Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

MAN ***01*** *00:52:57.0,3.76N×127.47E,h73km,mb4.9,ML3.8,MS3.7*
NEIC ***01*** *00:53:04.9±0.8,4.46N±0.09×127.7E±0.1,h139km, mb4.3/34,Error ellipse: s-maj=15.7km s-min=11.7km az=67.0*
IDC ***01*** *00:53:04.3±2.7,4.49N×127.89E,h141km±26km,mb3.7/15, mbtmp4.2/16,Error ellipse: s-maj=30.2km s-min=10.8km az=81.0*
DJA ***01*** *00:53:07.3±1.2,4.N±10.×12.8E±.,h16km±12km,M4.4/13, mb4.6/8,mB5.0/7,MLv4.5/13,Mw(mB)4.3/7*

ISC 01 00:53:00.2±0.4,4.53N±0.04×127.83E±0.06,h100km,n81, σ1§47/86,mb4.3/31,5D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.44**	**250**	P	**Pn**	**00 53 39.7**	**+1.2**
SGSI				S	**Sn**	**00 54 07.5**	**-0.5**
DDMP	**Don Marcelino,**	**2.62**	**307**	*e*P	**Pn**	**00 53 42.6**	**+1.7**
DDMP				*e*S	**Sn**	**00 54 16.1**	**+3.8**
MATI	**Mati**	**2.87**	**327**	*e*P	**Pn**	**00 53 44.8**	**+0.6**
KCP	**Kidapawan**	**3.67**	**312**	*e*P	**Pn**	**00 53 56.5**	**+1.5**
KCP				*i* S	**Sn**	**00 54 42.5**	**+5.0**
TNTI	**Ternate**	**3.76**	**187**		**Pn**	**00 53 59.4**	**+3.2**
TNTI	**Ternate**	**3.76**	**187**	P	**Pn**	**00 53 58.4**	**+2.2**
SKMP	**Bagumbayan, Su**	**3.82**	**301**	*e*P	**Pn**	**00 53 57.3**	**+0.3**
BIPH	**Bislig**	**3.91**	**338**	*e*P	**Pn**	**00 53 59.1**	**+0.8**
BIPH				*e*S	**Sn**	**00 54 38.9**	**-4.3**
LBMI	**Labuha**	**5.14**	**184**	P	**Pn**	**00 54 13.6**	**-1.3**
KMSI	**Cibinong**	**5.50**	**224**	P	**Pn**	**00 54 18.7**	**-0.9**
GTOI	**Gorontalo**	**6.17**	**231**	P	**Pn**	**00 54 30.2**	**+1.3**
	0.6nm2μm140nm,0.6s						
SWI	**Sorong**	**6.36**	**147**	P	**Pn**	**00 54 34.5**	**+3.1**
	0.2nm910nm72nm,0.7s						
SIJI	**Sorong**	**6.37**	**147**	P	**Pn**	**00 54 36.1**	**+4.5**
	32nm,0.4s,baz=200,slow=23,SNR=17						
SIJI				S	**Sn**	**00 55 44.5**	**+1.6**
	8.4nm,0.4s,baz=197,slow=19,SNR=1.7						
SANI	**Sanana**	**6.79**	**196**	P	**Pn**	**00 54 36.7**	**-0.5**
	0.3nm2μm44nm,0.9s						
MRSI	**Marisa**	**7.13**	**236**	P	**Pn**	**00 54 43.1**	**+1.3**
	0.8nm2μm183nm,0.9s						
LUWI	**Luwuk**	**7.49**	**223**	Pn	**Pn**	**00 54 48.5**	**+1.6**
TOLI2	**Tolitoli**	**7.81**	**244**		**Pn**	**00 54 51.1**	**-0.1**
APSI	**Ampana**	**8.21**	**229**	P	**Pn**	**00 54 56.5**	**0.0**
	0.1nm29nm,0.8s						
FAKI	**Fak Fak**	**8.62**	**149**	Pn	**Pn**	**00 55 05.5**	**+3.4**
MPSI	**Mapaga**	**8.95**	**242**	P	**Pn**	**00 55 06.5**	**-0.1**
MYLDM	**Lahad Datu**	**9.32**	**274**	Pn	**Pn**	**00 55 13.8**	**+2.2**
SBUM	**Sibu**	**15.71**	**263**		**P**	**00 56 38.5**	**+0.5**
KNRA	**Kununurra**	**20.10**	**177**	P	Pn	00 57 27.3	-1.4
KNRA				IAmb	IAmb	00 57 32.4	
	comp=Z,10.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.59**	**185**	P	**P**	**00 57 53.2**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=5.2,slow=6.5,SNR=13						
	comp=Z,2.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.59**	**185**	P	**P**	**00 57 53.1**	**+0.6**
FITZ				IAmb	IAmb	00 57 55.0	
	comp=Z,13nm,1.3s						
WB0	**Warramunga Arr**	**24.99**	**165**	P	**P**	**00 58 14.9**	**+0.1**
WB0				IAmb	IAmb	00 58 20.0	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**25.15**	**165**	P	**P**	**00 58 15.5**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=209,slow=7.5,SNR=54						
	comp=Z,2.5nm,0.6s						
WRA	**Warramunga Arr**	**25.15**	**165**	P	**P**	**00 58 15.7**	**-0.5**
AS31	**Alice Springs**	**28.64**	**168**	P	**P**	**00 58 47.6**	**0.0**
ASAR	**Alice Springs**	**28.64**	**168**	P	**P**	**00 58 47.2**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=354,slow=7.7,SNR=25						
ASAR				PcP	**PcP**	**01 01 55.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=354,slow=2.3,SNR=6.4						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**28.64**	**168**	P	**P**	**00 58 47.6**	**+0.1**
KSRS	**Korea Array**	**32.77**	**0**	P	**P**	**00 59 24.6**	**+0.9**
	comp=Z,3.1nm,0.6s,baz=174,slow=10,SNR=11						
	comp=Z,3.1nm,0.6s						
MJAR	**Matsushiro Arr**	**33.26**	**15**	P	**P**	**00 59 27.8**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=178,slow=9.0,SNR=2.6						
	comp=Z,0.8nm,0.4s						
FORT	**Forrest**	**35.11**	**180**	P	**P**	**00 59 43.6**	**-0.4**
JMM	**Marumori**	**35.23**	**18**	P	**P**	**00 59 46.3**	**+1.3**
MORW	**Morawa**	**35.27**	**198**	P	**P**	**00 59 45.2**	**-0.2**
BBOO	**Buckleboo**	**37.95**	**169**	P	**P**	**01 00 08.1**	**0.0**
BBOO				IAmb	IAmb	01 00 20.1	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**38.51**	**161**	P	**P**	**01 00 12.9**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=331,slow=10,SNR=10						
	comp=Z,1.9nm,0.3s						
STKA	**Stephens Creek**	**38.51**	**161**	P	**P**	**01 00 13.3**	**+0.5**
USRK	**Ussuriysk Ar.**	**39.68**	**5**	P	**P**	**01 00 23.7**	**+1.3**
	comp=Z,2.4nm,0.8s,baz=178,slow=5.4,SNR=2.3						
	comp=Z,2.4nm,0.8s						
SHL	**Shillong**	**40.30**	**305**	P	**P**	**01 00 27.6**	**-0.6**
ARMA	**Armidale**	**41.55**	**148**	P	**P**	**01 00 39.0**	**+0.9**
ARMA				IAmb	IAmb	01 01 05.5	
	comp=Z,16nm,1.4s						
DZM	**Mont Dzumac**	**46.11**	**127**	P	**P**	**01 01 15.0**	**+0.2**
ULN	**Ulaanbaatar**	**46.72**	**341**	P	**P**	**01 01 19.9**	**+0.7**
ULN				IAmb	IAmb	01 01 22.3	
	comp=Z,3.3nm,0.7s						
SONM	**Songino Array**	**46.91**	**340**	P	**P**	**01 01 21.0**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=154,slow=8.2,SNR=3.5						
	comp=Z,0.8nm,0.5s						
PEA0B	**Petropavlovsk-**	**54.28**	**22**	P	**P**	**01 02 17.3**	**+1.4**
PETK	**Petropavlovsk-**	**54.28**	**22**	P	**P**	**01 02 16.0**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=203,slow=9.4,SNR=4.9						
	comp=Z,3.1nm,0.6s						
PETK	**Petropavlovsk-**	**54.28**	**22**	P	**P**	**01 02 16.5**	**+0.6**
MK31	**Makanchi Array**	**57.54**	**324**	P	**P**	**01 02 39.8**	**+0.5**
MK31				IAmb	IAmb	01 02 40.2	
	comp=Z,2.7nm,0.6s						
MKAR	**Makanchi Array**	**57.54**	**324**	P	**P**	**01 02 39.7**	**+0.4**
	comp=Z,2.6nm,0.4s,baz=116,slow=7.9,SNR=44						
	comp=Z,2.6nm,0.4s						
MKAR	**Makanchi Array**	**57.54**	**324**	P	**P**	**01 02 39.5**	**+0.2**
ZALV	**Zalesovo Beam**	**60.38**	**332**	P	**P**	**01 02 58.0**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=123,slow=7.6,SNR=4.2						
	comp=Z,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**60.38**	**332**	P	**P**	**01 02 58.2**	**-0.5**
KURK	**Kurchatov**	**61.67**	**327**	P	**P**	**01 03 07.7**	**+0.2**
KK31	**Karatay Array**	**63.40**	**316**	P	**P**	**01 03 19.0**	**-0.3**
KK31				IAmb	IAmb	01 03 20.1	
	comp=Z,3.3nm,1.0s						
KKAR	**Karatay Array**	**63.40**	**316**	P	**P**	**01 03 19.2**	**-0.1**
GEYT	**Alibeck**	**71.25**	**308**	P	**P**	**01 04 08.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=108,slow=12,SNR=3.5						
	comp=Z,1.2nm,0.7s						
ABKAR	**Akbulak array**	**72.23**	**320**	P	**P**	**01 04 13.3**	**-1.3**
ABKAR	**Akbulak array**	**72.23**	**320**	P	**P**	**01 04 13.5**	**-1.0**
ABKAR				IAmb	IAmb	01 04 14.9	
	comp=Z,1.7nm,0.8s						
P18K	**Big Mountain,**	**79.48**	**30**	P	**P**	**01 04 56.0**	**+0.4**
P18K				IAmb	IAmb	01 05 05.6	
	comp=Z,6.9nm,1.5s						
KDAK	**Kodiak Island**	**80.63**	**32**	P	**P**	**01 05 02.6**	**+0.8**
KDAK				IAmb	IAmb	01 05 02.9	
	comp=Z,4.1nm,0.6s						
IMAR	**Indian Mountai**	**81.17**	**24**	P	**P**	**01 05 05.5**	**+1.0**
RAYN	**Ar Rayn**	**81.18**	**293**	P	**P**	**01 05 04.3**	**-1.2**
CAST	**Castle Rocks**	**81.53**	**27**	P	**P**	**01 05 07.6**	**+1.1**
CAST				IAmb	IAmb	01 05 08.0	
	comp=Z,2.8nm,0.6s						
SKT	**Skwentna**	**81.62**	**28**	P	**P**	**01 05 07.1**	**+0.1**
SKT				IAmb	IAmb	01 05 07.5	
	comp=Z,3.4nm,1.0s						
MLY	**Manley**	**82.30**	**25**	P	**P**	**01 05 11.2**	**+0.7**
MLY				IAmb	IAmb	01 05 12.2	
	comp=Z,3.2nm,0.8s						
SML	**Sawmill**	**83.12**	**28**	P	**P**	**01 05 15.3**	**+0.5**
SML				IAmb	IAmb	01 05 16.6	
	comp=Z,5.8nm,0.7s						
WRH	**Wood River Hil**	**83.38**	**26**	P	**P**	**01 05 15.9**	**-0.1**
WRH				IAmb	IAmb	01 05 17.2	
	comp=Z,3.2nm,1.1s						
SCM	**Sheep Creek Mo**	**83.59**	**28**	P	**P**	**01 05 17.8**	**+0.5**
SCM				IAmb	IAmb	01 05 18.8	
	comp=Z,9.0nm,1.1s						
ILAR	**Eielson Array**	**83.92**	**25**	P	**P**	**01 05 18.1**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=247,slow=5.9,SNR=10						
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**84.08**	**173**	P	**P**	**01 05 18.9**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=314,slow=6.9,SNR=4.0						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**84.08**	**173**	P	**P**	**01 05 19.4**	**+0.1**
KLU	**Klutina**	**84.25**	**29**	P	**P**	**01 05 21.4**	**+0.7**
MAW	**Mawson**	**84.88**	**200**	P	**P**	**01 05 23.6**	**+0.1**
BMAR	**Burnt Mountain**	**84.92**	**23**	P	**P**	**01 05 24.5**	**+0.6**
BCAR	**Beaver Creek A**	**86.17**	**27**	P	**P**	**01 05 31.0**	**+0.8**
FARO	**Faro, Yukon**	**90.13**	**28**	P	**P**	**01 05 49.1**	**+0.1**
FARO				IAmb	IAmb	01 05 50.1	
	comp=Z,2.4nm,0.8s						
FINES	**FINESS Array B**	**91.65**	**332**	P	**P**	**01 05 53.8**	**-2.2**
	comp=Z,1.9nm,0.9s,baz=28,slow=6.3,SNR=1.6						
	comp=Z,1.9nm,0.9s						
QSPA	**South Pole Qui**	**94.43**	**180**	P	**P**	**01 06 05.9**	**-2.9**
QSPA				IAmb	IAmb	01 06 27.5	
	comp=Z,2.8nm,1.4s						
TXAR	**Lajitas Array**	**120.25**	**52**	PKP	**PKPdf**	**01 11 38.7**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=48,slow=1.5,SNR=1.8						
TORD	**Torodi Ar. Bea**	**123.70**	**289**	PKP	**PKPdf**	**01 11 45.9**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=63,slow=1.3,SNR=1.4						

JMA ***01*** *02:11:13.7±0.2,24.N±3.×122.9E±0.8,h67km±1km, MV2.7/8,NW OFF ISHIGAKIJIMA IS*
TAP ***01*** *02:11:13.6,24.40N×122.94E,h67km,ML3.2,C*

ISC 01 02:11:14.5±1.3,24.35N±0.04×122.92E±0.03,h60km±8km, n81,σ1§00/145,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.11**	**11**	P	**Pn**	**02 11 23.5**	**-0.1**
JYNG				S	**Sn**	**02 11 30.6**	**+0.5**
YOJ	**Yonaguni jima**	**0.14**	**35**	P	**Pn**	**02 11 23.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.14**	**35**	P	**Pn**	**02 11 23.6**	**-0.1**
	baz=39						
YOJ				S	**Sn**	**02 11 30.8**	**+0.5**
	baz=39						
YOJ	**Yonaguni jima**	**0.14**	**35**	P	**Pn**	**02 11 23.7**	**0.0**
YOJ				S	**Sn**	**02 11 30.5**	**+0.2**
IRIF	**Iriomote-Funau**	**0.74**	**91**	P	**Pn**	**02 11 29.0**	**-0.2**
IRIF				S	**Sn**	**02 11 39.9**	**0.0**
HATJ	**Hateruma jima**	**0.86**	**109**	P	**Pn**	**02 11 31.0**	**+0.3**
HATJ				*e*S	**Sn**	**02 11 43.8**	**+1.2**
JKRS	**Kuro-shima**	**1.00**	**96**	P	**Pn**	**02 11 32.5**	**0.0**
JKRS				S	**Sn**	**02 11 46.8**	**+1.0**
TWC	**Suao**	**1.01**	**285**	*i* P	**Pn**	**02 11 32.1**	**-0.6**
	baz=283						
TWC				*i* S	**Sn**	**02 11 44.9**	**-1.3**
	baz=283						
EGS		**1.03**	**299**	*i* P	**Pn**	**02 11 32.2**	**-0.7**
	baz=297						
EGS				S	**Sn**	**02 11 46.1**	**-0.5**
	baz=297						
EWUT	**Wuta**	**1.05**	**276**	P	**Pn**	**02 11 32.1**	**-1.0**
	baz=280						
EWUT				S	**Sn**	**02 11 47.0**	**0.0**
	baz=280						
TWB1	**Santiao Chiao**	**1.08**	**308**	P	**Pn**	**02 11 33.3**	**-0.2**
	baz=306						
TWB1				S	**Sn**	**02 11 46.8**	**-0.9**
	baz=306						
ENA	**Nanau**	**1.08**	**275**	*i* P	**Pn**	**02 11 33.5**	**-0.1**
	baz=279						
ENA				*i* S	**Sn**	**02 11 48.0**	**+0.2**
	baz=279						
JIJ	**Ishigaki jima**	**1.11**	**89**	P	**Pn**	**02 11 33.2**	**-0.8**
JIJ				S	**Sn**	**02 11 47.8**	**-0.8**
NTC	**Toucheng**	**1.12**	**297**	*i* P	**Pn**	**02 11 33.6**	**-0.5**
	baz=295						
NTC				*i* S	**Sn**	**02 11 47.8**	**-0.9**
	baz=295						
NDS	**Dongshan**	**1.14**	**285**	P	**Pn**	**02 11 33.3**	**-1.1**
	baz=283						
NDS				S	**Sn**	**02 11 47.7**	**-1.4**
	baz=283						
TIPB	**Shuangxi**	**1.18**	**302**	*i* P	**Pn**	**02 11 34.5**	**-0.4**
	baz=300						
TIPB				*i* S	**Sn**	**02 11 49.2**	**-0.9**
	baz=300						
ETL	**Fush Village**	**1.20**	**261**	*e*P	**Pn**	**02 11 35.3**	**+0.1**
	baz=260						
ETL				S	**Sn**	**02 11 50.6**	**-0.1**
	baz=260						
TWE	**Neicheng**	**1.20**	**288**	*i* P	**Pn**	**02 11 34.8**	**-0.4**
	baz=291						
TWE				*i* S	**Sn**	**02 11 50.5**	**-0.1**
	baz=291						
NACB	**Ninganchiao**	**1.22**	**262**	P	**Pn**	**02 11 35.0**	**-0.5**
	baz=261						
NACB				S	**Sn**	**02 11 50.1**	**-1.1**
	baz=261						
TWD	**Chiawan**	**1.24**	**258**	*i* P	**Pn**	**02 11 35.3**	**-0.4**
	baz=257						
TWD				*i* S	**Sn**	**02 11 51.1**	**-0.4**
	baz=257						
NWF	**Wu-fen Shan**	**1.27**	**305**	*e*P	**Pn**	**02 11 35.9**	**-0.2**
	baz=294						
ENTT	**Niudou**	**1.27**	**284**	*i* P	**Pn**	**02 11 35.4**	**-0.7**
	baz=289						
ENTT				S	**Sn**	**02 11 52.1**	**-0.2**
	baz=289						
FUSB	**Fushanzhiwuyua**	**1.28**	**289**	P	**Pn**	**02 11 36.2**	**-0.1**
	baz=295						
FUSB				S	**Sn**	**02 11 52.0**	**-0.7**
	baz=295						
LATG	**Datong**	**1.29**	**279**	P	**Pn**	**02 11 36.8**	**+0.3**
	baz=284						
LATG				S	**Sn**	**02 11 54.1**	**+1.3**
	baz=284						
NDT	**Datong Townshi**	**1.31**	**282**	P	**Pn**	**02 11 37.2**	**+0.6**
	baz=286						
NDT				S	**Sn**	**02 11 54.0**	**+0.7**
	baz=286						
ETLH	**Xiulin Townshi**	**1.32**	**264**	P	**Pn**	**02 11 36.5**	**-0.4**
	baz=263						
ETLH				S	**Sn**	**02 11 53.4**	**-0.3**
	baz=263						
NNSB	**Datong**	**1.41**	**274**	P	**Pn**	**02 11 38.1**	**0.0**
	baz=272						
NNSB				S	**Sn**	**02 11 56.4**	**+0.6**
	baz=272						
YHNB	**Yeheng**	**1.45**	**283**	P	**Pn**	**02 11 39.0**	**+0.5**
YHNB	**Yeheng**	**1.45**	**283**	P	**Pn**	**02 11 39.1**	**+0.5**
	baz=287						
YHNB				S	**Sn**	**02 11 57.0**	**+0.4**
	baz=287						
ESL	**Shilin**	**1.46**	**249**	*i* P	**Pn**	**02 11 37.7**	**-1.0**
	baz=241						
ESL				*i* S	**Sn**	**02 11 57.0**	**+0.1**
	baz=241						
NSK	**Sanguang**	**1.46**	**283**	*i* P	**Pn**	**02 11 38.1**	**-0.6**
	baz=282						
NSK				*i* S	**Sn**	**02 11 56.2**	**-0.7**
	baz=282						
EGFH	**Guangfu**	**1.52**	**244**	*i* P	**Pn**	**02 11 39.1**	**-0.4**
	baz=244						
EGFH				*i* S	**Sn**	**02 11 58.0**	**-0.4**
	baz=244						
WHF	**Hehuan Shan**	**1.53**	**263**	*i* P	**Pn**	**02 11 39.7**	**-0.2**
	baz=262						
WHF				S	**Sn**	**02 11 58.9**	**-0.1**
	baz=262						
FUSS	**Fushou**	**1.54**	**267**	*i* P	**Pn**	**02 11 40.0**	**+0.1**
	baz=265						
TWT	**Tachien**	**1.60**	**267**	*i* P	**Pn**	**02 11 41.5**	**+0.8**
	baz=266						
TWT				*i* S	**Sn**	**02 12 00.9**	**+0.5**
	baz=266						
TDCB	**Techi**	**1.61**	**267**	P	**Pn**	**02 11 41.5**	**+0.6**
	baz=265						
HGSD	**Ruisui**	**1.61**	**239**	P	**Pn**	**02 11 40.4**	**-0.4**
	baz=238						
HGSD				S	**Sn**	**02 11 59.5**	**-1.1**
	baz=238						
CHGB	**Renai**	**1.62**	**260**	P	**Pn**	**02 11 41.0**	**-0.1**
	baz=250						
CHGB				S	**Sn**	**02 12 00.8**	**-0.2**
	baz=250						
OWD	**Renai**	**1.64**	**257**	*i* P	**Pn**	**02 11 41.3**	**0.0**
	baz=256						
OWD				*i* S	**Sn**	**02 12 00.3**	**-1.1**
	baz=256						
NFF	**Wufeng Townshi**	**1.67**	**280**	P	**Pn**	**02 11 40.4**	**-1.2**
	baz=270						
WUSB	**Renai**	**1.69**	**258**	P	**Pn**	**02 11 41.8**	**-0.1**
	baz=258						
WUSB				S	**Sn**	**02 12 02.2**	**-0.3**
	baz=258						
EHY	**Hungye**	**1.69**	**241**	*i* P	**Pn**	**02 11 41.2**	**-0.5**
	baz=251						
EHY				S	**Sn**	**02 12 01.8**	**-0.6**
	baz=251						
VWDT	**VWDT**	**1.73**	**250**	P	**Pn**	**02 11 42.6**	**+0.3**
	baz=250						
VWDT				S	**Sn**	**02 12 03.0**	**-0.4**
	baz=250						
LIOB	**Emei**	**1.76**	**280**	*i* P	**Pn**	**02 11 43.8**	**+1.0**
	baz=279						
YULB	**Yu-li**	**1.77**	**238**	P	**Pn**	**02 11 42.6**	**-0.2**
	baz=249						
YULB				S	**Sn**	**02 12 03.5**	**-0.7**
	baz=249						
EYUL	**Yuli**	**1.77**	**236**	*i* P	**Pn**	**02 11 43.0**	**+0.1**
	baz=236						
EYUL				*i* S	**Sn**	**02 12 04.5**	**0.0**
	baz=236						
NSTT	**Nanjuang**	**1.77**	**280**	P	**Pn**	**02 11 41.8**	**-1.1**
	baz=278						
WHP	**Taichung City**	**1.81**	**268**	*i* P	**Pn**	**02 11 44.6**	**+1.2**
	baz=260						
WHP				S	**Sn**	**02 12 06.6**	**+1.3**
	baz=260						
WCS	**Beigang Elemen**	**1.86**	**262**	P	**Pn**	**02 11 43.4**	**-0.6**
	baz=255						
WCS				S	**Sn**	**02 12 07.0**	**+0.6**
	baz=255						
FULB	**Fuli**	**1.88**	**233**	*i* P	**Pn**	**02 11 43.9**	**-0.5**
	baz=233						
FULB				*i* S	**Sn**	**02 12 06.1**	**-1.0**
	baz=233						
SSLB	**Suanglung**	**1.88**	**253**	P	**Pn**	**02 11 44.7**	**+0.3**
SSLB	**Suanglung**	**1.88**	**253**	P	**Pn**	**02 11 44.7**	**+0.3**
	baz=260						
SSLB				S	**Sn**	**02 12 06.6**	**-0.6**
	baz=260						
SMLT	**Sun Moon Lake**	**1.91**	**256**	*i* P	**Pn**	**02 11 45.2**	**+0.4**
	baz=256						
SMLT				*i* S	**Sn**	**02 12 09.0**	**+1.3**
	baz=256						
TYC	**Yuchr**	**1.94**	**257**	*i* P	**Pn**	**02 11 45.7**	**+0.6**
	baz=250						
TYC				*i* S	**Sn**	**02 12 09.5**	**+1.1**
	baz=250						
YUS	**Yu-Shan**	**2.00**	**245**	*i* P	**Pn**	**02 11 46.7**	**+0.4**
	baz=245						
YUS				*i* S	**Sn**	**02 12 09.7**	**-0.8**
	baz=245						
WHYT	**Xinyi Township**	**2.00**	**252**	*i* P	**Pn**	**02 11 47.1**	**+1.1**
	baz=245						
WHYT				*i* S	**Sn**	**02 12 10.8**	**+0.8**
	baz=245						
EDH	**Donghe**	**2.02**	**228**	*i* P	**Pn**	**02 11 45.3**	**-1.0**
	baz=222						
EDH				*i* S	**Sn**	**02 12 08.6**	**-1.8**
	baz=222						
WJS	**Zhushan**	**2.07**	**256**	*i* P	**Pn**	**02 11 49.0**	**+2.0**
	baz=251						
WJS				*i* S	**Sn**	**02 12 15.1**	**+3.4**
	baz=251						
ELDTW	**Lidau**	**2.09**	**237**	*i* P	**Pn**	**02 11 47.0**	**-0.3**
	baz=237						
ELDTW				*i* S	**Sn**	**02 12 10.9**	**-1.5**
	baz=237						
WNT	**Mingjian**	**2.10**	**258**	S	**Sn**	**02 12 15.2**	**+2.8**
	baz=257						
ALS	**Alishan**	**2.11**	**247**	*i* P	**Pn**	**02 11 48.9**	**+1.2**
	baz=247						
ALS				S	**Sn**	**02 12 14.6**	**+1.6**
	baz=247						
LDUT	**Ludao**	**2.13**	**219**	*i* P	**Pn**	**02 11 46.6**	**-1.2**
	baz=213						
LDUT				*i* S	**Sn**	**02 12 11.3**	**-1.8**
	baz=213						
LONT	**Longtian**	**2.18**	**229**	S	**Sn**	**02 12 12.9**	**-1.5**
	baz=240						
TWGBT	**Beinan**	**2.27**	**228**	P	**Pn**	**02 11 49.6**	**-0.1**
	baz=239						
TWGBT				S	**Sn**	**02 12 15.3**	**-1.3**
	baz=239						
WDLH	**Douliu**	**2.28**	**254**	*i* P	**Pn**	**02 11 50.7**	**+1.0**
	baz=245						
WDLH				*i* S	**Sn**	**02 12 19.1**	**+2.4**
	baz=245						
STYH	**Taoyuan**	**2.29**	**240**	P	**Pn**	**02 11 49.8**	**-0.1**
	baz=240						
STYH				S	**Sn**	**02 12 16.3**	**-0.6**
	baz=240						
WCKO	**Fanlu**	**2.31**	**247**	P	**Pn**	**02 11 51.1**	**+1.0**
	baz=248						
WCKO				S	**Sn**	**02 12 19.0**	**+1.5**
	baz=248						
TPUB	**Ta-pu**	**2.34**	**244**	P	**Pn**	**02 11 52.6**	**+1.9**
TPUB	**Ta-pu**	**2.34**	**244**	P	**Pn**	**02 11 52.5**	**+1.9**
	baz=243						
TPUB				S	**Sn**	**02 12 19.8**	**+1.5**
	baz=243						
WRL	**Guolierlin Hig**	**2.37**	**260**	P	**Pn**	**02 11 50.6**	**-0.3**
	baz=260						
WRL				S	**Sn**	**02 12 19.9**	**+1.0**
	baz=260						
WTP	**Ta-pu**	**2.38**	**243**	*i* P	**Pn**	**02 11 52.7**	**+1.5**
	baz=244						
WTP				*i* S	**Sn**	**02 12 21.9**	**+2.5**
	baz=244						
WTK	**Tuku**	**2.41**	**255**	*i* P	**Pn**	**02 11 52.5**	**+1.0**
	baz=255						
TWK	**Hsinying**	**2.48**	**245**	*i* P	**Pn**	**02 11 54.3**	**+1.8**
	baz=246						
TWK				*i* S	**Sn**	**02 12 23.6**	**+2.0**
	baz=246						
CHN1	**Nanshi**	**2.48**	**243**	*i* P	**Pn**	**02 11 54.6**	**+2.1**
	baz=244						
CHN1				*i* S	**Sn**	**02 12 23.5**	**+1.8**
	baz=244						
SGST	**Jiashian**	**2.49**	**240**	*e*S	**Sn**	**02 12 23.3**	**+1.5**
	baz=248						
WSL	**Shuilin Townsh**	**2.60**	**252**	*e*S	**Sn**	**02 12 25.4**	**+0.9**
	baz=253						
MASBT	**Mashibuluo**	**2.72**	**231**	P	**Pn**	**02 11 56.2**	**+0.4**
	baz=226						
EAST	**Anshuo**	**2.73**	**225**	P	**Pn**	**02 11 55.6**	**-0.4**
	baz=232						
EAST				S	**Sn**	**02 12 27.2**	**-0.6**
	baz=232						
TAWH	**Dawu Township**	**2.74**	**224**	P	**Pn**	**02 11 56.2**	**+0.2**
	baz=231						
TAWH				S	**Sn**	**

comp=N,4805µm,0.5s
T1242 Castelluccio d 0.05 101 P Pg 02 17 08.6 -2.2
MC2 Monte Cornacci 0.08 28 P Pg 02 17 11.6 +0.4
MC2 S Sg 02 17 13.5 +0.4
MC2 Monte Cornacci 0.08 28 P Pg 02 17 11.6 +0.4
MC2 S Sg 02 17 13.5 +0.4
FEMA Monte Fema 0.14 333 P Pg 02 17 13.2 +1.3
FEMA S Sg 02 17 15.2 +0.9
T1244 Arquata del Tr 0.14 125 ⇑P Pg 02 17 12.6 +0.6
T1244 S Sg 02 17 15.3 +1.1
T1244 AML AML
comp=E,943µm,0.6s
T1244 AML AML
comp=N,988µm,0.6s
T1244 AML AML
comp=E,945µm,0.6s
T1244 AML AML
comp=N,988µm,0.6s
T1244 AML AML
comp=E,942µm,0.6s
T1244 AML AML
comp=N,986µm,0.6s
T1244 Arquata del Tr 0.14 125 P Pg 02 17 12.5 +0.6
T1244 S Sg 02 17 15.4 +1.1
T1202 Accumoli, Fraz 0.15 154 P Pg 02 17 12.7 +0.6
T1202 S Sg 02 17 15.6 +1.2
T1202 AML AML
comp=E,833µm,0.4s
T1202 AML AML
comp=N,1390µm,1.6s
T1202 Accumoli, Fraz 0.15 154 P Pg 02 17 12.7 +0.6
T1202 S Sg 02 17 15.7 +1.3
MMO1 Montemonaco 0.15 67 P Pg 02 17 12.7 +0.6
MMO1 S Sg 02 17 15.3 +0.8
MMO1 AML AML
comp=E,1410µm,0.2s
MMO1 AML AML
comp=N,1745µm,1.6s
FDMO Fiordimonte 0.20 350 P Pg 02 17 13.6 +0.7
T1201 Domo (RI) 0.20 155 P Pg 02 17 13.7 +0.8
T1201 S Sg 02 17 17.6 +1.9
T1215 Vallo di Nera, 0.20 259 ⇑P Pg 02 17 13.6 +0.7
T1215 S Sg 02 17 16.9 +1.2
T1241 Roccafluvione, 0.22 85 P Pg 02 17 13.8 +0.6
T1241 S Sg 02 17 17.6 +1.3
T1241 AML AML
comp=N,388µm,0.6s
T1241 AML AML
comp=N,388µm,0.6s
T1241 AML AML
comp=E,372µm,0.3s
CESI CESI - Serrava 0.24 314 P Pg 02 17 14.3 +0.7
CESI S Sg 02 17 18.6 +1.7
LNSS Leonessa 0.25 197 P Pg 02 17 14.2 +0.5
LNSS S Sg 02 17 18.5 +1.4
LNSS AML AML
comp=E,656µm,1.6s
LNSS AML AML
comp=N,750µm,0.1s
SMA1 SAN MARTINO 0.26 145 P Pg 02 17 14.5 +0.6
SMA1 S Sb 02 17 18.8 -1.1
SMA1 AML AML
comp=N,320µm,0.4s
SMA1 AML AML
comp=E,712µm,0.3s
CSP1 Cessapalombo 0.26 11 P Pg 02 17 14.6 +0.7
CSP1 S Sb 02 17 19.0 -1.0
T1243 Rocca Santa Ma 0.27 122 P Pg 02 17 14.5 +0.3
T1243 S Sg 02 17 18.8 +1.0
RM33 Pellescritta (0.34 170 P Pg 02 17 16.0 +0.7
RM33 S Sb 02 17 21.6 -0.6
RM33 AML AML
comp=N,197µm,0.3s
RM33 AML AML
comp=E,134µm,0.4s
RM33 AML AML
comp=N,198µm,0.3s
CAMP Campotosto 0.36 146 P Pg 02 17 16.1 +0.3
CAMP AML AML
comp=E,74µm,0.2s
CAMP AML AML
comp=N,70µm,1.0s
ARRO Arrone 0.38 227 P Pg 02 17 16.6 +0.5
ARRO AML AML
comp=E,102µm,0.4s
ARRO AML AML
comp=N,115µm,0.4s
ARRO AML AML
comp=E,102µm,0.4s
ARRO AML AML
comp=N,116µm,0.4s
ARRO AML AML
comp=E,102µm,0.4s
ARRO AML AML
comp=N,115µm,0.4s
ASSB Assisi San Ben 0.41 300 P Pg 02 17 17.0 +0.4
ASSB Assisi San Ben 0.41 300 AML AML
comp=N,226µm,0.2s
ASSB AML AML
comp=E,272µm,0.2s
TERO Teramo 0.41 122 P Pg 02 17 16.8 +0.2
TERO AML AML
comp=N,350µm,0.4s
TERO AML AML
comp=E,204µm,0.4s
OFFI Offida 0.41 76 ⇓P Pb 02 17 18.1 0.0
OFFI AML AML
comp=E,196µm,0.6s
OFFI AML AML
comp=N,234µm,0.9s
SNTG Esanatoglia 0.44 341 P Pg 02 17 17.8 +0.5
SNTG S Sb 02 17 25.0 -0.2
SNTG AML AML
comp=E,71µm,0.1s
SNTG AML AML
comp=N,61µm,0.8s
SNTG AML AML
comp=E,71µm,0.1s
SNTG AML AML
comp=N,61µm,0.8s
SNTG AML AML
comp=N,61µm,0.8s
SNTG AML AML
comp=E,71µm,0.1s
CESX Cesi 0.47 241 P Pg 02 17 18.1 +0.3
CESX AML AML
comp=E,82µm,1.4s
CESX AML AML
comp=N,83µm,0.6s
EL6 Elcito 0.49 357 P Pg 02 17 18.6 +0.4
EL6 S Sb 02 17 27.0 +0.3
ATCC AVT- Casa Cast 0.50 314 P Pg 02 17 18.9 +0.5
ATCC S Sb 02 17 27.2 +0.2
ATCC AML AML
comp=E,122µm,0.3s
ATCC AML AML
comp=N,98µm,1.3s
ATCC AML AML
comp=E,122µm,0.3s
ATCC AML AML
comp=N,99µm,1.3s
ATCC AML AML
comp=N,99µm,1.3s
ATCC AML AML
comp=E,122µm,0.3s
GIGS Gran Sasso 0.50 140 P Pg 02 17 18.5 +0.1
GIGS AML AML
comp=N,24µm,0.1s
GIGS AML AML
comp=E,29µm,0.2s
GIGS AML AML
comp=N,24µm,0.1s
FOSV Fossato di Vic 0.53 329 P Pg 02 17 19.4 +0.5
FOSV S Sb 02 17 27.9 +0.1
FOSV AML AML
comp=E,55µm,0.1s
FOSV AML AML
comp=N,53µm,1.1s
FOSV AML AML
comp=E,55µm,0.1s
FOSV AML AML
comp=N,53µm,1.1s
CING Cingoli 0.54 5 P Pg 02 17 19.4 +0.3
CING S Sb 02 17 28.2 +0.2
CING AML AML
comp=E,72µm,1.3s
CING AML AML
comp=N,82µm,0.3s
CING AML AML
comp=N,82µm,0.3s
CING AML AML
comp=E,72µm,1.3s
FIAM Fiamignano 0.57 181 P Pg 02 17 19.8 0.0
FIAM AML AML
comp=E,69µm,1.2s
FIAM AML AML
comp=N,58µm,0.5s
FIAM AML AML
comp=E,69µm,1.2s
FIAM Fiamignano 0.57 181 S Sb 02 17 29.0 0.0
PP3 Marolino 0.64 33 P Pb 02 17 22.3 +0.4
SSFR Montelago di S 0.65 337 P Pb 02 17 21.8 -0.4
SSFR S Sb 02 17 31.9 +0.7
SSFR AML AML
comp=E,121µm,0.2s
SSFR AML AML
comp=N,85µm,0.7s
SSFR AML AML
comp=N,85µm,0.7s
SSFR AML AML
comp=E,121µm,0.2s
FAGN Fagnano 0.66 150 P Pb 02 17 22.3 0.0
FAGN AML AML
comp=N,80µm,0.5s
FAGN AML AML
comp=E,76µm,0.5s
ARVD Arcevia 0.67 348 P Pg 02 17 22.1 +0.4
ARVD S Sb 02 17 32.7 +0.7
ARVD AML AML
comp=E,36µm,1.2s
ARVD AML AML
comp=N,28µm,1.2s
ARVD AML AML
comp=E,36µm,1.2s
ARVD AML AML
comp=N,28µm,1.2s
ARVD AML AML
comp=E,36µm,1.2s
ARVD AML AML
comp=N,28µm,1.2s
VCEL Villa Celiera 0.68 130 P Pb 02 17 22.4 -0.3
VCEL AML AML
comp=E,87µm,0.3s
VCEL AML AML
comp=N,82µm,1.5s
VCEL AML AML
comp=E,87µm,0.3s
VCEL AML AML
comp=N,81µm,1.5s
FRON Frontone 0.74 336 P Pg 02 17 23.1 +0.1
FRON S Sb 02 17 34.6 +0.7
MGAB Montegabbione 0.76 276 ⇑P Pb 02 17 23.8 -0.2
MGAB AML AML
comp=E,49µm,0.5s
MGAB AML AML
comp=N,50µm,1.3s
MGAB AML AML
comp=N,50µm,1.3s
MGAB AML AML
comp=E,49µm,0.5s
ATVO AVT- Monte Val 0.76 316 P Pg 02 17 23.5 +0.1
ATVO S Sb 02 17 35.1 +0.6
ATVO AML AML
comp=E,31µm,1.3s
ATVO AML AML
comp=N,22µm,0.4s
ATVO AML AML
comp=N,22µm,0.4s
ATVO AML AML
comp=E,31µm,1.3s
T0110 Collepietro 0.78 142 P Pg 02 17 23.5 -0.1
T0110 AML AML
comp=N,49µm,0.4s
T0110 AML AML
comp=E,60µm,1.3s
NARO Abbazia di Nar 0.87 332 P Pg 02 17 25.4 0.0
NARO AML AML
comp=E,19µm,0.6s
NARO AML AML
comp=N,14µm,1.6s
NARO AML AML
comp=N,14µm,1.6s
NARO AML AML
comp=E,19µm,0.6s
FSSB Fossombrone 0.89 343 P Pb 02 17 26.2 0.0
FSSB AML AML
comp=E,72µm,0.3s
FSSB AML AML
comp=N,79µm,0.4s
FSSB AML AML
comp=N,79µm,0.4s
FSSB AML AML
comp=E,72µm,0.3s
SFI Santa Sofia 1.42 319 S Sn 02 17 53.0 -0.3

*ANF **01** 02:19:51.9±1.1,37°.05N×97°.49W,h12km±7km,ML3.8/17, Error ellipse: s-maj=4.2km s-min=3.9km az=110.0*
*NEIC **01** 02:19:51.2±1.0,37°.05N±0°.02×97°.52W±0°.02,h7km±6km, Error ellipse: s-maj=2.5km s-min=1.8km az=196.0*
ISC 01 02:19:51.1±0.8,37°.05N±0°.02×97°.53W±0°.02,h7km±5km, n111,σ0s85/106,Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.06**	**130**	Pg	**Pg**	**02 19 52.8**	**+0.1**
KAN13				Sg	**Sg**	**02 19 53.9**	**0.0**
KAN09	**Caldwell North**	**0.11**	**321**	Pg	**Pg**	**02 19 53.5**	**-0.1**
KAN09				Sg	**Sg**	**02 19 55.2**	**-0.1**
KS20	**Mayfield South**	**0.18**	**354**	Pg	**Pg**	**02 19 54.8**	**0.0**
KS20				Sg	**Sg**	**02 19 57.4**	**+0.1**
KAN17	**Caldwell West**	**0.19**	**269**	Pg	**Pg**	**02 19 54.9**	**+0.1**
KAN17				Sg	**Sg**	**02 19 57.6**	**+0.1**
KAN01	**Argonia South**	**0.21**	**300**	Pg	**Pg**	**02 19 55.3**	**0.0**
KAN01				Sg	**Sg**	**02 19 58.3**	**+0.1**
KS21	**Milan North St**	**0.26**	**336**	Pg	**Pg**	**02 19 56.0**	**-0.2**
KS21				Sg	**Sg**	**02 19 59.7**	**0.0**
KAN05	**Bluff City Nor**	**0.28**	**282**		**Pg**	**02 19 56.6**	**0.0**
GC02	**Grant County #**	**0.33**	**233**		**Pg**	**02 19 57.7**	**+0.2**
GC02					**Sg**	**02 20 02.4**	**+0.5**
KAN06	**Argonia West S**	**0.33**	**307**		**Pg**	**02 19 57.6**	**0.0**
KAN14	**Manchester OK**	**0.36**	**255**		**Pg**	**02 19 58.2**	**+0.1**
BLOK	**Blackwell**	**0.38**	**139**	Pg	**Pg**	**02 19 58.6**	**+0.1**
BLOK	**Blackwell**	**0.38**	**139**		**Sg**	**02 20 04.3**	**+0.7**
KAN08	**Anthony NE Sta**	**0.40**	**297**		**Pg**	**02 19 58.9**	**+0.1**
KAN08	**Anthony NE Sta**	**0.40**	**297**		**Sg**	**02 20 04.3**	**+0.3**
KAN12	**Harper NE Stat**	**0.45**	**304**	Pg	**Pg**	**02 19 59.8**	**0.0**
KAN12	**Harper NE Stat**	**0.45**	**304**		**Sg**	**02 20 06.0**	**+0.3**
KAN10	**Anthony SW Sta**	**0.46**	**280**	Pg	**Pg**	**02 20 00.0**	**0.0**
KAN16	**Harper SW Stat**	**0.46**	**293**		**Pg**	**02 20 00.0**	**0.0**
KAN16					**Sg**	**02 20 06.2**	**+0.1**
OK032	**Salt Plains WL**	**0.60**	**246**		**Pg**	**02 20 02.6**	**0.0**
OK032					**Sg**	**02 20 10.9**	**+0.5**
CROK	**Carrier**	**0.65**	**214**		**Pg**	**02 20 03.8**	**+0.1**
CROK					**Sg**	**02 20 12.9**	**+0.7**
T35A	**Sooner Cattle**	**0.83**	**99**		**Pg**	**02 20 06.8**	**-0.1**
T35A					**Sg**	**02 20 17.9**	**+0.2**
T35B	**Sooner Cattle** baz=280,SNR=225	**0.83**	**99**	P	**Pg**	**02 20 06.8**	**-0.1**
T35B	baz=280			Sn	**Sg**	**02 20 18.2**	**+0.5**
OK035	**E0210 Rd and N**	**1.00**	**251**		**Pg**	**02 20 09.9**	**-0.5**
QUOK	**Quay**	**1.10**	**143**		**Pg**	**02 20 11.9**	**-0.2**
QUOK					**Sg**	**02 20 26.5**	**+0.1**
OK038	**West end E0370**	**1.13**	**240**		**Pb**	**02 20 11.1**	**-1.9**
NOKA	**Waynoka**	**1.20**	**250**		**Pb**	**02 20 13.3**	**-0.8**
OK031	**S. Brethren Rd**	**1.23**	**153**		**Pn**	**02 20 14.2**	**-0.4**
OK034	**N. Norfolk Rd.**	**1.23**	**147**		**Pn**	**02 20 14.2**	**-0.4**
OK029	**Liberty Lake**	**1.25**	**177**		**Pn**	**02 20 14.7**	**-0.3**
OK030	**Cody Creek RV**	**1.27**	**152**		**Pn**	**02 20 15.0**	**-0.2**
U32A	**Winter Ranch,**	**1.36**	**241**		**Pn**	**02 20 16.2**	**-0.3**
U32A	**Winter Ranch,** baz=60	**1.36**	**241**	P	**Pn**	**02 20 16.2**	**-0.3**
U32A	baz=60			S	**Sb**	**02 20 35.1**	**+0.7**
BCOK	**Bluff Creek, N**	**1.39**	**183**		**Pn**	**02 20 17.0**	**+0.1**
DEOK	**Depew**	**1.46**	**145**	Pn	**Pn**	**02 20 18.0**	**+0.1**
OK025	**Westminster Rd**	**1.47**	**174**		**Pn**	**02 20 18.4**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**1.64**	**177**		**Pn**	**02 20 20.6**	**+0.3**
R32A	**Long Quarter,**	**1.66**	**326**		**Pn**	**02 20 20.8**	**+0.2**
R32A	**Long Quarter,** baz=145,SNR=35	**1.66**	**326**	P	**Pn**	**02 20 21.5**	**+0.9**
R32A	baz=145			Sn	**Sb**	**02 20 43.3**	**+0.2**
CSTR	**Hydro, Custer**	**1.68**	**214**		**Pn**	**02 20 21.6**	**+0.7**
FNO	**Franklin**	**1.79**	**177**		**Pn**	**02 20 22.8**	**+0.4**
TUL1	**Leonard**	**1.80**	**129**		**Pn**	**02 20 23.4**	**+0.9**
TUL1				IAmb_Lg		02 20 51.0	
TUL1	**Leonard** comp=Z,59nm,0.8s baz=310,SNR=66	**1.80**	**129**	Pb	**Pb**	**02 20 23.7**	**-0.7**
TUL1	baz=310			Sb	**Sg**	**02 20 48.2**	**-0.8**
ELIS	**Ellis County**	**1.81**	**238**		**Pn**	**02 20 23.3**	**+0.6**
KSU1	**Kansas State U**	**2.17**	**19**	Pn	**Pn**	**02 20 27.5**	**-0.2**
KSU1				IAmb_Lg		02 21 05.6	
KSU1	**Kansas State U** comp=Z,52nm,0.8s baz=200,SNR=29	**2.17**	**19**	P	**Pn**	**02 20 28.5**	**+0.8**
KSU1	baz=200			S	**Sn**	**02 20 56.2**	**+1.3**
RLO	**Rose Lookout**	**2.20**	**113**		**Pn**	**02 20 28.8**	**+0.8**
X34A	**Smith Ranch, M**	**2.46**	**186**		**Pn**	**02 20 33.0**	**+1.5**
X34A				IAmb_Lg		02 21 12.2	
CBKS	**Cedar Bluff** comp=Z,44nm,0.8s	**2.48**	**316**		**Pn**	**02 20 32.5**	**+0.6**
CBKS	**Cedar Bluff** baz=135	**2.48**	**316**	S	**Sb**	**02 21 07.9**	**+1.1**
WMOK	**Wichita Mounta**	**2.52**	**204**	Pn	**Pn**	**02 20 33.2**	**+0.8**
WMOK	**Wichita Mounta** baz=23	**2.52**	**204**	P	**Pn**	**02 20 33.2**	**+0.8**
WMOK	baz=23			S	**Sn**	**02 21 05.5**	**+2.1**
U38A	**Gravette** comp=Z,66nm,0.9s	**2.60**	**103**	IAmb_Lg		02 21 14.4	
U38A	**Gravette** baz=285	**2.60**	**103**	P	**Pn**	**02 20 34.6**	**+1.1**
HHAR	**Hobbs** baz=286	**2.99**	**104**	P	**Pn**	**02 20 40.2**	**+1.4**
X37A	**Clayton** comp=Z,74nm,0.9s	**3.02**	**144**	IAmb_Lg		02 21 30.4	
X37A	**Clayton** baz=325	**3.02**	**144**	S	**Sn**	**02 21 17.3**	**+1.7**
LOOK	**Love County**	**3.06**	**175**	Pn	**Pn**	**02 20 40.9**	**+1.0**
LOOK	comp=Z,28nm,0.8s			IAmb_Lg		02 21 34.6	
S39A	**Bolivar**	**3.41**	**78**	Pn	**Pn**	**02 20 45.2**	**+0.5**
S39A	**Bolivar** baz=260	**3.41**	**78**	Sn	**Sn**	**02 21 25.6**	**+0.2**
N33B	**J Bar K, Exete** baz=181	**3.68**	**1**	P	**Pn**	**02 20 48.6**	**+0.1**
N33A	**J Bar K, Exete**	**3.69**	**1**	Pn	**Pn**	**02 20 49.0**	**+0.5**
Z35A	**Perchaven, San**	**3.72**	**176**	Pn	**Pn**	**02 20 49.8**	**+0.9**
Z35A	**Perchaven, San** baz=356	**3.72**	**176**	P	**Pn**	**02 20 49.7**	**+0.9**
AMTX	**Amarillo**	**4.00**	**239**	Pn	**Pn**	**02 20 55.0**	**+2.1**
AMTX	comp=Z,33nm,0.8s			IAmb_Lg		02 22 08.4	
AMTX	**Amarillo** baz=56	**4.00**	**239**	P	**Pn**	**02 20 53.3**	**+0.4**
P38A	**Dawn** comp=Z,52nm,0.7s	**4.06**	**49**	Pn	**Pn**	**02 20 56.0**	**+2.4**
P38A				IAmb_Lg		02 22 02.2	
MIAR	**Mount Ida**	**4.07**	**127**	Pn	**Pn**	**02 20 55.1**	**+1.4**
MGMO	**Mountain Grove** comp=Z,29nm,0.7s	**4.21**	**87**	IAmb_Lg		02 22 04.2	
R40A	**Maddies Statio** comp=Z,45nm,1.1s	**4.36**	**72**	Pn	**Pn**	**02 20 58.1**	**+0.5**
R40A				IAmb_Lg		02 22 08.9	
BGNE	**Belgrade** comp=Z,39nm,0.8s	**4.38**	**354**	Pn	**Pn**	**02 20 58.5**	**+0.4**
BGNE				IAmb_Lg		02 22 12.9	
BGNE	**Belgrade** baz=174,SNR=14	**4.38**	**354**	P	**Pn**	**02 20 58.3**	**+0.3**
KSCO	**Kaye Shedlock'** comp=Z,26nm,0.8s	**4.48**	**298**	IAmb_Lg		02 22 25.3	
FCAR	**Ozark Folk Cen** comp=Z,28nm,0.7s	**4.51**	**103**		**Pn**	**02 21 00.0**	**+0.3**
FCAR				IAmb_Lg		02 22 15.3	
WHAR	**Wooly Hollow** comp=Z,44nm,0.9s	**4.59**	**111**	Pn	**Pn**	**02 21 01.5**	**+0.7**
WHAR				IAmb_Lg		02 22 20.7	
ABTX	**Abilene, Hawle**	**4.74**	**202**	Pn	**Pn**	**02 21 03.8**	**+0.8**
UALR	**University of** comp=Z,22nm,0.7s	**4.78**	**117**	IAmb_Lg		02 22 32.3	
WLAR	**White Oak Lake** comp=Z,32nm,0.8s	**4.93**	**132**	Pn	**Pn**	**02 21 06.8**	**+1.3**
WLAR				IAmb_Lg		02 22 33.3	
P40A	**Paris** comp=Z,46nm,0.8s	**4.97**	**58**	IAmb_Lg		02 22 30.9	
P40A	**Paris** baz=242	**4.97**	**58**	Sn	**Sn**	**02 22 03.4**	**-0.4**
L34A	**Svendsen Farm,**	**4.99**	**10**	Pn	**Pn**	**02 21 05.3**	**-1.1**
L34A	comp=Z,27nm,0.8s			IAmb_Lg		02 22 41.7	
N38A	**Joes South For** comp=Z,48nm,0.8s	**5.02**	**41**	Pn	**Pn**	**02 21 07.7**	**+0.9**
N38A				IAmb_Lg		02 22 31.7	
N38A	**Joes South For** baz=223	**5.02**	**41**	Sn	**Sn**	**02 22 05.9**	**+0.9**
WHTX	**Lake Whitney,**	**5.04**	**179**	Pn	**Pn**	**02 21 07.1**	**0.0**
WHTX	**Lake Whitney,** baz=359	**5.04**	**179**	P	**Pn**	**02 21 07.6**	**+0.5**
CCM	**Cathedral Cave** comp=Z,22nm,0.7s	**5.09**	**77**	Pn	**Pn**	**02 21 08.8**	**+1.0**
CCM				IAmb_Lg		02 22 46.9	
OGNE	**Ogallala** comp=Z,29nm,0.8s	**5.24**	**319**	Pn	**Pn**	**02 21 10.4**	**+0.5**
OGNE				IAmb_Lg		02 22 37.2	
T25A	**Trinidad**	**5.50**	**273**	Pn	**Pn**	**02 21 13.9**	**+0.3**
T25A	comp=Z,18nm,0.7s			IAmb_Lg		02 22 50.9	
CCAR	**Cane Creek** comp=Z,23nm,0.8s	**5.64**	**122**	IAmb_Lg		02 23 04.9	
K31A	**O'Neill**	**5.65**	**351**	Pn	**Pn**	**02 21 15.3**	**-0.1**
K31A	comp=Z,36nm,0.7s			IAmb_Lg		02 23 00.9	
PBMO	**Poplar Bluff** comp=Z,24nm,0.8s	**5.70**	**91**	IAmb_Lg		02 22 57.3	
FVM	**French Village** comp=Z,25nm,1.1s	**5.72**	**78**	IAmb_Lg		02 22 55.5	
NATX	**Nacogdoches** comp=Z,23nm,0.8s	**5.78**	**155**	IAmb_Lg		02 23 11.0	
435B	**Jarrell** comp=Z,19nm,0.8s	**6.25**	**180**	IAmb_Lg		02 23 18.4	
435B	**Jarrell** baz=0.3	**6.25**	**180**	Sn	**Sn**	**02 22 35.9**	**+0.5**
CGM3	**Cape Girardeau** comp=Z,19nm,1.0s	**6.29**	**85**	IAmb_Lg		02 23 09.7	
S44A	**Carbondale** comp=Z,24nm,0.8s	**6.62**	**82**	IAmb_Lg		02 23 20.4	
143A	**Socs Landing,** comp=Z,19nm,0.7s	**6.64**	**129**	Pn	**Pn**	**02 21 27.9**	**-1.1**
143A				IAmb_Lg		02 23 40.5	
K38A	**Parkersburg** comp=Z,34nm,0.8s	**6.68**	**32**	IAmb_Lg		02 23 33.2	
ECSD	**EROS Data Cent**	**6.71**	**6**	Pn	**Pn**	**02 21 29.5**	**-0.6**
ECSD	**EROS Data Cent** baz=186,SNR=6.9	**6.71**	**6**	P	**Pn**	**02 21 29.5**	**-0.6**
JCT	**Junction City** comp=Z,17nm,0.8s	**6.82**	**197**	IAmb_Lg		02 23 40.2	
L40A	**Anamosa** comp=Z,28nm,0.7s	**6.99**	**42**	IAmb_Lg		02 23 36.2	
W45A	**Hickory Valley** comp=Z,24nm,0.7s	**7.01**	**103**	IAmb_Lg		02 23 36.9	
T45A	**Paducah** comp=Z,25nm,0.7s	**7.11**	**88**	IAmb_Lg		02 23 56.8	
N23A	**Red Feather La** comp=Z,22nm,1.0s	**7.60**	**303**	IAmb_Lg		02 24 04.8	
I37B	**Waseca** baz=206	**7.63**	**23**	Sn	**Sn**	**02 23 08.2**	**-1.2**
USIN	**University of** comp=Z,23nm,1.0s	**7.89**	**80**	IAmb_Lg		02 24 14.3	
JFWS	**Jewell Farm** baz=226	**8.10**	**41**	Sn	**Sn**	**02 23 16.7**	**-4.1**
I40A	**Norwalk** comp=Z,20nm,1.1s	**8.63**	**35**	IAmb_Lg		02 24 26.4	
RWWY	**Rawlins** comp=Z,14nm,1.1s	**8.81**	**305**	IAmb_Lg		02 24 38.3	
K22A	**Casper** comp=Z,14nm,0.9s	**8.89**	**312**	IAmb_Lg		02 24 59.2	

*NNC **01** 02:23:27.9±0.7,42°.33N×74°.80E,h0km,mb4.0,mpv3.9, Error ellipse: s-maj=5.0km s-min=3.3km az=15.0*

*KRNET **01** 02:23:27.2±0.1, 42°.28N×74°.83E, h11km, mb3.6*
*KNET **01** 02:23:27.1±0.5, 42°.29N×74°.81E, h20km±4km, ml2.7, Error ellipse: s-maj=3.4km s-min=2.3km az=159.0*
*SOME **01** 02:23:27.4, 42°.28N×74°.78E, h15km*

ISC 01 02:23:27.8±1.0, 42°.31N±0°.02×74°.81E±0°.02, h13km±8km, n75, σ1§25/131, 31C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.23**	**250**	⇑P	**Pg**	**02 23 32.6**	**-0.5**
	34nm,0.1s,SNR=101						
KBK	**Karagaybulak**	**0.36**	**17**	P	**Pb**	**02 23 35.7**	**-0.5**
KBK				⇑S	**Sb**	**02 23 41.3**	**-0.6**
	199nm,0.1s,SNR=439						
	5μm,0.2s						
KBK	**Karagaybulak**	**0.36**	**17**	⇑*i*P	**Pg**	**02 23 35.3**	**+0.1**
KBK	baz=13			⇑*i*S	**Sg**	**02 23 40.6**	**+0.4**
	baz=13						
AAK	**Ala-Archa**	**0.40**	**325**	⇑P	**Pb**	**02 23 36.4**	**-0.5**
AAK	179nm,0.2s,SNR=197			⇑S	**Sb**	**02 23 42.2**	**-0.8**
	3μm,0.3s						
AAK	**Ala-Archa**	**0.40**	**325**	⇑*i*P	**Pg**	**02 23 36.0**	**+0.1**
AAK	baz=26			⇑*i*S	**Sg**	**02 23 42.1**	**+0.8**
	baz=26						
FRU1	**Bishkek**	**0.52**	**345**	⇓*i*P	**Pg**	**02 23 37.9**	**-0.1**
FRU1	baz=45			⇓*i*S	**Sg**	**02 23 45.5**	**+0.6**
	baz=45						
ARLS	**Aral**	**0.57**	**219**	⇑*i*P	**Pg**	**02 23 38.0**	**-1.1**
ARLS	baz=22			⇑*i*S	**Sg**	**02 23 45.7**	**-1.0**
	baz=22						
CHMS	**Chumysh**	**0.69**	**357**	⇓P	**Pb**	**02 23 41.4**	**-0.4**
CHMS	103nm,0.1s,SNR=38			⇓S	**Sb**	**02 23 51.1**	**-0.1**
	325nm,0.2s						
CHMS	**Chumysh**	**0.69**	**357**	⇑P	**Pg**	**02 23 41.3**	**0.0**
CHMS	21nm,0.2s			⇑S	**Sb**	**02 23 51.2**	**0.0**
	82nm,0.2s						
CHMS	**Chumysh**	**0.69**	**357**	⇓*i*P	**Pg**	**02 23 41.2**	**0.0**
CHMS	baz=56			⇓*i*S	**Sb**	**02 23 50.8**	**-0.4**
	baz=56						
EKS2	**Erkin-Say**	**0.84**	**295**	⇑P	**Pg**	**02 23 43.9**	**-0.2**
EKS2	30nm,0.1s,SNR=39			⇑S	**Sb**	**02 23 56.1**	**+0.5**
	138nm,0.2s						
EKS2	**Erkin-Say**	**0.84**	**295**	⇑*i*P	**Pg**	**02 23 43.8**	**-0.2**
EKS2	baz=97			⇑*i*S	**Sb**	**02 23 55.9**	**+0.3**
	baz=97						
TKM2	**Tokmak 2**	**0.84**	**43**	⇓P	**Pg**	**02 23 43.7**	**-0.5**
TKM2	32nm,0.1s,SNR=61			⇑S	**Sg**	**02 23 55.0**	**-0.2**
	188nm,0.2s						
TKM2	**Tokmak 2**	**0.84**	**43**	⇓P	**Pg**	**02 23 43.6**	**-0.5**
TKM2	12nm,0.3s			⇑S	**Sg**	**02 23 54.9**	**-0.3**
	91nm,0.3s						
TKM2	**Tokmak 2**	**0.84**	**43**	⇑*i*P	**Pg**	**02 23 43.7**	**-0.5**
TKM2	baz=41			⇑*i*S	**Sg**	**02 23 55.1**	**-0.2**
	baz=41						
AML	**Almayashu**	**0.85**	**258**	⇓P	**Pg**	**02 23 43.5**	**-0.7**
AML	29nm,0.1s,SNR=73			⇓S	**Sb**	**02 23 55.2**	**-0.8**
	110nm,0.2s						
USP	**Ospenovka**	**0.98**	**347**	⇓P	**Pg**	**02 23 46.6**	**-0.1**
USP	62nm,0.2s,SNR=26			⇓S	**Sn**	**02 24 00.3**	**-0.9**
	221nm,0.2s						
USP	**Ospenovka**	**0.98**	**347**	⇑*i*P	**Pb**	**02 23 46.4**	**-0.3**
USP	baz=46			⇑*i*S	**Sg**	**02 24 00.1**	**+0.5**
	baz=46						
ULHL	**Ulahol**	**1.07**	**93**	⇑P	**Pb**	**02 23 47.0**	**-1.2**
	20nm,0.1s,SNR=26						
ULHL	**Ulahol**	**1.07**	**93**	⇓*i*P	**Pb**	**02 23 46.9**	**-1.3**
ULHL	baz=91			⇓*i*S	**Sb**	**02 24 01.5**	**-0.7**
	baz=91						
KST	**Kastek**	**1.12**	**49**	*e*P	**Pb**	**02 23 48.8**	**-0.4**
KST	22nm,0.1s			*e*S	**Sg**	**02 24 04.1**	**0.0**
	90nm,0.2s						
KST	**Kastek**	**1.12**	**49**	P	**Pb**	**02 23 48.8**	**-0.4**
KST	22nm,0.1s			S	**Sg**	**02 24 04.1**	**0.0**
	90nm,0.2s						
KST	**Kastek**	**1.12**	**49**	*e*P	**Pb**	**02 23 48.8**	**-0.4**
KST	baz=47			*e*S	**Sg**	**02 24 04.1**	**0.0**
	baz=47						
SGDS	**Sogindy**	**1.15**	**354**	*e*P	**Pn**	**02 23 48.7**	**-0.9**
SGDS	36nm,0.1s			*e*S	**Sb**	**02 24 04.1**	**-0.3**
	110nm,0.2s						
SGDS	**Sogindy**	**1.15**	**354**	P	**Pn**	**02 23 48.7**	**-0.9**
SGDS	36nm,0.1s			S	**Sb**	**02 24 04.1**	**-0.3**
	110nm,0.2s						
DGS	**Degeres**	**1.17**	**37**	*e*P	**Pg**	**02 23 50.0**	**-0.3**
DGS	21nm,0.1s			*e*S	**Sg**	**02 24 06.1**	**+0.4**
	73nm,0.2s						
DGS	**Degeres**	**1.17**	**37**	P	**Pg**	**02 23 50.0**	**-0.3**
DGS	21nm,0.1s			S	**Sg**	**02 24 06.1**	**+0.4**
	73nm,0.2s						
DGS	**Degeres**	**1.17**	**37**	*e*P	**Pg**	**02 23 50.0**	**-0.3**
DGS	baz=35			*e*S	**Sg**	**02 24 06.1**	**+0.4**
	baz=35						
MTBS	**Maitube**	**1.45**	**55**	*e*P	**Pb**	**02 23 54.5**	**-0.2**
MTBS	16nm,0.1s			*e*S	**Sg**	**02 24 13.9**	**-0.6**
	80nm,0.3s						
MTBS	**Maitube**	**1.45**	**55**	P	**Pb**	**02 23 54.5**	**-0.2**
MTBS	16nm,0.1s			S	**Sg**	**02 24 13.9**	**-0.6**
	80nm,0.3s						
MTBS	**Maitube**	**1.45**	**55**	*e*P	**Pb**	**02 23 54.5**	**-0.2**
MTBS	baz=54			*e*S	**Sg**	**02 24 13.9**	**-0.6**
	baz=54						
IZV	**Izvestkoviy**	**1.52**	**61**	*e*P	**Pb**	**02 23 55.8**	**-0.1**
IZV	18nm,0.1s			*e*S	**Sg**	**02 24 16.3**	**-0.4**
	74nm,0.2s						
IZV	**Izvestkoviy**	**1.52**	**61**	P	**Pb**	**02 23 55.8**	**-0.1**
IZV	18nm,0.1s			S	**Sg**	**02 24 16.3**	**-0.4**
	74nm,0.2s						
IZV	**Izvestkoviy**	**1.52**	**61**	*e*P	**Pb**	**02 23 55.8**	**-0.1**
IZV	baz=59			*e*S	**Sg**	**02 24 16.3**	**-0.4**
	baz=59						
TNSS	**Tian-Shan**	**1.74**	**65**	P	**Pb**	**02 24 00.0**	**+0.2**
TNSS	11nm,0.1s			S	**Sg**	**02 24 23.5**	**-0.2**
	84nm,0.2s						
AAA	**Alma-Ata**	**1.79**	**59**	*e*P	**Pg**	**02 24 01.2**	**-1.0**
AAA	63nm,0.1s			*e*S	**Sg**	**02 24 25.7**	**+0.2**
	123nm,0.2s						
AAA	**Alma-Ata**	**1.79**	**59**	P	**Pg**	**02 24 01.2**	**-1.0**
AAA	63nm,0.1s			S	**Sg**	**02 24 25.7**	**+0.2**
	123nm,0.2s						
AAA	**Alma-Ata**	**1.79**	**59**	*e*P	**Pg**	**02 24 01.2**	**-1.0**
AAA	baz=58			*e*S	**Sg**	**02 24 25.6**	**+0.2**
	baz=58						
KNDC	**Almaty**	**1.83**	**60**	⇓Pn	**Pb**	**02 24 01.3**	**+0.1**
KNDC	17nm,0.2s			⇑Sn	**Sg**	**02 24 26.7**	**+0.1**
	42nm,0.2s						
MDOK	**Medeo**	**1.86**	**62**	⇓*i*P	**Pb**	**02 24 02.1**	**+0.4**
MDOK	20nm,0.2s			*e*S	**Sg**	**02 24 27.1**	**-0.5**
	61nm,0.5s						
MDOK	**Medeo**	**1.86**	**62**	⇓Pg	**Pb**	**02 24 02.1**	**+0.4**
MDOK	11nm,0.4s			Pg	**Pb**	**02 24 02.1**	**+0.4**
	20nm,0.2s						
MDOK				Lg	Lg	02 24 27.1	
	61nm,0.5s						
MDOK				⇑Lg	Lg	02 24 27.7	
	48nm,0.6s						
MDOK	**Medeo**	**1.86**	**62**	⇓*i*P	**Pb**	**02 24 02.1**	**+0.4**
MDOK	baz=61			⇓*e*S	**Sg**	**02 24 27.1**	**-0.5**
	baz=61						
KOTS	**Kotyrbulak**	**1.93**	**61**	*e*P	**Pg**	**02 24 03.7**	**-1.2**
	40nm,0.2s						
KOTS				*e*S	**Sg**	**02 24 29.8**	**-0.1**
	180nm,0.5s						
KOTS	**Kotyrbulak**	**1.93**	**61**	Pg	**Pg**	**02 24 03.7**	**-1.2**
	40nm,0.2s						
KOTS				Lg	Lg	02 24 29.8	
	180nm,0.5s						
KOTS	**Kotyrbulak**	**1.93**	**61**	*e*P	**Pg**	**02 24 03.7**	**-1.2**
	baz=60						
KOTS				*e*S	**Sg**	**02 24 29.8**	**-0.1**
	baz=60						
KUU	**Kurty**	**1.94**	**35**	*e*P	**Pb**	**02 24 03.1**	**+0.1**
	122nm,0.3s						
KUU				⇓*i*S	**Sg**	**02 24 28.8**	**-1.4**
	93nm,0.4s						
KUU	**Kurty**	**1.94**	**35**	P	**Pb**	**02 24 03.1**	**+0.1**
	122nm,0.3s						
KUU				S	**Sg**	**02 24 28.8**	**-1.4**
	93nm,0.4s						
ANVS	**Anan'yevo**	**2.17**	**76**	⇑*i*P	**Pb**	**02 24 06.0**	**-0.9**
	baz=75						
ANVS				⇑*i*S	**Sb**	**02 24 34.2**	**+0.4**
	baz=75						
CHKK	**Chushkaly**	**2.22**	**45**	*e*P	**Pb**	**02 24 07.8**	**0.0**
	20nm,0.3s						
CHKK				*e*S	**Sg**	**02 24 37.5**	**-1.7**
	117nm,0.2s						
CHKK	**Chushkaly**	**2.22**	**45**	Pg	**Pb**	**02 24 07.8**	**0.0**
	20nm,0.3s						
CHKK				Lg	Lg	02 24 37.5	
	117nm,0.2s						
KURS	**Kuram**	**2.74**	**63**	*e*P	**Pb**	**02 24 17.6**	**+1.0**
	13nm,0.7s						
KURS				⇓*i*S	**Sg**	**02 24 53.8**	**-1.9**
	28nm,0.3s						
KURS	**Kuram**	**2.74**	**63**	Pg	**Pb**	**02 24 17.6**	**+1.0**
	13nm,0.7s						
KURS				Lg	Lg	02 24 53.8	
	28nm,0.3s						
SATY	**Saty**	**2.76**	**73**	*e*P	**Pb**	**02 24 17.6**	**+0.6**
	8.5nm,0.3s						
SATY				*e*S	**Sg**	**02 24 53.6**	**-2.7**
	52nm,0.3s						
SATY	**Saty**	**2.76**	**73**	Pg	**Pb**	**02 24 17.5**	**+0.6**
	8.5nm,0.3s						
SATY				Lg	Lg	02 24 53.6	
	52nm,0.3s						
BTLS	**Baital**	**2.79**	**349**	*e*P	**Pb**	**02 24 18.1**	**+0.7**
	13nm,0.1s						
BTLS				*e*S	**Sg**	**02 24 54.7**	**-2.6**
	13nm,0.3s						
BTLS	**Baital**	**2.79**	**349**	Pg	**Pb**	**02 24 18.1**	**+0.7**
	13nm,0.1s						
BTLS				Lg	Lg	02 24 54.7	
	13nm,0.3s						
ZHN	**Zhinishke**	**2.81**	**71**	*e*P	**Pb**	**02 24 18.7**	**+0.9**
	30nm,0.2s						
ZHN				*e*S	**Sg**	**02 24 55.5**	**-2.4**
	111nm,0.1s						
ZHN	**Zhinishke**	**2.81**	**71**	Pg	**Pb**	**02 24 18.7**	**+0.9**
	30nm,0.2s						
ZHN				Lg	Lg	02 24 55.5	
	111nm,0.1s						
ARXS	**Arharly**	**2.91**	**48**	*e*P	**Pb**	**02 24 19.8**	**+0.2**
	7.3nm,0.5s						
ARXS				*e*S	**Sb**	**02 24 57.7**	**+2.5**
	69nm,0.3s						
ARXS	**Arharly**	**2.91**	**48**	Pg	**Pb**	**02 24 19.8**	**+0.2**
	7.3nm,0.5s						
ARXS				Lg	Lg	02 24 57.7	
	69nm,0.3s						
KPKS	**Kokpek**	**3.07**	**67**	*e*P	**Pb**	**02 24 23.0**	**+0.6**
	16nm,0.1s						
KPKS				*e*S	**Sg**	**02 25 03.0**	**-3.5**
	70nm,0.7s						
KPKS	**Kokpek**	**3.07**	**67**	Pg	**Pb**	**02 24 23.0**	**+0.6**
	16nm,0.1s						
KPKS				Lg	Lg	02 25 03.0	
	70nm,0.7s						
UZB	**Uzynbulak**	**3.22**	**73**	*e*P	**Pb**	**02 24 25.7**	**+0.8**
	7.4nm,0.3s						
UZB				*e*S	**Sb**	**02 25 07.1**	**+3.1**
	30nm,0.6s						
UZB	**Uzynbulak**	**3.22**	**73**	Pg	**Pb**	**02 24 25.7**	**+0.8**
	7.4nm,0.3s						
UZB				Lg	Lg	02 25 07.1	
	30nm,0.6s						
BLB	**Baldybastay**	**3.22**	**55**	*e*P	**Pb**	**02 24 25.1**	**+0.1**
	25nm,0.0s						
BLB				*e*S	**Sb**	**02 25 06.8**	**+2.6**
	30nm,0.3s						
BLB	**Baldybastay**	**3.22**	**55**	Pg	**Pb**	**02 24 25.1**	**+0.1**
	25nm,0.0s						
BLB				Lg	Lg	02 25 06.8	
	30nm,0.3s						
KK31	**Karatay Array**	**3.27**	**286**	Pg	**Pg**	**02 24 33.1**	**+2.8**
	1.1nm,0.3s,baz=94,slow=16,SNR=7.0						
KK31				⇑Lg	Lg	02 25 09.4	
	5.4nm,0.3s,baz=100,slow=27,SNR=9.9						
SHLS	**Shalkode**	**3.53**	**75**	*e*P	**Pg**	**02 24 37.6**	**+2.2**
	3.9nm,0.3s						
SHLS				*e*S	**Sg**	**02 25 28.2**	**+7.0**
	20nm,0.5s						
SHLS	**Shalkode**	**3.53**	**75**	Pg	**Pg**	**02 24 37.7**	**+2.2**
	3.9nm,0.3s						
SHLS				Lg	Lg	02 25 28.2	
	20nm,0.5s						
IUG	**Iuzhnay**	**3.55**	**269**	*e*P	**Pb**	**02 24 31.0**	**+0.5**
	228nm,0.5s						
IUG				*e*S	**Sb**	**02 25 16.6**	**+3.0**
	45nm,0.5s						
IUG	**Iuzhnay**	**3.55**	**269**	Pg	**Pb**	**02 24 31.0**	**+0.5**
	228nm,0.5s						
IUG				Lg	Lg	02 25 16.6	
	45nm,0.5s						
PDGK	**Podgornoye**	**3.59**	**72**	⇑Pg	**Pb**	**02 24 31.9**	**+0.6**
	1.2nm,0.3s						
PDGK				⇑Lg	Lg	02 25 18.7	
	22nm,0.6s						
DJR	**Jarkent**	**4.16**	**59**	*e*P	**Pb**	**02 24 43.2**	**+2.4**
	3.9nm,0.2s						
DJR				*e*S	**Sg**	**02 25 38.0**	**-3.3**
	12nm,0.5s						
DJR	**Jarkent**	**4.16**	**59**	Pg	**Pb**	**02 24 43.2**	**+2.4**
	3.9nm,0.2s						
DJR				Lg	Lg	02 25 38.0	
	12nm,0.5s						
MK31	**Makanchi Array**	**6.97**	**47**	⇑Lg	Lg	02 27 06.4	
	1.1nm,0.6s,baz=228,slow=28,SNR=3.8						

WEL 01 02:28:48.0±0.9, 37°.5±6°×17°.9E±°, h12km, M3.5/19, ML3.7/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=115.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.85**	**236**	P	Pg	02 29 03.7	-0.7
MXZ				S	Sg	02 29 13.6	-2.0
WMGZ	**Waiomatatini S**	**0.96**	**220**	P	Pn	02 29 07.2	-0.1
WMGZ				S	Sn	02 29 21.0	+0.2
PKGZ	**Pakihiroa**	**1.20**	**228**	P	Pn	02 29 10.2	-0.4
PKGZ				S	Sg	02 29 26.4	-0.1
HAZ	**Te Kaha**	**1.31**	**239**	P	Pn	02 29 11.2	-0.9
HAZ				S	Sg	02 29 30.1	0.0
TWGZ	**Tauwhareparae**	**1.45**	**221**	P	Pn	02 29 14.0	-0.1
TWGZ				S	Sb	02 29 33.4	0.0
RUGZ	**Raukumara Rang**	**1.49**	**234**	P	Pn	02 29 14.9	+0.2
RUGZ				S	Sb	02 29 34.5	-0.2
CNGZ	**Carnagh Statio**	**1.60**	**209**	P	Pn	02 29 16.4	+0.4
WSRZ	**White Island S**	**1.67**	**255**	P	Pn	02 29 13.6	-3.4
TKGZ	**Te Karaka**	**1.72**	**218**	P	Pn	02 29 17.2	-0.5
MWZ	**Matawai**	**1.81**	**226**	P	Pn	02 29 18.9	-0.2
WHRZ	**Whale Island**	**1.93**	**246**	P	Pn	02 29 21.0	+0.4
RIGZ	**Rimuhau**	**1.97**	**215**	P	Pn	02 29 20.5	-0.8
URZ	**Urewera**	**2.03**	**234**	P	Pn	02 29 21.9	0.0
PRGZ	**Paritu Road**	**2.10**	**209**	P	Pn	02 29 22.1	-0.9
MHGZ	**Mahia Peninsul**	**2.30**	**206**	P	Pn	02 29 24.5	-1.2
MYRZ	**Mayor Island**	**2.37**	**265**	P	Pn	02 29 26.4	-0.3
TARZ	**Mount Tarawera**	**2.42**	**241**	P	Pn	02 29 28.3	+0.9
RAHZ	**Arahi**	**2.47**	**222**	P	Pn	02 29 28.5	+0.4
MTHZ	**Maungataniwha**	**2.56**	**226**	P	Pn	02 29 29.3	-0.1
NMHZ	**Naumai**	**2.75**	**223**	P	Pn	02 29 32.6	+0.6
ARHZ	**Aropaoanui**	**2.78**	**218**	P	Pn	02 29 31.4	-0.9
KUZ	**Kuaotunu**	**2.81**	**276**	P	Pn	02 29 31.2	-1.4
BKZ	**Black Stump Fm**	**2.97**	**225**	P	Pn	02 29 34.3	-0.8
TOZ	**Tahuroa Road**	**3.01**	**257**	P	Pn	02 29 35.3	-0.2
KWHZ	**Kaweka Forest**	**3.19**	**222**	P	Pn	02 29 36.7	-1.3
MKAZ	**Moumakai**	**3.23**	**269**	P	Pn	02 29 38.6	+0.2
KAHZ	**Kahuranaki**	**3.26**	**213**	P	Pn	02 29 36.8	-2.1
WIAZ	**Waiheke Island**	**3.27**	**274**	P	Pn	02 29 39.0	-0.1
TMVZ	**Te Maari**	**3.42**	**233**	P	Pn	02 29 40.5	-0.6
ETVZ	**East Tongariro**	**3.43**	**232**	P	Pn	02 29 40.5	-0.8
BHHZ	**Black Hill Sta**	**3.44**	**225**	P	Pn	02 29 40.3	-1.1
OTVZ	**Oturere**	**3.47**	**232**	P	Pn	02 29 40.9	-1.1
NNVZ	**North Ngauruho**	**3.48**	**233**	P	Pn	02 29 42.0	-0.2
SNVZ	**South Ngauruho**	**3.50**	**232**	P	Pn	02 29 41.6	-0.7
NGZ	**Ngauruhoe**	**3.52**	**233**	P	Pn	02 29 42.2	-0.4
ABAZ	**Army Bay**	**3.54**	**277**	P	Pn	02 29 43.4	+0.7
MOVZ	**Moawhango**	**3.56**	**229**	P	Pn	02 29 42.2	-0.9
PNHZ	**Pukenui**	**3.67**	**219**	P	Pn	02 29 42.3	-2.3
HIZ	**Hauiti**	**3.72**	**246**	P	Pn	02 29 46.1	+0.8
TSZ	**Takapari Road**	**3.90**	**220**	P	Pn	02 29 45.0	-2.8
MRZ	**Mangatainoka R**	**4.55**	**217**	P	Pn	02 29 53.8	-2.8
OUZ	**Omahuta**	**4.90**	**291**	P	Pn	02 30 02.5	+1.0
TCW	**Tory Channel**	**5.62**	**221**	P	Pn	02 30 14.5	+3.3

*IDC **01** 02:38:00.8±22.0, 34°.79N×72°.72E, h371km±250km, mb2.8/2, mbtmp3.5/3, Error ellipse: s-maj=778.0km s-min=75.8km az=135.0*
*NNC **01** 02:38:02.6±12.0, 36°.92N×70°.43E, h116km±212km, mb3.1, mpv3.9, Error ellipse: s-maj=105.8km s-min=74.7km az=5.0*

ISC 01 02:37:58.4±3.1, 36°.6N±0°.2×71°.0E±0°.2, h150km, n7, σ2§21/7, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.47**	**357**	P	**Pn**	**02 39 32.1**	**+0.8**
	1.3nm,0.2s,baz=182,slow=13,SNR=69						
KK31				⇓S	**Sn**	**02 40 42.5**	**-1.5**
	1.7nm,0.4s,baz=186,slow=26						
TKM2	**Tokmak 2**	**7.22**	**28**	⇑P	Pn	02 39 45.1	+3.6
	7.1nm,0.5s						
TKM2				⇑S	**Sn**	**02 41 03.8**	**+1.4**
	3.0nm,0.7s						
MKAR	**Makanchi Array**	**13.20**	**36**	P	**P**	**02 41 03.4**	**-1.2**
	0.3nm,0.3s,baz=214,slow=12,SNR=4.0						
AB31	**Akbulak array**	**14.95**	**331**	P	**Pn**	**02 41 20.2**	**-1.7**
	0.4nm,0.3s,baz=151,slow=13,SNR=33						
AKTO	**Aktyubinsk**	**16.64**	**330**	⇓P	**Pn**	**02 41 45.8**	**+3.0**
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**19.80**	**25**	P	**P**	**02 42 15.8**	**-1.2**
	0.9nm,0.3s,baz=213,slow=10,SNR=3.0						
	0.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P	P	02 48 16.0	-11
	0.4nm,0.9s,baz=56,slow=5.0,SNR=1.8						
	0.4nm,0.9s						

*JMA **01** 02:45:55.7±0.0, 32°.8N±0°.1×130°.6E±0°.1, h12km, MV3.7/20, NW KUMAMOTO PREF*
JMA Felt III J1 at NW KUMAMOTO PREF .
*NIED **01** 02:45:55.7, 32°.79N×130°.64E, h12km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.91; $M_{\theta\theta}$2.96; $M_{\phi\phi}$-0.05; $M_{r\theta}$0.20; $M_{\theta\phi}$0.18; $M_{r\phi}$0.38; Fault plane solution: $M_0$2.97000×10^{14} NP1:ϕ_s94.00000°, δ43.00000°, λ-79.00000°. NP2:ϕ_s259.00000°, δ48.00000°, λ-100.00000°.*
*IDC **01** 02:46:00.9±7.1, 32°.09N×131°.41E, h112km±48km, mb3.4/2, mbtmp3.7/5 Error ellipse: s-maj=79.4km s-min=29.4km az=25.0*

ISC 01 02:45:55.4±1.2, 32°.73N±0°.08×130°.5E±0°.1, h10km, n7, σ2§61/9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.24**	**9**	P	**Pg**	**02 46 00.1**	**-0.3**
JTA				S	**Sg**	**02 46 03.1**	**-0.6**
JIU3	**Izumi3**	**0.33**	**122**	*i*P	**Pg**	**02 46 01.4**	**-0.5**
KSRS	**Korea Array**	**5.17**	**337**	P	**Pb**	**02 47 29.0**	**+3.2**
	2.3nm,0.6s,baz=153,slow=16,SNR=4.4						
KSRS				S	**Sg**	**02 48 36.9**	**-4.4**
	11nm,0.7s,baz=155,slow=30,SNR=9.2						
MJAR	**Matsushiro Arr**	**7.42**	**57**	P	**Pn**	**02 47 42.9**	**-0.8**
	1.5nm,0.4s,baz=241,slow=14,SNR=6.8						
KLR	**Kul'dur**	**16.52**	**3**	P	**P**	**02 49 52.6**	**+2.9**
	1.7nm,0.8s,baz=180,slow=11,SNR=2.1						
FINES	**FINESS Array B**	**68.22**	**330**	P	**P**	**02 56 54.7**	**-1.1**
	0.8nm,0.6s,baz=74,slow=6.2,SNR=3.7						
	0.8nm,0.6s						
AKASG	**Malin Array Be**	**71.91**	**319**	P	**P**	**02 57 18.0**	**-0.7**
	0.3nm,0.3s,baz=52,slow=6.0,SNR=2.3						
	0.3nm,0.3s						

*IDC **01** 02:59:09.6±1.3, 30°.15N×102°.00E, h0km, mb3.6/5, mbtmp3.6/6, ML3.5/1, MS3.2/2, Error ellipse: s-maj=45.1km s-min=21.7km az=63.0*

ISC 01 02:59:14.7±1.5, 30°.2N±0°.2×102°.1E±0°.2, h35km, n7, σ0§51/6, mb3.6/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**17.91**	**10**	P	**P**	**03 03 21.6**	**+0.2**
	0.2nm,0.3s,baz=181,slow=13,SNR=2.5						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**22.55**	**323**	P	**P**	**03 04 11.1**	**-0.5**
	0.6nm,0.8s,baz=132,slow=13,SNR=3.0						
	0.6nm,0.8s						
KSRS	**Korea Array**	**22.63**	**65**	P	**P**	**03 04 12.2**	**-0.3**
	0.8nm,0.4s,baz=260,slow=9.0,SNR=1.5						
KSRS				LR	LR	03 13 57.4	
	comp=Z,34nm,18.8s,baz=220,slow=39						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**26.80**	**337**	P	**P**	**03 04 51.8**	**+0.5**
	1.2nm,0.3s,baz=119,slow=12,SNR=2.1						
	1.2nm,0.3s						
YAK	**Yakutsk**	**36.57**	**22**	LR	LR	03 22 52.6	
	comp=Z,52nm,18.8s,baz=89,slow=39						
WRA	**Warramunga Arr**	**58.76**	**144**	P	**P**	**03 09 09.4**	**0.0**
	1.1nm,0.6s,baz=333,slow=7.7,SNR=17						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**61.69**	**147**	P	**P**	**03 09 29.6**	**+0.2**
	0.2nm,0.4s,baz=330,slow=6.7,SNR=4.4						
	0.2nm,0.4s						

*IDC **01** 03:00:06.4±3.4, 10°.77N×83°.56W, h0km, mb3.7/7, mbtmp3.8/8, ML4.5/1, MS3.0/2, Error ellipse: s-maj=105.8km s-min=25.5km az=22.0*
*UPA **01** 03:00:13.8±1.1, 9°.83N×84°.23W, h10km±7km, MW4.1*
*SNET **01** 03:00:13.7±0.7, 10°.18N×84°.04W, h45km, ML4.7*
*NEIC **01** 03:00:13.6±0.7, 10°.09N±0°.05×84°.19W±0°.04, h79km±6km, mb4.2/5, Error ellipse: s-maj=9.4km s-min=2.8km az=218.0*
*UCR **01** 03:00:13.6±1.3, 10°.05N×84°.20W, h78km±1km, ML4.1, MW4.3, mb4.2(NEIC)*
*INET **01** 03:00:21.9±1.2, 10°.22N×84°.94W, h15km±8km, MW

LCR2 La Lucha 2 0.37 152 *e*P Pn **03 00 25.5 -0.8**
LCR2 eS Sn **03 00 35.3 -0.5**
RAFA San Farael, Vo 0.38 107⇑*i*P Pn **03 00 27.1 +0.6**
CVTR Volcan Turrial 0.42 97 Pn **03 00 27.1 +0.2**
CVTR Sn Sn **03 00 37.1 +0.3**
RIMA Rio Macho 0.43 134 Pn **03 00 26.7 0.0**
RIMA Sn Sn **03 00 36.9 +0.3**
RIMA Rio Macho 0.43 134 *e*P Pn **03 00 26.7 0.0**
RIMA eS Sn **03 00 37.3 +0.7**
FORC Fortuna 0.62 309⇑*e*P Pn **03 00 28.4 +0.3**
FORC eS Sn **03 00 39.8 +0.6**
CASO Castillo 0.65 303⇑*i*P Pn **03 00 28.7 +0.2**
CASO eS Sn **03 00 40.5 +0.6**
CDM Cerro de Muert 0.66 141⇑*e*P Pn **03 00 28.8 -0.3**
CEDE Laguna Cedeo 0.66 309⇑*e*P Pn **03 00 28.9 +0.3**
CEDE eS Sn **03 00 40.7 +0.7**
COVE Coope Vega, Sa 0.68 341 Pn **03 00 28.6 -0.2**
COVE Sn Sn **03 00 40.1 -0.1**
COVE Coope Vega, Sa 0.68 341 *e*P Pn **03 00 28.5 -0.2**
COVE eS Sn **03 00 40.2 0.0**
LAFE Finca La Fe, P 0.77 250⇓*e*P Pn **03 00 30.2 +0.6**
LAFE Finca La Fe, P 0.77 250 *e*P Pn **03 00 30.4 +0.8**
MRVA Moravia de Chi 0.77 109⇑*e*P Pn **03 00 30.4 +0.6**
JTS Las Juntas de 0.79 286 Pn **03 00 29.9 0.0**
JTS Sn Sn **03 00 42.6 +0.3**
JTS Las Juntas de 0.79 286⇑*e*P Pn **03 00 29.9 0.0**
JTS eS Sn **03 00 42.6 +0.3**
JTS Las Juntas de 0.79 286 *e*P Pn **03 00 30.0 0.0**
JTS eS Sn **03 00 42.8 +0.4**
BATAN Batan 0.79 88 Pn **03 00 30.6 +0.7**
BATAN Batan 0.79 88⇑*i*P Pn **03 00 30.8 +0.9**
BATAN eS Sn **03 00 44.2 +2.0**
PEZE Perez Zeledon, 0.84 144 Pn **03 00 30.6 -0.1**
PEZE Perez Zeledon, 0.84 144⇑*e*P Pn **03 00 30.5 -0.1**
PEZE eS Sn **03 00 44.4 +0.8**
ACAL Aguas Claras 1.01 304⇑*i*P Pn **03 00 32.5 0.0**
PTEN Parque Tenorio 1.02 309⇑*e*P Pn **03 00 32.6 0.0**
PTEN eS Sn **03 00 47.9 +0.8**
VERA Finca Concepci 1.03 319 *e*P Pn **03 00 32.7 0.0**
SRBA San Rafael, Bu 1.16 136 Pn **03 00 34.4 -0.1**
SRBA San Rafael, Bu 1.16 136⇑*e*P Pn **03 00 34.3 -0.1**
SRBA eS Sn **03 00 50.2 0.0**
HORNC Hornillas 1.17 303⇑*e*P Pn **03 00 34.5 0.0**
MICM Guayabo 1.18 302 *e*P Pn **03 00 34.8 +0.2**
VMAR Armenia, Volca 1.18 309⇑*i*P Pn **03 00 34.7 +0.1**
VMAR eS Sn **03 00 51.2 +0.6**
GUAB Guayabo de Bag 1.21 302⇑*e*P Pn **03 00 35.1 +0.2**
DRK0 Durika 1.22 131 Pn **03 00 36.0 +0.8**
DRK0 Durika 1.22 131⇑*e*P Pn **03 00 36.2 +1.0**
DRK0 Durika 1.22 131 *e*P Pn **03 00 36.3 +1.0**
DRK0 eS Sn **03 00 53.0 +1.4**
LIM1 Limonal 1.23 301⇑*i*P Pn **03 00 35.3 +0.1**
NICO Nicoya 1.25 273⇑*e*P Pn **03 00 36.0 +0.6**
EDBA Buenos Aires 1.27 135⇑*e*P Pn **03 00 35.5 -0.1**
ORTG Ortega, Santa 1.29 283 Pn **03 00 35.9 -0.1**
ORTG Ortega, Santa 1.29 283 *e*P Pn **03 00 36.5 +0.5**
EDPN Palmar Norte 1.31 147 *e*P Pn **03 00 36.5 +0.3**
INDI Punta indio, G 1.32 261⇓*e*P Pn **03 00 35.8 -0.4**
GPS2 Hotel Rincn d 1.34 300⇑*e*P Pn **03 00 36.7 +0.2**
VRLE La Escondida, 1.37 302⇑*i*P Pn **03 00 37.0 +0.1**
BUAI Buenos Aires 1.39 305⇑*i*P Pn **03 00 37.1 -0.1**
BUAI eS Sn **03 00 55.6 +0.4**
BUEV Buena Vista 1.41 301⇑*e*P Pn **03 00 37.6 +0.1**
GB1A Boringuen Arri 1.41 302 *e*P Pn **03 00 37.8 +0.2**
LAPC Finca la Perla 1.41 299⇑*e*P Pn **03 00 37.3 -0.2**
GBS3 Finca Las Img 1.44 299⇑*i*P Pn **03 00 37.7 -0.1**
GRZA Playa Garza 1.44 264 *e*P Pn **03 00 38.7 -0.5**
POTG Potrero Grande 1.46 134⇑*i*P Pn **03 00 38.2 +0.1**
SAJU San Juanillo, 1.51 270 *e*P Pn **03 00 38.2 -0.5**
HZTE Horizontes, Gu 1.53 295 Pn **03 00 39.1 0.0**
HZTE Horizontes, Gu 1.53 295 *e*P Pn **03 00 39.0 0.0**
EDSV San Vito 1.72 136⇑*e*P Pn **03 00 42.5 +0.8**
PTJ1 Puerto Jimnez 1.75 150 *e*P Pn **03 00 43.3 +1.4**
CNI2 El Empalme, Bo 1.80 111 *i*P Pn **03 00 42.6 0.0**
CNI2 eS Sn **03 01 04.5 -0.3**
BRU2 Volcan 1.94 131 Pn **03 00 44.5 -0.1**
BRU2 Volcan 1.94 131⇑*i*P Pn **03 00 45.0 +0.5**
BRU2 Volcan 1.94 131⇑*i*P Pn **03 00 45.1 +0.5**
BRU2 eS Sn **03 01 08.6 +0.3**
CDITO Canoas 1.97 139 Pn **03 00 44.8 0.0**
CDITO Canoas 1.97 139⇑*i*P Pn **03 00 44.6 -0.2**
CDITO eS Sn **03 01 08.1 -0.7**
CCOL Caracol de Cor 2.04 144 *e*P Pn **03 00 45.6 -0.1**
BCO2 Palmira 2.11 129 *e*P Pn **03 00 47.4 +0.6**
BCO2 eS Sn **03 01 14.0 +0.5**
ESPN Las Esperanzas 2.11 357⇑*e*P Pn **03 00 47.0 +0.3**
ACON Acoyapa 2.12 333 Pn **03 00 46.9 +0.1**
ACON Acoyapa 2.12 333⇑*i*P Pn **03 00 46.9 +0.1**
ACON Acoyapa 2.12 333 eS Sn **03 01 12.7 +0.3**
LNBQ3 Los Naranjos, 2.14 126 *e*P Pn **03 00 47.5 +0.4**
LNBQ3 eS Sn **03 01 13.7 +0.7**
CHGR2 Aguacate 2.30 119 *e*P Pn **03 00 49.9 +0.7**
CHGR2 eS Sn **03 01 17.6 +0.8**
DVD David 2.36 133 *e*P Pn **03 00 50.8 +0.8**
DVD eS Sn **03 01 19.2 +1.2**
CHIR3 Chiriqui UPA, 2.47 132⇓*i*P Pn **03 00 52.2 +0.7**
BOAB BOACO BROADBAN 2.78 328 Pn **03 00 55.5 -0.1**
REME3 Remedios, Chir 2.96 128 *e*P Pn **03 00 59.2 +1.2**
COPN Copaltepe 3.16 312 *e*P Pn **03 01 00.6 -0.3**
MOMN Momotombo 3.28 315 *e*P Pn **03 01 02.9 +0.4**
MATN Matagalpa 3.32 329 Pn Pn **03 01 02.8 -0.2**
CNGN Cerro Negro 3.45 315 Pn **03 01 05.1 +0.2**
CNGN Cerro Negro 3.45 315 *e*P Pn **03 01 05.3 +0.6**
CRIN San Cristobal 3.84 313 Pn **03 01 10.0 -0.1**
CRIN San Cristobal 3.84 313⇑*i*P Pn **03 01 10.6 +0.5**
CRIN San Cristobal 3.84 313 *e*P Pn **03 01 10.7 +0.6**
PNME Penonome 4.12 112 *e*P Pn **03 01 15.0 +1.2**
BCIP Isla Barro Col 4.38 101 Pn Pn **03 01 17.6 +0.2**
CSGN Cosiguina Volc 4.39 311 *e*P Pn **03 01 18.8 +1.1**
UPA Univ. de Panam 4.71 103 *e*P Pn **03 01 23.6 +1.7**
CNCH Conchagua 4.79 312 *e*P Pn **03 01 25.2 +2.1**
CNCH eS Sn **03 02 19.7 +2.2**
CNCH Conchagua 4.79 312 *e*P Pn **03 01 25.2 +2.1**
CNCH eS Sn **03 02 19.7 +2.2**
TGUH Tegucigalpa,Un 4.98 323 Pn Pn **03 01 25.6 -0.1**
PACA Pacayal 5.28 310 *e*P Pn **03 01 32.4 +2.6**
PACA Pacayal 5.28 310 *e*P Pn **03 01 32.4 +2.6**
COEB Comit de Eme 5.45 309 *e*P Pn **03 01 34.5 +2.3**
COEB IAML 03 01 37.8
comp=Z,143nm,0.3s
COEB Comit de Eme 5.45 309 *e*P Pn **03 01 34.5 +2.3**
COEB IAML 03 01 37.8
comp=Z,143nm,0.3s
SCLA Alcaldia de Sa 5.73 309 *e*P Pn **03 01 37.8 +1.9**
SCLA Alcaldia de Sa 5.73 309 *e*P Pn **03 01 37.8 +1.9**
COEG Centro de Oper 5.80 308 *e*P Pn **03 01 38.9 +2.1**
COEG Centro de Oper 5.80 308 *e*P Pn **03 01 38.9 +2.1**
PAVA Las Pavas 5.90 308 *e*P Pn **03 01 40.0 +1.8**
PAVA Las Pavas 5.90 308 *e*P Pn **03 01 40.0 +1.8**
LFRS El Faro 5.94 307 *e*P Pn **03 01 41.2 +2.4**
LFRS IAML 03 01 41.8
comp=Z,728nm,0.2s
LFRS El Faro 5.94 307 *e*P Pn **03 01 41.2 +2.4**
LFRS IAML 03 01 41.8
comp=Z,728nm,0.2s
SNET Serv Nac Est T 6.11 306 Pn **03 01 40.7 -0.5**
JAYA Jayaque - finc 6.27 305 *e*P Pn **03 01 45.0 +1.7**
JAYA Jayaque - finc 6.27 305 *e*P Pn **03 01 45.0 +1.7**
CEVE Cerro Verde 6.50 306 *e*P Pn **03 01 48.9 +2.3**
CEVE Cerro Verde 6.50 306 *e*P Pn **03 01 48.9 +2.3**
MTO3 Montecristo 6.64 311 Pn **03 01 48.1 -0.4**
NUBE Las Nubes 6.67 305 *e*P Pn **03 01 50.9 +2.1**
NUBE Las Nubes 6.67 305 *e*P Pn **03 01 50.9 +2.1**
ESQI Esquipulas 6.73 312 Pn **03 01 49.0 -0.7**
CMIG Matias Romero 12.52 305 Pn Pn **03 03 08.0 -0.5**
comp=Z,2.8nm,0.3s,baz=128,slow=10,SNR=48
CMIG Sn Sn **03 05 23.3 -2.9**
comp=Z,0.3nm,0.3s,baz=157,slow=17,SNR=1.6
comp=Z,17nm,0.5s
SDV Santo Domingo 13.41 94 LR LR 03 08 52.1
comp=Z,42nm,18.6s,baz=236,slow=41
TLIG Tlapa 15.82 300 P **03 03 53.1 -0.8**
BAUV El Baul 15.96 93 Pn Pn **03 03 52.4 -0.8**
BAUV IAmb IAmb 03 03 56.3
comp=Z,34nm,1.4s
BG3 Lake Jocassee 24.83 2 P P **03 05 27.9 -0.3**
V53A Saluda 25.51 3 P P **03 05 34.5 +0.1**
V53A IAmb IAmb 03 05 39.3
comp=Z,14nm,1.4s
V58A Windy Hill, Pi 26.02 9 P P **03 05 38.9 0.0**
V58A IAmb IAmb 03 05 40.1
comp=Z,5.9nm,0.8s
TXAR Lajitas Array 26.45 319 P P **03 05 45.8 +2.8**
comp=Z,0.3nm,0.6s,baz=131,slow=11,SNR=5.2
comp=Z,0.3nm,0.6s
TXAR Lajitas Array 26.45 319 P P **03 05 42.9 -0.1**
SIV San Ignacio 34.55 138 LR LR 03 22 39.9
comp=Z,33nm,19.0s,baz=63,slow=39
ULM Lac du Bonnet 41.21 349 P P **03 07 47.2 -2.9**
comp=Z,2.1nm,0.8s,baz=167,slow=10.0,SNR=3.0
comp=Z,2.1nm,0.8s
NVAR Mina Array Bea 41.60 318 P P **03 07 56.1 +2.4**
comp=Z,0.2nm,0.5s,baz=113,slow=8.9,SNR=2.1
comp=Z,0.2nm,0.5s
YKA Yellowknife Ar 56.76 344 P P **03 09 48.1 -0.6**
comp=Z,1.0nm,0.7s,baz=136,slow=9.2,SNR=3.1
comp=Z,1.0nm,0.7s
ILAR Eielson Array 69.48 336 P P **03 11 12.9 0.0**
comp=Z,0.2nm,0.6s,baz=121,slow=4.9,SNR=8.6
comp=Z,0.2nm,0.6s
ESDC Sonseca Array 76.14 52 P P **03 11 52.7 -0.2**
comp=Z,1.6nm,0.7s,baz=284,slow=5.8,SNR=14
comp=Z,1.6nm,0.7s
TORD Torodi Ar. Bea 83.78 78 P P **03 12 33.6 -0.9**
comp=Z,1.2nm,0.9s,baz=287,slow=5.3,SNR=6.8
comp=Z,1.2nm,0.9s
ASAR Alice Springs 141.27 245 PKhKP PKPpre 03 19 32.6
comp=Z,0.1nm,0.4s,baz=93,slow=1.9,SNR=2.0
WRA Warramunga Arr 141.61 251 PKhKP PKPpre 03 19 32.2
comp=Z,0.2nm,0.6s,baz=98,slow=2.9,SNR=0.9

IDC ***01*** *03:14:17.3±0.6,0.°13S×17.°95W,h0km,mb4.3/22, mbtmp4.4/24,ML4.9/2,MS3.8/59,Error ellipse: s-maj=19.4km s-min=12.3km az=146.0*
NEIC ***01*** *03:14:19.2±1.1,0.°1S±0.°1×17.°9W±0.°1,h10km±1km, mb4.8/63,Error ellipse: s-maj=20.3km s-min=17.0km az=129.0*
GCMT ***01*** *03:14:24.2±0.3,0.°03N±0.°02×17.°98W±0.°01,h19km±1km, MW4.8/104,Moment Tensor Solution. s29,c31; s104,c143; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.23±.10; Mθθ=0.82±.09; Mϕϕ=-0.58±.08; Mrθ=0.09±.16; Mθϕ=-2.06±.07; Mϕr=0.01±.15; Best double couple: M=2.17700×10^16^ NP1=ϕ=261.00000°, δ=90.00000°, λ=-178.00000°. NP2=ϕ=171.00000°, δ=88.00000°, λ=0.00000°. Principal axes: T 2.2940, Plg1.0000°, Azm36.0000°; N -0.2330, Plg88.0000°, Azm268.0000°; P -2.0610, Plg2.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 03:14:20.7±0.4,0.°12S±0.°08×17.°96W±0.°07, h23km, n195, σ=0.97/155, mb4.7/70, MS3.9/56, 5C-7D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.40**	**156**	Pn	**Pn**	**03 16 20.9**	**0.0**
	baz=337,slow=12						
H10N2				T	T	03 24 45.9	
	baz=335						
H10N3	**ASCENSION HYDR**	**8.41**	**156**	Pn	**Pn**	**03 16 21.0**	**0.0**
	baz=337,slow=12						
H10N3				T	T	03 24 49.8	
	baz=335						
H10N1	**ASCENSION HYDR**	**8.42**	**156**	Pn	**Pn**	**03 16 21.1**	**-0.1**
	baz=337,slow=12						
H10N1				T	T	03 24 51.5	
	baz=335						
ASCN	**Ascension**	**8.55**	**155**	Pn	**Pn**	**03 16 22.7**	**-0.5**
H10S3	**ASCENSION HYDR**	**9.37**	**160**	Pn	**Pn**	**03 16 34.2**	**0.0**
	baz=211,slow=74						
H10S2	**ASCENSION HYDR**	**9.38**	**159**	Pn	**Pn**	**03 16 35.7**	**+1.3**
	baz=9.4,slow=74						
LIC	**Lamto**	**14.37**	**64**	*e*P	**Pn**	**03 17 40.8**	**-2.1**
	102nm,0.7s						
TIC	**Toumodi**	**14.56**	**62**	*e*P	**Pn**	**03 17 44.0**	**-1.5**
	25nm,0.5s						
KIC	**Kosan Baoka**	**14.68**	**64**	*e*P	**Pn**	**03 17 44.9**	**-2.3**
	69nm,0.5s						
DBIC	**Dimbokro**	**14.72**	**62**	Pn	**Pn**	**03 17 45.6**	**-2.0**
	9.3nm,0.3s,baz=258,slow=14,SNR=90						
DBIC				Sn	Sn	03 20 17.6	-13
	3.7nm,0.3s,baz=163,slow=20,SNR=4.3						
DBIC				LR	LR	03 22 32.6	
	comp=Z,519nm,18.9s,baz=242,slow=34						
	34nm,0.5s						
BBTS	**Babate**	**14.76**	**5**	LR	LR	03 22 47.9	
	comp=Z,691nm,18.8s,baz=216,slow=35						
RCBR	**Riachuelo**	**18.78**	**252**	P	**P**	**03 18 38.0**	**-0.7**
	2.5nm,0.3s,baz=227,slow=13,SNR=20						
RCBR				S	Sn	03 21 49.1	-20
	6.0nm,0.6s,baz=40,slow=9.2,SNR=1.1						
RCBR				LR	LR	03 24 10.3	
	comp=Z,434nm,19.3s,baz=219,slow=32						
	5.7nm,0.4s						
KOWA	**Kowa**	**20.03**	**43**	P	**P**	**03 18 51.8**	**-0.5**
	43nm,0.8s,baz=223,slow=9.6,SNR=81						
KOWA				LR	LR	03 26 09.5	
	comp=Z,736nm,18.8s,baz=256,slow=36						
	43nm,0.8s						
KOWA	**Kowa**	**20.03**	**43**	P	**P**	**03 18 51.8**	**-0.5**
TOA0	**Torodi Ar. Sit**	**23.53**	**55**	P	**P**	**03 19 28.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**23.53**	**55**	P	**P**	**03 19 28.1**	**-1.3**
	34nm,0.9s,baz=238,slow=10,SNR=110						
TORD				S	**S**	**03 23 47.9**	**+5.6**
	3.5nm,0.7s,baz=234,slow=23,SNR=4.7						
TORD				LR	LR	03 28 18.6	
	comp=Z,247nm,18.6s,baz=235,slow=36						
	34nm,0.9s						
TORD	**Torodi Ar. Bea**	**23.53**	**55**	P	**P**	**03 19 28.8**	**-0.7**
TORD				IAmb	IAmb	03 19 31.2	
	comp=Z,48nm,1.2s						
TAM	**Tamanrasset**	**32.27**	**44**	P	P	03 20 42.5	-5.5
TAM				IAmb	IAmb	03 20 43.4	
	comp=Z,26nm,1.4s						
BDFB	**Brasilia**	**33.44**	**241**	P	**P**	**03 20 58.3**	**0.0**
	comp=Z,1.2nm,0.4s,baz=113,slow=15,SNR=2.0						
BDFB				LR	LR	03 32 54.8	
	comp=Z,284nm,19.8s,baz=25,slow=33						
	comp=Z,1.2nm,0.4s						
MDP	**Montagnes des**	**35.02**	**279**	P	**P**	**03 21 11.5**	**-0.4**
	comp=Z,7.5nm,0.8s,baz=99,slow=8.3,SNR=3.7						
MDP				LR	LR	03 33 20.3	
	comp=Z,102nm,20.9s,baz=94,slow=33						
	comp=Z,7.5nm,0.8s						
MDT	**Midelt**	**35.10**	**20**	LR	LR	03 34 58.1	
	comp=Z,268nm,21.0s,baz=222,slow=35						
MORF	**Marmelete**	**38.23**	**12**	*e*P	**P**	**03 21 40.3**	**+1.3**
PBDV	**Barranco-do-Ve**	**38.32**	**13**	*e*P	**P**	**03 21 37.4**	**-2.4**
PTEO	**Sao Teotonio**	**38.44**	**12**	*e*P	**P**	**03 21 42.8**	**+2.1**
PVAQ	**Vaqueiros**	**38.52**	**13**	*e*P	**P**	**03 21 43.0**	**+1.6**
	comp=Z,48nm,1.7s						
PVAQ	**Vaqueiros**	**38.52**	**13**	P	**P**	**03 21 41.5**	**0.0**
PVAQ				IAmb	IAmb	03 21 44.0	
	comp=Z,27nm,1.2s						
PCVE	**Castro Verde**	**38.67**	**13**	*e*P	**P**	**03 21 44.3**	**+1.6**
	comp=Z,34nm,1.6s						
MESJ	**Messejana**	**38.83**	**12**	*e*P	**P**	**03 21 45.8**	**+1.8**
PNCL	**Nicolau / Gran**	**39.03**	**12**	*e*P	**P**	**03 21 46.0**	**+0.4**
	comp=Z,33nm,1.8s						
PBEJ	**Beja**	**39.09**	**13**	*e*P	**P**	**03 21 47.8**	**+1.6**
PBAR	**Barrancos**	**39.42**	**14**	*e*P	**P**	**03 21 50.3**	**+1.4**
EVO	**Evora**	**39.54**	**12**	*e*P	**P**	**03 21 51.7**	**+1.8**
	comp=Z,28nm,0.8s						
TSUM	**Tsumeb**	**39.68**	**121**	LR	LR	03 34 36.3	
	comp=Z,171nm,21.6s,baz=333,slow=31						
PESTR	**Estremoz**	**39.95**	**13**	*e*P	**P**	**03 21 54.8**	**+1.4**
	comp=Z,22nm,1.7s						
PCAS	**Casmilo, Conde**	**40.91**	**11**	*e*P	**P**	**03 22 03.0**	**+1.7**
PAB	**San Pablo**	**41.40**	**16**	P	**P**	**03 22 04.9**	**-0.5**
PAB				IAmb	IAmb	03 22 07.8	
	comp=Z,17nm,1.1s						
MTE	**Manteigas**	**41.43**	**12**	*e*P	**P**	**03 22 07.2**	**+1.5**
	comp=Z,29nm,1.1s						
ESDC	**Sonseca Array**	**41.62**	**16**	P	**P**	**03 22 08.4**	**+1.2**
	comp=Z,4.3nm,1.1s,baz=212,slow=8.7,SNR=19						
	comp=Z,4.3nm,1.1s						
ESDC	**Sonseca Array**	**41.62**	**16**	P	**P**	**03 22 06.8**	**-0.4**
ESBB	**Sonseca Array**	**41.62**	**16**	P	**P**	**03 22 07.2**	**-0.1**
ESBB				IAmb	IAmb	03 22 10.5	
	comp=Z,21nm,1.4s						
PVIS	**Viseu**	**41.66**	**12**	*e*P	**P**	**03 22 09.0**	**+1.4**
MVO	**Moncorvo**	**42.27**	**12**	*e*P	**P**	**03 22 14.1**	**+1.5**
	comp=Z,31nm,1.6s						
BOAV	**Boa Vista**	**42.62**	**274**	P	**P**	**03 22 15.7**	**0.0**
BOAV				IAmb	IAmb	03 22 27.4	
	comp=Z,17nm,1.3s						
PBRG	**Braganca**	**42.95**	**12**	*e*P	**P**	**03 22 19.4**	**+1.4**
KEST	**Kesra**	**43.80**	**33**	P	**P**	**03 22 26.3**	**+1.3**
	comp=Z,6.1nm,1.0s,baz=204,slow=4.1,SNR=5.7						
KEST				LR	LR	03 42 03.0	
	comp=Z,477nm,19.5s,baz=172,slow=38						
	comp=Z,6.1nm,1.0s						
KEST	**Kesra**	**43.80**	**33**	P	**P**	**03 22 25.2**	**+0.1**
SIV	**San Ignacio**	**45.35**	**247**	P	**P**	**03 22 38.4**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=79,slow=8.9,SNR=7.7						
SIV				LR	LR	03 40 58.4	
	comp=Z,208nm,18.7s,baz=96,slow=35						
	comp=Z,1.8nm,0.9s						
CPUP	**Villa Florida**	**45.99**	**232**	P	**P**	**03 22 43.6**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=36,slow=13,SNR=2.5						
CPUP				LR	LR	03 39 30.3	
	comp=Z,185nm,18.5s,baz=65,slow=33						
	comp=Z,2.2nm,1.0s						
LSZ	**Lusaka**	**48.00**	**111**	P	**P**	**03 22 59.0**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=293,slow=7.7,SNR=3.0						
LSZ				LR	LR	03 39 28.2	
	comp=Z,128nm,21.8s,baz=276,slow=32						
	comp=Z,1.2nm,0.3s						
SUR	**Sutherland**	**48.64**	**135**	LR	LR	03 40 26.3	
	comp=Z,124nm,18.0s,baz=268,slow=32						
LBTB	**Lobatse**	**48.83**	**124**	P	**P**	**03 23 05.2**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=277,slow=8.1,SNR=5.9						
LBTB				LR	LR	03 40 17.2	
	comp=Z,79nm,19.4s,baz=264,slow=32						
	comp=Z,4.4nm,0.8s						
ETMB	**Extrema**	**48.96**	**257**	P	**P**	**03 23 04.9**	**-0.9**
ETMB				IAmb	IAmb	03 23 06.2	
	comp=Z,5.8nm,1.2s						
BNI	**Bardonecchia**	**50.00**	**23**	P	**P**	**03 23 13.3**	**-0.1**
BOSA	**Boshof**	**50.08**	**128**	P	**P**	**03 23 13.8**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=306,slow=5.7,SNR=8.9						
BOSA				LR	LR	03 42 13.1	
	comp=Z,70nm,18.2s,baz=228,slow=34						
	comp=Z,1.9nm,0.6s						
BAUV	**El Baul**	**50.67**	**282**	P	**P**	**03 23 19.4**	**+0.5**
SJG	**San Juan**	**50.70**	**294**	LR	LR	03 39 55.9	
	comp=Z,121nm,21.6s,baz=82,slow=30						
LPAZ	**La Paz**	**51.99**	**249**	P	**P**	**03 23 29.2**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=82,slow=8.5,SNR=3.7						
LPAZ				LR	LR	03 44 24.6	
	comp=Z,139nm,18.8s,baz=96,slow=35						
	comp=Z,1.2nm,0.9s						
DAVA	**Damuels**	**53.10**	**23**	*i*P	**P**	**03 23 36.4**	**-0.2**
	comp=Z,12nm,0.7s,SNR=8.6						
SDV	**Santo Domingo**	**53.21**	**281**	LR	LR	03 46 17.8	
	comp=Z,69nm,18.5s,baz=98,slow=36						
FETA	**Feichten**	**53.23**	**24**	*i*P	**P**	**03 23 37.4**	**-0.2**
	comp=Z,6.2nm,1.1s,SNR=8.5						
IDI	**Anoyia**	**53.24**	**44**	LR	LR	03 47 23.6	
	comp=Z,76nm,19.0s,baz=250,slow=37						
BFO	**Black Forest**	**53.37**	**22**	P	**P**	**03 23 37.9**	**-0.4**
SQTA	**Sankt Quirin**	**53.59**	**24**	*e*P	**P**	**03 23 39.7**	**-0.4**
	comp=Z,7.9nm,0.8s						
MOTA	**Moosalm**	**53.64**	**24**	*e*P	**P**	**03 23 40.1**	**-0.5**
	comp=Z,4.4nm,1.1s						
ABTA	**Abfaltersbach**	**53.76**	**26**	*i*P	**P**	**03 23 41.9**	**+0.5**
	comp=Z,5.0nm,0.7s,SNR=4.5						
WTTA	**Wattenberg**	**53.80**	**25**	*e*P	**P**	**03 23 41.5**	**-0.2**
	comp=Z,5.0nm,0.8s						
WATA	**Walderalm**	**53.83**	**25**	*e*P	**P**	**03 23 42.5**	**+0.5**
	comp=Z,3.9nm,1.0s						
PRED	**Cave del Predi**	**53.99**	**27**	P	**P**	**03 23 42.7**	**-0.4**
PRED				IAmb	IAmb	03 23 44.4	
	comp=Z,5.4nm,0.7s						
MYKA	**Terra Mystica**	**54.17**	**26**	*e*P	**P**	**03 23 46.0**	**+1.7**
	comp=Z,5.1nm,0.9s						
LVC	**Limon Verde**	**54.34**	**242**	LR	LR	03 46 18.3	
	comp=Z,76nm,21.8s,baz=69,slow=35						
OBKA	**Obir**	**54.49**	**27**	*e*P	**P**	**03 23 47.0**	**+0.3**
	comp=Z,4.3nm,1.2s						
BANI	**BANI**	**54.63**	**293**	P	**P**	**03 23 48.2**	**-0.1**
SOKA	**Soboth**	**54.83**	**27**	*e*P	**P**	**03 23 49.3**	**+0.2**
	comp=Z,4.9nm,0.9s						
KMBO	**Kilima Mbogo**	**55.22**	**91**	LR	LR	03 45 55.6	
	comp=Z,214nm,18.2s,baz=256,slow=34						
DIVS	**Divibare**	**55.48**	**33**	P	**P**	**03 23 53.3**	**-0.6**
SDDR	**Presa de Saban**	**55.63**	**293**	P	**P**	**03 23 54.5**	**-0.8**
GEC2	**GERESS Array S**	**55.90**	**25**	P	**P**	**03 23 56.1**	**-0.7**
GERES	**GERESS Array B**	**55.90**	**25**	P	**P**	**03 23 56.8**	**0.0**
	comp=Z,2.1nm,0.7s,baz=208,slow=7.5,SNR=26						
GERES				PP	**PP**	**03 25 59.4**	**-2.3**
	comp=Z,2.9nm,0.9s,baz=213,slow=11,SNR=9.8						
	comp=Z,2.1nm,0.7s						
GERES	**GERESS Array B**	**55.90**	**25**	P	**P**	**03 23 56.6**	**-0.2**
KHC	**Kasperske Hory**	**56.07**	**24**	P	**P**	**03 23 58.3**	**+0.3**
KHC	**Kasperske Hory**	**56.07**	**24**	*e*P	**P**	**03 23 58.0**	**0.0**
CONA	**Conrad Observa**	**56.14**	**27**	*e*P	**P**	**03 23 58.8**	**+0.2**
	comp=Z,6.2nm,1.3s						
RONA	**Rosalia, Austr**	**56.17**	**27**	*i*P	**P**	**03 23 59.4**	**+0.7**
	comp=Z,7.9nm,0.8s,SNR=6.3						
VTS	**Vitosha**	**56.36**	**36**	⇓P	**P**	**03 24 01.8**	**+1.5**
VTS	**Vitosha**	**56.36**	**36**	P	**P**	**03 24 00.2**	**-0.1**
VTS				IAmb	IAmb	03 24 02.4	
	comp=Z,10.0nm,1.0s						
ROSC	**El Rosal**	**56.50**	**276**	LR	LR	03 45 36.2	
	comp=Z,144nm,21.4s,baz=80,slow=33						
EKA	**Eskdalemuir Ar**	**56.59**	**10**	LR	LR	03 46 50.0	
	comp=Z,83nm,19.7s,baz=188,slow=34						
ZST	**Bratislava**	**56.90**	**27**	*e*P	**P**	**03 24 04.5**	**+0.6**
PRU	**Pruhonice**	**57.13**	**24**	*e*P	**P**	**03 24 04.6**	**-0.8**
KRUC	**Moravsky**	**57.22**	**26**	*e*P	**P**	**03 24 05.6**	**-0.5**
ELL	**Elmali**	**57.48**	**45**	P	**P**	**03 24 09.8**	**+1.4**
VRAC	**Vranov**	**57.49**	**26**	*e*P	**P**	**03 24 07.5**	**-0.5**
CLL	**

NOA	**NORSAR Array B**	**64.97**	**15**	P	**P**	**03 24 58.8**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=210,slow=6.7,SNR=6.9						
NOA				LR	LR	03 55 05.0	
	comp=Z,46nm,18.3s,baz=205,slow=38						
	comp=Z,2.8nm,0.8s						
GURO	**Guroymak-BITLI**	**67.00**	**48**	P	**P**	**03 25 11.9**	**-0.2**
GURO				IAmb	IAmb	03 25 13.8	
	comp=Z,8.7nm,0.7s						
KBZ	**Khabaz**	**69.42**	**43**	P	**P**	**03 25 27.6**	**+0.6**
	comp=Z,6.3nm,0.8s,baz=220,slow=6.8,SNR=9.4						
KBZ				LR	LR	03 57 52.8	
	comp=Z,51nm,20.9s,baz=274,slow=38						
	comp=Z,6.3nm,0.8s						
GNI	**Garni**	**69.50**	**47**	LR	LR	04 01 15.1	
	comp=Z,32nm,18.1s,baz=276,slow=40						
FINES	**FINESS Array B**	**69.91**	**21**	P	**P**	**03 25 30.2**	**+0.5**
	comp=Z,5.9nm,0.6s,baz=213,slow=4.9,SNR=61						
	comp=Z,5.9nm,0.6s						
SADO	**Sadowa**	**70.01**	**318**	LR	LR	03 49 42.8	
	comp=Z,42nm,20.7s,baz=148,slow=30						
TKL	**Tuckaleechee C**	**70.58**	**308**	LR	LR	03 51 17.2	
	comp=Z,35nm,20.6s,baz=132,slow=31						
SFJD	**Kangerlussuaq**	**70.79**	**347**	LR	LR	03 50 06.9	
	comp=Z,42nm,18.7s,baz=154,slow=30						
U49A	**Red Boiling Sp**	**72.36**	**308**	P	**P**	**03 25 44.8**	**-0.3**
PMSA	**Palmer Station**	**72.59**	**199**	LR	LR	03 50 04.9	
	comp=Z,92nm,20.4s,baz=26,slow=30						
Z47A	**Carrollton**	**73.49**	**305**	P	**P**	**03 25 51.6**	**-0.2**
WVT	**Waverly**	**73.89**	**308**	P	**P**	**03 25 53.5**	**-0.6**
WVT				IAmb	IAmb	03 25 54.4	
	comp=Z,8.6nm,1.0s						
OLIL	**Olney**	**74.67**	**310**	P	**P**	**03 25 57.9**	**-0.7**
KLMR	**Klimovskoe**	**74.85**	**25**	*e*	P	03 25 47.3	-12
KLMR				AMP		03 25 50.9	
	comp=Z,14nm,1.4s						
ARCES	**ARCESS Array B**	**75.33**	**14**	P	**P**	**03 26 02.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=225,slow=3.7,SNR=7.7						
ARCES				LR	LR	04 00 09.4	
	comp=Z,41nm,18.3s,baz=255,slow=36						
	comp=Z,1.5nm,0.7s						
BELG	**Belogornoye**	**75.43**	**35**	LR	LR	04 02 54.5	
	comp=Z,65nm,20.0s,baz=150,slow=39						
FVM	**French Village**	**76.30**	**309**	P	**P**	**03 26 07.3**	**-0.8**
FVM				IAmb	IAmb	03 26 08.5	
	comp=Z,8.3nm,1.0s						
CCM	**Cathedral Cave**	**76.95**	**309**	P	**P**	**03 26 10.4**	**-1.3**
CCM				IAmb	IAmb	03 26 11.7	
	comp=Z,12nm,1.0s						
CMIG	**Matias Romero**	**77.54**	**287**	LR	LR	04 00 20.9	
	comp=Z,30nm,18.6s,baz=90,slow=36						
MGMO	**Mountain Grove**	**77.59**	**308**	P	**P**	**03 26 14.9**	**-0.4**
MGMO				IAmb	IAmb	03 26 15.8	
	comp=Z,16nm,1.1s						
WLAR	**White Oak Lake**	**77.73**	**304**	P	**P**	**03 26 16.2**	**+0.1**
R40A	**Maddies Statio**	**77.78**	**309**	P	**P**	**03 26 15.6**	**-0.8**
R40A				IAmb	IAmb	03 26 15.9	
	comp=Z,4.6nm,0.7s						
KIRV	**Kirov**	**78.48**	**30**	LR	LR	04 04 17.8	
	comp=Z,82nm,18.1s,baz=263,slow=38						
S39A	**Bolivar**	**78.51**	**308**	P	**P**	**03 26 19.9**	**-0.6**
S39A				IAmb	IAmb	03 26 20.5	
	comp=Z,11nm,1.1s						
HHAR	**Hobbs**	**78.78**	**307**	P	**P**	**03 26 21.6**	**-0.4**
P38A	**Dawn**	**78.98**	**310**	P	**P**	**03 26 22.1**	**-0.9**
GEYT	**Alibeck**	**79.11**	**51**	P	**P**	**03 26 24.3**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=256,slow=5.8,SNR=2.1						
GEYT				LR	LR	04 04 06.4	
	comp=Z,82nm,19.2s,baz=254,slow=38						
	comp=Z,1.8nm,0.6s						
U38A	**Gravette**	**79.16**	**307**	P	**P**	**03 26 23.7**	**-0.4**
TUL1	**Leonard**	**80.22**	**306**	P	**P**	**03 26 28.7**	**-1.0**
B35A	**Bob, Littlefor**	**80.65**	**319**	P	**P**	**03 26 31.6**	**-0.2**
B35A				IAmb	IAmb	03 26 32.2	
	comp=Z,9.9nm,1.1s						
T35A	**Sooner Cattle**	**80.92**	**307**	P	**P**	**03 26 33.1**	**-0.4**
T35A				IAmb	IAmb	03 26 34.5	
	comp=Z,13nm,1.1s						
OK031	**S. Brethren Rd**	**81.06**	**306**	P	**P**	**03 26 34.0**	**-0.3**
OK031				IAmb	IAmb	03 26 35.0	
	comp=Z,17nm,1.2s						
Z35A	**Perchaven, San**	**81.11**	**304**	P	**P**	**03 26 34.1**	**-0.5**
Z35A				IAmb	IAmb	03 26 35.3	
	comp=Z,16nm,0.9s						
AKTO	**Aktyubinsk**	**81.18**	**39**	LR	LR	04 08 00.9	
	comp=Z,43nm,18.8s,baz=275,slow=40						
ECSD	**EROS Data Cent**	**81.88**	**314**	P	**P**	**03 26 38.2**	**-0.3**
ECSD				IAmb	IAmb	03 26 38.8	
	comp=Z,6.3nm,0.8s						
AGMN	**Agassiz Nation**	**82.04**	**319**	P	**P**	**03 26 39.3**	**+0.1**
AGMN				IAmb	IAmb	03 26 39.8	
	comp=Z,12nm,1.1s						
ABKAR	**Akbulak array**	**82.20**	**40**	P	**P**	**03 26 39.6**	**-0.4**
WMOK	**Wichita Mounta**	**82.52**	**305**	P	**P**	**03 26 41.5**	**-0.6**
WMOK				IAmb	IAmb	03 26 42.6	
	comp=Z,6.1nm,1.1s						
ARU	**Arti**	**82.66**	**33**	LR	LR	04 05 49.6	
	comp=Z,62nm,19.0s,baz=216,slow=37						
JCT	**Junction City**	**83.02**	**301**	P	**P**	**03 26 44.5**	**-0.3**
JCT				IAmb	IAmb	03 26 45.7	
	comp=Z,9.6nm,0.9s						
K31A	**O'Neill**	**83.30**	**313**	P	**P**	**03 26 45.9**	**0.0**
MSTX	**Muleshoe**	**85.75**	**304**	P	**P**	**03 26 58.9**	**+0.2**
TXAR	**Lajitas Array**	**86.31**	**299**	P	**P**	**03 27 01.5**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=124,slow=6.7,SNR=30						
TXAR				LR	LR	04 03 24.7	
	comp=Z,16nm,18.4s,baz=50,slow=34						
	comp=Z,3.6nm,0.9s						
TXAR	**Lajitas Array**	**86.31**	**299**	P	**P**	**03 27 01.3**	**-0.2**
TX31	**Lajitas Ar. Si**	**86.31**	**299**	P	**P**	**03 27 01.0**	**-0.5**
TX32	**Lajitas Array**	**86.31**	**299**	P	**P**	**03 27 00.9**	**-0.6**
TX32				IAmb	IAmb	03 27 02.8	
	comp=Z,8.0nm,1.2s						
GDL2	**Guadalupe Moun**	**87.01**	**302**	P	**P**	**03 27 04.8**	**-0.1**
Q24A	**Divide**	**87.88**	**309**	P	**P**	**03 27 09.4**	**+0.2**
Q24A				IAmb	IAmb	03 27 11.0	
	comp=Z,7.5nm,1.1s						
SDCO	**Great Sand Dun**	**88.12**	**308**	P	**P**	**03 27 10.8**	**+0.5**
SDCO				IAmb	IAmb	03 27 12.1	
	comp=Z,5.6nm,1.1s						
ISCO	**Idaho Springs**	**88.27**	**310**	P	**P**	**03 27 10.5**	**-0.5**
ISCO				IAmb	IAmb	03 27 13.1	
	comp=Z,7.3nm,1.3s						
N23A	**Red Feather La**	**88.55**	**311**	P	**P**	**03 27 11.3**	**-0.9**
N23A				IAmb	IAmb	03 27 14.0	
	comp=Z,9.9nm,1.1s						
ANMO	**Albuquerque**	**88.83**	**305**	LR	LR	04 02 13.5	
	comp=Z,61nm,19.7s,baz=98,slow=32						
BVAR	**Borovoye Array**	**89.10**	**37**	LR	LR	04 10 55.7	
	comp=Z,35nm,18.3s,baz=232,slow=38						
S22A	**4UR Ranch, Cre**	**89.17**	**308**	P	**P**	**03 27 15.4**	**+0.1**
SMCO	**Snowmass**	**89.31**	**309**	P	**P**	**03 27 15.9**	**-0.1**
SMCO				IAmb	IAmb	03 27 17.9	
	comp=Z,4.2nm,1.0s						
MVCO	**Mesa Verde**	**90.50**	**307**	P	**P**	**03 27 22.1**	**+0.7**
MVCO				IAmb	IAmb	03 27 23.2	
	comp=Z,7.6nm,1.3s						
PV13	**Radium Mtn., P**	**90.75**	**308**	P	**P**	**03 27 22.1**	**-0.5**
PV13				IAmb	IAmb	03 27 25.0	
	comp=Z,9.0nm,1.2s						
PDAR	**Pinedale Array**	**91.25**	**313**	P	**P**	**03 27 24.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=109,slow=5.0,SNR=4.0						
PDAR				LR	LR	04 02 22.8	
	comp=Z,50nm,21.9s,baz=88,slow=32						
	comp=Z,0.3nm,0.5s						
AAK	**Ala-Archa**	**91.89**	**48**	LR	LR	04 13 46.8	
	comp=Z,87nm,18.7s,baz=256,slow=39						
YKA	**Yellowknife Ar**	**93.19**	**332**	LR	LR	04 07 18.0	
	comp=Z,42nm,18.0s,baz=286,slow=34						
KURBB	**Kurchatov Arra**	**94.22**	**39**	LR	LR	04 12 55.1	
	comp=Z,50nm,21.3s,baz=255,slow=37						
ELK	**Elko**	**95.60**	**311**	LR	LR	04 05 36.5	
	comp=Z,57nm,21.4s,baz=72,slow=32						
NEW	**Newport**	**96.19**	**318**	LR	LR	04 08 42.4	
	comp=Z,56nm,18.1s,baz=72,slow=34						
MKAR	**Makanchi Array**	**97.11**	**43**	LR	LR	04 18 52.2	
	comp=Z,28nm,18.4s,baz=236,slow=40						
PFO	**Pinyon Flats O**	**97.15**	**304**	LR	LR	04 09 50.0	
	comp=Z,30nm,20.1s,baz=197,slow=34						
ZALV	**Zalesovo Beam**	**97.61**	**36**	LR	LR	04 16 26.2	
	comp=Z,43nm,18.7s,baz=231,slow=38						
NVAR	**Mina Array Bea**	**98.18**	**309**	LR	LR	04 09 49.9	
	comp=Z,20nm,20.0s,baz=98,slow=34						
ASAR	**Alice Springs**	**143.88**	**133**	PKhKP	PKPpre	03 33 52.0	
	comp=Z,0.6nm,0.6s,baz=227,slow=2.9,SNR=8.5						
WRA	**Warramunga Arr**	**146.33**	**128**	PKPbc	**PKPbc**	**03 34 00.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=234,slow=2.7,SNR=8.0						

*IDC **01** 03:23:03.5±1.2,8.66N×71.42W,h0km,mb3.1/2, mbtmp3.4/4,ML2.8/2,Error ellipse: s-maj=34.0km s-min=9.9km az=167.0*

*FUNV **01** 03:23:05.8,8.53N×71.38W,h5km,MW3.9*

ISC 01 03:23:04.4±0.8,8.56N±0.06×71.32W±0.04,h8km,n20, σ1§69/33,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.76**	**64**	Pg		**Pg**	**Pg**	**03 23 19.5**	**+0.5**
	22nm,0.3s,baz=328,slow=19,SNR=32								
SDV				Lg		Lg	Lg	03 23 30.1	
	75nm,0.3s,baz=292,slow=19,SNR=22								
CAPV	**Capacho**	**1.20**	**235**	*e*S		**Sg**	**Sg**	**03 23 42.2**	**-0.7**
MCQV	**Machiques**	**1.91**	**321**	*e*P		**Pb**	**Pb**	**03 23 38.3**	**-1.1**
MCQV				*e*S		**Sb**	**Sb**	**03 24 02.1**	**-1.2**
CURV	**Curarigua**	**1.98**	**43**	*e*S		**Sn**	**Sn**	**03 24 05.8**	**+2.5**
DABV	**Dabajuro**	**2.45**	**16**	*e*P		**Pn**	**Pn**	**03 23 46.4**	**+1.8**
DABV				*e*S		**Sn**	**Sn**	**03 24 16.1**	**+1.3**
SIQV	**Siquisique**	**2.56**	**36**	*e*P		**Pn**	**Pn**	**03 23 47.9**	**+1.6**
SIQV				*e*S		**Sn**	**Sn**	**03 24 18.8**	**+1.1**
MAPV	**Macapo**	**3.10**	**66**	*e*P		**Pn**	**Pn**	**03 23 55.8**	**+2.1**
MAPV				*e*S		**Sn**	**Sn**	**03 24 32.0**	**+1.0**
BAUV	**El Baul**	**3.27**	**83**	*e*P		**Pn**	**Pn**	**03 23 57.6**	**+1.7**
BAUV				*e*S		**Sn**	**Sn**	**03 24 35.8**	**+0.8**
JACV	**Jacura**	**3.52**	**44**	*e*P		**Pn**	**Pn**	**03 24 00.5**	**+1.1**
JACV				*e*S		**Sn**	**Sn**	**03 24 41.8**	**+0.5**
TURV	**Turiamo**	**3.92**	**61**	*e*P		**Pn**	**Pn**	**03 24 06.2**	**+1.3**
TURV				*e*S		**Sn**	**Sn**	**03 24 50.9**	**-0.2**
BENV	**Beln**	**3.93**	**69**	*e*P		**Pn**	**Pn**	**03 24 06.5**	**+1.4**
BENV				*e*S		**Sn**	**Sn**	**03 24 51.9**	**+0.3**
TACV	**Tcata**	**4.52**	**69**	*e*P		**Pn**	**Pn**	**03 24 14.6**	**+1.3**
TACV				*e*S		**Sn**	**Sn**	**03 25 04.9**	**-1.2**
ROSC	**El Rosal**	**4.74**	**219**	Pn		**Pn**	**Pn**	**03 24 18.2**	**+1.6**
	2.7nm,0.3s,baz=104,slow=17,SNR=6.8								
ROSC				Sn		**Sn**	**Sn**	**03 25 15.2**	**+3.2**
	0.5nm,0.3s,baz=168,slow=24,SNR=1.3								
	11nm,0.4s								
CACV	**CAICARA DEL OR**	**4.84**	**101**	*e*P		Pn		03 24 25.0	+7.5
CACV				*e*S		**Sb**		**03 25 25.8**	**-2.1**
MERV	**Las Mercedes**	**5.01**	**82**	*e*P		**Pn**		**03 24 21.1**	**+1.1**
MERV				*e*S		**Sn**		**03 25 15.8**	**-2.4**
BIRV	**Birongo**	**5.34**	**69**	*e*P		**Pn**		**03 24 25.4**	**+0.9**
BIRV				*e*S		**Sn**		**03 25 23.3**	**-2.9**
PCRV	**Puerto La Cruz**	**6.79**	**76**	Pn		**Pn**		**03 24 47.6**	**+3.1**
	0.8nm,0.3s,baz=212,slow=9.5,SNR=8.4								
PCRV				Sn		**Sn**		**03 26 04.5**	**+2.4**
	1.3nm,0.3s,baz=336,slow=21,SNR=6.4								
	5.0nm,0.6s								
TXAR	**Lajitas Array**	**36.71**	**309**	P		**P**		**03 30 11.4**	**-0.9**
	0.1nm,0.6s,baz=130,slow=11,SNR=1.7								
	0.1nm,0.6s								
PDAR	**Pinedale Array**	**47.77**	**322**	P		**P**		**03 31 42.3**	**-0.2**
	0.2nm,0.5s,baz=120,slow=10,SNR=4.1								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**152.72**	**243**	PKPbc		**PKPbc**		**03 43 01.7**	**-1.1**
	0.2nm,0.4s,baz=100,slow=2.5,SNR=6.6								

*IDC **01** 03:41:11.5±2.0,23.58S×179.97E,h530km±18km,mb3.2/5, mbtmp4.1/7,Error ellipse: s-maj=38.3km s-min=19.3km az=152.0*

ISC 01 03:41:11.4±0.8,23.7S±0.1×180.0E±0.2,h535km,n12, σ1§14/14,mb3.5/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.19**	**343**	P		**P**	**P**	**03 42 51.4**	**+0.1**
	16nm,0.9s,baz=165,slow=17,SNR=3.4								
URZ	**Urewera**	**14.73**	**189**	P		**P**	**P**	**03 44 19.2**	**+1.0**
	3.8nm,0.5s,baz=58,slow=9.5,SNR=2.2								
URZ				S		**S**	**S**	**03 46 50.5**	**-1.6**
	7.4nm,0.8s,baz=176,slow=22,SNR=2.1								
ASAR	**Alice Springs**	**42.04**	**260**	P		**P**	**P**	**03 48 17.0**	**+0.5**
	3.6nm,0.7s,baz=101,slow=7.7,SNR=38								
ASAR				ScP		**ScP**	**ScP**	**03 52 59.9**	**+1.3**
	0.9nm,0.7s,baz=115,slow=4.2,SNR=7.2								
	3.6nm,0.7s								
WRA	**Warramunga Arr**	**42.40**	**266**	P		**P**	**P**	**03 48 19.2**	**-0.1**
	3.1nm,0.5s,baz=102,slow=8.1,SNR=182								
WRA				ScP		**ScP**	**ScP**	**03 53 02.0**	**+1.9**
	0.5nm,1.1s,baz=102,slow=3.2,SNR=4.8								
	3.1nm,0.5s								
MJAR	**Matsushiro Arr**	**71.71**	**326**	P		**P**	**P**	**03 51 38.6**	**-0.7**
	0.7nm,0.5s,baz=148,slow=6.5,SNR=2.9								
	0.7nm,0.5s								
NVAR	**Mina Array Bea**	**84.62**	**44**	P		**P**	**P**	**03 52 49.1**	**+0.2**
	0.5nm,0.8s,baz=228,slow=8.1,SNR=2.2								
	0.5nm,0.8s								
TXAR	**Lajitas Array**	**90.34**	**58**	P		**P**	**P**	**03 53 16.6**	**+0.7**
	0.4nm,0.7s,baz=221,slow=9.5,SNR=6.8								
	0.4nm,0.7s								
ARCES	**ARCESS Array B**	**131.67**	**348**	PKP		**PKPdf**	**PKPdf**	**03 59 22.0**	**-0.8**
	1.6nm,0.8s,baz=57,slow=3.3,SNR=1.2								
HFS	**Hagfors**	**142.33**	**349**	PKhKP		PKPpre	PKPpre	03 59 38.0	
	1.5nm,0.3s,baz=54,slow=3.1,SNR=28								
AKASG	**Malin Array Be**	**144.78**	**327**	PKP		**PKPdf**	**PKPdf**	**03 59 45.9**	**-1.3**
	1.1nm,0.5s,baz=42,slow=4.3,SNR=6.3								
MMAI	**Mount Meron Ar**	**147.59**	**295**	PKPbc		**PKPbc**	**PKPbc**	**03 59 56.5**	**+0.3**
	1.6nm,0.4s,baz=82,slow=6.0,SNR=5.5								
EKA	**Eskdalemuir Ar**	**148.31**	**3**	PKPbc		**PKPbc**	**PKPbc**	**03 59 55.9**	**-1.2**
	0.2nm,0.3s,baz=356,slow=3.2,SNR=5.1								

*ISK **01** 03:42:20.9,37.45N×27.01E,h10km,ML3.2/7*

*THE **01** 03:42:21.6,37.46N×27.08E,h4km±2km,ML2.8/5,Error ellipse: s-maj=2.2km s-min=0.7km az=90.0*

*DDA **01** 03:42:21.3±0.0,37.45N×27.04E,h16km,ML2.8*

*ATH **01** 03:42:22.4,37.48N×27.07E,h9km±3km,ML2.8/5,Error ellipse: s-maj=4.9km s-min=1.1km az=73.0*

ISC 01 03:42:21.9±0.9,37.47N±0.02×27.05E±0.02,h13km±7km, n43,σ0§66/72,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDIM	**Aydin, Didim**	**0.15**	**93**	P		**P**	**Pb**	**03 42 25.8**	**-0.8**
DDIM				S		**S**	**Sg**	**03 42 28.9**	**+0.8**
DDIM				*i* AML		AML	AML	03 42 29.0	
	comp=E,3μm,0.6s								
DDIM				*i* AML		AML	AML	03 42 29.0	
	comp=N,4μm,0.2s								
GCAM	**G?zelcaml?**	**0.28**	**31**	PG		**Pg**	**Pg**	**03 42 27.8**	**+0.1**
GCAM				SG		**Sb**	**Sg**	**03 42 32.7**	**-0.6**
GCAM	**G?zelcaml?**	**0.28**	**31**	P		**Pg**	**Pg**	**03 42 27.9**	**+0.1**
GCAM				S		**Sb**	**Sg**	**03 42 32.5**	**-0.8**
SMG	**Samos**	**0.30**	**325**	P		**Pg**	**Pg**	**03 42 27.9**	**-0.2**
SMG				S		**Sg**	**Sg**	**03 42 32.6**	**+0.3**
	4μm,0.2s								
SMG	**Samos**	**0.30**	**325**	P		**Pg**	**Pg**	**03 42 28.0**	**-0.2**
SMG				S		**Sg**	**Sg**	**03 42 31.8**	**-0.5**
SMG				AML		AML	AML	03 42 33.4	
	comp=N,8246μm,0.2s								
SMG				AML		AML	AML	03 42 33.5	
	comp=E,8672μm,0.3s								
BODT	**Bodrum**	**0.45**	**153**	P		**Pg**	**Pg**	**03 42 29.4**	**-1.5**
BODT				S		**Sg**	**Sg**	**03 42 36.5**	**-0.4**
BDRM	**Kayabasi**	**0.51**	**142**	P		**Pg**	**Pg**	**03 42 31.3**	**-0.5**
BDRM				*i* AML		AML	AML	03 42 40.0	
	comp=E,708nm,0.5s								
DGB	**zmir**	**0.60**	**347**	P		**Pg**	**Pg**	**03 42 33.2**	**-0.5**
DGB				S		**Sb**	**Sb**	**03 42 42.5**	**-0.2**
DGB				*i* AML		AML	AML	03 42 45.0	
	comp=E,577nm,0.4s								
DGB				*i* AML		AML	AML	03 42 45.0	
	comp=E,425nm,0.2s								
AYDN	**Tasoluk**	**0.69**	**73**	P		**Pg**	**Pg**	**03 42 35.0**	**-0.3**
AYDN				S		**Sg**	**Sg**	**03 42 44.0**	**-0.3**
AYDN				*i* AML		AML	AML	03 42 46.0	
	comp=E,442nm,0.2s								
AYDN				*i* AML		AML	AML	03 42 48.0	
	comp=E,596nm,0.5s								
KOSK	**Kos Island**	**0.71**	**185**	P		**Pg**	**Pg**	**03 42 35.4**	**-0.4**
KOSK				S		**Sb**	**Sb**	**03 42 46.6**	**+0.7**
	comp=E,1μm,0.5s								
KOSK	**Kos Island**	**0.71**	**185**	PG		**Pg**	**Pg**	**03 42 35.1**	**-0.7**
KOSK				SG		**Sg**	**Sg**	**03 42 44.9**	**-0.3**
KOSK	**Kos Island**	**0.71**	**185**	P		**Pg**	**Pg**	**03 42 35.6**	**-0.2**
KOSK				S		**Sb**	**Sb**	**03 42 46.0**	**+0.1**
KOSK				AML		AML	AML	03 42 49.4	
	comp=E,7618μm,0.5s								
KOSK				AML		AML	AML	03 42 50.0	
	comp=N,9013μm,0.5s								
AYDB	**Zeytinkoy-Aydi**	**0.82**	**54**	PG		**Pb**	**Pb**	**03 42 37.8**	**-0.3**
AYDB				SG		**Sb**	**Sb**	**03 42 49.9**	**+0.8**
NIS1	**Nisyros Isl.**	**0.87**	**173**	P		**Pg**	**Pg**	**03 42 38.3**	**-0.4**
NIS1				S		**Sb**	**Sb**	**03 42 51.1**	**+0.7**
	comp=N,785nm,0.5s								
NIS1	**Nisyros Isl.**	**0.87**	**173**	PG		**Pg**	**Pg**	**03 42 38.2**	**-0.4**
NIS1	**Nisyros Isl.**	**0.87**	**173**	P		**Pg**	**Pb**	**03 42 39.1**	**+0.2**
NIS1				S		**Sg**	**Sb**	**03 42 51.0**	**+0.7**
NIS1				AML		AML	AML	03 42 56.2	
	comp=E,1270μm,0.9s								
NIS1				AML		AML	AML	03 43 00.4	
	comp=N,1150μm,0.5s								
ZEYE	**Izmir, Urla-Ze**	**0.89**	**331**	P		**Pg**	**Pg**	**03 42 38.4**	**-0.7**
ZEYE				S		**Sb**	**Sb**	**03 42 51.3**	**+0.4**
ZEYE				*i* AML		AML	AML	03 42 55.0	
	comp=N,277nm,0.4s								
ZEYE				*i* AML		AML	AML	03 42 55.0	
	comp=N,267nm,0.3s								
BLCB	**Balcova**	**0.92**	**359**	P		**Pg**	**Pg**	**03 42 39.1**	**-0.6**
BLCB	**Balcova**	**0.92**	**359**	PG		**Pg**	**Pg**	**03 42 39.2**	**-0.5**
URLA	**Izmir**	**0.96**	**338**	PG		**Pg**	**Pg**	**03 42 39.5**	**-1.1**
URLA	**Izmir**	**0.96**	**338**	P		**Pg**	**Pg**	**03 42 38.9**	**-1.7**
URLA				S		**Sg**	**Sg**	**03 42 52.6**	**-0.6**
URLA				*i* AML		AML	AML	03 42 54.0	
	comp=N,292nm,0.7s								
URLA				*i* AML		AML	AML	03 42 57.0	
	comp=N,387nm,1.0s								
MULA	**Mugla, Merkez-**	**1.03**	**101**	P		**Pn**	**Pn**	**03 42 41.8**	**-0.4**
MULA				S		**Sn**	**Sn**	**03 42 55.7**	**-0.8**
YER	**Yerkesik**	**1.03**	**108**	P		**Pb**	**Pb**	**03 42 41.4**	**-0.3**
YER				S		**Sb**	**Sb**	**03 42 55.2**	**0.0**
YER	**Yerkesik**	**1.03**	**108**	PG		**Pb**	**Pb**	**03 42 41.7**	**0.0**
TURN	**Turunc**	**1.18**	**125**	PN		**Pg**	**Pg**	**03 42 44.2**	**-0.3**
TURN	**Turunc**	**1.18**	**125**	P		**Pg**	**Pg**	**03 42 44.1**	**-0.5**
TURN				S		**Sn**	**Sn**	**03 43 00.8**	**+0.9**
TURN				*i* AML		AML	AML	03 43 06.0	
	comp=N,150nm,0.3s								
CHOS	**Chios island**	**1.21**	**320**	P		**Pn**	**Pn**	**03 42 44.6**	**0.0**
CHOS				S		**Sg**	**Sg**	**03 43 00.9**	**-0.2**
	comp=N,345nm,0.3s								
CHOS	**Chios island**	**1.21**	**320**	P		**Pn**	**Pn**	**03 42 44.7**	**0.0**
CHOS				S		**Sn**	**Sn**	**03 43 01.7**	**+0.7**
CHOS				AML		AML	AML	03 43 03.4	
	comp=N,419μm,0.6s								
CHOS				AML		AML	AML	03 43 03.4	
	comp=E,987μm,0.3s								
APE	**Apeiranthos**	**1.28**	**252**	P		**Pn**	**Pn**	**03 42 45.8**	**+0.3**
APE				S		**Sg**	**Sg**	**03 43 03.2**	**+0.1**
	comp=E,95nm,0.5s								
APE	**Apeiranthos**	**1.28**	**252**	P		**Pb**	**Pb**	**03 42 46.0**	**+0.1**
APE				S		**Sg**	**Sg**	**03 43 03.5**	**+0.4**
APE				AML		AML	AML	03 43 06.2	
	comp=N,218μm,0.5s								
APE				AML		AML	AML	03 43 08.5	
	comp=E,212μm,0.9s								
TAVA	**DENIZLI_Tavas**	**1.48**	**89**	P		**Pb**	**Pb**	**03 42 48.8**	**-0.5**
TAVA				S		**Sn**	**Sn**	**03 43 06.7**	**-0.9**
ZEDA	**zmir-Bergama**	**1.50**	**1**	P		**Pg**	**Pg**	**03 42 50.2**	**-0.5**
ZEDA				S		**Sg**	**Sg**	**03 43 11.0**	**+0.8**
MANT	**Manisa**	**1.57**	**49**	P		**Pg**	**Pg**	**03 42 52.3**	**+0.2**
MANT				S		**Sb**	**Sg**	**03 43 10.8**	**0.0**
CAEL	**Denizli, Camel**	**1.84**	**100**	P		**Pg**	**Pg**	**03 42 58.2**	**+1.0**
AYVA	**Ayvalik**	**1.86**	**351**	P		**Pb**	**Pb**	**03 42 56.3**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.98**	**15**	P		**Pg**	**Pg**	**03 42 59.5**	**-0.4**
STEP				S		**Sg**	**Sg**	**03 43 26.7**	**+1.1**
USAK	**Uak-Merkez**	**1.99**	**51**	P		**Pb**	**Pb**	**03 42 57.8

	comp=N,50200µm,0.6s								
TERO	**Teramo**	**0.23**	**87**	⇓P		**Pg**	**03 53 08.9**	**-0.8**	
TERO				S		**Sg**	**03 53 12.4**	**-0.4**	
T1242	**Castelluccio d**	**0.23**	**343**	⇑P		**Pg**	**03 53 09.2**	**-0.6**	
T1242				AML	AML				
	comp=E,37850µm,1.6s								
T1242				AML	AML				
	comp=E,37300µm,1.6s								
T1242				AML	AML				
	comp=N,69000µm,0.6s								
T1242				AML	AML				
	comp=N,68650µm,0.6s								
T1212	**Cascia, Frazio**	**0.23**	**307**	⇑P		**Pg**	**03 53 09.4**	**-0.4**	
T1212				S		**Sg**	**03 53 13.0**	**0.0**	
GIGS	**Gran Sasso**	**0.26**	**128**	⇓P		**Pg**	**03 53 09.5**	**-0.7**	
GIGS				S		**Sg**	**03 53 13.6**	**-0.2**	
NRCA	**Norcia**	**0.26**	**329**	P		**Pg**	**03 53 09.8**	**-0.5**	
NRCA				S		**Sg**	**03 53 14.0**	**+0.2**	
NRCA				AML	AML				
	comp=E,23400µm,0.2s								
NRCA				AML	AML				
	comp=N,32400µm,0.1s								
NRCA				AML	AML				
	comp=E,25850µm,0.2s								
NRCA				AML	AML				
	comp=E,23400µm,0.2s								
NRCA				AML	AML				
	comp=N,35450µm,0.1s								
NRCA				AML	AML				
	comp=E,23450µm,0.2s								
NRCA				AML	AML				
	comp=N,32400µm,0.1s								
T1241	**Roccafluvione,**	**0.27**	**22**	⇑P		**Pg**	**03 53 09.5**	**-0.9**	
T1241				S		**Sg**	**03 53 13.6**	**-0.4**	
T1241				AML	AML				
	comp=N,26000µm,0.4s								
T1241				AML	AML				
	comp=N,25400µm,0.4s								
T1241				AML	AML				
	comp=E,31900µm,0.4s								
T1241				AML	AML				
	comp=E,32550µm,1.2s								
MMO1	**Montemonaco**	**0.29**	**5**	⇑P		**Pg**	**03 53 10.1**	**-0.8**	
MMO1				S		**Sg**	**03 53 14.7**	**-0.1**	
MMO1				AML	AML				
	comp=E,43500µm,0.5s								
MMO1				AML	AML				
	comp=N,41250µm,0.4s								
MC2	**Monte Cornacci**	**0.31**	**346**	⇑P		**Pg**	**03 53 10.7**	**-0.7**	
MC2				S		**Sg**	**03 53 16.0**	**+0.5**	
T1211	**Morro Reatino**	**0.33**	**257**	⇑P		**Pg**	**03 53 11.3**	**-0.4**	
T1211				S		**Sg**	**03 53 16.9**	**+0.8**	
T1216	**Preci, Frazion**	**0.35**	**324**	⇓P		**Pg**	**03 53 11.3**	**-0.6**	
T1216				S		**Sg**	**03 53 16.7**	**+0.2**	
FIAM	**Fiamignano**	**0.37**	**201**	P		**Pg**	**03 53 11.9**	**-0.4**	
FIAM				S		**Sg**	**03 53 18.4**	**+1.2**	
FIAM				AML	AML				
	comp=E,7760µm,1.0s								
FIAM				AML	AML				
	comp=N,10830µm,0.9s								
T1215	**Vallo di Nera,**	**0.37**	**301**	⇑P		**Pg**	**03 53 11.7**	**-0.6**	
T1215				S		**Sg**	**03 53 17.5**	**+0.3**	
T1215				AML	AML				
	comp=E,5765µm,0.5s								
T1215				AML	AML				
	comp=N,5005µm,0.3s								
T1215				AML	AML				
	comp=E,5785µm,0.5s								
T1215				AML	AML				
	comp=N,5145µm,0.3s								
T1215				AML	AML				
	comp=E,5765µm,0.5s								
T1215				AML	AML				
	comp=N,5000µm,0.3s								
T1215				AML	AML				
	comp=N,5150µm,0.3s								
T1215				AML	AML				
	comp=E,5780µm,0.5s								
ARRO	**Arrone**	**0.39**	**266**	⇑P		**Pg**	**03 53 12.3**	**-0.4**	
ARRO				AML	AML				
	comp=E,6625µm,0.8s								
ARRO				AML	AML				
	comp=N,6015µm,0.6s								
ARRO				AML	AML				
	comp=E,6630µm,0.8s								
FEMA	**Monte Fema**	**0.40**	**333**	P		**Pg**	**03 53 12.3**	**-0.6**	
FAGN	**Fagnano**	**0.41**	**148**	⇓P		**Pg**	**03 53 12.2**	**-0.9**	
FAGN				AML	AML				
	comp=E,35300µm,0.4s								
FAGN				AML	AML				
	comp=N,29600µm,0.5s								
OFFI	**Offida**	**0.43**	**41**	⇑P		**Pg**	**03 53 13.5**	**-0.1**	
OFFI				AML	AML				
	comp=E,38250µm,0.6s								
OFFI				AML	AML				
	comp=N,36650µm,0.5s								
FDMO	**Fiordimonte**	**0.45**	**340**	⇑P		**Pg**	**03 53 13.0**	**-0.9**	
FDMO				S		**Sg**	**03 53 20.1**	**+0.2**	
FDMO				AML	AML				
	comp=E,7060µm,0.8s								
FDMO				AML	AML				
	comp=N,10105µm,0.5s								
VCEL	**Villa Celiera**	**0.46**	**118**	P		**Pg**	**03 53 13.6**	**-0.4**	
VCEL				S		**Sg**	**03 53 21.0**	**+1.0**	
VCEL				AML	AML				
	comp=E,23000µm,0.3s								
VCEL				AML	AML				
	comp=N,22350µm,0.9s								
VCEL				AML	AML				
	comp=N,22300µm,0.9s								
CSP1	**Cessapalombo**	**0.49**	**352**	⇑P		**Pg**	**03 53 13.6**	**-1.0**	
CSP1				S		**Sg**	**03 53 21.4**	**+0.4**	
CSP1				AML	AML				
	comp=E,13000µm,0.3s								
CSP1				AML	AML				
	comp=N,17500µm,1.2s								
CSP1				AML	AML				
	comp=N,17550µm,1.2s								
CSP1				AML	AML				
	comp=E,13050µm,0.3s								
CESI	**CESI - Serrava**	**0.49**	**324**	⇓P		**Pg**	**03 53 13.9**	**-0.7**	
CESI				AML	AML				
	comp=N,21700µm,0.4s								
CESI				AML	AML				
	comp=E,12750µm,0.5s								
TRTR	**Tortoreto Alta**	**0.50**	**66**	P		**Pg**	**03 53 14.9**	**+0.2**	
T0110	**Collepietro**	**0.53**	**137**	P		**Pg**	**03 53 14.4**	**-0.9**	
T0110				AML	AML				
	comp=N,18800µm,0.3s								
T0110				AML	AML				
	comp=E,13450µm,0.4s								
CESX	**Cesi**	**0.53**	**270**	P		**Pg**	**03 53 14.4**	**-0.9**	
CESX				S		**Sg**	**03 53 23.2**	**+1.0**	
CESX				AML	AML				
	comp=N,6645µm,0.5s								
CESX				AML	AML				
	comp=E,5475µm,1.4s								
MNTP	**Montappone**	**0.54**	**14**	P		**Pg**	**03 53 15.1**	**-0.5**	
MNTP				AML	AML				
	comp=E,49750µm,0.3s								
MNTP				AML	AML				
	comp=E,49750µm,0.3s								
MNTP				AML	AML				
	comp=N,30050µm,0.4s								
PTQR	**Pietraquaria**	**0.59**	**172**	P		**Pg**	**03 53 15.5**	**-1.1**	
PTQR				AML	AML				
	comp=N,2995µm,0.4s								
PTQR				AML	AML				
	comp=E,2305µm,0.3s								
SEF1	**Sefro**	**0.59**	**335**	P		**Pg**	**03 53 15.6**	**-1.0**	
SEF1				AML	AML				
	comp=E,7820µm,0.5s								
SEF1				AML	AML				
	comp=N,8020µm,0.5s								
SEF1				AML	AML				
	comp=E,7835µm,0.5s								
SSM1	**San Severino M**	**0.62**	**352**	P		**Pg**	**03 53 16.2**	**-0.9**	
ASSB	**Assisi San Ben**	**0.64**	**313**	P		**Pg**	**03 53 16.6**	**-0.8**	
ASSB				AML	AML				
	comp=E,7765µm,1.6s								
ASSB				AML	AML				
	comp=N,7425µm,0.4s								
GAG1	**Gagliole**	**0.65**	**345**	P		**Pg**	**03 53 16.6**	**-1.0**	
GAG1				AML	AML				
	comp=E,14400µm,0.5s								
GAG1				AML	AML				
	comp=N,16000µm,0.4s								
GAG1				AML	AML				
	comp=E,14450µm,0.5s								
GAG1				AML	AML				
	comp=N,16000µm,0.4s								
SRES	**S.Oreste - Sor**	**0.69**	**238**	⇑P		**Pg**	**03 53 17.2**	**-1.2**	
SRES				AML	AML				
	comp=E,3515µm,0.8s								
SRES				AML	AML				
	comp=N,2220µm,0.5s								
SNTG	**Esanatoglia**	**0.69**	**338**	P		**Pg**	**03 53 17.3**	**-1.2**	
SNTG				AML	AML				
	comp=E,2815µm,1.4s								
SNTG				AML	AML				
	comp=E,301µm,0.4s								
SNTG				AML	AML				
	comp=N,3950µm,0.7s								
SNTG				AML	AML				
	comp=N,530µm,0.7s								
CERT	**Cerreto**	**0.70**	**199**	P		**Pg**	**03 53 17.4**	**-1.1**	
CERT				AML	AML				
	comp=E,5675µm,0.6s								
CERT				AML	AML				
	comp=N,4265µm,1.1s								
TRE1	**Treia**	**0.70**	**1**	P		**Pg**	**03 53 18.1**	**-0.5**	
MTCE	**Montecelio**	**0.72**	**215**	P		**Pg**	**03 53 17.6**	**-1.3**	
MTCE				AML	AML				
	comp=E,7320µm,1.3s								
MTCE				AML	AML				
	comp=N,4060µm,1.2s								
EL6	**Elcito**	**0.73**	**349**	P		**Pg**	**03 53 18.0**	**-1.2**	
EL6				AML	AML				
	comp=N,10115µm,0.4s								
EL6				AML	AML				
	comp=N,10105µm,0.4s								
EL6				AML	AML				
	comp=E,6280µm,0.3s								
ATCC	**AVT- Casa Cast**	**0.75**	**320**	P		**Pg**	**03 53 18.6**	**-1.0**	
ATCC				AML	AML				
	comp=E,6890µm,0.4s								
ATCC				AML	AML				
	comp=N,5860µm,0.7s								
ATCC				AML	AML				
	comp=N,5865µm,0.7s								
INTR	**Introdacqua**	**0.75**	**143**	⇓P		**Pg**	**03 53 18.1**	**-1.4**	
INTR				AML	AML				
	comp=E,4µm,0.8s								
INTR				AML	AML				
	comp=N,5µm,0.9s								
INTR				AML	AML				
	comp=E,3660µm,0.8s								
INTR				AML	AML				
	comp=N,7835µm,0.9s								
INTR				AML	AML				
	comp=E,4µm,0.8s								
INTR				AML	AML				
	comp=N,5µm,0.9s								
CING	**Cingoli**	**0.77**	**355**	⇑P		**Pg**	**03 53 18.5**	**-1.4**	
CING				AML	AML				
	comp=E,7935µm,0.5s								
CING				AML	AML				
	comp=N,4980µm,0.4s								
VVLD	**Villa Vallelon**	**0.78**	**162**	P		**Pg**	**03 53 19.1**	**-1.0**	
VVLD				AML	AML				
	comp=E,2740µm,0.6s								
VVLD				AML	AML				
	comp=N,3045µm,0.6s								
FOSV	**Fossato di Vic**	**0.79**	**330**	P		**Pg**	**03 53 19.1**	**-1.2**	
FOSV				AML	AML				
	comp=N,3390µm,0.5s								
FOSV				AML	AML				
	comp=E,3375µm,0.8s								
PP3	**Marolino**	**0.80**	**17**	P		**Pg**	**03 53 19.9**	**-0.6**	
PP3				AML	AML				
	comp=E,15450µm,0.7s								
PP3				AML	AML				
	comp=N,11750µm,0.5s								
PP3				AML	AML				
	comp=E,14650µm,0.7s								
PP3				AML	AML				
	comp=N,12650µm,0.5s								
PP3				AML	AML				
	comp=E,15500µm,0.7s								
PP3				AML	AML				
	comp=N,12700µm,0.5s								
PP3				AML	AML				
	comp=N,11700µm,0.5s								
GUAR	**Guarcino**	**0.81**	**179**	P		**Pg**	**03 53 20.2**	**-0.6**	
GUAR				AML	AML				
	comp=N,2900µm,0.9s								
GUAR				AML	AML				
	comp=E,4185µm,1.3s								
MURB	**Monte Urbino**	**0.86**	**319**	P		**Pg**	**03 53 20.8**	**-0.9**	
MURB				AML	AML				
	comp=E,11640µm,0.4s								
MURB				AML	AML				
	comp=N,11800µm,0.3s								
MURB				AML	AML				
	comp=N,11600µm,0.3s								
MURB				AML	AML				
	comp=E,11630µm,0.4s								
MURB				AML	AML				
	comp=E,12950µm,0.4s								
LPEL	**Lama dei Pelig**	**0.87**	**130**	P		**Pg**	**03 53 19.7**	**-2.0**	
LPEL				AML	AML				
	comp=E,3215µm,0.9s								
LPEL				AML	AML				
	comp=N,2515µm,1.0s								
ATTE	**AVT- Monte Tez**	**0.91**	**311**	P		**Pg**	**03 53 21.7**	**-0.8**	
ATTE				AML	AML				
	comp=E,2860µm,0.6s								
ATTE				AML	AML				
	comp=N,2850µm,0.4s								
ATTE				AML	AML				
	comp=E,2865µm,0.6s								
SSFR	**Montelago di S**	**0.91**	**336**	P		**Pg**	**03 53 21.5**	**-1.0**	
SSFR				AML	AML				
	comp=N,4760µm,0.2s								
SSFR				AML	AML				
	comp=N,3770µm,0.2s								
SSFR				AML	AML				
	comp=E,4195µm,0.2s								
SSFR				AML	AML				
	comp=E,4130µm,0.2s								
RMP	**Rome, Mte Porz**	**0.91**	**209**	P		**Pg**	**03 53 22.2**	**-0.4**	
RMP				AML	AML				
	comp=N,4930µm,0.7s								
RMP				AML	AML				
	comp=E,5585µm,0.5s								
MGAB	**Montegabbione**	**0.92**	**290**	P		**Pg**	**03 53 22.0**	**-0.8**	
MGAB				AML	AML				
	comp=E,7195µm,0.8s								
MGAB				AML	AML				
	comp=N,3830µm,0.6s								
MGAB				AML	AML				
	comp=N,3880µm,0.5s								
MGAB				AML	AML				
	comp=E,7980µm,0.7s								
ARVD	**Arcevia**	**0.92**	**344**	P		**Pg**	**03 53 21.3**	**-1.6**	
ARVD				AML	AML				
	comp=N,1715µm,0.5s								
ARVD				AML	AML				
	comp=E,2855µm,1.0s								
ATFO	**Monte Foce - G**	**0.92**	**325**	P		**Pg**	**03 53 21.6**	**-1.3**	
ATFO				AML	AML				
	comp=E,3025µm,1.2s								
ATFO				AML	AML				
	comp=N,2885µm,1.0s								
POFI	**Posta Fibreno**	**0.94**	**161**	P		**Pg**	**03 53 21.6**	**-1.7**	
POFI				AML	AML				
	comp=N,1765µm,0.8s								
POFI				AML	AML				
	comp=E,3065µm,0.8s								
POFI				AML	AML				
	comp=N,1750µm,0.9s								
POFI				AML	AML				
	comp=E,2880µm,0.8s								
RDP	**Rocca di Papa**	**0.95**	**207**	P		**Pg**	**03 53 21.7**	**-1.7**	
RDP				AML	AML				
	comp=E,7935µm,0.6s								
RDP				AML	AML				
	comp=N,9785µm,0.6s								
AOI	**Ancona**	**0.97**	**13**	P		**Pg**	**03 53 22.2**	**-1.4**	
AOI				AML	AML				
	comp=N,3960µm,0.5s								
AOI				AML	AML				
	comp=E,4180µm,0.4s								
LRP	**Arpino**	**0.99**	**167**	P		**Pg**	**03 53 23.2**	**-0.8**	
LRP				AML	AML				
	comp=N,1785µm,1.1s								
LRP				AML	AML				
	comp=E,1330µm,0.7s								
FRON	**Frontone**	**1.00**	**335**	P		**Pg**	**03 53 22.5**	**-1.8**	
FRON				AML	AML				
	comp=E,3240µm,0.6s								
FRON				AML	AML				
	comp=N,3860µm,1.0s								
ATVO	**AVT- Monte Val**	**1.01**	**320**	P		**Pg**	**03 53 23.2**	**-1.3**	
ATVO				AML	AML				
	comp=N,2580µm,0.7s								
ATVO				AML	AML				
	comp=E,2415µm,1.3s								
ATMI	**Monte Miggiano**	**1.04**	**314**	P		**Pg**	**03 53 24.7**	**-0.5**	
ATMI				AML	AML				
	comp=E,4745µm,0.5s								
ATMI				AML	AML				
	comp=N,7055µm,1.2s								
SACS	**San Casciano d**	**1.05**	**284**	P		**Pg**	**03 53 24.0**	**-1.3**	
SACS				AML	AML				
	comp=E,2460µm,0.9s								
SACS				AML	AML				
	comp=N,2565µm,0.7s								
SACS				AML	AML				
	comp=E,2285µm,0.9s								
SACS				AML	AML				
	comp=N,2375µm,0.7s								
GIUL	**Giuliano Di Ro**	**1.05**	**182**	P		**Pg**	**03 53 24.4**	**-0.8**	
GIUL				AML	AML				
	comp=N,1430µm,1.6s								
GIUL				AML	AML				
	comp=E,1675µm,0.8s								
ATPI	**Pietralunga -**	**1.06**	**322**	P		**Pg**	**03 53 24.3**	**-1.3**	
ATPI				AML	AML				
	comp=N,3540µm,1.0s								
ATPI				AML	AML				
	comp=E,3250µm,1.0s								
MPAG	**Monte Paganucc**	**1.09**	**339**	P		**Pg**	**03 53 24.6**	**-1.4**	
MPAG				AML	AML				
	comp=E,527µm,0.6s								
MPAG				AML	AML				
	comp=E,858µm,0.9s								
MPAG				AML	AML				
	comp=N,632µm,1.0s								
MPAG				AML	AML				
	comp=N,907µm,0.9s								
LATE	**Laterza**	**1.10**	**271**	P		**Pg**	**03 53 24.8**	**-1.4**	
TOLF	**Tolfa**	**1.10**	**241**	P		**Pg**	**03 53 24.6**	**-1.7**	
TOLF				AML	AML				
	comp=N,2990µm,0.7s								
TOLF				AML	AML				
	comp=E,2250µm,0.7s								
RNI2	**Rionero Sannit**	**1.11**	**145**	P		**Pg**	**03 53 24.9**	**-1.5**	
RNI2				AML	AML				
	comp=N,2955µm,0.9s								
RNI2				AML	AML				
	comp=N,3050µm,0.9s								
RNI2				AML	AML				
	comp=E,3215µm,0.8s								
RNI2				AML	AML				
	comp=E,3320µm,0.8s								
CERA	**Filignano**	**1.15**	**152**	P		**Pg**	**03 53 24.4**	**-2.7**	
CERA				AML	AML				
	comp=E,2625µm,0.7s								
CERA				AML	AML				
	comp=E,2535µm,0.8s								
CERA				AML	AML				
	comp=N,2080µm,1.0s								
CERA				AML	AML				
	comp=N,2175µm,0.9s								
FSSB	**Fossombrone**	**1.15**	**341**	P		**Pg**	**03 53 25.8**	**-1.3**	
FSSB				AML	AML				
	comp=N,10650µm,0.4s								
FSSB				AML	AML				
	comp=E,6970µm,1.6s								
MIDA	**Miranda**	**1.20**	**143**	P		**Pb**	**03 53 25.5**	**-2.7**	
MCIV	**Monte Civitell**	**1.21**	**279**	P		**Pb**	**03 53 26.7**	**-1.5**	
MCIV				AML	AML				
	comp=E,1185µm,0.8s								
MCIV				AML	AML				
	comp=N,918µm,1.3s								
CAFI	**Castiglion Fio**	**1.21**	**307**	P		**Pb**	**03 53 27.3**	**-1.0**	
CAFI				AML	AML				
	comp=E,1900µm,0.5s								
CAFI				AML	AML				
	comp=E,1845µm,0.5s								
CAFI				AML	AML				
	comp=N,1785µm,0.6s								
CAFI				AML	AML				
	comp=N,1685µm,0.6s								
SF04	**Casetta**	**1.23**	**281**	P		**Pn**	**03 53 27.6**	**-1.0**	
TRIV	**Trivento**	**1.26**	**132**	AML	AML				
	comp=E,1410µm,0.9s								
TRIV				AML	AML				
	comp=N,1263µm,1.2s								
TRIV				AML	AML				
	comp=N,1252µm,1.2s								
TRIV				AML	AML				
	comp=E,1310µm,0.9s								
SSP9	**Sansepolcro**	**1.29**	**319**	AML	AML				
	comp=E,1900µm,1.4s								
SSP9				AML	AML				
	comp=N,1745µm,1.6s								
PARC	**Parchiule**	**1.29**	**324**	P		**Pn**	**03 53 28.5**	**-1.0**	
PARC				AML	AML				
	comp=E,2230µm,0.5s								
PARC				AML	AML				
	comp=N,2540µm,1.0s								
ARCI	**Arcidosso**	**1.36**	**281**	P		**Pn**	**03 53 30.1**	**-0.4**	
ARCI				AML	AML				
	comp=E,452µm,1.3s								
ARCI				AML	AML				
	comp=N,480µm,0.7s								
PESA	**Pesaro**	**1.37**	**346**	P		**Pn**	**03 53 30.0**	**-0.6**	
PESA				AML	AML				
	comp=E,3880µm,1.0s								
PESA				AML	AML				
	comp=N,4150µm,0.4s								
CRE	**Caprese Michel**	**1.41**	**316**	P		**Pn**	**03 53 29.9**	**-1.3**	
CRE				AML	AML				
	comp=N,928µm,1.2s								
CRE				AML	AML				
	comp=E,1260µm,1.1s								
MODR	**Mondragone**	**1.53**	**163**	P		**Pn**	**03 53 32.9**	**+0.2**	
MODR				AML	AML				
	comp=N,553µm,0.9s								
MODR				AML	AML				
	comp=E,641µm,1.0s								
CIGN	**Sant'Elia a Pi**	**1.53**	**128**	P		**Pn**	**03 53 31.4**	**-1.4**	
CIGN				AML	AML				
	comp=E,474µm,0.7s								
CIGN				AML	AML				
	comp=N,494µm,0.9s								
ASQU	**Asqua**	**1.62**	**318**	P		**Pn**	**03 53 32.8**	**-1.2**	
ASQU				AML	AML				
	comp=E,879µm,1.6s								
ASQU				AML	AML				
	comp=N,972µm,0.5s								
MELA	**Melanico ??? S**	**1.64**	**123**	P		**Pn**	**03 53 34.4**	**+0.3**	
MELA				AML	AML				
	comp=N,2015µm,0.6s								
MELA				AML	AML				
	comp=N,2090µm,0.6s								
MELA				AML	AML				
	comp=E,1475µm,0.9s								
MELA				AML	AML				
	comp=E,1540µm,0.9s								
CSNT	**Castellina Chi**	**1.70**	**301**	P		**Pn**	**03 53 35.1**	**0.0**	
CSNT				AML	AML				
	comp=N,478µm,1.3s								
CSNT				AML	AML				
	comp=E,375µm,1.4s								
TREM	**Isole Tremiti**	**1.71**	**106**	P		**Pn**	**03 53 35.3**	**0.0**	
TREM				AML	AML				
	comp=N,1535µm,0.5s								
TREM				AML	AML				
	comp=E,1065µm,0.4s								
OSSC	**Osservatorio P**	**1.76**	**302**	P		**Pn**	**03 53 36.2**	**+0.3**	
OSSC				AML	AML				
	comp=N,428µm,1.5s								
OSSC				AML	AML				
	comp=E,374µm,0.9s								
CASP	**Castiglione de**	**1.80**	**277**	P		**Pn**	**03 53 35.6**	**-0.9**	
CASP				AML	AML				
	comp=E,149µm,0.7s								

CASP AML AML
comp=N,219µm,0.7s
TRIF Trifonti 1.83 287 P **Pn** 03 53 36.6 -0.3
TRIF AML AML
comp=N,474µm,0.7s
TRIF AML AML
comp=E,363µm,0.7s
APRC Apricena 1.88 116 P **Pn** 03 53 37.6 +0.1
APRC AML AML
comp=N,28750µm,0.6s
APRC AML AML
comp=E,579µm,0.5s
SGRT San Giovanni R 2.01 114 P **Pn** 03 53 39.1 -0.3
SGRT AML AML
comp=E,760µm,0.8s
SGRT AML AML
comp=N,618µm,0.6s
POPM Popiglio 2.34 309 P **Pn** 03 53 44.1 +0.1
POPM AML AML
comp=N,200µm,0.8s
POPM AML AML
comp=E,274µm,0.9s
CAPA Cerignola FG 2.38 127 P **Pn** 03 53 44.3 -0.1
CAPA AML AML
comp=N,622µm,1.0s
CAPA AML AML
comp=E,768µm,1.2s
HVAR Hvar 2.39 75 P **Pn** 03 53 44.1 -0.4
PALZ Palazzo San Ge 2.60 129 P **Pn** 03 53 47.1 -0.3
PALZ AML AML
comp=E,566µm,1.2s
PALZ AML AML
comp=N,587µm,0.8s
MRVN Minervino Murg 2.66 125 P **Pn** 03 53 48.2 -0.1
MRVN AML AML
comp=E,136µm,1.1s
MRVN AML AML
comp=N,116µm,0.9s
PTRP Pietrapertosa 2.94 134 P **Pn** 03 53 53.9 +1.7
SKDS Skadanscina 2.98 10 *e*Pn **Pn** 03 53 51.1 -1.6
SKDS Skadanscina 2.98 10 *i* Pn **Pn** 03 53 51.6 -1.1
SKDS *i* Sn **Sn** 03 54 27.4 -1.2
SKDS IAML 03 54 49.5
comp=Z,85nm,0.5s
AMUR Altamura 3.00 123 P **Pn** 03 53 53.0 0.0
AMUR AML AML
comp=N,152µm,1.1s
AMUR AML AML
comp=E,180µm,0.4s
A050A Klekovaca 3.01 50 *e*Pn **Pn** 03 53 53.7 +0.6
MIGL Miglionico 3.10 129 P **Pn** 03 53 55.4 +1.1
MIGL AML AML
comp=N,542µm,1.5s
MIGL AML AML
comp=E,511µm,1.6s
PGF Pioggiola 3.17 270 *e*P **Pn** 03 53 55.5 +0.1
PGF *e*Sn **Sn** 03 54 28.2 -5.3
comp=E,32nm,0.8s
SRKY Kupres RS 3.18 61 *e*Pn **Pn** 03 53 56.5 +1.0
BOJS Bojanci 3.22 25 *e*Pn **Pn** 03 53 56.2 +0.3
BOJS Bojanci 3.22 25 AML AML
comp=E,629µm,0.7s
BOJS AML AML
comp=N,440µm,0.7s
CEY Cerknica 3.23 14 *e*Pn **Pn** 03 53 56.1 -0.1
MSSA Maissana 3.24 303 P **Pn** 03 53 56.3 0.0
MSSA AML AML
comp=N,151µm,0.8s
MSSA AML AML
comp=E,88µm,0.9s
STON Ston 3.25 84 *e*Pn **Pn** 03 53 55.1 -1.3
STON Ston 3.25 84 *e*Pn **Pn** 03 53 55.5 -1.0
STON *e*Sn **Sn** 03 54 33.7 -1.6
STON Ston 3.25 84 P **Pn** 03 53 55.4 -1.0
STON AML AML
comp=N,114µm,0.9s
STON AML AML
comp=E,107µm,0.8s
MGRS Mrkonjic Grad 3.29 55 *e*Pn **Pn** 03 53 58.1 +1.1
LTRZ Laterza 3.32 126 AML AML
comp=E,115µm,0.6s
LTRZ AML AML
comp=N,1255µm,0.4s
SABO M.te Sabotino 3.38 4 P **Pn** 03 53 57.3 -0.8
SABO AML AML
comp=E,2160µm,0.7s
SABO AML AML
comp=N,2010µm,0.8s
SABO AML AML
comp=E,487µm,0.7s
SABO AML AML
comp=N,537µm,0.7s
AJAC Base Areonaval 3.43 260 AML AML
comp=N,66µm,0.6s
AJAC AML AML
comp=E,122µm,0.8s
CGRP Cima Grappa 3.44 342 ⇓P **Pn** 03 53 59.2 0.0
CGRP AML AML
comp=N,499µm,0.7s
CGRP AML AML
comp=E,392µm,0.5s
CGRP AML AML
comp=E,356µm,0.6s
CGRP AML AML
comp=N,518µm,0.7s
BLY Banja Luka 3.54 52 *e*Pn **Pb** 03 54 04.7 -3.2
LJU Ljubljana 3.54 14 AML AML
comp=E,1555µm,0.7s
LJU AML AML
comp=N,1860µm,0.6s
A051A Mrakovica 3.55 46 *e*Pn **Pn** 03 54 00.6 0.0
CRES Cresnjev 3.57 25 *e*Pn **Pn** 03 54 00.3 -0.5
DOSS Dosso del Somm 3.60 336 AML AML
comp=E,190µm,0.5s
DOSS AML AML
comp=N,262µm,0.8s
DOSS AML AML
comp=E,264µm,0.8s
DOSS AML AML
comp=N,217µm,0.5s
TAR1 Taranto 3.65 123 AML AML
comp=N,126µm,1.5s
TAR1 AML AML
comp=E,146µm,0.6s
STAL STALIGIAL 3.67 354 P **Pn** 03 54 01.0 -1.2
STAL AML AML
comp=N,196µm,1.0s
STAL AML AML
comp=E,318µm,0.4s
MAGA Magasa 3.70 330 AML AML
comp=N,612µm,0.4s
MAGA AML AML
comp=E,784µm,0.5s
TREB Trebinje 3.73 87 *e*Pn **Pn** 03 54 03.9 +0.9
LUSI Trento, Gardas 3.75 334 AML AML
comp=E,242µm,0.7s
LUSI AML AML
comp=N,268µm,0.5s
HCY Herceg Novi 3.85 91 *e*Pn **Pn** 03 54 04.4 -0.2
BRY Bratogost 3.87 84 *e*Pn **Pn** 03 54 05.2 +0.1
ZONE Zone 3.89 325 AML AML
comp=E,127µm,0.4s
ZONE AML AML
comp=N,184µm,0.6s
ACOM Acomizza, Ital 3.94 2 AML AML
comp=E,326µm,0.7s
ACOM AML AML
comp=N,263µm,0.9s
ACOM AML AML
comp=N,255µm,0.8s
ACOM AML AML
comp=E,311µm,0.8s
ZOU Zoufplan 3.95 357 AML AML
comp=N,156µm,1.5s
ZOU AML AML
comp=E,199µm,1.0s
OBKA Obir 4.00 13 *e*Pn **Pn** 03 54 06.1 -0.7
OBKA Obir 4.00 13 *i* Pn **Pn** 03 54 06.9 +0.2
comp=E,9.4nm,0.5s,SNR=6.2
OBKA *e*Sn **Sg** 03 55 14.2 +0.7
comp=E,115nm,0.9s
MYKA Terra Mystica 4.03 3 *i* Pn **Pn** 03 54 07.6 +0.5
comp=E,11nm,0.5s,SNR=9.2
KOSI Kohlern 4.09 341 AML AML
comp=N,218µm,1.6s
KOSI AML AML

comp=E,204µm,0.8s
UPM Unac-Piva 4.16 80 *e*Pn **Pn** 03 54 10.4 +1.3
ABTA Abfaltersbach 4.17 353 *i* Pn **Pn** 03 54 09.5 +0.3
comp=E,42nm,0.5s,SNR=33
ABTA *e*Sn **Sn** 03 55 01.2 +3.1
comp=E,50nm,0.7s
SOKA Soboth 4.25 16 *e*Pn **Pn** 03 54 11.4 +1.2
comp=E,2.0nm,0.2s
VSL Villasalto 4.29 225 AML AML
VSL AML AML
DRME Dracevica, Mon 4.38 94 *e*Pn **Pn** 03 54 12.3 +0.4
PDG Podgorica 4.41 90 ⇑P **Pn** 03 54 13.1 +0.9
RISI Rein 4.42 349 AML AML
comp=E,338µm,0.5s
RISI AML AML
comp=N,300µm,0.6s
SBF Sospel 4.46 288 *e*P **Pn** 03 54 13.2 +0.1
SBF *e*Sn **Sn** 03 54 58.9 -6.3
comp=N,31nm,0.6s
KBA Koelnbreinsper 4.47 0 *e*Pn **Pn** 03 54 14.8 +1.6
comp=N,15nm,0.8s
KBA *e*Sn **Sn** 03 55 05.9 +0.4
comp=N,22nm,0.4s
ROSI Rosskopf 4.52 343 AML AML
comp=E,224µm,0.8s
ROSI AML AML
comp=N,249µm,0.4s
RUDO Rudo 4.56 75 *e*Pn **Pn** 03 54 15.0 +0.6
BBLS Lazići 4.64 72 *e*Pn **Pn** 03 54 15.4 +0.9
BBLS *e*Sn **Sn** 03 55 07.5 -2.1
FETA Feichten 4.77 338 *e*Pn **Pn** 03 54 18.8 +1.3
comp=N,6.8nm,0.3s
FETA *e*Sn **Sn** 03 55 19.2 +6.2
comp=N,14nm,0.7s
WTTA Wattenberg 4.80 346 *e*Pn **Pn** 03 54 20.0 +2.1
comp=N,10nm,0.6s
WTTA *e*Sn **Sn** 03 55 17.7 +4.0
comp=N,42nm,0.7s
DAVOX Davos/Dischmat 4.83 331 Pn **Pn** 03 54 20.6 +2.3
comp=N,3.6nm,0.3s,baz=143,slow=14,SNR=26
DAVOX Sn **Sn** 03 55 15.4 +1.0
comp=N,2.7nm,0.3s,baz=131,slow=20,SNR=1.8
DAVOX LR LR 03 56 41.7
comp=N,62nm,19.4s,baz=99,slow=45
comp=N,13nm,0.4s
SQTA Sankt Quirin 4.84 343 *i* Pn **Pn** 03 54 20.3 +1.9
comp=N,9.9nm,0.3s,SNR=12
SQTA *e*Sn **Sn** 03 55 20.1 +5.4
comp=N,26nm,0.4s
WATA Walderalm 4.88 346 *i* Pn **Pn** 03 54 21.1 +2.2
comp=N,9.0nm,0.3s,SNR=11
WATA *e*Sn **Sn** 03 55 20.0 +4.4
comp=N,13nm,0.3s
KOVH Kovagotottos 4.89 43 P **Pn** 03 54 18.1 -0.9
KOVH S **Sn** 03 55 11.2 -4.6
ARSA Arzberg 4.90 18 *i* Pn **Pn** 03 54 18.7 -0.4
comp=N,2.7nm,0.5s
ARSA *e*Sn **Sn** 03 55 15.9 -0.1
comp=N,6.5nm,0.4s
SJES Sjenica 4.95 80 *e*Pn **Pn** 03 54 20.9 +1.1
SJES *e*Sn **Sn** 03 55 14.4 -2.8
MOTA Moosalm 4.98 343 *i* Pn **Pn** 03 54 22.9 +2.5
comp=N,6.0nm,0.4s,SNR=8.6
LMR La Mourre 5.03 281 *e*P **Pn** 03 54 21.0 +0.2
LMR *e*Sn **Sn** 03 55 11.0 -8.2
comp=N,8.2nm,0.8s
TIR Tirane 5.06 102 ⇑P **Pn** 03 54 21.1 -0.1
BIOA Bad Ischl, Aus 5.09 3 *i* Pn **Pn** 03 54 22.7 +1.0
comp=N,7.9nm,0.5s,SNR=6.6
BIOA *e*Sn **Sn** 03 55 23.3 +2.7
comp=N,20nm,0.4s
DIVS Divibare 5.10 71 *e*Pn **Pn** 03 54 21.8 -0.1
DIVS Divibare 5.10 71 *e*Pn **Pn** 03 54 22.9 +1.0
IVAS Ivanjica 5.11 77 *e*Pn **Pn** 03 54 22.4 +0.4
IVAS *e*Sn **Sn** 03 55 19.0 -2.3
MBDF Montbardon 5.18 296 *e*P **Pn** 03 54 24.8 +1.7
MBDF *e*Sn **Sn** 03 55 16.1 -7.0
comp=N,23nm,0.8s
RETA Reutte 5.20 341 *e*Pn **Pn** 03 54 25.0 +1.9
comp=N,3.9nm,0.3s
RETA *e*Sn **Sn** 03 55 28.5 +5.2
comp=N,8.3nm,0.4s
DAVA Damuels 5.27 334 *i* Pn **Pn** 03 54 26.3 +2.1
comp=N,9.7nm,0.5s,SNR=7.8
DAVA *e*Sn **Sn** 03 55 31.5 +6.3
comp=N,28nm,0.5s
MOA Molln 5.28 7 *e*Pn **Pn** 03 54 25.5 +1.2
MOA *e*Sn **Sn** 03 55 23.1 -2.3
MOA Molln 5.28 7 *i* Pn **Pn** 03 54 25.7 +1.3
comp=N,5.0nm,0.3s,SNR=11
MOA *e*Sn **Sn** 03 55 24.7 -0.7
comp=N,10.0nm,0.5s
FRGS Fruska Gora 5.35 59 *e*Pn **Pn** 03 54 24.8 -0.5
FRGS Fruska Gora 5.35 59 *e*Pn **Pn** 03 54 25.2 -0.1
PHP Peshkopia 5.39 97 P **Pn** 03 54 27.2 +1.3
TRUS Trudelj 5.42 70 *e*Pn **Pn** 03 54 26.1 -0.2
RONA Rosalia, Austr 5.51 22 *i* Pn **Pn** 03 54 27.6 +0.1
comp=N,5.4nm,0.3s,SNR=5.2
RONA *e*Sn **Sn** 03 55 31.1 0.0
comp=N,5.7nm,0.5s
LPG La Plagne 5.53 304 *e*P **Pn** 03 54 28.9 +1.0
LPG *e*Sn **Sn** 03 55 24.5 -7.3
comp=N,15nm,0.6s
LPL La Plagne 5.55 304 *e*P **Pn** 03 54 29.3 +1.1
LPL *e*Sn **Sn** 03 55 25.1 -7.1
comp=N,19nm,0.7s
GRUS Gruza 5.57 74 *e*Pn **Pn** 03 54 28.4 +0.2
SOP Sopron 5.57 23 P **Pn** 03 54 29.1 +0.8
CONA Conrad Observa 5.62 18 *i* Pn **Pn** 03 54 28.7 -0.2
comp=N,4.9nm,0.7s,SNR=8.7
CONA *e*Sn **Sn** 03 55 31.2 -2.5
comp=N,8.3nm,0.4s
KEK Kerkira 5.70 118 P **Pn** 03 54 30.9 +0.9
SRN Sarande 5.74 116 P **Pn** 03 54 31.4 +0.8
SELS Selova 5.78 81 *e*Pn **Pn** 03 54 31.3 +0.2
SMRF Simiane la Rot 5.80 286 *e*P **Pn** 03 54 32.5 +1.1
SMRF *e*Sn **Sn** 03 55 30.7 -7.4
comp=N,4.9nm,0.6s
OHR Ohrid 5.80 102 *i* Pn **Pn** 03 54 32.9 +1.4
ORIF Oris-en-Rattie 5.84 296 *e*P **Pn** 03 54 34.5 +2.4
ORIF *e*Sn **Sn** 03 55 32.3 -7.0
comp=N,17nm,0.8s
KBN Korca 5.96 107 P **Pn** 03 54 31.8 -1.8
NEST Nestorio 6.22 108 P **Pn** 03 54 39.1 +1.8
BOVS Bovan 6.24 78 *e*Pn **Pn** 03 54 36.8 -0.6
GERES GERESS Array B 6.24 2 Pn **Pn** 03 54 36.9 -0.7
comp=N,0.6nm,0.3s,baz=180,slow=12,SNR=26
GERES Sn **Sn** 03 55 45.9 -3.2
comp=N,2.1nm,0.3s,baz=175,slow=23,SNR=7.4
comp=N,3.6nm,0.7s
CKRC Cesky Krumlov 6.25 6 *e*PN **Pn** 03 54 37.5 -0.1
CKRC *e*SN **Sn** 03 55 46.3 -2.9
BARS Barje 6.28 85 *e*Pn **Pn** 03 54 38.3 +0.3
BARS *e*Sn **Sn** 03 55 47.3 -2.7
SRO Srobarova 6.29 33 *e*PN **Pn** 03 54 39.6 +1.4
PENT Pentalofos 6.37 110 P **Pn** 03 54 41.4 +2.0
MODS Modra-Piesok 6.41 25 *e*PN **Pn** 03 54 40.2 +0.5
JAN Janina 6.42 115 P **Pn** 03 54 40.6 +0.6
PRVS Prvonek 6.49 88 *e*Pn **Pn** 03 54 41.4 +0.5
CABF La Chapelle 6.51 310 *e*P **Pn** 03 54 42.6 +1.3
CABF *e*Sn **Sn** 03 55 47.8 -8.0
comp=N,11nm,0.7s
KHC Kasperske Hory 6.53 2 *e*PN **Pn** 03 54 40.5 -0.9
KHC *e*SN **Sn** 03 55 52.3 -3.7
VIVF Saint-Julien-l 6.64 293 *e*P **Pn** 03 54 44.4 +1.5
VIVF *e*Sn **Sn** 03 55 50.7 -8.1
comp=N,3.1nm,0.7s
ZAGS Zajecar 6.64 77 *e*Pn **Pn** 03 54 42.2 -0.7
STIP Stip 6.67 95 *i* Pn **Pn** 03 54 45.9 +2.5
TSLK Tsoukalades, L 6.75 122 P **Pn** 03 54 46.1 +1.7
LKD2 Lefkada island 6.77 122 P **Pn** 03 54 46.1 +1.3
BOSS Bosilegrad 6.78 88 *e*Pn **Pn** 03 54 45.4 +0.5
KRUC Moravsky 6.80 17 *e*PN **Pn** 03 54 43.8 -1.4
KRUC *e*SN **Sn** 03 55 58.9 -3.9
NYDR Nydri-Lefkada 6.84 122 P **Pn** 03 54 47.1 +1.4
ZAPS Zavoj 6.89 81 *e*Pn **Pn** 03 54 47.0 +0.6
ZAPS *e*Sn **Sn** 03 55 59.9 -5.0
HINF Hinteralfeld 6.91 321 *e*P **Pn** 03 54 46.6 -0.1
HINF *e*Sn **Sn** 03 55 57.6 -7.9
comp=N,20nm,0.6s
FSK Fiskardo 6.92 124 P **Pn** 03 54 48.5 +1.8
KEF3 Kipouria, Keph 6.95 127 P **Pn** 03 54 49.1 +1.9
HERR Herculane 6.98 68 ⇑P Pn 03 54 53.2 +5.5
SIRR Siria 7.01 56 ⇓P **Pb** 03 55 09.6 +2.4
LASF Ste Croix 7.04 285 *e*P **Pn** 03 54 49.1 +0.7

LASF *e*Sn **Sn** 03 56 00.4 -8.2
comp=N,0.9nm,0.3s
VYHS Vyhne 7.05 32 *e*PN **Pn** 03 54 49.4 +0.8
VYHS *e*SN **Sn** 03 56 04.0 -4.9
VRAC Vranov 7.08 18 Pn **Pn** 03 54 47.9 -1.1
comp=N,0.4nm,0.3s,baz=202,slow=16,SNR=2.1
VRAC Sn **Sn** 03 56 06.9 -2.8
comp=N,0.3nm,0.3s,baz=273,slow=12,SNR=1.8
comp=N,2.0nm,0.6s
HAU Haudompre 7.28 320 *e*P **Pn** 03 54 51.8 0.0
HAU *e*Sn **Sn** 03 56 06.2 -8.5
comp=N,24nm,0.5s
VTS Vitosha 7.33 87 ⇑P **Pn** 03 54 52.7 +0.1
GZR Gura Zlata 7.38 65 ⇑P **Pn** 03 54 54.6 +1.4
EVR Evrytania 7.44 117 P **Pn** 03 54 56.3 +2.3
KEST Kesra 7.52 205 Pn **Pn** 03 54 59.6 +4.5
comp=N,0.7nm,0.3s,baz=342,slow=20,SNR=7.9
KEST LR LR 03 58 05.7
comp=N,98nm,19.5s,baz=125,slow=39
comp=N,2.7nm,0.6s
MORC Moravsky Berou 7.75 21 ⇑P **Pn** 03 54 59.0 +0.8
KRLC Kraliky 7.85 17 *e*PN **Pn** 03 55 00.1 +0.6
SMF Signal de Mont 7.86 304 *e*P **Pn** 03 55 01.0 +1.4
SMF *e*Sn Sn 03 56 19.8 -8.9
comp=N,5.2nm,0.5s
SERG Sergoula 7.88 119 P **Pn** 03 55 00.9 +0.9
SFTF Sexfontaines 8.06 317 *e*P **Pn** 03 55 03.9 +1.5
SFTF *e*Sn Sn 03 56 24.8 -9.0
comp=N,2.1nm,0.2s
LOT Lotru 8.06 66 ⇑P **Pn** 03 55 04.4 +1.9
LOR Lormes 8.15 308 *e*P **Pn** 03 55 05.7 +2.0
baz=124
LOR *e*Sn Sn 03 56 26.9 -9.1
comp=N,5.6nm,0.6s
MTLF Montolieu 8.16 279 *e*P **Pn** 03 55 07.4 +3.6
MTLF *e*Sn Sn 03 56 27.1 -9.0
comp=N,0.5nm,0.3s
OSTC Ostas 8.20 13 *e*PN **Pn** 03 55 05.2 +0.9
AVF Avril sur Loir 8.22 304 *e*P **Pn** 03 55 06.1 +1.5
AVF *e*Sn Sn 03 56 28.4 -9.3
comp=N,1.5nm,0.5s
MEZF Maizieres J'vi 8.25 318 *e*P **Pn** 03 55 06.4 +1.4
MEZF *e*Sn Sn 03 56 29.0 -9.4
comp=N,4.4nm,0.4s
SSF Saint Saulge 8.26 306 *e*P **Pn** 03 55 05.2 +0.1
SSF *e*Sn Sn 03 56 29.5 -9.0
comp=N,1.2nm,0.4s
BRG Berggiesshubel 8.28 3 *e*(P) **Pn** 03 55 05.1 -0.3
BRG Amp 03 55 09.1
comp=Z,1.6nm,0.5s
BRG *ex* x 03 56 38.0
BRG *ex* x 03 57 35.6
BRG Amp 03 58 09.8
comp=Z,13nm,1.2s
BGF Bois d'Agland 8.44 301 *e*P **Pn** 03 55 09.0 +1.4
BGF *e*Sn Sn 03 56 33.5 -9.5
comp=Z,4.9nm,0.6s
CAF Calviac 8.45 290 *e*P **Pn** 03 55 09.7 +1.9
CAF *e*Sn Sn 03 56 34.3 -9.1
comp=Z,0.7nm,0.3s
TCF Toulx Ste Croi 8.74 299 *e*P **Pn** 03 55 14.0 +2.2
TCF *e*Sn Sn 03 56 41.0 -9.5
comp=Z,1.4nm,0.4s
VOIR 8.93 68 ⇑P **Pn** 03 55 17.0 +2.6
MLR Muntele Rosu 9.55 68 ⇓P **Pn** 03 55 22.3 -0.7
MLR Muntele Rosu 9.55 68 Pn **Pn** 03 55 21.0 -2.0
comp=Z,0.3nm,0.3s,baz=198,slow=6.4,SNR=1.9
comp=Z,0.8nm,0.4s
ETSF Etsaut 10.20 276 *e*Pn **Pn** 03 55 29.3 -2.5
ESDC Sonseca Array 13.34 263 LR LR 04 00 41.9
comp=Z,40nm,18.6s,baz=70,slow=34
EKA Eskdalemuir Ar 16.64 326 Pn **P** 03 57 01.1 +0.2
baz=134,slow=14
comp=Z,1.5nm,0.8s
MDT Midelt 17.18 241 LR LR 04 02 45.4
comp=Z,33nm,18.8s,baz=68,slow=33
HFS Hagfors 17.55 1 P **P** 03 57 13.3 +2.3
comp=Z,2.6nm,0.9s,baz=196,slow=13,SNR=1.9
NOA NORSAR Array B 18.50 357 LR LR 04 05 57.9
comp=Z,16nm,18.2s,baz=160,slow=42
FINES FINESS Array B 20.36 18 P **P** 03 57 41.7 -0.1
comp=Z,2.5nm,0.8s,baz=201,slow=10,SNR=4.5
comp=Z,2.5nm,0.8s
TORD Torodi Ar. Bea 31.03 202 P **P** 03 59 25.8 +2.4
comp=Z,0.5nm,0.8s,baz=17,slow=8.9,SNR=5.6
comp=Z,0.5nm,0.8s
MKAR Makanchi Array 47.78 60 P **P** 04 01 42.8 0.0
comp=Z,0.4nm,0.6s,baz=316,slow=6.0,SNR=3.0
comp=Z,0.4nm,0.6s
SONM Songino Array 61.86 50 P **P** 04 03 26.3 +1.4
comp=Z,0.3nm,0.3s,baz=311,slow=5.5,SNR=2.8
comp=Z,0.3nm,0.3s

---

*PDG **01** 04:07:53.5±0.6,38.°55N×20.°48E,h10km±1km, ML3.9/10, Error ellipse: s-maj=1.3km s-min=1.6km az=0.0*
*ATH **01** 04:07:54.0,38.°46N×20.°59E,h13km±1km,ML3.7/8, Error ellipse: s-maj=2.0km s-min=0.7km az=283.0*
*NEIC **01** 04:07:53.8±1.9,38.°49N±0.°04×20.°54E±0.°06,h10km±1km, Error ellipse: s-maj=10.2km s-min=4.3km az=232.0*
*THE **01** 04:07:54.5,38.°45N×20.°61E,h3km±2km,ML3.8/14, Error ellipse: s-maj=2.4km s-min=0.6km az=254.0*
*BEO **01** 04:07:54.1±0.8,38.°53N×20.°27E,h0km, ML3.7/4*
*IDC **01** 04:07:57.4±2.9,38.°54N×20.°54E,h34km±25km,mb3.8/14, mbtmp3.9/24,ML3.4/10,MS3.0/11, Error ellipse: s-maj=15.2km s-min=12.1km az=148.0*

ISC 01 04:07:53.9±0.6,38.°47N±0.°01×20.°55E±0.°02,h13km±4km, n204,σ1§49/239,mb4.0/19,MS2.9/6,16C-12D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSK	**Fiskardo**	**0.01**	**127**	P	**Pg**	**04 07 56.2**	**-0.1**
FSK				S	**Sg**	**04 07 57.2**	**-0.7**
FSK	**Fiskardo**	**0.01**	**127**	P	**Pg**	**04 07 56.2**	**-0.1**
FSK				S	**Sg**	**04 07 57.1**	**-0.7**
EVGI	**Lefkada island**	**0.18**	**28**	P	**Pg**	**04 07 57.8**	**-0.2**
EVGI				S	**Sg**	**04 08 00.9**	**0.0**
EVGI	**Lefkada island**	**0.18**	**28**	P	**Pg**	**04 07 57.8**	**-0.2**
EVGI				S	**Sg**	**04 08 00.9**	**0.0**
DRAG	**Dragano-Lefkad**	**0.22**	**5**	P	**Pg**	**04 07 58.5**	**-0.2**
DRAG				S	**Sg**	**04 08 02.6**	**+0.6**
	153µm,0.5s						
KEF4	**Livadi, Kephal**	**0.23**	**206**	P	**Pg**	**04 07 58.9**	**0.0**
KEF4				S	**Sb**	**04 08 03.3**	**-0.6**
KEF4	**Livadi, Kephal**	**0.23**	**206**	P	**Pg**	**04 07 58.9**	**0.0**
KEF4				S	**Sb**	**04 08 03.3**	**-0.6**
DMLN	**Damoulianata-K**	**0.27**	**212**	P	**Pg**	**04 07 59.5**	**0.0**
DMLN				S	**Sb**	**04 08 04.8**	**-0.2**
	169µm,0.5s						
NYDR	**Nydri-Lefkada**	**0.27**	**25**	P	**Pg**	**04 07 59.4**	**-0.2**
NYDR				S	**Sb**	**04 08 04.6**	**-0.6**
	20µm,0.6s						
VLS	**Valsamata**	**0.29**	**174**	P	**Pg**	**04 07 59.4**	**-0.5**
VLS				S	**Sg**	**04 08 04.5**	**+0.5**
	59µm,0.3s						
VLS	**Valsamata**	**0.29**	**174**	P	**Pg**	**04 07 59.4**	**-0.5**
VLS				S	**Sg**	**04 08 04.0**	**0.0**
VLS				AML	AML	04 08 05.0	
VLS				AML	AML	04 08 06.4	
ARGA	**Argostoli. Kep**	**0.29**	**191**	P	**Pb**	**04 08 00.8**	**-0.2**
KEF3	**Kipouria, Keph**	**0.31**	**212**	P	**Pg**	**04 07 59.6**	**-0.6**
KEF3				S	**Sg**	**04 08 04.8**	**+0.3**
	202µm,0.5s						
KEF3	**Kipouria, Keph**	**0.31**	**212**	P	**Pg**	**04 07 59.7**	**-0.6**
KEF3				S	**Sg**	**04 08 04.5**	**+0.1**
LKD2	**Lefkada island**	**0.33**	**14**	P	**Pg**	**04 08 00.5**	**-0.2**
LKD2				S	**Sb**	**04 08 06.3**	**-0.7**
	14µm,0.5s						
LKD2	**Lefkada island**	**0.33**	**14**	P	**Pg**	**04 08 00.5**	**-0.2**
LKD2				S	**Sg**	**04 08 05.5**	**+0.1**
LKD2				AML	AML	04 08 14.8	
	comp=E,24048µm,0.3s						
LKD2				AML	AML	04 08 15.8	
	comp=N,33697µm,1.0s						
TSLK	**Tsoukalades, L**	**0.37**	**13**	P	**Pg**	**04 08 01.2**	**-0.1**
TSLK				S	**Sg**	**04 08 06.6**	**+0.2**
	comp=N,17µm,0.7s						
TSLK	**Tsoukalades, L**	**0.37**	**13**	P	**Pg**	**04 08 01.3**	**-0.1**
TSLK				S	**Sg**	**04 08 06.1**	**-0.2**
TSLK				AML	AML	04 08 15.1	
	comp=E,28163µm,0.6s						
TSLK				AML	AML	04 08 18.2	
	comp=N,46268µm,1.0s						
PVO	**Paravola**	**0.78**	**79**	P	**Pg**	**04 08 08.6**	**-0.4**

PVO S Sg 04 08 18.8 -0.4
comp=N,8μm,0.6s
PVO Paravola 0.78 79 P Pg 04 08 08.7 -0.4
PVO S Sg 04 08 18.7 -0.5
LTHK Lithakia 0.79 163 P Pg 04 08 08.0 -1.2
LTHK S Sb 04 08 19.9 0.0
comp=N,9μm,0.5s
LTHK Lithakia 0.79 163 P Pg 04 08 08.1 -1.1
LTHK S Sb 04 08 19.9 0.0
LTHK AML AML 04 08 27.2
comp=N,18892μm,0.6s
LTHK AML AML 04 08 28.6
comp=E,14153μm,0.6s
RLS Riolos of Patr 0.83 119 P Pg 04 08 08.9 -1.0
RLS S Sb 04 08 21.1 0.0
comp=E,4μm,0.6s
RLS Riolos of Patr 0.83 119 P Pg 04 08 09.1 -0.8
RLS S Sb 04 08 21.2 +0.2
RLS AML AML 04 08 28.0
comp=N,9842μm,0.7s
RLS AML AML 04 08 31.1
comp=E,7086μm,0.6s
DRO Drossia 1.05 119 P Pb 04 08 12.7 -1.1
DRO S Sn 04 08 29.0 +0.3
comp=E,6μm,0.5s
DRO Drossia 1.05 119 P Pb 04 08 12.8 -1.1
DRO S Sg 04 08 27.9 +0.2
DRO AML AML 04 08 41.7
comp=E,12599μm,0.6s
DRO AML AML 04 08 43.1
comp=N,9854μm,0.6s
EFP Efpalio 1.06 92 P Pb 04 08 12.6 -1.5
EFP S Sg 04 08 28.7 +0.4
comp=N,4μm,0.6s
EFP Efpalio 1.06 92 P Pb 04 08 12.6 -1.5
ANX Ano Chora 1.08 83 P Pb 04 08 13.4 -1.1
ANX S Sn 04 08 30.1 +0.4
comp=N,7μm,0.6s
ANX Ano Chora 1.08 83 P Pb 04 08 13.4 -1.1
EVR Evrytania 1.08 65 P Pb 04 08 13.6 -0.9
EVR S Sb 04 08 27.5 -1.0
EVR AML AML 04 08 37.3
comp=N,5364μm,0.7s
EVR AML AML 04 08 46.4
comp=E,4682μm,0.8s
LAKA Lakka 1.14 101 P Pb 04 08 14.2 -1.4
LAKA S Sb 04 08 29.5 -0.8
LAKA AML AML 04 08 38.3
comp=N,5108μm,0.7s
LAKA AML AML 04 08 43.1
comp=E,6077μm,0.8s
SERG Sergoula 1.18 92 P Pn 04 08 14.9 -1.2
JAN Janina 1.21 11 P Pg 04 08 17.8 +0.5
JAN Janina 1.21 11 P Pg 04 08 17.3 +0.1
KLV Kalavryta, Ach 1.33 108 P Pn 04 08 17.2 -0.9
MAKR Makrakomi, Fth 1.35 66 P Pn 04 08 18.4 0.0
KEK Kerkira 1.38 335 P Pb 04 08 19.8 +0.3
KEK S Sg 04 08 41.9 +3.6
comp=E,1μm,0.8s
KEK Kerkira 1.38 335 Pn Pn 04 08 18.9 +0.1
KEK Sn Sb 04 08 37.4 +0.5
KEK Kerkira 1.38 335 P Pb 04 08 19.6 +0.1
THL Klokotos Trika 1.58 46 P Pb 04 08 22.5 -0.5
ITM Ithomi 1.68 139 Pn Pb 04 08 24.8 +0.1
ITM Sn Sb 04 08 46.4 +0.7
ITM Ithomi 1.68 139 P Pb 04 08 24.3 -0.4
LKR Lokris 1.93 84 P Pn 04 08 27.3 +1.0
ATAL Atalanti 1.95 83 P Pb 04 08 28.8 -0.4
LTK Loutraki 1.95 102 P Pb 04 08 28.8 -0.5
LOUT Loutraki 1.97 103 P Pb 04 08 29.2 -0.4
KZN Kozani 2.07 27 P Pb 04 08 30.8 -0.5
VIL2 Platees 2.15 96 P Pb 04 08 31.8 -0.8
VLO Vlora 2.16 338 Pn Pn 04 08 30.2 +0.7
KBN Korca 2.16 5 Pn Pn 04 08 30.2 +0.5
LIT Litokhoron 2.22 42 Pn Pn 04 08 30.1 -0.3
SCTE Santa Cesarea 2.28 315 Pn Pn 04 08 31.5 +0.4
OHR Ohrid 2.65 4 *i* Pn Pb 04 08 39.3 -1.9
TIR Tirane 2.93 350 ⇓P Pn 04 08 41.9 +1.8
TIR Tirane 2.93 350 Pn Pn 04 08 41.2 +1.1
TIR Tirane 2.93 350 *e*Pn Pn 04 08 41.5 +1.4
TIP Timpagrande 3.05 285 ⇓P Pn 04 08 42.5 +0.7
TIP Timpagrande 3.05 285 Pn Pn 04 08 42.3 +0.5
SRS Serrai 3.54 41 *e*Pn Pn 04 08 50.7 +2.2
SRS *e*Sn Sn 04 09 33.4 +3.3
CEL Celeste 3.67 268 Pn Pn 04 08 50.4 +0.1
MATE Matera 3.69 307 ⇑P Pg 04 09 19.6 +15
DRME Dracevica, Mon 3.86 345 *e*Pn Pn 04 08 53.0 +0.1
DRME Dracevica, Mon 3.86 345 ⇑*i*Pn Pn 04 08 53.2 +0.3
DRME *i* Sn Sn 04 08 53.6 +0.5
KKR Krupnik 3.91 29 P Pb 04 08 56.6 +0.0
MMB Musomiste 3.96 37 P Pb 04 08 59.3 -4.2
CUC Castrocucco 3.98 294 Pn Pn 04 08 55.6 +1.0
BUM Brajici-Budva 4.04 342 ⇓*i*Pn Pn 04 08 55.6 +0.2
BUM *i* Sn Sn 04 09 42.5 0.0
PDG Podgorica 4.08 346 Pn Pn 04 08 55.3 -0.7
PDG Podgorica 4.08 346 *e*Pn Pn 04 08 54.6 -1.3
TTG Podgorica 4.08 346 ⇑*i*Pn Pn 04 08 56.5 +0.6
TTG *i* Sn Sn 04 09 43.3 -0.2
PRVS Prvonek 4.20 16 *e*Pn Pn 04 08 59.9 +2.3
CEME Cevo 4.26 344 ⇑*i*Pn Pn 04 08 58.3 -0.2
CEME *i* Sn Sn 04 09 47.8 -0.3
HCY Herceg Novi 4.28 339 *e*Pn Pn 04 08 58.0 -0.6
HCY Herceg Novi 4.28 339 ⇓*i*Pn Pn 04 08 58.3 -0.3
HCY *i* Sn Sn 04 09 47.4 -0.9
BOSS Bosilegrad 4.29 19 *e*Pn Pn 04 09 00.9 +2.1
KOME Kolasin 4.45 350 ⇑*i*Pn Pn 04 09 01.4 +0.3
KOME *i* Sn Sn 04 09 52.4 -0.4
BARS Barje 4.45 12 *e*Pn Pn 04 09 02.8 +1.8
NKME Niksic 4.47 345 ⇑*i*Pn Pn 04 09 01.2 -0.1
NKME *i* Sn Sn 04 09 53.1 0.0
NKY Niksic 4.50 345 ⇑*i*Pn Pn 04 09 02.1 +0.3
NKY *i* Sn Sn 04 09 54.0 -0.1
TREB Trebinje 4.57 339 *e*Pn Pn 04 09 01.3 -1.3
VTS Vitosha 4.62 25 ⇑P Pn 04 09 08.9 +5.4
VTS Vitosha 4.62 25 Pn Pn 04 09 04.7 +1.1
VTS Vitosha 4.62 25 P Pb 04 09 09.2 -5.7
RDO Rodhopi 4.68 54 Pn Pn 04 09 05.5 +1.4
BRY Bratogost 4.69 342 *e*Pn Pn 04 09 03.9 -0.5
BRY Bratogost 4.69 342 ⇑*i*Pn Pn 04 09 04.1 -0.3
BRY *i* Sn Sn 04 09 58.5 -0.2
IDI Anoyia 4.71 131 ⇓P Pg 04 09 32.2 +8.2
IDI Anoyia 4.71 131 Pn Pn 04 09 07.8 +3.2
comp=E,0.4nm,0.3s,baz=274,slow=11,SNR=1.7
IDI Sn Sn 04 09 58.0 -1.1
comp=E,2.3nm,0.3s,baz=298,slow=19,SNR=2.3
comp=E,6.1nm,0.5s
IDI Anoyia 4.71 131 Pn Pn 04 09 04.8 +0.2
SELS Selova 4.77 5 *e*Pn Pn 04 09 05.4 0.0
SJES Sjenica 4.81 355 *e*Pn Pn 04 09 07.3 +1.2
SJES *e*Sn Sn 04 10 00.9 -0.8
ALN Alexandroupoli 4.88 58 Pn Pn 04 09 08.1 +1.2
UPM Unac-Piva 4.89 346 *e*Pn Pn 04 09 07.6 +0.3
UPM Unac-Piva 4.89 346 ⇓*i*Pn Pn 04 09 07.3 0.0
UPM *i* Sn Sn 04 10 03.1 -0.8
STON Ston 4.91 335 *e*Pn Pn 04 09 05.6 -1.6
STON Ston 4.91 335 *e*Pn Pn 04 09 05.8 -1.4
STON *e*Sn Sn 04 10 00.4 -3.4
SGRT San Giovanni R 4.94 313 Pn Pn 04 09 08.0 +0.2
PLE Pljevlja 4.94 350 *e*Pn Pn 04 09 08.2 +0.4
PLE *i* Sn Sn 04 10 04.7 -0.1
VAE Valguarnera 4.95 260 Pn Pn 04 09 10.4 +2.5
comp=E,1.8nm,0.3s,baz=51,slow=6.6,SNR=1.9
VAE Sn Sn 04 10 02.2 -2.8
comp=E,2.7nm,0.3s,baz=138,slow=21,SNR=3.3
comp=E,8.1nm,0.4s
RAFF Raffo Rosso 5.05 258 Pn Pn 04 09 07.0 -2.3
ZAPS Zavoj 5.06 18 *e*Pn Pn 04 09 12.0 +2.6
IVAS Ivanjica 5.12 357 *e*Pn Pn 04 09 10.2 0.0
IVAS *e*Sn Sn 04 10 08.6 -0.5
RUDO Rudo 5.22 351 *e*Pn Pn 04 09 13.1 +1.4
BOVS Bovan 5.24 9 ⇑P Pn 04 09 12.7 +0.9
BOVS Bovan 5.24 9 *e*Pn Pn 04 09 12.6 +0.8
PAOL Paolisi 5.28 301 Pn Pn 04 09 12.3 -0.2
BLKB Belogradchik 5.40 17 ⇑P Pn 04 09 16.9 +2.8
GRUS Gruza 5.42 1 *e*Pn Pn 04 09 14.7 +0.4
BBLS Lazići 5.46 351 *e*Pn Pn 04 09 15.7 +0.7
WDD Wied Dalam 5.48 243 Pn Pn 04 09 13.3 -1.9
DIVS Divibare 5.64 356 Pn Pn 04 09 17.0 -0.5
DIVS Divibare 5.64 356 *e*Pn Pn 04 09 16.7 -0.8
DIVS Divibare 5.64 356 *e*Pn Pn 04 09 17.2 -0.3
DIVS *e*Sn Sn 04 10 20.1 -2.1
TRUS Trudelj 5.75 359 *e*Sn Sn 04 10 23.0 -1.8

CLTB Caltabellotta 5.86 264 Pn Pn 04 09 21.7 +1.2
KARP Karpathos 6.04 117 Pn Pn 04 09 24.1 +1.2
SRKY Kupres RS 6.15 337 *e*Pn Pn 04 09 24.6 +0.1
DJES Djerdap 6.37 13 ⇑P Pb 04 09 38.0 -6.5
MDVR Moldovita 6.37 7 ⇓P Pn 04 09 30.9 +3.5
MGRS Mrkonjic Grad 6.49 337 *e*Pn Pn 04 09 29.5 +0.4
HERR Herculane 6.56 12 ⇑P Pb 04 09 42.6 -5.2
FRGS Fruska Gora 6.71 356 *e*Pn Pn 04 09 34.8 +2.7
A050A Klekovaca 6.73 335 *e*Pn Pn 04 09 32.8 +0.5
BLY Banja Luka 6.77 339 *e*Pn Pn 04 09 33.3 +0.5
CAMP Campotosto 6.79 309 Pn Pn 04 09 32.8 -0.5
A051A Mrakovica 7.09 339 *e*Pn Pn 04 09 37.0 -0.3
GZR Gura Zlata 7.12 13 ⇑P Pn 04 09 41.5 +3.8
NRCA Norcia 7.14 310 Pn Pn 04 09 39.2 +1.1
FDMO Fiordimonte 7.28 311 Pn Pn 04 09 40.5 +0.6
LOT Lotru 7.38 18 ⇓P Pn 04 09 49.3 +8.0
VOIR 7.73 24 ⇑P Pn 04 09 53.3 +7.2
KOVH Kovagotottos 7.83 347 P Pn 04 09 48.2 +0.7
KOVH S Sn 04 11 10.8 -5.0
SIRR Siria 7.84 6 ⇓P Pn 04 09 55.6 +8.0
MORH Mrgy, Hungar 7.87 350 S Sn 04 11 10.7 -6.1
BOJS Bojanci 8.06 332 *e*Pn Pn 04 09 50.8 +0.2
MLR Muntele Rosu 8.09 28 ⇓P Pn 04 09 58.3 +7.3
MLR Muntele Rosu 8.09 28 Pn Pn 04 09 57.2 +6.2
comp=E,0.5nm,0.3s,baz=230,slow=13,SNR=8.1
CRES Cresnjev 8.27 334 *e*Pn Pn 04 09 52.4 -1.1
CEY Cerknica 8.57 330 *e*Pn Pn 04 09 57.2 -0.4
SKDS Skadanscina 8.59 328 *e*Pn Pn 04 09 56.7 -1.1
PLOR Plostina 8.66 30 ⇑P Pn 04 10 05.6 +6.9
VRI Vrincioaia 8.70 30 ⇓P Pn 04 10 06.6 +7.3
TRI Trieste 8.82 327 Pn Pn 04 10 00.9 0.0
SABO M.te Sabotino 9.11 328 Pn Pn 04 10 04.2 -0.8
SOKA Soboth 9.16 335 *i* Pn Pn 04 10 05.0 -0.7
comp=E,0.7nm,0.3s,SNR=6.1
OBKA Obir 9.18 333 *e*Pn Pn 04 10 03.8 -2.2
OBKA Obir 9.18 333 *e*Pn Pn 04 10 07.1 +1.1
comp=E,1.2nm,0.3s
KEST Kesra 9.36 256 Pn Pn 04 10 10.0 +1.5
comp=E,0.1nm,0.3s,baz=340,slow=8.8,SNR=2.3
KEST Sn Sn 04 11 52.4 -1.2
comp=E,0.1nm,0.3s,baz=18,slow=22,SNR=2.0
KEST LR LR 04 14 42.4
comp=E,49nm,18.6s,baz=166,slow=43
comp=E,4.2nm,1.0s
PRED Cave del Predi 9.49 329 Pn Pn 04 10 09.7 -0.6
TEOL Teolo 9.55 319 Pn Pn 04 10 10.6 -0.4
STAL STALIGIAL 9.71 326 Pn Pn 04 10 12.8 -0.4
CLUD Cludinico 9.79 327 Pn Pn 04 10 13.3 -1.0
CIMO Cimolais 9.87 325 Pn Pn 04 10 14.0 -1.4
CONA Conrad Observa 10.06 342 *e*Pn Pn 04 10 28.1 +10
comp=E,0.4nm,0.3s
VYHS Vyhne 10.10 353 *e*PN Pn 04 10 20.3 +1.8
ABTA Abfaetsbach 10.17 327 *e*Pn Pn 04 10 19.4 -0.2
comp=E,0.6nm,0.2s
BRTR Keskin Array B 10.25 79 Pn Pn 04 10 26.0 +5.2
comp=E,0.2nm,0.3s,baz=260,slow=13,SNR=2.7
BRTR LR LR 04 15 18.5
comp=E,109nm,20.2s,baz=312,slow=43
comp=E,1.5nm,0.7s
MOA Molln 10.44 336 *i* Pn Pn 04 10 24.1 +1.0
comp=E,1.2nm,0.2s,SNR=5.4
WTTA Wattenberg 10.95 326 *e*Pn Pn 04 10 31.6 +1.2
comp=E,0.8nm,0.2s
WATA Walderalm 11.03 326 *e*Pn Pn 04 10 33.6 +2.2
comp=E,2.9nm,0.4s
VRAC Vranov 11.21 347 LR LR 04 16 26.6
comp=E,32nm,19.2s,baz=168,slow=46
MOTA Moosalm 11.25 325 *e*Pn Pn 04 10 36.5 +2.1
comp=E,5.1nm,0.6s
DAVOX Davos/Dischmat 11.43 320 Pn Pn 04 10 39.2 +2.3
comp=E,0.4nm,0.3s,baz=160,slow=17,SNR=3.9
DAVOX Sn Sn 04 12 36.3 -8.1
comp=E,0.1nm,0.3s,baz=69,slow=14,SNR=1.8
comp=E,1.3nm,0.5s
GERES GERESS Array B 11.49 337 Pn Pn 04 10 37.7 0.0
comp=E,0.2nm,0.3s,baz=152,slow=15,SNR=6.1
GERES Sn Sn 04 12 38.7 -7.2
comp=E,0.1nm,0.3s,baz=154,slow=23,SNR=1.8
comp=E,0.8nm,0.6s
GERES GERESS Array B 11.49 337 Pn Pn 04 10 36.1 -1.6
SENIN Lac Senin/Sane 12.56 313 Pn Pn 04 10 51.4 -1.0
MMAI Mount Meron Ar 13.23 110 Pn Pn 04 11 04.4 +3.0
comp=E,0.7nm,0.3s,baz=313,slow=12,SNR=2.2
comp=E,0.7nm,0.4s
AKASG Malin Array Be 13.69 24 Pn Pn 04 11 08.9 +1.3
comp=E,0.3nm,0.3s,baz=209,slow=9.4,SNR=1.5
AKASG LR LR 04 17 23.0
comp=E,115nm,18.7s,baz=204,slow=42
comp=E,0.2nm,0.3s
MARD Mardin 16.01 88 Pn Pn 04 11 36.4 -2.5
BCLA Clavier 16.13 323 *d*PP PP 04 12 31.9
GNI Garni 18.78 77 P Pn 04 12 14.3 +0.8
comp=E,0.8nm,0.3s,baz=338,slow=11,SNR=3.1
GNI LR LR 04 20 09.6
comp=E,36nm,21.7s,baz=294,slow=39
comp=E,4.5nm,0.4s
ESDC Sonseca Array 19.06 281 P Pn 04 12 16.6 -0.1
comp=E,0.1nm,0.3s,baz=80,slow=10,SNR=10
comp=E,2.3nm,0.9s
TAM Tamanrasset 20.24 224 P P 04 12 24.3 -4.6
MDT Midelt 21.18 262 P P 04 12 41.3 +2.2
comp=E,2.5nm,1.0s,baz=90,slow=12,SNR=3.1
MDT LR LR 04 21 46.2
comp=E,36nm,19.1s,baz=106,slow=39
comp=E,2.5nm,1.0s
HFS Hagfors 22.12 351 P P 04 12 49.1 +0.3
comp=E,1.5nm,0.6s,baz=155,slow=11,SNR=9.1
comp=E,1.5nm,0.6s
EKA Eskdalemuir Ar 23.21 324 P P 04 13 00.9 +0.7
comp=E,2.8nm,0.8s,baz=123,slow=9.3,SNR=5.7
comp=E,2.8nm,0.8s
FINES FINESS Array B 23.26 7 P P 04 13 00.5 -0.2
comp=E,4.0nm,0.8s,baz=159,slow=9.4,SNR=13
comp=E,4.0nm,0.8s
FINES FINESS Array B 23.26 7 P P 04 13 01.0 +0.3
FIA1 FINESS Array S 23.26 7 P P 04 13 00.4 -0.3
FIA1 IAmb IAmb 04 13 10.7
comp=Z,1nm,0.9s
NB2 NORSAR Subarra 23.34 349 P P 04 12 02.1 +0.5
comp=E,6.0nm,1.0s,baz=160,slow=10
NOA NORSAR Array B 23.34 349 P P 04 13 01.4 -0.3
comp=E,1.3nm,0.7s,baz=160,slow=9.7,SNR=4.7
NOA LR LR 04 24 46.1
comp=E,13nm,18.2s,baz=180,slow=43
comp=E,1.3nm,0.7s
BELG Belogornoye 23.38 45 P P 04 13 01.9 -0.2
comp=Z,12nm,0.7s,baz=267,slow=17,SNR=2.5
BELG LR LR 04 23 15.0
comp=Z,45nm,20.8s,baz=312,slow=39
comp=Z,12nm,0.7s
NC303 NORSAR Array S 23.49 349 P P 04 13 03.1 0.0
NC303 IAmb IAmb 04 13 23.6
comp=Z,8.5nm,0.9s
AKTO Aktyubinsk 28.99 53 LR LR 04 26 28.3
comp=Z,30nm,19.6s,baz=261,slow=38
GEYT Alibeck 29.40 79 P P 04 13 57.6 +0.8
comp=Z,1.4nm,0.5s,baz=276,slow=7.1,SNR=1.9
comp=Z,1.4nm,0.5s
ABKAR Akbulak array 30.06 56 P P 04 14 02.2 -0.4
TOA0 Torodi Ar. Sit 30.27 219 P P 04 14 04.9 +0.2
TOA0 IAmb IAmb 04 14 08.8
comp=Z,5.3nm,0.9s
TORD Torodi Ar. Bea 30.27 219 P P 04 14 04.9 +0.2
comp=Z,4.5nm,0.9s,baz=34,slow=9.0,SNR=18
TORD PcP PcP 04 17 05.6 +0.5
comp=Z,0.6nm,0.8s,baz=39,slow=2.1,SNR=2.5
comp=Z,4.5nm,0.9s
ARCES ARCESS Array B 31.25 3 P P 04 14 12.4 -0.4
comp=Z,2.5nm,1.0s,baz=179,slow=9.8,SNR=1.6
comp=Z,2.5nm,1.0s
KOWA Kowa 32.26 229 P P 04 14 23.3 +1.0
CHGR Chuyangaron 37.65 74 P P 04 15 08.9 +0.2
KK31 Karatay Array 37.66 67 P P 04 15 07.1 -1.5
KK31 IAmb IAmb 04 15 14.3
comp=Z,1.9nm,0.6s
KKAR Karatay Array 37.66 67 P P 04 15 08.0 -0.6
DBIC Dimbokro 39.12 222 P P 04 15 21.6 +0.5
comp=Z,5.9nm,0.7s,baz=45,slow=8.5,SNR=8.8
comp=Z,5.9nm,0.7s
BBTS Babate 40.37 244 LR LR 04 34 15.4
comp=Z,46nm,18.7s,baz=62,slow=39
MK31 Makanchi Array 45.13 59 P P 04 16 08.6 -1.3
MK31 IAmb IAmb 04 16 29.3
comp=Z,2.3nm,1.4s
MKAR Makanchi Array 45.13 59 P P 04 16 09.0 -0.9
comp=Z,0.8nm,0.4s,baz=284,slow=7.3,SNR=13
comp=Z,0.8nm,0.4s

MKAR Makanchi Array 45.13 59 P P 04 16 09.2 -0.7
ZALV Zalesovo Beam 45.48 48 P P 04 16 11.8 -0.7
comp=Z,2.6nm,0.5s,baz=280,slow=10,SNR=8.2
comp=Z,2.6nm,0.5s
SONM Songino Array 60.26 51 P P 04 18 03.1 +1.2
comp=Z,0.2nm,0.3s,baz=290,slow=9.0,SNR=2.2
comp=Z,0.2nm,0.3s
IMAR Indian Mountai 75.79 358 P P 04 19 39.9 +1.0
ILAR Eielson Array 76.62 355 P P 04 19 45.6 +1.9
comp=Z,0.4nm,0.9s,baz=358,slow=6.3,SNR=2.6
comp=Z,0.4nm,0.9s
CPUP Villa Florida 97.20 242 LR LR 05 06 25.2
comp=Z,36nm,18.0s,baz=84,slow=36

ROM 01 04:11:51.8±0.1, 42°.612N±0°.004×13°.248E±0°.006, h11km, ML1.5/2, Error ellipse: s-maj=0.6km s-min=0.4km az=223.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.07**	**74**	P	Pg	04 11 54.7	+0.4
SMA1				S	Sg	04 11 56.5	+0.5
T1202	**Accumoli, Fraz**	**0.09**	**350**	P	Pg	04 11 55.0	+0.4
T1202				S	Sg	04 11 57.3	+0.7
CAMP	**Campotosto**	**0.14**	**123**	P	Pg	04 11 55.6	+0.4
CAMP				S	Sg	04 11 58.3	+0.7
T1244	**Arquata del Tr**	**0.15**	**14**	P	Pg	04 11 55.8	+0.4
T1244				S	Sg	04 11 58.6	+0.8
LNSS	**Leonessa**	**0.15**	**267**	P	Pg	04 11 55.7	+0.3
LNSS				S	Sg	04 11 58.4	+0.5
LNSS				AML	AML		
	comp=E,337μm,1.1s						
LNSS				AML	AML		
	comp=N,365μm,1.3s						
T1243	**Rocca Santa Ma**	**0.17**	**60**	P	Pg	04 11 56.0	+0.3
T1242	**Castelluccio d**	**0.22**	**352**	P	Pg	04 11 57.1	+0.6
T1242				S	Sg	04 12 01.0	+1.3
NRCA	**Norcia**	**0.24**	**336**	P	Pg	04 11 57.1	+0.2
NRCA				S	Sg	04 12 01.0	+0.7
TERO	**Teramo**	**0.26**	**88**	P	Pg	04 11 57.5	+0.3
TERO				S	Sg	04 12 01.8	+1.0
T1241	**Roccafluvione,**	**0.28**	**29**	P	Pg	04 11 57.9	+0.4
T1241				S	Sg	04 12 02.3	+1.0
GIGS	**Gran Sasso**	**0.29**	**124**	P	Pg	04 11 58.0	+0.3
GIGS				S	Sg	04 12 02.6	+0.9
MMO1	**Montemonaco**	**0.29**	**11**	P	Pg	04 11 58.3	+0.5
MMO1				S	Sb	04 12 03.1	-1.0
MC2	**Monte Cornacci**	**0.30**	**352**	P	Pb	04 11 59.1	-0.3
FIAM	**Fiamignano**	**0.36**	**196**	S	Sb	04 12 05.0	-1.0
FDMO	**Fiordimonte**	**0.44**	**344**	P	Pg	04 12 00.9	+0.4
CSP1	**Cessapalombo**	**0.48**	**356**	P	Pg	04 12 01.6	+0.4
T0110	**Collepietro**	**0.55**	**134**	P	Pb	04 12 03.1	-0.5
T0110				S	Sb	04 12 11.9	+0.4
ASSB	**Assisi San Ben**	**0.61**	**315**	P	Pg	04 12 03.7	0.0
ASSB				S	Sb	04 12 12.9	-0.3

WEL 01 04:13:05.3±1.0, 37°.5S±5°×177°.9E±°, h19km±9km, M3.7/36, ML3.8/40, MLv3.7/36, Error ellipse: s-maj=0.0km s-min=0.0km az=88.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.85**	**241**	P	Pb	04 13 20.7	-0.8
MXZ				S	Sb	04 13 31.9	-0.6
WMGZ	**Waiomatatini S**	**0.93**	**225**	P	Pg	04 13 23.9	+0.4
PKGZ	**Pakihiroa**	**1.18**	**231**	P	Pb	04 13 27.1	-0.1
PKGZ				S	Sn	04 13 43.0	+0.5
PUZ	**Puketiti**	**1.20**	**220**	P	Pb	04 13 27.4	-0.1
PUZ				S	Sg	04 13 44.5	+0.1
HAZ	**Te Kaha**	**1.31**	**242**	P	Pb	04 13 29.6	+0.4
HAZ				S	Sb	04 13 46.0	+0.3
TWGZ	**Tauwhareparae**	**1.43**	**224**	P	Pn	04 13 30.6	+0.3
TWGZ				S	Sb	04 13 50.0	+0.8
RUGZ	**Raukumara Rang**	**1.48**	**237**	P	Pn	04 13 31.6	+0.5
CNGZ	**Carnagh Statio**	**1.56**	**211**	P	Pb	04 13 33.0	-0.6
WIZ	**White Island**	**1.68**	**257**	P	Pn	04 13 34.3	+0.7
TKGZ	**Te Karaka**	**1.69**	**220**	P	Pn	04 13 33.6	-0.3
MWZ	**Matawai**	**1.80**	**229**	P	Pn	04 13 35.5	+0.2
MWZ				S	Sn	04 13 56.7	-1.0
WHRZ	**Whale Island**	**1.93**	**248**	P	Pn	04 13 37.7	+0.5
WHRZ				S	Sb	04 14 02.5	-1.2
RIGZ	**Rimuhau**	**1.94**	**217**	P	Pn	04 13 37.3	0.0
RIGZ				S	Sb	04 14 02.9	-1.0
RAGZ	**Rawiri**	**1.97**	**227**	P	Pn	04 13 37.9	+0.1
RAGZ				S	Sn	04 14 01.6	-0.4
URZ	**Urewera**	**2.02**	**236**	P	Pn	04 13 38.7	+0.4
URZ				S	Sn	04 14 01.0	0.0
PRGZ	**Paritu Road**	**2.06**	**211**	P	Pn	04 13 38.7	0.3
EDRZ	**Edgecumbe**	**2.20**	**244**	P	Pn	04 13 41.6	+0.6
MARZ	**Manawahe**	**2.20**	**247**	P	Pn	04 13 41.0	+0.1
SNGZ	**Shannon Statio**	**2.21**	**222**	P	Pn	04 13 40.8	-0.2
KNZ	**Kokohu**	**2.24**	**213**	P	Pn	04 13 40.4	-0.9
OPRZ	**Ohinepanea**	**2.25**	**251**	P	Pn	04 13 41.6	+0.1
MHGZ	**Mahia Peninsul**	**2.25**	**207**	P	Pn	04 13 41.4	-0.2
MUGZ	**Murupara**	**2.36**	**235**	P	Pn	04 13 43.0	-0.1
MYRZ	**Mayor Island**	**2.40**	**266**	P	Pn	04 13 43.8	+0.2
TARZ	**Mount Tarawera**	**2.42**	**243**	P	Pn	04 13 44.4	+0.3
RAHZ	**Arahi**	**2.45**	**223**	P	Pn	04 13 44.0	-0.3
RRRZ	**Republican Roa**	**2.46**	**241**	P	Pn	04 13 44.7	+0.2
OMRZ	**Omania**	**2.47**	**247**	P	Pn	04 13 45.4	+0.8
WHHZ	**Waihua**	**2.49**	**219**	P	Pn	04 13 44.6	-0.2
KARZ	**Kaharoa**	**2.53**	**249**	P	Pn	04 13 45.6	+0.1
MTHZ	**Maungataniwha**	**2.54**	**228**	P	Pn	04 13 45.8	+0.2
PRRZ	**Plateau Road**	**2.62**	**238**	P	Pn	04 13 46.5	-0.2
HSRZ	**Hossack Road**	**2.64**	**243**	P	Pn	04 13 47.8	+0.9
ALRZ	**Allen Road**	**2.69**	**238**	P	Pn	04 13 47.6	0.0
NMHZ	**Naumai**	**2.73**	**224**	P	Pn	04 13 48.1	-0.1
ARHZ	**Aropaoanui**	**2.75**	**219**	P	Pn	04 13 47.5	-0.8
MRHZ	**Matea Rd**	**2.79**	**232**	P	Pn	04 13 49.0	-0.1
KUZ	**Kuaotunu**	**2.85**	**277**	P	Pn	04 13 48.5	-1.3
BKZ	**Black Stump Fm**	**2.95**	**226**	P	Pn	04 13 50.9	-0.3
CKHZ	**Cape Kidnapper**	**3.02**	**214**	P	Pn	04 13 50.9	-1.3
TOZ	**Tahuroa Road**	**3.03**	**258**	P	Pn	04 13 51.8	-0.5
TLZ	**Tolley Road**	**3.16**	**247**	P	Pn	04 13 54.3	+0.2
KWHZ	**Kaweka Forest**	**3.17**	**224**	P	Pn	04 13 53.3	-1.0
GRZ	**Great Barrier**	**3.17**	**285**	P	Pn	04 13 54.0	-0.3
KAHZ	**Kahuranaki**	**3.22**	**214**	P	Pn	04 13 53.5	-1.4
RITZ	**Rihia Road**	**3.23**	**235**	P	Pn	04 13 55.4	+0.3
MKAZ	**Moumakai**	**3.26**	**270**	P	Pn	04 13 54.8	-0.6
WIAZ	**Waiheke Island**	**3.31**	**275**	P	Pn	04 13 55.6	-0.6
KRHZ	**Kereru**	**3.35**	**221**	P	Pn	04 13 55.2	-1.5
TMTZ	**Te Maari**	**3.41**	**234**	P	Pn	04 13 56.0	-0.7
ETVZ	**East Tongariro**	**3.41**	**234**	P	Pn	04 13 57.0	-0.6
NTVZ	**North Tongarir**	**3.42**	**234**	P	Pn	04 13 57.1	-0.6
BHHZ	**Black Hill Sta**	**3.42**	**226**	P	Pn	04 13 56.9	-0.7
KRVZ	**Karewarewa**	**3.44**	**235**	P	Pn	04 13 57.6	-0.4
OTVZ	**Oturere**	**3.46**	**234**	P	Pn	04 13 57.6	-0.8
NNVZ	**North Ngauruho**	**3.47**	**234**	P	Pn	04 13 58.3	-0.2
WTVZ	**West Tongariro**	**3.48**	**235**	P	Pn	04 13 58.4	-0.2
SNVZ	**South Ngauruho**	**3.49**	**233**	P	Pn	04 13 58.0	-0.7
MBAZ	**Motutapu North**	**3.50**	**275**	P	Pn	04 13 59.2	+0.5
NGZ	**Ngauruhoe**	**3.51**	**234**	P	Pn	04 13 58.3	-0.7
TUVZ	**Tukino**	**3.52**	**232**	P	Pn	04 13 58.9	-0.3
MOVZ	**Moawhango**	**3.55**	**230**	P	Pn	04 13 58.5	-1.0
TWVZ	**Taurewa**	**3.56**	**236**	P	Pn	04 13 59.6	0.0
WHVZ	**Whangaehu Hut**	**3.58**	**232**	P	Pn	04 13 59.4	-0.5
ABAZ	**Army Bay**	**3.58**	**278**	P	Pn	04 14 00.7	+0.9
FWVZ	**Far West T-bar**	**3.58**	**233**	P	Pn	04 13 59.8	-0.3
WNVZ	**Wahianoa**	**3.60**	**232**	P	Pn	04 13 59.1	-1.1
WPHZ	**Waipuarau**	**3.64**	**216**	P	Pn	04 13 58.8	-1.8
**PNHZ

JMA ***01*** *04:16:27.0±0.3,23.˚N±1.˚×122.˚9E±0.˚7,h55km,MV3.0/11, NEAR ISHIGAKIJIMA ISLAND*
TAP ***01*** *04:16:27.2,23.˚52N×122.˚92E,h25km,ML3.7,D*
ISC 01 04:16:26.1±1.3,23.˚45N±0.˚03×122.˚93E±0.˚03,h25km±14km, n89,σ1f27/136,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.99**	**1**	P	**Pn**	**04 16 44.8**	**+0.4**
JYNG				eS	**Sn**	**04 16 57.1**	**-0.5**
HATJ	**Hateruma jima**	**1.00**	**53**	P	**Pn**	**04 16 45.0**	**+0.5**
HATJ				S	**Sb**	**04 16 57.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.01**	**4**	P	**Pb**	**04 16 45.2**	**+0.3**
YOJ	**Yonaguni jima** baz=4.0	**1.01**	**4**	*i* P	**Pb**	**04 16 45.1**	**+0.3**
YOJ				*i* S	**Sn**	**04 16 57.3**	**-0.6**
YOJ	**Yonaguni jima** baz=4.0	**1.01**	**4**	P	**Pb**	**04 16 44.9**	**0.0**
YOJ				S	**Sn**	**04 16 57.4**	**-0.6**
IRIF	**Iriomote-Funau**	**1.14**	**40**	P	**Pn**	**04 16 47.0**	**+0.5**
IRIF				S	**Sb**	**04 17 01.6**	**0.0**
JKRS	**Kuro-shima**	**1.26**	**52**	P	**Pn**	**04 16 48.9**	**+0.8**
JKRS				S	**Sn**	**04 17 04.2**	**0.0**
TEYL	**Yanliau Villag** baz=287	**1.29**	**289**	*e*P	**Pn**	**04 16 48.8**	**+0.3**
TEYL				*e*S	**Sn**	**04 17 04.4**	**-0.4**
HWA	**Hwalien** baz=287	**1.32**	**294**	*e*S	**Sn**	**04 17 05.3**	**-0.3**
TWD	**Chiawan** baz=291	**1.37**	**297**	*e*P	**Pn**	**04 16 49.4**	**-0.2**
TWD				*e*S	**Sn**	**04 17 05.5**	**-1.4**
HGSD	**Ruisui** baz=295	**1.38**	**272**	P	**Pn**	**04 16 49.7**	**0.0**
HGSD				*e*S	**Sn**	**04 17 05.6**	**-1.6**
ETL	**Fush Village** baz=269	**1.39**	**301**	*e*P	**Pn**	**04 16 50.6**	**+0.8**
EGFH	**Guangfu** baz=284	**1.39**	**279**	*e*P	**Pn**	**04 16 50.2**	**+0.3**
EGFH				*e*S	**Sn**	**04 17 06.7**	**-0.8**
NACB	**Ninganchiao** baz=290	**1.42**	**301**	*e*P	**Pn**	**04 16 50.0**	**-0.2**
NACB				*e*S	**Sn**	**04 17 06.3**	**-1.7**
ESL	**Shilin** baz=285	**1.42**	**285**	*e*P	**Pn**	**04 16 50.1**	**-0.1**
JIJ	**Ishigaki jima**	**1.43**	**51**	P	**Pn**	**04 16 50.9**	**+0.4**
JIJ				S	**Sn**	**04 17 07.3**	**-1.2**
EWUT	**Wuta** baz=311	**1.44**	**313**	*e*P	**Pn**	**04 16 50.4**	**-0.2**
EWUT				*e*S	**Sn**	**04 17 07.3**	**-1.4**
ENA	**Nanau** baz=310	**1.46**	**312**	*e*P	**Pn**	**04 16 51.6**	**+0.8**
ENA				*e*S	**Sn**	**04 17 09.3**	**+0.3**
EHY	**Hungye** baz=269	**1.48**	**272**	P	**Pn**	**04 16 51.5**	**+0.4**
EHY				*e*S	**Sn**	**04 17 09.2**	**-0.4**
EYUL	**Yuli** baz=263	**1.48**	**266**	*e*P	**Pn**	**04 16 51.6**	**+0.5**
EYUL				*e*S	**Sn**	**04 17 08.9**	**-0.8**
YULB	**Yu-li** baz=265	**1.50**	**268**	*e*P	**Pn**	**04 16 51.6**	**+0.3**
YULB				*e*S	**Sn**	**04 17 09.9**	**-0.2**
TWC	**Suao** baz=318	**1.52**	**320**	*e*P	**Pn**	**04 16 52.1**	**+0.5**
ETLH	**Xiulin Townshi** baz=297	**1.52**	**300**	*e*P	**Pn**	**04 16 52.2**	**+0.4**
ETLH				*e*S	**Sn**	**04 17 09.5**	**-1.3**
FULB	**Fuli** baz=258	**1.52**	**261**	*e*P	**Pn**	**04 16 51.7**	**0.0**
FULB				*e*S	**Sn**	**04 17 09.0**	**-1.7**
LDUT	**Ludao** baz=237	**1.55**	**240**	*e*P	**Pn**	**04 16 52.3**	**+0.3**
LDUT				*e*S	**Sn**	**04 17 09.0**	**-2.4**
EDH	**Donghe** baz=250	**1.57**	**253**	*e*P	**Pn**	**04 16 52.5**	**+0.2**
EDH				*e*S	**Sn**	**04 17 09.9**	**-1.9**
NDS	**Dongshan** baz=315	**1.61**	**317**	*e*P	**Pn**	**04 16 53.1**	**+0.1**
NDS				*e*S	**Sn**	**04 17 11.8**	**-1.2**
VWDT	**VWDT** baz=289	**1.67**	**281**	P	**Pn**	**04 16 54.6**	**+0.9**
WHF	**Hehuan Shan** baz=292	**1.67**	**295**	*e*P	**Pn**	**04 16 54.4**	**+0.3**
LATG	**Datong** baz=308	**1.67**	**310**	*e*P	**Pn**	**04 16 54.7**	**+0.8**
LATG				*e*S	**Sn**	**04 17 14.5**	**-0.1**
OWD	**Renai** baz=285	**1.68**	**288**	*e*P	**Pn**	**04 16 54.6**	**+0.6**
OWD				*e*S	**Sn**	**04 17 14.0**	**-0.8**
TWE	**Neicheng** baz=316	**1.71**	**318**	*e*P	**Pn**	**04 16 55.3**	**+1.1**
NNSB	**Datong** baz=303	**1.71**	**305**	*e*P	**Pn**	**04 16 55.3**	**+0.8**
NNSB				*e*S	**Sn**	**04 17 14.9**	**-0.7**
ENTT	**Nioudou** baz=312	**1.72**	**314**	*e*P	**Pn**	**04 16 54.6**	**+0.3**
CHGB	**Renai** baz=288	**1.72**	**291**	*e*P	**Pn**	**04 16 55.1**	**+0.5**
CHGB				*e*S	**Sn**	**04 17 15.1**	**-0.7**
NTC	**Toucheng** baz=323	**1.72**	**324**	*e*S	**Sn**	**04 17 15.1**	**-0.5**
NDT	**Datong Townshi** baz=310	**1.73**	**312**	*e*P	**Pn**	**04 16 55.6**	**+1.1**
NDT				*e*S	**Sn**	**04 17 15.6**	**-0.2**
FUSS	**Fushou** baz=295	**1.73**	**297**	P	**Pn**	**04 16 55.5**	**+0.7**
FUSS				*e*S	**Sn**	**04 17 15.6**	**-0.6**
LONT	**Longtian** baz=249	**1.74**	**252**	*e*P	**Pn**	**04 16 55.8**	**+1.1**
WUSB	**Renai** baz=286	**1.74**	**288**	*e*P	**Pn**	**04 16 55.7**	**+0.9**
TWB1	**Santiao Chiao** baz=330	**1.77**	**331**	*e*P	**Pn**	**04 16 55.5**	**+0.4**
ELDTW	**Lidau** baz=259	**1.78**	**262**	*e*P	**Pn**	**04 16 55.7**	**+0.4**
ELDTW				*e*S	**Sn**	**04 17 15.2**	**-1.9**
FUSB	**Fushanzhiwuyua** baz=315	**1.79**	**317**	*e*P	**Pn**	**04 16 56.7**	**+1.3**
TWT	**Tachien** baz=294	**1.79**	**297**	*e*P	**Pn**	**04 16 56.8**	**+1.2**
TWT				*e*S	**Sn**	**04 17 17.3**	**-0.3**
TDCB	**Techi** baz=294	**1.81**	**297**	*e*P	**Pn**	**04 16 56.8**	**+1.1**
TIPB	**Shuangxi** baz=325	**1.82**	**327**	*e*P	**Pn**	**04 16 56.8**	**+1.1**
TWGBT	**Beinan** baz=247	**1.82**	**250**	*e*P	**Pn**	**04 16 56.6**	**+0.9**
TWGBT				*e*S	**Sn**	**04 17 17.6**	**-0.3**
SSLB	**Suanglung**	**1.84**	**281**	P	**Pn**	**04 16 57.0**	**+0.9**
SSLB	**Suanglung** baz=290	**1.84**	**281**	*e*P	**Pn**	**04 16 57.0**	**+0.9**
YHNB	**Yeheng**	**1.86**	**311**	P	**Pn**	**04 16 58.0**	**+1.5**
YHNB	**Yeheng** baz=309	**1.86**	**311**	*e*P	**Pn**	**04 16 57.7**	**+1.3**
NSK	**Sanguang** baz=309	**1.88**	**311**	*e*P	**Pn**	**04 16 56.9**	**+0.2**
SXI1	**Grass Mountain** baz=328	**1.90**	**330**	*e*P	**Pn**	**04 16 57.6**	**+0.7**
SXI1				*e*S	**Sn**	**04 17 18.4**	**-1.6**
LAY	**Lan-yu** baz=232	**1.90**	**222**	*e*P	**Pn**	**04 16 56.9**	**0.0**
LYUB	**Lan-yu** baz=231	**1.91**	**221**	*e*P	**Pn**	**04 16 57.1**	**+0.2**
LYUB				*e*S	**Sn**	**04 17 18.0**	**-2.2**
SMLT	**Sun Moon Lake** baz=231	**1.91**	**283**	*e*P	**Pn**	**04 16 58.4**	**+1.3**
WHYT	**Xinyi Township** baz=264	**1.92**	**278**	*e*P	**Pn**	**04 16 58.9**	**+1.7**
WHYT				*e*S	**Sn**	**04 17 20.9**	**+0.3**
WCS	**Beigang Elemen** baz=286	**1.94**	**288**	*e*P	**Pb**	**04 17 00.0**	**-0.8**
ALS	**Alishan** baz=269	**1.95**	**272**	*e*P	**Pn**	**04 16 59.5**	**+1.7**
TYC	**Yuchr** baz=281	**1.95**	**284**	*e*P	**Pn**	**04 16 59.4**	**+1.8**
TWA	**Mucha** baz=320	**1.95**	**321**	*e*P	**Pb**	**04 16 59.5**	**-1.4**
STYH	**Taoyuan** baz=251	**2.00**	**262**	*e*P	**Pn**	**04 16 58.9**	**+0.7**
STYH				*e*S	**Sn**	**04 17 21.3**	**-1.1**
JTJ	**Tarama**	**2.01**	**54**	S	**Sn**	**04 17 22.7**	**+0.1**
NFF	**Wufeng Townshi** baz=304	**2.03**	**306**	*e*P	**Pn**	**04 16 59.8**	**+1.1**
NFF				*e*S	**Sn**	**04 17 23.8**	**+0.5**
YM01	**YM01** baz=322	**2.09**	**324**	*e*P	**Pn**	**04 17 01.5**	**+2.0**
LIOB	**Emei** baz=303	**2.11**	**305**	*e*P	**Pb**	**04 17 02.4**	**-1.3**
LIOB				*e*S	**Sn**	**04 17 26.7**	**+1.4**
NSTT	**Nanjuang** baz=302	**2.12**	**304**	*e*P	**Pn**	**04 17 02.1**	**+2.2**
NSTT				*e*S	**Sn**	**04 17 26.8**	**+1.4**
TPUB	**Ta-pu**	**2.12**	**266**	P	**Pn**	**04 17 02.6**	**+2.7**
TPUB	**Ta-pu** baz=264	**2.12**	**266**	*e*P	**Pn**	**04 17 02.4**	**+2.5**
TPUB				*e*S	**Sn**	**04 17 27.7**	**+2.2**
WCKO	**Fanlu** baz=268	**2.13**	**270**	*e*P	**Pn**	**04 17 02.1**	**+2.0**
WCKO				*e*S	**Sn**	**04 17 27.0**	**+1.2**
CHN4	**Tsaushan** baz=265	**2.15**	**268**	*e*P	**Pn**	**04 17 02.4**	**+2.1**
CHN4				*e*S	**Sn**	**04 17 28.0**	**+1.9**
TAWH	**Dawu Township** baz=238	**2.18**	**240**	*e*P	**Pn**	**04 17 00.7**	**-0.1**
EAST	**Anshuo** baz=231	**2.19**	**241**	*e*P	**Pn**	**04 17 02.1**	**+1.1**
WDLH	**Douliu** baz=274	**2.21**	**277**	*e*P	**Pn**	**04 17 03.9**	**+2.9**
CHN1	**Nanshi** baz=253	**2.22**	**264**	*e*P	**Pn**	**04 17 04.3**	**+2.9**
CHN1				*e*S	**Sn**	**04 17 31.2**	**+3.1**
SSD	**Sandimen** baz=250	**2.23**	**252**	*e*P	**Pb**	**04 17 05.2**	**-0.5**
TWK	**Hsinying** baz=263	**2.25**	**266**	*e*P	**Pn**	**04 17 04.6**	**+2.9**
MASBT	**Mashibuluo** baz=247	**2.27**	**249**	*e*P	**Pn**	**04 17 03.5**	**+1.5**
SLIU	**Shizi** baz=236	**2.32**	**238**	*e*P	**Pn**	**04 17 03.9**	**+1.2**
WRL	**Guolierlin Hig** baz=279	**2.38**	**281**	*e*P	**Pn**	**04 17 05.5**	**+2.0**
SCZT	**Fangliau** baz=249	**2.38**	**244**	*e*P	**Pn**	**04 17 05.9**	**+2.3**
WSL	**Shuilin Townsh** baz=270	**2.48**	**272**	*e*P	**Pn**	**04 17 06.7**	**+1.9**
WSL				*e*S	**Sn**	**04 17 35.2**	**+0.9**
JMJ2	**Miyako jima3**	**2.54**	**59**	*e*S	**Sn**	**04 17 35.5**	**-0.3**
WDGT	**Dungji** baz=265	**3.01**	**267**	*e*P	**Pn**	**04 17 14.2**	**+2.0**
WDGT				*e*S	**Sn**	**04 17 48.3**	**+0.9**
PNG	**Penghu** baz=270	**3.10**	**273**	*e*P	**Pn**	**04 17 15.3**	**+1.9**
VCHM	**Qimei** baz=264	**3.23**	**266**	*e*P	**Pn**	**04 17 17.2**	**+2.1**
VCHM				*e*S	**Sn**	**04 17 53.4**	**+0.6**
VWUC	**VWUC** baz=283	**3.53**	**296**	*e*P	**Pn**	**04 17 19.9**	**+0.7**
VWUC				*e*S	**Sn**	**04 17 57.8**	**-2.4**
MATB	**Ma-tsu** baz=313	**3.82**	**315**	*e*P	**Pn**	**04 17 23.9**	**+0.7**
MATB				*e*S	**Sn**	**04 18 04.3**	**-3.0**
XPSS	**Dashiqiu** baz=322	**4.26**	**325**	*e*P	**Pn**	**04 17 29.9**	**+0.6**

IDC 01 04:21:01.0±2.8,17.˚46S×176.˚41W,h0km,mb4.3/3, mbtmp4.5/4,ML4.9/1,Error ellipse: s-maj=171.3km s-min=31.2km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 38nm,0.3s,baz=295,slow=16,SNR=9.3	**5.69**	**52**	Pn	Pn	04 22 26.9	0.0
AFI	34nm,0.3s,baz=252,slow=6.4,SNR=8.4			Sn	Sn	04 23 19.4	-14
STKA	**Stephens Creek** 56nm,0.2s 3.2nm,0.9s,baz=58,slow=9.5,SNR=5.3 3.2nm,0.9s	**40.52**	**241**	P	P	04 28 42.0	-0.1
WRA	**Warramunga Arr** 1.5nm,0.7s,baz=96,slow=7.1,SNR=18 1.5nm,0.7s	**46.59**	**259**	P	P	04 29 30.7	-0.5
ASAR	**Alice Springs** 10nm,0.7s,baz=88,slow=8.5,SNR=111 10nm,0.7s	**46.75**	**254**	P	P	04 29 32.6	+0.2

RSNC 01 04:25:41.8±0.5,6.˚97N×76.˚19W,h14km±5km,ML1.4,1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.06**	**341**	⇑*i*P	Pg	04 25 44.3	-0.3
DBBC				*e*S	Sg	04 25 46.8	+0.3
DBBC	comp=Z,103nm,0.8s			IAML		04 25 47.8	
HELC	**Santa Helena**	**1.01**	**139**	*e*P	Pb	04 25 59.9	-1.5
HELC				*e*S	Sb	04 26 14.1	-0.6
HELC	comp=Z,2.8nm,0.7s			IAML		04 26 20.3	
CBOC	**Ciudad Bolivar**	**1.11**	**171**	*e*P	Pb	04 26 01.7	-1.2
CBOC				*e*S	Sb	04 26 16.4	-0.9
CBOC	comp=Z,5.3nm,0.6s			IAML		04 26 19.2	

RSNC 01 04:25:53.8±0.8,7.˚77N×74.˚51W,h31km±3km,ML1.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZARC	**Zaragoza, Cauc**	**0.44**	**232**	*e*P	Pb	04 26 02.8	-0.6
ZARC				*e*S	Sb	04 26 10.3	+0.2
ZARC	comp=Z,31nm,0.1s			IAML		04 26 11.7	
UREC	**San Jos de Ur**	**1.02**	**269**	*e*P	Pn	04 26 10.7	-1.3
UREC				*e*S	Sn	04 26 24.7	-0.5
BRRC	**Barranca, Sant**	**1.02**	**130**	*e*P	Pn	04 26 10.9	-1.1
BRRC				*e*S	Sn	04 26 24.7	-0.6
BRRC	comp=Z,11nm,0.2s			IAML		04 26 29.8	
PTBC	**PUERTO BERRIO,**	**1.22**	**178**	*e*P	Pn	04 26 13.3	-1.4
PTBC	comp=Z,12nm,0.2s			IAML		04 26 31.8	
PTBC	**PUERTO BERRIO,**	**1.22**	**178**	*e*P	Pn	04 26 13.3	-1.4
PTBC				*e*S	Sn	04 26 28.8	-1.4
PTBC	comp=Z,12nm,0.2s			IAML		04 26 31.8	
BARC	**Barichara**	**1.76**	**132**	*e*P	Pn	04 26 21.6	-0.7
BARC				*e*S	Sn	04 26 43.5	-0.2
BARC	comp=Z,6.1nm,0.3s			IAML		04 26 46.3	
HELC	**Santa Helena**	**1.87**	**213**	*e*S	Sn	04 26 46.5	-0.1
SPBC	**San Pablo de B**	**2.14**	**168**	*e*P	Pn	04 26 25.1	-2.4
SPBC				*e*S	Sn	04 26 52.8	-0.3
SPBC	comp=Z,5.7nm,0.4s			IAML		04 26 56.7	
RUSC	**La Rusia**	**2.34**	**143**	*e*P	Pn	04 26 30.3	-0.2
RUSC				*e*S	Sn	04 26 58.1	-0.3
RUSC	comp=Z,2.9nm,0.2s			IAML		04 27 01.5	

IDC ***01*** *04:28:13.2±0.5,46.˚80N×153.˚71E,h0km,mb4.4/27, mbtmp4.3/33,ML3.2/5,MS3.7/40,Error ellipse: s-maj=14.1km s-min=11.1km az=125.0*
JMA ***01*** *04:28:15.4±1.2,47.˚N±10.˚×15.˚4E±1.˚0,h30km,MV5.2/13, KURILE ISLANDS REGION*
BJI ***01*** *04:28:15.4±0.0,46.˚91N×153.˚97E,h32km,mb4.6/36, mB4.9/21,Ms4.5/20,Ms7 4.3/19*
MOS ***01*** *04:28:16.9±1.3,46.˚74N×153.˚72E,h35km,mb4.8/41, MS3.8/8,Error ellipse: s-maj=6.8km s-min=4.9km az=87.3*
SKHL ***01*** *04:28:18.0±0.5,46.˚70N×153.˚80E,h56km±3km,mb5.2/6, ms4.5/4*
NEIC ***01*** *04:28:18.±1.2,46.˚77N±0.˚10×153.˚7E±0.˚1,h27km±5km, mb4.7/134,Error ellipse: s-maj=17.8km s-min=10.0km az=135.0*
ISC 01 04:28:16.8±0.4,46.˚67N±0.˚05×153.˚88E±0.˚05,h25km,n438, σ1f38/434,mb4.7/137,MS3.9/48,30C-27D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.28**	**19**	*e*PN	**Pn**	**04 29 20.5**	**+0.2**
SKR	comp=Z,124nm,0.7s			pmax	pmax		
SKR	**Severo-Kuril's**	**4.28**	**19**	*e*P	**Pn**	**04 29 20.5**	**+0.2**
SKR	comp=Z,120nm,0.7s			AMB	AMB	04 29 24.5	
SKR				*e*S	**Sn**	**04 30 07.0**	**-2.5**
SKR	comp=Z,470nm,0.7s			A	A	04 30 11.8	
SKR	comp=Z,310nm,0.7s			A	A	04 30 11.8	
SKR	comp=Z,860nm,12.0s			AMS	AMS	04 31 09.5	
SKR	comp=Z,1μm,12.0s			AMS	AMS	04 31 09.5	
SKR	comp=Z,860nm,12.0s			AMS	AMS	04 31 09.5	
KUR	**Kuril'sk**	**4.43**	**253**	⇑*i*PN	**Pn**	**04 29 24.5**	**+2.1**
KUR				*e*S	**Sn**	**04 30 14.1**	**+1.0**
KUR	comp=Z,433nm,0.4s			pmax	pmax		
KUR	comp=N,150nm,0.2s			pmax	pmax		
KUR	comp=E,32nm,0.2s			pmax	pmax		
KUR	comp=E,1μm,0.7s			smax	smax		
KUR	comp=N,519nm,0.3s			smax	smax		
KUR	**Kuril'sk**	**4.43**	**253**	*i* P	**Pn**	**04 29 23.6**	**+1.2**
KUR	comp=N,430nm,0.4s			AMB	AMB	04 29 25.4	
KUR				*e*S	**Sn**	**04 30 12.5**	**-0.6**
KUR	comp=N,520nm,0.7s			A	A	04 30 38.4	
KUR	comp=N,1μm,0.7s			A	A	04 30 38.4	
KUR	comp=N,4μm,13.0s			AMS	AMS	04 31 33.3	
KUR	comp=N,5μm,13.0s			AMS	AMS	04 31 33.3	
KUR	comp=N,2μm,13.0s			AMS	AMS	04 31 33.3	
PAU	**Pauzhetka**	**5.18**	**21**	*e*P	**Pn**	**04 29 32.8**	**+0.2**
PAU	comp=N,60nm,0.5s			AMB	AMB	04 29 39.0	
PAU				*e*S	**Sn**	**04 30 29.0**	**-2.5**
PAU	comp=N,210nm,0.5s			A	A	04 30 33.3	
PAU	comp=N,230nm,0.5s			A	A	04 30 33.3	
YUK	**Yuzh-Kuril'sk**	**6.23**	**248**	*e*PN	**Pn**	**04 29 45.9**	**-1.2**
YUK	comp=Z,340nm,0.5s			pmax	pmax		
YUK	comp=E,181nm,0.2s			pmax	pmax		
YUK	comp=N,133nm,0.5s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**6.23**	**248**	*e*P	**Pn**	**04 29 48.0**	**+0.9**
YUK	comp=N,340nm,0.5s			AMB	AMB	04 29 58.5	
YUK				*e*S	**Sn**	**04 30 56.0**	**-1.5**
YUK	comp=N,320nm,0.7s			A	A	04 31 06.5	
YUK	comp=N,240nm,0.7s			A	A	04 31 06.5	
YUK	comp=N,4μm,12.0s			AMS	AMS	04 31 37.7	
YUK	comp=N,4μm,12.0s			AMS	AMS	04 31 37.7	
YUK	comp=N,2μm,12.0s			AMS	AMS	04 31 37.7	
RUSJ	**Misakicho**	**6.59**	**250**	*e*PN	**Pn**	**04 29 54.3**	**+2.2**
RUSJ				S	**Sn**	**04 31 12.4**	**+6.0**
NEM2	**Nemuro 2**	**6.64**	**243**	*e*P	**Pn**	**04 29 51.5**	**-1.2**
NEM2				*e*S	**Sn**	**04 31 03.9**	**-3.7**
NMR	**Nemuro--Hokkai**	**6.65**	**243**	*e*PN	**Pn**	**04 29 51.5**	**-1.3**
NMR	**Nemuro--Hokkai**	**6.65**	**243**	*e*P	**Pn**	**04 29 51.7**	**-1.1**
NMR				*e*S	**Sn**	**04 31 04.2**	**-3.6**
JRA	**Rausu**	**6.75**	**249**	*e*P	**Pn**	**04 29 55.4**	**+1.2**
JRA				*e*S	**Sn**	**04 31 12.7**	**+2.4**
PEA0B	**Petropavlovsk-**	**6.90**	**20**		**Pn**	**04 29 56.0**	**-0.3**
PEA0B	**Petropavlovsk-**	**6.90**	**20**	*i* PN	**Pn**	**04 29 56.1**	**-0.3**
PETK	**Petropavlovsk-** comp=N,1.1nm,0.3s,baz=186,slow=12,SNR=9.4 comp=N,8.0nm,0.8s	**6.90**	**20**	Pn	**Pn**	**04 29 54.5**	**-1.8**
PETK	**Petropavlovsk-**	**6.90**	**20**		**Pn**	**04 29 55.9**	**-0.5**
PETK	**Petropavlovsk-**	**6.90**	**20**	*e*PN	**Pn**	**04 29 59.2**	**+2.9**
PETK	comp=Z,2.0nm,0.3s			pmax	pmax		
PET	**Petropavlovsk**	**7.07**	**24**	*e*PN	**Pn**	**04 30 01.3**	**+2.7**
PET	comp=Z,500nm,14.0s			MLR	MLR		
PET	comp=Z,700nm,12.0s			MLR	MLR		
PET	**Petropavlovsk**	**7.07**	**24**	*e*P	**Pn**	**04 30 01.3**	**+2.7**
PET				*e*S	**Sn**	**04 31 13.2**	**-4.9**
PET	comp=Z,150nm,0.8s			A	A	04 31 37.6	
PET	comp=Z,180nm,0.8s			A	A	04 31 37.6	
JNK	**Nakash**	**7.17**	**248**	*e*P	**Pn**	**04 30 00.8**	**+0.8**
JNK				*e*S	**Sn**	**04 31 22.1**	**+1.4**
AKK	**Akkeshi**	**7.38**	**244**	*e*P	**Pn**	**04 30 03.2**	**+0.3**
AKK				*e*S	**Sn**	**04 31 26.7**	**+0.8**
JAK	**Akkeshi**	**7.49**	**244**	*e*P	**Pn**	**04 30 03.0**	**-1.3**
JAK				*e*S	**Sn**	**04 31 24.0**	**-4.3**
JTKR	**Abashiri--Toko**	**7.53**	**253**	*e*P	**Pn**	**04 30 06.4**	**+1.6**
JTKR				*e*S	**Sn**	**04 31 31.2**	**+1.9**
YSS	**Yuzh-Sakhalins**	**7.64**	**276**	*e*PN	**Pn**	**04 30 10.7**	**+4.3**
YSS				*e*S	**Sn**	**04 31 37.6**	**+5.5**
YSS	comp=Z,60nm,0.9s			pmax	pmax		
YSS	comp=N,60nm,1.0s			smax	smax		
YSS	comp=Z,1μm,15.0s			MLR	MLR		
YSS	comp=N,1μm,16.0s			MLR	MLR		
YSS	comp=E,1μm,18.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.64**	**276**	*e*P	**Pn**	**04 30 08.2**	**+1.8**
YSS	comp=E,70nm,0.5s			AMB	AMB	04 30 12.9	
YSS	comp=E,1μm,18.0s			AMS	AMS	04 33 00.0	
YSS	comp=E,1μm,18.0s			AMS	AMS	04 33 00.0	
YSS	comp=E,1μm,18.0s			AMS	AMS	04 33 00.0	
JAR	**Ashorobuto**	**7.92**	**248**	*e*P	**Pn**	**04 30 11.0**	**+0.8**
JAR				*e*S	**Sn**	**04 31 40.9**	**+1.9**
JOB	**Onbets**	**8.07**	**246**	*e*P	**Pn**	**04 30 13.0**	**+0.6**
JOB				*e*S	**Sn**	**04 31 40.4**	**-2.4**
JKK2	**Kamakawa 2**	**8.33**	**254**	*e*P	**Pn**	**04 30 18.0**	**+2.0**
TYV	**Tymovskoe**	**8.52**	**304**	*e*PN	**Pn**	**04 30 19.7**	**+1.3**

TYV pmax pmax
comp=Z,100nm,1.9s
TYV pmax pmax
comp=Z,42nm,0.9s
TYV Tymovskoe 8.52 304 *e*P **Pn 04 30 19.7 +1.3**
TYV AMB AMB 04 30 22.0
comp=Z,100nm,1.9s
TYV AMB AMB 04 30 22.1
comp=Z,40nm,0.9s
TYV *e*S **Sn 04 31 49.1 -4.5**
JCH Churui 8.52 245 *e*P **Pn 04 30 18.2 -0.3**
JCH *e*S **Sn 04 31 50.3 -3.5**
ERM Erimo 8.98 243 Pn 04 30 25.1 +0.3
ERM Erimo 8.98 243 PN **Pn 04 30 25.1 +0.3**
JNBK Urakawa-nobuka 9.08 245 *e*P **Pn 04 30 25.3 -0.9**
JEW Eniwo 9.63 251 Pn **Pn 04 30 32.1 -1.6**
OKH Okha 9.84 318 *e*P **Pn 04 30 37.2 +0.7**
OKH AMB AMB 04 30 41.3
comp=Z,100nm,0.6s
JANG Nango 10.95 239 *e*P **Pn 04 30 48.2 -3.7**
JANG *e*S Sn 04 32 42.5 -11
JTM Tenmabayashi 10.97 242 Pn **Pn 04 30 50.3 -1.7**
MA2 Magadan 13.06 353 Pn **Pn 04 31 20.3 -0.3**
comp=Z,6.8nm,0.7s,baz=257,slow=4.7,SNR=5.1
SHEM Shemya Is, Ala 14.40 58 LR LR 04 38 07.9
comp=Z,100nm,18.9s,baz=331,slow=41
KLR Kul'dur 15.04 288 Pn **Pn 04 31 46.6 -0.9**
comp=Z,0.1nm,0.3s,baz=28,slow=10,SNR=1.6
comp=Z,0.7nm,0.6s
MJA0 Matsu Arr-Jizo 15.43 235 *e*P **Pn 04 31 52.0 -0.8**
MJAR Matsushiro Arr 15.45 235 Pn **Pn 04 31 51.1 -2.0**
comp=Z,0.1nm,0.3s,baz=38,slow=11,SNR=12
MJAR LR LR 04 38 51.4
comp=Z,150nm,18.6s,baz=44,slow=41
comp=Z,5.1nm,0.8s
MAJO Matsushiro 15.46 235 Pn **Pn 04 31 53.1 0.0**
MAJO IAmb IAmb 04 32 00.2
comp=Z,46nm,0.7s
MAJO Matsushiro 15.46 235 P **Pn 04 31 53.1 0.0**
MAJO pmax pmax
comp=Z,46nm,0.7s
USRK Ussuriysk Ar. 15.56 269 Pn **Pn 04 31 52.9 -1.4**
comp=Z,0.8nm,0.3s,baz=71,slow=12,SNR=11
comp=Z,5.8nm,0.6s
USRK Ussuriysk Ar. 15.56 269 *e*P **Pn 04 31 54.9 +0.6**
USRK pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 16.32 358 Pn **Pn 04 32 02.6 -1.4**
comp=Z,0.5nm,0.3s,baz=117,slow=21,SNR=2.3
comp=Z,1.0nm,0.3s
INU Inuyama 16.98 234 Pn 04 32 13.3 +0.8
ZEA Zeya 18.38 302 *e*P **Pn 04 32 33.6 +3.9**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
JHS Saijyo 19.50 241 P **P 04 32 42.1 +0.1**
JHS IAmb IAmb 04 33 08.3
comp=Z,44nm,0.8s
CN2 Changchun 20.18 272 *e*P **P 04 32 49.3 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
KSRS Korea Array 21.28 254 P **P 04 33 00.6 -0.6**
comp=Z,10.0nm,0.9s,baz=60,slow=9.8,SNR=13
KSRS LR LR 04 39 55.4
comp=Z,82nm,21.2s,baz=65,slow=33
comp=Z,10.0nm,0.9s
KSRS Korea Array 21.28 254 *e*P **P 04 33 05.3 +4.1**
KSRS pmax pmax
comp=Z,15nm,0.9s
KSCHJ Chungju 21.57 252 P **P 04 33 04.8 +0.4**
KSCHJ IAmb IAmb 04 33 07.5
comp=Z,36nm,0.8s
SNY Shenyang 22.16 268 ⇓P **P 04 33 09.8 -0.9**
SNY S **S 04 37 14.4 +1.0**
SNY pmax pmax
comp=Z,15nm,0.8s
SNY pmax pmax
comp=Z,400nm,4.6s
SNY LR LR
comp=Z,460nm,4.3s
SNY LR LR
comp=Z,410nm,10.8s
SNY LR LR
comp=Z,570nm,15.3s
TJN Taejon 22.26 252 ⇓*e*P **P 04 33 13.3 +1.5**
BILL Bilibino 22.36 12 *e*P **P 04 33 14.8 +2.2**
BILL *e*PPP PPP 04 33 44.1
BILL pmax pmax
comp=Z,6.0nm,0.4s
BILL MLR MLR
comp=Z,167nm,19.0s
BOD Bodaibo 26.45 310 *e*P **P 04 33 49.2 -2.2**
BOD pmax pmax
comp=Z,12nm,1.5s
BOD Bodaibo 26.45 310 *e*P **P 04 33 49.2 -2.2**
XLT XiLinHaoTe 26.57 278 *e*P **P 04 33 53.7 +0.9**
XLT pmax pmax
comp=Z,9.0nm,0.6s
XLT pmax pmax
comp=Z,83nm,4.1s
TIXI Tiksi 27.70 343 P **P 04 34 00.6 -1.9**
comp=Z,1.9nm,0.6s,baz=271,slow=22,SNR=3.4
comp=Z,1.9nm,0.6s
TIXI Tiksi 27.70 343 ⇓*e*P **P 04 34 00.0 -2.5**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
H11N2 WAKE ISLAND Hy 28.91 154 T T 05 05 47.4
baz=340,slow=76,SNR=121
H11N1 WAKE ISLAND Hy 28.92 154 T T 05 05 46.2
baz=340,slow=76,SNR=108
H11N3 WAKE ISLAND Hy 28.93 154 T T 05 05 49.1
baz=340,slow=76,SNR=94
H11S1 WAKE ISLAND Hy 30.01 155 T T 05 07 10.8
baz=341,slow=76,SNR=84
H11S3 WAKE ISLAND Hy 30.02 155 T T 05 07 13.0
baz=341,slow=76,SNR=103
H11S2 WAKE ISLAND Hy 30.02 155 T T 05 07 11.3
baz=341,slow=76,SNR=97
NJ2 Nanjing 30.48 254 *e*P **P 04 34 28.7 +1.2**
NJ2 pmax pmax
comp=Z,16nm,0.5s
ULN Ulaanbaatar 31.42 290 ⇓*e*P **P 04 34 34.1 -1.8**
ULN pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 31.86 290 P **P 04 34 38.4 -1.3**
comp=Z,0.6nm,0.4s,baz=72,slow=9.3,SNR=2.7
SONM LR LR 04 48 27.6
comp=Z,280nm,18.7s,baz=35,slow=38
comp=Z,0.6nm,0.4s
TTA Tatalina 32.13 41 P **P 04 34 43.3 +1.3**
TTA Tatalina 32.13 41 P **P 04 34 43.3 +1.3**
TTA pmax pmax
comp=Z,5.0nm,0.9s
J20K Nowinta River 33.11 39 P **P 04 34 51.4 +1.0**
ZAK Zakamensk 33.19 295 *e*P **P 04 34 50.0 -1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
ZAK Zakamensk 33.19 295 *e*P **P 04 34 50.0 -1.3**
LYN LuoYang 33.31 264 ⇓P **P 04 34 53.5 +1.0**
LYN pP sP 04 35 02.3 +1.7
LYN sP pwP 04 35 05.9 +0.4
LYN S **S 04 40 09.3 -2.2**
LYN pmax pmax
comp=Z,10.0nm,1.1s
LYN pmax pmax
comp=Z,70nm,4.0s
LYN LR LR
comp=Z,170nm,12.4s
LYN LR LR
comp=Z,100nm,12.9s
GUMO Guam 33.83 196 P **P 04 34 56.4 -0.7**
GUMO Guam 33.83 196 P **P 04 34 56.4 -0.7**
GUMO pmax pmax
comp=Z,110nm,1.0s
H21K Melozitna Rive 33.86 37 P **P 04 34 58.4 +1.5**
PPLA Purkeypile 33.88 42 P **P 04 34 59.4 +2.1**
PPLA IAmb IAmb 04 35 12.2
comp=Z,11nm,1.1s
I21K Tanana 34.15 38 P **P 04 35 00.2 +0.8**

KTH Kantishna Hill 34.48 41 P **P 04 35 03.0 +0.6**
KTH IAmb IAmb 04 35 17.5
comp=Z,11nm,0.9s
BPAW Bear Paw Mtn. 34.48 40 P **P 04 35 03.2 +0.8**
MLY Manley 34.66 38 P **P 04 35 05.2 +1.3**
H23K Yukon River 35.22 37 P **P 04 35 10.4 +1.8**
NEA2 Nenana 35.34 39 P **P 04 35 10.1 +0.4**
NEA2 IAmb IAmb 04 35 27.6
comp=Z,4.9nm,0.7s
TOLK Toolik Lake Re 35.54 32 P **P 04 35 12.5 +1.1**
TOLK IAmb IAmb 04 35 13.9
comp=Z,18nm,1.5s
SML Sawmill 35.67 44 P **P 04 35 13.4 +0.8**
MDM Murphy Dome 35.72 38 P **P 04 35 14.4 +1.5**
CCB Clear Creek Bu 35.89 39 P **P 04 35 15.8 +1.4**
XAN Xi'an 36.03 266 P **P 04 35 16.7 +0.7**
XAN pP pwP 04 35 29.1 0.0
XAN pmax pmax
comp=Z,15nm,1.3s
XAN LR LR
comp=Z,260nm,14.7s
XAN LR LR
comp=Z,230nm,16.5s
XAN LR LR
comp=Z,360nm,16.9s
DHY Denali Highway 36.08 41 P **P 04 35 17.0 +0.8**
ILAR Eielson Array 36.29 38 P **P 04 35 17.4 -0.3**
comp=Z,3.2nm,1.1s,baz=264,slow=7.4,SNR=15
ILAR PcP **PcP 04 37 40.3 -1.8**
comp=Z,0.3nm,0.7s,baz=278,slow=2.6,SNR=2.0
comp=Z,3.2nm,1.1s
ILAR Eielson Array 36.29 38 P **P 04 35 17.3 -0.5**
PRP Porcupine Dome 36.87 37 P **P 04 35 23.4 +0.4**
J25K Salcha River, 36.94 39 P **P 04 35 23.6 +0.2**
FYU Fort Yukon 37.01 35 P **P 04 35 24.9 +1.1**
FYU IAmb IAmb 04 35 27.0
comp=Z,15nm,1.0s
RIDG Independent Ri 37.19 40 P **P 04 35 26.4 +0.8**
BMAR Burnt Mountain 37.29 34 P **P 04 35 27.1 +0.7**
K27K Chicken 38.40 40 P **P 04 35 36.8 +1.1**
K27K IAmb IAmb 04 35 38.3
comp=Z,13nm,1.3s
LZH Lanzhou 38.42 272 *e*P **P 04 35 37.6 +1.2**
LZH pP pwP 04 35 48.5 +0.4
LZH sP sP 04 35 55.7 +11
LZH pmax pmax
comp=Z,32nm,1.0s
LZH LR LR
comp=Z,260nm,11.7s
LZH LR LR
comp=Z,210nm,12.9s
LZH LR LR
comp=Z,280nm,14.4s
L27K Beaver Creek, 38.60 41 P **P 04 35 38.7 +1.3**
BCAR Beaver Creek A 38.62 41 P **P 04 35 39.4 +1.7**
EGAK Eagle 38.74 38 P **P 04 35 39.1 +0.6**
GTA Gaotai 39.50 280 *e*P **P 04 35 44.9 -0.5**
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,43nm,4.7s
GTA LR LR
comp=Z,95nm,13.4s
GTA LR LR
comp=Z,260nm,13.5s
GTA LR LR
comp=Z,300nm,13.8s
I29M Ogilvie Camp, 39.89 37 P **P 04 35 47.0 -1.1**
EPYK Eagle Plains 40.43 36 P **P 04 35 54.5 +1.8**
INK Inuvik 41.44 32 P **P 04 36 00.3 -0.5**
comp=Z,2.5nm,0.9s,baz=323,slow=6.2,SNR=5.5
comp=Z,2.5nm,0.9s
M31M Drury Creek, Y 42.13 42 P **P 04 36 07.8 +1.2**
FARO Faro, Yukon 42.60 41 P **P 04 36 11.8 +1.3**
ZALV Zalesovo Beam 43.08 306 P **P 04 36 12.7 -1.7**
comp=Z,1.6nm,0.4s,baz=62,slow=7.0,SNR=6.9
ZALV LR LR 04 55 14.4
comp=Z,201nm,18.7s,baz=70,slow=38
comp=Z,1.6nm,0.4s
ZALV Zalesovo Beam 43.08 306 *e*P **P 04 36 12.3 -2.1**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
P33M Teslin, Yukon 43.36 44 P **P 04 36 17.0 +0.2**
A36M Sachs Harbour 43.69 26 P **P 04 36 19.6 +0.6**
A36M IAmb IAmb 04 36 33.4
comp=Z,9.3nm,0.8s
GOMU GeErMu 44.54 278 P **P 04 36 27.1 +0.2**
GOMU pmax pmax
comp=Z,3.0nm,0.3s
GOMU pmax pmax
comp=Z,44nm,4.9s
PZH PanZhiHua 45.52 262 P **P 04 36 35.1 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,7.8s
MK31 Makanchi Array 47.45 298 P **P 04 36 48.2 -1.0**
MK31 IAmb IAmb 04 36 48.7
comp=Z,5.5nm,1.0s
MK31 Makanchi Array 47.45 298 P **P 04 36 48.2 -1.0**
MK31 pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 47.45 298 P **P 04 36 47.8 -1.4**
comp=Z,2.6nm,0.5s,baz=68,slow=7.7,SNR=35
MKAR LR LR 04 58 24.8
comp=Z,181nm,18.3s,baz=92,slow=38
comp=Z,2.6nm,0.5s
MKAR Makanchi Array 47.45 298 P **P 04 36 48.1 -1.0**
MAKZ Makanchi 47.63 298 P **P 04 36 49.1 -1.5**
MAKZ IAmb IAmb 04 36 50.8
comp=Z,8.1nm,1.1s
MAKZ Makanchi 47.63 298 P **P 04 36 49.1 -1.5**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 47.85 304 P **P 04 36 50.6 -1.6**
KURK Kurchatov 47.85 304 *ce*P **P 04 36 50.9 -1.3**
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 47.85 304 *e*P **P 04 36 50.9 -1.3**
KURBB Kurchatov Arra 47.94 304 LR LR 04 57 59.2
comp=Z,141nm,19.7s,baz=49,slow=37
BBB Bella Bella 48.74 53 LR LR 04 56 46.8
comp=Z,24nm,19.4s,baz=316,slow=35
CRAI Chiangrai 50.66 257 P **P 04 37 14.8 +0.8**
CRAI IAmb IAmb 04 37 42.1
comp=Z,7.7nm,0.7s
YKA Yellowknife Ar 50.67 37 P **P 04 37 13.5 -0.2**
comp=Z,3.2nm,0.9s,baz=306,slow=8.4,SNR=4.5
YKA LR LR 05 00 45.2
comp=Z,30nm,20.2s,baz=39,slow=38
comp=Z,3.2nm,0.9s
LSA Lhasa 50.80 274 P **P 04 37 16.5 +0.9**
LSA Lhasa 50.80 274 P **P 04 37 17.5 +1.9**
LSA pmax pmax
comp=Z,23nm,0.7s
LSA Lhasa 50.80 274 P **P 04 37 16.5 +0.9**
LSA pmax pmax
comp=Z,14nm,0.8s
BVAR Borovoye Array 51.32 310 LR LR 04 59 44.3
comp=Z,78nm,19.3s,baz=70,slow=37
BRVK Borovoye 51.35 310 P **P 04 37 17.5 -1.4**
BRVK IAmb IAmb 04 37 18.6
comp=Z,6.6nm,1.0s
BRVK Borovoye 51.35 310 *ce*P **P 04 37 18.1 -0.8**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 51.35 310 *e*P **P 04 37 18.1 -0.8**
CMAR Chiang Mai Arr 52.86 257 P **P 04 37 30.9 +0.4**
comp=Z,1.9nm,0.3s,baz=34,slow=7.7,SNR=9.8
comp=Z,1.9nm,0.3s
CMAR Chiang Mai Arr 52.86 257 *e*P **P 04 37 32.4 +1.9**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
SHL Shillong 52.89 269 P **P 04 37 29.5 -1.4**
SHL Shillong 52.89 269 P **P 04 37 29.5 -1.4**
SHL pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 54.34 297 LR LR 05 02 35.3
comp=Z,126nm,18.2s,baz=56,slow=38
AAK Ala-Archa 54.34 297 P **P 04 37 40.5 -0.8**
AAK IAmb IAmb 04 37 41.7
comp=Z,5.3nm,0.8s
AAK Ala-Archa 54.34 297 *ce*P **P 04 37 41.4 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 54.34 297 *e*P **P 04 37 41.4 +0.1**

NEEM North Greenlan 55.19 6 *i* P **P 04 37 50.7 +3.6**
NEEM IAmb IAmb 04 38 36.3
comp=Z,592nm,3.3s
ARU Arti 55.43 318 LR LR 05 03 33.9
comp=Z,76nm,18.1s,baz=128,slow=38
ARU Arti 55.43 318 P **P 04 37 47.1 -1.6**
ARU IAmb IAmb 04 37 48.2
comp=Z,12nm,1.0s
ARU Arti 55.43 318 *di* P **P 04 37 47.6 -1.1**
ARU *PP **sP 04 37 58.3 +0.9**
ARU 04 39 48.5
ARU S **S 04 45 30.1 -1.5**
ARU SS **SS 04 49 12.6 -3.1**
ARU pmax pmax
comp=Z,12nm,0.9s
ARU MLR MLR
comp=Z,144nm,15.0s
ARU Arti 55.43 318 *e*P **P 04 37 47.6 -1.1**
JIRN Jiri 55.48 275 *e*P **P 04 37 50.7 +0.8**
B08A Colville Reser 55.53 54 P **P 04 37 50.5 +0.9**
B08A IAmb IAmb 04 37 51.8
comp=Z,11nm,1.4s
GUN Gumba 55.53 276 *e*P **P 04 37 51.8 +1.5**
RAMN Ramite 55.65 274 *e*P **P 04 37 51.8 +0.8**
comp=Z,27nm,0.5s
H04A Detroit Lake 55.94 59 P **P 04 37 54.7 +2.0**
H04A IAmb IAmb 04 37 56.2
comp=Z,10nm,1.3s
EDM Edmonton 55.99 46 P **P 04 37 54.0 +1.1**
EDM IAmb IAmb 04 37 54.8
comp=Z,11nm,0.9s
EDM Edmonton 55.99 46 P **P 04 37 54.0 +1.1**
EDM pmax pmax
comp=Z,11nm,0.9s
PKI Pulchoki 56.07 276 *e*P **P 04 37 54.6 +0.5**
PKIN Phulchoki 56.07 276 *e*P **P 04 37 54.8 +0.7**
DMN Daman 56.25 276 *e*P **P 04 37 56.3 +0.9**
GKN Gorkha 56.32 277 *e*P **P 04 37 56.8 +1.0**
KK31 Karatay Array 56.50 299 P **P 04 37 54.8 -1.8**
KK31 Karatay Array 56.50 299 P **P 04 37 54.8 -1.8**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 56.50 299 P **P 04 37 55.5 -1.1**
KKAR Karatay Array 56.50 299 P **P 04 37 55.6 -1.0**
KKAR IAmb IAmb 04 37 56.6
comp=Z,3.3nm,0.9s
KKAR Karatay Array 56.50 299 P **P 04 37 55.6 -1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.9s
DANN Dangsing 56.70 277 *e*P **P 04 37 59.9 +1.3**
comp=Z,62nm,0.7s
NEW Newport 56.81 53 LR LR 05 01 07.7
comp=Z,23nm,20.3s,baz=299,slow=35
KOLN Koldanda 57.18 277 *e*P **P 04 38 02.6 +0.7**
comp=Z,14nm,1.5s
PINE Pine Mountain 57.19 59 P **P 04 38 02.7 +1.0**
PINE IAmb IAmb 04 38 17.6
comp=Z,5.9nm,0.8s
PYUN Piuthan 57.39 278 *e*P **P 04 38 04.4 +1.0**
comp=Z,118nm,1.1s
PRGR Permogore 57.72 328 *e*P **P 04 38 03.3 -1.6**
BTK Batken 58.08 296 P **P 04 38 07.9 0.0**
BTK IAmb IAmb 04 38 09.0
comp=Z,7.5nm,0.8s
BTK Batken 58.08 296 P **P 04 38 07.9 0.0**
BTK pmax pmax
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 58.10 341 P **P 04 38 06.8 -0.8**
comp=Z,2.7nm,0.7s,baz=39,slow=4.7,SNR=10.0
ARCES LR LR 05 05 52.2
comp=Z,69nm,19.6s,baz=22,slow=39
comp=Z,2.7nm,0.7s
ARCES ARCESS Array B 58.10 341 *e*P **P 04 38 05.2 -2.3**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
JTMT Jette 58.66 52 P **P 04 38 13.7 +1.7**
JTMT IAmb IAmb 04 38 14.5
comp=Z,5.8nm,1.2s
BMO Blue Mountains 58.68 56 P **P 04 38 13.7 +1.6**
BMO Blue Mountains 58.68 56 P **P 04 38 13.7 +1.6**
BMO pmax pmax
comp=Z,4.0nm,1.1s
ABKAR Akbulak array 58.88 310 P **P 04 38 12.0 -1.2**
ABKAR Akbulak array 58.88 310 P **P 04 38 12.2 -1.1**
ABKAR IAmb IAmb 04 38 18.9
comp=Z,5.0nm,1.1s
GAR Garm 59.03 295 P **P 04 38 13.1 -1.5**
AKTO Aktyubinsk 59.17 312 LR LR 05 06 15.1
comp=Z,115nm,18.8s,baz=43,slow=39
PLID Pearl Lake 59.29 55 P **P 04 38 17.7 +1.3**
MSO Missoula 59.39 53 P **P 04 38 18.4 +1.4**
MSO IAmb IAmb 04 38 19.6
comp=Z,9.4nm,1.2s
CHGR Chuyangaron 59.95 296 P **P 04 38 20.8 -0.2**
CHGR Chuyangaron 59.95 296 P **P 04 38 20.8 -0.2**
CHGR pmax pmax
comp=Z,38nm,1.0s
NIL Nilore 60.43 289 P **P 04 38 24.5 +0.3**
NIL Nilore 60.43 289 P **P 04 38 24.5 +0.3**
NIL pmax pmax
comp=Z,26nm,0.8s
KLMR Klimovskoe 60.45 329 *e*P **P 04 38 21.7 -2.1**
KLMR pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 60.45 329 *e*P **P 04 38 21.8 -2.1**
KLMR AMP 04 38 24.9
comp=Z,20nm,1.2s
FFC Flin Flon 60.46 40 P **P 04 38 23.7 -0.3**
FFC IAmb IAmb 04 39 05.3
comp=Z,14nm,1.4s
FFC Flin Flon 60.46 40 P **P 04 38 23.7 -0.3**
FFC pmax pmax
comp=Z,15nm,1.5s
SUMG Summit 60.74 4 P **P 04 38 26.0 -0.2**
SUMG Summit 60.74 4 P **P 04 38 26.0 -0.2**
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 60.74 4 *i* P **P 04 38 26.0 -0.2**
SUMG IAmb IAmb 04 38 40.2
comp=Z,246nm,2.8s
LRM Limekiln Ridge 60.83 53 P **P 04 38 27.8 +0.8**
EGMT Eagleton 60.91 50 P **P 04 38 27.6 +0.3**
HLID Hailey 61.12 56 P **P 04 38 30.0 +1.1**
BOZ Bozeman (W) 61.42 53 P **P 04 38 32.0 +1.1**
BOZ Bozeman (W) 61.42 53 P **P 04 38 32.0 +1.1**
BOZ pmax pmax
comp=Z,19nm,1.5s
KVN Kaiserville 61.74 62 P **P 04 38 34.2 +1.0**
KVN IAmb IAmb 04 38 49.0
comp=Z,6.5nm,1.2s
KVN Kaiserville 61.74 62 P **P 04 38 34.2 +1.0**
KVN pmax pmax
comp=Z,7.0nm,1.2s
NVAR Mina Array Bea 62.01 63 P **P 04 38 35.8 +0.8**
comp=Z,0.6nm,0.6s,baz=300,slow=8.0,SNR=5.2
comp=Z,0.6nm,0.6s
QLMT Earthquake Lak 62.01 53 P **P 04 38 35.7 +0.8**
YHL Hebgen Lake 62.13 53 P **P 04 38 36.8 +0.9**
YHL IAmb IAmb 04 38 51.1
comp=Z,5.7nm,1.0s
GCMT Greycliff 62.36 52 P **P 04 38 38.6 +1.3**
ELK Elko 62.40 59 LR LR 05 02 31.7
comp=Z,21nm,21.9s,baz=324,slow=33
H17A Grant Village 62.76 53 P **P 04 38 41.0 +1.0**
H17A IAmb IAmb 04 38 56.8
comp=Z,6.9nm,1.1s
IMW Indian Meadow 62.87 54 P **P 04 38 42.4 +1.5**
IMW IAmb IAmb 04 38 55.7
comp=Z,10nm,1.4s
DSP Deep Springs 62.88 63 P **P 04 38 41.9 +1.4**
DSP IAmb IAmb 04 38 56.8
comp=Z,6.2nm,1.1s
FXWY Fox Creek 62.99 54 P **P 04 38 42.7 +1.2**
RLMT Red Lodge 63.01 52 P **P 04 38 42.8 +1.2**
RLMT IAmb IAmb 04 38 45.4
comp=Z,5.1nm,1.0s
MOOW Moose Ponds 63.07 54 P **P 04 38 43.4 +1.3**
MOOW IAmb IAmb 04 38 45.3
comp=Z,8.4nm,1.5s
TPAW Teton Pass 63.12 54 P **P 04 38 43.6 +1.1**
TPAW IAmb IAmb 04 38 59.8
comp=Z,8.9nm,1.1s
LOHW Long Hollow 63.24 54 P **P 04 38 44.8 +1.6**
LOHW IAmb IAmb 04 38 46.6
comp=Z,8.9nm,1.4s

REDW Red Top Meadow 63.26 54 P **P** 04 38 44.6 +1.2
REDW IAmb IAmb 04 39 04.4
comp=Z,10nm,1.1s
GMN Gold Mountain 63.36 63 P **P** 04 38 42.6 -1.5
GMN IAmb IAmb 04 38 56.1
comp=Z,7.0nm,1.1s
R11A Troy Canyon, C 63.71 61 P **P** 04 38 46.4 0.0
SPR3 Spring Creek 3 64.05 60 P **P** 04 38 49.7 +1.0
SPR3 IAmb IAmb 04 39 02.4
comp=E,2.5nm,0.8s
ICESG Greenland Ices 64.13 5 *i* P **P** 04 38 48.3 -0.4
ICESG IAmb IAmb 04 39 00.2
comp=Z,14nm,0.9s
DUG Dugway, Tooele 64.17 58 P **P** 04 38 50.1 +0.8
DUG IAmb IAmb 04 39 09.2
comp=Z,9.2nm,1.1s
DUG Dugway, Tooele 64.17 58 P **P** 04 38 50.1 +0.8
DUG pmax pmax
comp=Z,9.0nm,1.2s
FIA1 FINESS Array S 64.33 335 P **P** 04 38 49.8 0.0
FINES FINESS Array B 64.34 335 P **P** 04 38 49.3 -0.5
comp=Z,13nm,0.8s,baz=34,slow=7.7,SNR=28
FINES LR LR 05 11 00.1
comp=Z,83nm,18.3s,baz=54,slow=40
comp=Z,13nm,0.8s
BW06 Boulder Array 64.37 54 P **P** 04 38 51.8 +1.2
BW06 IAmb IAmb 04 38 53.0
comp=Z,7.2nm,1.1s
PD31 Pinedale Array 64.37 54 P **P** 04 38 50.8 +0.1
PD31 IAmb IAmb 04 38 53.0
comp=Z,5.9nm,1.1s
PDAR Pinedale Array 64.37 54 P **P** 04 38 51.5 +0.8
comp=Z,2.8nm,0.9s,baz=298,slow=2.4,SNR=20
PDAR LR LR 05 04 22.4
comp=Z,16nm,21.6s,baz=321,slow=34
comp=Z,2.8nm,0.9s
PDAR Pinedale Array 64.37 54 P **P** 04 38 51.3 +0.6
PSI Prapat 64.52 245 P **P** 04 38 51.6 -0.2
comp=Z,4.6nm,0.8s,baz=20,slow=4.1,SNR=4.7
comp=Z,4.6nm,0.8s
RPSI Rantau Prapat 64.60 245 P **P** 04 38 51.6 -0.5
FRB Frobisher Bay 64.95 19 LR LR 05 11 00.4
comp=Z,46nm,18.7s,baz=230,slow=40
SFJD Kangerlussuaq 65.14 10 LR LR 05 08 54.5
comp=Z,62nm,19.4s,baz=356,slow=38
OBN Obninsk 65.67 326 *eP* **P** 04 38 58.6 0.0
OBN *e* 04 39 33.1
OBN *e* 04 41 20.0
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,66nm,18.0s
OBN Obninsk 65.67 326 *eP* **P** 04 38 58.6 0.0
ULM Lac du Bonnet 66.24 41 P **P** 04 39 02.8 +0.4
comp=Z,3.4nm,0.8s,baz=318,slow=10,SNR=3.0
comp=Z,3.4nm,0.8s
RSSD Black Hills 66.47 50 P **P** 04 39 05.3 +1.1
RSSD IAmb IAmb 04 39 19.2
comp=Z,8.3nm,0.9s
RSSD Black Hills 66.47 50 P **P** 04 39 05.3 +1.1
RSSD pmax pmax
comp=Z,8.0nm,0.9s
GEYT Alibeck 67.10 301 P **P** 04 39 07.5 -0.5
comp=Z,4.2nm,0.6s,baz=13,slow=7.9,SNR=7.1
comp=Z,4.2nm,0.6s
GEYT Alibeck 67.10 301 P **P** 04 39 08.2 +0.1
GEYT IAmb IAmb 04 39 10.0
comp=Z,6.1nm,0.8s
N23A Red Feather La 67.63 54 P **P** 04 39 12.8 +1.1
N23A IAmb IAmb 04 39 15.1
comp=Z,9.2nm,1.2s
AGMN Agassiz Nation 67.64 43 P **P** 04 39 11.9 +0.7
MSVF Nonsavu 67.71 155 LR LR 05 03 27.5
comp=Z,62nm,21.3s,baz=174,slow=31
PV11 David Mesa, Pa 67.72 58 P **P** 04 39 13.6 +1.4
AFI Afiamalu 67.73 144 LR LR 05 01 50.0
comp=Z,35nm,21.2s,baz=298,slow=30
PV13 Radium Mtn., P 67.84 58 P **P** 04 39 13.6 +0.5
PV13 IAmb IAmb 04 39 28.5
comp=Z,8.2nm,0.9s
SMCO Snowmass 68.22 56 P **P** 04 39 16.1 +0.5
SMCO IAmb IAmb 04 39 28.9
comp=Z,3.5nm,0.8s
NC405 NORSAR Array S 68.30 341 P **P** 04 39 15.3 +0.1
NC204 NORSAR Array S 68.36 342 P **P** 04 39 16.2 +0.5
WB0 Warramunga Arr 68.43 200 P **P** 04 39 17.0 +0.6
WB0 IAmb IAmb 04 39 17.9
comp=Z,8.6nm,0.9s
NB2 NORSAR Subarra 68.47 341 P **P** 04 39 16.2 -0.2
comp=Z,14nm,0.9s,baz=29,slow=6.5
NOA NORSAR Array B 68.47 341 P **P** 04 39 16.0 -0.4
comp=Z,6.7nm,0.8s,baz=27,slow=6.4,SNR=19
NOA LR LR 05 13 31.2
comp=Z,45nm,18.0s,baz=30,slow=40
comp=Z,6.7nm,0.8s
ISCO Idaho Springs 68.56 54 P **P** 04 39 18.6 +1.0
ISCO IAmb IAmb 04 39 20.4
comp=Z,6.8nm,1.2s
ISCO Idaho Springs 68.56 54 P **P** 04 39 18.6 +1.0
ISCO pmax pmax
comp=Z,7.0nm,1.3s
WB2 Warramunga Arr 68.61 200 P **P** 04 39 17.9 +0.4
WB2 IAmb IAmb 04 39 19.6
comp=Z,9.2nm,1.0s
WRA Warramunga Arr 68.61 200 P **P** 04 39 17.9 +0.4
comp=Z,6.7nm,1.0s,baz=17,slow=6.7,SNR=27
comp=Z,6.7nm,1.0s
WRA Warramunga Arr 68.61 200 P **P** 04 39 17.4 -0.1
WRA Warramunga Arr 68.61 200 *eP* **P** 04 39 18.3 +0.7
WRA pmax pmax
comp=Z,7.0nm,1.0s
MVCO Mesa Verde 68.67 58 P **P** 04 39 19.0 +0.7
MVCO IAmb IAmb 04 39 33.5
comp=Z,6.6nm,0.9s
HFS Hagfors 68.72 340 LR LR 05 12 15.2
comp=Z,35nm,19.0s,baz=22,slow=38
X16A Lo Mia Camp, P 68.81 62 P **P** 04 39 19.8 +0.7
F33A 5 Mile Ranch, 69.20 45 P **P** 04 39 22.1 +1.0
F33A IAmb IAmb 04 39 22.7
comp=Z,9.6nm,1.1s
S22A 4UR Ranch, Cre 69.28 57 P **P** 04 39 22.8 +0.7
S22A IAmb IAmb 04 39 37.5
comp=Z,5.3nm,1.0s
FITZ Fitzroy Crossi 69.32 209 P **P** 04 39 22.4 +0.5
comp=Z,4.6nm,0.9s,baz=67,slow=7.6,SNR=6.4
comp=Z,4.6nm,0.9s
FITZ Fitzroy Crossi 69.32 209 P **P** 04 39 22.9 +0.9
FITZ IAmb IAmb 04 39 35.6
comp=Z,5.5nm,1.0s
MNK Minsk 69.33 330 *i* P **P** 04 39 22.0 +0.3
MNK *i* PPP PPP 04 43 34.3
MNK *i* S **S** 04 48 27.9 +1.4
MNK *i* SS **SS** 04 52 57.4 +4.9
MNK *i* SSS SSS 04 55 56.8
MNK pmax pmax
comp=E,6.0nm,1.5s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK MLR MLR
comp=Z,63nm,18.0s
MNK MLR MLR
comp=E,38nm,27.0s
MNK Minsk 69.33 330 *i* P **P** 04 39 22.0 +0.3
comp=E,6.0nm,1.5s
MNK *i* P **P** 04 39 22.0 +0.3
MNK *i* P **P** 04 39 22.0 +0.3
comp=Z,19nm,0.9s,baz=217
MNK *i* PP PP 04 42 10.8 +16
MNK *i* PPP PPP 04 43 34.4
MNK *i* S **S** 04 48 27.9 +1.4
MNK *i* SS **SS** 04 52 57.5 +4.9
MNK *i* SSS SSS 04 55 56.9
MNK *i* LQ LQ 05 04 50.1
MNK *i* LR LR 05 10 05.6
MNK *i* LRM MLR 05 12 14.3
comp=E,38nm,26.7s
MNK *i* LRM MLR 05 12 14.3
MNK *i* LRM MLR 05 12 14.3
comp=Z,63nm,17.8s
DZM Mont Dzumac 69.35 168 LR LR 05 07 16.8
comp=Z,118nm,19.1s,baz=32,slow=34
ECSD EROS Data Cent 70.56 46 P **P** 04 39 30.2 +0.6
ECSD IAmb IAmb 04 39 30.5
comp=Z,6.3nm,0.8s
E38A The Farm, Brul 70.87 42 P **P** 04 39 31.9 +0.6
T25A Trinidad 71.08 56 P **P** 04 39 32.6 -0.4
T25A IAmb IAmb 04 39 36.9
comp=Z,10nm,1.4s
KIV Kislovodsk 71.23 315 *eP* **P** 04 39 32.9 -0.8
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,115nm,17.0s
KIV Kislovodsk 71.23 315 *eP* **P** 04 39 32.9 -0.8
KBZ Khabaz 71.29 314 P **P** 04 39 33.8 -0.1
comp=Z,3.7nm,0.8s,baz=107,slow=4.6,SNR=5.9
KBZ LR LR 05 13 28.6
comp=Z,72nm,18.4s,baz=30,slow=38
comp=Z,3.7nm,0.8s
KBZ Khabaz 71.29 314 *eP* **P** 04 39 34.7 +0.8
KBZ pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 71.29 314 *eP* **P** 04 39 34.7 +0.8
ANMO Albuquerque 71.43 59 LR LR 05 08 14.3
comp=Z,24nm,20.4s,baz=322,slow=34
ANMO Albuquerque 71.43 59 P **P** 04 39 35.0 -0.1
ANMO Albuquerque 71.43 59 P **P** 04 39 35.0 -0.1
ANMO pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 71.91 327 P **P** 04 39 36.7 -0.8
comp=Z,2.0nm,0.4s,baz=34,slow=6.6,SNR=23
AKASG LR LR 05 12 56.6
comp=Z,48nm,19.6s,baz=12,slow=37
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 71.91 327 P **P** 04 39 36.6 -0.9
AKASG IAmb IAmb 04 39 38.2
comp=Z,6.9nm,1.1s
AKASG Malin Array Be 71.91 327 P **P** 04 39 36.6 -0.9
AKASG pmax pmax
comp=Z,7.0nm,1.2s
AKBB Malin Array Si 71.91 327 P **P** 04 39 36.5 -1.0
AKBB Malin Array Si 71.91 327 *eP* **P** 04 39 37.1 -0.4
I37A Lemond, Waseca 71.93 44 P **P** 04 39 38.8 +1.0
L34A Svendsen Farm, 71.97 48 P **P** 04 39 38.3 +0.2
319A Douglas 72.21 63 P **P** 04 39 39.6 -0.2
319A IAmb IAmb 04 39 54.0
comp=Z,8.3nm,0.9s
AS31 Alice Springs 72.30 199 P **P** 04 39 40.3 +0.3
ASAR Alice Springs 72.30 199 P **P** 04 39 41.4 +1.4
comp=Z,7.5nm,0.8s,baz=12,slow=5.9,SNR=46
comp=Z,7.5nm,0.8s
ASAR Alice Springs 72.30 199 P **P** 04 39 40.9 +0.9
GNI Garni 72.98 311 LR LR 05 15 08.5
comp=Z,74nm,19.2s,baz=30,slow=39
SORM Soroca 74.32 326 ⇓P **P** 04 39 50.9 -0.8
SORM Soroca 74.32 326 ⇓P **P** 04 39 50.9 -0.8
N38A Joes South For 74.42 47 P **P** 04 39 52.5 -0.1
N38A IAmb IAmb 04 39 53.3
comp=Z,9.9nm,0.8s
MILM Milestii Mici 75.12 325 ⇓P **P** 04 39 56.7 +0.2
MILM Milestii Mici 75.12 325 P **P** 04 39 56.7 +0.2
KWP Kalwaria Pacla 75.16 330 *eP* **P** 04 39 57.4 +0.8
OJC Ojcow 75.64 332 *eP* **P** 04 39 59.5 +0.1
KOLS Kolonicke sedl 75.90 329 *eP* **P** 04 40 01.5 +0.6
KOLS Kolonicke sedl 75.90 329 *eP* **P** 04 40 01.5 +0.6
BUR08 Bucovina Ar. S 75.93 327 P **P** 04 40 01.6 +0.4
BURAR Bucovina Array 75.94 327 ⇑P **P** 04 40 01.4 +0.1
BURAR Bucovina Array 75.94 327 P **P** 04 40 01.1 -0.2
BURAR Bucovina Array 75.94 327 ⇑P **P** 04 40 01.4 +0.1
WMOK Wichita Mounta 75.98 54 P **P** 04 40 02.7 +1.0
WMOK Wichita Mounta 75.98 54 P **P** 04 40 02.7 +1.0
WMOK pmax pmax
comp=Z,3.0nm,0.9s
UZH Uzhgorod 76.15 329 ⇑*eP* P 04 39 56.8 -5.5
OK031 S. Brethren Rd 76.16 52 P **P** 04 40 03.8 +1.2
OK031 IAmb IAmb 04 40 15.3
comp=Z,10nm,0.9s
NIE Niedzica 76.17 331 *eP* **P** 04 40 04.2 +1.8
BIZ Bicaz 76.17 326 ⇑P **P** 04 40 01.2 -1.2
KSP Ksiaz 76.21 334 *eP* **P** 04 40 03.9 +1.2
TESR Tescani 76.31 326 ⇑P **P** 04 40 03.2 -0.1
HDIL Hopedale 76.54 44 P **P** 04 40 05.7 +1.0
DPC Dobruska-Polom 76.63 334 *eP* **P** 04 40 06.2 +1.1
DPC Dobruska-Polom 76.63 334 *eP* **P** 04 40 06.2 +1.1
LANS Liptovska Anna 76.67 331 *eP* **P** 04 40 06.8 +1.4
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 76.67 331 *eP* **P** 04 40 06.8 +1.4
KRLC Kraliky 76.73 333 *eP* **P** 04 40 06.4 +0.7
KRLC Kraliky 76.73 333 *eP* **P** 04 40 06.4 +0.7
CLL Collm 76.75 336 P **P** 04 40 04.4 -1.3
CLL Collm 76.75 336 *i* P **P** 04 40 05.5 -0.2
CLL *i* *PP **sP** 04 40 15.7 +1.3
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 76.75 336 *i* P **P** 04 40 05.5 -0.2
comp=Z,15nm,1.0s
CLL *i* x x 04 40 12.1
CLL *i* pP **sP** 04 40 15.7 +1.3
comp=Z,12nm,0.9s
CLL *es*P **pwP** 04 40 19.0 +0.2
MORC Moravsky Berou 76.75 333 ⇑P **P** 04 40 06.3 +0.5
MORC Moravsky Berou 76.75 333 P **P** 04 40 05.6 -0.2
MORC IAmb IAmb 04 40 08.4
comp=Z,8.8nm,1.0s
MORC Moravsky Berou 76.75 333 *eP* **P** 04 40 06.7 +0.9
MORC Moravsky Berou 76.75 333 ⇑P **P** 04 40 06.3 +0.5
VRI Vrincioaia 76.81 325 ⇓P **P** 04 40 08.9 +2.7
VRI Vrincioaia 76.81 325 ⇓P **P** 04 40 08.9 +2.7
CFR Carcaliu 76.82 324 ⇑P **P** 04 40 06.8 +0.7
CFR Carcaliu 76.82 324 ⇑P **P** 04 40 06.8 +0.7
PLOR Plostina 76.86 325 ⇑P **P** 04 40 07.5 +1.0
PLOR Plostina 76.86 325 ⇑P **P** 04 40 07.5 +1.0
BRG Berggiesshubel 76.88 335 *eP* **P** 04 40 06.7 +0.3
BRG Amp 04 40 08.1
comp=Z,2.9nm,0.8s
BRG Berggiesshubel 76.88 335 *eP* **P** 04 40 06.7 +0.3
BRG pmax pmax
comp=Z,3.0nm,0.8s
WSAR Wadi Sarin 76.91 290 LR LR 05 17 34.1
comp=Z,63nm,18.8s,baz=110,slow=39
TPGR Topolog 76.96 324 ⇓P **P** 04 40 07.8 +0.8
COVR Voineasa-Covas 77.04 325 ⇑P **P** 04 40 07.8 +0.4
TX31 Lajitas Ar. Si 77.07 61 P **P** 04 40 08.8 +0.8
TX32 Lajitas Array 77.07 61 P **P** 04 40 08.7 +0.7
TX32 IAmb IAmb 04 40 21.4
comp=Z,6.7nm,0.7s
TXAR Lajitas Array 77.07 61 P **P** 04 40 09.0 +1.0
comp=Z,3.8nm,0.7s,baz=300,slow=4.3,SNR=58
comp=Z,3.8nm,0.7s
TXAR Lajitas Array 77.07 61 P **P** 04 40 08.5 +0.5
MARD Mardin 77.16 311 P **P** 04 40 07.6 -0.8
HARR Harsova 77.30 324 ⇑P **P** 04 40 09.2 +0.3
HARR Harsova 77.30 324 ⇑P **P** 04 40 09.2 +0.3
CJR Cluj-Napoca 77.30 327 ⇓P **P** 04 40 10.7 +1.7
CJR Cluj-Napoca 77.30 327 ⇓P **P** 04 40 10.7 +1.7
MLR Muntele Rosu 77.43 325 ⇑P **P** 04 40 10.9 +1.1
MLR Muntele Rosu 77.43 325 LR LR 05 16 41.5
comp=Z,74nm,18.1s,baz=40,slow=38
MLR Muntele Rosu 77.43 325 P **P** 04 40 09.8 0.0
MLR Muntele Rosu 77.43 325 ⇑P **P** 04 40 10.9 +1.1
VYHS Vyhne 77.45 331 *eP* **P** 04 40 10.0 +0.3
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 77.45 331 *eP* **P** 04 40 10.0 +0.3
HHAR Hobbs 77.46 50 P **P** 04 40 10.9 +1.0
HHAR IAmb IAmb 04 40 23.9
comp=Z,9.1nm,1.2s
VRAC Vranov 77.47 333 ⇓P **P** 04 40 09.3 -0.4
VRAC Vranov 77.47 333 LR LR 05 19 48.4
comp=Z,85nm,18.2s,baz=21,slow=40
VRAC Vranov 77.47 333 *eP* **P** 04 40 11.7 +1.9
VRAC Vranov 77.47 333 ⇓P **P** 04 40 09.3 -0.4
PRU Pruhonice 77.49 334 *eP* **P** 04 40 11.4 +1.6
PRU Pruhonice 77.49 334 *eP* **P** 04 40 11.4 +1.6
ISR Istrita 77.50 325 ⇓P **P** 04 40 11.0 +0.9
ISR Istrita 77.50 325 ⇓P **P** 04 40 11.0 +0.9
JAVC Velka Javorina 77.52 332 *eP* **P** 04 40 11.3 +1.2
KRUC Moravsky 77.74 333 *eP* **P** 04 40 12.3 +1.0
VOIR 77.83 326 ⇑P **P** 04 40 12.7 +0.8
VOIR 77.83 326 ⇑P **P** 04 40 12.7 +0.8
SMOL Smolenice 77.90 332 *eP* **P** 04 40 14.5 +2.3
ARR Arges 78.04 326 ⇓P **P** 04 40 14.9 +1.8
SIRR Siria 78.39 328 ⇓P **P** 04 40 15.8 +0.8
BNN Bunyan 78.45 315 P **P** 04 40 15.3 -0.2
KHC Kasperske Hory 78.54 335 P **P** 04 40 15.6 -0.1
KHC IAmb IAmb 04 40 21.2
comp=Z,5.1nm,0.8s
KHC Kasperske Hory 78.54 335 *eP* **P** 04 40 16.9 +1.1
KHC *e* 04 40 20.4
KHC Kasperske Hory 78.54 335 *eP* **P** 04 40 16.9 +1.1
KHC *ex* x 04 40 20.4
FCAR Ozark Folk Cen 78.71 49 P **P** 04 40 16.4 -0.5
FCAR IAmb IAmb 04 40 17.9
comp=Z,12nm,1.2s
GZR Gura Zlata 78.72 327 ⇓P **P** 04 40 16.8 -0.1
GZR Gura Zlata 78.72 327 ⇓P **P** 04 40 16.8 -0.1
GERES GERESS Array B 78.76 334 P **P** 04 40 16.7 -0.4
comp=Z,1.1nm,0.5s,baz=37,slow=5.2,SNR=13
comp=Z,1.1nm,0.5s
GERES GERESS Array B 78.76 334 *eP* **P** 04 40 18.0 +1.0
GERES pmax pmax
comp=Z,1.0nm,0.5s
BR131 Keskin Array S 78.81 317 P **P** 04 40 17.5 0.0
BR131 IAmb IAmb 04 40 28.9
comp=Z,12nm,1.0s
BR131 Keskin Array S 78.81 317 P **P** 04 40 17.5 0.0
BR131 pmax pmax
comp=Z,12nm,1.0s
BRTR Keskin Array B 78.81 317 P **P** 04 40 17.3 -0.2
comp=Z,5.3nm,0.9s,baz=58,slow=3.1,SNR=10
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 78.81 317 P **P** 04 40 17.7 +0.2
BRTR Keskin Array B 78.81 317 *eP* **P** 04 40 19.0 +1.5
BRTR pmax pmax
comp=Z,6.0nm,1.0s
CONA Conrad Observa 78.91 333 *i* P **P** 04 40 19.4 +1.5
comp=Z,4.2nm,0.8s
BZS Buzias 78.96 328 ⇓P **P** 04 40 18.3 +0.2
BZS Buzias 78.96 328 ⇓P **P** 04 40 18.3 +0.2
STKA Stephens Creek 78.96 191 P **P** 04 40 19.0 +1.0
comp=Z,2.3nm,0.9s,baz=82,slow=5.2,SNR=3.7
comp=Z,2.3nm,0.9s
STKA Stephens Creek 78.96 191 *eP* **P** 04 40 20.6 +2.6
STKA pmax pmax
comp=Z,1.0nm,0.4s
RONA Rosalia, Austr 78.97 332 *i* P **P** 04 40 19.2 +1.0
comp=Z,6.0nm,0.8s
VLAD Vladila 79.28 325 ⇓P **P** 04 40 22.0 +2.1
HERR Herculane 79.30 327 ⇑P **P** 04 40 20.3 +0.4
MOA Molln 79.48 334 *i* P **P** 04 40 22.2 +1.3
comp=Z,3.0nm,0.7s
MDVR Moldovita 79.64 328 ⇑P **P** 04 40 20.9 -0.9
BIOA Bad Ischl, Aus 79.81 334 *i* P **P** 04 40 23.7 +1.0
comp=Z,5.6nm,0.9s
WLAR White Oak Lake 79.87 51 P **P** 04 40 24.2 +1.0
FRGS Fruska Gora 80.01 329 ⇓P **P** 04 40 24.2 +0.4
BLKB Belogradchik 80.27 326 ⇓P **P** 04 40 24.0 -1.2
SOKA Soboth 80.28 333 *eP* **P** 04 40 25.8 +0.5
comp=Z,8.0nm,1.0s
KBA Koelnbreinsper 80.45 334 *eP* **P** 04 40 27.2 +0.8
comp=Z,18nm,1.1s
BOVS Bovan 80.62 327 ⇑P **P** 04 40 25.9 -1.2
BFO Black Forest 80.73 338 P **P** 04 40 26.5 -1.2
BFO IAmb IAmb 04 40 30.0
comp=Z,7.1nm,1.0s
BFO Black Forest 80.73 338 P **P** 04 40 26.5 -1.2
BFO pmax pmax
comp=Z,7.0nm,1.0s
WATA Walderalm 80.74 335 *eP* **P** 04 40 28.6 +0.7
comp=Z,11nm,1.1s
WTTA Wattenberg 80.79 335 *eP* **P** 04 40 29.2 +1.0
comp=Z,8.0nm,0.5s
RETA Reutte 80.84 336 *eP* **P** 04 40 29.2 +0.9
comp=Z,3.8nm,0.7s
DIVS Divibare 80.86 328 P **P** 04 40 27.6 -0.9
DIVS IAmb IAmb 04 40 30.5
comp=Z,6.5nm,0.9s
MOTA Moosalm 80.87 335 *eP* **P** 04 40 29.2 +0.6
comp=Z,14nm,1.0s
VTS Vitosha 80.91 325 ⇑P **P** 04 40 29.4 +0.6
VTS Vitosha 80.91 325 P **P** 04 40 28.1 -0.8
VTS IAmb IAmb 04 40 31.5
comp=Z,9.9nm,0.9s
VTS Vitosha 80.91 325 ⇑P **P** 04 40 29.4 +0.6
PRED Cave del Predi 80.95 333 P **P** 04 40 27.6 -1.3
SQTA Sankt Quirin 80.95 335 *eP* **P** 04 40 30.0 +1.0
comp=Z,11nm,1.1s
ABTA Abfaltersbach 81.00 334 *eP* **P** 04 40 29.9 +0.7
comp=Z,6.7nm,1.1s
ECH Echery 81.14 338 P **P** 04 40 29.9 +0.1
ECH IAmb IAmb 04 40 32.9
comp=Z,9.3nm,1.1s
ECH Echery 81.14 338 P **P** 04 40 29.9 +0.1
ECH pmax pmax
comp=Z,9.0nm,1.1s
DAVA Damuels 81.27 336 *eP* **P** 04 40 32.4 +1.7
comp=Z,8.6nm,1.2s
FETA Feichten 81.27 335 *eP* **P** 04 40 32.0 +1.3
comp=Z,5.5nm,1.1s
PPT Papeete 81.69 126 LR LR 05 11 08.1
comp=Z,66nm,20.0s,baz=318,slow=32
DAVOX Davos/Dischmat 81.73 336 LR LR 05 19 21.3
comp=Z,39nm,21.6s,baz=34,slow=38
PDG Podgorica 82.57 328 ⇑P **P** 04 40 37.4 0.0
PDG Podgorica 82.57 328 P **P** 04 40 36.6 -0.8
TKL Tuckaleechee C 83.07 44 LR LR 05 20 01.9
comp=Z,34nm,20.4s,baz=354,slow=37
MMAI Mount Meron Ar 83.26 312 LR LR 05 22 24.8
comp=Z,97nm,18.3s,baz=240,slow=39
RAYN Ar Rayn 84.92 299 P **P** 04 40 49.3 -0.6
RAYN IAmb IAmb 04 40 51.0
comp=Z,6.0nm,0.9s
RAYN Ar Rayn 84.92 299 ⇓P **P** 04 40 50.3 +0.4
EIL Eilat 86.15 310 LR LR 05 26 20.3
comp=Z,63nm,18.1s,baz=87,slow=41
ESDC Sonseca Array 91.79 343 P **P** 04 41 21.4 -1.0
comp=Z,1.7nm,1.0s,baz=358,slow=3.3,SNR=7.8
comp=Z,1.7nm,1.0s
KEST Kesra 91.99 332 LR LR 05 27 01.3
comp=Z,40nm,18.0s,baz=237,slow=38
ATD Arta Tunnel 95.64 293 LR LR 05 30 00.2
comp=Z,79nm,18.1s,baz=200,slow=39
MDT Midelt 98.54 342 LR LR 05 31 50.6
comp=Z,28nm,18.3s,baz=38,slow=39
TORD Torodi Ar. Bea 115.43 330 PKP **PKiKP** 04 46 56.1 -0.6
comp=Z,0.5nm,0.8s,baz=351,slow=1.9,SNR=1.8
VNDA Vanda 124.01 178 PKP **PKPdf** 04 47 10.9 -0.3
comp=Z,0.7nm,0.7s,baz=308,slow=3.2,SNR=5.3
H03N2 Juan Fernandez 138.23 91 T T 07 21 36.5
baz=308,slow=77,SNR=11
H03N1 Juan Fernandez 138.24 91 T T 07 21 36.5
baz=308,slow=77,SNR=12
H03N3 Juan Fernandez 138.24 91 T T 07 21 37.6
baz=308,slow=77,SNR=12
BDFB Brasilia 144.09 38 PKP **PKPab** 04 47 48.2 +0.1
comp=Z,1.7nm,0.6s,baz=204,slow=25,SNR=2.2
PLCA Paso Flores 147.68 96 PKPbc **PKPbc** 04 47 59.4 +0.6
comp=Z,3.1nm,0.9s,baz=236,slow=3.1,SNR=5.2
CPUP Villa Florida 148.05 61 PKPbc **PKPbc** 04 48 00.2 +0.2
comp=Z,2.8nm,1.0s,baz=360,slow=3.1,SNR=3.7

---

*IDC **01** 04:31:19.3±0.7,29°.79N×138°.62E,h447km±9km,mb3.1/13, mbtmp4.1/19,Error ellipse: s-maj=19.5km s-min=9.3km az=74.0*

*JMA **01** 04:31:20.1±0.2,30°N±1°×13°9E±°,h482km,MV3.8/60, NEAR TORISHIMA IS*

ISC 01 04:31:19.8±0.6,29°.83N±0°.06×138°.7E±0°.1,h450km,n41,
σ1°56/48,mb3.5/12,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.42**	**16**	P		P	**P**	**04 32 29.9**	**0.0**
	103nm,0.3s,baz=215,slow=16,SNR=12								
JHJ				S		S	**S**	**04 33 27.3**	**+0.3**
	143nm,0.5s,baz=252,slow=21,SNR=4.7								
JMKN	**Mikurajimanish**	**4.13**	**11**	*eP*		P	**P**	**04 32 38.3**	**+2.4**
CBIJ	**Chichi jima**	**4.13**	**130**	P		P	**P**	**04 32 37.5**	**+1.3**
CBIJ				S		S	**S**	**04 33 36.5**	**-1.8**
JCJ	**Chichijima**	**4.13**	**130**	P		P	**P**	**04 32 35.0**	**-1.3**
	50nm,0.3s,baz=308,slow=19,SNR=6.1								
JCJ				S		S	**S**	**04 33 37.2**	**-1.1**
	268nm,0.6s,baz=288,slow=19,SNR=13								
JHH2	**Haha-jima-NKT2**	**4.45**	**135**	S		S	**S**	**04 33 43.3**	**-0.2**
JIE	**Ise**	**4.84**	**341**	P		P	P	04 32 46.1	+3.7
JKN2	**Miekihoku**	**4.84**	**336**	*eP*		P	P	04 32 46.0	+3.5
HMMJ	**Hamamatsu 2**	**5.07**	**351**	*eP*		P	P	04 32 48.3	+3.5
HMMJ				S		S	**S**	**04 33 56.6**	**+2.5**
BSO1	**Boso 1**	**5.20**	**22**	*eP*		P	**P**	**04 32 47.2**	**+1.9**
BSO1				*eS*		S	**S**	**04 33 56.1**	**+0.8**
BSO3	**Boso 3**	**5.20**	**17**	*eS*		S	**S**	**04 33 56.8**	**+0.9**
BSO4	**Boso 4**	**5.34**	**15**	*eS*		S	**S**	**04 33 59.6**	**+0.9**
JOD2	**Odawara 2**	**5.43**	**4**	P		P	**P**	**04 32 49.8**	**+1.5**

JOD2					*e*S	**S**	04 34 01.2	+0.6
JAO	**Obara**	**5.55**	**348**		*e*P	**P**	04 32 52.8	+3.3
JNY	**Yasuok**	**5.55**	**353**		*e*P	**P**	04 32 52.4	+2.9
JEG	**Eigenji**	**5.62**	**341**		P	P	04 32 54.0	+3.8
JTO	**Tosashimizu**	**5.85**	**303**		P	P	04 32 56.2	+3.8
JHU	**Hanno**	**6.03**	**5**		*e*P	**P**	04 32 55.4	+1.1
JHU					*e*S	**S**	04 34 08.0	-3.6
JRY	**Ryogami san**	**6.17**	**2**		P	**P**	04 32 57.3	+1.5
JRY					*e*S	**S**	04 34 14.1	-0.2
JYT	**Yasato**	**6.51**	**11**		P	**P**	04 32 59.7	+0.5
JYT					S	**S**	04 34 17.2	-3.4
JAG	**Ashikaga**	**6.61**	**6**		P	**P**	04 33 00.3	0.0
JAG					*e*S	**S**	04 34 18.8	-3.7
MJAR	**Matsushiro Arr**	**6.70**	**357**		P	**P**	04 33 00.7	-0.6
	7.6nm,0.4s,baz=175,slow=11,SNR=12							
USRK	**Ussuriysk Ar.**	**15.29**	**342**		P	**P**	04 34 34.6	+0.8
	8.6nm,0.5s,baz=151,slow=8.9,SNR=30							
GUMO	**Guam**	**17.16**	**159**		P	**P**	04 34 53.7	-0.2
	25nm,0.3s,baz=342,slow=20,SNR=4.1							
KLR	**Kul'dur**	**20.08**	**347**		P	**P**	04 35 22.8	+1.2
	1.6nm,0.3s,baz=154,slow=10,SNR=7.4							
	1.6nm,0.3s							
SONM	**Songino Array**	**30.59**	**315**		P	**P**	04 36 55.6	+0.3
	0.4nm,0.5s,baz=126,slow=7.1,SNR=1.6							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**46.35**	**308**		P	**P**	04 39 03.6	-0.3
	0.3nm,0.3s,baz=85,slow=10.0,SNR=10							
MKAR					PcP	**PcP**	04 40 29.6	-0.6
	0.4nm,0.8s,baz=94,slow=4.3,SNR=2.9							
	0.3nm,0.3s							
WRA	**Warramunga Arr**	**49.66**	**185**		P	**P**	04 39 28.2	-0.8
	4.5nm,0.9s,baz=1.3,slow=7.6,SNR=18							
	4.5nm,0.9s							
ILAR	**Eielson Array**	**56.84**	**30**		P	**P**	04 40 19.6	-0.2
	0.5nm,0.6s,baz=250,slow=4.8,SNR=7.1							
	0.5nm,0.6s							
STKA	**Stephens Creek**	**61.43**	**177**		P	**P**	04 40 51.3	+0.2
	0.7nm,0.5s,baz=0.0,slow=10,SNR=3.1							
	0.7nm,0.5s							
INK	**Inuvik**	**61.85**	**25**		P	**P**	04 40 53.6	+0.2
	0.5nm,0.4s,baz=289,slow=11,SNR=4.7							
	0.5nm,0.4s							
ARCES	**ARCESS Array B**	**69.93**	**340**		P	**P**	04 41 44.0	-0.1
	0.9nm,0.4s,baz=66,slow=8.6,SNR=14							
	0.9nm,0.4s							
FINES	**FINESS Array B**	**74.11**	**333**		P	**P**	04 42 08.1	-0.5
	1.3nm,0.4s,baz=65,slow=5.1,SNR=8.5							
	1.3nm,0.4s							
AKASG	**Malin Array Be**	**78.57**	**322**		P	**P**	04 42 32.4	-1.1
	0.5nm,0.4s,baz=48,slow=5.5,SNR=4.1							
	0.5nm,0.4s							
NB2	**NORSAR Subarra**	**79.91**	**337**		P	**P**	04 42 39.7	-0.8
	comp=Z,1.3nm,0.6s,baz=46,slow=5.1							
NOA	**NORSAR Array B**	**79.91**	**337**		P	**P**	04 42 39.4	-1.0
	comp=Z,0.5nm,0.5s,baz=56,slow=5.9,SNR=5.3							
	comp=Z,0.5nm,0.5s							
NVAR	**Mina Array Bea**	**81.24**	**51**		P	**P**	04 42 48.7	+0.6
	comp=Z,0.2nm,0.5s,baz=311,slow=6.9,SNR=2.1							
	comp=Z,0.2nm,0.5s							
TXAR	**Lajitas Array**	**96.39**	**51**		P	**P**	04 44 00.3	+0.5
	comp=Z,0.3nm,0.8s,baz=292,slow=2.6,SNR=2.6							
	comp=Z,0.3nm,0.8s							

ROM 01 04:40:55.7±0.1, 42°630N±0°003×13°319E±0°005, h10km, ML1.3/6, Error ellipse: s-maj=0.4km s-min=0.2km az=91.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.01**	**85**	P	Pg	04 40 57.8	+0.1
SMA1				S	Sg	04 40 58.7	-0.2
SMA1				AML	AML		
	comp=N,5780μm,1.2s						
SMA1				AML	AML		
	comp=E,3515μm,0.4s						
SMA1				AML	AML		
	comp=N,5785μm,1.2s						
T1202	**Accumoli, Fraz**	**0.10**	**317**	P	Pg	04 40 59.1	+0.7
T1202				S	Sg	04 41 01.2	+0.9
CAMP	**Campotosto**	**0.12**	**145**	P	Pg	04 40 59.2	+0.6
CAMP				S	Sg	04 41 01.4	+0.7
T1243	**Rocca Santa Ma**	**0.12**	**55**	P	Pg	04 40 59.1	+0.5
T1243				S	Sg	04 41 01.3	+0.6
T1244	**Arquata del Tr**	**0.13**	**353**	P	Pg	04 40 59.5	+0.7
T1244				S	Sg	04 41 01.8	+0.8
T1244				AML	AML		
	comp=E,216μm,1.4s						
T1244				AML	AML		
	comp=N,250μm,1.5s						
T1244				AML	AML		
	comp=N,248μm,1.5s						
T1244				AML	AML		
	comp=E,225μm,1.4s						
RM33	**Pellescritta (**	**0.14**	**213**	P	Pg	04 40 59.5	+0.5
RM33				S	Sg	04 41 02.2	+0.9
RM33				AML	AML		
	comp=N,222μm,1.2s						
RM33				AML	AML		
	comp=E,168μm,1.4s						
LNSS	**Leonessa**	**0.21**	**263**	P	Pg	04 41 00.6	+0.5
LNSS				AML	AML		
	comp=E,74μm,0.7s						
LNSS				AML	AML		
	comp=N,87μm,0.8s						
LNSS				AML	AML		
	comp=E,74μm,0.7s						
LNSS				AML	AML		
	comp=N,88μm,0.8s						
TERO	**Teramo**	**0.21**	**92**	P	Pg	04 41 00.8	+0.7
TERO				S	Sg	04 41 04.4	+1.3
TERO				AML	AML		
	comp=N,230μm,0.8s						
TERO				AML	AML		
	comp=E,304μm,0.3s						
T1241	**Roccafluvione,**	**0.24**	**20**	P	Pg	04 41 01.4	+0.8
T1241				S	Sg	04 41 05.5	+1.5
T1241				AML	AML		
	comp=E,80μm,0.4s						
T1241				AML	AML		
	comp=N,63μm,1.5s						
NRCA	**Norcia**	**0.25**	**324**	S	Sg	04 41 02.0	-2.4
GIGS	**Gran Sasso**	**0.26**	**134**	P	Pg	04 41 01.7	+0.7
MMO1	**Montemonaco**	**0.27**	**1**	P	Pg	04 41 02.0	+0.7
MMO1				S	Sb	04 41 06.3	-1.3
MMO1				AML	AML		
	comp=E,72μm,0.7s						
MMO1				AML	AML		
	comp=N,89μm,0.9s						
MC2	**Monte Cornacci**	**0.30**	**342**	S	Sb	04 41 08.0	-0.5
T1215	**Vallo di Nera,**	**0.37**	**298**	P	Pg	04 41 03.5	+0.3

*SNET **01** 04:45:39.9±1.1, 13°.66N×90°.67W, h65km±20km, ML3.1*
*GCG **01** 04:45:56.7±0.7, 13°.67N×90°.66W, h52km±20km, MD3.3*
ISC 01 04:45:38.5±2.8, 13°.4N±0°.1×90°.8W±0°.1, h50km, n10, σ1♀23/15, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.99**	**9**	*e*P	**Sn**	**04 46 11.6**	**+2.2**
FUG	**Fuego 3**	**1.03**	**356**	*e*P	**Sn**	**04 46 12.2**	**+1.8**
NUBE	**Las Nubes**	**1.07**	**63**	⇓*i*P	**Pn**	**04 45 57.1**	**-0.3**
NUBE				*e*S	**Sn**	**04 46 10.7**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.13**	**57**	⇓*i*P	**Pn**	**04 45 57.2**	**-0.9**
SLOZ				*e*S	**Sn**	**04 46 11.1**	**-1.4**
SLOZ				IAML		04 46 17.2	
	comp=Z,280nm,0.5s						
CEVE	**Cerro Verde**	**1.18**	**69**	*e*P	**Pn**	**04 45 59.2**	**+0.2**
CEVE				*e*S	**Sn**	**04 46 14.3**	**+0.2**
CEVE				IAML		04 46 15.6	
	comp=Z,1μm,0.4s						
NBG	**Las Nubes**	**1.24**	**19**	*e*P	**Sn**	**04 46 14.6**	**-0.8**
JAYA	**Jayaque - finc**	**1.30**	**79**	*e*P	**Pn**	**04 46 01.0**	**+0.5**
JAYA				*e*S	**Sn**	**04 46 16.1**	**-0.8**
JAYA				IAML		04 46 18.7	
	comp=Z,445nm,0.2s						
STG3	**Santiaguito 3,**	**1.51**	**329**	*e*P	**Sn**	**04 46 20.2**	**-1.8**
PAVA	**Las Pavas**	**1.80**	**80**	*e*P	**Pn**	**04 46 07.0**	**-0.3**
COEG	**Centro de Oper**	**1.84**	**83**	*e*P	**Pn**	**04 46 08.8**	**+1.0**
COEG				*e*S	**Sn**	**04 46 30.9**	**+0.8**
COEG				IAML		04 46 35.5	
	comp=Z,53nm,0.2s						

*IDC **01** 05:13:42.0±1.9, 3°.59S×131°.37E, h0km, mb3.4/3, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=98.8km s-min=22.6km az=83.0*
ISC 01 05:13:43.1±1.0, 3°.76S±0°.07×131°.4E±0°.3, h29km, n6, σ4♀02/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.87**	**358**	Pn	**Pn**	**05 14 26.7**	**-0.2**
	8.5nm,0.3s,baz=10,slow=3.7,SNR=42						
SIJI				Sn	**Sn**	**05 14 55.9**	**-4.7**
	24nm,0.3s,baz=248,slow=23,SNR=16						
	21nm,0.3s						
FITZ	**Fitzroy Crossi**	**15.32**	**201**	Pn	**P**	**05 17 21.3**	**-0.6**
	0.2nm,0.3s,baz=31,slow=12,SNR=8.7						
FITZ				Sn	**Sn**	**05 20 02.5**	**-3.8**
	0.2nm,0.3s,baz=198,slow=20,SNR=1.6						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**16.34**	**170**	Pn	**P**	**05 17 34.2**	**+0.9**
	0.1nm,0.3s,baz=351,slow=13,SNR=2.1						
WRA				Sn	**Sn**	**05 20 25.6**	**-5.7**
	0.3nm,0.3s,baz=351,slow=24,SNR=5.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**19.94**	**173**	P	**Pn**	**05 18 18.2**	**+3.5**
	0.3nm,0.3s,baz=351,slow=9.7,SNR=7.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**66.31**	**325**	P	**P**	**05 24 30.6**	**+1.6**
	0.3nm,0.6s,baz=107,slow=5.0,SNR=3.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**70.51**	**327**	P	**P**	**05 24 58.6**	**+3.5**
	0.5nm,0.6s,baz=121,slow=5.9,SNR=4.2						
	0.5nm,0.6s						

IDC 01 05:23:28.7±20.0, 22°.39N×44°.60W, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/7, Error ellipse: s-maj=504.6km s-min=95.6km az=152.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.66**	**262**	LR	LR	05 34 13.8	
	comp=Z,54nm,21.8s,baz=89,slow=31						
SADO	**Sadowa**	**36.02**	**317**	LR	LR	05 41 50.5	
	comp=Z,44nm,21.1s,baz=233,slow=31						
TKL	**Tuckaleechee C**	**36.48**	**300**	LR	LR	05 42 27.4	
	comp=Z,33nm,21.1s,baz=114,slow=31						
KOWA	**Kowa**	**39.19**	**94**	LR	LR	05 44 50.8	
	comp=Z,53nm,19.7s,baz=265,slow=33						
DBIC	**Dimbokro**	**41.36**	**106**	LR	LR	05 48 26.6	
	comp=Z,41nm,18.4s,baz=315,slow=36						
H10N2	**ASCENSION HYDR**	**42.10**	**132**	T	T	06 17 17.5	
	baz=316,slow=75						
H10N3	**ASCENSION HYDR**	**42.10**	**132**	T	T	06 17 20.0	
	baz=316,slow=75						
H10N1	**ASCENSION HYDR**	**42.11**	**132**	T	T	06 17 17.5	
	baz=316,slow=75						
TORD	**Torodi Ar. Bea**	**44.88**	**94**	LR	LR	05 48 58.3	
	comp=Z,31nm,21.7s,baz=182,slow=34						
TXAR	**Lajitas Array**	**53.13**	**291**	P	P	05 32 48.5	-0.2
	0.3nm,0.8s,baz=87,slow=9.5,SNR=3.1						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**57.00**	**307**	P	P	05 33 16.7	+0.1
	1.0nm,0.9s,baz=99,slow=10,SNR=6.3						
PDAR				LR	LR	05 56 26.3	
	comp=Z,17nm,18.6s,baz=54,slow=35						
	1.0nm,0.9s						
ILAR	**Eielson Array**	**75.06**	**334**	P	P	05 35 12.1	0.0
	0.8nm,0.8s,baz=76,slow=5.2,SNR=5.0						
	0.8nm,0.8s						

*IDC **01** 05:30:26.7±8.7, 40°.25N×144°.27E, h0km, mb3.5/2, mbtmp3.5/4, ML2.3/2, Error ellipse: s-maj=140.5km s-min=54.0km az=102.0*
*JMA **01** 05:30:32.2±0.2, 40°.3N±0°.6×14°.4E±°, h23km, MV3.2/26, FAR E OFF SANRIKU*
ISC 01 05:30:30.9±1.5, 40°.27N±0°.07×143°.86E±0°.09, h16km, n23, σ1♀47/29, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.56**	**259**	P	**Pn**	**05 30 57.2**	**-0.8**
JTH				*e*S	**Sn**	**05 31 15.2**	**-2.7**
JKEN	**Kujiedanarisaw**	**1.65**	**269**	P	**Pn**	**05 30 58.3**	**-0.8**
JKEN				*e*S	**Sn**	**05 31 17.2**	**-2.7**
MIYJ	**Miyakonagasawa**	**1.71**	**247**	P	**Pn**	**05 30 59.8**	**-0.3**
MIYJ				*e*S	**Sn**	**05 31 19.4**	**-2.2**
JANG	**Nango**	**1.79**	**274**	P	**Pn**	**05 31 00.5**	**-0.7**
JANG				*e*S	**Sn**	**05 31 21.2**	**-2.4**
JEM	**Erimo**	**1.83**	**343**	*e*P	**Pn**	**05 31 01.8**	**+0.2**
JOM	**Ohasama**	**2.13**	**249**	P	**Pn**	**05 31 06.2**	**+0.5**
JOM				*e*S	**Sn**	**05 31 31.4**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.18**	**338**	P	**Pn**	**05 31 07.2**	**+0.7**
JNBK				*e*S	**Sn**	**05 31 33.3**	**+0.2**
JCH	**Churui**	**2.38**	**351**	P	**Pn**	**05 31 09.3**	**+0.2**
JCH				S	**Sn**	**05 31 37.0**	**-0.9**
JMK	**Ichinoseki**	**2.42**	**238**	P	**Pn**	**05 31 10.3**	**+0.5**
JAK	**Akkeshi**	**2.80**	**13**	P	**Pn**	**05 31 15.8**	**+0.8**
JAK				*e*S	**Sn**	**05 31 47.8**	**-0.6**
JYK	**Kaneyama**	**3.02**	**245**	P	**Pn**	**05 31 19.0**	**+1.0**
JYK				*e*S	**Sn**	**05 31 54.3**	**+0.4**
JAR	**Ashorobuto**	**3.03**	**359**	P	**Pn**	**05 31 18.2**	**0.0**
JAR				S	**Sn**	**05 31 51.8**	**-2.3**
NEM2	**Nemuro 2**	**3.40**	**24**	P	**Pn**	**05 31 23.6**	**+0.4**
NEM2				*e*S	**Sn**	**05 32 01.0**	**-2.2**
MJAR	**Matsushiro Arr**	**5.79**	**232**	Pn	**Pn**	**05 31 57.0**	**+0.9**
	0.1nm,0.3s,baz=38,slow=11,SNR=6.2						
	1.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.64**	**298**	Pn	**Pn**	**05 32 50.6**	**+1.7**
	0.2nm,0.3s,baz=108,slow=14,SNR=4.7						
USRK				Sn	**Sn**	**05 34 39.8**	**+3.1**
	0.1nm,0.3s,baz=119,slow=24,SNR=2.1						
	5.0nm,0.9s						
SONM	**Songino Array**	**27.75**	**298**	P	**P**	**05 36 19.4**	**+0.6**
	0.3nm,0.5s,baz=91,slow=8.6,SNR=2.0						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.43**	**129**	T	T	06 06 15.7	
	baz=321,slow=75,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**28.44**	**129**	T	T	06 06 18.9	
	baz=321,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**28.45**	**129**	T	T	06 06 23.3	
	baz=321,slow=75,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**29.27**	**131**	T	T	06 07 22.9	
	baz=323,slow=76,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**29.28**	**131**	T	T	06 07 22.0	
	baz=323,slow=76,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**29.29**	**131**	T	T	06 07 20.8	
	baz=323,slow=76,SNR=4.5						
MKAR	**Makanchi Array**	**44.10**	**300**	P	**P**	**05 38 38.8**	**+0.6**
	0.4nm,0.7s,baz=76,slow=7.6,SNR=3.9						
	0.4nm,0.7s						

GUC 01 05:31:17.7±0.5, 23°.86S×67°.04W, h244km±7km, ML4.1, 8C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.38**	**311**	*e*P	Pn	05 31 54.2	-0.8
LVC	**Limon Verde**	**2.12**	**306**	*i* P	Pn	05 32 01.1	-0.2
LVC				*i* S	S	05 32 34.0	-1.5
PB15	**IPOC Station P**	**2.33**	**286**	⇑*i*P	Pn	05 32 03.5	+0.5
PB15				*e*S	S	05 32 37.7	-1.0
PB15				IAML		05 32 43.6	
	comp=E,736nm,0.4s						
PB06	**IPOC Station P**	**2.60**	**296**	⇑*i*P	Pn	05 32 06.2	+0.5
PB06				*e*S	S	05 32 42.3	-1.2
PB06				IAML		05 32 46.1	
	comp=N,199nm,0.2s						
GO02	**Mina Guanaco**	**2.66**	**240**	⇑*i*P	Pn	05 32 07.0	+0.5
GO02				*i* S	S	05 32 44.3	-0.6
PB09	**IPOC Station P**	**2.89**	**315**	⇑*i*P	Pn	05 32 09.3	+0.4
PB09				*e*S	S	05 32 48.4	-0.8
PB14	**IPOC Station P**	**3.16**	**255**	⇑*i*P	Pn	05 32 12.7	+0.8
PB14				*e*S	S	05 32 54.1	-0.6
PB04	**IPOC Station P**	**3.24**	**297**	⇑*i*P	Pn	05 32 13.2	+0.5
PB04				*e*S	S	05 32 54.9	-1.3
PB07	**IPOC Station P**	**3.38**	**308**	⇑*i*P	Pn	05 32 14.5	+0.2
PB07				*e*S	S	05 32 56.6	-2.3
PB01	**IPOC Station P**	**3.60**	**321**	*e*P	Pn	05 32 16.7	-0.1
PB01				*i* S	S	05 33 01.0	-2.5
PB02	**IPOC Station P**	**3.66**	**313**	*e*P	Pn	05 32 17.3	-0.1
PB02				*i* S	S	05 33 01.5	-3.1
AC01	**Pan de Azucar**	**3.95**	**234**	*e*P	Pn	05 32 20.6	-0.1
AC01				*e*S	S	05 33 08.9	-1.6
TA01	**Diego Aracena**	**4.38**	**318**	*e*P	Pn	05 32 26.3	+0.5
TA01				*e*S	S	05 33 17.1	-2.8
GO01	**Chusmiza**	**4.63**	**334**	⇑*i*P	Pn	05 32 29.8	+0.5
GO01				*e*S	S	05 33 24.4	-1.8
VCA	**Vinchina**	**4.97**	**192**	*e*P	Pn	05 32 33.9	+0.8
AC05	**El Transito**	**5.74**	**210**	*e*P	Pn	05 32 43.1	+0.5
AC05				*e*S	S	05 33 48.9	-1.5

*IDC **01** 05:40:32.6±8.5, 19°.22N×145°.35E, h258km±87km, mb3.1/5, mbtmp3.8/6, Error ellipse: s-maj=74.4km s-min=17.1km az=99.0*
ISC 01 05:40:26.7±1.3, 19°.3N±0°.1×145°.4E±0°.4, h200km, n6, σ0♀88/6, mb3.4/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.32**	**341**	P	**Pn**	**05 44 28.3**	**-0.1**
	1.1nm,0.4s,baz=188,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**40.43**	**196**	P	**P**	**05 47 45.6**	**-0.1**
	0.4nm,0.3s,baz=6.8,slow=8.6,SNR=8.5						
	0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.88**	**209**	P	**P**	**05 47 58.5**	**+1.0**
	0.7nm,0.4s,baz=34,slow=9.9,SNR=6.7						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**44.11**	**195**	P	**P**	**05 48 14.4**	**-1.0**
	0.4nm,0.6s,baz=16,slow=8.2,SNR=3.0						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**63.28**	**26**	P	**P**	**05 50 34.2**	**+0.4**
	0.1nm,0.4s,baz=258,slow=5.8,SNR=1.7						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**86.24**	**335**	P	**P**	**05 52 45.0**	**-0.4**
	1.8nm,0.9s,baz=64,slow=6.3,SNR=3.6						
	1.8nm,0.9s						

*BJI **01** 06:00:05.2±0.0, 46°.80N×154°.17E, h18km, mb5.0/72, mB5.2/57, Ms4.9/76, Ms7 4.7/73*
*NIED **01** 06:00:07.0, 47°.07N×153°.97E, h30km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-0.14; Mθθ2.12; Mϕϕ-1.98; Mrθ5.68; Mθϕ1.45; Mϕr1.88; Fault plane solution: M₀6.13000×10¹⁶ NP1:φ₈79.00000°, δ6.00000°, λ-82.00000°. NP2:φ₈251.00000°, δ84.00000°, λ-91.00000°.*
*IDC **01** 06:00:06.4±0.4, 46°.80N×153°.74E, h0km, mb4.8/37, mbtmp4.8/43, ML4.0/5, MS4.3/79 Error ellipse: s-maj=11.8km s-min=10.7km az=124.0*
*JMA **01** 06:00:07.0±1.3, 47°.N±6°×15°.4E±°, h30km, MD5.5/16, MV5.7/16, KURILE ISLANDS REGION*
*SKHL **01** 06:00:07.7±0.3, 46°.60N×154°.30E, h39km±9km, mb5.3/9, mbv5.5/6, ms5.0/7, msh5.7/2*
*NEIC **01** 06:00:08.6±1.8, 46°.78N±0°.08×153°.74E±0°.08, h10km±1km, mb5.1/380, Error ellipse: s-maj=14.4km s-min=8.2km az=159.0*
*MOS **01** 06:00:10.8±1.3, 46°.73N×153°.72E, h43km, mb5.2/39, MS4.7/22, Error ellipse: s-maj=6.0km s-min=4.3km az=109.0*
*GCMT **01** 06:00:12.6±0.2, 46°.86N±0°.01×154°.02E±0°.02, h18km, MW5.0/120, Moment Tensor Solution. s76,c103; s120,c197; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.24±.14; Mθθ-1.65±.10; Mϕϕ-2.59±.09; Mrθ-0.39±.25; Mθϕ-2.36±.06; Mϕr1.76±.21; Best double couple: M₀4.74400×10¹⁶ NP1:φ₈23.00000°, δ55.00000°, λ69.00000°. NP2:φ₈236.00000°, δ40.00000°, λ117.00000°. Principal axes: T 4.8160, Plg72.0000°, Azm240.0000°; N -0.1430, Plg17.0000°, Azm35.0000°; P -4.6730, Plg7.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 06:00:08.1±0.5, 46°.67N±0°.04×153°.95E±0°.03, h14km±2km, h14km:pP-P, n1126, σ1♀32/988, mb5.1/301, MS4.5/123, 92C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.27**	**19**	*e*PN	**Pn**	**06 01 13.4**	**+0.8**
SKR				pmax	pmax		
	comp=Z,182nm,0.6s						
SKR	**Severo-Kuril's**	**4.27**	**19**	*e*P	**Pn**	**06 01 11.9**	**-0.7**
SKR				AMB	AMB	06 01 15.6	
	comp=Z,180nm,0.6s						
SKR				*e*S	**Sn**	**06 01 59.2**	**-3.0**
SKR				A	A	06 02 12.5	
	comp=Z,2μm,5.7s						
SKR				A	A	06 02 12.5	
	comp=Z,4μm,5.7s						
SKR				A	A	06 02 16.2	
	comp=Z,920nm,0.6s						
SKR				A	A	06 02 16.2	
	comp=Z,570nm,0.6s						
SKR				AMS	AMS	06 04 02.5	
	comp=Z,4μm,12.0s						
SKR				AMS	AMS	06 04 02.5	
	comp=Z,6μm,12.0s						
SKR				AMS	AMS	06 04 02.5	
	comp=Z,4μm,12.0s						
KUR	**Kuril'sk**	**4.48**	**253**	⇓*i*PN	**Pn**	**06 01 17.8**	**+2.2**
KUR				*e*S	**Sn**	**06 02 09.9**	**+2.5**
KUR				pmax	pmax		
	comp=Z,995nm,0.6s						
KUR				pmax	pmax		
	comp=E,286nm,0.3s						
KUR				pmax	pmax		
	comp=N,277nm,0.4s						
KUR				smax	smax		
	comp=N,12μm,2.1s						
KUR				smax	smax		
	comp=E,8μm,2.0s						
KUR				smax	smax		
	comp=E,3μm,0.6s						
KUR				smax	smax		
	comp=N,975nm,0.4s						
KUR	**Kuril'sk**	**4.48**	**253**	*i* P	**Pn**	**06 01 17.1**	**+1.5**
KUR				AMB	AMB	06 01 25.6	
	comp=N,1μm,0.6s						
KUR				*e*S	**Sn**	**06 02 08.2**	**+0.8**
KUR				A	A	06 02 18.4	
	comp=N,12μm,2.1s						
KUR				A	A	06 02 18.4	
	comp=N,8μm,2.1s						
KUR				A	A	06 02 32.0	
	comp=N,980nm,0.6s						
KUR				A	A	06 02 32.0	
	comp=N,3μm,0.6s						
KUR				AMS	AMS	06 02 52.2	
	comp=N,13μm,14.0s						
KUR				AMS	AMS	06 02 52.2	
	comp=N,6μm,14.0s						
PAU	**Pauzhetka**	**5.16**	**20**	*e*P	**Pn**	**06 01 24.5**	**-0.4**
PAU				AMB	AMB	06 01 37.8	
	comp=N,200nm,0.5s						
PAU				*e*S	**Sn**	**06 02 21.9**	**-2.2**
PAU				A	A	06 02 37.6	
	comp=N,720nm,0.7s						
PAU				A	A	06 02 37.6	
	comp=N,560nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.28**	**248**	*i* PN	**Pn**	**06 01 40.4**	**+0.1**
Y

comp=E,8μm,13.0s
YUK AMS AMS 06 04 17.0
comp=E,6μm,13.0s
RUSJ Misakicho 6.64 250⇑*i*PN **Pn** **06 01 46.7 +1.4**
RUSJ *e*S **Sn** **06 03 01.6 +0.8**
NEM2 Nemuro 2 6.69 243 *e*P **Pn** **06 01 44.8 -1.1**
NEM2 *e*S **Sn** **06 02 57.7 -4.2**
NEM2 Nemuro 2 6.69 243 A A 06 01 44.8
comp=E,4.0nm,5.5s,comp=E,4.0nm,1.5s
NMR Nemuro--Hokkai 6.70 243⇑*i*PN **Pn** **06 01 44.7 -1.3**
NMR Nemuro--Hokkai 6.70 243 *i*P **Pn** **06 01 44.7 -1.3**
NMR *e*S **Sn** **06 02 58.8 -3.2**
JRA Rausu 6.80 249 *e*P **Pn** **06 01 48.7 +1.3**
JRA Rausu 6.80 249 A A 06 01 48.7
comp=E,7.0nm,2.3s,comp=E,6.0nm,1.6s
PEA0B Petropavlovsk- 6.88 19 Pn **Pn** **06 01 48.5 -0.1**
PEA0B Petropavlovsk- 6.88 19⇑*e*PN **Pn** **06 01 48.5 -0.1**
PETK Petropavlovsk- 6.88 19 Pn **Pn** **06 01 48.6 0.0**
comp=E,2.0nm,0.3s,baz=185,slow=15,SNR=23
PETK Sn **Sn** **06 03 08.8 +2.1**
baz=90,slow=38
comp=E,14nm,0.6s
JNSB Nemuroshibetsu 6.95 249 A A 06 01 48.0
comp=E,9.0nm,1.4s,comp=E,11nm,3.5s
PET Petropavlovsk 7.05 24 *e*PN **Pn** **06 01 50.4 -0.4**
PET Petropavlovsk 7.05 24 *e*PN **Pn** **06 01 53.4 +2.6**
PET pmax pmax
comp=Z,164nm,0.8s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,3μm,14.0s
PET Petropavlovsk 7.05 24 *e*P **Pn** **06 01 49.9 -0.9**
JKHN Kushirohamanak 7.20 243 A A 06 01 51.9
comp=Z,8.0nm,2.0s,comp=Z,8.0nm,2.4s
JNK Nakash 7.22 248 *e*P **Pn** **06 01 53.7 +0.5**
JNK Nakash 7.22 248 A A 06 01 53.7
comp=Z,4.0nm,1.8s,comp=Z,4.0nm,1.6s
JAK Akkeshi 7.53 244 *e*P **Pn** **06 01 56.5 -1.0**
JAK *e*S **Sn** **06 03 18.5 -4.1**
JAK Akkeshi 7.53 244 A A 06 01 56.5
comp=Z,6.0nm,5.6s,comp=Z,6.0nm,1.7s
JTKR Abashiri--Toko 7.57 253 *e*P **Pn** **06 01 59.8 +1.7**
YSS Yuzh-Sakhalins 7.69 276 Pn **Pn** **06 01 58.9 -0.7**
YSS Yuzh-Sakhalins 7.69 276⇑*e*PN **Pn** **06 02 02.8 +3.2**
YSS *e*S **Sn** **06 03 29.5 +3.1**
YSS pmax pmax
comp=Z,700nm,4.7s
YSS pmax pmax
comp=Z,140nm,1.0s
YSS smax smax
comp=N,110μm,1.0s
YSS MLR MLR
comp=Z,6μm,16.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=E,4μm,16.0s
YSS Yuzh-Sakhalins 7.69 276 *e*P **Pn** **06 02 02.8 +3.2**
YSS AMB AMB 06 02 04.6
comp=E,700nm,4.7s
YSS AMB AMB 06 02 06.0
comp=E,10.0nm,0.6s
YSS *e*S **Sn** **06 03 25.3 -1.1**
YSS AMS AMS 06 04 54.0
comp=E,2μm,14.0s
YSS AMS AMS 06 04 54.0
comp=E,4μm,14.0s
YSS AMS AMS 06 04 54.0
comp=E,6μm,14.0s
JMP Maruseppu 7.92 254 A A 06 02 00.7
comp=E,3.0nm,8.9s
JAR Ashorobuto 7.96 249 *e*P **Pn** **06 02 04.4 +0.9**
JAR Ashorobuto 7.96 249 A A 06 02 04.4
comp=E,3.0nm,1.9s,comp=E,3.0nm,0.9s
JOB Onbets 8.12 246 *e*P **Pn** **06 02 05.5 0.0**
JOB *e*S **Sn** **06 03 32.6 -4.4**
JOB Onbets 8.12 246 A A 06 02 05.5
comp=E,6.0nm,2.4s,comp=E,6.0nm,1.5s
UGL Uglegorsk 8.35 291 *e*PN **Pn** **06 02 12.8 +4.2**
UGL pmax pmax
comp=Z,180nm,1.0s
UGL pmax pmax
comp=Z,2μm,3.4s
UGL MLR MLR
comp=E,6μm,14.0s
UGL MLR MLR
comp=N,7μm,16.0s
UGL MLR MLR
comp=Z,6μm,16.0s
UGL Uglegorsk 8.35 291 *e*P **Pn** **06 02 10.6 +2.0**
UGL AMB AMB 06 02 14.0
comp=Z,180nm,1.0s
UGL AMB AMB 06 02 18.1
comp=Z,2μm,3.4s
UGL AMS AMS 06 05 22.0
comp=Z,7μm,16.0s
UGL AMS AMS 06 05 22.0
comp=Z,6μm,16.0s
UGL AMS AMS 06 05 22.0
comp=Z,6μm,16.0s
JKK2 Kamakawa 2 8.38 255 *e*P **Pn** **06 02 11.3 +2.1**
TYV Tymovskoe 8.56 303 *e*PN **Pn** **06 02 14.7 +3.2**
TYV *e*S **Sn** **06 03 49.5 +1.7**
TYV pmax pmax
comp=Z,83nm,0.8s
TYV pmax pmax
comp=Z,400nm,2.4s
TYV smax smax
comp=N,57nm,1.1s
TYV smax smax
comp=E,52nm,1.1s
TYV MLR MLR
comp=E,5μm,16.0s
TYV MLR MLR
comp=Z,5μm,16.0s
TYV Tymovskoe 8.56 303 *e*P **Pn** **06 02 14.7 +3.2**
TYV AMB AMB 06 02 15.4
comp=Z,80nm,0.8s
TYV AMB AMB 06 02 16.8
comp=Z,400nm,2.4s
TYV *e*S **Sn** **06 03 49.0 +1.2**
TYV A A 06 03 50.9
comp=Z,60nm,1.1s
TYV A A 06 03 50.9
comp=Z,50nm,1.1s
TYV AMS AMS 06 05 42.0
comp=Z,4μm,16.0s
TYV AMS AMS 06 05 42.0
comp=Z,5μm,16.0s
TYV AMS AMS 06 05 42.0
comp=Z,5μm,16.0s
JCH Churui 8.57 246 *e*P **Pn** **06 02 11.2 -0.5**
JCH Churui 8.57 246 A A 06 02 11.2
comp=Z,3.0nm,1.6s,comp=Z,5.0nm,1.7s
JTHR Tokachihiroo 8.78 244 A A 06 02 13.0
comp=Z,7.0nm,2.8s,comp=Z,6.0nm,4.8s
JAB Ashibetsu 8.88 253 *e*P **Pn** **06 02 18.4 +2.4**
ERM Erimo 9.02 243 **Pn** **06 02 17.9 0.0**
ERM Erimo 9.02 243 PN **Pn** **06 02 17.9 0.0**
JEM Erimo 9.02 243 A A 06 02 16.3
comp=Z,7.0nm,1.5s,comp=Z,6.0nm,1.4s
JRBN Rebuntou 9.05 267 *e*P **Pn** **06 02 20.3 +2.0**
JNBK Urakawa-nobuka 9.13 245 *e*P **Pn** **06 02 18.2 -1.1**
JNBK Urakawa-nobuka 9.13 245 A A 06 02 18.2
comp=Z,9.0nm,1.4s,comp=Z,7.0nm,1.4s
JSHD Hidakashinhida 9.24 247 A A 06 02 18.9
comp=Z,9.0nm,5.0s,comp=Z,9.0nm,8.3s
JIAM Iburiatsuma 9.48 249 A A 06 02 21.9
comp=Z,6.0nm,5.5s,comp=Z,10.0nm,4.1s
JEW Eniwo 9.68 251 Pn **Pn** **06 02 26.8 -0.2**
OKH Okha 9.87 318 *e*P **Pn** **06 02 30.8 +1.4**
OKH AMB AMB 06 02 35.3
comp=Z,160nm,0.8s
OKH AMB AMB 06 02 40.3
comp=Z,200nm,4.0s
OKH AMS AMS 06 07 32.3
comp=Z,3μm,14.0s
OKH AMS AMS 06 07 32.3
comp=Z,4μm,14.0s
OKH AMS AMS 06 07 32.3
comp=Z,2μm,14.0s
JANG Nango 11.00 240 *e*P Pn 06 02 41.4 -3.6
JANG *e*S Sn 06 04 36.6 -11
JTM Tenmabayashi 11.01 242 Pn **Pn** **06 02 43.2 -2.0**
JTH Tanohata 11.07 237 *e*P Pn 06 02 42.3 -3.7
JTH *e*S Sn 06 04 38.6 -11
GRNR Gornyy 12.28 296⇑*i*PN **Pn** **06 03 05.9 +3.5**
GRNR *e*S Sn 06 05 28.0 +9.0
GRNR pmax pmax
comp=Z,9.0nm,0.7s
GRNR smax smax
comp=N,3.0nm,0.5s
GRNR MLR MLR
comp=E,3μm,18.0s
GRNR MLR MLR
comp=N,680nm,13.0s
GRNR MLR MLR
comp=Z,3μm,16.0s
GRNR Gornyy 12.28 296 *e*P **Pn** **06 03 05.9 +3.5**
GRNR AMB AMB 06 03 07.7
comp=Z,10.0nm,0.7s
MA2 Magadan 13.07 353 Pn **Pn** **06 03 12.6 -0.5**
MA2 LR LR 06 08 33.0
comp=Z,820nm,18.8s,baz=168,slow=39
MA2 Magadan 13.07 353 Pn **Pn** **06 03 11.2 -1.9**
MA2 Magadan 13.07 353*c i*PN **Pn** **06 03 13.9 +0.7**
MA2 pmax pmax
comp=Z,43nm,1.7s
MA2 Magadan 13.07 353 *e*P **Pn** **06 03 13.9 +0.7**
JMM Marumori 13.11 233 Pn **Pn** **06 03 10.8 -3.0**
SHEM Shemya Is, Ala 14.36 58 Pn **Pn** **06 03 31.8 +1.0**
comp=Z,3.3nm,0.3s,baz=284,slow=18,SNR=2.7
SHEM LR LR 06 09 30.6
comp=Z,535nm,19.2s,baz=255,slow=39
comp=Z,58nm,0.8s
JSD Sado 14.44 239 **Pn** **06 03 30.2 -1.8**
JYT Yasato 14.65 229 Pn **Pn** **06 03 32.4 -2.5**
KLR Kul'dur 15.09 288 Pn **Pn** **06 03 41.6 +0.9**
comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=4.5
KLR LR LR 06 09 37.0
comp=Z,3μm,18.6s,baz=96,slow=38
MJAR Matsushiro Arr 15.50 235 Pn **Pn** **06 03 43.1 -3.1**
comp=Z,0.1nm,0.3s,baz=41,slow=13,SNR=25
MJAR Sn **Sn** **06 06 29.9 -7.8**
comp=Z,0.1nm,0.3s,baz=89,slow=11,SNR=1.2
MAJO Matsushiro 15.50 235 Pn **Pn** **06 03 44.2 -2.0**
MAJO IAmb IAmb 06 03 53.5
comp=Z,121nm,0.8s
MAJO Matsushiro 15.50 235 P **Pn** **06 03 44.2 -2.0**
MAJO pmax pmax
comp=Z,121nm,0.8s
USA0B Ussuriysk Arra 15.61 269 Pn **Pn** **06 03 46.9 -0.7**
USA0B Ussuriysk Arra 15.61 269 P **Pn** **06 03 46.9 -0.7**
USA0B pmax pmax
comp=Z,19nm,1.1s
USRK Ussuriysk Ar. 15.61 269 Pn **Pn** **06 03 46.9 -0.7**
comp=Z,2.3nm,0.3s,baz=73,slow=12,SNR=26
comp=Z,20nm,0.6s
SEY Seymchan 16.32 357 Pn **P** **06 03 57.7 -1.9**
comp=Z,1.0nm,0.3s,baz=184,slow=12,SNR=9.1
comp=Z,5.4nm,0.6s
JGF Kuroka 16.65 234 Pn **Pn** **06 03 59.6 -1.5**
INU Inuyama 17.02 234 Pn **Pn** **06 04 04.3 -1.4**
MDJ Mudanjiang 17.14 272 **Pn** **06 04 06.2 -1.0**
MDJ Mudanjiang 17.14 272 P **Pn** **06 04 07.3 +0.1**
MDJ pmax pmax
comp=Z,920nm,4.5s
MDJ LR LR
comp=Z,2μm,13.0s
MDJ LR LR
comp=Z,2μm,12.3s
MDJ LR LR
comp=Z,3μm,16.4s
JHJ2 Mitsune 17.31 224 P **Pn** **06 04 08.8 -0.5**
JHJ2 IAmb IAmb 06 04 10.9
comp=Z,380nm,1.5s
JHJ Hachijo jima 2 17.32 224 P **Pn** **06 04 10.2 +0.7**
comp=Z,5.4nm,0.3s,baz=3.7,slow=19,SNR=1.9
JHJ LR LR 06 14 05.2
comp=Z,172nm,18.1s,baz=50,slow=48
comp=Z,64nm,0.2s
BNX BinXian 18.37 277 ⇑P **P** **06 04 26.8 +4.5**
BNX pmax pmax
comp=Z,7.0nm,0.6s
BNX pmax pmax
comp=Z,260nm,3.6s
ZEA Zeya 18.42 302 *e*P **Pn** **06 04 20.8 -2.1**
ZEA *e*S Sn 06 07 33.0 -15
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA pmax pmax
comp=E,400nm,5.4s
ZEA pmax pmax
comp=N,100nm,2.3s
ZEA pmax pmax
comp=Z,500nm,8.2s
ZEA smax smax
comp=N,300nm,12.6s
ZEA MLR MLR
comp=E,1μm,18.0s
ZEA MLR MLR
comp=N,600nm,17.0s
ZEA MLR MLR
comp=Z,1μm,17.0s
ZEA Zeya 18.42 302 *e*P **P** **06 04 23.8 +1.0**
ZEA AMB AMB 06 04 28.4
comp=Z,100nm,4.0s
ZEA AMB AMB 06 04 28.4
comp=Z,400nm,4.0s
ZEA AMB AMB 06 04 28.4
comp=Z,30nm,4.0s
ZEA AMB AMB 06 04 38.4
comp=Z,30nm,0.9s
ZEA AMS AMS 06 11 49.0
comp=Z,600nm,15.0s
ZEA AMS AMS 06 11 49.0
comp=Z,1μm,15.0s
ZEA AMS AMS 06 11 49.0
comp=Z,1μm,15.0s
JHS Saijyo 19.54 241 **P** **06 04 35.6 +0.3**
JMN Monobe 19.98 237 **P** **06 04 39.5 -0.6**
CN2 Changchun 20.23 272 *e*P **P** **06 04 39.4 -3.3**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
SEHB SEOHWA 20.66 255 P **P** **06 04 47.5 +0.1**
SEHB IAmb IAmb 06 05 02.7
comp=Z,96nm,1.5s
YAK Yakutsk 20.70 327 P **P** **06 04 46.3 -1.3**
comp=Z,19nm,0.4s,baz=126,slow=1.3,SNR=1.7
YAK S **S** **06 08 36.6 -1.6**
comp=Z,9.2nm,0.4s,baz=279,slow=1.9,SNR=1.6
YAK LR LR 06 13 06.5
comp=Z,874nm,18.1s,baz=94,slow=38
comp=Z,19nm,0.4s
YAK Yakutsk 20.70 327 P **P** **06 04 47.1 -0.5**
YAK IAmb IAmb 06 04 57.2
comp=Z,73nm,0.9s
YAK Yakutsk 20.70 327 *e*P **P** **06 04 47.0 -0.6**
YAK *e* 06 05 04.8
YAK *e*S **S** **06 08 36.6 -1.6**
YAK *e*SS **SnSn** **06 09 00.1 +2.4**
YAK *e*SSS SSS 06 09 11.3
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,36nm,0.7s
YAK pmax pmax
comp=E,29nm,1.0s
YAK smax smax
comp=N,252nm,3.2s
YAK smax smax
comp=E,156nm,2.3s
YAK MLR MLR
comp=Z,1μm,14.0s
YAK MLR MLR
comp=N,520nm,11.0s
YAK MLR MLR
comp=E,409nm,13.0s
YAK Yakutsk 20.70 327 *e*P **P** **06 04 47.0 -0.6**
KSRS Korea Array 21.32 254 P **P** **06 04 55.2 +0.7**
comp=E,60nm,1.1s,baz=59,slow=10.0,SNR=50
KSRS S **S** **06 08 55.0 +4.1**
comp=E,0.7nm,0.5s,baz=199,slow=18,SNR=1.6
KSRS LR LR 06 13 53.1
comp=E,729nm,18.0s,baz=55,slow=39
comp=E,60nm,1.1s
KS19 Wonju Array Si 21.33 254 P **P** **06 04 55.2 +0.5**
KSAR Wonju Array Be 21.36 254 P **P** **06 04 55.0 +0.1**
KSAR Wonju Array Be 21.36 254 *e*P **P** **06 04 55.0 +0.1**
KSAR Wonju Array Be 21.36 254 *e*P **P** **06 04 55.0 +0.1**
KSCHJ Chungju 21.62 252 IAmb IAmb 06 05 00.4
comp=Z,102nm,0.9s
KSBUS Busan 21.86 247 P **P** **06 05 01.0 +0.7**
KSBUS IAmb IAmb 06 05 02.2
comp=Z,117nm,1.1s
INCN Inchon 22.16 255 P **P** **06 05 03.5 -0.1**
INCN IAmb IAmb 06 05 05.5
comp=Z,101nm,1.0s
INCN Inchon 22.16 255 P **P** **06 05 03.5 -0.1**
INCN pmax pmax
comp=Z,101nm,1.0s
SNY Shenyang 22.21 268 ⇑P **P** **06 05 02.8 -1.2**
SNY S **S** **06 09 06.8 -1.3**
SNY pmax pmax
comp=Z,17nm,0.8s
SNY pmax pmax
comp=Z,230nm,3.6s
SNY LR LR
comp=Z,2μm,15.5s
SNY LR LR
comp=Z,2μm,15.5s
SNY LR LR
comp=Z,2μm,17.1s
TJN Taejon 22.30 252 P **P** **06 05 05.7 +0.6**
TJN Taejon 22.30 252*ce*P **P** **06 05 05.6 +0.5**
BILL Bilibino 22.34 12 P **P** **06 05 06.2 +1.0**
BILL Bilibino 22.34 12*c i*P **P** **06 05 06.1 +0.8**
BILL *e* 06 05 16.2
BILL *e*PPP PPP 06 05 36.9
BILL pmax pmax
comp=Z,42nm,1.3s
BILL MLR MLR
comp=Z,966nm,19.0s
BILL Bilibino 22.34 12 *e*P **P** **06 05 06.1 +0.8**
NAWB Namwon 22.85 250 IAmb IAmb 06 05 13.0
comp=Z,89nm,1.0s
JSU Suzuyama 23.58 238 P **P** **06 05 18.4 0.0**
SPIA Saint Paul Isl 24.17 51 P **P** **06 05 24.2 +0.5**
baz=260
NIKH Nikolski High 24.60 61 P **P** **06 05 28.0 +0.3**
baz=271
DL2 Dalian 24.82 264 P **P** **06 05 27.2 -2.6**
DL2 S **S** **06 09 50.8 -1.2**
DL2 pmax pmax
comp=Z,70nm,1.2s
DL2 pmax pmax
comp=Z,480nm,3.8s
DL2 LR LR
comp=Z,540nm,15.3s
DL2 LR LR
comp=Z,700nm,13.1s
DL2 LR LR
comp=Z,870nm,44.1s
GAMB Gambell 25.55 36 P **P** **06 05 36.4 +0.3**
baz=245
BOD Bodaibo 26.48 310 *e*P **P** **06 05 42.1 -2.6**
BOD pmax pmax
comp=Z,40nm,1.2s
XLT XiLinHaoTe 26.62 278⇓*i*P **P** **06 05 45.5 -0.7**
XLT pP sP 06 05 49.1 -0.9
XLT sP pwP 06 05 53.8 -1.3
XLT S **S** **06 10 22.2 +1.6**
XLT sS sS 06 10 27.3 +2.1
XLT pmax pmax
comp=Z,32nm,1.2s
XLT pmax pmax
comp=Z,230nm,4.6s
XLT LR LR
comp=Z,1μm,14.0s
XLT LR LR
comp=Z,1μm,17.2s
TIXI Tiksi 27.71 343 P **P** **06 05 52.4 -3.1**
comp=Z,3.7nm,0.6s,baz=88,slow=23,SNR=6.5
TIXI LR LR 06 17 57.9
comp=Z,853nm,18.4s,baz=178,slow=39
comp=Z,3.7nm,0.6s
TIXI Tiksi 27.71 343 P **P** **06 05 52.5 -3.0**
TIXI Tiksi 27.71 343 P **P** **06 05 52.5 -3.0**
TIXI pmax pmax
comp=Z,15nm,1.4s
TNA Tin City 27.78 33 P **P** **06 05 56.5 +0.3**
baz=246
BJI Beijing 28.05 270 P **P** **06 05 58.7 -0.2**
BJI S **S** **06 10 45.7 +2.7**
BJI pmax pmax
comp=Z,5.0nm,1.1s
BJI pmax pmax
comp=Z,220nm,6.0s
BJI LR LR
comp=Z,180nm,14.6s
BJI LR LR
comp=Z,1μm,15.4s
BJI LR LR
comp=Z,2μm,15.6s
BJT Baijiatuau 28.07 270 P **P** **06 05 58.1 -0.9**
BJT Baijiatuau 28.07 270 P **P** **06 05 58.1 -0.9**
BJT pmax pmax
comp=Z,20nm,1.0s
H11N2 WAKE ISLAND Hy 28.89 154 T T 06 37 54.7
baz=340,slow=75,SNR=655
H11N1 WAKE ISLAND Hy 28.90 154 T T 06 38 01.5
baz=340,slow=75,SNR=421
H11N3 WAKE ISLAND Hy 28.91 154 T T 06 37 56.0
baz=340,slow=75,SNR=338
TIA Tai'an 29.27 262 ⇑P **P** **06 06 10.6 +0.8**
TIA S **S** **06 11 03.0 +0.7**
TIA pmax pmax
comp=Z,14nm,0.8s
TIA pmax pmax
comp=Z,230nm,3.9s
TIA LR LR
comp=Z,470nm,14.3s
TIA LR LR
comp=Z,560nm,16.8s
TIA LR LR
comp=Z,440nm,15.7s
H11S1 WAKE ISLAND Hy 29.99 155 T T 06 39 20.4
baz=341,slow=76,SNR=372
H11S3 WAKE ISLAND Hy 30.00 155 T T 06 38 56.5
baz=341,slow=76,SNR=308
H11S2 WAKE ISLAND Hy 30.01 155 T T 06 39 22.2
baz=341,slow=76,SNR=447
CHNA Chernabura Isl 30.02 57 P **P** **06 06 16.6 +0.4**
baz=274
HNS HongShan 30.31 267 ⇑P **P** **06 06 19.9 +0.9**
HNS pmax pmax
comp=Z,37nm,1.2s
HNS LR LR
comp=Z,360nm,14.3s
HNS LR LR
comp=Z,720nm,13.5s
HNS LR LR
comp=Z,450nm,14.2s
NJ2 Nanjing 30.52 254 ⇑P **P** **06 06 21.7 +0.8**
NJ2 pP **pwP** **06 06 27.4 -3.5**
NJ2 sP **sP** **06 06 29.2 +4.9**
NJ2 pmax pmax
comp=Z,14nm,0.7s
NJ2 LR LR
comp=Z,690nm,15.2s
NJ2 LR LR
comp=Z,690nm,14.2s
NJ2 LR LR
comp=Z,980nm,17.7s
N16K Nishlik Lake 30.54 46 P **P** **06 06 20.7 -0.1**
baz=265
O16K Kokwok River B 30.81 48 P **P** **06 06 23.8 +0.6**
baz=267
P16K Nushagak River 30.84 49 P **P** **06 06 23.6 +0.2**
baz=268
HHC Hu-ho-hao-te 30.87 275 *e*P **P** **06 06 24.6 +0.5**
HHC pP sP 06 06 29.6 +1.6
HHC pmax pmax
comp=Z,64nm,1.4s
HHC pmax pmax

	comp=Z,470nm,6.2s							
HHC					LR	LR		
	comp=Z,1µm,14.0s							
HHC					LR	LR		
	comp=Z,2µm,16.5s							
HHC					LR	LR		
	comp=Z,3µm,15.1s							
O17K	**Koliganek Bris**	**31.33**	**47**		P	**P**	**06 06 28.0**	**+0.4**
	baz=268							
ULN	**Ulaanbaatar**	**31.47**	**290**		P	**P**	**06 06 28.6**	**-0.7**
ULN	**Ulaanbaatar**	**31.47**	**290**	⇑*i*	P	**P**	**06 06 28.6**	**-0.7**
ULN	**Ulaanbaatar**	**31.47**	**290**	*e*	P	**P**	**06 06 28.6**	**-0.7**
R17K	**Ugashik Creek**	**31.68**	**51**		P	**P**	**06 06 31.4**	**+0.6**
	baz=272							
TIY	**Taiyuan**	**31.72**	**269**	*e*	P	**P**	**06 06 32.6**	**+1.1**
TIY					PP	**PnPn**	**06 07 36.5**	**+1.1**
TIY					S	**S**	**06 11 38.8**	**-2.0**
TIY					pmax	pmax		
	comp=Z,290nm,5.4s							
TIY					LR	LR		
	comp=Z,560nm,15.7s							
TIY					LR	LR		
	comp=Z,670nm,15.7s							
TIY					LR	LR		
	comp=Z,790nm,15.3s							
SONM	**Songino Array**	**31.90**	**290**		P	**P**	**06 06 30.9**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=79,slow=7.7,SNR=3.5							
SONM					PcP	**PcP**	**06 09 23.7**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=31,slow=3.4,SNR=3.6							
SONM					LR	LR	06 20 21.7	
	comp=Z,2µm,18.5s,baz=78,slow=38							
	comp=Z,1.3nm,0.5s							
SONM	**Songino Array**	**31.90**	**290**		P	**P**	**06 06 32.4**	**-0.7**
N18K	**Kilae Creek**	**31.97**	**46**		P	**P**	**06 06 35.0**	**+1.6**
N18K					IAmb	IAmb	06 06 49.5	
	comp=Z,26nm,1.3s							
N18K	**Kilae Creek**	**31.97**	**46**		P	**P**	**06 06 34.1**	**+0.7**
	baz=267							
GCSA	**Galena City Sc**	**31.99**	**38**		P	**P**	**06 06 34.3**	**+0.9**
	baz=260							
BTO	**Baotou**	**32.04**	**275**	*e*	P	**P**	**06 06 33.7**	**-0.6**
BTO					S	**S**	**06 11 46.1**	**+0.4**
BTO					LR	LR		
	comp=Z,3µm,14.8s							
BTO					LR	LR		
	comp=Z,2µm,16.0s							
TTA	**Tatalina**	**32.10**	**41**		P	**P**	**06 06 35.7**	**+1.1**
TTA	**Tatalina**	**32.10**	**41**		P	**P**	**06 06 35.7**	**+1.1**
TTA					pmax	pmax		
	comp=Z,11nm,1.0s							
TTA	**Tatalina**	**32.10**	**41**		P	**P**	**06 06 35.1**	**+0.5**
	baz=264,SNR=6.0							
SVW2	**Sparrevohn**	**32.14**	**45**		P	**P**	**06 06 36.4**	**+1.4**
CHIR	**Chirikof Islan**	**32.20**	**55**		P	**P**	**06 06 35.9**	**+0.5**
	baz=275							
P18K	**Big Mountain,**	**32.27**	**48**		P	**P**	**06 06 36.4**	**+0.3**
	baz=270							
O18K	**Koktuh Hills**	**32.28**	**47**		P	**P**	**06 06 36.3**	**+0.1**
	baz=269							
L19K	**White Mountain**	**32.56**	**43**		P	**P**	**06 06 39.3**	**+0.7**
	baz=266							
N19K	**Bonanza Creek**	**32.66**	**45**		P	**P**	**06 06 41.4**	**+1.8**
N19K	**Bonanza Creek**	**32.66**	**45**		P	**P**	**06 06 40.3**	**+0.7**
	baz=268							
M19K	**Big River Lodg**	**32.76**	**43**		P	**P**	**06 06 39.7**	**-0.6**
	baz=267							
SII	**Sitkinak Islan**	**32.94**	**53**		P	**P**	**06 06 43.2**	**+1.3**
	baz=275							
K20K	**Telida**	**33.02**	**41**		P	**P**	**06 06 42.8**	**+0.2**
	baz=265,SNR=6.3							
L20K	**Farewell, AK**	**33.04**	**42**		P	**P**	**06 06 40.9**	**-1.9**
	baz=266							
J20K	**Nowinta River**	**33.08**	**39**		P	**P**	**06 06 44.3**	**+1.3**
J20K	**Nowinta River**	**33.08**	**39**		P	**P**	**06 06 41.8**	**-1.2**
	baz=264,SNR=6.0							
Q19K	**Cape Douglas,**	**33.09**	**49**		P	**P**	**06 06 42.3**	**-0.9**
	baz=272							
ZAK	**Zakamensk**	**33.23**	**295**	*e*	P	**P**	**06 06 43.2**	**-1.5**
ZAK					pmax	pmax		
	comp=Z,18nm,1.3s							
P19K	**Oil Pt**	**33.28**	**47**		P	**P**	**06 06 45.8**	**+0.9**
	baz=271							
M20K	**Styx River**	**33.36**	**43**		P	**P**	**06 06 47.4**	**+1.8**
M20K	**Styx River**	**33.36**	**43**		P	**P**	**06 06 44.3**	**-1.3**
	baz=268							
LYN	**LuoYang**	**33.36**	**264**	⇑	P	**P**	**06 06 45.7**	**-0.1**
LYN					S	**S**	**06 12 02.5**	**-3.7**
LYN					sS	sS	06 12 19.4	+9.1
LYN					pmax	pmax		
	comp=Z,30nm,1.2s							
LYN					pmax	pmax		
	comp=Z,290nm,4.9s							
LYN					LR	LR		
	comp=Z,430nm,16.1s							
LYN					LR	LR		
	comp=Z,600nm,15.5s							
LYN					LR	LR		
	comp=Z,560nm,14.1s							
OHAK	**Old Harbor**	**33.37**	**52**		P	**P**	**06 06 44.2**	**-1.4**
	baz=275							
O20K	**Slope Mountain**	**33.58**	**47**		P	**P**	**06 06 46.3**	**-1.3**
	baz=271							
G21K	**Allakaket**	**33.68**	**35**		P	**P**	**06 06 49.1**	**+0.8**
	baz=261,SNR=7.9							
N20K	**Mount Spurr**	**33.78**	**45**		P	**P**	**06 06 48.3**	**-1.0**
	baz=270							
F21K	**Alatna River**	**33.81**	**34**		P	**P**	**06 06 48.4**	**-1.0**
	baz=260							
A21K	**Barrow**	**33.83**	**26**		P	**P**	**06 06 48.1**	**-1.3**
	baz=250							
H21K	**Melozitna Rive**	**33.83**	**37**		P	**P**	**06 06 50.5**	**+0.9**
H21K	**Melozitna Rive**	**33.83**	**37**		P	**P**	**06 06 49.2**	**-0.4**
	baz=263,SNR=10							
PPLA	**Purkeypile**	**33.84**	**42**		P	**P**	**06 06 51.7**	**+1.9**
PPLA					IAmb	IAmb	06 07 05.5	
	comp=Z,51nm,1.3s							
PPLA	**Purkeypile**	**33.84**	**42**		P	**P**	**06 06 49.7**	**-0.2**
	baz=267							
GUMO	**Guam**	**33.85**	**196**		LR	LR	06 24 58.7	
	comp=Z,91nm,18.0s,baz=344,slow=44							
GUMO	**Guam**	**33.85**	**196**		P	**P**	**06 06 50.7**	**+0.5**
GUMO	**Guam**	**33.85**	**196**		P	**P**	**06 06 50.7**	**+0.5**
GUMO					pmax	pmax		
	comp=Z,231nm,1.6s							
CHUM	**Lake Minchumin**	**33.85**	**40**		P	**P**	**06 06 51.2**	**+1.4**
	baz=266							
CAST	**Castle Rocks**	**33.92**	**41**		P	**P**	**06 06 51.4**	**+1.0**
CAST	**Castle Rocks**	**33.92**	**41**		P	**P**	**06 06 50.3**	**-0.1**
	baz=267							
HOM	**Homer**	**34.09**	**47**		P	**P**	**06 06 49.4**	**-2.5**
	baz=273							
I21K	**Tanana**	**34.12**	**38**		P	**P**	**06 06 53.8**	**+1.7**
I21K	**Tanana**	**34.12**	**38**		P	**P**	**06 06 50.5**	**-1.6**
	baz=264,SNR=5.5							
SKT	**Skwentna**	**34.12**	**43**		P	**P**	**06 06 51.1**	**-1.0**
	baz=269							
F22K	**John River**	**34.36**	**33**		P	**P**	**06 06 53.4**	**-0.8**
	baz=260							
H22K	**Ishtalitna Cre**	**34.45**	**36**		P	**P**	**06 06 54.8**	**-0.1**
	baz=264,SNR=5.6							
KTH	**Kantishna Hill**	**34.45**	**41**		IAmb	IAmb	06 07 10.8	
	comp=Z,46nm,1.1s							
BPAW	**Bear Paw Mtn.**	**34.45**	**40**		P	**P**	**06 06 54.9**	**-0.1**
	baz=267,SNR=8.0							
WHN	**Wuhan**	**34.47**	**256**		P	**P**	**06 06 56.2**	**+0.7**
WHN					S	**S**	**06 12 23.0**	**-0.4**
WHN					LR	LR		
	comp=Z,790nm,11.4s							
WHN					LR	LR		
	comp=Z,840nm,15.3s							
WHN					LR	LR		
	comp=Z,1µm,11.8s							
SUA	**Susitna One**	**34.49**	**44**		IAmb	IAmb	06 07 12.1	
	comp=Z,30nm,1.6s							
SUA	**Susitna One**	**34.49**	**44**		P	**P**	**06 06 55.9**	**+0.4**
	baz=271							
G22K	**Bettles**	**34.53**	**35**		P	**P**	**06 06 54.9**	**-0.7**
	baz=262							
BRSE	**Bradley Lake S**	**34.54**	**47**		P	**P**	**06 06 55.2**	**-0.7**
	baz=273							
E22K	**Anaktuvuk Pass**	**34.61**	**32**		P	**P**	**06 06 55.8**	**-0.5**
	baz=260							
MLY	**Manley**	**34.62**	**38**		P	**P**	**06 06 55.7**	**-0.8**
	baz=266,SNR=6.2							
CUT	**Chulitna**	**34.71**	**43**		P	**P**	**06 06 57.8**	**+0.6**
	baz=270							
TRF	**Thorofare Moun**	**34.73**	**41**		P	**P**	**06 06 58.3**	**+0.7**
	baz=268							
RC01	**Rabbit Creek A**	**34.98**	**45**		P	**P**	**06 07 00.1**	**+0.5**
	baz=272							
O22K	**Cooper Landing**	**35.01**	**46**		P	**P**	**06 07 00.4**	**+0.6**
	baz=273							
YULB	**Yu-li**	**35.02**	**240**		P	**P**	**06 07 00.4**	**+0.1**
YULB					IAmb	IAmb	06 07 32.9	
	comp=Z,38nm,1.3s							
COLD	**Coldfoot**	**35.08**	**34**		P	**P**	**06 07 00.5**	**+0.1**
	baz=263							
G23K	**Bananza Creek**	**35.08**	**35**		P	**P**	**06 06 59.7**	**-0.8**
	baz=264							
D23K	**Nanushuk River**	**35.17**	**31**		P	**P**	**06 07 00.9**	**-0.2**
	baz=260							
SEW	**Seward**	**35.17**	**47**		P	**P**	**06 07 01.5**	**+0.4**
	baz=274							
H23K	**Yukon River**	**35.19**	**37**		P	**P**	**06 07 01.2**	**-0.2**
	baz=266,SNR=5.0							
PMR	**Palmer**	**35.26**	**44**		P	**P**	**06 07 03.1**	**+1.2**
	baz=272							
MCK	**McKinley**	**35.34**	**40**		P	**P**	**06 07 03.9**	**+1.2**
MCK					IAmb	IAmb	06 07 17.1	
	comp=Z,66nm,1.9s							
MCK	**McKinley**	**35.34**	**40**		P	**P**	**06 07 03.9**	**+1.2**
MCK					pmax	pmax		
	comp=Z,66nm,1.9s							
MCK	**McKinley**	**35.34**	**40**		P	**P**	**06 07 02.2**	**-0.5**
	baz=269							
GHO	**Glory Hole Cre**	**35.35**	**44**		IAmb	IAmb	06 07 17.1	
	comp=Z,40nm,1.6s							
C23K	**Itkillik River**	**35.36**	**30**		P	**P**	**06 07 02.5**	**-0.2**
	baz=259							
RND	**Reindeer**	**35.37**	**41**		IAmb	IAmb	06 07 17.7	
	comp=Z,22nm,1.0s							
WAT1	**Susitna Watana**	**35.51**	**42**		P	**P**	**06 07 03.7**	**-0.5**
	baz=271							
TOLK	**Toolik Lake Re**	**35.51**	**32**		P	**P**	**06 07 04.2**	**+0.1**
	baz=262,SNR=7.0							
QZH	**Quanzhou**	**35.52**	**245**	⇑*i*	P	**P**	**06 07 05.4**	**+0.9**
QZH					S	**S**	**06 12 43.9**	**+4.3**
QZH					LR	LR		
	comp=Z,350nm,17.0s							
QZH					LR	LR		
	comp=Z,330nm,17.5s							
TWG	**Pinlang**	**35.59**	**239**		P	**P**	**06 07 05.5**	**+0.4**
KNK	**Knik Glacier**	**35.59**	**44**		IAmb	IAmb	06 07 19.0	
	comp=Z,63nm,1.5s							
KNK	**Knik Glacier**	**35.59**	**44**		P	**P**	**06 07 03.5**	**-1.4**
	baz=273							
SML	**Sawmill**	**35.63**	**44**		IAmb	IAmb	06 07 20.2	
	comp=Z,41nm,1.0s							
SML	**Sawmill**	**35.63**	**44**		P	**P**	**06 07 05.4**	**+0.1**
	baz=272,SNR=15							
PWL	**Port Wells**	**35.67**	**45**		P	**P**	**06 07 05.5**	**-0.1**
	baz=274							
E24K	**Your Creek**	**35.83**	**33**		P	**P**	**06 07 07.6**	**+0.6**
	baz=263,SNR=11							
TCOL	**CIGO, UAF Yank**	**35.84**	**38**		IAmb	IAmb	06 07 21.9	
	comp=Z,21nm,0.8s							
TCOL	**CIGO, UAF Yank**	**35.84**	**38**		P	**P**	**06 07 06.2**	**-0.7**
	baz=268							
COLA	**College**	**35.84**	**38**		P	**P**	**06 07 08.0**	**+1.1**
COLA					IAmb	IAmb	06 07 21.9	
	comp=Z,20nm,0.8s							
COLA	**College**	**35.84**	**38**	*c i*	P	**P**	**06 07 07.1**	**+0.2**
COLA	**College**	**35.84**	**38**		P	**P**	**06 07 06.2**	**-0.8**
	baz=268							
D24K	**Happy Valley**	**35.86**	**31**		P	**P**	**06 07 07.1**	**+0.1**
	baz=262							
H24K	**Noodor Dome**	**35.87**	**37**		P	**P**	**06 07 08.0**	**+0.7**
	baz=267,SNR=7.6							
WAT6	**Susitna Watana**	**35.89**	**42**		P	**P**	**06 07 07.2**	**-0.3**
	baz=272							
M23K	**Glacier View**	**35.92**	**44**		P	**P**	**06 07 07.8**	**+0.2**
	baz=273							
C24K	**Franklin Bluff**	**35.99**	**30**		P	**P**	**06 07 07.6**	**-0.5**
	baz=261							
F24K	**Squaw Lake**	**36.00**	**34**		P	**P**	**06 07 08.7**	**+0.4**
	baz=265,SNR=9.1							
POKR	**Poker Plat Res**	**36.03**	**38**		IAmb	IAmb	06 07 23.9	
	comp=Z,24nm,0.8s							
POKR	**Poker Plat Res**	**36.03**	**38**		P	**P**	**06 07 08.4**	**-0.2**
	baz=268							
DHY	**Denali Highway**	**36.04**	**41**		IAmb	IAmb	06 07 23.1	
	comp=Z,35nm,1.4s							
DHY	**Denali Highway**	**36.04**	**41**		P	**P**	**06 07 08.8**	**0.0**
	baz=271,SNR=8.1							
XAN	**Xi'an**	**36.08**	**266**		P	**P**	**06 07 09.8**	**+0.4**
XAN					pP	sP	06 07 14.5	+1.7
XAN					S	**S**	**06 12 49.4**	**+1.1**
XAN					SS	**SnSn**	**06 15 17.3**	**+4.1**
XAN					pmax	pmax		
	comp=Z,57nm,1.3s							
XAN					pmax	pmax		
	comp=Z,290nm,6.0s							
XAN					LR	LR		
	comp=Z,1µm,16.2s							
XAN					LR	LR		
	comp=Z,830nm,14.4s							
XAN					LR	LR		
	comp=Z,1µm,15.7s							
G24K	**Hadweenzic Riv**	**36.09**	**35**		P	**P**	**06 07 08.9**	**-0.2**
	baz=266,SNR=14							
SCM	**Sheep Creek Mo**	**36.11**	**43**		IAmb	IAmb	06 07 51.4	
	comp=Z,41nm,1.5s							
SCM	**Sheep Creek Mo**	**36.11**	**43**		P	**P**	**06 07 07.6**	**-1.8**
	baz=273							
HDA	**Harding Lake**	**36.22**	**39**		P	**P**	**06 07 10.4**	**+0.1**
	baz=270,SNR=5.4							
ILAR	**Eielson Array**	**36.25**	**38**		P	**P**	**06 07 10.7**	**+0.2**
	comp=Z,4.9nm,1.1s,baz=256,slow=7.1,SNR=24							
ILAR					LR	LR	06 24 35.4	
	comp=Z,223nm,18.3s,baz=293,slow=40							
	comp=Z,4.9nm,1.1s							
GLI	**Glacier Island**	**36.28**	**45**		P	**P**	**06 07 10.8**	**0.0**
	baz=275							
M24K	**Tolsona, Glenn**	**36.64**	**43**		P	**P**	**06 07 13.6**	**-0.2**
	baz=274							
H25K	**Birch Creek**	**36.73**	**36**		P	**P**	**06 07 14.9**	**+0.4**
	baz=268							
K24K	**Donnelly Dome**	**36.74**	**40**		P	**P**	**06 07 13.9**	**-0.8**
	baz=272							
D25K	**Kavik River**	**36.74**	**31**		P	**P**	**06 07 14.7**	**0.0**
	baz=264,SNR=11							
KLU	**Klutina**	**36.80**	**44**		P	**P**	**06 07 15.0**	**-0.3**
	baz=275,SNR=5.3							
PRP	**Porcupine Dome**	**36.84**	**37**		P	**P**	**06 07 15.8**	**+0.2**
	baz=270,SNR=7.0							
F25K	**Christian Rive**	**36.86**	**34**		P	**P**	**06 07 15.7**	**0.0**
	baz=267							
DIV	**Divide**	**36.90**	**45**		IAmb	IAmb	06 07 30.6	
	comp=Z,51nm,1.6s							
J25K	**Salcha River,**	**36.91**	**39**		P	**P**	**06 07 16.2**	**+0.1**
	baz=271							
PAX	**Paxson**	**36.91**	**41**		P	**P**	**06 07 15.9**	**-0.3**
	baz=273,SNR=5.1							
E25K	**Arctic Village**	**36.93**	**33**		P	**P**	**06 07 16.2**	**0.0**
	baz=266							
CNSH	**ChangSha**	**36.93**	**255**	⇑	P	**P**	**06 07 17.4**	**+0.8**
CNSH					S	**S**	**06 13 03.8**	**+2.6**
CNSH					pmax	pmax		
	comp=Z,74nm,1.3s							
CNSH					LR	LR		
	comp=Z,560nm,19.0s							
CNSH					LR	LR		
	comp=Z,640nm,18.4s							
CNSH					LR	LR		
	comp=Z,750nm,16.1s							
EYAK	**Cordova Ski Ar**	**36.97**	**46**		P	**P**	**06 07 18.0**	**+1.4**
	baz=276							
FYU	**Fort Yukon**	**36.98**	**35**		IAmb	IAmb	06 07 20.1	
	comp=Z,26nm,1.0s							
HARP	**HAARP**	**37.09**	**42**		P	**P**	**06 07 17.5**	**-0.2**
	baz=274							
RIDG	**Independent Ri**	**37.16**	**40**		P	**P**	**06 07 18.8**	**+0.5**
	baz=273,SNR=7.8							
C26K	**Camden Bay**	**37.32**	**30**		P	**P**	**06 07 19.8**	**+0.4**
	baz=264							
N25K	**Chitina, Valde**	**37.42**	**44**		P	**P**	**06 07 20.6**	**0.0**
	baz=276							
F26K	**Sheenjek River**	**37.44**	**34**		P	**P**	**06 07 21.2**	**+0.6**
	baz=268							
BMRM	**Bremner River**	**37.48**	**45**		P	**P**	**06 07 23.1**	**+2.0**
	baz=277,SNR=5.2							
RAGM	**Ragged Mountai**	**37.52**	**46**		IAmb	IAmb	06 07 36.5	
	comp=Z,45nm,1.4s							
SCRK	**Sand Creek**	**37.53**	**40**		P	**P**	**06 07 21.1**	**-0.4**
	baz=273,SNR=7.4							
G26K	**Porcupine Rive**	**37.56**	**35**		P	**P**	**06 07 21.9**	**+0.4**
	baz=269,SNR=11							
J26L	**Joseph Creek**	**37.69**	**39**		P	**P**	**06 07 23.1**	**+0.3**
	baz=273							
KAIM	**Kayak Island**	**37.70**	**46**		P	**P**	**06 07 23.0**	**+0.1**
	baz=278							
C27K	**Jago River**	**37.71**	**30**		P	**P**	**06 07 23.4**	**+0.6**
	baz=266							
M26K	**Nabesna, AK**	**38.09**	**42**		IAmb	IAmb	06 07 41.9	
	comp=Z,36nm,1.4s							
M26K	**Nabesna, AK**	**38.09**	**42**		P	**P**	**06 07 26.2**	**0.0**
	baz=276,SNR=9.5							
K27K	**Chicken**	**38.37**	**40**		P	**P**	**06 07 28.4**	**+0.1**
	baz=275							
G27K	**Doyon Strip**	**38.40**	**35**		P	**P**	**06 07 29.6**	**+0.9**
	baz=272							
WAX	**Waxell Ridge**	**38.40**	**45**		IAmb	IAmb	06 07 44.2	
	comp=Z,87nm,2.0s							
E27K	**Coleen River**	**38.41**	**33**		P	**P**	**06 07 30.8**	**+2.0**
	baz=270							
I27K	**Kandik River**	**38.46**	**37**		P	**P**	**06 07 28.9**	**-0.3**
	baz=273							
LZH	**Lanzhou**	**38.47**	**272**	⇑	P	**P**	**06 07 30.8**	**+1.0**
LZH					sP	pwP	06 07 36.1	-2.6
LZH				*e*	S	**S**	**06 13 24.0**	**-0.7**
LZH					sS	ScP	06 13 36.5	+6.4
LZH					pmax	pmax		
	comp=Z,100nm,1.0s							
LZH					pmax	pmax		
	comp=Z,320nm,4.1s							
LZH					LR	LR		
	comp=Z,740nm,13.6s							
LZH					LR	LR		
	comp=Z,1µm,13.7s							
LZH					LR	LR		
	comp=Z,1µm,14.3s							
H27K	**Steamboat Moun**	**38.47**	**36**		P	**P**	**06 07 29.6**	**+0.3**
	baz=272,SNR=6.0							
L27K	**Beaver Creek,**	**38.56**	**41**		P	**P**	**06 07 30.7**	**+0.6**
	baz=276,SNR=18							
M27K	**Edge Creek, AK**	**38.62**	**42**		P	**P**	**06 07 31.5**	**+0.8**
	baz=277							
EGAK	**Eagle**	**38.71**	**38**		P	**P**	**06 07 32.5**	**+1.3**
	baz=275,SNR=9.9							
CTG	**Chitna Glacier**	**39.06**	**44**		P	**P**	**06 07 34.6**	**+0.2**
	baz=279,SNR=5.4							
YUK3	**Moose Creek**	**39.36**	**43**		P	**P**	**06 07 36.5**	**-0.5**
	baz=279							
GTA	**Gaotai**	**39.55**	**280**	⇓	P	**P**	**06 07 39.4**	**+0.6**
GTA					pP	pwP	06 07 44.6	-3.2
GTA					sP	sP	06 07 48.0	+5.3
GTA					PP	**PnPn**	**06 09 16.6**	**+4.2**
GTA					PcP	**PcP**	**06 09 47.5**	**+1.5**
GTA					S	**S**	**06 13 42.1**	**+1.2**
GTA					sS	sS	06 13 53.3	+7.7
GTA					pmax	pmax		
	comp=Z,13nm,1.2s							
GTA					pmax	pmax		
	comp=Z,88nm,4.7s							
GTA					LR	LR		
	comp=Z,340nm,13.1s							
GTA					LR	LR		
	comp=Z,1µm,13.8s							
GTA					LR	LR		
	comp=Z,1µm,13.5s							
O28M	**Mount Upton**	**39.65**	**45**		P	**P**	**06 07 39.5**	**0.0**
	baz=280							
PINM	**Pinnacle**	**39.74**	**46**		P	**P**	**06 07 40.9**	**+0.9**
	baz=281							
I29M	**Ogilvie Camp,**	**39.86**	**37**		P	**P**	**06 07 40.8**	**0.0**
	baz=276							
M29M	**Somme Creek**	**40.18**	**42**		P	**P**	**06 07 44.2**	**+0.5**
	baz=280,SNR=5.6							
PNL	**Peninsula**	**40.25**	**46**		P	**P**	**06 07 45.1**	**+0.9**
	baz=282							
YUK4	**Talbot Arm**	**40.28**	**43**		P	**P**	**06 07 44.7**	**0.0**
	baz=281							
K29M	**Barlow Dome**	**40.39**	**40**		P	**P**	**06 07 45.8**	**+0.4**
	baz=279,SNR=8.3							
EPYK	**Eagle Plains**	**40.40**	**36**		P	**P**	**06 07 46.0**	**+0.7**
EPYK	**Eagle Plains**	**40.40**	**36**		P	**P**	**06 07 45.9**	**+0.5**
	baz=276,SNR=5.3							
YUK6	**Outpost Mounta**	**40.50**	**44**		P	**P**	**06 07 46.5**	**0.0**
	baz=282							
O29M	**Mount Kennedy**	**40.52**	**45**		P	**P**	**06 07 47.0**	**+0.5**
	baz=282							
M30M	**Minto, Yukon**	**40.92**	**41**		P	**P**	**06 07 50.0**	**+0.2**
	baz=281,SNR=5.4							
HYT	**Haines Junctio**	**40.93**	**44**		P	**P**	**06 07 51.2**	**+1.2**
HYT	**Haines Junctio**	**40.93**	**44**		P	**P**	**06 07 49.5**	**-0.5**
	baz=282,SNR=7.9							
N30M	**Aishikik Lake**	**41.00**	**43**		P	**P**	**06 07 49.7**	**-0.7**
	baz=282							
MAYO	**Mayo, Yukon**	**41.14**	**40**		P	**P**	**06 07 53.0**	**+1.6**
MAYO					IAmb	IAmb	06 08 10.4	
	comp=Z,33nm,0.8s							
MAYO	**Mayo, Yukon**	**41.14**	**40**		P	**P**	**06 07 51.1**	**-0.4**
	baz=280							
P30M	**Million Dollar**	**41.35**	**45**		P	**P**	**06 07 53.8**	**+0.5**
	baz=283							
CD2	**Chengdu**	**41.45**	**266**		P	**P**	**06 07 55.2**	**+0.8**
CD2					S	**S**	**06 14 10.1**	**+0.9**
CD2					pmax	pmax		
	comp=Z,50nm,0.8s							
CD2					pmax	pmax		
	comp=Z,350nm,6.5s							
CD2					LR	LR		
	comp=Z,760nm,14.2s							
CD2					LR	LR		
	comp=Z,440nm,13.2s							
CD2					LR	LR		
	comp=Z,470nm,11.4s							
N31M	**Braeburn, Yuko**	**41.61**	**43**		P	**P**	**06 07 55.0**	**-0.4**
	baz=283,SNR=7.2							
O30N	**Mendenhall**	**41.62**	**44**		P	**P**	**06 07 55.4**	**-0.1**
	baz=283,SNR=8.4							
M31M	**Drury Creek, Y**	**42.09**	**42**		P	**P**	**06 08 00.7**	**+1.4**
M31M	**Drury Creek, Y**	**42.09**	**42**		P	**P**	**06 07 59.2**	**-0.1**
	baz=283,SNR=8.5							
GYA	**Guiyang**	**42.26**	**258**	⇑*i*	P	**P**	**06 08 01.3**	**+0.1**
GYA					S	**S**	**06 14 24.2**	**+2.8**
GYA					pmax	pmax		
	comp=Z,45nm,1.5s							
GYA					pmax	pmax		
	comp=Z,250nm,3.5s							
GYA					LR	LR		
	comp=Z,280nm,13.8s							
GYA					LR	LR		
	comp=Z,560nm,15.0s							
GYA					LR	LR		
	comp=Z,460nm,14.5s							
SKAG	**Skagway**	**42.31**	**46**		P	**P**	**06 08 02.7**	**+1.7**
SKAG	**Skagway**	**42.31**	**46**		P	**P**	**06 08 02.9**	**+1.8**
	baz=285							
FARO	**Faro, Yukon**	**42.56**	**41**		P	**P**	**06 08 03.3**	**+0.2**
	baz=284,SNR=10.0							
N32M	**Quiet Lake**	**42.95**	**43**		P	**P**	**06 08 08.4**	**+2.1**
	baz=285							
SIT	**

GOMU PcP **PP** **06 10 05.1 +1.0**
GOMU S **S** **06 14 55.7 -0.2**
GOMU ScS **SS** **06 18 12.9 -2.6**
GOMU pmax pmax
comp=Z,20nm,0.6s
GOMU LR LR
comp=Z,640nm,16.1s
GOMU LR LR
comp=Z,400nm,16.9s
GOMU LR LR
comp=Z,330nm,16.3s
C36M Paulatuk 44.60 30 IAmb IAmb 06 08 34.3
comp=Z,33nm,1.2s
C36M Paulatuk 44.60 30 P **P** **06 08 20.1 +0.8**
baz=284
WRAK Wrangell Islan 44.75 49 P **P** **06 08 21.0 +0.3**
baz=290
S34M Telegraph Cree 44.86 47 P **P** **06 08 23.4 +1.7**
baz=290
TGTN Hyland Airport 45.07 41 P **P** **06 08 23.4 +0.1**
baz=288
DLBC Dease Lake 45.24 46 LR LR 06 27 05.2
comp=Z,152nm,21.8s,baz=284,slow=36
QIZ Qiongzhong 45.35 248 P **P** **06 08 24.6 -1.3**
QIZ S **S** **06 15 07.4 +1.0**
QIZ pmax pmax
comp=Z,250nm,7.6s
QIZ LR LR
comp=Z,410nm,17.5s
QIZ LR LR
comp=Z,470nm,15.9s
QIZ LR LR
comp=Z,540nm,12.7s
WMQ Urumqi 45.49 292 *e*P **P** **06 08 26.9 0.0**
WMQ pP pwP 06 08 32.4 -3.6
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,1μm,17.9s
WMQ LR LR
comp=Z,1μm,15.1s
WMQ LR LR
comp=Z,890nm,17.9s
V35K Ketchikan 45.52 50 P **P** **06 08 26.9 0.0**
baz=292
PZH PanZhiHua 45.57 263 P **P** **06 08 28.2 +0.4**
PZH sP **sP** **06 08 33.1 +1.9**
PZH S **S** **06 15 11.2 +1.4**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,200nm,4.2s
PZH LR LR
comp=Z,640nm,15.5s
PZH LR LR
comp=Z,830nm,16.3s
PZH LR LR
comp=Z,750nm,17.2s
T35M Bob Quinn 45.63 48 P **P** **06 08 29.2 +1.4**
baz=291,SNR=5.3
KMI Kunming 45.79 260 ⇑P **P** **06 08 30.6 +0.9**
KMI pP sP 06 08 34.5 +1.4
KMI sP pwP 06 08 36.0 -3.8
KMI PP **PP** **06 10 15.2 -1.7**
KMI S **S** **06 15 10.3 -2.9**
KMI SS **ScS** **06 18 29.5 +3.8**
KMI pmax pmax
comp=Z,24nm,1.2s
KMI pmax pmax
comp=Z,270nm,7.4s
KMI LR LR
comp=Z,330nm,15.6s
KMI LR LR
comp=Z,230nm,20.7s
KMI LR LR
comp=Z,400nm,22.9s
WRGLY Wrigley 46.63 38 P **P** **06 08 35.7 +0.1**
baz=290
GRNB Grenville Isla 46.99 52 P **P** **06 08 39.2 +0.7**
GRNB IAmb IAmb 06 08 42.2
comp=Z,16nm,0.8s
SEM Semipalatinsk 47.09 303 *e*P **P** **06 08 37.0 -2.5**
SEM pmax pmax
comp=Z,7.0nm,1.0s
SEM Semipalatinsk 47.09 303 *e*P **P** **06 08 37.1 -2.5**
comp=Z,7.2nm,1.0s,baz=303
SEM LR LR 06 28 49.5
baz=303
MK31 Makanchi Array 47.49 298 P **P** **06 08 41.4 -1.2**
MK31 IAmb IAmb 06 08 42.1
comp=Z,26nm,1.2s
MK31 Makanchi Array 47.49 298*c* *i*P **P** **06 08 41.3 -1.2**
MKAR Makanchi Array 47.49 298 P **P** **06 08 41.2 -1.3**
comp=Z,8.0nm,0.5s,baz=68,slow=7.6,SNR=127
MKAR PcP **PcP** **06 10 12.8 +0.2**
comp=Z,1.4nm,0.7s,baz=67,slow=2.4,SNR=1.7
MKAR S **S** **06 15 43.8 +7.2**
comp=Z,0.2nm,0.3s,baz=204,slow=15,SNR=2.1
MKAR LR LR 06 30 10.2
comp=Z,1μm,18.2s,baz=75,slow=38
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 47.49 298 P **P** **06 08 41.7 -0.8**
MKAR Makanchi Array 47.49 298 P **P** **06 08 41.7 -0.8**
MAKZ Makanchi 47.67 298 P **P** **06 08 41.7 -2.2**
MAKZ IAmb IAmb 06 08 43.7
comp=Z,30nm,1.3s
MAKZ Makanchi 47.67 298 P **P** **06 08 42.3 -1.6**
KURK Kurchatov 47.89 304 P **P** **06 08 44.0 -1.5**
KURK Kurchatov 47.89 304*c* *i*P **P** **06 08 44.0 -1.5**
KURK Kurchatov 47.89 304 *e*P **P** **06 08 44.0 -1.5**
KURBB Kurchatov Arra 47.98 304 P **P** **06 08 44.1 -2.1**
comp=Z,26nm,0.8s,baz=67,slow=8.2,SNR=66
KURBB LR LR 06 29 53.2
comp=Z,981nm,18.8s,baz=39,slow=37
comp=Z,26nm,0.8s
BBB Bella Bella 48.70 53 S S 06 16 06.5 +13
comp=Z,5.5nm,0.8s,baz=260,slow=17,SNR=1.2
BBB LR LR 06 27 21.3
comp=Z,101nm,20.7s,baz=291,slow=34
YKA Yellowknife Ar 50.64 37 P **P** **06 09 07.3 +0.9**
comp=Z,6.0nm,0.9s,baz=298,slow=7.5,SNR=6.7
YKA LR LR 06 32 58.6
comp=Z,137nm,19.7s,baz=278,slow=39
comp=Z,6.0nm,0.9s
CRAI Chiangrai 50.71 257 IAmb IAmb 06 09 10.3
comp=Z,47nm,1.3s
RES Resolute Bay 50.73 19 LR LR 06 31 15.7
comp=Z,205nm,21.7s,baz=260,slow=37
TDK Taldyqorghan 50.73 297 *e*P **P** **06 09 06.7 -0.6**
TDK MLR MLR
comp=Z,1μm,16.0s
TDK Taldyqorghan 50.73 297 *e*P **P** **06 09 06.8 -0.6**
baz=297
TDK LR LR 06 30 56.5
comp=Z,1μm,15.7s,baz=297
KRVT Keravat (AS076 50.78 182 LR LR 06 28 44.7
comp=Z,273nm,19.8s,baz=125,slow=34
LSA Lhasa 50.85 274 P **P** **06 09 10.1 +1.1**
LSA pmax pmax
comp=Z,58nm,0.9s
UBPT Khong Chiam 50.92 249 IAmb IAmb 06 09 11.9
comp=Z,29nm,1.2s
PDGK Podgornoye 50.92 295 P **P** **06 09 07.4 -1.5**
SHLS Shalkode 51.02 295 *e*P **P** **06 09 06.7 -3.0**
SHLS Shalkode 51.02 295 *e*P **P** **06 09 06.7 -3.0**
baz=294
UZB Uzynbulak 51.30 295 *e*P **P** **06 09 10.7 -1.1**
UZB Uzynbulak 51.30 295 *e*P **P** **06 09 10.8 -1.1**
baz=295
KPKS Kokpek 51.35 296*c* *i*P **P** **06 09 11.3 -0.8**
KPKS pmax pmax
comp=Z,6.0nm,0.8s
KPKS Kokpek 51.35 296 ⇑*i*P **P** **06 09 11.4 -0.8**
comp=Z,5.9nm,0.8s,baz=296
BVA0 Borovoye Array 51.35 310 *i* P **P** **06 09 10.3 -1.6**
BVAR Borovoye Array 51.35 310 P **P** **06 09 10.3 -1.6**
comp=Z,3.4nm,0.4s,baz=59,slow=8.8,SNR=30
BVAR LR LR 06 33 08.4
comp=Z,595nm,18.3s,baz=60,slow=39
comp=Z,3.4nm,0.4s
SIJI Sorong 51.36 210 LR LR 06 30 40.2
comp=Z,60nm,18.8s,baz=68,slow=36
BRVK Borovoye 51.39 310 P **P** **06 09 10.7 -1.5**
BRVK IAmb IAmb 06 09 11.8
comp=Z,20nm,1.1s
BRVK Borovoye 51.39 310*c* *i*P **P** **06 09 10.6 -1.5**
BRVK Borovoye 51.39 310 *e*P **P** **06 09 10.6 -1.5**

BRZS Berezniki 51.59 305*c* *i*P **P** **06 09 12.1 -1.6**
BRZS pmax pmax
comp=Z,8.0nm,0.6s
BRZS Berezniki 51.59 305 ⇑*i*P **P** **06 09 12.2 -1.6**
comp=Z,8.5nm,0.6s,baz=305
SATY Saty 51.73 295*c* *i*P **P** **06 09 14.3 -0.8**
SATY pmax pmax
comp=Z,11nm,1.2s
SATY Saty 51.73 295 ⇑*i*P **P** **06 09 14.4 -0.7**
comp=Z,11nm,1.2s,baz=295
CHKK Chushkaly 52.19 297 *e*P **P** **06 09 17.2 -1.1**
CHKK Chushkaly 52.19 297 *e*P **P** **06 09 17.2 -1.1**
baz=297
MDOK Medeo 52.52 296*c* *i*P **P** **06 09 20.3 -0.6**
MDOK MLR MLR
comp=Z,596nm,13.0s
MDOK Medeo 52.52 296 ⇑*i*P **P** **06 09 20.4 -0.6**
baz=296
MDOK LR LR 06 32 05.7
comp=Z,596nm,13.2s,baz=296
KUU Kurty 52.57 297 *e*P **P** **06 09 19.3 -1.8**
KUU pmax pmax
comp=Z,6.0nm,0.6s
KUU MLR MLR
comp=Z,860nm,14.0s
KUU Kurty 52.57 297 *e*P **P** **06 09 19.4 -1.8**
comp=Z,5.5nm,0.6s,baz=297
KUU LR LR 06 31 55.5
comp=Z,860nm,14.4s,baz=297
CHTO Chiang Mai 52.66 257 P **P** **06 09 21.2 -0.8**
CHTO IAmb IAmb 06 09 24.7
comp=Z,30nm,1.0s
CHTO Chiang Mai 52.66 257 P **P** **06 09 21.2 -0.8**
CHTO pmax pmax
comp=Z,30nm,1.0s
SPITS Spitsbergen Ar 52.79 350 LR LR 06 35 03.1
comp=Z,155nm,18.2s,baz=3.0,slow=40
CMAR Chiang Mai Arr 52.91 257 P **P** **06 09 25.1 +1.3**
comp=Z,6.9nm,0.9s,baz=35,slow=7.6,SNR=32
comp=Z,6.9nm,0.9s
CMAR Chiang Mai Arr 52.91 257 P **P** **06 09 23.6 -0.3**
CMAR Chiang Mai Arr 52.91 257 *e*P **P** **06 09 25.5 +1.6**
BTLS Baital 53.35 300 *i* P **P** **06 09 25.5 -1.3**
BTLS Baital 53.35 300 *i* P **P** **06 09 25.5 -1.3**
baz=299
NLWA Neilton Lookou 53.44 57 IAmb IAmb 06 09 43.3
comp=Z,26nm,1.2s
ULHL Ulahol 53.52 296 P **P** **06 09 28.3 -0.1**
SNR=22
TKM2 Tokmak 2 53.55 297 P **P** **06 09 28.2 -0.4**
SNR=10
TKM2 Tokmak 2 53.55 297 P **P** **06 09 27.3 -1.3**
SGDS Sogindy 53.85 298 *e*P **P** **06 09 29.9 -0.7**
SGDS pmax pmax
comp=Z,6.0nm,1.1s
SGDS Sogindy 53.85 298 *e*P **P** **06 09 29.9 -0.7**
comp=Z,5.9nm,1.1s,baz=297
USP Ospenovka 54.03 297 P **P** **06 09 31.9 0.0**
SNR=10
AAK Ala-Archa 54.38 297 P **P** **06 09 34.5 -0.1**
SNR=7.0
AAK Ala-Archa 54.38 297 P **P** **06 09 34.0 -0.6**
comp=Z,9.3nm,0.6s,baz=118,slow=4.7,SNR=16
AAK LR LR 06 34 30.1
comp=Z,730nm,18.1s,baz=56,slow=38
comp=Z,9.3nm,0.6s
AAK Ala-Archa 54.38 297 P **P** **06 09 33.7 -0.9**
AAK IAmb IAmb 06 09 35.0
comp=Z,12nm,0.7s
AAK Ala-Archa 54.38 297*c* *i*P **P** **06 09 33.7 -0.9**
AAK Ala-Archa 54.38 297 *e*P **P** **06 09 33.7 -0.9**
D05A Enumclaw 54.63 56 P **P** **06 09 37.4 +1.3**
D05A IAmb IAmb 06 10 06.1
comp=Z,40nm,1.4s
TAPN Taplejung 54.68 274 *e*P **P** **06 09 37.9 +0.8**
comp=Z,42nm,0.6s
EKS2 Erkin-Say 54.81 297 P **P** **06 09 37.5 -0.1**
SNR=14
G03D McMinnville, O 54.97 59 P **P** **06 09 39.5 +0.9**
baz=304
BRDH Bariadhala 55.00 267 LR LR 06 34 37.5
comp=Z,340nm,18.5s,baz=68,slow=38
NEEM North Greenlan 55.18 6 *i* P **P** **06 09 39.0 -1.1**
NEEM IAmb IAmb 06 09 52.9
comp=Z,42nm,0.9s
ODAN Odare 55.21 274 *e*P **P** **06 09 41.3 +0.4**
KSH Kashi 55.21 293 P **P** **06 09 44.7 +4.1**
KSH sP pwP 06 09 51.0 +1.3
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,210nm,3.9s
KSH LR LR
comp=Z,1μm,17.9s
KSH LR LR
comp=Z,780nm,16.8s
KSH LR LR
comp=Z,2μm,18.6s
LTY Liberty 55.34 56 P **P** **06 09 41.8 +0.4**
ARU Arti 55.46 318 P **P** **06 09 40.6 -1.3**
comp=Z,8.7nm,0.3s,baz=34,slow=4.6,SNR=25
ARU LR LR 06 35 18.6
comp=Z,474nm,18.8s,baz=46,slow=38
comp=Z,8.7nm,0.3s
ARU Arti 55.46 318 P **P** **06 09 40.3 -1.7**
ARU IAmb IAmb 06 09 41.5
comp=Z,21nm,0.8s
ARU Arti 55.46 318*d* *i*P **P** **06 09 40.5 -1.5**
ARU 06 10 40.7
ARU S **S** **06 17 26.5 +0.3**
ARU SS **SS** **06 21 09.4 -0.8**
ARU pmax pmax
comp=Z,26nm,0.8s
ARU MLR MLR
comp=Z,767nm,15.0s
ARU Arti 55.46 318 *e*P **P** **06 09 40.5 -1.5**
B08A Colville Reser 55.49 54 P **P** **06 09 43.5 +1.1**
JIRN Jiri 55.53 275 *e*P **P** **06 09 44.5 +1.2**
GUN Gumba 55.58 276 *e*P **P** **06 09 44.5 +0.8**
H04D Lebanon 55.66 59 P **P** **06 09 43.9 +0.3**
baz=304
RAMN Ramite 55.69 274 *e*P **P** **06 09 45.3 +0.9**
comp=Z,128nm,0.6s
J01E Myrtle Point 55.71 61 P **P** **06 09 43.7 -0.3**
baz=305
I03D Drain, OR 55.76 60 P **P** **06 09 44.3 0.0**
baz=305
H04A Detroit Lake 55.90 59 IAmb IAmb 06 10 01.8
comp=Z,32nm,1.2s
EDM Edmonton 55.95 46 IAmb IAmb 06 09 48.0
comp=Z,19nm,0.7s
KKN Kakani 56.07 276 *e*P **P** **06 09 47.3 +0.3**
comp=Z,157nm,1.7s
G05D Wamic, OR 56.09 58 P **P** **06 09 46.6 -0.1**
baz=305
HNR Honiara 56.10 173 LR LR 06 34 34.6
comp=Z,251nm,18.4s,baz=13,slow=37
PKI Pulchoki 56.12 276 *e*P **P** **06 09 48.3 +0.8**
PKIN Phulchoki 56.12 276 *e*P **P** **06 09 48.1 +0.6**
K02D Willamette Mer 56.14 62 P **P** **06 09 48.6 +1.4**
baz=305,SNR=5.5
PMG Port Moresby 56.15 188 LR LR 06 28 55.4
comp=Z,99nm,21.3s,baz=340,slow=31
DZA Taraz 56.17 299 *e*P **P** **06 09 46.6 -0.7**
DZA Taraz 56.17 299 *e*P **P** **06 09 46.6 -0.7**
baz=298
I04A Tendick Farm, 56.27 60 P **P** **06 09 48.5 +0.5**
baz=305
DMN Daman 56.30 276 *e*P **P** **06 09 49.9 +1.2**
GKN Gorkha 56.37 277 *e*P **P** **06 09 50.2 +1.1**
C09A Chrisman Ranch 56.39 54 IAmb IAmb 06 10 04.3
comp=Z,34nm,1.5s
L02F Cave Junction 56.52 62 P **P** **06 09 49.5 -0.3**
baz=305
KK31 Karatay Array 56.54 299 P **P** **06 09 49.3 -0.7**
KK31 Karatay Array 56.54 299 P **P** **06 09 49.3 -0.7**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 56.54 299 P **P** **06 09 47.9 -2.0**
KKAR Karatay Array 56.54 299 P **P** **06 09 49.0 -1.0**
KKAR Karatay Array 56.54 299 P **P** **06 09 49.0 -1.0**
DANN Dangsing 56.75 277 *e*P **P** **06 09 53.3 +1.3**
comp=Z,184nm,0.7s
J04D Umpqua Nationa 56.77 60 P **P** **06 09 51.5 -0.3**
baz=305
NEW Newport 56.77 53 LR LR 06 31 30.7
comp=Z,121nm,21.9s,baz=310,slow=33
NEW Newport 56.77 53 IAmb IAmb 06 10 07.1
comp=Z,20nm,1.4s
NEW Newport 56.77 53 P **P** **06 09 51.0 -0.5**
baz=305,SNR=5.9
PINE Pine Mountain 57.14 59 IAmb IAmb 06 10 11.4
comp=Z,26nm,1.1s
KOLN Koldanda 57.23 277 *e*P **P** **06 09 55.1 -0.2**
L04D Klamath Falls 57.24 61 P **P** **06 09 54.3 -0.8**
baz=306
J05D Fort Rock, OR 57.26 60 P **P** **06 09 56.4 +1.1**
baz=306
YBH Yreka Blue Hor 57.27 62 LR LR 06 29 44.7
comp=Z,98nm,21.6s,baz=312,slow=31
K04D Chiloquin, OR 57.33 61 P **P** **06 09 56.7 +1.0**
baz=306
IUG Iuzhnay 57.38 299 *e*P **P** **06 09 55.7 -0.3**
IUG Iuzhnay 57.38 299 *e*P **P** **06 09 55.8 -0.3**
baz=298
PYUN Piuthan 57.44 278 *e*P **P** **06 09 57.7 +1.0**
comp=Z,350nm,1.1s
APA Apatity 57.64 337 ⇑*i*P **P** **06 10 00.5 +3.2**
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,800nm,16.0s
HAMF Hammerfest 57.64 342 *e*P **P** **06 09 56.5 -0.7**
HAMF IAmb IAmb 06 09 56.9
comp=Z,18nm,0.9s
PRGR Permogore 57.74 328 *e*P **P** **06 09 54.9 -3.2**
K05A Summer Lake 57.79 60 IAmb IAmb 06 10 15.9
comp=Z,22nm,1.1s
DRK Karamyk 57.86 295 IAmb IAmb 06 10 01.7
comp=Z,36nm,1.2s
ARA0 ARCESS Array S 58.12 341 *e*P **P** **06 10 00.3 -0.3**
ARA0 IAmb IAmb 06 10 01.2
comp=Z,12nm,1.0s
ARCES ARCESS Array B 58.12 341 P **P** **06 10 00.0 -0.7**
comp=Z,6.3nm,0.6s,baz=35,slow=7.0,SNR=42
ARCES LR LR 06 38 38.0
comp=Z,316nm,19.2s,baz=38,slow=40
comp=Z,6.3nm,0.6s
KIRV Kirov 58.19 323 P **P** **06 10 00.6 -0.6**
comp=Z,21nm,0.5s,baz=55,slow=8.2,SNR=6.1
KIRV LR LR 06 37 12.7
comp=Z,349nm,18.6s,baz=44,slow=38
comp=Z,21nm,0.5s
KIRV Kirov 58.19 323*ce*P **P** **06 10 01.0 -0.2**
MOD Modoc Plateau 58.63 61 IAmb IAmb 06 10 20.5
comp=Z,27nm,1.4s
BMO Blue Mountains 58.64 56 IAmb IAmb 06 10 20.5
comp=Z,15nm,1.1s
J08A Circle Bar Ran 58.85 58 IAmb IAmb 06 10 22.2
comp=Z,23nm,1.5s
AB31 Akbulak array 58.92 310 *i* P **P** **06 10 04.8 -1.7**
ABKAR Akbulak array 58.92 310 P **P** **06 10 05.5 -1.1**
ABKAR IAmb IAmb 06 10 06.4
comp=Z,22nm,1.3s
KTK1 Kautokeino 59.03 341 *e*P **P** **06 10 06.7 -0.3**
KTK1 IAmb IAmb 06 10 07.8
comp=Z,13nm,0.9s
GAR Garm 59.07 295 P **P** **06 10 07.7 -0.2**
JETT Jettan, Norway 59.19 343 *e*P **P** **06 10 07.8 -0.3**
JETT IAmb IAmb 06 10 08.6
comp=Z,18nm,0.4s
AKTO Aktyubinsk 59.21 312 P **P** **06 10 06.6 -1.9**
comp=Z,3.7nm,0.6s,baz=70,slow=9.1,SNR=6.9
AKTO LR LR 06 37 51.3
comp=Z,526nm,20.6s,baz=46,slow=38
comp=Z,3.7nm,0.6s
MSO Missoula 59.35 53 IAmb IAmb 06 10 25.1
comp=Z,19nm,1.1s
MSO Missoula 59.35 53 P **P** **06 10 10.0 +0.3**
baz=307,SNR=12
TRO Tromso 59.42 343 *e*P **P** **06 10 09.1 -0.5**
TRO IAmb IAmb 06 10 10.9
comp=Z,59nm,1.5s
BEKR Beckworth 59.82 63 IAmb IAmb 06 10 29.1
comp=Z,14nm,1.1s
FFC Flin Flon 60.43 40 P **P** **06 10 17.2 +0.4**
FFC IAmb IAmb 06 10 19.6
comp=Z,21nm,1.2s
FFC Flin Flon 60.43 40 *e*P **P** **06 10 18.8 +1.9**
KLMR Klimovskoe 60.47 329 *e*P **P** **06 10 13.7 -3.3**
KLMR *e*S **S** **06 18 27.9 -3.7**
KLMR *e*SS **SS** **06 22 31.5 +3.0**
KLMR pmax pmax
comp=Z,30nm,1.2s
KLMR Klimovskoe 60.47 329 *e*P **P** **06 10 13.7 -3.3**
KLMR AMP 06 10 18.1
comp=Z,30nm,1.2s
KLMR *e*PPP PPP 06 13 45.6
KLMR *e*S **S** **06 18 27.9 -3.7**
KLMR *e*S **S** **06 18 27.9 -3.7**
KLMR *e*SS **SS** **06 22 31.6 +3.0**
KLMR *e*SS **SS** **06 22 31.6 +3.0**
NIL Nilore 60.48 289 P **P** **06 10 17.5 -0.1**
NIL Nilore 60.48 289 P **P** **06 10 17.5 -0.1**
NIL pmax pmax
comp=Z,68nm,0.8s
PAHR Pah Rah Range 60.51 62 IAmb IAmb 06 10 34.0
comp=Z,18nm,1.3s
SUMG Summit 60.74 4 P **P** **06 10 18.9 -0.3**
SUMG Summit 60.74 4 P **P** **06 10 18.9 -0.3**
SUMG pmax pmax
comp=Z,123nm,1.8s
SUMG Summit 60.74 4 *i* P **P** **06 10 19.9 +0.7**
SUMG IAmb IAmb 06 10 22.3
comp=Z,70nm,1.5s
EGMT Eagleton 60.87 50 IAmb IAmb 06 10 35.4
comp=Z,21nm,1.1s
EGMT Eagleton 60.87 50 P **P** **06 10 20.4 +0.3**
baz=309,SNR=9.0
CMB Columbia Colle 60.92 64 IAmb IAmb 06 10 36.8
comp=Z,19nm,1.4s
HLID Hailey 61.08 56 IAmb IAmb 06 10 37.4
comp=Z,13nm,1.1s
HLID Hailey 61.08 56 P **P** **06 10 21.6 -0.1**
baz=308,SNR=8.1
BMN Battle Mountai 61.37 60 IAmb IAmb 06 10 38.1
comp=Z,21nm,1.3s
BOZ Bozeman (W) 61.38 53 IAmb IAmb 06 10 39.4
comp=Z,19nm,1.1s
BOZ Bozeman (W) 61.38 53 P **P** **06 10 23.0 -0.7**
baz=309,SNR=15
KULM Kulim 61.56 245 P **P** **06 10 27.1 +2.1**
KULM IAmb IAmb 06 10 27.4
comp=Z,20nm,1.0s
STEI Steigen 61.59 344 *e*P **P** **06 10 23.8 -0.7**
STEI IAmb IAmb 06 10 26.0
comp=Z,48nm,1.2s
KVN Kaiserville 61.70 62 IAmb IAmb 06 10 42.3
comp=Z,24nm,1.2s
RYN Ryan 61.70 63 IAmb IAmb 06 10 40.3
comp=Z,11nm,1.1s
LOF Lofoten 61.74 344 *e*P **P** **06 10 25.1 -0.4**
LOF IAmb IAmb 06 10 26.2
comp=Z,100nm,1.4s
NVAR Mina Array Bea 61.96 63 P **P** **06 10 28.4 +0.6**
comp=Z,1.1nm,0.7s,baz=296,slow=7.5,SNR=11
comp=Z,1.1nm,0.7s
JMIC Jan Mayen 61.98 354 LR LR 06 34 11.0
comp=Z,51nm,21.1s,baz=346,slow=33
NV11 Mina Array Sit 62.05 63 IAmb IAmb 06 10 44.0
comp=Z,20nm,1.4s
FAUS Fauske 62.05 343 *e*P **P** **06 10 27.6 0.0**
FAUS IAmb IAmb 06 10 27.8
comp=Z,28nm,0.8s
YMR Madison River 62.33 53 IAmb IAmb 06 10 46.0
comp=Z,21nm,1.2s
ELK Elko 62.35 59 LR LR 06 34 14.0
comp=Z,123nm,21.4s,baz=312,slow=33
ELK Elko 62.35 59 IAmb IAmb 06 10 46.9
comp=Z,31nm,2.0s
YNR Norris Junctio 62.45 53 IAmb IAmb 06 10 48.0
comp=Z,24nm,1.3s
KBL Kabul 62.63 292 P **P** **06 10 30.5 -1.8**
KBL Kabul 62.63 292 P **P** **06 10 30.5 -1.8**
KBL pmax pmax
comp=Z,20nm,0.6s
YPP Pitchstone Pla 62.67 54 IAmb IAmb 06 11 16.4
comp=Z,30nm,1.8s
LKWY Lake 62.70 53 IAmb IAmb 06 10 55.7
comp=Z,9.3nm,1.0s
H17A Grant Village 62.71 53 IAmb IAmb 06 10 50.6
comp=Z,21nm,1.1s
H17A Grant Village 62.71 53 P **P** **06 10 36.2 +3.5**

baz=310,SNR=8.7
IMW Indian Meadow 62.83 54 lAmb lAmb 06 10 49.8
comp=Z,24nm,1.4s
DSP Deep Springs 62.83 64 lAmb lAmb 06 10 49.4
comp=Z,32nm,1.4s
SMMC Simmler 62.87 66 P **P** **06 10 34.0 +0.4**
baz=310
TIN Tinemaha, Big 62.87 64 P **P** **06 10 35.2 +1.4**
baz=310
FXWY Fox Creek 62.95 54 lAmb lAmb 06 10 50.5
comp=Z,12nm,1.1s
RLMT Red Lodge 62.97 52 lAmb lAmb 06 10 51.1
comp=Z,17nm,1.1s
RLMT Red Lodge 62.97 52 P **P** **06 10 34.5 +0.1**
baz=310,SNR=11
BELG Belogornoye 62.98 319 P **P** **06 10 33.1 -0.9**
comp=Z,40nm,0.6s,baz=45,slow=1.9,SNR=32
BELG LR LR 06 39 41.0
comp=Z,190nm,19.7s,baz=300,slow=38
comp=Z,40nm,0.6s
VES Vestal, Richgr 63.11 65 P **P** **06 10 35.9 +0.7**
baz=310
LCH Last Change Ra 63.12 63 lAmb lAmb 06 10 51.1
comp=Z,18nm,1.4s
LOHW Long Hollow 63.20 54 lAmb lAmb 06 10 52.2
comp=Z,23nm,1.2s
KONS Konsvik 63.25 344 *e*P **P** **06 10 36.8 +1.2**
MOR8 Moi Rana 63.27 343 *e*P **P** **06 10 34.7 -1.1**
MOR8 lAmb lAmb 06 10 34.7
comp=Z,39nm,0.6s
CWC Cottonwood Cre 63.35 64 P **P** **06 10 37.2 +0.2**
baz=310
DGMT Dagmar 63.45 47 P **P** **06 10 39.2 +1.9**
baz=311
DGMT Dagmar 63.45 47 P **P** **06 10 37.0 -0.3**
baz=311
LAO LASA Array 63.58 49 P **P** **06 10 40.8 +2.5**
baz=311
LAO LASA Array 63.58 49 P **P** **06 10 38.2 0.0**
baz=311
ISA Isabella, Lake 63.60 65 P **P** **06 10 39.3 +0.7**
baz=310
R11A Troy Canyon, C 63.66 61 lAmb lAmb 06 10 54.5
comp=Z,12nm,1.2s
R11A Troy Canyon, C 63.66 61 P **P** **06 10 39.2 +0.1**
baz=310,SNR=5.9
SCZ2 Santa Cruz Isl 63.94 67 P **P** **06 10 40.7 0.0**
baz=310
HWUT Hardware Ranch 63.94 56 lAmb lAmb 06 11 01.2
comp=Z,11nm,1.1s
MPMC Manual Prospec 63.97 64 P **P** **06 10 40.3 -0.8**
baz=310,SNR=7.8
SPR3 Spring Creek 3 64.00 60 lAmb lAmb 06 10 57.6
comp=Z,18nm,1.4s
WCT Wildcat Mounta 64.03 63 lAmb lAmb 06 10 55.4
comp=Z,11nm,1.1s
FURC Furnace Creek, 64.09 64 P **P** **06 10 42.7 +1.1**
baz=310,SNR=6.5
ICESG Greenland Ices 64.12 5 *i* P **P** **06 10 42.5 +0.7**
ICESG lAmb lAmb 06 10 45.2
comp=Z,50nm,1.1s
DUG Dugway, Tooele 64.13 58 P **P** **06 10 42.4 +0.4**
baz=310,SNR=8.1
TPNV Topopah Spring 64.16 63 lAmb lAmb 06 10 56.6
comp=Z,20nm,1.1s
TPNV Topopah Spring 64.16 63 P **P** **06 10 41.5 -0.8**
baz=310,SNR=7.0
BW06 Boulder Array 64.33 54 lAmb lAmb 06 10 59.3
comp=Z,13nm,1.0s
BW06 Boulder Array 64.33 54 P **P** **06 10 43.3 -0.2**
baz=311,SNR=13
PD31 Pinedale Array 64.33 54 lAmb lAmb 06 10 59.3
comp=Z,12nm,1.0s
PDAR Pinedale Array 64.33 54 P **P** **06 10 45.0 +1.6**
comp=Z,4.8nm,0.9s,baz=298,slow=2.2,SNR=38
PDAR LR LR 06 36 26.9
comp=Z,79nm,20.8s,baz=342,slow=34
comp=Z,4.8nm,0.9s
FINES FINESS Array B 64.36 335 P **P** **06 10 42.6 -0.3**
comp=Z,16nm,0.5s,baz=35,slow=8.0,SNR=69
FINES LR LR 06 42 44.7
comp=Z,487nm,19.0s,baz=41,slow=40
comp=Z,16nm,0.5s
FINES FINESS Array B 64.36 335 P **P** **06 10 42.3 -0.7**
EDW2 Edwards Air Fo 64.41 66 P **P** **06 10 44.8 +1.0**
baz=311,SNR=7.8
PSI Prapat 64.57 245 LR LR 06 40 36.8
comp=Z,346nm,18.5s,baz=40,slow=38
DECC Green Verdugo 64.60 66 P **P** **06 10 44.9 -0.2**
baz=311
MOS Moscow 64.83 326 *e*P **P** **06 10 42.8 -3.4**
MOS *e* 06 10 54.2
MOS pmax pmax
comp=Z,48nm,0.7s
GSC Goldstone, Bar 64.88 65 P **P** **06 10 48.1 +1.1**
baz=311
FRB Frobisher Bay 64.94 19 LR LR 06 43 02.7
comp=Z,175nm,19.6s,baz=336,slow=40
SHPR Sheep Range 65.11 63 lAmb lAmb 06 11 04.2
comp=Z,22nm,1.3s
SFJD Kangerlussuaq 65.13 10 LR LR 06 41 18.0
comp=Z,299nm,19.5s,baz=346,slow=38
TUQ Turquoise Moun 65.34 64 P **P** **06 10 51.5 +1.5**
baz=311
BBRC Big Bear Solar 65.48 66 P **P** **06 10 51.2 +0.1**
baz=311
OBN Obninsk 65.70 326 P **P** **06 10 50.8 -1.0**
comp=Z,9.3nm,0.5s,baz=166,slow=4.2,SNR=7.8
OBN LR LR 06 42 23.4
comp=Z,96nm,19.3s,baz=10.0,slow=39
comp=Z,9.3nm,0.5s
OBN Obninsk 65.70 326 *ce*P **P** **06 10 51.4 -0.4**
OBN *e* 06 11 23.2
OBN *e* 06 13 16.7
OBN *e*PPP PPP 06 14 48.2
OBN pmax pmax
comp=Z,59nm,1.7s
OBN MLR MLR
comp=Z,358nm,19.0s
OBN Obninsk 65.70 326 *e*P **P** **06 10 51.4 -0.4**
MURC Murrieta 65.74 66 P **P** **06 10 52.3 -0.2**
baz=311
V12A Nelson 65.81 63 lAmb lAmb 06 11 08.7
comp=Z,20nm,1.3s
MEF Metsahovi 65.84 335 *e*P **P** **06 10 52.5 0.0**
RAF Rauma 65.91 337 *e*P **P** **06 10 52.8 -0.3**
GMRC Granite Mounta 65.93 64 P **P** **06 10 52.5 -1.3**
baz=311,SNR=5.9
K22A Casper 66.08 53 lAmb lAmb 06 11 14.6
comp=Z,17nm,1.1s
K22A Casper 66.08 53 P **P** **06 10 57.7 +2.9**
baz=312
K22A Casper 66.08 53 P **P** **06 10 54.4 -0.4**
baz=312
DY2G Dye2 66.13 9 *i* P **P** **06 10 53.2 -1.5**
DY2G lAmb lAmb 06 10 58.4
comp=Z,54nm,1.7s
MDND Maddock 66.13 45 P **P** **06 10 56.5 +1.7**
baz=314
MDND Maddock 66.13 45 P **P** **06 10 52.9 -1.9**
baz=314
PFO Pinyon Flats O 66.20 66 LR LR 06 33 18.2
comp=Z,87nm,20.5s,baz=301,slow=30
PFO Pinyon Flats O 66.20 66 P **P** **06 10 54.0 -1.6**
baz=312
ULM Lac du Bonnet 66.20 41 P **P** **06 10 55.5 +0.3**
comp=Z,4.4nm,0.5s,baz=319,slow=6.6,SNR=7.9
ULM LR LR 06 43 17.9
comp=Z,99nm,18.9s,baz=3.0,slow=39
comp=Z,4.4nm,0.5s
ULM Lac du Bonnet 66.20 41 P **P** **06 10 55.3 +0.1**
ULM lAmb lAmb 06 10 56.5
comp=Z,6.8nm,0.7s
BELC Belle Mtn. Jos 66.23 65 P **P** **06 10 54.5 -1.3**
baz=312
109C Camp Elliot, M 66.26 67 P **P** **06 10 54.5 -1.4**
baz=312
RWWY Rawlins 66.35 54 lAmb lAmb 06 11 10.3
comp=Z,14nm,1.1s
RSSD Black Hills 66.43 50 P **P** **06 10 58.2 +1.1**
RSSD lAmb lAmb 06 11 11.9
comp=Z,23nm,1.0s
RSSD Black Hills 66.43 50 P **P** **06 10 58.2 +1.1**
RSSD pmax pmax
comp=Z,23nm,1.0s
RSSD Black Hills 66.43 50 P **P** **06 10 58.7 +1.6**
baz=313
RSSD Black Hills 66.43 50 P **P** **06 10 55.9 -1.1**
baz=313
VRH Novokhopyorsk 66.44 321 *e*P **P** **06 10 55.1 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,570nm,14.0s
E28A Huff 66.48 47 P **P** **06 10 58.7 +1.6**
baz=314
VSU Vasula 66.55 333 *e*P **P** **06 10 57.2 0.0**
LPSR Galich'ya Gora 66.61 323 *e*P **P** **06 10 56.2 -1.5**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=Z,410nm,15.0s
IRM Iron Mountain 66.66 65 P **P** **06 10 58.1 -0.3**
baz=312,SNR=8.2
MONP2 Monument Peak 66.69 66 P **P** **06 10 58.1 -0.7**
baz=312
CTA Charters Tower 66.81 188 P **P** **06 11 00.1 +0.9**
comp=Z,2.6nm,0.7s,baz=353,slow=8.1,SNR=2.6
CTA LR LR 06 39 07.6
comp=Z,93nm,19.1s,baz=56,slow=35
comp=Z,2.6nm,0.7s
O20A White River Ci 66.81 56 lAmb lAmb 06 11 13.2
comp=Z,10nm,1.1s
O20A White River Ci 66.81 56 P **P** **06 10 58.5 -1.0**
baz=312
U15A North Rim 66.90 61 lAmb lAmb 06 11 16.1
comp=Z,28nm,1.5s
SWSC Sam W. Stewart 67.05 66 P **P** **06 11 00.7 -0.2**
baz=312
GEYT Alibeck 67.14 301 P **P** **06 11 01.4 0.0**
comp=Z,7.4nm,0.6s,baz=45,slow=2.2,SNR=14
GEYT LR LR 06 41 30.0
comp=Z,274nm,18.0s,baz=68,slow=37
comp=Z,7.4nm,0.6s
GEYT Alibeck 67.14 301 P **P** **06 11 01.4 0.0**
GEYT lAmb lAmb 06 11 03.3
comp=Z,17nm,0.9s
VORR Voronezh 67.18 322 *e*P **P** **06 11 03.2 +1.9**
VORR pmax pmax
comp=Z,60nm,0.4s
PDMCI Parker Dam,Lak 67.18 64 P **P** **06 11 01.5 -0.2**
baz=312,SNR=6.9
MTSE Matsula 67.24 334 *e*P **P** **06 11 01.4 -0.2**
LEM Lembang 67.26 231 LR LR 06 44 42.6
comp=Z,92nm,18.0s,baz=230,slow=40
VSR Storozhevoye 67.53 322 *e*P **P** **06 11 02.8 -0.8**
VSR pmax pmax
comp=Z,40nm,1.5s
VSR MLR MLR
comp=Z,630nm,15.0s
HYBB Hyderabad (bro 67.57 272 *e*P **P** **06 11 04.7 +0.3**
N23A Red Feather La 67.59 54 lAmb lAmb 06 11 18.8
comp=Z,16nm,1.1s
N23A Red Feather La 67.59 54 P **P** **06 11 04.0 -0.5**
baz=313,SNR=6.1
GLA Glamis 67.59 65 P **P** **06 11 04.1 -0.2**
baz=312,SNR=5.7
AGMN Agassiz Nation 67.60 43 lAmb lAmb 06 11 06.0
comp=Z,24nm,1.3s
AGMN Agassiz Nation 67.60 43 P **P** **06 11 04.0 -0.1**
baz=316
AGMN Agassiz Nation 67.60 43 P **P** **06 11 03.1 -1.0**
baz=316,SNR=7.1
MSVF Nonsavu 67.69 155 LR LR 06 41 31.5
comp=Z,342nm,18.1s,baz=14,slow=37
AFI Afiamalu 67.70 144 LR LR 06 41 59.1
comp=Z,154nm,18.1s,baz=308,slow=37
PV07 Paradox Valley 67.72 57 lAmb lAmb 06 11 26.6
comp=Z,14nm,1.0s
MOL Molde 67.85 344 *e*P **P** **06 11 05.0 -0.4**
PV15 Paradox Valley 67.88 57 lAmb lAmb 06 11 25.5
comp=Z,17nm,1.0s
DOMB Dombas 68.03 343 *e*P **P** **06 11 07.0 +0.4**
DOMB lAmb lAmb 06 11 07.7
comp=Z,43nm,1.1s
WUAZ Wupatki 68.06 61 lAmb lAmb 06 11 24.0
comp=Z,16nm,1.1s
WUAZ Wupatki 68.06 61 P **P** **06 11 06.6 -0.8**
baz=313
SMCO Snowmass 68.17 56 lAmb lAmb 06 11 22.2
comp=Z,10nm,0.9s
NC303 NORSAR Array S 68.29 342 *e*P **P** **06 11 08.7 +0.5**
NC303 lAmb lAmb 06 11 09.7
comp=Z,18nm,0.6s
AKN Aaknes 68.31 344 *e*P **P** **06 11 07.7 -0.7**
AKN lAmb lAmb 06 11 12.9
comp=Z,37nm,1.1s
WB0 Warramunga Arr 68.45 200 P **P** **06 11 09.7 +0.1**
WB0 lAmb lAmb 06 11 11.2
comp=Z,20nm,0.9s
NB2 NORSAR Subarra 68.49 342 P **P** **06 11 09.2 -0.3**
comp=Z,118nm,1.7s,baz=26,slow=6.5
NB2 NORSAR Subarra 68.49 342 P **P** **06 11 09.2 -0.3**
baz=26,slow=6.5
NOA NORSAR Array B 68.49 342 P **P** **06 11 09.4 -0.1**
comp=Z,13nm,0.6s,baz=27,slow=6.4,SNR=53
NOA LR LR 06 45 25.4
comp=Z,258nm,18.1s,baz=35,slow=40
comp=Z,13nm,0.6s
ISCO Idaho Springs 68.52 55 lAmb lAmb 06 11 24.2
comp=Z,12nm,0.9s
ISCO Idaho Springs 68.52 55 P **P** **06 11 12.4 +2.0**
baz=314
ISCO Idaho Springs 68.52 55 P **P** **06 11 08.7 -1.7**
baz=314,SNR=10
B35A Bob, Littlefor 68.54 42 lAmb lAmb 06 11 11.2
comp=Z,10.0nm,0.9s
B35A Bob, Littlefor 68.54 42 P **P** **06 11 11.0 +0.9**
baz=317,SNR=5.4
SLIT Slitere, Latvi 68.59 334 *e*P **P** **06 11 09.7 -0.5**
WR0 Warramunga Arr 68.60 200 lAmb lAmb 06 11 12.1
comp=Z,18nm,1.1s
WB2 Warramunga Arr 68.62 200 P **P** **06 11 11.0 +0.3**
WB2 lAmb lAmb 06 11 12.4
comp=Z,20nm,1.0s
WRA Warramunga Arr 68.63 200 P **P** **06 11 10.8 +0.1**
comp=Z,14nm,1.0s,baz=17,slow=6.6,SNR=46
WRA LR LR 06 46 04.2
comp=Z,90nm,18.0s,baz=346,slow=40
comp=Z,14nm,1.0s
MVCO Mesa Verde 68.63 58 lAmb lAmb 06 11 26.3
comp=Z,22nm,1.1s
MVCO Mesa Verde 68.63 58 P **P** **06 11 10.2 -0.9**
baz=313,SNR=5.6
HFS Hagfors 68.73 340 LR LR 06 46 06.7
comp=Z,243nm,18.1s,baz=18,slow=40
X16A Lo Mia Camp, P 68.76 62 lAmb lAmb 06 11 26.4
comp=Z,11nm,1.0s
SUSD Miller 68.84 47 P **P** **06 11 12.9 +0.9**
baz=315
BORG Borgarnes 68.86 358 LR LR 06 42 13.3
comp=Z,47nm,18.9s,baz=349,slow=37
ISAL Salakas 69.09 331 *e*P **P** **06 11 14.3 +1.1**
F33A 5 Mile Ranch, 69.16 45 lAmb lAmb 06 11 15.9
comp=Z,24nm,1.1s
F33A 5 Mile Ranch, 69.16 45 P **P** **06 11 15.0 +1.1**
baz=316
IIGN Ignalina 69.23 331 *e*P **P** **06 11 14.5 +0.3**
S22A 4UR Ranch, Cre 69.23 57 lAmb lAmb 06 11 31.3
comp=Z,23nm,1.2s
S22A 4UR Ranch, Cre 69.23 57 P **P** **06 11 13.8 -1.1**
baz=314,SNR=12
FITZ Fitzroy Crossi 69.34 209 P **P** **06 11 16.1 +1.0**
FITZ lAmb lAmb 06 11 29.4
comp=Z,17nm,1.0s
DZM Mont Dzumac 69.34 168 LR LR 06 39 28.7
comp=Z,294nm,19.1s,baz=26,slow=34
Q24A Divide 69.36 55 P **P** **06 11 14.5 -1.1**
baz=314
MNK Minsk 69.36 330 *i* P **P** **06 11 15.3 +0.4**
MNK *i* S **S** **06 20 20.2 -0.8**
MNK pmax pmax
comp=Z,43nm,0.9s
MNK pmax pmax
comp=E,5.0nm,1.5s
MNK MLR MLR
comp=Z,334nm,19.0s
MNK MLR MLR
comp=E,47nm,15.0s
MNK Minsk 69.36 330 *i* P **P** **06 11 15.3 +0.4**
comp=E,5.0nm,1.5s
MNK *i* P **P** **06 11 15.3 +0.4**
MNK *i* P **P** **06 11 15.3 +0.4**
comp=Z,43nm,0.9s,baz=216
MNK *i* PP PP 06 13 34.5 -13
MNK *i* PPP PPP 06 15 43.6
MNK *i* S **S** **06 20 20.2 -0.8**
MNK *i* SS SS 06 25 08.4 +21
MNK *i* SSS SSS 06 28 25.1
MNK *i* LQ LQ 06 36 50.1
MNK *i* LR LR 06 42 06.2
MNK *i* LRM MLR 06 44 14.6
comp=E,47nm,15.3s
MNK *i* LRM MLR 06 44 14.6
MNK *i* LRM MLR 06 44 14.6
comp=Z,334nm,19.2s
HYA Hoyanger 69.40 344 *e*P **P** **06 11 16.0 +0.9**
NACGM Naroch 69.41 331⇓ *e*P **P** **06 11 15.1 -0.2**
MAK Makhachkala 69.56 311 *e*P P 06 11 09.5 -6.9
MAK *e*S S 06 20 12.1 -12
MAK *e*SS **SS** **06 24 43.3 -7.2**
MAK MLR MLR
comp=Z,791nm,12.0s
214A Organ Pipe Nat 69.58 65 P **P** **06 11 18.5 +1.7**
baz=313
OGNE Ogallala 69.70 52 P **P** **06 11 15.9 -1.5**
baz=315
SUE Sulen 69.77 345 *e*P **P** **06 11 17.8 +0.5**
PABE Paberze 69.84 332 *e*P **P** **06 11 18.0 +0.1**
EYMN Ely 69.86 41 P **P** **06 11 16.9 -1.3**
baz=318
SDCO Great Sand Dun 70.00 56 P **P** **06 11 21.3 +1.7**
baz=314
SDCO Great Sand Dun 70.00 56 P **P** **06 11 17.6 -2.0**
baz=314,SNR=8.4
KONO Kongsberg 70.09 342 P **P** **06 11 21.0 +1.6**
KONO Kongsberg 70.09 342⇑ P **P** **06 11 20.3 +0.9**
KONO Kongsberg 70.09 342 *e*P **P** **06 11 20.6 +1.3**
BER Bergen 70.29 344 *e*P **P** **06 11 21.5 +1.0**
F36A Milaca 70.47 43 P **P** **06 11 22.3 +0.3**
baz=318
ODD1 Odda 70.47 343 *e*P **P** **06 11 23.2 +1.5**
ECSD EROS Data Cent 70.53 46 lAmb lAmb 06 11 36.7
comp=Z,19nm,1.0s
ECSD EROS Data Cent 70.53 46 P **P** **06 11 23.3 +0.9**
baz=317
ECSD EROS Data Cent 70.53 46 P **P** **06 11 20.8 -1.5**
baz=317,SNR=14
TUC Tucson 70.60 63 P **P** **06 11 22.5 -0.6**
baz=314
KSCO Kaye Shedlock' 70.73 53 P **P** **06 11 22.6 -1.2**
baz=315
E38A The Farm, Brul 70.83 42 lAmb lAmb 06 11 25.6
comp=Z,15nm,0.7s
E38A The Farm, Brul 70.83 42 P **P** **06 11 24.8 +0.7**
baz=319,SNR=6.6
BLS5 Blasjo 70.96 343 *e*P **P** **06 11 26.2 +1.4**
T25A Trinidad 71.04 56 lAmb lAmb 06 11 41.1
comp=Z,16nm,1.0s
T25A Trinidad 71.04 56 P **P** **06 11 24.6 -1.3**
baz=315,SNR=5.8
KIV Kislovodsk 71.27 315⇑ P **P** **06 11 28.2 +1.3**
KIV Kislovodsk 71.27 315 *ce*P **P** **06 11 29.2 +2.2**
KIV pmax pmax
comp=Z,18nm,1.3s
SPMN Marine on St. 71.28 43 lAmb lAmb 06 11 28.8
comp=Z,16nm,1.0s
SPMN Marine on St. 71.28 43 P **P** **06 11 28.0 +1.1**
baz=316,SNR=5.4
SPMN Marine on St. 71.28 43 P **P** **06 11 26.0 -0.9**
baz=318,SNR=5.4
KBZ Khabaz 71.33 314 P **P** **06 11 27.8 +0.6**
comp=Z,8.3nm,0.7s,baz=45,slow=9.5,SNR=15
KBZ LR LR 06 45 23.1
comp=Z,329nm,18.5s,baz=32,slow=38
comp=Z,8.3nm,0.7s
KBZ Khabaz 71.33 314 *ce*P **P** **06 11 28.6 +1.4**
ANMO Albuquerque 71.39 59 LR LR 06 39 35.5
comp=Z,107nm,20.9s,baz=329,slow=33
ANMO Albuquerque 71.39 59 P **P** **06 11 28.5 +0.5**
ANMO Albuquerque 71.39 59⇓ *i* P **P** **06 11 30.1 +2.1**
ANMO Albuquerque 71.39 59 P **P** **06 11 27.4 -0.6**
baz=314
BGNE Belgrade 71.42 49 P **P** **06 11 26.4 -1.5**
baz=317
ZEI Tsey 71.52 313 *e*P **P** **06 11 27.3 -1.3**
ZEI pmax pmax
comp=Z,12nm,0.9s
SNART Snartemo 71.80 342 *e*P **P** **06 11 30.8 +1.0**
I37B Waseca 71.90 44 P **P** **06 11 32.3 +1.6**
baz=318,SNR=13
AKASG Malin Array Be 71.93 327 P **P** **06 11 29.6 -1.0**
comp=Z,6.9nm,0.5s,baz=34,slow=6.6,SNR=55
comp=Z,6.9nm,0.5s
AKASG Malin Array Be 71.93 327 lAmb lAmb 06 11 31.6
comp=Z,35nm,1.4s
AKBB Malin Array Si 71.93 327 *ce*P **P** **06 11 30.2 -0.5**
121A Cookes Peak, D 72.28 61 lAmb lAmb 06 11 48.6
comp=Z,11nm,1.2s
121A Cookes Peak, D 72.28 61 P **P** **06 11 32.2 -1.1**
baz=315
ASAR Alice Springs 72.32 199 P **P** **06 11 34.5 +1.2**
comp=Z,15nm,0.8s,baz=13,slow=5.8,SNR=93
ASAR LR LR 06 43 46.0
comp=Z,85nm,19.3s,baz=26,slow=36
comp=Z,15nm,0.8s
CBKS Cedar Bluff 72.45 52 lAmb lAmb 06 11 48.7
comp=Z,28nm,1.2s
CBKS Cedar Bluff 72.45 52 P **P** **06 11 32.7 -1.4**
baz=316
G40A Rib Lake 72.46 42 lAmb lAmb 06 11 35.6
comp=Z,12nm,1.0s
BSD Bornholm Skovb 72.86 337 *i* P **P** **06 11 36.0 -0.1**
BSD lAmb lAmb 06 11 37.4
comp=Z,61nm,1.3s
GNI Garni 73.02 311 LR LR 06 47 02.3
comp=Z,498nm,19.1s,baz=34,slow=39
GNI Garni 73.02 311 P **P** **06 11 37.4 -0.2**
GNI Garni 73.02 311 *e*P **P** **06 11 37.4 -0.2**
SCHQ Schefferville 73.16 23 P **P** **06 11 37.7 -0.3**
comp=Z,7.0nm,0.9s,baz=306,slow=3.4,SNR=5.9
SCHQ LR LR 06 49 19.2
comp=Z,110nm,18.2s,baz=62,slow=40
comp=Z,7.0nm,0.9s
K38A Parkersburg 73.22 45 P **P** **06 11 38.9 +0.4**
baz=319
I40A Norwalk 73.31 43 lAmb lAmb 06 11 40.7
comp=Z,18nm,1.1s
SCIA State Center 73.56 46 P **P** **06 11 41.7 +1.1**
baz=319
SCIA State Center 73.56 46 P **P** **06 11 39.4 -1.2**
baz=319
KSU1 Kansas State U 73.91 50 P **P** **06 11 42.7 +0.1**
baz=318
KSU1 Kansas State U 73.91 50 P **P** **06 11 42.6 -0.1**
baz=318
BEL Belsk 73.96 332 *e*P **P** **06 11 44.0 +1.3**
AMTX Amarillo 74.20 56 lAmb lAmb 06 11 57.9
comp=Z,13nm,0.8s
AMTX Amarillo 74.20 56 P **P** **06 11 45.9 +1.4**
baz=316
AMTX Amarillo 74.20 56 P **P** **06 11 44.0 -0.5**
baz=316
MSTX Muleshoe 74.23 57 lAmb lAmb 06 12 00.3
comp=Z,25nm,1.2s
MSTX Muleshoe 74.23 57 P **P** **06 11 46.3 +1.6**
baz=316
MSTX Muleshoe 74.23 57 P **P** **06 11 44.9 +0.1**
baz=316
JFWS Jewell Farm 74.23 43 P **P** **06 11 44.5 0.0**
baz=320
MNTX Cornudas Mount 74.31 60 P **P** **06 11 44.8 -0.3**
baz=316,SNR=6.2
SORM Soroca 74.34 326⇑ P **P** **06 11 44.5 -0.5**
SORM Soroca 74.34 326⇑ P **P** **06 11 44.5 -0.5**
L40A Anamosa 74.42 45 lAmb lAmb 06 11 46.9
comp=Z,30nm,1.1s
SIM Simferopol' 74.50 320 *e*P **P** **06 11 43.7 -2.3**
SIM pmax pmax
comp=Z,53nm,1.2s
LVV L'vov 74.56 329 *e*P **P** **06 11 46.7 +0.4**
LVV *e* 06 11 56.7
ELIS Ellis County 74.62 54 lAmb lAmb 06 12 01.8
comp=Z,31nm,1.1s
U32A Winter Ranch, 74.62 53 lAmb lAmb 06 12 02.0
comp=Z,22nm,1.0s
P38A Dawn 75.11 48 lAmb lAmb 06 11 51.3
comp=Z,20nm,1.0s
P38A Dawn 75.11 48 P **P** **06 11 50.5 +0.8**
baz=319,SNR=5.0
MILM Milestii Mici 75.15 325 *e*P **P** **06 11 49.0 -0.7**

MILM LRM MLR 06 49 12.8
comp=Z,400nm,14.0s
MILM Milestii Mici 75.15 325 ⇑P P 06 11 50.2 +0.5
MILM Milestii Mici 75.15 325 ⇑P P 06 11 50.2 +0.5
KWP Kalwaria Pacla 75.19 330 *eP* **P 06 11 50.1 +0.3**
GEVA Gevas 75.26 311 IAmb IAmb 06 11 53.0
comp=Z,43nm,1.3s
GLMI Grayling 75.30 39 P **P 06 11 49.6 -1.0**
baz=323
T35A Sooner Cattle 75.58 51 IAmb IAmb 06 12 07.1
comp=Z,12nm,0.9s
OJC Ojcow 75.67 332 *eP* **P 06 11 51.9 -0.7**
OJC Ojcow 75.67 332 IAmb IAmb 06 12 03.4
comp=Z,38nm,1.2s
VASR Vaslui 75.78 325 ⇑P P 06 11 54.1 +0.8
OK029 Liberty Lake 75.89 53 IAmb IAmb 06 12 09.4
comp=Z,32nm,1.3s
L44A Lake County Fo 75.90 43 P **P 06 11 54.1 0.0**
baz=322
KOLS Kolonicke sedl 75.93 329 *eP* **P 06 11 54.9 +0.7**
KOLS pmax pmax
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 75.93 329 *eP* **P 06 11 54.9 +0.7**
P40A Paris 75.94 47 IAmb IAmb 06 12 08.7
comp=Z,23nm,1.1s
P40A Paris 75.94 47 P **P 06 11 55.2 +0.9**
baz=320,SNR=6.6
WMOK Wichita Mounta 75.94 54 P **P 06 11 53.5 -1.0**
baz=318
BUR08 Bucovina Ar. S 75.95 327 IAmb IAmb 06 12 05.4
comp=Z,21nm,0.8s
BURAR Bucovina Array 75.97 327 ⇑P P 06 11 54.7 +0.2
BURAR Bucovina Array 75.97 327 ⇑P P 06 11 54.7 +0.2
QUOK Quay 76.02 52 IAmb IAmb 06 12 09.9
comp=Z,32nm,1.1s
OK025 Westminster Rd 76.12 53 IAmb IAmb 06 12 10.1
comp=Z,25nm,1.0s
UZH Uzhgorod 76.18 329 *eP* **P 06 11 52.2 -3.3**
NIE Niedzica 76.19 331 *eP* **P 06 11 56.5 +0.8**
BIZ Bicaz 76.19 326 ⇑P P 06 11 56.2 +0.5
KSP Ksiaz 76.23 334 ⇑P P 06 11 56.4 +0.5
VLDR Vladesti 76.32 324 ⇑P P 06 11 56.6 +0.2
TESR Tescani 76.34 326 ⇑P P 06 11 57.3 +0.8
GHRR 76.41 325 ⇑P P 06 11 57.7 +0.8
J47A Sunmer 76.47 40 P **P 06 11 59.2 +1.9**
baz=323
J47A P **P 06 11 59.2 +1.9**
baz=323
HDIL Hopedale 76.50 44 P **P 06 11 58.3 +0.8**
baz=321
HDIL Hopedale 76.50 44 P **P 06 11 56.7 -0.9**
baz=321
OSTC Ostas 76.50 334 AMS AMS 06 50 10.0
comp=Z,600nm,20.6s
OKC Ostrava-Krasne 76.53 332 AMS AMS 06 50 00.0
comp=Z,400nm,15.1s
EKA Eskdalemuir Ar 76.55 347 LR LR 06 52 12.8
comp=Z,83nm,18.0s,baz=38,slow=41
TLCR 76.56 324 ⇓P P 06 11 58.2 +0.5
TLCR 76.56 324 ⇓P P 06 11 58.2 +0.5
DIKM Dikmen 76.57 317 ⇑P P 06 11 59.1 +1.2
UPC Upice 76.61 334 AMS AMS 06 50 10.0
comp=Z,700nm,17.8s
LPIG La Paz 76.62 69 LR LR 06 39 50.4
comp=Z,63nm,21.1s,baz=310,slow=31
DPC Dobruska-Polom 76.65 334 *eP* **P 06 11 59.0 +0.7**
DPC *e* 06 12 04.0
DPC MLR MLR
comp=Z,500nm,16.6s
DPC Dobruska-Polom 76.65 334 *eP* **P 06 11 59.0 +0.7**
DPC *ep*P **pwP 06 12 04.0 -4.0**
DPC AMS AMS 06 49 50.0
comp=Z,500nm,16.6s
LANS Liptovska Anna 76.70 331 *eP* **P 06 12 00.3 +1.7**
LANS pmax pmax
comp=Z,16nm,1.1s
LANS Liptovska Anna 76.70 331 *eP* **P 06 12 00.3 +1.7**
TUL1 Leonard 76.71 51 IAmb IAmb 06 12 13.3
comp=Z,16nm,1.1s
TUL1 Leonard 76.71 51 P **P 06 11 59.7 +0.8**
baz=319
TUL1 Leonard 76.71 51 P **P 06 11 58.1 -0.8**
baz=319
KRLC Kraliky 76.75 333 *eP* **P 06 11 59.4 +0.5**
KRLC *e* 06 12 03.8
KRLC MLR MLR
comp=Z,600nm,17.0s
KRLC Kraliky 76.75 333 *eP* **P 06 11 59.4 +0.5**
KRLC *ep*P **sP 06 12 03.8 +1.1**
KRLC AMS AMS 06 51 00.0
comp=Z,600nm,17.0s
R40A Maddies Statio 76.77 48 IAmb IAmb 06 12 13.1
comp=Z,20nm,1.1s
R40A Maddies Statio 76.77 48 P **P 06 11 59.7 +0.6**
baz=320,SNR=7.6
CLL Collm 76.77 336 *i* P **P 06 11 58.7 -0.2**
CLL *i* 06 12 05.3
CLL *e*S **S 06 21 46.0 +0.6**
CLL pmax pmax
comp=Z,43nm,1.1s
CLL MLR MLR
comp=Z,300nm,18.8s
CLL Collm 76.77 336 *i* P **P 06 11 58.7 -0.2**
comp=Z,43nm,1.1s
CLL *i* sP **pwP 06 12 05.3 -3.2**
CLL *i* x 06 12 09.2
CLL *e*PP **PP 06 14 55.0 +4.2**
CLL *ex* x 06 15 13.0
CLL *e*S **S 06 21 46.0 +0.6**
CLL *e*PS **PnS 06 22 20.0 -3.3**
CLL *e*SS **SS 06 26 42.0 +2.0**
CLL *e*SSS SSS 06 30 06.0
CLL Lm MLR 06 48 00.0
comp=Z,300nm,18.8s
MORC Moravsky Berou 76.78 333 ⇑P P 06 11 58.8 -0.2
MORC Moravsky Berou 76.78 333 IAmb IAmb 06 12 11.0
comp=Z,29nm,1.1s
MORC Moravsky Berou 76.78 333 *eP* **P 06 11 59.0 0.0**
MORC Moravsky Berou 76.78 333 ⇑P P 06 11 58.8 -0.2
VRI Vrincioaia 76.84 325 ⇓P P 06 12 00.6 +1.2
VRI Vrincioaia 76.84 325 ⇓P P 06 12 00.6 +1.2
CFR Carcaliu 76.84 324 ⇑P P 06 12 00.1 +0.7
CFR Carcaliu 76.84 324 ⇑P P 06 12 00.1 +0.7
PLOR Plostina 76.88 325 ⇑P P 06 12 00.7 +1.0
PLOR Plostina 76.88 325 ⇑P P 06 12 00.7 +1.0
BRG Berggiesshubel 76.90 335 *eP* **P 06 12 00.5 +0.9**
BRG Amp 06 12 02.1
comp=Z,8.0nm,0.8s
BRG *ex* x 06 12 08.5
BRG Amp 06 12 12.0
comp=Z,23nm,1.3s
BRG Amp 06 54 25.0
comp=Z,0.3nm,13.8s
BRG Amp 06 54 28.0
comp=E,0.3nm,16.2s
BRG Amp 06 54 28.0
comp=N,0.3nm,17.1s
BRG Berggiesshubel 76.90 335 *eP* **P 06 12 00.4 +0.9**
BRG *e* 06 12 08.5
BRG pmax pmax
comp=Z,8.0nm,0.8s
WSAR Wadi Sarin 76.95 290 LR LR 06 50 09.6
comp=Z,154nm,18.4s,baz=60,slow=39
TPGR Topolog 76.99 324 ⇑P P 06 12 00.7 +0.5
ABTX Abilene, Hawle 77.00 56 P **P 06 11 59.0 -1.6**
baz=318
OZUR 77.02 326 ⇑P P 06 12 01.0 +0.6
PVCC Panska Ves 77.02 335 AMS AMS 06 49 20.0
comp=Z,400nm,16.9s
TX31 Lajitas Ar. Si 77.03 61 P **P 06 12 02.6 +1.7**
baz=317,SNR=23
TX32 Lajitas Array 77.03 61 IAmb IAmb 06 12 14.7
comp=Z,20nm,1.0s
TXAR Lajitas Array 77.03 61 P **P 06 12 01.9 +1.1**
comp=Z,5.9nm,0.8s,baz=298,slow=4.2,SNR=76
comp=Z,5.9nm,0.8s
COVR Voineasa-Covas 77.06 325 ⇑P P 06 12 01.8 +1.2
U38A Gravette 77.07 50 P **P 06 12 01.4 +0.6**
baz=319
P43A Skaggs, Pawnee 77.10 45 P **P 06 12 01.7 +0.7**
baz=321
DOPR Dopca 77.28 326 ⇑P P 06 12 02.3 +0.4
UOSS Minazif 77.30 293 P **P 06 12 02.3 0.0**
HARR Harsova 77.33 324 ⇑P P 06 12 03.0 +0.9
HARR Harsova 77.33 324 ⇑P P 06 12 03.0 +0.9

NEHR Nehoiu 77.38 325 ⇑P P 06 12 03.7 +1.3
HHAR Hobbs 77.42 50 P **P 06 12 03.3 +0.4**
baz=320
MLR Muntele Rosu 77.46 325 ⇑P P 06 12 04.1 +1.1
MLR Muntele Rosu 77.46 325 LR LR 06 48 44.7
comp=Z,311nm,18.4s,baz=119,slow=38
MLR Muntele Rosu 77.46 325 ⇑P P 06 12 04.1 +1.1
CCM Cathedral Cave 77.47 47 P **P 06 12 02.9 -0.1**
CCM IAmb IAmb 06 12 17.1
comp=Z,14nm,1.1s
CCM Cathedral Cave 77.47 47 P **P 06 12 02.9 -0.1**
CCM pmax pmax
comp=Z,14nm,1.1s
CCM Cathedral Cave 77.47 47 P **P 06 12 03.8 +0.8**
baz=320,SNR=5.7
CCM Cathedral Cave 77.47 47 P **P 06 12 01.9 -1.1**
baz=320
VYHS Vyhne 77.47 331 *eP* **P 06 12 03.4 +0.5**
VYHS pmax pmax
comp=Z,22nm,1.3s
VYHS Vyhne 77.47 331 *eP* **P 06 12 03.4 +0.5**
VRAC Vranov 77.49 333 ⇑P P 06 12 03.3 +0.3
VRAC Vranov 77.49 333 LR LR 06 51 41.9
comp=Z,468nm,18.6s,baz=22,slow=40
VRAC Vranov 77.49 333 *eP* **P 06 12 03.2 +0.2**
VRAC Vranov 77.49 333 ⇑P P 06 12 03.3 +0.3
PRU Pruhonice 77.51 335 *eP* **P 06 12 03.6 +0.6**
PRU MLR MLR
comp=Z,400nm,14.6s
PRU Pruhonice 77.51 335 *eP* **P 06 12 03.6 +0.6**
PRU AMS AMS 06 49 20.0
comp=Z,400nm,14.6s
ISR Istrita 77.53 325 ⇑P P 06 12 03.7 +0.3
ISR Istrita 77.53 325 ⇑P P 06 12 03.7 +0.3
JAVC Velka Javorina 77.54 332 *eP* **P 06 12 04.6 +1.3**
DRGR 77.59 328 ⇑P P 06 12 04.7 +1.1
DRGR 77.59 328 ⇑P P 06 12 04.7 +1.1
PSZ Piszkesteto 77.62 330 ⇑P P 06 12 04.3 +0.5
PSZ Piszkesteto 77.62 330 ⇑P P 06 12 04.3 +0.5
PSZ Piszkesteto 77.62 330 P **P 06 12 04.1 +0.3**
SADO Sadowa 77.62 36 LR LR 06 49 57.7
comp=Z,126nm,19.4s,baz=5.0,slow=38
SFIN Lafayette 77.69 43 P **P 06 12 02.4 -1.8**
baz=322
KRUC Moravsky 77.76 333 *eP* **P 06 12 04.7 +0.2**
TREC Trest 77.84 334 AMS AMS 06 50 50.0
comp=Z,700nm,16.0s
ICOR Ion Corvin 77.85 323 ⇑P P 06 12 06.3 +1.3
VOIR 77.85 326 ⇓P P 06 12 05.7 +0.5
VOIR 77.85 326 ⇓P P 06 12 05.7 +0.5
NKC Novy Kostel 77.89 336 AMS AMS 06 52 20.0
comp=Z,400nm,15.0s
SMOL Smolenice 77.92 332 *eP* **P 06 12 06.6 +1.2**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
FVM French Village 77.93 47 IAmb IAmb 06 12 07.3
comp=Z,34nm,1.6s
PSN Preselentsi 78.05 323 P **P 06 12 07.3 +1.1**
ARR Arges 78.07 326 ⇑P P 06 12 07.3 +1.0
MODS Modra-Piesok 78.09 332 *eP* **P 06 12 07.4 +1.1**
MODS pmax pmax
comp=Z,140nm,2.1s
MODS Modra-Piesok 78.09 332 *eP* **P 06 12 07.4 +1.1**
TRQ Mont Tremblant 78.17 32 P **P 06 12 06.8 0.0**
P46A Rosedale 78.23 44 P **P 06 12 08.2 +1.0**
baz=322
ZST Bratislava 78.30 332 *eP* **P 06 12 08.7 +1.2**
ZST pmax pmax
comp=Z,32nm,0.9s
ZST Bratislava 78.30 332 *eP* **P 06 12 08.7 +1.2**
LOT Lotru 78.33 327 ⇑P P 06 12 08.8 +0.9
SIRR Siria 78.42 328 ⇓P P 06 12 09.0 +0.8
JCT Junction City 78.49 58 IAmb IAmb 06 12 24.3
comp=Z,30nm,1.2s
JCT Junction City 78.49 58 P **P 06 12 07.9 -1.0**
baz=318
OLIL Olney 78.50 45 IAmb IAmb 06 12 10.8
comp=Z,40nm,1.5s
KHC Kasperske Hory 78.56 335 IAmb IAmb 06 12 21.3
comp=Z,36nm,1.3s
KHC Kasperske Hory 78.56 335 *eP* **P 06 12 09.4 +0.4**
KHC *e* 06 12 13.8
KHC MLR MLR
comp=Z,500nm,19.5s
KHC Kasperske Hory 78.56 335 *eP* **P 06 12 09.4 +0.4**
KHC *ep*P **sP 06 12 13.8 +1.0**
KHC AMS AMS 06 50 10.0
comp=Z,500nm,19.5s
CKRC Cesky Krumlov 78.62 334 *eP* **P 06 12 09.5 +0.2**
CKRC AMS AMS 06 51 30.0
comp=Z,400nm,15.7s
CSKK Cskako 78.65 331 P **P 06 12 10.2 +0.8**
FCAR Ozark Folk Cen 78.67 49 IAmb IAmb 06 12 24.1
comp=Z,12nm,0.9s
O48B Farmland 78.69 42 P **P 06 12 08.5 -1.2**
baz=323
WHTX Lake Whitney, 78.71 55 IAmb IAmb 06 12 25.5
comp=Z,24nm,1.1s
WHTX Lake Whitney, 78.71 55 P **P 06 12 09.7 -0.3**
baz=319
GRFO Grafenberg 78.73 336 P **P 06 12 10.9 +1.1**
GRFO Grafenberg 78.73 336 P **P 06 12 10.9 +1.1**
GRFO pmax pmax
comp=Z,118nm,1.6s
GZR Gura Zlata 78.75 327 ⇓P P 06 12 10.6 +0.5
GZR Gura Zlata 78.75 327 ⇓P P 06 12 10.6 +0.5
GEC2 GERESS Array S 78.78 334 IAmb IAmb 06 12 22.0
comp=Z,43nm,1.7s
GERES GERESS Array B 78.78 334 P **P 06 12 09.9 -0.3**
comp=Z,3.2nm,0.5s,baz=22,slow=4.3,SNR=22
GERES LR LR 06 50 32.0
comp=Z,280nm,18.3s,baz=26,slow=38
comp=Z,3.2nm,0.5s
BR131 Keskin Array S 78.84 317 P **P 06 12 09.0 -1.8**
BR131 Keskin Array S 78.84 317 P **P 06 12 09.0 -1.8**
BR131 pmax pmax
comp=Z,44nm,1.1s
BRTR Keskin Array B 78.84 317 P **P 06 12 11.1 +0.3**
comp=Z,10nm,0.9s,baz=64,slow=2.9,SNR=22
BRTR LR LR 06 52 14.2
comp=Z,104nm,18.5s,baz=66,slow=40
comp=Z,10nm,0.9s
BRTR Keskin Array B 78.84 317 P **P 06 12 08.9 -1.8**
COPA Copaceanca 78.88 325 ⇑P P 06 12 10.5 -0.2
SOP Sopron 78.93 332 P **P 06 12 11.6 +0.7**
MIAR Mount Ida 78.93 51 P **P 06 12 12.3 +1.2**
baz=320
MIAR Mount Ida 78.93 51 P **P 06 12 10.8 -0.4**
baz=320
CONA Conrad Observa 78.93 333 *i* P **P 06 12 12.0 +0.9**
comp=Z,9.5nm,0.7s,SNR=9.4
STKA Stephens Creek 78.97 191 P **P 06 12 11.9 +0.8**
comp=Z,2.9nm,0.9s,baz=346,slow=9.0,SNR=5.0
STKA LR LR 06 46 41.1
comp=Z,93nm,20.1s,baz=29,slow=35
comp=Z,2.9nm,0.9s
STKA Stephens Creek 78.97 191 P **P 06 12 12.0 +0.8**
BZS Buzias 78.99 328 ⇑P P 06 12 11.8 +0.5
BZS Buzias 78.99 328 ⇑P P 06 12 11.8 +0.5
RONA Rosalia, Austr 79.00 332 *i* P **P 06 12 12.3 +0.9**
comp=Z,18nm,1.2s,SNR=9.8
WHAR Wooly Hollow 79.05 50 IAmb IAmb 06 12 13.5
comp=Z,22nm,1.2s
MPLH Magyarpolny 79.06 331 P **P 06 12 12.6 +0.9**
ANTO Ankara 79.12 318 P **P 06 12 11.3 -0.9**
ANTO Ankara 79.12 318 P **P 06 12 11.3 -0.9**
ANTO pmax pmax
comp=Z,31nm,0.6s
P48A Milroy 79.20 43 P **P 06 12 13.2 +0.6**
baz=323
P48A P **P 06 12 13.2 +0.6**
baz=323
BTNL Ternell 79.21 340 *dP* **P 06 12 12.1 -0.4**
comp=Z,16nm,1.0s
MEM Membach 79.22 340 *dP* **P 06 12 13.0 +0.5**
comp=Z,22nm,0.9s
SZH Strazhica 79.31 324 P **P 06 12 14.0 +0.8**
HERR Herculane 79.32 327 ⇑P P 06 12 13.4 +0.3
BSTI Sart Tilman 79.35 340 *dP* **P 06 12 13.6 +0.4**
RAR Rarotonga 79.44 137 LR LR 06 45 22.2
comp=Z,246nm,18.3s,baz=286,slow=34
BHOU Houvegnez 79.46 340 *dP* **P 06 12 14.2 +0.3**
comp=Z,19nm,1.1s
P49A Miami Univ. Ec 79.47 42 P **P 06 12 14.9 +0.8**
baz=324

P49A Miami Univ. Ec 79.47 42 P **P 06 12 14.5 +0.4**
baz=324
MOA Molln 79.50 334 *i* P **P 06 12 14.7 +0.6**
comp=Z,6.3nm,0.9s,SNR=6.1
MORH Mrgy, Hungar 79.52 330 ⇑P P 06 12 13.9 -0.3
MORH Mrgy, Hungar 79.52 330 P **P 06 12 13.5 -0.7**
BCLA Clavier 79.56 340 *dP* **P 06 12 14.8 +0.5**
BCLA *dP*cP **PcP 06 12 21.6 -0.7**
ARSA Arzberg 79.64 333 *eP* **P 06 12 15.8 +0.9**
comp=Z,5.2nm,0.6s
MDVR Moldovita 79.67 328 ⇑P P 06 12 14.8 -0.3
ACSO Alum Creek Sta 79.70 41 P **P 06 12 13.7 -1.6**
baz=324
M53A WI Miller and 79.73 39 P **P 06 12 14.1 -1.3**
baz=326
RAO Raoul Island 79.74 155 LR LR 06 43 02.7
comp=Z,239nm,18.6s,baz=148,slow=32
WCI Wyandotte Cave 79.77 44 P **P 06 12 16.5 +0.8**
WCI IAmb IAmb 06 12 30.2
comp=Z,28nm,1.1s
WCI Wyandotte Cave 79.77 44 P **P 06 12 16.5 +0.8**
WCI pmax pmax
comp=Z,28nm,1.1s
WCI Wyandotte Cave 79.77 44 P **P 06 12 13.6 -2.1**
baz=323
BMRD Maredsous 79.80 340 *dP* **P 06 12 16.2 +0.6**
comp=Z,13nm,1.0s
KOVH Kovagotottos 79.82 330 P **P 06 12 15.6 -0.3**
BIOA Bad Ischl, Aus 79.83 334 *eP* **P 06 12 17.1 +1.2**
comp=Z,10nm,0.7s
WLAR White Oak Lake 79.83 51 IAmb IAmb 06 12 31.4
comp=Z,21nm,1.0s
DOU Dourbes 80.03 341 *dP* **P 06 12 17.1 +0.2**
FRGS Fruska Gora 80.03 329 ⇑P P 06 12 17.2 +0.1
FRGS Fruska Gora 80.03 329 *eP* **P 06 12 15.9 -1.1**
MPEP Malo Peshtene 80.11 326 P **P 06 12 17.7 +0.2**
N53A Lisbon 80.18 39 P **P 06 12 18.6 +0.7**
baz=326
N53A P **P 06 12 18.6 +0.7**
baz=326
BLKB Belogradchik 80.29 326 ⇑P P 06 12 18.5 0.0
SOKA Soboth 80.30 333 *i* P **P 06 12 19.2 +0.7**
comp=Z,11nm,0.7s,SNR=10
O52A Adamsville 80.30 40 IAmb IAmb 06 12 20.1
comp=Z,18nm,0.8s
O52A Adamsville 80.30 40 P **P 06 12 18.4 -0.2**
baz=325
O52A P **P 06 12 18.4 -0.2**
baz=325
PERS Pernice 80.31 333 *i* P **P 06 12 18.6 0.0**
833A Chaparral WMA, 80.32 59 P **P 06 12 18.6 -0.2**
baz=318
T47A Sharon Grove 80.36 45 IAmb IAmb 06 12 21.1
comp=Z,41nm,1.4s
CCAR Cane Creek 80.37 50 IAmb IAmb 06 12 21.6
comp=Z,48nm,1.4s
KBA Koelnbreinsper 80.47 334 *i* P **P 06 12 20.6 +1.1**
comp=Z,54nm,1.2s,SNR=8.9
O53A New Philadelph 80.47 40 P **P 06 12 18.8 -0.7**
baz=325
Q51A Peebles 80.51 42 IAmb IAmb 06 12 21.6
comp=Z,17nm,0.9s
Q51A Peebles 80.51 42 P **P 06 12 20.9 +1.2**
baz=324
Q51A P **P 06 12 20.9 +1.2**
baz=324
M55A Ridgway 80.51 37 IAmb IAmb 06 12 34.4
comp=Z,22nm,1.1s
M55A Ridgway 80.51 37 P **P 06 12 20.8 +1.1**
baz=326
M55A P **P 06 12 20.8 +1.1**
baz=326
P52A Corning 80.56 41 P **P 06 12 19.3 -0.7**
baz=325
OBKA Obir 80.61 333 *eP* **P 06 12 19.9 -0.3**
OBKA Obir 80.61 333 *eP* **P 06 12 20.7 +0.5**
comp=Z,19nm,1.3s
BOVS Bovan 80.65 327 ⇑P P 06 12 20.0 -0.3
WVT Waverly 80.67 46 P **P 06 12 21.0 +0.4**
WVT Waverly 80.67 46 P **P 06 12 21.0 +0.4**
WVT pmax pmax
comp=Z,8.0nm,0.9s
WVT Waverly 80.67 46 P **P 06 12 21.9 +1.2**
baz=322
WVT Waverly 80.67 46 P **P 06 12 19.2 -1.4**
baz=322
BFO Black Forest 80.75 338 P **P 06 12 21.1 +0.3**
BFO IAmb IAmb 06 12 22.8
comp=Z,24nm,1.2s
BFO Black Forest 80.75 338 P **P 06 12 21.1 +0.3**
BFO pmax pmax
comp=Z,24nm,1.2s
WATA Walderalm 80.76 335 *i* P **P 06 12 21.8 +0.8**
comp=Z,32nm,1.1s,SNR=9.3
MYKA Terra Mystica 80.78 334 *eP* **P 06 12 21.8 +0.7**
comp=Z,2.7nm,0.5s
UPAO U. Pittsburgh 80.80 39 P **P 06 12 22.4 +1.2**
baz=326
H62A Milan 80.81 31 P **P 06 12 21.7 +0.5**
H62A IAmb IAmb 06 12 23.1
comp=Z,19nm,1.1s
H62A Milan 80.81 31 P **P 06 12 21.9 +0.8**
baz=331
H62A P **P 06 12 21.9 +0.8**
baz=331
WTTA Wattenberg 80.81 335 *i* P **P 06 12 22.3 +1.0**
comp=Z,24nm,0.6s,SNR=15
LBNH Lisbon 80.82 32 P **P 06 12 20.5 -0.8**
baz=330
PKME Peaks-Kenny Pk 80.85 29 P **P 06 12 20.8 -0.5**
baz=332
RETA Reutte 80.86 336 *i* P **P 06 12 22.1 +0.6**
comp=Z,17nm,1.2s,SNR=9.6
DIVS Divibare 80.88 328 IAmb IAmb 06 12 36.3
comp=Z,25nm,1.2s
DIVS Divibare 80.88 328 *eP* **P 06 12 21.1 -0.6**
MOTA Moosalm 80.89 335 *i* P **P 06 12 22.4 +0.7**
comp=Z,45nm,1.2s,SNR=16
O54A Avella 80.89 39 IAmb IAmb 06 12 23.1
comp=Z,14nm,0.8s
O54A Avella 80.89 39 P **P 06 12 22.2 +0.5**
baz=326
O54A P **P 06 12 22.2 +0.5**
baz=326
CRES Cresnjev 80.92 332 *eP* **P 06 12 21.0 -0.8**
VTS Vitosha 80.93 325 ⇑P P 06 12 22.6 +0.5
VTS Vitosha 80.93 325 IAmb IAmb 06 12 24.4
comp=Z,21nm,0.7s
VTS Vitosha 80.93 325 ⇑P P 06 12 22.6 +0.5
VTS Vitosha 80.93 325 P **P 06 12 20.5 -1.6**
PRED Cave del Predi 80.97 333 IAmb IAmb 06 12 24.2
comp=Z,27nm,1.2s
SQTA Sankt Quirin 80.97 335 *i* P **P 06 12 23.1 +0.9**
comp=Z,27nm,1.1s,SNR=7.6
ABTA Abfaltersbach 81.02 334 *i* P **P 06 12 23.1 +0.8**
comp=Z,12nm,0.8s,SNR=6.2
BINY Binghamton 81.03 35 P **P 06 12 20.5 -2.0**
baz=328
OXF Oxford 81.14 48 P **P 06 12 21.4 -1.7**
baz=322
ECH Echery 81.16 338 IAmb IAmb 06 12 25.6
comp=Z,29nm,1.2s
A051A Mrakovica 81.16 331 *eP* **P 06 12 22.6 -0.6**
CLUD Cludinico 81.17 334 IAmb IAmb 06 12 25.5
comp=Z,17nm,1.1s
RDO Rodhopi 81.25 323 IAmb IAmb 06 12 35.7
comp=Z,32nm,1.0s
BOJS Bojanci 81.28 332 *eP* **P 06 12 23.4 -0.2**
BOJS Bojanci 81.28 332 *i* P **P 06 12 23.5 -0.2**
DAVA Damuels 81.28 336 *eP* **P 06 12 24.9 +1.0**
comp=Z,11nm,0.9s
FETA Feichten 81.29 336 *i* P **P 06 12 24.8 +0.9**
comp=Z,12nm,1.1s,SNR=7.0
M57A Sunshine Farm, 81.30 36 IAmb IAmb 06 12 25.4
comp=Z,13nm,0.9s
M57A Sunshine Farm, 81.30 36 P **P 06 12 24.6 +0.7**
baz=328
M57A P **P 06 12 24.6 +0.7**
baz=328
BLY Banja Luka 81.30 330 *eP* **P 06 12 23.7 -0.1**
CEY Cerknica 81.33 333 *eP* **P 06 12 23.2 -0.8**
U49A Red Boiling Sp 81.38 45 IAmb IAmb 06 12 39.3
comp=Z,14nm,0.9s
U49A Red Boiling Sp 81.38 45 P **P 06 12 25.0 +0.7**
baz=323
STAL STALIGIAL 81.39 334 IAmb IAmb 06 12 25.9
comp=Z,17nm,1.1s

T50A	**Nancy**	**81.43**	**44**	IAmb	IAmb	06 12 26.5	
	comp=Z,20nm,1.0s						
T50A	**Nancy**	**81.43**	**44**	P	**P**	**06 12 25.1**	**+0.5**
	baz=324						
T50A				P	**P**	**06 12 25.1**	**+0.5**
	baz=324						
CIMO	**Cimolais**	**81.43**	**334**	IAmb	IAmb	06 12 33.7	
	comp=Z,8.2nm,1.1s						
CLTN	**Cedars of Leba**	**81.45**	**45**	IAmb	IAmb	06 12 39.8	
	comp=Z,12nm,0.9s						
V48A	**Smith Brothers**	**81.48**	**46**	IAmb	IAmb	06 12 26.7	
	comp=Z,13nm,1.0s						
V48A	**Smith Brothers**	**81.48**	**46**	P	**P**	**06 12 25.6**	**+0.6**
	baz=323						
S51A	**Beattyville**	**81.52**	**43**	IAmb	IAmb	06 12 39.2	
	comp=Z,13nm,0.9s						
MCWV	**Mont Chateau**	**81.55**	**39**	P	**P**	**06 12 26.0**	**+0.8**
	baz=326						
MCWV	**Mont Chateau**	**81.55**	**39**	P	**P**	**06 12 25.5**	**+0.2**
	baz=326						
SSPA	**Standing Stone**	**81.57**	**37**	P	**P**	**06 12 25.9**	**+0.5**
	baz=327						
MMB	**Musomiste**	**81.61**	**325**	P	**P**	**06 12 26.7**	**+1.1**
SKDS	**Skadanscina**	**81.63**	**333**	*eP*	**P**	**06 12 24.2**	**-1.4**
PPT	**Papeete**	**81.65**	**127**	LR	LR	06 42 59.4	
	comp=Z,165nm,20.3s,baz=325,slow=31						
DAVOX	**Davos/Dischmat**	**81.75**	**336**	LR	LR	06 51 16.0	
	comp=Z,196nm,21.7s,baz=14,slow=38						
A050A	**Klekovaca**	**81.76**	**331**	*eP*	**P**	**06 12 26.0**	**-0.3**
N58A	**Sunbury**	**81.88**	**36**	IAmb	IAmb	06 12 28.4	
	comp=Z,16nm,1.0s						
SWET	**Sewanee**	**82.34**	**46**	IAmb	IAmb	06 12 30.5	
	comp=Z,13nm,0.8s						
TZTN	**Tazewell**	**82.42**	**43**	P	**P**	**06 12 30.1**	**+0.2**
	baz=324						
BRY	**Bratogost**	**82.45**	**329**	*eP*	**P**	**06 12 28.3**	**-1.8**
HRV	**Adam Dziewonsk**	**82.46**	**32**	P	**P**	**06 12 27.9**	**-2.0**
	baz=331						
PDG	**Podgorica**	**82.60**	**328**	⇓P	**P**	**06 12 30.4**	**-0.3**
W50A	**Signal Mountai**	**82.66**	**45**	IAmb	IAmb	06 12 32.9	
	comp=Z,11nm,1.1s						
TREB	**Trebinje**	**82.67**	**329**	*eP*	**P**	**06 12 31.0**	**-0.1**
DRME	**Dracevica, Mon**	**82.83**	**328**	*eP*	**P**	**06 12 30.8**	**-1.1**
SENIN	**Lac Senin/Sane**	**82.83**	**337**	IAmb	IAmb	06 12 35.7	
	comp=Z,11nm,1.0s						
CPCT	**Cooper Cave**	**82.84**	**45**	IAmb	IAmb	06 12 46.8	
	comp=Z,9.1nm,0.9s						
PAL	**Palisades**	**82.86**	**34**	P	**P**	**06 12 31.5**	**-0.6**
	baz=329						
TKL	**Tuckaleechee C**	**83.03**	**44**	LR	LR	06 51 54.7	
	comp=Z,149nm,20.9s,baz=338,slow=37						
MMAI	**Mount Meron Ar**	**83.30**	**312**	LR	LR	06 54 19.8	
	comp=Z,461nm,18.4s,baz=198,slow=39						
BLA	**Blacksburg**	**83.32**	**41**	P	**P**	**06 12 34.2**	**-0.4**
	baz=326						
LRAL	**Lakeview Retre**	**83.54**	**48**	P	**P**	**06 12 36.4**	**+0.7**
	baz=323						
KBN	**Korca**	**83.59**	**326**	IAmb	IAmb	06 12 39.9	
	comp=Z,16nm,0.8s						
CBN	**Corbin Frederi**	**83.83**	**38**	P	**P**	**06 12 37.6**	**+0.6**
	baz=328						
BG3	**Lake Jocassee**	**83.97**	**44**	IAmb	IAmb	06 12 39.6	
	comp=Z,12nm,0.8s						
CASEE	**Lake Jocassee**	**83.97**	**44**	P	**P**	**06 12 39.4**	**+1.4**
	baz=325						
BNI	**Bardonecchia**	**84.21**	**337**	IAmb	IAmb	06 12 40.8	
	comp=Z,9.9nm,1.0s						
Z51A	**Franklin**	**84.23**	**46**	IAmb	IAmb	06 12 40.8	
	comp=Z,21nm,1.1s						
SSB	**Saint Sauveur**	**84.55**	**339**	IAmb	IAmb	06 12 42.6	
	comp=Z,18nm,1.0s						
KMSC	**Kings Mountain**	**84.60**	**43**	P	**P**	**06 12 41.7**	**+0.6**
	baz=326						
HODGE	**Hodges**	**84.91**	**44**	IAmb	IAmb	06 12 55.5	
	comp=Z,17nm,1.1s						
LATE	**Laterza**	**84.97**	**333**	P	**P**	**06 12 41.0**	**-1.9**
RAYN	**Ar Rayn**	**84.97**	**299**	P	**P**	**06 12 42.8**	**-0.4**
RAYN				IAmb	IAmb	06 12 56.8	
	comp=Z,13nm,0.8s						
RAYN	**Ar Rayn**	**84.97**	**299**	⇑P	**P**	**06 12 43.8**	**+0.6**
BRAL	**Brewton**	**84.99**	**49**	P	**P**	**06 12 41.7**	**-1.4**
	baz=323						
GOGA	**Godfrey**	**85.00**	**45**	P	**P**	**06 12 43.6**	**+0.5**
	baz=325						
MATE	**Matera**	**85.08**	**329**	⇑P	**P**	**06 12 43.3**	**0.0**
V58A	**Windy Hill, Pi**	**85.08**	**41**	IAmb	IAmb	06 12 57.8	
	comp=Z,17nm,1.0s						
NWAO	**Narrogin (SRO)**	**85.87**	**210**	P	**P**	**06 12 46.1**	**-1.1**
	comp=Z,9.8nm,0.9s,baz=315,slow=1.4,SNR=3.9						
	comp=Z,9.8nm,0.9s						
EIL	**Elat**	**86.18**	**310**	LR	LR	06 54 58.4	
	comp=Z,249nm,18.6s,baz=87,slow=38						
URZ	**Urewera**	**87.06**	**162**	LR	LR	06 45 14.3	
	comp=Z,173nm,21.0s,baz=31,slow=31						
DWPF	**Disney Wildern**	**90.33**	**47**	P	**P**	**06 13 08.0**	**-0.8**
	baz=326						
CMIG	**Matias Romero**	**91.49**	**63**	LR	LR	06 55 32.5	
	comp=Z,37nm,18.4s,baz=320,slow=36						
ESDC	**Sonseca Array**	**91.80**	**343**	P	**P**	**06 13 14.7**	**-0.8**
	comp=Z,3.2nm,1.0s,baz=6.9,slow=4.4,SNR=12						
ESDC				LR	LR	07 00 47.7	
	comp=Z,236nm,18.7s,baz=16,slow=40						
	comp=Z,3.2nm,1.0s						
KEST	**Kesra**	**92.01**	**332**	P	**P**	**06 13 16.5**	**-0.1**
	comp=Z,10nm,1.0s,baz=81,slow=3.2,SNR=6.3						
KEST				LR	LR	06 59 14.4	
	comp=Z,226nm,18.8s,baz=246,slow=39						
	comp=Z,10nm,1.0s						
KEST	**Kesra**	**92.01**	**332**	IAmb	IAmb	06 13 18.8	
	comp=Z,17nm,1.1s						
ATD	**Arta Tunnel**	**95.68**	**293**	LR	LR	07 02 02.7	
	comp=Z,454nm,18.2s,baz=314,slow=39						
MDT	**Midelt**	**98.55**	**342**	LR	LR	07 04 45.6	
	comp=Z,74nm,18.0s,baz=46,slow=39						
TORD	**Torodi Ar. Bea**	**115.45**	**330**	PKP	**PKiKP**	**06 18 49.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=44,slow=2.8,SNR=2.0						
BOAV	**Boa Vista**	**122.49**	**42**	*eP*	**PKPdf**	**06 19 03.6**	**+0.2**
TBTG	**Tabatinga, AM**	**123.22**	**56**	*eP*	**PKPdf**	**06 19 05.1**	**+0.3**
VNDA	**Vanda**	**124.01**	**178**	PKhKP	PKPpre	06 18 57.9	
	comp=Z,0.5nm,0.4s,baz=27,slow=3.8,SNR=9.1						
CZSB	**Cruzeiro do Su**	**124.43**	**61**	*eP*	**PKPdf**	**06 19 07.2**	**0.0**
MACA	**Manacapuru-AM**	**127.27**	**45**	*eP*	**PKPdf**	**06 19 12.3**	**-0.3**
MALB	**Monte Alegre**	**129.03**	**37**	*eP*	**PKiKP**	**06 19 17.3**	**+0.6**
ITTB	**Itaituba**	**130.65**	**41**	*eP*	**PKPdf**	**06 19 19.1**	**+0.1**
TMAB	**Tom-Acu,PA,Br**	**131.88**	**30**	*eP*	**PKPdf**	**06 19 21.6**	**+0.3**
MAW	**Mawson**	**132.43**	**211**	PKP	**PKPdf**	**06 19 20.8**	**+0.2**
	comp=Z,3.5nm,1.0s,baz=80,slow=2.0,SNR=6.1						
NPGB	**Novo Progresso**	**133.19**	**42**	*eP*	**PKPdf**	**06 19 23.9**	**+0.1**
ROSB	**Rosrio**	**133.65**	**25**	*eP*	**PKPdf**	**06 19 24.7**	**0.0**
LPAZ	**La Paz**	**133.87**	**63**	PKP	**PKPdf**	**06 19 26.3**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=330,slow=8.1,SNR=2.3						
LPAZ	**La Paz**	**133.87**	**63**	*eP*	**PKPdf**	**06 19 26.4**	**+0.6**
PRPB	**Paraupebas**	**134.76**	**34**	*eP*	**PKPdf**	**06 19 26.8**	**0.0**
VILB	**Vilhena**	**135.81**	**52**	*eP*	**PKPdf**	**06 19 28.6**	**-0.1**
CLDB	**Colider**	**136.32**	**45**	*eP*	**PKiKP**	**06 19 30.9**	**-0.4**
QSPA	**South Pole Qui**	**136.41**	**180**		**PKiKP**	**06 19 30.0**	**+0.1**
PDRB	**Porto dos Gac**	**136.50**	**47**	*eP*	**PKPdf**	**06 19 30.3**	**+0.3**
LVC	**Limon Verde**	**138.04**	**70**	*eP*	**PKPdf**	**06 19 33.2**	**+0.1**
SMTB	**Santa Maria do**	**138.07**	**33**	*eP*	**PKPdf**	**06 19 33.0**	**+0.1**
H03N2	**Juan Fernandez**	**138.18**	**91**	T	T	08 53 24.6	
	baz=309,slow=77,SNR=6.7						
H03N1	**Juan Fernandez**	**138.19**	**91**	T	T	08 53 32.2	
	baz=309,slow=77,SNR=10.0						
H03N3	**Juan Fernandez**	**138.19**	**91**	T	T	08 53 33.8	
	baz=309,slow=77,SNR=13						
PTLB	**Pontes e Lacer**	**138.45**	**53**	*eP*	**PKPdf**	**06 19 33.6**	**+0.1**
SNDB	**Serra Nova Dou**	**139.37**	**40**	*eP*	**PKPdf**	**06 19 34.8**	**-0.4**
SALV	**Santo Antonio**	**140.66**	**49**	*eP*	**PKPdf**	**06 19 37.5**	**0.0**
NBAN	**Anadia - AL**	**142.11**	**17**	*eP*	**PKPdf**	**06 19 39.8**	**-0.4**
BDFB	**Brasilia**	**144.06**	**38**	PKP	PKPbc	06 19 41.7	+0.1
	comp=Z,4.4nm,0.6s,baz=21,slow=8.6,SNR=7.7						
BDFB	**Brasilia**	**144.06**	**38**	*eP*	**PKPdf**	**06 19 43.3**	**-0.4**
C2SB	**Chapadao do Su**	**144.52**	**47**	*eP*	**PKPdf**	**06 19 44.5**	**+0.3**
JANB	**Januaria**	**144.99**	**32**	*eP*	**PKPab**	**06 19 43.9**	**-0.6**
GDU01	**Guandu, BA**	**145.24**	**23**	*eP*	**PKPbc**	**06 19 45.1**	**-0.1**
ANTJ	**Antonio Joao (**	**145.47**	**55**	*eP*	**PKPbc**	**06 19 45.8**	**-0.1**
IPMB	**Ipameri, GO**	**146.05**	**40**	*eP*	**PKPdf**	**06 19 46.6**	**-0.4**
ITRB	**Iturama**	**146.54**	**45**	*eP*	**PKPdf**	**06 19 47.6**	**-0.1**
MC01	**Montes Claros**	**146.64**	**32**	*eP*	**PKPdf**	**06 19 47.2**	**-0.8**
CMC01	**Camacan, BA**	**146.82**	**24**	*eP*	**PKPdf**	**06 19 48.2**	**0.0**
PMNB	**Patos De Minas**	**147.31**	**38**	*eP*	**PKPdf**	**06 19 48.6**	**-0.5**
PLCA	**Paso Flores**	**147.63**	**96**	PKPbc	**PKPbc**	**06 19 52.3**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=302,slow=3.5,SNR=10.0						
PLCA	**Paso Flores**	**147.63**	**96**		**PKiKP**	**06 19 53.3**	**-0.5**
PLCA	**Paso Flores**	**147.63**	**96**	*eP*	**PKPdf**	**06 19 48.1**	**-1.0**
PCMB	**Pacaembu**	**147.70**	**48**	*eP*	**PKPdf**	**06 19 49.9**	**+0.3**
GUA01	**Guaratinga, BA**	**147.90**	**25**	*eP*	**PKPdf**	**06 19 49.7**	**-0.4**
TRCB	**Terra Rica**	**147.96**	**51**	*eP*	**PKPdf**	**06 19 49.9**	**-0.2**
CPUP	**Villa Florida**	**148.00**	**62**	PKPbc	**PKPbc**	**06 19 53.2**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=322,slow=3.8,SNR=9.8						
CPUP	**Villa Florida**	**148.00**	**62**		**PKPbc**	**06 19 54.1**	**+1.0**
CPUP	**Villa Florida**	**148.00**	**62**	*eP*	**PKPdf**	**06 19 50.3**	**+0.3**
DIAM	**Diamantina, MG**	**148.19**	**33**	*eP*	**PKPdf**	**06 19 50.7**	**0.0**
BELA	**Belgrano 2**	**148.50**	**177**		**PKPbc**	**06 19 52.9**	**0.0**
MCR1	**Marechal Candi**	**148.51**	**55**	*eP*	**PKPdf**	**06 19 49.3**	**-1.6**
BB19B	**Bebedouro**	**148.59**	**43**	*eP*	**PKPdf**	**06 19 50.5**	**-0.6**
SJMB	**Sao Joao De Ma**	**149.45**	**29**	*eP*	**PKPdf**	**06 19 52.6**	**+0.1**
NVL	**N'lazarevskaya**	**149.80**	**204**	*e*PKP2	**PKPbc**	**06 19 55.5**	**-0.7**
NVL				*p*max	*p*max		
	comp=Z,20nm,1.0s						
SMAI	**San Martin Ant**	**150.09**	**150**		**PKPdf**	**06 19 53.3**	**+1.3**
BSCB	**Bom Sucesso**	**150.19**	**37**	*eP*	**PKPdf**	**06 19 53.4**	**-0.3**
FRBT	**Francisco Belt**	**150.24**	**55**	*eP*	**PKPdf**	**06 19 54.0**	**+0.3**
RIB01	**Linhares ES**	**150.28**	**28**	*eP*	**PKPdf**	**06 19 53.8**	**0.0**
ITQB	**Itaqui**	**150.82**	**65**		**PKiKP**	**06 20 00.9**	**+0.3**
CRSM	**Crissiumal (Br**	**150.83**	**59**	*eP*	**PKPdf**	**06 19 54.7**	**+0.2**
TROLL	**Troll, Antarti**	**151.30**	**198**	PKPdf	**PKPbc**	**06 20 00.8**	**+0.8**
ALF01	**Guarapari-ES**	**151.38**	**30**	*eP*	**PKPdf**	**06 19 54.7**	**-0.8**
RODS	**Rosario do Sul**	**152.18**	**64**	*eP*	**PKPdf**	**06 19 55.7**	**-0.8**
SNAA	**Sanae**	**152.63**	**196**	PKPdf	**PKPbc**	**06 20 03.1**	**+0.2**
SNAA	**Sanae**	**152.63**	**196**		**PKPbc**	**06 20 03.5**	**+0.6**
SNAA				PKPab	**PKPab**	**06 20 14.7**	**+1.0**
SNAA	**Sanae**	**152.63**	**196**	PKIKP	**PKPbc**	**06 20 03.5**	**+0.6**
SNAA						06 20 14.7	
VNA2	**Neumayer--Watz**	**154.07**	**194**	PKPab	**PKPab**	**06 20 19.9**	**+0.3**
	baz=260,slow=1.1						
VNA2	**Neumayer--Watz**	**154.07**	**194**	PKPdf	**PKiKP**	**06 20 06.9**	**+0.8**
	baz=272,slow=3.0						
VNA3	**Neumayer Olymp**	**154.14**	**192**	PKPab	**PKPab**	**06 20 19.8**	**-0.2**
VNA3	**Neumayer Olymp**	**154.14**	**192**	PKPdf	**PKPbc**	**06 20 03.9**	**-2.2**
VNA1	**Neumayer--Stat**	**154.45**	**194**	PKPab	**PKPab**	**06 20 20.0**	**-1.2**
VNA1	**Neumayer--Stat**	**154.45**	**194**	PKPdf	**PKPbc**	**06 20 07.4**	**+0.6**

*IDC **01** 06:02:45.7±2.9,56°.55N×87°.11E,h0km,mbtmp3.2/2, ML2.7/2,Error ellipse: s-maj=23.4km s-min=19.6km az=44.0*

NNC 01 06:02:46.0±4.5,54°.33N×87°.21E,h0km,mb3.1,mpv2.9, 5C-4D,Error ellipse: s-maj=42.3km s-min=26.0km az=0.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
I46RU	**ZALESOVO INFRA**	**1.46**	**256**	*i*			06 11 05.0	
	baz=64,slow=323,SNR=1.1							
ZAA0	**Zalesovo Array**	**1.46**	**256**	⇑P		Pn	06 03 11.8	-1.8
	0.2nm,0.3s							
ZAA0				⇓S		Sn	06 03 34.1	+0.7
	1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**1.46**	**256**	Pg		Pn	06 03 10.9	-2.6
	1.4nm,0.3s,baz=65,slow=16,SNR=17							
ZALV				Lg		Lg	06 03 33.1	
	1.7nm,0.3s,baz=71,slow=35,SNR=6.6							
ZALV				Rg		Rg	06 03 40.6	
	12nm,0.7s,baz=53,slow=27,SNR=5.2							
KURK	**Kurchatov**	**6.37**	**239**	⇑Pn		Pn	06 04 22.1	+1.0
	3.2nm,0.8s							
KURK				⇑Sn		Sn	06 05 33.3	-1.1
	2.4nm,0.8s							
KURK				⇓Lg		Lg	06 06 05.1	
	3.9nm,1.0s							
KURBB	**Kurchatov Arra**	**6.47**	**239**	Pn		Pn	06 04 23.6	+1.1
	0.1nm,0.3s,baz=53,slow=14,SNR=15							
KURBB				Sn		Sn	06 05 38.1	+1.2
	baz=45,slow=20,SNR=4.1							
KURBB				Lg		Lg	06 06 12.1	
	baz=49,slow=30,SNR=6.2							
	1.7nm,0.7s							
KURBB	**Kurchatov Arra**	**6.47**	**239**	⇓Pn		Pn	06 04 23.7	+1.3
	1.9nm,0.6s							
KURBB				⇓Sn		Sn	06 05 35.0	-2.0
	3.0nm,0.8s							
KURBB				⇑Lg		Lg	06 06 10.2	
	7.0nm,0.8s							
MK31	**Makanchi Array**	**8.17**	**205**	Pn		Pn	06 04 49.8	+4.1
	0.2nm,0.4s,baz=28,slow=12,SNR=7.9							
MK31				Sn		Sn	06 06 22.3	+3.5
	1.8nm,0.8s,baz=31,slow=28,SNR=4.7							
MK31				⇑Lg		Lg	06 07 11.5	
	2.1nm,0.8s,baz=28,slow=34,SNR=3.7							
MKAR	**Makanchi Array**	**8.17**	**205**	Pn		Pn	06 04 49.3	+3.6
	0.2nm,0.3s,baz=25,slow=13,SNR=6.7							
MKAR				Sn		Sn	06 06 21.8	+3.1
	0.1nm,0.3s,baz=26,slow=27,SNR=6.1							
MKAR				Lg		Lg	06 07 06.5	
	baz=24,slow=25,SNR=2.9							
	0.3nm,0.3s							

*CNRM **01** 06:06:33.4,35°.58N×3°.78W,h25km,ml2.5*
*MDD **01** 06:06:34.1±0.3,35°.54N×3°.80W,h0km,mb_Lg2.3/12, Error ellipse: s-maj=3.1km s-min=2.8km az=48.0*
*INMG **01** 06:06:34.9±1.4,35°.31N×3°.81W,h31km,ML2.1,Error ellipse: s-maj=7.9km s-min=3.6km az=27.0*
*SFS **01** 06:06:34.0,35°.53N×3°.79W,ML2.3,ALBORAN SUR*
*IGIL **01** 06:06:35.6,35°.54N×3°.80W,h0km*

ISC 01 06:06:33.6±1.0,35°.55N±0°.02×3°.78W±0°.02,h20km±7km, n39,σ1§57/74,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PALE	**Palemas**	**0.35**	**201**	P		**Pg**	**06 06 41.5**	**+0.3**
PALE				S		**Sg**	**06 06 46.0**	**-0.5**
PVLZ	**Peæn de**	**0.57**	**229**	P		**Pb**	**06 06 44.9**	**0.0**
PVLZ				S		**Sb**	**06 06 52.3**	**-0.2**
WMELI	**Melilla**	**0.71**	**109**	P		**Pn**	**06 06 48.3**	**-0.3**
WMELI				S		**Sg**	**06 06 57.3**	**+0.6**
EMEL	**Melilla**	**0.72**	**110**	Pg		**Pg**	**06 06 48.1**	**+0.6**
EMEL				Sg		**Sb**	**06 06 57.1**	**+0.3**
CHAS	**Isla Isabel II**	**1.16**	**108**	P		**Pn**	**06 06 54.1**	**-0.6**
CHAS				S		**Sb**	**06 07 08.4**	**-1.2**
EMIJ	**Mijas**	**1.29**	**322**	Pg		**Pg**	**06 06 58.3**	**+1.6**
EMIJ				Sg		**Sn**	**06 07 12.7**	**-0.7**
EMIJ				*i*	Vmb_Lg		06 07 19.8	
SMIR	**Smir Dam**	**1.31**	**276**	P		**Pn**	**06 06 55.8**	**-1.0**
SMIR				S		**Sn**	**06 07 13.0**	**-0.7**
EMAL	**Malaga-Limoner**	**1.32**	**337**	P		**Pg**	**06 06 59.0**	**+2.1**
EMAL				S		**Sb**	**06 07 14.1**	**-0.1**
ELGU	**Los Guajares,**	**1.32**	**5**	Pg		**Pb**	**06 06 57.7**	**-0.1**
ELGU				Sg		**Sb**	**06 07 15.0**	**+0.6**
ELGU				*i*	Vmb_Lg		06 07 18.4	
TAF	**Taforalt**	**1.34**	**123**	P		**Pn**	**06 06 57.1**	**-0.1**
TAF				S		**Sn**	**06 07 13.7**	**-0.8**
CEU	**Ceuta**	**1.34**	**286**	P		**Pn**	**06 06 57.2**	**0.0**
CEU				S		**Sn**	**06 07 11.3**	**-3.2**
ECEU	**Ceuta**	**1.34**	**285**	Pg		**Pb**	**06 06 58.3**	**+0.2**
ECEU				Sg		**Sn**	**06 07 12.1**	**-2.4**
ECEU				*i*	Vmb_Lg		06 07 13.7	
CHEFC	**Chefchaouen**	**1.35**	**251**	P		**Pg**	**06 06 59.3**	**+1.9**
CHEFC				S		**Sb**	**06 07 15.9**	**+0.7**
EBER	**Berja**	**1.53**	**28**	Pn		**Pb**	**06 07 00.8**	**-0.6**
EBER				Sn		**Sn**	**06 07 19.3**	**0.0**
EBER				*i*	Vmb_Lg		06 07 27.5	
JBK	**JBK**	**1.57**	**140**	P		**Pn**	**06 07 00.3**	**-0.2**
JBK				S		**Sn**	**06 07 19.7**	**-0.6**
EGOR	**Sierra Gorda,**	**1.58**	**350**	Pn		**Pg**	**06 07 03.3**	**+2.7**
EGOR				Sn		**Sb**	**06 07 22.8**	**+0.9**
EGOR				*i*	Vmb_Lg		06 07 28.6	
EQUE	**Quentar**	**1.68**	**9**	Pn		**Pb**	**06 07 04.5**	**+0.6**
EQUE				Sn		**Sb**	**06 07 25.3**	**+0.7**
EQUE				*i*	Vmb_Lg		06 07 30.3	
IFR	**Ifrane**	**2.31**	**209**	P		**Pn**	**06 07 10.6**	**-0.2**
IFR				S		**Sn**	**06 07 36.2**	**-2.5**
EQES	**Quesada**	**2.32**	**14**	Pn		**Pb**	**06 07 14.4**	**-0.5**
EQES				Sn		**Sb**	**06 07 42.3**	**-0.9**
EQES				*i*	Vmb_Lg		06 07 45.4	
EADA	**Adamuz**	**2.69**	**346**	Pn		**Pb**	**06 07 19.4**	**-1.7**
EADA				Sn		**Sb**	**06 07 51.8**	**-1.9**
EADA				*i*	Vmb_Lg		06 08 00.6	
CZD	**Col de Zad**	**2.72**	**203**	P		**Pn**	**06 07 18.1**	**+1.7**
CZD				S		**Sn**	**06 07 49.3**	**+0.4**
MD31	**MD31**	**2.79**	**197**	P		**Pn**	**06 07 19.4**	**+2.1**
MD31				S		**Sn**	**06 07 50.6**	**+0.1**
MDT	**Midelt**	**2.81**	**194**	P		**Pn**	**06 07 18.4**	**+0.9**
MDT				S		**Sn**	**06 07 51.2**	**+0.3**
ECAB	**El Cabril**	**2.84**	**333**	Pn		**Pn**	**06 07 20.7**	**+2.8**
ECAB				Sn		**Sn**	**06 07 53.8**	**+2.2**
ECAB				*i*	Vmb_Lg		06 08 04.3	
ZHG	**ZHG**	**3.16**	**229**	P		**Pn**	**06 07 24.8**	**+2.5**
ZHG				S		**Sn**	**06 08 02.7**	**+3.2**
EMIN	**Mina Concepcio**	**3.21**	**314**	Pn		**Pn**	**06 07 24.0**	**+1.0**
EMIN				Sn		**Sn**	**06 07 59.9**	**-0.7**
EMIN				*i*	Vmb_Lg		06 08 03.0	
ETOB	**Tobarra**	**3.57**	**29**	Pn		**Pn**	**06 07 30.7**	**+2.8**
EGRO	**El Granado**	**3.58**	**305**	Pn		**Pn**	**06 07 29.4**	**+1.4**
EGRO				Sn		**Sn**	**06 08 09.8**	**+0.1**
EGRO				*i*	Vmb_Lg		06 08 10.7	
PVAQ	**Vaqueiros**	**3.67**	**301**	*e*Pn		**Pn**	**06 07 31.7**	**+2.4**
PVAQ				*e*Sn		**Sn**	**06 08 12.1**	**+0.1**
PVAQ				A		A	06 08 21.7	
	2.1nm,0.3s							
PVAQ	**Vaqueiros**	**3.67**	**301**	P		**Pn**	**06 07 29.9**	**+0.6**
PVAQ				S		**Sn**	**06 08 10.3**	**-1.7**
PBAR	**Barrancos**	**3.70**	**316**	*e*Pn		**Pn**	**06 07 33.4**	**+3.7**
PBAR				*e*Sn		**Sn**	**06 08 12.5**	**-0.2**
PBAR				A		A	06 08 20.2	
	2.1nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.75**	**298**	*e*Pn		**Pn**	**06 07 30.2**	**-0.2**
PBDV				*e*Sn		**Sn**	**06 08 10.0**	**-4.0**
PBDV				A		A	06 08 12.3	
	2.8nm,0.7s							
PCVE	**Castro Verde**	**4.01**	**302**	*e*Sn		**Sn**	**06 08 20.1**	**-0.2**
PCVE				A		A	06 08 33.7	
	2.6nm,0.5s							
MESJ	**Messejana**	**4.24**	**304**	*e*P		**Pn**	**06 07 39.3**	**+2.3**
PFVI	**Vila Bisbo**	**4.37**	**293**	P		**Pn**	**06 07 37.5**	**-1.3**
PFVI				S		**Sn**	**06 08 28.8**	**-0.4**
PESTR	**Estremoz**	**4.50**	**319**	*e*Sn		**Sn**	**06 08 32.2**	**-0.1**
PESTR	**Estremoz**	**4.50**	**319**	P		**Pn**	**06 07 37.8**	**-2.8**
PESTR				S		**Sn**	**06 08 31.6**	**-0.7**
PNCL	**Nicolau / Gran**	**4.59**	**305**	*e*Pn		**Pn**	**06 07 44.4**	**+2.5**
PNCL				*e*Sn		**Sn**	**06 08 34.5**	**-0.1**
PMRV	**Marv??o**	**4.82**	**325**	*e*Pn		**Pn**	**06 07 47.3**	**+2.2**
PMRV				*e*Sn		**Sn**	**06 08 41.6**	**+1.3**
PMRV				A		A	06 09 00.3	
	2.2nm,0.7s							

*IDC **01** 06:19:04.7±1.0,14°.83S×167°.28E,h118km±7km,mb3.9/9, mbtmp4.3/10,Error ellipse: s-maj=20.4km s-min=18.0km az=109.0*
*NEIC **01** 06:19:07.1±1.5,14°.9S±0°.1×167°.4E±0°.2,h126km±9km, mb4.4/13,Error ellipse: s-maj=25.6km s-min=16.6km az=52.0*
*NOU **01** 06:19:09.1,15°.08S×167°.31E,h109km,mb5.0/15, Vanuatu Islands*

ISC 01 06:19:05.9±0.8,14°.89S±0°.08×167°.4E±0°.1,h129km,n45, σ1§42/47,mb4.3/12,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DVP	**Devils Point**	**2.93**	**164**	P		**Pn**	**06 19 52.8**	**+1.2**
RTV	**Rentapao**	**3.06**	**160**	P		**Pn**	**06 19 54.8**	**+1.5**
LIFNC	**LIFOU**	**5.86**	**181**	Pn		**Pn**	**06 20 28.6**	**-1.9**
LIFNC	**LIFOU**	**5.86**	**181**	P		**Pn**	**06 20 29.3**	**-1.2**
KOUNC	**Koumac, New Ca

BUKP	**Musuan**	**1.91**	**280**	‖*e*P	Pn	06 21 49.7	+6.1
KCP	**Kidapawan**	**1.93**	**254**	‖*i*P	**Pn**	**06 21 43.6**	**-0.4**
KCP				*i* S	**Sn**	**06 22 06.2**	**-0.9**
GSPH	**General Santos**	**2.47**	**234**	‖*i*P	Pn	06 21 42.7	-8.7
GSPH				*i* S	Sn	06 22 05.1	-15
WRA	**Warramunga Arr**	**28.27**	**165**	P	P	06 27 14.0	+12
	0.5nm,0.8s,baz=339,slow=11,SNR=2.6 0.5nm,0.8s						
ASAR	**Alice Springs**	**31.76**	**168**	P	P	06 27 43.8	+11
	0.6nm,0.7s,baz=347,slow=7.1,SNR=3.5 0.6nm,0.7s						
MKAR	**Makanchi Array**	**54.60**	**324**	P	**P**	**06 30 36.3**	**-0.4**
	0.5nm,0.5s,baz=125,slow=8.7,SNR=6.4 0.5nm,0.5s						

TUL ***01*** *06:25:19.1±0.7,36°.49N±0°.01×98°.60W±0°.01,h7km±6km, ML3.2,mb_Lg3.0/27(NEIC), Error ellipse: s-maj=1.8km s-min=1.3km az=137.0*

ANF ***01*** *06:25:19.2±0.8,36°.53N×98°.59W,h7km,ML3.9/16, Error ellipse: s-maj=7.8km s-min=7.0km az=137.0*

NEIC ***01*** *06:25:19.2±0.8,36°.48N±0°.01×98°.59W±0°.01,h5km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=265.0*

ISC 01 06:25:19.2±0.9,36°.48N±0°.02×98°.59W±0°.02,h8km±7km, n77,σ0ᵗ85/84,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.12**	**268**	Pg	**Pg**	**06 25 20.9**	**-1.0**
OK038				Sg	**Sg**	**06 25 23.1**	**-0.8**
OK035	**E0210 Rd and N**	**0.25**	**336**	Pg	**Pg**	**06 25 24.4**	**+0.2**
OK035				Sg	**Sg**	**06 25 28.2**	**+0.7**
NOKA	**Waynoka**	**0.32**	**299**	Pg	**Pg**	**06 25 25.5**	**0.0**
NOKA				Sg	**Sg**	**06 25 30.2**	**+0.6**
U32A	**Winter Ranch,**	**0.35**	**253**	Pg	**Pg**	**06 25 26.0**	**-0.1**
U32A				Sg	**Sg**	**06 25 31.2**	**+0.6**
U32A	**Winter Ranch,** baz=72,SNR=72	**0.35**	**253**	P	**Pg**	**06 25 26.0**	**-0.1**
U32A	baz=72			S	**Sg**	**06 25 31.3**	**+0.6**
OK032	**Salt Plains WL**	**0.44**	**43**	Pg	**Pg**	**06 25 28.0**	**+0.2**
OK032				Sg	**Sg**	**06 25 34.4**	**+0.8**
CROK	**Carrier**	**0.49**	**87**	Pg	**Pg**	**06 25 28.9**	**+0.3**
CROK				Sg	**Sg**	**06 25 35.9**	**+0.9**
KAN14	**Manchester OK**	**0.69**	**46**		**Pg**	**06 25 32.5**	**0.0**
GC02	**Grant County #**	**0.69**	**58**	Pg	**Pg**	**06 25 32.6**	**+0.1**
GC02				Sg	**Sg**	**06 25 42.3**	**+0.8**
KAN10	**Anthony SW Sta**	**0.75**	**32**	Pg	**Pg**	**06 25 33.6**	**-0.1**
ELIS	**Ellis County**	**0.79**	**238**	Pg	**Pg**	**06 25 34.6**	**+0.3**
CSTR	**Hydro, Custer**	**0.84**	**186**		**Pg**	**06 25 35.2**	**-0.1**
KAN05	**Bluff City Nor**	**0.85**	**42**		**Pg**	**06 25 35.4**	**-0.1**
KAN05				Sg	**Sg**	**06 25 47.0**	**+0.4**
KAN16	**Harper SW Stat**	**0.85**	**29**	Pg	**Pg**	**06 25 35.4**	**-0.2**
KAN17	**Caldwell West**	**0.87**	**49**	Pg	**Pg**	**06 25 35.7**	**-0.1**
KAN17				Sg	**Sg**	**06 25 47.5**	**+0.4**
KAN08	**Anthony NE Sta**	**0.89**	**33**		**Pg**	**06 25 36.3**	**0.0**
KAN01	**Argonia South**	**0.94**	**45**	Pg	**Pg**	**06 25 37.2**	**-0.1**
KAN06	**Argonia West S**	**0.96**	**37**		**Pg**	**06 25 37.5**	**-0.2**
KAN09	**Caldwell North**	**1.01**	**50**	Pg	**Pg**	**06 25 38.6**	**-0.1**
KAN13	**South Haven SW**	**1.04**	**59**	Pg	**Pg**	**06 25 39.0**	**-0.1**
KS21	**Milan North St**	**1.09**	**42**		**Pg**	**06 25 39.9**	**-0.2**
KS20	**Mayfield South**	**1.11**	**48**		**Pg**	**06 25 40.4**	**-0.2**
BLOK	**Blackwell**	**1.14**	**75**		**Pg**	**06 25 40.7**	**-0.3**
BCOK	**Bluff Creek, N**	**1.14**	**136**		**Pg**	**06 25 40.7**	**-0.4**
OK029	**Liberty Lake**	**1.14**	**126**	Pg	**Pg**	**06 25 40.6**	**-0.5**
OK025	**Westminster Rd**	**1.35**	**131**		**Pn**	**06 25 44.3**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.42**	**139**		**Pn**	**06 25 45.5**	**+0.3**
OK031	**S. Brethren Rd**	**1.51**	**110**		**Pn**	**06 25 46.7**	**+0.3**
QUOK	**Quay**	**1.55**	**101**		**Pn**	**06 25 47.3**	**+0.3**
FNO	**Franklin**	**1.56**	**141**		**Pn**	**06 25 47.8**	**+0.7**
OK030	**Cody Creek RV**	**1.56**	**110**		**Pn**	**06 25 47.4**	**+0.3**
OK034	**N. Norfolk Rd.**	**1.59**	**107**		**Pn**	**06 25 47.9**	**+0.4**
T35A	**Sooner Cattle**	**1.72**	**75**		**Pn**	**06 25 50.2**	**+0.8**
T35B	**Sooner Cattle** baz=256,SNR=108	**1.72**	**75**	P	**Pn**	**06 25 50.2**	**+0.7**
T35B	baz=256			Sn	**Sb**	**06 26 13.8**	**+0.9**
WMOK	**Wichita Mounta**	**1.75**	**185**		**Pn**	**06 25 50.0**	**+0.2**
WMOK	**Wichita Mounta** baz=4.7,SNR=109	**1.75**	**185**	P	**Pn**	**06 25 49.8**	**0.0**
WMOK	baz=4.7			Sn	**Sb**	**06 26 13.6**	**0.0**
DEOK	**Depew** comp=Z,27nm,1.0s	**1.81**	**110**	IAmb_Lg		06 26 15.3	
R32A	**Long Quarter,**	**1.94**	**357**		**Pn**	**06 25 52.5**	**+0.1**
R32A	**Long Quarter,** baz=177,SNR=87	**1.94**	**357**	P	**Pn**	**06 25 53.7**	**+1.3**
R32A	baz=177			S	**Sb**	**06 26 20.1**	**+1.0**
X34A	**Smith Ranch, M**	**1.98**	**162**	Pn	**Pn**	**06 25 53.3**	**+0.4**
TUL1	**Leonard**	**2.33**	**103**		**Pn**	**06 25 58.0**	**+0.2**
TUL1	comp=Z,59nm,0.8s			IAmb_Lg		06 26 35.7	
TUL1	**Leonard** baz=285,SNR=44	**2.33**	**103**	P	**Pn**	**06 25 58.4**	**+0.6**
TUL1	baz=285			Sn	**Sb**	**06 26 29.0**	**-1.4**
CBKS	**Cedar Bluff**	**2.50**	**339**	Pn	**Pn**	**06 26 00.0**	**-0.1**
CBKS	**Cedar Bluff** baz=159	**2.50**	**339**	P	**Pn**	**06 26 01.1**	**+1.0**
CBKS	baz=159			S	**Sb**	**06 26 36.2**	**+0.9**
LOOK	**Love County**	**2.74**	**155**		**Pn**	**06 26 03.5**	**+0.1**
LOOK	comp=Z,31nm,0.8s			IAmb_Lg		06 26 44.3	
RLO	**Rose Lookout**	**2.90**	**95**		**Pn**	**06 26 06.0**	**+0.5**
RLO	comp=Z,29nm,0.8s			IAmb_Lg		06 26 54.5	
AMTX	**Amarillo**	**2.98**	**239**	Pn	**Pn**	**06 26 06.8**	**0.0**
AMTX	**Amarillo** baz=56	**2.98**	**239**	Sb	**Sb**	**06 26 50.7**	**+1.5**
KSU1	**Kansas State U**	**3.05**	**30**		**Pn**	**06 26 07.9**	**+0.3**
X37A	**Clayton**	**3.23**	**125**	Pn	**Pn**	**06 26 10.0**	**-0.1**
X37A	comp=Z,33nm,0.7s			IAmb_Lg		06 27 10.7	
X37A	**Clayton** baz=307,SNR=11	**3.23**	**125**	P	**Pn**	**06 26 11.1**	**+0.9**
X37A	baz=307			S	**Sg**	**06 27 04.5**	**+1.5**
U38A	**Gravette**	**3.39**	**89**	Pn	**Pn**	**06 26 12.7**	**+0.4**
U38A	comp=Z,61nm,0.9s			IAmb_Lg		06 27 11.3	
HHAR	**Hobbs**	**3.75**	**92**		**Pn**	**06 26 17.6**	**+0.2**
HHAR	comp=Z,31nm,0.8s			IAmb_Lg		06 27 19.8	
ABTX	**Abilene, Hawle** comp=Z,24nm,0.7s	**3.95**	**193**	IAmb_Lg		06 27 25.1	
KSCO	**Kaye Shedlock'** comp=Z,45nm,0.8s	**4.08**	**309**	IAmb_Lg		06 27 35.7	
MSTX	**Muleshoe** comp=Z,41nm,1.0s	**4.25**	**235**	IAmb_Lg		06 27 35.8	
N33B	**J Bar K, Exete** baz=192	**4.34**	**11**	P	**Pn**	**06 26 25.2**	**-0.3**
N33B	baz=192			Sn	**Sn**	**06 27 15.8**	**-0.4**
Z38A	**Mt. Pleasant** comp=Z,20nm,0.8s	**4.37**	**136**	IAmb_Lg		06 27 39.4	
S39A	**Bolivar** baz=256	**4.38**	**72**	Sn	**Sn**	**06 27 17.3**	**+0.2**
MIAR	**Mount Ida** comp=Z,27nm,0.7s	**4.52**	**114**	IAmb_Lg		06 27 53.5	
MIAR	**Mount Ida** baz=297,SNR=12	**4.52**	**114**	P	**Pn**	**06 26 28.6**	**+0.8**
MIAR	baz=297			Sn	**Sn**	**06 27 20.6**	**0.0**
WHTX	**Lake Whitney,** baz=348	**4.58**	**168**	P	**Pn**	**06 26 29.3**	**+0.7**
T25A	**Trinidad** comp=Z,28nm,0.8s	**4.72**	**280**	IAmb_Lg		06 27 51.7	
BGNE	**Belgrade** comp=Z,35nm,0.8s	**4.93**	**4**	IAmb_Lg		06 28 05.7	
BGNE	**Belgrade** baz=184	**4.93**	**4**	P	**Pn**	**06 26 34.0**	**+0.5**
237A	**Washetta, Mont** comp=Z,36nm,1.1s	**5.03**	**152**	IAmb_Lg		06 28 01.0	
237A	**Washetta, Mont** baz=334	**5.03**	**152**	Sn	**Sn**	**06 27 32.3**	**-0.7**
P38A	**Dawn** baz=233	**5.08**	**50**	Sn	**Sn**	**06 27 33.7**	**-0.6**
OGNE	**Ogallala** baz=148	**5.21**	**330**	Sn	**Sn**	**06 27 37.4**	**-0.2**
WLAR	**White Oak Lake** comp=Z,23nm,0.7s	**5.28**	**120**	IAmb_Lg		06 28 21.6	
NATX	**Nacogdoches**	**5.73**	**144**	IAmb_Lg		06 28 33.9	
	comp=Z,20nm,1.1s						
L34A	**Svendsen Farm,** baz=198	**5.74**	**17**	P	**Pn**	**06 26 44.1**	**-0.5**
435B	**Jarrell** comp=Z,26nm,0.7s	**5.75**	**171**	IAmb_Lg		06 28 35.6	
P40A	**Paris** baz=242	**5.99**	**58**	Sn	**Sn**	**06 27 55.0**	**-1.9**
N38A	**Joes South For** baz=226	**6.01**	**43**	Sn	**Sn**	**06 27 54.7**	**-2.5**
FVM	**French Village** baz=260	**6.68**	**75**	Sn	**Sn**	**06 28 12.4**	**-1.4**
ECSD	**EROS Data Cent** baz=192	**7.40**	**11**	P	**Pn**	**06 27 06.2**	**-1.2**
ECSD	baz=192			Sn	**Sn**	**06 28 27.1**	**-4.3**

NEIC ***01*** *06:37:51.0±1.9,24°.1S±0°.1×179°.56E±0°.07,h544km±15km, mb4.1/20,Error ellipse: s-maj=20.8km s-min=9.4km az=184.0*

IDC ***01*** *06:37:51.7±1.5,24°.42S×179°.07E,h528km±19km,mb3.4/8, mbtmp4.4/9,Error ellipse: s-maj=21.0km s-min=15.5km az=51.0*

ISC 01 06:37:50.1±0.7,24°.33S±0°.07×179°.46E±0°.09,h531km,n77, σ1ᵗ96/83,mb4.0/16,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.44**	**155**	P	**P**	**06 39 26.5**	**+3.9**
MSVF	**Nonsavu** baz=163,slow=11	**6.69**	**348**	P	**P**	**06 39 34.8**	**+0.1**
MSVF	**Nonsavu**	**6.69**	**348**	P	**P**	**06 39 35.2**	**+0.6**
MARNC	**Mare, Loyalty**	**10.91**	**283**	P	**P**	**06 40 17.6**	**+0.3**
PINNC	**Pines Island,**	**11.16**	**276**	P	**P**	**06 40 22.0**	**+2.1**
OUENC	**Ouen Island, N**	**11.74**	**277**	P	**P**	**06 40 27.4**	**+1.4**
OUZ	**Omahuta**	**11.98**	**204**	P	**P**	**06 40 31.7**	**+3.4**
OUZ	**Omahuta**	**11.98**	**204**	P	**P**	**06 40 28.9**	**+0.7**
ONTNC	**Ouen Toro**	**12.12**	**277**	P	**P**	**06 40 31.3**	**+1.4**
DZM	**Mont Dzumac** 54nm,0.8s,baz=84,slow=17,SNR=31	**12.18**	**278**	P	**P**	**06 40 31.9**	**+1.3**
DZM	**Mont Dzumac**	**12.18**	**278**	P	**P**	**06 40 32.3**	**+1.6**
GRZ	**Great Barrier**	**12.37**	**195**	P	**P**	**06 40 34.0**	**+1.7**
WCZ	**Waipu Caves**	**12.38**	**200**	P	**P**	**06 40 35.9**	**+3.4**
KUZ	**Kuaotunu**	**12.79**	**194**	P	**P**	**06 40 38.5**	**+1.9**
ABAZ	**Army Bay**	**12.86**	**197**	P	**P**	**06 40 40.3**	**+2.9**
WIAZ	**Waiheke Island**	**12.97**	**196**	P	**P**	**06 40 41.2**	**+2.6**
MXZ	**Matakaoa Point**	**13.23**	**184**	P	**P**	**06 40 43.3**	**+2.0**
MXZ	**Matakaoa Point**	**13.23**	**184**	P	**P**	**06 40 41.9**	**+0.6**
WTAZ	**Waiatarua**	**13.24**	**197**	P	**P**	**06 40 43.8**	**+2.4**
MKAZ	**Moumakai**	**13.26**	**195**	P	**P**	**06 40 43.8**	**+2.2**
AFI	**Afiamalu** 29nm,0.7s,baz=38,slow=20,SNR=6.5	**13.26**	**40**	P	**P**	**06 40 39.4**	**-2.7**
AFI	**Afiamalu**	**13.26**	**40**	P	**P**	**06 40 40.1**	**-1.9**
AWAZ	**Awhitu Peninsu**	**13.35**	**197**	P	**P**	**06 40 44.1**	**+1.6**
HAZ	**Te Kaha**	**13.46**	**186**	P	**P**	**06 40 44.9**	**+1.2**
PUZ	**Puketiti**	**13.74**	**184**	P	**P**	**06 40 45.9**	**-0.7**
PUZ				S	**S**	**06 43 09.8**	**-2.2**
TOZ	**Tahuroa Road**	**13.78**	**193**	P	**P**	**06 40 48.8**	**+1.8**
TWGZ	**Tauwhareparae**	**13.86**	**185**	P	**P**	**06 40 49.0**	**+1.1**
URZ	**Urewera** 34nm,0.7s,baz=6.9,slow=4.8,SNR=25	**14.03**	**188**	P	**P**	**06 40 49.0**	**-0.6**
URZ	6.6nm,0.8s,baz=7.8,slow=20,SNR=1.9			S	**S**	**06 43 12.9**	**-4.6**
URZ	**Urewera**	**14.03**	**188**	P	**P**	**06 40 48.6**	**-1.0**
URZ				S	**S**	**06 43 11.7**	**-5.8**
MWZ	**Matawai**	**14.06**	**186**	P	**P**	**06 40 49.6**	**-0.4**
MWZ				S	**S**	**06 43 13.9**	**-4.2**
CNGZ	**Carnagh Statio**	**14.15**	**184**	P	**P**	**06 40 52.8**	**+1.9**
RIGZ	**Rimuhau**	**14.40**	**185**	P	**P**	**06 40 53.0**	**-0.6**
PRGZ	**Paritu Road**	**14.61**	**185**	P	**P**	**06 40 54.7**	**-1.0**
HIZ	**Hauiti**	**14.67**	**194**	P	**P**	**06 40 59.1**	**+2.8**
BHHZ	**Black Hill Sta**	**15.38**	**190**	P	**P**	**06 41 00.3**	**-3.5**
WAZ	**Wanganui**	**15.84**	**193**	P	**P**	**06 41 07.6**	**-0.7**
TSZ	**Takapari Road**	**15.96**	**190**	P	**P**	**06 41 07.5**	**-2.0**
KIW	**Kapiti Island**	**16.92**	**192**	P	**P**	**06 41 15.5**	**-3.4**
TCW	**Tory Channel**	**17.38**	**193**	P	**P**	**06 41 21.4**	**-1.7**
SNZO	**South Karori**	**17.39**	**192**	P	**P**	**06 41 23.7**	**+0.6**
QRZ	**Quartz Range**	**17.44**	**198**	P	**P**	**06 41 24.8**	**+1.1**
QRZ	**Quartz Range**	**17.44**	**198**	P	**P**	**06 41 24.0**	**+0.3**
PLWZ	**Palliser**	**17.55**	**191**	P	**P**	**06 41 23.7**	**-1.0**
NNZ	**Nelson**	**17.59**	**195**	P	**P**	**06 41 24.6**	**-0.4**
THZ	**Tophouse**	**18.22**	**196**	P	**P**	**06 41 30.4**	**-0.4**
KHZ	**Kahutara**	**18.69**	**194**	P	**P**	**06 41 34.3**	**-0.8**
INZ	**Inchbonnie**	**19.51**	**198**	P	**P**	**06 41 41.6**	**-0.8**
RPZ	**Rata Peaks** 5.2nm,0.4s,baz=20,slow=12,SNR=1.7 5.2nm,0.4s	**20.53**	**198**	P	**P**	**06 41 51.3**	**-0.4**
EIDS	**Eidsvold**	**25.75**	**262**	P	**P**	**06 42 39.2**	**+0.5**
EIDS	comp=Z,5.9nm,1.2s			IAmb	IAmb	06 43 07.6	
CAN	**Canberra**	**28.50**	**240**	P	**P**	**06 43 03.9**	**+1.2**
CAN	comp=Z,7.5nm,0.9s			IAmb	IAmb	06 43 04.5	
CTA	**Charters Tower** comp=Z,24nm,0.5s,baz=97,slow=10,SNR=16 comp=Z,24nm,0.5s	**30.98**	**271**	P	**P**	**06 43 24.7**	**+0.4**
CTAO	**Charters Tower**	**30.98**	**271**	P	**P**	**06 43 25.0**	**+0.6**
TOO	**Toolangi**	**31.80**	**237**	P	**P**	**06 43 32.3**	**+1.2**
TOO	comp=Z,10nm,1.3s			IAmb	IAmb	06 43 58.4	
STKA	**Stephens Creek** comp=Z,1.1nm,0.6s,baz=105,slow=13,SNR=3.3 comp=Z,1.1nm,0.6s	**34.10**	**249**	P	**P**	**06 43 48.8**	**-1.9**
STKA	**Stephens Creek**	**34.10**	**249**	P	**P**	**06 43 51.1**	**+0.5**
STKA	comp=Z,2.1nm,1.5s			IAmb	IAmb	06 43 57.4	
COEN	**Coen**	**35.70**	**280**	P	**P**	**06 44 04.2**	**+0.1**
COEN	comp=Z,12nm,0.9s			IAmb	IAmb	06 44 05.7	
BBOO	**Buckleboo**	**38.82**	**247**	P	**P**	**06 44 28.9**	**-0.6**
AS31	**Alice Springs**	**41.48**	**261**	P	**P**	**06 44 50.8**	**-0.1**
ASAR	**Alice Springs** comp=Z,1.1nm,0.4s,baz=92,slow=7.4,SNR=18	**41.48**	**261**	P	**P**	**06 44 50.2**	**-0.7**
ASAR	comp=Z,0.6nm,0.7s,baz=99,slow=16,SNR=5.4 comp=Z,1.1nm,0.4s			S	**S**	**06 50 24.7**	**-3.5**
ASAR	**Alice Springs**	**41.48**	**261**	P	**P**	**06 44 50.5**	**-0.4**
WR0	**Warramunga Arr**	**41.70**	**267**	P	**P**	**06 44 51.9**	**-0.8**
WR0	comp=Z,5.3nm,1.2s			IAmb	IAmb	06 44 52.5	
WB2	**Warramunga Arr**	**41.87**	**267**	P	**P**	**06 44 53.1**	**-1.0**
WB2	comp=Z,13nm,1.4s			IAmb	IAmb	06 44 54.6	
WB0	**Warramunga Arr**	**41.88**	**267**	P	**P**	**06 44 53.3**	**-0.8**
WB0	comp=Z,5.2nm,0.9s			IAmb	IAmb	06 44 54.0	
WRA	**Warramunga Arr** comp=Z,3.2nm,0.7s,baz=95,slow=8.5,SNR=58	**41.88**	**267**	P	**P**	**06 44 52.7**	**-1.5**
WRA	comp=Z,1.3nm,1.0s,baz=101,slow=14,SNR=6.1 comp=Z,3.2nm,0.7s			S	**S**	**06 50 29.6**	**-4.5**
WRA	**Warramunga Arr**	**41.88**	**267**	P	**P**	**06 44 53.1**	**-1.1**
KNRA	**Kununurra**	**48.19**	**270**	P	**P**	**06 45 42.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.30**	**266**	P	**P**	**06 45 58.1**	**0.0**
VNDA	**Vanda** comp=Z,1.1nm,0.8s,baz=1.6,slow=8.8,SNR=7.4 comp=Z,1.1nm,0.8s	**53.91**	**185**	P	**P**	**06 46 24.4**	**+1.3**
VNDA	**Vanda**	**53.91**	**185**	P	**P**	**06 46 25.2**	**+2.1**
SBA	**Scott Base**	**53.92**	**183**	P	**P**	**06 46 26.3**	**+3.1**
CASY	**Casey**	**59.51**	**206**	P	**P**	**06 47 02.3**	**+0.6**
CASY	comp=Z,18nm,1.1s			IAmb	IAmb	06 47 11.3	
QSPA	**South Pole Qui** comp=Z,2.5nm,0.7s	**65.75**	**180**	P	**P**	**06 47 44.3**	**+2.0**
QSPA				IAmb	IAmb	06 47 44.6	
MJAR	**Matsushiro Arr** comp=Z,1.9nm,0.7s,baz=145,slow=6.5,SNR=4.5 comp=Z,1.9nm,0.7s	**71.97**	**326**	P	**P**	**06 48 19.4**	**-0.5**
MAW	**Mawson**	**77.17**	**201**	P	**P**	**06 48 49.6**	**+0.9**
MAW	**Mawson** comp=Z,1.8nm,0.7s,baz=131,slow=4.1,SNR=4.2 comp=Z,1.8nm,0.7s	**77.17**	**201**	P	**P**	**06 48 50.4**	**+1.7**
BRTR	**Keskin Array B** comp=Z,1.7nm,0.7s,baz=100,slow=3.1,SNR=4.4	**147.44**	**306**	PKPbc	**PKiKP**	**06 56 37.2**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,1.0s,baz=181,slow=4.2,SNR=2.8	**168.68**	**191**	PKPab	**PKPab**	**06 58 09.0**	**-1.4**

IDC ***01*** *06:59:26.5±2.4,47°.99N×152°.37E,h0km,mb3.6/5, mbtmp3.5/6,ML2.4/1,Error ellipse: s-maj=68.6km s-min=30.1km az=3.0*

ISC 01 06:59:43.5±2.3,48°.9N±0°.3×152°.8E±0°.3,h100km,n12, σ0ᵗ15/5,mb3.5/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 0.4nm,0.3s,baz=188,slow=16,SNR=6.8 0.8nm,0.4s	**5.20**	**34**	Pn	**Pn**	**07 00 58.9**	**0.0**
H11N2	**WAKE ISLAND Hy** baz=340,slow=75,SNR=10	**31.23**	**154**	T	T	07 37 06.2	
H11N1	**WAKE ISLAND Hy** baz=340,slow=75,SNR=11	**31.25**	**154**	T	T	07 37 09.8	
H11N3	**WAKE ISLAND Hy** baz=340,slow=75,SNR=9.6	**31.25**	**154**	T	T	07 37 12.4	
H11S1	**WAKE ISLAND Hy** baz=341,slow=76,SNR=37	**32.34**	**155**	T	T	07 38 39.6	
H11S3	**WAKE ISLAND Hy** baz=341,slow=76,SNR=26	**32.34**	**155**	T	T	07 38 25.3	
H11S2	**WAKE ISLAND Hy** baz=341,slow=76,SNR=26	**32.35**	**155**	T	T	07 38 23.3	
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=69,slow=8.7,SNR=4.2 0.3nm,0.4s	**45.82**	**295**	P	P	07 07 50.9	-4.2
NVAR	**Mina Array Bea** 0.1nm,0.4s,baz=314,slow=8.1,SNR=1.7 0.1nm,0.4s	**61.60**	**63**	P	**P**	**07 09 50.7**	**+0.1**
FINES	**FINESS Array B** 0.8nm,0.6s,baz=18,slow=4.8,SNR=5.4 0.8nm,0.6s	**62.01**	**334**	P	**P**	**07 09 52.7**	**+0.1**
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=31,slow=3.3,SNR=2.4 0.6nm,0.7s	**66.12**	**341**	P	**P**	**07 10 19.5**	**-0.1**
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=300,slow=4.3,SNR=6.8 0.5nm,0.6s	**76.59**	**61**	P	**P**	**07 11 23.1**	**-0.1**

IDC 01 07:17:41.9±3.0,54°.31N×87°.22E,h0km,mbtmp2.9/2, ML2.6/2,Error ellipse: s-maj=23.9km s-min=16.8km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=78,slow=323,SNR=1.4	**1.46**	**257**	*i*		07 26 15.4	
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=76,slow=16,SNR=9.2	**1.46**	**257**	Pg	Pn	07 18 07.2	-2.2
ZALV	1.0nm,0.3s,baz=76,slow=30,SNR=5.7			Lg	Lg	07 18 27.2	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=53,slow=14,SNR=3.1	**6.46**	**239**	Pn	Pn	07 19 18.7	+0.6
KURBB	0.1nm,0.3s,baz=61,slow=5.7,SNR=1.3			Sn	Sn	07 20 33.5	+1.0
KURBB	baz=52,slow=29,SNR=1.5 0.5nm,0.3s			Lg	Lg	07 21 06.5	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=26,slow=13,SNR=4.9	**8.15**	**205**	Pn	Pn	07 19 42.5	+1.2
MKAR	0.1nm,0.3s,baz=23,slow=26,SNR=2.9			Sn	Sn	07 21 14.3	+0.2
MKAR	0.1nm,0.3s,baz=31,slow=45,SNR=2.4 0.2nm,0.4s			Lg	Lg	07 22 01.2	

IDC ***01*** *07:18:48.4±1.2,5°.79S×128°.94E,h247km±16km,mb3.4/1, mbtmp4.6/6,Error ellipse: s-maj=24.6km s-min=12.3km az=109.0*

DJA ***01*** *07:18:49.7±0.3,6°.S±3°×12°9E±°,h275km±6km,M4.2/13, mb4.2/8,mB4.8/4,MLv4.3/13,Mw(mB)4.0/4*

NEIC ***01*** *07:18:50.0±0.7,5°.83S±0°.07×129°.0E±0°.1,h265km±8km, mb4.2/8,Error ellipse: s-maj=16.3km s-min=9.3km az=75.0*

ISC 01 07:18:49.2±0.6,5°.89S±0°.05×129°.00E±0°.06,h264km,n40, σ1ᵗ93/47,mb4.1/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.64**	**34**	S	**S**	**07 20 06.9**	**+4.8**
AAI	**Ambon**	**2.33**	**340**	P	**Pn**	**07 19 38.6**	**+2.6**
MSAI	**Masohi**	**2.53**	**358**	P	**Pn**	**07 19 39.4**	**+1.5**
MSAI				S	**S**	**07 20 15.1**	**-1.4**
SAUI	**Saumlaki**	**3.09**	**132**	Pn	**Pn**	**07 19 45.0**	**+1.4**
SAUI	**Saumlaki**	**3.09**	**132**	P	**Pn**	**07 19 43.7**	**+0.2**
NLAI	**Namlea**	**3.25**	**324**	P	Pn	07 19 51.6	+6.3
FAKI	**Fak Fak**	**4.39**	**48**		**Pn**	**07 19 58.4**	**+0.2**
FAKI	**Fak Fak** 0.2nm33nm,0.8s	**4.39**	**48**	P	**Pn**	**07 19 59.5**	**+1.3**
FAKI				S	**S**	**07 20 49.7**	**-3.6**
SANI	**Sanana**	**4.86**	**322**	P	**Pn**	**07 20 04.0**	**+0.2**
SANI				S	**S**	**07 21 00.8**	**-2.6**
SANI	**Sanana**	**4.86**	**322**	P	**Pn**	**07 20 05.3**	**+1.5**
LBMI	**Labuha** 0.4nm2µm115nm,0.7s	**5.43**	**344**	P	**Pn**	**07 20 11.8**	**+1.0**
SIJI	**Sorong** 21nm,0.3s,baz=225,slow=23,SNR=34	**5.48**	**24**	P	**Pn**	**07 20 11.0**	**-0.4**
SIJI	50nm,0.3s,baz=237,slow=23,SNR=6.7			S	**S**	**07 21 12.4**	**-4.7**
SWI	**Sorong** 0.7nm1µm46nm,0.5s	**5.48**	**24**	P	**Pn**	**07 20 11.1**	**-0.3**
SOEI	**Soe**	**6.06**	**230**	Pn	**Pn**	**07 20 19.6**	**+1.1**
BATI	**Baumata** 42nm,0.4s,baz=90,slow=5.1,SNR=4.3	**6.80**	**231**	P	**Pn**	**07 20 28.6**	**+0.9**
BATI	46nm,0.4s,baz=42,slow=6.9,SNR=4.4			S	**S**	**07 21 45.0**	**-1.8**
BATI	**Baumata** 0.2nm33nm,0.8s	**6.80**	**231**	P	**Pn**	**07 20 28.7**	**+1.0**
MTN	**Manton Dam**	**7.22**	**163**		**Pn**	**07 20 33.7**	**+0.8**
MTN	**Manton Dam**	**7.22**	**163**	P	**Pn**	**07 20 33.9**	**+1.0**
KDU	**Kakadu**	**7.57**	**153**	P	**Pn**	**07 20 38.5**	**+1.3**
EDFI	**Ende, Flores** 0.0nm5.3nm,0.8s	**7.78**	**248**	P	**Pn**	**07 20 41.7**	**+1.7**
KNRA	**Kununurra**	**9.72**	**181**		**Pn**	**07 21 04.4**	**+0.1**
FITZ	**Fitzroy Crossi** 14nm,0.7s,baz=26,slow=13,SNR=42	**12.56**	**195**	P	**Pn**	**07 21 39.0**	**-0.5**
FITZ	1.8nm,0.6s,baz=86,slow=6.9,SNR=2.0			S	**S**	**07 23 56.6**	**-2.7**
FITZ	**Fitzroy Crossi**	**12.56**	**

ADK	**Adak**	**1.55**	**252**			Pn		07 21 31.0	+1.8
ADK	**Adak**	**1.55**	**252**	IAML				07 21 58.3	
	288nm,0.3s								
KIWB	**Kanaga Island**	**1.84**	**254**	Pn		Pn		07 21 34.5	+2.3
KIKV	**Kanaga Island**	**1.84**	**255**			Pn		07 21 34.4	+2.1
KICM	**Kanaga Island**	**1.84**	**256**			Pn		07 21 34.6	+2.3
KIMD	**Kanaga Island**	**1.92**	**252**			Pn		07 21 35.4	+2.3
TAPA	**Tanaga Point A**	**2.24**	**256**			Pn		07 21 39.3	+2.5
TAFP	**Tanaga Falls P**	**2.32**	**259**			Pn		07 21 40.1	+2.4
TASE	**Tanaga Southea**	**2.37**	**258**			Pn		07 21 40.0	+1.7
TANO	**Tanaga North**	**2.40**	**260**			Pn		07 21 41.3	+2.6
CLES	**Cleveland East**	**2.72**	**79**	Pn		Pn		07 21 42.2	-0.3
CLES				IAML				07 22 20.1	
	comp=E,237nm,1.8s								
CLES				IAML				07 22 32.5	
	comp=N,289nm,2.5s								
GAEA	**Gareloi East**	**2.81**	**259**			Pn		07 21 46.1	+2.5
GALAA	**Gareloi Lava P**	**2.83**	**259**			Pn		07 21 46.3	+2.5
GANO	**Gareloi North**	**2.83**	**260**			Pn		07 21 46.3	+2.4
GAKI	**Gareloi-Kavalg**	**2.91**	**255**			Pn		07 21 47.0	+2.2
NIKH	**Nikolski High**	**3.37**	**78**	Pn		Pn		07 21 49.5	-1.0
CEPE	**Semis' Perret**	**3.75**	**266**			Pn		07 21 57.7	+2.3
CESW	**Semis' Southwe**	**3.81**	**265**			Pn		07 21 58.4	+2.2
AMKA	**Amchitka**	**4.09**	**258**			Pn		07 22 01.2	+1.4
LSSE	**Little Sitkin**	**4.41**	**267**			Pn		07 22 06.9	+3.0
UNV	**Unalaska Valle**	**4.92**	**70**	Pn		Pn		07 22 09.8	-0.7
AKUT	**Akutan**	**5.41**	**68**	Pn		Pn		07 22 16.8	-0.1
AKUT				IAML				07 23 45.8	
	comp=E,53nm,2.2s								
SDPT	**Sand Point**	**8.69**	**65**	Pn		Pn		07 22 57.8	-2.5
CHGN	**Chignik**	**10.06**	**61**	Pn		Pn		07 23 16.8	-1.5
O18K	**Koktuh Hills**	**12.97**	**47**	Pn		Pn		07 23 55.4	-0.7
Q19K	**Cape Douglas,**	**13.34**	**53**	Pn		Pn		07 23 59.5	-1.1
PWL	**Port Wells**	**16.51**	**49**	P		P		07 24 37.6	-1.8
PWL				IAmb		IAmb		07 24 38.0	
	comp=E,4.6nm,1.0s								
KTH	**Kantishna Hill**	**16.57**	**39**	P		P		07 24 39.7	-0.5
KTH				IAmb		IAmb		07 24 54.7	
	comp=E,8.5nm,1.5s								
GHO	**Glory Hole Cre**	**16.57**	**46**	P		P		07 24 39.0	-1.2
DHY	**Denali Highway**	**17.76**	**43**	P		P		07 24 52.7	-0.7
DHY				IAmb		IAmb		07 24 53.7	
	comp=E,2.4nm,0.7s								
NEA2	**Nenana**	**17.81**	**37**	P		P		07 24 52.9	-0.8
WRH	**Wood River Hil**	**18.11**	**38**	P		P		07 24 55.2	-1.8
CCB	**Clear Creek Bu**	**18.31**	**38**	P		P		07 24 57.3	-1.8
CCB				IAmb		IAmb		07 25 00.8	
	comp=E,5.0nm,1.4s								
HDA	**Harding Lake**	**18.52**	**39**			P		07 25 00.5	-0.9
GLB	**Gilahina Butte**	**18.78**	**49**	P		P		07 25 02.9	-1.4
J25K	**Salcha River,**	**19.22**	**39**	P		P		07 25 07.3	-1.8
J25K				IAmb		IAmb		07 25 08.9	
	comp=E,2.9nm,1.0s								
DOT	**Dot Lake**	**19.36**	**43**	P		P		07 25 08.9	-1.7
DOT				IAmb		IAmb		07 25 10.3	
	comp=E,2.7nm,0.8s								
SCRK	**Sand Creek**	**19.52**	**42**			P		07 25 10.6	-1.7
J26L	**Joseph Creek**	**19.89**	**41**	P		P		07 25 14.4	-1.9
J26L				IAmb		IAmb		07 25 16.2	
	comp=E,2.3nm,0.7s								

*IDC **01** 07:25:20.5±0.9,55°.19S×30°.21W,h0km,mb3.9/7, mbtmp4.0/7,MS3.7/2,Error ellipse: s-maj=40.2km s-min=19.0km az=68.0*

*NEIC **01** 07:25:23.7±1.4,55°.4S±0°.1×30°.9W±0°.3,h10km±2km, mb4.3/12,Error ellipse: s-maj=28.5km s-min=13.2km az=59.0*

ISC 01 07:25:22.2±0.8,55°.2S±0°.1×30°.5W±0°.1,h10km,n30, σ0=99/22,mb4.3/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**3.58**	**283**			**Pn**	**07 26 16.6**	**-1.1**
VNA1	**Neumayer--Stat**	**18.29**	**156**	P		P	07 29 42.9	+7.1
VNA3	**Neumayer Olymp**	**18.43**	**159**	P		Pn	07 29 44.3	+7.0
SNAA	**Sanae**	**20.28**	**155**	P		**P**	**07 29 57.0**	**-0.6**
SNAA	**Sanae**	**20.28**	**155**	P		**P**	**07 29 55.5**	**-2.1**
	1.4nm,0.7s,baz=322,slow=14,SNR=6.9							
	1.4nm,0.7s							
SNAA	**Sanae**	**20.28**	**155**	P		**P**	**07 29 57.4**	**-0.2**
BELA	**Belgrano 2**	**22.80**	**182**	P		**P**	**07 30 24.1**	**-0.5**
BELA				IAmb		IAmb	07 30 44.5	
	comp=E,7.5nm,1.2s							
PLTB	**Pedras Altas**	**28.56**	**316**	P		**P**	**07 31 18.8**	**+0.8**
PLTB				IAmb		IAmb	07 31 26.2	
	comp=E,19nm,1.4s							
PLCA	**Paso Flores**	**29.98**	**282**	LR		LR	07 43 22.9	
	comp=Z,99nm,18.8s,baz=144,slow=36							
QSPA	**South Pole Qui**	**35.03**	**180**	P		**P**	**07 32 15.7**	**+1.0**
	comp=Z,6.5nm,0.8s,baz=200,slow=3.9,SNR=16							
QSPA				LR		LR	07 45 04.5	
	comp=Z,120nm,18.8s,baz=219,slow=34							
	comp=Z,6.5nm,0.8s							
QSPA	**South Pole Qui**	**35.03**	**180**	P		**P**	**07 32 15.9**	**+1.2**
MT09	**Talagante**	**35.25**	**291**	P		**P**	**07 32 16.0**	**-0.9**
VA06	**Catapilco**	**36.35**	**292**	P		**P**	**07 32 26.5**	**+0.4**
GO02	**Mina Guanaco**	**41.43**	**300**	P		**P**	**07 33 09.8**	**+0.7**
GO02				IAmb		IAmb	07 33 26.6	
	comp=Z,4.8nm,0.8s							
MAW	**Mawson**	**41.93**	**145**	P		**P**	**07 33 12.3**	**0.0**
	comp=Z,1.9nm,0.3s,baz=228,slow=15,SNR=5.0							
	comp=Z,1.9nm,0.3s							
MAW	**Mawson**	**41.93**	**145**	P		**P**	**07 33 13.3**	**+1.0**
PTLB	**Pontes e Lacer**	**45.41**	**320**	P		**P**	**07 33 41.2**	**+0.3**
PTLB				IAmb		IAmb	07 33 59.0	
	comp=Z,4.9nm,1.3s							
SIV	**San Ignacio**	**45.65**	**317**	P		**P**	**07 33 44.2**	**+1.3**
	comp=Z,0.9nm,1.0s,baz=135,slow=4.3,SNR=2.7							
	comp=Z,0.9nm,1.0s							
VNDA	**Vanda**	**47.29**	**184**	P		**P**	**07 33 54.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=202,slow=4.3,SNR=5.1							
	comp=Z,0.9nm,0.8s							
VNDA	**Vanda**	**47.29**	**184**	P		**P**	**07 33 56.0**	**+1.0**
H10S2	**ASCENSION HYDR**	**47.84**	**21**	T		T	08 25 26.0	
	baz=192,slow=74,SNR=4.1							
H10S3	**ASCENSION HYDR**	**47.84**	**21**	T		T	08 25 29.0	
	baz=28,slow=74,SNR=7.1							
LPAZ	**La Paz**	**48.36**	**308**	P		**P**	**07 34 05.2**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=132,slow=8.9,SNR=8.1							
	comp=Z,1.1nm,0.5s							
LPAZ	**La Paz**	**48.36**	**308**	P		**P**	**07 34 05.4**	**+0.6**
LPAZ				IAmb		IAmb	07 34 15.8	
	comp=Z,3.2nm,0.8s							
H10N1	**ASCENSION HYDR**	**48.95**	**21**	T		T	08 26 50.3	
	baz=191,slow=75,SNR=6.7							
H10N3	**ASCENSION HYDR**	**48.95**	**21**	T		T	08 26 54.4	
	baz=191,slow=75,SNR=9.0							
H10N2	**ASCENSION HYDR**	**48.97**	**21**	T		T	08 26 55.0	
	baz=191,slow=75,SNR=8.5							
TORD	**Torodi Ar. Bea**	**73.33**	**33**	P		**P**	**07 36 53.6**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=198,slow=6.2,SNR=4.4							
	comp=Z,0.9nm,0.7s							
ILAR	**Eielson Array**	**148.16**	**313**	PKPbc		**PKPbc**	**07 45 05.9**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=130,slow=1.9,SNR=16							
SONM	**Songino Array**	**152.58**	**88**	PKPbc		**PKPbc**	**07 45 16.4**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=166,slow=6.3,SNR=1.7							

*IDC **01** 07:33:42.5±0.7,46°.83N×153°.66E,h0km,mb4.0/20, mbtmp4.0/24,ML2.8/3,MS3.3/13,Error ellipse: s-maj=18.2km s-min=14.5km az=131.0*

*NEIC **01** 07:33:44.8±1.8,46°.8N±0°.1×153°.8E±0°.2,h10km±1km, mb4.4/21,Error ellipse: s-maj=21.7km s-min=12.4km az=136.0*

*MOS **01** 07:33:45.8±0.9,46°.87N×153°.67E,h34km,mb4.5/4,Error ellipse: s-maj=12.6km s-min=7.1km az=73.8*

*SKHL **01** 07:33:47.8±0.6,46°.90N×153°.60E,h53km±4km,mb4.9/4*

ISC 01 07:33:47.5±0.6,46°.85N±0°.09×153°.74E±0°.08,h31km,n110, σ0=99/106,mb4.3/33,MS3.5/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.15**	**21**	*e*PN		**Pn**	**07 34 48.6**	**0.0**
SKR				*e*S		**Sn**	**07 35 35.2**	**-0.8**
SKR				pmax		pmax		
	comp=Z,45nm,0.7s							
SKR				smax		smax		
	comp=N,92nm,1.0s							
SKR				smax		smax		
	comp=E,81nm,0.7s							
SKR	**Severo-Kuril's**	**4.15**	**21**	*e*P		**Pn**	**07 34 49.1**	**+0.5**
SKR				AMB		AMB	07 34 54.8	
	comp=E,80nm,0.7s							
SKR				*e*S		**Sn**	**07 35 34.6**	**-1.4**
SKR				A		A	07 35 37.6	
	comp=E,100nm,0.6s							
SKR				A		A	07 35 37.6	
	comp=E,120nm,0.6s							
KUR	**Kuril'sk**	**4.40**	**251**	*e*PN		**Pn**	**07 34 53.3**	**+1.2**
KUR				*e*S		**Sn**	**07 35 44.8**	**+2.6**
KUR				pmax		pmax		
	comp=Z,138nm,0.7s							
KUR				pmax		pmax		
	comp=N,55nm,0.2s							
KUR				smax		smax		
	comp=N,244nm,0.8s							
KUR	**Kuril'sk**	**4.40**	**251**	*e*P		**Pn**	**07 34 52.4**	**+0.3**
KUR				AMB		AMB	07 34 54.0	
	comp=N,120nm,0.4s							
KUR				*e*S		**Sn**	**07 35 40.8**	**-1.4**
KUR				A		A	07 35 52.8	
	comp=N,210nm,0.7s							
KUR				A		A	07 35 52.8	
	comp=N,220nm,0.7s							
PAU	**Pauzhetka**	**5.04**	**22**	*e*PN		**Pn**	**07 35 02.5**	**+1.6**
PAU				pmax		pmax		
	comp=Z,40nm,0.7s							
PAU				pmax		pmax		
	comp=Z,110nm,0.6s							
PAU	**Pauzhetka**	**5.04**	**22**	*e*P		**Pn**	**07 35 02.2**	**+1.3**
PAU				AMB		AMB	07 35 05.3	
	comp=Z,40nm,0.7s							
PAU				*e*S		**Sn**	**07 35 57.3**	**-0.8**
PAU				A		A	07 36 00.1	
	comp=Z,110nm,0.6s							
PAU				A		A	07 36 00.1	
	comp=Z,110nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.22**	**246**	*e*PN		**Pn**	**07 35 17.8**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**6.22**	**246**	*e*P		**Pn**	**07 35 17.0**	**-0.1**
YUK				AMB		AMB	07 35 19.1	
	comp=Z,170nm,0.4s							
YUK				*e*S		**Sn**	**07 36 24.8**	**-2.2**
YUK				A		A	07 36 29.9	
	comp=Z,100nm,0.5s							
YUK				A		A	07 36 29.9	
	comp=Z,190nm,0.5s							
PEA0B	**Petropavlovsk-**	**6.77**	**21**			**Pn**	**07 35 24.4**	**-0.2**
PEA0B	**Petropavlovsk-**	**6.77**	**21**	PN		**Pn**	**07 35 24.4**	**-0.2**
PETK	**Petropavlovsk-**	**6.77**	**21**	Pn		**Pn**	**07 35 24.7**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=181,slow=12,SNR=9.4							
PETK				Sn		**Sn**	**07 36 44.0**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=225,slow=12,SNR=1.3							
	comp=Z,5.1nm,0.6s							
PETK	**Petropavlovsk-**	**6.77**	**21**			**Pn**	**07 35 23.6**	**-0.9**
PETK	**Petropavlovsk-**	**6.77**	**21**	PN		**Pn**	**07 35 23.7**	**-0.9**
PET	**Petropavlovsk**	**6.95**	**25**	Pn		**Pn**	**07 35 25.8**	**-1.2**
PET	**Petropavlovsk**	**6.95**	**25**	*e*PN		**Pn**	**07 35 27.3**	**+0.3**
PET				MLR		MLR		
	comp=Z,100nm,14.0s							
PET	**Petropavlovsk**	**6.95**	**25**	*e*P		**Pn**	**07 35 27.3**	**+0.3**
PET				*e*S		**Sn**	**07 36 42.7**	**-2.2**
PET				A		A	07 36 48.1	
	comp=Z,40nm,0.7s							
PET				A		A	07 36 48.1	
	comp=Z,30nm,0.7s							
ERM	**Erimo**	**8.98**	**241**	Pn		**Pn**	**07 35 53.9**	**-1.1**
ERM	**Erimo**	**8.98**	**241**	PN		**Pn**	**07 35 53.9**	**-1.1**
MA2	**Magadan**	**12.87**	**353**	Pn		**Pn**	**07 36 48.2**	**0.0**
	comp=Z,2.3nm,0.5s,baz=224,slow=22,SNR=1.8							
MA2				LR		LR	07 42 27.4	
	comp=Z,37nm,20.1s,baz=155,slow=41							
MA2	**Magadan**	**12.87**	**353**	Pn		**Pn**	**07 36 49.0**	**+0.9**
KLR	**Kul'dur**	**14.90**	**287**	Pn		**P**	**07 37 22.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=91,slow=13,SNR=6.8							
KLR				LR		LR	07 43 20.7	
	comp=Z,137nm,18.2s,baz=29,slow=39							
USRK	**Ussuriysk Ar.**	**15.47**	**268**	Pn		**Pn**	**07 37 21.8**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=68,slow=10,SNR=3.0							
	comp=Z,1.8nm,0.5s							
USRK	**Ussuriysk Ar.**	**15.47**	**268**	Pn		**Pn**	**07 37 23.9**	**+0.6**
MJAR	**Matsushiro Arr**	**15.48**	**234**	Pn		**Pn**	**07 37 22.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=35,slow=9.5,SNR=7.4							
MJAR				LR		LR	07 44 41.2	
	comp=Z,50nm,19.1s,baz=112,slow=43							
	comp=Z,0.6nm,0.3s							
JHS	**Saijyo**	**19.50**	**240**	P		**P**	**07 38 12.6**	**+0.6**
YAK	**Yakutsk**	**20.48**	**327**	LR		LR	07 46 04.6	
	comp=Z,46nm,18.4s,baz=94,slow=36							
SEHB	**SEOHWA**	**20.57**	**255**	P		Pn	07 38 25.2	-0.8
SEHB				IAmb		IAmb	07 38 49.6	
	comp=Z,34nm,1.4s							
KSRS	**Korea Array**	**21.24**	**253**	P		**P**	**07 38 30.9**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=64,slow=9.8,SNR=8.8							
KSRS				LR		LR	07 45 22.9	
	comp=Z,25nm,19.3s,baz=70,slow=33							
	comp=Z,2.9nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**29.11**	**154**	T		T	08 11 23.3	
	baz=340,slow=76,SNR=30							
H11N1	**WAKE ISLAND Hy**	**29.13**	**154**	T		T	08 11 34.7	
	baz=340,slow=76,SNR=12							
H11N3	**WAKE ISLAND Hy**	**29.13**	**154**	T		T	08 11 28.9	
	baz=340,slow=76,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**30.21**	**155**	T		T	08 12 41.5	
	baz=341,slow=76,SNR=67							
H11S3	**WAKE ISLAND Hy**	**30.22**	**155**	T		T	08 13 07.4	
	baz=341,slow=76,SNR=56							
H11S2	**WAKE ISLAND Hy**	**30.23**	**155**	T		T	08 12 52.7	
	baz=341,slow=76,SNR=53							
SONM	**Songino Array**	**31.71**	**289**	P		**P**	**07 40 07.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=75,slow=11,SNR=1.6							
SONM				LR		LR	07 52 55.3	
	comp=Z,64nm,18.4s,baz=124,slow=36							
	comp=Z,0.2nm,0.3s							
SVW2	**Sparrevohn**	**32.12**	**45**	P		**P**	**07 40 12.4**	**+0.8**
IMAR	**Indian Mountai**	**33.43**	**36**	P		**P**	**07 40 23.4**	**+0.3**
KTH	**Kantishna Hill**	**34.41**	**41**	P		**P**	**07 40 32.0**	**+0.4**
KTH				IAmb		IAmb	07 40 46.2	
	comp=Z,9.5nm,1.3s							
TOLK	**Toolik Lake Re**	**35.43**	**32**	P		**P**	**07 40 41.4**	**+0.9**
TOLK				IAmb		IAmb	07 41 06.8	
	comp=Z,4.6nm,1.1s							
SML	**Sawmill**	**35.60**	**44**	P		**P**	**07 40 42.3**	**+0.4**
SML				IAmb		IAmb	07 40 42.9	
	comp=Z,4.7nm,0.7s							
ILAR	**Eielson Array**	**36.20**	**39**	P		**P**	**07 40 45.7**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=236,slow=6.7,SNR=2.8							
	comp=Z,0.3nm,0.5s							
BMAR	**Burnt Mountain**	**37.20**	**34**	P		**P**	**07 40 56.5**	**+1.0**
K27K	**Chicken**	**38.32**	**40**	P		**P**	**07 41 05.8**	**+0.9**
K27K				IAmb		IAmb	07 41 07.6	
	comp=Z,9.7nm,1.4s							
L27K	**Beaver Creek,**	**38.52**	**41**	P		**P**	**07 41 08.0**	**+1.3**
BCAR	**Beaver Creek A**	**38.54**	**41**	P		**P**	**07 41 08.4**	**+1.5**
EGAK	**Eagle**	**38.66**	**38**	P		**P**	**07 41 08.3**	**+0.5**
HYT	**Haines Junctio**	**40.90**	**44**	P		**P**	**07 41 27.9**	**+1.3**
INK	**Inuvik**	**41.34**	**33**	P		**P**	**07 41 30.9**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=288,slow=3.2,SNR=2.2							
	comp=Z,1.2nm,0.8s							
ZALV	**Zalesovo Beam**	**42.90**	**306**	P		**P**	**07 41 40.7**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=46,slow=6.2,SNR=1.8							
ZALV				LR		LR	08 00 52.3	
	comp=Z,64nm,18.3s,baz=77,slow=38							
	comp=Z,0.7nm,0.3s							
MK31	**Makanchi Array**	**47.28**	**298**	P		**P**	**07 42 17.4**	**-0.4**
MK31				IAmb		IAmb	07 42 17.5	
	comp=Z,1.7nm,0.7s							
MK31	**Makanchi Array**	**47.28**	**298**	P		**P**	**07 42 17.4**	**-0.4**
MK31				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**47.28**	**298**	P		**P**	**07 42 17.0**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=69,slow=7.5,SNR=16							
MKAR				LR		LR	08 02 13.0	
	comp=Z,39nm,18.4s,baz=122,slow=36							
	comp=Z,1.3nm,0.5s							
MKAR	**Makanchi Array**	**47.28**	**298**	P		**P**	**07 42 16.9**	**-0.9**
MKAR	**Makanchi Array**	**47.28**	**298**	P		**P**	**07 42 16.9**	**-0.9**
MKAR	**Makanchi Array**	**47.28**	**298**	*e*P		**P**	**07 42 16.9**	**-0.9**
KURK	**Kurchatov**	**47.67**	**304**	P		**P**	**07 42 19.7**	**-1.0**
KURK				IAmb		IAmb	07 42 20.3	
	comp=Z,4.1nm,0.8s							
KURK	**Kurchatov**	**47.67**	**304**	P		**P**	**07 42 19.7**	**-1.0**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**47.67**	**304**	*e*P		**P**	**07 42 19.7**	**-1.0**
BVAR	**Borovoye Array**	**51.13**	**310**	LR		LR	08 05 03.1	
	comp=Z,49nm,18.5s,baz=143,slow=37							
AAK	**Ala-Archa**	**54.18**	**297**	LR		LR	08 08 06.7	
	comp=Z,66nm,18.1s,baz=138,slow=38							
JIRN	**Jiri**	**55.37**	**275**	*e*P		**P**	**07 43 20.0**	**+1.0**
RAMN	**Ramite**	**55.54**	**274**	*e*P		**P**	**07 43 20.7**	**+0.6**
	comp=Z,7.5nm,0.4s							
EDM	**Edmonton**	**55.93**	**46**	P		**P**	**07 43 23.0**	**+0.7**
EDM				IAmb		IAmb	07 43 23.6	
	comp=Z,4.5nm,1.0s							
EDM	**Edmonton**	**55.93**	**46**	P		**P**	**07 43 23.0**	**+0.7**
EDM				pmax		pmax		
	comp=Z,4.0nm,1.0s							
PKI	**Pulchoki**	**55.96**	**275**	*e*P		**P**	**07 43 23.7**	**+0.5**
PKIN	**Phulchoki**	**55.96**	**275**	*e*P		**P**	**07 43 23.8**	**+0.6**
DMN	**Daman**	**56.14**	**276**	*e*P		**P**	**07 43 25.6**	**+1.2**
GKN	**Gorkha**	**56.21**	**276**	*e*P		**P**	**07 43 25.8**	**+1.0**
	comp=Z,28nm,0.7s							
KKAR	**Karatay Array**	**56.33**	**299**	P		**P**	**07 43 24.8**	**-0.5**
KKAR	**Karatay Array**	**56.33**	**299**	P		**P**	**07 43 24.8**	**-0.5**
DANN	**Dangsing**	**56.59**	**277**	*e*P		**P**	**07 43 29.1**	**+1.4**
	comp=Z,18nm,0.6s							
KOLN	**Koldanda**	**57.07**	**277**	*e*P		**P**	**07 43 31.9**	**+0.9**
	comp=Z,3.6nm,1.2s							
PYUN	**Piuthan**	**57.27**	**278**	*e*P		**P**	**07 43 33.5**	**+1.1**
	comp=Z,30nm,1.0s							
ARCES	**ARCESS Array B**	**57.90**	**341**	P		**P**	**07 43 36.0**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=27,slow=8.2,SNR=5.2							
	comp=Z,2.2nm,0.8s							
ABKAR	**Akbulak array**	**58.70**	**310**	P		**P**	**07 43 41.0**	**-0.8**
GAR	**Garm**	**58.87**	**295**	P		**P**	**07 43 43.0**	**-0.3**
AKTO	**Aktyubinsk**	**58.98**	**312**	LR		LR	08 13 32.8	
	comp=Z,48nm,18.4s,baz=74,slow=40							
PLID	**Pearl Lake**	**59.26**	**56**	P		**P**	**07 43 46.4**	**+0.3**
LRM	**Limekiln Ridge**	**60.79**	**53**	P		**P**	**07 43 58.2**	**+1.6**
NVAR	**Mina Aray Bea**	**62.01**	**63**	P		**P**	**07 44 06.0**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=273,slow=6.2,SNR=1.9							
	comp=Z,0.2nm,0.5s							
FIA1	**FINESS Array S**	**64.13**	**335**	P		**P**	**07 44 18.0**	**-0.3**
FINES	**FINESS Array B**	**64.14**	**335**	P		**P**	**07 44 18.4**	**0.0**
	comp=Z,3.2nm,0.6s,baz=27,slow=9.1,SNR=12							
	comp=Z,3.2nm,0.6s							
FINES	**FINESS Array B**	**64.14**	**335**	P		**P**	**07 44 18.6**	**+0.3**
PDAR	**Pinedale Array**	**64.34**	**54**	P		**P**	**07 44 20.4**	**0.0**
	comp=Z,0.9nm,0.9s,baz=311,slow=2.9,SNR=7.0							
	comp=Z,0.9nm,0.9s							
PDAR	**Pinedale Array**	**64.34**	**54**	P		**P**	**07 44 20.6**	**+0.3**
OBN	**Obninsk**	**65.47**	**326**	*e*P		**P**	**07 44 27.0**	**-0.1**
OBN				*e*			07 44 58.2	
OBN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
OBN	**Obninsk**	**65.47**	**326**	*e*P		**P**	**07 44 27.0**	**-0.1**
NC204	**NORSAR Array S**	**68.16**	**342**	P		**P**	**07 44 44.6**	**+0.4**
NB2	**NORSAR Subarra**	**68.27**	**341**	P		**P**	**07 44 45.1**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.27**	**341**	P		**P**	**07 44 44.8**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=27,slow=6.4,SNR=9.0							
NOA				LR		LR	08 20 27.8	
	comp=Z,19nm,18.2s,baz=0.0,slow=41							
	comp=Z,2.4nm,0.7s							
HFS	**Hagfors**	**68.52**	**340**	P		**P**	**07 44 46.5**	**+0.1**
	comp=Z,7.7nm,0.7s,baz=60,slow=3.6,SNR=17							
	comp=Z,7.7nm,0.7s							
WRA	**Warramunga Arr**	**68.75**	**200**	P		**P**	**07 44 47.0**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=18,slow=7.0,SNR=5.6							
	comp=Z,0.9nm,0.8s							
WRA	**Warramunga Arr**	**68.75**	**200**	P		**P**	**07 44 47.0**	**-1.3**
ECSD	**EROS Data Cent**	**70.50**	**46**	P		**P**	**07 44 58.9**	**-0.2**
ECSD				IAmb		IAmb	07 45 11.9	
	comp=Z,2.6nm,0.8s							
AKASG	**Malin Array Be**	**71.70**	**327**	P		**P**	**07 45 05.6**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=29,slow=6.3,SNR=7.6							
	comp=Z,0.8nm,0.4s							
ASAR	**Alice Springs**	**72.44**	**199**	P		**P**	**07 45 10.4**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=13,slow=6.1,SNR=16							
	comp=Z,1.4nm,0.7s							
ASAR	**Alice Springs**	**72.44**	**199**	P		**P**	**07 45 09.9**	**-0.8**
ASAR	**Alice Springs**	**72.44**	**199**	P		**P**	**07 45 09.9**	**-0.8**
GNI	**Garni**	**72.80**	**311**	L

	comp=Z,3.1nm,1.1s							
PWL	**Port Wells**	**21.60**	**51**	P		**P**	**07 43 31.4**	**+0.4**
SML	**Sawmill**	**21.78**	**48**	P		**P**	**07 43 32.4**	**-0.6**
SCM	**Sheep Creek Mo**	**22.25**	**48**	P		**P**	**07 43 37.3**	**-0.8**
FID	**Port Fidalgo**	**22.48**	**51**	P		**P**	**07 43 39.2**	**-1.3**
FID				IAmb		IAmb	07 43 51.9	
	comp=Z,2.9nm,0.9s							
KLU	**Klutina**	**22.86**	**49**	P		**P**	**07 43 44.1**	**-0.4**
KLU				IAmb		IAmb	07 44 14.7	
	comp=Z,2.9nm,1.0s							
ILAR	**Eielson Array**	**23.16**	**41**	P		**P**	**07 43 46.5**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=244,slow=7.9,SNR=2.7							
	comp=Z,0.4nm,0.7s							
N25K	**Chitina, Valde**	**23.50**	**49**	P		**P**	**07 43 50.2**	**-0.8**
N25K				IAmb		IAmb	07 43 56.0	
	comp=Z,2.0nm,1.1s							
TOLK	**Toolik Lake Re**	**23.70**	**31**	P		**P**	**07 43 53.1**	**+0.3**
DOT	**Dot Lake**	**24.08**	**44**	P		**P**	**07 43 55.0**	**-1.4**
J26L	**Joseph Creek**	**24.47**	**43**	P		**P**	**07 43 58.9**	**-1.1**
J26L				IAmb		IAmb	07 44 03.5	
	comp=Z,2.3nm,0.8s							
LOGN	**Logan Glacier**	**25.17**	**52**	P		**P**	**07 44 06.5**	**0.0**
EGAK	**Eagle**	**25.55**	**42**	P		**P**	**07 44 08.7**	**-0.9**
EGAK				IAmb		IAmb	07 44 12.5	
	comp=Z,2.5nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**32.55**	**196**	T		T	08 19 48.5	
	baz=11,slow=76,SNR=22							
H11N3	**WAKE ISLAND Hy**	**32.56**	**196**	T		T	08 19 52.3	
	baz=11,slow=76,SNR=26							
H11N1	**WAKE ISLAND Hy**	**32.57**	**196**	T		T	08 19 54.5	
	baz=11,slow=76,SNR=18							
H11S1	**WAKE ISLAND Hy**	**33.78**	**196**	T		T	08 22 05.2	
	baz=10,slow=74							
H11S3	**WAKE ISLAND Hy**	**33.80**	**196**	T		T	08 21 41.4	
	baz=10,slow=74							
H11S2	**WAKE ISLAND Hy**	**33.80**	**196**	T		T	08 21 58.2	
	baz=10							
NVAR	**Mina Array Bea**	**46.66**	**79**	P		**P**	**07 47 09.3**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=294,slow=6.6,SNR=2.5							
	comp=Z,0.2nm,0.5s							
PDAR	**Pinedale Array**	**49.25**	**69**	P		**P**	**07 47 28.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=302,slow=5.2,SNR=1.6							
	comp=Z,0.1nm,0.3s							
MKAR	**Makanchi Array**	**57.41**	**306**	P		**P**	**07 48 29.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=54,slow=6.2,SNR=2.5							
	comp=Z,0.2nm,0.5s							
TXAR	**Lajitas Array**	**61.74**	**78**	P		**P**	**07 49 00.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=310,slow=4.7,SNR=5.6							
	comp=Z,0.1nm,0.3s							
FINES	**FINESS Array B**	**64.86**	**345**	P		**P**	**07 49 19.1**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=31,slow=11,SNR=1.8							
	comp=Z,2.6nm,1.0s							

*SIGU **01** 07:49:20.5,45˚.67N×26˚.39E,h152km*
*IDC **01** 07:49:20.6±0.6,45˚.71N×26˚.30E,h145km±3km,mb3.5/9, mbtmp3.8/16,Error ellipse: s-maj=16.0km s-min=10.5km az=116.0*
*BUC **01** 07:49:21.4±0.2,45˚.61N×26˚.39E,h144km±2km,ml4.4/61, Error ellipse: s-maj=1.6km s-min=1.4km az=167.0*
*SOF **01** 07:49:22.3,45˚.63N×26˚.31E,h100km,MD3.7*
*CFUSG **01** 07:49:23.0,45˚.70N×26˚.40E,h100km,mb3.6/2,Romania Magtype MSH 3.6 from 2 stations*
*BEO **01** 07:49:26.2±1.0,45˚.55N×26˚.14E,h92km±4km,ML3.2/8*

ISC 01 07:49:20.5±0.6,**45˚.62N**±0˚.02×**26˚.40E**±0˚.02,**h151**km±4km, **n154**,σ0**99**/231,**mb3.7**/12,**91C-5D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.21**	**202**	⇑P	**Pn**	**07 49 41.7**	**+0.7**
NEHR				⇑S	**Sn**	**07 49 56.4**	**-0.2**
COVR	**Voineasa-Covas**	**0.27**	**328**	⇑P	**Pn**	**07 49 41.3**	**+0.1**
COVR				⇓S	**Sn**	**07 49 56.0**	**-0.9**
PLOR	**Plostina**	**0.29**	**36**	⇑P	**Pn**	**07 49 41.4**	**+0.2**
PLOR				⇑S	**Sn**	**07 49 57.1**	**0.0**
VRI	**Vrincioaia**	**0.34**	**42**	⇑P	**Pn**	**07 49 41.8**	**+0.4**
VRI				⇑S	**Sn**	**07 49 57.2**	**-0.1**
MLR	**Muntele Rosu**	**0.35**	**249**	⇑P	**Pn**	**07 49 42.0**	**+0.4**
MLR				⇑S	**Sn**	**07 49 56.9**	**-0.6**
MLR	**Muntele Rosu**	**0.35**	**249**	P	**Pn**	**07 49 41.7**	**+0.1**
	777nm,0.5s,baz=4.2,slow=2.1,SNR=1259						
MLR				S	**Sn**	**07 49 57.5**	**0.0**
	2μm,0.4s,baz=108,slow=20,SNR=27						
MLR	**Muntele Rosu**	**0.35**	**249**	*e*Pg	**Pn**	**07 49 42.0**	**+0.4**
MLR				*e*Sg	**Sn**	**07 49 53.6**	**-3.9**
GRER		**0.47**	**120**	⇑P	**Pn**	**07 49 43.4**	**+1.6**
ISR	**Istrita**	**0.51**	**169**	⇑P	**Pn**	**07 49 42.9**	**+0.7**
ISR				⇓S	**Sn**	**07 49 59.0**	**+0.4**
PANC	**Panciu**	**0.58**	**64**	⇑P	**Pn**	**07 49 43.3**	**+0.9**
PANC				⇑S	**Sn**	**07 49 59.8**	**+0.7**
OZUR		**0.64**	**318**	⇓P	**Pn**	**07 49 43.0**	**+0.1**
OZUR				⇑S	**Sn**	**07 49 59.1**	**-0.9**
PLAR	**PLOIESTI**	**0.75**	**201**	⇑P	**Pn**	**07 49 44.4**	**+0.9**
PLAR				⇓S	**Sn**	**07 50 02.0**	**+1.0**
DOPR	**Dopca**	**0.79**	**297**	⇓P	**Pn**	**07 49 44.0**	**+0.2**
DOPR				⇑S	**Sn**	**07 50 00.9**	**-0.7**
PGOR	**Pogoanele**	**0.82**	**150**	⇑P	**Pn**	**07 49 44.9**	**+0.9**
PGOR				⇑S	**Sn**	**07 50 03.1**	**+1.3**
GHRR		**0.83**	**57**	⇑P	**Pn**	**07 49 45.0**	**+0.9**
GHRR				⇑S	**Sn**	**07 50 02.8**	**+0.8**
TUDR		**0.89**	**91**	⇑P	**Pn**	**07 49 44.8**	**+0.3**
TUDR				⇑S	**Sn**	**07 50 03.1**	**+0.4**
TESR	**Tescani**	**0.91**	**11**	⇑P	**Pn**	**07 49 45.0**	**+0.3**
TESR				⇓S	**Sn**	**07 50 02.3**	**-0.9**
SULR		**0.94**	**186**	⇑P	**Pn**	**07 49 45.7**	**+0.8**
SULR				⇓S	**Sn**	**07 50 04.6**	**+1.0**
IZVR	**Izvoarele**	**0.96**	**94**	⇑P	**Pn**	**07 49 45.3**	**+0.2**
IZVR				⇑S	**Sn**	**07 50 03.0**	**-0.7**
SLCR	**Slobozia Conac**	**0.96**	**91**	⇑P	**Pn**	**07 49 45.4**	**+0.4**
SLCR				⇓S	**Sn**	**07 50 03.8**	**+0.1**
VOIR		**0.97**	**260**	⇓P	**Pn**	**07 49 45.2**	**-0.1**
VOIR				⇑S	**Sn**	**07 50 02.5**	**-1.6**
SCHL	**Schela**	**1.01**	**96**	⇑P	**Pn**	**07 49 45.8**	**+0.3**
SCHL				⇓S	**Sn**	**07 50 04.7**	**+0.2**
MTUR	**Matau**	**1.02**	**248**	⇓P	**Pn**	**07 49 46.2**	**+0.5**
VARL	**Varlezi**	**1.05**	**74**	⇑P	**Pn**	**07 49 46.5**	**+0.7**
VARL				⇑S	**Sn**	**07 50 05.2**	**+0.1**
BIR	**Birlad**	**1.07**	**52**	⇑P	**Pn**	**07 49 46.8**	**+0.8**
BIR				⇓S	**Sn**	**07 50 05.2**	**-0.3**
SCTR	**Scanteiesti**	**1.12**	**87**	⇑P	**Pn**	**07 49 47.3**	**+0.8**
SCTR				⇓S	**Sn**	**07 50 06.8**	**+0.6**
TATR	**Tatarca**	**1.16**	**90**	⇓P	**Pn**	**07 49 47.6**	**+0.8**
TATR				⇑S	**Sn**	**07 50 06.9**	**+0.1**
GISR	**Galati**	**1.17**	**98**	⇑P	**Pn**	**07 49 47.4**	**+0.5**
GISR				⇑S	**Sn**	**07 50 07.5**	**+0.4**
LEHL	**Lehliu**	**1.18**	**165**	⇑P	**Pn**	**07 49 47.7**	**+0.7**
LEHL				⇑S	**Sn**	**07 50 07.7**	**+0.5**
INCR	**INCERC-Sediu C**	**1.19**	**188**	⇓S	**Sn**	**07 50 07.4**	**0.0**
VLDR	**Vladesti**	**1.20**	**78**	⇑P	**Pn**	**07 49 48.0**	**+0.9**
VLDR				⇑S	**Sn**	**07 50 07.5**	**0.0**
AMRR	**Amara**	**1.20**	**146**	⇑P	**Pn**	**07 49 47.9**	**+0.7**
AMRR				⇑S	**Sn**	**07 50 08.0**	**+0.4**
STFAR	**Stefanesti-Arg**	**1.27**	**234**	⇑P	**Pn**	**07 49 48.6**	**+0.8**
STFAR				⇑S	**Sn**	**07 50 09.2**	**+0.4**
ARR	**Arges**	**1.27**	**259**	⇓P	**Pn**	**07 49 48.3**	**+0.3**
ARR				⇑S	**Sn**	**07 50 09.5**	**+0.6**
GIUM	**Giurgiulesti**	**1.27**	**95**	⇓P	**Pn**	**07 49 48.9**	**+1.0**
GIUM				⇓S	**Sn**	**07 50 09.1**	**+0.3**
GIUM	**Giurgiulesti**	**1.27**	**95**	P	**Pn**	**07 49 48.7**	**+0.8**
CFR	**Carcaliu**	**1.30**	**109**	⇑P	**Pn**	**07 49 48.3**	**+0.2**
CFR				⇑S	**Sn**	**07 50 09.1**	**0.0**
BUC1	**Bucharest**	**1.30**	**192**	⇑P	**Pn**	**07 49 48.5**	**+0.3**
BUC1				⇑S	**Sn**	**07 50 08.9**	**-0.3**
BIZ	**Bicaz**	**1.34**	**351**	⇓P	**Pn**	**07 49 50.0**	**+1.5**
BIZ				⇑S	**Sn**	**07 50 10.7**	**+0.7**
GIRR	**Girov**	**1.34**	**3**	⇓P	**Pn**	**07 49 49.6**	**+1.0**
VASR	**Vaslui**	**1.41**	**43**	⇑P	**Pn**	**07 49 49.9**	**+0.7**
VASR				⇓S	**Sn**	**07 50 10.8**	**-0.4**
HARR	**Harsova**	**1.42**	**130**	⇑P	**Pn**	**07 49 50.0**	**+0.6**
SGRR	**Singureni**	**1.43**	**192**	⇓P	**Pn**	**07 49 49.6**	**+0.1**
SGRR				⇓S	**Sn**	**07 50 10.9**	**-0.6**
HUMR	**Humele**	**1.48**	**223**	⇑P	**Pn**	**07 49 50.1**	**+0.1**
HUMR				⇑S	**Sn**	**07 50 12.0**	**-0.6**
RASA	**Rasa**	**1.50**	**159**	⇑P	**Pn**	**07 49 50.6**	**+0.4**
RASA				⇓S	**Sn**	**07 50 12.5**	**-0.3**
MDB	**Medias**	**1.51**	**291**	⇓P	**Pn**	**07 49 51.0**	**+0.8**
LEOM	**Leova**	**1.54**	**56**	⇑P	**Pn**	**07 49 51.4**	**+0.9**
LEOM				⇓S	**Sn**	**07 50 13.4**	**-0.2**
LEOM	**Leova**	**1.54**	**56**	P	**Pn**	**07 49 50.9**	**+0.3**
TLBR	**Topalu**	**1.58**	**132**	⇑P	**Pn**	**07 49 51.7**	**+0.6**
RMVG	**GOVORA**	**1.60**	**249**	⇓S	**Sn**	**07 50 15.5**	**+0.6**
TPGR	**Topolog**	**1.61**	**117**	⇑P	**Pn**	**07 49 51.7**	**+0.3**
TPGR				⇓S	**Sn**	**07 50 13.8**	**-1.3**
COPA	**Copaceanca**	**1.71**	**210**	⇑P	**Pn**	**07 49 52.5**	**+0.1**
COPA				⇑S	**Sn**	**07 50 15.5**	**-1.3**
CVDA	**Cernavoda**	**1.73**	**137**	⇑P	**Pn**	**07 49 53.2**	**+0.6**
CVDA				⇑S	**Sn**	**07 50 16.7**	**-0.5**
TLCR		**1.75**	**103**	⇑P	**Pn**	**07 49 53.4**	**+0.5**
TLCR				⇓S	**Sn**	**07 50 18.0**	**+0.4**
IAS	**Iasi**	**1.77**	**26**	⇑P	**Pn**	**07 49 53.6**	**+0.6**
IAS				⇓S	**Sn**	**07 50 17.1**	**-0.9**
ICOR	**Ion Corvin**	**1.80**	**146**	⇑P	**Pn**	**07 49 54.2**	**+0.8**
ICOR				⇑S	**Sn**	**07 50 18.0**	**-0.6**
TIRR	**Tirgusor**	**1.84**	**128**	⇑P	**Pn**	**07 49 54.4**	**+0.6**
TIRR				⇓S	**Sn**	**07 50 18.8**	**-0.6**
LOT	**Lotru**	**1.86**	**266**	⇑P	**Pn**	**07 49 55.1**	**+0.9**
LOT				⇓S	**Sn**	**07 50 20.5**	**+0.5**
JURR	**Jurilovca**	**1.94**	**115**	⇑P	**Pn**	**07 49 55.6**	**+0.5**
ARCR	**ARCALIA**	**2.04**	**317**	⇑P	**Pn**	**07 49 56.4**	**+0.2**
RAZG	**Razgrad**	**2.05**	**178**	⇑P	**Pn**	**07 49 56.8**	**+0.4**
RAZG				⇓S	**Sn**	**07 50 23.6**	**-0.3**
ZIMR		**2.10**	**201**	⇑S	**Sn**	**07 50 23.1**	**-1.6**
MILM	**Milestii Mici**	**2.12**	**51**	⇑*i*P	**Pn**	**07 49 57.6**	**+0.6**
	200nm,0.1s						
MILM				*e*S	**Sn**	**07 50 23.7**	**-1.5**
	900nm,0.2s						
MILM	**Milestii Mici**	**2.12**	**51**	⇑P	**Pn**	**07 49 57.6**	**+0.6**
MILM				⇑S	**Sn**	**07 50 24.2**	**-0.9**
MILM	**Milestii Mici**	**2.12**	**51**	⇓*i*P	**Pn**	**07 49 57.6**	**+0.6**
MILM				P		07 49 57.8	
MILM				*e*S	**Sn**	**07 50 23.7**	**-1.5**
MILM				Sm		07 50 23.9	
MILM				m		07 50 24.6	
VLAD	**Vladila**	**2.16**	**222**	⇑S	**Sn**	**07 50 24.6**	**-1.4**
BURAR	**Bucovina Array**	**2.16**	**338**	⇓P	**Pn**	**07 49 59.5**	**+1.8**
TSCT	**Constanta Port**	**2.17**	**132**	⇑P	**Pn**	**07 49 58.5**	**+0.8**
TSCT				⇓S	**Sn**	**07 50 25.6**	**-0.5**
KIS	**Kishinev**	**2.17**	**50**	*e*P	**Pn**	**07 49 58.0**	**+0.3**
	100nm,0.1s						
KIS				*e*S	**Sn**	**07 50 25.2**	**-1.1**
	3μm,0.6s						
KIS	**Kishinev**	**2.17**	**50**	⇑P	**Pn**	**07 49 58.3**	**+0.6**
KIS				⇓S	**Sn**	**07 50 25.5**	**-0.8**
KIS	**Kishinev**	**2.17**	**50**	*e*P	**Pn**	**07 49 58.0**	**+0.3**
KIS				Pm		07 49 58.4	
KIS				*e*S	**Sn**	**07 50 25.2**	**-1.1**
KIS				Sm		07 50 25.5	
KIS				m		07 50 26.1	
EFOR	**EFORIE**	**2.21**	**133**	⇑P	**Pn**	**07 49 59.1**	**+0.9**
EFOR				⇑S	**Sn**	**07 50 27.1**	**0.0**
CJR	**Cluj-Napoca**	**2.24**	**300**	⇓P	**Pn**	**07 49 58.9**	**+0.4**
CBBR	**Cluj-Babes-Bol**	**2.29**	**301**	⇑P	**Pn**	**07 49 59.6**	**+0.4**
PSN	**Preselentsi**	**2.31**	**146**	P	**Pn**	**07 50 00.5**	**+1.0**
SZH	**Strazhica**	**2.38**	**188**	P	**Pn**	**07 50 00.5**	**+0.3**
MANR	**Mangalia**	**2.38**	**138**	⇓P	**Pn**	**07 50 01.1**	**+0.8**
MANR				⇑S	**Sn**	**07 50 30.3**	**-0.5**
TSSL	**Sulina**	**2.38**	**100**	⇓P	**Pn**	**07 50 01.3**	**+1.1**
TSSL				⇓S	**Sn**	**07 50 31.4**	**+0.5**
PRD	**Provadia**	**2.52**	**163**	*i* P	**Pn**	**07 50 03.1**	**+1.1**
GZR	**Gura Zlata**	**2.56**	**266**	⇓P	**Pn**	**07 50 02.8**	**+0.3**
GZR				⇓S	**Sn**	**07 50 33.7**	**-1.1**
GZR	**Gura Zlata**	**2.56**	**266**	*e*Pn	**Pn**	**07 50 02.6**	**+0.1**
GZR				*e*Sn	Sn	07 50 24.1	-11
ROIA	**ROIAK**	**2.62**	**164**	P	**Pn**	**07 50 04.1**	**+0.9**
CHRU	**Chernivtsi**	**2.70**	**353**	*e*P	**Pn**	**07 50 04.0**	**-0.1**
CHRU				Pm		07 50 12.2	
CHRU				*i* S	**Sn**	**07 50 38.3**	**+0.4**
CHRU				Sm		07 50 39.2	
DRGR		**2.82**	**296**	⇓P	**Pn**	**07 50 05.6**	**-0.2**
DRGR		**2.82**	**296**	*e*Pn	**Pn**	**07 50 05.5**	**-0.2**
KSV	**Kosov**	**2.85**	**342**	*i* P	**Pn**	**07 50 06.7**	**+0.7**
KSV				Pm		07 50 07.2	
KSV				*e*S	**Sn**	**07 50 41.2**	**0.0**
KSV				Sm		07 50 58.7	
SORM	**Soroca**	**2.85**	**27**	⇓P	**Pn**	**07 50 05.4**	**-0.6**
RAKU	**Rahkiv**	**2.86**	**328**	P	**Pn**	**07 50 06.4**	**+0.3**
RAKU				*e*S	**Sn**	**07 50 41.2**	**-0.2**
NSLU	**Nyzhne Selyshc**	**2.91**	**333**	*i* P	Pn	07 50 12.1	+5.4
NSLU				Pm		07 50 12.8	
NSLU				*e*S	**Sn**	**07 50 50.6**	**+8.2**
NSLU				Sm		07 50 56.7	
HERR	**Herculane**	**2.91**	**257**	⇓P	**Pn**	**07 50 06.3**	**-0.5**
KMPD	**K-Podol'skiy**	**2.95**	**1**	⇑*i*P	**Pn**	**07 50 06.3**	**-0.9**
KMPD				⇓*i*S	**Sn**	**07 50 41.1**	**-2.2**
MPEP	**Malo Peshtene**	**2.96**	**221**	P	**Pn**	**07 50 07.9**	**+0.5**
NDNU	**Novodnistrovsk**	**3.05**	**12**	P	**Pn**	**07 50 08.5**	**0.0**
STNU	**Starunia**	**3.35**	**338**	*i* P	**Pn**	**07 50 12.8**	**+0.4**
BZS	**Buzias**	**3.36**	**272**	⇓P	**Pn**	**07 50 12.4**	**-0.1**
BZS	**Buzias**	**3.36**	**272**	*e*Pn	**Pn**	**07 50 12.3**	**-0.1**
SIRR	**Siria**	**3.37**	**283**	⇓P	**Pn**	**07 50 13.1**	**+0.4**
KORU	**Korolevo**	**3.39**	**320**	⇑*i*P	**Pn**	**07 50 13.2**	**+0.4**
KORU				*e*S	**Sn**	**07 50 53.8**	**+0.4**
MDVR	**Moldovita**	**3.42**	**258**	⇓P	**Pn**	**07 50 13.8**	**+0.5**
MDVR	**Moldovita**	**3.42**	**258**	*e*Pn	**Pn**	**07 50 13.3**	**0.0**
TRSU	**Trosnyk**	**3.42**	**318**	⇑*i*P	**Pn**	**07 50 13.6**	**+0.3**
TRSU				Pm		07 50 17.6	
TRSU				*i* S	**Sn**	**07 50 54.3**	**+0.1**
TRSU				Sm		07 52 00.9	
ZAGS	**Zajecar**	**3.48**	**240**	*e*Pn	**Pn**	**07 50 12.5**	**-1.5**
ZAGS				*e*Sn	Sn	07 50 45.2	-10
MEZ	**Mezhgor'ye**	**3.51**	**327**	*i* P	**Pn**	**07 50 14.9**	**+0.5**
MEZ				*e*S	**Sn**	**07 50 55.3**	**-0.9**
BORR	**Bors**	**3.52**	**296**	⇑P	**Pn**	**07 50 14.9**	**+0.4**
KUBS	**Kucevo**	**3.56**	**252**	*e*Pn	**Pn**	**07 50 14.2**	**-0.9**
KUBS				*e*Sn	Sn	07 50 45.4	-12
BRIU	**Brid**	**3.57**	**321**	⇓*i*P	**Pn**	**07 50 15.3**	**+0.1**
BRIU				Pm		07 50 16.0	
BRIU				*e*S	**Sn**	**07 50 57.9**	**+0.3**
BRIU				Sm		07 51 08.4	
ZAPS	**Zavoj**	**3.58**	**230**	*e*Pn	**Pn**	**07 50 14.9**	**-0.4**
HORU	**Horodok**	**3.60**	**0**	⇑*i*P	**Pn**	**07 50 16.3**	**+0.8**
HORU				Pm		07 50 16.6	
HORU				*i* S	**Sn**	**07 50 58.7**	**+0.4**
HORU				Sm		07 51 14.3	
BERU	**Beregovo**	**3.67**	**317**	⇑*i*P	**Pn**	**07 50 16.3**	**-0.1**
BERU				*e*S	**Sn**	**07 50 59.5**	**-0.4**
VTS	**Vitosha**	**3.77**	**218**	⇑P	**Pn**	**07 50 18.3**	**+0.4**
VTS	**Vitosha**	**3.77**	**218**	P	**Pn**	**07 50 19.6**	**+1.6**
MUKU	**Mukachevo**	**3.81**	**319**	⇓*i*P	**Pn**	**07 50 18.7**	**+0.5**
MUKU				Pm		07 50 19.6	
MUKU				Sm		07 51 09.2	
BOVS	**Bovan**	**3.90**	**241**	*e*Pn	**Pn**	**07 50 18.7**	**-0.7**
BOVS				*e*Sn	Sn	07 50 55.7	-9.5
MORS	**Morshin**	**3.91**	**335**	*e*P	**Pn**	**07 50 20.4**	**+0.9**
MORS				*e*S	**Sn**	**07 51 05.6**	**+0.2**
HOLU	**Holmets**	**4.00**	**318**	⇓*i*P	**Pn**	**07 50 21.1**	**+0.4**
HOLU				*e*S	**Sn**	**07 51 07.7**	**+0.1**
RZN	**Rozhen**	**4.12**	**198**	P	**Pn**	**07 50 22.8**	**+0.3**
SHIU	**Shidnytsya**	**4.16**	**331**	*i* P	**Pn**	**07 50 23.2**	**+0.4**
SHIU				*i* S	**Sn**	**07 51 11.2**	**-0.1**
BOSS	**Bosilegrad**	**4.21**	**224**	*e*Pn	**Pn**	**07 50 23.2**	**+0.6**
KOLS	**Kolonicke sedl**	**4.35**	**321**	*e*P	**Pn**	**07 50 26.4**	**+1.1**
TRUS	**Trudelj**	**4.48**	**254**	*e*Pn	**Pn**	**07 50 27.2**	**+0.1**
CRVS	**Cervenica-Dubn**	**4.70**	**316**	*e*P	**Pn**	**07 50 30.5**	**+0.5**
DIVS	**Divibare**	**4.80**	**254**	*e*Pn	**Pn**	**07 50 31.4**	**-0.1**
KECS	**Kecovo**	**4.96**	**307**	*e*P	**Pn**	**07 50 33.6**	**+0.3**
PSZ	**Piszkesteto**	**5.03**	**300**	P	**Pn**	**07 50 34.0**	**-0.4**
SEV	**Sevastopol'**	**5.25**	**99**	⇑*e*P	**Pn**	**07 50 37.7**	**+0.4**
SEV				Pm		07 50 39.0	
	comp=Z,30nm,0.3s						
SEV				*ex*	x	07 50 50.0	
SEV				*e*S	**Sn**	**07 51 36.1**	**-1.1**
SEV				Sm		07 51 38.0	
	comp=N,41nm,0.5s						
SEV				Sm		07 51 38.0	
	comp=E,20nm,0.4s						
SEV	**Sevastopol'**	**5.25**	**99**	⇓*e*P	**Pn**	**07 50 37.7**	**+0.4**
SEV				Pm		07 50 39.0	
SEV				*e*S	**Sn**	**07 51 36.1**	**-1.1**
SEV				Sm		07 51 38.0	
BBLS	**Lazić**	**5.28**	**253**	*e*Pn	**Pn**	**07 50 38.5**	**+0.7**
AKASG	**Malin Array Be**	**5.42**	**19**	P	**Pn**	**07 50 39.0**	**-0.4**
	comp=E,3.7nm,0.3s,baz=204,slow=13,SNR=26						
AKASG				S	**Sn**	**07 51 38.1**	**-3.0**
	comp=E,2.4nm,0.4s,baz=189,slow=16,SNR=7.2						
MORH	**Mrgy, Hungar**	**5.45**	**279**	P	**Pn**	**07 50 40.4**	**+0.5**
LANS	**Liptovska Anna**	**5.89**	**309**	*e*P	**Pn**	**07 50 46.8**	**+1.1**
VYHS	**Vyhne**	**5.92**	**302**	*e*P	**Pn**	**07 50 46.0**	**-0.1**
SUDU	**Sudak**	**6.11**	**94**	⇑*e*P	**Pn**	**07 50 48.6**	**-0.1**
SUDU				Pm		07 50 49.6	
	comp=E,17nm,0.3s						
SUDU				*ex*	x	07 51 03.0	
SUDU				*e*S	**Sn**	**07 51 56.3**	**-1.3**
SUDU				Sm		07 52 01.0	
	comp=E,38nm,0.5s						
SUDU				Sm		07 52 01.0	
	comp=N,95nm,0.5s						
SUDU	**Sudak**	**6.11**	**94**	⇓*e*P	**Pn**	**07 50 48.6**	**-0.1**
SUDU				Pm		07 50 49.6	
SUDU				*e*S	**Sn**	**07 51 56.3**	**-1.3**
SUDU				Sm		07 52 01.0	
JAVC	**Velka Javorina**	**6.77**	**302**	*e*P	**Pn**	**07 50 58.3**	**+0.8**
VRAC	**Vranov**	**7.60**	**303**	P	**Pn**	**07 51 06.4**	**-2.1**
	comp=N,2.1nm,0.5s,baz=128,slow=14,SNR=5.4						
VRAC	**Vranov**	**7.60**	**303**	*e*P	**Pn**	**07 51 08.7**	**+0.2**
BRTR	**Keskin Array B**	**7.94**	**135**	P	**Pn**	**07 51 13.4**	**+0.2**
	comp=N,1.1nm,0.5s,baz=322,slow=13,SNR=3.0						
GERES	**GERESS Array B**	**9.22**	**295**	P	**Pn**	**07 51 30.5**	**+0.3**
	comp=N,0.8nm,0.6s,baz=101,slow=14,SNR=6.4						
FINES	**FINESS Array B**	**15.86**	**359**	P	**Pn**	**07 52 53.0**	**-2.1**
	comp=N,0.8nm,0.6s,baz=182,slow=12,SNR=1.1						
HFS	**Hagfors**	**16.39**	**337**	P	**Pn**	**07 53 01.2**	**-0.4**
	comp=N,0.7nm,0.4s,baz=144,slow=13,SNR=5.6						
NB2	**NORSAR Subarra**	**17.84**	**335**	P	**P**	**07 53 17.6**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=145,slow=11						
NOA	**NORSAR Array B**	**17.84**	**335**	P	**P**	**07 53 17.4**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=144,slow=9.9,SNR=5.1						
EKA	**Eskdalemuir Ar**	**21.03**	**308**	P	**P**	**07 53 52.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=104,slow=11,SNR=2.8						
	comp=Z,0.5nm,0.5s						
ARU	**Arti**	**22.72**	**50**	pP	pP	07 54 34.8	-2.4
	comp=Z,5.4nm,0.2s,baz=251,slow=10,SNR=1.6						
ESDC	**Sonseca Array**	**23.03**	**266**	P	**P**	**07 54 11.3**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=58,slow=9.5,SNR=11						
	comp=Z,1.3nm,0.6s						
ARCES	**ARCESS Array B**	**23.99**	**359**	P	**P**	**07 54 20.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=174,slow=9.0,SNR=6.6						
ARCES				pP	**pP**	**07 54 47.7**	**-3.1**
	comp=Z,2.9nm,0.9s,baz=132,slow=1.8,SNR=2.5						
	comp=Z,1.6nm,0.7s						
GEYT	**Alibeck**	**24.75**	**97**	P	**P**	**07 54 30.9**	**+2.9**
	comp=Z,1.9nm,0.6s,baz=316,slow=8.1,SNR=2.5						
	comp=Z,1.9nm,0.6s						
BVAR	**Borovoye Array**	**29.22**	**59**	pP	pP	07 55 40.1	+0.4
	comp=Z,0.2nm,0.5s,baz=279,slow=10,SNR=2.0						
MKAR	**Makanchi Array**	**38.00**	**68**	pP

1.1nm,0.7s,baz=106,slow=49,SNR=5.7
MK31 ⇑Lg Lg 08 05 28.5
1.6nm,0.7s,baz=32,slow=26,SNR=4.2
MKAR Makanchi Array 8.08 211 Pn **Pn 08 03 17.0 +2.6**
0.3nm,0.3s,baz=32,slow=14,SNR=11
MKAR Sn **Sn 08 04 43.7 -2.7**
0.1nm,0.3s,baz=33,slow=29,SNR=3.3
MKAR Lg Lg 08 05 29.5
0.1nm,0.3s,baz=36,slow=28,SNR=2.8
0.5nm,0.4s
MAKZ Makanchi 8.16 213 Pn **Pn 08 03 14.4 -1.1**
1.3nm,0.8s
MAKZ ⇑Sn **Sn 08 04 49.3 +0.9**
1.6nm,0.6s
MAKZ ⇑Lg Lg 08 05 28.8
2.1nm,0.8s
BVAR Borovoye Array 10.78 273 Pn **Pn 08 03 52.5 +1.1**
0.2nm,0.3s,baz=67,slow=19,SNR=4.0
0.3nm,0.4s

---

*VAO **01** 08:04:09.0±0.3, 16°.40S×72°.24W, h62km, mb4.5*
*ARE **01** 08:04:11±0.0, 16°.55S×72°.31W, h77km, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
*NEIC **01** 08:04:11.5±1.7, 16°.49S±0°.07×72°.22W±0°.09, h79km±8km, mb4.8/33, ML5.0(ARE), Error ellipse: s-maj=13.3km s-min=9.9km az=71.0*
*IDC **01** 08:04:11.8±0.8, 16°.40S×72°.03W, h83km±6km, mb3.8/14, mbtmp4.2/18, MS3.1/3, Error ellipse: s-maj=18.8km s-min=13.0km az=50.0*
ISC 01 08:04:11.0±0.5, **16°.49S**±0°.05×**72°.19W**±0°.06, **h81**km±4km, **h81**km**:pP-P, n150,** σ1°**23**/159, **mb4.6**/28, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.57**	**137**			**Pn**	**08 04 52.1**	**+1.6**
AP01				Sn		**Sn**	**08 05 21.0**	**+0.1**
AP01	**Chacalluta**	**2.57**	**137**	*eP*		**Pn**	**08 04 52.5**	**+2.0**
AP01				*i* S		**Sn**	**08 05 22.0**	**+1.1**
AP01				IAML			08 05 34.7	
	comp=E,12µm,0.2s							
PB12	**IPOC Station P**	**2.76**	**140**	Pn		**Pn**	**08 04 53.9**	**+0.7**
PB16	**IPOC Station P**	**3.15**	**126**	Pn		**Pn**	**08 05 00.9**	**+2.0**
PB16				Sn		**Sn**	**08 05 36.5**	**+0.8**
PB16	**IPOC Station P**	**3.15**	**126**	*eP*		**Pn**	**08 05 01.4**	**+2.5**
PB16				*i* S		**Sn**	**08 05 37.5**	**+1.7**
LPAZ	**La Paz**	**3.90**	**88**	P		**Pn**	**08 05 13.8**	**+4.7**
	comp=E,73nm,0.4s,baz=296,slow=8.5,SNR=705							
LPAZ				S		**Sn**	**08 05 58.3**	**+4.2**
	comp=E,47nm,0.6s,baz=82,slow=24,SNR=1.4							
LPAZ	**La Paz**	**3.90**	**88**	Pn		**Pn**	**08 05 13.6**	**+4.5**
TA02	**Huaiquique**	**4.24**	**153**			**Pn**	**08 05 13.0**	**-0.1**
GO01	**Chusmiza**	**4.25**	**138**			**Pn**	**08 05 14.8**	**+1.0**
TA01	**Diego Aracena**	**4.48**	**155**	Pn		**Pn**	**08 05 16.5**	**+0.1**
PB01	**IPOC Station P**	**5.20**	**151**			**Pn**	**08 05 26.2**	**-0.2**
PB02	**IPOC Station P**	**5.27**	**156**			**Pn**	**08 05 27.8**	**+0.4**
PB07	**IPOC Station P**	**5.64**	**158**			**Pn**	**08 05 32.4**	**-0.1**
PB09	**IPOC Station P**	**5.97**	**153**			**Pn**	**08 05 37.3**	**+0.4**
PB04	**IPOC Station P**	**6.12**	**162**			**Pn**	**08 05 37.9**	**-1.2**
NNA	**Nana**	**6.36**	**314**	P		**Pn**	**08 05 43.5**	**+1.3**
	comp=E,51nm,0.5s,baz=134,slow=7.6,SNR=14							
NNA				S		**Sn**	**08 06 53.9**	**+0.5**
	comp=E,24nm,0.3s,baz=43,slow=19,SNR=1.1							
PB06	**IPOC Station P**	**6.66**	**159**			**Pn**	**08 05 45.8**	**-0.6**
LVC	**Limon Verde**	**6.83**	**154**	P		**Pn**	**08 05 49.6**	**+0.8**
	comp=E,86nm,0.3s,baz=335,slow=11,SNR=253							
LVC				S		**Sn**	**08 07 02.8**	**-2.4**
	comp=E,54nm,0.3s,baz=64,slow=22,SNR=10							
LVC	**Limon Verde**	**6.83**	**154**	Pn		**Pn**	**08 05 48.9**	**+0.1**
LVC	**Limon Verde**	**6.83**	**154**	*eP*		**Pn**	**08 05 49.6**	**+0.8**
PB15	**IPOC Station P**	**7.16**	**160**			**Pn**	**08 05 52.8**	**-0.3**
AF01	**San Pedro de A**	**7.45**	**150**			**Pn**	**08 05 58.4**	**+1.1**
PB14	**IPOC Station P**	**8.27**	**169**	Pn		**Pn**	**08 06 07.2**	**-1.3**
CZSB	**Cruzeiro do Su**	**8.72**	**357**	Pn		**Pn**	**08 06 11.9**	**-2.5**
CZSB	**Cruzeiro do Su**	**8.72**	**357**	*eP*		**Pn**	**08 06 11.9**	**-2.5**
ETMB	**Extrema**	**8.82**	**42**	Pn		**Pn**	**08 06 17.2**	**+1.5**
ETMB	**Extrema**	**8.82**	**42**	*eP*		**Pn**	**08 06 15.2**	**-0.5**
GO02	**Mina Guanaco**	**8.96**	**165**	Pn		**Pn**	**08 06 18.0**	**+0.1**
AC01	**Pan de Azucar**	**9.72**	**172**	Pn		**Pn**	**08 06 27.2**	**-0.8**
AC02	**Maricunga**	**10.68**	**165**			**Pn**	**08 06 42.1**	**+0.6**
SIV	**San Ignacio**	**10.69**	**89**	P		**Pn**	**08 06 40.4**	**-0.8**
	comp=E,6.5nm,0.6s,baz=277,slow=11,SNR=28							
SIV				S		**Sn**	**08 08 36.7**	**-2.4**
	comp=E,9.7nm,1.0s,baz=194,slow=2.6,SNR=6.4							
ATAH	**Atahualpa**	**11.10**	**326**	P		**Pn**	**08 06 50.0**	**+2.7**
	comp=E,2.1nm,0.6s,baz=129,slow=6.5,SNR=1.7							
VILB	**Vilhena**	**12.12**	**75**			**Pn**	**08 07 00.3**	**-0.4**
VILB	**Vilhena**	**12.12**	**75**	*eP*		**Pn**	**08 06 59.7**	**-1.0**
PTLB	**Pontes e Lacer**	**12.59**	**87**			**Pn**	**08 07 06.8**	**-0.3**
PTLB	**Pontes e Lacer**	**12.59**	**87**	*eP*		**Pn**	**08 07 05.0**	**-2.6**
CO01	**Juntas del Tor**	**13.56**	**172**	Pn		**Pn**	**08 07 19.2**	**-0.9**
PDRB	**Porto dos Gac**	**15.76**	**74**	*eP*		**Pn**	**08 07 48.0**	**-0.3**
SALV	**Santo Antonio**	**15.85**	**90**	*eP*		**Pn**	**08 07 49.6**	**+0.2**
AQDB	**Aquidauana**	**16.13**	**107**	*eP*		**Pn**	**08 07 51.3**	**-1.7**
ANTJ	**Antonio Joao (**	**16.23**	**112**	*eP*		**Pn**	**08 07 53.7**	**-0.4**
CLDB	**Colider**	**16.87**	**73**	*eP*		**Pn**	**08 08 01.9**	**-0.2**
CPUP	**Villa Florida**	**16.93**	**128**	P		**Pn**	**08 08 02.2**	**-0.6**
	comp=E,3.6nm,1.1s,baz=305,slow=12,SNR=6.9							
CPUP				LR		LR	08 15 37.7	
	comp=E,60nm,18.4s,baz=179,slow=41							
CPUP	**Villa Florida**	**16.93**	**128**	*eP*		**Pn**	**08 08 02.8**	**-0.1**
MACA	**Manacapuru-AM**	**17.42**	**42**	P		**P**	**08 08 07.8**	**-1.1**
MACA				IAmb		IAmb	08 08 13.5	
	comp=Z,34nm,0.5s							
MACA	**Manacapuru-AM**	**17.42**	**42**	*eP*		**P**	**08 08 07.8**	**-1.1**
OTAV	**Otavalo**	**17.73**	**339**	*eP*		**P**	**08 08 09.3**	**-3.6**
H03N1	**Juan Fernandez**	**17.94**	**199**	T		T	08 26 34.4	
	baz=21,slow=73							
H03N2	**Juan Fernandez**	**17.94**	**199**	T		T	08 26 39.7	
	baz=21,slow=73							
H03N3	**Juan Fernandez**	**17.95**	**199**	T		T	08 26 36.3	
	baz=21,slow=73							
MCR1	**Marechal Candi**	**18.75**	**118**	*eP*		**Pn**	**08 08 24.9**	**0.0**
NPGB	**Novo Progresso**	**18.95**	**62**	*eP*		**P**	**08 08 24.7**	**-1.1**
ITQB	**Itaqui**	**19.39**	**135**	P		**Pn**	**08 08 32.1**	**-0.3**
ITQB	**Itaqui**	**19.39**	**135**	*eP*		**Pn**	**08 08 32.1**	**-0.3**
TRCB	**Terra Rica**	**19.45**	**112**	P		**P**	**08 08 31.8**	**+0.6**
TRCB				IAmb		IAmb	08 08 32.6	
	comp=Z,24nm,0.5s							
TRCB	**Terra Rica**	**19.45**	**112**	*eP*		**P**	**08 08 31.9**	**+0.7**
CRSM	**Crissiumal (Br**	**20.05**	**126**	*eP*		Pn	08 08 38.8	-1.3
UNIS	**Unistalda (Bra**	**20.11**	**131**	*eP*		**P**	**08 08 38.8**	**+0.5**
FRBT	**Francisco Belt**	**20.15**	**121**	*eP*		**P**	**08 08 39.5**	**+0.6**
ITTB	**Itaituba**	**20.15**	**55**	*eP*		**P**	**08 08 38.2**	**-0.7**
PCMB	**Pacaembu**	**20.42**	**108**	*eP*		**P**	**08 08 42.1**	**+0.4**
PTGB	**Pitanga**	**20.52**	**117**	*eP*		**P**	**08 08 43.4**	**+0.5**
SNDB	**Serra Nova Dou**	**20.74**	**80**	*eP*		**P**	**08 08 44.1**	**-1.2**
RODS	**Rosario do Sul**	**20.78**	**135**	*eP*		**P**	**08 08 46.5**	**+1.0**
ITRB	**Iturama**	**20.99**	**102**	*eP*		**P**	**08 08 48.2**	**+0.2**
ITAB	**Concordia**	**21.43**	**123**	*eP*		**P**	**08 08 52.9**	**+0.4**
ALGR	**Alto Alegre (B**	**21.47**	**128**	*eP*		**P**	**08 08 52.4**	**-0.6**
BOAV	**Boa Vista**	**22.02**	**33**	P		**P**	**08 08 58.2**	**-0.7**
BOAV				IAmb		IAmb	08 09 00.0	
	comp=Z,12nn,1.2s							
BOAV	**Boa Vista**	**22.02**	**33**	*eP*		**P**	**08 08 58.2**	**-0.7**
CPSB	**Cacapava Do Su**	**22.04**	**132**	*eP*		**P**	**08 08 58.8**	**-0.2**
PLTB	**Pedras Altas**	**22.72**	**135**	*eP*		**P**	**08 09 05.7**	**-0.6**
BB19B	**Bebedouro**	**22.85**	**105**	*eP*		**P**	**08 09 07.3**	**-0.4**
MALB	**Monte Alegre**	**22.86**	**52**	*eP*		**P**	**08 09 06.2**	**-1.7**
IPMB	**Ipameri, GO**	**22.94**	**97**	*eP*		**P**	**08 09 07.2**	**-1.5**
BDFB	**Brasilia**	**23.24**	**91**	P		**P**	**08 09 10.2**	**-1.4**
	comp=Z,2.4nm,0.5s,baz=263,slow=8.9,SNR=4.4							
	comp=Z,2.4nm,0.5s							
BDFB	**Brasilia**	**23.24**	**91**	*eP*		**P**	**08 09 11.1**	**-0.5**
TRQA	**Tornquist**	**23.29**	**159**	P		**P**	**08 09 12.4**	**+0.6**
TRQA	**Tornquist**	**23.29**	**159**	*eP*		**P**	**08 09 12.1**	**+0.3**
TIJ01	**Guaruva-PR**	**23.34**	**116**	*eP*		**P**	**08 09 13.6**	**+1.1**
CNLB	**Canela**	**23.38**	**127**	*eP*		**P**	**08 09 13.7**	**+1.0**
PRPB	**Parauapebas**	**24.18**	**67**	*eP*		**P**	**08 09 20.4**	**+0.3**
PLCA	**Paso Flores**	**24.20**	**177**	P		**P**	**08 09 20.8**	**+0.8**
	comp=Z,5.6nm,0.9s,baz=349,slow=13,SNR=11							
PLCA				LR		LR	08 18 52.2	
	comp=Z,37nm,18.2s,baz=92,slow=36							
	comp=Z,5.6nm,0.9s							
PLCA	**Paso Flores**	**24.20**	**177**	P		**P**	**08 09 21.6**	**+1.6**
PLCA	**Paso Flores**	**24.20**	**177**	*eP*		**P**	**08 09 21.8**	**+1.8**
TER01	**Tubaro-SC**	**24.39**	**123**	*eP*		**P**	**08 09 21.4**	**-0.4**
VAO	**Valinhos**	**24.59**	**109**	*eP*		**P**	**08 09 24.2**	**+0.5**
PMNB	**Patos De Minas**	**24.63**	**99**	*eP*		**P**	**08 09 24.2**	**0.0**
SMTB	**Santa Maria do**	**25.15**	**75**	*eP*		**P**	**08 09 28.6**	**-0.2**
SDV	**Santo Domingo**	**25.26**	**4**	P		**P**	**08 09 28.6**	**-1.3**
	comp=Z,3.8nm,0.4s,baz=225,slow=10.0,SNR=2.2							
	comp=Z,3.8nm,0.4s							
SDV	**Santo Domingo**	**25.26**	**4**	*eP*		**P**	**08 09 29.0**	**-1.0**
BAUV	**El Baul**	**25.60**	**10**	P		**P**	**08 09 32.1**	**-0.7**
BAUV				IAmb		IAmb	08 09 36.9	
	comp=Z,38nm,0.9s							
PARB	**Paraibuna**	**25.86**	**110**	*eP*		**P**	**08 09 35.4**	**+0.1**
JANB	**Januaria**	**26.86**	**91**	*eP*		**P**	**08 09 44.0**	**-0.3**
DIAM	**Diamantina, MG**	**27.26**	**98**	*eP*		**P**	**08 09 48.2**	**+0.8**
BIRV	**Birongo**	**27.43**	**13**	P		**P**	**08 09 48.5**	**-0.8**
SJMB	**Sao Joao De Ma**	**29.61**	**99**	*eP*		**P**	**08 10 09.5**	**+0.7**
RIB01	**Linhares ES**	**30.36**	**100**	*eP*		**P**	**08 10 15.4**	**0.0**
NAN01	**Guarapari, ES**	**30.64**	**97**	*eP*		**P**	**08 10 18.8**	**+0.9**
SJG	**San Juan**	**34.89**	**10**	LR		LR	08 24 28.3	
	comp=Z,33nm,21.7s,baz=178,slow=35							
CUPR	**Culebra, Puert**	**35.24**	**11**	P		**P**	**08 10 55.9**	**-1.9**
CUPR				IAmb		IAmb	08 10 56.3	
	comp=Z,12nn,0.8s							
T59A	**Double "B" Far**	**53.41**	**355**	P		**P**	**08 13 22.7**	**+0.3**
T57A	**Hurt**	**53.62**	**353**	P		**P**	**08 13 24.3**	**+0.4**
T57A				IAmb		IAmb	08 13 25.4	
	comp=Z,11nn,0.8s							
V48A	**Smith Brothers**	**53.76**	**345**	P		**P**	**08 13 24.6**	**-0.5**
V48A				IAmb		IAmb	08 13 25.1	
	comp=Z,5.2nn,0.8s							
BLA	**Blacksburg**	**53.97**	**352**	P		**P**	**08 13 27.2**	**+0.6**
BLA				IAmb		IAmb	08 13 27.7	
	comp=Z,5.4nn,0.8s							
U49A	**Red Boiling Sp**	**54.26**	**347**	P		**P**	**08 13 28.4**	**-0.2**
U49A				IAmb		IAmb	08 13 28.8	
	comp=Z,5.2nn,0.7s							
S57A	**Dark Hollow, R**	**54.34**	**353**	P		**P**	**08 13 29.9**	**+0.8**
S57A				IAmb		IAmb	08 13 30.8	
	comp=Z,9.4nn,0.9s							
WVT	**Waverly**	**54.39**	**344**	P		**P**	**08 13 28.2**	**-1.4**
MIAR	**Mount Ida**	**54.68**	**338**	P		**P**	**08 13 31.8**	**+0.1**
TXAR	**Lajitas Array**	**54.77**	**326**	P		**P**	**08 13 32.9**	**+0.3**
	comp=Z,0.2nn,0.5s,baz=142,slow=8.0,SNR=2.8							
	comp=Z,0.2nn,0.5s							
R55A	**Marlinton**	**54.99**	**352**	P		**P**	**08 13 34.7**	**+0.7**
R55A				IAmb		IAmb	08 13 50.5	
	comp=Z,18nn,1.2s							
Q56A	**Snyder Ridge,**	**55.63**	**353**	P		**P**	**08 13 39.6**	**+1.1**
WCI	**Wyandotte Cave**	**56.02**	**347**	P		**P**	**08 13 40.6**	**-0.7**
SIUC	**Southern Illin**	**56.25**	**344**	P		**P**	**08 13 42.5**	**-0.4**
SSPA	**Standing Stone**	**57.08**	**355**	P		**P**	**08 13 47.5**	**-1.3**
SSPA				pP		**pP**	**08 14 09.8**	**-0.1**
SSPA				sP		**sP**	**08 14 20.8**	**+1.7**
M55A	**Ridgway**	**57.98**	**354**	P		**P**	**08 13 55.9**	**+0.7**
L59A	**Walton**	**58.44**	**358**	P		**P**	**08 13 58.7**	**+0.4**
HRV	**Adam Dziewonsk**	**58.70**	**1**	P		**P**	**08 13 60.0**	**-0.1**
HRV				pP		**pP**	**08 14 18.6**	**-2.6**
ANMO	**Albuquerque**	**60.63**	**328**	P		**P**	**08 14 14.5**	**+0.7**
PKME	**Peaks-Kenny Pk**	**61.51**	**2**	P		**P**	**08 14 20.1**	**+0.9**
F64A	**Sherman**	**62.15**	**3**	P		**P**	**08 14 24.1**	**+0.6**
F64A				IAmb		IAmb	08 14 25.3	
	comp=Z,9.5nn,0.8s							
SDCO	**Great Sand Dun**	**62.38**	**331**	P		**P**	**08 14 27.2**	**+1.6**
D62A	**Allapoint, All**	**63.34**	**2**	P		**P**	**08 14 32.6**	**+1.2**
BATG	**Bathurst New B**	**63.71**	**5**	P		**P**	**08 14 34.6**	**+0.8**
BATG				IAmb		IAmb	08 14 35.3	
	comp=Z,11nn,0.6s							
F36A	**Milaca**	**65.00**	**344**	P		**P**	**08 14 42.2**	**0.0**
F36A				IAmb		IAmb	08 14 43.1	
	comp=Z,6.9nn,0.8s							
VNA3	**Neumayer Olymp**	**65.78**	**162**	P		**P**	**08 14 45.8**	**-1.3**
VNA1	**Neumayer--Stat**	**66.01**	**161**	P		**P**	**08 14 50.2**	**+1.7**
VNA2	**Neumayer--Watz**	**66.38**	**161**	P		**P**	**08 14 50.6**	**-0.3**
AGMN	**Agassiz Nation**	**67.87**	**343**	P		**P**	**08 15 00.6**	**+0.1**
AGMN				IAmb		IAmb	08 15 01.1	
	comp=Z,6.3nn,0.6s							
SNAA	**Sanae**	**68.00**	**161**	P		**P**	**08 15 02.1**	**+1.0**
SNAA	**Sanae**	**68.00**	**161**	P		**P**	**08 15 02.6**	**+1.4**
SNAA				IAmb		IAmb	08 15 03.5	
	comp=Z,8.2nn,0.6s							
PDAR	**Pinedale Array**	**68.25**	**331**	P		**P**	**08 15 03.6**	**+0.3**
	comp=Z,0.3nn,0.5s,baz=126,slow=7.5,SNR=5.0							
	comp=Z,0.3nn,0.5s							
ULM	**Lac du Bonnet**	**69.65**	**344**	P		**P**	**08 15 11.4**	**-0.2**
	comp=Z,5.7nn,0.4s							
	comp=Z,5.7nn,0.4s							
NVAR	**Mina Array Bea**	**69.65**	**323**	P		**P**	**08 15 13.0**	**+0.9**
	comp=Z,0.3nn,0.7s,baz=167,slow=8.2,SNR=2.8							
	comp=Z,0.3nn,0.7s							
TROLL	**Troll, Antarti**	**69.71**	**161**	P		**P**	**08 15 13.3**	**+1.4**
DBIC	**Dimbokro**	**70.44**	**77**	P		**P**	**08 15 16.7**	**-0.5**
	comp=Z,1.5nn,0.5s,baz=261,slow=7.4,SNR=4.3							
	comp=Z,1.5nn,0.5s							
SCHQ	**Schefferville**	**71.18**	**3**	P		**P**	**08 15 20.5**	**-0.3**
	comp=Z,3.0nn,0.7s,baz=180,slow=7.1,SNR=3.7							
	comp=Z,3.0nn,0.7s							
TOA0	**Torodi Ar. Sit**	**78.71**	**73**	P		**P**	**08 16 04.5**	**-0.6**
TOA0				IAmb		IAmb	08 16 05.7	
	comp=Z,6.3nn,0.8s							
TORD	**Torodi Ar. Bea**	**78.71**	**73**	P		**P**	**08 16 04.7**	**-0.4**
	comp=Z,5.5nn,0.7s,baz=264,slow=4.0,SNR=34							
TORD				pP		**pP**	**08 16 28.1**	**+0.8**
	comp=Z,1.7nn,0.6s,baz=260,slow=5.2,SNR=3.1							
TORD				sP		**sP**	**08 16 34.8**	**-1.5**
	comp=Z,1.8nn,0.6s,baz=256,slow=4.9,SNR=2.3							
	comp=Z,5.5nn,0.7s							
VNDA	**Vanda**	**81.21**	**190**	P		**P**	**08 16 18.9**	**+1.5**
	comp=Z,0.5nn,0.7s,baz=159,slow=7.3,SNR=3.8							
	comp=Z,0.5nn,0.7s							
ESDC	**Sonseca Array**	**84.53**	**46**	P		**P**	**08 16 35.9**	**+0.6**
	comp=Z,2.6nn,0.8s,baz=254,slow=4.7,SNR=15							
	comp=Z,2.6nn,0.8s							
ESDC	**Sonseca Array**	**84.53**	**46**	P		**P**	**08 16 36.2**	**+0.9**
YKA	**Yellowknife Ar**	**85.47**	**342**	P		**P**	**08 16 39.7**	**+0.3**
	comp=Z,2.3nn,0.6s,baz=135,slow=4.9,SNR=7.4							
	comp=Z,2.3nn,0.6s							
MAW	**Mawson**	**89.98**	**164**	P		**P**	**08 17 02.3**	**+1.3**
	comp=Z,1.7nn,0.8s,baz=220,slow=7.6,SNR=2.9							
	comp=Z,1.7nn,0.8s							
SUMG	**Summit**	**91.64**	**10**	P		**P**	**08 17 10.1**	**+1.1**
ASAR	**Alice Springs**	**132.64**	**213**	PKP		**PKiKP**	**08 23 17.5**	**-0.8**
	comp=Z,0.1nn,0.4s,baz=141,slow=1.5,SNR=4.7							
WRA	**Warramunga Arr**	**135.39**	**217**	PKP		**PKiKP**	**08 23 23.1**	**-0.8**
	comp=Z,0.3nn,0.4s,baz=144,slow=1.9,SNR=11							
WRA				pPKP		**pPKPdf**	**08 23 46.3**	**+0.6**
	comp=Z,0.4nn,0.6s,baz=136,slow=2.0,SNR=3.9							
MKAR	**Makanchi Array**	**143.11**	**30**	PKhKP		PKPpre	08 23 31.7	
	comp=Z,0.4nn,0.5s,baz=345,slow=2.2,SNR=4.7							
MKAR				PKP		**PKPdf**	**08 23 36.0**	**+0.3**
	comp=Z,0.4nn,0.6s,baz=329,slow=2.5,SNR=3.3							
SONM	**Songino Array**	**148.72**	**2**	PKPbc		**PKPbc**	**08 23 48.6**	**-0.6**
	comp=Z,1.6nn,0.6s,baz=355,slow=2.0,SNR=4.8							
LZH	**Lanzhou**	**160.16**	**10**	*e*PKP		**PKPdf**	**08 24 02.0**	**+0.5**
LZH				pPKP		pPKPdf	08 24 15.0	-10
PZH	**PanZhiHua**	**168.55**	**29**	PKP		**PKPdf**	**08 24 08.8**	**-0.4**

---

*IDC **01** 08:08:32.4±3.5, 53°.55N×87°.85E, h0km, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=31.1km s-min=15.7km az=62.0*
*NNC **01** 08:08:34.9±2.0, 53°.39N×87°.61E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=15.2km s-min=7.1km az=71.0, Suspected Mining explosion.*
ISC 01 08:08:34.7±3.5, **53°.5N**±0°.1×**87°.6E**±0°.2, **h0**km, **n9,** σ0**92**/13, **5C-8D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**286**	*i*			08 20 29.6	
	baz=100,slow=326,SNR=1.5							
ZAA0	**Zalesovo Array**	**1.71**	**286**	⇑P		**Pn**	**08 09 05.6**	**-0.2**
	0.1nn,0.2s							
ZAA0				⇓S		**Sg**	**08 09 30.3**	**+0.5**
	2.2nn,0.7s							
ZALV	**Zalesovo Beam**	**1.71**	**286**	Pg		**Pn**	**08 09 05.6**	**-0.2**
	0.8nn,0.3s,baz=101,slow=15,SNR=9.4							
ZALV				Lg		Lg	08 09 30.2	
	1.7nn,0.3s,baz=114,slow=26,SNR=8.9							
KURK	**Kurchatov**	**6.20**	**247**	⇓Pn		**Pn**	**08 10 08.0**	**+0.6**
	0.7nn,0.5s							
KURK				⇑Sn		**Sn**	**08 11 18.6**	**-0.3**
	1.6nn,0.8s							
KURK				⇓Lg		Lg	08 11 50.6	
	4.9nn,1.0s							
KURBB	**Kurchatov Arra**	**6.29**	**246**	Pn		**Pn**	**08 10 09.6**	**+0.9**
	0.1nn,0.3s,baz=62,slow=14,SNR=12							
	1.0nn,0.5s							
KURBB	**Kurchatov Arra**	**6.29**	**246**	⇓Pn		**Pn**	**08 10 08.9**	**+0.2**
	0.9nn,0.3s							
KURBB				⇑Sn		**Sn**	**08 11 20.5**	**-0.7**
	3.7nn,0.6s							
KURBB				⇓Lg		Lg	08 11 56.2	
	4.9nn,0.8s							
MK31	**Makanchi Array**	**7.53**	**209**	⇑Pn		**Pn**	**08 10 26.9**	**+1.1**
	0.1nn,0.4s,baz=30,slow=13,SNR=5.3							
MK31				⇓Sn		**Sn**	**08 11 49.7**	**-2.1**
	1.5nn,0.8s							
MK31				⇑Lg		Lg	08 12 33.9	
	2.5nn,0.9s							
MKAR	**Makanchi Array**	**7.53**	**209**	Pn		**Pn**	**08 10 25.5**	**-0.2**
	0.1nn,0.3s,baz=25,slow=11,SNR=4.1							
MKAR				Sn		**Sn**	**08 11 52.3**	**+0.5**
	0.1nn,0.3s,baz=29,slow=28,SNR=5.2							
MKAR				Lg		Lg	08 12 33.5	
	0.1nn,0.3s,baz=22,slow=31,SNR=3.8							
	0.6nn,0.8s							
MAKZ	**Makanchi**	**7.61**	**211**	⇓Sn		**Sn**	**08 11 53.1**	**-0.6**
	0.9nn,0.8s							
MAKZ				⇓Lg		Lg	08 12 35.0	
	1.5nn,0.8s							

---

*GUC **01** 08:12:54.8±0.7, 21°.30S×67°.52W, h230km±11km, ML3.5*
*SCB **01** 08:12:54.9±1.2, 21°.23S×67°.25W, h197km, ML3.4/4, Error ellipse: s-maj=5.3km s-min=2.9km az=0.0*
ISC 01 08:12:52.4±1.9, **21°.24S**±0°.06×**67°.24W**±0°.05, **h203**km±17km, **n23,** σ1°**35**/35, **2C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.49**	**91**	P		**Pn**	**08 13 27.7**	**+0.9**
MOCB				S		**S**	**08 13 51.0**	**-2.0**
MOCB				IAML			08 13 53.5	
	196nn,0.3s							
YJA	**Yavi**	**1.85**	**121**	P		**Pn**	**08 13 31.1**	**+1.0**
AF01	**San Pedro de A**	**1.92**	**207**	P		**Pn**	**08 13 31.4**	**+0.8**
PB09	**IPOC Station P**	**1.95**	**253**	*eP*		**Pn**	**08 13 32.3**	**+1.6**
PB09				*i* S		**S**	**08 14 01.9**	**+1.8**
PB09				IAML			08 14 04.3	
	comp=N,63nm,0.2s							
LVC	**Limon Verde**	**2.07**	**228**	P		**Pn**	**08 13 33.0**	**+0.8**
PB01	**IPOC Station P**	**2.11**	**275**	⇑*eP*		**Pn**	**08 13 33.6**	**+1.2**
PB01				*eS*		**S**	**08 14 03.2**	**+0.4**
PB01				IAML			08 14 04.4	
	comp=N,227nm,0.4s							
AOVT	**TarijaAcel**	**2.38**	**98**	P		**Pn**	**08 13 36.4**	**+1.1**
GO01	**Chusmiza**	**2.41**	**310**	P		**Pn**	**08 13 37.0**	**+1.0**
PB02	**IPOC Station P**	**2.48**	**268**	*eP*		**Pn**	**08 13 37.4**	**+1.1**
PB02				*i* S		**S**	**08 14 09.3**	**-0.8**
PB02				IAML			08 14 11.1	
	comp=E,260nm,0.2s							
PB02	**IPOC Station P**	**2.48**	**268**	P		**Pn**	**08 13 37.0**	**+0.6**
PB02				S		**S**	**08 14 07.2**	**-2.8**
PB02				IAML			08 14 11.0	
	comp=E,195nm,0.4s							
PB07	**IPOC Station P**	**2.52**	**258**	*eP*		**Pn**	**08 13 37.7**	**+0.9**
PB07				*eS*		**S**	**08 14 10.1**	**-0.8**

KCP **Kidapawan** 4.33 340⇑ *e*P Pn 08 28 37.2 +0.5
KCP *i* S Sn 08 29 29.4 +3.4
CTBH **Cotabato--PC H** 4.86 332⇑ *i*P Pn 08 28 43.7 -0.3
SANI **Sanana** 4.95 187 P Pn 08 28 45.0 -0.2
SANI **Sanana** 4.95 187 P Pn 08 28 43.6 -1.6
BUKP **Musuan** 5.16 343⇑ *e*P Pn 08 28 49.0 +1.0
MRSI **Marisa** 5.20 242 P Pn 08 28 50.0 +1.4
2.5nm10µm447nm,0.4s
BIPH **Bislig** 5.25 358⇓ *e*P Pn 08 28 47.6 -1.7
BIPH *e*S Sn 08 29 51.1 +2.6
LUWI **Luwuk** 5.44 224 Pn Pn 08 28 54.9 +2.9
LUWI **Luwuk** 5.44 224 P Pn 08 28 55.7 +3.8
2.7nm7µm291nm,0.7s
ZCP **Zamboanga City** 5.99 312⇑ *i*P Pn 08 28 58.6 -0.8
SWI **Sorong** 6.01 128 P Pn 08 28 59.2 -0.5
0.3nm1µm1µm54nm,0.4s
SIJI **Sorong** 6.02 128 P Pn 08 28 59.1 -0.8
17nm,0.3s,baz=340,slow=24,SNR=28
SIJI S Sn 08 30 06.9 -0.6
11nm,0.7s,baz=218,slow=19,SNR=1.2
SIJI LR LR 08 31 00.0
comp=Z,105nm,21.5s,baz=280,slow=34
40nm,0.3s
TOLI2 **Tolitoli** 6.03 253 Pn Pn 08 28 59.5 -0.5
TOLI2 **Tolitoli** 6.03 253 P Pn 08 29 00.0 0.0
NLAI **Namlea** 6.13 175 P Pn 08 29 00.1 -1.2
0.7nm14µm62nm,0.6s
APSI **Ampana** 6.19 232 P Pn 08 29 07.1 +4.9
1.2nm4µm278nm,0.5s
MPSI **Mapaga** 7.12 249 P Pn 08 29 15.9 +1.1
0.3nm2µm75nm,0.5s
FAKI **Fak Fak** 8.12 135 Pn Pn 08 29 27.8 -0.7
FAKI **Fak Fak** 8.12 135 P Pn 08 29 28.4 -0.1
22nm,0.8s
FAKI **Fak Fak** 8.12 135 P Pn 08 29 29.8 +1.3
MYLDM **Lahad Datu** 8.34 286 Pn Pn 08 29 33.5 +2.0
TTSI **Tana Toraja** 8.95 229 P Pn 08 29 42.8 +2.9
1µm70nm,1.0s
KAPI **Kappang** 10.39 221 P Pn 08 29 59.1 -0.5
KKM **Kota Kinabalu** 10.76 287 Pn Pn 08 30 07.4 +2.6
KKM **Kota Kinabalu** 10.76 287 P Pn 08 30 08.4 +3.7
MMRI **Maumere** 12.24 201 P Pn 08 30 25.5 +0.7
SBUM **Sibu** 14.32 269 Pn P 08 30 55.5 -2.1
PLAI **Plampang** 14.57 217 P P 08 30 59.7 -0.6
131nm,0.7s
PLAI **Plampang** 14.57 217 P P 08 30 59.1 -1.2
STKI **Sintang** 15.33 260 P P 08 31 09.3 +0.5
14nm,0.5s
MTN **Manton Dam** 16.29 164 Pn Pn 08 31 16.0 -1.7
MTN **Manton Dam** 16.29 164 P Pn 08 31 15.3 -2.4
KNRA **Kununurra** 18.59 173 P P 08 31 44.0 -0.7
KNRA **Kununurra** 18.59 173 P P 08 31 44.7 -0.1
FITZ **Fitzroy Crossi** 20.89 182 P P 08 32 09.6 -0.1
8.8nm,0.4s,baz=9.8,slow=9.5,SNR=28
FITZ S S 08 35 54.6 -4.1
3.2nm,1.0s,baz=297,slow=18,SNR=2.1
8.8nm,0.4s
FITZ **Fitzroy Crossi** 20.89 182 P P 08 32 09.5 -0.2
FITZ **Fitzroy Crossi** 20.89 182 P P 08 32 09.5 -0.2
GUMO **Guam** 20.99 59 LR LR 08 39 33.6
comp=Z,38nm,20.3s,baz=238,slow=34
LEM **Lembang** 21.23 243 LR LR 08 41 06.7
comp=Z,260nm,18.3s,baz=0.5,slow=39
YOJ **Yonaguni jima** 21.70 351 P P 08 32 21.2 +2.8
36nm,2.6s
COEN **Coen** 23.50 136 P P 08 32 35.4 -1.7
COEN IAmb IAmb 08 32 44.2
comp=Z,58nm,2.0s
COEN **Coen** 23.50 136 P P 08 32 37.1 +0.1
WB0 **Warramunga Arr** 23.81 161 P P 08 32 38.8 -0.9
WB0 IAmb IAmb 08 32 47.8
comp=Z,22nm,0.8s
WRAB **Tennant Creek** 23.95 162 P P 08 32 40.4 -0.6
WRA **Warramunga Arr** 23.96 162 P P 08 32 40.1 -1.0
comp=Z,7.6nm,0.6s,baz=341,slow=10,SNR=136
WRA S S 08 36 52.9 +0.2
comp=Z,2.5nm,0.8s,baz=348,slow=19,SNR=6.7
comp=Z,7.6nm,0.6s
WRA **Warramunga Arr** 23.96 162 P P 08 32 39.4 -1.6
UBPT **Khong Chiam** 24.14 302 P P 08 32 42.4 -0.3
MBWA **Marble Bar** 24.83 195 P P 08 32 48.9 0.0
PSA00 **Pilbara Seismi** 25.20 195 P P 08 32 53.3 +1.1
PSA00 IAmb IAmb 08 33 17.2
comp=Z,18nm,0.8s
PSA00 **Pilbara Seismi** 25.20 195 P P 08 32 52.8 +0.5
PSA00 IAmb IAmb 08 33 17.2
comp=Z,7.7nm,0.9s
PSA00 **Pilbara Seismi** 25.20 195 P P 08 32 53.5 +1.2
KRVT **Keravat (AS076** 26.45 106 LR LR 08 42 54.8
comp=Z,48nm,18.0s,baz=31,slow=35
QIS **Mount Isa** 26.60 152 P P 08 33 05.8 +0.8
AS31 **Alice Springs** 27.36 165 P P 08 33 11.5 -0.4
ASAR **Alice Springs** 27.36 165 P P 08 33 11.1 -0.8
comp=Z,1.6nm,0.4s,baz=347,slow=7.4,SNR=38
ASAR PcP PcP 08 36 30.7 +1.1
comp=Z,0.8nm,0.5s,baz=350,slow=3.1,SNR=3.8
ASAR S S 08 37 47.1 +0.3
comp=Z,1.6nm,0.9s,baz=351,slow=22,SNR=6.3
comp=Z,1.6nm,0.4s
ASAR **Alice Springs** 27.36 165 P P 08 33 12.3 +0.5
PSI **Prapat** 27.59 270 LR LR 08 45 24.6
comp=Z,109nm,18.1s,baz=109,slow=39
JCJ **Chichijima** 28.33 30 LR LR 08 43 51.4
comp=Z,13nm,19.5s,baz=356,slow=34
WHN **Wuhan** 29.82 338 P P 08 33 39.5 +6.0
NJ2 **Nanjing** 29.89 347 *e*P P 08 33 32.9 -1.2
NJ2 pmax pmax
comp=Z,12nm,0.5s
CTA **Charters Tower** 29.94 141 P P 08 33 35.6 +0.8
comp=Z,1.9nm,0.6s,baz=331,slow=10,SNR=1.6
CTA LR LR 08 49 02.3
comp=Z,126nm,18.1s,baz=282,slow=43
comp=Z,1.9nm,0.6s
MEEK **Meekatharra** 30.35 194 P P 08 33 39.2 +0.8
CMAR **Chiang Mai Arr** 31.14 302 P P 08 33 45.1 -0.3
comp=Z,2.2nm,0.3s,baz=125,slow=7.5,SNR=4.8
CMAR LR LR 08 49 06.0
comp=Z,53nm,18.1s,baz=125,slow=42
comp=Z,2.2nm,0.3s
CHTO **Chiang Mai** 31.30 302 P P 08 33 46.1 -0.7
CHTO **Chiang Mai** 31.30 302 P P 08 33 46.7 -0.1
CHTO pP pP 08 34 02.5 -0.9
JMN **Monobe** 31.42 12 P P 08 33 48.8 +1.0
JMN IAmb IAmb 08 34 28.4
comp=Z,51nm,1.6s
OOD **Oodnadatta** 31.77 164 P P 08 33 51.5 +0.8
MORW **Morawa** 33.35 197 P P 08 34 05.9 +1.3
PZH **PanZhiHua** 33.41 317 P P 08 34 08.9 +3.5
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,7.3s
FORT **Forrest** 33.52 178 P P 08 34 06.4 +0.3
FORT **Forrest** 33.52 178 P P 08 34 06.6 +0.5
MULG **Mulgathing** 33.77 168 P P 08 34 08.8 +0.6
KSRS **Korea Array** 34.41 2 P P 08 34 14.3 +0.7
comp=Z,4.0nm,0.5s,baz=180,slow=9.7,SNR=13
KSRS PcP PcP 08 36 49.1 +1.2
comp=Z,1.8nm,0.6s,baz=194,slow=2.6,SNR=4.7
KSRS LR LR 08 51 43.2
comp=Z,16nm,18.2s,baz=160,slow=42
comp=Z,4.0nm,0.5s
BLDU **Ballidu** 34.63 195 P P 08 34 16.1 +0.4
LCRK **Leigh Creek** 34.99 162 P P 08 34 20.0 +1.3
XAN **Xi'an** 35.07 334 P P 08 34 18.3 -1.2
XAN pP pP 08 34 35.7 -0.7
XAN pmax pmax
comp=Z,22nm,0.6s
MJAR **Matsushiro Art** 35.16 16 P P 08 34 19.5 -0.7
comp=Z,1.7nm,0.7s,baz=188,slow=9.4,SNR=4.5
MJAR LR LR 08 51 52.1
comp=Z,33nm,18.2s,baz=206,slow=42
comp=Z,1.7nm,0.7s
MAJO **Matsushiro** 35.16 16 P P 08 34 19.6 -0.7
CD2 **Chengdu** 35.20 325 *e*P P 08 34 22.0 +1.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KLBR **Kellerberrin** 35.31 193 P P 08 34 22.5 +1.0
BBOO **Buckleboo** 36.64 167 P P 08 34 32.9 0.0
BBOO **Buckleboo** 36.64 167 P P 08 34 33.2 +0.3
NWAO **Narrogin (SRO)** 36.71 193 P P 08 34 33.4 -0.1
comp=Z,4.5nm,0.5s,baz=350,slow=12,SNR=5.0
comp=Z,4.5nm,0.5s
NWAO **Narrogin (SRO)** 36.71 193 P P 08 34 34.0 +0.6

EIDS **Eidsvold** 36.82 141 P P 08 34 33.8 -0.7
EIDS IAmb IAmb 08 34 35.6
comp=Z,21nm,1.4s
JMM **Marumori** 37.16 19 P P 08 34 37.4 +0.1
STKA **Stephens Creek** 37.43 159 P P 08 34 39.6 0.0
comp=Z,2.5nm,0.4s,baz=341,slow=7.5,SNR=26
comp=Z,2.5nm,0.4s
STKA **Stephens Creek** 37.43 159 P P 08 34 39.6 0.0
STKA **Stephens Creek** 37.43 159 P P 08 34 40.0 +0.4
BJIT **Baijiatuau** 38.12 347 P P 08 34 45.7 +0.4
BJT IAmb IAmb 08 34 46.8
comp=Z,15nm,0.6s
BJT **Baijiatuau** 38.12 347 P P 08 34 45.7 +0.4
BJT x x 08 34 52.3
BJI **Beijing** 38.15 347 P P 08 34 45.8 +0.3
BJI pmax pmax
comp=Z,21nm,0.7s
CMSA **Cobar Meteorol** 38.79 153 P P 08 34 52.5 +1.5
LZH **Lanzhou** 39.12 330 *e*P P 08 34 54.3 +0.3
LZH pmax pmax
comp=Z,30nm,1.1s
LZH LR LR
comp=Z,180nm,11.9s
LZH LR LR
comp=Z,160nm,12.4s
LZH LR LR
comp=Z,240nm,14.3s
TWOA **Tennyson Woods** 39.39 164 P P 08 34 58.3 +2.3
comp=Z,12nm,0.8s
HHC **Hu-ho-hao-te** 40.12 342 *e*P P 08 35 05.2 +3.1
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,140nm,6.2s
SHL **Shillong** 40.22 307 P P 08 35 02.8 -0.6
CN2 **Changchun** 40.74 359 *e*P P 08 35 06.6 -0.4
CN2 pmax pmax
comp=Z,10.0nm,0.5s
ARMA **Armidale** 40.88 146 P P 08 35 09.4 +0.8
ARMA IAmb IAmb 08 36 21.1
comp=Z,49nm,1.9s
ARMA **Armidale** 40.88 146 P P 08 35 09.7 +1.1
USRK **Ussuriysk Ar.** 41.40 6 P P 08 35 13.8 +1.4
comp=Z,27nm,0.7s,baz=190,slow=7.4,SNR=50
comp=Z,27nm,0.7s
USRK **Ussuriysk Ar.** 41.40 6 P P 08 35 13.3 +0.9
XLT **XiLinHaoTe** 41.87 349⇓ *i*P P 08 35 16.8 +0.4
XLT pmax pmax
comp=Z,20nm,0.9s
XLT pmax pmax
comp=Z,160nm,5.4s
GTA **Gaotai** 43.71 330 *e*P P 08 35 31.6 +0.1
GTA pmax pmax
comp=Z,9.0nm,1.0s
GOMU **GeErMu** 44.22 322 P P 08 35 36.1 +0.2
GOMU pmax pmax
comp=Z,3.0nm,0.6s
TAPN **Taplejung** 44.36 307 *e*P P 08 35 36.6 -0.5
comp=Z,10nm,0.4s
RAMN **Ramite** 45.08 306 *e*P P 08 35 42.5 -0.2
comp=Z,22nm,0.6s
JIRN **Jiri** 45.71 307 *e*P P 08 35 47.1 -0.8
comp=Z,33nm,0.6s
GUN **Gumba** 46.07 307 *e*P P 08 35 50.3 -0.3
comp=Z,70nm,0.5s
KLR **Kul'dur** 46.37 5 P P 08 35 52.6 +0.4
comp=Z,6.3nm,0.7s,baz=199,slow=7.6,SNR=15
comp=Z,6.3nm,0.7s
DMN **Daman** 46.56 306 *e*P P 08 35 54.2 -0.2
comp=Z,34nm,0.6s
ULN **Ulaanbaatar** 47.84 342 P P 08 36 03.8 -0.1
ULN IAmb IAmb 08 36 06.5
comp=Z,6.6nm,0.7s
ULN **Ulaanbaatar** 47.84 342 P P 08 36 03.7 -0.1
ULN pP pP 08 36 22.1 +0.6
KOLN **Koldanda** 47.85 305 *e*Pg P 08 36 03.9 -0.5
DANN **Dangsing** 47.95 306 *e*P P 08 36 04.8 -0.4
comp=Z,100nm,0.5s
SONM **Songino Array** 48.02 342 P P 08 36 04.9 -0.3
comp=Z,4.2nm,0.6s,baz=153,slow=8.1,SNR=4.5
SONM PcP PcP 08 37 32.6 +0.4
comp=Z,1.1nm,0.5s,baz=179,slow=3.0,SNR=2.6
SONM LR LR 08 57 28.5
comp=Z,50nm,18.3s,baz=156,slow=37
comp=Z,4.2nm,0.6s
SONM **Songino Array** 48.02 342 P P 08 36 04.8 -0.4
PYUN **Piuthan** 48.47 306 *e*P P 08 36 08.7 -0.5
comp=Z,78nm,0.7s
HYBB **Hyderabad (bro** 49.23 290 *e*P P 08 36 14.4 -0.5
HYBB IVmB_BB 08 36 15.4
comp=Z,168nm,0.8s
WMQ **Urumqi** 53.30 326 *e*P P 08 36 46.2 +1.2
WMQ pmax pmax
comp=Z,19nm,1.3s
PETK **Petropavlovsk-** 56.26 22 P P 08 37 07.0 +0.9
comp=Z,3.9nm,0.5s,baz=185,slow=4.3,SNR=16
comp=Z,3.9nm,0.5s
SHLS **Shalkode** 57.87 321 *e*P P 08 37 15.6 -2.2
baz=321
MK31 **Makanchi Array** 58.13 326 P P 08 37 19.2 -0.3
MKAR **Makanchi Array** 58.13 326 P P 08 37 19.1 -0.3
comp=Z,16nm,0.6s,baz=122,slow=8.2,SNR=165
MKAR PcP PcP 08 38 10.2 -0.2
comp=Z,3.0nm,0.6s,baz=135,slow=3.8,SNR=6.5
MKAR LR LR 09 04 03.7
comp=Z,46nm,18.6s,baz=128,slow=38
comp=Z,16nm,0.6s
MKAR **Makanchi Array** 58.13 326 P P 08 37 19.3 -0.2
UZB **Uzynbulak** 58.14 321 *e*P P 08 37 18.9 -0.8
baz=320
NIL **Nilore** 58.29 308 P P 08 37 20.7 -0.2
NIL **Nilore** 58.29 308 P P 08 37 20.2 -0.6
NIL sP sP 08 37 45.1 -1.7
MAKZ **Makanchi** 58.31 325 P P 08 37 20.7 -0.1
SATY **Saty** 58.49 320 *e*P P 08 37 21.5 -0.7
comp=Z,7.3nm,0.7s,baz=320
KSH **Kashi** 58.50 316 P P 08 37 23.7 +1.4
KSH pmax pmax
comp=Z,12nm,0.9s
KPKS **Kokpek** 58.51 321 *e*P P 08 37 21.3 -1.0
comp=Z,4.2nm,0.5s,baz=321
ZHN **Zhinishke** 58.52 320 *e*P P 08 37 20.8 -1.6
baz=320
NRN **Naryn** 59.31 318 P P 08 37 27.8 -0.3
NRN IAmb IAmb 08 37 29.2
comp=Z,5.9nm,0.6s
MDOK **Medeo** 59.41 320 *e*P P 08 37 28.0 -0.6
baz=320
MA2 **Magadan** 59.55 14 P P 08 37 29.4 +0.4
comp=Z,7.4nm,0.8s,baz=233,slow=3.4,SNR=6.2
comp=Z,7.4nm,0.8s
MA2 **Magadan** 59.55 14 P P 08 37 29.6 +0.6
MA2 IAmb IAmb 08 37 32.0
comp=Z,6.7nm,0.8s
CHKK **Chushkaly** 59.78 320 *e*P P 08 37 30.3 -0.6
baz=320
KUU **Kurty** 60.21 320 *e*P P 08 37 33.1 -0.8
comp=Z,13nm,0.6s,baz=320
TKM2 **Tokmak 2** 60.24 319 P P 08 37 35.1 +0.7
SNR=7.3
UCH **Uchtor** 60.66 318 P P 08 37 39.0 +1.5
SNR=19
AAK **Ala-Archa** 60.85 318 P P 08 37 38.0 -0.4
AAK IAmb IAmb 08 37 41.2
comp=Z,3.6nm,0.7s
SGDS **Sogindy** 61.11 319 *e*P P 08 37 39.8 -0.3
baz=319
USP **Ospenovka** 61.12 319 P P 08 37 41.0 +0.8
SNR=5.6
AML **Almayashu** 61.17 317 P P 08 37 42.0 +1.1
SNR=14
ZAA0 **Zalesovo Array** 61.24 333 P P 08 37 39.9 -0.7
ZAA0 IAmb IAmb 08 37 43.7
comp=Z,8.8nm,1.2s
ZALV **Zalesovo Beam** 61.24 333 P P 08 37 39.5 -1.2
comp=Z,4.9nm,0.6s,baz=128,slow=6.4,SNR=14
comp=Z,4.9nm,0.6s
ZALV **Zalesovo Beam** 61.24 333 P P 08 37 39.7 -0.9
SEM **Semipalatinsk** 61.30 328 *e*P P 08 37 40.6 -0.8
comp=Z,3.6nm,0.3s,baz=328
EKS2 **Erkin-Say** 61.34 318 P P 08 37 43.0 +1.3
SNR=7.0
KBL **Kabul** 61.88 308 P P 08 37 45.0 -0.7
KBL IAmb IAmb 08 37 46.3
comp=Z,10.0nm,0.8s
BTLS **Baital** 62.19 321 *e*P P 08 37 47.0 -0.3
baz=320

KURK **Kurchatov** 62.34 328 P P 08 37 47.3 -0.7
KURK **Kurchatov** 62.34 328 P P 08 37 46.7 -1.3
KURK pP pwP 08 38 09.7 +0.7
KURK sP sP 08 38 15.3 +1.0
GAR **Garm** 62.35 313 P P 08 37 48.2 -0.4
CHGR **Chuyangaron** 63.08 312 P P 08 37 52.9 -0.5
CHGR IAmb IAmb 08 37 53.8
comp=Z,15nm,1.1s
IUG **Iuzhnay** 63.68 316 *e*P P 08 37 57.3 -0.1
baz=316
KK31 **Karatay Array** 63.71 317 P P 08 37 57.4 0.0
KK31 IAmb IAmb 08 37 58.9
comp=Z,7.7nm,0.8s
KKAR **Karatay Array** 63.71 317 P P 08 37 57.7 +0.3
BRZS **Berezniki** 65.26 325 *e*P P 08 38 07.2 -0.2
baz=325
BRVK **Borovoye** 67.98 327 P P 08 38 24.0 -0.6
BRVK IAmb IAmb 08 38 25.6
comp=Z,8.8nm,0.6s
WSAR **Wadi Sarin** 68.59 294 LR LR 09 14 43.8
comp=Z,46nm,18.0s,baz=131,slow=41
TIXI **Tiksi** 68.67 1 P P 08 38 28.1 -0.4
TIXI IAmb IAmb 08 38 29.5
comp=Z,7.0nm,0.8s
GEYT **Alibeck** 71.27 309 P P 08 38 44.9 -0.4
comp=Z,1.5nm,0.4s,baz=108,slow=6.5,SNR=2.9
comp=Z,1.5nm,0.4s
ABKAR **Akbulak array** 72.67 321 P P 08 38 52.7 -0.6
AKTO **Aktyubinsk** 74.19 322 LR LR 09 15 16.3
comp=Z,22nm,18.3s,baz=117,slow=39
ARU **Arti** 75.53 328 P P 08 39 09.5 -0.3
ARU IAmb IAmb 08 39 10.7
comp=Z,11nm,0.6s
N16K **Nishlik Lake** 79.96 29 P P 08 39 36.5 +2.2
baz=258,SNR=5.2
P16K **Nushagak River** 80.05 31 P P 08 39 36.7 +1.8
baz=259
O16K **Kokwok River B** 80.11 30 P P 08 39 37.1 +1.9
baz=259
R17K **Ugashik Creek** 80.64 32 P P 08 39 38.9 +0.9
baz=260
RAYN **Ar Rayn** 80.64 293 P P 08 39 38.4 -0.5
O17K **Koliganek Bris** 80.64 30 P P 08 39 39.9 +1.9
baz=260
Q16K **King Salmon** 80.67 31 P P 08 39 39.1 +0.9
baz=260
CHIR **Chirikof Islan** 80.77 34 P P 08 39 40.6 +1.8
baz=261
P17K **Kvichak River** 80.87 31 P P 08 39 40.5 +1.2
baz=260
N18K **Kilae Creek** 81.39 29 P P 08 39 43.3 +1.2
baz=260
P18K **Big Mountain,** 81.52 30 P P 08 39 43.6 +0.9
baz=261
O18K **Koktuh Hills** 81.60 30 P P 08 39 44.4 +1.3
baz=261
GCSA **Galena City Sc** 81.67 25 P P 08 39 44.4 +1.1
baz=259
SII **Sitkinak Islan** 81.67 33 P P 08 39 44.8 +1.3
baz=262
TTA **Tatalina** 81.71 27 P P 08 39 44.9 +1.2
baz=260
N19K **Bonanza Creek** 82.09 29 P P 08 39 44.5 -1.3
N19K IAmb IAmb 08 39 57.2
comp=Z,12nm,1.5s
N19K **Bonanza Creek** 82.09 29 P P 08 39 47.2 +1.4
baz=262
L19K **White Mountain** 82.12 28 P P 08 39 47.5 +1.6
baz=261
OHAK **Old Harbor** 82.24 33 P P 08 39 48.0 +1.6
baz=263
Q19K **Cape Douglas,** 82.26 31 P P 08 39 47.8 +1.2
baz=263
M19K **Big River Lodg** 82.30 28 P P 08 39 48.5 +1.7
baz=262
L20K **Farewell, AK** 82.61 27 P P 08 39 50.3 +1.8
baz=262
VNDA **Vanda** 82.64 173 P P 08 39 49.3 +1.1
comp=Z,1.1nm,0.8s,baz=313,slow=8.2,SNR=7.6
comp=Z,1.1nm,0.8s
K20K **Telida** 82.65 27 P P 08 39 50.4 +1.9
K20K **Telida** 82.65 27 P P 08 39 50.5 +1.9
baz=262
KDAK **Kodiak Island** 82.68 32 P P 08 39 50.3 +1.5
baz=264
J20K **Nowinta River** 82.74 26 P P 08 39 50.9 +1.9
baz=262
Q20K **Shuyak Island** 82.87 31 P P 08 39 51.3 +1.5
baz=264
M20K **Styx River** 82.88 28 P P 08 39 50.6 +0.7
M20K IAmb IAmb 08 39 53.2
comp=Z,6.8nm,0.7s
M20K **Styx River** 82.88 28 P P 08 39 51.3 +1.4
baz=263,SNR=13
G21K **Allakaket** 83.34 23 P P 08 39 53.8 +1.7
baz=262
PPLA **Purkeypile** 83.44 27 P P 08 39 53.7 +0.9
baz=263
CHUM **Lake Minchumin** 83.50 26 P P 08 39 54.8 +1.9
baz=263
H21K **Melozitna Rive** 83.51 24 P P 08 39 55.0 +2.0
baz=263
CAST **Castle Rocks** 83.55 27 P P 08 39 54.7 +1.5
CAST **Castle Rocks** 83.55 27 P P 08 39 54.8 +1.6
baz=264
SKT **Skwentna** 83.65 28 P P 08 39 54.1 +0.4
SKT IAmb IAmb 08 39 55.4
comp=Z,6.2nm,0.6s
SKT **Skwentna** 83.65 28 P P 08 39 54.7 +0.9
baz=264,SNR=8.3
I21K **Tanana** 83.79 25 P P 08 39 56.2 +1.9
I21K **Tanana** 83.79 25 P P 08 39 56.1 +1.7
baz=263
BRSE **Bradley Lake S** 83.83 30 P P 08 39 55.8 +1.1
baz=265
SUA **Susitna One** 83.97 29 P P 08 39 56.9 +1.4
SUA IAmb IAmb 08 39 57.8
comp=Z,14nm,0.8s
SUA **Susitna One** 83.97 29 P P 08 39 56.5 +0.9
baz=265,SNR=15
F22K **John River** 83.99 22 P P 08 39 57.0 +1.6
baz=263
BPAW **Bear Paw Mtn.** 84.10 26 P P 08 39 57.2 +1.1
baz=264
H22K **Ishtalitna Cre** 84.12 24 P P 08 39 57.8 +1.8
baz=264
G22K **Bettles** 84.18 23 P P 08 39 57.8 +1.5
baz=264
CUT **Chulitna** 84.28 28 P P 08 39 57.4 +0.6
baz=265
M22K **Willow** 84.29 28 P P 08 39 57.7 +0.8
baz=265
MLY **Manley** 84.30 25 P P 08 39 58.4 +1.3
baz=264
TRF **Thorofare Moun** 84.35 27 P P 08 39 58.2 +0.7
baz=265
O22K **Cooper Landing** 84.39 30 P P 08 39 58.4 +0.9
baz=266
RC01 **Rabbit Creek A** 84.43 29 P P 08 39 58.8 +1.1
RC01 IAmb IAmb 08 39 59.5
comp=Z,8.7nm,0.6s
RC01 **Rabbit Creek A** 84.43 29 P P 08 39 58.5 +0.8
baz=266,SNR=5.6
SEW **Seward** 84.50 30 P P 08 39 59.2 +1.1
baz=266
D23K **Nanushuk River** 84.70 21 P P 08 39 59.9 +1.0
baz=264
G23K **Bananza Creek** 84.74 23 P P 08 40 00.9 +1.6
baz=265
PMR **Palmer** 84.75 29 P P 08 40 00.3 +1.0
baz=266,SNR=8.0
C23K **Itkillik River** 84.81 20 P P 08 40 01.1 +1.6
baz=264
GHO **Glory Hole Cre** 84.86 28 P P 08 40 01.1 +1.1
GHO IAmb IAmb 08 40 04.4
comp=Z,12nm,1.5s
H23K **Yukon River** 84.86 24 P P 08 40 01.5 +1.6
baz=266
NEA2 **Nenana** 84.98 26 P P 08 40 01.8 +1.4
baz=266
KNK **Knik Glacier** 85.06 29 P P 08 40 02.1 +1.2
baz=267,SNR=5.2
TOLK **Toolik Lake Re** 85.08 21 P P 08 40 02.6 +1.7
baz=265
PWL **Port Wells** 85.09 29 P P 08 40 01.9 +0.8
PWL IAmb IAmb 08 40 03.4
comp=Z,11nm,0.8s

PWL	**Port Wells**	**85.09**	**29**	P	**P**	**08 40 02.2**	**+1.1**
	baz=267,SNR=9.6						
WAT1	**Susitna Watana**	**85.10**	**27**	P	**P**	**08 40 01.7**	**+0.6**
	baz=267						
SML	**Sawmill**	**85.14**	**28**	P	**P**	**08 40 02.5**	**+1.1**
	baz=267,SNR=7.3						
D24K	**Happy Valley**	**85.39**	**21**	P	**P**	**08 40 04.5**	**+2.2**
	baz=266						
M23K	**Glacier View**	**85.43**	**28**	P	**P**	**08 40 03.8**	**+1.0**
	baz=268						
E24K	**Your Creek**	**85.44**	**22**	P	**P**	**08 40 04.3**	**+1.6**
	baz=266						
WAT6	**Susitna Watana**	**85.46**	**28**	P	**P**	**08 40 04.3**	**+1.2**
	baz=268						
H24K	**Noodor Dome**	**85.55**	**24**	P	**P**	**08 40 05.1**	**+1.8**
	baz=267						
SCM	**Sheep Creek Mo**	**85.62**	**28**	P	**P**	**08 40 05.2**	**+1.4**
	baz=268						
F24K	**Squaw Lake**	**85.63**	**23**	P	**P**	**08 40 06.1**	**+2.5**
	baz=267						
DHY	**Denali Highway**	**85.65**	**27**	P	**P**	**08 40 05.3**	**+1.4**
	baz=268						
GLI	**Glacier Island**	**85.70**	**29**	P	**P**	**08 40 05.2**	**+1.1**
GLI				IAmb	IAmb	08 40 06.5	
	comp=Z,7.7nm,0.7s						
GLI	**Glacier Island**	**85.70**	**29**	P	**P**	**08 40 05.1**	**+1.0**
	baz=268,SNR=5.7						
G24K	**Hadweenzic Riv**	**85.75**	**23**	P	**P**	**08 40 05.9**	**+1.6**
	baz=267						
ILAR	**Eielson Array**	**85.92**	**25**	P	**P**	**08 40 05.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=247,slow=5.4,SNR=9.5						
	comp=Z,0.4nm,0.5s						
KLMR	**Klimovskoe**	**86.03**	**331**	*e*P	**P**	**08 40 04.4**	**-1.3**
KLMR				AMP		08 40 06.9	
	comp=Z,20nm,0.7s						
KLMR				*e*pP	**pP**	**08 40 25.0**	**+0.1**
KLU	**Klutina**	**86.28**	**29**	P	**P**	**08 40 08.4**	**+1.4**
	baz=269						
H25K	**Birch Creek**	**86.40**	**24**	P	**P**	**08 40 08.5**	**+1.1**
	baz=269						
F25K	**Christian Rive**	**86.50**	**23**	P	**P**	**08 40 09.4**	**+1.4**
	baz=269						
E25K	**Arctic Village**	**86.53**	**22**	P	**P**	**08 40 09.7**	**+1.6**
	baz=269						
J25K	**Salcha River,**	**86.57**	**26**	P	**P**	**08 40 08.3**	**-0.1**
	baz=269						
RIDG	**Independent Ri**	**86.80**	**26**	P	**P**	**08 40 09.9**	**+0.4**
	baz=270						
BMAR	**Burnt Mountain**	**86.90**	**23**	P	**P**	**08 40 11.9**	**+1.9**
N25K	**Chitina, Valde**	**86.92**	**29**	P	**P**	**08 40 10.7**	**+0.5**
	baz=270						
BMRM	**Bremner River**	**86.92**	**29**	P	**P**	**08 40 11.3**	**+1.1**
	baz=270						
C27K	**Jago River**	**87.21**	**21**	P	**P**	**08 40 11.6**	**+0.3**
	baz=271						
G26K	**Porcupine Rive**	**87.22**	**23**	P	**P**	**08 40 11.5**	**+0.2**
	baz=271						
J26L	**Joseph Creek**	**87.35**	**26**	P	**P**	**08 40 12.3**	**+0.1**
	baz=271						
L26K	**Log Cabin Wild**	**87.48**	**27**	P	**P**	**08 40 12.8**	**0.0**
	baz=271						
K27K	**Chicken**	**88.02**	**26**	P	**P**	**08 40 16.1**	**+0.8**
	baz=272						
E27K	**Coleen River**	**88.02**	**22**	P	**P**	**08 40 16.1**	**+0.9**
	baz=273						
G27K	**Doyon Strip**	**88.06**	**23**	P	**P**	**08 40 16.2**	**+0.7**
	baz=273						
I27K	**Kandik River**	**88.14**	**25**	P	**P**	**08 40 16.9**	**+1.0**
	baz=273						
L27K	**Beaver Creek,**	**88.17**	**27**	P	**P**	**08 40 17.7**	**+1.6**
L27K	**Beaver Creek,**	**88.17**	**27**	P	**P**	**08 40 17.1**	**+1.0**
	baz=273						
M27K	**Edge Creek, AK**	**88.18**	**28**	P	**P**	**08 40 17.3**	**+1.1**
	baz=273						
CTG	**Chitna Glacier**	**88.51**	**29**	P	**P**	**08 40 18.8**	**+0.9**
	baz=273						
KMBO	**Kilima Mbogo**	**89.35**	**269**	P	**P**	**08 40 22.6**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=67,slow=9.6,SNR=7.0						
	comp=Z,2.9nm,0.5s						
M29M	**Somme Creek**	**89.76**	**28**	P	**P**	**08 40 24.5**	**+0.9**
	baz=276						
EIL	**Elat**	**89.97**	**300**	LR	LR	09 27 45.7	
	comp=Z,42nm,18.0s,baz=79,slow=40						
K29M	**Barlow Dome**	**90.04**	**26**	P	**P**	**08 40 25.3**	**+0.4**
	baz=276						
EPYK	**Eagle Plains**	**90.06**	**24**	P	**P**	**08 40 24.3**	**-0.6**
	baz=277						
HYT	**Haines Junctio**	**90.39**	**29**	P	**P**	**08 40 26.4**	**-0.2**
	baz=276						
BRTR	**Keskin Array B**	**90.41**	**310**	P	**P**	**08 40 26.8**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=102,slow=6.1,SNR=4.4						
	comp=Z,2.0nm,0.8s						
M30M	**Minto, Yukon**	**90.52**	**27**	P	**P**	**08 40 27.3**	**+0.2**
	baz=277						
N30M	**Aishikik Lake**	**90.52**	**29**	P	**P**	**08 40 26.6**	**-0.6**
	baz=277						
N31M	**Braeburn, Yuko**	**91.14**	**28**	P	**P**	**08 40 30.5**	**+0.5**
	baz=278						
ARCES	**ARCESS Array B**	**91.16**	**340**	P	**P**	**08 40 29.4**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=85,slow=5.0,SNR=20						
	comp=Z,2.0nm,0.3s						
ARCES	**ARCESS Array B**	**91.16**	**340**	P	**P**	**08 40 29.3**	**-0.5**
SKAG	**Skagway**	**91.65**	**30**	P	**P**	**08 40 32.6**	**+0.3**
	baz=278						
M31M	**Drury Creek, Y**	**91.68**	**28**	P	**P**	**08 40 32.5**	**+0.1**
	baz=279						
FARO	**Faro, Yukon**	**92.16**	**27**	P	**P**	**08 40 35.7**	**+1.0**
FARO				IAmb	IAmb	08 40 37.1	
	comp=Z,5.1nm,0.6s						
FARO	**Faro, Yukon**	**92.16**	**27**	P	**P**	**08 40 36.0**	**+1.3**
	baz=280						
AKASG	**Malin Array Be**	**92.42**	**321**	P	**P**	**08 40 35.1**	**-1.0**
	comp=Z,4.0nm,0.7s,baz=64,slow=5.2,SNR=18						
AKASG				LR	LR	09 25 35.6	
	comp=Z,24nm,18.8s,baz=44,slow=38						
	comp=Z,4.0nm,0.7s						
FINES	**FINESS Array B**	**92.47**	**332**	P	**P**	**08 40 35.4**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=68,slow=4.3,SNR=12						
FINES				LR	LR	09 24 17.1	
	comp=Z,28nm,18.3s,baz=84,slow=37						
	comp=Z,1.9nm,0.6s						
N32M	**Quiet Lake**	**92.47**	**29**	P	**P**	**08 40 36.5**	**+0.3**
	baz=280						
MMPY	**Sheldon Lake,**	**93.03**	**27**	P	**P**	**08 40 39.0**	**+0.3**
	baz=282						
R33M	**Jennings River**	**93.86**	**30**	P	**P**	**08 40 43.4**	**+0.7**
	baz=282						
WTLY	**Watson Lake, Y**	**94.76**	**29**	P	**P**	**08 40 48.5**	**+1.8**
	baz=284						
NB2	**NORSAR Subarra**	**99.44**	**334**	P	**Pdif**	**08 41 06.7**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**99.44**	**334**	P	**Pdif**	**08 41 06.7**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=67,slow=4.6,SNR=5.9						
NOA				LR	LR	09 32 06.9	
	comp=Z,14nm,18.2s,baz=90,slow=39						
	comp=Z,1.6nm,0.7s						
K02D	**Willamette Mer**	**102.43**	**45**	P	**Pdif**	**08 41 21.9**	**+0.3**
	baz=286						
I04A	**Tendick Farm,**	**103.00**	**44**	P	**Pdif**	**08 41 24.0**	**-0.1**
	baz=287						
ECSD	**EROS Data Cent**	**119.56**	**35**	P	**PKPdf**	**08 46 14.6**	**-0.5**
	baz=308						
MNTX	**Cornudas Mount**	**119.91**	**51**	P	**PKiKP**	**08 46 16.3**	**+0.1**
	baz=295						
MSTX	**Muleshoe**	**120.87**	**47**	P	**PKiKP**	**08 46 18.8**	**+0.6**
	baz=298						
TXAR	**Lajitas Array**	**122.24**	**52**	PKP	**PKiKP**	**08 46 22.5**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=270,slow=0.9,SNR=12						
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	**PKiKP**	**08 46 23.2**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=67,slow=1.7,SNR=17						
JCT	**Junction City**	**124.73**	**49**	P	**PKiKP**	**08 46 26.1**	**+0.4**
	baz=298						
MIAR	**Mount Ida**	**127.01**	**42**	P	**PKiKP**	**08 46 30.4**	**+0.3**
	baz=306						
P52A	**Corning**	**130.14**	**29**	P	**PKiKP**	**08 46 36.1**	**-0.2**
	baz=321						
HRV	**Adam Dziewonsk**	**131.92**	**18**	P	**PKPdf**	**08 46 38.5**	**-0.2**
	baz=335						
KMSC	**Kings Mountain**	**134.00**	**32**	P	**PKPdf**	**08 46 43.3**	**+0.4**
	baz=320						

*HEL **01** 08:29:45.9±0.4, 60.80N×29.02E, h0km, ML2.0, Explosion*
*IDC **01** 08:29:47.8±2.3, 60.73N×28.72E, h0km, mbtmp3.3/2, ML2.5/2, Error ellipse: s-maj=19.4km s-min=14.9km az=6.0*
ISC 01 08:29:44.1±1.4**, 60.85N**±0.06×**29.05E**±0.06**, h0**km**, n14,**
σ0**99**/21**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUFX	**Ruokolahti**	**0.59**	**355**	PG	**Pb**	**08 29 57.7**	**+0.5**
RUFX				SG	**Sb**	**08 30 05.6**	**-0.5**
VJF	**Virojoki**	**0.80**	**248**	PB	**Pb**	**08 30 00.6**	**-0.2**
VJF				SB	**Sb**	**08 30 11.3**	**-0.8**
FIA0	**FINESS Array S**	**1.56**	**294**	PG	**Pg**	**08 30 13.8**	**-0.2**
	baz=111						
FINES	**FINESS Array B**	**1.56**	**294**	Pg	**Pg**	**08 30 13.8**	**-0.2**
	1.6nm,0.3s,baz=118,slow=16,SNR=41						
FINES				Lg	Lg	08 30 33.8	
	4.9nm,0.3s,baz=117,slow=33,SNR=39						
PVF	**Pernaja**	**1.60**	**260**	PG	**Pb**	**08 30 14.2**	**-0.2**
PVF				MSG		08 30 33.1	
	comp=Z,19nm,0.2s						
PVF				SN	**Sg**	**08 30 35.5**	**+0.2**
KAF	**Kangasniemi**	**1.83**	**315**	PG	**Pg**	**08 30 19.6**	**+0.4**
KAF				MSG		08 30 41.1	
	comp=Z,9.7nm,0.2s						
KAF				SN	**Sg**	**08 30 43.4**	**+0.6**
JOF	**Joensuu**	**2.34**	**26**	PG	**Pg**	**08 30 28.4**	**-0.5**
JOF				SG	**Sg**	**08 30 58.3**	**-0.8**
MEF	**Metsahovi**	**2.39**	**257**	PG	**Pb**	**08 30 27.3**	**-0.6**
MEF				MSG		08 30 55.6	
	comp=Z,6.1nm,0.2s						
MEF				SG	**Sb**	**08 30 57.5**	**-0.3**
KEF	**Keuruu**	**2.40**	**305**	PB	**Pb**	**08 30 27.8**	**-0.4**
KEF				MSG		08 30 57.4	
	comp=Z,5.5nm,0.2s						
KEF				SG	**Sg**	**08 31 00.0**	**-1.1**
RMF	**Romuvaara**	**3.41**	**7**	PB	**Pb**	**08 30 44.5**	**-0.8**
	baz=185						
VAF	**Ylistaro**	**3.73**	**309**	SG	**Sg**	**08 31 43.6**	**-0.3**
OUL	**Oulu**	**4.49**	**343**	SG	**Sg**	**08 32 06.2**	**-2.0**
NOA	**NORSAR Array B**	**8.68**	**279**	Pn	**Pn**	**08 31 50.1**	**-0.7**
	baz=84,slow=11,SNR=2.2						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**8.85**	**352**	Pn	**Pn**	**08 31 55.8**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=1.8						
ARCES				Lg	Lg	08 34 16.3	
	comp=Z,0.1nm,0.3s,baz=168,slow=34,SNR=2.0						
	comp=Z,3.5nm,1.1s						

*IDC **01** 08:55:12.1±1.3, 46.98N×153.76E, h0km, mb3.9/10, mbtmp3.8/12, ML2.4/2, Error ellipse: s-maj=32.9km s-min=25.2km az=137.0*
*SKHL **01** 08:55:14.8±0.1, 45.60N×154.50E, h44km±3km, mb4.7/3*
ISC 01 08:55:15.2±1.1**, 46.6N**±0.1×**153.9E**±0.1**, h27**km**, n23,**
σ2**942**/22**, mb4.0**/10**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.44**	**254**	*e*P	**Pn**	**08 56 23.2**	**+2.6**
KUR				AMB	AMB	08 56 23.8	
	70nm,0.4s						
KUR				*e*S	**Sn**	**08 57 14.6**	**+3.2**
KUR				A	A	08 57 37.8	
	120nm,0.7s						
KUR				A	A	08 57 37.8	
	100nm,0.7s						
PAU	**Pauzhetka**	**5.21**	**20**	*e*P	**Pb**	**08 56 44.2**	**-1.2**
PAU				AMB	AMB	08 57 46.3	
	10.0nm,0.5s						
PAU				*e*S	**Sb**	**08 57 52.8**	**+5.3**
PAU				A	A	08 57 55.8	
	20nm,0.4s						
PAU				A	A	08 57 55.8	
	30nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.24**	**248**	*e*P	**Pn**	**08 56 46.7**	**+1.4**
YUK				AMB	AMB	08 56 48.2	
	90nm,0.3s						
YUK				*e*S	**Sn**	**08 57 56.7**	**+1.1**
YUK				A	A	08 57 58.7	
	100nm,0.4s						
YUK				A	A	08 57 58.7	
	100nm,0.4s						
NMR	**Nemuro--Hokkai**	**6.65**	**244**	*e*P	**Pn**	**08 56 50.5**	**-0.5**
NMR				*e*S	**Sn**	**08 58 01.9**	**-3.9**
PETK	**Petropavlovsk-**	**6.94**	**19**	Pn	**Pn**	**08 56 51.8**	**-3.1**
	0.3nm,0.3s,baz=194,slow=11,SNR=2.2						
PETK				Sn	Sn	08 57 53.8	-19
	0.8nm,0.3s,baz=293,slow=29,SNR=1.5						
	1.3nm,0.5s						
AKK	**Akkeshi**	**7.38**	**244**	*e*P	**Pn**	**08 57 01.1**	**0.0**
AKK				*e*S	**Sn**	**08 58 20.7**	**-3.2**
USRK	**Ussuriysk Ar.**	**15.58**	**269**	Pn	**Pn**	**08 58 53.3**	**+0.5**
	0.2nm,0.3s,baz=71,slow=9.9,SNR=1.7						
	1.8nm,0.7s						
KSRS	**Korea Array**	**21.28**	**254**	P	**P**	**09 00 01.6**	**+2.2**
	1.8nm,0.7s,baz=56,slow=9.8,SNR=5.1						
	1.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.86**	**154**	T	T	09 32 52.9	
	baz=341,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.88**	**154**	T	T	09 32 52.1	
	baz=341,slow=76						
H11N3	**WAKE ISLAND Hy**	**28.88**	**154**	T	T	09 33 01.2	
	baz=341,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.96**	**155**	T	T	09 34 06.8	
	baz=342						
H11S3	**WAKE ISLAND Hy**	**29.97**	**155**	T	T	09 34 18.7	
	baz=342						
H11S2	**WAKE ISLAND Hy**	**29.98**	**155**	T	T	09 34 16.1	
	baz=342						
MKAR	**Makanchi Array**	**47.48**	**298**	P	**P**	**09 03 46.4**	**-1.2**
	0.5nm,0.4s,baz=62,slow=7.2,SNR=8.3						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**47.98**	**304**	P	**P**	**09 03 49.8**	**-1.5**
	0.8nm,0.5s,baz=67,slow=8.3,SNR=6.0						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**64.39**	**335**	P	**P**	**09 05 46.7**	**-1.4**
	1.4nm,0.7s,baz=32,slow=8.2,SNR=6.0						
	1.4nm,0.7s						
NOA	**NORSAR Array B**	**68.52**	**342**	P	**P**	**09 06 13.8**	**-0.9**
	1.3nm,0.8s,baz=27,slow=6.3,SNR=3.4						
	1.3nm,0.8s						
HFS	**Hagfors**	**68.77**	**340**	P	**P**	**09 06 14.4**	**-1.7**
	1.2nm,0.5s,baz=28,slow=6.5,SNR=8.1						
	1.2nm,0.5s						
AKASG	**Malin Array Be**	**71.95**	**327**	P	**P**	**09 06 34.2**	**-1.6**
	0.6nm,0.3s,baz=38,slow=5.6,SNR=2.3						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**72.27**	**199**	P	**P**	**09 06 40.2**	**+2.3**
	0.6nm,0.9s,baz=19,slow=5.9,SNR=2.0						
	0.6nm,0.9s						
TXAR	**Lajitas Array**	**77.08**	**61**	P	**P**	**09 07 07.6**	**+1.5**
	0.2nm,0.6s,baz=299,slow=4.0,SNR=3.5						
	0.2nm,0.6s						
MMAI	**Mount Meron Ar**	**83.31**	**312**	P	**P**	**09 07 40.1**	**+0.6**
	0.7nm,0.4s,baz=63,slow=6.8,SNR=1.6						
	0.7nm,0.4s						

*DJA **01** 08:55:31.7±0.4, 6.5S×3.3×15.4E±°, h37km±4km, M5.2/32, mb5.1/32, mB5.7/6, MLv5.3/1, Mw(mB)5.2/6, MwMwp6.5/1, Mwp6.4/1*
*IDC **01** 08:55:31.8±1.7, 5.56S×153.88E, h49km±13km, mb4.4/22, mbtmp4.7/25, ML3.8/3, MS3.9/48, Error ellipse: s-maj=16.3km s-min=10.2km az=84.0*
*GCMT **01** 08:55:32.8±0.3, 5.85S±0.02×153.76E±0.03, h44km±1km, MW4.9/53, Moment Tensor Solution. s35,c40; s53,c67; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.71±.22; Mθθ-1.56±.13; Mϕϕ-1.15±.13; Mrθ0.40±.11; Mθϕ1.51±.09; Mϕr-1.55±.11; Best double couple: M○3.22300×10^16 NP1:ϕs147.00000°, δ60.00000°, λ107.00000°. NP2: ϕs296.00000°, δ34.00000°, λ63.00000°. Principal axes: T 3.2590, Plg70.0000°, Azm95.0000°; N -0.0730, Plg15.0000°, Azm318.0000°; P -3.1870, Plg13.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **01** 08:55:33.2±0.0, 5.22S×153.58E, h43km, mb5.0/37, mB5.0/22, Ms4.5/8, Ms7 4.3/8*
*NEIC **01** 08:55:33.8±1.3, 5.57S±0.07×153.80E±0.09, h61km±7km, mb4.9/65, Error ellipse: s-maj=12.6km s-min=10.7km az=77.0*
ISC 01 08:55:35.1±0.4**, 5.59S**±0.05×**153.76E**±0.06**, h74**km**, n224,**
σ1**922**/199**, mb4.7**/64**, 3C-1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.11**	**311**		**Pn**	**08 56 06.8**	**-1.6**
RABL	**Rabaul**	**2.11**	**311**	P	**Pn**	**08 56 07.8**	**-0.6**
KRVT	**Keravat (AS076**	**2.15**	**306**	P	**Pn**	**08 56 07.6**	**-1.2**
	110nm,0.3s,baz=224,slow=3.2,SNR=88						
KRVT				S	**Sn**	**08 56 33.8**	**-0.7**
	2μm,0.4s,baz=270,slow=20,SNR=6.0						
KRVT				LR	LR	08 57 16.4	
	comp=Z,4μm,19.3s,baz=263,slow=47						
	467nm,0.4s						
MANU	**Manus Island**	**7.29**	**299**		**Pn**	**08 57 16.6**	**-2.3**
PMG	**Port Moresby**	**7.56**	**240**	P	**Pn**	**08 57 21.5**	**-1.1**
	14nm,0.3s,baz=71,slow=6.2,SNR=38						
PMG				S	**Sn**	**08 58 46.6**	**-0.2**
	208nm,0.5s,baz=289,slow=18,SNR=9.4						
	219nm,0.7s						
PMG	**Port Moresby**	**7.56**	**240**		**Pn**	**08 57 21.1**	**-1.5**
PATS	**Pohnpei**	**13.16**	**20**	Pn	**Pn**	**08 58 35.7**	**-3.3**
COEN	**Coen**	**13.33**	**231**	Pn	**Pn**	**08 58 38.8**	**-2.5**
COEN	**Coen**	**13.33**	**231**	P	**Pn**	**08 58 40.5**	**-0.7**
GENI	**Genyem**	**13.88**	**282**	P	**Pn**	**08 58 47.5**	**-1.0**
	5μm107nm,1.2s						
GENI	**Genyem**	**13.88**	**282**	P	**Pn**	**08 58 49.0**	**+0.5**
	106nm,1.2s						
SMPI	**Sarmi**	**15.43**	**283**	P	**Pn**	**08 59 09.0**	**+0.4**
	2μm57nm,1.0s						
MTSU	**Mount Surprise**	**15.50**	**216**	P	**Pn**	**08 59 09.5**	**0.0**
CTA	**Charters Tower**	**16.15**	**206**	P	**Pn**	**08 59 16.9**	**-0.7**
	0.7nm,0.3s,baz=21,slow=15,SNR=11						
CTA				LR	LR	09 04 53.8	
	comp=Z,508nm,21.1s,baz=28,slow=35						
	26nm,1.0s						
CTA	**Charters Tower**	**16.15**	**206**	P	**Pn**	**08 59 17.3**	**-0.3**
CTAO	**Charters Tower**	**16.15**	**206**		**Pn**	**08 59 17.0**	**-0.6**
CTAO				IAmb	IAmb	08 59 21.7	
	comp=Z,60nm,1.1s						
CTAO	**Charters Tower**	**16.15**	**206**	P	**Pn**	**08 59 17.4**	**-0.2**
RK1H	**Rockhampton Ha**	**17.97**	**190**	P	**P**	**08 59 39.1**	**-0.5**
EIDS	**Eidsvold**	**19.83**	**187**		**P**	**08 59 59.7**	**-0.3**
EIDS	**Eidsvold**	**19.83**	**187**	P	**P**	**09 00 00.3**	**+0.3**
KWAJ	**Kwajalein Atol**	**19.88**	**44**	P	**P**	**09 00 00.8**	**+0.2**
LIFNC	**LIFOU**	**19.98**	**140**	P	**P**	**09 00 00.3**	**-1.3**
LIFNC	**LIFOU**	**19.98**	**140**	P	**P**	**09 00 00.7**	**-0.9**
QIS	**Mount Isa**	**20.25**	**221**	P	**P**	**09 00 04.6**	**0.0**
TARA	**Tarawa**	**20.35**	**71**	P	**P**	**09 00 05.2**	**-0.5**
TARA	**Tarawa**	**20.35**	**71**	P	**P**	**09 00 06.2**	**+0.5**
NOUC	**Port Laguerre**	**20.41**	**145**	P	**P**	**09 00 05.9**	**-0.4**
DZM	**Mont Dzumac**	**20.47**	**144**	P	**P**	**09 00 06.5**	**-0.5**
	comp=Z,65nm,0.6s,baz=295,slow=6.6,SNR=56						
DZM				LR	LR	09 06 40.7	
	comp=Z,570nm,20.1s,baz=252,slow=33						
	comp=Z,65nm,0.6s						
DZM	**Mont Dzumac**	**20.47**	**144**	P	**P**	**09 00 06.1**	**-1.0**
DZM				IAmb	IAmb	09 00 12.3	
	comp=Z,85nm,0.8s						
DZM	**Mont Dzumac**	**20.47**	**144**	P	**P**	**09 00 06.9**	**-0.1**
ONTNC	**Ouen Toro**	**20.66**	**145**		**P**	**09 00 08.1**	**-0.8**
ONTNC				IAmb	IAmb	09 00 10.3	
	comp=Z,77nm,0.8s						
ONTNC	**Ouen Toro**	**20.66**	**145**	P	**P**	**09 00 09.2**	**+0.2**
YATNC	**Mamie plateau,**	**20.72**	**143**	P	**P**	**09 00 09.3**	**-0.4**
OUENC	**Ouen Island, N**	**20.97**	**144**		**P**	**09 00 11.2**	**-1.1**
OUENC				IAmb	IAmb	09 00 13.3	
	comp=Z,66nm,0.6s						
OUENC	**Ouen Island, N**	**20.97**	**144**	P	**P**	**09 00 12.3**	**0.0**
MARNC	**Mare, Loyalty**	**20.99**	**140**		**P**	**09 00 11.4**	**-1.2**
MARNC	**Mare, Loyalty**	**20.99**	**140**	P	**P**	**09 00 11.6**	**-0.9**
GUMO	**Guam**	**21.00**	**335**	LR	LR	09 08 07.2	
	comp=Z,81nm,20.6s,baz=150,slow=36						
RMQ	**Roma**	**21.32**	**192**	P	**P**	**09 00 16.4**	**+0.4**
PINNC	**Pines Island,**	**21.48**	**143**	P	**P**	**09 00 16.4**	**-1.2**
KDU	**Kakadu**	**22.15**	**250**	P	**P**	**09 00 24.1**	**-0.9**
QLP	**Quilpie**	**22.77**	**203**	P	**P**	**09 00 30.8**	**-0.7**
SIJI	**Sorong**	**22.93**	**281**	P	**P**	**09 00 32.6**	**-0.7**
	comp=Z,26nm,0.7s,baz=94,slow=7.7,SNR=13						
	comp=Z,26nm,0.7s						
SWI	**Sorong**	**22.94**	**281**	P	**P**	**09 00 34.2**	**+0.8**
	comp=Z,48nm,1.2s						
MTN	**Manton Dam**	**23.45**	**251**	P	**P**	**09 00 37.1**	**-1.1**
MTN				IAmb	IAmb	09 00 46.8	
	comp=Z,45nm,0.8s						
MTN	**Manton Dam**	**23.45**	**251**	P	**P**	**09 00 37.9**	**-0.3**
WR0	**Warramunga Arr**	**23.52**	**231**	P	**P**	**09 00 38.1**	**-0.7**
WR0				IAmb	IAmb	09 00 39.7	
	comp=Z,27nm,0.9s						
WRAB	**Tennant Creek**	**23.65**	**231**	P	**P**	**09 00 39.2**	**-0.7**
WRAB				IAmb	IAmb	09 00 54.0	
	comp=Z,30nm,0.9s						
WRAB	**Tennant Creek**	**23.65**	**231**	P	**P**	**09 00 39.6**	**-0.4**
WRA	**Warramunga Arr**	**23.66**	**231**	P	**P**	**09 00 39.3**	**-0.8**
	comp=Z,11nm,0.5s,baz=55,slow=9.9,SNR=162						
WRA				PcP	**PcP**	**09 04 23.4**	**+0.5**
	comp=Z,7.8nm,0.8s,baz=57,slow=2.3,SNR=10						
WRA				ScP	**ScP**	**09 07 57.1**	**+2.3**
	comp=Z,1.0nm,0.9s,baz=52,slow=3.1,SNR=4.3						
WRA				LR	LR	09 09 55.3	
	comp=Z,354nm,19.8s,baz=46,slow=36						
	comp=Z,11nm,0.5s						
WRA	**Warramunga Arr**	**23.66**	**231**	P	**P**	**09 00 38.8**	**-1.3**
ARMA	**Armidale**	**24.77**	**184**	P	**P**	**09 00 50.9**	**+0.7**
ARMA	**Armidale**	**24.77**	**184**	P	**P**	**09 00 51.4**	**+1.2**
INKA	**Innaminka**	**25.26**	**208**	P	**P**	**09 00 54.2**	**-0.3**
	comp=Z,101nm,0.9s						
AS31	**Alice Springs**	**26.23**	**225**	P	**P**	**09 01 02.9**	**-0.5**
ASAR	**Alice Springs**	**26.23**	**225**	P	**P**	**09 01 03.2**	**-0.2**
	comp=Z,25nm,0.9s,baz=57,slow=8.3,SNR=93						
ASAR				PcP	**PcP**	**09 04 29.5**	**+0.9**
	comp=Z,9.3nm,0.7s,baz=59,slow=2.7,SNR=18						
ASAR				ScP	**ScP**	**09 08 05.7**	**+3.7**
	comp=Z,1.0nm,0.7s,baz=58,slow=3.2,SNR=5.2						
ASAR				LR	LR	09 11 24.2	
	comp=Z,383nm,19.8s,baz=88,slow=36						
	comp=Z,25nm,0.9s						
ASAR	**Alice Springs**	**26.23**	**225**	P	**P**	**09 01 03.5**	**+0.1**
KNRA	**Kununurra**	**26.50**	**246**	P	**P**	**09 01 05.5**	**-0.3**
KNRA	**Kununurra**	**26.50**	**246**	P	**P**	**09 01 06.1**	**+0.3**
MSVF	**

AFI Afiamalu 34.92 106 LR LR 09 14 13.4
comp=Z,132nm,20.1s,baz=281,slow=32
PSA00 Pilbara Seismi 36.46 241 P **P** **09 02 32.1 -1.1**
EPAZ Eden Park BICE 36.58 151 P **P** **09 02 38.4 +4.4**
WIAZ Waiheke Island 36.70 151 P **P** **09 02 35.7 +0.7**
KUZ Kuaotunu 36.96 150 P **P** **09 02 37.3 +0.1**
TOZ Tahuroa Road 37.63 151 P **P** **09 02 43.3 +0.4**
URZ Urewera 38.83 150 P **P** **09 02 52.6 -0.3**
URZ Urewera 38.83 150 P **P** **09 02 55.0 +2.1**
MUGZ Murupara 38.83 151 P **P** **09 02 54.2 +1.2**
PKGZ Pakihiroa 39.03 149 P **P** **09 02 55.6 +0.9**
MWZ Matawai 39.09 150 P **P** **09 02 56.4 +1.2**
MTHZ Maungatapiwha 39.16 151 P **P** **09 02 56.0 +0.2**
TWGZ Tauwhareparae 39.20 149 P **P** **09 02 57.1 +0.9**
BKZ Black Stump Fm 39.24 152 P **P** **09 02 56.8 +0.4**
PUZ Puketiti 39.26 149 P **P** **09 02 56.5 -0.1**
RAHZ Arahi 39.33 151 P **P** **09 02 57.3 +0.2**
SNGZ Shannon Statio 39.35 150 P **P** **09 02 57.7 +0.4**
KMBL Kambalda 39.36 225 P **P** **09 02 55.6 -1.9**
MEEK Meekatharra 39.50 234 P **P** **09 02 58.4 -0.4**
CNGZ Carnagh Statio 39.55 149 P **P** **09 02 59.3 +0.4**
ARHZ Aropaoanui 39.55 151 P **P** **09 02 59.4 +0.4**
TUWZ Tuamarina 39.98 156 P **P** **09 03 02.0 -0.4**
LTZ Lake Taylor 40.51 159 P **P** **09 03 05.9 -0.9**
JHJ Hachijo jima 2 40.72 342 LR LR 09 17 21.4
comp=Z,56nm,19.0s,baz=132,slow=32
RPZ Rata Peaks 40.91 161 LR LR 09 20 20.2
comp=Z,222nm,18.6s,baz=304,slow=36
KLBR Kellerberrin 42.47 228 P **P** **09 03 22.3 -0.8**
MORW Morawa 42.60 232 P **P** **09 03 23.6 -0.6**
MORW Morawa 42.60 232 P **P** **09 03 23.8 -0.4**
SSLB Suanglung 43.32 314 P **P** **09 03 30.7 +0.6**
SSLB IAmb IAmb 09 04 54.2
comp=Z,54nm,1.8s
NWAO Narrogin (SRO) 43.52 227 LR LR 09 21 42.2
comp=Z,369nm,19.9s,baz=264,slow=36
YHNB Yeheng 43.57 315 P **P** **09 03 32.4 +0.3**
YHNB IAmb IAmb 09 03 58.8
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 44.37 342 LR LR 09 20 07.4
comp=Z,94nm,21.9s,baz=172,slow=33
LEM Lembang 45.87 266 LR LR 09 25 55.0
comp=Z,120nm,18.2s,baz=94,slow=40
RAR Rarotonga 47.59 114 LR LR 09 19 32.4
comp=Z,87nm,21.9s,baz=287,slow=30
KSRS Korea Array 49.13 333 P **P** **09 04 14.1 -1.3**
comp=Z,4.6nm,0.9s,baz=156,slow=7.4,SNR=8.7
KSRS LR LR 09 24 37.2
comp=Z,31nm,18.2s,baz=145,slow=36
comp=Z,4.6nm,0.9s
USRK Ussuriysk Ar. 53.30 341 P **P** **09 04 46.7 +0.2**
comp=Z,2.2nm,0.7s,baz=156,slow=8.7,SNR=2.4
comp=Z,2.2nm,0.7s
PSI Prapat 55.40 277 LR LR 09 33 12.1
comp=Z,278nm,18.3s,baz=147,slow=41
HNS HongShan 56.15 323 ⇑P **P** **09 05 08.0 +0.8**
HNS pmax pmax
comp=Z,10.0nm,1.0s
PPT Papeete 56.58 107 LR LR 09 26 54.6
comp=Z,51nm,18.7s,baz=296,slow=33
XAN Xi'an 57.85 316 P **P** **09 05 20.5 +1.1**
XAN pP pP 09 05 32.9 -4.2
XAN pmax pmax
comp=Z,18nm,1.0s
XAN LR LR
comp=Z,140nm,20.6s
XAN LR LR
comp=Z,140nm,16.5s
XAN LR LR
comp=Z,250nm,20.6s
KLR Kul'dur 57.87 343 P **P** **09 05 18.2 -0.9**
comp=Z,2.6nm,0.6s,baz=158,slow=6.8,SNR=8.1
comp=Z,2.6nm,0.6s
KMI Kunming 58.22 304 ⇓P **P** **09 05 26.5 +4.2**
KMI pP pP 09 05 40.2 +0.2
KMI pmax pmax
comp=Z,21nm,0.6s
CRAI Chiangrai 58.38 298 P **P** **09 05 24.8 +1.5**
PETK Petropavlovsk- 58.58 3 P **P** **09 05 23.2 -0.8**
comp=Z,6.1nm,0.9s,baz=169,slow=8.8,SNR=6.3
PETK LR LR 09 26 40.2
comp=Z,58nm,21.2s,baz=169,slow=32
comp=Z,6.1nm,0.9s
CM31 Chiang Mai Arr 59.07 295 P **P** **09 05 30.1 +1.9**
CMAR Chiang Mai Arr 59.07 295 P **P** **09 05 29.2 +1.1**
comp=Z,16nm,0.9s,baz=111,slow=5.0,SNR=47
CMAR LR LR 09 29 08.6
comp=Z,57nm,20.9s,baz=115,slow=34
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 59.07 295 P **P** **09 05 29.8 +1.7**
CHTO Chiang Mai 59.19 296 P **P** **09 05 30.4 +1.5**
CHTO Chiang Mai 59.19 296 P **P** **09 05 30.4 +1.5**
CHTO pP **pP** **09 05 43.6 -3.0**
PZH PanZhiHua 59.60 305 P **P** **09 05 32.8 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,8.4s
XLT XiLinHaoTe 59.83 329 ⇑*i*P **P** **09 05 33.4 +0.4**
XLT pP pP 09 05 42.9 -7.7
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,150nm,5.4s
CD2 Chengdu 59.97 310 *e*P **P** **09 05 34.0 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 60.24 324 *e*P **P** **09 05 39.1 +3.2**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,220nm,4.5s
SHEM Shemya Is, Ala 60.62 14 LR LR 09 27 52.4
comp=Z,143nm,21.4s,baz=154,slow=32
DRV Dumont d'Urvil 61.71 186 P **P** **09 05 44.8 -0.4**
DRV pP **pP** **09 05 58.9 -3.2**
LZH Lanzhou 62.46 316 *e*P **P** **09 05 52.9 +1.9**
LZH pP pP 09 06 06.2 -2.7
LZH pmax pmax
comp=Z,34nm,1.1s
LZH pmax pmax
comp=Z,130nm,6.8s
LZH LR LR
comp=Z,160nm,13.1s
LZH LR LR
comp=Z,210nm,15.4s
LZH LR LR
comp=Z,220nm,16.8s
MA2 Magadan 65.01 358 LR LR 09 31 39.8
comp=Z,28nm,21.4s,baz=168,slow=33
MA2 Magadan 65.01 358 P **P** **09 06 06.8 -0.3**
MA2 IAmb IAmb 09 06 13.0
comp=Z,8.6nm,0.7s
MA2 Magadan 65.01 358 P **P** **09 06 05.5 -1.5**
BRDH Bariadhala 66.87 297 LR LR 09 38 14.9
comp=Z,135nm,18.2s,baz=88,slow=38
GTA Gaotai 66.88 317 ⇑P **P** **09 06 21.8 +2.1**
GTA pP pP 09 06 34.8 -2.9
GTA sP pwP 09 06 40.4 -3.0
GTA pmax pmax
comp=Z,27nm,1.0s
GTA pmax pmax
comp=Z,81nm,5.7s
GTA LR LR
comp=Z,79nm,18.2s
GTA LR LR
comp=Z,130nm,19.3s
GTA LR LR
comp=Z,110nm,19.6s
ULN Ulaanbaatar 67.17 328 P **P** **09 06 22.2 +0.8**
SONM Songino Array 67.50 328 P **P** **09 06 23.0 -0.5**
comp=Z,2.0nm,0.6s,baz=144,slow=5.6,SNR=11
SONM LR LR 09 36 30.0
comp=Z,58nm,18.1s,baz=114,slow=36
comp=Z,2.0nm,0.6s
SHL Shillong 67.53 300 P **P** **09 06 25.0 +0.9**
SHL IAmb IAmb 09 06 26.3
comp=Z,21nm,0.9s
GOMU GeErMu 69.00 312 P **P** **09 06 35.4 +2.0**
GOMU PcP **sP** **09 07 01.8 +2.6**
GOMU pmax pmax
comp=Z,5.0nm,0.6s
GOMU pmax pmax
comp=Z,58nm,4.9s
YAK Yakutsk 69.94 348 LR LR 09 35 38.2
comp=Z,23nm,21.5s,baz=122,slow=34

CCD Concordia, Ant 71.61 188 P **P** **09 06 48.4 -0.2**
CCD sP **pwP** **09 07 16.5 +2.2**
VNDA Vanda 72.01 178 P **P** **09 06 50.8 +0.3**
comp=Z,4.2nm,0.9s,baz=341,slow=8.7,SNR=21
comp=Z,4.2nm,0.9s
VNDA Vanda 72.01 178 P **P** **09 06 50.9 +0.3**
SBA Scott Base 72.54 177 P **P** **09 06 55.4 +1.8**
SBA IAmb IAmb 09 06 56.3
comp=Z,14nm,1.4s
WMQ Urumqi 76.97 317 *e*P **P** **09 07 22.1 +2.2**
P19K Oil Pt 77.25 25 P **P** **09 07 19.8 -1.3**
CNPM China Poot 78.02 25 P **P** **09 07 25.2 -0.1**
L19K White Mountain 78.12 22 P **P** **09 07 26.1 +0.2**
L19K IAmb IAmb 09 07 58.1
comp=Z,11nm,0.8s
M19K Big River Lodg 78.13 22 P **P** **09 07 25.9 -0.1**
M19K IAmb IAmb 09 07 59.1
comp=Z,8.8nm,0.9s
SEW Seward 79.09 25 P **P** **09 07 30.6 -0.6**
K20K Telida 79.12 21 P **P** **09 07 31.3 0.0**
RC01 Rabbit Creek A 79.50 24 P **P** **09 07 32.3 -1.2**
RC01 IAmb IAmb 09 08 06.0
comp=Z,18nm,1.2s
J20K Nowinta River 79.59 21 P **P** **09 07 34.4 +0.6**
J20K IAmb IAmb 09 08 06.2
comp=Z,8.1nm,0.8s
CAST Castle Rocks 79.88 22 P **P** **09 07 34.5 -1.0**
CAST IAmb IAmb 09 07 56.5
comp=Z,7.0nm,0.8s
PWL Port Wells 79.96 25 P **P** **09 07 35.5 -0.5**
PWL IAmb IAmb 09 08 07.4
comp=Z,18nm,0.8s
GHO Glory Hole Cre 80.19 24 P **P** **09 07 36.3 -1.0**
GHO IAmb IAmb 09 08 12.6
comp=Z,10nm,1.1s
SML Sawmill 80.45 24 P **P** **09 07 38.1 -0.5**
SML IAmb IAmb 09 08 11.6
comp=Z,19nm,1.0s
IMAR Indian Mountai 80.81 19 P **P** **09 07 39.9 -0.5**
I21K Tanana 80.93 20 P **P** **09 07 41.5 +0.5**
I21K IAmb IAmb 09 08 13.2
comp=Z,9.1nm,1.0s
MCK McKinley 81.23 22 P **P** **09 07 41.0 -1.7**
MCK IAmb IAmb 09 08 13.5
comp=Z,16nm,0.9s
MLY Manley 81.28 21 P **P** **09 07 42.3 -0.7**
MLY IAmb IAmb 09 08 14.4
comp=Z,8.5nm,1.0s
DHY Denali Highway 81.49 23 P **P** **09 07 44.1 -0.2**
MK31 Makanchi Array 81.55 319 P **P** **09 07 45.2 +0.4**
MK31 IAmb IAmb 09 07 46.8
comp=Z,8.2nm,0.9s
MKAR Makanchi Array 81.55 319 P **P** **09 07 45.2 +0.4**
comp=Z,6.8nm,0.8s,baz=106,slow=5.5,SNR=55
MKAR LR LR 09 45 11.2
comp=Z,50nm,18.9s,baz=93,slow=36
comp=Z,6.8nm,0.8s
MAKZ Makanchi 81.75 319 P **P** **09 07 46.3 +0.4**
MAKZ IAmb IAmb 09 07 47.8
comp=Z,13nm,0.8s
H23K Yukon River 82.14 20 P **P** **09 07 47.2 -0.2**
H23K IAmb IAmb 09 08 20.1
comp=Z,32nm,1.9s
GLB Gilahina Butte 82.16 25 P **P** **09 07 47.7 0.0**
GLB IAmb IAmb 09 08 21.0
comp=Z,9.3nm,0.9s
ZALV Zalesovo Beam 82.34 326 P **P** **09 07 48.1 -0.5**
comp=Z,2.9nm,0.5s,baz=100,slow=5.8,SNR=13
comp=Z,2.9nm,0.5s
ZALV Zalesovo Beam 82.34 326 P **P** **09 07 48.0 -0.6**
ILAR Eielson Array 82.53 22 P **P** **09 07 47.5 -2.1**
comp=Z,1.9nm,0.8s,baz=248,slow=5.4,SNR=16
ILAR LR LR 09 43 00.5
comp=Z,125nm,18.9s,baz=240,slow=34
comp=Z,1.9nm,0.8s
J25K Salcha River, 83.02 22 P **P** **09 07 50.8 -1.3**
J25K IAmb IAmb 09 08 23.3
comp=Z,12nm,1.1s
SCRK Sand Creek 83.25 23 P **P** **09 07 52.9 -0.6**
SCRK IAmb IAmb 09 08 26.6
comp=Z,10nm,1.3s
M27K Edge Creek, AK 83.39 25 P **P** **09 07 54.0 -0.2**
M27K IAmb IAmb 09 08 34.4
comp=Z,19nm,1.1s
J26L Joseph Creek 83.66 23 P **P** **09 07 55.2 -0.2**
L27K Beaver Creek, 83.71 24 P **P** **09 07 55.9 +0.3**
BCAR Beaver Creek A 83.73 24 P **P** **09 07 55.6 -0.2**
K27K Chicken 84.03 23 P **P** **09 07 57.3 +0.1**
KSH Kashi 84.17 311 P **P** **09 08 02.0 +3.4**
KSH pP pP 09 08 12.0 -5.3
KSH pmax pmax
comp=Z,18nm,1.0s
QSPA South Pole Qui 84.37 180 P **P** **09 07 59.6 +0.5**
ULHL Ulahol 84.55 313 P **P** **09 08 02.4 +1.8**
SNR=10
BMAR Burnt Mountain 84.66 20 P **P** **09 08 00.6 +0.2**
HYT Haines Junctio 84.70 27 P **P** **09 08 01.1 +0.3**
HYT IAmb IAmb 09 08 33.1
comp=Z,10nm,0.7s
EGAK Eagle 84.71 23 P **P** **09 07 59.8 -0.8**
EGAK IAmb IAmb 09 08 32.6
comp=Z,8.9nm,1.1s
KURBB Kurchatov Arra 85.01 322 P **P** **09 08 00.8 -1.6**
comp=Z,4.3nm,0.8s,baz=119,slow=3.4,SNR=16
comp=Z,4.3nm,0.8s
TKM2 Tokmak 2 85.16 314 P **P** **09 08 04.8 +1.1**
SNR=14
MAW Mawson 85.21 203 P **P** **09 08 02.9 -0.1**
comp=Z,5.0nm,0.8s,baz=102,slow=7.1,SNR=21
MAW LR LR 09 41 45.7
comp=Z,51nm,21.8s,baz=82,slow=32
comp=Z,5.0nm,0.8s
MAW Mawson 85.21 203 P **P** **09 08 03.7 +0.6**
M30M Minto, Yukon 85.64 26 P **P** **09 08 05.9 +0.5**
UCH Uchtor 85.81 313 P **P** **09 08 08.9 +1.7**
SNR=12
AAK Ala-Archa 85.90 313 P **P** **09 08 06.2 -1.1**
comp=Z,4.1nm,0.6s,baz=112,slow=4.3,SNR=10
AAK LR LR 09 46 54.7
comp=Z,40nm,21.2s,baz=134,slow=36
comp=Z,4.1nm,0.6s
USP Ospenovka 86.02 314 P **P** **09 08 08.9 +1.2**
SNR=5.9
EKS2 Erkin-Say 86.42 313 P **P** **09 08 10.9 +1.1**
SNR=5.3
BBB Bella Bella 87.15 37 LR LR 09 43 44.2
comp=Z,87nm,18.4s,baz=264,slow=33
DLBC Dease Lake 87.57 31 LR LR 09 41 47.6
comp=Z,64nm,20.5s,baz=267,slow=32
INK Inuvik 88.85 21 P **P** **09 08 19.1 -1.5**
comp=Z,2.3nm,0.9s,baz=324,slow=8.7,SNR=4.1
INK LR LR 09 46 49.0
comp=Z,101nm,18.9s,baz=216,slow=35
comp=Z,2.3nm,0.9s
KKAR Karatay Array 88.86 313 P **P** **09 08 21.4 0.0**
YBH Yreka Blue Hor 88.87 48 LR LR 09 40 59.8
comp=Z,298nm,21.3s,baz=304,slow=31
BVAR Borovoye Array 90.44 323 P **P** **09 08 27.3 -1.1**
comp=Z,2.2nm,0.8s,baz=106,slow=4.7,SNR=8.6
BVAR LR LR 09 50 19.4
comp=Z,43nm,19.4s,baz=94,slow=36
comp=Z,2.2nm,0.8s
NVAR Mina Array Bea 91.83 52 P **P** **09 08 35.4 -0.2**
comp=Z,1.1nm,0.9s,baz=263,slow=5.1,SNR=6.8
NVAR LR LR 09 47 47.7
comp=Z,55nm,18.1s,baz=280,slow=34
comp=Z,1.1nm,0.9s
PFO Pinyon Flats O 92.88 57 LR LR 09 46 05.6
comp=Z,87nm,18.5s,baz=274,slow=33
NEW Newport 93.55 42 LR LR 09 47 46.2
comp=Z,146nm,18.6s,baz=280,slow=34
ELK Elko 94.37 50 LR LR 09 43 44.6
comp=Z,112nm,22.0s,baz=283,slow=31
ARU Arti 97.50 326 LR LR 09 54 25.7
comp=Z,38nm,20.2s,baz=152,slow=36
LPIG La Paz 97.67 67 LR LR 09 44 35.9
comp=Z,102nm,21.5s,baz=244,slow=30
GEYT Alibeck 97.85 307 LR LR 09 55 48.8
comp=Z,45nm,19.4s,baz=164,slow=37
AKTO Aktyubinsk 97.94 320 LR LR 09 53 17.3
comp=Z,19nm,20.9s,baz=98,slow=35
PDAR Pinedale Array 98.68 48 LR LR 09 49 19.1
comp=Z,139nm,19.1s,baz=266,slow=33
BOSA Boshof 119.91 233 PKP **PKiKP** **09 14 18.1 +0.1**
comp=Z,2.7nm,0.7s,baz=138,slow=2.9,SNR=6.0
CLL Collm 124.00 331 *e*PS PS 09 26 06.0 -2.4

TORD Torodi Ar. Bea 151.45 287 PKPbc **PKPbc** **09 15 21.8 +0.1**
comp=Z,8.0nm,0.7s,baz=86,slow=2.0,SNR=62
TORD PKPab **PKPab** **09 15 30.2 0.0**
comp=Z,8.4nm,0.8s,baz=80,slow=4.2,SNR=6.0

---

*NOU **01** 08:58:35.9, 37.93S×177.30E, h174km, MLv4.2/9, Off E. Coast of N. Island, N.Z.*
*WEL **01** 08:58:42.0±0.8, 38.2°S±4.2°×17.7°E±1.1°, h110km±6km, M3.5/39, ML3.6/30, MLv3.5/39, Error ellipse: s-maj=0.0km s-min=0.0km az=178.3*
ISC 01 08:58:38.4±1.7, 37.86S±0.05×177.03E±0.05, h147km±9km, n134, σ1.913/142, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.04**	**274**	P	**Pn**		**08 58 58.4**	**+0.3**
MARZ	**Manawahe**	**0.31**	**246**	P	**Pn**		**08 58 59.0**	**+0.3**
EDRZ	**Edgecumbe**	**0.34**	**223**	P	**Pn**		**08 58 59.2**	**+0.3**
WIZ	**White Island**	**0.35**	**21**	P	**Pn**		**08 58 58.8**	**-0.1**
OPRZ	**Ohinepanea**	**0.38**	**272**	P	**Pn**		**08 58 58.8**	**-0.1**
OPRZ				S	**Sn**		**08 59 12.7**	**-1.7**
URZ	**Urewera**	**0.41**	**171**	P	**Pn**		**08 58 59.1**	**+0.1**
URZ				S	**Sn**		**08 59 13.4**	**-1.3**
URZ	**Urewera**	**0.41**	**171**	P	**Pn**		**08 58 59.0**	**0.0**
RUGZ	**Raukumara Rang**	**0.52**	**102**	P	**Pn**		**08 58 59.4**	**-0.3**
RUGZ				S	**Sn**		**08 59 14.0**	**-1.9**
MKRZ	**Makatiti**	**0.53**	**238**	P	**Pn**		**08 59 00.9**	**+1.2**
LIRZ	**Lichensteins R**	**0.53**	**254**	P	**Pn**		**08 59 00.1**	**+0.5**
TARZ	**Mount Tarawera**	**0.56**	**228**	P	**Pn**		**08 59 00.6**	**+0.8**
OMRZ	**Omania**	**0.58**	**244**	P	**Pn**		**08 59 00.4**	**+0.5**
HAZ	**Te Kaha**	**0.60**	**80**	P	**Pn**		**08 59 00.1**	**+0.1**
HAZ				S	**Sn**		**08 59 14.8**	**-1.5**
MWZ	**Matawai**	**0.61**	**141**	P	**Pn**		**08 59 00.6**	**+0.5**
TGRZ	**Tauranga**	**0.62**	**282**	P	**Pn**		**08 59 00.3**	**+0.2**
TGRZ				S	**Sn**		**08 59 15.7**	**-0.9**
RRRZ	**Republican Roa**	**0.63**	**220**	P	**Pn**		**08 59 00.8**	**+0.6**
KARZ	**Kaharoa**	**0.64**	**255**	P	**Pn**		**08 59 00.6**	**+0.4**
MUGZ	**Murupara**	**0.65**	**198**	P	**Pn**		**08 59 00.8**	**+0.5**
MUGZ				S	**Sn**		**08 59 15.8**	**-1.3**
HLRZ	**Highlands Stat**	**0.66**	**234**	P	**Pn**		**08 59 01.2**	**+0.8**
RAGZ	**Rawiri**	**0.70**	**155**	P	**Pn**		**08 59 01.6**	**+0.9**
NGRZ	**Ngongotaha**	**0.71**	**250**	P	**Pn**		**08 59 01.6**	**+0.9**
UTU	**Utuhina**	**0.73**	**244**	P	**Pn**		**08 59 02.0**	**+1.1**
HSRZ	**Hossack Road**	**0.77**	**234**	P	**Pn**		**08 59 02.0**	**+0.9**
HRDZ	**Handcock Road**	**0.79**	**228**	P	**Pn**		**08 59 02.1**	**+0.8**
PRRZ	**Plateau Road**	**0.81**	**218**	P	**Pn**		**08 59 02.1**	**+0.7**
TWGZ	**Tauwhareparae**	**0.81**	**113**	P	**Pn**		**08 59 02.7**	**+1.2**
PKGZ	**Pakihiroa**	**0.83**	**92**	P	**Pn**		**08 59 02.4**	**+0.8**
MYRZ	**Mayor Island**	**0.85**	**312**	P	**Pn**		**08 59 02.1**	**+0.4**
KMRZ	**Kaimai**	**0.86**	**271**	P	**Pn**		**08 59 02.2**	**+0.4**
TKGZ	**Te Karaka**	**0.87**	**132**	P	**Pn**		**08 59 03.0**	**+1.2**
GRRZ	**Galatos Road**	**0.88**	**236**	P	**Pn**		**08 59 02.9**	**+1.0**
ALRZ	**Allen Road**	**0.89**	**217**	P	**Pn**		**08 59 02.9**	**+0.9**
WPRZ	**Whakapapatarin**	**0.95**	**226**	P	**Pn**		**08 59 03.5**	**+1.0**
SNGZ	**Shannon Statio**	**0.95**	**165**	P	**Pn**		**08 59 03.8**	**+1.3**
PUZ	**Puketiti**	**0.99**	**103**	P	**Pn**		**08 59 03.6**	**+0.7**
MTHZ	**Maungataniwha**	**1.00**	**188**	P	**Pn**		**08 59 03.8**	**+0.8**
RIGZ	**Rimuhau**	**1.02**	**146**	P	**Pn**		**08 59 04.8**	**+1.7**
MXZ	**Matakaoa Point**	**1.05**	**74**	P	**Pn**		**08 59 04.3**	**+0.9**
MXZ				S	**Sn**		**08 59 22.9**	**+0.6**
RAHZ	**Arahi**	**1.06**	**178**	P	**Pn**		**08 59 04.9**	**+1.4**
RAHZ				S	**Sn**		**08 59 23.4**	**+0.8**
MRHZ	**Matea Rd**	**1.09**	**206**	P	**Pn**		**08 59 04.4**	**+0.7**
WMGZ	**Waiomatatini S**	**1.10**	**88**	P	**Pn**		**08 59 04.8**	**+1.1**
CNGZ	**Carnagh Statio**	**1.12**	**124**	P	**Pn**		**08 59 05.7**	**+1.8**
KUTZ	**Kaahu Road**	**1.14**	**236**	P	**Pn**		**08 59 05.3**	**+1.1**
WHTZ	**Whakaora**	**1.17**	**226**	P	**Pn**		**08 59 06.0**	**+1.5**
TOZ	**Tahuroa Road**	**1.22**	**276**	P	**Pn**		**08 59 05.6**	**+0.7**
TOZ				S	**Sn**		**08 59 24.9**	**-0.1**
WHHZ	**Waihua**	**1.23**	**173**	P	**Pn**		**08 59 06.5**	**+1.5**
WHHZ				S	**Sn**		**08 59 26.4**	**+1.0**
NMHZ	**Naumai**	**1.25**	**188**	P	**Pn**		**08 59 07.1**	**+1.8**
NMHZ				S	**Sn**		**08 59 27.6**	**+1.7**
PRGZ	**Paritu Road**	**1.26**	**148**	P	**Pn**		**08 59 06.7**	**+1.4**
KNZ	**Kokohu**	**1.27**	**157**	P	**Pn**		**08 59 06.7**	**+1.4**
HATZ	**Hinemaiaia**	**1.27**	**215**	P	**Pn**		**08 59 06.4**	**+1.0**
TLZ	**Tolley Road**	**1.27**	**248**	P	**Pn**		**08 59 06.5**	**+1.1**
WATZ	**Wairara**	**1.33**	**230**	P	**Pn**		**08 59 07.2**	**+1.2**
BKZ	**Black Stump Fm**	**1.37**	**198**	P	**Pn**		**08 59 07.2**	**+0.7**
BKZ	**Black Stump Fm**	**1.37**	**198**	P	**Pn**		**08 59 07.2**	**+0.7**
ARHZ	**Aropaoanui**	**1.40**	**181**	P	**Pn**		**08 59 08.2**	**+1.5**
RATZ	**Rangitukua**	**1.41**	**224**	P	**Pn**		**08 59 07.9**	**+1.0**
MHGZ	**Mahia Peninsul**	**1.46**	**152**	P	**Pn**		**08 59 09.2**	**+1.8**
KUZ	**Kuaotunu**	**1.52**	**316**	P	**Pn**		**08 59 08.0**	**0.0**
KATZ	**Kakaramea**	**1.53**	**223**	P	**Pn**		**08 59 09.3**	**+1.1**
TMVZ	**Te Maari**	**1.63**	**219**	P	**Pn**		**08 59 10.3**	**+1.0**
NTVZ	**North Tongarir**	**1.63**	**220**	P	**Pn**		**08 59 10.5**	**+1.2**
KWHZ	**Kaweka Forest**	**1.63**	**197**	P	**Pn**		**08 59 10.3**	**+1.1**
ETVZ	**East Tongariro**	**1.64**	**219**	P	**Pn**		**08 59 10.5**	**+1.0**
KRVZ	**Karewarewa**	**1.65**	**221**	P	**Pn**		**08 59 10.9**	**+1.5**
MKAZ	**Moumakai**	**1.67**	**296**	P	**Pn**		**08 59 10.3**	**+0.7**
OTVZ	**Oturere**	**1.69**	**219**	P	**Pn**		**08 59 11.0**	**+1.1**
NNVZ	**North Ngauruho**	**1.69**	**221**	P	**Pn**		**08 59 11.1**	**+1.1**
WTVZ	**West Tongariro**	**1.69**	**222**	P	**Pn**		**08 59 10.9**	**+1.0**
SNVZ	**South Ngauruho**	**1.72**	**219**	P	**Pn**		**08 59 11.4**	**+1.1**
NGZ	**Ngauruhoe**	**1.73**	**220**	P	**Pn**		**08 59 11.6**	**+1.2**
TWVZ	**Taurewa**	**1.74**	**225**	P	**Pn**		**08 59 11.4**	**+1.0**
TUVZ	**Tukino**	**1.77**	**217**	P	**Pn**		**08 59 11.8**	**+0.9**
BHHZ	**Black Hill Sta**	**1.80**	**205**	P	**Pn**		**08 59 11.6**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.80**	**179**	P	**Pn**		**08 59 12.4**	**+1.4**
FWVZ	**Far West T-bar**	**1.81**	**219**	P	**Pn**		**08 59 12.4**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.82**	**218**	P	**Pn**		**08 59 12.3**	**+0.9**
HIZ	**Hauiti**	**1.83**	**248**	P	**Pn**		**08 59 12.8**	**+1.4**
HIZ	**Hauiti**	**1.83**	**248**	P	**Pn**		**08 59 13.0**	**+1.6**
MOVZ	**Moawhango**	**1.84**	**213**	P	**Pn**		**08 59 11.9**	**+0.3**
WNVZ	**Wahianoa**	**1.85**	**217**	P	**Pn**		**08 59 12.5**	**+0.8**
TRVZ	**Turoa**	**1.85**	**218**	P	**Pn**		**08 59 12.8**	**+0.9**
WIAZ	**Waiheke Island**	**1.85**	**305**	P	**Pn**		**08 59 12.4**	**+0.8**
KRHZ	**Kereru**	**1.85**	**196**	P	**Pn**		**08 59 12.2**	**+0.6**
ETAZ	**East Tamaki Re**	**1.90**	**298**	P	**Pn**		**08 59 13.3**	**+1.1**
KAHZ	**Kahuranaki**	**1.94**	**184**	P	**Pn**		**08 59 13.8**	**+1.1**
PKVZ	**Pokaka**	**1.94**	**222**	P	**Pn**		**08 59 13.5**	**+0.7**
MBAZ	**Motutapu North**	**2.02**	**302**	P	**Pn**		**08 59 14.7**	**+1.1**
GRZ	**Great Barrier**	**2.04**	**321**	P	**Pn**		**08 59 14.3**	**+0.5**
AWAZ	**Awhitu Peninsu**	**2.06**	**292**	P	**Pn**		**08 59 15.0**	**+0.9**
EPAZ	**Eden Park BICE**	**2.07**	**298**	P	**Pn**		**08 59 15.3**	**+1.2**
HBAZ	**Herne Bay Bore**	**2.09**	**298**	P	**Pn**		**08 59 15.6**	**+1.2**
PNHZ	**Pukenui**	**2.15**	**197**	P	**Pn**		**08 59 15.4**	**+0.3**
ABAZ	**Army Bay**	**2.16**	**305**	P	**Pn**		**08 59 16.3**	**+1.1**
WTAZ	**Waiatarua**	**2.17**	**295**	P	**Pn**		**08 59 16.4**	**+1.1**
PXZ	**Pawanui**	**2.17**	**183**	P	**Pn**		**08 59 16.0**	**+0.6**
RVAZ	**Riverhead Bore**	**2.24**	**298**	P	**Pn**		**08 59 17.1**	**+1.0**
WPHZ	**Waipukurau**	**2.25**	**192**	P	**Pn**		**08 59 16.6**	**+0.3**
TSZ	**Takapari Road**	**2.35**	**200**	P	**Pn**		**08 59 17.5**	**-0.1**
PRHZ	**Porangahau**	**2.42**	**187**	P	**Pn**		**08 59 18.9**	**+0.5**
WAZ	**Wanganui**	**2.48**	**220**	P	**Pn**		**08 59 19.9**	**+0.8**
DVHZ	**Dannevirke**	**2.53**	**195**	P	**Pn**		**08 59 19.7**	**-0.1**
LREZ	**Lake Rotokare**	**2.61**	**231**	P	**Pn**		**08 59 23.3**	**+2.6**
ANWZ	**Angora Road**	**2.63**	**189**	P	**Pn**		**08 59 21.5**	**+0.5**
PREZ	**Palmer Road**	**2.69**	**236**	P	Pn		08 59 28.6	+6.8
OHWZ	**Ohakea**	**2.70**	**209**	P	**Pn**		**08 59 22.7**	**+1.0**
NEZ	**North Egmont**	**2.70**	**238**	P	Pn		08 59 28.2	+6.3
POWZ	**Post Office Ro**	**2.71**	**201**	P	**Pn**		**08 59 22.0**	**0.0**
PKE	**Pukeiti**	**2.73**	**240**	P	**Pn**		**08 59 26.0**	**+3.7**
PRWZ	**Pori Road**	**2.81**	**197**	P	**Pn**		**08 59 23.3**	**0.0**
WCZ	**Waipu Caves**	**2.88**	**311**	P	**Pn**		**08 59 25.1**	**+0.9**
BFZ	**Birch Farm**	**2.88**	**192**	P	**Pn**		**08 59 24.0**	**-0.2**
BFZ	**Birch Farm**	**2.88**	**192**	P	**Pn**		**08 59 24.1**	**0.0**
MRZ	**Mangatainoka R**	**3.02**	**201**	P	**Pn**		**08 59 25.3**	**-0.5**
TIWZ	**Tintock**	**3.05**	**197**	P	**Pn**		**08 59 26.1**	**-0.1**
CPWZ	**Castlepoint**	**3.11**	**192**	P	**Pn**		**08 59 27.6**	**+0.5**
HOWZ	**Holdsworth Sta**	**3.25**	**201**	P	**Pn**		**08 59 28.1**	**-0.8**
OGWZ	**Otaki Gorge**	**3.29**	**205**	P	**Pn**		**08 59 28.6**	**-0.7**
TMWZ	**Te Maipa**	**3.36**	**195**	P	**Pn**		**08 59 29.7**	**-0.6**
KIW	**Kapiti Island**

ODZ	**Otahua Downs**	**8.63**	**212**	P		**Pn**	**09 00 37.5**	**-2.6**
JCZ	**Jackson Bay**	**8.80**	**223**	P		**Pn**	**09 00 45.8**	**+3.4**

*IDC **01** 09:03:16.0±0.7,27.˚44N×139.˚94E,h466km±9km,mb3.1/8, mbtmp3.9/11,Error ellipse: s-maj=26.8km s-min=11.3km az=86.0*
*JMA **01** 09:03:18.5±0.2,28.˚N±2.˚×14.˚1E±.˚,h482km,MV3.8/15,W OFF OGASAWARA*

ISC 01 09:03:16.7±0.7,27.˚51N±0.˚08×140.˚1E±0.˚2,h479km,n17, σ1s64/24,mb3.2/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.94**	**102**	P	**P**	**09 04 19.9**	**+0.3**
CBIJ				S	**S**	**09 05 08.9**	**-1.8**
JCJ	**Chichijima**	**1.94**	**102**	P	**P**	**09 04 19.4**	**-0.3**
	85nm,0.4s,baz=309,slow=14,SNR=27						
JCJ				S	**S**	**09 05 08.7**	**-1.9**
	404nm,0.4s,baz=292,slow=19,SNR=22						
JHH2	**Haha-jima-NKT2**	**2.09**	**114**	P	**P**	**09 04 21.4**	**+1.0**
JHH2				*e*S	**S**	**09 05 10.7**	**-1.3**
JHJ	**Hachijo jima 2**	**5.59**	**358**	P	**P**	**09 04 48.4**	**+0.3**
	33nm,0.3s,baz=73,slow=23,SNR=7.7						
JHJ				S	**S**	**09 06 01.3**	**-1.5**
	62nm,0.5s,baz=234,slow=19,SNR=2.1						
BSO3	**Boso 3**	**7.28**	**3**	P	**P**	**09 05 06.3**	**+1.7**
JKN2	**Miekihoku**	**7.45**	**335**	P	**P**	**09 05 10.3**	**+3.6**
JAG	**Ashikaga**	**8.90**	**357**	P	**P**	**09 05 22.1**	**+0.1**
JHO	**Hitachi**	**9.08**	**3**	P	**P**	**09 05 25.3**	**+1.3**
MJAR	**Matsushiro Arr**	**9.14**	**351**	P	**P**	**09 05 24.5**	**-0.1**
	0.5nm,0.3s,baz=186,slow=15,SNR=1.5						
MJAR				S	**S**	**09 07 05.1**	**-4.6**
	0.5nm,0.4s,baz=247,slow=29,SNR=1.1						
FITZ	**Fitzroy Crossi**	**47.44**	**199**	P	**P**	**09 11 06.8**	**-0.4**
	2.2nm,1.0s,baz=24,slow=10,SNR=2.3 2.2nm,1.0s						
WRA	**Warramunga Arr**	**47.50**	**187**	P	**P**	**09 11 07.0**	**-0.6**
	2.0nm,0.3s,baz=7.0,slow=7.7,SNR=63						
WRA				PcP	**PcP**	**09 12 29.1**	**+0.5**
	0.3nm,0.6s,baz=358,slow=4.2,SNR=2.1						
WRA				ScP	**ScP**	**09 15 36.0**	**-0.6**
	0.2nm,0.6s,baz=3.8,slow=5.1,SNR=2.3 2.0nm,0.3s						
MKAR	**Makanchi Array**	**48.75**	**309**	P	**P**	**09 11 17.2**	**+0.4**
	0.3nm,0.4s,baz=96,slow=9.2,SNR=2.0 0.3nm,0.4s						
ASAR	**Alice Springs**	**51.23**	**187**	P	**P**	**09 11 34.7**	**-0.5**
	0.7nm,0.5s,baz=357,slow=4.6,SNR=32 0.7nm,0.5s						
ILAR	**Eielson Array**	**58.26**	**29**	P	**P**	**09 12 24.7**	**+0.6**
	0.3nm,0.3s,baz=249,slow=5.5,SNR=4.5 0.3nm,0.3s						
STKA	**Stephens Creek**	**59.08**	**178**	P	**P**	**09 12 29.6**	**-0.4**
	0.3nm,0.3s,baz=22,slow=11,SNR=4.6 0.3nm,0.3s						
FINES	**FINESS Array B**	**76.73**	**333**	P	**P**	**09 14 17.8**	**+0.2**
	2.5nm,0.9s,baz=72,slow=4.5,SNR=8.5 2.5nm,0.9s						
NVAR	**Mina Array Bea**	**81.74**	**51**	P	**P**	**09 14 47.0**	**+2.0**
	0.3nm,0.4s,baz=301,slow=4.6,SNR=5.9 0.3nm,0.4s						

*IDC **01** 09:21:09.1±0.9,5.˚40S×133.˚78E,h0km,mb3.8/4, mbtmp3.8/9,ML3.8/5,Error ellipse: s-maj=49.7km s-min=17.5km az=71.0*
*DJA **01** 09:21:14.7±0.4,5.˚5±4.˚×13.˚4E±.˚,h46km±14km,M4.3/7, mb4.5/7,mB4.8/4,MLv4.4/7,Mw(mB)4.0/4*

ISC 01 09:21:13.5±0.7,5.˚34S±0.˚06×133.˚99E±0.˚09,h32km,n29, σ2s39/30,mb3.7/4,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.96**	**324**	P	**Pn**	**09 21 58.2**	**-0.1**
FAKI	**Fak Fak**	**2.96**	**324**	P	**Pn**	**09 21 58.5**	**+0.2**
WAMI	**Wamena**	**4.92**	**73**	P	**Pn**	**09 22 27.3**	**+2.0**
SIJI	**Sorong**	**5.20**	**328**	Pn	**Pn**	**09 22 28.1**	**-1.1**
	3.2nm,0.3s,baz=182,slow=15,SNR=7.4						
SIJI				Sn	**Sn**	**09 23 23.1**	**-5.0**
	3.2nm,0.3s,baz=120,slow=20,SNR=14 7.7nm,0.3s						
SWI	**Sorong**	**5.21**	**328**	P	**Pn**	**09 22 28.7**	**-0.6**
	0.3nm1µm17nm,0.5s						
MTN	**Manton Dam**	**7.97**	**200**	P	Pn	09 23 12.8	+5.6
SANI	**Sanana**	**8.62**	**292**	P	**Pn**	**09 23 18.2**	**+2.0**
	771nm14nm,0.7s						
KNRA	**Kununurra**	**11.48**	**206**	P	**Pn**	**09 23 59.4**	**+4.0**
COEN	**Coen**	**12.46**	**134**	P	Pn	09 24 04.2	-4.6
WRAB	**Tennant Creek**	**14.51**	**179**	P	**Pn**	**09 24 37.2**	**+0.4**
WRA	**Warramunga Arr**	**14.52**	**179**	Pn	**Pn**	**09 24 34.3**	**-2.6**
	0.3nm,0.3s,baz=359,slow=13,SNR=16						
WRA				Sn	**Sn**	**09 27 12.7**	**-4.2**
	0.3nm,0.3s,baz=352,slow=24,SNR=4.6 0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.08**	**212**	Pn	**Pn**	**09 24 43.3**	**-1.1**
	0.7nm,0.3s,baz=36,slow=11,SNR=15						
FITZ				Sn	**Sn**	**09 27 28.9**	**-1.6**
	0.3nm,0.3s,baz=18,slow=20,SNR=2.5 2.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.08**	**212**	P	**Pn**	**09 24 46.6**	**+2.2**
ASAR	**Alice Springs**	**18.22**	**180**	P	**Pn**	**09 25 21.5**	**-2.6**
	0.1nm,0.3s,baz=6.5,slow=10,SNR=3.2						
ASAR				S	**Sn**	**09 28 41.3**	**-5.5**
	0.5nm,0.9s,baz=2.5,slow=23,SNR=2.3 0.7nm,0.5s						
CTA	**Charters Tower**	**18.90**	**142**	P	**P**	**09 25 32.0**	**+0.4**
	0.3nm,0.3s,baz=327,slow=13,SNR=7.9 6.5nm,0.8s						
WRKA	**Warakurna**	**20.34**	**195**	P	Pn	09 25 51.3	+1.9
OOD	**Oodnadatta**	**22.39**	**176**	P	**P**	**09 26 11.4**	**+2.1**
INKA	**Innaminka**	**23.19**	**165**	P	**P**	**09 26 18.6**	**+1.0**
QLP	**Quilpie**	**23.28**	**156**	P	**P**	**09 26 19.3**	**+0.7**
MULG	**Mulgathing**	**24.81**	**180**	P	**P**	**09 26 35.3**	**+2.5**
LCRK	**Leigh Creek**	**25.29**	**171**	P	**P**	**09 26 39.7**	**+2.5**
FORT	**Forrest**	**25.92**	**192**	P	**P**	**09 26 45.7**	**+2.9**
STKA	**Stephens Creek**	**27.35**	**166**	P	**P**	**09 26 55.9**	**+0.1**
	0.8nm,0.4s,baz=336,slow=10,SNR=8.9 0.8nm,0.4s						
BBOO	**Buckleboo**	**27.40**	**176**	P	**P**	**09 26 58.2**	**+2.0**
SONM	**Songino Array**	**58.24**	**338**	P	**P**	**09 31 05.5**	**+0.5**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=1.8 0.3nm,0.4s						
MKAR	**Makanchi Array**	**69.09**	**325**	P	**P**	**09 32 16.2**	**-0.3**
	1.1nm,0.8s,baz=127,slow=7.0,SNR=5.3 1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**73.24**	**327**	P	**P**	**09 32 41.6**	**+0.1**
	0.3nm,0.3s,baz=114,slow=4.4,SNR=1.9 0.3nm,0.3s						
CPUP	**Villa Florida**	**146.66**	**161**	PKPbc	**PKPbc**	**09 40 53.6**	**+0.8**
	1.9nm,0.8s,baz=224,slow=2.1,SNR=4.4						
LPAZ	**La Paz**	**149.33**	**135**	PKPbc	**PKPbc**	**09 41 02.0**	**+1.0**
	2.1nm,0.8s,baz=208,slow=1.7,SNR=7.5						

ISK 01 09:21:38.1,41.˚08N×29.˚69E,h0km,ML1.9/11,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SILT	**Sile**	**0.08**	**335**	PG	Pg	09 21 40.3	+0.7
SILT				SG	Sg	09 21 42.1	+1.5
HRT	**Hereke**	**0.26**	**183**	PG	Pg	09 21 44.3	+1.2
HRT				SG	Sg	09 21 48.6	+2.1
ISK	**Istanbul-Kandi**	**0.47**	**268**	PG	Pg	09 21 47.7	+0.5
ISK				SG	Sg	09 21 54.9	+1.6
KAVV	**Kandilli-Istan**	**0.47**	**268**	PG	Pg	09 21 47.7	+0.5
KAVV				SG	Sg	09 21 54.8	+1.5
YLV	**Yalova**	**0.57**	**205**	PG	Pg	09 21 49.9	+0.9
YLV				SG	Sg	09 21 57.9	+1.6
SAUV	**Serdivan-Sakar**	**0.59**	**125**	PG	Pg	09 21 50.1	+0.6
ARMT	**Armutlu**	**0.81**	**231**	PG	Pg	09 21 53.8	+0.2
CTKS	**Kestanelik-??a**	**0.90**	**280**	PG	Pg	09 21 55.9	+0.5
CTYL	**Yalikoy Yolu**	**1.12**	**291**	PN	Pg	09 21 59.9	+0.3
MDUB	**Mudurnu**	**1.30**	**118**	PN	Pg	09 22 03.2	+0.2
BORA	**Eskisehir**	**1.34**	**154**	PN	Pg	09 22 03.2	-0.5
YUVA	**Yuva-Kibriscik**	**1.67**	**114**	PN	Pn	09 22 08.0	-0.7

DDA 01 09:22:32.5±0.0,39.˚66N×29.˚47E,h7km±6km,ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDZ	**Kutahya, Merke**	**0.36**	**114**	P	Pg	09 22 39.5	-0.1
ANDZ				S	Sb	09 22 46.3	-0.9
ANDZ				*i* AML	AML	09 22 49.0	
	comp=E,45nm,0.4s						
ANDZ				*i* AML	AML	09 22 49.0	
	comp=N,29nm,0.3s						
AUBOZ	**BOZOYUK**	**0.50**	**59**	P	Pg	09 22 41.0	-1.2
AUBOZ				S	Sb	09 22 50.0	-1.2
AUBOZ				*i* AML	AML	09 22 52.0	
	comp=E,49nm,0.5s						
AUBOZ				*i* AML	AML	09 22 52.0	
	comp=N,46nm,0.5s						
ULDT	**Uludag**	**0.55**	**332**	P	Pg	09 22 42.8	-0.3
ULDT				S	Sg	09 22 51.1	+0.8
ULDT				*i* AML	AML	09 22 55.0	
	comp=N,29nm,0.5s						
ULDT				*i* AML	AML	09 22 57.0	
	comp=E,24nm,0.6s						
GDZ	**Gediz**	**0.57**	**179**	P	Pg	09 22 42.8	-0.7
GDZ				S	Sg	09 22 51.7	+0.8
GDZ				*i* AML	AML	09 22 54.0	
	comp=N,12nm,0.4s						
GDZ				*i* AML	AML	09 22 54.0	
	comp=E,10nm,0.2s						
DURS	**Dursunbey**	**0.77**	**266**	P	Pg	09 22 47.6	+0.3
DURS				S	Sb	09 22 59.9	+0.9
DURS				*i* AML	AML	09 23 01.0	
	comp=E,8.4nm,0.2s						
DURS				*i* AML	AML	09 23 04.0	
	comp=N,41nm,0.5s						
KURT	**Yalova, Merkez**	**0.95**	**348**	P	Pn	09 22 52.3	0.0
KURT				*i* AML	AML	09 23 10.0	
	comp=E,8.4nm,0.3s						
KURT				*i* AML	AML	09 23 12.0	
	comp=N,9.6nm,0.4s						
USAK	**Uak-Merkez**	**1.01**	**201**	P	Pb	09 22 52.6	+0.3
USAK				S	Sn	09 23 08.2	+0.7
USAK				*i* AML	AML	09 23 09.0	
	comp=E,9.2nm,1.3s						
USAK				*i* AML	AML	09 23 13.0	
	comp=N,4.4nm,0.6s						

*IDC **01** 09:22:40.6±0.8,55.˚01N×168.˚42E,h0km,mb3.8/9, mbtmp3.8/11,ML3.6/2,Error ellipse: s-maj=24.6km s-min=18.0km az=3.0*
*KRSC **01** 09:22:43.5±1.7,54.˚72N×167.˚97E,h23km±26km,ML4.0*

ISC 01 09:22:45.3±0.7,54.˚9N±0.˚1×168.˚36E±0.˚06,h35km,n40, σ1s52/49,mb4.0/10,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.41**	**284**	*e*P	**Pn**	**09 23 05.9**	**-2.5**
BKI				*e*S	**Sn**	**09 23 22.6**	**-3.1**
KBTR	**Krutoberegovo**	**3.42**	**295**	*e*P	**Pn**	**09 23 35.5**	**-0.5**
MKZ	**Mys Kozlova**	**3.86**	**268**	*e*P	**Pn**	**09 23 41.7**	**-0.3**
MKZ				*e*S	**Sn**	**09 24 21.9**	**-4.2**
SHEM	**Shemya Is, Ala**	**4.03**	**120**	Pn	**Pn**	**09 23 43.0**	**-1.4**
	17nm,0.3s,baz=274,slow=19,SNR=14						
SHEM				Sn	**Sn**	**09 24 27.6**	**-2.7**
	15nm,0.3s,baz=241,slow=19,SNR=12 42nm,0.3s						
KMNR	**Kamenistaya**	**4.72**	**284**	*e*P	**Pn**	**09 23 55.6**	**+1.6**
TUMR	**Tumrok**	**4.74**	**278**	*e*P	**Pn**	**09 23 54.7**	**+0.5**
SPN	**Mys Shipunski**	**5.23**	**253**	*e*P	**Pn**	**09 24 00.1**	**-0.8**
KII	**Karymskiy**	**5.27**	**264**	*e*P	**Pn**	**09 24 01.7**	**+0.2**
NLC	**Nalytchevo**	**5.58**	**256**	*e*P	**Pn**	**09 24 05.6**	**-0.1**
NLC				*e*S	**Sn**	**09 25 07.5**	**-1.1**
SDLR	**Sedlovina**	**5.80**	**258**	*e*P	**Pn**	**09 24 09.0**	**+0.1**
SMAR	**Somma**	**5.86**	**258**	*e*P	**Pn**	**09 24 10.0**	**+0.3**
SMAR				*e*S	**Sn**	**09 25 15.6**	**0.0**
UGLR	**Uglovaya**	**5.86**	**257**	*e*P	**Pn**	**09 24 10.1**	**+0.4**
UGLR				*e*S	**Sn**	**09 25 14.7**	**-0.9**
KRER	**Koryakskii**	**5.87**	**258**	*e*P	**Pn**	**09 24 10.4**	**+0.5**
KRER				*e*S	**Sn**	**09 25 14.3**	**-1.7**
AVH	**Avacha**	**5.89**	**258**	*e*P	**Pn**	**09 24 10.7**	**+0.6**
AVH				*e*S	**Sn**	**09 25 14.9**	**-1.4**
KRX	**Arik**	**5.91**	**259**	*e*P	**Pn**	**09 24 10.7**	**+0.3**
KOK	**Koryaka**	**5.94**	**258**	*e*P	**Pn**	**09 24 11.4**	**+0.7**
KOK				*e*S	**Sn**	**09 25 15.7**	**-1.8**
DALK	**Dalny**	**5.96**	**256**	*e*P	**Pn**	**09 24 10.6**	**-0.4**
DALK				*e*S	**Sn**	**09 25 16.7**	**-1.3**
GNL	**Ganaly**	**6.21**	**263**	*e*P	**Pn**	**09 24 15.8**	**+1.3**
GNL				*e*S	**Sn**	**09 25 23.1**	**-1.2**
RUS	**Russkaya**	**6.34**	**251**	*e*S	**Sn**	**09 25 23.8**	**-3.5**
KRMR	**Karymshinskiy**	**6.39**	**255**	*e*P	**Pn**	**09 24 17.4**	**+0.6**
KRMR				*e*S	**Sn**	**09 25 27.3**	**-1.2**
MTVR	**Mutnovka**	**6.50**	**252**	*e*P	**Pn**	**09 24 18.9**	**+0.4**
MTVR				*e*S	**Sn**	**09 25 28.9**	**-2.6**
PETK	**Petropavlovsk-**	**6.53**	**259**	Pn	**Pn**	**09 24 19.6**	**+0.8**
	1.4nm,0.3s,baz=76,slow=16,SNR=52						
PETK				Sn	**Sn**	**09 25 34.7**	**+2.7**
	0.8nm,0.3s,baz=19,slow=14,SNR=2.3 1.4nm,0.3s						
GRL	**Gorelyy**	**6.54**	**253**	*e*P	**Pn**	**09 24 19.6**	**+0.6**
ASAK	**Asacha**	**6.70**	**252**	*e*P	**Pn**	**09 24 21.9**	**+0.7**
ASAK				*e*S	**Sn**	**09 25 34.5**	**-1.8**
ILAR	**Eielson Array**	**24.04**	**48**	P	**P**	**09 27 55.3**	**-1.3**
	0.4nm,0.8s,baz=258,slow=7.8,SNR=2.7 0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.11**	**182**	T	T	10 06 27.1	
	baz=1.0,slow=76,SNR=73						
H11N3	**WAKE ISLAND Hy**	**35.12**	**182**	T	T	10 06 33.6	
	baz=1.0,slow=76,SNR=61						
H11N1	**WAKE ISLAND Hy**	**35.13**	**182**	T	T	10 06 28.6	
	baz=1.0,slow=76,SNR=76						
H11S1	**WAKE ISLAND Hy**	**36.33**	**183**	T	T	10 08 03.9	
	baz=0.6,slow=75						
H11S3	**WAKE ISLAND Hy**	**36.34**	**183**	T	T	10 08 02.3	
	baz=0.6,slow=75						
H11S2	**WAKE ISLAND Hy**	**36.35**	**183**	T	T	10 08 02.3	
	baz=0.6,slow=75						
SONM	**Songino Array**	**38.18**	**286**	P	**P**	**09 30 02.3**	**+1.1**
	0.7nm,0.6s,baz=65,slow=8.2,SNR=4.9 0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**50.93**	**305**	P	**P**	**09 31 42.4**	**-0.3**
	1.0nm,0.3s,baz=54,slow=8.0,SNR=7.6 1.0nm,0.3s						
MKAR	**Makanchi Array**	**51.67**	**299**	P	**P**	**09 31 47.8**	**-0.5**
	1.2nm,0.5s,baz=56,slow=6.4,SNR=14 1.2nm,0.5s						
BVAR	**Borovoye Array**	**52.98**	**311**	P	**P**	**09 31 58.3**	**+0.3**
	2.2nm,0.6s,baz=60,slow=7.7,SNR=12 2.2nm,0.6s						
KRVT	**Keravat (AS076**	**60.52**	**199**	P	**P**	**09 32 53.5**	**+1.7**
	27nm,0.5s,baz=8.3,slow=9.4,SNR=4.9						
NOA	**NORSAR Array B**	**63.01**	**348**	P	**P**	**09 33 08.3**	**+0.2**
	0.5nm,0.5s,baz=16,slow=6.7,SNR=2.2 0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**63.28**	**264**	P	**P**	**09 33 10.4**	**0.0**
	0.7nm,0.3s,baz=27,slow=6.2,SNR=1.3 0.7nm,0.3s						
TXAR	**Lajitas Array**	**65.44**	**74**	P	**P**	**09 33 25.2**	**+0.6**
	0.4nm,0.7s,baz=303,slow=4.5,SNR=6.0 0.4nm,0.7s						
ASAR	**Alice Springs**	**83.62**	**211**	P	**P**	**09 35 11.4**	**+1.6**
	0.3nm,0.7s,baz=350,slow=4.7,SNR=2.5 0.3nm,0.7s						

IDC 01 09:24:30.3±2.7,53.˚70N×86.˚85E,h0km,mbtmp2.8/2, ML2.3/2,Error ellipse: s-maj=23.8km s-min=14.4km az=70.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**283**	*i*		09 32 45.2	
	baz=102,slow=320,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.23**	**283**	Pg	Pg	09 24 52.3	-1.5
	0.5nm,0.3s,baz=102,slow=17,SNR=11						
ZALV				Lg	Lg	09 25 10.3	
	1.1nm,0.3s,baz=104,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**5.97**	**242**	Pn	Pn	09 26 00.9	+1.1
	baz=57,slow=14,SNR=5.8						
KURBB				Lg	Lg	09 27 41.6	
	baz=51,slow=30,SNR=4.5 1.1nm,0.8s						
MKAR	**Makanchi Array**	**7.50**	**205**	Pn	Pn	09 26 22.1	+1.2
	0.1nm,0.3s,baz=25,slow=12,SNR=4.8						
MKAR				Lg	Lg	09 28 27.6	
	0.1nm,0.3s,baz=24,slow=29,SNR=3.5 0.4nm,0.6s						

*IDC **01** 09:27:55.4±1.5,7.˚54S×146.˚28E,h0km,mb3.8/2, mbtmp3.9/4,ML0.7/1,Error ellipse: s-maj=40.9km s-min=28.4km az=119.0*

ISC 01 09:28:00.6±1.4,7.˚7S±0.˚1×146.˚4E±0.˚2,h35km,n6,σ0s71/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.85**	**155**	Pn	**Pn**	**09 28 30.5**	**+0.7**
	2.7nm,0.3s,baz=342,slow=9.6,SNR=2.1						
PMG				Sn	**Sn**	**09 28 51.1**	**-0.8**
	32nm,0.3s,baz=344,slow=20,SNR=12						
WRA	**Warramunga Arr**	**16.84**	**223**	Pn	**Pn**	**09 31 53.3**	**-0.5**
	1.8nm,0.5s,baz=44,slow=11,SNR=6.3						
WRA				Sn	Sn	09 34 47.4	-13
	0.1nm,0.3s,baz=49,slow=22,SNR=2.3						
ASAR	**Alice Springs**	**19.86**	**216**	P	**P**	**09 32 29.4**	**+0.6**
	3.8nm,0.7s,baz=45,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**22.66**	**241**	P	**P**	**09 32 59.0**	**0.0**
	2.2nm,0.8s,baz=80,slow=9.3,SNR=3.0 2.2nm,0.8s						
ILAR	**Eielson Array**	**87.30**	**23**	P	**P**	**09 40 43.4**	**-0.1**
	0.6nm,0.7s,baz=248,slow=5.8,SNR=7.1 0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**144.87**	**282**	PKP	**PKPdf**	**09 47 34.5**	**-0.5**
	0.8nm,0.6s,baz=80,slow=2.9,SNR=4.3						

IDC 01 09:44:59.6±2.9,5.˚47S×153.˚24E,h0km,mb3.1/2, mbtmp3.1/2,Error ellipse: s-maj=53.5km s-min=16.2km az=60.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.67**	**313**	Pg	Pb	09 45 31.1	-0.2
	67nm,0.3s,baz=95,slow=11,SNR=57						
KRVT				Lg	Lg	09 45 51.8	
	89nm,0.3s,baz=90,slow=20,SNR=7.0						
WRA	**Warramunga Arr**	**23.35**	**230**	P	P	09 50 09.9	0.0
	0.2nm,0.4s,baz=55,slow=10.0,SNR=7.2 0.2nm,0.4s						
ASAR	**Alice Springs**	**25.97**	**224**	P	P	09 50 34.2	-0.1
	0.2nm,0.6s,baz=62,slow=8.0,SNR=5.5 0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.93**	**287**	PKPbc	PKPbc	10 04 54.9	-0.6
	0.6nm,0.7s,baz=93,slow=1.9,SNR=3.6						

*NEIC **01** 09:50:15.9±1.3,19.˚29S±0.˚10×177.˚5W±0.˚1,h551km±8km, mb4.2/67,Error ellipse: s-maj=15.9km s-min=14.1km az=78.0*
*IDC **01** 09:50:19.7±1.1,19.˚03S×177.˚75W,h589km±12km, mb3.6/19,mbtmp4.5/22,Error ellipse: s-maj=14.3km s-min=11.1km az=147.0*

ISC 01 09:50:16.8±0.4,19.˚19S±0.˚08×177.˚50W±0.˚06,h570km, n122,σ1s76/111,mb4.2/54,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.46**	**288**	P	**P**	**09 51 45.2**	**+1.4**
	18nm,0.4s,baz=102,slow=8.7,SNR=32						
MSVF				S	**S**	**09 52 56.5**	**+1.9**
	16nm,0.8s,baz=90,slow=20,SNR=3.7						
MSVF	**Nonsavu**	**4.46**	**288**	P	**P**	**09 51 44.8**	**+1.1**
NIUE	**Niue**	**7.16**	**90**	P	**P**	**09 52 05.4**	**-1.7**
AFI	**Afiamalu**	**7.59**	**47**	P	**P**	**09 52 10.4**	**-1.0**
	70nm,0.4s,baz=250,slow=12,SNR=42						
AFI				S	**S**	**09 53 38.9**	**-6.3**
	52nm,0.5s,baz=228,slow=18,SNR=5.8						
AFI	**Afiamalu**	**7.59**	**47**	P	**P**	**09 52 10.6**	**-0.9**
PINNC	**Pines Island,**	**14.47**	**254**	P	**P**	**09 53 19.3**	**-1.4**
DZM	**Mont Dzumac**	**15.30**	**256**	P	**P**	**09 53 29.7**	**+0.7**
	14nm,1.0s,baz=59,slow=18,SNR=2.3						
RAR	**Rarotonga**	**16.76**	**100**	P	**P**	**09 53 47.9**	**+5.4**
	13nm,0.7s,baz=281,slow=16,SNR=2.4						
RAR				S	**S**	**09 56 22.7**	**-7.5**
	10.0nm,0.7s,baz=295,slow=17,SNR=1.6						
KOUNC	**Koumac, New Ca**	**17.19**	**262**	P	**P**	**09 53 48.1**	**+1.7**
URZ	**Urewera**	**19.57**	**193**	P	**P**	**09 54 07.2**	**-0.7**
	4.1nm,0.3s,baz=253,slow=1.4,SNR=13						
URZ				S	**S**	**09 57 09.3**	**-5.8**
	5.8nm,0.9s,baz=356,slow=19,SNR=1.4						
BFZ	**Birch Farm**	**22.08**	**193**	P	P	09 54 23.8	-6.6
CTA	**Charters Tower**	**34.11**	**262**	P	**P**	**09 56 15.2**	**0.0**
	12nm,0.6s,baz=104,slow=11,SNR=14 12nm,0.6s						
CTAO	**Charters Tower**	**34.11**	**262**	P	**P**	**09 56 15.2**	**0.0**
TOO	**Toolangi**	**37.05**	**233**	P	**P**	**09 56 39.6**	**+0.3**
COEN	**Coen**	**37.99**	**272**	P	**P**	**09 56 47.0**	**-0.2**
STKA	**Stephens Creek**	**38.79**	**243**	P	**P**	**09 56 54.5**	**+1.0**
	3.8nm,0.5s,baz=83,slow=11,SNR=18 3.8nm,0.5s						
STKA	**Stephens Creek**	**38.79**	**243**	P	**P**	**09 56 54.4**	**+0.9**
BBOO	**Buckleboo**	**43.56**	**242**	P	**P**	**09 57 31.0**	**-0.2**
WR0	**Warramunga Arr**	**45.07**	**261**	P	**P**	**09 57 42.0**	**-1.1**
WR0				IAmb	IAmb	09 57 43.9	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**45.23**	**261**	P	**P**	**09 57 43.8**	**-0.5**
WB0				IAmb	IAmb	09 57 43.8	
	comp=Z,6.4nm,0.8s						
WB2	**Warramunga Arr**	**45.25**	**261**	P	**P**	**09 57 43.7**	**-0.7**
WRAB	**Tennant Creek**	**45.25**	**261**	P	**P**	**09 57 43.8**	**-0.6**
WRAB				IAmb	IAmb	09 57 44.6	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**45.26**	**261**	P	**P**	**09 57 43.7**	**-0.8**
	comp=Z,3.2nm,0.5s,baz=98,slow=5.3,SNR=46						
WRA				PcP	**PcP**	**09 59 12.3**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=111,slow=2.9,SNR=6.5						
WRA				S	**S**	**10 03 35.3**	**-8.6**
	comp=Z,0.5nm,0.9s,baz=96,slow=13,SNR

OHAK IAmb IAmb 10 01 52.3
comp=Z,15nm,1.4s
YBH Yreka Blue Hor 78.98 39 P P 10 01 24.2 +1.9
comp=Z,2.1nm,0.6s,baz=225,slow=1.4,SNR=4.8
comp=Z,2.1nm,0.6s
BEKR Beckworth 79.28 41 P P 10 01 24.7 +0.8
PNTR Pine Nut 79.30 42 P P 10 01 25.1 +0.9
PNTR IAmb IAmb 10 01 26.6
comp=Z,7.3nm,0.8s
YERR Yerington 79.47 42 P P 10 01 26.0 +1.0
LHV Little Huntoon 79.52 43 P P 10 01 24.6 -0.5
NVAR Mina Array Bea 79.75 43 P P 10 01 28.2 +1.6
comp=Z,1.4nm,0.7s,baz=224,slow=8.2,SNR=15
NVAR PKKP **PKKPdf 10 19 58.1 -0.6**
comp=Z,0.4nm,0.3s,baz=208,slow=18,SNR=13
NVAR PKKPbc **PKKPbc 10 20 10.7 +1.2**
comp=Z,1.0nm,0.3s,baz=153,slow=6.6,SNR=21
comp=Z,1.4nm,0.7s
MOD Modoc Plateau 80.51 40 P P 10 01 30.9 +0.6
K05A Summer Lake 80.65 39 P P 10 01 32.6 +1.5
K05A IAmb IAmb 10 01 33.8
comp=Z,7.3nm,1.0s
O18K Koktuh Hills 80.83 11 IAmb IAmb 10 01 32.1
comp=Z,7.9nm,0.8s
PINE Pine Mountain 81.27 38 P P 10 01 35.6 +1.3
PINE IAmb IAmb 10 01 37.5
comp=Z,14nm,1.3s
PRN Pahroc Range 81.35 46 P P 10 01 36.6 +1.8
ILSW Illamna Southw 81.35 12 IAmb IAmb 10 01 34.4
comp=Z,9.0nm,0.9s
I07A Izee 82.27 38 P P 10 01 40.6 +1.3
319A Douglas 82.49 53 IAmb IAmb 10 01 45.1
comp=Z,7.1nm,1.1s
MAW Mawson 82.95 200 P P 10 01 43.5 +1.3
comp=Z,2.4nm,0.9s,baz=163,slow=14,SNR=2.2
comp=Z,2.4nm,0.9s
SUA Susitna One 83.19 13 IAmb IAmb 10 01 43.8
comp=Z,7.0nm,0.6s
G08A Pilot Rock 83.30 37 P P 10 01 46.0 +1.6
GLI Glacier Island 83.47 14 IAmb IAmb 10 01 45.2
comp=Z,8.3nm,0.7s
M22K Willow 83.58 13 IAmb IAmb 10 01 45.7
comp=Z,6.4nm,0.8s
K20K Telida 84.30 10 IAmb IAmb 10 01 49.6
comp=Z,4.3nm,0.8s
N25K Chitina, Valde 84.70 15 IAmb IAmb 10 01 51.8
comp=Z,5.5nm,0.7s
PSI Prapat 84.85 275 P P 10 01 52.3 -0.4
comp=Z,3.1nm,0.4s,baz=135,slow=5.7,SNR=2.8
comp=Z,3.1nm,0.4s
TRF Thorofare Moun 85.08 12 P P 10 01 51.9 -0.8
TRF IAmb IAmb 10 01 52.8
comp=Z,4.4nm,0.7s
RND Reindeer 85.32 13 IAmb IAmb 10 01 54.5
comp=Z,7.4nm,0.8s
TX31 Lajitas Ar. Si 85.96 57 P P 10 01 59.4 +1.7
TX32 Lajitas Array 85.96 57 IAmb IAmb 10 02 24.1
comp=Z,6.0nm,1.5s
TXAR Lajitas Array 85.96 57 P P 10 01 60.0 +2.3
comp=Z,1.5nm,0.7s,baz=217,slow=6.8,SNR=21
comp=Z,1.5nm,0.7s
M27K Edge Creek, AK 86.03 16 IAmb IAmb 10 01 58.8
comp=Z,4.8nm,1.1s
WRH Wood River Hil 86.43 12 IAmb IAmb 10 01 59.3
comp=Z,6.0nm,1.0s
HDA Harding Lake 86.61 13 IAmb IAmb 10 02 00.1
comp=Z,3.8nm,0.7s
CCB Clear Creek Bu 86.64 12 IAmb IAmb 10 01 60.0
comp=Z,4.4nm,0.6s
MDM Murphy Dome 86.83 12 IAmb IAmb 10 02 00.9
comp=Z,5.6nm,1.0s
IL31 86.94 13 IAmb IAmb 10 02 02.0
comp=Z,5.6nm,1.4s
ILAR Eielson Array 86.94 13 P P 10 02 00.7 -0.7
comp=Z,1.3nm,0.7s,baz=226,slow=4.9,SNR=13
comp=Z,1.3nm,0.7s
J25K Salcha River, 87.12 13 P P 10 02 02.1 -0.2
J25K IAmb IAmb 10 02 02.9
comp=Z,2.3nm,0.7s
J26L Joseph Creek 87.43 14 IAmb IAmb 10 02 05.2
comp=Z,8.3nm,1.5s
M30M Minto, Yukon 87.59 18 IAmb IAmb 10 02 05.3
comp=Z,2.8nm,0.8s
YHL Hebgen Lake 87.69 41 IAmb IAmb 10 02 08.7
comp=Z,4.6nm,0.9s
PDAR Pinedale Array 87.69 43 P P 10 02 06.5 +0.9
comp=Z,0.8nm,0.7s,baz=211,slow=4.0,SNR=9.1
comp=Z,0.8nm,0.7s
EGAK Eagle 88.22 15 IAmb IAmb 10 02 08.5
comp=Z,2.9nm,0.8s
CMAR Chiang Mai Arr 90.12 289 P P 10 02 18.4 +1.2
comp=Z,2.6nm,0.8s,baz=111,slow=3.1,SNR=10
comp=Z,2.6nm,0.8s
MKAR Makanchi Array 110.64 314 PKiKP PKiKP 10 07 44.0 -1.2
comp=Z,0.7nm,0.5s,baz=163,slow=0.6,SNR=9.7
ARCES ARCESS Array B 127.72 350 PKP PKPdf 10 08 17.3 +0.1
comp=Z,1.3nm,0.4s,baz=27,slow=1.2,SNR=22
FINES FINESS Array B 134.65 344 PKhKP PKPpre 10 08 27.5
comp=Z,1.0nm,0.7s,baz=31,slow=38,SNR=1.8
NOA NORSAR Array B 137.74 354 PKP PKPdf 10 08 36.8 +0.5
comp=Z,0.5nm,0.5s,baz=15,slow=4.1,SNR=1.8
AKASG Malin Array Be 142.09 332 PKhKP PKPpre 10 08 39.9
comp=Z,1.5nm,0.3s,baz=41,slow=4.3,SNR=11
BRTR Keskin Array B 146.29 314 PKPbc PKPbc 10 08 54.4 -0.2
comp=Z,3.4nm,0.7s,baz=121,slow=3.2,SNR=7.8
CLL Collm 146.89 348 ⇓ *i* PKPbc **PKPbc 10 08 55.7 +0.1**
CLL *i* PKPdf **PKPab 10 08 58.5 -0.3**
comp=Z,10.0nm,0.6s
comp=Z,5.0nm,0.7s
KHC Kasperske Hory 148.82 346 PKPbc 10 09 01.0 +0.4
GERES GERESS Array B 149.06 346 PKPbc PKPbc 10 09 01.6 +0.3
comp=Z,3.0nm,0.7s,baz=38,slow=2.4,SNR=9.5
CONA Conrad Observ 149.34 342 *eP* **PKiKP 10 09 02.5 -0.2**
comp=Z,7.5nm,0.8s
RONA Rosalia, Austr 149.42 342 *eP* **PKPbc 10 09 02.6 +0.5**
comp=Z,9.3nm,0.6s
MOA Molin 149.85 344 *eP* **PKPbc 10 09 03.2 +0.1**
comp=Z,2.4nm,0.5s
BIOA Bad Ischl, Aus 150.16 345 *eP* **PKPbc 10 09 03.6 -0.2**
comp=Z,2.2nm,0.5s
BFO Black Forest 150.55 352 PKPbc 10 09 03.9 -0.8
SOKA Soboth 150.71 342 *eP* **PKPbc 10 09 04.8 -0.5**
comp=Z,5.5nm,0.8s
KBA Koelnbreinsper 150.80 345 *i* P **PKPbc 10 09 05.0 -0.6**
comp=Z,5.0nm,0.5s,SNR=5.2
WATA Walderalm 150.96 347 *eP* **PKPbc 10 09 05.9 +0.1**
comp=Z,6.1nm,0.4s
RETA Reutte 150.98 348 *eP* **PKPbc 10 09 05.7 -0.1**
comp=Z,2.5nm,0.5s
OBKA Obir 151.00 343 *eP* **PKPbc 10 09 05.3 -0.6**
comp=Z,1.9nm,0.6s
WTTA Wattenberg 151.02 347 *eP* **PKPbc 10 09 06.2 +0.2**
comp=Z,12nm,0.5s
MOTA Moosalm 151.05 348 *eP* **PKPbc 10 09 05.8 -0.3**
comp=Z,7.4nm,0.9s
MYKA Terra Mystica 151.14 344 *eP* **PKPbc 10 09 05.4 -0.7**
comp=Z,5.9nm,0.6s
SQTA Sankt Quirin 151.15 348 *eP* **PKPbc 10 09 06.3 0.0**
comp=Z,6.3nm,0.6s
ABTA Abfaltersbach 151.31 346 *i* P **PKPbc 10 09 06.2 -0.4**
comp=Z,11nm,0.5s,SNR=11
DAVA Damuels 151.33 349 *eP* **PKiKP 10 09 07.2 +0.2**
comp=Z,4.3nm,0.6s
PRED Cave del Predi 151.33 344 PKPbc 10 09 05.4 -1.2
FETA Feichten 151.43 348 *i* P **PKPbc 10 09 07.1 +0.1**
comp=Z,4.4nm,0.6s,SNR=5.7
CIMO Cimolais 151.74 345 PKPbc 10 09 06.4 -1.1
KEST Kesra 162.45 341 PKPab PKPab 10 10 04.2 -1.6
comp=Z,1.6nm,0.4s,baz=0.0,slow=7.1,SNR=2.0
TORD Torodi Ar. Bea 173.94 173 PKP PKPdf 10 09 21.9 -0.3
comp=Z,0.6nm,1.0s,baz=198,slow=1.3,SNR=3.6
TORD PKPab **PKPab 10 10 58.5 +1.5**
comp=Z,0.3nm,0.6s,baz=184,slow=2.2,SNR=2.0

*IDC **01** 09:50:28.5± 1.3, 5.˚14S× 145.˚23E, h0km, mb3.7/5, mbtmp3.8/9, ML3.7/3, MS3.1/4, Error ellipse: s-maj=28.3km s-min=23.6km az=107.0*
ISC 01 09:50:34.7±1.0, 5.˚25S±0.˚09× 145.˚3E±0.˚1, h50km, n13, σ1§30/10, mb3.5/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.51**	**156**	Pn	**Pn**	**09 51 40.5**	**0.0**
	21nm,0.3s,baz=339,slow=8.6,SNR=12						
PMG				Sn	**Sn**	**09 52 31.1**	**-0.6**
	2.6nm,0.3s,baz=319,slow=20,SNR=1.9						
KRVT	**Keravat (AS076**	**6.74**	**82**	Pn	**Pn**	**09 52 10.8**	**-0.2**
	1.9nm,0.3s,baz=286,slow=7.4,SNR=2.7						
	14nm,0.6s						
SIJI	**Sorong**	**14.70**	**287**	LR	LR	10 01 12.0	
	comp=Z,56nm,20.2s,baz=64,slow=44						
CTA	**Charters Tower**	**14.78**	**177**	Pn	**Pn**	**09 54 01.3**	**+0.6**
	0.3nm,0.3s,baz=360,slow=15,SNR=1.4						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**18.11**	**215**	P	**P**	**09 54 41.3**	**-1.2**
	0.2nm,0.3s,baz=41,slow=12,SNR=18						
	1.6nm,0.6s						
GUMO	**Guam**	**18.72**	**359**	LR	LR	10 01 18.6	
	comp=Z,36nm,21.9s,baz=164,slow=35						
ASAR	**Alice Springs**	**21.37**	**210**	P	**P**	**09 55 16.4**	**-1.7**
	0.9nm,0.7s,baz=43,slow=7.7,SNR=14						
ASAR				LR	LR	10 04 18.0	
	comp=Z,65nm,18.8s,baz=284,slow=39						
	0.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.09**	**235**	P	**P**	**09 55 35.4**	**-1.0**
	1.1nm,0.6s,baz=52,slow=12,SNR=1.8						
	1.1nm,0.6s						
STKA	**Stephens Creek**	**26.72**	**187**	P	**P**	**09 56 11.8**	**+2.3**
	0.7nm,0.6s,baz=5.2,slow=11,SNR=3.9						
	0.7nm,0.6s						
KSRS	**Korea Array**	**45.48**	**340**	LR	LR	10 16 26.8	
	comp=Z,32nm,19.1s,baz=175,slow=34						
CMAR	**Chiang Mai Arr**	**51.43**	**298**	P	**P**	**09 59 35.9**	**+0.7**
	1.0nm,0.3s,baz=117,slow=5.7,SNR=5.3						
	1.0nm,0.3s						
ILAR	**Eielson Array**	**85.45**	**23**	P	**P**	**10 03 06.3**	**-0.4**
	0.4nm,0.6s,baz=235,slow=6.1,SNR=2.6						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**143.30**	**285**	PKhKP	PKPpre	10 10 01.1	
	0.6nm,0.7s,baz=61,slow=3.4,SNR=2.7						

IDC 01 09:52:02.0±2.4, 54.˚65N× 83.˚73E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=19.0km s-min=11.7km az=171.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**137**	*i*		09 57 32.0	
	baz=318,slow=329,SNR=1.3						
ZALV	**Zalesovo Beam**	**0.95**	**137**	Pg	Pg	09 52 20.4	+0.4
	1.2nm,0.3s,baz=319,slow=21,SNR=2.3						
ZALV				Lg	Lg	09 52 33.6	
	6.2nm,0.3s,baz=320,slow=27,SNR=15						
KURBB	**Kurchatov Arra**	**5.13**	**220**	Pn	Pn	09 53 20.5	+0.5
	baz=42,slow=15,SNR=5.1						
KURBB				Pg	Pb	09 53 35.7	+3.2
	0.1nm,0.3s,baz=38,slow=16,SNR=12						
KURBB				Lg	Lg	09 54 43.7	
	0.1nm,0.3s,baz=39,slow=31,SNR=3.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.92**	**187**	Pn	Pn	09 53 57.5	-0.8
	0.1nm,0.3s,baz=1.4,slow=12,SNR=2.2						
MKAR				Lg	Lg	09 56 13.1	
	0.1nm,0.3s,baz=3.5,slow=26,SNR=3.1						
	0.2nm,0.5s						

*NNC **01** 10:06:08.9± 1.5, 51.˚84N× 75.˚51E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=17.7km s-min=9.4km az=27.0, Suspected Mining explosion.*
*IDC **01** 10:06:14.8± 3.3, 51.˚63N× 75.˚61E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=30.1km s-min=23.0km az=77.0*
ISC 01 10:06:14.4±2.0, 51.˚7N±0.˚2× 75.˚7E±0.˚2, h0km, n8, σ1§02/8, 3C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.08**	**121**	Pn	**Pn**	**10 06 51.4**	**+0.8**
	0.6nm,0.3s,baz=304,slow=18,SNR=11						
KURBB				Lg	Lg	10 07 20.7	
	0.6nm,0.3s,baz=306,slow=33,SNR=6.9						
	1.9nm,0.3s						
KURBB	**Kurchatov Arra**	**2.08**	**121**	⇑Pg	**Pn**	**10 06 51.1**	**+0.5**
	1.9nm,0.3s,baz=301,slow=17						
KURBB				⇓Lg	Lg	10 07 19.6	
	14nm,0.5s,baz=305,slow=27						
KURK	**Kurchatov**	**2.08**	**118**	⇑Pg	**Pn**	**10 06 50.7**	**+0.2**
	3.0nm,0.6s						
KURK				⇓Lg	Lg	10 07 18.2	
	11nm,0.7s						
BVA0	**Borovoye Array**	**3.52**	**294**	Pg	**Pn**	**10 07 09.0**	**-1.3**
BVA0				⇑Lg	Lg	10 07 55.9	
	5.5nm,0.8s,baz=108,slow=24,SNR=8.1						
I46RU	**ZALESOVO INFRA**	**5.95**	**64**	*i*		10 50 00.6	
	baz=252,slow=296,SNR=0.9						
ZALV	**Zalesovo Beam**	**5.95**	**64**	Pn	**Pn**	**10 07 44.5**	**+0.8**
	0.3nm,0.3s,baz=255,slow=15,SNR=3.1						
ZALV				Lg	Lg	10 09 27.9	
	0.2nm,0.3s,baz=246,slow=28,SNR=2.6						
	1.2nm,0.5s						
MK31	**Makanchi Array**	**6.54**	**136**	⇓Sn	**Sn**	**10 09 07.1**	**-0.1**
	0.6nm,0.6s						
MK31				⇓Lg	Lg	10 09 40.9	
	2.3nm,0.6s,baz=324,slow=26,SNR=3.8						
MKAR	**Makanchi Array**	**6.54**	**136**	Pn	**Pn**	**10 07 50.5**	**-1.4**
	0.1nm,0.3s,baz=304,slow=11,SNR=3.0						
MKAR				Sn	**Sn**	**10 09 07.1**	**0.0**
	0.1nm,0.3s,baz=323,slow=22,SNR=3.1						
MKAR				Lg	Lg	10 09 38.6	
	0.2nm,0.3s,baz=308,slow=24,SNR=6.0						
	0.2nm,0.4s						

*IDC **01** 10:07:00.2± 1.2, 23.˚75N× 121.˚81E, h0km, mb3.7/7, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=69.9km s-min=19.3km az=66.0*
*NIED **01** 10:07:02.9, 23.˚97N× 122.˚43E, h22km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.42; $M_{\theta\theta}$=2.68; $M_{\phi\phi}$=3.10; $M_{r\theta}$=-5.07; $M_{\theta\phi}$=1.23; $M_{\phi r}$=1.61; Fault plane solution: M_0=6.08000×10^{14} NP1: ϕ_s=155.00000°, δ31.00000°, λ=-177.00000°. NP2: ϕ_s=62.00000°, δ88.00000°, λ=-59.00000°.*
*JMA **01** 10:07:02.9± 0.3, 24.˚N±2.˚× 122.˚4E±0.˚5, h22km±4km, MV3.5/12, NW OFF ISHIGAKIJIMA IS*
*TAP **01** 10:07:02.6, 23.˚97N× 122.˚45E, h23km, ML4.1, D*
ISC 01 10:07:00.8±1.0, 23.˚91N±0.˚02× 122.˚44E±0.˚02, h12km±7km, n116, σ0§58/202, mb3.7/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.71**	**40**	*i* P	**Pn**	**10 07 15.9**	**-0.8**
JYNG				S	**Sb**	**10 07 24.4**	**-0.5**
EHP	**Heping Village**	**0.75**	**302**	*e*S	**Sn**	**10 07 27.6**	**-1.0**
	baz=298						
YOJ	**Yonaguni jima**	**0.76**	**43**	P	**Pn**	**10 07 16.7**	**-0.6**
	baz=56						
YOJ				S	**Sb**	**10 07 26.1**	**-0.2**
	baz=56						
YOJ	**Yonaguni jima**	**0.76**	**43**	*i* P	**Pn**	**10 07 16.8**	**-0.6**
YOJ				*e*S	**Sg**	**10 07 25.4**	**-0.1**
HWA	**Hwalien**	**0.77**	**275**	*i* P	**Pn**	**10 07 17.5**	**+0.1**
	baz=257						
HWA				S	**Sn**	**10 07 28.1**	**-0.8**
	baz=257						
TEYL	**Yanliau Villag**	**0.77**	**267**	P	**Pn**	**10 07 17.4**	**-0.1**
	baz=252						
TEYL				S	**Sn**	**10 07 28.5**	**-0.5**
	baz=252						
ETL	**Fush Village**	**0.79**	**289**	P	**Pn**	**10 07 17.4**	**-0.3**
	baz=268						
ETL				S	**Sn**	**10 07 29.0**	**-0.5**
	baz=268						
TWD	**Chiawan**	**0.79**	**283**	*i* P	**Pn**	**10 07 17.2**	**-0.5**
	baz=264						
TWD				*i* S	**Sb**	**10 07 28.1**	**+1.0**
	baz=264						
EWUT	**Wuta**	**0.81**	**312**	*i* P	**Pb**	**10 07 16.4**	**-0.4**
	baz=308						
EWUT				*i* S	**Sb**	**10 07 27.5**	**-0.1**
	baz=308						
NACB	**Ninganchiao**	**0.82**	**289**	P	**Pn**	**10 07 17.6**	**-0.5**
	baz=269						
NACB				S	**Sb**	**10 07 28.8**	**+0.9**
	baz=269						
ENA	**Nanau**	**0.82**	**309**	*i* P	**Pn**	**10 07 17.6**	**-0.6**
	baz=305						
ENA				*i* S	**Sn**	**10 07 29.3**	**-1.0**
	baz=305						
TEGC	**Jichi Village**	**0.85**	**257**	P	**Pn**	**10 07 18.0**	**-0.5**
	baz=252						
TEGC				S	**Sn**	**10 07 30.5**	**-0.3**
	baz=252						
ETM	**Tongmen**	**0.87**	**274**	P	**Pn**	**10 07 18.5**	**-0.3**
	baz=259						
ETM				S	**Sb**	**10 07 30.2**	**+0.8**
	baz=259						
TWC	**Suao**	**0.88**	**323**	*i* P	**Pb**	**10 07 18.2**	**+0.2**
	baz=320						
TWC				*i* S	**Sb**	**10 07 29.3**	**-0.5**
	baz=320						
ETLH	**Xiulin Townshi**	**0.93**	**289**	P	**Pn**	**10 07 19.6**	**-0.1**
	baz=272						
ETLH				S	**Sn**	**10 07 32.3**	**-0.7**
	baz=272						
ESL	**Shilin**	**0.93**	**265**	*i* P	**Pb**	**10 07 19.0**	**+0.2**
	baz=260						
ESL				S	**Sb**	**10 07 31.6**	**+0.6**
	baz=260						
EGFH	**Guangfu**	**0.96**	**256**	*i* P	**Pn**	**10 07 20.3**	**+0.3**
	baz=251						
EGFH				*i* S	**Sn**	**10 07 33.1**	**-0.4**
	baz=251						
NDS	**Dongshan**	**0.98**	**318**	*i* P	**Pg**	**10 07 19.4**	**-0.3**
	baz=315						
NDS				*i* S	**Sb**	**10 07 33.0**	**+0.3**
	baz=315						
HGSD	**Ruisui**	**1.02**	**246**	P	**Pn**	**10 07 20.8**	**-0.1**
	baz=242						
HGSD				S	**Sg**	**10 07 33.3**	**-0.4**
	baz=242						
LATG	**Datong**	**1.04**	**307**	P	**Pn**	**10 07 21.4**	**0.0**
	baz=303						
LATG				S	**Sn**	**10 07 36.1**	**+0.2**
	baz=303						
EGS		**1.04**	**334**	*i* P	**Pn**	**10 07 21.5**	**+0.3**
	baz=322						
EGS				*i* S	**Sn**	**10 07 36.0**	**+0.3**
	baz=322						
ILA	**Ilan**	**1.06**	**324**	*i* P	**Pn**	**10 07 21.9**	**+0.4**
	baz=321						
ILA				S	**Sn**	**10 07 35.9**	**-0.3**
	baz=321						
TWE	**Neicheng**	**1.07**	**319**	*i* P	**Pn**	**10 07 22.1**	**+0.4**
	baz=317						
ECBN	**Changbin**	**1.08**	**237**	P	**Pb**	**10 07 21.5**	**+0.1**
	baz=234						
ECBN				S	**Sb**	**10 07 35.1**	**-0.4**
	baz=234						
ENTT	**Nioudou**	**1.08**	**313**	*i* P	**Pb**	**10 07 21.2**	**-0.2**
	baz=294						
ENTT				S	**Sn**	**10 07 36.6**	**-0.1**
	baz=294						
NDT	**Datong Townshi**	**1.09**	**310**	P	**Pn**	**10 07 22.7**	**+0.7**
	baz=306						
NDT				S	**Sn**	**10 07 37.2**	**+0.2**
	baz=306						
NNSB	**Datong**	**1.10**	**299**	P	**Pn**	**10 07 22.3**	**+0.2**
	baz=283						
NNSH	**Datong**	**1.10**	**299**	*i* P	**Pn**	**10 07 22.3**	**+0.3**
	baz=283						
NTC	**Toucheng**	**1.10**	**330**	*i* P	**Pn**	**10 07 22.3**	**+0.4**
	baz=327						
NTC				S	**Sn**	**10 07 37.0**	**0.0**
	baz=327						
EHY	**Hungye**	**1.10**	**249**	*i* P	**Pn**	**10 07 22.2**	**+0.2**
	baz=245						
EHY				*i* S	**Sn**	**10 07 36.9**	**-0.2**
	baz=245						
WHF	**Hehuan Shan**	**1.10**	**283**	*i* P	**Pn**	**10 07 22.3**	**-0.1**
	baz=266						
WHF				*i* S	**Sb**	**10 07 37.0**	**+0.5**
	baz=266						
NNS	**Nan Shan**	**1.11**	**299**	*i* P	**Pb**	**10 07 21.5**	**-0.5**
	baz=283						
FUSS	**Fushou**	**1.14**	**288**	*i* P	**Pn**	**10 07 23.1**	**+0.2**
	baz=283						
FUSS				*i* S	**Sn**	**10 07 39.0**	**+0.4**
	baz=283						
FUSB	**Fushanzhiwuyua**	**1.15**	**318**	P	**Pg**	**10 07 23.6**	**+0.6**
	baz=315						
FUSB				S	**Sn**	**10 07 39.4**	**+0.8**
	baz=315						
OWD	**Renai**	**1.16**	**273**	*i* P	**Pg**	**10 07 23.2**	**+0.1**
	baz=268						
OWD				*i* S	**Sg**	**10 07 38.1**	**-0.1**
	baz=268						
YULB	**Yu-li**	**1.17**	**244**	P	**Pg**	**10 07 23.5**	**+0.2**
	baz=240						
YULB				S	**Sn**	**10 07 38.9**	**+0.1**
	baz=240						
CHGB	**Renai**	**1.17**	**278**	P	**Pg**	**10 07 23.4**	**+0.1**
	baz=262						
CHGB				S	**Sn**	**10 07 39.2**	**0.0**
	baz=262						
EYUL	**Yuli**	**1.17**	**242**	*i* P	**Pg**	**10 07 23.9**	**+0.6**
	baz=238						
EYUL				S	**Sn**	**10 07 39.0**	**+0.2**
	baz=238						
TWB1	**Santiao Chiao**	**1.17**	**340**	*i* P	**Pg**	**10 07 23.0**	**-0.4**
	baz=356						
TWB1				S	**Sn**	**10 07 39.5**	**+0.6**
	baz=356						
TWF1	**Yuli**	**1.18**	**242**	*i* P	**Pg**	**10 07 23.8**	**+0.2**
	baz=239						
TWF1				S	**Sn**	**10 07 39.4**	**+0.2**
	baz=239						
TIPB	**Shuangxi**	**1.20**	**332**	*i* P	**Pg**	**10 07 23.8**	**-0.1**
	baz=331						
TIPB				*i* S	**Sn**	**10 07 39.3**	**-0.4**
	baz=331						
TWT	**Tachien**	**1.21**	**287**	*i* P	**Pg**	**10 07 24.6**	**+0.6**
	baz=271						
TWT				S	**Sn**	**10 07 41.0**	**+1.0**
	baz=271						
WUSB	**Renai**	**1.21**	**274**	P	**Pg**	**10 07 24.1**	**0.0**
	baz=270						
WUSB				S	**Sn**	**10 07 40.0**	**-0.1**
	baz=270						
TDCB	**Techi**	**1.22**	**287**	P	**Pg**	**10 07 24.4**	**0.0**
	baz=271						
TDCB				S	**Sn**	**10 07 40.7**	**+0.4**
	baz=271						
YHNB	**Yeheng**	**1.23**	**308**	P	**Pg**	**10 07 24.4**	**-0.2**
	baz=305						
YHNB				S	**Sn**	**10 07 41.1**	**+0.6**
	baz=305						
NSK	**Sanguang**	**1.25**	**308**	*i* P	**Pn**	**10 07 23.7**	**-0.5**
	baz=305						
NSK				*i* S	**Sb**	**10 07 40.0**	**-0.5**
	baz=305						
IRIF	**Iriomote-Funau**	**1.25**	**70**	P	**Pg**	**10 07 25.2**	**+0.3**
IRIF				S	**Sg**	**10 07 41.4**	**+0.1**
HATJ	**Hateruma jima**	**1.26**	**83**	P	**Pg**	**10 07 25.5**	**+0.5**
HATJ				S	**Sg**	**10 07 42.4**	**+1.0**
FULB	**Fuli**	**1.27**	**236**	*i* P	**Pb**	**10 07 24.5**	**-0.1**
	baz=221						
FULB				*e*S	**Sb**	**10 07 40.9**	**+0.1**
	baz=221						
SXI1	**Grass Mountain**	**1.29**	**337**	P	**Pb**	**10 07 24.9**	**-0.2**
	baz=335						
SXI1				S	**Sg**	**10 07 42.9**	**+0.5**
	baz=335						
NWF	**Wu-fen Shan**	**1.31**	**333**	*i* P	**Pb**	**10 07 25.3**	**-0.1**
	baz=331						
NWF				*i* S	**Sg**	**10 07 43.5**	**+0.6**
	baz=331						
WFSB	**Wu-fen Shan**	**1.31**	**333**	P	**Pg**	**10 07 25.3**	**-0.6**
	baz=331						
WFSB				S	**Sg**	**10 07 43.5**	**+0.6**
	baz=331						
TWA	**Mucha**	**1.32**	**324**	*i* P	**Pg**	**10 07 26.6**	**+0.4**
	baz=322						
TWA				*i* S	**Sg**	**10 07 44.2**	**+0.7**
	baz=322						
NHDH	**Xindian Distri**	**1.34**	**322**	*i* P	**Pg**	**10 07 26.5**	**-0.1**
	baz=320						
NHDH				S	**Sg**	**10 07 44.4**	**+0.3**
	baz=320						
SSLB	**Suanglung**	**1.36**	**265**	P	**Pb**	**10 07 26.2**	**-0.1**
	baz=261						
SSLB				*e*S	**Sg**	**10 07 44.7**	**-0.1**
	baz=261						
TATO	**Taipei**	**1.37**	**321**	P	**Pg**	**10 07 27.4**	**+0.2**
	baz=301						
TATO				S	**Sg**	**10 07 45.1**	**0.0**
	baz=301						
TNOU	**National Taiwa**	**1.38**	**334**	P	**Pb**	**10 07 26.1**	**-0.4**
	baz=333						
TNOU				S	**Sg**	**10 07 45.8**	**+0.5**

baz=333
EDH Donghe 1.40 229 *i* P **Pn 10 07 26.0 0.0**
baz=216
EDH *i* S **Sn 10 07 43.3 -1.1**
baz=216
WCS Beigang Elemen 1.41 276 *i* P **Pn 10 07 26.2 0.0**
baz=264
WCS S **Sn 10 07 44.7 0.0**
baz=264
NFF Wufeng Townshi 1.41 301 P **Pn 10 07 26.4 +0.1**
baz=298
SMLT Sun Moon Lake 1.41 269 *i* P **Pb 10 07 27.3 +0.2**
baz=265
SMLT S **Sb 10 07 45.4 +0.3**
baz=265
TAP Taipei 1.41 323 P **Pg 10 07 28.7 +0.7**
baz=321
TAP S **Sg 10 07 46.3 0.0**
baz=321
YUS Yu-Shan 1.43 253 *i* P **Pb 10 07 27.8 +0.2**
baz=250
YUS S **Sn 10 07 45.1 -0.8**
baz=250
TYC Yuchr 1.45 270 *i* P **Pb 10 07 27.8 +0.1**
baz=266
TYC S **Sb 10 07 46.5 +0.5**
baz=266
WHYT Xinyi Township 1.47 262 *i* P **Pg 10 07 28.5 -0.5**
baz=259
YM01 YM01 1.47 328 *i* P **Pb 10 07 27.9 -0.1**
baz=325
JKRS Kuro-shima 1.47 77 P **Pg 10 07 28.6 -0.5**
JKRS S **Sg 10 07 48.2 0.0**
ELDTW Lidau 1.49 242 *i* P **Pn 10 07 27.9 +0.5**
baz=238
LIOB Emei 1.49 300 *i* P **Pg 10 07 29.4 -0.1**
baz=297
LIOB S **Sg 10 07 48.9 -0.1**
baz=297
NSTT Nanjuang 1.50 299 *i* P **Pg 10 07 29.1 -0.4**
baz=296
TWS1 Kuangyinshan 1.51 322 *i* P **Pb 10 07 28.9 +0.1**
baz=337
LDUT Ludao 1.52 216 *i* P **Pn 10 07 27.6 -0.2**
baz=214
LDUT *i* S **Sn 10 07 45.4 -2.0**
baz=214
ANP Anpu 1.52 327 *i* P **Pb 10 07 29.2 +0.1**
baz=325
NTST Danshui 1.54 324 *i* P **Pb 10 07 29.5 +0.2**
baz=338
ALS Alishan 1.55 256 *i* P **Pb 10 07 29.9 +0.3**
baz=252
ALS S **Sn 10 07 49.0 +0.3**
baz=252
NCU National Centr 1.56 313 *i* P **Pn 10 07 28.3 0.0**
baz=310
NCUH Zhongli 1.56 313 *i* P **Pb 10 07 29.5 0.0**
baz=310
LONT Longtian 1.56 231 *i* P **Pn 10 07 28.8 +0.4**
baz=228
TWY Chenhua 1.56 331 *i* P **Pg 10 07 30.2 -0.7**
baz=329
WJS Zhushan 1.57 267 *i* P **Pg 10 07 30.8 -0.2**
baz=264
WJS *i* S **Sg 10 07 50.9 -0.4**
baz=264
TWQ1 Liyutan 1.58 286 *i* P **Pg 10 07 30.8 -0.4**
baz=283
TWQ1 S **Sg 10 07 51.7 -0.2**
baz=283
SBCB Hsinchu 1.59 304 P **Pb 10 07 30.5 +0.3**
baz=301
WNT Mingjian 1.61 269 *i* P **Pg 10 07 31.4 -0.3**
baz=265
WNT *i* S **Sg 10 07 52.0 -0.6**
baz=265
HSN Hsinchu 1.61 304 P **Pg 10 07 31.3 -0.5**
baz=302
HSN S **Sg 10 07 52.1 -0.5**
baz=302
NSY Sanyi 1.61 289 *i* P **Pg 10 07 31.4 -0.4**
baz=285
NSY S **Sg 10 07 53.0 +0.2**
baz=285
JIJ Ishigaki jima 1.62 73 P **Pb 10 07 30.1 -0.6**
JIJ S **Sn 10 07 50.0 0.0**
TCU Taichung 1.63 279 *i* P **Pg 10 07 31.9 -0.2**
baz=275
TCU *i* S **Sg 10 07 53.4 +0.1**
baz=275
NMLH Miaoli 1.63 293 *i* P **Pg 10 07 31.5 -0.6**
baz=289
NMLH S **Sg 10 07 52.8 -0.5**
baz=289
CHN5 Tsauling 1.64 260 *i* P **Pb 10 07 30.6 -0.5**
baz=245
CHN5 *i* S **Sb 10 07 52.2 +0.4**
baz=245
TTN Taitung 1.65 226 S **Sn 10 07 50.6 -0.1**
baz=223
TWGBT Beinan 1.65 229 P **Pn 10 07 30.3 +0.6**
baz=239
TWGBT S **Sn 10 07 50.2 -0.6**
baz=239
STYH Taoyuan 1.69 245 *i* P **Pn 10 07 30.8 +0.6**
baz=232
STYH S **Sb 10 07 52.6 -0.5**
baz=232
WDJ Dajia District 1.70 285 *i* P **Pb 10 07 32.6 +0.6**
baz=282
WDJ *i* S **Sg 10 07 55.5 -0.1**
baz=282
WCHH Zhanghua 1.73 276 *i* P **Pg 10 07 33.2 -0.8**
baz=272
WCHH *i* S **Sg 10 07 56.8 +0.3**
baz=272
WCKO Fanlu 1.75 255 P **Pb 10 07 32.9 +0.1**
baz=251
WCKO S **Sb 10 07 54.8 +0.2**
baz=251
PCYT Pengchaiyu 1.75 349 *i* P **Pn 10 07 31.5 +0.6**
baz=348
WDLH Douliu 1.75 263 *i* P **Pb 10 07 33.3 +0.4**
baz=260
WDLH *i* S **Sg 10 07 56.5 -0.7**
baz=260
TPUB Ta-pu 1.77 250 P **Pb 10 07 33.3 +0.2**
baz=236
TPUB S **Sg 10 07 56.6 -1.1**
baz=236
CHN4 Tsaushan 1.78 252 *i* P **Pb 10 07 33.0 -0.4**
baz=249
CHN4 *i* S **Sb 10 07 56.3 +0.6**
baz=249
WTP Ta-pu 1.80 249 *i* P **Pb 10 07 34.0 +0.3**
baz=235
WTP *i* S **Sb 10 07 57.1 +0.9**
baz=235
CHN2 Minshiung 1.84 259 *i* P **Pg 10 07 35.8 -0.3**
baz=255
CHN2 *i* S **Sg 10 07 59.6 -0.3**
baz=255
WRL Guolierlin Hig 1.89 270 *i* P **Pb 10 07 34.1 -1.1**
baz=267
WRL *i* S **Sb 10 07 58.3 -0.4**
baz=267
CHY Chiayi 1.89 258 *i* P **Pb 10 07 35.7 +0.5**
baz=254
CHY *i* S **Sb 10 08 00.2 +1.4**
baz=254
WTK Tuku 1.89 264 *i* P **Pb 10 07 36.1 +0.8**
baz=260
WTK *i* S **Sg 10 08 01.0 -0.6**
baz=260
TWK Hsinying 1.90 251 *i* P **Pb 10 07 35.6 +0.2**
baz=247
TWK *i* S **Sb 10 07 59.8 +0.6**
baz=247
JTJ Tarama 2.19 70 P **Pn 10 07 38.2 +1.2**
JMJ2 Miyako jima3 2.76 72 P **Pb 10 07 47.5 -2.6**
JMJ2 *e*S **Sn 10 08 19.2 +1.0**
JOGS Gusukube 2.84 72 P **Pn 10 07 48.4 +2.5**
KSRS Korea Array 14.30 18 Pn **P 10 10 29.5 -0.8**
0.3nm,0.3s,baz=198,slow=11,SNR=7.6
1.8nm,0.7s
SONM Songjino Array 27.08 336 P **P 10 12 43.3 -0.1**
1.2nm,0.7s,baz=146,slow=10,SNR=5.1
1.2nm,0.7s
MKAR Makanchi Array 39.34 316 P **P 10 14 29.5 -0.4**
0.8nm,0.4s,baz=100,slow=9.5,SNR=7.8
0.8nm,0.4s
ZALV Zalesovo Beam 41.10 327 P **P 10 14 43.2 -1.2**
1.3nm,0.4s,baz=108,slow=8.2,SNR=4.7
1.3nm,0.4s
KURBB Kurchatov Arra 43.06 320 P **P 10 14 59.6 -0.7**
0.5nm,0.5s,baz=111,slow=11,SNR=3.8
0.5nm,0.5s
WRA Warramunga Arr 45.10 164 P **P 10 15 18.1 +1.1**
0.4nm,0.8s,baz=346,slow=8.8,SNR=3.4
0.4nm,0.8s
ASAR Alice Springs 48.58 166 P **P 10 15 45.6 +1.4**
0.4nm,0.8s,baz=344,slow=7.0,SNR=6.3
0.4nm,0.8s
BVAR Borovoye Array 48.62 321 P **P 10 15 43.8 -0.4**
0.6nm,0.5s,baz=110,slow=8.5,SNR=4.3
0.6nm,0.5s

*IDC **01** 10:14:11.5±0.4,22.°01S×175.°75W,h0km,mb4.9/25, mbtmp4.9/27,ML5.2/2,MS4.1/44,Error ellipse: s-maj=15.0km s-min=12.8km az=147.0*
*NEIC **01** 10:14:12.9±2.0,22.°03S±0.°07×175.°53W±0.°08,h10km±1km, mb5.2/239,Error ellipse: s-maj=14.5km s-min=11.1km az=127.0*
*BJI **01** 10:14:12.4±0.0,22.°21S×175.°66W,h15km,mb5.0/26, mB5.3/13,Ms4.9/3,Ms7 4.7/4*
*MOS **01** 10:14:16.1±1.3,21.°95S×175.°76W,h40km,mb5.3/24, Error ellipse: s-maj=10.9km s-min=10.0km az=152.7*
*GCMT **01** 10:14:19.9±0.2,22.°36S±0.°01×175.°05W±0.°01,h12km, MW5.3/115,Moment Tensor Solution. s71,c92; s115,c162; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.09±.01; $M_{\theta\theta}$0.05±.01; $M_{\phi\phi}$-0.14±.01; $M_{r\theta}$-0.76±.02; $M_{r\phi}$-0.07±.01; $M_{\theta\phi}$-1.03±.02; Best double couple: M_o1.28400×10^{17} NP1:ϕ_s216.00000°,δ87.00000°, λ93.00000°. NP2:ϕ_s345.00000°,δ4.00000°,λ39.00000°. Principal axes: T 1.2610, Plg48.0000°, Azm130.0000°; N 0.0460, Plg3.0000°, Azm36.0000°; P -1.3080, Plg42.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 10:14:12.4±0.2,22.°04S±0.°05×175.°54W±0.°05,h10km, n749,σ1$42/664,mb5.2/163,MS4.3/50,67C-9D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NIUE	**Niue**	**6.03**	**62**	P		**Pn**	**10 15 41.5**	**-0.2**
	baz=5.8,SNR=50							
NIUE	**Niue**	**6.03**	**62**	Pn		**Pn**	**10 15 41.3**	**-0.3**
NIUE				Sn		**Sn**	**10 16 41.9**	**-8.8**
RIZ	**Raoul Island**	**7.49**	**196**	P		**Pn**	**10 16 04.0**	**+2.2**
RIZ				S		**Sn**	**10 17 26.2**	**-0.6**
RAO	**Raoul Island**	**7.50**	**196**	Pn		Pn	10 15 56.5	-5.3
	129nm,0.3s,baz=92,slow=18,SNR=4.4							
RAO				Sn		**Sn**	**10 17 25.6**	**-1.3**
	206nm,0.3s,baz=69,slow=21,SNR=3.6							
RAO	**Raoul Island**	**7.50**	**196**	Pn		**Pn**	**10 16 00.8**	**-1.0**
RAO	**Raoul Island**	**7.50**	**196**	P		**Pn**	**10 16 00.8**	**-1.0**
GLKZ	**Green Lake**	**7.51**	**196**	P		**Pn**	**10 16 04.4**	**+2.5**
GLKZ				S		**Sn**	**10 17 23.7**	**-3.4**
AFI	**Afiamalu**	**8.84**	**24**	Pn		**Pn**	**10 16 20.3**	**-0.1**
	34nm,0.3s,baz=205,slow=5.8,SNR=54							
AFI				Sn		**Sn**	**10 17 52.5**	**-7.7**
	59nm,0.3s,baz=203,slow=21,SNR=4.3							
AFI				LR		LR	10 18 27.1	
	comp=Z,170nm,21.0s,baz=200,slow=29 92nm,0.3s							
RAR	**Rarotonga**	**14.68**	**90**	Pn		**Pn**	**10 17 39.8**	**-0.5**
	4.5nm,0.3s,baz=256,slow=10.0,SNR=22							
RAR				Sn		Sn	10 20 06.9	-16
	9.2nm,0.3s,baz=99,slow=24,SNR=4.1							
RAR				LR		LR	10 22 07.2	
	comp=Z,635nm,21.9s,baz=289,slow=32							
MARNC	**Mare, Loyalty**	**15.28**	**269**	Pn		**Pn**	**10 17 48.4**	**+0.1**
PINNC	**Pines Island,**	**15.76**	**265**	Pn		**Pn**	**10 17 54.7**	**+0.2**
LIFNC	**LIFOU**	**16.09**	**271**	Pn		**Pn**	**10 17 54.7**	**-4.1**
LIFNC				IAmb		IAmb	10 18 05.9	
	comp=Z,237nm,1.1s							
OUZ	**Omahuta**	**16.21**	**214**	Pn		**Pn**	**10 18 00.1**	**-0.2**
OUZ	**Omahuta**	**16.21**	**214**	P		**P**	**10 18 04.2**	**+0.8**
OUENC	**Ouen Island, N**	**16.32**	**265**	Pn		**Pn**	**10 18 02.1**	**+0.3**
MXZ	**Matakaoa Point**	**16.36**	**198**	P		**P**	**10 18 04.6**	**-0.4**
WCZ	**Waipu Caves**	**16.42**	**210**	P		**P**	**10 18 05.5**	**-0.3**
KUZ	**Kuaotunu**	**16.50**	**205**	P		**Pn**	**10 18 04.2**	**+0.2**
WMGZ	**Waiomatatini S**	**16.57**	**197**	P		**Pn**	**10 18 02.5**	**-2.3**
HAZ	**Te Kaha**	**16.69**	**199**	P		**Pn**	**10 18 03.0**	**-3.4**
DZM	**Mont Dzumac**	**16.71**	**267**	*e*LR		LR	10 21 57.5	
	comp=Z,2μm,24.6s							
DZM	**Mont Dzumac**	**16.71**	**267**	Pn		**P**	**10 18 14.0**	**+4.9**
	comp=Z,1.5nm,0.3s,baz=84,slow=16,SNR=16							
PKGZ	**Pakihiroa**	**16.73**	**198**	P		**Pn**	**10 18 01.7**	**-5.2**
PUZ	**Puketiti**	**16.85**	**197**	P		**Pn**	**10 18 05.9**	**-2.5**
RUGZ	**Raukumara Rang**	**16.92**	**199**	P		**Pn**	**10 18 06.3**	**-3.0**
URZ	**Urewera**	**17.36**	**200**	P		**Pn**	**10 18 13.2**	**-1.6**
	comp=Z,5.4nm,0.3s,baz=78,slow=0.9,SNR=28							
URZ				S		Sn	10 21 09.8	-18
	comp=Z,5.6nm,0.5s,baz=216,slow=19,SNR=1.4							
	2.25nm,0.6s							
URZ	**Urewera**	**17.36**	**200**			**Pn**	**10 18 15.2**	**+0.5**
OMRZ	**Omania**	**17.46**	**202**	P		**P**	**10 18 18.3**	**+1.0**
RIGZ	**Rimuhau**	**17.58**	**198**	P		**Pn**	**10 18 18.4**	**+0.9**
RIGZ				S		Sn	10 21 18.7	-15
PRGZ	**Paritu Road**	**17.75**	**197**	P		**P**	**10 18 20.8**	**+0.3**
PRGZ				S		Sn	10 21 19.0	-19
SNGZ	**Shannon Statio**	**17.77**	**199**	P		**Pn**	**10 18 16.2**	**-3.7**
SNGZ				S		Sn	10 21 17.7	-20
TLZ	**Tolley Road**	**17.96**	**203**	P		**P**	**10 18 23.2**	**+0.4**
MTHZ	**Maungataniwha**	**17.99**	**200**	P		**Pn**	**10 18 19.7**	**-2.9**
MTHZ				S		Sn	10 21 27.4	-16
MRHZ	**Matea Rd**	**18.11**	**201**	P		**Pn**	**10 18 21.6**	**-2.5**
HIZ	**Hauiti**	**18.38**	**205**	P		**Pn**	**10 18 27.6**	**+0.3**
ETVZ	**East Tongariro**	**18.61**	**202**	P		**P**	**10 18 25.7**	**-4.4**
ETVZ				S		Sn	10 21 44.5	-14
BHHZ	**Black Hill Sta**	**18.82**	**201**	P		**P**	**10 18 28.5**	**-3.8**
BHHZ				S		Sn	10 21 45.6	-18
KAHZ	**Kahuranaki**	**18.84**	**198**	P		**P**	**10 18 30.1**	**-2.4**
KAHZ				S		Sn	10 21 43.9	-20
KRHZ	**Kereru**	**18.86**	**200**	P		**P**	**10 18 29.5**	**-3.2**
KRHZ				S		Sn	10 21 40.9	-23
KOUNC	**Koumac, New Ca**	**18.86**	**271**	P		**P**	**10 18 33.5**	**+0.7**
PKVZ	**Pokaka**	**18.88**	**202**	P		**P**	**10 18 28.7**	**-4.2**
BFZ	**Birch Farm**	**19.85**	**199**	P		**P**	**10 18 41.0**	**-2.5**
PLWZ	**Palliser**	**20.96**	**200**	P		**P**	**10 18 54.9**	**-0.7**
TUWZ	**Tuamarina**	**21.27**	**202**	P		**P**	**10 18 55.5**	**-3.3**
QRZ	**Quartz Range**	**21.28**	**206**	P		**P**	**10 18 56.5**	**-2.4**
OXZ	**Oxford**	**23.61**	**203**	P		**P**	**10 19 22.3**	**-1.2**
OXZ				IAmb		IAmb	10 19 30.9	
	comp=Z,55nm,0.6s							
TBI	**Tubuai**	**24.08**	**98**	*e*P		**P**	**10 19 30.3**	**+2.1**
	comp=Z,364nm,31.8s							
TBI				*e*LR		LR	10 25 24.8	
	comp=Z,3μm,28.5s							
TBI	**Tubuai**	**24.08**	**98**	*e*T		T	10 44 02.6	
	comp=Z,35nm,0.2s							
RPZ	**Rata Peaks**	**24.31**	**204**	P		**P**	**10 19 28.7**	**-1.4**
	comp=Z,11nm,0.5s,baz=311,slow=2.7,SNR=8.8							
RPZ				LR		LR	10 28 54.0	
	comp=Z,761nm,21.8s,baz=30,slow=36 comp=Z,11nm,0.5s							
RPZ	**Rata Peaks**	**24.31**	**204**	P		**P**	**10 19 29.0**	**-1.1**
LHI	**Lord Howe Isla**	**24.52**	**242**	P		**P**	**10 19 33.3**	**+1.3**
	baz=25,SNR=7.7							
FOZ	**Fox Glacier**	**24.64**	**206**	P		**P**	**10 19 32.9**	**-0.2**
FOZ				IAmb		IAmb	10 19 38.6	
	comp=Z,63nm,0.9s							
PAE	**Paea**	**24.79**	**85**	*e*T		T	10 44 48.5	
	comp=Z,103nm,0.3s							
PPT2	**Papeete2**	**24.81**	**84**	*e*P		**P**	**10 19 37.4**	**+2.5**
	comp=Z,301nm,30.2s							
PPT2				*e*LR		LR	10 25 45.3	
	comp=Z,1μm,24.2s							
PPT2	**Papeete2**	**24.81**	**84**	*e*T		T	10 44 51.3	
	comp=Z,78nm,0.2s							
PPT	**Papeete**	**24.81**	**84**	LR		LR	10 26 45.9	
	comp=Z,367nm,21.0s,baz=262,slow=30							
TIAR	**Tiarei**	**25.03**	**84**	*e*T		T	10 44 57.3	
	comp=Z,7.5nm,0.2s							
ODZ	**Otahua Downs**	**25.60**	**203**	P		**P**	**10 19 41.8**	**0.0**
MEH	**Mehetia**	**26.13**	**86**	*e*T		T	10 46 31.4	
	comp=Z,133nm,0.3s							
HNR	**Honiara**	**26.67**	**294**	LR		LR	10 29 44.3	
	comp=Z,220nm,19.3s,baz=143,slow=35							
VAH	**Vaihoa**	**27.27**	**80**	*e*T		T	10 48 08.7	
	comp=Z,12nm,0.2s							
WHZ	**Wether Hill Ro**	**27.34**	**206**	P		**P**	**10 19 56.7**	**-0.8**
WHZ				IAmb		IAmb	10 20 04.0	
	comp=Z,35nm,0.8s							
ARMA	**Armidale**	**30.53**	**247**	P		**P**	**10 20 27.3**	**+1.1**
	baz=31,SNR=11							
ARMA	**Armidale**	**30.53**	**247**	P		**P**	**10 20 26.8**	**+0.6**
EIDS	**Eidsvold**	**30.70**	**257**	P		**P**	**10 20 28.2**	**+0.6**
	baz=31,SNR=8.0							
EIDS	**Eidsvold**	**30.70**	**257**	P		**P**	**10 20 28.0**	**+0.4**
RMQ	**Roma**	**32.78**	**255**	P		**P**	**10 20 47.2**	**+1.3**
	baz=33,SNR=19							
CNB	**Canberra Magne**	**33.33**	**239**	P		**P**	**10 20 52.0**	**+1.2**
	baz=34,SNR=9.3							
CAN	**Canberra**	**33.62**	**239**	P		**P**	**10 20 53.3**	**0.0**
CAN				IAmb		IAmb	10 22 08.8	
	comp=Z,80nm,2.0s							
CAN	**Canberra**	**33.62**	**239**	P		**P**	**10 20 53.3**	**0.0**
CAN				pmax		pmax		
	comp=Z,80nm,2.0s							
MILA	**Mila**	**33.95**	**236**	P		**P**	**10 20 56.1**	**+0.1**
	baz=34,SNR=6.2							
CTA	**Charters Tower**	**35.65**	**266**	P		**P**	**10 21 11.3**	**+0.5**
	comp=Z,66nm,0.7s,baz=97,slow=9.5,SNR=90 comp=Z,66nm,0.7s							
CTAO	**Charters Tower**	**35.65**	**266**	P		**P**	**10 21 11.4**	**+0.5**
CTAO	**Charters Tower**	**35.65**	**266**	P		**P**	**10 21 11.4**	**+0.5**
CTAO				pmax		pmax		
	comp=Z,63nm,0.7s							
CMSA	**Cobar Meteorol**	**35.73**	**246**	P		**P**	**10 21 10.7**	**-0.6**
	baz=36,SNR=74							
KRVT	**Keravat (AS076**	**36.03**	**295**	P		**P**	**10 21 13.5**	**-0.7**
	comp=Z,41nm,0.6s,baz=144,slow=6.4,SNR=6.5							
KRVT				LR		LR	10 36 46.7	
	comp=Z,217nm,18.5s,baz=254,slow=38 comp=Z,41nm,0.6s							
TAOE	**Nuku Hiva Isla**	**36.43**	**75**	*e*LR		LR	10 31 08.0	
	comp=Z,909nm,25.5s							
TAOE	**Nuku Hiva Isla**	**36.43**	**75**	*e*T		T	10 59 21.0	
	comp=Z,72nm,0.2s							
QLP	**Quilpie**	**36.84**	**255**	P		**P**	**10 21 20.5**	**-0.5**
	baz=37,SNR=4.5							
TOO	**Toolangi**	**36.90**	**236**	P		**P**	**10 21 21.6**	**+0.2**
	baz=37,SNR=5.9							
TOO	**Toolangi**	**36.90**	**236**	P		**P**	**10 21 21.3**	**-0.1**
TOO				IAmb		IAmb	10 21 21.7	
	comp=Z,52nm,1.8s							
TOO	**Toolangi**	**36.90**	**236**	P		**P**	**10 21 21.3**	**-0.1**
TOO				pmax		pmax		
	comp=Z,52nm,1.8s							
MTSU	**Mount Surprise**	**37.83**	**269**	P		**P**	**10 21 30.0**	**+0.5**
	baz=38,SNR=36							
PMG	**Port Moresby**	**37.93**	**283**	P		**P**	**10 21 30.3**	**0.0**
	comp=Z,44nm,0.7s,baz=54,slow=6.4,SNR=11							
PMG				LR		LR	10 34 16.4	
	comp=Z,242nm,19.1s,baz=120,slow=32 comp=Z,44nm,0.7s							
PMG	**Port Moresby**	**37.93**	**283**	P		**P**	**10 21 30.3**	**0.0**
PMG	**Port Moresby**	**37.93**	**283**			**P**	**10 21 30.5**	**+0.2**
PATS	**Pohnpei**	**38.48**	**315**	P		**P**	**10 21 34.3**	**-0.5**
PATS				IAmb		IAmb	10 21 48.9	
	comp=Z,90nm,1.5s							
STKA	**Stephens Creek**	**39.23**	**246**	P		**P**	**10 21 41.0**	**-0.1**
	baz=39,SNR=21							
STKA	**Stephens Creek**	**39.23**	**246**	P		**P**	**10 21 41.0**	**-0.1**
	comp=Z,11nm,0.7s,baz=92,slow=10,SNR=36							
STKA				PcP		**PcP**	**10 23 50.5**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=18,slow=3.2,SNR=2.8							
STKA				LR		LR	10 36 19.4	
	comp=Z,380nm,20.2s,baz=67,slow=34 comp=Z,11nm,0.7s							
STKA	**Stephens Creek**	**39.23**	**246**	P		**P**	**10 21 41.1**	**0.0**
ARPS	**Mount Arapiles**	**39.60**	**239**	P		**P**	**10 21 43.8**	**-0.3**
	baz=40,SNR=7.4							
COEN	**Coen**	**39.98**	**274**	P		**P**	**10 21 47.5**	**-0.1**
	baz=40,SNR=9.2							
COEN	**Coen**	**39.98**	**274**	P		**P**	**10 21 48.4**	**+0.8**
COEN				IAmb		IAmb	10 21 49.2	
	comp=Z,31nm,0.8s							
HTT	**Hallett**	**41.58**	**244**	P		**P**	**10 21 58.6**	**-2.1**
	baz=42,SNR=14							
QIS	**Mount Isa**	**41.71**	**263**	P		**P**	**10 22 01.3**	**-0.5**
	baz=42,SNR=5.3							
BBOO	**Buckleboo**	**43.95**	**245**	P		**P**	**10 22 18.1**	**-1.7**
	baz=44,SNR=11							
BBOO	**Buckleboo**	**43.95**	**245**	P		**P**	**10 22 18.2**	**-1.7**
AS31	**Alice Springs**	**46.42**	**258**	P		**P**	**10 22 38.9**	**-0.7**
ASAR	**Alice Springs**	**46.42**	**258**	P		**P**	**10 22 38.5**	**-1.2**
	comp=Z,13nm,0.7s,baz=91,slow=8.2,SNR=109							
ASAR				PcP		**PcP**	**10 24 14.9**	**+0.4**
	comp=Z,5.6nm,0.9s,baz=104,slow=4.8,SNR=2.1							
ASAR				ScP		**ScP**	**10 28 08.6**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=106,slow=4.7,SNR=3.3							
ASAR				S		S	10 29 18.9	-8.8
	comp=Z,1.6nm,0.8s,baz=96,slow=15,SNR=7.9							
ASAR				LR		LR	10 42 20.1	
	comp=Z,558nm,18.8s,baz=108,slow=36 comp=Z,13nm,0.7s							
ASAR	**Alice Springs**	**46.42**	**258**	P		**P**	**10 22 39.0**	**-0.6**
ASAR	**Alice Springs**	**46.42**	**258**	P		**P**	**10 22 39.0**	**-0.6**
WB0	**Warramunga Arr**	**46.66**	**263**	P		**P**	**10 22 40.0**	**-1.5**
WB0				IAmb		IAmb	10 22 46.0	
	comp=Z,26nm,0.9s							
WB2	**Warramunga Arr**	**46.67**	**263**	P		**P**	**10 22 40.2**	**-1.4**
WB2				IAmb		IAmb	10 22 46.1	
	comp=Z,31nm,0.9s							
WRAB	**Tennant Creek**	**46.67**	**263**	P		**P**	**10 22 40.2**	**-1.4**
WRAB				IAmb		IAmb	10 22 46.0	
	comp=Z,25nm,0.8s							
WRAB	**Tennant Creek**	**46.67**	**263**	*ce*P		**P**	**10 22 38.7**	**-2.9**
WRAB				pmax		pmax		
	comp=Z,25nm,0.8s							
WRA	**Warramunga Arr**	**46.68**	**263**	P		**P**	**10 22 39.6**	**-2.1**
	comp=Z,11nm,0.7s,baz=96,slow=8.4,SNR=102							
WRA				PcP		**PcP**	**10 24 15.4**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=99,slow=3.2,SNR=2.3							
WRA				ScP		**ScP**	**10 28 06.6**	**-2.6**
	comp=Z,0.3nm,0.8s,baz=101,slow=3.8,SNR=3.8							
WRA				S		S	10 29 18.8	-13
	comp=Z,0.6nm,0.9s,baz=100,slow=14,SNR=2.3							
WRA				LR		LR	10 42 07.2	
	comp=Z,380nm,19.8s,baz=108,slow=36 comp=Z,11nm,0.7s							
GENI	**Genyem**	**47.14**	**288**	P		**P**	**10 22 45.5**	**+0.2**
	comp=Z,2μmcomp=Z,67nm,0.8s							
KDU	**Kakadu**	**50.28**	**272**	P		**P**	**10 23 08.1**	**-1.4**
	baz=50,SNR=22							
FORT	**Forrest**	**50.82**	**248**	P		**P**	**10 23 11.4**	**-1.9**
	baz=51,SNR=29							
FORT	**Forrest**	**50.82**	**248**	P		**P**	**10 23 11.6**	**-1.7**
WRKA	**Warakurna**	**51.27**	**255**	P		**P**	**10 23 15.1**	**-1.8**
	baz=51,SNR=96							
GUMO	**Guam**	**52.55**	**309**	P		**P**	**10 23 25.5**	**-0.8**
	comp=Z,79nm,0.6s,baz=164,slow=9.3,SNR=9.2							
GUMO				LR		LR	10 43 50.4	
	comp=Z,117nm,20.8s,baz=112,slow=34 comp=Z,79nm,0.6s							
GUMO	**Guam**	**52.55**	**309**	P		**P**	**10 23 25.5**	**-0.8**
KNRA	**Kununurra**	**52.86**	**267**	P		**P**	**10 23 27.6**	**-1.1**
	baz=53,SNR=51							
KNRA	**Kununurra**	**52.86**	**267**	P		**P**	**10 23 27.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**55.11**	**263**	P		**P**	**10 23 44.1**	**-1.0**
	baz=55,SNR=28							
FITZ	**Fitzroy Crossi**	**55.11**	**263**	P		**P**	**10 23 44.1**	**-1.0**
	comp=Z,11nm,0.6s,baz=79,slow=7.6,SNR=18							
FITZ				LR		LR	10 47 16.9	
	comp=Z,431nm,19.1s,baz=101,slow=36 comp=Z,11nm,0.6s							
FITZ	**Fitzroy Crossi**	**55.11**	**263**	P		**P**	**10 23 44.3**	**-0.9**
FITZ				IAmb		IAmb	10 23 48.5	
	comp=Z,14nm,0.8s							
SIJI	**Sorong**	**55.85**	**285**	P		**P**	**10 23 49.4**	**-1.2**
	comp=Z,40nm,0.7s,baz=86,slow=6.8,SNR=29							
SIJI				LR		LR	10 47 28.6	
	comp=Z,224nm,20.4s,baz=97,slow=36 comp=Z,40nm,0.7s							
SWI	**Sorong**	**55.86**	**285**	P		**P**	**10 23 49.3**	**-1.3**
	comp=Z,81nm,0.8s							
SBA	**Scott Base**	**56.51**	**184**	P		**P**	**10 23 55.5**	**+1.2**
SBA				IAmb		IAmb	10 23 58.2	
	comp=Z,15nm,0.9s							
SBA	**Scott Base**	**56.51**	**184**	P		**P**	**10 23 55.5**	**+1.2**
SBA				pmax		pmax		

comp=Z,15nm,1.0s
VNDA Vanda 56.60 186 P **P** **10 23 57.3 +2.4**
comp=Z,3.0nm,0.9s,baz=8.1,slow=7.5,SNR=13
VNDA LR LR 10 47 25.0
comp=Z,57nm,18.8s,baz=28,slow=35
comp=Z,3.0nm,0.9s
VNDA Vanda 56.60 186 P **P** **10 23 54.9 0.0**
VNDA IAmb IAmb 10 23 58.6
comp=Z,42nm,2.0s
BATI Baumata 59.25 271 P **P** **10 24 13.2 -1.4**
comp=Z,74nm,0.6s,baz=90,slow=6.1,SNR=7.9
BATI LR LR 10 50 59.3
comp=Z,671nm,18.9s,baz=134,slow=37
comp=Z,74nm,0.6s
BATI Baumata 59.25 271 P **P** **10 24 14.0 -0.6**
comp=Z,57nm,0.7s
LBMI Labuha 59.34 283 P **P** **10 24 16.6 +1.4**
comp=Z,697nmcomp=Z,32nm,0.8s
KLBR Kellerberrin 59.50 245 P **P** **10 24 14.9 -1.1**
baz=60,SNR=12
PSA00 Pilbara Seismi 59.56 257 P **P** **10 24 16.5 -0.1**
PSA00 IAmb IAmb 10 24 18.3
comp=Z,14nm,0.9s
PSA00 Pilbara Seismi 59.56 257 IAmb IAmb 10 24 18.2
comp=Z,33nm,1.8s
MEEK Meekatharra 59.59 251 P **P** **10 24 17.0 +0.2**
baz=60,SNR=4.3
NWAO Narrogin (SRO) 59.74 244 LR LR 10 48 56.6
comp=Z,186nm,19.9s,baz=298,slow=35
NWAO Narrogin (SRO) 59.74 244 P **P** **10 24 17.9 +0.2**
NWAO Narrogin (SRO) 59.74 244 P **P** **10 24 17.9 +0.2**
NWAO pmax pmax
comp=Z,46nm,1.4s
MBWA Marble Bar 59.77 258 P **P** **10 24 16.3 -1.7**
RPN Rapa Nui 59.81 109 LR LR 10 43 09.4
comp=Z,235nm,21.4s,baz=353,slow=29
TNTI Ternate 60.07 284 P **P** **10 24 18.5 -1.6**
SANI Sanana 60.13 281 P **P** **10 24 22.8 +2.2**
comp=Z,20nm,0.9s
BLDU Ballidu 60.54 246 P **P** **10 24 22.7 -0.5**
baz=61,SNR=6.0
MUN Mundaring 60.74 245 P **P** **10 24 24.1 -0.5**
baz=61,SNR=3.4
MMRI Maumere 61.11 272 P **P** **10 24 25.9 -1.3**
MORW Morawa 61.38 248 P **P** **10 24 27.7 -1.2**
baz=62,SNR=8.8
MORW Morawa 61.38 248 P **P** **10 24 27.8 -1.2**
MORW IAmb IAmb 10 24 34.2
comp=Z,23nm,0.9s
EDFI Ende, Flores 61.58 272 P **P** **10 24 29.2 -1.4**
comp=Z,379nmcomp=Z,20nm,0.7s
CASY Casey 63.57 206 P **P** **10 24 43.7 +0.8**
JCJ Chichijima 63.71 318 LR LR 10 46 58.2
comp=Z,265nm,21.8s,baz=128,slow=31
GIRL Giralia 64.36 255 P **P** **10 24 48.3 -0.6**
baz=64,SNR=3.1
DAV Davao City (W) 64.52 290 LR LR 10 51 33.7
comp=Z,94nm,19.1s,baz=171,slow=35
KAPI Kappang 64.71 275 LR LR 10 52 54.5
comp=Z,167nm,18.9s,baz=106,slow=36
PLAI Plampang 65.18 270 P **P** **10 24 55.1 +0.8**
comp=Z,83nm,0.9s
TWSI Taliwang, Sumb 66.04 270 P **P** **10 25 02.5 +2.6**
comp=Z,38nm,0.8s
TOLI2 Tolitoli 66.17 282 P **P** **10 24 58.4 -2.2**
TOLI2 IAmb IAmb 10 25 03.6
comp=Z,13nm,0.7s
MPSI Mapaga 66.65 280 P **P** **10 25 04.1 +0.3**
comp=Z,18nm,0.7s
QSPA South Pole Qui 68.04 180 LR LR 10 50 40.7
comp=Z,121nm,21.0s,baz=34,slow=32
QSPA South Pole Qui 68.04 180 P **P** **10 25 11.7 -0.2**
JHJ Hachijo jima 2 69.47 321 LR LR 10 49 44.3
comp=Z,58nm,20.1s,baz=118,slow=31
PWJI Pagerwojo 71.00 269 P **P** **10 25 28.7 -2.2**
comp=Z,45nm,1.0s
PCJI Pacitan 71.52 268 P **P** **10 25 35.9 +1.9**
comp=Z,90nm,1.1s
MJAR Matsushiro Arr 72.81 322 P **P** **10 25 40.4 -0.9**
comp=Z,2.9nm,0.6s,baz=145,slow=8.0,SNR=10
MJAR LR LR 10 51 10.6
comp=Z,89nm,21.3s,baz=142,slow=30
comp=Z,2.9nm,0.6s
MAJO Matsushiro 72.82 322 P **P** **10 25 39.3 -2.0**
MAJO IAmb IAmb 10 25 58.7
comp=Z,8.9nm,0.7s
MAJO Matsushiro 72.82 322 P **P** **10 25 39.3 -2.0**
MAJO pmax pmax
comp=Z,9.0nm,0.7s
NIKH Nikolski High 74.92 4 P **P** **10 25 53.2 0.0**
baz=186
SHEM Shemya Is, Ala 75.00 353 LR LR 10 52 03.8
comp=Z,151nm,21.6s,baz=126,slow=30
LEM Lembang 75.30 269 P **P** **10 25 56.1 -0.4**
comp=Z,31nm,0.6s,baz=136,slow=13,SNR=6.1
LEM LR LR 11 00 16.8
comp=Z,190nm,18.6s,baz=108,slow=37
comp=Z,31nm,0.6s
UNV Unalaska Valle 75.97 6 P **P** **10 25 59.2 0.0**
baz=189
SMAI San Martin Ant 76.35 159 P **P** **10 26 02.0 +0.7**
TPUB Ta-pu 76.74 302 P **P** **10 26 05.0 +0.7**
PKM Mcpherson Peak 77.46 44 P **P** **10 26 10.0 +1.6**
baz=232
CIS Catalina Islan 77.47 46 P **P** **10 26 09.9 +1.6**
baz=233
SMMC Simmler 77.61 44 P **P** **10 26 10.7 +1.7**
baz=231
BELA Belgrano 2 77.74 172 P **P** **10 26 09.3 +0.3**
ARVC Arvin 78.24 44 P **P** **10 26 14.6 +2.1**
baz=232
PEA0B Petropavlovsk- 78.36 344*ce***P** **P** **10 26 12.7 0.0**
PETK Petropavlovsk- 78.36 344 P **P** **10 26 12.8 +0.1**
comp=Z,3.2nm,0.6s,baz=108,slow=9.5,SNR=7.1
PETK LR LR 10 53 33.1
comp=Z,212nm,21.6s,baz=142,slow=30
comp=Z,3.2nm,0.6s
PETK Petropavlovsk- 78.36 344 P **P** **10 26 12.4 -0.3**
PETK Petropavlovsk- 78.36 344 P **P** **10 26 12.4 -0.3**
MURC Murrieta 78.41 46 P **P** **10 26 15.2 +1.7**
baz=234
VES Vestal, Richgr 78.52 44 P **P** **10 26 15.7 +1.8**
baz=232,SNR=11
MONP2 Monument Peak 78.52 47 P **P** **10 26 16.5 +2.2**
baz=234
IKP In-Ko-Pah, Jac 78.59 48 P **P** **10 26 16.3 +1.7**
baz=234
EDW2 Edwards Air Fo 78.64 45 P **P** **10 26 16.7 +2.0**
baz=233,SNR=7.5
ISA Isabella, Lake 78.80 44 P **P** **10 26 14.7 -1.0**
ISA IAmb IAmb 10 26 37.2
comp=Z,48nm,1.4s
ISA Isabella, Lake 78.80 44 P **P** **10 26 14.7 -1.0**
ISA pmax pmax
comp=Z,47nm,1.4s
ISA Isabella, Lake 78.80 44 P **P** **10 26 17.7 +2.1**
baz=232,SNR=9.3
PFO Pinyon Flats O 78.91 47 *i* P **P** **10 26 17.0 +0.6**
PFO pmax pmax
comp=Z,15nm,1.3s
PFO Pinyon Flats O 78.91 47 P **P** **10 26 18.3 +1.9**
baz=234
TPFO Pinon Flats 78.91 47 P **P** **10 26 18.4 +2.1**
baz=234
PMSA Palmer Station 78.96 156 LR LR 10 56 27.4
comp=Z,80nm,19.4s,baz=264,slow=32
SWSC Sam W. Stewart 78.97 48 P **P** **10 26 19.0 +2.4**
baz=235
CMB Columbia Colle 79.06 41 P **P** **10 26 16.6 -0.4**
CMB IAmb IAmb 10 26 38.2
comp=Z,33nm,1.4s
CMB Columbia Colle 79.06 41 P **P** **10 26 16.6 -0.4**
CMB pmax pmax
comp=Z,33nm,1.4s
S14K Fog Glacier 79.18 9 P **P** **10 26 20.0 +2.8**
baz=195
LRMC Laurel Mtn Rad 79.20 45 P **P** **10 26 19.8 +1.9**
baz=233
BELC Belle Mtn. Jos 79.45 47 P **P** **10 26 20.9 +1.5**
baz=234
CWC Cottonwood Cre 79.52 44 P **P** **10 26 21.7 +2.0**
baz=233
KSRS Korea Array 79.56 318 P **P** **10 26 20.1 +0.5**
comp=Z,1.3nm,0.6s,baz=135,slow=5.9,SNR=5.4
KSRS LR LR 10 55 43.9
comp=Z,105nm,21.2s,baz=125,slow=31
comp=Z,1.3nm,0.6s

KSAR Wonju Array Be 79.58 318 P **P** **10 26 19.1 -0.6**
KSAR Wonju Array Be 79.58 318 P **P** **10 26 19.2 -0.6**
BC3 Big Chuckawall 79.62 47 P **P** **10 26 22.6 +2.4**
baz=235
GSC Goldstone, Bar 79.67 45 P **P** **10 26 22.2 +1.8**
baz=234,SNR=5.4
MPMC Manual Prospec 79.67 44 P **P** **10 26 22.3 +1.7**
baz=233,SNR=14
GLA Glamis 79.71 48 P **P** **10 26 20.3 -0.3**
GLA IAmb IAmb 10 26 42.3
comp=Z,20nm,1.1s
GLA Glamis 79.71 48 P **P** **10 26 20.3 -0.3**
GLA pmax pmax
comp=Z,20nm,1.1s
GLA Glamis 79.71 48 P **P** **10 26 22.8 +2.2**
baz=235
HEC Hector,Ludlow 79.71 46 P **P** **10 26 22.5 +1.9**
baz=234,SNR=8.0
TIN Tinemaha, Big 79.80 43 P **P** **10 26 23.0 +1.8**
baz=232
L02F Cave Junction 79.86 37 P **P** **10 26 23.9 +2.7**
baz=228
IRM Iron Mountain 80.12 47 P **P** **10 26 25.2 +2.4**
baz=235
GMRC Granite Mounta 80.13 46 P **P** **10 26 24.7 +1.7**
baz=234
K02D Willamette Mer 80.20 36 P **P** **10 26 25.3 +2.3**
baz=228
BEKR Beckworth 80.24 40 IAmb IAmb 10 26 44.1
comp=Z,24nm,1.3s
LCH Last Change Ra 80.28 43 IAmb IAmb 10 26 44.3
comp=Z,20nm,1.1s
GWY Greenwater Val 80.28 45 P **P** **10 26 22.9 -0.9**
HSIG 80.29 53 P **P** **10 26 22.1 -1.8**
GRAC Grapevine Rang 80.32 44 P **P** **10 26 26.3 +2.5**
baz=233
FURC Furnace Creek, 80.33 44 P **P** **10 26 25.6 +1.9**
baz=233
TUQ Turquoise Moun 80.33 46 P **P** **10 26 25.9 +1.8**
baz=234
SII Sitkinak Islan 80.34 12 IAmb IAmb 10 26 25.6
comp=Z,23nm,1.0s
SII Sitkinak Islan 80.34 12 P **P** **10 26 25.4 +1.9**
baz=200
YERR Yerington 80.36 41 IAmb IAmb 10 26 44.8
comp=Z,34nm,1.3s
LHV Little Huntoon 80.36 42 IAmb IAmb 10 26 45.8
comp=Z,52nm,1.3s
J01E Myrtle Point 80.37 36 P **P** **10 26 26.0 +2.2**
baz=227
SHOC Shoshone, Teco 80.37 45 P **P** **10 26 26.0 +1.9**
baz=234
214A Organ Pipe Nat 80.51 50 P **P** **10 26 26.1 +1.2**
baz=237
NVAR Mina Array Bea 80.59 42 P **P** **10 26 27.9 +2.4**
comp=Z,4.3nm,0.7s,baz=223,slow=9.1,SNR=35
NVAR LR LR 10 53 13.3
comp=Z,155nm,19.6s,baz=148,slow=29
comp=Z,4.3nm,0.7s
L04D Klamath Falls 80.63 37 P **P** **10 26 27.3 +1.8**
baz=229
DBO Dodson Butte 80.71 36 P **P** **10 26 25.9 0.0**
DBO IAmb IAmb 10 26 47.6
comp=Z,27nm,1.3s
R16K Pilot Point 80.72 10 P **P** **10 26 27.7 +2.4**
baz=197
NEE2 Needles Airpor 80.82 47 P **P** **10 26 28.4 +1.8**
baz=235
PDMCI Parker Dam,Lak 80.89 47 P **P** **10 26 28.7 +1.8**
baz=236
MAW Mawson 80.89 199 P **P** **10 26 25.3 -1.1**
baz=81,SNR=9.7
MAW Mawson 80.89 199 P **P** **10 26 27.6 +1.2**
comp=Z,7.0nm,0.6s,baz=133,slow=6.2,SNR=24
MAW LR LR 11 00 33.6
comp=Z,96nm,19.5s,baz=122,slow=34
comp=Z,7.0nm,0.6s
MAW Mawson 80.89 199 P **P** **10 26 27.2 +0.8**
R17K Ugashik Creek 80.98 10 P **P** **10 26 27.9 +1.2**
baz=198
TPNV Topopah Spring 81.01 44 P **P** **10 26 27.8 +0.1**
TPNV IAmb IAmb 10 26 48.5
comp=Z,17nm,1.1s
TPNV Topopah Spring 81.01 44 P **P** **10 26 27.8 +0.1**
TPNV pmax pmax
comp=Z,17nm,1.1s
TPNV Topopah Spring 81.01 44 P **P** **10 26 29.3 +1.6**
baz=234,SNR=8.3
I03D Drain, OR 81.04 35 P **P** **10 26 29.2 +1.7**
baz=228
KVN Kaiserville 81.10 42 IAmb IAmb 10 26 48.7
comp=Z,24nm,1.4s
OHAK Old Harbor 81.14 12 P **P** **10 26 29.2 +1.5**
baz=201
J04D Umpqua Nationa 81.41 36 P **P** **10 26 31.0 +1.3**
baz=229
USRK Ussuriysk Ar. 81.53 325 P **P** **10 26 31.1 +1.0**
comp=Z,1.8nm,0.7s,baz=91,slow=3.0,SNR=6.5
comp=Z,1.8nm,0.7s
MOD Modoc Plateau 81.56 38 IAmb IAmb 10 26 51.2
comp=Z,33nm,1.4s
BUCK Buck Mountain 81.57 35 IAmb IAmb 10 26 52.2
comp=Z,37nm,1.2s
I04A Tendick Farm, 81.61 36 P **P** **10 26 32.1 +1.5**
baz=228
H04D Lebanon 81.92 35 IAmb IAmb 10 26 53.8
comp=Z,36nm,1.1s
H04D Lebanon 81.92 35 P **P** **10 26 33.9 +1.8**
baz=228
Q16K King Salmon 81.92 10 P **P** **10 26 32.7 +1.0**
baz=198
J05D Fort Rock, OR 81.92 37 P **P** **10 26 34.4 +2.0**
baz=230
PRN Pahroc Range 82.05 44 IAmb IAmb 10 26 55.1
comp=Z,43nm,1.4s
P16K Nushagak River 82.06 9 P **P** **10 26 33.1 +0.6**
baz=196,SNR=8.3
G03D McMinnville, O 82.10 34 P **P** **10 26 35.3 +2.2**
baz=228
TUC Tucson 82.15 51 P **P** **10 26 35.4 +1.7**
TUC IAmb IAmb 10 26 55.7
comp=Z,22nm,1.4s
TUC Tucson 82.15 51 P **P** **10 26 35.4 +1.7**
TUC pmax pmax
comp=Z,22nm,1.4s
TUC Tucson 82.15 51 P **P** **10 26 35.4 +1.7**
baz=238
R11A Troy Canyon, C 82.25 43 P **P** **10 26 35.7 +1.4**
baz=234,SNR=6.0
BMN Battle Mountai 82.47 41 IAmb IAmb 10 26 56.8
comp=Z,32nm,1.3s
I05D Terebonne, OR 82.55 36 P **P** **10 26 37.2 +1.7**
baz=229
O16K Kokwok River B 82.59 9 P **P** **10 26 35.4 +0.2**
baz=196,SNR=5.5
NJ2 Nanjing 82.63 309 *e***P** **P** **10 26 35.8 -0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
X16A Lo Mia Camp, P 82.81 49 IAmb IAmb 10 26 58.6
comp=Z,22nm,1.2s
P18K Big Mountain, 82.84 10 IAmb IAmb 10 26 59.6
comp=Z,11nm,0.8s
P18K Big Mountain, 82.84 10 P **P** **10 26 37.3 +0.7**
baz=199
O17K Koliganek Bris 82.91 9 P **P** **10 26 37.7 +0.8**
baz=197
G05D Wamic, OR 83.15 35 P **P** **10 26 39.4 +0.8**
baz=229
H03S2 Juan Fernandez 83.23 124 T T 11 58 26.3
baz=246
H03S1 Juan Fernandez 83.24 124 T T 11 58 29.7
baz=246
H03S3 Juan Fernandez 83.25 124 T T 11 58 26.2
baz=246
NLWA Neilton Lookou 83.27 32 P **P** **10 26 39.8 +0.7**
NLWA IAmb IAmb 10 26 46.0
comp=Z,18nm,1.1s
O18K Koktuh Hills 83.28 10 P **P** **10 26 38.7 -0.1**
O18K IAmb IAmb 10 26 44.5
comp=Z,13nm,0.8s
O18K Koluh Hills 83.28 10 P **P** **10 26 39.2 +0.4**
baz=199,SNR=9.6
HPIG 83.28 58 IAmb IAmb 10 27 00.9
comp=Z,26nm,1.8s
N16K Nishlik Lake 83.34 8 P **P** **10 26 40.4 +1.2**
baz=196
I07A Izee 83.40 37 IAmb IAmb 10 27 00.8
comp=Z,24nm,1.3s

P19K Oil Pt 83.43 11 P **P** **10 26 40.0 +0.3**
baz=201
SPR3 Spring Creek 3 83.43 43 IAmb IAmb 10 27 01.6
comp=Z,16nm,1.3s
WUAZ Wupatki 83.45 48 IAmb IAmb 10 26 47.0
comp=Z,24nm,1.2s
WUAZ Wupatki 83.45 48 P **P** **10 26 41.2 +0.7**
baz=237
CNPM China Poot 83.69 12 P **P** **10 26 41.4 +0.4**
CNPM IAmb IAmb 10 27 03.4
comp=Z,13nm,1.0s
O19K Port Alsworth 83.75 10 P **P** **10 26 42.0 +0.8**
baz=200,SNR=5.3
ILSW Iliamna Southw 83.75 11 P **P** **10 26 41.2 -0.3**
ILSW IAmb IAmb 10 27 04.5
comp=Z,22nm,1.0s
ZAIG Zacatecas 83.84 63 IAmb IAmb 10 29 33.5
comp=Z,12nm,0.7s
ELK Elko 83.87 42 IAmb IAmb 10 27 03.1
comp=Z,17nm,1.2s
X18A Snowflake 83.91 49 IAmb IAmb 10 27 04.1
comp=Z,29nm,1.5s
O20K Slope Mountain 83.94 11 P **P** **10 26 42.5 +0.2**
baz=201
N18K Kilae Creek 83.95 10 P **P** **10 26 43.3 +0.9**
baz=198
BRLK Bradley Lake 83.97 12 IAmb IAmb 10 27 06.0
comp=Z,12nm,0.9s
BRSE Bradley Lake S 83.98 12 P **P** **10 26 43.4 +0.9**
baz=203
CLRS Cowichan Lake 84.11 31 IAmb IAmb 10 26 48.6
comp=Z,17nm,1.0s
N19K Bonanza Creek 84.31 10 P **P** **10 26 44.1 -0.1**
N19K IAmb IAmb 10 26 45.4
comp=Z,8.1nm,0.8s
N19K Bonanza Creek 84.31 10 P **P** **10 26 44.3 +0.1**
baz=204,SNR=6.1
121A Cookes Peak, D 84.43 52 IAmb IAmb 10 27 07.7
comp=Z,27nm,1.2s
121A Cookes Peak, D 84.43 52 P **P** **10 26 47.9 +2.3**
baz=240
121A Cookes Peak, D 84.43 52 P **P** **10 26 45.9 +0.3**
baz=240
G08A Pilot Rock 84.46 36 P **P** **10 26 47.2 +1.8**
SEW Seward 84.58 13 P **P** **10 26 46.0 +0.6**
baz=204
LL02 Futaleuf 84.61 134 P **P** **10 26 47.1 +0.9**
LTY Liberty 84.81 34 P **P** **10 26 47.9 +0.8**
LTY IAmb IAmb 10 27 08.1
comp=Z,18nm,1.4s
HAWA Hanford 84.85 35 IAmb IAmb 10 27 08.7
comp=Z,29nm,1.3s
O22K Cooper Landing 84.86 13 IAmb IAmb 10 27 13.9
comp=Z,18nm,0.8s
O22K Cooper Landing 84.86 13 P **P** **10 26 48.0 +1.1**
baz=204
TLIG Tlapa 84.97 69 IAmb IAmb 10 26 52.0
comp=Z,20nm,1.1s
BNX BinXian 85.01 324 ⇑P **P** **10 26 49.3 +1.3**
BNX pmax pmax
comp=Z,16nm,2.0s
BNX pmax pmax
comp=Z,170nm,3.5s
KLR Kul'dur 85.03 328 LR LR 10 58 31.4
comp=Z,198nm,21.7s,baz=161,slow=31
KLR Kul'dur 85.03 328*ce***P** **P** **10 26 48.6 +0.6**
KLR pmax pmax
comp=Z,14nm,2.5s
DUG Dugway, Tooele 85.08 43 P **P** **10 26 49.4 +0.7**
baz=236
MFID Camas Ranch 85.09 39 P **P** **10 26 50.4 +1.8**
MFID IAmb IAmb 10 27 09.8
comp=Z,24nm,1.3s
BMO Blue Mountains 85.11 37 IAmb IAmb 10 27 09.0
comp=Z,24nm,1.6s
E08A Dider Farm, El 85.17 35 IAmb IAmb 10 27 10.1
comp=Z,21nm,1.3s
LL04 Puerto Octay 85.20 132 P **P** **10 26 49.5 +0.2**
CRAG Craig 85.22 23 P **P** **10 26 50.1 +1.4**
baz=219
M19K Big River Lodg 85.35 10 P **P** **10 26 49.7 +0.4**
baz=200
RC01 Rabbit Creek A 85.42 12 P **P** **10 26 50.4 +0.7**
baz=204
PWL Port Wells 85.50 13 IAmb IAmb 10 27 13.4
comp=Z,11nm,0.8s
PWL Port Wells 85.50 13 P **P** **10 26 50.9 +0.8**
baz=205
M20K Styx River 85.54 10 P **P** **10 26 51.2 +0.9**
baz=201
L19K White Mountain 85.54 10 P **P** **10 26 51.0 +0.7**
baz=199,SNR=5.5
SUA Susitna One 85.57 12 IAmb IAmb 10 26 55.5
comp=Z,17nm,0.7s
SUA Susitna One 85.57 12 P **P** **10 26 50.6 0.0**
baz=203,SNR=15
D08A Wollman Farm, 85.59 35 IAmb IAmb 10 27 12.4
comp=Z,40nm,1.6s
IPM Ipoh 85.60 277 P **P** **10 26 50.5 -1.2**
IPM IAmb IAmb 10 26 54.4
comp=Z,17nm,0.7s
E09A Wood Farm, Sta 85.67 36 IAmb IAmb 10 27 12.4
comp=Z,35nm,1.7s
SIT Sitka 85.72 21 P **P** **10 26 53.2 +2.0**
baz=217
Y22A Socorro 85.73 51 P **P** **10 26 54.4 +2.3**
baz=240
GLI Glacier Island 85.78 14 P **P** **10 26 52.3 +0.8**
GLI IAmb IAmb 10 27 19.0
comp=Z,16nm,0.8s
GLI Glacier Island 85.78 14 P **P** **10 26 52.3 +0.8**
baz=206
EYAK Cordova Ski Ar 85.78 14 P **P** **10 26 52.5 +1.1**
baz=208
MNTX Cornudas Mount 85.79 54 IAmb IAmb 10 26 55.6
comp=Z,23nm,1.1s
MNTX Cornudas Mount 85.79 54 P **P** **10 26 54.3 +2.0**
baz=241
MNTX Cornudas Mount 85.79 54 P **P** **10 26 52.5 +0.3**
baz=241
Y22D IRIS PASSCAL I 85.83 51 P **P** **10 26 52.9 +0.3**
baz=240
MA2 Magadan 85.89 344 LR LR 11 01 34.5
comp=Z,111nm,20.4s,baz=152,slow=33
MA2 Magadan 85.89 344 P **P** **10 26 49.6 -2.4**
MA2 IAmb IAmb 10 26 53.0
comp=Z,18nm,1.5s
MA2 Magadan 85.89 344*ce***P** **P** **10 26 49.7 -2.4**
MA2 pmax pmax
comp=Z,15nm,1.7s
SKT Skwentna 85.91 11 P **P** **10 26 52.4 +0.3**
baz=202
M22K Willow 85.96 12 IAmb IAmb 10 26 58.7
comp=Z,11nm,0.8s
M22K Willow 85.96 12 P **P** **10 26 52.5 +0.2**
baz=204,SNR=6.8
TX31 Lajitas Ar. Si 85.97 56 P **P** **10 26 55.2 +1.9**
baz=242
TX32 Lajitas Array 85.97 56 IAmb IAmb 10 27 15.1
comp=Z,25nm,1.2s
TXAR Lajitas Array 85.97 56 P **P** **10 26 55.3 +2.0**
comp=Z,7.3nm,1.0s,baz=216,slow=6.2,SNR=48
comp=Z,7.3nm,1.0s
KNK Knik Glacier 85.97 13 P **P** **10 26 52.3 -0.1**
KNK IAmb IAmb 10 27 16.4
comp=Z,9.2nm,0.7s
KNK Knik Glacier 85.97 13 P **P** **10 26 53.4 +0.9**
baz=205
L20K Farewell, AK 85.98 10 P **P** **10 26 53.5 +1.1**
baz=200
PLID Pearl Lake 85.99 38 P **P** **10 26 53.8 +0.6**
PLID IAmb IAmb 10 27 14.2
comp=Z,32nm,1.6s
PMR Palmer 86.00 12 P **P** **10 26 52.4 -0.1**
PMR IAmb IAmb 10 27 23.9
comp=Z,19nm,1.5s
PMR Palmer 86.00 12 P **P** **10 26 52.4 -0.1**
PMR pmax pmax
comp=Z,19nm,1.5s
PMR Palmer 86.00 12 P **P** **10 26 53.5 +1.0**
baz=204
HLID Hailey 86.01 40 P **P** **10 26 53.6 +0.4**
baz=234,SNR=6.2
TTA Tatalina 86.08 9 P **P** **10 26 53.7 +0.7**
baz=198,SNR=8.6
SNH Sunshine Point 86.15 16 P **P** **10 26 53.6 +0.2**
SNH IAmb IAmb 10 27 18.3

comp=Z,15nm,0.9s
TROLL Troll, Antarti 86.19 179 P P 10 26 54.0 +0.2
B08A Colville Reser 86.20 34 P P 10 26 54.6 +0.6
GHO Glory Hole Cre 86.21 12 IAmb IAmb 10 27 17.2
comp=Z,15nm,0.8s
SML Sawmill 86.36 13 P P 10 26 55.3 +1.0
baz=205
MESA MESA 86.38 16 P P 10 26 55.0 +0.3
baz=211
WAX Waxell Ridge 86.39 16 IAmb IAmb 10 27 15.3
comp=Z,38nm,1.5s
SNAA Sanae 86.40 178 P P 10 26 54.6 -0.1
SNAA Sanae 86.40 178 LR LR 11 02 49.7
comp=Z,174nm,19.9s,baz=196,slow=34
SNAA Sanae 86.40 178 P P 10 26 54.1 -0.6
SNAA IAmb IAmb 10 26 55.8
comp=Z,13nm,1.1s
SNAA Sanae 86.40 178 *ce*P **P 10 26 52.3 -2.4**
SNAA pmax pmax
comp=Z,20nm,2.5s
C09A Chrisman Ranch 86.40 35 IAmb IAmb 10 27 16.0
comp=Z,31nm,1.6s
GO06 Curarrehue 86.41 131 P P 10 26 56.6 +1.1
GO06 IAmb IAmb 10 26 57.5
comp=Z,32nm,1.3s
BMRM Bremner River 86.42 15 P P 10 26 55.3 +0.6
baz=208
VNA3 Neumayer Olymp 86.45 175 P P 10 26 55.0 +0.1
CUT Chulitna 86.53 11 P P 10 26 56.0 +0.9
baz=203
PLCA Paso Flores 86.55 133 P P 10 26 57.0 +0.9
comp=Z,12nm,1.1s,baz=262,slow=4.2,SNR=7.7
PLCA LR LR 10 56 00.7
comp=Z,122nm,20.8s,baz=242,slow=29
comp=Z,12nm,1.1s
PLCA Paso Flores 86.55 133 P P 10 26 55.5 -0.6
PLCA IAmb IAmb 10 26 58.9
comp=Z,22nm,1.2s
KLU Klutina 86.58 14 P P 10 26 56.3 +0.8
baz=207
SCM Sheep Creek Mo 86.59 13 P P 10 26 56.3 +0.7
SCM IAmb IAmb 10 27 23.5
comp=Z,20nm,1.1s
SCM Sheep Creek Mo 86.59 13 P P 10 26 56.3 +0.7
SCM pmax pmax
comp=Z,20nm,1.1s
SCM Sheep Creek Mo 86.59 13 P P 10 26 56.2 +0.7
baz=206
YAH Yahtse 86.59 16 IAmb IAmb 10 27 11.6
comp=Z,11nm,0.7s
ANMO Albuquerque 86.59 50 P P 10 26 55.4 -1.0
ANMO Albuquerque 86.59 50 *ce*P **P 10 26 56.6 +0.2**
ANMO pmax pmax
comp=Z,19nm,1.3s
ANMO Albuquerque 86.59 50 P P 10 26 58.4 +2.0
baz=240
ANMO Albuquerque 86.59 50 P P 10 26 56.4 0.0
baz=240
PNL Peninsula 86.63 17 P P 10 26 56.2 +0.5
baz=213,SNR=5.2
PPLA Purkeypile 86.64 10 P P 10 26 56.6 +0.8
baz=202
ANM Nome 86.68 4 P P 10 26 57.3 +1.4
baz=190
K20K Telida 86.78 10 P P 10 26 56.9 +0.6
baz=200,SNR=9.5
TABL Table Mountain 86.81 16 IAmb IAmb 10 27 17.3
comp=Z,33nm,1.5s
PSI Prapat 86.91 274 LR LR 11 07 42.9
comp=Z,228nm,19.5s,baz=132,slow=37
VNA2 Neumayer--Watz 86.92 176 P P 10 26 57.8 +0.6
baz=187,slow=2.7
N25K Chitina, Valde 86.98 14 IAmb IAmb 10 27 25.6
comp=Z,11nm,0.8s
N25K Chitina, Valde 86.98 14 P P 10 26 58.2 +0.8
baz=208,SNR=7.0
M24K Tolsona, Glenn 87.08 13 P P 10 26 58.6 +0.7
baz=207
VNA1 Neumayer--Stat 87.13 176 P P 10 26 58.6 +0.5
CAST Castle Rocks 87.15 10 IAmb IAmb 10 26 58.7
comp=Z,8.7nm,0.9s
CAST Castle Rocks 87.15 10 P P 10 26 59.0 +0.8
baz=202
LOGN Logan Glacier 87.18 16 IAmb IAmb 10 27 22.6
comp=Z,7.8nm,0.8s
WAT6 Susitna Watana 87.18 12 P P 10 26 58.7 +0.2
baz=206,SNR=9.9
CTG Chitna Glacier 87.21 16 P P 10 26 59.0 +0.3
baz=212,SNR=5.4
CTGM Chitina Glacie 87.21 16 IAmb IAmb 10 27 22.7
comp=Z,8.3nm,0.7s
WAT1 Susitna Watana 87.24 12 P P 10 26 59.1 +0.4
baz=205
NEW Newport 87.30 35 P P 10 26 59.7 +0.4
baz=232
O28M Mount Upton 87.34 17 P P 10 27 00.1 +0.6
baz=212,SNR=6.1
O29M Mount Kennedy 87.39 17 P P 10 27 00.4 +0.9
baz=214
KTH Kantishna Hill 87.47 11 IAmb IAmb 10 27 00.7
comp=Z,8.1nm,0.8s
TRF Thorofare Moun 87.49 11 P P 10 26 60.0 0.0
baz=203
J20K Nowinta River 87.54 9 IAmb IAmb 10 27 20.3
comp=Z,22nm,1.4s
J20K Nowinta River 87.54 9 P P 10 27 00.6 +0.6
baz=200,SNR=12
CHUM Lake Minchumin 87.55 10 P P 10 27 00.5 +0.5
baz=202
GSI Gunungsitoli 87.60 272 P P 10 27 01.0 -0.5
comp=Z,29nm,0.9s
GSI pP **PcP 10 27 03.9 +0.4**
comp=Z,29nm,0.9s
SKAG Skagway 87.65 19 P P 10 27 02.2 +1.6
baz=217
DHY Denali Highway 87.70 12 P P 10 27 02.4 +1.5
baz=206
P30M Million Dollar 87.70 18 P P 10 27 01.4 +0.5
baz=215
GCSA Galena City Sc 87.70 8 P P 10 27 01.9 +1.2
baz=197
RND Reindeer 87.71 12 IAmb IAmb 10 27 25.6
comp=Z,19nm,1.0s
S22A 4UR Ranch, Cre 87.73 48 IAmb IAmb 10 27 07.5
comp=Z,10nm,1.1s
S22A 4UR Ranch, Cre 87.73 48 P P 10 27 02.3 +0.4
baz=240
S34M Telegraph Cree 87.80 22 P P 10 27 02.8 +1.4
baz=220,SNR=5.3
BPAW Bear Paw Mtn. 87.97 11 P P 10 27 03.2 +1.1
baz=203
YUK6 Outpost Mounta 87.98 17 P P 10 27 03.6 +1.2
baz=214
MCK McKinley 87.99 12 IAmb IAmb 10 27 22.8
comp=Z,19nm,1.1s
MCK McKinley 87.99 12 P P 10 27 03.2 +1.0
baz=205
O20A White River Ci 87.99 45 IAmb IAmb 10 27 37.6
comp=Z,10nm,1.1s
O20A White River Ci 87.99 45 P P 10 27 03.5 +0.5
baz=239
PAX Paxson 88.00 13 IAmb IAmb 10 27 22.2
comp=Z,16nm,1.6s
PAX Paxson 88.00 13 P P 10 27 03.4 +1.1
baz=208
M26K Nabesna, AK 88.05 15 IAmb IAmb 10 27 23.2
comp=Z,31nm,1.9s
M26K Nabesna, AK 88.05 15 P P 10 27 04.1 +1.5
baz=210
HYT Haines Junctio 88.12 18 P P 10 27 04.6 +1.6
baz=215
YUK3 Moose Creek 88.12 16 P P 10 27 04.4 +1.3
baz=212,SNR=14
MSO Missoula 88.18 37 P P 10 27 04.6 +1.0
baz=235
P32M Atlin 88.25 20 P P 10 27 05.5 +1.9
baz=218
M27K Edge Creek, AK 88.27 15 IAmb IAmb 10 27 32.5
comp=Z,20nm,1.2s
M27K Edge Creek, AK 88.27 15 P P 10 27 05.5 +1.7
baz=211,SNR=12
IMW Indian Meadow 88.28 41 IAmb IAmb 10 27 25.9
comp=Z,18nm,1.9s
SMCO Snowmass 88.35 46 P P 10 27 04.3 -0.7
SMCO IAmb IAmb 10 27 27.6
comp=Z,18nm,1.4s
SEY Seymchan 88.40 346 *ce*P **P 10 27 02.8 -1.3**
SEY pmax pmax
comp=Z,10.0nm,0.8s
O30N Mendenhall 88.48 18 P P 10 27 06.5 +1.9
baz=216
LYN LuoYang 88.51 308 *e*P **P 10 27 07.9 +2.6**
LYN S **S 10 37 47.7 -3.8**
LYN pmax pmax
comp=Z,10.0nm,0.7s
LYN LR LR
comp=Z,180nm,18.0s
LYN LR LR
comp=Z,190nm,15.5s
L26K Log Cabin Wild 88.51 14 IAmb IAmb 10 27 32.6
comp=Z,14nm,1.6s
L26K Log Cabin Wild 88.51 14 P P 10 27 06.0 +1.3
baz=210
BW06 Boulder Array 88.53 42 P P 10 27 06.0 +0.4
baz=238
PDAR Pinedale Array 88.53 42 P P 10 27 06.8 +1.3
comp=Z,1.8nm,0.8s,baz=196,slow=3.1,SNR=18
PDAR LR LR 10 58 36.2
comp=Z,53nm,21.0s,baz=224,slow=30
comp=Z,1.8nm,0.8s
BVCY Beaver Creek 88.57 15 P P 10 27 06.1 +1.1
baz=212,SNR=6.0
SDCO Great Sand Dun 88.64 48 P P 10 27 07.9 +1.7
baz=241
SDCO Great Sand Dun 88.64 48 P P 10 27 06.8 +0.5
baz=241
YHL Hebgen Lake 88.66 40 IAmb IAmb 10 27 28.0
comp=Z,14nm,1.2s
K24K Donnelly Dome 88.67 13 P P 10 27 07.2 +1.8
baz=207
YMR Madison River 88.69 40 IAmb IAmb 10 27 27.4
comp=Z,32nm,1.9s
N30M Aishikik Lake 88.75 17 P P 10 27 06.9 +1.0
baz=215
NEA2 Nenana 88.75 11 P P 10 27 06.5 +0.8
baz=204
H17A Grant Village 88.77 41 P P 10 27 07.8 +1.1
baz=237
MSTX Muleshoe 88.80 53 P P 10 27 08.5 +1.6
baz=242
MSTX Muleshoe 88.80 53 P P 10 27 07.1 +0.2
baz=242
BOZ Bozeman (W) 88.81 39 IAmb IAmb 10 27 10.3
comp=Z,36nm,1.9s
BOZ Bozeman (W) 88.81 39 P P 10 27 07.2 +0.5
baz=236,SNR=12
RIDG Independent Ri 88.81 13 IAmb IAmb 10 27 38.5
comp=Z,9.7nm,1.0s
RIDG Independent Ri 88.81 13 P P 10 27 06.6 +0.5
baz=208
I21K Tanana 88.81 10 P P 10 27 05.8 -0.2
I21K IAmb IAmb 10 27 26.1
comp=Z,10.0nm,1.1s
I21K Tanana 88.81 10 P P 10 27 06.5 +0.5
baz=202,SNR=6.7
WRH Wood River Hil 88.82 12 IAmb IAmb 10 27 26.7
comp=Z,20nm,1.2s
833A Chaparral WMA, 88.86 59 P P 10 27 08.2 +1.1
baz=244
833A Chaparral WMA, 88.86 59 P P 10 27 08.0 +0.9
baz=244
L27K Beaver Creek, 88.89 15 P P 10 27 07.2 +0.7
baz=211
DOT Dot Lake 88.90 13 P P 10 27 07.1 +0.6
DOT IAmb IAmb 10 27 34.7
comp=Z,10nm,1.1s
HDA Harding Lake 88.98 12 IAmb IAmb 10 27 26.9
comp=Z,19nm,1.5s
HDA Harding Lake 88.98 12 P P 10 27 07.2 +0.4
baz=206,SNR=6.4
R33M Jennings River 88.99 21 P P 10 27 07.6 +0.4
baz=221
P33M Teslin, Yukon 89.02 20 P P 10 27 07.7 +0.5
baz=219
CCB Clear Creek Bu 89.03 12 IAmb IAmb 10 27 26.9
comp=Z,26nm,1.6s
T25A Trinidad 89.11 49 P P 10 27 08.4 0.0
baz=241
H21K Melozitna Rive 89.13 9 P P 10 27 07.9 +0.4
baz=201
N31M Braeburn, Yuko 89.14 18 P P 10 27 08.6 +0.9
baz=216
M29M Somme Creek 89.20 16 P P 10 27 08.8 +0.7
baz=214,SNR=7.5
SCRK Sand Creek 89.20 13 P P 10 27 09.3 +1.2
baz=209
TCOL CIGO, UAF Yank 89.23 11 IAmb IAmb 10 27 15.3
comp=Z,8.5nm,0.8s
TCOL CIGO, UAF Yank 89.23 11 P P 10 27 08.8 +0.8
baz=206
COLA College 89.23 11 P P 10 27 07.8 -0.2
COLA IAmb IAmb 10 27 12.4
comp=Z,8.9nm,0.8s
COLA College 89.23 11 P P 10 27 07.8 -0.2
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 89.23 11 P P 10 27 08.5 +0.6
baz=206
MDM Murphy Dome 89.24 11 P P 10 27 07.8 -0.3
IMAR Indian Mountai 89.30 9 P P 10 27 08.7 +0.3
IL31 89.32 12 P P 10 27 08.3 0.0
ILAR Eielson Array 89.32 12 P P 10 27 08.8 +0.4
comp=Z,1.1nm,0.5s,baz=213,slow=5.4,SNR=16
ILAR LR LR 11 00 06.6
comp=Z,61nm,21.9s,baz=182,slow=31
comp=Z,1.1nm,0.5s
RWWY Rawlins 89.46 44 P P 10 27 08.8 -1.2
RWWY IAmb IAmb 10 27 30.0
comp=Z,24nm,1.6s
J25K Salcha River, 89.47 13 P P 10 27 09.4 +0.2
J25K IAmb IAmb 10 27 37.4
comp=Z,15nm,1.3s
J25K Salcha River, 89.47 13 P P 10 27 10.6 +1.3
baz=208,SNR=10.0
JCT Junction City 89.48 57 IAmb IAmb 10 27 31.0
comp=Z,36nm,1.8s
JCT Junction City 89.48 57 P P 10 27 09.6 -0.5
baz=244
WALA Waterton Lakes 89.48 35 IAmb IAmb 10 27 12.2
comp=Z,9.7nm,1.0s
H22K Ishilitna Cre 89.57 10 P P 10 27 10.1 +0.5
baz=202,SNR=13
ISCO Idaho Springs 89.57 46 P P 10 27 11.8 +1.2
baz=240
ISCO Idaho Springs 89.57 46 P P 10 27 10.6 -0.1
baz=240
K27K Chicken 89.67 14 P P 10 27 11.0 +0.9
baz=211
N32M Quiet Lake 89.67 19 P P 10 27 11.2 +1.0
baz=219
J26L Joseph Creek 89.75 13 P P 10 27 12.3 +1.7
baz=209,SNR=23
M30M Minto, Yukon 89.75 17 IAmb IAmb 10 27 31.2
comp=Z,23nm,1.8s
M30M Minto, Yukon 89.75 17 P P 10 27 12.2 +1.6
baz=216,SNR=8.1
H23K Yukon River 89.80 10 P P 10 27 10.3 -0.4
H23K Yukon River 89.80 10 P P 10 27 12.5 +1.8
baz=204
G21K Allakaket 89.84 9 P P 10 27 12.9 +2.1
baz=200
N23A Red Feather La 89.89 45 P P 10 27 12.3 +0.3
baz=240
RLMT Red Lodge 89.95 40 P P 10 27 12.4 +0.3
baz=238
AMTX Amarillo 90.02 52 IAmb IAmb 10 27 32.6
comp=Z,19nm,1.1s
AMTX Amarillo 90.02 52 P P 10 27 14.4 +1.9
baz=243
AMTX Amarillo 90.02 52 P P 10 27 12.2 -0.3
baz=243
H24K Noodor Dome 90.10 11 P P 10 27 13.4 +1.3
baz=206
M31M Drury Creek, Y 90.11 18 P P 10 27 13.5 +1.2
baz=218
PRP Porcupine Dome 90.25 12 P P 10 27 13.3 +0.4
PRP Porcupine Dome 90.25 12 P P 10 27 14.0 +1.1
baz=208
WTLY Watson Lake, Y 90.26 21 P P 10 27 13.7 +0.7
baz=222
K22A Casper 90.38 44 P P 10 27 14.5 +0.3
baz=240
FARO Faro, Yukon 90.44 18 P P 10 27 14.6 +0.9
baz=218
G22K Bettles 90.50 9 P P 10 27 15.5 +1.6
baz=202
F21K Alatna River 90.50 8 P P 10 27 15.3 +1.4
baz=200
EGAK Eagle 90.52 14 P P 10 27 15.3 +1.3
baz=212,SNR=9.6
ABTX Abilene, Hawle 90.54 55 P P 10 27 14.9 0.0
baz=244
G23K Bananza Creek 90.54 10 P P 10 27 14.7 +0.5
baz=204
I26K Coal Creek Min 90.54 13 IAmb IAmb 10 27 35.5
comp=Z,11nm,1.1s
I26K Coal Creek Min 90.54 13 P P 10 27 15.5 +1.4
baz=210
K29M Barlow Dome 90.60 16 P P 10 27 16.0 +1.4
baz=215,SNR=14
XLT XiLinHaoTe 90.61 318 *e*P **P 10 27 15.5 +0.4**
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,95nm,6.5s
BILL Bilibino 90.81 353 *e*P **P 10 27 17.1 +1.8**
BILL *e* 10 30 51.2
BILL *e*PPP PPP 10 32 50.3
BILL pmax pmax
comp=Z,5.0nm,0.5s
BILL MLR MLR
comp=Z,101nm,16.0s
MAYO Mayo, Yukon 90.82 17 P P 10 27 17.0 +1.5
baz=216
XAN Xi'an 90.89 306 P P 10 27 17.1 +0.5
XAN pP sP 10 27 21.9 +1.0
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN LR LR
comp=Z,150nm,17.9s
XAN LR LR
comp=Z,180nm,19.2s
XAN LR LR
comp=Z,290nm,21.3s
F22K John River 90.95 9 P P 10 27 17.4 +1.4
baz=202
I27K Kandik River 91.12 13 P P 10 27 18.2 +1.3
baz=211
EGMT Eagleton 91.20 38 P P 10 27 19.2 +1.5
baz=238
KSCO Kaye Shedlock' 91.23 48 P P 10 27 19.8 +1.6
KSCO Kaye Shedlock' 91.23 48 P P 10 27 20.2 +2.0
baz=242
KSCO Kaye Shedlock' 91.23 48 P P 10 27 19.2 +1.1
baz=242
HIA Hailar 91.28 324 *i* P **P 10 27 16.9 -1.1**
HIA pmax pmax
comp=Z,3.0nm,0.9s
MMPY Sheldon Lake, 91.36 19 P P 10 27 20.2 +2.2
baz=220,SNR=5.7
TGTN Hyland Airport 91.47 21 P P 10 27 20.1 +1.5
baz=223
F24K Squaw Lake 91.62 10 P P 10 27 20.0 +0.8
baz=206
I29M Ogilvie Camp, 91.66 15 P P 10 27 21.3 +1.9
baz=214
H27K Steamboat Moun 91.68 13 P P 10 27 21.4 +1.9
baz=211
G26K Porcupine Rive 91.85 12 P P 10 27 22.2 +2.0
baz=209
WHTX Lake Whitney, 91.94 56 P P 10 27 22.9 +1.5
baz=245
WHTX Lake Whitney, 91.94 56 P P 10 27 22.1 +0.7
baz=245
E24K Your Creek 92.03 10 P P 10 27 23.0 +1.9
baz=205
HHC Hu-ho-hao-te 92.07 313 *e*P **P 10 27 24.5 +2.5**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.8s
F25K Christian Rive 92.08 11 P P 10 27 23.0 +1.7
baz=208
WMOK Wichita Mounta 92.10 53 IAmb IAmb 10 27 58.1
comp=Z,12nm,1.6s
WMOK Wichita Mounta 92.10 53 P P 10 27 23.4 +1.2
baz=245
WMOK Wichita Mounta 92.10 53 P P 10 27 22.9 +0.8
baz=245
G27K Doyon Strip 92.15 13 P P 10 27 24.0 +2.4
baz=211
ELIS Ellis County 92.20 52 IAmb IAmb 10 27 43.8
comp=Z,32nm,1.2s
HKT Hockley 92.37 59 P P 10 27 26.2 +2.8
HKT IAmb IAmb 10 27 45.0
comp=Z,22nm,1.5s
HKT Hockley 92.37 59 P P 10 27 26.2 +2.8
HKT pmax pmax
comp=Z,22nm,1.5s
TOLK Toolik Lake Re 92.38 9 P P 10 27 24.8 +2.2
baz=204
D23K Nanushuk River 92.52 9 P P 10 27 25.4 +2.1
baz=203
LAO LASA Array 92.58 40 P P 10 27 26.3 +2.1
baz=240
LAO LASA Array 92.58 40 P P 10 27 25.2 +1.1
baz=240
U32A Winter Ranch, 92.64 52 P P 10 27 26.4 +1.9
baz=244
RSSD Black Hills 92.68 43 P P 10 27 25.2 +0.3
RSSD Black Hills 92.68 43 P P 10 27 25.2 +0.3
RSSD pmax pmax
comp=Z,29nm,1.4s
RSSD Black Hills 92.68 43 P P 10 27 26.0 +1.2
baz=242
RSSD Black Hills 92.68 43 P P 10 27 25.7 +0.8
baz=242
CMAR Chiang Mai Arr 92.79 289 P P 10 27 25.6 0.0
comp=Z,3.1nm,0.7s,baz=132,slow=3.3,SNR=15
CMAR LR LR 11 05 47.7
comp=Z,62nm,21.8s,baz=105,slow=33
comp=Z,3.1nm,0.7s
EPYK Eagle Plains 92.87 15 P P 10 27 26.6 +1.7
baz=216
CHTO Chiang Mai 92.92 289 P P 10 27 28.7 +2.5
CHTO Chiang Mai 92.92 289 P P 10 27 28.7 +2.5
BTO Baotou 93.00 313 *eP* P 10 27 37.7 +11
E27K Coleen River 93.35 12 P P 10 27 28.8 +1.7
baz=211
OK032 Salt Plains WL 93.39 52 P 10 27 27.5 -0.5
NNA Nana 93.45 104 LR LR 10 59 24.2
comp=Z,204nm,21.0s,baz=248,slow=29
PZH PanZhiHua 93.45 297 P P 10 27 29.3 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.7s
D25K Kavik River 93.50 10 P P 10 27 29.5 +1.7
baz=207
CD2 Chengdu 93.55 302 *e*P **P 10 27 30.0 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
R32A Long Quarter, 93.72 50 P P 10 27 31.4 +1.9
baz=245
ATAH Atahualpa 93.92 99 LR LR 11 00 53.7
comp=Z,107nm,20.8s,baz=254,slow=30
YAK Yakutsk 94.40 337 LR LR 11 04 37.6
comp=Z,52nm,21.7s,baz=89,slow=32
DGMT Dagmar 94.64 39 P P 10 27 36.0 +2.4
baz=242
DGMT Dagmar 94.64 39 P P 10 27 34.4 +0.9
baz=242
T35B Sooner Cattle 94.68 52 P P 10 27 35.4 +1.4
baz=246
TUL1 Leonard 94.81 53 P P 10 27 34.4 -0.1
baz=246
BGNE Belgrade 95.36 48 P P 10 27 37.6 +0.6
baz=245
K31A O'Neill 95.46 46 P P 10 27 39.6 +2.2
baz=245
LVC Limon Verde 95.89 117 LR LR 11 01 38.3
comp=Z,124nm,20.8s,baz=248,slow=30
PB16 IPOC Station P 97.28 113 P Pdif 10 27 50.3 +3.2
ECSD EROS Data Cent 97.34 46 P P 10 27 45.5 -0.4
ECSD EROS Data Cent 97.34 46 P Pdif 10 27 47.0 +1.0
baz=247
ECSD EROS Data Cent 97.34 46 P Pdif 10 27 46.5 +0.5
baz=247
ULN Ulaanbaatar 98.03 318 *i* P Pdif 10 27 49.7 +0.6
ULN pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 98.42 318 LR LR 11 09 06.9
comp=Z,43nm,18.2s,baz=100,slow=34

LPAZ	**La Paz**	**99.36**	**112**	P	**Pdif**	**10 27 58.0**	**+1.6**	
	comp=Z,2.4nm,1.1s,baz=238,slow=8.7,SNR=4.5							
LPAZ				LR	LR	11 03 04.2		
	comp=Z,65nm,21.8s,baz=287,slow=30							
	comp=Z,2.4nm,1.1s							
ZALV	**Zalesovo Beam**	**113.13**	**321**	PKiKP	**PKiKP**	**10 32 48.7**	**-1.1**	
	comp=Z,0.8nm,0.3s,baz=85,slow=3.0,SNR=4.6							
MK31	**Makanchi Array**	**113.92**	**313**	*i* PKiKP	**PKiKP**	**10 32 50.3**	**-1.3**	
MKAR	**Makanchi Array**	**113.92**	**313**	PKiKP	**PKiKP**	**10 32 50.8**	**-0.8**	
	comp=Z,1.5nm,0.6s,baz=72,slow=0.3,SNR=16							
KURK	**Kurchatov**	**116.68**	**317**		**PKPdf**	**10 32 55.9**	**-0.7**	
KURK	**Kurchatov**	**116.68**	**317**	PKIKP	**PKPdf**	**10 32 55.9**	**-0.7**	
AAK	**Ala-Archa**	**119.05**	**307**	*i* PKIKP	**PKPdf**	**10 33 01.3**	**-0.5**	
BRVK	**Borovoye**	**121.79**	**320**		**PKPdf**	**10 33 05.8**	**-0.7**	
BRVK	**Borovoye**	**121.79**	**320** *c*	*i* PKIKP	**PKPdf**	**10 33 05.5**	**-1.0**	
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
KK31	**Karatay Array**	**122.00**	**308**		**PKPdf**	**10 33 06.6**	**-0.6**	
KK31	**Karatay Array**	**122.00**	**308**	PKIKP	**PKPdf**	**10 33 06.6**	**-0.6**	
KKAR	**Karatay Array**	**122.00**	**308**		**PKPdf**	**10 33 06.5**	**-0.7**	
KKAR	**Karatay Array**	**122.00**	**308**		**PKPdf**	**10 33 06.3**	**-0.9**	
KKAR	**Karatay Array**	**122.00**	**308**	PKIKP	**PKPdf**	**10 33 06.5**	**-0.7**	
KBL	**Kabul**	**122.64**	**298**		**PKPdf**	**10 33 08.9**	**-0.1**	
KBL	**Kabul**	**122.64**	**298**	PKIKP	**PKPdf**	**10 33 08.9**	**-0.1**	
CHGR	**Chuyangaron**	**122.86**	**303**		**PKPdf**	**10 33 08.2**	**-0.9**	
CHGR	**Chuyangaron**	**122.86**	**303**	PKIKP	**PKPdf**	**10 33 08.2**	**-0.9**	
DY2G	**Dye2**	**125.27**	**22**	*i* P	**PKPdf**	**10 33 13.2**	**+0.1**	
DY2G				IAmb	IAmb	10 33 13.8		
	comp=Z,105nm,2.2s							
BOSA	**Boshof**	**125.79**	**203**	PKP	**PKPdf**	**10 33 15.4**	**+0.2**	
	comp=Z,2.5nm,0.8s,baz=185,slow=1.0,SNR=3.2							
ARU	**Arti**	**127.77**	**325**	*i* PKIKP	**PKPdf**	**10 33 17.9**	**+0.1**	
ARU						10 35 17.0		
ARU						10 40 28.9		
ARU				SS	SS	10 52 22.8	-8.9	
ARCES	**ARCESS Array B**	**130.83**	**350**	PKP	**PKPdf**	**10 33 23.8**	**+0.5**	
	comp=Z,4.6nm,0.7s,baz=29,slow=2.1,SNR=19							
ARCES	**ARCESS Array B**	**130.83**	**350**		**PKPdf**	**10 33 23.6**	**+0.3**	
KIRV	**Kirov**	**131.43**	**330**	*i* PKIKP	**PKiKP**	**10 33 26.1**	**+0.5**	
GEYT	**Alibeck**	**131.54**	**302**	PKP	**PKPdf**	**10 33 26.0**	**+0.4**	
	comp=Z,3.3nm,0.6s,baz=128,slow=2.4,SNR=5.3							
GEYT				SKPbc	**SKPbc**	**10 36 47.8**	**-3.4**	
	comp=Z,7.4nm,1.0s,baz=66,slow=3.5,SNR=11							
KLMR	**Klimovskoe**	**134.20**	**337**	*e*PKIKP	**PKPdf**	**10 33 29.7**	**-0.1**	
KLMR				pmax	pmax			
	comp=Z,13nm,1.3s							
KLMR	**Klimovskoe**	**134.20**	**337**	*e*PKPdf	**PKPdf**	**10 33 29.8**	**-0.1**	
KLMR				AMP		10 33 31.8		
	comp=Z,13nm,1.3s							
FINES	**FINESS Array B**	**137.87**	**345**	PKhKP	PKPpre	10 33 29.6		
	comp=Z,3.3nm,0.9s,baz=42,slow=4.5,SNR=3.5							
FINES				PKP	**PKPdf**	**10 33 37.0**	**+0.4**	
	comp=Z,2.1nm,0.6s,baz=28,slow=3.3,SNR=4.8							
FINES				SKPbc	**SKPbc**	**10 37 11.5**	**+0.9**	
	comp=Z,1.2nm,0.6s,baz=356,slow=2.1,SNR=3.7							
OBN	**Obninsk**	**139.19**	**332**	*e*PKIKP	**PKPdf**	**10 33 38.8**	**-0.4**	
OBN				*e*		10 36 29.6		
OBN				*e*PPP	PPP	10 39 34.5		
OBN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
NB2	**NORSAR Subarra1**	**140.75**	**355**	PKP	**PKPdf**	**10 33 34.9**	**-7.1**	
	comp=Z,1.3nm,0.7s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**140.75**	**355**	PKhKP	PKPpre	10 33 34.2		
	comp=Z,1.6nm,0.8s,baz=21,slow=6.7,SNR=7.4							
KBZ	**Khabaz**	**141.61**	**313**	*i* PKIKP	**PKPdf**	**10 33 44.7**	**+0.7**	
KIV	**Kislovodsk**	**141.67**	**314**	*i* PKIKP	**PKPdf**	**10 33 44.9**	**+0.6**	
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,120nm,24.0s							
RAYN	**Ar Rayn**	**142.22**	**280**	⇑PKIKP	**PKPdf**	**10 33 43.1**	**-2.7**	
NACGM	**Naroch**	**143.16**	**339**	⇑*e*PKP	**PKPdf**	**10 33 47.3**	**+0.9**	
	baz=36							
GURO	**Guroymak-BITLI**	**143.92**	**306**		PKPbc	10 33 47.1	+0.9	
LODK	**Lodwar**	**144.77**	**243**	PKPdf	**PKPab**	**10 33 49.9**	**+0.5**	
DEL	**Delary**	**144.92**	**351**	*i* P	**PKPab**	**10 33 48.0**	**-0.5**	
MUD	**Monsted U'grnd**	**145.45**	**355**	*i* P	**PKPbc**	**10 33 50.5**	**+0.3**	
MUD				IAmb	IAmb	10 33 51.6		
	comp=Z,38nm,0.8s							
AKASG	**Malin Array Be**	**145.46**	**332**	PKPbc	**PKPbc**	**10 33 49.9**	**-0.7**	
	comp=Z,13nm,0.6s,baz=42,slow=4.5,SNR=43							
AKBB	**Malin Array Si**	**145.46**	**332**		**PKPbc**	**10 33 49.6**	**-0.8**	
AKBB	**Malin Array Si**	**145.46**	**332**	PKIKP	**PKPbc**	**10 33 49.7**	**-0.8**	
MBAR	**Mbarara**	**145.89**	**232** *c*	*i* PKP2	**PKPab**	**10 33 54.6**	**+0.9**	
MBAR				pmax	pmax			
	comp=Z,21nm,1.3s							
BSD	**Bornholm Skovb**	**146.05**	**349**	*i* P	**PKPbc**	**10 33 52.5**	**+0.3**	
BSD				IAmb	IAmb	10 33 53.3		
	comp=Z,40nm,0.6s							
SIM	**Simferopol'**	**146.64**	**320**	*i* PKP2	**PKPbc**	**10 33 54.1**	**-0.2**	
SIM				pmax	pmax			
	comp=Z,48nm,0.9s							
BEL	**Belsk**	**147.68**	**341**	*e*PKP	**PKPbc**	**10 33 57.6**	**+0.6**	
LVV	**L'vov**	**148.27**	**336**	*e*PKP2	**PKPbc**	**10 33 58.2**	**-0.5**	
BNN	**Bunyan**	**148.38**	**309**	PKPdf	**PKPdf**	**10 33 55.0**	**-1.1**	
BNN					**pPKPdf**	**10 33 58.9**	**-0.4**	
KWP	**Kalwaria Pacla**	**148.91**	**337**	*e*PKP	**PKPbc**	**10 34 00.6**	**+0.3**	
OJC	**Ojcow**	**149.40**	**341**	*e*PKP	**PKPbc**	**10 34 00.2**	**-1.3**	
VLDR	**Vladesti**	**149.43**	**327**	⇑P	**PKiKP**	**10 34 03.1**	**+0.2**	
BURAR	**Bucovina Array**	**149.51**	**332**	⇑P	**PKPbc**	**10 34 03.0**	**+0.9**	
BURAR	**Bucovina Array**	**149.51**	**332**	⇑PKP2	**PKPbc**	**10 34 03.0**	**+0.9**	
BR131	**Keskin Array S**	**149.57**	**312**		**PKPbc**	**10 34 02.4**	**-0.1**	
BR131	**Keskin Array S**	**149.57**	**312**	PKP2	**PKPbc**	**10 34 02.4**	**-0.1**	
BRTR	**Keskin Array B**	**149.57**	**312**	PKPbc	**PKPbc**	**10 34 02.3**	**-0.1**	
	comp=Z,10.0nm,0.6s,baz=101,slow=2.9,SNR=26							
BRTR	**Keskin Array B**	**149.57**	**312**		**PKPbc**	**10 34 02.5**	**0.0**	
BRTR	**Keskin Array B**	**149.57**	**312**	PKP2	**PKPbc**	**10 34 02.5**	**0.0**	
BIZ	**Bicaz**	**149.62**	**330**	⇑P	**PKiKP**	**10 34 03.4**	**+0.2**	
GHRR		**149.62**	**328**	⇑P	**PKPbc**	**10 34 03.0**	**+0.8**	
KOLS	**Kolonicke sedl**	**149.65**	**336**	*e*PKP2	**PKiKP**	**10 34 03.6**	**+0.3**	
KOLS	**Kolonicke sedl**	**149.65**	**336**	*e*PKP	**PKiKP**	**10 34 03.6**	**+0.3**	
TESR	**Tescani**	**149.67**	**329**	⇑P	**PKPbc**	**10 34 02.2**	**-0.2**	
KSP	**Ksiaz**	**149.80**	**345**	*e*PKP	**PKPbc**	**10 34 03.3**	**+0.8**	
CFR	**Carcaliu**	**149.85**	**326**	⇑P	**PKPbc**	**10 34 03.0**	**+0.2**	
CFR	**Carcaliu**	**149.85**	**326**	⇑PKP2	**PKPbc**	**10 34 03.0**	**+0.2**	
UZH	**Uzhgorod**	**149.90**	**336**	⇓*i* PKP2	**PKPbc**	**10 34 03.2**	**+0.4**	
TPGR	**Topolog**	**149.92**	**325**	⇑P	**PKPbc**	**10 34 03.7**	**+0.7**	
NIE	**Niedzica**	**149.93**	**339**	*e*PKP	**PKiKP**	**10 34 04.0**	**+0.2**	
CLL	**Collm**	**150.04**	**349**	*i* PKP2	**PKPbc**	**10 34 03.6**	**+0.6**	
CLL				pmax	pmax			
	comp=Z,25nm,0.9s							
CLL	**Collm**	**150.04**	**349**	⇑*i* PKPbc	**PKPbc**	**10 34 03.6**	**+0.6**	
	comp=Z,25nm,0.9s							
CLL				*i* PKiKP	**PKiKP**	**10 34 05.2**	**+1.3**	
	comp=Z,33nm,1.3s							
CLL				*i* PKPab	**PKPab**	**10 34 09.4**	**+0.6**	
CLL				*e*PKPlp		10 34 15.0		
CLL				*e*PP	**PP**	**10 37 42.0**	**+5.4**	
CLL				*e*(PPS)		10 50 54.0		
CLL				*e*SS	SS	10 57 12.0	+19	
OSTC	**Ostas**	**150.08**	**345**	⇑*e*PKP	**PKiKP**	**10 34 04.5**	**+0.4**	
ANTO	**Ankara**	**150.08**	**313**	⇑P	**PKPbc**	**10 34 04.0**	**+0.3**	
ANTO	**Ankara**	**150.08**	**313**	PKPdf	**PKPdf**	**10 33 58.5**	**-0.1**	
ANTO					**PKPbc**	**10 34 04.3**	**+0.7**	
ANTO	**Ankara**	**150.08**	**313**	⇑PKP2	**PKPbc**	**10 34 04.0**	**+0.3**	
CHVC	**Chvalec**	**150.09**	**345**	⇑*e*PKP	**PKiKP**	**10 34 04.4**	**+0.3**	
VRI	**Vrincioaia**	**150.09**	**328**	⇑P	**PKPbc**	**10 34 03.6**	**+0.2**	
VRI	**Vrincioaia**	**150.09**	**328**	⇑PKP2	**PKPbc**	**10 34 03.6**	**+0.2**	
PLOR	**Plostina**	**150.14**	**328**	⇑P	**PKPbc**	**10 34 03.5**	**0.0**	
PLOR	**Plostina**	**150.14**	**328**	⇑PKP2	**PKPbc**	**10 34 03.5**	**0.0**	
TIRR	**Tirgusor**	**150.18**	**324**	⇑P	**PKPbc**	**10 34 04.1**	**+0.5**	
TIRR	**Tirgusor**	**150.18**	**324**	⇑PKP2	**PKPbc**	**10 34 04.1**	**+0.5**	
DPC	**Dobruska-Polom**	**150.25**	**345**	*e*PKIKP	**PKPbc**	**10 34 04.3**	**+0.6**	
DPC	**Dobruska-Polom**	**150.25**	**345**	⇑*e*PKP	**PKPbc**	**10 34 04.3**	**+0.6**	
BRG	**Berggiesshubel**	**150.28**	**348**	*i* PKP	**PKPbc**	**10 34 04.5**	**+0.9**	
BRG				Amp		10 34 06.0		
	comp=Z,19nm,0.9s							
BRG				*ex*	x	10 34 10.8		
BRG				Amp		10 34 11.4		
	comp=Z,14nm,0.8s							
BRG				*ex*	x	10 35 22.0		
BRG				Amp		10 35 22.3		
	comp=Z,9.2nm,0.8s							
BRG	**Berggiesshubel**	**150.28**	**348**	*i* PKIKP	**PKPbc**	**10 34 04.5**	**+0.9**	
BRG				pmax	pmax			
	comp=Z,19nm,1.0s							
BRG				pmax	pmax			
	comp=Z,14nm,0.8s							
BRG				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HARR	**Harsova**	**150.29**	**325**	⇑P	**PKPbc**	**10 34 04.5**	**+0.7**	
HARR	**Harsova**	**150.29**	**325**	⇑PKIKP	**PKPbc**	**10 34 04.5**	**+0.7**	
COVR	**Voineasa-Covas**	**150.37**	**328**	⇑P	**PKPbc**	**10 34 04.1**	**0.0**	
KRLC	**Kraliky**	**150.38**	**344**	*e*PKIKP	**PKPbc**	**10 34 04.7**	**+0.7**	
KRLC	**Kraliky**	**150.38**	**344**	⇑*e*PKP	**PKPbc**	**10 34 04.7**	**+0.7**	
OZUR		**150.38**	**329**	⇑P	**PKPbc**	**10 34 04.8**	**+0.7**	
LANS	**Liptovska Anna**	**150.44**	**340**	*e*PKIKP	**PKiKP**	**10 34 05.6**	**+0.7**	
LANS	**Liptovska Anna**	**150.44**	**340**	*e*PKP	**PKiKP**	**10 34 05.6**	**+0.7**	
MORC	**Moravsky Berou**	**150.45**	**343**	⇑P	**PKPbc**	**10 34 02.9**	**-1.3**	
MORC	**Moravsky Berou**	**150.45**	**343**	*e*PKP	**PKPbc**	**10 34 04.8**	**+0.6**	
MORC	**Moravsky Berou**	**150.45**	**343**	⇑PKIKP	**PKPbc**	**10 34 02.9**	**-1.3**	
PVCC	**Panska Ves**	**150.48**	**347**	*e*PKIKP	**PKiKP**	**10 34 05.3**	**+0.4**	
PVCC	**Panska Ves**	**150.48**	**347**	⇑*e*PKP	**PKiKP**	**10 34 05.3**	**+0.4**	
MANR	**Mangalia**	**150.50**	**323**	⇑P	**PKiKP**	**10 34 05.4**	**+0.2**	
NEHR	**Nehoiu**	**150.62**	**328**	⇑P	**PKiKP**	**10 34 05.5**	**+0.1**	
DOPR	**Dopca**	**150.67**	**329**	⇑P	**PKiKP**	**10 34 05.8**	**+0.3**	
MAUC	**Maruska**	**150.74**	**342**	⇑*e*PKP	**PKiKP**	**10 34 05.7**	**+0.2**	
MLR	**Muntele Rosu**	**150.75**	**328**	⇑P	**PKPbc**	**10 34 05.2**	**+0.1**	
MLR	**Muntele Rosu**	**150.75**	**328**		**PKPbc**	**10 34 05.7**	**+0.6**	
MLR	**Muntele Rosu**	**150.75**	**328**	⇑PKIKP	**PKPbc**	**10 34 05.2**	**+0.1**	
PRU	**Pruhonice**	**151.00**	**347**	*e*PKIKP	**PKPbc**	**10 34 05.9**	**+0.5**	
PRU	**Pruhonice**	**151.00**	**347**	⇑*e*PKP	**PKPbc**	**10 34 05.9**	**+0.5**	
VRAC	**Vranov**	**151.13**	**343**	PKPbc	**PKPbc**	**10 34 06.0**	**+0.2**	
	comp=Z,1.4nm,0.4s,baz=333,slow=2.3,SNR=1.4							
VRAC	**Vranov**	**151.13**	**343**	*e*PKP	**PKPbc**	**10 34 06.3**	**+0.5**	
VRAC	**Vranov**	**151.13**	**343**	PKIKP	**PKPbc**	**10 34 06.0**	**+0.2**	
VYHS	**Vyhne**	**151.21**	**340**	*e*PKIKP	**PKPbc**	**10 34 06.6**	**+0.6**	
VYHS	**Vyhne**	**151.21**	**340**	*e*PKP	**PKPbc**	**10 34 06.6**	**+0.6**	
VOIR		**151.22**	**329**	⇑P	**PKPbc**	**10 34 06.6**	**+0.4**	
VOIR		**151.22**	**329**	⇑PKIKP	**PKPbc**	**10 34 06.6**	**+0.4**	
DRGR		**151.22**	**333**	⇑P	**PKPbc**	**10 34 06.6**	**+0.5**	
DRGR		**151.22**	**333**	⇑PKIKP	**PKPbc**	**10 34 06.6**	**+0.5**	
JAVC	**Velka Javorina**	**151.24**	**342**	*e*PKP	**PKiKP**	**10 34 07.7**	**+1.1**	
PSZ	**Piszkesteto**	**151.36**	**338**	⇑P	**PKPbc**	**10 34 06.8**	**+0.4**	
PSZ	**Piszkesteto**	**151.36**	**338**	⇑PKIKP	**PKPbc**	**10 34 06.8**	**+0.4**	
PSZ	**Piszkesteto**	**151.36**	**338**	PKP	**PKiKP**	**10 34 07.7**	**+0.8**	
KRUC	**Moravsky**	**151.41**	**343**	*e*PKP	**PKPbc**	**10 34 06.8**	**+0.4**	
MEM	**Membach**	**151.46**	**358**	*d*PKP	**PKPbc**	**10 34 06.7**	**+0.3**	
ARR	**Arges**	**151.47**	**329**	⇑P	**PKiKP**	**10 34 07.7**	**+0.5**	
BTNL	**Ternell**	**151.48**	**358**	*d*PKP	**PKPbc**	**10 34 07.0**	**+0.5**	
BSTI	**Sart Tilman**	**151.50**	**359**	*d*PKP	**PKiKP**	**10 34 07.4**	**+0.5**	
BORA	**Eskisehir**	**151.64**	**315**	PKPdf	**PKPdf**	**10 34 01.1**	**0.0**	
BORA					**PKPbc**	**10 34 07.2**	**-0.1**	
BORA				PKPab	**pPKPab**	**10 34 18.6**	**-0.6**	
CSS	**Mathiatis**	**151.66**	**303**		**PKPbc**	**10 34 07.3**	**-0.2**	
BMRD	**Maredsous**	**151.79**	**360**	*d*PKP	**PKiKP**	**10 34 07.9**	**+0.3**	
MODS	**Modra-Piesok**	**151.79**	**342**	*e*PKIKP	**PKPbc**	**10 34 07.9**	**+0.6**	
MODS	**Modra-Piesok**	**151.79**	**342**	*e*PKP	**PKPbc**	**10 34 07.9**	**+0.6**	
LOT	**Lotru**	**151.81**	**330**	⇑P	**PKPbc**	**10 34 07.3**	**-0.3**	
RCHB	**Rochefort**	**151.93**	**359**	*d*PKP	**PKPbc**	**10 34 07.9**	**+0.3**	
DOU	**Dourbes**	**152.00**	**360**	*d*PKP	**PKPbc**	**10 34 07.9**	**+0.2**	
KHC	**Kasperske Hory**	**152.01**	**347**		**PKiKP**	**10 34 08.6**	**+0.4**	
KHC	**Kasperske Hory**	**152.01**	**347**	*e*PKIKP	**PKPbc**	**10 34 08.4**	**+0.6**	
KHC				*e*		10 34 16.5		
KHC				MLR	MLR			
	comp=Z,200nm,20.9s							
KHC	**Kasperske Hory**	**152.01**	**347**	⇑*e*PKP	**PKPbc**	**10 34 08.4**	**+0.6**	
KHC				*e*PKPAB	**PKPab**	**10 34 16.5**	**-0.6**	
KHC				AMS	AMS	11 40 30.0		
	comp=Z,200nm,20.9s							
SIRR	**Siria**	**152.08**	**334**	⇑P	**PKPbc**	**10 34 08.6**	**+0.6**	
CKRC	**Cesky Krumlov**	**152.15**	**346**	⇑*e*PKP	**PKiKP**	**10 34 08.8**	**+0.4**	
GERES	**GERESS Array B**	**152.26**	**347**	PKPbc	**PKPbc**	**10 34 08.7**	**+0.2**	
	comp=Z,3.8nm,0.8s,baz=11,slow=1.0,SNR=20							
GERES	**GERESS Array B**	**152.26**	**347**		**PKiKP**	**10 34 09.2**	**+0.5**	
GZR	**Gura Zlata**	**152.30**	**332**	⇑P	**PKPbc**	**10 34 06.4**	**-2.2**	
GZR	**Gura Zlata**	**152.30**	**332**	⇑PKIKP	**PKPbc**	**10 34 06.4**	**-2.2**	
WLF	**Walferdange**	**152.40**	**358**	*d*PKP	**PKiKP**	**10 34 10.0**	**+1.1**	
CONA	**Conrad Observa**	**152.59**	**343**	*e*P	**PKPdf**	**10 34 02.5**	**+0.3**	
	comp=Z,7.2nm,1.0s							
BZS	**Buzias**	**152.62**	**333**	⇑P	**PKPbc**	**10 34 08.8**	**-0.4**	
BZS	**Buzias**	**152.62**	**333**	⇑PKIKP	**PKPbc**	**10 34 08.8**	**-0.4**	
RONA	**Rosalia, Austr**	**152.69**	**342**	*e*P	**PKPbc**	**10 34 09.9**	**+0.5**	
	comp=Z,7.9nm,0.6s							
HERR	**Herculane**	**152.86**	**331**	⇑P	**PKPbc**	**10 34 07.8**	**-2.0**	
MOA	**Molln**	**153.07**	**345**	*e*P	**PKPbc**	**10 34 10.3**	**+0.1**	
	comp=Z,2.6nm,0.6s							
MDVR	**Moldovita**	**153.24**	**332**	⇓P	**PKPbc**	**10 34 11.1**	**+0.4**	
MORH	**Mrgy, Hungar**	**153.26**	**338**	⇑P	**PKPbc**	**10 34 10.7**	**+0.1**	
KOVH	**Kovagotottos**	**153.56**	**338**	PKP	**PKiKP**	**10 34 12.0**	**+0.7**	
BFO	**Black Forest**	**153.59**	**354**		**PKiKP**	**10 34 12.4**	**+1.0**	
BFO	**Black Forest**	**153.59**	**354**	PKIKP	**PKiKP**	**10 34 12.4**	**+1.0**	
BLKB	**Belogradchik**	**153.70**	**329**	⇑P	**PKPbc**	**10 34 11.6**	**-0.2**	
ECH	**Echery**	**153.79**	**356**		**PKPab**	**10 34 24.0**	**-0.6**	
SOKA	**Soboth**	**153.97**	**343**	*e*P	**PKiKP**	**10 34 15.5**	**+3.2**	
	comp=Z,2.9nm,0.7s							
KBA	**Koelnbreinsper**	**154.01**	**346**	*e*P	**PKiKP**	**10 34 18.9**	**+6.4**	
	comp=Z,4.7nm,0.8s							
WATA	**Walderalm**	**154.12**	**349**	*e*P	**PKiKP**	**10 34 14.5**	**+1.8**	
	comp=Z,3.0nm,0.5s							
WTTA	**Wattenberg**	**154.18**	**349**	*e*P	**PKiKP**	**10 34 13.4**	**+0.5**	
	comp=Z,4.9nm,0.5s							
DAVA	**Damuels**	**154.43**	**351**	*e*P	**PKiKP**	**10 34 14.1**	**+0.8**	
	comp=Z,5.6nm,0.9s							
ABTA	**Abfaltersbach**	**154.50**	**347**	*e*P	**PKPbc**	**10 34 13.3**	**-0.1**	
	comp=Z,4.4nm,0.7s							
DIVS	**Divibare**	**154.53**	**333**	PKPdf	**PKPdf**	**10 34 03.1**	**-2.0**	
DIVS					**PKPbc**	**10 34 13.7**	**+0.1**	
DIVS				PKPab	**PKPab**	**10 34 28.0**	**+0.1**	
DAVOX	**Davos/Dischmat**	**154.93**	**351**	PKPbc	**PKiKP**	**10 34 15.3**	**+0.9**	
	comp=Z,3.1nm,0.6s,baz=46,slow=4.4,SNR=2.3							
CIMO	**Cimolais**	**154.93**	**347**	PKPdf	**PKPdf**	**10 34 05.4**	**-0.1**	
ESDC	**Sonseca Array**	**161.01**	**20**	PKP	**PKPdf**	**10 34 14.2**	**+0.9**	
	comp=Z,1.6nm,1.1s,baz=325,slow=1.6,SNR=5.1							
ESDC				PKPab	**PKPab**	**10 34 56.9**	**+0.9**	
	comp=Z,1.9nm,0.8s,baz=332,slow=4.1,SNR=7.7							
DBIC	**Dimbokro**	**162.27**	**148**	PKPab	**PKPab**	**10 35 03.2**	**+1.2**	
	comp=Z,8.2nm,1.1s,baz=220,slow=6.0,SNR=3.9							
KEST	**Kesra**	**165.71**	**344**	PKPab	**PKPab**	**10 35 17.1**	**+0.4**	
	comp=Z,3.7nm,0.7s,baz=0.0,slow=5.1,SNR=3.8							
TORD	**Torodi Ar. Bea**	**170.77**	**163**	PKP	**PKPdf**	**10 34 21.0**	**-0.8**	
	comp=Z,1.7nm,0.9s,baz=232,slow=1.3,SNR=6.6							
TORD				PKPab	**PKPab**	**10 35 39.5**	**+0.1**	
	comp=Z,1.6nm,0.8s,baz=182,slow=3.9,SNR=5.4							

ROM 01 10:15:46.8±0.0, 42°.782N±0°.002×13°.174E±0°.004,
h11km, Md1.4/10, 3C-2D, Error ellipse: s-maj=0.3km
s-min=0.2km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.05**	**25**	⇓P	Pg	10 15 49.3	+0.2
T1242				S	Sg	10 15 50.7	-0.2
T1242				AML	AML		
	comp=E,1490μm,0.3s						
T1242				AML	AML		
	comp=N,2215μm,1.1s						
T1242				AML	AML		
	comp=N,2220μm,1.1s						
T1242				END			
NRCA	**Norcia**	**0.07**	**319**	P	Pg	10 15 49.4	+0.2
NRCA				S	Sg	10 15 50.8	-0.1
NRCA				AML	AML		
	comp=E,4380μm,0.2s						
NRCA				AML	AML		
	comp=N,3820μm,0.1s						
NRCA				AML	AML		
	comp=E,4900μm,0.2s						
NRCA				AML	AML		
	comp=N,4185μm,0.1s						
NRCA				AML	AML		
	comp=N,3815μm,0.1s						
NRCA				AML	AML		
	comp=E,4895μm,0.2s						
NRCA				END			
T1202	**Accumoli, Fraz**	**0.09**	**155**	⇓P	Pg	10 15 49.9	+0.5
T1202				S	Sg	10 15 51.9	+0.5
T1202				AML	AML		
	comp=E,18950μm,0.8s						
T1202				AML	AML		
	comp=N,11470μm,0.3s						
T1202				AML	AML		
	comp=E,19000μm,0.8s						
T1202				AML	AML		
	comp=N,11450μm,0.3s						
T1202				END			
T1244	**Arquata del Tr**	**0.09**	**105**	P	Pg	10 15 50.0	+0.5
T1244				S	Sg	10 15 52.2	+0.8
T1244				AML	AML		
	comp=E,3370μm,0.4s						
T1244				AML	AML		
	comp=N,5645μm,0.3s						
T1244				AML	AML		
	comp=E,3295μm,0.2s						
T1244				AML	AML		
	comp=N,5605μm,0.3s						
T1244				END			
MC2	**Monte Cornacci**	**0.13**	**5**	⇑P	Pg	10 15 50.5	+0.4
MC2				S	Sg	10 15 53.0	+0.5
MC2				END			
MMO1	**Montemonaco**	**0.16**	**44**	P	Pg	10 15 50.9	+0.4
MMO1				S	Sg	10 15 53.9	+0.9
MMO1				AML	AML		
	comp=E,1270μm,0.5s						
MMO1				AML	AML		
	comp=N,2585μm,0.3s						
MMO1				AML	AML		
	comp=N,2590μm,0.3s						
MMO1				END			
SMA1	**SAN MARTINO**	**0.19**	**142**	P	Pg	10 15 51.5	+0.5
SMA1				AML	AML		
	comp=E,9055μm,0.3s						
SMA1				AML	AML		
	comp=N,15000μm,0.3s						
T1241	**Roccafluvione,**	**0.20**	**69**	⇑P	Pg	10 15 51.7	+0.6
T1241				S	Sg	10 15 55.1	+1.0
T1241				AML	AML		
	comp=E,1370μm,1.1s						
T1241				AML	AML		
	comp=N,1268μm,0.2s						
T1241				AML	AML		
	comp=E,1290μm,1.1s						
T1241				AML	AML		
	comp=N,1215μm,0.2s						
T1241				AML	AML		
	comp=E,1365μm,1.1s						
T1241				AML	AML		
	comp=N,1270μm,0.2s						
T1241				AML	AML		
	comp=E,1285μm,1.1s						
T1241				AML	AML		
	comp=N,1220μm,0.2s						
T1241				END			
LNSS	**Leonessa**	**0.20**	**209**	⇑P	Pg	10 15 51.8	+0.6
LNSS				S	Sg	10 15 55.4	+1.2
LNSS				AML	AML		
	comp=E,1595μm,0.2s						
LNSS				AML	AML		
	comp=N,1770μm,0.9s						
LNSS				AML	AML		
	comp=E,1600μm,0.2s		

LNSS				AML	AML			
	comp=E,1595μm,0.2s							
LNSS				AML	AML			
	comp=E,1600μm,0.2s							
LNSS				AML	AML			
	comp=N,1770μm,0.9s							
T1242	**Castelluccio d**	**0.20**	**339**	⇓P	Pg	10 16 09.1	+0.3	
T1242				S	Sg	10 16 12.4	+0.5	
TERO	**Teramo**	**0.23**	**96**	⇑P	Pg	10 16 09.4	+0.3	
TERO				S	Sg	10 16 13.1	+0.6	
TERO				AML	AML			
	comp=E,5235μm,0.1s							
TERO				AML	AML			
	comp=N,2520μm,0.1s							
TERO				AML	AML			
	comp=N,3040μm,0.1s							
TERO				AML	AML			
	comp=E,5950μm,0.1s							
T1241	**Roccafluvione,**	**0.23**	**24**	⇓P	Pg	10 16 09.6	+0.3	
T1241				S	Sg	10 16 13.4	+0.7	
T1241				AML	AML			
	comp=N,1268μm,0.2s							
T1241				AML	AML			
	comp=E,1290μm,1.1s							
T1241				AML	AML			
	comp=N,1215μm,0.2s							
T1241				AML	AML			
	comp=N,1270μm,0.2s							
T1241				AML	AML			
	comp=E,1365μm,1.1s							
T1241				AML	AML			
	comp=E,1285μm,1.1s							
T1241				AML	AML			
	comp=N,1220μm,0.2s							
T1241				AML	AML			
	comp=E,1365μm,1.1s							
NRCA	**Norcia**	**0.23**	**324**	⇑P	Pg	10 16 09.6	+0.3	
NRCA				S	Sg	10 16 13.3	+0.5	
NRCA				AML	AML			
	comp=N,3820μm,0.1s							
NRCA				AML	AML			
	comp=E,4900μm,0.2s							
NRCA				AML	AML			
	comp=E,4380μm,0.2s							
NRCA				AML	AML			
	comp=N,3820μm,0.1s							
NRCA				AML	AML			
	comp=E,4895μm,0.2s							
NRCA				AML	AML			
	comp=N,4185μm,0.1s							
NRCA				AML	AML			
	comp=N,3815μm,0.1s							
MMO1	**Montemonaco**	**0.25**	**4**	⇓P	Pg	10 16 10.0	+0.3	
MMO1				S	Sb	10 16 14.2	-0.8	
MMO1				AML	AML			
	comp=N,2590μm,0.3s							
MMO1				AML	AML			
	comp=E,1270μm,0.5s							
MMO1				AML	AML			
	comp=N,2585μm,0.3s							
GIGS	**Gran Sasso**	**0.28**	**135**	⇑P	Pg	10 16 10.3	+0.2	
GIGS				S	Sg	10 16 14.6	+0.6	
GIGS				AML	AML			
	comp=E,386μm,0.2s							
GIGS				AML	AML			
	comp=N,244μm,0.4s							
GIGS				AML	AML			
	comp=N,245μm,0.4s							
MC2	**Monte Cornacci**	**0.28**	**343**	P	Pg	10 16 10.4	+0.2	
MC2				S	Sb	10 16 15.2	-0.7	
T1215	**Vallo di Nera,**	**0.35**	**296**	⇑P	Pg	10 16 11.5	+0.1	
T1215				S	Sg	10 16 17.0	+0.7	
ARRO	**Arrone**	**0.40**	**261**	P	Pg	10 16 12.2	0.0	
FIAM	**Fiamignano**	**0.40**	**200**	P	Pg	10 16 12.4	+0.2	
FIAM				S	Sg	10 16 18.4	+0.7	
FIAM				AML	AML			
	comp=E,399μm,0.7s							
FIAM				AML	AML			
	comp=N,406μm,0.7s							
OFFI	**Offida**	**0.41**	**44**	P	Pb	10 16 13.3	+0.1	
OFFI				AML	AML			
	comp=N,1800μm,0.5s							
OFFI				AML	AML			
	comp=E,2250μm,1.6s							
FDMO	**Fiordimonte**	**0.42**	**338**	P	Pg	10 16 12.6	0.0	
FDMO				S	Sb	10 16 19.2	-0.6	
FDMO				AML	AML			
	comp=E,282μm,1.1s							
FDMO				AML	AML			
	comp=N,320μm,0.2s							
FAGN	**Fagnano**	**0.43**	**151**	P	Pg	10 16 13.1	+0.2	
FAGN				AML	AML			
	comp=N,588μm,0.3s							
FAGN				AML	AML			
	comp=E,642μm,0.3s							
FAGN				AML	AML			
	comp=N,589μm,0.3s							
CSP1	**Cessapalombo**	**0.45**	**351**	⇓P	Pg	10 16 13.3	+0.1	
CESI	**CESI - Serrava**	**0.46**	**321**	P	Pg	10 16 13.4	+0.1	
CESI				S	Sb	10 16 20.5	-0.5	
CESI				AML	AML			
	comp=E,344μm,0.2s							
CESI				AML	AML			
	comp=N,401μm,0.3s							
VCEL	**Villa Celiera**	**0.47**	**122**	P	Pg	10 16 13.9	+0.3	
VCEL				AML	AML			
	comp=N,686μm,0.4s							
VCEL				AML	AML			
	comp=E,880μm,0.6s							
CESX	**Cesi**	**0.53**	**266**	P	Pg	10 16 14.4	-0.2	
CESX				S	Sb	10 16 22.4	-0.5	
CESX				AML	AML			
	comp=N,234μm,0.3s							
CESX				AML	AML			
	comp=E,173μm,0.7s							
T0110	**Collepietro**	**0.55**	**140**	P	Pg	10 16 14.9	0.0	
T0110				AML	AML			
	comp=E,419μm,0.4s							
T0110				AML	AML			
	comp=N,462μm,0.5s							
T0110				AML	AML			
	comp=E,420μm,0.4s							
ASSB	**Assisi San Ben**	**0.62**	**310**	P	Pg	10 16 16.0	-0.3	
ASSB				AML	AML			
	comp=E,414μm,0.3s							
ASSB				AML	AML			
	comp=N,322μm,0.5s							
SNTG	**Esanatoglia**	**0.66**	**337**	⇑P	Pg	10 16 17.1	0.0	
SNTG				AML	AML			
	comp=N,120μm,0.2s							
SNTG				AML	AML			
	comp=E,146μm,0.2s							
EL6	**Elcito**	**0.70**	**348**	⇑P	Pg	10 16 17.8	0.0	
SRES	**S.Oreste - Sor**	**0.71**	**235**	P	Pg	10 16 17.5	-0.6	
ATCC	**AVT- Casa Cast**	**0.72**	**318**	⇓P	Pg	10 16 18.2	-0.1	
ATCC				AML	AML			
	comp=E,195μm,0.4s							
ATCC				AML	AML			
	comp=N,179μm,0.7s							
CING	**Cingoli**	**0.73**	**354**	AML	AML			
	comp=E,150μm,1.3s							
CING				AML	AML			
	comp=N,140μm,0.6s							
PP3	**Marolino**	**0.77**	**17**	⇑P	Pn	10 16 20.0	-0.6	
PP3				AML	AML			
	comp=E,1395μm,0.1s							
PP3				AML	AML			
	comp=N,1430μm,0.1s							
PP3				AML	AML			
	comp=E,1215μm,0.1s							
PP3				AML	AML			
	comp=N,1350μm,0.1s							
PP3				AML	AML			
	comp=N,1425μm,0.1s							
PP3				AML	AML			
	comp=E,1400μm,0.1s							
INTR	**Introdacqua**	**0.78**	**145**	⇓P	Pg	10 16 19.0	-0.3	
INTR				AML	AML			
	comp=E,83μm,0.9s							
INTR				AML	AML			
	comp=N,238μm,0.8s							
INTR				AML	AML			
	comp=E,83μm,0.9s							
MGAB	**Montegabbione**	**0.92**	**287**	AML	AML			
	comp=N,222μm,0.5s							
MGAB				AML	AML			
	comp=E,183μm,1.1s							
VIVA	**Pratoni del Vi**	**0.98**	**204**	⇓P	Pg	10 16 23.2	+0.2	
VIVA				AML	AML			
	comp=N,499μm,0.4s							
VIVA				AML	AML			
	comp=E,466μm,0.4s							
VIVA				AML	AML			
	comp=N,498μm,0.4s							

*LDG **01** 10:23:01.6±0.1,43.53N×0.62W,h2km,Md2.4/2,Ml2.5/13, Error ellipse: s-maj=1.4km s-min=0.9km az=106.0*
*MDD **01** 10:23:02.5±0.4,43.51N×0.63W,h2km±6km,mb_Lg2.1/5, Error ellipse: s-maj=3.0km s-min=2.8km az=23.0*
*STR **01** 10:23:02.8±0.5,43°N±°×±°,h7km,MLv1.8/7,Error ellipse: s-maj=0.0km s-min=0.0km az=128.4,preliminary*

ISC 01 10:23:00.5±1.1,43.55N±0.02×0.63W±0.02,h17km±4km, n32,σ1§14/64,2C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.47**	**186**	⇑P	g		**Pb**	**10 23 10.1**	**-0.2**
ATE					Sg		**Sb**	**10 23 16.8**	**-0.1**
OSSF	**Osses**	**0.55**	**238**	⇑P	g		**Pg**	**10 23 11.6**	**+0.2**
OSSF					Sg		**Sb**	**10 23 20.5**	**+1.2**
SJPF	**Ste Jean**	**0.62**	**225**	*e*P	g		**Pb**	**10 23 13.1**	**+0.2**
SJPF				*e*Sg			**Sb**	**10 23 21.6**	**+0.4**
	16nm,0.2s								
PYLO	**Lourdes**	**0.62**	**137**	Pg			**Pb**	**10 23 13.5**	**+0.6**
PYLO				Sg			**Sb**	**10 23 22.2**	**+0.9**
ETSF	**Etsaut**	**0.66**	**176**	*e*Pg			**Pg**	**10 23 13.3**	**-0.2**
ETSF				*e*Sg			**Sg**	**10 23 21.7**	**-0.5**
	9.3nm,0.2s								
EALK	**Alkurruntz**	**0.72**	**243**	Pg			**Pb**	**10 23 15.4**	**+0.7**
EALK				Sg			**Sb**	**10 23 26.1**	**+1.8**
EALK				*i* Vmb_Lg				10 23 26.7	
EALK	**Alkurruntz**	**0.72**	**243**	Pg			**Pb**	**10 23 15.2**	**+0.6**
CANF	**Canfranc**	**0.79**	**174**	Pg			**Pg**	**10 23 15.6**	**-0.5**
CANF				Sg			**Sg**	**10 23 26.2**	**-0.3**
VIEF	**Viey**	**0.82**	**144**	Pg			**Pg**	**10 23 16.3**	**-0.3**
VIEF				Sg			**Sb**	**10 23 28.0**	**+0.8**
EORO	**Oroz-Betelu**	**0.83**	**217**	Pg			**Pb**	**10 23 16.8**	**+0.4**
EORO				Sg			**Sg**	**10 23 27.6**	**-0.1**
EORO				*i* Vmb_Lg				10 23 29.4	
EPF	**Esparros**	**0.88**	**126**	*e*Pg			**Pb**	**10 23 18.1**	**+0.8**
EPF				*e*Sg			**Sb**	**10 23 29.7**	**+0.9**
	20nm,0.2s								
ECHI	**Chisagues Biel**	**1.07**	**146**	Pg			**Pg**	**10 23 20.8**	**-0.5**
ECHI				Sg			**Sb**	**10 23 35.1**	**+0.7**
ECHI				*i* Vmb_Lg				10 23 37.4	
ECHI	**Chisagues Biel**	**1.07**	**146**	Pg			**Pb**	**10 23 20.9**	**+0.3**
LRVF	**chteau la Riv**	**1.41**	**9**	Pg			**Pg**	**10 23 29.8**	**+2.0**
LRVF				Sn			**Sg**	**10 23 48.7**	**+2.5**
MONQ	**Montcuq**	**1.55**	**58**	Pg			**Pg**	**10 23 31.3**	**+1.0**
MONQ				Sn			**Sg**	**10 23 51.8**	**+1.3**
LFF	**La Frestale**	**1.70**	**35**	*e*Pg			**Pg**	**10 23 33.2**	**0.0**
LFF				*e*Sg			**Sg**	**10 23 55.5**	**+0.2**
	8.3nm,0.3s								
ESAC	**San Caprasio**	**1.83**	**176**	Pg			**Pg**	**10 23 35.7**	**-0.1**
ESAC				Sg			**Sg**	**10 23 59.3**	**-0.3**
ESAC				*i* Vmb_Lg				10 24 01.4	
RJF	**Les Rejaudoux**	**2.33**	**41**	*e*Pg			**Pg**	**10 23 45.3**	**+0.1**
RJF				*e*Sn			**Sn**	**10 24 06.7**	**+0.5**
RJF				*e*Sg			**Sg**	**10 24 15.6**	**+0.2**
	4.0nm,0.2s								
CAF	**Calviac**	**2.37**	**54**	*e*Pg			**Pg**	**10 23 45.8**	**-0.2**
CAF				*e*Sn			**Sn**	**10 24 08.5**	**+1.2**
CAF				*e*Sg			**Sg**	**10 24 16.1**	**-0.7**
	5.1nm,0.3s								
MFF	**Saint Martin d**	**3.07**	**6**	*e*Pn			**Pn**	**10 23 49.6**	**+1.4**
MFF	**Saint Martin d**	**3.07**	**6**	*e*Pg			**Pg**	**10 23 59.3**	**0.0**
MFF				*e*Sn			**Sn**	**10 24 25.2**	**+0.8**
MFF				*e*Sg			**Sg**	**10 24 38.3**	**-0.8**
	4.4nm,0.3s								
LASF	**Ste Croix**	**3.29**	**79**	*e*Pn			**Pn**	**10 23 52.5**	**+1.3**
LASF	**Ste Croix**	**3.29**	**79**	*e*Pg			**Pg**	**10 24 02.2**	**-1.3**
LASF				*e*Sn			**Sn**	**10 24 28.6**	**-1.3**
LASF				*e*Sg			**Sg**	**10 24 44.4**	**-1.7**
	1.7nm,0.3s								
TCF	**Toulx Ste Croi**	**3.40**	**35**	*e*Pg			**Pg**	**10 24 04.7**	**-0.9**
TCF				*e*Sn			**Sn**	**10 24 32.3**	**-0.3**
TCF				*e*Sg			**Sg**	**10 24 48.3**	**-1.3**
	3.0nm,0.3s								
BGF	**Bois d'Agland**	**3.88**	**38**	*e*Pn			**Pn**	**10 24 00.1**	**+0.7**
BGF	**Bois d'Agland**	**3.88**	**38**	*e*Pg			**Pg**	**10 24 14.3**	**-0.6**
BGF				*e*Sg			**Sg**	**10 25 03.4**	**-1.8**
	8.5nm,0.4s								
AVF	**Avril sur Loir**	**4.29**	**40**	*e*Pn			**Pn**	**10 24 06.0**	**+1.1**
AVF				*e*Sn			**Sn**	**10 24 54.0**	**-0.5**
AVF				*e*Sg			**Sg**	**10 25 16.3**	**-1.9**
	1.0nm,0.3s								
SSF	**Saint Saulge**	**4.56**	**38**	*e*Pn			**Pn**	**10 24 09.7**	**+1.0**
SSF				*e*Sn			**Sn**	**10 25 00.6**	**-0.7**
SSF				*e*Sg			**Sg**	**10 25 24.7**	**-2.2**
	1.6nm,0.4s								
QUIF	**Quistinic**	**4.71**	**339**	*e*Pn			**Pn**	**10 24 11.5**	**+0.8**
QUIF	**Quistinic**	**4.71**	**339**	*e*Pg			**Pg**	**10 24 29.2**	**-1.5**
QUIF				*e*Sn			**Sn**	**10 25 04.1**	**-0.8**
	0.9nm,0.4s								
SGMF	**Saint Gilles**	**4.89**	**345**	*e*P			Pn	10 24 18.4	+5.2
SGMF	**Saint Gilles**	**4.89**	**345**	*e*Pg			**Pg**	**10 24 32.5**	**-1.6**
SGMF				*e*Sn			**Sn**	**10 25 06.3**	**-3.0**
SGMF				*e*Sg			**Sg**	**10 25 35.0**	**-2.5**
	1.3nm,0.2s								

ROM 01 10:31:05.5±0.1,42.774N±0.002×13.185E±0.004, h13km,ML1.6/9,7C-2D,Error ellipse: s-maj=0.3km s-min=0.1km az=70.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.08**	**157**	P	Pg			10 31 08.7	+0.3
T1202				S	Sg			10 31 10.9	+0.5
T1202				AML	AML				
	comp=N,4485μm,0.8s								
T1202				AML	AML				
	comp=N,4480μm,0.8s								
T1202				AML	AML				
	comp=E,4825μm,0.3s								
NRCA	**Norcia**	**0.08**	**319**	⇑P	Pg			10 31 08.6	+0.2
NRCA				S	Sg			10 31 10.3	-0.1
NRCA				AML	AML				
	comp=E,4030μm,0.1s								
NRCA				AML	AML				
	comp=N,4175μm,1.0s								
NRCA				AML	AML				
	comp=E,3750μm,0.1s								
NRCA				AML	AML				
	comp=N,3750μm,1.0s								
MC2	**Monte Cornacci**	**0.14**	**2**	⇑P	Pg			10 31 09.6	+0.3
MC2				S	Sg			10 31 12.3	+0.4
MMO1	**Montemonaco**	**0.16**	**40**	P	Pg			10 31 09.8	+0.3
MMO1				S	Sg			10 31 12.9	+0.7
MMO1				AML	AML				
	comp=N,1010μm,1.5s								
MMO1				AML	AML				
	comp=E,1002μm,0.8s								
MMO1				AML	AML				
	comp=E,1000μm,0.8s								
SMA1	**SAN MARTINO**	**0.18**	**142**	⇑P	Pg			10 31 10.1	+0.3
SMA1				S	Sg			10 31 13.2	+0.5
SMA1				AML	AML				
	comp=E,528μm,1.4s								
SMA1				AML	AML				
	comp=N,435μm,1.3s								
SMA1				AML	AML				
	comp=N,434μm,1.3s								
T1241	**Roccafluvione,**	**0.20**	**65**	⇑P	Pg			10 31 10.4	+0.4
T1241				S	Sg			10 31 13.7	+0.6
T1241				AML	AML				
	comp=N,208μm,0.5s								
T1241				AML	AML				
	comp=E,186μm,0.6s								
LNSS	**Leonessa**	**0.20**	**212**	AML	AML				
	comp=N,733μm,0.1s								
LNSS				AML	AML				
	comp=E,1014μm,0.2s								
T1243	**Rocca Santa Ma**	**0.21**	**112**	P	Pg			10 31 10.5	+0.3
T1243				S	Sg			10 31 13.9	+0.5
T1215	**Vallo di Nera,**	**0.23**	**277**	⇑P	Pg			10 31 10.9	+0.3
T1215				S	Sg			10 31 14.6	+0.6
RM33	**Pellescritta (**	**0.27**	**175**	⇓P	Pg			10 31 11.4	+0.3
RM33				S	Sb			10 31 15.8	-0.8
RM33				AML	AML				
	comp=E,185μm,0.2s								
RM33				AML	AML				
	comp=N,177μm,0.9s								
FDMO	**Fiordimonte**	**0.27**	**345**	P	Pg			10 31 11.6	+0.3
FDMO				AML	AML				
	comp=N,138μm,0.2s								
FDMO				AML	AML				
	comp=E,146μm,0.1s								
CAMP	**Campotosto**	**0.29**	**145**	AML	AML				
	comp=N,86μm,0.2s								
CAMP				AML	AML				
	comp=E,176μm,0.3s								
CESI	**CESI - Serrava**	**0.31**	**318**	⇑P	Pg			10 31 12.2	+0.3
CESI				S	Sb			10 31 17.2	-0.8
CESI				AML	AML				
	comp=E,261μm,0.3s								
CESI				AML	AML				
	comp=E,262μm,0.3s								
CESI				AML	AML				
	comp=N,338μm,0.4s								
CSP1	**Cessapalombo**	**0.32**	**3**	⇓P	Pg			10 31 12.5	+0.4
CSP1				S	Sb			10 31 17.6	-0.7
ARRO	**Arrone**	**0.36**	**238**	P	Pg			10 31 13.3	+0.5
ARRO				AML	AML				
	comp=E,150μm,0.5s								
ARRO				AML	AML				
	comp=N,136μm,0.1s								
OFFI	**Offida**	**0.40**	**66**	AML	AML				
	comp=N,382μm,0.4s								
OFFI				AML	AML				
	comp=E,287μm,0.8s								
GIGS	**Gran Sasso**	**0.43**	**139**	⇑P	Pg			10 31 14.2	+0.1
GIGS				AML	AML				
	comp=E,41μm,0.6s								
GIGS				AML	AML				
	comp=N,28μm,0.7s								
ASSB	**Assisi San Ben**	**0.47**	**305**	AML	AML				
	comp=N,109μm,0.8s								
ASSB				AML	AML				
	comp=E,110μm,0.1s								
SNTG	**Esanatoglia**	**0.51**	**340**	P	Pg			10 31 16.0	+0.4
SNTG				AML	AML				
	comp=E,44μm,1.0s								
SNTG				AML	AML				
	comp=N,44μm,1.0s								
ATCC	**AVT- Casa Cast**	**0.57**	**316**	AML	AML				
	comp=E,80μm,0.7s								
ATCC				AML	AML				
	comp=N,60μm,0.7s								
T0110	**Collepietro**	**0.70**	**141**	AML	AML				
	comp=N,68μm,0.5s								
T0110				AML	AML				
	comp=E,86μm,0.5s								

*NOU **01** 10:37:53.0,15.08S×167.50E,h129km,mb4.6/23, Vanuatu Islands*
*IDC **01** 10:37:54.2±3.1,15.10S×167.32E,h161km±25km,mb3.7/7, mbtmp4.3/9,Error ellipse: s-maj=29.5km s-min=17.1km az=60.0*
*NEIC **01** 10:37:54.6±2.7,15.1S±0.1×167.3E±0.2,h150km±10km, mb4.3/12,Error ellipse: s-maj=22.1km s-min=14.4km az=79.0*

ISC 01 10:37:51.0±0.9,14.97S±0.08×167.5E±0.1,h129km,n50, σ1§46/52,mb4.1/10,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.81**	**167**	P			**Pn**	**10 38 36.9**	**+1.8**
LIFNC	**LIFOU**	**5.78**	**183**	Pn			**Pn**	**10 39 12.4**	**-2.1**
LIFNC	**LIFOU**	**5.78**	**183**	P			**Pn**	**10 39 14.2**	**-0.3**
KOUNC	**Koumac, New Ca**	**6.35**	**209**				**Pn**	**10 39 22.4**	**+0.3**
KOUNC	**Koumac, New Ca**	**6.35**	**209**	P			**Pn**	**10 39 22.1**	**0.0**
MARNC	**Mare, Loyalty**	**6.49**	**176**	Pn			**Pn**	**10 39 22.8**	**-1.2**
MARNC	**Mare, Loyalty**	**6.49**	**176**	P			**Pn**	**10 39 24.5**	**+0.5**
YATNC	**Mamie plateau,**	**7.07**	**185**	P			**Pn**	**10 39 32.5**	**+0.6**
DZM	**Mont Dzumac**	**7.13**	**188**	P			**Pn**	**10 39 33.4**	**+0.6**
	18nm,0.3s,baz=58,slow=10,SNR=61								
DZM				S			**Sn**	**10 40 53.1**	**+0.6**
	25nm,0.6s,baz=336,slow=20,SNR=8.5								
DZM	**Mont Dzumac**	**7.13**	**188**				**Pn**	**10 39 32.9**	**+0.1**
DZM							**Sn**	**10 40 52.5**	**0.0**
DZM	**Mont Dzumac**	**7.13**	**188**	P			**Pn**	**10 39 33.1**	**+0.3**
NOUC	**Port Laguerre**	**7.18**	**189**	P			**Pn**	**10 39 34.6**	**+1.2**
ONTNC	**Ouen Toro**	**7.36**	**188**	Pn			**Pn**	**10 39 37.7**	**+1.9**
ONTNC	**Ouen Toro**	**7.36**	**188**	P			**Pn**	**10 39 37.4**	**+1.6**
OUENC	**Ouen Island, N**	**7.43**	**185**	Pn			**Pn**	**10 39 38.9**	**+2.1**
OUENC	**Ouen Island, N**	**7.43**	**185**	P			**Pn**	**10 39 38.2**	**+1.4**
PINNC	**Pines Island,**	**7.60**	**181**	Pn			**Pn**	**10 39 40.3**	**+1.3**
PINNC	**Pines Island,**	**7.60**	**181**	P			**Pn**	**10 39 40.1**	**+1.1**
HNR	**Honiara**	**9.23**	**306**	P			**Pn**	**10 40 03.7**	**+2.6**
	145nm,0.5s,baz=135,slow=14,SNR=5.3								
HNR	**Honiara**	**9.23**	**306**	Pn			**Pn**	**10 40 03.3**	**+2.3**
HNR	**Honiara**	**9.23**	**306**	P			**Pn**	**10 40 03.9**	**+2.9**
EIDS	**Eidsvold**	**18.56**	**234**	P			**P**	**10 41 57.9**	**-0.1**
EIDS				IAmb			IAmb	10 41 59.6	
	comp=Z,8.2nm,0.7s								
OUZ	**Omahuta**	**20.89**	**166**	P			**P**	**10 42 23.2**	**+0.3**
OUZ	**Omahuta**	**20.89**	**166**	P			**P**	**10 42 24.1**	**+1.2**
RMQ	**Roma**	**20.93**	**234**	P			**P**	**10 42 24.9**	**+1.4**
HIZ	**Hauiti**	**24.32**	**166**	P			**P**	**10 42 58.5**	**+1.9**
HIZ	**Hauiti**	**24.32**	**166**	P			**P**	**10 42 58.9**	**+2.3**
URZ	**Urewera**	**24.69**	**162**	P			**P**	**10 42 59.9**	**0.0**
	comp=Z,4.5nm,0.4s,baz=324,slow=14,SNR=13								
	comp=Z,4.5nm,0.4s								
URZ	**Urewera**	**24.69**	**162**	P			**P**	**10 43 00.3**	**+0.3**
URZ				IAmb			IAmb	10 43 03.8	
	comp=Z,11nm,0.9s								
URZ	**Urewera**	**24.69**	**162**	P			**P**	**10 43 00.6**	**+0.6**
BKZ	**Black Stump Fm**	**25.36**	**164**	P			**P**	**10 43 06.2**	**+0.1**
KHZ	**Kahutara**	**27.83**	**170**	P			**P**	**10 43 29.9**	**+1.8**
STKA	**Stephens Creek**	**29.02**	**230**	P			**P**	**10 43 37.8**	**-1.1**
	comp=Z,2.9nm,0.5s,baz=42,slow=8.9,SNR=13								
	comp=Z,2.9nm,0.5s								
STKA	**Stephens Creek**	**29.02**	**230**	P			**P**	**10 43 38.3**	**-0.6**
STKA	**Stephens Creek**	**29.02**	**230**	P			**P**	**10 43 39.1**	**+0.2**
WB0	**Warramunga Arr**	**31.95**	**257**	P			**P**	**10 44 02.1**	**-2.7**
WB0				IAmb			IAmb	10 44 33.1	
	comp=Z,4.9nm,1.2s								
WRA	**Warramunga Arr**	**32.01**	**256**	P			**P**	**10 44 03.0**	**-2.4**
	comp=Z,0.6nm,0.8s,baz=84,slow=8.5,SNR=5.1								
	comp=Z,0.6nm,0.8s								
AS31	**Alice Springs**	**32.82**	**250**	P			**P**	**10 44 10.3**	**-2.1**
ASAR	**Alice Springs**	**32.82**	**250**	P			**P**	**10 44 10.2**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=75,slow=9.3,SNR=20								
	comp=Z,0.7nm,0.4s								
ASAR	**Alice Springs**	**32.82**	**250**	P			**P**	**10 44 09.7**	**-2.8**
BBOO	**Buckleboo**	**33.62**	**233**	P			**P**	**10 44 18.8**	**-0.5**
BBOO	**Buckleboo**	**33.62**	**233**	P			**P**	**10 44 21.3**	**+2.0**
FITZ	**Fitzroy Crossi**	**40.21**	**260**	P			**P**	**10 45 14.5**	**-0.7**
FITZ				IAmb			IAmb	10 45 30.9	
	comp=Z,7.4nm,1.4s								
VNDA	**Vanda**	**62.62**	**181**	P			**P**	**10 48 00.3**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=12,slow=8.1,SNR=1.9								
	comp=Z,1.4nm,0.7s								
VNDA	**Vanda**	**62.62**	**181**	P			**P**	**10 48 00.3**	**-0.8**
VNDA				IAmb			IAmb	10 48 27.2	
	comp=Z,3.2nm,0.9s								
SBA	**Scott Base**	**62.89**	**180**	P			**P**	**10 48 03.4**	**+0.6**
SBA				IAmb			IAmb	10 48 04.1	
	comp=Z,3.7nm,0.8s								
QSPA	**South Pole Qui**	**75.06**	**180**	P			**P**	**10 49 17.6**	**-0.8**
SONM	**Songino Array**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.73**	**316**		**Pg**	**10 47 21.8**	**-0.6**
SPIG	**San Pedro Mart**	**1.17**	**297**	*e*P	**Pb**	**10 47 29.2**	**-1.5**
SPIG				*i* S	**Sg**	**10 47 44.6**	**-1.3**
BAHB	**Baha de los**	**1.68**	**159**	*e*P	**Pn**	**10 47 36.0**	**-1.8**
BAHB				*e*S	**Sn**	**10 47 55.0**	**-4.3**
214A	**Organ Pipe Nat**	**1.90**	**40**		**Pn**	**10 47 38.7**	**-2.0**
214A	**Organ Pipe Nat**	**1.90**	**40**	*i* P	**Pn**	**10 47 38.8**	**-2.0**
214A				*i* S	**Sn**	**10 48 00.9**	**-3.9**
214A	**Organ Pipe Nat** baz=222,SNR=164	**1.90**	**40**	P	**Pn**	**10 47 38.8**	**-1.9**
GUVIX	**Guadalupe Vict**	**1.91**	**339**		**Pg**	**10 47 44.2**	**-0.8**
ESJX	**Sierra Juarez**	**2.07**	**316**		**Pn**	**10 47 41.8**	**-1.5**
CPBX	**Cerro Prieto**	**2.10**	**335**		**Pb**	**10 47 45.2**	**-1.2**
113A	**Mohawk Valley,**	**2.28**	**10**		**Pn**	**10 47 44.6**	**-1.4**
UABX	**UABC, Campus M**	**2.34**	**335**		**Pn**	**10 47 48.1**	**+1.3**
CCX	**Cicese**	**2.46**	**304**		**Pn**	**10 47 49.4**	**+0.9**
YUH	**Yuha Desert**	**2.55**	**327**		**Pn**	**10 47 49.6**	**-0.2**
GLA	**Glamis**	**2.57**	**349**		**Pn**	**10 47 49.1**	**-0.9**
GLA	**Glamis** baz=168,SNR=26	**2.57**	**349**	P	**Pn**	**10 47 48.4**	**-1.6**
RMX	**La Rumorosa**	**2.59**	**324**		**Pn**	**10 47 50.7**	**+0.3**
IKP	**In-Ko-Pah, Jac** baz=142,SNR=39	**2.65**	**324**	P	**Pn**	**10 47 49.4**	**-1.7**
CBX	**Cerro Bola**	**2.73**	**312**		**Pn**	**10 47 52.8**	**+0.5**
SWSC	**Sam W. Stewart** baz=150	**2.75**	**332**	P	**Pn**	**10 47 50.8**	**-1.7**
TJIG	**Tijuana**	**2.81**	**313**	*i* P	**Pn**	**10 47 52.3**	**-1.0**
TJIG				*e*S	**Sn**	**10 48 25.9**	**-1.4**
TKX	**Tecate**	**2.86**	**316**		**Pn**	**10 47 54.1**	**0.0**
BAR	**Barrett**	**2.98**	**317**		**Pn**	**10 47 54.9**	**-0.7**
MONP2	**Monument Peak** baz=140,SNR=54	**3.00**	**323**	P	**Pn**	**10 47 54.7**	**-1.4**
TJX	**Tijuana**	**3.10**	**310**		**Pn**	**10 47 58.3**	**+1.0**
BLYC	**Blythe**	**3.23**	**356**		**Pn**	**10 47 58.4**	**-0.7**
HSIG		**3.24**	**117**		**Pn**	**10 47 59.3**	**+0.1**
HSIG		**3.24**	**117**	*e*P	**Pn**	**10 47 56.4**	**-2.8**
BC3	**Big Chuckawall** baz=161,SNR=16	**3.29**	**342**	P	**Pn**	**10 47 58.5**	**-1.5**
109C	**Camp Elliot, M**	**3.39**	**315**		**Pn**	**10 48 00.8**	**-0.4**
109C	**Camp Elliot, M** baz=132,SNR=20	**3.39**	**315**	P	**Pn**	**10 48 00.2**	**-1.0**
TUC	**Tucson**	**3.47**	**58**		**Pn**	**10 48 02.2**	**-0.1**
TUC	**Tucson**	**3.47**	**58**	*e*P	**Pn**	**10 48 00.6**	**-1.7**
TUC				*e*S	**Sn**	**10 48 40.8**	**-2.8**
TUC	**Tucson** baz=241	**3.47**	**58**	P	**Pn**	**10 48 00.7**	**-1.7**
Y14A	**Wickenburg**	**3.57**	**17**		**Pn**	**10 48 03.6**	**-0.2**
TPFO	**Pinon Flats** baz=147	**3.60**	**329**	P	**Pn**	**10 48 02.5**	**-1.8**
PMD	**Palm Desert**	**3.60**	**331**		**Pn**	**10 48 03.9**	**-0.3**
PFO	**Pinyon Flats O** 1.3nm,0.3s,baz=153,slow=13,SNR=19	**3.61**	**329**	Pn	**Pn**	**10 48 03.6**	**-0.7**
PFO	3.6nm,0.3s,baz=184,slow=16,SNR=12			Pg	**Pg**	**10 48 19.2**	**+1.8**
PFO	24nm,0.3s,baz=75,slow=20,SNR=7.2			Lg	Lg	10 49 04.8	
PFO	comp=Z,2μm,20.3s,baz=162,slow=39			LR	LR	10 49 34.4	
PFO	**Pinyon Flats O** baz=147	**3.61**	**329**	P	**Pn**	**10 48 02.9**	**-1.4**
SRIG	**Santa Rosalia**	**3.65**	**150**		**Pn**	**10 48 08.0**	**+3.3**
SRIG	**Santa Rosalia**	**3.65**	**150**	*i* P	**Pn**	**10 48 02.0**	**-2.8**
SRIG				*i* S	**Sn**	**10 48 44.6**	**-3.2**
IRM	**Iron Mountain** baz=168,SNR=17	**3.71**	**349**	P	**Pn**	**10 48 04.3**	**-1.3**
BELC	**Belle Mtn. Jos** baz=156	**3.77**	**337**	P	**Pn**	**10 48 06.0**	**-0.6**
PDMCI	**Parker Dam,Lak** baz=181,SNR=19	**3.78**	**1**	P	**Pn**	**10 48 06.0**	**-0.5**
GUYB	**Guaymas**	**3.95**	**131**	*e*P	**Pn**	**10 48 09.7**	**+0.8**
GUYB				*e*S	**Sn**	**10 48 53.5**	**-1.8**
MURC	**Murrieta** baz=139	**3.96**	**322**	P	**Pn**	**10 48 07.8**	**-1.2**
NZIG	**Nacozari, Sono**	**4.07**	**91**		**Pn**	**10 48 10.8**	**+0.1**
NZIG	**Nacozari, Sono**	**4.07**	**91**	*e*P	**Pn**	**10 48 10.8**	**+0.1**
NEE2	**Needles Airpor** baz=175	**4.25**	**356**	P	**Pn**	**10 48 13.6**	**+0.5**
BBRC	**Big Bear Solar** baz=147	**4.36**	**330**	P	**Pn**	**10 48 14.6**	**-0.2**
W13A	**Hualapai Mount**	**4.58**	**4**		**Pn**	**10 48 17.4**	**-0.5**
X18A	**Snowflake**	**5.41**	**41**		**Pn**	**10 48 28.9**	**-0.2**
CGIG		**5.43**	**90**		**Pn**	**10 48 29.4**	**0.0**
CGIG		**5.43**	**90**	*e*P	**Pn**	**10 48 29.4**	**0.0**
WUAZ	**Wupatki**	**5.54**	**25**		**Pn**	**10 48 31.1**	**+0.1**
WUAZ	**Wupatki** baz=207,SNR=22	**5.54**	**25**	P	**Pn**	**10 48 30.7**	**-0.3**
121A	**Cookes Peak, D**	**5.88**	**68**		**Pn**	**10 48 35.6**	**0.0**
121A	**Cookes Peak, D**	**5.88**	**68**	*i* P	**Pn**	**10 48 35.7**	**0.0**
121A				*e*S	**Sn**	**10 49 40.8**	**-2.4**
121A	**Cookes Peak, D** baz=252,SNR=12	**5.88**	**68**	P	**Pn**	**10 48 35.4**	**-0.3**
W18A	**Petrified Fore** baz=221,SNR=5.2	**5.96**	**39**	P	**Pn**	**10 48 36.2**	**-0.6**
SHPR	**Sheep Range**	**6.02**	**353**		**Pn**	**10 48 37.5**	**0.0**
U15A	**North Rim**	**6.12**	**15**		**Pn**	**10 48 40.4**	**+1.4**
PRN	**Pahroc Range**	**6.90**	**355**	Pn	**Pn**	**10 48 50.2**	**+0.6**
SBM	**South Baldy**	**6.92**	**58**		**Pn**	**10 48 49.9**	**-0.2**
Y22D	**IRIS PASSCAL I**	**7.15**	**58**	Pn	**Pn**	**10 48 53.7**	**+0.6**
Y22D	**IRIS PASSCAL I** baz=243	**7.15**	**58**	P	**Pn**	**10 48 53.2**	**+0.1**
LENM	**Lemitar**	**7.16**	**58**		**Pn**	**10 48 51.2**	**-1.9**
CRNM	**Carthage**	**7.24**	**60**		**Pn**	**10 48 53.9**	**-0.4**
BNM	**Barren Site**	**7.40**	**59**		**Pn**	**10 48 56.5**	**-0.1**
MNTX	**Cornudas Mount**	**7.70**	**79**	Pn	**Pn**	**10 49 01.2**	**+0.6**
MNTX	**Cornudas Mount** baz=264,SNR=6.6	**7.70**	**79**	P	**Pn**	**10 49 01.3**	**+0.8**
SLBS	**Sierra La Lagu**	**7.81**	**150**		**Pn**	**10 49 03.6**	**+1.4**
R11A	**Troy Canyon, C** baz=171,SNR=5.6	**7.89**	**352**	P	**Pn**	**10 49 02.8**	**-0.4**
ANMO	**Albuquerque** 0.3nm,0.3s,baz=249,slow=13,SNR=6.8	**7.92**	**54**	Pn	**Pn**	**10 49 03.2**	**-0.5**
ANMO	0.2nm,0.3s,baz=318,slow=14,SNR=3.4 0.7nm,0.3s			Lg	Lg	10 51 18.0	
ANMO	**Albuquerque**	**7.92**	**54**	Pn	**Pn**	**10 49 03.0**	**-0.6**
ANMO	**Albuquerque** baz=238	**7.92**	**54**	P	**Pn**	**10 49 04.0**	**+0.3**
MVCO	**Mesa Verde**	**8.21**	**34**		**Pn**	**10 49 07.8**	**+0.1**
MVCO	**Mesa Verde** baz=218,SNR=6.3	**8.21**	**34**	P	**Pn**	**10 49 07.6**	**-0.2**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=167,slow=14,SNR=12	**8.57**	**338**	Pn	Pn	10 49 18.5	+5.9
NVAR	0.1nm,0.3s,baz=147,slow=40,SNR=1.9 1.3nm,0.7s			Lg	Lg	10 51 45.0	
TX31	**Lajitas Ar. Si**	**9.27**	**95**		**Pn**	**10 49 22.9**	**+0.8**
TX32	**Lajitas Array**	**9.27**	**95**		**Pn**	**10 49 23.2**	**+1.1**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=262,slow=15,SNR=4.0	**9.27**	**95**	Pn	**Pn**	**10 49 23.0**	**+0.9**
TXAR	0.8nm,0.3s,baz=275,slow=15,SNR=10			Pg		10 49 41.3	
TXAR	baz=278,slow=16,SNR=1.5			Sn	**Sn**	**10 51 02.2**	**-4.3**
TXAR	0.4nm,0.3s,baz=294,slow=28,SNR=2.1 0.8nm,0.4s			Lg	Lg	10 52 03.8	
S22A	**4UR Ranch, Cre** baz=223	**9.48**	**38**	P	**Pn**	**10 49 25.1**	**-0.1**
DUG	**Dugway, Tooele** baz=187	**9.73**	**7**	P	**Pn**	**10 49 29.5**	**+1.1**
SDCO	**Great Sand Dun** baz=228	**10.22**	**43**	P	**Pn**	**10 49 36.1**	**+0.8**
ELK	**Elko** 0.1nm,0.3s,baz=186,slow=11,SNR=3.6	**10.24**	**356**	Pn	**Pn**	**10 49 38.9**	**+3.4**
ELK	0.1nm,0.3s,baz=180,slow=20,SNR=1.6 0.7nm,0.6s			Lg	Lg	10 52 34.8	
MSTX	**Muleshoe** baz=254	**10.32**	**68**	P	**Pn**	**10 49 36.2**	**-0.2**
T25A	**Trinidad** baz=234,SNR=13	**10.52**	**48**	P	**Pn**	**10 49 40.8**	**+1.5**
O20A	**White River Ci** baz=209	**10.78**	**25**	P	**Pn**	**10 49 43.3**	**+0.5**
AMTX	**Amarillo** baz=251	**11.45**	**64**	P	**Pn**	**10 49 53.0**	**+1.0**
ISCO	**Idaho Springs** baz=220	**11.65**	**35**	P	**Pn**	**10 49 55.2**	**+0.4**
JCT	**Junction City** baz=274	**12.47**	**87**	P	**Pn**	**10 50 05.1**	**-0.8**
KSCO	**Kaye Shedlock'** baz=232	**12.77**	**45**	P	**Pn**	**10 50 10.0**	**+0.1**
BW06	**Boulder Array** baz=199	**12.79**	**16**	P	**Pn**	**10 50 08.9**	**-1.5**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=210,slow=12,SNR=7.6	**12.79**	**16**	Pn	**Pn**	**10 50 13.9**	**+3.5**
PDAR	0.1nm,0.3s,baz=125,slow=38,SNR=2.1 1.7nm,1.0s			Lg	Lg	10 53 52.3	
HLID	**Hailey** baz=179	**13.02**	**359**	P	**Pn**	**10 50 12.9**	**-0.5**
YBH	**Yreka Blue Hor** 0.3nm,0.3s,baz=107,slow=12,SNR=2.3 0.8nm,0.4s	**13.10**	**331**	Pn	**Pn**	**10 50 20.9**	**-3.9**
L04D	**Klamath Falls** baz=148	**13.35**	**333**	P	**Pn**	**10 50 19.6**	**+1.7**
K22A	**Casper** baz=210	**13.60**	**25**	P	**Pn**	**10 50 22.8**	**+1.4**
J05D	**Fort Rock, OR** baz=154,SNR=6.5	**13.90**	**338**	P	**Pn**	**10 50 27.2**	**+1.7**
I04A	**Tendick Farm,** baz=151	**14.75**	**336**	P	**Pn**	**10 50 35.8**	**-1.2**
I05D	**Terrebonne, OR** baz=155,SNR=5.2	**14.89**	**340**	P	**Pn**	**10 50 39.7**	**+0.8**
RLMT	**Red Lodge** baz=197	**15.10**	**14**	P	**Pn**	**10 50 39.5**	**-2.3**
BOZ	**Bozeman (W)** baz=189,SNR=5.1	**15.20**	**7**	P	**Pn**	**10 50 43.6**	**+0.5**
QUOK	**Quay** comp=Z,13nm,0.9s	**15.71**	**64**	IAmb	IAmb	10 50 58.8	
G05D	**Wamic, OR** baz=157	**15.71**	**341**	P	**Pn**	**10 50 48.6**	**-1.1**
RSSD	**Black Hills** comp=Z,17nm,1.2s	**15.81**	**28**	IAmb	IAmb	10 50 60.0	
RSSD	**Black Hills** baz=214	**15.81**	**28**	P	**Pn**	**10 50 52.6**	**+1.5**
HOOD	**Mount Hood Mea** comp=Z,22nm,1.1s	**15.88**	**341**	IAmb	IAmb	10 50 59.0	
MSO	**Missoula** baz=181,SNR=6.7	**16.29**	**1**	P	**Pn**	**10 50 58.4**	**+1.2**
KSU1	**Kansas State U** baz=245	**16.81**	**55**	P	**Pn**	**10 51 04.5**	**+0.7**
LAO	**LASA Array** comp=Z,13nm,0.8s	**17.31**	**19**	IAmb	IAmb	10 51 17.0	
LAO	**LASA Array** baz=204	**17.31**	**19**	P	**P**	**10 51 10.9**	**-0.6**
EGMT	**Eagleton** baz=193,SNR=6.6	**17.82**	**10**	P	**P**	**10 51 17.6**	**+0.5**
NEW	**Newport** comp=Z,0.1nm,0.3s,baz=178,slow=12,SNR=5.4 comp=Z,2.7nm,0.8s	**17.86**	**354**	P	**P**	**10 51 19.6**	**+2.1**
MIAR	**Mount Ida** baz=263	**17.89**	**72**	P	**Pn**	**10 51 15.4**	**-1.8**
ECSD	**EROS Data Cent** baz=233	**19.23**	**42**	P	**P**	**10 51 32.1**	**-0.5**
P40A	**Paris** comp=Z,14nm,1.1s	**20.25**	**58**	IAmb	IAmb	10 51 50.5	
CCM	**Cathedral Cave** baz=255	**20.42**	**62**	P	**P**	**10 51 45.4**	**-0.2**
CMIG	**Matias Romero** comp=Z,8.3nm,1.0s,baz=312,slow=10,SNR=12	**22.15**	**123**	P	**P**	**10 52 06.8**	**+2.4**
CMIG	comp=Z,481nm,18.2s,baz=286,slow=37 comp=Z,8.3nm,1.0s			LR	LR	11 00 41.2	
AGMN	**Agassiz Nation** baz=25	**22.64**	**33**	P	**P**	**10 52 08.9**	**-0.5**
EDM	**Edmonton** comp=Z,13nm,1.3s	**22.70**	**1**	IAmb	IAmb	10 52 16.4	
WVT	**Waverly** baz=264	**22.75**	**69**	P	**P**	**10 52 09.6**	**-1.0**
BBB	**Bella Bella** comp=Z,290nm,21.6s,baz=168,slow=35	**23.93**	**339**	LR	LR	11 01 19.9	
ULM	**Lac du Bonnet** comp=Z,6.7nm,1.0s,baz=238,slow=8.5,SNR=5.3 comp=Z,6.7nm,1.0s	**24.06**	**30**	P	**P**	**10 52 23.9**	**+0.4**
TKL	**Tuckaleechee C** comp=Z,380nm,21.6s,baz=264,slow=37	**25.99**	**71**	LR	LR	11 03 10.1	
DLBC	**Dease Lake** comp=Z,2.0nm,0.8s,baz=189,slow=7.2,SNR=5.0	**29.94**	**343**	P	**P**	**10 53 19.4**	**+3.0**
DLBC	comp=Z,328nm,18.3s,baz=194,slow=38 comp=Z,2.0nm,0.8s			LR	LR	11 06 08.5	
SADO	**Sadowa** comp=Z,172nm,21.1s,baz=220,slow=38	**30.97**	**53**	LR	LR	11 06 25.4	
YKA	**Yellowknife Ar** comp=Z,196nm,18.8s,baz=208,slow=39	**31.99**	**360**	LR	LR	11 07 58.5	
P30M	**Million Dollar** baz=143	**33.28**	**339**	P	**P**	**10 53 46.7**	**+1.0**
O30N	**Mendenhall** baz=144	**33.55**	**341**	P	**P**	**10 53 49.1**	**+1.0**
MMPY	**Sheldon Lake,** baz=153	**33.95**	**346**	P	**P**	**10 53 50.8**	**-0.7**
M31M	**Drury Creek, Y** baz=148	**34.29**	**343**	P	**P**	**10 53 55.1**	**+0.5**
N30M	**Aishikik Lake** baz=144	**34.39**	**341**	P	**P**	**10 53 54.7**	**-0.8**
O28M	**Mount Upton** baz=139	**34.80**	**338**	P	**P**	**10 53 59.4**	**+0.2**
M29M	**Somme Creek** baz=142	**35.57**	**341**	P	**P**	**10 54 06.1**	**+0.4**
BMRM	**Bremner River** baz=133	**36.45**	**335**	P	**P**	**10 54 14.0**	**+0.8**
K29M	**Barlow Dome** baz=145	**36.45**	**343**	P	**P**	**10 54 14.4**	**+1.2**
M27K	**Edge Creek, AK** baz=138	**36.53**	**339**	P	**P**	**10 54 13.4**	**-0.5**
EYAK	**Cordova Ski Ar** baz=131	**36.59**	**334**	P	**P**	**10 54 12.2**	**-2.0**
N25K	**Chitina, Valde** baz=133	**36.89**	**336**	P	**P**	**10 54 16.4**	**-0.5**
M26K	**Nabesna, AK** baz=136	**36.91**	**338**	P	**P**	**10 54 16.2**	**-0.8**
L26K	**Log Cabin Wild** baz=136	**37.48**	**339**	P	**P**	**10 54 20.6**	**-1.2**
HARP	**HAARP** baz=133	**37.62**	**337**	P	**P**	**10 54 22.2**	**-0.8**
SEW	**Seward** baz=126	**37.76**	**332**	P	**P**	**10 54 23.8**	**-0.4**
PWL	**Port Wells** baz=128	**37.77**	**333**	P	**P**	**10 54 21.4**	**-2.9**
M24K	**Tolsona, Glenn** baz=132	**37.78**	**336**	P	**P**	**10 54 23.1**	**-1.3**
K27K	**Chicken** baz=139	**37.84**	**340**	P	**P**	**10 54 23.2**	**-1.6**
I29M	**Ogilvie Camp,** comp=Z,4.1nm,1.1s	**37.90**	**344**	IAmb	IAmb	10 54 31.8	
I29M	**Ogilvie Camp,** baz=145	**37.90**	**344**	P	**P**	**10 54 23.7**	**-1.6**
OHAK	**Old Harbor** baz=118	**37.94**	**326**	P	**P**	**10 54 23.6**	**-2.1**
PAX	**Paxson** baz=134	**38.12**	**337**	P	**P**	**10 54 27.4**	**0.0**
EGAK	**Eagle** baz=141	**38.16**	**342**	P	**P**	**10 54 26.3**	**-1.2**
SCRK	**Sand Creek** baz=136,SNR=5.6	**38.37**	**339**	P	**P**	**10 54 29.7**	**+0.3**
EPYK	**Eagle Plains** baz=148	**38.38**	**346**	P	**P**	**10 54 28.6**	**-0.8**
RC01	**Rabbit Creek A** baz=126	**38.45**	**333**	P	**P**	**10 54 30.5**	**+0.4**
RIDG	**Independent Ri** baz=135	**38.46**	**339**	P	**P**	**10 54 29.3**	**-0.9**
PMR	**Palmer** baz=128,SNR=5.5	**38.52**	**334**	P	**P**	**10 54 31.9**	**+1.3**
J26L	**Joseph Creek** baz=137	**38.63**	**340**	P	**P**	**10 54 31.9**	**+0.3**
WAT6	**Susitna Watana** baz=130,SNR=7.1	**38.64**	**336**	P	**P**	**10 54 31.6**	**-0.2**
K24K	**Donnelly Dome** baz=134	**38.80**	**338**	P	**P**	**10 54 32.9**	**0.0**
DHY	**Denali Highway** baz=131	**38.84**	**337**	P	**P**	**10 54 33.6**	**+0.2**
O20K	**Slope Mountain** baz=122	**39.07**	**330**	P	**P**	**10 54 34.7**	**-0.5**
I26K	**Coal Creek Min** baz=139	**39.11**	**341**	P	**P**	**10 54 37.3**	**+1.8**
J25K	**Salcha River,** baz=135	**39.25**	**339**	P	**P**	**10 54 37.1**	**+0.3**
H27K	**Steamboat Moun** baz=141	**39.39**	**343**	P	**P**	**10 54 37.4**	**-0.5**
SKT	**Skwentna** baz=125	**39.67**	**333**	P	**P**	**10 54 39.8**	**-0.5**
MCK	**McKinley** baz=130	**39.80**	**337**	P	**P**	**10 54 40.8**	**-0.5**
ILAR	**Eielson Array** comp=Z,2.3nm,0.8s,baz=150,slow=7.4,SNR=23	**39.83**	**339**	P	**P**	**10 54 44.5**	**+3.1**
ILAR	comp=Z,80nm,21.3s,baz=164,slow=34 comp=Z,2.3nm,0.8s			LR	LR	11 09 40.9	
G27K	**Doyon Strip** baz=142	**39.88**	**343**	P	**P**	**10 54 41.0**	**-0.9**
TRF	**Thorofare Moun** baz=128	**40.09**	**336**	P	**P**	**10 54 42.8**	**-1.1**
N19K	**Bonanza Creek** baz=120	**40.24**	**331**	P	**P**	**10 54 44.9**	**-0.2**
M20K	**Styx River** baz=123	**40.25**	**333**	P	**P**	**10 54 45.3**	**+0.3**
KTH	**Kantishna Hill** comp=Z,5.2nm,1.0s	**40.38**	**336**	IAmb	IAmb	10 54 54.1	
NEA2	**Nenana** comp=Z,8.1nm,1.2s	**40.40**	**338**	IAmb	IAmb	10 54 52.6	
NEA2	**Nenana** baz=130	**40.40**	**338**	P	**P**	**10 54 47.7**	**+1.4**
PPLA	**Purkeypile** baz=125,SNR=5.7	**40.45**	**334**	P	**P**	**10 54 47.9**	**+1.0**
G26K	**Porcupine Rive** baz=139,SNR=8.6	**40.52**	**343**	P	**P**	**10 54 49.3**	**+2.1**
H25K	**Birch Creek** baz=136,SNR=7.3	**40.57**	**341**	P	**P**	**10 54 49.6**	**+2.1**
CAST	**Castle Rocks** baz=126	**40.72**	**335**	P	**P**	**10 54 49.2**	**+0.3**
BPAW	**Bear Paw Mtn.** baz=128	**40.74**	**336**	P	**P**	**10 54 50.5**	**+1.4**
M19K	**Big River Lodg** baz=122	**40.76**	**332**	P	**P**	**10 54 51.2**	**+2.0**
N18K	**Kilae Creek** baz=119	**40.77**	**330**	P	**P**	**10 54 50.5**	**+1.1**
H24K	**Noodor Dome** baz=133	**40.86**	**340**	P	**P**	**10 54 51.6**	**+1.6**
L20K	**Farewell, AK** baz=123	**40.87**	**333**	P	**P**	**10 54 50.9**	**+0.7**
P16K	**Nushagak River** baz=114	**40.98**	**327**	P	**P**	**10 54 53.0**	**+2.0**
CHUM	**Lake Minchumin** baz=126	**41.08**	**335**	P	**P**	**10 54 53.5**	**+1.7**
L19K	**White Mountain** baz=121	**41.09**	**332**	P	**P**	**10 54 53.1**	**+1.1**
MLY	**Manley** comp=Z,3.5nm,0.7s	**41.23**	**337**	IAmb	IAmb	10 55 00.9	
MLY	**Manley** baz=129	**41.23**	**337**	P	**P**	**10 54 54.3**	**+1.1**
O16K	**Kokwok River B** baz=115	**41.27**	**328**	P	**P**	**10 54 54.8**	**+1.4**
H23K	**Yukon River** baz=131	**41.36**	**339**	P	**P**	**10 54 54.9**	**+0.7**
SCHQ	**Schefferville** comp=Z,36nm,22.0s,baz=223,slow=39	**41.42**	**40**	LR	LR	11 13 47.4	
K20K	**Telida** comp=Z,5.1nm,1.0s	**41.42**	**334**	IAmb	IAmb	10 55 00.9	
K20K	**Telida** baz=123	**41.42**	**334**	P	**P**	**10 54 54.1**	**-0.5**
I21K	**Tanana** baz=128,SNR=6.5	**41.74**	**337**	P	**P**	**10 54 57.6**	**+0.4**
E25K	**Arctic Village** baz=138	**41.86**	**343**	P	**P**	**10 54 57.7**	**-0.5**
J20K	**Nowinta River** comp=Z,6.6nm,1.1s	**41.91**	**335**	IAmb	IAmb	10 55 02.2	
J20K	**Nowinta River** baz=124	**41.91**	**335**	P	**P**	**10 54 59.5**	**+0.9**
TTA	**Tatalina** baz=121	**41.94**	**333**	P	**P**	**10 54 59.6**	**+0.6**
N16K	**Nishlik Lake** baz=115	**41.95**	**329**	P	**P**	**10 54 59.8**	**+0.8**
H22K	**Ishtalitna Cre** baz=129,SNR=8.0	**41.98**	**338**	P	**P**	**10 54 59.6**	**+0.3**
G23K	**Bananza Creek** baz=131	**42.09**	**340**	P	**P**	**10 55 01.5**	**+1.4**
H21K	**Melozitna Rive** baz=127,SNR=7.9	**42.30**	**337**	P	**P**	**10 55 02.2**	**+0.3**
E24K	**Your Creek** baz=134	**42.59**	**342**	P	**P**	**10 55 05.7**	**+1.5**
G22K	**Bettles** baz=130	**42.68**	**339**	P	**P**	**10 55 05.6**	**+0.8**
G21K	**Allakaket** baz=127	**43.05**	**338**	P	**P**	**10 55 09.3**	**+1.4**
C26K	**Camden Bay** baz=140	**43.06**	**345**	P	**P**	**10 55 08.2**	**+0.3**
GCSA	**Galena City Sc** baz=121	**43.21**	**335**	P	**P**	**10 55 09.5**	**+0.3**
F22K	**John River** baz=129,SNR=7.6	**43.26**	**340**	P	**P**	**10 55 09.9**	**+0.3**
TOLK	**Toolik Lake Re** baz=133	**43.27**	**342**	P	**P**	**10 55 09.6**	**-0.1**
D23K	**Nanushuk River** baz=132,SNR=7.0	**43.79**	**342**	P	**P**	**10 55 13.7**	**-0.1**
C24K	**Franklin Bluff** baz=135	**43.80**	**343**	P	**P**	**10 55 15.1**	**+1.2**
SJG	**San Juan** comp=Z,86nm,21.4s,baz=276,slow=40	**45.24**	**94**	LR	LR	11 17 11.0	
TAOE	**Nuku Hiva Isla** comp=Z,136nm,23.9s	**46.37**	**217**	*e*LR	LR	11 08 40.7	
ATAH	**Atahualpa** comp=Z,83nm,20.6s,baz=316,slow=33	**50.83**	**131**	LR	LR	11 14 59.8	
SFJD	**Kangerlussuaq** comp=Z,72nm,20.2s,baz=259,slow=34	**52.03**	**27**	LR	LR	11 16 53.7	
SHEM	**Shemya Is, Ala** comp=Z,42nm,18.1s,baz=25,slow=33	**55.50**	**316**	LR	LR	11 17 53.4	
NNA	**Nana** comp=Z,102nm,18.3s,baz=325,slow=33	**55.50**	**134**	LR	LR	11 17 51.8	
PPT2	**Papeete2** comp=Z,94nm,25.0s	**58.68**	**220**	*e*LR	LR	11 14 22.0	
TBI	**Tubuai** comp=Z,66nm,26.0s	**63.32**	**216**	*e*LR	LR	11 16 31.1	
BORG	**Borgarnes** comp=Z,72nm,18.8s,baz=325,slow=34	**64.06**	**28**	LR	LR	11 23 35.8	
MA2	**Magadan** comp=Z,63nm,19.1s,baz=138,slow=35	**66.62**	**326**	LR	LR	11 25 59.8	
EKA	**Eskdalemuir Ar** comp=Z,81nm,19.2s,baz=354,slow=35	**76.28**	**33**	LR	LR	11 31 31.2	
CPUP	**Villa Florida** comp=Z,1.8nm,0.8s,baz=338,slow=9.0,SNR=3.8 comp=Z,1.8nm,0.8s	**78.48**	**130**	P	**P**	**10 59 11.4**	**+1.7**
NOA	**NORSAR Array B** comp=Z,1.8nm,1.0s,baz=318,slow=5.6,SNR=3.1 comp=Z,1.8nm,1.0s	**78.60**	**24**	P	**P**	**10 59 12.2**	**+2.3**
PLCA	**Paso Flores** comp=Z,100nm,18.4s,baz=329,slow=30	**81.63**	**148**	LR	LR	11 28 39.4	
FINES	**FINESS Array B** comp=Z,2.5nm,0.7s,baz=354,slow=2.8,SNR=5.9 comp=Z,2.5nm,0.7s	**82.88**	**18**	P	**P**	**10 59 34.8**	**+2.0**
ESDC	**Sonseca Array** comp=Z,0.8nm,0.8s,baz=298,slow=4.4,SNR=5.0 comp=Z,0.8nm,0.8s	**84.82**	**47**	P	**P**	**10 59 45.1**	**+1.9**
JCJ	**Chichijima** comp=Z,98nm,20.8s,baz=80,slow=30	**87.22**	**300**	LR	LR	11 31 36.8	
DAVOX	**Davos/Dischmat** comp=Z,97nm,19.3s,baz=68,slow=35	**88.04**	**35**	LR	LR	11 38 52.7	
GERES	**CERESS Array B** comp=Z,87nm,19.2s,baz=14,slow=37	**88.36**	**31**	LR	LR	11 41 21.7	
BBTS	**Babate** comp=Z,122nm,20.3s,baz=248,slow=33	**89.15**	**74**	LR	LR	11 35 25.0	
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=321,slow=4.0,SNR=4.3 comp=Z,0.2nm,0.3s	**92.93**	**22**	P	**P**	**11 00 23.1**	**+1.6**
KOWA	**Kowa** comp=Z,99nm,21.7s,baz=240,slow=34	**99.41**	**67**	LR	LR	11 42 33.9	

ECX ***01*** *10:59:01.0±0.4, 30°.47N×114°.32W, h2km±10km, MD2.3, ML2.5*

MEX ***01*** *10:59:01.3±0.4, 30°.38N×114°.17W, h16km±42km, MD3.9*

ISC 01 10:58:59.2±1.5, 30'.47N±0'.07×114'.28W±0'.05, h7km±13km, n7, σ0s49/13, 4C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.75**	**319**	*e*P	**Pg**	**10 59 13.8**	**+0.1**
SFX				*e*S	**Sg**	**10 59 24.2**	**+0.7**
SFX				⇑*e*		10 59 25.4	
SFX				IAML		10 59 25.4	
SPIG	**San Pedro Mart** comp=E,263nm,0.2s	**1.18**	**300**	*e*P	**Pg**	**10 59 21.1**	**-0.6**
SPIG				*i* S	**Sg**	**10 59 37.0**	**0.0**
SPIG	**San Pedro Mart**	**

214A				*i* S	**Sb**	**10 59 59.0**	**-0.5**
TJIG	**Tijuana**	**2.84**	**314**	*e*P	**Pn**	**10 59 45.5**	**+0.7**
TJIG				*e*S	**Sn**	**11 00 18.9**	**-0.4**

MEX 01 11:02:39.4±0.4, 30°92′N×114°26′W, h10km, MD4.3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**1.04**	**277**	*e*P	Pg	11 02 56.2	-3.3
SPIG				*e*S	Sg	11 03 10.0	-3.1
214A	**Organ Pipe Nat**	**1.61**	**50**	*e*P	Pn	11 03 05.4	-2.6
214A				*e*S	Sn	11 03 26.5	-2.3
BAHB	**Baha de los**	**2.06**	**163**	*e*P	Pn	11 03 05.6	-8.5
BAHB				*i* S	Sn	11 03 30.9	-8.9
TJIG	**Tijuana**	**2.55**	**307**	*e*		11 03 09.6	
TJIG				*e*S	Sn	11 03 47.8	-4.2
TUC	**Tucson**	**3.27**	**64**	*e*P	Pn	11 03 27.6	-3.3
TUC				*e*S	Sn	11 04 06.6	-3.3
HSIG		**3.44**	**123**	*e*	Pg	11 03 44.0	-1.4
HSIG				*e*		11 04 42.4	
CGIG		**5.44**	**94**	*e*	Pb	11 04 18.6	+4.0
CGIG				*e*		11 05 31.4	

ECX 01 11:02:56.7±0.6, 30°32′N×114°37′W, h13km±9km, MD3.4, ML3.6, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.83**	**330**	*e*P	Pg	11 03 11.5	-1.2
SFX				*e*S	Sg	11 03 22.2	-1.4
SFX				⇑*e*		11 03 23.2	
SFX				IAML		11 03 23.2	
	comp=E,4μm,0.3s						
SFX				⇓*e*		11 03 23.7	
SFX				IAML		11 03 23.8	
	comp=N,3μm,0.3s						
SPIG	**San Pedro Mart**	**1.19**	**308**	*e*P	Pb	11 03 17.1	-2.3
SPIG				*e*S	Sb	11 03 34.4	-0.5
SPIG				IAML		11 03 45.1	
	comp=N,820nm,0.5s						
SPIG				IAML		11 03 45.9	
	comp=E,882nm,1.0s						
SPIG				*e*		11 03 45.9	
ECBX	**El Chinero**	**1.29**	**333**	*e*P	Pn	11 03 19.3	-1.2
ECBX				*e*S	Sb	11 03 35.9	-1.5
SQX	**San Quintin**	**1.33**	**281**	*e*P	Pn	11 03 19.0	-2.0
SJX	**San Joaquin**	**1.98**	**317**	*e*P	Pb	11 03 32.7	0.0
SJX				IAML		11 04 06.4	
	comp=E,319nm,0.5s						
SJX				⇑*e*		11 04 06.4	
214A	**Organ Pipe Nat**	**2.11**	**39**	*e*P	Pn	11 03 32.0	+0.3
214A				*e*S	Sn	11 03 58.0	+0.1

*SNET **01** 11:03:24.6±0.8, 13°.44N×90°.56W, h19km±8km, ML3.8*
*UCR **01** 11:03:24.6±0.8, 13°.45N×90°.56W, h21km±8km, ML3.7*
*GCG **01** 11:03:45.6±0.5, 13°.85N×90°.71W, h71km±6km, MD3.6*

ISC 01 11:03:25.5±2.4, 13°.5N±0°.1×90°.57W±0°.09, h35km, n20, σ1§86/23, 5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.89**	**59**⇓	*e*P	**Pn**	**11 03 40.7**	**-1.0**
NUBE	**Las Nubes**	**0.89**	**59**⇓	*e*P	**Pn**	**11 03 40.7**	**-1.0**
PCG	**Pacaya**	**0.94**	**358**	*e*P	**Sn**	**11 03 58.7**	**+3.8**
SLOZ	**Alcaldia de Sa**	**0.96**	**53**⇓	*e*P	**Pn**	**11 03 41.6**	**-0.9**
SLOZ				*e*S	**Sn**	**11 03 54.9**	**-0.1**
CEVE	**Cerro Verde**	**0.99**	**67**⇓	*e*P	**Pn**	**11 03 42.8**	**-0.5**
CEVE				IAML		11 04 01.6	
	comp=Z,3μm,0.2s						
CEVE	**Cerro Verde**	**0.99**	**67**⇓	*e*P	**Pn**	**11 03 42.8**	**-0.5**
CEVE				IAML		11 04 01.6	
	comp=Z,3μm,0.2s						
FUG	**Fuego 3**	**1.03**	**345**	*e*P	**Sn**	**11 04 00.1**	**+3.1**
JAYA	**Jayaque - finc**	**1.11**	**79**	*e*P	**Pn**	**11 03 44.4**	**-0.3**
JAYA				*e*S	**Sn**	**11 03 59.2**	**+0.4**
JAYA				IAML		11 04 00.6	
	comp=Z,3μm,0.2s						
JAYA	**Jayaque - finc**	**1.11**	**79**	*e*P	**Pn**	**11 03 44.4**	**-0.3**
JAYA				*e*S	**Sn**	**11 03 59.2**	**+0.4**
JAYA				IAML		11 04 00.6	
	comp=Z,3μm,0.2s						
NBG	**Las Nubes**	**1.16**	**11**	*e*P	**Sn**	**11 04 02.8**	**+2.7**
CEDA	**San Andres**	**1.20**	**73**	*e*P	**Pn**	**11 03 45.7**	**-0.1**
CEDA				IAML		11 04 09.9	
	comp=Z,2μm,0.6s						
CEDA	**San Andres**	**1.20**	**73**	*e*P	**Pn**	**11 03 45.7**	**-0.1**
CEDA				IAML		11 04 09.9	
	comp=Z,2μm,0.6s						
UEES	**Universidad Ev**	**1.32**	**78**	*e*P	**Pn**	**11 03 47.8**	**+0.3**
UEES	**Universidad Ev**	**1.32**	**78**	*e*P	**Pn**	**11 03 47.8**	**+0.3**
STG3	**Santiaguito 3,**	**1.59**	**322**	*e*P	**Sn**	**11 04 07.4**	**-3.4**
PAVA	**Las Pavas**	**1.61**	**80**	*e*P	**Pn**	**11 03 51.8**	**+0.3**
PAVA	**Las Pavas**	**1.61**	**80**	*e*P	**Pn**	**11 03 51.8**	**+0.3**
COEG	**Centro de Oper**	**1.65**	**84**	*e*P	**Pn**	**11 03 52.8**	**+0.7**
COEG				IAML		11 04 27.6	
	comp=Z,467nm,0.3s						
COEG	**Centro de Oper**	**1.65**	**84**	*e*P	**Pn**	**11 03 52.8**	**+0.7**
COEG				IAML		11 04 27.6	
	comp=Z,467nm,0.3s						
MRL	**Marmol**	**1.84**	**28**	*e*P	**Sn**	**11 04 12.4**	**-4.6**

DJA 01 11:03:34.5±0.2, 4°S±2°×12°7′E±°, h10km, M4.3/22, mb4.4/13, mB5.0/6, MLv4.2/22, Mw(mB)4.3/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.55**	**321**	P	Pg	11 03 43.8	-1.5
NLAI				S	Sg	11 03 53.3	+0.7
AAI	**Ambon**	**0.74**	**91**	P	Pg	11 03 48.6	-0.3
AAI				S	Sb	11 04 00.1	+0.3
MSAI	**Masohi**	**1.51**	**78**	P	Pn	11 04 01.5	-0.1
MSAI				S	Sb	11 04 21.9	0.0
SANI	**Sanana**	**2.17**	**318**	P	Pn	11 04 08.6	-2.2
SANI				S	Sn	11 04 33.9	-3.9
BNDI	**Bandanaira**	**2.59**	**109**	P	Pn	11 04 16.8	+0.3
LBMI	**Labuha**	**3.01**	**1**	P	Pn	11 04 23.6	+1.3
TNTI	**Ternate**	**4.41**	**359**	P	Pn	11 04 41.3	-0.3
SWI	**Sorong**	**4.72**	**54**	P	Pn	11 04 47.0	+1.2
FAKI	**Fak Fak**	**4.85**	**81**	P	Pn	11 04 48.7	+1.1
BBSI	**Bau Bau**	**5.19**	**249**	P	Pn	11 04 53.4	+1.1
	0.0nm490nm7.8nm,1.0s						
LUWI	**Luwuk**	**5.35**	**299**	P	Pn	11 04 54.6	+0.1
	0.4nm2μm112nm,0.8s						
APSI	**Ampana**	**6.41**	**295**	P	Pn	11 05 09.3	+0.2
	0.2nm635nm68nm,0.9s						
MRSI	**Marisa**	**6.88**	**307**	P	Pn	11 05 15.6	+0.1
	0.1nm32nm,0.6s						
BSSI	**Bau Bau, Buton**	**7.36**	**250**	P	Pn	11 05 22.0	-0.1
	0.1nm28nm,0.8s						
BKSI	**Bulukumba**	**7.49**	**257**	P	Pn	11 05 24.5	+0.6
	0.1nm27nm,1.0s						
EDFI	**Ende, Flores**	**7.63**	**228**	P	Pn	11 05 26.4	+0.5
	0.0nm5.7nm,0.8s						
SPSI	**Sidrap Palu**	**7.67**	**268**	P	Pn	11 05 28.1	+1.7
	0.1nm1μm11nm,0.8s						
MPSI	**Mapaga**	**8.53**	**298**	P	Pn	11 05 47.0	+8.8

*IDC **01** 11:09:54.2±0.7, 8°.16S×156°.29E, h0km, mb4.3/17, mbtmp4.3/19, ML4.5/2, MS3.9/38, Error ellipse: s-maj=18.3km s-min=16.1km az=114.0*
*NEIC **01** 11:09:56.6±2.0, 8°.07S±0°.10×156°.41E±0°.06, h10km±1km, mb4.9/65, Error ellipse: s-maj=19.0km s-min=3.4km az=210.0*
*GCMT **01** 11:09:57.6±0.2, 8°.21S±0°.02×156°.30E±0°.01, h16km±1km, MW4.9/89, Moment Tensor Solution. s18,c21; s89,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.12±.13; $M_{\theta\theta}$0.27±.09; $M_{\phi\phi}$-1.40±.10; $M_{r\theta}$-0.57±.31; $M_{\theta\phi}$1.99±.08; $M_{\phi r}$-1.60±.34; Best double couple: M○2.91100×10^{16} NP1:ϕ_s183.00000°, δ74.00000°, λ137.00000°. NP2: ϕ_s288.00000°, δ49.00000°, λ22.00000°. Principal axes: T 2.8220, Plg42.0000°, Azm137.0000°; N 0.1690, Plg44.0000°, Azm347.0000°; P -2.9990, Plg15.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **01** 11:10:03.2±0.7, 8°.5S±4°×15°.6E±°, h25km±5km, M4.7/13, mB5.3/6, mb4.7/13, MLv4.8/2, Mw(mB)4.7/6*

ISC 01 11:09:57.5±0.4, 8°.08S±0°.07×156°.35E±0°.06, h18km, n145, σ1§35/109, mb4.8/61, MS4.0/42, 1C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.80**	**111**	Pn	**Pn**	**11 10 52.5**	**-2.7**
	27nm,0.3s,baz=229,slow=8.8,SNR=1.7						
HNR				Sn	**Sn**	**11 11 42.9**	**+3.4**
	29nm,0.3s,baz=250,slow=21,SNR=1.9						
	128nm,0.5s						
HNR	**Honiara**	**3.80**	**111**	Pn	**Pn**	**11 10 53.5**	**-1.7**
RABL	**Rabaul**	**5.68**	**313**		**Pn**	**11 11 20.3**	**-0.8**
KRVT	**Keravat (AS076**	**5.70**	**311**	Pn	**Pn**	**11 11 21.2**	**-0.2**
	19nm,0.3s,baz=274,slow=1.9,SNR=2.1						
KRVT				Sn	**Sn**	**11 12 25.0**	**-1.4**
	6.9nm,0.3s,baz=217,slow=18,SNR=2.3						
	34nm,0.3s						
PMG	**Port Moresby**	**9.18**	**261**	Pn	Pn	11 12 14.6	+5.4
	0.9nm,0.3s,baz=222,slow=19,SNR=1.3						
PMG				LR	LR	11 15 37.0	
	comp=Z,2μm,18.6s,baz=108,slow=38						
PATS	**Pohnpei**	**14.94**	**8**	Pn	**Pn**	**11 13 26.8**	**-1.2**
CTA	**Charters Tower**	**15.43**	**218**	Pn	**P**	**11 13 39.5**	**+0.6**
	0.4nm,0.3s,baz=36,slow=14,SNR=3.2						
CTAO	**Charters Tower**	**15.43**	**218**	P	**P**	**11 13 39.8**	**+0.9**
DZM	**Mont Dzumac**	**16.97**	**146**	*e*LR	LR	11 17 46.6	
	comp=Z,786nm,22.7s						
DZM	**Mont Dzumac**	**16.97**	**146**	Pn	**P**	**11 13 59.3**	**+3.2**
	0.2nm,0.3s,baz=322,slow=14,SNR=3.4						
DZM				LR	LR	11 18 24.1	
	comp=Z,246nm,20.2s,baz=4.0,slow=30						
EIDS	**Eidsvold**	**17.92**	**196**	P	**P**	**11 14 07.2**	**+0.8**
SMPI	**Sarmi**	**18.58**	**288**	P	**Pn**	**11 14 14.3**	**+0.3**
	8μm22nm,1.3s						
ARMA	**Armidale**	**22.66**	**191**	P	**P**	**11 14 56.6**	**-1.4**
MSVF	**Nonsavu**	**23.20**	**117**	P	**P**	**11 15 02.2**	**-1.5**
WR0	**Warramunga Arr**	**24.20**	**239**	P	**P**	**11 15 11.5**	**-1.7**
WB0	**Warramunga Arr**	**24.24**	**239**	P	**P**	**11 15 12.6**	**-1.0**
WRAB	**Tennant Creek**	**24.35**	**239**	P	**P**	**11 15 13.6**	**-1.0**
WRAB				IAmb	IAmb	11 15 22.1	
	comp=Z,31nm,0.8s						
WB2	**Warramunga Arr**	**24.35**	**239**	P	**P**	**11 15 13.4**	**-1.3**
GUMO	**Guam**	**24.36**	**332**	LR	LR	11 23 49.4	
	comp=Z,120nm,20.6s,baz=133,slow=34						
WRA	**Warramunga Arr**	**24.36**	**239**	P	**P**	**11 15 13.4**	**-1.4**
	comp=Z,15nm,0.9s,baz=64,slow=10.0,SNR=115						
WRA				LR	LR	11 24 07.6	
	comp=Z,853nm,21.0s,baz=64,slow=35						
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**24.36**	**239**	P	**P**	**11 15 13.5**	**-1.3**
FAKI	**Fak Fak**	**24.52**	**281**	P	**P**	**11 15 16.4**	**0.0**
FAKI				IAmb	IAmb	11 15 31.9	
	comp=Z,45nm,1.1s						
FAKI	**Fak Fak**	**24.52**	**281**	P	**P**	**11 15 18.8**	**+2.5**
	comp=Z,44nm,0.9s						
MTN	**Manton Dam**	**25.24**	**257**	P	**P**	**11 15 23.3**	**+0.6**
SIJI	**Sorong**	**26.00**	**285**	P	**P**	**11 15 29.2**	**-0.5**
	comp=Z,9.3nm,0.9s,baz=113,slow=8.3,SNR=7.3						
SIJI				LR	LR	11 27 09.4	
	comp=Z,200nm,18.7s,baz=106,slow=40						
	comp=Z,9.3nm,0.9s						
SWI	**Sorong**	**26.00**	**285**	P	**P**	**11 15 32.5**	**+2.8**
AS31	**Alice Springs**	**26.51**	**232**	P	**P**	**11 15 31.7**	**-2.5**
ASAR	**Alice Springs**	**26.51**	**232**	P	**P**	**11 15 32.0**	**-2.2**
	comp=Z,2.1nm,0.7s,baz=66,slow=8.8,SNR=25						
ASAR				LR	LR	11 25 13.8	
	comp=Z,455nm,21.6s,baz=78,slow=35						
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**26.51**	**232**	P	**P**	**11 15 34.5**	**+0.2**
STKA	**Stephens Creek**	**27.38**	**208**	P	**P**	**11 15 39.6**	**-2.3**
	comp=Z,4.0nm,0.8s,baz=262,slow=7.7,SNR=3.7						
STKA				LR	LR	11 25 49.6	
	comp=Z,404nm,21.2s,baz=26,slow=35						
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**27.38**	**208**	P	**P**	**11 15 42.8**	**+0.9**
KNRA	**Kununurra**	**28.01**	**252**	P	**P**	**11 15 47.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**31.48**	**248**	P	**P**	**11 16 16.7**	**-1.8**
	comp=Z,1.8nm,0.6s,baz=87,slow=9.4,SNR=9.1						
FITZ				LR	LR	11 28 38.9	
	comp=Z,494nm,20.7s,baz=79,slow=36						
	comp=Z,1.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**31.48**	**248**	P	**P**	**11 16 16.7**	**-1.8**
AFI	**Afiamalu**	**31.80**	**103**	LR	LR	11 27 13.9	
	comp=Z,125nm,19.8s,baz=286,slow=33						
BATI	**Baumata**	**32.33**	**264**	LR	LR	11 30 04.2	
	comp=Z,558nm,20.6s,baz=120,slow=38						
DAV	**Davao City (W)**	**34.17**	**295**	LR	LR	11 31 27.3	
	comp=Z,117nm,18.1s,baz=158,slow=38						
URZ	**Urewera**	**35.41**	**151**	LR	LR	11 29 18.4	
	comp=Z,212nm,18.9s,baz=294,slow=33						
KAPI	**Kappang**	**36.48**	**272**	LR	LR	11 32 21.9	
	comp=Z,145nm,19.9s,baz=103,slow=37						
TOLI2	**Tolitoli**	**36.62**	**283**	P	**P**	**11 17 02.9**	**-0.3**
TOLI2				IAmb	IAmb	11 17 04.6	
	comp=Z,14nm,1.0s						
TUWZ	**Tuamarina**	**36.70**	**158**	P	**P**	**11 17 02.3**	**-1.2**
RPZ	**Rata Peaks**	**37.76**	**163**	LR	LR	11 32 15.9	
	comp=Z,404nm,18.0s,baz=339,slow=36						
NWAO	**Narrogin (SRO)**	**43.81**	**230**	LR	LR	11 35 43.5	
	comp=Z,304nm,21.1s,baz=250,slow=35						
JYT	**Yasato**	**46.62**	**342**	P	**P**	**11 18 25.0**	**+0.3**
JMN	**Monobe**	**46.73**	**334**	P	**P**	**11 18 25.4**	**-0.3**
INU	**Inuyama**	**46.89**	**338**	P	**P**	**11 18 26.6**	**-0.3**
MJAR	**Matsushiro Arr**	**47.54**	**340**	P	**P**	**11 18 30.7**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=160,slow=8.0,SNR=8.7						
	comp=Z,2.5nm,0.8s						
MAJO	**Matsushiro**	**47.54**	**340**	P	**P**	**11 18 32.3**	**+0.3**
MAJO				IAmb	IAmb	11 18 42.5	
	comp=Z,9.3nm,0.8s						
JHS	**Saijyo**	**48.14**	**334**	P	**P**	**11 18 37.2**	**+0.6**
LEM	**Lembang**	**48.32**	**268**	LR	LR	11 42 09.4	
	comp=Z,182nm,18.6s,baz=86,slow=40						
KSRS	**Korea Array**	**52.52**	**331**	P	**P**	**11 19 09.3**	**-0.4**
	comp=Z,17nm,1.2s,baz=150,slow=8.2,SNR=17						
KSRS				LR	LR	11 39 29.1	
	comp=Z,30nm,20.1s,baz=130,slow=34						
	comp=Z,17nm,1.2s						
KSAR	**Wonju Array Be**	**52.53**	**331**	P	**P**	**11 19 08.9**	**-0.9**
PPT2	**Papeete2**	**53.41**	**106**	*e*S	**S**	**11 26 48.4**	**-0.3**
	comp=Z,76nm,30.5s						
PPT2				*e*LR	LR	11 34 39.3	
	comp=Z,370nm,30.0s						
NJ2	**Nanjing**	**53.60**	**320**	*e*P	**P**	**11 19 20.2**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TBI	**Tubuai**	**54.02**	**113**	*e*LR	LR	11 34 55.3	
	comp=Z,137nm,33.8s						
WHN	**Wuhan**	**55.65**	**316**	P	P	11 19 38.4	+5.7
USRK	**Ussuriysk Ar.**	**56.51**	**339**	P	**P**	**11 19 37.4**	**-1.2**
	comp=Z,7.0nm,1.1s,baz=147,slow=6.4,SNR=4.7						
	comp=Z,7.0nm,1.1s						
PSI	**Prapat**	**58.28**	**278**	LR	LR	11 48 43.2	
	comp=Z,121nm,18.0s,baz=138,slow=40						
CN2	**Changchun**	**58.74**	**334**	*e*P	P	11 19 59.2	+4.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	**HongShan**	**59.68**	**322**	⇑P	P	11 20 08.7	+7.8
HNS				pmax	pmax		
	comp=Z,20nm,1.2s						
BJI	**Beijing**	**60.57**	**325**	P	**P**	**11 20 08.8**	**+1.8**
BJI				pP	**pP**	**11 20 11.1**	**-0.4**
BJI				sP	**sP**	**11 20 13.2**	**-0.2**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PETK	**Petropavlovsk-**	**60.96**	**1**	P	**P**	**11 20 08.5**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=178,slow=8.2,SNR=2.8						
PETK				LR	LR	11 44 08.9	
	comp=Z,62nm,20.3s,baz=176,slow=34						
	comp=Z,1.1nm,0.5s						
KLR	**Kul'dur**	**61.00**	**342**	LR	LR	11 44 02.8	
	comp=Z,62nm,21.6s,baz=216,slow=34						
XAN	**Xi'an**	**61.41**	**316**	P	**P**	**11 20 12.7**	**-0.3**
XAN				pP	pP	11 20 17.5	0.0
XAN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
XAN				LR	LR		
	comp=N,140nm,17.2s						
XAN				LR	LR		
	comp=E,150nm,19.9s						
XAN				LR	LR		
	comp=Z,210nm,20.6s						
KMI	**Kunming**	**61.73**	**304**	⇓P	**P**	**11 20 18.3**	**+2.8**
KMI				pmax	pmax		
	comp=Z,11nm,0.7s						
CRAI	**Chiangrai**	**61.82**	**298**	P	**P**	**11 20 15.2**	**-0.7**
SHEM	**Shemya Is, Ala**	**62.44**	**12**	LR	LR	11 42 28.4	
	comp=Z,120nm,21.7s,baz=82,slow=31						
CMAR	**Chiang Mai Arr**	**62.46**	**296**	P	**P**	**11 20 20.5**	**+0.2**
	comp=Z,3.6nm,1.0s,baz=112,slow=4.3,SNR=15						
CMAR				LR	LR	11 46 27.3	
	comp=Z,38nm,20.6s,baz=200,slow=35						
	comp=Z,3.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**62.46**	**296**	P	**P**	**11 20 19.7**	**-0.6**
CHTO	**Chiang Mai**	**62.58**	**296**	P	**P**	**11 20 21.2**	**+0.2**
TAOE	**Nuku Hiva Isla**	**62.74**	**96**	*e*LR	LR	11 38 59.2	
	comp=Z,164nm,22.3s						
PZH	**PanZhiHua**	**63.13**	**305**	P	**P**	**11 20 27.2**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.9s						
XLT	**XiLinHaoTe**	**63.27**	**328**	*e*P	**P**	**11 20 26.1**	**+0.8**
XLT				pP	sP	11 20 32.1	+0.3
XLT				pmax	pmax		
	comp=Z,21nm,1.1s						
XLT				pmax	pmax		
	comp=Z,160nm,4.3s						
CD2	**Chengdu**	**63.53**	**310**	P	**P**	**11 20 28.6**	**+1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**63.76**	**323**	*e*P	**P**	**11 20 31.2**	**+2.6**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,5.9s						
LZH	**Lanzhou**	**66.03**	**315**	*e*P	**P**	**11 20 44.7**	**+1.2**
LZH				pP	sP	11 20 51.3	+1.3
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
MA2	**Magadan**	**67.58**	**357**	LR	LR	11 53 43.2	
	comp=Z,62nm,18.0s,baz=166,slow=39						
MA2	**Magadan**	**67.58**	**357**	P	**P**	**11 20 52.6**	**-0.1**
VNDA	**Vanda**	**69.47**	**179**	P	**P**	**11 21 04.6**	**+0.3**
	comp=Z,1.2nm,1.1s,baz=313,slow=6.1,SNR=3.8						
	comp=Z,1.2nm,1.1s						
VNDA	**Vanda**	**69.47**	**179**	P	**P**	**11 21 05.9**	**+1.5**
GTA	**Gaotai**	**70.44**	**317**	*e*P	**P**	**11 21 13.3**	**+2.2**
GTA				pP	sP	11 21 18.2	+0.2
GTA				sP	pwP	11 21 21.6	+0.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,130nm,5.8s						
GTA				LR	LR		
	comp=N,91nm,19.3s						
GTA				LR	LR		
	comp=E,93nm,20.0s						
GTA				LR	LR		
	comp=Z,92nm,17.8s						
ULN	**Ulaanbaatar**	**70.63**	**327**	P	**P**	**11 21 13.3**	**+1.2**
SONM	**Songino Array**	**70.97**	**327**	P	**P**	**11 21 14.8**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=139,slow=5.9,SNR=19						
SONM				LR	LR	11 52 33.4	
	comp=Z,59nm,19.1s,baz=100,slow=36						
	comp=Z,3.5nm,0.8s						
SONM	**Songino Array**	**70.97**	**327**	P	**P**	**11 21 14.1**	**0.0**
SONM				IAmb	IAmb	11 21 22.3	
	comp=Z,11nm,1.0s						
SHL	**Shillong**	**71.00**	**300**	P	**P**	**11 21 14.0**	**-0.8**
YAK	**Yakutsk**	**72.90**	**347**	LR	LR	11 53 41.4	
	comp=Z,44nm,19.4s,baz=92,slow=36						
N18K	**Kilae Creek**	**78.10**	**22**	P	**P**	**11 21 57.1**	**+1.9**
N18K				IAmb	IAmb	11 22 03.0	
	comp=Z,9.9nm,1.2s						
SVW2	**Sparrevohn**	**78.49**	**22**	P	**P**	**11 21 57.6**	**+0.3**
SVW2				IAmb	IAmb	11 22 07.6	
	comp=Z,10.0nm,1.3s						
M19K	**Big River Lodg**	**79.45**	**21**	P	**P**	**11 22 03.6**	**+1.0**
L19K	**White Mountain**	**79.47**	**21**	P	**P**	**11 22 04.4**	**+1.7**
K20K	**Telida**	**80.51**	**20**	P	**P**	**11 22 10.0**	**+1.7**
K20K				IAmb	IAmb	11 22 11.1	
	comp=Z,16nm,1.8s						
WMQ	**Urumqi**	**80.53**	**317**	*e*P	**P**	**11 22 10.7**	**+1.8**
WMQ				sP	pwP	11 22 19.2	+0.2
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				LR	LR		
	comp=Z,110nm,19.7s						
J20K	**Nowinta River**	**81.02**	**20**	P	**P**	**11 22 11.4**	**+0.4**
J20K				IAmb	IAmb	11 22 20.2	
	comp=Z,16nm,1.6s						
PWL	**Port Wells**	**81.14**	**24**	P	**P**	**11 22 11.9**	**+0.3**
PWL				IAmb	IAmb	11 22 18.7	
	comp=Z,15nm,1.2s						
PMR	**Palmer**	**81.24**	**23**	P	**P**	**11 22 12.6**	**+0.5**
CAST	**Castle Rocks**	**81.24**	**21**	P	**P**	**11 22 11.7**	**-0.5**
TIXI	**Tiksi**	**81.61**	**352**	LR	LR	11 59 06.9	
	comp=Z,52nm,19.1s,baz=180,slow=36						
SML	**Sawmill**	**81.68**	**23**	P	**P**	**11 22 14.8**	**+0.3**
SML				IAmb	IAmb	11 22 41.3	
	comp=Z,14nm,1.4s						
TRF	**Thorofare Moun**	**81.90**	**21**	P	**P**	**11 22 14.7**	**-1.2**
TRF				IAmb	IAmb	11 22 40.0	
	comp=Z,21nm,1.8s						
QSPA	**South Pole Qui**	**81.91**	**180**	P	**P**	**11 22 14.8**	**-1.1**
QSPA				IAmb	IAmb	11 22 22.8	
	comp=Z,9.1nm,0.9s						
IMAR	**Indian Mountai**	**82.32**	**18**	P	**P**	**11 22 18.0**	**+0.3**
KLU	**Kiutina**	**82.46**	**24**	IAmb	IAmb	11 22 21.4	
	comp=Z,12nm,1.4s						
MCK	**McKinley**	**82.56**	**21**	P	**P**	**11 22 20.3**	**+1.2**
MCK				IAmb	IAmb	11 22 25.9	
	comp=Z,15nm,1.2s						
MLY	**Manley**	**82.70**	**20**	P	**P**	**11 22 20.2**	**+0.3**
MLY				IAmb	IAmb	11 22 43.5	
	comp=Z,16nm,2.0s						
DHY	**Denali Highway

comp=Z,1.2nm,0.9s,baz=247,slow=6.5,SNR=9.1
NVAR LR LR 11 57 09.5
comp=Z,72nm,21.2s,baz=278,slow=31
comp=Z,1.2nm,0.9s
NVAR Mina Array Bea 91.33 52 P P 11 23 03.0 +0.2
DSP Deep Springs 91.43 53 P P 11 23 02.5 -0.4
DSP IAmb IAmb 11 23 11.8
comp=Z,9.5nm,1.3s
WCT Wildcat Mounta 92.41 53 P P 11 23 08.1 +0.5
WCT IAmb IAmb 11 23 16.1
comp=Z,7.6nm,1.2s
TPNV Topopah Spring 92.72 53 P P 11 23 08.7 -0.5
R11A Troy Canyon, C 93.44 52 P P 11 23 09.6 -2.8
R11A IAmb IAmb 11 23 28.7
comp=Z,6.2nm,1.5s
SHPR Sheep Range 93.53 54 P P 11 23 11.1 -1.9
SHPR IAmb IAmb 11 23 21.8
comp=Z,6.3nm,1.3s
NEW Newport 93.66 42 LR LR 11 57 07.3
comp=Z,78nm,21.7s,baz=245,slow=30
BVAR Borovoye Array 93.96 323 LR LR 12 04 21.3
comp=Z,59nm,21.8s,baz=93,slow=35
ELK Elko 94.01 50 LR LR 11 59 18.4
comp=Z,40nm,19.7s,baz=260,slow=32
SPR3 Spring Creek 3 94.49 51 P P 11 23 16.2 -1.3
SPR3 IAmb IAmb 11 23 25.9
comp=Z,5.2nm,1.2s
LPIG La Paz 96.28 67 LR LR 12 01 54.8
comp=Z,65nm,18.2s,baz=304,slow=32
PDAR Pinedale Array 98.42 48 P Pdif 11 23 35.7 +0.5
comp=Z,0.1nm,0.3s,baz=245,slow=3.9,SNR=2.2
PDAR LR LR 12 03 48.4
comp=Z,64nm,18.9s,baz=294,slow=33
comp=Z,0.1nm,0.3s
SNAA Sanae 99.23 187 LR LR 12 06 52.0
comp=Z,53nm,18.4s,baz=22,slow=34
AKASG Malin Array Be 119.20 324 PKP PKPdf 11 28 45.0 -0.5
comp=Z,1.7nm,0.7s,baz=58,slow=2.5,SNR=3.0
GERES GERESS Array B 128.67 329 PKP PKiKP 11 29 05.0 +0.5
comp=Z,0.3nm,0.2s,baz=35,slow=2.4,SNR=3.6
ESDC Sonseca Array 143.93 334 PKP PKPbc 11 29 30.1 -0.1
comp=Z,1.0nm,1.0s,baz=28,slow=5.8,SNR=4.4
TORD Torodi Ar. Bea 154.60 284 PKPbc PKPbc 11 29 58.2 -0.2
comp=Z,0.9nm,0.9s,baz=16,slow=1.5,SNR=3.8

---

*IDC **01** 11:15:20.6±3.0, 8.˚44S×155.˚55E, h0km, mb3.7/5, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=76.9km s-min=27.7km az=99.0*
ISC 01 11:15:27.3±2.6, 8.˚4S±0.˚1×155.˚2E±0.˚4, h35km, n6, σ1s65/6, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**5.13**	**322**	Pn		**Pn**	**11 16 40.9**	**-0.8**
	3.3nm,0.3s,baz=173,slow=17,SNR=1.7							
	9.5nm,0.3s							
WRA	**Warramunga Arr**	**23.23**	**238**	P		**P**	**11 20 32.5**	**+0.9**
	1.1nm,0.5s,baz=64,slow=10.0,SNR=13							
	1.1nm,0.5s							
ASAR	**Alice Springs**	**25.43**	**231**	P		**P**	**11 20 53.4**	**+1.4**
	0.3nm,0.7s,baz=60,slow=9.1,SNR=2.5							
	0.3nm,0.7s							
STKA	**Stephens Creek**	**26.58**	**207**	P		**P**	**11 21 00.2**	**-2.0**
	1.5nm,0.9s,baz=21,slow=14,SNR=2.5							
	1.5nm,0.9s							
SONM	**Songino Array**	**70.60**	**327**	P		**P**	**11 26 39.5**	**+0.3**
	0.4nm,0.4s,baz=134,slow=4.2,SNR=2.1							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**84.57**	**319**	P		**P**	**11 27 57.8**	**+0.7**
	1.6nm,0.7s,baz=100,slow=6.7,SNR=5.2							
	1.6nm,0.7s							

---

*LDG **01** 11:35:56.6±0.1, 42.˚56N×13.˚28E, h6km, Md3.5/1, Ml2.6/10, Error ellipse: s-maj=2.9km s-min=1.6km az=31.0*
*ROM **01** 11:35:57.3±0.0, 42.˚558N±0.˚003×13.˚299E±0.˚004, h11km, ML3.3/70, Mw3.3, Error ellipse: s-maj=0.3km s-min=0.2km az=67.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.27; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$0.39; $M_{r\theta}$0.77; $M_{\theta\phi}$-0.52; $M_{\phi r}$-0.19; Fault plane solution: M_o1.00960×10^{14} NP1:ϕ_s186.00000°, δ35.00000°, λ-17.00000°. NP2:ϕ_s290.00000°, δ81.00000°, λ-124.00000°.*
*BEO **01** 11:35:59.6±0.9, 42.˚63N×13.˚48E, h0km, ML3.6/7*
*IDC **01** 11:36:00.0±1.7, 42.˚82N×13.˚37E, h0km, mb3.2/2, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=39.6km s-min=17.1km az=91.0*
ISC 01 11:35:57.2±0.7, 42.˚54N±0.˚01×13.˚26E±0.˚02, h14km±4km, n176, σ1s66/211, 13C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.05**	**226**	⇑P		**Pg**	**11 36 00.2**	**+0.2**
RM33				S		**Sg**	**11 36 02.2**	**+0.2**
RM33				AML	AML			
	comp=E,58250μm,1.0s							
RM33				AML	AML			
	comp=N,47300μm,1.1s							
RM33				AML	AML			
	comp=E,55800μm,1.0s							
RM33				AML	AML			
	comp=N,47250μm,1.1s							
RM33				AML	AML			
	comp=E,58200μm,1.0s							
RM33				AML	AML			
	comp=N,47100μm,1.1s							
SMA1	**SAN MARTINO**	**0.10**	**32**	⇓P		**Pg**	**11 36 00.2**	**-0.4**
SMA1				S		**Sg**	**11 36 02.1**	**-0.8**
SMA1				AML	AML			
SMA1				AML	AML			
T1247	**Pizzolo (AQ)**	**0.10**	**165**	⇑P		**Pg**	**11 36 00.9**	**+0.3**
T1247				S		**Sb**	**11 36 03.4**	**-0.2**
CAMP	**Campotosto**	**0.11**	**94**	⇓P		**Pg**	**11 36 00.3**	**-0.3**
CAMP				S		**Sg**	**11 36 02.2**	**-0.8**
CAMP				AML	AML			
	comp=E,40450μm,1.3s							
CAMP				AML	AML			
	comp=N,42600μm,0.5s							
T1201	**Domo (RI)**	**0.11**	**356**	⇓P		**Pg**	**11 36 00.5**	**-0.2**
T1201				S		**Sg**	**11 36 02.7**	**-0.3**
T1204	**Amatrice, Fraz**	**0.14**	**17**	⇓P		**Pg**	**11 36 00.6**	**-0.5**
T1204				S		**Sg**	**11 36 02.7**	**-0.9**
T1204				AML	AML			
	comp=E,74700μm,0.6s							
T1204				AML	AML			
	comp=N,53950μm,0.9s							
T1204				AML	AML			
	comp=E,74650μm,0.6s							
T1204				AML	AML			
	comp=N,53900μm,0.9s							
T1202	**Accumoli, Fraz**	**0.16**	**350**	⇓P		**Pg**	**11 36 01.4**	**0.0**
T1202				S		**Sg**	**11 36 04.2**	**+0.1**
T1202				AML	AML			
	comp=N,54050μm,1.4s							
T1202				AML	AML			
	comp=E,45700μm,0.3s							
T1202				AML	AML			
	comp=E,45750μm,0.3s							
T1202				AML	AML			
	comp=N,54000μm,1.4s							
LNSS	**Leonessa**	**0.17**	**290**	⇑P		**Pg**	**11 36 02.0**	**+0.5**
LNSS				S		**Sb**	**11 36 05.4**	**-0.3**
LNSS				AML	AML			
	comp=N,38000μm,0.3s							
LNSS				AML	AML			
	comp=E,45750μm,0.4s							
T1246	**Crognaleto (TE**	**0.17**	**77**	⇑P		**Pg**	**11 36 01.2**	**-0.3**
T1246				S		**Sg**	**11 36 03.7**	**-0.7**
T1243	**Rocca Santa Ma**	**0.21**	**42**	P		**Pg**	**11 36 01.5**	**-0.5**
T1243				S		**Sg**	**11 36 04.4**	**-0.8**
T1244	**Arquata del Tr**	**0.21**	**7**	⇓P		**Pg**	**11 36 01.9**	**-0.2**
T1244				S		**Sg**	**11 36 05.2**	**-0.3**
T1244				AML	AML			
	comp=E,27900μm,0.5s							
T1244				AML	AML			
	comp=N,44700μm,0.6s							
T1244				AML	AML			
	comp=E,28750μm,1.2s							
T1244				AML	AML			
	comp=E,27950μm,0.5s							
T1244				AML	AML			
	comp=E,28700μm,1.2s							
T1244				AML	AML			
	comp=N,44650μm,0.6s							
T1244				AML	AML			
	comp=N,44750μm,0.6s							
GIGS	**Gran Sasso**	**0.24**	**112**	P		**Pg**	**11 36 02.5**	**-0.1**
GIGS				S		**Sg**	**11 36 06.0**	**-0.2**
GIGS				AML	AML			
	comp=E,16250μm,0.2s							
GIGS				AML	AML			
	comp=N,7370μm,0.1s							
TERO	**Teramo**	**0.26**	**72**	⇑P		**Pg**	**11 36 02.5**	**-0.4**
TERO				S		**Sg**	**11 36 06.2**	**-0.6**
TERO				AML	AML			
	comp=E,39850μm,0.2s							
TERO				AML	AML			
	comp=N,45650μm,1.2s							
TERO				AML	AML			
	comp=N,42500μm,0.2s							
TERO				AML	AML			
	comp=E,43550μm,0.2s							
TERO				AML	AML			
	comp=N,42450μm,0.2s							
FIAM	**Fiamignano**	**0.30**	**201**	⇑P		**Pb**	**11 36 04.1**	**-0.3**
FIAM				S		**Sb**	**11 36 09.1**	**0.0**
FIAM				AML	AML			
	comp=N,10365μm,0.9s							
FIAM				AML	AML			
	comp=E,5985μm,1.1s							
NRCA	**Norcia**	**0.31**	**339**	P		**Pg**	**11 36 03.7**	**0.0**
NRCA				S		**Sg**	**11 36 08.5**	**+0.3**
NRCA				AML	AML			
	comp=E,20750μm,0.8s							
NRCA				AML	AML			
	comp=N,15500μm,1.6s							
NRCA				AML	AML			
	comp=N,15450μm,1.6s							
NRCA				AML	AML			
	comp=E,20700μm,0.8s							
NRCA				AML	AML			
	comp=N,16900μm,1.6s							
NRCA				AML	AML			
	comp=N,15450μm,1.6s							
NRCA				AML	AML			
	comp=E,22200μm,0.8s							
MMO1	**Montemonaco**	**0.36**	**8**	P		**Pg**	**11 36 04.3**	**-0.3**
MMO1				S		**Sg**	**11 36 09.6**	**0.0**
MMO1				AML	AML			
	comp=N,20250μm,0.4s							
MMO1				AML	AML			
	comp=E,13650μm,0.4s							
MMO1				AML	AML			
	comp=N,20200μm,0.4s							
FAGN	**Fagnano**	**0.37**	**139**	P		**Pg**	**11 36 04.6**	**0.0**
FAGN				AML	AML			
	comp=N,16550μm,0.4s							
FAGN				AML	AML			
	comp=E,27000μm,0.5s							
ARRO	**Arrone**	**0.37**	**276**	⇑P		**Pg**	**11 36 05.2**	**+0.5**
ARRO				S		**Sb**	**11 36 11.2**	**+0.1**
MC2	**Monte Cornacci**	**0.37**	**352**	⇑P		**Pg**	**11 36 04.8**	**-0.1**
MC2				S		**Sg**	**11 36 10.8**	**+0.7**
T1215	**Vallo di Nera,**	**0.39**	**312**	P		**Pg**	**11 36 05.2**	**+0.1**
T1215				S		**Sb**	**11 36 11.4**	**-0.4**
T1215				AML	AML			
	comp=N,1890μm,0.8s							
T1215				AML	AML			
	comp=E,1559μm,0.5s							
T1215				AML	AML			
	comp=N,1755μm,0.8s							
T1215				AML	AML			
	comp=E,1535μm,0.5s							
FEMA	**Monte Fema**	**0.45**	**340**	P		**Pg**	**11 36 06.2**	**0.0**
FEMA				S		**Sg**	**11 36 12.9**	**+0.6**
VCEL	**Villa Celiera**	**0.45**	**109**	P		**Pg**	**11 36 06.4**	**+0.1**
VCEL				AML	AML			
	comp=E,23600μm,1.1s							
VCEL				AML	AML			
	comp=E,23550μm,1.1s							
VCEL				AML	AML			
	comp=N,24750μm,1.0s							
T0110	**Collepietro**	**0.50**	**129**	P		**Pg**	**11 36 07.0**	**-0.1**
T0110				AML	AML			
	comp=E,12650μm,0.5s							
T0110				AML	AML			
	comp=N,11240μm,0.4s							
OFFI	**Offida**	**0.50**	**38**	⇑P		**Pb**	**11 36 07.4**	**-0.4**
OFFI				AML	AML			
	comp=E,23400μm,0.6s							
OFFI				AML	AML			
	comp=N,17700μm,0.4s							
CESX	**Cesi**	**0.51**	**278**	⇑P		**Pg**	**11 36 07.3**	**0.0**
CESX				S		**Sg**	**11 36 14.8**	**+0.7**
CESX				AML	AML			
	comp=E,2245μm,1.3s							
CESX				AML	AML			
	comp=N,2530μm,0.6s							
FDMO	**Fiordimonte**	**0.51**	**345**	P		**Pg**	**11 36 06.7**	**-0.6**
FDMO				S		**Sg**	**11 36 14.1**	**-0.1**
FDMO				AML	AML			
	comp=N,2695μm,0.4s							
FDMO				AML	AML			
	comp=E,2330μm,0.7s							
GUMA	**Gualdo di Mace**	**0.52**	**6**	⇑P		**Pg**	**11 36 07.5**	**-0.1**
GUMA				S		**Sb**	**11 36 15.6**	**-0.1**
GUMA				AML	AML			
	comp=N,23500μm,0.5s							
GUMA				AML	AML			
	comp=N,24750μm,0.6s							
GUMA				AML	AML			
	comp=E,12800μm,0.3s							
GUMA				AML	AML			
	comp=E,22150μm,0.3s							
CESI	**CESI - Serrava**	**0.53**	**330**	P		**Pg**	**11 36 07.6**	**-0.2**
CESI				S		**Sb**	**11 36 15.6**	**-0.3**
CESI				AML	AML			
	comp=N,2800μm,0.4s							
CESI				AML	AML			
	comp=E,2505μm,0.9s							
PTQR	**Pietraquaria**	**0.53**	**169**	⇑P		**Pg**	**11 36 07.7**	**0.0**
PTQR				AML	AML			
	comp=E,1745μm,0.8s							
PTQR				AML	AML			
	comp=N,1675μm,0.6s							
TRTR	**Tortoreto Alta**	**0.55**	**61**	P		**Pb**	**11 36 08.6**	**0.0**
CSP1	**Cessapalombo**	**0.55**	**356**	⇑P		**Pg**	**11 36 07.7**	**-0.4**
CSP1				S		**Sg**	**11 36 15.8**	**+0.4**
CSP1				AML	AML			
	comp=E,3580μm,0.4s							
CSP1				AML	AML			
	comp=N,5850μm,0.6s							
MNTP	**Montappone**	**0.61**	**14**	AML	AML			
	comp=E,7970μm,1.2s							
MNTP				AML	AML			
	comp=E,7970μm,1.2s							
MNTP				AML	AML			
	comp=N,6915μm,1.6s							
MNTP				AML	AML			
	comp=N,6910μm,1.6s							
CERT	**Cerreto**	**0.63**	**199**	P		**Pg**	**11 36 09.6**	**0.0**
CERT				AML	AML			
	comp=N,1935μm,0.5s							
CERT				AML	AML			
	comp=E,2955μm,0.4s							
SRES	**S.Oreste - Sor**	**0.64**	**241**	P		**Pg**	**11 36 09.9**	**+0.2**
SRES				AML	AML			
	comp=E,1735μm,0.4s							
SRES				AML	AML			
	comp=N,1600μm,1.0s							
SEF1	**Sefro**	**0.65**	**339**	P		**Pg**	**11 36 09.3**	**-0.6**
MTCE	**Montecelio**	**0.65**	**217**	P		**Pg**	**11 36 09.5**	**-0.4**
MTCE				AML	AML			
	comp=E,3585μm,0.6s							
MTCE				AML	AML			
	comp=N,2035μm,0.4s							
MDAR	**Monte D'Aria**	**0.66**	**352**	P		**Pg**	**11 36 09.6**	**-0.5**
MDAR				S		**Sb**	**11 36 19.6**	**+0.2**
ASSB	**Assisi San Ben**	**0.67**	**319**	P		**Pg**	**11 36 10.1**	**-0.2**
ASSB				S		**Sb**	**11 36 20.0**	**+0.2**
ASSB				AML	AML			
	comp=N,1620μm,0.2s							
ASSB				AML	AML			
	comp=E,1770μm,0.5s							
SSM1	**San Severino M**	**0.69**	**355**	P		**Pg**	**11 36 10.2**	**-0.5**
GAG1	**Gagliole**	**0.71**	**348**	P		**Pg**	**11 36 10.9**	**-0.2**
INTR	**Introdacqua**	**0.71**	**138**	⇓P		**Pg**	**11 36 10.6**	**-0.6**
INTR				S		**Sb**	**11 36 21.3**	**+0.1**
INTR				AML	AML			
	comp=E,2μm,0.8s							
INTR				AML	AML			
	comp=N,2μm,0.6s							
INTR				AML	AML			
	comp=N,3560μm,0.6s							
INTR				AML	AML			
	comp=E,2240μm,0.8s							
RCAV	**Rocca di Cave**	**0.73**	**199**	P		**Pg**	**11 36 11.6**	**+0.1**
RCAV				AML	AML			
	comp=E,3560μm,0.4s							
RCAV				AML	AML			
	comp=N,4215μm,0.7s							
CADA	**Capodarco di F**	**0.75**	**29**	P		**Pb**	**11 36 12.2**	**+0.3**
CADA				AML	AML			
	comp=N,6310μm,0.5s							
CADA				AML	AML			
	comp=E,6325μm,1.6s							
CADA				AML	AML			
	comp=N,6305μm,0.5s							
CADA				AML	AML			
	comp=E,6325μm,1.6s							
GUAR	**Guarcino**	**0.75**	**177**	P		**Pg**	**11 36 11.2**	**-0.6**
GUAR				AML	AML			
	comp=E,1905μm,1.2s							
GUAR				AML	AML			
	comp=N,2550μm,0.7s							
SNTG	**Esanatoglia**	**0.75**	**342**	P		**Pg**	**11 36 11.2**	**-0.7**
SNTG				AML	AML			
	comp=N,926μm,0.2s							
SNTG				AML	AML			
	comp=E,1024μm,0.7s							
TRE1	**Treia**	**0.77**	**3**	P		**Pg**	**11 36 12.0**	**-0.1**
ATCC	**AVT- Casa Cast**	**0.79**	**325**	P		**Pg**	**11 36 12.2**	**-0.4**
ATCC				AML	AML			
	comp=E,1620μm,0.9s							
ATCC				AML	AML			
	comp=N,1570μm,0.4s							
EL6	**Elcito**	**0.79**	**352**	P		**Pg**	**11 36 11.0**	**-1.7**
CIMA	**Civitanova Mar**	**0.82**	**21**	P		**Pn**	**11 36 13.8**	**-0.5**
CING	**Cingoli**	**0.83**	**357**	P		**Pg**	**11 36 12.6**	**-0.8**
CING				S		**Sn**	**11 36 25.5**	**-1.1**
CING				AML	AML			
	comp=N,2015μm,1.4s							
CING				AML	AML			
	comp=E,2095μm,0.7s							
FOSV	**Fossato di Vic**	**0.84**	**334**	P		**Pg**	**11 36 13.0**	**-0.5**
RMP	**Rome, Mte Porz**	**0.84**	**210**	AML	AML			
	comp=N,2645μm,0.5s							
RMP				AML	AML			
	comp=E,2270μm,0.6s							
LPEL	**Lama dei Pelig**	**0.84**	**126**	P		**Pg**	**11 36 12.3**	**-1.3**
LPEL				S		**Sg**	**11 36 24.6**	**-0.2**
LPEL				AML	AML			
	comp=E,3390μm,1.0s							
LPEL				AML	AML			
	comp=N,2925μm,0.6s							
PP3	**Marolino**	**0.87**	**17**	P		**Pb**	**11 36 13.9**	**-0.2**
PP3				AML	AML			
	comp=E,5595μm,0.5s							
PP3				AML	AML			
	comp=N,4605μm,0.5s							
PP3				AML	AML			
	comp=E,5820μm,0.5s							
PP3				AML	AML			
	comp=N,4590μm,0.5s							
POFI	**Posta Fibreno**	**0.89**	**158**	P		**Pb**	**11 36 14.0**	**-0.4**
POFI				AML	AML			
	comp=N,1049μm,0.5s							
POFI				AML	AML			
	comp=E,1430μm,0.6s							
POFI				AML	AML			
	comp=N,1116μm,0.6s							
POFI				AML	AML			
	comp=E,1480μm,0.6s							
POFI				AML	AML			
	comp=N,1120μm,0.6s							
MURB	**Monte Urbino**	**0.90**	**323**	P		**Pb**	**11 36 14.3**	**-0.3**
MGAB	**Montegabbione**	**0.92**	**294**	P		**Pb**	**11 36 15.2**	**+0.1**
MGAB				AML	AML			
	comp=E,2050μm,1.5s							
MGAB				AML	AML			
	comp=E,2080μm,1.5s							
MGAB				AML	AML			
	comp=N,1375μm,0.5s							
MGAB				AML	AML			
	comp=N,1415μm,1.0s							
LRP	**Arpino**	**0.93**	**165**	AML	AML			
	comp=E,1050μm,0.5s							
LRP				AML	AML			
	comp=N,1390μm,0.4s							
ATTE	**AVT- Monte Tez**	**0.94**	**315**	P		**Pb**	**11 36 15.3**	**+0.1**
SSFR	**Montelago di S**	**0.96**	**339**	P		**Pb**	**11 36 15.1**	**-0.5**
SSFR				AML	AML			
	comp=E,2215μm,0.3s							
SSFR				AML	AML			
	comp=N,1650μm,1.4s							
SSFR				AML	AML			
	comp=N,1860μm,0.9s							
SSFR				AML	AML			
	comp=E,2005μm,0.3s							
ATFO	**Monte Foce - G**	**0.97**	**329**	P		**Pb**	**11 36 15.4**	**-0.3**
ATFO				AML	AML			
	comp=N,736μm,1.0s							
ATFO				AML	AML			
	comp=E,930μm,1.0s							
ATSC	**Scheggia e Pas**	**0.98**	**335**	P		**Pb**	**11 36 15.4**	**-0.6**
ARVD	**Arcevia**	**0.98**	**346**	P		**Pb**	**11 36 15.4**	**-0.6**
ARVD				AML	AML			
	comp=N,732μm,1.0s							
ARVD				AML	AML			
	comp=E,834μm,1.1s							
GIUL	**Giuliano Di Ro**	**0.98**	**180**	P		**Pb**	**11 36 15.9**	**-0.1**
GIUL				AML	AML			
	comp=E,1108μm,1.6s							
GIUL				AML	AML			
	comp=N,1018μm,0.9s							
ATLO	**AVT- Montelove**	**0.99**	**321**	P		**Pb**	**11 36 15.9**	**-0.4**
ATVA	**AVT- Monte Val**	**1.03**	**316**	P		**Pb**	**11 36 16.9**	**+0.1**
AOI	**Ancona**	**1.04**	**14**	P		**Pb**	**11 36 16.2**	**-0.7**
AOI				AML	AML			
	comp=N,1368μm,1.0s							
AOI				AML	AML			
	comp=E,1215μm,1.1s							
SACS	**San Casciano d**	**1.04**	**287**	P		**Pb**	**11 36 17.0**	**0.0**
SACS				AML	AML			
	comp=E,819μm,0.8s							
SACS				AML	AML			
	comp=N,878μm,1.1s							
SACS				AML	AML			
	comp=E,714μm,0.8s							
SACS				AML	AML			
	comp=N,855μm,0.8s							
ATVO	**AVT- Monte Val**	**1.05**	**323**	P		**Pb**	**11 36 16.6**	**-0.6**
FRON	**Frontone**	**1.05**	**338**	P		**Pb**	**11 36 16.7**	**-0.5**
FRON				AML	AML			
	comp=E,916μm,0.5s							
FRON				AML	AML			
	comp=N,1230μm,0.5s							
TOLF	**Tolfa**	**1.05**	**243**	P		**Pb**	**11 36 17.0**	**-0.2**
TOLF				AML	AML			
	comp=E,1009μm,0.8s							
TOLF				AML	AML			
	comp=N,904μm,0.9s							
TB03	**Pietralunga**	**1.06**	**324**	P		**Pb**	**11 36 16.8**	**-0.6**
ATBU	**Serra di Buran**	**1.07**	**331**	P		**Pb**	**11 36 17.4**	**-0.1**
RNI2	**Rionero Sannit**	**1.07**	**141**	P		**Pg**	**11 36 18.4**	**+0.5**
RNI2				AML	AML			
	comp=N,1330μm,0.8s							
RNI2				AML	AML			
	comp=N,1325μm,0.8s							
RNI2				AML	AML			
	comp=E,1420μm,0.9s							
RNI2				AML	AML			
	comp=E,1385μm,0.9s							
LATB	**Latina**	**1.07**	**192**	P		**Pg**	**11 36 18.7**	**+0.8**
LATE	**Laterza**	**1.08**	**274**	P		**Pn**	**11 36 18.0**	**0.0**
CERA	**Filignano**	**1.10**	**149**	P		**Pb**	**11 36 16.9**	**-1.1**
CERA				AML	AML			
	comp=E,1700μm,0.5s							
CERA				AML	AML			
	comp=N,1235μm,0.7s							
ATPI	**Pietralunga -**	**1.10**	**325**	P		**Pb**	**11 36 17.9**	**-0.2**
COR1	**Corinaldo**	**1.10**	**350**	P		**Pb**	**11 36 18.1**	**0.0**
ATPC	**Poggio Castell**	**1.11**	**328**	P		**Pb**	**11 36 18.0**	**-0.2**
MIDA	**Miranda**	**1.17**	**140**	P		**Pn**	**11 36 17.9**	**-1.3**
MIDA				AML	AML			
	comp=N,805μm,0.7s							

MIDA					AML	AML		
	comp=E,1075µm,0.9s							
NARO	**Abbazia di Nar**	**1.18**	**335**		P	**Pn**	**11 36 19.0**	**-0.2**
NARO					AML	AML		
	comp=E,638µm,0.7s							
NARO					AML	AML		
	comp=N,447µm,1.0s							
FRES	**Fresagrandinar**	**1.19**	**118**		P	**Pg**	**11 36 21.6**	**+1.5**
FSSB	**Fossombrone**	**1.20**	**343**		P	**Pn**	**11 36 19.4**	**-0.2**
FSSB					AML	AML		
	comp=N,2070µm,0.4s							
FSSB					AML	AML		
	comp=E,1765µm,0.3s							
CAFI	**Castiglion Fio**	**1.23**	**310**		P	**Pb**	**11 36 20.6**	**+0.3**
CAFI					AML	AML		
	comp=N,366µm,0.5s							
CAFI					AML	AML		
	comp=E,494µm,0.7s							
PARC	**Parchiule**	**1.33**	**326**		P	**Pb**	**11 36 22.5**	**+0.5**
PARC					AML	AML		
	comp=E,889µm,0.9s							
PARC					AML	AML		
	comp=N,866µm,0.8s							
VAGA	**Valle Agricola**	**1.34**	**147**		P	**Pb**	**11 36 22.4**	**+0.3**
VAGA					AML	AML		
	comp=E,447µm,0.6s							
VAGA					AML	AML		
	comp=N,590µm,0.4s							
VAGA					AML	AML		
	comp=N,616µm,0.4s							
VAGA					AML	AML		
	comp=E,456µm,0.6s							
ARCI	**Arcidosso**	**1.35**	**284**		P	**Pg**	**11 36 23.3**	**+0.1**
BSSO	**Busso**	**1.41**	**135**		P	**Pb**	**11 36 23.1**	**-0.1**
PESA	**Pesaro**	**1.43**	**348**		P	**Pb**	**11 36 23.8**	**+0.2**
PESA					AML	AML		
	comp=E,1240µm,1.0s							
PESA					AML	AML		
	comp=N,1235µm,0.5s							
CRE	**Caprese Michel**	**1.44**	**319**		P	**Pn**	**11 36 23.0**	**0.0**
CRE					AML	AML		
	comp=N,323µm,0.4s							
CRE					AML	AML		
	comp=E,274µm,0.7s							
MODR	**Mondragone**	**1.47**	**162**		P	**Pb**	**11 36 24.8**	**+0.5**
MODR					AML	AML		
	comp=E,266µm,1.5s							
MODR					AML	AML		
	comp=N,310µm,1.6s							
ASQU	**Asqua**	**1.65**	**320**		P	**Pn**	**11 36 26.3**	**+0.5**
VITU	**Vitulano (BN)**	**1.70**	**143**		P	**Pb**	**11 36 27.9**	**-0.3**
TREM	**Isole Tremiti**	**1.72**	**103**		P	**Pb**	**11 36 29.0**	**+0.5**
PSB1	**Pescosannita**	**1.75**	**138**		P	**Pg**	**11 36 30.6**	**-0.3**
CASP	**Castiglione de**	**1.79**	**279**		P	**Pb**	**11 36 29.1**	**-0.6**
TRIF	**Trifonti**	**1.83**	**289**		P	**Pb**	**11 36 29.8**	**-0.6**
SGRT	**San Giovanni R**	**2.01**	**112**		P	**Pn**	**11 36 31.2**	**+0.5**
SGRT					AML	AML		
	comp=E,491µm,1.3s							
SGRT					AML	AML		
	comp=N,484µm,0.5s							
SGTA	**Sant Agata di**	**2.11**	**131**		P	**Pn**	**11 36 31.9**	**-0.3**
MSAG	**Monte S. Angel**	**2.14**	**112**		P	**Pn**	**11 36 33.0**	**+0.5**
SKDS	**Skadanscina**	**3.05**	**10**		*e*Pn	**Pn**	**11 36 45.2**	**+0.2**
A050A	**Klekovaca**	**3.07**	**50**		*e*Pn	**Pn**	**11 36 47.2**	**+1.9**
PGF	**Pioggiola**	**3.15**	**272**		*e*P	**Pn**	**11 36 48.3**	**+1.8**
PGF					*e*Sn	**Sn**	**11 37 20.8**	**-3.1**
	comp=N,4.3nm,0.4s							
SRKY	**Kupres RS**	**3.23**	**61**		*e*Pn	**Pn**	**11 36 49.4**	**+1.8**
STON	**Ston**	**3.29**	**83**		*e*Pn	**Pn**	**11 36 48.2**	**0.0**
STON	**Ston**	**3.29**	**83**		*e*Pn	**Pn**	**11 36 48.1**	**-0.1**
STON					*e*Sn	**Sn**	**11 37 26.4**	**-0.6**
STON	**Ston**	**3.29**	**83**		AML	AML		
	comp=E,130µm,0.6s							
STON					AML	AML		
	comp=N,84µm,1.1s							
BOJS	**Bojanci**	**3.29**	**25**		*e*Pn	**Pn**	**11 36 49.6**	**+1.3**
BOJS	**Bojanci**	**3.29**	**25**		P	**Pn**	**11 36 49.5**	**+1.3**
BOJS					AML	AML		
	comp=E,184µm,1.5s							
BOJS					AML	AML		
	comp=N,146µm,1.0s							
CEY	**Cerknica**	**3.30**	**14**		*e*Pn	**Pn**	**11 36 48.7**	**+0.2**
MGRS	**Mrkonjic Grad**	**3.35**	**55**		*e*Pn	**Pn**	**11 36 51.8**	**+2.6**
CGRP	**Cima Grappa**	**3.50**	**343**		P	**Pn**	**11 36 52.9**	**+1.6**
CGRP					AML	AML		
	comp=N,139µm,0.5s							
CGRP					AML	AML		
	comp=E,164µm,1.6s							
BLY	**Banja Luka**	**3.60**	**51**		*e*Pn	**Pn**	**11 36 55.4**	**+2.9**
A051A	**Mrakovica**	**3.61**	**46**		*e*Pn	**Pn**	**11 36 51.4**	**-1.4**
CRES	**Cresnjev**	**3.64**	**25**		*e*Pn	**Pn**	**11 36 54.1**	**+1.0**
DOSS	**Dosso del Somm**	**3.65**	**337**		P	**Pn**	**11 36 55.5**	**+2.0**
DOSS					AML	AML		
	comp=E,292µm,1.1s							
DOSS					AML	AML		
	comp=E,72µm,0.8s							
DOSS					AML	AML		
	comp=N,80µm,0.6s							
DOSS					AML	AML		
	comp=N,411µm,1.1s							
MPRI	**Monte Prat**	**3.70**	**357**		P	**Pn**	**11 36 55.0**	**+1.0**
MPRI					AML	AML		
	comp=E,121µm,0.8s							
MPRI					AML	AML		
	comp=N,192µm,0.5s							
STAL	**STALIGIAL**	**3.74**	**354**		P	**Pn**	**11 36 55.0**	**+0.5**
STAL					AML	AML		
	comp=N,96µm,0.7s							
STAL					AML	AML		
	comp=E,109µm,1.4s							
MAGA	**Magasa**	**3.75**	**331**		P	**Pn**	**11 36 56.5**	**+1.8**
MAGA					AML	AML		
	comp=E,176µm,0.5s							
MAGA					AML	AML		
	comp=N,138µm,0.4s							
TREB	**Trebinje**	**3.76**	**86**		*e*Pn	**Pn**	**11 36 57.9**	**+3.2**
LUSI	**Trento, Gardas**	**3.80**	**335**		AML	AML		
	comp=E,68µm,0.4s							
LUSI					AML	AML		
	comp=N,95µm,0.3s							
CIMO	**Cimolais**	**3.81**	**351**		P	**Pn**	**11 36 56.1**	**+0.6**
CIMO					AML	AML		
	comp=E,28µm,0.4s							
CIMO					AML	AML		
	comp=N,27µm,0.9s							
PTCC	**Patocco-Chiusa**	**3.86**	**1**		P	**Pn**	**11 36 56.4**	**+0.2**
PTCC					AML	AML		
	comp=E,53µm,0.4s							
PTCC					AML	AML		
	comp=N,36µm,0.8s							
HCY	**Herceg Novi**	**3.87**	**90**		*e*Pn	**Pn**	**11 36 57.3**	**+1.0**
BRY	**Bratogost**	**3.90**	**83**		*e*Pn	**Pn**	**11 36 58.5**	**+1.6**
GAGG	**Gaggia**	**3.91**	**336**		AML	AML		
	comp=E,93µm,0.9s							
GAGG					AML	AML		
	comp=N,67µm,0.9s							
CLUD	**Cludinico**	**3.92**	**356**		P	**Pn**	**11 36 57.6**	**+0.6**
CLUD					AML	AML		
	comp=E,71µm,1.2s							
CLUD					AML	AML		
	comp=N,73µm,0.8s							
ACOM	**Acomizza, Ital**	**4.01**	**2**		AML	AML		
	comp=E,94µm,1.4s							
ACOM					AML	AML		
	comp=N,86µm,1.1s							
ZOU	**Zoufplan**	**4.02**	**357**		AML	AML		
	comp=N,84µm,1.2s							
ZOU					AML	AML		
	comp=E,57µm,0.7s							
OBKA	**Obir**	**4.07**	**13**		*e*Pn	**Pn**	**11 37 00.3**	**+1.2**
OBKA	**Obir**	**4.07**	**13**		*e*Pn	**Pn**	**11 37 00.9**	**+1.8**
	comp=E,3.6nm,0.4s							
MYKA	**Terra Mystica**	**4.09**	**4**		*e*Pn	**Pn**	**11 37 01.0**	**+1.6**
	comp=E,4.0nm,0.4s							
KOSI	**Kohlern**	**4.14**	**342**		AML	AML		
	comp=E,120µm,0.9s							
KOSI					AML	AML		
	comp=N,78µm,1.1s							
UPM	**Unac-Piva**	**4.20**	**79**		*e*Pn	**Pn**	**11 37 03.6**	**+2.6**
VSL	**Villasalto**	**4.23**	**225**		AML	AML		
VSL					AML	AML		
ABTA	**Abfaltersbach**	**4.24**	**353**		*e*Pn	**Pn**	**11 37 03.2**	**+1.8**
	comp=N,13nm,0.5s							
SOKA	**Soboth**	**4.32**	**16**		*e*Pn	**Pn**	**11 37 06.5**	**+3.9**
	comp=N,2.1nm,0.2s							
DRME	**Dracevica, Mon**	**4.40**	**93**		*e*Pn	**Pn**	**11 37 05.6**	**+2.0**
SBF	**Sospel**	**4.46**	**289**		*e*P	**Pn**	**11 37 06.7**	**+2.3**
SBF					*e*Sn	**Sn**	**11 37 51.9**	**-4.2**
	comp=N,7.4nm,0.6s							
RISI	**Rein**	**4.48**	**350**		AML	AML		
	comp=E,120µm,0.6s							
RISI					AML	AML		
	comp=N,162µm,0.5s							
KBA	**Koelnbreinsper**	**4.54**	**1**		*e*Pn	**Pn**	**11 37 07.2**	**+1.7**
	comp=N,6.3nm,0.3s							
BBLS	**Lazići**	**4.68**	**72**		*e*Pn	**Pn**	**11 37 09.5**	**+2.0**
BBLS					*e*Sn	**Sn**	**11 37 59.9**	**-1.7**
FETA	**Feichten**	**4.83**	**339**		*e*Pn	**Pn**	**11 37 12.7**	**+3.2**
	comp=N,1.9nm,0.3s							
WTTA	**Wattenberg**	**4.86**	**347**		*e*Pn	**Pn**	**11 37 13.1**	**+3.1**
	comp=N,2.0nm,0.2s							
DAVOX	**Davos/Dischmat**	**4.88**	**331**		Pn	**Pn**	**11 37 13.3**	**+3.1**
	comp=N,0.9nm,0.3s,baz=148,slow=18,SNR=7.8							
DAVOX					Sn	**Sn**	**11 38 10.0**	**+3.5**
	comp=N,0.8nm,0.3s,baz=98,slow=22,SNR=3.1							
	comp=N,5.3nm,0.5s							
WATA	**Walderalm**	**4.94**	**347**		*e*Pn	**Pn**	**11 37 14.3**	**+3.2**
	comp=N,2.1nm,0.2s							
ARSA	**Arzberg**	**4.97**	**18**		*e*Pn	**Pn**	**11 37 14.5**	**+3.1**
	comp=N,1.9nm,0.2s							
LMR	**La Mourre**	**5.02**	**281**		*e*P	**Pn**	**11 37 14.6**	**+2.6**
LMR					*e*Sn	**Sn**	**11 38 05.5**	**-4.3**
	comp=N,1.5nm,0.3s							
DIVS	**Divibare**	**5.15**	**70**		*e*Pn	**Pn**	**11 37 15.1**	**+1.2**
DIVS	**Divibare**	**5.15**	**70**		*e*Pn	**Pn**	**11 37 16.0**	**+2.1**
IVAS	**Ivanjica**	**5.15**	**76**		*e*Pn	**Pn**	**11 37 15.5**	**+1.6**
IVAS					*e*Sn	**Sn**	**11 38 10.9**	**-2.3**
MBDF	**Montbardon**	**5.19**	**297**		*e*P	**Pn**	**11 37 17.9**	**+3.3**
MBDF					*e*Sn	**Sn**	**11 38 09.3**	**-5.0**
	comp=N,0.6nm,0.3s							
RETA	**Reutte**	**5.25**	**341**		*e*Pn	**Pn**	**11 37 18.4**	**+3.1**
	comp=N,1.8nm,0.2s							
DAVA	**Damuels**	**5.32**	**334**		*e*Pn	**Pn**	**11 37 20.3**	**+4.0**
	comp=N,5.5nm,0.5s							
MOA	**Molln**	**5.35**	**7**		*e*Pn	**Pn**	**11 37 17.4**	**+0.8**
MOA					*e*Sn	**Sn**	**11 38 18.9**	**+0.8**
TRUS	**Trudelj**	**5.47**	**70**		*e*Pn	**Pn**	**11 37 19.2**	**+1.0**
LPG	**La Plagne**	**5.55**	**304**		*e*P	**Pn**	**11 37 22.3**	**+2.8**
LPG					*e*Sn	**Sn**	**11 38 18.1**	**-5.1**
	comp=N,1.0nm,0.2s							
LPL	**La Plagne**	**5.57**	**304**		*e*P	**Pn**	**11 37 22.5**	**+2.7**
LPL					*e*Sn	**Sn**	**11 38 18.5**	**-5.1**
	comp=N,2.4nm,0.5s							
RONA	**Rosalia, Austr**	**5.58**	**22**		*e*Pn	**Pn**	**11 37 20.8**	**+0.9**
	comp=N,2.0nm,0.3s							
CONA	**Conrad Observa**	**5.69**	**18**		*e*Pn	**Pn**	**11 37 22.3**	**+1.0**
	comp=N,0.9nm,0.2s							
SMRF	**Simiane la Rot**	**5.79**	**287**		*e*P	**Pn**	**11 37 25.6**	**+2.9**
SMRF					*e*Sn	**Sn**	**11 38 23.8**	**-5.1**
	comp=N,0.6nm,0.3s							
SELS	**Selova**	**5.81**	**81**		*e*Pn	**Pn**	**11 37 23.4**	**+0.4**
ORIF	**Oris-en-Rattie**	**5.85**	**296**		*e*P	**Pn**	**11 37 26.4**	**+2.8**
BARS	**Barje**	**6.31**	**85**		*e*Pn	**Pn**	**11 37 31.7**	**+1.9**
BARS					*e*Sn	**Sn**	**11 38 39.9**	**-1.7**
GERES	**GERESS Array B**	**6.31**	**3**		Pn	**Pn**	**11 37 29.9**	**0.0**
	comp=N,0.3nm,0.3s,baz=174,slow=13,SNR=6.1							
GERES					Sn	**Sn**	**11 38 40.8**	**-1.0**
	comp=N,1.4nm,0.3s,baz=182,slow=25,SNR=7.7							
	comp=N,0.8nm,0.4s							
PRVS	**Prvonek**	**6.51**	**87**		*e*Pn	**Pn**	**11 37 33.8**	**+1.2**
PRVS					*e*Sn	**Sn**	**11 38 45.0**	**-1.6**
CABF	**La Chapelle**	**6.54**	**311**		*e*P	**Pn**	**11 37 36.3**	**+3.3**
ZAGS	**Zajecar**	**6.68**	**76**		*e*Pn	**Pn**	**11 37 35.8**	**+1.0**
ZAPS	**Zavoj**	**6.92**	**81**		*e*Pn	**Pn**	**11 37 39.1**	**+0.9**
ZAPS					*e*Sn	**Sn**	**11 38 54.5**	**-2.2**
HINF	**Hinteralfeld**	**6.95**	**322**		*e*P	**Pn**	**11 37 41.8**	**+3.2**
HINF					*e*Sn	**Sn**	**11 38 53.0**	**-4.4**
	comp=N,1.3nm,0.3s							
VYHS	**Vyhne**	**7.12**	**31**		*e*PN	**Pn**	**11 37 42.6**	**+1.7**
CDF	**Champ du Feu**	**7.22**	**326**		*e*P	**Pn**	**11 37 43.7**	**+1.4**
CDF					*e*Sn	**Sn**	**11 38 57.3**	**-6.8**
	comp=N,1.6nm,0.3s							
ROSF	**Rostrenen**	**12.97**	**302**		*e*Sn	Sn	11 41 15.3	-10
TORD	**Torodi Ar. Bea**	**30.96**	**202**		P	P	11 42 21.3	+7.4
	comp=N,0.2nm,0.6s,baz=16,slow=10,SNR=1.7							
	comp=N,0.2nm,0.6s							
MKAR	**Makanchi Array**	**47.84**	**60**		P	**P**	**11 44 38.5**	**+4.2**
	comp=N,0.2nm,0.6s,baz=282,slow=7.2,SNR=2.4							
	comp=N,0.2nm,0.6s							

ROM 01 11:36:58.6±0.1,**42°800N**±0°.003×**13°226E**±0°.005,
h10km,**Md1.3/5,2D,Error ellipse: s-maj=0.4km**
s-min=0.3km az=77.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1244	**Arquata del Tr**	**0.07**	**129**	⇓P	Pg	11 37 01.1	+0.3
T1244				END			
NRCA	**Norcia**	**0.09**	**292**	P	Pg	11 37 01.4	+0.3
NRCA				S	Sg	11 37 03.0	+0.1
NRCA				AML	AML		
	comp=E,1205µm,0.5s						
NRCA				AML	AML		
	comp=N,1395µm,0.4s						
NRCA				END			
T1202	**Accumoli, Fraz**	**0.10**	**181**	P	Pg	11 37 01.7	+0.4
T1202				S	Sg	11 37 03.9	+0.7
T1202				END			
MC2	**Monte Cornacci**	**0.12**	**347**	P	Pg	11 37 01.9	+0.3
MC2				S	Sg	11 37 04.5	+0.7
MC2				END			
MMO1	**Montemonaco**	**0.12**	**37**	P	Pg	11 37 01.9	+0.3
MMO1				S	Sg	11 37 04.4	+0.6
MMO1				END			
T1204	**Amatrice, Fraz**	**0.14**	**152**	P	Pg	11 37 02.5	+0.6
T1243	**Rocca Santa Ma**	**0.19**	**122**	P	Pg	11 37 03.2	+0.5
T1243				S	Sg	11 37 06.5	+1.0
FDMO	**Fiordimonte**	**0.26**	**337**	P	Pg	11 37 04.5	+0.6
FDMO				S	Sb	11 37 09.0	-0.9
T1215	**Vallo di Nera,**	**0.26**	**271**	P	Pg	11 37 04.5	+0.6
T1215				S	Sb	11 37 09.0	-1.1
MNTP	**Montappone**	**0.38**	**28**	⇓P	Pb	11 37 07.3	-0.1

*TUL **01** 11:46:33.7±0.9,36°.44N±0°.01×96°.90W±0°.02,h3km±7km, ML3.0,mb_Lg3.2/41(NEIC), Error ellipse: s-maj=2.8km s-min=1.5km az=57.0*
*ANF **01** 11:46:34.1±0.7,36°.45N×96°.92W,h6km±4km,ML4.1/17, Error ellipse: s-maj=3.9km s-min=3.1km az=166.0*
*NEIC **01** 11:46:34.1±0.8,36°.43N±0°.01×96°.93W±0°.02,h5km±2km, Error ellipse: s-maj=3.4km s-min=3.0km az=57.0*
*IDC **01** 11:46:35.6±2.0,36°.66N×97°.13W,h0km,mbtmp3.2/3, ML3.1/3,Error ellipse: s-maj=26.4km s-min=12.5km az=107.0*

ISC 01 11:46:34.1±1.0,**36°.44N**±0°.02×**96°.92W**±0°.02,**h8**km±8km,
n89,σ091/87,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.31**	**148**	Pg	**Pg**	**11 46 40.3**	**0.0**
QUOK				Sg	**Sg**	**11 46 44.6**	**+0.1**
BLOK	**Blackwell**	**0.40**	**323**	Pg	**Pg**	**11 46 42.2**	**+0.2**
BLOK				Sg	**Sg**	**11 46 47.7**	**+0.4**
OK031	**S. Brethren Rd**	**0.49**	**173**	Pg	**Pg**	**11 46 43.6**	**0.0**
OK031				Sg	**Sg**	**11 46 50.2**	**+0.3**
OK030	**Cody Creek RV**	**0.52**	**168**	Pg	**Pg**	**11 46 44.2**	**0.0**
OK030				Sg	**Sg**	**11 46 51.1**	**+0.1**
T35A	**Sooner Cattle**	**0.58**	**34**		**Pg**	**11 46 45.2**	**-0.1**
T35B	**Sooner Cattle**	**0.58**	**34**	P	**Pg**	**11 46 45.0**	**-0.4**
	baz=215,SNR=374						
T35B				S	**Sg**	**11 46 53.0**	**+0.1**
	baz=215						
DEOK	**Depew**	**0.68**	**150**	Pg	**Pg**	**11 46 47.1**	**-0.1**
DEOK				Sg	**Sg**	**11 46 56.3**	**+0.1**
KAN13	**South Haven SW**	**0.73**	**322**	Pg	**Pg**	**11 46 48.2**	**-0.1**
OK029	**Liberty Lake**	**0.77**	**214**	Pg	**Pg**	**11 46 48.4**	**-0.7**
CROK	**Carrier**	**0.86**	**275**		**Pg**	**11 46 50.6**	**-0.1**
GC02	**Grant County #**	**0.86**	**299**		**Pg**	**11 46 50.6**	**-0.2**
KAN09	**Caldwell North**	**0.90**	**321**	Pg	**Pg**	**11 46 51.3**	**-0.1**
KAN09				Sg	**Sg**	**11 47 03.3**	**+0.2**
KAN17	**Caldwell West**	**0.91**	**312**		**Pg**	**11 46 51.5**	**-0.2**
KAN17				Sg	**Sg**	**11 47 03.7**	**+0.2**
OK025	**Westminster Rd**	**0.92**	**202**		**Pg**	**11 46 51.4**	**-0.4**
KS20	**Mayfield South**	**0.94**	**327**		**Pg**	**11 46 52.1**	**-0.2**
KS20				Sg	**Sg**	**11 47 04.5**	**0.0**
BCOK	**Bluff Creek, N**	**0.96**	**216**	Pg	**Pg**	**11 46 52.3**	**-0.2**
KAN01	**Argonia South**	**0.98**	**317**		**Pg**	**11 46 52.8**	**-0.3**
KAN01				Sg	**Sg**	**11 47 06.0**	**+0.1**
KAN14	**Manchester OK**	**0.99**	**302**		**Pg**	**11 46 52.9**	**-0.3**
KAN05	**Bluff City Nor**	**1.02**	**311**		**Pg**	**11 46 53.4**	**-0.3**
KS21	**Milan North St**	**1.04**	**325**	Pg	**Pg**	**11 46 54.0**	**-0.1**
TUL1	**Leonard**	**1.05**	**120**		**Pg**	**11 46 53.8**	**-0.6**
TUL1	**Leonard**	**1.05**	**120**	P	**Pg**	**11 46 53.7**	**-0.6**
	baz=299,SNR=261						
TUL1				S	**Sb**	**11 47 08.7**	**+0.3**
	baz=299						
OK032	**Salt Plains WL**	**1.10**	**290**		**Pg**	**11 46 54.9**	**-0.5**
KAN06	**Argonia West S**	**1.11**	**317**		**Pg**	**11 46 55.1**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**1.11**	**203**		**Pg**	**11 46 54.7**	**-0.8**
KAN08	**Anthony NE Sta**	**1.16**	**313**		**Pg**	**11 46 56.0**	**-0.4**
KAN10	**Anthony SW Sta**	**1.17**	**306**		**Pg**	**11 46 56.2**	**-0.4**
KAN16	**Harper SW Stat**	**1.21**	**311**		**Pg**	**11 46 57.0**	**-0.4**
FNO	**Franklin**	**1.24**	**199**		**Pg**	**11 46 56.8**	**-1.2**
OK035	**E0210 Rd and N**	**1.47**	**281**		**Pn**	**11 47 01.4**	**+0.4**
OK038	**West end E0370**	**1.47**	**272**		**Pn**	**11 47 00.4**	**-0.6**
RLO	**Rose Lookout**	**1.55**	**99**		**Pn**	**11 47 02.4**	**+0.3**
NOKA	**Waynoka**	**1.64**	**278**		**Pn**	**11 47 03.9**	**+0.7**
CSTR	**Hydro, Custer**	**1.64**	**242**		**Pn**	**11 47 04.1**	**+0.8**
U32A	**Winter Ranch,**	**1.68**	**269**		**Pn**	**11 47 04.7**	**+0.8**
U32A	**Winter Ranch,**	**1.68**	**269**	Pb	**Pb**	**11 47 05.0**	**-0.4**
	baz=88,SNR=32						
U32A				Sb	**Sg**	**11 47 28.0**	**-0.3**
	baz=88						
X34A	**Smith Ranch, M**	**1.98**	**202**		**Pn**	**11 47 09.3**	**+1.4**
X34A				lAmb_Lg		11 47 37.7	
	comp=Z,104nm,1.0s						
U38A	**Gravette**	**2.04**	**89**		**Pn**	**11 47 09.7**	**+0.9**
U38A				lAmb_Lg		11 47 38.7	
	comp=Z,154nm,0.7s						
U38A	**Gravette**	**2.04**	**89**	P	**Pn**	**11 47 10.1**	**+1.3**
	baz=270,SNR=96						
U38A				S	**Sb**	**11 47 37.5**	**+0.5**
	baz=270						
X37A	**Clayton**	**2.23**	**145**		**Pn**	**11 47 12.7**	**+1.2**
X37A	**Clayton**	**2.23**	**145**	P	**Pn**	**11 47 12.5**	**+1.1**
	baz=326,SNR=58						
X37A				Sb	**Sb**	**11 47 43.8**	**+1.3**
	baz=326						
WMOK	**Wichita Mounta**	**2.28**	**222**	Pn	**Pn**	**11 47 12.8**	**+0.8**
WMOK	**Wichita Mounta**	**2.28**	**222**	P	**Pn**	**11 47 13.0**	**+0.9**
	baz=41,SNR=48						
WMOK				Sb	**Sb**	**11 47 44.9**	**+1.1**
	baz=41						
HHAR	**Hobbs**	**2.41**	**93**	P	**Pn**	**11 47 15.5**	**+1.6**
	baz=274						
R32A	**Long Quarter,**	**2.44**	**325**	P	**Pn**	**11 47 16.1**	**+1.8**
	baz=144						
R32A				Sb	**Sb**	**11 47 49.6**	**+1.0**
	baz=144						
LOOK	**Love County**	**2.45**	**185**	lAmb_Lg		11 47 54.0	
	comp=Z,71nm,0.8s						
KSU1	**Kansas State U**	**2.67**	**5**	lAmb_Lg		11 48 03.9	
	comp=Z,62nm,0.7s						
Z35A	**Perchaven, San**	**3.11**	**185**		**Pn**	**11 47 24.1**	**+0.6**
MIAR	**Mount Ida**	**3.31**	**124**	lAmb_Lg		11 48 27.0	
	comp=Z,57nm,0.7s						
MIAR	**Mount Ida**	**3.31**	**124**	P	**Pn**	**11 47 27.8**	**+1.5**
	baz=305,SNR=8.8						
MGMO	**Mountain Grove**	**3.80**	**78**	lAmb_Lg		11 48 43.3	
	comp=Z,49nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.92**	**97**	lAmb_Lg		11 48 42.4	
	comp=Z,79nm,0.9s						
WHAR	**Wooly Hollow**	**3.93**	**106**		**Pn**	**11 47 35.4**	**+0.7**
UALR	**University of**	**4.08**	**113**	lAmb_Lg		11 48 52.9	
	comp=Z,44nm,0.8s						
R40A	**Maddies Statio**	**4.14**	**62**	Sn	**Sn**	**11 48 28.3**	**+2.1**
	baz=245						
WLAR	**White Oak Lake**	**4.15**	**130**	lAmb_Lg		11 48 54.9	
	comp=Z,68nm,0.8s						
P38A	**Dawn**	**4.16**	**39**		**Pn**	**11 47 38.5**	**+0.6**
P38A				lAmb_Lg		11 48 46.8	
	comp=Z,63nm,0.7s						
P38A	**Dawn**	**4.16**	**39**	P	**Pn**	**11 47 38.5**	**+0.6**
	baz=221						
P38A				Sn	**Sn**	**11 48 28.3**	**+1.7**
	baz=221						
N33A	**J Bar K, Exete**	**4.32**	**355**	lAmb_Lg		11 48 51.8	
	comp=Z,61nm,0.7s						
WHTX	**Lake Whitney,**	**4.46**	**186**	lAmb_Lg		11 48 57.5	
	comp=Z,33nm,1.1s						
WHTX	**Lake Whitney,**	**4.46**	**186**	P	**Pn**	**11 47 42.2**	**+0.2**
	baz=5,SNR=8.4						
237A	**Washetta, Mont**	**4.52**	**168**	lAmb_Lg		11 49 10.3	
	comp=Z,31nm,1.0s						
N35A	**Tabor**	**4.53**	**12**	lAmb_Lg		11 49 00.2	
	comp=Z,70nm,0.8s						
LCAR	**Lake Charles**	**4.67**	**93**	lAmb_Lg		11 49 12.6	
	comp=Z,40nm,0.7s						
CCM	**Cathedral Cave**	**4.80**	**69**	Sn	**Sn**	**11 48 43.7**	**+1.1**
	baz=252						
CCAR	**Cane Creek**	**4.91**	**119**	lAmb_Lg		11 49 16.1	
	comp=Z,31nm,0.8s						
NATX	**Nacogdoches**	**5.03**	**158**	lAmb_Lg		11 49 25.4	
	comp=Z,37nm,0.9s						
BGNE	**Belgrade**	**5.06**	**349**	Sn	**Sn**	**11 48 48.8**	**-0.1**
	baz=169						
KSCO	**Kaye Shedlock'**	**5.21**	**301**	Pn	**Pn**	**11 47 53.0**	**+0.6**
KSCO				lAmb_Lg		11 49 32.8	
	comp=Z,35nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.21**	**301**	Sn	**Sn**	**11 48 53.4**	**+0.7**
	baz=118						
N38A	**Joes South For**	**5.22**	**32**

σ1§40/97, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.06**	**45**	P	**Pg**	**11 50 01.0**	**+4.3**
PALE	**Palemas**	**0.06**	**45**	P	**Pg**	**11 49 58.0**	**+1.3**
PALE				S	**Pg**	**11 50 01.0**	**+4.3**
PVLZ	**Peæn de**	**0.26**	**269**	P	**Pb**	**11 50 00.7**	**-0.2**
PVLZ				S	**Sg**	**11 50 04.1**	**+0.9**
GOG	**Mont Gurugu**	**0.81**	**87**	P	**Pg**	**11 50 10.0**	**-0.1**
GOG	**Mont Gurugu**	**0.81**	**87**	P	**Pg**	**11 50 09.9**	**-0.1**
GOG				S	**Sn**	**11 50 24.9**	**+1.2**
EMEL	**Melilla**	**0.85**	**81**	Pg	**Pg**	**11 50 10.8**	**+0.1**
EMEL				Sg	**Sg**	**11 50 22.5**	**+0.7**
WMELI	**Melilla**	**0.86**	**80**	P	**Pg**	**11 50 11.0**	**+0.2**
WMELI				S	**Sg**	**11 50 21.3**	**-0.8**
CHEFC	**Chefchaouen**	**1.11**	**267**	P	**Pn**	**11 50 15.6**	**-0.1**
CHEFC				S	**Sb**	**11 50 29.1**	**-0.9**
SMIR	**Smir Dam**	**1.25**	**294**	P	**Pn**	**11 50 17.4**	**-0.1**
SMIR				S	**Sb**	**11 50 33.2**	**-0.5**
CHAS	**Isla Isabel II**	**1.27**	**89**	P	**Pn**	**11 50 16.5**	**-1.3**
CHAS				S	**Sb**	**11 50 34.8**	**+0.2**
CEU	**Ceuta**	**1.34**	**303**	P	**Pn**	**11 50 15.9**	**-2.8**
CEU				S	**Sb**	**11 50 32.5**	**-3.9**
TAF	**Taforalt**	**1.34**	**105**	P	**Pn**	**11 50 19.0**	**+0.1**
TAF	**Taforalt**	**1.34**	**105**	P	**Pn**	**11 50 18.5**	**-0.4**
TAF				S	**Sb**	**11 50 36.5**	**-0.1**
ECEU	**Ceuta**	**1.34**	**303**	Pg	**Pn**	**11 50 19.1**	**+0.3**
ECEU				Sg	**Sb**	**11 50 34.0**	**-2.5**
ECEU				*i* Vmb_Lg		11 50 36.5	
JBK	**JBK**	**1.44**	**125**	P	**Pn**	**11 50 19.5**	**-0.8**
JBK	**JBK**	**1.44**	**125**	P	**Pn**	**11 50 19.6**	**-0.8**
JBK				S	**Sn**	**11 50 39.1**	**-0.2**
EMIJ	**Mijas**	**1.52**	**335**	Pn	**Pn**	**11 50 20.6**	**-0.8**
EMIJ				Sn	**Sn**	**11 50 39.3**	**-1.9**
EMIJ				*i* Vmb_Lg		11 50 41.9	
EMAL	**Malaga-Limoner**	**1.62**	**347**	P	**Pn**	**11 50 22.5**	**-0.2**
EMAL				S	**Sn**	**11 50 42.0**	**-1.5**
LCRM	**LCR**	**1.65**	**206**	P	**Pg**	**11 50 27.0**	**+1.0**
ELGU	**Los Guajares,**	**1.71**	**10**	Pn	**Pn**	**11 50 23.7**	**-0.3**
ELGU				Sn	**Sn**	**11 50 44.8**	**-1.1**
ELGU				*i* Vmb_Lg		11 50 46.1	
IFR	**Ifrane**	**1.91**	**210**	P	**Pb**	**11 50 27.9**	**-1.1**
IFR				S	**Sn**	**11 50 50.1**	**-0.7**
EGOR	**Sierra Gorda,**	**1.93**	**357**	Pn	**Pn**	**11 50 28.3**	**+1.3**
EGOR				Sn	**Sn**	**11 50 51.6**	**+0.2**
EGOR				*i* Vmb_Lg		11 51 01.0	
EBER	**Berja**	**1.93**	**27**	Pn	**Pn**	**11 50 26.9**	**-0.2**
EBER				Sn	**Sn**	**11 50 51.2**	**-0.3**
EBER				*i* Vmb_Lg		11 50 55.5	
EQUE	**Quentar**	**2.07**	**12**	Pn	**Pn**	**11 50 30.0**	**+1.0**
EQUE				Sn	**Sn**	**11 50 55.3**	**+0.5**
EQUE				*i* Vmb_Lg		11 50 58.5	
ENIJ	**Nijar**	**2.30**	**38**	Sn	**Sn**	**11 50 58.3**	**-1.9**
ENIJ				*i* Vmb_Lg		11 50 59.7	
CZD	**Col de Zad**	**2.31**	**203**	P	**Pn**	**11 50 33.2**	**+0.8**
CZD				S	**Sn**	**11 50 59.9**	**-1.1**
MD31	**MD31**	**2.39**	**196**	P	**Pn**	**11 50 34.3**	**+0.9**
MD31				S	**Sn**	**11 51 02.5**	**-0.1**
MDT	**Midelt**	**2.41**	**192**	P	**Pn**	**11 50 34.6**	**+1.0**
MDT	**Midelt**	**2.41**	**192**	P	**Pn**	**11 50 34.6**	**+1.0**
MDT				S	**Sn**	**11 51 02.7**	**-0.5**
EQES	**Quesada**	**2.72**	**15**	Pn	**Pb**	**11 50 41.0**	**-2.0**
EQES				Sn	**Sn**	**11 51 13.8**	**+2.9**
EQES				*i* Vmb_Lg		11 51 16.2	
ZHG	**ZHG**	**2.79**	**233**	P	**Pn**	**11 50 40.2**	**+1.3**
ZHG				S	**Sn**	**11 51 13.6**	**+1.1**
EADA	**Adamuz**	**3.02**	**351**	Pn	**Pn**	**11 50 43.8**	**+1.9**
EADA				Sn	**Sn**	**11 51 19.8**	**+1.7**
EADA				*i* Vmb_Lg		11 51 27.0	
ECAB	**El Cabril**	**3.11**	**339**	Pn	**Pn**	**11 50 44.3**	**+1.1**
ECAB				Sn	**Sn**	**11 51 20.8**	**+0.5**
ECAB				*i* Vmb_Lg		11 51 23.3	
EMIN	**Mina Concepcio**	**3.37**	**321**	Pn	**Pn**	**11 50 47.0**	**+0.2**
EMIN				Sn	**Sn**	**11 51 25.8**	**-0.9**
EMIN				*i* Vmb_Lg		11 53 14.5	
EGRO	**El Granado**	**3.67**	**311**	Pn	**Pn**	**11 50 51.2**	**+0.3**
EGRO				Sn	**Sn**	**11 51 32.3**	**-1.8**
EGRO				*i* Vmb_Lg		11 51 34.6	
PVAQ	**Vaqueiros**	**3.74**	**307**	*e*Pn	**Pn**	**11 50 52.4**	**+0.5**
PVAQ				*e*Sn	**Sn**	**11 51 34.9**	**-1.0**
PVAQ				A	A	11 51 37.0	
	4.2nm,0.7s						
PVAQ	**Vaqueiros**	**3.74**	**307**	P	**Pn**	**11 50 53.1**	**+1.3**
FIGM	**Figuig**	**3.79**	**142**	P	**Pn**	**11 50 53.4**	**+0.8**
PBAR	**Barrancos**	**3.87**	**322**	*e*Pn	**Pn**	**11 50 54.2**	**+0.6**
PBAR				*e*Sn	**Sn**	**11 51 39.1**	**+0.2**
PBAR				A	A	11 51 50.9	
	3.0nm,0.6s						
ETOB	**Tobarra**	**3.98**	**29**	Pn	**Pn**	**11 50 57.8**	**+2.7**
ETOB				Sn	**Sn**	**11 51 42.9**	**+1.2**
ETOB				*i* Vmb_Lg		11 51 44.5	
PCVE	**Castro Verde**	**4.08**	**308**	*e*Pn	**Pn**	**11 50 58.1**	**+1.6**
PCVE				*e*Sn	**Sn**	**11 51 44.8**	**+0.5**
PCVE				A	A	11 51 48.2	
	2.6nm,0.6s						
EBAD	**Badajoz**	**4.32**	**327**	Pn	**Pn**	**11 51 00.5**	**+0.8**
EBAD				Sn	**Sn**	**11 51 49.4**	**-0.6**
EBAD				*i* Vmb_Lg		11 51 53.1	
MESJ	**Messejana**	**4.32**	**309**	*e*Pn	**Pn**	**11 51 00.1**	**+1.1**
MESJ				*e*Sn	**Sn**	**11 51 51.1**	**+1.0**
MESJ				A	A	11 51 52.6	
	3.3nm,0.6s						
MORF	**Marmelete**	**4.33**	**301**	*e*Pn	**Pn**	**11 51 01.3**	**+1.4**
MORF				*e*Sn	**Sn**	**11 51 50.8**	**+0.5**
MORF				A	A	11 52 03.8	
	2.7nm,0.5s						
PAB	**San Pablo**	**4.37**	**356**	Pn	**Pn**	**11 51 02.2**	**+1.7**
PAB				Sn	**Sn**	**11 51 50.5**	**-1.0**
PAB				*i* Vmb_Lg		11 54 22.0	
PFVI	**Vila Bisbo**	**4.38**	**298**	*e*Pn	**Pn**	**11 51 02.2**	**+1.7**
PFVI				*e*Sn	**Sn**	**11 51 50.0**	**-1.4**
PFVI				A	A	11 51 58.8	
	5.8nm,0.9s						
PFVI	**Vila Bisbo**	**4.38**	**298**	P	**Pn**	**11 51 00.8**	**+0.3**
PFVI				S	**Sn**	**11 51 49.4**	**-2.0**
PESTR	**Estremoz**	**4.68**	**323**	*e*Pn	**Pn**	**11 51 06.6**	**+1.9**
PESTR				*e*Sn	**Sn**	**11 51 59.4**	**+0.5**
PESTR				A	A	11 52 06.7	
	1.9nm,0.7s						
PESTR	**Estremoz**	**4.68**	**323**	P	**Pn**	**11 51 05.7**	**+1.0**
PESTR				S	**Sn**	**11 52 01.2**	**+2.3**
PNCL	**Nicolau / Gran**	**4.68**	**310**	*e*Pn	**Pn**	**11 51 06.0**	**+1.3**
PNCL				*e*Sn	**Sn**	**11 51 57.8**	**-1.2**
PNCL				A	A	11 52 01.0	
	3.5nm,0.7s						
PMRV	**Marv??o**	**5.04**	**328**	*e*Pn	**Pn**	**11 51 10.7**	**+1.1**
PMRV				*e*Sn	**Sn**	**11 52 06.8**	**-1.0**
PMTG	**Montargil**	**5.15**	**320**	*e*Pn	**Pn**	**11 51 13.1**	**+1.9**
PMTG				*e*Sn	**Sn**	**11 52 09.5**	**-1.1**
PCBR	**Castelo Branco**	**5.42**	**330**	*e*Pn	**Pn**	**11 51 16.3**	**+1.4**
PCBR				*e*Sn	**Sn**	**11 52 15.6**	**-1.5**

*ECX **01** 11:53:36.8±0.7,30°.53N×114°.27W,h0km±13km,MD3.1, ML3.3*
*MEX **01** 11:53:38.1±0.6,30°.50N×114°.19W,h15km,MD4.0*
ISC 01 11:53:35.9±1.1,**30°.52N**±0°.03×**114°.22W**±0°.03,
h30km±13km,**n15**,σ1§**50**/26,**3C-3D**,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGB	**San Luis Gonza**	**0.70**	**194**	⇓*i*P	**Pn**	**11 53 50.6**	**+0.7**
SLGB				*e*S	**Sn**	**11 54 01.4**	**+1.7**
SFX	**San Felipe**	**0.76**	**314**	*e*P	**Pb**	**11 53 50.1**	**-0.5**
SFX				*e*S	**Sb**	**11 54 00.2**	**-0.3**
SFX				IAML		11 54 01.7	
	comp=E,2μm,0.4s						
SFX				*e*		11 54 01.7	
PPXB	**Puerto Peasco**	**0.96**	**31**	⇓*i*P	**Pb**	**11 53 53.5**	**-0.5**
PPXB				*e*S	**Sb**	**11 54 07.6**	**+1.3**
ECBX	**El Chinero**	**1.20**	**323**	⇓*e*P	**Pn**	**11 53 56.4**	**-0.2**
ECBX				*e*S	**Sb**	**11 54 13.2**	**+0.1**
ECBX				IAML		11 54 15.1	
	comp=E,750nm,0.5s						
ECBX				⇑*e*		11 54 16.5	
ECBX				IAML		11 54 16.5	
	comp=N,578nm,0.4s						
SPIG	**San Pedro Mart**	**1.20**	**297**	*e*P	**Pn**	**11 53 57.3**	**+0.2**
SPIG				*e*S	**Sn**	**11 54 12.7**	**+0.2**
SPIG	**San Pedro Mart**	**1.20**	**297**	*e*P	**Pb**	**11 53 57.5**	**-0.8**
SPIG				*e*S	**Sb**	**11 54 13.8**	**+0.2**
SPIG				⇑*e*		11 54 16.1	
SPIG				IAML		11 54 16.1	
	comp=E,520nm,0.4s						
SPIG				⇑*e*		11 54 17.5	
SPIG				IAML		11 54 17.5	
	comp=N,655nm,0.4s						
SQX	**San Quintin**	**1.43**	**273**	*e*P	**Pb**	**11 54 01.1**	**-0.9**
SQX				*e*S	**Sb**	**11 54 19.8**	**-0.1**
BAHB	**Baha de los**	**1.67**	**160**	*e*P	**Pn**	**11 54 02.9**	**-0.2**
BAHB				*e*S	**Sn**	**11 54 21.2**	**-2.2**
BAHB	**Baha de los**	**1.67**	**160**	*e*P	**Pb**	**11 54 07.1**	**+1.1**
214A	**Organ Pipe Nat**	**1.87**	**40**	*e*P	**Pn**	**11 54 07.0**	**+0.9**
214A				*i* S	**Sn**	**11 54 26.9**	**-1.8**
214A	**Organ Pipe Nat**	**1.87**	**40**	*e*P	**Pn**	**11 54 07.4**	**+1.4**
214A				*e*S	**Sb**	**11 54 35.7**	**+3.2**
MBIG	**Mexicali**	**2.06**	**336**	*e*P	**Pn**	**11 54 06.2**	**-2.4**
MBIG				*e*S	**Sn**	**11 54 33.2**	**-0.1**
TJIG	**Tijuana**	**2.84**	**313**	*e*P	**Pn**	**11 54 21.3**	**+2.0**
TJIG				*e*S	**Sn**	**11 54 53.9**	**+1.4**
HSIG		**3.21**	**117**	*e*	**Pb**	**11 54 29.3**	**-2.9**
HSIG				*e*		11 55 19.1	
CGIG		**5.39**	**90**	*e*		11 55 28.2	
CGIG				*e*		11 56 28.0	

*ATH **01** 11:58:46.8,38°.49N×20°.56E,h12km±2km,ML2.6/1,Error ellipse: s-maj=3.5km s-min=1.1km az=107.0*
*THE **01** 11:58:46.7,38°.49N×20°.53E,h11km±2km,ML2.0/9,Error ellipse: s-maj=2.0km s-min=0.5km az=288.0*
ISC 01 11:58:46.0±0.9,**38°.49N**±0°.02×**20°.56E**±0°.05,**h15**km±5km,
n21,σ0§**33**/**40**,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.03**	**168**	P	**Pg**	**11 58 48.9**	**+0.3**
FSK				S	**Sg**	**11 58 49.9**	**-0.5**
FSK	**Fiskardo**	**0.03**	**168**	P	**Pg**	**11 58 48.9**	**+0.3**
FSK				S	**Sg**	**11 58 50.0**	**-0.5**
EVGI	**Lefkada island**	**0.16**	**31**	P	**Pb**	**11 58 50.4**	**-0.2**
EVGI				S	**Sb**	**11 58 53.7**	**0.0**
	1μm,0.1s						
EVGI	**Lefkada island**	**0.16**	**31**	P	**Pb**	**11 58 50.4**	**-0.2**
EVGI				S	**Sb**	**11 58 53.1**	**-0.7**
DRAG	**Dragano-Lefkad**	**0.20**	**4**	P	**Pb**	**11 58 51.3**	**-0.1**
KEF4	**Livadi, Kephal**	**0.25**	**204**	P	**Pg**	**11 58 51.6**	**+0.2**
KEF4				S	**Sb**	**11 58 56.2**	**-0.2**
KEF4	**Livadi, Kephal**	**0.25**	**204**	P	**Pg**	**11 58 51.7**	**+0.2**
KEF4				S	**Sb**	**11 58 56.1**	**-0.2**
NYDR	**Nydri-Lefkada**	**0.25**	**26**	P	**Pb**	**11 58 52.1**	**-0.2**
NYDR				S	**Sg**	**11 58 55.7**	**+0.5**
	332nm,0.4s						
DMLN	**Damoulianata-K**	**0.29**	**210**	P	**Pg**	**11 58 52.2**	**+0.2**
DMLN				S	**Sb**	**11 58 57.3**	**-0.1**
	1μm,0.3s						
VLS	**Valsamata**	**0.31**	**175**	P	**Pg**	**11 58 52.3**	**-0.2**
VLS				S	**Sg**	**11 58 57.2**	**+0.3**
	2μm,0.2s						
VLS	**Valsamata**	**0.31**	**175**	P	**Pb**	**11 58 52.8**	**-0.5**
VLS				S	**Sg**	**11 58 57.2**	**+0.3**
VLS				AML	AML	11 58 57.5	
	comp=E,3711μm,0.2s						
VLS				AML	AML	11 58 57.6	
	comp=N,3270μm,0.2s						
LKD2	**Lefkada island**	**0.31**	**15**	P	**Pb**	**11 58 53.3**	**-0.1**
LKD2				S	**Sb**	**11 58 57.8**	**-0.5**
	comp=N,220nm,0.5s						
LKD2	**Lefkada island**	**0.31**	**15**	P	**Pb**	**11 58 53.2**	**-0.1**
ARGA	**Argostoli. Kep**	**0.32**	**191**	P	**Pb**	**11 58 53.6**	**+0.3**
ARGA				S	**Sb**	**11 58 58.6**	**+0.3**
KEF3	**Kipouria, Keph**	**0.33**	**210**	P	**Pg**	**11 58 52.4**	**-0.3**
KEF3				S	**Sg**	**11 58 57.6**	**+0.3**
KEF3	**Kipouria, Keph**	**0.33**	**210**	P	**Pg**	**11 58 52.4**	**-0.3**
KEF3				S	**Sg**	**11 58 57.4**	**+0.1**
TSLK	**Tsoukalades, L**	**0.35**	**13**	P	**Pb**	**11 58 54.2**	**+0.3**
TSLK				S	**Sg**	**11 58 58.0**	**0.0**
	comp=N,242nm,0.5s						
PSDA	**Pessada-Kefalo**	**0.37**	**176**	P	**Pg**	**11 58 53.6**	**0.0**
PSDA				S	**Sb**	**11 58 59.4**	**-0.5**
	comp=N,275nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.37**	**176**	P	**Pg**	**11 58 53.6**	**0.0**
PSDA				S	**Sb**	**11 58 59.4**	**-0.5**
PVO	**Paravola**	**0.77**	**80**	P	**Pb**	**11 59 01.4**	**+0.3**
PVO				S	**Sn**	**11 59 14.2**	**+0.5**
	comp=N,165nm,0.2s						
RLS	**Riolos of Patr**	**0.84**	**121**	P	**Pb**	**11 59 01.9**	**-0.3**
RLS				S	**Sn**	**11 59 15.5**	**+0.3**
	comp=N,72nm,0.2s						

*NAO **01** 12:03:06.6±1.6,67°.62N×33°.80E,ML2.5*
*HEL **01** 12:03:07.1±0.1,67°.64N×33°.74E,h0km,ML2.0,Explosion*
*BER **01** 12:03:08.4±1.7,67°.61N×33°.72E,h0km,ML1.9, ML2.5(NAO),Suspected explosion*
ISC 01 12:03:07.1±0.9,**67°.69N**±0°.04×**33°.70E**±0°.04,**h0**km,**n28**,
σ1§**09**/**48**,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.16**	**223**	Pg	**Pg**	**12 03 10.1**	**-0.1**
APZ9				Lg	Lg	12 03 12.5	
APZ9	**Apatity**	**0.16**	**223**	Pg	**Pg**	**12 03 10.1**	**-0.1**
APZ9				Sg	**Sg**	**12 03 12.5**	**+0.2**
APA0	**Apatity Array**	**0.28**	**253**	Pg	**Pg**	**12 03 12.5**	**+0.1**
	baz=87,slow=16						
APA0				Lg	Lg	12 03 16.6	
	baz=86,slow=37						
APA0	**Apatity Array**	**0.28**	**253**	Pg	**Pg**	**12 03 12.5**	**+0.1**
	baz=87,slow=16						
APA0				Sg	**Sg**	**12 03 16.6**	**+0.5**
	baz=86,slow=37						
LVZ	**Lovozero**	**0.42**	**60**	PG	**Pg**	**12 03 14.8**	**-0.3**
LVZ				SG	**Sg**	**12 03 20.4**	**-0.2**
VRF	**Varrio**	**1.56**	**274**	PG	**Pn**	**12 03 35.1**	**-0.9**
	baz=88						
VRF				MSG		12 03 54.5	
	comp=Z,15nm,0.2s						
VRF				SG	**Sn**	**12 03 55.1**	**-1.8**
OLKF	**Oulanka, Finla**	**2.18**	**233**	PG	**Pn**	**12 03 45.7**	**+1.2**
OLKF				SG	**Sb**	**12 04 14.2**	**-0.5**
KU6	**Riekki**	**2.25**	**224**	PG	**Pn**	**12 03 46.5**	**+1.1**
	baz=46						
KU6				MSG		12 04 12.9	
	comp=Z,5.9nm,0.2s						
KU6				SG	**Sb**	**12 04 16.5**	**-0.3**
MSF	**Maaselka**	**2.57**	**228**	PG	**Pn**	**12 03 51.4**	**+1.5**
MSF				SG	**Sb**	**12 04 25.7**	**-0.2**
SGF	**Sodankyl**	**2.76**	**268**	PG	**Pb**	**12 03 55.6**	**-1.6**
SGF				SG	**Sb**	**12 04 30.7**	**-0.9**
RNF	**Rovaniemi**	**3.19**	**254**	PN	**Pn**	**12 03 58.4**	**0.0**
	baz=68						
RNF				SN	**Sn**	**12 04 37.2**	**+0.1**
KEV	**Kevo**	**3.20**	**313**	Pn	**Pn**	**12 03 59.0**	**+0.5**
KEV				Sn	**Sn**	**12 04 37.5**	**+0.2**
KEV				Lg	Lg	12 04 50.8	
KEV	**Kevo**	**3.20**	**313**	*e*P	**Pn**	**12 03 59.3**	**+0.7**
KEV				*e*S	**Sn**	**12 04 37.6**	**+0.2**
KEV	**Kevo**	**3.20**	**313**	PN	**Pn**	**12 03 59.2**	**+0.7**
KEV				SN	**Sn**	**12 04 37.6**	**+0.2**
ARA0	**ARCESS Array S**	**3.53**	**305**	Pn	**Pn**	**12 04 03.0**	**0.0**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**12 04 11.1**	**+0.8**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**12 04 44.1**	**-1.3**
	baz=118,slow=28						
ARA0				Lg	Lg	12 04 56.5	
	baz=121,slow=37						
ARA0	**ARCESS Array S**	**3.53**	**305**	Pn	**Pn**	**12 04 03.0**	**0.0**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**12 04 11.1**	**+0.8**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**12 04 44.1**	**-1.3**
	baz=118,slow=28						
KLF	**Kolari**	**3.77**	**268**	PG	**Pb**	**12 04 15.4**	**+0.9**
KLF				SN	**Sn**	**12 04 51.0**	**-0.5**
RMF	**Romuvaara**	**3.81**	**206**	PN	**Pn**	**12 04 06.2**	**-0.8**
HEF	**Hetta**	**3.84**	**285**	Pn	**Pn**	**12 04 05.8**	**-1.5**
HEF				Sn	**Sn**	**12 04 50.3**	**-2.7**
HEF				Lg	Lg	12 05 04.6	
HEF	**Hetta**	**3.84**	**285**	*e*P	**Pn**	**12 04 07.2**	**-0.1**
HEF				*e*S	**Sn**	**12 04 51.4**	**-1.7**
HEF	**Hetta**	**3.84**	**285**	PN	**Pn**	**12 04 07.0**	**-0.3**
HEF				SN	**Sn**	**12 04 51.6**	**-1.5**
TOF	**Tornio**	**4.03**	**251**	PG	**Pb**	**12 04 20.6**	**+1.8**
OUL	**Oulu**	**4.08**	**234**	PG	**Pb**	**12 04 20.5**	**+0.8**
KTK1	**Kautokeino**	**4.10**	**294**	*e*S	**Sn**	**12 04 58.1**	**-1.3**
KTK1				IAML		12 05 21.4	
	comp=Z,5.4nm,0.4s						
KTK1	**Kautokeino**	**4.10**	**294**	SG	**Sb**	**12 05 12.8**	**+2.9**
PAJU	**Pajala**	**4.15**	**266**	SN	**Sn**	**12 04 59.5**	**-1.2**
LANU	**Lannavaara**	**4.44**	**280**	SN	**Sn**	**12 05 06.5**	**-1.5**
ERTU	**Ertsjaerv**	**4.63**	**261**	SN	**Sn**	**12 05 11.7**	**-0.9**

*IDC **01** 12:04:01.3±2.1,34°.31N×141°.68E,h0km,mb3.4/3, mbtmp3.3/4,ML2.3/1,MS2.8/2,Error ellipse: s-maj=38.3km s-min=24.2km az=81.0*
*JMA **01** 12:04:02.7±0.7,34°.N±1°.×14°.2E±°,h29km±1km,MV2.7/22, FAR SE OFF BOSO PEN*
ISC 01 12:04:04.7±1.6,**34°.41N**±0°.06×**141°.6E**±0°.1,**h27**km,**n11**,
σ2§**02**/13,**mb3.5**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.53**	**297**	*e*P	**Pb**	**12 04 13.7**	**-1.5**
BSO3	**Boso 3**	**0.94**	**295**	*e*P	**Pn**	**12 04 20.4**	**-1.5**
JKUC	**kamogawauchiur**	**1.34**	**304**	*e*P	**Pn**	**12 04 26.7**	**-0.9**
CHOJ	**Chosi**	**1.41**	**336**	P	**Pn**	**12 04 27.0**	**-1.5**
CHOJ				*e*S	**Sn**	**12 04 44.6**	**-1.6**
JMKN	**Mikurajimanish**	**1.71**	**253**	*e*P	**Pn**	**12 04 31.9**	**-0.7**
JHJ	**Hachijo jima 2**	**1.98**	**229**	Pn	**Pn**	**12 04 36.5**	**+0.4**
	7.8nm,0.3s,baz=54,slow=19,SNR=11						
JHJ				Sn	**Sb**	**12 05 01.4**	**-2.2**
	29nm,0.3s,baz=52,slow=19,SNR=9.1						
MJAR	**Matsushiro Arr**	**3.46**	**309**	Pn	**Pn**	**12 04 58.0**	**+1.2**
	0.3nm,0.3s,baz=129,slow=12,SNR=5.2						
MJAR				Sn	**Sn**	**12 05 40.9**	**+4.1**
	0.3nm,0.3s,baz=130,slow=17,SNR=2.5						
MJAR				LR	LR	12 06 35.9	
	comp=Z,68nm,20.9s,baz=75,slow=43						
	1.7nm,0.4s						
SHEM	**Shemya Is, Ala**	**29.50**	**42**	LR	LR	12 21 03.6	
	comp=Z,35nm,19.2s,baz=68,slow=35						
MKAR	**Makanchi Array**	**45.65**	**304**	P	**P**	**12 12 25.0**	**+2.2**
	0.3nm,0.7s,baz=80,slow=7.0,SNR=2.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**47.73**	**310**	P	**P**	**12 12 40.4**	**+1.4**
	0.6nm,0.7s,baz=85,slow=7.7,SNR=5.7						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**54.49**	**188**	P	**P**	**12 13 29.8**	**-0.2**
	0.2nm,0.4s,baz=6.1,slow=7.6,SNR=5.1						
	0.2nm,0.4s						

ROM 01 12:05:59.1±0.1,**42°.652N**±0°.004×**13°.253E**±0°.005,
h13km,**ML2.1**/11,**1C**,**Error ellipse: s-maj=0.4km s-min=0.2km az=209.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.05**	**63**	P	Pg	12 06 02.1	+0.3
T1204				S	Sg	12 06 03.7	0.0
T1202	**Accumoli, Fraz**	**0.06**	**338**	P	Pg	12 06 02.2	+0.3
T1202				S	Sg	12 06 04.0	+0.3
T1202				AML	AML		
	comp=E,454μm,0.7s						
T1202				AML	AML		
	comp=N,426μm,0.2s						
SMA1	**SAN MARTINO**	**0.06**	**109**	⇑P	Pg	12 06 02.3	+0.4
SMA1				S	Sg	12 06 04.1	+0.2
SMA1				AML	AML		
	comp=E,4135μm,0.4s						
SMA1				AML	AML		
	comp=N,4435μm,0.1s						
SMA1				AML	AML		
	comp=E,4130μm,0.4s						
T1244	**Arquata del Tr**	**0.11**	**17**	P	Pg	12 06 02.8	+0.4
T1244				S	Sg	12 06 05.1	+0.5
T1244				AML	AML		
	comp=E,268μm,0.2s						
T1244				AML	AML		
	comp=N,227μm,0.3s						
RM33	**Pellescritta (**	**0.14**	**191**	P	Pg	12 06 03.3	+0.5
RM33				S	Sg	12 06 05.9	+0.5
RM33				AML	AML		
	comp=E,116μm,0.7s						
RM33				AML	AML		
	comp=N,88μm,0.3s						
T1243	**Rocca Santa Ma**	**0.15**	**73**	P	Pg	12 06 03.4	+0.4
T1243				S	Sg	12 06 06.1	+0.5
CAMP	**Campotosto**	**0.16**	**135**	P	Pg	12 06 03.5	+0.4
CAMP				S	Sg	12 06 06.5	+0.6
CAMP				AML	AML		
	comp=N,110μm,0.2s						
CAMP				AML	AML		
	comp=N,109μm,0.2s						
CAMP				AML	AML		
	comp=E,190μm,0.2s						
LNSS	**Leonessa**	**0.16**	**253**	P	Pg	12 06 03.5	+0.4
LNSS				S	Sg	12 06 06.4	+0.5
LNSS				AML	AML		
	comp=E,102μm,0.5s						
LNSS				AML	AML		
	comp=N,129μm,0.1s						
NRCA	**Norcia**	**0.21**	**331**	P	Pg	12 06 04.0	+0.2
NRCA				S	Sg	12 06 07.7	+0.7
NRCA				AML	AML		
	comp=E,419μm,0.1s						
NRCA				AML	AML		
	comp=N,276μm,0.1s						
MMO1	**Montemonaco**	**0.25**	**12**	P	Pg	12 06 05.1	+0.5

VLS					AML	AML	12 06 50.0	
	comp=E,11739μm,0.2s							
VLS					AML	AML	12 06 50.0	
	comp=N,14699μm,0.2s							
KEF3	**Kipouria, Keph**	**0.31**	**207**		P	Pg	12 06 44.7	-0.4
KEF3					S	Sg	12 06 49.8	+0.3
	comp=N,18μm,0.2s							
KEF3	**Kipouria, Keph**	**0.31**	**207**		P	Pg	12 06 44.9	-0.3
KEF3					S	Sg	12 06 49.9	+0.4
LKD2	**Lefkada island**	**0.33**	**18**		P	Pg	12 06 45.5	0.0
LKD2	**Lefkada island**	**0.33**	**18**		P	Pg	12 06 45.6	+0.1
TSLK	**Tsoukalades, L**	**0.36**	**16**		P	Pg	12 06 46.3	+0.2
TSLK	**Tsoukalades, L**	**0.36**	**16**		P	Pg	12 06 46.4	+0.4
PSDA	**Pessada-Kefalo**	**0.37**	**173**		P	Pg	12 06 45.9	-0.2
PSDA					S	Sg	12 06 51.6	+0.4
	comp=N,1μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.37**	**173**		P	Pg	12 06 46.0	-0.1
PSDA					S	Sg	12 06 51.8	+0.5
PVO	**Paravola**	**0.80**	**80**		P	Pg	12 06 53.7	-0.5
PVO					S	Sn	12 07 06.3	-0.7
	comp=N,868nm,0.2s							
PVO	**Paravola**	**0.80**	**80**		P	Pg	12 06 53.8	-0.4
RLS	**Riolos of Patr**	**0.85**	**119**		P	Pb	12 06 54.2	-1.0
RLS					S	Sn	12 07 08.0	-0.4
	comp=N,328nm,0.2s							
RLS	**Riolos of Patr**	**0.85**	**119**		P	Pb	12 06 54.3	-0.9
DRO	**Drossia**	**1.07**	**119**		P	Pb	12 06 58.2	-0.7
DRO					S	Sn	12 07 14.2	+0.4
	comp=N,710nm,0.4s							
EFP	**Efpalio**	**1.08**	**92**		P	Pb	12 06 57.8	-1.4
EVR	**Evrytania**	**1.09**	**66**		P	Pb	12 06 58.7	-0.7
ANX	**Ano Chora**	**1.10**	**84**		P	Pb	12 06 58.5	-1.0
LAKA	**Lakka**	**1.17**	**101**		P	Pn	12 06 59.2	-1.3
LAKA					S	Sn	12 07 16.1	-0.1
	comp=N,840nm,0.6s							
SERG	**Sergoula**	**1.20**	**93**		P	Pn	12 07 00.0	-1.0
ALIK	**Aliki, Aigiali**	**1.26**	**99**		P	Pn	12 07 01.4	-0.4
KLV	**Kalavryta, Ach**	**1.35**	**108**		P	Pn	12 07 02.2	-0.9
TRIP	**Tripoli**	**1.67**	**124**		P	Pn	12 07 06.0	-1.5

ROM 01 12:13:08.0±0.1, 42°.550N±0°.005×13°.250E±0°.006, h12km±1km, ML1.4/8, 6C-3D, Error ellipse: s-maj=0.6km s-min=0.1km az=8.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.05**	**213**	P	Pg	12 13 10.7	+0.4
RM33				S	Sg	12 13 12.4	+0.3
RM33				AML	AML		
	comp=E,56μm,1.5s						
RM33				AML	AML		
	comp=N,40μm,0.3s						
RM33				AML	AML		
	comp=E,996μm,0.4s						
RM33				AML	AML		
	comp=N,592μm,0.3s						
RM33	**Pellescritta (**	**0.05**	**213**	P	Pg	12 13 10.7	+0.4
RM33				S	Sg	12 13 12.4	+0.3
RM33				AML	AML		
	comp=E,1064μm,0.3s						
RM33				AML	AML		
	comp=N,584μm,0.3s						
RM33				AML	AML		
	comp=E,998μm,0.4s						
RM33				AML	AML		
	comp=N,592μm,0.3s						
RM33				AML	AML		
	comp=E,1060μm,0.3s						
RM33				AML	AML		
	comp=N,584μm,0.3s						
RM33				AML	AML		
	comp=E,996μm,0.4s						
RM33				AML	AML		
	comp=N,592μm,0.3s						
RM33				AML	AML		
	comp=E,1060μm,0.3s						
RM33				AML	AML		
	comp=E,996μm,0.4s						
RM33				AML	AML		
	comp=N,584μm,0.3s						
RM33				AML	AML		
	comp=N,592μm,0.3s						
SMA1	**SAN MARTINO**	**0.10**	**38**	P	Pg	12 13 11.4	+0.5
SMA1				S	Sg	12 13 13.8	+0.7
SMA1				AML	AML		
	comp=E,1400μm,0.5s						
SMA1				AML	AML		
	comp=N,855μm,0.2s						
SMA1	**SAN MARTINO**	**0.10**	**38**	⇑P	Pg	12 13 11.4	+0.5
SMA1				S	Sg	12 13 13.8	+0.7
SMA1				AML	AML		
	comp=E,1400μm,0.5s						
SMA1				AML	AML		
	comp=N,851μm,0.3s						
SMA1				AML	AML		
	comp=E,1400μm,0.5s						
SMA1				AML	AML		
	comp=N,850μm,0.3s						
SMA1				AML	AML		
	comp=N,850μm,0.3s						
SMA1				AML	AML		
	comp=E,1400μm,0.5s						
CAMP	**Campotosto**	**0.12**	**97**	P	Pg	12 13 11.6	+0.4
CAMP				AML	AML		
	comp=E,47μm,0.7s						
CAMP				AML	AML		
	comp=N,47μm,0.3s						
CAMP				AML	AML		
	comp=N,133μm,0.3s						
CAMP				AML	AML		
	comp=E,122μm,0.3s						
CAMP	**Campotosto**	**0.12**	**97**	⇑P	Pg	12 13 11.6	+0.4
CAMP				S	Sg	12 13 14.0	+0.6
CAMP				AML	AML		
	comp=E,122μm,0.3s						
CAMP				AML	AML		
	comp=N,133μm,0.3s						
CAMP				AML	AML		
	comp=N,133μm,0.3s						
CAMP				AML	AML		
	comp=E,122μm,0.3s						
T1204	**Amatrice, Fraz**	**0.14**	**21**	P	Pg	12 13 11.8	+0.4
T1204				S	Sg	12 13 14.4	+0.5
LNSS	**Leonessa**	**0.16**	**289**	⇑P	Pg	12 13 12.2	+0.4
LNSS				S	Sg	12 13 15.2	+0.7
LNSS				AML	AML		
	comp=E,410μm,0.2s						
LNSS				AML	AML		
	comp=N,390μm,0.1s						
LNSS				AML	AML		
	comp=E,409μm,0.2s						
LNSS				AML	AML		
	comp=N,390μm,0.1s						
LNSS				AML	AML		
	comp=E,409μm,0.2s						
LNSS				AML	AML		
	comp=N,390μm,0.1s						
T1243	**Rocca Santa Ma**	**0.21**	**45**	P	Pg	12 13 12.8	+0.3
T1243				S	Sg	12 13 16.2	+0.6
T1243	**Rocca Santa Ma**	**0.21**	**45**	⇓P	Pg	12 13 12.8	+0.3
T1243				S	Sg	12 13 16.2	+0.5
GIGS	**Gran Sasso**	**0.26**	**113**	⇓P	Pg	12 13 13.5	+0.2
GIGS				S	Sg	12 13 17.6	+0.6
GIGS				AML	AML		
	comp=E,21μm,0.7s						
GIGS				AML	AML		
	comp=N,26μm,1.5s						
GIGS				AML	AML		
	comp=E,21μm,0.7s						
GIGS				AML	AML		
	comp=N,26μm,1.5s						
GIGS				AML	AML		
	comp=N,26μm,1.5s						
TERO	**Teramo**	**0.27**	**74**	P	Pg	12 13 13.7	+0.1
TERO				S	Sg	12 13 18.0	+0.6
TERO	**Teramo**	**0.27**	**74**	⇑P	Pg	12 13 13.7	+0.1
TERO				S	Sg	12 13 18.0	+0.6
TERO				AML	AML		
	comp=E,114μm,0.2s						
TERO				AML	AML		
	comp=N,99μm,1.3s						
TERO				AML	AML		
	comp=E,114μm,0.2s						
TERO				AML	AML		
	comp=N,100μm,0.1s						
TERO				AML	AML		
	comp=E,114μm,0.2s						
TERO				AML	AML		
	comp=N,100μm,0.1s						
FIAM	**Fiamignano**	**0.30**	**199**	P	Pg	12 13 14.3	+0.2
FIAM				S	Sg	12 13 19.1	+1.0
FIAM				AML	AML		
	comp=E,84μm,0.3s						
FIAM				AML	AML		
	comp=N,44μm,0.5s						
FIAM				AML	AML		
	comp=E,84μm,0.3s						
FIAM				AML	AML		
	comp=N,44μm,0.5s						
ARRO	**Arrone**	**0.36**	**275**	P	Pg	12 13 15.3	+0.2
MC2	**Monte Cornacci**	**0.36**	**353**	S	Sb	12 13 23.0	+0.7
T1215	**Vallo di Nera,**	**0.38**	**312**	P	Pg	12 13 14.4	-1.1
T1215				S	Sg	12 13 21.4	+0.9
T1215	**Vallo di Nera,**	**0.38**	**312**	S	Sb	12 13 21.6	-0.9
T1215				AML	AML		
	comp=E,37μm,1.6s						
T1215				AML	AML		
	comp=N,57μm,1.6s						
T1215				AML	AML		
	comp=E,37μm,1.6s						
T1215				AML	AML		
	comp=N,57μm,1.6s						
VCEL	**Villa Celiera**	**0.46**	**109**	⇑P	Pg	12 13 17.6	+0.5
VCEL				S	Sb	12 13 25.4	+0.4
FDMO	**Fiordimonte**	**0.50**	**346**	P	Pg	12 13 17.8	0.0
FDMO				S	Sb	12 13 26.0	-0.1
CSP1	**Cessapalombo**	**0.54**	**356**	⇑P	Pg	12 13 18.7	+0.1
CSP1				S	Sb	12 13 26.9	-0.4
LPEL	**Lama dei Pelig**	**0.85**	**126**	P	Pg	12 13 22.9	-1.6
VIVA	**Pratoni del Vi**	**0.88**	**204**	S	Sb	12 13 37.0	+0.2
NARO	**Abbazia di Nar**	**1.17**	**335**	⇓P	Pg	12 13 31.3	+0.9

NNC 01 12:13:50.1±30.0, 36°.83N×70°.07E, h0km, mb3.5, mpv3.3, 1C-2D, Error ellipse: s-maj=314.8km s-min=228.4km az=148.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.28**	**3**	P	Pn	12 15 26.5	+2.5
	0.9nm,0.3s,baz=172,slow=14,SNR=31						
KK31				⇓S	Sn	12 16 36.7	+0.3
	1.8nm,0.5s,baz=181,slow=23,SNR=7.3						
AB31	**Akbulak array**	**14.44**	**332**	⇓P	Pn	12 17 11.2	-4.5
	0.5nm,0.7s,baz=160,slow=11,SNR=7.6						
AKTO	**Aktyubinsk**	**16.13**	**331**	⇑P	Pn	12 17 35.7	-2.4
	0.4nm,0.4s						

ROM 01 12:20:44.9±0.1, 42°.816N±0°.003×13°.165E±0°.006, h11km, ML1.1/3, 6D, Error ellipse: s-maj=0.5km s-min=0.3km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**65**	P	Pg	12 20 47.2	+0.1
T1242				S	Sg	12 20 48.5	-0.1
NRCA	**Norcia**	**0.04**	**295**	P	Pg	12 20 47.2	+0.2
NRCA				S	Sg	12 20 48.5	-0.1
NRCA	**Norcia**	**0.04**	**295**	AML	AML		
	comp=E,1880μm,0.2s						
NRCA				AML	AML		
	comp=N,2485μm,1.1s						
MC2	**Monte Cornacci**	**0.10**	**11**	P	Pg	12 20 48.2	+0.4
MC2				S	Sg	12 20 50.4	+0.5
T1244	**Arquata del Tr**	**0.11**	**121**	P	Pg	12 20 48.4	+0.5
T1244				S	Sg	12 20 50.9	+0.9
T1202	**Accumoli, Fraz**	**0.12**	**159**	P	Pg	12 20 48.4	+0.4
T1202				S	Sg	12 20 51.0	+0.8
MMO1	**Montemonaco**	**0.14**	**55**	P	Pg	12 20 48.7	+0.4
MMO1				S	Sg	12 20 51.6	+0.9
T1204	**Amatrice, Fraz**	**0.18**	**141**	P	Pg	12 20 49.4	+0.5
T1204				S	Sg	12 20 52.6	+1.0
T1215	**Vallo di Nera,**	**0.22**	**266**	⇓P	Pg	12 20 50.1	+0.5
T1215				S	Sg	12 20 53.6	+0.9
T1215				AML	AML		
	comp=E,52μm,1.6s						
T1215				AML	AML		
	comp=N,46μm,1.6s						
SMA1	**SAN MARTINO**	**0.22**	**146**	AML	AML		
	comp=E,101μm,0.5s						
SMA1				AML	AML		
	comp=N,137μm,0.2s						
SMA1				AML	AML		
	comp=E,101μm,0.5s						
SMA1				AML	AML		
	comp=N,137μm,0.2s						
SMA1				AML	AML		
	comp=N,137μm,0.2s						
SMA1				AML	AML		
	comp=E,101μm,0.5s						
FDMO	**Fiordimonte**	**0.23**	**345**	P	Pg	12 20 50.2	+0.5
FDMO				S	Sg	12 20 54.2	+1.3
FDMO				AML	AML		
	comp=E,58μm,1.4s						
FDMO				AML	AML		
	comp=N,83μm,0.5s						
FDMO	**Fiordimonte**	**0.23**	**345**	⇓P	Pg	12 20 50.2	+0.5
FDMO				S	Sg	12 20 53.9	+0.9
FDMO				AML	AML		
	comp=E,58μm,1.4s						
FDMO				AML	AML		
	comp=N,83μm,0.5s						
FDMO				AML	AML		
	comp=E,58μm,1.4s						
FDMO				AML	AML		
	comp=N,83μm,0.5s						
FDMO				AML	AML		
	comp=E,58μm,1.4s						
FDMO				AML	AML		
	comp=N,83μm,0.5s						
LNSS	**Leonessa**	**0.23**	**203**	P	Pg	12 20 50.3	+0.5
LNSS				S	Sg	12 20 54.1	+1.1
LNSS	**Leonessa**	**0.23**	**203**	AML	AML		
	comp=E,274μm,1.4s						
LNSS				AML	AML		
	comp=N,274μm,0.7s						
T1243	**Rocca Santa Ma**	**0.24**	**120**	P	Pg	12 20 50.4	+0.5
T1243				S	Sg	12 20 54.3	+0.9
CESI	**CESI - Serrava**	**0.27**	**315**	⇓P	Pg	12 20 51.0	+0.6
CESI				S	Sg	12 20 55.0	+0.9
CESI				AML	AML		
	comp=E,184μm,0.3s						
CESI				AML	AML		
	comp=N,274μm,0.3s						
CESI				AML	AML		
	comp=E,184μm,0.3s						
CESI				AML	AML		
	comp=N,274μm,0.3s						
CESI				AML	AML		
	comp=E,184μm,0.3s						
CESI				AML	AML		
	comp=N,274μm,0.3s						
CSP1	**Cessapalombo**	**0.28**	**6**	⇓P	Pg	12 20 51.2	+0.5
CSP1				S	Sb	12 20 55.7	-1.2
RM33	**Pellescritta (**	**0.31**	**173**	P	Pg	12 20 51.6	+0.4
RM33				S	Sb	12 20 56.7	-1.0
RM33	**Pellescritta (**	**0.31**	**173**	AML	AML		
	comp=E,60μm,0.3s						
RM33				AML	AML		
	comp=E,68μm,0.9s						
CAMP	**Campotosto**	**0.33**	**147**	AML	AML		
	comp=E,22μm,0.7s						
CAMP				AML	AML		
	comp=E,22μm,0.7s						
CAMP				AML	AML		
	comp=N,30μm,0.7s						
CAMP				AML	AML		
	comp=N,30μm,0.7s						
ARRO	**Arrone**	**0.38**	**231**	P	Pb	12 20 53.7	0.0
ARRO				S	Sg	12 20 58.3	+0.9
ASSB	**Assisi San Ben**	**0.44**	**302**	⇓P	Pg	12 20 53.8	+0.3
ASSB				S	Sb	12 21 00.4	-0.8
ASSB				AML	AML		
	comp=E,36μm,1.2s						
ASSB				AML	AML		
	comp=N,38μm,0.2s						
ASSB				AML	AML		
	comp=N,38μm,0.2s						
ASSB				AML	AML		
	comp=E,36μm,1.2s						
SNTG	**Esanatoglia**	**0.47**	**340**	P	Pg	12 20 54.3	+0.2
SNTG				S	Sb	12 21 01.7	-0.5
SNTG				AML	AML		
	comp=E,27μm,0.4s						
SNTG				AML	AML		
	comp=N,25μm,0.1s						
SNTG				AML	AML		
	comp=E,27μm,0.4s						
SNTG				AML	AML		
	comp=N,25μm,0.1s						
EL6	**Elcito**	**0.52**	**355**	⇓P	Pg	12 20 55.3	+0.3
EL6				S	Sb	12 21 03.6	0.0
VIVA	**Pratoni del Vi**	**1.10**	**196**	S	Sb	12 21 18.0	-2.5

*NEIC **01** 12:27:41.6±1.1, 61°.31N±0°.04×152°.23W±0°.08, h137km±3km, Error ellipse: s-maj=6.0km s-min=5.7km az=174.0*

*AEIC **01** 12:27:42±1.0, 61°.30N±0°.04×152°.17W±0°.08, h131km±3km, ML4.4, mb4.6/19(NEIC), ML4.6/176(NEIC), Mwr4.5/28(SLM), Error ellipse: s-maj=5.8km s-min=5.5km az=179.0*

*NEIC **01** 12:27:42, 61°.30N×152°.13W, h128km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.81; $M_{\theta\theta}$-5.56; $M_{\phi\phi}$0.75; $M_{r\theta}$0.45; $M_{r\phi}$1.64; $M_{\theta\phi}$2.31; Fault plane solution: $M_0$5.96000×10^{15} NP1:$\phi_0$80.00000°, δ50.00000°, λ55.00000°. NP2:$\phi_0$307.00000°, δ51.00000°, λ124.00000°. Principal axes: T 5.9606, Plg64.0000°, Azm283.0000°; N 0.0013, Plg26.0000°, Azm104.0000°; P -5.9620, Plg1.0000°, Azm14.0000°;*

*IDC **01** 12:27:43.9±0.5, 61°.48N×152°.41W, h140km±4km, mb4.0/28, mbtmp4.5/33, MS3.2/8 Error ellipse: s-maj=12.5km s-min=7.4km az=19.0*

ISC 01 12:27:43.1±0.4, 61°.32N±0°.02×152°.24W±0°.02, h139km±3km, n485, σ1$\frac{9}{92}$/547, mb4.5/59, 1C, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRP	**Crater Peak**	**0.07**	**141**		Pn	**12 28 00.1**	**-2.0**
SPBG	**Spurr Blockage**	**0.09**	**227**		Pn	**12 27 59.3**	**-2.7**
SPBG					Sn	**12 28 13.6**	**-2.7**
SPCN	**Chakachatna No**	**0.10**	**164**		Pn	**12 28 00.2**	**-1.8**
SPCG	**Spurr Capps Gl**	**0.11**	**104**		Pn	**12 27 59.9**	**-2.2**
SPCG					Sn	**12 28 13.7**	**-2.8**
N20K	**Mount Spurr**	**0.12**	**173**	P	Pn	**12 28 00.0**	**-2.0**
	baz=9.6,SNR=1000						
N20K				S	Sn	**12 28 12.8**	**-3.5**
	baz=9.6						
SPCR	**Spurr Chakacha**	**0.12**	**173**		Pn	**12 28 00.0**	**-2.0**
SPCR	**Spurr Chakacha**	**0.12**	**173**		Pn	**12 27 59.9**	**-2.0**
SPCR					Sn	**12 28 13.9**	**-2.4**
SPCR	**Spurr Chakacha**	**0.12**	**173**	P	Pn	**12 28 00.1**	**-2.0**
	baz=9.6,SNR=1000						
SPCR				S	Sn	**12 28 12.5**	**-3.9**
	baz=9.6						
CKL	**Chakachamna La**	**0.13**	**201**		Pn	**12 28 00.1**	**-2.0**
SPU	**Mount Spurr**	**0.16**	**147**		Pn	**12 28 00.0**	**-2.1**
SPNN	**North Nagishla**	**0.23**	**283**		Pn	**12 28 00.7**	**-1.6**
SPNN					Sn	**12 28 14.5**	**-2.4**
STLK	**Strandline Lak**	**0.27**	**47**		Pn	**12 28 00.3**	**-2.0**
M20K	**Styx River**	**0.71**	**323**		Pn	**12 28 03.1**	**-1.5**
M20K					Sn	**12 28 18.6**	**-2.4**
SUA	**Susitna One**	**0.73**	**78**		Pn	**12 28 03.4**	**-1.4**
SUA				IAML		12 28 20.1	
	comp=N,12μm,0.9s						
SUA	**Susitna One**	**0.73**	**78**	P	Pn	**12 28 03.4**	**-1.4**
	baz=257,SNR=1000						
SUA				S	Sn	**12 28 18.6**	**-2.7**
	baz=257						
SKT	**Skwentna**	**0.75**	**27**		Pn	**12 28 03.1**	**-1.7**
SKT					Sn	**12 28 18.6**	**-2.8**
SKT	**Skwentna**	**0.75**	**27**	P	Pn	**12 28 03.1**	**-1.7**
	baz=204,SNR=1000						
SKT				S	Sn	**12 28 18.3**	**-3.0**
	baz=204						
DFR	**Drift River**	**0.76**	**197**		Pn	**12 28 03.1**	**-1.9**
DFR					Sn	**12 28 18.7**	**-2.9**
CAPN	**Captain Cook N**	**0.76**	**136**		Pn	**12 28 04.6**	**-0.2**
CAPN					Sn	**12 28 21.9**	**+0.6**
CAPN				IAML		12 28 22.8	
	comp=E,45μm,0.5s						
CAPN	**Captain Cook N**	**0.76**	**136**	P	Pn	**12 28 04.6**	**-0.2**
	baz=318,SNR=281						
CAPN				S	Sn	**12 28 21.4**	**+0.1**
	baz=318						
RDJH	**Redoubt Jeurge**	**0.78**	**201**		Pn	**12 28 03.4**	**-1.8**
RDJH					Sn	**12 28 19.4**	**-2.6**
NCT	**North Crescent**	**0.83**	**204**		Pn	**12 28 03.9**	**-1.6**
RDWB	**Redoubt West**	**0.88**	**200**		Pn	**12 28 04.1**	**-1.9**
RSO	**Redoubt South**	**0.90**	**197**		Pn	**12 28 04.1**	**-2.0**
RED	**Redoubt Volcan**	**0.94**	**196**		Pn	**12 28 04.5**	**-1.9**
RED					Sn	**12 28 21.2**	**-2.8**
FIS	**Fire Island**	**0.99**	**99**		Pn	**12 28 05.8**	**-1.0**
FIS				IAML		12 28 25.9	
	comp=E,19μm,0.9s						
FIS				IAML		12 28 26.0	
	comp=N,10μm,0.9s						
M22K	**Willow**	**1.10**	**66**		Pn	**12 28 05.9**	**-1.8**
M22K					Sn	**12 28 24.9**	**-1.7**
M22K	**Willow**	**1.10**	**66**	P	Pn	**12 28 06.0**	**-1.7**
	baz=246,SNR=1000						
M22K				S	Sn	**12 28 24.8**	**-1.7**
	baz=246						
M19K	**Big River Lodg**	**1.19**	**301**		Pn	**12 28 07.2**	**-1.3**
M19K	**Big River Lodg**	**1.19**	**301**	P	Pn	**12 28 07.2**	**-1.3**
	baz=119						
M19K				S	Sn	**12 28 26.2**	**-1.8**
	baz=119						
N19K	**Bonanza Creek**	**1.20**	**246**		Pn	**12 28 07.3**	**-1.5**
N19K					Sn	**12 28 25.9**	**-2.6**
N19K	**Bonanza Creek**	**1.20**	**246**	P	Pn	**12 28 07.3**	**-1.5**
	baz=65,SNR=1000						
N19K				S	Sn	**12 28 25.8**	**-2.6**
	baz=65						
RC01	**Rabbit Creek A**	**1.23**	**100**		Pn	**12 28 07.1**	**-2.0**
RC01					Sn	**12 28 26.5**	**-2.3**
RC01				IAML		12 28 27.2	
	comp=N,8μm,0.3s						
RC01				IAML		12 28 28.0	
	comp=E,6μm,0.3s						
RC01	**Rabbit Creek A**	**1.23**	**100**	P	Pn	**12 28 07.1**	**-2.0**
	baz=281,SNR=1000						
RC01				S	Sn	**12 28 26.6**	**-2.2**
	baz=281						
O20K	**Slope Mountain**	**1.25**	**189**		Pn	**12 28 07.5**	**-1.8**
O20K	**Slope Mountain**	**1.25**	**189**	P	Pn	**12 28 07.5**	**-1.8**
	baz=10,SNR=449						
O20K				S	Sn	**12 28 26.6**	**-2.7**
	baz=10						
SLKM	**Skilak Lake**	**1.28**	**129**		Pn	**12 28 07.6**	**-1.9**
SLKM					Sn	**12 28 26.6**	**-3.1**
IVE	**Iliamna Volcan**	**1.36**	**197**		Pn	**12 28 08.0**	**-2.5**
L20K	**Farewell, AK**	**1.40**	**327**		Pn	**12 28 09.4**	**-1.3**
L20K					Sn	**12 28 30.4**	**-1.6**
L20K	**Farewell, AK**	**1.40**	**327**	P	Pn	**12 28 09.5**	**-1.2**
	baz=145,SNR=1000						
L20K				S	Sn	**12 28 30.0**	**-2.0**
	baz=145						
ILSW	**Iliamna Southw**	**1.41**	**199**		Pn	**12 28 09.2**	**-1.8**
ILSW				IAML		12 28 30.9	
	comp=E,3μm,0.9s						
ILSW				IAML		12 28 31.9	
	comp=N,3μm,1.0s						
CUT	**Chulitna**	**1.44**	**40**		Pn	**12 28 09.6**	**-1.5**
CUT				IAML		12 28 31.1	
	comp=N,16μm,1.1s						
CUT	**Chulitna**	**1.44**	**40**	P	Pn	**12 28 09.6**	**-1.5**
	baz=220,SNR=216						
CUT				S	Sn	**12 28 30.5**	**-2.0**
	baz=220						
O22K	**Cooper Landing**	**1.49**	**123**		Pn	**12 28 10.0**	**-1.7**
O22K	**Cooper Landing**	**1.49**	**123**	P	Pn	**12 28 09.9**	**-1.7**
	baz=306,SNR=1000						
O22K				S	Sn	**12 28 30.1**	**-3.4**
	baz=306						
L19K	**White Mountain**	**1.52**	**306**		Pn	**12 28 10.8**	**-1.2**
L19K	**White Mountain**	**1.52**	**306**	P	Pn	**12 28 10.9**	**-1.2**
	baz=124,SNR=1000						
L19K				S	Sn	**12 28 32.3**	**-1.8**
	baz=124						

PMR Palmer 1.52 78 Pn 12 28 09.3 -2.6
PMR IAML 12 28 31.4
comp=N,6µm,0.7s
PMR IAML 12 28 31.7
comp=E,6µm,0.4s
PMR Palmer 1.52 78 Sn 12 28 31.1 -3.0
PMR Palmer 1.52 78 P Pn 12 28 09.4 -2.6
baz=260,SNR=911
PMR S **Sn 12 28 30.7 -3.4**
baz=260
O19K Port Alsworth 1.52 223 Pn 12 28 10.6 -1.5
O19K IAML 12 28 33.1
comp=N,6µm,0.7s
O19K IAML 12 28 42.2
comp=E,4µm,0.5s
O19K Port Alsworth 1.52 223 P Pn 12 28 10.5 -1.5
baz=42,SNR=1000
O19K S **Sn 12 28 31.9 -2.2**
baz=42
PPLA Purkeypile 1.58 1 Pn 12 28 11.7 -1.2
PPLA Purkeypile 1.58 1 Sn 12 28 33.7 -2.0
PPLA Purkeypile 1.58 1 P Pn 12 28 11.6 -1.2
baz=180,SNR=1000
PPLA S **Sn 12 28 33.1 -2.6**
baz=180
SVW2 Sparrevohn 1.63 264 Pn 12 28 11.7 -1.6
GHO Glory Hole Cre 1.65 73 Pn 12 28 11.2 -2.4
GHO IAML 12 28 34.8
comp=E,12µm,0.5s
GHO IAML 12 28 35.0
comp=N,9µm,0.5s
HOM Homer 1.69 170 Pn 12 28 12.2 -1.7
HOM Homer 1.69 170 P Pn 12 28 12.2 -1.7
baz=351,SNR=184
HOM S **Sn 12 28 35.2 -2.3**
baz=351
BRLK Bradley Lake 1.70 156 Pn 12 28 12.4 -1.6
BRLK Bradley Lake 1.70 156 IAML 12 28 35.5
comp=N,13µm,0.5s
BRLK IAML 12 28 36.3
comp=E,9µm,0.3s
OPT Oil Point 1.74 197 Pn 12 28 13.2 -1.3
P19K Oil Pt 1.74 197 Pn 12 28 13.2 -1.3
P19K IAML 12 28 39.0
comp=N,6µm,0.6s
P19K IAML 12 28 41.2
comp=E,5µm,0.5s
P19K Oil Pt 1.74 197 P Pn 12 28 13.3 -1.3
baz=17,SNR=924
P19K S **Sn 12 28 36.1 -2.5**
baz=17
BRSE Bradley Lake S 1.75 154 Pn 12 28 12.5 -2.1
BRSE **Sn 12 28 35.2 -3.4**
BRSE Bradley Lake S 1.75 154 P Pn 12 28 12.5 -2.1
baz=336,SNR=377
BRSE S **Sn 12 28 34.9 -3.8**
baz=336
KNK Knik Glacier 1.82 85 Pn 12 28 13.2 -2.3
KNK Knik Glacier 1.82 85 Sn 12 28 37.9 -2.4
KNK Knik Glacier 1.82 85 IAML 12 28 38.5
comp=N,12µm,0.5s
KNK IAML 12 28 39.6
comp=E,8µm,0.9s
KNK Knik Glacier 1.82 85 P Pn 12 28 13.0 -2.5
baz=268,SNR=688
KNK S **Sn 12 28 37.4 -2.8**
baz=268
SEW Seward 1.83 130 Pn 12 28 13.4 -2.1
SEW Seward 1.83 130 P Pn 12 28 13.3 -2.1
baz=313,SNR=838
SEW S **Sn 12 28 35.7 -4.6**
baz=313
CNPM China Poot 1.87 164 Pn 12 28 13.9 -2.1
CNPM China Poot 1.87 164 IAML 12 28 39.7
comp=N,9µm,0.5s
N18K Kilae Creek 1.89 252 Pn **Pn 12 28 14.9 -1.3**
N18K Kilae Creek 1.89 252 P Pn 12 28 14.9 -1.3
baz=69,SNR=1000
N18K S **Sn 12 28 38.4 -3.2**
baz=69
SML Sawmill 1.93 74 Sn 12 28 39.2 -3.4
SML Sawmill 1.93 74 Pn 12 28 14.4 -2.4
SML Sawmill 1.93 74 IAML 12 28 41.2
comp=N,6µm,0.8s
SML IAML 12 28 41.4
comp=E,8µm,1.0s
SML Sawmill 1.93 74 P Pn 12 28 14.3 -2.4
baz=256,SNR=670
SML S **Sn 12 28 39.4 -3.3**
baz=256
PWL Port Wells 1.95 102 Pn 12 28 14.3 -2.7
PWL Port Wells 1.95 102 Sn 12 28 40.0 -2.9
PWL Port Wells 1.95 102 IAML 12 28 40.7
comp=N,9µm,0.5s
PWL IAML 12 28 41.2
comp=E,7µm,0.5s
PWL Port Wells 1.95 102 P Pn 12 28 14.3 -2.7
baz=285,SNR=1000
PWL S **Sn 12 28 39.9 -3.1**
baz=285
AUL Augustine Lava 2.03 198 Pn 12 28 16.5 -1.4
AU22 Augustine Moun 2.03 196 Pn 12 28 16.3 -1.6
AUH Augustine H 2.05 197 Pn 12 28 16.8 -1.4
AUQ Augustine Qik' 2.05 197 Pn 12 28 16.8 -1.5
O18K Koktuh Hills 2.07 226 Pn 12 28 16.9 -1.5
O18K Koktuh Hills 2.07 226 P Pn 12 28 17.2 -1.3
baz=44,SNR=1000
O18K S **Sn 12 28 42.8 -2.7**
baz=44
CAST Castle Rocks 2.11 2 Pn 12 28 17.4 -1.5
CAST Castle Rocks 2.11 2 P Pn 12 28 17.4 -1.5
baz=181
CAST S **Sn 12 28 42.9 -3.4**
baz=181
WAT7 Susitna Watana 2.21 45 Pn 12 28 18.6 -1.5
M23K Glacier View 2.21 76 Pn 12 28 17.8 -2.4
M23K **Sn 12 28 45.8 -2.7**
M23K Glacier View 2.21 76 P Pn 12 28 17.7 -2.4
baz=259,SNR=642
M23K S **Sn 12 28 45.5 -3.1**
baz=259
K20K Telida 2.22 338 Pn 12 28 18.8 -1.3
K20K Telida 2.22 338 P Pn 12 28 18.9 -1.3
baz=156,SNR=1000
K20K S **Sn 12 28 46.2 -2.4**
baz=156
WAT1 Susitna Watana 2.31 47 Pn 12 28 19.6 -1.6
WAT1 **Sn 12 28 47.8 -2.9**
WAT1 Susitna Watana 2.31 47 P Pn 12 28 19.7 -1.5
baz=230
WAT1 S **Sn 12 28 47.1 -3.5**
baz=230
TRF Thorofare Moun 2.33 22 Pn 12 28 20.2 -1.4
TRF IAML 12 28 50.0
comp=N,5µm,1.1s
TRF IAML 12 28 51.5
comp=E,3µm,1.0s
TRF Thorofare Moun 2.33 22 P Pn 12 28 20.3 -1.4
baz=203
TRF S **Sn 12 28 48.3 -2.9**
baz=203
KTH Kantishna Hill 2.33 15 Pn **Pn 12 28 20.0 -1.5**
KTH IAML 12 28 50.7
comp=N,3µm,0.9s
TT01 Tatalina 2.39 314 Pn 12 28 20.7 -1.5
TTA Tatalina 2.40 314 Pn **Pn 12 28 21.2 -1.2**
TTA Tatalina 2.40 314 P Pn 12 28 21.3 -1.2
baz=130,SNR=1000
TTA S **Sn 12 28 49.7 -3.0**
baz=130
SCM Sheep Creek Mo 2.41 75 Pn 12 28 20.5 -2.1
SCM IAML 12 28 52.4
comp=N,5µm,1.0s
SCM Sheep Creek Mo 2.41 75 P Pn 12 28 20.4 -2.2
baz=259,SNR=448
SCM S **Sn 12 28 50.4 -2.4**
baz=259
P18K Big Mountain, 2.44 219 Pn **Pn 12 28 21.5 -1.4**
P18K Big Mountain, 2.44 219 P Pn 12 28 21.4 -1.4
baz=37,SNR=970
P18K S **Sn 12 28 49.4 -4.1**
baz=37
WAT6 Susitna Watana 2.48 57 Pn 12 28 21.6 -1.8
WAT6 Susitna Watana 2.48 57 P Pn 12 28 21.8 -1.7
baz=240,SNR=618
WAT6 S **Sn 12 28 51.2 -3.4**
baz=240
Q19K Cape Douglas, 2.50 197 Pn 12 28 21.7 -2.0
Q19K IAML 12 29 16.6
comp=E,3µm,0.9s
Q19K IAML 12 29 37.6
comp=N,2µm,0.9s
Q19K Cape Douglas, 2.50 197 P Pn 12 28 21.7 -2.0
baz=16,SNR=132
Q19K S **Sn 12 28 51.8 -3.1**
baz=16
GLI Glacier Island 2.54 98 Pn 12 28 21.0 -3.1
GLI IAML 12 28 55.7
comp=E,5µm,0.6s
GLI Glacier Island 2.54 98 P Pn 12 28 20.9 -3.2
baz=282,SNR=339
GLI S **Sn 12 28 52.1 -3.5**
baz=282
CHUM Lake Minchumin 2.58 359 Pn 12 28 22.9 -1.6
CHUM Lake Minchumin 2.58 359 P Pn 12 28 23.1 -1.4
baz=178,SNR=197
CHUM S **Sn 12 28 53.0 -3.5**
baz=178
RND Reindeer 2.62 36 Pn 12 28 23.6 -1.6
RND IAML 12 28 56.7
comp=E,2µm,0.8s
RND IAML 12 28 57.4
comp=N,2µm,0.6s
Q20K Shuyak Island 2.72 182 P Pn 12 28 24.4 -1.9
baz=2.3,SNR=128
Q20K S **Sn 12 28 56.3 -3.4**
baz=2.3
SYI Shuyak Island 2.72 182 Pn 12 28 24.4 -1.9
JPK Jack Peak 2.75 93 Pn 12 28 24.2 -2.6
BPAW Bear Paw Mtn. 2.85 11 Pn 12 28 26.1 -1.9
BPAW Bear Paw Mtn. 2.85 11 IAML 12 29 00.7
comp=E,1µm,0.9s
BPAW IAML 12 29 01.0
comp=N,2µm,1.2s
BPAW Bear Paw Mtn. 2.85 11 P Pn 12 28 26.2 -1.9
baz=192,SNR=351
BPAW S **Sn 12 28 58.9 -4.0**
baz=192
VMT TAPS Tl Valdez 2.85 92 Pn 12 28 25.9 -2.2
O17K Koliganek Bris 2.85 239 Pn 12 28 26.9 -1.2
O17K Koliganek Bris 2.85 239 P Pn 12 28 27.1 -1.0
baz=56,SNR=717
O17K S **Sn 12 29 00.3 -2.5**
baz=56
FID Port Fidalgo 2.86 99 Pn 12 28 24.8 -3.4
FID IAML 12 29 03.1
comp=E,4µm,0.7s
MCK McKinley 2.87 31 Pn 12 28 26.9 -1.4
MCK McKinley 2.87 31 IAML 12 29 05.6
comp=N,1µm,0.8s
MCK McKinley 2.87 31 P Pn 12 28 27.0 -1.2
baz=213,SNR=265
MCK S **Sn 12 28 59.6 -3.6**
baz=213
DHY Denali Highway 2.88 50 Pn 12 28 27.1 -1.4
DHY Denali Highway 2.88 50 IAML 12 29 04.2
comp=E,4µm,1.0s
DHY Denali Highway 2.88 50 P Pn 12 28 27.1 -1.4
baz=234,SNR=418
DHY S **Sn 12 29 00.5 -3.2**
baz=234
KAPH Katmai Pasha 2.93 202 Pn 12 28 27.8 -1.4
HIN Hinchinbrook I 2.96 106 Pn **Pn 12 28 26.5 -2.9**
HIN IAML 12 29 03.9
comp=E,4µm,1.1s
M24K Tolsona, Glenn 2.99 72 Pn 12 28 28.9 -1.1
M24K Tolsona, Glenn 2.99 72 P Pn 12 28 28.9 -1.1
baz=257,SNR=407
M24K S **Sn 12 29 04.6 -1.5**
baz=257
J20K Nowinta River 3.00 344 Pn **Pn 12 28 28.4 -1.6**
J20K Nowinta River 3.00 344 P Pn 12 28 28.5 -1.4
baz=162,SNR=1000
J20K S **Sn 12 29 04.0 -2.2**
baz=162
KAHC Katmai Hardscr 3.02 209 Pn 12 28 28.8 -1.5
KLU Klutina 3.04 84 Pn 12 28 28.3 -2.3
KLU IAML 12 29 06.1
comp=N,2µm,0.7s
KLU IAML 12 29 09.6
comp=E,2µm,0.6s
KLU Klutina 3.04 84 P Pn 12 28 28.3 -2.3
baz=269,SNR=731
KAHG Katmai Hook Gl 3.06 203 Pn 12 28 29.6 -1.3
DIV Divide 3.13 91 Pn 12 28 29.2 -2.5
BWN Browne 3.14 23 Pn 12 28 30.5 -1.1
BWN Browne 3.14 23 IAML 12 29 27.3
comp=E,2µm,1.0s
BWN IAML 12 29 34.0
comp=N,2µm,1.0s
EYAK Cordova Ski Ar 3.26 101 Pn 12 28 30.5 -2.8
EYAK Cordova Ski Ar 3.26 101 P Pn 12 28 30.5 -2.8
baz=286,SNR=153
EYAK S **Sn 12 29 09.4 -2.7**
baz=286
N16K Nishlik Lake 3.30 258 Pn 12 28 32.8 -1.0
N16K Nishlik Lake 3.30 258 P Pn 12 28 32.9 -1.0
baz=73,SNR=61
N16K S **Sn 12 29 10.0 -3.1**
baz=73
PS11 TAPS Pump St11 3.31 74 Pn 12 28 33.1 -0.9
KCG Knife Ck. Glac 3.35 207 Pn 12 28 33.3 -1.3
O16K Kokwok River B 3.38 242 Pn 12 28 33.8 -1.0
O16K Kokwok River B 3.38 242 P Pn 12 28 33.8 -1.0
baz=57,SNR=321
O16K S **Sn 12 29 11.3 -3.5**
baz=57
KELA Mount Kelaz 3.38 213 Pn 12 28 33.7 -1.3
Q16K King Salmon 3.45 222 Pn 12 28 34.9 -1.0
Q16K King Salmon 3.45 222 P Pn 12 28 35.2 -0.6
baz=39,SNR=210
Q23K Middleton Isla 3.48 120 Pn **Pn 12 28 34.1 -2.1**
Q23K IAML 12 29 14.9
comp=N,2µm,0.8s
Q23K IAML 12 29 15.2
comp=E,2µm,0.7s
Q23K Middleton Isla 3.48 120 P Pn 12 28 34.1 -2.1
baz=306,SNR=13
Q23K S **Sn 12 29 13.2 -4.1**
baz=306
MID Middleton Isla 3.49 120 Pn **Pn 12 28 34.1 -2.1**
MID IAML 12 29 14.9
comp=N,1µm,0.8s
HARP HAARP 3.53 69 Pn 12 28 36.0 -0.8
HARP HAARP 3.53 69 P Pn 12 28 36.0 -0.8
baz=255,SNR=376
HARP S **Sn 12 29 16.5 -1.9**
baz=255
KDAK Kodiak Island 3.55 183 Pn **Pn 12 28 33.7 -3.4**
KDAK IAML 12 29 26.4
comp=N,724nm,0.9s
KDAK IAML 12 29 26.9
comp=N,621nm,0.5s
KDAK Kodiak Island 3.55 183 P Pn 12 28 33.7 -3.4
baz=3.2
KDAK S **Sn 12 29 14.1 -4.8**
baz=3.2
PAX Paxson 3.58 59 Pn **Pn 12 28 36.7 -0.9**
PAX Paxson 3.58 59 P Pn 12 28 36.5 -1.1
baz=245,SNR=452
PAX S **Sn 12 29 16.5 -3.3**
baz=245
NEA2 Nenana 3.59 22 Pn 12 28 35.9 -1.7
NEA2 Nenana 3.59 22 IAML 12 29 16.6
comp=N,735nm,0.8s
NEA2 Nenana 3.59 22 P Pn 12 28 35.5 -2.1
baz=205,SNR=711
NEA2 S **Sn 12 29 14.1 -5.8**
baz=205
P16K Nushagak River 3.68 234 Pn 12 28 38.2 -0.5
P16K Nushagak River 3.68 234 P Pn 12 28 38.3 -0.4
baz=49,SNR=250
N25K Chitina, Valde 3.68 82 Pn 12 28 36.5 -2.3
N25K Chitina, Valde 3.68 82 IAML 12 29 21.1
comp=N,2µm,0.8s
N25K IAML 12 29 21.2
comp=E,2µm,0.6s
N25K Chitina, Valde 3.68 82 P Pn 12 28 36.5 -2.3
baz=268,SNR=232
N25K S **Sn 12 29 19.6 -2.5**
baz=268
WRH Wood River Hil 3.69 29 Pn 12 28 37.0 -1.8
comp=E,494nm,1.1s
WRH Wood River Hil 3.69 29 IAML 12 29 50.9
BMRM Bremner River 3.72 92 Pn 12 28 36.6 -2.7
BMRM Bremner River 3.72 92 P Pn 12 28 36.6 -2.7
baz=278,SNR=93
BMRM S **Sn 12 29 19.3 -3.6**
baz=278
GOAT Goat Mountain 3.74 98 Pn 12 28 36.9 -2.7
MLY Manley 3.79 10 Pn 12 28 38.4 -1.9
MLY Manley 3.79 10 P Pn 12 28 38.5 -1.7
baz=190,SNR=662
MLY S **Sn 12 29 17.5 -7.0**
baz=190
RAGM Ragged Mountai 3.82 101 Pn 12 28 37.7 -2.9
I21K Tanana 3.88 2 Pn 12 28 39.8 -1.5
I21K Tanana 3.88 2 P Pn 12 28 39.9 -1.5
baz=181,SNR=463
I21K S **Sn 12 29 22.2 -4.4**
baz=181
K24K Donnelly Dome 3.89 47 P Pn 12 28 41.7 +0.1
baz=232,SNR=1000
K24K S **Sn 12 29 26.2 -0.8**
baz=232
CCB Clear Creek Bu 3.91 29 Pn 12 28 39.9 -1.8
CCB Clear Creek Bu 3.91 29 IAML 12 29 39.3
comp=E,412nm,1.1s
HDA Harding Lake 3.94 36 Pn 12 28 40.7 -1.5
HDA Harding Lake 3.94 36 IAML 12 29 26.4
comp=N,1µm,0.8s
HDA Harding Lake 3.94 36 P Pn 12 28 40.6 -1.5
baz=220,SNR=1000
HDA S **Sn 12 29 23.1 -4.9**
baz=220
HDA S **Sn 12 29 23.1 -4.9**
baz=220
GCSA Galena City Sc 4.04 330 Pn 12 28 42.4 -1.0
GCSA Galena City Sc 4.04 330 P Pn 12 28 42.5 -1.0
baz=146,SNR=448
GLB Gilahina Butte 4.06 85 Pn 12 28 41.6 -2.2
GLB Gilahina Butte 4.06 85 IAML 12 29 29.9
comp=N,1µm,1.1s
GLB IAML 12 29 42.8
comp=E,740nm,0.9s
PS08 TAPS Pump Stn8 4.08 35 Pn 12 28 42.9 -1.1
PLK5 Peulik 5 4.08 217 Pn 12 28 43.6 -0.4
MDM Murphy Dome 4.08 25 Pn 12 28 42.3 -1.7
MDM Murphy Dome 4.08 25 IAML 12 29 27.2
comp=E,403nm,1.0s
MDM IAML 12 29 29.8
comp=N,370nm,1.0s
TCOL CIGO, UAF Yank 4.09 27 Pn 12 28 42.8 -1.2
TCOL CIGO, UAF Yank 4.09 27 P Pn 12 28 42.5 -1.5
baz=211,SNR=230
COLA College 4.09 27 Pn 12 28 42.4 -1.6
COLA College 4.09 27 P Pn 12 28 42.6 -1.5
baz=211
KAIM Kayak Island 4.10 106 IAML 12 29 35.7
comp=E,708nm,0.8s
KAIM IAML 12 29 49.9
comp=N,656nm,0.9s
KAIM Kayak Island 4.10 106 P Pn 12 28 41.3 -3.0
baz=293,SNR=20
KAIM S **Sn 12 29 28.0 -3.8**
baz=293
OHAK Old Harbor 4.14 188 Pn **Pn 12 28 41.0 -3.9**
OHAK IAML 12 29 42.6
comp=N,384nm,0.7s
OHAK Old Harbor 4.14 188 P Pn 12 28 41.0 -3.9
baz=7.5,SNR=109
PLK1 Peulik 1 4.17 214 Pn 12 28 44.4 -0.8
NICHA Nichawak Mount 4.20 101 Pn 12 28 42.5 -3.1
RIDG Independent Ri 4.20 51 P Pn 12 28 45.1 -0.5
baz=238,SNR=960
IL31 4.24 33 Pn 12 28 44.3 -1.7
ILAR Eielson Array 4.24 33 P Pn 12 28 44.7 -1.4
comp=N,686nm,0.6s,baz=221,slow=13,SNR=903
ILAR S **Sn 12 29 33.0 -2.0**
comp=N,83nm,0.4s,baz=210,slow=23,SNR=7.7
R17K Ugashik Creek 4.25 212 Pn 12 28 45.3 -1.0
R17K Ugashik Creek 4.25 212 P Pn 12 28 45.4 -0.9
baz=26,SNR=290
BERG Berg Lake 4.28 99 Pn 12 28 43.9 -2.8
SUCK Suckling Hills 4.34 103 Pn 12 28 44.5 -3.0
SUCK Suckling Hills 4.34 103 IAML 12 29 35.7
comp=N,573nm,1.1s
SUCK IAML 12 29 42.4
comp=E,403nm,1.1s
H21K Melozitna Rive 4.36 357 Pn 12 28 46.2 -1.6
H21K Melozitna Rive 4.36 357 P Pn 12 28 46.3 -1.4
baz=176,SNR=462
PS07 TAPS Pump Stn7 4.39 22 Pn 12 28 46.8 -1.2
POKR Poker Plat Res 4.39 28 Pn 12 28 47.1 -0.9
POKR Poker Plat Res 4.39 28 IAML 12 29 40.1
comp=E,491nm,0.8s
POKR IAML 12 29 40.5
comp=N,516nm,0.6s
POKR Poker Plat Res 4.39 28 P Pn 12 28 46.8 -1.3
baz=211,SNR=221
MCARA McCarthy VSAT 4.44 85 Pn 12 28 47.3 -1.5
MCARA McCarthy VSAT 4.44 85 P Pn 12 28 46.6 -2.2
baz=273,SNR=160
DOT Dot Lake 4.46 55 Pn 12 28 48.0 -1.0
KHIT Khitrov Hills 4.48 97 Pn 12 28 47.0 -2.4
GRIN Grindle Hills 4.49 99 Pn 12 28 46.7 -2.8
L26K Log Cabin Wild 4.51 64 Pn 12 28 49.0 -0.6
L26K Log Cabin Wild 4.51 64 IAML 12 29 55.8
comp=E,790nm,0.6s
L26K IAML 12 30 01.5
comp=N,933nm,0.6s
L26K Log Cabin Wild 4.51 64 P Pn 12 28 49.0 -0.6
baz=251,SNR=259
M26K Nabesna, AK 4.51 72 Pn 12 28 48.7 -1.1
M26K Nabesna, AK 4.51 72 IAML 12 29 46.0
comp=N,848nm,0.6s
M26K IAML 12 30 02.3
comp=E,573nm,0.6s
M26K Nabesna, AK 4.51 72 P Pn 12 28 48.4 -1.3
baz=260,SNR=172
J25K Salcha River, 4.56 40 Pn 12 28 49.2 -1.2
J25K Salcha River, 4.56 40 IAML 12 29 41.4
comp=N,818nm,0.8s
J25K IAML 12 29 41.6
comp=E,848nm,0.7s
J25K Salcha River, 4.56 40 P Pn 12 28 49.2 -1.2
baz=226,SNR=1000
BGLC Bering Glacier 4.56 101 P Pn 12 28 49.1 -1.2
baz=289,SNR=7.2
H22K Ishtalitna Cre 4.61 4 Pn 12 28 49.5 -1.5
H22K Ishtalitna Cre 4.61 4 P Pn 12 28 49.6 -1.5
baz=185,SNR=195
TGL Tana Glacier 4.61 93 Pn 12 28 49.0 -2.1
TGL Tana Glacier 4.61 93 IAML 12 29 42.5
comp=E,1µm,0.6s
TGL IAML 12 29 45.2
comp=N,886nm,0.7s
R16K Pilot Point 4.64 218 Pn 12 28 51.0 -0.5
R16K Pilot Point 4.64 218 P Pn 12 28 50.9 -0.5
baz=34,SNR=10.0
SCRK Sand Creek 4.65 51 Pn 12 28 50.1 -1.5
SCRK Sand Creek 4.65 51 IAML 12 29 43.1
comp=E,913nm,0.7s
SCRK IAML 12 30 03.1
comp=N,680nm,0.8s
SCRK Sand Creek 4.65 51 P Pn 12 28 50.2 -1.5
baz=238,SNR=519
WAX Waxell Ridge 4.67 97 Pn 12 28 49.5 -2.3
H23K Yukon River 4.68 14 Pn 12 28 50.4 -1.6
H23K Yukon River 4.68 14 P Pn 12 28 50.5 -1.5
baz=196,SNR=682
PS06 TAPS Pump Stn6 4.69 13 Pn 12 28 51.2 -0.8
PTPK Patty Peak 4.72 87 Pn 12 28 51.1 -1.6
IM03 4.73 352 Pn 12 28 51.2 -1.4
SNH Sunshine Point 4.75 100 Pn 12 28 50.3 -2.7
SNH Sunshine Point 4.75 100 IAML 12 29 48.3
comp=E,572nm,0.5s
SNH IAML 12 29 49.3
comp=N,417nm,0.6s
BARK Barkley Ridge 4.85 97 Pn 12 28 52.4 -2.0
SII Sitkinak Islan 4.88 193 IAML 12 29 54.0
comp=E,373nm,0.6s
SII IAML 12 29 58.7
comp=N,511nm,0.7s
SII Sitkinak Islan 4.88 193 P Pn 12 28 50.8 -3.8
baz=12,SNR=34
ISLE Juniper Island 4.88 94 Pn 12 28 53.5 -1.2
H24K Noodor Dome 4.94 21 IAML 12 30 35.7

comp=E,210nm,1.1s
H24K Noodor Dome 4.94 21 P Pn 12 28 53.7 -1.6
baz=205,SNR=463
M27K Edge Creek, AK 5.02 73 IAML 12 29 54.9
comp=E,525nm,0.9s
M27K Edge Creek, AK 5.02 73 P Pn 12 28 56.4 -0.2
baz=262,SNR=402
J26L Joseph Creek 5.09 47 IAML 12 30 00.2
comp=E,680nm,0.7s
J26L Joseph Creek 5.09 47 P Pn 12 28 56.4 -1.1
baz=235,SNR=921
MESA MESA 5.17 98 P Pn 12 28 56.7 -2.0
baz=287,SNR=367
L27K Beaver Creek, 5.18 66 IAML 12 30 09.2
comp=E,179nm,1.1s
L27K IAML 12 30 22.6
comp=N,219nm,1.8s
L27K Beaver Creek, 5.18 66 P Pn 12 28 57.7 -1.0
baz=255,SNR=134
PRP Porcupine Dome 5.18 33 IAML 12 29 58.2
comp=N,324nm,1.0s
PRP IAML 12 30 02.3
comp=E,325nm,0.9s
PRP Porcupine Dome 5.18 33 P Pn 12 28 57.2 -1.5
baz=218,SNR=544
G21K Allakaket 5.25 354 P Pn 12 28 58.3 -1.2
baz=173
CTG Chitna Glacier 5.29 89 P Pn 12 28 58.8 -1.5
baz=278,SNR=280
CTGM Chitina Glacie 5.30 89 IAML 12 30 00.3
comp=E,284nm,0.5s
CTGM IAML 12 30 01.6
comp=N,478nm,0.6s
K27K Chicken 5.42 55 P Pn 12 29 00.5 -1.2
baz=244
G23K Bananza Creek 5.50 9 P Pn 12 29 01.4 -1.5
baz=191,SNR=387
G22K Bettles 5.64 3 P Pn 12 29 03.1 -1.5
baz=183
H25K Birch Creek 5.72 27 P Pn 12 29 04.8 -0.9
baz=212,SNR=383
I26K Coal Creek Min 5.72 42 P Pn 12 29 04.7 -1.1
baz=229,SNR=1000
CHIR Chirikof Islan 5.79 199 P Pn 12 29 02.6 -4.2
baz=17,SNR=10
G24K Hadweenzic Riv 5.79 19 P Pn 12 29 05.3 -1.4
baz=203,SNR=930
O28M Mount Upton 5.88 90 P Pn 12 29 07.3 -0.9
baz=280,SNR=419
F21K Alatna River 5.95 355 P Pn 12 29 07.9 -1.0
baz=174,SNR=70
CHGN Chignik 5.96 215 Pn Pn 12 29 06.7 -2.4
CHGN Chignik 5.96 215 P Pn 12 29 06.8 -2.3
baz=30,SNR=53
PINM Pinnacle 6.01 96 P Pn 12 29 08.1 -1.7
baz=287,SNR=78
EGAK Eagle 6.12 51 P Pn 12 29 09.5 -1.6
baz=240,SNR=263
F22K John River 6.22 0 P Pn 12 29 11.5 -0.9
baz=180,SNR=50
S14K Fog Glacier 6.32 220 P Pn 12 29 13.1 -0.8
baz=34,SNR=23
I27K Kandik River 6.41 43 P Pn 12 29 13.7 -1.4
baz=232,SNR=593
F24K Squaw Lake 6.50 15 P Pn 12 29 15.1 -1.2
baz=198,SNR=120
PNL Peninsula 6.56 99 P Pn 12 29 15.2 -1.9
baz=290,SNR=54
M29M Somme Creek 6.61 74 P Pn 12 29 17.1 -0.7
baz=266,SNR=366
G26K Porcupine Rive 6.75 30 P Pn 12 29 17.6 -1.9
baz=217,SNR=135
O29M Mount Kennedy 6.76 93 P Pn 12 29 18.3 -1.6
baz=284,SNR=52
H27K Steamboat Moun 6.84 39 P Pn 12 29 19.1 -1.7
baz=229,SNR=251
F25K Christian Rive 6.91 21 P Pn 12 29 20.4 -1.4
baz=207,SNR=253
E24K Your Creek 6.97 12 P Pn 12 29 21.6 -1.0
baz=195,SNR=122
G27K Doyon Strip 7.20 36 P Pn 12 29 23.6 -2.0
baz=225,SNR=186
K29M Barlow Dome 7.25 63 P Pn 12 29 25.6 -0.8
baz=256,SNR=41
N30M Aishikik Lake 7.28 82 P Pn 12 29 25.3 -1.5
baz=275,SNR=344
F26K Sheenjek River 7.29 25 P Pn 12 29 24.8 -2.0
baz=212,SNR=33
SDPT Sand Point 7.38 220 P Pn 12 29 27.3 -0.8
baz=33
M30M Minto, Yukon 7.39 73 P Pn 12 29 27.1 -1.1
baz=267,SNR=69
E25K Arctic Village 7.40 20 P Pn 12 29 26.9 -1.3
baz=206,SNR=194
TOLK Toolik Lake Re 7.44 8 P Pn 12 29 28.9 +0.1
baz=190,SNR=81
I29M Ogilvie Camp, 7.46 51 P Pn 12 29 27.7 -1.4
baz=243,SNR=147
CNBA Chernabura Isl 7.59 214 Pn Pn 12 29 26.7 -4.1
P30M Million Dollar 7.59 92 P Pn 12 29 30.4 -0.5
baz=286
D23K Nanushuk River 7.71 4 P Pn 12 29 32.6 +0.2
baz=185,SNR=106
O30N Mendenhall 7.86 87 P Pn 12 29 33.1 -1.4
baz=281,SNR=32
N31M Braeburn, Yuko 7.90 82 P Pn 12 29 33.9 -1.1
baz=276,SNR=72
MAYO Mayo, Yukon 7.91 66 P Pn 12 29 34.9 -0.2
baz=260,SNR=17
D24K Happy Valley 8.00 9 P Pn 12 29 36.2 0.0
baz=192
TNA Tin City 8.21 308 P Pn 12 29 38.2 -0.8
baz=114
E27K Coleen River 8.25 29 P Pn 12 29 37.3 -2.3
baz=218,SNR=58
D25K Kavik River 8.40 14 P Pn 12 29 41.1 -0.5
baz=200,SNR=240
M31M Drury Creek, Y 8.51 76 P Pn 12 29 42.8 -0.4
baz=272,SNR=53
EPYK Eagle Plains 8.51 47 P Pn 12 29 41.8 -1.3
baz=240
C24K Franklin Bluff 8.56 8 P Pn 12 29 43.3 -0.5
baz=191,SNR=78
SKAG Skagway 8.58 95 P Pn 12 29 42.8 -1.3
baz=290,SNR=63
C23K Itkillik River 8.58 4 P Pn 12 29 42.9 -1.1
baz=185,SNR=28
FARO Faro, Yukon 9.00 76 P Pn 12 29 49.1 -0.5
baz=272,SNR=58
C27K Jago River 9.05 19 P Pn 12 29 49.4 -0.9
baz=207,SNR=55
C26K Camden Bay 9.14 16 P Pn 12 29 50.5 -1.1
baz=203,SNR=20
P32M Atlin 9.31 93 P Pn 12 29 52.4 -1.5
baz=289,SNR=16
SIT Sitka 9.66 109 P Pn 12 29 57.0 -1.5
baz=303,SNR=23
MMPY Sheldon Lake, 9.95 73 P Pn 12 30 02.5 +0.1
baz=272,SNR=23
INK Inuvik 10.57 41 P Pn 12 30 09.3 -1.3
comp=N,119nm,0.8s,baz=221,slow=10,SNR=118
INK S Sn 12 32 02.8 -4.3
comp=N,28nm,1.0s,baz=193,slow=17,SNR=6.5
R33M Jennings River 10.70 91 P Pn 12 30 12.1 -0.3
baz=289,SNR=35
T33K Petersburg 10.89 106 P Pn 12 30 15.4 +0.6
baz=302
S34M Telegraph Cree 11.20 98 P Pn 12 30 18.0 -1.0
baz=297,SNR=17
WRAK Wrangell Islan 11.38 107 P Pn 12 30 22.1 +0.8
baz=304
TGTN Hyland Airport 11.46 78 P Pn 12 30 22.9 +0.4
baz=279
DLBC Dease Lake 11.51 95 P Pn 12 30 24.4 +1.4
comp=N,3.9nm,0.3s,baz=286,slow=7.4,SNR=26
DLBC S Sn 12 32 28.6 -1.4
comp=N,6.0nm,0.7s,baz=233,slow=20,SNR=1.8
DLBC LR LR 12 35 05.8
comp=N,73nm,21.8s,baz=310,slow=38
CRAG Craig 11.59 112 Pn Pn 12 30 23.5 -0.5
CRAG Craig 11.59 112 P Pn 12 30 23.8 -0.2
baz=308,SNR=8.0
T35M Bob Quinn 12.07 101 P Pn 12 30 30.5 +0.1
baz=300
V35K Ketchikan 12.36 110 P Pn 12 30 34.7 +0.7
baz=308,SNR=13
RUBB Prince Rupert 13.60 111 P P 12 30 55.2 +1.0
C36M Paulatuk 14.11 43 Pn Pn 12 30 53.4 -3.0

C36M Paulatuk 14.11 43 P Pn 12 30 53.5 -2.8
baz=249,SNR=70
A36M Sachs Harbour 14.94 33 Pn Pn 12 31 04.9 -1.9
A36M Sachs Harbour 14.94 33 P Pn 12 31 04.5 -2.2
baz=238,SNR=80
BBB Bella Bella 15.99 114 P P 12 31 22.6 +1.9
comp=N,10nm,1.0s,baz=318,slow=16,SNR=2.3
BBB S Sn 12 34 15.3 -2.3
comp=N,5.7nm,0.8s,baz=310,slow=19,SNR=1.7
YKA Yellowknife Ar 17.60 70 P Pn 12 31 39.4 0.0
comp=N,30nm,0.8s,baz=281,slow=11,SNR=30
YKA PcP PcP 12 36 10.4 +0.5
comp=N,2.0nm,0.5s,baz=279,slow=1.5,SNR=9.5
AMKA Amchitka 18.49 250 P P 12 31 47.4 -0.7
SHEM Shemya Is, Ala 20.03 260 P P 12 32 04.4 -0.3
comp=N,78nm,0.9s,baz=67,slow=10,SNR=2.9
NEW Newport 23.74 107 P P 12 32 44.1 +1.8
comp=N,1.5nm,0.6s,baz=315,slow=4.3,SNR=2.4
NEW pP pP 12 33 13.0 +3.0
comp=N,8.6nm,0.9s,baz=324,slow=9.3,SNR=7.3
NEW LR LR 12 41 29.1
comp=N,33nm,21.1s,baz=6.0,slow=35
comp=N,1.5nm,0.6s
I04A Tendick Farm, 24.89 121 P P 12 32 53.8 +1.1
baz=325
I05D Terrebonne, OR 24.89 119 P P 12 32 53.6 +0.9
baz=324
SEY Seymchan 25.27 298 P P 12 32 55.3 -0.6
comp=N,3.8nm,0.6s,baz=91,slow=7.6,SNR=9.0
comp=N,3.8nm,0.6s
J04D Umpqua Nationa 25.47 121 P P 12 33 00.7 +2.6
baz=326
J05D Fort Rock, OR 25.79 120 P P 12 33 03.0 +2.0
baz=325
YBH Yreka Blue Hor 26.48 124 pP pP 12 33 39.2 +2.8
comp=N,11nm,0.9s,baz=328,slow=13,SNR=12
MA2 Magadan 27.41 292 P P 12 33 15.0 -0.1
comp=N,8.8nm,0.8s,baz=61,slow=10,SNR=11
comp=N,8.8nm,0.8s
MA2 Magadan 27.41 292 P P 12 33 14.5 -0.6
PETK Petropavlovsk- 27.68 276 P P 12 33 16.9 -0.8
comp=N,4.1nm,0.7s,baz=80,slow=12,SNR=4.2
PETK LR LR 12 45 40.4
comp=N,27nm,18.4s,baz=95,slow=39
comp=N,4.1nm,0.7s
TIXI Tiksi 30.65 322 P P 12 33 42.3 -1.3
comp=N,0.9nm,0.4s,baz=99,slow=13,SNR=2.0
TIXI PcP PcP 12 36 37.9 0.0
comp=N,1.0nm,0.5s,baz=90,slow=5.1,SNR=4.7
comp=N,0.9nm,0.4s
NVAR Mina Array Bea 31.07 122 P P 12 33 50.6 +2.6
comp=N,1.2nm,0.6s,baz=320,slow=9.1,SNR=16
NVAR pP pP 12 34 20.2 +2.5
comp=N,7.8nm,0.7s,baz=310,slow=9.1,SNR=22
NVAR PcP PcP 12 36 40.4 +0.4
comp=N,1.2nm,0.7s,baz=289,slow=2.0,SNR=6.9
NVAR ScP ScP 12 40 10.8 +1.4
comp=N,0.6nm,0.6s,baz=321,slow=2.3,SNR=6.3
comp=N,1.2nm,0.6s
BW06 Boulder Array 31.38 106 P P 12 33 51.7 +1.1
baz=321
PDAR Pinedale Array 31.38 106 P P 12 33 52.8 +2.2
comp=N,0.4nm,0.4s,baz=327,slow=5.2,SNR=11
PDAR pP pP 12 34 22.9 +2.5
comp=N,0.8nm,0.4s,baz=318,slow=6.4,SNR=5.7
PDAR PcP PcP 12 36 40.6 -0.1
comp=N,0.7nm,0.6s,baz=329,slow=0.9,SNR=4.4
PDAR ScP ScP 12 40 11.0 +0.6
comp=N,0.5nm,0.6s,baz=95,slow=1.0,SNR=5.1
PDAR LR LR 12 47 27.4
comp=N,35nm,20.3s,baz=48,slow=38
comp=N,0.4nm,0.4s
R11A Troy Canyon, C 32.27 118 P P 12 34 00.4 +2.0
baz=328
ULM Lac du Bonnet 32.53 84 P P 12 34 01.6 +1.4
comp=N,1.8nm,0.4s,baz=329,slow=3.9,SNR=2.8
ULM pP pP 12 34 31.1 +0.9
comp=N,6.1nm,0.8s,baz=314,slow=8.2,SNR=4.8
ULM PcP PcP 12 36 43.5 +0.1
comp=N,3.6nm,0.6s,baz=303,slow=3.0,SNR=4.9
ULM LR LR 12 48 52.7
comp=N,57nm,18.4s,baz=264,slow=39
comp=N,1.8nm,0.4s
GRAC Grapevine Rang 32.68 122 P P 12 34 04.0 +2.2
baz=329
CWC Cottonwood Cre 32.87 123 P P 12 34 05.0 +1.3
baz=330
RSSD Black Hills 32.94 99 P P 12 34 05.3 +1.0
baz=319
VES Vestal, Richgr 32.99 125 P P 12 34 05.1 +0.7
baz=331
SMMC Simmler 33.09 127 P P 12 34 06.4 +1.0
baz=332
TPNV Topopah Spring 33.18 121 P P 12 34 07.8 +1.4
baz=329
ISA Isabella, Lake 33.38 125 P P 12 34 09.5 +1.5
baz=331
MPMC Manual Prospec 33.44 123 P P 12 34 10.3 +1.8
baz=330
PKM Mcpherson Peak 33.54 127 P P 12 34 11.8 +2.3
baz=332
AGMN Agassiz Nation 33.86 86 P P 12 34 13.2 +1.3
baz=314
O20A White River Ci 34.06 108 P P 12 34 15.3 +1.3
baz=323
GSC Goldstone, Bar 34.37 123 P P 12 34 18.2 +1.7
baz=330
YAK Yakutsk 34.97 306 P P 12 34 20.6 -0.6
comp=N,23nm,0.6s,baz=80,slow=2.8,SNR=11
comp=N,23nm,0.6s
GMRC Granite Mounta 35.28 122 P P 12 34 26.1 +1.7
baz=330
TPFO Pinon Flats 35.98 124 P P 12 34 31.8 +1.4
baz=331
IRM Iron Mountain 36.04 122 P P 12 34 32.8 +2.1
baz=330
MVCO Mesa Verde 36.32 111 P P 12 34 34.7 +1.3
baz=326
WUAZ Wupatki 36.46 116 P P 12 34 37.3 +2.7
baz=328
S22A 4UR Ranch, Cre 36.64 109 P P 12 34 38.0 +1.8
baz=325
ECSD EROS Data Cent 36.79 93 P P 12 34 37.9 +0.9
baz=318
SDCO Great Sand Dun 37.25 107 P P 12 34 43.1 +1.8
baz=325
JFWS Jewell Farm 40.47 88 P P 12 35 08.2 +0.5
baz=319
OK032 Salt Plains WL 41.42 101 P P 12 35 14.2 -1.2
MSTX Muleshoe 41.61 108 P P 12 35 19.2 +2.0
baz=327
MNTX Cornudas Mount 42.34 113 P P 12 35 25.5 +2.5
baz=329
KLR Kuldur 42.45 290 P P 12 35 23.0 -0.6
comp=N,5.7nm,0.7s,baz=39,slow=7.9,SNR=15
comp=N,5.7nm,0.7s
TXAR Lajitas Array 45.12 112 P P 12 35 47.6 +2.2
comp=N,2.1nm,0.7s,baz=324,slow=5.6,SNR=30
TXAR pP pP 12 36 19.1 +2.4
comp=N,2.2nm,0.8s,baz=335,slow=6.2,SNR=6.9
TXAR PcP PcP 12 37 24.1 +0.7
comp=N,1.1nm,0.6s,baz=318,slow=1.2,SNR=8.6
comp=N,2.1nm,0.7s
JCT Junction City 45.89 108 P P 12 35 53.1 +1.7
baz=328
USRK Ussuriysk Ar. 46.06 285 P P 12 35 51.0 -1.5
comp=N,2.8nm,0.6s,baz=47,slow=10,SNR=7.3
comp=N,2.8nm,0.6s
OXF Oxford 47.47 95 P P 12 36 04.3 +0.8
baz=324
SSPA Standing Stone 48.14 80 P P 12 36 09.2 +0.5
baz=322
MJAR Matsushiro Arr 49.08 273 P P 12 36 16.0 +0.1
comp=N,3.3nm,0.9s,baz=31,slow=5.6,SNR=8.8
comp=N,3.3nm,0.9s
MAJO Matsushiro 49.08 273 P P 12 36 16.0 +0.1
TKL Tuckaleechee C 49.27 89 LR LR 12 56 18.7
comp=N,36nm,19.8s,baz=16,slow=35
CN2 Changchun 49.39 289 eP P 12 36 17.3 -0.8
CN2 pmax pmax
comp=Z,40nm,0.7s
ARCES ARCESS Array B 49.43 1 P P 12 36 17.8 -0.2
comp=Z,1.3nm,0.6s,baz=15,slow=7.5,SNR=5.8
ARCES PcP PcP 12 37 38.0 0.0
comp=Z,3.9nm,0.6s,baz=357,slow=4.1,SNR=13
comp=Z,1.3nm,0.6s
KSRS Korea Array 53.26 282 P P 12 36 47.6 +0.6
comp=Z,7.5nm,0.8s,baz=31,slow=7.0,SNR=21
KSRS pP pP 12 37 20.8 +1.2
comp=Z,3.1nm,0.8s,baz=28,slow=7.1,SNR=3.7
KSRS PcP PcP 12 37 53.2 +0.5
comp=Z,2.2nm,0.7s,baz=42,slow=4.1,SNR=4.3
comp=Z,7.5nm,0.8s
KSAR Wonju Array Be 53.29 282 P P 12 36 46.1 -1.1
XLT XiLinHaoTe 53.48 296 eP P 12 36 50.5 +1.8
XLT pmax pmax
comp=Z,9.0nm,0.7s
XLT pmax pmax
comp=Z,150nm,3.9s
ULN Ulaanbaatar 54.04 305 P P 12 36 53.3 +0.5
ULN IAmb IAmb 12 36 54.1
comp=Z,7.7nm,0.8s
SONM Songino Array 54.32 306 P P 12 36 55.7 +1.0
comp=Z,14nm,0.8s,baz=36,slow=7.4,SNR=52
comp=Z,14nm,0.8s
SONM Songino Array 54.32 306 P P 12 36 55.1 +0.4
SONM IAmb IAmb 12 36 56.7
comp=Z,13nm,0.8s
ZAA0 Zalesovo Array 56.53 324 P P 12 37 10.1 -0.2
ZALV Zalesovo Beam 56.53 324 P P 12 37 10.0 -0.2
comp=Z,10nm,0.6s,baz=30,slow=7.0,SNR=49
comp=Z,10nm,0.6s
ZALV Zalesovo Beam 56.53 324 P P 12 37 09.4 -0.9
NB2 NORSAR Subarra 57.31 9 P P 12 37 14.9 -0.8
comp=Z,3.9nm,0.7s,baz=352,slow=6.9
NOA NORSAR Array B 57.31 9 P P 12 37 15.3 -0.4
comp=Z,2.7nm,0.6s,baz=351,slow=7.0,SNR=13
comp=Z,2.7nm,0.6s
FINES FINESS Array B 57.56 1 P P 12 37 16.7 -0.6
comp=Z,3.0nm,0.7s,baz=10,slow=8.5,SNR=12
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 57.82 353 eP P 12 37 16.9 -2.3
KLMR AMP 12 37 21.5
comp=Z,17nm,1.1s
HHC Hu-ho-hao-te 57.91 297 eP P 12 37 24.0 +3.7
HHC pmax pmax
comp=Z,42nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.5s
ARU Arti 60.12 341 LR LR 13 05 03.4
comp=Z,18nm,20.4s,baz=322,slow=37
ARU Arti 60.12 341 P P 12 37 34.5 -0.6
BRVK Borovoye 61.07 332 P P 12 37 41.1 -0.5
BVAR Borovoye Array 61.08 332 LR LR 13 08 07.5
comp=Z,30nm,18.9s,baz=13,slow=40
KURK Kurchatov 61.15 326 P P 12 37 41.4 -0.8
NJ2 Nanjing 61.94 286 eP P 12 37 46.7 -1.0
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
LYN LuoYang 62.76 292 ⇑P P 12 37 52.3 -0.8
LYN pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 63.63 321 IAmb IAmb 12 37 58.9
comp=Z,4.4nm,0.8s
MKAR Makanchi Array 63.63 321 P P 12 37 58.2 -0.6
comp=Z,6.5nm,0.8s,baz=43,slow=6.3,SNR=40
comp=Z,6.5nm,0.8s
MAKZ Makanchi 63.72 322 P P 12 37 58.9 -0.4
MAKZ IAmb IAmb 12 37 59.5
comp=Z,6.7nm,0.7s
GTA Gaotai 63.98 305 eP P 12 38 01.1 -0.2
GTA pP PcP 12 38 36.3 +0.8
GTA sP sP 12 38 52.5 +2.3
GTA pmax pmax
comp=Z,16nm,1.2s
WMQ Urumqi 64.57 316 eP P 12 38 07.6 +2.6
LZH Lanzhou 65.19 300 eP P 12 38 09.7 +0.5
LZH pP PcP 12 38 19.7 -21
LZH sP pP 12 38 23.7 -19
LZH pmax pmax
comp=Z,35nm,1.1s
WHN Wuhan 65.28 289 P P 12 38 09.2 -0.4
ABKAR Akbulak array 66.78 338 IAmb IAmb 12 38 19.2
comp=Z,5.6nm,0.7s
CHVC Chvalec 68.05 8 eP P 12 38 27.7 +0.7
DPC Dobruska-Polom 68.31 8 eP P 12 38 29.3 +0.7
AKASG Malin Array Be 68.33 359 P P 12 38 28.1 -0.5
comp=Z,3.5nm,0.5s,baz=3.8,slow=6.1,SNR=27
AKASG pP pP 12 39 01.5 -1.0
comp=Z,4.9nm,0.8s,baz=1.5,slow=6.4,SNR=2.0
comp=Z,3.5nm,0.5s
PRU Pruhonice 68.54 9 eP P 12 38 30.5 +0.5
KRLC Kraliky 68.61 8 eP P 12 38 31.0 +0.5
GOMU GeErMu 68.72 307 P P 12 38 32.8 +1.0
GOMU pmax pmax
comp=Z,13nm,0.6s
GOMU pmax pmax
comp=Z,87nm,5.0s
MORC Moravsky Berou 68.95 7 eP P 12 38 32.8 +0.2
KHC Kasperske Hory 69.31 10 P P 12 38 34.6 -0.3
KHC IAmb IAmb 12 38 36.6
comp=Z,4.8nm,0.8s
KHC Kasperske Hory 69.31 10 eP P 12 38 35.7 +0.9
VRAC Vranov 69.36 8 eP P 12 38 35.4 +0.3
KRUC Moravsky 69.59 8 eP P 12 38 36.7 +0.2
GERES GERESS Array B 69.61 10 P P 12 38 36.8 +0.1
comp=Z,1.7nm,0.6s,baz=350,slow=3.2,SNR=14
comp=Z,1.7nm,0.6s
CD2 Chengdu 69.67 297 eP P 12 38 38.0 +0.7
LANS Liptovska Anna 69.68 6 eP P 12 38 38.2 +1.1
AAK Ala-Archa 69.69 325 P P 12 38 37.9 +0.5
AAK IAmb IAmb 12 38 38.4
comp=Z,7.5nm,0.8s
JAVC Velka Javorina 69.88 7 eP P 12 38 39.7 +1.4
KOLS Kolonicke sedl 70.01 4 eP P 12 38 39.6 +0.5
VYHS Vyhne 70.31 6 eP P 12 38 41.3 +0.4
MODS Modra-Piesok 70.34 7 eP P 12 38 41.9 +0.8
MOA Molln 70.64 10 eP P 12 38 42.6 -0.3
comp=Z,2.9nm,0.9s
CONA Conrad Observa 70.69 8 eP P 12 38 43.9 +0.6
comp=Z,5.7nm,0.7s
BIOA Bad Ischl, Aus 70.75 10 eP P 12 38 43.6 0.0
comp=Z,2.9nm,0.4s
MOTA Moosalm 70.86 12 eP P 12 38 44.8 +0.4
comp=Z,2.4nm,0.6s
WATA Walderalm 70.91 12 eP P 12 38 44.9 +0.2
comp=Z,9.3nm,1.1s
RONA Rosalia, Austr 70.94 8 eP P 12 38 45.6 +0.8
comp=Z,0.7nm,0.4s
WTTA Wattenberg 70.99 12 eP P 12 38 45.4 +0.1
comp=Z,7.5nm,0.7s
SQTA Sankt Quirin 70.99 12 eP P 12 38 46.0 +0.8
comp=Z,9.7nm,1.0s
FETA Feichten 71.14 12 eP P 12 38 46.7 +0.5
comp=Z,4.3nm,1.0s
KBA Koelnbreinsper 71.33 10 eP P 12 38 48.4 +1.1
comp=Z,10nm,0.6s
BUR08 Bucovina Ar. S 71.37 2 P P 12 38 48.0 +0.5
ABTA Abfaltersbach 71.59 11 eP P 12 38 49.9 +1.2
comp=Z,1.2nm,0.6s
MYKA Terra Mystica 71.80 10 eP P 12 38 50.6 +0.6
comp=Z,3.2nm,0.5s
SOKA Soboth 71.87 9 eP P 12 38 50.6 +0.2
comp=Z,2.2nm,0.5s
OBKA Obir 72.00 10 eP P 12 38 51.6 +0.4
comp=Z,15nm,0.6s
GAR Garm 74.21 327 IAmb IAmb 12 39 05.1
comp=Z,13nm,0.8s
PZH PanZhiHua 74.37 297 P P 12 39 05.0 -0.4
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,90nm,5.5s
KBZ Khabaz 74.59 349 P P 12 39 06.4 +0.1
comp=Z,5.6nm,0.9s,baz=23,slow=6.7,SNR=6.4
comp=Z,5.6nm,0.9s
ESDC Sonseca Array 76.10 25 P P 12 39 15.4 +0.4
comp=Z,1.8nm,1.0s,baz=336,slow=4.7,SNR=7.5
ESDC pP pP 12 39 48.5 -1.2
comp=Z,2.0nm,0.8s,baz=344,slow=5.7,SNR=6.9
comp=Z,1.8nm,1.0s
GEYT Alibeck 78.05 336 P P 12 39 26.2 +0.2
comp=Z,3.3nm,0.7s,baz=338,slow=3.1,SNR=4.2
comp=Z,3.3nm,0.7s
BRTR Keskin Array B 79.19 355 P P 12 39 32.5 +0.1
comp=Z,2.6nm,0.7s,baz=8.4,slow=3.1,SNR=7.5
comp=Z,2.6nm,0.7s
TAPN Taplejung 79.31 308 eP P 12 39 33.8 +0.4
comp=Z,84nm,0.5s
GUN Gumba 79.49 310 eP P 12 39 34.7 +0.3
JIRN Jiri 79.60 310 eP P 12 39 35.6 +0.6
comp=Z,82nm,0.8s
GKN Gorkha 79.86 311 eP P 12 39 36.4 +0.3
comp=Z,38nm,0.5s
DANN Dangsing 79.86 312 eP P 12 39 36.7 +0.4
comp=Z,141nm,0.7s

PKIN	**Phulchoki**	**79.97**	**310**	*eP*	**P**	**12 39 36.7**	**-0.2**
PKI	**Pulchoki**	**79.97**	**310**	*eP*	**P**	**12 39 36.9**	**-0.1**
DMN	**Daman**	**80.05**	**311**	*eP*	**P**	**12 39 37.7**	**+0.4**
RAMN	**Ramite**	**80.09**	**309**	*eP*	**P**	**12 39 37.6**	**+0.1**
	comp=Z,68nm,0.9s						
PYUN	**Piuthan**	**80.36**	**313**	*eP*	**P**	**12 39 39.0**	**+0.1**
	comp=Z,81nm,0.9s						
KOLN	**Koldanda**	**80.45**	**312**	*eP*	**P**	**12 39 38.7**	**-0.6**
KEST	**Kesra**	**82.13**	**15**	P	**P**	**12 39 48.3**	**+0.4**
	comp=Z,6.0nm,0.9s,baz=329,slow=6.7,SNR=5.9						
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**82.65**	**295**	P	**P**	**12 39 50.5**	**-0.2**
	comp=Z,9.2nm,0.9s,baz=7.3,slow=6.1,SNR=41						
	comp=Z,9.2nm,0.9s						
WRA	**Warramunga Arr**	**99.64**	**246**	P	**Pdif**	**12 41 08.5**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=34,slow=5.5,SNR=8.9						
PLCA	**Paso Flores**	**121.09**	**119**	PKP	**PKPdf**	**12 46 18.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=302,slow=5.6,SNR=5.6						
BOSA	**Boshof**	**147.25**	**4**	PKPbc	**PKPbc**	**12 47 09.3**	**-0.3**
	comp=Z,12nm,0.6s,baz=3.5,slow=2.4,SNR=34						
MAW	**Mawson**	**163.80**	**232**	PKPab	**PKPab**	**12 48 19.6**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=109,slow=3.7,SNR=7.7						

*GUC **01** 12:27:53.8±0.6, 18°.79S×69°.42W, h95km±4km, ML3.4*
*IDC **01** 12:27:55.4±2.5, 18°.85S×69°.06W, h126km±20km, mb3.3/1, mbtmp3.3/4, Error ellipse: s-maj=59.1km s-min=26.2km az=106.0*

ISC 01 12:27:51.8±1.0, **18°.73S**±0°.05×**69°.37W**±0°.09, **h107**km±10km, **n12**, σ**2**°**79**/19, **2C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.42**	**342**	⇑*eP*	**Pn**	**12 28 09.9**	**+1.3**
PB16				*eS*	**Sn**	**12 28 22.2**	**+1.2**
PB16				IAML		12 28 24.0	
	comp=E,3μm,0.5s						
PB12	**IPOC Station P**	**0.92**	**277**	⇑*eP*	**Pn**	**12 28 11.9**	**-0.1**
PB12				*eS*	**Sn**	**12 28 26.2**	**-1.0**
PB12				IAML		12 28 27.7	
	comp=N,2μm,0.2s						
AP01	**Chacalluta**	**0.99**	**291**	*eP*	**Pn**	**12 28 12.9**	**+0.3**
AP01				*i* S	**Sn**	**12 28 28.2**	**-0.1**
AP01				IAML		12 28 29.3	
	comp=E,3μm,0.3s						
TA01	**Diego Aracena**	**1.98**	**203**	*eP*	**Pn**	**12 28 24.4**	**+0.1**
PB01	**IPOC Station P**	**2.30**	**183**	*eP*	**Pn**	**12 28 28.9**	**+0.3**
PB01				*eS*	**Sn**	**12 28 55.6**	**-1.2**
PB01				IAML		12 29 01.1	
	comp=E,92nm,0.3s						
PB02	**IPOC Station P**	**2.62**	**191**	*eP*	**Pn**	**12 28 33.2**	**+0.3**
PB02				*eS*	**Sn**	**12 28 59.0**	**-5.4**
PB02				IAML		12 29 13.2	
	comp=E,122nm,0.4s						
LPAZ	**La Paz**	**2.70**	**26**	P	**Pn**	**12 28 38.5**	**+4.1**
	comp=E,2.0nm,0.5s,baz=207,slow=7.4,SNR=13						
LPAZ				S	**Sn**	**12 28 59.8**	**-7.2**
	comp=E,2.2nm,0.4s,baz=191,slow=9.7,SNR=6.2						
PB07	**IPOC Station P**	**3.02**	**189**	*eP*	**Pn**	**12 28 39.0**	**+0.8**
LVC	**Limon Verde**	**3.88**	**174**	P	**Pn**	**12 28 51.8**	**+2.0**
	comp=E,2.8nm,0.3s,baz=359,slow=10,SNR=3.6						
LVC				S	**Sn**	**12 29 34.4**	**-0.4**
	comp=E,7.5nm,0.3s,baz=37,slow=20,SNR=20						
SIV	**San Ignacio**	**8.38**	**72**	P	**Pn**	**12 29 51.4**	**+0.9**
	comp=E,1.1nm,0.4s,baz=245,slow=14,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.86**	**71**	P	**P**	**12 39 32.3**	**-0.3**
	comp=E,0.5nm,0.7s,baz=248,slow=7.4,SNR=2.8						
	comp=E,0.5nm,0.7s						
WRA	**Warramunga Arr**	**135.08**	**212**	PKP	**PKiKP**	**12 47 01.3**	**+0.4**
	comp=E,0.6nm,1.1s,baz=158,slow=2.8,SNR=1.4						

ROM 01 12:28:24.9±0.1, **42°.663N**±0°.004×**13°.249E**±0°.005, **h12**km, **ML1.8**/12, **3C-5D, Error ellipse: s-maj=0.4km s-min=0.2km az=216.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.04**	**336**	⇓P	Pg	12 28 27.6	+0.3
T1202				S	Sg	12 28 29.5	+0.5
T1202				AML	AML		
	comp=E,3146μm,0.1s						
T1202				AML	AML		
	comp=N,2645μm,0.1s						
T1202				AML	AML		
	comp=E,3148μm,0.1s						
T1204	**Amatrice, Fraz**	**0.05**	**75**	P	Pg	12 28 27.6	+0.2
T1204				S	Sg	12 28 29.2	0.0
SMA1	**SAN MARTINO**	**0.07**	**117**	⇓P	Pg	12 28 27.8	+0.4
SMA1				S	Sg	12 28 29.6	+0.3
SMA1				AML	AML		
	comp=N,2360μm,0.4s						
SMA1				AML	AML		
	comp=E,3110μm,0.2s						
T1244	**Arquata del Tr**	**0.10**	**21**	⇓P	Pg	12 28 28.2	+0.4
T1244				S	Sg	12 28 30.4	+0.5
T1244				AML	AML		
	comp=E,551μm,0.3s						
T1244				AML	AML		
	comp=N,706μm,0.2s						
T1243	**Rocca Santa Ma**	**0.15**	**77**	⇑P	Pg	12 28 28.9	+0.4
T1243				S	Sg	12 28 31.5	+0.4
RM33	**Pellescritta (**	**0.16**	**189**	P	Pg	12 28 29.0	+0.5
RM33				S	Sg	12 28 31.8	+0.6
RM33				AML	AML		
	comp=E,278μm,0.9s						
RM33				AML	AML		
	comp=N,201μm,1.1s						
RM33				AML	AML		
	comp=E,278μm,0.9s						
RM33				AML	AML		
	comp=N,200μm,1.1s						
LNSS	**Leonessa**	**0.17**	**249**	⇑P	Pg	12 28 29.1	+0.4
LNSS				S	Sg	12 28 32.1	+0.7
LNSS				AML	AML		
	comp=E,276μm,0.2s						
LNSS				AML	AML		
	comp=N,270μm,0.3s						
LNSS				AML	AML		
	comp=E,276μm,0.2s						
T1242	**Castelluccio d**	**0.17**	**349**	P	Pg	12 28 29.4	+0.6
T1242				AML	AML		
	comp=E,1320μm,0.4s						
T1242				AML	AML		
	comp=N,1510μm,0.2s						
NRCA	**Norcia**	**0.20**	**330**	P	Pg	12 28 29.6	+0.4
NRCA				S	Sg	12 28 33.1	+0.8
NRCA				AML	AML		
	comp=E,1030μm,0.1s						
NRCA				AML	AML		
	comp=N,1315μm,0.1s						
T1241	**Roccafluvione,**	**0.23**	**35**	P	Pg	12 28 30.3	+0.4
T1241				S	Sg	12 28 34.3	+1.0
T1241				AML	AML		
	comp=E,322μm,0.2s						
T1241				AML	AML		
	comp=N,222μm,0.4s						
TERO	**Teramo**	**0.27**	**99**	P	Pg	12 28 30.6	+0.3
TERO				S	Sg	12 28 34.8	+0.7
TERO				AML	AML		
	comp=E,229μm,0.3s						
TERO				AML	AML		
	comp=N,250μm,1.2s						
TERO				AML	AML		
	comp=E,228μm,0.3s						
T1215	**Vallo di Nera,**	**0.31**	**296**	⇑P	Pg	12 28 31.4	+0.2
T1215				S	Sg	12 28 36.4	+0.9
GIGS	**Gran Sasso**	**0.32**	**132**	P	Pg	12 28 31.6	+0.2
GIGS				S	Sg	12 28 36.5	+0.9
GIGS				AML	AML		
	comp=N,33μm,0.6s						
GIGS				AML	AML		
	comp=E,41μm,0.1s						
GIGS				AML	AML		
	comp=N,33μm,0.6s						
ARRO	**Arrone**	**0.37**	**257**	P	Pg	12 28 32.4	+0.2
ARRO				S	Sb	12 28 38.3	-0.8
VCEL	**Villa Celiera**	**0.51**	**121**	⇓P	Pb	12 28 35.5	-0.5
VCEL				S	Sb	12 28 44.2	+0.9
VCEL				AML	AML		
	comp=E,104μm,0.2s						
VCEL				AML	AML		
	comp=N,100μm,0.6s						
SSM1	**San Severino M**	**0.57**	**355**	S	Sb	12 28 46.0	+1.1
RMP	**Rome, Mte Porz**	**0.94**	**206**	⇓P	Pb	12 28 43.3	+0.2
APEC	**Apecchio**	**1.08**	**326**	S	Sg	12 28 60.0	+0.2

ROM 01 12:28:46.2±0.1, **42°.844N**±0°.003×**13°.262E**±0°.005, **h9**km, **ML1.6**/6, **1C-2D, Error ellipse: s-maj=0.4km s-min=0.2km az=63.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**252**	P	Pg	12 28 48.2	0.0
T1242				S	Sg	12 28 49.3	-0.4
T1242				AML	AML		
	comp=E,1320μm,0.4s						
T1242				AML	AML		
	comp=N,1510μm,0.2s						
MMO1	**Montemonaco**	**0.07**	**40**	⇑P	Pg	12 28 48.6	+0.1
MMO1				S	Sg	12 28 50.0	-0.2
MMO1				AML	AML		
	comp=E,792μm,0.7s						
MMO1				AML	AML		
	comp=N,588μm,0.4s						
MC2	**Monte Cornacci**	**0.09**	**323**	P	Pg	12 28 49.1	+0.3
MC2				S	Sg	12 28 51.0	+0.4
MC2	**Monte Cornacci**	**0.09**	**323**	⇓P	Pg	12 28 49.1	+0.3
MC2				S	Sg	12 28 50.8	+0.2
T1244	**Arquata del Tr**	**0.09**	**163**	P	Pg	12 28 49.1	+0.4
T1244				S	Sg	12 28 51.1	+0.7
NRCA	**Norcia**	**0.11**	**265**	P	Pg	12 28 49.3	+0.4
NRCA				S	Sg	12 28 51.4	+0.6
NRCA				AML	AML		
	comp=E,1030μm,0.1s						
NRCA				AML	AML		
	comp=N,1315μm,0.1s						
T1241	**Roccafluvione,**	**0.12**	**84**	P	Pg	12 28 49.6	+0.5
T1241				S	Sg	12 28 52.0	+0.9
T1202	**Accumoli, Fraz**	**0.14**	**191**	P	Pg	12 28 50.2	+0.7
T1202				S	Sg	12 28 53.3	+1.6
T1204	**Amatrice, Fraz**	**0.17**	**167**	P	Pg	12 28 50.6	+0.7
T1204				S	Sg	12 28 53.8	+1.2
T1243	**Rocca Santa Ma**	**0.20**	**137**	P	Pg	12 28 50.9	+0.5
T1243				S	Sg	12 28 54.3	+1.0
SMA1	**SAN MARTINO**	**0.22**	**166**	⇓P	Pg	12 28 51.3	+0.5
SMA1				S	Sg	12 28 55.1	+1.2
GUMA	**Gualdo di Mace**	**0.23**	**14**	P	Pg	12 28 51.8	+0.9
GUMA				S	Sg	12 28 56.0	+2.0
GUMA				AML	AML		
	comp=E,207μm,0.3s						
GUMA				AML	AML		
	comp=N,236μm,0.4s						
FDMO	**Fiordimonte**	**0.23**	**326**	P	Pg	12 28 51.6	+0.6
FDMO				S	Sg	12 28 55.7	+1.5
FDMO				AML	AML		
	comp=E,87μm,0.7s						
FDMO				AML	AML		
	comp=N,141μm,0.3s						
FDMO				AML	AML		
	comp=N,141μm,0.3s						
FDMO				AML	AML		
	comp=E,87μm,0.7s						
FDMO	**Fiordimonte**	**0.23**	**326**	P	Pg	12 28 51.5	+0.5
FDMO				S	Sg	12 28 55.7	+1.5
FDMO				AML	AML		
	comp=E,87μm,0.7s						
FDMO				AML	AML		
	comp=N,140μm,0.3s						
FDMO				AML	AML		
	comp=N,141μm,0.3s						
CSP1	**Cessapalombo**	**0.25**	**350**	P	Pg	12 28 52.0	+0.6
CSP1				S	Sb	12 28 56.5	-1.1
CSP1	**Cessapalombo**	**0.25**	**350**	P	Pg	12 28 52.1	+0.7
CSP1				S	Sb	12 28 56.5	-1.1
CSP1				AML	AML		
	comp=N,160μm,1.3s						
CSP1				AML	AML		
	comp=E,90μm,1.6s						
LNSS	**Leonessa**	**0.29**	**214**	P	Pg	12 28 52.7	+0.6
LNSS				S	Sb	12 28 58.1	-0.6
T1215	**Vallo di Nera,**	**0.29**	**262**	P	Pg	12 28 52.6	+0.5
T1215				S	Sb	12 28 57.9	-0.8
CESI	**CESI - Serrava**	**0.31**	**302**	P	Pg	12 28 53.0	+0.5
CESI				AML	AML		
	comp=N,266μm,0.2s						
CESI				AML	AML		
	comp=E,161μm,0.2s						
OFFI	**Offida**	**0.32**	**73**	P	Pb	12 28 54.3	+0.1
TERO	**Teramo**	**0.34**	**131**	P	Pg	12 28 53.3	+0.4
TERO				S	Sb	12 28 58.7	-1.2
RM33	**Pellescritta (**	**0.34**	**186**	P	Pg	12 28 53.6	+0.7
RM33				S	Sb	12 28 59.4	-0.6
GIGS	**Gran Sasso**	**0.45**	**150**	P	Pg	12 28 55.1	0.0

IDC 01 12:48:05.4±7.9, **46°.72S**×**126°.15E, h0**km, **mb3.2**/2, **mbtmp3.3**/3, **ML3.4**/1, **Error ellipse: s-maj=124.6km s-min=109.2km az=161.0, South of Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**18.99**	**44**	P	P	12 52 28.5	+0.1
	0.1nm,0.3s,baz=220,slow=9.9,SNR=4.0						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**23.83**	**18**	P	P	12 53 20.5	+0.4
	0.5nm,0.6s,baz=190,slow=9.9,SNR=9.6						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**27.54**	**17**	P	P	12 53 53.3	-0.5
	0.2nm,0.8s,baz=191,slow=11,SNR=1.6						
	0.2nm,0.8s						

*IDC **01** 12:55:49.9±1.1, 7°.65S×158°.17E, h0km, mb3.8/5, mbtmp3.9/6, ML4.8/1, MS3.2/2, Error ellipse: s-maj=31.9km s-min=25.2km az=122.0*

ISC 01 12:55:55.0±1.0, **7°.7S**±0°.1×**158°.2E**±0°.2, **h35**km, **n14**, σ**0**°**64**/7, **mb3.8**/5, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.42**	**134**	Pn	**Pn**	**12 56 31.9**	**-0.1**
	202nm,0.3s,baz=235,slow=8.4,SNR=41						
HNR				Sn	**Sn**	**12 57 00.8**	**+0.3**
	123nm,0.3s,baz=288,slow=20,SNR=7.4						
	778nm,0.4s						
GUMO	**Guam**	**24.98**	**328**	LR	LR	13 11 40.2	
	comp=Z,23nm,18.7s,baz=204,slow=38						
WRA	**Warramunga Arr**	**26.10**	**240**	P	**P**	**13 01 26.4**	**+0.6**
	1.2nm,0.6s,baz=65,slow=8.9,SNR=21						
	1.2nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.38**	**18**	T	T	13 29 59.0	
	baz=198,slow=76,SNR=265						
H11S2	**WAKE ISLAND Hy**	**27.38**	**18**	T	T	13 29 58.6	
	baz=198,slow=76,SNR=251						
H11S1	**WAKE ISLAND Hy**	**27.39**	**18**	T	T	13 30 00.2	
	baz=198,slow=76,SNR=463						
ASAR	**Alice Springs**	**28.17**	**233**	P	**P**	**13 01 44.1**	**-0.2**
	0.3nm,0.5s,baz=62,slow=9.4,SNR=9.1						
	0.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**28.59**	**17**	T	T	13 31 21.7	
	baz=198,slow=76,SNR=127						
H11N3	**WAKE ISLAND Hy**	**28.60**	**17**	T	T	13 31 30.1	
	baz=198,slow=76,SNR=118						
H11N2	**WAKE ISLAND Hy**	**28.61**	**17**	T	T	13 31 30.8	
	baz=198,slow=76,SNR=73						
PETK	**Petropavlovsk-**	**60.61**	**360**	P	**P**	**13 06 02.8**	**+0.8**
	1.4nm,0.8s,baz=133,slow=8.1,SNR=1.8						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**82.92**	**21**	P	**P**	**13 08 15.2**	**-0.7**
	0.8nm,0.9s,baz=244,slow=3.9,SNR=4.8						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**86.06**	**318**	P	**P**	**13 08 32.0**	**-0.2**
	0.6nm,0.6s,baz=101,slow=6.6,SNR=5.4						
	0.6nm,0.6s						
DLBC	**Dease Lake**	**87.17**	**30**	LR	LR	13 43 57.1	
	comp=Z,28nm,18.5s,baz=320,slow=33						

*KRNET **01** 12:59:46.7±0.1, 39°.36N×73°.00E, h21km, mb3.0*
*IDC **01** 12:59:47.6±0.9, 38°.57N×72°.62E, h0km, mb3.9/13, mbtmp3.9/20, ML3.5/7, MS3.2/2, Error ellipse: s-maj=17.0km s-min=15.4km az=168.0*
*MOS **01** 12:59:49.8±1.6, 38°.60N×72°.61E, h24km, mb4.4/7, Error ellipse: s-maj=12.9km s-min=7.1km az=88.0*
*SOME **01** 12:59:50.5, 38°.87N×73°.07E, h15km*
*NNC **01** 12:59:56.7±2.6, 39°.14N×72°.97E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=21.8km s-min=12.9km az=170.0*

*BJI **01** 12:59:59.0±0.0, 39°.07N×73°.05E, h98km, mb4.3/3*

ISC 01 12:59:51.8±0.6, **39°.12N**±0°.04×**72°.83E**±0°.03, **h10**km, **n92**, σ**2**°**54**/101, **mb4.1**/19, **16C-14D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.88**	**294**	⇓*i*P	Pg	13 00 04.3	-4.4
	baz=78						
DRK				⇓*i*S	**Sg**	**13 00 17.1**	**-3.1**
	baz=78						
OHH	**Osh**	**1.40**	**359**	⇓*i*P	Pn	13 00 08.3	-9.2
	baz=52						
OHH				⇓*i*S	Sb	13 00 24.2	-12
	baz=52						
BTK	**Batken**	**1.82**	**302**	⇑*i*P	**Pn**	**13 00 19.7**	**-3.5**
	baz=93						
BTK				⇑*i*S	**Sn**	**13 00 43.8**	**-2.5**
	baz=93						
GAR	**Garm**	**1.96**	**267**	⇓*i*P	**Pn**	**13 00 23.5**	**-1.7**
	baz=61						
GAR				⇓*i*S	**Sn**	**13 00 50.5**	**+0.5**
	baz=61						
KSH	**Kashi**	**2.47**	**80**	P	**Pn**	**13 00 31.4**	**-0.8**
KSH				S	**Sn**	**13 01 02.1**	**-0.4**
KSH				pmax	pmax		
	comp=Z,710nm,0.7s						
KSH				smax	smax		
	comp=N,380nm,0.7s						
KSH				smax	smax		
	comp=E,310nm,1.2s						
TRKS	**Terek-Say**	**2.73**	**332**	⇑*i*P	Pn	13 00 29.2	-6.7
	baz=27						
TRKS				⇑*i*S	**Sn**	**13 01 00.6**	**-8.4**
	baz=27						
ARLS	**Aral**	**2.96**	**22**	⇓*i*P	Pn	13 00 32.0	-7.1
	baz=22						
ARLS				⇓*i*S	Sn	13 01 04.5	-10
	baz=22						
AML	**Almayashu**	**3.08**	**12**	P	**Pb**	**13 00 47.4**	**+0.5**
	SNR=52						
NRN	**Naryn**	**3.35**	**45**	⇑*i*P	Pn	13 00 36.7	-7.8
	baz=47						
NRN				⇑*i*S	Sn	13 01 13.8	-11
	baz=47						
UCH	**Uchtor**	**3.36**	**22**	P	**Pb**	**13 00 52.2**	**+0.6**
	SNR=15						
EKS2	**Erkin-Say**	**3.61**	**11**	P	**Pg**	**13 00 59.2**	**-1.7**
	SNR=18						
IUG	**Iuzhnay**	**3.70**	**326**	*e*P	**Pg**	**13 01 04.2**	**+1.6**
	3μm,0.6s						
IUG				*e*S	**Sg**	**13 01 57.2**	**+6.7**
	189nm,0.7s						
IUG	**Iuzhnay**	**3.70**	**326**	Pg	**Pg**	**13 01 04.2**	**+1.6**
	3μm,0.6s						
IUG				Lg	Lg	13 01 57.2	
	189nm,0.7s						
AAK	**Ala-Archa**	**3.73**	**19**	P	**Pb**	**13 00 59.9**	**+2.0**
	SNR=24						
AAK	**Ala-Archa**	**3.73**	**19**	Pn	**Pb**	**13 00 57.7**	**-0.2**
	7.6nm,0.3s,baz=203,slow=7.3,SNR=28						
AAK				Sn	**Sg**	**13 01 47.7**	**-4.0**
	1.9nm,0.3s,baz=156,slow=20,SNR=13						
AAK				LR	LR	13 02 28.4	
	comp=Z,56nm,19.7s,baz=216,slow=37						
	26nm,0.5s						
AAK	**Ala-Archa**	**3.73**	**19**	*ce*PN	**Pb**	**13 00 57.2**	**-0.7**
AAK				pmax	pmax		
	comp=Z,19nm,0.6s						
KBK	**Karagaybulak**	**3.88**	**24**	P	**Pb**	**13 01 02.8**	**+2.4**
	SNR=7.6						
ULHL	**Ulahol**	**4.06**	**39**	P	**Pb**	**13 01 05.9**	**+2.5**
	SNR=6.6						
CHMS	**Chumysh**	**4.14**	**20**	P	**Pb**	**13 01 05.2**	**+0.5**
	SNR=17						
USP	**Ospenovka**	**4.33**	**16**	P	**Pb**	**13 01 08.3**	**+0.3**
	SNR=6.3						
TKM2	**Tokmak 2**	**4.33**	**28**	P	**Pb**	**13 01 04.7**	**-3.4**
	SNR=13						
TKM2	**Tokmak 2**	**4.33**	**28**	⇑Pn	**Pb**	**13 01 06.8**	**-1.4**
	comp=Z,4.7nm,0.5s						
TKM2				⇓Pg	**Pg**	**13 01 18.5**	**+3.7**
	comp=Z,16nm,0.7s						
TKM2				⇑Lg	Lg	13 02 22.3	
	comp=Z,45nm,0.9s						
KK31	**Karatay Array**	**4.35**	**337**	⇓Pn	**Pn**	**13 01 01.7**	**+3.8**
	comp=Z,17nm,0.3s,baz=148,slow=13,SNR=7.3						
KK31				⇓Sn	**Sb**	**13 01 57.4**	**-3.4**
	comp=Z,20nm,0.5s,baz=156,slow=24,SNR=4.9						
SGDS	**Sogindy**	**4.54**	**17**	*eP*	**Pg**	**13 01 17.1**	**-1.5**
	comp=Z,11nm,0.3s						
SGDS				*eS*	**Sg**	**13 02 19.5**	**+2.2**
	comp=Z,22nm,0.4s						
SGDS	**Sogindy**	**4.54**	**17**	Pg	**Pg**	**13 01 17.1**	**-1.5**
	comp=Z,11nm,0.3s						
SGDS				Lg	Lg	13 02 19.5	
	comp=Z,22nm,0.4s						
KST	**Kastek**	**4.58**	**30**	*eP*	**Pg**	**13 01 16.6**	**-2.8**
	comp=Z,14nm,0.6s						
KST				*eS*	**Sg**	**13 02 18.4**	**-0.4**
	comp=Z,24nm,0.6s						
KST	**Kastek**	**4.58**	**30**	Pg	**Pg**	**13 01 16.6**	**-2.8**
	comp=Z,14nm,0.6s						
KST				Lg	Lg	13 02 18.4	
	comp=Z,24nm,0.6s						
DGS	**Degeres**	**4.68**	**27**	*eP*	**Pg**	**13 01 19.1**	**-2.3**
	comp=Z,24nm,0.4s						
DGS				*eS*	**Sg**	**13 02 22.9**	**+1.0**
	comp=Z,30nm,0.4s						
DGS	**Degeres**	**4.68**	**27**	Pg	**Pg**	**13 01 19.1**	**-2.3**
	comp=Z,24nm,0.4s						
DGS				Lg	Lg	13 02 22.9	
	comp=Z,30nm,0.4s						
MTBS	**Maitube**	**4.84**	**33**	*eP*	**Pg**	**13 01 21.2**	**-3.3**
	comp=Z,9.8nm,0.3s						
MTBS				*eS*	**Sg**	**13 02 26.2**	**-1.0**
	comp=Z,20nm,0.6s						
MTBS	**Maitube**	**4.84**	**33**	Pg	**Pg**	**13 01 21.2**	**-3.3**
	comp=Z,9.8nm,0.3s						
MTBS				Lg	Lg	13 02 26.2	
	comp=Z,20nm,0.6s						
IZV	**Izvestkoviy**	**4.84**	**35**	*eP*	**Pg**	**13 01 20.1**	**+3.3**
	comp=Z,6.5nm,0.1s						
IZV				*eS*	**Sg**	**13 02 24.8**	**-2.5**
	comp=Z,39nm,0.4s						
IZV	**Izvestkoviy**	**4.84**	**35**	Pg	**Pb**	**13 01 20.1**	**+3.3**
	comp=Z,6.5nm,0.1s						
IZV				Lg	Lg	13 02 24.7	
	comp=Z,39nm,0.4s						
TNSS	**Tian-Shan**	**5.00**	**37**	Pg	**Pb**	**13 01 23.9**	**+4.3**
	comp=Z,12nm,0.4s						
TNSS				Lg	Lg	13 02 31.5	
	comp=Z,44nm,0.6s						
KRBS	**Karabastau**	**5.05**	**24**	*eP*	**Pg**	**13 01 27.5**	**-1.0**
	comp=Z,7.2nm,0.5s						
KRBS				*eS*	**Sg**	**13 02 37.4**	**+3.7**
	comp=Z,14nm,0.7s						
KRBS	**Karabastau**	**5.05**	**24**	Pg	**Pg**	**13 01 27.5**	**-1.0**
	comp=Z,7.2nm,0.5s						
KRBS				Lg	Lg	13 02 37.4	
	comp=Z,14nm,0.7s						
AAA	**Alma-Ata**	**5.12**	**36**	*eP*	**Pg**	**13 01 27.0**	**-2.7**
	comp=Z,27nm,0.2s						
AAA				*eS*	**Sg**	**13 02 36.7**	**+0.6**
	comp=Z,56nm,0.4s						
AAA	**Alma-Ata**	**5.12**	**36**	Pg	**Pg**	**13 01 27.0**	**-2.7**
	comp=Z,27nm,0.2s						
AAA				Lg	Lg	13 02 36.7	
	comp=Z,56nm,0.4s						
MDOK	**Medeo**	**5.14**	**37**	*eP*	**Pg**	**13 01 28.0**	**-2.3**
	comp=Z,18nm,0.5s						
MDOK				*eS*	**Sg**	**13 02 38.2**	**+1.4**
	comp=Z,20nm,0.9s						
MDOK	**Medeo**	**5.14**	**

comp=Z,42nm,0.5s
CEP Cherat 5.34 188 P Pn 13 01 11.2 -0.5
CEP S **Sb 13 02 29.0 -0.4**
CHCP Chirah Chowk 5.46 176 P Pn 13 01 11.4 -1.9
SATY Saty 5.76 45 *eP* **Pg 13 01 39.1 -3.1**
comp=Z,14nm,0.4s
SATY *eS* **Sg 13 02 57.1 +0.3**
comp=Z,22nm,0.5s
SATY Saty 5.76 45 Pg **Pg 13 01 39.1 -3.1**
comp=Z,14nm,0.4s
SATY Lg Lg 13 02 57.1
comp=Z,22nm,0.5s
KURS Kuram 5.93 41 *eP* **Pg 13 01 42.4 -2.9**
comp=Z,6.8nm,0.5s
KURS *eS* **Sg 13 03 03.2 +1.0**
comp=Z,15nm,1.1s
KURS Kuram 5.93 41 Pg **Pg 13 01 42.4 -2.9**
comp=Z,6.8nm,0.5s
KURS Lg Lg 13 03 03.2
comp=Z,15nm,1.1s
BTLS Baital 5.99 8 Pg **Pg 13 01 46.9 +0.5**
comp=Z,4.1nm,0.5s
BTLS Lg Lg 13 03 10.7
comp=Z,9.4nm,0.4s
UZB Uzynbulak 6.17 47 Pg **Pg 13 01 45.9 -4.0**
comp=Z,6.5nm,1.1s
UZB Lg Lg 13 03 08.4
comp=Z,10nm,0.6s
KPKS Kokpek 6.19 44 Pg **Pg 13 01 46.1 -4.1**
comp=Z,7.8nm,0.3s
KPKS Lg Lg 13 03 09.5
comp=Z,17nm,0.4s
ARXS Arharly 6.31 35 Pg **Pg 13 01 49.8 -2.8**
comp=Z,16nm,0.9s
ARXS Lg Lg 13 03 15.8
comp=Z,8.6nm,0.7s
THW Thamme Wali 6.37 188 P Pn 13 01 22.3 -3.5
SHLS Shalkode 6.43 49 Pg **Pg 13 01 55.1 +0.2**
comp=Z,7.7nm,0.4s
SHLS Lg Lg 13 03 24.5
comp=Z,15nm,0.8s
DJR Jarkent 7.36 43 Pg **Pg 13 02 09.6 -3.0**
comp=Z,3.0nm,0.2s
DJR Lg Lg 13 03 50.4
comp=Z,5.6nm,0.5s
MK31 Makanchi Array 10.33 39 *i* P Pn 13 02 27.5 +7.5
MKAR Makanchi Array 10.33 39 Pn Pn 13 02 25.1 +5.1
comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=2.7
MKAR Lg Lg 13 05 34.1
comp=Z,0.1nm,0.3s,baz=223,slow=27,SNR=1.3
comp=Z,0.3nm,0.6s
GEYT Alibeck 11.59 269 Pn Pn 13 02 32.2 -5.1
comp=Z,0.8nm,0.3s,baz=95,slow=12,SNR=4.2
comp=Z,2.8nm,0.5s
KURBB Kurchatov Arra 12.19 17 Pn **Pn 13 02 49.7 +4.4**
comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=1.9
KURBB Lg Lg 13 06 29.7
baz=200,slow=30
comp=Z,1.8nm,0.2s
KURK Kurchatov 12.29 18 *ceP* Pn 13 02 55.0 +8.2
KURK pmax pmax
comp=Z,2.0nm,1.0s
AB31 Akbulak array 13.70 322 ⇓P **Pn 13 03 03.8 -2.1**
comp=Z,2.6nm,0.5s,baz=129,slow=13,SNR=71
BVAR Borovoye Array 14.01 354 Pn **Pn 13 03 12.5 +2.3**
comp=Z,0.3nm,0.3s,baz=164,slow=16,SNR=4.2
BVAR Lg Lg 13 07 26.8
comp=Z,0.1nm,0.3s,baz=163,slow=31,SNR=2.4
comp=Z,0.7nm,0.6s
BRVK Borovoye 14.05 354 *ceP* **P 13 03 19.4 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
DGZ Jazzator, Alta 14.83 40 *i* P **P 13 03 26.5 -1.0**
DGZ pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 15.41 322 Pn **Pn 13 03 28.4 -0.8**
comp=Z,0.5nm,0.3s,baz=124,slow=15,SNR=12
AKTO Sn **Sn 13 06 17.9 -2.0**
comp=Z,0.1nm,0.3s,baz=95,slow=18,SNR=1.7
comp=Z,3.8nm,0.6s
AKTO Aktyubinsk 15.41 322 ⇓P **P 13 03 32.5 -1.3**
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 16.93 25 P **P 13 03 51.1 +0.5**
comp=Z,0.4nm,0.3s,baz=211,slow=12,SNR=6.7
comp=Z,1.0nm,0.4s
MAK Makhachkala 19.46 290 *eP* **P 13 04 18.0 -0.5**
MAK *eS* **Sn 13 07 55.4 -2.6**
MAK pmax pmax
comp=Z,312nm,1.4s
ARU Arti 19.73 336 P **Pn 13 04 23.3 +0.5**
comp=Z,1.5nm,0.3s,baz=153,slow=15,SNR=1.9
comp=Z,1.5nm,0.3s
ARU Arti 19.73 336 *d iP* **Pn 13 04 26.5 +3.7**
ARU pmax pmax
comp=Z,8.0nm,1.2s
GTA Gaotai 20.87 81 *eP* **P 13 04 36.5 +2.4**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GNI Garni 21.63 282 P **P 13 04 38.9 -3.3**
comp=Z,5.7nm,0.6s,baz=176,slow=19,SNR=1.6
comp=Z,5.7nm,0.6s
GNI Garni 21.63 282 *ceP* **P 13 04 46.4 +4.2**
GNI pmax pmax
comp=Z,20nm,1.3s
BELG Belogornoye 21.89 316 P **P 13 04 45.3 +0.6**
comp=Z,11nm,0.7s,baz=84,slow=11,SNR=2.5
comp=Z,11nm,0.7s
KBZ Khabaz 22.85 291 P **P 13 04 52.5 -2.5**
comp=Z,0.7nm,0.3s,baz=117,slow=9.0,SNR=1.3
comp=Z,0.7nm,0.3s
KIV Kislovodsk 23.00 292 *eP* **P 13 04 56.2 -0.6**
KIV pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 24.70 87 *eP* **P 13 05 09.4 -3.8**
LZH pmax pmax
comp=Z,19nm,1.5s
SONM Songino Array 25.70 59 P **P 13 05 24.5 +2.3**
comp=Z,0.3nm,0.3s,baz=238,slow=8.3,SNR=1.5
comp=Z,0.3nm,0.3s
OBN Obninsk 28.99 315 *eP* **P 13 05 51.9 +0.5**
OBN *e* 13 06 50.0
OBN pmax pmax
comp=Z,6.0nm,0.4s
AKBB Malin Array Si 32.52 305 *ceP* **P 13 06 24.3 +1.7**
AKBB pmax pmax
comp=Z,7.0nm,1.5s
FINES FINESS Array B 36.18 324 P **P 13 06 54.8 +0.7**
comp=Z,1.5nm,0.4s,baz=116,slow=9.6,SNR=11
comp=Z,1.5nm,0.4s
ARCES ARCESS Array B 39.31 336 P **P 13 07 21.8 +1.2**
comp=Z,1.5nm,0.5s,baz=108,slow=8.2,SNR=16
comp=Z,1.5nm,0.5s
TIXI Tiksi 42.80 23 *ceP* **P 13 07 50.8 +1.6**
TIXI pmax pmax
comp=Z,3.0nm,1.3s
NOA NORSAR Array B 43.20 321 P **P 13 07 51.6 -1.0**
comp=Z,1.1nm,0.7s,baz=93,slow=8.0,SNR=2.2
comp=Z,1.1nm,0.7s
MA2 Magadan 51.41 40 *ceP* **P 13 08 57.0 +0.4**
MA2 pmax pmax
comp=Z,13nm,2.5s
BILL Bilibino 55.62 27 *eP* **P 13 09 27.2 -0.1**
BILL *e* 13 10 26.4
BILL *e* 13 11 29.7
BILL pmax pmax
comp=Z,5.0nm,1.0s
TORD Torodi Ar. Bea 67.23 269 P P 13 10 42.2 -4.4
comp=Z,0.8nm,0.5s,baz=53,slow=5.6,SNR=8.9
comp=Z,0.8nm,0.5s
INK Inuvik 71.08 10 P **P 13 11 11.3 +1.6**
comp=Z,1.2nm,0.8s,baz=296,slow=4.7,SNR=4.8
comp=Z,1.2nm,0.8s
ILAR Eielson Array 71.86 17 P **P 13 11 15.6 +1.2**
comp=Z,0.3nm,0.8s,baz=316,slow=5.0,SNR=2.1
comp=Z,0.3nm,0.8s
WRA Warramunga Arr 82.18 123 P P 13 12 09.8 -3.3
comp=Z,0.6nm,0.6s,baz=324,slow=5.2,SNR=9.6
comp=Z,0.6nm,0.6s
ASAR Alice Springs 84.60 126 P P 13 12 21.9 -3.6
comp=Z,0.3nm,0.8s,baz=317,slow=4.8,SNR=6.1
comp=Z,0.3nm,0.8s
CTA Charters Tower 90.34 116 LR LR 13 58 42.7
comp=Z,56nm,18.4s,baz=93,slow=39

IDC 01 13:15:39.5±1.1, 84°.34N×103°.87E, h0km, mb3.7/5, mbtmp3.7/5, MS3.4/1, Error ellipse: s-maj=45.6km s-min=23.9km az=122.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**27.75**	**60**	P	P	13 21 27.9	-1.2
	0.7nm,1.0s,baz=348,slow=11,SNR=6.1						
	0.7nm,1.0s						
SONM	**Songino Array**	**36.66**	**177**	P	P	13 22 48.7	+1.3
	0.4nm,0.4s,baz=357,slow=8.9,SNR=2.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**38.14**	**204**	P	P	13 22 59.0	-0.9
	1.0nm,0.7s,baz=6.6,slow=7.5,SNR=9.9						
	1.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**41.03**	**149**	LR	LR	13 40 15.2	
	comp=Z,47nm,18.4s,baz=134,slow=36						
TXAR	**Lajitas Array**	**65.92**	**26**	P	P	13 26 27.9	+1.1
	1.8nm,1.2s,baz=355,slow=4.5,SNR=3.8						
	1.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**78.20**	**283**	P	P	13 27 40.2	-0.2
	0.2nm,0.7s,baz=0.0,slow=5.8,SNR=1.9						
	0.2nm,0.7s						

*IGQ **01** 13:35:15±0.2, 2°.5S±2°×7°.9W±°, h7km*
*NEIC **01** 13:35:15.7±1.4, 2°.29S±0°.02×79°.19W±0°.05, h10km±2km, mb3.9/2, Error ellipse: s-maj=9.1km s-min=3.6km az=268.0*
ISC 01 13:35:15.1±0.7, 2°.29S±0°.02×79°.17W±0°.03, h10km, n90, σ0s90/93, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MILO	**Milagro-Astudi**	**0.38**	**271**	P	**Pb**	**13 35 25.0**	**+1.0**
AMIL	**Milagro (Trans**	**0.45**	**290**	P	**Pg**	**13 35 24.0**	**+0.1**
AMIL	**Milagro (Trans**	**0.45**	**290**	S	**Sb**	**13 35 33.0**	**+1.1**
ACUE	**Ecuador-Cuenca**	**0.65**	**161**	P	**Pg**	**13 35 28.0**	**+0.1**
ACUE	**Ecuador-Cuenca**	**0.65**	**161**	S	**Sg**	**13 35 38.0**	**+1.5**
GYE3	**Ecuador-Guayaq**	**0.74**	**280**	P	**Pg**	**13 35 29.0**	**-0.4**
ARIO	**Riobamba**	**0.79**	**37**	P	**Pg**	**13 35 30.0**	**-0.4**
AGUAY	**Guayaquil**	**0.81**	**287**	P	**Pn**	**13 35 34.0**	**+1.4**
TAMH	**Tambohuasha Ch**	**0.84**	**28**	P	**Pg**	**13 35 31.0**	**-0.4**
CHSH	**Refugio Sur-Vo**	**0.85**	**21**	Pg	**Pg**	**13 35 31.7**	**+0.2**
CHSH				Sg	**Sg**	**13 35 42.9**	**+0.2**
CHSH	**Refugio Sur-Vo**	**0.85**	**21**	P	**Pg**	**13 35 31.0**	**-0.5**
PORT	**Chimborazo Vol**	**0.91**	**26**	Pg	**Pg**	**13 35 33.7**	**+0.9**
PORT				Sg	**Sb**	**13 35 46.1**	**+0.3**
PORT	**Chimborazo Vol**	**0.91**	**26**	P	**Pg**	**13 35 33.0**	**+0.2**
IGUA	**Igualata**	**0.96**	**34**	P	**Pg**	**13 35 33.0**	**-0.6**
BMAS	**Trigal station**	**1.04**	**42**	P	**Pg**	**13 35 34.0**	**-1.3**
BMAS	**Trigal station**	**1.04**	**42**	S	**Sg**	**13 35 49.0**	**+0.1**
ARRY	**Arrayan**	**1.06**	**43**	P	**Pg**	**13 35 34.0**	**-1.5**
BIL2	**Estacion Bilba**	**1.06**	**39**	P	**Pg**	**13 35 35.0**	**-0.7**
BPAT	**Tungurahua Vol**	**1.07**	**43**	P	**Pg**	**13 35 35.0**	**-0.9**
BPAT	**Tungurahua Vol**	**1.07**	**43**	S	**Sg**	**13 35 49.0**	**-0.9**
BBIL	**Ulba Tungurahu**	**1.08**	**39**	P	**Pg**	**13 35 35.0**	**-0.9**
BOSC	**San Juan Bosco**	**1.09**	**142**		**Pg**	**13 35 36.8**	**+0.7**
BOSC				Sg	**Sb**	**13 35 51.9**	**+1.2**
BOSC	**San Juan Bosco**	**1.09**	**142**	P	**Pg**	**13 35 36.0**	**-0.2**
RETU	**Refugio**	**1.10**	**41**	P	**Pg**	**13 35 36.0**	**-0.4**
JUI6	**Juive**	**1.11**	**39**	P	**Pg**	**13 35 35.0**	**-1.5**
POND	**Pondoa**	**1.12**	**40**	P	**Pg**	**13 35 35.0**	**-1.8**
POND	**Pondoa**	**1.12**	**40**	S	**Sg**	**13 35 51.0**	**-0.4**
BRUN	**Tungurahua Vol**	**1.14**	**41**	P	**Pg**	**13 35 36.0**	**-1.3**
ACH2	**Ecuador-Machal**	**1.16**	**213**	P	**Pb**	**13 35 36.0**	**-1.3**
MORR	**Playas El Morr**	**1.22**	**253**	P	**Pb**	**13 35 38.0**	**-0.2**
PUYO	**Puyo, Santa Ro**	**1.40**	**55**	P	**Pn**	**13 35 40.0**	**-0.8**
APUY	**Puyo**	**1.44**	**55**	P	**Pn**	**13 35 42.0**	**+0.7**
ARNL	**Arenillas**	**1.54**	**215**	Pn	**Pn**	**13 35 43.5**	**+0.9**
ARNL	**Arenillas**	**1.54**	**215**	P	**Pn**	**13 35 43.0**	**+0.4**
PIAT	**Ana Tenorio**	**1.57**	**35**	P	**Pn**	**13 35 44.0**	**+0.5**
ILLI	**Illinizas Sur**	**1.63**	**16**	P	**Pn**	**13 35 45.0**	**+0.7**
SRAM	**San Ramn-Vol**	**1.64**	**22**	P	**Pb**	**13 35 46.0**	**+0.2**
PAST	**Pastocalle**	**1.67**	**19**	P	**Pb**	**13 35 47.0**	**+0.7**
VCES	**Cotopaxi**	**1.67**	**28**	P	**Pn**	**13 35 46.0**	**+1.1**
SLOR	**San Lorenzo -**	**1.69**	**24**	Pn	**Pb**	**13 35 46.9**	**+0.3**
SLOR	**San Lorenzo -**	**1.69**	**24**	P	**Pb**	**13 35 47.0**	**+0.4**
BMOR	**Cotopaxi Volca**	**1.71**	**25**	P	**Pb**	**13 35 47.0**	**+0.1**
CAMI	**Rancho Maria**	**1.73**	**23**	P	**Pb**	**13 35 48.0**	**+0.6**
BNAS	**Cotopaxi Volca**	**1.75**	**23**	P	**Pb**	**13 35 48.0**	**+0.4**
PPLP	**Puerto Lpez**	**1.76**	**295**	P	**Pn**	**13 35 44.0**	**-1.8**
BREF	**Cotopaxi Volca**	**1.77**	**24**	P	**Pb**	**13 35 48.0**	**0.0**
SUCR	**Mariscal Sucre**	**1.77**	**23**	P	**Pb**	**13 35 48.0**	**0.0**
TAMB	**Tambo**	**1.78**	**27**	P	**Pb**	**13 35 48.0**	**-0.1**
NAS2	**Nasa**	**1.78**	**23**	P	**Pb**	**13 35 49.0**	**+0.9**
BTAM	**Cotopaxi Volca**	**1.78**	**26**	P	**Pn**	**13 35 48.0**	**+1.5**
BVC2	**Cotopaxi Volca**	**1.79**	**25**	P	**Pn**	**13 35 48.0**	**+1.4**
VC1	**Cotopaxi 1**	**1.81**	**25**	P	**Pn**	**13 35 49.0**	**+0.3**
ARDO	**Archidona, Ten**	**1.88**	**47**	P	**Pn**	**13 35 49.0**	**+1.6**
TOMA	**Boca Toma-Volc**	**1.93**	**23**	P	**Pb**	**13 35 51.0**	**+0.4**
ANTG	**Antisana-Guama**	**2.00**	**27**	P	**Pb**	**13 35 52.0**	**+0.1**
FLF1	**Flavio Alfaro-**	**2.03**	**341**	P	**Pn**	**13 35 50.0**	**+0.5**
ANTS	**Antisana-Sarah**	**2.04**	**29**	P	**Pb**	**13 35 53.0**	**+0.3**
ANTI	**Antisana**	**2.09**	**29**	P	**Pb**	**13 35 53.0**	**-0.5**
ISPT	**Isla de la Pla**	**2.16**	**298**	P	**Pn**	**13 35 49.0**	**-2.1**
GGPC	**Guagua Pichinc**	**2.17**	**15**	P	**Pb**	**13 35 56.0**	**+1.1**
PINO	**Pino**	**2.19**	**15**	P	**Pb**	**13 35 55.0**	**-0.2**
YANA	**Yana**	**2.24**	**16**	P	**Pb**	**13 35 56.0**	**0.0**
JAMA	**Jama**	**2.26**	**333**	P	**Pb**	**13 35 57.0**	**+0.8**
CABP	**Cabo Pasado**	**2.27**	**326**	P	**Pn**	**13 35 53.0**	**+0.3**
MAG1	**Magdalena**	**2.28**	**345**	P	**Pn**	**13 35 53.0**	**+0.1**
PULU	**Pululahua**	**2.39**	**16**		**Pb**	**13 35 59.2**	**+0.7**
PULU	**Pululahua**	**2.39**	**16**	P	**Pb**	**13 35 59.0**	**+0.5**
BV15	**Puerto Quito-O**	**2.43**	**359**	P	**Pn**	**13 35 56.0**	**+1.1**
ZUMB	**Zumba**	**2.56**	**179**	P	**Pb**	**13 36 01.0**	**-0.2**
PAC1	**Pacto, Paraso**	**2.57**	**9**	P	**Pb**	**13 36 01.0**	**-0.4**
CAYR	**Refugio Cayamb**	**2.57**	**27**	P	**Pb**	**13 36 02.0**	**+0.3**
AV18	**Acelerografo,**	**2.60**	**353**	P	**Pb**	**13 36 03.0**	**+1.1**
OTAV	**Otavalo**	**2.61**	**16**		**Pb**	**13 36 02.3**	**-0.1**
OTAV	**Otavalo**	**2.61**	**16**	P	**Pb**	**13 36 02.0**	**-0.3**
CAYA	**Cayambe**	**2.63**	**27**	P	**Pb**	**13 36 02.0**	**-0.6**
CONE	**Cono NE Rev Vo**	**2.68**	**35**	P	**Pb**	**13 36 04.0**	**+0.5**
CUSW	**Cuicocha Oeste**	**2.69**	**18**	P	**Pb**	**13 36 03.0**	**-0.6**
CUIC	**Cuicocha-Domo**	**2.70**	**18**	P	**Pb**	**13 36 03.0**	**-0.8**
IMBA	**Imbabura, San**	**2.73**	**21**		**Pb**	**13 36 06.2**	**+1.9**
IMBA	**Imbabura, San**	**2.73**	**21**	P	**Pb**	**13 36 06.0**	**+1.7**
URCU	**Urcuqui**	**2.86**	**19**	P	**Pb**	**13 36 08.0**	**+1.5**
YAHU	**Yahuarcocha**	**2.86**	**23**	P	**Pb**	**13 36 07.0**	**+0.5**
CASC	**Morado del Casc**	**3.03**	**37**	P	**Pb**	**13 36 09.0**	**-0.2**
LNGL	**El Angel-Carch**	**3.23**	**21**	P	**Pb**	**13 36 15.0**	**+2.1**
CZSB	**Cruzeiro do Su**	**8.41**	**130**	Pn	**Pn**	**13 37 17.5**	**+0.3**
TBTG	**Tabatinga, AM**	**9.44**	**102**		**Pn**	**13 37 31.1**	**-0.2**
ORTG	**Ortega, Santa**	**14.04**	**334**	P	**P**	**13 38 42.5**	**+0.2**
ETMB	**Extrema**	**14.89**	**121**	Pn	**Pn**	**13 38 44.3**	**-1.6**
SAML	**Samuel**	**17.23**	**113**	Pn	**Pn**	**13 39 14.7**	**-1.4**
SAML				IAmb	IAmb	13 39 33.3	
	comp=Z,6.0nm,0.8s						
PTLB	**Pontes e Lacer**	**23.69**	**125**	P	**P**	**13 40 27.2**	**0.0**
PTLB				IAmb	IAmb	13 40 29.1	
	comp=Z,4.0nm,0.9s						

*IDC **01** 13:37:14.5±1.3, 21°.50S×66°.81W, h200km±21km, mb3.3/1, mbtmp3.7/5, Error ellipse: s-maj=37.9km s-min=12.4km az=108.0*
*SCB **01** 13:37:17.9±1.2, 21°.60S×66°.95W, h194km±6km, ML3.3/3, MW3.4, Error ellipse: s-maj=6.0km s-min=4.8km az=0.0*
ISC 01 13:37:14.3±1.0, 21°.57S±0°.06×66°.88W±0°.07, h207km, n18, σ1s56/20, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.20**	**75**	P	**Pn**	**13 37 48.1**	**+1.4**
MOCB				IAML		13 38 12.7	
	420nm,0.6s						
YJA	**Yavi**	**1.40**	**116**	P	**Pn**	**13 37 49.7**	**+1.4**
LVC	**Limon Verde**	**2.15**	**241**	P	**Pn**	**13 37 56.6**	**+1.4**
	19nm,0.5s,baz=51,slow=7.7,SNR=25						
LVC				S	**S**	**13 38 28.2**	**+1.4**
	8.2nm,0.3s,baz=219,slow=18,SNR=21						
LVC	**Limon Verde**	**2.15**	**241**	P	**Pn**	**13 37 56.0**	**+0.7**
LVC				IAML		13 38 29.8	
	20nm,2.6s						
PB06	**IPOC Station P**	**2.74**	**245**	P	**Pn**	**13 38 01.6**	**+0.1**
PB02	**IPOC Station P**	**2.82**	**274**	P	**Pn**	**13 38 02.9**	**+0.5**
PB02				S	**S**	**13 38 36.1**	**-3.3**
PB02				IAML		13 38 39.2	
	203nm,0.2s						
PB15	**IPOC Station P**	**2.90**	**235**	P	**Pn**	**13 38 04.6**	**+1.2**
PB04	**IPOC Station P**	**3.13**	**255**	P	**Pn**	**13 38 07.0**	**+1.0**
TA01	**Diego Aracena**	**3.24**	**287**	P	**Pn**	**13 38 07.1**	**0.0**
GO02	**Mina Guanaco**	**4.36**	**214**	P	**Pn**	**13 38 21.9**	**+0.8**
BBOE	**La Paz, Chanca**	**4.84**	**347**	P	**Pn**	**13 38 30.2**	**+2.7**
BBOD	**La Paz, Gloria**	**5.17**	**341**	P	**Pn**	**13 38 33.0**	**+1.4**
LPAZ	**La Paz**	**5.38**	**347**	P	**Pn**	**13 38 35.8**	**+1.4**
	5.8nm,0.4s,baz=161,slow=8.2,SNR=29						
LPAZ				S	**S**	**13 39 36.6**	**-0.6**
	3.2nm,0.8s,baz=246,slow=15,SNR=4.0						
LPAZ	**La Paz**	**5.38**	**347**	P	**Pn**	**13 38 36.5**	**+2.1**
SIV	**San Ignacio**	**7.81**	**46**	P	**Pn**	**13 39 04.1**	**-1.0**
	2.5nm,0.3s,baz=228,slow=11,SNR=12						
SIV				S		13 40 17.0	-16
	2.3nm,0.7s,baz=287,slow=17,SNR=1.6						
PLCA	**Paso Flores**	**19.36**	**188**	P	**Pn**	**13 41 27.0**	**-1.0**
	1.9nm,1.1s,baz=3.0,slow=15,SNR=5.0						
TORD	**Torodi Ar. Bea**	**75.60**	**69**	P	**P**	**13 48 36.3**	**-0.6**
	0.4nm,0.3s,baz=260,slow=5.0,SNR=4.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**144.56**	**37**	PKP	PKPbc	13 56 26.3	+1.1
	0.5nm,0.6s,baz=306,slow=2.6,SNR=3.6						

ROM 01 13:53:42.0±0.1, 42°.661N±0°.002×13°.221E±0°.004, h13km, ML1.6/9, 3C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=273.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.04**	**4**	⇑P	Pg	13 53 44.9	+0.3
T1202				S	Sg	13 53 46.7	+0.2
T1204	**Amatrice, Fraz**	**0.07**	**78**	P	Pg	13 53 45.2	+0.3
T1204				S	Sg	13 53 46.9	0.0
SMA1	**SAN MARTINO**	**0.09**	**110**	⇓P	Pg	13 53 45.4	+0.4
SMA1				S	Sg	13 53 47.4	+0.3
SMA1				AML	AML		
	comp=E,484μm,0.7s						
SMA1				AML	AML		
	comp=N,994μm,0.3s						
SMA1				AML	AML		
	comp=E,484μm,0.7s						
SMA1				AML	AML		
	comp=N,990μm,0.3s						
SMA1				AML	AML		
	comp=N,994μm,0.3s						
T1244	**Arquata del Tr**	**0.11**	**30**	P	Pg	13 53 45.6	+0.4
T1244				S	Sg	13 53 48.0	+0.5
LNSS	**Leonessa**	**0.15**	**247**	P	Pg	13 53 46.0	+0.3
LNSS				S	Sg	13 53 48.8	+0.5
LNSS				AML	AML		
	comp=N,261μm,1.0s						
LNSS				AML	AML		
	comp=E,272μm,0.4s						
LNSS				AML	AML		
	comp=N,260μm,1.0s						
RM33	**Pellescritta (**	**0.15**	**182**	⇑P	Pg	13 53 46.2	+0.5
RM33				S	Sg	13 53 49.0	+0.5
RM33				AML	AML		
	comp=E,318μm,0.2s						
RM33				AML	AML		
	comp=N,281μm,0.9s						
RM33				AML	AML		
	comp=N,280μm,0.9s						
T1242	**Castelluccio d**	**0.17**	**356**	P	Pg	13 53 46.5	+0.4
T1242				S	Sg	13 53 49.7	+0.8
T1243	**Rocca Santa Ma**	**0.17**	**78**	P	Pg	13 53 46.4	+0.3
T1243				S	Sg	13 53 49.4	+0.4
T1241	**Roccafluvione,**	**0.25**	**38**	P	Pg	13 53 47.8	+0.4
T1241				S	Sg	13 53 51.8	+0.9
MMO1	**Montemonaco**	**0.25**	**18**	P	Pg	13 53 47.8	+0.4
MMO1				S	Sb	13 53 52.1	-0.7
TERO	**Teramo**	**0.28**	**98**	P	Pg	13 53 48.2	+0.3
TERO				S	Sg	13 53 52.7	+0.7
TERO				AML	AML		
	comp=E,274μm,1.5s						
TERO				AML	AML		
	comp=N,160μm,0.1s						
TERO				AML	AML		
	comp=E,111μm,1.2s						
TERO				AML	AML		
	comp=E,110μm,1.2s						
TERO				AML	AML		
	comp=E,110μm,1.2s						
TERO				AML	AML		
	comp=N,202μm,0.1s						
TERO				AML	AML		
	comp=E,110μm,1.2s						
T1215	**Vallo di Nera,**	**0.30**	**299**	P	Pg	13 53 48.4	+0.3
T1215				S	Sg	13 53 53.0	+0.7
T1215				AML	AML		
	comp=N,82μm,1.6s						
T1215				AML	AML		
	comp=E,54μm,1.6s						
GIGS	**Gran Sasso**	**0.33**	**129**	P	Pg	13 53 49.0	+0.2
GIGS				S	Sb	13 53 54.4	-0.7
ARRO	**Arrone**	**0.35**	**257**	⇑P	Pg	13 53 49.5	+0.5
FDMO	**Fiordimonte**	**0.39**	**345**	P	Pg	13 53 49.7	-0.2
FIAM	**Fiamignano**	**0.40**	**191**	P	Pg	13 53 50.2	+0.2
FIAM				S	Sb	13 53 56.4	-0.6
FIAM				AML	AML		
	comp=E,50μm,0.6s						
FIAM				AML	AML		
	comp=N,24μm,0.3s						
FIAM				AML	AML		
	comp=E,50μm,0.6s						
FIAM				AML	AML		
	comp=N,24μm,0.3s						
LPEL	**Lama dei Pelig**	**0.94**	**130**	⇓P	Pg	13 53 59.3	-0.9
LPEL				AML	AML		
	comp=E,54μm,0.8s						
LPEL				AML	AML		
	comp=N,42μm,1.3s						

*IDC **01** 13:56:02.1±2.9, 34°.59N×23°.32E, h0km, mb3.9/6, mbtmp3.8/7, ML2.7/1, MS3.4/1, Error ellipse: s-maj=57.7km s-min=34.8km az=30.0*
*ATH **01** 13:56:09.0, 34°.66N×23°.38E, h20km±31km, ML3.5/2, Error ellipse: s-maj=31.6km s-min=2.8km az=0.0*
*THE **01** 13:56:09.3, 34°.70N×23°.39E, h8km±1km, ML3.3/2, Error ellipse: s-maj=3.5km s-min=1.0km az=16.0*
ISC 01 13:56:06.6±2.4, 34°.6N±0°.1×23°.30E±0°.07, h17km±11km, n26, σ1s14/27, mb3.9/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.69**	**69**	P	**Pg**	**13 56 20.8**	**+0.6**
GVD				S	**Sb**	**13 56 29.5**	**0.0**
	5μm,0.3s						
GVD	**Gavdhos**	**0.69**	**69**	P	**Pg**	**13 56 21.1**	**+0.9**
GVD				S	**Sb**	**13 56 29.8**	**+0.3**
GVD				AML	AML	13 56 34.1	
	comp=E,9021μm,0.3s						
GVD				AML	AML	13 56 37.3	
	comp=N,12488μm,0.4s						
GVDS	**Gavdos**	**0.69**	**69**	P	**Pg**	**13 56 20.5**	**+0.3**
GVDS				S	**Sg**	**13 56 29.1**	**-0.4**
	comp=N,3μm,0.3s						
KNDR	**Palaiochora Ch**	**0.71**	**26**	P	**Pg**	**13 56 20.3**	**-0.3**
KNDR	**Palaiochora Ch**	**0.71**	**26**	P	**Pg**	**13 56 20.5**	**-0.1**
KNDR				S	**Sg**	**13 56 29.2**	**-0.8**
KNDR				AML	AML	13 56 33.5	
	comp=E,9881μm,0.4s						
KNDR				AML	AML	13 56 35.5	
	comp=N,8216μm,0.4s						
IMMV	**Iera Moni Meta**	**1.03**	**33**	P	**Pg**	**13 56 26.0**	**-0.5**
IMMV	**Iera Moni Meta**	**1.03**

ATD	**Arta Tunnel**	**29.05**	**138**	LR	LR	14 13 21.4		
	comp=N,68nm,19.7s,baz=185,slow=36							
ARCES	**ARCESS Array B**	**35.02**	**1**	P	P	14 02 55.6	-2.3	
	comp=N,0.7nm,0.5s,baz=173,slow=8.2,SNR=7.5							
	comp=N,0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**42.66**	**51**	P	P	14 04 00.1	-2.1	
	comp=N,0.6nm,0.3s,baz=270,slow=8.8,SNR=5.1							
	comp=N,0.6nm,0.3s							
MKAR	**Makanchi Array**	**45.36**	**56**	P	P	14 04 22.1	-1.8	
	comp=N,0.3nm,0.4s,baz=272,slow=7.6,SNR=9.6							
	comp=N,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**46.49**	**46**	P	P	14 04 30.3	-2.4	
	comp=N,0.6nm,0.3s,baz=289,slow=7.7,SNR=3.4							
	comp=N,0.6nm,0.3s							
WRA	**Warramunga Arr**	**118.05**	**96**	PKP	**PKPdf**	**14 14 51.1**	**-1.9**	
	comp=N,0.2nm,0.8s,baz=312,slow=2.0,SNR=1.5							

*JMA **01** 13:56:18.9±0.9, 45˚N±4˚×14˚9E±˚, h30km, MV4.0/11, SE OFF ETOROFU*
*SKHL **01** 13:56:20.3±0.8, 44˚.80N×149˚.00E, h43km±3km, mb4.6/2*
ISC 01 13:56:17.8±4.2, **44˚.78N**±0˚.07×**149˚.3E**±0˚.2, **h35**km, **n15, α208/24, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KUR	**Kuril'sk**	**1.09**	**295**	*i* P		**Pn**	**13 56 36.2**	**-0.3**
KUR					AMB	AMB	13 56 36.8	
	280nm,0.2s							
KUR				*e*S		**Sn**	**13 56 48.7**	**-1.6**
KUR					A	A	13 56 50.0	
	2µm,0.2s							
KUR					A	A	13 56 50.0	
	1µm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.55**	**254**	*e*P		**Pn**	**13 56 57.5**	**+0.9**
YUK					AMB	AMB	13 56 58.6	
	120nm,0.5s							
YUK				*e*S		**Sn**	**13 57 24.8**	**-1.6**
YUK					A	A	13 57 32.2	
	340nm,0.5s							
YUK					A	A	13 57 32.2	
	250nm,0.5s							
NEM2	**Nemuro 2**	**2.90**	**242**	*e*P		**Pn**	**13 57 01.9**	**+0.5**
NEM2				*e*S		**Sn**	**13 57 33.7**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.91**	**242**	*e*P		**Pn**	**13 57 02.9**	**+1.3**
NMR				*e*S		**Sn**	**13 57 34.2**	**-1.1**
JRA	**Rausu**	**3.09**	**256**	*e*P		**Pn**	**13 57 06.1**	**+2.1**
JNK	**Nakash**	**3.48**	**251**	*e*P		**Pn**	**13 57 11.3**	**+1.9**
JNK				*e*S		**Sn**	**13 57 51.3**	**+2.0**
AKK	**Akkeshi**	**3.65**	**243**	*e*P		**Pn**	**13 57 12.3**	**+0.6**
JAK	**Akkeshi**	**3.75**	**243**	*e*P		**Pn**	**13 57 13.6**	**+0.5**
JAK				*e*S		**Sn**	**13 57 55.3**	**-0.8**
JTKR	**Abashiri--Toko**	**3.92**	**260**	*e*P		**Pn**	**13 57 18.5**	**+3.0**
JAR	**Ashorobuto**	**4.23**	**251**	*e*P		**Pn**	**13 57 22.1**	**+2.4**
JAR				*e*S		**Sn**	**13 58 09.5**	**+1.7**
JOB	**Onbets**	**4.35**	**246**	*e*P		**Pn**	**13 57 22.7**	**+1.4**
JCH	**Churui**	**4.79**	**245**	*e*P		**Pn**	**13 57 29.2**	**+1.8**
JCH				*e*S		**Sn**	**13 58 20.2**	**-1.5**
YSS	**Yuzh-Sakhalins**	**5.04**	**298**	*e*P		**Pn**	**13 57 31.6**	**+0.8**
YSS				*e*S		**Sn**	**13 58 26.3**	**-1.4**
YSS					A	A	13 58 27.2	
	20nm,0.9s							
YSS					A	A	13 58 27.2	
	30nm,0.9s							
JNBK	**Urakawa-nobuka**	**5.35**	**244**	*e*P		**Pn**	**13 57 36.2**	**+1.0**
JANG	**Nango**	**7.22**	**235**	*e*S		**Sn**	**13 59 15.3**	**-6.1**

ROM 01 14:25:21.6±0.0, **42˚.758N**±0˚.002×**13˚.186E**±0˚.004, **h11**km, **Md1.1**/11, **1C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=99.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
T1202	**Accumoli, Fraz**	**0.06**	**152**		P	Pg	14 25 24.2	+0.3
T1202					S	Sg	14 25 25.9	+0.2
T1202					AML	AML		
	comp=E,794µm,0.6s							
T1202					AML	AML		
	comp=N,1668µm,0.1s							
T1202					AML	AML		
	comp=E,23100µm,0.2s							
T1202					AML	AML		
	comp=N,15150µm,0.1s							
T1202					END			
T1242	**Castelluccio d**	**0.07**	**11**		P	Pg	14 25 24.3	+0.2
T1242					S	Sg	14 25 26.0	0.0
T1242					AML	AML		
	comp=E,6690µm,0.8s							
T1242					AML	AML		
	comp=N,12350µm,0.8s							
T1242					AML	AML		
	comp=E,6600µm,0.8s							
T1242					AML	AML		
	comp=N,12300µm,0.4s							
T1242					END			
T1204	**Amatrice, Fraz**	**0.13**	**130**		P	Pg	14 25 25.3	+0.6
T1204					S	Sg	14 25 27.7	+0.7
T1204					AML	AML		
	comp=E,5545µm,0.5s							
T1204					AML	AML		
	comp=N,3595µm,1.3s							
T1204					END			
MC2	**Monte Cornacci**	**0.15**	**1**		P	Pg	14 25 25.5	+0.3
MC2					S	Sg	14 25 28.7	+0.9
MC2					END			
MMO1	**Montemonaco**	**0.17**	**36**		P	Pg	14 25 26.0	+0.5
MMO1					S	Sg	14 25 29.2	+1.0
MMO1					END			
LNSS	**Leonessa**	**0.19**	**215**	⇑	P	Pg	14 25 26.2	+0.6
LNSS					S	Sg	14 25 29.6	+1.1
LNSS					AML	AML		
	comp=E,3640µm,0.8s							
LNSS					AML	AML		
	comp=N,5065µm,0.5s							
LNSS					AML	AML		
	comp=E,11900µm,1.0s							
LNSS					AML	AML		
	comp=N,12100µm,0.3s							
LNSS					END			
T1243	**Rocca Santa Ma**	**0.20**	**108**		P	Pg	14 25 26.4	+0.5
T1243					END			
T1241	**Roccafluvione,**	**0.20**	**61**		P	Pg	14 25 26.5	+0.6
T1241					S	Sg	14 25 30.0	+1.0
T1241					END			
T1215	**Vallo di Nera,**	**0.24**	**281**		P	Pg	14 25 27.1	+0.6
T1215					S	Sg	14 25 30.9	+1.0
T1215					END			
RM33	**Pellescritta (**	**0.25**	**175**		P	Pg	14 25 27.3	+0.6
RM33					AML	AML		
	comp=E,2785µm,0.6s							
RM33					AML	AML		
	comp=N,2370µm,0.9s							
RM33					AML	AML		
	comp=E,2775µm,0.6s							
RM33					AML	AML		
	comp=N,2345µm,0.9s							
RM33					AML	AML		
	comp=E,3340µm,0.7s							
RM33					AML	AML		
	comp=N,3085µm,0.2s							
RM33					AML	AML		
	comp=E,3310µm,0.7s							
RM33					AML	AML		
	comp=N,3125µm,0.2s							
CSP1	**Cessapalombo**	**0.33**	**2**		P	Pg	14 25 28.7	+0.4
CSP1					S	Sb	14 25 34.3	-0.8
CSP1					END			
TERO	**Teramo**	**0.34**	**114**		AML	AML		
	comp=N,2190µm,0.1s							
TERO					AML	AML		
	comp=E,1695µm,0.9s							
TERO					AML	AML		
	comp=N,1765µm,0.1s							
TERO					AML	AML		
	comp=E,2025µm,0.9s							
ARRO	**Arrone**	**0.36**	**240**		P	Pg	14 25 29.2	+0.5
ARRO					AML	AML		
	comp=E,874µm,0.2s							
ARRO					AML	AML		
	comp=N,970µm,0.2s							
ARRO					END			
NARO	**Abbazia di Nar**	**0.96**	**333**		P	Pg	14 25 37.5	-2.6
SF01	**Poggio Pratacc**	**1.20**	**273**	⇓	P	Pb	14 25 40.9	-3.3

ROM 01 14:25:49.3±0.1, **42˚.692N**±0˚.003×**13˚.161E**±0˚.005, **h13**km, **ML2.6**/25, **18C-13D, Error ellipse: s-maj=0.4km s-min=0.2km az=238.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
T1202	**Accumoli, Fraz**	**0.05**	**77**		P	Pg	14 25 52.2	+0.3
T1202					S	Sg	14 25 53.9	+0.1
T1202					AML	AML		
	comp=E,23100µm,0.2s							
T1202					AML	AML		
	comp=N,15150µm,0.1s							
T1202					AML	AML		
	comp=E,23050µm,0.2s							
T1202					AML	AML		
	comp=N,15100µm,0.1s							
T1201	**Domo (RI)**	**0.07**	**118**	⇓	P	Pg	14 25 52.5	+0.4
T1201					S	Sg	14 25 54.1	0.0
T1201					AML	AML		
	comp=N,12150µm,0.3s							
T1201					AML	AML		
	comp=E,7765µm,0.1s							
T1204	**Amatrice, Fraz**	**0.12**	**98**	⇓	P	Pg	14 25 53.0	+0.4
T1204					S	Sg	14 25 54.9	-0.1
T1204					AML	AML		
	comp=N,3600µm,1.3s							
T1204					AML	AML		
	comp=N,3595µm,1.3s							
T1204					AML	AML		
	comp=N,3605µm,1.3s							
T1204					AML	AML		
	comp=E,5545µm,0.5s							
T1244	**Arquata del Tr**	**0.12**	**57**		P	Pg	14 25 53.1	+0.4
T1244					S	Sg	14 25 55.6	+0.6
T1244					AML	AML		
	comp=E,10845µm,0.7s							
T1244					AML	AML		
	comp=N,7095µm,0.4s							
T1244					AML	AML		
	comp=E,11135µm,0.7s							
T1244					AML	AML		
	comp=E,10880µm,0.7s							
T1244					AML	AML		
	comp=E,11120µm,0.7s							
T1244					AML	AML		
	comp=N,7075µm,1.4s							
T1244					AML	AML		
	comp=N,7095µm,1.4s							
T1244					AML	AML		
	comp=E,10850µm,0.7s							
T1244					AML	AML		
	comp=N,7095µm,0.4s							
T1244					AML	AML		
	comp=N,7085µm,1.4s							
LNSS	**Leonessa**	**0.13**	**225**		P	Pg	14 25 53.1	+0.4
LNSS					S	Sg	14 25 55.3	+0.2
T1242	**Castelluccio d**	**0.14**	**13**		P	Pg	14 25 53.2	+0.2
T1242					S	Sg	14 25 55.8	+0.2
T1242					AML	AML		
	comp=E,6695µm,0.8s							
T1242					AML	AML		
	comp=N,12350µm,0.8s							
T1242					AML	AML		
	comp=N,12300µm,0.4s							
T1242					AML	AML		
	comp=E,6600µm,0.8s							
T1242					AML	AML		
	comp=E,6690µm,0.8s							
NRCA	**Norcia**	**0.14**	**346**	⇓	P	Pg	14 25 53.2	+0.2
NRCA					S	Sg	14 25 55.7	+0.1
NRCA					AML	AML		
	comp=E,14850µm,0.2s							
NRCA					AML	AML		
	comp=N,11000µm,0.7s							
NRCA					AML	AML		
	comp=E,14850µm,0.1s							
NRCA					AML	AML		
	comp=N,10970µm,0.7s							
NRCA					AML	AML		
	comp=E,15900µm,0.1s							
NRCA					AML	AML		
	comp=N,10980µm,0.7s							
NRCA					AML	AML		
	comp=N,12050µm,1.0s							
RM33	**Pellescritta (**	**0.19**	**168**	⇑	P	Pg	14 25 54.1	+0.5
RM33					S	Sg	14 25 57.4	+0.8
RM33					AML	AML		
	comp=E,3340µm,0.7s							
RM33					AML	AML		
	comp=N,3080µm,0.2s							
RM33					AML	AML		
	comp=E,3310µm,0.7s							
RM33					AML	AML		
	comp=N,3085µm,0.2s							
RM33					AML	AML		
	comp=N,3125µm,0.2s							
T1243	**Rocca Santa Ma**	**0.21**	**89**		P	Pg	14 25 54.4	+0.4
T1243					S	Sg	14 25 57.9	+0.7
MC2	**Monte Cornacci**	**0.22**	**6**	⇓	P	Pg	14 25 54.6	+0.3
MC2					S	Sg	14 25 58.3	+0.7
MMO1	**Montemonaco**	**0.24**	**31**	⇑	P	Pg	14 25 54.8	+0.3
MMO1					S	Sg	14 25 58.7	+0.6
MMO1					AML	AML		
	comp=E,3170µm,1.0s							
MMO1					AML	AML		
	comp=N,3730µm,1.1s							
CAMP	**Campotosto**	**0.24**	**130**	⇑	P	Pg	14 25 55.0	+0.4
CAMP					S	Sg	14 25 58.9	+0.8
CAMP					AML	AML		
	comp=E,506µm,0.3s							
CAMP					AML	AML		
	comp=N,729µm,0.3s							
T1215	**Vallo di Nera,**	**0.24**	**297**	⇑	P	Pg	14 25 54.8	+0.3
T1215					S	Sg	14 25 58.8	+0.7
T1215					AML	AML		
	comp=E,778µm,0.2s							
T1215					AML	AML		
	comp=N,775µm,0.7s							
T1215					AML	AML		
	comp=E,780µm,0.2s							
T1215					AML	AML		
	comp=N,780µm,0.7s							
T1241	**Roccafluvione,**	**0.26**	**50**	⇑	P	Pg	14 25 55.1	+0.3
T1241					S	Sg	14 25 59.1	+0.6
T1241					AML	AML		
	comp=N,1161µm,0.9s							
T1241					AML	AML		
	comp=E,2320µm,0.9s							
T1241					AML	AML		
	comp=E,2380µm,0.9s							
T1241					AML	AML		
	comp=N,1285µm,1.0s							
ARRO	**Arrone**	**0.31**	**249**		P	Pg	14 25 56.1	+0.3
ARRO					AML	AML		
	comp=E,874µm,0.2s							
ARRO					AML	AML		
	comp=N,972µm,0.2s							
ARRO					AML	AML		
	comp=E,874µm,0.2s							
ARRO					AML	AML		
	comp=N,970µm,0.2s							
ARRO					AML	AML		
	comp=N,971µm,0.2s							
TERO	**Teramo**	**0.33**	**102**	⇑	P	Pg	14 25 56.3	+0.2
TERO					S	Sg	14 26 01.2	+0.5
TERO					AML	AML		
	comp=E,1695µm,0.9s							
TERO					AML	AML		
	comp=N,1765µm,0.1s							
TERO					AML	AML		
	comp=N,2190µm,0.1s							
TERO					AML	AML		
	comp=E,2025µm,0.9s							
TERO					AML	AML		
	comp=E,1690µm,0.9s							
FDMO	**Fiordimonte**	**0.35**	**351**	⇓	P	Pg	14 25 56.6	+0.2
FDMO					S	Sg	14 26 01.7	+0.6
FDMO					AML	AML		
	comp=N,913µm,0.3s							
FDMO					AML	AML		
	comp=E,772µm,1.1s							
CESI	**CESI - Serrava**	**0.36**	**329**		P	Pg	14 25 57.0	+0.3
CESI					S	Sg	14 26 02.5	+0.8
CESI					AML	AML		
	comp=E,750µm,1.0s							
CESI					AML	AML		
	comp=N,1025µm,1.3s							
GIGS	**Gran Sasso**	**0.39**	**129**	⇓	P	Pg	14 25 57.2	+0.1
GIGS					S	Sg	14 26 03.0	+0.7
GIGS					AML	AML		
	comp=E,204µm,0.2s							
GIGS					AML	AML		
	comp=N,212µm,0.3s							
GIGS					AML	AML		
	comp=E,204µm,0.2s							
GUMA	**Gualdo di Mace**	**0.39**	**19**	⇑	P	Pb	14 25 57.8	-0.4
GUMA					S	Sb	14 26 04.4	+0.3
GUMA					AML	AML		
	comp=N,2985µm,0.5s							
GUMA					AML	AML		
	comp=N,3375µm,0.5s							
GUMA					AML	AML		
	comp=E,3070µm,0.2s							
GUMA					AML	AML		
	comp=E,4020µm,0.3s							
CSP1	**Cessapalombo**	**0.40**	**5**	⇑	P	Pg	14 25 57.6	+0.2
CSP1					S	Sb	14 26 03.7	-0.8
FIAM	**Fiamignano**	**0.42**	**184**	⇑	P	Pg	14 25 58.0	+0.2
FIAM					AML	AML		
	comp=N,378µm,0.6s							
FIAM					AML	AML		
	comp=E,972µm,0.3s							
CESX	**Cesi**	**0.44**	**259**	⇑	P	Pg	14 25 58.0	+0.1
CESX					AML	AML		
	comp=E,476µm,0.9s							
CESX					AML	AML		
	comp=N,616µm,0.4s							
OFFI	**Offida**	**0.46**	**58**	⇑	P	Pb	14 25 59.5	+0.2
OFFI					AML	AML		
	comp=E,1770µm,0.4s							
OFFI					AML	AML		
	comp=N,2490µm,0.4s							
ASSB	**Assisi San Ben**	**0.51**	**314**	⇓	P	Pg	14 25 59.5	+0.2
FAGN	**Fagnano**	**0.53**	**144**	⇓	P	Pg	14 25 59.8	+0.1
FAGN					AML	AML		
	comp=E,688µm,0.9s							
FAGN					AML	AML		
	comp=N,674µm,0.3s							
FAGN					AML	AML		
	comp=E,688µm,0.9s							
MTL1	**Matelica**	**0.57**	**349**		P	Pg	14 25 58.4	-2.2
VCEL	**Villa Celiera**	**0.58**	**120**	⇑	P	Pg	14 26 01.1	+0.3
VCEL					S	Sn	14 26 12.0	-1.0
VCEL					AML	AML		
	comp=E,550µm,0.3s							
VCEL					AML	AML		
	comp=N,628µm,1.3s							
VCEL					AML	AML		
	comp=N,628µm,1.3s							
SNTG	**Esanatoglia**	**0.58**	**344**	⇑	P	Pg	14 26 00.9	+0.1
SNTG					AML	AML		
	comp=E,190µm,0.5s							
SNTG					AML	AML		
	comp=N,224µm,0.5s							
ATCC	**AVT- Casa Cast**	**0.62**	**322**		P	Pg	14 26 01.7	+0.2
ATCC					S	Sb	14 26 12.0	+1.2
ATCC					AML	AML		
	comp=E,260µm,0.2s							
ATCC					AML	AML		
	comp=E,261µm,0.2s							
ATCC					AML	AML		
	comp=N,298µm,0.3s							
EL6	**Elcito**	**0.64**	**356**	⇓	P	Pg	14 26 01.6	-0.2
T0110	**Collepietro**	**0.65**	**135**		P	Pg	14 26 01.9	-0.1
T0110					AML	AML		
	comp=N,294µm,0.3s							
T0110					AML	AML		
	comp=E,358µm,0.3s							
T0110					AML	AML		
	comp=N,295µm,0.3s							
SRES	**S.Oreste - Sor**	**0.66**	**227**	⇓	P	Pg	14 26 02.5	+0.2
SRES					AML	AML		
	comp=E,163µm,0.5s							
SRES					AML	AML		
	comp=N,146µm,1.0s							
CING	**Cingoli**	**0.68**	**2**		P	Pg	14 26 02.9	+0.3
CING					AML	AML		
	comp=E,230µm,0.4s							
CING					AML	AML		
	comp=N,192µm,1.5s							
CERT	**Cerreto**	**0.76**	**190**	⇓	P	Pg	14 26 03.5	-0.5
CERT					AML	AML		
	comp=N,256µm,0.5s							
CERT					AML	AML		
	comp=E,429µm,0.5s							
SSFR	**Montelago di S**	**0.79**	**340**	⇑	P	Pb	14 26 05.0	0.0
MGAB	**Montegabbione**	**0.80**	**286**	⇑	P	Pb	14 26 05.4	+0.2
MGAB					AML	AML		
	comp=N,282µm,1.0s							
MGAB					AML	AML		
	comp=E,388µm,1.1s							
ARVD	**Arcevia**	**0.82**	**349**		P	Pg	14 26 05.2	0.0
ARVD					S	Sn	14 26 19.0	+0.3
ARVD					AML	AML		
	comp=E,153µm,0.4s							
ARVD					AML	AML		
	comp=N,144µm,0.8s							
INTR	**Introdacqua**	**0.88**	**141**	⇓	P	Pg	14 26 05.6	-0.7
INTR					AML	AML		
	comp=E,110µm,0.6s							
INTR					AML	AML		
	comp=N,224µm,0.7s							
INTR					AML	AML		
	comp=N,186nm,0.8s							
INTR					AML	AML		
	comp=N,225µm,0.7s							
INTR					AML	AML		
	comp=E,110µm,0.6s							
INTR					AML	AML		
	comp=E,185nm,1.3s							
SACS	**San Casciano d**	**0.93**	**280**	⇓	P	Pn	14 26 09.1	+0.8
VIVA	**Pratoni del Vi**	**0.98**	**197**		S	Sg	14 26 21.0	-0.2
CAFI	**Castiglion Fio**	**1.08**	**306**	⇑	P	Pn	14 26 11.9	+1.6
SFI	**Santa Sofia**	**1.55**	**322**	⇑	P	Pn	14 26 15.3	-1.4
ZCCA	**Zocca**	**2.30**	**317**	⇑	P	Pn	14 26 25.6	-1.4
ZCCA					AML	AML		
	comp=E,247µm,0.1s							
ZCCA					AML	AML		
	comp=N,504µm,0.1s							

ROM 01 14:26:42.7±0.1, **42˚.732N**±0˚.004×**13˚.144E**±0˚.005, **h14**km, **Md1.0**/5, **Error ellipse: s-maj=0.4km s-min=0.3km az=159.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
T1202	**Accumoli, Fraz**	**0.07**	**115**		P	Pg	14 26 45.8	+0.1
T1202					S	Sg	14 26 47.7	+0.1
T1202					AML	AML		
	comp=E,412µm,0.3s							
T1202					AML	AML		
	comp=N,902µm,0.3s							
T1202					END			
T1242	**Castelluccio d**	**0.11**	**25**		P	Pg	14 26 46.2	+0.2
T1242					S	Sg	14 26 48.6	+0.2
T1242					END			
T1244	**Arquata del Tr**	**0.12**	**77**		P	Pg	14 26 46.5	+0.4
T1244					S	Sb	14 26 49.2	-0.4
T1244					END			
LNSS	**Leonessa**	**0.15**	**211**		P	Pg	14 26 46.8	+0.2
LNSS					S	Sb	14 26 50.0	-0.5
LNSS					END			
T1215	**Vallo di Nera,**	**0.21**	**289**		P	Pg	14 26 47.8	+0.3
T1215					S	Sg	14 26 51.5	+0.7
T1215					END			
MMO1	**Montemonaco**	**0.21**	**39**		P	Pg	14 26 48.0	+0.4
T1243	**Rocca Santa Ma**	**0.23**	**99**		P	Pg	14 26 48.0	+0.2
T1243					S	Sg	14 26 51.9	+0.7
RM33	**Pellescritta (**	**0.23**	**167**		P	Pg	14 26 48.2	+0.4
RM33					S	Sg	14 26 51.8	+0.6
TERO	**Teramo**	**0.36**	**108**		P	Pg	14 26 50.2	+0.2
ARVD	**Arcevia**	**0.78**	**349**		S	Sn	14 27 10.0	-1.0
LPEL	**Lama dei Pelig**	**1.03**	**131**		S	Sb	14 27 15.0	-0.8

*IDC **01** 14:29:14.6±2.8, 5˚.85S×130˚.52E, h108km±40km, mb3.1/1, mbtmp3.9/5, Error ellipse: s-maj=83.8km s-min=21.6km az=87.0*
ISC 01 14:29:14.2±1.0, **5˚.89S**±0˚.07×**130˚.6E**±0˚.2, **h150**km, **n5,**

σ5ᵍ21/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.03**	**8**	P	**Pn**	**14 30 27.4**	**-0.6**
	21nm,0.3s,baz=116,slow=23,SNR=28						
SIJI				S	**Sn**	**14 31 19.6**	**-6.0**
	80nm,0.2s,baz=269,slow=24,SNR=18						
FITZ	**Fitzroy Crossi**	**13.07**	**201**	P	**Pn**	**14 32 15.8**	**+1.3**
	2.8nm,1.0s,baz=22,slow=12,SNR=10.0						
FITZ				S	**Sn**	**14 34 32.4**	**-6.7**
	1.0nm,0.3s,baz=326,slow=4.2,SNR=2.2						
WRA	**Warramunga Arr**	**14.44**	**166**	P	**Pn**	**14 32 34.0**	**+2.2**
	1.8nm,0.8s,baz=348,slow=12,SNR=17						
WRA				S	Sn	14 35 00.6	-11
	0.7nm,0.3s,baz=346,slow=25,SNR=10						
ASAR	**Alice Springs**	**17.96**	**170**	P	**Pn**	**14 33 17.9**	**+3.1**
	2.2nm,0.6s,baz=351,slow=10.0,SNR=59						
ASAR				S	**S**	**14 36 27.7**	**-4.0**
	0.4nm,0.7s,baz=350,slow=25,SNR=3.4						
MKAR	**Makanchi Array**	**67.63**	**326**	P	**P**	**14 39 59.6**	**+4.6**
	0.3nm,0.6s,baz=124,slow=7.7,SNR=3.7						
	0.3nm,0.6s						

*IDC **01** 14:53:49.8±3.3,32°.29S×178°.71W,h0ᵏᵐ,mb3.5/2, mbtmp3.6/3,ML3.8/1,Error ellipse: s-maj=71.6km s-min=46.9km az=110.0*

ISC 01 14:53:56.2±3.2,32°.1S±0°.1×180°.0E±0°.6,h35ᵏᵐ,n13, σ0ᵍ23/4**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.58**	**200**	Pn	**Pn**	**14 55 30.5**	**+0.1**
	1.8nm,0.3s,baz=335,slow=14,SNR=19						
URZ				Sn	**Sn**	**14 56 44.0**	**-0.1**
	1.3nm,0.3s,baz=352,slow=21,SNR=7.3						
	3.5nm,0.3s						
ASAR	**Alice Springs**	**41.34**	**270**	P	P	15 01 46.6	+7.9
	0.2nm,0.6s,baz=107,slow=7.5,SNR=9.0						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**42.48**	**275**	P	P	15 01 56.0	+7.8
	0.3nm,0.3s,baz=112,slow=8.0,SNR=21						
	0.3nm,0.3s						
SAUI	**Saumlaki**	**51.10**	**287**	P	P	15 02 50.1	-5.5
FAKI	**Fak Fak**	**53.36**	**293**	P	**P**	**15 03 12.4**	**0.0**
H03S2	**Juan Fernandez**	**80.95**	**124**	T	T	16 34 25.0	
	baz=236						
H03S1	**Juan Fernandez**	**80.96**	**124**	T	T	16 34 26.8	
	baz=236						
H03S3	**Juan Fernandez**	**80.97**	**124**	T	T	16 34 34.1	
	baz=236						
H03N3	**Juan Fernandez**	**81.16**	**124**	T	T	16 34 51.5	
	baz=240,slow=74						
H03N2	**Juan Fernandez**	**81.16**	**124**	T	T	16 34 50.2	
	baz=240						
H03N1	**Juan Fernandez**	**81.17**	**124**	T	T	16 34 45.2	
	baz=240,slow=74						
H10N1	**ASCENSION HYDR**	**37.94**	**158**	T	T	17 49 13.0	
	SNR=15						
FINES	**FINESS Array B**	**146.10**	**338**	PKPbc	**PKPab**	**15 13 32.3**	**-0.1**
	1.8nm,0.8s,baz=49,slow=4.2,SNR=2.1						

*BJI **01** 14:58:41.0±0.0,18°.30S×168°.00E,h10ᵏᵐ,mb5.1/23, mB5.2/8*
*IDC **01** 14:58:42.0±0.6,18°.33S×167°.82E,h0ᵏᵐ,mb4.7/25, mbtmp4.7/27,ML4.5/2,MS3.9/36,Error ellipse: s-maj=16.9km s-min=14.2km az=108.0*
*NOU **01** 14:58:44.3,18°.36S×167°.78E,h7ᵏᵐ,mb5.0/50,Vanuatu Islands*
*NEIC **01** 14:58:49.3±1.9,18°.56S±0°.09×167°.65E±0°.08,h48ᵏᵐ±8km, mb4.8/32,Error ellipse: s-maj=12.8km s-min=11.3km az=167.0*

ISC 01 14:58:46.4±0.3,18°.42S±0°.04×167°.78E±0°.05,h29ᵏᵐ**,n212,** σ1ᵍ**34**/183**,mb4.9**/53**,MS3.9**/36**,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.80**	**29**	P	**Pn**	**14 58 59.4**	**-2.2**
RTV	**Rentapao**	**0.88**	**44**	P	**Pn**	**14 59 01.0**	**-1.8**
LIFNC	**LIFOU**	**2.40**	**192**	Pn	**Pn**	**14 59 20.5**	**-3.2**
MARNC	**Mare, Loyalty**	**3.05**	**176**	Pn	**Pn**	**14 59 31.3**	**-1.4**
MARNC	**Mare, Loyalty**	**3.05**	**176**	P	**Pn**	**14 59 31.5**	**-1.2**
YATNC	**Mamie plateau,**	**3.71**	**193**	P	**Pn**	**14 59 40.9**	**-0.9**
DZM	**Mont Dzumac**	**3.84**	**199**	*e*Pn	**Pn**	**14 59 44.2**	**+0.6**
	219nm,1.2s						
DZM				*e*Sn	**Sn**	**15 00 19.7**	**-8.1**
	306nm,0.8s						
DZM	**Mont Dzumac**	**3.84**	**199**	Pn	**Pn**	**14 59 43.5**	**-0.2**
	8.6nm,0.3s,baz=43,slow=19,SNR=110						
DZM				Sn	**Sn**	**15 00 26.0**	**-1.8**
	19nm,0.3s,baz=328,slow=22,SNR=9.5						
DZM				LR	LR	15 01 09.9	
	comp=Z,1μm,18.4s,baz=36,slow=38						
	27nm,0.3s						
DZM	**Mont Dzumac**	**3.84**	**199**		**Pn**	**14 59 43.6**	**0.0**
DZM	**Mont Dzumac**	**3.84**	**199**	P	**Pn**	**14 59 44.0**	**+0.4**
NOUC	**Port Laguerre**	**3.91**	**200**	P	**Pn**	**14 59 44.4**	**-0.1**
KOUNC	**Koumac, New Ca**	**3.92**	**237**	Pn	**Pn**	**14 59 44.3**	**-0.3**
KOUNC	**Koumac, New Ca**	**3.92**	**237**	P	**Pn**	**14 59 44.9**	**+0.3**
ONTNC	**Ouen Toro**	**4.06**	**198**	Pn	**Pn**	**14 59 46.4**	**-0.2**
ONTNC	**Ouen Toro**	**4.06**	**198**	P	**Pn**	**14 59 47.0**	**+0.5**
OUENC	**Ouen Island, N**	**4.07**	**192**	Pn	**Pn**	**14 59 46.6**	**-0.1**
OUENC	**Ouen Island, N**	**4.07**	**192**	P	**Pn**	**14 59 47.0**	**+0.3**
PINNC	**Pines Island,**	**4.18**	**184**	Pn	**Pn**	**14 59 48.2**	**0.0**
MSVF	**Nonsavu**	**9.79**	**88**	Pn	**Pn**	**15 01 09.4**	**+4.0**
	0.5nm,0.3s,baz=268,slow=17,SNR=3.1						
MSVF				LR	LR	15 04 21.4	
	comp=Z,3μm,18.3s,baz=213,slow=35						
MSVF	**Nonsavu**	**9.79**	**88**	Pn	**Pn**	**15 01 09.9**	**+4.5**
MSVF	**Nonsavu**	**9.79**	**88**	P	**Pn**	**15 01 07.6**	**+2.2**
HNR	**Honiara**	**11.73**	**319**	Pn	**Pn**	**15 01 31.8**	**0.0**
	12nm,0.3s,baz=168,slow=12,SNR=3.1						
	142nm,0.6s						
RAO	**Raoul Island**	**16.93**	**132**	LR	LR	15 08 04.9	
	comp=Z,417nm,18.4s,baz=144,slow=33						
EIDS	**Eidsvold**	**16.96**	**243**		**Pn**	**15 02 39.5**	**-2.1**
EIDS				IAmb	IAmb	15 02 59.4	
	comp=Z,57nm,1.4s						
EIDS	**Eidsvold**	**16.96**	**243**	P	**Pn**	**15 02 41.8**	**+0.2**
OUZ	**Omahuta**	**17.51**	**164**		**Pn**	**15 02 46.9**	**-1.5**
ARMA	**Armidale**	**18.92**	**228**	P	**P**	**15 03 03.4**	**-1.6**
ARMA	**Armidale**	**18.92**	**228**	P	**Pn**	**15 03 07.6**	**+1.8**
RMQ	**Roma**	**19.31**	**242**	P	**Pn**	**15 03 12.5**	**+2.1**
AFI	**Afiamalu**	**20.14**	**80**	P	Pn	15 03 20.8	+0.4
	comp=Z,27nm,0.9s,baz=242,slow=17,SNR=4.6						
AFI				LR	LR	15 09 27.1	
	comp=Z,415nm,21.9s,baz=265,slow=32						
AFI	**Afiamalu**	**20.14**	**80**	P	Pn	15 03 21.0	+0.6
AFI				IAmb	IAmb	15 03 41.3	
	comp=Z,36nm,1.0s						
CTA	**Charters Tower**	**20.39**	**262**	P	Pn	15 03 22.9	-0.4
	comp=Z,32nm,0.8s,baz=86,slow=11,SNR=36						
CTA				LR	LR	15 10 36.6	
	comp=Z,516nm,18.6s,baz=82,slow=35						
	comp=Z,32nm,0.8s						
CTA	**Charters Tower**	**20.39**	**262**	P	Pn	15 03 23.3	0.0
CTAO	**Charters Tower**	**20.39**	**262**		Pn	15 03 22.4	-0.8
CTAO				IAmb	IAmb	15 03 24.2	
	comp=Z,36nm,0.8s						
CTAO	**Charters Tower**	**20.39**	**262**	P	Pn	15 03 23.4	+0.1
NTLH	**Newcastle Hard**	**20.40**	**222**	P	Pn	15 03 24.8	+1.6
KRVT	**Keravat (AS076**	**20.84**	**310**	P	**P**	**15 03 25.1**	**-0.9**
	comp=Z,46nm,0.8s,baz=220,slow=7.9,SNR=9.6						
	comp=Z,46nm,0.8s						
URZ	**Urewera**	**21.38**	**159**	P	**P**	**15 03 33.7**	**+2.2**
	comp=Z,7.4nm,0.7s,baz=340,slow=8.5,SNR=6.4						
URZ				LR	LR	15 11 02.2	
	comp=Z,394nm,18.8s,baz=31,slow=34						
	comp=Z,7.4nm,0.7s						
URZ	**Urewera**	**21.38**	**159**	P	**P**	**15 03 32.6**	**+1.1**
URZ				IAmb	IAmb	15 04 00.4	
	comp=Z,29nm,0.9s						
SYDH	**Sydney Hard Ro**	**21.57**	**222**	P	**P**	**15 03 35.4**	**+1.7**
PMG	**Port Moresby**	**21.91**	**291**	P	**P**	**15 03 38.5**	**+1.0**
	comp=Z,16nm,0.8s,baz=95,slow=12,SNR=2.4						
PMG				LR	LR	15 11 24.7	
	comp=Z,349nm,18.2s,baz=106,slow=35						
	comp=Z,16nm,0.8s						
BKZ	**Black Stump Fm**	**22.01**	**162**	P	**P**	**15 03 40.7**	**+2.3**
MTSU	**Mount Surprise**	**22.28**	**267**	P	**P**	**15 03 42.2**	**+0.7**
QLP	**Quilpie**	**23.19**	**245**	P	**P**	**15 03 52.3**	**+1.4**
CNB	**Canberra Magne**	**23.45**	**220**	P	**P**	**15 03 55.9**	**+2.5**
CAN	**Canberra**	**23.68**	**221**		**P**	**15 03 55.8**	**+0.2**
CAN	**Canberra**	**23.68**	**221**	P	**P**	**15 03 57.7**	**+2.1**
CMSA	**Cobar Meteorol**	**23.84**	**233**	P	**P**	**15 03 58.7**	**+1.5**
INKA	**Innaminka**	**26.49**	**245**	P	**P**	**15 04 23.4**	**+2.0**
QIS	**Mount Isa**	**26.63**	**261**	P	**P**	**15 04 23.3**	**+0.6**
STKA	**Stephens Creek**	**27.14**	**235**	P	**P**	**15 04 28.4**	**+1.3**
	comp=Z,22nm,0.8s,baz=60,slow=7.8,SNR=41						
STKA				LR	LR	15 14 18.4	
	comp=Z,163nm,20.3s,baz=49,slow=34						
	comp=Z,22nm,0.8s						
STKA	**Stephens Creek**	**27.14**	**235**	P	**P**	**15 04 27.8**	**+0.7**
STKA	**Stephens Creek**	**27.14**	**235**	P	**P**	**15 04 28.9**	**+1.8**
TOO	**Toolangi**	**27.29**	**221**	P	**P**	**15 04 28.5**	**0.0**
TOO				IAmb	IAmb	15 04 31.4	
	comp=Z,46nm,1.4s						
TOO	**Toolangi**	**27.29**	**221**	P	**P**	**15 04 30.2**	**+1.7**
ARPS	**Mount Arapiles**	**29.22**	**226**	P	**P**	**15 04 47.8**	**+2.1**
HTT	**Hallett**	**29.82**	**234**	P	**P**	**15 04 52.4**	**+1.3**
RAR	**Rarotonga**	**30.62**	**101**	LR	LR	15 14 56.8	
	comp=Z,239nm,20.9s,baz=282,slow=32						
WHYH	**Whyalla**	**30.72**	**236**	P	**P**	**15 05 00.7**	**+1.7**
OOD	**Oodnadatta**	**30.88**	**247**	P	**P**	**15 05 01.6**	**+1.2**
GENI	**Genyem**	**31.29**	**297**	P	**P**	**15 05 04.0**	**-0.2**
	comp=Z,32nm,0.9s						
GENI	**Genyem**	**31.29**	**297**	P	**P**	**15 05 05.3**	**+1.1**
WR0	**Warramunga Arr**	**31.40**	**262**	P	**P**	**15 05 03.7**	**-1.5**
WB0	**Warramunga Arr**	**31.55**	**262**	P	**P**	**15 05 05.5**	**-1.0**
WB0				IAmb	IAmb	15 05 06.3	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**31.58**	**262**	P	**P**	**15 05 05.6**	**-1.1**
WB2				IAmb	IAmb	15 05 09.6	
	comp=Z,6.6nm,0.8s						
WRAB	**Tennant Creek**	**31.58**	**262**	P	**P**	**15 05 05.8**	**-0.9**
WRAB	**Tennant Creek**	**31.58**	**262**	P	**P**	**15 05 05.9**	**-0.8**
WRA	**Warramunga Arr**	**31.59**	**262**	P	**P**	**15 05 05.8**	**-1.0**
	comp=Z,6.6nm,0.8s,baz=93,slow=8.5,SNR=57						
WRA				LR	LR	15 16 57.1	
	comp=Z,205nm,19.6s,baz=54,slow=35						
	comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	**31.59**	**262**	P	**P**	**15 05 05.5**	**-1.4**
BBOO	**Buckleboo**	**31.84**	**237**	P	**P**	**15 05 06.8**	**-2.1**
BBOO				IAmb	IAmb	15 05 10.7	
	comp=Z,27nm,0.8s						
BBOO	**Buckleboo**	**31.84**	**237**	P	**P**	**15 05 09.8**	**+0.9**
AS31	**Alice Springs**	**31.99**	**255**	P	**P**	**15 05 09.8**	**-0.5**
AS31				IAmb	IAmb	15 05 10.7	
	comp=Z,7.1nm,0.5s						
ASAR	**Alice Springs**	**31.99**	**255**	P	**P**	**15 05 09.8**	**-0.6**
	comp=Z,15nm,0.6s,baz=80,slow=8.5,SNR=368						
	comp=Z,15nm,0.6s						
ASAR	**Alice Springs**	**31.99**	**255**	P	**P**	**15 05 10.1**	**-0.3**
MULG	**Mulgathing**	**32.79**	**242**	P	**P**	**15 05 17.9**	**+0.7**
WRKA	**Warakurna**	**37.16**	**253**	P	**P**	**15 05 55.0**	**-0.1**
KNRA	**Kununurra**	**37.35**	**268**	P	**P**	**15 05 56.1**	**-0.6**
FAKI	**Fak Fak**	**38.05**	**290**	P	**P**	**15 06 01.8**	**-0.8**
FAKI	**Fak Fak**	**38.05**	**290**	P	**P**	**15 06 01.7**	**-0.8**
	comp=Z,39nm,1.1s						
GUMO	**Guam**	**39.02**	**323**	LR	LR	15 20 10.6	
	comp=Z,97nm,21.8s,baz=142,slow=33						
SIJI	**Sorong**	**39.85**	**292**	P	**P**	**15 06 17.1**	**-0.6**
	comp=Z,20nm,0.8s,baz=92,slow=6.4,SNR=11						
SIJI				LR	LR	15 23 05.7	
	comp=Z,200nm,19.2s,baz=76,slow=37						
	comp=Z,20nm,0.8s						
SWI	**Sorong**	**39.86**	**292**	P	**P**	**15 06 17.4**	**-0.4**
	comp=Z,32nm,1.0s						
FITZ	**Fitzroy Crossi**	**39.95**	**264**	P	**P**	**15 06 18.8**	**+0.2**
	comp=Z,52nm,0.7s,baz=103,slow=6.9,SNR=71						
	comp=Z,52nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.95**	**264**	P	**P**	**15 06 18.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.95**	**264**	P	**P**	**15 06 18.9**	**+0.4**
TBI	**Tubuai**	**40.14**	**105**	*e*LR	LR	15 17 43.3	
	comp=Z,273nm,29.0s						
PPT2	**Papeete2**	**40.50**	**96**	*e*LR	LR	15 17 55.8	
	comp=Z,407nm,26.5s						
PPT	**Papeete**	**40.50**	**96**	LR	LR	15 21 49.3	
	comp=Z,91nm,18.6s,baz=285,slow=34						
LBMI	**Labuha**	**43.30**	**290**	P	**P**	**15 06 46.8**	**+0.8**
	comp=Z,13nm,1.4s						
BATI	**Baumata**	**43.43**	**275**	P	**P**	**15 06 47.6**	**+0.6**
	comp=Z,26nm,0.7s,baz=97,slow=4.6,SNR=3.5						
BATI				LR	LR	15 26 04.6	
	comp=Z,332nm,18.0s,baz=260,slow=38						
	comp=Z,26nm,0.7s						
BATI	**Baumata**	**43.43**	**275**	P	**P**	**15 06 47.4**	**+0.4**
	comp=Z,24nm,1.0s						
SANI	**Sanana**	**44.06**	**287**	P	**P**	**15 06 52.1**	**0.0**
	comp=Z,32nm,1.0s						
SANI	**Sanana**	**44.06**	**287**	P	**P**	**15 06 52.6**	**+0.5**
	comp=Z,32nm,1.0s						
PSA00	**Pilbara Seismi**	**45.02**	**258**	P	**P**	**15 06 59.4**	**-0.3**
PSA00				IAmb	IAmb	15 07 00.9	
	comp=Z,10nm,0.9s						
PSA00	**Pilbara Seismi**	**45.02**	**258**	P	**P**	**15 07 00.1**	**+0.4**
MBWA	**Marble Bar**	**45.16**	**258**	P	**P**	**15 07 00.5**	**-0.4**
MBWA	**Marble Bar**	**45.16**	**258**	P	**P**	**15 07 01.3**	**+0.5**
MBWA	**Marble Bar**	**45.16**	**258**	P	**P**	**15 07 00.4**	**-0.4**
MBWA				pP	**sP**	**15 07 12.9**	**+2.0**
MBWA				sP	**pwP**	**15 07 18.2**	**+3.0**
EDFI	**Ende, Flores**	**45.70**	**276**	P	**P**	**15 07 04.7**	**-0.6**
	comp=Z,7.2nm,1.1s						
MEEK	**Meekatharra**	**45.91**	**251**	P	**P**	**15 07 07.5**	**+0.7**
KMSI	**Cibinong**	**46.99**	**289**	P	**P**	**15 07 15.0**	**-0.3**
	comp=Z,43nm,0.8s						
SGSI	**Sangihe**	**47.06**	**294**	P	**P**	**15 07 15.0**	**-0.8**
	comp=Z,836nmcomp=Z,31nm,0.7s						
NWAO	**Narrogin (SRO)**	**47.36**	**242**	P	**P**	**15 07 18.3**	**+0.3**
	comp=Z,16nm,0.6s,baz=298,slow=7.2,SNR=13						
	comp=Z,16nm,0.6s						
NWAO	**Narrogin (SRO)**	**47.36**	**242**	P	**P**	**15 07 17.1**	**-1.0**
NWAO	**Narrogin (SRO)**	**47.36**	**242**	P	**P**	**15 07 17.3**	**-0.7**
NWAO				pP	**sP**	**15 07 26.8**	**-1.4**
NWAO				sP	**pwP**	**15 07 33.8**	**+1.2**
WBSI	**Waikabubak, Su**	**47.63**	**274**	P	**P**	**15 07 20.5**	**+0.2**
	comp=Z,47nm,1.0s						
MORW	**Morawa**	**48.20**	**247**	P	**P**	**15 07 23.6**	**-1.0**
APSI	**Ampana**	**48.48**	**286**	P	**P**	**15 07 27.8**	**+0.9**
	comp=Z,16nm,0.9s						
KAPI	**Kappang**	**48.72**	**280**	P	**P**	**15 07 28.7**	**0.0**
	comp=Z,8.8nm,0.5s,baz=152,slow=8.4,SNR=2.5						
KAPI				LR	LR	15 29 30.5	
	comp=Z,77nm,18.4s,baz=128,slow=38						
	comp=Z,8.8nm,0.5s						
TTSI	**Tana Toraja**	**49.35**	**282**	P	**P**	**15 07 32.4**	**-1.1**
	comp=Z,12nm,0.8s						
TOLI2	**Tolitoli**	**50.11**	**288**	P	**P**	**15 07 38.8**	**-0.5**
TWSI	**Taliwang, Sumb**	**50.26**	**274**	P	**P**	**15 07 38.7**	**-1.8**
	comp=Z,30nm,1.2s						
MPSI	**Mapaga**	**50.59**	**286**	P	**P**	**15 07 42.7**	**-0.3**
	comp=Z,4μmcomp=Z,52nm,0.9s						
TAOE	**Nuku Hiva Isla**	**51.34**	**87**	*e*LR	LR	15 22 59.6	
	comp=Z,266nm,22.4s						
JCJ	**Chichijima**	**51.61**	**331**	LR	LR	15 28 21.6	
	comp=Z,62nm,20.5s,baz=82,slow=34						
KKM	**Kota Kinabalu**	**56.35**	**291**	P	**P**	**15 08 25.6**	**+0.2**
JHJ	**Hachijo jima 2**	**57.81**	**332**	LR	LR	15 33 27.5	
	comp=Z,34nm,19.1s,baz=173,slow=36						
STKI	**Sintang**	**58.24**	**282**	P	**P**	**15 08 39.8**	**+1.2**
VNDA	**Vanda**	**59.20**	**181**	P	**P**	**15 08 44.8**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=1.2,slow=7.5,SNR=6.9						
VNDA				LR	LR	15 31 40.4	
	comp=Z,35nm,18.8s,baz=354,slow=33						
	comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**59.20**	**181**	P	**P**	**15 08 43.3**	**-1.0**
VNDA				IAmb	IAmb	15 08 57.2	
	comp=Z,7.5nm,1.3s						
VNDA	**Vanda**	**59.20**	**181**	P	**P**	**15 08 44.1**	**-0.2**
VNDA				pP	**pwP**	**15 08 57.8**	**-0.5**
SBA	**Scott Base**	**59.46**	**180**	P	**P**	**15 08 48.1**	**+2.0**
SBA				IAmb	IAmb	15 08 48.7	
	comp=Z,8.8nm,0.9s						
SBA	**Scott Base**	**59.46**	**180**	P	**P**	**15 08 46.9**	**+0.7**
SBA				pP	**pwP**	**15 08 60.0**	**-0.1**
LEM	**Lembang**	**59.59**	**273**	P	**P**	**15 08 48.8**	**+0.6**
	comp=Z,48nm,0.8s,baz=117,slow=14,SNR=11						
	comp=Z,48nm,0.8s						
CASY	**Casey**	**60.32**	**203**	P	**P**	**15 08 52.1**	**0.0**
CASY				pP	**sP**	**15 09 04.2**	**+1.9**
MJAR	**Matsushiro Arr**	**61.40**	**333**	P	**P**	**15 09 00.2**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=156,slow=9.3,SNR=4.2						
	comp=Z,0.9nm,0.5s						
CCD	**Concordia, Ant**	**61.40**	**192**	P	**P**	**15 09 00.1**	**+0.1**
CCD				pP	**pwP**	**15 09 12.6**	**-1.3**
YHNB	**Yeheng**	**62.28**	**312**	P	**P**	**15 09 05.4**	**-0.7**
JHS	**Saijyo**	**62.50**	**328**	P	**P**	**15 09 06.4**	**-0.9**
JHS				IAmb	IAmb	15 09 27.8	
	comp=Z,19nm,1.3s						
NJ2	**Nanjing**	**68.67**	**317**	*e*P	**P**	**15 09 46.8**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**70.39**	**333**	P	**P**	**15 09 57.6**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=100,slow=4.4,SNR=4.7						
	comp=Z,2.9nm,0.8s						
PSI	**Prapat**	**70.92**	**280**	P	**P**	**15 10 00.7**	**-1.1**
	comp=Z,11nm,1.0s,baz=90,slow=5.1,SNR=5.5						
	comp=Z,11nm,1.0s						
QSPA	**South Pole Qui**	**71.62**	**180**	P	**P**	**15 10 05.2**	**+0.2**
QSPA				IAmb	IAmb	15 10 10.1	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**71.62**	**180**	P	**P**	**15 10 04.6**	**-0.4**
QSPA				pP	**pwP**	**15 10 18.0**	**-1.2**
PETK	**Petropavlovsk-**	**71.77**	**354**	P	**P**	**15 10 06.0**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=165,slow=7.7,SNR=7.2						
	comp=Z,5.2nm,0.8s						
CN2	**Changchun**	**73.05**	**329**	*e*P	**P**	**15 10 16.2**	**+2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN	**LuoYang**	**74.42**	**315**	*e*P	**P**	**15 10 20.8**	**-1.1**
LYN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLR	**Kul'dur**	**74.57**	**336**	P	**P**	**15 10 22.9**	**+0.6**
	comp=Z,6.9nm,0.9s,baz=130,slow=3.9,SNR=11						
	comp=Z,6.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**76.91**	**295**	P	**P**	**15 10 37.8**	**+1.3**
	comp=Z,6.7nm,0.8s,baz=130,slow=4.4,SNR=36						
	comp=Z,6.7nm,0.8s						
PZH	**PanZhiHua**	**78.11**	**303**	P	**P**	**15 10 44.0**	**+0.8**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,150nm,5.0s						
MAW	**Mawson**	**78.66**	**202**	P	**P**	**15 10 46.6**	**+1.3**
	comp=Z,5.2nm,0.9s,baz=103,slow=5.4,SNR=9.7						
MAW				LR	LR	15 42 49.5	
	comp=Z,55nm,18.1s,baz=104,slow=34						
	comp=Z,5.2nm,0.9s						
MAW	**Mawson**	**78.66**	**202**	P	**P**	**15 10 44.1**	**-1.3**
MA2	**Magadan**	**78.95**	**351**	LR	LR	15 40 36.7	
	comp=Z,66nm,21.9s,baz=178,slow=32						
LZH	**Lanzhou**	**81.16**	**313**	*e*P	**P**	**15 11 00.8**	**+1.2**
LZH				pP	sP	15 11 11.0	+0.9
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
BELA	**Belgrano 2**	**83.02**	**175**	P	**P**	**15 11 08.4**	**-0.2**
BELA				IAmb	IAmb	15 11 09.5	
	comp=Z,15nm,0.8s						
M19K	**Big River Lodg**	**85.51**	**17**	P	**P**	**15 11 20.7**	**-0.5**
M19K				IAmb	IAmb	15 11 47.1	
	comp=Z,5.3nm,1.2s						
GTA	**Gaotai**	**85.57**	**314**	*e*P	**P**	**15 11 22.9**	**+0.7**
GTA				pP	PcP	15 11 27.0	+1.9
GTA				sP	pP	15 11 30.0	+0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
YAK	**Yakutsk**	**85.69**	**343**	P	**P**	**15 11 21.8**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=159,slow=1.3,SNR=5.8						
YAK				LR	LR	15 49 31.5	
	comp=Z,49nm,18.4s,baz=94,slow=36						
	comp=Z,4.3nm,0.6s						
SONM	**Songino Array**	**85.74**	**324**	P	**P**	**15 11 23.0**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=142,slow=5.9,SNR=13						
SONM				LR	LR	15 50 25.8	
	comp=Z,37nm,18.0s,baz=166,slow=36						
	comp=Z,2.0nm,0.6s						
YBH	**Yreka Blue Hor**	**87.68**	**45**	LR	LR	15 45 57.0	
	comp=Z,73nm,18.6s,baz=260,slow=32						
PMSA	**Palmer Station**	**88.14**	**160**	LR	LR	15 46 25.6	
	comp=Z,48nm,18.7s,baz=220,slow=32						
PFO	**Pinyon Flats O**	**88.75**	**54**	LR	LR	15 43 20.0	
	comp=Z,76nm,20.5s,baz=242,slow=30						
TROLL	**Troll, Antarti**	**89.24**	**185**	P	**P**	**15 11 40.1**	**+0.7**
TROLL	**Troll, Antarti**	**89.24**	**185**	PKiKP	**PKiKP**	**15 16 34.1**	**-3.5**
TROLL	**Troll, Antarti**	**89.24**	**185**	P	P	15 11 52.8	+13
NVAR	**Mina Array Bea**	**89.31**	**49**	P	**P**	**15 11 39.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=239,slow=7.0,SNR=3.5						
	comp=Z,0.4nm,0.5s						
BBB	**Bella

comp=Z,43nm,1.0s,SNR=17
RETA Reutte 145.45 332 *i* P **PKPab 15 18 21.9 0.0**
comp=Z,15nm,0.6s,SNR=9.3
SQTA Sankt Quirin 145.45 331 *i* P **PKPab 15 18 22.2 +0.2**
comp=Z,33nm,0.6s,SNR=17
FETA Feichten 145.82 332 *i* P **PKPab 15 18 23.7 +0.2**
comp=Z,43nm,0.9s,SNR=24
DAVA Damuels 145.99 333 *i* P **PKPab 15 18 24.1 +0.1**
comp=Z,34nm,1.2s,SNR=10
KEST Kesra 154.29 316 PKPbc **PKiKP 15 18 44.7 +0.3**
comp=Z,4.1nm,0.8s,baz=26,slow=5.6,SNR=4.6
ESDC Sonseca Array 157.65 343 PKPab **PKPab 15 19 11.6 -0.8**
comp=Z,0.8nm,0.8s,baz=352,slow=3.9,SNR=5.3
TORD Torodi Ar. Bea 165.62 251 PKP **PKPdf 15 18 49.2 0.0**
comp=Z,1.3nm,1.1s,baz=104,slow=1.9,SNR=4.7
TORD PKPab **PKPab 15 19 47.8 -0.3**
comp=Z,3.1nm,0.9s,baz=98,slow=4.6,SNR=8.4

MAN 01 15:08:51.9, 13.49N×119.99E, h12km, mb4.4, ML3.2, MS3.0, 1C-9D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.35**	**46**	*i*eP	Pb	15 09 00.3	+0.3
PGP	**Puerto Galera**	**0.94**	**89**	*i*eP	Pg	15 09 09.7	-0.3
PGP				*i* S	Sg	15 09 20.5	-1.8
MACP	**Maragondon, Ca**	**1.04**	**43**	*i*eP	Pb	15 09 10.2	-1.7
TGY	**Tagaytay City**	**1.10**	**57**	*i*eP	Pn	15 09 15.4	+2.1
TGY				eS	Sb	15 09 25.9	-1.5
BUSP	**Coron**	**1.50**	**172**	*i*eP	Pg	15 09 20.5	-0.2
SJMP	**San Jose**	**1.51**	**133**	*i*eP	Pb	15 09 19.4	-0.4
LQP	**Lukban**	**1.63**	**68**	*i*eP	Pn	15 09 19.6	-1.0
LQP				eS	Sg	15 09 44.5	+0.1
BOAC	**Boac**	**1.81**	**91**	*i*eP	Pn	15 09 21.2	-1.7
PCPH	**Palayan**	**2.32**	**27**	*i*eP	Pn	15 09 30.5	+0.6
PCPH				eS	Sn	15 09 57.0	-1.4
SMPP	**San Manuel, Pa**	**2.73**	**14**	*i*eP	Pn	15 09 34.4	-1.1

IDC 01 15:12:29.5±8.2, 1.32S×101.13E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=442.3km s-min=26.7km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**29.22**	**257**	T	T	15 47 04.1	
	baz=80,slow=75,SNR=7.8						
H08S3	**Diego Garcia H**	**29.22**	**257**	T	T	15 47 00.1	
	baz=80,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**29.23**	**257**	T	T	15 46 59.9	
	baz=80,slow=75,SNR=7.6						
WRA	**Warramunga Arr**	**37.38**	**122**	P	P	15 19 44.5	+0.2
	0.2nm,0.7s,baz=298,slow=7.1,SNR=7.0						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**38.75**	**128**	P	P	15 19 55.6	-0.4
	0.2nm,0.6s,baz=303,slow=7.8,SNR=7.0						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**50.69**	**343**	P	P	15 21 30.8	-0.1
	0.4nm,0.6s,baz=161,slow=9.5,SNR=10						
	0.4nm,0.6s						

IDC 01 15:28:41.3±6.4, 29.74S×175.74W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=282.1km s-min=99.8km az=163.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.11**	**265**	P	P	15 36 59.3	-0.4
	0.2nm,0.8s,baz=110,slow=7.1,SNR=1.4						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**46.04**	**270**	P	P	15 37 07.1	0.0
	0.4nm,0.6s,baz=111,slow=7.5,SNR=7.1						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**138.34**	**349**	PKP	PKPdf	15 48 07.4	-0.4
	1.8nm,0.9s,baz=66,slow=1.1,SNR=3.5						

IDC 01 15:29:17.9±1.7, 13.60S×166.23E, h0km, mb3.5/5, mbtmp3.5/5, MS3.6/1, Error ellipse: s-maj=50.1km s-min=35.4km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.98**	**227**	P	P	15 35 19.1	-0.3
	0.8nm,0.7s,baz=72,slow=15,SNR=3.8						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**31.14**	**254**	P	P	15 35 39.0	+0.3
	0.5nm,1.1s,baz=86,slow=9.3,SNR=1.6						
	0.5nm,1.1s						
ASAR	**Alice Springs**	**32.15**	**247**	P	P	15 35 47.5	-0.1
	0.3nm,0.9s,baz=74,slow=9.4,SNR=7.3						
	0.3nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.47**	**238**	LR	LR	16 00 06.6	
	comp=Z,53nm,18.0s,baz=94,slow=38						
VNDA	**Vanda**	**63.96**	**181**	P	P	15 39 52.6	+0.1
	0.5nm,0.6s,baz=3.0,slow=5.9,SNR=4.4						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.78**	**18**	P	P	15 41 58.7	-0.1
	0.3nm,0.5s,baz=238,slow=5.3,SNR=2.9						
	0.3nm,0.5s						

IDC 01 15:41:25.7±11.0, 45.92N×155.08E, h0km, mb3.7/3, mbtmp3.6/4, ML2.3/1, Error ellipse: s-maj=234.6km s-min=51.9km az=139.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.39**	**12**	Pn	Pn	15 43 15.1	+0.2
	0.3nm,0.3s,baz=192,slow=16,SNR=7.9						
	1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**44.20**	**307**	P	P	15 49 35.3	-0.8
	0.4nm,0.4s,baz=77,slow=9.0,SNR=1.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**48.53**	**299**	P	P	15 50 10.9	+0.6
	0.3nm,0.6s,baz=64,slow=6.6,SNR=3.2						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**65.36**	**336**	P	P	15 52 09.3	-0.1
	2.3nm,0.9s,baz=38,slow=8.3,SNR=5.9						
	2.3nm,0.9s						

*IDC **01** 15:51:18.5±7.2, 31.54S×178.79E, h522km±97km, mb3.1/2, mbtmp4.0/3, Error ellipse: s-maj=118.7km s-min=36.4km az=6.0*
*NEIC **01** 15:51:19.1±2.8, 31.1S±0.2×178.3E±0.3, h469km±23km, mb4.0/7, Error ellipse: s-maj=43.6km s-min=21.4km az=64.0*
*WEL **01** 15:51:22.9±1.2, 32.5S±16×18.0E±2.5, h522km±27km, M4.0/9, mB4.2/4, ML4.3/12, MLv4.2/9, Mw(mB)3.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=113.9*

ISC 01 15:51:17.1±1.7, 31.32S±0.07×178.6E±0.2, h500km, n51, σ1.98/51, mb4.0/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRZ	**Great Barrier**	**5.58**	**207**	P	P	15 52 54.1	+4.9
KUZ	**Kuaotunu**	**5.92**	**203**	P	P	15 52 58.0	+5.5
MXZ	**Matakaoa Point**	**6.23**	**182**	P	**P**	**15 52 58.4**	**+2.9**
MXZ				S	S	15 54 12.5	-3.6
MKAZ	**Moumakai**	**6.44**	**206**	P	P	15 53 03.4	+5.8
HAZ	**Te Kaha**	**6.46**	**186**	P	**P**	**15 53 00.3**	**+2.6**
HAZ				S	**S**	**15 54 18.8**	**-1.3**
WMGZ	**Waiomatatini S**	**6.48**	**181**	P	P	15 52 56.9	-1.0
WMGZ				S	**S**	**15 54 19.4**	**-1.3**
RUGZ	**Raukumara Rang**	**6.67**	**186**	P	**P**	**15 53 01.8**	**+1.9**
RUGZ				S	**S**	**15 54 21.9**	**-2.4**
TOZ	**Tahuroa Road**	**6.89**	**201**	P	P	15 53 07.8	+5.7
URZ	**Urewera**	**7.03**	**190**	P	**P**	**15 53 04.3**	**+0.9**
	6.8nm,0.6s,baz=347,slow=5.0,SNR=18						
URZ				S	**S**	**15 54 29.7**	**-0.9**
	5.2nm,0.5s,baz=180,slow=18,SNR=6.3						
URZ	**Urewera**	**7.03**	**190**	P	**P**	**15 53 04.4**	**+0.9**
URZ				S	**S**	**15 54 29.0**	**-1.6**
MWZ	**Matawai**	**7.05**	**187**	P	**P**	**15 53 04.9**	**+1.2**
MWZ				S	**S**	**15 54 29.6**	**-1.6**
MUGZ	**Murupara**	**7.30**	**192**	P	**P**	**15 53 07.7**	**+1.5**
MUGZ				S	**S**	**15 54 37.5**	**+1.9**
RIGZ	**Rimuhau**	**7.40**	**185**	P	**P**	**15 53 09.8**	**+2.6**
TLZ	**Tolley Road**	**7.44**	**199**	P	**P**	**15 53 09.5**	**+1.9**
HIZ	**Hauiti**	**7.81**	**202**	P	P	15 53 17.3	+5.9
ETVZ	**East Tongariro**	**8.15**	**196**	P	**P**	**15 53 17.8**	**+2.8**
TWVZ	**Taurewa**	**8.16**	**198**	P	**P**	**15 53 18.4**	**+3.3**
TWVZ				S	**S**	**15 54 54.3**	**+2.4**
TUVZ	**Tukino**	**8.29**	**196**	P	**P**	**15 53 19.3**	**+2.8**
WNVZ	**Wahianoa**	**8.36**	**196**	P	**P**	**15 53 19.3**	**+2.1**
BHHZ	**Black Hill Sta**	**8.41**	**194**	P	**P**	**15 53 18.9**	**+1.2**
BHHZ				S	**S**	**15 54 54.4**	**-2.3**
NEZ	**North Egmont**	**8.75**	**204**	P	P	15 53 27.4	+6.2
TSZ	**Takapari Road**	**8.98**	**193**	P	**P**	**15 53 25.1**	**+1.5**
MRZ	**Mangatainoka R**	**9.64**	**194**	P	**P**	**15 53 31.8**	**+1.4**
OGWZ	**Otaki Gorge**	**9.88**	**195**	P	**P**	**15 53 34.0**	**+1.0**
CAW	**Cannon Point**	**10.18**	**195**	P	**P**	**15 53 37.6**	**+1.5**
TRWZ	**Traveller**	**10.33**	**192**	P	**P**	**15 53 41.4**	**+3.6**
TCW	**Tory Channel**	**10.47**	**198**	P	**P**	**15 53 40.8**	**+1.5**
QRZ	**Quartz Range**	**10.69**	**206**	P	**P**	**15 53 44.0**	**+2.5**
QRZ	**Quartz Range**	**10.69**	**206**	P	**P**	**15 53 44.8**	**+3.3**
TKNZ	**Takaka Hill**	**10.71**	**204**	P	**P**	**15 53 41.0**	**-0.9**
NNZ	**Nelson**	**10.74**	**202**	P	**P**	**15 53 42.3**	**+0.2**
TUWZ	**Tuamarina**	**10.77**	**199**	P	**P**	**15 53 43.8**	**+1.4**
BSWZ	**Blackbirch Sta**	**11.05**	**199**	P	**P**	**15 53 47.7**	**+2.3**
THZ	**Tophouse**	**11.38**	**202**	P	**P**	**15 53 50.8**	**+1.7**
THZ	**Tophouse**	**11.38**	**202**	P	**P**	**15 53 51.1**	**+2.0**
KHZ	**Kahutara**	**11.79**	**199**	P	**P**	**15 53 54.9**	**+1.6**
MARNC	**Mare, Loyalty**	**13.64**	**313**	P	**P**	**15 54 10.0**	**-3.1**
RPZ	**Rata Peaks**	**13.74**	**204**	P	**P**	**15 54 14.8**	**+0.9**
OUENC	**Ouen Island, N**	**13.75**	**307**	P	**P**	**15 54 12.5**	**-1.8**
FOZ	**Fox Glacier**	**14.04**	**207**	P	**P**	**15 54 18.7**	**+1.7**
WKZ	**Wanaka**	**15.44**	**206**	P	**P**	**15 54 31.6**	**-0.2**
AS31	**Alice Springs**	**40.18**	**270**	P	**P**	**15 58 08.4**	**-1.2**
ASAR	**Alice Springs**	**40.18**	**270**	P	**P**	**15 58 09.7**	**0.0**
	0.9nm,0.5s,baz=98,slow=7.7,SNR=26						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**40.18**	**270**	P	**P**	**15 58 08.5**	**-1.2**
WR0	**Warramunga Arr**	**41.08**	**275**	P	**P**	**15 58 18.5**	**+1.7**
WR0				IAmb	IAmb	15 58 26.4	
	comp=Z,7.4nm,1.4s						
WB2	**Warramunga Arr**	**41.25**	**275**	P	**P**	**15 58 20.1**	**+1.9**
WB2				IAmb	IAmb	15 58 22.1	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**41.26**	**275**	P	**P**	**15 58 20.1**	**+1.9**
	comp=Z,1.5nm,0.3s,baz=113,slow=7.7,SNR=52						
	comp=Z,1.5nm,0.3s						
WB0	**Warramunga Arr**	**41.29**	**275**	P	**P**	**15 58 20.4**	**+1.9**
WB0				IAmb	IAmb	15 58 22.2	
	comp=Z,5.0nm,1.1s						
VNDA	**Vanda**	**46.91**	**185**	P	P	15 59 07.5	+6.3
VNDA				IAmb	IAmb	15 59 08.3	
	comp=Z,4.6nm,1.4s						
MTN	**Manton Dam**	**47.30**	**282**	P	**P**	**15 59 06.1**	**+1.0**
MTN				IAmb	IAmb	15 59 25.2	
	comp=Z,28nm,1.4s						
FINES	**FINESS Array B**	**144.95**	**337**	PKPbc	PKPbc	16 09 55.7	-1.0
	comp=Z,0.6nm,0.4s,baz=46,slow=4.0,SNR=8.2						

*NCEDC **01** 16:11:00.6±2.0, 38.83N±0.01×122.83W±0.02, h2km±5km, Md3.0/97, ML2.7/78(NEIC), Error ellipse: s-maj=2.1km s-min=1.8km az=74.0*

NEIC 01 16:11:00.5±2.2, 38.82N±0.01×122.81W±0.02, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.4km az=25.0, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDXM	**Geysers**	**0.02**	**127**		Pg	16 11 01.4	-0.2
GDXM				IAML		16 11 02.0	
	comp=N,26μm,0.2s						
GDXM				Sg	Sg	16 11 02.0	-0.2
GCRM	**Castle Rock Sp**	**0.09**	**120**		Pg	16 11 02.7	+0.3
GSGM	**Seigler Mounta**	**0.09**	**58**		Pg	16 11 03.2	+0.7
GBGM	**Boggs Mountain**	**0.10**	**92**		Pg	16 11 03.3	+0.6
GPMM	**Pine Mountain**	**0.11**	**286**		Pg	16 11 02.8	0.0
GAXM	**Alexander Vall**	**0.12**	**157**		Pg	16 11 03.3	+0.4
GAXM					Sg	16 11 05.3	+0.9
GCVM	**Cloverdale**	**0.17**	**253**		Pg	16 11 04.2	+0.5
GSSM	**Skaggs Springs**	**0.20**	**234**		Pg	16 11 04.8	+0.4
NHSM	**Mount Saint He**	**0.22**	**136**		Pg	16 11 05.4	+0.5
HOPS	**Hopland Field**	**0.27**	**311**		Pg	16 11 05.9	+0.2
HOPS				Sg	Sg	16 11 07.3	-2.0
HOPS				IAML		16 11 12.7	
	comp=E,2μm,0.8s						
GHLM	**Highland Sprin**	**0.28**	**324**		Pg	16 11 06.1	+0.2
MAC	**Mark West Spri**	**0.28**	**165**		Pg	16 11 06.7	+0.9
NMTM	**Middletown**	**0.29**	**92**		Pg	16 11 06.8	+0.8
MNRC	**McLaughlin Min**	**0.29**	**78**		Pb	16 11 07.3	-1.0
GHCM	**House Creek**	**0.37**	**235**		Pg	16 11 08.2	+0.6
GBMM	**Baldy Mountain**	**0.41**	**37**		Pb	16 11 09.3	-0.9
NTYM	**Taylor**	**0.44**	**165**		Pb	16 11 09.9	-0.9
NBPM	**Berryessa Peak**	**0.51**	**107**		Pb	16 11 11.8	0.0
GTSM	**Trough Springs**	**0.52**	**18**		Pb	16 11 11.3	-0.8
GGUM	**Gualala**	**0.54**	**274**		Pg	16 11 11.3	+0.5
GWRM	**Wonder Ranch**	**0.54**	**316**		Pg	16 11 11.2	+0.3
CVS	**Carmenet Viney**	**0.55**	**149**		Pg	16 11 11.6	+0.7
NBRB	**Beebe Ranch Br**	**0.59**	**160**		Pg	16 11 12.1	+0.3
GHOM	**Hamilton Openi**	**0.61**	**292**		Pg	16 11 12.8	+0.6
GFC	**Funks Creek**	**0.65**	**39**		Pn	16 11 16.1	-0.3
MCCM	**Marconi Confer**	**0.67**	**185**	Pg	Pg	16 11 13.6	+0.2
MCCM				Sg	Sg	16 11 22.8	+0.7
SNT	**Sears Point**	**0.69**	**156**		Pg	16 11 14.1	+0.3
NDHM	**Dunnigan Hills**	**0.70**	**94**		Pn	16 11 16.4	-0.7
GNAM	**Navarro Ridge**	**0.74**	**301**		Pg	16 11 15.3	+0.5
NADM	**Allendale**	**0.75**	**118**		Pn	16 11 17.1	-0.6
GTC	**Three Chop Rid**	**0.82**	**315**		Pb	16 11 16.8	-0.5
NPRM	**Point Reyes**	**0.84**	**191**		Pb	16 11 17.3	-0.2
SUTB	**Sutter Butte**	**0.90**	**62**		Pb	16 11 18.2	-0.4
CPMM	**Point Molate**	**0.92**	**160**		Pb	16 11 18.7	-0.3
CSPM	**San Pablo Ridg**	**0.94**	**155**		Pb	16 11 19.6	+0.3
KFPM	**Farley Peak**	**0.95**	**330**		Pb	16 11 19.3	-0.1
CPIM	**Pinole Ridge**	**0.95**	**150**		Pg	16 11 19.0	+0.3
GVV	**Valley View**	**0.96**	**6**		Pb	16 11 20.0	+0.2
CTAM	**Taylor**	**1.01**	**141**		Pn	16 11 21.3	+0.1
BRK	**Berkeley--Havi**	**1.04**	**155**		Pb	16 11 21.0	+0.1
BL67	**Building 67, L**	**1.04**	**155**		Pb	16 11 20.8	-0.2
CVPM	**Vollmer Peak**	**1.04**	**153**		Pb	16 11 20.8	-0.2
BKS	**Berkeley--Byer**	**1.04**	**154**		Pg	16 11 20.4	0.0
KCPM	**Cahto Peak**	**1.05**	**326**		Pb	16 11 21.2	-0.1
KCPM				IAML		16 11 41.7	
	comp=N,248nm,0.7s						
JPRM	**Presidio of Sa**	**1.05**	**165**		Pg	16 11 20.7	0.0
GROM	**Round Mountain**	**1.10**	**6**		Pn	16 11 23.3	+0.6
KBNM	**Bluenose Ridge**	**1.11**	**345**		Pn	16 11 23.6	+0.7
KIPM	**Iron Peak**	**1.12**	**333**		Pb	16 11 22.5	+0.1
FARB	**Farallon Islan**	**1.13**	**188**		Pg	16 11 21.6	-0.5
BDM	**Black Diamond**	**1.14**	**139**		Pg	16 11 22.4	+0.1
CRPB	**Russellman Par**	**1.15**	**142**		Pg	16 11 22.6	+0.1
CRHM	**Round Hill Res**	**1.15**	**146**		Pg	16 11 22.3	-0.3
OHCM	**Honcut**	**1.16**	**63**		Pg	16 11 21.9	-0.7
JSBM	**San Bruno Moun**	**1.18**	**164**		Pn	16 11 24.0	+0.3
JMGM	**Milagra Ridge**	**1.21**	**167**		Pn	16 11 24.0	0.0
CSLM	**San Leandro Hi**	**1.22**	**153**		Pg	16 11 23.9	0.0
CLCB	**Lake Chabot**	**1.23**	**151**		Pg	16 11 24.1	+0.1
ORV	**Oroville**	**1.26**	**54**		Pg	16 11 23.7	-0.9
CMOB	**Morgan Territo**	**1.28**	**141**		Pg	16 11 24.1	-1.0
JCPM	**Coyote Point**	**1.29**	**162**		Pn	16 11 25.0	-0.1
JCHM	**Cahill Ridge**	**1.34**	**165**		Pn	16 11 24.8	-1.1
CNIC	**Niles Canyon**	**1.38**	**151**		Pn	16 11 25.7	-0.7
AFDM	**Forest Hills D**	**1.44**	**84**		Pn	16 11 25.7	-1.6
BGH	**Bear Gulch**	**1.52**	**166**		Pn	16 11 27.8	-0.5
JFP	**Foothills Park**	**1.54**	**161**		Pn	16 11 27.9	-0.6
KMRM	**Mail Ridge**	**1.56**	**334**		Pb	16 11 30.1	+0.2
KMRM				IAML		16 11 35.0	
	comp=E,121nm,0.8s						
KMRM				IAML		16 12 07.5	
	comp=N,104nm,1.7s						
CMLM	**Mount Lewis**	**1.62**	**145**		Pn	16 11 30.1	+0.3
CMMM	**Mount Mocho**	**1.71**	**142**		Pn	16 11 31.7	+0.7
COSM	**Mount Oso**	**1.73**	**139**		Pn	16 11 31.4	+0.1
MHC	**Mount Hamilton**	**1.74**	**148**		Pn	16 11 30.8	-0.6
KMPM	**Mount Pierce**	**1.89**	**328**	Pn	Pn	16 11 33.9	+0.4
KMPM				IAML		16 11 44.0	
	comp=N,61nm,1.0s						
KMPM				IAML		16 12 33.0	
	comp=E,77nm,1.2s						
LMEM	**Manzanita Entr**	**1.97**	**29**		Pn	16 11 34.7	+0.1
DONR	**Donner Summit**	**2.01**	**74**		Pn	16 11 36.1	+0.8
CMB	**Columbia Colle**	**2.06**	**112**		Pn	16 11 35.1	-0.7
EMB	**Emerald Bay**	**2.12**	**85**		Pn	16 11 36.8	0.0
EMB				IAML		16 12 08.3	
	comp=N,70nm,1.1s						
EMB				IAML		16 12 09.2	
	comp=E,64nm,0.8s						
HPCM	**Pacheco Lake**	**2.13**	**145**		Pn	16 11 36.5	-0.3
LOY	**Loyalton**	**2.17**	**66**		Pn	16 11 38.5	+1.1
BEKR	**Beckworth**	**2.17**	**60**		Pn	16 11 37.8	+0.3
JCC	**Jacoby Creek,**	**2.21**	**335**	Pn	Pn	16 11 38.4	+0.6
MPK	**Martis Peak**	**2.22**	**77**	Pn	Pn	16 11 38.4	+0.2
MPK				IAML		16 12 34.5	
	comp=E,70nm,1.1s						
BABR	**Babbit Peak**	**2.24**	**69**		Pb	16 11 40.2	-1.5
SAO	**San Andreas Ge**	**2.32**	**152**		Pn	16 11 38.0	-1.2
BMRR	**Black Mountain**	**2.34**	**56**		Pb	16 11 42.0	-1.3
MYLM	**Yosemite Lake**	**2.37**	**126**		Pn	16 11 40.4	+0.4
MBUM	**Mount Bullion**	**2.50**	**119**		Pn	16 11 42.8	+0.9
VCNR	**Virginia City**	**2.51**	**78**		Pn	16 11 43.3	+1.2
VCNR				IAML		16 12 22.1	
	comp=E,32nm,0.5s						
VCNR				IAML		16 12 38.0	
	comp=N,37nm,0.9s						
PNTR	**Pine Nut**	**2.52**	**83**	Pn	Pn	16 11 41.5	-0.7
PNTR				IAML		16 12 35.8	
	comp=N,48nm,1.2s						
PNTR				IAML		16 12 40.4	
	comp=E,59nm,1.1s						
BAVM	**Antelope Valle**	**2.59**	**146**		Pn	16 11 42.9	-0.1
HAST	**Hastings Reser**	**2.62**	**157**		Pn	16 11 42.2	-1.3
BBGB	**Big Mountain B**	**2.64**	**147**	Pn	Pn	16 11 42.6	-1.2
BBGB				IAML		16 12 33.0	
	comp=E,50nm,1.4s						
YERR	**Yerington**	**2.79**	**85**		Pn	16 11 46.1	+0.1
YERR				IAML		16 12 03.6	
	comp=E,39nm,0.5s						
YERR				IAML		16 12 31.6	
	comp=N,39nm,0.5s						
MMIM	**Miami Mountain**	**2.79**	**119**		Pn	16 11 47.9	+1.9
PAHR	**Pah Rah Range**	**2.81**	**70**		Pn	16 11 45.9	-0.2
KRMB	**Red Mountain**	**2.83**	**343**	Pn	Pn	16 11 45.7	-0.7
KRMB				IAML		16 12 48.9	
	comp=E,16nm,3.3s						
YBH	**Yreka Blue Hor**	**2.91**	**1**	Pn	Pn	16 11 46.5	-1.0
PMPB	**Monarch Peak**	**3.05**	**148**	Pn	Pn	16 11 48.8	-0.6
KSXB	**Camp Six Broad**	**3.12**	**345**	Pn	Pn	16 11 49.4	-0.9
KSXB				IAML		16 13 08.6	
	comp=E,12nm,2.2s						
KSXB				IAML		16 13 36.8	
	comp=N,13nm,2.3s						
MDPB	**Devils Postpil**	**3.17**	**111**		Pn	16 11 50.9	-0.3
MDPB				IAML		16 12 35.6	
	comp=N,21nm,0.9s						
MDPB				IAML		16 12 36.9	
	comp=E,15nm,1.7s						
OMMB	**Old Mammoth Mi**	**3.23**	**111**		Pn	16 11 51.5	-0.7
OMMB				IAML		16 12 45.1	
	comp=E,12nm,1.9s						
RYN	**Ryan**	**3.36**	**92**		Pn	16 11 52.5	-1.3
RYN				IAML		16 12 51.7	
	comp=N,13nm,1.7s						
RYN				IAML		16 12 53.0	
	comp=E,13nm,1.1s						
L04D	**Klamath Falls**	**3.42**	**6**	Pn	Pn	16 11 53.1	-1.5
L04D				IAML		16 13 01.2	
	comp=N,11nm,3.3s						
L04D				IAML		16 13 27.2	
	comp=E,14nm,4.2s						
LHV	**Little Huntoon**	**3.42**	**98**		Pn	16 11 54.6	+0.1
LHV				IAML		16 12 17.8	
	comp=E,20nm,1.0s						
LHV				IAML		16 13 03.6	
	comp=N,21nm,1.6s						
NVAR	**Mina Array Bea**	**3.55**	**95**		Pn	16 11 55.6	-0.9
KBO	**Bosley Butte**	**3.56**	**343**	Pn	Pn	16 11 54.6	-1.8
MOD	**Modoc Plateau**	**3.63**	**31**	Pn	Pn	16 11 56.5	-1.0
MOD				IAML		16 12 30.8	
	comp=E,10nm,0.9s						
NV11	**Mina Array Sit**	**3.67**	**95**		Pn	16 11 58.2	+0.3
NV11				IAML		16 13 03.4	
	comp=N,13nm,2.0s						
NV11				IAML		16 13 08.4	
	comp=E,13nm,1.9s						
KVN	**Kaiserville**	**3.68**	**85**		Pn	16 11 56.9	-1.3
KVN				IAML		16 13 02.7	
	comp=N,9.6nm,1.4s						
KVN				IAML		16 13 05.4	
	comp=E,8.0nm,0.9s						
DSP	**Deep Springs**	**4.08**	**109**		Pn	16 12 03.6	0.0
DSP				IAML		16 13 18.8	
	comp=N,6.9nm,2.3s						
DSP				IAML		16 13 23.9	
	comp=E,6.4nm,2.6s						
LCH	**Last Change Ra**	**4.38**	**110**		Pn	16 12 06.7	-1.0
LCH				IAML		16 12 52.3	
	comp=N,4.5nm,4.4s						
LCH				IAML		16 13 32.9	
	comp=E,6.0nm,2.7s						
MZP	**Montezuma Peak**	**4.42**	**103**	Pn	Pn	16 12 06.8	-1.6
TPH	**Tonopah**	**4.45**	**98**	Pn	Pn	16 12 09.0	+0.2
GRAC	**Grapevine Rang**	**4.67**	**111**	Pn	Pn	16 12 11.7	-0.1

WEL 01 16:14:45.6±0.7, 32.5S±7×18.0W±1.7, h257km±14km, M3.7/13, mB4.3/11, ML4.4/15, MLv4.3/13, Mw(mB)3.4/11, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9, South of Kermadec Islands

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

KRVT **Keravat (AS076 3.50 304** P **Pn** **16 23 30.3 +1.2**
43nm,0.3s,baz=265,slow=3.4,SNR=41
KRVT S **Sn** **16 24 11.4 +1.9**
809nm,0.7s,baz=304,slow=17,SNR=6.6
HNR Honiara 5.86 123 P **Pn** **16 24 02.7 +1.4**
432nm,0.8s,baz=228,slow=3.1,SNR=8.8
HNR S **Sn** **16 25 07.9 +0.8**
226nm,0.7s,baz=279,slow=13,SNR=1.5
HNR LR LR 16 26 19.1
comp=Z,738nm,21.4s,baz=300,slow=38
HNR Honiara 5.86 123 Pn **Pn** **16 24 02.3 +1.0**
HNR Sn **Sn** **16 25 08.3 +1.2**
HNR Honiara 5.86 123 P **Pn** **16 24 02.8 +1.5**
PMG Port Moresby 8.31 248 P **Pn** **16 24 36.3 +1.6**
439nm,0.8s,baz=48,slow=8.9,SNR=50
PMG S **Sn** **16 26 09.4 +2.2**
239nm,1.0s,baz=23,slow=20,SNR=4.6
PMG LR LR 16 27 40.5
comp=Z,772nm,21.7s,baz=56,slow=37
MANU Manus Island 8.65 299 Pn **Pn** **16 24 38.7 -0.7**
PATS Pohnpei 13.46 15 Pn **Pn** **16 25 42.2 -2.4**
COEN Coen 13.87 236 Pn **Pn** **16 25 49.5 -0.6**
COEN Coen 13.87 236 P **Pn** **16 25 50.5 +0.5**
MTSU Mount Surprise 15.70 220 P **Pn** **16 26 14.6 +1.0**
CTA Charters Tower 16.11 211 P **Pn** **16 26 19.2 +0.4**
5.0nm,0.7s,baz=28,slow=14,SNR=5.7
CTA LR LR 16 32 05.6
comp=Z,406nm,19.0s,baz=58,slow=35
CTAO Charters Tower 16.11 211 **Pn** **16 26 19.5 +0.7**
SMPI Sarmi 16.74 284 P **Pn** **16 26 27.8 +1.2**
27nm,1.0s
KOUNC **Koumac, New Ca 16.84 148** P **Pn** **16 26 27.1 -0.6**
RK1H Rockhampton Ha 17.54 194 P **P** **16 26 37.0 +0.6**
LIFNC LIFOU 18.70 142 **P** **16 26 49.4 +0.2**
NOUC Port Laguerre 19.18 146 P **P** **16 26 55.1 +0.7**
DZM Mont Dzumac 19.23 146 P **P** **16 26 56.1 +1.0**
80nm,0.7s,baz=280,slow=8.8,SNR=71
DZM Mont Dzumac 19.23 146 P **P** **16 26 56.0 +0.9**
DZM Mont Dzumac 19.23 146 P **P** **16 26 55.7 +0.6**
EIDS Eidsvold 19.34 191 P **P** **16 26 57.3 +1.2**
EIDS Eidsvold 19.34 191 P **P** **16 26 57.5 +1.4**
ONTNC **Ouen Toro 19.43 146** P **P** **16 26 58.1 +0.9**
ONTNC **Ouen Toro 19.43 146** P **P** **16 26 58.0 +0.9**
YATNC **Mamie plateau, 19.48 145** P **P** **16 26 58.5 +0.8**
TARA Tarawa 19.49 68 P **P** **16 26 59.5 +1.7**
MARNC **Mare, Loyalty 19.72 141** P **P** **16 26 59.8 -0.5**
OUENC **Ouen Island, N 19.73 146** P **P** **16 27 00.4 0.0**
OUENC **Ouen Island, N 19.73 146** P **P** **16 27 01.2 +0.8**
PINNC Pines Island, 20.23 145 P **P** **16 27 05.4 -0.4**
QIS Mount Isa 20.56 225 P **P** **16 27 10.6 +1.1**
RMQ Roma 20.94 196 P **P** **16 27 14.4 +0.9**
GUMO Guam 22.13 333 LR LR 16 35 33.5
comp=Z,64nm,20.7s,baz=155,slow=35
QLP Quilpie 22.62 206 P **P** **16 27 31.4 -0.1**
FAKI Fak Fak 22.86 277 P **P** **16 27 33.9 -0.1**
KDU Kakadu 23.05 252 P **P** **16 27 35.5 -0.4**
WR0 Warramunga Arr 24.03 234 P **P** **16 27 45.4 +0.5**
WB0 Warramunga Arr 24.05 234 P **P** **16 27 45.5 +0.5**
WRAB Tennant Creek 24.17 234 P **P** **16 27 46.8 +0.7**
WRAB Tennant Creek 24.17 234 P **P** **16 27 46.6 +0.5**
WB2 Warramunga Arr 24.18 234 P **P** **16 27 46.9 +0.8**
WRA Warramunga Arr 24.19 234 P **P** **16 27 46.8 +0.6**
42nm,0.8s,baz=57,slow=9.6,SNR=258
WRA PcP **PcP** **16 31 25.6 +0.3**
1.6nm,0.3s,baz=56,slow=2.4,SNR=13
WRA S **S** **16 32 00.3 +1.2**
1.4nm,1.1s,baz=67,slow=5.8,SNR=1.6
42nm,0.8s
WRA Warramunga Arr 24.19 234 P **P** **16 27 45.6 -0.6**
ARMA Armidale 24.21 187 P **P** **16 27 47.3 +0.9**
ARMA Armidale 24.21 187 P **P** **16 27 47.1 +0.7**
SIJI Sorong 24.23 282 P **P** **16 27 47.2 +0.6**
25nm,0.7s,baz=81,slow=6.9,SNR=26
25nm,0.7s
SWI Sorong 24.23 282 P **P** **16 27 47.0 +0.3**
630nm68nm,0.9s
MTN Manton Dam 24.36 253 P **P** **16 27 48.5 +0.8**
MTN Manton Dam 24.36 253 P **P** **16 27 48.8 +1.0**
INKA Innaminka 25.25 211 P **P** **16 27 55.5 -0.2**
MSVF Nonsavu 25.27 119 P **P** **16 27 56.0 -0.2**
6.6nm,0.7s,baz=246,slow=11,SNR=5.1
6.6nm,0.7s
MSVF Nonsavu 25.27 119 P **P** **16 27 55.2 -0.9**
LHI Lord Howe Isla 25.41 172 P **P** **16 27 57.4 +0.2**
CMSA Cobar Meteorol 26.58 198 P **P** **16 28 07.6 -0.2**
AS31 Alice Springs 26.61 227 P **P** **16 28 08.2 0.0**
ASAR Alice Springs 26.61 227 P **P** **16 28 08.1 -0.2**
12nm,0.7s,baz=59,slow=8.4,SNR=185
ASAR PcP **PcP** **16 31 31.1 +0.3**
3.0nm,0.8s,baz=68,slow=2.3,SNR=6.4
ASAR pPcP 16 31 47.8
3.6nm,0.7s,baz=65,slow=2.2,SNR=7.8
ASAR S **S** **16 32 35.9 -1.7**
0.8nm,1.0s,baz=42,slow=10,SNR=1.4
12nm,0.7s
ASAR Alice Springs 26.61 227 P **P** **16 28 07.6 -0.6**
H11S3 WAKE ISLAND Hy 27.21 25 T T 16 56 20.0
baz=205,slow=74,SNR=35
H11S2 WAKE ISLAND Hy 27.21 25 T T 16 56 18.9
baz=205,slow=74,SNR=45
H11S1 WAKE ISLAND Hy 27.22 25 T T 16 56 19.2
baz=205,slow=74,SNR=48
KNRA Kununurra 27.31 248 P **P** **16 28 14.8 +0.3**
KNRA IAmb IAmb 16 29 04.0
comp=Z,111nm,1.7s
KNRA Kununurra 27.31 248 P **P** **16 28 14.8 +0.3**
LBMI Labuha 27.95 281 P **P** **16 28 22.0 +1.8**
comp=Z,702nmcomp=Z,91nm,0.8s
OOD Oodnadatta 28.14 218 P **P** **16 28 21.1 -0.7**
STKA Stephens Creek 28.36 204 P **P** **16 28 23.4 -0.4**
comp=Z,7.3nm,0.6s,baz=13,slow=8.5,SNR=28
comp=Z,7.3nm,0.6s
STKA Stephens Creek 28.36 204 P **P** **16 28 23.3 -0.4**
STKA Stephens Creek 28.36 204 P **P** **16 28 23.2 -0.5**
H11N1 WAKE ISLAND Hy 28.38 24 T T 16 58 11.6
baz=191,slow=76,SNR=15
H11N3 WAKE ISLAND Hy 28.39 24 T T 16 58 11.3
baz=191,slow=76,SNR=17
H11N2 WAKE ISLAND Hy 28.40 24 T T 16 58 05.1
baz=191,slow=76,SNR=6.5
LCRK Leigh Creek 28.73 211 P **P** **16 28 26.3 -0.7**
SANI Sanana 29.18 277 P **P** **16 28 31.5 +0.3**
comp=Z,38nm,0.8s
SANI Sanana 29.18 277 P **P** **16 28 31.4 +0.3**
CAN Canberra 29.42 190 P **P** **16 28 33.3 +0.2**
CAN IAmb IAmb 16 28 51.3
comp=Z,56nm,1.7s
HTT Hallett 30.84 207 P **P** **16 28 45.8 +0.1**
FITZ Fitzroy Crossi 30.90 245 P **P** **16 28 45.8 -0.6**
FITZ IAmb IAmb 16 28 46.8
comp=Z,21nm,0.8s
FITZ Fitzroy Crossi 30.90 245 P **P** **16 28 45.7 -0.6**
SGSI Sangihe 30.99 288 P **P** **16 28 50.8 +3.6**
comp=Z,781nmcomp=Z,50nm,1.8s
WRKA Warakurna 31.60 231 P **P** **16 28 52.0 -0.5**
KMSI Cibinong 31.65 281 P **P** **16 28 54.0 +1.0**
comp=Z,2µmcomp=Z,185nm,0.6s
BBOO Buckleboo 31.71 211 P **P** **16 28 52.6 -0.7**
BBOO IAmb IAmb 16 29 09.9
comp=Z,78nm,2.0s
DAV Davao City (W) 32.16 294 P **P** **16 28 56.3 -1.2**
TOO Toolangi 32.32 194 P **P** **16 28 57.9 -0.7**
MMRI Maumere 32.51 264 P **P** **16 28 59.5 -1.0**
MMRI Maumere 32.51 264 P **P** **16 28 58.8 -1.7**
MMRI Maumere 32.51 264 P **P** **16 29 00.8 +0.3**
LUWI Luwuk 32.51 278 P **P** **16 29 00.6 0.0**
GTOI Gorontalo 32.60 281 P **P** **16 29 02.5 +1.1**
comp=Z,314nmcomp=Z,42nm,0.7s
ARPS Mount Arapiles 32.63 200 P **P** **16 29 01.7 +0.4**
BRAT Ballarat 32.70 196 P **P** **16 29 02.6 +0.7**
EDFI Ende, Flores 33.05 264 P **P** **16 29 04.8 -0.6**
comp=Z,55nm,0.8s
OUZ Omahuta 33.54 152 P **P** **16 29 09.2 0.0**
OUZ IAmb IAmb 16 29 11.8
comp=Z,18nm,1.0s
APSI Ampana 33.64 278 P **P** **16 29 11.0 +0.6**
comp=Z,494nmcomp=Z,47nm,1.0s
TOLI2 Tolitoli 34.88 281 P **P** **16 29 20.4 -0.7**
TOLI2 IAmb IAmb 16 29 23.0
comp=Z,15nm,0.7s
TOLI2 Tolitoli 34.88 281 P **P** **16 29 20.5 -0.7**
FORT Forrest 35.07 223 P **P** **16 29 22.4 -0.2**
FORT Forrest 35.07 223 P **P** **16 29 22.6 0.0**
MPSI Mapaga 35.59 279 P **P** **16 29 26.5 -0.7**
comp=Z,475nmcomp=Z,61nm,0.8s

HIZ Hauiti 36.81 154 P **P** **16 29 38.8 +1.5**
PLAI Plampang 36.92 264 P **P** **16 29 36.6 -2.0**
comp=Z,107nm,0.7s
PLAI Plampang 36.92 264 P **P** **16 29 37.7 -0.9**
OPRZ Ohinepanea 37.06 151 P **P** **16 29 40.3 +0.9**
TAU Tasmania Unive 37.10 189 P **P** **16 29 41.0 +1.4**
MBWA Marble Bar 37.15 243 P **P** **16 29 39.7 -0.7**
MBWA IAmb IAmb 16 29 40.8
comp=Z,24nm,0.8s
MBWA Marble Bar 37.15 243 P **P** **16 29 40.2 -0.2**
OMRZ Omania 37.18 152 P **P** **16 29 42.2 +1.7**
PSA00 Pilbara Seismi 37.18 242 P **P** **16 29 39.4 -1.3**
PSA00 IAmb IAmb 16 29 41.3
comp=Z,14nm,1.1s
PSA00 Pilbara Seismi 37.18 242 P **P** **16 29 40.3 -0.4**
PSA00 IAmb IAmb 16 29 41.3
comp=Z,21nm,0.8s
PSA00 Pilbara Seismi 37.18 242 P **P** **16 29 40.3 -0.4**
HAZ Te Kaha 37.59 150 P **P** **16 29 44.8 +0.9**
URZ Urewera 37.65 151 P **P** **16 29 44.6 +0.2**
comp=Z,18nm,0.6s,baz=122,slow=0.6,SNR=23
comp=Z,18nm,0.6s
URZ Urewera 37.65 151 P **P** **16 29 45.2 +0.8**
URZ IAmb IAmb 16 29 57.1
comp=Z,27nm,0.9s
URZ Urewera 37.65 151 P **P** **16 29 45.1 +0.7**
MUGZ Murupara 37.66 151 P **P** **16 29 45.9 +1.4**
RUGZ Raukumara Rang 37.70 150 P **P** **16 29 45.7 +0.7**
MXZ Matakaoa Point 37.71 149 P **P** **16 29 45.6 +0.7**
MRHZ Matea Rd 37.78 152 P **P** **16 29 47.6 +2.0**
QRZ Quartz Range 37.83 158 P **P** **16 29 47.5 +1.6**
PKGZ Pakihiroa 37.84 150 P **P** **16 29 47.1 +1.0**
TWGZ Tauwhareparae 38.02 150 P **P** **16 29 48.8 +1.2**
PUZ Puketiti 38.07 150 P **P** **16 29 48.5 +0.5**
BKZ Black Stump Fm 38.08 152 P **P** **16 29 48.4 +0.3**
BKZ Black Stump Fm 38.08 152 P **P** **16 29 48.6 +0.5**
MYLDM **Lahad Datu 38.12 287** P **P** **16 29 49.6 +0.9**
TKGZ Te Karaka 38.15 150 P **P** **16 29 49.4 +0.7**
RAHZ Arahi 38.16 152 P **P** **16 29 50.0 +1.2**
SNGZ Shannon Statio 38.17 151 P **P** **16 29 49.7 +0.9**
RIGZ Rimuhau 38.32 151 P **P** **16 29 50.8 +0.7**
CNGZ Carnagh Statio 38.37 150 P **P** **16 29 51.2 +0.8**
NNZ Nelson 38.49 157 P **P** **16 29 53.0 +1.6**
THZ Tophouse 38.78 158 P **P** **16 29 53.1 -0.8**
TUWZ Tuamarina 38.88 157 P **P** **16 29 55.0 +0.3**
SNZO South Karori 39.08 156 P **P** **16 29 56.1 -0.3**
BSWZ Blackbirch Sta 39.10 157 P **P** **16 29 56.1 -0.4**
MSWZ Moikau Station 39.39 156 P **P** **16 29 59.0 0.0**
LTZ Lake Taylor 39.45 160 P **P** **16 29 59.7 +0.2**
KHZ Kahutara 39.58 158 P **P** **16 29 59.6 -0.9**
KHZ Kahutara 39.58 158 P **P** **16 30 00.0 -0.5**
RPZ Rata Peaks 39.89 162 P **P** **16 30 03.1 +0.1**
comp=Z,21nm,0.8s,baz=255,slow=19,SNR=7.5
comp=Z,21nm,0.8s
MEEK Meekatharra 40.07 235 P **P** **16 30 04.8 -0.1**
LBZ Lake Benmore 40.23 163 P **P** **16 30 05.8 -0.1**
JAGI Jajag, Banyuwa 40.50 264 P **P** **16 30 05.6 -3.0**
KKM Kota Kinabalu 40.55 287 P **P** **16 30 07.5 -1.5**
MLZ Mavora Lakes 40.59 166 P **P** **16 30 07.4 -1.5**
ODZ Otahua Downs 40.97 163 P **P** **16 30 11.5 -0.5**
ODZ IAmb IAmb 16 30 13.0
comp=Z,49nm,1.4s
WHZ Wether Hill Ro 41.04 166 P **P** **16 30 12.0 -0.5**
GIRL Giralia 42.46 243 P **P** **16 30 23.5 -0.9**
KLBR Kellerberrin 42.91 229 P **P** **16 30 27.3 -0.7**
MORW Morawa 43.13 234 P **P** **16 30 29.2 -0.7**
MORW IAmb IAmb 16 30 30.4
comp=Z,24nm,0.9s
MORW Morawa 43.13 234 P **P** **16 30 29.6 -0.3**
SBUM Sibu 43.53 280 P **P** **16 30 33.4 +0.2**
YOJ Yonaguni jima 43.61 316 P **P** **16 30 34.8 +1.2**
NWAO Narrogin (SRO) 43.93 228 P **P** **16 30 36.0 -0.2**
NWAO IAmb IAmb 16 31 54.2
comp=Z,54nm,1.4s
UGM Wanagama 44.09 265 P **P** **16 30 37.8 -0.1**
YULB Yu-li 44.16 313 P **P** **16 30 38.3 +0.2**
MUN Mundaring 44.25 230 P **P** **16 30 38.8 0.0**
JMN Monobe 44.52 335 P **P** **16 30 40.0 -0.9**
JMN IAmb IAmb 16 31 30.2
comp=Z,70nm,1.9s
TPUB Ta-pu 44.59 312 P **P** **16 30 41.7 +0.1**
SSLB Suanglung 44.65 313 P **P** **16 30 42.4 +0.4**
YHNB Yeheng 44.89 315 P **P** **16 30 44.9 +0.9**
YHNB IAmb IAmb 16 30 45.7
comp=Z,27nm,1.0s
MJAR Matsushiro Arr 45.39 341 P **P** **16 30 46.1 -1.6**
comp=Z,1.0nm,0.7s,baz=153,slow=11,SNR=3.0
comp=Z,1.0nm,0.7s
JHS Saijyo 45.93 335 P **P** **16 30 51.2 -0.8**
JHS IAmb IAmb 16 31 45.1
comp=Z,24nm,1.4s
RAR Rarotonga 46.24 113 P **P** **16 30 54.5 -0.1**
KSRS Korea Array 50.29 332 P **P** **16 31 25.7 +0.2**
comp=Z,4.1nm,0.9s,baz=147,slow=7.6,SNR=9.1
comp=Z,4.1nm,0.9s
MYKOM **Kota Tinggi 51.63 277** P **P** **16 31 35.8 -0.2**
BKNI Bangkinang 54.19 275 P **P** **16 31 54.5 -0.4**
BKNI Bangkinang 54.19 275 P **P** **16 31 55.2 +0.3**
comp=Z,73nm,0.8s
USRK Ussuriysk Ar. 54.34 340 P **P** **16 31 56.6 +1.2**
comp=Z,2.2nm,0.7s,baz=132,slow=4.9,SNR=8.0
comp=Z,2.2nm,0.7s
IPM Ipoh 54.88 280 P **P** **16 31 59.6 -0.3**
IPM IAmb IAmb 16 32 01.2
comp=Z,13nm,0.7s
KULM Kulim 55.40 281 P **P** **16 32 03.4 -0.3**
KULM IAmb IAmb 16 32 04.5
comp=Z,32nm,1.5s
CN2 Changchun 56.53 335 *eP* **P** **16 32 13.3 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
GSI Gunungsitoli 57.76 275 P **P** **16 32 18.1 -2.3**
XAN Xi'an 59.16 316 P **P** **16 32 28.7 -1.1**
XAN pP pP 16 32 46.8 -3.1
XAN pmax pmax
comp=Z,13nm,0.8s
PET Petropavlovsk 59.16 3 P **P** **16 32 30.4 +1.0**
PEA0B Petropavlovsk- 59.21 2 P **P** **16 32 29.8 +0.1**
PEA0B IAmb IAmb 16 32 33.5
comp=Z,17nm,0.8s
PETK Petropavlovsk- 59.21 2 P **P** **16 32 30.4 +0.7**
comp=Z,15nm,0.8s,baz=157,slow=7.3,SNR=46
comp=Z,15nm,0.8s
PETK Petropavlovsk- 59.21 2 P **P** **16 32 30.0 +0.3**
KMI Kunming 59.58 304 *eP* **P** **16 32 34.6 +1.5**
KMI pP pP 16 32 51.8 -1.3
KMI pmax pmax
comp=Z,9.0nm,1.1s
CRAI Chiangrai 59.75 298 P **P** **16 32 34.0 -0.1**
CRAI IAmb IAmb 16 32 36.4
comp=Z,22nm,1.0s
CM31 Chiang Mai Arr 60.43 295 P **P** **16 32 39.3 +0.5**
CM31 PcP **PcP** **16 33 20.9 -2.1**
CMAR Chiang Mai Arr 60.43 295 P **P** **16 32 40.1 +1.4**
comp=Z,24nm,0.8s,baz=121,slow=5.1,SNR=170
comp=Z,24nm,0.8s
CMAR Chiang Mai Arr 60.43 295 P **P** **16 32 39.6 +0.8**
CMAR PcP **PcP** **16 33 20.4 -2.6**
CHTO Chiang Mai 60.55 296 P **P** **16 32 39.8 +0.2**
CHTO Chiang Mai 60.55 296 P **P** **16 32 39.2 -0.4**
CHTO pP **pP** **16 32 59.7 +0.1**
PZH PanZhiHua 60.96 305 P **P** **16 32 44.0 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,6.7s
SMY Shemya 61.00 13 P **P** **16 32 43.6 +1.7**
XLT XiLinHaoTe 61.02 329 *eP* **P** **16 32 42.5 +0.1**
XLT pmax pmax
comp=Z,12nm,0.7s
XLT pmax pmax
comp=Z,95nm,4.9s
AMKA Amchitka 61.12 17 P **P** **16 32 43.8 +1.0**
DRV Dumont d'Urvil 61.17 187 P **P** **16 32 41.7 -1.2**
DRV pP **pP** **16 33 03.3 +0.6**
CD2 Chengdu 61.31 310 *eP* **P** **16 32 45.0 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 61.49 324 *eP* **P** **16 32 49.9 +4.2**
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,170nm,6.2s
KIWB Kanaga Island 62.63 19 P **P** **16 32 54.9 +2.0**

ADK Adak 62.81 19 P **P** **16 32 55.9 +1.8**
MA2 Magadan 65.73 358 P **P** **16 33 12.2 -0.9**
MA2 IAmb IAmb 16 33 16.3
comp=Z,19nm,0.7s
MA2 Magadan 65.73 358 P **P** **16 33 12.9 -0.2**
MA2 pP **pP** **16 33 30.0 -3.9**
MA2 sP **PcP** **16 33 38.4 -5.3**
CASY Casey 67.25 198 P **P** **16 33 22.1 -0.6**
CASY IAmb IAmb 16 33 25.4
comp=Z,32nm,1.8s
CASY Casey 67.25 198 P **P** **16 33 22.1 -0.6**
CASY pP **pP** **16 33 46.2 +3.3**
GTA Gaotai 68.19 317 *eP* **P** **16 33 30.0 +0.8**
GTA pP pP 16 33 46.0 -3.8
GTA sP PcP 16 33 55.8 +1.2
GTA pmax pmax
comp=Z,7.0nm,1.4s
ULN Ulaanbaatar 68.38 327 P **P** **16 33 30.1 -0.1**
ULN Ulaanbaatar 68.38 327 P **P** **16 33 30.0 -0.3**
ULN pP **pP** **16 33 50.6 -0.3**
SONM Songino Array 68.71 327 P **P** **16 33 33.0 +0.7**
comp=Z,6.7nm,0.7s,baz=137,slow=5.2,SNR=36
comp=Z,6.7nm,0.7s
SONM Songino Array 68.71 327 P **P** **16 33 33.0 +0.7**
SHL Shillong 68.89 300 P **P** **16 33 33.1 -0.9**
SHL IAmb IAmb 16 33 52.3
comp=Z,29nm,0.8s
YAK Yakutsk 70.85 348 P **P** **16 33 45.3 +0.3**
YAK IAmb IAmb 16 33 47.3
comp=Z,12nm,0.9s
CCD Concordia, Ant 71.10 188 P **P** **16 33 46.0 -0.9**
CCD pP **PcP** **16 34 01.3 -5.4**
VNDA Vanda 71.29 178 P **P** **16 33 48.0 +0.4**
comp=Z,2.6nm,0.7s,baz=330,slow=6.8,SNR=18
comp=Z,2.6nm,0.7s
VNDA Vanda 71.29 178 P **P** **16 33 47.6 +0.1**
VNDA Vanda 71.29 178 P **P** **16 33 45.4 -2.2**
VNDA pP **PcP** **16 34 01.5 -5.4**
CNBA Chernabura Isl 71.65 26 P **P** **16 33 50.3 +0.4**
SBA Scott Base 71.80 177 P **P** **16 33 51.8 +1.2**
SBA Scott Base 71.80 177 P **P** **16 33 51.1 +0.5**
SBA pP **PcP** **16 34 09.9 +0.9**
CHGN Chignik 73.13 25 P **P** **16 33 59.6 +0.9**
CHGN IAmb IAmb 16 34 17.0
comp=Z,32nm,1.3s
RAMN Ramite 73.83 300 *eP* **P** **16 34 04.4 +0.6**
comp=Z,12nm,0.5s
R16K Pilot Point 74.31 24 P **P** **16 34 07.1 +1.5**
baz=230
JIRN Jiri 74.37 301 *eP* **P** **16 34 07.8 +0.7**
comp=Z,14nm,0.4s
BILL Bilibino 74.58 4 P **P** **16 34 08.0 +1.1**
BILL IAmb IAmb 16 34 09.0
comp=Z,24nm,1.0s
GUN Gumba 74.71 301 *eP* **P** **16 34 10.0 +1.0**
comp=Z,30nm,0.6s
R17K Ugashik Creek 74.84 25 P **P** **16 34 10.3 +1.6**
baz=231
PKI Pulchoki 75.02 301 *eP* **P** **16 34 11.2 +0.4**
PKIN Phulchoki 75.03 301 *eP* **P** **16 34 11.3 +0.5**
comp=Z,14nm,0.4s
SII Sitkinak Islan 75.12 26 P **P** **16 34 11.4 +1.1**
SII IAmb IAmb 16 34 28.9
comp=Z,21nm,1.0s
SII Sitkinak Islan 75.12 26 P **P** **16 34 11.2 +0.8**
baz=233
PALK Pallekele 75.28 279 P **P** **16 34 12.2 +0.1**
PALK IAmb IAmb 16 34 30.7
comp=Z,22nm,0.9s
O16K Kokwok River B 75.43 23 P **P** **16 34 13.0 +0.9**
baz=229
N16K Nishlik Lake 75.77 22 P **P** **16 34 15.3 +1.4**
baz=228
GKN Gorkha 75.79 301 *eP* **P** **16 34 15.2 +0.2**
OHAK Old Harbor 75.91 26 P **P** **16 34 16.5 +1.7**
OHAK IAmb IAmb 16 36 46.8
comp=Z,30nm,1.6s
OHAK Old Harbor 75.91 26 P **P** **16 34 15.4 +0.6**
baz=234
O17K Koliganek Bris 75.93 23 P **P** **16 34 15.5 +0.6**
baz=230
KDAK Kodiak Island 76.55 26 P **P** **16 34 19.0 +0.6**
baz=234
N18K Kilae Creek 76.98 22 P **P** **16 34 22.4 +1.6**
N18K IAmb IAmb 16 34 40.9
comp=Z,29nm,1.1s
N18K Kilae Creek 76.98 22 P **P** **16 34 22.1 +1.3**
baz=230,SNR=6.0
PYUN Piuthan 77.22 301 *eP* **P** **16 34 23.4 +0.2**
SVW2 Sparrevohn 77.36 22 P **P** **16 34 24.9 +1.9**
P19K Oil Pt 77.39 24 P **P** **16 34 23.3 +0.1**
P19K IAmb IAmb 16 34 41.9
comp=Z,35nm,1.0s
P19K Oil Pt 77.39 24 P **P** **16 34 23.9 +0.7**
baz=233
N19K Bonanza Creek 77.60 23 P **P** **16 34 25.4 +1.0**
baz=232
ILSW Iliamna Southw 77.62 24 P **P** **16 34 24.6 0.0**
ILSW IAmb IAmb 16 34 44.6
comp=Z,12nm,0.9s
O20K Slope Mountain 77.89 24 P **P** **16 34 26.4 +0.4**
baz=234
RSO Redoubt South 78.06 24 P **P** **16 34 25.8 -1.3**
CNPM China Poot 78.14 25 P **P** **16 34 28.0 +0.7**
CNPM IAmb IAmb 16 34 46.6
comp=Z,32nm,1.0s
WMQ Urumqi 78.27 317 *eP* **P** **16 34 30.6 +2.1**
M19K Big River Lodg 78.31 22 P **P** **16 34 29.2 +1.0**
M19K IAmb IAmb 16 34 48.5
comp=Z,19nm,1.1s
M19K Big River Lodg 78.31 22 P **P** **16 34 29.2 +1.0**
baz=232,SNR=11
L19K White Mountain 78.31 22 P **P** **16 34 29.6 +1.3**
L19K IAmb IAmb 16 34 48.7
comp=Z,15nm,0.9s
L19K White Mountain 78.31 22 P **P** **16 34 29.1 +0.8**
baz=231,SNR=7.9
TTA Tatalina 78.38 21 **P** **16 34 28.7 0.0**
TTA Tatalina 78.38 21 P **P** **16 34 29.6 +1.0**
baz=230
BRLK Bradley Lake 78.42 25 P **P** **16 34 29.6 +0.8**
BRLK IAmb IAmb 16 34 47.3
comp=Z,13nm,1.0s
BRSE Bradley Lake S 78.47 25 P **P** **16 34 29.9 +0.8**
baz=236
L20K Farewell, AK 78.86 22 P **P** **16 34 32.3 +1.0**
baz=232
SEW Seward 79.21 25 P **P** **16 34 33.8 +0.7**
baz=237
K20K Telida 79.33 21 P **P** **16 34 35.1 +1.3**
baz=232
SKT Skwentna 79.44 23 P **P** **16 34 33.8 -0.6**
SKT Skwentna 79.44 23 P **P** **16 34 35.2 +0.8**
baz=234
SUA Susitna One 79.44 23 P **P** **16 34 34.0 -0.5**
SUA Susitna One 79.44 23 P **P** **16 34 34.6 0.0**
baz=235,SNR=6.6
RC01 Rabbit Creek A 79.64 24 P **P** **16 34 35.7 +0.2**
baz=236
TIXI Tiksi 79.64 352 P **P** **16 34 34.6 -0.6**
PPLA Purkeypile 79.73 22 P **P** **16 34 36.7 +0.5**
baz=234
J20K Nowinta River 79.81 20 P **P** **16 34 37.0 +0.6**
baz=232
CAST Castle Rocks 80.08 21 P **P** **16 34 38.2 +0.3**
baz=234
PWL Port Wells 80.08 25 P **P** **16 34 38.5 +0.6**
baz=238,SNR=5.6
GHO Glory Hole Cre 80.34 24 P **P** **16 34 39.0 -0.4**
SML Sawmill 80.59 24 IAmb IAmb 16 34 59.9
comp=Z,32nm,1.1s
SML Sawmill 80.59 24 P **P** **16 34 41.3 +0.6**
baz=237,SNR=11
GLI Glacier Island 80.61 25 P **P** **16 34 41.3 +0.6**
GLI IAmb IAmb 16 34 43.2
comp=Z,11nm,0.8s
GLI Glacier Island 80.61 25 P **P** **16 34 41.1 +0.3**
baz=239,SNR=6.2
HIN Hinchinbrook I 80.61 25 IAmb IAmb 16 34 43.8
comp=Z,14nm,0.9s
TRF Thorofare Moun 80.75 22 P **P** **16 34 42.6 +0.9**
baz=235
FID Port Fidalgo 80.80 25 IAmb IAmb 16 35 00.8
comp=Z,16nm,1.2s
M23K Glacier View 80.83 24 P **P** **16 34 42.5 +0.6**
baz=238

EYAK	**Cordova Ski Ar**	**81.01**	**25**	P	**P**	**16 34 43.4**	**+0.6**
	baz=240						
SCM	**Sheep Creek Mo**	**81.01**	**24**	P	**P**	**16 34 43.7**	**+0.7**
SCM				IAmb	IAmb	16 35 02.3	
	comp=Z,24nm,1.3s						
SCM	**Sheep Creek Mo**	**81.01**	**24**	P	**P**	**16 34 44.0**	**+1.0**
	baz=238,SNR=6.6						
WAT1	**Susitna Watana**	**81.06**	**23**	P	**P**	**16 34 43.3**	**+0.1**
	baz=237						
H21K	**Melozitna Rive**	**81.18**	**19**	P	**P**	**16 34 44.2**	**+0.6**
	baz=233						
WAT6	**Susitna Watana**	**81.25**	**23**	P	**P**	**16 34 44.7**	**+0.4**
	baz=238						
KAIM	**Kayak Island**	**81.28**	**26**	P	**P**	**16 34 44.7**	**+0.4**
	baz=241						
DIV	**Divide**	**81.29**	**25**	P	**P**	**16 34 44.5**	**+0.1**
KLU	**Klutina**	**81.41**	**25**	P	**P**	**16 34 44.8**	**-0.3**
KLU				IAmb	IAmb	16 35 04.6	
	comp=Z,25nm,1.3s						
KLU	**Klutina**	**81.41**	**25**	P	**P**	**16 34 46.2**	**+1.2**
	baz=240,SNR=10						
MCK	**McKinley**	**81.42**	**22**	IAmb	IAmb	16 35 03.9	
	comp=Z,19nm,1.0s						
MCK	**McKinley**	**81.42**	**22**	P	**P**	**16 34 46.1**	**+1.2**
	baz=237						
G21K	**Allakaket**	**81.48**	**19**	P	**P**	**16 34 46.4**	**+1.2**
	baz=232						
MLY	**Manley**	**81.50**	**20**	P	**P**	**16 34 46.3**	**+0.8**
	baz=235						
M24K	**Tolsona, Glenn**	**81.62**	**24**	IAmb	IAmb	16 35 05.9	
	comp=Z,46nm,1.4s						
M24K	**Tolsona, Glenn**	**81.62**	**24**	P	**P**	**16 34 47.1**	**+0.9**
	baz=239						
DHY	**Denali Highway**	**81.65**	**23**	P	**P**	**16 34 47.0**	**+0.6**
DHY	**Denali Highway**	**81.65**	**23**	P	**P**	**16 34 47.0**	**+0.6**
	baz=238						
BMRM	**Bremner River**	**81.70**	**25**	IAmb	IAmb	16 35 06.0	
	comp=Z,31nm,1.5s						
BMRM	**Bremner River**	**81.70**	**25**	P	**P**	**16 34 47.3**	**+0.7**
	baz=241						
H22K	**Ishtalitna Cre**	**81.79**	**20**	P	**P**	**16 34 48.1**	**+1.2**
	baz=234						
BERG	**Berg Lake**	**81.82**	**26**	IAmb	IAmb	16 36 04.7	
	comp=Z,14nm,0.8s						
NEA2	**Nenana**	**81.84**	**21**	P	**P**	**16 34 48.3**	**+1.1**
	baz=236						
F21K	**Alatna River**	**81.92**	**18**	P	**P**	**16 34 48.7**	**+1.1**
	baz=232						
N25K	**Chitina, Valde**	**82.02**	**25**	P	**P**	**16 34 49.0**	**+0.7**
N25K	**Chitina, Valde**	**82.02**	**25**	P	**P**	**16 34 49.0**	**+0.7**
	baz=241						
SNH	**Sunshine Point**	**82.10**	**27**	IAmb	IAmb	16 34 54.0	
	comp=Z,13nm,1.0s						
HARP	**HAARP**	**82.18**	**24**	P	**P**	**16 34 50.0**	**+1.0**
	baz=240						
WAX	**Waxell Ridge**	**82.22**	**26**	IAmb	IAmb	16 35 09.0	
	comp=Z,21nm,1.2s						
GLB	**Gilahina Butte**	**82.27**	**25**	IAmb	IAmb	16 35 08.9	
	comp=Z,29nm,1.2s						
CCB	**Clear Creek Bu**	**82.33**	**21**	IAmb	IAmb	16 35 06.9	
	comp=Z,21nm,1.6s						
PAX	**Paxson**	**82.34**	**23**	P	**P**	**16 34 50.8**	**+0.9**
	baz=240						
TGL	**Tana Glacier**	**82.37**	**26**	P	**P**	**16 34 51.0**	**+0.9**
H23K	**Yukon River**	**82.37**	**20**	IAmb	IAmb	16 35 08.5	
	comp=Z,28nm,1.6s						
H23K	**Yukon River**	**82.37**	**20**	P	**P**	**16 34 51.0**	**+1.1**
	baz=236						
MESA	**MESA**	**82.49**	**27**	P	**P**	**16 34 51.0**	**+0.1**
	baz=243						
F22K	**John River**	**82.50**	**18**	P	**P**	**16 34 51.7**	**+1.1**
	baz=233						
HDA	**Harding Lake**	**82.52**	**22**	IAmb	IAmb	16 35 08.3	
	comp=Z,22nm,1.7s						
HDA	**Harding Lake**	**82.52**	**22**	P	**P**	**16 34 51.8**	**+1.1**
	baz=238						
MCARA	**McCarthy VSAT**	**82.58**	**25**	P	**P**	**16 34 51.9**	**+0.8**
	baz=242						
K24K	**Donnelly Dome**	**82.64**	**23**	P	**P**	**16 34 52.4**	**+1.0**
	baz=240						
G23K	**Bananza Creek**	**82.71**	**19**	P	**P**	**16 34 52.8**	**+1.1**
	baz=235						
ILAR	**Eielson Array**	**82.73**	**22**	P	**P**	**16 34 51.8**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=258,slow=5.1,SNR=11						
ILAR				pP	pP	16 35 07.2	-6.0
	comp=Z,2.8nm,0.9s,baz=241,slow=4.4,SNR=7.8						
	comp=Z,1.3nm,0.6s						
MK31	**Makanchi Array**	**82.84**	**319**	IAmb	IAmb	16 34 54.1	
	comp=Z,12nm,0.8s						
MKAR	**Makanchi Array**	**82.84**	**319**	P	**P**	**16 34 52.6**	**-0.1**
	comp=Z,11nm,0.6s,baz=102,slow=5.5,SNR=103						
MKAR				pP	**pP**	**16 35 10.1**	**-3.8**
	comp=Z,3.6nm,0.7s,baz=97,slow=5.4,SNR=4.7						
	comp=Z,11nm,0.6s						
MKAR	**Makanchi Array**	**82.84**	**319**	P	**P**	**16 34 53.0**	**+0.2**
RIDG	**Independent Ri**	**82.97**	**23**	IAmb	IAmb	16 35 12.1	
	comp=Z,19nm,1.2s						
RIDG	**Independent Ri**	**82.97**	**23**	P	**P**	**16 34 54.0**	**+0.8**
	baz=240						
TABL	**Table Mountain**	**82.97**	**27**	P	**P**	**16 34 53.3**	**-0.1**
TABL				IAmb	IAmb	16 35 12.7	
	comp=Z,12nm,0.9s						
E22K	**Anaktuvuk Pass**	**82.99**	**18**	P	**P**	**16 34 54.3**	**+1.2**
	baz=233						
MAKZ	**Makanchi**	**83.05**	**319**	P	**P**	**16 34 53.2**	**-0.6**
MAKZ				IAmb	IAmb	16 34 55.1	
	comp=Z,17nm,0.8s						
M26K	**Nabesna, AK**	**83.06**	**24**	P	**P**	**16 34 54.6**	**+0.9**
	baz=242						
CTG	**Chitna Glacier**	**83.11**	**26**	P	**P**	**16 34 55.0**	**+1.0**
	baz=244,SNR=11						
CTGM	**Chitina Glacie**	**83.12**	**26**	IAmb	IAmb	16 34 57.5	
	comp=Z,9.4nm,0.8s						
J25K	**Salcha River,**	**83.21**	**22**	IAmb	IAmb	16 35 13.2	
	comp=Z,33nm,1.6s						
J25K	**Salcha River,**	**83.21**	**22**	P	**P**	**16 34 54.4**	**+0.1**
	baz=240						
L26K	**Log Cabin Wild**	**83.21**	**24**	P	**P**	**16 34 55.8**	**+1.4**
	baz=242,SNR=6.5						
PCA	**Pinnacle**	**83.22**	**27**	P	**P**	**16 34 54.7**	**+0.2**
PCA				IAmb	IAmb	16 35 00.5	
	comp=Z,11nm,0.8s						
PINM	**Pinnacle**	**83.22**	**27**	P	**P**	**16 34 55.3**	**+0.8**
	baz=245						
DOT	**Dot Lake**	**83.23**	**23**	IAmb	IAmb	16 35 13.5	
	comp=Z,17nm,1.2s						
SCRK	**Sand Creek**	**83.42**	**23**	IAmb	IAmb	16 35 13.9	
	comp=Z,21nm,1.6s						
SCRK	**Sand Creek**	**83.42**	**23**	P	**P**	**16 34 56.7**	**+1.1**
	baz=241						
PNL	**Peninsula**	**83.44**	**28**	P	**P**	**16 34 55.9**	**+0.4**
	baz=246,SNR=5.6						
M27K	**Edge Creek, AK**	**83.51**	**25**	IAmb	IAmb	16 35 15.9	
	comp=Z,27nm,1.1s						
M27K	**Edge Creek, AK**	**83.51**	**25**	P	**P**	**16 34 57.5**	**+1.4**
	baz=243,SNR=14						
O28M	**Mount Upton**	**83.54**	**27**	P	**P**	**16 34 57.4**	**+1.0**
	baz=245,SNR=10.0						
G24K	**Hadweenzic Riv**	**83.55**	**20**	P	**P**	**16 34 57.5**	**+1.5**
	baz=238						
ZAA0	**Zalesovo Array**	**83.56**	**326**	IAmb	IAmb	16 34 56.1	
	comp=Z,8.2nm,0.7s						
ZALV	**Zalesovo Beam**	**83.56**	**326**	P	**P**	**16 34 55.5**	**-0.8**
	comp=Z,11nm,0.7s,baz=110,slow=5.5,SNR=38						
ZALV				pP	pP	16 35 12.4	-5.1
	comp=Z,3.3nm,0.7s,baz=99,slow=6.4,SNR=3.9						
	comp=Z,11nm,0.7s						
QSPA	**South Pole Qui**	**83.69**	**180**	P	**P**	**16 34 57.1**	**+0.1**
D23K	**Nanushuk River**	**83.82**	**17**	P	**P**	**16 34 58.8**	**+1.5**
	baz=234						
J26L	**Joseph Creek**	**83.83**	**22**	P	**P**	**16 34 58.6**	**+1.0**
	baz=242						
YUK3	**Moose Creek**	**83.85**	**26**	P	**P**	**16 34 58.6**	**+0.7**
	baz=245						
F24K	**Squaw Lake**	**83.86**	**19**	P	**P**	**16 34 58.6**	**+1.0**
	baz=237						
BVCY	**Beaver Creek**	**83.96**	**25**	P	**P**	**16 34 59.1**	**+0.9**
	baz=244						
TOLK	**Toolik Lake Re**	**83.96**	**18**	P	**P**	**16 34 59.4**	**+1.3**
	baz=236						
O29M	**Mount Kennedy**	**84.07**	**27**	P	**P**	**16 35 00.1**	**+1.1**
	baz=246						
C23K	**Itkillik River**	**84.34**	**16**	P	**P**	**16 35 01.2**	**+1.2**
	baz=234						
YUK6	**Outpost Mounta**	**84.42**	**27**	P	**P**	**16 35 02.0**	**+1.1**
	baz=246						
YUK4	**Talbot Arm**	**84.46**	**26**	P	**P**	**16 35 02.3**	**+1.3**
	baz=246						

HYT	**Haines Junctio**	**84.76**	**27**	IAmb	IAmb	16 35 21.7	
	comp=Z,14nm,1.1s						
HYT	**Haines Junctio**	**84.76**	**27**	P	**P**	**16 35 03.6**	**+1.1**
	baz=247,SNR=13						
EGAK	**Eagle**	**84.88**	**23**	P	**P**	**16 35 04.2**	**+1.5**
	baz=244						
BMAR	**Burnt Mountain**	**84.90**	**20**		**P**	**16 35 03.3**	**+0.4**
G26K	**Porcupine Rive**	**84.94**	**20**	P	**P**	**16 35 04.2**	**+1.2**
	baz=241						
M29M	**Somme Creek**	**84.98**	**25**	P	**P**	**16 35 04.4**	**+1.0**
	baz=246						
MAW	**Mawson**	**85.03**	**203**	P	**P**	**16 35 04.1**	**+0.6**
	comp=Z,14nm,0.6s,baz=97,slow=5.7,SNR=88						
	comp=Z,14nm,0.6s						
MAW	**Mawson**	**85.03**	**203**	P	**P**	**16 35 03.7**	**+0.2**
I27K	**Kandik River**	**85.08**	**22**	P	**P**	**16 35 05.2**	**+1.4**
	baz=243						
N30M	**Aishikik Lake**	**85.19**	**27**	P	**P**	**16 35 05.2**	**+0.7**
	baz=248						
D25K	**Kavik River**	**85.30**	**18**	P	**P**	**16 35 05.8**	**+1.0**
	baz=238						
O30N	**Mendenhall**	**85.39**	**27**	P	**P**	**16 35 06.2**	**+0.8**
	baz=249						
H27K	**Steamboat Moun**	**85.40**	**21**	P	**P**	**16 35 06.3**	**+0.9**
	baz=243						
KSH	**Kashi**	**85.51**	**310**	P	**P**	**16 35 09.2**	**+2.5**
KSH				sP	sP	16 35 39.9	+3.5
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
G27K	**Doyon Strip**	**85.61**	**21**	P	**P**	**16 35 07.6**	**+1.1**
	baz=243						
M30M	**Minto, Yukon**	**85.75**	**26**	IAmb	IAmb	16 35 27.1	
	comp=Z,18nm,1.4s						
M30M	**Minto, Yukon**	**85.75**	**26**	P	**P**	**16 35 08.3**	**+1.1**
	baz=248						
WRAK	**Wrangell Islan**	**85.77**	**32**	P	**P**	**16 35 08.2**	**+0.9**
WRAK				IAmb	IAmb	16 35 27.2	
	comp=Z,11nm,0.9s						
WRAK	**Wrangell Islan**	**85.77**	**32**	P	**P**	**16 35 09.0**	**+1.7**
	baz=252						
N31M	**Braeburn, Yuko**	**85.79**	**27**	IAmb	IAmb	16 35 26.7	
	comp=Z,24nm,1.2s						
N31M	**Braeburn, Yuko**	**85.79**	**27**	P	**P**	**16 35 08.6**	**+1.2**
	baz=249,SNR=5.1						
V35K	**Ketchikan**	**85.83**	**33**	P	**P**	**16 35 09.0**	**+1.4**
	baz=253						
K29M	**Barlow Dome**	**85.93**	**24**	P	**P**	**16 35 09.7**	**+1.5**
	baz=247						
I29M	**Ogilvie Camp,**	**86.22**	**23**	IAmb	IAmb	16 35 28.8	
	comp=Z,18nm,1.4s						
I29M	**Ogilvie Camp,**	**86.22**	**23**	P	**P**	**16 35 11.2**	**+1.8**
	baz=246						
KURK	**Kurchatov**	**86.24**	**322**	P	**P**	**16 35 08.9**	**-0.9**
E27K	**Coleen River**	**86.26**	**20**	P	**P**	**16 35 11.2**	**+1.6**
	baz=243						
C27K	**Jago River**	**86.26**	**18**	P	**P**	**16 35 11.0**	**+1.4**
	baz=241						
M31M	**Drury Creek, Y**	**86.66**	**26**	P	**P**	**16 35 12.7**	**+1.1**
	baz=250						
S34M	**Telegraph Cree**	**86.84**	**31**	P	**P**	**16 35 14.1**	**+1.5**
	baz=253,SNR=9.0						
T35M	**Bob Quinn**	**87.04**	**32**	P	**P**	**16 35 14.4**	**+0.8**
	baz=254						
FARO	**Faro, Yukon**	**87.13**	**26**	P	**P**	**16 35 14.7**	**+0.7**
	baz=251						
EPYK	**Eagle Plains**	**87.22**	**22**	IAmb	IAmb	16 35 33.7	
	comp=Z,27nm,1.2s						
EPYK	**Eagle Plains**	**87.22**	**22**	P	**P**	**16 35 15.1**	**+0.8**
	baz=248						
R33M	**Jennings River**	**87.36**	**30**	P	**P**	**16 35 16.5**	**+1.2**
	baz=253						
DLBC	**Dease Lake**	**87.56**	**31**	P	**P**	**16 35 17.6**	**+1.5**
	comp=Z,3.7nm,0.9s,baz=235,slow=6.5,SNR=7.2						
	comp=Z,3.7nm,0.9s						
MMPY	**Sheldon Lake,**	**88.17**	**26**	P	**P**	**16 35 20.2**	**+1.2**
	baz=253						
I04A	**Tendick Farm,**	**89.01**	**46**	P	**P**	**16 35 23.7**	**+0.3**
	baz=260						
J05D	**Fort Rock, OR**	**89.78**	**47**	P	**P**	**16 35 28.0**	**+0.9**
	baz=261						
K05A	**Summer Lake**	**89.94**	**47**	IAmb	IAmb	16 35 30.6	
	comp=Z,8.7nm,1.2s						
EDW2	**Edwards Air Fo**	**91.14**	**55**	P	**P**	**16 35 34.4**	**+0.9**
	baz=263						
CWC	**Cottonwood Cre**	**91.26**	**54**	P	**P**	**16 35 34.4**	**+0.3**
	baz=263						
LRMC	**Laurel Mtn Rad**	**91.47**	**55**	P	**P**	**16 35 35.6**	**+0.5**
	baz=263						
MPMC	**Manual Prospec**	**91.69**	**54**	P	**P**	**16 35 36.4**	**+0.2**
	baz=264						
BRVK	**Borovoye**	**91.76**	**323**	P	**P**	**16 35 33.8**	**-2.0**
WRGLY	**Wrigley**	**91.78**	**27**	P	**P**	**16 35 37.3**	**+1.7**
	baz=260						
PFO	**Pinyon Flats O**	**92.27**	**57**	P	**P**	**16 35 39.0**	**+0.1**
	baz=264						
HEC	**Hector,Ludlow**	**92.50**	**55**	P	**P**	**16 35 40.0**	**+0.2**
	baz=264						
BELC	**Belle Mtn. Jos**	**92.69**	**56**	P	**P**	**16 35 41.8**	**+1.0**
	baz=264						
TPNV	**Topopah Spring**	**92.78**	**53**	P	**P**	**16 35 42.1**	**+0.9**
	baz=264						
TUQ	**Turquoise Moun**	**92.89**	**55**	P	**P**	**16 35 42.5**	**+0.8**
	baz=264						
GMRC	**Granite Mounta**	**93.04**	**56**	P	**P**	**16 35 43.3**	**+0.9**
	baz=264						
BC3	**Big Chuckawall**	**93.11**	**57**	P	**P**	**16 35 44.2**	**+1.5**
	baz=265						
IRM	**Iron Mountain**	**93.41**	**56**	P	**P**	**16 35 45.1**	**+1.1**
	baz=265						
R11A	**Troy Canyon, C**	**93.44**	**52**	P	**P**	**16 35 44.9**	**+0.7**
	baz=265						
SHPR	**Sheep Range**	**93.61**	**54**	P	**P**	**16 35 46.2**	**+1.2**
SHPR				IAmb	IAmb	16 35 48.0	
	comp=Z,4.3nm,1.0s						
PRN	**Pahroc Range**	**93.77**	**53**	IAmb	IAmb	16 36 05.5	
	comp=Z,9.1nm,1.4s						
SPR3	**Spring Creek 3**	**94.47**	**51**	IAmb	IAmb	16 35 51.7	
	comp=Z,7.1nm,1.1s						
W13A	**Hualapai Mount**	**94.52**	**55**	P	**P**	**16 35 50.1**	**+0.8**
YKA	**Yellowknife Ar**	**95.73**	**28**	P	**P**	**16 35 54.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=269,slow=4.9,SNR=2.8						
	comp=Z,1.8nm,0.6s						
BELA	**Belgrano 2**	**95.80**	**178**	IAmb	IAmb	16 35 56.3	
	comp=Z,3.1nm,0.7s						
U15A	**North Rim**	**95.91**	**54**	P	**P**	**16 35 55.5**	**-0.2**
U15A				IAmb	IAmb	16 35 59.1	
	comp=Z,3.2nm,0.9s						
AKASG	**Malin Array Be**	**116.93**	**325**	PKP	**PKPdf**	**16 41 11.0**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=56,slow=2.2,SNR=4.7						
PLCA	**Paso Flores**	**117.32**	**142**	PKP	**PKPdf**	**16 41 12.2**	**-1.6**
	comp=Z,1.5nm,1.0s,baz=162,slow=3.2,SNR=1.9						
TKL	**Tuckaleechee C**	**118.91**	**53**	PKP	**PKPdf**	**16 41 16.5**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=197,slow=2.7,SNR=3.5						
BOSA	**Boshof**	**120.42**	**232**	PKP	**PKPdf**	**16 41 19.5**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=116,slow=1.7,SNR=6.1						
GERES	**GERESS Array B**	**126.42**	**329**	PKP	**PKPdf**	**16 41 31.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=64,slow=3.1,SNR=8.7						
GERES				pPKP	**pPKPdf**	**16 41 47.9**	**-5.4**
	comp=Z,0.7nm,0.7s,baz=85,slow=3.1,SNR=2.9						
LVC	**Limon Verde**	**128.38**	**125**	PKP	**PKPdf**	**16 41 36.2**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=310,slow=7.9,SNR=2.0						
LPAZ	**La Paz**	**131.84**	**118**	PKP	**PKPdf**	**16 41 42.3**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=23,slow=7.9,SNR=2.7						
CPUP	**Villa Florida**	**134.94**	**137**	PKP	**PKPdf**	**16 41 48.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=32,slow=6.3,SNR=1.8						
SIV	**San Ignacio**	**138.04**	**122**	PKP	**PKPdf**	**16 41 53.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=205,slow=2.8,SNR=5.1						
BDFB	**Brasilia**	**148.51**	**134**	PKPbc	**PKPdf**	**16 42 14.2**	**+2.0**
	comp=Z,2.1nm,0.4s,baz=198,slow=9.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**152.78**	**287**	PKP	**PKPdf**	**16 42 17.8**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=60,slow=1.1,SNR=5.3						
TORD				PKPbc	**PKPbc**	**16 42 25.0**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=75,slow=2.1,SNR=31						
TORD				pPKPbc	**pPKPdf**	**16 42 42.5**	**+1.5**
	comp=Z,5.5nm,0.9s,baz=41,slow=2.5,SNR=8.2						
DBIC	**Dimbokro**	**159.92**	**272**	PKPab	**PKPab**	**16 43 06.5**	**-1.2**
	comp=Z,6.5nm,0.9s,baz=81,slow=4.7,SNR=4.7						

*CNRM **01** 16:32:24.7,36˚.08N×4˚.46W,h16km,ml2.5*
*MDD **01** 16:32:27.6±0.6,36˚.07N×4˚.57W,h98km±5km,Mb2.3/17,*
Error ellipse: s-maj=5.3km s-min=2.5km az=164.0
*SFS **01** 16:32:27.0,36˚.06N×4˚.57W,h98km,ML2.3,ALBORAN OESTE*
*IGIL **01** 16:32:28.7,36˚.07N×4˚.57W,h32km,ML2.6*
*INMG **01** 16:32:28.0±1.6,36˚.01N×4˚.61W,h58km±14km,ML2.5,*

Error ellipse: s-maj=4.9km s-min=3.2km az=177.0
ISC 01 16:32:26.1±1.2,**36˚.05N**±0˚.03×**4˚.53W**±0˚.03,**h97**km±7km,
n53,σ1°93/97,17C-1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.55**	**339**	P		**Pn**	**16 32 42.9**	**+0.9**
EMIJ				⇑*i*Vmb_V			16 32 44.3	
	649nm,SNR=6.9							
EMIJ				S		**Sn**	**16 32 54.2**	**+0.5**
CEU	**Ceuta**	**0.70**	**257**	P		**Pn**	**16 32 43.7**	**+0.5**
CEU				S		**Sn**	**16 32 55.7**	**-0.3**
EMAL	**Malaga-Limoner**	**0.71**	**6**	P		**Pn**	**16 32 44.6**	**+1.3**
EMAL				S		**Sn**	**16 32 56.9**	**+0.8**
SMIR	**Smir Dam**	**0.79**	**242**	P		**Pn**	**16 32 43.2**	**-0.8**
SMIR				S		**Sn**	**16 32 53.4**	**-4.0**
EJIF	**Jimena Fronter**	**0.86**	**298**	P		**Pn**	**16 32 47.3**	**+2.6**
EJIF				S		**Sn**	**16 33 00.2**	**+1.4**
PALE	**Palemas**	**0.96**	**150**	P		**Pn**	**16 32 43.7**	**-2.2**
PALE				S		**Sn**	**16 32 56.3**	**-4.4**
ELGU	**Los Guajares,**	**1.09**	**42**	P		**Pn**	**16 32 47.7**	**+0.4**
ELGU				⇑*i*Vmb_V			16 32 48.2	
	404nm,SNR=3.0							
ELGU				S		**Sn**	**16 33 02.4**	**-0.9**
EGOR	**Sierra Gorda,**	**1.11**	**18**	P		**Pn**	**16 32 50.3**	**+2.7**
EGOR				S		**Sn**	**16 33 05.4**	**+1.6**
CHEFC	**Chefchaouen**	**1.15**	**215**	P		**Pn**	**16 32 46.6**	**-1.5**
CHEFC				S		**Sn**	**16 33 03.4**	**-1.3**
ESPR	**Espera**	**1.34**	**308**	P		**Pn**	**16 32 52.1**	**+1.9**
ESPR				⇑*i*Vmb_V			16 32 52.8	
	611nm,SNR=6.8							
ESPR				S		**Sn**	**16 33 07.4**	**-1.1**
EQUE	**Quentar**	**1.44**	**37**	P		**Pn**	**16 32 53.6**	**+2.0**
EQUE				S		**Sn**	**16 33 12.1**	**+1.2**
EBER	**Berja**	**1.57**	**57**	P		**Pn**	**16 32 53.5**	**+0.3**
EBER				⇑*i*Vmb_V			16 32 55.7	
	127nm,SNR=0.7							
EBER				S		**Sn**	**16 33 14.1**	**+0.4**
EQES	**Quesada**	**2.10**	**33**	P		**Pn**	**16 33 01.5**	**+1.6**
EQES				⇑*i*Vmb_V			16 33 02.2	
	192nm,SNR=3.7							
EQES				S		**Sn**	**16 33 26.4**	**+0.7**
EADA	**Adamuz**	**2.11**	**359**	P		**Pn**	**16 33 01.5**	**+1.5**
EADA				⇑*i*Vmb_V			16 33 01.8	
	1μm,SNR=25							
EADA				S		**Sn**	**16 33 25.3**	**-0.6**
ECAB	**El Cabril**	**2.14**	**341**	P		**Pn**	**16 33 01.3**	**+0.9**
ECAB				⇑*i*Vmb_V			16 33 02.1	
	98nm,SNR=2.1							
ECAB				S		**Sn**	**16 33 25.4**	**-1.2**
JBK	**JBK**	**2.35**	**136**	P		**Pn**	**16 33 02.2**	**-1.1**
JBK				S		**Sn**	**16 33 31.5**	**-0.3**
EMIN	**Mina Concepcio**	**2.42**	**315**	P		**Pn**	**16 33 05.0**	**+0.9**
EMIN				⇑*i*Vmb_V			16 33 05.2	
	350nm,SNR=7.7							
EMIN				S		**Sn**	**16 33 32.0**	**-1.2**
EGRO	**El Granado**	**2.79**	**303**	P		**Pn**	**16 33 09.8**	**+0.8**
EGRO				⇑*i*Vmb_V			16 33 10.2	
	1μm,SNR=11							
EGRO				S		**Sn**	**16 33 40.3**	**-1.7**
PVAQ	**Vaqueiros**	**2.90**	**299**	⇑*eP*		**Pn**	**16 33 11.1**	**+0.8**
PVAQ				S		**Sn**	**16 33 43.4**	**-1.0**
PVAQ				A		A	16 33 44.6	
	16nm,0.2s							
PVAQ	**Vaqueiros**	**2.90**	**299**	P		**Pn**	**16 33 11.1**	**+0.8**
PVAQ				S		**Sn**	**16 33 46.2**	**+1.8**
PBAR	**Barrancos**	**2.92**	**317**	*eP*		**Pn**	**16 33 11.9**	**+1.3**
PBAR				S		**Sn**	**16 33 44.0**	**-0.9**
PBAR				A		A	16 33 46.6	
	14nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.98**	**294**	*eP*		**Pn**	**16 33 08.3**	**-3.2**
PBDV				S		**Sn**	**16 33 41.4**	**-5.2**
PBDV				A		A	16 33 43.0	
	7.8nm,0.3s							
CZD	**Col de Zad**	**3.04**	**188**	P		**Pn**	**16 33 12.6**	**0.0**
CZD				S		**Sn**	**16 33 49.6**	**+1.2**
ZHG	**ZHG**	**3.13**	**214**	P		**Pn**	**16 33 16.2**	**+2.6**
ZHG				S		**Sn**	**16 33 57.6**	**+7.4**
MD31	**MD31**	**3.19**	**184**	P		**Pn**	**16 33 14.4**	**+0.1**
MD31				S		**Sn**	**16 33 54.8**	**+3.3**
PCVE	**Castro Verde**	**3.23**	**300**	*eP*		**Pn**	**16 33 15.6**	**+0.8**
PCVE				S		**Sn**	**16 33 50.8**	**-1.6**
PCVE				A		A	16 33 52.1	
	10nm,0.4s							
MDT	**Midelt**	**3.23**	**181**	P		**Pn**	**16 33 15.2**	**+0.2**
MDT				S		**Sn**	**16 33 55.5**	**+2.8**
PBEJ	**Beja**	**3.32**	**307**	S		**Sn**	**16 33 53.3**	**-1.3**
PBEJ				A		A	16 33 53.9	
	19nm,0.1s							
EBAD	**Badajoz**	**3.34**	**324**	P		**Pn**	**16 33 17.1**	**+0.8**
EBAD				⇑*i*Vmb_V			16 33 17.8	
	146nm,SNR=2.2							
EBAD				S		**Sn**	**16 33 53.9**	**-1.2**
MESJ	**Messejana**	**3.45**	**302**	*eP*		**Pn**	**16 33 18.7**	**+1.0**

POLO	**Lamas de Olo**	**5.89**	**335**	S	**Sn**	**16 34 55.4**	**-1.7**
POLO				A	A	16 34 58.8	
	comp=N,1.5nm,0.8s						
ECAL	**Calabor**	**6.12**	**344**	⇑ *i*Vmb_V		16 33 57.6	
	comp=N,66nm,SNR=0.6						
ECAL				S	**Sn**	**16 34 58.1**	**-4.6**

*WEL **01** 16:37:00,36˚.98S×179˚.52E,h23km,ML7.1,Mw7.1, Moment Tensor Solution. s12 Moment tensor: Scale 10¹⁹Nm; Mrr=-3.27; Mθθ=0.03; Mϕϕ=3.24; Mrθ=4.36; Mθϕ=0.60; Mϕr=3.36; Fault plane solution: M=6.35000×10¹⁹ NP1: ϕs=354.00000°,δ=21.00000°,λ=-138.00000°. NP2: ϕs=224.00000°,δ=76.00000°,λ=-74.00000°. Principal axes: T -6889566.4500, Plg29.0000°, Azm301.0000°; N 1083302.5900, Plg15.0000°, Azm40.0000°; P 5806263.8600, Plg56.0000°, Azm154.0000°;*

*WEL **01** 16:37:55.4±0.8,37˚.S±8˚×18˚.0E±1˚.3,h22km±18km, M7.1/22,ML7.2/8,MLv7.1/22 Error ellipse: s-maj=0.0km s-min=0.0km az=64.2*

*NEIC **01** 16:37:57.3±1.8,37˚.36S±0˚.06×179˚.15E±0˚.08,h19km±1km, mb6.9/168,Ms_20 7.2/424,Mwc6.9/126,Mww7.0,Error ellipse: s-maj=11.8km s-min=9.1km az=133.0*

*IDC **01** 16:37:58.8±0.2,37˚.31S×178˚.52E,h0km,mb5.6/38, mbtmp5.5/41,ML6.1/2,MS7.0/47,Error ellipse: s-maj=10.7km s-min=9.0km az=38.0*

*MOS **01** 16:38:00.2±1.9,36˚.91S×178˚.71E,h28km,mb6.7/17, MS7.1/39,Error ellipse: s-maj=9.4km s-min=7.5km az=97.7 Broadband fault plane solution: P waves. NP1: ϕs29.00000°,δ84.00000°,λ72.00000°. NP2:ϕs281.00000°, δ19.00000°,λ161.00000°. Principal axes: T Plg48.0000°, Azm280.0000°; N Plg18.0000°, Azm31.0000°; P Plg36.0000°, Azm135.0000°;*

*BJI **01** 16:38:00.0±0.0,37˚.43S×179˚.10E,h30km,mb5.8/47, mB6.8/71,Ms6.9/85,Ms7 6.9/81*

*NOU **01** 16:38:05.4,37˚.43S×178˚.96E,h46km,ML7.0/161,Off E. Coast of N. Island, N.Z.*

*NEIC **01** 16:38:14,37˚.26S×179˚.06E,h26km,Moment Tensor Solution. Duration: 32s0 Moment tensor: Scale 10¹⁹Nm; Mrr=2.07; Mθθ=0.40; Mϕϕ2.46; Mrθ3.01; Mθϕ 1.12; Mϕr1.97; Fault plane solution: Mo4.41000×10¹⁹ NP1: ϕs351.00000°,δ26.00000°,λ-144.00000°. NP2: ϕs229.00000°,δ75.00000°,λ-68.00000°. Principal axes: T 4.3316, Plg27.0000°, Azm302.0000°; N 0.1527, Plg21.0000°, Azm43.0000°; P -4.4843, Plg55.0000°, Azm166.0000°;*

*GCMT **01** 16:38:15.3±0.1,37˚.19S×179˚.03E,h28km,MW7.1/179, Moment Tensor Solution. s179,c461; s173,c768; Duration: 8s4 Moment tensor: Scale 10¹⁹Nm; Mrr=2.21±.01; Mθθ-0.34±.01; Mϕϕ2.56±.01; Mrθ2.91±.05; Mθϕ1.08±.01; Mϕr3.18±.06; Best double couple: Mo5.04800×10¹⁹ NP1:ϕs220.00000°,δ76.00000°, λ-76.00000°. NP2:ϕs354.00000°,δ20.00000°, λ-134.00000°. Principal axes: T 5.1750, Plg29.0000°, Azm298.0000°; N -0.2470, Plg14.0000°, Azm36.0000°; P -4.9200, Plg57.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s. Triangular moment-rate function*

*NEIC **01** 16:38:35.1,37˚.06S×179˚.14E,h31km,Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10¹⁹Nm; Mrr=2.34; Mθθ-0.11; Mϕϕ2.45; Mrθ1.48; Mθϕ 1.14; Mϕr0.03; Fault plane solution: Mo3.03000×10¹⁹ NP1: ϕs226.37000°,δ57.35000°,λ-56.77000°. NP2: ϕs355.84000°,δ45.22000°,λ-130.54000°. Principal axes: T 2.9453, Plg7.0000°, Azm293.0000°; N 0.1729, Plg27.0000°, Azm27.0000°; P -3.1182, Plg62.0000°, Azm191.0000°;*

ISC 01 16:38:01.6±0.2,**37˚.27S**±0˚.02×**178˚.79E**±0˚.03,**h21**km±1km, **h22**km:**pP-P,n2371,**σ2s**68**/2433,**mb6.8**/229,**MS7.2**/311, **148C-91D,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.48**	**233**		**Pn**	**16 38 13.8**	**+0.5**
MXZ				Sg	**Sb**	16 38 18.0	0.0
MXZ	**Matakaoa Point**	**0.48**	**233**	P	**Pn**	**16 38 14.0**	**+0.8**
WMGZ	**Waiomatatini S**	**0.62**	**209**	P	**Pn**	**16 38 17.4**	**+2.3**
PKGZ	**Pakihiroa**	**0.84**	**222**	P	**Pn**	**16 38 20.5**	**+2.3**
PUZ	**Puketiti**	**0.91**	**208**	P	**Pn**	**16 38 21.1**	**+2.0**
HAZ	**Te Kaha**	**0.94**	**239**	P	**Pn**	**16 38 21.0**	**+1.5**
TWGZ	**Tauwhareparae**	**1.11**	**215**	P	**Pb**	**16 38 24.4**	**+2.3**
RUGZ	**Raukumara Rang**	**1.12**	**232**	P	**Pb**	**16 38 25.3**	**+3.0**
CNGZ	**Carnagh Statio**	**1.30**	**201**	P	**Pb**	**16 38 26.5**	**+1.3**
WIZ	**White Island**	**1.30**	**258**	P	**Pb**	**16 38 26.3**	**+0.9**
WSRZ	**White Island S**	**1.31**	**259**	P	**Pb**	**16 38 26.7**	**+1.2**
TKGZ	**Te Karaka**	**1.39**	**212**	P	**Pb**	**16 38 27.5**	**+0.8**
MWZ	**Matawai**	**1.46**	**223**	P	**Pb**	**16 38 29.0**	**+1.0**
WHRZ	**Whale Island**	**1.56**	**247**	P	**Pb**	**16 38 31.2**	**+1.5**
RAGZ	**Rawiri**	**1.64**	**221**	P	**Pb**	**16 38 31.6**	**+0.5**
RAGZ				S	Sb	16 39 04.0	+13
RIGZ	**Rimuhau**	**1.65**	**209**	P	**Pb**	**16 38 30.8**	**-0.4**
URZ	**Urewera**	**1.66**	**233**	Pn	**Pb**	**16 38 32.3**	**+0.9**
	2µm,0.3s,baz=52,slow=9.8,SNR=6737						
URZ	**Urewera**	**1.66**	**233**		**Pb**	**16 38 31.6**	**+0.2**
URZ	**Urewera**	**1.66**	**233**	P	**Pb**	**16 38 32.3**	**+0.9**
URZ	**Urewera**	**1.66**	**233**	⇑P	**Pb**	**16 38 32.1**	**+0.7**
PRGZ	**Paritu Road**	**1.80**	**203**	P	**Pn**	**16 38 32.5**	**+1.1**
MARZ	**Manawahe**	**1.83**	**246**	P	**Pb**	**16 38 34.6**	**+0.3**
EDRZ	**Edgecumbe**	**1.83**	**242**	P	**Pb**	**16 38 35.1**	**+0.8**
OPRZ	**Ohinepanea**	**1.87**	**251**	P	**Pb**	**16 38 34.6**	**-0.3**
SNGZ	**Shannon Statio**	**1.90**	**217**	P	**Pb**	**16 38 34.5**	**-1.0**
SNGZ				S	**Sb**	**16 39 06.3**	**+7.6**
KNZ	**Kokohu**	**1.96**	**206**	P	**Pn**	**16 38 34.2**	**+0.7**
KNZ				S	**Sb**	**16 39 06.2**	**+5.8**
MUGZ	**Murupara**	**2.00**	**232**	P	**Pb**	**16 38 36.5**	**-0.8**
MHGZ	**Mahia Peninsul**	**2.00**	**200**	P	**Pn**	**16 38 35.3**	**+1.1**
MHGZ				S	**Sb**	**16 39 07.4**	**+5.6**
MYRZ	**Mayor Island**	**2.04**	**269**	P	**Pn**	**16 38 35.8**	**+1.2**
MKRZ	**Makatiti**	**2.04**	**244**	P	**Pb**	**16 38 38.5**	**+0.6**
LIRZ	**Lichensteins R**	**2.05**	**248**	P	**Pb**	**16 38 38.3**	**+0.3**
TARZ	**Mount Tarawera**	**2.05**	**241**	P	**Pb**	**16 38 38.2**	**+0.0**
TGRZ	**Tauranga**	**2.06**	**256**	P	**Pb**	**16 38 37.1**	**-1.2**
OMRZ	**Omania**	**2.09**	**246**	P	**Pb**	**16 38 38.6**	**-0.2**
RRRZ	**Republican Roa**	**2.10**	**239**	P	**Pb**	**16 38 38.4**	**-0.5**
RAHZ	**Arahi**	**2.12**	**219**	P	**Pb**	**16 38 37.8**	**-1.6**
RAHZ				S	**Sb**	**16 39 11.8**	**+6.6**
KARZ	**Kaharoa**	**2.16**	**249**	P	**Pb**	**16 38 39.2**	**-0.7**
HLRZ	**Highlands Stat**	**2.17**	**242**	P	**Pb**	**16 38 39.7**	**-0.4**
WHHZ	**Waihua**	**2.18**	**214**	P	**Pn**	**16 38 38.2**	**+1.6**
WHHZ				S	**Sb**	**16 39 13.0**	**+6.1**
MTHZ	**Maungataniwha**	**2.21**	**224**	P	**Pb**	**16 38 39.4**	**-1.4**
MTHZ				S	**Sb**	**16 39 13.7**	**+6.1**
NGRZ	**Ngongotaha**	**2.23**	**247**	P	**Pb**	**16 38 40.9**	**-0.2**
UTU	**Utuhina**	**2.25**	**246**	P	**Pb**	**16 38 41.4**	**-0.1**
PRRZ	**Plateau Road**	**2.26**	**236**	P	**Pb**	**16 38 40.2**	**-1.4**
HSRZ	**Hossack Road**	**2.27**	**242**	P	**Pb**	**16 38 41.3**	**-0.6**
HRRZ	**Handcock Road**	**2.28**	**240**	P	**Pb**	**16 38 40.9**	**-1.1**
ALRZ	**Allen Road**	**2.33**	**236**	P	**Pb**	**16 38 41.2**	**-1.6**
KMRZ	**Kaimai**	**2.34**	**255**	P	**Pb**	**16 38 41.3**	**-1.7**
GRRZ	**Galatos Road**	**2.38**	**242**	P	**Pb**	**16 38 42.8**	**-1.0**
NMHZ	**Naumai**	**2.40**	**220**	P	**Pn**	**16 38 41.9**	**+2.2**
NMHZ				S	**Sb**	**16 39 17.8**	**+4.5**
WPRZ	**Whakapapatarin**	**2.43**	**238**	P	**Pb**	**16 38 42.9**	**-1.6**
MRHZ	**Matea Rd**	**2.44**	**230**	P	**Pn**	**16 38 42.5**	**+2.3**
MRHZ				S	**Sb**	**16 39 18.6**	**+4.2**
ARHZ	**Aropaoanui**	**2.44**	**215**	P	**Pn**	**16 38 41.6**	**+1.5**
ARHZ				S	**Sb**	**16 39 18.5**	**+4.1**
KUZ	**Kuaotunu**	**2.51**	**281**	P	**Pn**	**16 38 41.5**	**+0.4**
BKZ	**Black Stump Fm**	**2.62**	**223**		**Pn**	**16 38 44.3**	**+1.6**
BKZ	**Black Stump Fm**	**2.62**	**223**	P	**Pn**	**16 38 44.5**	**+1.8**
BKZ				S	**Sb**	**16 39 22.7**	**+3.1**
BKZ	**Black Stump Fm**	**2.62**	**223**	P	**Pn**	**16 38 44.8**	**+2.1**
WHTZ	**Whakaora**	**2.64**	**237**	P	**Pb**	**16 38 46.2**	**-2.0**
KUTZ	**Kaahu Road**	**2.65**	**242**	P	**Pb**	**16 38 46.1**	**-2.1**
TOZ	**Tahuroa Road**	**2.66**	**259**	P	**Pn**	**16 38 45.0**	**+1.9**
HATZ	**Hinemaiaia**	**2.68**	**232**	P	**Pn**	**16 38 45.9**	**+2.5**
HATZ				S	**Sb**	**16 39 24.7**	**+3.6**
CKHZ	**Cape Kidnapper**	**2.74**	**209**	P	**Pn**	**16 38 44.7**	**+0.5**
CKHZ				S	**Sb**	**16 39 23.3**	**+0.4**
TLZ	**Tolley Road**	**2.79**	**247**	P	**Pb**	**16 38 48.1**	**-2.5**
WATZ	**Wairara**	**2.81**	**238**	P	**Pb**	**16 38 48.3**	**-2.7**
KWHZ	**Kaweka Forest**	**2.84**	**220**	P	**Pn**	**16 38 47.1**	**+1.3**
KWHZ				S	**Sb**	**16 39 28.0**	**+1.9**
GRZ	**Great Barrier**	**2.87**	**290**	P	**Pn**	**16 38 46.5**	**+0.5**
RATZ	**Rangitukua**	**2.87**	**235**	P	**Pn**	**16 38 48.6**	**+2.6**
RITZ	**Rihia Road**	**2.87**	**233**	P	**Pn**	**16 38 48.7**	**+2.6**
RITZ				S	**Sb**	**16 39 31.8**	**+5.0**
MKAZ	**Moumakai**	**2.91**	**272**	P	**Pn**	**16 38 47.7**	**+1.2**
KAHZ	**Kahuranaki**	**2.93**	**210**	P	**Pn**	**16 38 47.2**	**+0.2**
KAHZ				S	**Sb**	**16 39 29.5**	**+0.9**
WIAZ	**Waiheke Island**	**2.97**	**278**	P	**Pn**	**16 38 48.6**	**+1.3**
KATZ	**Kakaramea**	**2.98**	**234**	P	**Pn**	**16 38 50.7**	**+3.0**
KRHZ	**Kereru**	**3.04**	**218**	P	**Pn**	**16 38 48.9**	**+0.5**
KRHZ				S	**Sb**	**16 39 31.7**	**+0.1**
TMVZ	**Te Maari**	**3.05**	**232**	P	**Pn**	**16 38 50.7**	**+2.0**
ETVZ	**East Tongariro**	**3.06**	**232**	P	**Pn**	**16 38 50.7**	**+1.9**
NTVZ	**North Tongariro**	**3.06**	**232**	P	**Pn**	**16 38 51.0**	**+2.3**
KRVZ	**Karewarewa**	**3.08**	**233**	P	**Pn**	**16 38 51.5**	**+2.5**
BHHZ	**Black Hill Sta**	**3.08**	**223**	P	**Pn**	**16 38 50.4**	**+1.4**
OTVZ	**Oturere**	**3.10**	**232**	P	**Pn**	**16 38 51.5**	**+2.1**
ETAZ	**East Tamaki Re**	**3.11**	**275**	P	**Pn**	**16 38 51.4**	**+2.1**
NNVZ	**North Ngauruho**	**3.12**	**232**	P	**Pn**	**16 38 51.7**	**+2.1**
WTVZ	**West Tongariro**	**3.12**	**233**	P	**Pn**	**16 38 52.0**	**+2.3**
SNVZ	**South Ngauruho**	**3.13**	**231**	P	**Pn**	**16 38 51.9**	**+2.1**
SNVZ				S	**Sb**	**16 39 37.1**	**+2.7**
NGZ	**Ngauruhoe**	**3.15**	**232**	P	**Pn**	**16 38 52.0**	**+2.0**
NGZ				S	**Sb**	**16 39 35.2**	**+0.2**
MBAZ	**Motutapu North**	**3.16**	**278**	P	**Pn**	**16 38 51.7**	**+1.8**
TUVZ	**Tukino**	**3.17**	**230**	P	**Pn**	**16 38 52.3**	**+1.9**
TWVZ	**Taurewa**	**3.20**	**235**	P	**Pn**	**16 38 52.9**	**+2.2**
MOVZ	**Moawhango**	**3.20**	**227**	P	**Pn**	**16 38 52.0**	**+1.3**
WHVZ	**Whangaehu Hut**	**3.22**	**230**	P	**Pn**	**16 38 52.9**	**+1.8**
FWVZ	**Far West T-bar**	**3.23**	**231**	P	**Pn**	**16 38 52.9**	**+1.7**
DRZ	**Dome Shelter**	**3.23**	**231**	P	**Pn**	**16 38 53.3**	**+1.9**
ABAZ	**Army Bay**	**3.24**	**281**	P	**Pn**	**16 38 53.0**	**+1.9**
WNVZ	**Wahianoa**	**3.25**	**230**	P	**Pn**	**16 38 53.1**	**+1.7**
TRVZ	**Turoa**	**3.26**	**231**	P	**Pn**	**16 38 53.3**	**+1.7**
EPAZ	**Eden Park BICE**	**3.26**	**276**	P	**Pn**	**16 38 54.0**	**+2.6**
HBAZ	**Herne Bay Bore**	**3.28**	**276**	P	**Pn**	**16 38 54.2**	**+2.6**
AWAZ	**Awhitu Peninsu**	**3.32**	**272**	P	**Pn**	**16 38 54.5**	**+2.2**
PNHZ	**Pukenui**	**3.33**	**217**	P	**Pn**	**16 38 52.3**	**-0.1**
WPHZ	**Waipukurau**	**3.34**	**213**	P	**Pn**	**16 38 52.4**	**-0.1**
HIZ	**Hauiti**	**3.35**	**247**		**Pn**	**16 38 55.8**	**+3.1**
HIZ	**Hauiti**	**3.35**	**247**	P	**Pn**	**16 38 56.3**	**+3.6**
HIZ	**Hauiti**	**3.35**	**247**	P	**Pb**	**16 38 56.7**	**-3.6**
MTVZ	**Mangateitei**	**3.36**	**230**	P	**Pn**	**16 38 54.7**	**+1.9**
MTVZ				S	**Sb**	**16 39 41.9**	**+1.0**
PKVZ	**Pokaka**	**3.38**	**232**	P	**Pn**	**16 38 55.6**	**+2.5**
WTAZ	**Waiatarua**	**3.39**	**274**	P	**Pn**	**16 38 55.5**	**+2.3**
RVAZ	**Riverhead Bore**	**3.41**	**277**	P	**Pn**	**16 38 55.6**	**+2.2**
DVHZ	**Dannevirke**	**3.65**	**213**	P	**Pn**	**16 38 56.8**	**0.0**
WCZ	**Waipu Caves**	**3.82**	**289**	P	**Pn**	**16 38 00.3**	**+1.3**
WAZ	**Wanganui**	**3.88**	**229**	P	**Pn**	**16 39 01.7**	**+1.7**
POWZ	**Post Office Ro**	**3.91**	**216**	P	**Pn**	**16 39 00.1**	**-0.3**
BFZ	**Birch Farm**	**3.94**	**209**		**Pn**	**16 38 58.6**	**-2.2**
PRWZ	**Pori Road**	**3.95**	**213**	P	**Pn**	**16 39 00.4**	**-0.4**
MHEZ	**Mangahewa**	**3.96**	**242**	P	**Pn**	16 39 05.7	+4.7
OHWZ	**Ohakea**	**4.00**	**222**	P	**Pn**	**16 39 02.6**	**+1.1**
LREZ	**Lake Rotokare**	**4.08**	**236**	P	**Pn**	**16 39 05.3**	**+2.6**
DREZ	**Durham Road**	**4.09**	**241**	P	**Pn**	16 39 07.3	+4.4
CPWZ	**Castlepoint**	**4.16**	**208**	P	**Pn**	**16 39 03.2**	**-0.5**
PREZ	**Palmer Road**	**4.19**	**239**	P	**Pn**	**16 39 08.1**	**+3.9**
NEZ	**North Egmont**	**4.20**	**240**	P	**Pn**	**16 39 08.1**	**+3.7**
PKE	**Pukeiti**	**4.24**	**242**	P	**Pn**	**16 39 08.6**	**+3.6**
KHEZ	**Kahui Hut**	**4.27**	**240**	P	**Pn**	**16 39 08.6**	**+3.3**
NBEZ	**Newall Road No**	**4.36**	**241**	P	**Pn**	**16 39 10.8**	**+4.4**
NMEZ	**Namu Road**	**4.42**	**240**	P	**Pn**	**16 39 11.0**	**+3.8**
OUZ	**Omahuta**	**4.67**	**294**	Pn	**Pn**	**16 39 11.8**	**+1.0**
OUZ	**Omahuta**	**4.67**	**294**	P	**Pn**	**16 39 12.0**	**+1.2**
OUZ	**Omahuta**	**4.67**	**294**	⇑P	**Pn**	**16 39 11.8**	**+1.0**
MSWZ	**Moikau Station**	**4.97**	**212**		**Pn**	**16 39 11.3**	**-3.6**
PLWZ	**Palliser**	**5.09**	**211**		**Pn**	**16 39 13.1**	**-3.5**
SNZO	**South Karori**	**5.13**	**217**	Pn	**Pn**	**16 39 14.6**	**-2.5**
SNZO	**South Karori**	**5.13**	**217**	⇑P	**Pn**	**16 39 14.6**	**-2.5**
TUWZ	**Tuamarina**	**5.60**	**221**		**Pn**	**16 39 21.2**	**-2.4**
CMWZ	**Cape Campbell**	**5.70**	**217**		**Pn**	**16 39 22.7**	**-2.3**
NNZ	**Nelson**	**5.76**	**225**		**Pn**	**16 39 24.0**	**-1.7**
BSWZ	**Blackbirch Sta**	**5.84**	**219**		**Pn**	**16 39 24.3**	**-2.6**
QRZ	**Quartz Range**	**6.03**	**232**	Pn	**Pn**	**16 39 28.3**	**-1.2**
QRZ	**Quartz Range**	**6.03**	**232**	P	**Pn**	**16 39 31.9**	**+2.4**
THZ	**Tophouse**	**6.39**	**224**	Pn	**Pn**	**16 39 32.4**	**-2.1**
KHZ	**Kahutara**	**6.54**	**217**	Pn	**Pn**	**16 39 32.5**	**-3.9**
KHZ	**Kahutara**	**6.54**	**217**	P	**Pn**	**16 39 37.5**	**+1.1**
KHZ	**Kahutara**	**6.54**	**217**	⇑P	**Pn**	**16 39 32.4**	**-4.0**
CTZ	**Chatham Island**	**7.34**	**153**	P	**Pn**	**16 39 44.6**	**-2.9**
LTZ	**Lake Taylor**	**7.44**	**220**		**Pn**	**16 39 45.2**	**-3.6**
I36NZ	**CHATHAM INFRAS**	**7.55**	**153**	Pn	**Pn**	**16 39 53.6**	**+3.4**
	baz=308,slow=15						
I36NZ				*i*		17 24 40.0	
	0.2nm,1.1s,baz=325,slow=311,SNR=4.6						
INZ	**Inchbonnie**	**7.84**	**224**	P	**Pn**	**16 39 55.6**	**+1.3**
MQZ	**McQueen's Vall**	**7.95**	**214**		**Pn**	**16 39 51.8**	**-3.9**
OXZ	**Oxford**	**7.95**	**218**		**Pn**	**16 39 51.7**	**-4.1**
MHCZ	**Mount Hutt**	**8.33**	**219**	P	**Pn**	**16 40 03.7**	**+2.6**
GLKZ	**Green Lake**	**8.45**	**20**	P	Pn	16 39 53.3	-9.4
RAO	**Raoul Island**	**8.46**	**20**	Pn	**Pn**	**16 40 00.6**	**-2.3**
	239nm,0.3s,baz=260,slow=18,SNR=8.4						
RAO				S	**Sn**	**16 41 32.3**	**-5.3**
	1µm,0.3s,baz=98,slow=23,SNR=2.5						
RAO	**Raoul Island**	**8.46**	**20**		**Pn**	**16 39 59.0**	**-3.8**
RAO	**Raoul Island**	**8.46**	**20**	P	**Pn**	**16 39 59.0**	**-3.8**
RAO	**Raoul Island**	**8.46**	**20**	P	**Pn**	**16 40 06.2**	**+3.4**
RAO	**Raoul Island**	**8.46**	**20**	⇑P	**Pn**	**16 40 00.5**	**-2.3**
RIZ	**Raoul Island**	**8.46**	**20**	P	**Pn**	**16 39 59.1**	**-3.7**
RPZ	**Rata Peaks**	**8.73**	**220**	Pn	**Pn**	**16 40 04.3**	**-2.2**
	37nm,0.3s,baz=137,slow=6.4,SNR=87						
RPZ				S	**Sn**	**16 41 40.5**	**-3.7**
	552nm,0.3s,baz=94,slow=3.0,SNR=3.8						
	223nm,0.3s						
RPZ	**Rata Peaks**	**8.73**	**220**		**Pn**	**16 40 03.1**	**-3.4**
RPZ	**Rata Peaks**	**8.73**	**220**	P	**Pn**	**16 40 07.3**	**+0.8**
FOZ	**Fox Glacier**	**9.27**	**225**		**Pn**	**16 40 10.1**	**-3.8**
LBZ	**Lake Benmore**	**9.64**	**220**		**Pn**	16 40 14.2	-4.8
ODZ	**Otahua Downs**	**9.90**	**216**		**Pn**	16 40 17.3	-5.1
ODZ	**Otahua Downs**	**9.90**	**216**	P	**Pn**	**16 40 22.0**	**-0.5**
WKZ	**Wanaka**	**10.55**	**221**		**Pn**	**16 40 27.7**	**-3.8**
MSZ	**Milford Sound**	**11.05**	**225**	P	**Pn**	**16 40 39.0**	**+0.8**
MLZ	**Mavora Lakes**	**11.39**	**221**		**Pn**	**16 40 38.6**	**-4.3**
WHZ	**Wether Hill Ro**	**11.83**	**220**		**Pn**	**16 40 44.4**	**-4.5**
DCZ	**Deep Cove**	**11.97**	**223**		**Pn**	**16 40 47.7**	**-3.1**
NFK	**Norfolk Island**	**12.24**	**309**	P	**Pn**	**16 40 54.5**	**-0.1**
	baz=12						
NFK	**Norfolk Island**	**12.24**	**309**	P	Pn	16 41 00.0	+5.4
NFK	**Norfolk Island**	**12.24**	**309**	⇑P	**Pn**	**16 40 57.9**	**+3.3**
PYZ	**Puysegur Point**	**12.67**	**222**	Pn	**Pn**	**16 40 57.8**	**-2.6**
PYZ	**Puysegur Point**	**12.67**	**222**	P	**Pn**	**16 41 01.1**	**+0.7**
LHI	**Lord Howe Isla**	**17.25**	**284**	P	**Pn**	**16 42 01.5**	**+0.3**
	baz=17						
LHI	**Lord Howe Isla**	**17.25**	**284**	P	**P**	**16 42 02.4**	**-0.2**
LHI	**Lord Howe Isla**	**17.25**	**284**	P	**P**	**16 42 08.5**	**+6.0**
LHI	**Lord Howe Isla**	**17.25**	**284**	⇑P	**P**	**16 42 03.0**	**+0.5**
PINNC	**Pines Island,**	**17.59**	**323**	P	**Pn**	**16 42 05.1**	**-0.2**
PINNC	**Pines Island,**	**17.59**	**323**	P	**P**	**16 42 11.0**	**+4.8**
OUENC	**Ouen Island, N**	**18.05**	**322**	P	**Pn**	**16 42 09.3**	**-1.7**
OUENC	**Ouen Island, N**	**18.05**	**322**	P	**P**	**16 42 13.1**	**+1.8**
I22FR	**PORTLAGUERRE I**	**18.24**	**322**	P	**P**	**16 42 14.5**	**+1.0**
	baz=111,slow=31,SNR=3.7						
MARNC	**Mare, Loyalty**	**18.29**	**326**	P	**P**	**16 42 19.8**	**+5.8**
MARNC	**Mare, Loyalty**	**18.29**	**326**	⇑P	**P**	**16 42 16.6**	**+2.5**
YATNC	**Mamie plateau,**	**18.32**	**323**	P	**Pn**	**16 42 18.5**	**+4.1**
ONTNC	**Ouen Toro**	**18.33**	**321**	P	**P**	**16 42 12.3**	**-2.1**
ONTNC	**Ouen Toro**	**18.33**	**321**	P	**Pn**	**16 42 20.2**	**+5.7**
ONTNC	**Ouen Toro**	**18.33**	**321**	⇑P	**Pn**	**16 42 16.4**	**+1.9**
DZM	**Mont Dzumac**	**18.53**	**321**	*e*Pn	**Pn**	**16 42 19.7**	**+2.6**
DZM				*e*LR	LR	16 46 42.8	
	comp=Z,1803µm,25.9s						
DZM	**Mont Dzumac**	**18.53**	**321**	P	**P**	**16 42 16.5**	**-0.3**
	22nm,0.7s,baz=136,slow=11,SNR=14						
DZM				S	**S**	**16 45 57.2**	**+10**
	43nm,0.8s,baz=314,slow=21,SNR=1.1						
DZM				LR	LR	16 48 30.4	
	comp=Z,623µm,19.5s,baz=146,slow=34						
DZM				ScP	**ScP**	**16 50 24.2**	**+4.0**
	62nm,0.9s,baz=117,slow=6.4,SNR=3.7						
DZM	**Mont Dzumac**	**18.53**	**321**	P	**P**	**16 42 16.3**	**-0.5**
DZM	**Mont Dzumac**	**18.53**	**321**	P	**Pn**	**16 42 22.2**	**+5.1**
DZM	**Mont Dzumac**	**18.53**	**321**	⇓P	**P**	**16 42 16.9**	**0.0**
NOUC	**Port Laguerre**	**18.58**	**321**	P	**Pn**	**16 42 23.5**	**+6.0**
LKBA	**Tubou, Lakemba**	**19.08**	**7**	P	**Pn**	**16 42 27.0**	**+3.4**
LIFNC	**LIFOU**	**19.26**	**325**	P	**P**	**16 42 21.5**	**-3.2**
LIFNC	**LIFOU**	**19.26**	**325**	P	**Pn**	**16 42 27.0**	**+1.2**
MSVF	**Nonsavu**	**19.47**	**358**	P	**P**	**16 42 26.4**	**-0.7**
	6.5nm,0.3s,baz=131,slow=11,SNR=17						
MSVF				LR	LR	16 48 22.9	
	comp=Z,604µm,20.6s,baz=194,slow=32						
MSVF				ScP	**ScP**	**16 50 25.8**	**+3.4**
	140nm,0.9s,baz=159,slow=12,SNR=8.1						
	59nm,0.5s						
MSVF	**Nonsavu**	**19.47**	**358**	P	**P**	**16 42 21.9**	**-5.2**
MSVF	**Nonsavu**	**19.47**	**358**	P	**P**	**16 42 21.9**	**-5.2**
MSVF				pmax	pmax		
	comp=Z,355nm,0.7s						
MSVF	**Nonsavu**	**19.47**	**358**	P	**Pn**	**16 42 29.3**	**+0.9**
MSVF	**Nonsavu**	**19.47**	**358**	⇑P	**P**	**16 42 25.0**	**-2.1**
TAVE	**Taveuni**	**20.52**	**4**	P	Pn	16 42 40.8	+0.2
NIUE	**Niue**	**20.64**	**32**	P	**P**	**16 42 33.6**	**-6.1**
NIUE	**Niue**	**20.64**	**32**	P	**P**	**16 42 40.9**	**+1.2**
NIUE	**Niue**	**20.64**	**32**	⇓P	**P**	**16 42 38.5**	**-1.2**
KOUNC	**Koumac, New Ca**	**20.90**	**319**	P	**P**	**16 42 41.0**	**-1.6**
KOUNC	**Koumac, New Ca**	**20.90**	**319**	P	Pn	16 42 46.1	+1.0
KOUNC	**Koumac, New Ca**	**20.90**	**319**	⇓P	**P**	**16 42 42.4**	**-0.2**
DGTI	**Dogotuki**	**20.91**	**3**	P	Pn	16 42 44.0	-1.2
RTV	**Rentapao**	**21.44**	**332**	P	P	16 42 55.8	+7.5
DVP	**Devils Point**	**21.59**	**332**	P	**P**	**16 42 52.7**	**+2.7**
MCQ	**Macquarie Isla**	**21.95**	**212**	P	**P**	**16 42 48.9**	**-4.6**
MCQ	**Macquarie Isla**	**21.95**	**212**	P	**P**	**16 42 48.9**	**-4.6**
MCQ	**Macquarie Isla**	**21.95**	**212**	P	**P**	**16 42 55.2**	**+1.7**
MCQ	**Macquarie Isla**	**21.95**	**212**	⇑P	P	16 43 01.4	+7.8
NTLS	**Newcastle Soft**	**22.50**	**273**	P	**P**	**16 43 01.4**	**+1.9**
NTLH	**Newcastle Hard**	**22.56**	**273**	P	**P**	**16 43 05.5**	**+5.2**
	comp=Z,2µm,0.9s						
SYDH	**Sydney Hard Ro**	**23.07**	**270**	P	**P**	**16 43 09.6**	**+4.1**
	comp=Z,927nm,1.1s						
ARMA	**Armidale**	**23.52**	**279**	P	**P**	**16 43 12.4**	**+2.0**
	baz=23,SNR=71						
ARMA	**Armidale**	**23.52**	**279**	P	**P**	**16 43 08.3**	**-2.0**
ARMA				IAmb	IAmb	16 43 31.3	
	comp=Z,5µm,1.9s		

comp=Z,240nm,0.9s,baz=118,slow=22,SNR=1.8
HNR LR LR 16 55 42.5
comp=Z,155µm,21.7s,baz=167,slow=33
HNR Honiara 32.53 324 P **P** **16 44 28.2 -2.8**
HNR Honiara 32.53 324 P **P** **16 44 33.3 +2.2**
HNR Honiara 32.53 324 ⇓P **P** **16 44 30.2 -0.9**
HTT Hallett 32.58 265 P **P** **16 44 31.4 0.0**
baz=32,SNR=206
HTT Hallett 32.58 265 P **P** **16 44 34.2 +2.8**
HTT Hallett 32.58 265 ⇑P **P** **16 44 30.9 -0.5**
CTA Charters Tower 33.07 292 P **P** **16 44 34.9 -1.0**
comp=Z,46nm,0.6s,baz=118,slow=9.8,SNR=32
CTA S **S** **16 49 57.0 +3.3**
comp=Z,27nm,0.7s,baz=279,slow=19,SNR=3.4
CTA LR LR 16 58 49.1
comp=Z,297µm,18.0s,baz=138,slow=38
comp=Z,46nm,0.6s
CTA Charters Tower 33.07 292 P **P** **16 44 36.5 +0.7**
CTAO Charters Tower 33.07 292 P **P** **16 44 33.2 -2.6**
CTAO IAmb IAmb 16 44 50.8
comp=Z,869nm,0.9s
CTAO Charters Tower 33.07 292 IAMs_20 IAMs_20 16 56 20.7
comp=Z,375µm,22.0s
CTAO Charters Tower 33.07 292 P **P** **16 44 33.2 -2.6**
CTAO pmax pmax
comp=Z,860nm,0.9s
CTAO Charters Tower 33.07 292 P **P** **16 44 36.5 +0.7**
CTAO Charters Tower 33.07 292 ⇑P **P** **16 44 34.8 -1.0**
INKA Innaminka 33.28 275 P **P** **16 44 38.5 +1.0**
PTPS Port Pirie 33.40 265 P **P** **16 44 40.3 +1.8**
WHYH Whyalla 33.77 265 P **P** **16 44 42.4 +0.6**
comp=Z,2µm,0.9s
PAE Paea 33.95 64 *e*P **P** **16 44 42.1 -1.4**
comp=Z,382nm,1.3s
PAE Paea 33.95 64 *e*T T 17 20 26.2
comp=Z,87nm,0.3s
PPT2 Papeete2 34.01 63 *e*P **P** **16 44 42.7 -1.3**
comp=Z,2µm,1.3s
PPT2 *e*LR LR 16 53 38.1
comp=Z,291µm,22.0s
PPT2 Papeete2 34.01 63 *e*T T 17 20 30.7
comp=Z,131nm,0.3s
PPTF Pamatai, Papee 34.01 63 P P 16 44 38.8 -5.3
PPTF IAmb IAmb 16 45 05.5
comp=Z,3µm,1.3s
PPTF Pamatai, Papee 34.01 63 P **P** **16 44 46.3 +2.2**
PPTF Pamatai, Papee 34.01 63 ⇓P **P** **16 44 46.9 +2.8**
PPT Papeete 34.02 63 P **P** **16 44 44.8 +0.8**
comp=Z,96nm,0.9s,baz=101,slow=9.3,SNR=20
PPT LR LR 16 57 12.5
comp=Z,179µm,18.4s,baz=235,slow=34
comp=Z,96nm,0.9s
LCRK Leigh Creek 34.18 269 P **P** **16 44 46.6 +1.3**
TIAR Tiarei 34.19 64 *e*P **P** **16 44 46.0 +0.4**
comp=Z,185nm,0.9s
TIAR Tiarei 34.19 64 *e*T T 17 20 39.1
comp=Z,29nm,0.3s
MEH Mehetia 34.91 65 *e*P **P** **16 44 52.2 +0.5**
comp=Z,337nm,1.3s
MEH Mehetia 34.91 65 *e*T T 17 21 33.6
comp=Z,222nm,0.2s
BBOO Buckleboo 35.05 264 P **P** **16 44 51.8 -1.1**
baz=35,SNR=74
BBOO Buckleboo 35.05 264 P **P** **16 44 50.2 -2.7**
BBOO IAmb IAmb 16 45 06.9
comp=Z,6µm,2.2s
BBOO Buckleboo 35.05 264 P **P** **16 44 55.4 +2.5**
MTSU Mount Surprise 35.72 293 P **P** **16 44 58.0 -0.8**
baz=36,SNR=29
MTSU Mount Surprise 35.72 293 P **P** **16 45 01.0 +2.3**
PMOR Pomariorio Ree 36.93 62 *e*P **P** **16 45 08.6 -0.5**
comp=Z,834nm,1.3s
PMOR Pomariorio Ree 36.93 62 *e*T T 17 24 08.6
comp=Z,144nm,0.3s
VAH Vaihoa 36.96 63 *e*P **P** **16 45 08.7 -0.6**
comp=Z,447nm,1.2s
VAH Vaihoa 36.96 63 *e*T T 17 24 12.0
comp=Z,377nm,0.2s
OOD Oodnadatta 37.28 272 P **P** **16 45 12.9 +0.9**
MULG Mulgathing 37.56 267 P **P** **16 45 15.1 +0.8**
QIS Mount Isa 37.82 285 P **P** **16 45 15.4 -1.3**
baz=38,SNR=38
QIS Mount Isa 37.82 285 P **P** **16 45 16.5 -0.2**
TARA Tarawa 38.81 351 P **P** **16 45 20.9 -4.0**
TARA Tarawa 38.81 351 P **P** **16 45 25.8 +0.9**
TARA Tarawa 38.81 351 ⇑P **P** **16 45 22.4 -2.6**
COEN Coen 39.27 297 P **P** **16 45 27.2 -1.6**
baz=39,SNR=216
COEN Coen 39.27 297 P **P** **16 45 26.7 -2.2**
COEN IAmb IAmb 16 45 39.6
comp=Z,3µm,1.0s
COEN Coen 39.27 297 P **P** **16 45 27.8 -1.1**
COEN Coen 39.27 297 ⇑P **P** **16 45 27.1 -1.8**
PMG Port Moresby 39.82 306 P **P** **16 45 32.0 -1.4**
comp=Z,179nm,0.7s,baz=121,slow=4.3,SNR=19
PMG ScP **ScP** **16 51 27.5 +0.6**
comp=Z,118nm,1.1s,baz=169,slow=2.2,SNR=4.2
PMG LR LR 17 00 57.5
comp=Z,209µm,19.5s,baz=170,slow=35
comp=Z,179nm,0.7s
AS31 Alice Springs 40.63 276 P **P** **16 45 37.9 -2.3**
ASAR Alice Springs 40.63 276 P **P** **16 45 38.4 -1.8**
comp=Z,190nm,0.6s,baz=121,slow=8.1,SNR=1165
ASAR S **S** **16 51 52.0 +3.0**
comp=Z,101nm,0.8s,baz=117,slow=16,SNR=9.4
ASAR LR LR 17 02 23.1
comp=Z,320µm,21.6s,baz=126,slow=36
comp=Z,190nm,0.6s
ASAR Alice Springs 40.63 276 P **P** **16 45 38.0 -2.2**
ASAR Alice Springs 40.63 276 P **P** **16 45 38.0 -2.2**
KRVT Keravat (AS076 40.95 317 P **P** **16 45 41.4 -1.4**
comp=Z,780nm,0.8s,baz=256,slow=2.6,SNR=25
KRVT S **S** **16 51 58.2 +4.6**
comp=Z,141nm,0.9s,baz=326,slow=22,SNR=3.6
RABL Rabaul 40.97 317 P **P** **16 45 39.8 -3.2**
RABL Rabaul 40.97 317 P **P** **16 45 44.8 +1.8**
RABL Rabaul 40.97 317 ⇑P **P** **16 45 40.1 -2.8**
SBA Scott Base 41.01 184 P P 16 45 36.8 -5.8
SBA Scott Base 41.01 184 IAMs_20 IAMs_20 16 59 23.5
comp=Z,326µm,21.0s
SBA Scott Base 41.01 184 P P 16 45 36.8 -5.8
SBA pmax pmax
comp=Z,1µm,1.6s
SBA MLR MLR
comp=Z,326µm,21.0s
VNDA Vanda 41.01 186 P **P** **16 45 41.8 -0.8**
comp=Z,6.7nm,0.9s,baz=2.9,slow=8.2,SNR=16
VNDA ScP **ScP** **16 51 34.1 +3.6**
comp=Z,20nm,1.0s,baz=278,slow=3.4,SNR=2.5
VNDA LR LR 16 59 19.9
comp=Z,347µm,21.6s,baz=26,slow=31
VNDA Vanda 41.01 186 P P 16 45 37.0 -5.6
WR0 Warramunga Arr 42.09 282 P **P** **16 45 49.6 -2.5**
WR0 IAmb IAmb 16 45 60.0
comp=Z,2µm,1.1s
FORT Forrest 42.13 263 P **P** **16 45 51.1 -1.3**
baz=42,SNR=139
FORT Forrest 42.13 263 P **P** **16 45 49.9 -2.4**
FORT IAmb IAmb 16 46 05.8
comp=Z,2µm,0.8s
FORT Forrest 42.13 263 P **P** **16 45 53.1 +0.8**
FORT Forrest 42.13 263 ⇑P **P** **16 45 50.9 -1.4**
WB2 Warramunga Arr 42.24 282 P **P** **16 45 51.0 -2.4**
WB2 IAmb IAmb 16 46 01.2
comp=Z,6µm,1.6s
WRAB Tennant Creek 42.25 282 P **P** **16 45 50.9 -2.6**
WRAB IAmb IAmb 16 46 01.2
comp=Z,5µm,1.6s
WRAB Tennant Creek 42.25 282 *ce*P **P** **16 45 51.3 -2.1**
WRAB pmax pmax
comp=Z,3µm,1.4s
WRAB MLR MLR
comp=Z,399µm,20.0s
WRAB Tennant Creek 42.25 282 P **P** **16 45 52.7 -0.7**
WRAB Tennant Creek 42.25 282 ⇑P **P** **16 45 51.1 -2.4**
WRA Warramunga Arr 42.26 282 P **P** **16 45 51.9 -1.6**
comp=Z,287nm,0.6s,baz=121,slow=7.6,SNR=1144
WRA ScP **ScP** **16 51 38.5 +2.0**
comp=Z,19nm,0.6s,baz=116,slow=3.6,SNR=1.3
WRA S **S** **16 52 11.7 -1.3**
comp=Z,148nm,1.0s,baz=124,slow=14,SNR=13
WRA LR LR 17 04 05.8
comp=Z,398µm,20.0s,baz=122,slow=37
WRA Warramunga Arr 42.26 282 P **P** **16 45 50.6 -2.9**
I07AU WARRAMUNGA INT 42.27 282 P **P** **16 45 54.8 +1.2**
baz=132,slow=8.0,SNR=3.1

WB0 Warramunga Arr 42.31 282 P **P** **16 45 51.5 -2.4**
WB0 IAmb IAmb 16 46 01.6
comp=Z,5µm,1.5s
WRKA Warakurna 44.43 271 P **P** **16 46 08.4 -2.7**
baz=44,SNR=71
WRKA Warakurna 44.43 271 ⇑P **P** **16 46 09.7 -1.3**
WRKA Warakurna 44.43 271 ⇑P **P** **16 46 08.0 -3.0**
PTCN Pitcairn Islan 44.90 89 P P 16 46 08.6 -6.2
PTCN IAmb IAmb 16 46 24.8
comp=Z,3µm,1.9s
PTCN Pitcairn Islan 44.90 89 IAMs_20 IAMs_20 17 04 15.2
comp=Z,184µm,18.0s
XMAS Kiritimati 44.90 35 P P 16 46 09.5 -5.3
XMAS Kiritimati 44.90 35 P **P** **16 46 16.7 +1.9**
XMAS Kiritimati 44.90 35 ⇑P **P** **16 46 16.4 +1.7**
MANU Manus Island 45.44 313 P **P** **16 46 16.3 -2.7**
MANU IAmb IAmb 16 46 31.1
comp=Z,3µm,1.8s
MANU Manus Island 45.44 313 ⇑P **P** **16 46 16.9 -2.2**
TAOE Nuku Hiva Isla 46.63 63 *e*P **P** **16 46 29.4 +0.8**
comp=Z,500nm,1.1s
TAOE *e*S **S** **16 53 11.6 -5.2**
comp=Z,47µm,29.5s
TAOE *e*LR LR 16 59 29.1
comp=Z,244µm,22.2s
TAOE Nuku Hiva Isla 46.63 63 P 16 46 22.5 -6.1
TAOE IAmb IAmb 16 46 49.2
comp=Z,2µm,2.2s
KWAJ Kwajalein Atol 47.01 345 P **P** **16 46 28.8 -2.5**
KWAJ IAmb IAmb 16 46 52.7
comp=Z,1µm,0.8s
KWAJ Kwajalein Atol 47.01 345 P **P** **16 46 28.8 -2.5**
KWAJ pmax pmax
comp=Z,1µm,0.8s
KWAJ MLR MLR
comp=Z,110µm,21.0s
KWAJ Kwajalein Atol 47.01 345 P **P** **16 46 34.8 +3.5**
KWAJ Kwajalein Atol 47.01 345 ⇑P **P** **16 46 33.7 +2.4**
CASY Casey 47.85 210 P **P** **16 46 33.0 -4.4**
CASY IAmb IAmb 16 47 00.0
comp=Z,925nm,1.0s
CASY Casey 47.85 210 IAMs_20 IAMs_20 17 05 03.0
comp=Z,211µm,22.0s
CASY Casey 47.85 210 ⇑P **P** **16 46 37.3 -0.1**
PATS Pohnpei 47.87 332 P **P** **16 46 35.4 -2.7**
PATS IAmb IAmb 16 46 59.2
comp=Z,2µm,1.5s
PATS Pohnpei 47.87 332 P **P** **16 46 39.1 +1.1**
KDU Kakadu 47.99 288 P **P** **16 46 36.3 -2.7**
baz=48,SNR=95
KDU Kakadu 47.99 288 P **P** **16 46 38.8 -0.2**
KDU Kakadu 47.99 288 ⇑P **P** **16 46 35.9 -3.1**
MTN Manton Dam 48.91 287 P **P** **16 46 43.5 -2.7**
baz=49,SNR=132
MTN Manton Dam 48.91 287 P **P** **16 46 43.7 -2.5**
MTN IAmb IAmb 16 47 09.1
comp=Z,2µm,1.3s
MTN Manton Dam 48.91 287 P **P** **16 46 45.1 -1.1**
MTN Manton Dam 48.91 287 ⇑P **P** **16 46 43.5 -2.7**
KNRA Kununurra 49.04 282 P **P** **16 46 45.0 -2.1**
baz=49,SNR=337
KNRA Kununurra 49.04 282 P **P** **16 46 44.4 -2.7**
KNRA Kununurra 49.04 282 P **P** **16 46 48.1 +1.0**
RKGY Rocky Gully 49.33 253 P **P** **16 46 49.0 -0.2**
baz=49,SNR=6.2
RKGY Rocky Gully 49.33 253 P **P** **16 46 52.7 +3.5**
GENI Genyem 49.48 305 P **P** **16 46 48.2 -2.3**
comp=Z,84µmcomp=Z,38µmcomp=Z,2µm,2.0s
GENI Genyem 49.48 305 P **P** **16 46 52.4 +1.9**
NWAO Narrogin (SRO) 49.78 256 P **P** **16 46 51.0 -1.6**
baz=50,SNR=35
NWAO P **P** **16 46 51.0 -1.6**
baz=50,SNR=35
NWAO Narrogin (SRO) 49.78 256 P **P** **16 46 51.1 -1.6**
comp=Z,58nm,0.6s,baz=350,slow=6.9,SNR=18
NWAO S **S** **16 54 01.6 +0.8**
comp=Z,34nm,0.9s,baz=179,slow=20,SNR=3.6
NWAO LR LR 17 07 04.1
comp=Z,302µm,19.8s,baz=332,slow=35
comp=Z,58nm,0.6s
NWAO Narrogin (SRO) 49.78 256 P **P** **16 46 49.7 -3.0**
NWAO IAmb IAmb 16 47 21.0
comp=Z,2µm,1.6s
NWAO Narrogin (SRO) 49.78 256 P **P** **16 46 51.7 -0.9**
KLBR Kellerberrin 49.91 257 P **P** **16 46 52.0 -1.6**
baz=50,SNR=54
KLBR Kellerberrin 49.91 257 P **P** **16 46 52.2 -1.5**
FITZ Fitzroy Crossi 50.12 277 P **P** **16 46 53.5 -1.8**
baz=50,SNR=1000
FITZ Fitzroy Crossi 50.12 277 P **P** **16 46 53.5 -1.8**
comp=Z,208nm,0.6s,baz=155,slow=7.7,SNR=236
FITZ S **S** **16 54 07.8 +2.0**
comp=Z,58nm,1.1s,baz=8.2,slow=20,SNR=2.6
FITZ LR LR 17 07 58.8
comp=Z,181µm,21.5s,baz=122,slow=36
comp=Z,208nm,0.6s
FITZ Fitzroy Crossi 50.12 277 P **P** **16 46 52.8 -2.6**
FITZ IAmb IAmb 16 47 19.6
comp=Z,2µm,1.0s
FITZ Fitzroy Crossi 50.12 277 P **P** **16 46 54.5 -0.8**
FITZ Fitzroy Crossi 50.12 277 ⇑P **P** **16 46 53.4 -2.0**
SMPI Sarmi 50.89 304 P **P** **16 46 58.5 -2.7**
comp=Z,44µmcomp=Z,14µmcomp=Z,362nm,1.7s
MUN Mundaring 50.95 256 P **P** **16 46 59.9 -1.6**
baz=51,SNR=183
MUN Mundaring 50.95 256 P **P** **16 47 01.4 -0.1**
BLDU Ballidu 51.13 258 P **P** **16 47 00.9 -2.0**
baz=51,SNR=68
BLDU Ballidu 51.13 258 P **P** **16 47 02.7 -0.2**
H01W1 Cape Leeuwin H 51.37 252 P **P** **16 47 08.9 +4.5**
baz=106,slow=7.9,SNR=26
H01W2 Cape Leeuwin H 51.38 252 P **P** **16 47 08.5 +4.1**
baz=106,slow=7.9,SNR=26
H01W3 Cape Leeuwin H 51.39 252 P P 16 47 09.5 +5.0
baz=106,slow=7.9,SNR=26
SAUI Saumlaki 51.90 292 P **P** **16 47 05.8 -2.9**
SAUI Saumlaki 51.90 292 P **P** **16 47 07.3 -1.5**
comp=Z,89µmcomp=Z,55µmcomp=Z,3µm,1.2s
SAUI Saumlaki 51.90 292 P **P** **16 47 13.2 +4.4**
MORW Morawa 52.32 260 P **P** **16 47 09.7 -2.1**
baz=52,SNR=244
MORW Morawa 52.32 260 P **P** **16 47 09.2 -2.7**
MORW IAmb IAmb 16 47 30.4
comp=Z,2µm,1.5s
MORW Morawa 52.32 260 P **P** **16 47 11.9 +0.1**
MORW Morawa 52.32 260 ⇓P **P** **16 47 09.7 -2.1**
SRPI Serui, Papua 52.63 302 P **P** **16 47 12.9 -1.3**
comp=Z,42µmcomp=Z,20µmcomp=Z,2µm,1.1s
QSPA South Pole Qui 52.85 180 P **P** **16 47 16.0 +0.6**
comp=Z,190nm,1.0s,baz=22,slow=1.1,SNR=276
QSPA S **S** **16 54 47.5 +4.7**
comp=Z,10.0nm,0.9s,baz=86,slow=20,SNR=1.1
QSPA LR LR 17 05 52.6
comp=Z,475µm,21.7s,baz=40,slow=32
comp=Z,190nm,1.0s
PSA00 Pilbara Seismi 52.88 270 P **P** **16 47 12.7 -3.3**
PSA00 IAmb IAmb 16 47 28.3
comp=Z,1µm,1.3s
PSA00 Pilbara Seismi 52.88 270 P **P** **16 47 12.4 -3.7**
PSA00 IAmb IAmb 16 47 28.2
comp=Z,1µm,1.4s
PSA00 Pilbara Seismi 52.88 270 P **P** **16 47 14.1 -1.9**
MBWA Marble Bar 53.19 270 P **P** **16 47 15.1 -3.2**
MBWA IAmb IAmb 16 47 34.0
comp=Z,647nm,0.8s
MBWA Marble Bar 53.19 270 P **P** **16 47 16.6 -1.7**
MBWA Marble Bar 53.19 270 ⇓P **P** **16 47 15.7 -2.6**
BAKI Biak 53.22 302 P **P** **16 47 16.8 -1.7**
comp=Z,45µmcomp=Z,3µm,1.4s
FAKI Fak Fak 54.66 297 P **P** **16 47 25.6 -3.5**
FAKI IAmb IAmb 16 47 45.5
comp=Z,634nm,0.8s
FAKI Fak Fak 54.66 297 P **P** **16 47 25.5 -3.5**
comp=Z,67µmcomp=Z,20µmcomp=Z,981nm,0.9s
FAKI Fak Fak 54.66 297 P **P** **16 47 29.7 +0.6**
JOHN Johnston Islan 54.83 14 P **P** **16 47 26.4 -3.7**
JOHN IAmb IAmb 16 48 15.5
comp=Z,1µm,1.2s
JOHN Johnston Islan 54.83 14 P **P** **16 47 30.1 0.0**
JOHN Johnston Islan 54.83 14 ⇓P **P** **16 47 33.6 +3.5**
BNDI Bandanaira 55.24 294 P **P** **16 47 31.8 -1.5**
comp=Z,69µmcomp=Z,40µmcomp=Z,3µm,1.1s
BNDI Bandanaira 55.24 294 P **P** **16 47 35.1 +1.8**
BATI Baumata 56.28 284 P **P** **16 47 40.9 +0.1**
comp=Z,121nm,0.6s,baz=180,slow=3.1,SNR=12
BATI S **S** **16 55 31.5 +1.7**

comp=Z,48nm,1.0s,baz=255,slow=22,SNR=3.1
BATI LR LR 17 11 44.3
comp=Z,410µm,21.8s,baz=132,slow=36
comp=Z,121nm,0.6s
BATI Baumata 56.28 284 P **P** **16 47 39.9 -0.9**
comp=Z,41µmcomp=Z,21µmcomp=Z,826nm,0.8s
H11S2 WAKE ISLAND Hy 56.62 346 P **P** **16 47 45.6 +2.9**
SNR=6.4
H11S2 T T 17 49 30.2
baz=172,slow=76,SNR=8.8
H11S3 WAKE ISLAND Hy 56.63 346 P **P** **16 47 46.3 +3.5**
baz=345,slow=74,SNR=6.1
H11S3 T T 17 49 38.4
baz=172,slow=76,SNR=8.0
H11S1 WAKE ISLAND Hy 56.64 346 P P 16 47 48.0 +5.2
baz=100,slow=74,SNR=7.4
H11S1 T T 17 49 22.5
baz=172,slow=76,SNR=8.7
MSAI Masohi 56.75 294 P **P** **16 47 41.9 -2.2**
comp=Z,2µmcomp=Z,162nm,0.6s
SIJI Sorong 56.79 298 S **S** **16 55 39.5 +3.0**
comp=Z,10nm,0.8s,baz=267,slow=22,SNR=7.5
SIJI LR LR 17 12 32.4
comp=Z,162µm,21.7s,baz=131,slow=37
SWI Sorong 56.80 298 P **P** **16 47 41.7 -2.7**
comp=Z,73µmcomp=Z,35µmcomp=Z,4µm,1.3s
GIRL Giralia 56.81 265 P **P** **16 47 43.6 -0.8**
baz=57,SNR=49
GIRL Giralia 56.81 265 P **P** **16 47 41.0 -3.4**
GIRL IAmb IAmb 16 48 12.9
comp=Z,2µm,1.3s
GIRL Giralia 56.81 265 P **P** **16 47 47.8 +3.4**
GIRL Giralia 56.81 265 ⇓P **P** **16 47 46.0 +1.6**
AAI Ambon 57.05 293 P **P** **16 47 44.5 -1.7**
comp=Z,62µmcomp=Z,19µmcomp=Z,783nm,1.3s
WAKE Wake Island 57.40 346 P **P** **16 47 45.9 -2.5**
WAKE Wake Island 57.40 346 P **P** **16 47 53.0 +4.6**
WAKE Wake Island 57.40 346 ⇑P **P** **16 47 53.1 +4.6**
H11N1 WAKE ISLAND Hy 57.78 347 P P 16 47 55.7 +4.9
baz=48,slow=73,SNR=8.4
H11N1 T T 17 50 48.1
baz=170,slow=76,SNR=23
H11N3 WAKE ISLAND Hy 57.78 347 P **P** **16 47 51.5 +0.7**
baz=48,slow=73,SNR=9.1
H11N3 T T 17 50 47.3
baz=170,slow=76,SNR=24
H11N2 WAKE ISLAND Hy 57.79 347 P **P** **16 47 53.4 +2.4**
baz=48,slow=73,SNR=6.6
H11N2 T T 17 50 56.8
baz=170,slow=76,SNR=23
NLAI Namlea 58.16 293 P **P** **16 47 50.6 -3.4**
comp=Z,22µmcomp=Z,1µm,2.1s
MMRI Maumere 58.35 284 P **P** **16 47 52.5 -2.9**
MMRI Maumere 58.35 284 P **P** **16 47 53.3 -2.1**
comp=Z,63µmcomp=Z,47µmcomp=Z,5µm,1.1s
MMRI Maumere 58.35 284 P **P** **16 47 55.6 +0.2**
BASI Baing, Sumba 58.67 282 P **P** **16 47 55.8 -1.8**
comp=Z,36µmcomp=Z,45µmcomp=Z,5µm,1.3s
EDFI Ende, Flores 58.71 284 P **P** **16 47 55.3 -2.7**
comp=Z,34µmcomp=Z,15µmcomp=Z,1µm,1.2s
LBMI Labuha 59.63 295 P **P** **16 48 01.8 -2.5**
comp=Z,40µmcomp=Z,33µmcomp=Z,2µm,1.7s
SANI Sanana 59.78 293 P **P** **16 48 01.9 -3.3**
comp=Z,63µmcomp=Z,28µmcomp=Z,2µm,1.2s
SANI Sanana 59.78 293 P **P** **16 48 06.1 +0.9**
GUMO Guam 59.81 321 P **P** **16 48 05.9 +0.5**
comp=Z,29nm,0.5s,baz=1.1,slow=1.6,SNR=4.5
GUMO LR LR 17 10 28.8
comp=Z,35µm,21.7s,baz=149,slow=33
comp=Z,29nm,0.5s
GUMO Guam 59.81 321 P **P** **16 48 03.6 -1.7**
GUMO IAmb IAmb 16 48 28.1
comp=Z,2µm,1.4s
GUMO Guam 59.81 321 P **P** **16 48 05.8 +0.5**
GUMO Guam 59.81 321 ⇑P **P** **16 48 04.9 -0.5**
WBSI Waikabubak, Su 59.95 281 P **P** **16 48 06.5 0.0**
comp=Z,27µmcomp=Z,2µm,1.1s
BBSI Bau Bau 60.08 287 P **P** **16 48 07.4 0.0**
comp=Z,1µmcomp=Z,106nm,1.0s
VA02 Isla de Pascua 60.26 103 P **P** **16 48 03.9 -4.5**
RPN Rapa Nui 60.35 103 P **P** **16 48 10.3 +1.2**
comp=Z,47nm,0.6s,baz=326,slow=1.7,SNR=4.7
RPN LR LR 17 07 43.7
comp=Z,60µm,19.4s,baz=218,slow=30
comp=Z,47nm,0.6s
RPN Rapa Nui 60.35 103 P P 16 48 03.8 -5.3
RPN IAmb IAmb 16 48 44.4
comp=Z,4µm,1.9s
RPN Rapa Nui 60.35 103 P P 16 48 03.8 -5.3
RPN pmax pmax
comp=Z,4µm,1.9s
RPN MLR MLR
comp=Z,64µm,18.0s
RPN Rapa Nui 60.35 103 ⇑P P 16 48 17.0 +7.9
TNTI Ternate 60.71 296 P **P** **16 48 08.8 -2.7**
TNTI IAmb IAmb 16 49 10.5
comp=Z,3µm,1.8s
TNTI Ternate 60.71 296 P **P** **16 48 12.3 +0.7**
comp=Z,31µmcomp=Z,19µmcomp=Z,890nm,2.4s
TNTI Ternate 60.71 296 P **P** **16 48 12.5 +0.9**
I39PW PALAU INFRASON 60.79 308 P P 16 48 19.8 +7.7
baz=159,slow=9.6,SNR=1.9
KHU Kahuku 61.17 28 P P 16 48 09.8 -5.0
KHU Kahuku 61.17 28 P P 16 48 09.8 -5.0
KHU pmax pmax
comp=Z,4µm,1.5s
BSSI Bau Bau, Buton 61.26 285 P **P** **16 48 16.7 +1.3**
comp=Z,32µmcomp=Z,13µmcomp=Z,898nm,1.0s
HLP Hilina Pali 61.33 28 P **P** **16 48 11.6 -4.2**
AIN Ainahou 61.34 28 P **P** **16 48 12.1 -3.9**
AIN IAmb IAmb 16 48 37.7
comp=Z,2µm,1.1s
KHLU Kahalu`u 61.39 27 P **P** **16 48 12.9 -3.2**
MWH Moku'aweowe 61.40 28 P P 16 48 11.9 -4.8
SDHHI Sand Hill 61.42 28 P **P** **16 48 12.6 -3.9**
RIM Rim 61.44 28 P **P** **16 48 11.8 -4.7**
WRMHI West Rim 61.44 28 P **P** **16 48 13.3 -3.2**
PUH Pauahi 61.44 28 P **P** **16 48 12.5 -4.0**
KKO Keanakako`i 61.44 28 P P 16 48 11.8 -4.7
NPH North Pit 61.45 28 P **P** **16 48 12.0 -4.6**
NPH IAmb IAmb 16 48 37.3
comp=Z,2µm,1.3s
MLOA Mauna Loa Obse 61.45 28 P P 16 48 12.1 -4.8
OBL Observatory Le 61.45 28 P **P** **16 48 13.2 -3.4**
UWE Uwekahuna 61.45 28 P **P** **16 48 12.5 -4.1**
BYL Byron's Ledge 61.46 28 P P 16 48 11.9 -4.7
UWB Uwekahuna B 61.46 28 P **P** **16 48 13.1 -3.6**
HATHI Halema'uma'u T 61.47 28 P P 16 48 11.9 -4.8
SBLHI Steaming Bluff 61.47 28 P **P** **16 48 12.4 -4.3**
MLH Mauna Loa 61.48 28 P **P** **16 48 12.3 -4.6**
MLH IAmb IAmb 16 48 32.8
comp=Z,2µm,1.0s
JCUZ Jacuzzi 61.49 28 P **P** **16 48 13.8 -3.0**
JCUZ IAmb IAmb 16 48 38.4
comp=Z,2µm,1.2s
HUH Hualalai 61.49 27 P P 16 48 11.7 -5.3
NPOC North of Pu'u 61.49 28 P **P** **16 48 12.4 -4.4**
RSD Rainshed 61.50 28 P **P** **16 48 13.4 -3.5**
HMH Humu'ula Sheep 61.55 28 P **P** **16 48 13.6 -3.9**
POHA Pohakuloa 61.67 28 P **P** **16 48 14.5 -3.7**
POHA IAmb IAmb 16 48 39.9
comp=Z,2µm,1.1s
POHA Pohakuloa 61.67 28 P **P** **16 48 20.1 +1.9**
POHA Pohakuloa 61.67 28 ⇑P **P** **16 48 21.9 +3.7**
PLAI Plampang 61.71 281 P **P** **16 48 16.9 -1.5**
comp=Z,56µmcomp=Z,23µmcomp=Z,2µm,1.4s
PLAI Plampang 61.71 281 P **P** **16 48 20.9 +2.5**
HPAH Hawaii Prepara 61.86 27 P **P** **16 48 16.0 -3.3**
MHA Mahukona 61.93 27 P **P** **16 48 16.9 -2.7**
MHA Mahukona 61.93 27 P **P** **16 48 16.9 -2.7**
BKSI Bulukumba 62.06 286 P **P** **16 48 18.3 -2.5**
comp=Z,53µmcomp=Z,19µmcomp=Z,1µm,1.5s
HON Honolulu 62.25 25 P **P** **16 48 18.3 -3.5**
HON Honolulu 62.25 25 P **P** **16 48 18.3 -3.5**
HON pmax pmax
comp=Z,2µm,1.0s
KEKH Kekaha 62.32 23 P **P** **16 48 18.4 -3.8**
HLK Haleakala 62.33 26 P P 16 48 17.5 -5.2
HLK IAmb IAmb 16 49 01.7
comp=Z,1µm,1.1s
KIP Kipapa 62.34 24 P P **16 48 18.9 -3.5**
KIP Kipapa 62.34 24 *i*P **P** **16 48 18.8 -3.5**
KIP pmax pmax
comp=Z,900nm,1.3s
KIP MLR MLR

comp=Z,30µm,18.0s
KIP Kipapa 62.34 24 P **P** **16 48 26.4 +4.1**
KIP Kipapa 62.34 24 P **P** **16 48 26.5 +4.1**
KHLH Kahului Airpor 62.39 26 P P 16 48 18.0 -4.8
KHLH IAmb IAmb 16 48 34.9
comp=Z,3µm,1.8s
TWSI Taliwang, Sumb 62.46 280 P **P** **16 48 23.5 0.0**
comp=Z,31µmcomp=Z,14µmcomp=Z,1µm,1.2s
KAPI Kappang 62.54 286 S **S** **16 56 52.7 +2.0**
comp=Z,8.1nm,0.8s,baz=81,slow=18,SNR=0.8
KAPI LR LR 17 17 11.0
comp=Z,193µm,20.1s,baz=133,slow=38
KAPI Kappang 62.54 286 P **P** **16 48 21.1 -2.8**
KAPI IAmb IAmb 16 48 51.5
comp=Z,2µm,1.2s
KAPI Kappang 62.54 286*c iP* **P** **16 48 21.4 -2.6**
KAPI pmax pmax
comp=Z,787nm,1.2s
KAPI Kappang 62.54 286 P **P** **16 48 27.5 +3.5**
KAPI Kappang 62.54 286 ⇓P **P** **16 48 23.2 -0.8**
OPA Opana 62.59 24 P P 16 48 18.8 -5.2
OPA Opana 62.59 24 P P 16 48 18.8 -5.2
OPA pmax pmax
comp=Z,2µm,1.1s
LUWI Luwuk 62.83 291 P **P** **16 48 22.6 -3.3**
LUWI Luwuk 62.83 291 P **P** **16 48 25.7 -0.2**
comp=Z,66µmcomp=Z,37µmcomp=Z,2µm,1.5s
LUWI Luwuk 62.83 291 P **P** **16 48 27.4 +1.5**
KMSI Cibinong 63.02 294 P **P** **16 48 24.5 -2.7**
comp=Z,988nmcomp=Z,15µmcomp=Z,1µm,1.1s
SPSI Sidrap Palu 63.19 287 P **P** **16 48 25.2 -3.1**
comp=Z,48µmcomp=Z,15µmcomp=Z,931nm,1.0s
BELA Belgrano 2 63.34 173 P **P** **16 48 25.1 -3.3**
BELA IAmb IAmb 16 48 46.3
comp=Z,872nm,1.1s
TTSI Tana Toraja 63.74 287 P **P** **16 48 28.7 -3.3**
comp=Z,45µmcomp=Z,15µmcomp=Z,895nm,0.9s
APSI Ampana 63.75 291 P **P** **16 48 29.7 -2.3**
comp=Z,35µmcomp=Z,23µmcomp=Z,1µm,1.2s
DNP Denpasar 63.81 279 P **P** **16 48 34.6 +2.1**
comp=Z,52µmcomp=Z,8µmcomp=Z,4µm,1.4s
SGSI Sangihe 64.05 297 P **P** **16 48 33.9 0.0**
comp=Z,10µmcomp=Z,950nm,1.1s
SMAI San Martin Ant 64.08 158 P **P** **16 48 30.7 -2.8**
SMAI IAmb IAmb 16 48 47.3
comp=Z,2µm,1.6s
SRBI Singaraja 64.17 280 P **P** **16 48 32.7 -2.1**
comp=Z,53µmcomp=Z,33µmcomp=Z,3µm,1.1s
MRSI Marisa 64.46 292 P **P** **16 48 32.3 -4.4**
comp=Z,50µmcomp=Z,12µmcomp=Z,571nm,1.4s
JAGI Jajag, Banyuwa 64.77 279 P **P** **16 48 35.1 -3.7**
JAGI Jajag, Banyuwa 64.77 279 P **P** **16 48 40.0 +1.2**
comp=Z,48µmcomp=Z,21µmcomp=Z,1µm,1.8s
JAGI Jajag, Banyuwa 64.77 279 P **P** **16 48 41.0 +2.2**
MAW Mawson 64.95 202 P **P** **16 48 39.2 +0.1**
baz=65,SNR=12
MAW Mawson 64.95 202 P **P** **16 48 39.2 +0.1**
comp=Z,8.4nm,0.5s,baz=130,slow=9.8,SNR=11
MAW S **S** **16 57 22.4 +3.2**
comp=Z,4.6nm,1.0s,baz=131,slow=18,SNR=1.1
MAW LR LR 17 15 31.1
comp=Z,259µm,21.4s,baz=111,slow=35
comp=Z,8.4nm,0.5s
MAW Mawson 64.95 202 P **P** **16 48 35.4 -3.7**
MAW Mawson 64.95 202 ⇑P **P** **16 48 39.4 +0.3**
ABJI Asem Bagus 65.11 279 P **P** **16 48 43.2 +2.2**
comp=Z,46µmcomp=Z,34µmcomp=Z,2µm,1.1s
MIDW Midway 65.24 4 P **P** **16 48 36.9 -4.5**
MIDW IAmb IAmb 16 49 05.3
comp=Z,412nm,0.9s
MIDW IAMs_20 IAMs_20 17 13 48.0
comp=Z,158µm,20.0s
MIDW Midway 65.24 4 P **P** **16 48 45.0 +3.7**
GMJI Gumukmas 65.45 279 P **P** **16 48 41.0 -2.1**
comp=Z,21µmcomp=Z,2µm,1.1s
BLJI Banyuglugur 65.65 279 P **P** **16 48 42.7 -1.7**
comp=Z,32µmcomp=Z,17µmcomp=Z,1µm,1.7s
TOLI2 Tolitoli 65.74 292 P **P** **16 48 40.5 -4.4**
TOLI2 IAmb IAmb 16 49 09.9
comp=Z,754nm,1.1s
TOLI2 Tolitoli 65.74 292 P **P** **16 48 45.9 +0.9**
KMMI Kalianget 65.78 280 P **P** **16 48 46.6 +1.4**
comp=Z,51µmcomp=Z,22µmcomp=Z,2µm,1.1s
MPSI Mapaga 65.88 290 P **P** **16 48 42.7 -3.2**
comp=Z,53µmcomp=Z,16µmcomp=Z,770nm,1.0s
GSPH General Santos 66.14 299⇑*eP* **P** **16 48 48.3 +0.6**
DAV Davao City (W) 66.40 300 S **S** **16 57 41.3 +3.1**
comp=Z,76nm,0.3s,baz=88,slow=23,SNR=8.3
DAV LR LR 17 20 27.4
comp=Z,39µm,18.2s,baz=129,slow=38
DAV Davao City (W) 66.40 300 P **P** **16 48 46.1 -3.1**
DAV Davao City (W) 66.40 300 P **P** **16 48 51.2 +2.0**
DAV Davao City (W) 66.40 300 ⇓P **P** **16 48 48.8 -0.4**
BIPH Bislig 66.66 301⇑*eP* **P** **16 48 46.3 -4.6**
KCP Kidapawan 66.69 299⇑*eP* **P** **16 48 47.9 -3.2**
KCP *i* S **PcP** **16 49 21.8 +1.7**
PWJI Pagerwojo 66.89 278 P **P** **16 48 50.9 -1.5**
comp=Z,46µmcomp=Z,21µmcomp=Z,2µm,0.8s
BKB Balikpapan 67.12 287 P **P** **16 48 52.5 -1.4**
BKB IAmb IAmb 16 49 20.0
comp=Z,2µm,1.1s
BKB IAMs_20 IAMs_20 17 21 06.1
comp=Z,126µm,20.0s
BKB Balikpapan 67.12 287 P **P** **16 48 55.5 +1.7**
comp=Z,73µmcomp=Z,37µmcomp=Z,2µm,1.6s
BKB Balikpapan 67.12 287 P **P** **16 48 58.0 +4.2**
comp=Z,2µm,1.6s
PMSA Palmer Station 67.12 156 P **P** **16 48 52.2 -0.9**
comp=Z,42nm,0.9s,baz=225,slow=4.6,SNR=13
PMSA S **S** **16 57 50.0 +4.3**
comp=Z,12nm,1.0s,baz=312,slow=17,SNR=1.7
PMSA SKKP 17 12 22.1
comp=Z,15nm,1.0s,baz=178,slow=4.9,SNR=4.3
PMSA LR LR 17 12 60.0
comp=Z,267µm,19.7s,baz=233,slow=31
PMSA PKP2ab 17 17 22.4
comp=Z,60nm,1.0s,baz=21,slow=4.4,SNR=7.8
comp=Z,42nm,0.9s
PMSA Palmer Station 67.12 156 P **P** **16 48 48.8 -4.2**
PMSA IAmb IAmb 16 49 06.0
comp=Z,2µm,1.8s
PMSA Palmer Station 67.12 156 ⇓P **P** **16 48 56.2 +3.2**
PMSA Palmer Station 67.12 156 *eP* **P** **16 48 57.1 +4.0**
PCJI Pacitan 67.29 277 P **P** **16 48 55.8 +0.9**
comp=Z,41µmcomp=Z,36µmcomp=Z,4µm,0.9s
BBKI Banjar Baru 67.30 284 P **P** **16 48 55.0 0.0**
comp=Z,30µmcomp=Z,28µmcomp=Z,2µm,1.1s
BUKP Musuan 67.33 300⇓*eP* **P** **16 48 53.9 -1.3**
BUKP *eS* **PcP** **16 49 24.4 +1.6**
SMKI Samarinda 67.40 288 P **P** **16 48 55.3 -0.3**
comp=Z,56µmcomp=Z,27µmcomp=Z,1µm,1.3s
CTBH Cotabato--PC H 67.43 299⇓*iP* **P** **16 48 57.3 +1.5**
BWJI Bawean 67.51 280 P **P** **16 48 57.6 +1.1**
comp=Z,23µmcomp=Z,22µmcomp=Z,2µm,1.2s
NGJI Ngawi 67.56 278 P **P** **16 48 59.0 +2.4**
comp=Z,61µmcomp=Z,30µmcomp=Z,1µm,0.9s
TBJI Tambak Boyo 67.58 279 P **P** **16 48 56.9 +0.1**
comp=Z,27µmcomp=Z,13µmcomp=Z,758nm,1.4s
UGM Wanagama 67.97 277 P **P** **16 48 56.7 -2.6**
UGM Wanagama 67.97 277 P **P** **16 49 02.3 +3.0**
comp=Z,47µmcomp=Z,23µmcomp=Z,2µm,0.8s
UGM Wanagama 67.97 277 P **P** **16 49 03.1 +3.8**
YOGI Yogyakarta 68.21 277 P **P** **16 49 04.2 +3.4**
comp=Z,20µmcomp=Z,19µmcomp=Z,984nm,1.1s
PAGZ Pagadian 68.48 299⇑*iP* **P** **16 49 02.5 +0.2**
SMRI Semarang 68.56 278 P **P** **16 49 00.7 -2.2**
SMRI IAmb IAmb 16 49 26.6
comp=Z,1µm,0.8s
SMRI IAMs_20 IAMs_20 17 18 36.9
comp=Z,158µm,22.0s
SMRI Semarang 68.56 278 P **P** **16 49 05.6 +2.7**
comp=Z,38µmcomp=Z,27µmcomp=Z,2µm,1.0s
SMRI Semarang 68.56 278 P **P** **16 49 04.0 +1.1**
MTKI Muara Teweh, K 68.85 286 P **P** **16 49 04.5 -0.3**
comp=Z,27µmcomp=Z,13µmcomp=Z,406nm,1.0s
DCPH Dipolog City 69.02 299⇓*eP* P 16 49 12.0 +6.3
MSLP Maasin 69.08 302⇓*eP* **P** **16 49 07.3 +1.2**
SNPH Sibulan 69.63 300 *eP* **P** **16 49 10.5 +0.9**
LLP Lapu-Lapu 69.82 301⇑*eP* **P** **16 49 12.0 +1.3**
LLP *eS* **S** **16 58 22.2 +3.1**
MYLDM Lahad Datu 70.14 293 P **P** **16 49 10.0 -2.7**
MYLDM IAmb IAmb 16 49 48.2
comp=Z,2µm,1.2s
MYLDM Lahad Datu 70.14 293 ⇓P **P** **16 49 11.5 -1.2**
MYLDM ⇑P **pP** **16 49 13.0 -6.1**
MYLDM ⇓P **pwP** **16 49 15.4 -6.0**
MYLDM ⇑P **sP** **16 49 21.2 -0.2**
MYLDM ⇑P PcP 16 49 26.4 -8.2
PBKI Pangkalan Bun 70.24 282 P **P** **16 49 12.9 -0.4**
comp=Z,24µmcomp=Z,2µm,1.1s
XMI Christmas Isla 70.32 272 P **P** **16 49 16.3 +2.4**
XMI Christmas Isla 70.32 272 ⇑P **P** **16 49 14.7 +0.8**
XMIS Christmas Isla 70.33 272 P **P** **16 49 11.5 -2.4**
XMIS IAmb IAmb 16 49 33.7
comp=Z,692nm,0.8s
XMIS Christmas Isla 70.33 272 P **P** **16 49 16.4 +2.5**
CNOP Candoni, Negro 70.39 300⇑*iP* **P** **16 49 11.4 -2.7**
JCJI Jatinegi 70.61 277 P **P** **16 49 14.5 -1.1**
comp=Z,51µmcomp=Z,28µmcomp=Z,2µm,0.9s
LEM Lembang 70.92 276 P **P** **16 49 16.4 -1.4**
comp=Z,90nm,0.6s,baz=79,slow=5.4,SNR=24
LEM S **S** **16 58 38.4 +5.9**
comp=Z,41nm,0.8s,baz=233,slow=23,SNR=4.1
LEM LR LR 17 21 02.7
comp=Z,105µm,19.8s,baz=124,slow=36
comp=Z,90nm,0.6s
LEM Lembang 70.92 276 P **P** **16 49 17.6 -0.1**
comp=Z,22µmcomp=Z,16µmcomp=Z,938nm,0.8s
TROLL Troll, Antarti 70.99 181 P **P** **16 49 16.5 -0.7**
CNJI Cibinong 71.02 275 P **P** **16 49 17.6 -0.5**
comp=Z,31µmcomp=Z,28µmcomp=Z,4µm,1.0s
SPMM Sapulut 71.33 291 P **P** **16 49 18.0 -2.0**
SNAA Sanae 71.35 179 P **P** **16 49 18.5 -0.9**
SNAA Sanae 71.35 179 P **P** **16 49 18.3 -1.0**
comp=Z,27nm,1.1s,baz=182,slow=5.6,SNR=29
SNAA PKPPKP **P'P'df** **17 17 12.1 -7.4**
comp=Z,6.7nm,1.0s,baz=319,slow=7.2,SNR=3.5
SNAA LR LR 17 17 14.7
comp=Z,231µm,21.8s,baz=190,slow=33
comp=Z,27nm,1.1s
SNAA Sanae 71.35 179 P **P** **16 49 15.2 -4.1**
SNAA IAmb IAmb 16 49 46.2
comp=Z,1µm,1.2s
MG04 Isla Riesco 71.52 143 P P 16 49 14.0 -6.5
RCP Roxas 71.55 301⇓*eP* **P** **16 49 23.9 +2.7**
RCP Roxas 71.55 301⇑*eP* S **16 58 44.1 +4.9**
GO10 Punta Arenas 71.59 143 ⇑P P 16 49 29.5 +8.5
VNA3 Neumayer Olymp 71.62 177 P **P** **16 49 19.8 -1.1**
SKJI Sukabumi 71.66 275 P **P** **16 49 22.1 +0.1**
comp=Z,8µmcomp=Z,1µm,1.0s
USHA Ushuaia 71.75 146 P **P** **16 49 23.2 +1.4**
comp=Z,25nm,0.6s,baz=18,slow=7.3,SNR=2.9
USHA LR LR 17 15 11.5
comp=Z,146µm,19.2s,baz=220,slow=31
comp=Z,25nm,0.6s
DBJI Dramaga 71.78 276 P **P** **16 49 22.1 -0.6**
comp=Z,677µmcomp=Z,32µmcomp=Z,2µm,0.8s
NVL N'lazarevskaya 71.86 185⇑*iP* **P** **16 49 26.6 +4.4**
NVL *eS* **S** **16 58 41.1 -0.2**
NVL pmax pmax
comp=Z,610nm,1.2s
NVL MLR MLR
comp=Z,128µm,18.0s
VNA2 Neumayer--Watz 72.02 178 P **P** **16 49 22.6 -0.7**
baz=173,slow=6.2
TNG Tangerang 72.09 276 P **P** **16 49 28.0 +3.5**
comp=Z,19µmcomp=Z,2µmcomp=Z,1µm,1.2s
STKI Sintang 72.12 284 P **P** **16 49 24.7 0.0**
comp=Z,13µmcomp=Z,826nm,1.1s
VNA1 Neumayer--Stat 72.26 178 P **P** **16 49 24.1 -0.6**
KKM Kota Kinabalu 72.40 292 P **P** **16 49 23.1 -3.4**
KKM IAmb IAmb 16 49 49.6
comp=Z,2µm,1.3s
KKM Kota Kinabalu 72.40 292 P **P** **16 49 26.4 -0.1**
KKM Kota Kinabalu 72.40 292 ⇑P **P** **16 49 23.6 -2.9**
SBJI Serang 72.53 276 P **P** **16 49 26.7 -0.5**
comp=Z,498µmcomp=Z,20µmcomp=Z,2µm,0.9s
CBIJ Chichi jima 72.68 326 P **P** **16 49 24.6 -3.1**
JCJ Chichijima 72.68 326 P **P** **16 49 26.8 -0.9**
comp=Z,120nm,0.6s,baz=254,slow=16,SNR=13
JCJ LR LR 17 18 44.2
comp=Z,22µm,21.0s,baz=162,slow=34
comp=Z,120nm,0.6s
JCJ Chichijima 72.68 326 P **P** **16 49 24.2 -3.4**
JCJ IAmb IAmb 16 49 43.8
comp=Z,940nm,1.0s
JCJ Chichijima 72.68 326 P **P** **16 49 28.3 +0.6**
JCJ Chichijima 72.68 326 ⇑P **P** **16 49 25.9 -1.8**
SBUM Sibu 73.07 287 P **P** **16 49 27.3 -3.0**
SBUM IAMs_20 IAMs_20 17 24 59.9
comp=Z,121µm,20.0s
SBUM Sibu 73.07 287 ⇑P **P** **16 49 28.2 -2.1**
PPR Puerto Princes 73.10 297⇑*iP* **P** **16 49 31.5 +1.1**
PPR Puerto Princes 73.10 297⇓*iP* **S** **16 58 59.0 +2.0**
PAF Port-aux-Franc 73.14 220 P **P** **16 49 26.7 -3.6**
PAF IAmb IAmb 16 49 58.8
comp=Z,2µm,1.7s
PAF Port-aux-Franc 73.14 220 P **P** **16 49 26.7 -3.6**
PAF pmax pmax
comp=Z,2µm,1.7s
PAF MLR MLR
comp=Z,334µm,22.0s
TPI Tanjungpandan 73.36 279 P **P** **16 49 29.2 -2.9**
comp=Z,19µmcomp=Z,7µmcomp=Z,387nm,1.1s
GQP Guinayangan 73.42 303⇓*eP* **P** **16 49 29.7 -2.6**
JCNP Jose Panganiba 73.53 303⇑*iP* **P** **16 49 31.5 -1.5**
BLSI Bandar Lampung 73.68 276 P **P** **16 49 32.7 -1.3**
comp=Z,25µmcomp=Z,10µmcomp=Z,1µm,0.9s
PGP Puerto Galera 74.15 301⇑*iP* **P** **16 49 35.5 -1.1**
KASI Kota Agung 74.18 275 P **P** **16 49 35.6 -1.3**
comp=Z,27µmcomp=Z,12µmcomp=Z,826nm,0.9s
LQP Lukban 74.18 302⇓*eP* **P** **16 49 35.6 -1.4**
LQP Lukban 74.18 302⇑*eP* **PP** **16 52 17.7 -5.3**
LQP Lukban 74.18 302⇓*eP* **S** **16 59 08.1 -1.5**
KLI Kotabumi 74.29 276 P **P** **16 49 35.8 -1.8**
comp=Z,26µmcomp=Z,15µmcomp=Z,1µm,0.9s
TGY Tagaytay City 74.58 302 LR LR 17 21 06.8
comp=Z,22µm,21.9s,baz=90,slow=35
TGY Tagaytay City 74.58 302⇑*eP* **P** **16 49 40.6 +1.4**
LUBP Lubang 74.80 301⇑*iP* **P** **16 49 37.7 -2.6**
LWLI Liwa 74.83 275 P **P** **16 49 39.1 -1.7**
comp=Z,18µmcomp=Z,11µmcomp=Z,1µm,0.7s
PPBI Pangkal Pinang 74.92 279 P **P** **16 49 41.5 +0.3**
comp=Z,29µmcomp=Z,15µmcomp=Z,886nm,1.0s
PCPH Palayan 75.52 303⇓*eP* **P** **16 49 41.3 -3.1**
PMBI Palembang 75.53 277 P **P** **16 49 41.3 -3.4**
PMBI IAmb IAmb 16 50 08.9
comp=Z,807nm,0.9s
PMBI Palembang 75.53 277 P **P** **16 49 46.8 +2.1**
comp=Z,28µmcomp=Z,53µmcomp=Z,860nm,0.9s
PMBI Palembang 75.53 277 P **P** **16 49 47.6 +2.9**
COYC Coyhaique 75.78 137 P P 16 49 40.4 -5.4
COYC Coyhaique 75.78 137 ⇓P **P** **16 49 49.0 +3.3**
AIS Amsterdam Isla 75.82 233 P **P** **16 49 42.8 -3.3**
AIS IAmb IAmb 16 50 20.8
comp=Z,1µm,1.6s
ORCD Orcadas 76.05 160 P **P** **16 49 43.3 -3.6**
ORCD IAmb IAmb 16 49 58.1
comp=Z,2µm,1.8s
MNAI Manna 76.10 275 IAMs_20 IAMs_20 17 29 04.0
comp=Z,85µm,19.0s
MNAI Manna 76.10 275 P **P** **16 49 46.2 -1.8**
comp=Z,32µmcomp=Z,23µmcomp=Z,1µm,1.1s
GO07 Milladeo Hill, 76.43 134 *eP* P 16 49 54.5 +5.1
LL07 Hotel Espejo d 76.72 134 *eP* **P** **16 49 49.1 -1.9**
SGCP Gonzaga 76.81 305 *eP* **P** **16 49 56.3 +4.4**
KSI Kapahiang 76.82 275 P **P** **16 49 51.0 -1.1**
comp=Z,20µmcomp=Z,2µm,0.7s
DSRI Dabo 77.17 279 P **P** **16 49 52.5 -1.5**
comp=Z,17µmcomp=Z,6µmcomp=Z,263nm,1.1s
JMBI JAMBI 77.21 278 P **P** **16 49 54.3 +0.1**
comp=Z,6µmcomp=Z,284nm,1.1s
LL02 Futaleuf 77.42 135 *eP* **P** **16 49 59.6 +4.6**
LL01 San Ignacio de 77.61 134 P P 16 49 49.4 -6.7
LL01 San Ignacio de 77.61 134 *eP* P 16 50 00.8 +4.7
TPRI Tanjung Pinang 78.07 280 P **P** **16 49 58.3 -0.7**
comp=Z,9µmcomp=Z,410nm,1.2s
LL03 Petrohue 78.41 133 P P 16 49 54.1 -6.4
EFI East Falkland 78.45 148 P P 16 49 53.9 -6.6
EFI IAmb IAmb 16 50 12.2
comp=Z,1µm,0.9s
EFI East Falkland 78.45 148*c eP* **P** **16 49 57.1 -3.4**
EFI pmax pmax
comp=Z,1µm,2.5s
LL04 Puerto Octay 78.55 133 P P 16 49 55.9 -5.4
LL04 Puerto Octay 78.55 133 *eP* **P** **16 50 05.1 +3.7**
LR04 Corral 78.60 132 P P 16 49 56.2 -5.4
LR04 Corral 78.60 132 *eP* **P** **16 49 57.8 -3.9**
KRJI Kerinci 78.66 276 P **P** **16 50 00.5 -1.9**
comp=Z,23µmcomp=Z,52µmcomp=Z,6µm,0.9s
H03S2 Juan Fernandez 78.87 124 T T 18 16 38.3
baz=230
H03S1 Juan Fernandez 78.88 124 T T 18 16 43.9
baz=230
H03S3 Juan Fernandez 78.89 124 T T 18 16 42.8
baz=230
JHJ2 Mitsune 78.89 327 P **P** **16 50 03.4 +0.4**
JHJ2 Mitsune 78.89 327 P P 16 50 08.9 +5.9
VA04 Juan Fernndez 79.06 124 P P 16 49 57.2 -7.0
VA04 IAmb IAmb 16 50 34.9
comp=Z,1µm,1.9s
H03N3 Juan Fernandez 79.11 124 P P 16 50 11.7 +7.5
baz=173,slow=19,SNR=5.7
H03N3 T T 18 16 42.7
baz=234,slow=72,SNR=228
H03N2 Juan Fernandez 79.11 124 P P 16 50 15.7 +12
baz=173,slow=19,SNR=6.7
H03N2 T T 18 16 41.7
baz=234,slow=72,SNR=226
H03N1 Juan Fernandez 79.12 124 P **P** **16 50 04.6 +0.3**
baz=173,slow=19,SNR=5.2
H03N1 T T 18 16 47.4
baz=234,slow=72,SNR=100
MYKOM Kota Tinggi 79.14 281 ⇑P **P** **16 50 04.1 -0.9**
MYKOM ⇑P **pP** **16 50 05.5 -6.1**
MYKOM ⇑P **PcP** **16 50 08.8 -4.5**
LR03 Panguipulli 79.40 132 *eP* **P** **16 50 10.6 +4.5**
PPSI Pulau Pagai 79.41 275 P **P** **16 50 06.8 +0.4**
comp=Z,38µmcomp=Z,31µmcomp=Z,2µm,0.9s
JOW Kunigami 79.48 315 P **P** **16 50 03.0 -3.5**
JOW IAmb IAmb 16 50 22.5
comp=Z,3µm,2.5s
JOW Kunigami 79.48 315 P **P** **16 50 09.8 +3.3**
JOW Kunigami 79.48 315 P P 16 50 11.7 +5.2
JMJ Miyako jima 2 79.66 312 P **P** **16 50 08.6 +1.2**
PLCA Paso Flores 79.74 134 P **P** **16 50 09.2 +1.2**
comp=Z,89nm,1.1s,baz=232,slow=5.8,SNR=20
PLCA LR LR 17 17 13.1
comp=Z,92µm,21.8s,baz=224,slow=30
comp=Z,89nm,1.1s
PLCA Paso Flores 79.74 134 P P 16 50 01.9 -6.1
PLCA Paso Flores 79.74 134 P P 16 50 01.9 -6.1
PLCA pmax pmax
comp=Z,315nm,0.9s
PLCA Paso Flores 79.74 134 ⇑P **P** **16 50 07.0 -1.0**
PLCA ⇓P **P** **16 50 10.4 +2.4**
PLCA ⇓P **P** **16 50 10.9 +3.0**
PLCA ⇑P **sP** **16 50 17.1 -0.3**
PLCA ⇑P **PcP** **16 50 21.0 +5.3**
PLCA Paso Flores 79.74 134 *eP* **P** **16 50 10.9 +3.0**
GO06 Curarrehue 79.95 132 P P 16 50 03.8 -5.4
JAM Amami Oshima 79.99 317 P **P** **16 50 11.2 +2.1**
BKNI Bangkinang 80.46 278 IAMs_20 IAMs_20 17 29 34.5
comp=Z,99µm,19.0s
BKNI Bangkinang 80.46 278 P **P** **16 50 10.9 -1.2**
comp=Z,24µmcomp=Z,14µmcomp=Z,1µm,0.9s
BKNI Bangkinang 80.46 278 P **P** **16 50 14.9 +2.8**
BI05 Punta Hualpn 80.73 129 P P 16 50 08.0 -5.2
BI05 IAmb IAmb 16 50 23.5
comp=Z,7µm,3.2s
TWG Pinlang 80.76 308 P **P** **16 50 09.4 -4.1**
TWG IAmb IAmb 16 50 45.4
comp=Z,2µm,1.8s
YOJ Yonaguni jima 80.76 310 P **P** **16 50 12.0 -1.4**
YOJ IAmb IAmb 16 50 41.3
comp=Z,757nm,1.0s
YOJ Yonaguni jima 80.76 310 P **P** **16 50 12.0 -1.4**
YOJ pmax pmax
comp=Z,757nm,1.0s
YOJ Yonaguni jima 80.76 310 P **P** **16 50 16.6 +3.2**
YOJ Yonaguni jima 80.76 310 P **P** **16 50 14.2 +0.8**
YOJ Yonaguni jima 80.76 310 ⇑P **P** **16 50 13.5 +0.1**
YOJ ⇑P **P** **16 50 16.5 +3.2**
JSG Sagara 80.93 327 P **P** **16 50 16.6 +2.6**
SISI Saibi 81.00 275 P **P** **16 50 14.6 -0.4**
comp=Z,22µmcomp=Z,13µmcomp=Z,560nm,1.3s
JOD2 Odawara 2 81.04 328 P **P** **16 50 14.7 +0.1**
JIE Ise 81.34 326 P **P** **16 50 16.0 -0.2**
TPUB Ta-pu 81.39 308 P **P** **16 50 18.5 +1.7**
JYT Yasato 81.41 329 P **P** **16 50 16.3 -0.3**
SSLB Suanglung 81.54 308 IAmb IAmb 16 50 35.9
comp=Z,550nm,0.9s
SSLB Suanglung 81.54 308 P **P** **16 50 17.3 -0.3**
JRY Ryogami san 81.77 328 P **P** **16 50 17.6 -0.9**
YHNB Yeheng 81.92 309 IAmb IAmb 16 50 43.7
comp=Z,4µm,2.4s
YHNB Yeheng 81.92 309 P **P** **16 50 21.3 +1.7**
JSU Suzuyama 81.99 320 P **P** **16 50 21.2 +1.4**
DLV T Lat 82.00 291 P **P** **16 50 23.0 +2.5**
comp=Z,390nm,1.2s
INU Inuyama 82.01 327 P **P** **16 50 20.5 +0.8**
INU Inuyama 82.01 327 ⇑P **P** **16 50 17.4 -2.4**
JGF Kuroka 82.07 327 P **P** **16 50 19.6 -0.6**
TATO Taipei 82.08 310 IAmb IAmb 16 50 40.1
comp=Z,2µm,1.6s
TATO Taipei 82.08 310 IAMs_20 IAMs_20 17 22 47.9
comp=Z,74µm,21.0s
JMN Monobe 82.09 324 IAmb IAmb 16 50 39.8
comp=Z,711nm,1.4s
JMN Monobe 82.09 324 P **P** **16 50 20.7 +0.4**
JMN Monobe 82.09 324 ⇑P **P** **16 50 18.0 -2.3**
JMN ⇓P **P** **16 50 22.2 +1.9**
ML02 Panimavida 82.46 129 *eP* **P** **16 50 26.5 +4.1**
MJAR Matsushiro Arr 82.50 328 P **P** **16 50 21.0 -1.4**
comp=Z,9.9nm,0.8s,baz=156,slow=5.6,SNR=21
MJAR PKKPbc **PKKPbc** **17 08 51.5 +2.4**
comp=Z,1.9nm,0.8s,baz=48,slow=3.6,SNR=1.3
MJAR PKPPKP P'P'df 17 16 56.3 +8.2
comp=Z,2.8nm,0.9s,baz=352,slow=2.5,SNR=6.0
MJAR LR LR 17 24 48.9
comp=Z,12µm,20.3s,baz=151,slow=34
comp=Z,9.9nm,0.8s
MJAR Matsushiro Arr 82.50 328 P **P** **16 50 21.0 -1.4**
MAJO Matsushiro 82.51 328*c iP* **P** **16 50 20.9 -1.5**
MAJO pmax pmax
comp=Z,410nm,1.4s
MAJO MLR MLR
comp=Z,28µm,19.0s
MAJO Matsushiro 82.51 328 P **P** **16 50 22.6 +0.2**
MAJO Matsushiro 82.51 328 ⇑P **P** **16 50 20.9 -1.5**
MAT Matsushiro 82.51 328 P **P** **16 50 21.9 -0.5**
JMM Marumori 82.59 331 P **P** **16 50 25.4 +2.6**
JGN Niukaw 82.62 327 P **P** **16 50 20.2 -2.8**
JWT Wachi 82.67 325 P **P** **16 50 18.9 -4.3**
JAD Aida 82.95 324 P **P** **16 50 23.4 -1.3**
IPM Ipoh 83.01 281 IAmb IAmb 16 50 41.8
comp=Z,2µm,2.0s
IPM Ipoh 83.01 281 P **P** **16 50 25.9 +0.3**
JNU Nakatsue 83.06 321 P **P** **16 50 22.6 -2.8**
JHS Saijyo 83.49 324 IAmb IAmb 16 50 55.2
comp=Z,696nm,1.2s
JHS Saijyo 83.49 324 P **P** **16 50 26.3 -1.2**
JHS Saijyo 83.49 324 ⇑P **P** **16 50 26.3 -1.2**
JHS ⇑P **P** **16 50 28.2 +0.7**
RPSI Rantau Prapat 83.57 278 PP 16 53 41.5 +0.4
PSI Prapat 83.63 278 PP **PP** **16 53 41.5 -0.3**
comp=Z,60nm,1.0s,baz=154,slow=9.7,SNR=3.7
PSI S **S** **17 00 46.8 -3.7**
comp=Z,5.7nm,0.8s,baz=220,slow=24,SNR=9.1
PSI LR LR 17 28 57.2
comp=Z,207µm,20.9s,baz=140,slow=37
JYA Atsumi 83.64 330 P **P** **16 50 27.9 -0.3**
VA05 Santo Domingo 83.71 128 *eP* P 16 50 36.5 +7.5
JSD Sado 83.76 329 IAmb IAmb 16 50 47.2
comp=Z,518nm,1.3s
JSD Sado 83.76 329 P **P** **16 50 28.7 0.0**
JFU Fukue jima 2 83.78 319 P **P** **16 50 27.1 -1.9**
GSI Gunungsitoli 83.79 276 P **P** **16 50 26.6 -3.0**
GSI Gunungsitoli 83.79 276 P **P** **16 50 29.4 -0.2**
comp=Z,37µmcomp=Z,21µmcomp=Z,2µm,1.0s
GSI Gunungsitoli 83.79 276 P **P** **16 50 31.7 +2.1**
JOM Ohasama 83.80 332 P **P** **16 50 27.9 -1.0**
MT01 Popeta 83.81 128 *eP* **P** **16 50 31.6 +2.2**
QZH Quanzhou 83.86 308⇑*iP* **P** **16 50 29.7 +0.1**
QZH pP **pP** **16 50 37.2 +1.2**
QZH PP **PP** **16 53 41.6 -1.8**
QZH SKS **SKSac** **17 00 49.3 -2.0**
QZH S **SKKSac** **17 00 58.0 +1.7**
QZH SS **SS** **17 06 20.0 -0.4**
QZH pmax pmax
comp=Z,8µm,5.7s
QZH LR LR
comp=Z,23µm,21.8s
QZH LR LR
comp=Z,13µm,22.7s

QZH LR LR
comp=Z,44μm,37.9s
MT09 Talagante 84.03 128 *e*P **P** **16 50 32.7 +2.0**
CRZF Crozet Islands 84.03 214 IAMs_20 IAMs_20 17 22 00.7
comp=Z,94μm,22.0s
MT02 Curacav 84.27 128 *e*P **P** **16 50 34.2 +2.4**
TSI Tuntungan 84.34 279 P **P** **16 50 30.3 -2.1**
comp=Z,23μmcomp=Z,11μmcomp=Z,754nm,1.1s
MT03 Universidad Ad 84.51 128 *e*P P 16 50 40.2 +7.0
ROCH El Roble 84.54 128 *e*P **P** **16 50 35.9 +2.4**
ROCH *e*P **P** **16 50 35.5 +2.1**
VA06 Catapilco 84.63 127 *e*P P 16 50 26.9 -6.8
PEL Peldehue 84.64 128 *e*P **P** **16 50 36.2 +2.4**
PEL Peldehue 84.64 128 ⇈P **P** **16 50 36.6 +2.9**
PEL ⇈P **P** **16 50 36.6 +2.9**
PEL ⇈P **sP** **16 50 42.1 -0.6**
VA03 San Esteban 84.97 128 *e*P **P** **16 50 38.4 +2.9**
KCSI Kotacane, Aceh 84.98 278 P **P** **16 50 34.6 -1.0**
comp=Z,6μmcomp=Z,389nm,1.0s
JTM Tenmabayashi 85.03 332 P **P** **16 50 36.5 +1.4**
JEM Erimo 85.35 334 P **P** **16 50 39.9 +3.2**
JOT Ohata 85.55 332 P **P** **16 50 41.5 +3.8**
KSBUS Busan 85.64 321 P **P** **16 50 36.8 -1.5**
KSBUS IAmb IAmb 16 50 53.7
comp=Z,212nm,1.0s
QIZ Qiongzhong 85.66 298 ⇑*i*P **P** **16 50 39.1 +0.3**
QIZ pP **sP** **16 50 49.5 +1.8**
QIZ PP **PP** **16 54 02.6 +4.4**
QIZ S **S** **17 01 08.6 -1.5**
QIZ SS **SS** **17 06 47.0 -0.1**
QIZ pmax pmax
comp=Z,4μm,6.8s
QIZ LR LR
comp=Z,20μm,26.3s
QIZ LR LR
comp=Z,29μm,26.3s
QIZ LR LR
comp=Z,68μm,25.5s
QIZ Qiongzhong 85.66 298 P **P** **16 50 41.5 +2.7**
GZH Guangzhou 85.98 303 P **P** **16 50 41.0 +0.7**
YUK Yuzh-Kuril'sk 86.26 337 *e*P **P** **16 50 44.0 +2.9**
YUK *e*PPP PPP 16 56 03.2
YUK *e*S **S** **17 01 10.1 -4.7**
YUK pmax pmax
comp=Z,411nm,1.2s
YUK pmax pmax
comp=N,389nm,1.1s
YUK pmax pmax
comp=E,297nm,1.4s
YUK pmax pmax
comp=Z,989nm,2.1s
YUK MLR MLR
comp=N,33μm,19.0s
YUK MLR MLR
comp=E,24μm,19.0s
YUK MLR MLR
comp=Z,46μm,19.0s
UBPT Khong Chiam 86.39 292 P **P** **16 50 40.3 -2.1**
H06S1 SOCORRO T 86.39 63 P P 16 50 50.6 +8.2
SNR=8.3
H06S1 T T 18 26 22.2
SNR=9.1
TRQA Tornquist 86.41 136 P **P** **16 50 38.2 -4.2**
TRQA IAMs_20 IAMs_20 17 21 22.2
comp=Z,111μm,21.0s
TRQA Tornquist 86.41 136 P **P** **16 50 38.2 -4.2**
TRQA pmax pmax
comp=Z,375nm,1.3s
TRQA MLR MLR
comp=Z,111μm,21.0s
H06E1 SOCORRO T-PHAS 86.44 63 P P 16 50 48.6 +5.9
SNR=29
H06E1 T T 18 26 42.9
SNR=14
H06N1 SOCORRO T-PHAS 86.45 63 P P 16 50 48.1 +5.4
SNR=11
LHMI Lhok Sumawe 86.67 279 P **P** **16 50 41.1 -2.9**
comp=Z,29μmcomp=Z,14μmcomp=Z,800nm,0.9s
LHMI Lhok Sumawe 86.67 279 P **P** **16 50 46.9 +2.9**
JEW Eniwo 86.68 333 P **P** **16 50 45.9 +2.7**
KUR Kuril'sk 86.74 339 *e*P **P** **16 50 44.5 +1.0**
KUR *e*S **SKSac** **17 01 05.3 -3.3**
KUR pmax pmax
comp=Z,8μm,9.4s
KUR pmax pmax
comp=Z,730nm,1.8s
SSE Sheshan 86.75 313 P **P** **16 50 43.8 -0.1**
SSE sP **sP** **16 50 55.5 +2.7**
SSE PP **PP** **16 54 11.6 +4.8**
SSE pmax pmax
comp=Z,50nm,1.3s
SSE pmax pmax
comp=Z,2μm,7.0s
SSE LR LR
comp=Z,6μm,22.8s
JSH Shimam 87.02 332 P **P** **16 50 47.3 +2.4**
JMP Maruseppu 87.05 335 P **P** **16 50 47.7 +2.7**
LCO Las Campanas 87.35 125 *e*P **P** **16 50 51.8 +4.3**
LCO Las Campanas 87.35 125 ⇈P **P** **16 50 50.2 +2.7**
ASAJ Asahikawa 87.40 335 P **P** **16 50 49.0 +2.3**
TJN Taejon 87.40 321 *ce*P **P** **16 50 43.2 -3.7**
TJN Taejon 87.40 321 P **P** **16 50 47.8 +0.9**
AC05 El Transito 87.75 125 *e*P P 16 50 55.3 +6.1
KSRS Korea Array 87.97 322 P **P** **16 50 49.2 -0.3**
comp=Z,21nm,0.7s,baz=140,slow=5.5,SNR=46
KSRS PP **PP** **16 54 17.8 +1.3**
comp=Z,16nm,0.9s,baz=151,slow=7.8,SNR=2.9
KSRS S **SKSac** **17 01 10.0 -6.5**
comp=Z,1.9nm,0.8s,baz=138,slow=5.6,SNR=4.1
KSRS PKKP **PKKPdf** **17 08 26.4 -4.8**
comp=Z,2.7nm,0.9s,baz=1.9,slow=3.7,SNR=4.3
comp=Z,21nm,0.7s
AMKA Amchitka 88.28 0 P **P** **16 50 46.9 -3.8**
INCN Inchon 88.63 321 P **P** **16 50 56.6 +3.8**
JWK2 Keihoku 88.69 335 P P 16 50 57.6 +4.8
NJ2 Nanjing 88.80 313 ⇑*i*P **P** **16 50 53.8 +0.1**
NJ2 sS **sS** **17 01 52.1 +1.8**
NJ2 SS **SS** **17 07 31.8 -1.0**
NJ2 pmax pmax
comp=Z,22nm,0.8s
NJ2 pmax pmax
comp=Z,5μm,6.7s
NJ2 LR LR
comp=Z,30μm,23.5s
NJ2 LR LR
comp=Z,18μm,21.6s
NJ2 LR LR
comp=Z,55μm,23.0s
KIWB Kanaga Island 88.82 3 P **P** **16 50 49.1 -4.1**
ADK Adak 88.87 3 P **P** **16 50 49.2 -4.2**
ADK Adak 88.87 3 IAMs_20 IAMs_20 17 25 47.2
comp=Z,110μm,21.0s
ADK Adak 88.87 3 P **P** **16 50 49.3 -4.2**
ADK pmax pmax
comp=Z,5μm,2.2s
ADK MLR MLR
comp=Z,110μm,21.0s
ADK Adak 88.87 3 P **P** **16 50 53.2 -0.3**
HJU Haeju 89.52 321 P **P** **16 50 56.9 0.0**
HJU pP sP 16 51 37.4 +32
HJU S S 17 01 35.2 -11
HJU AmB
comp=Z,6μm,2.9s
HJU AMS AMS
comp=N,135μm,26.6s
HJU AMS AMS
comp=E,8μm,1.5s
HJU AMS AMS
comp=Z,144μm,28.5s
SHEM Shemya Is, Ala 89.72 357 P **P** **16 50 57.7 +0.3**
comp=Z,159nm,0.8s,baz=300,slow=7.2,SNR=8.3
SHEM LR LR 17 24 50.4
comp=Z,96μm,22.0s,baz=177,slow=31
comp=Z,159nm,0.8s
SMY Shemya 89.72 357 IAmb IAmb 16 51 22.4
comp=Z,500nm,0.9s
CNSH ChangSha 89.73 306 ⇈P P 16 50 48.3 -10
CNSH PP **PP** **16 54 33.3 +2.5**
SKR Severo-Kuril's 89.83 346 *e*P P 16 50 45.0 -13
SKR *e*S **SKSac** **17 01 23.9 -2.9**
SKR *e*SS **SS** **17 07 42.9 -4.1**
SKR pmax pmax
comp=Z,128nm,0.8s
SKR pmax pmax
comp=Z,2μm,7.6s

SKR smax smax
comp=N,8μm,16.2s
SKR smax smax
comp=E,8μm,14.5s
SKR MLR MLR
comp=Z,15μm,18.0s
YSS Yuzh-Sakhalins 89.85 336 IAMs_20 IAMs_20 17 24 52.6
comp=Z,70μm,21.0s
YSS Yuzh-Sakhalins 89.85 336 *c*/P **P** **16 50 58.6 +0.4**
YSS *e**SP **sP** **16 51 09.1 +2.0**
YSS *e* 16 54 30.2
YSS *e* 17 01 22.9
YSS *e*S **S** **17 01 43.6 -5.3**
YSS *e*PS **PnS** **17 02 56.0 -1.5**
YSS pmax pmax
comp=N,1μm,6.8s
YSS pmax pmax
comp=Z,5μm,6.8s
YSS pmax pmax
comp=Z,130nm,0.9s
YSS Yuzh-Sakhalins 89.85 336 P **P** **16 51 00.4 +2.2**
HHU Hamhung 90.09 323 P **P** **16 50 59.5 0.0**
HHU pP sP 16 51 39.2 +31
HHU S SKSac 17 01 41.7 +13
HHU AmB
comp=Z,3μm,2.2s
HHU AMS AMS
comp=N,6μm,25.4s
HHU AMS AMS
comp=E,1μm,5.4s
HHU AMS AMS
comp=Z,1μm,4.5s
PYAG Pyongyang 90.28 322 P **P** **16 51 00.8 +0.4**
SLBS Sierra La Lagu 90.34 60 IAMs_20 IAMs_20 17 23 42.6
comp=Z,69μm,20.0s
TEY Ternei 90.35 332 *e*P **P** **16 51 03.9 +3.3**
TEY *e* 17 01 22.5
LPIG La Paz 90.36 60 P **P** **16 51 04.1 +3.0**
comp=Z,32nm,0.3s,baz=126,slow=1.9,SNR=12
LPIG S **SKSac** **17 01 20.9 -10**
comp=Z,43nm,0.4s,baz=75,slow=19,SNR=4.2
LPIG LR LR 17 23 44.0
comp=Z,78μm,20.2s,baz=228,slow=30
comp=Z,32nm,0.3s
WHN Wuhan 90.46 309 ⇑*i*P **P** **16 51 00.9 -0.6**
WHN pP **pP** **16 51 08.0 0.0**
WHN SKS **SKSac** **17 01 33.9 +2.3**
WHN S **ScS** **17 02 01.1 +2.2**
WHN SS **SS** **17 08 01.4 +4.6**
WHN pmax pmax
comp=Z,5μm,7.2s
WHN LR LR
comp=Z,60μm,19.6s
WHN LR LR
comp=Z,58μm,21.2s
WHN LR LR
comp=Z,115μm,23.6s
NIKH Nikolski High 90.51 7 P **P** **16 50 59.6 -1.5**
baz=190
NIKH S **S** **17 01 54.5 -0.2**
baz=190
MSHR Mys Shultsa 90.54 327 *ce*P **P** **16 50 57.0 -4.6**
MSHR pmax pmax
comp=Z,237nm,1.3s
VLA Vladivostok 90.67 328 *c*/P **P** **16 50 59.7 -2.4**
VLA pmax pmax
comp=Z,361nm,1.4s
SNCC San Nicolas Is 90.68 48 P **P** **16 51 01.9 -0.6**
baz=224
SNCC S **S** **17 01 55.5 -1.7**
baz=224
LPA La Plata 90.93 137 *d*/P **P** **16 51 02.6 -1.2**
LPA pPP 16 54 43.9
LPA S **S** **17 01 57.2 -2.7**
SCI2 San Clemente I 91.07 48 P **P** **16 51 02.3 -2.0**
baz=225
SCZ2 Santa Cruz Isl 91.15 47 P **P** **16 51 03.6 -1.1**
baz=224,SNR=7.7
SCZ2 S **S** **17 02 02.6 +1.0**
baz=224
SBC Santa Barbara 91.42 47 P **P** **16 51 06.7 +0.8**
baz=224
SBC S **S** **17 02 04.8 +0.9**
baz=224
CIS Catalina Islan 91.45 48 P **P** **16 51 07.2 +1.1**
baz=225
CIS S **S** **17 02 05.9 +1.6**
baz=225
USRK Ussuriysk Ar. 91.50 328 P **P** **16 51 05.6 -0.4**
comp=Z,12nm,0.9s,baz=144,slow=4.0,SNR=16
USRK S **SKSac** **17 01 37.1 +0.3**
comp=Z,4.0nm,0.9s,baz=197,slow=4.5,SNR=4.5
USRK PKKPbc **PKKPbc** **17 08 29.0 +1.7**
comp=Z,1.6nm,0.8s,baz=245,slow=17,SNR=1.5
comp=Z,12nm,0.9s
PET Petropavlovsk 91.61 348 P **P** **16 51 02.8 -3.5**
PET IAmb IAmb 16 51 24.3
comp=Z,278nm,1.0s
PET Petropavlovsk 91.61 348 *c*/P **P** **16 51 05.2 -1.0**
PET *e* 16 54 42.2
PET *e* 17 01 26.9
PET *e*S **S** **17 02 02.5 -2.2**
PET *e*PS **PS** **17 03 16.0 -1.0**
PET *e*PPS PPS 17 03 42.3
PET *e*SS **SS** **17 08 10.4 -2.3**
PET pmax pmax
comp=Z,6μm,16.8s
PET pmax pmax
comp=Z,8μm,13.5s
PET pmax pmax
comp=Z,393nm,0.9s
PET pmax pmax
comp=Z,2μm,9.0s
PET Petropavlovsk 91.61 348 P **P** **16 51 07.5 +1.3**
comp=Z,1μm,0.9s
UNV Unalaska Valle 91.63 9 IAmb IAmb 16 51 15.9
comp=Z,354nm,1.0s
UNV Unalaska Valle 91.63 9 P **P** **16 51 06.1 -0.2**
baz=191,SNR=21
UNV S **S** **17 02 02.5 -2.3**
baz=191
PKM Mcpherson Peak 91.68 46 P **P** **16 51 07.4 +0.1**
baz=224,SNR=16
PKM S **S** **17 02 07.0 +0.3**
baz=224
SUJ Sinuiju 91.71 321 P **P** **16 51 06.8 -0.2**
SUJ pP sP 16 51 47.2 +31
SUJ S S 17 01 54.9 -11
SUJ AmB
comp=Z,4μm,3.3s
SUJ AMS AMS
comp=N,116μm,26.7s
SUJ AMS AMS
comp=E,101μm,23.3s
SUJ AMS AMS
comp=Z,130μm,30.0s
FMP Fort Macarthur 91.74 48 P **P** **16 51 07.6 +0.3**
baz=225
FMP S **S** **17 02 06.2 -0.6**
baz=225
PEA0B Petropavlovsk- 91.86 347 *i*P **P** **16 51 03.4 -4.0**
PETK Petropavlovsk- 91.86 347 P **P** **16 51 06.5 -0.9**
comp=Z,45nm,0.7s,baz=134,slow=6.2,SNR=26
PETK PKiKP **PKiKP** **16 55 59.0 +1.0**
comp=Z,9.8nm,0.8s,baz=90,slow=4.7,SNR=4.1
PETK LR LR 17 26 59.0
comp=Z,37μm,20.5s,baz=161,slow=32
comp=Z,45nm,0.7s
109C Camp Elliot, M 91.88 49 IAMs_20 IAMs_20 17 30 28.3
comp=Z,68μm,18.0s
109C Camp Elliot, M 91.88 49 P **P** **16 51 09.5 +1.5**
baz=226,SNR=8.1
109C S **S** **17 02 08.8 +0.7**
baz=226
SMMC Simmler 91.88 46 P **P** **16 51 07.9 -0.1**
baz=224
SMMC S **S** **17 02 10.9 +2.7**
baz=224
UGL Uglegorsk 91.94 337 *c*/P **P** **16 51 08.2 +0.3**
UGL *e* 16 54 44.4
UGL *i*S **SKSac** **17 01 39.0 -0.1**
UGL pmax pmax
comp=Z,6μm,10.0s
UGL pmax pmax
comp=Z,220nm,1.4s
UGL smax smax
comp=N,18μm,7.0s
UGL smax smax
comp=E,6μm,7.0s
PMPB Monarch Peak 92.07 45 P **P** **16 51 04.9 -4.0**
PMPB IAmb IAmb 16 51 25.6
comp=Z,494nm,1.2s
DECC Green Verdugo 92.09 48 P **P** **16 51 09.3 +0.2**
baz=225
DECC S **S** **17 02 10.8 +0.7**
baz=225
SAO San Andreas Ge 92.11 44 IAMs_20 IAMs_20 17 27 27.9
comp=Z,95μm,20.0s
OSI Osito Audit: C 92.12 47 P **P** **16 51 09.4 +0.2**
baz=225
OSI S **S** **17 02 10.0 -0.4**
baz=225
DL2 Dalian 92.27 319 P **P** **16 51 09.6 -0.1**
DL2 PP **PP** **16 54 49.4 -1.4**
DL2 SKS **SKSac** **17 01 36.9 -4.6**
DL2 S **S** **17 02 10.9 -0.5**
DL2 SS **SS** **17 08 20.3 -2.5**
DL2 pmax pmax
comp=Z,110nm,1.2s
DL2 pmax pmax
comp=Z,4μm,11.6s
DL2 LR LR
comp=Z,18μm,28.2s
DL2 LR LR
comp=Z,25μm,23.3s
DL2 LR LR
comp=Z,55μm,31.9s
MONP2 Monument Peak 92.29 50 P **P** **16 51 11.0 +0.7**
baz=226,SNR=38
MONP2 S **S** **17 02 11.6 -0.7**
baz=226
IKP In-Ko-Pah, Jac 92.31 50 P **P** **16 51 12.0 +1.8**
baz=226,SNR=36
IKP S **S** **17 02 11.7 -0.5**
baz=226
MURC Murrieta 92.31 49 P **P** **16 51 11.1 +1.0**
baz=226,SNR=29
MURC S **S** **17 02 11.8 -0.3**
baz=226
ARVC Arvin 92.42 47 P **P** **16 51 11.3 +0.8**
baz=225,SNR=10
ARVC S **S** **17 02 12.4 -0.5**
baz=225
SWSC Sam W. Stewart 92.71 50 P **P** **16 51 13.3 +1.5**
baz=226,SNR=37
SWSC S **S** **17 02 12.5 -3.0**
baz=226
EDW2 Edwards Air Fo 92.73 47 P **P** **16 51 10.9 -1.2**
baz=225,SNR=19
EDW2 S **S** **17 02 12.8 -3.1**
baz=225
GYA Guiyang 92.74 301 ⇑*i*P **P** **16 51 12.1 -0.2**
GYA sP pwP 16 51 21.5 +0.2
GYA PP **PP** **16 54 56.3 +1.5**
GYA S **S** **17 02 20.3 +3.9**
GYA pmax pmax
comp=Z,2μm,7.2s
GYA LR LR
comp=Z,22μm,31.3s
GYA LR LR
comp=Z,25μm,27.3s
GYA LR LR
comp=Z,66μm,27.1s
TPFO Pinon Flats 92.76 49 P **P** **16 51 13.2 +0.9**
baz=226,SNR=49
TPFO S **S** **17 02 15.8 -0.6**
baz=226
PFO Pinyon Flats O 92.77 49 P **P** **16 51 13.7 +1.4**
comp=Z,36nm,1.1s,baz=252,slow=2.1,SNR=19
PFO LR LR 17 27 17.5
comp=Z,62μm,18.6s,baz=228,slow=32
comp=Z,36nm,1.1s
PFO Pinyon Flats O 92.77 49 P **P** **16 51 08.6 -3.7**
PFO IAmb IAmb 16 51 26.6
comp=Z,333nm,1.1s
PFO Pinyon Flats O 92.77 49 IAMs_20 IAMs_20 17 31 02.9
comp=Z,82μm,18.0s
PFO Pinyon Flats O 92.77 49 P **P** **16 51 08.6 -3.7**
PFO pmax pmax
comp=Z,333nm,1.2s
PFO MLR MLR
comp=Z,82μm,18.0s
PFO Pinyon Flats O 92.77 49 P **P** **16 51 13.2 +0.9**
baz=226,SNR=41
PFO S **S** **17 02 12.9 -3.5**
baz=226
VES Vestal, Richgr 92.78 46 P **P** **16 51 13.4 +1.3**
baz=224
VES S **S** **17 02 14.0 -2.0**
baz=224
TIA Tai'an 92.78 315 ⇓P **P** **16 51 13.2 +1.1**
TIA sP **sP** **16 51 24.4 +3.3**
TIA PP PP 16 55 02.7 +7.8
TIA pmax pmax
comp=Z,14nm,1.1s
TIA pmax pmax
comp=Z,3μm,5.1s
TIA LR LR
comp=Z,22μm,24.1s
TIA LR LR
comp=Z,17μm,21.0s
TIA LR LR
comp=Z,43μm,22.6s
LVC Limon Verde 92.82 121 P **P** **16 51 15.1 +1.8**
comp=Z,42nm,1.2s,baz=178,slow=1.8,SNR=11
LVC LR LR 17 24 02.4
comp=Z,154μm,21.5s,baz=191,slow=30
comp=Z,42nm,1.2s
LVC Limon Verde 92.82 121 *e*P **P** **16 51 15.8 +2.5**
MDJ Mudanjiang 92.86 327 P **P** **16 51 12.4 +0.1**
MDJ pP pP 16 51 19.2 +0.4
MDJ PP **PP** **16 55 02.1 +6.8**
MDJ pmax pmax
comp=Z,6μm,8.8s
MDJ LR LR
comp=Z,22μm,22.1s
MDJ LR LR
comp=Z,21μm,21.5s
MDJ LR LR
comp=Z,37μm,16.7s
BBRC Big Bear Solar 92.94 48 P **P** **16 51 14.5 +1.2**
baz=226
BBRC S **S** **17 02 15.6 -2.4**
baz=226
VOG Valley Oaks Go 92.95 45 P **P** **16 51 12.9 0.0**
baz=224
VOG S **S** **17 02 15.8 -1.7**
baz=224
ISA Isabella, Lake 93.00 46 P **P** **16 51 14.1 +0.8**
baz=225,SNR=31
ISA S **S** **17 02 17.0 -1.2**
baz=225
FALS False Pass 93.03 10 P **P** **16 51 13.7 +1.0**
baz=194
FALS S **S** **17 02 19.6 +2.3**
baz=194
FALS False Pass 93.03 10 P **P** **16 51 15.9 +3.2**
CM31 Chiang Mai Arr 93.23 291 IAmb IAmb 16 51 33.2
comp=Z,498nm,1.2s
CMAR Chiang Mai Arr 93.23 291 P **P** **16 51 13.2 -1.5**
comp=Z,19nm,0.7s,baz=148,slow=3.6,SNR=43
CMAR PP **PP** **16 54 59.0 +0.3**
comp=Z,23nm,1.0s,baz=111,slow=4.9,SNR=4.5
CMAR PKKPbc **PKKPbc** **17 08 23.9 +2.2**
comp=Z,1.8nm,0.6s,baz=270,slow=4.5,SNR=3.4
CMAR PKPPKP **P'P'df** **17 16 35.7 +2.9**
comp=Z,0.5nm,0.3s,baz=289,slow=2.8,SNR=1.9
CMAR LR LR 17 36 01.8
comp=Z,32μm,20.7s,baz=120,slow=37
comp=Z,19nm,0.7s
CRAI Chiangrai 93.26 293 IAmb IAmb 16 51 42.2
comp=Z,968nm,2.4s
BELC Belle Mtn. Jos 93.31 49 P **P** **16 51 16.1 +1.3**
baz=226,SNR=90
BELC S **S** **17 02 17.3 -3.9**
baz=226
RRX Edison Barstow 93.32 48 P **P** **16 51 15.8 +1.1**
baz=226
RRX S **S** **17 02 18.4 -2.6**
baz=226
LRMC Laurel Mtn Rad 93.33 47 P **P** **16 51 16.4 +1.5**
baz=225,SNR=20
LRMC S **S** **17 02 16.5 -4.8**
baz=225

TYV	**Tymovskoe**		**93.33**	**338**	*e*P		**P**		**16 51 17.7**	**+3.4**
TYV					pmax		pmax			
	comp=Z,3μm,6.2s									
GLA	**Glamis**		**93.38**	**50**	P		**P**		**16 51 15.9**	**+0.9**
	baz=227,SNR=21									
GLA					S		**S**		**17 02 17.5**	**-4.0**
	baz=227									
BC3	**Big Chuckawall**		**93.40**	**50**	P		**P**		**16 51 16.5**	**+1.3**
	baz=226,SNR=44									
BC3					S		**S**		**17 02 19.7**	**-2.3**
	baz=226									
CHTO	**Chiang Mai**		**93.45**	**291**	P		**P**		**16 51 11.6**	**-4.0**
CHTO	**Chiang Mai**		**93.45**	**291**	IAMs_20		IAMs_20		17 41 02.7	
	comp=Z,60μm,20.0s									
CHTO	**Chiang Mai**		**93.45**	**291**	P		**P**		**16 51 11.6**	**-4.0**
CHTO	**Chiang Mai**		**93.45**	**291**	P		**P**		**16 51 16.2**	**+0.6**
SNY	**Shenyang**		**93.47**	**322**	⇓P		**P**		**16 51 15.3**	**+0.2**
SNY					pmax		pmax			
	comp=Z,5μm,12.0s									
SNY					LR		LR			
	comp=Z,25μm,18.9s									
SNY					LR		LR			
	comp=Z,23μm,17.5s									
SNY					LR		LR			
	comp=Z,87μm,28.8s									
CNBA	**Chernabura Isl**		**93.59**	**12**	IAMs_20		IAMs_20		17 29 07.1	
	comp=Z,69μm,20.0s									
CHNA	**Chernabura Isl**		**93.60**	**12**	P		**P**		**16 51 14.5**	**-0.8**
	baz=197,SNR=13									
CHNA					S		**S**		**17 02 23.1**	**+0.8**
	baz=197									
CMB	**Columbia Colle**		**93.60**	**44**	IAMs_20		IAMs_20		17 27 45.7	
	comp=Z,73μm,20.0s									
HEC	**Hector,Ludlow**		**93.68**	**48**	P		**P**		**16 51 17.4**	**+1.0**
	baz=226,SNR=25									
HEC					S		**S**		**17 02 21.0**	**-3.3**
	baz=226									
GSC	**Goldstone, Bar**		**93.73**	**48**	P		**P**		**16 51 17.3**	**+0.7**
	baz=226,SNR=24									
GSC					S		**S**		**17 02 21.2**	**-3.4**
	baz=226									
CWC	**Cottonwood Cre**		**93.78**	**46**	P		**P**		**16 51 18.4**	**+1.5**
	baz=225									
CWC					S		**S**		**17 02 22.5**	**-2.7**
	baz=225									
MPMC	**Manual Prospec**		**93.85**	**47**	P		**P**		**16 51 18.7**	**+1.4**
	baz=225,SNR=35									
MPMC					S		**S**		**17 02 24.8**	**-1.2**
	baz=225									
PBA	**Port Blair**		**93.85**	**282**	*e*P		P		16 51 22.5	+5.0
214A	**Organ Pipe Nat**		**93.89**	**52**	P		**P**		**16 51 17.5**	**+0.1**
	baz=228									
214A					S		**S**		**17 02 24.7**	**-1.5**
	baz=228									
IRM	**Iron Mountain**		**93.93**	**49**	P		**P**		**16 51 19.0**	**+1.4**
	baz=227,SNR=28									
IRM					S		**S**		**17 02 22.1**	**-4.3**
	baz=227									
SDPT	**Sand Point**		**93.95**	**12**	P		**P**		**16 51 16.1**	**-0.8**
	baz=196,SNR=5.2									
SDPT					S		**S**		**17 02 27.6**	**+2.3**
	baz=196									
NNA	**Nana**		**93.97**	**108**	P		**P**		**16 51 21.2**	**+2.9**
	comp=Z,4.7nm,0.3s,baz=236,slow=11,SNR=6.7									
NNA					LR		LR		17 25 08.4	
	comp=Z,54μm,20.7s,baz=219,slow=30									
	comp=Z,4.7nm,0.3s									
NNA	**Nana**		**93.97**	**108**	IAMs_20		IAMs_20		17 25 59.6	
	comp=Z,63μm,20.0s									
GMRC	**Granite Mounta**		**94.05**	**49**	P		**P**		**16 51 19.1**	**+0.9**
	baz=226,SNR=34									
GMRC					S		**S**		**17 02 26.6**	**-1.1**
	baz=226									
CN2	**Changchun**		**94.08**	**324**	*e*P		**P**		**16 51 18.1**	**+0.2**
CN2					PP		**PP**		**16 55 06.2**	**+1.3**
CN2					S		**S**		**17 02 25.4**	**-1.7**
CN2					pmax		pmax			
	comp=Z,30nm,0.8s									
CN2					pmax		pmax			
	comp=Z,4μm,11.0s									
CN2					LR		LR			
	comp=Z,28μm,25.0s									
CN2					LR		LR			
	comp=Z,21μm,25.0s									
CN2					LR		LR			
	comp=Z,50μm,28.0s									
ORV	**Oroville**		**94.09**	**42**	IAMs_20		IAMs_20		17 28 28.8	
	comp=Z,86μm,20.0s									
TIN	**Tinemaha, Big**		**94.12**	**46**	P		**P**		**16 51 19.1**	**+0.7**
	baz=225									
TIN					S		**S**		**17 02 26.0**	**-2.0**
	baz=225									
MLAC	**Mammoth, Mammo**		**94.18**	**45**	P		**P**		**16 51 20.3**	**+1.5**
	baz=225									
MLAC					S		**S**		**17 02 26.4**	**-2.5**
	baz=225									
TUQ	**Turquoise Moun**		**94.34**	**48**	P		**P**		**16 51 21.0**	**+1.5**
	baz=226,SNR=22									
TUQ					S		**S**		**17 02 24.0**	**-6.1**
	baz=226									
LYN	**LuoYang**		**94.36**	**311**	*e*P		**P**		**16 51 18.0**	**-1.4**
LYN					pP		pP		16 51 25.5	-0.5
LYN					sP		sP		16 51 28.8	+0.4
LYN					PP		**PP**		**16 55 10.2**	**+2.9**
LYN					SKS		**SKSac**		**17 01 47.3**	**-5.9**
LYN					S		**S**		**17 02 25.6**	**-4.4**
LYN					pmax		pmax			
	comp=Z,4μm,12.2s									
LYN					LR		LR			
	comp=Z,36μm,20.8s									
LYN					LR		LR			
	comp=Z,20μm,21.0s									
LYN					LR		LR			
	comp=Z,48μm,21.2s									
SHOC	**Shoshone, Teco**		**94.45**	**48**	P		**P**		**16 51 21.0**	**+1.1**
	baz=226									
SHOC					S		**S**		**17 02 27.5**	**-3.4**
	baz=226									
FURC	**Furnace Creek,**		**94.50**	**47**	P		**P**		**16 51 19.9**	**-0.1**
	baz=226									
FURC					S		**S**		**17 02 35.5**	**+4.4**
	baz=226									
SPIA	**Saint Paul Isl**		**94.54**	**6**	P		**P**		**16 51 18.6**	**-1.1**
	baz=188									
SPIA					S		**S**		**17 02 31.5**	**+1.0**
	baz=188									
GRAC	**Grapevine Rang**		**94.57**	**46**	P		**P**		**16 51 20.7**	**+0.3**
	baz=226									
GRAC					S		**S**		**17 02 35.9**	**+4.0**
	baz=226									
KMI	**Kunming**		**94.61**	**298**	⇑P		**P**		**16 51 21.4**	**+0.3**
KMI					pP		pP		16 51 28.8	+1.2
KMI					sP		sP		16 51 32.0	+2.0
KMI					SKS		**SKSac**		**17 01 54.9**	**-0.6**
KMI					S		**ScS**		**17 02 36.0**	**+1.8**
KMI					sS		sS		17 02 48.6	+4.8
KMI					SS		**SS**		**17 08 57.8**	**+0.7**
KMI					pmax		pmax			
	comp=Z,32nm,1.0s									
KMI					pmax		pmax			
	comp=Z,3μm,14.2s									
KMI					LR		LR			
	comp=Z,48μm,20.5s									
KMI					LR		LR			
	comp=Z,36μm,19.4s									
KMI					LR		LR			
	comp=Z,64μm,20.1s									
DGPR	**DIGLIPUR**		**94.62**	**283**	*e*P		**P**		**16 51 23.7**	**+2.6**
PDMCI	**Parker Dam,Lak**		**94.64**	**50**	P		**P**		**16 51 22.2**	**+1.4**
	baz=227									
PDMCI					S		**S**		**17 02 40.9**	**+8.4**
	baz=227									
NEE2	**Needles Airpor**		**94.67**	**49**	P		**P**		**16 51 21.0**	**+0.1**
	baz=227,SNR=8.5									
NEE2					S		**S**		**17 02 37.1**	**+4.4**
	baz=227									
BNX	**BinXian**		**94.69**	**327**	⇓P		**P**		**16 51 23.3**	**+2.6**
BNX					pP		**sP**		**16 51 30.3**	**+0.7**
BNX					sP		**pwP**		**16 51 33.8**	**+4.4**
BNX					PP		**PP**		**16 55 08.7**	**-1.0**
BNX					SKS		**SKSac**		**17 01 56.5**	**+2.1**
BNX					pmax		pmax			
	comp=Z,6.0nm,0.8s									
BNX					pmax		pmax			
	comp=Z,670nm,5.0s									
BNX					LR		LR			
	comp=Z,14μm,20.6s									
BNX					LR		LR			
	comp=Z,15μm,21.7s									
BNX					LR		LR			
	comp=Z,19μm,21.6s									
L02F	**Cave Junction**		**94.89**	**39**	P		**P**		**16 51 22.5**	**+0.8**
	baz=222									
L02F					S		**S**		**17 02 41.5**	**+7.2**
	baz=222									
HNS	**HongShan**		**94.99**	**314**	⇑P		**P**		**16 51 22.9**	**+0.6**
HNS					PP		**PP**		**16 55 09.7**	**-2.4**
HNS					SKS		**SKSac**		**17 01 58.2**	**+1.8**
HNS					pmax		pmax			
	comp=Z,41nm,2.0s									
HNS					LR		LR			
	comp=Z,13μm,21.3s									
HNS					LR		LR			
	comp=Z,27μm,22.3s									
HNS					LR		LR			
	comp=Z,50μm,22.8s									
S14K	**Fog Glacier**		**95.00**	**12**	P		**P**		**16 51 22.2**	**+0.3**
	baz=197,SNR=14									
S14K					S		**S**		**17 02 38.2**	**+3.5**
	baz=197									
NVAR	**Mina Array Bea**		**95.04**	**45**	P		**P**		**16 51 25.6**	**+2.8**
	comp=Z,16nm,1.0s,baz=218,slow=6.3,SNR=17									
NVAR					S		**SKSac**		**17 02 05.0**	**+7.8**
	comp=Z,1.0nm,0.9s,baz=232,slow=4.4,SNR=1.0									
NVAR					PKKPbc		**PKKPdf**		**17 08 19.8**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=78,slow=2.2,SNR=4.1									
NVAR					PKPPKP		**P'P'df**		**17 16 32.0**	**+5.3**
	comp=Z,2.7nm,0.9s,baz=64,slow=2.8,SNR=4.4									
NVAR					LR		LR		17 28 19.7	
	comp=Z,61μm,19.4s,baz=228,slow=32									
	comp=Z,16nm,1.0s									
YBH	**Yreka Blue Hor**		**95.04**	**40**	P		**P**		**16 51 24.5**	**+2.0**
	comp=Z,22nm,1.1s,baz=206,slow=3.7,SNR=16									
YBH					S		**SKSac**		**17 02 03.5**	**+6.8**
	comp=Z,1.9nm,0.8s,baz=251,slow=23,SNR=11									
YBH					PKKPbc		**PKKPdf**		**17 08 19.3**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=137,slow=12,SNR=1.7									
YBH					LR		LR		17 26 40.1	
	comp=Z,53μm,20.7s,baz=228,slow=31									
	comp=Z,22nm,1.1s									
YBH	**Yreka Blue Hor**		**95.04**	**40**	P		**P**		**16 51 19.6**	**-2.9**
YBH	**Yreka Blue Hor**		**95.04**	**40**	P		**P**		**16 51 19.6**	**-2.9**
YBH					pmax		pmax			
	comp=Z,198nm,1.5s									
YBH					MLR		MLR			
	comp=Z,59μm,22.0s									
TPNV	**Topopah Spring**		**95.19**	**47**	IAMs_20		IAMs_20		17 26 13.2	
	comp=Z,70μm,20.0s									
TPNV	**Topopah Spring**		**95.19**	**47**	P		**P**		**16 51 23.0**	**-0.4**
	baz=226,SNR=33									
CHGN	**Chignik**		**95.20**	**13**	P		**P**		**16 51 18.9**	**-3.8**
CHGN					IAmb		IAmb		16 51 33.5	
	comp=Z,434nm,1.4s									
CHGN	**Chignik**		**95.20**	**13**	P		**P**		**16 51 21.8**	**-0.9**
	baz=198,SNR=19									
CHGN					S		**S**		**17 02 38.2**	**+1.9**
	baz=198									
GRNR	**Gornyy**		**95.25**	**335**	*e*P		**P**		**16 51 20.9**	**-2.2**
CHIR	**Chirikof Islan**		**95.26**	**14**	IAMs_20		IAMs_20		17 27 55.9	
	comp=Z,99μm,21.0s									
CHIR	**Chirikof Islan**		**95.26**	**14**	P		**P**		**16 51 23.4**	**+0.4**
	baz=200									
CHIR					S		**S**		**17 02 42.3**	**+5.4**
	baz=200									
K02D	**Willamette Mer**		**95.27**	**39**	P		**P**		**16 51 23.3**	**-0.2**
	baz=222,SNR=26									
K02D					S		**S**		**17 02 42.3**	**+4.6**
	baz=222									
TUC	**Tucson**		**95.42**	**53**	P		**P**		**16 51 24.4**	**0.0**
	baz=229									
TUC					S		**S**		**17 02 45.2**	**+5.7**
	baz=229									
J01E	**Myrtle Point**		**95.48**	**38**	IAMs_20		IAMs_20		17 30 13.8	
	comp=Z,89μm,19.0s									
J01E	**Myrtle Point**		**95.48**	**38**	P		**P**		**16 51 23.8**	**-0.5**
	baz=222									
J01E					S		S		17 02 49.1	+10
	baz=222									
SHPR	**Sheep Range**		**95.52**	**48**	P		P		16 51 18.8	-6.2
HUMO	**Hull Mountain**		**95.56**	**39**	IAMs_20		IAMs_20		17 30 10.8	
	comp=Z,59μm,20.0s									
ITQB	**Itaqui**		**95.57**	**134**	P		P		16 51 20.6	-4.8
ITQB	**Itaqui**		**95.57**	**134**	*e*P		**P**		**16 51 28.0**	**+2.7**
L04D	**Klamath Falls**		**95.60**	**40**	IAMs_20		IAMs_20		17 26 47.0	
	comp=Z,62μm,21.0s									
L04D	**Klamath Falls**		**95.60**	**40**	P		**P**		**16 51 24.8**	**-0.4**
	baz=223,SNR=22									
L04D					S		**S**		**17 02 46.7**	**+5.9**
	baz=223									
PLTB	**Pedras Altas**		**95.67**	**137**	P		P		16 51 19.1	-6.7
PLTB	**Pedras Altas**		**95.67**	**137**	*e*P		**P**		**16 51 28.9**	**+3.1**
KLR	**Kul'dur**		**95.68**	**331**	LR		LR		17 28 52.6	
	comp=Z,24μm,21.9s,baz=144,slow=32									
KLR	**Kul'dur**		**95.68**	**331**	*c i*P		**P**		**16 51 23.9**	**-1.2**
KLR					pmax		pmax			
	comp=Z,87nm,1.7s									
ATAH	**Atahualpa**		**95.81**	**103**	P		**P**		**16 51 30.0**	**+2.8**
	comp=Z,2.1nm,0.5s,baz=134,slow=1.9,SNR=8.5									
ATAH					LR		LR		17 24 42.3	
	comp=Z,74μm,21.7s,baz=234,slow=29									
	comp=Z,2.1nm,0.5s									
RODS	**Rosario do Sul**		**95.87**	**135**	*e*P		**P**		**16 51 29.8**	**+3.1**
BJI	**Beijing**		**96.01**	**317**	P		**P**		**16 51 25.8**	**-1.0**
BJI					SKS		**SKSac**		**17 01 59.3**	**-2.4**
BJI					S		**ScS**		**17 02 49.1**	**+4.4**
BJI					SS		**SS**		**17 09 22.4**	**+6.3**
BJI					pmax		pmax			
	comp=Z,5.0nm,0.5s									
BJI					pmax		pmax			
	comp=Z,2μm,6.7s									
BJI					LR		LR			
	comp=Z,5μm,27.5s									
BJI					LR		LR			
	comp=Z,19μm,29.7s									
BJI					LR		LR			
	comp=Z,67μm,29.4s									
I03D	**Drain, OR**		**96.16**	**38**	P		**P**		**16 51 28.3**	**+0.8**
	baz=222,SNR=6.7									
I03D					S		**S**		**17 02 52.2**	**+7.0**
	baz=222									
PZH	**PanZhiHua**		**96.17**	**299**	P		**P**		**16 51 27.0**	**-1.1**
PZH					pP		**pwP**		**16 51 37.3**	**+0.3**
PZH					PP		**PP**		**16 55 23.5**	**+1.9**
PZH					SKS		**SKSac**		**17 01 57.4**	**-6.1**
PZH					S		**S**		**17 02 41.5**	**-4.9**
PZH					pmax		pmax			
	comp=Z,70nm,1.0s									
PZH					pmax		pmax			
	comp=Z,2μm,11.6s									
PZH					LR		LR			
	comp=Z,38μm,20.0s									
PZH					LR		LR			
	comp=Z,22μm,21.6s									
PZH					LR		LR			
	comp=Z,44μm,19.1s									
K04D	**Chiloquin, OR**		**96.18**	**40**	P		**P**		**16 51 27.8**	**+0.1**
	baz=223									
K04D					S		**S**		**17 02 51.2**	**+5.5**
	baz=223									
XAN	**Xi'an**		**96.20**	**308**	⇑P		**P**		**16 51 27.9**	**-0.1**
XAN					pP		pP		16 51 34.7	+0.2
XAN					PP		**PP**		**16 55 26.5**	**+4.8**
XAN					SKS		**SKSac**		**17 02 02.7**	**-0.5**
XAN					S		**ScS**		**17 02 50.8**	**+4.1**
XAN					pmax		pmax			
	comp=Z,73nm,1.4s									
XAN					pmax		pmax			
	comp=Z,4μm,8.0s									
XAN					LR		LR			
	comp=Z,34μm,19.4s									
XAN					LR		LR			
	comp=Z,18μm,17.8s									
XAN					LR		LR			
	comp=Z,51μm,24.3s									
I02E	**Swisshome, OR**		**96.22**	**38**	IAMs_20		IAMs_20		17 31 17.4	
	comp=Z,91μm,20.0s									
I02E	**Swisshome, OR**		**96.22**	**38**	P		**P**		**16 51 29.4**	**+1.8**
	baz=222									
I02E					S		**S**		**17 02 53.4**	**+7.8**
	baz=222									
SII	**Sitkinak Islan**		**96.24**	**15**	P		P		16 51 22.7	-4.8
SII					IAmb		IAmb		16 51 47.3	
	comp=Z,852nm,2.1s									
SII					IAMs_20		IAMs_20		17 28 46.7	
	comp=Z,99μm,21.0s									
SII	**Sitkinak Islan**		**96.24**	**15**	P		**P**		**16 51 26.8**	**-0.7**
	baz=201,SNR=14									
SII					S		**S**		**17 02 49.6**	**+4.2**
	baz=201									
SII	**Sitkinak Islan**		**96.24**	**15**	P		**P**		**16 51 29.0**	**+1.5**
MOD	**Modoc Plateau**		**96.41**	**41**	IAMs_20		IAMs_20		17 30 35.2	
	comp=Z,95μm,20.0s									
J04D	**Umpqua Nationa**		**96.44**	**39**	IAMs_20		IAMs_20		17 30 49.3	
	comp=Z,67μm,20.0s									
J04D	**Umpqua Nationa**		**96.44**	**39**	P		**P**		**16 51 29.5**	**+0.5**
	baz=223,SNR=22									
J04D					S		**S**		**17 02 55.4**	**+7.2**
	baz=223									
TIY	**Taiyuan**		**96.52**	**313**	⇑*i*P		**P**		**16 51 30.2**	**+0.8**
TIY					PP		**PP**		**16 55 26.6**	**+2.5**
TIY					SKS		**SKSac**		**17 02 03.0**	**-1.7**
TIY					S		**S**		**17 02 44.9**	**-3.9**
TIY					pmax		pmax			
	comp=Z,1μm,5.4s									
TIY					LR		LR			
	comp=Z,9μm,21.6s									
TIY					LR		LR			
	comp=Z,22μm,25.0s									
TIY					LR		LR			
	comp=Z,36μm,22.7s									
R11A	**Troy Canyon, C**		**96.53**	**46**	P		**P**		**16 51 30.4**	**+0.9**
	baz=227									
R11A					S		**S**		**17 02 56.4**	**+7.3**
	baz=227									
R16K	**Pilot Point**		**96.55**	**13**	P		**P**		**16 51 27.0**	**-1.8**
	baz=198									
R16K					S		**S**		**17 02 50.1**	**+2.2**
	baz=198									
I04A	**Tendick Farm,**		**96.69**	**39**	P		**P**		**16 51 30.2**	**+0.2**
	baz=223,SNR=19									
I04A					S		**S**		**17 02 55.5**	**+5.6**
	baz=223									
CPSB	**Cacapava Do Su**		**96.80**	**137**	*e*P		**P**		**16 51 33.8**	**+2.8**
COR	**Corvallis**		**96.83**	**38**	IAMs_20		IAMs_20		17 31 45.7	
	comp=Z,92μm,19.0s									
R17K	**Ugashik Creek**		**96.83**	**13**	P		**P**		**16 51 31.1**	**+1.0**
	baz=199,SNR=18									
R17K					S		**S**		**17 02 51.3**	**+1.0**
	baz=199									
UNIS	**Unistalda (Bra**		**96.91**	**135**	*e*P		**P**		**16 51 34.4**	**+3.0**
J05D	**Fort Rock, OR**		**96.92**	**40**	P		**P**		**16 51 31.1**	**0.0**
	baz=224									
J05D					S		**S**		**17 02 57.5**	**+5.3**
	baz=224									
OHAK	**Old Harbor**		**97.04**	**15**			**P**		**16 51 27.2**	**-3.9**
OHAK					IAmb		IAmb		16 51 55.2	
	comp=Z,523nm,2.0s									
OHAK	**Old Harbor**		**97.04**	**15**	P		Pdif		16 51 31.9	+0.8
	baz=202,SNR=11									
OHAK					S		**S**		**17 02 53.1**	**+1.1**
	baz=202									
H04D	**Lebanon**		**97.06**	**38**	IAMs_20		IAMs_20		17 31 43.8	
	comp=Z,67μm,19.0s									
H04D	**Lebanon**		**97.06**	**38**	P		**P**		**16 51 31.0**	**-0.5**
	baz=223									
H04D					S		**S**		**17 02 54.3**	**+1.3**
	baz=223									
WUAZ	**Wupatki**		**97.14**	**51**	IAMs_20		IAMs_20		17 28 10.7	
	comp=Z,80μm,20.0s									
WUAZ	**Wupatki**		**97.14**	**51**	P		**P**		**16 51 29.1**	**-3.3**
	baz=229									
WUAZ					S		**S**		**17 02 59.0**	**+4.5**
	baz=229									
CMIG	**Matias Romero**		**97.31**	**74**	P		Pdif		16 51 36.3	+2.9
	comp=Z,1.1nm,0.7s,baz=188,slow=7.2,SNR=6.3									
CMIG					LR		LR		17 27 23.9	
	comp=Z,39μm,18.8s,baz=220,slow=30									
	comp=Z,1.1nm,0.7s									
G03D	**McMinnville, O**		**97.31**	**37**	IAMs_20		IAMs_20		17 28 17.4	
	comp=Z,84μm,21.0s									
G03D	**McMinnville, O**		**97.31**	**37**	P		Pdif		16 51 33.4	+0.8
	baz=223									
G03D					S		**S**		**17 02 57.4**	**+2.4**
	baz=223									
121A	**Cookes Peak, D**		**97.50**	**55**	P		Pdif		16 51 38.2	+4.0
	baz=230									
121A	**Cookes Peak, D**		**97.50**	**55**	P		Pdif		16 51 35.7	+1.6
	baz=230									
121A					S		**S**		**17 02 58.4**	**+0.7**
	baz=230									
CD2	**Chengdu**		**97.54**	**303**	P		**P**		**16 51 33.0**	**-1.1**
CD2					sP		pwP		16 51 43.2	+0.2
CD2					S		**S**		**17 02 58.6**	**+0.8**
CD2					sS		sS		17 03 11.0	+2.6
CD2					SS		**SS**		**17 09 41.1**	**+3.0**
CD2					pmax		pmax			
	comp=Z,20nm,0.5s									
CD2					pmax		pmax			
	comp=Z,3μm,7.8s									
CD2					LR		LR			
	comp=Z,63μm,19.6s									
CD2					LR		LR			
	comp=Z,34μm,20.1s									
CD2					LR		LR			
	comp=Z,56μm,22.1s									
LPAZ	**La Paz**		**97.60**	**117**	P		Pdif		16 51 36.2	+0.7
	comp=Z,8.6nm,0.6s,baz=218,slow=5.3,SNR=7.9									
LPAZ					PP		**PP**		**16 55 35.0**	**+2.3**
	comp=Z,28nm,1.3s,baz=227,slow=5.9,SNR=3.8									
LPAZ					LR		LR		17 26 34.2	
	comp=Z,58μm,21.9s,baz=192,slow=30									
	comp=Z,8.6nm,0.6s									
LPAZ	**La Paz**		**97.60**	**117**	*e*P		Pdif		16 51 38.2	+2.6
I05D	**Terrebonne, OR**		**97.62**	**39**	P		Pdif		16 51 35.2	+1.0
	baz=224									
CPUP	**Villa Florida**		**97.65**	**131**	P		Pdif		16 51 36.2	+1.3
	comp=Z,5.3nm,0.9s,baz=254,slow=3.9,SNR=7.5									
CPUP					PKKPbc		**PKKPdf**		**17 08 11.2**	**+0.4**
	comp=Z,5.4nm,0.7s,baz=44,slow=3.8,SNR=5.8									
CPUP					PKPPKP				17 16 24.1	
	comp=Z,3.3nm,1.0s,baz=65,slow=4.8,SNR=2.9									
CPUP					LR		LR		17 28 34.7	
	comp=Z,264μm,20.6s,baz=228,slow=31									
	comp=Z,5.3nm,0.9s									
CPUP	**Villa Florida**		**97.65**	**131**	P		P		16 51 28.8	-6.1
CPUP	**Villa Florida**		**97.65**	**131**	*e*P		Pdif		16 51 36.7	+1.8
SPR3	**Spring Creek 3**		**97.69**	**46**	P		**P**		**16 51 31.5**	**-3.5**
SPR3					IAmb		IAmb		16 52 29.2	
	comp=Z,54nm,1.4s									
KDAK	**Kodiak Island**		**97.70**	**15**	P		**P**		**16 51 30.7**	**-3.3**
KDAK					IAmb		IAmb		16 51 54.2	
	comp=Z,498nm,2.2s									
KDAK	**Kodiak

baz=224
G05D S **S** **17 03 05.6 +2.1**
baz=224
ELK **Elko** **98.35** **45** P Pdif 16 51 40.3 +2.5
comp=Z,1.7nm,0.6s,baz=188,slow=4.3,SNR=11
ELK S **SKSac** **17 02 23.9 +10**
comp=Z,1.4nm,0.7s,baz=289,slow=23,SNR=11
ELK PKKPbc **PKKPbc** **17 08 08.4 -0.6**
comp=Z,4.0nm,0.7s,baz=165,slow=2.4,SNR=2.6
ELK PKPPKP 17 16 24.9
comp=Z,1.2nm,0.7s,baz=113,slow=2.6,SNR=3.9
ELK LR LR 17 30 42.6
comp=Z,70µm,19.4s,baz=231,slow=32
comp=Z,1.7nm,0.6s
ELK **Elko** **98.35** **45** IAMs_20 IAMs_20 17 31 10.2
comp=Z,84µm,20.0s
O16K **Kokwok River B** **98.39** **12** Pdiff **P** **16 51 35.6 -1.5**
baz=198
O16K S **S** **17 03 04.1 +0.6**
baz=198
Q20K **Shuyak Island** **98.51** **15** Pdiff **P** **16 51 36.0 -1.6**
baz=203
Q20K S **S** **17 03 06.5 +1.9**
baz=203
Q19K **Cape Douglas,** **98.56** **14** IAMs_20 IAMs_20 17 30 04.0
comp=Z,83µm,21.0s
Q19K **Cape Douglas,** **98.56** **14** Pdiff **P** **16 51 35.8 -2.1**
baz=202
Q19K S **S** **17 03 02.8 -2.3**
baz=202
MNTX **Cornudas Mount** **98.56** **57** IAMs_20 IAMs_20 17 29 42.5
comp=Z,84µm,19.0s
MNTX **Cornudas Mount** **98.56** **57** P Pdif 16 51 41.6 +3.0
baz=231
MNTX S **S** **17 03 14.4 +8.0**
baz=231
MNTX **Cornudas Mount** **98.56** **57** Pdiff **P** **16 51 35.4 -3.2**
baz=231
MNTX S **S** **17 03 05.0 -1.4**
baz=231
NLWA **Neilton Lookou** **98.62** **35** IAMs_20 IAMs_20 17 29 24.3
comp=Z,80µm,20.0s
P18K **Big Mountain,** **98.69** **13** Pdiff **P** **16 51 37.4 -1.2**
baz=200
CRSM **Crissiumal (Br** **98.70** **134** *e*P Pdif 16 51 42.4 +2.9
O17K **Koliganek Bris** **98.73** **12** Pdiff **P** **16 51 38.4 -0.2**
baz=199
XLT **XiLinHaoTe** **98.76** **319** ⇓*i*P Pdif 16 51 41.7 +2.4
XLT pP pwP 16 51 47.2 -0.8
XLT sP sP 16 51 50.9 +2.7
XLT PP **PP** **16 55 42.9 +1.7**
XLT SKS **SKSac** **17 02 12.3 -3.6**
XLT S **S** **17 03 06.2 -1.4**
XLT sS sS 17 03 21.9 +3.5
XLT pmax pmax
comp=Z,21nm,1.4s
XLT pmax pmax
comp=Z,3µm,11.9s
XLT LR LR
comp=Z,22µm,23.6s
XLT LR LR
comp=Z,24µm,21.3s
Y22A **Socorro** **98.92** **54** P Pdif 16 51 44.6 +4.2
baz=231
Y22A S S 17 03 23.7 +14
baz=231
Y22D **IRIS PASSCAL I** **99.03** **54** Pdiff **Pdif** **16 51 41.2 +0.4**
baz=231
CNLB **Canela** **99.06** **138** *e*P **Pdif** **16 51 44.2 +3.0**
N16K **Nishlik Lake** **99.13** **11** Pdiff **Pdif** **16 51 40.7 +0.2**
baz=198
HHC **Hu-ho-hao-te** **99.13** **315** *e*P **Pdif** **16 51 40.3 -0.8**
HHC PP **PP** **16 55 51.5 +7.4**
HHC SKS **SKSac** **17 02 15.4 -2.6**
HHC S **S** **17 03 10.4 -0.6**
HHC SS **SS** **17 10 02.3 +2.0**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,4µm,8.7s
HHC LR LR
comp=Z,28µm,22.0s
HHC LR LR
comp=Z,45µm,22.0s
HHC LR LR
comp=Z,70µm,21.3s
O18K **Koktuh Hills** **99.13** **13** P **Pdif** **16 51 35.6 -4.8**
O18K **Koktuh Hills** **99.13** **13** Pdiff **Pdif** **16 51 40.2 -0.3**
baz=200
MA2 **Magadan** **99.25** **346** LR LR 17 30 10.2
comp=Z,68µm,21.8s,baz=166,slow=32
MA2 **Magadan** **99.25** **346** IAMs_20 IAMs_20 17 34 55.8
comp=Z,83µm,20.0s
MA2 **Magadan** **99.25** **346***c* *i*P **Pdif** **16 51 39.5 -1.4**
MA2 pmax pmax
comp=Z,41nm,1.8s
MA2 MLR MLR
comp=Z,85µm,19.0s
MA2 **Magadan** **99.25** **346** P **Pdif** **16 51 44.0 +3.1**
P19K **Oil Pt** **99.31** **14** IAMs_20 IAMs_20 17 30 16.9
comp=Z,72µm,21.0s
P19K **Oil Pt** **99.31** **14** Pdiff **Pdif** **16 51 40.0 -1.2**
baz=202
DUG **Dugway, Tooele** **99.36** **46** IAMs_20 IAMs_20 17 33 07.8
comp=Z,56µm,19.0s
DUG **Dugway, Tooele** **99.36** **46** Pdiff **Pdif** **16 51 42.1 -0.1**
baz=226
H02S1 **DAWSON INLET T** **99.51** **27** P **Pdif** **16 51 45.3 +3.1**
SNR=17
CNPM **China Poot** **99.59** **15** IAMs_20 IAMs_20 17 30 43.1
comp=Z,82µm,22.0s
O19K **Port Alsworth** **99.61** **13** IAMs_20 IAMs_20 17 40 43.3
comp=Z,54µm,20.0s
O19K **Port Alsworth** **99.61** **13** Pdiff **Pdif** **16 51 41.4 -1.1**
baz=201
HOM **Homer** **99.63** **15** IAMs_20 IAMs_20 17 30 56.1
comp=Z,77µm,21.0s
HOM **Homer** **99.63** **15** Pdiff **Pdif** **16 51 41.4 -1.2**
baz=203
SNET **Serv Nac Est T** **99.70** **80** IAMs_20 IAMs_20 17 28 56.7
comp=Z,81µm,19.0s
N18K **Kilae Creek** **99.79** **12** Pdiff **Pdif** **16 51 42.2 -1.1**
baz=200
CZSB **Cruzeiro do Su** **99.81** **107** *e*P **Pdif** **16 51 47.3 +2.6**
O20K **Slope Mountain** **99.82** **14** Pdiff **Pdif** **16 51 41.4 -2.2**
baz=202
MFID **Camas Ranch** **99.83** **42** IAMs_20 IAMs_20 17 32 35.9
comp=Z,51µm,20.0s
BTO **Baotou** **99.85** **314** *e*P **Pdif** **16 51 47.4 +3.1**
BTO S **S** **17 03 12.9 -4.1**
BTO LR LR
comp=Z,92µm,22.1s
BTO LR LR
comp=Z,102µm,22.2s
ANMO **Albuquerque** **99.87** **54** P **Pdif** **16 51 47.7 +3.1**
comp=Z,4.4nm,0.9s,baz=158,slow=4.0,SNR=8.9
ANMO PP **PP** **16 55 53.0 +3.0**
comp=Z,4.8nm,1.1s,baz=203,slow=8.4,SNR=1.9
ANMO **Albuquerque** **99.87** **54** *i* P **Pdif** **16 51 40.2 -4.4**
ANMO pmax pmax
comp=Z,77nm,3.2s
ANMO MLR MLR
comp=Z,38µm,17.0s
ANMO **Albuquerque** **99.87** **54** P **Pdif** **16 51 48.5 +3.9**
baz=231
ANMO **Albuquerque** **99.87** **54** Pdiff **Pdif** **16 51 41.0 -3.6**
baz=231
BRLK **Bradley Lake** **99.88** **15** IAMs_20 IAMs_20 17 33 04.4
comp=Z,63µm,20.0s
BRSE **Bradley Lake S** **99.89** **15** Pdiff **Pdif** **16 51 43.0 -0.8**
baz=204
HAWA **Hanford** **99.98** **38** IAMs_20 IAMs_20 17 38 57.9
comp=Z,60µm,19.0s
ITAB **Concordia** **99.98** **135** *e*P **Pdif** **16 51 48.0 +2.8**
MVCO **Mesa Verde** **100.01** **51** IAMs_20 IAMs_20 17 29 52.4
comp=Z,74µm,20.0s
MVCO **Mesa Verde** **100.01** **51** Pdiff **Pdif** **16 51 44.8 -0.4**
baz=230
N19K **Bonanza Creek** **100.16** **13** IAMs_20 IAMs_20 17 35 32.4
comp=Z,51µm,20.0s
N19K **Bonanza Creek** **100.16** **13** Pdiff **Pdif** **16 51 43.8 -1.3**
baz=201
OTAV **Otavalo** **100.29** **98** *e*P **Pdif** **16 51 49.1 +1.7**
BBB **Bella Bella** **100.38** **30** P **Pdif** **16 51 48.8 +2.6**
comp=Z,14nm,0.8s,baz=213,slow=6.4,SNR=2.4
BBB PP **PP** **16 55 56.3 +3.0**
comp=Z,11nm,1.0s,baz=161,slow=9.9,SNR=1.7
BBB S **SKSac** **17 02 33.7 +10**
comp=Z,10nm,1.0s,baz=259,slow=22,SNR=4.6
FRBT **Francisco Belt** **100.42** **134** *e*P **Pdif** **16 51 49.1 +1.8**
SEW **Seward** **100.49** **16** Pdiff **Pdif** **16 51 44.8 -1.6**
baz=205
Q23K **Middleton Isla** **100.58** **17** Pdiff **Pdif** **16 51 45.6 -1.3**
baz=207
TER01 **Tubaro-SC** **100.59** **138** *e*P **Pdif** **16 51 50.9 +2.9**
833A **Chaparral WMA,** **100.63** **63** P **Pdif** **16 51 52.5 +4.6**
baz=233
833A **Chaparral WMA,** **100.63** **63** Pdiff **Pdif** **16 51 44.3 -3.6**
baz=233
HLID **Hailey** **100.69** **43** IAMs_20 IAMs_20 17 32 21.4
comp=Z,57µm,20.0s
HLID **Hailey** **100.69** **43** Pdiff **Pdif** **16 51 47.8 -0.3**
baz=228
LZH **Lanzhou** **100.71** **307** ⇑*i*P **Pdif** **16 51 49.2 +0.9**
LZH pmax pmax
comp=Z,9.0nm,0.9s
LZH pmax pmax
comp=Z,1µm,4.8s
LZH LR LR
comp=Z,25µm,19.9s
LZH LR LR
comp=Z,35µm,20.6s
LZH LR LR
comp=Z,50µm,21.6s
CAPN **Captain Cook N** **100.75** **14** IAMs_20 IAMs_20 17 33 37.8
comp=Z,81µm,20.0s
CAPN **Captain Cook N** **100.75** **14** Pdiff **Pdif** **16 51 46.8 -0.7**
baz=204
O22K **Cooper Landing** **100.78** **15** Pdiff **Pdif** **16 51 45.6 -2.1**
baz=205
LKP **Lekhapani** **100.85** **296** *ex* **Pdif** **16 51 39.7 -9.2**
PLID **Pearl Lake** **100.87** **41** IAMs_20 IAMs_20 17 33 29.3
comp=Z,83µm,20.0s
RER **Riviere de l'E** **100.93** **233** IAMs_20 IAMs_20 17 31 23.1
comp=Z,83µm,20.0s
N20K **Mount Spurr** **100.94** **14** Pdiff **Pdif** **16 51 45.9 -2.6**
baz=203
SPCR **Spurr Chakacha** **100.94** **14** Pdiff **Pdif** **16 51 47.7 -0.8**
baz=203
ZEA **Zeya** **100.97** **332** *e*P **Pdif** **16 51 47.9 -0.9**
ZEA *e* 17 02 25.7
ZEA pmax pmax
comp=Z,900nm,12.4s
ZEA pmax pmax
comp=Z,20nm,0.8s
GAMB **Gambell** **100.99** **4** IAMs_20 IAMs_20 17 33 05.6
comp=Z,86µm,20.0s
GAMB **Gambell** **100.99** **4** Pdiff **Pdif** **16 51 47.8 -0.8**
baz=188
HWUT **Hardware Ranch** **101.00** **46** IAMs_20 IAMs_20 17 30 40.2
comp=Z,80µm,20.0s
CRAG **Craig** **101.08** **26** Pdiff **Pdif** **16 51 50.2 +1.0**
baz=217
JTS **Las Juntas de** **101.10** **86** IAMs_20 IAMs_20 17 31 25.4
comp=Z,77µm,18.0s
KOHI **KOHIMA** **101.16** **294** *e*P **Pdif** **16 51 52.6 +2.0**
KOHI IAmb IAmb 16 52 06.7
comp=Z,31nm,0.8s
M19K **Big River Lodg** **101.19** **13** Pdiff **Pdif** **16 51 50.1 +0.6**
baz=201
MOKO **MOKOCHONG** **101.22** **294** *ex* **Pdif** **16 51 42.2 -8.5**
MOKO *ex* x 16 51 55.9
KVTX **Kingsville** **101.24** **64** IAMs_20 IAMs_20 17 31 57.9
comp=Z,74µm,19.0s
RC01 **Rabbit Creek A** **101.33** **15** Pdiff **Pdif** **16 51 48.9 -1.2**
baz=205
L19K **White Mountain** **101.37** **12** Pdiff **Pdif** **16 51 51.0 +0.6**
baz=201
S22A **4UR Ranch, Cre** **101.38** **51** Pdiff **Pdif** **16 51 50.1 -1.3**
baz=231
M20K **Styx River** **101.39** **13** IAMs_20 IAMs_20 17 31 34.2
comp=Z,71µm,22.0s
M20K **Styx River** **101.39** **13** Pdiff **Pdif** **16 51 50.6 +0.1**
baz=202
HIN **Hinchinbrook I** **101.41** **17** IAMs_20 IAMs_20 17 35 26.1
comp=Z,52µm,20.0s
PWL **Port Wells** **101.41** **16** IAMs_20 IAMs_20 17 40 50.3
comp=Z,51µm,20.0s
PWL **Port Wells** **101.41** **16** Pdiff **Pdif** **16 51 49.3 -1.3**
baz=206
TGUH **Tegucigalpa,Un** **101.46** **81** IAMs_20 IAMs_20 17 31 39.2
comp=Z,53µm,18.0s
SUA **Susitna One** **101.46** **14** IAMs_20 IAMs_20 17 31 44.8
comp=Z,91µm,21.0s
SUA **Susitna One** **101.46** **14** Pdiff **Pdif** **16 51 49.6 -1.4**
baz=204
KAIM **Kayak Island** **101.49** **18** IAMs_20 IAMs_20 17 40 21.1
comp=Z,70µm,19.0s
KAIM **Kayak Island** **101.49** **18** Pdiff **Pdif** **16 51 50.6 -0.3**
baz=209
V35K **Ketchikan** **101.50** **26** Pdiff **Pdif** **16 51 51.7 +0.7**
baz=218
HDC **Heredia** **101.60** **86** IAMs_20 IAMs_20 17 29 21.6
comp=Z,67µm,19.0s
JCT **Junction City** **101.62** **61** Pdiff **Pdif** **16 51 48.8 -3.5**
baz=233
SIT **Sitka** **101.63** **24** Pdiff **Pdif** **16 51 52.7 +1.1**
baz=216
ANTJ **Antonio Joao (** **101.67** **129** *e*P **Pdif** **16 51 55.5 +2.6**
MSTX **Muleshoe** **101.68** **56** P **Pdif** **16 51 56.4 +3.8**
baz=233
MSTX **Muleshoe** **101.68** **56** Pdiff **Pdif** **16 51 51.5 -1.0**
baz=233
GLI **Glacier Island** **101.70** **16** IAMs_20 IAMs_20 17 36 18.9
comp=Z,50µm,20.0s
GLI **Glacier Island** **101.70** **16** Pdiff **Pdif** **16 51 51.0 -0.8**
baz=207
EYAK **Cordova Ski Ar** **101.72** **17** Pdiff **Pdif** **16 51 50.6 -1.3**
baz=208
FID **Port Fidalgo** **101.73** **17** IAMs_20 IAMs_20 17 35 57.3
comp=Z,53µm,20.0s
SUCK **Suckling Hills** **101.78** **18** IAMs_20 IAMs_20 17 40 28.6
comp=Z,67µm,18.0s
SKT **Skwentna** **101.78** **14** IAMs_20 IAMs_20 17 33 53.3
comp=Z,72µm,21.0s
SKT **Skwentna** **101.78** **14** Pdiff **Pdif** **16 51 49.8 -2.4**
baz=204
L20K **Farewell, AK** **101.82** **13** Pdiff **Pdif** **16 51 51.6 -0.7**
baz=202
RAGM **Ragged Mountai** **101.83** **18** IAMs_20 IAMs_20 17 41 01.1
comp=Z,79µm,19.0s
M22K **Willow** **101.85** **15** Pdiff **Pdif** **16 51 51.7 -0.7**
baz=205
TTA **Tatalina** **101.89** **11** Pdiff **Pdif** **16 51 52.9 +0.1**
baz=200
KNK **Knik Glacier** **101.89** **15** Pdiff **Pdif** **16 51 50.5 -2.2**
baz=206
PMR **Palmer** **101.91** **15** Pdiff **Pdif** **16 51 51.5 -1.2**
baz=205
BGLC **Bering Glacier** **101.94** **18** Pdiff **Pdif** **16 51 51.5 -1.3**
baz=210
PTGB **Pitanga** **101.96** **134** *e*P **Pdif** **16 51 57.5 +3.3**
O20A **White River Ci** **102.00** **49** Pdiff **Pdif** **16 51 51.1 -2.9**
baz=231
AHID **Auburn Hatcher** **102.01** **45** IAMs_20 IAMs_20 17 33 08.0
comp=Z,83µm,20.0s
BERG **Berg Lake** **102.07** **18** IAMs_20 IAMs_20 17 41 07.5
comp=Z,73µm,19.0s
SEY **Seymchan** **102.08** **348** PKPPKP **P'P'df** **17 16 16.6 +6.0**
comp=Z,2.8nm,1.0s,baz=338,slow=9.8,SNR=2.4
SNH **Sunshine Point** **102.10** **18** IAMs_20 IAMs_20 17 41 06.2
comp=Z,66µm,19.0s
WRAK **Wrangell Islan** **102.10** **25** IAMs_20 IAMs_20 17 31 30.5
comp=Z,52µm,20.0s
WRAK **Wrangell Islan** **102.10** **25** Pdiff **Pdif** **16 51 53.8 +0.1**
baz=218
SMCO **Snowmass** **102.18** **50** IAMs_20 IAMs_20 17 31 23.9
comp=Z,54µm,20.0s
SDCO **Great Sand Dun** **102.21** **52** P **Pdif** **16 51 59.3 +4.2**
baz=232
SDCO **Great Sand Dun** **102.21** **52** Pdiff **Pdif** **16 51 53.6 -1.4**
baz=232
AGT **Agartala** **102.21** **291** *ex* **Pdif** **16 51 48.2 -6.8**
T33K **Petersburg** **102.21** **25** Pdiff **Pdif** **16 51 53.0 -1.2**
baz=217
ANM **Nome** **102.27** **7** IAMs_20 IAMs_20 17 33 16.9
comp=Z,63µm,20.0s
ANM **Nome** **102.27** **7** Pdiff **Pdif** **16 51 54.2 0.0**
baz=193
SML **Sawmill** **102.27** **15** IAMs_20 IAMs_20 17 34 04.0
comp=Z,51µm,21.0s
SML **Sawmill** **102.27** **15** Pdiff **Pdif** **16 51 54.0 -0.4**
baz=206
ITAN **ITANAGAR** **102.27** **295** *ex* **Pdif** **16 51 59.9 +4.7**
ITAN IAmb IAmb 16 52 15.7
comp=Z,76nm,1.0s
MESA **MESA** **102.33** **19** Pdiff **Pdif** **16 51 55.5 +0.6**
baz=211
WAX **Waxell Ridge** **102.33** **18** IAMs_20 IAMs_20 17 41 05.3
comp=Z,78µm,19.0s
BMRM **Bremner River** **102.36** **17** Pdiff **Pdif** **16 51 54.3 -0.5**
baz=209
M23K **Glacier View** **102.38** **16** Pdiff **Pdif** **16 51 54.5 -0.4**
baz=206
ZIRO **ZIRO** **102.40** **295** *ex* **Pdif** **16 51 49.5 -6.5**
ZIRO *ex* x 16 51 59.9
ZIRO IAmb IAmb 16 52 16.0
comp=Z,34nm,1.0s
CUT **Chulitna** **102.42** **14** IAMs_20 IAMs_20 17 32 27.1
comp=Z,83µm,21.0s
CUT **Chulitna** **102.42** **14** Pdiff **Pdif** **16 51 54.7 -0.3**
baz=205
NEW **Newport** **102.45** **38** PKKPbc PKKPbc 17 07 57.3 +0.1
comp=Z,2.1nm,0.4s,baz=75,slow=8.0,SNR=2.0
NEW PKPPKP 17 16 16.9
comp=Z,1.5nm,0.5s,baz=100,slow=14,SNR=1.7
NEW **Newport** **102.45** **38** IAMs_20 IAMs_20 17 31 30.4
comp=Z,88µm,20.0s
NEW **Newport** **102.45** **38** Pdiff **Pdif** **16 51 54.5 -1.1**
baz=227
PPLA **Purkeypile** **102.50** **13** Pdiff **Pdif** **16 51 53.7 -1.8**
baz=203
SCM **Sheep Creek Mo** **102.50** **16** Pdiff **Pdif** **16 51 54.6 -0.9**
baz=207
KLU **Klutina** **102.51** **16** Pdiff **Pdif** **16 51 54.1 -1.4**
baz=208
T25A **Trinidad** **102.53** **53** Pdiff **Pdif** **16 51 53.8 -2.6**
baz=232
REDW **Red Top Meadow** **102.53** **45** IAMs_20 IAMs_20 17 34 03.8
comp=Z,86µm,20.0s
YAH **Yahtse** **102.54** **19** IAMs_20 IAMs_20 17 40 41.6
comp=Z,76µm,20.0s
TPAW **Teton Pass** **102.56** **45** IAMs_20 IAMs_20 17 33 53.4
comp=Z,83µm,20.0s
PNL **Peninsula** **102.58** **20** Pdiff **Pdif** **16 51 57.0 +1.2**
baz=213
ISLE **Juniper Island** **102.59** **18** IAMs_20 IAMs_20 17 41 23.2
comp=Z,66µm,19.0s
K20K **Telida** **102.60** **12** Pdiff **Pdif** **16 51 55.1 -0.7**
baz=202
TGL **Tana Glacier** **102.60** **18** IAMs_20 IAMs_20 17 38 45.5
comp=Z,72µm,20.0s
FXWY **Fox Creek** **102.61** **44** IAMs_20 IAMs_20 17 33 46.9
comp=Z,78µm,20.0s
TEZP **TEZPUR** **102.64** **294** IAmb IAmb 16 52 08.6
comp=Z,18nm,0.7s
PINM **Pinnacle** **102.71** **20** Pdiff **Pdif** **16 51 56.2 -0.2**
baz=212
SIV **San Ignacio** **102.72** **121** P **Pdif** **16 51 57.0 -0.6**
comp=Z,2.5nm,0.9s,baz=221,slow=6.8,SNR=6.1
SIV PP **PP** **16 56 14.2 +3.4**
comp=Z,3.7nm,0.9s,baz=240,slow=7.5,SNR=2.2
SIV PKPPKP **P'P'df** **17 16 15.4 -4.1**
comp=Z,0.6nm,0.3s,baz=15,slow=8.8,SNR=1.8
BCPM **Bancas Point** **102.75** **20** IAMs_20 IAMs_20 17 36 23.7
comp=Z,66µm,20.0s
TABL **Table Mountain** **102.76** **19** IAMs_20 IAMs_20 17 32 29.6
comp=Z,63µm,20.0s
IMW **Indian Meadow** **102.82** **44** IAMs_20 IAMs_20 17 34 03.5
comp=Z,67µm,20.0s
LOHW **Long Hollow** **102.83** **45** IAMs_20 IAMs_20 17 33 53.7
comp=Z,82µm,20.0s
MOOW **Moose Ponds** **102.84** **44** IAMs_20 IAMs_20 17 33 44.9
comp=Z,73µm,20.0s
BW06 **Boulder Array** **102.89** **46** IAMs_20 IAMs_20 17 32 12.1
comp=Z,73µm,20.0s
BW06 **Boulder Array** **102.89** **46** Pdiff **Pdif** **16 51 57.8 -0.1**
baz=231
PDAR **Pinedale Array** **102.89** **46** Pdiff **Pdif** **16 52 01.1 +3.2**
comp=Z,2.9nm,0.9s,baz=195,slow=3.3,SNR=9.1
PDAR PKiKP **PKiKP** **16 56 18.4 +0.2**
comp=Z,9.8nm,1.1s,baz=246,slow=6.8,SNR=5.8
PDAR PKKPbc **PKKPbc** **17 07 54.4 -1.6**
comp=Z,3.2nm,0.9s,baz=115,slow=2.8,SNR=2.2
PDAR PKPPKP **P'P'df** **17 16 14.1 +1.9**
comp=Z,2.8nm,1.0s,baz=74,slow=5.4,SNR=5.2
N25K **Chitina, Valde** **102.92** **17** Pdiff **Pdif** **16 51 58.1 +0.8**
baz=209
AMTX **Amarillo** **102.95** **56** IAMs_20 IAMs_20 17 32 41.9
comp=Z,76µm,20.0s
AMTX **Amarillo** **102.95** **56** Pdiff **Pdif** **16 51 59.0 +0.8**
baz=233
AQDB **Aquidauana** **102.99** **128** *e*P **Pdif** **16 52 01.9 +3.2**
ABTX **Abilene, Hawle** **102.99** **59** Pdiff **Pdif** **16 51 57.2 -1.1**
baz=234
M24K **Toisona, Glenn** **103.00** **16** Pdiff **Pdif** **16 51 59.0 +1.3**
baz=208
CAST **Castle Rocks** **103.00** **13** IAMs_20 IAMs_20 17 42 41.1
comp=Z,61µm,20.0s
CAST **Castle Rocks** **103.00** **13** Pdiff **Pdif** **16 51 56.0 -1.6**
baz=203
P29M **Windy Craggy** **103.01** **21** IAMs_20 IAMs_20 17 34 26.5
comp=Z,72µm,20.0s
P29M **Windy Craggy** **103.01** **21** Pdiff **Pdif** **16 51 58.9 +1.1**
baz=214
TNA **Tin City** **103.02** **6** Pdiff **Pdif** **16 51 57.6 0.0**
baz=191
WAT6 **Susitna Watana** **103.09** **15** Pdiff **Pdif** **16 51 58.5 +0.3**
baz=207
MCARA **McCarthy VSAT** **103.10** **18** IAMs_20 IAMs_20 17 41 50.6
comp=Z,51µm,19.0s
MCARA **McCarthy VSAT** **103.10** **18** Pdiff **Pdif** **16 51 58.9 +0.9**
baz=210
MSO **Missoula** **103.10** **41** Pdiff **Pdif** **16 51 58.1 -0.5**
baz=229
TRCB **Terra Rica** **103.10** **132** *e*P **Pdif** **16 52 01.9 +2.7**
LOGN **Logan Glacier** **103.13** **19** IAMs_20 IAMs_20 17 32 42.2
comp=Z,63µm,21.0s
WAT1 **Susitna Watana** **103.14** **15** Pdiff **Pdif** **16 51 58.8 +0.5**
baz=206
CTG **Chitna Glacier** **103.16** **19** Pdiff **Pdif** **16 52 00.1 +1.5**
baz=211
CTGM **Chitina Glacie** **103.16** **19** IAMs_20 IAMs_20 17 32 54.2
comp=Z,51µm,21.0s
Q24A **Divide** **103.17** **51** Pdiff **Pdif** **16 51 58.8 -0.5**
baz=232
TIJ01 **Guaruva-PR** **103.21** **136** *e*P **Pdif** **16 52 02.8 +3.1**
T35M **Bob Quinn** **103.27** **26** Pdiff **Pdif** **16 52 01.6 +2.7**
baz=219
O28M **Mount Upton** **103.30** **19** Pdiff **Pdif** **16 52 01.1 +1.8**
baz=212
ETMB **Extrema** **103.30** **113** *e*P **Pdif** **16 52 01.7 +1.5**
O29M **Mount Kennedy** **103.34** **20** Pdiff **Pdif** **16 52 00.8 +1.5**
baz=213
435B **Jarrell** **103.34** **62** Pdiff **Pdif** **16 51 59.1 -0.8**
baz=234
J20K **Nowinta River** **103.35** **12** Pdiff **Pdif** **16 51 59.3 +0.2**
baz=202
TRF **Thorofare Moun** **103.36** **14** IAMs_20 IAMs_20 17 35 04.5
comp=Z,89µm,21.0s
TRF **Thorofare Moun** **103.36** **14** Pdiff **Pdif** **16 51 58.0 -1.4**
baz=205
ISCO **Idaho Springs** **103.39** **50** IAMs_20 IAMs_20 17 32 35.0
comp=Z,66µm,20.0s
ISCO **Idaho Springs** **103.39** **50** Pdiff **Pdif** **16 51 59.8 -0.5**
baz=232
CHUM **Lake Minchumin** **103.39** **13** Pdiff **Pdif** **16 51 59.0 -0.2**
baz=203
GCSA **Galena City Sc** **103.47** **10** Pdiff **Pdif** **16 51 59.4 -0.1**
baz=200
HARP **HAARP** **103.48** **16** Pdiff **Pdif** **16 52 01.1 +1.4**
baz=209
BOZ **Bozeman (W)** **103.53** **43** IAMs_20 IAMs_20 17 34 55.4
comp=Z,62µm,20.0s
BOZ **Bozeman (W)** **103.53** **43** Pdiff **Pdif** **16 52 03.5 +2.9**
baz=230
RWWY **Rawlins** **103.58** **48** IAMs_20 IAMs_20 17 37 37.3
comp=Z,48µm,19.0s
SKAG **Skagway** **103.58** **22** Pdiff **Pdif** **16 52 02.7 +2.5**
baz=216
RND **Reindeer** **103.60** **14** IAMs_20 IAMs_20 17 33 12.3
comp=Z,78µm,21.0s
DHY **Denali Highway** **103.60** **15** Pdiff **Pdif** **16 52 00.8 +0.3**
baz=207
S34M **Telegraph Cree** **103.69** **25** Pdiff **Pdif** **16 52 02.6 +1.9**
baz=219
BPAW **Bear Paw Mtn.** **103.83** **13** IAMs_20 IAMs_20 17 37 16.8
comp=Z,58µm,20.0s
BPAW **Bear Paw Mtn.** **103.83** **13** Pdiff **Pdif** **16 52 01.4 +0.1**
baz=204
N23A **Red Feather La** **103.85** **49** Pdiff **Pdif** **16 52 02.2 -0.1**
baz=232
MCK **McKinley** **103.88** **14** IAMs_20 IAMs_20 17 33 21.7

comp=Z,83µm,21.0s
MCK McKinley 103.88 14 Pdiff Pdif 16 52 01.1 -0.4
baz=206
PAX Paxson 103.92 16 Pdiff Pdif 16 52 02.2 +0.4
baz=208
YUK6 Outpost Mounta 103.93 20 Pdiff Pdif 16 52 03.0 +0.9
baz=214
M26K Nabesna, AK 103.99 17 IAMs_20 IAMs_20 17 42 33.2
comp=Z,52µm,19.0s
M26K Nabesna, AK 103.99 17 Pdiff Pdif 16 52 03.3 +1.3
baz=210
HYT Haines Junctio 104.07 20 Pdiff Pdif 16 52 03.6 +1.0
baz=214
YUK3 Moose Creek 104.08 19 Pdiff Pdif 16 52 02.8 +0.1
baz=212
WHTX Lake Whitney, 104.13 61 Pdiff Pdif 16 52 04.5 +1.1
baz=234
P32M Atlin 104.18 23 Pdiff Pdif 16 52 05.3 +2.4
baz=217
YUK4 Talbot Arm 104.19 20 Pdiff Pdif 16 52 05.5 +2.3
baz=214
TBTG Tabatinga, AM 104.20 107 eP Pdif 16 52 06.8 +2.7
M27K Edge Creek, AK 104.22 18 IAMs_20 IAMs_20 17 42 20.2
comp=Z,53µm,19.0s
M27K Edge Creek, AK 104.22 18 Pdiff Pdif 16 52 03.4 +0.2
baz=211
PTLB Pontes e Lacer 104.41 122 eP Pdif 16 52 07.7 +2.6
O30N Mendenhall 104.42 21 Pdiff Pdif 16 52 05.6 +1.5
baz=215
L26K Log Cabin Wild 104.44 17 IAMs_20 IAMs_20 17 37 46.3
comp=Z,62µm,21.0s
L26K Log Cabin Wild 104.44 17 Pdiff Pdif 16 52 04.0 0.0
baz=210
DLBC Dease Lake 104.47 25 Pdiff Pdif 16 52 07.2 +3.0
comp=Z,1.1nm,0.7s,baz=165,slow=20,SNR=2.4
DLBC PKiKP PKiKP 16 56 21.1 +0.8
comp=Z,8.6nm,0.9s,baz=229,slow=7.4,SNR=4.0
BVCY Beaver Creek 104.52 18 Pdiff Pdif 16 52 05.6 +1.2
baz=212
BCIP Isla Barro Col 104.52 89 IAMs_20 IAMs_20 17 30 25.7
comp=Z,57µm,20.0s
RLMT Red Lodge 104.52 44 IAMs_20 IAMs_20 17 35 08.6
comp=Z,60µm,20.0s
RLMT Red Lodge 104.52 44 Pdiff Pdif 16 52 06.5 +1.4
baz=231
K22A Casper 104.57 47 Pdiff Pdif 16 52 05.2 -0.1
baz=232
K24K Donnelly Dome 104.59 15 Pdiff Pdif 16 52 05.1 +0.5
baz=208
NEA2 Nenana 104.63 14 Pdiff Pdif 16 52 04.3 -0.5
baz=206
I21K Tanana 104.64 12 Pdiff Pdif 16 52 03.9 -0.9
baz=204
N30M Aishikik Lake 104.71 20 Pdiff Pdif 16 52 04.4 -0.9
baz=215
WRH Wood River Hil 104.71 14 IAMs_20 IAMs_20 17 33 47.7
comp=Z,64µm,21.0s
MLY Manley 104.72 13 IAMs_20 IAMs_20 17 33 28.5
comp=Z,53µm,22.0s
MLY Manley 104.72 13 Pdiff Pdif 16 52 04.5 -0.8
baz=204
RIDG Independent Ri 104.73 16 IAMs_20 IAMs_20 17 36 56.0
comp=Z,55µm,20.0s
RIDG Independent Ri 104.73 16 Pdiff Pdif 16 52 04.0 -1.3
baz=209
KSCO Kaye Shedlock' 104.77 52 Pdiff Pdif 16 52 07.2 +1.0
baz=234
WMOK Wichita Mounta 104.80 58 Pdiff Pdif 16 52 05.8 -0.6
baz=234
PCMB Pacaembu 104.83 132 eP Pdif 16 52 11.1 +4.1
L27K Beaver Creek, 104.83 17 IAMs_20 IAMs_20 17 43 09.5
comp=Z,59µm,19.0s
L27K Beaver Creek, 104.83 17 Pdiff Pdif 16 52 05.1 -0.7
baz=211
HDA Harding Lake 104.88 15 IAMs_20 IAMs_20 17 37 53.1
comp=Z,50µm,20.0s
HDA Harding Lake 104.88 15 Pdiff Pdif 16 52 04.3 -1.6
baz=207
R33M Jennings River 104.89 24 Pdiff Pdif 16 52 06.0 -0.2
baz=219
CCB Clear Creek Bu 104.92 14 IAMs_20 IAMs_20 17 33 55.2
comp=Z,62µm,21.0s
H21K Meloziina Rive 104.94 12 Pdiff Pdif 16 52 06.1 -0.1
baz=203
P33M Teslin, Yukon 104.95 23 IAMs_20 IAMs_20 17 31 18.0
comp=Z,78µm,21.0s
P33M Teslin, Yukon 104.95 23 Pdiff Pdif 16 52 06.1 -0.3
baz=218
PET01 Itanhaem-SP 104.97 137 eP Pdif 16 52 09.9 +2.4
N31M Braeburn, Yuko 105.09 21 IAMs_20 IAMs_20 17 36 01.5
comp=Z,71µm,20.0s
N31M Braeburn, Yuko 105.09 21 Pdiff Pdif 16 52 07.8 +0.8
baz=216
TCOL CIGO, UAF Yank 105.11 14 IAMs_20 IAMs_20 17 34 01.3
comp=Z,76µm,21.0s
TCOL CIGO, UAF Yank 105.11 14 Pdiff Pdif 16 52 06.5 -0.3
baz=207
COLA College 105.12 14 IAMs_20 IAMs_20 17 34 01.3
comp=Z,72µm,21.0s
COLA College 105.12 14 Pdiff Pdif 16 52 06.6 -0.3
baz=207
MDM Murphy Dome 105.12 14 IAMs_20 IAMs_20 17 34 01.5
comp=Z,88µm,22.0s
SCRK Sand Creek 105.13 16 Pdiff Pdif 16 52 07.9 +0.7
baz=210
M29M Somme Creek 105.15 19 Pdiff Pdif 16 52 08.3 +1.0
baz=214
ILAR Eielson Array 105.22 15 Pdiff Pdif 16 52 07.2 -0.2
comp=Z,9.9nm,1.1s,baz=221,slow=5.0,SNR=11
ILAR PKiKP PKiKP 16 56 22.7 +1.3
comp=Z,12nm,0.8s,baz=209,slow=3.5,SNR=9.5
ILAR SKP 16 59 56.5
comp=Z,11nm,1.0s,baz=262,slow=2.2,SNR=4.1
ILAR PKKPbc PKKPbc 17 07 48.2 -1.1
comp=Z,3.1nm,0.9s,baz=4.5,slow=2.9,SNR=4.3
TRIS Tristan da Cun 105.32 171 IAMs_20 IAMs_20 17 35 32.2
comp=Z,65µm,21.0s
J25K Salcha River, 105.39 15 Pdiff Pdif 16 52 08.4 +0.1
baz=209
H22K Ishtalitna Cre 105.40 12 Pdiff Pdif 16 52 08.4 +0.2
baz=204
BILL Bilibino 105.41 355 IAMs_20 IAMs_20 17 36 30.0
comp=Z,66µm,20.0s
BILL Bilibino 105.41 355 i P Pdif 16 52 06.0 -2.2
BILL e 16 56 29.3
BILL ePPP PPP 16 58 42.1
BILL i 17 03 56.9
BILL eSS SS 17 11 23.3 -2.6
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,33µm,19.0s
POKR Poker Plat Res 105.42 14 IAMs_20 IAMs_20 17 34 10.3
comp=Z,72µm,22.0s
POKR Poker Plat Res 105.42 14 Pdiff Pdif 16 52 07.6 -0.7
baz=207
VILB Vilhena 105.45 120 eP Pdif 16 52 13.7 +3.9
LSA Lhasa 105.59 296 PKiKP PKiKP 16 56 22.0 -1.7
K27K Chicken 105.60 17 IAMs_20 IAMs_20 17 43 08.9
comp=Z,47µm,19.0s
G21K Allakaket 105.63 11 Pdiff Pdif 16 52 08.9 -0.3
baz=202
H23K Yukon River 105.66 13 IAMs_20 IAMs_20 17 37 53.8
comp=Z,61µm,20.0s
H23K Yukon River 105.66 13 Pdiff Pdif 16 52 09.4 0.0
baz=206
J26L Joseph Creek 105.67 16 Pdiff Pdif 16 52 09.8 +0.2
baz=210
M30M Minto, Yukon 105.70 20 IAMs_20 IAMs_20 17 34 55.2
comp=Z,67µm,20.0s
M30M Minto, Yukon 105.70 20 Pdiff Pdif 16 52 09.8 +0.1
baz=215
OK038 West end E0370 105.82 56 IAMs_20 IAMs_20 17 40 50.9
comp=Z,57µm,18.0s
RDOG Red Dog Mine 105.91 7 IAMs_20 IAMs_20 17 42 02.1
comp=Z,56µm,20.0s
NATX Nacogdoches 105.96 62 IAMs_20 IAMs_20 17 31 36.0
comp=Z,76µm,20.0s
NATX Nacogdoches 105.96 62 Pdiff Pdif 16 52 11.8 +0.3
baz=236
OK035 E0210 Rd and N 105.97 56 IAMs_20 IAMs_20 17 40 54.9
comp=Z,64µm,18.0s
H24K Noodor Dome 105.97 14 Pdiff Pdif 16 52 10.4 -0.4
baz=207
C2SB Chapadao do Su 106.04 129 eP Pdif 16 52 14.4 +2.1
EGMT Eagleton 106.06 41 Pdiff Pdif 16 52 11.0 -0.6
baz=232
M31M Drury Creek, Y 106.06 21 IAMs_20 IAMs_20 17 36 42.1
comp=Z,83µm,20.0s
M31M Drury Creek, Y 106.06 21 Pdiff Pdif 16 52 12.2 +1.0
baz=217
SAML Samuel 106.09 115 IAMs_20 IAMs_20 17 31 32.4
comp=Z,84µm,21.0s
PRP Porcupine Dome 106.15 15 Pdiff Pdif 16 52 12.9 +1.2
baz=209
WTLY Watson Lake, Y 106.16 24 Pdiff Pdif 16 52 14.2 +2.4
baz=221
VAO Valinhos 106.17 137 eP Pdif 16 52 15.5 +2.5
OK025 Westminster Rd 106.25 58 IAMs_20 IAMs_20 17 33 43.2
comp=Z,62µm,20.0s
OGNE Ogallala 106.27 51 IAMs_20 IAMs_20 17 33 58.2
comp=Z,79µm,20.0s
OGNE Ogallala 106.27 51 Pdiff Pdif 16 52 13.0 +0.2
baz=234
F21K Alatna River 106.29 11 Pdiff Pdif 16 52 13.7 +1.6
baz=202
OK029 Liberty Lake 106.29 57 IAMs_20 IAMs_20 17 33 54.3
comp=Z,76µm,19.0s
OK032 Salt Plains WL 106.36 56 IAMs_20 IAMs_20 17 43 38.1
comp=Z,52µm,18.0s
SALV Santo Antonio 106.36 125 eP Pdif 16 52 15.0 +1.3
G23K Bananza Creek 106.38 12 Pdiff Pdif 16 52 12.9 +0.4
baz=205
FARO Faro, Yukon 106.38 21 Pdiff Pdif 16 52 12.8 +0.1
baz=218
SONM Songino Array 106.44 318 Pdiff Pdif 16 52 14.6 +1.2
comp=Z,0.3nm,0.5s,baz=147,slow=3.4,SNR=5.2
SONM PKiKP PKiKP 16 56 25.6 +1.3
comp=Z,7.9nm,0.7s,baz=157,slow=1.4,SNR=9.7
SONM PKKPbc PKKPbc 17 07 45.1 0.0
comp=Z,5.1nm,0.8s,baz=292,slow=2.7,SNR=6.4
EGAK Eagle 106.45 17 IAMs_20 IAMs_20 17 43 45.3
comp=Z,58µm,19.0s
EGAK Eagle 106.45 17 Pdiff Pdif 16 52 14.4 +1.5
baz=212
I26K Coal Creek Min 106.46 16 IAMs_20 IAMs_20 17 38 08.7
comp=Z,50µm,20.0s
CBKS Cedar Bluff 106.50 54 IAMs_20 IAMs_20 17 33 37.0
comp=Z,50µm,20.0s
CBKS Cedar Bluff 106.50 54 Pdiff Pdif 16 52 16.6 +2.8
baz=235
K29M Barlow Dome 106.55 19 Pdiff Pdif 16 52 14.5 +1.0
baz=215
YAK Yakutsk 106.59 338 eP Pdif 16 52 06.8 -6.7
YAK e 17 02 47.6
PARB Paraibuna 106.63 138 eP Pdif 16 52 17.7 +2.7
H25K Birch Creek 106.75 14 Pdiff Pdif 16 52 13.2 -1.0
baz=209
F22K John River 106.75 11 Pdiff Pdif 16 52 13.2 -1.0
baz=204
MAYO Mayo, Yukon 106.77 19 Pdiff Pdif 16 52 14.9 +0.6
baz=216
OK031 S. Brethren Rd 106.80 58 IAMs_20 IAMs_20 17 34 01.6
comp=Z,74µm,20.0s
G24K Hawenzie Riv 106.82 13 Pdiff Pdif 16 52 13.7 -0.8
baz=207
OK030 Cody Creek RV 106.82 58 IAMs_20 IAMs_20 17 34 02.2
comp=Z,78µm,20.0s
J29M Klondike Camp 106.88 18 IAMs_20 IAMs_20 17 43 24.5
comp=Z,45µm,19.0s
J29M Klondike Camp 106.88 18 Pdiff Pdif 16 52 14.7 -0.2
baz=214
RSSD Black Hills 106.90 47 IAMs_20 IAMs_20 17 34 15.3
comp=Z,72µm,20.0s
RSSD Black Hills 106.90 47 Pdiff Pdif 16 52 16.4 +0.7
baz=234
OK034 N. Norfolk Rd. 106.91 58 IAMs_20 IAMs_20 17 34 14.7
comp=Z,79µm,20.0s
I27K Kandik River 107.05 16 Pdiff Pdif 16 52 16.8 +1.2
baz=212
LAO LASA Array 107.16 44 IAMs_20 IAMs_20 17 36 33.4
comp=Z,49µm,20.0s
LAO LASA Array 107.16 44 Pdiff Pdif 16 52 18.0 +1.4
baz=233
MMPY Sheldon Lake, 107.30 22 Pdiff Pdif 16 52 17.7 +0.9
baz=220
E22K Anaktuvuk Pass 107.38 11 Pdiff Pdif 16 52 18.4 +1.4
baz=204
TGTN Hyland Airport 107.39 24 Pdiff Pdif 16 52 18.7 +1.5
baz=222
F24K Squaw Lake 107.47 13 Pdiff Pdif 16 52 17.7 +0.2
baz=207
TUL1 Leonard 107.48 58 Pdiff Pdif 16 52 19.2 +1.0
baz=236
H27K Steamboat Moun 107.60 16 Pdiff Pdif 16 52 19.2 +1.2
baz=212
I29M Ogilvie Camp, 107.61 17 Pdiff Pdif 16 52 18.7 +0.7
baz=214
SUR Sutherland 107.72 199 Pdiff Pdif 16 52 21.1 +1.3
comp=Z,4.9nm,0.9s,baz=272,slow=21,SNR=1.6
SUR PKiKP PKiKP 16 56 29.4 +1.9
comp=Z,6.1nm,0.8s,baz=74,slow=10,SNR=1.8
G26K Porcupine Rive 107.75 15 Pdiff Pdif 16 52 19.5 +0.9
baz=210
E24K Your Creek 107.87 12 Pdiff Pdif 16 52 20.6 +1.5
baz=207
F25K Christian River 107.95 14 Pdiff Pdif 16 52 20.8 +1.2
baz=209
G27K Doyon Strip 108.06 15 Pdiff Pdif 16 52 22.3 +2.2
baz=212
FLDN Fort Liard 108.07 26 Pdiff Pdif 16 52 21.3 +1.1
baz=225
OPO Ambohidratompo 108.15 228 Pdiff Pdif 16 52 22.7 +0.7
comp=Z,2.9nm,0.7s,baz=120,slow=14,SNR=1.7
OPO PKiKP PKiKP 16 56 30.3 +1.8
comp=Z,4.9nm,0.9s,baz=112,slow=16,SNR=2.0
TOLK Toolik Lake Re 108.19 12 Pdiff Pdif 16 52 21.7 +1.1
baz=206
MIAR Mount Ida 108.25 60 IAMs_20 IAMs_20 17 36 27.8
comp=Z,71µm,19.0s
MIAR Mount Ida 108.25 60 Pdiff Pdif 16 52 20.1 -1.5
baz=237
D23K Nanushuk River 108.31 11 Pdiff Pdif 16 52 22.4 +1.3
baz=205
F26K Sheenjek River 108.32 14 Pdiff Pdif 16 52 22.8 +1.6
baz=210
HYBB Hyderabad (bro 108.35 278 ePdif Pdif 16 52 20.2 -2.3
HYBB ePKiKP PKiKP 16 56 24.0 -4.7
HYBB ePP PP 16 56 53.5 +0.3
HYBB eSKSac SKSac 17 02 58.6 -2.9
HYBB ePS PS 17 06 15.7 -1.8
HYBB eSS SS 17 12 08.2 +0.7
HYBB IVMs_BB IVMs_BB 17 43 34.9
comp=Z,11µm,19.8s
E25K Arctic Village 108.42 13 Pdiff Pdif 16 52 22.1 +0.5
baz=209
KSU1 Kansas State U 108.68 55 IAMs_20 IAMs_20 17 35 07.7
comp=Z,68µm,21.0s
KSU1 Kansas State U 108.68 55 Pdiff Pdif 16 52 22.9 -0.6
baz=237
EPYK Eagle Plains 108.81 17 IAMs_20 IAMs_20 17 48 09.7
comp=Z,44µm,19.0s
EPYK Eagle Plains 108.81 17 Pdiff Pdif 16 52 24.6 +1.2
baz=216
BGNE Belgrade 108.95 52 Pdiff Pdif 16 52 24.8 +0.1
baz=236
C23K Itkillik River 109.12 11 Pdiff Pdif 16 52 25.2 +0.6
baz=205
VBMS Vicksburg 109.15 64 Pdiff Pdif 16 52 27.6 +1.9
baz=237
E27K Coleen River 109.25 15 Pdiff Pdif 16 52 25.9 +0.6
baz=212
C24K Franklin Bluff 109.31 11 Pdiff Pdif 16 52 26.0 +0.6
baz=207
DGMT Dagmar 109.31 43 IAMs_20 IAMs_20 17 38 01.4
comp=Z,60µm,20.0s
DGMT Dagmar 109.31 43 Pdiff Pdif 16 52 26.5 +0.4
baz=235
D25K Kavik River 109.33 12 Pdiff Pdif 16 52 26.1 +0.4
baz=209
ZAK Zakamensk 109.60 319 eP Pdif 16 52 33.4 +6.0
ZAK pmax pmax
comp=Z,14nm,1.4s
A21K Barrow 109.70 8 IAMs_20 IAMs_20 17 38 48.3
comp=Z,73µm,20.0s
A21K Barrow 109.70 8 Pdiff Pdif 16 52 27.3 +0.1
baz=200
BOSA Boshof 109.91 205 Pdiff Pdif 16 52 30.6 +1.0
comp=Z,3.8nm,1.0s,baz=249,slow=11,SNR=2.7
BOSA PKiKP PKiKP 16 56 33.5 +1.9
comp=Z,6.5nm,0.9s,baz=143,slow=2.1,SNR=2.0
BOSA PKKPbc PKKPbc 17 07 33.6 +0.1
comp=Z,5.6nm,0.7s,baz=342,slow=4.6,SNR=5.1
BOSA PKPPKP P'P'df 17 16 02.1 -4.6
comp=Z,26nm,1.3s,baz=25,slow=3.6,SNR=4.8
BOSA Boshof 109.91 205 i P PKiKP 16 56 36.0 +4.4
BOSA Boshof 109.91 205 i P PKiKP 16 56 36.0 +4.4
C27K Jago River 110.07 13 Pdiff Pdif 16 52 29.2 +0.4
baz=211
SUSD Miller 110.10 49 Pdiff Pdif 16 52 30.1 +0.4
baz=237
C26K Camden Bay 110.11 13 Pdiff Pdif 16 52 30.7 +1.7
baz=210
WRGLY Wrigley 110.17 24 Pdiff Pdif 16 52 30.2 +0.8
baz=226
INK Inuvik 111.11 17 Pdiff Pdif 16 52 35.0 +1.5
comp=Z,1.3nm,0.3s,baz=66,slow=3.8,SNR=1.5
INK PKiKP PKiKP 16 56 33.7 +1.5
comp=Z,20nm,0.8s,baz=257,slow=1.3,SNR=6.6
INK SKP 17 00 08.9
comp=Z,24nm,1.0s,baz=170,slow=1.9,SNR=3.0
INK PKKPbc PKKPbc 17 07 29.6 -0.9
comp=Z,1.9nm,0.3s,baz=132,slow=4.7,SNR=1.7
OXF Oxford 111.15 62 IAMs_20 IAMs_20 17 36 50.4
comp=Z,72µm,20.0s
ECSD EROS Data Cent 111.16 51 IAMs_20 IAMs_20 17 36 33.5
comp=Z,56µm,20.0s
ECSD EROS Data Cent 111.16 51 Pdiff Pdif 16 52 33.4 -0.9
baz=238
AKL Akola 111.37 280 eP PKiKP 16 56 35.9 +1.6
BDFB Brasilia 111.38 131 PKiKP PKiKP 16 56 37.2 +2.6
comp=Z,8.6nm,0.7s,baz=280,slow=1.3,SNR=4.3
MDND Maddock 111.55 46 Pdiff Pdif 16 52 36.0 +0.1
baz=238
SDV Santo Domingo 111.69 95 IAMs_20 IAMs_20 17 37 53.1
comp=Z,46µm,20.0s
CCM Cathedral Cave 111.70 58 IAMs_20 IAMs_20 17 36 14.4
comp=Z,71µm,20.0s
CCM Cathedral Cave 111.70 58 Pdiff Pdif 16 52 37.9 +1.0
baz=239
MACA Manacapuru-AM 111.81 112 eP Pdif 16 52 40.6 +2.5
LRAL Lakeview Retre 112.11 65 Pdiff Pdif 16 52 37.7 -1.1
baz=239
MOPA Mopani 112.19 212 i P PKiKP 16 56 36.9 +1.0
MOPA Mopani 112.19 212 i P PKiKP 16 56 36.9 +1.0
SCIA State Center 112.36 54 IAMs_20 IAMs_20 17 39 17.1
comp=Z,64µm,19.0s
SCIA State Center 112.36 54 Pdiff Pdif 16 52 41.5 +1.8
baz=239
JHNI Jhansi 112.72 285 eP PKiKP 16 56 34.0 -2.7
YKA Yellowknife Ar 112.77 28 Pdiff Pdif 16 52 44.2 +3.2
comp=Z,0.4nm,0.6s,baz=228,slow=4.7,SNR=0.9
YKA PKiKP PKiKP 16 56 36.1 +0.6
comp=Z,8.6nm,0.6s,baz=254,slow=1.6,SNR=12
YKA PP PP 16 57 28.8 +4.6
comp=Z,35nm,1.0s,baz=242,slow=7.3,SNR=8.5
YKA SKP 17 00 10.9
comp=Z,13nm,1.0s,baz=242,slow=1.3,SNR=3.8
YKA PKKPbc PKKPbc 17 07 24.2 -0.6
comp=Z,6.7nm,0.8s,baz=47,slow=3.7,SNR=6.6
MSEY Mahe Island 112.82 245 IAMs_20 IAMs_20 17 39 42.6
comp=Z,69µm,20.0s
WVT Waverly 113.08 61 Pdiff Pdif 16 52 42.6 -0.5
baz=240
LBTB Lobatse 113.11 206 Pdiff Pdif 16 52 42.6 -1.2
comp=Z,1.6nm,0.7s,baz=112,slow=4.9,SNR=1.7
LBTB PKiKP PKiKP 16 56 39.2 +1.5
comp=Z,2.2nm,0.6s,baz=171,slow=5.5,SNR=1.9
LBTB Lobatse 113.11 206 i P PKiKP 16 56 40.6 +2.9
LBTB Lobatse 113.11 206 i P PKiKP 16 56 40.6 +2.9
I37B Waseca 113.30 52 P PKiKP 16 56 38.3 +1.1
baz=240
LGTI Lohaghat 113.48 290 ex PKiKP 16 56 42.6 +4.6
PTH Pithoragarh 113.55 290 eP PKiKP 16 56 38.9 +0.5
FFC Flin Flon 113.87 39 IAMs_20 IAMs_20 17 42 06.4
comp=Z,47µm,19.0s
MUSN Musina, Limpop 113.92 212 i P PKiKP 16 56 41.2 +1.9
MUSN Musina, Limpop 113.92 212 i P PKiKP 16 56 41.2 +1.9
AGMN Agassiz Nation 113.93 47 Pdiff Pdif 16 52 48.2 +1.6
baz=240
F36A Milaca 114.13 50 P PKiKP 16 56 40.1 +1.3
baz=240
C36M Paulatuk 114.22 19 IAMs_20 IAMs_20 17 43 15.4
comp=Z,49µm,21.0s
C36M Paulatuk 114.22 19 Pdiff Pdif 16 52 48.7 +1.4
baz=227
HDIL Hopedale 114.26 57 Pdiff Pdif 16 52 47.9 -0.3
baz=241
SPMN Marine on St. 114.26 51 Pdiff Pdif 16 52 48.3 +0.2
baz=241
W50A Signal Mountai 114.40 63 P PKiKP 16 56 41.3 +1.7
baz=240
X51A Calhoun 114.42 64 P PKiKP 16 56 40.5 +0.8
baz=240
X51A P PKiKP 16 56 40.5 +0.8
baz=240
L42A Oliver, Polo 114.71 55 P PKiKP 16 56 42.0 +2.1
baz=241
U49A Red Boiling Sp 114.71 62 P PKPdf 16 56 40.1 0.0
baz=241
JFWS Jewell Farm 114.77 54 IAMs_20 IAMs_20 17 39 57.8
comp=Z,55µm,20.0s
JFWS Jewell Farm 114.77 54 P PKiKP 16 56 42.0 +1.9
baz=241
JFWS Jewell Farm 114.77 54 Pdiff Pdif 16 52 51.9 +1.5
baz=241
GOGA Godfrey 114.86 66 IAMs_20 IAMs_20 17 41 27.4
comp=Z,51µm,19.0s
GOGA Godfrey 114.86 66 Pdiff Pdif 16 52 51.0 -0.1
baz=240
ULM Lac du Bonnet 114.88 45 Pdiff Pdif 16 52 51.1 +0.5
comp=Z,2.3nm,0.9s,baz=158,slow=11,SNR=1.6
ULM PKP PKiKP 16 56 40.4 +0.3
comp=Z,22nm,0.6s,baz=247,slow=1.5,SNR=7.0
ULM PKKPbc PKKPbc 17 07 17.3 0.0
comp=Z,6.9nm,1.0s,baz=235,slow=8.3,SNR=2.5
I40A Norwalk 114.99 53 P PKiKP 16 56 42.7 +2.2
baz=241
WCI Wyandotte Cave 115.18 60 P PKiKP 16 56 42.9 +1.9
baz=241
WCI Wyandotte Cave 115.18 60 Pdiff Pdif 16 52 53.9 +1.6
baz=241
B35A Bob, Littlefor 115.21 47 P PKiKP 16 56 41.8 +1.0
baz=241
P46A Rosedale 115.21 58 P PKiKP 16 56 42.1 +1.1
baz=241
WMQ Urumqi 115.28 307 ePKP PKPdf 16 56 37.1 -4.0
WMQ sPKP 16 56 49.3
WMQ PP PP 16 57 44.6 +2.0
WMQ SKKS 17 04 33.9
WMQ AMB AMB
comp=Z,2µm,8.1s
WMQ LR LR
comp=Z,22µm,21.9s
WMQ LR LR
comp=Z,22µm,21.9s
WMQ LR LR
comp=Z,32µm,23.5s
T50A Nancy 115.62 62 P PKiKP 16 56 43.8 +1.9
baz=241
T50A P PKiKP 16 56 43.8 +1.9
baz=241
SFIN Lafayette 115.65 58 P PKiKP 16 56 44.5 +2.7
baz=242
SFIN Lafayette 115.65 58 Pdiff Pdif 16 52 54.4 +0.1
baz=242
KUDL Kundal 115.66 287 eP PKPdf 16 56 41.7 -0.5
TKL Tuckaleechee C 115.72 64 PKP PKiKP 16 56 43.2 +1.1
comp=Z,16nm,0.8s,baz=178,slow=6.5,SNR=14
TKL Tuckaleechee C 115.72 64 P PKiKP 16 56 44.5 +2.3
baz=241,SNR=9.3
A36M Sachs Harbour 115.73 17 Pdiff Pdif 16 52 55.6 +1.7
baz=227
HQIL Hanson Quary C 115.81 56 IAMs_20 IAMs_20 17 39 31.2
comp=Z,67µm,20.0s
G40A Rib Lake 115.90 52 P PKiKP 16 56 43.4 +1.3
baz=242
K43A Burlington 115.91 55 P PKiKP 16 56 43.5 +1.2
baz=242
L44A Lake County Fo 115.94 56 IAMs_20 IAMs_20 17 39 45.8
comp=Z,48µm,20.0s
L44A Lake County Fo 115.94 56 Pdiff Pdif 16 52 55.9 +0.3
baz=242
I42A Draeger Farm, 116.08 54 P PKPdf 16 56 42.5 -0.1
baz=242
MATP Matopo 116.15 211 PKP PKPdf 16 56 44.5 +0.9
comp=Z,17nm,1.0s,baz=170,slow=2.5,SNR=12
MATP Matopo 116.15 211 i P PKPdf 16 56 46.4 +2.7
MATP Matopo 116.15 211 i P PKPdf 16 56 46.4 +2.7
KHET Khetri 116.15 286 eP PKPdf 16 56 42.1 -1.1
AJM Ajmer 116.25 284 eP PKPdf 16 56 41.9 -1.6
TZTN Tazewell 116.30 63 Pdiff Pdif 16 52 54.2 -3.2
baz=242

EYMN	**Ely**	**116.34**	**49**		IAMs_20	IAMs_20	17 39 23.9		
	comp=Z,45µm,20.0s								
EYMN	**Ely**	**116.34**	**49**		P	**PKiKP**	**16 56 44.2**	**+1.3**	
	baz=243								
EYMN	**Ely**	**116.34**	**49**		Pdiff	**Pdif**	**16 52 56.3**	**-1.0**	
	baz=243								
P48A	**Milroy**	**116.35**	**59**		P	**PKiKP**	**16 56 44.4**	**+1.2**	
	baz=242								
P48A					P	**PKiKP**	**16 56 44.4**	**+1.2**	
	baz=242								
BLWY	**Bulawayo**	**116.36**	**211**	*i*	P	**PKiKP**	**16 56 45.9**	**+1.7**	
BLWY	**Bulawayo**	**116.36**	**211**	*i*	P	**PKiKP**	**16 56 45.9**	**+1.7**	
S51A	**Beattyville**	**116.78**	**62**		P	**PKiKP**	**16 56 45.7**	**+1.6**	
	baz=242								
S51A					P	**PKiKP**	**16 56 45.7**	**+1.6**	
	baz=242								
N47A	**Urbana**	**116.82**	**58**		P	**PKiKP**	**16 56 46.3**	**+2.2**	
	baz=242								
N47A					P	**PKiKP**	**16 56 46.3**	**+2.2**	
	baz=242								
P49A	**Miami Univ. Ec**	**116.87**	**59**		P	**PKiKP**	**16 56 45.6**	**+1.4**	
	baz=242,SNR=10								
P49A	**Miami Univ. Ec**	**116.87**	**59**		Pdiff	**Pdif**	**16 52 57.6**	**-2.2**	
	baz=242								
SDDR	**Presa de Saban**	**116.88**	**86**		IAMs_20	IAMs_20	17 43 10.5		
	comp=Z,38µm,18.0s								
JSC	**Jenkinsville**	**116.88**	**66**		P	**PKiKP**	**16 56 44.8**	**+0.4**	
	baz=241								
O48B	**Farmland**	**116.91**	**59**		P	**PKiKP**	**16 56 45.4**	**+1.1**	
	baz=242								
O48B	**Farmland**	**116.91**	**59**		Pdiff	**Pdif**	**16 53 00.4**	**+0.4**	
	baz=242								
COWI	**Conover**	**116.94**	**51**		P	**PKiKP**	**16 56 44.9**	**+0.7**	
	baz=243								
H43A	**Windswept, Lux**	**117.08**	**53**		P	**PKiKP**	**16 56 46.3**	**+1.9**	
	baz=243								
KMSC	**Kings Mountain**	**117.23**	**65**		Pdiff	**Pdif**	**16 53 01.8**	**+0.2**	
	baz=242								
BHK	**Bhakra**	**117.32**	**290**	*eP*		**PKPdf**	**16 56 44.9**	**-0.4**	
F42A	**Maple Grove Fa**	**117.42**	**52**		P	**PKiKP**	**16 56 46.7**	**+1.6**	
	baz=244								
O49A	**Covington**	**117.43**	**59**		P	**PKiKP**	**16 56 46.7**	**+1.4**	
	baz=243								
O49A					P	**PKiKP**	**16 56 46.7**	**+1.4**	
	baz=243								
U54A	**Nelsons Funny**	**117.52**	**64**		P	**PKiKP**	**16 56 47.2**	**+1.5**	
	baz=242								
U54A					P	**PKiKP**	**16 56 47.2**	**+1.5**	
	baz=242								
Q51A	**Peebles**	**117.59**	**61**		P	**PKiKP**	**16 56 47.5**	**+1.9**	
	baz=243,SNR=21								
Q51A					P	**PKiKP**	**16 56 47.5**	**+1.9**	
	baz=243,SNR=21								
V55A	**Taylorsville**	**117.65**	**65**		P	**PKiKP**	**16 56 48.9**	**+3.1**	
	baz=242								
V55A					P	**PKiKP**	**16 56 48.9**	**+3.1**	
	baz=242								
D41A	**Chassel**	**117.72**	**50**		P	**PKiKP**	**16 56 47.2**	**+1.5**	
	baz=244								
P51A	**Williamsport**	**117.99**	**60**		P	**PKiKP**	**16 56 48.6**	**+2.2**	
	baz=243								
P51A					P	**PKiKP**	**16 56 48.6**	**+2.2**	
	baz=243								
DGZ	**Jazzator, Alta**	**118.09**	**313**	*i*	PKiKP	**PKPdf**	**16 56 44.4**	**-2.0**	
W57A	**Gilead**	**118.21**	**66**		P	**PKiKP**	**16 56 49.8**	**+2.9**	
	baz=242								
W57A					P	**PKiKP**	**16 56 49.8**	**+2.9**	
	baz=242								
R53A	**Hurricane**	**118.25**	**62**		P	**PKiKP**	**16 56 48.2**	**+1.2**	
	baz=243								
R53A					P	**PKiKP**	**16 56 48.2**	**+1.2**	
	baz=243								
Q52A	**Bidwell**	**118.31**	**61**		P	**PKiKP**	**16 56 47.9**	**+0.9**	
	baz=243								
Q52A					P	**PKiKP**	**16 56 47.9**	**+0.9**	
	baz=243								
THN	**Thein Dam**	**118.33**	**291**	*eP*		**PKiKP**	**16 56 47.7**	**+0.5**	
GRTK	**Grand Turk**	**118.35**	**84**		IAMs_20	IAMs_20	17 40 37.5		
	comp=Z,38µm,19.0s								
ACSO	**Alum Creek Sta**	**118.38**	**59**		P	**PKiKP**	**16 56 47.6**	**+0.5**	
	baz=244,SNR=7.9								
ACSO	**Alum Creek Sta**	**118.38**	**59**		PKiKP	**PKiKP**	**16 56 47.5**	**+0.4**	
	baz=244								
U56A	**King**	**118.47**	**64**		P	**PKiKP**	**16 56 50.3**	**+2.8**	
	baz=243								
U56A					P	**PKiKP**	**16 56 50.3**	**+2.8**	
	baz=243								
ZSN	**Zaisan**	**118.68**	**309**	*e*	PKiKP	**PKPdf**	**16 56 44.2**	**-3.2**	
ZSN	**Zaisan**	**118.68**	**309**	*e*	PKP	**PKPdf**	**16 56 44.3**	**-3.2**	
	baz=309								
G45A	**Suttons Bay**	**118.68**	**54**		P	**PKPdf**	**16 56 46.5**	**-1.0**	
	baz=244								
G45A					P	**PKPdf**	**16 56 46.5**	**-1.0**	
	baz=244								
P52A	**Corning**	**118.70**	**60**		IAMs_20	IAMs_20	17 41 12.6		
	comp=Z,64µm,20.0s								
P52A	**Corning**	**118.70**	**60**		PKiKP	**PKiKP**	**16 56 48.1**	**+0.3**	
	baz=244								
AAM	**Ann Arbor**	**118.82**	**57**		IAMs_20	IAMs_20	17 40 53.0		
	comp=Z,63µm,20.0s								
AAM	**Ann Arbor**	**118.82**	**57**		PKiKP	**PKiKP**	**16 56 48.9**	**+0.9**	
	baz=244								
BLA	**Blacksburg**	**118.84**	**64**		P	**PKiKP**	**16 56 50.0**	**+1.8**	
	baz=243,SNR=9.4								
BLA	**Blacksburg**	**118.84**	**64**		PKiKP	**PKiKP**	**16 56 48.8**	**+0.6**	
	baz=243								
HOCHN	**Hochfeld**	**118.86**	**200**	*i*	P	**PKPdf**	**16 56 43.2**	**-5.7**	
N51A	**Ashland**	**119.09**	**59**		P	**PKPdf**	**16 56 46.8**	**-1.7**	
	baz=244								
N51A					P	**PKPdf**	**16 56 46.8**	**-1.7**	
	baz=244								
O52A	**Adamsville**	**119.12**	**60**		P	**PKPdf**	**16 56 47.6**	**-0.9**	
	baz=244								
O52A					P	**PKPdf**	**16 56 47.6**	**-0.9**	
	baz=244								
GAMM	**Gam**	**119.13**	**204**	*i*	P	**PKiKP**	**16 56 50.9**	**+1.4**	
P53A	**Whipple**	**119.16**	**61**		P	**PKiKP**	**16 56 51.0**	**+2.3**	
	baz=244								
P53A					P	**PKiKP**	**16 56 51.0**	**+2.3**	
	baz=244								
GLMI	**Grayling**	**119.26**	**54**		IAMs_20	IAMs_20	17 50 06.8		
	comp=Z,52µm,18.0s								
GLMI	**Grayling**	**119.26**	**54**		PKiKP	**PKiKP**	**16 56 50.2**	**+1.5**	
	baz=245								
Q54A	**Coxs Mills**	**119.33**	**62**		P	**PKiKP**	**16 56 50.7**	**+1.7**	
	baz=244,SNR=11								
Q54A					P	**PKiKP**	**16 56 50.7**	**+1.7**	
	baz=244,SNR=11								
WEWE	**WEWE**	**119.41**	**199**	*i*	P	PKiKP	16 56 57.9	+7.9	
T57A	**Hurt**	**119.58**	**64**		P	**PKiKP**	**16 56 51.3**	**+1.8**	
	baz=244,SNR=12								
T57A					P	**PKiKP**	**16 56 51.3**	**+1.8**	
	baz=244,SNR=12								
O53A	**New Philadelph**	**119.61**	**60**		IAMs_20	IAMs_20	17 40 52.5		
	comp=Z,69µm,20.0s								
O53A	**New Philadelph**	**119.61**	**60**		PKiKP	**PKiKP**	**16 56 50.7**	**+1.2**	
	baz=244								
WP01	**e3381**	**119.62**	**198**	*i*	P	**PKiKP**	**16 56 57.9**	**+7.5**	
CNNC	**Cliffs of the**	**119.79**	**67**		PKiKP	**PKiKP**	**16 56 51.4**	**+1.4**	
	baz=243								
MK31	**Makanchi Array**	**120.01**	**308**	⇑*i*	PKiKP	**PKPdf**	**16 56 47.1**	**-3.0**	
MKAR	**Makanchi Array**	**120.01**	**308**		Pdiff	**Pdif**	**16 53 15.4**	**+1.7**	
	comp=Z,0.2nm,0.6s,baz=76,slow=6.1,SNR=1.7								
MKAR					PKP	**PKPdf**	**16 56 49.9**	**-0.1**	
	comp=Z,11nm,0.6s,baz=149,slow=0.6,SNR=27								
MKAR					PKKPbc	**PKKPbc**	**17 07 02.0**	**+3.1**	
	comp=Z,9.5nm,0.8s,baz=303,slow=3.3,SNR=8.5								
MKAR					SKKPbc	SKKPbc	17 10 51.3	+4.3	
	comp=Z,9.2nm,1.1s,baz=267,slow=5.8,SNR=2.8								
E46A	**Sault Ste Mari**	**120.09**	**53**		P	**PKiKP**	**16 56 50.6**	**+0.4**	
	baz=246								
N53A	**Lisbon**	**120.10**	**60**		P	**PKiKP**	**16 56 52.3**	**+1.8**	
	baz=245,SNR=12								
N53A					P	**PKiKP**	**16 56 52.3**	**+1.8**	
	baz=245,SNR=12								
S57A	**Dark Hollow, R**	**120.12**	**64**		P	**PKiKP**	**16 56 51.7**	**+1.1**	
	baz=244								
S57A					P	**PKiKP**	**16 56 51.7**	**+1.1**	
	baz=244								
O54A	**Avella**	**120.16**	**60**		P	**PKiKP**	**16 56 52.9**	**+2.2**	
	baz=245,SNR=9.5								
O54A					P	**PKiKP**	**16 56 52.9**	**+2.2**	
	baz=245,SNR=9.5								
MAKZ	**Makanchi**	**120.22**	**308**			**PKPdf**	**16 56 46.1**	**-4.4**	
MAKZ	**Makanchi**	**120.22**	**308**	⇑	PKiKP	**PKPdf**	**16 56 47.7**	**-2.8**	
MCWV	**Mont Chateau**	**120.31**	**61**		IAMs_20	IAMs_20	17 42 13.9		
	comp=Z,60µm,20.0s								
MCWV	**Mont Chateau**	**120.31**	**61**		P	**PKiKP**	**16 56 53.3**	**+2.4**	
	baz=245								
MCWV	**Mont Chateau**	**120.31**	**61**		PKiKP	**PKiKP**	**16 56 52.1**	**+1.1**	
	baz=245								
SHLS	**Shalkode**	**120.37**	**303**	*e*	PKiKP	**PKPdf**	**16 56 49.3**	**-1.7**	
SHLS	**Shalkode**	**120.37**	**303**	*e*	PKP	**PKPdf**	**16 56 47.1**	**-3.9**	
	baz=303								
PDGK	**Podgornoye**	**120.42**	**303**		PKiKP	**PKPdf**	**16 56 47.3**	**-3.8**	
M53A	**WI Miller and**	**120.48**	**59**		PKiKP	**PKPdf**	**16 56 51.1**	**0.0**	
	baz=245								
SJG	**San Juan**	**120.51**	**90**		IAMs_20	IAMs_20	17 43 12.3		
	comp=Z,43µm,20.0s								
Q56A	**Snyder Ridge,**	**120.51**	**62**		P	**PKiKP**	**16 56 52.5**	**+1.1**	
	baz=245								
Q56A					P	**PKiKP**	**16 56 52.5**	**+1.1**	
	baz=245								
UPAO	**U. Pittsburgh**	**120.53**	**60**		P	**PKiKP**	**16 56 52.8**	**+1.5**	
	baz=245								
KANON	**KANO**	**120.56**	**203**	*i*	P	**PKPdf**	**16 56 45.8**	**-6.4**	
UZB	**Uzynbulak**	**120.66**	**303**	*e*	PKiKP	**PKPdf**	**16 56 47.6**	**-4.0**	
UZB	**Uzynbulak**	**120.66**	**303**	*e*	PKP	**PKPdf**	**16 56 47.7**	**-4.0**	
	baz=303								
GRGR	**Grenville**	**120.71**	**98**	*e*	P	**Pdif**	**16 53 23.9**	**+6.3**	
OTJO	**Outjo**	**120.76**	**199**	*i*	P	PKPdf	16 56 43.5	-9.1	
T59A	**Double "B" Far**	**120.79**	**65**		P	**PKiKP**	**16 56 54.7**	**+2.8**	
	baz=244								
T59A					P	**PKiKP**	**16 56 54.7**	**+2.8**	
	baz=244								
LSZ	**Lusaka**	**120.86**	**213**		PKP	**PKiKP**	**16 56 53.4**	**+0.4**	
	comp=Z,16nm,0.8s,baz=172,slow=1.6,SNR=15								
LSZ	**Lusaka**	**120.86**	**213**	*i*	P	**PKiKP**	**16 56 53.9**	**+1.0**	
LSZ	**Lusaka**	**120.86**	**213**	*i*	P	**PKiKP**	**16 56 53.9**	**+1.0**	
ALLY	**Alegheny Colle**	**120.93**	**59**		P	**PKiKP**	**16 56 53.5**	**+1.5**	
	baz=246								
R58B	**Mineral**	**120.98**	**64**		P	**PKiKP**	**16 56 54.6**	**+2.4**	
	baz=244								
R58B					P	**PKiKP**	**16 56 54.6**	**+2.4**	
	baz=244								
KPKS	**Kokpek**	**121.02**	**303**	*e*	PKiKP	**PKPdf**	**16 56 48.4**	**-3.8**	
KPKS	**Kokpek**	**121.02**	**303**	*e*	PKP	**PKPdf**	**16 56 48.5**	**-3.8**	
	baz=303								
SATY	**Saty**	**121.04**	**303**	*e*	PKiKP	**PKPdf**	**16 56 48.9**	**-3.4**	
SATY	**Saty**	**121.04**	**303**	*e*	PKP	**PKPdf**	**16 56 48.9**	**-3.4**	
	baz=303								
ZHN	**Zhinishke**	**121.06**	**303**	*e*	PKiKP	**PKPdf**	**16 56 48.7**	**-3.6**	
ZHN	**Zhinishke**	**121.06**	**303**	*e*	PKP	**PKPdf**	**16 56 48.8**	**-3.6**	
	baz=303								
TSUM	**Tsumeb**	**121.10**	**201**		PKP	**PKiKP**	**16 56 54.7**	**+1.3**	
	comp=Z,17nm,0.7s,baz=120,slow=3.1,SNR=9.6								
ERPA	**Erie**	**121.22**	**59**		P	**PKiKP**	**16 56 54.0**	**+1.4**	
	baz=246								
ERPA	**Erie**	**121.22**	**59**		PKiKP	**PKiKP**	**16 56 53.0**	**+0.3**	
	baz=246								
ZALV	**Zalesovo Beam**	**121.27**	**316**		Pdiff	**Pdif**	**16 53 26.3**	**+7.2**	
	comp=Z,0.4nm,0.4s,baz=93,slow=5.8,SNR=2.0								
ZALV					PKhKP	PKPpre	16 56 48.1		
	comp=Z,11nm,0.5s,baz=142,slow=1.7,SNR=17								
ZALV					PKP	**PKPdf**	**16 56 52.1**	**-0.1**	
	comp=Z,20nm,0.6s,baz=141,slow=1.4,SNR=20								
KSH	**Kashi**	**121.27**	**298**		PKP	**PKiKP**	**16 56 54.0**	**+1.0**	
KSH					PP	**PP**	**16 58 23.4**	**-0.9**	
KSH					SKS	**SKSdf**	**17 03 57.2**	**-6.4**	
KSH					SS	**SS**	**17 14 59.1**	**+1.8**	
KSH					AMB	AMB			
	comp=Z,5µm,8.2s								
KSH					LR	LR			
	comp=Z,42µm,22.6s								
KSH					LR	LR			
	comp=Z,32µm,23.4s								
KSH					LR	LR			
	comp=Z,82µm,23.4s								
TMAB	**Tom-Au,PA,Br**	**121.33**	**121**	*e*	P	**PKiKP**	**16 56 58.6**	**+4.8**	
CBN	**Corbin Frederi**	**121.44**	**64**		PKiKP	**PKiKP**	**16 56 53.3**	**+0.1**	
	baz=245								
P57A	**Homestead Farm**	**121.52**	**62**		P	**PKiKP**	**16 56 55.4**	**+2.1**	
	baz=245,SNR=12								
P57A					P	**PKiKP**	**16 56 55.4**	**+2.1**	
	baz=245,SNR=12								
PSDB	**Penn State Uni**	**121.67**	**60**		P	**PKiKP**	**16 56 55.5**	**+1.9**	
	baz=246								
SVB	**Belmont**	**121.69**	**98**	*e*		**PKiKP**	**16 56 58.9**	**+4.5**	
M55A	**Ridgway**	**121.80**	**60**		P	**PKiKP**	**16 56 55.3**	**+1.4**	
	baz=246,SNR=17								
M55A					P	**PKiKP**	**16 56 55.3**	**+1.4**	
	baz=246,SNR=17								
TDK	**Taldyqorghan**	**121.80**	**305**	*e*	PKiKP	**PKPdf**	**16 56 50.3**	**-3.2**	
TDK				*e*			16 58 25.3		
TDK				*e*	SP	SP	17 08 15.4	-2.6	
TDK				*e*	SS	**SS**	**17 15 04.1**	**+0.4**	
TDK					MLR	MLR			
	comp=Z,33µm,23.0s								
TDK	**Taldyqorghan**	**121.80**	**305**	*e*	PKP	**PKPdf**	**16 56 50.4**	**-3.2**	
	baz=305								
TDK				*e*	PP	**PP**	**16 58 25.4**	**-2.2**	
	baz=305								
TDK				*e*	SP	SP	17 08 15.5	-2.5	
	baz=305								
TDK				*e*	SS	**SS**	**17 15 04.1**	**+0.4**	
	baz=305								
TDK					LR	LR	17 49 38.3		
	comp=Z,33µm,22.5s,baz=305								
MDOK	**Medeo**	**121.99**	**302**	*e*	PKiKP	**PKPdf**	**16 56 50.7**	**-3.4**	
MDOK				*e*			16 58 26.2		
MDOK					MLR	MLR			
	comp=Z,10µm,24.0s								
MDOK	**Medeo**	**121.99**	**302**	*e*	PKP	**PKPdf**	**16 56 50.8**	**-3.4**	
	baz=302								
MDOK				*e*	PP	**PP**	**16 58 26.2**	**-2.9**	
	baz=302								
MDOK				*i*	SP	SP	17 08 17.9	-2.1	
	baz=302								
MDOK					LR	LR	17 49 35.5		
	comp=Z,10µm,23.5s,baz=302								
SSPA	**Standing Stone**	**122.08**	**61**		IAMs_20	IAMs_20	17 44 57.8		
	comp=Z,56µm,20.0s								
SSPA	**Standing Stone**	**122.08**	**61**		P	**PKiKP**	**16 56 55.8**	**+1.5**	
	baz=246								
SSPA	**Standing Stone**	**122.08**	**61**		PKiKP	**PKPdf**	**16 56 54.1**	**-0.1**	
	baz=246								
AAA	**Alma-Ata**	**122.10**	**302**	*e*	PKiKP	**PKPdf**	**16 56 50.7**	**-3.5**	
AAA					MLR	MLR			
	comp=Z,18µm,23.0s								
AAA	**Alma-Ata**	**122.10**	**302**	*e*	PKP	**PKPdf**	**16 56 50.8**	**-3.5**	
	baz=302								
AAA					LR	LR	17 50 45.0		
	comp=Z,18µm,22.8s,baz=302								
CHKK	**Chushkaly**	**122.30**	**303**	*e*	PKiKP	**PKPdf**	**16 56 50.5**	**-4.0**	
CHKK	**Chushkaly**	**122.30**	**303**	*e*	PKP	**PKPdf**	**16 56 50.6**	**-4.0**	
	baz=303								
SDMD	**Soldier's Deli**	**122.32**	**63**		P	**PKiKP**	**16 56 56.6**	**+1.8**	
	baz=246,SNR=10								
SLBI	**Saint Lucia, B**	**122.35**	**97**	*eP*		**Pdif**	**16 53 32.5**	**+7.8**	
BIM	**Bigot**	**122.55**	**96**	*eP*		**Pdif**	**16 53 27.7**	**+2.0**	
J54A	**Appleton**	**122.59**	**58**		P	**PKiKP**	**16 56 55.7**	**+0.4**	
	baz=247								
J54A					P	**PKiKP**	**16 56 55.7**	**+0.4**	
	baz=247								
FDF	**Fort de France**	**122.61**	**96**		IAMs_20	IAMs_20	17 48 11.8		
	comp=Z,42µm,22.0s								
FDF	**Fort de France**	**122.61**	**96**	*eP*		**Pdif**	**16 53 32.0**	**+6.0**	
SEM	**Semipalatinsk**	**122.63**	**311**	*e*	PKiKP	**PKPdf**	**16 56 51.5**	**-3.7**	
SEM				*e*			16 58 29.9		
SEM					MLR	MLR			
	comp=Z,9µm,21.0s								
SEM	**Semipalatinsk**	**122.63**	**311**	*e*	PKP	**PKPdf**	**16 56 51.6**	**-3.7**	
	baz=311								
SEM				*e*	PP	**PP**	**16 58 29.9**	**-3.4**	
	baz=311								
SEM					LR	LR	17 51 17.6		
	comp=Z,9µm,21.2s,baz=311								
MPOM	**Morne Pois Mar**	**122.68**	**97**	*eP*		**Pdif**	**16 53 33.0**	**+6.8**	
MPOM	**Morne Pois Mar**	**122.68**	**97**	*e*		**PKiKP**	**16 57 03.0**	**+6.7**	
H05S1	**Guadeloupe/Mar**	**122.69**	**97**		PKP	**PKiKP**	**16 56 59.0**	**+2.8**	
	SNR=16								
KUU	**Kurty**	**122.75**	**303**	*e*	PKiKP	**PKPdf**	**16 56 51.6**	**-3.8**	
KUU				*e*			16 58 30.5		
KUU	**Kurty**	**122.75**	**303**	*e*	PKP	**PKPdf**	**16 56 51.7**	**-3.8**	
	baz=303								
KUU				*e*	PP	**PP**	**16 58 30.6**	**-3.5**	
	baz=303								
KUU					LR	LR	17 51 15.4		
	comp=Z,12µm,18.8s,baz=303								
DSLB	**Salisbury**	**122.80**	**95**	*e*		PKiKP	16 57 06.6	+10	
SADO	**Sadowa**	**122.82**	**56**		PKP	**PKPdf**	**16 56 55.0**	**-0.4**	
	comp=Z,34nm,0.8s,baz=272,slow=2.5,SNR=14								
ILAM	**Ilet Lapin Mar**	**122.86**	**96**		IAMs_20	IAMs_20	17 46 15.1		
	comp=Z,38µm,21.0s								
ILAM	**Ilet Lapin Mar**	**122.86**	**96**	*eP*		**Pdif**	**16 53 35.2**	**+8.2**	
ILAM	**Ilet Lapin Mar**	**122.86**	**96**	*e*		PKiKP	16 57 04.8	+8.2	
TDBA	**Terre de Bas,**	**122.86**	**95**		IAMs_20	IAMs_20	17 48 28.4		
	comp=Z,40µm,22.0s								
TDBA	**Terre de Bas,**	**122.86**	**95**	*eP*		**Pdif**	**16 53 36.8**	**+10**	
TDBA	**Terre de Bas,**	**122.86**	**95**	*e*		**PKiKP**	**16 57 03.7**	**+7.1**	
M57A	**Sunshine Farm,**	**122.88**	**60**		P	**PKiKP**	**16 56 57.7**	**+1.8**	
	baz=247,SNR=41								
M57A					P	**PKiKP**	**16 56 57.7**	**+1.8**	
	baz=247,SNR=41								
TKM2	**Tokmak 2**	**122.88**	**302**		P	**PKPdf**	**16 56 53.5**	**-2.4**	
	SNR=22								
TKM2	**Tokmak 2**	**122.88**	**302**		PKiKP	**PKPdf**	**16 56 51.7**	**-4.3**	
L56A	**Greenwood**	**122.89**	**59**		P	**PKiKP**	**16 56 57.5**	**+1.6**	
	baz=247,SNR=24								
L56A					P	**PKiKP**	**16 56 57.5**	**+1.6**	
	baz=247,SNR=24								
NBAN	**Anadia - AL**	**122.90**	**138**	*eP*		**PKiKP**	**16 56 57.7**	**+0.8**	
SMRT	**St. Maarten**	**122.93**	**92**		IAMs_20	IAMs_20	17 49 04.3		
	comp=Z,47µm,20.0s								
BBGH	**Gun Hill**	**122.96**	**99**		IAMs_20	IAMs_20	17 47 04.5		
	comp=Z,43µm,22.0s								
N58A	**Sunbury**	**122.97**	**61**		P	**PKiKP**	**16 56 57.9**	**+1.8**	
	baz=247,SNR=20								
N58A					P	**PKiKP**	**16 56 57.9**	**+1.8**	
	baz=247,SNR=20								
CBE	**Ff, Capester**	**123.00**	**95**		IAMs_20	IAMs_20	17 46 47.0		
	comp=Z,39µm,22.0s								
CBE	**Ff, Capester**	**123.00**	**95**	*eP*		**Pdif**	**16 53 31.7**	**+4.0**	
CBE	**Ff, Capester**	**123.00**	**95**	*e*		**PKiKP**	**16 57 04.5**	**+7.6**	
J55A	**Hilton**	**123.14**	**58**		P	**PKiKP**	**16 56 58.1**	**+1.8**	
	baz=248								
J55A					P	**PKiKP**	**16 56 58.1**	**+1.8**	
	baz=248								
MAGL	**Barre de l'ile**	**123.20**	**95**		IAMs_20	IAMs_20	17 44 35.2		
	comp=Z,46µm,22.0s								
MAGL	**Barre de l'ile**	**123.20**	**95**	*eP*		**Pdif**	**16 53 37.4**	**+8.9**	
KBK	**Karagaybulak**	**123.22**	**301**		P	**PKiKP**	**16 56 57.0**	**+0.2**	
	SNR=12								
ABD	**La Joyeuse, An**	**123.33**	**94**		IAMs_20	IAMs_20	17 48 59.7		
	comp=Z,41µm,20.0s								
ABD	**La Joyeuse, An**	**123.33**	**94**	*eP*		**Pdif**	**16 53 33.2**	**+4.1**	
GEDE	**Greenville**	**123.33**	**63**		P	**PKiKP**	**16 56 59.2**	**+2.3**	
	baz=247								
UCH	**Uchtor**	**123.36**	**300**		P	**PKiKP**	**16 56 59.0**	**+1.5**	
	SNR=13								
ANBD	**Bethesda, Anti**	**123.42**	**94**	*eP*		**Pdif**	**16 53 31.7**	**+2.3**	
ANBD	**Bethesda, Anti**	**123.42**	**94**	*e*		**PKiKP**	**16 57 02.9**	**+5.2**	
CHMS	**Chumysh**	**123.49**	**301**		P	**PKPdf**	**16 56 53.7**	**-3.2**	
	SNR=17								
PSUB	**Penn St. - Bra**	**123.51**	**63**		P	**PKiKP**	**16 56 59.5**	**+2.3**	
	baz=247								
AAK	**Ala-Archa**	**123.53**	**301**		P	**PKiKP**	**16 57 02.0**	**+4.6**	
	SNR=13								
AAK	**Ala-Archa**	**123.53**	**301**		IAMs_20	IAMs_20	17 54 02.1		
	comp=Z,37µm,21.0s								
AAK	**Ala-Archa**	**123.53**	**301**	*i*	PKiKP	**PKPdf**	**16 56 53.6**	**-3.5**	
AAK	**Ala-Archa**	**123.53**	**301**	*i*	PKiKP	**PKiKP**	**16 56 58.0**	**+0.6**	
	SNR=16								
H05N1	**Guadeloupe/Mar**	**123.58**	**95**		PKP	**PKiKP**	**16 57 03.6**	**+5.5**	
	SNR=6.8								
ROSB	**Rosrio**	**123.59**	**125**	*eP*		**PKiKP**	**16 57 00.8**	**+2.6**	
KURK	**Kurchatov**	**123.71**	**311**		PKPdf	**PKPdf**	**16 56 53.4**	**-3.6**	
KURK	**Kurchatov**	**123.71**	**311**		PKiKP	**PKPdf**	**16 56 53.4**	**-3.6**	
KURK					MLR	MLR			
	comp=Z,30µm,21.0s								
SGDS	**Sogindy**	**123.74**	**302**	*e*	PKiKP	**PKPdf**	**16 56 54.2**	**-3.2**	
SGDS	**Sogindy**	**123.74**	**302**	*e*	PKP	**PKPdf**	**16 56 54.2**	**-3.2**	
	baz=302								
ANWB	**Willy Bob**	**123.75**	**93**	*e*		**PKiKP**	**16 57 04.1**	**+5.8**	
USP	**Ospenovka**	**123.76**	**302**		P	**PKiKP**	**16 56 58.6**	**+0.9**	
	SNR=12								
J56A	**Wolcott**	**123.80**	**58**		P	**PKiKP**	**16 56 58.4**	**+0.8**	
	baz=248								
J56A					P	**PKiKP**	**16 56 58.4**	**+0.8**	
	baz=248								
K57A	**Scipio Center**	**123.83**	**59**		P	**PKiKP**	**16 56 59.4**	**+1.7**	
	baz=248,SNR=25								
AML	**Almayashu**	**123.89**	**300**		P	**PKPdf**	**16 56 56.4**	**-1.7**	
	SNR=15								
KSPA	**Keystone Colle**	**123.91**	**61**		P	**PKiKP**	**16 56 59.

baz=250,SNR=17
K62A Royalston 126.76 61 P PKiKP 16 57 05.9 +2.3
baz=250,SNR=12
K62A P PKiKP 16 57 05.9 +2.3
baz=250,SNR=12
J61A Chester 126.77 60 P PKiKP 16 57 05.5 +1.9
baz=250,SNR=16
J61A P PKiKP 16 57 05.5 +1.9
baz=250,SNR=16
OTUK Ortayu 126.84 307 PKiKP PKPdf 16 56 58.8 -4.3
VT1 Waterbury 126.95 58 P PKiKP 16 57 05.6 +1.7
baz=251,SNR=16
HNH Hanover 127.07 59 P PKiKP 16 57 06.2 +2.0
baz=251,SNR=10
BRZS Berezniki 127.12 309 *e*PKiKP PKPdf 16 57 00.0 -3.6
BRZS Berezniki 127.12 309 *e*PKP PKPdf 16 57 00.0 -3.6
baz=309
HRV Adam Dziewonsk 127.18 61 ⇑PKiKP PKPdf 16 57 03.4 -0.5
HRV Adam Dziewonsk 127.18 61 P PKiKP 16 57 06.5 +2.1
baz=250,SNR=13
HRV Adam Dziewonsk 127.18 61 PKiKP PKiKP 16 57 04.7 +0.3
baz=250
WSAR Wadi Sarin 127.25 272 PKP PKPdf 16 57 04.7 0.0
comp=Z,34nm,1.0s,baz=255,slow=0.2,SNR=8.9
WES Weston 127.30 61 P PKiKP 16 57 06.5 +1.8
baz=250
LBNH Lisbon 127.49 59 P PKiKP 16 57 06.7 +1.7
baz=251,SNR=16
LBNH Lisbon 127.49 59 PKiKP PKiKP 16 57 05.7 +0.7
baz=251
L64A Middleborough 127.49 62 P PKiKP 16 57 06.9 +1.9
baz=250
L64A P PKiKP 16 57 06.9 +1.9
baz=250
M65A Busby, Falmout 127.50 62 PKiKP PKiKP 16 57 06.6 +1.6
baz=250
I62A Tamworth 127.78 59 P PKiKP 16 57 08.0 +2.4
baz=251,SNR=43
I62A P PKiKP 16 57 08.0 +2.4
baz=251,SNR=43
KMBO Kilima Mbogo 127.79 232 PKP PKiKP 16 57 07.0 +0.1
comp=Z,47nm,1.0s,baz=32,slow=3.2,SNR=7.6
KMBO Kilima Mbogo 127.79 232 *i* PKiKP PKPdf 16 57 03.4 -2.9
KMBO Kilima Mbogo 127.79 232 *i* PKiKP PKiKP 16 57 08.8 +1.9
SNR=15
UNH University of 127.85 60 P PKiKP 16 57 08.2 +2.5
baz=251,SNR=25
LATQ La Tuque 127.86 55 PKPdf PKPdf 16 56 58.6 -6.4
H62A Milan 128.12 59 P PKiKP 16 57 09.3 +3.1
baz=252,SNR=42
H62A P PKiKP 16 57 09.3 +3.1
baz=252,SNR=42
I63A Otisfield 128.35 59 P PKiKP 16 57 09.5 +2.8
baz=252,SNR=28
I63A P PKiKP 16 57 09.5 +2.8
baz=252,SNR=28
BBSR BB Station 128.51 75 P PKiKP 16 57 10.0 +2.6
baz=246
G62A West of Eustis 128.73 58 P PKiKP 16 57 07.7 +0.3
baz=253,SNR=42
G62A P PKiKP 16 57 07.7 +0.3
baz=253,SNR=42
BVA0 Borovoye Array 129.25 312 PKiKP PKPdf 16 57 05.1 -2.4
F62A Pittston Farm, 129.30 57 P PKiKP 16 57 10.9 +2.3
baz=254,SNR=33
F62A P PKiKP 16 57 10.9 +2.3
baz=254,SNR=33
BRVK Borovoye 129.32 312 PKPdf PKPdf 16 57 03.4 -4.3
BRVK Borovoye 129.32 312 IAMs_20 IAMs_20 18 01 23.0
comp=Z,37μm,20.0s
BRVK Borovoye 129.32 312 *i* PKiKP PKPdf 16 57 03.6 -4.0
PKME Peaks-Kenny Pk 129.58 58 P PKiKP 16 57 10.1 +1.0
baz=254
PKME Peaks-Kenny Pk 129.58 58 PKiKP PKiKP 16 57 10.1 +1.0
baz=254
E62A Clayton Lake 129.79 56 P PKiKP 16 57 10.1 +0.6
baz=254
E62A P PKiKP 16 57 10.1 +0.6
baz=254
F63A Nahmakanta, Br 129.83 58 P PKiKP 16 57 10.8 +1.1
baz=254
F63A P PKiKP 16 57 10.8 +1.1
baz=254
ALNE Al Ain 129.95 272 *i* PKiKP PKiKP 16 57 11.2 +0.6
SNR=16
ASHO Ashiyiah 130.00 273 *i* PKiKP PKiKP 16 57 11.2 +0.5
SNR=8.6
HATD Hatta, Dubai 130.01 273 *i* PKiKP PKiKP 16 57 11.2 +0.5
SNR=6.1
UOSS Minazif 130.01 273 *i* PKiKP PKiKP 16 57 11.2 +0.5
SNR=6.9
MDH Madha 130.11 273 *i* PKiKP PKiKP 16 57 11.4 +0.5
SNR=11
D62A Allapoint, All 130.23 56 P PKiKP 16 57 12.5 +2.1
baz=255
D62A P PKiKP 16 57 12.5 +2.1
baz=255
MSFE Esma-Masafi 130.25 273 *i* PKiKP PKiKP 16 57 11.8 +0.6
SNR=7.5
F64A Sherman 130.38 58 P PKiKP 16 57 12.6 +1.8
baz=254,SNR=7.5
F64A P PKiKP 16 57 12.6 +1.8
baz=254,SNR=7.5
FAQ Al Faqa, Dubai 130.41 272 *i* PKiKP PKiKP 16 57 12.5 +1.1
SNR=22
NAZ Nazwa, Dubai 130.47 273 *i* PKiKP PKiKP 16 57 12.3 +0.8
SNR=8.9
E63A Oxbow 130.48 57 P PKiKP 16 57 12.6 +1.7
baz=255,SNR=7.2
E63A P PKiKP 16 57 12.6 +1.7
baz=255,SNR=7.2
ASUD Al Ashush, Dub 130.56 272 *i* PKiKP PKiKP 16 57 12.3 +0.5
SNR=9.5
SHME Shamm 130.58 274 PKiKP PKiKP 16 57 11.9 +0.1
EMMW East Machias 130.68 59 P PKiKP 16 57 13.6 +2.3
baz=254
UMQ Umm Al-Quwin 130.72 273 *i* PKiKP PKiKP 16 57 12.6 +0.6
SNR=12
G65A Princeton 130.74 59 P PKiKP 16 57 13.4 +2.0
baz=254,SNR=5.3
G65A P PKiKP 16 57 13.4 +2.0
baz=254,SNR=5.3
AJN Ajban 130.80 272 *i* PKiKP PKiKP 16 57 13.0 +0.8
SNR=13
TULEG Thule 131.10 17 IAMs_20 IAMs_20 17 49 05.7
comp=Z,59μm,22.0s
TULEG Thule 131.10 17⇑ *i* P PKiKP 16 57 15.3 +4.0
TULEG IAMs_20 IAMs_20 17 48 58.4
comp=Z,61μm,22.0s
MZR Muzera 131.24 269 *i* PKiKP PKiKP 16 57 14.2 +1.0
SNR=24
MBAR Mbarara 132.11 225 PKhKP PKPpre 16 57 08.2
comp=Z,3.7nm,0.2s,baz=31,slow=22,SNR=4.7
MBAR PKP PKiKP 16 57 16.0 +0.5
comp=Z,9.3nm,0.7s,baz=104,slow=6.1,SNR=11
MBAR SKPbc SKPab 17 00 40.7 +0.3
comp=Z,33nm,0.9s,baz=106,slow=3.9,SNR=8.8
MBAR Mbarara 132.11 225 *i* PKiKP PKPdf 16 57 09.7 -4.8
LODK Lodwar 132.48 234 IAMs_20 IAMs_20 17 47 53.4
comp=Z,57μm,20.0s
ATD Arta Tunnel 132.97 249 PKP PKiKP 16 57 16.6 -0.4
comp=Z,57nm,1.1s,baz=79,slow=6.0,SNR=7.0
ATD SKPbc SKPab 17 00 46.0 +2.1
comp=Z,25nm,0.9s,baz=186,slow=2.2,SNR=9.1
SCHQ Schefferville 133.02 46 PKhKP PKPpre 16 57 05.0
comp=Z,8.2nm,0.9s,baz=305,slow=1.5,SNR=4.8
SCHQ PKP PKiKP 16 57 16.2 +0.4
comp=Z,18nm,0.9s,baz=11,slow=0.9,SNR=6.1
SCHQ SKPbc SKPab 17 00 44.8 +1.9
comp=Z,48nm,0.8s,baz=288,slow=5.7,SNR=5.7
ASCN Ascension 133.38 162 IAMs_20 IAMs_20 17 53 42.8
comp=Z,55μm,20.0s
GEYT Alibeck 133.71 290 PKhKP PKPpre 16 57 10.4
comp=Z,7.9nm,0.7s,baz=180,slow=2.8,SNR=8.2
GEYT PKP PKiKP 16 57 17.6 -0.2
comp=Z,6.1nm,0.5s,baz=194,slow=1.2,SNR=5.9
GEYT SKPbc SKPab 17 00 46.7 +0.3
comp=Z,38nm,0.7s,baz=191,slow=6.8,SNR=5.4
ANKE Ethiopia-Afar 133.96 244 *e*P PKiKP 16 57 19.1 -0.3
ANKE Ethiopia-Afar 133.96 244 *e*P PKiKP 16 57 23.0 +3.6
AAE Adis Abeba 134.26 242 *e*P PKPdf 16 57 16.3 -2.3
AAE *i* S SS 17 17 46.4 +7.7
AAE Adis Abeba 134.26 242 *e*P PKPdf 16 57 16.3 -2.3
AAE *i* S SS 17 17 46.4 +7.7
AAE Adis Abeba 134.26 242 *e*P PKiKP 16 57 24.0 +4.1
AAE *e*S SKPab 17 00 51.5 +1.6
NEEM North Greenlan 134.50 14 *i* P PKiKP 16 57 19.2 +0.6
NEEM IAMs_20 IAMs_20 17 48 02.4
comp=Z,42μm,24.1s
AB31 Akbulak array 135.05 306 *i* PKHKP PKPpre 16 57 04.1
ABKAR Akbulak array 135.05 306 PKPpre 16 56 59.5
ABKAR PKPdf PKPdf 16 57 15.2 -3.3
NOR Nord 135.19 3 *i* P PKiKP 16 57 19.1 -0.4
UPNV Upernavik 135.41 20 *i* P PKiKP 16 57 19.9 -0.1
UPNV IAMs_20 IAMs_20 17 54 38.9
comp=Z,70μm,19.5s
ARU Arti 136.43 316 PP PP 17 00 02.8 0.0
comp=Z,50nm,0.8s,baz=144,slow=4.9,SNR=3.6
ARU SKPbc SKPbc 17 00 51.3 -0.6
comp=Z,39nm,0.8s,baz=162,slow=3.2,SNR=3.0
ARU Arti 136.43 316 PKPpre 16 57 05.9
ARU Arti 136.43 316 *i* PKiKP PKPdf 16 57 17.4 -3.5
ARU 16 59 55.9
ARU PPP PPP 17 02 56.9
ARU MLR MLR
comp=Z,57μm,20.0s
AKTO Aktyubinsk 136.44 307 SKPbc SKPbc 17 00 53.5 +1.4
comp=Z,22nm,0.7s,baz=111,slow=4.1,SNR=3.9
NUUG Nuugaatsiaq 136.72 21 *i* P PKPdf 16 57 21.0 0.0
NUUG IAMs_20 IAMs_20 17 55 01.7
comp=Z,50μm,19.4s
RAYN Ar Rayn 137.85 265 PKPdf PKPdf 16 57 17.6 -7.1
RAYN Ar Rayn 137.85 265 ⇑PKiKP PKPdf 16 57 17.1 -7.6
RAYN Ar Rayn 137.85 265 *i* PKiKP PKPdf 16 57 25.0 +0.4
SNR=10
KBS Kingsbay 137.89 356 *i* PKiKP PKPdf 16 57 22.0 -1.0
KBS Kingsbay 137.89 356 *i* P PKPdf 16 57 20.4 -2.6
KBS Kingsbay 137.89 356 *e*PKPdf PKPdf 16 57 20.1 -3.0
KBS IVmB_BB 16 57 47.9
comp=Z,4μm,4.9s
KBS *e*PP PP 17 00 09.0 -2.1
KBS *e*SKPdf SKPbc 17 00 54.3 -1.2
KBS *e*PKSdf PKSdf 17 00 58.1 -0.5
KBS *e*SS SS 17 18 21.5 +2.1
KBS *e* 17 35 42.7
KBS IVMs_BB IVMs_BB 17 53 19.5
comp=Z,10μm,23.2s
ILULI Ilulissat 138.31 24 *i* P PKPdf 16 57 20.1 -3.9
ILULI IAMs_20 IAMs_20 17 57 21.4
comp=Z,75μm,18.8s
SPA0 Spitsbergen Ar 138.32 355 *e*PKPdf PKPdf 16 57 19.5 -4.4
SPA0 IVmB_BB 16 57 32.5
comp=Z,6μm,2.1s
SPA0 *e*SKPdf SKPbc 17 00 55.0 -1.8
SPA0 *e*PKSdf PP 17 01 00.5 +47
SPA0 *e*SKSac SKSac 17 04 41.7 +4.9
SPA0 *e*SS SS 17 18 25.5 +0.9
SPITS Spitsbergen Ar 138.32 355 PKP PKiKP 16 57 26.2 +0.2
baz=83,slow=4.5
SPITS SKPbc SKiKP 17 00 59.8 -1.0
comp=Z,81nm,0.7s,baz=122,slow=7.9,SNR=6.9
SPB2 Spitsbergen Ar 138.32 355 PKPdf PKPdf 16 57 18.8 -5.0
HOPEN Hopen 138.95 351 *e*PKPdf PKPdf 16 57 21.8 -3.2
HOPEN IVmB_BB 16 57 40.5
comp=Z,4μm,3.3s
HOPEN *e*PP PP 17 00 16.2 -1.6
HOPEN *e*SS SS 17 18 32.3 +0.3
HOPEN *e* 17 36 36.2
HOPEN IVMs_BB IVMs_BB 17 57 16.2
comp=Z,12μm,21.0s
SFJD Kangerlussuaq 139.33 27 PKhKP PKPpre 16 57 22.0
SFJD PP PP 17 00 19.8 -0.6
comp=Z,48nm,1.0s,baz=316,slow=8.4,SNR=3.0
SFJD Kangerlussuaq 139.33 27 PKPpre 16 57 20.4
SFJD Kangerlussuaq 139.33 27 IAMs_20 IAMs_20 17 52 54.2
comp=Z,52μm,21.0s
SFJD Kangerlussuaq 139.33 27 PKiKP PKPpre 16 57 20.4
SFJD MLR MLR
comp=Z,52μm,21.0s
SFJD Kangerlussuaq 139.33 27 IAMs_20 IAMs_20 17 52 46.4
comp=Z,54μm,21.3s
SFJD *i* P PKPpre 16 57 21.9
HSPB Hornsund (broa 139.49 354 *e*PKP PKPdf 16 57 26.1 +0.1
DAG Danmarks Havn 139.65 6 IAMs_20 IAMs_20 18 12 44.0
comp=Z,37μm,23.0s
DAG *i* P PKPpre 16 57 22.4
SUMG Summit 140.02 16 IAMs_20 IAMs_20 17 54 27.4
comp=Z,47μm,22.0s
SUMG PKPdf PKPpre 16 57 21.9
SUMG Summit 140.02 16 PKiKP PKPpre 16 57 21.9
SUMG MLR MLR
comp=Z,47μm,22.0s
SUMG Summit 140.02 16 *i* P PKPpre 16 57 22.3
DY2G Dye2 141.12 27 IAMs_20 IAMs_20 17 56 08.3
comp=Z,39μm,20.7s
DY2G *i* P PKPpre 16 57 23.4
KIRV Kirov 141.15 320 PKhKP PKPpre 16 57 25.5
KIRV PKP PKiKP 16 57 30.9 -1.3
comp=Z,128nm,0.7s,baz=35,slow=1.2,SNR=1.4
KIRV Kirov 141.15 320 *i* PKiKP PKPdf 16 57 25.6 -3.8
BJO1 Bjornoya 141.45 351 *e*PP PP 17 00 30.6 -2.4
BJO1 *e*PKPdf PKPpre 16 57 24.7
BJO1 *e*SKSac SKSac 17 04 40.0 -3.9
BJO1 *e*SS SS 17 19 03.7 +2.5
BJO1 IVMs_BB IVMs_BB 17 46 38.1
comp=Z,9μm,35.5s
DBG Daneborg 141.77 8 IAMs_20 IAMs_20 17 58 56.4
comp=Z,41μm,20.0s
DBG *i* P PKPpre 16 57 25.5
ICESG Greenland Ices 141.92 21 *i* P PKPpre 16 57 26.0
PRGR Permogore 142.22 325 *e*PKiKP PKPpre 16 57 28.1
IVI Ivigtut 142.30 35 *i* P PKPdf 16 57 27.1 -4.4
IVI IAMs_20 IAMs_20 18 00 56.7
comp=Z,49μm,18.5s
MAK Makhachkala 142.74 294 *i* 16 57 29.6
MAK *ce*P PKPpre 16 54 48.6
MAK *e* 17 00 37.0
MAK *e*PPP PPP 17 03 45.0
MAK *e*SS SS 17 19 07.4 -11
MAK *e*SSS SSS 17 24 41.2
MAK pmax pmax
comp=Z,573nm,1.3s
MAK pmax pmax
comp=Z,5μm,5.4s
BELG Belogornoye 142.97 310 *i* PKiKP PKPpre 16 57 28.1
LVZ Lovozero 143.40 338 IAMs_20 IAMs_20 18 16 13.3
comp=Z,37μm,20.0s
LVZ Lovozero 143.40 338 ⇓PKiKP PKPdf 16 57 32.2 -1.1
NRS Narsarsuaq 143.57 35 *i* P PKPab 16 57 30.2 0.0
NRS IAMs_20 IAMs_20 18 05 37.6
comp=Z,55μm,18.9s
APA Apatity 143.98 338 ⇑ *i* PKiKP PKPdf 16 57 35.7 +1.5
APA pmax pmax
comp=Z,256nm,1.1s
GROC Groznyy 144.01 294 *e*PKiKP PKPab 16 57 32.5 0.0
GROC pmax pmax
comp=Z,4μm,1.3s
HAMF Hammerfest 144.07 346 *e*PKPdf PKPab 16 57 31.4 -0.4
HAMF IVmBBB 16 57 55.7
comp=Z,6μm,3.4s
HAMF *e*PP PP 17 00 47.8 -1.2
HAMF *e*SS SS 17 19 32.0 +0.4
HAMF IVMs_BB IVMs_BB 17 55 06.6
comp=Z,16μm,27.7s
KEV Kevo 144.09 344 IAMs_20 IAMs_20 17 59 25.9
comp=Z,43μm,21.0s
GNI Garni 144.33 289 IAMs_20 IAMs_20 18 06 12.5
comp=Z,30μm,20.0s
GNI Garni 144.33 289 *c* PKiKP PKPab 16 57 32.8 -1.3
GNI Garni 144.33 289 PKPdf PKPab 16 57 33.3 -0.7
ANGG Ammassalik, Gr 144.59 25 *i* P PKPab 16 57 32.9 -1.1
ANGG IAMs_20 IAMs_20 18 01 26.9
comp=Z,47μm,19.5s
ARA0 ARCESS Array S 144.60 344 *e*PKPbc PKPab 16 57 30.8 -3.1
ARA0 *e*SS SS 17 19 39.7 +1.9
ARA0 IVMs_BB IVMs_BB 17 51 37.7
comp=Z,11μm,23.6s
ARCES ARCESS Array B 144.60 344 PKP PKPbc 16 57 34.3 +0.2
comp=Z,44nm,0.6s,baz=28,slow=1.9,SNR=70
ARCES ARCESS Array B 144.60 344 PKPdf PKPab 16 57 29.4 -4.5
ARCES ARCESS Array B 144.60 344 PKHKP PKPpre 16 57 29.4
SCO Scoresbysund 144.95 12 *i* P PKPab 16 57 33.9 -1.3
SCO IAMs_20 IAMs_20 17 59 28.1
comp=Z,43μm,20.4s
KLMR Klimovskoe 145.26 326 *e*PKiKP PKPbc 16 57 33.1 -3.3
KLMR pmax pmax
comp=Z,2μm,1.3s
KLMR MLR MLR
comp=Z,48μm,21.0s
KLMR Klimovskoe 145.26 326 *e*PKPdf PKPbc 16 57 33.2 -3.2
KLMR AMP 16 57 46.0
comp=Z,2μm,1.3s
KLMR *e*PKS PP 17 01 08.5 +12
KLMR *e*PKS PP 17 01 08.5 +12
KLMR *e*SKPbc SKPbc 17 01 13.7 -1.2
KLMR *e*SKKSac SKKSac 17 07 37.0 -10
KLMR *e*SKKSac SKKSac 17 07 37.0 -10
KLMR *e*PKKSab PKKSab 17 09 08.9 -5.5
KLMR *e*PKKSab PKKSab 17 09 08.9 -5.5
KLMR LQ LQ 17 53 20.0
KLMR LQ LQ 17 53 20.0
KLMR LR LR 17 58 02.0
KLMR AMP 18 03 13.2
comp=Z,48μm,20.7s
ZEI Tsey 145.34 293 *i* PKiKP PKPbc 16 57 34.7 -2.9
ZEI pmax pmax
comp=Z,689nm,1.3s
KTK1 Kautokeino 145.50 345 *e*PKPdf PKPab 16 57 37.3 0.0
KTK1 IVmBBB 16 57 51.8
comp=Z,10μm,2.4s
KTK1 *e*PP PP 17 00 57.1 -0.5
KTK1 *e*SKPdf SKPbc 17 01 05.0 -10
KTK1 *e*SS SS 17 19 49.0 +0.9
KTK1 IVMs_BB IVMs_BB 17 56 29.4
comp=Z,15μm,24.8s
JETT Jettan, Norway 145.60 347 *e*PKPdf PKPab 16 57 38.0 +0.4
JETT IVmBBB 16 58 01.5
comp=Z,18μm,3.0s
JETT *e*SS SS 17 19 51.3 +2.1
JETT IVMs_BB IVMs_BB 17 55 33.5
comp=Z,12μm,26.6s
NCK Nalchik 145.64 295 *i* PKiKP PKPdf 16 57 35.3 -2.6
TRO Tromso 145.80 348 *e*PKPdf PKPab 16 57 38.3 0.0
TRO IVmB_BB 16 57 59.9
comp=Z,20μm,2.0s
TRO *e*PP PP 17 00 59.0 -0.2
TRO *e*SS SS 17 19 52.4 +1.1
TRO IVMs_BB IVMs_BB 17 50 06.2
comp=Z,8μm,31.8s
JMIC Jan Mayen 146.00 4 PKPbc PKPab 16 57 38.8 -0.2
comp=Z,374nm,0.7s,baz=74,slow=0.9,SNR=8.1
JMIC Jan Mayen 146.00 4 *e*PKPdf PKPab 16 57 39.6 +0.5
JMIC IVmBBB 16 58 03.4
comp=Z,22μm,2.7s
JMIC *e*SS SS 17 19 54.8 +1.2
JMIC IVMs_BB IVMs_BB 17 47 05.6
comp=Z,6μm,32.0s
GOF Gofitskoye 146.14 297⇑ *e*PKP2 PKPdf 16 57 38.3 -0.4
GOF pmax pmax
comp=Z,958nm,0.9s
KBZ Khabaz 146.16 295 PKPbc PKPdf 16 57 39.0 +0.3
comp=Z,34nm,0.7s,baz=121,slow=3.3,SNR=29
KBZ Khabaz 146.16 295 *c* PKiKP PKPdf 16 57 35.1 -3.6
NEY Neytrino 146.25 294 *i* PKP2 PKPbc 16 57 39.9 -0.4
KIV Kislovodsk 146.33 295 ⇓P PKPbc 16 57 40.4 0.0
KIV Kislovodsk 146.33 295 IAMs_20 IAMs_20 18 07 11.0
comp=Z,38μm,21.0s
KIV Kislovodsk 146.33 295 *i* PKP2 PKPdf 16 57 37.6 -1.6
KIV *e* 17 00 58.8
KIV *e*PPP PPP 17 04 14.1
KIV *e*SS SS 17 19 55.1 -4.8
KIV *e*SSS SSS 17 25 27.0
KIV pmax pmax
comp=Z,113nm,1.0s
KIV MLR MLR
comp=Z,45μm,25.0s
KIV Kislovodsk 146.33 295 *i* PKPbc PKPdf 16 57 37.9 -1.3
SNR=43
SHA1 Shidzhatmaz 146.34 295 *c* PKiKP PKPdf 16 57 35.1 -4.3
VRH Novokhopyorsk 146.74 309 *e*PKHKP PKPpre 16 57 33.7
VRH pmax pmax
comp=Z,2μm,1.8s
STEI Steigen 147.93 348 *e*PKPdf PKPdf 16 57 40.9 -0.1
STEI IVmBBB 16 57 54.5
comp=Z,19μm,2.3s
STEI *e*SS SS 17 20 19.4 +4.0
STEI *e* 17 39 13.9
LOF Lofoten 148.01 350 *e*PKPdf PKPdf 16 57 42.2 +1.1
LOF IVmBBB 16 57 52.6
comp=Z,15μm,1.9s
LOF *e*SS SS 17 20 17.9 +1.6
LOF IVMs_BB IVMs_BB 17 50 20.6
comp=Z,8μm,27.0s
MOS Moscow 148.08 318 *e*PKiKP PKPdf 16 57 39.0 -2.5
MOS *e*PPP PPP 17 04 43.8
MOS pmax pmax
comp=Z,447nm,0.8s
MOS pmax pmax
comp=Z,8μm,4.2s
LPSR Galich'ya Gora 148.19 312 *e*PKHKP PKPpre 16 57 38.2
LPSR *e*SS SS 17 20 17.1 -2.8
LPSR pmax pmax
comp=Z,320nm,1.0s
KTUT Trabzon 148.21 290 ⇓P PKiKP 16 57 47.3 0.0
VORR Voronezh 148.22 310 *e*PKP2 PKiKP 16 57 47.1 +0.2
VORR pmax pmax
comp=Z,421nm,0.9s
VSR Storozhevoye 148.32 309 *e*PKiKP PKPdf 16 57 39.0 -3.1
VSR pmax pmax
comp=Z,470nm,1.0s
ASF Jabal al Asfar 148.42 272 PKPbc PKPbc 16 57 46.0 -0.6
comp=Z,59nm,0.9s,baz=114,slow=3.3,SNR=5.1
FAUS Fauske 148.42 348 *e*PKPdf PKPdf 16 57 42.6 +0.9
FAUS IVmBBB 16 57 53.7
comp=Z,12μm,1.6s
FAUS *e*SS SS 17 20 22.8 +1.8
FAUS *e* 17 39 30.3
FAUS IVMs_BB IVMs_BB 17 51 40.2
comp=Z,10μm,23.7s
SOC Sochi 148.46 295 *e*PKHKP PKPpre 16 57 38.6
SOC *i* 16 57 43.9
SOC *e* 17 01 12.7
SOC *e*PPP PPP 17 04 33.1
SOC *e*SS SS 17 20 20.9 -2.8
SOC *e*SSS SSS 17 25 56.9
OBN Obninsk 148.85 317 ⇑P PKPdf 16 57 43.2 +0.3
OBN Obninsk 148.85 317 PKP PKPdf 16 57 43.1 +0.3
comp=Z,22nm,0.5s,baz=76,slow=2.9,SNR=11
OBN PKPbc PKiKP 16 57 47.7 -0.4
comp=Z,38nm,0.5s,baz=74,slow=2.3,SNR=10.0
OBN Obninsk 148.85 317 PKPdf 16 57 42.8 0.0
OBN IAMs_20 IAMs_20 18 13 46.1
comp=Z,38μm,21.0s
OBN Obninsk 148.85 317 *c* PKiKP PKPdf 16 57 41.4 -1.4
OBN *e* 17 01 15.6
OBN *e* 17 04 48.1
OBN pmax pmax
comp=Z,233nm,1.0s
EIL Elat 149.04 267 PKPbc PKPbc 16 57 46.9 -1.3
comp=Z,107nm,0.7s,baz=353,slow=9.6,SNR=20
DBIC Dimbokro 149.36 173 PKPbc PKPbc 16 57 47.6 -1.7
comp=Z,32nm,0.8s,baz=188,slow=3.2,SNR=20
KONS Konsvik 149.58 349 *e*PKPdf PKPdf 16 57 44.6 +0.9
MOR8 Moi Rana 149.66 347 *e*PKPdf PKPdf 16 57 45.2 +1.3
MOR8 IVmBBB 16 58 15.2
comp=Z,11μm,2.6s
MOR8 *e*SKSdf SKSdf 17 04 44.4 -5.8
MOR8 *e*SS SS 17 20 35.0 0.0
MOR8 IVMs_BB IVMs_BB 17 52 42.8
comp=Z,9μm,32.8s
HWQ Hawqa 149.83 276 *e*P PKPdf 16 57 44.6 -0.7
MMAI Mount Meron Ar 149.88 273 PKPbc PKPbc 16 57 48.7 -1.5
comp=Z,23nm,0.4s,baz=81,slow=5.2,SNR=30
BHL Bhannes 149.96 275 *e*P PKPdf 16 57 44.9 -0.6
BORG Borgarnes 150.00 17 PKPbc PKiKP 16 57 51.4 +1.2
comp=Z,168nm,0.9s,baz=65,slow=1.2,SNR=25
BORG Borgarnes 150.00 17 IAMs_20 IAMs_20 18 03 24.0
comp=Z,30μm,20.0s
ANN Anapa 150.12 297 *i* PKHKP PKPpre 16 57 47.2
ANN *e* 17 01 33.0
ANN *e*SS SS 17 20 41.9 -0.2
ANN pmax pmax
comp=Z,239nm,0.8s
SACV Santiago Islan 150.18 132 PKPdf 16 57 44.2 -2.1
SACV IAMs_20 IAMs_20 17 59 53.1
comp=Z,35μm,20.0s
FINES FINESS Array B 150.40 334 PKP PKPdf 16 57 45.7 +0.6
comp=Z,55nm,0.6s,baz=87,slow=2.1,SNR=77
FINES PKPbc PKPbc 16 57 50.8 +0.4
comp=Z,191nm,0.6s,baz=69,slow=3.9,SNR=42
NSS Namsos 151.59 348 *e*PKPdf PKPdf 16 57 48.2 +1.4
NSS IVmB_BB 16 58 01.6
comp=Z,19μm,1.6s
NSS *e*PP PP 17 01 32.3 -0.6
NSS *e*SS SS 17 20 56.0 -0.3

NSS eSS SS 17 20 58.6 +2.4
NSS IVMs_BB IVMs_BB 17 53 40.5
comp=Z,9µm,35.5s
DIKM Dikmen 151.65 290 ⇑P **PKPdf 16 57 50.5 +2.8**
MEF Metsahovi 151.84 333 eP **PKPdf 16 57 50.1 +2.7**
VSU Vasula 152.06 328 eP **PKPbc 16 57 53.3 -1.0**
CSS Mathiatis 152.09 276 PKPdf **PKPdf 16 57 42.6 -6.0**
CSS **PKPbc 16 57 49.4 -5.8**
RAF Rauma 152.17 336 eP **PKPbc 16 57 52.8 -1.6**
SIM Simferopol' 152.47 297 i PKIKP **PKPdf 16 57 49.6 +0.8**
SIM pmax pmax
comp=Z,149nm,0.7s
BZK Bozkurt 152.60 291 ⇑P **PKiKP 16 57 57.5 +1.2**
BRTR Keskin Array B 152.72 286 PKP **PKPdf 16 57 49.9 +0.3**
comp=Z,8.3nm,1.0s,baz=176,slow=3.7,SNR=11
BRTR PKPbc **PKiKP 16 57 57.0 +0.2**
comp=Z,62nm,0.8s,baz=128,slow=2.9,SNR=20
BRTR Keskin Array B 152.72 286 PKPdf **PKPdf 16 57 43.4 -6.1**
BRTR Keskin Array B 152.72 286 PKIKP **PKPdf 16 57 43.4 -6.1**
TBLU Trondheim 153.06 349 ePKPdf **PKPdf 16 57 52.5 +3.5**
TBLU IVmBBB 16 58 04.1
comp=Z,6µm,0.4s
TBLU eSS SS 17 21 13.2 +0.8
TBLU IVmB_BB 17 56 25.6
comp=Z,7µm,25.6s
MTSE Matsula 153.08 331 eP **PKPdf 16 57 52.5 +3.3**
ANTO Ankara 153.38 286 ⇑P **PKPbc 16 57 56.1 -1.9**
ANTO Ankara 153.38 286 PKPdf **PKPdf 16 57 43.4 -7.0**
ANTO **pPKPdf 16 57 50.9 -6.4**
ANTO Ankara 153.38 286 ⇑PKIKP **PKPbc 16 57 56.1 -1.9**
BBTS Babate 153.68 145 PKP **PKPdf 16 57 51.5 +0.1**
comp=Z,230nm,1.1s,baz=136,slow=3.8,SNR=16
BBTS PKPbc **pPKPdf 16 57 58.5 +0.2**
comp=Z,230nm,1.1s,baz=172,slow=0.8,SNR=6.3
MNK Minsk 153.69 320 i PKIKP **PKPdf 16 57 47.0 -3.2**
MNK i 17 01 44.0
MNK i 17 04 51.3
MNK i PPP PPP 17 05 13.2
MNK i SS SS 17 21 21.3 +0.9
MNK pmax pmax
comp=Z,1µm,1.2s
MNK pmax pmax
comp=E,127nm,1.1s
MNK Minsk 153.69 320 i PKP **PKPdf 16 57 47.1 -3.2**
comp=E,127nm,1.1s
MNK i PKP **PKPdf 16 57 47.1 -3.2**
MNK i PKP **PKPdf 16 57 47.1 -3.2**
comp=Z,1µm,1.2s,baz=238
MNK i PP **PP 17 01 44.1 -1.3**
MNK i SKS **SKSdf 17 04 51.4 -4.2**
MNK i PPP PPP 17 05 13.2
MNK i SKKS **SKKSdf 17 13 31.5 -6.2**
MNK i SS **SS 17 21 21.3 +0.9**
MNK i SSS SSS 17 27 13.4
MNK i LR LR 18 09 59.4
MNK i LRM MLR 18 12 40.4
comp=E,3µm,18.9s
MNK i LRM MLR 18 13 09.9
MNK i LRM MLR 18 13 09.9
comp=Z,23µm,19.1s
ISAL Salakas 154.00 323 eP **PKiKP 16 57 59.3 +0.6**
NACGM Naroch 154.04 322 ⇑ePKP **PKPdf 16 57 51.6 +0.9**
baz=57
IIGN Ignalina 154.08 323 eP **PKiKP 16 57 59.5 +0.5**
MOL Molde 154.10 351 ePKPdf **PKPdf 16 57 51.0 +0.5**
MOL IVmB_BB 16 58 06.7
comp=Z,7µm,2.1s
MOL ePP **PP 17 01 45.3 -1.8**
MOL eSS SS 17 21 21.7 -2.0
MOL IVMs_BB IVMs_BB 17 55 12.6
comp=Z,9µm,40.3s
DOMB Dombas 154.39 349 epPKPdf **pPKPdf 16 57 56.1 -1.9**
DOMB IVmBBB 16 58 08.2
comp=Z,7µm,2.0s
DOMB ePP **PP 17 01 46.5 -2.3**
DOMB eSS SS 17 21 28.8 +1.7
DOMB IVMs_BB IVMs_BB 17 56 23.3
comp=Z,10µm,29.0s
SLIT Slitere, Latvi 154.41 330 eP **PKPbc 16 57 56.1 -3.4**
KDZE Karadeniz Ereo 154.50 289 ⇓P **PKiKP 16 58 04.1 +3.8**
AKASG Malin Array Be 154.53 312 PKP **PKPdf 16 57 51.0 -0.5**
comp=Z,16nm,0.8s,baz=60,slow=1.8,SNR=20
AKASG PKPbc **PKPbc 16 57 59.4 -0.6**
comp=Z,41nm,0.7s,baz=55,slow=2.5,SNR=21
AKN Aaknes 154.55 351 ePKPdf **PKPdf 16 57 53.6 +2.3**
AKN IVmB_BB 16 58 29.8
comp=Z,9µm,2.7s
AKN ePP **PP 17 01 50.9 +1.2**
VSVD Vaisvydziai 154.78 326 eP **PKPbc 16 57 56.2 -4.1**
NC204 NORSAR Array S 154.82 346 PKPdf **PKPdf 16 57 47.1 -4.6**
NC204 **pPKPdf 16 57 53.1 -5.6**
NB201 NORSAR Array S 154.92 346 PKPdf **PKPdf 16 57 47.2 -4.7**
NB201 **pPKPdf 16 57 52.9 -5.9**
NB2 NORSAR Subarra 154.95 346 PKP **PKPdf 16 57 52.8 +0.9**
comp=Z,1µm,1.7s,baz=26,slow=2.1
NB2 NORSAR Subarra 154.95 346 PKP **PKPdf 16 57 52.8 +0.9**
baz=26,slow=2.1
NOA NORSAR Array B 154.95 346 PKP **PKPdf 16 57 52.9 +0.9**
comp=Z,24nm,1.1s,baz=28,slow=1.7,SNR=24
NOA PKPbc **PKPbc 16 58 00.2 -0.5**
comp=Z,4.1nm,0.4s,baz=31,slow=2.1,SNR=28
NBO00 NORSAR Array S 155.04 346 **PKPdf 16 57 52.9 +0.9**
PABE Paberze 155.04 325 eP **PKPdf 16 57 55.8 +3.7**
NC602 NORSAR Array S 155.16 345 ePKPdf **PKPdf 16 57 48.1 -4.0**
NC602 eSKPdf **SKPdf 17 01 21.2 -2.5**
NC602 eSS **SS 17 21 37.0 +1.6**
NC602 IVMs_BB IVMs_BB 17 55 05.8
comp=Z,7µm,29.9s
ELL Elmali 155.20 278 **PKPdf 16 57 53.9 +0.8**
ELL Elmali 155.20 278 PKIKP **PKPdf 16 57 53.9 +0.8**
HFS Hagfors 155.21 342 PKP **PKPdf 16 57 54.0 +1.8**
comp=Z,9.8nm,0.7s,baz=151,slow=3.4,SNR=14
HFS PKPab **PKPab 16 58 19.3 +2.1**
comp=Z,108nm,0.7s,baz=50,slow=2.3,SNR=7.0
HFS Hagfors 155.21 342 PKIKP **PKPdf 16 57 54.0 +1.8**
FOO Floro 155.34 353 ePKPdf **PKPdf 16 57 50.2 -2.1**
FOO IVmB_BB 16 58 14.9
comp=Z,8µm,3.5s
FOO e 17 08 42.6
FOO eSS SS 17 21 37.9 +0.9
FOO IVMs_BB IVMs_BB 17 55 22.1
comp=Z,7µm,31.4s
PBUR Paburge 155.62 328 eP **PKPdf 16 57 55.5 +2.6**
HYA Hoyanger 155.63 351 ePKPdf **PKPdf 16 57 54.6 +1.9**
HYA IVmB_BB 16 58 15.7
comp=Z,5µm,2.4s
HYA ePP **PP 17 01 55.8 +0.2**
HYA eSS SS 17 21 39.3 -0.9
SKAR Skarslia 155.80 349 ePKPdf **PKPdf 16 57 50.0 -3.0**
SKAR eSS SS 17 21 44.6 +2.2
SKAR IVMs_BB IVMs_BB 17 59 41.2
comp=Z,8µm,28.9s
KIS Kishinev 155.84 303 eP **PKPdf 16 57 50.6 -2.9**
KIS M M 18 12 43.0
comp=Z,13µm,20.0s
KIS Kishinev 155.84 303 ePKIKP **PKPdf 16 57 50.6 -2.9**
KIS e 17 22 33.0
TORD Torodi Ar. Bea 155.84 187 PKP **PKPdf 16 57 54.7 +0.2**
comp=Z,12nm,1.1s,baz=186,slow=0.5,SNR=11
TORD PKPbc **sPKPdf 16 58 07.0 +3.3**
comp=Z,91nm,0.8s,baz=183,slow=2.4,SNR=8.8
TORD PKPab **PKPab 16 58 20.6 -0.4**
comp=Z,192nm,0.8s,baz=163,slow=3.0,SNR=9.1
MILM Milestii Mici 155.86 303 ePKP **PKPdf 16 57 50.6 -2.9**
comp=Z,6µm,10.0s
MILM Milestii Mici 155.86 303 ePP PP 17 01 56.4 -1.6
MILM Milestii Mici 155.86 303 ePKIKP **PKPdf 16 57 50.6 -2.9**
MILM e 17 01 56.4
MILM e 17 27 32.0
SUE Sulen 155.90 353 ePKPdf **PKPdf 16 57 50.4 -2.7**
SUE IVmBBB 16 58 18.2
comp=Z,6µm,4.3s
SUE ePP **PP 17 01 56.2 -0.8**
SUE eSS SS 17 21 45.9 +2.8
SUE IVMs_BB IVMs_BB 17 55 52.7
comp=Z,9µm,24.1s
OSL Oslo 156.06 345 ePKPdf **PKPdf 16 57 50.8 -2.5**
OSL IVmBBB 16 58 20.9
comp=Z,4µm,1.2s
OSL ePP **PP 17 02 02.5 +4.5**
OSL eSS SS 17 21 46.6 +1.6
OSL IVMs_BB IVMs_BB 17 58 51.4
comp=Z,8µm,29.4s
TLCR 156.18 299 ⇑P **PKPdf 16 57 56.6 +2.7**
TLCR 156.18 299 ⇑PKIKP **PKPdf 16 57 56.6 +2.7**
JURR Jurilovca 156.19 298 ⇓P **PKPdf 16 58 00.1 +6.1**
ISK Istanbul-Kandi 156.29 289 P **PKPdf 16 57 52.3 -2.0**
ASK Askoy 156.41 352 epPKPdf **pPKPdf 16 57 58.8 -1.9**
ASK IVmBBB 16 58 18.0
comp=Z,12µm,2.2s
ASK ePP **PP 17 01 59.9 0.0**
H07S1 FLORES T-PHASE 156.42 76 PKP **PKPdf 16 57 56.4 +1.9**
SNR=9.6
H07S1 FLORES T-PHASE 156.42 76 ePKP **PKPdf 16 58 01.6 +7.1**
BER Bergen 156.49 352 ePKPdf **PKPdf 16 57 51.3 -2.6**
BER IVmBBB 16 58 28.1
comp=Z,5µm,5.6s
BER eSS SS 17 21 51.7 +2.2
BER IVMs_BB IVMs_BB 17 56 07.3
comp=Z,9µm,30.2s
TPGR Topolog 156.50 298 ⇑P **PKPdf 16 57 54.8 +0.3**
ARG Arkhangelos 156.51 276 P **PKPdf 16 57 59.4 +4.7**
H07N1 FLORES T-PHASE 156.51 75 ePKP PKPdf 16 58 03.3 +8.7
KONO Kongsberg 156.55 346 IAMs_20 IAMs_20 18 14 15.0
comp=Z,31µm,21.0s
KONO Kongsberg 156.55 346 ⇓PKIKP **PKPdf 16 57 55.3 +1.3**
KONO Kongsberg 156.55 346 ePKPdf **PKPdf 16 57 51.3 -2.7**
KONO IVmBBB 16 58 18.6
comp=Z,4µm,3.4s
KONO ePP **PP 17 01 55.8 -5.0**
KONO eSS SS 17 21 48.8 -1.4
YER Yerkesik 156.55 279 P **PKPdf 16 57 51.4 -3.4**
TIRR Tirgsor 156.56 297 ⇑P **PKPdf 16 58 01.7 +7.2**
VLDR Vladesti 156.57 301 ⇑P **PKPdf 16 57 59.8 +5.3**
VASR Vaslui 156.60 303 ⇑P **PKPdf 16 57 59.6 +5.1**
CFR Carcaliu 156.65 299 ⇓P **PKPdf 16 57 57.6 +3.0**
CFR Carcaliu 156.65 299 ⇓PKIKP **PKPdf 16 57 57.6 +3.0**
TLBR Topalu 156.81 297 ⇑P **PKPdf 16 57 57.3 +2.5**
PSN Preselentsi 156.82 295 i P **PKPdf 16 57 56.9 +2.0**
IZVR Izvoarele 156.84 300 ⇓P PKPdf 16 58 02.8 +8.0
HARR Harsova 156.87 298 ⇓P **PKPdf 16 57 55.7 +0.8**
HARR Harsova 156.87 298 ⇓PKIKP **PKPdf 16 57 55.7 +0.8**
GHRR 156.99 301 ⇓P **PKPdf 16 57 56.9 +1.9**
LRW Lerwick 157.12 360 eP **PKPdf 16 57 53.5 -1.1**
KARP Karpathos 157.14 274 P **PKPdf 16 57 56.1 +0.5**
KOWA Kowa 157.18 173 PKP **PKPdf 16 57 57.8 +1.6**
comp=Z,17nm,1.1s,baz=256,slow=0.6,SNR=16
KOWA PKPab **PKPab 16 58 26.7 -0.1**
comp=Z,80nm,0.4s,baz=56,slow=0.7,SNR=12
KOWA Kowa 157.18 173 P **PKPdf 16 57 58.6 +2.4**
BLS5 Blasjo 157.28 350 ePKPdf **PKPdf 16 57 56.6 +1.6**
BLS5 IVmBBB 16 58 20.9
comp=Z,6µm,2.0s
BLS5 IVMs_BB IVMs_BB 17 57 17.9
comp=Z,12µm,25.5s
BODT Bodrum 157.31 278 P **PKPdf 16 57 55.3 -0.4**
TESR Tescani 157.40 303 ⇑P **PKPdf 16 57 56.9 +1.3**
GRER 157.42 300 ⇓P PKPab 16 58 12.0 -15
PRD Provadia 157.44 294 i P **PKPdf 16 57 57.5 +1.9**
VRI Vrincioaia 157.49 301 ⇓P **PKPdf 16 57 56.9 +1.2**
VRI Vrincioaia 157.49 301 ⇓PKIKP **PKPdf 16 57 56.9 +1.2**
KMY Karmoy 157.65 351 ePKPdf **PKPdf 16 57 56.9 +1.5**
KMY IVmBBB 16 58 20.5
comp=Z,5µm,7.1s
KMY ePP **PP 17 02 05.8 -0.9**
BIZ Bicaz 157.65 304 ⇓P **PKPdf 16 57 53.1 -2.7**
BLCB Balcova 157.69 282 P **PKPdf 16 57 56.7 +0.6**
ISR Istrita 157.77 299 ⇑P **PKPdf 16 57 55.6 -0.5**
ISR Istrita 157.77 299 ⇑PKIKP **PKPdf 16 57 55.6 -0.5**
SMG Samos 157.77 280 P **PKPdf 16 57 54.9 -1.4**
ZKR Zakros 157.79 273 P **PKPdf 16 57 57.2 +0.8**
COVR Voineasa-Covas 157.85 301 ⇓P **PKPdf 16 58 00.8 +4.6**
LVV L'vov 157.94 313 i PKIKP **PKPdf 16 57 55.3 -0.8**
LVV MLR MLR
comp=Z,40µm,21.0s
EDRB Edirne 158.02 291 P **PKPdf 16 57 54.1 -2.3**
BURAR Bucovina Array 158.03 306 ⇓P **PKPdf 16 57 57.8 +1.4**
BURAR Bucovina Array 158.03 306 ⇓PKIKP **PKPdf 16 57 57.8 +1.4**
HOMB Homborsund 158.04 346 ePKPdf **PKPdf 16 57 54.1 -1.8**
HOMB IVmBBB 16 58 19.8
comp=Z,5µm,1.9s
HOMB eSS SS 17 22 07.2 +1.0
JMB Yambol 158.10 292 i P **PKPdf 16 57 55.7 -0.8**
MLR Muntele Rosu 158.11 301 ⇑P **PKPdf 16 57 56.5 -0.1**
MLR Muntele Rosu 158.11 301 PKP **PKPdf 16 57 57.5 +0.9**
comp=Z,15nm,1.0s,baz=77,slow=6.6,SNR=9.5
MLR PKPab **PKPab 16 58 32.0 +1.6**
comp=Z,53nm,0.7s,baz=311,slow=10.0,SNR=8.6
MLR Muntele Rosu 158.11 301 PKPdf **PKPdf 16 57 50.5 -6.1**
MLR Muntele Rosu 158.11 301 PKIKP **PKPdf 16 57 50.5 -6.1**
MLR MLR MLR
comp=Z,63µm,21.0s
SNART Snartemo 158.21 348 ePKPdf **PKPdf 16 57 53.0 -3.1**
SNART epPKPdf **pPKPdf 16 58 01.3 -1.7**
SNART IVmBBB 16 58 20.6
comp=Z,15µm,4.2s
SNART ePP **PP 17 02 10.7 +0.8**
SNART eSS SS 17 22 12.6 +4.7
CALA Caldeira 158.30 78 ePKP PKPdf 16 58 06.1 +9.1
PCED Cedros 158.30 78 ePKP PKPdf 16 58 05.5 +8.6
EZN Ezine 158.35 285 P **PKPdf 16 57 55.5 -1.4**
HOR Horta 158.35 78 ePKP PKPdf 16 58 07.5 +11
PRK Paraskevi 158.36 284 P **PKPdf 16 57 53.6 -3.3**
DOPR Dopca 158.38 302 ⇓P **PKPdf 16 57 58.8 +2.0**
PCAN Candelaria 158.46 78 ePKP PKPdf 16 58 05.0 +7.9
CHOS Chios island 158.46 281 P **PKPdf 16 57 56.5 -0.7**
ENEZ Enez 158.49 288 P **PKPdf 16 57 55.6 -1.4**
PICO Pico 158.51 78 ePKP PKPdf 16 58 05.5 +8.3
ALN Alexandroupoli 158.57 288 P **PKPdf 16 57 54.3 -2.8**
PPNO Prainha do Nor 158.63 78 ePKP PKPdf 16 58 06.1 +8.7
SANT Santorini 158.65 276 IAMs_20 IAMs_20 18 22 28.3
comp=Z,43µm,20.0s
ROSA Rosais 158.67 78 ePKP **PKPdf 16 58 04.5 +7.2**
SIGR SIGRI 158.68 284 P **PKPdf 16 57 55.9 -1.4**
APE Apeiranthos 158.71 278 ⇑P PKPdf 16 58 05.6 +8.1
APE Apeiranthos 158.71 278 P **PKPdf 16 57 56.3 -1.2**
BEL Belsk 158.72 320 ePKP **PKPdf 16 57 58.8 +1.8**
VOIR 158.74 301 ⇑P **PKPdf 16 57 58.5 +1.2**
VOIR 158.74 301 ⇑PKIKP **PKPdf 16 57 58.5 +1.2**
PID Ribeirinha 158.74 79 ePKP PKPdf 16 58 06.1 +8.6
ARCR ARCALIA 158.75 306 ⇓P **PKPdf 16 58 00.1 +2.9**
PMAN Manadas 158.78 78 ePKP PKPdf 16 58 05.8 +8.3
SRBC Serra Branca 158.85 77 ePKP PKPdf 16 58 05.5 +8.0
IDI Anoyia 158.89 273 ⇑P **PKPdf 16 57 59.8 +2.0**
IDI Anoyia 158.89 273 PKP **PKPdf 16 57 57.7 0.0**
comp=Z,16nm,0.9s,baz=158,slow=11,SNR=2.3
IDI PKPab **PKPab 16 58 35.4 +1.4**
comp=Z,33nm,0.6s,baz=185,slow=5.6,SNR=6.3
IDI Anoyia 158.89 273 P **PKPdf 16 57 55.0 -2.8**
PGRA Graciosa 158.89 77 ePKP **PKPdf 16 58 05.0 +7.4**
PVL Pavlikeni 158.94 295 i P **PKPdf 16 57 59.8 +2.3**
RDO Rodhopi 158.95 289 P **PKPdf 16 57 52.7 -4.9**
SMTH Samothraki Isl 158.97 287 P **PKPdf 16 57 55.9 -1.7**
ARR Arges 159.04 301 ⇑P **PKPdf 16 57 57.4 -0.3**
GOET G??ttrup 159.04 344 i P **PKPdf 16 57 55.7 -1.4**
BSD Bornholm Skovb 159.04 334 i P **PKPdf 16 57 54.0 -3.2**
BSD IAMs_20 IAMs_20 18 17 54.6
comp=Z,55µm,23.5s
BMR Baia Mare 159.11 308 ⇑P **PKPdf 16 57 57.3 -0.3**
LIA Limnos Island 159.23 285 P **PKPdf 16 57 55.8 -2.1**
KOLS Kolonicke sedl 159.36 312 ePKIKP **PKPdf 16 57 58.6 +0.8**
KOLS Kolonicke sedl 159.36 312 ePKP **PKPdf 16 57 58.6 +0.8**
COP Copenhagen 159.39 338 i P **PKPdf 16 57 56.8 -0.7**
COP IAMs_20 IAMs_20 18 23 37.9
comp=Z,85µm,21.9s
GVDS Gavdos 159.42 271 P **PKPdf 16 57 57.7 -0.6**
GVD Gavdhos 159.42 271 P **PKPdf 16 57 58.0 -0.3**
ADH Angra Heroismo 159.45 78 ePKP PKPdf 16 58 07.5 +9.3
UZH Uzhgorod 159.48 311 ePKIKP **PKPdf 16 57 58.6 +0.7**
UZH e 17 02 18.6
UZH e 17 04 58.2
UZH e 17 06 05.6
GKP Gorka Klasztor 159.50 327 ePKP **PKPdf 16 57 56.4 -1.4**
GKP Gorka Klasztor 159.50 327 eP **PKPdf 16 58 03.0 +5.3**
PAGU Agualva, Azore 159.50 78 ePKP **PKPdf 16 58 05.5 +7.2**
PLD Plovdiv 159.52 292 i P **PKPdf 16 57 59.5 +1.3**
RZN Rozhen 159.54 290 i P **PKPdf 16 57 59.7 +1.2**
PSCM Serra do Cume 159.54 78 ePKP PKPdf 16 58 06.6 +8.2
MUD Monsted U'grnd 159.58 343 i P **PKPdf 16 57 57.3 -0.4**
MUD IAMs_20 IAMs_20 18 20 46.3
comp=Z,92µm,23.3s
THAS Thassos island 159.58 287 P **PKPdf 16 57 55.7 -2.6**
MCD Coleburn Disti 159.63 3 eP **PKPdf 16 57 56.9 -1.0**
IMMV Iera Moni Meta 159.65 273 P **PKPdf 16 57 58.7 +0.1**
SKY Skiros Island 159.68 282 P **PKPdf 16 57 58.4 -0.1**
KAVA Kavala 159.73 289 P **PKPdf 16 57 57.0 -1.5**
KNDR Palaiochora Ch 159.84 272 P **PKPdf 16 57 57.6 -1.2**
PGB Panagyurishte 159.87 293 i P **PKPdf 16 58 00.0 +1.3**
KYMI Kymi, Euboea I 160.01 282 P **PKPdf 16 57 56.4 -2.5**
MPEP Malo Peshtene 160.07 296 P **PKPdf 16 57 56.8 -2.0**
DION Dionisos Attik 160.10 280 P **PKPdf 16 57 59.7 +0.7**
KOKK Kokkinochori, 160.12 288 P **PKPdf 16 57 56.5 -2.4**
OJC Ojcow 160.14 317 ePKP **PKPdf 16 57 56.3 -2.4**
PTL Penteli 160.15 280 P **PKPdf 16 57 57.3 -1.8**
VLY Voula,Athens 160.18 279 P **PKPdf 16 57 55.9 -3.2**
ATHU Athens Univers 160.20 280 P **PKPdf 16 57 59.0 -0.1**
NVR Nevrokopi 160.20 290 P **PKPdf 16 57 56.8 -2.3**
AOS Alonnisos 160.21 283 P **PKPdf 16 57 59.5 +0.4**
ATH Athens Observa 160.26 280 P **PKPdf 16 57 58.9 -0.3**
ANKY Antikythira Is 160.28 273 P **PKPdf 16 57 58.0 -1.3**
NIE Niedzica 160.28 315 ePKP **PKPdf 16 57 58.6 -0.3**
MMB Musomiste 160.29 290 i P **PKPdf 16 58 00.0 +0.8**
GZR Gura Zlata 160.30 302 ⇓P **PKPdf 16 57 57.5 -1.6**
GZR Gura Zlata 160.30 302 ⇓PKIKP **PKPdf 16 57 57.5 -1.6**
PAIG Paliouri 160.38 285 P **PKPdf 16 57 56.9 -2.3**
SRS Serrai 160.42 289 P **PKPdf 16 57 56.3 -3.0**
KTHA Kythira Island 160.54 274 P **PKPdf 16 57 57.8 -1.8**
VTS Vitosha 160.54 294 ⇑P **PKPdf 16 57 59.8 +0.2**
VTS Vitosha 160.54 294 ⇑PKIKP **PKPdf 16 57 59.8 +0.2**
VTS Vitosha 160.54 294 i P **PKPdf 16 58 01.6 +2.0**
PSET Sete Cidades 160.56 81 ePKP **PKPdf 16 58 06.9 +7.3**
KTHR Kythira 160.58 274 P **PKPdf 16 58 00.6 +1.0**
VILL Villia 160.59 280 P **PKPdf 16 57 54.0 -5.6**
PDA Ponta Delgada 160.60 81 ePKP PKPdf 16 58 09.3 +10
SOH Sokhos 160.61 288 P **PKPdf 16 57 58.1 -1.5**
KRND KRANIDI 160.64 278 P **PKPdf 16 57 58.5 -1.1**
HERR Herculane 160.68 301 ⇑P **PKPdf 16 58 00.7 +1.3**
EPID Epidavros 160.69 278 P **PKPdf 16 57 57.8 -1.9**
CMLA Cha da Macela 160.71 81 ePKP **PKPdf 16 58 05.3 +5.6**
VLI Veliai 160.71 276 P **PKPdf 16 57 57.7 -2.0**
NEO Neokhori 160.73 284 P **PKPdf 16 57 57.9 -1.8**
INVG Invergeldie, C 160.74 5 eP **PKPdf 16 57 56.4 -2.7**
KKB Krupnik 160.74 291 i P **PKPdf 16 58 01.0 +1.4**
PCALD Caldeiras da R 160.74 81 ePKP PKPdf 16 58 09.0 +9.3
XOR Xorichti 160.75 284 P **PKPdf 16 57 58.4 -1.3**
SIRR Siria 160.77 305 ⇓P **PKPdf 16 57 58.7 -0.8**
BLKB Belogradchik 160.78 297 ⇑P **PKPdf 16 57 59.3 -0.3**
LAWE Loch Awe, Argy 160.79 7 eP **PKPdf 16 57 58.1 -1.0**
HORT Hortiatis 160.82 287 P **PKPdf 16 57 57.6 -2.2**
PGRON Lagoa das Cont 160.83 81 ePKP PKPdf 16 58 07.9 +8.0
LOUT Loutraki 160.84 280 P **PKPdf 16 57 59.9 +0.1**
LTK Loutraki 160.85 280 P **PKPdf 16 57 57.2 -2.7**
ATAL Atalanti 160.86 282 P **PKPdf 16 57 57.6 -2.2**
LKR Lokris 160.87 282 P **PKPdf 16 57 59.0 -0.8**
LANS Liptovska Anna 160.89 315 ePKIKP **PKPdf 16 58 01.1 +1.5**
LANS Liptovska Anna 160.89 315 ePKP **PKPdf 16 58 01.1 +1.5**
THE Thessaloniki 160.92 288 P **PKPdf 16 57 57.4 -2.4**
PSMA Santa Maria 160.93 84 ePKP PKPdf 16 58 09.0 +9.1
KNT Kendrikon 160.94 289 P **PKPdf 16 57 57.7 -2.1**
EAB Aberfoyle 160.96 5 eP **PKPdf 16 57 57.5 -1.8**
PSMN Pico do Norte, 160.98 84 ePKP **PKPdf 16 58 05.0 +5.0**
BART Pico Bartolome 160.99 81 ePKP PKPdf 16 58 08.2 +8.1
BZS Buzias 161.01 303 ⇑P **PKPdf 16 58 00.4 +0.7**
BZS Buzias 161.01 303 ⇑PKIKP **PKPdf 16 58 00.4 +0.7**
RAC Raciborz 161.07 319 ePKPDF **PKPdf 16 57 58.3 -1.3**
RAC Raciborz 161.07 319 ePKIKP **PKPdf 16 57 58.3 -1.3**
RAC MLR MLR
comp=Z,70µm,21.9s
THAL Thalero 161.09 280 P **PKPdf 16 57 58.2 -1.9**
AXAR Agios Charalam 161.14 282 P **PKPdf 16 58 01.7 +1.6**
VAN Valandovo 161.18 290 eP **PKPdf 16 57 57.2 -2.4**
MDVR Moldovita 161.19 301 ⇓P **PKPdf 16 58 01.4 -1.4**
PSZ Piszkesteto 161.23 311 ⇑P **PKPdf 16 57 58.1 -1.9**
PSZ Piszkesteto 161.23 311 ⇑PKIKP **PKPdf 16 57 58.1 -1.9**
OKC Ostrava-Krasne 161.24 318 ePKIKP **PKPdf 16 58 00.7 +0.9**
OKC MLR MLR
comp=Z,44µm,20.5s
OKC Ostrava-Krasne 161.24 318 ePKPDF **PKPdf 16 58 00.7 +0.9**
OKC epPKP **pPKPab 16 58 47.6 -2.6**
OKC AMS AMS 18 21 00.0
comp=Z,44µm,20.5s
EDI Edinburgh 161.29 3 eP **PKPdf 16 57 58.3 -1.4**
LIT Litokhoron 161.30 286 P **PKPdf 16 57 58.1 -2.2**
PGBU Glenifferbraes 161.32 6 eP **PKPdf 16 57 58.4 -1.3**
ESY Stoneypath 161.32 2 eP **PKPdf 16 57 59.5 -0.3**
TRIP Tripoli 161.35 278 P **PKPdf 16 57 58.3 -1.8**
STIP Stip 161.43 291 eP **PKPdf 16 58 01.7 +1.4**
EBL Broad Law 161.45 3 eP **PKPdf 16 57 58.8 -1.1**
BOVS Bovan 161.47 297 ⇑P **PKPdf 16 57 60.0 -0.3**
KLV Kalavryta, Ach 161.49 280 P **PKPdf 16 57 59.3 -1.3**
RUE Ruedersdorf 161.51 330 eP **PKPdf 16 58 00.7 +0.7**
KSP Ksiaz 161.56 323 ePKP **PKPdf 16 57 59.3 -0.9**
MAKR Makrakomi, Fth 161.57 283 P **PKPdf 16 58 01.0 +0.4**
VYHS Vyhne 161.58 314 ePKIKP **PKPdf 16 57 58.0 -2.3**
VYHS Vyhne 161.58 314 ePKP **PKPdf 16 57 58.0 -2.3**
VYHS eSKSDF 17 05 34.9
VYHS eL L 17 19 55.4
ITM Ithomi 161.58 277 P **PKPdf 16 57 59.6 -1.1**
MORC Moravsky Berou 161.59 319 ⇓P **PKPdf 16 57 58.4 -1.9**
MORC Moravsky Berou 161.59 319 ePKP **PKPdf 16 57 56.4 -3.9**
MORC Moravsky Berou 161.59 319 ⇓PKIKP **PKPdf 16 57 58.4 -1.9**
SERG Sergoula 161.59 281 P **PKPdf 16 57 59.5 -1.1**
LAKA Lakka 161.65 280 P **PKPdf 16 58 00.0 -0.7**
THL Klokotos Trika 161.67 284 P **PKPdf 16 57 58.5 -2.1**
MAUC Maruska 161.68 317 ePKPDF **PKPdf 16 57 56.2 -4.2**
MAUC AMS AMS 18 16 20.0
comp=Z,70µm,21.7s
PYL PYLOS 161.69 276 P **PKPdf 16 57 59.3 -1.5**
ANX Ano Chora 161.71 281 P **PKPdf 16 57 57.2 -3.7**
EFP Efpalio 161.71 281 P **PKPdf 16 57 59.7 -1.0**
OSTC Ostas 161.79 322 ePKPDF **PKPdf 16 58 01.6 +1.2**
OSTC ePKPAB **pPKPab 16 58 50.5 -2.2**
OSTC AMS AMS 18 16 00.0
comp=Z,51µm,22.1s
KRLC Kraliky 161.81 320 ePKIKP **PKPdf 16 57 58.6 -1.9**
KRLC MLR MLR
comp=Z,36µm,21.8s
KRLC Kraliky 161.81 320 ePKPDF **PKPdf 16 57 58.6 -1.9**
KRLC AMS AMS 18 21 20.0
comp=Z,36µm,21.8s
EVR Evrytania 161.81 282 P **PKPdf 16 58 00.0 -1.0**
DRO Drossia 161.83 279 P **PKPdf 16 58 00.6 -0.3**
KZN Kozani 161.84 287 P **PKPdf 16 57 59.0 -1.9**
CHVC Chvalec 161.84 323 ePKPDF **PKPdf 16 58 01.4 +0.9**
DPC Dobruska-Polom 161.87 322 ePKIKP **PKPdf 16 57 59.6 -1.0**
DPC MLR MLR
comp=Z,47µm,21.0s
DPC Dobruska-Polom 161.87 322 ePKPDF **PKPdf 16 57 59.6 -1.0**
DPC ex x 16 58 56.0
DPC AMS AMS 18 20 50.0
comp=Z,47µm,21.0s
CLGH Cloghs, Cushen 161.87 9 eP **PKPdf 16 57 59.1 -1.2**
EKA Eskdalemuir Ar 161.88 4 PKP **PKPdf 16 57 60.0 -0.4**
comp=Z,2.0nm,0.7s,baz=328,slow=0.6,SNR=6.8
EKA PKPab **PKPab 16 58 46.2 0.0**
comp=Z,20nm,0.7s,baz=354,slow=2.6,SNR=7.7
ESK Eskdalemuir 161.90 4 eP **PKPdf 16 57 59.2 -1.1**
UPC Upice 161.92 322 ePKIKP **PKPdf 16 58 03.5 +2.9**
UPC MLR MLR
comp=Z,47µm,22.6s
UPC Upice 161.92 322 ePKPDF **PKPdf 16 58 03.5 +2.9**
UPC AMS AMS 18 16 20.0
comp=Z,47µm,22.6s
SKO Skopje 161.95 292 eP **PKPdf 16 58 06.2 +5.3**
PVO Paravola 162.02 281 P **PKPdf 16 58 00.5 -0.5**
NEWG New Galloway 162.03 6 eP **PKPdf 16 57 59.0 -1.5**
RLS Riolos of Patr 162.03 279 P **PKPdf 16 58 00.4 -0.6**
JAVC Velka Javorina 162.04 316 ePKP **PKPdf 16 57 57.7 -3.1**
SRO Srobarova 162.22 312 ePKIKP **PKPdf 16 58 02.0 +1.1**
SRO Srobarova 162.22 312 ePKP **PKPdf 16 58 02.0 +1.1**
PENT Pentalofos 162.33 286 P **PKPdf 16 58 00.0 -1.4**
FRGS Fruska Gora 162.37 303 ⇓P **PKPdf 16 58 00.2 -1.0**
FRGS Fruska Gora 162.37 303 eP **PKPdf 16 57 59.6 -1.6**
SMOL Smolenice 162.37 315 ePKIKP **PKPdf 16 58 00.0 -1.1**
SMOL e 17 02 31.7
VRAC Vranov 162.37 319 ⇑P **PKPdf 16 58 02.2 +1.1**
VRAC Vranov 162.37 319 PKP **PKPdf 16 57 59.9 -1.1**
comp=Z,20nm,1.1s,baz=140,slow=1.3,SNR=11
VRAC PKPab **PKPab 16 58 50.8 +2.2**
comp=Z,52nm,1.1s,baz=88,slow=4.9,SNR=4.4
VRAC Vranov 162.37 319 ePKP **PKPdf 16 57 57.2 -3.9**
VRAC Vranov 162.37 319 ⇑PKIKP **PKPdf 16 58 02.2 +1.1**
**N

MODS				*e*SKSDF			17 05 32.1	
MODS				*e*L	L		17 15 05.0	
DIVS	**Divibare**	**162.56**	**300**	*e*P	**PKPdf**	**16 58 00.3**	**-1.2**	
JAN	**Janina**	**162.56**	**285**	P	**PKPdf**	**16 57 59.3**	**-2.3**	
KBN	**Korca**	**162.57**	**288**	P	**PKPdf**	**16 58 01.3**	**-0.3**	
PVCC	**Panska Ves**	**162.59**	**325**	*e*PKP2	**PKPab**	**16 58 54.7**	**+5.2**	
PVCC				MLR	MLR			
	comp=Z,79µm,25.1s							
PVCC	**Panska Ves**	**162.59**	**325**	*e*pPKP	**PKPab**	**16 58 54.7**	**+5.2**	
PVCC				AMS	AMS	18 15 50.0		
	comp=Z,79µm,25.1s							
KRUC	**Moravsky**	**162.62**	**318**	*e*PKP	**PKPdf**	**16 57 57.3**	**-4.0**	
BRG	**Berggiesshubel**	**162.63**	**326**⇓	*e*PKPf	**PKPdf**	**16 58 00.3**	**-0.9**	
BRG				Amp		16 58 02.6		
	comp=Z,80nm,1.7s							
BRG				*i* x	x	16 58 07.2		
BRG				Amp		16 58 10.8		
	comp=Z,281nm,1.6s							
BRG				*i* x	x	16 58 34.0		
BRG				Amp		16 58 37.5		
	comp=Z,237nm,1.6s							
BRG				*e*PKPab	**PKPab**	**16 58 53.4**	**+3.7**	
BRG				Amp		16 59 05.6		
	comp=Z,120nm,0.9s							
BRG	**Berggiesshubel**	**162.63**	**326**	*e*PP	PP	17 02 39.0	+4.8	
BRG	**Berggiesshubel**	**162.63**	**326**	*ex*	x	17 15 55.0		
BRG	**Berggiesshubel**	**162.63**	**326**	*e*PKP2	**PKPab**	**16 58 53.3**	**+3.7**	
BRG				*e*		17 02 39.0		
BRG				*e*		17 15 55.0		
BRG				pmax	pmax			
	comp=Z,120nm,0.9s							
EVGI	**Lefkada island**	**162.70**	**281**	P	**PKPdf**	**16 58 00.8**	**-0.9**	
LKD2	**Lefkada island**	**162.71**	**282**	P	**PKPdf**	**16 58 00.9**	**-0.9**	
CLL	**Collm**	**162.71**	**329**	*e*PKIKP	**PKPdf**	**16 57 59.0**	**-2.3**	
CLL				*i*		16 58 06.4		
CLL				MLR	MLR			
	comp=Z,76µm,20.9s							
CLL	**Collm**	**162.71**	**329**	*e*PKPdf	**PKPdf**	**16 57 59.0**	**-2.3**	
CLL				*i* pPKPdf	**pPKPdf**	**16 58 06.4**	**-1.8**	
	comp=Z,846nm,2.7s							
CLL				*i* PKPdif	**sPKPdf**	**16 58 15.6**	**+5.0**	
	comp=Z,579nm,2.1s							
CLL				*i* x	x	16 58 25.6		
	comp=Z,190nm,1.4s							
CLL				*ex*	x	16 58 33.0		
CLL				*i* pPKPab	**pPKPab**	**16 58 54.3**	**-2.3**	
	comp=Z,250nm,1.6s							
CLL				*i* x	x	16 59 03.7		
CLL				*e*SKPdf	**SKPdf**	**17 01 29.0**	**-2.8**	
CLL				*e*PP	**PP**	**17 02 32.0**	**-2.6**	
CLL				*es*PP		17 02 44.0		
	comp=Z,461nm,2.2s							
CLL				*ex*	x	17 03 10.0		
CLL				*es*SKSdf	**sSKSdf**	**17 05 19.0**	**+2.9**	
CLL				*es*PPP		17 06 30.0		
CLL				*e*SKKSac	**SKKSac**	**17 09 20.0**	**-1.2**	
CLL				*e*PPPrev		17 10 14.0		
CLL				*e*SKSP		17 12 50.0		
CLL				*ex*	x	17 13 50.0		
CLL				*e*PSKSrev		17 15 54.0		
CLL				*ex*	x	17 17 42.0		
CLL				*es*S	**SS**	**17 23 01.0**	**+5.0**	
CLL				*e*PSPS		17 24 24.0		
CLL				*e*PSSrev		17 30 00.0		
CLL				*e*SSSS		17 33 36.0		
CLL				*ex*	x	17 37 24.0		
CLL				Lm	MLR	18 26 00.0		
	comp=N,58µm,20.9s							
CLL				Lm	MLR	18 26 00.0		
	comp=E,41µm,21.5s							
CLL				Lm	MLR	18 26 00.0		
	comp=Z,76µm,20.9s							
ZST	**Bratislava**	**162.72**	**315**	*e*PKIKP	**PKPdf**	**16 58 00.6**	**-0.8**	
ZST	**Bratislava**	**162.72**	**315**	*e*PKP	**PKPdf**	**16 58 00.6**	**-0.8**	
ZST				*e*SKSDF		17 05 41.2		
PHP	**Peshkopia**	**162.73**	**291**	P	**PKPdf**	**16 57 59.7**	**-2.0**	
PSDA	**Pessada-Kefalo**	**162.73**	**279**	P	**PKPdf**	**16 58 00.5**	**-1.2**	
VLS	**Valsamata**	**162.73**	**280**	P	**PKPdf**	**16 58 00.8**	**-1.0**	
MORH	**Mrgy, Hungar**	**162.74**	**307**	⇑P	**PKPdf**	**16 57 58.2**	**-3.2**	
LSK	**Leskovik**	**162.74**	**286**	P	**PKPdf**	**16 58 00.6**	**-1.2**	
FSK	**Fiskardo**	**162.77**	**281**	P	**PKPdf**	**16 58 01.1**	**-0.7**	
KEF4	**Livadi, Kephal**	**162.87**	**280**	P	**PKPdf**	**16 58 03.2**	**+1.3**	
ILTH	**Belurgan, Co L**	**162.87**	**10**	*e*P	**PKPdf**	**16 58 00.2**	**-1.1**	
IGLA	**Glengowla, Co**	**162.88**	**17**	*e*P	**PKPdf**	**16 58 00.8**	**-0.5**	
KEF3	**Kipouria, Keph**	**162.92**	**280**	P	**PKPdf**	**16 58 01.1**	**-0.8**	
TREC	**Trest**	**162.95**	**320**	AMS	AMS	18 19 20.0		
	comp=Z,58µm,21.7s							
PRU	**Pruhonice**	**162.97**	**323**	*e*PKIKP	**PKPdf**	**16 58 00.4**	**+1.8**	
PRU				MLR	MLR			
	comp=Z,83µm,25.1s							
PRU	**Pruhonice**	**162.97**	**323**	*e*PKPDF	**PKPdf**	**16 58 03.4**	**+1.8**	
PRU				*ex*	x	16 59 00.9		
PRU				AMS	AMS	18 15 40.0		
	comp=Z,83µm,25.1s							
RUDO	**Rudo**	**163.12**	**298**	*e*P	**PKPdf**	**16 58 03.0**	**+1.0**	
TIR	**Tirane**	**163.20**	**291**	P	**PKPdf**	**16 58 01.0**	**-1.1**	
SRN	**Sarande**	**163.22**	**285**	P	**PKPdf**	**16 58 01.0**	**-1.1**	
HPK	**Haverah Park**	**163.31**	**1**	*e*P	**PKPdf**	**16 58 00.8**	**-1.0**	
KEK	**Kerkira**	**163.38**	**285**	P	**PKPdf**	**16 58 00.9**	**-1.4**	
RONA	**Rosalia, Austr**	**163.44**	**315**	*i* P	**PKPdf**	**16 58 02.9**	**+0.7**	
	comp=Z,7.6nm,0.8s,SNR=34							
RONA				*e*P	**pPKPab**	**16 58 59.8**	**-0.3**	
	comp=Z,103nm,1.4s							
PDG	**Podgorica**	**163.47**	**295**	⇓P	**PKPdf**	**16 58 01.7**	**-0.6**	
CONA	**Conrad Observa**	**163.56**	**316**	*i* P	**PKPdf**	**16 58 03.0**	**+0.6**	
	comp=Z,7.1nm,0.8s,SNR=32							
CONA				*e*P	**pPKPab**	**16 58 57.6**	**-3.0**	
	comp=Z,71nm,0.8s							
VLO	**Vlora**	**163.57**	**288**	P	**PKPdf**	**16 58 01.8**	**-0.7**	
DRME	**Dracevica, Mon**	**163.57**	**294**	*e*P	**PKPdf**	**16 58 01.4**	**-1.0**	
WPS	**Cemaes, Angles**	**163.71**	**7**	*e*P	**PKPdf**	**16 58 01.5**	**-0.7**	
NKC	**Novy Kostel**	**163.75**	**327**	*e*PKIKP	**PKPdf**	**16 58 03.5**	**+1.1**	
NKC				MLR	MLR			
	comp=Z,89µm,23.8s							
NKC	**Novy Kostel**	**163.75**	**327**	*e*PKPDF	**PKPdf**	**16 58 03.5**	**+1.1**	
NKC				*ep*PKP	**pPKPab**	**16 58 59.1**	**-2.2**	
NKC				AMS	AMS	18 15 30.0		
	comp=Z,89µm,23.8s							
WLF1	**Llynfaes**	**163.83**	**7**	*e*P	**PKPdf**	**16 58 01.5**	**-0.8**	
CKRC	**Cesky Krumlov**	**163.85**	**321**	*e*PKPDF	**PKPdf**	**16 58 02.9**	**+0.4**	
CKRC				*ex*	x	16 59 03.1		
CKRC				AMS	AMS	18 24 20.0		
	comp=Z,61µm,21.9s							
LBWR	**Ladybower, Pea**	**163.86**	**1**	*e*P	**PKPdf**	**16 58 00.3**	**-2.0**	
BRY	**Bratogost**	**163.89**	**297**	*e*P	**PKPdf**	**16 58 04.5**	**+1.6**	
KHC	**Kasperske Hory**	**164.01**	**323**	*e*PKIKP	**PKPdf**	**16 58 02.6**	**-0.1**	
KHC				MLR	MLR			
	comp=Z,82µm,22.8s							
KHC	**Kasperske Hory**	**164.01**	**323**	*e*PKPDF	**PKPdf**	**16 58 02.6**	**-0.1**	
KHC				*ex*	x	16 59 06.7		
KHC				*e*SKP		17 01 35.7		
KHC				AMS	AMS	18 17 40.0		
	comp=Z,82µm,22.8s							
HCY	**Herceg Novi**	**164.02**	**295**	*e*P	**PKPdf**	**16 58 05.5**	**+2.6**	
KOGS	**Kog**	**164.12**	**311**	*i* PKPdf	**PKPdf**	**16 58 01.4**	**-1.4**	
KOGS				*e*SKPdf	**SKPdf**	**17 01 36.7**	**+3.5**	
ARSA	**Arzberg**	**164.13**	**314**	*i* P	**PKPdf**	**16 58 04.9**	**+2.0**	
	comp=Z,6.6nm,0.7s,SNR=9.4							
ARSA				*e*P	**PKPab**	**16 58 58.8**	**+2.3**	
	comp=Z,53nm,0.9s							
GERES	**GERESS Array B**	**164.14**	**322**	PKP	**PKPdf**	**16 58 03.2**	**+0.3**	
	comp=Z,5.7nm,0.9s,baz=77,slow=2.9,SNR=12							
GERES				PKPab	**PKPab**	**16 58 58.7**	**+2.2**	
	comp=Z,10.0nm,0.8s,baz=55,slow=5.1,SNR=4.7							
STNC	**Stoke**	**164.16**	**2**	*e*P	**PKPdf**	**16 58 01.2**	**-1.3**	
BLY	**Banja Luka**	**164.25**	**304**	*e*P	**PKPdf**	**16 58 02.5**	**-0.5**	
FOEL	**Foel Wylfa**	**164.32**	**4**	*e*P	**PKPdf**	**16 57 59.6**	**-3.2**	
LLW	**Llanuwychllyn**	**164.33**	**6**	*e*P	**PKPdf**	**16 58 00.9**	**-1.8**	
A051A	**Mrakovica**	**164.34**	**305**	*e*P	**PKPdf**	**16 58 01.6**	**-1.5**	
IWEX	**Carrickbyrne,**	**164.40**	**13**	*e*P	**PKPdf**	**16 58 01.2**	**-1.6**	
MGRS	**Mrkonjic Grad**	**164.44**	**303**	*e*P	**PKPdf**	**16 58 08.2**	**+5.0**	
MOA	**Molln**	**164.48**	**318**	*i* P	**PKPdf**	**16 58 05.8**	**+2.7**	
	comp=Z,2.1nm,0.4s,SNR=9.7							
MOA				*e*P	**pPKPab**	**16 59 03.1**	**-1.5**	
	comp=Z,22nm,0.8s							
STON	**Ston**	**164.49**	**297**	*e*P	**PKPdf**	**16 58 00.3**	**-2.9**	
WACR	**West Acre**	**164.49**	**356**	*e*P	**PKPdf**	**16 58 00.9**	**-1.9**	
CWF	**Charnwood Fore**	**164.53**	**0**	*e*P	**PKPdf**	**16 58 00.6**	**-2.3**	
PERS	**Pernice**	**164.69**	**313**	*i* PKPdf	**PKPdf**	**16 58 01.8**	**-1.6**	
PERS				*e*		17 05 27.4		
PERS				*e*		17 13 08.8		
PERS				*e*		17 15 48.5		
HLM1	**Long Mynd**	**164.71**	**4**	*e*P	**PKPdf**	**16 58 02.3**	**-0.8**	

SOKA	**Soboth**	**164.72**	**313**	*i* P	**PKPdf**	**16 58 04.6**	**+1.1**	
	comp=Z,13nm,0.8s,SNR=33							
SOKA				*e*P	**pPKPab**	**16 59 02.9**	**-2.9**	
	comp=Z,17nm,0.7s							
A050A	**Klekovaca**	**164.79**	**304**	*e*P	**PKPdf**	**16 58 02.9**	**-0.7**	
CRES	**Cresnjev**	**164.90**	**310**	*e*P	**PKPdf**	**16 58 02.6**	**-0.9**	
BIOA	**Bad Ischl, Aus**	**164.91**	**318**	*i* P	**PKPdf**	**16 58 06.5**	**+2.9**	
	comp=Z,6.2nm,0.5s,SNR=11							
BIOA				*e*P	**PKPab**	**16 59 01.9**	**+2.0**	
	comp=Z,54nm,1.2s							
OBKA	**Obir**	**165.09**	**313**	*e*P	**PKPdf**	**16 58 02.4**	**-1.4**	
OBKA	**Obir**	**165.09**	**313**	*i* P	**PKPdf**	**16 58 05.3**	**+1.5**	
	comp=Z,11nm,0.8s,SNR=11							
OBKA				*e*P	**PKPab**	**16 58 59.9**	**-0.9**	
	comp=Z,34nm,0.8s							
ELMS	**Elmsett, Ipswi**	**165.10**	**355**	*e*P	**PKPdf**	**16 58 02.2**	**-1.2**	
RSBS	**Rosebush, Pemb**	**165.11**	**9**	*e*P	**PKPdf**	**16 58 01.5**	**-2.0**	
BOJS	**Bojanci**	**165.18**	**309**	*e*P	**PKPdf**	**16 58 02.7**	**-1.0**	
MCH1	**Michaelchurch**	**165.22**	**4**	*e*P	**PKPdf**	**16 58 03.0**	**-0.5**	
LJU	**Ljubljana**	**165.35**	**312**	*i* PKPdf	**PKPdf**	**16 58 03.0**	**-0.8**	
LJU				*e*SKPdf	**SKPdf**	**17 01 37.6**	**+3.4**	
LJU				*e*PP	**PP**	**17 02 52.2**	**+3.2**	
LJU				*e*		17 05 21.8		
LJU				*e*		17 08 05.2		
LJU				*e*		17 09 54.5		
LJU				*e*		17 13 24.8		
LJU				*e*SS	SS	17 23 45.0	+21	
MONM	**Monmouth**	**165.39**	**4**	*e*P	**PKPdf**	**16 58 01.9**	**-1.8**	
KBA	**Koelnbreinsper**	**165.45**	**317**	*i* P	**PKPdf**	**16 58 05.4**	**+1.2**	
	comp=Z,15nm,0.7s,SNR=16							
KBA				*e*P	**PKPab**	**16 59 04.2**	**+1.7**	
MYKA	**Terra Mystica**	**165.55**	**315**	*i* P	**PKPdf**	**16 58 04.9**	**+0.8**	
	comp=Z,6.5nm,0.8s,SNR=5.4							
MYKA				*e*P	**PKPab**	**16 59 05.6**	**+2.9**	
	comp=Z,20nm,0.7s							
CEY	**Cerknica**	**165.57**	**311**	*e*P	**PKPdf**	**16 58 03.2**	**-0.9**	
BEBN	**Eben Emael**	**165.61**	**342**	*d*PKPdf	**PKPdf**	**16 58 00.5**	**-3.4**	
BEBN				*dp*PKPdf	**pPKPdf**	**16 58 06.4**	**-4.5**	
BEBN				*ds*PKP		16 58 09.8		
MATE	**Matera**	**165.66**	**289**	⇑P	**PKPdf**	**16 58 06.0**	**+1.7**	
BTNL	**Ternell**	**165.69**	**341**	*dp*PKPdf	**PKPdf**	**16 58 05.3**	**+1.2**	
BTNL				*ds*PKP		16 58 09.9		
MEM	**Membach**	**165.70**	**341**	*d*PKPdf	**PKPdf**	**16 58 02.4**	**-1.7**	
TIP	**Timpagrande**	**165.75**	**283**	⇑P	**PKPdf**	**16 58 05.6**	**+1.1**	
SWN1	**Swindon**	**165.75**	**2**	*e*P	**PKPdf**	**16 58 01.8**	**-2.2**	
BSTI	**Sart Tilman**	**165.83**	**342**	*ds*PKP		16 58 10.3		
SKDS	**Skadanscina**	**165.91**	**311**	*e*P	**PKPdf**	**16 58 03.1**	**-1.3**	
BHOU	**Houvegnez**	**165.93**	**341**	*d*PKPdf	**PKPdf**	**16 58 00.2**	**-4.0**	
BHOU				*dp*PKPdf	**pPKPdf**	**16 58 06.7**	**-4.5**	
BHOU				*ds*PKP		16 58 10.0		
BCLA	**Clavier**	**166.05**	**342**	*d*PKPdf	**PKPdf**	**16 58 00.1**	**-4.1**	
BCLA				*dp*PKPdf	**pPKPdf**	**16 58 06.4**	**-4.9**	
BCLA				*ds*PKP		16 58 10.1		
BCLA				*d*PKP	**PKPab**	**16 59 02.9**	**-1.8**	
HTL	**Hartland**	**166.08**	**9**	*e*P	**PKPdf**	**16 58 03.5**	**-0.8**	
ABTA	**Abfaltersbach**	**166.10**	**317**	*i* P	**PKPdf**	**16 58 05.5**	**+1.0**	
	comp=Z,9.9nm,0.9s,SNR=12							
ABTA				*e*P	**pPKPab**	**16 59 11.9**	**+0.1**	
	comp=Z,35nm,1.1s							
PMOZ	**Porto Moniz, M**	**166.17**	**104**	*e*PKPdf	**PKPdf**	**16 58 07.2**	**+2.1**	
PMOZ	**Porto Moniz, M**	**166.17**	**104**	*e*PKPab	**PKPab**	**16 59 13.5**	**+7.4**	
PMOZ	**Porto Moniz, M**	**166.17**	**104**	*e*PP	**PP**	**17 02 57.0**	**+3.0**	
PMOZ	**Porto Moniz, M**	**166.17**	**104**	*e*LR	LR	18 00 48.2		
	comp=Z,54µm,20.0s							
WATA	**Walderalm**	**166.21**	**321**	*i* P	**PKPdf**	**16 58 04.5**	**-0.2**	
	comp=Z,20nm,0.8s,SNR=10							
WATA				*e*P	**pPKPab**	**16 59 12.0**	**-0.4**	
WTTA	**Wattenberg**	**166.23**	**321**	*i* P	**PKPdf**	**16 58 04.6**	**-0.2**	
	comp=Z,30nm,1.0s,SNR=9.9							
WTTA				*e*P	**pPKPab**	**16 59 13.5**	**+1.0**	
	comp=Z,32nm,0.9s							
BMRD	**Maredsous**	**166.28**	**344**	*dp*PKPdf	**PKPdf**	**16 58 06.9**	**+2.4**	
BMRD				*ds*PKP		16 58 10.6		
RCHB	**Rochefort**	**166.31**	**342**	*d*PKPdf	**PKPdf**	**16 58 03.3**	**-1.2**	
RCHB				*dp*PKPdf	**pPKPdf**	**16 58 07.6**	**-5.0**	
RCHB				*ds*PKP		16 58 10.3		
FUL	**Funchal**	**166.34**	**105**	*e*PKPdf	**PKPdf**	**16 58 12.7**	**+7.6**	
FUL	**Funchal**	**166.34**	**105**	*e*PKPab	**PKPab**	**16 59 13.4**	**+6.8**	
PMAR	**Madeira**	**166.35**	**105**	*e*PKPdf	**PKPdf**	**16 58 07.9**	**+2.6**	
PMAR	**Madeira**	**166.35**	**105**	*e*PKP	**PKPdf**	**16 58 08.0**	**+2.6**	
PMAR	**Madeira**	**166.35**	**105**	*e*PKPab	**PKPab**	**16 59 13.9**	**+7.0**	
PMAR	**Madeira**	**166.35**	**105**	*e*PP	**PP**	**17 02 55.1**	**+0.1**	
HMNX	**Herstmonceux**	**166.36**	**356**	*e*P	**PKPdf**	**16 58 03.1**	**-1.4**	
MOTA	**Moosalm**	**166.44**	**322**	*e*P	**PKPdf**	**16 58 04.8**	**-0.2**	
	comp=Z,43nm,0.9s							
MOTA				*e*P	**pPKPab**	**16 59 13.3**	**0.0**	
	comp=Z,33nm,0.8s							
SQTA	**Sankt Quirin**	**166.47**	**321**	*i* P	**PKPdf**	**16 58 06.2**	**+1.3**	
	comp=Z,34nm,0.9s,SNR=9.8							
SQTA				*e*P	**pPKPab**	**16 59 13.5**	**0.0**	
	comp=Z,27nm,0.7s							
RETA	**Reutte**	**166.51**	**323**	*i* P	**PKPdf**	**16 58 10.7**	**+5.8**	
	comp=Z,20nm,0.8s,SNR=7.9							
RETA				*e*P	**sPKPab**	**16 59 14.9**	**-1.0**	
	comp=Z,1.9nm,0.2s							
DOU	**Dourbes**	**166.52**	**344**	*d*PKPdf	**PKPdf**	**16 58 00.4**	**-4.3**	
DOU				*dp*PKPdf	**pPKPdf**	**16 58 07.2**	**-4.4**	
WLF	**Walferdange**	**166.52**	**339**	*dp*PKPdf	**PKPdf**	**16 58 07.1**	**+2.4**	
WLF				*ds*PKP		16 58 11.0		
DYA	**Yadsworthy**	**166.69**	**8**	*e*P	**PKPdf**	**16 58 04.1**	**-0.7**	
FETA	**Feichten**	**166.85**	**322**	*i* P	**PKPdf**	**16 58 06.5**	**+1.2**	
	comp=Z,18nm,1.0s,SNR=17							
FETA				*e*P	**pPKPab**	**16 59 14.3**	**-0.9**	
	comp=Z,36nm,1.1s							
PMPS	**Porto Santo**	**166.93**	**104**	*e*PKPdf	**PKPdf**	**16 58 11.4**	**+5.9**	
PMPS	**Porto Santo**	**166.93**	**104**	*e*PP	PP	17 03 03.0	+5.3	
PMPST	**Porto Santo, M**	**166.94**	**104**	*e*PKPdf	**PKPdf**	**16 58 09.7**	**+4.1**	
PMPST	**Porto Santo, M**	**166.94**	**104**	*e*PP	**PP**	**17 03 01.4**	**+3.6**	
DAVA	**Damuels**	**167.07**	**324**	*i* P	**PKPdf**	**16 58 07.2**	**+1.8**	
	comp=Z,40nm,1.1s,SNR=8.0							
DAVA				*e*P	**pPKPab**	**16 59 15.5**	**-0.6**	
	comp=Z,55nm,1.1s							
DAVOX	**Davos/Dischmat**	**167.43**	**323**	PKP	**PKPdf**	**16 58 05.7**	**-0.1**	
	comp=Z,11nm,0.7s,baz=84,slow=2.8,SNR=14							
DAVOX				PKPab	**PKPab**	**16 59 12.5**	**+1.2**	
	comp=Z,26nm,0.8s,baz=76,slow=9.2,SNR=1.9							
VAE	**Valguarnera**	**167.57**	**276**	PKP	**PKPdf**	**16 58 06.9**	**+0.9**	
	comp=Z,4.8nm,0.5s,baz=125,slow=2.7,SNR=1.3							
JSA	**Saint Aubin**	**168.07**	**3**	*e*P	**PKPdf**	**16 58 05.2**	**-0.6**	
TTIG	**Tnine Tigouga,**	**171.00**	**136**	P	PKPdf	16 58 17.0	+8.6	
EAH	**EAH**	**171.10**	**127**	P	PKPdf	16 58 18.0	+10	
KEST	**Kesra**	**171.36**	**263**	PKP	**PKPdf**	**16 58 07.5**	**-0.8**	
	comp=Z,3.3nm,1.0s,baz=198,slow=22,SNR=2.2							
KEST				PKPab	**PKPab**	**16 59 30.1**	**+1.1**	
	comp=Z,47nm,1.0s,baz=258,slow=0.5,SNR=1.7							
KEST				PP	**PP**	**17 03 22.6**	**+2.3**	
	comp=Z,27nm,1.0s,baz=262,slow=7.7,SNR=2.5							
PGAV	**Gavieira, Arco**	**172.81**	**47**	*e*PKPdf	**PKPdf**	**16 58 09.5**	**+0.7**	
PGAV	**Gavieira, Arco**	**172.81**	**47**	*e*PKPab	**PKPab**	**16 59 39.3**	**+4.2**	
PGAV	**Gavieira, Arco**	**172.81**	**47**	*e*PP	**PP**	**17 03 30.4**	**+3.6**	
PGAV	**Gavieira, Arco**	**172.81**	**47**	*e*SS	SS	17 24 47.7	+9.1	
PGAV	**Gavieira, Arco**	**172.81**	**47**	*e*LR	LR	18 02 19.7		
	comp=Z,85µm,20.0s							
PCAB	**Cabril**	**173.11**	**48**	*e*PKPdf	**PKPdf**	**16 58 11.9**	**+3.0**	
PCAB	**Cabril**	**173.11**	**48**	*e*PKPab	**PKPab**	**16 59 41.4**	**+5.0**	
PCAB	**Cabril**	**173.11**	**48**	*e*PP	**PP**	**17 03 31.4**	**+3.2**	
PMAFR	**Mafra**	**173.41**	**73**	*e*PKPdf	**PKPdf**	**16 58 10.5**	**+1.5**	
PMAFR	**Mafra**	**173.41**	**73**	*e*PKPab	**PKPab**	**16 59 44.1**	**+6.2**	
PMAFR	**Mafra**	**173.41**	**73**	*e*PP	**PP**	**17 03 33.2**	**+3.0**	
POLO	**Lamas de Olo**	**173.45**	**49**	*e*PKPdf	**PKPdf**	**16 58 09.8**	**+0.7**	
POLO	**Lamas de Olo**	**173.45**	**49**	*e*PKPab	**PKPab**	**16 59 42.7**	**+4.7**	
PMST	**Lisbon--Monsan**	**173.53**	**74**	*e*PKPdf	**PKPdf**	**16 58 10.1**	**+1.0**	
PMST	**Lisbon--Monsan**	**173.53**	**74**	*e*PKPab	**PKPab**	**16 59 44.6**	**+6.2**	
PMST	**Lisbon--Monsan**	**173.53**	**74**	*e*PP	**PP**	**17 03 34.2**	**+3.4**	
PVRL	**Vila Real**	**173.56**	**50**	*e*PKPdf	**PKPdf**	**16 58 13.1**	**+4.0**	
PVRL	**Vila Real**	**173.56**	**50**	*e*PKPab	**PKPab**	**16 59 43.6**	**+5.2**	
PVRL	**Vila Real**	**173.56**	**50**	*e*PP	**PP**	**17 03 31.7**	**+1.3**	
AVE	**Averroes**	**173.56**	**126**	PKP	**PKPdf**	**16 58 09.9**	**+0.6**	
LIS	**Lisbon**	**173.56**	**75**	*e*PKPdf	**PKPdf**	**16 58 09.7**	**+0.6**	
LIS				*e*PP	**PP**	**17 03 30.1**	**-0.8**	
LIS				*e*SS	SS	17 24 45.7	-1.2	
LIS				IAMs_20	IAMs_20	18 09 11.3		
	comp=Z,118µm,20.8s							
LIS	**Lisbon**	**173.56**	**75**	*e*PKIKP	**PKPdf**	**16 58 09.7**	**+0.6**	
LIS				*e*		17 03 30.1		
LIS				*e*SS	SS	17 24 45.7	-1.2	
PSBE	**So Bento**	**173.63**	**67**	*e*PKPdf	**PKPdf**	**16 58 10.7**	**+1.6**	
PSBE	**So Bento**	**173.63**	**67**	*e*PKPab	**PKPab**	**16 59 45.5**	**+6.7**	
PSBE	**So Bento**	**173.63**	**67**	*e*PP	**PP**	**17 03 35.0**	**+3.8**	
PCAS	**Casmilo, Conde**	**173.65**	**62**	*e*PKPdf	**PKPdf**	**16 58 11.3**	**+2.2**	
PCAS	**Casmilo, Conde**	**173.65**	**62**	*e*PKPab	**PKPab**	**16 59 44.9**	**+6.0**	
PCAS	**Casmilo, Conde**	**173.65**	**62**	*e*PP	**PP**	**17 03 33.5**	**+2.3**	
PVIS	**Viseu**	**173.76**	**55**	*e*PKPdf	**PKPdf**	**16 58 09.2**	**0.0**	

PVIS	**Viseu**	**173.76**	**55**	*e*PKPab	**PKPab**	**16 59 44.4**	**+5.1**	
PVIS	**Viseu**	**173.76**	**55**	*e*PP	**PP**	**17 03 32.6**	**+1.0**	
PBRG	**Braganca**	**173.77**	**42**	*e*PKPdf	**PKPdf**	**16 58 11.9**	**+2.8**	
PBRG	**Braganca**	**173.77**	**42**	*e*PKPab	**PKPab**	**16 59 44.1**	**+4.8**	
PBRG	**Braganca**	**173.77**	**42**	*e*PP	**PP**	**17 03 29.5**	**-1.7**	
PACT	**Alcochete**	**173.80**	**74**	*e*PKPdf	**PKPdf**	**16 58 13.0**	**+3.9**	
PACT	**Alcochete**	**173.80**	**74**	*e*PKPab	**PKPab**	**16 59 45.6**	**+6.1**	
PACT	**Alcochete**	**173.80**	**74**	*e*PP	**PP**	**17 03 35.9**	**+3.8**	
PFVI	**Vila Bisbo**	**173.92**	**89**	*e*PKPdf	**PKPdf**	**16 58 11.0**	**+1.7**	
PFVI	**Vila Bisbo**	**173.92**	**89**	*e*PKPab	**PKPab**	**16 59 47.2**	**+7.0**	
PFVI	**Vila Bisbo**	**173.92**	**89**	*e*PP	**PP**	**17 03 35.5**	**+2.7**	
PTEO	**Sao Teotonio**	**174.01**	**85**	*e*PKPdf	**PKPdf**	**16 58 10.9**	**+1.6**	
PTEO	**Sao Teotonio**	**174.01**	**85**	*e*PKPab	**PKPab**	**16 59 47.7**	**+7.1**	
PTEO	**Sao Teotonio**	**174.01**	**85**	*e*PP	**PP**	**17 03 37.8**	**+4.5**	
MVO	**Moncorvo**	**174.04**	**48**	*e*PKPdf	**PKPdf**	**16 58 10.7**	**+1.4**	
MVO	**Moncorvo**	**174.04**	**48**	*e*PKPab	**PKPab**	**16 59 46.5**	**+6.0**	
MVO	**Moncorvo**	**174.04**	**48**	*e*PP	**PP**	**17 03 33.0**	**+0.3**	
MVO	**Moncorvo**	**174.04**	**48**	*e*SS	SS	17 24 38.6	-12	
MVO	**Moncorvo**	**174.04**	**48**	*e*LR	LR	18 00 27.3		
	comp=Z,64µm,22.0s							
MORF	**Marmelete**	**174.06**	**87**	*e*PKPdf	**PKPdf**	**16 58 09.8**	**+0.4**	
MORF				*e*PP	**PP**	**17 03 32.2**	**-1.4**	
MORF				*e*SS	SS	17 24 50.3	-1.8	

MKRZ	**Makatiti**	**2.10 238**	P	**Pb**	**16 44 32.1**	**-0.8**
MUGZ	**Murupara**	**2.10 227**	P	**Pn**	**16 44 30.4**	**+1.6**
TARZ	**Mount Tarawera**	**2.12 236**	P	**Pb**	**16 44 32.2**	**-1.2**
KNZ	**Kokohu**	**2.13 203**	P	**Pn**	**16 44 30.4**	**+1.3**
KNZ			S	**Sn**	**16 44 52.1**	**-2.4**
HLRZ	**Highlands Stat**	**2.23 237**	P	**Pb**	**16 44 33.9**	**-1.4**
NGRZ	**Ngongotaha**	**2.27 242**	P	**Pb**	**16 44 35.1**	**-0.9**
UTU	**Utuhina**	**2.30 240**	P	**Pb**	**16 44 36.2**	**-0.2**
KMRZ	**Kaimai**	**2.35 250**	P	**Pb**	**16 44 36.0**	**-1.4**
KUZ	**Kuaotunu**	**2.43 276**	P	**Pb**	**16 44 38.9**	**+0.3**
GRRZ	**Galatos Road**	**2.45 237**	P	**Pb**	**16 44 37.3**	**-1.6**
BKZ	**Black Stump Fm**	**2.75 219**	Pn	**Pn**	**16 44 38.0**	**+0.3**
GRZ	**Great Barrier**	**2.75 266**	P	**Pb**	**16 44 44.4**	**+0.3**
MKAZ	**Moumakai**	**2.86 268**	P	**Pb**	**16 44 44.5**	**-1.3**
HIZ	**Hauiti**	**3.40 244**	Pn	**Pn**	**16 44 48.3**	**+1.8**
WCZ	**Waipu Caves**	**3.71 286**	P	**Pb**	**16 44 56.5**	**-3.8**
MSWZ	**Moikau Station**	**5.12 211**	Pn	**Pn**	**16 45 10.3**	**+0.1**
PLWZ	**Palliser**	**5.25 210**	Pn	**Pn**	**16 45 14.5**	**+2.4**
SNZO	**South Karori**	**5.27 215**	Pn	**Pn**	**16 45 13.6**	**+1.3**
TUWZ	**Tuamarina**	**5.73 219**	Pn	**Pn**	**16 45 19.3**	**+0.7**
STKA	**Stephens Creek**	**30.92 269**	P	**P**	**16 50 10.7**	**+1.0**
TARA	**Tarawa**	**38.60 351**	P	**P**	**16 51 17.5**	**+1.5**
COEN	**Coen**	**39.14 297**	P	**P**	**16 51 21.8**	**+1.1**
COEN			IAmb	IAmb	16 51 31.9	
	comp=Z,77nm,1.0s					
PMG	**Port Moresby**	**39.65 306**	P	**P**	**16 51 25.7**	**+0.8**
PMG			IAmb	IAmb	16 51 38.3	
	comp=Z,116nm,0.9s					
AS31	**Alice Springs**	**40.56 276**	P	**P**	**16 51 31.8**	**-0.7**
AS31			IAmb	IAmb	16 51 54.2	
	comp=Z,72nm,1.2s					
ASAR	**Alice Springs**	**40.56 276**	P	**P**	**16 51 32.7**	**+0.3**
ASAR	**Alice Springs**	**40.56 276**	ScP	**P**	**16 51 32.4**	**-0.1**
	comp=Z,24nm,0.7s,baz=122,slow=3.3,SNR=1.9					
RABL	**Rabaul**	**40.79 317**	P	**P**	**16 51 32.1**	**-2.2**
VNDA	**Vanda**	**41.22 186**	P	**P**	**16 51 37.5**	**+0.4**
VNDA			IAmb	IAmb	16 51 40.5	
	comp=Z,79nm,1.1s					
SBA	**Scott Base**	**41.22 184**	P	**P**	**16 51 38.0**	**+0.8**
SBA			IAmb	IAmb	16 51 47.7	
	comp=Z,136nm,1.2s					
WR0	**Warramunga Arr**	**42.00 281**	P	**P**	**16 51 41.9**	**-2.4**
WR0			IAmb	IAmb	16 51 46.1	
	comp=Z,179nm,1.1s					
FORT	**Forrest**	**42.11 263**	P	**P**	**16 51 42.6**	**-2.5**
WRA	**Warramunga Arr**	**42.16 281**	P	**P**	**16 51 43.6**	**-2.1**
WB0	**Warramunga Arr**	**42.22 282**		**P**	**16 51 43.9**	**-2.2**

IDC 01 16:44:24.3±3.0, 36°.92S×178°.75E, h0km, mb5.0/4, mbtmp5.0/4, Error ellipse: s-maj=70.2km s-min=39.0km az=122.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.86 224**		Pn	Pn	16 44 56.6	-0.8
	1µm,0.3s,baz=301,slow=3.6,SNR=6.1						
URZ				Sn	Sn	16 45 18.9	-2.8
	1µm,0.3s,baz=301,slow=23,SNR=6.0						
STKA	**Stephens Creek**	**30.93 268**		P	P	16 50 43.5	+0.6
	13nm,0.6s,baz=82,slow=8.7,SNR=1.3						
	13nm,0.6s						
WRA	**Warramunga Arr**	**42.15 281**		P	P	16 52 18.0	-0.6
	30nm,0.7s,baz=119,slow=8.2,SNR=3.3						
	30nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.04 277**		P	P	16 53 21.1	+0.3
	26nm,0.9s,baz=144,slow=8.7,SNR=1.2						
	26nm,0.9s						
SIJI	**Sorong**	**56.59 298**		P	P	16 54 09.0	-0.1
	5.8nm,0.5s,baz=111,slow=8.6,SNR=1.8						
	5.8nm,0.5s						
FINES	**FINESS Array B**	**150.07 334**		PKPbc	PKPbc	17 04 15.6	-0.4
	4.4nm,0.6s,baz=53,slow=3.3,SNR=6.1						

*IDC **01** 16:45:43.2±3.4, 36°.89S×179°.32E, h0km, mb5.2/4, mbtmp5.1/5, ML4.3/1, Error ellipse: s-maj=87.6km s-min=45.6km az=137.0*

*WEL **01** 16:45:49.4±1.3, 37°.5S×17°.9E±1°.0, h10km±5km, M4.5/7, ML5.0/12, MLv4.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=95.2*

ISC 01 16:45:46.8±2.1, 37°.14S±0°.06×179°.07E±0°.10, h16km±10km, n28, σ1°.54/38, mb5.0/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74 235**		P	**Pg**	**16 46 01.3**	**0.0**
MXZ				S	**Sb**	**16 46 10.4**	**-0.8**
WMGZ	**Waiomatatini S**	**0.86 217**		P	**Pn**	**16 46 04.8**	**+0.6**
WMGZ				S	**Sn**	**16 46 17.3**	**+0.8**
PKGZ	**Pakihiroa**	**1.09 226**		P	**Pg**	**16 46 08.6**	**+0.8**
PKGZ				S	**Sn**	**16 46 22.2**	**-0.1**
PUZ	**Puketiti**	**1.13 214**		P	**Pg**	**16 46 08.6**	**-0.1**
PUZ				S	**Sg**	**16 46 23.9**	**+0.3**
HAZ	**Te Kaha**	**1.20 238**		P	**Pb**	**16 46 08.8**	**-0.2**
TWGZ	**Tauwhareparae**	**1.35 219**		P	**Pg**	**16 46 13.3**	**+0.5**
TWGZ				S	**Sg**	**16 46 29.8**	**-0.6**
RUGZ	**Raukumara Rang**	**1.38 233**		P	**Pg**	**16 46 12.9**	**-0.6**
CNGZ	**Carnagh Statio**	**1.51 207**		P	**Pg**	**16 46 14.6**	**-1.3**
CNGZ				S	**Sg**	**16 46 35.3**	**-0.2**
MWZ	**Matawai**	**1.71 225**		P	**Pb**	**16 46 17.3**	**-0.6**
MWZ				S	**Sb**	**16 46 38.5**	**-0.7**
WHRZ	**Whale Island**	**1.81 246**		P	**Pb**	**16 46 19.8**	**+0.2**
URZ	**Urewera**	**1.91 234**		Pn	**Pb**	**16 46 20.4**	**-0.9**
	90nm,0.3s,baz=301,slow=6.1,SNR=1.0						
URZ				Sn	**Sn**	**16 46 43.1**	**+0.6**
	289nm,0.3s,baz=301,slow=19,SNR=6.0						
	698nm,0.3s						
URZ	**Urewera**	**1.91 234**		P	**Pb**	**16 46 19.9**	**-1.4**
URZ				S	**Sn**	**16 46 43.1**	**+0.6**
KUZ	**Kuaotunu**	**2.71 277**		P	**Pn**	**16 46 29.8**	**+0.1**
KUZ				S	**Sn**	**16 46 58.0**	**-4.2**
GRZ	**Great Barrier**	**3.03 286**		P	**Pn**	**16 46 35.7**	**+1.5**
MKAZ	**Moumakai**	**3.12 269**		P	**Pn**	**16 46 36.1**	**+0.7**
ETAZ	**East Tamaki Re**	**3.32 272**		P	**Pn**	**16 46 40.7**	**+2.6**
ABAZ	**Army Bay**	**3.44 278**		P	**Pn**	**16 46 41.6**	**+1.9**
EPAZ	**Eden Park BICE**	**3.47 273**		P	**Pn**	**16 46 43.2**	**+3.0**
HBAZ	**Herne Bay Bore**	**3.48 273**		P	**Pn**	**16 46 43.3**	**+3.0**
HIZ	**Hauiti**	**3.61 246**		P	**Pn**	**16 46 44.9**	**+2.8**
RVAZ	**Riverhead Bore**	**3.61 274**		P	**Pn**	**16 46 43.2**	**+1.0**
WCZ	**Waipu Caves**	**3.99 286**		P	**Pn**	**16 46 48.9**	**+1.7**
OUZ	**Omahuta**	**4.82 292**		P	**Pn**	**16 47 00.8**	**+2.1**
ASAR	**Alice Springs**	**40.84 276**		P	**P**	**16 53 28.4**	**+0.4**
	16nm,0.6s,baz=118,slow=8.1,SNR=4.0						
	16nm,0.6s						
WRA	**Warramunga Arr**	**42.44 281**		P	**P**	**16 53 41.1**	**0.0**
	24nm,0.7s,baz=121,slow=7.9,SNR=6.0						
	24nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.32 277**		P	**P**	**16 54 43.0**	**+0.1**
	131nm,1.2s,baz=122,slow=10,SNR=2.4						
	131nm,1.2s						
CMAR	**Chiang Mai Arr**	**93.39 290**		P	**P**	**16 59 02.3**	**+0.7**
	2.3nm,0.9s,baz=150,slow=4.0,SNR=1.4						
	2.3nm,0.9s						
FINES	**FINESS Array B**	**150.38 334**		PKPbc	**PKPbc**	**17 05 34.1**	**-2.4**
	4.0nm,0.7s,baz=66,slow=3.5,SNR=1.7						

*NEIC **01** 16:47:14.5±2.4, 37°.44S±0°.08×179°.49E±0°.05, h10km±5km, mb5.5/18, Error ellipse: s-maj=12.4km s-min=5.7km az=166.0*

*IDC **01** 16:47:20.2±1.0, 37°.15S×178°.79E, h0km, mb5.0/12, mbtmp5.0/12, Error ellipse: s-maj=25.8km s-min=22.5km az=162.0*

*WEL **01** 16:47:24.4±1.0, 37°.5S±4°×17°.9E±°, h20km±4km, M4.9/25, ML5.3/15, MLv4.9/25, Error ellipse: s-maj=0.0km s-min=0.0km az=88.1*

ISC 01 16:47:16.2±1.3, 37°.22S±0°.04×179°.24E±0°.05, h8km±7km, n177, σ2°.13/192, mb5.2/23, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.81 245**			**Pn**	**16 47 33.5**	**-0.5**
MXZ				Sg	**Sg**	**16 47 40.8**	**-1.7**
MXZ	**Matakaoa Point**	**0.81 245**		P	**Pn**	**16 47 33.5**	**-0.5**
MXZ				S	**Sg**	**16 47 41.0**	**-1.5**
WMGZ	**Waiomatatini S**	**0.88 227**		P	**Pn**	**16 47 36.9**	**+1.9**
WMGZ				S	**Sn**	**16 47 47.1**	**-0.8**
PKGZ	**Pakihiroa**	**1.14 234**		P	**Pn**	**16 47 40.1**	**+1.6**
PKGZ				S	**Sg**	**16 47 52.8**	**0.0**
PUZ	**Puketiti**	**1.15 222**		P	**Pn**	**16 47 40.9**	**+2.3**
PUZ				S	**Sb**	**16 47 53.8**	**+0.3**
HAZ	**Te Kaha**	**1.27 245**		P	**Pg**	**16 47 42.4**	**+1.7**
HAZ				S	**Sb**	**16 47 56.2**	**-0.7**
TWGZ	**Tauwhareparae**	**1.38 226**		P	**Pg**	**16 47 44.3**	**+1.6**
TWGZ				S	**Sb**	**16 47 59.7**	**-0.4**
RUGZ	**Raukumara Rang**	**1.44 239**		P	**Pg**	**16 47 45.2**	**+1.3**
CNGZ	**Carnagh Statio**	**1.50 213**		P	**Pg**	**16 47 46.7**	**+1.7**
CNGZ				S	**Sg**	**16 48 05.0**	**+0.5**
TKGZ	**Te Karaka**	**1.64 222**		P	**Pb**	**16 47 47.2**	**+0.5**
TKGZ				S	**Sn**	**16 48 05.0**	**-1.6**
WIZ	**White Island**	**1.66 259**		P	**Pg**	**16 47 48.0**	**-0.1**
WSRZ	**White Island S**	**1.67 259**		P	**Pg**	**16 47 48.3**	**+0.1**
MWZ	**Matawai**	**1.75 230**		P	**Pb**	**16 47 48.8**	**+0.1**
MWZ				S	**Sn**	**16 48 07.4**	**-1.7**
RIGZ	**Rimuhau**	**1.89 218**		P	**Pb**	**16 47 50.4**	**-0.5**
WHRZ	**Whale Island**	**1.91 250**		P	**Pb**	**16 47 51.3**	**0.0**
RAGZ	**Rawiri**	**1.92 228**		P	**Pb**	**16 47 51.6**	**0.0**
URZ	**Urewera**	**1.98 238**		Pn	**Pb**	**16 47 52.4**	**-0.1**
	690nm,0.3s,baz=301,slow=3.2,SNR=9.1						
URZ				Sn	**Sn**	**16 48 14.3**	**-0.7**
	978nm,0.3s,baz=121,slow=23,SNR=10.0						
URZ	**Urewera**	**1.98 238**		Pn	**Pb**	**16 47 52.1**	**-0.3**
URZ				Sn	**Sn**	**16 48 12.1**	**-2.9**
URZ	**Urewera**	**1.98 238**		P	**Pb**	**16 47 52.5**	**-0.1**
URZ				S	**Sn**	**16 48 14.2**	**-0.7**
PRGZ	**Paritu Road**	**2.01 212**		P	**Pb**	**16 47 52.8**	**-0.2**
PRGZ				S	**Sn**	**16 48 14.4**	**-1.3**
SNGZ	**Shannon Statio**	**2.16 223**		P	**Pb**	**16 47 55.7**	**+0.1**
EDRZ	**Edgecumbe**	**2.17 245**		P	**Pb**	**16 47 55.0**	**-0.8**
MARZ	**Manawahe**	**2.17 249**		P	**Pb**	**16 47 54.6**	**-1.2**
MARZ				S	**Sn**	**16 48 17.1**	**-2.7**
MHGZ	**Mahia Peninsul**	**2.19 208**		P	**Pb**	**16 47 56.2**	**0.0**
MHGZ				S	**Sn**	**16 48 20.7**	**+0.4**
OPRZ	**Ohinepanea**	**2.22 253**		P	**Pb**	**16 47 55.0**	**-1.6**
OPRZ				S	**Sn**	**16 48 18.0**	**-2.9**
MUGZ	**Murupara**	**2.32 237**		P	**Pb**	**16 47 56.6**	**-1.7**
MKRZ	**Makatiti**	**2.38 247**		P	**Pb**	**16 47 58.5**	**-0.9**
TARZ	**Mount Tarawera**	**2.39 244**		P	**Pb**	**16 47 58.3**	**-1.3**
MYRZ	**Mayor Island**	**2.39 268**		P	**Pb**	**16 47 58.1**	**-1.5**
LIRZ	**Lichensteins R**	**2.40 250**		P	**Pn**	**16 47 56.0**	**+0.3**
RAHZ	**Arahi**	**2.40 224**		P	**Pb**	**16 47 57.9**	**-1.8**
TGRZ	**Tauranga**	**2.42 257**		P	**Pn**	**16 47 58.0**	**+1.9**
RRRZ	**Republican Roa**	**2.43 242**		P	**Pb**	**16 47 58.5**	**-1.7**
OMRZ	**Omania**	**2.44 248**		P	**Pb**	**16 47 59.0**	**-1.4**
MTHZ	**Maungataniwha**	**2.50 229**		P	**Pb**	**16 47 59.5**	**-1.9**
KARZ	**Kaharoa**	**2.51 251**		P	**Pb**	**16 47 59.4**	**-2.1**
HLRZ	**Highlands Stat**	**2.51 245**		P	**Pb**	**16 47 59.6**	**-1.9**
NGRZ	**Ngongotaha**	**2.57 249**		P	**Pb**	**16 48 00.8**	**-1.9**
PRRZ	**Plateau Road**	**2.59 240**		P	**Pn**	**16 48 00.2**	**+1.8**
UTU	**Utuhina**	**2.59 248**		P	**Pb**	**16 48 01.5**	**-1.5**
HSRZ	**Hossack Road**	**2.61 244**		P	**Pb**	**16 48 01.4**	**-1.8**
HRRZ	**Handcock Road**	**2.61 243**		P	**Pn**	**16 48 00.9**	**+2.1**
ALRZ	**Allen Road**	**2.65 239**		P	**Pn**	**16 48 01.1**	**+1.8**
NMHZ	**Naumai**	**2.68 225**		P	**Pb**	**16 48 02.3**	**-2.2**
KMRZ	**Kaimai**	**2.69 256**		P	**Pn**	**16 48 01.7**	**+1.9**
ARHZ	**Aropaoanui**	**2.69 220**		P	**Pn**	**16 48 01.6**	**+1.8**
GRRZ	**Galatos Road**	**2.72 245**		P	**Pn**	**16 48 02.6**	**+2.4**
MRHZ	**Matea Rd**	**2.75 233**		P	**Pn**	**16 48 02.6**	**+2.0**
WPRZ	**Whakapapatarin**	**2.76 241**		P	**Pn**	**16 48 03.1**	**+2.3**
KUZ	**Kuaotunu**	**2.85 279**		P	**Pb**	**16 48 04.8**	**-2.6**
BKZ	**Black Stump Fm**	**2.91 227**			**Pn**	**16 48 04.3**	**+1.5**
BKZ	**Black Stump Fm**	**2.91 227**		P	**Pn**	**16 48 04.6**	**+1.8**
CKHZ	**Cape Kidnapper**	**2.96 214**		P	**Pn**	**16 48 04.5**	**+0.9**
WHTZ	**Whakaora**	**2.97 240**		P	**Pn**	**16 48 06.8**	**-2.6**
KUTZ	**Kaahu Road**	**2.98 244**		P	**Pn**	**16 48 05.9**	**+2.1**
HATZ	**Hinemaiaia**	**2.99 235**		P	**Pn**	**16 48 05.7**	**+1.7**
TOZ	**Tahuroa Road**	**3.01 259**		P	**Pn**	**16 48 06.0**	**+1.8**
TLZ	**Tolley Road**	**3.13 248**		P	**Pn**	**16 48 07.9**	**+2.0**
WATZ	**Wairara**	**3.14 241**		P	**Pn**	**16 48 08.4**	**+2.4**
KAHZ	**Kahuranaki**	**3.17 215**		P	**Pn**	**16 48 07.2**	**+0.9**
GRZ	**Great Barrier**	**3.19 287**		P	**Pb**	**16 48 09.9**	**-3.2**
RITZ	**Rihia Road**	**3.19 236**		P	**Pn**	**16 48 08.8**	**+2.1**
RATZ	**Rangitukua**	**3.19 238**		P	**Pn**	**16 48 08.8**	**+2.1**
MKAZ	**Moumakai**	**3.26 271**		P	**Pn**	**16 48 09.0**	**+1.4**
KATZ	**Kakaramea**	**3.30 237**		P	**Pn**	**16 48 10.4**	**+2.2**
KRHZ	**Kereru**	**3.30 222**		P	**Pn**	**16 48 09.6**	**+1.4**
WIAZ	**Waiheke Island**	**3.31 276**		P	**Pn**	**16 48 09.8**	**+1.4**
TMVZ	**Te Maari**	**3.37 235**		P	**Pn**	**16 48 10.8**	**+1.6**
BHHZ	**Black Hill Sta**	**3.37 227**		P	**Pn**	**16 48 10.5**	**+1.3**
ETVZ	**East Tongariro**	**3.37 234**		P	**Pn**	**16 48 10.8**	**+1.5**
NTVZ	**North Tongarir**	**3.37 235**		P	**Pn**	**16 48 11.0**	**+1.7**
KRVZ	**Kawhatau**	**3.40 235**		P	**Pn**	**16 48 13.3**	**+1.7**
OTVZ	**Oturere**	**3.42 234**		P	**Pn**	**16 48 11.6**	**+1.6**
NNVZ	**North Ngauruho**	**3.43 235**		P	**Pn**	**16 48 12.2**	**+2.1**
WTVZ	**West Tongariro**	**3.44 236**		P	**Pn**	**16 48 12.1**	**+1.9**
SNVZ	**South Ngauruho**	**3.44 234**		P	**Pn**	**16 48 11.9**	**+1.6**
ETAZ	**East Tamaki Re**	**3.46 273**		P	**Pn**	**16 48 12.1**	**+1.8**
NGZ	**Ngauruhoe**	**3.46 235**		P	**Pn**	**16 48 12.2**	**+1.6**
TUVZ	**Tukino**	**3.48 233**		P	**Pn**	**16 48 12.4**	**+1.5**
MOVZ	**Moawhango**	**3.50 230**		P	**Pn**	**16 48 12.4**	**+1.3**
MBAZ	**Motutapu North**	**3.50 276**		P	**Pn**	**16 48 12.6**	**+1.7**
TWVZ	**Taurewa**	**3.52 237**		P	**Pn**	**16 48 13.2**	**+1.9**
WHVZ	**Whangaehu Hut**	**3.53 233**		P	**Pn**	**16 48 13.0**	**+1.4**
FWVZ	**Far West T-bar**	**3.54 234**		P	**Pn**	**16 48 13.2**	**+1.5**
DRZ	**Dome Shelter**	**3.54 234**		P	**Pn**	**16 48 13.5**	**+1.7**
WNVZ	**Wahianoa**	**3.55 233**		P	**Pn**	**16 48 13.3**	**+1.5**
TRVZ	**Turoa**	**3.57 233**		P	**Pn**	**16 48 13.5**	**+1.5**
ABAZ	**Army Bay**	**3.58 279**		P	**Pn**	**16 48 15.1**	**+3.0**
WPHZ	**Waipukurau**	**3.58 217**		P	**Pn**	**16 48 12.8**	**+0.7**
EPAZ	**Eden Park BICE**	**3.61 274**		P	**Pn**	**16 48 14.6**	**+2.2**
HBAZ	**Herne Bay Bore**	**3.62 275**		P	**Pn**	**16 48 15.3**	**+2.7**
PRHZ	**Porangahau**	**3.66 213**		P	**Pn**	**16 48 13.3**	**+0.2**
MTVZ	**Mangateitei**	**3.67 233**		P	**Pn**	**16 48 14.9**	**+1.6**
AWAZ	**Awhitu Peninsu**	**3.67 271**		P	**Pn**	**16 48 15.6**	**+2.3**
PKVZ	**Pokaka**	**3.69 235**		P	**Pn**	**16 48 15.6**	**+1.9**
HIZ	**Hauiti**	**3.70 248**		Pn	**Pn**	**16 48 16.1**	**+2.5**
HIZ	**Hauiti**	**3.70 248**		P	**Pn**	**16 48 16.5**	**+2.8**
WTAZ	**Waiatarua**	**3.74 273**		P	**Pn**	**16 48 17.7**	**+3.4**
RVAZ	**Riverhead Bore**	**3.76 275**		P	**Pn**	**16 48 16.3**	**+1.9**
WCZ	**Waipu Caves**	**4.14 287**		P	**Pn**	**16 48 22.1**	**+2.3**
BFZ	**Birch Farm**	**4.17 213**			**Pn**	**16 48 16.6**	**-3.5**
WAZ	**Wanganui**	**4.18 232**		P	**Pn**	**16 48 22.5**	**+2.1**
PRWZ	**Pori Road**	**4.19 216**		P	**Pn**	**16 48 21.0**	**+0.6**
MHEZ	**Mangahewa**	**4.29 243**		P	**Pn**	**16 48 25.8**	**+4.0**
LREZ	**Lake Rotokare**	**4.41 238**		P	**Pn**	**16 48 25.9**	**+2.5**
DREZ	**Dunham Road**	**4.43 242**		P	**Pn**	**16 48 25.3**	**+3.6**
PREZ	**Palmer Road**	**4.52 241**		P	**Pn**	**16 48 28.6**	**+3.6**
NEZ	**North Egmont**	**4.53 242**		P	**Pn**	**16 48 28.8**	**+3.6**
PKE	**Pukeiti**	**4.58 243**		P	**Pn**	**16 48 29.9**	**+4.1**
KHEZ	**Kahui Hut**	**4.60 242**		P	**Pn**	**16 48 29.4**	**+3.2**
NBEZ	**Newall Road No**	**4.69 243**		P	**Pn**	**16 48 31.4**	**+4.1**
NMEZ	**Namu Road**	**4.75 241**		P	**Pn**	**16 48 32.0**	**+3.9**
OUZ	**Omahuta**	**4.98 292**		P	**Pn**	**16 48 34.5**	**+3.3**
MSWZ	**Moikau Station**	**5.21 215**		Pn	**Pn**	**16 48 30.6**	**-3.8**
PLWZ	**Palliser**	**5.33 214**			**Pn**	**16 48 32.2**	**-3.8**
SNZO	**South Karori**	**5.39 219**		Pn	**Pn**	**16 48 33.0**	**-3.9**
TUWZ	**Tuamarina**	**5.87 223**			**Pn**	**16 48 41.2**	**-2.3**
CMWZ	**Cape Campbell**	**5.96 219**		Pn	**Pn**	**16 48 42.1**	**-2.7**
NNZ	**Nelson**	**6.05 227**		Pn	**Pn**	**16 48 43.1**	**-2.8**
BSWZ	**Blackbirch Sta**	**6.11 221**			**Pn**	**16 48 44.4**	**-2.4**
QRZ	**Quartz Range**	**6.34 233**		Pn	**Pn**	**16 48 48.2**	**-1.8**
THZ	**Tophouse**	**6.67 225**		Pn	**Pn**	**16 48 51.8**	**-2.8**
KHZ	**Kahutara**	**6.79 218**		Pn	**Pn**	**16 48 53.4**	**-2.7**
CTZ	**Chatham Island**	**7.23 155**		P	**Pn**	**16 49 07.6**	**+5.4**
LTZ	**Lake Taylor**	**7.71 222**		Pn	**Pn**	**16 49 00.2**	**-2.5**
RAO	**Raoul Island**	**8.30 17**		Pn	**Pn**	**16 49 15.5**	**-1.4**
RPZ	**Rata Peaks**	**8.99 221**		Pn	**Pn**	**16 49 24.5**	**-1.9**
	12nm,0.3s,baz=22,slow=23,SNR=1.3						
RPZ				Sn	Sn	16 50 55.1	-13
	19nm,0.3s,baz=30,slow=19,SNR=2.3						
RPZ	**Rata Peaks**	**8.99 221**		Pn	**Pn**	**16 49 23.8**	**-2.5**
FOZ	**Fox Glacier**	**9.56 226**		Pn	**Pn**	**16 49 31.0**	**-3.0**
LBZ	**Lake Benmore**	**9.91 221**		Pn	**Pn**	**16 49 35.9**	**-3.0**
ODZ	**Otahua Downs**	**10.15 217**		Pn	**Pn**	**16 49 39.6**	**-2.5**
WHZ	**Wether Hill Ro**	**12.10 221**		Pn	**Pn**	**16 50 08.1**	**-0.7**
DCZ	**Deep Cove**	**12.25 224**		Pn	**Pn**	**16 50 10.2**	**-0.7**
STKA	**Stephens Creek**	**31.32 268**		P	**P**	**16 53 39.6**	**+2.7**
	34nm,0.9s,baz=104,slow=9.5,SNR=11						
	34nm,0.9s						
STKA	**Stephens Creek**	**31.32 268**		P	**P**	**16 53 39.6**	**+2.7**
CTA	**Charters Tower**	**33.38 292**		P	**P**	**16 53 58.4**	**+3.2**
	9.2nm,0.7s,baz=143,slow=11,SNR=1.3						
	9.2nm,0.7s						
COEN	**Coen**	**39.57 296**		P	**P**	**16 54 50.6**	**+2.6**
COEN				IAmb	IAmb	16 54 51.9	
	comp=Z,81nm,1.1s						
AS31	**Alice Springs**	**40.98 276**		P	**P**	**16 54 60.0**	**+0.2**
ASAR	**Alice Springs**	**40.98 276**		P	**P**	**16 55 01.1**	**+1.3**
	comp=Z,36nm,0.9s,baz=114,slow=7.5,SNR=6.5						
	comp=Z,36nm,0.9s						
ASAR	**Alice Springs**	**40.98 276**		P	**P**	**16 54 60.0**	**+0.2**
KRVT	**Keravat (AS076**	**41.16 316**		P	**P**	**16 55 03.8**	**+2.6**
	comp=Z,137nm,1.0s,baz=180,slow=8.1,SNR=4.5						
	comp=Z,137nm,1.0s						
WR0	**Warramunga Arr**	**42.42 281**		P	**P**	**16 55 11.8**	**+0.3**
FORT	**Forrest**	**42.49 263**		P	**P**	**16 55 11.4**	**-0.5**
WB2	**Warramunga Arr**	**42.58 281**		P	**P**	**16 55 11.5**	**-1.4**
WB2				IAmb	IAmb	16 55 24.6	
	comp=Z,105nm,1.2s						
WRAB	**Tennant Creek**	**42.59 281**		P	**P**	**16 55 11.8**	**-1.1**
WRA	**Warramunga Arr**	**42.59 281**		P	**P**	**16 55 14.3**	**+1.4**
	comp=Z,16nm,0.5s,baz=122,slow=7.6,SNR=9.1						
	comp=Z,16nm,0.5s						
WB0	**Warramunga Arr**	**42.65 281**		P	**P**	**16 55 12.9**	**-0.5**
WB0				IAmb	IAmb	16 55 18.9	
	comp=Z,159nm,1.2s						
CASY	**Casey**	**48.08 210**		P	**P**	**16 55 58.9**	**+3.1**
CASY				IAmb	IAmb	16 55 59.9	
	comp=Z,79nm,1.5s						
MTN	**Manton Dam**	**49.24 287**		P	**P**	**16 56 03.3**	**-2.1**
FITZ	**Fitzroy Crossi**	**50.46 277**		P	**P**	**16 56 16.5**	**+1.8**
	comp=Z,26nm,1.0s,baz=110,slow=7.0,SNR=1.1						
	comp=Z,26nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.46 277**		P	**P**	**16 56 12.0**	**-2.7**
MORW	**Morawa**	**52.68 259**		P	**P**	**16 56 30.1**	**-1.1**
MORW				IAmb	IAmb	16 56 43.5	
	comp=Z,138nm,1.5s						
FAKI	**Fak Fak**	**54.95 297**		P	**P**	**16 56 47.7**	**-0.2**
FAKI				IAmb	IAmb	16 57 00.4	
	comp=Z,114nm,1.4s						
BATI	**Baumata**	**56.61 283**		P	**P**	**16 57 02.6**	**+2.7**
	comp=Z,40nm,0.8s,baz=139,slow=9.3,SNR=2.2						
	comp=Z,40nm,0.8s						
SIJI	**Sorong**	**57.08 298**		P	**P**	**16 57 05.2**	**+2.0**
	comp=Z,15nm,0.7s,baz=108,slow=4.3,SNR=7.0						
	comp=Z,15nm,0.7s						
MMRI	**Maumere**	**58.68 284**		P	**P**	**16 57 14.0**	**-0.5**
MYLDM	**Lahad Datu**	**70.45 293**		P	**P**	**16 58 30.1**	**-1.3**
KKM	**Kota Kinabalu**	**72.71 292**		P	**P**	**16 58 42.0**	**-3.1**
PLCA	**Paso Flores**	**79.52 134**		P	P	16 59 29.4	+5.8
	comp=Z,4.2nm,0.9s,baz=230,slow=6.9,SNR=3.4						
	comp=Z,4.2nm,0.9s						

RPZ Rata Peaks 8.96 219 Pn **Pn** 16 50 10.2 -1.7
14nm,0.3s,baz=5.7,slow=20,SNR=1.7
RPZ Sn Sn 16 51 43.1 -10
37nm,0.3s,baz=109,slow=22,SNR=8.9
RPZ Rata Peaks 8.96 219 Pn **Pn** 16 50 07.9 -4.0
FOZ Fox Glacier 9.50 224 Pn **Pn** 16 50 18.2 -0.9
LBZ Lake Benmore 9.88 219 Pn **Pn** 16 50 21.2 -3.2
ODZ Otahua Downs 10.14 215 Pn **Pn** 16 50 24.8 -3.1
WKZ Wanaka 10.79 221 Pn **Pn** 16 50 33.1 -3.7
MLZ Mavora Lakes 11.62 221 Pn **Pn** 16 50 47.2 -1.0
WHZ Wether Hill Ro 12.07 219 Pn **Pn** 16 50 54.3 -0.1
PYZ Puysegur Point 12.90 221 Pn **Pn** 16 51 05.4 -0.4
PINNC Pines Island, 17.43 322 P **P** 16 52 11.6 +4.6
DZM Mont Dzumac 18.38 321 **P** 16 52 20.1 +2.5
LIFNC LIFOU 19.10 325 P **Pn** 16 52 28.8 +2.6
MSVF Nonsavu 19.23 358 Pn **Pn** 16 52 30.1 +2.3
MCQ Macquarie Isla 22.20 212 P **P** 16 52 57.0 -1.7
MCQ IAmb IAmb 16 53 04.2
comp=Z,152nm,1.2s
ARMA Armidale 23.56 278 P **P** 16 53 17.3 +4.1
CAN Canberra 24.14 265 P **P** 16 53 21.2 +2.5
AFI Afiamalu 24.48 22 P **P** 16 53 23.1 +1.1
AFI IAmb IAmb 16 53 25.8
comp=Z,96nm,1.1s
TAU Tasmania Unive 24.80 246 P **P** 16 53 25.4 +0.9
TAU IAmb IAmb 16 53 27.1
comp=Z,34nm,0.7s
EIDS Eidsvold 26.37 288 P **P** 16 53 41.3 +2.3
TOO Toolangi 26.49 259 P **P** 16 53 41.5 +1.4
STKA Stephens Creek 31.04 268 P **P** 16 54 22.6 +2.0
comp=Z,22nm,0.8s,baz=110,slow=8.6,SNR=3.5
comp=Z,22nm,0.8s
STKA Stephens Creek 31.04 268 P **P** 16 54 22.3 +1.8
HNR Honiara 32.38 323 P **P** 16 54 33.6 +1.3
CTA Charters Tower 33.04 292 P **P** 16 54 40.3 +2.1
comp=Z,40nm,1.0s,baz=117,slow=9.6,SNR=6.0
comp=Z,40nm,1.0s
CTAO Charters Tower 33.04 292 P **P** 16 54 40.0 +1.8
CTAO IAmb IAmb 16 54 41.4
comp=Z,54nm,1.1s
BBOO Buckleboo 35.15 264 P **P** 16 54 56.9 +0.5
BBOO IAmb IAmb 16 55 30.6
comp=Z,63nm,1.2s
COEN Coen 39.23 296 P **P** 16 55 33.2 +2.0
PMG Port Moresby 39.73 306 P **P** 16 55 37.0 +1.7
comp=Z,44nm,0.8s,baz=99,slow=4.9,SNR=5.9
comp=Z,44nm,0.8s
PMG Port Moresby 39.73 306 P **P** 16 55 37.1 +1.7
PMG IAmb IAmb 16 55 38.5
comp=Z,60nm,1.0s
AS31 Alice Springs 40.67 276 P **P** 16 55 43.6 +0.4
AS31 IAmb IAmb 16 55 44.9
comp=Z,29nm,0.6s
ASAR Alice Springs 40.68 276 P **P** 16 55 44.0 +0.7
comp=Z,67nm,0.6s,baz=119,slow=8.1,SNR=25
comp=Z,67nm,0.6s
ASAR Alice Springs 40.68 276 P **P** 16 55 43.7 +0.5
KRVT Keravat (AS076 40.82 316 P **P** 16 55 46.0 +1.6
comp=Z,134nm,0.6s,baz=292,slow=2.3,SNR=13
comp=Z,134nm,0.6s
RABL Rabaul 40.84 317 P **P** 16 55 45.5 +0.9
WR0 Warramunga Arr 42.11 281 P **P** 16 55 55.5 +0.6
WR0 IAmb IAmb 16 55 56.4
comp=Z,59nm,1.0s
FORT Forrest 42.23 263 P **P** 16 55 55.4 -0.5
FORT IAmb IAmb 16 56 10.1
comp=Z,166nm,0.9s
WB2 Warramunga Arr 42.27 281 P **P** 16 55 57.1 +0.8
WB2 IAmb IAmb 16 55 57.5
comp=Z,85nm,0.8s
WRAB Tennant Creek 42.27 281 P **P** 16 55 56.9 +0.6
WRAB IAmb IAmb 16 55 57.5
comp=Z,88nm,0.8s
WRA Warramunga Arr 42.27 281 P **P** 16 55 56.7 +0.3
comp=Z,72nm,0.7s,baz=121,slow=7.6,SNR=26
comp=Z,72nm,0.7s
WRA Warramunga Arr 42.27 281 P **P** 16 55 56.9 +0.5
WB0 Warramunga Arr 42.33 281 P **P** 16 55 57.5 +0.7
WB0 IAmb IAmb 16 55 58.0
comp=Z,93nm,0.8s
XMAS Kiritimati 44.66 35 P **P** 16 56 13.1 -2.4
XMAS IAmb IAmb 16 56 48.5
comp=Z,140nm,1.3s
MANU Manus Island 45.32 313 P **P** 16 56 22.5 +1.7
CASY Casey 48.11 210 P **P** 16 56 42.3 +0.2
MTN Manton Dam 48.91 287 P **P** 16 56 49.0 +0.2
KNRA Kununurra 49.05 282 P **P** 16 56 51.0 +1.0
NWAO Narrogin (SRO) 49.91 255 P **P** 16 56 55.8 -0.6
NWAO IAmb IAmb 16 57 56.6
comp=Z,76nm,1.2s
FITZ Fitzroy Crossi 50.16 277 P **P** 16 56 59.2 +0.8
comp=Z,73nm,0.7s,baz=124,slow=5.0,SNR=19
comp=Z,73nm,0.7s
FITZ Fitzroy Crossi 50.16 277 P **P** 16 56 58.9 +0.5
MORW Morawa 52.44 259 **P** 16 57 14.6 -0.8
MORW IAmb IAmb 16 58 10.8
comp=Z,86nm,1.2s
PSA00 Pilbara Seismi 52.95 270 P **P** 16 57 18.4 -1.0
PSA00 IAmb IAmb 16 57 29.0
comp=Z,97nm,1.3s
QSPA South Pole Qui 53.10 180 P **P** 16 57 18.4 -1.6
QSPA IAmb IAmb 16 57 36.0
comp=Z,58nm,1.1s
MBWA Marble Bar 53.26 270 P **P** 16 57 20.9 -0.7
FAKI Fak Fak 54.60 297 P **P** 16 57 30.8 -0.7
FAKI IAmb IAmb 16 57 31.9
comp=Z,35nm,0.7s
BATI Baumata 56.29 284 P **P** 16 57 45.4 +1.7
comp=Z,28nm,0.6s,baz=206,slow=2.6,SNR=5.8
comp=Z,28nm,0.6s
SIJI Sorong 56.73 298 P **P** 16 57 47.6 +0.8
comp=Z,27nm,0.7s,baz=120,slow=10,SNR=10
comp=Z,27nm,0.7s
MMRI Maumere 58.36 284 P **P** 16 57 58.2 -0.1
MLH Mauna Loa 61.23 28 P **P** 16 58 19.0 +1.0
HMH Humu'ula Sheep 61.29 28 P **P** 16 58 20.3 +1.8
BELA Belgrano 2 63.58 173 P **P** 16 58 31.9 -1.0
BELA IAmb IAmb 16 58 46.0
comp=Z,22nm,0.8s
SMAI San Martin Ant 64.29 158 P **P** 16 58 36.8 -0.7
SMAI IAmb IAmb 16 58 39.9
comp=Z,46nm,1.4s
JAGI Jajag, Banyuwa 64.80 279 P **P** 16 58 41.4 -0.4
MAW Mawson 65.21 202 P **P** 16 58 43.4 -0.2
comp=Z,7.0nm,0.9s,baz=117,slow=6.8,SNR=1.5
comp=Z,7.0nm,0.9s
MAW Mawson 65.21 202 P **P** 16 58 43.4 -0.2
TOLI2 Tolitoli 65.71 291 P **P** 16 58 47.0 -0.6
TOLI2 IAmb IAmb 16 59 35.3
comp=Z,72nm,1.5s
PMSA Palmer Station 67.32 156 P **P** 16 58 52.7 -4.5
PMSA IAmb IAmb 17 00 56.4
comp=Z,52nm,1.4s
UGM Wanagama 68.01 277 P **P** 16 59 02.3 -0.1
MYLDM Lahad Datu 70.11 293 P **P** 16 59 17.2 +1.9
SNAA Sanae 71.60 179 P **P** 16 59 23.6 -0.1
SNAA IAmb IAmb 16 59 36.5
comp=Z,25nm,1.1s
KKM Kota Kinabalu 72.38 292 P **P** 16 59 28.8 -0.3
KKM IAmb IAmb 17 00 42.4
comp=Z,112nm,1.5s
SBUM Sibu 73.06 286 P **P** 16 59 34.1 +1.0
SBUM IAmb IAmb 17 01 30.1
comp=Z,42nm,1.5s
PLCA Paso Flores 79.86 134 P **P** 17 00 11.1 -0.4
comp=Z,5.4nm,1.1s,baz=155,slow=5.2,SNR=1.8
comp=Z,5.4nm,1.1s
PLCA Paso Flores 79.86 134 P **P** 17 00 11.3 -0.1
YULB Yu-li 80.94 308 P **P** 17 00 15.8 -1.5
YULB IAmb IAmb 17 00 44.7
comp=Z,66nm,1.4s
SSLB Suanglung 81.44 308 P **P** 17 00 18.4 -1.5
IPM Ipoh 83.03 281 P **P** 17 00 27.6 -0.9
IPM IAmb IAmb 17 01 26.1
comp=Z,52nm,1.4s
GSI Gunungsitoli 83.83 276 P **P** 17 00 32.9 +0.2
KSRS Korea Array 87.81 322 P **P** 17 00 51.9 +0.2
comp=Z,4.3nm,0.8s,baz=142,slow=5.5,SNR=5.1
comp=Z,4.3nm,0.8s
PETK Petropavlovsk- 91.63 347 P **P** 17 01 07.7 -1.6
comp=Z,3.1nm,0.6s,baz=130,slow=6.0,SNR=8.6
comp=Z,3.1nm,0.6s
CMAR Chiang Mai Arr 93.21 291 P **P** 17 01 17.8 +0.3
comp=Z,5.6nm,0.7s,baz=150,slow=3.6,SNR=8.9
comp=Z,5.6nm,0.7s
CMAR Chiang Mai Arr 93.21 291 P **P** 17 01 17.0 -0.4
MKAR Makanchi Array 119.92 308 PKP **PKPdf** 17 06 51.3 -1.5
comp=Z,1.6nm,0.6s,baz=107,slow=1.9,SNR=4.7
ZALV Zalesovo Beam 121.14 316 PKP **PKPdf** 17 06 53.0 -1.9
comp=Z,1.7nm,0.5s,baz=135,slow=2.2,SNR=5.3
TSUM Tsumeb 121.36 201 PKP **PKPdf** 17 06 55.9 -0.8
comp=Z,8.0nm,1.0s,baz=134,slow=5.2,SNR=3.5
TSUM Tsumeb 121.36 201 **PKPdf** 17 06 56.3 -0.5
NRN Naryn 121.96 300 **PKPdf** 17 06 57.2 -0.2
KMBO Kilima Mbogo 128.00 232 PKP **PKPdf** 17 07 10.0 +0.3
comp=Z,2.7nm,0.8s,baz=81,slow=2.9,SNR=3.7
ARU Arti 136.30 316 PKP **PKPdf** 17 07 24.1 +0.4
comp=Z,4.7nm,0.5s,baz=55,slow=0.7,SNR=5.4
AKTO Aktyubinsk 136.34 307 PKP **PKPdf** 17 07 24.2 +0.3
comp=Z,6.2nm,0.9s,baz=118,slow=8.6,SNR=4.2
SPA0 Spitsbergen Ar 138.08 355 *e*PKPdf **PKPdf** 17 07 27.1 +0.6
SPITS Spitsbergen Ar 138.08 355 PKP **PKPdf** 17 07 27.0 +0.6
comp=Z,14nm,0.7s,baz=76,slow=5.2,SNR=9.5
SPITS Spitsbergen Ar 138.08 355 **PKPdf** 17 07 27.0 +0.6
ARA0 ARCESS Array S 144.38 344 *e*PKPbc **PKPab** 17 07 36.3 +0.3
ARCES ARCESS Array B 144.38 344 PKP **PKPab** 17 07 35.9 -0.1
comp=Z,20nm,0.7s,baz=21,slow=2.5,SNR=12
KTK1 Kautokeino 145.28 345 *e*PKPbc **PKPbc** 17 07 39.1 -0.1
JETT Jettan, Norway 145.37 347 *e*PKPdf **PKPbc** 17 07 39.5 0.0
TRO Tromso 145.57 348 *e*PKPdf **PKPdf** 17 07 39.0 -0.9
KBZ Khabaz 146.12 295 PKPbc **PKPab** 17 07 43.7 +0.5
comp=Z,8.3nm,0.8s,baz=283,slow=4.3,SNR=4.1
KBZ Khabaz 146.12 295 **PKPab** 17 07 43.7 +0.5
STEI Steigen 147.70 349 *e*PKPbc **PKPbc** 17 07 46.0 -0.3
LOF Lofoten 147.77 350 *e*PKPbc **PKPbc** 17 07 46.4 -0.2
FAUS Fauske 148.19 348 *e*PKPbc **PKPbc** 17 07 46.8 -0.8
KONS Konsvik 149.35 349 *e*pPKPdf **PKPbc** 17 07 50.0 -0.6
MOR8 Moi Rana 149.44 348 *e*PKPbc **PKPbc** 17 07 49.4 -1.5
DBIC Dimbokro 149.60 173 PKPbc **PKPbc** 17 07 51.1 -1.7
comp=Z,13nm,1.0s,baz=177,slow=3.8,SNR=3.9
BORG Borgarnes 149.74 17 PKPbc **PKPdf** 17 07 47.9 +1.0
comp=Z,17nm,1.1s,baz=221,slow=14,SNR=1.9
MMAI Mount Meron Ar 149.94 273 PKPbc **PKPbc** 17 07 53.3 0.0
comp=Z,5.7nm,0.4s,baz=90,slow=7.5,SNR=17
FINES FINESS Array B 150.21 334 PKPbc **PKPbc** 17 07 51.8 -1.1
comp=Z,17nm,0.6s,baz=69,slow=3.0,SNR=12
NSS Namsos 151.36 348 *e*pPKPdf **PKPbc** 17 07 54.6 -0.9
MEF Metsahovi 151.65 333 *e*P **PKPbc** 17 07 55.9 -0.4
VSU Vasula 151.88 329 *e*P **PKPbc** 17 07 56.7 -0.2
RAF Rauma 151.97 336 *e*P **PKPbc** 17 07 56.4 -0.6
BRTR Keskin Array B 152.72 286 PKPbc **PKPbc** 17 07 58.0 -1.6
comp=Z,6.9nm,0.8s,baz=160,slow=3.1,SNR=2.9
TBLU Trondheim 152.83 349 *e*pPKPdf **PKPbc** 17 07 56.6 -2.2
MTSE Matsula 152.89 331 *e*P **PKPbc** 17 07 58.7 -0.4
ISAL Salakas 153.84 324 *e*P **PKiKP** 17 08 01.7 +0.3
MOL Molde 153.87 351 *e*pPKPdf pPKPdf 17 07 57.6 +3.0
IIGN Ignalina 153.92 323 *e*P **PKiKP** 17 08 02.2 +0.6
DOMB Dombas 154.16 349 *e*PKPdf **PKPdf** 17 07 53.4 -0.3
AKN Aaknes 154.31 351 *e* **PKPbc** 17 08 02.2 0.0
AKASG Malin Array Be 154.41 312 PKPbc **PKPbc** 17 08 01.2 -1.5
comp=Z,1.9nm,0.4s,baz=54,slow=2.9,SNR=9.5
NB2 NORSAR Subarra154.72 346 PKP **PKPbc** 17 08 02.4 -0.7
comp=Z,3.2nm,0.5s,baz=38,slow=2.7
NB2 NORSAR Subarra154.72 346 *e* **PKPbc** 17 08 02.4 -0.7
baz=38,slow=2.7
NOA NORSAR Array B154.72 346 PKPbc **PKPbc** 17 08 02.4 -0.7
comp=Z,11nm,0.9s,baz=31,slow=2.0,SNR=8.3
PABE Paberze 154.88 325 *e*P **PKPbc** 17 08 03.1 -0.4
NC602 NORSAR Array S 154.94 345 *e* **PKPbc** 17 08 02.8 -0.7
HFS Hagfors 155.00 342 PKPbc **PKPbc** 17 08 02.5 -1.1
comp=Z,15nm,0.8s,baz=264,slow=1.5,SNR=6.9
MILM Milestii Mici 155.78 304 *e*PPP PPP 17 08 08.7
MILM M M 17 29 42.0
comp=Z,26μm,63.0s
MILM LQM 18 13 54.0
comp=Z,48μm,22.0s
MILM LRM MLR 18 20 08.0
comp=Z,57μm,23.0s
TORD Torodi Ar. Bea 156.09 187 PKPab **PKPab** 17 08 23.4 -1.6
comp=Z,6.0nm,0.8s,baz=158,slow=3.2,SNR=4.2
EKA Eskdalemuir Ar 161.63 4 PKPab **PKPab** 17 08 45.5 -2.4
comp=Z,2.5nm,0.8s,baz=323,slow=2.2,SNR=3.5
EKA Eskdalemuir Ar 161.63 4 **PKPab** 17 08 45.5 -2.4

*IDC **01** 16:49:16.8±3.6,36°.82S×179°.17E,h0km,mb4.6/2, mbtmp4.7/3,Error ellipse: s-maj=89.7km s-min=46.9km az=130.0*
*NEIC **01** 16:49:17.7±2.2,36°.91S±0°.09×179°.2E±0°.1,h10km±1km, mb5.4/13, Error ellipse: s-maj=20.7km s-min=9.5km az=134.0*
ISC 01 16:49:16.4±0.9,**36°.82S**±0°.10×**179°.3E**±0°.1,**h10**km,**n24**, σ1$19/24,**mb5.3/9**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.07**	**226**	Pg	**Pg**	**16 49 34.9**	**-2.1**
URZ	**Urewera**	**2.24**	**229**	Pn	**Pn**	**16 49 53.9**	**+0.4**
	2μm,1.0s,baz=301,slow=20,SNR=0.5						
URZ	**Urewera**	**2.24**	**229**	Pn	**Pn**	**16 49 53.6**	**+0.1**
BKZ	**Black Stump Fm**	**3.21**	**222**	Pn	**Pn**	**16 50 07.7**	**+0.8**
HIZ	**Hauiti**	**3.89**	**243**	Pn	**Pn**	**16 50 17.4**	**+1.2**
OUENC	**Ouen Island, N**	**17.94**	**320**	P	**P**	**16 53 27.8**	**+1.3**
LIFNC	**LIFOU**	**19.12**	**323**	P	**P**	**16 53 38.3**	**-1.2**
NIUE	**Niue**	**20.06**	**31**	P	**P**	**16 53 47.0**	**-2.8**
AS31	**Alice Springs**	**40.97**	**276**	P	**P**	**16 56 58.2**	**-1.3**
ASAR	**Alice Springs**	**40.97**	**276**	P	**P**	**16 57 00.8**	**+1.3**
	8.9nm,0.8s,baz=120,slow=8.2,SNR=1.1						
	8.9nm,0.8s						
ASAR	**Alice Springs**	**40.97**	**276**	P	**P**	**16 57 00.2**	**+0.7**
SBA	**Scott Base**	**41.49**	**184**	P	**P**	**16 57 02.7**	**-0.4**
WR0	**Warramunga Arr**	**42.38**	**281**	P	**P**	**16 57 10.3**	**-0.7**
WR0				IAmb	IAmb	16 57 15.4	
	comp=Z,177nm,1.6s						
WB2	**Warramunga Arr**	**42.53**	**281**	P	**P**	**16 57 12.9**	**+0.5**
WRAB	**Tennant Creek**	**42.54**	**281**	P	**P**	**16 57 11.4**	**-0.9**
WRAB				IAmb	IAmb	16 57 11.6	
	comp=Z,113nm,1.4s						
WRA	**Warramunga Arr**	**42.54**	**281**	P	**P**	**16 57 13.6**	**+1.2**
	comp=Z,4.9nm,0.5s,baz=122,slow=7.7,SNR=0.9						
	comp=Z,4.9nm,0.5s						
FORT	**Forrest**	**42.57**	**263**	P	**P**	**16 57 12.4**	**0.0**
FORT				IAmb	IAmb	16 57 19.9	
	comp=Z,65nm,0.9s						
WB0	**Warramunga Arr**	**42.60**	**281**	P	**P**	**16 57 12.8**	**-0.1**
WB0				IAmb	IAmb	16 57 15.2	
	comp=Z,104nm,1.6s						
QSPA	**South Pole Qui**	**53.31**	**180**	P	**P**	**16 58 35.3**	**-0.1**
QSPA				IAmb	IAmb	16 58 40.2	
	comp=Z,48nm,1.3s						
MBWA	**Marble Bar**	**53.57**	**270**	P	**P**	**16 58 37.6**	**-0.1**
MMRI	**Maumere**	**58.62**	**284**	P	**P**	**16 59 14.0**	**+0.1**
BELA	**Belgrano 2**	**63.74**	**172**	P	**P**	**16 59 49.4**	**+1.6**
BELA				IAmb	IAmb	16 59 52.6	
	comp=Z,44nm,1.6s						
KKM	**Kota Kinabalu**	**72.59**	**292**	P	**P**	**17 00 44.8**	**+0.5**
KKM				IAmb	IAmb	17 00 46.2	
	comp=Z,36nm,1.2s						
FINES	**FINESS Array B**	**150.16**	**334**	PKPbc	**PKPbc**	**17 09 08.2**	**+1.6**
	comp=Z,16nm,1.1s,baz=64,slow=3.2,SNR=1.2						

*IDC **01** 16:49:45.2±0.9,36°.90S×179°.08E,h0km,mb4.8/12, mbtmp4.8/13,ML5.1/1,Error ellipse: s-maj=28.4km s-min=19.9km az=55.0*
*NEIC **01** 16:49:48.0±2.9,37°.18S±0°.08×179°.05E±0°.08,h10km±1km, mb5.4/41,Error ellipse: s-maj=15.9km s-min=8.1km az=326.0*
*WEL **01** 16:49:49.6±1.1,37°S±4°×17°E±°,h22km±8km,M5.0/18, ML5.2/20,MLv5.0/18,Error ellipse: s-maj=0.0km s-min=0.0km az=95.2*
ISC 01 16:49:48.4±1.6,**37°.13S**±0°.04×**179°.04E**±0°.06,**h17**km±9km, **n122**,σ1$**66**/137,**mb5.2**/31,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.73**	**233**	Pn	**Pn**	**16 50 03.9**	**0.0**
MXZ					**Sb**	**16 50 12.2**	**-0.1**
MXZ	**Matakaoa Point**	**0.73**	**233**	P	**Pn**	**16 50 03.3**	**-0.6**
MXZ				S	**Sn**	**16 50 13.8**	**-0.9**
WMGZ	**Waiomatatini S**	**0.85**	**216**	P	**Pn**	**16 50 07.6**	**+2.0**
WMGZ				S	**Sn**	**16 50 21.9**	**+4.2**
PKGZ	**Pakihiroa**	**1.08**	**225**	P	**Pn**	**16 50 10.8**	**+2.0**
PKGZ				S	**Sn**	**16 50 26.7**	**+3.2**
PUZ	**Puketiti**	**1.13**	**213**	P	**Pn**	**16 50 12.3**	**+2.8**
PUZ				S	**Sn**	**16 50 28.3**	**+3.7**
HAZ	**Te Kaha**	**1.18**	**237**	P	**Pg**	**16 50 13.0**	**+1.8**
HAZ				S	**Sn**	**16 50 30.4**	**+4.5**
TWGZ	**Tauwhareparae**	**1.34**	**218**	S	**Sg**	**16 50 33.5**	**+1.7**
RUGZ	**Raukumara Rang**	**1.37**	**232**	P	**Pg**	**16 50 15.4**	**+0.6**
RUGZ				S	**Sg**	**16 50 34.2**	**+1.6**
CNGZ	**Carnagh Statio**	**1.51**	**206**	P	**Pg**	**16 50 16.1**	**-1.2**
CNGZ				S	**Sg**	**16 50 38.3**	**+1.3**
WIZ	**White Island**	**1.53**	**254**	P	**Pb**	**16 50 16.4**	**+0.2**
TKGZ	**Te Karaka**	**1.61**	**215**	P	**Pb**	**16 50 17.7**	**-0.1**
TKGZ				S	**Sg**	**16 50 38.7**	**-1.7**
MWZ	**Matawai**	**1.70**	**224**	P	**Pb**	**16 50 19.0**	**-0.2**
MWZ				S	**Sg**	**16 50 41.7**	**-1.5**
URZ	**Urewera**	**1.90**	**233**	Pn	**Pb**	**16 50 22.1**	**-0.5**
	673nm,0.3s,baz=121,slow=3.0,SNR=3.4						
URZ				Sn	**Sb**	**16 50 46.4**	**+0.3**
	495nm,0.3s,baz=301,slow=7.6,SNR=3.7						
	4μm,0.6s						
URZ	**Urewera**	**1.90**	**233**	Pn	**Pb**	**16 50 22.0**	**-0.7**
URZ	**Urewera**	**1.90**	**233**	P	**Pb**	**16 50 21.7**	**-1.0**
URZ				S	**Sb**	**16 50 45.8**	**-0.4**
PRGZ	**Paritu Road**	**2.01**	**207**	P	**Pn**	**16 50 21.8**	**+0.2**
PRGZ				S	**Sb**	**16 50 48.1**	**-1.3**
EDRZ	**Edgecumbe**	**2.07**	**241**	P	**Pb**	**16 50 24.4**	**-1.2**
OPRZ	**Ohinepanea**	**2.10**	**249**	P	**Pn**	**16 50 23.2**	**+0.4**
SNGZ	**Shannon Statio**	**2.13**	**219**	P	**Pb**	**16 50 24.8**	**-1.7**
SNGZ				S	**Sb**	**16 50 52.3**	**-0.4**
KNZ	**Kokohu**	**2.18**	**209**	P	**Pn**	**16 50 24.0**	**+0.1**
KNZ				S	**Sn**	**16 50 51.5**	**+1.0**
MYRZ	**Mayor Island**	**2.24**	**265**	P	**Pn**	**16 50 26.3**	**+1.5**
MUGZ	**Murupara**	**2.25**	**232**	P	**Pb**	**16 50 27.0**	**-1.5**
KARZ	**Kaharoa**	**2.39**	**247**	P	**Pn**	**16 50 28.7**	**+1.8**
HLRZ	**Highlands Stat**	**2.41**	**241**	P	**Pn**	**16 50 29.1**	**+2.0**
MTHZ	**Maungataniwha**	**2.45**	**225**	P	**Pb**	**16 50 30.0**	**-2.0**
MTHZ				S	**Sb**	**16 50 59.5**	**-2.3**
NGRZ	**Ngongotaha**	**2.46**	**246**	P	**Pb**	**16 50 30.6**	**-1.7**
PRRZ	**Plateau Road**	**2.50**	**236**	P	**Pn**	**16 50 30.3**	**+2.0**
KMRZ	**Kaimai**	**2.57**	**253**	P	**Pn**	**16 50 30.7**	**+1.5**
GRRZ	**Galatos Road**	**2.62**	**241**	P	**Pb**	**16 50 32.6**	**-2.3**
KUZ	**Kuaotunu**	**2.69**	**277**	P	**Pn**	**16 50 31.4**	**+0.6**
BKZ	**Black Stump Fm**	**2.86**	**224**	Pn	**Pn**	**16 50 34.0**	**+0.7**
BKZ	**Black Stump Fm**	**2.86**	**224**	P	**Pn**	**16 50 35.0**	**+1.7**
TOZ	**Tahuroa Road**	**2.88**	**257**	P	**Pn**	**16 50 35.1**	**+1.6**
MKAZ	**Moumakai**	**3.10**	**269**	P	**Pn**	**16 50 37.3**	**+0.8**
WIAZ	**Waiheke Island**	**3.15**	**275**	P	**Pn**	**16 50 39.0**	**+1.8**
ETAZ	**East Tamaki Re**	**3.29**	**272**	P	**Pn**	**16 50 41.3**	**+2.1**
TMVZ	**Te Maari**	**3.30**	**232**	P	**Pn**	**16 50 42.4**	**+3.1**
ETVZ	**East Tongariro**	**3.30**	**232**	P	**Pb**	**16 50 43.3**	**-3.3**
NTVZ	**North Tongarir**	**3.30**	**232**	P	**Pn**	**16 50 40.8**	**+1.4**
KRVZ	**Karewarewa**	**3.32**	**233**	P	**Pn**	**16 50 41.2**	**+1.5**
MBAZ	**Motutapu North**	**3.34**	**275**	P	**Pn**	**16 50 41.9**	**+2.1**
ABAZ	**Army Bay**	**3.42**	**278**	P	**Pn**	**16 50 43.0**	**+2.1**
TWVZ	**Taurewa**	**3.44**	**235**	P	**Pb**	**16 50 47.1**	**-1.8**
MOVZ	**Moawhango**	**3.45**	**228**	P	**Pb**	**16 50 46.1**	**-2.9**
EPAZ	**Eden Park BICE**	**3.45**	**273**	P	**Pn**	**16 50 43.3**	**+2.0**
HBAZ	**Herne Bay Bore**	**3.46**	**273**	P	**Pn**	**16 50 44.0**	**+2.5**
AWAZ	**Awhitu Peninsu**	**3.52**	**270**	P	**Pn**	**16 50 43.9**	**+1.7**
WTAZ	**Waiatarua**	**3.58**	**272**	P	**Pn**	**16 50 45.3**	**+2.2**
HIZ	**Hauiti**	**3.59**	**246**	Pn	**Pn**	**16 50 44.8**	**+1.5**
HIZ	**Hauiti**	**3.59**	**246**	P	**Pn**	**16 50 47.3**	**+4.0**
RVAZ	**Riverhead Bore**	**3.59**	**274**	P	**Pn**	**16 50 45.4**	**+2.1**
WCZ	**Waipu Caves**	**3.96**	**286**	P	**Pn**	**16 50 49.5**	**+1.1**
BFZ	**Birch Farm**	**4.17**	**211**	Pn	**Pn**	**16 50 50.7**	**-0.5**
MSWZ	**Moikau Station**	**5.20**	**213**	Pn	**Pn**	**16 51 05.9**	**+0.5**
PLWZ	**Palliser**	**5.32**	**212**	Pn	**Pn**	**16 51 07.0**	**-0.1**
CMWZ	**Cape Campbell**	**5.94**	**217**	Pn	**Pn**	**16 51 15.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**6.08**	**220**	Pn	**Pn**	**16 51 18.9**	**+1.4**
MLZ	**Mavora Lakes**	**11.62**	**222**	Pn	**Pn**	**16 52 33.4**	**-0.1**
WHZ	**Wether Hill Ro**	**12.07**	**220**	Pn	**Pn**	**16 52 38.7**	**-0.8**
DCZ	**Deep Cove**	**12.21**	**223**	Pn	**Pn**	**16 52 41.7**	**+0.2**
MSVF	**Nonsavu**	**19.34**	**357**	P	**P**	**16 54 12.7**	**-0.3**
MSVF				IAmb	IAmb	16 54 22.3	
	comp=Z,406nm,1.7s						
KOUNC	**Koumac, New Ca**	**20.93**	**318**	P	**Pn**	**16 54 34.0**	**+1.2**
ARMA	**Armidale**	**23.70**	**278**	P	**P**	**16 54 58.7**	**-0.8**
ARMA				IAmb	IAmb	16 55 07.6	
	comp=Z,124nm,1.6s						
AFI	**Afiamalu**	**24.53**	**22**	P	**P**	**16 55 08.8**	**+1.5**
AFI				IAmb	IAmb	16 56 15.7	
	comp=Z,78nm,1.2s						
TAU	**Tasmania Unive**	**24.88**	**247**	P	**P**	**16 55 11.2**	**+1.1**
TAU				IAmb	IAmb	16 55 38.9	
	comp=Z,264nm,2.0s						
EIDS	**Eidsvold**	**26.52**	**288**	P	**P**	**16 55 26.7**	**+1.5**
TOO	**Toolangi**	**26.60**	**259**	P	**P**	**16 55 26.6**	**+0.8**
STKA	**Stephens Creek**	**31.16**	**268**	P	**P**	**16 56 07.4**	**+1.0**
	comp=Z,12nm,0.7s,baz=84,slow=9.8,SNR=3.1						
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**31.16**	**268**	P	**P**	**16 56 06.6**	**+0.1**
CTAO	**Charters Tower**	**33.20**	**292**	P	**P**	**16 56 24.3**	**-0.1**
CTAO				IAmb	IAmb	16 56 37.2	
	comp=Z,108nm,1.6s						
BBOO	**Buckleboo**	**35.26**	**264**	P	**P**	**16 56 41.0**	**-1.3**
BBOO				IAmb	IAmb	16 56 58.4	
	comp=Z,43nm,1.1s						
COEN	**Coen**	**39.39**	**296**	P	**P**	**16 57 16.7**	**-0.6**
COEN				IAmb	IAmb	16 57 31.9	
	comp=Z,231nm,1.9s						
PMG	**Port Moresby**	**39.89**	**306**	P	**P**	**16 57 21.4**	**-0.1**
AS31	**Alice Springs**	**40.81**	**276**	P	**P**	**16 57 28.2**	**-1.0**
ASAR	**Alice Springs**	**40.81**	**276**	P	**P**	**16 57 28.0**	**-1.2**
	comp=Z,12nm,0.7s,baz=121,slow=8.1,SNR=3.4						
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**40.81**	**276**	P	**P**	**16 57 27.7**	**-1.4**
KRVT	**Keravat (AS076**	**40.98**	**316**	P	**P**	**16 57 29.5**	**-1.0**
	comp=Z,28nm,0.6s,baz=225,slow=1.4,SNR=1.1						
	comp=Z,28nm,0.6s						
RABL	**Rabaul**	**41.00**	**317**	P	**P**	**16 57 31.2**	**+0.5**
RABL				IAmb	IAmb	16 57 40.0	
	comp=Z,152nm,1.2s						
VNDA	**Vanda**	**41.17**	**186**	P	**P**	**16 57 32.1**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=122,slow=22,SNR=9.8						
	comp=Z,4.0nm,0.9s						
VNDA	**Vanda**	**41.17**	**186**	P	**P**	**16 57

BELA	**Belgrano 2**	**63.46 172**	P	**P**	**17 00 17.3**	**+0.5**
BELA			IAmb	IAmb	17 00 18.3	
	comp=Z,16nm,0.9s					
SMAI	**San Martin Ant**	**64.14 158**	P	**P**	**17 00 22.9**	**+1.6**
JAGI	**Jajag, Banyuwa**	**64.94 279**	P	**P**	**17 00 26.6**	**-0.9**
MAW	**Mawson**	**65.16 202**	P	**P**	**17 00 28.2**	**+0.2**
UGM	**Wanagama**	**68.15 277**	P	**P**	**17 00 47.0**	**-1.0**
SNAA	**Sanae**	**71.50 179**	P	**P**	**17 01 08.0**	**+0.2**
SNAA			IAmb	IAmb	17 01 32.0	
	comp=Z,29nm,1.4s					
KKM	**Kota Kinabalu**	**72.53 292**	P	**P**	**17 01 12.7**	**-2.2**
PLCA	**Paso Flores**	**79.70 134**	P	**P**	**17 01 56.1**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=236,slow=3.3,SNR=4.9					
	comp=Z,3.6nm,0.7s					
PLCA	**Paso Flores**	**79.70 134**	P	**P**	**17 01 55.9**	**+0.6**
BO02	**Sierra Bellavi**	**83.43 129**	P	**P**	**17 02 16.2**	**+1.0**
GSI	**Gunungsitoli**	**83.97 276**	P	**P**	**17 02 21.0**	**+2.9**
KSRS	**Korea Array**	**87.97 322**	P	**P**	**17 02 37.7**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=151,slow=5.1,SNR=4.4					
	comp=Z,2.6nm,0.8s					
PETK	**Petropavlovsk-**	**91.76 347**	P	**P**	**17 02 51.6**	**-2.9**
	comp=Z,1.4nm,0.5s,baz=164,slow=5.7,SNR=2.2					
	comp=Z,1.4nm,0.5s					
CMAR	**Chiang Mai Arr**	**93.36 291**	P	**P**	**17 03 01.4**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=139,slow=3.6,SNR=4.8					
	comp=Z,2.1nm,0.7s					
CMAR	**Chiang Mai Arr**	**93.36 291**	P	**P**	**17 03 00.9**	**-1.9**
ARCES	**ARCESS Array B**	**144.51 344**	PKP	**PKPab**	**17 09 20.5**	**-0.7**
	comp=Z,23nm,1.1s,baz=82,slow=1.9,SNR=3.9					
KBZ	**Khabaz**	**146.28 295**	PKPbc	**PKPdf**	**17 09 25.5**	**-1.0**
	comp=Z,9.3nm,1.1s,baz=90,slow=3.0,SNR=1.9					
MMAI	**Mount Meron Ar**	**150.07 273**	PKPbc	**PKPbc**	**17 09 38.4**	**+0.2**
	comp=Z,9.8nm,0.8s,baz=88,slow=7.6,SNR=4.2					
FINES	**FINESS Array B**	**150.36 334**	PKPbc	**PKPbc**	**17 09 37.8**	**-0.1**
	comp=Z,5.0nm,0.6s,baz=90,slow=1.9,SNR=1.9					
AKASG	**Malin Array Be**	**154.58 312**	PKPbc	**PKPbc**	**17 09 47.0**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=50,slow=2.8,SNR=2.4					
TORD	**Torodi Ar. Bea**	**156.00 186**	PKPab	**PKPab**	**17 10 08.5**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=173,slow=3.6,SNR=4.0					

*IDC **01** 16:51:30.8±3.5,36°.91S×178°.91E, h0km, mb4.6/4, mbtmp4.6/4, Error ellipse: s-maj=79.3km s-min=45.2km az=129.0*
*NEIC **01** 16:51:31.4±1.7, 37°.20S±0°.10×179°.15E±0°.08, h10km±1km, mb5.3/23, Error ellipse: s-maj=18.1km s-min=6.5km az=330.0*
*WEL **01** 16:51:36.9±1.1, 37°S±7°×17°9E±°, h25km±5km, M4.7/11, ML4.8/17, MLv4.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=139.3*

ISC 01 16:51:33.9±2.0, 37°26S±0°.06×179°03E±0°.08, h26km±12km, n69, σ1§03/85, mb5.2/14, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.65 242**			**Pn**	**16 51 47.4**	**0.0**
MXZ					**Sb**	**16 51 54.7**	**-0.7**
MXZ	**Matakaoa Point**	**0.65 242**		P	**Pn**	**16 51 47.2**	**-0.3**
MXZ				S	**Sb**	**16 51 54.9**	**-0.5**
WMGZ	**Waiomatatini S**	**0.75 221**		P	**Pn**	**16 51 50.2**	**+1.5**
WMGZ				S	**Sn**	**16 52 00.9**	**+1.7**
PKGZ	**Pakihiroa**	**0.99 230**		P	**Pn**	**16 51 53.5**	**+1.4**
PKGZ				S	**Sn**	**16 52 05.3**	**+0.1**
PUZ	**Puketiti**	**1.02 217**		P	**Pn**	**16 51 53.8**	**+1.3**
PUZ				S	**Sn**	**16 52 07.6**	**+1.6**
HAZ	**Te Kaha**	**1.11 243**		P	**Pb**	**16 51 54.5**	**+0.1**
HAZ				S	**Sb**	**16 52 08.2**	**-0.3**
TWGZ	**Tauwhareparae**	**1.24 222**		P	**Pb**	**16 51 57.1**	**+0.5**
RUGZ	**Raukumara Rang**	**1.29 236**		P	**Pb**	**16 51 58.1**	**+0.6**
RUGZ				S	**Sb**	**16 52 13.4**	**-0.3**
CNGZ	**Carnagh Statio**	**1.39 208**		P	**Pb**	**16 51 59.6**	**+0.4**
WIZ	**White Island**	**1.49 259**		P	**Pn**	**16 51 59.4**	**+0.5**
WSRZ	**White Island S**	**1.50 259**		S	**Sn**	**16 52 17.4**	**-0.5**
TKGZ	**Te Karaka**	**1.51 218**		P	**Pn**	**16 51 59.9**	**+0.7**
MWZ	**Matawai**	**1.61 227**		P	**Pb**	**16 52 02.1**	**-0.8**
MWZ				S	**Sn**	**16 52 20.2**	**-0.3**
RIGZ	**Rimuhau**	**1.76 214**		P	**Pn**	**16 52 04.0**	**+1.3**
RAGZ	**Rawiri**	**1.78 225**		P	**Pn**	**16 52 04.2**	**+1.2**
RAGZ				S	**Sn**	**16 52 24.2**	**-0.7**
URZ	**Urewera**	**1.82 236**		Pn	**Pn**	**16 52 04.7**	**+1.2**
	237nm,0.3s,baz=301,slow=0.8,SNR=0.9						
URZ				Sn	**Sn**	**16 52 25.7**	**-0.1**
	308nm,0.3s,baz=301,slow=4.3,SNR=7.0						
URZ	**Urewera**	**1.82 236**		P	**Pn**	**16 52 04.6**	**+1.1**
URZ				S	**Sn**	**16 52 25.2**	**-0.6**
MUGZ	**Murupara**	**2.17 235**		P	**Pn**	**16 52 09.3**	**+1.0**
RRRZ	**Republican Roa**	**2.27 241**		P	**Pn**	**16 52 10.9**	**+1.2**
KARZ	**Kaharoa**	**2.34 250**		P	**Pn**	**16 52 11.7**	**+1.0**
MTHZ	**Maungataniwha**	**2.35 227**		P	**Pn**	**16 52 11.9**	**+1.0**
MTHZ				S	**Sn**	**16 52 39.1**	**+0.2**
BKZ	**Black Stump Fm**	**2.76 226**		Pn	**Pn**	**16 52 17.6**	**+1.0**
BKZ	**Black Stump Fm**	**2.76 226**		P	**Pn**	**16 52 16.7**	**+0.2**
BKZ				S	**Sn**	**16 52 47.3**	**-1.7**
CKHZ	**Cape Kidnapper**	**2.85 212**		Pn	**Pn**	**16 52 17.6**	**-0.1**
CKHZ				S	**Sn**	**16 52 49.4**	**-1.6**
TOZ	**Tahuroa Road**	**2.85 259**		P	**Pn**	**16 52 18.5**	**+0.9**
KAHZ	**Kahuranaki**	**3.05 213**		P	**Pn**	**16 52 20.3**	**-0.1**
KAHZ				S	**Sn**	**16 52 54.5**	**-1.5**
MKAZ	**Moumakai**	**3.10 272**		P	**Pn**	**16 52 21.9**	**+0.9**
TMVZ	**Te Maari**	**3.21 234**		P	**Pn**	**16 52 23.5**	**+0.8**
TMVZ				S	**Sn**	**16 52 57.2**	**-3.0**
NTVZ	**North Tongarir**	**3.22 234**		P	**Pn**	**16 52 23.3**	**+0.4**
KRVZ	**Karewarewa**	**3.24 234**		P	**Pn**	**16 52 23.2**	**0.0**
OTVZ	**Oturere**	**3.27 233**		P	**Pn**	**16 52 24.4**	**+0.9**
ETAZ	**East Tamaki Re**	**3.29 274**		P	**Pn**	**16 52 25.1**	**+1.3**
ABAZ	**Army Bay**	**3.43 280**		P	**Pn**	**16 52 26.7**	**+1.2**
HBAZ	**Herne Bay Bore**	**3.46 275**		P	**Pn**	**16 52 27.7**	**+1.6**
HIZ	**Hauiti**	**3.53 248**		Pn	**Pn**	**16 52 28.4**	**+1.3**
HIZ	**Hauiti**	**3.53 248**		P	**Pn**	**16 52 29.0**	**+2.0**
WCZ	**Waipu Caves**	**3.99 288**		P	**Pn**	**16 52 34.5**	**+1.1**
BFZ	**Birch Farm**	**4.05 212**		Pn	**Pn**	**16 52 32.5**	**-1.6**
MSWZ	**Moikau Station**	**5.08 214**		P	**Pn**	**16 52 47.6**	**-0.8**
PLWZ	**Palliser**	**5.21 213**		Pn	**Pn**	**16 52 51.1**	**+1.0**
SNZO	**South Karori**	**5.26 218**		Pn	**Pn**	**16 52 50.1**	**-0.6**
MSVF	**Nonsavu**	**19.47 357**		P	**P**	**16 55 57.2**	**-1.6**
MSVF				IAmb	IAmb	16 56 23.1	
	comp=Z,216nm,1.9s						
CAN	**Canberra**	**24.24 265**		P	**P**	**16 56 48.1**	**-0.7**
CAN				IAmb	IAmb	16 57 13.7	
	comp=Z,119nm,1.8s						
STKA	**Stephens Creek**	**31.15 269**		P	**P**	**16 57 51.2**	**+0.6**
	comp=Z,9.3nm,0.9s,baz=117,slow=6.8,SNR=1.8						
	comp=Z,9.3nm,0.9s						
STKA	**Stephens Creek**	**31.15 269**		P	**P**	**16 57 51.1**	**+0.6**
COEN	**Coen**	**39.44 296**		P	**P**	**16 59 03.2**	**+1.3**
AS31	**Alice Springs**	**40.82 276**		P	**P**	**16 59 13.0**	**-0.4**
ASAR	**Alice Springs**	**40.82 276**		P	**P**	**16 59 12.9**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=123,slow=8.2,SNR=2.3						
	comp=Z,5.1nm,0.8s						
WR0	**Warramunga Arr**	**42.27 281**		P	**P**	**16 59 25.2**	**-0.1**
WR0				IAmb	IAmb	16 59 40.4	
	comp=Z,103nm,1.4s						
FORT	**Forrest**	**42.32 263**		P	**P**	**16 59 24.6**	**-1.0**
FORT				IAmb	IAmb	16 59 30.0	
	comp=Z,168nm,1.7s						
WB2	**Warramunga Arr**	**42.43 281**		P	**P**	**16 59 26.3**	**-0.2**
WB2				IAmb	IAmb	17 00 08.4	
	comp=Z,121nm,1.7s						
WRAB	**Tennant Creek**	**42.44 281**		P	**P**	**16 59 26.2**	**-0.4**
WRAB				IAmb	IAmb	16 59 31.1	
	comp=Z,149nm,1.9s						
WRA	**Warramunga Arr**	**42.44 281**		P	**P**	**16 59 26.2**	**-0.4**
	comp=Z,4.8nm,0.5s,baz=122,slow=7.7,SNR=2.8						
	comp=Z,4.8nm,0.5s						
WRA	**Warramunga Arr**	**42.44 281**		P	**P**	**16 59 26.3**	**-0.3**
WB0	**Warramunga Arr**	**42.49 282**		P	**P**	**16 59 26.9**	**-0.2**
WB0				IAmb	IAmb	16 59 43.2	
	comp=Z,86nm,1.5s						
CASY	**Casey**	**47.96 210**		P	**P**	**17 00 10.9**	**+1.1**
CASY				IAmb	IAmb	17 00 52.4	
	comp=Z,49nm,1.9s						
MTN	**Manton Dam**	**49.09 287**		P	**P**	**17 00 18.4**	**-0.8**
KNRA	**Kununurra**	**49.22 282**		P	**P**	**17 00 20.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**49.97 255**		P	**P**	**17 00 26.3**	**+0.6**
NWAO				IAmb	IAmb	17 01 06.5	
	comp=Z,86nm,1.5s						
FITZ	**Fitzroy Crossi**	**50.30 277**		P	**P**	**17 00 27.8**	**-0.7**
	comp=Z,6.1nm,0.7s,baz=121,slow=5.9,SNR=1.3						
	comp=Z,6.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.30 277**		P	**P**	**17 00 27.8**	**-0.7**
MORW	**Morawa**	**52.51 259**		P	**P**	**17 00 44.0**	**-0.9**
QSPA	**South Pole Qui**	**52.87 180**		P	**P**	**17 00 48.8**	**+1.6**
QSPA				IAmb	IAmb	17 01 07.5	
	comp=Z,28nm,1.2s						
FAKI	**Fak Fak**	**54.82 297**		P	**P**	**17 01 00.9**	**-1.0**
GIRL	**Giralia**	**57.00 265**		P	**P**	**17 01 17.5**	**0.0**
BELA	**Belgrano 2**	**63.34 172**		P	**P**	**17 02 02.2**	**+2.1**
BELA				IAmb	IAmb	17 02 53.0	
	comp=Z,33nm,2.0s						
JHJ2	**Mitsune**	**78.98 327**		P	**P**	**17 03 34.0**	**-1.2**
PLCA	**Paso Flores**	**79.61 134**		P	**P**	**17 03 37.9**	**-1.0**
FINES	**FINESS Array B**	**150.47 334**		PKPbc	**PKPbc**	**17 11 22.2**	**0.0**
	comp=Z,1.5nm,0.7s,baz=60,slow=3.4,SNR=0.9						

*IDC **01** 16:53:06.4±0.6, 36°.88S×178°.69E, h0km, mb4.7/16, mbtmp4.7/18, ML5.7/1, Error ellipse: s-maj=16.2km s-min=15.1km az=21.0*
*NEIC **01** 16:53:07.3±2.7, 37°.01S±0°.05×179°.05E±0°.08, h10km±1km, mb5.3/45, Error ellipse: s-maj=12.9km s-min=5.6km az=127.0*
*WEL **01** 16:53:10.1±1.0, 37°S±4°×17°9E±°, h15km±7km, M4.9/13, ML5.2/15, MLv4.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=91.2*
*NOU **01** 16:53:20.2, 37°.20S×178°.24E, h66km, mb4.9/14, Off E. Coast of N. Island, N.Z.*

ISC 01 16:53:08.2±1.1, 37°.05S±0°.04×179°.06E±0°.05, h17km±6km, n245, σ1§86/261, mb5.1/36, 3C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.79 229**		Pg	**Pg**	**16 53 22.8**	**-0.8**
MXZ				Sg	**Sg**	**16 53 33.3**	**-0.7**
MXZ	**Matakaoa Point**	**0.79 229**		P	**Pb**	**16 53 24.0**	**+0.5**
MXZ				S	**Sb**	**16 53 34.4**	**+0.5**
WMGZ	**Waiomatatini S**	**0.92 213**		P	**Pn**	**16 53 28.3**	**+1.8**
WMGZ				S	**Sn**	**16 53 42.7**	**+3.4**
PKGZ	**Pakihiroa**	**1.15 223**		P	**Pn**	**16 53 31.3**	**+1.8**
PKGZ				S	**Sn**	**16 53 47.1**	**+2.2**
PUZ	**Puketiti**	**1.20 212**		P	**Pg**	**16 53 31.6**	**+0.2**
PUZ				S	**Sn**	**16 53 49.7**	**+3.4**
HAZ	**Te Kaha**	**1.24 235**		P	**Pg**	**16 53 31.5**	**-0.6**
HAZ				S	**Sn**	**16 53 50.7**	**+3.7**
TWGZ	**Tauwhareparae**	**1.42 217**		P	**Pg**	**16 53 35.4**	**-0.1**
TWGZ				S	**Sg**	**16 53 55.4**	**+1.5**
RUGZ	**Raukumara Rang**	**1.43 230**		P	**Pg**	**16 53 36.0**	**+0.2**
RUGZ				S	**Sg**	**16 53 56.0**	**+1.6**
WIZ	**White Island**	**1.56 252**		P	**Pn**	**16 53 35.5**	**+0.3**
WIZ				S	**Sb**	**16 53 56.5**	**+0.3**
WSRZ	**White Island S**	**1.57 252**		P	**Pb**	**16 53 36.7**	**-0.1**
WSRZ				S	**Sb**	**16 53 57.2**	**+0.7**
CNGZ	**Carnagh Statio**	**1.58 205**		P	**Pg**	**16 53 37.8**	**-0.8**
TKGZ	**Te Karaka**	**1.69 214**		P	**Pb**	**16 53 38.9**	**+0.1**
MWZ	**Matawai**	**1.77 223**		P	**Pb**	**16 53 40.0**	**-0.1**
MWZ				S	**Sn**	**16 54 01.9**	**+1.7**
WHRZ	**Whale Island**	**1.84 243**		P	**Pg**	**16 53 42.3**	**-1.3**
RAGZ	**Rawiri**	**1.94 222**		P	**Pb**	**16 53 42.5**	**-0.8**
RAGZ				S	**Sn**	**16 54 06.5**	**+1.9**
RIGZ	**Rimuhau**	**1.95 211**		P	**Pn**	**16 53 42.1**	**+1.5**
RIGZ				S	**Sn**	**16 54 06.3**	**+1.7**
URZ	**Urewera**	**1.96 231**		Pn	**Pn**	**16 53 41.3**	**+0.6**
	624nm,0.3s,baz=301,slow=3.0,SNR=9.5						
URZ				Sn	**Sn**	**16 54 04.8**	**-0.1**
	957nm,0.3s,baz=121,slow=22,SNR=21						
URZ	**Urewera**	**1.96 231**		Pn	**Pb**	**16 53 42.6**	**-0.9**
URZ					**Sn**	**16 54 06.4**	**+1.5**
URZ	**Urewera**	**1.96 231**		P	**Pb**	**16 53 42.9**	**-0.6**
URZ				S	**Sb**	**16 54 07.0**	**-0.6**
PRGZ	**Paritu Road**	**2.09 206**		P	**Pn**	**16 53 44.0**	**+1.5**
MARZ	**Manawahe**	**2.11 243**		P	**Pb**	**16 53 44.8**	**-1.2**
MARZ				S	**Sn**	**16 54 10.1**	**+1.4**
EDRZ	**Edgecumbe**	**2.12 239**		P	**Pb**	**16 53 45.2**	**-1.1**
OPRZ	**Ohinepanea**	**2.15 248**		P	**Pn**	**16 53 44.8**	**+1.6**
SNGZ	**Shannon Statio**	**2.20 218**		P	**Pn**	**16 53 45.5**	**+1.5**
KNZ	**Kokohu**	**2.25 209**		P	**Pn**	**16 53 45.2**	**+0.5**
MYRZ	**Mayor Island**	**2.26 263**		P	**Pn**	**16 53 45.2**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.29 203**		P	**Pn**	**16 53 46.4**	**+1.2**
MUGZ	**Murupara**	**2.31 231**		P	**Pn**	**16 53 47.1**	**+1.7**
MKRZ	**Makatiti**	**2.33 241**		P	**Pb**	**16 53 48.5**	**-1.2**
TGRZ	**Tauranga**	**2.33 252**		P	**Pn**	**16 53 47.5**	**+1.7**
LIRZ	**Lichensteins R**	**2.33 245**		P	**Pb**	**16 53 47.8**	**-1.9**
TARZ	**Mount Tarawera**	**2.35 239**		P	**Pb**	**16 53 48.6**	**-1.5**
OMRZ	**Omania**	**2.38 243**		P	**Pb**	**16 53 48.9**	**-1.7**
RRRZ	**Republican Roa**	**2.39 237**		P	**Pb**	**16 53 48.8**	**-2.0**
RAHZ	**Arahi**	**2.43 219**		P	**Pn**	**16 53 48.6**	**+1.4**
KARZ	**Kaharoa**	**2.44 246**		P	**Pn**	**16 53 49.3**	**+2.0**
HLRZ	**Highlands Stat**	**2.46 240**		P	**Pb**	**16 53 50.0**	**-2.0**
WHHZ	**Waihua**	**2.48 215**		P	**Pn**	**16 53 49.0**	**+1.1**
NGRZ	**Ngongotaha**	**2.51 244**		P	**Pn**	**16 53 51.2**	**-1.6**
MTHZ	**Maungataniwha**	**2.51 224**		P	**Pn**	**16 53 51.3**	**+2.0**
UTU	**Uruhina**	**2.54 243**		P	**Pn**	**16 53 52.0**	**-1.3**
PRRZ	**Plateau Road**	**2.56 235**		P	**Pn**	**16 53 50.5**	**+1.5**
HSRZ	**Hossack Road**	**2.56 240**		P	**Pb**	**16 53 51.7**	**-2.0**
HRRZ	**Handcock Road**	**2.58 238**		P	**Pn**	**16 53 51.5**	**+2.3**
KMRZ	**Kaimai**	**2.60 251**		P	**Pn**	**16 53 50.6**	**+1.0**
ALRZ	**Allen Road**	**2.63 234**		P	**Pn**	**16 53 51.4**	**+1.5**
GRRZ	**Galatos Road**	**2.67 240**		P	**Pn**	**16 53 52.8**	**+2.2**
KUZ	**Kuaotunu**	**2.69 275**		P	**Pn**	**16 53 51.3**	**+0.5**
NMHZ	**Naumai**	**2.71 220**		P	**Pn**	**16 53 53.2**	**+2.1**
WPRZ	**Whakapapatarin**	**2.72 237**		P	**Pn**	**16 53 53.4**	**+2.2**
ARHZ	**Aropaoanui**	**2.74 216**		P	**Pn**	**16 53 52.4**	**+1.0**
MRHZ	**Matea Rd**	**2.75 229**		P	**Pn**	**16 53 53.1**	**+1.6**
TOZ	**Tahuroa Road**	**2.91 255**		P	**Pn**	**16 53 54.1**	**+0.4**
BKZ	**Black Stump Fm**	**2.93 223**		Pn	**Pn**	**16 53 54.4**	**+0.4**
BKZ				Sn	**Sn**	**16 54 29.0**	**+0.2**
BKZ	**Black Stump Fm**	**2.93 223**		P	**Pn**	**16 53 55.0**	**+1.0**
BKZ	**Black Stump Fm**	**2.93 223**		P	**Pn**	**16 53 55.9**	**+1.9**
WHTZ	**Whakaora**	**2.94 246**		P	**Pn**	**16 53 56.7**	**+2.5**
KUTZ	**Kaahu Road**	**2.94 240**		P	**Pn**	**16 53 56.1**	**+1.9**
HATZ	**Hinemaiaia**	**2.98 231**		P	**Pn**	**16 53 56.3**	**+1.6**
GRZ	**Great Barrier**	**3.00 284**		P	**Pn**	**16 53 56.2**	**+1.2**
CKHZ	**Cape Kidnapper**	**3.04 210**		P	**Pn**	**16 53 55.5**	**0.0**
TLZ	**Tolley Road**	**3.07 244**		P	**Pn**	**16 53 58.1**	**+2.1**
WATZ	**Wairara**	**3.11 237**		P	**Pn**	**16 53 58.7**	**+2.2**
MKAZ	**Moumakai**	**3.12 268**		P	**Pn**	**16 53 57.4**	**+0.8**
KWHZ	**Kaweka Forest**	**3.15 220**		P	**Pn**	**16 53 57.8**	**+0.7**
WIAZ	**Waiheke Island**	**3.15 273**		P	**Pn**	**16 53 58.1**	**+1.0**
RATZ	**Rangitukua**	**3.17 234**		P	**Pn**	**16 53 59.4**	**+2.1**
RITZ	**Rihia Road**	**3.18 232**		P	**Pn**	**16 53 59.4**	**+1.9**
KAHZ	**Kahuranaki**	**3.23 211**		P	**Pn**	**16 53 57.8**	**-0.4**
KATZ	**Kakaramea**	**3.28 233**		P	**Pn**	**16 54 01.7**	**+2.8**
ETAZ	**East Tamaki Re**	**3.31 270**		P	**Pn**	**16 54 00.5**	**+1.3**
KRHZ	**Kereru**	**3.34 218**		P	**Pn**	**16 53 59.9**	**+0.1**
MBAZ	**Motutapu North**	**3.35 274**		P	**Pn**	**16 54 01.4**	**+1.6**
TMVZ	**Te Maari**	**3.36 231**		P	**Pn**	**16 54 01.3**	**+1.3**
NTVZ	**North Tongarir**	**3.36 231**		P	**Pn**	**16 54 01.6**	**+1.5**
ETVZ	**East Tongariro**	**3.36 231**		P	**Pn**	**16 54 01.4**	**+1.2**
KRVZ	**Karewarewa**	**3.38 232**		P	**Pn**	**16 53 59.7**	**-0.7**
BHHZ	**Black Hill Sta**	**3.39 223**		P	**Pn**	**16 54 01.7**	**+1.3**
OTVZ	**Oturere**	**3.41 231**		P	**Pn**	**16 54 02.2**	**+1.5**
ABAZ	**Army Bay**	**3.42 276**		P	**Pn**	**16 54 02.3**	**+1.5**
NNVZ	**North Ngauruho**	**3.42 232**		P	**Pn**	**16 54 02.6**	**+1.7**
WTVZ	**West Tongariro**	**3.43 232**		P	**Pn**	**16 54 03.2**	**+2.3**
SNVZ	**South Ngauruho**	**3.44 231**		P	**Pn**	**16 54 02.4**	**+1.2**
NGZ	**Ngauruhoe**	**3.46 231**		P	**Pn**	**16 54 02.6**	**+1.2**
EPAZ	**Eden Park BICE**	**3.46 272**		P	**Pn**	**16 54 03.3**	**+2.0**
HBAZ	**Herne Bay Bore**	**3.47 272**		P	**Pn**	**16 54 03.5**	**+2.0**
TUVZ	**Tukino**	**3.48 229**		P	**Pn**	**16 54 03.2**	**+1.5**
TWVZ	**Taurewa**	**3.50 234**		P	**Pn**	**16 54 03.9**	**+2.0**
MOVZ	**Moawhango**	**3.51 227**		P	**Pn**	**16 54 03.1**	**+1.1**
WHVZ	**Whangaehu Hut**	**3.53 230**		P	**Pn**	**16 54 03.7**	**+1.2**
AWAZ	**Awhitu Peninsu**	**3.53 268**		P	**Pn**	**16 54 03.7**	**+1.4**
FWVZ	**Far West T-bar**	**3.53 230**		P	**Pn**	**16 54 03.9**	**+1.4**
WNVZ	**Wahianoa**	**3.55 229**		P	**Pn**	**16 54 03.7**	**+1.0**
TRVZ	**Turoa**	**3.56 230**		P	**Pn**	**16 54 04.6**	**+1.7**
WTAZ	**Waiatarua**	**3.59 271**		P	**Pn**	**16 54 05.1**	**+1.9**
RVAZ	**Riverhead Bore**	**3.60 273**		P	**Pn**	**16 54 04.7**	**+1.5**
HIZ	**Hauiti**	**3.64 245**		Pn	**Pn**	**16 54 05.7**	**+2.0**
HIZ	**Hauiti**	**3.64 245**		P	**Pn**	**16 54 05.0**	**+1.3**
HIZ	**Hauiti**	**3.64 245**		P	**Pn**	**16 54 07.1**	**+3.4**
WPHZ	**Waipukurau**	**3.64 213**		P	**Pn**	**16 54 03.4**	**-0.5**
PKVZ	**Pokaka**	**3.68 231**		P	**Pn**	**16 54 06.3**	**+1.9**
WCZ	**Waipu Caves**	**3.96 285**		P	**Pn**	**16 54 09.5**	**+1.3**
WAZ	**Wanganui**	**4.19 229**		P	**Pn**	**16 54 12.9**	**+1.6**
BFZ	**Birch Farm**	**4.24 210**		Pn	**Pn**	**16 54 10.1**	**-2.0**
BFZ				Sn	**Sn**	**16 54 58.0**	**-3.1**
MHEZ	**Mangahewa**	**4.25 240**		P	**Pn**	**16 54 16.0**	**+3.9**
PRWZ	**Pori Road**	**4.25 214**		P	**Pn**	**16 54 11.5**	**-0.7**
LREZ	**Lake Rotokare**	**4.38 235**		P	**Pn**	**16 54 16.4**	**+2.4**
DREZ	**Durham Road**	**4.39 239**		P	**Pn**	**16 54 18.0**	**+4.0**
PREZ	**Palmer Road**	**4.49 238**		P	**Pn**	**16 54 19.4**	**+4.0**
NEZ	**North Egmont**	**4.50 239**		P	**Pn**	**16 54 19.3**	**+3.7**
PKE	**Pukeiti**	**4.54 240**		P	**Pn**	**16 54 20.1**	**+4.0**
KHEZ	**Kahui Hut**	**4.56 239**		P	**Pn**	**16 54 20.6**	**+4.1**
NBEZ	**Newall Road No**	**4.65 240**		P	**Pn**	**16 54 21.6**	**+3.9**
NMEZ	**Namu Road**	**4.71 238**		P	**Pn**	**16 54 22.8**	**+4.3**
OUZ	**Omahuta**	**4.78 291**		P	**Pn**	**16 54 20.4**	**+1.0**
OUZ	**Omahuta**	**4.78 291**		P	**Pn**	**16 54 21.6**	**+2.1**
MSWZ	**Moikau Station**	**5.27 213**		Pn	**Pn**	**16 54 23.7**	**-2.5**
MSWZ				Sn	**Sn**	**16 55 20.6**	**-5.9**
PLWZ	**Palliser**	**5.39 212**		Pn	**Pn**	**16 54 25.2**	**-2.6**
SNZO	**South Karori**	**5.43 217**		Pn	**Pn**	**16 54 25.1**	**-3.4**
SNZO				Sn	**Sn**	**16 55 25.2**	**-5.3**
TUWZ	**Tuamarina**	**5.91 221**		Pn	**Pn**	**16 54 31.9**	**-3.0**
CMWZ	**Cape Campbell**	**6.01 217**		Pn	**Pn**	**16 54 34.2**	**-2.1**
NNZ	**Nelson**	**6.07 225**		Pn	**Pn**	**16 54 34.6**	**-2.5**
BSWZ	**Blackbirch Sta**	**6.15 219**		Pn	**Pn**	**16 54 36.2**	**-2.1**
QRZ	**Quartz Range**	**6.33 231**		Pn	**Pn**	**16 54 40.2**	**-0.6**
THZ	**Tophouse**	**6.70 223**		Pn	**Pn**	**16 54 43.0**	**-2.9**
KHZ	**Kahutara**	**6.84 217**		Pn	**Pn**	**16 54 44.6**	**-3.2**
LTZ	**Lake Taylor**	**7.74 220**		Pn	**Pn**	**16 54 58.1**	**-2.1**
MQZ	**McQueen's Vall**	**8.25 214**		Pn	Pn	16 55 02.5	-4.6
OXZ	**Oxford**	**8.25 218**		Pn	**Pn**	**16 55 04.3**	**-2.9**
RPZ	**Rata Peaks**	**9.03 220**		Sn	Sn	16 56 48.4	-11
	75nm,0.3s,baz=81,slow=16,SNR=17						
RPZ	**Rata Peaks**	**9.03 220**		Pn	**Pn**	**16 55 14.4**	**-3.4**
FOZ	**Fox Glacier**	**9.58 225**		Pn	Pn	16 55 20.6	-4.7
LBZ	**Lake Benmore**	**9.95 220**		Pn	**Pn**	**16 55 27.5**	**-2.9**
ODZ	**Otahua Downs**	**10.20 216**		Pn	**Pn**	**16 55 30.8**	**-3.0**
WKZ	**Wanaka**	**10.86 221**		Pn	**Pn**	**16 55 39.6**	**-3.2**
MLZ	**Mavora Lakes**	**11.69 221**		Pn	**Pn**	**16 55 52.5**	**-1.7**
WHZ	**Wether Hill Ro**	**12.

PLCA **Paso Flores** **79.74** **134** P **P** **17 05 17.8 +2.4**
PLCA IAmb IAmb 17 05 19.0
comp=Z,43nm,1.6s
MJAR **Matsushiro Arr** **82.43** **328** P **P** **17 05 28.8 -0.5**
comp=Z,0.5nm,0.6s,baz=164,slow=5.5,SNR=1.5
comp=Z,0.5nm,0.6s
BO02 **Sierra Bellavi** **83.46** **129** P **P** **17 05 36.8 +1.6**
MT01 **Popeta** **83.78** **128** P **P** **17 05 38.8 +2.1**
MT01 IAmb IAmb 17 05 39.2
comp=Z,17nm,0.8s
GSI **Gunungsitoli** **83.98** **276** P **P** **17 05 39.4 +1.5**
MT09 **Talagante** **84.00** **128** P **P** **17 05 38.2 +0.3**
MT09 IAmb IAmb 17 06 33.2
comp=Z,28nm,1.1s
MT02 **Curacav** **84.24** **128** P **P** **17 05 39.8 +0.8**
ROC1 **El Roble** **84.50** **127** P **P** **17 05 42.0 +1.3**
KSRS **Korea Array** **87.92** **322** P **P** **17 05 57.0 +0.3**
comp=Z,1.2nm,0.8s,baz=140,slow=6.2,SNR=3.1
comp=Z,1.2nm,0.8s
PETK **Petropavlovsk-** **91.69** **347** P **P** **17 06 15.8 +1.8**
comp=Z,2.6nm,0.6s,baz=176,slow=7.9,SNR=2.4
comp=Z,2.6nm,0.6s
CMAR **Chiang Mai Arr** **93.35** **290** P **P** **17 06 22.6 +0.1**
comp=Z,1.9nm,0.7s,baz=132,slow=3.6,SNR=3.2
comp=Z,1.9nm,0.7s
NVAR **Mina Array Bea** **94.73** **44** P **P** **17 06 30.7 +1.9**
comp=Z,1.8nm,0.8s,baz=212,slow=3.2,SNR=3.3
comp=Z,1.8nm,0.8s
LZH **Lanzhou** **100.74** **307** *e*P **Pdif** **17 06 58.8 +3.0**
LZH pP pwP 17 07 04.9 +1.6
LZH pmax pmax
comp=Z,30nm,1.0s
MKAR **Makanchi Array** **120.05** **308** PKP **PKPdf** **17 11 56.0 -1.6**
comp=Z,1.8nm,0.8s,baz=167,slow=1.1,SNR=5.6
TOSP **Speyside** **120.93** **100** *e* **Pdif** **17 08 23.2 -2.7**
ZALV **Zalesovo Beam** **121.25** **316** PKP **PKPdf** **17 11 58.1 -1.5**
comp=Z,0.5nm,0.4s,baz=86,slow=1.8,SNR=4.1
CBE **Ff, Capester** **122.81** **94** *e* **Pdif** **17 08 29.6 -4.6**
ABD **La Joyeuse, An** **123.13** **94** *e* **Pdif** **17 08 40.3 +4.7**
SPA0 **Spitsbergen Ar** **138.12** **355** *e*PKPdf **PKiKP** **17 12 32.8 -0.2**
SPA0 IAmb IAmb 17 12 42.6
comp=Z,511nm,2.8s
HOPEN **Hopen** **138.77** **351** *e*PKPdf **PKiKP** **17 12 34.4 +0.2**
ARA0 **ARCESS Array S** **144.44** **344** *e*PKPbc **PKPab** **17 12 41.0 +0.2**
ARCES **ARCESS Array B** **144.44** **344** PKP PKPbc 17 12 41.3 +0.3
comp=Z,4.1nm,0.5s,baz=35,slow=3.0,SNR=23
KTK1 **Kautokeino** **145.34** **345** *e*PKPbc **PKPbc** **17 12 43.1 -0.8**
TRO **Tromso** **145.63** **348** *e*PKPdf **PKPab** **17 12 45.5 +0.4**
JMIC **Jan Mayen** **145.76** **4** *e*PKPdf **PKPab** **17 12 45.7 +0.1**
STEI **Steigen** **147.76** **349** *e*PKPbc **PKiKP** **17 12 52.2 -0.7**
FAUS **Fauske** **148.25** **348** *e*PKPdf **PKPbc** **17 12 50.8 -1.5**
FAUS IAmb IAmb 17 12 56.9
comp=Z,64nm,1.5s
LIC **Lamto** **149.09** **172** ↑*i*PKP1 **PKPbc** **17 12 57.0 +0.9**
comp=Z,29nm,0.5s
KIC **Kosan Boka** **149.26** **173** ↑*e*PKP1 **PKPbc** **17 12 56.9 +0.4**
comp=Z,12nm,0.6s
KONS **Konsvik** **149.41** **349** *e*pPKPdf **PKPbc** **17 12 55.1 -0.1**
KONS IAmb IAmb 17 12 57.7
comp=Z,1μm,3.3s
MOR8 **Moi Rana** **149.49** **348** *e*PKPdf **PKPdf** **17 12 51.8 +0.7**
TIC **Toumodi** **149.51** **172** ↑*i*PKP1 **PKPbc** **17 12 57.9 +0.7**
comp=Z,20nm,0.7s
DBIC **Dimbokro** **149.55** **172** PKPbc **PKPbc** **17 12 57.9 +0.7**
comp=Z,8.9nm,0.6s,baz=191,slow=2.8,SNR=7.3
MMAI **Mount Meron Ar** **150.09** **273** PKPbc **PKPbc** **17 12 57.6 -0.5**
comp=Z,2.0nm,0.4s,baz=87,slow=5.9,SNR=4.5
FINES **FINESS Array B** **150.30** **334** PKPbc **PKPbc** **17 12 56.8 -0.7**
comp=Z,7.7nm,0.5s,baz=44,slow=4.7,SNR=23
NSS **Namsos** **151.42** **348** *e*pPKPdf **pPKPdf** **17 12 58.6 -0.5**
NSS IAmb IAmb 17 13 01.2
comp=Z,27nm,1.2s
BRTR **Keskin Array B** **152.86** **286** PKPbc **PKPbc** **17 13 03.3 -1.1**
comp=Z,1.5nm,0.7s,baz=155,slow=3.1,SNR=2.3
AKASG **Malin Array Be** **154.54** **312** PKPbc **PKPbc** **17 13 06.2 -1.2**
comp=Z,0.8nm,0.5s,baz=57,slow=3.1,SNR=5.7
NB2 **NORSAR Subarra** **154.79** **346** PKP **PKPbc** **17 13 06.9 -0.8**
comp=Z,52nm,2.5s,baz=31,slow=2.2
NB2 **NORSAR Subarra** **154.79** **346** *e* **PKPbc** **17 13 06.9 -0.8**
baz=31,slow=2.2
HFS **Hagfors** **155.07** **343** PKPbc PKPbc 17 13 07.2
comp=Z,3.6nm,0.8s,baz=103,slow=3.3,SNR=3.4
TORD **Torodi Ar. Bea** **156.08** **186** PKPbc PKPbc 17 13 13.7
comp=Z,1.4nm,0.6s,baz=161,slow=1.5,SNR=2.0
TORD PKPab **PKPab** **17 13 29.6 +0.1**
comp=Z,11nm,1.1s,baz=168,slow=4.6,SNR=6.8

*NEIC **01** 16:55:45.0±1.1, 37.41°S±0.10°×179.50°E±0.05, h10km±1km, mb5.0/24, Error ellipse: s-maj=16.9km s-min=6.7km az=349.0*
*IDC **01** 16:55:46.8±1.8, 36.88°S×179.01°E, h0km, mb4.9/4, mbtmp4.8/5, ML4.5/1, Error ellipse: s-maj=47.3km s-min=38.0km az=165.0*
*WEL **01** 16:55:51.0±0.9, 37°S±4°×17°9E±°, h19km±5km, M4.3/23, ML4.6/30, MLv4.3/23, Error ellipse: s-maj=0.0km s-min=0.0km az=95.5*

ISC 01 16:55:49.2±1.1, 37°27'S±0'05"×179°30'E±0'06", h34km±3km, n117, σ1§40/138, mb4.9/15, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.85**	**249**		**Pn**	**16 56 03.9**	**-0.8**
MXZ				Sg	**Sn**	**16 56 11.2**	**-4.7**
MXZ	**Matakaoa Point**	**0.85**	**249**	P	**Pn**	**16 56 03.9**	**-0.8**
MXZ				S	**Sn**	**16 56 13.2**	**-2.8**
WMGZ	**Waiomatatini S**	**0.90**	**232**	P	**Pb**	**16 56 07.2**	**+0.9**
WMGZ				S	**Sb**	**16 56 19.2**	**+1.3**
PKGZ	**Pakihiroa**	**1.15**	**237**	P	**Pb**	**16 56 10.5**	**-0.2**
PKGZ				S	**Sn**	**16 56 24.5**	**+0.8**
PUZ	**Puketiti**	**1.15**	**226**	P	**Pb**	**16 56 11.0**	**+0.3**
PUZ				S	**Sb**	**16 56 25.7**	**+0.3**
HAZ	**Te Kaha**	**1.30**	**248**	P	**Pn**	**16 56 11.5**	**+0.6**
HAZ				S	**Sb**	**16 56 28.8**	**-0.7**
TWGZ	**Tauwhareparae**	**1.39**	**229**	P	**Pb**	**16 56 14.5**	**-0.1**
TWGZ				S	**Sb**	**16 56 31.7**	**-0.3**
RUGZ	**Raukumara Rang**	**1.47**	**241**	P	**Pb**	**16 56 15.3**	**-0.6**
CNGZ	**Carnagh Statio**	**1.49**	**215**	P	**Pb**	**16 56 16.6**	**+0.3**
TKGZ	**Te Karaka**	**1.64**	**224**	P	**Pn**	**16 56 16.8**	**+1.2**
MWZ	**Matawai**	**1.76**	**232**	P	**Pn**	**16 56 18.9**	**+1.5**
MWZ				S	**Sn**	**16 56 40.3**	**+1.6**
RIGZ	**Rimuhau**	**1.88**	**220**	P	**Pn**	**16 56 20.5**	**+1.5**
RIGZ				S	**Sn**	**16 56 43.8**	**+2.2**
RAGZ	**Rawiri**	**1.93**	**230**	P	**Pn**	**16 56 20.8**	**+1.1**
RAGZ				S	**Sn**	**16 56 44.3**	**+1.4**
WHRZ	**Whale Island**	**1.94**	**252**	P	**Pn**	**16 56 21.5**	**+1.7**
WHRZ				S	**Sn**	**16 56 43.7**	**+0.7**
PRGZ	**Paritu Road**	**2.00**	**214**	P	**Pn**	**16 56 22.7**	**+2.1**
PRGZ				S	**Sn**	**16 56 47.1**	**+2.6**
URZ	**Urewera**	**2.00**	**240**	Pn	**Pn**	**16 56 22.2**	**+1.6**
	162nm,0.3s,baz=301,slow=2.2,SNR=3.0						
URZ				Sn	**Sn**	**16 56 44.9**	**+0.4**
	213nm,0.3s,baz=301,slow=20,SNR=5.6						
	340nm,0.3s						
URZ	**Urewera**	**2.00**	**240**	Pn	**Pn**	**16 56 22.1**	**+1.6**
URZ				Sn	**Sn**	**16 56 45.2**	**+0.8**
URZ	**Urewera**	**2.00**	**240**	P	**Pn**	**16 56 21.8**	**+1.2**
URZ				S	**Sn**	**16 56 44.8**	**+0.4**
SNGZ	**Shannon Statio**	**2.17**	**225**	P	**Pn**	**16 56 24.7**	**+1.8**
SNGZ				S	**Sn**	**16 56 51.5**	**+2.9**
KNZ	**Kokohu**	**2.17**	**216**	P	**Pn**	**16 56 24.1**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.18**	**210**	P	**Pn**	**16 56 25.1**	**+2.0**
EDRZ	**Edgecumbe**	**2.20**	**247**	P	**Pn**	**16 56 24.8**	**+1.4**
EDRZ				S	**Sn**	**16 56 49.7**	**+0.2**
MARZ	**Manawahe**	**2.21**	**250**	P	**Pn**	**16 56 23.6**	**+0.1**
OPRZ	**Ohinepanea**	**2.26**	**254**	P	**Pn**	**16 56 24.6**	**+0.5**
MUGZ	**Murupara**	**2.34**	**238**	P	**Pn**	**16 56 26.4**	**+1.1**
MUGZ				S	**Sn**	**16 56 53.1**	**+0.3**
TARZ	**Mount Tarawera**	**2.42**	**246**	P	**Pn**	**16 56 27.9**	**+1.5**
MYRZ	**Mayor Island**	**2.44**	**269**	P	**Pn**	**16 56 26.2**	**-0.4**
RRRZ	**Republican Roa**	**2.45**	**243**	P	**Pn**	**16 56 27.4**	**+0.5**
MTHZ	**Maungataniwha**	**2.51**	**230**	P	**Pn**	**16 56 28.8**	**+1.2**
MTHZ				S	**Sn**	**16 56 57.1**	**+0.1**
HLRZ	**Highlands Stat**	**2.54**	**246**	P	**Pn**	**16 56 29.7**	**+1.7**
KARZ	**Kaharoa**	**2.54**	**252**	P	**Pn**	**16 56 28.3**	**+0.2**
PRRZ	**Plateau Road**	**2.61**	**241**	P	**Pn**	**16 56 29.9**	**+0.9**
HSRZ	**Hossack Road**	**2.64**	**246**	P	**Pn**	**16 56 31.2**	**+1.8**
HRRZ	**Handcock Road**	**2.64**	**244**	P	**Pn**	**16 56 30.7**	**+1.3**
ALRZ	**Allen Road**	**2.67**	**240**	P	**Pn**	**16 56 30.9**	**+1.0**
NMHZ	**Naumai**	**2.68**	**226**	P	**Pn**	**16 56 31.4**	**+1.4**
KMRZ	**Kaimai**	**2.73**	**257**	P	**Pn**	**16 56 31.5**	**+0.8**
MRHZ	**Matea Rd**	**2.76**	**235**	P	**Pn**	**16 56 32.3**	**+1.1**
BKZ	**Black Stump Fm**	**2.91**	**229**	Pn	**Pn**	**16 56 33.4**	**+0.2**
BKZ				Sn	**Sn**	**16 57 07.2**	**+0.1**
BKZ	**Black Stump Fm**	**2.91**	**229**	P	**Pn**	**16 56 34.4**	**+1.2**
KUZ	**Kuaotunu**	**2.91**	**279**	P	**Pn**	**16 56 31.5**	**-1.6**
CKHZ	**Cape Kidnapper**	**2.96**	**215**	P	**Pn**	**16 56 34.4**	**+0.6**
KUTZ	**Kaahu Road**	**3.01**	**245**	P	**Pn**	**16 56 35.7**	**+1.2**
TOZ	**Tahuroa Road**	**3.06**	**260**	P	**Pn**	**16 56 34.8**	**-0.3**
KAHZ	**Kahuranaki**	**3.16**	**216**	P	**Pn**	**16 56 36.5**	**-0.1**
RITZ	**Rihia Road**	**3.21**	**237**	P	**Pn**	**16 56 38.5**	**+1.3**
GRZ	**Great Barrier**	**3.25**	**287**	P	**Pn**	**16 56 38.5**	**+0.7**
MKAZ	**Moumakai**	**3.31**	**272**	P	**Pn**	**16 56 38.2**	**-0.4**
WIAZ	**Waiheke Island**	**3.37**	**277**	P	**Pn**	**16 56 40.2**	**+0.8**
BHHZ	**Black Hill Sta**	**3.38**	**228**	P	**Pn**	**16 56 40.7**	**+1.1**
TMVZ	**Te Maari**	**3.38**	**236**	P	**Pn**	**16 56 39.9**	**+0.2**
ETVZ	**East Tongariro**	**3.39**	**236**	P	**Pn**	**16 56 40.0**	**+0.2**
NTVZ	**North Tongarir**	**3.39**	**236**	P	**Pn**	**16 56 40.9**	**+1.1**
SNVZ	**South Ngauruho**	**3.46**	**235**	P	**Pn**	**16 56 41.6**	**+0.8**
ETAZ	**East Tamaki Re**	**3.51**	**274**	P	**Pn**	**16 56 41.2**	**-0.2**
MOVZ	**Moawhango**	**3.51**	**231**	P	**Pn**	**16 56 42.3**	**+0.8**
TWVZ	**Taurewa**	**3.54**	**238**	P	**Pn**	**16 56 43.0**	**+1.2**
FWVZ	**Far West T-bar**	**3.56**	**235**	P	**Pn**	**16 56 43.0**	**+0.8**
MBAZ	**Motutapu North**	**3.56**	**277**	P	**Pn**	**16 56 41.9**	**-0.1**
ABAZ	**Army Bay**	**3.64**	**279**	P	**Pn**	**16 56 43.3**	**+0.1**
EPAZ	**Eden Park BICE**	**3.67**	**275**	P	**Pn**	**16 56 44.4**	**+0.9**
HBAZ	**Herne Bay Bore**	**3.68**	**275**	P	**Pn**	**16 56 44.3**	**+0.6**
AWAZ	**Awhitu Peninsu**	**3.73**	**272**	P	**Pn**	**16 56 44.6**	**+0.3**
HIZ	**Hauiti**	**3.73**	**249**	Pn	**Pn**	**16 56 46.3**	**+2.0**
HIZ	**Hauiti**	**3.73**	**249**	P	**Pn**	**16 56 46.6**	**+2.2**
WTAZ	**Waiatarua**	**3.79**	**274**	P	**Pn**	**16 56 46.7**	**+1.4**
RVAZ	**Riverhead Bore**	**3.81**	**276**	P	**Pn**	**16 56 45.6**	**+0.1**
BFZ	**Birch Farm**	**4.16**	**214**	Pn	**Pn**	**16 56 47.8**	**-2.5**
BFZ				Sn	**Sn**	**16 57 35.2**	**-2.5**
WCZ	**Waipu Caves**	**4.20**	**287**	P	**Pn**	**16 56 50.5**	**-0.4**
OUZ	**Omahuta**	**5.04**	**292**	P	**Pn**	**16 57 02.9**	**+0.4**
MSWZ	**Moikau Station**	**5.20**	**216**	Pn	**Pn**	**16 57 02.1**	**-2.5**
PLWZ	**Palliser**	**5.32**	**215**	Pn	**Pn**	**16 57 03.5**	**-2.7**
SNZO	**South Karori**	**5.39**	**220**	Pn	**Pn**	**16 57 06.6**	**-0.5**
TUWZ	**Tuamarina**	**5.88**	**223**	Pn	**Pn**	**16 57 11.1**	**-2.8**
CMWZ	**Cape Campbell**	**5.96**	**220**	Pn	**Pn**	**16 57 13.1**	**-1.9**
NNZ	**Nelson**	**6.06**	**228**	Pn	**Pn**	**16 57 14.0**	**-2.4**
BSWZ	**Blackbirch Sta**	**6.11**	**222**	Pn	**Pn**	**16 57 14.9**	**-2.2**
QRZ	**Quartz Range**	**6.36**	**234**	Pn	**Pn**	**16 57 19.4**	**-1.1**
THZ	**Tophouse**	**6.68**	**226**	Pn	**Pn**	**16 57 22.4**	**-2.6**
LTZ	**Lake Taylor**	**7.71**	**222**	Pn	**Pn**	**16 57 36.8**	**-2.3**
MQZ	**McQueen's Vall**	**8.19**	**216**	Pn	**Pn**	**16 57 43.3**	**-2.2**
RPZ	**Rata Peaks**	**8.99**	**222**	Pn	**Pn**	**16 57 54.2**	**-2.5**
LBZ	**Lake Benmore**	**9.91**	**221**	Pn	**Pn**	**16 58 06.3**	**-2.9**
ODZ	**Otahua Downs**	**10.14**	**217**	Pn	**Pn**	**16 58 10.3**	**-2.0**
WKZ	**Wanaka**	**10.83**	**223**	Pn	**Pn**	**16 58 18.5**	**-3.2**
CAN	**Canberra**	**24.45**	**265**	P	**P**	**17 01 03.7**	**-1.2**
CAN				IAmb	IAmb	17 01 04.8	
	comp=Z,76nm,1.9s						
TOO	**Toolangi**	**26.77**	**259**	P	**P**	**17 01 26.4**	**+0.4**
TOO				IAmb	IAmb	17 02 15.9	
	comp=Z,51nm,1.9s						
STKA	**Stephens Creek**	**31.37**	**269**	P	**P**	**17 02 08.1**	**+1.3**
	comp=Z,8.2nm,0.8s,baz=94,slow=10,SNR=5.6						
	comp=Z,8.2nm,0.8s						
STKA	**Stephens Creek**	**31.37**	**269**	P	**P**	**17 02 08.0**	**+1.2**
BBOO	**Buckleboo**	**35.46**	**264**	P	**P**	**17 02 42.7**	**+0.3**
BBOO				IAmb	IAmb	17 03 06.4	
	comp=Z,54nm,1.7s						
COEN	**Coen**	**39.64**	**296**	P	**P**	**17 03 18.0**	**+0.1**
COEN				IAmb	IAmb	17 03 30.8	
	comp=Z,50nm,1.6s						
AS31	**Alice Springs**	**41.04**	**276**	P	**P**	**17 03 29.8**	**+0.3**
ASAR	**Alice Springs**	**41.04**	**276**	P	**P**	**17 03 29.5**	**0.0**
	comp=Z,13nm,0.7s,baz=120,slow=8.2,SNR=11						
	comp=Z,13nm,0.7s						
ASAR	**Alice Springs**	**41.04**	**276**	P	**P**	**17 03 29.3**	**-0.2**
WR0	**Warramunga Arr**	**42.48**	**281**	P	**P**	**17 03 41.0**	**-0.3**
FORT	**Forrest**	**42.54**	**263**	P	**P**	**17 03 41.7**	**+0.1**
WB2	**Warramunga Arr**	**42.64**	**281**	P	**P**	**17 03 42.4**	**-0.2**
WB2				IAmb	IAmb	17 03 46.4	
	comp=Z,9.1nm,0.5s						
WRAB	**Tennant Creek**	**42.65**	**281**	P	**P**	**17 03 42.5**	**-0.1**
WRAB				IAmb	IAmb	17 03 46.0	
	comp=Z,7.0nm,0.6s						
WRA	**Warramunga Arr**	**42.65**	**281**	P	**P**	**17 03 42.3**	**-0.4**
	comp=Z,12nm,0.6s,baz=121,slow=7.8,SNR=4.6						
	comp=Z,12nm,0.6s						
WB0	**Warramunga Arr**	**42.71**	**281**	P	**P**	**17 03 43.0**	**-0.1**
WB0				IAmb	IAmb	17 03 43.6	
	comp=Z,17nm,0.8s						
MTN	**Manton Dam**	**49.30**	**287**	P	**P**	**17 04 35.0**	**0.0**
MTN				IAmb	IAmb	17 05 22.1	
	comp=Z,30nm,1.5s						
KNRA	**Kununurra**	**49.44**	**282**	P	**P**	**17 04 35.9**	**-0.2**
KNRA				IAmb	IAmb	17 04 45.7	
	comp=Z,28nm,1.1s						
NWAO	**Narrogin (SRO)**	**50.17**	**255**	P	**P**	**17 04 41.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.52**	**277**	P	**P**	**17 04 44.5**	**+0.2**
	comp=Z,16nm,0.8s,baz=160,slow=6.1,SNR=9.2						
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.52**	**277**	P	**P**	**17 04 44.9**	**+0.6**
FITZ				IAmb	IAmb	17 04 45.9	
	comp=Z,17nm,0.9s						
SAUI	**Saumlaki**	**52.27**	**291**	P	**P**	**17 04 57.1**	**-0.4**
MORW	**Morawa**	**52.72**	**259**	P	**P**	**17 05 00.2**	**-0.5**
PSA00	**Pilbara Seismi**	**53.29**	**270**	P	**P**	**17 05 04.4**	**-0.5**
PSA00				IAmb	IAmb	17 05 54.6	
	comp=Z,27nm,1.9s						
MBWA	**Marble Bar**	**53.59**	**270**	P	**P**	**17 05 06.7**	**-0.5**
JOHN	**Johnston Islan**	**54.73**	**13**	P	**P**	**17 05 14.6**	**-0.7**
FAKI	**Fak Fak**	**55.02**	**297**	P	**P**	**17 05 16.8**	**-0.8**
BELA	**Belgrano 2**	**63.30**	**172**	P	**P**	**17 06 12.7**	**-1.3**
BELA				IAmb	IAmb	17 07 24.9	
	comp=Z,24nm,2.0s						
MAW	**Mawson**	**65.11**	**202**	P	**P**	**17 06 25.9**	**-0.2**
PLCA	**Paso Flores**	**79.45**	**133**	P	**P**	**17 07 51.6**	**-0.6**
PLCA				IAmb	IAmb	17 08 14.2	
	comp=Z,49nm,1.9s						
ARCES	**ARCESS Array B**	**144.70**	**344**	PKP	**PKPdf**	**17 15 22.4**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=33,slow=2.7,SNR=6.0						
FINES	**FINESS Array B**	**150.58**	**334**	PKPbc	**PKiKP**	**17 15 38.5**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=31,slow=4.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**155.89**	**186**	PKPab	**PKPab**	**17 16 11.1**	**+4.1**
	comp=Z,0.7nm,0.6s,baz=210,slow=4.3,SNR=2.2						

*IDC **01** 16:57:08.3±2.8, 36.79°S×179.18°E, h0km, mb4.0/3, mbtmp4.2/5, ML4.3/2, Error ellipse: s-maj=68.1km s-min=37.4km az=125.0*
*NEIC **01** 16:57:09.2±2.1, 36.90°S±0.07°×179.2°E±0.1, h10km±1km, mb4.9/13, Error ellipse: s-maj=15.3km s-min=10.3km az=129.0*

ISC 01 16:57:08.9±1.1, 36°86S±0'07"×179°1E±0'1, h10km, n28, σ1§22/28, mb4.6/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.96**	**223**	Pg	**Pg**	**16 57 26.8**	**-0.5**
URZ	**Urewera**	**2.12**	**228**	Pn	**Pn**	**16 57 45.5**	**+1.1**
	30nm,0.3s,baz=301,slow=22,SNR=0.6						
URZ				Sn	**Sn**	**16 58 08.7**	**-2.2**
	43nm,0.3s,baz=121,slow=20,SNR=1.3						
	86nm,0.3s						
URZ	**Urewera**	**2.12**	**228**	Pn	**Pn**	**16 57 44.5**	**+0.1**
BKZ	**Black Stump Fm**	**3.10**	**221**	Pn	**Pn**	**16 57 58.1**	**+0.1**
HIZ	**Hauiti**	**3.77**	**243**	Pn	**Pn**	**16 58 09.0**	**+1.9**
BFZ	**Birch Farm**	**4.43**	**210**	Pn	**Pn**	**16 58 17.0**	**+0.9**
OUZ	**Omahuta**	**4.77**	**288**	Pn	**Pn**	**16 58 21.8**	**+1.0**
RPZ	**Rata Peaks**	**9.21**	**220**	Pn	**Pn**	**16 59 25.2**	**+3.5**
	7.3nm,0.3s,baz=8.3,slow=12,SNR=3.0						
	16nm,0.3s						
OUENC	**Ouen Island, N**	**17.90**	**320**		**Pn**	**17 01 18.5**	**+0.5**
LIFNC	**LIFOU**	**19.09**	**324**		**P**	**17 01 32.4**	**+0.7**
CAN	**Canberra**	**24.35**	**265**	P	**P**	**17 02 25.9**	**-1.2**
CAN				IAmb	IAmb	17 03 17.7	
	comp=Z,72nm,1.9s						
CTAO	**Charters Tower**	**33.17**	**291**	P	**P**	**17 03 46.7**	**+0.9**
CTAO				IAmb	IAmb	17 04 37.6	
	comp=Z,47nm,1.7s						
TARA	**Tarawa**	**38.46**	**350**	P	**P**	**17 04 29.5**	**-1.5**
AS31	**Alice Springs**	**40.86**	**276**	P	**P**	**17 04 51.5**	**+0.4**
ASAR	**Alice Springs**	**40.86**	**276**	P	**P**	**17 04 51.6**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=119,slow=7.8,SNR=1.2						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**40.86**	**276**	P	**P**	**17 04 50.1**	**-1.0**
WR0	**Warramunga Arr**	**42.27**	**281**	P	**P**	**17 05 02.7**	**0.0**
WR0				IAmb	IAmb	17 05 06.3	
	comp=Z,23nm,1.8s						
WB2	**Warramunga Arr**	**42.43**	**281**	P	**P**	**17 05 04.7**	**+0.7**
WB2				IAmb	IAmb	17 05 10.4	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**42.44**	**281**	P	**P**	**17 05 04.8**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=127,slow=6.5,SNR=2.5						
	comp=Z,1.6nm,0.4s						
FORT	**Forrest**	**42.45**	**263**	P	**P**	**17 05 03.9**	**-0.2**
FORT				IAmb	IAmb	17 05 33.7	
	comp=Z,26nm,1.1s						
WB0	**Warramunga Arr**	**42.49**	**281**	P	**P**	**17 05 05.0**	**+0.5**
KWAJ	**Kwajalein Atol**	**46.69**	**344**	P	**P**	**17 05 37.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**50.34**	**277**	P	**P**	**17 06 07.3**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=102,slow=9.3,SNR=1.4						
	comp=Z,0.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.34**	**277**	P	**P**	**17 06 06.9**	**+0.8**
FITZ				IAmb	IAmb	17 06 15.5	
	comp=Z,48nm,1.9s						
LUWI	**Luwuk**	**62.93**	**291**	P	**P**	**17 07 34.3**	**-1.4**
BELA	**Belgrano 2**	**63.71**	**172**	P	**P**	**17 07 39.9**	**-0.1**
BELA				IAmb	IAmb	17 08 23.6	
	comp=Z,7.9nm,1.3s						
ARCES	**ARCESS Array B**	**144.28**	**344**	PKP	PKPbc	17 16 44.7	+2.3
	comp=Z,1.0nm,0.8s,baz=29,slow=2.1,SNR=1.1						
FINES	**FINESS Array B**	**150.15**	**334**	PKPbc	**PKPbc**	**17 17 00.1**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=22,slow=1.5,SNR=1.2						

*IDC **01** 16:58:14.1±1.9, 36.95°S×179.27°E, h0km, mb4.4/4, mbtmp4.4/4, MS5.4/1, Error ellipse: s-maj=76.9km s-min=40.4km az=19.0*
*NEIC **01** 16:58:19.8±2.5, 37.27°S±0.06°×178.5°E±0.1, h10km±2km, mb4.5/13, Error ellipse: s-maj=19.0km s-min=4.2km az=118.0*

ISC 01 16:58:18.3±1.4, 37°24S±0'09"×178°6E±0'2, h10km, n32, σ1§33/31, mb4.4/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.41**	**219**	Pg	**Pg**	**16 58 25.9**	**-0.6**
URZ	**Urewera**	**1.58**	**229**	Pn	**Pb**	**16 58 47.4**	**-0.2**
BKZ	**Black Stump Fm**	**2.56**	**221**	Pn	**Pn**	**16 58 60.0**	**0.0**
HIZ	**Hauiti**	**3.25**	**246**	Pn	**Pn**	**16 59 07.5**	**-1.9**
OUZ	**Omahuta**	**4.54**	**295**	Pn	**Pn**	**16 59 25.8**	**-1.4**
TUWZ	**Tuamarina**	**5.54**	**220**	Pn	**Pn**	**16 59 39.1**	**-1.8**
NNZ	**Nelson**	**5.69**	**224**	Pn	**Pn**	**16 59 44.5**	**+1.6**
RAO	**Raoul Island**	**8.47**	**21**	LR	LR	17 02 34.7	
	comp=Z,26μm,21.2s,baz=312,slow=32						
RPZ	**Rata Peaks**	**8.67**	**219**	Pn	**Pn**	**17 00 21.1**	**-2.7**
LBZ	**Lake Benmore**	**9.59**	**219**	Pn	**Pn**	**17 00 35.5**	**-0.9**
STKA	**Stephens Creek**	**30.83**	**269**	P	**P**	**17 04 37.1**	**+2.6**
HNR	**Honiara**	**32.43**	**324**	P	**P**	**17 04 47.0**	**-1.7**
CTA	**Charters Tower**	**32.94**	**292**	P	**P**	**17 04 54.9**	**+1.7**
	2.2nm,0.7s,baz=135,slow=10.0,SNR=1.4						
	2.2nm,0.7s						
BBOO	**Buckleboo**	**34.93**	**264**	P	**P**	**17 05 11.9**	**+1.5**
BBOO				IAmb	IAmb	17 05 31.0	
	comp=Z,11nm,1.1s						
COEN	**Coen**	**39.15**	**297**	P	**P**	**17 05 46.0**	**-0.3**
COEN				IAmb	IAmb	17 05 50.0	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**40.50**	**277**	P	**P**	**17 05 58.4**	**+0.8**
ASAR	**Alice Springs**	**40.50**	**277**	P	**P**	**17 05 58.5**	**+0.9**
	comp=Z,5.0nm,0.6s,baz=119,slow=8.0,SNR=11						
	comp=Z,5.0nm,0.6s						
ASAR	**Alice

SNGZ	**Shannon Statio**	**2.26**	**223**	P	**Pn**	**17 00 13.5**	**+1.8**
SNGZ				S	**Sn**	**17 00 39.4**	**+0.6**
KNZ	**Kokohu**	**2.28**	**214**	P	**Pn**	**17 00 12.7**	**+0.8**
KNZ				S	**Sn**	**17 00 39.9**	**+0.8**
MUGZ	**Murupara**	**2.41**	**236**	P	**Pn**	**17 00 15.5**	**+1.8**
MUGZ				S	**Sn**	**17 00 41.4**	**-1.1**
MYRZ	**Mayor Island**	**2.45**	**266**	P	**Pn**	**17 00 13.2**	**-1.0**
NMHZ	**Naumai**	**2.78**	**224**	P	**Pn**	**17 00 20.8**	**+2.0**
KUZ	**Kuaotunu**	**2.90**	**277**	P	**Pn**	**17 00 20.3**	**-0.1**
BKZ	**Black Stump Fm**	**3.00**	**227**	Pn	**Pn**	**17 00 21.4**	**-0.5**
TOZ	**Tahuroa Road**	**3.08**	**258**	P	**Pn**	**17 00 22.9**	**0.0**
TOZ				S	**Sn**	**17 00 57.1**	**-2.0**
TLZ	**Tolley Road**	**3.21**	**247**	P	**Pn**	**17 00 27.3**	**+2.5**
GRZ	**Great Barrier**	**3.22**	**285**	P	**Pn**	**17 00 25.9**	**+1.1**
MKAZ	**Moumakai**	**3.31**	**269**	P	**Pn**	**17 00 27.1**	**+1.0**
WIAZ	**Waiheke Island**	**3.36**	**275**	P	**Pn**	**17 00 27.9**	**+1.2**
ETAZ	**East Tamaki Re**	**3.51**	**272**	P	**Pn**	**17 00 30.3**	**+1.5**
MBAZ	**Motutapu North**	**3.55**	**275**	P	**Pn**	**17 00 31.2**	**+1.9**
ABAZ	**Army Bay**	**3.63**	**277**	P	**Pn**	**17 00 32.0**	**+1.6**
EPAZ	**Eden Park BICE**	**3.66**	**273**	P	**Pn**	**17 00 32.8**	**+2.0**
HBAZ	**Herne Bay Bore**	**3.67**	**273**	P	**Pn**	**17 00 33.0**	**+2.0**
HIZ	**Hauiti**	**3.78**	**247**	Pn	**Pn**	**17 00 34.6**	**+2.0**
HIZ	**Hauiti**	**3.78**	**247**	P	**Pn**	**17 00 34.9**	**+2.3**
WTAZ	**Waiatarua**	**3.79**	**272**	P	**Pn**	**17 00 34.7**	**+2.0**
RVAZ	**Riverhead Bore**	**3.80**	**274**	P	**Pn**	**17 00 34.7**	**+1.9**
WCZ	**Waipu Caves**	**4.17**	**285**	P	**Pn**	**17 00 39.6**	**+1.7**
BFZ	**Birch Farm**	**4.27**	**213**	Pn	**Pn**	**17 00 36.3**	**-2.9**
OUZ	**Omahuta**	**5.00**	**291**		**Pn**	**17 00 50.4**	**+1.1**
RPZ	**Rata Peaks**	**9.09**	**221**	Pn	**Pn**	**17 01 44.8**	**-0.6**
LBZ	**Lake Benmore**	**10.01**	**221**	Pn	**Pn**	**17 01 54.8**	**-3.2**
ODZ	**Otahua Downs**	**10.24**	**217**	Pn	**Pn**	**17 01 58.5**	**-2.7**
WKZ	**Wanaka**	**10.92**	**222**	Pn	**Pn**	**17 02 07.8**	**-2.7**
MARNC	**Mare, Loyalty**	**18.42**	**325**	P	**Pn**	**17 03 49.0**	**-0.4**
KOUNC	**Koumac, New Ca**	**21.08**	**318**	P	**P**	**17 04 18.3**	**-0.1**
KOUNC				IAmb	IAmb	17 04 42.8	
	comp=Z,103nm,1.9s						
MCQ	**Macquarie Isla**	**22.28**	**212**	P	**P**	**17 04 28.9**	**-2.1**
ARMA	**Armidale**	**23.91**	**278**	P	**P**	**17 04 45.6**	**-2.3**
ARMA				IAmb	IAmb	17 04 53.8	
	comp=Z,36nm,1.7s						
TOO	**Toolangi**	**26.80**	**259**	P	**P**	**17 05 11.4**	**-2.6**
TOO				IAmb	IAmb	17 05 28.6	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**31.37**	**268**	P	**P**	**17 05 55.5**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=98,slow=13,SNR=2.3						
	comp=Z,2.3nm,0.8s						
STKA	**Stephens Creek**	**31.37**	**268**	P	**P**	**17 05 55.0**	**+0.3**
CTA	**Charters Tower**	**33.40**	**291**	P	**P**	**17 06 13.6**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=117,slow=14,SNR=1.5						
	comp=Z,1.1nm,0.5s						
CTAO	**Charters Tower**	**33.40**	**291**	P	**P**	**17 06 13.6**	**+1.0**
BBOO	**Buckleboo**	**35.47**	**264**	P	**P**	**17 06 29.1**	**-1.3**
COEN	**Coen**	**39.58**	**296**	P	**P**	**17 07 06.0**	**+0.6**
PMG	**Port Moresby**	**40.07**	**305**	P	**P**	**17 07 10.2**	**+0.8**
PMG				IAmb	IAmb	17 07 35.0	
	comp=Z,51nm,1.2s						
AS31	**Alice Springs**	**41.03**	**276**	P	**P**	**17 07 17.2**	**-0.1**
ASAR	**Alice Springs**	**41.03**	**276**	P	**P**	**17 07 17.0**	**-0.3**
	comp=Z,6.2nm,0.6s,baz=118,slow=8.0,SNR=14						
	comp=Z,6.2nm,0.6s						
ASAR	**Alice Springs**	**41.03**	**276**	P	**P**	**17 07 16.6**	**-0.6**
KRVT	**Keravat (AS076**	**41.14**	**316**	P	**P**	**17 07 19.6**	**+1.4**
	comp=Z,14nm,0.6s,baz=203,slow=4.8,SNR=2.6						
	comp=Z,14nm,0.6s						
VNDA	**Vanda**	**41.18**	**186**		**P**	**17 07 17.2**	**-0.6**
WR0	**Warramunga Arr**	**42.46**	**281**	P	**P**	**17 07 28.5**	**-0.5**
FORT	**Forrest**	**42.55**	**263**	P	**P**	**17 07 28.8**	**-0.9**
WB2	**Warramunga Arr**	**42.62**	**281**	P	**P**	**17 07 30.0**	**-0.3**
WB2				IAmb	IAmb	17 07 31.2	
	comp=Z,59nm,1.8s						
WRAB	**Tennant Creek**	**42.63**	**281**	P	**P**	**17 07 30.0**	**-0.3**
WRAB				IAmb	IAmb	17 07 39.6	
	comp=Z,37nm,1.8s						
WRA	**Warramunga Arr**	**42.63**	**281**	P	**P**	**17 07 30.0**	**-0.4**
	comp=Z,6.9nm,0.6s,baz=122,slow=7.5,SNR=12						
	comp=Z,6.9nm,0.6s						
WB0	**Warramunga Arr**	**42.69**	**281**	P	**P**	**17 07 30.3**	**-0.5**
WB0				IAmb	IAmb	17 07 44.4	
	comp=Z,61nm,1.9s						
KNRA	**Kununurra**	**49.41**	**282**	P	**P**	**17 08 23.4**	**-0.5**
KNRA				IAmb	IAmb	17 08 51.8	
	comp=Z,5.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.51**	**277**	P	**P**	**17 08 32.0**	**-0.2**
	comp=Z,6.8nm,0.7s,baz=149,slow=7.9,SNR=9.9						
	comp=Z,6.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.51**	**277**	P	**P**	**17 08 32.4**	**+0.3**
FITZ				IAmb	IAmb	17 08 38.6	
	comp=Z,27nm,1.8s						
MORW	**Morawa**	**52.75**	**259**	P	**P**	**17 08 47.7**	**-1.1**
MORW				IAmb	IAmb	17 08 57.4	
	comp=Z,21nm,1.2s						
MBWA	**Marble Bar**	**53.60**	**270**	P	**P**	**17 08 53.7**	**-1.4**
BELA	**Belgrano 2**	**63.42**	**172**	P	**P**	**17 10 04.6**	**+1.8**
KKM	**Kota Kinabalu**	**72.73**	**292**	P	**P**	**17 11 01.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.57**	**290**	P	**P**	**17 12 51.3**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=140,slow=3.3,SNR=2.1						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**144.58**	**344**	PKP	**PKPdf**	**17 19 09.6**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=12,slow=2.3,SNR=5.7						
FINES	**FINESS Array B**	**150.46**	**334**	PKPbc	**PKiKP**	**17 19 24.9**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=24,slow=3.1,SNR=7.1						

ROM 01 17:00:40.8±0.1, 42°.765N±0°.003×13°.217E±0°.005, h9km, ML2.0/12, 1C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=229.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.06**	**175**	P	Pg	17 00 43.0	+0.1
T1202				S	Sg	17 00 44.7	+0.3
T1202				AML	AML		
	comp=N,7090μm,0.2s						
T1202				AML	AML		
	comp=E,5215μm,0.3s						
T1242	**Castelluccio d**	**0.07**	**352**	⇑P	Pg	17 00 43.1	0.0
T1242				S	Sg	17 00 44.6	-0.1
T1242				AML	AML		
	comp=E,1455μm,0.8s						
T1242				AML	AML		
	comp=E,1425μm,0.8s						
T1242				AML	AML		
	comp=N,2520μm,1.0s						
T1242				AML	AML		
	comp=N,2475μm,1.1s						
NRCA	**Norcia**	**0.10**	**312**	P	Pg	17 00 43.7	+0.3
NRCA				S	Sg	17 00 45.5	+0.2
NRCA				AML	AML		
	comp=E,2900μm,0.9s						
NRCA				AML	AML		
	comp=N,1910μm,1.0s						
NRCA				AML	AML		
	comp=N,2165μm,1.0s						
NRCA				AML	AML		
	comp=E,3165μm,0.9s						
T1204	**Amatrice, Fraz**	**0.12**	**140**	⇓P	Pg	17 00 44.2	+0.6
T1204				S	Sg	17 00 46.5	+0.9
T1204				AML	AML		
	comp=N,816μm,1.6s						
T1204				AML	AML		
	comp=E,2195μm,0.3s						
MMO1	**Montemonaco**	**0.16**	**31**	P	Pg	17 00 44.6	+0.4
MMO1				S	Sg	17 00 47.6	+0.9
MMO1				AML	AML		
	comp=E,587μm,1.3s						
MMO1				AML	AML		
	comp=N,514μm,0.7s						
SMA1	**SAN MARTINO**	**0.16**	**147**	P	Pg	17 00 44.9	+0.6
SMA1				S	Sg	17 00 48.0	+1.3
SMA1				AML	AML		
	comp=E,526μm,0.3s						
SMA1				AML	AML		
	comp=N,600μm,0.5s						
T1241	**Roccafluvione,**	**0.18**	**60**	P	Pg	17 00 45.2	+0.5
T1241				S	Sg	17 00 48.6	+1.4
T1241				AML	AML		
	comp=N,414μm,0.3s						
T1241				AML	AML		
	comp=E,488μm,0.6s						
T1243	**Rocca Santa Ma**	**0.18**	**112**	P	Pg	17 00 45.1	+0.4
T1243				S	Sg	17 00 48.3	+1.0
LNSS	**Leonessa**	**0.21**	**219**	P	Pg	17 00 45.9	+0.8
LNSS				S	Sg	17 00 49.6	+1.6
LNSS				AML	AML		
	comp=N,316μm,1.0s						
LNSS				AML	AML		
	comp=E,352μm,0.2s						
RM33	**Pellescritta (**	**0.26**	**180**	P	Pg	17 00 46.3	+0.3
RM33				S	Sb	17 00 51.1	-1.0
T1215	**Vallo di Nera,**	**0.26**	**278**	P	Pg	17 00 46.6	+0.6
T1215				S	Sb	17 00 51.4	-0.8
CAMP	**Campotosto**	**0.27**	**148**	P	Pg	17 00 46.7	+0.4
CAMP				S	Sg	17 00 51.2	+1.3
FDMO	**Fiordimonte**	**0.29**	**341**	P	Pg	17 00 47.0	+0.4
FDMO				S	Sb	17 00 52.3	-0.7
FDMO				AML	AML		
	comp=N,171μm,1.4s						
FDMO				AML	AML		
	comp=E,130μm,0.3s						
GUMA	**Gualdo di Mace**	**0.31**	**16**	P	Pb	17 00 47.8	-0.7
GUMA				S	Sb	17 00 53.7	0.0
GUMA				AML	AML		
	comp=E,686μm,0.2s						
GUMA				AML	AML		
	comp=N,818μm,0.6s						
TERO	**Teramo**	**0.32**	**116**	P	Pg	17 00 47.4	+0.3
TERO				S	Sb	17 00 52.9	-1.0
TERO				AML	AML		
	comp=E,172μm,1.2s						
TERO				AML	AML		
	comp=N,330μm,1.1s						
CSP1	**Cessapalombo**	**0.33**	**358**	P	Pg	17 00 47.7	+0.4
CSP1				S	Sb	17 00 53.8	-0.5
CESI	**CESI - Serrava**	**0.33**	**316**	P	Pg	17 00 47.8	+0.4
CESI				S	Sb	17 00 53.7	-0.7
CESI				AML	AML		
	comp=E,148μm,1.5s						
CESI				AML	AML		
	comp=N,294μm,1.5s						
ASSB	**Assisi San Ben**	**0.49**	**304**	P	Pg	17 00 50.5	+0.1
ASSB				S	Sb	17 00 58.6	-0.4

*IDC **01** 17:00:38.6±3.5, 36°.845S×179°.18E, h0km, mb4.1/4, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=82.6km s-min=45.9km az=133.0*

ISC 01 17:00:44.4±3.8, 37°.2S±0°.4×179°.2E±0°.5, h46km, n6, σ0s61/6, mb4.0/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.96**	**238**	Pn	**Pn**	**17 01 15.0**	**-0.1**
	74nm,0.3s,baz=300,slow=0.2,SNR=0.9						
	181nm,0.3s						
STKA	**Stephens Creek**	**31.30**	**269**	P	**P**	**17 07 00.9**	**+0.8**
	3.5nm,1.0s,baz=108,slow=16,SNR=3.2						
	3.5nm,1.0s						
ASAR	**Alice Springs**	**40.96**	**276**	P	**P**	**17 08 22.3**	**-0.5**
	1.1nm,0.7s,baz=116,slow=6.1,SNR=1.1						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**42.58**	**281**	P	**P**	**17 08 35.5**	**-0.5**
	1.2nm,0.4s,baz=121,slow=7.7,SNR=6.2						
	1.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.45**	**277**	P	**P**	**17 09 37.7**	**0.0**
	3.8nm,1.0s,baz=106,slow=8.6,SNR=1.6						
	3.8nm,1.0s						
FINES	**FINESS Array B**	**150.51**	**334**	PKPbc	**PKPbc**	**17 20 30.1**	**0.0**
	1.6nm,0.8s,baz=72,slow=4.5,SNR=1.6						

*WEL **01** 17:01:00, 36°.93S×179°.10E, h17km, ML5.7, Mw5.6, Moment Tensor Solution. s6 Moment tensor: Scale 10^17 Nm; Mrr0.75; Mθθ0.09; Mφφ-0.83; Mrθ1.83; Mθφ-0.27; Mφr2.60; Fault plane solution: M0 3.29000×10^17 NP1: φs174.00000°, δ9.00000°, λ49.00000°. NP2: φs35.00000°, δ83.00000°, λ96.00000°. Principal axes: T 32722.8000, Plg52.0000°, Azm312.0000°; N 435.1200, Plg6.0000°, Azm214.0000°; P -33157.9200, Plg38.0000°, Azm120.0000°;*

*BJI **01** 17:01:06.4±0.0, 37°.53S×178°.75E, h13km, mb5.3/18*

*NEIC **01** 17:01:07.9±2.0, 37°.02S±0°.08×178°.9E±0°.1, h10km±1km, mb5.7/93, Error ellipse: s-maj=16.7km s-min=10.8km az=131.0*

*MOS **01** 17:01:07.3±1.1, 36°.98S×178°.90E, h21km, mb5.7/10, Error ellipse: s-maj=11.2km s-min=9.9km az=120.4*

*WEL **01** 17:01:09.1±1.1, 37°.5±5°×17°.9E±°, h19km±9km, M5.7/19, ML5.9/19, MLv5.7/19, Error ellipse: s-maj=0.0km s-min=0.0km az=96.1*

*NOU **01** 17:01:12.8, 37°.45S×179°.29E, h66km, mb5.6/94, Off E. Coast of N. Island, N.Z.*

*IDC **01** 17:01:13.1±1.6, 36°.98S×178°.95E, h54km±12km, mb5.1/24, mbtmp5.3/25, Error ellipse: s-maj=12.0km s-min=9.7km az=109.0*

ISC 01 17:01:10.4±0.6, 37°.12S±0°.03×179°.04E±0°.04, h33km±2km, n891, σ1s88/940, mb5.7/130, 49C-13D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.74**	**232**	Pg	**Pn**	**17 01 21.4**	**-3.0**
MXZ				Pn	**Pb**	**17 01 24.0**	**-0.8**
MXZ	**Matakaoa Point**	**0.74**	**232**	P	**Pn**	**17 01 24.8**	**+0.4**
MXZ				S	**Sn**	**17 01 35.1**	**+0.6**
WMGZ	**Waiomatatini S**	**0.86**	**215**	P	**Pb**	**17 01 28.6**	**+1.6**
WMGZ				S	**Sb**	**17 01 42.3**	**+4.1**
PKGZ	**Pakihiroa**	**1.09**	**225**	P	**Pb**	**17 01 32.1**	**+1.3**
PKGZ				S	**Sb**	**17 01 47.7**	**+3.0**
PUZ	**Puketiti**	**1.14**	**213**	P	**Pb**	**17 01 32.4**	**+0.7**
PUZ				S	**Sb**	**17 01 49.6**	**+3.4**
HAZ	**Te Kaha**	**1.19**	**237**	P	**Pb**	**17 01 33.7**	**+1.3**
HAZ				S	**Sb**	**17 01 51.2**	**+3.7**
TWGZ	**Tauwhareparae**	**1.35**	**218**	P	**Pb**	**17 01 35.9**	**+0.7**
TWGZ				S	**Sb**	**17 01 55.1**	**+2.9**
RUGZ	**Raukumara Rang**	**1.38**	**232**	P	**Pb**	**17 01 36.4**	**+0.7**
RUGZ				S	**Sb**	**17 01 56.3**	**+3.4**
CNGZ	**Carnagh Statio**	**1.52**	**206**	P	**Pb**	**17 01 37.7**	**-0.2**
WIZ	**White Island**	**1.53**	**254**	P	**Pn**	**17 01 35.3**	**0.0**
WIZ				S	**Sb**	**17 01 58.9**	**+1.6**
WSRZ	**White Island S**	**1.54**	**254**	P	**Pn**	**17 01 35.2**	**-0.3**
TKGZ	**Te Karaka**	**1.62**	**215**	P	**Pb**	**17 01 38.8**	**-1.0**
MWZ	**Matawai**	**1.71**	**224**	P	**Pb**	**17 01 40.2**	**-1.0**
MWZ				S	**Sb**	**17 02 02.7**	**+0.4**
WHRZ	**Whale Island**	**1.80**	**245**	P	**Pn**	**17 01 40.7**	**+1.6**
RIGZ	**Rimuhau**	**1.88**	**212**	P	**Pn**	**17 01 41.9**	**+1.7**
RIGZ				S	**Sb**	**17 02 06.3**	**-1.0**
RAGZ	**Rawiri**	**1.89**	**223**	P	**Pn**	**17 01 42.5**	**+2.1**
URZ	**Urewera**	**1.91**	**233**	P	**Pn**	**17 01 42.6**	**+2.0**
	11μm,0.5s,baz=42,slow=19,SNR=47						
URZ				S	**Sb**	**17 02 07.1**	**-1.0**
	21μm,0.9s,baz=301,slow=10.0,SNR=22						
URZ	**Urewera**	**1.91**	**233**		**Pn**	**17 01 39.0**	**-1.6**
URZ				Pg	**Pn**	**17 01 42.5**	**+2.0**
URZ	**Urewera**	**1.91**	**233**	P	**Pb**	**17 01 43.1**	**-1.5**
URZ				S	**Sb**	**17 02 08.2**	**+0.2**
PRGZ	**Paritu Road**	**2.02**	**207**	P	**Pn**	**17 01 43.6**	**+1.4**
PRGZ				S	**Sn**	**17 02 09.0**	**+2.6**
MARZ	**Manawahe**	**2.07**	**245**	P	**Pn**	**17 01 45.0**	**+2.2**
MARZ				S	**Sb**	**17 02 10.9**	**-1.8**
EDRZ	**Edgecumbe**	**2.08**	**241**	P	**Pn**	**17 01 45.0**	**+2.0**
OPRZ	**Ohinepanea**	**2.11**	**249**	P	**Pn**	**17 01 45.1**	**+1.8**
SNGZ	**Shannon Statio**	**2.14**	**218**	P	**Pn**	**17 01 45.2**	**+1.4**
KNZ	**Kokohu**	**2.19**	**209**	P	**Pn**	**17 01 44.9**	**+0.5**
KNZ				S	**Sn**	**17 02 13.0**	**+2.7**
MHGZ	**Mahia Peninsul**	**2.22**	**203**	P	**Pn**	**17 01 46.1**	**+1.2**
MYRZ	**Mayor Island**	**2.24**	**265**	P	**Pn**	**17 01 45.5**	**+0.3**
MUGZ	**Murupara**	**2.25**	**232**	P	**Pn**	**17 01 47.3**	**+2.0**
MKRZ	**Makatiti**	**2.29**	**243**	P	**Pn**	**17 01 48.7**	**+2.8**
LIRZ	**Lichensteins R**	**2.29**	**246**	P	**Pn**	**17 01 48.7**	**+2.8**
TGRZ	**Tauranga**	**2.30**	**254**	P	**Pn**	**17 01 47.8**	**+1.9**
TARZ	**Mount Tarawera**	**2.30**	**240**	P	**Pb**	**17 01 49.1**	**-2.2**
OMRZ	**Omania**	**2.34**	**244**	P	**Pn**	**17 01 49.0**	**+2.5**
RRRZ	**Republican Roa**	**2.35**	**238**	P	**Pn**	**17 01 49.0**	**+2.3**
RAHZ	**Arahi**	**2.37**	**220**	P	**Pn**	**17 01 48.8**	**+1.8**
KARZ	**Kaharoa**	**2.40**	**247**	P	**Pn**	**17 01 49.6**	**+2.3**
HLRZ	**Highlands Stat**	**2.42**	**241**	P	**Pn**	**17 01 50.3**	**+2.7**
WHHZ	**Waihua**	**2.42**	**216**	P	**Pn**	**17 01 49.5**	**+1.8**
MTHZ	**Maungataniwha**	**2.46**	**224**	P	**Pn**	**17 01 50.4**	**+2.3**
NGRZ	**Ngongotaha**	**2.47**	**246**	P	**Pn**	**17 01 51.1**	**+2.7**
UTU	**Utuhina**	**2.50**	**244**	P	**Pn**	**17 01 51.8**	**+3.1**
PRRZ	**Plateau Road**	**2.51**	**236**	P	**Pn**	**17 01 50.8**	**+2.0**
HSRZ	**Hossack Road**	**2.52**	**241**	P	**Pn**	**17 01 51.8**	**+2.9**
HRRZ	**Handcock Road**	**2.53**	**239**	P	**Pn**	**17 01 51.6**	**+2.5**
KMRZ	**Kaimai**	**2.57**	**253**	P	**Pn**	**17 01 51.0**	**+1.2**
ALRZ	**Allen Road**	**2.58**	**235**	P	**Pn**	**17 01 51.9**	**+2.1**
GRRZ	**Galatos Road**	**2.63**	**241**	P	**Pn**	**17 01 53.3**	**+2.8**
NMHZ	**Naumai**	**2.65**	**221**	P	**Pn**	**17 01 52.8**	**+1.9**
WPRZ	**Whakapapatarin**	**2.68**	**238**	P	**Pn**	**17 01 53.6**	**+2.5**
ARHZ	**Aropaoanui**	**2.68**	**216**	P	**Pn**	**17 01 52.5**	**+1.3**
KUZ	**Kuaotunu**	**2.69**	**277**	P	**Pn**	**17 01 51.5**	**+0.3**
MRHZ	**Matea Rd**	**2.69**	**230**	P	**Pn**	**17 01 53.1**	**+1.7**
BKZ	**Black Stump Fm**	**2.87**	**224**		**Pn**	**17 01 55.0**	**+1.1**
BKZ	**Black Stump Fm**	**2.87**	**224**	P	**Pn**	**17 01 55.3**	**+1.5**
BKZ	**Black Stump Fm**	**2.87**	**224**	P	**Pn**	**17 01 56.0**	**+2.2**
TOZ	**Tahuroa Road**	**2.88**	**257**	P	**Pn**	**17 01 55.0**	**+1.0**
WHTZ	**Whakaora**	**2.89**	**237**	P	**Pn**	**17 01 56.8**	**+2.7**
KUTZ	**Kaahu Road**	**2.90**	**241**	P	**Pn**	**17 01 56.6**	**+2.5**
HATZ	**Hinemaiaia**	**2.93**	**232**	P	**Pn**	**17 01 56.8**	**+2.2**
CKHZ	**Cape Kidnapper**	**2.97**	**211**	P	**Pn**	**17 01 55.4**	**+0.2**
GRZ	**Great Barrier**	**3.01**	**286**	P	**Pn**	**17 01 57.0**	**+1.3**
TLZ	**Tolley Road**	**3.03**	**245**	P	**Pn**	**17 01 58.4**	**+2.4**
WATZ	**Wairara**	**3.06**	**238**	P	**Pn**	**17 01 59.0**	**+2.5**
KWHZ	**Kaweka Forest**	**3.09**	**221**	P	**Pn**	**17 01 57.9**	**+1.0**
MKAZ	**Moumakai**	**3.10**	**269**	P	**Pn**	**17 01 57.9**	**+0.9**
RATZ	**Rangitukua**	**3.12**	**235**	P	**Pn**	**17 01 59.4**	**+2.1**
RITZ	**Rihia Road**	**3.13**	**233**	P	**Pn**	**17 01 59.3**	**+1.9**
WIAZ	**Waiheke Island**	**3.15**	**275**	P	**Pn**	**17 01 58.6**	**+1.0**
KAHZ	**Kahuranaki**	**3.17**	**212**	P	**Pn**	**17 01 58.2**	**+0.2**
KATZ	**Kakaramea**	**3.23**	**234**	P	**Pn**	**17 02 01.1**	**+2.3**
KRHZ	**Kereru**	**3.28**	**219**	P	**Pn**	**17 01 59.9**	**+0.4**
ETAZ	**East Tamaki Re**	**3.30**	**272**	P	**Pn**	**17 02 01.1**	**+1.5**
TMVZ	**Te Maari**	**3.30**	**232**	P	**Pn**	**17 02 01.4**	**+1.5**
ETVZ	**East Tongariro**	**3.31**	**231**	P	**Pn**	**17 02 01.4**	**+1.4**
NTVZ	**North Tongarir**	**3.31**	**232**	P	**Pn**	**17 02 01.5**	**+1.6**
KRVZ	**Karewarewa**	**3.33**	**233**	P	**Pn**	**17 02 01.8**	**+1.6**
BHHZ	**Black Hill Sta**	**3.33**	**224**	P	**Pn**	**17 02 01.3**	**+1.1**
MBAZ	**Motutapu North**	**3.34**	**275**	P	**Pn**	**17 02 01.6**	**+1.4**
OTVZ	**Oturere**	**3.36**	**231**	P	**Pn**	**17 02 02.1**	**+1.4**
NNVZ	**North Ngauruho**	**3.37**	**232**	P	**Pn**	**17 02 02.9**	**+2.1**
WTVZ	**West Tongariro**	**3.38**	**233**	P	**Pn**	**17 02 02.7**	**+1.8**
SNVZ	**South Ngauruho**	**3.39**	**231**	P	**Pn**	**17 02 02.4**	**+1.4**
NGZ	**Ngauruhoe**	**3.40**	**232**	P	**Pn**	**17 02 02.7**	**+1.4**
ABAZ	**Army Bay**	**3.42**	**277**	P	**Pn**	**17 02 02.9**	**+1.6**
TUVZ	**Tukino**	**3.43**	**230**	P	**Pn**	**17 02 03.0**	**+1.4**
EPAZ	**Eden Park BICE**	**3.45**	**273**	P	**Pn**	**17 02 03.6**	**+1.9**
TWVZ	**Taurewa**	**3.45**	**234**	P	**Pn**	**17 02 04.0**	**+2.2**
MOVZ	**Moawhango**	**3.46**	**228**	P	**Pn**	**17 02 02.6**	**+0.7**
HBAZ	**Herne Bay Bore**	**3.46**	**273**	P	**Pn**	**17 02 03.9**	**+2.0**
WHVZ	**Whangaehu Hut**	**3.48**	**230**	P	**Pn**	**17 02 03.5**	**+1.2**
FWVZ	**Far West T-bar**	**3.48**	**231**	P	**Pn**	**17 02 03.6**	**+1.2**
DRZ	**Dome Shelter**	**3.49**	**231**	P	**Pn**	**17 02 04.4**	**+1.9**
WNVZ	**Wahianoa**	**3.50**	**230**	P	**Pn**	**17 02 03.7**	**+1.1**
TRVZ	**Turoa**	**3.51**	**231**	P	**Pn**	**17 02 03.9**	**+1.1**
AWAZ	**Awhitu Peninsu**	**3.52**	**270**	P	**Pn**	**17 02 04.4**	**+1.8**
PNHZ	**Pukenui**	**3.57**	**218**	P	**Pn**	**17 02 03.3**	**-0.2**
WTAZ	**Waiatarua**	**3.58**	**272**	P	**Pn**	**17 02 05.4**	**+1.8**
WPHZ	**Waipukurau**	**3.58**	**214**	P	**Pn**	**17 02 03.6**	**0.0**
RVAZ	**Riverhead Bore**	**3.59**	**274**	P	**Pn**	**17 02 05.4**	**+1.8**
HIZ	**Hauiti**	**3.60**	**246**	Pn	**Pn**	**17 02 06.6**	**+2.8**
HIZ	**Hauiti**	**3.60**	**246**	P	**Pn**	**17 02 06.8**	**+3.1**
MTVZ	**Mangateitei**	**3.61**	**230**	P	**Pn**	**17 02 05.7**	**+1.6**
PKVZ	**Pokaka**	**3.63**	**232**	P	**Pn**	**17 02 06.3**	**+1.9**
DVHZ	**Dannevirke**	**3.89**	**214**	P	**Pn**	**17 02 07.7**	**-0.2**
ANWZ	**Angora Road**	**3.90**	**210**	P	**Pn**	**17 02 07.6**	**-0.2**
WCZ	**Waipu Caves**	**3.96**	**286**	P	**Pn**	**17 02 10.0**	**+1.3**
WAZ	**Wanganui**	**4.13**	**229**	P	**Pn**	**17 02 12.7**	**+1.5**
BFZ	**Birch Farm**	**4.18**	**211**		**Pn**	**17 02 09.6**	**-2.1**
BFZ	**Birch Farm**	**4.18**	**211**	P	**Pn**	**17 02 10.8**	**-0.9**
MHEZ	**Mangahewa**	**4.21**	**241**	P	**Pn**	**17 02 16.3**	**+4.2**
OHWZ	**Ohakea**	**4.25**	**222**	P	**Pn**	**17 02 13.7**	**+1.0**
LREZ	**Lake Rotokare**	**4.34**	**236**	P	**Pn**	**17 02 16.7**	**+2.8**
DREZ	**Durham Road**	**4.34**	**240**	P	**Pn**	**17 02 17.7**	**+3.7**

AFI pmax pmax
comp=Z,190nm,0.9s
AFI Afiamalu 24.52 22 P P 17 06 26.9 0.0
TAU Tasmania Unive 24.88 247 P P 17 06 30.1 +0.2
TAU IAmb IAmb 17 06 33.7
comp=Z,642nm,1.8s
TAU Tasmania Unive 24.88 247 P P 17 06 30.2 +0.2
TAU pmax pmax
comp=Z,642nm,1.8s
TAU Tasmania Unive 24.88 247 P P 17 06 30.3 +0.3
MOO Moorlands 24.96 248 P P 17 06 30.7 0.0
baz=25,SNR=17
MOO Moorlands 24.96 248 P P 17 06 31.9 +1.2
CORO Coronation Par 24.99 250 P P 17 06 32.0 +1.1
EIDS Eidsvold 26.52 288 P P 17 06 46.2 +1.2
baz=26,SNR=11
EIDS Eidsvold 26.52 288 P P 17 06 45.4 +0.5
EIDS IAmb IAmb 17 06 47.6
comp=Z,284nm,1.8s
EIDS Eidsvold 26.52 288 P P 17 06 46.7 +1.7
TOO Toolangi 26.60 259 P P 17 06 46.3 +0.7
baz=26,SNR=76
TOO Toolangi 26.60 259 P P 17 06 45.9 +0.2
TOO IAmb IAmb 17 06 47.9
comp=Z,321nm,1.6s
TOO Toolangi 26.60 259 P P 17 06 45.9 +0.2
TOO pmax pmax
comp=Z,321nm,1.6s
TOO Toolangi 26.60 259 P P 17 06 46.6 +1.0
GEXS Deakin Univers 27.44 257 P P 17 06 54.5 +1.4
RMQ Roma 27.73 284 P P 17 06 58.0 +2.2
baz=28,SNR=18
RMQ S S 17 11 40.6 +4.5
baz=28,SNR=7.4
RMQ Roma 27.73 284 P P 17 06 58.2 +2.4
BRAT Ballarat 27.83 258 P P 17 06 58.2 +1.6
CMSA Cobar Meteorol 28.01 272 P P 17 06 59.4 +1.2
baz=28,SNR=46
CMSA Cobar Meteorol 28.01 272 P P 17 06 59.7 +1.4
ARPS Mount Arapiles 29.62 259 P P 17 07 13.6 +1.1
baz=30,SNR=14
ARPS Mount Arapiles 29.62 259 P P 17 07 14.1 +1.6
STKA Stephens Creek 31.16 268 P P 17 07 27.1 +0.9
baz=31,SNR=51
STKA Stephens Creek 31.16 268 P P 17 07 27.3 +1.0
comp=Z,54nm,0.9s,baz=100,slow=10,SNR=65
STKA PcP PcP 17 10 20.5 -0.2
comp=Z,6.5nm,0.7s,baz=89,slow=2.7,SNR=3.7
STKA ScP ScP 17 13 58.9 -2.2
comp=Z,8.8nm,1.0s,baz=96,slow=5.5,SNR=4.2
comp=Z,54nm,0.9s
STKA Stephens Creek 31.16 268 P P 17 07 26.4 +0.2
STKA Stephens Creek 31.16 268 P P 17 07 27.5 +1.3
QLP Quilpie 31.22 280 P P 17 07 28.2 +1.4
baz=31,SNR=33
QLP Quilpie 31.22 280 P P 17 07 28.5 +1.7
HNR Honiara 32.53 323 P P 17 07 38.2 -0.1
comp=Z,303nm,0.9s,baz=172,slow=7.1,SNR=7.0
comp=Z,303nm,0.9s
HNR Honiara 32.53 323 P P 17 07 37.5 -0.8
HNR Honiara 32.53 323 P P 17 07 42.1 +3.8
TWOA Tennyson Woods 32.60 261 P P 17 07 40.0 +1.2
comp=Z,129nm,0.7s
GHSS Government Hou 32.61 261 P P 17 07 39.8 +0.9
HTT Hallett 32.79 264 P P 17 07 41.2 +0.7
baz=33,SNR=29
HTT Hallett 32.79 264 P P 17 07 41.8 +1.2
CTA Charters Tower 33.20 292 P P 17 07 45.1 +0.9
comp=Z,33nm,0.9s,baz=118,slow=9.6,SNR=26
comp=Z,33nm,0.9s
CTA Charters Tower 33.20 292 P P 17 07 45.7 +1.5
CTAO Charters Tower 33.20 292 P P 17 07 43.9 -0.3
CTAO IAmb IAmb 17 07 46.6
comp=Z,118nm,1.2s
CTAO Charters Tower 33.20 292 P P 17 07 43.9 -0.3
CTAO pmax pmax
comp=Z,118nm,1.3s
CTAO Charters Tower 33.20 292 P P 17 07 45.7 +1.5
INKA Innaminka 33.46 275 P P 17 07 48.2 +1.8
PPT Papeete 33.77 63 P P 17 07 49.5 +0.3
comp=Z,32nm,0.6s,baz=234,slow=8.7,SNR=4.8
comp=Z,32nm,0.6s
WHYH Whyalla 33.99 264 P P 17 07 51.5 +0.6
comp=Z,249nm,0.7s
LCRK Leigh Creek 34.38 269 P P 17 07 55.0 +0.7
BBOO Buckleboo 35.27 264 P P 17 08 01.6 -0.4
baz=35,SNR=46
BBOO Buckleboo 35.27 264 P P 17 08 01.1 -0.9
BBOO IAmb IAmb 17 08 02.2
comp=Z,88nm,1.2s
BBOO Buckleboo 35.27 264 P P 17 08 02.3 +0.3
MTSU Mount Surprise 35.84 292 P P 17 08 08.1 +1.0
baz=36,SNR=64
MTSU Mount Surprise 35.84 292 P P 17 08 08.3 +1.2
OOD Oodnadatta 37.47 272 P P 17 08 21.3 +0.4
MULG Mulgathing 37.76 267 P P 17 08 25.0 +0.2
QIS Mount Isa 37.98 285 P P 17 08 25.4 +0.2
baz=38,SNR=69
QIS S S 17 14 14.6 -0.6
baz=38,SNR=4.6
QIS Mount Isa 37.98 285 P P 17 08 25.6 +0.4
COEN Coen 39.38 296 P P 17 08 37.4 +0.3
baz=39,SNR=62
COEN Coen 39.38 296 P P 17 08 36.8 -0.2
COEN IAmb IAmb 17 08 38.6
comp=Z,310nm,1.1s
COEN Coen 39.38 296 P P 17 08 37.5 +0.5
PMG Port Moresby 39.89 306 P P 17 08 41.7 +0.5
comp=Z,54nm,0.8s,baz=116,slow=7.3,SNR=13
comp=Z,54nm,0.8s
PMG Port Moresby 39.89 306 P 17 08 41.1 -0.1
PMG Port Moresby 39.89 306 P P 17 08 40.7 -0.5
PMG IAmb IAmb 17 08 42.4
comp=Z,83nm,0.9s
PMG Port Moresby 39.89 306 P P 17 08 40.7 -0.5
PMG pmax pmax
comp=Z,83nm,0.9s
AS31 Alice Springs 40.81 276 P P 17 08 48.3 -0.6
AS31 IAmb IAmb 17 08 49.6
comp=Z,92nm,0.7s
ASAR Alice Springs 40.81 276 P P 17 08 48.6 -0.3
comp=Z,173nm,0.6s,baz=120,slow=8.1,SNR=311
ASAR PcP PcP 17 10 49.5 -0.1
comp=Z,8.7nm,0.5s,baz=119,slow=4.3,SNR=2.2
ASAR ScP ScP 17 14 32.4 -4.1
comp=Z,3.2nm,0.9s,baz=114,slow=3.3,SNR=4.1
ASAR S S 17 14 53.1 -4.7
comp=Z,8.9nm,0.8s,baz=121,slow=14,SNR=13
comp=Z,173nm,0.6s
ASAR Alice Springs 40.81 276 P P 17 08 48.2 -0.7
KRVT Keravat (AS076 40.98 316 P P 17 08 50.2 0.0
comp=Z,210nm,0.6s,baz=173,slow=3.5,SNR=61
comp=Z,210nm,0.6s
RABL Rabaul 41.00 317 P P 17 08 49.9 -0.5
RABL Rabaul 41.00 317 P P 17 08 52.0 +1.6
SBA Scott Base 41.18 184 P P 17 08 53.6 +2.4
SBA Scott Base 41.18 184 P P 17 08 53.6 +2.4
SBA pmax pmax
comp=Z,106nm,1.9s
VNDA Vanda 41.19 186 P P 17 08 52.2 +1.0
comp=Z,2.7nm,0.9s,baz=44,slow=7.0,SNR=3.7
VNDA Vanda 41.19 186 P P 17 08 51.3 +0.1
VNDA Vanda 41.19 186 P P 17 08 51.3 +0.1
VNDA pmax pmax
comp=Z,7.0nm,0.8s
WR0 Warramunga Arr 42.25 281 P P 17 08 59.8 -0.8
WR0 IAmb IAmb 17 09 00.9
comp=Z,144nm,0.8s
FORT Forrest 42.35 263 P P 17 09 00.8 -0.5
baz=42,SNR=114
FORT S S 17 15 18.8 -1.5
baz=42,SNR=6.0
FORT Forrest 42.35 263 P P 17 09 00.1 -1.2
FORT Forrest 42.35 263 P P 17 09 01.7 +0.4
WB2 Warramunga Arr 42.41 281 P P 17 09 01.1 -0.9
WRAB Tennant Creek 42.42 281 P P 17 09 01.0 -1.0
WRAB Tennant Creek 42.42 281 *ce*P **P 17 09 01.4 -0.6**
WRAB pmax pmax
comp=Z,463nm,1.3s
WRAB Tennant Creek 42.42 281 P P 17 09 01.7 -0.3
WRA Warramunga Arr 42.42 281 P P 17 09 01.8 -0.3
comp=Z,167nm,0.6s,baz=121,slow=7.7,SNR=246
WRA PcP PcP 17 10 55.8 +1.0
comp=Z,17nm,0.7s,baz=130,slow=3.1,SNR=5.1
WRA ScP ScP 17 14 39.5 -3.4
comp=Z,1.9nm,0.9s,baz=116,slow=3.6,SNR=3.1
WRA S S 17 15 15.2 -6.4
comp=Z,2.0nm,0.9s,baz=128,slow=13,SNR=3.1
WRA Warramunga Arr 42.42 281 P P 17 09 01.2 -0.8
WB0 Warramunga Arr 42.47 281 P P 17 09 01.8 -0.7
WRKA Warakurna 44.63 271 P P 17 09 18.1 -1.7
baz=45,SNR=39
WRKA Warakurna 44.63 271 P P 17 09 18.4 -1.4
MANU Manus Island 45.48 313 P P 17 09 26.2 -0.4
MANU IAmb IAmb 17 09 29.1
comp=Z,252nm,1.9s
PATS Pohnpei 47.83 332 P P 17 09 45.1 +0.2
CASY Casey 48.09 210 P P 17 09 47.4 +1.0
CASY IAmb IAmb 17 09 49.4
comp=Z,152nm,1.2s
KDU Kakadu 48.13 288 P P 17 09 46.2 -1.1
baz=48,SNR=17
KDU Kakadu 48.13 288 P P 17 09 46.4 -0.9
MTN Manton Dam 49.06 287 P P 17 09 53.6 -0.8
baz=49,SNR=18
MTN Manton Dam 49.06 287 P P 17 09 53.3 -1.2
MTN IAmb IAmb 17 09 54.3
comp=Z,69nm,0.8s
MTN Manton Dam 49.06 287 P P 17 09 53.8 -0.7
KNRA Kununurra 49.20 282 P P 17 09 55.3 -0.3
baz=49,SNR=22
KNRA Kununurra 49.20 282 P P 17 09 55.1 -0.5
KNRA Kununurra 49.20 282 P P 17 09 55.5 -0.1
GENI Genyem 49.56 305 P P 17 09 58.5 +0.2
comp=Z,248nm,1.3s
GENI Genyem 49.56 305 P P 17 09 58.9 +0.6
RKGY Rocky Gully 49.56 253 P P 17 09 58.4 +0.2
baz=49,SNR=6.1
NWAO Narrogin (SRO) 50.01 255 P P 17 10 00.1 -1.5
baz=50,SNR=7.6
NWAO P P 17 10 00.1 -1.5
baz=50,SNR=7.6
NWAO Narrogin (SRO) 50.01 255 P P 17 10 00.6 -1.0
comp=Z,45nm,0.6s,baz=58,slow=7.8,SNR=60
comp=Z,45nm,0.6s
NWAO Narrogin (SRO) 50.01 255 P P 17 10 00.7 -1.0
NWAO IAmb IAmb 17 10 01.6
comp=Z,54nm,0.7s
NWAO Narrogin (SRO) 50.01 255 P P 17 10 00.7 -0.9
NWAO pmax pmax
comp=Z,55nm,0.7s
NWAO Narrogin (SRO) 50.01 255 P P 17 10 01.0 -0.6
KLBR Kellerberrin 50.14 257 P P 17 10 01.5 -1.1
baz=50,SNR=11
KLBR Kellerberrin 50.14 257 P P 17 10 01.7 -0.9
FITZ Fitzroy Crossi 50.30 277 P P 17 10 03.6 -0.3
baz=50,SNR=87
FITZ Fitzroy Crossi 50.30 277 P P 17 10 03.2 -0.7
FITZ Fitzroy Crossi 50.30 277 P P 17 10 04.1 +0.2
SMPI Sarmi 50.97 304 P P 17 10 07.7 -1.3
comp=Z,38nm,1.1s
MUN Mundaring 51.18 256 P P 17 10 09.3 -1.1
baz=51,SNR=67
MUN Mundaring 51.18 256 P P 17 10 10.0 -0.5
BLDU Ballidu 51.36 258 P P 17 10 09.8 -2.0
baz=51,SNR=6.4
BLDU Ballidu 51.36 258 P P 17 10 10.4 -1.4
MTKN Mount Kenneth 51.54 256 P P 17 10 14.3 +1.2
MORW Morawa 52.55 259 P P 17 10 19.4 -1.2
baz=52,SNR=27
MORW Morawa 52.55 259 P P 17 10 18.8 -1.9
MORW IAmb IAmb 17 10 20.6
comp=Z,362nm,1.9s
MORW Morawa 52.55 259 P P 17 10 19.8 -0.9
SRPI Serui, Papua 52.72 301 P P 17 10 21.6 -0.5
comp=Z,92nm,1.2s
QSPA South Pole Qui 53.01 180 P P 17 10 26.9 +3.1
comp=Z,45nm,0.9s,baz=26,slow=1.6,SNR=16
comp=Z,45nm,0.9s
QSPA South Pole Qui 53.01 180 P P 17 10 26.9 +3.1
QSPA IAmb IAmb 17 10 39.6
comp=Z,118nm,0.7s
PSA00 Pilbara Seismi 53.08 270 P P 17 10 23.1 -1.6
PSA00 IAmb IAmb 17 10 24.3
comp=Z,74nm,0.8s
PSA00 Pilbara Seismi 53.08 270 P P 17 10 22.6 -2.1
PSA00 IAmb IAmb 17 10 24.3
comp=Z,159nm,1.6s
PSA00 Pilbara Seismi 53.08 270 P P 17 10 23.9 -0.8
MBWA Marble Bar 53.39 270 P P 17 10 25.4 -1.5
MBWA Marble Bar 53.39 270 P P 17 10 25.3 -1.6
MBWA IAmb IAmb 17 10 26.6
comp=Z,99nm,0.8s
MBWA Marble Bar 53.39 270 P P 17 10 25.5 -1.5
FAKI Fak Fak 54.76 297 P P 17 10 35.4 -1.6
FAKI IAmb IAmb 17 10 36.4
comp=Z,57nm,0.6s
FAKI Fak Fak 54.76 297 P P 17 10 35.6 -1.4
comp=Z,101nm,0.8s
FAKI Fak Fak 54.76 297 P P 17 10 36.5 -0.5
BNDI Bandanaira 55.36 294 P P 17 10 39.5 -1.8
comp=Z,228nm,1.5s
BATI Baumata 56.44 284 P P 17 10 49.9 +0.8
comp=Z,58nm,0.6s,baz=179,slow=2.6,SNR=22
comp=Z,58nm,0.6s
BATI Baumata 56.44 284 P P 17 10 49.7 +0.6
comp=Z,97nm,1.4s
MSAI Masohi 56.87 294 P P 17 10 50.8 -1.3
comp=Z,362nmcomp=Z,21nm,0.6s
SWI Sorong 56.90 298 P P 17 10 51.2 -1.1
comp=Z,316nm,1.1s
GIRL Giralia 57.02 265 P P 17 10 53.7 +0.6
baz=57,SNR=12
AAI Ambon 57.18 293 P P 17 10 52.2 -2.1
comp=Z,77nm,1.1s
NLAI Namlea 58.28 292 P P 17 11 01.3 -0.8
comp=Z,100nm,1.4s
MMRI Maumere 58.51 284 P P 17 11 03.0 -0.6
MMRI Maumere 58.51 284 P P 17 11 03.3 -0.3
comp=Z,383nm,1.4s
MMRI Maumere 58.51 284 P P 17 11 04.3 +0.7
EDFI Ende, Flores 58.86 283 P P 17 11 05.2 -1.0
comp=Z,47nm,1.6s
LBMI Labuha 59.75 295 P P 17 11 11.7 -0.5
comp=Z,82nm,1.4s
SANI Sanana 59.90 293 P P 17 11 11.9 -1.4
comp=Z,133nm,1.5s
SANI Sanana 59.90 293 P P 17 11 13.3 0.0
WBSI Waikabubak, Su 60.12 281 P P 17 11 14.3 -0.5
comp=Z,71nm,0.9s
BBSI Bau Bau 60.22 287 P P 17 11 12.8 -2.7
comp=Z,5.4nm,0.9s
TNTI Ternate 60.82 296 P P 17 11 18.4 -1.2
TNTI IAmb IAmb 17 11 19.9
comp=Z,183nm,1.8s
TNTI Ternate 60.82 296 P P 17 11 17.6 -1.9
comp=Z,40nm,2.0s
TNTI Ternate 60.82 296 P P 17 11 19.7 +0.2
comp=Z,40nm,2.0s
PUH Pauahi 61.21 28 P P 17 11 23.2 +1.2
MLH Mauna Loa 61.25 28 P P 17 11 24.1 +1.5
HMH Humu'ula Sheep 61.32 28 P P 17 11 24.7 +1.6
BSSI Bau Bau, Buton 61.41 285 P P 17 11 19.8 -3.8
comp=Z,35nm,0.9s
PLAI Plampang 61.87 281 P P 17 11 25.8 -0.9
comp=Z,62nm,0.9s
PLAI Plampang 61.87 281 P P 17 11 27.3 +0.6
KIP Kipapa 62.12 24 *ce*P **P 17 11 25.6 -2.4**
KIP pmax pmax
comp=Z,92nm,1.7s
BKSI Bukumba 62.21 285 P P 17 11 27.9 -1.0
comp=Z,79nm,1.6s
TWSI Taliwang, Sumb 62.63 280 P P 17 11 30.6 -1.2
comp=Z,97nm,1.4s
KAPI Kappang 62.69 285 P P 17 11 31.9 -0.2
KAPI Kappang 62.69 285 *i* P **P 17 11 31.5 -0.6**
KAPI pmax pmax
comp=Z,168nm,2.1s
KAPI Kappang 62.69 285 P P 17 11 35.2 +3.1
LUWI Luwuk 62.96 291 P P 17 11 32.9 -1.0
LUWI Luwuk 62.96 291 P P 17 11 33.4 -0.5
comp=Z,150nm,1.6s
LUWI Luwuk 62.96 291 P P 17 11 34.1 +0.2
KMSI Cibinong 63.14 293 P P 17 11 33.9 -1.2
comp=Z,3µmcomp=Z,104nm,0.9s
SPSI Sidrap Palu 63.34 286 P P 17 11 35.1 -1.4
comp=Z,104nm,0.9s
BELA Belgrano 2 63.47 172 P P 17 11 37.4 +0.9
BELA IAmb IAmb 17 11 51.1
comp=Z,39nm,0.7s
APSI Ampana 63.88 290 P P 17 11 39.5 -0.6
comp=Z,108nm,1.4s
TTSI Tana Toraja 63.88 287 P P 17 11 38.8 -1.3
GTOI Gorontalo 63.90 293 P P 17 11 39.7 -0.4
comp=Z,19nm,0.7s
DNP Denpasar 63.98 279 P P 17 11 41.4 +0.7
comp=Z,433nm,1.2s
SGSI Sangihe 64.15 297 P P 17 11 40.6 -1.2
SRBI Singaraja 64.34 280 P P 17 11 42.1 -1.0
comp=Z,163nm,0.9s
MRSI Marisa 64.58 292 P P 17 11 42.4 -2.2
comp=Z,53nm,1.5s
JAGI Jajag, Banyuwa 64.94 279 P P 17 11 45.9 -1.2
JAGI Jajag, Banyuwa 64.94 279 P P 17 11 45.9 -1.2
comp=Z,102nm,1.8s
JAGI Jajag, Banyuwa 64.94 279 P P 17 11 48.7 +1.7
MAW Mawson 65.17 202 P P 17 11 50.0 +2.3
baz=65,SNR=14
MAW Mawson 65.17 202 P P 17 11 49.1 +1.5
comp=Z,31nm,0.9s,baz=132,slow=7.9,SNR=34
comp=Z,31nm,0.9s
MAW Mawson 65.17 202 P P 17 11 49.2 +1.5
MAW Mawson 65.17 202 P P 17 11 49.2 +1.5
MAW pmax pmax
comp=Z,11nm,1.2s
ABJI Asem Bagus 65.28 279 P P 17 11 48.7 -0.5
comp=Z,130nm,1.0s
GMJI Gumukmas 65.62 278 P P 17 11 50.4 -1.0
comp=Z,139nm,1.1s
BLJI Banyuglugur 65.82 279 P P 17 11 51.3 -1.4
comp=Z,62nm,1.0s
TOLI2 Tolitoli 65.87 291 P P 17 11 50.7 -2.2
TOLI2 IAmb IAmb 17 11 52.9
comp=Z,41nm,1.0s
TOLI2 Tolitoli 65.87 291 P P 17 11 52.1 -0.9
KMMI Kalianget 65.94 280 P P 17 11 50.5 -3.0
comp=Z,122nm,1.4s
MPSI Mapaga 66.02 290 P P 17 11 52.5 -1.4
comp=Z,72nm,1.6s
DAV Davao City (W) 66.49 300 P P 17 11 56.6 -0.4
DAV Davao City (W) 66.49 300 P P 17 11 57.9 +1.0
comp=Z,525nm,1.4s
PWJI Pagerwojo 67.07 277 P P 17 11 59.4 -1.3
comp=Z,171nm,1.0s
BKB Balikpapan 67.26 287 P P 17 12 03.0 +1.1
BKB Balikpapan 67.26 287 P P 17 12 01.6 -0.3
comp=Z,185nm,1.4s
BBKI Banjar Baru 67.46 283 P P 17 12 02.5 -0.7
comp=Z,124nm,1.5s
PCJI Pacitan 67.47 277 P P 17 12 03.1 -0.1
comp=Z,295nm,1.2s
NGJI Ngawi 67.73 278 P P 17 12 05.6 +0.7
comp=Z,116nm,1.2s
UGM Wanagama 68.15 277 P P 17 12 07.4 -0.2
comp=Z,202nm,1.6s
UGM Wanagama 68.15 277 P P 17 12 07.8 +0.2
SMRI Semarang 68.73 277 P P 17 12 11.0 -0.2
SMRI IAmb IAmb 17 12 20.0
comp=Z,93nm,0.9s
SMRI Semarang 68.73 277 P P 17 12 11.7 +0.5
comp=Z,106nm,1.0s
SMRI Semarang 68.73 277 P P 17 12 11.6 +0.4
MTKI Muara Teweh, K 69.00 285 P P 17 12 12.0 -0.8
MYLDM Lahad Datu 70.27 293 P P 17 12 20.6 +0.1
MYLDM IAmb IAmb 17 12 46.0
comp=Z,176nm,1.5s
LEM Lembang 71.11 276 P P 17 12 26.0 +0.1
comp=Z,75nm,0.8s,baz=101,slow=7.9,SNR=16
comp=Z,75nm,0.8s
LEM Lembang 71.11 276 P P 17 12 25.3 -0.6
comp=Z,1µmcomp=Z,64nm,1.4s
TROLL Troll, Antarti 71.15 181 P P 17 12 27.2 +1.9
TROLL Troll, Antarti 71.15 181 pP pP 17 12 35.7 +0.6
CNJI Cibinong 71.21 275 P P 17 12 26.3 -0.1
comp=Z,30µmcomp=Z,258nm,1.0s
SNAA Sanae 71.51 179 P P 17 12 29.2 +1.8
SNAA Sanae 71.51 179 pP pP 17 12 37.9 +0.7
SNAA Sanae 71.51 179 P P 17 12 28.6 +1.2
comp=Z,19nm,1.1s,baz=176,slow=6.3,SNR=12
comp=Z,19nm,1.1s
SNAA Sanae 71.51 179 P P 17 12 28.8 +1.5
SNAA IAmb IAmb 17 12 40.4
comp=Z,98nm,1.6s
SNAA Sanae 71.51 179 *ce*P **P 17 12 24.3 -3.1**
SNAA pmax pmax
comp=Z,28nm,1.3s
VNA3 Neumayer Olymp 71.77 177 P P 17 12 30.5 +1.6
VNA3 Neumayer Olymp 71.77 177 pP pP 17 12 39.4 +0.7
DBJI Dramaga 71.96 275 P P 17 12 29.7 -1.2
comp=Z,31µmcomp=Z,105nm,0.9s
NVL N'lazarevskaya 72.03 184 *e*P **P 17 12 32.4 +2.0**
NVL pmax pmax
comp=Z,25nm,1.1s
VNA2 Neumayer--Watz 72.16 178 P P 17 12 33.3 +2.0
baz=177,slow=4.5
VNA2 Neumayer--Watz 72.16 178 pP pP 17 12 42.5 +1.4
STKI Sintang 72.28 284 P P 17 12 32.0 -0.8
comp=Z,591µmcomp=Z,37nm,1.6s
VNA1 Neumayer--Stat 72.41 177 P P 17 12 34.9 +2.2
VNA1 Neumayer--Stat 72.41 177 pP pP 17 12 43.8 +1.2
KKM Kota Kinabalu 72.53 292 P P 17 12 33.4 -1.0
KKM Kota Kinabalu 72.53 292 P P 17 12 34.9 +0.5
SBUM Sibu 73.21 286 P P 17 12 37.3 -1.0
SBUM IAmb IAmb 17 12 39.2
comp=Z,84nm,1.5s
LWLI Liwa 75.02 275 P P 17 12 48.3 -0.7
comp=Z,82nm,0.8s
PPBI Pangkal Pinang 75.09 279 P P 17 12 47.7 -1.6
comp=Z,33µmcomp=Z,22nm,0.9s
ORCD Orcadas 76.13 160 P P 17 12 55.4 +1.0
ORCD IAmb IAmb 17 12 55.6
comp=Z,44nm,1.2s
MNAI Manna 76.29 275 P P 17 12 48.7 -7.5
KSI Kapahiang 77.00 275 P P 17 12 57.6 -2.7
comp=Z,82nm,0.8s
DSRI Dabo 77.34 279 P P 17 12 52.8 -9.3
LL02 Futaleuf 77.39 135 P P 17 13 03.4 +1.5
LL04 Puerto Octay 78.51 133 P P 17 13 10.2 +2.0
H03S2 Juan Fernandez 78.80 124 T T 18 39 42.0
SNR=22
H03S1 Juan Fernandez 78.81 124 T T 18 39 43.5
SNR=21
H03S3 Juan Fernandez 78.81 124 T T 18 39 42.4
SNR=21
KRJI Kerinci 78.84 276 P P 17 13 07.7 -2.8
comp=Z,262nm,0.8s
H03N3 Juan Fernandez 79.03 124 T T 18 39 52.4
baz=234,slow=72,SNR=22
H03N2 Juan Fernandez 79.03 124 T T 18 39 55.3
baz=234,slow=72,SNR=28
H03N1 Juan Fernandez 79.04 124 T T 18 39 56.4
baz=234,slow=72,SNR=23
PLCA Paso Flores 79.70 134 P P 17 13 17.1 +2.2
comp=Z,8.5nm,0.9s,baz=213,slow=6.8,SNR=10
comp=Z,8.5nm,0.9s
PLCA Paso Flores 79.70 134 P P 17 13 16.3 +1.4
PLCA Paso Flores 79.70 134 P P 17 13 16.3 +1.4
PLCA pmax pmax
comp=Z,43nm,1.4s
SISI Saibi 81.19 275 P P 17 13 18.9 -4.2
comp=Z,30nm,1.0s
SSLB Suanglung 81.60 308 P P 17 13 21.6 -3.4
SSLB IAmb IAmb 17 13 25.6
comp=Z,34nm,0.7s
SSLB Suanglung 81.60 308 P P 17 13 23.8 -1.2
DLV T Lat 82.13 291 P P 17 13 28.3 +0.1
MJAR Matsushiro Arr 82.48 328 P P 17 13 27.7 -1.6
comp=Z,2.9nm,0.8s,baz=169,slow=3.9,SNR=5.1
comp=Z,2.9nm,0.8s
MAJO Matsushiro 82.48 328 P 17 13 28.6 -0.7
MAJO Matsushiro 82.48 328 P P 17 13 28.6 -0.7
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 82.48 328 P P 17 13 31.1 +1.8
MT01 Popeta 83.75 128 P P 17 13 37.8 +1.6
MT01 IAmb IAmb 17 13 57.6
comp=Z,37nm,1.0s
QZH Quanzhou 83.92 307 P P 17 13 37.5 +0.5
GSI Gunungsitoli 83.97 276 P P 17 13 36.0 -1.7
GSI IAmb IAmb 17 13 43.6
comp=Z,73nm,0.9s
GSI Gunungsitoli 83.97 276 P P 17 13 35.6 -2.0
comp=Z,80nm,0.9s
GSI Gunungsitoli 83.97 276 P P 17 13 36.7 -0.9
KCSI Kotacane, Aceh 85.16 278 P P 17 13 40.9 -2.7
comp=Z,25nm,0.9s
QIZ Qiongzhong 85.77 298 P P 17 13 45.8 -0.6
UBPT Khong Chiam 86.51 292 P P 17 13 50.2 +0.1

UBPT IAmb IAmb 17 13 52.1
comp=Z,37nm,1.3s
SRIT Nakonsritamara 86.81 283 P P 17 13 50.7 -1.0
SRIT IAmb IAmb 17 17 02.1
comp=Z,80nm,1.8s
AC05 El Transito 87.67 125 P P 17 13 56.6 +0.6
AC05 IAmb IAmb 17 17 11.0
comp=Z,61nm,1.3s
KSRS Korea Array 87.97 322 P P 17 13 56.8 +0.1
comp=Z,9.2nm,0.8s,baz=143,slow=5.3,SNR=21
KSRS PP PP 17 17 24.8 +1.0
comp=Z,8.5nm,1.2s,baz=145,slow=6.3,SNR=6.2
comp=Z,9.2nm,0.8s
KSAR Wonju Array Be 87.98 322 P P 17 13 56.7 0.0
KSAR Wonju Array Be 87.98 322 P P 17 13 56.7 0.0
KS19 Wonju Array Si 88.03 322 P P 17 13 57.0 0.0
ADK Adak 88.71 3 P P 17 14 00.5 +0.7
ADK Adak 88.71 3 P P 17 14 00.5 +0.7
ADK pmax pmax
comp=Z,255nm,1.7s
ADK Adak 88.71 3 P P 17 14 01.2 +1.4
NJ2 Nanjing 88.84 313 *e*P **P 17 14 03.1 +2.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
SHEM Shemya Is, Ala 89.58 357 P P 17 14 03.9 0.0
comp=Z,67nm,1.0s,baz=265,slow=19,SNR=1.5
comp=Z,67nm,1.0s
YSS Yuzh-Sakhalins 89.79 336 *e*P **P 17 14 06.5 +1.5**
CLES Cleveland East 90.08 7 P P 17 14 07.0 +0.8
CLES IAmb IAmb 17 14 08.9
comp=Z,377nm,1.2s
NIKH Nikolski High 90.33 7 P P 17 14 06.9 -0.5
WHN Wuhan 90.52 309 P P 17 14 21.3 +12
UNV Unalaska Valle 91.45 9 P P 17 14 13.6 +1.1
baz=192
USRK Ussuriysk Ar. 91.47 328 P P 17 14 12.2 -0.8
comp=Z,2.7nm,0.7s,baz=169,slow=2.2,SNR=3.6
comp=Z,2.7nm,0.7s
PET Petropavlovsk 91.50 348 P P 17 14 13.3 +0.5
PET IAmb IAmb 17 14 18.8
comp=Z,17nm,0.8s
PET Petropavlovsk 91.50 348 *ce*P **P 17 14 11.1 -1.7**
PET pmax pmax
comp=Z,20nm,0.8s
BCW Bitter Crk WRg 91.70 46 P P 17 14 15.6 +1.2
ESJX Sierra Juarez 91.72 50 P P 17 14 15.9 +1.2
ESJX IAmb IAmb 17 17 06.4
comp=Z,32nm,1.6s
PEA0B Petropavlovsk- 91.75 347 P P 17 14 14.3 +0.3
PEA0B IAmb IAmb 17 14 16.8
comp=Z,39nm,1.0s
PEA0B Petropavlovsk- 91.75 347 *ce*P **P 17 14 12.8 -1.2**
PETK Petropavlovsk- 91.75 347 P P 17 14 13.4 -0.6
comp=Z,16nm,0.8s,baz=142,slow=7.2,SNR=21
comp=Z,16nm,0.8s
PETK Petropavlovsk- 91.75 347 P P 17 14 13.2 -0.8
PAGB Antelope Grade 91.78 45 P P 17 14 17.2 +2.6
PAGB IAmb IAmb 17 14 18.2
comp=Z,59nm,1.5s
ELS Elsinore Mount 91.96 48 P P 17 14 17.8 +2.2
MONP2 Monument Peak 92.04 49 P P 17 14 20.0 +3.8
baz=226
RMX La Rumorosa 92.05 50 P P 17 14 18.2 +2.1
RMX IAmb IAmb 17 14 26.4
comp=Z,19nm,1.0s
IKP In-Ko-Pah, Jac 92.06 50 P P 17 14 20.1 +4.0
baz=226
MURC Murrieta 92.06 49 P P 17 14 19.9 +3.8
baz=226
ARVC Arvin 92.17 46 P P 17 14 20.1 +3.7
baz=225
YUH Yuha Desert 92.18 50 P P 17 14 18.9 +2.4
SWSC Sam W. Stewart 92.45 50 P P 17 14 21.5 +3.7
baz=226
TPFO Pinon Flats 92.51 49 P P 17 14 21.7 +3.5
baz=226
PFO Pinyon Flats O 92.51 49 P P 17 14 19.7 +1.5
comp=Z,8.3nm,1.0s,baz=279,slow=5.0
comp=Z,8.3nm,1.0s
PFO Pinyon Flats O 92.51 49 P P 17 14 20.6 +2.5
PFO Pinyon Flats O 92.51 49 P P 17 14 20.7 +2.5
PFO pmax pmax
comp=Z,13nm,1.2s
PFO Pinyon Flats O 92.51 49 P P 17 14 21.4 +3.2
baz=226
PMD Palm Desert 92.59 49 P P 17 14 21.4 +3.0
PMD IAmb IAmb 17 14 22.7
comp=Z,13nm,1.1s
ISA Isabella, Lake 92.75 46 P P 17 14 22.0 +2.8
ISA Isabella, Lake 92.75 46 P P 17 14 22.0 +2.8
ISA pmax pmax
comp=Z,13nm,1.1s
BELC Belle Mtn. Jos 93.06 49 P P 17 14 24.3 +3.6
baz=226
LRMC Laurel Mtn Rad 93.08 47 P P 17 14 24.0 +3.1
baz=226
GLA Glamis 93.12 50 P P 17 14 25.2 +4.2
baz=227
BC3 Big Chuckawall 93.15 49 P P 17 14 25.0 +3.8
baz=227
CMB Columbia Colle 93.36 44 P P 17 14 23.2 +1.3
CMB Columbia Colle 93.36 44 P P 17 14 23.2 +1.3
CMB pmax pmax
comp=Z,17nm,1.3s
CM31 Chiang Mai Arr 93.36 291 P P 17 14 22.1 -0.2
CM31 IAmb IAmb 17 14 25.3
comp=Z,92nm,1.6s
CMAR Chiang Mai Arr 93.36 291 P P 17 14 22.4 0.0
comp=Z,14nm,0.6s,baz=144,slow=3.6,SNR=60
CMAR PP PP 17 18 05.3 -1.6
comp=Z,2.1nm,0.6s,baz=130,slow=4.3,SNR=5.3
comp=Z,14nm,0.6s
CMAR Chiang Mai Arr 93.36 291 P P 17 14 21.9 -0.4
CMAR Chiang Mai Arr 93.36 291 P P 17 14 21.9 -0.4
GSC Goldstone, Bar 93.47 48 P P 17 14 23.9 +1.4
GSC IAmb IAmb 17 16 46.2
comp=Z,48nm,1.8s
GSC Goldstone, Bar 93.47 48 P P 17 14 23.9 +1.4
GSC pmax pmax
comp=Z,48nm,1.8s
GSC Goldstone, Bar 93.47 48 P P 17 14 25.7 +3.2
baz=226
CHTO Chiang Mai 93.58 291 P P 17 14 22.4 -0.8
CHTO Chiang Mai 93.58 291 P P 17 14 22.5 -0.8
CHTO pmax pmax
comp=Z,2.0nm,1.4s
CHTO Chiang Mai 93.58 291 P P 17 14 23.4 +0.1
IRM Iron Mountain 93.68 49 P P 17 14 27.4 +4.0
baz=227
AFDM Forest Hills D 93.69 43 P P 17 14 25.2 +1.8
AFDM IAmb IAmb 17 16 55.7
comp=Z,22nm,1.3s
CN2 Changchun 94.07 324 *e*P **P 17 14 24.4 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NVAR Mina Array Bea 94.79 44 P P 17 14 28.5 -0.2
comp=Z,2.1nm,0.9s,baz=226,slow=7.5,SNR=6.9
NVAR PKKPbc **PKKPbc 17 31 25.9 +0.1**
comp=Z,0.7nm,0.7s,baz=59,slow=1.9,SNR=4.3
comp=Z,2.1nm,0.9s
YBH Yreka Blue Hor 94.80 40 P P 17 14 28.2 -0.3
comp=Z,3.8nm,1.0s,baz=201,slow=5.4,SNR=3.9
comp=Z,3.8nm,1.0s
YBH Yreka Blue Hor 94.80 40 P P 17 14 30.5 +2.0
YBH Yreka Blue Hor 94.80 40 P P 17 14 30.5 +2.0
YBH pmax pmax
comp=Z,13nm,1.4s
TPNV Topopah Spring 94.94 47 P P 17 14 32.6 +3.2
baz=226
CHGN Chignik 95.01 12 P P 17 14 29.0 +0.1
CHGN IAmb IAmb 17 14 30.5
comp=Z,27nm,1.1s
HUMO Hull Mountain 95.31 39 P P 17 14 32.3 +1.6
KVN Kaiserville 95.34 44 P P 17 14 32.6 +1.4
KVN IAmb IAmb 17 16 50.9
comp=Z,25nm,1.6s
KVN Kaiserville 95.34 44 P P 17 14 32.6 +1.4
KVN pmax pmax
comp=Z,25nm,1.6s
SII Sitkinak Islan 96.04 15 P P 17 14 34.6 +0.9
baz=201
PZH PanZhiHua 96.27 298 P P 17 14 38.7 +3.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
OHAK Old Harbor 96.84 15 P P 17 14 38.4 +1.2
baz=202

LPAZ La Paz 97.49 117 PP PP 17 18 43.2 +4.2
comp=Z,6.6nm,1.3s,baz=218,slow=12,SNR=4.3
CD2 Chengdu 97.62 303 *e*P Pdif 17 14 43.0 +1.4
TXAR Lajitas Array 98.01 59 PKKPbc PKKPbc 17 31 16.1 -0.2
comp=Z,0.2nm,0.5s,baz=71,slow=4.1,SNR=3.9
PORT Chimborazo Vol 98.83 99 P Pdif 17 14 48.1 0.0
PORT IAmb IAmb 17 14 57.1
comp=Z,20nm,1.1s
N16K Nishlik Lake 98.94 11 P Pdif 17 14 47.9 +1.2
baz=198
HHC Hu-ho-hao-te 99.16 315 *e*P **Pdif 17 14 51.2 +2.9**
HHC pmax pmax
comp=Z,24nm,0.7s
PDAR Pinedale Array 102.64 46 Pdiff **Pdif 17 15 05.2 +1.4**
comp=Z,0.3nm,0.4s,baz=220,slow=2.4,SNR=2.6
PDAR PKKPbc **PKKPbc 17 31 02.5 -1.2**
comp=Z,1.2nm,0.7s,baz=73,slow=5.1,SNR=7.5
ILAR Eielson Array 105.02 14 Pdiff **Pdif 17 15 10.9 -2.6**
comp=Z,0.4nm,0.8s,baz=215,slow=5.5,SNR=1.8
ILAR PKiKP **PKiKP 17 19 28.1 +0.1**
comp=Z,0.9nm,0.5s,baz=305,slow=3.1,SNR=8.4
CIT Chita 105.51 324 *e*P **Pdif 17 15 30.4 +14**
CIT *e* 17 27 04.4
CIT pmax pmax
comp=Z,178nm,4.9s
SONM Songino Array 106.46 318 PKiKP PKiKP 17 19 30.9 -0.5
comp=Z,0.9nm,0.6s,baz=144,slow=2.6,SNR=3.6
SONM PKKPbc **PKKPbc 17 30 53.5 +1.3**
comp=Z,0.4nm,0.6s,baz=300,slow=3.4,SNR=2.3
SONM PKKP **PKKPdf 17 31 03.2 -1.5**
comp=Z,0.7nm,0.7s,baz=294,slow=3.0,SNR=3.7
BOSA Boshof 110.14 204 PKKPbc PKKPbc 17 30 38.7 -1.1
comp=Z,1.3nm,0.5s,baz=356,slow=5.7,SNR=3.8
TIXI Tiksi 114.06 345 ⇑PKiKP PKPdf 17 19 43.6 -1.2
WMQ Urumqi 115.35 307 *e*PKP **PKiKP 17 19 49.8 +1.5**
TKL Tuckaleechee C 115.47 64 PKP PKiKP 17 19 49.1 +0.4
comp=Z,1.6nm,0.5s,baz=180,slow=6.1,SNR=1.9
A36M Sachs Harbour 115.53 17 PKiKP 17 19 49.6 +2.0
MATP Matopo 116.38 211 PKP PKPdf 17 19 49.7 -1.4
comp=Z,1.5nm,0.5s,baz=100,slow=6.1,SNR=6.4
DGZ Jazzator, Alta 118.13 313 *i* PKiKP **PKPdf 17 19 51.8 -1.8**
ZSN Zaisan 118.74 309 *e*PKiKP **PKPdf 17 19 52.6 -2.0**
ZSN Zaisan 118.74 309 *e*PKP **PKPdf 17 19 52.6 -2.0**
baz=309
MK31 Makanchi Array 120.08 308 PKPdf PKPdf 17 19 55.7 -1.5
MK31 Makanchi Array 120.08 308 PKiKP PKPdf 17 19 55.7 -1.5
MKAR Makanchi Array 120.08 308 PKP PKPdf 17 19 55.7 -1.5
comp=Z,5.4nm,0.7s,baz=113,slow=2.2,SNR=23
MKAR PKKPbc **PKKPbc 17 30 06.6 +0.9**
comp=Z,0.6nm,0.7s,baz=308,slow=4.0,SNR=4.1
MKAR Makanchi Array 120.08 308 PKPdf PKPdf 17 19 55.0 -2.2
MAKZ Makanchi 120.28 308 PKPdf PKPdf 17 19 56.1 -1.5
MAKZ Makanchi 120.28 308 ⇑PKiKP **PKPdf 17 19 55.6 -2.0**
SHLS Shalkode 120.45 303 *e*PKiKP **PKPdf 17 19 55.4 -2.8**
SHLS *i* 17 21 22.4
SHLS Shalkode 120.45 303 *e*PKP **PKPdf 17 19 55.4 -2.8**
baz=303
SHLS *i* PP **PP 17 21 22.5 -3.3**
baz=303
UZB Uzunbulak 120.75 303 *e*PKiKP **PKPdf 17 19 56.6 -2.2**
UZB Uzunbulak 120.75 303 *e*PKP **PKPdf 17 19 56.6 -2.2**
baz=303
LSZ Luska 121.10 213 PKP PKPdf 17 19 59.9 -0.4
comp=Z,2.8nm,0.4s,baz=76,slow=4.2,SNR=4.3
KPKS Kokpek 121.10 303 *e*PKiKP **PKPdf 17 19 57.1 -2.3**
KPKS Kokpek 121.10 303 *e*PKP **PKPdf 17 19 57.1 -2.3**
baz=303
SATY Saty 121.12 303 *e*PKiKP **PKPdf 17 19 57.1 -2.4**
SATY Saty 121.12 303 *e*PKP **PKPdf 17 19 57.1 -2.4**
baz=302
ZAA0 Zalesovo Array 121.29 316 PKPdf PKPdf 17 19 56.9 -2.3
ZALV Zalesovo Beam 121.29 316 PKP PKPdf 17 19 57.5 -1.8
comp=Z,2.9nm,0.4s,baz=132,slow=2.5,SNR=14
KSH Kashi 121.37 298 PKP PKiKP 17 20 00.2 0.0
TDK Taldyqorghan 121.88 305 *e*PKiKP **PKPdf 17 19 57.9 -2.8**
TDK Taldyqorghan 121.88 305 *e*PKP **PKPdf 17 19 57.9 -2.8**
baz=305
MDOK Medeo 122.08 302 *e*PKiKP **PKPdf 17 19 58.5 -2.9**
MDOK Medeo 122.08 302 *e*PKP **PKPdf 17 19 58.5 -2.9**
baz=302
NRN Naryn 122.12 300 PKPdf PKPdf 17 20 00.8 -0.9
NRN Naryn 122.12 300 PKiKP PKPdf 17 20 00.8 -0.9
AAA Alma-Ata 122.19 302 *e*PKiKP **PKPdf 17 19 58.5 -3.0**
AAA Alma-Ata 122.19 302 *e*PKP **PKPdf 17 19 58.5 -3.0**
baz=302
CHKK Chushkaly 122.38 303 *e*PKiKP **PKPdf 17 19 59.7 -2.0**
CHKK Chushkaly 122.38 303 *e*PKP **PKPdf 17 19 59.7 -2.0**
baz=303
SADO Sadowa 122.57 56 PKP PKPdf 17 20 00.6 -1.4
comp=Z,8.2nm,0.8s,baz=276,slow=7.7,SNR=4.0
M57A Sunshine Farm, 122.63 60 PKPdf PKiKP 17 20 03.2 +0.7
SEM Semipalatinsk 122.68 311 *e*PKiKP **PKPdf 17 19 59.1 -3.2**
SEM Semipalatinsk 122.68 311 *e*PKP **PKPdf 17 19 59.1 -3.2**
baz=311
KUU Kurty 122.83 303 *e*PKiKP **PKPdf 17 19 59.6 -3.0**
KUU Kurty 122.83 303 *e*PKP **PKPdf 17 19 59.6 -3.0**
baz=303
TKM2 Tokmak 2 122.97 302 P PKPdf 17 20 02.3 -0.8
SNR=11
KBK Karagaybulak 123.31 301 P PKiKP 17 20 04.0 0.0
SNR=7.2
UCH Uchtor 123.45 300 P PKPdf 17 20 04.4 -0.1
SNR=14
CHMS Chumysh 123.58 301 P PKPdf 17 20 03.4 -0.6
SNR=7.9
AAK Ala-Archa 123.62 301 PKPdf PKPdf 17 20 03.3 -1.1
AAK Ala-Archa 123.62 301 *c i*PKiKP **PKPdf 17 20 03.5 -0.8**
AAK pmax pmax
comp=Z,18nm,1.7s
KSPA Keystone Colle 123.66 60 PKiKP 17 20 04.7 +0.2
KURK Kurchatov 123.76 311 PKPdf PKPdf 17 20 02.7 -1.3
KURK Kurchatov 123.76 311 *c i*PKiKP **PKPdf 17 20 02.8 -1.3**
KURK pmax pmax
comp=Z,81nm,1.7s
SGDS Sogindy 123.82 302 *e*PKiKP **PKPdf 17 20 01.8 -2.8**
SGDS Sogindy 123.82 302 *e*PKP **PKPdf 17 20 01.9 -2.8**
baz=302
USP Ospenovka 123.85 302 P PKPdf 17 20 04.6 0.0
SNR=6.6
AML Almayashu 123.98 300 P PKPdf 17 20 04.9 -0.5
SNR=21
EKS2 Erkin-Say 124.12 301 P PKPdf 17 19 59.9 -5.3
SNR=8.6
J57A Williamstown 124.18 58 PKiKP 17 20 05.6 +0.1
DRK Karamyk 124.32 296 PKPdf 17 20 05.7 -0.2
KBL Kabul 124.39 290 PKPdf PKPdf 17 20 05.6 -0.6
KBL Kabul 124.39 290 PKiKP PKPdf 17 20 05.6 -0.6
J58A Remsen 124.65 59 PKiKP 17 20 06.6 +0.2
BTLS Baital 124.78 304 *e*PKiKP **PKPdf 17 20 04.1 -2.1**
BTLS Baital 124.78 304 *e*PKP **PKPdf 17 20 04.2 -2.1**
baz=303
VLDQ Val d'Or 124.82 53 PKPdf 17 20 05.5 -0.7
GAR Garm 125.21 295 PKPdf 17 20 06.6 -0.9
J59A Piesco 125.22 59 PKiKP 17 20 07.4 -0.1
BTK Batken 125.24 297 PKPdf 17 20 06.5 -0.9
BTK Batken 125.24 297 PKiKP PKPdf 17 20 06.5 -0.9
KSCT Kent School, K 125.31 61 PKiKP 17 20 08.6 +0.9
LONY Lake Ozonia 125.56 57 PKPdf PKiKP 17 20 08.2 0.0
LONY Lake Ozonia 125.56 57 P PKiKP 17 20 09.2 +1.0
baz=251
NCB Newcomb 125.58 58 PKiKP 17 20 08.4 +0.1
ACCN Adirondack Com 125.77 59 PKiKP 17 20 08.6 0.0
DZA Taraz 125.89 300 *e*PKiKP **PKPdf 17 20 06.0 -2.5**
DZA Taraz 125.89 300 *e*PKP **PKPdf 17 20 06.0 -2.5**
baz=300
CHGR Chuyangaron 125.92 295 PKPdf 17 20 08.5 -0.3
CHGR Chuyangaron 125.92 295 PKiKP PKPdf 17 20 08.5 -0.3
L61B Northampton 126.13 60 PKiKP 17 20 09.3 -0.1
L61B Northampton 126.13 60 P PKiKP 17 20 10.3 +0.9
baz=250
UCCT U. Connecticut 126.22 61 PKiKP 17 20 09.9 +0.3
QUA2 Belchertown 126.30 61 PKiKP 17 20 10.3 +0.6
J61A Chester 126.52 59 PKiKP 17 20 10.6 +0.5
KK31 Karatay Array 126.52 300 PKPdf PKPdf 17 20 08.8 -0.9
KK31 Karatay Array 126.52 300 PKiKP PKPdf 17 20 08.8 -0.9
KKAR Karatay Array 126.52 300 PKiKP 17 20 08.6 -1.1
KKAR Karatay Array 126.52 300 PKPdf PKPdf 17 20 08.3 -1.4
KKAR Karatay Array 126.52 300 PKiKP PKPdf 17 20 08.6 -1.1
IUG luzhnay 126.54 299 *e*PKiKP **PKPdf 17 20 07.6 -2.2**
IUG luzhnay 126.54 299 *e*PKP **PKPdf 17 20 07.7 -2.2**
baz=299
KIBK Kibwezi 126.61 232 PKPdf 17 20 11.0 +0.1
VT1 Waterbury 126.70 58 PKiKP 17 20 10.9 +0.5
BRZS Berezniki 127.17 309 *e*PKiKP **PKPdf 17 20 07.7 -3.0**

BRZS Berezniki 127.17 309 *e*PKP **PKPdf 17 20 07.7 -3.0**
baz=309
LBNH Lisbon 127.24 59 PKiKP 17 20 12.1 +0.6
LBNH Lisbon 127.24 59 PKIKP **PKiKP 17 20 12.1 +0.6**
LBNH Lisbon 127.24 59 P PKiKP 17 20 12.5 +1.0
baz=252
I62A Tamworth 127.53 59 PKPdf PKiKP 17 20 12.4 +0.3
H62A Milan 127.86 58 PKPdf PKiKP 17 20 13.4 +0.7
KMBO Kilima Mbogo 128.04 232 PKP PKiKP 17 20 15.0 +0.6
comp=Z,14nm,1.1s,baz=90,slow=1.0,SNR=16
KMBO Kilima Mbogo 128.04 232 PKPdf PKiKP 17 20 14.8 +0.3
KMBO Kilima Mbogo 128.04 232 PKIKP PKiKP 17 20 15.0 +0.6
I63A Otisfield 128.10 59 PKiKP 17 20 13.6 +0.4
LMQ La Malbaie 129.25 55 PKPdf 17 20 14.4 -0.3
PKME Peaks-Kenny Pk 129.33 58 PKiKP 17 20 15.8 +0.2
PKME Peaks-Kenny Pk 129.33 58 P PKiKP 17 20 16.7 +1.1
baz=254
BRVK Borovoye 129.36 312 PKPdf PKPdf 17 20 13.7 -1.0
BRVK Borovoye 129.36 312 *c i*PKIKP **PKPdf 17 20 13.8 -1.0**
BRVK pmax pmax
comp=Z,69nm,1.7s
HRA Herat 129.48 287 PKPdf 17 20 15.3 -0.6
E62A Clayton Lake 129.54 56 PKPdf PKiKP 17 20 16.4 +0.3
PQI Presque Isle 130.56 57 PKiKP 17 20 18.9 +0.8
GEYT Alibeck 133.84 290 PKP PKPdf 17 20 22.4 -1.4
comp=Z,5.6nm,0.9s,baz=193,slow=4.6,SNR=6.9
GEYT Alibeck 133.84 290 PKPdf 17 20 23.1 -0.6
GYA0B ALIBECK ARRAY 133.84 290 PKPdf 17 20 22.9 -0.9
ABKAR Akbulak array 135.12 306 PKPdf PKPdf 17 20 26.0 +0.2
ABKAR Akbulak array 135.12 306 PKPdf PKPdf 17 20 24.6 -1.2
ARU Arti 136.46 316 PKPdf 17 20 26.3 -1.7
ARU Arti 136.46 316 *i* PKIKP **PKPdf 17 20 27.4 -0.6**
ARU 17 23 08.3
ARU SS SS 17 41 14.6 +4.7
KBS Kingsbay 137.74 356 *c i*PKIKP **PKiKP 17 20 32.5 +0.7**
KBS pmax pmax
comp=Z,42nm,1.7s
KBS Kingsbay 137.74 356 *e*PKPdf **PKPdf 17 20 29.8 0.0**
RAYN Ar Rayn 138.06 265 PKPdf PKPdf 17 20 31.6 -0.5
RAYN Ar Rayn 138.06 265 PKIKP PKPdf 17 20 31.6 -0.5
SPA0 Spitsbergen Ar 138.18 355 *e*PKPdf **PKiKP 17 20 32.1 -0.6**
SPA0 IAmb IAmb 17 20 33.5
comp=Z,47nm,0.8s
SPITS Spitsbergen Ar 138.18 355 PKP PKPdf 17 20 29.1 -1.6
comp=Z,11nm,0.5s,baz=80,slow=5.5,SNR=29
SPITS Spitsbergen Ar 138.18 355 PKIKP PKPdf 17 20 30.5 -0.2
SPB2 Spitsbergen Ar 138.19 355 PKPdf 17 20 31.4 +0.7
PRGR Permogore 142.21 326 *e*PKHKP PKPpre 17 20 31.7
BELG Belogornoye 143.02 310 *i* PKIKP **PKPdf 17 20 39.1 -0.9**
LVZ Lovozero 143.33 338 ⇑PKIKP PKPbc 17 20 37.6 +0.2
APA Apatity 143.91 338 *i*PKHKP PKPpre 17 20 35.4
APA pmax pmax
comp=Z,47nm,0.7s
APA MLR MLR
comp=Z,36μm,20.0s
HAMF Hammerfest 143.97 346 *e* PKPbc 17 20 39.6 +0.5
HAMF IAmb IAmb 17 20 41.2
comp=Z,109nm,1.6s
KEV Kevo 144.00 344 PKPdf 17 20 41.1 -0.2
KEV Kevo 144.00 344 PKIKP PKPdf 17 20 41.1 -0.2
GROC Groznyy 144.13 295 *e*PKIKP **PKPab 17 20 39.1 -0.9**
GROC pmax pmax
comp=Z,105nm,1.2s
GNI Garni 144.47 289 PKPdf PKPab 17 20 41.1 -0.5
GNI Garni 144.47 289 PKIKP PKPab 17 20 41.1 -0.5
ARA0 ARCESS Array S 144.50 344 *e*PKPdf PKPbc 17 20 40.8 0.0
ARA0 IAmb IAmb 17 20 42.3
comp=Z,121nm,1.4s
ARCES ARCESS Array B 144.50 344 PKP PKPab 17 20 40.3 -0.3
comp=Z,15nm,0.5s,baz=22,slow=1.8,SNR=103
ARCES ARCESS Array B 144.50 344 PKPdf PKPab 17 20 40.2 -0.4
ARCES ARCESS Array B 144.50 344 PKIKP PKPab 17 20 40.2 -0.4
GUDG Gudauri 145.01 293 PKPbc 17 20 42.2 -1.4
GUDG Gudauri 145.01 293 PKIKP PKPbc 17 20 42.2 -1.4
KLMR Klimovskoe 145.24 326 *e*PKHKP PKPpre 17 20 39.2
KLMR *e* 17 27 53.6
KLMR pmax pmax
comp=Z,186nm,1.2s
KLMR Klimovskoe 145.24 326 *e*PKPdf **PKPbc 17 20 39.3 -4.1**
KLMR AMP 17 20 44.3
comp=Z,186nm,1.2s
KLMR *e*SKPbc **SKPbc 17 24 18.5 -2.1**
KLMR *e*SKS **SKSdf 17 27 53.7 +3.8**
KLMR *e*SKS **SKSdf 17 27 53.7 +3.8**
GEVA Gevas 145.40 286 PKPdf 17 20 43.8 -1.2
KTK1 Kautokeino 145.41 345 *e*PKPbc **PKPbc 17 20 43.3 -0.4**
KTK1 IAmb IAmb 17 20 44.2
comp=Z,84nm,1.1s
ZEI Tsey 145.47 294 *i* PKP2 **PKPdf 17 20 43.0 -1.9**
ZEI pmax pmax
comp=Z,100nm,1.5s
JETT Jettan, Norway 145.50 347 *e*PKPbc **PKPab 17 20 44.4 +0.1**
JETT *e*P **PKPbc 17 20 44.6 +0.5**
TRO Tromso 145.69 348 *e*PKPdf **PKPdf 17 20 43.8 -0.3**
TRO IAmb IAmb 17 20 45.6
comp=Z,111nm,1.0s
NCK Nalchik 145.75 295 *i* PKP2 **PKPdf 17 20 43.9 -1.2**
KARS Kars 145.80 290 PKPdf 17 20 45.0 -0.4
KARS Kars 145.80 290 PKP2 PKPdf 17 20 45.1 -0.4
JMIC Jan Mayen 145.83 4 PKPbc **PKPdf 17 20 44.0 -0.4**
comp=Z,84nm,0.9s,baz=293,slow=1.7,SNR=4.7
JMIC Jan Mayen 145.83 4 *e*PKPbc **PKPab 17 20 46.1 +0.6**
GURO Guroymak-BITLI 146.24 286 PKPdf 17 20 46.2 -0.1
GOF Gofitskoye 146.24 298 ⇑*e*PKP2 **PKPdf 17 20 46.3 +0.4**
GOF pmax pmax
comp=Z,100nm,1.5s
KBZ Khabaz 146.28 295 PKPbc **PKPdf 17 20 45.7 -0.3**
comp=Z,14nm,0.8s,baz=23,slow=3.2,SNR=15
KBZ Khabaz 146.28 295 *i* PKIKP **PKPdf 17 20 45.3 -0.6**
KIV Kislovodsk 146.44 296 ⇑P **PKPdf 17 20 45.3 -1.1**
KIV Kislovodsk 146.44 296 PKPdf **PKPdf 17 20 45.2 -1.1**
KIV Kislovodsk 146.44 296 ⇑PKIKP **PKPdf 17 20 45.3 -1.1**
VRH Novokhopyorsk 146.80 309 *e*PKIKP **PKPdf 17 20 46.8 +0.2**
VRH pmax pmax
comp=Z,100nm,0.6s
MARD Mardin 146.96 283 PKPdf PKPdf 17 20 47.3 -0.2
KOPT Kop Dagi 147.66 288 PKPdf 17 20 49.5 +0.7
STEI Steigen 147.82 349 *e*PKPdf **PKPdf 17 20 49.1 +1.3**
STEI IAmb IAmb 17 20 52.1
comp=Z,231nm,1.1s
LOF Lofoten 147.89 350 *e*PKPdf **PKPdf 17 20 48.8 +0.9**
MOS Moscow 148.09 318 *e*PKHKP PKPpre 17 20 43.2
MOS pmax pmax
comp=Z,119nm,1.1s
MOS pmax pmax
comp=Z,1μm,4.5s
LPSR Galich'ya Gora 148.24 312 *e*PKIKP **PKPdf 17 20 48.2 -0.7**
LPSR pmax pmax
comp=Z,110nm,1.2s
VORR Voronezh 148.27 310 *e*PKIKP **PKPdf 17 20 48.8 -0.2**
VORR pmax pmax
comp=Z,147nm,1.6s
FAUS Fauske 148.31 348 *e*PKPdf **PKPbc 17 20 51.0 -1.0**
FAUS IAmb IAmb 17 20 52.4
comp=Z,271nm,1.4s
VSR Storozhevoye 148.38 309 *e*PKHKP PKPpre 17 20 47.3
VSR pmax pmax
comp=Z,30nm,0.6s
SOC Sochi 148.57 295 *e*PKHKP PKPpre 17 20 45.4
SOC *e* 17 24 18.2
SOC *e*PPP PPP 17 27 43.8
OBN Obninsk 148.87 317 PKPbc PKPbc 17 20 53.0 -0.8
OBN Obninsk 148.87 317 PKPdf 17 20 49.7 -0.2
OBN Obninsk 148.87 317 *e*PKHKP PKPpre 17 20 47.4
OBN *e* 17 24 21.4
OBN *i* PPP PPP 17 27 48.7
OBN pmax pmax
comp=Z,50nm,1.1s
LIC Lamto 149.03 172 ⇑*e*PKP1 **PKiKP 17 20 56.4 -0.5**
comp=Z,62nm,0.6s
KIC Kosan Boka 149.19 173 ⇑*e*PKP1 **PKiKP 17 20 56.8 -0.4**
comp=Z,33nm,0.5s
EIL Elat 149.25 267 PKP PKPdf 17 20 50.1 -1.2
comp=Z,24nm,0.7s,baz=190,slow=2.2,SNR=9.4
EIL PKPbc **PKPbc 17 20 55.5 -0.2**
comp=Z,40nm,0.7s,baz=103,slow=0.7,SNR=23
GHAJ Ghor Haditha 149.37 270 PKPdf 17 20 51.0 -0.4
TIC Toumodi 149.44 172 ⇑*e*PKP1 **PKiKP 17 20 57.4 -0.3**
comp=Z,21nm,0.5s
KONS Konsvik 149.47 349 *ep*PKPdf **PKPbc 17 20 54.8 -0.2**
KONS IAmb IAmb 17 20 55.1
comp=Z,67nm,0.7s
DBIC Dimbokro 149.49 172 PKP PKPdf 17 20 51.6 -0.6

comp=Z,3.0nm,0.7s,baz=178,slow=2.5,SNR=2.4
DBIC PKPbc **PKiKP 17 20 57.4 -0.4**
comp=Z,20nm,1.0s,baz=166,slow=2.2,SNR=11
DBIC Dimbokro 149.49 172 ⇑PKHKP PKPpre 17 20 53.2
MOR8 Moi Rana 149.56 348 *ep*PKPdf **PKPbc 17 20 54.3 -1.0**
MOR8 IAmb IAmb 17 20 54.8
comp=Z,454nm,1.8s
BORG Borgarnes 149.79 17 PKPbc **PKPbc 17 20 55.6 -0.2**
comp=Z,36nm,0.9s,baz=273,slow=2.1,SNR=10
BORG Borgarnes 149.79 17 PKPdf **17 20 52.9 +1.8**
ANN Anapa 150.23 297 *i* PKIKP **PKPbc 17 20 55.4 -2.1**
ANN pmax pmax
comp=Z,100nm,1.5s
FIA1 FINESS Array S 150.35 334 **PKPbc 17 20 56.0 -1.3**
FINES FINESS Array B 150.35 334 PKPbc **PKPbc 17 20 56.8 -0.5**
comp=Z,57nm,0.7s,baz=56,slow=3.5,SNR=30
FINES FINESS Array B 150.35 334 **PKPdf 17 20 51.5 -0.5**
BNN Bunyan 151.06 285 PKPdf **PKPdf 17 20 52.0 -2.1**
NSS Namsos 151.48 348 *ep*PKPdf **PKPbc 17 20 59.5 -0.4**
NSS IAmb IAmb 17 21 00.1
comp=Z,371nm,1.5s
MEF Metsahovi 151.79 333 *e*P **PKPbc 17 21 00.7 0.0**
VSU Vasula 152.03 329 *e*P **PKPbc 17 21 01.2 -0.1**
RAF Rauma 152.11 336 *e*P **PKPbc 17 21 00.8 -0.6**
CSS Mathiatis 152.28 276 **PKPdf 17 20 54.7 -1.2**
SIM Simferopol' 152.57 298 *e*PKIKP **PKPbc 17 21 01.0 -2.0**
SIM *e* 17 21 12.5
SIM pmax pmax
comp=Z,56nm,1.2s
BR131 Keskin Array S 152.87 286 **PKPdf 17 20 55.0 -1.8**
BR131 Keskin Array S 152.87 286 PKIKP **PKPdf 17 20 55.0 -1.8**
BRTR Keskin Array B 152.87 286 PKP **PKPdf 17 20 55.2 -1.6**
comp=Z,2.6nm,0.9s,baz=147,slow=2.9,SNR=9.4
BRTR PKPbc **PKPbc 17 21 02.8 -1.3**
comp=Z,7.8nm,0.6s,baz=134,slow=3.9,SNR=17
BRTR Keskin Array B 152.87 286 PKPdf **PKPdf 17 20 54.5 -2.3**
ILGA Ilgaz 152.91 289 **PKPdf 17 20 55.6 -1.3**
TBLU Trondheim 152.95 349 *ep*PKPdf **PKPbc 17 21 01.9 -1.3**
TBLU IAmb IAmb 17 21 02.0
comp=Z,56nm,0.7s
MTSE Matsula 153.04 331 *e*P **PKPbc 17 21 03.5 0.0**
ANTO Ankara 153.53 286 **PKPdf 17 20 54.7 -3.0**
ANTO Ankara 153.53 286 PKIKP **PKPdf 17 20 54.7 -3.0**
MNK Minsk 153.70 321 *i* PKIKP **PKPdf 17 20 57.2 0.0**
MNK *i* 17 24 54.0
MNK *i* 17 28 01.6
MNK *i* PPP PPP 17 28 22.9
MNK *i* SS SS 17 44 30.7 +4.3
MNK *i* SSS SSS 17 50 22.5
MNK pmax pmax
comp=Z,69nm,1.4s
MNK pmax pmax
comp=E,8.0nm,1.4s
MNK Minsk 153.70 321 *i* PKP **PKPdf 17 20 57.3 0.0**
comp=E,8.0nm,1.4s,baz=241
MNK *i* PKP **PKPdf 17 20 57.3 0.0**
MNK *i* PKP **PKPdf 17 20 57.3 0.0**
comp=Z,69nm,1.4s
MNK *j* SKP 17 23 35.5
MNK *i* PP **PP 17 24 54.0 +1.5**
MNK *i* SKS **SKSdf 17 28 01.6 +0.3**
MNK *i* PPP PPP 17 28 22.9
MNK *i* SKKS **SKKSdf 17 36 42.0 -1.5**
MNK *i* SS **SS 17 44 30.7 +4.3**
MNK *i* SSS SSS 17 50 22.6
MNK *i* LR LR 18 21 42.3
MNK *i* LRM MLR 18 24 44.2
comp=E,5µm,23.7s
MNK *i* LRM MLR 18 24 44.2
MNK *i* LRM MLR 18 24 44.2
comp=Z,57µm,23.7s
MOL Molde 153.98 351 *e*PKPbc **PKPbc 17 21 04.6 -0.9**
MOL IAmb IAmb 17 21 06.0
comp=Z,33nm,0.7s
ISAL Salakas 153.99 324 *e*P **PKPbc 17 21 05.6 -0.1**
NACGM Naroch 154.04 322⇑ *e*PKP **PKPdf 17 20 57.9 +0.1**
baz=58
IIGN Ignalina 154.07 323 *e*P **PKiKP 17 21 06.3 +0.3**
DOMB Dombas 154.28 349 *e* **PKiKP 17 21 06.2 -0.1**
DOMB IAmb IAmb 17 21 06.3
comp=Z,27nm,0.7s
SLIT Slitere, Latvi 154.37 331 *e*P **PKPbc 17 21 02.3 -4.1**
AKN Aaknes 154.43 351 *e*PKPbc **PKiKP 17 21 07.0 +0.5**
AKN IAmb IAmb 17 21 07.1
comp=Z,56nm,0.8s
AKASG Malin Array Be 154.57 312 PKP **PKPdf 17 20 56.4 -2.2**
comp=Z,1.8nm,0.7s,baz=57,slow=1.2,SNR=16
AKASG PKPbc **PKPbc 17 21 06.0 -1.1**
comp=Z,3.5nm,0.5s,baz=52,slow=2.5,SNR=10
AKASG Malin Array Be 154.57 312 **PKPdf 17 20 56.6 -2.0**
AKASG Malin Array Be 154.57 312 PKIKP **PKPdf 17 20 56.6 -2.0**
AKBB Malin Array Si 154.57 312 PKPdf **PKPdf 17 20 56.6 -2.0**
AKBB Malin Array Si 154.57 312 PKIKP **PKPdf 17 20 56.6 -2.0**
NC303 NORSAR Array S 154.65 346 **PKPdf 17 20 58.6 +0.1**
NC405 NORSAR Array S 154.68 346 **PKPdf 17 20 57.2 -1.3**
NC204 NORSAR Array S 154.71 347 **PKPdf 17 20 57.0 -1.6**
VSVD Vaisvydziai 154.76 326 *e*P **PKiKP 17 21 07.5 +0.2**
NB2 NORSAR Subarra 154.85 346 PKP **PKPdf 17 20 57.9 -0.9**
comp=Z,130nm,2.0s,baz=25,slow=2.1
NB2 NORSAR Subarra 154.85 346 PKP **PKPdf 17 20 57.9 -0.9**
baz=25,slow=2.1
NOA NORSAR Array B 154.85 346 PKP **PKPdf 17 20 57.6 -1.2**
comp=Z,9.3nm,1.1s,baz=26,slow=1.6,SNR=13
NOA PKPbc **PKPbc 17 21 06.8 -0.6**
comp=Z,9.7nm,0.8s,baz=34,slow=2.2,SNR=13
NOA PKPab **sPKPbc 17 21 21.6 +0.4**
comp=Z,4.5nm,0.8s,baz=22,slow=3.2,SNR=6.1
NBO00 NORSAR Array S 154.94 346 **PKPdf 17 20 59.0 +0.1**
PABE Paberze 155.03 325 *e*P **PKPdf 17 20 59.5 +0.5**
NC602 NORSAR Array S 155.06 345 **PKPdf 17 20 58.9 -0.1**
NC602 NORSAR Array S 155.06 345 *e*PKPbc PKPdf 17 21 07.2 +8.2
NAO01 NORSAR Array S 155.09 346 **PKPdf 17 20 59.5 +0.4**
HFS Hagfors 155.13 342 PKP **PKPdf 17 20 58.6 -0.5**
comp=Z,5.0nm,1.0s,baz=323,slow=0.7,SNR=3.5
HFS PKPbc **pPKPdf 17 21 07.4 -2.1**
comp=Z,14nm,0.8s,baz=59,slow=3.8,SNR=15
HFS PKPab **PKPab 17 21 22.9 -1.0**
comp=Z,7.0nm,0.6s,baz=40,slow=4.8,SNR=6.1
FOO Floro 155.21 353 *e*PKPbc PKPdf 17 21 08.4 +9.3
FOO IAmb IAmb 17 21 10.0
comp=Z,18nm,0.8s
ELL Elmali 155.37 279 PKPdf **PKPdf 17 20 59.4 -1.0**
ELL Elmali 155.37 279 PKIKP **PKPdf 17 20 59.4 -1.0**
SKAR Skarslia 155.69 349 *e* PKPdf 17 21 09.4 +9.4
TOA0 Torodi Ar. Sit 156.01 186 PKPdf **PKPdf 17 21 01.4 -0.3**
TORD Torodi Ar. Bea 156.01 186 PKP **PKPdf 17 21 01.9 +0.1**
comp=Z,4.2nm,1.0s,baz=178,slow=0.8,SNR=9.8
TORD PKPab **PKPab 17 21 28.7 -0.1**
comp=Z,8.3nm,0.7s,baz=158,slow=3.6,SNR=6.3
TORD Torodi Ar. Bea 156.01 186 PKPdf **PKPdf 17 21 00.7 -1.1**
TLCR 156.28 299 ⇑P **PKPab 17 21 24.5 -4.9**
TLCR 156.28 299 ⇑PKP2 **PKPab 17 21 24.5 -4.9**
TPGR Topolog 156.60 299 ⇓P **PKPab 17 21 26.2 -4.6**
CFR Carcaliu 156.75 299 ⇑P **PKPdf 17 20 59.4 -2.3**
CFR Carcaliu 156.75 299 ⇑PKIKP **PKPdf 17 20 59.4 -2.3**
KOWA Kowa 157.31 172 PKP **PKPdf 17 21 03.7 +0.4**
comp=Z,6.1nm,1.0s,baz=155,slow=5.0,SNR=4.9
KOWA PKPab **PKPab 17 21 33.8 -0.5**
comp=Z,2.7nm,0.5s,baz=220,slow=2.7,SNR=5.0
KOWA Kowa 157.31 172 PKPdf **PKPdf 17 21 01.4 -1.9**
TESR Tescani 157.48 303 ⇑P **PKPab 17 21 32.1 -2.4**
VRI Vrincioaia 157.58 302 ⇑P PKPdf 17 21 13.6 +11
VRI Vrincioaia 157.58 302 ⇑PKIKP PKPdf 17 21 13.6 +11
BIZ Bicaz 157.73 305 ⇑P **PKPdf 17 21 00.7 -2.2**
LVV L'vov 157.98 313 *e*PKIKP **PKPdf 17 21 01.4 -1.7**
BURAR Bucovina Array 158.10 307 ⇑P **PKPdf 17 20 59.5 -4.0**
BURAR Bucovina Array 158.10 307 PKPdf **PKPdf 17 21 02.1 -1.4**
BURAR PKPab **PKPab 17 21 35.6 -1.6**
BURAR Bucovina Array 158.10 307 ⇑PKIKP **PKPdf 17 20 59.5 -4.0**
BUR08 Bucovina Ar. S 158.10 307 PKPdf **PKPdf 17 21 02.5 -1.0**
BUR08 **PKPab 17 21 36.9 -0.4**
MLR Muntele Rosu 158.20 301 ⇑P **PKPdf 17 21 01.3 -2.4**
MLR Muntele Rosu 158.20 301 ⇑PKIKP **PKPdf 17 21 01.3 -2.4**
VOIR 158.83 301 ⇑P **PKPdf 17 21 02.6 -1.8**
VOIR 158.83 301 ⇑PKIKP **PKPdf 17 21 02.6 -1.8**
UZH Uzhgorod 159.52 312 ⇑ *i*PKP2 **PKPab 17 21 42.2 -1.1**
DRGR 159.98 306 ⇑P **PKPdf 17 21 02.3 -3.4**
DRGR 159.98 306 ⇑PKIKP **PKPdf 17 21 02.3 -3.4**
GZR Gura Zlata 160.38 302 ⇑P **PKPdf 17 21 03.9 -2.3**
GZR Gura Zlata 160.38 302 ⇑PKIKP **PKPdf 17 21 03.9 -2.3**
VTS Vitosha 160.66 294 ⇑P **PKPab 17 21 45.8 -2.9**
VTS Vitosha 160.66 294 ⇑PKP2 **PKPab 17 21 45.8 -2.9**
SIRR Siria 160.85 306 ⇑P **PKPdf 17 21 05.9 -0.7**

BLKB Belogradchik 160.89 297 ⇑P **PKPdf 17 21 04.0 -2.7**
LANS Liptovska Anna 160.92 316 *e*PKIKP **PKPdf 17 21 07.5 +0.9**
LANS Liptovska Anna 160.92 316 *e*PKP **PKPdf 17 21 07.5 +0.9**
BZS Buzias 161.09 304 ⇑P **PKPdf 17 20 59.7 -7.2**
BZS Buzias 161.09 304 ⇑PKIKP **PKPdf 17 20 59.7 -7.2**
PSZ Piszkesteto 161.28 312 ⇓P **PKPdf 17 21 05.8 -1.3**
PSZ Piszkesteto 161.28 312 PKPdf **PKPdf 17 21 05.5 -1.5**
PSZ Piszkesteto 161.28 312 ⇓PKIKP **PKPdf 17 21 05.8 -1.3**
MDVR Moldovita 161.28 301 ⇑P **PKPdf 17 21 02.2 -4.9**
MORC Moravsky Berou 161.61 319 ⇓P **PKPdf 17 21 07.0 -0.4**
MORC Moravsky Berou 161.61 319 PKPdf **PKPdf 17 21 06.6 -0.7**
MORC Moravsky Berou 161.61 319 *e*PKP **PKPdf 17 21 06.6 -0.7**
MORC Moravsky Berou 161.61 319 ⇓PKIKP **PKPdf 17 21 07.0 -0.4**
VYHS Vyhne 161.61 314 *e*PKIKP **PKPdf 17 21 06.7 -0.6**
VYHS *e* 17 21 51.8
VYHS Vyhne 161.61 314 *e*PKP **PKPdf 17 21 06.7 -0.6**
VYHS *e* 17 21 51.8
EKA Eskdalemuir Ar 161.72 4 PKPab **PKPab 17 21 51.8 -0.7**
comp=Z,4.1nm,0.7s,baz=338,slow=2.7,SNR=8.7
KRLC Kraliky 161.81 321 *e*PKIKP **PKPdf 17 21 05.8 -1.7**
KRLC *e* 17 21 52.4
KRLC Kraliky 161.81 321 *e*PKPDF **PKPdf 17 21 05.8 -1.7**
KRLC *e*PKPAB **PKPab 17 21 52.4 -0.9**
CHVC Chvalec 161.84 323 *e*PKPDF **PKPdf 17 21 07.8 +0.3**
DPC Dobruska-Polom 161.87 322 *e*PKIKP **PKPdf 17 21 07.4 -0.2**
DPC *e* 17 21 52.7
DPC Dobruska-Polom 161.87 322 *e*PKPDF **PKPdf 17 21 07.4 -0.2**
DPC *e*PKPAB **PKPab 17 21 52.7 -0.8**
JAVC Velka Javorina 162.07 317 *e*PKP **PKPdf 17 21 07.8 -0.1**
VRAC Vranov 162.38 319 PKP **PKPdf 17 21 07.4 -0.6**
comp=Z,3.8nm,0.7s,baz=237,slow=1.1,SNR=1.9
VRAC PKPab **PKPab 17 21 54.6 -1.2**
comp=Z,1.8nm,0.4s,baz=50,slow=3.6,SNR=4.0
VRAC Vranov 162.38 319 *e*PKP **PKPdf 17 21 07.3 -0.8**
FRGS Fruska Gora 162.45 304 ⇑P **PKPdf 17 21 02.7 -5.6**
MODS Modra-Piesok 162.56 316 *e*PKIKP **PKPdf 17 21 08.1 -0.2**
MODS *e* 17 21 56.5
MODS Modra-Piesok 162.56 316 *e*PKP **PKPdf 17 21 08.1 -0.2**
MODS *e* 17 21 56.5
BRG Berggiesshubel 162.61 327 *e*PKP **PKPdf 17 21 08.0 -0.3**
BRG Amp 17 21 09.9
comp=Z,75nm,2.0s
BRG *ex* x 17 21 57.6
BRG Amp 17 21 59.1
comp=Z,23nm,1.6s
BRG Berggiesshubel 162.61 327 *e*PKIKP **PKPdf 17 21 07.9 -0.3**
BRG *e* 17 21 57.6
BRG pmax pmax
comp=Z,75nm,2.1s
BRG pmax pmax
comp=Z,23nm,1.6s
KRUC Moravsky 162.64 319 *e*PKP **PKPdf 17 21 07.2 -1.1**
DIVS Divibare 162.66 300 **PKPdf 17 21 06.6 -2.0**
CLL Collm 162.68 329 **PKPdf 17 21 07.6 -0.7**
CLL Collm 162.68 329 *i* PKIKP **PKPdf 17 21 07.0 -1.3**
CLL *i* 17 21 54.6
CLL pmax pmax
comp=Z,71nm,2.2s
CLL pmax pmax
comp=Z,23nm,1.7s
CLL Collm 162.68 329 *i* PKPdf **PKPdf 17 21 07.0 -1.3**
comp=Z,71nm,2.2s
CLL *i* PKPab **PKPab 17 21 54.6 -2.3**
comp=Z,23nm,1.7s
ZST Bratislava 162.75 316 *e*PKIKP **PKPdf 17 21 08.4 -0.1**
ZST Bratislava 162.75 316 *e*PKP **PKPdf 17 21 08.3 -0.2**
MORH Mrgy, Hungar 162.80 308 ⇑P **PKPdf 17 21 06.8 -1.7**
PRU Pruhonice 162.96 324 *e*PKP2 **PKPab 17 21 57.8 -0.4**
PRU Pruhonice 162.96 324 *e*PKPAB **PKPab 17 21 57.8 -0.4**
RONA Rosalia, Austr 163.48 315 *i* P **PKPdf 17 21 08.5 -0.7**
comp=Z,16nm,1.3s,SNR=7.2
RONA *e*P **PKPab 17 22 00.5 -0.2**
comp=Z,12nm,1.5s
CONA Conrad Observa 163.59 316 *e*P **PKPdf 17 21 08.1 -1.3**
comp=Z,15nm,1.3s
CONA *e*P **PKPab 17 22 00.9 -0.3**
comp=Z,18nm,1.2s
KHC Kasperske Hory 164.01 323 *e*PKIKP **PKPdf 17 21 08.9 -0.8**
KHC *e* 17 22 01.3
KHC Kasperske Hory 164.01 323 *e*PKPDF **PKPdf 17 21 08.9 -0.8**
KHC *e*PKPAB **PKPab 17 22 01.3 -1.6**
GEC2 GERESS Array S 164.14 322 **PKPdf 17 21 09.2 -0.7**
GERES GERESS Array B 164.14 322 PKP **PKPdf 17 21 08.6 -1.3**
comp=Z,1.9nm,1.0s,baz=132,slow=2.0,SNR=11
GERES PKPab **PKPab 17 22 00.8 -2.9**
comp=Z,2.1nm,0.8s,baz=42,slow=4.2,SNR=6.9
GERES GERESS Array B 164.14 322 **PKPdf 17 21 08.8 -1.1**
ARSA Arzberg 164.16 315 *e*P **PKPdf 17 21 09.6 -0.3**
comp=Z,12nm,1.4s
ARSA *e*P **PKPab 17 22 02.7 -0.9**
comp=Z,14nm,1.2s
MOA Molln 164.50 319 *e*P **PKPdf 17 21 09.5 -0.7**
comp=Z,10nm,1.6s
MOA *e*P **PKPab 17 22 03.0 -2.1**
comp=Z,8.1nm,1.3s
SOKA Soboth 164.76 314 *i* P **PKPdf 17 21 10.5 0.0**
comp=Z,16nm,1.4s,SNR=9.8
SOKA *e*P **PKPab 17 22 06.0 -0.4**
comp=Z,12nm,1.3s
BIOA Bad Ischl, Aus 164.93 319 *e*P **PKPdf 17 21 10.5 -0.1**
comp=Z,7.1nm,1.3s
BIOA *e*P **PKPab 17 22 09.1 +2.1**
comp=Z,2.0nm,0.7s
OBKA Obir 165.13 314 *e*P **PKPdf 17 21 11.6 +0.8**
comp=Z,6.8nm,1.1s
OBKA *e*P **PKPab 17 22 08.6 +0.6**
comp=Z,7.0nm,1.2s
KBA Koelnbreinsper 165.47 318 *e*P **PKPdf 17 21 11.5 +0.3**
comp=Z,6.6nm,1.1s
KBA *e*P **PKPab 17 22 08.7 -0.9**
comp=Z,4.7nm,1.0s
MYKA Terra Mystica 165.57 316 *e*P **PKPdf 17 21 11.8 +0.6**
comp=Z,3.7nm,1.0s
BTNL Ternell 165.61 342 *d*PKPdf **PKPdf 17 21 11.9 +0.9**
MEM Membach 165.62 342 *d*PKPdf **PKPdf 17 21 12.2 +1.2**
PRED Cave del Predi 165.73 315 **PKPdf 17 21 11.2 -0.1**
TIP Timpagrande 165.90 284 **PKPdf 17 21 11.0 -0.7**
SABO M.te Sabotino 165.97 314 **PKPdf 17 21 11.6 +0.2**
CLUD Cludinico 166.10 316 **PKPdf 17 21 09.5 -2.0**
ABTA Abfaltersbach 166.12 318 *i* P **PKPdf 17 21 10.5 -1.1**
comp=Z,8.2nm,1.1s,SNR=5.6
ABTA *e*P **pPKPab 17 22 17.8 -4.6**
comp=Z,2.7nm,0.5s
BMRD Maredsous 166.19 344 *d*PKPdf **PKPdf 17 21 12.9 +1.4**
BMRD *d*PKP **PKPab 17 22 11.3 -1.0**
WATA Walderalm 166.21 322 *e*P **PKPdf 17 21 10.9 -0.9**
comp=Z,7.3nm,1.3s
WATA *e*P **pPKPab 17 22 19.1 -3.8**
comp=Z,1.9nm,0.5s
RCHB Rochefort 166.22 343 *d*PKP **PKPdf 17 21 11.1 -0.4**
WTTA Wattenberg 166.23 321 *e*P **PKPdf 17 21 10.6 -1.2**
comp=Z,11nm,1.3s
WTTA *e*P **PKPab 17 22 15.9 +2.9**
comp=Z,9.3nm,1.1s
STAL STALIGIAL 166.31 316 **PKPdf 17 21 10.7 -1.1**
DOU Dourbes 166.42 345 *d*PKPdf **PKPdf 17 21 13.1 +1.5**
CIMO Cimolais 166.43 317 **PKPdf 17 21 09.6 -2.2**
MOTA Moosalm 166.44 323 *e*P **PKPdf 17 21 10.5 -1.5**
comp=Z,13nm,1.2s
MOTA *e*P **PKPab 17 22 17.3 +3.5**
comp=Z,5.5nm,1.0s
WLF Walferdange 166.44 340 *d*PKPdf **PKPdf 17 21 12.2 +0.5**
SQTA Sankt Quirin 166.47 322 *e*P **PKPdf 17 21 11.7 -0.3**
comp=Z,12nm,1.4s
SQTA *e*P **PKPab 17 22 14.0 0.0**
comp=Z,3.0nm,0.7s
RETA Reutte 166.50 324 *e*P **PKPdf 17 21 10.2 -1.7**
comp=Z,5.2nm,1.3s
RETA *e*P **PKPab 17 22 15.7 +1.7**
comp=Z,7.4nm,1.3s
FETA Feichten 166.85 322 *i* P **PKPdf 17 21 11.7 -0.5**
comp=Z,12nm,1.3s,SNR=7.4
FETA *e*P **PKPab 17 22 15.1 -0.5**
comp=Z,4.9nm,1.1s
DAVA Damuels 167.06 325 *e*P **PKPdf 17 21 11.6 -0.8**
comp=Z,5.2nm,0.8s
DAVA *e*P **PKPab 17 22 15.1 -1.4**
comp=Z,5.1nm,0.8s
DAVOX Davos/Dischmat 167.43 324 PKP **PKPdf 17 21 11.4 -1.4**
comp=Z,2.6nm,0.6s,baz=225,slow=2.9,SNR=4.0
DAVOX PKPab **PKPab 17 22 16.6 -1.7**
comp=Z,2.2nm,0.6s,baz=331,slow=0.8,SNR=2.5
LATE Laterza 168.76 303 **PKPdf 17 21 12.5 -1.1**
SENIN Lac Senin/Sane 168.90 329 **PKPdf 17 21 14.1 +0.3**

BNI Bardonecchia 170.20 326 **PKPdf 17 21 14.1 -0.4**
BNI Bardonecchia 170.20 326 PKIKP **PKPdf 17 21 14.1 -0.4**
KEST Kesra 171.58 264 PKP **PKPdf 17 21 15.4 -0.1**
comp=Z,3.8nm,0.8s,baz=315,slow=1.4,SNR=3.5
KEST PKPab **PKPab 17 22 35.9 -1.1**
comp=Z,5.4nm,0.9s,baz=83,slow=5.7,SNR=3.8
MVO Moncorvo 173.79 48 *e*PKPdf **PKPdf 17 21 18.1 +1.9**
MORF Marmelete 173.86 86 *e*PKPdf **PKPdf 17 21 17.9 +1.5**
MORF Marmelete 173.86 86 *e*PKPdf **PKPdf 17 21 17.7 +1.4**
MTE Manteigas 173.90 55 *e*PKPdf **PKPdf 17 21 18.3 +2.0**
PNCL Nicolau / Gran 173.91 78 *e*PKPdf **PKPdf 17 21 18.4 +2.2**
MESJ Messejana 174.18 81 *e*PKPdf **PKPdf 17 21 18.0 +1.7**
MESJ Messejana 174.18 81 *e*PKPdf **PKPdf 17 21 18.3 +2.0**
PCBR Castelo Branco 174.21 60 *e*PKPdf **PKPdf 17 21 17.9 +1.6**
PCVE Castro Verde 174.34 83 *e*PKPdf **PKPdf 17 21 18.5 +2.1**
PBDV Barranco-do-Ve 174.43 87 *e*PKPdf **PKPdf 17 21 15.2 -1.3**
PMRV Marv??o 174.44 64 *e*PKPdf **PKPdf 17 21 16.9 +0.5**
PBEJ Beja 174.44 79 *e*PKPdf **PKPdf 17 21 18.2 +1.8**
PESTR Estremoz 174.48 70 *e*PKPdf **PKPdf 17 21 16.8 +0.4**
PBAR Barrancos 175.06 76 *e*PKPdf **PKPdf 17 21 18.1 +1.5**
PAB San Pablo 176.40 47 **PKPdf 17 21 17.3 +0.3**
PAB San Pablo 176.40 47 ⇓PKIKP **PKPdf 17 21 18.4 +1.4**
ESDC Sonseca Array 176.52 42 PKP **PKPdf 17 21 17.9 +0.8**
comp=Z,3.3nm,1.0s,baz=336,slow=2.2,SNR=14
ESDC PKPab **PKPab 17 22 58.9 +0.3**
comp=Z,4.7nm,1.1s,baz=325,slow=4.0,SNR=8.2
ESDC PP **PP 17 26 50.8 -0.8**
comp=Z,1.7nm,1.1s,baz=352,slow=7.8,SNR=6.4
ESDC Sonseca Array 176.52 42 **PKPdf 17 21 17.4 +0.4**
ESDC **PKPab 17 22 59.1 +0.5**

HVO ***01*** *17:03:35.9±2.0, 19°.83N±0°.04×155°.54W±0°.08, h25*$^{km}_{\pm 3}$*km, ML2.5/9, ML2.5/46(NEIC), Error ellipse: s-maj=12.4km s-min=3.3km az=63.0*

NEIC 01 17:03:33.9±0.8, 19°.83N±0°.06×155°.52W±0°.07, h34$^{km}_{\pm 9}$**km, Error ellipse: s-maj=11.7km s-min=5.2km az=51.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.08**	**189**			Sb	17 03 42.9	-1.3
POHA	**Pohakuloa**	**0.08**	**189**	IAML			17 03 37.9	
	90nm,1.3s							
POHA				IAML			17 03 39.2	
	64nm,2.1s							
POHA						Pb	17 03 39.9	-0.1
HMH	**Humu'ula Sheep**	**0.23**	**172**			Pb	17 03 41.7	+0.3
HMH						Sb	17 03 45.8	-0.5
HMH	**Humu'ula Sheep**	**0.23**	**172**	IAML			17 03 46.0	
	comp=E,325nm,0.9s							
HMH				IAML			17 03 46.0	
	comp=N,809nm,0.4s							
HPAH	**Hawaii Prepara**	**0.26**	**319**			Pb	17 03 41.6	+0.3
HPAH						Sb	17 03 45.6	-0.8
HPAH	**Hawaii Prepara**	**0.26**	**319**	IAML			17 03 45.7	
	comp=E,2µm,0.2s							
HPAH				IAML			17 03 45.8	
	comp=N,2µm,0.2s							
MLOA	**Mauna Loa Obse**	**0.30**	**190**			Pb	17 03 42.7	+0.5
MLOA	**Mauna Loa Obse**	**0.30**	**190**	IAML			17 03 51.2	
	comp=N,237nm,0.3s							
ALEP	**Alea Permanent**	**0.31**	**202**			Pb	17 03 42.6	+0.3
ALEP						Sn	17 03 47.3	0.0
HUH	**Hualalai**	**0.33**	**244**			Pn	17 03 42.8	+0.2
HUH				IAML			17 03 53.2	
	comp=E,554nm,0.5s							
MWH	**Moku'aweowe**	**0.35**	**192**			Pb	17 03 43.0	0.0
MLH	**Mauna Loa**	**0.36**	**160**			Sn	17 03 48.3	-0.3
MLH	**Mauna Loa**	**0.36**	**160**			Pn	17 03 43.2	+0.1
MLH				IAML			17 03 48.9	
	comp=N,344nm,1.3s							
MLH	**Mauna Loa**	**0.36**	**160**	IAML			17 03 46.8	
	comp=E,261nm,3.8s							
KHLU	**Kahalu`u**	**0.43**	**236**			Pb	17 03 43.5	-0.1
KHLU						Sb	17 03 49.0	-1.2
KHLU	**Kahalu`u**	**0.43**	**236**	IAML			17 03 49.3	
	comp=E,540nm,0.2s							
RSD	**Rainshed**	**0.43**	**148**			Pn	17 03 44.3	+0.2
RSD						Sb	17 03 50.2	-0.2
UWE	**Uwekahuna**	**0.46**	**153**			Pn	17 03 44.4	0.0
UWE						Sb	17 03 50.6	-0.6
AIN	**Ainahou**	**0.46**	**173**			Pn	17 03 44.5	+0.1
AIN						Sb	17 03 51.0	-0.2
AIN	**Ainahou**	**0.46**	**173**	IAML			17 03 51.2	
	comp=N,300nm,0.5s							
AIN				IAML			17 03 53.5	
	comp=E,174nm,0.3s							
UWB	**Uwekahuna B**	**0.47**	**151**			Pn	17 03 44.3	-0.1
UWB	**Uwekahuna B**	**0.47**	**151**	IAML			17 03 58.6	
	comp=N,333nm,4.0s							
SBLHI	**Steaming Bluff**	**0.47**	**150**			Pb	17 03 44.3	+0.1
SBLHI						Sb	17 03 50.8	-0.5
SBLHI	**Steaming Bluff**	**0.47**	**150**	IAML			17 03 50.9	
	comp=N,341nm,0.5s							
SBLHI				IAML			17 03 54.9	
	comp=E,246nm,2.3s							
OBL	**Observatory Le**	**0.47**	**152**			Pn	17 03 44.4	-0.1
OBL						Sb	17 03 50.9	-0.4
OBL	**Observatory Le**	**0.47**	**152**	IAML			17 03 53.2	
	comp=N,797nm,0.5s							
OBL				IAML			17 03 53.9	
	comp=E,616nm,0.5s							
WRMHI	**West Rim**	**0.47**	**154**			Pn	17 03 44.4	-0.1
WRMHI	**West Rim**	**0.47**	**154**	IAML			17 03 51.1	
	comp=N,623nm,1.0s							
WRMHI				IAML			17 03 53.0	
	comp=E,716nm,1.0s							
HATHI	**Halema'uma'u T**	**0.48**	**149**			Pn	17 03 44.4	-0.1
HATHI	**Halema'uma'u T**	**0.48**	**149**	IAML			17 03 57.9	
	comp=N,323nm,4.2s							
NPH	**North Pit**	**0.48**	**152**			Pb	17 03 44.4	0.0
NPH	**North Pit**	**0.48**	**152**	IAML			17 04 00.6	
	comp=N,289nm,1.9s							
BYL	**Byron's Ledge**	**0.49**	**150**			Pb	17 03 44.6	+0.1
BYL	**Byron's Ledge**	**0.49**	**150**	IAML			17 03 55.4	
	comp=N,290nm,1.5s							
BYL				IAML			17 03 57.5	
	comp=E,266nm,2.5s							
SDHHI	**Sand Hill**	**0.49**	**154**			Pb	17 03 44.6	+0.1
SDHHI	**Sand Hill**	**0.49**	**154**	IAML			17 04 01.6	
	comp=E,411nm,1.6s							
RIM	**Rim**	**0.49**	**152**			Pb	17 03 44.7	+0.1
RIM				IAML			17 04 02.0	
	comp=E,283nm,1.7s							
KKO	**Keanakako`i**	**0.49**	**151**			Pn	17 03 45.1	+0.3
KKO	**Keanakako`i**	**0.49**	**151**	IAML			17 03 50.9	
	comp=N,459nm,1.4s							
KKO				IAML			17 03 55.6	
	comp=E,365nm,1.7s							
PUH	**Pauahi**	**0.54**	**148**			Pb	17 03 45.2	-0.1
PUH						Sb	17 03 52.0	-1.1
PUH	**Pauahi**	**0.54**	**148**	IAML			17 04 02.4	
	comp=N,278nm,2.4s							
KNHH	**Kane Nui o Ham**	**0.56**	**144**			Pb	17 03 45.7	0.0
HLP	**Hilina Pali**	**0.57**	**160**			Pb	17 03 45.8	0.0
KHU	**Kahuku**	**0.59**	**189**			Pn	17 03 45.8	-0.3
KHU						Sn	17 03 53.4	-1.3
KHU	**Kahuku**	**0.59**	**189**	IAML			17 03 54.8	
	comp=N,391nm,3.0s							
KHU				IAML			17 03 57.2	
	comp=E,372nm,4.0s							
HTC	**Hot Caves**	**0.60**	**169**			Pn	17 03 46.2	+0.1
JOKA	**Jonika Flow**	**0.63**	**129**			Pb	17 03 46.6	-0.1
JOKA						Sn

MXZ				S		Sg	17 04 11.3	-0.3
WMGZ	**Waiomatatini S**	**0.72**	**219**	P		Pn	17 04 07.1	+0.2
WMGZ				S		Sn	17 04 17.5	-0.1
PKGZ	**Pakihiroa**	**0.95**	**229**	P		Pn	17 04 10.3	+0.1
PKGZ				S		Sb	17 04 22.9	+0.9
PUZ	**Puketiti**	**0.99**	**215**	P		Pb	17 04 10.7	+0.6
PUZ				S		Sb	17 04 24.1	+1.0
HAZ	**Te Kaha**	**1.08**	**242**	P		Pn	17 04 12.6	+0.9
HAZ				S		Sn	17 04 26.0	-0.4
TWGZ	**Tauwhareparae**	**1.21**	**221**	P		Pn	17 04 14.3	+0.6
TWGZ				S		Sg	17 04 30.1	-0.4
RUGZ	**Raukumara Rang**	**1.25**	**236**	P		Pg	17 04 15.3	-0.1
CNGZ	**Carnagh Statio**	**1.37**	**207**	P		Pn	17 04 16.6	+0.9
CNGZ				S		Sg	17 04 35.1	-0.3
WIZ	**White Island**	**1.46**	**259**	P		Pb	17 04 17.6	-0.3
MWZ	**Matawai**	**1.57**	**227**	P		Pn	17 04 19.1	+0.4
MWZ				S		Sn	17 04 38.4	-0.4
WHRZ	**Whale Island**	**1.70**	**249**	P		Pn	17 04 21.4	+1.0
RAGZ	**Rawiri**	**1.75**	**225**	P		Pn	17 04 22.0	+0.9
URZ	**Urewera**	**1.79**	**236**	Pn		Pn	17 04 20.9	-0.7
	351nm,0.3s,baz=301,slow=0.4,SNR=13							
URZ				Sn		Sn	17 04 43.3	-0.7
	1µm,0.3s,baz=301,slow=20,SNR=13							
URZ	**Urewera**	**1.79**	**236**	Pn		Pn	17 04 21.9	+0.3
URZ	**Urewera**	**1.79**	**236**	P		Pn	17 04 22.3	+0.8
URZ				S		Sn	17 04 44.2	+0.2
EDRZ	**Edgecumbe**	**1.97**	**244**	P		Pn	17 04 24.8	+0.7
MARZ	**Manawahe**	**1.97**	**248**	P		Pn	17 04 25.4	+1.3
OPRZ	**Ohinepanea**	**2.02**	**253**	P		Pn	17 04 24.8	+0.1
MUGZ	**Murupara**	**2.13**	**235**	P		Pn	17 04 26.8	+0.5
MKRZ	**Makatiti**	**2.18**	**246**	P		Pn	17 04 28.1	+1.1
TARZ	**Mount Tarawera**	**2.19**	**243**	P		Pn	17 04 28.2	+1.0
TGRZ	**Tauranga**	**2.22**	**257**	P		Pn	17 04 27.7	+0.2
RRRZ	**Republican Roa**	**2.23**	**240**	P		Pn	17 04 28.4	+0.7
OMRZ	**Omania**	**2.24**	**247**	P		Pn	17 04 28.6	+0.9
KARZ	**Kaharoa**	**2.30**	**250**	P		Pn	17 04 29.1	+0.5
HLRZ	**Highlands Stat**	**2.31**	**244**	P		Pn	17 04 29.6	+0.8
MTHZ	**Maungataniwha**	**2.32**	**226**	P		Pn	17 04 29.5	+0.6
NGRZ	**Ngongotaha**	**2.37**	**248**	P		Pn	17 04 30.6	+0.9
PRRZ	**Plateau Road**	**2.40**	**238**	P		Pn	17 04 30.4	+0.5
UTU	**Utuhina**	**2.40**	**247**	P		Pn	17 04 31.7	+1.8
HSRZ	**Hossack Road**	**2.41**	**243**	P		Pn	17 04 31.2	+1.1
HRRZ	**Handcock Road**	**2.42**	**241**	P		Pn	17 04 31.0	+0.7
KMRZ	**Kaimai**	**2.49**	**256**	P		Pn	17 04 31.4	+0.2
NMHZ	**Naumai**	**2.51**	**222**	P		Pn	17 04 32.8	+1.3
GRRZ	**Galatos Road**	**2.52**	**244**	P		Pn	17 04 32.7	+1.0
WPRZ	**Whakapapatarin**	**2.56**	**240**	P		Pn	17 04 33.2	+1.0
MRHZ	**Matea Rd**	**2.56**	**231**	P		Pn	17 04 32.6	+0.3
KUZ	**Kuaotunu**	**2.66**	**280**	P		Pn	17 04 34.0	+0.4
BKZ	**Black Stump Fm**	**2.73**	**225**	Pn		Pn	17 04 34.2	-0.4
BKZ	**Black Stump Fm**	**2.73**	**225**	P		Pn	17 04 34.8	+0.2
KUTZ	**Kaahu Road**	**2.79**	**243**	P		Pn	17 04 36.2	+0.9
TOZ	**Tahuroa Road**	**2.81**	**259**	P		Pn	17 04 35.9	+0.3
RITZ	**Rihia Road**	**3.00**	**234**	P		Pn	17 04 39.1	+0.8
GRZ	**Great Barrier**	**3.01**	**289**	P		Pn	17 04 39.5	+1.2
MKAZ	**Moumakai**	**3.06**	**272**	P		Pn	17 04 39.6	+0.6
WIAZ	**Waiheke Island**	**3.12**	**277**	P		Pn	17 04 40.9	+1.0
NTVZ	**North Tongarir**	**3.19**	**234**	P		Pn	17 04 41.1	+0.2
ETAZ	**East Tamaki Re**	**3.26**	**274**	P		Pn	17 04 42.8	+1.1
MBAZ	**Motutapu North**	**3.31**	**277**	P		Pn	17 04 43.9	+1.5
ABAZ	**Army Bay**	**3.39**	**280**	P		Pn	17 04 45.1	+1.5
EPAZ	**Eden Park BICE**	**3.42**	**275**	P		Pn	17 04 45.2	+1.3
HBAZ	**Herne Bay Bore**	**3.43**	**276**	P		Pn	17 04 45.7	+1.7
AWAZ	**Awhitu Peninsu**	**3.48**	**272**	P		Pn	17 04 46.3	+1.6
HIZ	**Hauiti**	**3.50**	**248**	Pn		Pn	17 04 46.0	+0.9
HIZ	**Hauiti**	**3.50**	**248**	P		Pn	17 04 46.7	+1.6
WTAZ	**Waiatarua**	**3.54**	**274**	P		Pn	17 04 47.3	+1.6
RVAZ	**Riverhead Bore**	**3.56**	**277**	P		Pn	17 04 46.1	+0.2
WCZ	**Waipu Caves**	**3.96**	**288**	P		Pn	17 04 51.8	+0.4
DREZ	**Durham Road**	**4.23**	**241**	P		Pn	17 04 58.1	+3.0
KHEZ	**Kahui Hut**	**4.41**	**241**	P		Pn	17 05 01.3	+3.7
OUZ	**Omahuta**	**4.81**	**293**	Pn		Pn	17 05 04.3	+1.2
OUZ	**Omahuta**	**4.81**	**293**	P		Pn	17 05 04.3	+1.2
RPZ	**Rata Peaks**	**8.83**	**221**	Sn		Sn	17 07 24.2	-13
	20nm,0.3s,baz=339,slow=21,SNR=2.5							
STKA	**Stephens Creek**	**31.11**	**269**	P		**P**	**17 10 08.8**	**-0.3**
	5.8nm,0.7s,baz=90,slow=6.1,SNR=4.7							
	5.8nm,0.7s							
STKA	**Stephens Creek**	**31.11**	**269**	P		**P**	**17 10 09.1**	**-0.1**
STKA				IAmb		IAmb	17 10 22.8	
	comp=Z,14nm,1.9s							
COEN	**Coen**	**39.41**	**297**	P		**P**	**17 11 20.2**	**-0.4**
AS31	**Alice Springs**	**40.78**	**276**	P		**P**	**17 11 30.7**	**-1.3**
ASAR	**Alice Springs**	**40.78**	**276**	P		**P**	**17 11 30.7**	**-1.3**
	comp=Z,11nm,0.9s,baz=132,slow=8.6,SNR=3.3							
	comp=Z,11nm,0.9s							
KRVT	**Keravat (AS076**	**41.05**	**316**	P		**P**	**17 11 35.0**	**+0.8**
	comp=Z,50nm,0.8s,baz=152,slow=9.0,SNR=2.0							
	comp=Z,50nm,0.8s							
FORT	**Forrest**	**42.29**	**263**	P		**P**	**17 11 42.6**	**-1.6**
WB2	**Warramunga Arr**	**42.39**	**281**	P		**P**	**17 11 43.9**	**-1.4**
WRAB	**Tennant Creek**	**42.40**	**281**	P		**P**	**17 11 43.7**	**-1.6**
WRAB				IAmb		IAmb	17 11 44.5	
	comp=Z,17nm,0.8s							
WRA	**Warramunga Arr**	**42.40**	**281**	P		**P**	**17 11 43.8**	**-1.5**
	comp=Z,12nm,0.7s,baz=121,slow=7.8,SNR=3.9							
	comp=Z,12nm,0.7s							
WB0	**Warramunga Arr**	**42.46**	**282**	P		**P**	**17 11 44.0**	**-1.8**
KNRA	**Kununurra**	**49.19**	**282**	P		**P**	**17 12 38.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.27**	**277**	P		**P**	**17 12 46.6**	**-0.5**
	comp=Z,6.8nm,0.6s,baz=133,slow=8.1,SNR=1.5							
	comp=Z,6.8nm,0.6s							
H03S2	**Juan Fernandez**	**78.75**	**124**	T		T	18 41 57.6	
	baz=230							
H03S1	**Juan Fernandez**	**78.76**	**124**	T		T	18 41 55.9	
	baz=230							
H03S3	**Juan Fernandez**	**78.77**	**124**	T		T	18 41 54.5	
	baz=230							
H03N3	**Juan Fernandez**	**78.98**	**124**	T		T	18 42 13.8	
	baz=235							
H03N2	**Juan Fernandez**	**78.99**	**124**	T		T	18 42 13.9	
	baz=235							
H03N1	**Juan Fernandez**	**79.00**	**124**	T		T	18 42 07.8	
	baz=235							
KSRS	**Korea Array**	**88.05**	**322**	P		**P**	**17 16 42.3**	**+1.6**
	comp=Z,8.8nm,0.9s,baz=142,slow=5.5,SNR=6.0							
	comp=Z,8.8nm,0.9s							
ARCES	**ARCESS Array B**	**144.63**	**344**	PKP		**PKPab**	**17 23 25.2**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=17,slow=0.9,SNR=2.5							
FINES	**FINESS Array B**	**150.46**	**334**	PKPbc		**PKPbc**	**17 23 40.6**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=70,slow=4.6,SNR=3.9							

*NEIC **01** 17:04:28.9±0.9, 17°.9N±0'.4×68°.78W±0'.03, h162km±17km, Error ellipse: s-maj=55.7km s-min=3.6km az=182.0*
*OSPL **01** 17:04:29.0±1.3, 17°.96N×68°.85W, h180km±17km, ML2.9*
*RSPR **01** 17:04:29.2, 18°.16N×68°.70W, h172km±3km, MD3.3/11*
ISC 01 17:04:29.0±1.9, 17°.9N±0'.2×68°.75W±0'.04, h165km±14km, n47, σ0°65/54, 12C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.71**	**30**	**∥**	***e*P**	**Pn**	**17 04 53.0**	**-0.1**
PCDR	**Punta Cana, DR**	**0.71**	**30**			**Pn**	**17 04 52.9**	**-0.2**
PCDR	**Punta Cana, DR**	**0.71**	**30**	*i*	P	**Pn**	**17 04 53.0**	**-0.1**
PCDR					*e*S	**Sn**	**17 05 11.0**	**-0.7**
PCDR				IAML			17 05 13.5	
	comp=Z,124nm,0.6s							
SDD	**Santo Domingo**	**1.23**	**297**	*i*	P	**Pn**	**17 04 56.9**	**-0.3**
SDD					*e*S	**Sn**	**17 05 16.7**	**-2.1**
IDE	**Isla Desecheo**	**1.31**	**68**	**∥**	***e*P**	**Pn**	**17 04 58.2**	**+0.4**
IDE	**Isla Desecheo**	**1.31**	**68**		***e*S**	**Sn**	**17 05 20.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.57**	**86**	**∥**	***e*P**	**Sn**	**17 05 00.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.57**	**86**		***e*S**	**Sn**	**17 05 25.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.57**	**86**			**Pn**	**17 05 00.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.57**	**86**			**Sn**	**17 05 25.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.57**	**86**	*i*	P	**Pn**	**17 05 00.7**	**+0.3**
CRPR					*e*S	**Sn**	**17 05 25.0**	**+0.5**
CRPR				IAML			17 05 31.6	
	comp=Z,48nm,0.9s							
BANI	**BANI**	**1.60**	**288**	**∥**	***e*P**	**Pn**	**17 05 01.3**	**+0.4**
BANI					*e*S	**Sn**	**17 05 26.4**	**+1.0**
LSP	**Las Mesas**	**1.61**	**80**	**∥**	***e*P**	**Pn**	**17 05 01.1**	**+0.2**
MLPR	**Magueyes Islan**	**1.63**	**87**	**∥**	***e*P**	**Pn**	**17 05 00.6**	**-0.4**
MLPR	**Magueyes Islan**	**1.63**	**87**		***e*S**	**Sn**	**17 05 24.9**	**-0.7**
MLPR	**Magueyes Islan**	**1.63**	**87**			**Pn**	**17 05 00.6**	**-0.4**
MLPR						**Sn**	**17 05 24.9**	**-0.7**
AGPR	**Aguadilla, PR**	**1.66**	**70**	**∥**	***e*P**	**Pn**	**17 05 02.1**	**+0.8**
AGPR	**Aguadilla, PR**	**1.66**	**70**		***e*S**	**Sn**	**17 05 27.1**	**+0.8**
AGPR	**Aguadilla, PR**	**1.66**	**70**			**Pn**	**17 05 02.1**	**+0.8**
AGPR						**Sn**	**17 05 27.1**	**+0.8**
AGPR	**Aguadilla, PR**	**1.66**	**70**	IAML			17 05 28.7	
	comp=N,182nm,0.7s							
AGPR				IAML			17 05 30.4	
	comp=E,131nm,0.4s							
AGPR	**Aguadilla, PR**	**1.66**	**70**	*i*	P	**Pn**	**17 05 01.5**	**+0.2**
AGPR					*e*S	**Sn**	**17 05 26.9**	**+0.7**
AGPR				IAML			17 05 29.4	
	comp=Z,87nm,1.1s							
GBPR	**Guanica, Bosqu**	**1.79**	**87**	**∥**	***e*P**	**Pn**	**17 05 03.3**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.79**	**87**		***e*S**	**Sn**	**17 05 29.2**	**+0.5**
AOPR	**Arecibo Observ**	**1.95**	**77**	**∥**	***e*P**	**Pn**	**17 05 04.8**	**+0.2**
AOPR	**Arecibo Observ**	**1.95**	**77**		***e*S**	**Sn**	**17 05 31.9**	**0.0**
AOPR	**Arecibo Observ**	**1.95**	**77**			**Pn**	**17 05 04.8**	**+0.2**
AOPR						**Sn**	**17 05 31.9**	**0.0**
OBIP	**Obispado Ponce**	**2.05**	**86**	**∥**	***e*P**	**Pn**	**17 05 05.3**	**-0.3**
OBIP	**Obispado Ponce**	**2.05**	**86**			**Pn**	**17 05 05.3**	**-0.3**
OBIP	**Obispado Ponce**	**2.05**	**86**	IAML			17 05 37.4	
	comp=N,44nm,1.5s							
CELP	**Cerrillos**	**2.08**	**85**	**∥**	***e*P**	**Pn**	**17 05 06.1**	**+0.2**
CELP	**Cerrillos**	**2.08**	**85**		***e*S**	**Sn**	**17 05 34.9**	**+0.4**
CELP	**Cerrillos**	**2.08**	**85**			**Pn**	**17 05 06.1**	**+0.2**
CELP						**Sn**	**17 05 34.9**	**+0.4**
CELP	**Cerrillos**	**2.08**	**85**	IAML			17 05 36.5	
	comp=E,71nm,0.3s							
CELP				IAML			17 05 40.3	
	comp=N,70nm,0.5s							
EMPR	**Esperanza - Ma**	**2.19**	**74**	**∥**	***e*P**	**Pn**	**17 05 07.0**	**-0.2**
EMPR	**Esperanza - Ma**	**2.19**	**74**		***e*S**	**Sn**	**17 05 36.3**	**-0.4**
EMPR	**Esperanza - Ma**	**2.19**	**74**			**Pn**	**17 05 07.0**	**-0.2**
EMPR						**Sn**	**17 05 36.3**	**-0.4**
EMPR	**Esperanza - Ma**	**2.19**	**74**	IAML			17 05 36.4	
	comp=N,137nm,1.6s							
SDDR	**Presa de Saban**	**2.64**	**295**	Pn		**Pn**	**17 05 11.9**	**-0.7**
SDDR						**Sn**	**17 05 48.0**	**+1.7**
SDDR				IAML			17 05 51.0	
	comp=N,43nm,0.5s							
SDDR				IAML			17 05 56.2	
	comp=N,42nm,3.5s							
CBYP	**Canovanas**	**2.78**	**82**	**∥**	***e*P**	**Pn**	**17 05 14.3**	**-0.1**
CBYP	**Canovanas**	**2.78**	**82**		***e*S**	**Sn**	**17 05 48.0**	**-1.5**
CBYP	**Canovanas**	**2.78**	**82**			**Pn**	**17 05 14.3**	**-0.1**
CBYP						**Sn**	**17 05 48.0**	**-1.5**
MTP	**Monte Pirata**	**3.05**	**86**	**∥**	***e*P**	**Pn**	**17 05 17.8**	**+0.1**
MTP	**Monte Pirata**	**3.05**	**86**		***e*S**	**Sn**	**17 05 55.6**	**+0.2**
MTP	**Monte Pirata**	**3.05**	**86**			**Pn**	**17 05 17.8**	**+0.1**
MTP				IAML			17 05 58.0	
	comp=N,30nm,0.7s							
MTP	**Monte Pirata**	**3.05**	**86**			**Sn**	**17 05 55.6**	**+0.2**
MTP	**Monte Pirata**	**3.05**	**86**	IAML			17 05 47.3	
	comp=E,29nm,2.4s							
CUPR	**Culebra, Puert**	**3.33**	**82**	Pn		**Pn**	**17 05 20.8**	**-0.2**
CUPR				IAML			17 06 00.6	
	comp=E,17nm,0.6s							
CUPR				IAML			17 06 02.0	
	comp=N,18nm,0.4s							

*NEIC **01** 17:08:00.9±2.1, 37°.23S±0'.07×179°.7E±0'.1, h10km±1km, mb5.3/38, Error ellipse: s-maj=14.3km s-min=11.1km az=57.0*
*WEL **01** 17:08:05.6±1.2, 37°.5±6'×17°.9E±°, h26km±18km, M5.0/19, ML5.2/20, MLv5.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=68.9*
*IDC **01** 17:08:10.8±2.8, 36°.93S×178°.96E, h53km±21km, mb4.6/16, mbtmp4.8/16, ML5.7/1, Error ellipse: s-maj=19.7km s-min=15.9km az=80.0*
*NOU **01** 17:08:11.2, 37°.01S×178°.96E, h38km, mb4.9/12, Off E. Coast of N. Island, N.Z.*
ISC 01 17:08:04.4±1.2, 37°.26S±0'.04×179°.54E±0'.06, h29km±7km, n201, σ1§85/221, mb5.2/33, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.03**	**252**			**Pn**	**17 08 22.3**	**-0.6**
MXZ	**Matakaoa Point**	**1.03**	**252**	P		**Pn**	**17 08 22.4**	**-0.6**
MXZ				S		**Sb**	**17 08 36.1**	**-0.6**
WMGZ	**Waiomatatini S**	**1.06**	**238**	P		**Pb**	**17 08 26.2**	**+2.2**
WMGZ				S		**Sb**	**17 08 41.0**	**+3.4**
PUZ	**Puketiti**	**1.30**	**231**	P		**Pb**	**17 08 30.6**	**+2.3**
PUZ				S		**Sb**	**17 08 47.8**	**+3.1**
PKGZ	**Pakihiroa**	**1.32**	**241**	P		**Pb**	**17 08 29.5**	**+0.8**
PKGZ				S		**Sb**	**17 08 46.6**	**+1.3**
HAZ	**Te Kaha**	**1.48**	**250**	P		**Pb**	**17 08 31.3**	**-0.1**
HAZ				S		**Sb**	**17 08 50.9**	**+1.1**
TWGZ	**Tauwhareparae**	**1.54**	**233**	P		**Pb**	**17 08 33.3**	**+0.9**
TWGZ				S		**Sb**	**17 08 53.9**	**+2.4**
CNGZ	**Carnagh Statio**	**1.62**	**220**	P		**Pb**	**17 08 35.8**	**+2.2**
CNGZ				S		**Sb**	**17 08 58.8**	**+5.2**
RUGZ	**Raukumara Rang**	**1.64**	**244**	P		**Pb**	**17 08 35.1**	**+1.0**
RUGZ				S		**Sb**	**17 08 56.2**	**+1.8**
WIZ	**White Island**	**1.89**	**261**	P		**Pn**	**17 08 32.5**	**-2.3**
WIZ				S		**Sn**	**17 08 57.0**	**-0.6**
MWZ	**Matawai**	**1.92**	**235**	P		**Pb**	**17 08 38.4**	**-0.5**
MWZ				S		**Sn**	**17 08 59.9**	**+1.4**
RIGZ	**Rimuhau**	**2.02**	**224**	P		**Pb**	**17 08 40.2**	**-0.2**
RAGZ	**Rawiri**	**2.09**	**233**	P		**Pb**	**17 08 40.2**	**-1.4**
PRGZ	**Paritu Road**	**2.12**	**218**	P		**Pb**	**17 08 41.8**	**-0.3**
URZ	**Urewera**	**2.17**	**242**	P		**Pb**	**17 08 41.1**	**-1.9**
	2µm,0.4s,baz=301,slow=2.7,SNR=48							
URZ				S		**Sn**	**17 09 06.1**	**+1.5**
	5µm,0.7s,baz=301,slow=0.5,SNR=7.0							
URZ	**Urewera**	**2.17**	**242**	Pn		**Pb**	**17 08 40.8**	**-2.2**
URZ	**Urewera**	**2.17**	**242**	P		**Pb**	**17 08 41.0**	**-2.0**
URZ				S		**Sn**	**17 09 06.0**	**+1.5**
URZ	**Urewera**	**2.17**	**242**	P		**Pb**	**17 08 41.5**	**-1.5**
MHGZ	**Mahia Peninsul**	**2.29**	**214**	P		**Pb**	**17 08 44.1**	**-0.9**
KNZ	**Kokohu**	**2.30**	**219**	P		**Pb**	**17 08 43.2**	**-1.9**
KNZ				S		**Sb**	**17 09 10.0**	**-3.1**
SNGZ	**Shannon Statio**	**2.31**	**228**	P		**Pb**	**17 08 43.0**	**-2.4**
MUGZ	**Murupara**	**2.51**	**240**	P		**Pn**	**17 08 45.7**	**+2.4**
RAHZ	**Arahi**	**2.55**	**229**	P		**Pb**	**17 08 46.8**	**-2.7**
MYRZ	**Mayor Island**	**2.63**	**268**	P		**Pn**	**17 08 43.1**	**-1.9**
MYRZ				S		**Sn**	**17 09 17.0**	**+1.0**
BKZ	**Black Stump Fm**	**3.06**	**231**			**Pn**	**17 08 50.7**	**-0.3**
BKZ	**Black Stump Fm**	**3.06**	**231**	P		**Pn**	**17 08 53.0**	**+2.0**
BKZ	**Black Stump Fm**	**3.06**	**231**	P		**Pn**	**17 08 54.4**	**+3.4**
KUZ	**Kuaotunu**	**3.10**	**278**	P		**Pn**	**17 08 48.4**	**-3.0**
TOZ	**Tahuroa Road**	**3.25**	**260**	P		**Pn**	**17 08 52.1**	**-1.3**
TLZ	**Tolley Road**	**3.35**	**250**	P		**Pn**	**17 08 56.6**	**+1.7**
HIZ	**Hauiti**	**3.91**	**250**	Pn		**Pn**	**17 09 03.5**	**+1.0**
HIZ	**Hauiti**	**3.91**	**250**	P		**Pn**	**17 09 03.3**	**+0.8**
HIZ	**Hauiti**	**3.91**	**250**	P		**Pn**	**17 09 05.1**	**+2.5**
TSZ	**Takapari Road**	**3.96**	**224**	P		**Pn**	**17 09 04.1**	**+0.8**
BFZ	**Birch Farm**	**4.28**	**216**			**Pn**	**17 09 08.1**	**+0.5**
BFZ	**Birch Farm**	**4.28**	**216**	P		**Pn**	**17 09 08.7**	**+1.1**
POWZ	**Post Office Ro**	**4.30**	**222**	P		**Pn**	**17 09 08.1**	**+0.2**
POWZ				S		**Sn**	**17 09 57.1**	**+0.1**
PRWZ	**Pori Road**	**4.31**	**219**	P		**Pn**	**17 09 09.7**	**+1.6**
PRWZ				S		**Sn**	**17 09 59.2**	**+1.8**
WCZ	**Waipu Caves**	**4.38**	**286**	P		**Pn**	**17 09 06.4**	**-2.6**
TIWZ	**Tintock**	**4.52**	**218**	P		**Pn**	**17 09 12.5**	**+1.5**
TIWZ				S		**Sn**	**17 10 03.5**	**+0.9**
MRZ	**Mangatainoka R**	**4.59**	**221**	P		**Pn**	**17 09 11.7**	**-0.2**
MRZ				S		**Sn**	**17 10 03.2**	**-1.1**
OGWZ	**Otaki Gorge**	**4.92**	**222**	P		**Pn**	**17 09 16.2**	**-0.3**
MTW	**Mount Morrison**	**5.00**	**218**	P		**Pn**	**17 09 17.5**	**-0.1**
KIW	**Kapiti Island**	**5.09**	**224**	P		**Pn**	**17 09 18.6**	**-0.2**
TRWZ	**Traveller**	**5.10**	**215**	P		**Pn**	**17 09 18.4**	**-0.5**
CAW	**Cannon Point**	**5.18**	**221**	P		**Pn**	**17 09 20.3**	**+0.3**
PAWZ	**Paruwai Farm**	**5.21**	**216**	P		**Pn**	**17 09 20.7**	**+0.3**
OUZ	**Omahuta**	**5.22**	**291**	Pn		**Pn**	**17 09 18.6**	**-1.9**
OUZ	**Omahuta**	**5.22**	**291**	P		**Pn**	**17 09 18.9**	**-1.6**
MSWZ	**Moikau Station**	**5.32**	**217**			**Pn**	**17 09 21.4**	**-0.5**
MSWZ	**Moikau Station**	**5.32**	**217**	P		**Pn**	**17 09 21.7**	**-0.2**
PLWZ	**Palliser**	**5.44**	**216**	Pn		**Pn**	**17 09 22.6**	**-1.0**
PLWZ	**Palliser**	**5.44**	**216**	P		**Pn**	**17 09 23.0**	**-0.6**
SNZO	**South Karori**	**5.52**	**221**			**Pn**	**17 09 22.4**	**-2.2**
DUWZ	**D'Urville Isla**	**5.63**	**229**	P		**Pn**	**17 09 26.0**	**-0.1**
TCW	**Tory Channel**	**5.68**	**224**	P		**Pn**	**17 09 26.5**	**-0.4**
TUWZ	**Tuamarina**	**6.01**	**224**			**Pn**	**17 09 30.9**	**-0.5**
TUWZ	**Tuamarina**	**6.01**	**224**	P		**Pn**	**17 09 31.0**	**-0.5**
CMWZ	**Cape Campbell**	**6.09**	**221**			**Pn**	**17 09 28.8**	**-3.7**
NNZ	**Nelson**	**6.21**	**229**	Pn		**Pn**	**17 09 33.0**	**-1.1**
NNZ	**Nelson**	**6.21**	**229**	P		**Pn**	**17 09 33.5**	**-0.5**
NNZ						**Sn**	**17 10 42.0**	**-2.0**
BSWZ	**Blackbirch Sta**	**6.25**	**223**	Pn		**Pn**	**17 09 33.9**	**-0.8**
BSWZ	**Blackbirch Sta**	**6.25**	**223**	P		**Pn**	**17 09 34.3**	**-0.3**
BSWZ				S		**Sn**	**17 10 42.3**	**-2.8**
TKNZ	**Takaka Hill**	**6.35**	**232**	P		**Pn**	**17 09 36.4**	**+0.3**
TKNZ				S		**Sn**	**17 10 46.5**	**-1.2**
QRZ	**Quartz Range**	**6.52**	**235**	Pn		**Pn**	**17 09 37.8**	**-0.6**
QRZ	**Quartz Range**	**6.52**	**235**	P		**Pn**	**17 09 38.0**	**-0.4**
QRZ				S		**Sn**	**17 10 48.6**	**-3.1**
MRNZ	**Matariki Terra**	**6.69**	**230**	P		**Pn**	**17 09 40.1**	**-0.6**
MRNZ				S		**Sn**	**17 10 53.8**	**-2.2**
THZ	**Tophouse**	**6.82**	**227**	Pn		**Pn**	**17 09 41.4**	**-1.2**
THZ	**Tophouse**	**6.82**	**227**	P		**Pn**	**17 09 41.6**	**-1.0**
THZ				S		**Sn**	**17 10 56.8**	**-2.5**
KHZ	**Kahutara**	**6.92**	**220**			**Pn**	**17 09 42.0**	**-1.8**
KHZ	**Kahutara**	**6.92**	**220**	P		**Pn**	**17 09 43.4**	**-0.4**
KHZ				S		**Sn**	**17 10 58.5**	**-3.1**
DSZ	**Denniston Nort**	**7.47**	**231**	P		**Pn**	**17 09 50.3**	**-1.2**
DSZ				S		**Sn**	**17 11 10.7**	**-4.6**
GVZ	**Greta Valley S**	**7.57**	**219**	P		**Pn**	**17 09 52.0**	**-0.9**
GVZ				S		**Sn**	**17 11 13.5**	**-4.2**
LTZ	**Lake Taylor**	**7.84**	**223**	Pn		**Pn**	**17 09 55.3**	**-1.3**
LTZ	**Lake Taylor**	**7.84**	**223**	P		**Pn**	**17 09 55.9**	**-0.7**
LTZ				S		**Sn**	**17 11 18.4**	**-6.0**
AMCZ	**Amberley**	**7.92**	**220**	P		**Pn**	**17 09 56.9**	**-0.7**
AMCZ				S		**Sn**	**17 11 21.0**	**-5.1**
OKCZ	**Okains Bay**	**8.13**	**215**	P		**Pn**	**17 09 59.3**	**-1.2**
OKCZ				S		**Sn**	**17 11 26.7**	**-4.7**
MQZ	**McQueen's Vall**	**8.31**	**217**	Pn		**Pn**	**17 10 01.8**	**-1.1**
MQZ	**McQueen's Vall**	**8.31**	**217**	P		**Pn**	**17 10 01.8**	**-1.1**
MQZ				S		**Sn**	**17 11 28.8**	**-6.9**
AKCZ	**Akaroa Harbour**	**8.31**	**215**	P		**Pn**	**17 10 02.9**	**-0.1**
OXZ	**Oxford**	**8.34**	**221**			**Pn**	**17 10 00.7**	**-2.6**
OXZ	**Oxford**	**8.34**	**221**	P		**Pn**	**17 10 01.7**	**-1.7**
RACZ	**Rakaia**	**8.57**	**219**	P		**Pn**	**17 10 04.8**	**-1.8**
WACZ	**Wakanui South**	**8.88

VNA1	**Neumayer--Stat**	**72.25**	**177**	P	P	17 19 32.7	+6.3
KKM	**Kota Kinabalu**	**72.95**	**292**	P	**P**	**17 19 31.6**	**0.0**
KKM				IAmb	IAmb	17 21 05.7	
	comp=Z,81nm,1.6s						
H03S2	**Juan Fernandez**	**78.39**	**124**	T	T	18 46 50.5	
	baz=231						
H03S1	**Juan Fernandez**	**78.40**	**124**	T	T	18 46 52.9	
	baz=231						
H03S3	**Juan Fernandez**	**78.40**	**124**	T	T	18 46 54.3	
	baz=231						
H03N3	**Juan Fernandez**	**78.62**	**123**	T	T	18 46 52.2	
	baz=234						
H03N2	**Juan Fernandez**	**78.62**	**123**	T	T	18 46 58.4	
	baz=234						
H03N1	**Juan Fernandez**	**78.63**	**123**	T	T	18 46 55.7	
	baz=234						
PLCA	**Paso Flores**	**79.32**	**133**	P	P	17 20 15.1	+7.6
	comp=Z,3.6nm,1.0s,baz=203,slow=3.0,SNR=5.3						
	comp=Z,3.6nm,1.0s						
PLCA	**Paso Flores**	**79.32**	**133**	P	**P**	**17 20 10.0**	**+2.5**
GO06	**Curarrehue**	**79.52**	**132**	P	**P**	**17 20 04.8**	**-3.9**
MJAR	**Matsushiro Arr**	**82.81**	**328**	P	**P**	**17 20 26.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=136,slow=6.1,SNR=2.8						
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**88.33**	**321**	P	**P**	**17 20 54.3**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=142,slow=5.3,SNR=5.0						
	comp=Z,2.0nm,0.9s						
PETK	**Petropavlovsk-**	**91.97**	**347**	P	**P**	**17 21 10.5**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=120,slow=5.4,SNR=7.7						
	comp=Z,2.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.78**	**290**	P	**P**	**17 21 20.4**	**+1.4**
	comp=Z,2.3nm,0.6s,baz=140,slow=3.8,SNR=14						
	comp=Z,2.3nm,0.6s						
PZH	**PanZhiHua**	**96.69**	**298**	P	**P**	**17 21 34.1**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**99.54**	**315**	*e*P	**Pdif**	**17 21 47.2**	**+2.5**
HHC				pmax	pmax		
	comp=Z,28nm,0.7s						
WMQ	**Urumqi**	**115.75**	**307**	*e*P	**PKiKP**	**17 26 45.6**	**+1.8**
U54A	**Nelsons Funny**	**116.98**	**63**		**PKPdf**	**17 26 42.9**	**-3.5**
MKAR	**Makanchi Array**	**120.47**	**308**	PKP	**PKiKP**	**17 26 53.5**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=103,slow=3.1,SNR=7.5						
MKAR	**Makanchi Array**	**120.47**	**308**		**PKPdf**	**17 26 50.6**	**-2.1**
P57A	**Homestead Farm**	**120.99**	**62**		**PKPdf**	**17 26 52.2**	**-1.7**
ZALV	**Zalesovo Beam**	**121.67**	**316**	PKP	**PKiKP**	**17 26 55.4**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=107,slow=0.8,SNR=3.7						
KURK	**Kurchatov**	**124.15**	**311**		**PKPdf**	**17 26 59.8**	**+0.2**
KKAR	**Karatay Array**	**126.94**	**300**		**PKiKP**	**17 27 06.1**	**+0.3**
KMBO	**Kilima Mbogo**	**128.27**	**231**	PKP	**PKiKP**	**17 27 11.1**	**+1.5**
	comp=Z,3.5nm,0.9s,baz=103,slow=3.1,SNR=4.5						
SPA0	**Spitsbergen Ar**	**138.36**	**355**	*e*PKPdf	**PKiKP**	**17 27 28.6**	**+0.8**
SPA0				IAmb	IAmb	17 27 57.1	
	comp=Z,171nm,2.0s						
SPITS	**Spitsbergen Ar**	**138.36**	**355**	PKP	**PKiKP**	**17 27 27.7**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=90,slow=6.0,SNR=8.0						
ARA0	**ARCESS Array S**	**144.74**	**345**	*e*PKPbc	**PKPdf**	**17 27 38.1**	**+0.7**
ARCES	**ARCESS Array B**	**144.74**	**345**	PKP	**PKPdf**	**17 27 37.9**	**+0.5**
	comp=Z,4.8nm,0.7s,baz=34,slow=2.1,SNR=24						
KLMR	**Klimovskoe**	**145.58**	**326**	*e*	**PKPdf**	**17 27 37.7**	**-1.3**
KLMR				AMP		17 27 40.9	
	comp=Z,32nm,1.5s						
KTK1	**Kautokeino**	**145.64**	**345**	*e*PKPbc	**PKPab**	**17 27 40.8**	**+1.2**
KTK1				IAmb	IAmb	17 28 17.3	
	comp=Z,602nm,3.0s						
TRO	**Tromso**	**145.91**	**348**	*e*PKPdf	**PKPab**	**17 27 41.5**	**+1.0**
KBZ	**Khabaz**	**146.70**	**295**	PKPbc	**PKPab**	**17 27 45.1**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=104,slow=9.3,SNR=3.6						
STEI	**Steigen**	**148.04**	**349**	PKPbc	**PKiKP**	**17 27 48.0**	**+0.1**
FAUS	**Fauske**	**148.53**	**348**	*e*pPKPdf	**PKiKP**	**17 27 48.9**	**0.0**
DBIC	**Dimbokro**	**149.29**	**171**	PKPbc	**PKPab**	**17 27 54.9**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=180,slow=4.0,SNR=2.9						
KONS	**Konsvik**	**149.68**	**349**	*e*PKPbc	**PKiKP**	**17 27 52.4**	**+1.1**
KONS				IAmb	IAmb	17 27 53.5	
	comp=Z,87nm,1.4s						
STOK	**Stokkvaagen**	**149.85**	**349**	*e*pPKPdf	**PKiKP**	**17 27 51.7**	**+0.1**
FINES	**FINESS Array B**	**150.65**	**334**	PKPbc	**PKiKP**	**17 27 54.1**	**+0.7**
	comp=Z,13nm,0.7s,baz=40,slow=4.5,SNR=29						
FINES	**FINESS Array B**	**150.65**	**334**		**PKPdf**	**17 27 54.0**	**+0.6**
BNN	**Bunyan**	**151.48**	**284**		**PKPdf**	**17 27 47.0**	**-2.4**
TBLU	**Trondheim**	**153.16**	**349**	*e*PKPdf	**PKPdf**	**17 27 51.0**	**0.0**
BRTR	**Keskin Array B**	**153.29**	**286**	PKPbc	**PKiKP**	**17 27 59.9**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=165,slow=4.8,SNR=5.2						
DOMB	**Dombas**	**154.49**	**350**	*e*PKPdf	**PKPdf**	**17 27 54.8**	**+1.8**
AKASG	**Malin Array Be**	**154.96**	**312**	PKPbc	**PKiKP**	**17 28 03.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=59,slow=2.7,SNR=5.1						
NB2	**NORSAR Subarra**	**155.08**	**346**	PKP	PKPdf	17 28 05.7	+12
	comp=Z,1.0nm,0.8s,baz=24,slow=2.2						
NB2	**NORSAR Subarra**	**155.08**	**346**	*e*	PKPdf	17 28 05.7	+12
	baz=24,slow=2.2						
NOA	**NORSAR Array B**	**155.08**	**346**	PKPbc	PKPdf	17 28 03.9	+10
	comp=Z,1.3nm,0.7s,baz=34,slow=2.1,SNR=3.4						
NC602	**NORSAR Array S**	**155.30**	**346**	*e*PKPdf	**PKPdf**	**17 27 56.7**	**+2.6**
HFS	**Hagfors**	**155.38**	**343**	PKPbc	PKPdf	17 28 05.3	+11
	comp=Z,2.5nm,0.8s,baz=327,slow=2.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	**155.91**	**185**	PKP	**PKPdf**	**17 28 00.8**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=218,slow=0.0,SNR=3.1						
TORD				PKPab	**pPKPab**	**17 28 28.3**	**-3.4**
	comp=Z,3.1nm,0.8s,baz=187,slow=3.5,SNR=6.8						
GERES	**GERESS Array B**	**164.50**	**323**	PKPab	**PKPab**	**17 29 00.9**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=7.6,slow=3.0,SNR=4.0						
ESDC	**Sonseca Array**	**176.34**	**48**	PKPab	**PKPab**	**17 29 56.5**	**+3.9**
	comp=Z,0.1nm,0.5s,baz=349,slow=1.8,SNR=3.1						

*NEIC **01** 17:08:58.8±1.1,37.3S±0.1×179.7E±0.1,h10km±2km, mb4.7/6, Error ellipse: s-maj=21.2km s-min=17.7km az=3.0*
*IDC **01** 17:08:59.9±2.2,36.71S×178.96E,h0km,mb4.6/5, mbtmp4.6/6, Error ellipse: s-maj=65.2km s-min=38.8km az=143.0*
ISC 01 17:08:58.8±1.2,**37.33S**±0.1×**179.6E**±0.1,**h10**km,**n27,** σ1§**33**/26,**mb4.6/7,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.03**	**257**	Pn	**Pb**	**17 09 19.3**	**+0.7**
URZ	**Urewera**	**2.15**	**244**	Pn	**Pn**	**17 09 37.0**	**+2.2**
	2μm,0.9s,baz=301,slow=22,SNR=0.8						
URZ				Sn	**Sn**	**17 10 01.1**	**-0.4**
	127nm,0.3s,baz=301,slow=16,SNR=0.8						
BFZ	**Birch Farm**	**4.23**	**217**	Pn	Pn	17 09 57.2	-6.1
BFZ	**Birch Farm**	**4.23**	**217**	S	Pn	17 09 56.7	-6.6
OUZ	**Omahuta**	**5.26**	**292**	Pn	**Pn**	**17 10 18.5**	**+1.1**
MSWZ	**Moikau Station**	**5.28**	**218**	Pn	**Pn**	**17 10 18.6**	**+1.0**
PLWZ	**Palliser**	**5.39**	**217**	Pn	**Pn**	**17 10 20.8**	**+1.5**
SNZO	**South Karori**	**5.48**	**222**	Pn	**Pn**	**17 10 21.2**	**+0.8**
TUWZ	**Tuamarina**	**5.98**	**225**	Pn	**Pn**	**17 10 28.6**	**+1.3**
NNZ	**Nelson**	**6.17**	**229**	Pn	**Pn**	**17 10 30.8**	**+0.8**
KHZ	**Kahutara**	**6.88**	**220**	Pn	**Pn**	**17 10 40.2**	**+0.6**
LTZ	**Lake Taylor**	**7.80**	**223**	Pn	**Pn**	**17 10 52.5**	**+0.1**
RPZ	**Rata Peaks**	**9.09**	**223**	Pn	**Pn**	**17 11 08.7**	**-1.3**
	2.9nm,0.3s,baz=46,slow=6.4,SNR=2.1						
RPZ				Sn	Sn	17 12 41.7	-11
	baz=113,slow=21						
STKA	**Stephens Creek**	**31.57**	**268**	P	**P**	**17 15 20.4**	**-1.1**
	4.8nm,0.8s,baz=106,slow=7.4,SNR=1.9						
	4.8nm,0.8s						
COEN	**Coen**	**39.85**	**296**	P	**P**	**17 16 31.1**	**-1.6**
ASAR	**Alice Springs**	**41.25**	**276**	P	**P**	**17 16 41.8**	**-2.4**
	8.9nm,0.7s,baz=119,slow=8.0,SNR=1.1						
	8.9nm,0.7s						
WB2	**Warramunga Arr**	**42.86**	**281**	P	**P**	**17 16 56.9**	**-0.5**
WB2				IAmb	IAmb	17 18 04.1	
	comp=Z,61nm,1.6s						
WRAB	**Tennant Creek**	**42.87**	**281**	P	**P**	**17 16 57.0**	**-0.4**
WRAB				IAmb	IAmb	17 16 57.6	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**42.87**	**281**	P	**P**	**17 16 54.8**	**-2.6**
	comp=Z,8.9nm,0.7s,baz=124,slow=7.3,SNR=2.2						
	comp=Z,8.9nm,0.7s						
WRA	**Warramunga Arr**	**42.87**	**281**	P	**P**	**17 16 57.4**	**-0.1**
WRA				IAmb	IAmb	17 18 09.4	
	comp=Z,3.1nm,0.8s						
WB0	**Warramunga Arr**	**42.92**	**281**	P	**P**	**17 16 57.5**	**-0.4**
KNRA	**Kununurra**	**49.65**	**282**	P	**P**	**17 17 50.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.74**	**277**	P	**P**	**17 17 57.4**	**-1.7**
	comp=Z,12nm,0.8s,baz=138,slow=6.4,SNR=2.3						
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.83**	**290**	P	**P**	**17 22 17.9**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=162,slow=3.1,SNR=1.6						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**120.54**	**308**	PKP	**PKPdf**	**17 27 49.7**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=85,slow=3.3,SNR=1.8						
ARCES	**ARCESS Array B**	**144.82**	**345**	PKP	**PKPdf**	**17 28 36.6**	**+1.7**
	comp=Z,5.6nm,0.9s,baz=36,slow=3.4,SNR=1.4						

FINES	**FINESS Array B**	**150.72**	**334**	PKPbc	**PKiKP**	**17 28 51.3**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=51,slow=4.4,SNR=1.8						

*IDC **01** 17:10:38.5±2.8,37.05S×178.65E,h0km,mb4.4/4, mbtmp4.4/4, Error ellipse: s-maj=66.3km s-min=30.5km az=127.0*
*WEL **01** 17:10:43.1±1.2,37.5S±5.5×17.9E±.*,*h17km±5km, M4.4/7, ML4.6/12, MLv4.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=97.7*
ISC 01 17:10:39.6±2.1,**37.29S**±0.05×**178.93E**±0.08,**h17**km±10km, **n51,**σ1§**27**/60,**mb4.3**/4,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.57**	**242**	P	**Pb**	**17 10 51.8**	**+0.7**
MXZ				S	**Sg**	**17 10 59.1**	**+0.6**
WMGZ	**Waiomatatini S**	**0.67**	**218**	P	**Pn**	**17 10 54.7**	**+0.4**
WMGZ				S	**Sn**	**17 11 04.5**	**+0.1**
PKGZ	**Pakihiroa**	**0.90**	**229**	P	**Pn**	**17 10 57.9**	**+0.3**
PKGZ				S	**Sb**	**17 11 10.1**	**+1.5**
PUZ	**Puketiti**	**0.94**	**214**	P	**Pn**	**17 10 58.7**	**+0.5**
PUZ				S	**Sb**	**17 11 11.1**	**+1.3**
HAZ	**Te Kaha**	**1.02**	**243**	P	**Pn**	**17 11 00.3**	**+1.0**
HAZ				S	**Sg**	**17 11 11.8**	**-1.1**
TWGZ	**Tauwhareparae**	**1.16**	**220**	P	**Pg**	**17 11 02.3**	**+0.3**
TWGZ				S	**Sb**	**17 11 17.2**	**+1.1**
RUGZ	**Raukumara Rang**	**1.20**	**236**	P	**Pg**	**17 11 03.1**	**+0.2**
RUGZ				S	**Sb**	**17 11 14.5**	**-2.9**
CNGZ	**Carnagh Statio**	**1.32**	**206**	P	**Pb**	**17 11 04.3**	**+0.3**
CNGZ				S	**Sg**	**17 11 23.0**	**+0.7**
WIZ	**White Island**	**1.41**	**260**	P	**Pg**	**17 11 06.0**	**-0.8**
WHRZ	**Whale Island**	**1.65**	**250**	P	**Pb**	**17 11 09.5**	**-0.2**
URZ	**Urewera**	**1.73**	**236**	Pn	**Pb**	**17 11 10.3**	**-0.7**
	184nm,0.3s,baz=121,slow=5.2,SNR=1.9						
URZ				Sn	**Sn**	**17 11 31.6**	**+0.8**
	199nm,0.3s,baz=121,slow=23,SNR=6.3						
URZ	**Urewera**	**1.73**	**236**	P	**Pb**	**17 11 10.3**	**-0.7**
URZ				S	**Sn**	**17 11 31.9**	**+1.1**
EDRZ	**Edgecumbe**	**1.92**	**244**	P	**Pn**	**17 11 12.9**	**+1.2**
OPRZ	**Ohinepanea**	**1.97**	**253**	P	**Pn**	**17 11 12.9**	**+0.7**
MUGZ	**Murupara**	**2.08**	**235**	P	**Pn**	**17 11 14.6**	**+0.8**
MKRZ	**Makatiti**	**2.13**	**246**	P	**Pb**	**17 11 16.5**	**-1.4**
LIRZ	**Lichensteins R**	**2.14**	**250**	P	**Pn**	**17 11 16.0**	**+1.4**
RRRZ	**Republican Roa**	**2.18**	**241**	P	**Pn**	**17 11 16.4**	**+1.2**
OMRZ	**Omania**	**2.19**	**247**	P	**Pn**	**17 11 16.8**	**+1.5**
KARZ	**Kaharoa**	**2.25**	**250**	P	**Pn**	**17 11 17.3**	**+1.1**
HLRZ	**Highlands Stat**	**2.26**	**244**	P	**Pn**	**17 11 17.6**	**+1.4**
NGRZ	**Ngongotaha**	**2.32**	**249**	P	**Pn**	**17 11 18.6**	**+1.5**
UTU	**Utuhina**	**2.34**	**247**	P	**Pb**	**17 11 19.9**	**-1.6**
KMRZ	**Kaimai**	**2.44**	**256**	P	**Pn**	**17 11 19.5**	**+0.8**
GRRZ	**Galatos Road**	**2.47**	**244**	P	**Pn**	**17 11 20.6**	**+1.4**
MRHZ	**Matea Rd**	**2.51**	**231**	P	**Pn**	**17 11 20.3**	**+0.5**
KUZ	**Kuaotunu**	**2.63**	**281**	P	**Pn**	**17 11 22.5**	**+1.2**
BKZ	**Black Stump Fm**	**2.68**	**225**	P	**Pn**	**17 11 22.5**	**+0.4**
KUTZ	**Kaahu Road**	**2.73**	**243**	P	**Pn**	**17 11 23.8**	**+1.0**
TOZ	**Tahuroa Road**	**2.76**	**260**	P	**Pn**	**17 11 24.1**	**+1.0**
GRZ	**Great Barrier**	**2.98**	**289**	P	**Pn**	**17 11 28.0**	**+1.9**
MKAZ	**Moumakai**	**3.02**	**272**	P	**Pn**	**17 11 28.1**	**+1.5**
TMVZ	**Te Maari**	**3.13**	**233**	P	**Pn**	**17 11 28.7**	**+0.4**
NTVZ	**North Tongarir**	**3.13**	**234**	P	**Pn**	**17 11 28.9**	**+0.5**
ETAZ	**East Tamaki Re**	**3.22**	**275**	P	**Pn**	**17 11 31.1**	**+1.7**
MBAZ	**Motutapu North**	**3.27**	**278**	P	**Pn**	**17 11 32.5**	**+2.3**
TWVZ	**Taurewa**	**3.27**	**236**	P	**Pn**	**17 11 31.3**	**+1.0**
ABAZ	**Army Bay**	**3.36**	**281**	P	**Pn**	**17 11 33.3**	**+2.0**
EPAZ	**Eden Park BICE**	**3.38**	**276**	P	**Pn**	**17 11 33.9**	**+2.3**
HBAZ	**Herne Bay Bore**	**3.39**	**276**	P	**Pn**	**17 11 34.1**	**+2.4**
AWAZ	**Awhitu Peninsu**	**3.43**	**273**	P	**Pn**	**17 11 34.6**	**+2.2**
HIZ	**Hauiti**	**3.45**	**248**	P	**Pn**	**17 11 34.4**	**+1.8**
RVAZ	**Riverhead Bore**	**3.52**	**277**	P	**Pn**	**17 11 34.6**	**+1.0**
WCZ	**Waipu Caves**	**3.93**	**289**	P	**Pn**	**17 11 40.3**	**+1.0**
RPZ	**Rata Peaks**	**8.78**	**221**	Sn	Sn	17 14 11.5	-13
	4.1nm,0.3s,baz=47,slow=19,SNR=2.1						
STKA	**Stephens Creek**	**31.07**	**269**	P	**P**	**17 16 56.6**	**-0.4**
	4.2nm,0.9s,baz=106,slow=17,SNR=2.9						
	4.2nm,0.9s						
ASAR	**Alice Springs**	**40.75**	**276**	P	**P**	**17 18 18.6**	**-1.3**
	5.2nm,0.8s,baz=125,slow=7.1,SNR=3.4						
	5.2nm,0.8s						
WRA	**Warramunga Arr**	**42.37**	**281**	P	**P**	**17 18 32.2**	**-0.9**
	3.6nm,0.7s,baz=123,slow=7.6,SNR=2.9						
	3.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.23**	**277**	P	**P**	**17 19 35.0**	**0.0**
	2.3nm,0.6s,baz=143,slow=5.1,SNR=1.4						
	2.3nm,0.6s						
ARCES	**ARCESS Array B**	**144.65**	**344**	PKP	**PKPdf**	**17 30 15.0**	**+0.7**
	2.7nm,0.8s,baz=46,slow=2.6,SNR=1.9						
FINES	**FINESS Array B**	**150.47**	**334**	PKPbc	**PKiKP**	**17 30 29.7**	**-0.5**
	1.5nm,0.8s,baz=48,slow=2.1,SNR=2.4						

*NNC **01** 17:11:15.1±5.5,38.80N×72.21E,h0km,mb4.3,mpv3.8, Error ellipse: s-maj=54.8km s-min=24.7km az=158.0*
*KRNET **01** 17:11:16.5±0.1,39.10N×72.21E,h9km,mb3.7*
ISC 01 17:11:17.1±2.0,**39.15N**±0.08×**72.23E**±0.05,**h7**km±13km, **n9,** σ2§**16**/17,**10C-8D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.47**	**315**	⇑*i*P	**Pg**	**17 11 26.1**	**-0.2**
DRK				⇑*i*S	**Sg**	**17 11 33.6**	**+1.0**
	baz=21						
BTK	**Batken**	**1.42**	**310**	⇑*i*P	**Pg**	**17 11 44.1**	**-0.3**
	baz=12						
BTK				⇑*i*S	**Sg**	**17 12 04.0**	**+1.1**
	baz=12						
OHH	**Osh**	**1.44**	**17**	⇓*i*P	**Pb**	**17 11 44.8**	**+0.4**
	baz=17						
OHH				⇓*i*S	**Sg**	**17 12 05.7**	**+2.2**
	baz=17						
GAR	**Garm**	**1.50**	**265**	⇓*i*P	**Pb**	**17 11 44.5**	**-0.8**
	baz=67						
GAR				⇓*i*S	**Sg**	**17 12 04.9**	**-0.3**
	baz=67						
TRKS	**Terek-Say**	**2.52**	**341**	⇑*i*P	**Pb**	**17 12 00.9**	**-2.0**
	baz=42						
TRKS				⇑*i*S	**Sb**	**17 12 32.9**	**-1.3**
	baz=42						
KK31	**Karatay Array**	**4.16**	**342**	⇑Pn	**Pn**	**17 12 24.4**	**+3.3**
	15nm,0.4s,baz=147,slow=12,SNR=69						
KK31				⇑Sn	**Sb**	**17 13 18.6**	**-2.6**
	25nm,0.8s,baz=160,slow=29,SNR=4.8						
TKM2	**Tokmak 2**	**4.55**	**33**	⇑Pn	**Pn**	**17 12 29.6**	**+3.0**
	6.5nm,0.9s						
TKM2				⇓Pg	**Pg**	**17 12 42.5**	**-1.8**
	12nm,0.6s						
TKM2				⇓Sn	**Sb**	**17 13 28.7**	**-3.9**
	13nm,0.8s						
TKM2				⇓Lg	Lg	17 13 45.6	
	14nm,0.8s						
AB31	**Akbulak array**	**13.39**	**323**	⇓P	**Pn**	**17 14 26.5**	**-1.1**
	1.9nm,0.6s,baz=130,slow=12,SNR=25						
AKTO	**Aktyubinsk**	**15.11**	**323**	⇑P	**P**	**17 14 57.4**	**+1.2**
	8.9nm,0.8s						

*IDC **01** 17:11:43.5±2.9,36.66S×179.07E,h0km,mb4.4/3, mbtmp4.4/4,ML4.5/1, Error ellipse: s-maj=70.7km s-min=43.8km az=133.0*
ISC 01 17:11:44.0±3.1,**36.9S**±0.5×**179.6E**±0.5,**h35**km,**n7,** σ2§**17**/5,**mb4.4**/3,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**2.39**	**234**	Pn	**Pn**	**17 12 21.8**	**+1.2**
	139nm,0.3s,baz=121,slow=0.8,SNR=1.6						
URZ				Sn	**Sn**	**17 12 47.0**	**-1.8**
	89nm,0.3s,baz=121,slow=22,SNR=8.6						
	514nm,0.4s						
RPZ	**Rata Peaks**	**9.43**	**221**	Sn	Sn	17 15 28.1	-14
	baz=86,slow=19						
ASAR	**Alice Springs**	**41.20**	**275**	P	P	17 19 27.0	+1.6
	5.9nm,0.8s,baz=117,slow=7.3,SNR=5.5						
	5.9nm,0.8s						
WRA	**Warramunga Arr**	**42.78**	**281**	P	P	17 19 39.4	+1.1
	4.0nm,0.9s,baz=124,slow=7.4,SNR=4.2						
	4.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**50.68**	**276**	P	**P**	**17 20 41.1**	**+1.0**
	5.3nm,0.9s,baz=139,slow=9.3,SNR=3.6						
	5.3nm,0.9s						
ARCES	**ARCESS Array B**	**144.37**	**345**	PKP	**PKiKP**	**17 31 18.9**	**0.0**
	2.3nm,0.8s,baz=16,slow=3.9,SNR=2.3						
FINES	**FINESS Array B**	**150.31**	**334**	PKPbc	**PKPab**	**17 31 34.9**	**-2.0**
	2.9nm,0.9s,baz=56,slow=5.5,SNR=2.6						

ROM 01 17:13:20.3±0.1,**42.795N**±0.003×**13.225E**±0.006, **h10**km,**ML1.7/5,3C, Error ellipse: s-maj=0.5km s-min=0.2km az=74.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**337**	P	Pg	17 13 22.5	+0.1
T1242				S	Sg	17 13 23.7	-0.3
T1242				AML	AML		
	comp=E,604μm,0.1s						
T1242				AML	AML		
	comp=N,502μm,0.2s						
T1242				AML	AML		
	comp=E,886μm,0.3s						
T1242				AML	AML		
	comp=N,1135μm,0.4s						
T1242				AML	AML		
	comp=N,1165μm,0.4s						
T1242				AML	AML		
	comp=E,916μm,0.3s						
T1244	**Arquata del Tr**	**0.07**	**125**	P	Pg	17 13 22.9	+0.3
T1244				S	Sg	17 13 24.6	+0.3
T1202	**Accumoli, Fraz**	**0.09**	**180**	⇑P	Pg	17 13 23.4	+0.4
T1202				S	Sg	17 13 25.3	+0.5
MC2	**Monte Cornacci**	**0.12**	**348**	⇑P	Pg	17 13 23.9	+0.5
MC2				S	Sg	17 13 26.3	+0.6
MMO1	**Montemonaco**	**0.13**	**36**	⇑P	Pg	17 13 24.0	+0.6
MMO1				S	Sg	17 13 26.4	+0.8
MMO1				AML	AML		
	comp=E,98μm,0.4s						
MMO1				AML	AML		
	comp=N,137μm,1.0s						
MMO1				AML	AML		
	comp=N,1825μm,0.3s						
MMO1				AML	AML		
	comp=E,1845μm,0.2s						
T1204	**Amatrice, Fraz**	**0.14**	**150**	P	Pg	17 13 24.1	+0.5
T1204				S	Sg	17 13 26.7	+0.8
SMA1	**SAN MARTINO**	**0.18**	**154**	P	Pg	17 13 24.8	+0.5
SMA1				S	Sg	17 13 27.9	+0.9
SMA1				AML	AML		
	comp=E,75μm,0.6s						
SMA1				AML	AML		
	comp=N,68μm,1.6s						
T1243	**Rocca Santa Ma**	**0.19**	**121**	P	Pg	17 13 24.9	+0.5
T1243				S	Sg	17 13 28.2	+0.9
FDMO	**Fiordimonte**	**0.26**	**337**	P	Pg	17 13 26.2	+0.6
FDMO				S	Sb	17 13 30.7	-0.9
FDMO				AML	AML		
	comp=E,271μm,0.2s						
FDMO				AML	AML		
	comp=N,254μm,1.0s						
T1215	**Vallo di Nera,**	**0.26**	**272**	P	Pg	17 13 26.2	+0.6
T1215				S	Sg	17 13 30.4	+1.1
RM33	**Pellescritta (**	**0.29**	**181**	P	Pg	17 13 26.8	+0.7
RM33				S	Sb	17 13 31.4	-1.0
TERO	**Teramo**	**0.33**	**122**	P	Pg	17 13 27.3	+0.4
TERO				AML	AML		
	comp=E,84μm,1.4s						
TERO				AML	AML		
	comp=N,162μm,0.5s						

*WEL **01** 17:14:00,36.91S×179.21E,h13km,ML6.2,Mw6.0, Moment Tensor Solution. s7 Moment tensor Scale 10¹⁸ Nm; Mrr0.17; Mθθ0.10; Mϕϕ-0.28; Mrθ0.33; Mθϕ-0.11; Mϕr1.22; Fault plane solution: M₀1.28000×10¹⁸ NP1: ϕs196.00000°,δ5.00000°,λ91.00000°. NP2:ϕs15.00000°, δ85.00000°,λ90.00000°. Principal axes: T -135178.9700, Plg50.0000°, Azm285.0000°; N 13407.3000, Plg0.0000°, Azm15.0000°; P 121771.6700, Plg40.0000°, Azm105.0000°;*
*BJI **01** 17:14:04.0±0.0,37.25S×179.06E,h12km,mb5.3/18*
*WEL **

HSRZ Hossack Road 2.49 238 P Pb 17 14 49.3 -1.2
PRRZ Plateau Road 2.49 233 P Pb 17 14 48.4 -2.2
HRRZ Handcock Road 2.50 236 P Pb 17 14 49.2 -1.6
KMRZ Kaimai 2.52 250 P Pn 17 14 48.3 +2.0
ALRZ Allen Road 2.56 233 P Pb 17 14 49.4 -2.3
KUZ Kuaotunu 2.59 275 P Pn 17 14 48.1 +0.7
GRRZ Galatos Road 2.60 239 P Pb 17 14 50.6 -1.9
WPRZ Whakapapatarin 2.65 235 P Pb 17 14 51.1 -2.2
NMHZ Naumai 2.66 219 P Pn 17 14 50.5 +2.2
MRHZ Matea Rd 2.68 227 P Pb 17 14 51.2 -2.7
ARHZ Aropaoanui 2.70 214 P Pn 17 14 50.3 +1.4
TOZ Tahuroa Road 2.82 255 P Pn 17 14 51.8 +1.3
KUTZ Kaahu Road 2.87 239 P Pb 17 14 54.0 -3.0
WHTZ Whakaora 2.87 234 P Pb 17 14 54.5 -2.5
BKZ Black Stump Fm 2.87 221 Pn 17 14 52.1 +0.9
BKZ Black Stump Fm 2.87 221 P Pn 17 14 53.2 +1.9
BKZ Black Stump Fm 2.87 221 P Pn 17 14 53.4 +2.1
GRZ Great Barrier 2.91 285 P Pn 17 14 53.6 +1.9
HATZ Hinemaiaia 2.92 230 P Pb 17 14 54.7 -3.1
TLZ Tolley Road 2.99 243 P Pn 17 14 55.8 +3.0
CKHZ Cape Kidnapper 3.00 209 P Pn 17 14 53.2 +0.3
MKAZ Moumakai 3.02 268 P Pn 17 14 54.6 +1.4
WATZ Wairara 3.04 236 P Pn 17 14 56.3 +2.8
WIAZ Waiheke Island 3.06 273 P Pn 17 14 55.3 +1.6
RATZ Rangitukua 3.10 233 P Pn 17 14 57.1 +2.8
KWHZ Kaweka Forest 3.10 219 P Pn 17 14 55.8 +1.4
RITZ Rihia Road 3.11 230 P Pn 17 14 57.2 +2.7
KAHZ Kahuranaki 3.20 210 P Pn 17 14 55.9 +0.2
ETAZ East Tamaki Re 3.21 270 P Pn 17 14 57.7 +1.9
KATZ Kakaramea 3.21 232 P Pb 17 14 59.7 -3.3
MBAZ Motutapu North 3.25 273 P Pn 17 14 58.3 +1.9
TMVZ Te Maari 3.29 230 P Pn 17 14 59.0 +1.9
KRHZ Kereru 3.30 217 P Pn 17 14 57.8 +0.7
NTVZ North Tongarir 3.30 230 P Pn 17 14 59.4 +2.2
ETVZ East Tongariro 3.30 230 P Pn 17 14 59.2 +2.0
KRVZ Karewarewa 3.32 231 P Pn 17 14 59.9 +2.5
ABAZ Army Bay 3.32 276 P Pn 17 14 59.7 +2.3
BHHZ Black Hill Sta 3.34 222 P Pn 17 14 59.1 +1.4
OTVZ Oturere 3.34 230 P Pn 17 14 59.9 +2.1
NNVZ North Ngauruho 3.36 230 P Pn 17 15 00.4 +2.4
WTVZ West Tongariro 3.36 231 P Pn 17 15 00.3 +2.3
EPAZ Eden Park BICE 3.36 271 P Pn 17 15 00.4 +2.4
SNVZ South Ngauruho 3.37 229 P Pn 17 15 00.3 +2.0
HBAZ Herne Bay Bore 3.38 272 P Pn 17 15 00.5 +2.5
NGZ Ngauruhoe 3.39 230 P Pn 17 15 00.7 +2.2
TUVZ Tukino 3.42 228 P Pn 17 15 00.9 +2.0
TWVZ Taurewa 3.43 233 P Pn 17 15 01.5 +2.5
AWAZ Awhitu Peninsu 3.44 268 P Pn 17 15 00.9 +2.0
MOVZ Moawhango 3.45 226 P Pn 17 15 00.7 +1.5
WHVZ Whangaehu Hut 3.47 229 P Pn 17 15 01.4 +1.8
FWVZ Far West T-bar 3.47 229 P Pn 17 15 01.5 +1.9
DRZ Dome Shelter 3.48 229 P Pn 17 15 02.6 +2.8
WNVZ Wahianoa 3.49 228 P Pn 17 15 01.7 +1.9
WTAZ Waiatarua 3.50 270 P Pn 17 15 01.9 +2.2
TRVZ Turoa 3.50 229 P Pn 17 15 01.8 +1.8
RVAZ Riverhead Bore 3.50 273 P Pn 17 15 02.1 +2.3
HIZ Hauiti 3.56 244 Pn Pn 17 15 02.4 +1.8
HIZ Hauiti 3.56 244 P Pn 17 15 03.7 +3.1
PNHZ Pukenui 3.59 216 P Pn 17 15 01.1 0.0
MTVZ Mangateitei 3.60 228 P Pn 17 15 03.5 +2.2
WPHZ Waipukurau 3.60 212 P Pn 17 15 01.3 0.0
PKVZ Pokaka 3.62 230 P Pn 17 15 04.0 +2.5
WCZ Waipu Caves 3.86 285 P Pn 17 15 06.6 +1.9
WAZ Wanganui 4.13 228 P Pn 17 15 10.5 +2.1
MHEZ Mangahewa 4.17 239 P Pn 17 15 14.0 +4.9
BFZ Birch Farm 4.21 209 Pn 17 15 07.6 -2.0
BFZ Birch Farm 4.21 209 P Pn 17 15 08.6 +0.3
PRWZ Pori Road 4.21 212 P Pn 17 15 09.4 +0.2
OHWZ Ohakea 4.25 221 P Pn 17 15 11.5 +1.4
DREZ Durham Road 4.31 239 P Pn 17 15 15.6 +4.6
LREZ Lake Rotokare 4.32 234 P Pn 17 15 14.0 +3.0
PREZ Palmer Road 4.42 237 P Pn 17 15 16.5 +4.0
NEZ North Egmont 4.42 238 P Pn 17 15 16.6 +4.1
TIWZ Tintock 4.43 212 P Pn 17 15 12.5 -0.2
PKE Pukeiti 4.46 240 P Pn 17 15 17.6 +4.6
KHEZ Kahui Hut 4.49 238 P Pn 17 15 17.3 +3.8
NBEZ Newall Road No 4.58 239 P Pn 17 15 19.4 +4.8
NMEZ Namu Road 4.64 238 P Pn 17 15 19.9 +4.4
OUZ Omahuta 4.69 291 Pn Pn 17 15 17.9 +1.8
OUZ Omahuta 4.69 291 P Pn 17 15 18.3 +2.1
MSWZ Moikau Station 5.23 212 Pn 17 15 19.9 -3.7
PLWZ Palliser 5.36 211 Pn 17 15 21.8 -3.6
SNZO South Karori 5.39 216 Pn Pn 17 15 22.7 -3.1
SNZO South Karori 5.39 216 P Pn 17 15 28.1 +2.3
TUMZ Tuamarina 5.86 220 Pn 17 15 28.0 -3.4
CMWZ Cape Campbell 5.96 216 Pn Pn 17 15 32.9 -0.8
CMWZ Cape Campbell 5.96 216 P Pn 17 15 35.1 +1.4
NNZ Nelson 6.01 224 Pn 17 15 32.4 -1.9
BSWZ Blackbirch Sta 6.10 218 Pn 17 15 32.9 -2.6
QRZ Quartz Range 6.27 231 Pn Pn 17 15 35.9 -2.0
THZ Tophouse 6.64 223 Pn Pn 17 15 40.4 -2.7
KHZ Kahutara 6.80 216 Pn Pn 17 15 41.6 -3.5
CTZ Chatham Island 7.50 155 P Pn 17 15 53.4 -1.4
LTZ Lake Taylor 7.69 220 Pn Pn 17 15 54.0 -3.5
RAO Raoul Island 8.19 20 P Pn 17 16 03.1 -1.2
279nm,0.4s,baz=82,slow=21,SNR=2.5
RAO S Sn 17 17 28.8 -7.6
249nm,0.3s,baz=242,slow=23,SNR=1.5
OXZ Oxford 8.21 210 Pn 17 16 00.9 -3.5
MQZ McQueen's Vall 8.21 214 Pn Pn 17 15 59.6 -4.8
RPZ Rata Peaks 8.98 220 P Pn 17 16 12.9 -2.2
168nm,0.3s,baz=136,slow=1.5,SNR=26
RPZ S Sn 17 17 46.5 -9.2
2µm,0.5s,baz=154,slow=21,SNR=23
RPZ Rata Peaks 8.98 220 Pn Pn 17 16 12.1 -3.0
LBZ Lake Benmore 9.90 219 Pn Pn 17 16 24.5 -3.2
ODZ Otahua Downs 10.16 215 Pn 17 16 26.1 -5.1
WHZ Wether Hill Ro 12.09 219 Pn Pn 17 16 54.0 -3.6
NFK Norfolk Island 12.18 308 P Pn 17 16 59.5 +0.5
baz=12
NFK Norfolk Island 12.18 308 P P 17 17 05.9 -5.5
DCZ Deep Cove 12.22 223 Pn Pn 17 16 55.8 -3.6
LHI Lord Howe Isla 17.31 283 P P 17 18 09.1 +0.7
baz=17,SNR=4.0
LHI Lord Howe Isla 17.31 283 P 17 18 08.2 -0.1
LHI Lord Howe Isla 17.31 283 P P 17 18 12.0 +3.7
PINNC Pines Island, 17.47 322 P P 17 18 15.6 +5.5
OUENC Ouen Island, N 17.93 321 Pn 17 18 15.0 +0.2
OUENC Ouen Island, N 17.93 321 P P 17 18 21.0 +5.8
MARNC Mare, Loyalty 18.16 326 P P 17 18 23.5 +5.7
YATNC Mamie plateau, 18.21 322 P P 17 18 24.7 +6.4
ONTNC Ouen Toro 18.22 320 Pn 17 18 18.7 +0.4
ONTNC IAmb IAmb 17 18 28.3
comp=Z,534nm,1.6s
ONTNC Ouen Toro 18.22 320 P P 17 18 24.7 +6.3
DZM Mont Dzumac 18.42 321 ePn Pn 17 18 23.1 +2.3
comp=Z,388nm,1.5s
DZM eSn Sn 17 21 47.2 +1.0
comp=Z,71nm,1.3s
DZM eLR LR 17 22 38.8
comp=Z,144µm,24.3s
DZM Mont Dzumac 18.42 321 P Pn 17 18 24.7 +3.8
comp=Z,46nm,0.9s,baz=117,slow=9.8,SNR=11
DZM LR LR 17 24 15.1
comp=Z,99µm,19.5s,baz=142,slow=33
DZM Mont Dzumac 18.42 321 P Pn 17 18 22.4 +1.6
DZM Mont Dzumac 18.42 321 P Pn 17 18 27.1 +6.3
NOUC Port Laguerre 18.47 320 P Pn 17 18 24.9 +3.6
LKBA Tubou, Lakemba 18.83 7 P Pn 17 18 30.5 +4.8
LIFNC LIFOU 19.13 325 P Pn 17 18 32.6 +3.2
MSVF Nonsavu 19.24 357 P P 17 18 29.3 -0.5
baz=159,slow=16
MSVF LR LR 17 24 08.1
comp=Z,54µm,20.9s,baz=191,slow=31
MSVF ScP ScP 17 26 22.4 -5.0
comp=Z,41nm,1.2s,baz=146,slow=7.6,SNR=6.1
MSVF Nonsavu 19.24 357 P P 17 18 29.0 -0.7
MSVF Nonsavu 19.24 357 P P 17 18 29.0 -0.7
MSVF pmax pmax
comp=Z,95nm,0.8s
MSVF Nonsavu 19.24 357 P Pn 17 18 32.6 +1.8
TAVE Taveuni 20.27 3 P Pn 17 18 44.8 +1.9
DGTI Dogotuki 20.66 2 P Pn 17 18 49.4 +1.9
KOUNC Koumac, New Ca 20.80 318 P P 17 18 47.6 +1.0
KOUNC IAmb IAmb 17 19 03.7
comp=Z,319nm,1.3s
KOUNC Koumac, New Ca 20.80 318 P Pn 17 18 52.2 +3.1
DVP Devils Point 21.44 331 P P 17 18 56.6 +3.1
MCQ Macquarie Isla 22.21 212 P P 17 19 06.0 +4.5
baz=22,SNR=3.3
MCQ Macquarie Isla 22.21 212 P P 17 19 01.9 +0.4

NTLS Newcastle Soft 22.61 272 P P 17 19 08.2 +2.3
NTLH Newcastle Hard 22.66 272 P P 17 19 10.9 +4.3
SYDH Sydney Hard Ro 23.18 270 P P 17 19 14.8 +2.9
ARMA Armidale 23.60 278 P P 17 19 18.0 +1.8
baz=24,SNR=25
ARMA Armidale 23.60 278 P P 17 19 18.7 +2.4
ARMA Armidale 23.60 278 P P 17 19 19.6 +3.3
MILA Mila 23.73 261 P P 17 19 19.3 +1.9
baz=24,SNR=28
CNB Canberra Magne 23.89 265 P P 17 19 20.7 +1.7
baz=24,SNR=50
CNB Canberra Magne 23.89 265 P P 17 19 21.8 +2.8
CAN Canberra 24.18 265 P P 17 19 23.5 +1.8
CAN IAmb IAmb 17 19 32.2
comp=Z,400nm,1.4s
CAN Canberra 24.18 265 P P 17 19 23.5 +1.8
CAN pmax pmax
comp=Z,400nm,1.4s
CAN Canberra 24.18 265 P P 17 19 23.9 +2.2
GLAD Gladstone 24.29 251 P P 17 19 25.0 +2.5
RAR Rarotonga 24.30 55 LR LR 17 27 05.6
comp=Z,16µm,19.2s,baz=228,slow=32
TAU Tasmania Unive 24.84 246 P P 17 19 27.9 +0.5
TAU IAmb IAmb 17 19 31.3
comp=Z,277nm,1.1s
TAU Tasmania Unive 24.84 246 P P 17 19 28.0 +0.5
TAU pmax pmax
comp=Z,277nm,1.1s
TAU Tasmania Unive 24.84 246 P P 17 19 28.4 +0.9
MOO Moorlands 24.92 248 P P 17 19 29.3 +1.2
baz=25,SNR=26
MOO Moorlands 24.92 248 P P 17 19 29.4 +1.2
CORO Coronation Par 24.94 250 P P 17 19 30.3 +2.0
EIDS Eidsvold 26.41 288 P P 17 19 42.4 +0.5
baz=26,SNR=11
EIDS Eidsvold 26.41 288 P P 17 19 43.1 +1.2
EIDS Eidsvold 26.41 288 P P 17 19 44.8 +2.9
TOO Toolangi 26.54 259 P P 17 19 43.9 +0.9
baz=26,SNR=55
TOO Toolangi 26.54 259 P P 17 19 43.7 +0.7
TOO IAmb IAmb 17 19 52.9
comp=Z,257nm,1.3s
TOO Toolangi 26.54 259 P P 17 19 43.7 +0.7
TOO pmax pmax
comp=Z,257nm,1.3s
TOO Toolangi 26.54 259 P P 17 19 44.4 +1.4
MLBS Spotswood, Mel 26.96 258 P P 17 19 48.8 +2.1
GEXS Deakin Univers 27.38 257 P P 17 19 52.3 +1.8
RMQ Roma 27.63 284 P P 17 19 53.6 +0.7
baz=28,SNR=28
RMQ Roma 27.63 284 P P 17 19 55.8 +3.0
BRAT Ballarat 27.76 258 P P 17 19 55.6 +1.7
CMSA Cobar Meteorol 27.92 271 P P 17 19 57.0 +1.5
baz=28,SNR=116
CMSA Cobar Meteorol 27.92 271 P P 17 19 56.9 +1.5
RK1H Rockhampton Ha 27.97 291 P P 17 19 59.5 +3.6
ARPS Mount Arapiles 29.55 259 P P 17 20 11.5 +1.7
baz=29,SNR=34
ARPS Mount Arapiles 29.55 259 P P 17 20 11.5 +1.7
TBI Tubuai 30.37 72 eLR LR 17 28 08.0
comp=Z,37µm,26.0s
TBI Tubuai 30.37 72 eT T 17 51 29.5
comp=Z,112nm,0.3s
STKA Stephens Creek 31.08 268 P P 17 20 24.9 +1.5
baz=31,SNR=36
STKA Stephens Creek 31.08 268 P P 17 20 23.9 +0.5
comp=Z,81nm,0.8s,baz=103,slow=10,SNR=44
STKA PcP PcP 17 23 19.8 +1.0
comp=Z,17nm,0.8s,baz=87,slow=4.0,SNR=3.1
STKA S S 17 25 24.0 -3.8
comp=Z,6.2nm,1.0s,baz=120,slow=18,SNR=1.8
STKA ScP ScP 17 26 56.3 -4.2
comp=Z,14nm,1.1s,baz=16,slow=2.8,SNR=4.7
STKA LR LR 17 30 32.0
comp=Z,38µm,21.8s,baz=58,slow=32
comp=Z,81nm,0.8s
STKA Stephens Creek 31.08 268 P P 17 20 24.2 +0.8
STKA Stephens Creek 31.08 268 P P 17 20 24.8 +1.4
QLP Quilpie 31.12 280 P P 17 20 25.7 +1.9
baz=31,SNR=50
QLP Quilpie 31.12 280 P P 17 20 25.4 +1.5
HNR Honiara 32.41 323 P P 17 20 34.7 -0.5
comp=Z,271nm,0.8s,baz=207,slow=7.8,SNR=6.6
HNR LR LR 17 31 39.7
comp=Z,28µm,18.5s,baz=232,slow=32
comp=Z,271nm,0.8s
HNR Honiara 32.41 323 P P 17 20 36.3 +1.1
HNR Honiara 32.41 323 P P 17 20 36.3 +1.1
HNR pmax pmax
comp=Z,443nm,0.9s
HNR Honiara 32.41 323 P P 17 20 38.4 +3.2
TWOA Tennyson Woods 32.53 261 P P 17 20 37.7 +1.6
GHSS Government Hou 32.54 261 P P 17 20 38.2 +2.0
HTT Hallett 32.72 264 P P 17 20 39.0 +1.1
baz=32,SNR=38
HTT Hallett 32.72 264 P P 17 20 39.3 +1.4
CTA Charters Tower 33.09 292 LR LR 17 33 29.9
comp=Z,32µm,18.1s,baz=174,slow=35
CTA Charters Tower 33.09 292 P P 17 20 43.1 +1.9
CTAO Charters Tower 33.09 292 P P 17 20 42.3 +1.1
CTAO IAmb IAmb 17 20 49.6
comp=Z,83nm,0.9s
CTAO Charters Tower 33.09 292 P P 17 20 42.3 +1.1
CTAO pmax pmax
comp=Z,83nm,1.0s
CTAO Charters Tower 33.09 292 P P 17 20 42.9 +1.7
INKA Innaminka 33.37 275 P P 17 20 45.2 +1.7
PAE Paea 33.75 64 eT T 17 55 54.7
comp=Z,9.2nm,0.3s
PPT2 Papeete2 33.80 64 eLR LR 17 29 43.4
comp=Z,39µm,24.8s
PPT2 Papeete2 33.80 64 eT T 17 55 50.5
comp=Z,14nm,0.3s
PPT Papeete 33.81 64 LR LR 17 31 51.4
comp=Z,13µm,19.7s,baz=234,slow=31
WHYH Whyalla 33.91 264 P P 17 20 49.7 +1.5
TIAR Tiarei 33.98 64 eT T 17 55 51.0
comp=Z,3.3nm,0.3s
LCRK Leigh Creek 34.30 269 P P 17 20 52.8 +1.2
MEH Mehetia 34.70 66 eT T 17 57 03.7
comp=Z,27nm,0.2s
BBOO Buckleboo 35.19 264 P P 17 20 59.4 +0.1
baz=35,SNR=31
BBOO Buckleboo 35.19 264 P P 17 20 58.6 -0.7
BBOO IAmb IAmb 17 21 01.8
comp=Z,134nm,1.2s
BBOO Buckleboo 35.19 264 P P 17 20 59.8 +0.5
MTSU Mount Surprise 35.73 292 P P 17 21 05.6 +1.5
baz=36,SNR=29
MTSU Mount Surprise 35.73 292 P P 17 21 05.9 +1.8
VAH Vaihoa 36.75 63 eT T 17 59 42.7
comp=Z,42nm,0.2s
OOD Oodnadatta 37.39 271 P P 17 21 18.9 +0.8
MULG Mulgathing 37.69 267 P P 17 21 20.7 +0.1
QIS Mount Isa 37.87 285 P P 17 21 23.2 +0.9
baz=38,SNR=143
QIS Mount Isa 37.87 285 P P 17 21 23.3 +1.0
COEN Coen 39.27 296 P P 17 21 34.8 +0.8
baz=39,SNR=96
COEN Coen 39.27 296 P P 17 21 34.5 +0.5
COEN Coen 39.27 296 P P 17 21 35.1 +1.0
PMG Port Moresby 39.77 306 P P 17 21 38.8 +0.6
comp=Z,118nm,0.9s,baz=117,slow=6.3,SNR=19
PMG LR LR 17 35 02.8
comp=Z,25µm,20.9s,baz=184,slow=32
comp=Z,118nm,0.9s
PMG Port Moresby 39.77 306 P 17 21 39.1 +0.9
PMG Port Moresby 39.77 306 P P 17 21 38.5 +0.3
PMG IAmb IAmb 17 21 42.3
comp=Z,158nm,1.0s
PMG Port Moresby 39.77 306 P P 17 21 38.5 +0.3
PMG pmax pmax
comp=Z,158nm,1.0s
AS31 Alice Springs 40.72 276 P P 17 21 45.9 -0.2
AS31 IAmb IAmb 17 21 49.4
comp=Z,135nm,0.9s
ASAR Alice Springs 40.72 276 P P 17 21 45.8 -0.4
comp=Z,356nm,0.8s,baz=120,slow=7.1,SNR=250
ASAR PcP PcP 17 23 46.2 -1.2
comp=Z,15nm,0.8s,baz=128,slow=3.8,SNR=1.7
ASAR ScP ScP 17 27 30.0 -5.9
comp=Z,3.0nm,0.8s,baz=125,slow=3.6,SNR=3.2
ASAR S S 17 27 51.5 -4.2
comp=Z,50nm,1.1s,baz=123,slow=14,SNR=8.1
ASAR LR LR 17 38 28.1

comp=Z,20µm,19.0s,baz=144,slow=36
comp=Z,356nm,0.8s
ASAR Alice Springs 40.72 276 P P 17 21 45.6 -0.5
KRVT Keravat (AS076 40.86 316 P P 17 21 47.4 +0.1
comp=Z,413nm,0.8s,baz=126,slow=2.8,SNR=45
KRVT S S 17 27 52.8 -4.8
comp=Z,14nm,1.0s,baz=329,slow=20,SNR=1.8
KRVT LR LR 17 37 51.1
comp=Z,14µm,18.9s,baz=322,slow=35
comp=Z,413nm,0.8s
RABL Rabaul 40.88 317 P P 17 21 47.0 -0.4
RABL Rabaul 40.88 317 P P 17 21 47.6 +0.2
SBA Scott Base 41.26 184 P P 17 21 50.3 +0.5
SBA Scott Base 41.26 184 P P 17 21 50.3 +0.5
SBA pmax pmax
comp=Z,74nm,1.1s
VNDA Vanda 41.26 186 P P 17 21 52.1 +2.3
comp=Z,3.4nm,0.9s,baz=11,slow=6.0,SNR=6.6
VNDA LR LR 17 35 50.9
comp=Z,17µm,20.8s,baz=4.0,slow=31
VNDA Vanda 41.26 186 P P 17 21 49.9 +0.1
VNDA Vanda 41.26 186 P P 17 21 49.9 +0.1
VNDA pmax pmax
comp=Z,16nm,0.8s
WR0 Warramunga Arr 42.15 281 P P 17 21 57.4 -0.4
FORT Forrest 42.28 263 P P 17 21 58.4 -0.3
baz=42,SNR=102
FORT Forrest 42.28 263 P P 17 21 58.1 -0.7
FORT Forrest 42.28 263 P P 17 21 59.2 +0.5
WB2 Warramunga Arr 42.31 281 P P 17 21 58.8 -0.3
WRAB Tennant Creek 42.32 281 P P 17 21 58.8 -0.4
WRAB Tennant Creek 42.32 281 ceP P 17 21 59.1 -0.1
WRAB pmax pmax
comp=Z,659nm,1.7s
WRAB Tennant Creek 42.32 281 P P 17 21 59.5 +0.3
WRA Warramunga Arr 42.32 281 P P 17 21 58.7 -0.5
comp=Z,229nm,0.8s,baz=122,slow=7.5,SNR=210
WRA PcP PcP 17 23 51.6 -1.0
comp=Z,34nm,0.8s,baz=120,slow=3.6,SNR=6.4
WRA ScP ScP 17 27 36.3 -6.0
comp=Z,3.5nm,0.7s,baz=115,slow=3.7,SNR=4.0
WRA S S 17 28 15.0 -4.4
comp=Z,50nm,1.2s,baz=125,slow=14,SNR=18
WRA LR LR 17 38 45.3
comp=Z,36µm,19.4s,baz=84,slow=35
comp=Z,229nm,0.8s
WRA Warramunga Arr 42.32 281 P P 17 21 57.9 -1.3
WRA Warramunga Arr 42.32 281 P P 17 21 57.9 -1.3
WRA pmax pmax
comp=Z,42nm,0.9s
WB0 Warramunga Arr 42.38 281 P P 17 21 59.2 -0.5
WRKA Warakurna 44.54 271 P P 17 22 15.9 -1.2
baz=44,SNR=64
WRKA Warakurna 44.54 271 P P 17 22 16.3 -0.8
MANU Manus Island 45.36 313 P P 17 22 23.8 +0.2
MANU IAmb IAmb 17 22 26.8
comp=Z,131nm,1.2s
TAOE Nuku Hiva Isla 46.42 63 eLR LR 17 35 34.4
comp=Z,21µm,23.0s
PATS Pohnpei 47.72 332 P P 17 22 45.8 +3.7
KDU Kakadu 48.03 288 P P 17 22 43.4 -1.1
baz=48,SNR=19
KDU Kakadu 48.03 288 P P 17 22 43.8 -0.7
CASY Casey 48.12 210 P P 17 22 44.6 0.0
MTN Manton Dam 48.95 287 P P 17 22 51.1 -0.5
baz=49,SNR=28
MTN Manton Dam 48.95 287 P P 17 22 50.5 -1.2
MTN IAmb IAmb 17 22 53.6
comp=Z,118nm,1.0s
MTN Manton Dam 48.95 287 P P 17 22 51.2 -0.5
KNRA Kununurra 49.10 282 P P 17 22 52.3 -0.5
baz=49,SNR=38
KNRA Kununurra 49.10 282 P P 17 22 51.9 -0.9
KNRA Kununurra 49.10 282 P P 17 22 52.7 -0.1
GENI Genyem 49.44 305 P P 17 22 55.6 +0.2
comp=Z,302nm,1.2s
GENI Genyem 49.44 305 P P 17 22 56.2 +0.8
RKGY Rocky Gully 49.51 253 P P 17 22 55.8 +0.1
baz=49,SNR=7.2
RKGY Rocky Gully 49.51 253 P P 17 22 58.0 +2.2
NWAO Narrogin (SRO) 49.95 255 P P 17 22 58.0 -1.2
baz=50,SNR=48
NWAO P P 17 22 58.0 -1.2
baz=50,SNR=48
NWAO Narrogin (SRO) 49.95 255 P P 17 22 57.9 -1.2
comp=Z,62nm,0.7s,baz=348,slow=6.5,SNR=39
NWAO S S 17 30 04.4 -4.3
comp=Z,8.7nm,0.9s,baz=144,slow=13,SNR=3.4
comp=Z,62nm,0.7s
NWAO Narrogin (SRO) 49.95 255 P P 17 22 57.7 -1.5
NWAO IAmb IAmb 17 23 01.0
comp=Z,76nm,0.7s
NWAO Narrogin (SRO) 49.95 255 P P 17 22 57.7 -1.5
NWAO pmax pmax
comp=Z,76nm,0.7s
NWAO Narrogin (SRO) 49.95 255 P P 17 22 57.7 -1.5
KLBR Kellerberrin 50.08 257 P P 17 22 59.1 -1.0
baz=50,SNR=35
KLBR Kellerberrin 50.08 257 P P 17 22 59.7 -0.4
FITZ Fitzroy Crossi 50.20 277 P P 17 23 01.2 0.0
baz=50,SNR=188
FITZ Fitzroy Crossi 50.20 277 P P 17 23 00.7 -0.5
comp=Z,297nm,0.9s,baz=146,slow=8.1,SNR=88
FITZ PcP PcP 17 24 19.8 -0.5
comp=Z,54nm,0.9s,baz=144,slow=4.2,SNR=1.6
FITZ S S 17 30 08.7 -3.8
comp=Z,15nm,1.0s,baz=30,slow=23,SNR=26
FITZ LR LR 17 42 56.3
comp=Z,16µm,21.2s,baz=96,slow=34
comp=Z,297nm,0.9s
FITZ Fitzroy Crossi 50.20 277 P P 17 23 00.7 -0.5
FITZ Fitzroy Crossi 50.20 277 P P 17 23 01.6 +0.4
SMPI Sarmi 50.85 304 P P 17 23 03.1 -3.0
comp=Z,47nm,1.0s
MUN Mundaring 51.12 256 P P 17 23 06.9 -1.1
baz=51,SNR=88
MUN Mundaring 51.12 256 P P 17 23 07.8 -0.2
BLDU Ballidu 51.29 258 P P 17 23 07.9 -1.4
baz=51,SNR=85
BLDU Ballidu 51.29 258 P P 17 23 08.1 -1.2
MTKN Mount Kenneth 51.48 256 P P 17 23 11.6 +0.9
MORW Morawa 52.48 259 P P 17 23 16.8 -1.4
baz=52,SNR=59
MORW Morawa 52.48 259 P P 17 23 16.9 -1.4
MORW IAmb IAmb 17 23 20.3
comp=Z,96nm,0.8s
MORW Morawa 52.48 259 P P 17 23 17.6 -0.6
SRPI Serui, Papua 52.61 301 P P 17 23 18.7 -0.5
comp=Z,134nm,1.1s
PSA00 Pilbara Seismi 53.00 270 P P 17 23 20.4 -1.7
PSA00 Pilbara Seismi 53.00 270 P P 17 23 20.5 -1.7
PSA00 IAmb IAmb 17 23 30.2
comp=Z,177nm,1.4s
PSA00 Pilbara Seismi 53.00 270 P P 17 23 21.1 -1.0
QSPA South Pole Qui 53.09 180 P P 17 23 24.8 +2.4
comp=Z,82nm,0.8s,baz=33,slow=2.5,SNR=86
QSPA LR LR 17 42 15.9
comp=Z,22µm,21.9s,baz=20,slow=32
comp=Z,82nm,0.8s
QSPA South Pole Qui 53.09 180 P P 17 23 24.0 +1.7
QSPA South Pole Qui 53.09 180 P P 17 23 24.4 +2.1
BAKI Biak 53.19 302 P P 17 23 24.5 +0.9
comp=Z,319nm,1.2s
MBWA Marble Bar 53.30 270 P P 17 23 22.8 -1.5
MBWA Marble Bar 53.30 270 P P 17 23 23.3 -1.0
FAKI Fak Fak 54.65 297 P P 17 23 33.0 -1.3
FAKI IAmb IAmb 17 23 35.3
comp=Z,82nm,1.0s
FAKI Fak Fak 54.65 297 P P 17 23 32.9 -1.3
comp=Z,117nm,0.9s
FAKI Fak Fak 54.65 297 P P 17 23 34.0 -0.2
BNDI Bandanaira 55.25 294 P P 17 23 38.5 0.0
comp=Z,317nm,1.0s
BNDI Bandanaira 55.25 294 P P 17 23 38.9 +0.4
BATI Baumata 56.34 284 P P 17 23 45.9 -0.5
comp=Z,86nm,0.7s,baz=140,slow=4.3,SNR=14
BATI LR LR 17 48 32.3
comp=Z,40µm,19.7s,baz=142,slow=37
comp=Z,86nm,0.7s
BATI Baumata 56.34 284 P P 17 23 47.1 +0.7
comp=Z,114nm,1.3s
MSAI Masohi 56.76 294 P P 17 23 47.7 -1.7
comp=Z,333nmcomp=Z,25nm,0.7s
SIJI Sorong 56.78 298 P P 17 23 48.7 -0.9
comp=Z,130nm,1.0s,baz=123,slow=4.8,SNR=53
SIJI S S 17 31 39.8 -2.1

comp=Z,1.4nm,0.6s,baz=146,slow=23,SNR=0.7
SIJI LR LR 17 48 27.1
comp=Z,14µm,20.6s,baz=108,slow=36
comp=Z,130nm,1.0s
SWI Sorong 56.79 298 P **P** **17 23 49.1 -0.5**
comp=Z,320nm,1.5s
GIRL Giralia 56.94 265 P **P** **17 23 51.5 +0.9**
baz=57,SNR=9.2
GIRL Giralia 56.94 265 P **P** **17 23 50.1 -0.6**
GIRL Giralia 56.94 265 P **P** **17 23 53.2 +2.6**
AAI Ambon 57.07 293 P **P** **17 23 49.7 -1.9**
comp=Z,56nm,0.9s
NLAI Namlea 58.17 292 P **P** **17 23 58.3 -1.0**
comp=Z,84nm,1.7s
MMRI Maumere 58.41 284 P **P** **17 24 00.4 -0.6**
MMRI Maumere 58.41 284 P **P** **17 24 00.3 -0.7**
comp=Z,496nm,1.2s
MMRI Maumere 58.41 284 P **P** **17 24 00.8 -0.2**
BASI Baing, Sumba 58.74 281 P **P** **17 24 02.0 -1.3**
comp=Z,364nm,1.4s
EDFI Ende, Flores 58.76 284 P **P** **17 24 00.6 -3.0**
comp=Z,76nm,1.0s
LBMI Labuha 59.64 295 P **P** **17 24 06.9 -2.6**
comp=Z,150nm,1.3s
GUMO Guam 59.70 321 LR LR 17 46 48.1
comp=Z,6µm,20.3s,baz=186,slow=33
SANI Sanana 59.79 293 P **P** **17 24 08.5 -2.1**
comp=Z,218nm,1.4s
SANI Sanana 59.79 293 P **P** **17 24 09.8 -0.8**
WBSI Waikabubak, Su 60.02 281 P **P** **17 24 11.1 -1.1**
comp=Z,111nm,1.0s
BBSI Bau Bau 60.12 287 P P 17 24 07.4 -5.4
comp=Z,7.3nm,1.1s
RPN Rapa Nui 60.29 103 LR LR 17 45 02.0
comp=Z,11µm,19.9s,baz=177,slow=31
TNTI Ternate 60.70 296 P **P** **17 24 15.8 -1.1**
TNTI IAmb IAmb 17 24 18.4
comp=Z,82nm,1.2s
TNTI Ternate 60.70 296 P **P** **17 24 15.0 -1.8**
comp=Z,66nm,1.7s
TNTI Ternate 60.70 296 P **P** **17 24 18.0 +1.2**
PUH Pauahi 61.17 28 P **P** **17 24 20.5 +0.6**
BSSI Bau Bau, Buton 61.31 285 P **P** **17 24 20.2 -0.7**
comp=Z,60nm,1.0s
PLAI Plampang 61.78 281 P **P** **17 24 23.2 -0.9**
comp=Z,180nm,1.2s
PLAI Plampang 61.78 281 P **P** **17 24 24.1 0.0**
KIP Kipapa 62.07 24 *i* P **P** **17 24 25.7 -0.1**
KIP pmax pmax
comp=Z,242nm,1.4s
BKSI Bulukumba 62.10 285 P **P** **17 24 25.3 -1.0**
comp=Z,79nm,1.6s
TWSI Taliwang, Sumb 62.53 280 P **P** **17 24 28.2 -1.0**
comp=Z,135nm,1.3s
KAPI Kappang 62.58 285 S **S** **17 32 54.3 -2.3**
comp=Z,4.6nm,0.7s,baz=198,slow=17,SNR=1.5
KAPI LR LR 17 52 46.3
comp=Z,13µm,18.7s,baz=148,slow=37
KAPI Kappang 62.58 285 P **P** **17 24 29.4 -0.1**
KAPI Kappang 62.58 285 *i* P **P** **17 24 29.1 -0.4**
KAPI pmax pmax
comp=Z,116nm,1.4s
KAPI Kappang 62.58 285 P **P** **17 24 31.6 +2.1**
LUWI Luwuk 62.85 291 P **P** **17 24 30.8 -0.5**
LUWI Luwuk 62.85 291 P **P** **17 24 30.9 -0.4**
comp=Z,129nm,1.1s
LUWI Luwuk 62.85 291 P **P** **17 24 33.9 +2.6**
KMSI Cibinong 63.03 293 P **P** **17 24 29.4 -3.1**
comp=Z,1µmcomp=Z,143nm,1.2s
SPSI Sidrap Palu 63.23 286 P **P** **17 24 32.3 -1.5**
comp=Z,90nm,0.9s
BELA Belgrano 2 63.57 172 P **P** **17 24 35.4 +0.3**
APSI Ampana 63.78 290 P **P** **17 24 37.7 +0.3**
comp=Z,178nm,1.2s
TTSI Tana Toraja 63.78 287 P **P** **17 24 36.5 -1.0**
comp=Z,105nm,1.0s
DNP Denpasar 63.89 279 P **P** **17 24 38.5 +0.3**
comp=Z,371nm,1.0s
SGSI Sangihe 64.04 297 P **P** **17 24 37.0 -2.1**
comp=Z,1µmcomp=Z,67nm,1.3s
SRBI Singaraja 64.24 280 P **P** **17 24 39.8 -0.7**
comp=Z,235nm,0.9s
SMAI San Martin Ant 64.26 158 P **P** **17 24 41.1 +1.3**
MRSI Marisa 64.47 292 P **P** **17 24 39.8 -2.2**
comp=Z,38nm,1.1s
JAGI Jajag, Banyuwa 64.85 279 P **P** **17 24 44.0 -0.5**
JAGI Jajag, Banyuwa 64.85 279 P **P** **17 24 43.8 -0.7**
comp=Z,128nm,1.4s
JAGI Jajag, Banyuwa 64.85 279 P **P** **17 24 45.1 +0.6**
ABJI Asem Bagus 65.19 279 P **P** **17 24 46.4 -0.3**
comp=Z,243nm,1.2s
MAW Mawson 65.22 202 P **P** **17 24 47.7 +1.7**
baz=65,SNR=15
MAW Mawson 65.22 202 P **P** **17 24 47.5 +1.4**
comp=Z,36nm,1.0s,baz=120,slow=6.9,SNR=29
MAW S **S** **17 33 27.6 -0.3**
comp=Z,2.3nm,1.1s,baz=152,slow=16,SNR=1.2
comp=Z,36nm,1.0s
MAW Mawson 65.22 202 P **P** **17 24 46.2 +0.1**
MAW Mawson 65.22 202 P **P** **17 24 46.2 +0.1**
MAW pmax pmax
comp=Z,32nm,1.4s
GMJI Gumukmas 65.53 278 P **P** **17 24 48.0 -0.9**
comp=Z,203nm,0.9s
BLJI Banyuglugur 65.72 279 P **P** **17 24 50.0 -0.1**
comp=Z,19µmcomp=Z,102nm,1.5s
TOLI2 Tolitoli 65.76 291 P **P** **17 24 49.8 -0.5**
TOLI2 IAmb IAmb 17 24 54.6
comp=Z,52nm,1.0s
TOLI2 Tolitoli 65.76 291 P **P** **17 24 50.2 -0.1**
KMMI Kalianget 65.85 280 P **P** **17 24 49.4 -1.5**
comp=Z,168nm,1.1s
MPSI Mapaga 65.91 290 P **P** **17 24 50.2 -1.1**
comp=Z,116nm,1.0s
DAV Davao City (W) 66.38 300 P **P** **17 24 53.6 -0.7**
comp=Z,205nm,0.5s,baz=110,slow=2.5,SNR=3.1
comp=Z,205nm,0.5s
DAV Davao City (W) 66.38 300 P **P** **17 24 53.4 -0.9**
DAV Davao City (W) 66.38 300 P **P** **17 24 55.0 +0.7**
PWJI Pagerwojo 66.98 277 P **P** **17 24 57.1 -1.1**
comp=Z,304nm,1.0s
BKB Balikpapan 67.16 287 P **P** **17 25 00.7 +1.4**
comp=Z,195nm,1.3s
BKB Balikpapan 67.16 287 P **P** **17 25 01.0 +1.7**
PMSA Palmer Station 67.29 156 P **P** **17 25 00.4 +1.0**
comp=Z,52nm,1.1s,baz=258,slow=6.7,SNR=5.9
comp=Z,52nm,1.1s
PMSA Palmer Station 67.29 156 P **P** **17 25 00.3 +1.0**
PMSA IAmb IAmb 17 25 03.5
comp=Z,107nm,1.4s
PMSA Palmer Station 67.29 156 *eP* **P** **17 25 01.4 +2.0**
BBKI Banjar Baru 67.36 283 P **P** **17 25 00.1 -0.5**
comp=Z,211nm,1.1s
PCJI Pacitan 67.37 277 P **P** **17 25 00.2 -0.5**
comp=Z,475nm,0.9s
SMKI Samarinda 67.44 288 P **P** **17 25 00.6 -0.5**
NGJI Ngawi 67.64 278 P **P** **17 25 03.4 +1.0**
comp=Z,226nm,0.9s
UGM Wanagama 68.06 277 P **P** **17 25 05.5 +0.5**
UGM Wanagama 68.06 277 P **P** **17 25 05.8 +0.7**
comp=Z,293nm,1.2s
UGM Wanagama 68.06 277 P **P** **17 25 06.4 +1.3**
SMRI Semarang 68.64 277 P **P** **17 25 06.5 -2.2**
SMRI Semarang 68.64 277 P **P** **17 25 09.6 +0.9**
comp=Z,181nm,0.9s
SMRI Semarang 68.64 277 P **P** **17 25 10.9 +2.2**
MTKI Muara Teweh, K 68.90 286 P **P** **17 25 09.2 -1.1**
comp=Z,52nm,1.6s
MYLDM Lahad Datu 70.16 293 P **P** **17 25 18.0 0.0**
PBKI Pangkalan Bun 70.31 282 P **P** **17 25 15.8 -3.2**
comp=Z,169nm,0.8s
XMI Christmas Isla 70.43 272 P **P** **17 25 21.4 +1.6**
XMIS Christmas Isla 70.44 272 P **P** **17 25 18.4 -1.4**
XMIS Christmas Isla 70.44 272 P **P** **17 25 20.6 +0.8**
LEM Lembang 71.02 276 LR LR 17 58 45.8
comp=Z,10µm,19.0s,baz=151,slow=38
LEM Lembang 71.02 276 P **P** **17 25 21.0 -2.5**
comp=Z,94nm,0.8s
CNJI Cibinong 71.12 275 P **P** **17 25 22.2 -1.7**
comp=Z,443nm,1.0s
TROLL Troll, Antarti 71.23 181 P **P** **17 25 25.0 +1.2**
SNAA Sanae 71.59 179 P **P** **17 25 26.9 +0.9**
SNAA Sanae 71.59 179 PcP **PcP** **17 25 43.0 -2.2**
SNAA Sanae 71.59 179 P **P** **17 25 27.0 +1.0**
comp=Z,56nm,1.2s,baz=186,slow=6.0,SNR=25
comp=Z,56nm,1.2s

SNAA Sanae 71.59 179 P **P** **17 25 25.6 -0.4**
SNAA IAmb IAmb 17 25 46.5
comp=Z,103nm,1.1s
SNAA Sanae 71.59 179 *ceP* P 17 25 21.5 -4.5
SNAA pmax pmax
comp=Z,121nm,1.7s
VNA3 Neumayer Olymp 71.85 177 P **P** **17 25 28.3 +0.8**
VNA3 Neumayer Olymp 71.85 177 PcP **PcP** **17 25 46.9 +0.7**
DBJI Dramaga 71.87 276 P **P** **17 25 26.0 -2.5**
comp=Z,236nm,0.9s
NVL N'lazarevskaya 72.10 184 *eP* **P** **17 25 28.9 0.0**
NVL pmax pmax
comp=Z,93nm,1.1s
STKI Sintang 72.18 284 P **P** **17 25 29.0 -1.3**
comp=Z,46nm,1.4s
VNA2 Neumayer--Watz 72.25 178 P **P** **17 25 30.8 +1.0**
baz=171,slow=5.5
VNA2 Neumayer--Watz 72.25 178 PcP **PcP** **17 25 46.6 -1.3**
KKM Kota Kinabalu 72.42 292 P **P** **17 25 29.5 -2.3**
KKM IAmb IAmb 17 25 33.5
comp=Z,130nm,1.1s
KKM Kota Kinabalu 72.42 292 P **P** **17 25 31.2 -0.6**
VNA1 Neumayer--Stat 72.50 177 P **P** **17 25 32.6 +1.3**
JCJ Chichijima 72.55 326 P **P** **17 25 30.4 -1.7**
comp=Z,58nm,0.7s,baz=306,slow=21,SNR=4.3
comp=Z,58nm,0.7s
SBUM Sibu 73.11 286 P **P** **17 25 34.6 -1.2**
SBUM IAmb IAmb 17 25 39.0
comp=Z,39nm,1.0s
TPI Tanjungpandan 73.43 279 P **P** **17 25 35.3 -2.4**
comp=Z,43nm,1.0s
BLSI Bandar Lampung 73.77 276 P **P** **17 25 39.0 -0.8**
comp=Z,150nm,0.5s
TGY Tagaytay City 74.56 301 P **P** **17 25 43.2 -1.0**
LWLI Liwa 74.93 275 P P 17 25 40.2 -6.4
comp=Z,112nm,0.8s
PPBI Pangkal Pinang 74.99 279 P **P** **17 25 45.4 -1.5**
comp=Z,54nm,1.0s
COYC Coyhaique 75.88 137 P **P** **17 25 51.1 -0.4**
COYC IAmb IAmb 17 25 56.0
comp=Z,71nm,1.0s
ORCD Orcadas 76.23 160 P **P** **17 25 52.0 -1.2**
ORCD IAmb IAmb 17 25 55.8
comp=Z,123nm,1.1s
AY01 Puyuhuapi 76.28 136 P **P** **17 25 54.3 +0.6**
GO07 Milladeo Hill, 76.52 134 P **P** **17 25 54.3 -0.8**
KSI Kapahiang 76.91 275 P **P** **17 25 55.1 -2.8**
comp=Z,118nm,0.8s
DSRI Dabo 77.25 279 P **P** **17 25 58.1 -1.6**
LL02 Futaleuf 77.50 135 P **P** **17 26 01.3 +0.6**
LL02 IAmb IAmb 17 26 04.9
comp=Z,80nm,1.0s
EFI East Falkland 78.59 148 P **P** **17 26 06.6 +0.1**
EFI East Falkland 78.59 148 *i* P P 17 25 59.2 -7.3
EFI pmax pmax
comp=Z,145nm,1.1s
LL04 Puerto Octay 78.63 133 P **P** **17 26 07.4 +0.4**
LL04 IAmb IAmb 17 26 10.4
comp=Z,45nm,0.9s
LR04 Corral 78.67 132 P **P** **17 26 07.5 +0.3**
LR04 IAmb IAmb 17 26 11.6
comp=Z,105nm,1.0s
KRJI Kerinci 78.75 276 P **P** **17 26 05.6 -2.5**
comp=Z,408nm,0.8s
H03S2 Juan Fernandez 78.91 124 T T 18 52 47.3
baz=232
H03S1 Juan Fernandez 78.92 124 T T 18 52 48.7
baz=232
H03S3 Juan Fernandez 78.93 124 T T 18 52 45.7
baz=232
H03N3 Juan Fernandez 79.14 124 T T 18 52 54.9
baz=234,slow=72,SNR=83
H03N2 Juan Fernandez 79.15 124 T T 18 52 58.3
baz=234,slow=72,SNR=93
H03N1 Juan Fernandez 79.16 124 T T 18 52 58.9
baz=234,slow=72,SNR=75
MYKOM Kota Tinggi 79.21 281 P **P** **17 26 10.4 -0.2**
MYKOM IAmb IAmb 17 26 23.6
comp=Z,85nm,1.7s
LR03 Panguipulli 79.47 132 P **P** **17 26 12.0 +0.4**
LR03 IAmb IAmb 17 26 15.7
comp=Z,136nm,1.4s
PLCA Paso Flores 79.82 134 P **P** **17 26 15.0 +1.4**
comp=Z,35nm,0.8s,baz=224,slow=5.9,SNR=54
comp=Z,35nm,0.8s
PLCA Paso Flores 79.82 134 P **P** **17 26 14.2 +0.6**
PLCA IAmb IAmb 17 26 17.6
comp=Z,60nm,0.9s
PLCA Paso Flores 79.82 134 *eP* **P** **17 26 15.3 +1.7**
GO06 Curarrehue 80.02 132 P **P** **17 26 15.6 +0.8**
BKNI Bangkinang 80.54 278 P **P** **17 26 16.8 -1.0**
comp=Z,68nm,1.4s
BKNI Bangkinang 80.54 278 P **P** **17 26 18.6 +0.8**
YULB Yu-li 80.98 308 P **P** **17 26 19.9 +0.1**
TPUB Ta-pu 81.33 308 P **P** **17 26 22.6 +0.9**
SSLB Suanglung 81.48 308 P **P** **17 26 20.9 -1.6**
SSLB IAmb IAmb 17 26 24.7
comp=Z,49nm,0.8s
SSLB Suanglung 81.48 308 P **P** **17 26 21.3 -1.2**
INU Inuyama 81.87 327 P **P** **17 26 24.6 +0.3**
DLV T Lat 82.03 291 P **P** **17 26 26.5 +0.7**
MJAR Matsushiro Arr 82.36 328 P **P** **17 26 25.9 -1.0**
comp=Z,4.4nm,1.0s,baz=156,slow=6.8,SNR=8.6
MAJO Matsushiro 82.37 328 *i* P **P** **17 26 25.3 -1.6**
MAJO pmax pmax
comp=Z,17nm,1.2s
MAJO Matsushiro 82.37 328 P **P** **17 26 27.1 +0.2**
ML02 Panimavida 82.52 129 P **P** **17 26 28.6 +0.6**
ML02 IAmb IAmb 17 26 32.0
comp=Z,85nm,1.1s
GO05 Huala 82.69 129 P **P** **17 26 29.4 +0.5**
GO05 IAmb IAmb 17 26 32.9
comp=Z,122nm,1.2s
JHS Saijyo 83.37 324 P **P** **17 26 30.6 -1.6**
JHS IAmb IAmb 17 27 10.5
comp=Z,60nm,1.4s
BO02 Sierra Bellavi 83.55 129 P **P** **17 26 33.7 +0.3**
PSI Prapat 83.71 278 LR LR 18 04 23.5
comp=Z,16µm,21.3s,baz=140,slow=36
MT01 Popeta 83.86 128 P **P** **17 26 35.3 +0.4**
GSI Gunungsitoli 83.88 276 P **P** **17 26 34.0 -1.3**
GSI Gunungsitoli 83.88 276 P **P** **17 26 34.4 -0.9**
comp=Z,90nm,1.1s
GSI Gunungsitoli 83.88 276 P **P** **17 26 36.4 +1.1**
MT09 Talagante 84.08 128 P **P** **17 26 36.3 +0.1**
MT09 IAmb IAmb 17 26 39.8
comp=Z,114nm,1.4s
MT02 Curacav 84.33 128 P **P** **17 26 37.1 -0.2**
MT02 IAmb IAmb 17 26 40.7
comp=Z,32nm,0.8s
MT05 Renca 84.49 128 P **P** **17 26 38.7 +0.4**
LMEL Las Melosas 84.53 129 P **P** **17 26 38.6 0.0**
LMEL IAmb IAmb 17 26 42.8
comp=Z,52nm,1.2s
ROC1 El Roble 84.59 128 P **P** **17 26 39.3 +0.3**
ROC1 IAmb IAmb 17 26 44.5
comp=Z,34nm,0.7s
VA06 Catapilco 84.68 127 P **P** **17 26 38.8 -0.4**
VA06 IAmb IAmb 17 26 42.2
comp=Z,68nm,1.1s
PEL Peldehue 84.69 128 P **P** **17 26 39.4 +0.2**
PEL Peldehue 84.69 128 P **P** **17 26 39.4 +0.2**
PEL pmax pmax
comp=Z,105nm,1.0s
VA03 San Esteban 85.02 128 P **P** **17 26 40.5 -0.5**
VA03 IAmb IAmb 17 26 44.4
comp=Z,44nm,1.0s
KCSI Kotacane, Aceh 85.06 278 P **P** **17 26 37.9 -3.4**
comp=Z,35nm,0.8s
QIZ Qiongzhong 85.65 298 P **P** **17 26 46.3 +2.3**
QIZ pP **sP** **17 26 49.8 -2.1**
QIZ pmax pmax
comp=Z,29nm,0.9s
UBPT Khong Chiam 86.41 292 P **P** **17 26 48.4 +0.6**
UBPT IAmb IAmb 17 26 52.0
comp=Z,39nm,1.0s
TRQA Tornquist 86.50 136 P **P** **17 26 48.3 +0.2**
TRQA IAmb IAmb 17 26 51.2
comp=Z,36nm,1.1s
TRQA Tornquist 86.50 136 P **P** **17 26 48.3 +0.2**
TRQA pmax pmax
comp=Z,36nm,1.1s
TRQA Tornquist 86.50 136 *eP* **P** **17 26 50.8 +2.7**
SRIT Nakonsritamara 86.71 283 P **P** **17 26 49.3 0.0**
LHMI Lhok Sumawe 86.75 279 P **P** **17 26 45.8 -3.8**

comp=Z,73nm,0.8s
ZON Zonda 87.02 128 P **P** **17 26 50.6 -0.1**
ZON IAmb IAmb 17 26 54.4
comp=Z,63nm,1.3s
ZON Zonda 87.02 128 P **P** **17 26 50.7 -0.1**
ZON pmax pmax
comp=Z,63nm,1.3s
CO01 Juntas del Tor 87.15 126 P **P** **17 26 51.6 -0.1**
CO01 IAmb IAmb 17 27 12.6
comp=Z,66nm,1.3s
AC05 El Transito 87.79 125 P **P** **17 26 53.8 -0.8**
AC05 IAmb IAmb 17 27 15.9
comp=Z,59nm,0.9s
KSRS Korea Array 87.85 322 P **P** **17 26 54.1 -0.2**
comp=Z,11nm,0.8s,baz=144,slow=5.5,SNR=19
KSRS PP **PP** **17 30 21.9 +1.1**
comp=Z,6.1nm,1.0s,baz=154,slow=8.7,SNR=6.4
comp=Z,11nm,0.8s
KSAR Wonju Array Be 87.86 322 P **P** **17 26 53.9 -0.4**
KSAR Wonju Array Be 87.86 322 P **P** **17 26 53.9 -0.4**
KS19 Wonju Array Si 87.92 322 P **P** **17 26 55.1 +0.5**
KS19 IAmb IAmb 17 27 06.1
comp=Z,72nm,1.5s
ADK Adak 88.63 3 P **P** **17 26 59.4 +1.8**
YSS Yuzh-Sakhalins 89.68 336 *i* P **P** **17 27 03.3 +0.7**
YSS pmax pmax
comp=Z,67nm,1.4s
SLBS Sierra La Lagu 90.12 60 P **P** **17 27 06.8 +1.3**
SLBS IAmb IAmb 17 27 13.4
comp=Z,100nm,1.9s
LPIG La Paz 90.14 60 LR LR 17 57 55.8
comp=Z,7µm,20.2s,baz=240,slow=29
NIKH Nikolski High 90.26 7 P **P** **17 27 05.8 +0.6**
NIKH IAmb IAmb 17 27 08.2
comp=Z,79nm,1.0s
NIKH Nikolski High 90.26 7 P **P** **17 27 07.0 +1.8**
baz=190
WHN Wuhan 90.40 309 P **P** **17 27 09.9 +3.5**
GO02 Mina Guanaco 90.68 123 P **P** **17 27 09.7 +1.1**
GO02 IAmb IAmb 17 27 13.0
comp=Z,68nm,0.9s
SCZ2 Santa Cruz Isl 90.90 47 P **P** **17 27 10.5 +1.7**
baz=224
USRK Ussuriysk Ar. 91.36 328 P **P** **17 27 10.8 +0.3**
comp=Z,11nm,1.1s,baz=126,slow=2.6,SNR=5.7
comp=Z,11nm,1.1s
UNV Unalaska Valle 91.38 9 P **P** **17 27 11.0 +0.6**
UNV Unalaska Valle 91.38 9 P **P** **17 27 12.6 +2.2**
baz=192
PET Petropavlovsk 91.40 348 P **P** **17 27 10.3 -0.1**
PET IAmb IAmb 17 27 13.5
comp=Z,25nm,1.0s
PET Petropavlovsk 91.40 348 *ceP* **P** **17 27 10.4 -0.1**
PET pmax pmax
comp=Z,69nm,2.1s
PET Petropavlovsk 91.40 348 P **P** **17 27 11.4 +0.9**
PKM Mcpherson Peak 91.43 46 P **P** **17 27 15.5 +4.1**
baz=224
PEA0B Petropavlovsk- 91.65 347 P **P** **17 27 12.8 +1.1**
PEA0B IAmb IAmb 17 27 21.6
comp=Z,41nm,0.9s
PETK Petropavlovsk- 91.65 347 P **P** **17 27 11.3 -0.4**
comp=Z,19nm,1.0s,baz=120,slow=5.7,SNR=14
comp=Z,19nm,1.0s
PETK Petropavlovsk- 91.65 347 P **P** **17 27 12.7 +1.0**
ESJX Sierra Juarez 91.73 50 P **P** **17 27 16.0 +3.1**
ESJX IAmb IAmb 17 27 38.8
comp=Z,19nm,0.6s
BAR Barrett 91.75 50 P **P** **17 27 14.0 +1.3**
BAR IAmb IAmb 17 27 17.2
comp=Z,104nm,1.8s
ELS Elsinore Mount 91.97 48 P **P** **17 27 14.0 +0.2**
ELS IAmb IAmb 17 27 20.2
comp=Z,69nm,1.9s
RMX La Rumorosa 92.06 50 P **P** **17 27 12.3 -2.0**
RMX IAmb IAmb 17 27 19.9
comp=Z,37nm,0.8s
MURC Murrieta 92.07 49 P **P** **17 27 16.1 +1.9**
baz=226
ARVC Arvin 92.17 47 P **P** **17 27 16.0 +1.4**
baz=225
YUH Yuha Desert 92.19 50 P **P** **17 27 11.1 -3.6**
YUH IAmb IAmb 17 27 18.8
comp=Z,39nm,0.7s
EDW2 Edwards Air Fo 92.49 47 P **P** **17 27 17.2 +1.0**
baz=225,SNR=9.5
TPFO Pinon Flats 92.52 49 P **P** **17 27 16.2 -0.2**
baz=226
PFO Pinyon Flats O 92.52 49 P **P** **17 27 16.1 -0.3**
comp=Z,6.0nm,0.5s,baz=149,slow=13,SNR=10
comp=Z,6.0nm,0.5s
PFO Pinyon Flats O 92.52 49 P **P** **17 27 15.3 -1.1**
PFO IAmb IAmb 17 27 39.3
comp=Z,35nm,1.2s
PFO Pinyon Flats O 92.52 49 P **P** **17 27 16.6 +0.2**
baz=226
PMD Palm Desert 92.60 49 P **P** **17 27 15.0 -1.6**
PMD IAmb IAmb 17 27 39.3
comp=Z,63nm,1.6s
ISA Isabella, Lake 92.75 46 P **P** **17 27 19.5 +2.1**
ISA IAmb IAmb 17 27 25.5
comp=Z,28nm,1.3s
ISA Isabella, Lake 92.75 46 P **P** **17 27 19.5 +2.1**
ISA pmax pmax
comp=Z,28nm,1.3s
ISA Isabella, Lake 92.75 46 P **P** **17 27 20.6 +3.2**
baz=225
PB07 IPOC Station P 92.76 120 P **P** **17 27 19.3 +1.2**
PB07 IAmb IAmb 17 27 39.6
comp=Z,50nm,1.3s
LVC Limon Verde 92.84 121 LR LR 18 00 09.6
comp=Z,12µm,20.3s,baz=212,slow=30
LVC Limon Verde 92.84 121 P **P** **17 27 14.7 -3.9**
LVC IAmb IAmb 17 27 24.2
comp=Z,56nm,1.4s
LVC Limon Verde 92.84 121 P **P** **17 27 14.7 -3.9**
LVC pmax pmax
comp=Z,57nm,1.4s
LVC Limon Verde 92.84 121 *eP* **P** **17 27 21.5 +2.8**
BELC Belle Mtn. Jos 93.07 49 P **P** **17 27 21.4 +2.5**
baz=226,SNR=17
LRMC Laurel Mtn Rad 93.09 47 P **P** **17 27 21.7 +2.7**
baz=226
GLA Glamis 93.14 50 P **P** **17 27 21.8 +2.6**
GLA IAmb IAmb 17 27 42.5
comp=Z,75nm,1.5s
GLA Glamis 93.14 50 P **P** **17 27 21.8 +2.6**
GLA pmax pmax
comp=Z,75nm,1.5s
GLA Glamis 93.14 50 P **P** **17 27 22.1 +2.9**
baz=227
PB09 IPOC Station P 93.16 120 P **P** **17 27 21.0 +1.1**
PB09 IAmb IAmb 17 27 24.9
comp=Z,38nm,1.2s
BC3 Big Chuckawall 93.16 50 P **P** **17 27 19.4 0.0**
baz=227,SNR=22
CM31 Chiang Mai Arr 93.25 291 P **P** **17 27 19.0 -0.9**
CM31 IAmb IAmb 17 27 28.6
comp=Z,40nm,1.0s
CMAR Chiang Mai Arr 93.25 291 P **P** **17 27 19.9 -0.1**
comp=Z,15nm,0.8s,baz=145,slow=3.7,SNR=36
CMAR PP **PP** **17 31 04.5 +0.5**
comp=Z,6.9nm,0.9s,baz=140,slow=6.6,SNR=9.9
comp=Z,15nm,0.8s
CMAR Chiang Mai Arr 93.25 291 P **P** **17 27 19.3 -0.7**
CMAR Chiang Mai Arr 93.25 291 P **P** **17 27 19.3 -0.7**
CRAI Chiangrai 93.28 293 P **P** **17 27 20.1 +0.1**
ENH Enshi 93.31 306 P **P** **17 27 20.0 0.0**
CHNA Chernabura Isl 93.34 12 P **P** **17 27 20.7 +1.3**
baz=197
CMB Columbia Colle 93.35 44 P **P** **17 27 20.7 +0.7**
CMB Columbia Colle 93.35 44 P **P** **17 27 20.7 +0.7**
CMB pmax pmax
comp=Z,11nm,1.1s
HEC Hector,Ludlow 93.43 48 P **P** **17 27 23.7 +3.2**
baz=226
CHTO Chiang Mai 93.47 291 P **P** **17 27 19.5 -1.5**
CHTO Chiang Mai 93.47 291 P **P** **17 27 19.5 -1.5**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
CHTO Chiang Mai 93.47 291 P **P** **17 27 21.1 +0.1**
GSC Goldstone, Bar 93.48 48 P **P** **17 27 21.0 +0.2**
GSC IAmb IAmb 17 27 28.0
comp=Z,73nm,1.9s
GSC Goldstone, Bar 93.48 48 P **P** **17 27 21.0 +0.2**
GSC pmax pmax

comp=Z,73nm,1.9s
GSC Goldstone, Bar 93.48 48 P P 17 27 22.7 +1.9
baz=226
113A Mohawk Valley, 93.60 51 P P 17 27 20.8 -0.4
MPMC Manual Prospec 93.60 47 P P 17 27 23.5 +2.1
baz=226
214A Organ Pipe Nat 93.66 52 P P 17 27 22.8 +1.2
baz=228
AFDM Forest Hills D 93.69 43 P P 17 27 21.4 -0.1
IRM Iron Mountain 93.69 49 P P 17 27 24.1 +2.4
baz=227,SNR=14
GMRC Granite Mounta 93.81 49 P P 17 27 25.4 +3.1
baz=227,SNR=8.2
CN2 Changchun 93.95 324 *e*P P 17 27 25.1 +2.5
CN2 pmax pmax
comp=Z,20nm,1.1s
TUQ Turquoise Moun 94.09 48 P P 17 27 25.1 +1.5
baz=226
GWY Greenwater Val 94.17 47 P P 17 27 24.4 +0.5
DSP Deep Springs 94.24 45 P P 17 27 24.3 +0.3
LCH Last Change Ra 94.33 46 P P 17 27 25.5 +0.8
PDMCI Parker Dam,Lak 94.40 50 P P 17 27 27.1 +2.3
baz=227
PNTR Pine Nut 94.53 43 P P 17 27 24.7 -1.0
LHV Little Huntoon 94.55 45 P P 17 26 4.4 +0.9
KMI Kunming 94.60 298 ⇑P P 17 27 28.8 +2.5
KMI pP sP 17 27 31.8 -2.4
KMI pmax pmax
comp=Z,11nm,1.3s
S14K Fog Glacier 94.74 12 P P 17 27 28.7 +2.7
baz=197
NVAR Mina Array Bea 94.79 44 P P 17 27 27.5 +0.6
comp=Z,1.7nm,0.9s,baz=219,slow=7.8,SNR=10
NVAR PKKPbc **PKKPbc** 17 44 20.4 -3.6
comp=Z,0.6nm,0.8s,baz=54,slow=4.6,SNR=1.8
comp=Z,1.7nm,0.9s
NVAR Mina Array Bea 94.79 44 P P 17 27 27.3 +0.5
V12A Nelson 94.93 48 P P 17 27 27.2 -0.2
CHGN Chignik 94.95 12 P P 17 27 27.9 +1.2
CHGN IAmb IAmb 17 27 29.8
comp=Z,36nm,1.2s
CHGN Chignik 94.95 12 P P 17 27 29.4 +2.7
baz=198
W13A Hualapai Mount 95.09 49 P P 17 27 29.8 +1.5
TPH Tonopah 95.16 45 P P 17 27 29.1 +0.6
TPH Tonopah 95.16 45 P P 17 27 29.1 +0.6
TPH pmax pmax
comp=Z,99nm,1.4s
TUC Tucson 95.18 53 P P 17 27 30.6 +2.0
TUC Tucson 95.18 53 P P 17 27 30.6 +2.0
TUC pmax pmax
comp=Z,12nm,1.5s
HUMO Hull Mountain 95.30 39 P P 17 27 31.0 +2.2
KVN Kaiserville 95.34 44 P P 17 27 30.8 +1.5
KVN Kaiserville 95.34 44 P P 17 27 30.8 +1.5
KVN pmax pmax
comp=Z,7.0nm,1.1s
KLR Kul'dur 95.53 331 *i* P P 17 27 31.2 +1.5
KLR pmax pmax
comp=Z,21nm,2.0s
ITQB Itaqui 95.65 134 P P 17 27 31.2 +0.2
ITQB IAmb IAmb 17 27 34.1
comp=Z,35nm,1.0s
ITQB Itaqui 95.65 134 *e*P P 17 27 33.4 +2.4
ATAH Atahualpa 95.75 103 P P 17 27 32.2 +0.1
comp=Z,1.5nm,0.5s,baz=213,slow=16,SNR=1.1
ATAH PP **PP** 17 31 26.6 +3.0
comp=Z,2.9nm,0.6s,baz=274,slow=9.7,SNR=4.9
comp=Z,1.5nm,0.5s
BJI Beijing 95.92 317 P P 17 27 34.9 +3.3
BJI pmax pmax
comp=Z,5.0nm,0.9s
PRN Pahroc Range 95.95 47 P P 17 27 33.9 +1.8
SII Sitkinak Islan 95.98 15 P P 17 27 34.5 +2.9
baz=201
XAN Xi'an 96.14 308 P P 17 27 41.9 +9.0
XAN pP pwP 17 27 46.4 +5.1
XAN pmax pmax
comp=Z,12nm,1.1s
X16A Lo Mia Camp, P 96.14 51 P P 17 27 34.4 +1.3
MOD Modoc Plateau 96.16 41 P P 17 27 34.2 +1.3
MOD IAmb IAmb 17 28 08.4
comp=Z,32nm,1.8s
PZH PanZhiHua 96.16 298 P P 17 27 33.3 0.0
PZH pmax pmax
comp=Z,10.0nm,0.9s
J04D Umpqua Nationa 96.19 39 P P 17 27 35.4 +2.3
baz=223
K05A Summer Lake 96.44 40 P P 17 27 36.2 +2.0
K05A IAmb IAmb 17 27 40.6
comp=Z,24nm,1.3s
I04A Tendick Farm, 96.44 38 P P 17 27 36.0 +1.9
baz=223
R17K Ugashik Creek 96.58 13 P P 17 27 36.8 +2.6
baz=200
J05D Fort Rock, OR 96.66 39 P P 17 27 36.9 +1.8
baz=224
OHAK Old Harbor 96.78 15 P P 17 27 37.7 +2.6
baz=202
BMN Battle Mountai 96.78 44 P P 17 27 36.4 +0.6
BMN Battle Mountai 96.78 44 P P 17 27 36.4 +0.6
BMN pmax pmax
comp=Z,15nm,1.4s
CPSB Cacapava Do Su 96.89 136 *e*P P 17 27 39.1 +2.5
U15A North Rim 96.94 49 P P 17 27 39.3 +2.5
UNIS Unistalda (Bra 97.00 134 *e*P P 17 27 39.7 +2.6
PINE Pine Mountain 97.17 39 P P 17 27 37.6 +0.1
PINE IAmb IAmb 17 28 13.5
comp=Z,25nm,1.5s
WVOR Wild Horse Val 97.41 41 P Pdif 17 27 39.5 +0.9
WVOR IAmb IAmb 17 28 21.3
comp=Z,18nm,1.5s
WVOR Wild Horse Val 97.41 41 P Pdif 17 27 39.5 +0.9
WVOR pmax pmax
comp=Z,18nm,1.5s
CD2 Chengdu 97.50 303 *e*P P 17 27 39.5 +0.3
LPAZ La Paz 97.60 117 P P 17 27 40.8 0.0
comp=Z,3.6nm,0.8s,baz=190,slow=2.4,SNR=9.0
LPAZ PP **PP** 17 31 40.4 +2.4
comp=Z,12nm,1.4s,baz=228,slow=8.5,SNR=7.6
comp=Z,3.6nm,0.8s
LPAZ La Paz 97.60 117 P P 17 27 40.1 -0.6
LPAZ IAmb IAmb 17 27 46.1
comp=Z,47nm,1.8s
LPAZ La Paz 97.60 117 P P 17 27 40.1 -0.6
LPAZ pmax pmax
comp=Z,47nm,1.8s
LPAZ La Paz 97.60 117 *e*P Pdif 17 27 42.9 +2.0
CPUP Villa Florida 97.72 131 P P 17 27 40.1 -0.2
comp=Z,3.4nm,0.9s,baz=250,slow=2.4,SNR=5.4
CPUP LR LR 18 05 33.0
comp=Z,16µm,18.9s,baz=152,slow=32
comp=Z,3.4nm,0.9s
CPUP Villa Florida 97.72 131 *e*P Pdif 17 27 42.9 +2.5
TXAR Lajitas Array 98.04 59 P P 17 27 41.5 -0.2
comp=Z,0.4nm,0.8s,baz=172,slow=3.8,SNR=5.1
TXAR PKKP **PKKPdf** 17 44 17.1 -0.7
comp=Z,0.4nm,0.9s,baz=20,slow=2.9,SNR=2.7
I07A Izee 98.11 40 P P 17 27 41.4 -0.3
I07A IAmb IAmb 17 28 03.1
comp=Z,29nm,1.9s
O16K Kokwok River B 98.14 12 P Pdif 17 27 43.1 +1.9
baz=198
MNTX Cornudas Mount 98.33 57 P Pdif 17 27 43.6 +0.7
baz=231
ALGR Alto Alegre (B 98.36 136 *e*P Pdif 17 27 44.6 +1.2
P18K Big Mountain, 98.43 13 P Pdif 17 27 45.0 +2.4
baz=201
N16K Nishlik Lake 98.87 11 P Pdif 17 27 46.2 +1.6
baz=198
O18K Koktuh Hills 98.87 13 P Pdif 17 27 45.6 +1.0
O18K IAmb IAmb 17 27 46.9
comp=Z,12nm,1.0s
O18K Koktuh Hills 98.87 13 P Pdif 17 27 46.8 +2.2
baz=201
HHC Hu-ho-hao-te 99.04 315 *e*P **Pdif** 17 27 48.2 +2.3
G08A Pilot Rock 99.23 39 **Pdif** 17 27 48.7 +2.0
O19K Port Alsworth 99.35 13 P **Pdif** 17 27 48.0 +1.4
O19K IAmb IAmb 17 27 55.1
comp=Z,8.9nm,0.7s
ILSW Iliamna Southw 99.37 14 P **Pdif** 17 27 47.1 +0.2
ILSW IAmb IAmb 17 27 57.7
comp=Z,9.3nm,1.0s
N18K Kilae Creek 99.53 12 P **Pdif** 17 27 50.3 +2.8
baz=200
O20K Slope Mountain 99.56 14 P **Pdif** 17 27 50.0 +2.3
baz=203
Q23K Middleton Isla 100.32 17 P **Pdif** 17 27 52.9 +2.0
baz=208
L19K White Mountain 101.11 12 P **Pdif** 17 27 57.5 +3.0
baz=201
S22A 4UR Ranch, Cre 101.14 51 P **Pdif** 17 27 56.4 +0.8
baz=232
SUA Susitna One 101.20 14 P **Pdif** 17 27 58.0 +3.0
baz=204
L20K Farewell, AK 101.56 13 P **Pdif** 17 27 59.2 +2.8
baz=202
TTA Tatalina 101.63 11 P **Pdif** 17 27 59.6 +2.7
baz=200
K20K Telida 102.34 12 P **Pdif** 17 28 02.1 +2.2
baz=202
PDAR Pinedale Array 102.64 46 P **Pdif** 17 28 01.1 -1.0
comp=Z,0.1nm,0.4s,baz=248,slow=2.4,SNR=1.2
PDAR PKKPbc **PKKPbc** 17 43 59.5 -2.4
comp=Z,1.9nm,0.8s,baz=86,slow=6.7,SNR=8.4
M24K Tolsona, Glenn 102.74 16 P **Pdif** 17 28 04.0 +2.3
baz=208
SIV San Ignacio 102.74 121 P **Pdif** 17 28 05.0 +2.1
comp=Z,0.4nm,0.3s,baz=215,slow=2.5,SNR=4.3
CAST Castle Rocks 102.75 13 P **Pdif** 17 28 04.5 +2.8
baz=203
WAT6 Susitna Watana 102.83 15 P **Pdif** 17 28 05.4 +3.2
baz=207
MCARA McCarthy VSAT 102.84 18 P **Pdif** 17 28 05.4 +3.3
baz=210
Q24A Divide 102.93 51 P **Pdif** 17 28 05.5 +2.0
baz=233
J20K Nowinta River 103.10 12 P **Pdif** 17 28 05.6 +2.4
baz=202
M27K Edge Creek, AK 103.96 18 P **Pdif** 17 28 09.4 +2.1
baz=211
DLBC Dease Lake 104.20 25 PKiKP **PKiKP** 17 32 25.1 +0.1
comp=Z,1.0nm,0.6s,baz=225,slow=2.9,SNR=2.0
RIDG Independent Ri 104.47 16 P **Pdif** 17 28 11.9 +2.5
baz=209
HDA Harding Lake 104.62 15 P **Pdif** 17 28 13.4 +3.4
baz=208
R33M Jennings River 104.63 24 P **Pdif** 17 28 13.1 +2.8
baz=219
H21K Melozitna Rive 104.69 12 P **PKiKP** 17 32 28.4 +2.7
baz=203
SCRK Sand Creek 104.87 16 P **PKiKP** 17 32 28.5 +2.3
baz=210
M29M Somme Creek 104.89 19 P **PKiKP** 17 32 28.9 +2.7
baz=214
ILAR Eielson Array 104.96 14 Pdiff **Pdif** 17 28 12.6 +1.1
comp=Z,0.5nm,0.8s,baz=218,slow=4.2,SNR=2.6
ILAR PKiKP **PKiKP** 17 32 26.1 -0.1
comp=Z,4.0nm,1.2s,baz=205,slow=4.0,SNR=3.2
ILAR PKKPbc **PKKPbc** 17 43 57.0 +1.6
comp=Z,1.1nm,0.9s,baz=359,slow=4.0,SNR=6.0
J25K Salcha River, 105.13 15 P **PKiKP** 17 32 28.6 +2.0
baz=209
H22K Ishtalitna Cre 105.14 12 P **PKiKP** 17 32 28.8 +2.3
baz=204
BILL Bilibino 105.19 355 *i* P **Pdif** 17 28 11.5 -0.9
BILL *e* 17 32 37.8
BILL *e*PPP PPP 17 34 47.6
BILL pmax pmax
comp=Z,2.0nm,1.1s
G21K Allakaket 105.37 11 P **PKiKP** 17 32 28.6 +1.7
baz=202
H23K Yukon River 105.40 13 P **PKiKP** 17 32 29.3 +2.3
baz=206
J26L Joseph Creek 105.41 16 P **PKiKP** 17 32 28.5 +1.4
baz=210
M30M Minto, Yukon 105.44 20 P **PKiKP** 17 32 28.9 +1.8
baz=215
H24K Nodoki Dome 105.72 14 P **PKiKP** 17 32 29.6 +2.1
baz=207
G23K Bananza Creek 106.12 12 P **PKiKP** 17 32 31.4 +3.1
baz=205
FARO Faro, Yukon 106.12 21 P **PKiKP** 17 32 30.8 +2.3
baz=218
EGAK Eagle 106.19 17 P **PKiKP** 17 32 31.5 +3.1
baz=212
I26K Coal Creek Min 106.20 16 P **PKiKP** 17 32 31.3 +2.9
baz=211
SONM Songino Array 106.34 318 Pdiff **Pdif** 17 28 19.7 +1.4
comp=Z,0.5nm,0.8s,baz=70,slow=1.7,SNR=2.7
SONM PKiKP **PKiKP** 17 32 27.6 -1.8
comp=Z,1.5nm,1.0s,baz=138,slow=3.8,SNR=3.8
SONM PKKPbc **PKKPbc** 17 43 50.3 -0.4
comp=Z,2.3nm,0.8s,baz=282,slow=2.6,SNR=9.0
YAK Yakutsk 106.42 338 PKiKP **PKiKP** 17 32 28.3 -0.6
comp=Z,1.4nm,0.3s,baz=217,slow=2.1,SNR=2.0
H25K Birch Creek 106.49 14 P **PKiKP** 17 32 31.1 +2.2
baz=209
F22K John River 106.50 11 P **PKiKP** 17 32 30.9 +1.9
baz=204
G24K Hadweenzic Riv 106.56 13 P **PKiKP** 17 32 32.6 +3.5
baz=207
F24K Squaw Lake 107.22 13 P **PKiKP** 17 32 32.2 +1.9
baz=207
F25K Christian River 107.69 13 P **PKiKP** 17 32 33.3 +2.1
baz=209
TOLK Toolik Lake Re 107.94 12 P **PKiKP** 17 32 34.4 +2.7
baz=206
D24K Happy Valley 108.52 12 P **PKiKP** 17 32 35.1 +2.4
baz=207
EPYK Eagle Plains 108.55 17 P **PKiKP** 17 32 34.3 +1.5
baz=216
C23K Itkillik River 108.86 11 P **PKiKP** 17 32 36.1 +2.8
baz=205
E27K Coleen River 108.99 15 P **PKiKP** 17 32 36.3 +2.7
baz=212
BOSA Boshof 110.18 205 PKKPbc PKKPbc 17 43 36.5 -1.4
comp=Z,1.5nm,0.6s,baz=211,slow=3.2,SNR=1.7
INK Inuvik 110.84 17 PKiKP **PKiKP** 17 32 36.9 -0.1
comp=Z,1.6nm,0.3s,baz=25,slow=3.3,SNR=4.6
DWPF Disney Wildern 113.54 72 P **PKiKP** 17 32 45.6 +2.2
baz=239
TIXI Tiksi 113.96 345 PKiKP **PKiKP** 17 32 41.6 -1.3
comp=Z,8.0nm,0.8s,baz=88,slow=24,SNR=5.7
TIXI Tiksi 113.96 345*c* *i*PKiKP **PKiKP** 17 32 42.0 -0.9
TIXI pmax pmax
comp=Z,15nm,1.0s
JFWS Jewell Farm 114.53 54 P **PKiKP** 17 32 46.6 +1.8
baz=242
WMQ Urumqi 115.23 307 *e*PKP **PKiKP** 17 32 47.4 +1.1
TZTN Tazewell 116.09 63 P **PKiKP** 17 32 49.5 +1.4
baz=242
EYMN Ely 116.10 48 P **PKiKP** 17 32 49.6 +1.9
baz=243
DGZ Jazzator, Alta 118.02 313 *i* PKiKP **PKPdf** 17 32 48.4 -3.1
ZSN Zaisan 118.62 310 *e*PKiKP **PKPdf** 17 32 50.6 -2.0
ZSN Zaisan 118.62 310 *e*PKP **PKPdf** 17 32 50.6 -2.0
baz=309
MK31 Makanchi Array 119.96 308 PKPdf **PKPdf** 17 32 52.9 -2.3
MK31 Makanchi Array 119.96 308 PKiKP **PKPdf** 17 32 52.9 -2.3
MKAR Makanchi Array 119.96 308 PKP **PKPdf** 17 32 53.8 -1.4
comp=Z,10nm,0.9s,baz=124,slow=1.2,SNR=21
MKAR PKKPbc **PKKPbc** 17 43 05.8 +1.5
comp=Z,2.6nm,1.0s,baz=295,slow=3.5,SNR=10
MKAR Makanchi Array 119.96 308 PKPdf **PKPdf** 17 32 52.4 -2.8
MKAR Makanchi Array 119.96 308 PKiKP **PKPdf** 17 32 52.4 -2.8
MAKZ Makanchi 120.16 308 **PKPdf** 17 32 53.7 -1.9
MAKZ Makanchi 120.16 308 PKiKP **PKPdf** 17 32 51.9 -3.7
SHLS Shalkode 120.34 303 *e*PKiKP **PKPdf** 17 32 53.4 -2.8
SHLS Shalkode 120.34 303 *e*PKP **PKPdf** 17 32 53.4 -2.8
baz=303
PDGK Podgornoye 120.39 303 PKiKP **PKPdf** 17 32 54.2 -2.1
UZB Uzynbulak 120.63 303 *e*PKiKP **PKPdf** 17 32 54.7 -2.1
UZB Uzynbulak 120.63 303 *e*PKP **PKPdf** 17 32 54.8 -2.1
baz=303
KPKS Kokpek 120.98 303 *e*PKiKP **PKPdf** 17 32 54.9 -2.5
KPKS Kokpek 120.98 303 *e*PKP **PKPdf** 17 32 55.0 -2.5
baz=303
SATY Saty 121.01 303 *e*PKiKP **PKPdf** 17 32 55.4 -2.1
SATY Saty 121.01 303 *e*PKP **PKPdf** 17 32 55.4 -2.1
baz=302
LSZ Lusaka 121.12 213 PKP **PKPdf** 17 32 57.9 -0.6
comp=Z,5.0nm,0.8s,baz=15,slow=1.5,SNR=7.9
ZAA0 Zalesovo Array 121.18 316 **PKPdf** 17 32 55.7 -1.6
ZALV Zalesovo Beam 121.18 316 PKP **PKPdf** 17 32 55.7 -1.5
comp=Z,4.1nm,0.5s,baz=132,slow=2.1,SNR=16
KSH Kashi 121.26 298 PKP **PKiKP** 17 32 59.6 +1.4
TMAB Tom-Au,PA,Br 121.35 121 *e*P **PKiKP** 17 33 03.0 +3.9
TDK Taldyqorghan 121.76 305 *e*PKP **PKPdf** 17 32 56.7 -2.1
baz=305
SSPA Standing Stone 121.86 61 P **PKPdf** 17 32 59.4 +0.3
baz=246
MDOK Medeo 121.97 302 *e*PKiKP **PKPdf** 17 32 57.0 -2.4
baz=302
MDOK Medeo 121.97 302 *e*PKP **PKPdf** 17 32 57.0 -2.4
baz=302
NRN Naryn 122.01 300 PKPdf **PKPdf** 17 32 58.8 -0.9
NRN Naryn 122.01 300 PKiKP **PKPdf** 17 32 58.8 -0.9
AAA Alma-Ata 122.07 302 *e*PKiKP **PKPdf** 17 32 57.3 -2.1
AAA Alma-Ata 122.07 302 *e*PKP **PKPdf** 17 32 57.3 -2.1
baz=302
CHKK Chushkaly 122.27 303 *e*PKiKP **PKPdf** 17 32 57.1 -2.6
CHKK Chushkaly 122.27 303 *e*PKP **PKPdf** 17 32 57.2 -2.6
baz=303
SEM Semipalatinsk 122.56 311 *e*PKP **PKPdf** 17 32 57.6 -2.7
baz=311
SADO Sadowa 122.59 56 PKP **PKPdf** 17 32 60.0 -0.3
comp=Z,4.2nm,0.7s,baz=265,slow=3.2,SNR=2.0
KUU Kurty 122.72 303 *e*PKiKP **PKPdf** 17 32 58.1 -2.5
KUU Kurty 122.72 303 *e*PKP **PKPdf** 17 32 58.1 -2.5
baz=303
TKM2 Tokmak 2 122.86 302 P **PKPdf** 17 32 59.9 -1.2
SNR=14
TKM2 Tokmak 2 122.86 302 PKiKP **PKPdf** 17 32 59.5 -1.7
NBAN Anadia - AL 123.00 137 *e*P **PKiKP** 17 33 05.5 +3.2
KBK Karagaybulak 123.20 301 P **PKiKP** 17 33 02.8 +0.8
SNR=6.6
UCH Uchtor 123.34 301 P **PKPdf** 17 33 02.0 -0.4
SNR=13
CHMS Chumysh 123.46 302 P **PKPdf** 17 33 01.0 -1.1
SNR=8.4
AAK Ala-Archa 123.50 301 *i* PKiKP **PKPdf** 17 33 01.3 -1.0
KURK Kurchatov 123.64 311 **PKPdf** 17 33 00.1 -2.0
KURK Kurchatov 123.64 311 *i* PKiKP **PKPdf** 17 32 59.2 -2.9
SGDS Sogindy 123.71 302 *e*PKiKP **PKPdf** 17 33 00.4 -2.1
SGDS Sogindy 123.71 302 *e*PKP **PKPdf** 17 33 00.5 -2.1
baz=302
USP Ospenovka 123.73 302 P **PKPdf** 17 33 01.6 -1.0
SNR=7.1
BINY Binghamton 123.78 60 P **PKPdf** 17 33 03.0 +0.3
baz=248
AML Almayashu 123.87 300 P **PKPdf** 17 33 02.2 -1.1
SNR=9.9
EKS2 Erkin-Say 124.01 301 P **PKPdf** 17 33 03.2 -0.1
SNR=8.3
J57A Williamstown 124.21 58 **PKPdf** 17 33 02.9 -0.5
KBL Kabul 124.28 290 **PKPdf** 17 33 02.9 -1.3
KBL Kabul 124.28 290 PKiKP **PKPdf** 17 33 02.9 -1.3
NBRF Rio Formoso - 124.44 138 *e*P **PKiKP** 17 33 07.8 +2.7
BTLS Baital 124.66 304 *e*PKiKP **PKPdf** 17 33 02.0 -2.2
BTLS Baital 124.66 304 *e*PKP **PKPdf** 17 33 02.1 -2.2
baz=303
J58A Remsen 124.68 59 **PKPdf** 17 33 03.0 -1.4
PAL Palisades 124.79 62 P **PKPdf** 17 33 04.7 +0.1
baz=248
VLDQ Val d'Or 124.84 53 **PKPdf** 17 33 03.0 -1.5
GAR Garm 125.10 296 **PKPdf** 17 33 03.5 -2.0
BTK Batken 125.13 297 **PKPdf** 17 33 04.0 -1.5
J59A Piesco 125.25 59 **PKPdf** 17 33 05.1 -0.4
LONY Lake Ozonia 125.58 57 PKPdf **PKPdf** 17 33 05.3 -0.8
LONY Lake Ozonia 125.58 57 P **PKPdf** 17 33 06.5 +0.4
baz=251
NCB Newcomb 125.61 58 **PKPdf** 17 33 05.6 -0.5
DZA Taraz 125.77 300 *e*PKiKP **PKPdf** 17 33 04.9 -1.6
DZA Taraz 125.77 300 *e*PKP **PKPdf** 17 33 04.9 -1.6
baz=300
CHGR Chuyangaron 125.81 295 **PKPdf** 17 33 06.1 -0.7
CHGR Chuyangaron 125.81 295 PKiKP **PKPdf** 17 33 06.1 -0.7
L61B Northampton 126.16 60 **PKPdf** 17 33 06.4 -0.8
L61B Northampton 126.16 60 P **PKiKP** 17 33 08.5 +0.9
baz=250
QUA2 Belchertown 126.33 61 **PKPdf** 17 33 07.5 0.0
RCBR Riachuelo 126.37 135 *e*P **PKiKP** 17 33 11.4 +2.4
KK31 Karatay Array 126.41 300 PKPdf **PKPdf** 17 33 05.8 -1.9
KK31 Karatay Array 126.41 300 PKiKP **PKPdf** 17 33 05.8 -1.9
KKAR Karatay Array 126.41 300 PKPdf **PKPdf** 17 33 06.0 -1.7
KKAR Karatay Array 126.41 300 **PKPdf** 17 33 06.0 -1.7
KKAR Karatay Array 126.41 300 PKiKP **PKPdf** 17 33 06.0 -1.7
IUG luzhnay 126.42 299 *e*PKiKP **PKPdf** 17 33 06.5 -1.4
IUG luzhnay 126.42 299 *e*PKP **PKPdf** 17 33 06.5 -1.4
baz=299
J61A Chester 126.55 59 **PKPdf** 17 33 08.0 +0.1
KIBK Kibwezi 126.59 232 **PKPdf** 17 33 08.2 -0.9
VT1 Waterbury 126.73 58 **PKPdf** 17 33 08.2 -0.1
OTUK Ortayu 126.79 307 PKiKP **PKPdf** 17 33 07.0 -1.3
HRV Adam Dziewonsk 126.96 61 P **PKiKP** 17 33 10.2 +1.0
baz=251
BRZS Berezniki 127.06 309 *e*PKiKP **PKPdf** 17 33 06.1 -2.6
BRZS Berezniki 127.06 309 *e*PKP **PKPdf** 17 33 06.1 -2.6
baz=309
LBNH Lisbon 127.26 59 **PKiKP** 17 33 10.3 +0.5
LBNH Lisbon 127.26 59 PKiKP **PKiKP** 17 33 10.3 +0.5
LBNH Lisbon 127.26 59 P **PKiKP** 17 33 10.4 +0.6
baz=252
I62A Tamworth 127.55 59 PKPdf **PKPdf** 17 33 10.3 +0.5
H62A Milan 127.89 58 **PKPdf** 17 33 10.5 0.0
KMBO Mlima Mbogo 128.03 232 PKP **PKPdf** 17 33 12.4 +0.3
comp=Z,11nm,0.9s,baz=56,slow=2.1,SNR=17
G62A West of Eustis 128.51 58 **PKPdf** 17 33 11.4 -0.3
BRVK Borovoye 129.24 312 **PKPdf** 17 33 11.7 -1.1
BRVK Borovoye 129.24 312 *i* PKiKP **PKPdf** 17 33 12.3 -0.4
PKME Peaks-Kenny Pk 129.36 58 **PKPdf** 17 33 13.7 +0.6
PKME Peaks-Kenny Pk 129.36 58 P **PKiKP** 17 33 14.4 +0.5
baz=254
SCHQ Schefferville 132.78 46 PKP **PKPdf** 17 33 19.2 -0.2
comp=Z,4.3nm,0.8s,baz=292,slow=5.4,SNR=2.1
SCHQ SKPbc **SKPbc** 17 36 43.2 -2.4
comp=Z,10nm,0.9s,baz=290,slow=3.9,SNR=6.1
GEYT Alibeck 133.73 290 PKP **PKPdf** 17 33 19.8 -2.1
comp=Z,6.6nm,0.8s,baz=325,slow=2.3,SNR=5.7
GEYT SKPbc **SKPbc** 17 36 45.4 -4.2
comp=Z,4.8nm,0.8s,baz=205,slow=2.5,SNR=4.3
GEYT Alibeck 133.73 290 PKPdf **PKPdf** 17 33 21.0 -0.8
NEEM North Greenlan 134.24 14 *i* P PKPdf 17 33 12.8 -9.1
NOR Nord 134.95 3 *i* P **PKPdf** 17 33 21.3 -1.5
AB31 Akbulak array 135.01 306 *i* PKiKP **PKPdf** 17 33 23.4 -0.3
ABKAR Akbulak array 135.01 306 PKPpre 17 33 13.0
ABKAR Akbulak array 135.01 306 PKPpre 17 33 11.6
ARU Arti 136.34 316 *i* PKiKP **PKPdf** 17 33 24.6 -1.4
ARU 17 36 03.8
AKTO Aktyubinsk 136.39 307 **PKPdf** 17 33 25.3 -1.0
KBS Kingsbay 137.66 356*c* *i*PKiKP **PKiKP** 17 33 32.5 +2.7
KBS pmax pmax
comp=Z,50nm,2.5s
KBS Kingsbay 137.66 356 *i* P **PKiKP** 17 33 31.1 +1.3
KBS Kingsbay 137.66 356 *e*PKPdf **PKPdf** 17 33 27.7 -0.2
KBS *e*SKSac **SKSac** 17 40 43.9 +3.2
KBS IVMs_BB IVMs_BB 18 29 36.5
comp=Z,17µm,21.9s
RAYN Ar Rayn 137.99 265 **PKPdf** 17 33 30.2 0.0
RAYN Ar Rayn 137.99 265 PKiKP **PKPdf** 17 33 30.2 0.0
SPA0 Spitsbergen Ar 138.09 355 *e*PKPdf **PKPdf** 17 33 29.2 +0.5
SPITS Spitsbergen Ar 138.09 355 PKP **PKPdf** 17 33 27.2 -1.5
comp=Z,14nm,0.5s,baz=88,slow=6.8,SNR=18
SPB2 Spitsbergen Ar 138.09 355 **PKPdf** 17 33 30.0 +1.3
HOPEN Hopen 138.74 351 *e*PKSdf PKSdf 17 37 05.6 +0.1
DAG Danmarks Havn 139.40 6 *i* P **PKPdf** 17 33 31.7 +0.6
SUMG Summit 139.76 16 *i* P **PKPdf** 17 33 31.7 -0.7
DY2G Dye2 140.86 27 *i* P **PKPdf** 17 33 29.5 -4.8
KIRV Kirov 141.04 320 PKP **PKPdf** 17 33 32.4 -2.1
comp=Z,26nm,1.1s,baz=61,slow=5.0,SNR=12
KIRV SKPbc **SKPbc** 17 37 06.8 -3.4
comp=Z,8.4nm,0.5s,baz=61,slow=4.2,SNR=11
ICESG Greenland Ices 141.65 21 *i* P **PKPdf** 17 33 31.8 -4.0
PRGR Permogore 142.09 326 *e*PKiKP **PKPdf** 17 33 31.7 -4.6
LVZ Lovozero 143.22 338 ⇑PKiKP **PKPdf** 17 33 37.8 -0.4
APA Apatity 143.80 338 ⇑*i*PKiKP **PKPdf** 17 33 39.3 +0.1
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,43µm,20.0s
HAMF Hammerfest 143.87 346 *e*PKPdf PKPbc 17 33 38.7 +1.7
GROC Groznyy 144.02 295 *e*PKiKP PKPbc 17 33 38.6 +0.3
GROC pmax pmax
comp=Z,234nm,1.3s
ANGG Ammassalik, Gr 144.33 25 *i* P **PKPab** 17 33 38.0 -0.2
GNI Garni 144.37 289*c* *i*PKiKP **PKPdf** 17 33 42.4 +1.1
GNI pmax pmax
comp=Z,92nm,1.3s
ARA0 ARCESS Array S 144.40 344 *e*PKPdf PKPbc 17 33 39.7 +0.9
ARA0 IVmBBB 17 34 18.8
comp=Z,2µm,4.8s
ARCES ARCESS Array B 144.40 344 PKP **PKPab** 17 33 38.0 -0.4
comp=Z,15nm,0.5s,baz=33,slow=2.4,SNR=104
ARCES SKPbc **SKPbc** 17 37 15.0 -3.1
comp=Z,11nm,0.9s,baz=87,slow=1.9,SNR=4.8
ARCES ARCESS Array B 144.40 344 PKIKP **PKPab** 17 33 38.0 -0.4
SCO Scoresbysund 144.69 12 *i* P **PKPab** 17 33 39.4 -0.1

GUDG	**Gudauri**	**144.90**	**293**	PKPdf	**PKPab**	**17 33 40.6**	**-0.8**
GUDG	**Gudauri**	**144.90**	**293**	PKIKP	**PKPab**	**17 33 40.6**	**-0.8**
KLMR	**Klimovskoe**	**145.13**	**326**	*e*PKHKP	PKPpre	17 33 35.7	
KLMR				pmax	pmax		
	comp=Z,250nm,1.2s						
KLMR	**Klimovskoe**	**145.13**	**326**	*e*PKPdf	**PKPbc**	**17 33 35.7**	**-5.5**
KLMR				AMP		17 33 43.6	
	comp=Z,250nm,1.2s						
KLMR				*e*SKPbc	**SKPbc**	**17 37 14.2**	**-5.8**
GEVA	**Gevas**	**145.30**	**286**		**PKPbc**	**17 33 40.8**	**-2.0**
KTK1	**Kautokeino**	**145.30**	**345**	*e*PKPbc	**PKPbc**	**17 33 41.0**	**-0.6**
KTK1				*e*SKSdf	**SKSdf**	**17 40 47.5**	**-2.0**
ZEI	**Tsey**	**145.35**	**294**	*i* PKIKP	**PKPbc**	**17 33 41.8**	**-1.1**
ZEI				pmax	pmax		
	comp=Z,102nm,1.5s						
JETT	**Jettan, Norway**	**145.40**	**347**	*e*pPKPbc	**PKPab**	**17 33 44.3**	**+2.2**
JETT				IVmBBB		17 33 51.3	
	comp=Z,2μm,3.2s						
JETT				*e*SKSdf	**SKSdf**	**17 40 53.8**	**+4.1**
JETT				IVMs_BB	IVMs_BB	18 29 30.3	
	comp=Z,16μm,23.5s						
TRO	**Tromso**	**145.59**	**348**	*e*PKPab	**PKPdf**	**17 33 42.5**	**+0.3**
TRO				*e*SKSdf	**SKSdf**	**17 40 55.7**	**+6.0**
TRO				IVMs_BB	IVMs_BB	18 26 21.9	
	comp=Z,19μm,19.8s						
JMIC	**Jan Mayen**	**145.75**	**4**	*e*PKPab	**PKPbc**	**17 33 43.8**	**+0.8**
GURO	**Guroymak-BITLI**	**146.14**	**286**		**PKPdf**	**17 33 44.0**	**-0.4**
KBZ	**Khabaz**	**146.17**	**295**	PKPbc	**PKPdf**	**17 33 42.8**	**-1.2**
	comp=Z,24nm,1.0s,baz=85,slow=1.4,SNR=18						
KBZ	**Khabaz**	**146.17**	**295**	*c i* PKP2	**PKPdf**	**17 33 44.2**	**+0.2**
KIV	**Kislovodsk**	**146.33**	**296**	⇑P	**PKPab**	**17 33 46.8**	**+0.2**
KIV	**Kislovodsk**	**146.33**	**296**	*c i* PKP2	**PKPab**	**17 33 47.5**	**+1.0**
KIV				pmax	pmax		
	comp=Z,40nm,1.3s						
VRH	**Novokhopyorsk**	**146.68**	**309**	*e*PKIKP	**PKPdf**	**17 33 43.8**	**-0.8**
VRH				pmax	pmax		
	comp=Z,150nm,1.1s						
MARD	**Mardin**	**146.85**	**283**		**PKPdf**	**17 33 44.6**	**-1.0**
STEI	**Steigen**	**147.72**	**349**	*e*PKPbc	**PKPbc**	**17 33 47.9**	**-0.8**
STEI				IVMs_BB	IVMs_BB	18 27 32.2	
	comp=Z,27μm,22.6s						
LOF	**Lofoten**	**147.79**	**350**	*e*pPKPdf	**PKPbc**	**17 33 49.5**	**+0.6**
LOF				*e*SKSdf	**SKSdf**	**17 40 54.5**	**+1.5**
LOF				IVMs_BB	IVMs_BB	18 27 20.1	
	comp=Z,14μm,21.0s						
MOS	**Moscow**	**147.98**	**318**	*e*PKIKP	**PKPdf**	**17 33 44.8**	**-1.8**
MOS				*e*		17 37 23.4	
MOS				pmax	pmax		
	comp=Z,139nm,1.1s						
LPSR	**Galich'ya Gora**	**148.12**	**312**	*e*PKIKP	**PKPdf**	**17 33 46.0**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,90nm,1.0s						
VORR	**Voronezh**	**148.15**	**310**	PKIKP	**PKPdf**	**17 33 47.4**	**+0.3**
VORR				pmax	pmax		
	comp=Z,95nm,0.9s						
FAUS	**Fauske**	**148.21**	**348**	*e*PKPbc	**PKPbc**	**17 33 49.8**	**-0.3**
FAUS				*e*SKSdf	**SKSdf**	**17 40 48.7**	**-4.8**
FAUS				IVMs_BB	IVMs_BB	18 29 59.5	
	comp=Z,18μm,19.9s						
SOC	**Sochi**	**148.46**	**295**	*i* PKP2	**PKPdf**	**17 33 50.1**	**+2.3**
SOC				*e*		17 37 18.0	
SOC				*e*PPP	PPP	17 40 39.4	
SOC				MLR	MLR		
	comp=Z,13μm,19.0s						
OBN	**Obninsk**	**148.75**	**317**	PKP	**PKPdf**	**17 33 46.8**	**-1.1**
	comp=Z,5.4nm,0.4s,baz=124,slow=3.6,SNR=12						
OBN				PKPbc	**PKPbc**	**17 33 50.4**	**-1.4**
	comp=Z,9.4nm,0.4s,baz=286,slow=5.4,SNR=2.9						
OBN	**Obninsk**	**148.75**	**317**	PKPdf	**PKPdf**	**17 33 46.5**	**-1.4**
OBN	**Obninsk**	**148.75**	**317**	*i* PKIKP	**PKPdf**	**17 33 49.2**	**+1.3**
OBN				*e*		17 37 18.9	
OBN				*e*PPP	PPP	17 40 45.7	
OBN				pmax	pmax		
	comp=Z,146nm,1.7s						
LIC	**Lamto**	**149.12**	**172**	⇓*e*P	**PKPbc**	**17 33 54.5**	**+0.5**
	comp=Z,167nm,1.0s						
KIC	**Kosan Boka**	**149.29**	**173**	*e*PKIKP	**PKPbc**	**17 33 54.2**	**-0.2**
	comp=Z,62nm,0.6s						
GHAJ	**Ghor Haditha**	**149.29**	**270**		**PKPdf**	**17 33 47.6**	**-1.9**
KONS	**Konsvik**	**149.37**	**349**	*e*PKPbc	**PKPbc**	**17 33 52.5**	**-0.4**
MOR8	**Moi Rana**	**149.46**	**348**	*e*PKPbc	**PKPbc**	**17 33 53.3**	**+0.1**
MOR8				IVmBBB		17 34 26.0	
	comp=Z,2μm,3.7s						
MOR8				*e*SKSdf	**SKSdf**	**17 40 48.8**	**-6.5**
MOR8				IVMs_BB	IVMs_BB	18 26 57.7	
	comp=Z,24μm,22.4s						
TIC	**Toumodi**	**149.54**	**172**	⇑*e*PKIKP	**PKPbc**	**17 33 54.8**	**-0.3**
	comp=Z,51nm,0.8s						
DBIC	**Dimbokro**	**149.58**	**173**	PKPbc	**PKPbc**	**17 33 55.6**	**+0.5**
	comp=Z,28nm,0.9s,baz=253,slow=1.0,SNR=3.6						
DBIC	**Dimbokro**	**149.58**	**173**	⇓PKP2	**PKPbc**	**17 33 55.7**	**+0.6**
ANN	**Anapa**	**150.11**	**297**	*i* PKIKP	**PKPbc**	**17 33 54.7**	**-0.8**
ANN				pmax	pmax		
	comp=Z,57nm,0.8s						
FIA1	**FINESS Array S**	**150.24**	**334**		**PKPdf**	**17 33 49.4**	**-0.7**
FINES	**FINESS Array B**	**150.24**	**334**	PKP	**PKPdf**	**17 33 49.2**	**-0.9**
	comp=Z,7.6nm,0.6s,baz=72,slow=6.2,SNR=8.3						
FINES				PKPbc	**pPKPdf**	**17 33 54.1**	**-2.0**
	comp=Z,88nm,0.8s,baz=45,slow=4.1,SNR=56						
BNN	**Bunyan**	**150.96**	**285**		**PKPdf**	**17 33 52.0**	**-0.2**
NSS	**Namsos**	**151.38**	**348**	*e*PKPbc	**PKPbc**	**17 33 58.0**	**+0.1**
MEF	**Metsahovi**	**151.68**	**333**	*e*P	**PKPbc**	**17 33 59.2**	**+0.5**
VSU	**Vasula**	**151.91**	**329**	*e*P	**PKPbc**	**17 33 58.9**	**-0.3**
RAF	**Rauma**	**152.00**	**336**	*e*P	**PKPbc**	**17 33 58.5**	**-0.8**
CSS	**Mathiatis**	**152.18**	**276**		**PKPdf**	**17 33 52.6**	**-1.4**
SIM	**Simferopol'**	**152.46**	**298**	*e*PKIKP	**PKPbc**	**17 33 59.9**	**-1.1**
SIM				*e*		17 34 11.7	
SIM				pmax	pmax		
	comp=Z,92nm,1.5s						
BRTR	**Keskin Array B**	**152.76**	**286**	PKP	**PKPdf**	**17 33 53.9**	**-0.9**
	comp=Z,3.7nm,1.0s,baz=134,slow=3.6,SNR=8.2						
BRTR				PKPbc	**sPKPdf**	**17 34 00.6**	**-2.4**
	comp=Z,11nm,0.8s,baz=119,slow=2.2,SNR=14						
BRTR				PKPab	**PKPab**	**17 34 13.8**	**+0.9**
	comp=Z,29nm,0.9s,baz=152,slow=5.2,SNR=13						
BRTR	**Keskin Array B**	**152.76**	**286**	PKPdf	**PKPdf**	**17 33 53.4**	**-1.5**
ILGA	**Ilgaz**	**152.80**	**289**		**PKPdf**	**17 33 52.6**	**-2.4**
TBLU	**Trondheim**	**152.85**	**349**	*e*PKPbc	**PKPbc**	**17 34 00.8**	**-0.4**
TBLU				*e*SKSdf	**SKSdf**	**17 41 02.4**	**+2.7**
MTSE	**Matsula**	**152.93**	**331**	*e*P	**PKPbc**	**17 34 01.4**	**0.0**
MNK	**Minsk**	**153.58**	**321**	*i* PKIKP	**PKPdf**	**17 33 49.1**	**-6.2**
MNK				*i*		17 37 49.7	
MNK				*i* SS	SS	17 57 20.4	-4.2
MNK				*i* SSS	SSS	18 03 12.0	
MNK				pmax	pmax		
	comp=Z,149nm,1.0s						
MNK				pmax	pmax		
	comp=E,18nm,1.4s						
MNK	**Minsk**	**153.58**	**321**	*i* PKP	**PKPdf**	**17 33 49.1**	**-6.2**
	comp=E,18nm,1.4s,baz=242						
MNK				*i* PKP	**PKPdf**	**17 33 49.1**	**-6.2**
MNK				*i* PKP	**PKPdf**	**17 33 49.1**	**-6.2**
	comp=Z,149nm,1.0s						
MNK				*i* PP	**PP**	**17 37 49.7**	**-0.3**
MNK				*i* PPP	PPP	17 41 12.9	
MNK				*i* SKKS		17 49 32.8	
MNK				*i* SS	**SS**	**17 57 20.4**	**-4.1**
MNK				*i* SSS	SSS	18 03 12.1	
MNK				*i* LR	LR	18 41 04.3	
MNK				*i* LRM	MLR	18 47 36.1	
	comp=E,1μm,17.5s						
MNK				*i* LRM	MLR	18 47 36.1	
MNK				*i* LRM	MLR	18 47 36.1	
	comp=Z,7μm,17.5s						
MNK	**Minsk**	**153.58**	**321**	*i*		18 03 11.6	
MNK	**Minsk**	**153.58**	**321**	*i* SKS		18 03 11.6	
ISAL	**Salakas**	**153.88**	**324**	*e*P	**PKiKP**	**17 34 04.6**	**+0.9**
MOL	**Molde**	**153.89**	**351**	*e*PKPbc	**PKPbc**	**17 34 02.6**	**-0.8**
MOL				*e*SKSdf	**SKSdf**	**17 41 00.7**	**-0.2**
NACGM	**Naroch**	**153.92**	**322**	*e*PKP	**PKPdf**	**17 33 56.2**	**+0.4**
	baz=57						
IIGN	**Ignalina**	**153.96**	**323**	*e*P	**PKPbc**	**17 34 04.0**	**+0.2**
DOMB	**Dombas**	**154.18**	**349**	*e*PKPbc	**PKPbc**	**17 34 03.9**	**-0.3**
AKN	**Aaknes**	**154.33**	**351**	*e*PKPbc	**PKiKP**	**17 34 05.3**	**+0.8**
AKN				IVmBBB		17 34 16.1	
	comp=Z,1μm,6.3s						
AKASG	**Malin Array Be**	**154.45**	**312**	PKP	**PKPdf**	**17 33 54.8**	**-1.9**
	comp=Z,5.7nm,1.0s,baz=55,slow=2.0,SNR=23						
AKASG				PKPbc	**sPKPdf**	**17 34 03.0**	**-1.7**
	comp=Z,2.6nm,0.3s,baz=57,slow=2.6,SNR=20						
AKASG	**Malin Array Be**	**154.45**	**312**		**PKPdf**	**17 33 54.4**	**-2.3**
AKASG	**Malin Array Be**	**154.45**	**312**	PKIKP	**PKPdf**	**17 33 54.4**	**-2.3**
AKBB	**Malin Array Si**	**154.45**	**312**	PKPdf	**PKPdf**	**17 33 54.7**	**-2.0**
AKBB	**Malin Array Si**	**154.45**	**312**	PKIKP	**PKPdf**	**17 33 54.7**	**-2.0**
NC303	**NORSAR Array S**	**154.55**	**346**		**PKPdf**	**17 33 56.6**	**+0.1**
VSVD	**Vaisvydziai**	**154.64**	**326**	*e*P	**PKPbc**	**17 34 05.5**	**+0.2**
MDUB	**Mudurnu**	**154.68**	**288**		**PKPbc**	**17 34 03.0**	**-3.1**
NB2	**NORSAR Subarra**	**154.75**	**346**	PKP	**PKPdf**	**17 33 55.8**	**-1.0**
	comp=Z,119nm,1.7s,baz=26,slow=2.2						
NB2	**NORSAR Subarra**	**154.75**	**346**	PKP	**PKPdf**	**17 33 55.8**	**-1.0**
	baz=26,slow=2.2						
NOA	**NORSAR Array B**	**154.75**	**346**	PKP	**PKPdf**	**17 33 55.9**	**-1.0**
	comp=Z,14nm,1.1s,baz=36,slow=1.5,SNR=14						
NOA				PKPbc	**PKPbc**	**17 34 04.8**	**-0.6**
	comp=Z,12nm,0.9s,baz=47,slow=2.0,SNR=14						
PABE	**Paberze**	**154.92**	**325**	PKPdf	**PKPdf**	**17 33 56.7**	**-0.4**
PABE	**Paberze**	**154.92**	**325**	*e*P	**PKPbc**	**17 34 05.6**	**-0.2**
NC602	**NORSAR Array S**	**154.96**	**345**		**PKPbc**	**17 34 04.5**	**-1.4**
NC602	**NORSAR Array S**	**154.96**	**345**	*e*PKPbc	**PKPbc**	**17 34 04.9**	**-1.0**
FOO	**Floro**	**155.11**	**353**	*e*PKPbc	PKPdf	17 34 06.1	+8.9
PBUR	**Paburge**	**155.48**	**328**	*e*P	PKPdf	17 34 08.5	+11
TORD	**Torodi Ar. Bea**	**156.09**	**187**	PKP	**PKPdf**	**17 33 60.0**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=132,slow=1.9,SNR=6.9						
TORD				PKPab	**PKPab**	**17 34 27.5**	**+0.2**
	comp=Z,28nm,0.8s,baz=171,slow=3.5,SNR=23						
TORD				PP	**PP**	**17 38 01.1**	**-2.3**
	comp=Z,4.5nm,1.1s,baz=183,slow=2.6,SNR=2.4						
TLCR		**156.16**	**299**	⇑P	**PKPdf**	**17 33 59.5**	**+0.3**
TLCR		**156.16**	**299**	⇑PKIKP	**PKPdf**	**17 33 59.5**	**+0.3**
TPGR	**Topolog**	**156.49**	**299**	⇓P	**PKPdf**	**17 33 57.8**	**-1.9**
TIRR	**Tirgusor**	**156.56**	**298**	⇑P	**PKPdf**	**17 34 02.3**	**+2.6**
TIRR	**Tirgusor**	**156.56**	**298**	⇑PKIKP	**PKPdf**	**17 34 02.3**	**+2.6**
CFR	**Carcaliu**	**156.64**	**300**	⇑P	**PKPdf**	**17 34 06.3**	**+6.5**
CFR	**Carcaliu**	**156.64**	**300**	⇑PKIKP	**PKPdf**	**17 34 06.3**	**+6.5**
TESR	**Tescani**	**157.37**	**303**	⇑P	**PKPdf**	**17 34 01.6**	**+0.9**
VRI	**Vrincioaia**	**157.47**	**302**	⇑P	**PKPdf**	**17 33 56.9**	**-4.0**
VRI	**Vrincioaia**	**157.47**	**302**	⇑PKIKP	**PKPdf**	**17 33 56.9**	**-4.0**
BIZ	**Bicaz**	**157.61**	**305**	⇑P	**PKPdf**	**17 34 00.9**	**-0.2**
BURAR	**Bucovina Array**	**157.98**	**307**	⇑P	**PKPdf**	**17 34 02.0**	**+0.4**
BURAR	**Bucovina Array**	**157.98**	**307**	PKPdf	**PKPdf**	**17 34 00.4**	**-1.2**
BURAR				PKPab	**PKPab**	**17 34 34.4**	**-0.5**
BURAR	**Bucovina Array**	**157.98**	**307**	⇑PKIKP	**PKPdf**	**17 34 02.0**	**+0.4**
MLR	**Muntele Rosu**	**158.09**	**301**	⇑P	**PKPdf**	**17 34 01.8**	**-0.1**
MLR	**Muntele Rosu**	**158.09**	**301**	PKP	**PKPdf**	**17 34 00.5**	**-1.3**
	comp=Z,12nm,1.2s,baz=28,slow=4.4,SNR=6.8						
MLR	**Muntele Rosu**	**158.09**	**301**	PKPdf	**PKPdf**	**17 33 59.9**	**-2.0**
MLR	**Muntele Rosu**	**158.09**	**301**	⇑PKIKP	**PKPdf**	**17 34 01.8**	**-0.1**
VOIR		**158.71**	**301**	⇑P	**PKPdf**	**17 34 03.6**	**+1.1**
VOIR		**158.71**	**301**	⇑PKIKP	**PKPdf**	**17 34 03.6**	**+1.1**
ARR	**Arges**	**159.01**	**301**	⇑P	**PKPdf**	**17 34 02.7**	**-0.2**
UZH	**Uzhgorod**	**159.41**	**312**	⇑*i* PKP2	**PKPab**	**17 34 42.7**	**+1.8**
DRGR		**159.87**	**306**	⇑P	**PKPdf**	**17 34 02.9**	**-0.9**
DRGR		**159.87**	**306**	⇑PKIKP	**PKPdf**	**17 34 02.9**	**-0.9**
OJC	**Ojcow**	**160.04**	**318**	PKPdf	**PKPdf**	**17 34 01.7**	**-2.1**
OJC				PKPab	**PKPab**	**17 34 44.0**	**+0.3**
OJC	**Ojcow**	**160.04**	**318**	PKIKP	**PKPdf**	**17 34 01.7**	**-2.1**
OJC						17 34 44.0	
GZR	**Gura Zlata**	**160.27**	**302**	⇑P	**PKPdf**	**17 34 03.2**	**-1.1**
GZR	**Gura Zlata**	**160.27**	**302**	⇑PKIKP	**PKPdf**	**17 34 03.2**	**-1.1**
VTS	**Vitosha**	**160.55**	**294**	PKPdf	**PKPdf**	**17 34 02.1**	**-2.6**
VTS				PKPab	**PKPab**	**17 34 45.8**	**-0.6**
VTS	**Vitosha**	**160.55**	**294**	PKIKP	**PKPdf**	**17 34 02.2**	**-2.6**
VTS						17 34 45.8	
SIRR	**Siria**	**160.73**	**306**	⇑P	**PKPdf**	**17 34 05.3**	**+0.6**
BLKB	**Belogradchik**	**160.78**	**297**	⇑P	**PKPdf**	**17 34 03.8**	**-1.0**
BZS	**Buzias**	**160.98**	**304**	⇑P	**PKPdf**	**17 34 04.2**	**-0.8**
BZS	**Buzias**	**160.98**	**304**	⇑PKIKP	**PKPdf**	**17 34 04.2**	**-0.8**
OKC	**Ostrava-Krasne**	**161.14**	**319**	*e*PKPAB	**PKPab**	**17 34 51.1**	**+2.7**
PSZ	**Piszkesteto**	**161.16**	**312**	⇑P	**PKPdf**	**17 34 05.8**	**+0.7**
PSZ	**Piszkesteto**	**161.16**	**312**		**PKPdf**	**17 34 03.5**	**-1.7**
PSZ	**Piszkesteto**	**161.16**	**312**	⇑PKIKP	**PKPdf**	**17 34 05.8**	**+0.7**
PSZ	**Piszkesteto**	**161.16**	**312**	PKP	**PKPdf**	**17 34 05.9**	**+0.7**
LIT	**Litokhoron**	**161.34**	**287**	PKPab	**PKPab**	**17 34 48.2**	**-1.6**
LIT	**Litokhoron**	**161.34**	**287**	PKP2	**PKPab**	**17 34 48.2**	**-1.6**
BOVS	**Bovan**	**161.46**	**298**	⇑P	**PKPdf**	**17 34 04.5**	**-1.0**
MORC	**Moravsky Berou**	**161.49**	**319**	⇑P	**PKPdf**	**17 34 06.5**	**+1.1**
MORC	**Moravsky Berou**	**161.49**	**319**	PKPdf	**PKPdf**	**17 34 04.3**	**-1.2**
MORC	**Moravsky Berou**	**161.49**	**319**	*e*PKP	**PKPdf**	**17 34 04.3**	**-1.2**
MORC				*e*		17 34 51.2	
MORC	**Moravsky Berou**	**161.49**	**319**	⇑PKIKP	**PKPdf**	**17 34 06.5**	**+1.1**
VYHS	**Vyhne**	**161.50**	**314**	*e*PKIKP	**PKPdf**	**17 34 04.8**	**-0.6**
VYHS	**Vyhne**	**161.50**	**314**	*e*PKP	**PKPdf**	**17 34 04.8**	**-0.6**
VYHS				*e*		17 34 50.9	
MAUC	**Maruska**	**161.58**	**318**	*e*PKPDF	**PKPdf**	**17 34 06.8**	**+1.3**
MAUC				*e*PKPAB	**pPKPab**	**17 34 53.6**	**-2.7**
OSTC	**Ostas**	**161.67**	**323**	*e*PKPAB	**PKPab**	**17 34 53.6**	**+2.8**
KRLC	**Kraliky**	**161.70**	**321**	*e*PKIKP	**PKPdf**	**17 34 05.5**	**-0.1**
KRLC	**Kraliky**	**161.70**	**321**	*e*PKPDF	**PKPdf**	**17 34 05.5**	**-0.1**
KRLC				*e*PKPAB	**PKPab**	**17 34 52.1**	**+1.2**
DPC	**Dobruska-Polom**	**161.75**	**322**	*e*PKIKP	**PKPdf**	**17 34 06.0**	**+0.3**
DPC	**Dobruska-Polom**	**161.75**	**322**	*e*PKPDF	**PKPdf**	**17 34 06.0**	**+0.3**
DPC				*e*PKPAB	**PKPab**	**17 34 53.3**	**+2.1**
JAVC	**Velka Javorina**	**161.95**	**317**	*e*PKP	**PKPdf**	**17 34 05.0**	**-1.0**
JAVC				*e*		17 34 55.7	
VRAC	**Vranov**	**162.27**	**319**	PKP	**PKPdf**	**17 34 05.1**	**-1.1**
	comp=Z,4.6nm,0.9s,baz=119,slow=0.9,SNR=17						
VRAC				PKPab	**PKPab**	**17 34 53.6**	**+0.2**
	comp=Z,17nm,1.0s,baz=43,slow=3.5,SNR=9.0						
VRAC	**Vranov**	**162.27**	**319**	*e*PKP	**PKPdf**	**17 34 05.3**	**-0.9**
VRAC				*e*		17 34 55.8	
SMOL	**Smolenice**	**162.28**	**316**	*e*PKIKP	**PKPdf**	**17 34 07.9**	**+1.7**
FRGS	**Fruska Gora**	**162.33**	**304**	⇑P	**PKPdf**	**17 34 07.3**	**+0.8**
MODS	**Modra-Piesok**	**162.44**	**316**	*e*PKIKP	**PKPdf**	**17 34 06.3**	**-0.1**
MODS				*e*		17 34 53.9	
MODS	**Modra-Piesok**	**162.44**	**316**	*e*PKP	**PKPdf**	**17 34 06.3**	**-0.1**
MODS				*e*		17 34 53.9	
BRG	**Berggiesshubel**	**162.50**	**327**	*e*PKP	**PKPdf**	**17 34 06.8**	**+0.5**
BRG				Amp		17 34 09.2	
	comp=Z,22nm,1.4s						
BRG				*ex*	x	17 34 57.4	
BRG				Amp		17 34 59.0	
	comp=Z,17nm,1.2s						
BRG	**Berggiesshubel**	**162.50**	**327**	*e*PKIKP	**PKPdf**	**17 34 06.8**	**+0.5**
BRG				pmax	pmax		
	comp=Z,22nm,1.4s						
BRG				pmax	pmax		
	comp=Z,17nm,1.2s						
KRUC	**Moravsky**	**162.52**	**319**	*e*PKP	**PKPdf**	**17 34 05.3**	**-1.1**
KRUC				*e*		17 34 56.6	
DIVS	**Divibare**	**162.54**	**300**		**PKPdf**	**17 34 04.8**	**-2.0**
CLL	**Collm**	**162.57**	**329**	PKPdf	**PKPdf**	**17 34 05.5**	**-0.9**
CLL					**PKPab**	**17 34 55.1**	**+0.5**
CLL	**Collm**	**162.57**	**329**	*i* PKIKP	**PKPdf**	**17 34 05.3**	**-1.1**
CLL				*i*		17 34 54.6	
CLL				pmax	pmax		
	comp=Z,46nm,2.1s						
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
CLL	**Collm**	**162.57**	**329**	*i* PKPdf	**PKPdf**	**17 34 05.3**	**-1.1**
	comp=Z,46nm,2.1s						
CLL				*i* pPKPdf	**sPKPdf**	**17 34 12.4**	**-2.0**
CLL				*i* x	x	17 34 30.7	
	comp=Z,18nm,1.6s						
CLL				*i* PKPab	**PKPab**	**17 34 54.6**	**0.0**
	comp=Z,11nm,1.1s						
CLL				*i* pPKPab	**sPKPab**	**17 35 01.1**	**-1.4**
	comp=Z,60nm,2.1s						
CLL				*i* x	x	17 35 30.8	
ZST	**Bratislava**	**162.63**	**316**	*e*PKIKP	**PKPdf**	**17 34 07.2**	**+0.6**
ZST	**Bratislava**	**162.63**	**316**	*e*PKP	**PKPdf**	**17 34 07.2**	**+0.6**
MORH	**Mrgy, Hungar**	**162.68**	**308**	⇑P	**PKPdf**	**17 34 07.1**	**+0.4**
MORH	**Mrgy, Hungar**	**162.68**	**308**	PKP	**PKPdf**	**17 34 06.4**	**-0.2**
PRU	**Pruhonice**	**162.85**	**324**	*e*PKP2	**PKPab**	**17 34 56.9**	**+1.0**
PRU	**Pruhonice**	**162.85**	**324**	*e*PKPAB	**PKPab**	**17 34 56.9**	**+1.0**
MPLH	**Magyarpolny**	**162.92**	**312**	PKP	**PKPdf**	**17 34 07.7**	**+0.8**
KOVH	**Kovagotottos**	**163.08**	**308**	PKP	**PKPdf**	**17 34 07.7**	**+0.6**
SOP	**Sopron**	**163.22**	**315**	PKP	**PKPdf**	**17 34 10.1**	**+2.9**
RONA	**Rosalia, Austr**	**163.36**	**315**	*i* P	**PKPdf**	**17 34 06.2**	**-1.2**
	comp=Z,17nm,1.5s,SNR=7.1						
RONA				*e*P	**PKPab**	**17 34 58.3**	**0.0**
	comp=Z,14nm,1.2s						
CONA	**Conrad Observa**	**163.47**	**317**	*i* P	**PKPdf**	**17 34 06.5**	**-1.0**
	comp=Z,14nm,1.3s,SNR=7.1						
CONA				*e*P	**PKPab**	**17 35 00.9**	**+2.0**
	comp=Z,15nm,1.1s						
CKRC	**Cesky Krumlov**	**163.74**	**321**	*e*PKPDF	**PKPdf**	**17 34 07.5**	**-0.2**
CKRC				*e*PKPAB	**pPKPab**	**17 35 02.5**	**-3.3**
KHC	**Kasperske Hory**	**163.89**	**323**		**PKPdf**	**17 34 06.9**	**-0.9**
KHC	**Kasperske Hory**	**163.89**	**323**	PKIKP	**PKPdf**	**17 34 06.9**	**-0.9**
KHC	**Kasperske Hory**	**163.89**	**323**	*e*PKPDF	**PKPdf**	**17 34 07.5**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**17 35 02.2**	**+1.6**
GEC2	**GERESS Array S**	**164.03**	**322**		**PKPdf**	**17 34 06.2**	**-1.8**
GERES	**GERESS Array B**	**164.03**	**322**	PKP	**PKPdf**	**17 34 07.6**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=46,slow=2.8,SNR=9.1						
GERES				PKPab	**PKPab**	**17 35 01.0**	**-0.3**
	comp=Z,6.7nm,1.0s,baz=60,slow=3.2,SNR=14						
GERES	**GERESS Array B**	**164.03**	**322**		**PKPdf**	**17 34 06.3**	**-1.7**
GERES	**GERESS Array B**	**164.03**	**322**	PKIKP	**PKPdf**	**17 34 06.3**	**-1.7**
ARSA	**Arzberg**	**164.04**	**315**	*e*P	**PKPdf**	**17 34 08.0**	**0.0**
	comp=Z,6.9nm,1.1s						
ARSA				*e*P	**PKPab**	**17 35 02.8**	**+1.5**
	comp=Z,17nm,1.1s						
MOA	**Molln**	**164.38**	**319**	*e*P	**PKPdf**	**17 34 08.4**	**+0.1**
	comp=Z,0.3nm,0.4s						
MOA				*e*P	**PKPab**	**17 35 04.7**	**+1.9**
	comp=Z,9.5nm,1.4s						
SOKA	**Soboth**	**164.64**	**314**	*i* P	**PKPdf**	**17 34 08.3**	**-0.3**
	comp=Z,19nm,2.0s,SNR=7.6						
SOKA				*e*P	**PKPab**	**17 35 05.5**	**+1.5**
	comp=Z,25nm,1.3s						
BIOA	**Bad Ischl, Aus**	**164.81**	**319**	*e*P	**PKPdf**	**17 34 08.2**	**-0.4**
	comp=Z,2.0nm,0.7s						
BIOA				*e*P	**pPKPab**	**17 35 08.1**	**-2.4**
	comp=Z,11nm,1.2s						
OBKA	**Obir**	**165.01**	**314**	*e*P	**PKPdf**	**17 34 09.2**	**+0.2**
	comp=Z,0.2nm,0.4s						
OBKA				*e*P	**PKPab**	**17 35 06.6**	**+0.9**
	comp=Z,12nm,0.9s						
KBA	**Koelnbreinsper**	**165.35**	**318**	*e*P	**PKPdf**	**17 34 08.9**	**-0.5**
	comp=Z,1.2nm,0.5s						
KBA				*e*P	**pPKPab**	**17 35 11.3**	**-1.9**
	comp=Z,11nm,1.1s						
MYKA	**Terra Mystica**	**165.46**	**316**	*e*P	**PKPdf**	**17 34 08.7**	**-0.6**
	comp=Z,9.8nm,1.4s						
MYKA				*e*P	**pPKPab**	**17 35 12.7**	**-0.8**
	comp=Z,4.2nm,0.9s						
BTNL	**Ternell**	**165.50**	**341**	*d*PKPdf	**PKPdf**	**17 34 09.4**	**+0.3**
BTNL				*d*PKP	**PKPab**	**17 35 07.9**	**+0.3**
MEM	**Membach**	**165.51**	**342**	*d*PKPdf	**PKPdf

WHRZ	**Whale Island**	**1.79 247**	P		**Pb**	**17 22 43.4**	**-0.1**
WHRZ			S		**Sg**	**17 23 06.8**	**-1.7**
RIGZ	**Rimuhau**	**1.84 213**	P		**Pn**	**17 22 42.9**	**+0.7**
RAGZ	**Rawiri**	**1.85 224**	P		**Pn**	**17 22 43.2**	**+0.8**
URZ	**Urewera**	**1.88 234**	Pn		**Pn**	**17 22 43.3**	**+0.5**
	412nm,0.3s,baz=121,slow=2.6,SNR=22						
URZ			Sn		**Sb**	**17 23 07.3**	**-1.2**
	116nm,0.3s,baz=301,slow=2.9,SNR=4.1						
URZ	**Urewera**	**1.88 234**			**Pn**	**17 22 43.0**	**+0.2**
URZ	**Urewera**	**1.88 234**	P		**Pn**	**17 22 43.9**	**+1.2**
PRGZ	**Paritu Road**	**1.98 207**	P		**Pn**	**17 22 44.4**	**+0.3**
MARZ	**Manawahe**	**2.06 246**	P		**Pb**	**17 22 46.6**	**-1.5**
EDRZ	**Edgecumbe**	**2.06 242**	P		**Pb**	**17 22 47.1**	**-1.1**
OPRZ	**Ohinepanea**	**2.10 250**	P		**Pn**	**17 22 46.7**	**+1.0**
SNGZ	**Shannon Statio**	**2.10 219**	P		**Pn**	**17 22 46.5**	**+0.7**
KNZ	**Kokohu**	**2.15 210**	P		**Pn**	**17 22 46.2**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.17 204**	P		**Pn**	**17 22 46.8**	**0.0**
MUGZ	**Murupara**	**2.23 233**	P		**Pn**	**17 22 48.4**	**+0.9**
MYRZ	**Mayor Island**	**2.25 266**	P		**Pn**	**17 22 48.2**	**+0.5**
MKRZ	**Makatiti**	**2.27 244**	P		**Pb**	**17 22 50.6**	**-1.2**
LIRZ	**Lichensteins R**	**2.27 248**	P		**Pb**	**17 22 50.3**	**-1.6**
TARZ	**Mount Tarawera**	**2.28 241**	P		**Pn**	**17 22 49.9**	**+1.6**
TGRZ	**Tauranga**	**2.29 255**	P		**Pn**	**17 22 48.7**	**+0.4**
OMRZ	**Omania**	**2.32 245**	P		**Pb**	**17 22 51.1**	**-1.6**
RRRZ	**Republican Roa**	**2.32 239**	P		**Pb**	**17 22 50.8**	**-1.9**
RAHZ	**Arahi**	**2.33 221**	P		**Pn**	**17 22 50.7**	**+1.7**
WHHZ	**Waihua**	**2.38 216**	P		**Pn**	**17 22 50.6**	**+1.0**
KARZ	**Kaharoa**	**2.38 248**	P		**Pb**	**17 22 50.9**	**+1.2**
HLRZ	**Highlands Stat**	**2.40 242**	P		**Pb**	**17 22 51.3**	**+1.5**
MTHZ	**Maungataniwha**	**2.42 225**	P		**Pn**	**17 22 51.2**	**+1.0**
NGRZ	**Ngongotaha**	**2.46 247**	P		**Pb**	**17 22 52.8**	**-2.1**
UTU	**Utuhina**	**2.48 245**	P		**Pb**	**17 22 55.5**	**+0.2**
PRRZ	**Plateau Road**	**2.49 237**	P		**Pn**	**17 22 51.9**	**+0.8**
HSRZ	**Hossack Road**	**2.50 242**	P		**Pn**	**17 22 53.1**	**+1.9**
HRRZ	**Handcock Road**	**2.51 240**	P		**Pb**	**17 22 54.0**	**-1.8**
ALRZ	**Allen Road**	**2.55 236**	P		**Pn**	**17 22 52.6**	**+0.6**
KMRZ	**Kaimai**	**2.56 254**	P		**Pn**	**17 22 53.5**	**+1.4**
GRRZ	**Galatos Road**	**2.61 242**	P		**Pn**	**17 22 54.3**	**+1.5**
NMHZ	**Naumai**	**2.61 222**	P		**Pn**	**17 22 53.7**	**+0.8**
ARHZ	**Aropaoanui**	**2.64 217**	P		**Pn**	**17 22 53.2**	**0.0**
WPRZ	**Whakapapatarin**	**2.65 239**	P		**Pb**	**17 22 56.4**	**-1.9**
MRHZ	**Matea Rd**	**2.66 231**	P		**Pn**	**17 22 54.4**	**+0.9**
KUZ	**Kuaotunu**	**2.70 278**	P		**Pn**	**17 22 53.9**	**-0.1**
BKZ	**Black Stump Fm**	**2.83 225**			**Pn**	**17 22 56.2**	**+0.3**
BKZ	**Black Stump Fm**	**2.83 225**	P		**Pn**	**17 22 56.6**	**+0.8**
WHTZ	**Whakaora**	**2.87 238**	P		**Pn**	**17 22 58.9**	**+2.6**
KUTZ	**Kaahu Road**	**2.88 242**	P		**Pn**	**17 22 57.4**	**+1.0**
TOZ	**Tahuroa Road**	**2.88 258**	P		**Pn**	**17 22 56.6**	**+0.2**
CKHZ	**Cape Kidnapper**	**2.93 211**	P		**Pn**	**17 22 56.1**	**-1.0**
TLZ	**Tolley Road**	**3.02 246**	P		**Pn**	**17 22 59.6**	**+1.3**
WATZ	**Wairara**	**3.04 239**	P		**Pn**	**17 23 00.9**	**+2.3**
KWHZ	**Kaweka Forest**	**3.06 222**	P		**Pn**	**17 22 59.6**	**+0.6**
RATZ	**Rangitukua**	**3.09 236**	P		**Pn**	**17 23 00.8**	**+1.4**
RITZ	**Rihia Road**	**3.10 233**	P		**Pn**	**17 23 00.6**	**+1.2**
MKAZ	**Moumakai**	**3.11 270**	P		**Pn**	**17 22 59.8**	**+0.2**
KAHZ	**Kahuranaki**	**3.13 212**	P		**Pn**	**17 22 59.2**	**-0.7**
WIAZ	**Waiheke Island**	**3.16 276**	P		**Pn**	**17 23 00.9**	**+0.6**
KRHZ	**Kereru**	**3.25 220**	P		**Pn**	**17 23 01.8**	**+0.3**
TMVZ	**Te Maari**	**3.28 233**	P		**Pn**	**17 23 02.8**	**+0.8**
ETVZ	**East Tongariro**	**3.28 232**	P		**Pn**	**17 23 02.7**	**+0.6**
NTVZ	**North Tongarir**	**3.28 233**	P		**Pn**	**17 23 02.9**	**+0.8**
BHHZ	**Black Hill Sta**	**3.30 224**	P		**Pn**	**17 23 02.7**	**+0.4**
ETAZ	**East Tamaki Re**	**3.30 272**	P		**Pn**	**17 23 02.9**	**+0.6**
KRVZ	**Karewarewa**	**3.30 233**			**Pn**	**17 23 02.4**	**+0.9**
OTVZ	**Oturere**	**3.33 232**	P		**Pn**	**17 23 03.5**	**+0.7**
PXZ	**Pawanui**	**3.33 210**	P		**Pn**	**17 23 02.1**	**-0.5**
NNVZ	**North Ngauruho**	**3.34 233**	P		**Pn**	**17 23 04.0**	**+1.0**
MBAZ	**Motutapu North**	**3.35 276**	P		**Pn**	**17 23 03.9**	**+1.0**
WTVZ	**West Tongariro**	**3.35 233**	P		**Pn**	**17 23 04.1**	**+1.1**
SNVZ	**South Ngauruho**	**3.36 232**	P		**Pn**	**17 23 03.9**	**+0.7**
NGZ	**Ngauruhoe**	**3.38 233**	P		**Pn**	**17 23 04.1**	**+0.7**
TUVZ	**Tukino**	**3.40 231**	P		**Pn**	**17 23 04.3**	**+0.6**
MOVZ	**Moawhango**	**3.42 228**	P		**Pn**	**17 23 04.4**	**+0.4**
TWVZ	**Taurewa**	**3.42 235**	P		**Pn**	**17 23 05.3**	**+1.3**
ABAZ	**Army Bay**	**3.43 278**	P		**Pn**	**17 23 05.1**	**+1.2**
WHVZ	**Whangaehu Hut**	**3.45 231**	P		**Pn**	**17 23 04.7**	**+0.3**
FWVZ	**Far West T-bar**	**3.45 232**	P		**Pn**	**17 23 05.3**	**+0.7**
EPAZ	**Eden Park BICE**	**3.46 274**	P		**Pn**	**17 23 05.9**	**+1.5**
WNVZ	**Wahianoa**	**3.47 231**	P		**Pn**	**17 23 05.0**	**+0.3**
HBAZ	**Herne Bay Bore**	**3.47 274**	P		**Pn**	**17 23 06.2**	**+1.7**
TRVZ	**Turoa**	**3.48 231**	P		**Pn**	**17 23 05.3**	**+0.4**
AWAZ	**Awhitu Peninsu**	**3.52 270**	P		**Pn**	**17 23 06.2**	**+0.9**
PNHZ	**Pukenui**	**3.54 218**	P		**Pn**	**17 23 04.9**	**-0.6**
WPHZ	**Waipukurau**	**3.54 214**	P		**Pn**	**17 23 04.7**	**-0.8**
HIZ	**Hauiti**	**3.58 247**			**Pn**	**17 23 06.5**	**+0.5**
HIZ	**Hauiti**	**3.58 247**	P		**Pn**	**17 23 08.0**	**+1.9**
WTAZ	**Waiatarua**	**3.59 272**	P		**Pn**	**17 23 07.3**	**+1.1**
RVAZ	**Riverhead Bore**	**3.60 275**	P		**Pn**	**17 23 07.4**	**+1.0**
PKVZ	**Pokaka**	**3.60 233**	P		**Pn**	**17 23 07.5**	**+1.0**
PRHZ	**Porangahau**	**3.62 211**	P		**Pn**	**17 23 06.7**	**0.0**
TSZ	**Takapari Road**	**3.77 219**	P		**Pn**	**17 23 07.8**	**-0.9**
WAZ	**Wanganui**	**4.10 230**	P		**Pn**	**17 23 14.0**	**+0.7**
POWZ	**Post Office Ro**	**4.11 218**	P		**Pn**	**17 23 13.3**	**-0.1**
BFZ	**Birch Farm**	**4.13 211**	Pn		**Pn**	**17 23 11.2**	**-2.4**
PRWZ	**Pori Road**	**4.15 214**	P		**Pn**	**17 23 13.2**	**-0.6**
MHEZ	**Mangahewa**	**4.18 242**	P		**Pn**	**17 23 18.6**	**+4.2**
LREZ	**Lake Rotokare**	**4.31 237**	P		**Pn**	**17 23 17.2**	**+1.1**
DREZ	**Durham Road**	**4.32 241**	P		**Pn**	**17 23 19.6**	**+3.4**
MRZ	**Mangatainoka R**	**4.41 217**	P		**Pn**	**17 23 16.7**	**-1.5**
PREZ	**Palmer Road**	**4.42 239**	P		**Pn**	**17 23 20.6**	**+3.0**
NEZ	**North Egmont**	**4.43 240**	P		**Pn**	**17 23 20.9**	**+3.1**
PKE	**Pukeiti**	**4.47 242**	P		**Pn**	**17 23 22.0**	**+3.6**
KHEZ	**Kahui Hut**	**4.50 240**	P		**Pn**	**17 23 21.8**	**+3.1**
NBEZ	**Newall Road No**	**4.59 241**	P		**Pn**	**17 23 24.5**	**+4.6**
NMEZ	**Namu Road**	**4.64 240**	P		**Pn**	**17 23 24.9**	**+4.2**
OUZ	**Omahuta**	**4.82 292**			**Pn**	**17 23 23.9**	**+0.8**
MSWZ	**Moikau Station**	**5.16 214**	Pn		**Pn**	**17 23 25.1**	**-2.8**
PLWZ	**Palliser**	**5.29 213**	Pn		**Pn**	**17 23 26.4**	**-3.2**
SNZO	**South Karori**	**5.34 218**	Pn		**Pn**	**17 23 27.3**	**-2.8**
TUWZ	**Tuamarina**	**5.81 221**	Pn		**Pn**	**17 23 34.0**	**-2.7**
TUWZ	**Tuamarina**	**5.81 221**	P		**Pn**	**17 23 35.8**	**-1.0**
NNZ	**Nelson**	**5.98 226**	Pn		**Pn**	**17 23 35.4**	**-3.5**
BSWZ	**Blackbirch Sta**	**6.05 220**	Pn		**Pn**	**17 23 37.5**	**-2.6**
QRZ	**Quartz Range**	**6.25 232**	Pn		**Pn**	**17 23 40.4**	**-2.4**
THZ	**Tophouse**	**6.61 224**	Pn		**Pn**	**17 23 45.1**	**-2.6**
KHZ	**Kahutara**	**6.74 217**	Pn		**Pn**	**17 23 49.4**	**-0.1**
LTZ	**Lake Taylor**	**7.65 221**	Pn		**Pn**	**17 23 59.3**	**-2.6**
MQZ	**McQueen's Vall**	**8.15 215**	Pn		**Pn**	**17 24 06.0**	**-2.7**
OXZ	**Oxford**	**8.16 219**	Pn		**Pn**	**17 24 07.5**	**-1.4**
RPZ	**Rata Peaks**	**8.94 220**	Pn		**Pn**	**17 24 17.0**	**-2.6**
	2.7nm,0.3s,baz=5.8,slow=15,SNR=1.8						
RPZ			Sn		Sn	17 25 48.4	-12
	6.2nm,0.3s,baz=156,slow=23,SNR=12						
RPZ	**Rata Peaks**	**8.94 220**	Pn		**Pn**	**17 24 17.3**	**-2.3**
LBZ	**Lake Benmore**	**9.85 220**	Pn		**Pn**	**17 24 29.6**	**-2.6**
ODZ	**Otahua Downs**	**10.10 216**	Pn		Pn	17 24 30.7	-4.9
ONTNC	**Ouen Toro**	**18.38 320**	P		**P**	**17 26 23.1**	**-2.4**
ONTNC			IAmb		IAmb	17 26 26.2	
	comp=Z,138nm,1.3s						
DZM	**Mont Dzumac**	**18.59 321**	P		**P**	**17 26 24.7**	**-3.1**
DZM			IAmb		IAmb	17 26 27.0	
	comp=Z,88nm,1.4s						
STKA	**Stephens Creek**	**31.17 269**	P		**P**	**17 28 28.8**	**-0.7**
	comp=Z,7.7nm,0.8s,baz=79,slow=10.0,SNR=5.1						
	comp=Z,7.7nm,0.8s						
STKA	**Stephens Creek**	**31.17 269**	P		**P**	**17 28 30.1**	**+0.6**
CTA	**Charters Tower**	**33.22 292**	P		**P**	**17 28 47.7**	**0.0**
	comp=Z,3.9nm,0.9s,baz=90,slow=10,SNR=2.0						
	comp=Z,3.9nm,0.9s						
COEN	**Coen**	**39.41 296**	P		**P**	**17 29 41.1**	**+0.6**
COEN			IAmb		IAmb	17 29 42.6	
	comp=Z,19nm,0.8s						
ASAR	**Alice Springs**	**40.83 276**	P		**P**	**17 29 52.0**	**-0.3**
	comp=Z,11nm,0.7s,baz=118,slow=7.9,SNR=15						
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**40.83 276**	P		**P**	**17 29 51.1**	**-1.1**
KRVT	**Keravat (AS076**	**41.02 316**	P		**P**	**17 29 52.0**	**-1.8**
	comp=Z,14nm,0.7s,baz=166,slow=8.3,SNR=2.1						
	comp=Z,14nm,0.7s						
FORT	**Forrest**	**42.35 263**	P		**P**	**17 30 03.3**	**-1.3**
FORT			IAmb		IAmb	17 30 34.3	
	comp=Z,30nm,1.0s						
WB2	**Warramunga Arr**	**42.43 281**	P		**P**	**17 30 04.6**	**-0.8**
WB2			IAmb		IAmb	17 30 05.8	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**42.43 281**	P		**P**	**17 30 04.4**	**-1.0**
WRAB			IAmb		IAmb	17 30 08.1	
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**42.44 281**	P		**P**	**17 30 04.9**	**-0.6**
	comp=Z,17nm,0.8s,baz=123,slow=7.0,SNR=35						
	comp=Z,17nm,0.8s						

WRA	**Warramunga Arr**	**42.44 281**	P		**P**	**17 30 04.8**	**-0.7**
WB0	**Warramunga Arr**	**42.49 281**	P		**P**	**17 30 05.4**	**-0.5**
WB0			IAmb		IAmb	17 30 06.2	
	comp=Z,26nm,0.7s						
MTN	**Manton Dam**	**49.08 287**	P		**P**	**17 30 57.7**	**-0.3**
KNRA	**Kununurra**	**49.22 282**	P		**P**	**17 30 58.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.31 277**	P		**P**	**17 31 07.2**	**-0.1**
	comp=Z,10nm,0.8s,baz=151,slow=4.8,SNR=10.0						
	comp=Z,10nm,0.8s						
QSPA	**South Pole Qui**	**52.96 180**	P		**P**	**17 31 29.5**	**+2.8**
	comp=Z,4.6nm,0.9s,baz=90,slow=2.0,SNR=3.7						
	comp=Z,4.6nm,0.9s						
SIJI	**Sorong**	**56.92 298**	P		**P**	**17 31 55.5**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=170,slow=8.4,SNR=4.7						
	comp=Z,4.0nm,0.6s						
BELA	**Belgrano 2**	**63.42 172**	P		**P**	**17 32 41.0**	**+1.4**
PMSA	**Palmer Station**	**67.13 155**	P		**P**	**17 33 06.1**	**+2.4**
H03S2	**Juan Fernandez**	**78.76 124**	T		T	19 00 47.6	
	baz=230						
H03S1	**Juan Fernandez**	**78.77 124**	T		T	19 00 47.1	
	baz=230						
H03S3	**Juan Fernandez**	**78.78 124**	T		T	19 00 48.0	
	baz=230						
H03N3	**Juan Fernandez**	**78.99 124**	T		T	19 00 58.9	
	baz=232						
H03N2	**Juan Fernandez**	**79.00 124**	T		T	19 00 57.9	
	baz=232						
H03N1	**Juan Fernandez**	**79.01 124**	T		T	19 00 52.2	
	baz=232						
KSRS	**Korea Array**	**88.01 322**	P		**P**	**17 35 01.7**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=145,slow=5.8,SNR=1.7						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.39 290**	P		**P**	**17 35 26.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=158,slow=4.2,SNR=2.1						
	comp=Z,0.6nm,0.5s						
COWI	**Conover**	**116.72 51**			**PKiKP**	**17 40 55.2**	**+0.8**
ARCES	**ARCES Array B**	**144.56 344**	PKP		**PKPab**	**17 41 44.6**	**+0.2**
	comp=Z,5.6nm,1.0s,baz=22,slow=1.3,SNR=8.9						
DBIC	**Dimbokro**	**149.43 172**	PKPbc		**PKiKP**	**17 42 01.6**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=233,slow=1.1,SNR=4.2						
FINES	**FINESS Array B**	**150.40 334**	PKPbc		**PKPbc**	**17 42 00.9**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=27,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**152.89 286**	PKPbc		**PKPbc**	**17 42 06.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=99,slow=4.5,SNR=1.5						
TORD	**Torodi Ar. Bea**	**155.96 186**	PKPab		**PKPab**	**17 42 32.6**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=168,slow=2.8,SNR=5.1						

DJA 01 17:23:01.4±1.1,7°S±6°×10°7E±°,h11km±4km,M3.3/5, MLv3.3/5,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.14**	**335**	P	Pb	17 23 05.8	-0.3
CNJI				S	Sg	17 23 08.6	+1.5
LEM	**Lembang**	**0.74**	**35**	P	Pg	17 23 15.8	0.0
LEM				S	Sb	17 23 27.0	+0.3
SKJI	**Sukabumi**	**0.76**	**304**	P	Pb	17 23 16.6	-0.1
DBJI	**Dramaga**	**0.98**	**334**	P	Pg	17 23 20.0	-0.4
DBJI				S	Sb	17 23 33.9	+0.4

*NEIC **01** 17:23:38.4±2.2,37°3S±0°1×179°9E±0°1,h10km±2km, mb5.0/20,Error ellipse: s-maj=21.2km s-min=16.9km az=2.0*
*IDC **01** 17:23:41.1±1.4,36°73S×179°19E,h0km,mb4.5/7, mbtmp4.5/8,ML4.9/1,Error ellipse: s-maj=36.5km s-min=27.6km az=48.0*
*WEL **01** 17:23:46.6±1.2,37°S±5°×17°9E±1°0,h29km±19km, M4.6/61,ML4.8/66,MLv4.6/61,Error ellipse: s-maj=0.0km s-min=0.0km az=74.9*

ISC 01 17:23:42.6±1.9,37°07S±0°05×179°29E±0°07,h16km±9km, n145,σ1§75/152,mb4.9/16,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.93**	**238**		**Pg**	**17 24 00.6**	**-0.1**
MXZ	**Matakaoa Point**	**0.93**	**238**	P	**Pg**	**17 24 00.5**	**-0.1**
MXZ				S	**Sg**	**17 24 11.9**	**-0.9**
WMGZ	**Waiomatatini S**	**1.02**	**223**	P	**Pn**	**17 24 04.7**	**+2.3**
WMGZ				S	**Sn**	**17 24 18.5**	**+2.1**
PKGZ	**Pakihiroa**	**1.27**	**229**	P	**Pg**	**17 24 07.6**	**+0.6**
PKGZ				S	**Sb**	**17 24 22.5**	**+0.3**
PUZ	**Puketiti**	**1.30**	**219**	P	**Pg**	**17 24 08.3**	**+0.7**
PUZ				S	**Sb**	**17 24 23.9**	**+0.9**
HAZ	**Te Kaha**	**1.39**	**240**	P	**Pg**	**17 24 09.4**	**+0.2**
HAZ				S	**Sb**	**17 24 26.4**	**+0.8**
TWGZ	**Tauwhareparae**	**1.52**	**223**	P	**Pg**	**17 24 12.0**	**+0.1**
TWGZ				S	**Sb**	**17 24 31.0**	**+1.5**
RUGZ	**Raukumara Rang**	**1.57**	**235**	P	**Pb**	**17 24 12.3**	**+1.0**
RUGZ				S	**Sn**	**17 24 30.4**	**+0.5**
CNGZ	**Carnagh Statio**	**1.66**	**211**	P	**Pb**	**17 24 14.0**	**+1.3**
CNGZ				S	**Sb**	**17 24 36.0**	**+2.7**
WIZ	**White Island**	**1.74**	**254**	P	**Pn**	**17 24 12.0**	**-0.1**
WIZ				S	**Sn**	**17 24 31.4**	**-2.5**
WSNZ	**White Island S**	**1.75**	**254**	P	**Pn**	**17 24 14.4**	**+0.2**
TKGZ	**Te Karaka**	**1.78**	**219**	P	**Pn**	**17 24 14.8**	**+2.0**
TKGZ				S	**Sn**	**17 24 36.0**	**+0.9**
MWZ	**Matawai**	**1.89**	**227**	P	**Pb**	**17 24 16.4**	**-0.2**
MWZ				S	**Sn**	**17 24 37.9**	**+0.2**
WHRZ	**Whale Island**	**2.00**	**246**	P	**Pb**	**17 24 17.8**	**-0.9**
WHRZ				S	**Sn**	**17 24 39.6**	**-1.0**
RAGZ	**Rawiri**	**2.06**	**226**	P	**Pn**	**17 24 18.7**	**+2.1**
URZ	**Urewera**	**2.10**	**235**	Pn	**Pn**	**17 24 19.0**	**+1.9**
	362nm,0.3s,baz=301,slow=4.4,SNR=8.6						
URZ				Sn	**Sn**	**17 24 43.4**	**+0.5**
	252nm,0.3s,baz=301,slow=3.2,SNR=7.4						
	2um,0.5s						
URZ	**Urewera**	**2.10**	**235**		**Pn**	**17 24 18.6**	**+1.5**
URZ	**Urewera**	**2.10**	**235**	P	**Pn**	**17 24 19.0**	**+1.9**
PRGZ	**Paritu Road**	**2.16**	**211**	P	**Pn**	**17 24 20.0**	**+2.1**
MARZ	**Manawahe**	**2.27**	**245**	P	**Pn**	**17 24 20.7**	**+1.2**
EDRZ	**Edgecumbe**	**2.28**	**242**	P	**Pn**	**17 24 21.2**	**+1.6**
SNGZ	**Shannon Statio**	**2.31**	**221**	P	**Pn**	**17 24 21.7**	**+1.8**
OPRZ	**Ohinepanea**	**2.31**	**250**	P	**Pn**	**17 24 20.8**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.35**	**207**	P	**Pn**	**17 24 22.6**	**+2.0**
MUGZ	**Murupara**	**2.44**	**234**	P	**Pn**	**17 24 23.4**	**+1.6**
MYRZ	**Mayor Island**	**2.45**	**264**	P	**Pn**	**17 24 22.9**	**+1.0**
MKRZ	**Makatiti**	**2.48**	**244**	P	**Pn**	**17 24 24.5**	**+2.0**
LIRZ	**Lichensteins R**	**2.49**	**247**	P	**Pn**	**17 24 24.5**	**+1.9**
TARZ	**Mount Tarawera**	**2.50**	**241**	P	**Pn**	**17 24 24.7**	**+2.0**
TGRZ	**Tauranga**	**2.50**	**254**	P	**Pn**	**17 24 23.5**	**+0.9**
OMRZ	**Omania**	**2.54**	**245**	P	**Pn**	**17 24 25.0**	**+1.8**
RRRZ	**Republican Roa**	**2.54**	**239**	P	**Pn**	**17 24 25.1**	**+1.8**
KARZ	**Kaharoa**	**2.60**	**248**	P	**Pn**	**17 24 25.3**	**+1.3**
HLRZ	**Highlands Stat**	**2.62**	**242**	P	**Pn**	**17 24 25.0**	**+1.8**
MTHZ	**Maungataniwha**	**2.63**	**227**	P	**Pn**	**17 24 26.5**	**+2.0**
NGRZ	**Ngongotaha**	**2.67**	**246**	P	**Pn**	**17 24 27.1**	**+2.0**
UTU	**Utuhina**	**2.70**	**245**	P	**Pb**	**17 24 29.0**	**-1.5**
PRRZ	**Plateau Road**	**2.71**	**237**	P	**Pn**	**17 24 27.0**	**+1.5**
HSRZ	**Hossack Road**	**2.72**	**242**	P	**Pn**	**17 24 27.8**	**+2.2**
HRRZ	**Handcock Road**	**2.73**	**240**	P	**Pn**	**17 24 27.6**	**+1.9**
ALRZ	**Allen Road**	**2.77**	**237**	P	**Pn**	**17 24 27.8**	**+1.5**
KMRZ	**Kaimai**	**2.78**	**253**	P	**Pn**	**17 24 27.4**	**+1.0**
NMHZ	**Naumai**	**2.82**	**223**	P	**Pn**	**17 24 29.1**	**+2.0**
GRRZ	**Galatos Road**	**2.83**	**242**	P	**Pn**	**17 24 29.1**	**+1.9**
ARHZ	**Aropaoanui**	**2.84**	**219**	P	**Pn**	**17 24 28.7**	**+1.4**
WPRZ	**Whakapapatarin**	**2.87**	**239**	P	**Pn**	**17 24 29.7**	**+1.9**
MRHZ	**Matea Rd**	**2.88**	**231**	P	**Pn**	**17 24 29.2**	**+1.4**
KUZ	**Kuaotunu**	**2.88**	**275**	P	**Pn**	**17 24 27.2**	**-0.6**
BKZ	**Black Stump Fm**	**3.04**	**226**	Pn	**Pn**	**17 24 31.2**	**+1.0**
BKZ	**Black Stump Fm**	**3.04**	**226**	P	**Pn**	**17 24 31.7**	**+1.6**
WHTZ	**Whakaora**	**3.08**	**238**	P	**Pn**	**17 24 32.9**	**+2.2**
TOZ	**Tahuroa Road**	**3.09**	**256**	P	**Pn**	**17 24 31.1**	**+0.4**
KUTZ	**Kaahu Road**	**3.09**	**242**	P	**Pn**	**17 24 32.6**	**+1.9**
CKHZ	**Cape Kidnapper**	**3.12**	**213**	P	**Pn**	**17 24 31.7**	**+0.6**
GRZ	**Great Barrier**	**3.19**	**284**	P	**Pn**	**17 24 33.6**	**+1.6**
TLZ	**Tolley Road**	**3.23**	**246**	P	**Pn**	**17 24 34.3**	**+1.6**
WATZ	**Wairara**	**3.26**	**239**	P	**Pn**	**17 24 34.9**	**+1.8**
MKAZ	**Moumakai**	**3.30**	**268**	P	**Pn**	**17 24 33.6**	**-0.1**
RATZ	**Rangitukua**	**3.31**	**236**	P	**Pn**	**17 24 35.7**	**+1.9**
RITZ	**Rihia Road**	**3.31**	**234**	P	**Pn**	**17 24 35.5**	**+1.7**
KAHZ	**Kahuranaki**	**3.32**	**214**	P	**Pn**	**17 24 34.4**	**+0.5**
WIAZ	**Waiheke Island**	**3.34**	**273**	P	**Pn**	**17 24 35.0**	**+0.8**
KATZ	**Kakaramea**	**3.42**	**235**	P	**Pn**	**17 24 37.7**	**+2.3**
TMVZ	**Te Maari**	**3.49**	**233**	P	**Pn**	**17 24 37.6**	**+1.2**
ETAZ	**East Tamaki Re**	**3.50**	**271**	P	**Pn**	**17 24 37.0**	**+0.7**
ETVZ	**East Tongariro**	**3.50**	**233**	P	**Pn**	**17 24 37.6**	**+1.1**
NTVZ	**North Tongarir**	**3.50**	**234**	P	**Pn**	**17 24 37.7**	**+1.3**
BHHZ	**Black Hill Sta**	**3.51**	**225**	P	**Pn**	**17 24 37.7**	**+1.2**
KRVZ	**Karewarewa**	**3.52**	**234**	P	**Pn**	**17 24 38.0**	**+1.2**

MBAZ	**Motutapu North**	**3.53 274**	P		**Pn**	**17 24 38.6**	**+1.8**
OTVZ	**Oturere**	**3.54 233**	P		**Pn**	**17 24 38.3**	**+1.2**
NNVZ	**North Ngauruho**	**3.56 233**	P		**Pn**	**17 24 39.0**	**+1.7**
WTVZ	**West Tongariro**	**3.56 234**	P		**Pn**	**17 24 39.0**	**+1.6**
SNVZ	**South Ngauruho**	**3.57 233**	P		**Pn**	**17 24 38.6**	**+1.1**
NGZ	**Ngauruhoe**	**3.59 233**	P		**Pn**	**17 24 38.9**	**+1.1**
ABAZ	**Army Bay**	**3.61 276**	P		**Pn**	**17 24 38.3**	**+0.5**
TUVZ	**Tukino**	**3.61 231**	P		**Pn**	**17 24 39.3**	**+1.2**
MOVZ	**Moawhango**	**3.64 229**	P		**Pn**	**17 24 39.1**	**+0.8**
TWVZ	**Taurewa**	**3.64 236**	P		**Pn**	**17 24 39.8**	**+1.4**
EPAZ	**Eden Park BICE**	**3.65 272**	P		**Pn**	**17 24 40.5**	**+2.1**
HBAZ	**Herne Bay Bore**	**3.66 272**	P		**Pn**	**17 24 40.6**	**+2.0**
WHVZ	**Whangaehu Hut**	**3.66 232**	P		**Pn**	**17 24 39.8**	**+1.0**
FWVZ	**Far West T-bar**	**3.67 232**	P		**Pn**	**17 24 39.8**	**+0.9**
WNVZ	**Wahianoa**	**3.68 231**	P		**Pn**	**17 24 40.0**	**+1.0**
TRVZ	**Turoa**	**3.70 232**	P		**Pn**	**17 24 40.5**	**+1.2**
AWAZ	**Awhitu Peninsu**	**3.72 269**	P		**Pn**	**17 24 40.4**	**+1.1**
WTAZ	**Waiatarua**	**3.78 271**	P		**Pn**	**17 24 41.6**	**+1.4**
RVAZ

OMRZ	Omania	2.58 242	P	Pn	17 26 18.7	+2.5
KARZ	Kaharoa	2.63 244	P	Pn	17 26 18.5	+1.6
MTHZ	Maungataniwha	2.71 224	P	Pn	17 26 19.0	+1.0
PRRZ	Plateau Road	2.76 234	P	Pn	17 26 19.4	+0.8
KMRZ	Kaimai	2.79 250	P	Pn	17 26 19.7	+0.6
ALRZ	Allen Road	2.83 234	P	Pn	17 26 20.3	+0.7
KUZ	Kuaotunu	2.83 272	P	Pn	17 26 20.1	+0.4
NMHZ	Naumai	2.91 221	P	Pn	17 26 21.7	+0.9
TOZ	Tahuroa Road	3.09 254	P	Pn	17 26 23.3	0.0
GRZ	Great Barrier	3.12 281	P	Pn	17 26 25.9	+2.3
BKZ	Black Stump Fm	3.12 223	Pn	Pn	17 26 23.9	+0.2
BKZ	Black Stump Fm	3.12 223	P	Pn	17 26 24.3	+0.6
KUTZ	Kaahu Road	3.13 239	P	Pn	17 26 25.1	+1.3
MKAZ	Moumakai	3.27 266	P	Pn	17 26 26.8	+1.1
WIAZ	Waiheke Island	3.30 271	P	Pn	17 26 27.4	+1.3
KAHZ	Kahuranaki	3.42 212	P	Pn	17 26 26.7	-1.1
ETAZ	East Tamaki Re	3.46 268	P	Pn	17 26 30.0	+1.7
MBAZ	Motutapu North	3.49 271	P	Pn	17 26 30.9	+2.2
TMVZ	Te Maari	3.55 231	P	Pn	17 26 30.1	+0.3
ABAZ	Army Bay	3.56 274	P	Pn	17 26 31.4	+1.8
NTVZ	North Tongariro	3.56 231	P	Pn	17 26 30.1	+0.3
ETVZ	East Tongariro	3.56 231	P	Pn	17 26 30.2	+0.3
KRVZ	Karewarewa	3.58 232	P	Pn	17 26 30.6	+0.5
EPAZ	Eden Park BICE	3.61 269	P	Pn	17 26 32.8	+2.5
HBAZ	Herne Bay Bore	3.62 270	P	Pn	17 26 32.0	+1.6
SNVZ	South Ngauruho	3.64 230	P	Pn	17 26 31.4	+0.5
AWAZ	Awhitu Peninsu	3.69 266	P	Pn	17 26 32.7	+1.2
TWVZ	Taurewa	3.70 233	P	Pn	17 26 32.8	+1.2
WTAZ	Waiatarua	3.74 268	P	Pn	17 26 34.3	+2.1
RVAZ	Riverhead Bore	3.75 271	P	Pn	17 26 33.7	+1.4
HIZ	Hauiti	3.83 244	Pn	Pn	17 26 34.6	+1.2
HIZ	Hauiti	3.83 244	P	Pn	17 26 35.6	+2.2
WCZ	Waipu Caves	4.07 282	P	Pn	17 26 38.1	+1.4
BFZ	Birch Farm	4.43 211	Pn	Pn	17 26 38.9	-2.8
KHEZ	Kahui Hut	4.76 239	P	Pn	17 26 50.4	+4.2
OUZ	Omahuta	4.88 289	Pn	Pn	17 26 46.5	-1.3
OUZ	Omahuta	4.88 289	P	Pn	17 26 50.1	+2.3
RPZ	Rata Peaks	9.23 220	Sn	Sn	17 29 18.9	-13
	6.1nm,0.3s,baz=54,slow=19,SNR=2.8					
DZM	Mont Dzumac	18.49 320	Pn	P	17 29 45.0	-5.9
DZM			IAmb	IAmb	17 30 11.2	
	comp=Z,44nm,1.5s					
LIFNC	LIFOU	19.19 324	P	P	17 29 55.6	-2.7
COEN	Coen	39.44 296	P	P	17 33 05.1	0.0
COEN			IAmb	IAmb	17 33 06.9	
	comp=Z,15nm,1.1s					
KRVT	Keravat (AS076	40.95 316	P	P	17 33 15.8	-1.7
	comp=Z,12nm,0.8s,baz=61,slow=23,SNR=1.9					
	comp=Z,12nm,0.8s					
AS31	Alice Springs	40.95 276	P	P	17 33 17.1	-0.5
ASAR	Alice Springs	40.96 276	P	P	17 33 17.7	+0.1
	comp=Z,1.9nm,0.6s,baz=121,slow=7.8,SNR=4.5					
	comp=Z,1.9nm,0.6s					
ASAR	Alice Springs	40.96 276	P	P	17 33 16.5	-1.1
WR0	Warramunga Arr	42.37 281	P	P	17 33 28.7	-0.5
WB2	Warramunga Arr	42.53 281	P	P	17 33 30.3	-0.3
WB2			IAmb	IAmb	17 33 43.1	
	comp=Z,6.6nm,0.7s					
FORT	Forrest	42.53 263	P	P	17 33 29.8	-0.6
WRAB	Tennant Creek	42.54 281	P	P	17 33 30.2	-0.4
WRAB			IAmb	IAmb	17 33 54.5	
	comp=Z,15nm,1.4s					
WRA	Warramunga Arr	42.54 281	P	P	17 33 30.3	-0.3
	comp=Z,2.7nm,0.6s,baz=121,slow=7.6,SNR=4.7					
	comp=Z,2.7nm,0.6s					
WB0	Warramunga Arr	42.59 281	P	P	17 33 30.6	-0.4
WB0			IAmb	IAmb	17 33 46.1	
	comp=Z,15nm,1.3s					
FITZ	Fitzroy Crossi	50.44 277	P	P	17 34 32.5	-0.1
	comp=Z,2.3nm,0.5s,baz=122,slow=7.6,SNR=2.0					
	comp=Z,2.3nm,0.5s					
QSPA	South Pole Qui	53.21 180	P	P	17 34 55.9	+3.1
	comp=Z,2.7nm,0.9s,baz=32,slow=9.5,SNR=2.8					
	comp=Z,2.7nm,0.9s					
QSPA	South Pole Qui	53.21 180	P	P	17 34 55.8	+2.9
QSPA			IAmb	IAmb	17 35 23.3	
	comp=Z,11nm,1.4s					
H03S2	Juan Fernandez	78.77 124	T	T	19 04 14.7	
	baz=232					
H03S1	Juan Fernandez	78.78 124	T	T	19 04 17.6	
	baz=232					
H03S3	Juan Fernandez	78.79 124	T	T	19 04 21.8	
	baz=232					
H03N3	Juan Fernandez	79.00 124	T	T	19 04 30.5	
	baz=227					
H03N2	Juan Fernandez	79.00 124	T	T	19 04 29.1	
	baz=227					
H03N1	Juan Fernandez	79.02 124	T	T	19 04 29.6	
	baz=227					
CMAR	Chiang Mai Arr	93.44 290	P	P	17 38 52.6	+2.0
	comp=Z,0.3nm,0.5s,baz=130,slow=3.9,SNR=2.0					
	comp=Z,0.3nm,0.5s					
FINES	FINESS Array B	150.24 334	PKPbc	PKPbc	17 45 25.6	+0.6
	comp=Z,2.3nm,0.7s,baz=77,slow=4.1,SNR=3.0					
TORD	Torodi Ar. Bea	156.23 186	PKPab	PKPab	17 45 58.4	+0.7
	comp=Z,1.2nm,0.9s,baz=175,slow=3.2,SNR=3.1					

NEIC ***01*** *17:26:45.0±1.1,37.30S±0.04×179.4W±0.1,h10km±1km, mb4.9/25,Error ellipse: s-maj=17.3km s-min=6.0km az=84.0*

WEL ***01*** *17:26:58.1±1.3,37.7S±7.7×17.9E±1.1,h54km±34km, M4.6/54,ML4.8/56,MLv4.6/54,Error ellipse: s-maj=0.0km s-min=0.0km az=65.7*

IDC ***01*** *17:27:00.9±5.4,36.87S×178.93E,h50km±42km,mb4.4/10, mbtmp4.7/11,ML4.8/1,Error ellipse: s-maj=35.6km s-min=21.1km az=63.0*

ISC 01 17:26:53.1±2.1,36.97S±0.06×179.45E±0.08,h11km±11km, n151,σ1s71/147,mb4.8/21,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.08 237			Pg	17 27 13.4	-0.4
PKGZ	Pakihiroa	1.42 230		P	Pg	17 27 20.6	+0.2
PKGZ				S	Sn	17 27 37.3	-0.2
PUZ	Puketiti	1.45 220		P	Pg	17 27 21.2	+0.3
PUZ				S	Sn	17 27 37.8	-0.3
HAZ	Te Kaha	1.54 239		P	Pb	17 27 22.0	+0.5
HAZ				S	Sn	17 27 40.7	+0.4
TWGZ	Tauwhareparae	1.67 224		P	Pb	17 27 24.6	+0.7
TWGZ				S	Sn	17 27 44.5	+0.7
RUGZ	Raukumara Rang	1.72 234		P	Pb	17 27 25.0	+0.3
RUGZ				S	Sn	17 27 44.8	-0.2
CNGZ	Carnagh Statio	1.80 213		P	Pb	17 27 26.7	+0.7
CNGZ				S	Sn	17 27 49.0	+2.2
TKGZ	Te Karaka	1.94 220		P	Pn	17 27 27.6	+1.8
TKGZ				S	Sn	17 27 49.1	-1.0
MWZ	Matawai	2.04 228		P	Pn	17 27 29.2	+1.9
RAGZ	Rawiri	2.21 226		P	Pn	17 27 31.4	+1.7
URZ	Urewera	2.25 235		P	Pn	17 27 31.3	+1.1
	339nm,0.3s,baz=301,slow=2.1,SNR=7.6						
URZ				S	Sn	17 27 56.8	-1.2
	3μm,0.8s,baz=301,slow=23,SNR=11						
	2μm,0.5s						
URZ	Urewera	2.25 235			Pn	17 27 31.6	+1.4
URZ	Urewera	2.25 235		P	Pn	17 27 31.8	+1.6
PRGZ	Paritu Road	2.30 212		P	Pn	17 27 32.5	+1.5
MARZ	Manawahe	2.42 245		P	Pn	17 27 33.5	+0.9
EDRZ	Edgecumbe	2.43 241		P	Pn	17 27 34.2	+1.5
SNGZ	Shannon Statio	2.46 222		P	Pn	17 27 34.6	+1.6
OPRZ	Ohinepanea	2.46 248		P	Pn	17 27 33.8	+0.8
MHGZ	Mahia Peninsul	2.49 209		P	Pn	17 27 35.0	+1.5
MYRZ	Mayor Island	2.58 262		P	Pn	17 27 35.7	+1.0
MUGZ	Murupara	2.60 234		P	Pn	17 27 36.3	+1.3
MKRZ	Makatiti	2.64 243		P	Pn	17 27 37.3	+1.8
LIRZ	Lichensteins R	2.64 246		P	Pn	17 27 37.5	+1.9
TGRZ	Tauranga	2.65 253		P	Pn	17 27 36.4	+0.8
TARZ	Mount Tarawera	2.65 241		P	Pn	17 27 37.5	+1.7
RAHZ	Arahi	2.69 223		P	Pn	17 27 38.3	+2.1
OMRZ	Omania	2.69 244		P	Pn	17 27 37.9	+1.7
RRRZ	Republican Roa	2.69 239		P	Pn	17 27 37.8	+1.4
KARZ	Kaharoa	2.75 247		P	Pn	17 27 38.1	+1.0
HLRZ	Highlands Stat	2.77 242		P	Pn	17 27 39.0	+1.6
MTHZ	Maungataniwha	2.79 227		P	Pn	17 27 39.5	+1.9
NGRZ	Ngongotaha	2.82 246		P	Pn	17 27 39.8	+1.7
UTU	Utuhina	2.85 244		P	Pn	17 27 40.6	+2.2
PRRZ	Plateau Road	2.86 237		P	Pn	17 27 39.7	+1.2
HSRZ	Hossack Road	2.87 241		P	Pn	17 27 40.6	+1.9
HRRZ	Handcock Road	2.88 240		P	Pn	17 27 40.2	+1.4
KMRZ	Kaimai	2.92 252		P	Pn	17 27 39.8	+0.4
ALRZ	Allen Road	2.92 236		P	Pn	17 27 40.6	+1.1
NMHZ	Naumai	2.97 224		P	Pn	17 27 41.8	+1.7
GRRZ	Galatos Road	2.98 242		P	Pn	17 27 41.9	+1.7
KUZ	Kuaotunu	3.00 273		P	Pn	17 27 40.1	-0.3
WPRZ	Whakapapatarin	3.02 238		P	Pn	17 27 42.4	+1.5
MRHZ	Matea Rd	3.03 231		P	Pn	17 27 41.9	+1.0
BKZ	Black Stump Fm	3.20 226		Pn	Pn	17 27 43.0	-0.2
BKZ	Black Stump Fm	3.20 226		P	Pn	17 27 44.2	+0.9
TOZ	Tahuroa Road	3.23 255		P	Pn	17 27 43.5	-0.2
WHTZ	Whakaora	3.24 237		P	Pn	17 27 45.6	+1.7
KUTZ	Kaahu Road	3.25 241		P	Pn	17 27 45.3	+1.4
CKHZ	Cape Kidnapper	3.26 214		P	Pn	17 27 44.3	+0.2
GRZ	Great Barrier	3.29 282		P	Pn	17 27 45.7	+1.3
TLZ	Tolley Road	3.38 245		P	Pn	17 27 47.2	+1.4
WATZ	Wairara	3.41 238		P	Pn	17 27 47.3	+1.2
MKAZ	Moumakai	3.43 267		P	Pn	17 27 46.2	-0.2
WIAZ	Waiheke Island	3.46 272		P	Pn	17 27 47.9	+1.1
KAHZ	Kahuranaki	3.46 215		P	Pn	17 27 47.0	+0.1
RATZ	Rangitukua	3.46 236		P	Pn	17 27 49.1	+2.2
RITZ	Rihia Road	3.47 234		P	Pn	17 27 48.5	+1.5
ETAZ	East Tamaki Re	3.62 269		P	Pn	17 27 49.3	+0.3
TMVZ	Te Maari	3.65 233		P	Pn	17 27 50.4	+0.9
MBAZ	Motutapu North	3.65 272		P	Pn	17 27 50.9	+1.5
ETVZ	East Tongariro	3.65 233		P	Pn	17 27 50.7	+1.2
NTVZ	North Tongariro	3.65 233		P	Pn	17 27 50.5	+0.9
KRVZ	Karewarewa	3.67 234		P	Pn	17 27 50.9	+1.0
OTVZ	Oturere	3.70 233		P	Pn	17 27 51.6	+1.3
WTVZ	West Tongariro	3.72 234		P	Pn	17 27 52.1	+1.6
ABAZ	Army Bay	3.72 274		P	Pn	17 27 51.3	+0.9
EPAZ	Eden Park BICE	3.77 270		P	Pn	17 27 52.4	+1.4
HBAZ	Herne Bay Bore	3.78 270		P	Pn	17 27 53.1	+1.9
MOVZ	Moawhango	3.79 229		P	Pn	17 27 52.1	+0.7
TWVZ	Taurewa	3.79 235		P	Pn	17 27 52.9	+1.4
AWAZ	Awhitu Peninsu	3.84 267		P	Pn	17 27 52.6	+0.5
WTAZ	Waiatarua	3.90 269		P	Pn	17 27 53.5	+0.6
RVAZ	Riverhead Bore	3.91 272		P	Pn	17 27 53.7	+0.8
HIZ	Hauiti	3.95 246		Pn	Pn	17 27 55.6	+2.1
HIZ	Hauiti	3.95 246		P	Pn	17 27 55.7	+2.2
WCZ	Waipu Caves	4.24 283		P	Pn	17 27 58.4	+0.9
BFZ	Birch Farm	4.47 213		Pn	Pn	17 27 55.6	-5.1
LREZ	Lake Rotokare	4.68 236		P	Pn	17 28 05.3	+1.7
DREZ	Durham Road	4.69 240		P	Pn	17 28 06.5	+2.8
PREZ	Palmer Road	4.79 239		P	Pn	17 28 08.9	+3.8
NEZ	North Egmont	4.80 240		P	Pn	17 28 08.6	+3.2
PKE	Pukeiti	4.84 241		P	Pn	17 28 09.9	+4.1
KHEZ	Kahui Hut	4.87 240		P	Pn	17 28 09.2	+3.0
NBEZ	Newall Road No	4.96 241		P	Pn	17 28 10.9	+3.5
NMEZ	Namu Road	5.02 239		P	Pn	17 28 12.1	+4.0
OUZ	Omahuta	5.05 289		Pn	Pn	17 28 10.2	+1.6
OUZ	Omahuta	5.05 289		P	Pn	17 28 10.7	+2.1
MSWZ	Moikau Station	5.50 215			Pn	17 28 11.3	-3.6
KHZ	Kahutara	7.09 218			Pn	17 28 26.2	-10
CTZ	Chatham Island	7.39 157		P	Pn	17 28 42.5	+1.7
OKCZ	Okains Bay	8.32 214		P	Pn	17 28 50.7	-2.8
MQZ	McQueen's Vall	8.49 216		Pn	Pn	17 28 48.3	-7.6
MQZ	McQueen's Vall	8.49 216		P	Pn	17 28 53.3	-2.5
AKCZ	Akaroa Harbour	8.50 214		P	Pn	17 28 54.9	-1.1
OXZ	Oxford	8.51 219		Pn	Pn	17 28 50.7	-5.4
RPZ	Rata Peaks	9.29 221		P	Pn	17 29 03.2	-3.6
	11nm,0.3s,baz=90,slow=20,SNR=2.2						
RPZ				S	Sn	17 30 38.8	-12
	37nm,0.5s,baz=94,slow=23,SNR=8.3						
RPZ	Rata Peaks	9.29 221		Pn	Pn	17 29 03.8	-3.1
ARCZ	Arundel	9.39 220		P	Pn	17 29 05.2	-3.0
TMZ	Timaru	9.79 218		P	Pn	17 29 11.4	-2.2
LBZ	Lake Benmore	10.21 221		Pn	Pn	17 29 16.1	-3.3
LBZ	Lake Benmore	10.21 221		P	Pn	17 29 16.4	-3.0
ODZ	Otahua Downs	10.44 217		Pn	Pn	17 29 19.3	-3.4
ARMA	Armidale	24.00 278		P	P	17 32 08.6	+0.7
CAN	Canberra	24.59 265		P	P	17 32 13.8	+0.6
CAN				IAmb	IAmb	17 32 23.0	
	comp=Z,92nm,2.0s						
TAU	Tasmania Unive	25.23 246		P	P	17 32 18.9	+0.1
EIDS	Eidsvold	26.78 288		P	P	17 32 34.0	+1.0
EIDS				IAmb	IAmb	17 32 47.2	
	comp=Z,30nm,1.9s						
TOO	Toolangi	26.95 258		P	P	17 32 34.9	+0.5
STKA	Stephens Creek	31.49 268		P	P	17 33 14.9	+0.1
	comp=Z,3.1nm,0.9s,baz=84,slow=9.5,SNR=3.6						
	comp=Z,3.1nm,0.9s						
STKA	Stephens Creek	31.49 268		P	P	17 33 13.3	-1.5
CTA	Charters Tower	33.45 291		P	P	17 33 32.3	+0.2
	comp=Z,3.3nm,0.8s,baz=91,slow=6.2,SNR=1.8						
	comp=Z,3.3nm,0.8s						
CTAO	Charters Tower	33.45 291		P	P	17 33 32.0	-0.1
CTAO				IAmb	IAmb	17 33 37.8	
	comp=Z,24nm,1.6s						
COEN	Coen	39.61 296		P	P	17 34 24.4	-0.3
KRVT	Keravat (AS076	41.10 316		P	P	17 34 37.4	+0.4
	comp=Z,18nm,0.6s,baz=219,slow=3.9,SNR=5.9						
	comp=Z,18nm,0.6s						
AS31	Alice Springs	41.12 276		P	P	17 34 36.7	-0.5
ASAR	Alice Springs	41.12 276		P	P	17 34 36.9	-0.4
	comp=Z,21nm,0.8s,baz=116,slow=7.5,SNR=23						
	comp=Z,21nm,0.8s						
ASAR	Alice Springs	41.12 276		P	P	17 34 36.1	-1.1
WR0	Warramunga Arr	42.54 281		P	P	17 34 48.3	-0.5
WR0				IAmb	IAmb	17 34 49.2	
	comp=Z,9.3nm,0.8s						
FORT	Forrest	42.69 263		P	P	17 34 48.8	-1.1
FORT				IAmb	IAmb	17 34 50.0	
	comp=Z,58nm,1.4s						
WB2	Warramunga Arr	42.70 281		P	P	17 34 49.3	-0.8
WB2				IAmb	IAmb	17 34 50.4	
	comp=Z,15nm,0.6s						
WRAB	Tennant Creek	42.71 281		P	P	17 34 49.3	-0.9
WRAB				IAmb	IAmb	17 34 50.4	
	comp=Z,13nm,0.7s						
WRA	Warramunga Arr	42.71 281		P	P	17 34 49.7	-0.5
	comp=Z,15nm,0.8s,baz=122,slow=7.7,SNR=16						
	comp=Z,15nm,0.8s						
WRA	Warramunga Arr	42.71 281		P	P	17 34 49.5	-0.7
WB0	Warramunga Arr	42.76 281		P	P	17 34 49.9	-0.8
WB0				IAmb	IAmb	17 34 50.9	
	comp=Z,15nm,0.6s						
PATS	Pohnpei	47.86 331		P	P	17 35 26.9	-4.1
MTN	Manton Dam	49.33 286		P	P	17 35 40.0	-2.4
MTN				IAmb	IAmb	17 35 42.0	
	comp=Z,16nm,1.2s						
KNRA	Kununurra	49.49 281		P	P	17 35 43.2	-0.4
NWAO	Narrogin (SRO)	50.36 255		P	P	17 35 49.0	-1.1
	comp=Z,5.8nm,0.6s,baz=27,slow=6.8,SNR=6.4						
	comp=Z,5.8nm,0.6s						
NWAO	Narrogin (SRO)	50.36 255		P	P	17 35 47.8	-2.2
FITZ	Fitzroy Crossi	50.60 277		P	P	17 35 51.5	-0.5
	comp=Z,9.5nm,0.9s,baz=130,slow=6.3,SNR=8.6						
	comp=Z,9.5nm,0.9s						
FITZ	Fitzroy Crossi	50.60 277		P	P	17 35 52.2	+0.1
FITZ				IAmb	IAmb	17 35 53.2	
	comp=Z,12nm,1.1s						
MORW	Morawa	52.89 259		P	P	17 36 07.4	-1.7
MORW				IAmb	IAmb	17 36 17.3	
	comp=Z,41nm,1.7s						
QSPA	South Pole Qui	53.15 180		P	P	17 36 15.1	+4.5
	comp=Z,6.5nm,0.9s,baz=24,slow=1.3,SNR=6.8						
	comp=Z,6.5nm,0.9s						
PSA00	Pilbara Seismi	53.41 269		P	P	17 36 11.5	-1.5
PSA00				IAmb	IAmb	17 36 12.8	
	comp=Z,22nm,1.4s						
MBWA	Marble Bar	53.71 270		P	P	17 36 13.0	-2.2
MBWA				IAmb	IAmb	17 36 24.3	
	comp=Z,13nm,1.1s						
SIJI	Sorong	57.11 297		P	P	17 36 38.6	-1.2
	comp=Z,4.2nm,0.7s,baz=135,slow=7.1,SNR=5.0						
	comp=Z,4.2nm,0.7s						
GO09	Cerro Castillo	72.02 141		P	P	17 38 02.8	-14
AIS	Amsterdam Isla	76.41 233		P	P	17 38 37.2	-5.3
H03S2	Juan Fernandez	78.61 124		T	T	19 05 44.4	
	baz=231						
H03S1	Juan Fernandez	78.61 124		T	T	19 05 44.9	
	baz=231						
H03S3	Juan Fernandez	78.62 124		T	T	19 05 50.0	
	baz=231						
H03N3	Juan Fernandez	78.83 123		T	T	19 05 44.3	
	baz=235						
H03N2	Juan Fernandez	78.84 123		T	T	19 05 52.6	
	baz=235						
H03N1	Juan Fernandez	78.85 123		T	T	19 05 50.6	
	baz=235						
PETK	Petropavlovsk-	91.68 347		P	P	17 40 02.7	+3.0
	comp=Z,2.1nm,0.9s,baz=165,slow=6.2,SNR=4.1						
	comp=Z,2.1nm,0.9s						
MKAR	Makanchi Array	120.24 308		PKP	PKiKP	17 45 44.3	+0.5
	comp=Z,0.9nm,0.9s,baz=117,slow=2.3,SNR=3.7						
ZALV	Zalesovo Beam	121.42 316		PKP	PKiKP	17 45 46.6	+0.8
	comp=Z,0.4nm,0.5s,baz=112,slow=1.6,SNR=2.4						
ARCES	ARCESS Array B	144.45 345		PKP	PKPdf	17 46 28.2	-0.1
	comp=Z,1.4nm,0.5s,baz=15,slow=3.7,SNR=8.3						
FINES	FINESS Array B	150.37 334		PKPbc	PKiKP	17 46 44.2	0.0
	comp=Z,3.3nm,0.5s,baz=35,slow=4.8,SNR=8.6						
BRTR	Keskin Array B	153.14 286		PKPbc	PKiKP	17 46 51.6	+0.7
	comp=Z,0.8nm,0.5s,baz=101,slow=3.4,SNR=2.1						
AKASG	Malin Array Be	154.72 312		PKPbc	PKiKP	17 46 54.4	+0.8
	comp=Z,0.3nm,0.4s,baz=56,slow=2.3,SNR=2.4						
TORD	Torodi Ar. Bea	156.19 185		PKPab	PKPab	17 47 17.8	+2.2
	comp=Z,2.9nm,0.8s,baz=175,slow=3.7,SNR=7.0						

NEIC ***01*** *17:27:14.1±2.7,36.7S±0.1×179.8E±0.2,h10km±2km, mb4.9/13,Error ellipse: s-maj=19.0km s-min=16.2km az=58.0*

IDC ***01*** *17:27:18.2±1.8,36.73S×178.85E,h0km,mb4.8/6, mbtmp4.8/6,Error ellipse: s-maj=50.7km s-min=38.2km az=21.0*

ISC 01 17:27:15.3±1.4,36.7S±0.1×179.6E±0.2,h10km,n28, σ1s98/26,mb4.9/12,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.29 230		Pn	Pg	17 27 41.4	+1.2
URZ	Urewera	2.47 231		Sn	Sn	17 28 16.8	-9.0
	262nm,0.3s,baz=301,slow=13,SNR=5.7						
URZ	Urewera	2.47 231			Pn	17 27 55.3	-0.3
OUZ	Omahuta	5.06 286			Pn	17 28 32.1	+1.0
RPZ	Rata Peaks	9.53 220		Sn	Sn	17 30 57.4	-22
	7.2nm,0.3s,baz=218,slow=21,SNR=2.2						
STKA	Stephens Creek	31.58 268		P	P	17 33 38.1	0.0
	6.2nm,0.6s,baz=113,slow=10,SNR=8.6						
	6.2nm,0.6s						
BBOO	Buckleboo	35.71 263		P	P	17 34 12.3	-1.7
BBOO				IAmb	IAmb	17 34 57.5	
	comp=Z,55nm,1.7s						
COEN	Coen	39.58 295		P	P	17 34 48.0	+1.1
COEN				IAmb	IAmb	17 34 49.3	
	comp=Z,16nm,0.8s						
KRVT	Keravat (AS076	40.98 315		P	P	17 35 01.6	+3.1
	comp=Z,27nm,0.9s,baz=174,slow=7.9,SNR=4.9						
	comp=Z,27nm,0.9s						
AS31	Alice Springs	41.18 275		P	P	17 34 58.5	-1.7
ASAR	Alice Springs	41.18 275		P	P	17 34 59.6	-0.6
	comp=Z,16nm,0.7s,baz=119,slow=8.1,SNR=11						
	comp=Z,16nm,0.7s						
ASAR	Alice Springs	41.18 275		P	P	17 34 58.3	-1.9
WR0	Warramunga Arr	42.58 281		P	P	17 35 11.0	-0.6
WB2	Warramunga Arr	42.74 280		P	P	17 35 12.3	-0.6
WB2				IAmb	IAmb	17 35 13.1	
	comp=Z,21nm,0.7s						
WRAB	Tennant Creek	42.74 280		P	P	17 35 12.3	-0.7
WRAB				IAmb	IAmb	17 35 13.0	
	comp=Z,15nm,0.7s						
WRA	Warramunga Arr	42.75 280		P	P	17 35 12.4	-0.6
	comp=Z,14nm,0.7s,baz=122,slow=7.5,SNR=12						
	comp=Z,14nm,0.7s						
WRA	Warramunga Arr	42.75 280		P	P	17 35 11.8	-1.2
WB0	Warramunga Arr	42.80 281		P	P	17 35 12.9	-0.6
WB0				IAmb	IAmb	17 35 13.6	
	comp=Z,21nm,0.7s						
CASY	Casey	48.62 210		P	P	17 35 59.2	+0.4
FITZ	Fitzroy Crossi	50.66 276		P	P	17 36 14.8	-0.2
	comp=Z,13nm,0.7s,baz=119,slow=7.8,SNR=12						
	comp=Z,13nm,0.7s						
FITZ	Fitzroy Crossi	50.66 276		P	P	17 36 14.2	-0.8
FITZ				IAmb	IAmb	17 36 15.3	
	comp=Z,14nm,0.7s						
MORW	Morawa	53.02 259		P	P	17 36 29.1	-3.4
PSA00	Pilbara Seismi	53.49 269		P	P	17 36 34.4	-1.7
PSA00				IAmb	IAmb	17 38 11.3	
	comp=Z,21nm,1.9s						
MBWA	Marble Bar	53.80 269		P	P	17 36 35.4	-2.9
SIJI	Sorong	57.08 297		P	P	17 37 02.2	+0.3
	comp=Z,2.7nm,0.7s,baz=86,slow=3.9,SNR=3.5						
	comp=Z,2.7nm,0.7s						
ARCES	ARCESS Array B	144.24 345		PKP	PKiKP	17 46 52.7	-1.3
	comp=Z,1.7nm,0.5s,baz=49,slow=2.4,SNR=6.3						
FINES	FINESS Array B	150.18 334		PKPbc	PKPab	17 47 08.2	-3.4
	comp=Z,2.1nm,0.5s,baz=52,slow=4.2,SNR=5.4						
TORD	Torodi Ar. Bea	156.44 185		PKPab	PKPab	17 47 44.4	+5.2
	comp=Z,0.9nm,0.7s,baz=158,slow=3.9,SNR=4.3						

IDC ***01*** *17:31:45.9±3.5,36.74S×179.08E,h0km,mb3.

mb4.5/8, Error ellipse: s-maj=21.5km s-min=9.3km az=348.0
*IDC **01** 17:32:42.3±3.3, 36°.70S×179°.15E, h0km, mb3.9/4, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=68.7km s-min=41.8km az=120.0*
*WEL **01** 17:32:45.3±1.1, 37°.5S±4°×17°.9E±°, h14km±5km, M3.9/23, ML4.1/27, MLv3.9/23, Error ellipse: s-maj=0.0km s-min=0.0km az=94.7*

ISC 01 17:32:41.0±2.1, 37°.07S±0°.06×179°.32E±0°.08, h11km±10km, n110, σ1♀78/118, mb4.3/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.95**	**239**	Pg	**Pg**	**17 32 59.6**	**+0.4**
MXZ	**Matakaoa Point**	**0.95**	**239**	P	**Pn**	**17 32 59.8**	**-0.4**
MXZ				S	**Sb**	**17 33 10.2**	**-1.7**
WMGZ	**Waiomatatini S**	**1.04**	**224**	P	**Pn**	**17 33 04.0**	**+2.6**
WMGZ				S	**Sn**	**17 33 17.9**	**+1.9**
PKGZ	**Pakihiroa**	**1.28**	**230**	P	**Pg**	**17 33 07.0**	**+1.4**
PKGZ				S	**Sg**	**17 33 22.8**	**+0.4**
PUZ	**Puketiti**	**1.31**	**220**	P	**Pg**	**17 33 07.6**	**+1.5**
PUZ				S	**Sn**	**17 33 23.2**	**+0.5**
HAZ	**Te Kaha**	**1.40**	**240**	P	**Pg**	**17 33 09.0**	**+1.1**
TWGZ	**Tauwhareparae**	**1.53**	**224**	P	**Pg**	**17 33 11.2**	**+0.8**
TWGZ				S	**Sg**	**17 33 31.3**	**+1.0**
RUGZ	**Raukumara Rang**	**1.58**	**235**	P	**Pg**	**17 33 11.6**	**+0.2**
CNGZ	**Carnagh Statio**	**1.66**	**212**	P	**Pg**	**17 33 13.3**	**+0.4**
TKGZ	**Te Karaka**	**1.80**	**220**	P	**Pb**	**17 33 13.6**	**-0.3**
TKGZ				S	**Sb**	**17 33 36.4**	**0.0**
MWZ	**Matawai**	**1.90**	**228**	P	**Pb**	**17 33 15.7**	**0.0**
WHRZ	**Whale Island**	**2.02**	**247**	P	**Pg**	**17 33 18.6**	**-1.2**
RIGZ	**Rimuhau**	**2.05**	**217**	P	**Pb**	**17 33 17.4**	**-0.7**
RAGZ	**Rawiri**	**2.08**	**226**	P	**Pb**	**17 33 18.1**	**-0.6**
RAGZ				S	**Sn**	**17 33 42.6**	**+0.9**
URZ	**Urewera**	**2.12**	**235**	Pn	**Pb**	**17 33 18.3**	**-1.0**
	71nm,0.3s,baz=301,slow=3.8,SNR=12						
URZ				Sn	**Sn**	**17 33 42.7**	**+0.2**
	125nm,0.3s,baz=121,slow=22,SNR=16						
	181nm,0.3s						
URZ	**Urewera**	**2.12**	**235**		**Pb**	**17 33 17.9**	**-1.4**
URZ	**Urewera**	**2.12**	**235**	P	**Pb**	**17 33 18.4**	**-1.0**
URZ				S	**Sn**	**17 33 42.4**	**-0.1**
PRGZ	**Paritu Road**	**2.17**	**211**	P	**Pn**	**17 33 18.9**	**+1.9**
MARZ	**Manawahe**	**2.29**	**246**	P	**Pb**	**17 33 20.2**	**-2.1**
EDRZ	**Edgecumbe**	**2.30**	**242**	P	**Pn**	**17 33 20.0**	**+1.2**
SNGZ	**Shannon Statio**	**2.32**	**222**	P	**Pn**	**17 33 21.1**	**+2.1**
OPRZ	**Ohinepanea**	**2.33**	**250**	P	**Pn**	**17 33 19.4**	**+0.1**
KNZ	**Kokohu**	**2.34**	**213**	P	**Pn**	**17 33 20.8**	**+1.4**
MHGZ	**Mahia Peninsul**	**2.36**	**208**	P	**Pn**	**17 33 22.0**	**+2.4**
MUGZ	**Murupara**	**2.46**	**234**	P	**Pn**	**17 33 22.9**	**+1.9**
LIRZ	**Lichensteins R**	**2.51**	**247**	P	**Pb**	**17 33 23.9**	**-2.2**
TARZ	**Mount Tarawera**	**2.52**	**242**	P	**Pb**	**17 33 24.3**	**-1.9**
TGRZ	**Tauranga**	**2.52**	**254**	P	**Pn**	**17 33 23.4**	**+1.5**
OMRZ	**Omania**	**2.56**	**245**	P	**Pb**	**17 33 24.4**	**-2.5**
KARZ	**Kaharoa**	**2.62**	**248**	P	**Pn**	**17 33 24.9**	**+1.6**
PRRZ	**Plateau Road**	**2.72**	**238**	P	**Pn**	**17 33 26.6**	**+1.9**
HSRZ	**Hossack Road**	**2.74**	**242**	P	**Pb**	**17 33 27.5**	**-2.4**
NMHZ	**Naumai**	**2.83**	**224**	P	**Pn**	**17 33 28.7**	**+2.5**
GRRZ	**Galatos Road**	**2.85**	**242**	P	**Pn**	**17 33 28.7**	**+2.4**
MRHZ	**Matea Rd**	**2.89**	**232**	P	**Pn**	**17 33 28.7**	**+1.7**
KUZ	**Kuaotunu**	**2.91**	**275**	P	**Pn**	**17 33 26.6**	**-0.5**
BKZ	**Black Stump Fm**	**3.06**	**226**	Pn	**Pn**	**17 33 29.9**	**+0.6**
BKZ	**Black Stump Fm**	**3.06**	**226**	P	**Pn**	**17 33 30.9**	**+1.6**
KUTZ	**Kaahu Road**	**3.11**	**242**	P	**Pn**	**17 33 32.1**	**+2.2**
TOZ	**Tahuroa Road**	**3.11**	**257**	P	**Pn**	**17 33 29.9**	**-0.1**
GRZ	**Great Barrier**	**3.21**	**284**	P	**Pn**	**17 33 33.1**	**+1.8**
TLZ	**Tolley Road**	**3.25**	**246**	P	**Pn**	**17 33 33.8**	**+1.8**
KAHZ	**Kahuranaki**	**3.33**	**214**	P	**Pn**	**17 33 33.8**	**+0.8**
MKAZ	**Moumakai**	**3.33**	**268**	P	**Pn**	**17 33 33.1**	**+0.2**
RATZ	**Rangitukua**	**3.33**	**236**	P	**Pn**	**17 33 35.1**	**+2.1**
RITZ	**Rihia Road**	**3.33**	**234**	P	**Pn**	**17 33 35.0**	**+1.9**
WIAZ	**Waiheke Island**	**3.37**	**273**	P	**Pn**	**17 33 34.3**	**+0.8**
TMVZ	**Te Maari**	**3.51**	**233**	P	**Pn**	**17 33 37.0**	**+1.5**
ETVZ	**East Tongariro**	**3.52**	**233**	P	**Pn**	**17 33 37.2**	**+1.6**
NTVZ	**North Tongarir**	**3.52**	**234**	P	**Pn**	**17 33 37.2**	**+1.6**
ETAZ	**East Tamaki Re**	**3.52**	**271**	P	**Pn**	**17 33 36.4**	**+0.9**
BHHZ	**Black Hill Sta**	**3.52**	**226**	P	**Pn**	**17 33 37.0**	**+1.4**
MBAZ	**Motutapu North**	**3.56**	**274**	P	**Pn**	**17 33 37.1**	**+1.0**
OTVZ	**Oturere**	**3.56**	**233**	P	**Pn**	**17 33 37.9**	**+1.6**
NNVZ	**North Ngauruho**	**3.58**	**234**	P	**Pn**	**17 33 38.7**	**+2.2**
WTVZ	**West Tongariro**	**3.58**	**234**	P	**Pn**	**17 33 38.3**	**+2.3**
SNVZ	**South Ngauruho**	**3.59**	**233**	P	**Pn**	**17 33 38.1**	**+1.4**
NGZ	**Ngauruhoe**	**3.61**	**233**	P	**Pn**	**17 33 38.5**	**+1.5**
ABAZ	**Army Bay**	**3.63**	**276**	P	**Pn**	**17 33 38.2**	**+1.1**
MOVZ	**Moawhango**	**3.65**	**229**	P	**Pn**	**17 33 38.5**	**+1.1**
TWVZ	**Taurewa**	**3.66**	**236**	P	**Pn**	**17 33 39.3**	**+1.7**
EPAZ	**Eden Park BICE**	**3.67**	**272**	P	**Pn**	**17 33 39.2**	**+1.6**
FWVZ	**Far West T-bar**	**3.69**	**233**	P	**Pn**	**17 33 39.8**	**+1.7**
WNVZ	**Wahianoa**	**3.70**	**231**	P	**Pn**	**17 33 39.8**	**+1.6**
TRVZ	**Turoa**	**3.71**	**232**	P	**Pn**	**17 33 39.8**	**+1.4**
AWAZ	**Awhitu Peninsu**	**3.74**	**269**	P	**Pn**	**17 33 39.6**	**+1.0**
WTAZ	**Waiatarua**	**3.80**	**271**	P	**Pn**	**17 33 40.8**	**+1.4**
RVAZ	**Riverhead Bore**	**3.81**	**273**	P	**Pn**	**17 33 40.7**	**+1.1**
HIZ	**Hauiti**	**3.82**	**247**	Pn	**Pn**	**17 33 41.8**	**+2.1**
HIZ	**Hauiti**	**3.82**	**247**	P	**Pn**	**17 33 42.2**	**+2.5**
PKVZ	**Pokaka**	**3.84**	**234**	P	**Pn**	**17 33 41.9**	**+2.0**
WCZ	**Waipu Caves**	**4.17**	**284**	P	**Pn**	**17 33 45.5**	**+1.0**
WAZ	**Wanganui**	**4.33**	**230**	P	**Pn**	**17 33 47.9**	**+1.2**
MHEZ	**Mangahewa**	**4.42**	**242**	P	**Pn**	**17 33 52.0**	**+4.0**
LREZ	**Lake Rotokare**	**4.55**	**247**	P	**Pn**	**17 33 51.7**	**+2.0**
PREZ	**Palmer Road**	**4.66**	**239**	P	**Pn**	**17 33 54.8**	**+3.6**
NEZ	**North Egmont**	**4.67**	**240**	P	**Pn**	**17 33 54.5**	**+3.0**
PKE	**Pukeiti**	**4.71**	**242**	P	**Pn**	**17 33 55.3**	**+3.3**
KHEZ	**Kahui Hut**	**4.73**	**240**	P	**Pn**	**17 33 55.8**	**+3.4**
MSWZ	**Moikau Station**	**5.37**	**215**	Pn	**Pn**	**17 33 58.3**	**-2.7**
PLWZ	**Palliser**	**5.49**	**214**	Pn	**Pn**	**17 33 59.8**	**-2.9**
SNZO	**South Karori**	**5.55**	**219**	Pn	**Pn**	**17 34 01.4**	**-2.0**
BSWZ	**Blackbirch Sta**	**6.27**	**221**	Pn	**Pn**	**17 34 10.6**	**-2.7**
THZ	**Tophouse**	**6.83**	**225**	Pn	**Pn**	**17 34 19.3**	**-1.8**
CTZ	**Chatham Island**	**7.34**	**156**	P	Pn	17 34 33.9	+5.8
GVZ	**Greta Valley S**	**7.61**	**217**	P	**Pn**	**17 34 30.6**	**-1.1**
LTZ	**Lake Taylor**	**7.86**	**221**	Pn	**Pn**	**17 34 33.5**	**-1.8**
MQZ	**McQueen's Vall**	**8.35**	**215**	Pn	**Pn**	**17 34 39.3**	**-2.6**
OXZ	**Oxford**	**8.37**	**219**	Pn	**Pn**	**17 34 39.0**	**-3.1**
RPZ	**Rata Peaks**	**9.15**	**221**	Pn	**Pn**	**17 34 49.8**	**-3.1**
	1.1nm,0.3s,baz=14,slow=19,SNR=1.8						
RPZ				Sn	Sn	17 36 23.2	-13
	4.5nm,0.3s,baz=319,slow=23,SNR=11						
FOZ	**Fox Glacier**	**9.71**	**225**	Pn	**Pn**	**17 34 56.6**	**-3.9**
LBZ	**Lake Benmore**	**10.07**	**221**	Pn	**Pn**	**17 35 02.2**	**-3.2**
ODZ	**Otahua Downs**	**10.31**	**217**	Pn	**Pn**	**17 35 05.4**	**-3.3**
WKZ	**Wanaka**	**10.98**	**222**	Pn	**Pn**	**17 35 14.9**	**-3.1**
MLZ	**Mavora Lakes**	**11.82**	**222**	Pn	**Pn**	**17 35 27.6**	**-1.8**
WHZ	**Wether Hill Ro**	**12.25**	**220**	Pn	**Pn**	**17 35 35.1**	**-0.2**
STKA	**Stephens Creek**	**31.39**	**268**	P	**P**	**17 39 01.4**	**-0.5**
	0.8nm,0.7s,baz=130,slow=14,SNR=1.5						
	0.8nm,0.7s						
COEN	**Coen**		**39.56**	**296**	P	**P**	**17 40 13.4**	**+1.1**
COEN					IAmb	IAmb	17 40 16.3	
	comp=Z,17nm,1.4s							
ASAR	**Alice Springs**		**41.03**	**276**	P	**P**	**17 40 24.6**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=117,slow=7.6,SNR=7.8							
	comp=Z,0.9nm,0.5s							
ASAR	**Alice Springs**		**41.03**	**276**	P	**P**	**17 40 24.8**	**+0.4**
WR0	**Warramunga Arr**		**42.46**	**281**	P	**P**	**17 40 36.0**	**-0.1**
FORT	**Forrest**		**42.58**	**263**	P	**P**	**17 40 36.9**	**0.0**
WB2	**Warramunga Arr**		**42.62**	**281**	P	**P**	**17 40 37.5**	**+0.1**
WRA	**Warramunga Arr**		**42.63**	**281**	P	**P**	**17 40 37.6**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=121,slow=7.8,SNR=12							
	comp=Z,1.3nm,0.5s							
WB0	**Warramunga Arr**		**42.69**	**281**	P	**P**	**17 40 37.7**	**-0.2**
WB0					IAmb	IAmb	17 40 57.3	
	comp=Z,11nm,1.4s							
KNRA	**Kununurra**		**49.41**	**282**	P	**P**	**17 41 31.4**	**+0.4**
FITZ	**Fitzroy Crossi**		**50.51**	**277**	P	**P**	**17 41 39.2**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=130,slow=7.9,SNR=1.6							
	comp=Z,1.5nm,0.8s							
FITZ	**Fitzroy Crossi**		**50.51**	**277**	P	**P**	**17 41 39.1**	**-0.2**
FITZ					IAmb	IAmb	17 41 43.4	
	comp=Z,12nm,1.5s							
BELA	**Belgrano 2**		**63.49**	**172**	P	**P**	**17 43 10.9**	**+0.4**
BELA					IAmb	IAmb	17 43 16.8	
	comp=Z,1.7nm,0.7s							
FINES	**FINESS Array B**		**150.41**	**334**	PKPbc	**PKiKP**	**17 52 33.1**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=57,slow=4.1,SNR=3.5							

*BJI **01** 17:35:59.1±0.0, 36°.53S×179°.95E, h15km, mb5.2/15, mB4.6/1*
*NEIC **01** 17:36:00.1±2.0, 37°.03S±0°.08×179°.0E±0°.1, h9km±3km, mb5.6/77, Mww5.5, Error ellipse: s-maj=14.5km s-min=11.5km az=114.0*
*WEL **01** 17:36:00, 37°.09S×179°.15E, h7km, ML5.7, Mw5.5, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁷ Nm; Mrr0.72; Mθθ-1.20; Mϕϕ0.48; Mrθ1.68; Mθϕ0.04; Mϕr1.15; Fault plane solution: M₀2.29000×10¹⁷ NP1: ϕs304.00000°, δ22.00000°, λ153.00000°. NP2: ϕs59.00000°, δ80.00000°, λ70.00000°. Principal axes: T 22817.7100, Plg51.0000°, Azm307.0000°; N -22932.1900, Plg19.0000°, Azm62.0000°; P 114.4800, Plg32.0000°, Azm166.0000°;*
*WEL **01** 17:36:03.7±0.8, 37°.5S±4°×17°.9E±°, h29km±8km, M5.6/22, ML5.8/22, MLv5.6/22 Error ellipse: s-maj=0.0km s-min=0.0km az=71.0*
*MOS **01** 17:36:03.0±1.1, 36°.99S×178°.85E, h37km, mb5.3/4, Error ellipse: s-maj=11.0km s-min=9.1km az=113.8*
*NOU **01** 17:36:05.9, 37°.42S×179°.09E, h49km, mb5.5/93, Off E. Coast of N. Island, N.Z.*
*NEIC **01** 17:36:05, 36°.98S×179°.08E, h12km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.09; Mθθ-1.17; Mϕϕ1.08; Mrθ0.89; Mθϕ0.10; Mϕr1.75; Fault plane solution: M₀2.26000×10¹⁷ NP1: ϕs308.00000°, δ29.00000°, λ-180.00000°. NP2: ϕs218.00000°, δ90.00000°, λ-60.00000°. Principal axes: T 2.5088, Plg38.0000°, Azm282.0000°; N -0.6164, Plg29.0000°, Azm38.0000°; P -1.8924, Plg38.0000°, Azm154.0000°;*
*IDC **01** 17:36:07.5±1.5, 36°.93S×178°.66E, h58km±12km, mb4.9/23, mbtmp5.1/24 Error ellipse: s-maj=10.7km s-min=10.5km az=75.0*

ISC 01 17:36:01.5±0.7, 37°.09S±0°.03×179°.00E±0°.04, h19km±2km, n717, σ1♀92/763, mb5.6/135, MS6.1/3, 27C-11D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.72**	**230**		**Pn**	**17 36 17.0**	**+0.3**
MXZ	**Matakaoa Point**	**0.72**	**230**	P	**Pn**	**17 36 17.6**	**+0.8**
MXZ				S	**Sb**	**17 36 27.7**	**+2.7**
WMGZ	**Waiomatatini S**	**0.86**	**213**	P	**Pn**	**17 36 20.8**	**+2.2**
WMGZ				S	**Sn**	**17 36 33.7**	**+3.1**
PKGZ	**Pakihiroa**	**1.08**	**222**	P	**Pn**	**17 36 24.1**	**+2.4**
PKGZ				S	**Sn**	**17 36 39.2**	**+3.0**
PUZ	**Puketiti**	**1.14**	**211**	P	**Pg**	**17 36 24.4**	**+0.8**
PUZ				S	**Sn**	**17 36 40.9**	**+3.3**
HAZ	**Te Kaha**	**1.17**	**235**	P	**Pg**	**17 36 26.1**	**+2.0**
HAZ				S	**Sn**	**17 36 43.0**	**+4.7**
TWGZ	**Tauwhareparae**	**1.35**	**216**	P	**Pg**	**17 36 27.8**	**+0.3**
TWGZ				S	**Sg**	**17 36 46.4**	**+1.2**
RUGZ	**Raukumara Rang**	**1.36**	**230**	P	**Pg**	**17 36 28.7**	**+0.9**
RUGZ				S	**Sg**	**17 36 47.0**	**+1.3**
CNGZ	**Carnagh Statio**	**1.52**	**204**	P	**Pb**	**17 36 29.8**	**+0.7**
TKGZ	**Te Karaka**	**1.62**	**214**	P	**Pb**	**17 36 30.9**	**+0.1**
TKGZ				S	**Sn**	**17 36 51.9**	**+2.4**
MWZ	**Matawai**	**1.70**	**223**	P	**Pb**	**17 36 32.4**	**+0.2**
MWZ				S	**Sn**	**17 36 53.4**	**+1.9**
WHRZ	**Whale Island**	**1.78**	**244**	P	**Pg**	**17 36 34.8**	**-0.9**
WHRZ				S	**Sb**	**17 36 56.7**	**+1.2**
RAGZ	**Rawiri**	**1.88**	**221**	P	**Pb**	**17 36 34.9**	**-0.3**
RAGZ				S	**Sn**	**17 36 58.7**	**+2.8**
RIGZ	**Rimuhau**	**1.88**	**211**	P	**Pn**	**17 36 34.4**	**+1.7**
RIGZ				S	**Sn**	**17 36 58.7**	**+2.7**
URZ	**Urewera**	**1.90**	**232**	P	**Pb**	**17 36 35.1**	**-0.4**
	6μm,0.3s,baz=121,slow=0.6,SNR=125						
URZ				S	**Sn**	**17 36 58.0**	**+1.8**
	20μm,0.7s,baz=301,slow=23,SNR=6.5						
URZ	**Urewera**	**1.90**	**232**		**Pn**	**17 36 34.5**	**+1.7**
URZ	**Urewera**	**1.90**	**232**	P	**Pb**	**17 36 35.1**	**-0.4**
URZ				S	**Sn**	**17 36 59.1**	**+2.8**
PRGZ	**Paritu Road**	**2.03**	**205**	P	**Pn**	**17 36 35.8**	**+1.1**
PRGZ				S	**Sn**	**17 37 01.5**	**+1.9**
SNGZ	**Shannon Statio**	**2.13**	**217**	P	**Pn**	**17 36 37.4**	**+1.3**
SNGZ				S	**Sn**	**17 37 04.1**	**+1.9**
KNZ	**Kokohu**	**2.19**	**208**	P	**Pn**	**17 36 37.1**	**+0.2**
KNZ				S	**Sn**	**17 37 04.7**	**+1.2**
MHGZ	**Mahia Peninsul**	**2.23**	**202**	P	**Pn**	**17 36 38.0**	**+0.6**
MHGZ				S	**Sn**	**17 37 06.8**	**+2.4**
MUGZ	**Murupara**	**2.24**	**231**	P	**Pn**	**17 36 39.3**	**+1.7**
MUGZ				S	**Sn**	**17 37 06.9**	**+2.1**
WHHZ	**Waihua**	**2.42**	**215**	P	**Pn**	**17 36 41.1**	**+1.0**
WHHZ				S	**Sn**	**17 37 10.9**	**+1.7**
KUZ	**Kuaotunu**	**2.65**	**277**	P	**Pn**	**17 36 44.3**	**+1.1**
KUZ				S	**Sn**	**17 37 14.6**	**-0.2**
TOZ	**Tahuroa Road**	**2.86**	**256**	P	**Pn**	**17 36 48.0**	**+2.0**
TOZ				S	**Sn**	**17 37 20.9**	**+1.0**
BKZ	**Black Stump Fm**	**2.86**	**223**		**Pn**	**17 36 47.0**	**+0.8**
BKZ	**Black Stump Fm**	**2.86**	**223**	P	**Pn**	**17 36 47.2**	**+1.1**
BKZ				S	**Sn**	**17 37 20.9**	**+0.7**
BKZ	**Black Stump Fm**	**2.86**	**223**	P	**Pn**	**17 36 47.6**	**+1.4**
GRZ	**Great Barrier**	**2.97**	**285**	P	**Pb**	**17 36 50.4**	**-3.4**
GRZ				S	**Sn**	**17 37 24.5**	**+1.8**
TLZ	**Tolley Road**	**3.01**	**245**	P	**Pb**	**17 36 51.7**	**-2.8**
MKAZ	**Moumakai**	**3.07**	**269**	P	**Pn**	**17 36 50.8**	**+1.8**
WIAZ	**Waiheke Island**	**3.11**	**274**	P	**Pn**	**17 36 51.8**	**+2.3**
MBAZ	**Motutapu North**	**3.30**	**274**	P	**Pn**	**17 36 54.9**	**+2.8**
HIZ	**Hauiti**	**3.57**	**245**	Pn	**Pn**	**17 36 58.5**	**+2.6**
BFZ	**Birch Farm**	**4.18**	**210**		**Pn**	**17 37 02.0**	**-2.2**
BFZ	**Birch Farm**	**4.18**	**210**	P	**Pn**	**17 37 02.6**	**-1.6**
TMWZ	**Te Maipa**	**4.68**	**210**	P	**Pn**	**17 37 08.6**	**-2.5**
TMWZ				S	**Sn**	**17 37 59.9**	**-5.0**
OUZ	**Omahuta**	**4.75**	**292**	Pn	**Pn**	**17 37 15.3**	**+3.2**
OGWZ	**Otaki Gorge**	**4.77**	**218**	P	**Pn**	**17 37 10.5**	**-1.8**
OGWZ				S	**Sn**	**17 38 03.3**	**-3.7**
MTW	**Mount Morrison**	**4.88**	**213**	P	**Pn**	**17 37 11.4**	**-2.5**
MTW				S	**Sn**	**17 38 05.5**	**-4.5**
KIW	**Kapiti Island**	**4.93**	**219**	P	**Pn**	**17 37 13.0**	**-1.6**
KIW				S	**Sn**	**17 38 07.8**	**-3.2**
TRWZ	**Traveller**	**5.01**	**210**	P	**Pn**	**17 37 12.3**	**-3.7**
TRWZ				S	**Sn**	**17 38 08.3**	**-4.7**
CAW	**Cannon Point**	**5.04**	**216**	P	**Pn**	**17 37 13.9**	**-2.2**
CAW				S	**Sn**	**17 38 10.0**	**-3.8**
PAWZ	**Paruwai Farm**	**5.10**	**212**	P	**Pn**	**17 37 14.4**	**-2.6**
PAWZ				S	**Sn**	**17 38 11.2**	**-4.1**
MSWZ	**Moikau Station**	**5.20**	**213**		**Pn**	**17 37 14.8**	**-3.5**
MSWZ	**Moikau Station**	**5.20**	**213**	P	**Pn**	**17 37 15.3**	**-3.1**
MSWZ				S	**Sn**	**17 38 12.9**	**-5.0**
WEL	**Wellington**	**5.32**	**217**	P	**Pn**	**17 37 17.2**	**-2.7**
WEL				S	**Sn**	**17 38 16.1**	**-4.6**
PLWZ	**Palliser**	**5.33**	**212**		**Pn**	**17 37 16.3**	**-3.8**
PLWZ	**Palliser**	**5.33**	**212**	P	**Pn**	**17 37 16.8**	**-3.3**
PLWZ				S	**Sn**	**17 38 16.0**	**-5.0**
SNZO	**South Karori**	**5.37**	**217**		**Pn**	**17 37 17.4**	**-3.2**
SNZO	**South Karori**	**5.37**	**217**	P	**Pn**	**17 37 18.6**	**-2.0**
TCW	**Tory Channel**	**5.51**	**220**	P	**Pn**	**17 37 20.3**	**-2.2**
TCW				S	**Sn**	**17 38 21.4**	**-3.9**
TUWZ	**Tuamarina**	**5.84**	**221**		**Pn**	**17 37 24.3**	**-2.8**
TUWZ	**Tuamarina**	**5.84**	**221**	P	**Pn**	**17 37 25.0**	**-2.1**
CMWZ	**Cape Campbell**	**5.94**	**217**		**Pn**	**17 37 26.4**	**-2.0**
NNZ	**Nelson**	**6.00**	**225**		**Pn**	**17 37 27.4**	**-1.9**
NNZ	**Nelson**	**6.00**	**225**	P	**Pn**	**17 37 28.0**	**-1.2**
BSWZ	**Blackbirch Sta**	**6.08**	**219**		**Pn**	**17 37 27.6**	**-2.8**
BSWZ	**Blackbirch Sta**	**6.08**	**219**	P	**Pn**	**17 37 28.3**	**-2.1**
TKNZ	**Takaka Hill**	**6.13**	**228**	P	**Pn**	**17 37 29.7**	**-1.3**
QRZ	**Quartz Range**	**6.27**	**232**	Pn	**Pn**	**17 37 31.0**	**-1.9**
MRNZ	**Matariki Terra**	**6.47**	**226**	P	**Pn**	**17 37 34.4**	**-1.4**
THZ	**Tophouse**	**6.63**	**223**	Pn	**Pn**	**17 37 36.2**	**-1.8**
THZ	**Tophouse**	**6.63**	**223**	P	**Pn**	**17 37 36.4**	**-1.6**
KHZ	**Kahutara**	**6.78**	**217**	Pn	**Pn**	**17 37 37.1**	**-2.8**
KHZ	**Kahutara**	**6.78**	**217**	P	**Pn**	**17 37 37.3**	**-2.5**
LTZ	**Lake Taylor**	**7.68**	**220**	Pn	**Pn**	**17 37 48.9**	**-3.4**
OXZ	**Oxford**	**8.19**	**218**	Pn	**Pn**	**17 37 56.3**	**-3.0**
RAO	**Raoul Island**	**8.24**	**19**	S	**Sn**	**17 39 29.6**	**-2.9**
	307nm,0.3s,baz=341,slow=23,SNR=1.4						
RPZ	**Rata Peaks**	**8.97**	**220**	P	**Pn**	**17 38 07.1**	**-2.9**
	67nm,0.3s,baz=93,slow=2.3,SNR=46						
RPZ				S	Sn	17 39 39.8	-11
	400nm,0.3s,baz=315,slow=12,SNR=19						
FOZ	**Fox Glacier**	**9.51**	**225**	Pn	**Pn**	**17 38 14.5**	**-2.9**
LBZ	**Lake Benmore**	**9.88**	**220**	Pn	**Pn**	**17 38 19.1**	**-3.4**
ODZ	**Otahua Downs**	**10.14**	**216**		**Pn**	**17 38 22.1**	**-3.8**
WKZ	**Wanaka**	**10.79**	**221**	Pn	Pn	17 38 30.8	-4.2
MLZ	**Mavora Lakes**	**11.63**	**221**	Pn	**Pn**	**17 38 42.7**	**-3.7**
WHZ	**Wether Hill Ro**	**12.07**	**220**	Pn	Pn	17 38 47.3	-5.1
DCZ	**Deep Cove**	**12.21**	**223**	Pn	**Pn**	**17 38 51.1**	**-3.2**
NFK	**Norfolk Island**	**12.26**	**308**	P	**Pn**	**17 38 57.6**	**+2.5**
	baz=12,SNR=6.2						
NFK	**Norfolk Island**	**12.26**	**308**	P	Pn	17 39 01.9	+6.8

PINNC	**Pines Island,**	**17.55**	**322**	P	**Pn**	**17 40 05.0**	**-0.1**
PINNC	**Pines Island,**	**17.55**	**322**	P	**P**	**17 40 10.4**	**+4.3**
OUENC	**Ouen Island, N**	**18.01**	**321**	P	**P**	**17 40 17.2**	**+6.0**
YATNC	**Mamie plateau,**	**18.29**	**322**	P	**P**	**17 40 19.2**	**+4.9**
ONTNC	**Ouen Toro**	**18.30**	**320**	P	**P**	**17 40 18.9**	**+4.5**
DZM	**Mont Dzumac**	**18.50**	**321**	P	**P**	**17 40 14.5**	**-2.2**
	6.7nm,0.9s,baz=128,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**18.50**	**321**	P	**P**	**17 40 14.0**	**-2.7**
NOUC	**Port Laguerre**	**18.55**	**320**	P	**Pn**	**17 40 22.1**	**+4.7**
LKBA	**Tubou, Lakemba**	**18.89**	**6**	P	**Pn**	**17 40 25.6**	**+4.1**
MSVF	**Nonsavu**	**19.30**	**357**	P	**Pn**	**17 40 25.4**	**-1.2**
MSVF	**Nonsavu**	**19.30**	**357**	P	**Pn**	**17 40 25.4**	**-1.2**
MSVF				pmax	pmax		
	comp=Z,37nm,0.8s						
MSVF	**Nonsavu**	**19.30**	**357**	P	**Pn**	**17 40 31.1**	**+4.5**
TAVE	**Taveuni**	**20.33**	**3**	P	Pn	17 40 39.8	+1.1
DGTI	**Dogotuki**	**20.72**	**2**	P	Pn	17 40 48.5	+5.2
KOUNC	**Koumac, New Ca**	**20.88**	**318**	P	Pn	17 40 46.7	+1.6
MCQ	**Macquarie Isla**	**22.19**	**212**	P	**P**	**17 40 55.5**	**-0.8**
NTLH	**Newcastle Hard**	**22.72**	**272**	P	**P**	**17 41 06.6**	**+4.4**
	comp=Z,134nm,1.3s						
SYDH	**Sydney Hard Ro**	**23.23**	**270**	P	**P**	**17 41 10.9**	**+3.4**
	comp=Z,71nm,0.7s						
ARMA	**Armidale**	**23.66**	**278**	P	**P**	**17 41 11.8**	**-0.2**
	baz=24,SNR=6.4						
ARMA	**Armidale**	**23.66**	**278**	P	**P**	**17 41 12.6**	**+0.6**
ARMA				IAmb	IAmb	17 41 21.1	
	comp=Z,354nm,1.8s						
ARMA	**Armidale**	**23.66**	**278**	P	**P**	**17 41 15.7**	**+3.8**
MILA	**Mila**	**23.77**	**261**	P	**P**	**17 41 14.7**	**+1.8**
	baz=24,SNR=16						
CNB	**Canberra Magne**	**23.94**	**265**	P	**P**	**17 41 15.3**	**+0.8**
	baz=24,SNR=21						
CNB	**Canberra Magne**	**23.94**	**265**	P	**P**	**17 41 17.6**	**+3.1**
CAN	**Canberra**	**24.23**	**265**	P	**P**	**17 41 17.1**	**0.0**
CAN				IAmb	IAmb	17 41 28.

comp=Z,102nnm,0.5s
ASAR Alice Springs 40.78 276 P **P** **17 43 41.3 -0.3**
KRVT Keravat (AS076 40.94 316 P **P** **17 43 41.5 -1.5**
comp=Z,220nm,0.6s,baz=141,slow=15,SNR=55
RABL Rabaul 40.96 317 P **P** **17 43 42.8 -0.3**
RABL Rabaul 40.96 317 P **P** **17 43 44.1 +0.9**
SBA Scott Base 41.20 184 P **P** **17 43 45.8 +1.4**
SBA Scott Base 41.20 184 P **P** **17 43 45.8 +1.4**
SBA pmax pmax
comp=Z,53nm,1.4s
VNDA Vanda 41.20 186 P **P** **17 43 47.0 +2.5**
comp=Z,3.6nm,1.1s,baz=4.6,slow=8.3,SNR=7.5
comp=Z,3.6nm,1.1s
VNDA Vanda 41.20 186 P **P** **17 43 44.0 -0.5**
VNDA Vanda 41.20 186 P **P** **17 43 44.0 -0.5**
VNDA pmax pmax
comp=Z,10.0nm,1.1s
WR0 Warramunga Arr 42.21 281 P **P** **17 43 52.9 -0.6**
WR0 IAmb IAmb 17 43 54.5
comp=Z,236nm,1.2s
FORT Forrest 42.32 263 P **P** **17 43 53.8 -0.3**
baz=42,SNR=72
FORT Forrest 42.32 263 P **P** **17 43 53.2 -1.0**
FORT IAmb IAmb 17 44 13.4
comp=Z,203nm,0.8s
FORT Forrest 42.32 263 P **P** **17 43 54.6 +0.4**
WB2 Warramunga Arr 42.37 281 P **P** **17 43 54.1 -0.6**
WB2 IAmb IAmb 17 43 56.3
comp=Z,137nm,0.7s
WRAB Tennant Creek 42.38 281 P **P** **17 43 54.1 -0.7**
WRAB Tennant Creek 42.38 281 *c iP* **P** **17 43 54.6 -0.2**
WRAB pmax pmax
comp=Z,367nm,1.5s
WRAB Tennant Creek 42.38 281 P **P** **17 43 54.7 -0.1**
WRA Warramunga Arr 42.38 281 P **P** **17 43 54.5 -0.4**
comp=Z,83nm,0.5s,baz=121,slow=7.7,SNR=263
WRA PcP **PcP** **17 45 49.3 +1.3**
comp=Z,20nm,0.9s,baz=126,slow=3.2,SNR=5.5
WRA ScP **ScP** **17 49 32.1 -5.6**
comp=Z,0.6nm,0.6s,baz=114,slow=3.5,SNR=1.6
WRA S S 17 50 07.5 -8.0
comp=Z,4.9nm,1.2s,baz=125,slow=13,SNR=4.9
WRA Warramunga Arr 42.38 281 P **P** **17 43 52.8 -2.0**
WB0 Warramunga Arr 42.44 281 P **P** **17 43 54.6 -0.6**
WRKA Warakurna 44.59 271 P **P** **17 44 11.0 -1.6**
baz=44,SNR=79
WRKA Warakurna 44.59 271 P **P** **17 44 11.8 -0.8**
MANU Manus Island 45.44 313 P **P** **17 44 19.7 +0.3**
MANU IAmb IAmb 17 44 21.4
comp=Z,94nm,1.4s
PATS Pohnpei 47.80 332 P **P** **17 44 37.9 +0.1**
baz=48,SNR=3.7
PATS Pohnpei 47.80 332 P **P** **17 44 36.0 -1.8**
CASY Casey 48.09 210 P **P** **17 44 40.2 +0.7**
CASY IAmb IAmb 17 44 46.3
comp=Z,60nm,1.0s
KDU Kakadu 48.09 288 P **P** **17 44 39.2 -1.0**
baz=48,SNR=8.2
KDU Kakadu 48.09 288 P **P** **17 44 40.0 -0.2**
MTN Manton Dam 49.02 287 P **P** **17 44 46.8 -0.5**
baz=49,SNR=12
MTN Manton Dam 49.02 287 P **P** **17 44 46.6 -0.7**
MTN IAmb IAmb 17 44 48.0
comp=Z,155nm,1.4s
MTN Manton Dam 49.02 287 P **P** **17 44 47.6 +0.3**
KNRA Kununurra 49.16 282 P **P** **17 44 48.3 -0.1**
baz=49,SNR=18
KNRA Kununurra 49.16 282 P **P** **17 44 48.0 -0.4**
KNRA IAmb IAmb 17 45 06.9
comp=Z,80nm,0.8s
KNRA Kununurra 49.16 282 P **P** **17 44 49.1 +0.7**
GENI Genyem 49.52 305 P **P** **17 44 50.7 -0.4**
comp=Z,198nm,1.2s
GENI Genyem 49.52 305 P **P** **17 44 52.7 +1.6**
NWAO Narrogin (SO) 49.98 255 P **P** **17 44 53.5 -1.0**
baz=50,SNR=11
NWAO P **P** **17 44 53.5 -1.0**
baz=50,SNR=11
NWAO Narrogin (SO) 49.98 255 P **P** **17 44 53.5 -1.0**
comp=Z,19nm,0.6s,baz=341,slow=6.7,SNR=21
comp=Z,19nm,0.6s
NWAO Narrogin (SO) 49.98 255 P **P** **17 44 52.8 -1.7**
NWAO IAmb IAmb 17 44 54.5
comp=Z,145nm,1.5s
NWAO Narrogin (SO) 49.98 255 P **P** **17 44 56.4 +1.9**
KLBR Kellerberrin 50.11 257 P **P** **17 44 54.9 -0.6**
baz=50,SNR=14
KLBR Kellerberrin 50.11 257 P **P** **17 44 55.1 -0.4**
FITZ Fitzroy Crossi 50.26 277 P **P** **17 44 56.5 -0.2**
baz=50,SNR=205
FITZ Fitzroy Crossi 50.26 277 P **P** **17 44 56.1 -0.6**
comp=Z,95nm,0.6s,baz=140,slow=4.5,SNR=256
FITZ S **S** **17 52 04.0 -4.5**
comp=Z,4.6nm,0.9s,baz=9.5,slow=20,SNR=6.3
comp=Z,95nm,0.6s
FITZ Fitzroy Crossi 50.26 277 P **P** **17 44 56.7 0.0**
FITZ Fitzroy Crossi 50.26 277 P **P** **17 44 57.0 +0.3**
SMPI Sarmi 50.93 304 P **P** **17 44 59.3 -2.5**
comp=Z,40nm,1.2s
MUN Mundaring 51.15 256 P **P** **17 45 02.2 -1.2**
baz=51,SNR=16
MUN Mundaring 51.15 256 P **P** **17 45 03.0 -0.4**
comp=Z,84nm,1.2s
BLDU Ballidu 51.33 258 P **P** **17 45 03.5 -1.2**
baz=51,SNR=28
BLDU Ballidu 51.33 258 P **P** **17 45 04.3 -0.4**
MEEK Meekatharra 51.58 263 P **P** **17 45 06.1 -0.5**
SAUI Saumlaki 51.99 292 P **P** **17 45 10.2 +0.5**
comp=Z,201nm,1.4s
MORW Morawa 52.52 259 P **P** **17 45 12.3 -1.3**
baz=52,SNR=16
MORW Morawa 52.52 259 P **P** **17 45 12.2 -1.4**
MORW IAmb IAmb 17 45 25.6
comp=Z,69nm,0.9s
MORW Morawa 52.52 259 P **P** **17 45 14.4 +0.8**
SRPI Serui, Papua 52.68 301 P **P** **17 45 13.6 -1.3**
comp=Z,82nm,1.1s
QSPA South Pole Qui 53.03 180 P **P** **17 45 19.8 +2.8**
comp=Z,33nm,0.8s,baz=19,slow=1.2,SNR=78
comp=Z,33nm,0.8s
QSPA South Pole Qui 53.03 180 pP **17 45 19.4 -2.8**
QSPA South Pole Qui 53.03 180 P **P** **17 45 19.3 +2.3**
QSPA IAmb IAmb 17 45 36.4
comp=Z,121nm,1.1s
PSA00 Pilbara Seismi 53.05 270 P **P** **17 45 16.2 -1.3**
PSA00 IAmb IAmb 17 45 23.7
comp=Z,129nm,1.4s
PSA00 Pilbara Seismi 53.05 270 P **P** **17 45 16.4 -1.2**
PSA00 IAmb IAmb 17 45 23.7
comp=Z,53nm,1.1s
PSA00 Pilbara Seismi 53.05 270 P **P** **17 45 16.9 -0.7**
BAKI Biak 53.27 302 P **P** **17 45 19.9 +0.7**
comp=Z,155nm,1.2s
MBWA Marble Bar 53.35 270 P **P** **17 45 18.6 -1.2**
MBWA IAmb IAmb 17 45 29.7
comp=Z,55nm,0.8s
MBWA Marble Bar 53.35 270 P **P** **17 45 19.7 -0.1**
FAKI Fak Fak 54.72 297 P **P** **17 45 28.3 -1.5**
FAKI IAmb IAmb 17 45 45.8
comp=Z,48nm,0.9s
FAKI Fak Fak 54.72 297 P **P** **17 45 28.1 -1.8**
comp=Z,63nm,0.9s
BNDI Bandanaira 55.32 294 P **P** **17 45 34.1 -0.1**
comp=Z,208nm,1.1s
BATI Baumata 56.40 284 P **P** **17 45 41.9 -0.1**
comp=Z,39nm,0.5s,baz=150,slow=3.6,SNR=13
comp=Z,39nm,0.5s
BATI Baumata 56.40 284 P **P** **17 45 42.5 +0.5**
comp=Z,56nm,0.9s
MSAI Masohi 56.83 294 P **P** **17 45 43.8 -1.2**
comp=Z,166nmcomp=Z,16nm,0.7s
SIJI Sorong 56.85 298 P **P** **17 45 44.7 -0.5**
baz=115,slow=5.4
SWI Sorong 56.86 298 P **P** **17 45 44.4 -0.8**
comp=Z,160nm,1.4s
GIRL Giralia 56.99 265 P **P** **17 45 46.9 +0.9**
baz=57,SNR=4.5
AAI Ambon 57.14 293 P **P** **17 45 48.4 +1.2**
comp=Z,67nm,1.2s
NLAI Namlea 58.24 292 P **P** **17 45 52.6 -2.3**
comp=Z,39nm,1.5s
MMRI Maumere 58.47 284 P **P** **17 45 55.9 -0.6**
MMRI Maumere 58.47 284 P **P** **17 45 55.9 -0.6**
comp=Z,265nm,1.1s
MMRI Maumere 58.47 284 P **P** **17 45 57.0 +0.5**
BASI Baing, Sumba 58.80 281 P **P** **17 45 59.3 +0.5**
comp=Z,228nm,1.4s
EDFI Ende, Flores 58.82 284 P **P** **17 45 57.7 -1.4**
comp=Z,40nm,1.1s
LBMI Labuha 59.71 295 P **P** **17 46 03.7 -1.4**
comp=Z,69nm,1.3s
SANI Sanana 59.86 293 P **P** **17 46 04.6 -1.6**
comp=Z,116nm,1.2s
SANI Sanana 59.86 293 P **P** **17 46 09.0 +2.8**
WBSI Waikabubak, Su 60.08 281 P **P** **17 46 06.9 -0.8**
BBSI Bau Bau 60.18 287 P **P** **17 46 08.2 -0.2**
comp=Z,122nmcomp=Z,6.3nm,1.2s
TNTI Ternate 60.77 296 P **P** **17 46 10.6 -1.8**
TNTI IAmb IAmb 17 46 18.4
comp=Z,104nm,1.6s
TNTI Ternate 60.77 296 P **P** **17 46 09.9 -2.5**
comp=Z,39nm,1.2s
TNTI Ternate 60.77 296 P **P** **17 46 14.7 +2.3**
PUH Pauahi 61.21 28 P **P** **17 46 18.2 +2.9**
HMH Humu'ula Sheep 61.31 28 P **P** **17 46 18.3 +2.1**
BSSI Bau Bau, Buton 61.37 285 P **P** **17 46 14.4 -2.1**
comp=Z,51nm,1.1s
PLAI Plampang 61.84 281 P **P** **17 46 17.3 -2.3**
comp=Z,103nm,1.2s
PLAI Plampang 61.84 281 P **P** **17 46 22.2 +2.6**
HON Honolulu 62.02 24 P **P** **17 46 20.3 -0.3**
HON Honolulu 62.02 24 P **P** **17 46 20.3 -0.3**
HON pmax pmax
comp=Z,381nm,1.1s
KEKH Kekaha 62.10 22 P **P** **17 46 22.5 +1.4**
KIP Kipapa 62.11 24 *i P* **P** **17 46 20.4 -0.8**
KIP pmax pmax
comp=Z,199nm,1.3s
BKSI Bulukumba 62.17 285 P P 17 46 16.9 -4.9
comp=Z,45nm,1.1s
TWSI Taliwang, Sumb 62.59 280 P **P** **17 46 22.6 -2.1**
comp=Z,67nm,1.1s
KAPI Kappang 62.65 285 P **P** **17 46 24.8 -0.2**
KAPI IAmb IAmb 17 46 35.5
comp=Z,47nm,1.1s
KAPI Kappang 62.65 285 P **P** **17 46 24.8 -0.2**
KAPI pmax pmax
comp=Z,47nm,1.1s
KAPI Kappang 62.65 285 P **P** **17 46 27.4 +2.3**
LUWI Luwuk 62.92 291 P **P** **17 46 26.9 0.0**
LUWI Luwuk 62.92 291 P **P** **17 46 25.3 -1.5**
comp=Z,143nm,1.2s
LUWI Luwuk 62.92 291 P **P** **17 46 28.8 +2.0**
comp=Z,143nm,1.2s
KMSI Cibinong 63.10 293 P **P** **17 46 26.3 -1.8**
comp=Z,1µmcomp=Z,102nm,0.9s
SPSI Sidrap Palu 63.30 286 P **P** **17 46 26.8 -2.6**
comp=Z,78nm,1.1s
BELA Belgrano 2 63.50 172 P **P** **17 46 30.1 +0.3**
BELA IAmb IAmb 17 46 45.4
comp=Z,42nm,0.8s
APSI Ampana 63.84 290 P **P** **17 46 30.7 -2.3**
comp=Z,83nm,1.0s
TTSI Tana Toraja 63.85 287 P **P** **17 46 30.7 -2.3**
comp=Z,52nm,1.0s
GTOI Gorontalo 63.86 293 P **P** **17 46 32.1 -1.0**
comp=Z,20nm,0.7s
SGSI Sangihe 64.11 297 P **P** **17 46 33.3 -1.4**
comp=Z,50nm,1.2s
SMAI San Martin Ant 64.19 158 P **P** **17 46 36.4 +1.9**
SMAI IAmb IAmb 17 46 52.1
comp=Z,45nm,1.1s
SRBI Singaraja 64.30 280 P **P** **17 46 34.7 -1.3**
comp=Z,164nm,1.1s
MRSI Marisa 64.54 292 P **P** **17 46 34.9 -2.7**
comp=Z,40nm,1.0s
JAGI Jajag, Banyuwa 64.91 279 P **P** **17 46 38.2 -1.7**
JAGI IAmb IAmb 17 47 03.3
comp=Z,68nm,0.9s
JAGI Jajag, Banyuwa 64.91 279 P **P** **17 46 38.5 -1.5**
comp=Z,80nm,0.9s
JAGI Jajag, Banyuwa 64.91 279 P **P** **17 46 39.4 -0.6**
MAW Mawson 65.18 202 P **P** **17 46 43.0 +2.1**
baz=65,SNR=26
MAW Mawson 65.18 202 P **P** **17 46 43.4 +2.5**
comp=Z,27nm,1.0s,baz=116,slow=9.0,SNR=25
comp=Z,27nm,1.0s
MAW Mawson 65.18 202 P **P** **17 46 41.6 +0.7**
MAW Mawson 65.18 202 P **P** **17 46 41.6 +0.7**
ABJI Asem Bagus 65.25 279 P **P** **17 46 40.8 -1.4**
comp=Z,125nm,1.0s
GMJI Gumukmas 65.58 278 P **P** **17 46 42.9 -1.5**
comp=Z,125nm,1.0s
BLJI Banyuglugur 65.78 279 P **P** **17 46 44.2 -1.4**
comp=Z,90nm,1.0s
TOLI2 Tolitoli 65.83 291 P **P** **17 46 43.7 -2.2**
TOLI2 IAmb IAmb 17 46 52.7
comp=Z,24nm,0.9s
TOLI2 Tolitoli 65.83 291 P **P** **17 46 47.2 +1.3**
KMMI Kalianget 65.91 280 P **P** **17 46 45.4 -1.0**
comp=Z,120nm,1.0s
MPSI Mapaga 65.98 290 P **P** **17 46 44.7 -2.2**
comp=Z,3µmcomp=Z,44nm,0.9s
DAV Davao City (W) 66.45 300 P **P** **17 46 48.7 -1.2**
PWJI Pagerwojo 67.03 277 P **P** **17 46 52.8 -0.8**
comp=Z,236nm,1.1s
PMSA Palmer Station 67.21 156 P **P** **17 46 58.0 +4.0**
comp=Z,29nm,0.9s,baz=301,slow=5.9,SNR=7.2
comp=Z,29nm,0.9s
PMSA Palmer Station 67.21 156 P **P** **17 46 54.9 +0.9**
PMSA IAmb IAmb 17 47 10.1
comp=Z,68nm,1.2s
PMSA Palmer Station 67.21 156 *eP* **P** **17 46 50.1 -3.8**
BKB Balikpapan 67.22 287 P **P** **17 46 52.4 -2.4**
BKB Balikpapan 67.22 287 P **P** **17 46 55.6 +0.8**
comp=Z,104nm,1.1s
BKB Balikpapan 67.22 287 P **P** **17 46 57.3 +2.5**
BBKI Banjar Baru 67.42 283 P **P** **17 46 54.1 -2.0**
comp=Z,145nm,0.9s
PCJI Pacitan 67.43 277 P **P** **17 46 54.4 -1.7**
comp=Z,224nm,1.1s
SMKI Samarinda 67.50 287 P **P** **17 46 56.1 -0.5**
comp=Z,116nm,0.5s
NGJI Ngawi 67.70 278 P **P** **17 46 59.3 +1.5**
comp=Z,156nm,0.9s
UGM Wanagama 68.11 277 P **P** **17 46 59.2 -1.3**
SMRI Semarang 68.69 277 P **P** **17 47 04.3 +0.2**
SMRI Semarang 68.69 277 P **P** **17 47 00.9 -3.2**
comp=Z,102nm,1.1s
SMRI Semarang 68.69 277 P **P** **17 47 05.1 +1.0**
MTKI Muara Teweh, K 68.96 285 P **P** **17 47 04.4 -1.4**
comp=Z,31nm,1.0s
MYLDM Lahad Datu 70.23 293 P **P** **17 47 13.8 +0.3**
MYLDM IAmb IAmb 17 47 45.2
comp=Z,66nm,1.1s
PBKI Pangkalan Bun 70.37 282 P **P** **17 47 14.3 -0.1**
comp=Z,112nm,1.0s
LEM Lembang 71.07 276 P **P** **17 47 17.9 -1.0**
comp=Z,44nm,1.1s
TROLL Troll, Antarti 71.17 181 P **P** **17 47 20.2 +1.5**
TROLL Troll, Antarti 71.17 181 pP pP 17 47 29.0 +4.9
CNJI Cibinong 71.17 275 P P 17 47 10.0 -9.3
SNAA Sanae 71.53 179 P **P** **17 47 22.1 +1.4**
SNAA Sanae 71.53 179 pP pP 17 47 31.2 +5.0
SNAA Sanae 71.53 179 P **P** **17 47 21.3 +0.6**
SNAA IAmb IAmb 17 47 32.4
comp=Z,48nm,1.1s
SNAA Sanae 71.53 179 P **P** **17 47 21.3 +0.6**
SNAA pmax pmax
comp=Z,48nm,1.1s
VNA3 Neumayer Olymp 71.79 177 P **P** **17 47 23.4 +1.2**
VNA3 Neumayer Olymp 71.79 177 pP pP 17 47 33.3 +5.6
DBJI Dramaga 71.92 276 P **P** **17 47 22.2 -1.7**
comp=Z,120nm,0.9s
NVL N'lazarevskaya 72.05 184 *eP* **P** **17 47 24.1 +0.4**
NVL pmax pmax
comp=Z,55nm,1.2s
VNA2 Neumayer--Watz 72.19 178 P **P** **17 47 26.0 +1.4**
baz=176,slow=6.2
VNA2 Neumayer--Watz 72.19 178 pP pP 17 47 35.7 +5.6
STKI Sintang 72.24 284 P **P** **17 47 24.9 -0.9**
comp=Z,37nm,1.3s
VNA1 Neumayer--Stat 72.43 177 P **P** **17 47 27.0 +1.0**
VNA1 Neumayer--Stat 72.43 177 pP pP 17 47 37.3 +5.8
KKM Kota Kinabalu 72.49 292 P **P** **17 47 26.1 -1.2**
KKM IAmb IAmb 17 47 27.9
comp=Z,44nm,0.8s
KKM Kota Kinabalu 72.49 292 P **P** **17 47 29.5 +2.2**
SBUM Sibu 73.17 286 P **P** **17 47 30.0 -1.3**
BLSI Bandar Lampung 73.83 276 P P 17 47 41.4 +6.2
KASI Kota Agung 74.33 275 P P 17 47 45.0 +6.9
LWLI Liwa 74.98 275 P **P** **17 47 44.0 +2.0**
comp=Z,66nm,0.8s
PPBI Pangkal Pinang 75.05 279 P **P** **17 47 38.1 -4.2**
comp=Z,47nm,1.1s
ORCD Orcadas 76.16 160 P **P** **17 47 48.1 +0.2**
ORCD IAmb IAmb 17 47 49.4
comp=Z,57nm,1.2s
AY01 Puyuhuapi 76.20 136 P **P** **17 47 47.8 -0.7**
DSRI Dabo 77.31 279 P **P** **17 47 52.9 -2.2**
comp=Z,15nm,0.9s
LL02 Futaleuf 77.43 135 P **P** **17 47 57.0 +1.6**
EFI East Falkland 78.51 148 P **P** **17 48 02.8 +1.6**
EFI East Falkland 78.51 148 P **P** **17 48 02.8 +1.6**
EFI pmax pmax
comp=Z,228nm,1.4s
LL04 Puerto Octay 78.55 133 P **P** **17 48 01.9 +0.2**
KRJI Kerinci 78.80 276 P **P** **17 48 00.9 -2.7**
comp=Z,216nm,0.9s
H03S2 Juan Fernandez 78.84 124 T T 19 14 30.6
baz=231
H03S1 Juan Fernandez 78.84 124 T T 19 14 30.2
baz=231
H03S3 Juan Fernandez 78.85 124 T T 19 14 31.1
baz=231
H03N3 Juan Fernandez 79.07 124 T T 19 14 39.9
baz=234,slow=72,SNR=148
H03N2 Juan Fernandez 79.07 124 T T 19 14 38.5
baz=234,slow=72,SNR=112
H03N1 Juan Fernandez 79.08 124 T T 19 14 44.0
baz=234,slow=72,SNR=89
PPSI Pulau Pagai 79.55 274 P **P** **17 48 04.4 -3.2**
comp=Z,191nm,0.7s
PLCA Paso Flores 79.74 134 P **P** **17 48 10.5 +2.1**
comp=Z,6.6nm,0.8s,baz=226,slow=6.0,SNR=7.5
comp=Z,6.6nm,0.8s
PLCA Paso Flores 79.74 134 P **P** **17 48 07.7 -0.6**
PLCA IAmb IAmb 17 48 27.1
comp=Z,69nm,1.6s
PLCA Paso Flores 79.74 134 P **P** **17 48 07.7 -0.6**
PLCA pmax pmax
comp=Z,69nm,1.7s
PLCA Paso Flores 79.74 134 *eP* **P** **17 48 04.8 -3.5**
GO06 Curarrehue 79.95 132 P **P** **17 48 09.2 -0.3**
BKNI Bangkinang 80.59 278 P **P** **17 48 15.4 +2.2**
comp=Z,60nm,1.0s
BKNI Bangkinang 80.59 278 P **P** **17 48 15.8 +2.6**
TWG Pinlang 80.78 308 P **P** **17 48 13.4 -0.5**
SSLB Suanglung 81.56 308 P **P** **17 48 17.0 -1.1**
SSLB IAmb IAmb 17 48 36.1
comp=Z,34nm,0.9s
SSLB Suanglung 81.56 308 P **P** **17 48 18.3 +0.2**
comp=Z,32nm,1.3s
DLV T Lat 82.09 291 P **P** **17 48 23.2 +1.9**
comp=Z,28nm,1.2s
MJAR Matsushiro Arr 82.44 328 P **P** **17 48 20.8 -1.6**
comp=Z,3.6nm,1.1s,baz=146,slow=6.9,SNR=5.9
comp=Z,3.6nm,1.1s
MAJO Matsushiro 82.44 328 *i P* **P** **17 48 21.4 -1.0**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 82.44 328 P **P** **17 48 25.8 +3.4**
BO02 Sierra Bellavi 83.47 129 P **P** **17 48 27.5 -0.7**
BO02 IAmb IAmb 17 48 44.6
comp=Z,25nm,0.9s
GSI Gunungsitoli 83.94 276 P **P** **17 48 29.4 -1.3**
GSI IAmb IAmb 17 48 37.5
comp=Z,86nm,1.0s
GSI Gunungsitoli 83.94 276 P **P** **17 48 27.9 -2.8**
comp=Z,89nm,0.9s
GSI Gunungsitoli 83.94 276 P **P** **17 48 34.1 +3.4**
comp=Z,97nm,1.0s
KCSI Kotacane, Aceh 85.12 278 P **P** **17 48 38.9 +2.2**
comp=Z,19nm,1.0s
UBPT Khong Chiam 86.47 292 P **P** **17 48 42.7 -0.5**
KSRS Korea Array 87.93 322 P **P** **17 48 48.3 -1.4**
comp=Z,4.3nm,0.9s,baz=149,slow=5.8,SNR=10
comp=Z,4.3nm,0.9s
KSAR Wonju Array Be 87.94 322 P **P** **17 48 49.5 -0.3**
KSAR Wonju Array Be 87.94 322 P **P** **17 48 49.6 -0.3**
ADK Adak 88.69 3 P **P** **17 48 56.9 +3.9**
comp=Z,59nm,1.3s
NJ2 Nanjing 88.81 313 *eP* **P** **17 48 56.3 +2.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
YSS Yuzh-Sakhalins 89.76 336 *eP* **P** **17 49 01.6 +3.5**
UNV Unalaska Valle 91.44 9 P **P** **17 49 07.9 +2.2**
baz=191
USRK Ussuriysk Ar. 91.44 328 P **P** **17 49 05.8 -0.3**
comp=Z,5.5nm,0.9s,baz=137,slow=3.2,SNR=4.6
comp=Z,5.5nm,0.9s
PET Petropavlovsk 91.47 348 *ceP* **P** **17 49 07.0 +1.0**
PET pmax pmax
comp=Z,102nm,1.7s
PEA0B Petropavlovsk- 91.72 347 P **P** **17 49 06.8 -0.4**
PEA0B Petropavlovsk- 91.72 347 P **P** **17 49 06.8 -0.4**
PEA0B pmax pmax
comp=Z,128nm,1.8s
PETK Petropavlovsk- 91.72 347 P **P** **17 49 07.1 -0.1**
comp=Z,9.2nm,1.0s,baz=143,slow=6.1,SNR=27
PETK PKiKP **PKiKP** **17 53 57.9 -0.3**
comp=Z,1.0nm,0.6s,baz=70,slow=5.9,SNR=4.4
comp=Z,9.2nm,1.0s
PETK Petropavlovsk- 91.72 347 P **P** **17 49 06.3 -0.9**
MONP2 Monument Peak 92.05 49 P **P** **17 49 13.6 +4.1**
baz=226
SWSC Sam W. Stewart 92.47 50 P **P** **17 49 15.4 +4.3**
baz=226
EDW2 Edwards Air Fo 92.50 47 P **P** **17 49 14.7 +3.4**
baz=225
TPFO Pinon Flats 92.53 49 P **P** **17 49 15.4 +3.8**
baz=226
PFO Pinyon Flats O 92.53 49 P **P** **17 49 13.7 +2.2**
comp=Z,1.3nm,0.4s,baz=238,slow=6.6,SNR=6.0
comp=Z,1.3nm,0.4s
PFO Pinyon Flats O 92.53 49 P **P** **17 49 15.3 +3.7**
baz=226
ISA Isabella, Lake 92.76 46 P **P** **17 49 16.2 +3.7**
baz=225
LVC Limon Verde 92.77 121 *eP* **P** **17 49 11.5 -2.0**
GLA Glamis 93.14 50 P **P** **17 49 18.9 +4.6**
baz=227
BC3 Big Chuckawall 93.17 50 P **P** **17 49 19.1 +4.6**
baz=227
CM31 Chiang Mai Arr 93.32 291 P **P** **17 49 15.1 -0.3**
CM31 IAmb IAmb 17 49 22.7
comp=Z,28nm,0.9s
CMAR Chiang Mai Arr 93.32 291 P **P** **17 49 15.4 0.0**
comp=Z,11nm,0.9s,baz=150,slow=3.5,SNR=22
CMAR PP **PP** **17 52 56.9 -2.8**
comp=Z,4.3nm,1.1s,baz=141,slow=5.8,SNR=7.6
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 93.32 291 P **P** **17 49 14.4 -1.0**
CRAI Chiangrai 93.34 293 P **P** **17 49 16.4 +0.9**
CMB Columbia Colle 93.36 44 P **P** **17 49 16.2 +1.0**
CMB Columbia Colle 93.36 44 P **P** **17 49 16.2 +1.0**
CMB pmax pmax
comp=Z,14nm,1.4s
CHTO Chiang Mai 93.54 291 P **P** **17 49 15.5 -0.9**
CHTO Chiang Mai 93.54 291 P **P** **17 49 15.5 -0.9**
CHTO pmax pmax
comp=Z,1.0nm,1.2s
CHTO Chiang Mai 93.54 291 P **P** **17 49 16.8 +0.4**
IRM Iron Mountain 93.69 49 P **P** **17 49 21.4 +4.6**
baz=227
GMRC Granite Mounta 93.81 49 P **P** **17 49 21.6 +4.2**
baz=226
CN2 Changchun 94.03 324 *eP* **P** **17 49 17.3 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
KMI Kunming 94.67 298 ⇓P **P** **17 49 24.9 +3.1**
KMI pmax pmax
comp=Z,7.0nm,0.8s
S14K Fog Glacier 94.79 12 P **P** **17 49 22.8 +1.5**
baz=197
NVAR Mina Array Bea 94.80 44 P **P** **17 49 24.6 +2.5**
comp=Z,1.2nm,0.8s,baz=217,slow=4.3,SNR=1.1
comp=Z,1.2nm,0.8s
YBH Yreka Blue Hor 94.80 40 P **P** **17 49 24.1 +2.4**
comp=Z,1.5nm,0.7s,baz=225,slow=2.9,SNR=4.1
comp=Z,1.5nm,0.7s
CHGN Chignik 95.00 12 P **P** **17 49 21.9 -0.2**
CHGN IAmb IAmb 17 49 23.8
comp=Z,51nm,1.3s
CHGN Chignik 95.00 12 P **P** **17 49 23.5 +1.4**
baz=198
ITQB Itaqui 95.58 134 *eP* **P** **17 49 23.1 -2.6**
KLR Kul'dur 95.61 331 PKiKP **PKiKP** **17 54 04.6 -0.3**
comp=Z,0.9nm,0.6s,baz=187,slow=7.0,SNR=5.3

BJI Beijing 96.00 317 P **P** **17 49 29.9 +2.8**
BJI pmax pmax
comp=Z,5.0nm,0.6s
PZH PanZhiHua 96.23 298 P **P** **17 49 31.2 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
LPAZ La Paz 97.53 117 P Pdif 17 49 38.5 +2.9
comp=Z,1.1nm,0.6s,baz=199,slow=4.3,SNR=4.9
comp=Z,1.1nm,0.6s
LPAZ La Paz 97.53 117 *eP* **P** **17 49 31.4 -4.1**
CD2 Chengdu 97.58 303 *eP* Pdif 17 49 36.0 +1.3
TXAR Lajitas Array 98.03 59 P Pdif 17 49 38.9 +2.1
comp=Z,0.2nm,0.8s,baz=251,slow=2.8,SNR=1.8
HHC Hu-ho-hao-te 99.12 315 *eP* **Pdif** **17 49 43.2 +1.8**
ANMO Albuquerque 99.64 53 *i* P **Pdif** **17 49 44.9 +1.0**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
L19K White Mountain 101.17 12 P **Pdif** **17 49 51.4 +1.6**
baz=201
ILAR Eielson Array 105.00 14 Pdiff **Pdif** **17 50 04.9 -1.9**
comp=Z,0.3nm,0.7s,baz=214,slow=4.4,SNR=1.6
ILAR PKiKP **PKiKP** **17 54 21.7 +0.4**
comp=Z,1.0nm,0.6s,baz=297,slow=3.3,SNR=6.5
BILL Bilibino 105.25 355 *i* P **Pdif** **17 50 05.7 -2.1**
BILL *e* 17 54 28.5
BILL *e*PPP PPP 17 56 40.1
BILL pmax pmax
comp=Z,1.0nm,0.9s
BILL MLR MLR
comp=Z,6µm,19.0s
SONM Songino Array 106.42 318 PKiKP **PKiKP** **17 54 25.6 +0.9**
comp=Z,1.0nm,0.7s,baz=116,slow=3.4,SNR=3.2
G30M tAoh Zraii Nji 109.20 17 P **PKiKP** **17 54 32.4 +3.2**
baz=216
YKA Yellowknife Ar 112.53 27 PP **PP** **17 55 22.3 -0.5**
comp=Z,9.6nm,1.2s,baz=247,slow=7.3,SNR=5.6
TIXI Tiksi 114.03 345 PKiKP **PKiKP** **17 54 37.1 -1.0**
comp=Z,4.4nm,0.6s,baz=267,slow=23,SNR=24
TIXI Tiksi 114.03 345 ⇑PKiKP **PKiKP** **17 54 36.9 -1.2**
WMQ Urumqi 115.31 307 *eP* **PKiKP** **17 54 43.8 +2.3**
MATP Matopo 116.38 211 PKP **PKiKP** **17 54 46.5 +1.9**
comp=Z,2.1nm,0.6s,baz=298,slow=1.6,SNR=6.5
DGZ Jazzator, Alta 118.09 313 *i* PKiKP **PKPdf** **17 54 45.6 -1.2**
ZSN Zaisan 118.70 309 *e*PKiKP **PKPdf** **17 54 45.1 -2.7**
ZSN Zaisan 118.70 309 *e*PKP **PKPdf** **17 54 45.2 -2.7**
baz=309
MK31 Makanchi Array 120.03 308 PKPdf **PKPdf** **17 54 48.5 -2.0**
MK31 Makanchi Array 120.03 308 *i* PKiKP **PKPdf** **17 54 48.7 -1.8**
MKAR Makanchi Array 120.03 308 PKP **PKPdf** **17 54 48.9 -1.6**
comp=Z,4.8nm,0.9s,baz=119,slow=1.5,SNR=22
MKAR PKKPbc **PKKPbc** **18 05 01.8 +2.6**
comp=Z,0.5nm,0.7s,baz=315,slow=3.5,SNR=4.1
MKAR Makanchi Array 120.03 308 PKPdf **PKPdf** **17 54 48.3 -2.2**
MKAR Makanchi Array 120.03 308 PKiKP **PKPdf** **17 54 48.3 -2.2**
MAKZ Makanchi 120.24 308 **PKPdf** **17 54 48.7 -2.1**
MAKZ Makanchi 120.24 308 ⇓PKiKP **PKPdf** **17 54 48.9 -2.0**
SHLS Shalkode 120.41 303 *e*PKiKP **PKPdf** **17 54 48.6 -2.8**
SHLS Shalkode 120.41 303 *e*PKP **PKPdf** **17 54 48.6 -2.8**
baz=303
UZB Uzunbulak 120.70 303 *e*PKiKP **PKPdf** **17 54 49.9 -2.1**
UZB Uzunbulak 120.70 303 *e*PKP **PKPdf** **17 54 50.0 -2.1**
baz=303
KPKS Kokpek 121.06 303 *e*PKiKP **PKPdf** **17 54 49.9 -2.7**
KPKS Kokpek 121.06 303 *e*PKP **PKPdf** **17 54 50.0 -2.7**
baz=303
SATY Saty 121.08 303 *e*PKiKP **PKPdf** **17 54 50.8 -1.9**
SATY Saty 121.08 303 *e*PKP **PKPdf** **17 54 50.9 -1.9**
baz=303
LSZ Lusaka 121.09 213 PKP **PKPdf** **17 54 53.9 +0.2**
comp=Z,1.4nm,0.3s,baz=111,slow=5.0,SNR=1.7
ZAA0 Zalesovo Array 121.25 316 PKPdf **PKPdf** **17 54 50.7 -1.9**
ZALV Zalesovo Beam 121.25 316 PKP **PKPdf** **17 54 51.0 -1.5**
comp=Z,3.4nm,0.8s,baz=162,slow=3.6,SNR=14
ZALV Zalesovo Beam 121.25 316 PKPdf **PKPdf** **17 54 50.4 -2.1**
TDK Taldyqorghan 121.84 305 *e*PKiKP **PKPdf** **17 54 52.1 -1.9**
TDK Taldyqorghan 121.84 305 *e*PKP **PKPdf** **17 54 52.2 -1.8**
baz=305
MDOK Medeo 122.04 302 *e*PKiKP **PKPdf** **17 54 51.9 -2.7**
MDOK Medeo 122.04 302 *e*PKP **PKPdf** **17 54 52.0 -2.7**
baz=302
NRN Naryn 122.08 300 PKPdf **PKPdf** **17 54 53.6 -1.4**
NRN Naryn 122.08 300 PKiKP **PKPdf** **17 54 53.6 -1.4**
AAA Alma-Ata 122.15 302 *e*PKiKP **PKPdf** **17 54 52.5 -2.2**
AAA Alma-Ata 122.15 302 *e*PKP **PKPdf** **17 54 52.6 -2.2**
baz=302
CHKK Chushkaly 122.34 303 *e*PKiKP **PKPdf** **17 54 52.8 -2.2**
CHKK Chushkaly 122.34 303 *e*PKP **PKPdf** **17 54 52.8 -2.2**
baz=303
SEM Semipalatinsk 122.64 311 *e*PKiKP **PKPdf** **17 54 52.6 -3.0**
SEM Semipalatinsk 122.64 311 *e*PKP **PKPdf** **17 54 52.7 -3.0**
baz=311
KUU Kurty 122.79 303 *e*PKiKP **PKPdf** **17 54 52.5 -3.3**
KUU Kurty 122.79 303 *e*PKP **PKPdf** **17 54 52.6 -3.3**
baz=303
AAK Ala-Archa 123.58 301 PKP **PKPdf** **17 54 56.0 -1.6**
comp=Z,1.3nm,0.4s,baz=198,slow=4.5,SNR=6.2
AAK Ala-Archa 123.58 301 **PKPdf** **17 54 57.2 -0.4**
KURK Kurchatov 123.72 311 **PKPdf** **17 54 56.6 -0.7**
KURK Kurchatov 123.72 311 *c* *i*PKiKP **PKPdf** **17 54 55.7 -1.7**
KURK pmax pmax
comp=Z,30nm,1.3s
KURBB Kurchatov Arra 123.75 311 PKP **PKPdf** **17 54 55.8 -1.6**
comp=Z,8.9nm,0.8s,baz=112,slow=2.0,SNR=41
KURBB PP **PP** **17 56 38.4 -2.5**
comp=Z,1.0nm,0.9s,baz=110,slow=7.2,SNR=4.8
KURBB PKKPbc **PKKPbc** **18 04 45.8 +0.9**
comp=Z,0.3nm,0.3s,baz=281,slow=4.8,SNR=1.0
SGDS Sogindy 123.78 302 *e*PKiKP **PKPdf** **17 54 54.9 -2.9**
SGDS Sogindy 123.78 302 *e*PKP **PKPdf** **17 54 55.0 -2.9**
baz=302
KBL Kabul 124.35 290 **PKPdf** **17 54 58.0 -1.4**
KBL Kabul 124.35 290 PKiKP **PKPdf** **17 54 58.0 -1.4**
BTLS Baital 124.74 304 *e*PKiKP **PKPdf** **17 54 57.1 -2.4**
BTLS Baital 124.74 304 *e*PKP **PKPdf** **17 54 57.2 -2.4**
baz=303
VLDQ Val d'Or 124.84 53 **PKPdf** **17 54 59.3 -0.3**
GAR Garm 125.17 295 **PKPdf** **17 54 59.9 -0.8**
LONY Lake Ozonia 125.58 57 **PKPdf** **17 55 01.2 +0.1**
LONY Lake Ozonia 125.58 57 P **PKiKP** **17 55 02.7 +1.1**
baz=250
NCB Newcomb 125.60 58 **PKiKP** **17 55 02.4 +0.8**
DZA Taraz 125.85 300 *e*PKiKP **PKPdf** **17 55 00.1 -1.7**
DZA Taraz 125.85 300 *e*PKP **PKPdf** **17 55 00.1 -1.7**
baz=300
CHGR Chuyangaron 125.88 295 **PKPdf** **17 55 01.8 -0.2**
CHGR Chuyangaron 125.88 295 PKiKP **PKPdf** **17 55 01.8 -0.2**
L61B Northampton 126.15 60 **PKiKP** **17 55 03.3 +0.6**
L61B Northampton 126.15 60 P **PKiKP** **17 55 04.3 +1.6**
baz=250
QUA2 Belchertown 126.32 61 **PKiKP** **17 55 03.2 +0.2**
KK31 Karatay Array 126.48 300 PKPdf **PKPdf** **17 55 02.1 -0.9**
KK31 Karatay Array 126.48 300 PKiKP **PKPdf** **17 55 02.1 -0.9**
KKAR Karatay Array 126.48 300 **PKPdf** **17 55 01.9 -1.1**
KKAR Karatay Array 126.48 300 PKPdf **PKPdf** **17 55 01.3 -1.7**
KKAR Karatay Array 126.48 300 PKiKP **PKPdf** **17 55 01.3 -1.7**
IUG luzhnay 126.50 299 *e*PKiKP **PKPdf** **17 55 01.1 -2.0**
IUG luzhnay 126.50 299 *e*PKP **PKPdf** **17 55 01.1 -2.0**
baz=299
J61A Chester 126.54 59 PKPpre 17 54 52.1
KIBK Kibwezi 126.59 232 **PKPdf** **17 55 03.3 -0.9**
BRZS Berezniki 127.14 309 *e*PKiKP **PKPdf** **17 55 00.7 -3.3**
BRZS Berezniki 127.14 309 *e*PKP **PKPdf** **17 55 00.7 -3.3**
baz=309
H62A Milan 127.88 58 **PKPdf** **17 55 05.9 +0.3**
KMBO Kilima Mbogo 128.03 232 PKP **PKPdf** **17 55 07.4 +0.3**
comp=Z,7.5nm,1.0s,baz=25,slow=2.6,SNR=8.7
KMBO Kilima Mbogo 128.03 232 PKPdf **PKPdf** **17 55 06.5 -0.6**
KMBO Kilima Mbogo 128.03 232 PKiKP **PKPdf** **17 55 06.5 -0.6**
G62A West of Eustis 128.50 58 PKPdf **PKiKP** **17 55 07.6 +0.2**
BVAR Borovoye Array 129.25 312 PKP **PKPdf** **17 55 07.1 -0.8**
comp=Z,3.3nm,0.5s,baz=94,slow=2.1,SNR=32
BVAR PP **PP** **17 57 13.6 -3.7**
comp=Z,1.1nm,0.9s,baz=108,slow=9.3,SNR=2.2
BRVK Borovoye 129.32 312 **PKPdf** **17 55 06.1 -1.9**
BRVK Borovoye 129.32 312 *i* PKiKP **PKPdf** **17 55 06.1 -1.9**
GEYT Alibeck 133.80 290 PKP **PKPdf** **17 55 17.2 +0.2**
comp=Z,3.6nm,0.9s,baz=348,slow=6.5,SNR=5.1
NEEM North Greenlan 134.29 14 *i* P **PKiKP** **17 55 18.8 +0.2**
ABKAR Akbulak array 135.08 306 PKPdf **PKPdf** **17 55 16.7 -2.3**
ABKAR Akbulak array 135.08 306 PKPdf **PKPdf** **17 55 17.0 -2.0**
ARU Arti 136.42 316 **PKPdf** **17 55 20.8 -0.4**
ARU Arti 136.42 316 *i* PKiKP **PKPdf** **17 55 19.8 -1.5**
ARU 17 57 58.2
ARU SS SS 18 16 25.4 +21

KBS Kingsbay 137.72 356 *i* P **PKPdf** **17 55 24.3 +1.2**
KBS Kingsbay 137.72 356 *e*PKPdf **PKPdf** **17 55 23.4 +0.3**
RAYN Ar Rayn 138.03 265 PKPdf **PKPdf** **17 55 24.3 -1.1**
RAYN Ar Rayn 138.03 265 PKiKP **PKPdf** **17 55 24.3 -1.1**
SPA0 Spitsbergen Ar 138.16 355 *e*PKPdf **PKPdf** **17 55 24.9 +0.9**
SPA0 IAmb IAmb 17 55 28.0
comp=Z,83nm,1.2s
SPITS Spitsbergen Ar 138.16 355 PKiKP **PKPdf** **17 55 24.2 +0.2**
SPB2 Spitsbergen Ar 138.16 355 PKPdf **PKPdf** **17 55 24.2 +0.3**
HOPEN Hopen 138.80 351 *e*PKPdf **PKPdf** **17 55 25.5 +0.4**
DAG Danmarks Havn 139.45 6 *i* P **PKiKP** **17 55 28.0 -0.6**
SUMG Summit 139.81 16 *i* P **PKPdf** **17 55 24.1 -3.5**
DY2G Dye2 140.89 27 *i* P **PKPdf** **17 55 25.8 -3.7**
KIRV Kirov 141.12 320 *i* PKiKP **PKPdf** **17 55 27.0 -2.8**
ICESG Greenland Ices 141.69 21 *i* P **PKPdf** **17 55 26.9 -4.2**
PRGR Permogore 142.17 326 *e*PKiKP **PKPdf** **17 55 28.5 -3.1**
BELG Belogornoye 142.98 310 *i* PKiKP **PKPdf** **17 55 31.7 -1.6**
APA Apatity 143.88 338 *i* PKiKP **PKiKP** **17 55 37.0 -0.9**
APA pmax pmax
comp=Z,19nm,1.0s
APA MLR MLR
comp=Z,14µm,18.0s
HAMF Hammerfest 143.94 346 *e*PKPdf PKPbc 17 55 33.5 +1.1
GROC Groznyy 144.09 295 PKiKP **PKPdf** **17 55 35.2 -0.4**
ANGG Ammassalik, Gr 144.36 25 *i* P PKPbc 17 55 33.9 +0.1
GNI Garni 144.43 289 *i* PKiKP **PKPdf** **17 55 36.2 -0.3**
ARA0 ARCESS Array S 144.47 344 *e*PKPbc **PKPab** **17 55 33.8 0.0**
ARCES ARCESS Array B 144.47 344 PKP **PKPab** **17 55 33.7 -0.1**
comp=Z,10nm,0.6s,baz=38,slow=1.7,SNR=50
ARCES ARCESS Array B 144.47 344 **PKPab** **17 55 33.6 -0.2**
SCO Scoresbysund 144.74 12 *e*P **PKPab** **17 55 33.2 -1.5**
GUDG Gudauri 144.97 293 **PKPab** **17 55 35.3 -1.4**
GUDG Gudauri 144.97 293 PKiKP **PKPab** **17 55 35.3 -1.4**
KLMR Klimovskoe 145.21 326 *e*PKP2 **PKPbc** **17 55 33.8 -2.8**
KLMR pmax pmax
comp=Z,198nm,1.4s
KLMR Klimovskoe 145.21 326 *e*PKPdf **PKPbc** **17 55 33.9 -2.7**
KLMR AMP 17 55 38.1
comp=Z,198nm,1.4s
KLMR *e*SKPbc **SKPbc** **17 59 12.9 -2.5**
GEVA Gevas 145.36 286 **PKPbc** **17 55 35.5 -2.6**
KTK1 Kautokeino 145.38 345 *e*PKPbc **PKPbc** **17 55 36.0 -0.9**
ZEI Tsey 145.43 294 *i* PKiKP **PKPbc** **17 55 37.9 -0.3**
ZEI pmax pmax
comp=Z,76nm,1.4s
TRO Tromso 145.66 348 *e*PKPdf **PKPdf** **17 55 37.1 -0.4**
TRO IAmb IAmb 17 55 39.9
comp=Z,101nm,1.1s
NCK Nalchik 145.71 295 *i* PKiKP **PKPdf** **17 55 35.6 -2.8**
KARS Kars 145.76 290 **PKPdf** **17 55 37.2 -1.5**
KARS Kars 145.76 290 PKP2 **PKPdf** **17 55 37.3 -1.5**
GURO Guroymak-BITLI 146.20 286 **PKPdf** **17 55 39.3 -0.3**
GOF Gofitskoye 146.20 298 ⇑*e*PKP2 **PKPab** **17 55 41.2 +0.2**
GOF pmax pmax
comp=E,68nm,0.8s
KBZ Khabaz 146.24 295 PKPbc **PKPdf** **17 55 38.5 -0.7**
comp=Z,12nm,1.0s,baz=106,slow=3.2,SNR=13
KBZ Khabaz 146.24 295 *i* PKP2 **PKPdf** **17 55 38.6 -0.6**
KIV Kislovodsk 146.40 296 ⇑P **PKPab** **17 55 43.1 +1.2**
KIV Kislovodsk 146.40 296 ⇑PKP2 **PKPab** **17 55 43.1 +1.2**
VRH Novokhopyorsk 146.76 309 *e*PKiKP **PKPdf** **17 55 38.9 -1.0**
VRH pmax pmax
comp=Z,40nm,0.7s
MARD Mardin 146.92 283 PKPdf **PKPdf** **17 55 39.8 -1.0**
KOPT Kop Dagi 147.62 288 **PKPbc** **17 55 45.6 +0.7**
STEI Steigen 147.79 349 *e*PKPdf **PKPdf** **17 55 41.0 0.0**
STEI IAmb IAmb 17 55 45.0
comp=Z,135nm,1.0s
LOF Lofoten 147.86 350 *e*PKPbc **PKPbc** **17 55 44.1 -0.1**
LOF IAmb IAmb 17 55 46.6
comp=Z,276nm,1.6s
MOS Moscow 148.06 318 *e*PKiKP **PKPdf** **17 55 42.0 +0.1**
MOS pmax pmax
comp=Z,109nm,1.2s
LPSR Galich'ya Gora 148.20 312 *e*PKiKP **PKPdf** **17 55 41.6 -0.6**
LPSR pmax pmax
comp=Z,70nm,1.2s
VORR Voronezh 148.23 310 *e*PKiKP **PKPdf** **17 55 42.7 +0.4**
VORR pmax pmax
comp=Z,40nm,0.5s
FAUS Fauske 148.28 348 *e*pPKPdf pPKPdf 17 55 44.9 -2.7
VSR Storozhevoye 148.34 309 *e*PKiKP **PKPdf** **17 55 41.3 -1.2**
VSR pmax pmax
comp=Z,30nm,1.3s
OBN Obninsk 148.83 317 *e*PKiKP **PKPdf** **17 55 41.6 -1.5**
OBN *e* 17 59 12.5
OBN pmax pmax
comp=Z,40nm,1.1s
LIC Lamto 149.06 172 ⇑*e*P **PKPbc** **17 55 48.0 -0.9**
comp=Z,84nm,0.6s
KIC Kosan Boka 149.22 173 ⇑*e*P **PKPbc** **17 55 50.4 +1.0**
comp=Z,33nm,0.4s
GHAJ Ghor Haditha 149.34 270 **PKPdf** **17 55 43.7 -1.1**
KONS Konsvik 149.44 349 *e*pPKPdf **pPKPdf** **17 55 47.1 -2.5**
KONS IAmb IAmb 17 55 48.7
comp=Z,161nm,1.3s
TIC Toumodi 149.47 172 ⇑*e*P **PKPdf** **17 55 47.6 +2.0**
comp=Z,7.2nm,0.2s
DBIC Dimbokro 149.51 172 PKPbc **PKPbc** **17 55 50.5 +0.4**
comp=Z,36nm,0.9s,baz=210,slow=2.2,SNR=12
DBIC Dimbokro 149.51 172 ⇑PKP2 **PKiKP** **17 55 51.8 +0.6**
MOR8 Moi Rana 149.53 348 *e*pPKPdf **pPKPdf** **17 55 47.3 -2.5**
MOR8 IAmb IAmb 17 55 48.8
comp=Z,87nm,1.3s
BORG Borgarnes 149.78 17 PKPbc **PKPbc** **17 55 48.9 -0.3**
comp=Z,45nm,1.2s,baz=108,slow=2.4,SNR=5.2
ANN Anapa 150.19 297 *i* PKiKP **PKPab** **17 56 01.4 +4.5**
ANN pmax pmax
comp=Z,76nm,1.1s
FIA1 FINESS Array S 150.31 334 **PKPdf** **17 55 44.8 -0.6**
FINES FINESS Array B 150.31 334 PKPbc **PKPbc** **17 55 49.8 -0.7**
comp=Z,43nm,0.9s,baz=42,slow=3.1,SNR=43
FINES FINESS Array B 150.31 334 PKPdf **PKPdf** **17 55 44.9 -0.4**
FINES FINESS Array B 150.31 334 PKiKP **PKPdf** **17 55 44.9 -0.4**
BNN Bunyan 151.02 285 **PKPbc** **17 55 51.3 -1.9**
NSS Namsos 151.45 348 *e*PKPdf **PKPdf** **17 55 46.6 -0.4**
NSS *e* 17 55 52.6
NSS IAmb IAmb 17 55 54.0
comp=Z,150nm,1.0s
MEF Metsahovi 151.76 333 *e*P **PKPbc** **17 55 52.5 -1.4**
VSU Vasula 151.99 329 *e*P **PKPbc** **17 55 54.3 -0.2**
RAF Rauma 152.07 336 *e*P **PKPbc** **17 55 53.8 -0.8**
BR131 Keskin Array S 152.83 286 **PKPdf** **17 55 49.0 -1.1**
BR131 Keskin Array S 152.83 286 PKiKP **PKPdf** **17 55 49.0 -1.1**
BRTR Keskin Array B 152.83 286 PKP **PKPdf** **17 55 48.5 -1.6**
comp=Z,1.1nm,0.8s,baz=224,slow=4.0,SNR=5.8
BRTR PKPbc **PKPbc** **17 55 56.1 -1.2**
comp=Z,22nm,1.2s,baz=131,slow=3.4,SNR=19
BRTR PKPab **PKPab** **17 56 08.3 0.0**
comp=Z,14nm,0.8s,baz=128,slow=3.4,SNR=10
BRTR Keskin Array B 152.83 286 **PKPdf** **17 55 47.7 -2.4**
ILGA Ilgaz 152.87 289 **PKPdf** **17 55 47.5 -2.7**
MTSE Matsula 153.00 331 *e*P **PKPbc** **17 55 55.9 -0.9**
ANTO Ankara 153.49 286 **PKPdf** **17 55 49.4 -1.5**
ANTO Ankara 153.49 286 PKiKP **PKPdf** **17 55 49.4 -1.5**
MNK Minsk 153.66 321 *i* PKiKP **PKPdf** **17 55 48.2 -2.3**
MNK *i* 17 59 45.1
MNK *i* SS SS 18 19 22.0 +1.4
MNK *i* SSS SSS 18 25 13.9
MNK pmax pmax
comp=Z,52nm,0.8s
MNK pmax pmax
comp=E,9.0nm,1.2s
MNK Minsk 153.66 321 *i* PKP **PKPdf** **17 55 48.3 -2.3**
comp=E,9.0nm,1.2s,baz=241
MNK *i* PKP **PKPdf** **17 55 48.3 -2.3**
MNK *i* PKP **PKPdf** **17 55 48.3 -2.3**
comp=Z,52nm,0.8s
MNK *i* PP **PP** **17 59 45.1 -0.4**
MNK *i* SKKS 18 11 32.9
MNK *i* SS **SS** **18 19 22.0 +1.4**
MNK *i* SSS SSS 18 25 14.0
MNK *i* LR LR 18 59 58.2
MNK *i* LRM MLR 19 02 23.3
comp=E,685nm,16.8s
MNK *i* LRM MLR 19 02 23.3
MNK *i* LRM MLR 19 02 23.3
comp=Z,5µm,16.8s
MOL Molde 153.96 351 *e*PKPbc **PKPbc** **17 55 57.9 -0.8**
NACGM Naroch 154.00 322 ⇑*e*PKP **PKPbc** **17 55 55.5 -3.6**
baz=59
DOMB Dombas 154.25 349 *e*PKPbc **PKPbc** **17 55 58.9 -0.6**
AKASG Malin Array Be 154.53 312 PKP **PKPdf** **17 55 50.3 -1.6**
comp=Z,0.3nm,0.3s,baz=4.4,slow=0.4,SNR=13
AKASG PKPbc **PKPbc** **17 55 58.4 -2.0**
comp=Z,2.7nm,0.5s,baz=50,slow=2.8,SNR=6.3
AKASG Malin Array Be 154.53 312 **PKPdf** **17 55 49.7 -2.2**
AKBB Malin Array Si 154.53 312 PKPdf **PKPdf** **17 55 49.2 -2.6**
AKBB Malin Array Si 154.53 312 PKiKP **PKPdf** **17 55 49.3 -2.6**
NC303 NORSAR Array S 154.62 346 **PKPdf** **17 55 50.1 -1.6**
NB2 NORSAR Subarra 154.62 346 PKP **PKPdf** **17 55 51.6 -0.5**
comp=Z,92nm,1.4s,baz=29,slow=2.2
NB2 NORSAR Subarra 154.62 346 PKP **PKPdf** **17 55 51.6 -0.5**
baz=29,slow=2.2
NOA NORSAR Array B 154.82 346 PKP **PKPdf** **17 55 51.5 -0.5**
comp=Z,12nm,1.3s,baz=28,slow=1.6,SNR=8.5
NOA PKPbc **PKPbc** **17 56 00.4 -0.3**
comp=Z,5.0nm,0.6s,baz=35,slow=2.3,SNR=18
NOA PKPab **PKPab** **17 56 14.4 -1.5**
comp=Z,8.5nm,0.8s,baz=30,slow=2.0,SNR=5.9
NB000 NORSAR Array S 154.91 346 **PKPdf** **17 55 50.8 -1.4**
PABE Paberze 155.00 325 PKPdf **PKPdf** **17 55 51.5 -0.8**
PABE Paberze 155.00 325 *eP* **PKPbc** **17 56 00.6 -0.6**
NC602 NORSAR Array S 155.03 345 *e*PKPbc 17 56 00.8
TORD Torodi Ar. Bea 156.03 186 PKP **PKPdf** **17 55 54.7 -0.3**
comp=Z,7.0nm,1.0s,baz=187,slow=0.2,SNR=15
TORD PKPab **pPKPab** **17 56 24.9 -2.9**
comp=Z,16nm,0.8s,baz=166,slow=3.6,SNR=13
TORD PP **PP** **18 00 02.1 +3.9**
comp=Z,2.7nm,1.1s,baz=197,slow=4.5,SNR=3.5
CFR Carcaliu 156.71 299 ⇓P **PKPdf** **17 55 57.9 +2.9**
CFR Carcaliu 156.71 299 ⇓PKiKP **PKPdf** **17 55 57.9 +2.9**
TESR Tescani 157.44 303 ⇑P **PKPdf** **17 55 55.8 -0.2**
VRI Vrincioaia 157.54 302 ⇑P **PKPdf** **17 55 58.1 +2.0**
VRI Vrincioaia 157.54 302 ⇑PKiKP **PKPdf** **17 55 58.1 +2.0**
BIZ Bicaz 157.69 305 ⇑P **PKPdf** **17 55 56.2 0.0**
LVV L'vov 157.94 313 *e*PKP2 **PKPab** **17 56 26.1 -3.6**
BURAR Bucovina Array 158.06 307 ⇓P **PKPdf** **17 55 56.2 -0.6**
BURAR Bucovina Array 158.06 307 **PKPdf** **17 55 54.0 -2.8**
BURAR Bucovina Array 158.06 307 ⇓PKiKP **PKPdf** **17 55 56.2 -0.6**
BUR08 Bucovina Ar. S 158.06 307 **PKPdf** **17 55 55.4 -1.4**
MLR Muntele Rosu 158.16 301 ⇓P **PKPdf** **17 55 56.9 -0.2**
MLR Muntele Rosu 158.16 301 ⇓PKiKP **PKPdf** **17 55 56.9 -0.2**
ARR Arges 159.09 301 ⇓P **PKPdf** **17 55 56.0 -2.1**
UZH Uzhgorod 159.48 312 ⇓*i*PKP2 **PKPab** **17 56 36.0 -0.4**
GZR Gura Zlata 160.34 302 ⇑P **PKPdf** **17 55 58.5 -1.0**
GZR Gura Zlata 160.34 302 ⇑PKiKP **PKPdf** **17 55 58.5 -1.0**
VTS Vitosha 160.62 294 ⇑P **PKPdf** **17 55 58.8 -1.2**
VTS Vitosha 160.62 294 ⇑PKiKP **PKPdf** **17 55 58.8 -1.2**
SIRR Siria 160.81 306 ⇓P **PKPdf** **17 55 59.3 -0.6**
BLKB Belogradchik 160.85 297 ⇑P **PKPdf** **17 55 59.6 -0.5**
BZS Buzias 161.05 304 ⇑P **PKPdf** **17 55 59.2 -0.9**
BZS Buzias 161.05 304 ⇑PKiKP **PKPdf** **17 55 59.2 -0.9**
PSZ Piszkesteto 161.24 312 **PKPdf** **17 55 58.9 -1.5**
PSZ Piszkesteto 161.24 312 PKiKP **PKPdf** **17 55 58.9 -1.5**
PSZ Piszkesteto 161.24 312 PKP **PKPdf** **17 56 00.4 +0.1**
MORC Moravsky Berou 161.57 319 ⇑P **PKPdf** **17 56 00.3 -0.3**
MORC Moravsky Berou 161.57 319 *e* **PKPab** **17 56 44.4 -1.1**
MORC Moravsky Berou 161.57 319 ⇑PKiKP **PKPdf** **17 56 00.4 -0.3**
MORC Moravsky Berou 161.57 319 *e*PKP **PKPdf** **17 55 59.1 -1.5**
VYHS Vyhne 161.57 314 *e*PKiKP **PKPdf** **17 55 59.4 -1.2**
VYHS *e* 17 56 45.4
VYHS Vyhne 161.57 314 *e* **PKPab** **17 56 45.4 -0.2**
VYHS Vyhne 161.57 314 *e*PKP **PKPdf** **17 55 59.3 -1.3**
MAUC Maruska 161.66 318 *e*PKPDF **PKPdf** **17 56 00.7 0.0**
OSTC Ostas 161.75 323 *e*PKPAB **PKPab** **17 56 46.7 +0.5**
KRLC Kraliky 161.78 321 *e*PKiKP **PKPdf** **17 56 00.6 -0.3**
KRLC Kraliky 161.78 321 *e*PKPDF **PKPdf** **17 56 00.6 -0.3**
DPC Dobruska-Polom 161.83 321 *e*PKP2 **PKPab** **17 56 46.2 -0.4**
DPC Dobruska-Polom 161.83 322 *e*PKPAB **PKPab** **17 56 46.2 -0.4**
UPC Upice 161.88 323 *e*PKP2 **PKPab** **17 56 46.7 -0.1**
UPC Upice 161.88 323 *e*PKPAB **PKPab** **17 56 46.7 -0.1**
JAVC Velka Javorina 162.03 317 *e* **PKPab** **17 56 48.2 +0.6**
JAVC Velka Javorina 162.03 317 *e*PKP **PKPdf** **17 56 00.9 -0.3**
VRAC Vranov 162.34 319 *e* **PKPab** **17 56 47.8 -1.1**
VRAC Vranov 162.34 319 *e*PKP **PKPdf** **17 56 00.2 -1.2**
SMOL Smolenice 162.35 316 *e*PKiKP **PKPdf** **17 56 01.5 +0.1**
MODS Modra-Piesok 162.52 316 *e*PKiKP **PKPdf** **17 56 01.1 -0.5**
MODS Modra-Piesok 162.52 316 *e* **PKPab** **17 56 50.0 +0.3**
MODS Modra-Piesok 162.52 316 *e*PKP **PKPdf** **17 56 01.1 -0.5**
BRG Berggiesshubel 162.57 327 Amp 18 18 29.0
comp=E,19nm,21.6s
BRG Berggiesshubel 162.57 327 *e*PKiKP **PKPdf** **17 56 00.4 -1.1**
BRG *e* 17 56 49.2
BRG pmax pmax
comp=Z,19nm,1.7s
BRG pmax pmax
comp=Z,27nm,1.6s
BRG MLR MLR
comp=N,73µm,24.6s
BRG MLR MLR
comp=Z,79µm,22.7s
BRG MLR MLR
comp=E,19µm,21.6s
BRG Berggiesshubel 162.57 327 *e*PKP **PKPdf** **17 56 00.5 -1.1**
BRG Berggiesshubel 162.57 327 Amp 17 56 03.6
comp=Z,19nm,1.6s
BRG Berggiesshubel 162.57 327 *ex* x 17 56 49.3
BRG Berggiesshubel 162.57 327 Amp 17 56 52.3
comp=Z,27nm,1.6s
BRG Berggiesshubel 162.57 327 Amp 18 18 16.0
comp=N,73nm,24.6s
BRG Berggiesshubel 162.57 327 Amp 18 18 18.0
comp=Z,79nm,22.7s
KRUC Moravsky 162.60 319 *e* **PKPab** **17 56 49.2 -0.8**
KRUC Moravsky 162.60 319 *e*PKP **PKPdf** **17 56 00.2 -1.4**
DIVS Divibare 162.61 300 PKPdf **PKPdf** **17 56 01.3 -0.6**
CLL Collm 162.65 329 *i* PKiKP **PKPdf** **17 55 59.3 -2.3**
CLL *e* 17 56 14.0
CLL *i* 17 56 46.8
CLL pmax pmax
comp=Z,25nm,1.9s
CLL pmax pmax
comp=Z,13nm,1.4s
CLL Collm 162.65 329 *i* PKPdf **PKPdf** **17 55 59.3 -2.3**
comp=Z,25nm,1.9s
CLL *ex* x 17 56 14.0
CLL *i* PKPab **PKPab** **17 56 46.8 -3.3**
comp=Z,13nm,1.4s
CLL *ex* x 17 57 02.0
comp=Z,10.0nm,1.0s
ZST Bratislava 162.71 316 *e*PKiKP **PKPdf** **17 56 01.3 -0.5**
ZST Bratislava 162.71 316 *e* **PKPab** **17 56 50.9 +0.4**
ZST Bratislava 162.71 316 *e*PKP **PKPdf** **17 56 01.3 -0.5**
MORH Mrgy, Hungar 162.76 308 ⇑P **PKPdf** **17 56 00.2 -1.6**
PRU Pruhonice 162.93 324 *e*PKP2 **PKPab** **17 56 51.2 -0.2**
PRU Pruhonice 162.93 324 *e*PKPAB **PKPab** **17 56 51.2 -0.2**
MPLH Magyarpolny 163.00 312 PKP **PKPdf** **17 56 02.5 +0.4**
KOVH Kovagotottos 163.15 308 PKP **PKPdf** **17 56 02.4 +0.2**
RONA Rosalia, Austr 163.44 315 *eP* **PKPdf** **17 56 01.6 -0.9**
comp=Z,8.6nm,1.4s
RONA *eP* **PKPab** **17 56 54.4 +0.7**
comp=Z,11nm,1.4s
CONA Conrad Observa 163.55 316 *eP* **PKPdf** **17 56 01.9 -0.8**
comp=Z,8.2nm,1.5s
CONA *eP* **PKPab** **17 56 54.1 -0.2**
comp=Z,16nm,1.1s
CKRC Cesky Krumlov 163.82 321 *e*PKPDF **PKPdf** **17 56 02.8 -0.1**
KHC Kasperske Hory 163.97 323 **PKPdf** **17 56 01.4 -1.6**
KHC PKPab **PKPab** **17 56 54.4 -1.6**
KHC Kasperske Hory 163.97 323 *e*PKiKP **PKPdf** **17 56 02.5 -0.5**
KHC *e* 17 56 54.8
KHC Kasperske Hory 163.97 323 *e*PKPDF **PKPdf** **17 56 02.5 -0.5**
KHC *e*PKPAB **PKPab** **17 56 54.8 -1.2**
GEC2 GERESS Array S 164.10 322 **PKPdf** **17 56 01.4 -1.8**
GEC2 PKPab **PKPab** **17 56 52.6 -4.1**
**GERES GERESS Array B 164

BIOA			*eP*		**PKPab**	17 57 00.4	+0.3
	comp=Z,1.9nm,0.8s						
OBKA	**Obir**	**165.09 314**	*eP*		**PKPdf**	17 56 04.6	+0.5
	comp=Z,4.0nm,1.4s						
OBKA			*eP*		**PKPab**	17 57 00.8	-0.4
	comp=Z,6.5nm,1.2s						
KBA	**Koelnbreinsper**	**165.43 318**	*eP*		**PKPdf**	17 56 04.0	-0.5
	comp=Z,0.9nm,0.5s						
KBA			*eP*		**PKPab**	17 57 02.4	-0.3
	comp=Z,0.6nm,0.4s						
MYKA	**Terra Mystica**	**165.54 316**	*eP*		**PKPab**	17 57 03.2	+0.1
	comp=Z,7.2nm,1.1s						
ABTA	**Abfaltersbach**	**166.08 318**	*eP*		**PKPdf**	17 56 03.1	-1.9
	comp=Z,3.3nm,1.0s						
ABTA			*eP*		**PKPab**	17 57 06.0	+0.5
	comp=Z,6.7nm,1.3s						
WATA	**Walderalm**	**166.18 322**	*eP*		**PKPdf**	17 56 04.5	-0.6
	comp=Z,5.7nm,1.2s						
WTTA	**Wattenberg**	**166.20 321**	*eP*		**PKPdf**	17 56 04.5	-0.6
	comp=Z,10.0nm,1.6s						
WTTA			*eP*		**PKPab**	17 57 05.8	-0.2
	comp=Z,8.3nm,1.3s						
MOTA	**Moosalm**	**166.40 323**	*eP*		**PKPdf**	17 56 04.0	-1.3
	comp=Z,10.0nm,1.2s						
MOTA			*eP*		**pPKPab**	17 57 09.4	-3.2
	comp=Z,5.2nm,1.0s						
SQTA	**Sankt Quirin**	**166.44 322**	*eP*		**PKPdf**	17 56 04.7	-0.5
	comp=Z,7.1nm,1.2s						
SQTA			*eP*		**PKPab**	17 57 08.1	+1.0
	comp=Z,4.7nm,1.0s						
RETA	**Reutte**	**166.46 324**	*eP*		**PKPdf**	17 56 03.9	-1.3
	comp=Z,4.9nm,1.2s						
RETA			*eP*		**PKPab**	17 57 06.5	-0.7
	comp=Z,4.9nm,1.0s						
FETA	**Feichten**	**166.81 322**	*eP*		**PKPdf**	17 56 04.9	-0.7
	comp=Z,8.4nm,1.2s						
FETA			*eP*		**PKPab**	17 57 09.2	+0.4
	comp=Z,6.4nm,1.2s						
DAVA	**Damuels**	**167.02 325**	*eP*		**PKPdf**	17 56 04.8	-0.9
	comp=Z,6.7nm,1.1s						
DAVA			*eP*		**PKPab**	17 57 09.4	-0.2
	comp=Z,9.0nm,1.0s						
KEST	**Kesra**	**171.55 264**	PKPab		**PKPab**	17 57 29.4	-0.7
	comp=Z,9.4nm,1.1s,baz=96,slow=0.4,SNR=4.9						
ESDC	**Sonseca Array**	**176.53 41**	PKP		**PKPdf**	17 56 11.2	+0.9
	comp=Z,1.9nm,1.0s,baz=337,slow=2.5,SNR=8.3						
ESDC			PKPab		**PKPab**	17 57 53.0	+1.1
	comp=Z,7.1nm,1.2s,baz=339,slow=4.6,SNR=7.0						
ESDC			PP		**PP**	18 01 45.9	+1.0
	comp=Z,2.2nm,1.2s,baz=323,slow=2.1,SNR=6.2						

*IDC **01** 17:38:06.1±3.0,37.°30S×179.°14E,h0km,mb4.7/3, mbtmp4.7/3,Error ellipse: s-maj=91.9km s-min=32.3km az=144.0*

ISC 01 17:38:11.0±2.9,37.°4S±0.°5×179.°0E±0.°4,h31km,n13, σ0°25/7,mb4.6/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.77 240**		Pn	**Pn**	**17 38 39.2**	**-0.2**
	baz=121,slow=18						
URZ				Sn	**Sb**	**17 39 04.7**	**+0.2**
	57nm,0.3s,baz=121,slow=20,SNR=0.6						
RPZ	**Rata Peaks**	**8.77 221**		Sn	Sn	17 41 42.6	-11
	baz=206,slow=17						
ASAR	**Alice Springs**	**40.84 276**		P	**P**	**17 45 50.3**	**+0.2**
	4.8nm,0.6s,baz=116,slow=7.2,SNR=1.5						
	4.8nm,0.6s						
WRA	**Warramunga Arr**	**42.47 281**		P	**P**	**17 46 03.4**	**0.0**
	6.8nm,0.6s,baz=125,slow=7.4,SNR=2.4						
	6.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.33 277**		P	**P**	**17 47 04.8**	**-0.3**
	7.6nm,0.7s,baz=82,slow=7.1,SNR=1.5						
	7.6nm,0.7s						
H03S2	**Juan Fernandez**	**78.64 124**		T	T	19 16 33.3	
	baz=234						
H03S1	**Juan Fernandez**	**78.66 124**		T	T	19 16 35.6	
	baz=234						
H03S3	**Juan Fernandez**	**78.66 124**		T	T	19 16 37.1	
	baz=234						
H03N3	**Juan Fernandez**	**78.88 124**		T	T	19 16 43.1	
	baz=227						
H03N2	**Juan Fernandez**	**78.88 124**		T	T	19 16 46.6	
	baz=227						
H03N1	**Juan Fernandez**	**78.89 124**		T	T	19 16 43.8	
	baz=227						
ARCES	**ARCESS Array B**	**144.76 344**		PKP	**PKPab**	**17 57 42.7**	**+0.2**
	2.7nm,0.8s,baz=64,slow=2.1,SNR=1.2						
FINES	**FINESS Array B**	**150.59 334**		PKPbc	**PKPbc**	**17 57 58.9**	**+0.1**
	2.2nm,0.7s,baz=46,slow=4.0,SNR=1.0						

*IDC **01** 17:40:02.6±2.7,36.°92S×178.°52E,h0km,mb4.5/3, mbtmp4.5/3,Error ellipse: s-maj=61.8km s-min=29.3km az=117.0*

*NEIC **01** 17:40:02.7±1.3,37.°1S±0.°1×178.°9E±0.°1,h10km±1km, mb4.8/11,Error ellipse: s-maj=26.5km s-min=8.0km az=134.0*

*WEL **01** 17:40:03.9±1.5,37.°5S±5.°×17.°9E±.°,h13km±5km,M4.3/32, ML4.6/45,MLv4.3/32,Error ellipse: s-maj=0.0km s-min=0.0km az=75.1*

ISC 01 17:40:00.2±2.1,37.°23S±0.°06×179.°16E±0.°08,h8km±11km, n112,σ1°39/113,mb4.7/10,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.76 244**		Pg	**Pg**	**17 40 15.0**	**+0.3**
MXZ	**Matakaoa Point**	**0.76 244**		P	**Pb**	**17 40 15.6**	**+0.1**
MXZ				S	**Sg**	**17 40 23.2**	**-1.3**
WMGZ	**Waiomatatini S**	**0.83 225**		P	**Pn**	**17 40 19.2**	**+1.0**
WMGZ				S	**Sb**	**17 40 29.4**	**+1.2**
PKGZ	**Pakihiroa**	**1.08 232**		P	**Pn**	**17 40 22.3**	**+0.6**
PKGZ				S	**Sg**	**17 40 34.9**	**-0.1**
PUZ	**Puketiti**	**1.10 220**		P	**Pn**	**17 40 22.9**	**+1.0**
PUZ				S	**Sg**	**17 40 35.9**	**+0.2**
HAZ	**Te Kaha**	**1.21 244**		P	**Pg**	**17 40 24.2**	**+0.8**
HAZ				S	**Sb**	**17 40 38.7**	**-0.5**
TWGZ	**Tauwhareparae**	**1.33 224**		P	**Pg**	**17 40 26.6**	**+0.9**
TWGZ				S	**Sb**	**17 40 42.8**	**+0.2**
RUGZ	**Raukumara Rang**	**1.39 238**		P	**Pg**	**17 40 27.3**	**+0.6**
CNGZ	**Carnagh Statio**	**1.46 211**		P	**Pg**	**17 40 28.7**	**+0.6**
TKGZ	**Te Karaka**	**1.59 220**		P	**Pn**	**17 40 29.3**	**+0.7**
WIZ	**White Island**	**1.60 259**		P	**Pb**	**17 40 30.0**	**+0.1**
WSRZ	**White Island S**	**1.60 259**		P	**Pg**	**17 40 31.0**	**+0.1**
MWZ	**Matawai**	**1.70 229**		P	**Pb**	**17 40 31.4**	**-0.2**
WHRZ	**Whale Island**	**1.84 250**		P	**Pb**	**17 40 34.2**	**0.0**
RAGZ	**Rawiri**	**1.87 227**		P	**Pn**	**17 40 33.7**	**+1.1**
URZ	**Urewera**	**1.92 237**		Pn	**Pn**	**17 40 34.3**	**+1.2**
	175nm,0.3s,baz=301,slow=2.9,SNR=12						
URZ				Sn	**Sn**	**17 40 56.7**	**-0.8**
	173nm,0.3s,baz=301,slow=23,SNR=3.3						
URZ	**Urewera**	**1.92 237**			**Pn**	**17 40 34.2**	**+1.1**
URZ	**Urewera**	**1.92 237**		P	**Pb**	**17 40 34.5**	**-0.9**
PRGZ	**Paritu Road**	**1.96 210**		P	**Pn**	**17 40 34.6**	**+0.8**
EDRZ	**Edgecumbe**	**2.11 245**		P	**Pn**	**17 40 37.1**	**+1.3**
SNGZ	**Shannon Statio**	**2.11 222**		P	**Pn**	**17 40 36.9**	**+1.1**
MARZ	**Manawahe**	**2.11 248**		P	**Pn**	**17 40 37.1**	**+1.3**
MHGZ	**Mahia Peninsul**	**2.16 207**		P	**Pn**	**17 40 37.1**	**+0.7**
OPRZ	**Ohinepanea**	**2.16 253**		P	**Pn**	**17 40 36.8**	**+0.4**
MUGZ	**Murupara**	**2.26 236**		P	**Pn**	**17 40 38.8**	**+0.9**
MKRZ	**Makatiti**	**2.32 246**		P	**Pn**	**17 40 40.4**	**+1.7**
TARZ	**Mount Tarawera**	**2.33 244**		P	**Pn**	**17 40 40.3**	**+1.5**
LIRZ	**Lichensteins R**	**2.33 250**		P	**Pb**	**17 40 40.8**	**-1.7**
TGRZ	**Tauranga**	**2.36 257**		P	**Pn**	**17 40 40.1**	**+0.9**
RRRZ	**Republican Roa**	**2.37 241**		P	**Pn**	**17 40 40.8**	**+1.5**
OMRZ	**Omania**	**2.38 248**		P	**Pn**	**17 40 40.9**	**+1.4**
MTHZ	**Maungataniwha**	**2.44 228**		P	**Pn**	**17 40 41.7**	**+1.3**
KARZ	**Kaharoa**	**2.44 250**		P	**Pn**	**17 40 41.5**	**+1.2**
HLRZ	**Highlands Stat**	**2.45 245**		P	**Pn**	**17 40 41.8**	**+1.4**
NGRZ	**Ngongotaha**	**2.51 249**		P	**Pn**	**17 40 42.9**	**+1.6**
PRRZ	**Plateau Road**	**2.53 239**		P	**Pn**	**17 40 42.3**	**+0.8**
UTU	**Utuhina**	**2.53 247**		P	**Pb**	**17 40 45.6**	**-0.3**
HSRZ	**Hossack Road**	**2.55 244**		P	**Pb**	**17 40 44.5**	**-1.7**
HRRZ	**Handcock Road**	**2.55 242**		P	**Pn**	**17 40 42.8**	**+0.9**
ALRZ	**Allen Road**	**2.59 238**		P	**Pn**	**17 40 43.2**	**+0.8**
NMHZ	**Naumai**	**2.63 224**		P	**Pn**	**17 40 44.4**	**+1.4**
KMRZ	**Kaimai**	**2.63 256**		P	**Pn**	**17 40 44.0**	**+1.0**
ARHZ	**Aropaoanui**	**2.65 219**		P	**Pn**	**17 40 43.7**	**+0.5**
GRRZ	**Galatos Road**	**2.66 244**		P	**Pn**	**17 40 44.8**	**+1.5**
MRHZ	**Matea Rd**	**2.69 233**		P	**Pn**	**17 40 44.9**	**+1.1**
KUZ	**Kuaotunu**	**2.80 279**		P	**Pn**	**17 40 44.7**	**-0.4**
BKZ	**Black Stump Fm**	**2.85 227**		Pn	**Pn**	**17 40 45.8**	**-0.2**
BKZ	**Black Stump Fm**	**2.85 227**		P	**Pn**	**17 40 46.7**	**+0.7**
CKHZ	**Cape Kidnapper**	**2.92 213**		P	**Pn**	**17 40 46.9**	**0.0**
KUTZ	**Kaahu Road**	**2.92 244**		P	**Pn**	**17 40 47.9**	**+1.0**
TOZ	**Tahuroa Road**	**2.95 259**		P	**Pn**	**17 40 47.9**	**+0.6**
KWHZ	**Kaweka Forest**	**3.07 224**		P	**Pn**	**17 40 49.0**	**0.0**
TLZ	**Tolley Road**	**3.07 248**		P	**Pn**	**17 40 50.0**	**+1.0**
KAHZ	**Kahuranaki**	**3.12 214**		P	**Pn**	**17 40 49.4**	**-0.3**
GRZ	**Great Barrier**	**3.13 287**		P	**Pn**	**17 40 51.6**	**+1.9**
RITZ	**Rihia Road**	**3.13 235**		P	**Pn**	**17 40 51.6**	**+1.8**
MKAZ	**Moumakai**	**3.20 271**		P	**Pn**	**17 40 51.4**	**+0.7**
WIAZ	**Waiheke Island**	**3.25 277**		P	**Pn**	**17 40 53.0**	**+1.5**
TMVZ	**Te Maari**	**3.31 234**		P	**Pn**	**17 40 52.7**	**+0.4**
ETVZ	**East Tongariro**	**3.32 234**		P	**Pn**	**17 40 53.1**	**+0.6**
NTVZ	**North Tongariro**	**3.32 235**		P	**Pn**	**17 40 52.9**	**+0.4**
KRVZ	**Karewarewa**	**3.34 235**		P	**Pn**	**17 40 53.6**	**+0.8**
OTVZ	**Oturere**	**3.36 234**		P	**Pn**	**17 40 53.8**	**+0.7**
NNVZ	**North Ngauruho**	**3.38 235**		P	**Pn**	**17 40 55.3**	**+1.9**
SNVZ	**South Ngauruho**	**3.39 234**		P	**Pn**	**17 40 54.2**	**+0.7**
ETAZ	**East Tamaki Re**	**3.40 273**		P	**Pn**	**17 40 54.5**	**+1.0**
TUVZ	**Tukino**	**3.43 233**		P	**Pn**	**17 40 54.6**	**+0.6**
MBAZ	**Motutapu North**	**3.44 276**		P	**Pn**	**17 40 56.2**	**+2.1**
MOVZ	**Moawhango**	**3.45 230**		P	**Pn**	**17 40 54.5**	**+0.3**
TWVZ	**Taurewa**	**3.46 237**		P	**Pn**	**17 40 55.7**	**+1.3**
FWVZ	**Far West T-bar**	**3.48 233**		P	**Pn**	**17 40 55.5**	**+0.6**
ABAZ	**Army Bay**	**3.52 279**		P	**Pn**	**17 40 57.4**	**+2.3**
EPAZ	**Eden Park BICE**	**3.55 274**		P	**Pn**	**17 40 57.6**	**+2.1**
HBAZ	**Herne Bay Bore**	**3.56 275**		P	**Pn**	**17 40 57.8**	**+2.0**
AWAZ	**Awhitu Peninsu**	**3.61 271**		P	**Pn**	**17 40 58.3**	**+1.9**
HIZ	**Hauiti**	**3.64 248**		Pn	**Pn**	**17 40 58.0**	**+1.2**
HIZ	**Hauiti**	**3.64 248**		P	**Pn**	**17 40 58.8**	**+2.0**
RVAZ	**Riverhead Bore**	**3.70 276**		P	**Pn**	**17 40 58.5**	**+1.0**
WCZ	**Waipu Caves**	**4.08 287**		P	**Pn**	**17 41 04.0**	**+1.1**
BFZ	**Birch Farm**	**4.12 213**		Pn	**Pn**	**17 41 02.3**	**-1.2**
WAZ	**Wanganui**	**4.13 231**		P	**Pn**	**17 41 04.2**	**+0.6**
DREZ	**Durham Road**	**4.37 242**		P	**Pn**	**17 41 11.0**	**+4.2**
NEZ	**North Egmont**	**4.47 241**		P	**Pn**	**17 41 11.8**	**+3.5**
PKE	**Pukeiti**	**4.52 243**		P	**Pn**	**17 41 12.6**	**+3.7**
OUZ	**Omahuta**	**4.93 292**		Pn	**Pn**	**17 41 15.8**	**+1.3**
OUZ	**Omahuta**	**4.93 292**		P	**Pn**	**17 41 16.2**	**+1.8**
PLWZ	**Palliser**	**5.28 214**		Pn	**Pn**	**17 41 19.9**	**+0.5**
CTZ	**Chatham Island**	**7.25 155**		P	**Pn**	**17 41 49.7**	**+3.4**
RPZ	**Rata Peaks**	**8.95 221**		Pn	**Pn**	**17 42 06.5**	**-3.1**
	baz=50,slow=9.2						
RPZ				Sn	Sn	17 43 37.3	-13
	6.7nm,0.3s,baz=133,slow=22,SNR=8.5						
STKA	**Stephens Creek**	**31.25 269**		P	**P**	**17 46 17.9**	**-2.4**
BBOO	**Buckleboo**	**35.35 264**		P	**P**	**17 46 53.8**	**-2.2**
BBOO				IAmb	IAmb	17 47 47.2	
	comp=Z,75nm,1.9s						
TARA	**Tarawa**	**38.83 350**		P	**P**	**17 47 24.4**	**-1.2**
TARA				IAmb	IAmb	17 47 42.0	
	comp=Z,61nm,1.0s						
COEN	**Coen**	**39.52 296**		P	**P**	**17 47 30.3**	**-1.3**
COEN				IAmb	IAmb	17 47 39.0	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**40.92 276**		P	**P**	**17 47 42.9**	**-0.3**
ASAR	**Alice Springs**	**40.92 276**		P	**P**	**17 47 42.0**	**-1.2**
	comp=Z,5.2nm,0.8s,baz=116,slow=7.3,SNR=5.5						
	comp=Z,5.2nm,0.8s						
ASAR	**Alice Springs**	**40.92 276**		P	**P**	**17 47 42.8**	**-0.4**
FORT	**Forrest**	**42.43 263**		P	**P**	**17 47 54.6**	**-0.8**
FORT				IAmb	IAmb	17 48 04.1	
	comp=Z,28nm,0.9s						
WB2	**Warramunga Arr**	**42.52 281**		P	**P**	**17 47 56.2**	**-0.1**
WB2				IAmb	IAmb	17 48 14.2	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**42.53 281**		P	**P**	**17 47 55.7**	**-0.8**
	comp=Z,6.0nm,0.8s,baz=122,slow=7.9,SNR=5.1						
	comp=Z,6.0nm,0.8s						
WB0	**Warramunga Arr**	**42.59 281**			**P**	**17 47 56.5**	**-0.3**
WB0				IAmb	IAmb	17 48 06.0	
	comp=Z,26nm,1.4s						
CASY	**Casey**	**48.04 210**		P	**P**	**17 48 41.2**	**+1.8**
FITZ	**Fitzroy Crossi**	**50.41 277**		P	**P**	**17 48 57.8**	**-0.4**
	comp=Z,8.9nm,0.9s,baz=127,slow=5.1,SNR=2.8						
	comp=Z,8.9nm,0.9s						
FAKI	**Fak Fak**	**54.90 297**		P	**P**	**17 49 30.9**	**-0.6**
MAW	**Mawson**	**65.10 202**		P	**P**	**17 50 43.4**	**+2.6**
MAW				IAmb	IAmb	17 51 13.5	
	comp=Z,3.2nm,1.2s						
H03S2	**Juan Fernandez**	**78.65 124**		T	T	19 18 35.6	
	baz=235						
H03S1	**Juan Fernandez**	**78.66 124**		T	T	19 18 37.2	
	baz=235						
H03S3	**Juan Fernandez**	**78.67 124**		T	T	19 18 33.2	
	baz=235						
H03N3	**Juan Fernandez**	**78.88 124**		T	T	19 18 46.9	
	baz=234						
H03N2	**Juan Fernandez**	**78.89 124**		T	T	19 18 48.8	
	baz=234						
H03N1	**Juan Fernandez**	**78.90 124**		T	T	19 18 48.5	
	baz=234						
ARCES	**ARCESS Array B**	**144.64 344**		PKP	**PKPdf**	**17 59 38.0**	**+1.8**
	comp=Z,3.0nm,0.7s,baz=46,slow=3.5,SNR=4.4						
FINES	**FINESS Array B**	**150.50 334**		PKPbc	**PKiKP**	**17 59 53.7**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=50,slow=3.0,SNR=2.2						

*IDC **01** 17:44:39.1±3.5,36.°71S×179.°04E,h0km,mb4.1/3, mbtmp4.1/4,ML3.8/1,Error ellipse: s-maj=75.9km s-min=44.3km az=122.0*

*NEIC **01** 17:44:40.6±2.4,37.°3S±0.°2×179.°38E±0.°09,h10km±2km, mb4.5/6,Error ellipse: s-maj=31.7km s-min=7.1km az=161.0*

*WEL **01** 17:44:42.2±1.9,37.°5S±6.°×17.°9E±1.°0,h7km±10km,M3.7/51, ML4.0/4,MLv3.7/51,Error ellipse: s-maj=0.0km s-min=0.0km az=95.7*

ISC 01 17:44:39.4±2.3,37.°10S±0.°06×179.°40E±0.°09,h14km±11km, n101,σ1°40/107,mb4.4/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.99 242**		Pg	**Pb**	**17 44 58.3**	**0.0**
MXZ					**Sb**	**17 45 09.7**	**-1.5**
MXZ	**Matakaoa Point**	**0.99 242**		P	**Pb**	**17 44 58.0**	**-0.3**
MXZ				S	**Sg**	**17 45 10.4**	**-1.0**
WMGZ	**Waiomatatini S**	**1.06 227**		S	**Sn**	**17 45 16.0**	**+1.5**
PKGZ	**Pakihiroa**	**1.32 233**		P	**Pg**	**17 45 05.3**	**+0.5**
PKGZ				S	**Sn**	**17 45 21.0**	**+0.3**
PUZ	**Puketiti**	**1.33 223**		P	**Pn**	**17 45 05.5**	**+1.4**
PUZ				S	**Sg**	**17 45 22.8**	**+0.5**
HAZ	**Te Kaha**	**1.45 243**		P	**Pg**	**17 45 07.5**	**+0.3**
HAZ				S	**Sg**	**17 45 24.7**	**-1.3**
TWGZ	**Tauwhareparae**	**1.56 226**		P	**Pb**	**17 45 09.3**	**+1.2**
RUGZ	**Raukumara Rang**	**1.62 237**		P	**Pb**	**17 45 10.0**	**+0.9**
CNGZ	**Carnagh Statio**	**1.68 214**		P	**Pb**	**17 45 11.4**	**+1.4**
WIZ	**White Island**	**1.82 256**		P	**Pb**	**17 45 11.0**	**-1.4**
TKGZ	**Te Karaka**	**1.82 222**		P	**Pb**	**17 45 12.7**	**+0.3**
MWZ	**Matawai**	**1.93 230**		P	**Pn**	**17 45 13.7**	**+1.9**
RIGZ	**Rimuhau**	**2.06 219**		P	**Pn**	**17 45 15.6**	**+2.0**
WHRZ	**Whale Island**	**2.08 248**		P	**Pb**	**17 45 16.6**	**-0.2**
RAGZ	**Rawiri**	**2.10 228**		P	**Pn**	**17 45 16.0**	**+1.8**
URZ	**Urewera**	**2.16 237**		Pn	**Pn**	**17 45 16.6**	**+1.8**
	28nm,0.3s,baz=301,slow=2.4,SNR=6.9						
URZ				Sn	**Sn**	**17 45 40.6**	**-0.7**
	53nm,0.3s,baz=301,slow=0.9,SNR=6.4						
	96nm,0.4s						
URZ	**Urewera**	**2.16 237**			**Pn**	**17 45 15.7**	**+0.8**
URZ	**Urewera**	**2.16 237**		P	**Pn**	**17 45 16.6**	**+1.8**
URZ				S	**Sn**	**17 45 41.1**	**-0.2**
PRGZ	**Paritu Road**	**2.18 213**		P	**Pn**	**17 45 17.1**	**+1.9**
SNGZ	**Shannon Statio**	**2.34 224**		P	**Pn**	**17 45 19.1**	**+1.6**
MARZ	**Manawahe**	**2.34 247**		P	**Pn**	**17 45 18.7**	**+1.2**
EDRZ	**Edgecumbe**	**2.34 244**		P	**Pn**	**17 45 18.9**	**+1.4**
MHGZ	**Mahia Peninsul**	**2.37 210**		P	**Pn**	**17 45 19.9**	**+2.1**
OPRZ	**Ohinepanea**	**2.38 251**		P	**Pn**	**17 45 18.8**	**+0.8**
MUGZ	**Murupara**	**2.50 236**		P	**Pn**	**17 45 21.0**	**+1.4**
MYRZ	**Mayor Island**	**2.53 265**		P	**Pn**	**17 45 20.8**	**+0.8**
TARZ	**Mount Tarawera**	**2.56 243**		P	**Pn**	**17 45 22.9**	**+2.3**
RARZ	**Arahi**	**2.58 225**		P	**Pn**	**17 45 22.9**	**+2.2**
TGRZ	**Tauranga**	**2.58 255**		P	**Pn**	**17 45 21.5**	**+0.8**
RRRZ	**Republican Roa**	**2.60 241**		P	**Pn**	**17 45 23.1**	**+2.0**
OMRZ	**Omania**	**2.61 246**		P	**Pn**	**17 45 23.3**	**+2.1**
WHHZ	**Waihua**	**2.61 220**		P	**Pn**	**17 45 22.6**	**+1.4**
KARZ	**Kaharoa**	**2.67 249**		P	**Pn**	**17 45 23.4**	**+1.4**
MTHZ	**Maungataniwha**	**2.68 228**		P	**Pn**	**17 45 24.0**	**+1.9**
PRRZ	**Plateau Road**	**2.76 239**		P	**Pn**	**17 45 24.5**	**+1.2**
KMRZ	**Kaimai**	**2.85 254**		P	**Pn**	**17 45 25.3**	**+0.8**
NMHZ	**Naumai**	**2.86 225**		P	**Pn**	**17 45 26.6**	**+2.0**
ARHZ	**Aropaoanui**	**2.87 221**		P	**Pn**	**17 45 26.2**	**+1.5**
MRHZ	**Matea Rd**	**2.93 233**		P	**Pn**	**17 45 26.9**	**+1.4**
KUZ	**Kuaotunu**	**2.97 276**		P	**Pn**	**17 45 25.2**	**-0.8**
BKZ	**Black Stump Fm**	**3.09 227**			**Pn**	**17 45 28.1**	**+0.4**
BKZ	**Black Stump Fm**	**3.09 227**		P	**Pn**	**17 45 28.9**	**+1.2**
CKHZ	**Cape Kidnapper**	**3.14 215**		P	**Pn**	**17 45 28.9**	**+0.5**
KUTZ	**Kaahu Road**	**3.16 243**		P	**Pn**	**17 45 30.3**	**+1.6**
TOZ	**Tahuroa Road**	**3.17 257**		P	**Pn**	**17 45 29.4**	**+0.6**
GRZ	**Great Barrier**	**3.28 284**		P	**Pn**	**17 45 31.1**	**+0.8**
KWHZ	**Kaweka Forest**	**3.30 224**		P	**Pn**	**17 45 31.4**	**+0.7**
KAHZ	**Kahuranaki**	**3.34 216**		P	**Pn**	**17 45 31.6**	**+0.4**
RATZ	**Rangitukua**	**3.37 237**		P	**Pn**	**17 45 33.3**	**+1.7**
MKAZ	**Moumakai**	**3.39 269**		P	**Pn**	**17 45 32.0**	**+0.2**
WIAZ	**Waiheke Island**	**3.44 274**		P	**Pn**	**17 45 32.2**	**-0.2**
KRHZ	**Kereru**	**3.48 222**		P	**Pn**	**17 45 33.4**	**+0.3**
PXZ	**Pawanui**	**3.54 213**		P	**Pn**	**17 45 33.7**	**-0.2**
TMVZ	**Te Maari**	**3.54 234**		P	**Pn**	**17 45 35.4**	**+1.3**
BHHZ	**Black Hill Sta**	**3.55 227**		P	**Pn**	**17 45 35.1**	**+1.0**
ETVZ	**East Tongariro**	**3.55 234**		P	**Pn**	**17 45 35.3**	**+1.1**
ETAZ	**East Tamaki Re**	**3.58 271**		P	**Pn**	**17 45 35.9**	**+1.4**
NNVZ	**North Ngauruho**	**3.61 235**		P	**Pn**	**17 45 36.4**	**+1.4**
WTVZ	**West Tongariro**	**3.62 235**		P	**Pn**	**17 45 36.4**	**+1.4**
NGZ	**Ngauruhoe**	**3.64 234**		P	**Pn**	**17 45 36.7**	**+1.2**
MOVZ	**Moawhango**	**3.68 230**		P	**Pn**	**17 45 36.6**	**+0.7**
TWVZ	**Taurewa**	**3.70 237**		P	**Pn**	**17 45 37.8**	**+1.7**
ABAZ	**Army Bay**	**3.70 276**		P	**Pn**	**17 45 36.7**	**+0.6**
WNVZ	**Wahianoa**	**3.73 232**		P	**Pn**	**17 45 37.3**	**+0.6**
WPHZ	**Waipukurau**	**3.76 217**		P	**Pn**	**17 45 36.8**	**-0.1**
AWAZ	**Awhitu Peninsu**	**3.81 269**		P	**Pn**	**17 45 38.1**	**+0.6**
HIZ	**Hauiti**	**3.87 247**		Pn	**Pn**	**17 45 40.5**	**+2.1**
HIZ	**Hauiti**	**3.87 247**		P	**Pn**	**17 45 40.5**	**+2.1**
WTAZ	**Waiatarua**	**3.87 271**		P	**Pn**	**17 45 39.8**	**+1.3**
RVAZ	**Riverhead Bore**	**3.88 273**		P	**Pn**	**17 45 39.2**	**+0.6**
TSZ	**Takapari Road**	**4.00 221**		P	**Pn**	**17 45 39.7**	**-0.5**
WCZ	**Waipu Caves**	**4.24 284**		P	**Pn**	**17 45 44.1**	**+0.7**
BFZ	**Birch Farm**	**4.34 214**		Pn	**Pn**	**17 45 43.7**	**-1.2**
WAZ	**Wanganui**	**4.37 231**		P	**Pn**	**17 45 46.7**	**+1.5**
MRZ	**Mangatainoka R**	**4.64 219**		P	**Pn**	**17 45 47.9**	**-1.1**
KHEZ	**Kahui Hut**	**4.78 241**		P	**Pn**	**17 45 55.3**	**+4.3**
OUZ	**Omahuta**	**5.06 290**		P	**Pn**	**17 45 56.1**	**+1.3**
MTW	**Mount Morrison**	**5.06 216**		P	**Pn**	**17 45 53.2**	**-1.6**
MSWZ	**Moikau Station**	**5.38 216**		Pn	**Pn**	**17 45 57.8**	**-1.4**
MSWZ	**Moikau Station**	**5.38 216**		P	**Pn**	**17 45 57.4**	**-1.8**
PLWZ	**Palliser**	**5.50 215**		Pn	**Pn**	**17 45 58.1**	**-2.8**
TUWZ	**Tuamarina**	**6.05 223**		Pn	**Pn**	**17 46 06.8**	**-1.6**
BSWZ	**Blackbirch Sta**	**6.29 221**		Pn	**Pn**	**17 46 11.3**	**-0.4**
QRZ	**Quartz Range**	**6.52 233**		Pn	**Pn**	**17 46 13.9**	**-0

RAHZ	Arahi	2.46 220	P	Pn	17 49 42.7	0.0
HLRZ	Highlands Stat	2.49 240	P	Pn	17 49 43.6	+0.4
MTHZ	Maungataniwha	2.54 224	P	Pn	17 49 43.8	-0.1
ALRZ	Allen Road	2.66 234	P	Pn	17 49 45.8	+0.4
KUZ	Kuaotunu	2.72 275	P	Pn	17 49 45.9	-0.4
ARHZ	Aropaoanui	2.77 216	P	Pn	17 49 46.5	-0.5
MRHZ	Matea Rd	2.77 229	P	Pn	17 49 46.7	-0.4
BKZ	Black Stump Fm	2.95 223	P	Pn	17 49 48.8	-0.8
GRZ	Great Barrier	3.03 284	P	Pn	17 49 50.0	-0.6
CKHZ	Cape Kidnapper	3.06 211	P	Pn	17 49 49.0	-2.0
MKAZ	Moumakai	3.15 268	P	Pn	17 49 51.3	-0.8
WIAZ	Waiheke Island	3.19 273	P	Pn	17 49 51.4	-1.3
KAHZ	Kahuranaki	3.26 212	P	Pn	17 49 51.7	-2.0
ETAZ	East Tamaki Re	3.34 270	P	Pn	17 49 53.7	-1.1
MBAZ	Motutapu North	3.38 273	P	Pn	17 49 55.2	-0.1
TMVZ	Te Maari	3.39 231	P	Pn	17 49 55.0	-0.5
ETVZ	East Tongariro	3.39 231	P	Pn	17 49 55.1	-0.6
KRVZ	Karewarewa	3.41 232	P	Pn	17 49 55.2	-0.8
BHHZ	Black Hill Sta	3.42 223	P	Pn	17 49 55.5	-0.5
ABAZ	Army Bay	3.45 276	P	Pn	17 49 57.1	+0.8
NGZ	Ngauruhoe	3.49 231	P	Pn	17 49 56.0	-0.9
AWAZ	Awhitu Peninsu	3.56 268	P	Pn	17 49 56.9	-1.0
WTAZ	Waiatarua	3.62 270	P	Pn	17 49 58.2	-0.6
RVAZ	Riverhead Bore	3.63 273	P	Pn	17 49 59.1	+0.3
HIZ	Hauiti	3.67 245	P	Pn	17 49 59.6	+0.3
ANWZ	Angora Road	3.98 210	P	Pn	17 50 00.4	-3.3
WCZ	Waipu Caves	3.98 285	P	Pn	17 50 03.4	-0.2

WEL ***01*** *17:51:48.4±1.0, 37°S±4°×17°9E±°, h12km±5km, M4.2/20, ML4.4/22, MLv4.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=105.4*

NEIC ***01*** *17:51:51.9±0.8, 37.°55S±0.°07×179.°24E±0.°07, h10km±2km, mb4.2/8, Error ellipse: s-maj=13.9km s-min=6.2km az=31.0*

IDC ***01*** *17:51:52.8±2.4, 36.°84S×178.°86E, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=58.7km s-min=36.0km az=138.0*

ISC 01 17:51:50.9±2.0, **37.°43S**±0.°05×**179.°21E**±0.°07, **h5**km±10km, **n12**, σ1^{9}79/121, **mb4.2**/8, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.73 260**			**Pg**	**17 52 06.2**	**+1.4**
MXZ	**Matakaoa Point**	**0.73 260**		P	**Pg**	**17 52 02.4**	**-2.5**
MXZ				S	**Sg**	**17 52 15.1**	**+0.8**
WMGZ	**Waiomatatini S**	**0.74 238**		P	**Pn**	**17 52 08.2**	**+0.1**
WMGZ				S	**Sn**	**17 52 21.8**	**+2.1**
PUZ	**Puketiti**	**0.98 229**		P	**Pn**	**17 52 11.9**	**+0.4**
PUZ				S	**Sn**	**17 52 28.3**	**+2.4**
PKGZ	**Pakihiroa**	**1.00 243**		P	**Pb**	**17 52 11.3**	**+0.4**
PKGZ				S	**Sn**	**17 52 27.0**	**+0.6**
HAZ	**Te Kaha**	**1.18 254**		P	**Pb**	**17 52 13.2**	**-0.6**
HAZ				S	**Sn**	**17 52 30.5**	**0.0**
TWGZ	**Tauwhareparae**	**1.22 232**		P	**Pb**	**17 52 12.9**	**-1.7**
TWGZ				S	**Sn**	**17 52 35.1**	**+3.4**
CNGZ	**Carnagh Statio**	**1.31 217**		P	**Pg**	**17 52 18.0**	**+1.9**
CNGZ				S	**Sn**	**17 52 40.4**	**+6.5**
RUGZ	**Raukumara Rang**	**1.32 246**		P	**Pn**	**17 52 16.1**	**-0.1**
RUGZ				S	**Sg**	**17 52 35.2**	**+1.8**
TKGZ	**Te Karaka**	**1.47 226**		P	**Pn**	**17 52 17.4**	**-0.8**
TKGZ				S	**Sg**	**17 52 39.5**	**+1.3**
MWZ	**Matawai**	**1.60 235**		P	**Pn**	**17 52 19.0**	**-1.0**
MWZ				S	**Sg**	**17 52 42.3**	**-0.1**
RIGZ	**Rimuhau**	**1.71 221**		P	**Pn**	**17 52 20.9**	**-0.6**
RAGZ	**Rawiri**	**1.77 233**		P	**Pn**	**17 52 22.5**	**+0.2**
PRGZ	**Paritu Road**	**1.81 215**		P	**Pb**	**17 52 23.4**	**-1.3**
PRGZ				S	**Sg**	**17 52 49.5**	**+0.2**
WHRZ	**Whale Island**	**1.82 256**		P	**Pn**	**17 52 21.3**	**-1.6**
WHRZ				S	**Sb**	**17 52 47.4**	**-0.5**
URZ	**Urewera**	**1.85 243**		Pn	**Pg**	**17 52 26.5**	**+0.1**
	101nm,0.3s,baz=121,slow=0.3,SNR=16						
URZ				Sn	**Sn**	**17 52 46.2**	**-0.9**
	111nm,0.3s,baz=121,slow=0.6,SNR=4.3						
URZ	**Urewera**	**1.85 243**			**Pn**	**17 52 22.2**	**-1.2**
URZ	**Urewera**	**1.85 243**		P	**Pn**	**17 52 22.5**	**-0.9**
KNZ	**Kokohu**	**1.99 217**		P	**Pn**	**17 52 25.4**	**+0.1**
KNZ				S	**Sg**	**17 52 52.4**	**-2.6**
MHGZ	**Mahia Peninsul**	**2.00 210**		P	**Pn**	**17 52 25.3**	**-0.1**
OPRZ	**Ohinepanea**	**2.14 258**		P	Pn	17 52 22.8	-4.6
MUGZ	**Murupara**	**2.19 241**		P	**Pn**	**17 52 27.3**	**-0.7**
RAHZ	**Arahi**	**2.23 228**		P	**Pn**	**17 52 29.3**	**+0.7**
WHHZ	**Waihua**	**2.26 223**		P	**Pn**	**17 52 29.9**	**+1.0**
TARZ	**Mount Tarawera**	**2.28 249**		P	**Pn**	**17 52 29.3**	**-0.1**
KARZ	**Kaharoa**	**2.42 255**		P	**Pn**	**17 52 33.2**	**+2.0**
UTU	**Utuhina**	**2.50 252**		P	**Pb**	**17 52 36.0**	**-0.3**
HRRZ	**Handcock Road**	**2.50 247**		P	**Pn**	**17 52 31.3**	**-1.1**
HSRZ	**Hossack Road**	**2.50 249**		P	**Pn**	**17 52 34.1**	**+1.8**
NMHZ	**Naumai**	**2.51 228**		P	**Pn**	**17 52 32.9**	**+0.3**
ARHZ	**Aropaoanui**	**2.52 223**		P	**Pn**	**17 52 32.6**	**0.0**
ALRZ	**Allen Road**	**2.53 243**		P	**Pn**	**17 52 31.5**	**-1.2**
MRHZ	**Matea Rd**	**2.60 237**		P	**Pn**	**17 52 33.0**	**-0.8**
GRRZ	**Galatos Road**	**2.61 249**		P	**Pn**	**17 52 32.6**	**-1.3**
KMRZ	**Kaimai**	**2.62 260**		P	**Pn**	**17 52 31.0**	**-3.0**
BKZ	**Black Stump Fm**	**2.75 230**			**Pn**	**17 52 34.8**	**-1.0**
BKZ	**Black Stump Fm**	**2.75 230**		P	**Pn**	**17 52 35.1**	**-0.6**
CKHZ	**Cape Kidnapper**	**2.78 216**		P	**Pn**	**17 52 35.2**	**-0.9**
KUTZ	**Kaahu Road**	**2.87 247**		P	**Pn**	**17 52 36.2**	**-1.2**
KWHZ	**Kaweka Forest**	**2.95 227**		P	**Pn**	**17 52 38.1**	**-0.5**
KAHZ	**Kahuranaki**	**2.98 217**		P	**Pn**	**17 52 37.9**	**-1.1**
TLZ	**Tolley Road**	**3.04 252**		P	**Pn**	**17 52 37.2**	**-2.5**
RITZ	**Rihia Road**	**3.05 239**		P	**Pn**	**17 52 39.4**	**-0.5**
RATZ	**Rangitukua**	**3.06 241**		P	**Pn**	**17 52 39.6**	**-0.4**
KRHZ	**Kereru**	**3.13 224**		P	**Pn**	**17 52 43.1**	**+2.1**
KRHZ				S	**Sn**	**17 53 18.7**	**-0.1**
PXZ	**Pawanui**	**3.17 215**		P	**Pn**	**17 52 39.9**	**-1.7**
BHHZ	**Black Hill Sta**	**3.21 229**		P	**Pn**	**17 52 41.2**	**-0.9**
TMVZ	**Te Maari**	**3.23 238**		P	**Pn**	**17 52 41.0**	**-1.4**
GRZ	**Great Barrier**	**3.23 290**		P	Pn	17 52 38.7	-3.6
ETVZ	**East Tongariro**	**3.23 237**		P	**Pn**	**17 52 41.0**	**-1.4**
NTVZ	**North Tongarir**	**3.24 238**		P	**Pn**	**17 52 41.3**	**-1.2**
KRVZ	**Karewarewa**	**3.26 238**		P	**Pn**	**17 52 39.0**	**-3.9**
OTVZ	**Oturere**	**3.28 237**		P	**Pn**	**17 52 45.6**	**+2.5**
NNVZ	**North Ngauruho**	**3.29 238**		P	**Pn**	**17 52 43.1**	**-0.3**
WTVZ	**West Tongariro**	**3.30 238**		P	**Pn**	**17 52 43.1**	**-0.4**
WIAZ	**Waiheke Island**	**3.32 280**		P	Pn	17 52 39.0	-4.5
NGZ	**Ngauruhoe**	**3.33 237**		P	**Pn**	**17 52 42.4**	**-1.4**
TUVZ	**Tukino**	**3.34 236**		P	**Pn**	**17 52 42.6**	**-1.4**
MOVZ	**Moawhango**	**3.35 233**		P	**Pn**	**17 52 42.6**	**-1.5**
TWVZ	**Taurewa**	**3.39 240**		P	**Pn**	**17 52 43.6**	**-1.0**
FWVZ	**Far West T-bar**	**3.40 237**		P	**Pn**	**17 52 46.8**	**+2.0**
WPHZ	**Waipukurau**	**3.40 219**		P	**Pn**	**17 52 43.8**	**-0.9**
WNVZ	**Wahianoa**	**3.41 235**		P	**Pn**	**17 52 43.5**	**-1.4**
PNHZ	**Pukenui**	**3.42 223**		P	**Pn**	**17 52 43.5**	**-1.4**
ETAZ	**East Tamaki Re**	**3.45 277**		P	**Pn**	**17 52 41.5**	**-3.8**
MBAZ	**Motutapu North**	**3.51 280**		P	Pn	17 52 42.0	-4.1
ABAZ	**Army Bay**	**3.60 282**		P	Pn	17 52 43.3	-4.1
HIZ	**Hauiti**	**3.60 251**			**Pn**	**17 52 46.4**	**-1.0**
HIZ	**Hauiti**	**3.60 251**		P	**Pn**	**17 52 46.6**	**-0.9**
EPAZ	**Eden Park BICE**	**3.61 278**		P	**Pn**	**17 52 49.8**	**+2.3**
HBAZ	**Herne Bay Bore**	**3.62 278**		P	**Pn**	**17 52 50.1**	**+2.4**
TSZ	**Takapari Road**	**3.65 223**		P	**Pn**	**17 52 47.6**	**-0.5**
AWAZ	**Awhitu Peninsu**	**3.66 274**		P	**Pn**	**17 52 50.0**	**+1.8**
WTAZ	**Waiatarua**	**3.73 276**		P	**Pn**	**17 52 45.8**	**-3.4**
RVAZ	**Riverhead Bore**	**3.76 279**		P	**Pn**	**17 52 46.1**	**-3.5**
BFZ	**Birch Farm**	**3.98 214**		Pn	**Pn**	**17 52 51.5**	**-1.1**
POWZ	**Post Office Ro**	**3.99 221**		P	**Pn**	**17 52 54.2**	**+1.5**
PRWZ	**Pori Road**	**4.01 218**		P	**Pn**	**17 52 54.9**	**+1.9**
WAZ	**Wanganui**	**4.04 234**		P	**Pn**	**17 52 52.7**	**-0.7**
WCZ	**Waipu Caves**	**4.18 289**		P	Pn	17 52 48.5	-6.9
LREZ	**Lake Rotokare**	**4.28 240**		P	**Pn**	**17 52 59.8**	**+3.0**
MRZ	**Mangatainoka R**	**4.28 220**		P	**Pn**	**17 52 55.3**	**-1.5**
PREZ	**Palmer Road**	**4.40 243**		P	**Pn**	**17 53 00.2**	**+1.8**
NEZ	**North Egmont**	**4.42 244**		P	**Pn**	**17 52 59.4**	**+0.7**
KHEZ	**Kahui Hut**	**4.48 244**		P	**Pn**	**17 53 00.6**	**+1.0**
NBEZ	**Newall Road No**	**4.58 245**		P	**Pn**	**17 53 03.8**	**+2.9**
TRWZ	**Traveller**	**4.80 213**		P	**Pn**	**17 53 01.6**	**-2.4**
MSWZ	**Moikau Station**	**5.02 216**		Pn	**Pn**	**17 53 06.4**	**-0.6**
MSWZ	**Moikau Station**	**5.02 216**		P	**Pn**	**17 53 05.1**	**-1.8**
OUZ	**Omahuta**	**5.04 294**			**Pn**	**17 53 07.1**	**0.0**
OUZ	**Omahuta**	**5.04 294**		P	**Pn**	**17 53 07.7**	**+0.5**
TUWZ	**Tuamarina**	**5.70 224**		Pn	**Pn**	**17 53 15.6**	**-0.7**
BSWZ	**Blackbirch Sta**	**5.94 222**		Pn	**Pn**	**17 53 17.3**	**-2.2**
THZ	**Tophouse**	**6.51 226**		Pn	**Pn**	**17 53 26.1**	**-1.3**
CTZ	**Chatham Island**	**7.05 155**		P	Pn	17 53 40.0	+5.2
RPZ	**Rata Peaks**	**8.82 222**		Pn	**Pn**	**17 53 58.3**	**-0.8**
	0.9nm,0.3s,baz=272,slow=23,SNR=1.6						
RPZ				Sn	**Sn**	**17 55 29.9**	**-9.0**
	5.4nm,0.3s,baz=146,slow=23,SNR=8.9						

STKA	**Stephens Creek**	**31.29 269**		P	**P**	**17 58 12.9**	**+1.0**
	3.0nm,0.9s,baz=101,slow=10,SNR=4.8						
	3.0nm,0.9s						
STKA	**Stephens Creek**	**31.29 269**		P	**P**	**17 58 12.9**	**+1.0**
COEN	**Coen**	**39.64 296**		P	**P**	**17 59 24.4**	**+0.6**
COEN				IAmb	IAmb	17 59 25.2	
	comp=Z,8.1nm,0.8s						
VNDA	**Vanda**	**40.88 186**		P	**P**	**17 59 33.5**	**+0.1**
AS31	**Alice Springs**	**40.98 276**		P	**P**	**17 59 34.9**	**-0.1**
AS31				IAmb	IAmb	17 59 35.7	
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**40.98 276**		P	**P**	**17 59 34.8**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=114,slow=7.6,SNR=18						
	comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**42.60 281**		P	**P**	**17 59 47.2**	**-1.0**
WB2				IAmb	IAmb	17 59 48.6	
	comp=Z,4.9nm,0.7s						
WRAB	**Tennant Creek**	**42.60 281**		P	**P**	**17 59 47.6**	**-0.6**
WRA	**Warramunga Arr**	**42.61 281**		P	**P**	**17 59 47.4**	**-1.0**
	comp=Z,4.2nm,0.7s,baz=121,slow=7.8,SNR=34						
	comp=Z,4.2nm,0.7s						
WRA	**Warramunga Arr**	**42.61 281**		P	**P**	**17 59 48.0**	**-0.3**
WB0	**Warramunga Arr**	**42.66 282**		P	**P**	**17 59 48.5**	**-0.3**
WB0				IAmb	IAmb	17 59 49.0	
	comp=Z,4.6nm,0.6s						
KNRA	**Kununurra**	**49.39 282**		P	**P**	**18 00 41.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.46 277**		P	**P**	**18 00 49.8**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=128,slow=5.1,SNR=5.8						
	comp=Z,1.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.46 277**		P	**P**	**18 00 49.6**	**-0.3**
ARCES	**ARCESS Array B**	**144.84 344**		PKP	**PKPdf**	**18 11 28.4**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=38,slow=2.2,SNR=8.6						
FINES	**FINESS Array B**	**150.69 334**		PKPbc	**PKiKP**	**18 11 44.1**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=43,slow=4.4,SNR=12						

ROM 01 17:54:11.2±0.3, **42.°90N**±0.°02×**13.°13E**±0.°02, **h10**km, **ML1.5**/5, **4C-6D, Error ellipse: s-maj=2.4km s-min=1.7km az=339.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.05**	**76**	⇓P	**Pg**	**17 54 13.3**	**-0.2**
NRCA	**Norcia**	**0.07**	**188**	P	**Pg**	**17 54 13.3**	**-0.3**
T1242	**Castelluccio d**	**0.09**	**142**	P	**Pg**	**17 54 13.4**	**-0.5**
T1242				AML	AML		
	comp=E,518μm,0.4s						
T1242				AML	AML		
	comp=N,1220μm,0.1s						
FDMO	**Fiordimonte**	**0.14**	**348**	⇓P	**Pg**	**17 54 16.2**	**+1.7**
FDMO				AML	AML		
	comp=N,39μm,0.3s						
FDMO				AML	AML		
	comp=E,28μm,1.5s						
MMO1	**Montemonaco**	**0.15**	**91**	⇑P	**Pg**	**17 54 15.0**	**+0.4**
MMO1				AML	AML		
	comp=E,190μm,1.5s						
MMO1				AML	AML		
	comp=E,189μm,1.5s						
MMO1				AML	AML		
	comp=N,432μm,0.2s						
T1244	**Arquata del Tr**	**0.19**	**139**	⇓P	**Pg**	**17 54 15.2**	**-0.1**
T1202	**Accumoli, Fraz**	**0.21**	**160**	P	**Pg**	**17 54 16.7**	**+1.0**
T1215	**Vallo di Nera,**	**0.21**	**243**	⇑P	**Pg**	**17 54 16.4**	**+0.6**
T1241	**Roccafluvione,**	**0.23**	**101**	⇓P	**Pg**	**17 54 16.3**	**+0.3**
T1241				AML	AML		
	comp=E,192μm,0.3s						
T1241				AML	AML		
	comp=N,72μm,1.4s						
T1204	**Amatrice, Fraz**	**0.27**	**148**	⇓P	**Pb**	**17 54 18.0**	**-0.2**
LNSS	**Leonessa**	**0.30**	**192**	⇑P	**Pg**	**17 54 17.1**	**-0.3**
LNSS				AML	AML		
	comp=E,218μm,0.7s						
LNSS				AML	AML		
	comp=N,166μm,1.5s						
LNSS				AML	AML		
	comp=N,167μm,1.5s						
LNSS				AML	AML		
	comp=E,218μm,0.7s						
SMA1	**SAN MARTINO**	**0.31**	**151**	⇓P	**Pb**	**17 54 18.5**	**-0.4**
SMA1				AML	AML		
	comp=N,150μm,1.1s						
SMA1				AML	AML		
	comp=E,238μm,0.2s						
T1243	**Rocca Santa Ma**	**0.31**	**131**	P	**Pg**	**17 54 17.8**	**+0.2**
RM33	**Pellescritta (**	**0.40**	**171**	P	**Pb**	**17 54 20.2**	**-0.2**
CAMP	**Campotosto**	**0.42**	**150**	P	**Pb**	**17 54 20.3**	**-0.6**
TERO	**Teramo**	**0.45**	**128**	⇑P	**Pg**	**17 54 19.5**	**-0.5**
GIGS	**Gran Sasso**	**0.56**	**144**	P	**Pb**	**17 54 23.0**	**-0.2**

WEL 01 17:54:35.7±0.9, **37°S**±4°×**17°9E**±°, **h23**km±5km, **M3.7**/32, **ML3.9**/38, **MLv3.7**/32, **Error ellipse: s-maj=0.0km s-min=0.0km az=99.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.61**	**241**	P	**Pb**	**17 54 47.3**	**-0.4**
MXZ				S	Sb	17 54 55.5	-0.3
WMGZ	**Waiomatatini S**	**0.71**	**219**	P	Pn	17 54 50.7	+0.4
WMGZ				S	Sn	17 55 01.6	+1.1
PKGZ	**Pakihiroa**	**0.95**	**229**	P	Pn	17 54 53.8	+0.2
PKGZ				S	Sn	17 55 06.9	+0.5
PUZ	**Puketiti**	**0.98**	**215**	P	Pn	17 54 54.2	+0.1
PUZ				S	Sn	17 55 07.8	+0.4
HAZ	**Te Kaha**	**1.07**	**243**	P	Pn	17 54 54.3	-0.9
HAZ				S	Sn	17 55 10.4	+1.0
TWGZ	**Tauwhareparae**	**1.20**	**221**	P	Pb	17 54 57.9	0.0
TWGZ				S	Sb	17 55 14.6	+1.6
RUGZ	**Raukumara Rang**	**1.25**	**236**	P	Pb	17 54 58.5	-0.1
RUGZ				S	Sb	17 55 14.5	+0.2
CNGZ	**Carnagh Statio**	**1.36**	**206**	P	Pb	17 54 59.9	-0.5
WIZ	**White Island**	**1.45**	**259**	P	Pn	17 55 00.3	-0.1
TKGZ	**Te Karaka**	**1.47**	**217**	P	Pn	17 55 00.8	0.0
MWZ	**Matawai**	**1.57**	**227**	P	Pn	17 55 02.4	+0.2
MWZ				S	Sn	17 55 22.2	+0.4
WHRZ	**Whale Island**	**1.70**	**249**	P	Pn	17 55 04.4	+0.5
RIGZ	**Rimuhau**	**1.73**	**213**	P	Pn	17 55 04.0	-0.3
RIGZ				S	Sn	17 55 24.7	-1.0
RAGZ	**Rawiri**	**1.74**	**225**	P	Pn	17 55 05.0	+0.4
RAGZ				S	Sn	17 55 26.8	+0.7
URZ	**Urewera**	**1.78**	**236**	P	Pn	17 55 05.5	+0.5
URZ				S	Sn	17 55 26.9	-0.1
PRGZ	**Paritu Road**	**1.86**	**207**	P	Pn	17 55 05.6	-0.6
EDRZ	**Edgecumbe**	**1.96**	**244**	P	Pn	17 55 08.2	+0.6
MARZ	**Manawahe**	**1.96**	**248**	P	Pn	17 55 07.5	-0.1
SNGZ	**Shannon Statio**	**1.99**	**220**	P	Pn	17 55 07.6	-0.3
SNGZ				S	Sn	17 55 32.5	+0.4
OPRZ	**Ohinepanea**	**2.01**	**253**	P	Pn	17 55 07.8	-0.4
KNZ	**Kokohu**	**2.03**	**210**	P	Pn	17 55 07.4	-1.1
MHGZ	**Mahia Peninsul**	**2.06**	**204**	P	Pn	17 55 08.5	-0.4
MHGZ				S	Sn	17 55 34.7	+0.8
MUGZ	**Murupara**	**2.12**	**235**	P	Pn	17 55 09.7	-0.1
MUGZ				S	Sn	17 55 35.0	-0.4
MYRZ	**Mayor Island**	**2.18**	**269**	P	Pn	17 55 10.0	-0.6
TARZ	**Mount Tarawera**	**2.19**	**243**	P	Pn	17 55 11.4	+0.7
TGRZ	**Tauranga**	**2.21**	**257**	P	Pn	17 55 11.1	+0.1
RAHZ	**Arahi**	**2.22**	**222**	P	Pn	17 55 10.9	-0.2
RRRZ	**Republican Roa**	**2.23**	**241**	P	Pn	17 55 11.4	+0.2
OMRZ	**Omania**	**2.23**	**247**	P	Pn	17 55 12.5	+1.2
WHHZ	**Waihua**	**2.27**	**217**	P	Pn	17 55 11.2	-0.5
KARZ	**Kaharoa**	**2.30**	**250**	P	Pn	17 55 12.1	0.0
HLRZ	**Highlands Stat**	**2.30**	**244**	P	Pn	17 55 12.7	+0.4
MTHZ	**Maungataniwha**	**2.31**	**226**	P	Pn	17 55 12.8	+0.4
PRRZ	**Plateau Road**	**2.39**	**238**	P	Pn	17 55 13.1	-0.3
HRRZ	**Handcock Road**	**2.41**	**242**	P	Pn	17 55 15.0	+1.3
KMRZ	**Kaimai**	**2.48**	**256**	P	Pn	17 55 14.7	0.0
NMHZ	**Naumai**	**2.50**	**223**	P	Pn	17 55 15.1	+0.1
ARHZ	**Aropaoanui**	**2.53**	**217**	P	Pn	17 55 14.7	-0.7
MRHZ	**Matea Rd**	**2.56**	**232**	P	Pn	17 55 15.7	-0.1
KUZ	**Kuaotunu**	**2.66**	**280**	P	Pn	17 55 15.5	-1.6
BKZ	**Black Stump Fm**	**2.72**	**225**	P	Pn	17 55 17.5	-0.6
KUTZ	**Kaahu Road**	**2.78**	**243**	P	Pn	17 55 19.0	+0.2
TOZ	**Tahuroa Road**	**2.80**	**259**	P	Pn	17 55 18.3	-0.7
CKHZ	**Cape Kidnapper**	**2.81**	**211**	P	Pn	17 55 17.5	-1.7
TLZ	**Tolley Road**	**2.92**	**248**	P	Pn	17 55 20.7	-0.1
KWHZ	**Kaweka Forest**	**2.94**	**222**	P	Pn	17 55 20.0	-1.1
RATZ	**Rangitukua**	**2.99**	**237**	P	Pn	17 55 22.0	+0.3
RITZ	**Rihia Road**	**2.99**	**234**	P	Pn	17 55 21.8	0.0
GRZ	**Great Barrier**	**3.00**	**289**	P	Pn	17 55 21.5	-0.3
KAHZ	**Kahuranaki**	**3.01**	**213**	P	Pn	17 55 20.5	-1.6
MKAZ	**Moumakai**	**3.05**	**272**	P	Pn	17 55 21.5	-1.0
WIAZ	**Waiheke Island**	**3.11**	**278**	P	Pn	17 55 22.4	-1.0

KRHZ	**Kereru**	**3.13 220**		P	Pn	17 55 22.1	-1.5
TMVZ	**Te Maari**	**3.17 233**		P	Pn	17 55 23.7	-0.6
ETVZ	**East Tongariro**	**3.18 233**		P	Pn	17 55 23.8	-0.5
NTVZ	**North Tongarir**	**3.18 234**		P	Pn	17 55 24.1	-0.3
BHHZ	**Black Hill Sta**	**3.19 225**		P	Pn	17 55 23.6	-0.9
KRVZ	**Karewarewa**	**3.20 234**		P	Pn	17 55 24.4	-0.3
PXZ	**Pawanui**	**3.22 210**		P	Pn	17 55 22.5	-2.3
OTVZ	**Oturere**	**3.22 233**		P	Pn	17 55 24.7	-0.3
NNVZ	**North Ngauruho**	**3.24 234**		P	Pn	17 55 25.2	0.0
WTVZ	**West Tongariro**	**3.25 234**		P	Pn	17 55 25.2	0.0
SNVZ	**South Ngauruho**	**3.25 233**		P	Pn	17 55 25.0	-0.5
ETAZ	**East Tamaki Re**	**3.25 274**		P	Pn	17 55 24.8	-0.5
NGZ	**Ngauruhoe**	**3.27 233**		P	Pn	17 55 25.1	-0.6
TUVZ	**Tukino**	**3.29 232**		P	Pn	17 55 25.5	-0.4
MBAZ	**Motutapu North**	**3.30 277**		P	Pn	17 55 25.9	-0.1
MOVZ	**Moawhango**	**3.31 229**		P	Pn	17 55 25.3	-0.9
TWVZ	**Taurewa**	**3.32 236**		P	Pn	17 55 26.3	0.0
WHVZ	**Whangaehu Hut**	**3.34 232**		P	Pn	17 55 25.9	-0.8
FWVZ	**Far West T-bar**	**3.35 233**		P	Pn	17 55 26.3	-0.5
WNVZ	**Wahianoa**	**3.36 231**		P	Pn	17 55 26.3	-0.6
ABAZ	**Army Bay**	**3.39 280**		P	Pn	17 55 26.8	-0.3
PNHZ	**Pukenui**	**3.42 219**		P	Pn	17 55 25.4	-2.2
WPHZ	**Waipukurau**	**3.43 215**		P	Pn	17 55 25.6	-2.1
AWAZ	**Awhitu Peninsu**	**3.47 272**		P	Pn	17 55 27.9	-0.3
HIZ	**Hauiti**	**3.49 248**		P	Pn	17 55 29.7	+1.1
WTAZ	**Waiatarua**	**3.54 274**		P	Pn	17 55 29.1	-0.1
RVAZ	**Riverhead Bore**	**3.56 277**		P	Pn	17 55 29.3	-0.1
TSZ	**Takapari Road**	**3.65 219**		P	Pn	17 55 28.3	-2.5
WCZ	**Waipu Caves**	**3.96 288**		P	Pn	17 55 34.8	-0.2
WAZ	**Wanganui**	**4.00 230**		P	Pn	17 55 35.5	0.0
LREZ	**Lake Rotokare**	**4.21 237**		P	Pn	17 55 39.1	+0.6
NEZ	**North Egmont**	**4.33 241**		P	Pn	17 55 41.7	+1.5
PKE	**Pukeiti**	**4.38 242**		P	Pn	17 55 42.8	+2.0
KHEZ	**Kahui Hut**	**4.40 241**		P	Pn	17 55 42.9	+1.8
OUZ	**Omahuta**	**4.81 294**		P	Pn	17 55 47.0	+0.4

DJA ***01*** *17:59:48.7±0.3, 7°S±2°×13°0E±°, h201km±5km, M4.2/9, mB5.1/1, mb4.0/9, MLv4.3/9, Mw(mB)4.5/1*

IDC ***01*** *17:59:48.9±2.2, 7°.20S×129°.83E, h126km±25km, mb3.9/1, mbtmp4.3/6, Error ellipse: s-maj=35.8km s-min=20.4km az=95.0*

ISC 01 17:59:48.1±0.7, **7°.16S**±0.°05×**129°.75E**±0.°06, **h150**km, **n28**, σ3$^

TARZ	Mount Tarawera	2.33 249	P	Pn	18 00 56.0	+1.9
LIRZ	Lichensteins R	2.36 255	P	Pn	18 00 55.6	+1.3
RRRZ	Republican Roa	2.36 247	P	Pn	18 00 56.2	+1.8
MTHZ	Maungataniwha	2.38 233	P	Pb	18 00 57.2	-1.5
OMRZ	Omania	2.40 253	P	Pn	18 00 56.1	+1.3
TGRZ	Tauranga	2.41 262	P	Pn	18 00 55.3	+0.3
MYRZ	Mayor Island	2.42 273	P	Pn	18 00 54.8	-0.4
HLRZ	Highlands Stat	2.45 250	P	Pn	18 00 57.3	+1.6
KARZ	Kaharoa	2.47 255	P	Pn	18 00 56.7	+0.8
PRRZ	Plateau Road	2.51 244	P	Pn	18 00 57.9	+1.4
NGRZ	Ngongotaha	2.54 254	P	Pn	18 00 58.3	+1.5
UTU	Utuhina	2.55 252	P	Pn	18 00 59.0	+2.1
HRRZ	Handcock Road	2.55 247	P	Pn	18 00 58.7	+1.7
HSRZ	Hossack Road	2.55 249	P	Pn	18 00 59.2	+2.2
NMHZ	Naumai	2.56 229	P	Pb	18 01 00.2	-1.4
ARHZ	Aropaoanui	2.56 224	P	Pb	18 00 59.6	-2.0
ALRZ	Allen Road	2.58 243	P	Pn	18 00 58.8	+1.5
MRHZ	Matea Rd	2.65 237	P	Pn	18 01 00.3	+1.9
GRRZ	Galatos Road	2.67 249	P	Pn	18 01 00.1	+1.6
KMRZ	Kaimai	2.68 260	P	Pn	18 00 59.1	+0.3
WPRZ	Whakapapatarin	2.69 245	P	Pn	18 01 00.7	+1.8
BKZ	Black Stump Fm	2.79 231		Pn	18 01 01.9	+1.6
BKZ	Black Stump Fm	2.79 231	P	Pn	18 01 02.2	+2.0
CKHZ	Cape Kidnapper	2.81 217	P	Pb	18 01 02.5	-3.4
WHTZ	Whakaora	2.89 244	P	Pn	18 01 04.0	+2.3
KUTZ	Kaahu Road	2.92 248	P	Pn	18 01 03.7	+1.6
KUZ	Kuaotunu	2.92 283	P	Pn	18 01 00.2	-1.9
KWHZ	Kaweka Forest	2.99 228	P	Pn	18 01 04.6	+1.5
TOZ	Tahuroa Road	3.01 263	P	Pn	18 01 03.5	+0.3
KAHZ	Kahuranaki	3.01 218	P	Pn	18 01 05.1	+1.8
WATZ	Wairara	3.07 244	P	Pn	18 01 06.3	+2.2
TLZ	Tolley Road	3.09 252	P	Pn	18 01 05.4	+1.0
RITZ	Rihia Road	3.10 239	P	Pn	18 01 06.3	+1.8
RATZ	Rangitukua	3.11 242	P	Pn	18 01 06.5	+1.9
KRHZ	Kereru	3.17 225	P	Pn	18 01 07.2	+1.7
PXZ	Pawanui	3.21 215	P	Pn	18 01 07.0	+1.1
KATZ	Kakaramea	3.21 240	P	Pn	18 01 08.9	+2.7
BHHZ	Black Hill Sta	3.25 230	P	Pn	18 01 08.5	+1.9
TMVZ	Te Maari	3.27 238	P	Pn	18 01 08.6	+1.6
ETVZ	East Tongariro	3.28 238	P	Pn	18 01 08.7	+1.6
GRZ	Great Barrier	3.28 290	P	Pn	18 01 05.9	-1.1
NTVZ	North Tongarir	3.28 239	P	Pn	18 01 08.8	+1.6
MKAZ	Moumakai	3.30 275	P	Pn	18 01 06.2	-1.0
KRVZ	Karewarewa	3.31 239	P	Pn	18 01 09.1	+1.7
OTVZ	Oturere	3.32 238	P	Pn	18 01 09.3	+1.6
NNVZ	North Ngauruho	3.34 238	P	Pn	18 01 09.7	+1.8
WTVZ	West Tongariro	3.35 239	P	Pn	18 01 09.9	+1.9
SNVZ	South Ngauruho	3.35 237	P	Pn	18 01 09.6	+1.5
NGZ	Ngauruhoe	3.37 238	P	Pn	18 01 09.8	+1.5
WIAZ	Waiheke Island	3.37 280	P	Pn	18 01 07.0	-1.2
TUVZ	Tukino	3.38 236	P	Pn	18 01 10.2	+1.7
MOVZ	Moawhango	3.40 234	P	Pn	18 01 10.1	+1.5
TWVZ	Taurewa	3.43 240	P	Pn	18 01 10.8	+1.6
WHVZ	Whangaehu Hut	3.44 236	P	Pn	18 01 10.8	+1.5
WPHZ	Waipukurau	3.44 219	P	Pn	18 01 10.4	+1.3
FWVZ	Far West T-bar	3.44 237	P	Pn	18 01 10.8	+1.4
PNHZ	Pukenui	3.45 223	P	Pn	18 01 11.0	+1.7
WNVZ	Wahianoa	3.45 236	P	Pn	18 01 10.6	+1.2
TRVZ	Turoa	3.47 236	P	Pn	18 01 11.3	+1.5
PRHZ	Porangahau	3.50 215	P	Pn	18 01 11.1	+1.2
ETAZ	East Tamaki Re	3.50 277	P	Pn	18 01 09.3	-0.7
MBAZ	Motutapu North	3.56 279	P	Pn	18 01 10.5	-0.3
PKVZ	Pokaka	3.60 238	P	Pn	18 01 13.3	+1.9
ABAZ	Army Bay	3.65 282	P	Pn	18 01 11.6	-0.5
HIZ	Hauiti	3.65 252		Pn	18 01 13.7	+1.6
HIZ	Hauiti	3.65 252	P	Pn	18 01 14.0	+1.9
EPAZ	Eden Park BICE	3.66 277	P	Pn	18 01 12.8	+0.6
HBAZ	Herne Bay Bore	3.68 278	P	Pn	18 01 12.7	+0.3
TSZ	Takapari Road	3.68 224	P	Pn	18 01 12.9	+0.4
AWAZ	Awhitu Peninsu	3.71 274	P	Pn	18 01 12.9	0.0
DVHZ	Dannevirke	3.75 219	P	Pn	18 01 14.6	+1.1
WTAZ	Waiatarua	3.79 276	P	Pn	18 01 14.0	+0.1
RVAZ	Riverhead Bore	3.81 279	P	Pn	18 01 13.8	-0.5
BFZ	Birch Farm	4.01 215		Pn	18 01 16.2	-0.8
POWZ	Post Office Ro	4.02 222	P	Pn	18 01 18.7	+1.5
PRWZ	Pori Road	4.04 219	P	Pn	18 01 18.9	+1.5
WAZ	Wanganui	4.08 234	P	Pn	18 01 19.8	+1.9
OHWZ	Ohakea	4.15 227	P	Pn	18 01 20.7	+1.8
MHEZ	Mangahewa	4.23 246	P	Pn	18 01 24.6	+4.7
WCZ	Waipu Caves	4.24 289	P	Pn	18 01 19.5	-0.6
LREZ	Lake Rotokare	4.33 241	P	Pn	18 01 24.1	+2.7
DREZ	Durham Road	4.36 245	P	Pn	18 01 26.0	+4.3
PREZ	Palmer Road	4.45 243	P	Pn	18 01 26.1	+3.0
NEZ	North Egmont	4.46 244	P	Pn	18 01 26.5	+3.2
PKEZ	Pukeiti	4.51 246	P	Pn	18 01 27.1	+3.1
KHEZ	Kahui Hut	4.53 244	P	Pn	18 01 27.0	+2.7
NBEZ	Newall Road No	4.63 245	P	Pn	18 01 28.1	+2.6
OGWZ	Otaki Gorge	4.65 222	P	Pn	18 01 26.4	+0.7
NMEZ	Namu Road	4.68 243	P	Pn	18 01 30.1	+4.0
KIW	Kapiti Island	4.82 223	P	Pn	18 01 28.4	+0.3
MSWZ	Moikau Station	5.05 217	Pn	Pn	18 01 30.2	-1.1
OUZ	Omahuta	5.09 294		Pn	18 01 31.7	-0.1
OUZ	Omahuta	5.09 294	P	Pn	18 01 31.7	-0.1
PLWZ	Palliser	5.17 216	Pn	Pn	18 01 31.2	-1.8
SNZO	South Karori	5.25 221	Pn	Pn	18 01 32.2	-1.7
TUWZ	Tuamarina	5.74 224		Pn	18 01 39.8	-0.9
NNZ	Nelson	5.93 229		Pn	18 01 42.4	-0.9
BSWZ	Blackbirch Sta	5.97 223	Pn	Pn	18 01 43.5	-0.4
BSWZ	Blackbirch Sta	5.97 223	P	Pn	18 01 44.6	+0.6
QRZ	Quartz Range	6.24 235	Pn	Pn	18 01 47.3	-0.3
QRZ	Quartz Range	6.24 235	P	Pn	18 01 47.7	0.0
THZ	Tophouse	6.55 227	Pn	Pn	18 01 49.7	-2.2
KHZ	Kahutara	6.62 220	P	Pn	18 01 55.1	+2.0
LTZ	Lake Taylor	7.57 223	Pn	Pn	18 02 01.1	-4.8
MQZ	McQueen's Vall	8.04 217	Pn	Pn	18 02 07.8	-4.5
OXZ	Oxford	8.07 221		Pn	18 02 08.0	-4.7
RPZ	Rata Peaks	8.86 222	P	Pn	18 02 21.4	-2.1
	8.2nm,0.4s,baz=69,slow=3.0,SNR=2.4					
RPZ			S	Sn	18 03 51.8	-11
	44nm,0.3s,baz=340,slow=2.5,SNR=14					
RPZ	Rata Peaks	8.86 222	Pn	Pn	18 02 21.3	-2.2
FOZ	Fox Glacier	9.43 227	Pn	Pn	18 02 28.6	-2.8
LBZ	Lake Benmore	9.77 222	Pn	Pn	18 02 33.6	-2.4
ODZ	Otahua Downs	9.99 218	Pn	Pn	18 02 37.8	-1.3
WKZ	Wanaka	10.69 223	Pn	Pn	18 02 47.1	-1.5
MLZ	Mavora Lakes	11.52 223	Pn	Pn	18 02 58.3	-1.7
WHZ	Wether Hill Ro	11.95 221	Pn	Pn	18 03 04.7	-1.2
DZM	Mont Dzumac	18.91 321	P	Pn	18 04 37.5	+0.5
	7.0nm,0.8s,baz=302,slow=21,SNR=2.3					
TAU	Tasmania Unive	24.93 247	P	P	18 05 39.5	+0.9
TOO	Toolangi	26.72 259	P	P	18 05 55.9	+0.9
STKA	Stephens Creek	31.34 269	P	P	18 06 36.1	0.0
	12nm,1.0s,baz=97,slow=9.5,SNR=11					
	12nm,1.0s					
STKA	Stephens Creek	31.34 269	P	P	18 06 36.9	+0.8
CTA	Charters Tower	33.49 292	P	P	18 06 55.1	+0.1
	3.2nm,0.5s,baz=117,slow=11,SNR=3.1					
	3.2nm,0.5s					
CTAO	Charters Tower	33.49 292	P	P	18 06 55.6	+0.5
CTAO			IAmb	IAmb	18 07 14.6	
	comp=Z,20nm,1.4s					
BBOO	Buckleboo	35.42 264	P	P	18 07 09.8	-1.9
BBOO			IAmb	IAmb	18 07 33.8	
	comp=Z,29nm,1.4s					
COEN	Coen	39.69 296	P	P	18 07 48.3	+0.4
COEN			IAmb	IAmb	18 07 49.4	
	comp=Z,19nm,0.8s					
VNDA	Vanda	40.89 186	P	P	18 08 02.4	+5.2
	comp=Z,0.5nm,0.3s,baz=88,slow=2.4,SNR=7.4					
	comp=Z,0.5nm,0.3s					
AS31	Alice Springs	41.03 276	P	P	18 07 57.4	-1.7
ASAR	Alice Springs	41.03 276	P	P	18 07 58.4	-0.7
	comp=Z,10nm,0.8s,baz=116,slow=7.2,SNR=28					
ASAR			PcP	PcP	18 10 00.4	+1.5
	comp=Z,0.5nm,0.5s,baz=123,slow=4.0,SNR=1.2					
ASAR			ScP	ScP	18 13 43.1	-5.2
	comp=Z,0.3nm,0.8s,baz=114,slow=4.1,SNR=2.1					
ASAR			S	S	18 14 02.0	-9.4
	comp=Z,0.9nm,0.8s,baz=118,slow=15,SNR=6.4					
	comp=Z,10nm,0.8s					
ASAR	Alice Springs	41.03 276	P	P	18 07 57.5	-1.5
KRVT	Keravat (AS076	41.34 316	P	P	18 08 01.9	+0.4
	comp=Z,47nm,0.8s,baz=231,slow=1.2,SNR=12					
	comp=Z,47nm,0.8s					
RABL	Rabaul	41.36 317	P	P	18 08 01.6	-0.1
FORT	Forrest	42.49 263	P	P	18 08 10.1	-0.8
FORT			IAmb	IAmb	18 08 11.4	
	comp=Z,28nm,0.8s					
WR0	Warramunga Arr	42.50 281	P	P	18 08 10.0	-1.1
WB2	Warramunga Arr	42.66 281	P	P	18 08 11.8	-0.5
WB2			IAmb	IAmb	18 08 12.2	
	comp=Z,14nm,0.6s					
WRAB	Tennant Creek	42.66 281	P	P	18 08 11.7	-0.7
WRAB			IAmb	IAmb	18 08 12.2	
	comp=Z,12nm,0.6s					
WRA	Warramunga Arr	42.66 281	P	P	18 08 11.8	-0.6
	comp=Z,8.7nm,0.5s,baz=121,slow=7.8,SNR=19					
WRA			PcP	PcP	18 10 04.6	+0.3
	comp=Z,0.5nm,0.6s,baz=131,slow=3.4,SNR=1.4					
WRA			ScP	ScP	18 13 48.5	-6.4
	comp=Z,0.4nm,0.7s,baz=119,slow=3.4,SNR=2.7					
WRA			S	S	18 14 23.4	-12
	comp=Z,1.0nm,1.1s,baz=124,slow=15,SNR=4.1					
	comp=Z,8.7nm,0.5s					
WRA	Warramunga Arr	42.66 281	P	P	18 08 11.6	-0.8
WB0	Warramunga Arr	42.72 282	P	P	18 08 12.2	-0.7
WB0			IAmb	IAmb	18 08 12.7	
	comp=Z,16nm,0.6s					
CASY	Casey	47.91 211	P	P	18 08 52.9	-0.5
CASY			IAmb	IAmb	18 09 28.1	
	comp=Z,13nm,1.3s					
MTN	Manton Dam	49.33 287	P	P	18 09 04.0	-0.9
KNRA	Kununurra	49.45 282	P	P	18 09 05.1	-0.8
KNRA			IAmb	IAmb	18 09 26.5	
	comp=Z,22nm,1.1s					
NWAO	Narrogin (SRO)	50.11 256	P	P	18 09 09.9	-0.9
NWAO			IAmb	IAmb	18 09 19.0	
	comp=Z,34nm,1.4s					
FITZ	Fitzroy Crossi	50.52 277	P	P	18 09 13.8	-0.3
	comp=Z,9.3nm,0.8s,baz=158,slow=8.2,SNR=8.2					
	comp=Z,9.3nm,0.8s					
FITZ	Fitzroy Crossi	50.52 277	P	P	18 09 13.3	-0.7
FITZ			IAmb	IAmb	18 09 14.4	
	comp=Z,11nm,0.8s					
MORW	Morawa	52.67 259	P	P	18 09 28.1	-1.9
QSPA	South Pole Qui	52.69 180	P	P	18 09 35.3	+5.5
	comp=Z,4.8nm,0.8s,baz=40,slow=2.8,SNR=14					
	comp=Z,4.8nm,0.8s					
FAKI	Fak Fak	55.07 297	P	P	18 09 46.4	-1.3
BATI	Baumata	56.69 284	P	P	18 09 59.5	+0.1
	comp=Z,14nm,0.9s,baz=162,slow=7.5,SNR=2.4					
	comp=Z,14nm,0.9s					
SIJI	Sorong	57.21 298	P	P	18 10 02.6	-0.4
	comp=Z,4.7nm,0.6s,baz=94,slow=13,SNR=6.9					
	comp=Z,4.7nm,0.6s					
MMRI	Maumere	58.77 284	P	P	18 10 13.1	-0.8
BELA	Belgrano 2	63.13 172	P	P	18 10 40.5	-2.2
BELA			IAmb	IAmb	18 10 48.4	
	comp=Z,6.8nm,0.8s					
MAW	Mawson	64.95 202	P	P	18 11 03.1	+8.4
	comp=Z,1.8nm,0.6s,baz=220,slow=3.2,SNR=9.4					
MAW	Mawson	64.95 202	P	P	18 10 55.4	+0.7
H03S2	Juan Fernandez	78.46 124	T	T	19 38 51.0	
	baz=233					
H03S1	Juan Fernandez	78.47 124	T	T	19 38 50.7	
	baz=233					
H03S3	Juan Fernandez	78.48 124	T	T	19 38 49.3	
	baz=233					
H03N3	Juan Fernandez	78.69 123	T	T	19 39 03.0	
	baz=234,slow=72,SNR=30					
H03N2	Juan Fernandez	78.70 123	T	T	19 39 01.8	
	baz=234,slow=72,SNR=30					
H03N1	Juan Fernandez	78.71 123	T	T	19 39 00.9	
	baz=234,slow=72,SNR=27					
PLCA	Paso Flores	79.35 133	P	P	18 12 27.5	+6.0
	comp=Z,2.1nm,0.8s,baz=180,slow=5.7,SNR=4.4					
	comp=Z,2.1nm,0.8s					
KSRS	Korea Array	88.33 322	P	P	18 13 08.2	+1.2
	comp=Z,3.4nm,0.8s,baz=145,slow=5.4,SNR=9.3					
	comp=Z,3.4nm,0.8s					
PETK	Petropavlovsk-	92.10 347	P	P	18 13 25.5	+1.3
	comp=Z,1.9nm,0.7s,baz=192,slow=3.4,SNR=7.2					
	comp=Z,1.9nm,0.7s					
CMAR	Chiang Mai Arr	93.65 290	P	P	18 13 32.3	0.0
	comp=Z,0.5nm,0.6s,baz=150,slow=4.2,SNR=3.2					
	comp=Z,0.5nm,0.6s					
NVAR	Mina Array Bea	94.89 44	P	P	18 13 41.0	+3.3
	comp=Z,0.1nm,0.3s,baz=207,slow=3.7,SNR=1.9					
	comp=Z,0.1nm,0.3s					
PZH	PanZhiHua	96.58 298	P	P	18 13 46.4	+0.7
PZH			pmax	pmax		
	comp=Z,10.0nm,0.9s					
HHC	Hu-ho-hao-te	99.52 315	eP	Pdif	18 13 59.1	+0.6
WMQ	Urumqi	115.69 307	eP	PKiKP	18 18 57.8	+0.2
MKAR	Makanchi Array	120.42 308	PKP	PKiKP	18 19 07.3	+0.6
	comp=Z,0.2nm,0.5s,baz=93,slow=2.9,SNR=2.2					
MKAR			PKKPab	PKKPbc	18 29 16.7	+3.7
	comp=Z,0.4nm,0.7s,baz=337,slow=3.3,SNR=3.6					
KURBB	Kurchatov Arra	124.14 311	PKP	PKiKP	18 19 14.3	+0.5
	comp=Z,1.0nm,0.3s,baz=110,slow=2.0,SNR=2.3					
BVAR	Borovoye Array	129.65 312	PKP	PKiKP	18 19 26.1	+1.3
	comp=Z,0.3nm,0.6s,baz=106,slow=3.6,SNR=2.4					
ARCES	ARCESS Array B	144.86 344	PKP	PKPdf	18 19 52.5	+1.1
	comp=Z,8nm,0.5s,baz=45,slow=2.7,SNR=28					
DBIC	Dimbokro	149.15 172	PKPbc	PKPab	18 20 08.0	-0.7
	comp=Z,2.8nm,0.7s,baz=201,slow=5.6,SNR=4.3					
MMAI	Mount Meron Ar	150.28 272	PKPbc	PKiKP	18 20 09.0	+1.3
	comp=Z,1.4nm,0.5s,baz=67,slow=4.8,SNR=4.9					
FINES	FINESS Array B	150.72 334	PKPbc	PKiKP	18 20 08.0	+0.5
	comp=Z,3.6nm,0.4s,baz=44,slow=4.5,SNR=31					
BRTR	Keskin Array B	153.13 286	PKPbc	PKiKP	18 20 16.2	+2.7
	comp=Z,0.9nm,0.4s,baz=106,slow=2.9,SNR=3.5					
AKASG	Malin Array Be	154.92 311	PKPbc	PKPdf	18 20 17.3	+9.5
	comp=Z,0.6nm,0.5s,baz=64,slow=2.5,SNR=4.6					
NB2	NORSAR Subarra	155.20 346	PKP	PKPdf	18 20 18.4	+10
	comp=Z,0.3nm,0.3s,baz=30,slow=2.3					
NOA	NORSAR Array B	155.20 346	PKPbc	PKPdf	18 20 18.4	+10
	comp=Z,0.6nm,0.6s,baz=30,slow=2.0,SNR=4.2					
TORD	Torodi Ar. Bea	155.72 186	PKP	PKPdf	18 20 12.3	+2.3
	comp=Z,0.4nm,0.5s,baz=170,slow=1.9,SNR=1.9					
TORD			PKPab	sPKPab	18 20 39.8	-1.7
	comp=Z,1.0nm,0.8s,baz=185,slow=5.7,SNR=4.5					
GERES	GERESS Array B	164.51 322	PKPab	PKPab	18 21 15.2	+1.3
	comp=Z,0.2nm,0.3s,baz=57,slow=7.2,SNR=2.4					

IDC 01 18:01:19.8±3.1, 36.67S×178.29E, h0km, mb4.4/3, mbtmp4.4/3, Error ellipse: s-maj=60.2km s-min=32.5km az=87.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	1.84 210		Pn	Pn	18 01 52.2	-0.4
	38nm,0.3s,baz=121,slow=11,SNR=0.5						
URZ				Sn	Sb	18 02 17.5	-0.4
	baz=301,slow=22						
ASAR	Alice Springs	40.17 276		P	P	18 08 57.8	-0.1
	4.2nm,0.6s,baz=120,slow=7.5,SNR=4.2						
	4.2nm,0.6s						
WRA	Warramunga Arr	41.74 281		P	P	18 09 10.9	0.0
	4.4nm,0.6s,baz=121,slow=7.9,SNR=2.8						
	4.4nm,0.6s						
FITZ	Fitzroy Crossi	49.64 277		P	P	18 10 13.2	-0.2
	2.3nm,0.6s,baz=100,slow=6.1,SNR=1.7						
	2.3nm,0.6s						
H03N3	Juan Fernandez	79.77 124		T	T	19 41 18.0	
	baz=238						
H03N2	Juan Fernandez	79.78 124		T	T	19 41 14.2	
	baz=238						
H03N1	Juan Fernandez	79.79 124		T	T	19 41 17.3	
	baz=238						
TORD	Torodi Ar. Bea	156.38 188		PKPab	PKPab	18 21 44.7	-0.4
	0.3nm,0.4s,baz=179,slow=3.4,SNR=1.0						

*IDC **01** 18:02:56.0±2.0, 36.78S×179.12E, h0km, mb4.0/2, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=50.6km s-min=43.4km az=144.0*

*WEL **01** 18:03:00.7±1.9, 37.5S±6.5×17.9E±1.5, h20km, M3.8/12, ML3.8/6, MLv3.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=94.2*

ISC 01 18:02:59.2±1.4, 37.00S±0.07×179.1E±0.1, h10km, n29, σ1s29/30, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.86 229		P	Pg	18 03 07.6	-8.3
MXZ				S	Sg	18 03 25.6	-1.5
WMGZ	Waiomatatini S	1.00 215		P	Pg	18 03 14.9	-3.5
WMGZ				S	Sg	18 03 33.2	+1.9
PKGZ	Pakihiroa	1.22 223		S	Sb	18 03 38.4	+0.2
PUZ	Puketiti	1.27 213		P	Pn	18 03 21.6	-1.4
PUZ				S	Sb	18 03 40.3	+0.5
HAZ	Te Kaha	1.31 235		S	Sb	18 03 41.6	+0.8
TWGZ	Tauwhareparae	1.49 218		P	Pn	18 03 27.8	+1.8
URZ	Urewera	2.04 231		Pn	Pn	18 03 33.3	-0.2
	43nm,0.3s,baz=121,slow=4.4,SNR=2.0						
URZ				Sn	Sn	18 03 57.9	-1.1
	94nm,0.3s,baz=121,slow=23,SNR=4.8						
	155nm,0.4s						
OPRZ	Ohinepanea	2.22 247		P	Pn	18 03 36.3	+0.3
KARZ	Kaharoa	2.51 245		P	Pn	18 03 40.7	+0.7
HLRZ	Highlands Stat	2.54 240		P	Pn	18 03 41.2	+0.8
KUZ	Kuaotunu	2.75 274		P	Pn	18 03 43.3	0.0
GRRZ	Galatos Road	2.75 240		P	Pn	18 03 44.1	+0.7
TOZ	Tahuroa Road	2.98 255		P	Pn	18 03 46.3	-0.2
KUTZ	Kaahu Road	3.02 240		P	Pn	18 03 47.6	+0.6
MKAZ	Moumakai	3.18 267		P	Pn	18 03 48.8	-0.4
WIAZ	Waiheke Island	3.21 273		P	Pn	18 03 50.5	+0.8
ETAZ	East Tamaki Re	3.37 270		P	Pn	18 03 53.0	+1.2
MBAZ	Motutapu North	3.40 273		P	Pn	18 03 52.5	+0.2
ABAZ	Army Bay	3.48 275		P	Pn	18 03 54.5	+1.2
HBAZ	Herne Bay Bore	3.53 271		P	Pn	18 03 57.0	+2.9
AWAZ	Awhitu Peninsu	3.59 268		P	Pn	18 03 55.0	+0.1
WTAZ	Waiatarua	3.65 270		P	Pn	18 03 56.1	+0.3
RVAZ	Riverhead Bore	3.66 272		P	Pn	18 03 56.1	+0.3
HIZ	Hauiti	3.71 245		P	Pn	18 03 58.0	+1.5
ASAR	Alice Springs	40.88 276		P	P	18 10 39.7	-1.8
	1.4nm,0.7s,baz=122,slow=7.7,SNR=3.5						
	1.4nm,0.7s						
WRA	Warramunga Arr	42.47 281		P	P	18 10 52.3	-2.3
	1.5nm,0.6s,baz=123,slow=7.5,SNR=4.6						
	1.5nm,0.6s						
ARCES	ARCESS Array B	144.41 344		PKP	PKPab	18 22 31.9	-0.9
	5.0nm,1.2s,baz=49,slow=4.2,SNR=0.8						
FINES	FINESS Array B	150.28 334		PKPbc	PKPdf	18 22 47.5	+3.1
	1.2nm,0.8s,baz=54,slow=7.1,SNR=1.3						
TORD	Torodi Ar. Bea	156.13 186		PKPab	PKPab	18 23 20.9	-0.9
	0.8nm,1.0s,baz=158,slow=4.2,SNR=2.0						

WEL 01 18:06:28.7±1.1, 37.5S±6.5×17.9E±1.1, h25km±13km, M4.3/13, ML4.2/14, MLv4.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=77.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.77 220		P	Pb	18 06 41.8	-1.7
MXZ				S	Sb	18 06 50.3	-3.3
WMGZ	Waiomatatini S	0.94 206		P	Pn	18 06 45.9	-0.4
WMGZ				S	Sn	18 06 59.0	0.0
PKGZ	Pakihiroa	1.14 216		P	Pn	18 06 48.9	-0.2
PKGZ				S	Sn	18 07 04.0	0.0
HAZ	Te Kaha	1.21 229		P	Pb	18 06 51.2	+0.3
HAZ				S	Sb	18 07 07.5	+1.5
PUZ	Puketiti	1.22 206		P	Pn	18 06 49.6	-0.6
PUZ				S	Sn	18 07 05.6	-0.4
RUGZ	Raukumara Rang	1.41 225		P	Pb	18 06 53.7	-0.7
RUGZ				S	Sb	18 07 12.3	+0.4
CNGZ	Carnagh Statio	1.62 200		P	Pn	18 06 55.2	-0.4
CNGZ				S	Sb	18 07 16.9	-0.9
MWZ	Matawai	1.76 219		P	Pn	18 06 57.7	+0.1
URZ	Urewera	1.94 228		P	Pn	18 07 01.0	+1.0
URZ				S	Sn	18 07 24.4	+0.9
RAGZ	Rawiri	1.94 218		P	Pn	18 07 00.2	0.0
RAGZ				S	Sn	18 07 23.5	-0.2
SNGZ	Shannon Statio	2.20 214		P	Pn	18 07 03.1	-0.6
SNGZ				S	Sn	18 07 29.7	-0.5
MUGZ	Murupara	2.28 228		P	Pn	18 07 05.1	+0.4
MTHZ	Maungataniwha	2.50 221		P	Pn	18 07 08.2	+0.3
MTHZ				S	Sn	18 07 37.5	-0.1
KUZ	Kuaotunu	2.58 274		P	Pn	18 07 09.4	+0.5
KUZ				S	Sn	18 07 38.7	-0.8
NMHZ	Naumai	2.71 218		P	Pn	18 07 11.0	+0.3
NMHZ				S	Sn	18 07 42.9	+0.2
TOZ	Tahuroa Road	2.83 253		P	Pn	18 07 12.0	-0.3
BKZ	Black Stump Fm	2.92 220		P	Pn	18 07 13.0	-0.5
MKAZ	Moumakai	3.02 266		P	Pn	18 07 15.0	+0.2

*IDC **01** 18:07:25.5±2.2, 36.97S×178.70E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=49.2km s-min=41.5km az=113.0*

*NEIC **01** 18:07:27.0±1.3, 36.6S±0.1×178.9E±0.2, h10km±2km, mb4.3/4, Error ellipse: s-maj=25.8km s-min=19.9km az=117.0*

ISC 01 18:07:25.4±1.8, 36.8S±0.1×179.1E±0.2, h10km, n25, σ1s20/24, mb4.0/4, Off east coast of North Island

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

BKZ	Black Stump Fm	2.71 226		Pn	18 08 18.0	+4.3		
BKZ	Black Stump Fm	2.71 226	P	Pn	18 08 17.8	-0.1		
TOZ	Tahuroa Road	2.80 260	P	Pn	18 08 20.0	+0.8		
GRZ	Great Barrier	3.02 289	P	Pn	18 08 23.9	+1.8		
MKAZ	Moumakai	3.06 272	P	Pn	18 08 24.2	+1.5		
WIAZ	Waiheke Island	3.12 278	P	Pn	18 08 25.4	+1.9		
WCZ	Waipu Caves	3.97 289	P	Pn	18 08 37.6	+2.4		
STKA	Stephens Creek	31.11 269	P	P	18 13 51.9	-0.9		
	1.1nm,0.6s,baz=117,slow=7.8,SNR=1.9 1.1nm,0.6s							
ASAR	Alice Springs	40.79 276	P	P	18 15 14.3	-1.3		
	1.6nm,0.9s,baz=122,slow=7.8,SNR=2.0 1.6nm,0.9s							
WRA	Warramunga Arr	42.41 281	P	P	18 15 27.9	-1.1		
	1.1nm,0.5s,baz=122,slow=7.6,SNR=3.0 1.1nm,0.5s							
H03N3	Juan Fernandez	78.96 124	T	T	19 46 20.5			
	baz=234,slow=72,SNR=16							
H03N2	Juan Fernandez	78.97 124	T	T	19 46 19.1			
	baz=234,slow=72,SNR=11							
H03N1	Juan Fernandez	78.98 124	T	T	19 46 19.3			
	baz=234,slow=72,SNR=15							
FINES	FINESS Array B	150.49 334	PKPbc	PKPbc	18 27 24.7	-0.2		
	2.1nm,1.0s,baz=30,slow=3.7,SNR=1.2							
TORD	Torodi Ar. Bea	155.83 186	PKPab	PKPab	18 27 56.2	+1.0		
	0.7nm,0.8s,baz=160,slow=4.6,SNR=3.3							

IDC ***01*** *18:09:16.6±3.6,36°.75S×179°.23E,h0km,mb3.6/2, mbtmp3.7/3,ML4.1/1,Error ellipse: s-maj=88.2km s-min=46.9km az=130.0*

WEL ***01*** *18:09:20.3±1.6,37°.5±6'×17°.9E±°,h12km±10km,M3.7/18, ML3.8/7,MLv3.7/18,Error ellipse: s-maj=0.0km s-min=0.0km az=99.8*

ISC 01 18:09:18.2±2.5,37°.01S±0°.06×179°.24E±0°.10,h8km±13km, n46,σ1ᵍ13/49,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.93	233	P	P	Pb	18 09 36.2	-0.3
MXZ				S	S	Sg	18 09 45.3	-2.7
WMGZ	Waiomatatini S	1.04	219	P	P	Pn	18 09 40.6	+1.4
WMGZ				S	S	Sn	18 09 54.5	+0.7
PKGZ	Pakihiroa	1.28	226	P	P	Pg	18 09 43.6	+0.9
PKGZ				S	S	Sb	18 09 59.4	+0.3
HAZ	Te Kaha	1.38	237	P	P	Pn	18 09 42.5	-1.2
HAZ				S	S	Sb	18 10 02.6	+0.5
RUGZ	Raukumara Rang	1.57	232	P	P	Pb	18 09 48.2	+0.6
RUGZ				S	S	Sb	18 10 07.9	+0.3
CNGZ	Carnagh Statio	1.69	209	P	P	Pb	18 09 49.9	+0.5
MWZ	Matawai	1.90	225	P	P	Pn	18 09 52.3	+1.4
RAGZ	Rawiri	2.07	224	P	P	Pn	18 09 54.6	+1.2
URZ	Urewera	2.10	233	Pn	P	Pn	18 09 54.8	+1.1
	51nm,0.3s,baz=301,slow=0.9,SNR=2.0							
URZ				Sn	S	Sn	18 10 19.2	-0.8
	37nm,0.3s,baz=301,slow=19,SNR=3.0 110nm,0.3s							
URZ	Urewera	2.10	233	P	P	Pn	18 09 54.9	+1.3
PRGZ	Paritu Road	2.19	209	P	P	Pn	18 09 56.0	+1.0
OPRZ	Ohinepanea	2.29	248	P	P	Pn	18 09 57.0	+0.6
SNGZ	Shannon Statio	2.32	220	P	P	Pn	18 09 57.7	+1.0
MHGZ	Mahia Peninsul	2.39	206	P	P	Pn	18 09 58.4	+0.8
MUGZ	Murupara	2.45	232	P	P	Pn	18 09 59.5	+1.0
KARZ	Kaharoa	2.59	246	P	P	Pn	18 10 01.6	+1.2
MTHZ	Maungataniwha	2.64	225	P	P	Pn	18 10 02.8	+1.6
GRRZ	Galatos Road	2.82	241	P	P	Pn	18 10 05.1	+1.5
KUZ	Kuaotunu	2.83	274	P	P	Pn	18 10 04.3	+0.6
NMHZ	Naumai	2.84	222	P	P	Pn	18 10 05.1	+1.3
BKZ	Black Stump Fm	3.06	224	P	P	Pn	18 10 07.6	+0.7
TOZ	Tahuroa Road	3.06	255	P	P	Pn	18 10 07.8	+0.9
KUTZ	Kaahu Road	3.08	240	P	P	Pn	18 10 08.5	+1.2
GRZ	Great Barrier	3.13	283	P	P	Pn	18 10 09.1	+1.3
CKHZ	Cape Kidnapper	3.15	212	P	P	Pn	18 10 07.5	-0.5
MKAZ	Moumakai	3.26	267	P	P	Pn	18 10 09.4	-0.3
WIAZ	Waiheke Island	3.30	272	P	P	Pn	18 10 11.4	+1.3
KAHZ	Kahuranaki	3.34	213	P	P	Pn	18 10 10.3	-0.6
ETAZ	East Tamaki Re	3.45	270	P	P	Pn	18 10 12.4	+0.2
MBAZ	Motutapu North	3.49	273	P	P	Pn	18 10 14.2	+1.5
TMVZ	Te Maari	3.50	232	P	P	Pn	18 10 13.6	+0.7
ETVZ	East Tongariro	3.50	232	P	P	Pn	18 10 13.6	+0.5
ABAZ	Army Bay	3.56	275	P	P	Pn	18 10 14.7	+1.0
WTVZ	West Tongariro	3.57	233	P	P	Pn	18 10 15.3	+1.4
TWVZ	Taurewa	3.64	234	P	P	Pn	18 10 15.9	+1.0
WTAZ	Waiatarua	3.74	270	P	P	Pn	18 10 17.5	+1.4
RVAZ	Riverhead Bore	3.74	272	P	P	Pn	18 10 17.4	+1.2
HIZ	Hauiti	3.79	245	P	P	Pn	18 10 18.8	+2.0
WCZ	Waipu Caves	4.08	284	P	P	Pn	18 10 21.5	+0.6
OUZ	Omahuta	4.90	290	P	P	Pn	18 10 33.2	+1.0
ASAR	Alice Springs	40.96	276	P	P	P	18 17 01.0	-0.6
	0.6nm,0.6s,baz=118,slow=7.9,SNR=1.6 0.6nm,0.6s							
WRA	Warramunga Arr	42.55	281	P	P	P	18 17 13.7	-0.9
	0.4nm,0.5s,baz=121,slow=7.6,SNR=2.5 0.4nm,0.5s							
H03N3	Juan Fernandez	78.95	124	T	T		19 48 10.6	
	baz=227							
H03N2	Juan Fernandez	78.96	124	T	T		19 48 07.4	
	baz=227							
H03N1	Juan Fernandez	78.97	124	T	T		19 48 11.9	
	baz=227							
FINES	FINESS Array B	150.32	334	PKPbc	PKPbc		18 29 08.0	-1.1
	1.4nm,0.8s,baz=29,slow=3.2,SNR=1.3							

IDC ***01*** *18:09:44.3±4.2,17°.67S×178°.61W,h545km±23km,mb3.0/3, mbtmp3.9/4,Error ellipse: s-maj=132.8km s-min=35.7km az=140.0*

ISC 01 18:09:44.2±3.4,17°.3S±0°.7×178°.7W±0°.7,h550km,n6, σ0ᵍ31/7,mb3.7/3,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.13	262	P	P		18 11 00.2	+0.1
	12nm,0.7s,baz=126,slow=19,SNR=4.3							
STKA	Stephens Creek	38.68	240	P	P		18 16 21.3	+0.1
	1.4nm,0.7s,baz=83,slow=8.1,SNR=2.1 1.4nm,0.7s							
WRA	Warramunga Arr	44.47	259	P	P		18 17 07.0	-0.1
	0.4nm,0.6s,baz=96,slow=7.0,SNR=6.0 0.4nm,0.6s							
ASAR	Alice Springs	44.69	254	P	P		18 17 08.9	+0.1
	3.7nm,0.4s,baz=89,slow=8.2,SNR=45							
ASAR				PcP	PcP		18 18 39.0	-0.5
	0.3nm,0.8s,baz=106,slow=3.8,SNR=2.5 3.7nm,0.4s							
MMAI	Mount Meron Ar	145.59	304	PKPbc	PKPab		18 28 23.5	-0.1
	2.0nm,0.7s,baz=58,slow=3.6,SNR=4.5							
GERES	GERESS Array B	146.97	345	PKPbc	PKPbc		18 28 25.7	+0.3
	0.2nm,0.4s,baz=44,slow=7.1,SNR=2.1							

ATH ***01*** *18:10:02.8,40°.35N×20°.91E,h10km±4km,ML2.7/4,Error ellipse: s-maj=4.4km s-min=1.7km az=77.0*

BEO ***01*** *18:10:03.5±0.8,40°.38N×21°.11E,h11km±6km,ML2.8/5*

THE ***01*** *18:10:03.7,40°.43N×20°.98E,h1km±2km,ML2.5/4,Error ellipse: s-maj=2.6km s-min=0.9km az=53.0*

ISC 01 18:10:03.1±0.8,40°.38N±0°.02×20°.98E±0°.03,h13km±5km, n41,σ1ᵍ00/55,4C,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NEST	Nestorio	0.07	52	P	P	Pg	18 10 05.7	-0.2
NEST	Nestorio	0.07	52	P	P	Pg	18 10 05.6	-0.2
NEST				S	S	Sg	18 10 08.2	+0.4
NEST				AML	AML		18 10 09.2	
	comp=N,32521μm,0.4s							
NEST				AML	AML		18 10 09.5	
	comp=E,23738μm,0.4s							
PENT	Pentalofos	0.21	146	P	P	Pg	18 10 07.8	-0.1
PENT				S	S	Sg	18 10 12.0	+0.9
	comp=E,1μm,0.3s							
PENT	Pentalofos	0.21	146	P	P	Pg	18 10 07.7	-0.1
PENT				S	S	Sg	18 10 11.4	+0.2
PENT				AML	AML		18 10 12.5	
	comp=E,4382um,0.3s							
PENT				AML	AML		18 10 12.6	
	comp=N,1736μm,0.3s							
KBN	Korca	0.29	329	P	P	Pg	18 10 08.2	-1.0
KBN				S	S	Sg	18 10 12.4	-0.8
	comp=N,2μm,0.4s							
KZN	Kozani	0.61	96	P	P	Pg	18 10 14.5	-0.5
KZN	Kozani	0.61	96	P	P	Pg	18 10 14.6	-0.5
KZN				S	S	Sn	18 10 25.0	-2.3
KZN				AML	AML		18 10 27.3	
	comp=E,1361μm,0.3s							
KZN				AML	AML		18 10 29.4	
	comp=N,1338μm,0.4s							
JAN	Janina	0.72	188	P	P	Pg	18 10 14.8	-2.4
JAN				S	S	Sg	18 10 25.3	-1.4
JAN				AML	AML		18 10 30.4	
	comp=N,1325μm,0.3s							
JAN				AML	AML		18 10 33.3	
	comp=E,1200μm,0.4s							
KEK	Kerkira	1.12	234	P	P	Pb	18 10 23.4	-1.0
THL	Klokotos Trika	1.13	135	P	P	Pb	18 10 24.1	-0.5
LIT	Litokhoron	1.19	103	P	P	Pg	18 10 26.1	+0.1
LIT				S	S	Sn	18 10 44.3	+2.8
	comp=E,198nm,0.4s							
TIR	Tirane	1.29	319	⇑P	P	Pg	18 10 28.6	+0.7
TIR	Tirane	1.29	319	*e*Pg	P	Pg	18 10 28.3	+0.4
TIR				*e*Sg	S	Sg	18 10 47.2	+2.5
PHP	Peshkopia	1.37	343	P	P	Pn	18 10 27.8	-0.3
VAY	Valandovo	1.53	51	*i* Pn	P	Pb	18 10 30.6	-0.7
TSLK	Tsoukalades, L	1.57	189	P	P	Pb	18 10 32.8	+0.8
EVR	Evrytania	1.59	156	P	P	Pg	18 10 33.1	-0.6
LKD2	Lefkada island	1.60	189	P	P	Pg	18 10 33.6	-0.3
STIP	Stip	1.60	34	*i* Pn	P	Pg	18 10 35.0	+1.1
MAKR	Makrakomi, Fth	1.62	146	P	P	Pb	18 10 33.1	+0.1
SKO	Skopje	1.63	12	*i* Pn	P	Pb	18 10 33.4	+0.2
NYDR	Nydri-Lefkada	1.67	188	P	P	Pg	18 10 35.0	-0.2
NYDR				S	S	Sg	18 10 58.0	+1.0
	comp=E,178nm,0.5s							
DRAG	Dragano-Lefkad	1.72	191	P	P	Pb	18 10 34.5	-0.1
FSK	Fiskardo	1.94	190	P	P	Pb	18 10 38.6	+0.3
SRS	Serrai	2.12	69	*e*Pn	P	Pn	18 10 38.1	-0.2
SRS				*e*Sn	S	Sn	18 11 03.9	-0.6
DMLN	Damoulianata-K	2.19	193	P	P	Pn	18 10 41.0	+1.8
PSDA	Pessada-Kefalo	2.28	188	P	P	Pn	18 10 42.0	+1.6
PRVS	Prvonek	2.29	21	*e*Pn	P	Pn	18 10 40.4	-0.2
KOKK	Kokkinochori,	2.34	78	P	P	Pn	18 10 42.0	+0.7
BOSS	Bosilegrad	2.40	28	*e*Pn	P	Pn	18 10 42.2	0.0
BOSS				*e*Sn	S	Sn	18 11 11.8	+0.3
PDG	Podgorica	2.43	328	*e*Pn	P	Pn	18 10 44.2	+1.7
PDG				*e*Sn	S	Sb	18 11 15.4	-1.1
BARS	Barje	2.52	14	*e*Pn	P	Pn	18 10 43.8	0.0
BARS				*e*Sn	S	Sn	18 11 13.9	-0.5
VTS	Vitosha	2.81	36	⇑P	P	Pn	18 10 48.3	+0.3
SJES	Sjenica	2.98	346	*e*Pn	P	Pn	18 10 50.8	+0.6
ZAPS	Zavoj	3.15	23	*e*Pn	P	Pn	18 10 52.5	0.0
IVAS	Ivanjica	3.26	349	*e*Pn	P	Pn	18 10 53.4	-0.6
BOVS	Bovan	3.30	9	⇑P	P	Pn	18 10 54.0	-0.5
BOVS	Bovan	3.30	9	*e*Pn	P	Pn	18 10 53.8	-0.7
BOVS				*e*Sn	S	Sn	18 11 32.6	-1.1
BLKB	Belogradchik	3.48	21	⇑P	P	Pn	18 10 57.7	+0.7
ZAGS	Zajecar	3.56	15	*e*Pn	P	Pn	18 10 57.4	-0.7
DIVS	Divibare	3.79	349	*e*Pn	P	Pn	18 11 02.0	+0.6

NEIC ***01*** *18:11:15.3±1.7,37°.3S±0°.2×179°.47E±0°.09,h10km±2km, mb4.3/9,Error ellipse: s-maj=27.7km s-min=9.9km az=344.0*

IDC ***01*** *18:11:16.7±2.2,36°.88S×178°.91E,h0km,mb3.8/2, mbtmp3.8/2,Error ellipse: s-maj=47.6km s-min=42.9km az=120.0*

WEL ***01*** *18:11:21.3±1.7,37°.5±10'×17°.9E±°,h22km±11km,M3.3/9, ML3.5/10,MLv3.3/9,Error ellipse: s-maj=0.0km s-min=0.0km az=152.0*

ISC 01 18:11:18.7±2.3,37°.38S±0°.08×179°.30E±0°.09,h30km±13km, n37,σ1ᵍ36/38,mb4.3/7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.82	256	Pg	P	Pn	18 11 33.6	-0.4
MXZ	Matakaoa Point	0.82	256	P	P	Pn	18 11 33.9	-0.2
MXZ				S	S	Sn	18 11 45.1	0.0
WMGZ	Waiomatatini S	0.83	238	P	P	Pn	18 11 37.0	+2.6
PUZ	Puketiti	1.08	230	P	P	Pb	18 11 40.1	+1.3
PUZ				S	S	Sn	18 11 50.1	-1.7
PKGZ	Pakihiroa	1.10	242	P	P	Pb	18 11 40.0	+0.8
PKGZ				S	S	Sb	18 11 53.9	+0.7
HAZ	Te Kaha	1.27	252	P	P	Pb	18 11 41.9	-0.1
HAZ				S	S	Sb	18 11 57.9	+0.1
CNGZ	Carnagh Statio	1.41	218	P	P	Pb	18 11 43.3	-1.0
RUGZ	Raukumara Rang	1.42	245	P	P	Pb	18 11 44.7	+0.1
MWZ	Matawai	1.70	235	P	P	Pb	18 11 48.4	-1.0
RIGZ	Rimuhau	1.80	222	P	P	Pb	18 11 50.1	-0.9
RAGZ	Rawiri	1.87	233	P	P	Pb	18 11 50.5	-1.7
PRGZ	Paritu Road	1.91	216	P	P	Pb	18 11 51.6	-1.2
URZ	Urewera	1.95	242	Pn	P	Pb	18 11 51.7	-1.8
	23nm,0.3s,baz=301,slow=4.0,SNR=9.6							
URZ				Sn	S	Sn	18 12 14.0	+0.9
	16nm,0.3s,baz=301,slow=23,SNR=2.3							
BKZ	Black Stump Fm	2.84	230	Pn	P	Pn	18 12 01.4	-0.6
HIZ	Hauiti	3.70	251	Pn	P	Pn	18 12 15.6	+1.9
BFZ	Birch Farm	4.07	215	Pn	P	Pn	18 12 18.3	-0.5
WCZ	Waipu Caves	4.24	288	P	P	Pn	18 12 21.2	+0.1
OUZ	Omahuta	5.09	293	Pn	P	Pn	18 12 32.2	-0.6
WKZ	Wanaka	10.75	223	Pn	Pn		18 13 24.4	-6.1
AS31	Alice Springs	41.05	276	P	P		18 18 58.4	-1.2
ASAR	Alice Springs	41.05	276	P	P		18 18 58.9	-0.6
	0.7nm,0.6s,baz=119,slow=7.6,SNR=6.3 0.7nm,0.6s							
ASAR	Alice Springs	41.05	276	P	P		18 18 58.1	-1.4
WB2	Warramunga Arr	42.67	281	P	P		18 19 12.4	-0.3
WB2				IAmb	IAmb		18 19 25.9	
	comp=Z,6.8nm,1.4s							
WRAB	Tennant Creek	42.67	281	P	P		18 19 12.1	-0.7
WRAB				IAmb	IAmb		18 19 36.8	
	comp=Z,9.6nm,1.5s							
WRA	Warramunga Arr	42.67	281	P	P		18 19 12.0	-0.8
	comp=Z,0.5nm,0.3s,baz=120,slow=8.3,SNR=17 comp=Z,0.5nm,0.3s							
WRA	Warramunga Arr	42.67	281	P	P		18 19 12.5	-0.3
WB0	Warramunga Arr	42.73	282	P	P		18 19 12.9	-0.3
WB0				IAmb	IAmb		18 19 48.4	
	comp=Z,9.2nm,1.4s							
FITZ	Fitzroy Crossi	50.54	277	P	P		18 20 14.9	+0.6
FITZ				IAmb	IAmb		18 20 15.0	
	comp=Z,6.6nm,1.4s							
SAUI	Saumlaki	52.32	292	P	P		18 20 27.2	-0.5
QSPA	South Pole Qui	52.75	180	P	P		18 20 31.7	+1.2
QSPA				IAmb	IAmb		18 20 39.1	
	comp=Z,6.3nm,1.4s							
MAW	Mawson	65.01	202	P	P		18 21 53.0	-2.3
PMSA	Palmer Station	66.86	155	P	P		18 22 06.8	-0.4
H03N3	Juan Fernandez	78.71	123	T	T		19 51 23.1	
	baz=236							
H03N2	Juan Fernandez	78.71	123	T	T		19 51 22.0	
	baz=236							
H03N1	Juan Fernandez	78.72	123	T	T		19 51 22.3	
	baz=236							
FINES	FINESS Array B	150.68	334	PKPbc	PKiKP		18 31 08.0	+0.6
	comp=Z,1.5nm,0.9s,baz=52,slow=5.4,SNR=3.3							
TORD	Torodi Ar. Bea	155.78	186	PKPab	PKPab		18 31 41.1	+4.6
	comp=Z,0.5nm,0.9s,baz=174,slow=2.8,SNR=1.6							

NEIC ***01*** *18:12:31.6±1.0,37°.1S±0°.1×179°.63E±0°.07,h10km±2km, mb4.3/9,Error ellipse: s-maj=21.8km s-min=8.4km az=344.0*

IDC ***01*** *18:12:32.9±1.5,36°.79S×179°.17E,h0km,mb4.1/4, mbtmp4.1/5,ML4.3/1,Error ellipse: s-maj=37.3km s-min=32.1km az=35.0*

WEL ***01*** *18:12:37.3±0.8,37°.5±4'×17°.9E±°,h24km±9km,M4.0/63, ML4.1/69,MLv4.0/63,Error ellipse: s-maj=0.0km s-min=0.0km az=81.6*

ISC 01 18:12:34.5±1.9,37°.13S±0°.06×179°.33E±0°.06,h17km±9km, n136,σ1ᵍ71/153,mb4.2/9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.92	242	P	P	Pb	18 12 52.0	0.0
MXZ	Matakaoa Point	0.92	242	P	P	Pb	18 12 52.1	0.0
MXZ				S	S	Sb	18 13 02.9	-1.1
WMGZ	Waiomatatini S	1.00	226	P	P	Pg	18 12 56.0	+2.1
WMGZ				S	S	Sn	18 13 09.6	+2.1
PKGZ	Pakihiroa	1.25	232	P	P	Pg	18 12 59.0	+0.4
PKGZ				S	S	Sg	18 13 15.0	0.0
PUZ	Puketiti	1.27	222	P	P	Pg	18 12 59.5	+0.5
PUZ				S	S	Sg	18 13 16.5	+0.9
HAZ	Te Kaha	1.38	243	P	P	Pg	18 13 01.2	+0.1
HAZ				S	S	Sg	18 13 18.9	-0.2
TWGZ	Tauwhareparae	1.50	225	P	P	Pn	18 13 01.1	+0.5
TWGZ				S	S	Sg	18 13 22.4	-0.4
RUGZ	Raukumara Rang	1.56	237	P	P	Pb	18 13 03.4	+0.5
RUGZ				S	S	Sg	18 13 23.4	-1.3
CNGZ	Carnagh Statio	1.62	213	P	P	Pb	18 13 05.2	+1.4
WIZ	White Island	1.75	256	P	P	Pn	18 13 03.1	-1.0
WIZ				S	S	Sb	18 13 26.1	-1.7
TKGZ	Te Karaka	1.76	221	P	P	Pb	18 13 06.5	+0.3
TKGZ				S	S	Sb	18 13 28.6	+0.6
MWZ	Matawai	1.87	229	P	P	Pb	18 13 07.6	-0.5
MWZ				S	S	Sn	18 13 29.8	+0.9
RIGZ	Rimuhau	2.00	218	P	P	Pn	18 13 09.3	+1.7
RIGZ				S	S	Sn	18 13 34.0	+1.7
WHRZ	Whale Island	2.01	248	P	P	Pb	18 13 09.1	-1.5
WHRZ				S	S	Sb	18 13 33.3	-2.0
RAGZ	Rawiri	2.04	227	P	P	Pn	18 13 10.0	-1.2
RAGZ				S	S	Sn	18 13 34.4	+1.2
URZ	Urewera	2.09	237	Pn	P	Pb	18 13 10.5	-1.4
	89nm,0.3s,baz=301,slow=2.1,SNR=13							
URZ				Sn	S	Sn	18 13 35.5	+1.2
	74nm,0.3s,baz=301,slow=22,SNR=9.0 179nm,0.3s							
URZ	Urewera	2.09	237			Pn	18 13 10.4	+1.7
URZ	Urewera	2.09	237	P	P	Pb	18 13 10.5	-1.4
PRGZ	Paritu Road	2.12	212	P	P	Pn	18 13 11.0	+1.8
PRGZ				S	S	Sn	18 13 35.4	+0.2
MARZ	Manawahe	2.27	247	P	P	Pn	18 13 12.5	+1.2
EDRZ	Edgecumbe	2.28	244	P	P	Pn	18 13 13.0	+1.6
SNGZ	Shannon Statio	2.28	223	P	P	Pn	18 13 12.8	+1.5
SNGZ				S	S	Sn	18 13 41.0	+2.0
KNZ	Kokohu	2.30	214	P	P	Pn	18 13 12.5	+1.0
KNZ				S	S	Sn	18 13 38.8	-0.7
MHGZ	Mahia Peninsul	2.31	209	P	P	Pn	18 13 13.4	+1.7
OPRZ	Ohinepanea	2.32	251	P	P	Pn	18 13 12.7	+0.8
MUGZ	Murupara	2.43	236	P	P	Pn	18 13 14.9	+1.4
MUGZ				S	S	Sn	18 13 42.8	-0.1
MYRZ	Mayor Island	2.47	266	P	P	Pn	18 13 14.9	+0.9
MKRZ	Makatiti	2.48	245	P	P	Pn	18 13 16.4	+2.1
TARZ	Mount Tarawera	2.50	243	P	P	Pn	18 13 16.6	+2.1
RAHZ	Arahi	2.51	224	P	P	Pn	18 13 16.8	+2.2
TGRZ	Tauranga	2.52	255	P	P	Pn	18 13 15.5	+0.9
RRRZ	Republican Roa	2.54	241	P	P	Pn	18 13 16.6	+1.7
OMRZ	Omania	2.54	247	P	P	Pn	18 13 16.7	+1.7
WHHZ	Waihua	2.55	220	P	P	Pb	18 13 18.3	-1.5
KARZ	Kaharoa	2.61	249	P	P	Pn	18 13 17.1	+1.3
MTHZ	Maungataniwha	2.61	228	P	P	Pn	18 13 17.8	+1.8
HLRZ	Highlands Stat	2.61	244	P	P	Pn	18 13 17.9	+1.9
NGRZ	Ngongotaha	2.68	248	P	P	Pn	18 13 18.8	+1.9
PRRZ	Plateau Road	2.70	239	P	P	Pn	18 13 18.3	+1.2
HSRZ	Hossack Road	2.71	243	P	P	Pn	18 13 19.6	+2.3
HRRZ	Handcock Road	2.72	242	P	P	Pn	18 13 19.0	+1.5
ALRZ	Allen Road	2.76	238	P	P	Pn	18 13 19.2	+1.1
KMRZ	Kaimai	2.79	254	P	P	Pn	18 13 19.3	+0.9
NMHZ	Naumai	2.79	225	P	P	Pn	18 13 20.3	+1.8
ARHZ	Aropaoanui	2.81	220	P	P	Pn	18 13 20.0	+1.3
GRRZ	Galatos Road	2.83	244	P	P	Pn	18 13 21.2	+2.2
MRHZ	Matea Rd	2.86	233	P	P	Pn	18 13 20.9	+1.5
WPRZ	Whakapapatarin	2.87	240	P	P	Pn	18 13 21.2	+1.7
KUZ	Kuaotunu	2.92	276	P	P	Pn	18 13 18.9	-1.2
BKZ	Black Stump Fm	3.02	227			Pn	18 13 22.2	+0.6
BKZ	Black Stump Fm	3.02	227	P	P	Pn	18 13 22.8	+1.2
WHTZ	Whakaora	3.08	239	P	P	Pn	18 13 25.3	+2.9
CKHZ	Cape Kidnapper	3.08	214	P	P	Pn	18 13 22.8	+0.4
KUTZ	Kaahu Road	3.09	243	P	P	Pn	18 13 24.1	+1.6
TOZ	Tahuroa Road	3.10	258	P	P	Pn	18 13 22.3	-0.4
GRZ	Great Barrier	3.23	285	P	P	Pn	18 13 25.0	+0.5
TLZ	Tolley Road	3.23	247	P	P	Pn	18 13 25.9	+1.4
KWHZ	Kaweka Forest	3.24	224	P	P	Pn	18 13 25.9	+1.3
KAHZ	Kahuranaki	3.28	215	P	P	Pn	18 13 25.6	+0.4
RATZ	Rangitukua	3.30	237	P	P	Pn	18 13 27.4	+2.0
RITZ	Rihia Road	3.30	235	P	P	Pn	18 13 26.8	+1.3
MKAZ	Moumakai	3.33	269	P	P	Pn	18 13 25.3	-0.5
WIAZ	Waiheke Island	3.38	274	P	P	Pn	18 13 26.2	-0.3
KRHZ	Kereru	3.42	222	P	P	Pn	18 13 27.5	+0.5
TMVZ	Te Maari	3.48	234	P	P	Pn	18 13 28.8	+0.8
BHHZ	Black Hill Sta	3.48	226	P	P	Pn	18 13 28.9	+0.9
ETVZ	East Tongariro	3.48	234	P	P	Pn	18 13 28.8	+0.8
NTVZ	North Tongarir	3.49	235	P	P	Pn	18 13 29.3	+1.3
KRVZ	Karewarewa	3.51	235	P	P	Pn	18 13 29.6	+1.3
ETAZ	East Tamaki Re	3.53	272	P	P	Pn	18 13

KURBB **Kurchatov Arra 123.97 311** PKP **PKPdf 18 31 31.1 0.0**
comp=Z,0.2nm,0.4s,baz=92,slow=3.1,SNR=1.9
ARCES **ARCESS Array B 144.58 344** PKP **PKPdf 18 32 10.2 +1.3**
comp=Z,3.4nm,1.0s,baz=39,slow=3.5,SNR=2.0
FINES **FINESS Array B 150.47 334** PKPbc **PKPbc 18 32 24.4 +0.2**
comp=Z,1.5nm,0.8s,baz=64,slow=3.2,SNR=2.0
TORD **Torodi Ar. Bea 156.02 186** PKPab **PKPab 18 32 56.9 +1.5**
comp=Z,0.3nm,0.5s,baz=186,slow=4.2,SNR=2.0

IDC 01 18:17:42.6±4.8, 5°90S×152°23E, h50km±43km, mb3.2/3, mbtmp3.5/3, Error ellipse: s-maj=61.8km s-min=23.1km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.59**	**353**	P	Pn	18 18 07.6	-0.9
	299nm,0.4s,baz=177,slow=0.8,SNR=185						
KRVT				S	Sn	18 18 28.1	+0.2
	566nm,0.5s,baz=214,slow=18,SNR=14						
WRA	**Warramunga Arr**	**22.30**	**230**	P	P	18 22 36.3	+0.2
	0.4nm,0.6s,baz=53,slow=9.7,SNR=2.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**24.96**	**223**	P	P	18 23 01.8	+0.1
	0.4nm,0.8s,baz=58,slow=8.9,SNR=8.1						
	0.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.64**	**243**	P	P	18 23 34.7	-0.1
	0.9nm,0.3s,baz=59,slow=10,SNR=13						
	0.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**150.09**	**286**	PKPbc	PKPbc	18 37 28.4	-0.5
	0.2nm,0.3s,baz=97,slow=2.6,SNR=3.1						

---

*IDC **01** 18:19:18.0±1.6, 36°79S×179°18E, h0km, mb4.2/4, mbtmp4.2/5, ML4.3/1, Error ellipse: s-maj=38.8km s-min=31.6km az=46.0*
*NEIC **01** 18:19:19.0±1.9, 37°1S±0°2×179°3E±0°2, h10km±2km, mb4.5/9, Error ellipse: s-maj=34.2km s-min=17.7km az=155.0*
*WEL **01** 18:19:22.9±1.2, 37°S±4°×17°9E±°, h17km±8km, M4.1/111, mB4.8/5, ML4.4/83, MLv4.1/111, Mw(mB)4.1/5, Error ellipse: s-maj=0.0km s-min=0.0km az=68.8*
ISC 01 18:19:20.2±2.3, 37°12S±0°06×179°23E±0°08, h13km±11km, n147, σ1°71/153, mb4.4/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.86**	**239**	Pn	**Pb**	**18 19 38.1**	**+1.2**
MXZ	**Matakaoa Point**	**0.86**	**239**	P	**Pb**	**18 19 38.1**	**+1.2**
MXZ				S	**Sg**	**18 19 45.1**	**-3.0**
WMGZ	**Waiomatatini S**	**0.95**	**223**	P	**Pn**	**18 19 41.4**	**+2.1**
WMGZ				S	**Sg**	**18 19 52.0**	**+0.9**
PKGZ	**Pakihiroa**	**1.20**	**230**	P	**Pn**	**18 19 44.6**	**+2.0**
PKGZ				S	**Sg**	**18 19 57.6**	**-1.2**
PUZ	**Puketiti**	**1.22**	**219**	P	**Pb**	**18 19 45.8**	**+2.6**
PUZ				S	**Sg**	**18 19 59.0**	**-0.7**
HAZ	**Te Kaha**	**1.32**	**241**	P	**Pg**	**18 19 46.8**	**+1.3**
HAZ				S	**Sg**	**18 20 01.3**	**-1.4**
RUGZ	**Raukumara Rang**	**1.50**	**235**	P	**Pg**	**18 19 49.4**	**+0.4**
CNGZ	**Carnagh Statio**	**1.58**	**210**	P	**Pb**	**18 19 51.2**	**+1.9**
CNGZ				S	**Sn**	**18 20 10.9**	**+2.7**
WIZ	**White Island**	**1.68**	**255**	P	**Pb**	**18 19 50.3**	**-0.5**
WIZ				S	**Sn**	**18 20 09.9**	**-0.5**
MWZ	**Matawai**	**1.81**	**228**	P	**Pn**	**18 19 53.2**	**+2.1**
MWZ				S	**Sn**	**18 20 14.5**	**+0.5**
WHRZ	**Whale Island**	**1.94**	**247**	P	**Pb**	**18 19 54.8**	**-0.6**
RIGZ	**Rimuhau**	**1.96**	**216**	P	**Pn**	**18 19 55.2**	**+2.0**
RAGZ	**Rawiri**	**1.99**	**226**	P	**Pn**	**18 19 55.5**	**+1.9**
URZ	**Urewera**	**2.03**	**235**	Pn	**Pn**	**18 19 55.6**	**+1.6**
	78nm,0.3s,baz=301,slow=4.1,SNR=12						
URZ				Sn	**Sn**	**18 20 18.6**	**-0.6**
	144nm,0.3s,baz=121,slow=23,SNR=14						
	347nm,0.5s						
URZ	**Urewera**	**2.03**	**235**	P	**Pn**	**18 19 55.9**	**+1.9**
PRGZ	**Paritu Road**	**2.09**	**210**	P	**Pn**	**18 19 56.7**	**+1.8**
MARZ	**Manawahe**	**2.21**	**246**	P	**Pn**	**18 19 57.4**	**+0.9**
EDRZ	**Edgecumbe**	**2.21**	**243**	P	**Pn**	**18 19 58.4**	**+1.8**
SNGZ	**Shannon Statio**	**2.23**	**221**	P	**Pn**	**18 19 58.7**	**+1.8**
OPRZ	**Ohinepanea**	**2.25**	**250**	P	**Pn**	**18 19 58.2**	**+1.2**
KNZ	**Kokohu**	**2.26**	**212**	P	**Pn**	**18 19 58.3**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.28**	**207**	P	**Pn**	**18 19 59.4**	**+1.9**
MUGZ	**Murupara**	**2.37**	**234**	P	**Pn**	**18 20 00.3**	**+1.5**
RAHZ	**Arahi**	**2.47**	**223**	P	**Pn**	**18 20 02.5**	**+2.4**
RRRZ	**Republican Roa**	**2.47**	**240**	P	**Pb**	**18 20 03.4**	**-1.1**
OMRZ	**Omania**	**2.47**	**246**	P	**Pn**	**18 20 02.0**	**+1.8**
WHHZ	**Waihua**	**2.51**	**218**	P	**Pn**	**18 20 03.5**	**+2.9**
HLRZ	**Highlands Stat**	**2.55**	**243**	P	**Pn**	**18 20 03.2**	**+2.0**
HSRZ	**Hossack Road**	**2.65**	**242**	P	**Pn**	**18 20 04.8**	**+2.2**
HRRZ	**Handcock Road**	**2.66**	**241**	P	**Pn**	**18 20 04.5**	**+1.7**
ALRZ	**Allen Road**	**2.70**	**237**	P	**Pn**	**18 20 04.8**	**+1.5**
NMRZ	**Naumai**	**2.75**	**223**	P	**Pn**	**18 20 05.9**	**+1.9**
GRRZ	**Galatos Road**	**2.76**	**243**	P	**Pn**	**18 20 06.3**	**+2.1**
ARHZ	**Aropaoanui**	**2.77**	**219**	P	**Pn**	**18 20 05.5**	**+1.2**
WPRZ	**Whakapapatarin**	**2.80**	**239**	P	**Pn**	**18 20 04.9**	**+0.2**
MRHZ	**Matea Rd**	**2.81**	**232**	P	**Pn**	**18 20 06.5**	**+1.7**
BKZ	**Black Stump Fm**	**2.97**	**226**		**Pn**	**18 20 08.4**	**+1.3**
BKZ	**Black Stump Fm**	**2.97**	**226**	P	**Pn**	**18 20 08.3**	**+1.3**
KUTZ	**Kaahu Road**	**3.02**	**242**	P	**Pn**	**18 20 09.6**	**+1.9**
TOZ	**Tahuroa Road**	**3.03**	**257**	P	**Pn**	**18 20 08.9**	**+1.1**
CKHZ	**Cape Kidnapper**	**3.05**	**213**	P	**Pn**	**18 20 08.5**	**+0.5**
GRZ	**Great Barrier**	**3.15**	**285**	P	**Pn**	**18 20 10.8**	**+1.3**
TLZ	**Tolley Road**	**3.17**	**246**	P	**Pn**	**18 20 11.5**	**+1.8**
WATZ	**Wairara**	**3.19**	**239**	P	**Pn**	**18 20 12.1**	**+2.1**
KWHZ	**Kaweka Forest**	**3.19**	**223**	P	**Pn**	**18 20 11.4**	**+1.3**
RATZ	**Rangitukua**	**3.24**	**236**	P	**Pn**	**18 20 12.6**	**+1.8**
RITZ	**Rihia Road**	**3.24**	**234**	P	**Pn**	**18 20 12.6**	**+1.9**
KAHZ	**Kahuranaki**	**3.25**	**214**	P	**Pn**	**18 20 11.1**	**+0.3**
MKAZ	**Moumakai**	**3.25**	**269**	P	**Pn**	**18 20 11.2**	**+0.4**
WIAZ	**Waiheke Island**	**3.30**	**274**	P	**Pn**	**18 20 11.8**	**+0.4**
KRHZ	**Kereru**	**3.38**	**221**	P	Pn	18 20 08.3	-4.3
TMVZ	**Te Maari**	**3.42**	**233**	P	**Pn**	**18 20 14.5**	**+1.2**
ETVZ	**East Tongariro**	**3.43**	**233**	P	**Pn**	**18 20 14.6**	**+1.2**
NTVZ	**North Tongariro**	**3.43**	**234**	P	**Pn**	**18 20 14.8**	**+1.4**
BHHZ	**Black Hill Sta**	**3.44**	**226**	P	**Pn**	**18 20 14.5**	**+1.0**
ETAZ	**East Tamaki Re**	**3.45**	**271**	P	**Pn**	**18 20 15.4**	**+1.9**
PXZ	**Pawanui**	**3.45**	**212**	P	**Pn**	**18 20 11.8**	**-1.7**
KRVZ	**Karewarewa**	**3.45**	**234**	P	**Pn**	**18 20 15.0**	**+1.3**
OTVZ	**Oturere**	**3.47**	**233**	P	**Pn**	**18 20 15.3**	**+1.2**
NNVZ	**North Ngauruho**	**3.49**	**234**	P	**Pn**	**18 20 15.5**	**+1.3**
MBAZ	**Motutapu North**	**3.49**	**274**	P	**Pn**	**18 20 14.8**	**+0.8**
WTVZ	**West Tongariro**	**3.49**	**234**	P	**Pn**	**18 20 16.4**	**+2.1**
SNVZ	**South Ngauruho**	**3.50**	**233**	P	**Pn**	**18 20 15.7**	**+1.2**
NGZ	**Ngauruhoe**	**3.52**	**233**	P	**Pn**	**18 20 15.8**	**+1.1**
TUVZ	**Tukino**	**3.54**	**232**	P	**Pn**	**18 20 16.1**	**+1.2**
MOVZ	**Moawhango**	**3.56**	**229**	P	**Pn**	**18 20 16.0**	**+0.8**
ABAZ	**Army Bay**	**3.56**	**277**	P	**Pn**	**18 20 16.1**	**+1.0**
TWVZ	**Taurewa**	**3.57**	**236**	P	**Pn**	**18 20 17.2**	**+1.9**
WHVZ	**Whangaehu Hut**	**3.59**	**232**	P	**Pn**	**18 20 17.1**	**+1.4**
FWVZ	**Far West T-bar**	**3.60**	**233**	P	**Pn**	**18 20 17.3**	**+1.5**
EPAZ	**Eden Park BICE**	**3.60**	**273**	P	**Pn**	**18 20 17.7**	**+2.1**
WNVZ	**Wahianoa**	**3.61**	**231**	P	**Pn**	**18 20 17.0**	**+1.1**
TRVZ	**Turoa**	**3.62**	**232**	P	**Pn**	**18 20 17.4**	**+1.2**
WPHZ	**Waipukurau**	**3.66**	**216**	P	**Pn**	**18 20 16.3**	**-0.2**
PNHZ	**Pukenui**	**3.66**	**220**	P	**Pn**	**18 20 15.6**	**-1.0**
AWAZ	**Awhitu Peninsu**	**3.67**	**270**	P	**Pn**	**18 20 17.6**	**+1.1**
MTVZ	**Mangateitei**	**3.72**	**231**	P	**Pn**	**18 20 18.2**	**+0.8**
WTAZ	**Waiatarua**	**3.73**	**271**	P	**Pn**	**18 20 18.7**	**+1.3**
HIZ	**Hauiti**	**3.73**	**247**		**Pn**	**18 20 19.7**	**+2.2**
HIZ	**Hauiti**	**3.73**	**247**	P	**Pn**	**18 20 19.9**	**+2.4**
RVAZ	**Riverhead Bore**	**3.74**	**274**	P	**Pn**	**18 20 18.5**	**+1.0**
PKVZ	**Pokaka**	**3.75**	**234**	P	**Pn**	**18 20 18.7**	**+1.0**
TSZ	**Takapari Road**	**3.89**	**220**	P	**Pn**	**18 20 18.9**	**-0.8**
ANWZ	**Angora Road**	**3.97**	**212**	P	**Pn**	**18 20 20.9**	**+0.3**
DVHZ	**Dannevirke**	**3.98**	**216**	P	**Pn**	**18 20 20.6**	**-0.3**
WCZ	**Waipu Caves**	**4.11**	**285**	P	**Pn**	**18 20 23.4**	**+0.9**
POWZ	**Post Office Ro**	**4.24**	**219**	P	**Pn**	**18 20 24.4**	**0.0**
WAZ	**Wanganui**	**4.25**	**230**	P	**Pn**	**18 20 25.9**	**+1.4**
BFZ	**Birch Farm**	**4.25**	**212**	Pn	**Pn**	**18 20 22.6**	**-1.9**
BFZ	**Birch Farm**	**4.25**	**212**	P	**Pn**	**18 20 23.3**	**-1.3**
PRWZ	**Pori Road**	**4.27**	**216**	P	**Pn**	**18 20 24.4**	**-0.4**
LREZ	**Lake Rotokare**	**4.46**	**237**	P	**Pn**	**18 20 29.6**	**+2.2**
DREZ	**Durham Road**	**4.47**	**241**	P	**Pn**	**18 20 30.9**	**+3.4**
MRZ	**Mangatainoka R**	**4.54**	**218**	P	**Pn**	**18 20 27.5**	**-1.0**
PREZ	**Palmer Road**	**4.57**	**239**	P	**Pn**	**18 20 32.6**	**+3.6**
NEZ	**North Egmont**	**4.58**	**240**	P	**Pn**	**18 20 32.6**	**+3.4**
PKE	**Pukeiti**	**4.62**	**242**	P	**Pn**	**18 20 33.2**	**+3.5**
KHEZ	**Kahui Hut**	**4.65**	**241**	P	**Pn**	**18 20 33.5**	**+3.4**
HOWZ	**Holdsworth Sta**	**4.75**	**216**	P	**Pn**	**18 20 30.0**	**-1.5**
TMWZ	**Te Maipa**	**4.75**	**212**	P	**Pn**	**18 20 29.6**	**-1.9**
OGWZ	**Otaki Gorge**	**4.86**	**219**	P	**Pn**	**18 20 32.0**	**-0.9**
OUZ	**Omahuta**	**4.94**	**291**		**Pn**	**18 20 34.9**	**+0.9**
OUZ	**Omahuta**	**4.94**	**291**	P	**Pn**	**18 20 35.2**	**+1.2**
MTW	**Mount Morrison**	**4.96**	**215**	P	**Pn**	**18 20 32.7**	**-1.7**
MSWZ	**Moikau Station**	**5.29**	**215**	Pn	**Pn**	**18 20 36.7**	**-2.1**
MSWZ	**Moikau Station**	**5.29**	**215**	P	**Pn**	**18 20 36.9**	**-1.9**
PLWZ	**Palliser**	**5.41**	**214**	Pn	**Pn**	**18 20 38.0**	**-2.5**
SNZO	**South Karori**	**5.46**	**219**	Pn	**Pn**	**18 20 39.9**	**-1.3**
DUWZ	**D'Urville Isla**	**5.53**	**227**	P	**Pn**	**18 20 40.5**	**-1.7**
TCW	**Tory Channel**	**5.61**	**222**	P	**Pn**	**18 20 42.0**	**-1.2**
TUWZ	**Tuamarina**	**5.94**	**222**	Pn	**Pn**	**18 20 45.2**	**-2.6**
TUWZ	**Tuamarina**	**5.94**	**222**	P	**Pn**	**18 20 45.9**	**-2.0**
NNZ	**Nelson**	**6.12**	**226**	Pn	**Pn**	**18 20 47.7**	**-2.5**
NNZ	**Nelson**	**6.12**	**226**	P	**Pn**	**18 20 48.2**	**-2.0**
BSWZ	**Blackbirch Sta**	**6.18**	**220**	Pn	**Pn**	**18 20 48.9**	**-2.2**
BSWZ	**Blackbirch Sta**	**6.18**	**220**	P	**Pn**	**18 20 49.1**	**-2.0**
TKNZ	**Takaka Hill**	**6.25**	**229**	P	**Pn**	**18 20 51.1**	**-1.0**
QRZ	**Quartz Range**	**6.40**	**233**	Pn	**Pn**	**18 20 53.0**	**-1.1**
QRZ	**Quartz Range**	**6.40**	**233**	P	**Pn**	**18 20 53.3**	**-0.8**
THZ	**Tophouse**	**6.74**	**225**	Pn	**Pn**	**18 20 56.1**	**-2.7**
KHZ	**Kahutara**	**6.87**	**218**	Pn	Pn	18 20 56.2	-4.3
KHZ	**Kahutara**	**6.87**	**218**	P	**Pn**	**18 20 59.2**	**-1.3**
CTZ	**Chatham Island**	**7.33**	**156**	P	**Pn**	**18 21 09.4**	**+2.6**
GVZ	**Greta Valley S**	**7.53**	**217**	P	**Pn**	**18 21 08.4**	**-1.2**
LTZ	**Lake Taylor**	**7.78**	**221**	Pn	**Pn**	**18 21 11.1**	**-1.9**
LTZ	**Lake Taylor**	**7.78**	**221**	P	**Pn**	**18 21 11.2**	**-1.9**
MQZ	**McQueen's Vall**	**8.27**	**215**	Pn	**Pn**	**18 21 16.6**	**-3.1**
OXZ	**Oxford**	**8.29**	**219**	Pn	**Pn**	**18 21 17.0**	**-2.9**
RPZ	**Rata Peaks**	**9.07**	**221**	Pn	Pn	18 21 27.1	-3.5
	0.5nm,0.3s,baz=140,slow=18,SNR=1.7						
RPZ				Sn	Sn	18 23 00.3	-12
	5.5nm,0.3s,baz=52,slow=17,SNR=12						
ODZ	**Otahua Downs**	**10.22**	**217**	Pn	**Pn**	**18 21 43.5**	**-3.1**
COEN	**Coen**	**39.52**	**296**	P	**P**	**18 26 50.2**	**-0.5**
COEN				IAmb	IAmb	18 27 26.4	
	comp=Z,13nm,1.1s						
ASAR	**Alice Springs**	**40.96**	**276**	P	**P**	**18 27 02.1**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=117,slow=7.9,SNR=25						
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**40.96**	**276**	P	**P**	**18 27 00.8**	**-2.0**
WR0	**Warramunga Arr**	**42.40**	**281**	P	**P**	**18 27 12.7**	**-1.8**
WR0				IAmb	IAmb	18 27 21.1	
	comp=Z,4.2nm,0.6s						
FORT	**Forrest**	**42.50**	**263**	P	**P**	**18 27 13.8**	**-1.4**
WB2	**Warramunga Arr**	**42.56**	**281**	P	**P**	**18 27 14.1**	**-1.7**
WRAB	**Tennant Creek**	**42.56**	**281**	P	**P**	**18 27 14.1**	**-1.8**
WRAB				IAmb	IAmb	18 27 48.9	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**42.57**	**281**	P	**P**	**18 27 14.8**	**-1.1**
	comp=Z,4.1nm,0.6s,baz=121,slow=7.7,SNR=29						
	comp=Z,4.1nm,0.6s						
WRA	**Warramunga Arr**	**42.57**	**281**	P	**P**	**18 27 13.9**	**-2.0**
WB0	**Warramunga Arr**	**42.62**	**281**	P	**P**	**18 27 15.2**	**-1.1**
WB0				IAmb	IAmb	18 27 15.8	
	comp=Z,6.1nm,0.6s						
KNRA	**Kununurra**	**49.35**	**282**	P	**P**	**18 28 08.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.45**	**277**	P	**P**	**18 28 16.9**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=109,slow=6.5,SNR=8.7						
	comp=Z,2.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.45**	**277**	P	**P**	**18 28 17.2**	**-0.5**
FITZ				IAmb	IAmb	18 28 17.7	
	comp=Z,4.0nm,0.8s						
QSPA	**South Pole Qui**	**53.01**	**180**	P	**P**	**18 28 38.6**	**+2.3**
	comp=Z,3nm,0.9s,baz=353,slow=20,SNR=2.6						
	comp=Z,1.3nm,0.9s						
ARCES	**ARCESS Array B 144.55 344**			PKP	**PKPab**	**18 38 53.5**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=24,slow=3.3,SNR=5.7						
FINES	**FINESS Array B 150.42 334**			PKPbc	**PKPbc**	**18 39 09.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=46,slow=4.0,SNR=5.7						
TORD	**Torodi Ar. Bea 156.03 186**			PKPab	**PKPab**	**18 39 42.6**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=170,slow=4.1,SNR=2.2						

---

*IDC **01** 18:19:51.3±2.7, 37°00S×179°16E, h0km, mb4.3/4, mbtmp4.3/5, ML4.0/1, Error ellipse: s-maj=72.2km s-min=38.3km az=145.0*
ISC 01 18:19:49.4±1.7, 37°7S±0°2×179°7E±0°2, h10km, n8, σ1°24/9, mb4.2/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**2.09**	**253**	Pn	**Pn**	**18 20 26.2**	**+1.7**
	47nm,0.3s,baz=301,slow=24,SNR=6.2						
URZ				Sn	**Sn**	**18 20 48.9**	**-1.6**
	161nm,0.3s,baz=301,slow=22,SNR=9.7						
	360nm,0.3s						
RPZ	**Rata Peaks**	**8.89**	**225**	Pn	**Pn**	**18 21 58.3**	**+0.5**
	1.0nm,0.3s,baz=21,slow=13,SNR=1.9						
RPZ				Sn	Sn	18 23 29.1	-8.9
	2.7nm,0.3s,baz=26,slow=23,SNR=2.1						
STKA	**Stephens Creek**	**31.64**	**269**	P	**P**	**18 26 13.4**	**+0.8**
	1.2nm,0.3s,baz=101,slow=9.3,SNR=7.3						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**41.36**	**276**	P	**P**	**18 27 35.4**	**-0.3**
	2.4nm,0.8s,baz=120,slow=7.5,SNR=11						
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**43.01**	**281**	P	**P**	**18 27 48.5**	**-0.6**
	3.6nm,0.4s,baz=121,slow=7.7,SNR=18						
	3.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.85**	**277**	P	**P**	**18 28 50.1**	**-0.4**
	2.3nm,0.8s,baz=122,slow=5.7,SNR=2.4						
	2.3nm,0.8s						
ARCES	**ARCESS Array B 145.17 344**			PKP	**PKiKP**	**18 39 28.6**	**-1.4**
	4.1nm,0.9s,baz=39,slow=3.5,SNR=4.9						
FINES	**FINESS Array B 151.07 334**			PKPbc	**PKiKP**	**18 39 42.8**	**+0.5**
	1.2nm,0.7s,baz=41,slow=4.4,SNR=5.2						

IDC 01 18:21:10.3±4.7, 36°73S×179°28E, h0km, mb3.8/3, mbtmp3.8/4, Error ellipse: s-maj=95.3km s-min=53.5km az=118.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**2.30**	**228**	Pn	Pn	18 21 49.0	-0.5
	50nm,0.3s,baz=301,slow=21,SNR=0.6						
ASAR	**Alice Springs**	**40.96**	**276**	P	P	18 28 55.0	+0.1
	0.7nm,0.5s,baz=118,slow=8.0,SNR=3.0						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**42.53**	**281**	P	P	18 29 07.7	-0.1
	0.5nm,0.3s,baz=122,slow=7.8,SNR=3.4						
	0.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**50.44**	**277**	P	P	18 30 09.9	0.0
	0.8nm,0.6s,baz=114,slow=9.8,SNR=1.5						
	0.8nm,0.6s						
ARCES	**ARCESS Array B 144.18 345**			PKP	PKPbc	18 40 46.1	+0.9
	5.0nm,1.1s,baz=49,slow=4.2,SNR=1.7						

---

*IDC **01** 18:21:27.2±2.9, 36°97S×179°23E, h0km, mb4.0/3, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=77.8km s-min=41.1km az=141.0*
*NEIC **01** 18:21:28.6±1.1, 37°5S±0°2×179°26E±0°07, h10km±2km, mb4.5/11, Error ellipse: s-maj=39.3km s-min=9.6km az=358.0*
*WEL **01** 18:21:31.7±1.5, 37°S±8°×17°9E±1°0, h9km±6km, M3.9/15, ML4.1/17, MLv3.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=118.2*
ISC 01 18:21:28.7±2.2, 37°13S±0°07×179°27E±0°09, h15km±11km, n45, σ1°13/51, mb4.3/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.88**	**240**		**Pb**	**18 21 43.1**	**-2.5**
MXZ	**Matakaoa Point**	**0.88**	**240**	P	**Pb**	**18 21 45.0**	**-0.7**
MXZ				S	**Sb**	**18 21 54.2**	**-3.0**
PKGZ	**Pakihiroa**	**1.21**	**231**	P	**Pg**	**18 21 52.2**	**+0.1**
PKGZ				S	**Sb**	**18 22 06.9**	**+0.1**
PUZ	**Puketiti**	**1.23**	**220**	P	**Pg**	**18 21 52.6**	**+0.1**
PUZ				S	**Sb**	**18 22 08.1**	**+0.6**
HAZ	**Te Kaha**	**1.33**	**242**	P	**Pg**	**18 21 54.4**	**0.0**
HAZ				S	**Sb**	**18 22 10.9**	**+0.6**
RUGZ	**Raukumara Rang**	**1.51**	**236**	P	**Pb**	**18 21 57.1**	**+0.6**
CNGZ	**Carnagh Statio**	**1.59**	**212**	P	**Pb**	**18 21 58.4**	**+0.6**
WIZ	**White Island**	**1.70**	**256**	P	**Pb**	**18 21 59.4**	**-0.3**
WHRZ	**Whale Island**	**1.96**	**248**	P	**Pn**	**18 22 03.0**	**+1.6**
URZ	**Urewera**	**2.05**	**236**	Pn	**Pn**	**18 22 03.9**	**+1.3**
	90nm,0.3s,baz=121,slow=0.1,SNR=6.9						
URZ				Sn	**Sn**	**18 22 27.6**	**-0.2**
	109nm,0.3s,baz=301,slow=21,SNR=10						
	226nm,0.3s						
URZ	**Urewera**	**2.05**	**236**	Pn	**Pn**	**18 22 04.1**	**+1.5**
URZ	**Urewera**	**2.05**	**236**	P	**Pn**	**18 22 04.2**	**+1.6**
URZ				S	**Sn**	**18 22 27.8**	**0.0**
OPRZ	**Ohinepanea**	**2.27**	**251**	P	**Pn**	**18 22 06.3**	**+0.7**
MUGZ	**Murupara**	**2.39**	**235**	P	**Pn**	**18 22 08.7**	**+1.4**
TARZ	**Mount Tarawera**	**2.45**	**242**	P	**Pn**	**18 22 10.0**	**+1.8**
KARZ	**Kaharoa**	**2.56**	**249**	P	**Pn**	**18 22 10.5**	**+0.9**
HLRZ	**Highlands Stat**	**2.57**	**243**	P	**Pn**	**18 22 11.4**	**+1.6**
MTHZ	**Maungataniwha**	**2.57**	**227**	P	**Pn**	**18 22 11.4**	**+1.5**
NMHZ	**Naumai**	**2.76**	**224**	P	**Pn**	**18 22 14.2**	**+1.7**
MRHZ	**Matea Rd**	**2.82**	**232**	P	**Pn**	**18 22 14.1**	**+0.9**
KUZ	**Kuaotunu**	**2.87**	**277**	P	**Pn**	**18 22 13.0**	**-0.9**
BKZ	**Black Stump Fm**	**2.98**	**226**	Pn	**Pn**	**18 22 15.9**	**+0.4**
BKZ	**Black Stump Fm**	**2.98**	**226**	P	**Pn**	**18 22 16.2**	**+0.7**
KUTZ	**Kaahu Road**	**3.04**	**243**	P	**Pn**	**18 22 17.9**	**+1.6**
TOZ	**Tahuroa Road**	**3.06**	**258**	P	**Pn**	**18 22 16.6**	**+0.2**
HIZ	**Hauiti**	**3.75**	**247**	Pn	**Pn**	**18 22 27.1**	**+1.1**
BFZ	**Birch Farm**	**4.26**	**213**	Pn	**Pn**	**18 22 31.3**	**-1.7**
OUZ	**Omahuta**	**4.97**	**291**	Pn	**Pn**	**18 22 43.7**	**+1.0**
BBOO	**Buckleboo**	**35.44**	**264**	P	**P**	**18 28 24.6**	**+0.3**
BBOO				IAmb	IAmb	18 28 52.6	
	comp=Z,31nm,1.5s						
COEN	**Coen**	**39.55**	**296**	P	**P**	**18 29 00.6**	**+1.3**
COEN				IAmb	IAmb	18 29 00.9	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**40.99**	**276**	P	**P**	**18 29 11.6**	**+0.4**
ASAR	**Alice Springs**	**40.99**	**276**	P	**P**	**18 29 11.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=120,slow=8.2,SNR=5.0						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**40.99**	**276**	P	**P**	**18 29 10.8**	**-0.5**
WR0	**Warramunga Arr**	**42.43**	**281**	P	**P**	**18 29 23.4**	**+0.4**
WR0				IAmb	IAmb	18 29 46.6	
	comp=Z,11nm,1.4s						
FORT	**Forrest**	**42.52**	**263**	P	**P**	**18 29 23.8**	**+0.1**
FORT				IAmb	IAmb	18 29 57.2	
	comp=Z,24nm,1.1s						
WB2	**Warramunga Arr**	**42.59**	**281**	P	**P**	**18 29 24.3**	**0.0**
WB2				IAmb	IAmb	18 29 29.2	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**42.60**	**281**	P	**P**	**18 29 24.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=123,slow=7.0,SNR=6.2						
	comp=Z,0.7nm,0.3s						
WRA	**Warramunga Arr**	**42.60**	**281**	P	**P**	**18 29 23.6**	**-0.7**
WB0	**Warramunga Arr**	**42.65**	**281**	P	**P**	**18 29 24.5**	**-0.3**
WB0				IAmb	IAmb	18 29 28.2	
	comp=Z,8.3nm,1.4s						
KNRA	**Kununurra**	**49.38**	**282**	P	**P**	**18 30 18.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**50.48**	**277**	P	**P**	**18 30

WB2	**Warramunga Arr**	**42.68**	**281**	P	**P**	**18 31 59.3**	**-1.5**
WB2				IAmb	IAmb	18 32 03.2	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**42.68**	**281**	P	**P**	**18 31 58.8**	**-2.1**
WRAB				IAmb	IAmb	18 32 31.8	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**42.69**	**281**	P	**P**	**18 31 59.6**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=121,slow=7.8,SNR=16						
	comp=Z,2.4nm,0.8s						
WRA	**Warramunga Arr**	**42.69**	**281**	P	**P**	**18 31 58.9**	**-2.1**
WB0	**Warramunga Arr**	**42.74**	**281**	P	**P**	**18 31 59.6**	**-1.8**
WB0				IAmb	IAmb	18 32 03.5	
	comp=Z,3.5nm,1.1s						
ARCES	**ARCESS Array B**	**144.56**	**345**	PKP	**PKPab**	**18 43 36.9**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=46,slow=3.5,SNR=4.1						
FINES	**FINESS Array B**	**150.46**	**334**	PKPbc	**PKPdf**	**18 43 52.8**	**+3.4**
	comp=Z,2.5nm,0.9s,baz=35,slow=5.1,SNR=2.1						

*NEIC **01** 18:27:50.7±1.2, 37°.28S±0°.03×179°.23E±0°.07, h10km±2km, mb4.6/14, Error ellipse: s-maj=10.0km s-min=5.0km az=85.0*

*WEL **01** 18:27:53.9±1.2, 37°S±4°×17°9E±°, h23km±8km, M4.4/82, ML4.6/81, MLv4.4/82, Error ellipse: s-maj=0.0km s-min=0.0km az=85.0*

*IDC **01** 18:27:56.1±4.3, 37°.00S×178°.77E, h31km±28km, mb4.2/6, mbtmp4.4/6, ML5.3/1, Error ellipse: s-maj=30.2km s-min=21.7km az=104.0*

ISC 01 18:27:50.6±1.8, 37°.36S±0°.05×179°.13E±0°.06, h7km±9km, n161, σ1§75/170, mb4.5/14, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.68**	**253**		**Pn**	**18 28 05.5**	**-1.1**
MXZ	**Matakaoa Point**	**0.68**	**253**	P	**Pn**	**18 28 05.7**	**-1.0**
MXZ				S	**Sb**	**18 28 13.4**	**-1.1**
WMGZ	**Waiomatatini S**	**0.73**	**231**	P	**Pn**	**18 28 09.3**	**+2.0**
WMGZ				S	**Sn**	**18 28 19.4**	**+0.8**
PKGZ	**Pakihiroa**	**0.99**	**237**	P	**Pn**	**18 28 12.5**	**+1.5**
PKGZ				S	**Sn**	**18 28 25.3**	**+0.2**
HAZ	**Te Kaha**	**1.14**	**249**	P	**Pn**	**18 28 14.6**	**+1.7**
HAZ				S	**Sn**	**18 28 28.9**	**+0.1**
TWGZ	**Tauwhareparae**	**1.22**	**228**	P	**Pb**	**18 28 13.0**	**-1.0**
TWGZ				S	**Sn**	**18 28 32.8**	**+1.9**
RUGZ	**Raukumara Rang**	**1.30**	**242**	P	**Pg**	**18 28 17.4**	**+1.8**
RUGZ				S	**Sn**	**18 28 33.6**	**+0.6**
CNGZ	**Carnagh Statio**	**1.34**	**213**	P	**Pg**	**18 28 19.1**	**+2.8**
TKGZ	**Te Karaka**	**1.48**	**223**	P	**Pg**	**18 28 19.4**	**+0.5**
TKGZ				S	**Sg**	**18 28 37.6**	**-0.5**
WIZ	**White Island**	**1.55**	**263**	P	**Pb**	**18 28 19.5**	**-0.1**
WSRZ	**White Island S**	**1.56**	**264**	P	**Pg**	**18 28 20.4**	**-0.2**
MWZ	**Matawai**	**1.60**	**232**	P	**Pg**	**18 28 21.1**	**-0.2**
MWZ				S	**Sb**	**18 28 40.0**	**-0.8**
RIGZ	**Rimuhau**	**1.72**	**218**	P	**Pg**	**18 28 23.1**	**-0.5**
RAGZ	**Rawiri**	**1.77**	**230**	P	**Pg**	**18 28 24.1**	**-0.4**
WHRZ	**Whale Island**	**1.78**	**253**	P	**Pb**	**18 28 23.7**	**+0.1**
URZ	**Urewera**	**1.83**	**240**	Pn	**Pb**	**18 28 24.5**	**+0.1**
	352nm,0.3s,baz=121,slow=5.0,SNR=48						
URZ				Sn	**Sn**	**18 28 46.0**	**+0.1**
	292nm,0.3s,baz=301,slow=24,SNR=18						
URZ	**Urewera**	**1.83**	**240**	Pn	**Pb**	**18 28 24.1**	**-0.3**
URZ	**Urewera**	**1.83**	**240**	P	**Pb**	**18 28 24.5**	**+0.1**
SNGZ	**Shannon Statio**	**2.00**	**224**	P	**Pb**	**18 28 27.1**	**-0.2**
EDRZ	**Edgecumbe**	**2.04**	**248**	P	**Pb**	**18 28 27.0**	**-0.9**
MARZ	**Manawahe**	**2.04**	**251**	P	**Pb**	**18 28 27.2**	**-0.8**
OPRZ	**Ohinepanea**	**2.10**	**256**	P	**Pn**	**18 28 27.0**	**+0.8**
MUGZ	**Murupara**	**2.17**	**238**	P	**Pb**	**18 28 28.7**	**-1.5**
RAHZ	**Arahi**	**2.24**	**225**	P	**Pb**	**18 28 30.5**	**-0.8**
MKRZ	**Makatiti**	**2.25**	**249**	P	**Pb**	**18 28 30.4**	**-1.1**
TARZ	**Mount Tarawera**	**2.25**	**246**	P	**Pb**	**18 28 30.3**	**-1.4**
WHHZ	**Waihua**	**2.27**	**220**	P	**Pb**	**18 28 30.3**	**-1.6**
RRRZ	**Republican Roa**	**2.29**	**244**	P	**Pb**	**18 28 30.4**	**-1.8**
MYRZ	**Mayor Island**	**2.30**	**271**	P	**Pn**	**18 28 29.0**	**+0.1**
OMRZ	**Omania**	**2.31**	**250**	P	**Pb**	**18 28 30.8**	**-1.7**
TGRZ	**Tauranga**	**2.31**	**260**	P	**Pn**	**18 28 29.9**	**+0.9**
MTHZ	**Maungataniwha**	**2.34**	**230**	P	**Pb**	**18 28 31.6**	**-1.5**
HLRZ	**Highlands Stat**	**2.37**	**247**	P	**Pb**	**18 28 31.8**	**-1.8**
KARZ	**Kaharoa**	**2.38**	**253**	P	**Pn**	**18 28 31.3**	**+1.3**
PRRZ	**Plateau Road**	**2.44**	**241**	P	**Pn**	**18 28 32.2**	**+1.4**
NGRZ	**Ngongotaha**	**2.45**	**251**	P	**Pb**	**18 28 32.8**	**-2.1**
UTU	**Utuhina**	**2.46**	**250**	P	**Pb**	**18 28 34.1**	**-1.1**
HSRZ	**Hossack Road**	**2.47**	**247**	P	**Pb**	**18 28 33.6**	**-1.7**
HRRZ	**Handcock Road**	**2.47**	**245**	P	**Pn**	**18 28 33.0**	**+1.7**
ALRZ	**Allen Road**	**2.51**	**241**	P	**Pn**	**18 28 33.2**	**+1.5**
NMHZ	**Naumai**	**2.52**	**226**	P	**Pb**	**18 28 34.2**	**-2.0**
ARHZ	**Aropaoanui**	**2.53**	**221**	P	**Pb**	**18 28 34.2**	**-2.2**
KMRZ	**Kaimai**	**2.58**	**258**	P	**Pn**	**18 28 33.6**	**+0.9**
GRRZ	**Galatos Road**	**2.58**	**247**	P	**Pb**	**18 28 34.8**	**-2.5**
MRHZ	**Matea Rd**	**2.60**	**235**	P	**Pn**	**18 28 34.5**	**+1.5**
WPRZ	**Whakapapataran**	**2.62**	**243**	P	**Pn**	**18 28 35.1**	**+1.9**
BKZ	**Black Stump Fm**	**2.75**	**228**		**Pn**	**18 28 36.7**	**+1.6**
BKZ	**Black Stump Fm**	**2.75**	**228**	P	**Pn**	**18 28 36.8**	**+1.6**
KUZ	**Kuaotunu**	**2.79**	**282**	P	**Pn**	**18 28 34.9**	**-0.8**
CKHZ	**Cape Kidnapper**	**2.80**	**214**	P	**Pn**	**18 28 36.7**	**+0.9**
WHTZ	**Whakaora**	**2.82**	**242**	P	**Pn**	**18 28 38.4**	**+2.2**
KUTZ	**Kaahu Road**	**2.85**	**246**	P	**Pn**	**18 28 38.1**	**+1.6**
TOZ	**Tahuroa Road**	**2.91**	**262**	P	**Pn**	**18 28 38.0**	**+0.8**
KWHZ	**Kaweka Forest**	**2.96**	**225**	P	**Pn**	**18 28 39.1**	**+1.0**
WATZ	**Wairara**	**3.00**	**242**	P	**Pn**	**18 28 40.1**	**+1.6**
TLZ	**Tolley Road**	**3.00**	**250**	P	**Pn**	**18 28 40.0**	**+1.4**
KAHZ	**Kahuranaki**	**3.00**	**215**	P	**Pn**	**18 28 39.4**	**+0.8**
RITZ	**Rihia Road**	**3.04**	**237**	P	**Pn**	**18 28 40.8**	**+1.7**
RATZ	**Rangitukua**	**3.04**	**239**	P	**Pn**	**18 28 41.0**	**+1.8**
KRHZ	**Kereru**	**3.14**	**223**	P	**Pn**	**18 28 41.4**	**+0.9**
GRZ	**Great Barrier**	**3.15**	**289**	P	**Pn**	**18 28 40.5**	**0.0**
KATZ	**Kakaramea**	**3.15**	**238**	P	**Pn**	**18 28 43.4**	**+2.7**
MKAZ	**Moumakai**	**3.18**	**273**	P	**Pn**	**18 28 41.0**	**+0.1**
PXZ	**Pawanui**	**3.20**	**213**	P	**Pn**	**18 28 41.4**	**+0.1**
BHHZ	**Black Hill Sta**	**3.21**	**228**	P	**Pn**	**18 28 42.7**	**+1.2**
TMVZ	**Te Maari**	**3.21**	**236**	P	**Pn**	**18 28 42.8**	**+1.2**
ETVZ	**East Tongariro**	**3.22**	**236**	P	**Pn**	**18 28 42.9**	**+1.2**
NTVZ	**North Tongarir**	**3.23**	**236**	P	**Pn**	**18 28 43.1**	**+1.3**
WIAZ	**Waiheke Island**	**3.24**	**279**	P	**Pn**	**18 28 41.7**	**-0.1**
KRVZ	**Karewarewa**	**3.25**	**237**	P	**Pn**	**18 28 43.3**	**+1.3**
OTVZ	**Oturere**	**3.27**	**235**	P	**Pn**	**18 28 43.6**	**+1.3**
NNVZ	**North Ngauruho**	**3.28**	**236**	P	**Pn**	**18 28 44.3**	**+1.7**
WTVZ	**West Tongariro**	**3.29**	**237**	P	**Pn**	**18 28 44.3**	**+1.7**
SNVZ	**South Ngauruho**	**3.29**	**235**	P	**Pn**	**18 28 43.9**	**+1.2**
NGZ	**Ngauruhoe**	**3.31**	**236**	P	**Pn**	**18 28 44.2**	**+1.2**
TUVZ	**Tukino**	**3.33**	**234**	P	**Pn**	**18 28 44.6**	**+1.3**
MOVZ	**Moawhango**	**3.35**	**231**	P	**Pn**	**18 28 44.5**	**+1.1**
TWVZ	**Taurewa**	**3.37**	**238**	P	**Pn**	**18 28 45.1**	**+1.4**
ETAZ	**East Tamaki Re**	**3.38**	**276**	P	**Pn**	**18 28 44.1**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.38**	**234**	P	**Pn**	**18 28 45.1**	**+1.2**
FWVZ	**Far West T-bar**	**3.39**	**235**	P	**Pn**	**18 28 45.2**	**+1.1**
WNVZ	**Wahianoa**	**3.40**	**234**	P	**Pn**	**18 28 45.1**	**+1.0**
TRVZ	**Turoa**	**3.42**	**234**	P	**Pn**	**18 28 45.6**	**+1.1**
WPHZ	**Waipukurau**	**3.42**	**217**	P	**Pn**	**18 28 44.9**	**+0.5**
PNHZ	**Pukenui**	**3.43**	**221**	P	**Pn**	**18 28 44.5**	**0.0**
MBAZ	**Motutapu North**	**3.43**	**279**	P	**Pn**	**18 28 45.2**	**+0.7**
MTVZ	**Mangateitei**	**3.51**	**234**	P	**Pn**	**18 28 46.6**	**+1.0**
ABAZ	**Army Bay**	**3.52**	**281**	P	**Pn**	**18 28 46.2**	**+0.5**
EPAZ	**Eden Park BICE**	**3.54**	**277**	P	**Pn**	**18 28 47.4**	**+1.5**
PKVZ	**Pokaka**	**3.54**	**236**	P	**Pn**	**18 28 47.5**	**+1.4**
HBAZ	**Herne Bay Bore**	**3.55**	**277**	P	**Pn**	**18 28 48.1**	**+2.0**
HIZ	**Hauiti**	**3.57**	**250**		**Pn**	**18 28 48.4**	**+2.1**
HIZ	**Hauiti**	**3.57**	**250**	P	**Pn**	**18 28 48.6**	**+2.3**
AWAZ	**Awhitu Peninsu**	**3.59**	**273**	P	**Pn**	**18 28 47.6**	**+1.0**
TSZ	**Takapari Road**	**3.66**	**222**	P	**Pn**	**18 28 47.3**	**-0.4**
WTAZ	**Waiatarua**	**3.66**	**275**	P	**Pn**	**18 28 49.5**	**+1.8**
RVAZ	**Riverhead Bore**	**3.69**	**278**	P	**Pn**	**18 28 48.2**	**+0.3**
BFZ	**Birch Farm**	**4.00**	**213**	Pn	**Pn**	**18 28 51.4**	**-0.9**
POWZ	**Post Office Ro**	**4.00**	**220**	P	**Pn**	**18 28 52.3**	**-0.1**
PRWZ	**Pori Road**	**4.03**	**217**	P	**Pn**	**18 28 52.9**	**+0.2**
WAZ	**Wanganui**	**4.03**	**232**	P	**Pn**	**18 28 54.1**	**+1.4**
WCZ	**Waipu Caves**	**4.10**	**289**	P	**Pn**	**18 28 53.7**	**+0.1**
MHEZ	**Mangahewa**	**4.15**	**244**	P	**Pn**	**18 28 58.7**	**+4.3**
LREZ	**Lake Rotokare**	**4.26**	**239**	P	**Pn**	**18 28 58.2**	**+2.3**
DREZ	**Durham Road**	**4.29**	**243**	P	**Pn**	**18 28 59.2**	**+3.0**
PREZ	**Palmer Road**	**4.38**	**242**	P	**Pn**	**18 29 00.5**	**+3.0**
NEZ	**North Egmont**	**4.39**	**243**	P	**Pn**	**18 29 00.7**	**+2.9**
PKE	**Pukeiti**	**4.44**	**244**	P	**Pn**	**18 29 01.9**	**+3.6**
KHEZ	**Kahui Hut**	**4.46**	**243**	P	**Pn**	**18 29 01.7**	**+3.1**
NBEZ	**Newall Road No**	**4.55**	**244**	P	**Pn**	**18 29 03.4**	**+3.5**
NMEZ	**Namu Road**	**4.61**	**242**	P	**Pn**	**18 29 03.7**	**+3.1**
OUZ	**Omahuta**	**4.95**	**294**		**Pn**	**18 29 06.1**	**+0.8**
OUZ	**Omahuta**	**4.95**	**294**	P	**Pn**	**18 29 06.1**	**+0.8**
PLWZ	**Palliser**	**5.16**	**214**	Pn	**Pn**	**18 29 05.9**	**-2.4**
SNZO	**South Karori**	**5.23**	**220**	Pn	**Pn**	**18 29 06.7**	**-2.4**
TUWZ	**Tuamarina**	**5.71**	**223**		**Pn**	**18 29 14.0**	**-1.8**
NNZ	**Nelson**	**5.89**	**227**	Pn	**Pn**	**18 29 16.6**	**-1.6**
BSWZ	**Blackbirch Sta**	**5.95**	**221**	Pn	**Pn**	**18 29 17.2**	**-1.8**
QRZ	**Quartz Range**	**6.19**	**234**	Pn	**Pn**	**18 29 20.6**	**-1.8**
THZ	**Tophouse**	**6.51**	**226**	Pn	**Pn**	**18 29 24.6**	**-2.2**
KHZ	**Kahutara**	**6.63**	**219**	Pn	**Pn**	**18 29 27.0**	**-1.4**
KHZ	**Kahutara**	**6.63**	**219**	P	**Pn**	**18 29 28.2**	**-0.1**
CTZ	**Chatham Island**	**7.14**	**154**	P	**Pn**	**18 29 39.5**	**+4.0**
LTZ	**Lake Taylor**	**7.55**	**222**	Pn	**Pn**	**18 29 36.9**	**-4.1**
MQZ	**McQueen's Vall**	**8.03**	**216**	Pn	**Pn**	**18 29 43.3**	**-4.3**
OXZ	**Oxford**	**8.05**	**220**		**Pn**	**18 29 43.8**	**-4.0**
RPZ	**Rata Peaks**	**8.83**	**222**	Pn	**Pn**	**18 29 56.1**	**-2.6**
	2.0nm,0.3s,baz=231,slow=2.5,SNR=7.2						
RPZ				Sn	Sn	18 31 27.0	-11
	8.9nm,0.3s,baz=137,slow=22,SNR=14						
RPZ	**Rata Peaks**	**8.83**	**222**	Pn	**Pn**	**18 29 56.8**	**-1.8**
LBZ	**Lake Benmore**	**9.75**	**221**	Pn	**Pn**	**18 30 07.7**	**-3.5**
ODZ	**Otahua Downs**	**9.98**	**217**	Pn	**Pn**	**18 30 11.4**	**-3.0**
WKZ	**Wanaka**	**10.66**	**222**	Pn	**Pn**	**18 30 20.1**	**-3.6**
MLZ	**Mavora Lakes**	**11.50**	**222**	Pn	**Pn**	**18 30 31.5**	**-3.6**
MSVF	**Nonsavu**	**19.57**	**357**	P	**P**	**18 32 16.1**	**-3.1**
	0.4nm,0.3s,baz=136,slow=15,SNR=3.6						
STKA	**Stephens Creek**	**31.23**	**269**	P	**P**	**18 34 11.2**	**+0.5**
	5.1nm,1.0s,baz=100,slow=13,SNR=6.6						
	5.1nm,1.0s						
STKA	**Stephens Creek**	**31.23**	**269**	P	**P**	**18 34 11.5**	**+0.8**
CTAO	**Charters Tower**	**33.35**	**292**	P	**P**	**18 34 30.3**	**+0.9**
COEN	**Coen**	**39.55**	**296**	P	**P**	**18 35 22.7**	**+0.3**
COEN				IAmb	IAmb	18 35 51.9	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**40.91**	**276**	P	**P**	**18 35 32.6**	**-1.0**
ASAR	**Alice Springs**	**40.91**	**276**	P	**P**	**18 35 32.7**	**-1.0**
	comp=Z,4.0nm,0.8s,baz=116,slow=7.3,SNR=21						
ASAR				PcP	**PcP**	**18 37 34.8**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=118,slow=4.4,SNR=1.0						
ASAR				ScP	**ScP**	**18 41 20.6**	**-3.5**
	comp=Z,0.2nm,0.7s,baz=131,slow=3.8,SNR=1.2						
	comp=Z,4.0nm,0.8s						
KRVT	**Keravat (AS076**	**41.20**	**316**	P	**P**	**18 35 34.3**	**-1.7**
	comp=Z,13nm,0.6s,baz=49,slow=14,SNR=3.2						
	comp=Z,13nm,0.6s						
WR0	**Warramunga Arr**	**42.37**	**282**	P	**P**	**18 35 44.8**	**-0.8**
WR0				IAmb	IAmb	18 35 46.0	
	comp=Z,9.0nm,1.4s						
FORT	**Forrest**	**42.39**	**263**	P	**P**	**18 35 44.6**	**-1.0**
WB2	**Warramunga Arr**	**42.52**	**281**	P	**P**	**18 35 46.2**	**-0.6**
WB2				IAmb	IAmb	18 35 46.6	
	comp=Z,7.4nm,0.6s						
WRAB	**Tennant Creek**	**42.53**	**281**	P	**P**	**18 35 46.2**	**-0.7**
WRAB				IAmb	IAmb	18 35 46.6	
	comp=Z,6.8nm,0.6s						
WRA	**Warramunga Arr**	**42.53**	**281**	P	**P**	**18 35 46.0**	**-1.0**
	comp=Z,4.4nm,0.5s,baz=120,slow=7.8,SNR=47						
WRA				PcP	**PcP**	**18 37 40.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=119,slow=3.0,SNR=2.2						
	comp=Z,4.4nm,0.5s						
WRA	**Warramunga Arr**	**42.53**	**281**	P	**P**	**18 35 46.1**	**-0.8**
WB0	**Warramunga Arr**	**42.59**	**282**	P	**P**	**18 35 46.7**	**-0.7**
WB0				IAmb	IAmb	18 35 47.1	
	comp=Z,8.8nm,0.5s						
CASY	**Casey**	**47.91**	**210**	P	**P**	**18 36 31.0**	**+1.9**
CASY				IAmb	IAmb	18 36 39.7	
	comp=Z,15nm,1.5s						
MTN	**Manton Dam**	**49.19**	**287**	P	**P**	**18 36 38.8**	**-0.7**
MTN				IAmb	IAmb	18 37 05.4	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**49.32**	**282**	P	**P**	**18 36 39.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.39**	**277**	P	**P**	**18 36 48.3**	**-0.3**
FITZ				IAmb	IAmb	18 37 00.6	
	comp=Z,6.6nm,1.1s						
QSPA	**South Pole Qui**	**52.77**	**180**	P	**P**	**18 37 10.4**	**+4.4**
	comp=Z,1.2nm,0.9s,baz=38,slow=15,SNR=2.3						
	comp=Z,1.2nm,0.9s						
H03N3	**Juan Fernandez**	**78.83**	**124**	T	T	20 06 26.8	
	baz=234,slow=72,SNR=15						
H03N2	**Juan Fernandez**	**78.84**	**124**	T	T	20 06 30.8	
	baz=234,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**78.85**	**124**	T	T	20 06 30.0	
	baz=234,slow=72,SNR=17						
KSRS	**Korea Array**	**88.20**	**322**	P	**P**	**18 40 42.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=144,slow=4.9,SNR=4.7						
	comp=Z,1.3nm,0.7s						
ARCES	**ARCESS Array B**	**144.75**	**344**	PKP	**PKPdf**	**18 47 26.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=35,slow=2.8,SNR=11						
FINES	**FINESS Array B**	**150.60**	**334**	PKPbc	**PKPbc**	**18 47 42.5**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=54,slow=3.4,SNR=17						
BRTR	**Keskin Array B**	**153.00**	**286**	PKPab	**PKPab**	**18 47 58.6**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=88,slow=3.9,SNR=3.4						
AKASG	**Malin Array Be**	**154.78**	**312**	PKPbc	**PKiKP**	**18 47 52.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=57,slow=2.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**155.78**	**186**	PKPab	**PKPab**	**18 48 15.1**	**+3.0**
	comp=Z,0.4nm,0.6s,baz=165,slow=5.0,SNR=2.4						

IDC 01 18:37:59.2±4.3, 11°.57S×116°.78E, h0km, mb3.2/2, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=266.7km s-min=30.6km az=46.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.83**	**118**	P	P	18 42 20.2	-0.6
	baz=286,slow=14,SNR=1.8						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**20.25**	**129**	P	P	18 42 36.8	+0.4
	0.3nm,0.6s,baz=317,slow=13,SNR=7.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**65.79**	**335**	P	P	18 48 46.2	0.0
	0.6nm,0.9s,baz=152,slow=6.8,SNR=3.3						
	0.6nm,0.9s						

*IDC **01** 18:44:06.6±1.3, 36°.94S×179°.09E, h0km, mb4.1/4, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=35.7km s-min=28.4km az=35.0*

*NEIC **01** 18:44:08.5±1.8, 37°.2S±0°.2×179°.3E±0°.2, h20km±8km, mb4.5/11, Error ellipse: s-maj=30.3km s-min=8.1km az=144.0*

*WEL **01** 18:44:12.0±0.8, 37°S±3°×17°9E±°, h24km±6km, M3.9/63, ML4.2/66, MLv3.9/63, Error ellipse: s-maj=0.0km s-min=0.0km az=87.1*

ISC 01 18:44:08.0±1.7, 37°.26S±0°.05×179°.28E±0°.06, h16km±9km, n135, σ1§51/147, mb4.3/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.83**	**249**		**Pg**	**18 44 24.3**	**+0.2**
MXZ	**Matakaoa Point**	**0.83**	**249**	P	**Pg**	**18 44 24.5**	**+0.3**
MXZ				S	**Sg**	**18 44 32.7**	**-2.3**
WMGZ	**Waiomatatini S**	**0.88**	**231**	P	**Pn**	**18 44 27.6**	**+1.8**
WMGZ				S	**Sb**	**18 44 38.4**	**+1.9**
PKGZ	**Pakihiroa**	**1.14**	**236**	P	**Pg**	**18 44 30.6**	**+0.6**
PKGZ				S	**Sb**	**18 44 43.4**	**-0.6**
PUZ	**Puketiti**	**1.14**	**225**	P	**Pg**	**18 44 31.1**	**+1.0**
PUZ				S	**Sb**	**18 44 45.0**	**+0.9**
HAZ	**Te Kaha**	**1.28**	**247**	P	**Pn**	**18 44 32.7**	**+0.8**
HAZ				S	**Sn**	**18 44 46.9**	**-1.3**
TWGZ	**Tauwhareparae**	**1.37**	**228**	P	**Pb**	**18 44 34.4**	**+1.0**
TWGZ				S	**Sn**	**18 44 51.0**	**+0.4**
RUGZ	**Raukumara Rang**	**1.45**	**241**	P	**Pb**	**18 44 35.5**	**+0.7**
RUGZ				S	**Sn**	**18 44 51.4**	**-1.1**
CNGZ	**Carnagh Statio**	**1.48**	**214**	P	**Pb**	**18 44 36.9**	**+1.6**
TKGZ	**Te Karaka**	**1.63**	**223**	P	**Pn**	**18 44 37.3**	**+1.2**
TKGZ				S	**Sn**	**18 44 57.1**	**+0.3**
WIZ	**White Island**	**1.68**	**260**	P	**Pn**	**18 44 37.3**	**+0.5**
WIZ				S	**Sn**	**18 44 55.3**	**-2.7**
MWZ	**Matawai**	**1.75**	**232**	P	**Pn**	**18 44 39.2**	**+1.4**
MWZ				S	**Sn**	**18 44 58.3**	**-1.5**
RIGZ	**Rimuhau**	**1.87**	**219**	P	**Pn**	**18 44 41.0**	**+1.5**
RAGZ	**Rawiri**	**1.92**	**230**	P	**Pn**	**18 44 41.6**	**+1.5**
RAGZ				S	**Sn**	**18 45 02.5**	**-1.5**
WHRZ	**Whale Island**	**1.92**	**251**	P	**Pn**	**18 44 41.0**	**+0.8**
WHRZ				S	**Sn**	**18 45 03.1**	**-1.0**
URZ	**Urewera**	**1.98**	**239**	Pn	**Pn**	**18 44 41.9**	**+1.0**
	57nm,0.3s,baz=301,slow=3.1,SNR=24						
URZ				Sn	**Sn**	**18 45 03.0**	**-2.5**
	95nm,0.3s,baz=121,slow=12,SNR=9.5						
	116nm,0.3s						
URZ	**Urewera**	**1.98**	**239**		**Pn**	**18 44 42.0**	**+1.0**
URZ	**Urewera**	**1.98**	**239**	P	**Pn**	**18 44 42.2**	**+1.2**
URZ				S	**Sn**	**18 45 04.0**	**-1.5**
PRGZ	**Paritu Road**	**1.99**	**213**	P	**Pn**	**18 44 42.7**	**+1.7**
KNZ	**Kokohu**	**2.16**	**215**	P	**Pn**	**18 44 44.3**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.17**	**209**	P	**Pn**	**18 44 45.2**	**+1.6**
EDRZ	**Edgecumbe**	**2.18**	**247**	P	**Pn**	**18 44 44.8**	**+1.0**
MARZ	**Manawahe**	**2.19**	**250**	P	**Pn**	**18 44 44.5**	**+0.6**
OPRZ	**Ohinepanea**	**2.24**	**254**	P	**Pn**	**18 44 44.5**	**0.0**
MUGZ	**Murupara**	**2.32**	**238**	P	**Pn**	**18 44 46.4**	**+0.8**
RAHZ	**Arahi**	**2.39**	**226**	P	**Pn**	**18 44 48.1**	**+1.5**
TARZ	**Mount Tarawera**	**2.40**	**245**	P	**Pn**	**18 44 47.9**	**+1.1**
MYRZ	**Mayor Island**	**2.42**	**269**	P	**Pn**	**18 44 47.1**	**+0.1**
WHHZ	**Waihua**	**2.42**	**221**	P	**Pn**	**18 44 48.6**	**+1.6**
RRRZ	**Republican Roa**	**2.44**	**243**	P	**Pn**	**18 44 48.7**	**+1.5**
TGRZ	**Tauranga**	**2.44**	**258**	P	**Pn**	**18 44 47.4**	**+0.1**
OMRZ	**Omania**	**2.45**	**249**	P	**Pn**	**18 44 48.7**	**+1.2**
MTHZ	**Maungataniwha**	**2.49**	**230**	P	**Pn**	**18 44 49.4**	**+1.4**
HLRZ	**Highlands Stat**	**2.52**	**246**	P	**Pn**	**18 44 49.6**	**+1.2**
KARZ	**Kaharoa**	**2.52**	**252**	P	**Pn**	**18 44 48.9**	**+0.5**
NGRZ	**Ngongotaha**	**2.59**	**250**	P	**Pn**	**18 44 50.6**	**+1.2**
HSRZ	**Hossack Road**	**2.62**	**246**	P	**Pn**	**18 44 51.2**	**+1.5**
NMHZ	**Naumai**	**2.67**	**226**	P	**Pn**	**18 44 52.0**	**+1.4**
ARHZ	**Aropaoanui**	**2.68**	**221**	P	**Pn**	**18 44 51.6**	**+0.9**
KMRZ	**Kaimai**	**2.71**	**257**	P	**Pn**	**18 44 51.1**	**+0.1**
MRHZ	**Matea Rd**	**2.75**	**234**	P	**Pn**	**18 44 52.5**	**+0.9**
KUZ	**Kuaotunu**	**2.89**	**279**	P	**Pn**	**18 44 52.7**	**-0.8**
BKZ	**Black Stump Fm**	**2.90**	**228**		**Pn**	**18 44 54.1**	**+0.5**
BKZ	**Black Stump Fm**	**2.90**	**228**	P	**Pn**	**18 44 54.3**	**+0.7**
KUTZ	**Kaahu Road**	**2.99**	**245**	P	**Pn**	**18 44 55.8**	**+0.9**
TOZ	**Tahuroa Road**	**3.04**	**260**	P	**Pn**	**18 44 55.5**	**+0.1**
KWHZ	**Kaweka Forest**	**3.11**	**225**	P	**Pn**	**18 44 57.0**	**+0.4**
KAHZ	**Kahuranaki**	**3.15**	**216**	P	**Pn**	**18 44 57.3**	**+0.2**
RITZ	**Rihia Road**	**3.19**	**237**	P	**Pn**	**18 44 58.6**	**+1.0**
RATZ	**Rangitukua**	**3.19**	**239**	P	**Pn**	**18 44 58.8**	**+1.1**
**GRZ

n107,σ1⁰31/115, mb4.3/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.04**	**247**		**Pb**	**18 57 17.7**	**-0.4**
MXZ	**Matakaoa Point**	**1.04**	**247**	P	**Pb**	**18 57 17.8**	**-0.4**
MXZ				S	**Sb**	**18 57 28.6**	**-2.7**
PUZ	**Puketiti**	**1.35**	**227**	P	**Pg**	**18 57 24.9**	**0.0**
PUZ				S	**Sb**	**18 57 41.5**	**+1.2**
PKGZ	**Pakihiroa**	**1.35**	**237**	P	**Pb**	**18 57 24.5**	**+0.9**
PKGZ				S	**Sn**	**18 57 39.8**	**-0.3**
HAZ	**Te Kaha**	**1.50**	**246**	P	**Pb**	**18 57 26.6**	**+0.7**
HAZ				S	**Sn**	**18 57 43.9**	**+0.4**
TWGZ	**Tauwhareparae**	**1.58**	**229**	P	**Pb**	**18 57 28.5**	**+1.0**
TWGZ				S	**Sn**	**18 57 47.2**	**+1.4**
RUGZ	**Raukumara Rang**	**1.66**	**240**	P	**Pb**	**18 57 29.2**	**+0.3**
RUGZ				S	**Sn**	**18 57 47.7**	**-0.1**
CNGZ	**Carnagh Statio**	**1.68**	**217**	P	**Pg**	**18 57 30.4**	**-0.8**
CNGZ				S	**Sg**	**18 57 52.7**	**-0.4**
WIZ	**White Island**	**1.88**	**258**	P	**Pb**	**18 57 30.6**	**+0.7**
WIZ				S	**Sn**	**18 57 51.3**	**-1.7**
MWZ	**Matawai**	**1.96**	**232**	P	**Pn**	**18 57 32.8**	**+1.7**
MWZ				S	**Sn**	**18 57 54.4**	**-0.7**
RIGZ	**Rimuhau**	**2.07**	**221**	P	**Pn**	**18 57 34.0**	**+1.5**
RAGZ	**Rawiri**	**2.13**	**230**	P	**Pn**	**18 57 35.0**	**+1.6**
WHRZ	**Whale Island**	**2.13**	**250**	P	**Pn**	**18 57 34.7**	**+1.4**
WHRZ				S	**Sn**	**18 57 58.0**	**-1.2**
PRGZ	**Paritu Road**	**2.18**	**215**	P	**Pn**	**18 57 36.0**	**+2.0**
URZ	**Urewera**	**2.19**	**239**	Pn	**Pn**	**18 57 36.0**	**+1.8**
	37nm,0.3s,baz=121,slow=16,SNR=8.6						
URZ				Sn	**Sn**	**18 57 59.6**	**-1.1**
	53nm,0.3s,baz=301,slow=23,SNR=8.7						
	66nm,0.3s						
URZ	**Urewera**	**2.19**	**239**	Pn	**Pn**	**18 57 35.7**	**+1.5**
URZ	**Urewera**	**2.19**	**239**	P	**Pn**	**18 57 35.9**	**+1.7**
KNZ	**Kokohu**	**2.36**	**217**	P	**Pn**	**18 57 37.6**	**+1.2**
MHGZ	**Mahia Peninsul**	**2.36**	**212**	P	**Pn**	**18 57 38.5**	**+2.0**
SNGZ	**Shannon Statio**	**2.36**	**226**	P	**Pn**	**18 57 38.0**	**+1.5**
OPRZ	**Ohinepanea**	**2.44**	**253**	P	**Pn**	**18 57 38.2**	**+0.6**
RAHZ	**Arahi**	**2.59**	**227**	P	**Pn**	**18 57 41.8**	**+2.1**
MYRZ	**Mayor Island**	**2.61**	**266**	P	**Pn**	**18 57 40.4**	**+0.5**
TARZ	**Mount Tarawera**	**2.61**	**245**	P	**Pn**	**18 57 41.7**	**+1.7**
WHHZ	**Waihua**	**2.62**	**222**	P	**Pn**	**18 57 41.8**	**+1.7**
MTHZ	**Maungataniwha**	**2.70**	**230**	P	**Pn**	**18 57 42.2**	**+1.0**
HLRZ	**Highlands Stat**	**2.73**	**245**	P	**Pn**	**18 57 43.2**	**+1.6**
KARZ	**Kaharoa**	**2.73**	**251**	P	**Pn**	**18 57 42.5**	**+0.9**
NMHZ	**Naumai**	**2.88**	**227**	P	**Pn**	**18 57 45.1**	**+1.4**
ARHZ	**Aropaoanui**	**2.89**	**222**	P	**Pn**	**18 57 45.4**	**+1.7**
KMRZ	**Kaimai**	**2.92**	**255**	P	**Pn**	**18 57 44.8**	**+0.6**
MRHZ	**Matea Rd**	**2.96**	**235**	P	**Pn**	**18 57 45.9**	**+1.1**
KUZ	**Kuaotunu**	**3.06**	**277**	P	**Pn**	**18 57 45.3**	**-0.8**
BKZ	**Black Stump Fm**	**3.11**	**229**		**Pn**	**18 57 47.7**	**+0.8**
BKZ	**Black Stump Fm**	**3.11**	**229**	P	**Pn**	**18 57 48.1**	**+1.2**
CKHZ	**Cape Kidnapper**	**3.14**	**217**	P	**Pn**	**18 57 48.0**	**+0.7**
KUTZ	**Kaahu Road**	**3.20**	**244**	P	**Pn**	**18 57 48.7**	**+0.6**
TOZ	**Tahuroa Road**	**3.24**	**259**	P	**Pn**	**18 57 48.4**	**-0.1**
KWHZ	**Kaweka Forest**	**3.32**	**226**	P	**Pn**	**18 57 51.1**	**+1.4**
KAHZ	**Kahuranaki**	**3.35**	**217**	P	**Pn**	**18 57 50.7**	**+0.6**
GRZ	**Great Barrier**	**3.37**	**284**	P	**Pn**	**18 57 50.8**	**+0.4**
RITZ	**Rihia Road**	**3.40**	**237**	P	**Pn**	**18 57 53.1**	**+2.2**
MKAZ	**Moumakai**	**3.47**	**270**	P	**Pn**	**18 57 51.7**	**-0.1**
KRHZ	**Kereru**	**3.50**	**224**	P	**Pn**	**18 57 53.1**	**+1.0**
WIAZ	**Waiheke Island**	**3.52**	**275**	P	**Pn**	**18 57 52.8**	**+0.3**
BHHZ	**Black Hill Sta**	**3.57**	**228**	P	**Pn**	**18 57 54.6**	**+1.3**
TMVZ	**Te Maari**	**3.58**	**236**	P	**Pn**	**18 57 54.6**	**+1.3**
ETVZ	**East Tongariro**	**3.58**	**235**	P	**Pn**	**18 57 54.6**	**+1.1**
NTVZ	**North Tongariro**	**3.59**	**236**	P	**Pn**	**18 57 53.2**	**-0.3**
NNVZ	**North Ngauruho**	**3.65**	**236**	P	**Pn**	**18 57 56.0**	**+1.6**
WTVZ	**West Tongariro**	**3.65**	**236**	P	**Pn**	**18 57 56.4**	**+2.0**
ETAZ	**East Tamaki Re**	**3.67**	**272**	P	**Pn**	**18 57 55.5**	**+1.0**
NGZ	**Ngauruhoe**	**3.68**	**236**	P	**Pn**	**18 57 56.0**	**+1.3**
MBAZ	**Motutapu North**	**3.71**	**275**	P	**Pn**	**18 57 56.0**	**+0.9**
MOVZ	**Moawhango**	**3.71**	**232**	P	**Pn**	**18 57 56.2**	**+1.1**
TWVZ	**Taurewa**	**3.73**	**238**	P	**Pn**	**18 57 56.8**	**+1.3**
PNHZ	**Pukenui**	**3.78**	**222**	P	**Pn**	**18 57 56.1**	**0.0**
ABAZ	**Army Bay**	**3.79**	**277**	P	**Pn**	**18 57 57.1**	**+1.0**
AWAZ	**Awhitu Peninsu**	**3.89**	**270**	P	**Pn**	**18 57 58.8**	**+1.3**
HIZ	**Hauiti**	**3.92**	**248**	Pn	**Pn**	**18 57 59.6**	**+1.6**
HIZ	**Hauiti**	**3.92**	**248**	P	**Pn**	**18 57 58.3**	**+0.3**
WTAZ	**Waiatarua**	**3.95**	**272**	P	**Pn**	**18 57 59.7**	**+1.3**
ANWZ	**Angora Road**	**4.06**	**215**	P	**Pn**	**18 57 58.8**	**-1.0**
WCZ	**Waipu Caves**	**4.33**	**285**	P	**Pn**	**18 58 03.8**	**+0.3**
BFZ	**Birch Farm**	**4.34**	**215**	Pn	**Pn**	**18 58 03.1**	**-0.6**
BFZ	**Birch Farm**	**4.34**	**215**	P	**Pn**	**18 58 03.2**	**-0.5**
PRWZ	**Pori Road**	**4.37**	**218**	P	**Pn**	**18 58 04.0**	**-0.1**
WAZ	**Wanganui**	**4.39**	**232**	P	**Pn**	**18 58 05.8**	**+1.3**
MRZ	**Mangatainoka R**	**4.65**	**220**	P	**Pn**	**18 58 07.6**	**-0.4**
NEZ	**North Egmont**	**4.75**	**242**	P	**Pn**	**18 58 12.7**	**+3.2**
PKE	**Pukeiti**	**4.80**	**243**	P	**Pn**	**18 58 14.0**	**+3.9**
KHEZ	**Kahui Hut**	**4.82**	**242**	P	**Pn**	**18 58 14.3**	**+3.9**
TMWZ	**Te Maipa**	**4.84**	**214**	P	**Pn**	**18 58 09.6**	**-1.1**
OGWZ	**Otaki Gorge**	**4.98**	**221**	P	**Pn**	**18 58 11.6**	**-0.8**
MTW	**Mount Morrison**	**5.06**	**217**	P	**Pn**	**18 58 12.2**	**-1.4**
OUZ	**Omahuta**	**5.15**	**290**		**Pn**	**18 58 16.0**	**+1.2**
OUZ	**Omahuta**	**5.15**	**290**	P	**Pn**	**18 58 16.1**	**+1.2**
PAWZ	**Paruwai Farm**	**5.27**	**216**	P	**Pn**	**18 58 14.8**	**-1.8**
MSWZ	**Moikau Station**	**5.38**	**216**	Pn	**Pn**	**18 58 16.6**	**-1.4**
MSWZ	**Moikau Station**	**5.38**	**216**	P	**Pn**	**18 58 16.1**	**-2.0**
PLWZ	**Palliser**	**5.50**	**215**	Pn	**Pn**	**18 58 18.9**	**-0.8**
PLWZ	**Palliser**	**5.50**	**215**	P	**Pn**	**18 58 20.6**	**-1.7**
WELZ	**Wellington**	**5.52**	**220**	P	**Pn**	**18 58 27.2**	**+7.3**
BSWZ	**Blackbirch Sta**	**6.30**	**222**	Pn	**Pn**	**18 58 30.6**	**0.0**
THZ	**Tophouse**	**6.87**	**226**	Pn	**Pn**	**18 58 39.0**	**+0.4**
KHZ	**Kahutara**	**6.98**	**219**	Pn	**Pn**	**18 58 39.9**	**0.0**
CTZ	**Chatham Island**	**7.21**	**157**	P	Pn	18 58 48.3	+5.2
TMZ	**Timaru**	**9.67**	**219**	P	**Pn**	**18 59 15.1**	**-1.8**
KOUNC	**Koumac, New Ca**	**21.20**	**317**	P	**P**	**19 01 44.4**	**+1.2**
KOUNC				IAmb	IAmb	19 02 18.1	
	comp=Z,18nm,1.0s						
EIDS	**Eidsvold**	**26.88**	**288**	P	**P**	**19 02 36.7**	**-1.8**
EIDS				IAmb	IAmb	19 03 18.2	
	comp=Z,18nm,1.5s						
STKA	**Stephens Creek**	**31.53**	**268**	P	**P**	**19 03 20.6**	**+0.8**
COEN	**Coen**	**39.73**	**296**	P	**P**	**19 04 30.9**	**+0.7**
COEN				IAmb	IAmb	19 04 40.9	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**41.19**	**276**	P	**P**	**19 04 42.1**	**-0.2**
ASAR	**Alice Springs**	**41.19**	**276**	P	**P**	**19 04 42.1**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=120,slow=8.1,SNR=36						
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**41.19**	**276**	P	**P**	**19 04 41.7**	**-0.6**
WR0	**Warramunga Arr**	**42.62**	**281**	P	**P**	**19 04 53.3**	**-0.7**
WR0				IAmb	IAmb	19 04 54.1	
	comp=Z,3.3nm,1.0s						
FORT	**Forrest**	**42.71**	**263**	P	**P**	**19 04 54.4**	**-0.2**
WB2	**Warramunga Arr**	**42.78**	**281**	P	**P**	**19 04 54.8**	**-0.5**
WB2				IAmb	IAmb	19 04 59.2	
	comp=Z,9.9nm,1.4s						
WRAB	**Tennant Creek**	**42.79**	**281**	P	**P**	**19 04 54.7**	**-0.7**
WRAB				IAmb	IAmb	19 04 59.2	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**42.79**	**281**	P	**P**	**19 04 54.6**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=123,slow=7.0,SNR=42						
	comp=Z,1.4nm,0.4s						
WRA	**Warramunga Arr**	**42.79**	**281**	P	**P**	**19 04 54.5**	**-0.9**
WB0	**Warramunga Arr**	**42.84**	**281**	P	**P**	**19 04 55.2**	**-0.6**
WB0				IAmb	IAmb	19 04 55.5	
	comp=Z,2.8nm,0.5s						
KNRA	**Kununurra**	**49.57**	**282**	P	**P**	**19 05 46.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**50.67**	**277**	P	**P**	**19 05 56.8**	**-0.2**
QSPA	**South Pole Qui**	**52.97**	**180**	P	P	19 06 19.7	+5.9
	comp=Z,1.0nm,1.0s,baz=120,slow=21,SNR=1.4						
	comp=Z,1.0nm,1.0s						
QSPA	**South Pole Qui**	**52.97**	**180**	P	**P**	**19 06 14.5**	**+0.7**
QSPA				IAmb	IAmb	19 06 44.1	
	comp=Z,2.6nm,1.2s						
FINES	**FINESS Array B**	**150.55**	**334**	PKPbc	**PKiKP**	**19 16 49.7**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=64,slow=3.2,SNR=8.0						

*ISK **01** 18:58:47.8, 35°.08N×27°.22E, h9km, ML3.1/11*
*NIC **01** 18:58:48.0±0.0, 35°.07N×27°.20E, h8km±1km, Ml3.6/2*
*THE **01** 18:58:50.4, 35°.19N×27°.06E, h0km±2km, ML2.7/3, Error ellipse: s-maj=6.8km s-min=1.2km az=137.0*
*ATH **01** 18:58:51.5, 35°.36N×26°.92E, h25km±6km, ML2.8/4, Error ellipse: s-maj=7.6km s-min=1.3km az=128.0*

ISC 01 18:58:47.0±1.7, 35°.08N±0°.06×27°.07E±0.03, h5km±13km, n35,σ0⁰73/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.47**	**10**	P	**Pb**	**18 58 57.7**	**-0.1**
KARP				S	**Sb**	**18 59 04.3**	**-0.8**
	4μm,0.3s						
KARP	**Karpathos**	**0.47**	**10**	PG	**Pb**	**18 58 57.7**	**-0.1**
KARP				SG	**Sb**	**18 59 04.5**	**-0.6**
KARP	**Karpathos**	**0.47**	**10**	P	**Pb**	**18 58 57.7**	**-0.1**
KARP				S	**Sb**	**18 59 04.3**	**-0.8**
KARP	**Karpathos**	**0.47**	**10**	P	**Pb**	**18 58 57.7**	**-0.1**
KARP				S	**Sb**	**18 59 03.6**	**-1.5**
KARP				AML	AML	18 59 05.8	
	comp=N,6105μm,0.1s						
KARP				AML	AML	18 59 06.4	
	comp=E,8644μm,0.4s						
ZKR	**Zakros**	**0.70**	**273**	P	**Pn**	**18 59 03.7**	**+0.2**
ZKR				S	**Sn**	**18 59 15.7**	**+1.1**
	comp=E,765nm,0.4s						
ZKR	**Zakros**	**0.70**	**273**	PG	**Pn**	**18 59 03.7**	**+0.2**
ZKR				SG	**Sn**	**18 59 15.8**	**+1.1**
ZKR	**Zakros**	**0.70**	**273**	P	**Pn**	**18 59 03.5**	**0.0**
ZKR				S	**Sn**	**18 59 15.8**	**+1.1**
ZKR	**Zakros**	**0.70**	**273**	P	**Pn**	**18 59 03.6**	**0.0**
ZKR				S	**Sb**	**18 59 11.7**	**+0.1**
ZKR				AML	AML	18 59 19.3	
	comp=E,2207μm,0.5s						
ZKR				AML	AML	18 59 22.1	
	comp=N,851μm,0.4s						
FRMA	**Ierapetra Chan**	**1.09**	**267**	P	**Pn**	**18 59 08.9**	**-0.1**
FRMA				S	**Sn**	**18 59 24.9**	**+0.4**
	comp=N,172nm,0.4s						
FRMA	**Ierapetra Chan**	**1.09**	**267**	P	**Pn**	**18 59 08.8**	**-0.1**
FRMA				AML	AML	18 59 30.6	
	comp=E,1002μm,0.6s						
FRMA				AML	AML	18 59 31.4	
	comp=N,1040μm,0.3s						
ARG				AML	AML	18 59 38.0	
	comp=E,529μm,0.4s						
NIS1	**Nisyros Isl.**	**1.52**	**3**	PN	**Pg**	**18 59 16.0**	**-0.2**
HRKL	**Herakleio**	**1.62**	**279**	PN	**Pg**	**18 59 19.4**	**+1.2**
IDI	**Anoyia**	**1.79**	**277**	P	**Pg**	**18 59 21.9**	**+0.4**
IDI	**Anoyia**	**1.79**	**277**	PN	**Pg**	**18 59 21.7**	**+0.3**
IDI	**Anoyia**	**1.79**	**277**	P	**Pg**	**18 59 21.8**	**+0.4**
THR6	**Thira Island,**	**1.86**	**314**	P	**Pb**	**18 59 19.1**	**-0.5**
THR3	**Thira Island,**	**1.89**	**315**	P	**Pb**	**18 59 20.7**	**-1.3**
THR5	**Thira Island,**	**1.93**	**314**	P	**Pn**	**18 59 20.8**	**+0.3**
TURN	**Turunc**	**1.94**	**29**	PN	**Pn**	**18 59 21.4**	**+0.8**
DALY	**Dalyan (Mula)**	**2.16**	**36**	PN	**Pn**	**18 59 24.3**	**+0.7**
FETY	**Fethiye**	**2.26**	**46**	PN	**Pn**	**18 59 24.5**	**-0.5**
YER	**Yerkesik**	**2.27**	**25**	PN	**Pn**	**18 59 25.9**	**+0.6**
APE	**Apeiranthos**	**2.34**	**328**	PN	**Pb**	**18 59 27.9**	**-1.8**
APE	**Apeiranthos**	**2.34**	**328**	P	**Pn**	**18 59 27.2**	**+1.0**
AKAS	**Kas**	**2.37**	**60**	PN	**Pn**	**18 59 26.1**	**-0.5**
IMMV	**Iera Moni Meta**	**2.55**	**279**	P	**Pb**	**18 59 32.4**	**-0.9**
IMMV	**Iera Moni Meta**	**2.55**	**279**	P	**Pb**	**18 59 32.6**	**-0.7**
CAME	**Cameli-Denizli**	**2.60**	**44**	PN	**Pn**	**18 59 30.3**	**+0.5**
AKMS	**Akamas**	**4.32**	**89**	P	**Pn**	**18 59 53.0**	**-0.5**
AKMS				AML	AML	19 00 42.9	
	comp=E,0.1nm,0.5s						
AKMS				AML	AML	19 00 43.7	
	comp=E,0.1nm,0.7s						
ALFC	**Alefka**	**4.54**	**87**	P	**Pn**	**18 59 55.8**	**-0.6**
ALFC				AML	AML	19 00 46.6	
	comp=E,0.2nm,0.6s						
ALFC				AML	AML	19 00 47.0	
	comp=E,0.3nm,0.7s						
SZAC	**Souni**	**4.79**	**92**	P	**Pn**	**18 59 59.6**	**-0.2**

*BJI **01** 18:59:15.8±0.0, 37°.16S×179°.34E, h10km, mb5.1/10, Ms5.7/4, Ms7 5.6/4*
*IDC **01** 18:59:16.0±0.4, 36°.89S×179°.10E, h0km, mb5.1/15, mbtmp5.2/17, ML5.3/2, MS4.9/1, Error ellipse: s-maj=15.4km s-min=13.8km az=92.0*
*NEIC **01** 18:59:17.8±2.0, 36°.99S±0°.08×179°.1E±0°.1, h10km±1km, mb5.3/50, Error ellipse: s-maj=18.6km s-min=6.6km az=136.0*
*NOU **01** 18:59:18.1, 37°.32S×179°.74E, h43km, mb5.4/49, Off E. Coast of N. Island, N.Z.*
*WEL **01** 18:59:20.0±1.1, 37°.5±6'×17°.9E±', h21km±10km, M4.9/15, ML5.2/15, MLv4.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=105.4*
*MOS **01** 18:59:20.6±1.2, 36°.97S×178°.91E, h34km, mb5.3/5, Error ellipse: s-maj=12.8km s-min=10.7km az=131.5*

ISC 01 18:59:18.5±0.4, 37°.03S±0°.04×179°.24E±0°.05, h21km±3km, n487,σ1⁰56/521, mb5.3/65, 12C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.92**	**234**	Pg	**Pb**	**18 59 34.7**	**-1.1**
MXZ				Sg	**Sb**	**18 59 44.4**	**-3.1**
MXZ	**Matakaoa Point**	**0.92**	**234**	P	**Pb**	**18 59 35.6**	**-0.1**
MXZ				S	**Sb**	**18 59 46.8**	**-0.7**
WMGZ	**Waiomatatini S**	**1.03**	**220**	P	**Pn**	**18 59 39.3**	**+1.6**
WMGZ				S	**Sn**	**18 59 53.2**	**+1.6**
PKGZ	**Pakihiroa**	**1.26**	**227**	P	**Pb**	**18 59 42.4**	**+0.7**
PKGZ				S	**Sb**	**18 59 58.3**	**+0.8**
PUZ	**Puketiti**	**1.30**	**217**	P	**Pb**	**18 59 42.2**	**-0.1**
PUZ				S	**Sb**	**18 59 59.7**	**+1.1**
HAZ	**Te Kaha**	**1.37**	**238**	P	**Pb**	**18 59 43.7**	**+0.3**
HAZ				S	**Sb**	**19 00 02.3**	**+1.7**
TWGZ	**Tauwhareparae**	**1.52**	**221**	P	**Pb**	**18 59 46.6**	**+0.5**
TWGZ				S	**Sb**	**19 00 05.6**	**+0.7**
RUGZ	**Raukumara Rang**	**1.56**	**233**	P	**Pb**	**18 59 46.9**	**+0.2**
RUGZ				S	**Sb**	**19 00 07.0**	**+1.0**
CNGZ	**Carnagh Statio**	**1.67**	**209**	P	**Pb**	**18 59 48.6**	**0.0**
CNGZ				S	**Sb**	**19 00 10.6**	**+1.5**
WIZ	**White Island**	**1.71**	**253**	P	**Pn**	**18 59 46.9**	**-0.3**
WIZ				S	**Sb**	**19 00 10.6**	**+0.2**
WSRZ	**White Island S**	**1.72**	**253**	P	**Pn**	**18 59 47.5**	**+0.3**
TKGZ	**Te Karaka**	**1.79**	**218**	P	**Pb**	**18 59 49.6**	**-1.0**
TKGZ				S	**Sb**	**19 00 11.9**	**-0.7**
MWZ	**Matawai**	**1.88**	**226**	P	**Pn**	**18 59 50.8**	**+1.2**
MWZ				S	**Sn**	**19 00 13.3**	**+0.5**
WHRZ	**Whale Island**	**1.98**	**245**	P	**Pn**	**18 59 52.3**	**+1.3**
RIGZ	**Rimuhau**	**2.04**	**215**	P	**Pn**	**18 59 52.1**	**+0.3**
RAGZ	**Rawiri**	**2.06**	**224**	P	**Pn**	**18 59 53.1**	**+1.1**
RAGZ				S	**Sn**	**19 00 17.0**	**-0.2**
URZ	**Urewera**	**2.09**	**233**	Pn	**Pn**	**18 59 53.4**	**+1.1**
	509nm,0.3s,baz=301,slow=3.7,SNR=109						
URZ				Sn	**Sn**	**19 00 18.3**	**+0.5**
	301nm,0.3s,baz=121,slow=22,SNR=21						
	1μm,0.3s						
URZ	**Urewera**	**2.09**	**233**	Pn	**Pn**	**18 59 50.7**	**-1.7**
URZ	**Urewera**	**2.09**	**233**	P	**Pn**	**18 59 54.1**	**+1.7**
PRGZ	**Paritu Road**	**2.17**	**209**	P	**Pn**	**18 59 54.5**	**+1.0**
PRGZ				S	**Sn**	**19 00 20.0**	**+0.1**
EDRZ	**Edgecumbe**	**2.26**	**241**	P	**Pn**	**18 59 56.2**	**+1.4**
OPRZ	**Ohinepanea**	**2.29**	**248**	P	**Pn**	**18 59 55.8**	**+0.7**
KNZ	**Kokohu**	**2.34**	**211**	P	**Pn**	**18 59 55.7**	**-0.1**
KNZ				S	**Sn**	**19 00 22.8**	**-1.2**
MHGZ	**Mahia Peninsul**	**2.37**	**206**	P	**Pn**	**18 59 56.6**	**+0.4**
MYRZ	**Mayor Island**	**2.41**	**263**	P	**Pn**	**18 59 57.7**	**+0.9**
MKRZ	**Makatiti**	**2.47**	**243**	P	**Pn**	**18 59 59.7**	**+2.0**
LIRZ	**Lichensteins R**	**2.47**	**246**	P	**Pn**	**18 59 58.9**	**+1.3**
TGRZ	**Tauranga**	**2.48**	**253**	P	**Pn**	**18 59 58.5**	**+0.8**
TARZ	**Mount Tarawera**	**2.48**	**240**	P	**Pn**	**18 59 59.6**	**+1.7**
OMRZ	**Omania**	**2.52**	**244**	P	**Pn**	**18 59 59.6**	**+1.3**
RAHZ	**Arahi**	**2.54**	**222**	P	**Pn**	**18 59 59.5**	**+0.9**
WHHZ	**Waihua**	**2.59**	**217**	P	**Pn**	**18 59 59.7**	**+0.5**
HLRZ	**Highlands Stat**	**2.60**	**241**	P	**Pn**	**19 00 01.0**	**+1.6**
MTHZ	**Maungataniwha**	**2.63**	**226**	P	**Pn**	**19 00 01.2**	**+1.3**
NGRZ	**Ngongotaha**	**2.65**	**245**	P	**Pn**	**19 00 01.9**	**+1.7**
UTU	**Utuhina**	**2.68**	**244**	P	**Pn**	**19 00 02.7**	**+2.2**
PRRZ	**Plateau Road**	**2.69**	**236**	P	**Pn**	**19 00 01.5**	**+0.8**
HSRZ	**Hossack Road**	**2.70**	**241**	P	**Pn**	**19 00 02.6**	**+1.8**
HRRZ	**Handcock Road**	**2.71**	**239**	P	**Pn**	**19 00 02.1**	**+1.2**
KMRZ	**Kaimai**	**2.75**	**252**	P	**Pn**	**19 00 02.2**	**+0.7**
ALRZ	**Allen Road**	**2.76**	**235**	P	**Pn**	**19 00 02.7**	**+1.1**
GRRZ	**Galatos Road**	**2.81**	**241**	P	**Pn**	**19 00 04.0**	**+1.6**
NMHZ	**Naumai**	**2.82**	**222**	P	**Pn**	**19 00 03.7**	**+1.2**
ARHZ	**Aropaoanui**	**2.85**	**218**	P	**Pn**	**19 00 03.3**	**+0.5**
WPRZ	**Whakapapatarin**	**2.86**	**238**	P	**Pn**	**19 00 04.3**	**+1.4**
MRHZ	**Matea Rd**	**2.87**	**230**	P	**Pn**	**19 00 03.8**	**+0.7**
BKZ	**Black Stump Fm**	**3.04**	**225**		**Pn**	**19 00 04.5**	**-1.0**
BKZ	**Black Stump Fm**	**3.04**	**225**	P	**Pn**	**19 00 05.9**	**+0.3**
BKZ	**Black Stump Fm**	**3.04**	**225**	P	**Pn**	**19 00 06.2**	**+0.7**
WHTZ	**Whakaora**	**3.07**	**237**	P	**Pn**	**19 00 08.2**	**+2.2**
KUTZ	**Kaahu Road**	**3.08**	**241**	P	**Pn**	**19 00 07.1**	**+1.2**
CKHZ	**Cape Kidnapper**	**3.13**	**212**	P	**Pn**	**19 00 06.1**	**-0.6**
TLZ	**Tolley Road**	**3.21**	**245**	P	**Pn**	**19 00 09.1**	**+1.3**
WATZ	**Wairara**	**3.24**	**238**	P	**Pn**	**19 00 09.9**	**+1.6**
KWHZ	**Kaweka Forest**	**3.26**	**222**	P	**Pn**	**19 00 08.7**	**+0.2**
RATZ	**Rangitukua**	**3.30**	**235**	P	**Pn**	**19 00 10.3**	**+1.3**
RITZ	**Rihia Road**	**3.31**	**233**	P	**Pn**	**19 00 09.9**	**+0.8**
KAHZ	**Kahuranaki**	**3.33**	**213**	P	**Pn**	**19 00 08.7**	**-0.7**
KATZ	**Kakaramea**	**3.41**	**234**	P	**Pn**	**19 00 12.9**	**+2.2**
KRHZ	**Kereru**	**3.45**	**220**	P	**Pn**	**19 00 10.5**	**-0.6**
TMVZ	**Te Maari**	**3.48**	**232**	P	**Pn**	**19 00 11.9**	**+0.2**
ETVZ	**East Tongariro**	**3.49**	**232**	P	**Pn**	**19 00 11.9**	**+0.2**
NTVZ	**North Tongariro**	**3.49**	**233**	P	**Pn**	**19 00 12.2**	**+0.4**
BHHZ	**Black Hill Sta**	**3.51**	**225**	P	**Pn**	**19 00 12.2**	**+0.3**
KRVZ	**Karewarewa**	**3.51**	**233**	P	**Pn**	**19 00 10.9**	**-1.1**
PXZ	**Pawanui**	**3.53**	**211**	P	**Pn**	**19 00 10.7**	**-1.4**
OTVZ	**Oturere**	**3.54**	**232**	P	**Pn**	**19 00 13.3**	**+0.9**
NNVZ	**North Ngauruho**	**3.55**	**233**	P	**Pn**	**19 00 13.7**	**+1.1**
WTVZ	**West Tongariro**	**3.56**	**233**	P	**Pn**	**19 00 13.6**	**+1.0**
NGZ	**Ngauruhoe**	**3.58**	**232**	P	**Pn**	**19 00 13.3**	**+0.3**
TUVZ	**Tukino**	**3.60**	**231**	P	**Pn**	**19 00 14.0**	**+0.6**
TWVZ	**Taurewa**	**3.63**	**235**	P	**Pn**	**19 00 14.3**	**+0.7**
MOVZ	**Moawhango**	**3.63**	**228**	P	**Pn**	**19 00 13.6**	**0.0**
WHVZ	**Whangaehu Hut**	**3.65**	**231**	P	**Pn**	**19 00 14.7**	**+0.6**
FWVZ	**Far West T-bar**	**3.66**	**232**	P	**Pn**	**19 00 14.7**	**+0.5**
WNVZ	**Wahianoa**	**3.68**	**230**	P	**Pn**	**19 00 14.3**	**0.0**
TRVZ	**Turoa**	**3.69**	**231**	P	**Pn**	**19 00 15.1**	**+0.5**
PNHZ	**Pukenui**	**3.74**	**219**	P	**Pn**	**19 00 14.2**	**-0.9**
WPHZ	**Waipukurau**	**3.74**	**215**	P	**Pn**	**19 00 14.0**	**-1.1**
HIZ	**Hauiti**	**3.78**	**246**	Pn	**Pn**	**19 00 17.1**	**+1.5**
HIZ	**Hauiti**	**3.78**	**246**	P	**Pn**	**19 00 17.5**	**+1.9**
HIZ	**Hauiti**	**3.78**	**246**	P	**Pn**	**19 00 17.5**	**+1.9**
MTVZ	**Mangateitei**	**3.79**	**231**	P	**Pn**	**19 00 16.4**	**+0.6**
PKVZ	**Pokaka**	**3.81**	**233**	P	**Pn**	**19 00 17.1**	**+1.0**
PRHZ	**Porangahau**	**3.82**	**211**	P	**Pn**	**19 00 15.0**	**-1.2**
TSZ	**Takapari Road**	**3.97**	**219**	P	**Pn**	**19 00 16.6**	**-1.7**
ANWZ	**Angora Road**	**4.05**	**211**	P	**Pn**	**19 00 17.8**	**-1.5**
**DVHZ

comp=Z,83nm,0.7s,baz=209,slow=4.1,SNR=4.3
comp=Z,83nm,0.7s
HNR Honiara 32.56 323 P **P** **19 05 48.7 +0.3**
HNR Honiara 32.56 323 P **P** **19 05 48.7 +0.3**
HNR pmax pmax
comp=Z,111nm,0.8s
TWOA Tennyson Woods 32.77 261 P **P** **19 05 50.9 +0.7**
HTT Hallett 32.96 264 P **P** **19 05 52.4 +0.5**
CTA Charters Tower 33.32 291 P **P** **19 05 55.7 +0.7**
comp=Z,16nm,0.8s,baz=111,slow=9.0,SNR=9.5
comp=Z,16nm,0.8s
CTA Charters Tower 33.32 291 P **P** **19 05 56.4 +1.4**
CTAO Charters Tower 33.32 291 P **P** **19 05 56.0 +0.9**
CTAO IAmb IAmb 19 05 57.1
comp=Z,60nm,1.4s
CTAO Charters Tower 33.32 291 P **P** **19 05 56.0 +0.9**
CTAO pmax pmax
comp=Z,60nm,1.4s
CTAO Charters Tower 33.32 291 P **P** **19 05 56.5 +1.4**
INKA Innaminka 33.62 275 P **P** **19 05 58.6 +1.1**
LCRK Leigh Creek 34.54 269 P **P** **19 06 05.6 0.0**
BBOO Buckleboo 35.44 264 P **P** **19 06 12.1 -1.2**
BBOO Buckleboo 35.44 264 P **P** **19 06 12.8 -0.5**
MTSU Mount Surprise 35.96 292 P **P** **19 06 19.2 +1.3**
OOD Oodnadatta 37.63 271 P **P** **19 06 32.2 +0.1**
MULG Mulgathing 37.93 267 P **P** **19 06 33.7 -0.9**
QIS Mount Isa 38.11 284 P **P** **19 06 36.8 +0.6**
COEN Coen 39.49 296 P **P** **19 06 48.4 +0.6**
COEN Coen 39.49 296 P **P** **19 06 48.7 +0.9**
PMG Port Moresby 39.97 305 P **P** **19 06 51.1 -0.6**
comp=Z,39nm,0.8s,baz=101,slow=6.5,SNR=6.2
comp=Z,39nm,0.8s
PMG Port Moresby 39.97 305 P **P** **19 06 51.8 +0.1**
PMG IAmb IAmb 19 06 53.6
comp=Z,39nm,0.8s
PMG Port Moresby 39.97 305 P **P** **19 06 51.8 +0.1**
PMG pmax pmax
comp=Z,39nm,0.8s
AS31 Alice Springs 40.97 276 P **P** **19 06 59.4 -0.6**
AS31 IAmb IAmb 19 07 00.3
comp=Z,32nm,0.7s
ASAR Alice Springs 40.97 276 P **P** **19 06 59.4 -0.7**
comp=Z,121nm,0.9s,baz=120,slow=8.3,SNR=526
ASAR PcP **PcP** **19 09 00.2 +0.1**
comp=Z,3.8nm,0.7s,baz=120,slow=4.4,SNR=3.8
ASAR S **S** **19 13 07.0 -4.1**
comp=Z,2.0nm,0.9s,baz=116,slow=14,SNR=6.3
comp=Z,121nm,0.9s
KRVT Keravat (AS076 41.03 316 P **P** **19 07 01.1 +0.6**
comp=Z,130nm,0.7s,baz=185,slow=1.4,SNR=25
comp=Z,130nm,0.7s
RABL Rabaul 41.05 316 P **P** **19 07 00.7 +0.1**
RABL Rabaul 41.05 316 P **P** **19 07 02.1 +1.4**
SBA Scott Base 41.27 184 P **P** **19 07 01.7 -0.1**
SBA Scott Base 41.27 184 P **P** **19 07 01.7 -0.1**
SBA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 41.29 186 P **P** **19 07 03.5 +1.5**
comp=Z,0.7nm,0.9s,baz=14,slow=6.9,SNR=3.7
VNDA Vanda 41.29 186 P **P** **19 07 02.1 +0.2**
WR0 Warramunga Arr 42.39 281 P **P** **19 07 10.9 -0.8**
WR0 IAmb IAmb 19 07 12.1
comp=Z,69nm,0.8s
FORT Forrest 42.52 263 P **P** **19 07 11.5 -1.0**
FORT Forrest 42.52 263 P **P** **19 07 11.6 -1.0**
WB2 Warramunga Arr 42.55 281 P **P** **19 07 12.6 -0.4**
WRAB Tennant Creek 42.56 281 P **P** **19 07 12.4 -0.6**
WRAB Tennant Creek 42.56 281*ce*P **P** **19 07 12.3 -0.7**
WRAB pmax pmax
comp=Z,176nm,1.3s
WRAB Tennant Creek 42.56 281 P **P** **19 07 12.4 -0.6**
WRA Warramunga Arr 42.56 281 P **P** **19 07 12.0 -1.0**
comp=Z,82nm,0.7s,baz=123,slow=7.5,SNR=326
WRA PcP **PcP** **19 09 05.7 +0.3**
comp=Z,8.6nm,0.7s,baz=121,slow=3.4,SNR=7.4
WRA S **S** **19 13 31.4 -3.3**
comp=Z,2.2nm,1.0s,baz=123,slow=14,SNR=5.0
WRA Warramunga Arr 42.56 281 P **P** **19 07 11.3 -1.7**
WB0 Warramunga Arr 42.62 281 P **P** **19 07 12.8 -0.7**
WRKA Warakurna 44.79 270 P **P** **19 07 29.4 -1.6**
MANU Manus Island 45.54 312 P **P** **19 07 36.3 -0.6**
CASY Casey 48.24 210 P **P** **19 07 57.9 +0.5**
CASY IAmb IAmb 19 07 59.9
comp=Z,27nm,0.8s
KDU Kakadu 48.26 288 P **P** **19 07 57.4 -0.8**
MTN Manton Dam 49.19 286 P **P** **19 08 04.8 -0.5**
MTN IAmb IAmb 19 08 05.0
comp=Z,28nm,0.8s
KNRA Kununurra 49.34 282 P **P** **19 08 06.3 -0.2**
KNRA IAmb IAmb 19 08 07.1
comp=Z,59nm,1.0s
KNRA Kununurra 49.34 282 P **P** **19 08 06.1 -0.4**
GENI Genyem 49.64 304 P **P** **19 08 08.7 -0.1**
comp=Z,88nm,1.0s
NWAO Narrogin (SRO) 50.19 255 P **P** **19 08 11.0 -1.8**
comp=Z,15nm,0.6s,baz=346,slow=6.5
comp=Z,15nm,0.6s
NWAO Narrogin (SRO) 50.19 255 P **P** **19 08 11.0 -1.8**
NWAO IAmb IAmb 19 08 12.3
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 50.19 255 P **P** **19 08 11.0 -1.8**
NWAO Narrogin (SRO) 50.19 255 P **P** **19 08 11.6 -1.2**
KLBR Kellerberrin 50.31 257 P **P** **19 08 12.5 -1.3**
FITZ Fitzroy Crossi 50.45 277 P **P** **19 08 14.6 -0.3**
comp=Z,97nm,0.9s,baz=146,slow=9.5
FITZ PcP **PcP** **19 09 34.1 +1.0**
comp=Z,15nm,0.8s,baz=144,slow=6.6,SNR=2.6
comp=Z,97nm,0.9s
FITZ Fitzroy Crossi 50.45 277 P **P** **19 08 13.9 -1.1**
SMPI Sarmi 51.06 303 P **P** **19 08 18.0 -1.5**
comp=Z,17nm,1.2s
MUN Mundaring 51.36 256 P **P** **19 08 20.5 -1.2**
BLDU Ballidu 51.53 258 P **P** **19 08 21.5 -1.5**
MEEK Meekatharra 51.78 263 P **P** **19 08 23.0 -1.9**
MORW Morawa 52.72 259 P **P** **19 08 30.6 -1.3**
MORW IAmb IAmb 19 08 31.6
comp=Z,20nm,0.7s
MORW Morawa 52.72 259 P **P** **19 08 30.4 -1.5**
SRPI Serui, Papua 52.82 301 P **P** **19 08 31.8 -0.9**
comp=Z,38nm,1.1s
QSPA South Pole Qui 53.09 180 P **P** **19 08 37.5 +3.2**
comp=Z,8.2nm,0.8s,baz=31,slow=1.5,SNR=45
comp=Z,8.2nm,0.8s
QSPA South Pole Qui 53.09 180 P **P** **19 08 37.7 +3.4**
QSPA IAmb IAmb 19 08 50.3
comp=Z,50nm,0.8s
PSA00 Pilbara Seismi 53.24 269 P **P** **19 08 34.1 -1.7**
PSA00 Pilbara Seismi 53.24 269 P **P** **19 08 33.3 -2.5**
PSA00 IAmb IAmb 19 08 35.5
comp=Z,72nm,1.4s
PSA00 Pilbara Seismi 53.24 269 P **P** **19 08 34.7 -1.1**
MBWA Marble Bar 53.55 270 P **P** **19 08 36.1 -1.9**
MBWA Marble Bar 53.55 270 P **P** **19 08 35.9 -2.1**
MBWA IAmb IAmb 19 08 37.3
comp=Z,36nm,0.8s
MBWA Marble Bar 53.55 270 P **P** **19 08 36.5 -1.5**
FAKI Fak Fak 54.87 297 P **P** **19 08 46.1 -1.6**
FAKI IAmb IAmb 19 08 47.8
comp=Z,25nm,0.7s
FAKI Fak Fak 54.87 297 P **P** **19 08 46.4 -1.3**
BATI Baumata 56.58 283 P **P** **19 09 00.5 +0.5**
comp=Z,27nm,0.9s
SWI Sorong 57.01 298 P **P** **19 09 01.9 -1.1**
comp=Z,81nm,0.7s
GIRL Giralia 57.19 265 P **P** **19 09 03.5 -0.7**
MMRI Maumere 58.64 284 P **P** **19 09 13.8 -0.7**
MMRI Maumere 58.64 284 P **P** **19 09 13.4 -1.1**
comp=Z,1µmcomp=Z,117nm,1.0s
MMRI Maumere 58.64 284 P **P** **19 09 14.1 -0.4**
EDFI Ende, Flores 59.00 283 P **P** **19 09 14.9 -2.2**
comp=Z,17nm,1.3s
LBMI Labuha 59.86 295 P **P** **19 09 22.5 -0.4**
comp=Z,25nm,1.0s
SANI Sanana 60.02 292 P **P** **19 09 21.7 -2.3**
comp=Z,67nm,0.9s
TNTI Ternate 60.92 296 P **P** **19 09 27.4 -2.8**
TNTI IAmb IAmb 19 09 37.1
comp=Z,12nm,0.9s
TWSI Taliwang, Sumb 62.77 280 P **P** **19 09 41.9 -0.8**
comp=Z,23nm,1.1s
SPSI Sidrap Palu 63.47 286 P **P** **19 09 45.9 -1.4**
comp=Z,34nm,0.9s
BELA Belgrano 2 63.54 172 P **P** **19 09 48.8 +1.9**
BELA IAmb IAmb 19 10 01.9
comp=Z,18nm,0.8s

APSI Ampana 64.01 290 P **P** **19 09 50.6 -0.2**
comp=Z,50nm,1.1s
TTSI Tana Toraja 64.01 287 P **P** **19 09 49.3 -1.6**
comp=Z,840nmcomp=Z,39nm,0.9s
SMAI San Martin Ant 64.17 158 P **P** **19 09 51.7 +0.6**
SMAI IAmb IAmb 19 10 12.6
comp=Z,9.3nm,0.8s
MIDW Midway 64.98 3 P **P** **19 09 56.4 -0.3**
JAGI Jajag, Banyuwa 65.09 278 P **P** **19 09 55.1 -2.8**
JAGI IAmb IAmb 19 09 59.2
comp=Z,52nm,1.4s
JAGI Jajag, Banyuwa 65.09 278 P **P** **19 09 56.4 -1.6**
MAW Mawson 65.31 202 P **P** **19 10 00.1 +1.5**
comp=Z,12nm,1.0s,baz=115,slow=8.9,SNR=19
comp=Z,12nm,1.0s
MAW Mawson 65.31 202 P **P** **19 09 60.0 +1.5**
MAW Mawson 65.31 202 P **P** **19 10 00.0 +1.5**
MAW pmax pmax
comp=Z,3.0nm,0.9s
GMJI Gumukmas 65.77 278 P **P** **19 10 00.9 -1.4**
comp=Z,40nm,1.2s
TOLI2 Tolitoli 65.99 291 **P** **19 10 00.1 -3.6**
TOLI2 IAmb IAmb 19 10 10.7
comp=Z,27nm,1.3s
MPSI Mapaga 66.14 290 P **P** **19 10 02.3 -2.4**
comp=Z,28nm,0.9s
DAV Davao City (W) 66.59 299 P **P** **19 10 05.0 -2.6**
PWJI Pagerwojo 67.22 277 P **P** **19 10 10.4 -1.2**
comp=Z,44nm,1.0s
BBKI Banjar Baru 67.60 283 P **P** **19 10 13.4 -0.6**
PCJI Pacitan 67.61 277 P **P** **19 10 14.1 0.0**
comp=Z,92nm,1.0s
NGJI Ngawi 67.88 278 P P 19 10 30.2 +14
MYLDM Lahad Datu 70.38 293 P **P** **19 10 31.4 +0.2**
MYLDM IAmb IAmb 19 10 44.2
comp=Z,23nm,1.0s
TROLL Troll, Antarti 71.23 181 P P 19 10 41.0 +5.2
SNAA Sanae 71.59 179 P **P** **19 10 41.9 +4.1**
SNAA Sanae 71.59 179 P **P** **19 10 39.0 +1.2**
SNAA Sanae 71.59 179 *i* P **P** **19 10 38.8 +1.0**
SNAA pmax pmax
comp=Z,11nm,1.2s
VNA3 Neumayer Olymp 71.84 177 P **P** **19 10 41.4 +2.1**
DBJI Dramaga 72.11 275 P **P** **19 10 41.6 -0.2**
comp=Z,2µmcomp=Z,47nm,0.7s
VNA2 Neumayer--Watz 72.24 178 P **P** **19 10 45.8 +4.1**
baz=176,slow=6.2
VNA1 Neumayer--Stat 72.49 177 P P 19 10 48.4 +5.2
KKM Kota Kinabalu 72.65 292 P **P** **19 10 43.9 -1.1**
KKM IAmb IAmb 19 10 54.9
comp=Z,24nm,0.9s
SBUM Sibu 73.34 286 P **P** **19 10 47.9 -1.2**
PPBI Pangkal Pinang 75.24 279 P **P** **19 10 56.8 -3.3**
comp=Z,13µmcomp=Z,14nm,1.2s
H03N3 Juan Fernandez 78.94 124 T T 20 38 02.8
baz=234,slow=72,SNR=67
H03N2 Juan Fernandez 78.94 123 T T 20 38 01.3
baz=234,slow=72,SNR=64
H03N1 Juan Fernandez 78.96 124 T T 20 37 58.9
baz=234,slow=72,SNR=51
PLCA Paso Flores 79.64 134 P **P** **19 11 27.2 +2.6**
comp=Z,3.3nm,0.9s,baz=229,slow=6.5,SNR=8.2
comp=Z,3.3nm,0.9s
MJAR Matsushiro Arr 82.49 328 P **P** **19 11 38.6 -0.8**
comp=Z,1.6nm,1.0s,baz=167,slow=6.1,SNR=4.7
KSRS Korea Array 88.00 322 P **P** **19 12 06.9 0.0**
comp=Z,4.6nm,0.9s,baz=144,slow=5.4,SNR=12
KSRS PP **PP** **19 15 35.4 +1.4**
comp=Z,1.1nm,0.8s,baz=148,slow=8.3,SNR=4.3
comp=Z,4.6nm,0.9s
NJ2 Nanjing 88.91 312 *e*P **P** **19 12 12.2 +0.9**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PETK Petropavlovsk- 91.70 347 P **P** **19 12 24.4 +0.6**
comp=Z,4.5nm,0.7s,baz=176,slow=10.0,SNR=9.6
comp=Z,4.5nm,0.7s
CM31 Chiang Mai Arr 93.48 290 P **P** **19 12 32.9 -0.1**
CM31 IAmb IAmb 19 12 36.0
comp=Z,8.5nm,0.7s
CMAR Chiang Mai Arr 93.48 290 P **P** **19 12 33.1 +0.1**
comp=Z,6.0nm,0.7s,baz=146,slow=3.5,SNR=39
CMAR PP **PP** **19 16 14.8 -2.9**
comp=Z,2.0nm,0.9s,baz=136,slow=6.5,SNR=7.3
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 93.48 290 P **P** **19 12 32.4 -0.5**
CMAR Chiang Mai Arr 93.48 290*ce*P **P** **19 12 33.0 +0.1**
CMAR pmax pmax
comp=Z,7.0nm,0.6s
CHTO Chiang Mai 93.70 291 P **P** **19 12 33.6 -0.3**
CHTO Chiang Mai 93.70 291 P **P** **19 12 33.6 -0.3**
NVAR Mina Aray Bea 94.62 44 P **P** **19 12 39.0 +1.0**
comp=Z,5.5nm,0.8s,baz=243,slow=6.0,SNR=2.2
PZH PanZhiHua 96.37 298 P **P** **19 12 49.7 +3.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
CD2 Chengdu 97.71 303 *e*P Pdif 19 12 54.0 +2.0
TXAR Lajitas Array 97.83 59 PP **PP** **19 16 52.7 +1.3**
comp=Z,2.0nm,0.9s,baz=99,slow=27,SNR=8.2
TXAR PKKPbc **PKKPbc** **19 29 26.7 -0.2**
comp=Z,1.0nm,1.2s,baz=120,slow=5.3,SNR=3.6
DGAR Diego Garcia 98.77 254*ce*P **P** **19 12 56.9 -0.2**
DGAR pmax pmax
comp=Z,137nm,1.3s
HHC Hu-ho-hao-te 99.22 315 *e*P **Pdif** **19 13 01.2 +2.6**
ILAR Eielson Array 104.89 14 PKiKP **PKiKP** **19 17 38.8 +0.9**
comp=Z,0.4nm,0.2s,baz=270,slow=2.9,SNR=5.4
GTA Gaotai 105.39 308 *e*P **PKiKP** **19 17 42.3 +2.5**
GTA pP PP 19 17 52.1 +3.7
GTA sP 19 17 56.5
GTA pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 106.51 318 PKiKP **PKiKP** **19 17 42.2 +0.6**
comp=Z,0.3nm,0.6s,baz=144,slow=1.1,SNR=4.0
SONM PKKP **PKKPab** **19 29 14.3 -0.3**
comp=Z,0.3nm,0.5s,baz=300,slow=2.8,SNR=2.7
INK Inuvik 110.77 17 PKiKP **PKiKP** **19 17 49.7 +1.0**
comp=Z,1.2nm,0.3s,baz=76,slow=10,SNR=1.1
TIXI Tiksi 114.02 345 PKiKP PKPdf 19 17 54.4 -0.5
comp=Z,5.8nm,0.9s,baz=267,slow=22,SNR=17
TIXI Tiksi 114.02 345*c i*PKIKP **PKiKP** **19 17 55.1 +0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
WMQ Urumqi 115.43 307 *e*PKP **PKiKP** **19 18 00.2 +1.7**
WMQ LR LR
comp=Z,620nm,12.5s
WMQ LR LR
comp=Z,490nm,16.1s
WMQ LR LR
comp=Z,560nm,16.1s
DGZ Jazzator, Alta 118.20 313 *i* PKIKP **PKPdf** **19 18 02.0 -1.8**
MK31 Makanchi Array 120.15 308 PKPdf **PKPdf** **19 18 06.6 -0.9**
MK31 Makanchi Array 120.15 308 PKiKP **PKPdf** **19 18 06.6 -0.9**
MKAR Makanchi Array 120.15 308 PKP **PKPdf** **19 18 06.3 -1.1**
comp=Z,4.1nm,0.8s,baz=160,slow=1.1,SNR=26
MKAR PKKPbc **PKKPbc** **19 28 18.1 +2.6**
comp=Z,0.2nm,0.7s,baz=280,slow=4.0,SNR=1.9
MKAR Makanchi Array 120.15 308 PKPdf **PKPdf** **19 18 06.1 -1.3**
MKAR Makanchi Array 120.15 308*c i*PKIKP **PKPdf** **19 18 06.5 -1.0**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 120.35 308 **PKPdf** **19 18 06.6 -1.2**
MAKZ Makanchi 120.35 308 PKiKP **PKPdf** **19 18 06.6 -1.2**
SHLS Shalkode 120.54 303 *e*PKiKP **PKPdf** **19 18 06.4 -2.0**
SHLS Shalkode 120.54 303 *e*PKP **PKPdf** **19 18 06.5 -2.0**
baz=303
UZB Uzynbulak 120.83 303 *e*PKiKP **PKPdf** **19 18 08.6 -0.4**
UZB Uzynbulak 120.83 303 *e*PKP **PKPdf** **19 18 08.7 -0.4**
baz=303
KPKS Kokpek 121.19 303 *e*PKiKP **PKPdf** **19 18 08.4 -1.2**
KPKS Kokpek 121.19 303 *e*PKP **PKPdf** **19 18 08.5 -1.2**
baz=303
SATY Saty 121.21 303 *e*PKiKP **PKPdf** **19 18 08.4 -1.3**
SATY Saty 121.21 303 *e*PKP **PKPdf** **19 18 08.4 -1.3**
baz=303
ZALV Zalesovo Beam 121.34 316 PKP **PKPdf** **19 18 08.6 -0.8**
comp=Z,3.3nm,0.7s,baz=132,slow=2.6,SNR=14
ZALV Zalesovo Beam 121.34 316 PKPdf **PKPdf** **19 18 07.6 -1.8**
KSH Kashi 121.47 298 PKP **PKiKP** **19 18 10.9 +0.4**
TDK Taldyqorghan 121.96 305 *e*PKiKP **PKPdf** **19 18 09.7 -1.3**
TDK Taldyqorghan 121.96 305 *e*PKP **PKPdf** **19 18 09.7 -1.3**
baz=305
MDOK Medeo 122.17 302 *e*PKiKP **PKPdf** **19 18 10.8 -0.8**
MDOK *e* 19 19 43.9
MDOK Medeo 122.17 302 *e*PKP **PKPdf** **19 18 10.9 -0.8**
baz=302
MDOK *e*PP **PP** **19 19 44.0 -3.5**

baz=302
NRN Naryn 122.22 300 **PKPdf** **19 18 09.3 -2.7**
NRN Naryn 122.22 300 PKiKP **PKPdf** **19 18 09.3 -2.7**
SEM Semipalatinsk 122.74 311 *e*PKiKP **PKPdf** **19 18 10.6 -1.9**
SEM Semipalatinsk 122.74 311 *e*PKP **PKPdf** **19 18 10.7 -1.9**
baz=311
KUU Kurty 122.92 303 *e*PKiKP **PKPdf** **19 18 11.3 -1.5**
KUU Kurty 122.92 303 *e*PKP **PKPdf** **19 18 11.4 -1.5**
baz=303
TKM2 Tokmak 2 123.06 302 P **PKPdf** **19 18 13.1 -0.4**
SNR=8.7
UCH Uchtor 123.55 300 P **PKiKP** **19 18 15.1 +0.1**
SNR=6.8
CHMS Chumysh 123.67 301 P **PKPdf** **19 18 14.2 -0.2**
SNR=6.5
AAK Ala-Archa 123.71 301 PKP **PKPdf** **19 18 14.0 -0.6**
comp=Z,1.7nm,0.6s,baz=149,slow=4.5,SNR=5.4
AAK Ala-Archa 123.71 301*c i*PKIKP **PKiKP** **19 18 15.0 +0.1**
AAK pmax pmax
comp=Z,6.0nm,1.7s
KURK Kurchatov 123.83 311 **PKPdf** **19 18 13.3 -1.0**
KURK Kurchatov 123.83 311*c i*PKIKP **PKPdf** **19 18 13.9 -0.4**
KURK pmax pmax
comp=Z,24nm,1.3s
KURBB Kurchatov Arra 123.85 311 PKP **PKPdf** **19 18 13.8 -0.6**
comp=Z,7.1nm,0.7s,baz=112,slow=2.0,SNR=64
KURBB PP **PP** **19 19 58.1 -0.3**
comp=Z,0.7nm,0.8s,baz=108,slow=3.1,SNR=4.1
SGDS Sogindy 123.92 302 *e*PKiKP **PKPdf** **19 18 13.4 -1.4**
SGDS Sogindy 123.92 302 *e*PKP **PKPdf** **19 18 13.4 -1.4**
baz=302
AML Almayashu 124.08 300 P **PKPdf** **19 18 15.6 0.0**
SNR=10
EKS2 Erkin-Say 124.22 301 P **PKPdf** **19 18 15.4 -0.1**
SNR=7.0
KBL Kabul 124.51 290 **PKPdf** **19 18 16.6 +0.1**
KBL Kabul 124.51 290 PKiKP **PKPdf** **19 18 16.6 +0.1**
BTLS Baital 124.86 304 *e*PKiKP **PKPdf** **19 18 15.8 -0.7**
BTLS Baital 124.86 304 *e*PKP **PKPdf** **19 18 15.8 -0.7**
baz=304
GAR Garm 125.32 295 **PKPdf** **19 18 17.6 -0.1**
BTK Batken 125.35 297 **PKPdf** **19 18 17.6 -0.1**
BTK Batken 125.35 297 PKiKP **PKPdf** **19 18 17.6 -0.1**
DZA Taraz 125.98 300 *e*PKiKP **PKPdf** **19 18 18.4 -0.4**
DZA Taraz 125.98 300 *e*PKP **PKPdf** **19 18 18.5 -0.4**
baz=300
KK31 Karatay Array 126.62 300 **PKPdf** **19 18 19.7 -0.3**
KK31 Karatay Array 126.62 300 PKiKP **PKPdf** **19 18 19.7 -0.3**
KKAR Karatay Array 126.62 300 **PKPdf** **19 18 19.6 -0.3**
KKAR Karatay Array 126.62 300 **PKPdf** **19 18 19.7 -0.3**
KKAR Karatay Array 126.62 300 PKiKP **PKPdf** **19 18 19.7 -0.3**
IUG Iuzhnay 126.64 299 *e*PKiKP **PKPdf** **19 18 19.4 -0.7**
IUG Iuzhnay 126.64 299 *e*PKP **PKPdf** **19 18 19.5 -0.7**
baz=299
KMBO Kilima Mbogo 128.22 232 PKP **PKiKP** **19 18 25.2 +0.4**
comp=Z,5.9nm,1.0s,baz=65,slow=4.8,SNR=8.5
BVAR Borovoye Array 129.35 312 PKP **PKPdf** **19 18 24.8 -0.1**
comp=Z,2.9nm,0.6s,baz=115,slow=2.1,SNR=22
BVAR SKPbc SKPbc 19 21 44.9 -0.3
comp=Z,1.3nm,0.9s,baz=79,slow=3.2,SNR=4.2
BRVK Borovoye 129.42 312*c i*PKIKP **PKiKP** **19 18 25.3 -0.4**
BRVK pmax pmax
comp=Z,18nm,1.7s
GEYT Albeck 133.96 290 PKP **PKPdf** **19 18 34.3 +0.2**
comp=Z,3.3nm,0.8s,baz=211,slow=8.3,SNR=4.6
ABKAR Akbulak array 135.20 306 **PKiKP** **19 18 37.4 0.0**
ARU Arti 136.51 316 PKP **PKPdf** **19 18 37.1 -1.1**
comp=Z,1.8nm,0.3s,baz=148,slow=2.8,SNR=8.8
ARU Arti 136.51 316 *i* PKIKP **PKiKP** **19 18 39.0 -0.9**
ARU 19 21 17.4
AKTO Aktyubinsk 136.58 307 PKP **PKPdf** **19 18 38.9 +0.4**
comp=Z,2.7nm,0.5s,baz=107,slow=5.3,SNR=17
SPA0 Spitsbergen Ar 138.11 355 *e*PKPdf **PKiKP** **19 18 41.6 -1.1**
KIRV Kirov 141.19 320*c i*PKIKP **PKiKP** **19 18 48.7 -0.7**
PRGR Permogore 142.23 326 *e*PKiKP **PKPdf** **19 18 46.1 -2.3**
BELG Belogorsnoye 143.09 310 PKHKP PKPpre 19 18 45.3
comp=Z,3.6nm,0.4s,baz=116,slow=1.2,SNR=6.4
HAMF Hammerfest 143.93 346 *e*PKPdf **PKPdf** **19 18 50.3 -0.9**
HAMF IAmb IAmb 19 18 51.3
comp=Z,33nm,1.2s
ARA0 ARCESS Array S 144.46 344 *e*PKPbc PKPbc 19 18 51.3 +0.5
ARA0 IAmb IAmb 19 18 54.0
comp=Z,52nm,1.3s
ARCES ARCESS Array B 144.46 344 PKP PKPbc 19 18 51.1 +0.3
comp=Z,5.0nm,0.5s,baz=24,slow=2.5,SNR=57
ARCES ARCESS Array B 144.46 344 PKPdf PKPbc 19 18 51.4 +0.6
ARCES ARCESS Array B 144.46 344 PKiKP PKPbc 19 18 51.4 +0.6
GUDG Gudauri 145.12 293 **PKPbc** **19 18 53.0 -1.0**
GUDG Gudauri 145.12 293 PKiKP **PKPbc** **19 18 53.0 -1.0**
KLMR Klimovskoe 145.26 326 *e*PKHKP PKPpre 19 18 50.8
KLMR pmax pmax
comp=Z,72nm,1.2s
KLMR Klimovskoe 145.26 326 *e*PKPdf **PKPbc** **19 18 50.8 -2.7**
KLMR AMP 19 18 55.5
comp=Z,72nm,1.2s
KTK1 Kautokeino 145.37 345 *e*PKPbc **PKPdf** **19 18 53.7 -0.1**
KTK1 IAmb IAmb 19 18 54.7
comp=Z,23nm,1.1s
ZEI Tsey 145.58 294 *i* PKP2 **PKPdf** **19 18 53.5 -1.7**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
TRO Tromso 145.64 348 *e*PKPdf **PKPab** **19 18 54.7 -0.2**
TRO IAmb IAmb 19 18 58.1
comp=Z,38nm,1.0s
JMIC Jan Mayen 145.73 5 PKPbc **PKPab** **19 18 55.5 +0.3**
comp=Z,30nm,0.6s,baz=144,slow=1.3,SNR=3.4
GOF Gofitskoye 146.35 298⇑ *e*PKP2 **PKPab** **19 18 58.6 +0.3**
GURO Guroymak-BITLI 146.37 286 **PKPdf** **19 18 56.9 +0.3**
KBZ Khabaz 146.39 295 PKPbc **PKPbc** **19 18 56.9 -0.7**
comp=Z,4.9nm,0.8s,baz=89,slow=4.8,SNR=5.1
KIV Kislovodsk 146.55 296 *e*PKP2 **PKPbc** **19 18 58.5 +0.3**
KIV pmax pmax
comp=Z,9.0nm,1.1s
VRH Novokhopyorsk 146.87 309 *e*PKIKP **PKPdf** **19 18 56.9 +0.1**
VRH pmax pmax
comp=Z,40nm,0.7s
MARD Mardin 147.09 283 **PKPdf** **19 18 56.4 -1.5**
STEI Steigen 147.77 349 *e*PKPbc **PKPbc** **19 19 01.0 +0.3**
STEI IAmb IAmb 19 19 01.9
comp=Z,76nm,1.0s
LOF Lofoten 147.83 350 *e*PKPbc **PKPbc** **19 19 01.6 +0.7**
LOF IAmb IAmb 19 19 02.4
comp=Z,44nm,1.0s
MOS Moscow 148.14 318 *e*PKIKP **PKPbc** **19 19 00.8 -1.2**
MOS *e* 19 19 17.8
MOS pmax pmax
comp=Z,47nm,1.1s
FAUS Fauske 148.26 348 *e*pPKPdf **PKPbc** **19 19 02.5 +0.5**
FAUS IAmb IAmb 19 19 03.1
comp=Z,39nm,1.0s
LPSR Galich'ya Gora 148.30 312 *e*PKIKP **PKPbc** **19 19 01.4 -1.2**
LPSR pmax pmax
comp=Z,30nm,0.9s
VORR Voronezh 148.34 310 *e*PKIKP **PKPdf** **19 19 00.4 +1.2**
VORR pmax pmax
comp=Z,10.0nm,0.4s
VSR Storozhevoye 148.45 310 *e*PKIKP **PKPbc** **19 19 01.8 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.7s
ASF Jabal al Asfar 148.77 272 PKP **PKPdf** **19 19 01.0 +0.3**
comp=Z,5.3nm,0.9s,baz=183,slow=4.2,SNR=7.7
ASF PKPbc **PKPbc** **19 19 04.6 0.0**
comp=Z,9.6nm,0.9s,baz=149,slow=1.7,SNR=9.2
OBN Obninsk 148.92 318 PKP **PKPdf** **19 19 00.2 +0.1**
comp=Z,4.4nm,0.6s,baz=289,slow=19,SNR=1.5
OBN PKPbc **PKPbc** **19 19 03.9 -0.1**
comp=Z,4.3nm,0.5s,baz=98,slow=5.9,SNR=5.8
OBN Obninsk 148.92 318 *e*PKIKP **PKPdf** **19 18 59.5 -0.5**
OBN pmax pmax
comp=Z,12nm,1.0s
LIC Lamto 149.09 172 *e*P **PKiKP** **19 19 06.9 -0.2**
comp=Z,24nm,0.6s
KIC Kosan Boka 149.26 172⇑ *e*P **PKiKP** **19 19 07.4 0.0**
comp=Z,15nm,0.6s
EIL Elat 149.41 267 PKPbc **PKPbc** **19 19 06.0 -0.2**
comp=Z,19nm,0.8s,baz=139,slow=1.3,SNR=12
KONS Konsvik 149.41 349 *e*PKPbc **PKiKP** **19 19 05.6 -0.5**
TIC Toumodi 149.51 172 *e*P **PKiKP** **19 19 08.9 +0.9**
comp=Z,22nm,0.7s
MOR8 Moi Rana 149.51 348 *e*PKPbc **PKPbc** **19 19 05.0 -0.2**
DBIC Dimbokro 149.55 172 PKPbc **PKiKP** **19 19 08.7 +0.6**
comp=Z,7.7nm,1.0s,baz=238,slow=6.0,SNR=5.2
BORG Borgarnes 149.66 17 PKPbc **PKiKP** **19 19 06.2 -0.4**
comp=Z,27nm,1.1s,baz=285,slow=4.9,SNR=3.9
MMAI Mount Meron Ar 150.23 273 PKPbc **PKiKP** **19 19 08.9 -0.1**

	comp=Z,10nm,0.5s,baz=87,slow=5.1,SNR=23						
FIA1	**FINESS Array S**	**150.34 334**	PKPdf	**PKPdf**	19 18 59.0	-3.2	
FIA1				**PKPbc**	19 19 06.9	-0.4	
FINES	**FINESS Array B**	**150.34 334**	PKPbc	**PKPbc**	19 19 07.5	+0.2	
	comp=Z,18nm,0.6s,baz=22,slow=10,SNR=79						
FINES	**FINESS Array B**	**150.34 334**	PKPdf	**PKPdf**	19 18 57.3	-4.8	
FINES				**PKPbc**	19 19 06.9	-0.5	
BNN	**Bunyan**	**151.19 285**		**PKPdf**	19 18 59.5	-4.9	
NSS	**Namsos**	**151.43 349**	*e*PKPbc	**PkiKP**	19 19 10.3	0.0	
NSS			IAmb	IAmb	19 19 11.4		
	comp=Z,67nm,1.0s						
MEF	**Metsahovi**	**151.79 333**	*e*P	**PKPbc**	19 19 10.1	-0.6	
VSU	**Vasula**	**152.04 329**	*e*P	**PKPbc**	19 19 11.0	-0.4	
RAF	**Rauma**	**152.09 337**	*e*P	**PKPbc**	19 19 10.9	-0.5	
CSS	**Mathiatis**	**152.43 276**		**PKPbc**	19 19 12.7	-0.4	
BR131	**Keskin Array S**	**153.00 286**		**PKPbc**	19 19 13.2	-1.2	
BR131	**Keskin Array S**	**153.00 286**	PKIKP	**PKPbc**	19 19 13.2	-1.2	
BRTR	**Keskin Array B**	**153.00 286**	PKP	**PKPdf**	19 19 07.5	+0.5	
	comp=Z,1.6nm,1.0s,baz=100,slow=3.8,SNR=4.7						
BRTR			PKPbc	**pPKPdf**	19 19 13.8	+0.3	
	comp=Z,3.4nm,0.7s,baz=133,slow=4.8,SNR=12						
BRTR	**Keskin Array B**	**153.00 286**	PKPdf	**PKPdf**	19 19 05.4	-1.6	
BRTR			PKPbc	**pPKPdf**	19 19 12.6	-0.8	
ILGA	**Ilgaz**	**153.03 289**		**PKiKP**	19 19 14.6	-0.1	
MTSE	**Matsula**	**153.04 331**	*e*P	**PKPbc**	19 19 12.9	-0.7	
MNK	**Minsk**	**153.73 321**	*i* PKIKP	**PKPdf**	19 19 09.5	+2.1	
MNK			*i*		19 23 09.2		
MNK			*i* PPP	PPP	19 26 32.8		
MNK			*i* SS	SS	19 42 40.0	+2.0	
MNK			*i* SSS	SSS	19 48 31.4		
MNK			pmax	pmax			
	comp=Z,22nm,0.8s						
MNK			pmax	pmax			
	comp=E,5.0nm,1.4s						
MNK	**Minsk**	**153.73 321**	*i* PKP	**PKPdf**	19 19 09.5	+2.1	
	comp=E,5.0nm,1.4s						
MNK			*i* PKP	**PKPdf**	19 19 09.5	+2.1	
MNK			*i* PKP	**PKPdf**	19 19 09.5	+2.1	
	comp=Z,22nm,0.8s,baz=241						
MNK			*i* PP	**PP**	19 23 09.2	+6.5	
MNK			*i* SKS	SKSdf	19 25 29.1	-44	
MNK			*i* PPP	PPP	19 26 32.9		
MNK			*i* SKKS	**SKKSdf**	19 34 53.6	-1.2	
MNK			*i* SS	**SS**	19 42 40.0	+2.0	
MNK			*i* SSS	SSS	19 48 31.4		
MNK			*i* LR	LR	20 26 13.0		
MNK			*i* LRM	MLR	20 29 51.8		
	comp=E,31nm,18.4s						
MNK			*i* LRM	MLR	20 29 51.8		
MNK			*i* LRM	MLR	20 29 51.8		
	comp=Z,531nm,18.4s						
NACGM	**Naroch**	**154.07 322**	*e*PKP	**PKPdf**	19 19 07.9	0.0	
	baz=59						
IIGN	**Ignalina**	**154.10 324**	*e*P	**PKiKP**	19 19 16.4	+0.3	
DOMB	**Dombas**	**154.22 349**	*e*PKPbc	**PKiKP**	19 19 16.9	+0.7	
AKN	**Aaknes**	**154.37 352**	*e*PKPbc	**PKiKP**	19 19 17.7	+1.3	
AKN			IAmb	IAmb	19 19 18.7		
	comp=Z,34nm,1.0s						
NC303	**NORSAR Array S**	**154.60 346**		**PKiKP**	19 19 17.1	+0.1	
AKASG	**Malin Array Be**	**154.63 312**	PKP	**PKPdf**	19 19 08.0	-0.9	
	comp=Z,0.8nm,0.5s,baz=58,slow=2.2,SNR=7.6						
AKASG			PKPbc	**PKPbc**	19 19 16.7	-0.6	
	comp=Z,3.2nm,0.7s,baz=57,slow=2.7,SNR=11						
AKASG	**Malin Array Be**	**154.63 312**		**PKPdf**	19 19 07.6	-1.2	
AKBB	**Malin Array Si**	**154.63 312**		**PKPdf**	19 19 08.1	-0.7	
AKBB	**Malin Array Si**	**154.63 312**	PKIKP	**PKPdf**	19 19 08.1	-0.7	
NB2	**NORSAR Subarra**	**154.80 346**	PKP	**PKiKP**	19 19 18.0	+0.5	
	comp=Z,2.5nm,0.6s,baz=37,slow=2.9						
NOA	**NORSAR Array B**	**154.80 346**	PKP	**PKPdf**	19 19 08.9	+0.1	
	comp=Z,2.8nm,1.1s,baz=20,slow=1.7,SNR=4.3						
NOA			PKPbc	**PKiKP**	19 19 18.0	+0.5	
	comp=Z,9.0nm,0.9s,baz=31,slow=2.1,SNR=14						
NBO00	**NORSAR Array S**	**154.89 347**	PKPdf	**PKPdf**	19 19 08.3	-0.6	
NBO00				**PKiKP**	19 19 18.1	+0.5	
NC602	**NORSAR Array S**	**155.02 346**		PKPdf	19 19 17.6	+8.5	
NC602	**NORSAR Array S**	**155.02 346**	*e*PKPbc	PKPdf	19 19 18.1	+9.1	
PABE	**Paberze**	**155.05 326**	PKPdf	**PKPdf**	19 19 08.6	-0.6	
PABE				**sPKPdf**	19 19 18.2	+0.5	
PABE	**Paberze**	**155.05 326**	*e*P	PKPdf	19 19 17.7	+8.5	
TORD	**Torodi Ar. Bea**	**156.12 186**	PKP	**PKPdf**	19 19 13.0	+1.1	
	comp=Z,3.0nm,1.0s,baz=169,slow=1.5,SNR=6.9						
TORD			PKPbc	**sPKPdf**	19 19 22.6	+2.2	
	comp=Z,1.4nm,0.8s,baz=152,slow=0.9,SNR=7.0						
TORD			PKPab	**PKPab**	19 19 39.4	+0.1	
	comp=Z,2.2nm,0.8s,baz=162,slow=3.3,SNR=5.4						
BURAR	**Bucovina Array**	**158.17 307**	PKPdf	**PKPdf**	19 19 12.7	-1.0	
BURAR				**PKPab**	19 19 46.9	-0.8	
BUR08	**Bucovina Ar. S**	**158.18 307**	PKPdf	**PKPdf**	19 19 11.2	-2.5	
BUR08				**PKPab**	19 19 45.8	-1.9	
MLR	**Muntele Rosu**	**158.30 301**	PKP	**PKPdf**	19 19 13.4	-0.5	
	comp=Z,1.4nm,0.8s,baz=160,slow=22,SNR=3.3						
MLR			PKPab	**PKPab**	19 19 48.8	+0.5	
	comp=Z,4.2nm,1.0s,baz=185,slow=3.2,SNR=4.8						
UZH	**Uzhgorod**	**159.59 312**	*e*PKIKP	**PKPdf**	19 19 16.2	+1.0	
UZH			*i*		19 19 21.5		
UZH			*i*		19 19 32.0		
UZH			*i*		19 19 51.6		
MORC	**Moravsky Berou**	**161.65 320**	*e*PKP	**PKPdf**	19 19 17.8	+0.3	
VYHS	**Vyhne**	**161.67 315**	*e*PKIKP	**PKPdf**	19 19 17.8	+0.3	
VYHS			*e*		19 20 03.1		
VYHS	**Vyhne**	**161.67 315**	*e*PKP	**PKPdf**	19 19 17.8	+0.3	
VYHS			*e*		19 20 03.1		
JAVC	**Velka Javorina**	**162.12 317**	*e*PKP	**PKPdf**	19 19 18.9	+0.9	
VRAC	**Vranov**	**162.42 320**	*e*PKP	**PKPdf**	19 19 18.3	+0.1	
SMOL	**Smolenice**	**162.44 317**	*e*PKIKP	**PKPdf**	19 19 19.5	+1.2	
MODS	**Modra-Piesok**	**162.61 316**	*e*PKIKP	**PKPdf**	19 19 19.5	+1.0	
MODS	**Modra-Piesok**	**162.61 316**	*e*PKP	**PKPdf**	19 19 19.5	+1.0	
KRUC	**Moravsky**	**162.68 319**	*e*PKP	**PKPdf**	19 19 18.2	-0.3	
CLL	**Collm**	**162.69 330**	*e*PKP2	**PKPab**	19 20 07.0	0.0	
CLL			pmax	pmax			
	comp=Z,4.0nm,1.0s						
CLL	**Collm**	**162.69 330**	*e*PKPab	**PKPab**	19 20 07.0	0.0	
	comp=Z,4.0nm,1.0s						
DIVS	**Divibare**	**162.75 301**	PKPdf	**PKPdf**	19 19 19.2	+0.4	
DIVS				**PKPab**	19 20 03.2	-4.5	
RONA	**Rosalia, Austr**	**163.53 316**	*e*P	**PKPdf**	19 19 20.3	+0.9	
	comp=Z,3.7nm,1.3s						
CONA	**Conrad Observa**	**163.64 317**	*e*P	**PKPdf**	19 19 19.6	+0.1	
	comp=Z,3.3nm,1.4s						
GERES	**GERESS Array B**	**164.17 323**	PKP	**PKPdf**	19 19 20.2	+0.2	
	comp=Z,0.1nm,0.3s,baz=72,slow=0.3,SNR=5.3						
GERES			PKPab	**PKPab**	19 20 13.1	-0.6	
	comp=Z,1.4nm,0.9s,baz=318,slow=1.8,SNR=8.8						
GERES	**GERESS Array B**	**164.17 323**	PKPdf	**PKPdf**	19 19 18.2	-1.9	
GERES				**PKPab**	19 20 11.2	-2.6	
BIOA	**Bad Ischl, Aus**	**164.97 320**	*e*P	**PKPdf**	19 19 23.4	+2.7	
	comp=Z,1.1nm,0.4s						
ABTA	**Abfaltersbach**	**166.16 319**	*e*P	**PKPdf**	19 19 23.2	+1.4	
	comp=Z,1.8nm,0.7s						
WTTA	**Wattenberg**	**166.27 322**	*e*P	**PKPdf**	19 19 23.2	+1.3	
	comp=Z,7.0nm,1.2s						
MOTA	**Moosalm**	**166.47 323**	*e*P	**PKPdf**	19 19 22.4	+0.3	
	comp=Z,0.1nm,0.1s						
SQTA	**Sankt Quirin**	**166.51 323**	*e*P	**PKPdf**	19 19 22.0	-0.1	
	comp=Z,2.8nm,1.0s						
RETA	**Reutte**	**166.53 324**	*e*P	**PKPdf**	19 19 23.9	+1.9	
	comp=Z,3.8nm,1.5s						
FETA	**Feichten**	**166.88 323**	*e*P	**PKPdf**	19 19 23.0	+0.6	
	comp=Z,1.2nm,0.6s						
DAVA	**Damuels**	**167.08 326**	*e*P	**PKPdf**	19 19 23.1	+0.6	
	comp=Z,4.7nm,1.0s						
ESDC	**Sonseca Array**	**176.35 43**	PKP	**PKPdf**	19 19 28.2	+1.1	
	comp=Z,1.8nm,1.0s,baz=338,slow=2.1,SNR=9.4						
ESDC			PKPab	**PKPab**	19 21 09.0	+1.1	
	comp=Z,0.5nm,0.8s,baz=311,slow=4.0,SNR=4.7						

*IDC **01** 19:03:09.8±1.4,36.68S×179.29E,h0km,mb4.3/5, mbtmp4.3/6,ML4.4/1,Error ellipse: s-maj=38.3km s-min=29.3km az=53.0*

*NEIC **01** 19:03:11.9±1.1,36.91S±0.07×179.3E±0.1,h10km±2km, mb4.5/17,Error ellipse: s-maj=19.8km s-min=11.6km az=99.0*

*WEL **01** 19:03:17.9±1.7,37°S±7'×17°E±1°3,h24km±8km,M4.0/60, MLv4.0/60,Error ellipse: s-maj=0.0km s-min=0.0km az=78.6*

ISC 01 19:03:11.0±2.2,36.97S±0.06×179.38E±0.08,h10km±11km, n118,σ1§67/123,mb4.5/11,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.04**	**235**		**Pg**	**19 03 31.1**	**+0.1**
MXZ	**Matakaoa Point**	**1.04**	**235**	P	**Pb**	**19 03 31.3**	**+0.3**
MXZ				S	**Sg**	**19 03 43.1**	**-1.5**
PKGZ	**Pakihiroa**	**1.38**	**228**	P	**Pb**	**19 03 37.7**	**+0.7**
PKGZ				S	**Sb**	**19 03 54.9**	**+0.2**
PUZ	**Puketiti**	**1.42**	**219**	P	**Pg**	**19 03 38.9**	**+0.8**
HAZ	**Te Kaha**	**1.50**	**238**	P	**Pg**	**19 03 40.4**	**+0.7**
HAZ				S	**Sg**	**19 03 58.9**	**-0.2**
TWGZ	**Tauwhareparae**	**1.64**	**222**	P	**Pb**	**19 03 42.2**	**+0.9**
RUGZ	**Raukumara Rang**	**1.68**	**233**	P	**Pg**	**19 03 43.0**	**-0.2**
CNGZ	**Carnagh Statio**	**1.77**	**211**	P	**Pb**	**19 03 44.6**	**+1.0**
TKGZ	**Te Karaka**	**1.90**	**219**	P	**Pn**	**19 03 44.5**	**+0.9**
MWZ	**Matawai**	**2.00**	**227**	P	**Pb**	**19 03 46.9**	**-0.6**
WHRZ	**Whale Island**	**2.11**	**244**	P	**Pn**	**19 03 47.7**	**+1.4**
RAGZ	**Rawiri**	**2.18**	**225**	P	**Pn**	**19 03 49.4**	**+2.1**
URZ	**Urewera**	**2.21**	**234**	Pn	**Pn**	**19 03 49.7**	**+1.9**
	97nm,0.3s,baz=121,slow=0.3,SNR=9.0						
URZ				Sn	**Sn**	**19 04 14.0**	**-1.2**
	86nm,0.3s,baz=120,slow=20,SNR=5.0						
	259nm,0.4s						
URZ	**Urewera**	**2.21**	**234**		**Pn**	**19 03 49.2**	**+1.4**
URZ	**Urewera**	**2.21**	**234**	P	**Pn**	**19 03 49.7**	**+1.9**
PRGZ	**Paritu Road**	**2.28**	**211**	P	**Pn**	**19 03 50.2**	**+1.5**
MARZ	**Manawahe**	**2.38**	**244**	P	**Pn**	**19 03 51.3**	**+1.2**
EDRZ	**Edgecumbe**	**2.39**	**241**	P	**Pn**	**19 03 51.7**	**+1.5**
OPRZ	**Ohinepanea**	**2.41**	**248**	P	**Pn**	**19 03 51.3**	**+0.8**
SNGZ	**Shannon Statio**	**2.42**	**221**	P	**Pn**	**19 03 52.7**	**+2.0**
KNZ	**Kohu**	**2.45**	**213**	P	**Pn**	**19 03 52.4**	**+1.4**
MHGZ	**Mahia Peninsul**	**2.47**	**208**	P	**Pn**	**19 03 52.9**	**+1.6**
MUGZ	**Murupara**	**2.56**	**233**	P	**Pn**	**19 03 53.9**	**+1.4**
TGRZ	**Tauranga**	**2.60**	**252**	P	**Pn**	**19 03 54.0**	**+1.0**
TARZ	**Mount Tarawera**	**2.61**	**240**	P	**Pn**	**19 03 55.0**	**+1.7**
OMRZ	**Omania**	**2.65**	**244**	P	**Pn**	**19 03 55.5**	**+1.8**
RRRZ	**Republican Roa**	**2.65**	**238**	P	**Pn**	**19 03 55.6**	**+1.7**
RAHZ	**Arahi**	**2.66**	**222**	P	**Pn**	**19 03 56.2**	**+2.2**
KARZ	**Kaharoa**	**2.71**	**246**	P	**Pn**	**19 03 55.9**	**+1.4**
MTHZ	**Maungataniwha**	**2.75**	**226**	P	**Pn**	**19 03 57.2**	**+2.0**
MTHZ				S	**Sn**	**19 04 28.4**	**-0.1**
PRRZ	**Plateau Road**	**2.82**	**236**	P	**Pn**	**19 03 57.3**	**+1.2**
HSRZ	**Hossack Road**	**2.83**	**241**	P	**Pn**	**19 03 58.1**	**+1.9**
KMRZ	**Kaimai**	**2.87**	**251**	P	**Pn**	**19 03 57.8**	**+0.9**
GRRZ	**Galatos Road**	**2.94**	**241**	P	**Pn**	**19 03 59.6**	**+1.8**
NMHZ	**Naumai**	**2.94**	**223**	P	**Pn**	**19 03 59.9**	**+2.1**
ARHZ	**Aropaoanui**	**2.96**	**219**	P	**Pn**	**19 03 59.8**	**+1.7**
MRHZ	**Matea Rd**	**2.99**	**231**	P	**Pn**	**19 04 00.0**	**+1.5**
BKZ	**Black Stump Fm**	**3.16**	**225**		**Pn**	**19 04 01.2**	**+0.3**
BKZ	**Black Stump Fm**	**3.16**	**225**	P	**Pn**	**19 04 02.1**	**+1.3**
TOZ	**Tahuroa Road**	**3.18**	**255**	P	**Pn**	**19 04 01.2**	**+0.2**
KUTZ	**Kaahu Road**	**3.20**	**241**	P	**Pn**	**19 04 03.0**	**+1.6**
GRZ	**Great Barrier**	**3.24**	**282**	P	**Pn**	**19 04 03.2**	**+1.4**
CKHZ	**Cape Kidnapper**	**3.24**	**213**	P	**Pn**	**19 04 02.4**	**+0.6**
TLZ	**Tolley Road**	**3.34**	**245**	P	**Pn**	**19 04 04.9**	**+1.6**
WIAZ	**Waiheke Island**	**3.41**	**272**	P	**Pn**	**19 04 05.3**	**+1.1**
RATZ	**Rangitukua**	**3.42**	**235**	P	**Pn**	**19 04 06.5**	**+2.1**
RITZ	**Rihia Road**	**3.43**	**233**	P	**Pn**	**19 04 06.3**	**+1.8**
KAHZ	**Kahuranaki**	**3.44**	**214**	P	**Pn**	**19 04 05.1**	**+0.4**
ETAZ	**East Tamaki Re**	**3.56**	**269**	P	**Pn**	**19 04 08.0**	**+1.6**
KRHZ	**Kereru**	**3.57**	**221**	P	**Pn**	**19 04 06.8**	**+0.4**
MBAZ	**Motutapu North**	**3.60**	**272**	P	**Pn**	**19 04 08.6**	**+1.8**
TMVZ	**Te Maari**	**3.61**	**232**	P	**Pn**	**19 04 07.8**	**+0.8**
ETVZ	**East Tongariro**	**3.61**	**232**	P	**Pn**	**19 04 08.4**	**+1.3**
NTVZ	**North Tongarir**	**3.61**	**233**	P	**Pn**	**19 04 08.2**	**+1.0**
BHHZ	**Black Hill Sta**	**3.63**	**225**	P	**Pn**	**19 04 08.4**	**+1.1**
OTVZ	**Oturere**	**3.66**	**232**	P	**Pn**	**19 04 09.4**	**+1.6**
ABAZ	**Army Bay**	**3.67**	**274**	P	**Pn**	**19 04 08.9**	**+1.1**
NNVZ	**North Ngauruho**	**3.67**	**233**	P	**Pn**	**19 04 10.2**	**+2.3**
WTVZ	**West Tongariro**	**3.68**	**233**	P	**Pn**	**19 04 09.9**	**+1.8**
NGZ	**Ngauruhoe**	**3.71**	**232**	P	**Pn**	**19 04 09.5**	**+1.1**
EPAZ	**Eden Park BICE**	**3.72**	**270**	P	**Pn**	**19 04 10.8**	**+2.4**
TUVZ	**Tukino**	**3.73**	**231**	P	**Pn**	**19 04 10.1**	**+1.4**
HBAZ	**Herne Bay Bore**	**3.73**	**270**	P	**Pn**	**19 04 10.9**	**+2.4**
MOVZ	**Moawhango**	**3.75**	**228**	P	**Pn**	**19 04 09.6**	**+0.6**
TWVZ	**Taurewa**	**3.75**	**235**	P	**Pn**	**19 04 10.6**	**+1.6**
FWVZ	**Far West T-bar**	**3.78**	**232**	P	**Pn**	**19 04 11.7**	**+2.1**
AWAZ	**Awhitu Peninsu**	**3.79**	**267**	P	**Pn**	**19 04 10.3**	**+0.8**
WNVZ	**Wahianoa**	**3.80**	**231**	P	**Pn**	**19 04 10.5**	**+0.8**
WTAZ	**Waiatarua**	**3.85**	**269**	P	**Pn**	**19 04 11.2**	**+1.0**
RVAZ	**Riverhead Bore**	**3.85**	**272**	P	**Pn**	**19 04 12.5**	**+2.2**
HIZ	**Hauiti**	**3.90**	**245**	Pn	**Pn**	**19 04 12.2**	**+1.2**
HIZ	**Hauiti**	**3.90**	**245**	P	**Pn**	**19 04 13.6**	**+2.6**
WCZ	**Waikuku Caves**	**4.19**	**283**	P	**Pn**	**19 04 16.1**	**+1.2**
WAZ	**Wanganui**	**4.43**	**230**	P	**Pn**	**19 04 19.8**	**+1.5**
BFZ	**Birch Farm**	**4.44**	**212**	Pn	**Pn**	**19 04 16.9**	**-1.5**
BFZ	**Birch Farm**	**4.44**	**212**	P	**Pn**	**19 04 17.7**	**-0.7**
PREZ	**Palmer Road**	**4.75**	**238**	P	**Pn**	**19 04 27.3**	**+4.6**
NEZ	**North Egmont**	**4.76**	**240**	P	**Pn**	**19 04 26.1**	**+3.2**
PKE	**Pukeiti**	**4.80**	**241**	P	**Pn**	**19 04 27.0**	**+3.6**
KHEZ	**Kahui Hut**	**4.82**	**240**	P	**Pn**	**19 04 27.6**	**+3.9**
OUZ	**Omahuta**	**5.00**	**289**		**Pn**	**19 04 27.4**	**+1.3**
OUZ	**Omahuta**	**5.00**	**289**	P	**Pn**	**19 04 28.1**	**+2.0**
MSWZ	**Moikau Station**	**5.48**	**215**	Pn	**Pn**	**19 04 31.6**	**-1.0**
SNZO	**South Karori**	**5.66**	**219**	Pn	**Pn**	**19 04 32.9**	**-2.1**
TUWZ	**Tuamarina**	**6.14**	**222**	Pn	**Pn**	**19 04 42.1**	**+0.5**
CMWZ	**Cape Campbell**	**6.23**	**218**	Pn	**Pn**	**19 04 42.0**	**-0.9**
QRZ	**Quartz Range**	**6.58**	**232**	Pn	**Pn**	**19 04 45.3**	**-2.5**
CTZ	**Chatham Island**	**7.42**	**157**	P	**Pn**	**19 05 01.8**	**+2.5**
LTZ	**Lake Taylor**	**7.97**	**221**	Pn	**Pn**	**19 05 03.3**	**-3.6**
OXZ	**Oxford**	**8.48**	**216**	Pn	**Pn**	**19 05 10.0**	**-3.8**
RPZ	**Rata Peaks**	**9.26**	**221**	Pn	**Pn**	**19 05 21.3**	**-3.3**
RPZ	0.5nm,0.3s,baz=172,slow=9.1,SNR=1.3			Sn	Sn	19 06 57.7	-11
	2.3nm,0.3s,baz=314,slow=22,SNR=6.2						
KOUNC	**Koumac, New Ca**	**20.99**	**317**	P	**P**	**19 07 52.2**	**-2.3**
KOUNC				IAmb	IAmb	19 07 54.8	
	comp=Z,45nm,1.3s						
TOO	**Toolangi**	**26.89**	**258**	P	**P**	**19 08 52.4**	**+0.2**
TOO				IAmb	IAmb	19 09 07.2	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**31.44**	**268**	P	**P**	**19 09 31.7**	**-0.9**
BBOO	**Buckleboo**	**35.55**	**264**	P	**P**	**19 10 07.8**	**-0.6**
COEN	**Coen**	**39.56**	**296**	P	**P**	**19 10 41.9**	**-0.5**
COEN				IAmb	IAmb	19 10 59.2	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**41.07**	**276**	P	**P**	**19 10 54.2**	**-0.7**
ASAR	**Alice Springs**	**41.07**	**276**	P	**P**	**19 10 54.2**	**-0.7**
	comp=Z,8.4nm,0.8s,baz=118,slow=7.9,SNR=12						
	comp=Z,8.4nm,0.8s						
ASAR	**Alice Springs**	**41.07**	**276**	P	**P**	**19 10 54.0**	**-1.0**
VNDA	**Vanda**	**41.36**	**186**	P	**P**	**19 10 58.1**	**+1.5**
WR0	**Warramunga Arr**	**42.49**	**281**	P	**P**	**19 11 06.0**	**-0.6**
WR0				IAmb	IAmb	19 11 06.4	
	comp=Z,4.8nm,0.7s						
FORT	**Forrest**	**42.63**	**263**	P	**P**	**19 11 06.6**	**-1.0**
WB2	**Warramunga Arr**	**42.65**	**281**	P	**P**	**19 11 07.3**	**-0.6**
WB2				IAmb	IAmb	19 11 07.8	
	comp=Z,7.0nm,0.6s						
WRAB	**Tennant Creek**	**42.65**	**281**	P	**P**	**19 11 07.1**	**-0.8**
WRAB				IAmb	IAmb	19 11 09.0	
	comp=Z,4.9nm,0.7s						
WRA	**Warramunga Arr**	**42.66**	**281**	P	**P**	**19 11 07.2**	**-0.7**
	comp=Z,4.8nm,0.6s,baz=121,slow=7.7,SNR=9.7						
	comp=Z,4.8nm,0.6s						
WRA	**Warramunga Arr**	**42.66**	**281**	P	**P**	**19 11 06.9**	**-1.0**
WB0	**Warramunga Arr**	**42.71**	**281**	P	**P**	**19 11 07.2**	**-1.2**
WB0				IAmb	IAmb	19 11 08.2	
	comp=Z,7.3nm,0.6s						
KNRA	**Kununurra**	**49.44**	**281**	P	**P**	**19 11 59.1**	**-2.2**
NWAO	**Narrogin (SRO)**	**50.31**	**255**	P	**P**	**19 12 06.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**50.55**	**277**	P	**P**	**19 12 09.2**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=133,slow=3.6,SNR=7.0						
	comp=Z,3.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**50.55**	**277**	P	**P**	**19 12 09.5**	**-0.3**
FITZ				IAmb	IAmb	19 12 26.1	
	comp=Z,8.1nm,1.1s						
QSPA	**South Pole Qui**	**53.16**	**180**	P	**P**	**19 12 31.5**	**+2.7**
	comp=Z,1.8nm,0.8s,baz=59,slow=12,SNR=3.2						
	comp=Z,1.8nm,0.8s						
QSPA	**South Pole Qui**	**53.16**	**180**	P	**P**	**19 12 31.1**	**+2.3**
QSPA				IAmb	IAmb	19 12 44.5	
	comp=Z,6.6nm,1.2s						
MAW	**Mawson**	**65.41**	**202**	P	**P**	**19 13 55.1**	**+1.8**
	comp=Z,1.5nm,1.0s,baz=156,slow=10.0,SNR=1.6						
	comp=Z,1.5nm,1.0s						
ARCES	**ARCESS Array B**	**144.44 345**		PKP	**PKPab**	**19 22 45.0**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=42,slow=2.0,SNR=4.1						
MMAI	**Mount Meron Ar**	**150.34 273**		PKPbc	**PKPbc**	**19 23 02.9**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=91,slow=7.2,SNR=2.2						
FINES	**FINESS Array B**	**150.34 334**		PKPbc	**PKPbc**	**19 23 01.2**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=66,slow=3.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**156.19 186**		PKPab	**PKPab**	**19 23 34.6**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=171,slow=5.7,SNR=1.9						

*NEIC **01** 19:04:36.2±1.9,36.98S±0.07×178.9E±0.1,h10km±1km, mb4.9/20,Error ellipse: s-maj=16.9km s-min=8.5km az=123.0*

*WEL **01** 19:04:37.1±1.3,37°S±7'×17°E±1°1,h23km±17km, M4.5/18,ML4.7/17,MLv4.5/18,Error ellipse: s-maj=0.0km s-min=0.0km az=76.5*

*IDC **01** 19:04:41.9±2.4,36.97S×178.76E,h62km±18km,mb4.2/8, mbtmp4.5/8,Error ellipse: s-maj=21.2km s-min=14.7km az=180.0*

ISC 01 19:04:40.0±1.8,37.05S±0.08×179.01E±0.09,h51km±12km, n147,σ1§49/151,mb4.8/17,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.76**	**227**		**Pn**	**19 04 50.3**	**-4.3**
MXZ	**Matakaoa Point**	**0.76**	**227**	P	**Pn**	**19 04 51.6**	**-3.0**
WMGZ	**Waiomatatini S**	**0.91**	**211**	P	**Pn**	**19 04 55.7**	**-0.8**
PKGZ	**Pakihiroa**	**1.12**	**221**	P	**Pn**	**19 04 58.6**	**-0.8**
PKGZ				S	**Sn**	**19 05 14.7**	**+0.8**
PUZ	**Puketiti**	**1.19**	**210**	P	**Pn**	**19 04 59.5**	**-0.8**
PUZ				S	**Sn**	**19 05 16.0**	**+0.6**
HAZ	**Te Kaha**	**1.21**	**234**	P	**Pn**	**19 05 00.5**	**0.0**
HAZ				S	**Sn**	**19 05 18.0**	**+2.2**
TWGZ	**Tauwhareparae**	**1.40**	**216**	P	**Pn**	**19 05 02.6**	**-0.5**
TWGZ				S	**Sn**	**19 05 22.6**	**+2.2**
RUGZ	**Raukumara Rang**	**1.40**	**229**	P	**Pn**	**19 05 03.2**	**-0.1**
RUGZ				S	**Sn**	**19 05 22.4**	**+1.6**
WIZ	**White Island**	**1.53**	**251**	P	**Pn**	**19 05 04.7**	**-0.2**
WIZ				S	**Sn**	**19 05 23.8**	**+0.1**
CNGZ	**Carnagh Statio**	**1.57**	**204**	P	**Pn**	**19 05 05.0**	**-0.4**
TKGZ	**Te Karaka**	**1.67**	**213**	P	**Pn**	**19 05 05.9**	**-0.8**
TKGZ				S	**Sn**	**19 05 28.4**	**+1.3**
MWZ	**Matawai**	**1.74**	**222**	P	**Pn**	**19 05 07.5**	**-0.4**
MWZ				S	**Sn**	**19 05 29.7**	**+0.7**
RAGZ	**Rawiri**	**1.92**	**221**	P	**Pn**	**19 05 09.8**	**-0.6**
RIGZ	**Rimuhau**	**1.93**	**210**	P	**Pn**	**19 05 09.4**	**-1.0**
URZ	**Urewera**	**1.94

WB2				IAmb	IAmb	19 12 29.4	
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**42.38 281**	P	**P**		**19 12 28.9**	**-0.6**
WRAB				IAmb	IAmb	19 12 29.4	
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**42.38 281**	P	**P**		**19 12 28.8**	**-0.7**
	comp=Z,11nm,0.6s,baz=120,slow=7.8,SNR=32						
WRA			ScP	**ScP**		**19 18 05.3**	**-3.0**
	comp=Z,0.4nm,0.9s,baz=122,slow=4.0,SNR=2.4						
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**42.38 281**	P	**P**		**19 12 29.0**	**-0.5**
WB0	**Warramunga Arr**	**42.44 281**	P	**P**		**19 12 29.3**	**-0.6**
WB0				IAmb	IAmb	19 12 29.9	
	comp=Z,14nm,0.6s						
CASY	**Casey**	**48.14 210**	P	**P**		**19 13 15.0**	**+0.6**
CASY				IAmb	IAmb	19 13 15.7	
	comp=Z,39nm,2.0s						
KNRA	**Kununurra**	**49.16 282**	P	**P**		**19 13 22.4**	**-0.5**
NWAO	**Narrogin (SRO)**	**50.01 255**	P	**P**		**19 13 27.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**50.27 277**	P	**P**		**19 13 30.7**	**-0.6**
	comp=Z,5.1nm,0.7s,baz=118,slow=7.3,SNR=11						
	comp=Z,5.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.27 277**	P	**P**		**19 13 31.2**	**-0.1**
FITZ				IAmb	IAmb	19 13 38.9	
	comp=Z,26nm,1.5s						
SAUI	**Saumlaki**	**51.98 292**	P	**P**		**19 13 44.1**	**-0.1**
MORW	**Morawa**	**52.54 259**	P	**P**		**19 13 46.9**	**-1.3**
MORW				IAmb	IAmb	19 14 38.5	
	comp=Z,48nm,1.6s						
PSA00	**Pilbara Seismi**	**53.06 270**	P	**P**		**19 13 51.1**	**-1.0**
PSA00				IAmb	IAmb	19 15 28.7	
	comp=Z,44nm,1.4s						
QSPA	**South Pole Qui**	**53.08 180**	P	**P**		**19 13 54.1**	**+2.2**
	comp=Z,4.2nm,0.9s,baz=17,slow=2.9,SNR=5.8						
	comp=Z,4.2nm,0.9s						
QSPA	**South Pole Qui**	**53.08 180**	P	**P**		**19 13 54.9**	**+3.1**
MBWA	**Marble Bar**	**53.36 270**	P	**P**		**19 13 52.6**	**-1.7**
BELA	**Belgrano 2**	**63.55 172**	P	**P**		**19 15 05.9**	**+1.4**
BELA				IAmb	IAmb	19 15 06.8	
	comp=Z,3.3nm,0.7s						
PMSA	**Palmer Station**	**67.25 156**	P	**P**		**19 15 30.5**	**+2.0**
	comp=Z,5.4nm,0.7s,baz=307,slow=20,SNR=1.1						
	comp=Z,5.4nm,0.7s						
PMSA	**Palmer Station**	**67.25 156**	P	**P**		**19 15 31.2**	**+2.7**
PLCA	**Paso Flores**	**79.77 134**	P	**P**		**19 16 45.0**	**+2.3**
	comp=Z,1.7nm,0.8s,baz=291,slow=4.0,SNR=4.4						
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.31 291**	P	**P**		**19 17 49.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=136,slow=3.6,SNR=2.1						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**120.01 308**	PKP	**PKPdf**		**19 23 23.6**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=176,slow=2.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**123.72 311**	PKP	**PKPdf**		**19 23 30.3**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=114,slow=1.9,SNR=11						
BVAR	**Borovoye Array**	**129.23 312**	PKP	**PKPdf**		**19 23 41.5**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=119,slow=1.8,SNR=2.2						
AKTO	**Aktyubinsk**	**136.44 307**	PKP	**PKPdf**		**19 23 54.6**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=115,slow=6.8,SNR=2.4						
ARCES	**ARCESS Array B 144.43 344**		PKP	**PKPab**		**19 24 07.4**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=44,slow=7.1,SNR=12						
DBIC	**Dimbokro**	**149.56 172**	PKPbc	**PKiKP**		**19 24 25.4**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=222,slow=4.7,SNR=3.6						
MMAI	**Mount Meron Ar**	**150.05 273**	PKPbc	**PKPbc**		**19 24 25.1**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=78,slow=7.8,SNR=4.2						
FINES	**FINESS Array B**	**150.28 334**	PKPbc	**PKPbc**		**19 24 24.0**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=41,slow=4.4,SNR=13						
TORD	**Torodi Ar. Bea**	**156.08 186**	PKPab	**PKPab**		**19 24 57.0**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=170,slow=3.7,SNR=7.6						

*NEIC **01** 19:05:52.8±1.1, 37.3°S×0.2°E×179.4°E±0.1, h10km±2km, mb4.6/9, Error ellipse: s-maj=38.5km s-min=5.4km az=159.0*
*IDC **01** 19:05:53.1±1.7, 36.9°S×179.11°E, h0km, mb4.3/4, mbtmp4.3/5, ML4.0/1, Error ellipse: s-maj=49.7km s-min=37.7km az=170.0*
*WEL **01** 19:05:59.7±1.3, 37.5°S×17.9°E±, h24km±5km, M4.2/11, ML4.3/12, MLv4.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=102.0*

ISC 01 19:05:56.5±2.3, 37.23S±0.06×179.2E±0.1, h26km±13km, n48, σ1s02/57, mb4.5/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.76 244**		Pg	**Pb**	**19 06 10.3**	**-0.9**
MXZ	**Matakaoa Point**	**0.76 244**		P	**Pb**	**19 06 10.9**	**-0.2**
MXZ				S	**Sb**	**19 06 18.7**	**-2.4**
WMGZ	**Waiomatatini S**	**0.84 225**		P	**Pn**	**19 06 13.8**	**+1.1**
WMGZ				S	**Sn**	**19 06 25.8**	**+1.6**
PKGZ	**Pakihiroa**	**1.09 232**		P	**Pb**	**19 06 17.5**	**+0.8**
PKGZ				S	**Sn**	**19 06 33.0**	**-0.1**
PUZ	**Puketiti**	**1.11 220**		P	**Pb**	**19 06 17.6**	**+0.5**
PUZ				S	**Sb**	**19 06 32.2**	**+1.2**
HAZ	**Te Kaha**	**1.22 244**		P	**Pb**	**19 06 19.5**	**+0.6**
HAZ				S	**Sn**	**19 06 33.9**	**+0.4**
TWGZ	**Tauwhareparae**	**1.33 224**		S	**Sb**	**19 06 37.6**	**0.0**
RUGZ	**Raukumara Rang**	**1.39 238**		P	**Pb**	**19 06 21.9**	**-0.1**
RUGZ				S	**Sn**	**19 06 38.0**	**0.0**
MWZ	**Matawai**	**1.70 229**		P	**Pn**	**19 06 25.9**	**+1.3**
MWZ				S	**Sn**	**19 06 45.4**	**-0.2**
RIGZ	**Rimuhau**	**1.84 216**		S	**Sn**	**19 06 49.7**	**+0.6**
RAGZ	**Rawiri**	**1.88 227**		S	**Sn**	**19 06 48.1**	**-1.8**
URZ	**Urewera**	**1.93 237**		Pn	**Pn**	**19 06 28.8**	**+1.2**
	48nm,0.3s,baz=121,slow=0.8,SNR=0.8						
URZ				Sn	**Sn**	**19 06 50.8**	**-0.2**
	222nm,0.3s,baz=301,slow=4.0,SNR=2.2						
	356nm,0.5s						
URZ	**Urewera**	**1.93 237**		Pn	**Pn**	**19 06 28.5**	**+0.9**
KNZ	**Kokohu**	**2.14 213**		P	**Pn**	**19 06 30.1**	**-0.5**
KNZ				S	**Sn**	**19 06 55.8**	**-0.5**
MTHZ	**Maungataniwha**	**2.45 228**		P	**Pn**	**19 06 36.2**	**+1.3**
MTHZ				S	**Sn**	**19 07 03.7**	**-0.3**
KUZ	**Kuaotunu**	**2.80 279**		P	**Pn**	**19 06 40.0**	**+0.4**
BKZ	**Black Stump Fm**	**2.86 227**		Pn	**Pn**	**19 06 40.8**	**+0.3**
GRZ	**Great Barrier**	**3.13 287**		P	**Pn**	**19 06 45.3**	**+1.1**
MKAZ	**Moumakai**	**3.20 271**		P	**Pn**	**19 06 45.9**	**+0.7**
WIAZ	**Waiheke Island**	**3.25 276**		P	**Pn**	**19 06 46.8**	**+0.9**
ETAZ	**East Tamaki Re**	**3.40 273**		P	**Pn**	**19 06 48.8**	**+0.9**
MBAZ	**Motutapu North**	**3.45 276**		P	**Pn**	**19 06 49.5**	**+1.0**
ABAZ	**Army Bay**	**3.53 279**		P	**Pn**	**19 06 51.0**	**+1.4**
EPAZ	**Eden Park BICE**	**3.55 274**		P	**Pn**	**19 06 51.5**	**+1.5**
HBAZ	**Herne Bay Bore**	**3.57 275**		P	**Pn**	**19 06 51.8**	**+1.6**
HIZ	**Hauiti**	**3.64 248**		Pn	**Pn**	**19 06 52.8**	**+1.6**
HIZ	**Hauiti**	**3.64 248**		P	**Pn**	**19 06 53.0**	**+1.8**
RVAZ	**Riverhead Bore**	**3.70 276**		P	**Pn**	**19 06 53.4**	**+1.4**
WCZ	**Waipu Caves**	**4.09 287**		P	**Pn**	**19 06 59.2**	**+1.8**
RPZ	**Rata Peaks**	**8.95 221**		Sn	Sn	19 09 31.3	-13
	6.4nm,0.3s,baz=77,slow=17,SNR=2.2						
STKA	**Stephens Creek**	**31.26 269**		P	**P**	**19 12 14.7**	**+0.4**
	0.9nm,0.3s,baz=104,slow=8.2,SNR=4.6						
	0.9nm,0.3s						
AS31	**Alice Springs**	**40.92 276**		P	**P**	**19 13 35.8**	**-1.2**
ASAR	**Alice Springs**	**40.92 276**		P	**P**	**19 13 36.2**	**-0.7**
	4.1nm,0.8s,baz=119,slow=6.9,SNR=5.4						
	4.1nm,0.8s						
WR0	**Warramunga Arr**	**42.37 281**		P	**P**	**19 13 47.9**	**-0.9**
WR0				IAmb	IAmb	19 13 54.8	
	comp=Z,9.7nm,1.3s						
FORT	**Forrest**	**42.43 263**		P	**P**	**19 13 48.3**	**-0.9**
FORT				IAmb	IAmb	19 14 16.3	
	comp=Z,22nm,0.9s						
WB2	**Warramunga Arr**	**42.53 281**		P	**P**	**19 13 49.2**	**-0.9**
WB2				IAmb	IAmb	19 14 04.4	
	comp=Z,9.6nm,0.9s						
WRAB	**Tennant Creek**	**42.53 281**		P	**P**	**19 13 48.6**	**-1.5**
WRAB				IAmb	IAmb	19 14 04.5	
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**42.54 281**		P	**P**	**19 13 49.5**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=123,slow=7.0,SNR=7.3						
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**42.54 281**		P	**P**	**19 13 49.7**	**-0.5**
WB0	**Warramunga Arr**	**42.59 281**		P	**P**	**19 13 49.9**	**-0.8**
WB0				IAmb	IAmb	19 14 04.9	
	comp=Z,11nm,0.5s						
KNRA	**Kununurra**	**49.32 282**		P	**P**	**19 14 43.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.41 277**		P	**P**	**19 14 51.9**	**0.0**
	comp=Z,4.9nm,0.8s,baz=124,slow=6.8,SNR=3.9						
	comp=Z,4.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.41 277**		P	**P**	**19 14 51.8**	**-0.2**
MORW	**Morawa**	**52.62 259**		P	**P**	**19 15 07.4**	**-1.0**
ARCES	**ARCESS Array B 144.64 344**			PKP	**PKPdf**	**19 25 29.4**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=41,slow=2.9,SNR=1.1						
MMAI	**Mount Meron Ar**	**150.18 273**		PKPbc	**PKiKP**	**19 25 46.7**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=93,slow=7.7,SNR=2.2						
FINES	**FINESS Array B**	**150.49 334**		PKPbc	**PKPbc**	**19 25 44.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=29,slow=4.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**155.91 186**		PKPab	**PKPab**	**19 26 16.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=158,slow=3.7,SNR=2.4						

*IDC **01** 19:06:07.4±1.6, 37.12S×179.11E, h0km, mb4.5/3, mbtmp4.5/3, Error ellipse: s-maj=48.1km s-min=30.4km az=150.0*

ISC 01 19:06:08.3±1.5, 37.3S±0.3×179.2E±0.2, h10km, n9, σ0s74/9, mb4.4/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.89 238**		Pn	**Pb**	**19 06 42.5**	**-0.4**
	170nm,0.3s,baz=301,slow=0.4,SNR=2.0						
URZ				Sn	**Sb**	**19 07 06.6**	**0.0**
	331nm,0.3s,baz=301,slow=22,SNR=9.6						
RPZ	**Rata Peaks**	**8.91 221**		Sn	Sn	19 09 45.1	-12
	3.8nm,0.3s,baz=283,slow=18,SNR=2.3						
STKA	**Stephens Creek**	**31.25 269**		P	**P**	**19 12 29.1**	**+0.9**
	1.7nm,0.3s,baz=38,slow=12,SNR=2.9						
	1.7nm,0.3s						
ASAR	**Alice Springs**	**40.92 276**		P	**P**	**19 13 50.9**	**-0.2**
	3.2nm,0.7s,baz=114,slow=5.9,SNR=5.4						
	3.2nm,0.7s						
WRA	**Warramunga Arr**	**42.54 281**		P	**P**	**19 14 03.9**	**-0.4**
	5.8nm,0.5s,baz=123,slow=7.0,SNR=14						
	5.8nm,0.5s						
ARCES	**ARCESS Array B 144.68 344**			PKP	**PKPdf**	**19 25 44.1**	**0.0**
	4.0nm,0.9s,baz=34,slow=2.4,SNR=6.0						
MMAI	**Mount Meron Ar**	**150.18 273**		PKPbc	**PKiKP**	**19 26 00.9**	**+0.6**
	1.4nm,0.5s,baz=78,slow=7.8,SNR=4.6						
FINES	**FINESS Array B**	**150.54 334**		PKPbc	**PKiKP**	**19 25 58.8**	**-1.3**
	2.6nm,0.8s,baz=68,slow=3.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**155.86 186**		PKPab	**PKPab**	**19 26 30.1**	**+0.4**
	0.4nm,0.5s,baz=160,slow=4.1,SNR=1.9						

*NEIC **01** 19:12:01.1±0.2, 37.0°S±0.2°×179.3°E±0.2, h10km±2km, mb4.2/5, Error ellipse: s-maj=37.9km s-min=4.7km az=143.0*
*WEL **01** 19:12:05.9±0.9, 37.5°S±5°×17.9°E±, h12km, M3.9/37, ML4.2/37, MLv3.9/37, Error ellipse: s-maj=0.0km s-min=0.0km az=92.9*

ISC 01 19:11:60.0±2.7, 37.10S±0.07×179.3E±0.1, h2km±13km, n67, σ1s65/71, mb4.1/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.90 239**		Pn	**Pg**	**19 12 17.6**	**+0.3**
MXZ	**Matakaoa Point**	**0.90 239**		P	**Pg**	**19 12 17.8**	**+0.5**
MXZ				S	**Sg**	**19 12 26.0**	**-3.0**
WMGZ	**Waiomatatini S**	**0.99 224**		P	**Pn**	**19 12 22.5**	**+1.6**
WMGZ				S	**Sg**	**19 12 34.5**	**+0.9**
PKGZ	**Pakihiroa**	**1.24 230**		P	**Pb**	**19 12 24.3**	**+0.2**
PKGZ				S	**Sb**	**19 12 41.0**	**+0.4**
PUZ	**Puketiti**	**1.26 220**		P	**Pb**	**19 12 26.7**	**+2.2**
PUZ				S	**Sb**	**19 12 42.1**	**+0.8**
HAZ	**Te Kaha**	**1.36 241**		P	**Pn**	**19 12 24.7**	**-1.2**
HAZ				S	**Sn**	**19 12 44.1**	**-0.5**
TWGZ	**Tauwhareparae**	**1.49 223**		P	**Pb**	**19 12 30.3**	**+1.9**
RUGZ	**Raukumara Rang**	**1.54 235**		P	**Pn**	**19 12 29.1**	**+0.6**
CNGZ	**Carnagh Statio**	**1.62 211**		P	**Pn**	**19 12 32.3**	**+2.8**
WIZ	**White Island**	**1.72 255**		P	**Pn**	**19 12 31.8**	**+0.9**
TKGZ	**Te Karaka**	**1.75 220**		P	**Pn**	**19 12 33.5**	**+2.1**
MWZ	**Matawai**	**1.86 228**		P	**Pn**	**19 12 34.6**	**+1.7**
WHRZ	**Whale Island**	**1.98 247**		P	**Pn**	**19 12 36.6**	**+2.0**
RAGZ	**Rawiri**	**2.03 226**		P	**Pn**	**19 12 37.1**	**+1.9**
URZ	**Urewera**	**2.07 235**		Pn	**Pn**	**19 12 37.1**	**+1.4**
URZ	**Urewera**	**2.07 235**		P	**Pn**	**19 12 37.5**	**+1.8**
PRGZ	**Paritu Road**	**2.13 211**		P	**Pn**	**19 12 38.5**	**+2.0**
EDRZ	**Edgecumbe**	**2.25 243**		P	**Pn**	**19 12 40.5**	**+2.1**
SNGZ	**Shannon Statio**	**2.27 222**		P	**Pn**	**19 12 40.2**	**+1.6**
OPRZ	**Ohinepanea**	**2.29 250**		P	**Pn**	**19 12 39.7**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.32 207**		P	**Pn**	**19 12 41.0**	**+1.8**
MYRZ	**Mayor Island**	**2.43 265**		P	**Pn**	**19 12 41.9**	**+1.1**
TARZ	**Mount Tarawera**	**2.48 242**		P	**Pn**	**19 12 43.8**	**+2.4**
RAHZ	**Arahi**	**2.51 223**		P	**Pn**	**19 12 43.9**	**+2.1**
RRRZ	**Republican Roa**	**2.52 240**		P	**Pn**	**19 12 44.0**	**+2.1**
OMRZ	**Omania**	**2.52 246**		P	**Pn**	**19 12 43.6**	**+1.6**
KARZ	**Kaharoa**	**2.58 248**		P	**Pn**	**19 12 44.6**	**+1.8**
MTHZ	**Maungataniwha**	**2.60 227**		P	**Pn**	**19 12 44.8**	**+1.7**
NMHZ	**Naumai**	**2.79 224**		P	**Pn**	**19 12 47.8**	**+2.1**
ARHZ	**Aropaoanui**	**2.81 219**		P	**Pn**	**19 12 47.2**	**+1.3**
MRHZ	**Matea Rd**	**2.85 232**		P	**Pn**	**19 12 47.9**	**+1.4**
BKZ	**Black Stump Fm**	**3.01 226**		Pn	**Pn**	**19 12 49.9**	**+1.2**
BKZ	**Black Stump Fm**	**3.01 226**		P	**Pn**	**19 12 50.1**	**+1.3**
TOZ	**Tahuroa Road**	**3.07 257**		P	**Pn**	**19 12 48.4**	**-1.1**
CKHZ	**Cape Kidnapper**	**3.08 213**		P	**Pn**	**19 12 49.9**	**+0.2**
GRZ	**Great Barrier**	**3.19 284**		P	**Pn**	**19 12 52.1**	**+1.4**
KAHZ	**Kahuranaki**	**3.29 214**		P	**Pn**	**19 12 52.6**	**+0.1**
TMVZ	**Te Maari**	**3.46 233**		P	**Pn**	**19 12 56.2**	**+1.1**
ETVZ	**East Tongariro**	**3.47 233**		P	**Pn**	**19 12 56.1**	**+1.0**
BHHZ	**Black Hill Sta**	**3.48 226**		P	**Pn**	**19 12 56.4**	**+1.3**
MBAZ	**Motutapu North**	**3.53 274**		P	**Pn**	**19 12 57.7**	**+1.9**
NNVZ	**North Ngauruho**	**3.53 234**		P	**Pn**	**19 12 58.2**	**+2.3**
WTVZ	**West Tongariro**	**3.54 234**		P	**Pn**	**19 12 58.5**	**+2.5**
NGZ	**Ngauruhoe**	**3.56 233**		P	**Pn**	**19 12 57.3**	**+0.9**
TUVZ	**Tukino**	**3.58 232**		P	**Pn**	**19 12 58.2**	**+1.5**
ABAZ	**Army Bay**	**3.60 277**		P	**Pn**	**19 12 58.2**	**+1.5**
MOVZ	**Moawhango**	**3.61 229**		P	**Pn**	**19 12 57.8**	**+0.8**
FWVZ	**Far West T-bar**	**3.64 233**		P	**Pn**	**19 12 57.8**	**+0.2**
WNVZ	**Wahianoa**	**3.65 231**		P	**Pn**	**19 12 58.9**	**+1.2**
HIZ	**Hauiti**	**3.78 247**		Pn	**Pn**	**19 13 00.4**	**+1.2**
ANWZ	**Angora Road**	**4.01 212**		P	**Pb**	**19 13 11.5**	**+0.2**
BFZ	**Birch Farm**	**4.29 213**		Pn	**Pn**	**19 13 05.6**	**-0.6**
PKE	**Pukeiti**	**4.67 242**		P	**Pn**	**19 13 14.9**	**+3.4**
KHEZ	**Kahui Hut**	**4.69 241**		P	**Pn**	**19 13 15.5**	**+3.6**
OUZ	**Omahuta**	**4.97 291**		Pn	**Pn**	**19 13 15.6**	**+0.1**
TUWZ	**Tuamarina**	**5.99 222**		Pn	**Pn**	**19 13 28.9**	**-0.6**
NNZ	**Nelson**	**6.16 226**		Pn	**Pn**	**19 13 31.8**	**-0.1**
QRZ	**Quartz Range**	**6.44 233**		Pn	**Pn**	**19 13 35.1**	**-0.7**
THZ	**Tophouse**	**6.78 225**		Pn	**Pn**	**19 13 38.2**	**-2.4**
KHZ	**Kahutara**	**6.91 218**		Pn	**Pn**	**19 13 40.3**	**-1.9**
LTZ	**Lake Taylor**	**7.82 221**		Pn	Pn	19 13 51.4	-3.3
RPZ	**Rata Peaks**	**9.11 221**		Pn	**Pn**	**19 14 09.8**	**-2.6**
WR0	**Warramunga Arr**	**42.44 281**		P	**P**	**19 19 55.1**	**-1.2**
WB2	**Warramunga Arr**	**42.59 281**		P	**P**	**19 19 56.6**	**-1.1**
WB2				IAmb	IAmb	19 20 32.7	
	comp=Z,4.6nm,1.1s						
WRAB	**Tennant Creek**	**42.60 281**		P	**P**	**19 19 56.6**	**-1.1**
WRAB				IAmb	IAmb	19 20 26.5	
	comp=Z,3.4nm,0.9s						
WRA	**Warramunga Arr**	**42.60 281**		P	**P**	**19 19 56.6**	**-1.1**
WB0	**Warramunga Arr**	**42.66 281**		P	**P**	**19 19 57.0**	**-1.2**
WB0				IAmb	IAmb	19 20 02.8	
	comp=Z,10nm,1.5s						

*IDC **01** 19:12:20.6±3.5, 36.73S×179.03E, h0km, mb3.9/3, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=75.5km s-min=44.6km az=123.0*
*WEL **01** 19:12:24.3±1.2, 37.5°S±7°×17.9°E±, h12km±5km, M4.0/10, ML4.3/10, MLv4.0/10, Error ellipse: s-maj=0.0km s-min=0.0km az=120.3*

ISC 01 19:12:20.9±2.3, 36.87S±0.06×179.0E±0.1, h10km±10km, n22, σ1s38/35, mb3.9/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.90 220**		S	**Sg**	**19 12 48.8**	**-1.2**
WMGZ	**Waiomatatini S**	**1.07 207**		P	**Pn**	**19 12 43.1**	**+1.2**
WMGZ				S	**Sb**	**19 12 56.7**	**+1.2**
PKGZ	**Pakihiroa**	**1.27 216**		P	**Pg**	**19 12 46.2**	**+0.9**
PKGZ				S	**Sg**	**19 13 02.3**	**+0.4**
HAZ	**Te Kaha**	**1.33 228**		P	**Pg**	**19 12 48.6**	**+2.1**
HAZ				S	**Sg**	**19 13 05.6**	**+1.8**
PUZ	**Puketiti**	**1.35 207**		P	**Pn**	**19 12 43.7**	**-2.1**
PUZ				S	**Sb**	**19 13 03.6**	**0.0**
RUGZ	**Raukumara Rang**	**1.54 224**		P	**Pg**	**19 12 50.6**	**+0.2**
RUGZ				S	**Sg**	**19 13 10.9**	**+0.6**
TWGZ	**Tauwhareparae**	**1.55 212**		P	**Pg**	**19 12 50.2**	**-0.5**
TWGZ				S	**Sn**	**19 13 08.9**	**+0.2**
CNGZ	**Carnagh Statio**	**1.74 202**		P	**Pb**	**19 12 52.6**	**-0.3**
CNGZ				S	**Sb**	**19 13 15.0**	**+0.2**
MWZ	**Matawai**	**1.89 219**		P	**Pb**	**19 12 54.4**	**-1.0**
MWZ				S	**Sn**	**19 13 16.3**	**-0.8**
URZ	**Urewera**	**2.06 227**		Pn	**Pb**	**19 12 57.4**	**-1.0**
	57nm,0.3s,baz=121,slow=4.7,SNR=5.3						
URZ				Sn	**Sn**	**19 13 21.8**	**+0.5**
	90nm,0.3s,baz=128,slow=19,SNR=17						
	231nm,0.4s						
URZ	**Urewera**	**2.06 227**		P	**Pb**	**19 12 57.2**	**-1.2**
URZ				S	**Sn**	**19 13 21.5**	**+0.2**
RAGZ	**Rawiri**	**2.07 218**		P	**Pb**	**19 12 57.5**	**-1.1**
RAGZ				S	**Sn**	**19 13 22.5**	**+0.8**
PRGZ	**Paritu Road**	**2.24 204**		P	**Pn**	**19 12 58.6**	**+0.6**
SNGZ	**Shannon Statio**	**2.33 215**		P	**Pb**	**19 13 01.4**	**-1.6**
SNGZ				S	**Sn**	**19 13 28.7**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.45 201**		P	**Pn**	**19 13 00.9**	**0.0**
RAHZ	**Arahi**	**2.56 216**		P	**Pn**	**19 13 05.1**	**-1.8**
RAHZ				S	**Sn**	**19 13 34.3**	**+0.7**
GRZ	**Great Barrier**	**2.94 281**		P	**Pb**	**19 13 12.2**	**-1.2**
RPZ	**Rata Peaks**	**9.16 219**		Pn	**Pn**	**19 14 28.2**	**-4.8**
	0.9nm,0.3s,baz=90,slow=20,SNR=1.5						
RPZ				Sn	Sn	19 16 03.2	-13
	2.1nm,0.3s,baz=128,slow=19,SNR=9.7						
ASAR	**Alice Springs**	**40.78 276**		P	**P**	**19 20 03.7**	**+1.2**
	0.8nm,0.7s,baz=118,slow=7.7,SNR=6.0						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**42.36 281**		P	**P**	**19 20 16.6**	**+1.2**
	1.2nm,0.5s,baz=122,slow=7.7,SNR=11						
	1.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.26 277**		P	**P**	**19 21 18.2**	**+0.7**
	0.8nm,0.6s,baz=129,slow=7.8,SNR=1.2						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**150.12 334**		PKPbc	**PKiKP**	**19 32 11.8**	**0.0**
	1.4nm,0.9s,baz=70,slow=4.9,SNR=1.2						

*NEIC **01** 19:16:37.4±0.6, 37.2S±0.2°×180.0W±0.1, h10km±2km, mb4.5/12, Error ellipse: s-maj=30.4km s-min=17.7km az=170.0*
*IDC **01** 19:16:42.2±1.6, 36.54S×178.99E, h0km, mb4.3/4, mbtmp4.4/5, ML4.3/1, Error ellipse: s-maj=40.7km s-min=34.7km az=165.0*
*WEL **01** 19:16:46.2±1.6, 37.5°S±8°×17.9°E±1°, h13km±7km, M3.9/14, ML5.2/14, MLv3.9/14, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8*

ISC 01 19:16:41.8±2.4, 37.25S±0.08×179.7E±0.1, h28km±14km, n53, σ1s37/58, mb4.4/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.13 253**		Pn	**Pn**	**19 17 01.5**	**-0.3**
MXZ	**Matakaoa Point**	**1.13 253**		P	**Pn**	**19 17 01.0**	**-0.8**
MXZ				S	**Sn**	**19 17 13.1**	**-3.3**
PKGZ	**Pakihiroa**	**1.42 243**		P	**Pb**	**19 17 07.7**	**+0.1**
PKGZ				S	**Sn**	**19 17 23.7**	**+0.1**
HAZ	**Te Kaha**	**1.59 251**		P	**Pb**	**19 17 10.1**	**-0.3**
HAZ				S	**Sn**	**19 17 27.6**	**0.0**
CNGZ	**Carnagh Statio**	**1.69 223**		P	**Pb**	**19 17 14.3**	**+2.1**
RUGZ	**Raukumara Rang**	**1.74 245**		P	**Pb**	**19 17 13.4**	**+0.3**
RUGZ				S	**Sn**	**19 17 32.3**	**+0.8**
URZ	**Urewera**	**2.27 243**		Pn	**Pn**	**19 17 19.3**	**+2.0**
	81nm,0.3s,baz=301,slow=0.8,

s-min=0.0km az=102.0
*BJI **01** 19:18:30.7±0.0, 37.05S×179.21E, h13km, mb5.5/28, mB4.8/1, Ms5.8/8, Ms7 5.5/8*
*MOS **01** 19:18:31.8±1.2, 37.20S×178.58E, h20km, mb5.7/12, Error ellipse: s-maj=9.6km s-min=8.4km az=98.9*
*NEIC **01** 19:18:32.3±2.0, 37.23S±0.07×178.60E±0.04, h10km±2km, mb5.5/149, Error ellipse: s-maj=10.0km s-min=4.1km az=184.0*
*NOU **01** 19:18:35.3, 37.60S×179.14E, h53km, mb5.7/90, Off E. Coast of N. Island, N.Z.*
*GCMT **01** 19:18:38.3±0.4, 37.23S±0.03×178.69E±0.03, h37km±1km, MW5.8/97, Moment Tensor Solution. s28,c30; s97,c123; Duration: 20 Moment tensor: Scale 10^17 Nm; Mrr=7.17±.65; Mθθ=1.92±.35; Mϕϕ=5.25±.36; Mrθ=2.38±.35; Mθϕ=3.20±.15; Mϕr=0.12±.35; Best double couple: M=7.55200×10^17 NP1:ϕs=226.00000°, δ=51.00000°, λ=-71.00000°. NP2:ϕs=17.00000°, δ=42.00000°, λ=-112.00000°. Principal axes: T 7.2840, Plg5.0000°, Azm303.0000°; N 0.5360, Plg15.0000°, Azm34.0000°; P -7.8200, Plg74.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **01** 19:18:39.1±0.9, 37.19S×178.58E, h68km±7km, mb5.0/25, mbtmp5.2/26, MS5.1/7 Error ellipse: s-maj=9.3km s-min=7.9km az=145.0*

ISC 01 19:18:32.4±0.4, 37.23S±0.03×178.69E±0.03, h17km±2km, h17km:pP-P, n1082, σ1.85/1142, mb5.6/175, MS5.3/9, 39C-3D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.45**	**222**	Pg	**Pg**	**19 18 40.9**	**-0.6**
MXZ	**Matakaoa Point**	**0.45**	**222**	P	**Pb**	**19 18 42.1**	**+0.2**
WMGZ	**Waiomatatini S**	**0.62**	**200**	P	**Pn**	**19 18 46.1**	**-0.5**
WMGZ				S	**Sn**	**19 19 01.2**	**+5.1**
PKGZ	**Pakihiroa**	**0.81**	**216**	P	**Pn**	**19 18 49.3**	**+0.1**
PKGZ				S	**Sn**	**19 19 05.7**	**+4.8**
HAZ	**Te Kaha**	**0.89**	**234**	P	**Pn**	**19 18 51.4**	**+1.3**
PUZ	**Puketiti**	**0.90**	**202**	P	**Pb**	**19 18 50.2**	**+0.5**
PUZ				S	**Sn**	**19 19 07.8**	**+4.7**
RUGZ	**Raukumara Rang**	**1.08**	**227**	P	**Pn**	**19 18 53.5**	**+0.5**
TWGZ	**Tauwhareparae**	**1.10**	**210**	P	**Pn**	**19 18 53.3**	**+0.2**
TWGZ				S	**Sn**	**19 19 12.2**	**+4.4**
WIZ	**White Island**	**1.23**	**256**	P	**Pg**	**19 18 57.4**	**+1.3**
WIZ				S	**Sn**	**19 19 15.5**	**+4.5**
WSRZ	**White Island S**	**1.23**	**256**	P	**Pg**	**19 18 58.2**	**+2.0**
WSRZ				S	**Sn**	**19 19 14.5**	**+3.3**
CNGZ	**Carnagh Statio**	**1.30**	**197**	P	**Pn**	**19 18 55.9**	**0.0**
TKGZ	**Te Karaka**	**1.38**	**209**	P	**Pn**	**19 18 56.5**	**-0.3**
MWZ	**Matawai**	**1.48**	**219**	P	**Pb**	**19 18 58.4**	**-0.3**
WHRZ	**Whale Island**	**1.50**	**245**	P	**Pg**	**19 19 00.1**	**-1.0**
RAGZ	**Rawiri**	**1.61**	**218**	P	**Pn**	**19 19 00.7**	**+0.5**
URZ	**Urewera**	**1.61**	**230**	P	**Pg**	**19 19 03.8**	**+0.3**
	19μm,0.5s,baz=121,slow=2.0,SNR=225						
URZ				S	**Sg**	**19 19 24.5**	**0.0**
	23μm,0.6s,baz=301,slow=4.7,SNR=13						
URZ	**Urewera**	**1.61**	**230**		**Pn**	**19 19 00.4**	**+0.3**
URZ	**Urewera**	**1.61**	**230**	P	**Pb**	**19 19 01.3**	**-0.4**
URZ	**Urewera**	**1.61**	**230**	P	**Pg**	**19 19 04.1**	**+0.6**
RIGZ	**Rimuhau**	**1.64**	**206**	P	**Pn**	**19 19 00.9**	**+0.3**
MARZ	**Manawahe**	**1.76**	**244**	P	**Pg**	**19 19 05.9**	**-0.4**
EDRZ	**Edgecumbe**	**1.77**	**240**	P	**Pb**	**19 19 04.0**	**-0.5**
PRRZ	**Paritu Road**	**1.80**	**200**	P	**Pn**	**19 19 01.7**	**-1.1**
SNGZ	**Shannon Statio**	**1.88**	**214**	P	**Pn**	**19 19 04.3**	**+0.5**
MYRZ	**Mayor Island**	**1.95**	**268**	P	**Pb**	**19 19 07.1**	**-0.4**
KNZ	**Kokohu**	**1.96**	**204**	P	**Pn**	**19 19 03.5**	**-1.3**
MUGZ	**Murupara**	**1.96**	**230**	P	**Pb**	**19 19 06.2**	**-1.5**
MKRZ	**Makatiti**	**1.98**	**242**	P	**Pb**	**19 19 07.3**	**-0.7**
LIRZ	**Lichensteins R**	**1.98**	**246**	P	**Pg**	**19 19 09.9**	**-0.6**
TGRZ	**Tauranga**	**1.99**	**255**	P	**Pg**	**19 19 08.8**	**-1.8**
TARZ	**Mount Tarawera**	**2.00**	**239**	P	**Pb**	**19 19 07.5**	**-0.9**
MHGZ	**Mahia Peninsul**	**2.01**	**197**	P	**Pn**	**19 19 05.3**	**-0.3**
OMRZ	**Omania**	**2.03**	**244**	P	**Pg**	**19 19 10.0**	**-1.4**
RRRZ	**Republican Roa**	**2.04**	**237**	P	**Pg**	**19 19 09.7**	**-1.9**
KARZ	**Kaharoa**	**2.09**	**247**	P	**Pg**	**19 19 10.6**	**-1.9**
RAHZ	**Arahi**	**2.10**	**216**	P	**Pn**	**19 19 07.4**	**+0.5**
HLRZ	**Highlands Stat**	**2.11**	**240**	P	**Pg**	**19 19 11.2**	**-1.7**
NGRZ	**Ngongotaha**	**2.16**	**246**	P	**Pg**	**19 19 12.3**	**-1.6**
WHHZ	**Waihua**	**2.17**	**211**	P	**Pb**	**19 19 09.9**	**-1.3**
MTHZ	**Maungataniwha**	**2.18**	**221**	P	**Pn**	**19 19 08.5**	**+0.6**
UTU	**Utuhina**	**2.19**	**244**	P	**Pg**	**19 19 13.3**	**-1.1**
PRRZ	**Plateau Road**	**2.21**	**234**	P	**Pb**	**19 19 11.7**	**-0.2**
HSRZ	**Hossack Road**	**2.21**	**240**	P	**Pg**	**19 19 13.0**	**-1.9**
HRRZ	**Handcock Road**	**2.23**	**238**	P	**Pb**	**19 19 12.5**	**+0.3**
KMRZ	**Kaimai**	**2.27**	**253**	P	**Pb**	**19 19 12.7**	**-0.2**
ALRZ	**Allen Road**	**2.28**	**234**	P	**Pb**	**19 19 12.7**	**-0.4**
GRRZ	**Galatos Road**	**2.33**	**241**	P	**Pb**	**19 19 14.3**	**+0.4**
WPRZ	**Whakapapatarin**	**2.37**	**236**	P	**Pb**	**19 19 14.5**	**-0.2**
NMHZ	**Naumai**	**2.38**	**218**	P	**Pn**	**19 19 12.2**	**+1.5**
MRHZ	**Matea Rd**	**2.40**	**228**	P	**Pn**	**19 19 11.4**	**+0.4**
ARHZ	**Aropaoanui**	**2.42**	**213**	P	**Pn**	**19 19 13.4**	**+2.1**
TOZ	**Tahuroa Road**	**2.58**	**258**	P	**Pb**	**19 19 17.1**	**-1.1**
WHTZ	**Whakaora**	**2.59**	**236**	P	**Pb**	**19 19 18.1**	**-0.3**
KUTZ	**Kaahu Road**	**2.59**	**240**	P	**Pb**	**19 19 17.6**	**-0.8**
BKZ	**Black Stump Fm**	**2.59**	**221**		**Pn**	**19 19 13.4**	**-0.2**
BKZ	**Black Stump Fm**	**2.59**	**221**	P	**Pb**	**19 19 16.4**	**-2.1**
BKZ	**Black Stump Fm**	**2.59**	**221**	P	**Pb**	**19 19 16.4**	**-2.1**
HATZ	**Hinemaiaia**	**2.63**	**230**	P	**Pb**	**19 19 18.0**	**-1.2**
TLZ	**Tolley Road**	**2.72**	**245**	P	**Pb**	**19 19 18.3**	**-1.4**
CKHZ	**Cape Kidnapper**	**2.73**	**207**	P	**Pn**	**19 19 16.3**	**+0.8**
WATZ	**Wairara**	**2.76**	**237**	P	**Pb**	**19 19 19.7**	**-1.6**
RATZ	**Rangitukua**	**2.82**	**234**	P	**Pb**	**19 19 20.6**	**-1.8**
KWHZ	**Kaweka Forest**	**2.82**	**218**	P	**Pn**	**19 19 19.0**	**+2.2**
RITZ	**Rihia Road**	**2.83**	**231**	P	**Pb**	**19 19 20.3**	**-2.2**
KAHZ	**Kahuranaki**	**2.92**	**208**	P	**Pn**	**19 19 19.0**	**+0.8**
KATZ	**Kakaramea**	**2.93**	**233**	P	**Pb**	**19 19 22.5**	**-1.8**
KRHZ	**Kereru**	**3.02**	**216**	P	**Pn**	**19 19 20.6**	**+1.1**
NTVZ	**North Tongarir**	**3.02**	**231**	P	**Pb**	**19 19 22.7**	**-3.0**
ETAZ	**East Tamaki Re**	**3.02**	**274**	P	**Pb**	**19 19 22.1**	**-3.6**
KRVZ	**Karewarewa**	**3.04**	**231**	P	**Pb**	**19 19 22.9**	**-3.2**
BHHZ	**Black Hill Sta**	**3.05**	**222**	P	**Pn**	**19 19 22.3**	**+2.3**
OTVZ	**Oturere**	**3.06**	**230**	P	**Pb**	**19 19 23.3**	**-3.2**
MBAZ	**Motutapu North**	**3.07**	**278**	P	**Pb**	**19 19 24.2**	**-2.3**
NNVZ	**North Ngauruho**	**3.07**	**231**	P	**Pb**	**19 19 23.7**	**-3.1**
WTVZ	**West Tongariro**	**3.08**	**231**	P	**Pb**	**19 19 23.4**	**-3.4**
SNVZ	**South Ngauruho**	**3.08**	**230**	P	**Pn**	**19 19 23.1**	**+2.8**
TUVZ	**Tukino**	**3.13**	**229**	P	**Pn**	**19 19 21.5**	**+1.3**
PXZ	**Pawanui**	**3.14**	**206**	P	**Pn**	**19 19 21.0**	**0.0**
TWVZ	**Taurewa**	**3.15**	**233**	P	**Pb**	**19 19 24.7**	**-3.3**
ABAZ	**Army Bay**	**3.15**	**280**	P	**Pn**	**19 19 23.8**	**+2.5**
EPAZ	**Eden Park BICE**	**3.17**	**275**	P	**Pb**	**19 19 26.3**	**-2.0**
WHVZ	**Whangaehu Hut**	**3.18**	**229**	P	**Pn**	**19 19 24.7**	**+2.8**
FWVZ	**Far West T-bar**	**3.19**	**230**	P	**Pn**	**19 19 25.0**	**+3.0**
HBAZ	**Herne Bay Bore**	**3.19**	**276**	P	**Pb**	**19 19 26.6**	**-2.0**
DRZ	**Dome Shelter**	**3.19**	**229**	P	**Pb**	**19 19 25.5**	**-3.4**
WNVZ	**Wahianoa**	**3.21**	**228**	P	**Pn**	**19 19 24.9**	**+2.7**
TRVZ	**Turoa**	**3.22**	**229**	P	**Pn**	**19 19 25.2**	**+2.8**
AWAZ	**Awhitu Peninsu**	**3.23**	**272**	P	**Pb**	**19 19 25.7**	**-3.7**
HIZ	**Hauiti**	**3.29**	**246**	Pn	**Pn**	**19 19 25.2**	**+2.0**
HIZ	**Hauiti**	**3.29**	**246**	P	**Pn**	**19 19 25.7**	**+2.5**
WTAZ	**Waiatarua**	**3.30**	**274**	P	**Pb**	**19 19 27.9**	**-2.7**
PNHZ	**Pukenui**	**3.31**	**215**	P	**Pn**	**19 19 23.9**	**+0.4**
MTVZ	**Mangateitei**	**3.32**	**229**	P	**Pn**	**19 19 26.3**	**+2.6**
RVAZ	**Riverhead Bore**	**3.32**	**277**	P	**Pb**	**19 19 28.1**	**-2.7**
WPHZ	**Waipukurau**	**3.33**	**211**	P	**Pn**	**19 19 24.2**	**+0.5**
PKVZ	**Pokaka**	**3.33**	**231**	P	**Pb**	**19 19 27.3**	**-3.9**
PRHZ	**Porangahau**	**3.43**	**207**	P	**Pn**	**19 19 24.7**	**-0.3**
TSZ	**Takapari Road**	**3.54**	**216**	P	**Pn**	**19 19 27.0**	**+0.4**
DVHZ	**Dannevirke**	**3.64**	**212**	P	**Pn**	**19 19 28.2**	**+0.2**
ANWZ	**Angora Road**	**3.66**	**207**	P	**Pn**	**19 19 28.1**	**-0.1**
WCZ	**Waipu Caves**	**3.72**	**289**	P	**Pn**	**19 19 32.5**	**+3.3**
WAZ	**Wanganui**	**3.84**	**228**	P	**Pn**	**19 19 31.3**	**+0.5**
POWZ	**Post Office Ro**	**3.89**	**215**	P	**Pn**	**19 19 31.5**	**+0.1**
MHEZ	**Mangahewa**	**3.90**	**241**	P	**Pb**	**19 19 37.0**	**-3.7**
BFZ	**Birch Farm**	**3.93**	**208**		**Pn**	**19 19 28.4**	**-3.6**
BFZ	**Birch Farm**	**3.93**	**208**	P	**Pn**	**19 19 31.4**	**-0.6**
PRWZ	**Pori Road**	**3.94**	**212**	P	**Pn**	**19 19 32.3**	**+0.2**
OHWZ	**Ohakea**	**3.97**	**221**	P	**Pn**	**19 19 34.5**	**+2.0**
LREZ	**Lake Rotokare**	**4.04**	**235**	P	**Pn**	**19 19 37.4**	**+4.0**
DREZ	**Durham Road**	**4.04**	**240**	P	**Pb**	**19 19 38.7**	**-4.3**
PREZ	**Palmer Road**	**4.14**	**238**	P	**Pb**	19 19 40.7	-4.8
NEZ	**North Egmont**	**4.15**	**239**	P	**Pb**	19 19 39.7	-5.3
CPWZ	**Castlepoint**	**4.15**	**207**	P	**Pn**	**19 19 34.6**	**-0.3**
TIWZ	**Tintock**	**4.16**	**211**	P	**Pn**	**19 19 35.0**	**-0.1**
PKE	**Pukeiti**	**4.19**	**241**	P	**Pn**	**19 19 40.0**	**+4.5**
MRZ	**Mangatainoka R**	**4.19**	**214**	P	**Pn**	**19 19 35.4**	**-0.2**
KHEZ	**Kahui Hut**	**4.21**	**239**	P	Pn	19 19 40.7	+4.7
NBEZ	**Newall Road No**	**4.30**	**240**	P	Pb	19 19 42.3	-5.3
NMEZ	**Namu Road**	**4.36**	**239**	P	**Pn**	**19 19 42.5**	**+4.6**
OUZ	**Omahuta**	**4.58**	**295**	Pn	**Pn**	**19 19 42.0**	**+1.1**
MSWZ	**Moikau Station**	**4.95**	**211**		**Pn**	**19 19 44.0**	**-2.0**
PLWZ	**Palliser**	**5.08**	**210**		**Pn**	**19 19 45.3**	**-2.5**
SNZO	**South Karori**	**5.11**	**216**	Pn	**Pn**	**19 19 46.4**	**-1.8**
SNZO	**South Karori**	**5.11**	**216**	P	**Pn**	**19 19 47.2**	**-1.0**
DUWZ	**D'Urville Isla**	**5.14**	**225**	P	**Pn**	**19 19 48.9**	**+0.3**
TUWZ	**Tuamarina**	**5.57**	**220**		**Pn**	**19 19 53.7**	**-0.9**
CMWZ	**Cape Campbell**	**5.68**	**216**		**Pn**	**19 19 56.0**	**-0.1**
CMWZ	**Cape Campbell**	**5.68**	**216**	P	**Pn**	**19 19 56.3**	**+0.2**
NNZ	**Nelson**	**5.73**	**224**		**Pn**	**19 19 56.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**5.82**	**218**		**Pn**	**19 19 56.7**	**-1.2**
QRZ	**Quartz Range**	**5.99**	**231**	Pn	**Pn**	**19 20 00.5**	**+0.2**
QRZ	**Quartz Range**	**5.99**	**231**	P	**Pn**	**19 20 00.8**	**+0.6**
THZ	**Tophouse**	**6.36**	**223**	Pn	**Pn**	**19 20 04.2**	**-1.1**
KHZ	**Kahutara**	**6.52**	**216**	Pn	**Pn**	**19 20 06.2**	**-1.3**
LTZ	**Lake Taylor**	**7.41**	**220**	Pn	**Pn**	**19 20 17.7**	**-2.1**
CTZ	**Chatham Island**	**7.42**	**153**	P	**Pn**	**19 20 19.4**	**-0.4**
OXZ	**Oxford**	**7.93**	**218**	Pn	**Pn**	**19 20 24.3**	**-2.5**
MQZ	**McQueen's Vall**	**7.93**	**214**	Pn	**Pn**	**19 20 24.2**	**-2.7**
RAO	**Raoul Island**	**8.45**	**21**	P	**Pn**	**19 20 31.7**	**-2.3**
	231nm,0.3s,baz=246,slow=19,SNR=1.5						
RAO				S	**Sn**	**19 22 01.8**	**-7.3**
	324nm,0.3s,baz=105,slow=20,SNR=2.3						
RPZ	**Rata Peaks**	**8.70**	**220**	P	**Pn**	**19 20 36.1**	**-1.4**
	138nm,0.5s,baz=275,slow=3.3,SNR=53						
RPZ				S	Sn	19 22 06.3	-8.9
	228nm,0.3s,baz=128,slow=23,SNR=13						
RPZ				LR	LR	19 23 34.7	
	comp=Z,4μm,21.2s,baz=36,slow=34						
RPZ	**Rata Peaks**	**8.70**	**220**	Pn	**Pn**	**19 20 35.7**	**-1.7**
FOZ	**Fox Glacier**	**9.24**	**224**	Pn	**Pn**	**19 20 44.1**	**-0.6**
LBZ	**Lake Benmore**	**9.62**	**219**	Pn	**Pn**	**19 20 48.4**	**-1.6**
ODZ	**Otahua Downs**	**9.88**	**215**		**Pn**	**19 20 50.9**	**-2.7**
ODZ	**Otahua Downs**	**9.88**	**215**	P	**Pn**	**19 20 51.9**	**-1.7**
WKZ	**Wanaka**	**10.52**	**221**	Pn	**Pn**	**19 21 00.1**	**-2.4**
MLZ	**Mavora Lakes**	**11.36**	**221**	Pn	**Pn**	**19 21 12.3**	**-1.6**
WHZ	**Wether Hill Ro**	**11.80**	**220**	Pn	**Pn**	**19 21 17.6**	**-2.4**
DCZ	**Deep Cove**	**11.94**	**223**	Pn	**Pn**	**19 21 20.0**	**-1.7**
PYZ	**Puysegur Point**	**12.64**	**221**	Pn	**Pn**	**19 21 29.1**	**-2.3**
PYZ	**Puysegur Point**	**12.64**	**221**	P	**Pn**	**19 21 31.8**	**+0.5**
LHI	**Lord Howe Isla**	**17.16**	**284**	P	**Pn**	**19 22 31.3**	**-0.1**
	baz=17,SNR=4.6						
LHI	**Lord Howe Isla**	**17.16**	**284**	Pn	**Pn**	**19 22 31.2**	**-0.2**
PINNC	**Pines Island,**	**17.50**	**323**		**P**	**19 22 37.8**	**+1.0**
OUENC	**Ouen Island, N**	**17.96**	**322**		**P**	**19 22 42.4**	**+0.5**
OUENC	**Ouen Island, N**	**17.96**	**322**	P	**P**	**19 22 47.0**	**+5.1**
MARNC	**Mare, Loyalty**	**18.21**	**327**		**Pn**	**19 22 43.0**	**-1.5**
YATNC	**Mamie plateau,**	**18.24**	**323**	P	**P**	**19 22 51.3**	**+6.3**
ONTNC	**Ouen Toro**	**18.25**	**321**		**Pn**	**19 22 44.7**	**-0.2**
ONTNC	**Ouen Toro**	**18.25**	**321**	P	**P**	**19 22 50.8**	**+5.8**
DZM	**Mont Dzumac**	**18.45**	**322**	*e*Pn	**Pn**	**19 22 50.0**	**+2.5**
	469nm,1.4s						
DZM				*e*LR	LR	19 27 04.8	
	comp=Z,19μm,24.6s						
DZM	**Mont Dzumac**	**18.45**	**322**	P	**Pn**	**19 22 49.5**	**+2.0**
	20nm,0.6s,baz=144,slow=7.9,SNR=20						
DZM	**Mont Dzumac**	**18.45**	**322**	P	**P**	**19 22 46.8**	**-0.6**
DZM	**Mont Dzumac**	**18.45**	**322**	P	**Pn**	**19 22 52.5**	**+5.0**
NOUC	**Port Laguerre**	**18.50**	**321**	P	**Pn**	**19 22 53.4**	**+5.5**
LIFNC	**LIFOU**	**19.18**	**326**	P	**P**	**19 22 55.7**	**+0.5**
LIFNC				IAmb	IAmb	19 23 08.3	
	comp=Z,207nm,1.0s						
MSVF	**Nonsavu**	**19.43**	**358**	P	**P**	**19 22 57.2**	**-0.9**
MSVF				IAmb	IAmb	19 23 09.9	
	comp=Z,214nm,1.2s						
MSVF	**Nonsavu**	**19.43**	**358**	P	**P**	**19 22 57.2**	**-0.9**
MSVF				pmax	pmax		
	comp=Z,214nm,1.2s						
MSVF	**Nonsavu**	**19.43**	**358**	P	**Pn**	**19 23 00.5**	**+1.2**
NIUE	**Niue**	**20.66**	**32**	P	**P**	**19 23 12.5**	**+1.1**
	baz=21,SNR=3.6						
NIUE	**Niue**	**20.66**	**32**	P	**P**	**19 23 10.8**	**-0.6**
NIUE				IAmb	IAmb	19 23 19.9	
	comp=Z,505nm,1.1s						
KOUNC	**Koumac, New Ca**	**20.82**	**319**	Pn	Pn	19 23 15.9	+0.3
KOUNC				IAmb	IAmb	19 23 22.1	
	comp=Z,173nm,0.7s						
KOUNC	**Koumac, New Ca**	**20.82**	**319**	P	Pn	19 23 17.3	+1.7
MCQ	**Macquarie Isla**	**21.94**	**212**	P	**P**	**19 23 24.4**	**-0.4**
MCQ	**Macquarie Isla**	**21.94**	**212**	P	**P**	**19 23 24.4**	**-0.4**
MCQ				pmax	pmax		
	comp=Z,1μm,1.8s						
SYDH	**Sydney Hard Ro**	**22.98**	**270**	P	**P**	**19 23 39.6**	**+3.5**
ARMA	**Armidale**	**23.43**	**279**	P	**P**	**19 23 44.9**	**+4.0**
	baz=23,SNR=14						
ARMA	**Armidale**	**23.43**	**279**	P	**P**	**19 23 41.7**	**+0.8**
ARMA	**Armidale**	**23.43**	**279**	P	**P**	**19 23 44.8**	**+3.9**
MILA	**Mila**	**23.50**	**261**	P	**P**	**19 23 44.0**	**+2.5**
	baz=23,SNR=19						
CNB	**Canberra Magne**	**23.68**	**266**	P	**P**	**19 23 46.2**	**+2.9**
	baz=24,SNR=38						
CNB	**Canberra Magne**	**23.68**	**266**	P	**P**	**19 23 46.8**	**+3.5**
CAN	**Canberra**	**23.97**	**266**	P	**P**	**19 23 47.1**	**+1.2**
CAN				IAmb	IAmb	19 23 52.2	
	comp=Z,108nm,1.0s						
CAN	**Canberra**	**23.97**	**266**	P	**P**	**19 23 47.2**	**+1.2**
CAN				pmax	pmax		
	comp=Z,108nm,1.0s						
CAN	**Canberra**	**23.97**	**266**	P	**P**	**19 23 49.7**	**+3.7**
GLAD	**Gladstone**	**24.03**	**252**	P	**P**	**19 23 48.7**	**+2.2**
TAU	**Tasmania Unive**	**24.57**	**247**	P	**P**	**19 23 52.3**	**+0.9**
TAU				IAmb	IAmb	19 23 54.7	
	comp=Z,110nm,0.9s						
TAU	**Tasmania Unive**	**24.57**	**247**	P	**P**	**19 23 52.3**	**+0.9**
TAU				pmax	pmax		
	comp=Z,110nm,0.9s						
TAU	**Tasmania Unive**	**24.57**	**247**	P	**P**	**19 23 53.7**	**+2.3**
MOO	**Moorlands**	**24.65**	**248**	P	**P**	**19 23 53.5**	**+1.4**
	baz=25,SNR=20						
MOO	**Moorlands**	**24.65**	**248**	P	**P**	**19 23 52.5**	**+0.3**
AFI	**Afiamalu**	**24.74**	**23**	P	**P**	**19 23 53.9**	**+0.8**
	comp=Z,80nm,0.8s,baz=180,slow=19,SNR=17						
AFI				S	**S**	**19 28 11.1**	**-3.6**
	comp=Z,14nm,0.3s,baz=256,slow=4.2,SNR=1.8						
	comp=Z,80nm,0.8s						
AFI	**Afiamalu**	**24.74**	**23**	P	**P**	**19 23 52.4**	**-0.8**
AFI				IAmb	IAmb	19 24 08.5	
	comp=Z,236nm,0.9s						
EIDS	**Eidsvold**	**26.29**	**289**	P	**P**	**19 24 09.6**	**+2.5**
	baz=26,SNR=18						
EIDS	**Eidsvold**	**26.29**	**289**	P	**P**	**19 24 08.9**	**+1.9**
EIDS				IAmb	IAmb	19 24 19.4	
	comp=Z,242nm,1.1s						
EIDS	**Eidsvold**	**26.29**	**289**	P	**P**	**19 24 09.9**	**+2.8**
TOO	**Toolangi**	**26.30**	**259**	P	**P**	**19 24 08.9**	**+1.8**
	baz=26,SNR=25						
TOO	**Toolangi**	**26.30**	**259**	P	**P**	**19 24 07.9**	**+0.7**
TOO				IAmb	IAmb	19 24 12.4	
	comp=Z,73nm,1.1s						
TOO	**Toolangi**	**26.30**	**259**	P	**P**	**19 24 07.9**	**+0.7**
TOO				pmax	pmax		
	comp=Z,73nm,1.2s						
TOO	**Toolangi**	**26.30**	**259**	P	**P**	**19 24 08.2**	**+1.0**
RMQ	**Roma**	**27.48**	**284**	P	**P**	**19 24 21.1**	**+3.3**
	baz=27,SNR=37						
RMQ	**Roma**	**27.48**	**284**	P	**P**	**19 24 21.9**	**+4.1**
BRAT	**Ballarat**	**27.52**	**259**	P	**P**	**19 24 19.9**	**+1.8**
CMSA	**Cobar Meteorol**	**27.73**	**272**	P	**P**	**19 24 22.4**	**+2.4**
RK1H	**Rockhampton Ha**	**27.85**	**292**	P	**P**	**19 24 23.7**	**+2.5**
ARPS	**Mount Arapiles**	**29.31**	**260**	P	**P**	**19 24 36.2**	**+2.1**
	baz=29,SNR=12						
ARPS	**Mount Arapiles**	**29.31**	**260**	P	**P**	**19 24 35.4**	**+1.3**
STKA	**Stephens Creek**	**30.88**	**269**	P	**P**	**19 24 50.0**	**+2.0**
	baz=31,SNR=80						
STKA	**Stephens Creek**	**30.88**	**269**	P	**P**	**19 24 49.7**	**+1.7**
	comp=Z,52nm,0.8s,baz=99,slow=10,SNR=87						
STKA				ScP	**ScP**	**19 31 20.5**	**-6.0**
	comp=Z,4.4nm,0.7s,baz=149,slow=5.5,SNR=3.1						
	comp=Z,52nm,0.8s						
STKA	**Stephens Creek**	**30.88**	**269**	P	**P**	**19 24 49.6**	**+1.6**
STKA				IAmb	IAmb	19 24 57.6	
	comp=Z,76nm,1.8s						
STKA	**Stephens Creek**	**30.88**	**269**	*d*iP	**P**	**19 24 49.2**	**+1.2**
STKA	**Stephens Creek**	**30.88**	**269**	P	**P**	**19 24 50.5**	**+2.5**
QLP	**Quilpie**	**30.96**	**280**	P	**P**	**19 24 50.7**	**+2.0**
	baz=31,SNR=14						
QLP	**Quilpie**	**30.96**	**280**	P	**P**	**19 24 50.7**	**+2.0**
	comp=Z,266nm,0.9s						
TWOA	**Tennyson Woods**	**32.30**	**262**	P	**P**	**19 25 02.4**	**+1.9**
	comp=Z,75nm,0.7s						
HNR	**Honiara**	**32.45**	**324**	P	**P**	**19 25 02.8**	**+1.0**
	comp=Z,353nm,0.9s,baz=184,slow=2.3,SNR=12						
HNR	**Honiara**	**32.45**	**324**	P	**P**	**19 25 01.8**	**-0.1**
HNR	**Honiara**	**32.45**	**324**	P	**P**	**19 25 01.8**	**-0.1**
HNR				pmax	pmax		
	comp=Z,604nm,1.1s						
HNR	**Honiara**	**32.45**	**324**	P	**P**	**19 25 04.2**	**+2.3**
HTT	**Hallett**	**32.50**	**265**	P	**P**	**19 25 03.8**	**+1.5**
	baz=32,SNR=60						
HTT	**Hallett**	**32.50**	**265**	P	**P**	**19 25 04.3**	**+2.0**
CTA	**Charters Tower**	**32.98**	**292**	P	**P**	**19 25 07.5**	**+1.0**
	comp=Z,38nm,0.6s,baz=118,slow=9.4,SNR=60						
	comp=Z,38nm,0.6s						
CTA	**Charters Tower**	**32.98**	**292**	P	**P**	**19 25 08.8**	**+2.3**
CTAO	**Charters Tower**	**32.98**	**292**	P	**P**	**19 25 07.8**	**+1.3**
CTAO	**Charters Tower**	**32.98**	**292**	P	**P**	**19 25 07.8**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,349nm,1.9s						
CTAO	**Charters Tower**	**32.98**	**292**	P	**P**	**19 25 08.6**	**+2.1**
INKA	**Innaminka**	**33.19**	**275**	P	**P**	**19 25 09.7**	**+1.4**
WHYH	**Whyalla**	**33.69**	**265**	P	**P**	**19 25 13.9**	**+1.3**
	comp=Z,186nm,0.8s						
PPT2	**Papeete2**	**34.07**	**64**	*e*LR	LR	19 34 18.9	
	comp=Z,11μm,28.0s						
PPT	**Papeete**	**34.08**	**64**	P	**P**	**19 25 18.5**	**+2.3**
	comp=Z,46nm,1.0s,baz=44,slow=21,SNR=1.7						
	comp=Z,46nm,1.0s						
LCRK	**Leigh Creek**	**34.09**	**269**	P	**P**	**19 25 18.0**	**+1.9**
BBOO	**Buckleboo**	**34.97**	**264**	P	**P**	**19 25 24.1**	**+0.4**
	baz=35,SNR=76						
BBOO	**Buckleboo**	**34.97**	**264**	P	**P**	**19 25 24.4**	**+0.6**
BBOO				IAmb	IAmb	19 25 26.3	
	comp=Z,54nm,0.9s						
BBOO	**Buckleboo**	**34.97**	**264**	P	**P**	**19 25 25.1**	**+1.4**
MTSU	**Mount Surprise**	**35.62**	**293**	P	**P**	**19 25 31.4**	**+1.9**
	baz=36,SNR=66						
MTSU	**Mount Surprise**	**35.62**	**293**	P	**P**	**19 25 31.6**	**+2.1**
OOD	**Oodnadatta**	**37.19**	**272**	P	**P**

MEEK	Meekatharra	51.31	264	P		P		19 27 35.4	-0.5
SAUI	Saumlaki	51.80	292	P		P		19 27 40.0	+0.4
SAUI	Saumlaki	51.80	292	P		P		19 27 38.8	-0.8
	comp=Z,316nm,1.4s								
MORW	Morawa	52.25	260	P		P		19 27 42.0	-0.8
	baz=52,SNR=35								
MORW	Morawa	52.25	260	P		P		19 27 41.8	-1.0
MORW				IAmb		IAmb		19 27 49.6	
	comp=Z,51nm,0.7s								
MORW	Morawa	52.25	260	P		P		19 27 42.6	-0.2
SRPI	Serui, Papua	52.54	302	P		P		19 27 44.9	-0.2
	comp=Z,100nm,1.3s								
PSA00	Pilbara Seismi	52.80	270	P		P		19 27 45.8	-1.1
PSA00				IAmb		IAmb		19 27 49.1	
	comp=Z,74nm,1.2s								
PSA00	Pilbara Seismi	52.80	270	P		P		19 27 45.5	-1.4
PSA00				IAmb		IAmb		19 27 49.1	
	comp=Z,38nm,1.2s								
PSA00	Pilbara Seismi	52.80	270	P		P		19 27 45.9	-1.1
QSPA	South Pole Qui	52.89	180	P		P		19 27 48.9	+1.7
	comp=Z,71nm,0.9s,baz=36,slow=2.5,SNR=88								
	comp=Z,71nm,0.9s								
QSPA	South Pole Qui	52.89	180	P		P		19 27 48.6	+1.4
QSPA				IAmb		IAmb		19 28 08.8	
	comp=Z,89nm,0.7s								
QSPA	South Pole Qui	52.89	180			P		19 27 49.3	+2.1
MBWA	Marble Bar	53.10	270	P		P		19 27 47.1	-2.1
MBWA				IAmb		IAmb		19 27 56.6	
	comp=Z,70nm,1.1s								
MBWA	Marble Bar	53.10	270	P		P		19 27 48.8	-0.4
BAKI	Biak	53.13	302	P		P		19 27 48.1	-1.3
	comp=Z,3µmcomp=Z,211nm,1.4s								
FAKI	Fak Fak	54.56	297	P		P		19 27 58.8	-1.1
FAKI	Fak Fak	54.56	297	P		P		19 27 58.7	-1.2
	comp=Z,131nm,0.7s								
FAKI	Fak Fak	54.56	297	P		P		19 27 59.7	-0.2
BNDI	Bandanaira	55.15	294	P		P		19 28 03.2	-0.9
	comp=Z,4µmcomp=Z,246nm,1.3s								
BNDI	Bandanaira	55.15	294	P		P		19 28 05.5	+1.4
BATI	Baumata	56.19	284	P		P		19 28 13.2	+1.5
	comp=Z,66nm,0.6s,baz=171,slow=2.7,SNR=30								
	comp=Z,66nm,0.6s								
BATI	Baumata	56.19	284	P		P		19 28 12.5	+0.8
	comp=Z,91nm,1.4s								
MSAI	Masohi	56.65	294	P		P		19 28 13.3	-1.7
	comp=Z,343nmcomp=Z,26nm,0.6s								
SIJI	Sorong	56.70	298	P		P		19 28 15.0	-0.3
	comp=Z,91nm,0.6s,baz=118,slow=6.3,SNR=78								
	comp=Z,91nm,0.6s								
SWI	Sorong	56.71	298	P		P		19 28 14.9	-0.4
	comp=Z,4µmcomp=Z,299nm,0.7s								
GIRL	Giralia	56.73	266	P		P		19 28 16.0	+0.6
	baz=57,SNR=8.6								
GIRL	Giralia	56.73	266	P		P		19 28 15.7	+0.3
	comp=Z,212nm,1.5s								
AAI	Ambon	56.96	293	P		P		19 28 16.0	-1.1
	comp=Z,63nm,0.6s								
WAKE	Wake Island	57.34	346	P		P		19 28 20.6	+1.0
NLAI	Namlea	58.06	293	P		P		19 28 23.4	-1.5
	comp=Z,4µmcomp=Z,66nm,0.6s								
MMRI	Maumere	58.26	284	P		P		19 28 26.2	-0.1
MMRI	Maumere	58.26	284	P		P		19 28 25.4	-0.9
	comp=Z,6µmcomp=Z,397nm,1.4s								
MMRI	Maumere	58.26	284	P		P		19 28 27.8	+1.5
BASI	Baing, Sumba	58.58	282	P		P		19 28 29.2	+0.6
	comp=Z,4µmcomp=Z,350nm,0.9s								
EDFI	Ende, Flores	58.61	284	P		P		19 28 27.9	-1.0
	comp=Z,1µmcomp=Z,77nm,1.4s								
LBMI	Labuha	59.54	295	P		P		19 28 35.1	-0.1
	comp=Z,85nm,1.2s								
SANI	Sanana	59.68	293	P		P		19 28 35.2	-1.0
	comp=Z,116nm,1.4s								
BBSI	Bau Bau	59.99	287	P		P		19 28 38.0	-0.3
	comp=Z,82nmcomp=Z,6.4nm,1.0s								
RPN	Rapa Nui	60.44	103	LR		LR		19 48 50.8	
	comp=Z,1µm,20.7s,baz=306,slow=30								
TNTI	Ternate	60.61	296	P		P		19 28 41.5	-1.0
TNTI				IAmb		IAmb		19 28 54.1	
	comp=Z,32nm,0.9s								
TNTI	Ternate	60.61	296	P		P		19 28 42.0	-0.5
	comp=Z,48nm,0.9s								
BSSI	Bau Bau, Buton	61.16	285	P		P		19 28 44.6	-1.7
	comp=Z,38nm,1.4s								
KHLU	Kahalu`u	61.39	27	P		P		19 28 48.8	+1.0
HMH	Humu'ula Sheep	61.55	28	P		P		19 28 50.9	+1.8
PLAI	Plampang	61.62	281	P		P		19 28 48.5	-0.9
	comp=Z,2µmcomp=Z,162nm,1.1s								
PLAI	Plampang	61.62	281	P		P		19 28 50.9	+1.5
POHA	Pohakuloa	61.68	28	P		P		19 28 47.8	-2.0
	comp=Z,187nm,2.3s								
BKSI	Bulukumba	61.96	286	P		P		19 28 51.3	-0.4
	comp=Z,67nm,1.2s								
HON	Honolulu	62.25	25	P		P		19 28 54.6	+1.3
HON	Honolulu	62.25	25	P		P		19 28 54.6	+1.3
HON				pmax		pmax			
	comp=Z,206nm,1.0s								
KEKH	Kekaha	62.32	23	P		P		19 28 55.1	+1.3
KIP	Kipapa	62.34	25	*i* P		P		19 28 54.9	+1.0
KIP				pmax		pmax			
	comp=Z,164nm,1.2s								
TWSI	Taliwang, Sumb	62.37	280	P		P		19 28 54.0	-0.5
	comp=Z,1µmcomp=Z,110nm,1.2s								
KAPI	Kappang	62.44	286	P		P		19 28 54.9	0.0
	comp=Z,10nm,0.3s,baz=118,slow=6.5,SNR=5.9								
	comp=Z,10nm,0.3s								
KAPI	Kappang	62.44	286	P		P		19 28 54.9	0.0
KAPI	Kappang	62.44	286	*i* P		P		19 28 55.3	+0.4
KAPI				pmax		pmax			
	comp=Z,117nm,1.5s								
LUWI	Luwuk	62.73	291	P		P		19 28 55.7	-1.2
LUWI	Luwuk	62.73	291	P		P		19 28 56.2	-0.7
	comp=Z,2µmcomp=Z,178nm,0.8s								
LUWI	Luwuk	62.73	291	P		P		19 28 57.3	+0.4
KMSI	Cibinong	62.93	294	P		P		19 28 57.3	-0.8
	comp=Z,2µmcomp=Z,194nm,0.7s								
SPSI	Sidrap Palu	63.10	287	P		P		19 28 58.3	-1.0
	comp=Z,62nm,0.7s								
BELA	Belgrano 2	63.39	173	P		P		19 29 00.0	-0.4
BELA				IAmb		IAmb		19 29 21.5	
	comp=Z,44nm,0.8s								
TTSI	Tana Toraja	63.65	287	P		P		19 29 01.0	-1.9
	comp=Z,84nm,1.5s								
APSI	Ampana	63.66	291	P		P		19 29 02.5	-0.5
	comp=Z,92nm,1.0s								
DNP	Denpasar	63.72	279	P		P		19 29 03.9	+0.5
	comp=Z,261nm,0.8s								
SGSI	Sangihe	63.95	297	P		P		19 29 03.3	-1.6
	comp=Z,659nmcomp=Z,69nm,0.7s								
SRBI	Singaraja	64.08	280	P		P		19 29 04.8	-1.0
	comp=Z,3µmcomp=Z,200nm,1.3s								
SMAI	San Martin Ant	64.15	158	P		P		19 29 06.2	+0.8
SMAI				IAmb		IAmb		19 29 09.0	
	comp=Z,63nm,1.2s								
MRSI	Marisa	64.36	292	P		P		19 29 05.9	-1.7
	comp=Z,41nm,1.4s								
JAGI	Jajag, Banyuwa	64.68	279	P		P		19 29 08.5	-1.3
JAGI	Jajag, Banyuwa	64.68	279	P		P		19 29 08.4	-1.3
JAGI	Jajag, Banyuwa	64.68	279	P		P		19 29 10.9	+1.2
MAW	Mawson	64.96	202	P		P		19 29 12.0	+1.3
	baz=65,SNR=12								
MAW	Mawson	64.96	202	P		P		19 29 11.3	+0.6
	comp=Z,25nm,0.9s,baz=130,slow=7.5,SNR=22								
	comp=Z,25nm,0.9s								
MAW	Mawson	64.96	202	P		P		19 29 10.8	+0.1
MAW				IAmb		IAmb		19 29 34.3	
	comp=Z,33nm,1.6s								
ABJI	Asem Bagus	65.02	280	P		P		19 29 11.3	-0.6
	comp=Z,195nm,0.9s								
GMJI	Gumukmas	65.36	279	P		P		19 29 12.4	-1.7
	comp=Z,243nm,1.3s								
BLJI	Banyuglugur	65.56	279	P		P		19 29 14.8	-0.6
	comp=Z,118nm,0.7s								
TOLI2	Tolitoli	65.64	292	P		P		19 29 13.4	-2.6
TOLI2				IAmb		IAmb		19 29 24.2	
	comp=Z,35nm,0.9s								
TOLI2	Tolitoli	65.64	292	P		P		19 29 17.1	+1.1
KMMI	Kalianget	65.68	280	P		P		19 29 15.6	-0.6
	comp=Z,3µmcomp=Z,153nm,1.2s								
MPSI	Mapaga	65.79	290	P		P		19 29 14.7	-2.2
	comp=Z,34nm,0.9s								
PWJI	Pagerwojo	66.80	278	P		P		19 29 22.4	-1.0
	comp=Z,4µmcomp=Z,219nm,1.2s								
BKB	Balikpapan	67.02	287	P		P		19 29 25.0	+0.2
PMSA	Palmer Station	67.19	156	P		P		19 29 26.3	+1.2
	comp=Z,23nm,1.0s,baz=256,slow=4.7,SNR=4.2								
	comp=Z,23nm,1.0s								
PMSA	Palmer Station	67.19	156	*e*P		P		19 29 26.1	+1.0
PCJI	Pacitan	67.20	277	P		P		19 29 25.4	-0.5
	comp=Z,5µmcomp=Z,394nm,1.1s								
BBKI	Banjar Baru	67.21	284	P		P		19 29 25.4	-0.6
	comp=Z,2µmcomp=Z,175nm,1.1s								
NGJI	Ngawi	67.47	278	P		P		19 29 30.5	+2.9
	comp=Z,154nm,0.8s								
UGM	Wanagama	67.88	277	P		P		19 29 28.9	-1.4
UGM	Wanagama	67.88	277	P		P		19 29 29.6	-0.7
	comp=Z,241nm,0.8s								
UGM	Wanagama	67.88	277	P		P		19 29 31.3	+1.0
SMRI	Semarang	68.47	278	P		P		19 29 33.7	-0.2
SMRI	Semarang	68.47	278	P		P		19 29 33.8	-0.2
	comp=Z,214nm,0.8s								
MTKI	Muara Teweh, K	68.76	286	P		P		19 29 34.7	-1.1
	comp=Z,44nm,1.7s								
MYLDM	Lahad Datu	70.05	293	P		P		19 29 44.0	+0.3
MYLDM				IAmb		IAmb		19 30 06.8	
	comp=Z,97nm,1.2s								
PBKI	Pangkalan Bun	70.15	282	P		P		19 29 45.2	+0.8
	comp=Z,238nm,1.2s								
CNJI	Cibinong	70.94	275	P		P		19 29 47.3	-1.9
	comp=Z,3µmcomp=Z,378nm,1.0s								
TROLL	Troll, Antarti	71.02	181	P		P		19 29 50.0	+1.0
SNAA	Sanae	71.39	179	P		P		19 29 51.9	+0.8
SNAA	Sanae	71.39	179	P		P		19 29 50.6	-0.5
SNAA				IAmb		IAmb		19 30 03.0	
	comp=Z,80nm,1.4s								
SNAA	Sanae	71.39	179	*ce*P		P		19 29 50.5	-0.6
SNAA				pmax		pmax			
	comp=Z,48nm,1.3s								
SKJI	Sukabumi	71.57	275	P		P		19 29 53.5	+0.5
	comp=Z,1µmcomp=Z,166nm,0.8s								
VNA3	Neumayer Olymp	71.66	177	P		P		19 29 53.4	+0.7
VNA3				S		S		19 39 09.7	-1.5
DBJI	Dramaga	71.69	276	P		P		19 29 53.2	-0.5
	comp=Z,3µmcomp=Z,308nm,1.0s								
NVL	N'lazarevskaya	71.89	185	*e*P		P		19 29 54.0	0.0
NVL				pmax		pmax			
	comp=Z,41nm,0.9s								
STKI	Sintang	72.03	284	P		P		19 29 55.4	-0.4
	comp=Z,66nm,1.4s								
VNA2	Neumayer--Watz	72.06	178	P		P		19 29 56.1	+1.0
	baz=179,slow=3.8								
VNA2				S		S		19 39 24.7	+8.9
GO09	Cerro Castillo	72.20	141	P		P		19 29 57.7	+1.4
VNA1	Neumayer--Stat	72.31	178	P		P		19 29 57.6	+1.1
KKM	Kota Kinabalu	72.31	292	P		P		19 29 56.7	-0.8
KKM				IAmb		IAmb		19 30 04.4	
	comp=Z,82nm,1.0s								
KKM	Kota Kinabalu	72.31	292	P		P		19 29 57.1	-0.4
SBJI	Serang	72.44	276	P		P		19 29 57.8	-0.4
	comp=Z,162nm,0.6s								
SBUM	Sibu	72.97	287	P		P		19 30 01.1	-0.3
SBUM				IAmb		IAmb		19 30 08.6	
	comp=Z,38nm,1.2s								
TPI	Tanjungpandan	73.27	279	P		P		19 30 02.8	-0.3
	comp=Z,33nm,1.5s								
BLSI	Bandar Lampung	73.59	276	P		P		19 30 06.1	+1.0
	comp=Z,105nm,0.5s								
KASI	Kota Agung	74.09	275	P		P		19 30 08.0	0.0
	comp=Z,108nm,0.9s								
LWLI	Liwa	74.74	275	P		P		19 30 12.2	+0.3
	comp=Z,190nm,0.8s								
PPBI	Pangkal Pinang	74.83	279	P		P		19 30 10.8	-1.4
	comp=Z,99nm,1.3s								
COYC	Coyhaique	75.87	137	P		P		19 30 19.2	+1.4
COYC				IAmb		IAmb		19 30 38.5	
	comp=Z,68nm,1.4s								
MNAI	Manna	76.01	275	P		P		19 30 19.6	+0.5
AY01	Puyuhuapi	76.28	136	P		P		19 30 21.4	+1.3
KSI	Kapahiang	76.73	276	P		P		19 30 20.8	-2.4
	comp=Z,264nm,0.8s								
DSRI	Dabo	77.08	279	P		P		19 30 22.6	-2.5
	comp=Z,17nm,0.7s								
MASI	Maura Aman, Be	77.31	276	P		P		19 30 32.8	+6.3
LL02	Futaleuf	77.51	135	P		P		19 30 28.4	+1.3
LL02				IAmb		IAmb		19 30 54.4	
	comp=Z,54nm,1.3s								
EFI	East Falkland	78.53	148	*ce*P		P		19 30 31.0	-1.6
EFI				pmax		pmax			
	comp=Z,189nm,2.5s								
KRJI	Kerinci	78.57	276	P		P		19 30 32.1	-1.4
	comp=Z,6µmcomp=Z,407nm,0.7s								
LL04	Puerto Octay	78.64	133	P		P		19 30 34.5	+1.0
H03S2	Juan Fernandez	78.97	124	T		T		20 57 11.0	
	baz=236								
H03S1	Juan Fernandez	78.98	124	T		T		20 57 11.0	
	baz=236								
H03S3	Juan Fernandez	78.98	124	T		T		20 57 10.7	
	baz=236								
MYKOM	Kota Tinggi	79.05	281	P		P		19 30 35.4	-0.6
MYKOM				IAmb		IAmb		19 30 46.3	
	comp=Z,50nm,1.4s								
H03N3	Juan Fernandez	79.20	124	T		T		20 57 20.0	
	baz=234,slow=72,SNR=87								
H03N2	Juan Fernandez	79.20	124	T		T		20 57 20.3	
	baz=234,slow=72,SNR=110								
H03N1	Juan Fernandez	79.22	124	T		T		20 57 19.0	
	baz=234,slow=72,SNR=89								
JOW	Kunigami	79.40	316	P		P		19 30 37.8	+0.2
LR03	Panguipulli	79.49	132	P		P		19 30 37.9	-0.3
LR03				IAmb		IAmb		19 30 41.0	
	comp=Z,105nm,1.4s								
PLCA	Paso Flores	79.83	134	P		P		19 30 41.4	+1.3
	comp=Z,11nm,0.8s,baz=244,slow=4.5,SNR=22								
	comp=Z,11nm,0.8s								
PLCA	Paso Flores	79.83	134	P		P		19 30 40.9	+0.8
PLCA				IAmb		IAmb		19 30 42.9	
	comp=Z,66nm,1.6s								
PLCA	Paso Flores	79.83	134	P		P		19 30 40.9	+0.8
PLCA				pmax		pmax			
	comp=Z,65nm,1.6s								
GO06	Curarrehue	80.04	132	P		P		19 30 42.4	+1.1
BKNI	Bangkinang	80.36	278	P		P		19 30 43.0	-0.2
	comp=Z,91nm,1.0s								
TWG	Pinlang	80.67	308	P		P		19 30 45.3	+0.7
TWG				IAmb		IAmb		19 30 49.6	
	comp=Z,37nm,0.6s								
YOJ	Yonaguni jima	80.67	310	P		P		19 30 47.7	+3.2
TPUB	Ta-pu	81.30	308	P		P		19 30 46.8	-1.1
TPUB				IAmb		IAmb		19 30 59.6	
	comp=Z,82nm,1.1s								
TPUB	Ta-pu	81.30	308	P		P		19 30 47.3	-0.6
SSLB	Suanglung	81.45	308	P		P		19 30 47.6	-1.1
SSLB				IAmb		IAmb		19 30 54.9	
	comp=Z,46nm,0.8s								
SSLB	Suanglung	81.45	308	P		P		19 30 49.6	+0.9
YHNB	Yeheng	81.83	309	P		P		19 30 51.4	+0.6
INU	Inuyama	81.93	327			pP		19 30 54.8	-1.1
MJAR	Matsushiro Arr	82.43	328	P		P		19 30 51.9	-1.7
	comp=Z,2.5nm,0.8s,baz=167,slow=6.3,SNR=4.9								
MAJO	Matsushiro	82.43	328	P		P		19 30 51.9	-1.7
MAJO	Matsushiro	82.43	328	P		P		19 30 51.9	-1.7
MAJO				pmax		pmax			
	comp=Z,12nm,0.8s								
GO05	Huala	82.72	129	P		P		19 30 55.7	+0.2
GO05				IAmb		IAmb		19 30 57.6	
	comp=Z,69nm,1.2s								
IPM	Ipoh	82.92	281	P		P		19 30 56.6	-0.1
IPM				IAmb		IAmb		19 31 08.5	
	comp=Z,110nm,1.8s								
JHS	Saijyo	83.41	324	P		P		19 30 57.4	-1.3
JHS				IAmb		IAmb		19 31 13.1	
	comp=Z,34nm,0.9s								
RPSI	Rantau Prapat	83.48	278	P		P		19 30 59.3	-0.2
PSI	Prapat	83.54	278	P		P		19 30 59.3	-0.8
PSI				pmax		pmax			
	comp=Z,17nm,0.9s								
BO02	Sierra Bellavi	83.58	129	P		P		19 31 00.6	+0.7
BO02				IAmb		IAmb		19 31 02.8	
	comp=Z,99nm,1.5s								
GSI	Gunungsitoli	83.70	276	P		P		19 31 01.9	+1.1
GSI	Gunungsitoli	83.70	276	P		P		19 31 01.5	+0.8
	comp=Z,117nm,0.7s								
GSI	Gunungsitoli	83.70	276	P		P		19 31 03.1	+2.4
QZH	Quanzhou	83.77	308	P		P		19 31 05.2	+4.5
MT01	Popeta	83.90	128	P		P		19 31 01.9	+0.3
MT01				IAmb		IAmb		19 31 29.2	
	comp=Z,62nm,1.1s								
MT09	Talagante	84.12	128	P		P		19 31 03.1	+0.3
MT09				IAmb		IAmb		19 31 30.2	
	comp=Z,27nm,0.9s								
QIZ	Qiongzhong	85.57	298	P		P		19 31 12.1	+2.1
QIZ	Qiongzhong	85.57	298	P		P		19 31 11.4	+1.4
UBPT	Khong Chiam	86.29	292	P		P		19 31 13.1	-0.5
UBPT				IAmb		IAmb		19 31 18.5	
	comp=Z,95nm,1.9s								
TRQA	Tornquist	86.49	136	*e*P		P		19 31 13.6	-0.8
SRIT	Nakonsritamara	86.56	283	P		P		19 31 15.1	+0.1
SRIT				IAmb		IAmb		19 31 22.5	
	comp=Z,24nm,0.6s								
ZON	Zonda	87.05	128	P		P		19 31 18.1	+0.8
ZON				IAmb		IAmb		19 31 19.9	
	comp=Z,55nm,1.4s								
ZON	Zonda	87.05	128	P		P		19 31 18.1	+0.8
ZON				pmax		pmax			
	comp=Z,55nm,1.4s								
CO01	Juntas del Tor	87.20	126	P		P		19 31 19.1	+0.8
CO01				IAmb		IAmb		19 31 43.5	
	comp=Z,43nm,1.4s								
TJN	Taejon	87.32	321	P		P		19 31 19.6	+1.5
TJN	Taejon	87.32	321	P		P		19 31 19.6	+1.5
TJN				pmax		pmax			
	comp=Z,235nm,1.1s								
AC05	El Transito	87.84	125	P		P		19 31 20.7	-0.6
AC05				IAmb		IAmb		19 31 23.8	
	comp=Z,62nm,1.2s								
KSRS	Korea Array	87.88	322	P		P		19 31 21.1	+0.3
	comp=Z,25nm,0.8s,baz=140,slow=5.0,SNR=62								
KSRS				PP		PP		19 34 45.1	-2.3
	comp=Z,1.2nm,0.8s,baz=144,slow=6.9,SNR=2.4								
	comp=Z,25nm,0.8s								
KSAR	Wonju Array Be	87.89	322	P		P		19 31 20.2	-0.6
KSAR	Wonju Array Be	87.89	322	P		P		19 31 20.2	-0.6
KS19	Wonju Array Si	87.95	322	P		P		19 31 22.3	+1.1
KS19				IAmb		IAmb		19 31 25.5	
	comp=Z,31nm,0.8s								
NJ2	Nanjing	88.72	313	⇓P		P		19 31 28.4	+3.5
NJ2				pmax		pmax			
	comp=Z,18nm,0.5s								
ADK	Adak	88.84	3	P		P		19 31 25.6	+0.7
SHEM	Shemya Is, Ala	89.68	357	LR		LR		20 06 43.9	
	comp=Z,879nm,20.1s,baz=126,slow=32								
YSS	Yuzh-Sakhalins	89.78	336	*e*P		P		19 31 30.0	+0.5
YSS				pmax		pmax			
	comp=Z,30nm,0.9s								
AC02	Maricunga	89.93	124	P		P		19 31 33.0	+1.4
AC02				IAmb		IAmb		19 31 35.0	
	comp=Z,66nm,1.6s								
WHN	Wuhan	90.37	309	P		P		19 31 34.2	+1.5
GO02	Mina Guanaco	90.74	123	P		P		19 31 35.3	+0.1
GO02				IAmb		IAmb		19 31 55.2	
	comp=Z,20nm,0.8s								
SCZ2	Santa Cruz Isl	91.19	47	P		P		19 31 38.5	+2.0
	baz=224								
USRK	Ussuriysk Ar.	91.42	328	P		P		19 31 36.4	-0.9
	comp=Z,12nm,0.9s,baz=129,slow=2.9,SNR=8.6								
	comp=Z,12nm,0.9s								
CIS	Catalina Islan	91.49	48	P		P		19 31 39.1	+1.2
	baz=225								
PKM	Mcpherson Peak	91.72	46	P		P		19 31 41.0	+1.9
	baz=224								
PEA0B	Petropavlovsk-	91.80	348	P		P		19 31 40.9	+2.1
PEA0B	Petropavlovsk-	91.80	348	P		P		19 31 40.9	+2.1
PEA0B				pmax		pmax			
	comp=Z,83nm,1.5s								
PETK	Petropavlovsk-	91.80	348	P		P		19 31 38.1	-0.7
	comp=Z,9.4nm,0.6s,baz=101,slow=6.2,SNR=19								
PETK				LR		LR		20 06 10.3	
	comp=Z,785nm,21.6s,baz=154,slow=31								
	comp=Z,9.4nm,0.6s								
PETK	Petropavlovsk-	91.80	348	P		P		19 31 38.4	-0.4
SMMC	Simmler	91.92	46	P		P		19 31 42.0	+2.2
	baz=224								
BCW	Bitter Crk WRg	91.99	46	P		P		19 31 42.5	+2.3
ESJX	Sierra Juarez	92.01	51	P		P		19 31 42.9	+2.4
ESJX				IAmb		IAmb		19 31 44.3	
	comp=Z,21nm,1.2s								
OSI	Osito Audit: C	92.16	47	P		P		19 31 43.1	+2.1
	baz=225								
ELS	Elsinore Mount	92.25	49	P		P		19 31 43.2	+1.7
ELS				IAmb		IAmb		19 31 44.7	
	comp=Z,22nm,1.1s								
MONP2	Monument Peak	92.33	50	P		P		19 31 44.2	+2.1
	baz=226,SNR=8.0								
MURC	Murrieta	92.35	49	P		P		19 31 44.1	+2.2
	baz=226,SNR=5.4								
IKP	In-Ko-Pah, Jac	92.36	50	P		P		19 31 44.1	+2.1
	baz=226,SNR=7.1								
ARVC	Arvin	92.46	47	P		P		19 31 44.5	+2.2
	baz=225								
YUH	Yuha Desert	92.47	50	P		P		19 31 44.3	+1.9
YUH				IAmb		IAmb		19 31 45.9	
	comp=Z,22nm,1.1s								
BFSC	Mount Baldy Ra	92.52	48	P		P		19 31 44.9	+2.1
	baz=226								
GYA	Guiyang	92.64	301	⇑P		P		19 31 44.9	+1.4
GYA				pmax		pmax			
	comp=Z,18nm,0.7s								
TIA	Tai'an	92.69

baz=225
113A Mohawk Valley, 93.88 51 P **P** **19 31 50.7 +1.8**
MPMC Manual Prospec 93.89 47 P **P** **19 31 50.6 +1.5**
baz=226
214A Organ Pipe Nat 93.94 52 P **P** **19 31 51.5 +2.2**
baz=228
AFDM Forest Hills D 93.97 43 P **P** **19 31 50.2 +1.0**
IRM Iron Mountain 93.97 49 P **P** **19 31 51.9 +2.5**
baz=227,SNR=11
CN2 Changchun 94.00 324 *e*P **P** **19 31 51.2 +2.1**
CN2 pmax pmax
comp=Z,20nm,0.9s
NNA Nana 94.06 108 LR LR 20 04 52.4
comp=Z,878nm,21.4s,baz=282,slow=30
GMRC Granite Mounta 94.09 49 P **P** **19 31 51.9 +1.9**
baz=227,SNR=7.0
QSM Queen of Sheba 94.19 47 P **P** **19 31 51.9 +1.7**
GWY Greenwater Val 94.45 47 P **P** **19 31 53.2 +1.5**
KMI Kunming 94.51 298 ⇑P **P** **19 31 56.3 +4.0**
KMI pmax pmax
comp=Z,9.0nm,1.2s
PDMCI Parker Dam,Lak 94.68 50 P **P** **19 31 54.5 +1.9**
baz=227
PNTR Pine Nut 94.82 43 P **P** **19 31 53.9 +0.5**
PNTR IAmb IAmb 19 32 20.4
comp=Z,16nm,0.9s
LHV Little Huntoon 94.84 45 P **P** **19 31 54.6 +1.5**
GMN Gold Mountain 94.88 46 P **P** **19 31 54.9 +1.1**
GMN IAmb IAmb 19 34 45.1
comp=Z,9.1nm,0.8s
VCNR Virginia City 94.94 43 P **P** **19 31 54.4 +0.5**
YERR Yerington 94.94 44 P **P** **19 31 54.6 +0.7**
BEKR Beckworth 94.96 42 P **P** **19 31 54.2 +0.3**
S14K Fog Glacier 94.98 12 P **P** **19 31 55.7 +2.2**
baz=197
YBH Yreka Blue Hor 95.07 40 P **P** **19 31 55.4 +1.2**
comp=Z,5.6nm,1.0s,baz=167,slow=2.6,SNR=6.0
comp=Z,5.6nm,1.0s
YBH Yreka Blue Hor 95.07 40 P **P** **19 31 55.1 +0.9**
YBH Yreka Blue Hor 95.07 40 P **P** **19 31 55.1 +0.9**
YBH pmax pmax
comp=Z,9.0nm,1.2s
NVAR Mina Array Bea 95.07 45 P **P** **19 31 55.4 +0.9**
comp=Z,3.2nm,0.9s,baz=220,slow=8.2,SNR=16
NVAR PP **PP** **19 35 44.0 -0.6**
comp=Z,0.2nm,0.4s,baz=203,slow=8.8,SNR=1.4
NVAR PKKPbc **PKKPbc** **19 48 48.8 -0.8**
comp=Z,0.2nm,0.3s,baz=87,slow=1.0,SNR=3.7
comp=Z,3.2nm,0.9s
NVAR Mina Array Bea 95.07 45 P **P** **19 31 55.0 +0.4**
RYN Ryan 95.09 44 P **P** **19 31 55.5 +1.0**
Y14A Wickenburg 95.14 51 P **P** **19 31 56.0 +1.3**
NV11 Mina Array Sit 95.16 45 P **P** **19 31 54.9 0.0**
TPNV Topopah Spring 95.22 47 P **P** **19 31 55.2 0.0**
TPNV Topopah Spring 95.22 47 P **P** **19 31 55.2 0.0**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 95.22 47 P **P** **19 31 56.5 +1.4**
baz=226
K02D Willamette Mer 95.29 39 P **P** **19 31 57.0 +1.8**
baz=222
PAHR Pah Rah Range 95.37 43 P **P** **19 31 56.8 +1.1**
TPH Tonopah 95.44 45 P **P** **19 31 57.0 +0.8**
TPH Tonopah 95.44 45 P **P** **19 31 57.0 +0.8**
TPH pmax pmax
comp=Z,67nm,1.3s
TUC Tucson 95.46 53 P **P** **19 31 58.1 +1.8**
TUC Tucson 95.46 53 P **P** **19 31 58.1 +1.8**
TUC pmax pmax
comp=Z,3.0nm,0.8s
TUC Tucson 95.46 53 P **P** **19 31 57.8 +1.6**
baz=229
J01E Myrtle Point 95.50 38 P **P** **19 31 58.4 +2.4**
baz=222
HUMO Hull Mountain 95.58 39 P **P** **19 31 57.8 +1.3**
HUMO IAmb IAmb 19 32 12.3
comp=Z,15nm,1.3s
KLR Kul'dur 95.61 331 P **P** **19 31 57.1 +0.7**
comp=Z,0.5nm,0.4s,baz=166,slow=4.2,SNR=2.1
comp=Z,0.5nm,0.4s
KVN Kaiserville 95.62 44 P **P** **19 31 57.2 +0.3**
KVN Kaiserville 95.62 44 P **P** **19 31 57.3 +0.3**
KVN pmax pmax
comp=Z,8.0nm,1.2s
L04D Klamath Falls 95.63 40 P **P** **19 31 58.3 +1.4**
baz=223
ITQB Itaqui 95.66 134 P **P** **19 31 57.3 -0.1**
ITQB Itaqui 95.66 134 *e*P **P** **19 31 58.0 +0.7**
PLTB Pedras Altas 95.75 137 *e*P **P** **19 31 58.0 +0.3**
ATAH Atahualpa 95.90 103 LR LR 20 06 25.7
comp=Z,1µm,19.7s,baz=288,slow=30
RODS Rosario do Sul 95.96 135 *e*P **P** **19 31 59.5 +0.7**
PZH PanZhiHua 96.07 299 P **P** **19 32 02.1 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.9s
I03D Drain, OR 96.18 38 P **P** **19 32 01.0 +1.9**
baz=223
SII Sitkinak Islan 96.22 15 P **P** **19 32 01.3 +2.2**
baz=201
PRN Pahroc Range 96.23 47 P **P** **19 32 02.3 +2.5**
X16A Lo Mia Camp, P 96.43 51 P **P** **19 32 03.2 +2.4**
MOD Modoc Plateau 96.44 41 P **P** **19 32 01.5 +0.9**
MOD IAmb IAmb 19 32 24.1
comp=Z,21nm,1.6s
J04D Umpqua Nationa 96.47 39 P **P** **19 32 02.2 +1.4**
baz=224
R11A Troy Canyon, C 96.56 46 P **P** **19 32 02.2 +0.9**
baz=227
K05A Summer Lake 96.72 40 P **P** **19 32 03.1 +1.2**
K05A IAmb IAmb 19 32 07.7
comp=Z,16nm,1.1s
CPSB Cacapava Do Su 96.89 137 *e*P **P** **19 32 02.1 -0.9**
UNIS Unistalda (Bra 97.00 135 *e*P **P** **19 32 04.3 +0.8**
LCMT Little Creek M 97.04 48 P Pdif 19 32 05.4 +1.9
BMN Battle Mountai 97.07 44 P **P** **19 32 04.1 +0.6**
BMN IAmb IAmb 19 32 05.5
comp=Z,13nm,1.4s
BMN Battle Mountai 97.07 44 P **P** **19 32 04.1 +0.6**
BMN pmax pmax
comp=Z,13nm,1.4s
WUAZ Wupatki 97.19 51 P **P** **19 32 04.9 +0.7**
baz=229
U15A North Rim 97.22 49 P **P** **19 32 03.3 -1.2**
KNB Kanab 97.29 49 P Pdif 19 32 05.8 +1.1
KNB IAmb IAmb 19 32 41.8
comp=Z,9.2nm,1.2s
KNB Kanab 97.29 49 P **P** **19 32 05.8 +1.2**
KNB pmax pmax
comp=Z,9.0nm,1.2s
CD2 Chengdu 97.44 303 *e*P Pdif 19 32 07.0 +1.6
PINE Pine Mountain 97.46 39 P **P** **19 32 06.2 +1.0**
PINE IAmb IAmb 19 32 20.6
comp=Z,40nm,1.7s
WVOR Wild Horse Val 97.69 42 P **P** **19 32 07.2 +1.0**
WVOR Wild Horse Val 97.69 42 P **P** **19 32 07.2 +1.0**
WVOR pmax pmax
comp=Z,5.0nm,0.9s
LPAZ La Paz 97.69 117 P **P** **19 32 08.4 +0.9**
comp=Z,0.8nm,0.6s,baz=177,slow=5.8,SNR=3.7
comp=Z,0.8nm,0.6s
LPAZ La Paz 97.69 117 *e*P **P** **19 32 06.4 -1.1**
CPUP Villa Florida 97.74 131 *e*P **P** **19 32 07.0 +0.2**
G05D Wamic, OR 98.30 38 P Pdif 19 32 10.4 +1.6
baz=224
TXAR Lajitas Array 98.31 60 P **P** **19 32 08.9 -0.4**
comp=Z,0.5nm,0.9s,baz=211,slow=7.1,SNR=4.8
TXAR PKKPbc **PKKPbc** **19 48 40.1 +0.1**
comp=Z,0.3nm,0.6s,baz=88,slow=4.0,SNR=4.1
comp=Z,0.5nm,0.9s
ALGR Alto Alegre (B 98.36 136 *e*P **P** **19 32 09.7 +0.1**
O16K Kokwok River B 98.37 12 P Pdif 19 32 11.3 +2.7
baz=198
Q20K Shuyak Island 98.49 15 P Pdif 19 32 11.2 +2.0
baz=203
Q19K Cape Douglas, 98.54 14 P Pdif 19 32 11.4 +1.9
baz=202
MNTX Cornudas Mount 98.61 57 P **P** **19 32 11.5 +1.1**
baz=231
XLT XiLinHaoTe 98.67 320 *e*P Pdif 19 32 13.4 +2.9
XLT pmax pmax
comp=Z,7.0nm,0.7s
HHC Hu-ho-hao-te 99.04 315 *e*P Pdif 19 32 15.2 +2.9
N16K Nishlik Lake 99.11 11 P **Pdif** **19 32 13.1 +1.1**
baz=198
O18K Koktuh Hills 99.11 13 P **Pdif** **19 32 13.2 +1.2**
baz=201
G08A Pilot Rock 99.52 39 **Pdif** **19 32 15.3 +1.1**
O20K Slope Mountain 99.81 14 P **Pdif** **19 32 17.1 +2.0**
baz=203
RC01 Rabbit Creek A 101.31 15 P **Pdif** **19 32 23.7 +2.0**
baz=205
L19K White Mountain 101.35 12 P **Pdif** **19 32 23.7 +1.8**
baz=201
M20K Styx River 101.38 13 P **Pdif** **19 32 24.1 +2.0**
baz=203
PWL Port Wells 101.40 16 P **Pdif** **19 32 24.2 +2.1**
baz=206
S22A 4UR Ranch, Cre 101.42 51 P **Pdif** **19 32 24.3 +1.1**
baz=232
SUA Susitna One 101.45 14 P **Pdif** **19 32 24.7 +2.2**
baz=204
SIT Sitka 101.63 24 P **Pdif** **19 32 25.1 +1.9**
baz=216
L20K Farewell, AK 101.80 13 P **Pdif** **19 32 26.0 +2.1**
baz=202
TTA Tatalina 101.86 12 P **Pdif** **19 32 26.3 +2.1**
baz=200
KNK Knik Glacier 101.87 15 P **Pdif** **19 32 26.4 +2.2**
baz=206
ANM Nome 102.24 7 P **Pdif** **19 32 29.1 +3.4**
baz=193
BMRM Bremner River 102.35 17 P **Pdif** **19 32 29.2 +2.8**
baz=209
SCM Sheep Creek Mo 102.49 16 P **Pdif** **19 32 29.3 +2.2**
baz=207
SIV San Ignacio 102.81 122 PP **PP** **19 36 45.1 +2.0**
comp=Z,0.7nm,0.5s,baz=244,slow=6.0,SNR=3.4
SIV PKKPbc **PKKPbc** **19 48 25.1 -1.3**
comp=Z,0.8nm,0.4s,baz=170,slow=0.9,SNR=4.2
PDAR Pinedale Array 102.92 46 P **Pdif** **19 32 30.8 +1.1**
comp=Z,0.7nm,0.8s,baz=196,slow=4.3,SNR=4.3
PDAR PP **PP** **19 36 43.6 -0.9**
comp=Z,0.9nm,0.8s,baz=235,slow=5.2,SNR=5.1
PDAR PKKPbc **PKKPbc** **19 48 24.6 -2.8**
comp=Z,0.8nm,0.8s,baz=91,slow=5.9,SNR=5.2
WAT1 Susitna Watana 103.13 15 P **Pdif** **19 32 31.9 +2.1**
baz=206
BOZ Bozeman (W) 103.56 43 P **Pdif** **19 32 34.1 +1.8**
baz=230
M26K Nabesna, AK 103.98 17 P **Pdif** **19 32 36.5 +2.9**
baz=211
YUK3 Moose Creek 104.07 19 P **Pdif** **19 32 36.9 +2.7**
baz=212
M27K Edge Creek, AK 104.21 18 P **Pdif** **19 32 36.5 +1.8**
baz=212
K24K Donnelly Dome 104.57 15 P **Pdif** **19 32 39.1 +2.8**
baz=209
MLY Manley 104.70 13 P **PKiKP** **19 36 54.2 +2.1**
baz=205
L27K Beaver Creek, 104.82 17 P **PKiKP** **19 36 54.5 +2.1**
baz=212
HDA Harding Lake 104.87 15 P **PKiKP** **19 36 54.7 +2.3**
baz=208
R33M Jennings River 104.89 24 P **PKiKP** **19 36 54.2 +1.4**
baz=219
H21K Melozitna Rive 104.93 12 P **PKiKP** **19 36 54.3 +1.8**
baz=203
P33M Teslin, Yukon 104.95 23 P **PKiKP** **19 36 54.5 +1.8**
baz=218
N31M Breeburn, Yuko 105.09 21 P **PKiKP** **19 36 55.0 +2.1**
baz=216
SCRK Sand Creek 105.11 16 P **PKiKP** **19 36 54.8 +1.8**
baz=210
M29M Somme Creek 105.14 19 P **PKiKP** **19 36 54.2 +1.1**
baz=214
ILAR Eielson Array 105.20 15 Pdiff **Pdif** **19 32 39.7 +0.8**
comp=Z,0.7nm,0.7s,baz=207,slow=6.0,SNR=6.0
ILAR PP **PKiKP** **19 36 56.3 +3.3**
comp=Z,1.2nm,0.5s,baz=244,slow=2.1,SNR=7.3
H22K Ishtalitna Cre 105.38 12 P **PKiKP** **19 36 54.6 +1.3**
baz=204
G21K Allakaket 105.61 11 P **PKiKP** **19 36 55.1 +1.4**
baz=203
M30M Minto, Yukon 105.69 20 P **PKiKP** **19 36 55.8 +1.8**
baz=216
M31M Drury Creek, Y 106.06 21 P **PKiKP** **19 36 56.9 +2.2**
baz=217
EGMT Eaglon 106.09 42 P **PKiKP** **19 36 57.0 +1.7**
baz=230
PRP Porcupine Dome 106.13 15 P **PKiKP** **19 36 56.8 +2.0**
baz=209
F21K Alatna River 106.27 11 P **PKiKP** **19 36 56.5 +1.6**
baz=203
G23K Bananza Creek 106.36 12 P **PKiKP** **19 36 56.6 +1.4**
baz=206
SONM Songino Array 106.36 318 Pdiff **Pdif** **19 32 46.2 +1.5**
comp=Z,0.5nm,0.6s,baz=148,slow=4.2,SNR=2.2
SONM PKiKP **PKiKP** **19 36 56.0 +0.2**
comp=Z,1.0nm,0.9s,baz=143,slow=3.7,SNR=3.9
SONM PKKPbc **PKKPbc** **19 48 15.2 -1.8**
comp=Z,1.7nm,0.9s,baz=286,slow=3.0,SNR=8.5
FARO Faro, Yukon 106.38 21 P **PKiKP** **19 36 56.0 +0.7**
baz=218
G24K Hadweenzic Riv 106.80 13 P **PKiKP** **19 36 56.7 +0.8**
baz=208
I27K Kandik River 107.04 16 P **PKiKP** **19 36 57.5 +1.0**
baz=212
MMPY Sheldon Lake, 107.29 22 P **PKiKP** **19 36 57.9 +0.9**
baz=220
E22K Anaktuvuk Pass 107.36 11 P **PKiKP** **19 36 58.2 +1.2**
baz=204
F24K Squaw Lake 107.45 13 P **PKiKP** **19 36 58.6 +1.4**
baz=207
I29M Ogilvie Camp, 107.60 17 P **PKiKP** **19 36 58.7 +1.3**
baz=215
F25K Christian Rive 107.93 14 P **PKiKP** **19 36 59.4 +1.3**
baz=209
G27K Doyon Strip 108.05 15 P **PKiKP** **19 36 59.4 +1.1**
baz=212
TOLK Toolik Lake Re 108.18 12 P **PKiKP** **19 36 59.7 +1.2**
baz=206
D23K Nanushuk River 108.29 11 P **PKiKP** **19 36 59.7 +1.1**
baz=205
F26K Sheenjek River 108.31 14 P **PKiKP** **19 36 59.7 +1.0**
baz=210
MIAR Mount Ida 108.31 60 P **PKiKP** **19 36 59.6 -0.1**
baz=237
E25K Arctic Village 108.41 13 P **PKiKP** **19 37 01.3 +2.4**
baz=209
EPYK Eagle Plains 108.80 17 P **PKiKP** **19 37 02.0 +2.3**
baz=216
E27K Coleen River 109.23 15 P **PKiKP** **19 37 02.1 +1.7**
baz=213
D25K Kavik River 109.32 12 P **PKiKP** **19 37 02.5 +1.9**
baz=209
DGMT Dagmar 109.35 43 P **PKiKP** **19 37 02.5 +1.2**
baz=236
A21K Barrow 109.68 8 P **PKiKP** **19 37 03.1 +2.0**
baz=201
BOSA Boshof 109.91 205 PKiKP **PKiKP** **19 37 01.9 -1.4**
comp=Z,2.2nm,0.9s,baz=225,slow=5.7,SNR=1.7
BOSA PKKPbc **PKKPbc** **19 48 03.3 -1.8**
comp=Z,2.9nm,1.0s,baz=22,slow=5.4,SNR=2.1
C27K Jago River 110.05 13 P **PKiKP** **19 37 03.4 +1.5**
baz=211
INK Inuvik 111.09 17 PKiKP **PKiKP** **19 37 03.4 -0.5**
comp=Z,1.5nm,0.3s,baz=196,slow=2.3,SNR=4.8
YKA Yellowknife Ar 112.77 28 PKiKP **PKiKP** **19 37 07.4 +0.2**
comp=Z,1.7nm,0.6s,baz=270,slow=1.8,SNR=3.7
TIXI Tiksi 114.10 345 PKP PKPdf 19 37 07.3 -2.2
comp=Z,5.6nm,0.7s,baz=87,slow=22,SNR=31
TIXI Tiksi 114.10 345 ⇓PKiKP PKPdf 19 37 06.3 -3.2
C36M Paulatuk 114.21 19 P **PKiKP** **19 37 11.0 +1.2**
baz=227
ULM Lac du Bonnet 114.91 45 PKP PKPdf 19 37 10.8 -0.9
comp=Z,3.1nm,0.8s,baz=232,slow=1.8,SNR=1.5
WMQ Urumqi 115.19 307 *e*PKP **PKiKP** **19 37 13.8 +1.2**
WMQ LR LR
comp=Z,900nm,21.3s
WMQ LR LR
comp=Z,900nm,21.3s
WMQ LR LR
comp=Z,780nm,23.7s
L44A Lake County Fo 115.99 56 P **PKPdf** **19 37 13.9 -0.1**
baz=242
MATP Matopo 116.13 211 PKP **PKiKP** **19 37 13.8 -1.4**
comp=Z,2.7nm,0.8s,baz=252,slow=19,SNR=4.7
MATP PKKPbc **PKKPbc** **19 47 43.1 -1.1**
comp=Z,0.8nm,0.5s,baz=0.0,slow=1.0,SNR=1.9
TZTN Tazewell 116.36 63 P **PKPdf** **19 37 14.8 -0.2**
baz=242
Q51A Peebles 117.65 61 **PKPdf** **19 37 16.3 -1.1**
ACSO Alum Creek Sta 118.44 59 P **PKPdf** **19 37 18.9 +0.1**
baz=244
ZSN Zaisan 118.59 310 *e*PKIKP **PKPdf** **19 37 16.7 -2.2**
ZSN Zaisan 118.59 310 *e*PKP **PKPdf** **19 37 16.7 -2.2**
baz=309
Q54A Coxs Mills 119.38 62 P **PKPdf** **19 37 20.7 0.0**
baz=244
Q54A P **PKPdf** **19 37 20.7 0.0**
baz=244
FCC Fort Churchill 119.61 37 PKPdf **PKPdf** **19 37 19.2 -1.2**
FCC Fort Churchill 119.61 37 PKIKP **PKPdf** **19 37 19.2 -1.2**
MKAR Makanchi Array 119.92 308 PKP **PKPdf** **19 37 19.4 -2.1**
comp=Z,6.0nm,0.9s,baz=169,slow=0.6,SNR=16
MKAR PP **PP** **19 38 42.9 -3.4**
comp=Z,2.6nm,0.6s,baz=111,slow=6.2,SNR=3.6
MKAR PKKPbc **PKKPab** **19 47 31.1 +0.6**
comp=Z,1.2nm,0.9s,baz=280,slow=3.6,SNR=6.5
MKAR SKKPbc SKKPbc 19 51 11.3 -8.2
comp=Z,0.5nm,0.8s,baz=284,slow=5.8,SNR=2.6
N53A Lisbon 120.16 60 **PKPdf** **19 37 21.7 -0.4**
SHLS Shalkode 120.28 303 *e*PKIKP **PKPdf** **19 37 20.1 -2.3**
SHLS Shalkode 120.28 303 *e*PKP **PKPdf** **19 37 20.2 -2.3**
baz=303
Q56A Snyder Ridge, 120.57 62 **PKPdf** **19 37 22.1 -0.9**
UZB Uzynbulak 120.57 303 *e*PKIKP **PKPdf** **19 37 20.3 -2.7**
UZB Uzynbulak 120.57 303 *e*PKP **PKPdf** **19 37 20.3 -2.7**
baz=303
LSZ Lusaka 120.84 214 **PKPdf** **19 37 23.9 -0.5**
LSZ Lusaka 120.84 214 PKIKP **PKPdf** **19 37 23.9 -0.5**
KPKS Kokpek 120.92 303 *e*PKIKP **PKPdf** **19 37 21.6 -2.0**
KPKS Kokpek 120.92 303 *e*PKP **PKPdf** **19 37 21.6 -2.0**
baz=303
SATY Saty 120.95 303 *e*PKIKP **PKPdf** **19 37 21.8 -1.9**
SATY Saty 120.95 303 *e*PKP **PKPdf** **19 37 21.9 -1.9**
baz=303
KSH Kashi 121.18 298 PKP **PKPdf** **19 37 24.3 0.0**
ZALV Zalesovo Beam 121.18 316 PKP **PKPdf** **19 37 21.1 -2.5**
comp=Z,1.1nm,0.4s,baz=126,slow=2.6,SNR=7.7
TMAB Tom-Au,PA,Br 121.42 121 *e*P **PKPdf** **19 37 26.0 +0.6**
TDK Taldyqorghan 121.71 305 *e*PKIKP **PKPdf** **19 37 22.9 -2.1**
TDK Taldyqorghan 121.71 305 *e*PKP **PKPdf** **19 37 22.9 -2.1**
baz=305
MDOK Medeo 121.90 302 *e*PKIKP **PKPdf** **19 37 23.3 -2.3**
MDOK Medeo 121.90 302 *e*PKP **PKPdf** **19 37 23.4 -2.3**
baz=302
NRN Naryn 121.94 300 PKPdf **PKPdf** **19 37 24.7 -1.3**
NRN Naryn 121.94 300 PKIKP **PKPdf** **19 37 24.7 -1.3**
AAA Alma-Ata 122.01 302 *e*PKIKP **PKPdf** **19 37 23.7 -2.0**
AAA Alma-Ata 122.01 302 *e*PKP **PKPdf** **19 37 23.7 -2.0**
baz=302
CHKK Chushkaly 122.21 303 *e*PKIKP **PKPdf** **19 37 24.0 -2.0**
CHKK Chushkaly 122.21 303 *e*PKP **PKPdf** **19 37 24.0 -2.0**
baz=303
SEM Semipalatinsk 122.54 311 *e*PKIKP **PKPdf** **19 37 24.3 -2.4**
SEM Semipalatinsk 122.54 311 *e*PKP **PKPdf** **19 37 24.3 -2.4**
baz=311
KUU Kurty 122.66 303 *e*PKIKP **PKPdf** **19 37 24.9 -2.0**
KUU Kurty 122.66 303 *e*PKP **PKPdf** **19 37 24.9 -2.0**
baz=303
M57A Sunshine Farm, 122.94 60 **PKPdf** **19 37 27.3 -0.1**
L56A Greenwood 122.95 59 PKPdf **PKPdf** **19 37 26.6 -0.9**
NBAN Anadia - AL 122.98 138 *e*P **PKPdf** **19 37 28.0 -0.5**
MDP Montagnes des 123.37 111 PKP **PKPdf** **19 37 29.0 -0.1**
comp=Z,5.5nm,0.9s,baz=234,slow=14,SNR=2.4
AAK Ala-Archa 123.44 301 **PKPdf** **19 37 28.9 +0.3**
AAK Ala-Archa 123.44 301 *c* PKIKP **PKPdf** **19 37 29.4 +0.8**
AAK pmax pmax
comp=Z,8.0nm,1.3s
SGDS Sogindy 123.64 302 *e*PKIKP **PKPdf** **19 37 26.7 -2.1**
SGDS Sogindy 123.64 302 *e*PKP **PKPdf** **19 37 26.8 -2.1**
baz=302
ROSB Rosrio 123.68 125 *e*P **PKPdf** **19 37 30.1 +0.4**
K57A Scipio Center 123.89 59 P **PKPdf** **19 37 29.3 +0.1**
baz=248
KSPA Keystone Colle 123.97 61 **PKPdf** **19 37 28.7 -0.7**
KSPA Keystone Colle 123.97 61 P **PKPdf** **19 37 29.3 -0.1**
baz=248
BINY Binghamton 124.05 60 **PKPdf** **19 37 29.6 0.0**
BINY Binghamton 124.05 60 P **PKPdf** **19 37 29.1 -0.5**
baz=248
KBL Kabul 124.16 290 **PKPdf** **19 37 29.9 -0.3**
KBL Kabul 124.16 290 PKIKP **PKPdf** **19 37 30.0 -0.3**
NBRF Rio Formoso - 124.42 138 *e*P **PKPdf** **19 37 31.2 +0.1**
J57A Williamstown 124.49 59 **PKPdf** **19 37 30.1 -0.2**
J57A Williamstown 124.49 59 P **PKPdf** **19 37 30.4 +0.1**
baz=249,SNR=6.1
J57A P **PKPdf** **19 37 30.4 +0.1**
baz=249,SNR=6.1
BTLS Baital 124.60 304 *e*PKIKP **PKPdf** **19 37 28.7 -1.8**
BTLS Baital 124.60 304 *e*PKP **PKPdf** **19 37 28.8 -1.8**
baz=303
L59A Walton 124.70 60 **PKPdf** **19 37 30.7 -0.2**
L59A Walton 124.70 60 P **PKPdf** **19 37 31.0 +0.1**
baz=249
L59A P **PKPdf** **19 37 31.0 +0.1**
baz=249
WCNY West Carthage 124.92 58 P **PKPdf** **19 37 31.1 0.0**
baz=250,SNR=7.1
J58A Remsen 124.95 59 **PKPdf** **19 37 30.3 -0.9**
J58A Remsen 124.95 59 P **PKPdf** **19 37 31.2 -0.1**
baz=249,SNR=7.0
J58A P **PKPdf** **19 37 31.2 -0.1**
baz=249,SNR=7.0
BTK Batken 125.04 297 **PKPdf** **19 37 30.9 -0.8**
BTK Batken 125.04 297 PKIKP **PKPdf** **19 37 30.9 -0.8**
PAL Palisades 125.06 62 **PKPdf** **19 37 31.4 -0.1**
PAL Palisades 125.06 62 PKIKP **PKPdf** **19 37 31.4 -0.1**
VLDQ Val d'Or 125.12 53 PKPdf **PKPdf** **19 37 29.6 -1.7**
BRNY Black Rk. Fore 125.14 61 P **PKPdf** **19 37 31.7 +0.1**
baz=249
HCNY Howe Caverns 125.33 60 P **PKPdf** **19 37 32.1 +0.1**
baz=249,SNR=5.8
J59A Piesco 125.52 59 **PKPdf** **19 37 31.7 -0.7**
J59A Piesco 125.52 59 P **PKPdf** **19 37 32.1 -0.3**
baz=250,SNR=7.8
J59A P **PKPdf** **19 37 32.1 -0.3**
baz=250,SNR=7.8
KSCT Kent School, K 125.62 61 **PKPdf** **19 37 31.6 -0.9**
DZA Taraz 125.70 300 *e*PKIKP **PKPdf** **19 37 30.6 -2.1**
DZA Taraz 125.70 300 *e*PKP **PKPdf** **19 37 30.7 -2.1**
baz=300
CHGR Chuyangaron 125.71 295 **PKPdf** **19 37 32.7 -0.3**
CHGR Chuyangaron 125.71 295 PKIKP **PKPdf** **19 37 32.7 -0.3**
TRY Troy 125.85 60 PKPdf **PKPdf** **19 37 33.3 +0.4**
LONY Lake Ozonia 125.86 58 PKPdf **PKPdf** **19 37 31.4 -1.6**
LONY Lake Ozonia 125.86 58 P **PKPdf** **19 37 33.0 0.0**
baz=250,SNR=12
NCB Newcomb 125.89 58 **PKPdf** **19 37 32.5 -0.5**
NCB Newcomb 125.89 58 P **PKPdf** **19 37 33.3 +0.2**
baz=250,SNR=15
BMNY Brushton-Moira 125.99 57 P **PKPdf** **19 37 32.8 -0.3**
baz=251,SNR=5.6
ACCN Adirondack Com 126.07 59 PKPdf **PKPdf** **19 37 32.9 -0.5**
ACCN Adirondack Com 126.07 59 P **PKPdf** **19 37 33.1 -0.3**
baz=250
KIBK Kibwezi 126.31 232 **PKPdf** **19 37 35.0 0.0**
KK31 Karatay Array 126.34 300 PKPdf **PKPdf** **19 37 32.1 -1.8**
KK31 Karatay Array 126.34 300 PKIKP **PKPdf** **19 37 32.1 -1.8**
KKAR Karatay Array 126.34 300 **PKPdf** **19 37 32.1 -1.8**
KKAR Karatay Array 126.34 300 PKPdf **PKPdf** **19 37 31.5 -2.4**
KKAR Karatay Array 126.34 300 PKIKP **PKPdf** **19 37 31.5 -2.4**
IUG luzhnay 126.34 299 *e*PKIKP **PKPdf** **19 37 31.9 -2.2**
IUG luzhnay 126.34 299 *e*PKP **PKPdf** **19 37 31.9 -2.2**
baz=299
RCBR Riachuelo 126.37 135 *e*P **PKPdf** **19 37 35.0 0.0**
L61B Northampton 126.44 61 **PKPdf** **19 37 33.5 -0.7**
L61B Northampton 126.44 61 P **PKPdf** **19 37 34.1 0.0**
baz=250
L61B Northampton 126.44 61 P **PKPdf** **19 37 34.5 +0.4**
baz=250,SNR=8.3
UCCT U. Connecticut 126.53 62 **PKPdf** **19 37 34.0 -0.3**
QUA2 Belchertown 126.61 61 **PKPdf** **19 37 34.5 +0.1**
MCVT Middlebury Col 126.72 59 P **PKPdf** **19 37 34.5 -0.1**
baz=251
MNTQ Montreal, Queb 126.79 57 **PKPdf** **19 37 34.1 -0.5**
K62A Royalston 126.82 61 **PKPdf** **19 37 34.8 -0.1**
K62A Royalston 126.82 61 P **PKPdf** **19 37 35.2 +0.4**
baz=250
K62A P **PKPdf** **19 37 35.2 +0.4**
baz=250
J61A Chester 126.82 60 **PKPdf** **19 37 35.0 +0.2**
J61A Chester 126.82 60 P **PKPdf** **19 37 35.4 +0.6**
baz=251,SNR=7.2
J61A P **PKPdf** **19 37 35.4 +0.6**
baz=251,SNR=7.2
VT1 Waterbury 127.01 58 **PKPdf** **19 37 35.4 +0.2**
BRZS Berezniki 127.03 309 *e*PKIKP **PKPdf** **19 37 32.7 -2.3**

BRZS Berezniki 127.03 309 *e*PKP **PKPdf** 19 37 32.7 -2.3
baz=309
HNH Hanover 127.12 59 **PKPdf** 19 37 35.9 +0.5
HNH Hanover 127.12 59 P **PKPdf** 19 37 35.5 +0.1
baz=251
WSAR Wadi Sarin 127.16 273 PKP **PKPdf** 19 37 36.1 0.0
comp=Z,4.7nm,0.7s,baz=90,slow=7.6,SNR=2.8
HRV Adam Dziewonsk 127.23 61 **PKPdf** 19 37 35.8 +0.2
HRV Adam Dziewonsk 127.23 61 PKIKP **PKPdf** 19 37 35.8 +0.2
WES Weston 127.36 61 **PKPdf** 19 37 36.1 +0.2
WES Weston 127.36 61 PKIKP **PKPdf** 19 37 36.1 +0.2
FFD Franklin Falls 127.48 60 **PKPdf** 19 37 35.9 -0.2
LBNH Lisbon 127.54 59 **PKPdf** 19 37 36.5 +0.4
LBNH Lisbon 127.54 59 PKIKP **PKPdf** 19 37 36.6 +0.4
LBNH Lisbon 127.54 59 P **PKPdf** 19 37 36.8 +0.6
baz=252,SNR=7.8
LBNH Lisbon 127.54 59 P **PKPdf** 19 37 36.5 +0.4
baz=252,SNR=7.8
L64A Middleborough 127.55 62 **PKPdf** 19 37 36.1 -0.1
L64A Middleborough 127.55 62 P **PKPdf** 19 37 36.4 +0.1
baz=250
L64A P **PKPdf** 19 37 36.4 +0.1
baz=250
KMBO Kilima Mbogo 127.75 232 PKP **PKPdf** 19 37 38.1 +0.2
comp=Z,20nm,1.1s,baz=51,slow=2.2,SNR=19
I62A Tamworth 127.83 59 **PKPdf** 19 37 36.8 +0.1
I62A Tamworth 127.83 59 P **PKPdf** 19 37 37.0 +0.3
baz=252,SNR=8.2
I62A P **PKPdf** 19 37 37.0 +0.3
baz=252,SNR=8.2
H62A Milan 128.17 59 PKPdf **PKPdf** 19 37 37.5 +0.1
H62A Milan 128.17 59 P **PKPdf** 19 37 38.0 +0.6
baz=252,SNR=9.8
H62A P **PKPdf** 19 37 38.0 +0.6
baz=252,SNR=9.8
I63A Otisfield 128.40 59 **PKPdf** 19 37 37.9 +0.1
I63A Otisfield 128.40 59 P **PKPdf** 19 37 38.6 +0.8
baz=252,SNR=11
I63A P **PKPdf** 19 37 38.6 +0.8
baz=252,SNR=11
G62A West of Eustis 128.78 58 **PKPdf** 19 37 38.5 -0.1
G62A West of Eustis 128.78 58 P **PKPdf** 19 37 38.4 -0.1
baz=253
G62A P **PKPdf** 19 37 38.4 -0.1
baz=253
BRVK Borovoye 129.23 312 **PKPdf** 19 37 37.6 -1.5
BRVK Borovoye 129.23 312 *c i*PKIKP **PKPdf** 19 37 38.3 -0.8
BRVK pmax pmax
comp=Z,13nm,1.3s
F62A Pittston Farm, 129.36 57 **PKPdf** 19 37 39.4 -0.1
PKME Peaks-Kenny Pk 129.64 58 **PKPdf** 19 37 40.3 +0.2
PQI Presque Isle 130.86 57 **PKPdf** 19 37 41.3 -1.1
MBAR Mbarara 132.08 226 PKP **PKPdf** 19 37 46.8 +0.8
comp=Z,1.1nm,0.3s,baz=113,slow=3.8,SNR=4.7
MBAR SKPbc **SKPbc** 19 41 06.7 -4.8
comp=Z,11nm,1.0s,baz=88,slow=6.7,SNR=7.5
LMN Caledonia Moun 132.83 59 **PKPdf** 19 37 46.2 0.0
SCHQ Schefferville 133.06 46 PKP **PKPdf** 19 37 46.8 +0.5
comp=Z,4.8nm,0.9s,baz=253,slow=17,SNR=3.8
SCHQ SKPbc **SKPbc** 19 41 08.3 -5.0
comp=Z,6.3nm,0.6s,baz=273,slow=4.1,SNR=6.3
GEYT Alibeck 133.61 290 PKHKP PKPpre 19 37 38.9
comp=Z,1.5nm,0.6s,baz=164,slow=5.9,SNR=2.2
GEYT PKP **PKPdf** 19 37 48.2 +0.3
comp=Z,7.8nm,0.8s,baz=197,slow=2.4,SNR=8.6
GEYT SKPbc **SKPbc** 19 41 10.4 -5.3
comp=Z,2.2nm,0.6s,baz=126,slow=2.0,SNR=2.7
GEYT Alibeck 133.61 290 PKPpre PKPpre 19 37 38.8
GEYT PKPdf **PKPdf** 19 37 48.0 0.0
NEEM North Greenlan 134.48 14 *i* P **PKPdf** 19 37 49.7 +0.9
ABKAR Akbulak array 134.96 306 PKPpre 19 37 41.0
ABKAR PKPdf **PKPdf** 19 37 49.7 -0.3
ABKAR Akbulak array 134.96 306 PKPpre 19 37 40.9
GBN Guysborough 135.00 60 PKPdf **PKPdf** 19 37 51.5 +1.3
NOR Nord 135.16 3 *i* P **PKPdf** 19 37 48.4 -1.2
ARU Arti 136.34 316 SKPbc **SKPbc** 19 41 17.2 -6.6
comp=Z,2.7nm,0.5s,baz=136,slow=3.3,SNR=4.3
ARU Arti 136.34 316 *i* PKIKP **PKPdf** 19 37 53.7 +1.3
ARU 19 40 34.2
ARU SS SS 19 58 37.0 +2.5
AKTO Aktyubinsk 136.35 307 PKhKP PKPpre 19 37 42.5
comp=Z,1.0nm,0.6s,baz=84,slow=10,SNR=2.1
AKTO PP **PP** 19 40 30.9 -3.2
comp=Z,1.3nm,0.4s,baz=90,slow=6.6,SNR=4.2
RAYN Ar Rayn 137.77 265 **PKPdf** 19 37 55.3 -0.9
RAYN Ar Rayn 137.77 265 ⇑PKHKP PKPpre 19 37 46.2
KBS Kingsbay 137.84 356 *c i*PKIKP **PKiKP** 19 37 56.9 +0.3
KBS pmax pmax
comp=Z,17nm,0.8s
KBS Kingsbay 137.84 356 *i* P **PKPdf** 19 37 54.7 +0.1
KBS Kingsbay 137.84 356 *e*PKPdf **PKPdf** 19 37 54.8 +0.1
KBS IAmb IAmb 19 37 57.5
comp=Z,43nm,1.3s
SPA0 Spitsbergen Ar 138.27 355 *e*PKPdf **PKPdf** 19 37 54.0 -1.4
SPA0 IAmb IAmb 19 38 01.9
comp=Z,105nm,1.3s
SPITS Spitsbergen Ar 138.27 355 PKP **PKPdf** 19 37 53.8 -1.6
comp=Z,20nm,0.7s,baz=88,slow=5.1,SNR=5.4
SPITS Spitsbergen Ar 138.27 355 PKIKP **PKPdf** 19 37 54.4 -1.0
SFJD Kangerlussuaq 139.33 27 *i* P **PKPdf** 19 37 56.0 -1.6
DAG Danmarks Havn 139.62 6 *i* P **PKPdf** 19 37 55.0 -2.9
SUMG Summit 140.01 16 *e*P **PKPdf** 19 37 53.1 -6.1
DY2G Dye2 141.13 27 *i* P **PKPdf** 19 37 55.0 -6.2
ICESG Greenland Ices 141.91 21 *i* P **PKPdf** 19 37 56.2 -6.4
PRGR Permogore 142.14 325 *e*PKHKP PKPpre 19 37 54.1
NRS Narsarsuaq 143.59 35 *i* P PKPab 19 37 58.1 -3.8
APA Apatity 143.91 338 ⇑*i*PKHKP PKPpre 19 38 00.2
APA pmax pmax
comp=Z,18nm,1.1s
APA MLR MLR
comp=Z,1μm,19.0s
GROC Groznyy 143.92 295 *e*PKIKP PKPab 19 38 03.4 -0.4
GROC pmax pmax
comp=Z,245nm,1.0s
HAMF Hammerfest 144.02 346 *e*PKPdf **PKPab** 19 38 03.1 -0.2
HAMF IAmb IAmb 19 38 14.1
comp=Z,36nm,1.2s
GNI Garni 144.24 289 PKP **PKPab** 19 38 05.9 +0.6
comp=Z,18nm,0.9s,baz=210,slow=13,SNR=7.1
GNI Garni 144.24 289 **PKPab** 19 38 05.5 +0.2
ARA0 ARCESS Array S 144.54 344 *e*PKPbc **PKPab** 19 38 04.8 -0.5
ARA0 IAmb IAmb 19 38 12.6
comp=Z,35nm,0.7s
ARCES ARCESS Array B 144.54 344 PKP **PKPab** 19 38 04.7 -0.7
comp=Z,18nm,0.7s,baz=45,slow=2.1,SNR=64
ARCES SKPbc **SKPbc** 19 41 39.6 -5.6
comp=Z,6.9nm,0.8s,baz=25,slow=2.4,SNR=3.9
ARCES ARCESS Array B 144.54 344 PKPdf **PKPab** 19 38 04.9 -0.4
ANGG Ammassalik, Gr 144.59 25 *i* P **PKPab** 19 38 04.3 -1.3
GUDG Gudauri 144.79 293 **PKPab** 19 38 06.0 -1.4
GUDG Gudauri 144.79 293 PKIKP **PKPab** 19 38 06.0 -1.4
SCO Scoresbysund 144.93 12 *i* P **PKPab** 19 38 06.6 -0.1
SCO Scoresbysund 144.93 12 *i* P **PKPab** 19 38 06.0 -0.7
KLMR Klimovskoe 145.18 326 *e*PKHKP PKPpre 19 38 04.2
KLMR *e*PPP PPP 19 44 38.2
KLMR pmax pmax
comp=Z,162nm,1.3s
KLMR Klimovskoe 145.18 326 *e*PKPdf **PKPbc** 19 38 04.2 -3.6
KLMR AMP 19 38 08.5
comp=Z,162nm,1.3s
KLMR *e*PPP PPP 19 44 38.2
KLMR *e*PKKS 19 49 35.9
KLMR *e*PKKS 19 49 35.9
ZEI Tsey 145.25 294 *i* PKIKP **PKPbc** 19 38 08.8 -0.1
ZEI pmax pmax
comp=Z,91nm,0.6s
KTK1 Kautokeino 145.44 345 *e*PKPbc **PKPbc** 19 38 07.1 -1.3
KTK1 IAmb IAmb 19 38 17.1
comp=Z,23nm,0.8s
JETT Jettan, Norway 145.54 347 *e*PKPdf **PKPdf** 19 38 07.3 -1.3
JETT IAmb IAmb 19 38 16.0
comp=Z,46nm,0.8s
KARS Kars 145.57 290 **PKPdf** 19 38 09.4 -0.3
KARS Kars 145.57 290 PKIKP **PKPdf** 19 38 09.4 -0.3
TRO Tromso 145.74 348 *e*PKPdf **PKPdf** 19 38 07.7 -1.1
TRO IAmb IAmb 19 38 14.9
comp=Z,59nm,0.7s
JMIC Jan Mayen 145.97 4 *e*PKPdf **PKPdf** 19 38 09.5 +0.3
GURO Guroymak-BITLI 146.00 286 **PKPdf** 19 38 09.8 -0.7
GOF Gofitskoye 146.04 297 ⇑*e*PKP2 **PKPbc** 19 38 11.5 +0.5
GOF pmax pmax
comp=Z,177nm,1.3s
KBZ Khabaz 146.07 295 PKPbc **PKPdf** 19 38 09.4 -0.8
comp=Z,28nm,0.9s,baz=130,slow=2.0,SNR=22
KVAR Kislovodsk Arr 146.23 295 PKPbc **PKPbc** 19 38 12.4 +0.6
comp=Z,6.0nm,0.7s,baz=140,slow=7.9,SNR=4.5
KIV Kislovodsk 146.24 295 ⇑P **PKPdf** 19 38 06.9 -3.8
KIV Kislovodsk 146.24 295 **PKPdf** 19 38 10.8 +0.2
KIV Kislovodsk 146.24 295 ⇑PKHKP PKPpre 19 38 06.9
VRH Novokhopyorsk 146.65 309 *e*PKIKP **PKPdf** 19 38 10.2 -0.7
VRH pmax pmax
comp=Z,160nm,0.6s
MARD Mardin 146.71 283 **PKPdf** 19 38 11.9 +0.1
STEI Steigen 147.88 348 *e* **PKPdf** 19 38 14.6 +2.1
STEI IAmb IAmb 19 38 15.8
comp=Z,252nm,1.3s
LOF Lofoten 147.95 350 *e*PKPdf **PKPdf** 19 38 13.6 +1.0
LOF IAmb IAmb 19 38 18.3
comp=Z,113nm,1.3s
MOS Moscow 147.99 318 *e*PKIKP **PKPdf** 19 38 14.0 +1.0
MOS pmax pmax
comp=Z,124nm,1.4s
MOS pmax pmax
comp=Z,300nm,1.9s
LPSR Galich'ya Gora 148.10 312 *e*PKIKP **PKPdf** 19 38 14.2 +0.9
LPSR pmax pmax
comp=Z,60nm,1.1s
VORR Voronezh 148.12 310 *e*PKIKP **PKPdf** 19 38 13.9 +0.5
VORR pmax pmax
comp=Z,140nm,1.0s
VSR Storozhevoye 148.23 309 *e*PKIKP **PKPdf** 19 38 14.4 +0.8
VSR pmax pmax
comp=Z,50nm,1.8s
ASF Jabal al Asfar 148.33 272 PKPbc **PKPdf** 19 38 16.7 +2.2
comp=Z,14nm,0.7s,baz=111,slow=2.0,SNR=16
FAUS Fauske 148.37 348 PKPdf **PKPdf** 19 38 14.2 +0.9
OBN Obninsk 148.76 317 PKPdf **PKPdf** 19 38 13.0 -1.3
OBN Obninsk 148.76 317 *i* PKP2 **PKPbc** 19 38 19.1 +0.9
OBN *e* 19 41 43.9
OBN *e*PPP PPP 19 45 08.5
OBN pmax pmax
comp=Z,99nm,1.7s
LIC Lamto 148.95 173 *e*PKIKP **PKPdf** 19 38 15.1 -0.9
comp=Z,127nm,0.7s
EIL Elat 148.96 267 PKP **PKPdf** 19 38 15.2 -0.3
comp=Z,24nm,0.7s,baz=80,slow=5.5,SNR=11
EIL PKPbc **pPKPdf** 19 38 18.9 -1.7
comp=Z,24nm,0.7s,baz=48,slow=3.6,SNR=15
KIC Kosan Boka 149.11 173 *e*PKIKP **PKPdf** 19 38 15.3 -0.9
comp=Z,112nm,1.2s
TIC Toumodi 149.37 173 *e*PKIKP **PKPdf** 19 38 15.2 -1.5
comp=Z,88nm,1.1s
DBIC Dimbokro 149.41 173 PKP **PKPdf** 19 38 16.4 -0.2
comp=Z,28nm,1.0s,baz=158,slow=2.5,SNR=9.5
DBIC PKPbc **pPKPdf** 19 38 20.9 -1.0
comp=Z,44nm,1.0s,baz=211,slow=2.9,SNR=8.9
DBIC Dimbokro 149.41 173 PKPdf **PKPdf** 19 38 17.0 +0.3
DBIC Dimbokro 149.41 173 ⇑PKHKP PKPpre 19 38 17.3
KONS Konsvik 149.53 349 *e*pPKPdf **pPKPdf** 19 38 18.9 -1.4
KONS IAmb IAmb 19 38 19.4
comp=Z,213nm,1.5s
MOR8 Moi Rana 149.61 347 *e*pPKPdf **pPKPdf** 19 38 18.2 -2.4
MOR8 IAmb IAmb 19 38 28.3
comp=Z,47nm,1.0s
PUL Pulkovo 149.71 328 *c i*PKP2 **PKiKP** 19 38 23.4 +2.0
PUL pmax pmax
comp=Z,164nm,0.4s
MMAI Mount Meron Ar 149.80 273 PKPbc **PKPbc** 19 38 20.8 -0.8
comp=Z,37nm,0.6s,baz=81,slow=5.2,SNR=45
BORG Borgarnes 149.99 17 PKPbc **PKPbc** 19 38 21.2 +0.3
comp=Z,78nm,1.0s,baz=16,slow=0.3,SNR=17
BORG Borgarnes 149.99 17 **PKPbc** 19 38 21.9 +1.0
BORG Borgarnes 149.99 17 PKP2 **PKPbc** 19 38 21.9 +1.0
ANN Anapa 150.03 297 *i* PKIKP **PKPbc** 19 38 20.2 -1.4
ANN pmax pmax
comp=Z,43nm,0.9s
FIA1 FINESS Array S 150.33 333 **PKPdf** 19 38 15.3 -1.3
FINES FINESS Array B 150.33 333 PKPbc **PKPbc** 19 38 20.4 -1.5
comp=Z,33nm,0.6s,baz=78,slow=3.4,SNR=91
FINES FINESS Array B 150.33 333 **PKPbc** 19 38 20.2 -1.7
BNN Bunyan 150.81 285 PKPdf **PKPdf** 19 38 17.3 -1.1
NSS Namsos 151.54 348 *e*pPKPdf **pPKPdf** 19 38 22.6 -1.0
NSS IAmb IAmb 19 38 24.6
comp=Z,112nm,1.0s
MEF Metsahovi 151.77 333 *e*P **PKPbc** 19 38 24.5 -0.7
VSU Vasula 151.98 328 *e*P **PKPbc** 19 38 25.3 -0.4
CSS Mathiatis 152.00 276 **PKPdf** 19 38 19.5 -0.6
CSS PKPbc **PKPbc** 19 38 27.5 +0.8
RAF Rauma 152.10 336 *e*P **PKPbc** 19 38 24.5 -1.4
SIM Simferopol' 152.38 297 PKIKP **PKiKP** 19 38 28.2 +0.8
SIM pmax pmax
comp=Z,44nm,1.0s
BR131 Keskin Array S 152.62 286 **PKPdf** 19 38 21.7 +0.7
BR131 Keskin Array S 152.62 286 PKIKP **PKPdf** 19 38 21.7 +0.7
BRTR Keskin Array B 152.62 286 PKP **PKPdf** 19 38 18.8 -2.3
comp=Z,1.1nm,0.8s,baz=73,slow=8.3,SNR=4.3
BRTR PKPbc **sPKPdf** 19 38 26.6 -1.3
comp=Z,24nm,0.8s,baz=137,slow=3.9,SNR=47
BRTR Keskin Array B 152.62 286 PKPdf **PKPdf** 19 38 18.4 -2.6
ILGA Ilgaz 152.68 289 **PKPbc** 19 38 26.8 -1.4
MTSE Matsula 153.00 331 *e*P **PKPbc** 19 38 26.1 -1.9
MNK Minsk 153.60 320 *i* PKIKP **PKPdf** 19 38 22.5 +0.8
MNK *i* 19 42 16.4
MNK *i* SS SS 20 01 56.1 +4.6
MNK *i* SSS SSS 20 07 42.0
MNK pmax pmax
comp=E,14nm,1.3s
MNK pmax pmax
comp=Z,143nm,1.3s
MNK Minsk 153.60 320 *i* PKP **PKPdf** 19 38 22.6 +0.8
comp=E,14nm,1.3s,baz=242
MNK *i* PKP **PKPdf** 19 38 22.6 +0.8
MNK *i* PKP **PKPdf** 19 38 22.6 +0.8
comp=Z,143nm,1.3s
MNK *i* SKP 19 41 53.8
MNK *i* PP **PP** 19 42 16.5 0.0
MNK *i* SKS **SKSdf** 19 45 37.1 +10
MNK *i* PPP PPP 19 46 05.1
MNK *i* SKKS **SKKSdf** 19 54 08.4 -1.7
MNK *i* SS **SS** 20 01 56.1 +4.6
MNK *i* SSS SSS 20 07 42.0
MNK *i* LR LR 20 46 32.2
BBTS Babate 153.76 145 PKP **PKPdf** 19 38 22.1 -1.0
comp=Z,26nm,0.7s,baz=304,slow=9.3,SNR=4.6
BBTS PKPbc **PKPbc** 19 38 30.6 -0.4
comp=Z,18nm,0.6s,baz=152,slow=20,SNR=4.2
ISAL Salakas 153.92 323 *e*P **PKiKP** 19 38 31.5 +1.3
NACGM Naroch 153.96 322 ‖*e*PKP **PKPdf** 19 38 19.2 -3.1
baz=59
IIGN Ignalina 153.99 323 *e*P **PKiKP** 19 38 31.2 +0.9
MOL Molde 154.05 351 *e* **PKPbc** 19 38 28.9 -1.3
MOL IAmb IAmb 19 38 33.3
comp=Z,20nm,0.6s
DOMB Dombas 154.34 349 *e*PKPbc **PKPbc** 19 38 30.3 -0.6
DOMB IAmb IAmb 19 38 34.7
comp=Z,14nm,0.8s
AKASG Malin Array Be 154.44 312 PKP **PKPdf** 19 38 20.7 -2.3
comp=Z,0.4nm,0.5s,baz=21,slow=1.3,SNR=8.0
AKASG PKPbc **sPKPdf** 19 38 29.7 -0.3
comp=Z,3.8nm,0.7s,baz=49,slow=2.1,SNR=9.3
AKASG Malin Array Be 154.44 312 **PKPdf** 19 38 20.0 -3.1
AKBB Malin Array Si 154.44 312 **PKPdf** 19 38 20.6 -2.5
AKBB Malin Array Si 154.44 312 PKIKP **PKPdf** 19 38 20.6 -2.5
AKN Aaknes 154.50 351 *e*PKPbc **PKPbc** 19 38 31.1 -0.2
MDUB Mudurnu 154.55 287 PKPdf **PKPdf** 19 38 24.0 +0.3
NC303 NORSAR Array S 154.69 346 **PKPdf** 19 38 23.3 +0.2
NB201 NORSAR Array S 154.87 346 PKPdf **PKPdf** 19 38 21.6 -1.8
NB2 NORSAR Subarra 154.89 346 PKP PKPab 19 39 02.1 +15
comp=Z,1.8nm,0.6s,baz=34,slow=2.7
NB2 NORSAR Subarra 154.89 346 *e* PKPab 19 39 02.1 +15
baz=34,slow=2.7
NOA NORSAR Array B 154.89 346 PKP **PKPdf** 19 38 21.4 -2.1
comp=Z,11nm,1.3s,baz=23,slow=1.7,SNR=7.5
NOA PKPbc **PKPbc** 19 38 31.0 -1.1
comp=Z,6.5nm,0.7s,baz=32,slow=2.1,SNR=10
PABE Paberze 154.97 325 **PKPdf** 19 38 22.7 -0.9
PABE Paberze 154.97 325 *e*P **PKPbc** 19 38 31.5 -0.8
NBO00 NORSAR Array S 154.99 346 **PKPbc** 19 38 31.4 -0.9
BORA Eskisehir 155.08 286 **PKPdf** 19 38 21.0 -3.5
NC602 NORSAR Array S 155.10 345 **PKPdf** 19 38 30.9 +7.2
NC602 NORSAR Array S 155.10 345 *e*PKPbc PKPdf 19 38 31.5 +7.8
ELL Elmali 155.11 278 PKPdf 19 38 32.9 +8.3
ELL Elmali 155.11 278 PKIKP PKPdf 19 38 32.9 +8.3
FOO Floro 155.29 353 *e*PKPbc PKPdf 19 38 32.6 +8.8
PBUR Paburge 155.54 328 *e*P PKPdf 19 38 35.5 +11
TOA0 Torodi Ar. Sit 155.87 187 PKPdf **PKPdf** 19 38 25.1 -1.0
TORD Torodi Ar. Bea 155.87 187 PKP **PKPdf** 19 38 25.2 -0.9
comp=Z,6.7nm,1.0s,baz=86,slow=0.3,SNR=19
TORD PKPbc **sPKPdf** 19 38 34.7 +1.6
comp=Z,8.4nm,0.9s,baz=157,slow=1.7,SNR=14
TORD PKPab **PKPab** 19 38 51.3 -1.4
comp=Z,24nm,1.0s,baz=174,slow=2.8,SNR=12
TLCR 156.08 299 ⇑P **PKPdf** 19 38 33.0 +7.5
TLCR 156.08 299 ⇑PKIKP **PKPdf** 19 38 33.0 +7.5
CFR Carcaliu 156.56 299 ⇑P **PKPdf** 19 38 24.0 -2.1
CFR Carcaliu 156.56 299 ⇑PKIKP **PKPdf** 19 38 24.0 -2.1
KOWA Kowa 157.23 173 PKP **PKPdf** 19 38 26.8 -1.1
comp=Z,5.0nm,1.0s,baz=152,slow=5.8,SNR=5.3
KOWA PKPbc **sPKPdf** 19 38 37.6 +2.8
comp=Z,9.0nm,1.1s,baz=205,slow=3.3,SNR=6.0
KOWA Kowa 157.23 173 **PKPdf** 19 38 27.9 0.0
VRI Vrincioaia 157.40 301 ⇑P **PKPdf** 19 38 30.9 +3.7
VRI Vrincioaia 157.40 301 ⇑PKIKP **PKPdf** 19 38 30.9 +3.7
PLOR Plostina 157.46 301 ⇑P **PKPdf** 19 38 24.2 -3.1
PLOR Plostina 157.46 301 ⇑PKIKP **PKPdf** 19 38 24.2 -3.1
BIZ Bicaz 157.56 304 ⇑P **PKPdf** 19 38 26.2 -1.1
LVV L'vov 157.85 313 *e*PKP2 **PKPab** 19 39 02.2 +1.6
BURAR Bucovina Array 157.94 306 ⇑P PKPdf 19 38 20.5 -7.4
BURAR Bucovina Array 157.94 306 PKPdf **PKPdf** 19 38 26.7 -1.2
BURAR Bucovina Array 157.94 306 ⇑PKIKP PKPdf 19 38 20.5 -7.4
MLR Muntele Rosu 158.02 301 ⇑P **PKPdf** 19 38 22.1 -6.0
MLR Muntele Rosu 158.02 301 PKP **PKPdf** 19 38 26.1 -2.0
comp=Z,6.3nm,1.1s,baz=347,slow=1.9,SNR=3.9
MLR PKPab **PKPab** 19 39 00.9 -0.7
comp=Z,12nm,0.6s,baz=172,slow=3.8,SNR=11
MLR Muntele Rosu 158.02 301 PKPdf **PKPdf** 19 38 25.8 -2.3
MLR PKPab **PKPab** 19 39 01.2 -0.4
MLR Muntele Rosu 158.02 301 ⇑PKIKP **PKPdf** 19 38 22.1 -6.0
DOPR Dopca 158.29 302 ⇑P **PKPdf** 19 38 29.8 +1.5
VOIR 158.64 301 ⇑P **PKPdf** 19 38 30.3 +1.5
VOIR 158.64 301 ⇑PKIKP **PKPdf** 19 38 30.3 +1.5
BSD Bornholm Skovb 158.97 333 *i* P **PKPab** 19 39 03.0 -2.1
LUNU Lund 159.05 336 *i* P PKPab 19 38 56.0 -9.5
KOLS Kolonicke sedl 159.27 312 *e*PKIKP **PKPdf** 19 38 30.0 +0.7
KOLS Kolonicke sedl 159.27 312 *e*PKP **PKPdf** 19 38 30.0 +0.7
UZH Uzhgorod 159.39 311 *e*PKIKP **PKPdf** 19 38 29.6 +0.2
UZH *e* 19 38 34.3
UZH *i* 19 39 00.4
OJC Ojcow 160.05 317 *e*PKP **PKPdf** 19 38 26.1 -4.1
OJC Ojcow 160.05 317 PKPdf **PKPdf** 19 38 25.6 -4.6
OJC PKPab **PKPab** 19 39 08.6 -1.5
OJC Ojcow 160.05 317 PKIKP **PKPdf** 19 38 25.6 -4.6
OJC 19 39 08.6
NIE Niedzica 160.19 315 *e*PKP **PKPdf** 19 38 28.3 -2.1
GZR Gura Zlata 160.20 302 ⇑P **PKPdf** 19 38 32.6 +2.0
GZR Gura Zlata 160.20 302 ⇑PKIKP **PKPdf** 19 38 32.6 +2.0
VTS Vitosha 160.45 294 PKPdf **PKPdf** 19 38 30.4 -0.6
VTS PKPab **PKPab** 19 39 09.9 -2.4
VTS Vitosha 160.45 294 PKP2 **PKPab** 19 39 09.9 -2.4
VTS 20 38 30.4
BLKB Belogradchik 160.69 297 ⇑P **PKPdf** 19 38 29.1 -2.1
KSP Ksiaz 161.48 323 *e*PKP **PKPdf** 19 38 30.6 -1.1
VYHS Vyhne 161.49 314 *e*PKIKP **PKPdf** 19 38 29.7 -2.1
VYHS *e* 19 39 16.7
VYHS Vyhne 161.49 314 *e*PKP **PKPdf** 19 38 29.7 -2.1
VYHS *e* 19 39 16.7
MORC Moravsky Berou 161.51 319 ⇑P **PKPdf** 19 38 25.8 -6.1
MORC Moravsky Berou 161.51 319 *e*PKP **PKPdf** 19 38 30.1 -1.7
MORC *e* 19 39 14.8
MORC Moravsky Berou 161.51 319 ⇑PKIKP **PKPdf** 19 38 25.8 -6.1
MAUC Maruska 161.59 317 *e*PKPDF **PKPdf** 19 38 30.8 -1.1
OSTC Ostas 161.71 322 *e*PKPAB **PKPab** 19 39 17.8 +0.5
KRLC Kraliky 161.72 320 *e*PKIKP **PKPdf** 19 38 30.9 -1.2
KRLC *e* 19 39 17.5
KRLC Kraliky 161.72 320 *e*PKPDF **PKPdf** 19 38 30.9 -1.2
KRLC *e*PKPAB **PKPab** 19 39 17.5 +0.1
CHVC Chvalec 161.76 323 *e*PKPAB **PKPab** 19 39 16.9 -0.7
DPC Dobruska-Polom 161.78 322 *e*PKIKP **PKPdf** 19 38 31.1 -1.0
DPC *e* 19 39 17.1
DPC Dobruska-Polom 161.78 322 *e*PKPDF **PKPdf** 19 38 31.1 -1.0
DPC *e*PKPAB **PKPab** 19 39 17.1 -0.6
JAVC Velka Javorina 161.96 316 *e*PKP **PKPdf** 19 38 31.7 -0.7
JAVC *e* 19 39 19.2
SMOL Smolenice 162.28 315 *e*PKIKP **PKPdf** 19 38 31.6 -1.0
SMOL *e* 19 39 19.3
VRAC Vranov 162.28 319 PKP **PKPdf** 19 38 31.4 -1.2
comp=Z,1.7nm,0.6s,baz=302,slow=1.0,SNR=9.1
VRAC PKPab **PKPab** 19 39 19.2 -0.7
comp=Z,11nm,0.8s,baz=61,slow=4.0,SNR=8.4
VRAC Vranov 162.28 319 *e*PKP **PKPdf** 19 38 30.5 -2.1
VRAC *e* 19 39 19.7
MODS Modra-Piesok 162.44 315 *e*PKIKP **PKPdf** 19 38 31.4 -1.4
MODS *e* 19 39 20.8
MODS Modra-Piesok 162.44 315 *e*PKP **PKPdf** 19 38 31.4 -1.4
MODS *e* 19 39 20.8
DIVS Divibare 162.47 300 PKPdf **PKPdf** 19 38 31.0 -2.0
PVCC Panska Ves 162.51 324 *e*PKP2 **PKPab** 19 39 20.6 -0.2
PVCC Panska Ves 162.51 324 *e*PKPAB **PKPab** 19 39 20.6 -0.2
KRUC Moravsky 162.53 318 *e*PKP **PKPdf** 19 38 31.1 -1.7
KRUC *e* 19 39 20.2
BRG Berggiesshubel 162.55 326 *e*PKP **PKPdf** 19 38 31.4 -1.4
BRG Amp 19 38 33.1
comp=Z,8.1nm,1.2s
BRG Berggiesshubel 162.55 326 *e*PKP2 **PKPab** 19 39 20.6 -0.3
BRG pmax pmax
comp=Z,16nm,0.9s
BRG pmax pmax
comp=Z,21nm,0.7s
CLL Collm 162.64 329 PKPdf **PKPdf** 19 38 30.7 -2.2
CLL PKPab **PKPab** 19 39 19.5 -1.8
CLL Collm 162.64 329 *e*PKIKP **PKPdf** 19 38 31.0 -1.8
CLL *e* 19 39 20.0
CLL Collm 162.64 329 *e*PKPdf **PKPdf** 19 38 31.0 -1.8
CLL *e*PKPab **PKPab** 19 39 20.0 -1.3
CLL *i* pPKPab **sPKPab** 19 39 25.8 -2.4
comp=Z,19nm,1.0s
MORH Mrgy, Hungar 162.64 307 ⇑P **PKPdf** 19 38 30.1 -2.9
PRU Pruhonice 162.89 323 *e*PKP2 **PKPab** 19 39 21.9 -0.6
PRU Pruhonice 162.89 323 *e*PKPAB **PKPab** 19 39 21.9 -0.6
RONA Rosalia, Austr 163.36 314 *e*P **PKPdf** 19 38 31.1 -2.7
comp=Z,6.2nm,1.4s
RONA *e*P **PKPab** 19 39 26.7 +2.0
comp=Z,8.8nm,1.3s
CONA Conrad Observa 163.48 316 *e*P **PKPdf** 19 38 31.9 -2.0
comp=Z,5.3nm,1.4s
CONA *e*P **PKPab** 19 39 24.9 -0.4
comp=Z,11nm,1.0s
NKC Novy Kostel 163.67 327 *e*PKP2 **PKPab** 19 39 25.3 -0.6
NKC Novy Kostel 163.67 327 *e*PKPAB **PKPab** 19 39 25.3 -0.6
CKRC Cesky Krumlov 163.77 320 *e*PKPDF **PKPdf** 19 38 32.8 -1.3
CKRC *e*PKPAB **PKPab** 19 39 25.5 -0.9
KHC Kasperske Hory 163.93 322 PKPdf **PKPdf** 19 38 31.7 -2.5
KHC PKPab **PKPab** 19 39 26.0 -1.1
KHC Kasperske Hory 163.93 322 *e*PKIKP **PKPdf** 19 38 33.1 -1.1
KHC *e* 19 39 25.9
KHC Kasperske Hory 163.93 322 *e*PKPDF **PKPdf** 19 38 33.1 -1.1
KHC *e*PKPAB **PKPab** 19 39 25.9 -1.2
ARSA Arzberg 164.04 314 *e*P **PKPdf** 19 38 34.6 +0.2
comp=Z,12nm,1.9s
ARSA *e*P **PKPab** 19 39 27.6 -0.1
comp=Z,8.8nm,1.5s
GEC2 GERESS Array S 164.06 321 PKPdf **PKPdf** 19 38 32.4 -2.0
GEC2 PKPab **PKPab** 19 39 26.4 -1.4
GERES GERESS Array B 164.06 321 PKP **PKPdf** 19 38 33.1 -1.3
comp=Z,2.1nm,1.0s,baz=112,slow=1.4,SNR=11
GERES PKPab **PKPab** 19 39 25.9 -1.8
comp=Z,6.7nm,0.8s,baz=29,slow=2.2,SNR=9.7
GERES GERESS Array B 164.06 321 **PKPdf** 19 38 32.3 -2.2
GERES **PKPab** 19 39 25.6 -2.2
GRA1 Grafenberg Arr 164.60 328 **PKPab** 19 39 28.7 -1.3
GRF Grafenberg Arr 164.60 328 PKP2 **PKPab** 19 39 28.7 -1.3
GRFO Grafenberg 164.60 328 **PKPab** 19 39 29.4 -0.6
GRFO Grafenberg 164.60 328 PKP2 **PKPab** 19 39 29.4 -0.6
SOKA Soboth 164.63 313 *e*P **PKPdf** 19 38 34.3 -0.7
comp=Z,9.0nm,1.7s
SOKA *e*P **PKPab** 19 39 31.2 +0.8
comp=Z,18nm,1.4s
BIOA Bad Ischl, Aus 164.83 318 *e*P **PKPdf** 19 38 33.1 -1.9
comp=Z,2.7nm,0.8s
BIOA *e*P **PKPab** 19 39 30.1 -1.0
comp=Z,7.3nm,1.4s
OBKA Obir 165.00 313 *e*P **PKPdf** 19 38 34.4 -1.0
comp=Z,4.4nm,1.4s
OBKA *e*P **PKPab** 19 39 31.7 -0.3
comp=Z,6.4nm,1.1s
KBA Koelnbreinsper 165.36 317

	comp=Z,3.5nm,0.8s						
MYKA				*e*P	**PKPab**	**19 39 33.4**	**-0.6**
	comp=Z,7.3nm,0.7s						
CLUD	**Cludinico**	**165.99 316**			**PKPdf**	**19 38 35.5**	**-0.6**
CLUD				PKPab	**PKPab**	**19 39 36.0**	**-0.3**
ABTA	**Abfaltersbach**	**166.01 317**		*e*P	**PKPdf**	**19 38 35.8**	**-0.4**
ABTA				*e*P	**PKPab**	**19 39 34.5**	**-1.9**
	comp=Z,6.5nm,0.7s						
WATA	**Walderalm**	**166.13 321**		*e*P	**PKPdf**	**19 38 34.1**	**-2.2**
	comp=Z,5.8nm,1.2s						
WATA				*e*P	**PKPab**	**19 39 37.4**	**+0.4**
	comp=Z,4.1nm,0.9s						
WTTA	**Wattenberg**	**166.15 320**		*e*P	**PKPdf**	**19 38 34.0**	**-2.4**
	comp=Z,11nm,1.3s						
WTTA				*e*P	**PKPab**	**19 39 39.0**	**+1.9**
	comp=Z,4.3nm,0.6s						
CIMO	**Cimolais**	**166.32 316**			**PKPdf**	**19 38 34.6**	**-1.7**
CIMO				PKPab	**PKPab**	**19 39 36.1**	**-1.6**
MOTA	**Moosalm**	**166.36 322**		*e*P	**PKPdf**	**19 38 33.7**	**-2.8**
	comp=Z,5.9nm,1.1s						
MOTA				*e*P	**PKPab**	**19 39 39.1**	**+1.1**
	comp=Z,12nm,1.5s						
SQTA	**Sankt Quirin**	**166.39 321**		*e*P	**PKPdf**	**19 38 34.1**	**-2.3**
	comp=Z,3.9nm,0.9s						
SQTA				*e*P	**PKPab**	**19 39 39.1**	**+1.0**
	comp=Z,6.0nm,0.6s						
RETA	**Reutte**	**166.43 323**		*e*P	**PKPdf**	**19 38 34.9**	**-1.6**
	comp=Z,1.9nm,0.6s						
RETA				*e*P	**PKPab**	**19 39 40.1**	**+1.9**
	comp=Z,8.3nm,1.1s						
FETA	**Feichten**	**166.76 321**		*e*P	**PKPdf**	**19 38 35.1**	**-1.7**
	comp=Z,8.3nm,1.3s						
FETA				*e*P	**PKPab**	**19 39 40.5**	**+0.6**
	comp=Z,6.7nm,0.8s						
BFO	**Black Forest**	**166.85 331**			**PKPab**	**19 39 38.2**	**-1.8**
BFO	**Black Forest**	**166.85 331**		PKP2	**PKPab**	**19 39 38.2**	**-1.8**
DAVA	**Damuels**	**166.99 324**		*e*P	**PKPdf**	**19 38 34.5**	**-2.5**
	comp=Z,7.2nm,1.2s						
DAVA				*e*P	**PKPab**	**19 39 39.2**	**-1.6**
	comp=Z,16nm,1.4s						
TEOL	**Teolo**	**167.31 314**		PKPdf	**PKPdf**	**19 38 35.2**	**-1.9**
TEOL				PKPab	**PKPab**	**19 39 40.5**	**-1.6**
DAVOX	**Davos/Dischmat**	**167.35 322**		PKP	**PKPdf**	**19 38 35.1**	**-2.2**
	comp=Z,1.4nm,0.7s,baz=139,slow=2.2,SNR=3.1						
DAVOX				PKPab	**PKPab**	**19 39 41.5**	**-0.9**
	comp=Z,10nm,0.7s,baz=20,slow=4.4,SNR=7.4						
ECH	**Echery**	**167.39 333**		PKPdf	**PKPdf**	**19 38 35.7**	**-1.4**
ECH				PKPab	**PKPab**	**19 39 39.9**	**-2.4**
ECH	**Echery**	**167.39 333**		PKP2	**PKPab**	**19 39 39.9**	**-2.4**
ECH					20 39 35.7		
CAMP	**Campotosto**	**167.52 300**			**PKPab**	**19 39 43.8**	**+0.5**
SENIN	**Lac Senin/Sane**	**168.85 328**		PKPdf	**PKPdf**	**19 38 34.9**	**-3.5**
SENIN				PKPab	**PKPab**	**19 39 48.6**	**-0.5**
BNI	**Bardonecchia**	**170.14 325**		PKPdf	**PKPdf**	**19 38 38.1**	**-1.0**
BNI	**Bardonecchia**	**170.14 325**		PKIKP	**PKPdf**	**19 38 38.1**	**-1.0**
KEST	**Kesra**	**171.28 263**		PKPab	**PKPab**	**19 40 01.0**	**+0.8**
	comp=Z,9.2nm,0.9s,baz=93,slow=10,SNR=5.3						
POLO	**Lamas de Olo**	**173.49 49**		*e*PKPab	**PKPab**	**19 40 09.8**	**0.0**
PBRG	**Braganca**	**173.80 41**		*e*PKPab	**PKPab**	**19 40 11.7**	**+0.7**
MVO	**Moncorvo**	**174.07 47**		*e*PKPab	**PKPab**	**19 40 12.4**	**+0.1**
MTE	**Manteigas**	**174.20 55**		*e*PKPab	**PKPab**	**19 40 12.7**	**-0.2**
EVO	**Evora**	**174.54 74**		*e*PKPdf	**PKPdf**	**19 38 42.0**	**+0.9**
PESTR	**Estremoz**	**174.78 70**		*e*PKPdf	**PKPdf**	**19 38 41.7**	**+0.5**
MDT	**Midelt**	**174.83 148**		PKP	**PKPdf**	**19 38 41.3**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=153,slow=4.5,SNR=4.7						
MDT				PKPab	**PKPab**	**19 40 16.6**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=248,slow=3.8,SNR=3.6						
PBAR	**Barrancos**	**175.36 77**		*e*PKPdf	**PKPdf**	**19 38 42.4**	**+1.1**
ESDC	**Sonseca Array**	**176.80 40**		PKP	**PKPdf**	**19 38 41.6**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=348,slow=2.3,SNR=12						
ESDC				PKPab	**PKPab**	**19 40 24.6**	**+0.3**
	comp=Z,7.0nm,1.2s,baz=340,slow=4.5,SNR=7.8						
ESDC	**Sonseca Array**	**176.80 40**			**PKPdf**	**19 38 41.8**	**+0.1**
ESDC					**PKPab**	**19 40 23.2**	**-1.2**

*WEL **01** 19:22:07.8±1.2,37°S±9°×17°9E±1°2,h15km,M5.0/47, ML5.4/1,MLv5.0/47,Error ellipse: s-maj=0.0km s-min=0.0km az=120.8*

*IDC **01** 19:22:17.7±0.8,36°88S×179°09E,h0km,mb4.8/11, mbtmp4.8/12,ML5.2/1, Error ellipse: s-maj=28.7km s-min=19.0km az=38.0*

*NEIC **01** 19:22:19.8±1.6,37°16S±0°08×179°11E±0°08,h10km±1km, mb5.2/23,Error ellipse: s-maj=14.9km s-min=8.6km az=141.0*

ISC 01 19:22:10.5±1.9,36°87S±0°05×179°38E±0°08,h17km±9km, n111,σ2$25/78,mb5.1/21,1C,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.10 231**			**Pg**	**19 22 34.5**	**+2.7**
MXZ	**Matakaoa Point**	**1.10 231**		P	**Pn**	**19 22 27.9**	**-3.2**
MXZ				S	**Sb**	**19 22 43.4**	**-1.6**
WMGZ	**Waiomatatini S**	**1.22 219**		P	**Pn**	**19 22 31.7**	**-1.0**
WMGZ				S	**Sg**	**19 22 50.4**	**+0.4**
PKGZ	**Pakihiroa**	**1.45 225**		P	**Pn**	**19 22 34.7**	**-1.2**
PKGZ				S	**Sb**	**19 22 55.4**	**+0.2**
PUZ	**Puketiti**	**1.50 216**		P	**Pn**	**19 22 35.8**	**-0.7**
PUZ				S	**Sb**	**19 22 56.9**	**+0.4**
HAZ	**Te Kaha**	**1.55 235**		P	**Pn**	**19 22 37.1**	**-0.2**
TWGZ	**Tauwhareparae**	**1.71 220**		P	**Pn**	**19 22 38.9**	**-0.6**
RUGZ	**Raukumara Rang**	**1.74 231**		P	**Pn**	**19 22 39.5**	**-0.4**
CNGZ	**Carnagh Statio**	**1.86 210**		P	**Pn**	**19 22 41.0**	**-0.5**
WSRZ	**White Island S**	**1.87 249**		P	**Pg**	**19 22 49.1**	**+2.6**
TKGZ	**Te Karaka**	**1.98 217**		P	**Pn**	**19 22 42.0**	**-1.2**
TKGZ				S	**Sn**	**19 23 08.7**	**+1.1**
MWZ	**Matawai**	**2.07 225**		P	**Pn**	**19 22 43.5**	**-1.0**
WHRZ	**Whale Island**	**2.15 242**		P	**Pg**	**19 22 53.3**	**+1.5**
RIGZ	**Rimuhau**	**2.24 215**		P	**Pg**	**19 22 53.7**	**+0.4**
RAGZ	**Rawiri**	**2.25 223**		P	**Pn**	**19 22 45.7**	**-1.3**
URZ	**Urewera**	**2.27 232**		Pn	**Pg**	**19 22 53.5**	**-0.6**
	866nm,0.3s,baz=301,slow=2.9,SNR=8.0						
URZ				Sn	**Sn**	**19 23 16.5**	**+1.7**
	1μm,0.3s,baz=301,slow=19,SNR=12						
	4μm,0.5s						
URZ	**Urewera**	**2.27 232**		P	**Pn**	**19 22 46.4**	**-0.8**
EDRZ	**Edgecumbe**	**2.44 239**		P	**Pg**	**19 22 56.3**	**-0.9**
MHGZ	**Mahia Peninsul**	**2.56 207**		P	**Pn**	**19 22 49.3**	**-1.8**
LIRZ	**Lichensteins R**	**2.64 244**		P	**Pg**	**19 23 00.2**	**-0.9**
UTU	**Utuhina**	**2.85 242**		P	**Pg**	**19 23 03.3**	**-1.8**
HRRZ	**Handcock Road**	**2.89 237**		P	**Pb**	**19 23 02.0**	**+0.5**
KUZ	**Kuaotunu**	**2.94 271**		P	**Pn**	**19 22 55.6**	**-0.7**
ALRZ	**Allen Road**	**2.94 234**		P	**Pb**	**19 23 02.4**	**0.0**
GRRZ	**Galatos Road**	**2.99 239**		P	**Pb**	**19 23 04.2**	**+1.0**
BKZ	**Black Stump Fm**	**3.23 224**		Pn	**Pb**	**19 23 05.4**	**-2.0**
BKZ	**Black Stump Fm**	**3.23 224**		P	**Pb**	**19 23 05.8**	**-1.5**
WHTZ	**Whakaora**	**3.25 236**		P	**Pb**	**19 23 08.8**	**+1.1**
KUTZ	**Kaahu Road**	**3.25 239**		P	**Pn**	**19 22 59.8**	**-0.8**
CKHZ	**Cape Kidnapper**	**3.32 212**		P	**Pn**	**19 22 58.8**	**-2.8**
TLZ	**Tolley Road**	**3.38 243**		P	**Pb**	**19 23 09.8**	**-0.1**
MKAZ	**Moumakai**	**3.39 265**		P	**Pb**	**19 23 08.9**	**-1.1**
WIAZ	**Waiheke Island**	**3.41 270**		P	**Pb**	**19 23 10.1**	**-0.2**
WATZ	**Wairara**	**3.42 237**		P	**Pb**	**19 23 09.7**	**-0.9**
RATZ	**Rangitukua**	**3.48 234**		P	**Pb**	**19 23 10.0**	**-1.6**
ETAZ	**East Tamaki Re**	**3.57 267**		P	**Pb**	**19 23 12.5**	**-0.6**
MBAZ	**Motutapu North**	**3.60 270**		P	**Pb**	**19 23 13.3**	**-0.3**
ABAZ	**Army Bay**	**3.66 273**		P	**Pb**	**19 23 14.3**	**-0.4**
TMVZ	**Te Maari**	**3.67 231**		P	**Pb**	**19 23 11.8**	**-3.1**
ETVZ	**East Tongariro**	**3.68 231**		P	**Pb**	**19 23 12.0**	**-3.0**
NTVZ	**North Tongarir**	**3.68 232**		P	**Pn**	**19 23 05.1**	**-1.5**
KRVZ	**Karewarewa**	**3.69 232**		P	**Pb**	**19 23 12.6**	**-2.8**
BHHZ	**Black Hill Sta**	**3.70 224**		P	**Pb**	**19 23 11.9**	**-3.4**
EPAZ	**Eden Park BICE**	**3.72 269**		P	**Pb**	**19 23 16.5**	**+0.8**
OTVZ	**Oturere**	**3.72 231**		P	**Pb**	**19 23 12.7**	**-3.1**
HBAZ	**Herne Bay Bore**	**3.73 269**		P	**Pb**	**19 23 15.5**	**-0.3**
SNVZ	**South Ngauruho**	**3.75 231**		P	**Pb**	**19 23 13.1**	**-3.2**
NGZ	**Ngauruhoe**	**3.77 231**		P	**Pb**	**19 23 13.5**	**-3.1**
AWAZ	**Awhitu Peninsu**	**3.80 266**		P	**Pb**	**19 23 16.0**	**-1.0**
TMVZ	**Taurewa**	**3.81 234**		P	**Pb**	**19 23 14.8**	**-2.5**
MOVZ	**Moawhango**	**3.82 227**		P	**Pb**	**19 23 13.5**	**-3.9**
WHVZ	**Whangaehu Hut**	**3.84 230**		P	**Pb**	**19 23 14.1**	**-3.7**
WTAZ	**Waiatarua**	**3.85 268**		P	**Pb**	**19 23 16.9**	**-1.0**
WNVZ	**Wahianoa**	**3.86 229**		P	**Pb**	**19 23 14.2**	**-4.0**
HIZ	**Hauiti**	**3.95 244**		Pn	**Pb**	**19 23 17.1**	**-2.5**
HIZ	**Hauiti**	**3.95 244**		P	**Pb**	**19 23 17.6**	**-1.9**
WCZ	**Waipu Caves**	**4.17 281**		P	**Pb**	**19 23 22.0**	**-1.3**
BFZ	**Birch Farm**	**4.53 212**		Pn	**Pn**	**19 23 20.5**	**+2.3**
OUZ	**Omahuta**	**4.97 288**			**Pb**	**19 23 34.1**	**-2.9**
OUZ	**Omahuta**	**4.97 288**		P	**Pb**	**19 23 34.0**	**-2.9**
CTZ	**Chatham Island**	**7.51 157**		P	Pb	19 24 08.2	-12
LTZ	**Lake Taylor**	**8.04 221**		Pn	**Pn**	**19 24 08.7**	**+2.2**
RPZ	**Rata Peaks**	**9.33 220**		Pn	**Pn**	**19 24 25.7**	**+1.6**
	1.8nm,0.3s,baz=2.1,slow=21,SNR=0.9						
RPZ				Sn	Sn	19 25 57.2	-11
	16nm,0.3s,baz=341,slow=24,SNR=7.0						
LBZ	**Lake Benmore**	**10.25 220**		Pn	**Pn**	**19 24 37.0**	**+0.3**
STKA	**Stephens Creek**	**31.44 268**		P	P	19 28 38.4	+7.4
	14nm,0.8s,baz=95,slow=11,SNR=4.4						
	14nm,0.8s						
STKA	**Stephens Creek**	**31.44 268**		P	P	19 28 37.7	+6.8
CTA	**Charters Tower**	**33.36 291**		P	P	19 28 56.9	+9.1
	5.1nm,0.7s,baz=135,slow=7.1,SNR=1.5						
	5.1nm,0.7s						
CTAO	**Charters Tower**	**33.36 291**		P	P	19 28 57.4	+10
CTAO				IAmb	IAmb	19 29 09.7	
	comp=Z,27nm,1.4s						
BBOO	**Buckleboo**	**35.56 263**		P	P	19 29 13.9	+7.1
BBOO				IAmb	IAmb	19 29 52.7	
	comp=Z,79nm,1.8s						
COEN	**Coen**	**39.52 296**		P	P	19 29 50.6	+10
COEN				IAmb	IAmb	19 29 51.7	
	comp=Z,28nm,0.8s						
AS31	**Alice Springs**	**41.06 276**		P	P	19 30 01.8	+8.6
ASAR	**Alice Springs**	**41.06 276**		P	P	19 30 01.4	+8.3
	comp=Z,22nm,0.6s,baz=117,slow=8.0,SNR=9.2						
ASAR				S	**S**	**19 36 05.8**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=123,slow=14,SNR=5.4						
	comp=Z,22nm,0.6s						
ASAR	**Alice Springs**	**41.06 276**		P	P	19 30 01.8	+8.6
WR0	**Warramunga Arr**	**42.47 281**		P	P	19 30 13.0	+8.3
WR0				IAmb	IAmb	19 30 13.6	
	comp=Z,23nm,0.7s						
WB2	**Warramunga Arr**	**42.63 281**		P	P	19 30 14.4	+8.4
WRAB	**Tennant Creek**	**42.64 281**		P	P	19 30 14.2	+8.1
WRAB				IAmb	IAmb	19 30 14.8	
	comp=Z,38nm,0.6s						
WRA	**Warramunga Arr**	**42.64 281**		P	P	19 30 14.2	+8.0
	comp=Z,32nm,0.6s,baz=122,slow=7.7,SNR=16						
WRA				S	**S**	**19 36 27.0**	**-1.5**
	comp=Z,1.4nm,1.0s,baz=122,slow=14,SNR=3.4						
	comp=Z,32nm,0.6s						
WRA	**Warramunga Arr**	**42.64 281**		P	P	19 30 14.3	+8.2
FORT	**Forrest**	**42.65 263**		P	P	19 30 13.4	+7.3
FORT				IAmb	IAmb	19 30 22.1	
	comp=Z,43nm,0.8s						
WB0	**Warramunga Arr**	**42.69 281**		P	P	19 30 14.8	+8.2
MTN	**Manton Dam**	**49.25 286**		P	P	19 31 07.4	+9.1
MTN				IAmb	IAmb	19 32 07.2	
	comp=Z,47nm,1.4s						
KNRA	**Kununurra**	**49.42 281**		P	P	19 31 08.3	+8.8
FITZ	**Fitzroy Crossi**	**50.54 277**		P	P	19 31 16.2	+8.2
	comp=Z,25nm,0.7s,baz=114,slow=7.8,SNR=6.5						
	comp=Z,25nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.54 277**		P	P	19 31 16.5	+8.5
FITZ				IAmb	IAmb	19 31 17.5	
	comp=Z,22nm,0.7s						
MORW	**Morawa**	**52.86 259**		P	P	19 31 32.5	+7.2
MORW				IAmb	IAmb	19 32 29.3	
	comp=Z,53nm,1.6s						
QSPA	**South Pole Qui**	**53.25 180**		P	P	19 31 38.9	+11
	comp=Z,14nm,0.9s,baz=17,slow=5.8,SNR=4.9						
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**53.25 180**		P	P	19 31 37.7	+10
QSPA				IAmb	IAmb	19 31 39.9	
	comp=Z,14nm,0.8s						
MBWA	**Marble Bar**	**53.66 270**		P	P	19 31 38.1	+6.8
MBWA				IAmb	IAmb	19 32 29.0	
	comp=Z,42nm,1.4s						
FAKI	**Fak Fak**	**54.90 297**		P	P	19 31 49.2	+8.9
BATI	**Baumata**	**56.65 283**		P	P	19 32 02.7	+10
	comp=Z,26nm,1.0s,baz=270,slow=22,SNR=1.9						
	comp=Z,26nm,1.0s						
SIJI	**Sorong**	**57.02 297**		P	P	19 32 03.1	+7.6
	comp=Z,9.9nm,0.6s,baz=122,slow=7.6,SNR=7.7						
	comp=Z,9.9nm,0.6s						
MMRI	**Maumere**	**58.71 284**		P	P	19 32 15.0	+7.5
BELA	**Belgrano 2**	**63.68 172**		P	P	19 32 50.2	+10
BELA				IAmb	IAmb	19 32 51.2	
	comp=Z,13nm,0.7s						
MAW	**Mawson**	**65.50 202**		P	P	19 33 01.3	+9.1
	comp=Z,4.4nm,1.0s,baz=154,slow=8.9,SNR=2.7						
	comp=Z,4.4nm,1.0s						
MAW	**Mawson**	**65.50 202**		P	P	19 33 00.1	+7.9
SNAA	**Sanae**	**71.75 179**		P	P	19 33 40.6	+9.3
	comp=Z,1.5nm,0.5s,baz=164,slow=20,SNR=1.7						
	comp=Z,1.5nm,0.5s						
SNAA	**Sanae**	**71.75 179**		P	P	19 33 42.3	+11
PLCA	**Paso Flores**	**79.67 133**		P	P	19 34 29.4	+12
	comp=Z,1.3nm,0.7s,baz=211,slow=13,SNR=2.4						
	comp=Z,1.3nm,0.7s						
CBX	**Cerro Bola**	**91.13 50**		P	P	19 35 23.7	+9.4
CBX				IAmb	IAmb	19 35 25.5	
	comp=Z,8.3nm,0.9s						
CBX	**Cerro Bola**	**91.13 50**	*e*	P	P	19 35 25.0	+11
MKAR	**Makanchi Array**	**120.14 308**		PKP	PKiKP	19 41 09.5	+9.5
	comp=Z,0.5nm,0.7s,baz=99,slow=0.8,SNR=1.8						
KMBO	**Kilima Mbogo**	**128.41 232**		PKP	PKiKP	19 41 27.2	+10
	comp=Z,3.7nm,0.9s,baz=27,slow=5.7,SNR=5.0						
ARCES	**ARCESArray B**	**144.34 345**		PKP	**PKiKP**	**19 41 53.5**	**+5.4**
	comp=Z,5.1nm,0.7s,baz=32,slow=2.3,SNR=6.0						
DBIC	**Dimbokro**	**149.69 172**		PKPbc	**PKPab**	**19 42 08.6**	**+3.8**
	comp=Z,11nm,0.8s,baz=200,slow=2.6,SNR=4.2						
FINES	**FINESS Array B**	**150.25 334**		PKPbc	**PKPab**	**19 42 09.7**	**+3.9**
	comp=Z,4.0nm,0.6s,baz=66,slow=3.1,SNR=7.3						
MMAI	**Mount Meron Ar**	**150.33 273**		PKPbc	**PKPab**	**19 42 10.2**	**+3.0**
	comp=Z,3.0nm,0.6s,baz=81,slow=5.5,SNR=5.9						
BRTR	**Keskin Array B**	**153.06 287**		PKPbc	**PKPab**	**19 42 15.8**	**-2.8**
	comp=Z,1.5nm,0.7s,baz=122,slow=4.0,SNR=3.9						
AKASG	**Malin Array Be**	**154.61 312**		PKPbc	**PKPab**	**19 42 19.1**	**-5.4**
	comp=Z,0.4nm,0.3s,baz=63,slow=2.5,SNR=3.5						
NOA	**NORSAR Array B**	**154.68 347**		PKPbc	**PKPab**	**19 42 19.1**	**-5.4**
	comp=Z,1.7nm,0.7s,baz=28,slow=2.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**156.28 186**		PKPab	PKPab	19 42 41.5	+9.0
	comp=Z,6.0nm,0.8s,baz=193,slow=3.2,SNR=4.7						
ESDC	**Sonseca Array**	**176.16 42**		PKPab	PKPab	19 44 12.2	+13
	comp=Z,0.7nm,0.8s,baz=336,slow=2.8,SNR=2.4						

*IDC **01** 19:25:46.5±2.1,36°99S×178°69E,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=47.4km s-min=31.7km az=125.0*

*WEL **01** 19:25:49.0±1.4,37°S±4°×17°9E±1°,h16km±7km,M3.9/33, ML4.2/48,MLv3.9/33,Error ellipse: s-maj=0.0km s-min=0.0km az=84.5*

ISC 01 19:25:47.3±2.1,37°22S±0°06×179°04E±0°08,h13km±10km, n71,σ1$16/78,mb3.9/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.68 239**		P	**Pn**	**19 26 02.2**	**-0.3**
MXZ				S	**Sb**	**19 26 10.2**	**+0.1**
WMGZ	**Waiomatatini S**	**0.78 219**		P	**Pn**	**19 26 05.1**	**+1.3**
WMGZ				S	**Sn**	**19 26 16.4**	**+1.0**
PKGZ	**Pakihiroa**	**1.01 229**		P	**Pn**	**19 26 08.2**	**+1.0**
PKGZ				S	**Sn**	**19 26 21.3**	**0.0**
PUZ	**Puketiti**	**1.05 216**		P	**Pn**	**19 26 08.8**	**+1.1**
PUZ				S	**Sn**	**19 26 23.2**	**+1.0**
HAZ	**Te Kaha**	**1.13 241**		P	**Pn**	**19 26 09.1**	**+0.4**
HAZ				S	**Sn**	**19 26 25.0**	**+0.9**
TWGZ	**Tauwhareparae**	**1.27 221**		P	**Pg**	**19 26 12.3**	**+0.6**
TWGZ				S	**Sn**	**19 26 29.4**	**+1.8**
RUGZ	**Raukumara Rang**	**1.31 235**		P	**Pg**	**19 26 13.1**	**+0.5**
RUGZ				S	**Sg**	**19 26 29.6**	**0.0**
CNGZ	**Carnagh Statio**	**1.42 207**		P	**Pg**	**19 26 14.6**	**-0.1**
WIZ	**White Island**	**1.50 258**		P	**Pn**	**19 26 14.0**	**+0.2**
TKGZ	**Te Karaka**	**1.54 217**		P	**Pb**	**19 26 15.3**	**-0.3**
MWZ	**Matawai**	**1.63 227**		P	**Pb**	**19 26 17.0**	**-0.2**
WHRZ	**Whale Island**	**1.76 248**		P	**Pb**	**19 26 19.2**	**-0.2**
RAGZ	**Rawiri**	**1.81 225**		P	**Pb**	**19 26 19.7**	**-0.6**
URZ	**Urewera**	**1.85 235**		Pn	**Pb**	**19 26 19.6**	**-1.2**
	72nm,0.3s,baz=121,slow=14,SNR=5.5						
URZ				Sn	**Sn**	**19 26 41.0**	**-0.7**
	113nm,0.3s,baz=120,slow=20,SNR=6.9						
URZ	**Urewera**	**1.85 235**		P	**Pb**	**19 26 20.1**	**-0.7**
PRGZ	**Paritu Road**	**1.93 208**		P	**Pn**	**19 26 20.5**	**+0.7**
MARZ	**Manawahe**	**2.03 247**		P	**Pb**	**19 26 23.2**	**-0.7**
EDRZ	**Edgecumbe**	**2.03 243**		P	**Pb**	**19 26 22.6**	**-1.4**
SNGZ	**Shannon Statio**	**2.06 220**		P	**Pn**	**19 26 22.6**	**+1.0**
OPRZ	**Ohinepanea**	**2.07 252**		P	**Pn**	**19 26 22.4**	**+0.8**
KNZ	**Kokohu**	**2.10 210**		P	**Pn**	**19 26 22.0**	**0.0**
TARZ	**Mount Tarawera**	**2.25 242**		P	**Pb**	**19 26 26.1**	**-1.6**
RAHZ	**Arahi**	**2.29 222**		P	**Pb**	**19 26 26.6**	**-1.8**
RRRZ	**Republican Roa**	**2.29 240**		P	**Pb**	**19 26 27.1**	**-1.3**
OMRZ	**Omania**	**2.29 246**		P	**Pb**	**19 26 27.2**	**-1.3**
KARZ	**Kaharoa**	**2.36 249**		P	**Pn**	**19 26 26.7**	**+1.1**
MTHZ	**Maungataniwha**	**2.38 226**		P	**Pn**	**19 26 27.3**	**+1.3**
KMRZ	**Kaimai**	**2.54 255**		P	**Pn**	**19 26 29.0**	**+0.9**
NMHZ	**Naumai**	**2.57 222**		P	**Pn**	**19 26 29.9**	**+1.3**
ARHZ	**Aropaoanui**	**2.60 218**		P	**Pn**	**19 26 29.4**	**+0.5**
MRHZ	**Matea Rd**	**2.62 231**		P	**Pn**	**19 26 30.2**	**+0.9**
KUZ	**Kuaotunu**	**2.70 279**		P	**Pn**	**19 26 30.3**	**0.0**
BKZ	**Black Stump Fm**	**2.79 225**		P	**Pn**	**19 26 32.4**	**+0.8**
TOZ	**Tahuroa Road**	**2.86 259**		P	**Pn**	**19 26 33.4**	**+0.9**
GRZ	**Great Barrier**	**3.03 288**		P	**Pn**	**19 26 36.7**	**+1.8**
RITZ	**Rihia Road**	**3.06 234**		P	**Pn**	**19 26 36.6**	**+1.2**
KAHZ	**Kahuranaki**	**3.08 213**		P	**Pn**	**19 26 35.0**	**-0.6**
MKAZ	**Moumakai**	**3.10 271**		P	**Pn**	**19 26 36.3**	**+0.5**
WIAZ	**Waiheke Island**	**3.15 277**		P	**Pn**	**19 26 37.3**	**+0.7**
TMVZ	**Te Maari**	**3.24 233**		P	**Pn**	**19 26 38.2**	**+0.3**
ETVZ	**East Tongariro**	**3.25 233**		P	**Pn**	**19 26 38.5**	**+0.6**
NTVZ	**North Tongarir**	**3.25 234**		P	**Pn**	**19 26 38.7**	**+0.8**
BHHZ	**Black Hill Sta**	**3.26 225**		P	**Pn**	**19 26 38.3**	**+0.3**
OTVZ	**Oturere**	**3.29 233**		P	**Pn**	**19 26 39.3**	**+0.7**
ETAZ	**East Tamaki Re**	**3.30 273**		P	**Pn**	**19 26 39.5**	**+1.0**
NNVZ	**North Ngauruho**	**3.30 234**		P	**Pn**	**19 26 39.7**	**+0.9**
WTVZ	**West Tongariro**	**3.31 234**		P	**Pn**	**19 26 39.7**	**+0.9**
SNVZ	**South Ngauruho**	**3.32 233**		P	**Pn**	**19 26 39.6**	**+0.6**
NGZ	**Ngauruhoe**	**3.34 233**		P	**Pn**	**19 26 39.9**	**+0.7**
MBAZ	**Motutapu North**	**3.34 276**		P	**Pn**	**19 26 40.4**	**+1.3**
MOVZ	**Moawhango**	**3.38 229**		P	**Pn**	**19 26 39.8**	**+0.1**
TWVZ	**Taurewa**	**3.39 236**		P	**Pn**	**19 26 40.8**	**+0.9**
FWVZ	**Far West T-bar**	**3.42 232**		P	**Pn**	**19 26 40.9**	**+0.5**
ABAZ	**Army Bay**	**3.43 279**		P	**Pn**	**19 26 41.5**	**+1.3**
WNVZ	**Wahianoa**	**3.43 231**		P	**Pn**	**19 26 40.9**	**+0.4**
HBAZ	**Herne Bay Bore**	**3.47 275**		P	**Pn**	**19 26 43.1**	**+2.3**
AWAZ	**Awhitu Peninsu**	**3.52 271**		P	**Pn**	**19 26 42.8**	**+1.3**
HIZ	**Hauiti**	**3.55 247**		P	**Pn**	**19 26 44.4**	**+2.3**
WTAZ	**Waiatarua**	**3.58 273**		P	**Pn**	**19 26 43.7**	**+1.3**
RVAZ	**Riverhead Bore**	**3.60 276**		P	**Pn**	**19 26 44.1**	**+1.4**
WCZ	**Waipu Caves**	**3.99 287**		P	**Pn**	**19 26 49.5**	**+1.5**
WAZ	**Wanganui**	**4.06 230**		P	**Pn**	**19 26 50.1**	**+1.0**
KHEZ	**Kahui Hut**	**4.46 241**		P	**Pn**	**19 26 57.2**	**+2.6**
OUZ	**Omahuta**	**4.83 293**		P	**Pn**	**19 27 01.7**	**+2.1**
CAW	**Cannon Point

WHVZ	Whangaehu Hut	3.45 233	P		Pn	19 28 36.8	+0.4
FWVZ	Far West T-bar	3.46 234	P		Pn	19 28 36.9	+0.4
WNVZ	Wahianoa	3.47 232	P		Pn	19 28 36.8	+0.2
WPHZ	Waipukurau	3.51 216	P		Pn	19 28 36.7	-0.3
PNHZ	Pukenui	3.51 220	P		Pn	19 28 36.2	-0.8
ABAZ	Army Bay	3.52 280	P		Pn	19 28 37.7	+0.6
EPAZ	Eden Park BICE	3.54 275	P		Pn	19 28 38.2	+0.8
HBAZ	Herne Bay Bore	3.56 275	P		Pn	19 28 38.8	+1.2
AWAZ	Awhitu Peninsu	3.60 272	P		Pn	19 28 38.9	+0.7
PKVZ	Pokaka	3.61 235	P		Pn	19 28 39.8	+1.3
HIZ	Hauiti	3.62 249			Pn	19 28 40.0	+1.6
HIZ	Hauiti	3.62 249	P		Pn	19 28 40.2	+1.7
WTAZ	Waiatarua	3.67 274	P		Pn	19 28 40.0	+0.8
RVAZ	Riverhead Bore	3.69 276	P		Pn	19 28 40.2	+0.8
TSZ	Takapari Road	3.74 221	P		Pn	19 28 39.1	-1.1
WCZ	Waipu Caves	4.08 287	P		Pn	19 28 45.8	+0.9
BFZ	Birch Farm	4.09 213	Pn		Pn	19 28 43.5	-1.5
WAZ	Wanganui	4.10 231	P		Pn	19 28 46.3	+1.1
MHEZ	Mangahewa	4.21 243	P		Pb	19 28 52.5	-4.0
LREZ	Lake Rotokare	4.33 238	P		Pn	19 28 50.1	+1.9
DREZ	Durham Road	4.34 242	P		Pn	19 28 51.9	+3.4
PREZ	Palmer Road	4.44 241	P		Pn	19 28 52.5	+2.7
NEZ	North Egmont	4.45 242	P		Pn	19 28 52.9	+2.9
PKE	Pukeiti	4.50 243	P		Pn	19 28 54.2	+3.6
KHEZ	Kahui Hut	4.52 242	P		Pn	19 28 53.6	+2.7
NBEZ	Newall Road No	4.61 243	P		Pn	19 28 55.3	+3.2
NMEZ	Namu Road	4.67 241	P		Pn	19 28 56.5	+3.6
OUZ	Omahuta	4.93 293			Pn	19 28 57.8	+1.3
OUZ	Omahuta	4.93 293	P		Pn	19 28 58.0	+1.5
MSWZ	Moikau Station	5.13 215	Pn		Pn	19 28 56.9	-2.4
PLWZ	Palliser	5.25 214	Pn		Pn	19 28 60.0	-1.0
SNZO	South Karori	5.31 219	Pn		Pn	19 29 00.6	-1.1
TUWZ	Tuamarina	5.79 222	Pn		Pn	19 29 06.0	-2.4
NNZ	Nelson	5.97 227	Pn		Pn	19 29 08.7	-2.0
BSWZ	Blackbirch Sta	6.03 221	Pn		Pn	19 29 09.7	-2.0
QRZ	Quartz Range	6.26 233	Pn		Pn	19 29 12.8	-2.0
THZ	Tophouse	6.59 225	Pn		Pn	19 29 16.8	-2.6
KHZ	Kahutara	6.71 218	Pn		Pn	19 29 20.1	-0.8
CTZ	Chatham Island	7.23 155	P		Pn	19 29 31.4	+3.4
LTZ	Lake Taylor	7.63 222	Pn		Pn	19 29 31.0	-2.6
RPZ	Rata Peaks	8.91 221	Pn		Pn	19 29 47.8	-3.4
	1.5nm,0.3s,baz=115,slow=15,SNR=1.2						
RPZ			Sn		Sn	19 31 17.9	-14
	9.6nm,0.3s,baz=60,slow=5.0,SNR=14						
TOO	Toolangi	26.65 259	P		P	19 33 21.2	-0.1
STKA	Stephens Creek	31.24 269	P		P	19 34 02.6	+0.4
	0.9nm,0.3s,baz=105,slow=8.6,SNR=12						
	0.9nm,0.3s						
ASAR	Alice Springs	40.91 276	P		P	19 35 23.8	-1.2
	2.6nm,0.8s,baz=115,slow=5.7,SNR=12						
	2.6nm,0.8s						
WR0	Warramunga Arr	42.36 281	P		P	19 35 35.7	-1.1
WR0			IAmb		IAmb	19 36 17.4	
	comp=Z,13nm,1.4s						
FORT	Forrest	42.41 263	P		P	19 35 35.8	-1.4
WB2	Warramunga Arr	42.52 281	P		P	19 35 36.8	-1.4
WB2			IAmb		IAmb	19 35 49.5	
	comp=Z,11nm,1.1s						
WRAB	Tennant Creek	42.52 281	P		P	19 35 36.5	-1.7
WRA	Warramunga Arr	42.53 281	P		P	19 35 37.2	-1.0
	comp=Z,2.1nm,0.4s,baz=121,slow=7.7,SNR=34						
	comp=Z,2.1nm,0.4s						
WRA	Warramunga Arr	42.53 281	P		P	19 35 37.1	-1.1
WB0	Warramunga Arr	42.58 282	P		P	19 35 37.1	-1.6
WB0			IAmb		IAmb	19 35 56.9	
	comp=Z,14nm,1.4s						
PATS	Pohnpei	48.00 332	P		P	19 36 22.0	+0.4
CASY	Casey	48.00 210	P		P	19 36 19.4	-1.7
CASY			IAmb		IAmb	19 36 21.5	
	comp=Z,7.9nm,1.2s						
KNRA	Kununurra	49.31 282	P		P	19 36 31.4	-0.3
FITZ	Fitzroy Crossi	50.40 277	P		P	19 36 39.5	-0.6
	comp=Z,2.7nm,0.6s,baz=111,slow=9.7,SNR=6.2						
	comp=Z,2.7nm,0.6s						
FITZ	Fitzroy Crossi	50.40 277	P		P	19 36 40.5	+0.5
FITZ			IAmb		IAmb	19 37 11.1	
	comp=Z,8.7nm,1.1s						
QSPA	South Pole Qui	52.86 180	P		P	19 37 00.8	+2.7
QSPA			IAmb		IAmb	19 37 02.8	
	comp=Z,4.5nm,1.1s						
H03N3	Juan Fernandez	78.88 124	T		T	21 06 13.3	
	baz=233,slow=74,SNR=13						
H03N2	Juan Fernandez	78.88 124	T		T	21 06 16.0	
	baz=233,slow=74,SNR=11						
H03N1	Juan Fernandez	78.89 124	T		T	21 06 20.4	
	baz=233						
ARCES	ARCESS Array B	144.67 344	PKP		PKPdf	19 47 18.8	+0.6
	comp=Z,2.4nm,0.8s,baz=48,slow=1.8,SNR=6.1						
DBIC	Dimbokro	149.33 172	PKPbc		PKiKP	19 47 33.8	+0.6
	comp=Z,2.2nm,0.8s,baz=229,slow=5.2,SNR=3.1						
MMAI	Mount Meron Ar	150.17 273	PKPbc		PKiKP	19 47 35.4	+1.0
	comp=Z,0.7nm,0.5s,baz=93,slow=7.2,SNR=2.2						
FINES	FINESS Array B	150.52 334	PKPbc		PKiKP	19 47 34.4	+0.3
	comp=Z,0.8nm,0.4s,baz=2.3,slow=3.2,SNR=12						
TORD	Torodi Ar. Bea	155.88 186	PKPab		PKPab	19 48 03.5	-0.3
	comp=Z,0.6nm,0.7s,baz=162,slow=3.1,SNR=1.9						

*IDC **01** 19:28:08.7±5.6,36°.38S×179°.27E,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=262.7km s-min=64.5km az=168.0*

ISC 01 19:28:08.3±3.7,36°.6S±0°.4×179°.5E±0°.5,h10km,n6, σ0s.38/5,mb3.8/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
URZ	Urewera	2.53	228	Sn	Sb	19	29 25.0	0.0
	baz=121,slow=23							
RPZ	Rata Peaks	9.61	220	Sn	Sn	19	32 05.4	-9.3
	baz=94,slow=20							
ASAR	Alice Springs	41.14	275	P	P	19	35 52.5	-0.4
	1.0nm,0.5s,baz=120,slow=7.6,SNR=5.0							
	1.0nm,0.5s							
WRA	Warramunga Arr	42.70	280	P	P	19	36 06.0	+0.4
	1.1nm,0.5s,baz=122,slow=7.7,SNR=2.6							
	1.1nm,0.5s							
FITZ	Fitzroy Crossi	50.61	276	P	P	19	37 07.7	0.0
	4.9nm,1.0s,baz=117,slow=9.0,SNR=2.4							
	4.9nm,1.0s							
FINES	FINESS Array B	150.05	335	PKPbc	PKiKP	19	47 59.2	+0.1
	1.6nm,0.8s,baz=29,slow=3.2,SNR=1.5							

*NEIC **01** 19:34:33.0±1.3,37°.02S±0°.08×179°.26E±0°.08,h10km±1km, mb4.9/18,Error ellipse: s-maj=17.6km s-min=2.9km az=143.0*

*WEL **01** 19:34:36.7±0.9,37°.S±4°×17°.9E±°,h28km±11km,M4.4/79, mB5.0/1,ML4.7/81,MLv4.4/79,Mw(mB)4.3/1,Error ellipse: s-maj=0.0km s-min=0.0km az=74.5*

*IDC **01** 19:34:39.8±2.7,36°.86S×178°.90E,h52km±20km,mb4.1/7, mbtmp4.4/7,Error ellipse: s-maj=32.1km s-min=17.1km az=21.0*

ISC 01 19:34:38.7±1.9,37°.15S±0°.08×179°.12E±0°.09,h50km±13km, n169,σ1s.61/183,mb4.9/15,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MXZ	Matakaoa Point	0.77	237		Pn	19	34 51.0	-2.2
MXZ	Matakaoa Point	0.77	237	P	Pn	19	34 51.1	-2.2
MXZ				S	Sn	19	35 02.3	-1.6
WMGZ	Waiomatatini S	0.87	219	P	Pn	19	34 54.7	+0.1
WMGZ				S	Sn	19	35 08.1	+1.7
PKGZ	Pakihiroa	1.11	228	P	Pn	19	34 57.9	0.0
PKGZ				S	Sn	19	35 13.3	+1.1
PUZ	Puketiti	1.15	216	P	Pn	19	34 58.4	0.0
PUZ				S	Sn	19	35 14.8	+1.7
HAZ	Te Kaha	1.22	240	P	Pn	19	35 00.1	+0.8
HAZ				S	Sn	19	35 16.8	+2.0
TWGZ	Tauwhareparae	1.37	221	P	Pn	19	35 02.0	+0.6
TWGZ				S	Sn	19	35 21.3	+2.9
RUGZ	Raukumara Rang	1.41	234	P	Pn	19	35 02.8	+0.8
RUGZ				S	Sn	19	35 21.5	+2.0
CNGZ	Carnagh Statio	1.52	208	P	Pn	19	35 04.1	+0.7
WIZ	White Island	1.58	256	P	Pn	19	35 03.4	-0.9
WIZ				S	Sn	19	35 22.9	-0.7
WSRZ	White Island S	1.59	256	P	Pn	19	35 04.3	-0.1
WSRZ				S	Sn	19	35 22.7	-1.1
TKGZ	Te Karaka	1.64	217	P	Pn	19	35 05.4	+0.4
TKGZ				S	Sn	19	35 26.4	+1.6
MWZ	Matawai	1.73	226	P	Pn	19	35 06.5	+0.2
MWZ				S	Sn	19	35 28.4	+1.1
WHRZ	Whale Island	1.84	247	P	Pn	19	35 08.7	+0.8
WHRZ				S	Sn	19	35 31.6	+1.6
RIGZ	Rimuhau	1.89	214	P	Pn	19	35 08.4	-0.1
RIGZ				S	Sn	19	35 32.5	+1.3
RAGZ	Rawiri	1.90	224	P	Pn	19	35 08.8	0.0
RAGZ				S	Sn	19	35 31.5	-0.1
URZ	Urewera	1.94	234	P	Pn	19	35 09.6	+0.5
	286nm,0.3s,baz=301,slow=0.9,SNR=17							
URZ				S	Sn	19	35 31.7	-0.6
	1um,0.5s,baz=301,slow=21,SNR=6.5							
URZ	Urewera	1.94	234		Pn	19	35 08.9	-0.2
URZ	Urewera	1.94	234	P	Pn	19	35 09.6	+0.5
URZ				S	Sn	19	35 33.0	+0.7
PRGZ	Paritu Road	2.02	208	P	Pn	19	35 10.2	-0.2
MARZ	Manawahe	2.11	246	P	Pn	19	35 11.9	+0.3
EDRZ	Edgecumbe	2.12	242	P	Pn	19	35 11.7	+0.1
OPRZ	Ohinepanea	2.15	250	P	Pn	19	35 11.7	-0.4
SNGZ	Shannon Statio	2.15	220	P	Pn	19	35 12.0	-0.1
KNZ	Kokohu	2.19	211	P	Pn	19	35 11.6	-1.0
MHGZ	Mahia Peninsul	2.22	205	P	Pn	19	35 12.6	-0.4
MUGZ	Murupara	2.28	234	P	Pn	19	35 13.9	0.0
MYRZ	Mayor Island	2.30	266	P	Pn	19	35 13.4	-0.7
MKRZ	Makatiti	2.32	244	P	Pn	19	35 15.3	+0.8
TARZ	Mount Tarawera	2.34	241	P	Pn	19	35 15.3	+0.6
TGRZ	Tauranga	2.34	255	P	Pn	19	35 14.2	-0.5
OMRZ	Omania	2.38	245	P	Pn	19	35 15.5	+0.3
RRRZ	Republican Roa	2.38	239	P	Pn	19	35 15.3	0.0
RAHZ	Arahi	2.38	222	P	Pn	19	35 15.1	-0.2
WHHZ	Waihua	2.43	217	P	Pn	19	35 15.8	+0.1
KARZ	Kaharoa	2.44	248	P	Pn	19	35 15.9	-0.2
HLRZ	Highlands Stat	2.45	242	P	Pn	19	35 16.7	+0.5
MTHZ	Maungataniwha	2.48	226	P	Pn	19	35 16.8	+0.3
NGRZ	Ngongotaha	2.51	247	P	Pn	19	35 17.7	+0.6
PRRZ	Plateau Road	2.54	237	P	Pn	19	35 17.3	-0.2
HSRZ	Hossack Road	2.56	242	P	Pn	19	35 18.3	+0.7
HRRZ	Handcock Road	2.56	240	P	Pn	19	35 18.0	+0.3
ALRZ	Allen Road	2.61	236	P	Pn	19	35 18.2	-0.2
KMRZ	Kaimai	2.62	254	P	Pn	19	35 18.0	-0.5
NMHZ	Naumai	2.67	222	P	Pn	19	35 19.1	-0.1
GRRZ	Galatos Road	2.67	242	P	Pn	19	35 19.7	+0.5
ARHZ	Aropaoanui	2.69	218	P	Pn	19	35 18.8	-0.7
MRHZ	Matea Rd	2.72	231	P	Pn	19	35 19.9	0.0
KUZ	Kuaotunu	2.75	277	P	Pn	19	35 18.1	-2.1
BKZ	Black Stump Fm	2.89	225		Pn	19	35 20.9	-1.3
BKZ	Black Stump Fm	2.89	225	P	Pn	19	35 21.6	-0.6
KUTZ	Kaahu Road	2.93	249	P	Pn	19	35 23.0	+0.2
TOZ	Tahuna Road	2.94	257	P	Pn	19	35 21.5	-1.3
CKHZ	Cape Kidnapper	2.98	212	P	Pn	19	35 21.5	-1.8
GRZ	Great Barrier	3.07	286	P	Pn	19	35 23.4	-1.3
TLZ	Tolley Road	3.07	246	P	Pn	19	35 25.0	+0.3
RATZ	Rangitukua	3.15	236	P	Pn	19	35 26.6	+0.8
RITZ	Rihia Road	3.15	234	P	Pn	19	35 26.2	+0.3
MKAZ	Moumakai	3.16	270	P	Pn	19	35 24.3	-1.6
KAHZ	Kahuranaki	3.17	213	P	Pn	19	35 24.4	-1.7
WIAZ	Waiheke Island	3.21	275	P	Pn	19	35 25.4	-1.1
KRHZ	Kereru	3.30	220	P	Pn	19	35 26.6	-1.2
TMVZ	Te Maari	3.33	233	P	Pn	19	35 28.0	-0.4
ETVZ	East Tongariro	3.34	232	P	Pn	19	35 28.0	-0.4
NTVZ	North Tongarir	3.34	233	P	Pn	19	35 28.2	-0.3
BHHZ	Black Hill Sta	3.35	225	P	Pn	19	35 27.9	-0.7
ETAZ	East Tamaki Re	3.35	272	P	Pn	19	35 28.3	-0.3
KRVZ	Karewarewa	3.36	234	P	Pn	19	35 28.7	0.0
PXZ	Pawanui	3.38	211	P	Pn	19	35 26.3	-2.6
OTVZ	Oturere	3.38	232	P	Pn	19	35 28.5	+0.6
NNVZ	North Ngauruho	3.40	233	P	Pn	19	35 29.2	-0.1
MBAZ	Motutapu North	3.40	275	P	Pn	19	35 28.6	-0.5
WTVZ	West Tongariro	3.41	234	P	Pn	19	35 29.4	+0.1
SNVZ	South Ngauruho	3.41	232	P	Pn	19	35 29.1	-0.4
NGZ	Ngauruhoe	3.43	233	P	Pn	19	35 29.4	-0.3
TUVZ	Tukino	3.45	231	P	Pn	19	35 29.3	-0.7
ABAZ	Army Bay	3.48	278	P	Pn	19	35 29.7	-0.5
MOVZ	Moawhango	3.48	229	P	Pn	19	35 29.3	-1.1
TWVZ	Taurewa	3.48	235	P	Pn	19	35 30.5	+0.2
WHVZ	Whangaehu Hut	3.50	231	P	Pn	19	35 30.2	-0.6
FWVZ	Far West T-bar	3.51	232	P	Pn	19	35 30.8	-0.1
EPAZ	Eden Park BICE	3.51	273	P	Pn	19	35 31.5	+0.8
HBAZ	Herne Bay Bore	3.52	273	P	Pn	19	35 30.9	+0.1
WNVZ	Wahianoa	3.52	231	P	Pn	19	35 30.4	-0.6
AWAZ	Awhitu Peninsu	3.58	270	P	Pn	19	35 31.0	-0.5
PNHZ	Pukenui	3.59	219	P	Pn	19	35 29.7	-2.1
WPHZ	Waipukurau	3.59	215	P	Pn	19	35 29.6	-2.2
MTVZ	Maingateitei	3.64	231	P	Pn	19	35 31.3	-1.2
HIZ	Hauiti	3.64	247		Pn	19	35 33.1	+0.7
HIZ	Hauiti	3.64	247	P	Pn	19	35 33.1	+0.7
WTAZ	Waiatarua	3.64	272	P	Pn	19	35 32.1	-0.4
RVAZ	Riverhead Bore	3.65	275	P	Pn	19	35 32.3	-0.4
PRHZ	Porangahau	3.67	211	P	Pn	19	35 30.8	-2.1
TSZ	Takapari Road	3.82	219	P	Pn	19	35 32.6	-2.3
ANWZ	Angora Road	3.90	211	P	Pn	19	35 34.6	-1.4
DVHZ	Dannevirke	3.90	215	P	Pn	19	35 34.0	-2.1
WCZ	Waipu Caves	4.03	286	P	Pn	19	35 36.9	-0.8
WAZ	Wanganui	4.16	230	P	Pn	19	35 39.3	-0.2
POWZ	Post Office Ro	4.17	218	P	Pn	19	35 37.9	-1.8
BFZ	Birch Farm	4.18	211	Pn	Pn	19	35 36.1	-3.8
PRWZ	Pori Road	4.20	215	P	Pn	19	35 37.9	-2.2
MHEZ	Mangahewa	4.24	242	P	Pn	19	35 42.8	+2.1
LREZ	Lake Rotokare	4.37	237	P	Pn	19	35 44.2	+1.8
MRZ	Mangatainoka R	4.46	217	P	Pn	19	35 41.3	-2.5
PREZ	Palmer Road	4.47	239	P	Pn	19	35 46.8	+2.6
NEZ	North Egmont	4.49	240	P	Pn	19	35 46.5	+2.3
PKE	Pukeiti	4.53	242	P	Pn	19	35 47.3	+2.7
KHEZ	Kahui Hut	4.55	240	P	Pn	19	35 46.5	+1.5
NBEZ	Newall Road No	4.64	241	P	Pn	19	35 47.6	+1.4
NMEZ	Namu Road	4.70	240	P	Pn	19	35 50.0	+3.0
OUZ	Omahuta	4.86	292		Pn	19	35 48.3	-0.9
OUZ	Omahuta	4.86	292	P	Pn	19	35 48.8	-0.4
MSWZ	Moikau Station	5.21	214		Pn	19	35 50.0	-4.1
PLWZ	Palliser	5.33	213	Pn	Pn	19	35 51.2	-4.5
SNZO	South Karori	5.39	218	Pn	Pn	19	35 51.8	-4.6
TUWZ	Tuamarina	5.86	222	Pn	Pn	19	35 59.6	-3.4
NNZ	Nelson	6.03	226	Pn	Pn	19	36 01.1	-4.2
BSWZ	Blackbirch Sta	6.10	220	Pn	Pn	19	36 02.3	-4.0
TKNZ	Takaka Hill	6.16	229	P	Pn	19	36 05.1	-1.9
QRZ	Quartz Range	6.31	232	Pn	Pn	19	36 06.9	-2.1
QRZ	Quartz Range	6.31	232	P	Pn	19	36 07.0	-2.1
KHZ	Kahutara	6.79	217	Pn	Pn	19	36 15.7	+0.1
KHZ	Kahutara	6.79	217	P	Pn	19	36 14.9	-0.8
CTZ	Chatham Island	7.34	155	P	Pn	19	36 22.9	-0.2
LTZ	Lake Taylor	7.70	221	Pn	Pn	19	36 22.8	-5.4
MQZ	McQueen's Vall	8.20	215	Pn	Pn	19	36 30.5	-4.4
OXZ	Oxford	8.21	219	Pn	Pn	19	36 31.9	-3.2
RPZ	Rata Peaks	8.99	221	P	Pn	19	36 41.5	-4.2
	6.8nm,0.4s,baz=60,slow=16,SNR=2.3							
RPZ				S	Sn	19	38 13.4	-12
	18nm,0.3s,baz=327,slow=21,SNR=14							
RPZ	Rata Peaks	8.99	221	Pn	Pn	19	36 41.4	-4.4
FOZ	Fox Glacier	9.54	225	Pn	Pn	19	36 49.6	-3.6
LBZ	Lake Benmore	9.90	220	Pn	Pn	19	36 53.5	-4.8
ODZ	Otahua Downs	10.15	216	Pn	Pn	19	36 58.4	-3.2
WKZ	Wanaka	10.81	222	Pn	Pn	19	37 07.4	-3.3
WHZ	Whetu Hill Ro	12.09	220	Pn	Pn	19	37 26.4	-1.8
STKA	Stephens Creek	31.22	268	P	P	19	40 53.6	+0.2
	2.2nm,0.7s,baz=98,slow=11,SNR=4.4							
	2.2nm,0.7s							
STKA	Stephens Creek	31.22	268	P	P	19	40 53.6	+0.2
BBOO	Buckleboo	35.32	264	P	P	19	41 28.2	-0.8
BBOO				IAmb	IAmb	19	41 54.5	
	comp=Z,42nm,1.7s							
COEN	Coen	39.45	296	P	P	19	42 04.6	+0.5
COEN				IAmb	IAmb	19	42 49.0	
	comp=Z,35nm,1.7s							
AS31	Alice Springs	40.88	276		P	19	42 15.4	-0.5
ASAR	Alice Springs	40.88	276	P	P	19	42 15.2	-0.7
	comp=Z,6.0nm,0.6s,baz=119,slow=8.0,SNR=68							
ASAR				PcP	PcP	19	44 14.0	-2.0
	comp=Z,0.2nm,0.5s,baz=116,slow=4.7,SNR=1.0							
ASAR				ScP	ScP	19	48 00.0	-1.3
	comp=Z,0.3nm,0.6s,baz=118,slow=3.9,SNR=5.5							
ASAR				S	S	19	48 22.1	-1.8
	comp=Z,0.1nm,0.6s,baz=129,slow=14,SNR=5.3							
	comp=Z,6.0nm,0.6s							
WR0	Warramunga Arr	42.32	281	P	P	19	42 27.1	-0.6
FORT	Forrest	42.40	263	P	P	19	42 27.6	-0.7
FORT				IAmb	IAmb	19	43 57.9	
	comp=Z,42nm,1.2s							
WB2	Warramunga Arr	42.47	281	P	P	19	42 28.5	-0.5
WB2				IAmb	IAmb	19	42 29.0	
	comp=Z,14nm,0.6s							
WRAB	Tennant Creek	42.48	281	P	P	19	42 28.4	-0.7
WRAB				IAmb	IAmb	19	42 29.0	
	comp=Z,11nm,0.6s							
WRA	Warramunga Arr	42.48	281	P	P	19	42 28.4	-0.7
	comp=Z,9.3nm,0.6s,baz=122,slow=7.6,SNR=84							
WRA				PcP	PcP	19	44 20.3	-0.9
	comp=Z,0.5nm,0.7s,baz=125,slow=3.1,SNR=3.1							
	comp=Z,9.3nm,0.6s							
WRA	Warramunga Arr	42.48	281	P	P	19	42 28.5	-0.6
WB0	Warramunga Arr	42.54	281	P	P	19	42 28.9	-0.7
WB0				IAmb	IAmb	19	42 29.5	
	comp=Z,13nm,0.6s							
CASY	Casey	48.09	210	P	P	19	43 13.1	+0.2
CASY				IAmb	IAmb	19	43 15.1	
	comp=Z,30nm,1.9s							
MTN	Manton Dam	49.12	287	P	P	19	43 20.5	-1.0
KNRA	Kununurra	49.26	282	P	P	19	43 22.2	-0.3
FITZ	Fitzroy Crossi	50.36	277	P	P	19	43 30.5	-0.3
	comp=Z,4.3nm,0.6s,baz=101,slow=9.7,SNR=19							
	comp=Z,4.3nm,0.6s							
FITZ	Fitzroy Crossi	50.36	277	P	P	19	43 30.3	-0.6
FITZ				IAmb	IAmb	19	43 38.1	
	comp=Z,40nm,1.8s							
MORW	Morawa	52.60	259	P	P	19	43 46.5	-1.0
MORW				IAmb	IAmb	19	45 00.1	
	comp=Z,19nm,1.2s							
QSPA	South Pole Qui	52.98	180	P	P	19	43 53.6	+3.6
	comp=Z,4.9nm,0.9s,baz=4.5,slow=0.9,SNR=18							
	comp=Z,4.9nm,0.9s							
QSPA	South Pole Qui	52.98	180		P	19	43 53.7	+3.8
QSPA				IAmb	IAmb	19	44 21.8	
	comp=Z,15nm,1.6s							
MBWA	Marble Bar	53.45	270	P	P	19	43 53.1	-0.7
FAKI	Fak Fak	54.83	297	P	P	19	44 03.3	-0.6
H03N3	Juan Fernandez	78.96	124	T	T	21	13 17.0	
	baz=234,slow=72,SNR=10.0							
H03N2	Juan Fernandez	78.96	124	T	T	21	13 17.6	
	baz=234,slow=72,SNR=9.5							
H03N1	Juan Fernandez	78.98	124	T	T	21	13 17.6	
	baz=234,slow=72,SNR=11							
PLCA	Paso Flores	79.64	134	P	P	19	46 44.1	+3.3
	comp=Z,1.8nm,0.7s,baz=200,slow=5.7,SNR=3.9							
	comp=Z,1.8nm,0.7s							
CMAR	Chiang Mai Arr	93.43	290	P	P	19	47 49.1	+0.3
	comp=Z,0.5nm,0.7s,baz=142,slow=2.9,SNR=4.9							
	comp=Z,0.5nm,0.7s							
MKAR	Makanchi Array	120.14	308	PKP	PKPdf	19	53 22.4	-1.1
	comp=Z,0.2nm,0.6s,baz=86,slow=3.0,SNR=1.8							
ARCES	ARCESS Array B	144.55	344	PKP	PKPbc	19	54 07.3	+0.1
	comp=Z,3.6nm,0.8s,baz=46,slow=3.5,SNR=11							
DBIC	Dimbokro	149.45	172	PKPbc	PKiKP	19	54 24.1	+0.2
	comp=Z,3.0nm,0.7s,baz=156,slow=3.7,SNR=4.3							
MMAI	Mount Meron Ar	150.14	273	PKPbc	PKiKP	19	54 24.8	0.0
	comp=Z,1.8nm,0.6s,baz=97,slow=7.0,SNR=4.1							
FINES	FINESS Array B	150.40	334	PKPbc	PKPbc	19	54 23.3	-0.3
	comp=Z,2.0nm,0.5s,baz=45,slow=5.2,SNR=19							
BRTR	Keskin Array B	152.93	286	PKPbc	PKPbc	19	54 30.2	-0.2
	comp=Z,0.4nm,0.5s,baz=96,slow=2.9,SNR=1.

2.0nm,0.9s,baz=135,slow=7.1,SNR=1.7
2.0nm,0.9s
ARCES **ARCESS Array B 144.60 344** PKP **PKPab** **19 56 12.5 -0.6**
3.2nm,1.0s,baz=17,slow=3.3,SNR=1.7
FINES **FINESS Array B 150.45 334** PKPbc **PKPdf** **19 56 28.5 +4.1**
1.2nm,0.7s,baz=64,slow=3.2,SNR=1.7
TORD **Torodi Ar. Bea 155.94 186** PKPab **PKPab** **19 56 59.2 -1.4**
0.6nm,0.7s,baz=177,slow=2.7,SNR=2.8

WEL 01 19:40:59.8±1.9, 37°S±5°, 17°9E±°, h17km±10km, M3.8/76, ML4.3/55, MLv3.8/76, Error ellipse: s-maj=0.0km s-min=0.0km az=73.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.72**	**238**	P	Pb	19 41 13.9	0.0
MXZ				S	Sb	19 41 22.1	-1.4
WMGZ	**Waiomatatini S**	**0.83**	**220**	P	Pn	19 41 17.5	+0.9
WMGZ				S	Sn	19 41 29.1	+0.8
PKGZ	**Pakihiroa**	**1.06**	**228**	P	Pg	19 41 20.3	-0.1
PKGZ				S	Sb	19 41 33.4	+0.1
PUZ	**Puketiti**	**1.10**	**216**	P	Pg	19 41 21.1	0.0
HAZ	**Te Kaha**	**1.18**	**241**	P	Pn	19 41 20.8	-0.6
TWGZ	**Tauwhareparae**	**1.32**	**221**	P	Pb	19 41 24.2	+0.1
TWGZ				S	Sg	19 41 42.4	-0.1
RUGZ	**Raukumara Rang**	**1.36**	**235**	P	Pb	19 41 24.8	-0.1
CNGZ	**Carnagh Statio**	**1.47**	**208**	P	Pb	19 41 26.6	0.0
WIZ	**White Island**	**1.55**	**257**	P	Pn	19 41 24.7	-1.7
TKGZ	**Te Karaka**	**1.59**	**218**	P	Pn	19 41 27.2	+0.1
MWZ	**Matawai**	**1.68**	**227**	P	Pn	19 41 28.8	+0.4
WHRZ	**Whale Island**	**1.81**	**248**	P	Pn	19 41 30.7	+0.7
RIGZ	**Rimuhau**	**1.84**	**214**	P	Pn	19 41 30.7	+0.1
RAGZ	**Rawiri**	**1.86**	**225**	P	Pn	19 41 31.3	+0.4
URZ	**Urewera**	**1.90**	**235**	P	Pn	19 41 31.5	+0.2
EDRZ	**Edgecumbe**	**2.08**	**243**	P	Pn	19 41 34.1	+0.2
SNGZ	**Shannon Statio**	**2.11**	**220**	P	Pn	19 41 34.4	+0.2
OPRZ	**Ohinepanea**	**2.12**	**251**	P	Pn	19 41 34.1	-0.2
KNZ	**Kokohu**	**2.14**	**211**	P	Pn	19 41 34.0	-0.6
MHGZ	**Mahia Peninsul**	**2.17**	**205**	P	Pn	19 41 35.1	0.0
MYRZ	**Mayor Island**	**2.27**	**267**	P	Pn	19 41 35.6	-0.9
TARZ	**Mount Tarawera**	**2.30**	**242**	P	Pn	19 41 37.6	+0.7
RAHZ	**Arahi**	**2.34**	**222**	P	Pn	19 41 37.5	+0.1
OMRZ	**Omania**	**2.34**	**246**	P	Pn	19 41 37.8	+0.3
WHHZ	**Waihua**	**2.38**	**217**	P	Pn	19 41 37.9	-0.1
KARZ	**Kaharoa**	**2.40**	**249**	P	Pn	19 41 38.4	+0.1
MTHZ	**Maungataniwha**	**2.43**	**226**	P	Pn	19 41 38.9	+0.3
KMRZ	**Kaimai**	**2.58**	**254**	P	Pn	19 41 40.4	-0.4
NMHZ	**Naumai**	**2.62**	**223**	P	Pn	19 41 41.5	+0.2
ARHZ	**Aropaoanui**	**2.65**	**218**	P	Pn	19 41 41.4	-0.2
MRHZ	**Matea Rd**	**2.67**	**231**	P	Pn	19 41 41.9	-0.1
KUZ	**Kuaotunu**	**2.73**	**278**	P	Pn	19 41 41.5	-1.3
BKZ	**Black Stump Fm**	**2.84**	**225**	P	Pn	19 41 44.1	-0.3
KUTZ	**Kaahu Road**	**2.89**	**242**	P	Pn	19 41 45.7	+0.7
TOZ	**Tahuroa Road**	**2.90**	**258**	P	Pn	19 41 44.5	-0.6
CKHZ	**Cape Kidnapper**	**2.93**	**212**	P	Pn	19 41 44.4	-1.1
GRZ	**Great Barrier**	**3.06**	**287**	P	Pn	19 41 47.6	+0.3
KWHZ	**Kaweka Forest**	**3.06**	**222**	P	Pn	19 41 46.6	-0.8
RATZ	**Rangitukua**	**3.11**	**236**	P	Pn	19 41 48.3	+0.3
RITZ	**Rihia Road**	**3.11**	**234**	P	Pn	19 41 48.2	+0.2
KAHZ	**Kahuranaki**	**3.13**	**213**	P	Pn	19 41 47.1	-1.2
MKAZ	**Moumakai**	**3.13**	**270**	P	Pn	19 41 47.4	-0.9
WIAZ	**Waiheke Island**	**3.19**	**276**	P	Pn	19 41 48.5	-0.5
KRHZ	**Kereru**	**3.25**	**220**	P	Pn	19 41 48.6	-1.4
TMVZ	**Te Maari**	**3.29**	**233**	P	Pn	19 41 49.9	-0.7
ETVZ	**East Tongariro**	**3.29**	**233**	P	Pn	19 41 50.0	-0.7
NTVZ	**North Tongariro**	**3.30**	**234**	P	Pn	19 41 50.4	-0.3
BHHZ	**Black Hill Sta**	**3.31**	**225**	P	Pn	19 41 50.1	-0.6
KRVZ	**Karewarewa**	**3.32**	**234**	P	Pn	19 41 50.8	-0.1
ETAZ	**East Tamaki Re**	**3.33**	**273**	P	Pn	19 41 51.8	+0.8
OTVZ	**Oturere**	**3.34**	**233**	P	Pn	19 41 50.9	-0.4
NNVZ	**North Ngauruho**	**3.35**	**234**	P	Pn	19 41 51.2	-0.3
WTVZ	**West Tongariro**	**3.36**	**234**	P	Pn	19 41 51.5	0.0
SNVZ	**South Ngauruho**	**3.37**	**233**	P	Pn	19 41 51.3	-0.4
MBAZ	**Motutapu North**	**3.38**	**276**	P	Pn	19 41 51.8	+0.2
NGZ	**Ngauruhoe**	**3.39**	**233**	P	Pn	19 41 51.3	-0.7
TUVZ	**Tukino**	**3.41**	**231**	P	Pn	19 41 51.8	-0.4
MOVZ	**Moawhango**	**3.43**	**229**	P	Pn	19 41 51.4	-1.1
TWVZ	**Taurewa**	**3.44**	**236**	P	Pn	19 41 52.4	-0.2
ABAZ	**Army Bay**	**3.46**	**278**	P	Pn	19 41 53.5	+0.8
WHVZ	**Whangaehu Hut**	**3.46**	**232**	P	Pn	19 41 52.3	-0.7
FWVZ	**Far West T-bar**	**3.46**	**232**	P	Pn	19 41 52.6	-0.5
WNVZ	**Wahianoa**	**3.48**	**231**	P	Pn	19 41 52.7	-0.5
HBAZ	**Herne Bay Bore**	**3.50**	**274**	P	Pn	19 41 54.5	+1.2
PNHZ	**Pukenui**	**3.54**	**219**	P	Pn	19 41 52.0	-1.9
AWAZ	**Awhitu Peninsu**	**3.56**	**275**	P	Pn	19 41 53.9	-0.2
HIZ	**Hauiti**	**3.60**	**247**	P	Pn	19 41 55.7	+1.0
WTAZ	**Waiatarua**	**3.62**	**273**	P	Pn	19 41 55.7	+0.7
RVAZ	**Riverhead Bore**	**3.63**	**275**	P	Pn	19 41 56.1	+1.0
TSZ	**Takapari Road**	**3.77**	**219**	P	Pn	19 41 54.9	-2.1
WCZ	**Waipu Caves**	**4.01**	**287**	P	Pn	19 42 00.6	+0.2
WAZ	**Wanganui**	**4.11**	**230**	P	Pn	19 42 01.1	-0.7
NEZ	**North Egmont**	**4.44**	**241**	P	Pn	19 42 07.8	+1.3
KHEZ	**Kahui Hut**	**4.51**	**241**	P	Pn	19 42 09.0	+1.7
OUZ	**Omahuta**	**4.85**	**292**	P	Pn	19 42 12.7	+0.8
CTZ	**Chatham Island**	**7.32**	**155**	P	Pn	19 42 48.6	+2.9

*IDC **01** 19:41:30.1±1.3, 36°92S×179°10E, h0km, mb4.3/6, mbtmp4.3/7, ML4.9/1, Error ellipse: s-maj=34.5km s-min=28.8km az=50.0*
*NEIC **01** 19:41:31.2±1.6, 37°16S±0°10×179°20E±0°06, h10km±1km, mb4.9/19, Error ellipse: s-maj=17.2km s-min=5.3km az=339.0*
*WEL **01** 19:41:36.6, 37°S±19°×17°9E±2°2, h22km, M4.1/6, ML4.4/6, MLv4.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=76.4*

ISC 01 19:41:30.8±2.2, 37.19S±0.06×179.22E±0.08, h9km±11km, n96, σ1s54/99, mb4.7/16, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.81**	**242**		**Pg**	**19 41 46.9**	**+0.5**
MXZ	**Matakaoa Point**	**0.81**	**242**	P	**Pg**	**19 41 46.8**	**+0.3**
MXZ				S	**Sg**	**19 41 56.4**	**-0.7**
PKGZ	**Pakihiroa**	**1.14**	**232**	P	**Pn**	**19 41 54.1**	**+1.0**
PKGZ				S	**Sb**	**19 42 08.4**	**+0.7**
RUGZ	**Raukumara Rang**	**1.45**	**237**	P	**Pg**	**19 41 59.4**	**+0.9**
CNGZ	**Carnagh Statio**	**1.52**	**211**	P	**Pg**	**19 42 01.0**	**+1.1**
CNGZ				S	**Sg**	**19 42 21.2**	**+1.5**
URZ	**Urewera**	**1.98**	**237**	Pn	**Pb**	**19 42 06.0**	**-1.1**
	373nm,0.3s,baz=301,slow=1.3,SNR=28						
URZ				Sn	**Sn**	**19 42 28.9**	**-0.6**
	172nm,0.3s,baz=121,slow=23,SNR=14						
	745nm,0.3s						
URZ	**Urewera**	**1.98**	**237**	Pn	**Pn**	**19 42 05.4**	**+0.9**
URZ	**Urewera**	**1.98**	**237**	P	**Pb**	**19 42 06.1**	**-0.9**
URZ				S	**Sn**	**19 42 29.8**	**+0.3**
MARZ	**Manawahe**	**2.17**	**248**	P	**Pb**	**19 42 09.0**	**-1.2**
MUGZ	**Murupara**	**2.32**	**236**	P	**Pn**	**19 42 10.9**	**+1.7**
MKRZ	**Makatiti**	**2.38**	**246**	P	**Pn**	**19 42 11.7**	**+1.7**
RRRZ	**Republican Roa**	**2.43**	**241**	P	**Pb**	**19 42 13.2**	**-1.5**
OMRZ	**Omania**	**2.44**	**247**	P	**Pb**	**19 42 13.0**	**-1.8**
KARZ	**Kaharoa**	**2.50**	**250**	P	**Pn**	**19 42 12.6**	**+0.9**
HLRZ	**Highlands Stat**	**2.51**	**244**	P	**Pn**	**19 42 13.5**	**+1.7**
NGRZ	**Ngongotaha**	**2.57**	**248**	P	**Pn**	**19 42 14.4**	**+1.7**
PRRZ	**Plateau Road**	**2.59**	**239**	P	**Pn**	**19 42 13.8**	**+0.9**
HSRZ	**Hossack Road**	**2.61**	**244**	P	**Pb**	**19 42 16.0**	**-1.7**
HRRZ	**Handcock Road**	**2.61**	**242**	P	**Pn**	**19 42 14.6**	**+1.3**
KMRZ	**Kaimai**	**2.68**	**255**	P	**Pn**	**19 42 14.4**	**+0.2**
NMHZ	**Naumai**	**2.69**	**224**	P	**Pn**	**19 42 15.7**	**+1.4**
GRRZ	**Galatos Road**	**2.72**	**244**	P	**Pn**	**19 42 16.6**	**+1.9**
BKZ	**Black Stump Fm**	**2.92**	**227**	Pn	**Pn**	**19 42 17.8**	**+0.4**
BKZ	**Black Stump Fm**	**2.92**	**227**	P	**Pn**	**19 42 18.5**	**+1.1**
KUTZ	**Kaahu Road**	**2.98**	**243**	P	**Pn**	**19 42 20.1**	**+1.8**
TOZ	**Tahuroa Road**	**3.00**	**259**	P	**Pn**	**19 42 18.8**	**+0.2**
TLZ	**Tolley Road**	**3.13**	**248**	P	**Pn**	**19 42 21.3**	**+1.0**
KWHZ	**Kaweka Forest**	**3.13**	**224**	P	**Pn**	**19 42 21.6**	**+1.2**
GRZ	**Great Barrier**	**3.16**	**286**	P	**Pn**	**19 42 21.4**	**+0.7**
RATZ	**Rangitukua**	**3.19**	**237**	P	**Pn**	**19 42 22.5**	**+1.3**
RITZ	**Rihia Road**	**3.19**	**235**	P	**Pn**	**19 42 23.0**	**+1.8**
MKAZ	**Moumakai**	**3.24**	**270**	P	**Pn**	**19 42 21.5**	**-0.3**
WIAZ	**Waiheke Island**	**3.29**	**276**	P	**Pn**	**19 42 22.2**	**-0.3**
NTVZ	**North Tongarir**	**3.38**	**235**	P	**Pn**	**19 42 25.0**	**+1.1**
KRVZ	**Karewarewa**	**3.40**	**235**	P	**Pn**	**19 42 25.1**	**+0.9**
ETAZ	**East Tamaki Re**	**3.44**	**273**	P	**Pn**	**19 42 24.9**	**+0.4**
MBAZ	**Motutapu North**	**3.48**	**276**	P	**Pn**	**19 42 25.4**	**+0.3**
ABAZ	**Army Bay**	**3.56**	**278**	P	**Pn**	**19 42 26.5**	**+0.3**
EPAZ	**Eden Park BICE**	**3.59**	**274**	P	**Pn**	**19 42 28.8**	**+2.2**
HBAZ	**Herne Bay Bore**	**3.60**	**274**	P	**Pn**	**19 42 28.8**	**+2.0**
AWAZ	**Awhitu Peninsu**	**3.66**	**271**	P	**Pn**	**19 42 28.1**	**+0.6**
HIZ	**Hauiti**	**3.69**	**248**		**Pn**	**19 42 29.0**	**+0.9**
HIZ	**Hauiti**	**3.69**	**248**	P	**Pn**	**19 42 29.9**	**+1.8**
RVAZ	**Riverhead Bore**	**3.73**	**275**	P	**Pn**	**19 42 29.2**	**+0.6**
BFZ	**Birch Farm**	**4.19**	**213**	Pn	**Pn**	**19 42 34.2**	**-0.6**
OUZ	**Omahuta**	**4.95**	**292**		**Pn**	**19 42 45.9**	**+0.6**
MSWZ	**Moikau Station**	**5.22**	**215**	Pn	**Pn**	**19 42 46.4**	**-2.7**
PLWZ	**Palliser**	**5.34**	**214**	Pn	**Pn**	**19 42 49.3**	**-1.5**
SNZO	**South Karori**	**5.40**	**219**	Pn	**Pn**	**19 42 50.1**	**-1.4**
TUWZ	**Tuamarina**	**5.88**	**222**	Pn	**Pn**	**19 42 57.0**	**-1.1**
NNZ	**Nelson**	**6.06**	**227**	Pn	**Pn**	**19 42 59.1**	**-1.5**
BSWZ	**Blackbirch Sta**	**6.12**	**221**	Pn	**Pn**	**19 42 58.3**	**-3.1**
QRZ	**Quartz Range**	**6.35**	**233**	Pn	**Pn**	**19 43 03.1**	**-1.5**
THZ	**Tophouse**	**6.68**	**225**	Pn	**Pn**	**19 43 06.4**	**-2.8**
KHZ	**Kahutara**	**6.81**	**218**	Pn	**Pn**	**19 43 09.7**	**-1.1**
LTZ	**Lake Taylor**	**7.72**	**222**	Pn	**Pn**	**19 43 22.1**	**-1.3**
MQZ	**McQueen's Vall**	**8.21**	**215**	Pn	**Pn**	**19 43 26.5**	**-3.5**
OXZ	**Oxford**	**8.22**	**220**	Pn	**Pn**	**19 43 27.4**	**-2.9**
RPZ	**Rata Peaks**	**9.01**	**221**	Pn	Pn	19 43 34.2	-6.8
	0.8nm,0.3s,baz=90,slow=5.1,SNR=2.2						
RPZ					Sn	19 45 09.8	-13
	3.2nm,0.3s,baz=83,slow=19,SNR=7.6						
RPZ	**Rata Peaks**	**9.01**	**221**	Pn	**Pn**	**19 43 37.5**	**-3.5**
FOZ	**Fox Glacier**	**9.57**	**226**	Pn	**Pn**	**19 43 46.6**	**-2.1**
LBZ	**Lake Benmore**	**9.92**	**221**	Pn	**Pn**	**19 43 51.2**	**-2.4**
ODZ	**Otahua Downs**	**10.16**	**217**	Pn	**Pn**	**19 43 54.3**	**-2.6**
WKZ	**Wanaka**	**10.84**	**222**	Pn	**Pn**	**19 44 02.0**	**-4.1**
STKA	**Stephens Creek**	**31.30**	**268**	P	**P**	**19 47 51.8**	**+0.5**
	3.9nm,0.5s,baz=105,slow=11,SNR=12						
	3.9nm,0.5s						
STKA	**Stephens Creek**	**31.30**	**268**	P	**P**	**19 47 52.1**	**+0.8**
BBOO	**Buckleboo**	**35.40**	**264**	P	**P**	**19 48 26.5**	**-0.5**
BBOO				IAmb	IAmb	19 49 34.7	
	comp=Z,52nm,1.7s						
COEN	**Coen**	**39.54**	**296**	P	**P**	**19 49 03.0**	**+0.8**
COEN				IAmb	IAmb	19 49 13.5	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**40.96**	**276**	P	**P**	**19 49 13.3**	**-0.7**
ASAR	**Alice Springs**	**40.96**	**276**	P	**P**	**19 49 13.2**	**-0.8**
	comp=Z,7.2nm,0.6s,baz=119,slow=8.1,SNR=46						
ASAR				PcP	**PcP**	**19 51 12.8**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=124,slow=4.4,SNR=1.8						
	comp=Z,7.2nm,0.6s						
ASAR	**Alice Springs**	**40.96**	**276**	P	**P**	**19 49 13.5**	**-0.6**
WR0	**Warramunga Arr**	**42.40**	**281**	P	**P**	**19 49 24.8**	**-1.0**
WR0				IAmb	IAmb	19 49 25.9	
	comp=Z,5.6nm,0.6s						
FORT	**Forrest**	**42.48**	**263**	P	**P**	**19 49 25.6**	**-0.7**
WB2	**Warramunga Arr**	**42.56**	**281**	P	**P**	**19 49 26.1**	**-1.0**
WB2				IAmb	IAmb	19 49 27.2	
	comp=Z,12nm,0.5s						
WRAB	**Tennant Creek**	**42.57**	**281**	P	**P**	**19 49 26.4**	**-0.8**
WRAB				IAmb	IAmb	19 49 27.2	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**42.57**	**281**	P	**P**	**19 49 26.5**	**-0.7**
	comp=Z,7.0nm,0.5s,baz=122,slow=7.6,SNR=47						
WRA				PcP	**PcP**	**19 51 20.6**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=109,slow=2.8,SNR=1.5						
	comp=Z,7.0nm,0.5s						
WRA	**Warramunga Arr**	**42.57**	**281**	P	**P**	**19 49 25.8**	**-1.5**
WB0	**Warramunga Arr**	**42.62**	**281**	P	**P**	**19 49 26.6**	**-1.0**
WB0				IAmb	IAmb	19 49 27.7	
	comp=Z,14nm,0.5s						
CASY	**Casey**	**48.10**	**210**	P	**P**	**19 50 12.1**	**+1.7**
CASY				IAmb	IAmb	19 51 42.1	
	comp=Z,26nm,1.9s						
MTN	**Manton Dam**	**49.21**	**287**	P	**P**	**19 50 18.9**	**-0.8**
MTN				IAmb	IAmb	19 52 02.2	
	comp=Z,34nm,1.4s						
KNRA	**Kununurra**	**49.35**	**282**	P	**P**	**19 50 20.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.44**	**277**	P	**P**	**19 50 28.8**	**-0.2**
FITZ				IAmb	IAmb	19 50 29.4	
	comp=Z,8.3nm,0.7s						
MORW	**Morawa**	**52.67**	**259**	P	**P**	**19 50 44.4**	**-1.2**
QSPA	**South Pole Qui**	**52.94**	**180**	P	**P**	**19 50 50.7**	**+3.5**
	comp=Z,0.7nm,0.7s,baz=101,slow=10,SNR=1.9						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**52.94**	**180**	P	**P**	**19 50 49.4**	**+2.2**
QSPA				IAmb	IAmb	19 51 38.7	
	comp=Z,17nm,1.7s						
MBWA	**Marble Bar**	**53.52**	**270**	P	**P**	**19 50 49.9**	**-2.1**
MBWA				IAmb	IAmb	19 51 50.0	
	comp=Z,28nm,1.2s						
FAKI	**Fak Fak**	**54.92**	**297**	P	**P**	**19 50 59.4**	**-2.8**
MAW	**Mawson**	**65.16**	**202**	P	**P**	**19 52 12.8**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=193,slow=18,SNR=1.3						
	comp=Z,0.8nm,0.6s						
MAW	**Mawson**	**65.16**	**202**	P	**P**	**19 52 12.8**	**+1.2**
H03N3	**Juan Fernandez**	**78.87**	**124**	T	T	21 20 16.2	
	baz=234,slow=72,SNR=3.0						
H03N2	**Juan Fernandez**	**78.87**	**123**	T	T	21 20 15.8	
	baz=234,slow=72,SNR=3.3						
H03N1	**Juan Fernandez**	**78.89**	**123**	T	T	21 20 15.4	
	baz=234,slow=72,SNR=3.6						
CMAR	**Chiang Mai Arr**	**93.52**	**290**	P	**P**	**19 54 47.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=149,slow=3.7,SNR=1.4						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B 144.61 344**			PKP	**PKPdf**	**20 01 06.1**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=5.2,slow=2.7,SNR=4.0						
FINES	**FINESS Array B 150.48 334**			PKPbc	**PKPbc**	**20 01 21.6**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=46,slow=5.5,SNR=8.0						
TORD	**Torodi Ar. Bea 155.96 186**			PKPab	**PKPab**	**20 01 54.3**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=150,slow=3.1,SNR=2.2						

*IDC **01** 19:44:45.6±3.5, 36°92S×179°15E, h0km, mb3.6/2, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=87.6km s-min=45.7km az=133.0*
*WEL **01** 19:44:52.8±1.6, 37°S±5°×17°9E±°, h25km±8km, M3.7/31, ML3.8/31, MLv3.7/31, Error ellipse: s-maj=0.0km s-min=0.0km az=74.7*

ISC 01 19:44:50.6±2.5, 37.19S±0.07×179.1E±0.1, h29km±13km, n47, σ1s11/52, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.72**	**239**	P	**Pb**	**19 45 04.7**	**0.0**
MXZ				S	**Sb**	**19 45 13.3**	**-1.1**
WMGZ	**Waiomatatini S**	**0.82**	**220**	P	**Pn**	**19 45 07.8**	**+1.5**
WMGZ				S	**Sn**	**19 45 19.3**	**+1.7**
PKGZ	**Pakihiroa**	**1.06**	**229**	P	**Pn**	**19 45 10.9**	**+1.2**
PKGZ				S	**Sn**	**19 45 23.3**	**-0.3**
PUZ	**Puketiti**	**1.10**	**217**	P	**Pb**	**19 45 11.4**	**+0.4**
PUZ				S	**Sn**	**19 45 23.9**	**-0.5**
HAZ	**Te Kaha**	**1.18**	**241**	P	**Pn**	**19 45 12.1**	**+0.9**
HAZ				S	**Sn**	**19 45 26.5**	**+0.1**
TWGZ	**Tauwhareparae**	**1.32**	**221**	P	**Pn**	**19 45 14.6**	**+1.4**
RUGZ	**Raukumara Rang**	**1.36**	**235**	P	**Pn**	**19 45 15.2**	**+1.3**
WIZ	**White Island**	**1.55**	**257**	P	**Pn**	**19 45 17.0**	**+0.7**
TKGZ	**Te Karaka**	**1.58**	**218**	P	**Pn**	**19 45 18.1**	**+1.3**
MWZ	**Matawai**	**1.68**	**227**	P	**Pn**	**19 45 19.2**	**+1.0**
WHRZ	**Whale Island**	**1.81**	**248**	P	**Pn**	**19 45 20.6**	**+0.8**
RAGZ	**Rawiri**	**1.86**	**225**	P	**Pn**	**19 45 21.6**	**+0.9**
URZ	**Urewera**	**1.90**	**235**	Pn	**Pn**	**19 45 21.7**	**+0.7**
	10.0nm,0.3s,baz=122,slow=1.3,SNR=3.4						
URZ				Sn	**Sb**	**19 45 46.9**	**-0.9**
	42nm,0.3s,baz=120,slow=18,SNR=5.5						
	43nm,0.4s						
URZ	**Urewera**	**1.90**	**235**	P	**Pn**	**19 45 21.9**	**+0.8**
PRGZ	**Paritu Road**	**1.97**	**208**	P	**Pn**	**19 45 23.1**	**+1.0**
SNGZ	**Shannon Statio**	**2.10**	**221**	P	**Pn**	**19 45 24.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.17**	**205**	P	**Pn**	**19 45 25.7**	**+0.9**
MYRZ	**Mayor Island**	**2.27**	**267**	P	**Pn**	**19 45 26.7**	**+0.4**
MTHZ	**Maungataniwha**	**2.43**	**226**	P	**Pn**	**19 45 29.3**	**+0.9**
KMRZ	**Kaimai**	**2.59**	**254**	P	**Pn**	**19 45 31.6**	**+1.0**
NMHZ	**Naumai**	**2.62**	**223**	P	**Pn**	**19 45 32.6**	**+1.5**
MRHZ	**Matea Rd**	**2.67**	**231**	P	**Pn**	**19 45 32.2**	**+0.4**
KUZ	**Kuaotunu**	**2.73**	**278**	P	**Pn**	**19 45 32.7**	**+0.1**
BKZ	**Black Stump Fm**	**2.84**	**225**	P	**Pn**	**19 45 34.5**	**+0.4**
TOZ	**Tahuroa Road**	**2.90**	**258**	P	**Pn**	**19 45 35.7**	**+0.8**
CKHZ	**Cape Kidnapper**	**2.92**	**212**	P	**Pn**	**19 45 34.6**	**-0.6**
GRZ	**Great Barrier**	**3.06**	**287**	P	**Pn**	**19 45 38.2**	**+1.1**
KAHZ	**Kahuranaki**	**3.12**	**213**	P	**Pn**	**19 45 37.4**	**-0.6**
MKAZ	**Moumakai**	**3.14**	**270**	P	**Pn**	**19 45 38.6**	**+0.5**
WIAZ	**Waiheke Island**	**3.19**	**276**	P	**Pn**	**19 45 39.8**	**+1.0**
TMVZ	**Te Maari**	**3.29**	**233**	P	**Pn**	**19 45 40.7**	**+0.4**
ETVZ	**East Tongariro**	**3.29**	**233**	P	**Pn**	**19 45 40.6**	**+0.2**
BHHZ	**Black Hill Sta**	**3.30**	**225**	P	**Pn**	**19 45 41.1**	**+0.6**
ETAZ	**East Tamaki Re**	**3.34**	**273**	P	**Pn**	**19 45 42.1**	**+1.2**
MBAZ	**Motutapu North**	**3.38**	**276**	P	**Pn**	**19 45 42.7**	**+1.2**
TWVZ	**Taurewa**	**3.44**	**236**	P	**Pn**	**19 45 43.0**	**+0.6**
ABAZ	**Army Bay**	**3.46**	**279**	P	**Pn**	**19 45 44.0**	**+1.4**
AWAZ	**Awhitu Peninsu**	**3.56**	**271**	P	**Pn**	**19 45 45.4**	**+1.5**
HIZ	**Hauiti**	**3.60**	**247**	P	**Pn**	**19 45 46.0**	**+1.5**
WTAZ	**Waiatarua**	**3.62**	**273**	P	**Pn**	**19 45 46.3**	**+1.5**
WCZ	**Waipu Caves**	**4.02**	**287**	P	**Pn**	**19 45 51.7**	**+1.5**
OUZ	**Omahuta**	**4.86**	**292**	P	**Pn**	**19 46 03.8**	**+2.1**
CTZ	**Chatham Island**	**7.31**	**155**	P	**Pn**	**19 46 38.3**	**+2.9**
RPZ	**Rata Peaks**	**8.94**	**221**	Sn	Sn	19 48 23.8	-14
	1.1nm,0.3s,baz=97,slow=18,SNR=8.8						
ASAR	**Alice Springs 40.86 276**			P	**P**	**19 52 29.7**	**-0.5**
	0.4nm,0.7s,baz=117,slow=7.5,SNR=2.9						
	0.4nm,0.7s						
WRA	**Warramunga Arr 42.47 281**			P	**P**	**19 52 42.4**	**-1.0**
	0.6nm,0.5s,baz=123,slow=7.6,SNR=5.4						
	0.6nm,0.5s						
FINES	**FINESS Array B 150.44 334**			PKPbc	**PKPbc**	**20 04 37.3**	**-1.2**
	1.3nm,1.0s,baz=48,slow=4.5,SNR=3.7						

*IDC **01** 19:45:26.4±0.8, 38°56N×20°61E, h0km, mb3.9/11, mbtmp3.7/22, ML3.7/8, Error ellipse: s-maj=15.2km s-min=13.0km az=135.0*
*PDG **01** 19:45:28.2±0.4, 38°48N×20°48E, h11km±1km, ML3.9/13, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0*
*ATH **01** 19:45:29.9, 38°45N×20°63E, h7km±2km, ML3.8/2, Error ellipse: s-maj=2.5km s-min=0.8km az=204.0*
*THE **01** 19:45:29.9, 38°45N×20°62E, h5km±1km, ML3.7/10, Error ellipse: s-maj=1.2km s-min=0.5km az=243.0*

ISC 01 19:45:28.7±0.7, 38°46N±0°02×20°53E±0°02, h16km±4km, n146, σ1s56/185, mb3.9/11, 18C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSK	**Fiskardo**	**0.03**	**101**	P	**Pg**	**19 45 31.8**	**+0.3**
FSK				S	**Sg**	**19 45 32.7**	**-0.7**
EVGI	**Lefkada island**	**0.18**	**32**	P	**Pg**	**19 45 33.5**	**+0.2**
EVGI				S	**Sg**	**19 45 35.9**	**-0.3**
DRAG	**Dragano-Lefkad**	**0.22**	**9**	P	**Pg**	**19 45 34.2**	**+0.4**
DRAG				S	**Sg**	**19 45 38.3**	**+1.0**
	203µm,0.5s						
KEF4	**Livadi, Kephal**	**0.22**	**202**	P	**Pb**	**19 45 34.5**	**+0.1**
KEF4				S	**

UPM	Unac-Piva	4.89	346	ePn	Pn	Pn	19 46 43.3	+1.5
UPM	Unac-Piva	4.89	346	⇑Pn	Pn	Pn	19 46 42.7	+0.9
UPM				*i* Sn	Sn	Pn	19 47 39.6	+1.4
STON	Ston	4.90	335	ePn	Pn	Pn	19 46 40.3	-1.4
VAE	Valguarnera	4.93	260	Pn	Pn	Pn	19 46 44.6	+2.3
	comp=E,3.0nm,0.4s,baz=173,slow=16,SNR=2.2							
VAE				Sn	Sn	Sn	19 47 36.6	-2.5
	comp=E,0.4nm,0.3s,baz=129,slow=21,SNR=1.9							
PLE	Pljevlja	4.94	350	⇑Pn	Pn	Pn	19 46 43.4	+1.0
PLE				eSn	Sn	Sn	19 47 40.4	+1.2
RUDO	Rudo	5.22	351	ePn	Pn	Pn	19 46 46.5	+0.3
BOVS	Bovan	5.24	9	⇓P	Pn	Pn	19 46 49.5	+3.1
BLKB	Belogradchik	5.40	17	⇑P	Pn	Pn	19 46 52.0	+3.3
MPEP	Malo Peshtene	5.46	25	eP	Pb	Pn	19 47 02.0	-1.7
DIVS	Divibare	5.64	356	ePn	Pn	Pn	19 46 52.5	+0.5
SRKY	Kupres RS	6.15	337	ePn	Pn	Pn	19 47 00.9	+1.9
MGRS	Mrkonjic Grad	6.49	338	ePn	Pn	Pn	19 47 04.9	+1.3
FRGS	Fruska Gora	6.71	356	ePn	Pn	Pn	19 47 07.2	+0.6
A050A	Klekovaca	6.72	335	ePn	Pn	Pn	19 47 08.5	+1.7
BLY	Banja Luka	6.76	339	ePn	Pn	Pn	19 47 06.1	-1.2
A051A	Mrakovica	7.08	339	ePn	Pn	Pn	19 47 12.0	+0.2
GZR	Gura Zlata	7.12	13	⇑P	Pn	Pn	19 47 14.7	+2.4
BZS	Buzias	7.19	6	⇑P	Pn	Pn	19 47 15.2	+2.0
VOIR		7.74	24	⇑P	Pn	Pn	19 47 24.8	+4.1
ISR	Istrita	8.02	32	⇑P	Pn	Pn	19 47 29.9	+5.3
BOJS	Bojanci	8.06	333	ePn	Pn	Pn	19 47 25.6	+0.5
MLR	Muntele Rosu	8.10	28	⇑P	Pn	Pn	19 47 30.4	+4.7
MLR	Muntele Rosu	8.10	28	Pn	Pn	Pn	19 47 25.2	-0.5
	comp=E,0.1nm,0.3s,baz=170,slow=8.3,SNR=3.9							
	comp=E,2.9nm,1.1s							
CRES	Cresnjev	8.26	335	ePn	Pn	Pn	19 47 28.2	+0.3
CEY	Cerknica	8.57	330	ePn	Pn	Pn	19 47 32.8	+0.7
SKDS	Skadanscina	8.58	328	ePn	Pn	Pn	19 47 32.8	+0.6
PLOR	Plostina	8.66	30	⇑P	Pn	Pn	19 47 37.9	+4.4
VRI	Vrincioaia	8.71	30	⇓P	Pn	Pn	19 47 39.0	+5.0
SOKA	Soboth	9.15	335	Pn	Pn	Pn	19 47 40.5	+0.3
	comp=E,5.5nm,0.7s,SNR=11							
OBKA	Obir	9.17	333	ePn	Pn	Pn	19 47 40.2	-0.2
OBKA	Obir	9.17	333	ePn	Pn	Pn	19 47 41.6	+1.2
	comp=E,4.4nm,0.6s							
KEST	Kesra	9.34	256	Pn	Pn	Pn	19 47 43.8	+0.9
	comp=E,0.2nm,0.3s,baz=51,slow=16,SNR=3.3							
KEST				Sn	Sn	Sn	19 49 27.4	-0.3
	comp=E,0.1nm,0.3s,baz=39,slow=24,SNR=1.3							
	comp=E,2.5nm,0.9s							
ARSA	Arzberg	9.52	339	ePn	Pn	Pn	19 47 44.9	-0.2
	comp=E,2.5nm,0.9s							
MYKA	Terra Mystica	9.61	330	ePn	Pn	Pn	19 47 47.4	+0.9
	comp=E,2.8nm,0.7s							
RONA	Rosalia, Austr	9.73	343	ePn	Pn	Pn	19 47 48.9	+0.8
	comp=E,2.5nm,1.1s							
CONA	Conrad Observa	10.05	342	ePn	Pn	Pn	19 47 54.2	+1.7
	comp=E,1.0nm,0.5s							
KBA	Koelnbreinsper	10.10	331	ePn	Pn	Pn	19 47 56.3	+3.1
	comp=E,0.2nm,0.3s							
VYHS	Vyhne	10.10	354	ePN	Pn	Pn	19 47 54.5	+1.4
VYHS				eSN	Sn	Sn	19 49 41.8	-4.2
ABTA	Abfaltersbach	10.17	327	ePn	Pn	Pn	19 47 54.0	0.0
	comp=E,0.5nm,0.5s							
BRTR	Keskin Array B	10.27	79	Pn	Pn	Pn	19 47 57.5	+1.9
	comp=E,0.5nm,0.6s,baz=279,slow=6.9,SNR=1.8							
MOA	Molln	10.43	336	ePn	Pn	Pn	19 47 58.4	+0.7
	comp=E,2.7nm,0.7s							
BIOA	Bad Ischl, Aus	10.51	334	ePn	Pn	Pn	19 47 59.5	+0.9
	comp=E,7.7nm,1.1s							
WTTA	Wattenberg	10.95	326	ePn	Pn	Pn	19 48 06.6	+1.8
	comp=E,8.6nm,1.1s							
WATA	Walderalm	11.03	326	ePn	Pn	Pn	19 48 07.2	+1.4
	comp=E,6.0nm,0.9s							
SQTA	Sankt Quirin	11.10	325	ePn	Pn	Pn	19 48 08.9	+2.0
	comp=E,3.9nm,0.9s							
FETA	Feichten	11.18	323	ePn	Pn	Pn	19 48 09.1	+1.2
	comp=E,3.2nm,1.3s							
VRAC	Vranov	11.21	347	Pn	Pn	Pn	19 48 06.7	-1.5
	comp=E,0.7nm,0.3s,baz=194,slow=11,SNR=2.7							
	comp=E,2.0nm,0.4s							
MOTA	Moosalm	11.24	325	P	Pn	Pn	19 48 11.1	+2.3
	comp=E,5.2nm,0.9s,SNR=4.8							
CKRC	Cesky Krumlov	11.29	339	ePN	Pn	Pn	19 48 09.6	+0.3
DAVOX	Davos/Dischmat	11.42	320	Pn	Pn	Pn	19 48 10.9	-0.4
	comp=E,0.2nm,0.3s,baz=95,slow=3.4,SNR=3.7							
DAVOX				Sn	Sn	Sn	19 50 12.0	-6.7
	comp=E,0.1nm,0.3s,baz=162,slow=19,SNR=1.8							
	comp=E,2.1nm,0.8s							
GERES	GERESS Array B	11.49	337	Pn	Pn	Pn	19 48 12.1	0.0
	comp=E,0.2nm,0.3s,baz=160,slow=12,SNR=5.4							
GERES				Sn	Sn	Sn	19 50 13.8	-6.4
	comp=E,0.1nm,0.3s,baz=145,slow=23,SNR=2.7							
	comp=E,0.4nm,0.5s							
KHC	Kasperske Hory	11.78	337	ePN	Pn	Pn	19 48 16.1	0.0
KHC				eSN	Sn	Sn	19 50 24.4	-2.8
MMAI	Mount Meron Ar	13.24	110	Pn	Pn	Pn	19 48 34.5	-1.7
	comp=E,0.4nm,0.3s,baz=284,slow=12,SNR=1.8							
	comp=E,0.5nm,0.5s							
AKASG	Malin Array Be	13.70	24	Pn	Pn	Pn	19 48 38.9	-3.4
	comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=1.4							
EIL	Elat	14.81	122	Pn	Pn	Pn	19 48 56.5	-1.1
	comp=E,0.3nm,0.3s,baz=324,slow=12,SNR=2.7							
	comp=E,2.0nm,0.7s							
ESDC	Sonseca Array	19.05	281	P	P	P	19 49 50.4	+0.1
	baz=78,slow=11,SNR=7.1							
	comp=E,1.1nm,0.8s							
HFS	Hagfors	22.12	351	P	P	P	19 50 23.2	-0.1
	comp=E,1.4nm,0.5s,baz=156,slow=8.1,SNR=9.8							
	comp=E,1.4nm,0.5s							
EKA	Eskdalemuir Ar	23.20	324	P	P	P	19 50 34.1	-0.6
	comp=E,3.6nm,0.9s,baz=118,slow=12,SNR=4.3							
	comp=E,3.6nm,0.9s							
FINES	FINESS Array B	23.26	7	P	P	P	19 50 34.6	-0.7
	comp=E,4.2nm,0.7s,baz=174,slow=11,SNR=10.0							
	comp=E,4.2nm,0.7s							
NB2	NORSAR Subarra	23.34	349	P	P	P	19 50 35.4	-0.7
	comp=Z,8.2nm,1.4s,baz=162,slow=10							
NOA	NORSAR Array B	23.34	349	P	P	P	19 50 34.9	-1.2
	comp=Z,1.2nm,0.9s,baz=158,slow=9.7,SNR=4.5							
	comp=Z,1.2nm,0.9s							
BELG	Belogornoye	23.39	45	P	P	P	19 50 35.6	-1.0
	comp=Z,4.0nm,0.5s,baz=218,slow=12,SNR=5.0							
	comp=Z,4.0nm,0.5s							
TORD	Torodi Ar. Bea	30.26	219	P	P	P	19 51 40.2	+1.2
	comp=Z,2.1nm,0.9s,baz=27,slow=9.6,SNR=10							
TORD				PcP	PcP	PcP	19 54 39.0	-0.6
	comp=Z,0.8nm,0.9s,baz=42,slow=2.3,SNR=4.5							
	comp=Z,2.1nm,0.9s							
DBIC	Dimbokro	39.11	222	P	P	P	19 52 56.7	+1.3
	comp=Z,3.3nm,0.7s,baz=26,slow=13,SNR=4.0							
	comp=Z,3.3nm,0.7s							
MKAR	Makanchi Array	45.15	59	P	P	P	19 53 44.5	+0.1
	comp=Z,0.8nm,0.5s,baz=280,slow=6.9,SNR=10							
	comp=Z,0.8nm,0.5s							
ZALV	Zalesovo Beam	45.49	48	P	P	P	19 53 47.2	+0.2
	comp=Z,2.6nm,0.5s,baz=277,slow=8.9,SNR=11							
	comp=Z,2.6nm,0.5s							
SONM	Songino Array	60.27	51	P	P	P	19 55 36.0	-0.5
	comp=Z,0.4nm,0.8s,baz=258,slow=7.1,SNR=2.1							
	comp=Z,0.4nm,0.8s							
CMAR	Chiang Mai Arr	69.84	82	P	P	P	19 56 37.7	-1.2
	comp=Z,0.5nm,0.6s,baz=306,slow=7.7,SNR=4.2							
	comp=Z,0.5nm,0.6s							

NEIC ***01*** *19:46:10.8±1.9, 37.1°S±0.2°×179.6°E±0.2, h10km±2km, mb4.6/9, Error ellipse: s-maj=31.8km s-min=20.0km az=158.0*

IDC ***01*** *19:46:11.4±1.6, 36.70°S×179.20°E, h0km, mb4.2/3, mbtmp4.2/4, ML4.4/1, Error ellipse: s-maj=40.3km s-min=30.8km az=51.0*

WEL ***01*** *19:46:15.7±1.1, 37.3°S±4.4°×17.9°E±1.1°, h20km±11km, M4.1/59, ML4.3/59, MLv4.1/59, Error ellipse: s-maj=0.0km s-min=0.0km az=89.9*

ISC 01 19:46:11.0±1.8, 37.09°S±0.06°×179.50°E±0.07, h13km±10km, n112, σ1.75/121, mb4.4/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.06	243	Pn	Pn	19 46 32.0	+0.5
MXZ	Matakaoa Point	1.06	243	P	Pb	19 46 31.5	+0.3
MXZ				S	Sb	19 46 42.9	-2.1
WMGZ	Waiomatatini S	1.13	229	P	Pn	19 46 33.5	+1.0
WMGZ				S	Sg	19 46 49.2	+1.6
PKGZ	Pakihiroa	1.38	234	P	Pg	19 46 38.4	+0.7
PKGZ				S	Sn	19 46 54.2	-0.1
PUZ	Puketiti	1.39	225	P	Pg	19 46 38.7	+0.9
PUZ				S	Sg	19 46 56.4	+0.5
HAZ	Te Kaha	1.52	243	P	Pg	19 46 40.8	+0.6
HAZ				S	Sb	19 46 57.7	-0.5
TWGZ	Tauwhareparae	1.62	227	P	Pg	19 46 42.7	+0.5
TWGZ				S	Sg	19 47 02.2	-1.1
RUGZ	Raukumara Rang	1.69	238	P	Pg	19 46 43.4	-0.1
RUGZ				S	Sb	19 47 02.8	-0.5
TKGZ	Te Karaka	1.88	224	P	Pn	19 46 44.7	+1.9
TKGZ				S	Sn	19 47 07.1	+0.7
WIZ	White Island	1.89	256	P	Pn	19 46 42.5	-0.5
MWZ	Matawai	2.00	231	P	Pb	19 46 47.0	-0.2
MWZ				S	Sn	19 47 09.1	-0.3
RIGZ	Rimuhau	2.12	220	P	Pn	19 46 48.8	+2.6
RAGZ	Rawiri	2.17	229	P	Pb	19 46 49.5	-0.7
RAGZ				S	Sn	19 47 13.4	-0.2
URZ	Urewera	2.23	238	Pn	Pn	19 46 49.2	+1.6
	112nm,0.3s,baz=121,slow=2.3,SNR=13						
URZ				Sn	Sn	19 47 14.4	-0.5
	128nm,0.3s,baz=121,slow=17,SNR=7.1						
	218nm,0.3s						
URZ	Urewera	2.23	238		Pn	19 46 49.3	+1.7
URZ	Urewera	2.23	238	P	Pb	19 46 49.8	-1.3
URZ				S	Sn	19 47 14.3	-0.6
PRGZ	Paritu Road	2.23	214	P	Pn	19 46 50.4	+2.7
SNGZ	Shannon Statio	2.40	225	P	Pn	19 46 52.6	+2.6
KNZ	Kokohu	2.41	216	P	Pn	19 46 52.0	+1.9
MHGZ	Mahia Peninsul	2.41	211	P	Pn	19 46 53.0	+2.8
EDRZ	Edgecumbe	2.42	244	P	Pn	19 46 52.1	+1.8
MARZ	Manawahe	2.42	247	P	Pn	19 46 51.9	+1.7
OPRZ	Ohinepanea	2.46	251	P	Pn	19 46 52.0	+1.2
MUGZ	Murupara	2.57	236	P	Pn	19 46 54.4	+2.1
TARZ	Mount Tarawera	2.64	243	P	Pb	19 46 56.3	-1.9
RAHZ	Arahi	2.64	225	P	Pn	19 46 56.0	+2.7
TGRZ	Tauranga	2.66	255	P	Pn	19 46 54.9	+1.4
WHHZ	Waihua	2.67	221	P	Pn	19 46 56.1	+2.4
RRRZ	Republican Roa	2.67	241	P	Pn	19 46 56.3	+2.5
OMRZ	Omania	2.68	247	P	Pn	19 46 55.5	+1.6
MTHZ	Maungataniwha	2.74	229	P	Pn	19 46 57.1	+2.4
KARZ	Kaharoa	2.75	249	P	Pn	19 46 56.6	+1.8
HLRZ	Highlands Stat	2.75	244	P	Pn	19 46 57.3	+2.4
HSRZ	Hossack Road	2.85	244	P	Pn	19 46 58.7	+2.5
NMHZ	Naumai	2.92	226	P	Pn	19 46 59.5	+2.3
KMRZ	Kaimai	2.93	254	P	Pb	19 47 00.3	-2.8
ARHZ	Aropaoanui	2.93	221	P	Pn	19 46 59.4	+2.1
GRRZ	Galatos Road	2.97	244	P	Pn	19 47 00.3	+2.5
MRHZ	Matea Rd	2.99	233	P	Pn	19 47 00.2	+2.0
KUZ	Kuaotunu	3.05	275	P	Pn	19 46 58.5	-0.3
BKZ	Black Stump Fm	3.15	228		Pn	19 47 01.9	+1.5
BKZ	Black Stump Fm	3.15	228	P	Pn	19 47 02.2	+1.9
CKHZ	Cape Kidnapper	3.19	216	P	Pn	19 47 02.2	+1.3
KUTZ	Kaahu Road	3.23	243	P	Pn	19 47 03.7	+2.3
TOZ	Tahuroa Road	3.25	257	P	Pn	19 47 01.8	+0.2
GRZ	Great Barrier	3.35	283	P	Pn	19 47 04.0	+0.9
KWHZ	Kaweka Forest	3.36	225	P	Pn	19 47 04.6	+1.4
KAHZ	Kahuranaki	3.40	216	P	Pn	19 47 04.9	+1.2
RATZ	Rangitukua	3.44	238	P	Pn	19 47 06.7	+2.5
MKAZ	Moumakai	3.47	268	P	Pn	19 47 04.6	0.0
WIAZ	Waiheke Island	3.51	273	P	Pn	19 47 05.5	+0.3
KRHZ	Kereru	3.54	223	P	Pn	19 47 06.8	+1.1
BHHZ	Black Hill Sta	3.61	227	P	Pn	19 47 08.4	+1.7
TMVZ	Te Maari	3.61	235	P	Pn	19 47 08.5	+1.7
ETVZ	East Tongariro	3.62	234	P	Pn	19 47 08.8	+1.9
NTVZ	North Tongarir	3.62	235	P	Pn	19 47 08.8	+1.9
ETAZ	East Tamaki Re	3.66	271	P	Pn	19 47 08.2	+1.0
OTVZ	Oturere	3.67	234	P	Pn	19 47 09.5	+2.0
NNVZ	North Ngauruho	3.68	235	P	Pn	19 47 10.0	+2.2
WTVZ	West Tongariro	3.69	236	P	Pn	19 47 10.1	+2.3
SNVZ	South Ngauruho	3.69	234	P	Pn	19 47 09.5	+1.6
MBAZ	Motutapu North	3.70	274	P	Pn	19 47 08.6	+0.8
NGZ	Ngauruhoe	3.71	235	P	Pn	19 47 09.8	+1.7
TUVZ	Tukino	3.73	233	P	Pn	19 47 10.0	+1.6
MOVZ	Moawhango	3.75	231	P	Pn	19 47 09.6	+1.0
TWVZ	Taurewa	3.77	237	P	Pn	19 47 10.7	+1.8
ABAZ	Army Bay	3.77	276	P	Pn	19 47 09.9	+1.0
FWVZ	Far West T-bar	3.79	234	P	Pn	19 47 11.2	+1.9
WNVZ	Wahianoa	3.80	233	P	Pn	19 47 10.7	+1.3
EPAZ	Eden Park BICE	3.81	272	P	Pn	19 47 11.7	+2.3
AWAZ	Awhitu Peninsu	3.88	269	P	Pn	19 47 11.7	+1.3
HIZ	Hauiti	3.94	247		Pn	19 47 13.3	+2.1
HIZ	Hauiti	3.94	247	P	Pn	19 47 14.1	+2.9
WTAZ	Waiatarua	3.94	271	P	Pn	19 47 12.4	+1.2
RVAZ	Riverhead Bore	3.95	273	P	Pn	19 47 13.7	+2.4
WCZ	Waipu Caves	4.31	284	P	Pn	19 47 17.1	+0.9
BFZ	Birch Farm	4.39	214	Pn	Pn	19 47 17.1	-0.4
BFZ	Birch Farm	4.39	214	P	Pn	19 47 17.2	-0.2
WAZ	Wanganui	4.43	232	P	Pn	19 47 20.1	+2.2
MRZ	Mangatainoka R	4.70	219	P	Pn	19 47 21.7	+0.1
NEZ	North Egmont	4.78	241	P	Pn	19 47 26.4	+3.6
PKE	Pukeiti	4.83	242	P	Pn	19 47 27.5	+4.1
KHEZ	Kahui Hut	4.85	241	P	Pn	19 47 27.8	+4.0
OUZ	Omahuta	5.13	290		Pn	19 47 28.6	+1.1
OUZ	Omahuta	5.13	290	P	Pn	19 47 28.7	+1.3
MSWZ	Moikau Station	5.44	216	Pn	Pn	19 47 30.2	-1.5
PLWZ	Palliser	5.55	215	Pn	Pn	19 47 31.5	-1.8
SNZO	South Karori	5.62	220	Pn	Pn	19 47 32.9	-1.4
BSWZ	Blackbirch Sta	6.35	222	P	Pn	19 47 43.9	-0.3
OXZ	Oxford	8.45	220	Pn	Pn	19 48 07.0	-6.0
RPZ	Rata Peaks	9.23	222	Sn	Sn	19 49 55.2	-12
	4.0nm,0.3s,baz=123,slow=23,SNR=16						
RPZ	Rata Peaks	9.23	222	Pn	Pn	19 48 21.6	-2.2
FOZ	Fox Glacier	9.80	226	Pn	Pn	19 48 28.1	-3.4
LBZ	Lake Benmore	10.15	221	Pn	Pn	19 48 34.8	-1.6
ODZ	Otahua Downs	10.38	217	Pn	Pn	19 48 37.0	-2.4
WKZ	Wanaka	11.06	222	Pn	Pn	19 48 47.0	-1.9
NIUE	Niue	20.20	30	P	P	19 50 43.2	-2.3
COEN	Coen	39.70	296	P	P	19 53 43.3	+0.2
AS31	Alice Springs	41.17	276	P	P	19 53 54.5	-0.9
ASAR	Alice Springs	41.17	276	P	P	19 53 55.6	+0.3
	2.4nm,0.6s,baz=118,slow=7.5,SNR=19						
	2.4nm,0.6s						
ASAR	Alice Springs	41.17	276	P	P	19 53 54.1	-1.2
WR0	Warramunga Arr	42.60	281	P	P	19 54 06.1	-0.9
WR0				IAmb	IAmb	19 55 08.3	
	comp=Z,13nm,1.6s						
WB2	Warramunga Arr	42.76	281		P	19 54 08.3	0.0
WB2				IAmb	IAmb	19 54 51.4	
	comp=Z,21nm,1.8s						
WRAB	Tennant Creek	42.77	281	P	P	19 54 08.2	-0.2
WRAB				IAmb	IAmb	19 54 22.1	
	comp=Z,23nm,1.9s						
WRA	Warramunga Arr	42.77	281	P	P	19 54 08.4	0.0
	comp=Z,2.8nm,0.7s,baz=122,slow=7.6,SNR=18						
	comp=Z,2.8nm,0.7s						
WRA	Warramunga Arr	42.77	281	P	P	19 54 08.4	0.0
WB0	Warramunga Arr	42.83	281	P	P	19 54 09.1	+0.3
WB0				IAmb	IAmb	19 54 10.9	
	comp=Z,16nm,1.7s						
FITZ	Fitzroy Crossi	50.66	277		P	19 55 10.8	+0.7
FITZ				IAmb	IAmb	19 56 55.1	
	comp=Z,14nm,1.4s						
QSPA	South Pole Qui	53.04	180	P	P	19 55 33.4	+5.9
	comp=Z,2.1nm,0.9s,baz=63,slow=4.5,SNR=6.7						
	comp=Z,2.1nm,0.9s						
ARCES	ARCESS Array B	144.57	345	PKP	PKPdf	20 05 47.3	+1.2
	comp=Z,0.9nm,0.6s,baz=19,slow=3.1,SNR=5.9						
FINES	FINESS Array B	150.49	334	PKPbc	PKPbc	20 06 02.3	+0.9
	comp=Z,1.9nm,0.8s,baz=47,slow=3.0,SNR=3.6						
TORD	Torodi Ar. Bea	156.08	185	PKPab	PKPab	20 06 35.9	+3.1
	comp=Z,1.0nm,0.8s,baz=165,slow=4.1,SNR=4.3						

NEIC ***01*** *19:48:50.6±1.8, 37.52°S±0.05°×179.32°E±0.05, h10km±1km, mb5.0/32, Error ellipse: s-maj=9.9km s-min=4.1km az=327.0*

IDC ***01*** *19:48:51.3±1.0, 37.17°S×179.07°E, h0km, mb4.5/8, mbtmp4.5/8, Error ellipse: s-maj=29.8km s-min=24.5km az=43.0*

WEL ***01*** *19:48:55.6±1.2, 37.3°S±5.1°×17.9°E±1.1°, h14km±5km, M4.6/13, ML4.9/13, MLv4.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=94.8*

ISC 01 19:48:51.5±1.7, 37.46°S±0.04°×179.24°E±0.06, h14km±9km, n197, σ1.87/206, mb4.9/24, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	Waiomatatini S	0.74	241	P	Pn	19 49 09.9	+2.4
WMGZ				S	Sn	19 49 20.4	+1.7
MXZ	Matakaoa Point	0.75	262		Pb	19 49 06.6	+0.3
MXZ				Sg	Sg	19 49 13.1	-2.8
MXZ	Matakaoa Point	0.75	262	P	Pb	19 49 06.6	+0.3
MXZ				S	Sg	19 49 14.0	-1.8
PUZ	Puketiti	0.99	232	P	Pn	19 49 13.8	+2.9
PUZ				S	Sn	19 49 27.2	+2.5
PKGZ	Pakihiroa	1.01	245	P	Pn	19 49 13.2	+1.8
PKGZ				S	Sn	19 49 26.4	+1.0
HAZ	Te Kaha	1.19	255	P	Pb	19 49 14.2	+0.3
HAZ				S	Sb	19 49 29.2	+0.1
TWGZ	Tauwhareparae	1.23	234	P	Pg	19 49 17.3	+2.2
TWGZ				S	Sn	19 49 32.6	+2.0
CNGZ	Carnagh Statio	1.30	218	P	Pg	19 49 19.6	+3.0
CNGZ				S	Sg	19 49 38.0	+4.4
RUGZ	Raukumara Rang	1.34	248	P	Pg	19 49 18.2	+1.0
RUGZ				S	Sb	19 49 33.8	+0.4
TKGZ	Te Karaka	1.47	228	P	Pg	19 49 20.4	+0.7
TKGZ				S	Sg	19 49 38.8	0.0
MWZ	Matawai	1.61	237	P	Pg	19 49 22.1	-0.3
MWZ				S	Sb	19 49 42.1	+0.9
WIZ	White Island	1.63	267	P	Pn	19 49 20.0	+0.3
WSRZ	White Island S	1.64	267	P	Pb	19 49 21.3	-0.2
RIGZ	Rimuhau	1.70	223	P	Pg	19 49 23.7	-0.4
RAGZ	Rawiri	1.77	234	P	Pg	19 49 24.7	-0.8
PRGZ	Paritu Road	1.81	216	P	Pg	19 49 25.5	-0.7
WHRZ	Whale Island	1.84	257	P	Pb	19 49 24.4	-0.5
URZ	Urewera	1.86	244	Pn	Pb	19 49 25.2	-0.1
	251nm,0.3s,baz=301,slow=3.6,SNR=62						
URZ				Sn	Sn	19 49 45.8	-0.5
	391nm,0.3s,baz=121,slow=22,SNR=26						
URZ	Urewera	1.86	244		Pb	19 49 25.1	-0.2
URZ				Sn	Sn	19 49 47.2	+1.0
URZ	Urewera	1.86	244	P	Pb	19 49 25.5	+0.2
KNZ	Kokohu	1.98	218	P	Pn	19 49 27.3	-0.1
MHGZ	Mahia Peninsul	1.98	211	P	Pg	19 49 28.1	-1.5
SNGZ	Shannon Statio	1.99	228	P	Pb	19 49 27.3	-0.2
EDRZ	Edgecumbe	2.08	251	P	Pb	19 49 28.1	-1.0
MARZ	Manawahe	2.10	255	P	Pn	19 49 27.9	+1.6
OPRZ	Ohinepanea	2.16	259	P	Pn	19 49 28.2	+1.1
MUGZ	Murupara	2.20	242	P	Pb	19 49 29.9	-1.1
RAHZ	Arahi	2.23	229	P	Pb	19 49 31.2	-0.4
WHHZ	Waihua	2.25	224	P	Pb	19 49 31.1	-0.9
MKRZ	Makatiti	2.30	252	P	Pb	19 49 31.6	-1.1
TARZ	Mount Tarawera	2.30	250	P	Pb	19 49 31.5	-1.3
RRRZ	Republican Roa	2.33	247	P	Pb	19 49 31.7	-1.5
LIRZ	Lichensteins R	2.33	256	P	Pn	19 49 31.4	+2.0
MTHZ	Maungataniwha	2.34	233	P	Pb	19 49 32.5	-1.0
OMRZ	Omania	2.36	253	P	Pn	19 49 31.2	+1.4
TGRZ	Tauranga	2.38	263	P	Pn	19 49 31.2	+1.1
MYRZ	Mayor Island	2.40	273	P	Pn	19 49 30.3	0.0
HLRZ	Highlands Stat	2.42	250	P	Pn	19 49 32.8	+2.2
KARZ	Kaharoa	2.44	256	P	Pn	19 49 32.1	+1.6
PRRZ	Plateau Road	2.48	244	P	Pn	19 49 33.3	+1.9
NGRZ	Ngongotaha	2.50	254	P	Pn	19 49 34.0	+2.2
HRRZ	Handcock Road	2.51	248	P	Pn	19 49 34.2	+2.2
UTU	Utuhina	2.51	253	P	Pb	19 49 34.8	-1.6
HSRZ	Hossack Road	2.52	249	P	Pb	19 49 34.7	-1.7
NMHZ	Naumai	2.52	229	P	Pb	19 49 35.2	-1.2
ARHZ	Aropaoanui	2.52	224	P	Pb	19 49 34.7	-1.7
ALRZ	Allen Road	2.54	244	P	Pb	19

ODZ	Otahua Downs	9.96 218	Pn	Pn	19 51 11.9	-2.2
CAN	Canberra	24.39 266	P	P	19 54 09.1	-0.3
TAU	Tasmania Unive	24.89 247	P	P	19 54 13.4	-0.4
TOO	Toolangi	26.69 259	P	P	19 54 30.2	0.0
EIDS	Eidsvold	26.78 289	P	P	19 54 31.4	+0.4
EIDS			IAmb	IAmb	19 54 39.6	
	comp=Z,45nm,1.9s					
STKA	Stephens Creek	31.31 269	P	P	19 55 12.8	+1.5
	comp=Z,13nm,0.8s,baz=101,slow=10,SNR=28					
	comp=Z,13nm,0.8s					
STKA	Stephens Creek	31.31 269	P	P	19 55 12.5	+1.2
CTA	Charters Tower	33.47 292	P	P	19 55 31.3	+1.0
	comp=Z,2.8nm,0.5s,baz=117,slow=9.1,SNR=7.6					
	comp=Z,2.8nm,0.5s					
CTAO	Charters Tower	33.47 292	P	P	19 55 31.5	+1.1
CTAO			IAmb	IAmb	19 55 32.7	
	comp=Z,38nm,1.6s					
BBOO	Buckleboo	35.39 264	P	P	19 55 46.6	-0.2
BBOO			IAmb	IAmb	19 56 20.8	
	comp=Z,15nm,1.1s					
COEN	Coen	39.68 296	P	P	19 56 22.9	-0.5
COEN			IAmb	IAmb	19 56 25.1	
	comp=Z,41nm,1.1s					
VNDA	Vanda	40.85 186	P	P	19 56 33.7	+1.3
AS31	Alice Springs	41.01 276	P	P	19 56 34.2	-0.1
ASAR	Alice Springs	41.01 276	P	P	19 56 34.3	0.0
	comp=Z,17nm,0.8s,baz=119,slow=7.4,SNR=71					
ASAR			PcP	PcP	19 58 34.2	-0.1
	comp=Z,0.6nm,0.7s,baz=116,slow=3.5,SNR=1.8					
	comp=Z,17nm,0.8s					
ASAR	Alice Springs	41.01 276	P	P	19 56 33.3	-1.1
RABL	Rabaul	41.36 317	P	P	19 56 36.9	-0.3
FORT	Forrest	42.46 263	P	P	19 56 45.4	-0.7
FORT			IAmb	IAmb	19 56 47.4	
	comp=Z,36nm,0.8s					
WR0	Warramunga Arr	42.48 282	P	P	19 56 45.5	-0.8
WR0			IAmb	IAmb	19 56 47.1	
	comp=Z,14nm,0.8s					
WB2	Warramunga Arr	42.63 281	P	P	19 56 47.3	-0.3
WB2			IAmb	IAmb	19 56 48.3	
	comp=Z,21nm,0.7s					
WRAB	Tennant Creek	42.64 281	P	P	19 56 47.1	-0.6
WRAB			IAmb	IAmb	19 56 48.3	
	comp=Z,19nm,0.7s					
WRA	Warramunga Arr	42.48 282	P	P	19 56 47.5	-0.2
	comp=Z,15nm,0.7s,baz=122,slow=7.5,SNR=90					
WRA			PcP	PcP	19 58 40.3	+0.6
	comp=Z,0.7nm,0.8s,baz=127,slow=3.4,SNR=2.6					
	comp=Z,15nm,0.7s					
WRA	Warramunga Arr	42.64 281	P	P	19 56 46.1	-1.6
WB0	Warramunga Arr	42.70 282	P	P	19 56 47.4	-0.8
WB0			IAmb	IAmb	19 56 48.8	
	comp=Z,21nm,0.7s					
KWAJ	Kwajalein Atol	47.29 344	P	P	19 57 25.4	+0.8
CASY	Casey	47.87 211	P	P	19 57 28.2	-0.3
MTN	Manton Dam	49.31 287	P	P	19 57 39.7	-0.6
MTN			IAmb	IAmb	19 57 40.9	
	comp=Z,17nm,0.6s					
KNRA	Kununurra	49.43 282	P	P	19 57 41.1	0.0
KNRA			IAmb	IAmb	19 57 42.2	
	comp=Z,20nm,0.7s					
NWAO	Narrogin (SRO)	50.07 256	P	P	19 57 45.7	-0.2
FITZ	Fitzroy Crossi	50.49 277	P	P	19 57 49.0	-0.2
FITZ			IAmb	IAmb	19 57 50.4	
	comp=Z,15nm,0.9s					
MORW	Morawa	52.64 259	P	P	19 58 04.8	-0.4
MORW			IAmb	IAmb	20 00 00.8	
	comp=Z,38nm,1.4s					
QSPA	South Pole Qui	52.66 180	P	P	19 58 11.0	+5.9
	comp=Z,2.1nm,0.9s,baz=48,slow=4.4,SNR=2.9					
	comp=Z,2.1nm,0.9s					
PSA00	Pilbara Seismi	53.24 270	P	P	19 58 08.7	-1.1
PSA00			IAmb	IAmb	19 59 49.5	
	comp=Z,15nm,1.5s					
PSA00	Pilbara Seismi	53.24 270	P	P	19 58 08.4	-1.3
PSA00			IAmb	IAmb	20 00 05.2	
	comp=Z,85nm,2.0s					
MBWA	Marble Bar	53.54 270	P	P	19 58 10.4	-1.6
FAKI	Fak Fak	55.06 297	P	P	19 58 22.1	-0.9
GIRL	Giralia	57.15 265	P	P	19 58 37.4	-0.5
WAKE	Wake Island	57.67 346	P	P	19 58 41.1	-0.3
MMRI	Maumere	58.74 284	P	P	19 58 49.1	-0.1
MAW	Mawson	64.91 202	P	P	19 59 32.3	+2.4
	comp=Z,1.3nm,0.9s,baz=112,slow=12,SNR=1.5					
	comp=Z,1.3nm,0.9s					
SNAA	Sanae	71.16 179	P	P	20 00 13.9	+4.7
SNAA			IAmb	IAmb	20 00 55.4	
	comp=Z,16nm,1.8s					
H03S2	Juan Fernandez	78.47 124	T	T	21 27 23.9	
	baz=230					
H03S1	Juan Fernandez	78.48 124	T	T	21 27 25.0	
	baz=230					
H03S3	Juan Fernandez	78.49 124	T	T	21 27 27.2	
	baz=230					
H03N3	Juan Fernandez	78.70 123	T	T	21 27 38.1	
	baz=234,slow=72,SNR=37					
H03N2	Juan Fernandez	78.71 123	T	T	21 27 37.1	
	baz=234,slow=72,SNR=32					
H03N1	Juan Fernandez	78.72 123	T	T	21 27 38.0	
	baz=234,slow=72,SNR=33					
KSRS	Korea Array	88.34 322	P	P	20 01 44.4	+1.9
	comp=Z,2.5nm,0.9s,baz=140,slow=5.6,SNR=5.8					
	comp=Z,2.5nm,0.9s					
CMAR	Chiang Mai Arr	93.63 290	P	P	20 02 08.6	+0.9
	comp=Z,1.1nm,0.6s,baz=146,slow=3.5,SNR=10					
	comp=Z,1.1nm,0.6s					
PZH	PanZhiHua	96.57 298	P	P	20 02 20.7	-0.4
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
HHC	Hu-ho-hao-te	99.52 315	*eP*	Pdif	20 02 35.1	+1.2
HHC			pmax	pmax		
	comp=Z,21nm,0.6s					
HHC			pmax	pmax		
	comp=Z,230nm,5.5s					
WMQ	Urumqi	115.69 307	*eP*	PKiKP	20 07 34.0	+0.9
ARCES	ARCESS Array B	144.88 344	PKP	PKPdf	20 08 26.9	-0.1
	comp=Z,3.0nm,0.8s,baz=54,slow=2.1,SNR=9.8					
DBIC	Dimbokro	149.12 172	PKPbc	PKPab	20 08 43.6	-0.4
	comp=Z,4.3nm,0.7s,baz=242,slow=3.2,SNR=4.4					
FINES	FINESS Array B	150.73 334	PKPbc	PKiKP	20 08 43.7	+0.7
	comp=Z,5.0nm,0.8s,baz=53,slow=4.3,SNR=11					
BRTR	Keskin Array B	153.11 286	PKPbc	PKiKP	20 08 49.5	+0.6
	comp=Z,1.4nm,0.8s,baz=152,slow=3.7,SNR=7.0					
TORD	Torodi Ar. Bea	155.69 186	PKPbc	PKPdf	20 08 57.3	+12
	comp=Z,0.4nm,0.7s,baz=174,slow=1.0,SNR=1.7					
TORD			PKPab	pPKPab	20 09 13.5	-2.3
	comp=Z,0.7nm,0.8s,baz=162,slow=4.0,SNR=4.3					

IDC 01 19:50:12.8±4.2,5.76S×151.69E,h56km±31km,mb3.0/2, mbtmp3.4/3,ML1.4/1,Error ellipse: s-maj=93.3km s-min=11.0km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.48	13	P	Pn	19 50 35.5	-1.7
KRVT	243nm,0.5s,baz=209,slow=2.6,SNR=69			S	Sn	19 50 55.7	+0.2
	278nm,0.4s,baz=325,slow=15,SNR=9.2						
PMG	Port Moresby	5.77 231		P	Pn	19 51 37.7	+1.9
PMG	0.7nm,0.3s,baz=304,slow=23,SNR=1.6			S	Sn	19 52 40.2	-0.6
	11nm,0.5s,baz=328,slow=9.7,SNR=5.6						
	10nm,0.6s						
WRA	Warramunga Arr	21.98 229		P	P	19 55 03.8	+1.5
	0.5nm,0.4s,baz=54,slow=9.9,SNR=3.2						
	0.5nm,0.4s						
ASAR	Alice Springs	24.70 222		P	P	19 55 29.3	+0.4
	0.2nm,0.4s,baz=56,slow=8.9,SNR=4.4						
	0.2nm,0.4s						
TORD	Torodi Ar. Bea	149.53 286		PKPbc	PKPbc	20 09 55.8	-1.2
	0.6nm,0.8s,baz=90,slow=2.6,SNR=5.8						

NEIC ***01*** *19:53:03.1±1.1,36.86S±0.06×179.6E±0.1,h10km±1km, mb4.4/15,Error ellipse: s-maj=17.4km s-min=9.2km az=82.0*

IDC ***01*** *19:53:04.9±1.8,36.85S×179.04E,h0km,mb4.2/3, mbtmp4.2/4,ML4.4/1,Error ellipse: s-maj=45.9km s-min=30.6km az=132.0*

WEL ***01*** *19:53:08.6±1.4,37°S×17°9E±°,h20km±12km,M4.1/58, ML4.4/59,MLv4.1/58,Error ellipse: s-maj=0.0km s-min=0.0km az=70.2*

ISC 01 19:53:03.4±2.0,36.95S±0.06×179.36E±0.07,h7km±11km, n154,σ1.86/157,mb4.3/12,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.04	234		Pg	19 53 24.1	+0.8
MXZ	Matakaoa Point	1.04	234	P	Pg	19 53 23.6	+0.2
MXZ				S	Sg	19 53 37.3	+0.4
WMGZ	Waiomatatini S	1.15	221	P	Pn	19 53 28.6	+2.7
PKGZ	Pakihiroa	1.39	227	P	Pg	19 53 31.6	+1.6
PUZ	Puketiti	1.43	218	P	Pg	19 53 32.5	+1.8
HAZ	Te Kaha	1.50	237	P	Pg	19 53 33.5	+1.5
HAZ				S	Sg	19 53 51.4	0.0
TWGZ	Tauwhareparae	1.65	221	P	Pg	19 53 36.0	+1.0
RUGZ	Raukumara Rang	1.68	232	P	Pg	19 53 36.2	+0.5
CNGZ	Carnagh Statio	1.79	211	P	Pb	19 53 38.1	+1.7
WIZ	White Island	1.83	251	P	Pn	19 53 35.9	+0.8
WIZ				S	Sb	19 53 58.3	-1.9
TKGZ	Te Karaka	1.91	218	P	Pb	19 53 38.8	+0.2
TKGZ				S	Sn	19 54 01.2	+0.5
MWZ	Matawai	2.01	226	P	Pb	19 53 40.1	-0.1
MWZ				S	Sn	19 54 02.7	-0.3
WHRZ	Whale Island	2.11	244	P	Pb	19 53 41.5	-0.4
RIGZ	Rimuhau	2.17	215	P	Pn	19 53 41.9	+2.0
RAGZ	Rawiri	2.18	224	P	Pn	19 53 42.5	+2.3
URZ	Urewera	2.22	233	Pn	Pn	19 53 42.0	+1.5
	124nm,0.3s,baz=121,slow=2.9,SNR=17						
URZ				Sn	Sn	19 54 07.5	-0.6
	156nm,0.3s,baz=121,slow=19,SNR=11						
	640nm,0.5s						
URZ		2.22	233		Pn	19 53 42.6	+2.1
URZ	Urewera	2.22	233	P	Pn	19 53 42.7	-1.0
PRGZ	Paritu Road	2.29	210	P	Pn	19 53 43.8	+2.2
MARZ	Manawahe	2.38	243	P	Pb	19 53 45.0	-1.5
EDRZ	Edgecumbe	2.38	240	P	Pb	19 53 45.2	-1.4
OPRZ	Ohinepanea	2.41	247	P	Pb	19 53 45.3	-1.7
SNGZ	Shannon Statio	2.43	221	P	Pn	19 53 45.4	+1.9
KNZ	Kokohu	2.46	212	P	Pn	19 53 45.1	+1.2
MHGZ	Mahia Peninsul	2.48	207	P	Pn	19 53 46.5	+2.4
MYRZ	Mayor Island	2.52	262	P	Pn	19 53 46.2	+1.5
TGRZ	Tauranga	2.59	252	P	Pb	19 53 48.3	-1.9
LIRZ	Lichensteins R	2.59	245	P	Pn	19 53 46.2	+0.5
TARZ	Mount Tarawera	2.61	240	P	Pb	19 53 48.6	-1.9
OMRZ	Omania	2.64	243	P	Pb	19 53 49.9	-1.2
RRRZ	Republican Roa	2.65	238	P	Pn	19 53 48.7	+2.2
RAHZ	Arahi	2.67	222	P	Pn	19 53 48.5	+1.8
KARZ	Kaharoa	2.70	246	P	Pn	19 53 49.4	+2.2
WHHZ	Waihua	2.71	218	P	Pn	19 53 48.9	+1.6
HLRZ	Highlands Stat	2.72	241	P	Pn	19 53 50.2	+2.7
MTHZ	Maungataniwha	2.76	226	P	Pn	19 53 50.5	+2.5
PRRZ	Plateau Road	2.82	236	P	Pn	19 53 50.4	+1.6
HSRZ	Hossack Road	2.83	240	P	Pb	19 53 51.8	-2.3
KMRZ	Kaimai	2.87	251	P	Pn	19 53 51.4	+1.9
NMHZ	Naumai	2.95	222	P	Pn	19 53 53.4	+2.8
ARHZ	Aropaoanui	2.97	218	P	Pn	19 53 52.6	+1.7
BKZ	Black Stump Fm	3.17	225		Pn	19 53 55.3	+1.6
BKZ	Black Stump Fm	3.17	225	P	Pn	19 53 55.5	+1.8
TOZ	Tahuroa Road	3.17	255	P	Pn	19 53 55.1	+1.4
KUTZ	Kaahu Road	3.20	240	P	Pn	19 53 56.5	+2.5
GRZ	Great Barrier	3.22	281	P	Pn	19 53 55.6	+1.3
CKHZ	Cape Kidnapper	3.25	213	P	Pn	19 53 55.4	+0.7
TLZ	Tolley Road	3.33	244	P	Pn	19 53 58.4	+2.4
MKAZ	Moumakai	3.37	266	P	Pn	19 53 57.3	+0.9
KWHZ	Kaweka Forest	3.39	222	P	Pn	19 53 58.3	+1.6
WIAZ	Waiheke Island	3.40	271	P	Pn	19 53 57.8	+1.1
RATZ	Rangitukua	3.42	235	P	Pn	19 53 59.6	+2.4
RITZ	Rihia Road	3.43	233	P	Pn	19 53 59.2	+2.0
KAHZ	Kahuranaki	3.45	214	P	Pn	19 53 58.2	+0.7
ETAZ	East Tamaki Re	3.55	269	P	Pn	19 54 01.0	+2.2
KRHZ	Kereru	3.58	220	P	Pn	19 54 00.2	+0.9
MBAZ	Motutapu North	3.59	272	P	Pn	19 54 01.3	+2.0
TMVZ	Te Maari	3.61	232	P	Pn	19 54 01.2	+1.4
ETVZ	East Tongariro	3.62	232	P	Pn	19 54 01.4	+1.5
NTVZ	North Tongarir	3.62	232	P	Pn	19 54 01.9	+2.0
BHHZ	Black Hill Sta	3.63	225	P	Pn	19 54 01.7	+1.6
KRVZ	Karewarewa	3.64	233	P	Pn	19 54 02.1	+1.9
PXZ	Pawanui	3.65	212	P	Pn	19 54 00.2	0.0
ABAZ	Army Bay	3.65	274	P	Pn	19 54 01.5	+1.2
OTVZ	Oturere	3.66	232	P	Pn	19 54 02.2	+1.6
NNVZ	North Ngauruho	3.67	232	P	Pn	19 54 02.9	+2.2
WTVZ	West Tongariro	3.68	233	P	Pn	19 54 02.8	+2.0
SNVZ	South Ngauruho	3.69	232	P	Pn	19 54 02.8	+1.8
EPAZ	Eden Park BICE	3.70	270	P	Pn	19 54 03.3	+2.3
NGZ	Ngauruhoe	3.71	232	P	Pn	19 54 02.5	+1.3
HBAZ	Herne Bay Bore	3.71	270	P	Pn	19 54 03.5	+2.4
TUVZ	Tukino	3.73	231	P	Pn	19 54 03.1	+1.7
TWVZ	Taurewa	3.75	234	P	Pn	19 54 03.8	+2.0
MOVZ	Moawhango	3.76	228	P	Pn	19 54 03.1	+1.3
AWAZ	Awhitu Peninsu	3.78	267	P	Pn	19 54 04.1	+2.1
FWVZ	Far West T-bar	3.79	231	P	Pn	19 54 03.9	+1.6
WNVZ	Wahianoa	3.80	230	P	Pn	19 54 03.6	+1.1
WTAZ	Waiatarua	3.84	269	P	Pn	19 54 05.6	+2.7
PNHZ	Pukenui	3.86	219	P	Pn	19 54 03.6	+0.4
WPHZ	Waipukurau	3.86	215	P	Pn	19 54 03.9	+0.7
HIZ	Hauiti	3.90	245			19 54 05.9	+2.3
HIZ	Hauiti	3.90	245	P	Pn	19 54 06.6	+3.0
PKVZ	Pokaka	3.94	232	P	Pn	19 54 06.9	+2.7
TSZ	Takapari Road	4.09	220	P	Pn	19 54 06.6	+0.2
WCZ	Waipu Caves	4.17	282	P	Pn	19 54 09.0	+1.6
WAZ	Wanganui	4.44	230	P	Pn	19 54 12.8	+1.8
BFZ	Birch Farm	4.45	212	Pn	Pn	19 54 10.1	-1.2
BFZ	Birch Farm	4.45	212	P	Pn	19 54 10.4	-0.9
MHEZ	Mangahewa	4.51	240	P	Pb	19 54 19.3	-3.6
LREZ	Lake Rotokare	4.64	236	P	Pn	19 54 16.5	+2.7
MRZ	Mangatainoka R	4.74	217	P	Pn	19 54 15.6	+0.4
PREZ	Palmer Road	4.75	238	P	Pn	19 54 19.3	+4.0
NEZ	North Egmont	4.76	239	P	Pn	19 54 19.5	+4.0
PKE	Pukeiti	4.80	241	P	Pn	19 54 20.4	+4.3
KHEZ	Kahui Hut	4.82	239	P	Pn	19 54 20.4	+3.9
HOWZ	Holdsworth Sta	4.96	216	P	Pn	19 54 17.3	-0.9
TMWZ	Te Maipa	4.96	212	P	Pn	19 54 16.6	-1.6
OUZ	Omahuta	4.98	289			19 54 20.1	+1.6
OUZ	Omahuta	4.98	289	P	Pn	19 54 20.7	+2.2
OGWZ	Otaki Gorge	5.06	219	P	Pn	19 54 18.8	-0.9
MTW	Mount Morrison	5.17	214	P	Pn	19 54 20.4	-0.7
KIW	Kapiti Island	5.23	220	P	Pn	19 54 21.3	-0.6
MSWZ	Moikau Station	5.49	214	Pn	Pn	19 54 24.0	-1.5
MSWZ	Moikau Station	5.49	214	P	Pn	19 54 24.5	-0.3
PLWZ	Palliser	5.61	213	Pn	Pn	19 54 25.3	+1.9
SNZO	South Karori	5.66	218	Pn	Pn	19 54 26.6	-1.2
TUWZ	Tuamarina	6.14	222	Pn	Pn	19 54 32.2	-2.3
TUWZ	Tuamarina	6.14	222	P	Pn	19 54 33.0	-1.4
NNZ	Nelson	6.31	226	Pn	Pn	19 54 35.5	-1.2
BSWZ	Blackbirch Sta	6.38	220	Pn	Pn	19 54 37.0	-0.7
BSWZ	Blackbirch Sta	6.38	220	P	Pn	19 54 36.7	-1.1
TKNZ	Takaka Hill	6.44	229	P	Pn	19 54 38.4	-0.2
QRZ	Quartz Range	6.59	232	Pn	Pn	19 54 39.2	-1.4
QRZ	Quartz Range	6.59	232	P	Pn	19 54 39.9	-0.7
MRNZ	Matariki Terra	6.79	227	P	Pn	19 54 41.4	-1.9
THZ	Tophouse	6.94	224	Pn	Pn	19 54 43.7	-1.7
KHZ	Kahutara	7.07	218	Pn	Pn	19 54 46.3	-0.9
KHZ	Kahutara	7.07	218	P	Pn	19 54 46.2	-0.9
CTZ	Chatham Island	7.44	157	P	Pn	19 54 56.2	+4.0
GVZ	Greta Valley S	7.73	217	P	Pn	19 54 54.7	-1.6
LTZ	Lake Taylor	7.98	221	Pn	Pn	19 54 56.6	-3.1
OKCZ	Okains Bay	8.30	213	P	Pn	19 55 02.7	-1.5
MQZ	McQueen's Vall	8.47	215	Pn	Pn	19 55 03.6	-2.8
MQZ	McQueen's Vall	8.47	215	P	Pn	19 55 03.3	-3.1
RPZ	Rata Peaks	9.27	221	Pn	Pn	19 55 14.1	-3.2
	1.3nm,0.3s,baz=95,slow=18,SNR=1.7						
RPZ				Sn	Sn	19 56 48.1	-14
	3.5nm,0.3s,baz=124,slow=22,SNR=10.0						
RPZ	Rata Peaks	9.27	221	Pn	Pn	19 55 15.5	-1.9
ARCZ	Arundel	9.37	219	P	Pn	19 55 15.8	-2.9
TMZ	Timaru	9.77	218	P	Pn	19 55 21.4	-2.7
FOZ	Fox Glacier	9.82	225	Pn	Pn	19 55 23.4	-1.5
LBZ	Lake Benmore	10.18	220	Pn	Pn	19 55 24.9	-5.0
ODZ	Otahua Downs	10.43	216	Pn	Pn	19 55 28.2	-4.9
WKZ	Wanaka	11.10	222	Pn	Pn	19 55 41.3	-1.1
NIUE	Niue	20.13	31	P	P	19 57 33.0	-5.0
AFI	Afiamalu	24.27	21	P	P	19 58 20.0	-1.3
CAN	Canberra	24.53	265	P	P	19 58 20.8	-2.8
CAN				IAmb	IAmb	19 58 26.3	
	comp=Z,14nm,1.2s						
BBOO	Buckleboo	35.54	264	P	P	20 00 01.6	+0.6
BBOO				IAmb	IAmb	20 00 19.4	
	comp=Z,16nm,1.3s						
AS31	Alice Springs	41.05	276	P	P	20 00 47.8	+0.1
ASAR	Alice Springs	41.05	276	P	P	20 00 47.9	+0.3
	comp=Z,4.4nm,0.8s,baz=119,slow=7.8,SNR=22						
	comp=Z,4.4nm,0.8s						
ASAR	Alice Springs	41.05	276	P	P	20 00 47.5	-0.1
SBA	Scott Base	41.36	184	P	P	20 00 49.7	+0.3
WR0	Warramunga Arr	42.47	281	P	P	20 00 59.5	+0.3
WR0				IAmb	IAmb	20 01 05.5	
	comp=Z,6.6nm,1.2s						
FORT	Forrest	42.62	263	P	P	20 00 59.9	-0.4
WB2	Warramunga Arr	42.63	281	P	P	20 01 00.0	-0.5
WB2				IAmb	IAmb	20 01 03.2	
	comp=Z,13nm,1.4s						
WRAB	Tennant Creek	42.64	281	P	P	20 01 00.2	-0.4
WRAB				IAmb	IAmb	20 01 08.8	
	comp=Z,4.3nm,0.8s						
WRA	Warramunga Arr	42.64	281	P	P	20 01 00.5	-0.2
	comp=Z,3.2nm,0.8s,baz=122,slow=7.4,SNR=20						
	comp=Z,3.2nm,0.8s						
WRA	Warramunga Arr	42.64	281	P	P	20 01 00.4	-0.2
WB0	Warramunga Arr	42.69	281	P	P	20 01 01.1	+0.1
WB0				IAmb	IAmb	20 01 08.7	
	comp=Z,4.2nm,0.7s						
FITZ	Fitzroy Crossi	50.53	277	P	P	20 02 01.6	-0.9
FITZ				IAmb	IAmb	20 02 10.0	
	comp=Z,4.2nm,0.8s						
QSPA	South Pole Qui	53.18	180	P	P	20 02 23.0	+1.2
QSPA				IAmb	IAmb	20 02 46.9	
	comp=Z,10nm,1.1s						
PLCA	Paso Flores	79.63	133	P	P	20 05 07.8	-3.7
PLCA				IAmb	IAmb	20 05 21.6	
	comp=Z,3.5nm,1.3s						
CMAR	Chiang Mai Arr	93.54	290	P	P	20 06 22.2	+2.0
	comp=Z,0.3nm,0.5s,baz=121,slow=3.5,SNR=2.1						
	comp=Z,0.3nm,0.5s						
ARCES	ARCESS Array B	144.41	345	PKP	PKPdf	20 12 40.9	+1.7
	comp=Z,1.7nm,0.8s,baz=65,slow=2.6,SNR=1.5						
FINES	FINESS Array B	150.31	334	PKPbc	PKiKP	20 12 56.6	+1.4
	comp=Z,2.3nm,0.9s,baz=68,slow=1.8,SNR=4.2						
TORD	Torodi Ar. Bea	156.21	186	PKPab	PKPab	20 13 28.7	+2.0
	comp=Z,0.5nm,0.8s,baz=176,slow=5.9,SNR=2.4						

NEIC ***01*** *20:03:20.9±1.3,37.08S±0.08×179.48E±0.08,h10km±1km, mb4.9/10,Error ellipse: s-maj=14.4km s-min=10.6km az=3.0*

IDC ***01*** *20:03:22.5±3.3,36.62S×178.83E,h0km,mb4.0/2, mbtmp4.0/3,ML4.2/1,Error ellipse: s-maj=70.1km s-min=41.8km az=113.0*

WEL ***01*** *20:03:24.5±1.6,37°S±5°×17°9E±°,h18km±17km,M3.9/40, ML4.2/40,MLv3.9/40,Error ellipse: s-maj=0.0km s-min=0.0km az=82.4*

ISC 01 20:03:21.6±2.1,36.99S±0.06×179.37E±0.08,h13km±11km, n111,σ1.48/117,mb4.8/8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.02	236		Pb	20 03 40.9	-0.3
MXZ	Matakaoa Point	1.02	236	P	Pg	20 03 40.7	-0.6
WMGZ	Waiomatatini S	1.12	222	P	Pn	20 03 44.7	+1.6
WMGZ				S	Sn	20 03 58.8	+0.4
PKGZ	Pakihiroa	1.36	229	P	Pg	20 03 47.8	0.0
PKGZ				S	Sb	20 04 04.0	-0.4
PUZ	Puketiti	1.39	219	P	Pg	20 03 48.5	+0.1
PUZ				S	Sg	20 04 08.4	+1.9
HAZ	Te Kaha	1.48	238	P	Pg	20 03 49.3	-0.7
HAZ				S	Sb	20 04 07.1	-0.5
TWGZ	Tauwhareparae	1.62	223	P	Pg	20 03 52.3	-0.4
RUGZ	Raukumara Rang	1.66	234	P	Pb	20 03 52.1	0.0
RUGZ				S	Sb	20 04 12.8	-0.3
CNGZ	Carnagh Statio	1.75	211	P	Pb	20 03 54.4	+0.9
WIZ	White Island	1.82	252	P	Pn	20 03 51.6	-1.1
TKGZ	Te Karaka	1.88	219	P	Pb	20 03 55.8	-0.1
MWZ	Matawai	1.98	227	P	Pn	20 03 56.3	+1.4
MWZ				S	Sn	20 04 19.6	-0.1
WHRZ	Whale Island	2.09	245	P	Pb	20 03 57.7	-1.7
RIGZ	Rimuhau	2.13	216	P	Pn	20 03 58.5	+1.5
RAGZ	Rawiri	2.16	225	P	Pb	20 03 59.3	-1.3
URZ	Urewera	2.19	234	Pn	Pn	20 03 59.2	+1.4
	71nm,0.3s,baz=121,slow=1.3,SNR=20						
URZ				Sn	Sn	20 04 23.2	-1.6
	58nm,0.3s,baz=301,slow=16,SNR=16						
	215nm,0.3s						
URZ	Urewera	2.19	234		Pn	20 03 58.8	+1.0
URZ	Urewera	2.19	234	P	Pn	20 03 59.2	+1.4
PRGZ	Paritu Road	2.26	211	P	Pn	20 03 60.0	+1.3
EDRZ	Edgecumbe	2.37	241	P	Pb	20 04 02.1	-2.0
OPRZ	Ohinepanea	2.40	248	P	Pn	20 04 01.4	+0.8
SNGZ	Shannon Statio	2.40	221	P	Pn	20

BBOO				IAmb	IAmb	20 11 29.1	
	comp=Z,26nm,1.4s						
COEN	**Coen**	**39.56**	**296**	P	**P**	**20 10 54.1**	**+1.5**
PMG	**Port Moresby**	**40.03**	**305**	P	**P**	**20 10 57.0**	**+0.5**
PMG				IAmb	IAmb	20 11 22.1	
	comp=Z,91nm,2.0s						
AS31	**Alice Springs**	**41.06**	**276**	P	**P**	**20 11 04.7**	**-0.3**
AS31				IAmb	IAmb	20 12 03.7	
	comp=Z,8.5nm,0.7s						
ASAR	**Alice Springs**	**41.06**	**276**	P	**P**	**20 11 04.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=120,slow=7.9,SNR=28						
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**41.06**	**276**	P	**P**	**20 11 04.3**	**-0.8**
FORT	**Forrest**	**42.62**	**263**	P	**P**	**20 11 16.8**	**-1.0**
WB2	**Warramunga Arr**	**42.64**	**281**	P	**P**	**20 11 17.5**	**-0.5**
WB2				IAmb	IAmb	20 11 52.1	
	comp=Z,44nm,0.8s						
WRAB	**Tennant Creek**	**42.65**	**281**	P	**P**	**20 11 17.4**	**-0.6**
WRA	**Warramunga Arr**	**42.65**	**281**	P	**P**	**20 11 16.3**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=121,slow=7.6,SNR=21						
	comp=Z,1.4nm,0.7s						
WRA	**Warramunga Arr**	**42.65**	**281**	P	**P**	**20 11 17.4**	**-0.7**
WB0	**Warramunga Arr**	**42.70**	**281**	P	**P**	**20 11 17.8**	**-0.7**
WB0				IAmb	IAmb	20 11 51.6	
	comp=Z,41nm,0.8s						
QSPA	**South Pole Qui**	**53.13**	**180**	P	**P**	**20 12 38.1**	**-0.8**
QSPA				IAmb	IAmb	20 13 13.8	
	comp=Z,12nm,1.5s						
FINES	**FINESS Array B**	**150.35**	**334**	PKPbc	**PKiKP**	**20 23 13.3**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=28,slow=6.3,SNR=1.5						

---

*BJI **01** 20:04:14.7±0.0, 0.36N×98.56E, h42km, mb5.9/81, mB5.6/46, Ms5.2/85, Ms7 5.1/77*
*MOS **01** 20:04:15.0±1.0, 0.57N×98.60E, h35km, mb6.1/62, MS5.2/13, Error ellipse: s-maj=6.6km s-min=3.5km az=112.4*
*NEIC **01** 20:04:17.5±2.6, 0.55N±0.06×98.62E±0.07, h35km±1km, mb5.7/270, Ms_20 5.3/66, Mww5.5, Error ellipse: s-maj=12.3km s-min=9.5km az=236.0*
*GCMT **01** 20:04:17.5±0.4, 0.32N±0.03×98.50E±0.03, h45km±1km, MW5.7/75, Moment Tensor Solution. s32,c34; s75,c101; Duration: 1ŝ7 Moment tensor: Scale 10^17 Nm; Mrr4.31±.29; Mθθ-2.18±.17; Mϕϕ-2.14±.18; Mrθ1.22±.11; Mθϕ1.40±.07; Mϕr-1.01±.13; Best double couple: Mo4.24100×10^17 NP1:ϕs133.00000°, δ56.00000°, λ88.00000°. NP2:ϕs316.00000°, δ34.00000°, λ92.00000°. Principal axes: T 4.6180, Plg79.0000°, Azm37.0000°; N -0.7630, Plg1.0000°, Azm134.0000°; P -3.8650, Plg11.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **01** 20:04:17, 0.44N×98.49E, h23km, mb5.9*
*IDC **01** 20:04:18.1±1.5, 0.59N×98.68E, h44km±13km, mb5.4/43, mbtmp5.6/46, ML5.3/3, MS4.9/24, Error ellipse: s-maj=11.7km s-min=8.1km az=56.0*
*DJA **01** 20:04:18.2±0.2, 1°N±2'×9°E±1°, h59km±2km, M5.3/92, mb5.5/92, mB5.7/59, MLv5.9/18, Mw(mB)5.2/59*
*NEIC **01** 20:04:21, 0.58N×98.53E, h22km, Moment Tensor Solution. Duration: 12ŝ0 Moment tensor: Scale 10^17 Nm; Mrr0.20; Mθθ-0.13; Mϕϕ-0.07; Mrθ1.62; Mθϕ0.59; Mϕr-0.77; Fault plane solution: Mo1.89000×10^17 NP1: ϕs357.00000°, δ13.00000°, λ154.00000°. NP2: ϕs113.00000°, δ84.00000°, λ78.00000°. Principal axes: T 1.6789, Plg49.0000°, Azm10.0000°; N 0.3731, Plg12.0000°, Azm114.0000°; P -2.0520, Plg38.0000°, Azm213.0000°;*
ISC 01 20:04:17.2±0.3, 0.53N±0.03×98.52E±0.03, h43km±2km, h44km; pP-P, n1836, σ1ŝ26/1749, mb5.8/318, MS5.1/92, 188C-27D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**1.08**	**20**	P		**Pn**	**20 04 39.5**	**+3.6**
SBSI				S		**Sn**	**20 04 51.4**	**+1.8**
MNSI	**Mandailing Nat**	**1.09**	**76**	P		**Pn**	**20 04 37.5**	**+1.5**
MNSI				S		**Sn**	**20 04 51.5**	**+1.6**
GSI	**Gunungsitoli**	**1.22**	**309**			**Pn**	**20 04 38.1**	**+0.3**
GSI	**Gunungsitoli**	**1.22**	**309**	P		**Pn**	**20 04 38.6**	**+0.8**
GSI				S		**Sn**	**20 04 51.9**	**-1.2**
GSI	**Gunungsitoli**	**1.22**	**309**	P		**Pn**	**20 04 39.7**	**+1.9**
SISI	**Saibi**	**1.93**	**163**	P		**Pn**	**20 04 48.1**	**+0.5**
SISI				S		**Sn**	**20 05 12.2**	**+1.6**
RPSI	**Rantau Prapat**	**2.19**	**11**			**Pn**	**20 04 52.6**	**+1.6**
RPSI						**Sn**	**20 05 08.7**	**-8.2**
RPSI	**Rantau Prapat**	**2.19**	**11**			**Pn**	**20 04 52.5**	**+1.4**
PSI	**Prapat**	**2.29**	**10**	P		**Pn**	**20 04 52.7**	**0.0**
	514nm,0.3s,baz=183,slow=8.7,SNR=1031							
PSI				S		Sn	20 05 08.7	-11
	6μm,0.7s,baz=166,slow=15,SNR=8.8							
	2μm,0.4s							
BKNI	**Bangkinang**	**2.52**	**95**			**Pn**	**20 04 56.8**	**+1.1**
BKNI	**Bangkinang**	**2.52**	**95**	P		**Pn**	**20 04 56.9**	**+1.1**
BKNI	**Bangkinang**	**2.52**	**95**	P		**Pn**	**20 04 58.1**	**+2.4**
SNSI	**Sinabang, Aceh**	**2.88**	**310**	P		**Pn**	**20 05 01.3**	**+0.7**
SNSI				S		**Sn**	**20 05 33.2**	**-0.8**
TSI	**Tuntungan**	**2.95**	**1**	P		**Pn**	**20 05 03.6**	**+2.0**
KCSI	**Kotacane, Aceh**	**3.06**	**346**	P		**Pn**	**20 05 04.5**	**+1.3**
PPSI	**Pulau Pagai**	**3.59**	**156**	P		**Pn**	**20 05 10.3**	**-0.1**
KRJI	**Kerinci**	**3.93**	**132**	P		**Pn**	**20 05 17.6**	**+2.5**
IPM	**Ipoh**	**4.65**	**32**			**Pn**	**20 05 27.0**	**+2.0**
IPM	**Ipoh**	**4.65**	**32**	P		**Pn**	**20 05 28.5**	**+3.5**
LHMI	**Lhok Sumawe**	**4.92**	**341**			**Pn**	**20 05 28.0**	**-0.7**
LHMI	**Lhok Sumawe**	**4.92**	**341**	P		**Pn**	**20 05 29.8**	**+1.1**
LHMI	**Lhok Sumawe**	**4.92**	**341**	P		**Pn**	**20 05 30.8**	**+2.1**
KULM	**Kulim**	**5.18**	**24**			**Pn**	**20 05 33.9**	**+1.6**
KULM	**Kulim**	**5.18**	**24**	P		**Pn**	**20 05 35.0**	**+2.7**
MASI	**Maura Aman, Be**	**5.21**	**135**	P		Pn	20 05 40.7	+8.1
MYKOM	**Kota Tinggi**	**5.47**	**77**			**Pn**	**20 05 37.3**	**+1.1**
KSI	**Kapahiang**	**5.81**	**136**	P		**Pn**	**20 05 42.4**	**+1.4**
	4.9nm10μm735nm,1.0s							
TPRI	**Tanjung Pinang**	**6.02**	**86**	P		**Pn**	**20 05 44.6**	**+0.9**
	5.3nm7μm585nm,0.6s							
DSRI	**Dabo**	**6.14**	**99**	P		**Pn**	**20 05 45.8**	**+0.4**
	2.2nm3μm212nm,0.8s							
MNAI	**Manna**	**6.58**	**138**	Pn		**Pn**	**20 05 51.9**	**+0.5**
MNAI	**Manna**	**6.58**	**138**	P		**Pn**	**20 05 51.7**	**+0.3**
	5.8nm12μm442nm,0.8s							
MNAI	**Manna**	**6.58**	**138**	P		**Pn**	**20 05 53.8**	**+2.4**
PMBI	**Palembang**	**7.13**	**119**			**Pn**	**20 05 56.0**	**-3.0**
PMBI	**Palembang**	**7.13**	**119**	P		Pn	20 06 12.3	+13
LWLI	**Liwa**	**7.81**	**135**	P		**Pn**	**20 06 10.1**	**+1.7**
	3.0nm5μm483nm,0.8s							
PPBI	**Pangkal Pinang**	**8.07**	**109**	P		**Pn**	**20 06 14.5**	**+2.6**
	2μm110nm,1.1s							
SRIT	**Nakonsritamara**	**8.08**	**8**			**Pn**	**20 06 12.7**	**+0.7**
KLI	**Kotabumi**	**8.29**	**130**	P		**Pn**	**20 06 17.1**	**+2.1**
	4μm275nm,1.0s							
KASI	**Kota Agung**	**8.47**	**135**	P		**Pn**	**20 06 17.3**	**-0.1**
	3μm237nm,1.2s							
BLSI	**Bandar Lampung**	**8.91**	**131**	P		Pn	20 06 30.8	+7.3
TPI	**Tanjungpandan**	**9.70**	**110**	P		**Pn**	**20 06 37.5**	**+3.3**
DBJI	**Dramaga**	**10.81**	**131**	P		**Pn**	**20 06 50.2**	**+0.6**
	3μm162nm,0.9s							
LEM	**Lembang**	**11.65**	**129**	P		**Pn**	**20 07 01.5**	**+0.3**
	3.3nm,0.3s,baz=213,slow=2.0,SNR=5.2							
LEM				LR		LR	20 11 40.4	
	comp=Z,3μm,21.1s,baz=292,slow=38							
	14nm,0.5s							
PBA	**Port Blair**	**12.45**	**333**	Pn		**Pn**	**20 07 12.2**	**+0.3**
PBA	**Port Blair**	**12.45**	**333**	*eP*		**Pn**	**20 07 07.7**	**-4.2**
PBA				*ex*		**Sn**	**20 09 24.3**	**-5.1**
COCO	**West Island**	**12.75**	**187**	Pn		**Pn**	**20 07 15.8**	**-0.2**
COCO	**West Island**	**12.75**	**187**	P		**Pn**	**20 07 15.8**	**-0.2**
STKI	**Sintang**	**12.96**	**92**	P		**Pn**	**20 07 22.4**	**+3.5**
	4μm329nm,0.9s							
XMI	**Christmas Isla**	**13.03**	**147**	P		**Pn**	**20 07 20.2**	**+0.3**
XMIS	**Christmas Isla**	**13.04**	**147**	P		**Pn**	**20 07 19.3**	**-0.6**
	57nm,1.0s							
PBKI	**Pangkalan Bun**	**13.53**	**104**	P		**Pn**	**20 07 29.7**	**+3.0**
	386nm,1.1s							
DGPR	**DIGLIPUR**	**13.73**	**336**	*eP*		**Pn**	**20 07 26.1**	**-3.3**
DGPR				*eS*		**Sn**	**20 09 55.1**	**-5.5**
SBUM	**Sibu**	**13.82**	**82**	Pn		**Pn**	**20 07 31.2**	**+0.5**
SMRI	**Semarang**	**14.07**	**123**	Pn		**Pn**	**20 07 31.6**	**-2.5**
SMRI	**Semarang**	**14.07**	**123**	P		**Pn**	**20 07 33.9**	**-0.2**
	189nm,1.0s							
UGM	**Wanagama**	**14.61**	**125**			**Pn**	**20 07 38.7**	**-2.6**
UGM	**Wanagama**	**14.61**	**125**	P		**Pn**	**20 07 38.4**	**-2.9**
	232nm,1.6s							
UGM	**Wanagama**	**14.61**	**125**	P		**Pn**	**20 07 41.7**	**+0.4**
DLV	**T Lat**	**15.04**	**41**	P		**P**	**20 07 50.2**	**-1.6**
NGJI	**Ngawi**	**15.10**	**122**	P		**Pn**	**20 07 47.4**	**-0.4**
	239nm,1.1s							
TBJI	**Tambak Boyo**	**15.17**	**119**	P		**Pn**	**20 07 48.9**	**+0.3**
	2μm142nm,1.1s							
PCJI	**Pacitan**	**15.31**	**125**	P		**Pn**	**20 07 48.5**	**-1.9**
	89nm,0.9s							
PWJI	**Pagerwojo**	**15.73**	**123**	P		**Pn**	**20 07 54.8**	**-1.1**
	63nm,0.8s							
UBPT	**Khong Chiam**	**16.18**	**25**	P		**Pn**	**20 08 02.4**	**+0.7**
MTKI	**Muara Teweh, K**	**16.44**	**95**	P		**P**	**20 08 07.1**	**-0.1**
	3μm151nm,1.2s							
BBKI	**Banjar Baru**	**16.79**	**104**	P		**P**	**20 08 10.8**	**-0.2**
	4μm245nm,1.0s							
BLJI	**Banyuglugur**	**17.13**	**119**	P		**P**	**20 08 14.6**	**-0.2**
	74nm,0.7s							
KMMI	**Kalianget**	**17.15**	**116**	P		**Pn**	**20 08 13.7**	**-0.1**
	3μm231nm,1.0s							
GMJI	**Gumukmas**	**17.25**	**121**	P		**Pn**	**20 08 14.6**	**-0.5**
	1μm36nm,1.0s							
ABJI	**Asem Bagus**	**17.72**	**118**	P		**Pn**	**20 08 20.0**	**-0.8**
	145nm,1.2s							
CM31	**Chiang Mai Arr**	**17.82**	**1**	P		**Pn**	**20 08 20.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**17.82**	**1**	P		**Pn**	**20 08 21.9**	**-0.1**
	22nm,0.3s,baz=192,slow=11,SNR=126							
CMAR				PcP		**PcP**	**20 12 59.8**	**+2.1**
	6.5nm,0.7s,baz=203,slow=3.5,SNR=6.2							
CMAR				LR		LR	20 15 39.5	
	comp=Z,5μm,19.0s,baz=180,slow=38							
CMAR				ScP		**ScP**	**20 16 29.6**	**+0.1**
	7.5nm,1.0s,baz=215,slow=3.6,SNR=6.5							
	70nm,0.5s							
CMAR	**Chiang Mai Arr**	**17.82**	**1**	Pn		**Pn**	**20 08 20.5**	**-1.5**
CMAR	**Chiang Mai Arr**	**17.82**	**1**	P		**Pn**	**20 08 22.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**17.96**	**120**	P		**Pn**	**20 08 20.6**	**-3.2**
JAGI	**Jajag, Banyuwa**	**17.96**	**120**	P		**Pn**	**20 08 21.8**	**-2.1**
	96nm,1.2s							
JAGI	**Jajag, Banyuwa**	**17.96**	**120**	P		**Pn**	**20 08 23.8**	**-0.1**
CHTO	**Chiang Mai**	**18.17**	**1**	P		**P**	**20 08 25.6**	**-0.7**
CHTO	**Chiang Mai**	**18.17**	**1**	P		**P**	**20 08 25.6**	**-0.7**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CHTO	**Chiang Mai**	**18.17**	**1**	P		**P**	**20 08 26.3**	**0.0**
BKB	**Balikpapan**	**18.46**	**96**			**Pn**	**20 08 30.1**	**+0.2**
BKB				IAmb		IAmb	20 08 34.2	
	comp=Z,527nm,1.1s							
BKB	**Balikpapan**	**18.46**	**96**	P		**Pn**	**20 08 31.5**	**+1.6**
	comp=Z,3μmcomp=Z,627nm,1.2s							
KKM	**Kota Kinabalu**	**18.49**	**72**			**Pn**	**20 08 30.3**	**-0.1**
KKM				IAmb		IAmb	20 08 34.5	
	comp=Z,412nm,0.8s							
KKM	**Kota Kinabalu**	**18.49**	**72**	P		**Pn**	**20 08 32.8**	**+2.4**
SMKI	**Samarinda**	**18.71**	**93**	P		**Pn**	**20 08 35.2**	**+2.2**
	comp=Z,286nm,1.2s							
SRBI	**Singaraja**	**18.71**	**118**	P		**P**	**20 08 30.9**	**-1.3**
	comp=Z,2μmcomp=Z,154nm,1.1s							
PALK	**Pallekele**	**18.99**	**291**	P		**P**	**20 08 34.5**	**-0.9**
PALK	**Pallekele**	**18.99**	**291**	P		**P**	**20 08 34.5**	**-0.9**
PALK				pmax		pmax		
	comp=Z,30nm,0.8s							
SGKI	**Sangatta, Kali**	**19.11**	**93**	P		**Pn**	**20 08 38.6**	**+0.8**
	comp=Z,12μmcomp=Z,1μm,1.2s							
CRAI	**Chiangrai**	**19.66**	**5**	P		**P**	**20 08 42.7**	**+0.1**
CRAI				IAmb		IAmb	20 08 48.9	
	comp=Z,232nm,0.9s							
MYLDM	**Lahad Datu**	**20.48**	**77**			Pn	20 08 53.2	-0.7
MYLDM				IAmb		IAmb	20 09 00.0	
	comp=Z,576nm,1.0s							
TWSI	**Taliwang, Sumb**	**20.48**	**117**	P		**P**	**20 08 49.6**	**-2.0**
	comp=Z,834nmcomp=Z,54nm,0.9s							
PLAI	**Plampang**	**21.32**	**116**	P		**P**	**20 08 58.0**	**-2.6**
	comp=Z,2μmcomp=Z,72nm,1.1s							
PLAI	**Plampang**	**21.32**	**116**	P		**P**	**20 08 59.4**	**-1.2**
MPSI	**Mapaga**	**21.38**	**90**	P		**P**	**20 09 01.4**	**+0.2**
	comp=Z,3μmcomp=Z,249nm,1.3s							
QIZ	**Qiongzhong**	**21.48**	**30**	P		**P**	**20 09 05.8**	**+3.5**
QIZ	**Qiongzhong**	**21.48**	**30**	P		**P**	**20 09 05.9**	**+3.7**
QIZ				S		**S**	**20 13 00.4**	**+2.1**
QIZ				pmax		pmax		
	comp=Z,210nm,1.0s							
QIZ				LR		LR		
	comp=Z,3μm,18.3s							
QIZ				LR		LR		
	comp=Z,950nm,15.1s							
QIZ				LR		LR		
	comp=Z,2μm,19.1s							
QIZ	**Qiongzhong**	**21.48**	**30**	P		**P**	**20 09 05.8**	**+3.5**
TTSI	**Tana Toraja**	**21.58**	**100**	P		**P**	**20 09 03.4**	**0.0**
	comp=Z,2μmcomp=Z,257nm,1.3s							
SPSI	**Siap Pau**	**21.70**	**102**	P		**P**	**20 09 02.3**	**-2.4**
	comp=Z,1μmcomp=Z,94nm,0.9s							
KAPI	**Kappang**	**21.91**	**105**	P		**P**	**20 09 07.3**	**+0.3**
	comp=Z,44nm,1.0s,baz=336,slow=9.8,SNR=20							
KAPI				PcP		**PcP**	**20 13 06.5**	**+1.3**
	comp=Z,22nm,0.9s,baz=349,slow=16,SNR=3.4							
KAPI				LR		LR	20 18 05.3	
	comp=Z,2μm,20.1s,baz=284,slow=38							
	comp=Z,44nm,1.0s							
KAPI	**Kappang**	**21.91**	**105**	P		**P**	**20 09 05.5**	**-1.4**
KAPI	**Kappang**	**21.91**	**105**	*i* P		**P**	**20 09 06.5**	**-0.4**
KAPI				pmax		pmax		
	comp=Z,177nm,0.9s							
KAPI	**Kappang**	**21.91**	**105**	P		**P**	**20 09 08.9**	**+2.0**
TOLI2	**Tolitoli**	**22.26**	**88**	P		**P**	**20 09 09.5**	**-1.3**
TOLI2				IAmb		IAmb	20 09 27.8	
	comp=Z,250nm,1.1s							
TOLI2	**Tolitoli**	**22.26**	**88**	P		**P**	**20 09 11.0**	**+0.2**
BKSI	**Bulukumba**	**22.34**	**105**	P		**P**	**20 09 10.8**	**-0.8**
	comp=Z,2μmcomp=Z,154nm,0.7s							
BSSI	**Bau Bau, Buton**	**22.91**	**107**	P		**P**	**20 09 16.0**	**-1.6**
	comp=Z,1μmcomp=Z,185nm,1.0s							
BRDH	**Bariadhala**	**23.01**	**344**	P		**P**	**20 09 19.1**	**+0.6**
	comp=Z,395nm,0.5s,baz=228,slow=17,SNR=15							
BRDH				LR		LR	20 20 02.1	
	comp=Z,2μm,19.4s,baz=167,slow=41							
	comp=Z,395nm,0.5s							
KOD	**Kodaikanal**	**23.05**	**295**	*eP*		**P**	**20 09 22.9**	**+3.6**
APSI	**Ampana**	**23.17**	**94**	P		**P**	**20 09 19.9**	**-0.3**
	comp=Z,3μmcomp=Z,315nm,1.0s							
MRSI	**Marisa**	**23.42**	**90**	P		**P**	**20 09 22.4**	**-0.2**
	comp=Z,4μmcomp=Z,452nm,0.8s							
VJD	**Vijayawada**	**23.72**	**313**	*eP*		**P**	**20 09 26.4**	**+0.9**
RAGD	**RAYAGADA**	**23.75**	**322**	*eP*		**P**	**20 09 26.3**	**+0.6**
PCHI	**Peechi**	**24.18**	**295**	*eP*		**P**	**20 09 32.8**	**+3.0**
PCHI				*eS*		**S**	**20 13 46.0**	**+0.8**
LUWI	**Luwuk**	**24.30**	**94**	P		**P**	**20 09 30.1**	**-0.7**
LUWI	**Luwuk**	**24.30**	**94**	P		**P**	**20 09 30.4**	**-0.5**
	comp=Z,11μmcomp=Z,1μm,1.1s							
LUWI	**Luwuk**	**24.30**	**94**	P		**P**	**20 09 31.7**	**+0.8**
GTOI	**Gorontalo**	**24.49**	**90**	P		**P**	**20 09 30.5**	**-2.1**
	comp=Z,1μmcomp=Z,178nm,0.8s							
BBSI	**Bau Bau**	**24.75**	**104**	P		**P**	**20 09 35.5**	**+0.5**
	comp=Z,396nmcomp=Z,55nm,0.8s							
KMI	**Kunming**	**24.79**	**9**	⇑P		**P**	**20 09 36.4**	**+1.0**
KMI				pP		pP	20 09 44.3	-2.7
KMI				sP		sP	20 09 48.2	-4.0
KMI				PcP		**PcP**	**20 13 13.4**	**+2.1**
KMI				S		**S**	**20 13 56.4**	**+1.2**
KMI				pmax		pmax		
	comp=Z,120nm,0.8s							
KMI				pmax		pmax		
	comp=Z,830nm,4.6s							
KMI				LR		LR		
	comp=Z,5μm,17.5s							
KMI				LR		LR		
	comp=Z,2μm,20.2s							
KMI				LR		LR		
	comp=Z,4μm,19.1s							
EDFI	**Ende, Flores**	**24.86**	**112**	P		**P**	**20 09 31.6**	**-4.4**
	comp=Z,597nmcomp=Z,40nm,0.7s							
MMRI	**Maumere**	**25.32**	**112**	P		**P**	**20 09 36.4**	**-3.7**
MMRI				IAmb		IAmb	20 09 47.4	
	comp=Z,157nm,1.1s							
MMRI	**Maumere**	**25.32**	**112**	P		**P**	**20 09 40.6**	**+0.4**
	comp=Z,2μmcomp=Z,164nm,1.1s							
KOHI	**KOHIMA**	**25.40**	**351**	*eP*		**P**	**20 09 40.6**	**-0.3**
KOHI				*i* x		x	20 13 14.2	
KMSI	**Cibinong**	**25.46**	**90**	P		**P**	**20 09 41.1**	**-0.3**
	comp=Z,4μmcomp=Z,396nm,0.8s							
JHSG	**JHARSUGUGA**	**25.54**	**327**	*eP*		**P**	**20 09 43.8**	**+1.9**
SHL	**Shillong**	**25.70**	**346**	P		**P**	**20 09 43.7**	**+0.1**
SHL	**Shillong**	**25.70**	**346**	P		**P**	**20 09 43.7**	**+0.1**
SHL				pmax		pmax		
	comp=Z,1μm,0.7s							
SHL	**Shillong**	**25.70**	**346**	*eP*		**P**	**20 09 44.4**	**+0.8**
SHL				IAmb		IAmb	20 09 46.5	
	comp=Z,794nm,0.8s							
SHL				*eS*		**S**	**20 14 08.7**	**-1.0**
HYB	**Hyderabad**	**25.84**	**312**	*eP*		**P**	**20 09 46.6**	**+1.7**
HYB				IAmb		IAmb	20 10 07.2	
	comp=Z,99nm,0.9s							
HYBB	**Hyderabad (bro**	**25.84**	**312**	*eP*		**P**	**20 09 46.5**	**+1.7**
HYBB				IVmB_BB			20 09 47.0	
	comp=Z,333nm,1.0s							
MOKO	**MOKOCHONG**	**25.93**	**352**	*eP*		**P**	**20 09 45.9**	**+0.3**
MOKO				*i* x		x	20 13 16.4	
MOKO				*eS*		**S**	**20 14 19.6**	**+6.5**
TGY	**Tagaytay City**	**25.95**	**58**	P		**P**	**20 09 45.9**	**0.0**
	comp=Z,188nm,0.6s,baz=270,slow=2.1							
	comp=Z,188nm,0.6s							
PZH	**PanZhiHua**	**26.01**	**7**	P		**P**	**20 09 46.6**	**+0.2**
PZH				sP		**pP**	**20 09 58.0**	**0.0**
PZH				S		**S**	**20 14 12.0**	**-2.4**
PZH				PcS		**PcS**	**20 16 54.0**	**-1.0**
PZH				pmax		pmax		
	comp=Z,50nm,1.1s							
PZH				pmax		pmax		
	comp=Z,590nm,10.6s							
PZH				LR		LR		
	comp=Z,3μm,15.5s							
PZH				LR		LR		
	comp=Z,2μm,15.9s							
PZH				LR		LR		
	comp=Z,4μm,16.2s							
BOK	**Bokaro**	**26.17**	**333**	*eP*		**P**	**20 09 50.2**	**+2.4**
BOK				IAmb		IAmb	20 10 04.0	
	comp=Z,457nm,0.8s							
BOK				*eS*		**S**	**20 14 16.5**	**-0.3**
BOK				*i* x		x	20 14 27.6	
GUWA	**GUWAHATI**	**26.35**	**346**	*eP*		**P**	**20 09 48.9**	**-0.4**
JORH	**JORHAT**	**26.38**	**351**	*eP*		**P**	**20 09 49.3**	**-0.3**
TEZP	**TEZPUR**	**26.51**	**348**	*eP*		**P**	**20 09 50.9**	**+0.1**
TEZP				*i* x		x	20 13 16.5	
GZH	**Guangzhou**	**26.65**	**32**	P		**P**	**20 09 58.4**	**+6.4**
GZH				S		**S**	**20 14 33.2**	**+8.9**
GZH				LR		LR		
	comp=Z,2μm,15.7s							
GZH				LR		LR		
	comp=Z,1μm,17.2s							
GYA	**Guiyang**	**26.94**	**16**	⇑P		**P**	**20 09 54.4**	**-0.4**
GYA				PcP		**PcP**	**20 13 15.7**	**-0.4**
GYA				S		**S**	**20 14 29.6**	**+0.5**
GYA				ScP		**ScP**	**20 16 52.6**	**-0.4**
GYA				pmax		pmax		
	comp=Z,44nm,1.3s							
GYA				LR		LR		
	comp=Z,4μm,15.6s							
GYA				LR		LR		
	comp=Z,2μm,18.8s							
GYA				LR		LR		
	comp=Z,7μm,18.7s							
SGSI	**Sangihe**	**27.17**	**83**	P		**P**	**20 09 53.1**	**-3.7**
	comp=Z,1μmcomp=Z,123nm,0.7s							
BATI	**Baumata**	**27.19**	**114**	P		**P**	**20 09 54.9**	**-2.2**
	comp=Z,49nm,0.8s,baz=255,slow=3.3,SNR=10							
BATI				PcP		**PcP**	**20 13 18.7**	**+1.9**
	comp=Z,52nm,0.8s,baz=257,slow=3.0,SNR=5.3							
	comp=Z,49nm,0.8s							
BATI	**Baumata**	**27.19**	**114**	P		**P**	**20 09 53.7**	**-3.4**
	comp=Z,35nm,0.7s							
H08S2	**Diego Garcia H**	**27.20**	**252**	T		T	20 37 33.7	
	baz=73,slow=75,SNR=3285							
H08S3	**Diego Garcia H**	**27.20**	**252**	T		T	20 37 34.1	
	baz=73,slow=75,SNR=2260							
ZIRO	**ZIRO**	**27.21**	**351**	*eP*		**P**	**20 09 57.4**	**+0.1**
H08S1	**Diego Garcia H**	**27.22**	**252**	T		T	20 37 35.1	
	baz=73,slow=75,SNR=3074							
SANI	**Sanana**	**27.58**	**95**	P		**P**	**20 09 57.6**	**-3.0**
	comp=Z,1μmcomp=Z,84nm,1.0s							
DAV	**Davao City (W)**	**27.75**	**76**	LR		LR	20 24 06.7	
	comp=Z,779nm,19.2s,baz=233,slow=43							
SLGI	**Shiliguri**	**27.77**	**340**	*eP*		**P**	**20 10 04.6**	**+2.5**
ODAN	**Odare**	**28.28**	**339**	*eP*		**P**	**20 10 07.0**	**+0.1**
	comp=Z,234nm,1.6s							
GTK	**Tadong**	**28.29**	**341**	*eP*		**P**	**20 10 08.1**	**+1.3**
GOA	**Goa**	**28.56**	**303**	*eP*		**P**	**20 10 12.5**	**+3.3**
GOA				IAmb		IAmb	20 10 13.1	
	comp=Z,66nm,0.9s							
**TAP

TPUB Ta-pu 31.20 42 P **P** **20 10 32.8 +0.3**
TPUB IAmb IAmb 20 10 36.3
comp=Z,68nm,0.8s
TPUB Ta-pu 31.20 42 P **P** **20 10 33.6 +1.1**
ENH Enshi 31.36 18 P **P** **20 10 33.2 -0.8**
ENH Enshi 31.36 18 P **P** **20 10 33.1 -0.8**
ENH pP **pP** **20 10 46.9 +1.3**
ENH sP **sP** **20 10 53.0 +2.2**
JHNI Jhansi 31.41 324 *eP* **P** **20 10 34.6 +0.3**
BRCI Bahraich 31.41 330 *eP* **P** **20 10 35.5 +1.2**
YULB Yu-li 31.71 43 P **P** **20 10 37.3 +0.3**
SSLB Suanglung 31.75 42 P **P** **20 10 37.7 +0.3**
SSLB IAmb IAmb 20 10 39.7
comp=Z,110nm,1.0s
SSLB Suanglung 31.75 42 P **P** **20 10 38.4 +1.0**
BNDI Bandanaira 31.75 99 P **P** **20 10 38.3 +0.8**
comp=Z,120nm,1.0s
NACB Ninganchiao 32.44 42 P **P** **20 10 43.5 +0.2**
NACB IAmb IAmb 20 10 46.1
comp=Z,86nm,1.0s
FITZ Fitzroy Crossi 32.47 126 P **P** **20 10 41.8 -1.9**
baz=32,SNR=7.5
FITZ Fitzroy Crossi 32.47 126 P **P** **20 10 41.8 -1.9**
comp=Z,10nm,0.9s,baz=293,slow=4.8,SNR=2.2
FITZ PcP **PcP** **20 13 31.3 +1.0**
comp=Z,17nm,0.9s,baz=264,slow=1.6,SNR=4.6
comp=Z,10nm,0.9s
FITZ Fitzroy Crossi 32.47 126 P **P** **20 10 41.7 -2.0**
FITZ Fitzroy Crossi 32.47 126 P **P** **20 10 42.5 -1.2**
YHNB Yeheng 32.63 41 P **P** **20 10 44.7 -0.5**
YHNB Yeheng 32.63 41 P **P** **20 10 46.6 +1.4**
SWI Sorong 32.77 92 P **P** **20 10 44.6 -1.8**
comp=Z,1μmcomp=Z,136nm,0.7s
TATO Taipei 32.92 41 P **P** **20 10 47.1 -0.4**
TATO IAmb IAmb 20 10 49.3
comp=Z,57nm,0.8s
MEEK Meekatharra 33.23 146 P **P** **20 10 51.3 +0.9**
WHN Wuhan 33.42 25⇑ *iP* **P** **20 10 52.7 +0.8**
WHN PcP **PcP** **20 13 33.4 +0.7**
WHN S **S** **20 16 12.3 +2.0**
WHN pmax pmax
comp=Z,380nm,0.7s
WHN LR LR
comp=Z,950nm,12.4s
WHN LR LR
comp=Z,2μm,11.5s
WHN LR LR
comp=Z,5μm,20.4s
YOJ Yonaguni jima 33.59 43 P **P** **20 10 53.0 -0.4**
comp=Z,90nm,2.4s
LGTI Lohaghat 33.63 330 *eP* **P** **20 10 55.3 +1.6**
LGTI *i* x x 20 11 12.2
PTH Pithoragarh 33.72 330 *eP* **P** **20 10 56.2 +1.4**
MORW Morawa 33.87 152 P **P** **20 10 59.0 +3.2**
baz=34,SNR=6.3
MORW Morawa 33.87 152 P **P** **20 10 56.3 +0.5**
MORW Morawa 33.87 152 P **P** **20 10 57.2 +1.4**
FAKI Fak Fak 33.89 96 P **P** **20 10 55.0 -1.2**
FAKI IAmb IAmb 20 11 04.6
comp=Z,118nm,1.0s
FAKI Fak Fak 33.89 96 P **P** **20 10 54.8 -1.4**
comp=Z,105nm,0.9s
FAKI Fak Fak 33.89 96 P **P** **20 10 55.6 -0.6**
KNRA Kununurra 33.93 120 P **P** **20 10 54.1 -2.4**
baz=34,SNR=6.9
KNRA Kununurra 33.93 120 P **P** **20 10 57.6 +1.0**
SONA Sohna 34.36 325 *eP* **P** **20 11 00.9 +0.8**
AJM Ajmer 34.55 320⇑ *iP* **P** **20 11 02.9 +1.1**
KUDL Kundal 34.63 324 *eP* **P** **20 11 03.1 +0.7**
XAN Xi'an 34.73 15 P **P** **20 11 02.8 -0.5**
XAN pP pP 20 11 14.8 -0.3
XAN PcP **PcP** **20 13 37.5 +1.1**
XAN S **S** **20 16 28.0 -2.6**
XAN pmax pmax
comp=Z,540nm,0.9s
XAN pmax pmax
comp=Z,810nm,3.5s
XAN LR LR
comp=Z,4μm,17.1s
XAN LR LR
comp=Z,2μm,16.3s
XAN LR LR
comp=Z,6μm,19.0s
MTN Manton Dam 34.97 113 P **P** **20 11 04.6 -1.0**
baz=35,SNR=10
MTN Manton Dam 34.97 113 P **P** **20 11 05.4 -0.2**
DDI Dehra Dun 35.44 329 *eP* **P** **20 11 10.8 +1.3**
BLDU Ballidu 35.48 152 P **P** **20 11 12.8 +3.1**
GOMU GeErMu 35.65 355 P **P** **20 11 12.2 +0.6**
GOMU PcP **PcP** **20 13 41.1 +1.6**
GOMU S **S** **20 16 36.6 -8.8**
GOMU pmax pmax
comp=Z,180nm,4.6s
GOMU LR LR
comp=Z,980nm,16.9s
GOMU LR LR
comp=Z,650nm,17.3s
GOMU LR LR
comp=Z,980nm,17.1s
LZH Lanzhou 35.72 7⇑ P **P** **20 11 12.6 +0.7**
LZH PcP **PcP** **20 13 41.4 +2.0**
LZH ScP **ScP** **20 17 22.2 0.0**
LZH ScS **ScS** **20 21 26.9 -0.4**
LZH pmax pmax
comp=Z,200nm,1.1s
LZH pmax pmax
comp=Z,1μm,4.8s
LZH LR LR
comp=Z,3μm,15.6s
LZH LR LR
comp=Z,2μm,15.6s
LZH LR LR
comp=Z,4μm,17.0s
KDU Kakadu 36.15 112 P **P** **20 11 15.3 -0.4**
baz=36,SNR=7.9
LYN LuoYang 36.27 20⇑ *iP* **P** **20 11 17.5 +1.1**
LYN pP sP 20 11 32.2 -1.2
LYN PcP **PcP** **20 13 41.2 +0.3**
LYN S **S** **20 16 54.6 +0.5**
LYN sS ScP 20 17 19.9 -4.1
LYN pmax pmax
comp=Z,510nm,0.7s
LYN LR LR
comp=Z,1μm,22.2s
LYN LR LR
comp=Z,1μm,18.4s
LYN LR LR
comp=Z,2μm,15.7s
MUN Mundaring 36.41 154 P **P** **20 11 21.6 +3.9**
baz=37,SNR=8.4
SMLA Simla 36.55 328 *eP* **P** **20 11 19.6 +0.8**
SMLA IAmb IAmb 20 11 22.3
comp=Z,204nm,0.3s
SMLA *ex* x 20 16 52.7
NJ2 Nanjing 36.77 30⇑ *iP* **P** **20 11 21.5 +0.8**
NJ2 ScP **ScP** **20 17 25.9 0.0**
NJ2 pmax pmax
comp=Z,120nm,0.9s
NJ2 LR LR
comp=Z,2μm,14.2s
NJ2 LR LR
comp=Z,1μm,16.2s
NJ2 LR LR
comp=Z,3μm,17.6s
KLBR Kellerberrin 36.78 152 P **P** **20 11 23.7 +2.8**
baz=37,SNR=13
BHK Bhakra 37.17 328 *eP* **P** **20 11 25.4 +1.2**
NWAO Narrogin (SRO) 37.67 154 P **P** **20 11 30.8 +2.4**
baz=38,SNR=8.4
NWAO P **P** **20 11 30.8 +2.4**
baz=38,SNR=8.4
NWAO Narrogin (SRO) 37.67 154 P **P** **20 11 30.4 +2.0**
comp=Z,28nm,0.8s,baz=55,slow=12,SNR=10
comp=Z,28nm,0.8s
NWAO Narrogin (SRO) 37.67 154 P **P** **20 11 29.9 +1.5**
NWAO Narrogin (SRO) 37.67 154 P **P** **20 11 29.9 +1.5**
NWAO pmax pmax
comp=Z,66nm,1.0s
SRPI Serui, Papua 37.79 94 P **P** **20 11 27.9 -1.8**
comp=Z,109nm,0.8s
H01W3 Cape Leeuwin H 38.14 159 T T 20 51 51.1
baz=333,slow=76
H01W2 Cape Leeuwin H 38.15 159 T T 20 51 52.4
baz=333,slow=76
H01W1 Cape Leeuwin H 38.16 159 T T 20 51 54.2
baz=333,slow=76
THN Thein Dam 38.33 328 *eP* **P** **20 11 35.1 +1.1**
THN *i* x x 20 11 50.3
WRKA Warakurna 38.42 134 P **P** **20 11 34.5 -0.4**
baz=38,SNR=12
GTA Gaotai 38.71 2⇑ P **P** **20 11 37.7 +0.5**
GTA pP pP 20 11 45.0 -4.1
GTA sP sP 20 11 49.4 -4.9
GTA PcP **PcP** **20 13 50.1 +1.7**
GTA S **S** **20 17 30.6 -0.8**
GTA ScP **ScP** **20 17 33.6 +0.3**
GTA PcS **PcS** **20 17 37.7 -0.2**
GTA ScS **ScS** **20 21 41.6 -2.4**
GTA pmax pmax
comp=Z,190nm,1.2s
GTA pmax pmax
comp=Z,850nm,5.5s
GTA LR LR
comp=Z,1μm,17.8s
GTA LR LR
comp=Z,730nm,15.6s
GTA LR LR
comp=Z,2μm,17.5s
JOW Kunigami 38.75 45 P **P** **20 11 37.6 0.0**
JMU Jammu 38.99 328 *eP* **P** **20 11 41.1 +1.7**
TIY Taiyuan 39.16 18⇑ P **P** **20 11 42.2 +1.3**
TIY pmax pmax
comp=Z,98nm,0.6s
TIY LR LR
comp=Z,2μm,20.1s
TIY LR LR
comp=Z,930nm,17.7s
TIY LR LR
comp=Z,2μm,20.6s
TIA Tai'an 39.48 24⇑ P **P** **20 11 43.5 0.0**
TIA pmax pmax
comp=Z,190nm,1.0s
TIA LR LR
comp=Z,1μm,14.8s
TIA LR LR
comp=Z,1μm,13.3s
TIA LR LR
comp=Z,2μm,12.7s
HNS HongShan 39.61 20⇑ P **P** **20 11 45.9 +1.3**
HNS PcP **PcP** **20 13 52.7 +1.6**
HNS S **S** **20 17 46.1 +1.5**
HNS ScS **ScS** **20 21 47.8 -1.2**
HNS pmax pmax
comp=Z,500nm,1.1s
HNS LR LR
comp=Z,1μm,19.0s
HNS LR LR
comp=Z,850nm,16.1s
HNS LR LR
comp=Z,2μm,18.6s
SMPI Sarmi 40.26 94 P **P** **20 11 48.0 -2.3**
comp=Z,902nmcomp=Z,57nm,1.2s
JMZ Minamidaito 2 40.32 49 P **P** **20 11 49.5 -1.1**
WB0 Warramunga Arr 40.53 122 P **P** **20 11 49.7 -2.8**
WRA Warramunga Arr 40.56 122 P **P** **20 11 50.7 -2.1**
comp=Z,33nm,0.9s,baz=299,slow=9.0,SNR=164
WRA PcP **PcP** **20 13 55.2 +0.6**
comp=Z,21nm,0.8s,baz=306,slow=2.7,SNR=11
WRA ScP **ScP** **20 17 41.4 +0.7**
comp=Z,4.1nm,1.0s,baz=329,slow=3.3,SNR=3.6
WRA S **S** **20 17 51.0 -8.4**
comp=Z,9.8nm,1.1s,baz=295,slow=16,SNR=7.5
comp=Z,33nm,0.9s
WRA Warramunga Arr 40.56 122 P **P** **20 11 50.7 -2.1**
WRAB Tennant Creek 40.57 122 P **P** **20 11 51.1 -1.7**
WRAB Tennant Creek 40.57 122 *ceP* **P** **20 11 51.3 -1.5**
WRAB pmax pmax
comp=Z,53nm,0.8s
WRAB MLR MLR
comp=Z,8μm,20.0s
WB2 Warramunga Arr 40.57 122 P **P** **20 11 50.8 -2.1**
NIL Nilore 40.59 327 P **P** **20 11 52.8 0.0**
NIL Nilore 40.59 327 P **P** **20 11 51.1 -1.8**
NIL sP **sP** **20 12 10.9 +1.0**
WR0 Warramunga Arr 40.74 122 P **P** **20 11 52.7 -1.6**
BTO Baotou 41.23 13 *eP* **P** **20 11 59.8 +1.7**
BTO S **S** **20 18 12.8 +3.8**
BTO LR LR
comp=Z,10μm,17.8s
BTO LR LR
comp=Z,7μm,15.9s
GENI Genyem 41.75 94 P **P** **20 12 00.3 -2.3**
comp=Z,2μmcomp=Z,116nm,0.7s
HHC Hu-ho-hao-te 41.84 15 *eP* **P** **20 12 04.9 +1.8**
HHC pmax pmax
comp=Z,610nm,0.8s
HHC pmax pmax
comp=Z,780nm,6.2s
HHC LR LR
comp=Z,7μm,17.1s
HHC LR LR
comp=Z,3μm,17.3s
HHC LR LR
comp=Z,8μm,17.9s
FORT Forrest 41.92 141 P **P** **20 12 05.4 +1.7**
baz=42,SNR=27
FORT Forrest 41.92 141 P **P** **20 12 04.9 +1.2**
FORT IAmb IAmb 20 12 19.6
comp=Z,156nm,0.7s
AS31 Alice Springs 41.94 127 P **P** **20 12 02.6 -1.5**
ASAR Alice Springs 41.94 127 P **P** **20 12 02.7 -1.4**
comp=Z,27nm,0.7s,baz=304,slow=7.8,SNR=220
ASAR ScP **ScP** **20 17 45.6 -0.6**
comp=Z,4.5nm,0.8s,baz=317,slow=3.7,SNR=4.2
ASAR S **S** **20 18 13.9 -6.0**
comp=Z,3.7nm,0.8s,baz=298,slow=14,SNR=6.2
comp=Z,27nm,0.7s
BJT Baijiatuan 42.46 20 P **P** **20 12 09.5 +1.5**
BJT Baijiatuan 42.46 20 P **P** **20 12 09.5 +1.5**
BJT pmax pmax
comp=Z,833nm,1.0s
BJT Baijiatuan 42.46 20 P **P** **20 12 07.2 -0.8**
BJT sP **sP** **20 12 23.6 -1.5**
BJI Beijing 42.49 20 P **P** **20 12 09.4 +1.2**
BJI pP **pP** **20 12 16.3 -3.9**
BJI PcP **PcP** **20 14 01.8 +1.4**
BJI ScP **ScP** **20 17 49.5 +1.6**
BJI pmax pmax
comp=Z,830nm,0.9s
BJI LR LR
comp=Z,200nm,17.1s
BJI LR LR
comp=Z,520nm,20.9s
BJI LR LR
comp=Z,1μm,18.5s
JSU Suzuyama 43.14 41 P **P** **20 12 13.2 -0.5**
MSEY Mahe Island 43.31 263 IAMs_20 IAMs_20 20 26 43.9
comp=Z,2μm,20.0s
KBL Kabul 43.63 324 P **P** **20 12 17.6 -0.3**
KBL Kabul 43.63 324 P **P** **20 12 17.6 -0.3**
KBL pmax pmax
comp=Z,59nm,1.0s
DL2 Dalian 43.67 26 P **P** **20 12 18.3 +0.6**
DL2 S **S** **20 18 39.8 -4.8**
DL2 pmax pmax
comp=Z,610nm,1.0s
DL2 pmax pmax
comp=Z,580nm,10.0s
DL2 LR LR
comp=Z,1μm,20.3s
DL2 LR LR
comp=Z,830nm,16.2s
DL2 LR LR
comp=Z,2μm,19.0s
NAWB Namwon 43.90 35 P **P** **20 12 19.8 +0.1**
KSH Kashi 43.93 335 P **P** **20 12 19.3 -0.7**
KSH sP pP 20 12 32.4 +0.3
KSH pmax pmax
comp=Z,77nm,0.7s
KSH LR LR
comp=Z,1μm,21.3s
KSH LR LR
comp=Z,810nm,19.2s
KSH LR LR
comp=Z,1μm,18.5s
WMQ Urumqi 44.17 349⇑ P **P** **20 12 23.6 +1.8**
WMQ sP pP 20 12 35.4 +1.5
WMQ PcS **PcS** **20 17 55.2 -4.1**
WMQ S **S** **20 18 54.4 +2.4**
WMQ ScS **ScS** **20 22 17.8 +1.0**
WMQ pmax pmax
comp=Z,290nm,1.1s
WMQ pmax pmax
comp=Z,900nm,4.7s
WMQ LR LR
comp=Z,890nm,20.7s
WMQ LR LR
comp=Z,810nm,20.7s
WMQ LR LR
comp=Z,960nm,23.3s
WMQ Urumqi 44.17 349 P **P** **20 12 21.4 -0.4**
WMQ sP **pP** **20 12 36.0 +2.1**
TJN Taejon 44.58 34 P **P** **20 12 25.1 0.0**
TJN Taejon 44.58 34 *ceP* **P** **20 12 24.6 -0.5**
KSBUS Busan 44.78 36 P **P** **20 12 27.0 +0.3**
KSBUS IAmb IAmb 20 12 28.8
comp=Z,106nm,0.8s
HJU Haeju 44.94 31 P **P** **20 12 27.4 -0.5**
HJU sP **pP** **20 12 41.6 +1.6**
HJU S **S** **20 18 57.1 -6.1**
HJU AmB
comp=Z,135nm,0.5s
HJU AMS AMS
comp=N,785nm,2.8s
HJU AMS AMS
comp=E,518nm,1.9s
HJU AMS AMS
comp=Z,1μm,3.7s
INCN Inchon 44.99 32 P **P** **20 12 27.8 -0.6**
INCN IAmb IAmb 20 12 28.9
comp=Z,124nm,1.1s
INCN Inchon 44.99 32 IAMs_20 IAMs_20 20 31 54.4
comp=Z,2μm,21.0s
INCN Inchon 44.99 32 P **P** **20 12 27.8 -0.6**
INCN pmax pmax
comp=Z,124nm,1.1s
INCN MLR MLR
comp=Z,2μm,21.0s
KSCHJ Chungju 45.27 34 P **P** **20 12 30.6 0.0**
KSCHJ IAmb IAmb 20 12 32.7
comp=Z,146nm,0.9s
QIS Mount Isa 45.32 120 P **P** **20 12 30.0 -1.4**
baz=45,SNR=14
NRN Naryn 45.52 336 P **P** **20 12 33.9 +0.9**
NRN Naryn 45.52 336 P **P** **20 12 33.9 +0.9**
NRN pmax pmax
comp=Z,292nm,0.9s
KSAR Wonju Array Be 45.63 33 P **P** **20 12 33.6 +0.2**
KSAR Wonju Array Be 45.63 33 P **P** **20 12 33.7 +0.2**
KSRS Korea Array 45.66 33 P **P** **20 12 33.6 0.0**
comp=Z,219nm,0.8s,baz=223,slow=8.7,SNR=436
KSRS LR LR 20 33 55.1
comp=Z,1μm,18.1s,baz=210,slow=39
comp=Z,219nm,0.8s
KS19 Wonju Array Si 45.67 33 P **P** **20 12 33.6 -0.1**
SHLS Shalkode 45.74 341 *c iP* **P** **20 12 34.9 +0.5**
SHLS *i* S **S** **20 19 14.5 -0.4**
SHLS pmax pmax
comp=Z,105nm,0.9s
SHLS Shalkode 45.74 341⇑ *iP* **P** **20 12 35.0 +0.5**
comp=Z,104nm,0.9s,baz=341
SHLS *i* S **S** **20 19 14.6 -0.4**
baz=341
DRK Karamyk 45.81 331 **P** **20 12 36.6 +1.4**
UZB Uzunbulak 45.88 340 *i* P **P** **20 12 37.0 +1.5**
UZB Uzunbulak 45.88 340 *i* P **P** **20 12 37.0 +1.5**
baz=340
XLT XiLinHaoTe 45.93 18⇑ *iP* **P** **20 12 37.0 +1.2**
XLT pP pP 20 12 45.6 -2.3
XLT sP sP 20 12 48.5 -4.5
XLT PcP **PcP** **20 14 12.7 +0.4**
XLT PP **PP** **20 14 27.2 +3.1**
XLT pmax pmax
comp=Z,200nm,1.3s
XLT pmax pmax
comp=Z,690nm,9.7s
XLT LR LR
comp=Z,880nm,16.0s
XLT LR LR
comp=Z,1μm,20.6s
SUJ Sinuiju 45.94 28 P **P** **20 12 35.0 -0.8**
SUJ sP **pP** **20 12 49.0 +1.1**
SUJ S S 20 19 08.0 -9.5
SUJ AmB
comp=Z,420nm,1.2s
SUJ AMS AMS
comp=N,1μm,3.7s
SUJ AMS AMS
comp=E,715nm,2.5s
SUJ AMS AMS
comp=Z,3μm,10.4s
SATY Saty 46.02 339 *c iP* **P** **20 12 38.1 +1.5**
SATY *i* S **S** **20 19 20.5 +1.6**
SATY pmax pmax
comp=Z,159nm,0.8s
SATY Saty 46.02 339⇑ *iP* **P** **20 12 38.1 +1.5**
comp=Z,159nm,0.8s,baz=339
SATY *i* S **S** **20 19 20.5 +1.6**
baz=339
ZHN Zhinishke 46.10 340 *i* P **P** **20 12 38.6 +1.4**
ZHN *eS* **S** **20 19 21.7 +1.6**
ZHN Zhinishke 46.10 340 *i* P **P** **20 12 38.7 +1.4**
baz=340
ZHN *eS* **S** **20 19 21.7 +1.6**
baz=340
ULHL Ulahol 46.11 337 P **P** **20 12 39.0 +1.6**
SNR=5.0
GAR Garm 46.18 329 P **P** **20 12 37.7 -0.2**
KPKS Kokpek 46.28 340 *c iP* **P** **20 12 39.8 +1.3**
KPKS *i* S **S** **20 19 23.4 +0.9**
KPKS pmax pmax
comp=Z,129nm,1.2s
KPKS Kokpek 46.28 340⇑ *iP* **P** **20 12 39.9 +1.3**
comp=Z,130nm,1.2s,baz=340
KPKS *i* S **S** **20 19 23.5 +0.9**
baz=340
SEHB SEOHWA 46.44 33 P **P** **20 12 39.4 -0.4**
COEN Coen 46.50 110 P **P** **20 12 39.6 -1.0**
baz=46,SNR=4.0
COEN Coen 46.50 110 P **P** **20 12 38.4 -2.2**
COEN IAmb IAmb 20 13 41.9
comp=Z,168nm,0.9s
CHGR Chuyangaron 46.52 328 P **P** **20 12 40.4 -0.2**
CHGR Chuyangaron 46.52 328 P **P** **20 12 40.4 -0.2**
CHGR pmax pmax
comp=Z,493nm,1.1s
MDOK Medeo 46.59 338 *i* P **P** **20 12 42.7 +1.6**
MDOK *i* S **S** **20 19 28.9 +1.7**
MDOK Medeo 46.59 338 *i* P **P** **20 12 42.8 +1.6**
baz=338
MDOK *i* S **S** **20 19 28.9 +1.7**
baz=338
AAA Alma-Ata 46.68 338 *i* P **P** **20 12 43.3 +1.6**
AAA *eS* **S** **20 19 30.3 +2.0**
AAA Alma-Ata 46.68 338 *i* P **P** **20 12 43.4 +1.7**
baz=338
AAA *eS* **S** **20 19 30.3 +2.0**
baz=338
BTK Batken 46.73 331 P **P** **20 12 43.5 +1.3**
BTK IAmb IAmb 20 12 45.3
comp=Z,123nm,0.9s
BTK Batken 46.73 331 P **P** **20 12 43.5 +1.3**
BTK pmax pmax
comp=Z,123nm,0.9s
JMN Monobe 46.78 41 P **P** **20 12 43.2 +0.5**
UCH Uchtor 46.80 336 P **P** **20 12 44.6 +1.5**
SNR=208
SNY Shenyang 46.91 26⇑ P **P** **20 12 43.3 -0.1**
SNY pmax pmax
comp=Z,250nm,3.5s
SNY LR LR
comp=Z,2μm,19.1s
SNY LR LR
comp=Z,1μm,14.2s
SNY LR LR
comp=Z,2μm,22.1s
TKM2 Tokmak 2 46.94 337 P **P** **20 12 45.3 +1.4**
SNR=169
KBK Karagaybulak 46.98 336 P **P** **20 12 46.1 +2.0**
SNR=185
AML Almayashu 47.06 335 P **P** **20 12 46.6 +1.5**
SNR=102
JHS Saijyo 47.07 40 P **P** **20 12 44.7 -0.2**
AAK Ala-Archa 47.14 336 P **P** **20 12 46.9 +1.5**
SNR=37
AAK Ala-Archa 47.14 336 LR LR 20 34 23.2

comp=Z,1μm,20.9s,baz=157,slow=38
AAK Ala-Archa 47.14 336 P **P** **20 12 47.1 +1.6**
AAK IAmb IAmb 20 12 53.0
comp=Z,111nm,1.1s
AAK Ala-Archa 47.14 336 *i* P **P** **20 12 45.7 +0.2**
AAK Ala-Archa 47.14 336 *i* P **P** **20 12 47.3 +1.9**
SNR=54
CHKK Chushkaly 47.21 339 *i* P **P** **20 12 46.3 +0.5**
CHKK Chushkaly 47.21 339 *i* P **P** **20 12 46.3 +0.5**
baz=339
ARXS Arharly 47.23 340 *e*P **P** **20 12 46.9 +0.9**
HHU Hamhung 47.28 30 P **P** **20 12 46.4 0.0**
CHMS Chumysh 47.34 336 P **P** **20 12 48.1 +1.2**
SNR=101
EKS2 Erkin-Say 47.46 335 P **P** **20 12 49.7 +1.8**
SNR=152
KUU Kurty 47.48 338*c* *i*P **P** **20 12 48.6 +0.7**
KUU *i* S **S** **20 19 40.3 +0.7**
KUU pmax pmax
comp=Z,237nm,1.0s
KUU Kurty 47.48 338⇑ *i*P **P** **20 12 48.6 +0.7**
comp=Z,236nm,1.0s,baz=338
KUU *i* S **S** **20 19 40.4 +0.8**
baz=338
UOSS Minazif 47.54 304 P **P** **20 12 49.4 +0.8**
HATD Hatta, Dubai 47.55 304 *i* P **P** **20 12 50.3 +1.5**
SNR=6.7
ASHO Ashiyiah 47.55 304 *i* P **P** **20 12 50.3 +1.5**
SNR=6.1
ALNE Al Ain 47.56 303 *i* P **P** **20 12 50.9 +2.1**
SNR=28
MDH Madha 47.61 305 P **P** **20 12 49.5 +0.3**
SONM Songino Array 47.61 7 P **P** **20 12 50.3 +1.3**
comp=Z,118nm,0.8s,baz=188,slow=9.3,SNR=556
SONM PcP **PcP** **20 14 19.3 +1.1**
comp=Z,66nm,0.8s,baz=178,slow=4.2,SNR=8.9
SONM ScP **ScP** **20 18 08.7 -0.4**
comp=Z,1.8nm,1.0s,baz=195,slow=3.3,SNR=1.9
SONM LR LR 20 35 09.6
comp=Z,4μm,19.1s,baz=187,slow=39
comp=Z,118nm,0.8s
SONM Songino Array 47.61 7 P **P** **20 12 49.5 +0.6**
SONM Songino Array 47.61 7 P **P** **20 12 49.5 +0.6**
SONM pmax pmax
comp=Z,157nm,0.9s
USP Ospenovka 47.66 336 P **P** **20 12 50.7 +1.3**
SNR=271
ULN Ulaanbaatar 47.73 8 P **P** **20 12 50.7 +0.8**
ULN IAmb IAmb 20 12 52.6
comp=Z,134nm,0.9s
ULN Ulaanbaatar 47.73 8 IAMs_20 IAMs_20 20 35 00.7
comp=Z,3μm,19.0s
ULN Ulaanbaatar 47.73 8*ce*P **P** **20 12 51.0 +1.1**
ULN pmax pmax
comp=Z,196nm,1.3s
ULN MLR MLR
comp=Z,3μm,19.0s
TDK Taldyqorghan 47.73 341*c* *i*P **P** **20 12 50.5 +0.7**
TDK *e*S **S** **20 19 43.9 +0.9**
TDK pmax pmax
comp=Z,153nm,0.9s
TDK Taldyqorghan 47.73 341⇑ *i*P **P** **20 12 50.6 +0.7**
comp=Z,153nm,0.9s,baz=341
TDK *e*S **S** **20 19 43.9 +0.9**
baz=341
MSFE Esma-Masafi 47.75 305 P **P** **20 12 52.1 +1.8**
SGDS Sogindy 47.77 337*c* *i*P **P** **20 12 51.2 +1.0**
SGDS *e*S **S** **20 19 44.9 +1.1**
SGDS Sogindy 47.77 337⇑ *i*P **P** **20 12 51.2 +1.0**
baz=336
SGDS *e*S **S** **20 19 44.9 +1.1**
baz=336
HRA Herat 47.79 319 P **P** **20 12 50.1 -0.6**
FAQ Al Faqa, Dubai 47.97 304 *i* P **P** **20 12 53.5 +1.6**
SNR=12
NAZ Nazwa, Dubai 48.01 304 *i* P **P** **20 12 53.7 +1.4**
SNR=5.4
ASUD Al Ashush, Dub 48.14 303 *i* P **P** **20 12 55.4 +2.1**
SNR=7.5
MK31 Makanchi Array 48.21 345 P **P** **20 12 53.9 +0.4**
MK31 Makanchi Array 48.21 345 P **P** **20 12 53.9 +0.4**
MK31 pmax pmax
comp=Z,210nm,0.8s
MKAR Makanchi Array 48.21 345 P **P** **20 12 54.4 +0.8**
comp=Z,271nm,0.7s,baz=154,slow=7.7,SNR=1641
MKAR LR LR 20 37 34.6
comp=Z,538nm,18.9s,baz=173,slow=41
comp=Z,271nm,0.7s
MKAR Makanchi Array 48.21 345 P **P** **20 12 54.0 +0.5**
MKAR Makanchi Array 48.21 345 P **P** **20 12 54.1 +0.5**
ZSN Zaisan 48.22 348*c* *i*P **P** **20 12 55.0 +1.5**
ZSN *i* S **S** **20 19 52.5 +2.6**
ZSN pmax pmax
comp=Z,134nm,1.0s
ZSN Zaisan 48.22 348⇑ *i*P **P** **20 12 55.1 +1.5**
comp=Z,134nm,1.0s,baz=348
ZSN *i* S **S** **20 19 52.5 +2.6**
baz=348
MAKZ Makanchi 48.31 345 P **P** **20 12 55.0 +0.8**
MAKZ Makanchi 48.31 345 P **P** **20 12 55.0 +0.8**
MAKZ pmax pmax
comp=Z,198nm,0.7s
AJN Ajban 48.40 303 *i* P **P** **20 12 56.6 +1.2**
SNR=5.8
TAS Tashkent 48.45 331 P **P** **20 12 56.3 +0.9**
TAS Tashkent 48.45 331 P **P** **20 12 56.3 +0.9**
TAS pmax pmax
comp=Z,262nm,0.9s
BBOO Buckleboo 48.49 137 P **P** **20 12 55.9 0.0**
baz=49,SNR=18
BBOO Buckleboo 48.49 137 P **P** **20 12 55.7 -0.2**
BBOO IAmb IAmb 20 13 18.4
comp=Z,84nm,1.1s
DZA Taraz 48.71 333 *e*P **P** **20 12 58.0 +0.6**
DZA pmax pmax
comp=Z,70nm,0.8s
DZA Taraz 48.71 333 *e*P **P** **20 12 58.0 +0.6**
comp=Z,70nm,0.8s,baz=333
IUG Iuzhnay 48.72 332*c* *i*P **P** **20 12 58.7 +1.1**
IUG *i* S **S** **20 19 57.6 +0.3**
IUG Iuzhnay 48.72 332 *i*P **P** **20 12 58.7 +1.1**
baz=332
IUG *i* S **S** **20 19 57.7 +0.3**
baz=332
MANU Manus Island 48.90 93 P **P** **20 12 58.9 -0.5**
MZR Muzera 49.11 300 *i* P **P** **20 13 02.5 +1.7**
SNR=33
KK31 Karatay Array 49.24 333 P **P** **20 13 02.1 +0.6**
KK31 IAmb IAmb 20 13 03.7
comp=Z,180nm,1.4s
KK31 Karatay Array 49.24 333 P **P** **20 13 02.1 +0.6**
KK31 pmax pmax
comp=Z,180nm,1.5s
KKAR Karatay Array 49.24 333 P **P** **20 13 01.8 +0.3**
KKAR Karatay Array 49.24 333 P **P** **20 13 01.7 +0.2**
KKAR IAmb IAmb 20 13 03.7
comp=Z,180nm,1.4s
KKAR Karatay Array 49.24 333 P **P** **20 13 01.8 +0.3**
KKAR pmax pmax
comp=Z,180nm,1.5s
CN2 Changchun 49.31 26⇑ *i*P **P** **20 13 02.1 +0.1**
CN2 PcP **PcP** **20 14 24.8 +0.6**
CN2 pmax pmax
comp=Z,150nm,0.6s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,18.0s
BTLS Baital 49.33 337*c* *i*P **P** **20 13 02.6 +0.5**
BTLS *e*S **S** **20 20 06.4 +0.9**
BTLS Baital 49.33 337⇑ *i*P **P** **20 13 02.6 +0.5**
baz=337
BTLS *e*S **S** **20 20 06.5 +0.9**
baz=337
PMG Port Moresby 49.42 103 P **P** **20 13 02.4 -0.9**
PMG IAmb IAmb 20 13 46.7
comp=Z,72nm,0.9s
PMG Port Moresby 49.42 103 IAMs_20 IAMs_20 20 29 52.0
comp=Z,6μm,19.0s
PMG Port Moresby 49.42 103 P **P** **20 13 02.4 -0.9**
PMG pmax pmax
comp=Z,72nm,0.9s
PMG MLR MLR
comp=Z,6μm,19.0s

JCJ Chichijima 49.53 54 P **P** **20 13 02.8 -1.2**
comp=Z,327nm,0.6s,baz=255,slow=3.1,SNR=4.9
comp=Z,327nm,0.6s
JCJ Chichijima 49.53 54 P **P** **20 13 03.5 -0.4**
INU Inuyama 49.83 42 P **P** **20 13 05.1 -0.9**
INU IAmb IAmb 20 13 07.4
comp=Z,53nm,0.9s
KNGR Kungurtug, Tuv 49.89 359*c* *i*P **P** **20 13 07.6 +1.2**
KNGR pmax pmax
comp=Z,98nm,0.9s
KNGR MLR MLR
comp=Z,1μm,16.0s
DGZ Jazzator, Alta 49.90 351*c* *i*P **P** **20 13 07.8 +1.3**
DGZ pmax pmax
comp=Z,247nm,0.8s
JGF Kuroka 50.20 42 P **P** **20 13 08.3 -0.6**
JGF IAmb IAmb 20 13 09.4
comp=Z,56nm,0.9s
JHJ Hachijo jima 2 50.52 46 P **P** **20 13 09.9 -1.4**
comp=Z,262nm,0.8s,baz=222,slow=7.7,SNR=5.3
comp=Z,262nm,0.8s
JHJ2 Mitsune 50.54 46 P **P** **20 13 09.5 -1.9**
CTA Charters Tower 51.02 117 P **P** **20 13 14.8 -0.6**
comp=Z,18nm,0.7s,baz=283,slow=9.5,SNR=4.1
comp=Z,18nm,0.7s
MAJO Matsushiro 51.30 41 P **P** **20 13 16.3 -0.9**
MAJO IAmb IAmb 20 13 18.2
comp=Z,60nm,1.0s
MAJO Matsushiro 51.30 41*c* *i*P **P** **20 13 15.8 -1.4**
MAJO pmax pmax
comp=Z,67nm,1.0s
MJAR Matsushiro Arr 51.30 41 P **P** **20 13 16.6 -0.6**
comp=Z,44nm,0.8s,baz=223,slow=6.5,SNR=45
MJAR LR LR 20 35 23.6
comp=Z,827nm,21.4s,baz=198,slow=36
comp=Z,44nm,0.8s
BNX BinXian 51.70 26⇑ P **P** **20 13 20.2 +0.2**
BNX pmax pmax
comp=Z,310nm,0.9s
BNX pmax pmax
comp=Z,220nm,3.5s
IRK Irkutsk 51.75 4 *e*P **P** **20 13 21.3 +1.0**
IRK *e*S **S** **20 20 42.5 +3.5**
IRK pmax pmax
comp=Z,230nm,1.5s
MDJ Mudanjiang 51.82 28 P **P** **20 13 21.5 +0.6**
MDJ IAmb IAmb 20 13 23.7
comp=Z,94nm,1.0s
MDJ IAMs_20 IAMs_20 20 38 03.5
comp=Z,2μm,18.0s
MDJ Mudanjiang 51.82 28 P **P** **20 13 21.9 +1.0**
MDJ pmax pmax
comp=Z,88nm,3.9s
MDJ LR LR
comp=Z,3μm,15.3s
MDJ LR LR
comp=Z,2μm,14.1s
MDJ LR LR
comp=Z,4μm,17.3s
HIA Hailar 51.86 18 P **P** **20 13 21.5 +0.4**
HIA IAmb IAmb 20 13 24.3
comp=Z,133nm,1.0s
HIA Hailar 51.86 18*c* *i*P **P** **20 13 21.6 +0.4**
HIA pmax pmax
comp=Z,150nm,1.0s
HIA Hailar 51.86 18 P **P** **20 13 20.4 -0.8**
HIA sP **sP** **20 13 36.7 -1.8**
STKA Stephens Creek 51.93 132 P **P** **20 13 22.2 +0.2**
comp=Z,27nm,0.8s,baz=323,slow=5.3,SNR=4.6
comp=Z,27nm,0.8s
SEM Semipalatinsk 52.07 345*c* *i*P **P** **20 13 23.1 +0.2**
SEM *e*S **S** **20 20 43.8 -0.1**
SEM pmax pmax
comp=Z,90nm,0.8s
SEM Semipalatinsk 52.07 345⇑ *i*P **P** **20 13 23.2 +0.2**
comp=Z,90nm,0.8s,baz=345
SEM *e*S **S** **20 20 43.9 -0.1**
baz=345
JSD Sado 52.21 40 P **P** **20 13 23.1 -0.8**
JSD IAmb IAmb 20 13 24.1
comp=Z,107nm,0.7s
JYT Yasato 52.46 43 P **P** **20 13 23.6 -2.2**
JYT IAmb IAmb 20 13 28.2
comp=Z,76nm,0.9s
GEYT Alibeck 52.57 320 P **P** **20 13 27.4 +0.7**
comp=Z,26nm,0.7s,baz=158,slow=9.6,SNR=52
comp=Z,26nm,0.7s
GEYT Alibeck 52.57 320 P **P** **20 13 26.7 0.0**
GYA0B ALIBECK ARRAY 52.57 320 P **P** **20 13 27.1 +0.5**
USA0B Ussuriysk Arra 52.67 30 P **P** **20 13 27.9 +0.7**
USA0B Ussuriysk Arra 52.67 30 P **P** **20 13 27.9 +0.7**
USA0B pmax pmax
comp=Z,29nm,0.8s
USRK Ussuriysk Ar. 52.67 30 P **P** **20 13 27.8 +0.6**
comp=Z,247nm,0.9s,baz=227,slow=5.3,SNR=198
comp=Z,247nm,0.9s
USRK Ussuriysk Ar. 52.67 30 P **P** **20 13 27.2 0.0**
USRK Ussuriysk Ar. 52.67 30 P **P** **20 13 27.2 0.0**
KURBB Kurchatov Arra 52.72 344 ScP **ScP** **20 18 28.7 -2.0**
comp=Z,2.9nm,0.9s,baz=162,slow=4.1,SNR=4.9
KURBB S **S** **20 20 48.9 -3.4**
comp=Z,0.9nm,0.8s,baz=149,slow=13,SNR=3.0
KURBB LR LR 20 38 45.5
comp=Z,902nm,21.7s,baz=134,slow=39
KURK Kurchatov 52.78 344 P **P** **20 13 28.6 +0.7**
KURK Kurchatov 52.78 344*ce*P **P** **20 13 28.6 +0.7**
KURK pmax pmax
comp=Z,333nm,1.0s
KURK MLR MLR
comp=Z,1μm,23.0s
KURK Kurchatov 52.78 344 P **P** **20 13 26.8 -1.1**
KURK sP **pP** **20 13 41.7 +1.5**
CIT Chita 52.84 12 *e*P **P** **20 13 30.4 +2.0**
CIT *e* 20 13 49.4
CIT *e* 20 14 37.4
CIT *e*S **S** **20 20 58.2 +4.2**
CIT pmax pmax
comp=Z,351nm,1.5s
JMM Marumori 53.75 41 P **P** **20 13 34.2 -1.0**
BRZS Berezniki 53.98 340*c* *i*P **P** **20 13 37.2 +0.4**
BRZS *e*S **S** **20 21 09.9 +0.4**
BRZS pmax pmax
comp=Z,70nm,1.3s
BRZS Berezniki 53.98 340⇑ *i*P **P** **20 13 37.2 +0.4**
comp=Z,70nm,1.3s,baz=340
BRZS *e*S **S** **20 21 09.9 +0.4**
baz=340
ZAA0 Zalesovo Array 54.43 350 P **P** **20 13 40.2 +0.3**
ZALV Zalesovo Beam 54.43 350 P **P** **20 13 40.4 +0.5**
comp=Z,254nm,0.9s,baz=176,slow=5.8,SNR=724
ZALV S **S** **20 21 12.2 -3.2**
comp=Z,2.9nm,0.9s,baz=174,slow=14,SNR=4.6
ZALV LR LR 20 39 30.1
comp=Z,863nm,20.3s,baz=164,slow=39
comp=Z,254nm,0.9s
ZALV Zalesovo Beam 54.43 350 P **P** **20 13 40.1 +0.2**
ZALV Zalesovo Beam 54.43 350 P **P** **20 13 40.1 +0.2**
VOI Vohitsoka 55.13 243 IAMs_20 IAMs_20 20 39 34.8
comp=Z,2μm,20.0s
JTM Tenmabayashi 55.57 38 P **P** **20 13 48.4 0.0**
RAYN Ar Rayn 56.23 298 P **P** **20 13 53.6 +0.1**
RAYN IAmb IAmb 20 13 55.5
comp=Z,43nm,0.8s
RAYN Ar Rayn 56.23 298 IAMs_20 IAMs_20 20 36 02.6
comp=Z,2μm,20.0s
RAYN Ar Rayn 56.23 298 P **P** **20 13 53.6 +0.1**
RAYN pmax pmax
comp=Z,43nm,0.9s
RAYN MLR MLR
comp=Z,2μm,20.0s
RAYN Ar Rayn 56.23 298 *i* P **P** **20 13 54.4 +0.8**
SNR=5.8
KLR Kul'dur 56.27 26 P **P** **20 13 54.1 +0.8**
comp=Z,190nm,0.8s,baz=236,slow=6.8,SNR=347
KLR LR LR 20 41 14.2
comp=Z,2μm,18.1s,baz=204,slow=40
comp=Z,190nm,0.8s
KLR Kul'dur 56.27 26*ce*P **P** **20 13 53.4 +0.2**
KLR pmax pmax
comp=Z,230nm,0.8s
ATD Arta Tunnel 56.33 283 P **P** **20 13 52.9 -1.5**
EIDS Eidsvold 56.91 121 P **P** **20 13 58.3 0.0**
baz=57,SNR=9.3
EIDS Eidsvold 56.91 121 P **P** **20 13 58.1 -0.2**
JEW Eniwo 56.99 37 P **P** **20 13 58.7 +0.2**
BVAR Borovoye Array 57.32 340 LR LR 20 42 17.8
comp=Z,948nm,21.1s,baz=145,slow=40
BRVK Borovoye 57.38 340 P **P** **20 14 00.7 -0.3**
BRVK IAmb IAmb 20 14 02.3
comp=Z,111nm,0.9s
BRVK Borovoye 57.38 340*ce*P **P** **20 14 01.0 0.0**
BRVK pmax pmax
comp=Z,110nm,0.8s
TOO Toolangi 57.55 137 P **P** **20 14 04.9 +2.3**
baz=58,SNR=6.4
TOO Toolangi 57.55 137 P **P** **20 14 03.0 +0.4**
TOO IAmb IAmb 20 14 05.7
comp=Z,49nm,1.1s
TOO Toolangi 57.55 137 P **P** **20 14 03.0 +0.4**
TOO pmax pmax
comp=Z,49nm,1.1s
ZEA Zeya 58.11 20*c* *i*P **P** **20 14 07.1 +1.0**
BOD Bodaibo 58.43 10⇓ *i*P **P** **20 14 09.2 +0.9**
BOD pmax pmax
comp=Z,328nm,1.4s
ABKAR Akbulak array 58.73 331 P **P** **20 14 10.2 -0.3**
ABKAR Akbulak array 58.73 331 P **P** **20 14 10.1 -0.4**
ABKAR IAmb IAmb 20 14 11.8
comp=Z,121nm,0.8s
CAN Canberra 59.00 133 P **P** **20 14 13.3 +0.5**
CAN IAmb IAmb 20 14 14.7
comp=Z,49nm,1.2s
CAN Canberra 59.00 133 P **P** **20 14 13.3 +0.5**
CAN pmax pmax
comp=Z,49nm,1.2s
CAN Canberra 59.00 133 P **P** **20 14 13.2 +0.5**
CAN sP **sP** **20 14 30.6 +0.3**
ARMA Armidale 59.08 126 P **P** **20 14 15.0 +1.5**
baz=59,SNR=6.5
ARMA Armidale 59.08 126 P **P** **20 14 13.6 +0.1**
GRNR Gornyy 59.46 27⇑ *i*P **P** **20 14 16.4 +0.8**
GRNR *e*S **S** **20 22 26.0 +4.2**
GRNR pmax pmax
comp=E,30nm,0.9s
GRNR pmax pmax
comp=N,30nm,1.2s
GRNR pmax pmax
comp=Z,80nm,1.0s
GRNR smax smax
comp=N,1.0nm,0.9s
GRNR MLR MLR
comp=E,960nm,18.0s
GRNR MLR MLR
comp=N,750nm,17.0s
GRNR MLR MLR
comp=Z,2μm,18.0s
PATS Pohnpei 59.95 82 P **P** **20 14 19.5 -0.2**
baz=60,SNR=3.3
PATS Pohnpei 59.95 82 P **P** **20 14 18.9 -0.7**
FURI Furi 60.15 280 P **P** **20 14 18.3 -3.1**
FURI IAmb IAmb 20 14 51.1
comp=Z,49nm,1.2s
YSS Yuzh-Sakhalins 60.16 33 P **P** **20 14 20.5 0.0**
YSS Yuzh-Sakhalins 60.16 33*ce*P **P** **20 14 19.9 -0.6**
YSS pmax pmax
comp=Z,353nm,1.3s
KIBK Kibwezi 60.53 267 P **P** **20 14 25.0 +1.3**
MOO Moorlands 61.14 141 P **P** **20 14 29.5 +2.2**
baz=61,SNR=5.6
KMBO Kilima Mbogo 61.29 268 P **P** **20 14 31.5 +2.4**
comp=Z,7.4nm,0.8s,baz=67,slow=8.8,SNR=17
KMBO LR LR 20 37 55.9
comp=Z,854nm,18.9s,baz=102,slow=33
comp=Z,7.4nm,0.8s
KMBO Kilima Mbogo 61.29 268 P **P** **20 14 30.8 +1.7**
KMBO Kilima Mbogo 61.29 268 *i* P **P** **20 14 31.8 +2.7**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 61.29 268 *i* P **P** **20 14 31.4 +2.4**
SNR=8.2
TAU Tasmania Unive 61.47 141 P **P** **20 14 29.2 -0.2**
TAU IAmb IAmb 20 14 32.5
comp=Z,52nm,0.9s
TAU Tasmania Unive 61.47 141 P **P** **20 14 29.2 -0.2**
TAU pmax pmax
comp=Z,52nm,0.9s
TAU Tasmania Unive 61.47 141 P **P** **20 14 30.1 +0.7**
TAU pP **pP** **20 14 39.0 -3.0**
TAU sP **sP** **20 14 43.9 -3.1**
HNR Honiara 61.94 101 P **P** **20 14 32.4 -0.8**
comp=Z,164nm,0.8s,baz=223,slow=5.4,SNR=5.3
comp=Z,164nm,0.8s
HNR Honiara 61.94 101 P **P** **20 14 32.4 -0.8**
TYV Tymovskoe 62.49 30 *e*P **P** **20 14 37.2 +1.1**
TYV pmax pmax
comp=Z,400nm,3.5s
TYV pmax pmax
comp=Z,56nm,1.3s
GNI Garni 62.69 316 P **P** **20 14 38.4 +0.4**
GNI IAmb IAmb 20 14 54.1
comp=Z,73nm,0.9s
GNI Garni 62.69 316*ce*P **P** **20 14 38.4 +0.4**
GNI pmax pmax
comp=Z,85nm,1.3s
GNI Garni 62.69 316 P **P** **20 14 38.6 +0.6**
LODK Lodwar 63.18 274 P **P** **20 14 43.3 +1.8**
GROC Groznyy 63.31 319 *e*P **P** **20 14 42.4 +0.6**
GROC *e* 20 15 19.6
GROC *e* 20 17 02.5
GROC pmax pmax
comp=Z,437nm,1.0s
GUDG Gudauri 63.85 318 P **P** **20 14 46.8 +1.1**
GUDG IAmb IAmb 20 14 48.0
comp=Z,97nm,0.9s
GUDG Gudauri 63.85 318 P **P** **20 14 46.8 +1.1**
GUDG pmax pmax
comp=Z,97nm,0.9s
GURO Guroymak-BITLI 63.99 313 P **P** **20 14 47.1 +0.5**
GURO IAmb IAmb 20 14 48.9
comp=Z,52nm,1.1s
KARS Kars 64.04 316 P **P** **20 14 47.4 +0.5**
KARS Kars 64.04 316 P **P** **20 14 47.4 +0.5**
KARS pmax pmax
comp=Z,259nm,1.0s
ARU Arti 64.31 337 P **P** **20 14 47.6 -0.5**
ARU IAmb IAmb 20 14 49.1
comp=Z,123nm,1.0s
ARU Arti 64.31 337*c* *i*P **P** **20 14 48.2 +0.1**
ARU 20 15 21.0
ARU 20 17 08.1
ARU S **S** **20 23 28.4 +5.5**
ARU SS **SS** **20 27 41.1 +7.8**
ARU pmax pmax
comp=Z,149nm,1.1s
ARU MLR MLR
comp=Z,882nm,20.0s
ARU Arti 64.31 337 P **P** **20 14 46.9 -1.2**
ARU pP **pP** **20 15 01.1 +0.4**
ZEI Tsey 64.38 318 *e*P **P** **20 14 49.5 +0.4**
ZEI pmax pmax
comp=Z,53nm,0.8s
MARD Mardin 64.47 312 P **P** **20 14 49.6 -0.1**
ONI Oni 64.59 318 P **P** **20 14 51.1 +0.7**
ONI Oni 64.59 318 P **P** **20 14 51.1 +0.7**
ONI pmax pmax
comp=Z,36nm,1.0s
NCK Nalchik 64.88 319*c* *i*P **P** **20 14 52.6 +0.5**
NCK pmax pmax
comp=Z,84nm,0.8s
KBZ Khabaz 65.44 319 P **P** **20 14 56.8 +1.1**
comp=Z,70nm,0.8s,baz=113,slow=5.5,SNR=84
comp=Z,70nm,0.8s
KBZ Khabaz 65.44 319*ce*P **P** **20 14 55.8 +0.1**
KBZ pmax pmax
comp=Z,112nm,0.9s
SHA1 Shidzhatmaz 65.60 319*c* *i*P **P** **20 14 56.7 -0.4**
KOPT Kop Dagi 65.63 314 P **P** **20 14 56.0 -1.4**
KIV Kislovodsk 65.67 319⇑ P **P** **20 14 57.9 +0.6**
KIV Kislovodsk 65.67 319 P **P** **20 14 57.5 +0.1**
KIV IAmb IAmb 20 14 59.1
comp=Z,94nm,0.9s
KIV Kislovodsk 65.67 319 *e*P **P** **20 14 57.3 -0.1**
KIV pmax pmax
comp=Z,121nm,1.1s
KIV Kislovodsk 65.67 319 *i* P **P** **20 14 57.9 +0.6**
SNR=12
YAK Yakutsk 65.70 16 P **P** **20 14 57.1 +0.1**
comp=Z,176nm,0.8s,baz=224,slow=0.4,SNR=134
comp=Z,176nm,0.8s
YAK Yakutsk 65.70 16 P **P** **20 14 56.4 -0.6**
YAK IAMs_20 IAMs_20 20 46 13.7

comp=Z,2µm,18.0s
YAK Yakutsk 65.70 16*c* iP P 20 14 56.8 -0.2
YAK e*PP pP **20 15 09.5 -0.1**
YAK e 20 15 28.5
YAK e 20 17 21.3
YAK eS S **20 23 37.5 -2.2**
YAK e*SS sS **20 24 03.5 +2.8**
YAK e 20 24 44.6
YAK eSS SS **20 27 50.4 -4.2**
YAK eSSS SSS 20 30 51.1
YAK pmax pmax
comp=Z,349nm,0.9s
YAK pmax pmax
comp=N,111nm,1.1s
YAK pmax pmax
comp=E,101nm,1.4s
YAK pmax pmax
comp=Z,48nm,1.5s
YAK smax smax
comp=E,98nm,2.5s
YAK smax smax
comp=N,66nm,2.3s
YAK MLR MLR
comp=Z,2µm,20.0s
YAK MLR MLR
comp=E,629nm,14.0s
YAK MLR MLR
comp=N,1µm,17.0s
GOF Gofitskoye 65.91 320⇑ eP P **20 14 59.5 +0.8**
GHAJ Ghor Haditha 66.80 304 P P **20 15 04.0 -0.6**
GHAJ IAmb IAmb 20 15 07.2
comp=Z,51nm,0.9s
GHAJ IAMs_20 IAMs_20 20 45 26.0
comp=Z,1µm,20.0s
BELG Belogornoye 66.81 329*c* iP P **20 15 03.6 -0.7**
BELG pmax pmax
comp=Z,45nm,1.0s
EIL Elat 66.93 302 LR LR 20 44 48.3
comp=Z,1µm,18.8s,baz=100,slow=36
SOC Sochi 67.50 318 eP P **20 15 07.5 -1.4**
SOC e 20 17 36.0
SOC eS S **20 24 03.8 +1.6**
SOC eSS SS **20 28 21.7 -1.6**
SOC pmax pmax
comp=Z,121nm,0.8s
SOC MLR MLR
comp=Z,198nm,13.0s
KOUNC Koumac, New Ca 67.58 112 P P **20 15 08.3 -1.5**
KOUNC IAmb IAmb 20 15 25.0
comp=Z,78nm,1.0s
MBAR Mbarara 67.79 269 P P **20 15 12.7 +1.1**
MBAR Mbarara 67.79 269*ce*P P **20 15 14.4 +2.9**
MBAR pmax pmax
comp=Z,18nm,1.7s
CUAYA Sivas-Altinyay 68.10 313 P P **20 15 13.3 +0.3**
ERBA Erbaa 68.55 314 P P **20 15 15.9 +0.3**
BNN Bunyan 68.64 312 P P **20 15 15.4 -1.0**
HACI Hacifakili, Ak 68.99 313 P P **20 15 17.6 -0.8**
CKRK Yozgat, Cekere 69.27 313 P P **20 15 19.5 -0.7**
SIRC Yozgat 69.31 312 P P **20 15 20.5 +0.1**
AVNS Nevsehir-Avano 69.38 312 P P **20 15 21.4 +0.5**
VRH Novokhopyorsk 69.41 326 eP P **20 15 19.7 -0.9**
VRH pmax pmax
comp=Z,230nm,0.7s
KIRV Kirov 69.47 335 LR LR 20 48 42.0
comp=Z,785nm,19.8s,baz=123,slow=38
KIRV Kirov 69.47 335*ce*P P **20 15 21.2 +0.4**
CSS Mathiatis 69.52 307 P P **20 15 21.9 +0.2**
CSS IAmb IAmb 20 15 23.7
comp=Z,82nm,1.0s
SKR Severo-Kuril's 69.63 35 eP P **20 15 21.9 -0.1**
SKR pmax pmax
comp=Z,97nm,1.1s
COAL Corum-Alaca 69.70 313 P P **20 15 22.9 +0.1**
DZM Mont Dzumac 69.81 114 P P **20 15 24.3 +0.5**
comp=Z,25nm,1.0s,baz=44,slow=6.9,SNR=5.6
DZM LR LR 20 48 59.1
comp=Z,719nm,18.3s,baz=236,slow=38
comp=Z,25nm,1.0s
DZM Mont Dzumac 69.81 114 P P **20 15 23.9 +0.1**
DIKM Dikmen 69.93 315 ⇑P P **20 15 24.9 +0.8**
CDAG Cicekdag 69.97 312 P P **20 15 24.4 0.0**
AKSY AKSARAY - Alti 70.15 311 P P **20 15 25.9 +0.3**
BOYA Sinop/Boyabat- 70.30 314 P P **20 15 26.4 0.0**
KAGI orum-Kargı 70.33 314 P P **20 15 27.0 +0.4**
DELI KIRIKKALE 70.41 313 P P **20 15 26.6 -0.5**
BR131 Keskin Array S 70.54 312 P P **20 15 27.5 -0.5**
BR131 IAmb IAmb 20 15 29.0
comp=Z,92nm,0.8s
BR131 Keskin Array S 70.54 312 P P **20 15 27.5 -0.5**
BR131 pmax pmax
comp=Z,93nm,0.9s
BRTR Keskin Array B 70.54 312 P P **20 15 28.1 0.0**
comp=Z,46nm,0.8s,baz=131,slow=7.5,SNR=196
comp=Z,46nm,0.8s
BRTR Keskin Array B 70.54 312 P P **20 15 27.2 -0.8**
BRTR Keskin Array B 70.54 312 P P **20 15 27.2 -0.8**
ILGA Ilgaz 70.86 314 P P **20 15 30.7 +0.6**
ILGA Ilgaz 70.86 314 P P **20 15 30.7 +0.6**
VSR Storozhevoye 70.87 325 eP P **20 15 28.4 -1.2**
VSR pmax pmax
comp=Z,130nm,0.8s
BZK Bozkurt 70.91 315 P P **20 15 29.5 -0.5**
VORR Voronezh 71.03 326⇓ iP P **20 15 30.6 0.0**
VORR pmax pmax
comp=Z,232nm,1.2s
LSZ Lusaka 71.19 254 LR LR 20 41 52.1
comp=Z,1µm,21.7s,baz=136,slow=32
LSZ Lusaka 71.19 254 P P **20 15 33.0 +0.6**
LSZ Lusaka 71.19 254 P P **20 15 33.0 +0.6**
LSZ pmax pmax
comp=Z,76nm,1.9s
ANTO Ankara 71.20 312 ⇑P P **20 15 31.7 -0.2**
ANTO Ankara 71.20 312 P P **20 15 31.5 -0.5**
ANTO IAmb IAmb 20 15 33.3
comp=Z,105nm,0.9s
ANTO Ankara 71.20 312 P P **20 15 31.5 -0.5**
ANTO pmax pmax
comp=Z,105nm,1.0s
BR231 Keskin MP Arra 71.21 312 P P **20 15 31.7 -0.4**
BR231 IAmb IAmb 20 15 33.4
comp=Z,89nm,0.8s
PELI Kastamonı-Ara 71.22 314 P P **20 15 31.7 -0.4**
MA2 Magadan 71.36 25 P P **20 15 32.9 +0.5**
comp=Z,115nm,0.7s,baz=241,slow=5.7,SNR=138
comp=Z,115nm,0.7s
MA2 Magadan 71.36 25 P P **20 15 32.0 -0.5**
MA2 IAMs_20 IAMs_20 20 48 15.5
comp=Z,1µm,20.0s
MA2 Magadan 71.36 25*ce*P P **20 15 32.8 +0.4**
MA2 pmax pmax
comp=Z,270nm,1.3s
MA2 Magadan 71.36 25 P P **20 15 31.6 -0.9**
MA2 pP **pP 20 15 46.2 +1.0**
PEA0B Petropavlovsk- 71.56 33 P P **20 15 33.5 -0.3**
PEA0B IAmb IAmb 20 15 49.6
comp=Z,41nm,0.8s
PEA0B Petropavlovsk- 71.56 33*ce*P P **20 15 34.1 +0.3**
PETK Petropavlovsk- 71.56 33 P P **20 15 33.3 -0.5**
comp=Z,24nm,0.8s,baz=293,slow=1.1,SNR=35
comp=Z,24nm,0.8s
LPSR Galich'ya Gora 71.58 326 eP P **20 15 33.5 -0.3**
LPSR pmax pmax
comp=Z,200nm,0.9s
KBUK KARABUK-Merkez 71.70 314 P P **20 15 35.1 +0.2**
BCAM Yenicaga 71.99 313 P P **20 15 35.8 -0.9**
KIBS BOLU 72.04 313 P P **20 15 36.5 -0.6**
PET Petropavlovsk 72.05 33 P P **20 15 36.3 -0.4**
PET IAmb IAmb 20 15 37.9
comp=Z,104nm,0.6s
PET Petropavlovsk 72.05 33 ⇑iP P **20 15 36.7 0.0**
PET e 20 15 51.8
PET eS S **20 24 55.2 0.0**
PET pmax pmax
comp=Z,200nm,0.6s
PET MLR MLR
comp=Z,2µm,17.0s
BTIN Bartin 72.08 314 P P **20 15 36.5 -0.6**
DEVR Zonguldak/Devr 72.15 313 P P **20 15 37.6 +0.1**
MAW Mawson 72.37 194 P P **20 15 40.9 +2.6**
baz=73,SNR=8.5
MAW Mawson 72.37 194 P P **20 15 40.5 +2.2**
comp=Z,3.6nm,0.8s,baz=52,slow=6.7,SNR=11
MAW Mawson 72.37 194 P P **20 15 40.1 +1.9**
MAW Mawson 72.37 194 P P **20 15 40.2 +1.9**

ISP Isparta 72.41 310 P P **20 15 38.7 -0.6**
ISP IAmb IAmb 20 15 41.2
comp=Z,178nm,1.7s
ISP Isparta 72.41 310 P P **20 15 38.7 -0.6**
ISP pmax pmax
comp=Z,178nm,1.7s
YIGI Dzce 72.48 313 P P **20 15 39.0 -0.6**
MDUB Mudurnu 72.54 312 P P **20 15 38.6 -1.4**
KDZE Karadeniz Ereo 72.58 313 ⇑P P **20 15 39.9 -0.2**
ELL Elmali 72.64 308 P P **20 15 40.9 +0.2**
ELL Elmali 72.64 308 P P **20 15 40.9 +0.2**
AKAS Kas 72.77 308 P P **20 15 42.2 +0.7**
PRGR Permogore 72.77 336 eP P **20 15 41.0 +0.2**
PRGR eS S **20 25 05.0 +1.8**
BORA Eskisehir 72.95 312 P P **20 15 42.5 +0.1**
BORA IAmb IAmb 20 15 43.5
comp=Z,222nm,1.8s
MOS Moscow 73.58 329 eP P **20 15 43.0 -2.7**
MOS e 20 16 09.2
MOS eS SKiKP **20 25 07.8 -4.7**
MOS pmax pmax
comp=Z,374nm,0.7s
MOS pmax pmax
comp=Z,500nm,0.9s
TIXI Tiksi 73.61 10 P P **20 15 45.1 -0.5**
comp=Z,93nm,0.8s,baz=153,slow=4.2,SNR=192
comp=Z,93nm,0.8s
TIXI Tiksi 73.61 10 P P **20 15 44.4 -1.1**
TIXI Tiksi 73.61 10*ce*P P **20 15 44.9 -0.7**
TIXI pmax pmax
comp=Z,208nm,1.3s
SEY Seymchan 73.86 23 P P **20 15 47.7 +0.5**
comp=Z,151nm,0.8s,baz=247,slow=6.1,SNR=196
comp=Z,151nm,0.8s
SEY Seymchan 73.86 23*ce*P P **20 15 45.6 -1.6**
SEY pmax pmax
comp=Z,277nm,1.3s
OBN Obninsk 73.88 328 ⇑P P **20 15 47.5 +0.1**
OBN Obninsk 73.88 328 P P **20 15 46.6 -0.8**
OBN Obninsk 73.88 328⇓ eP P **20 15 47.5 +0.1**
OBN e 20 16 03.0
OBN e 20 18 31.5
OBN pmax pmax
comp=Z,344nm,1.7s
OBN MLR MLR
comp=Z,330nm,21.0s
ARG Arkhangelos 73.93 308 P P **20 15 48.2 0.0**
ARG IAmb IAmb 20 15 49.7
comp=Z,115nm,1.0s
ARG Arkhangelos 73.93 308 P P **20 15 48.2 0.0**
ARG pmax pmax
comp=Z,115nm,1.0s
MANT Manisa 74.06 310 P P **20 15 49.0 -0.2**
MANT IAmb IAmb 20 15 50.5
comp=Z,55nm,0.9s
KARP Karpathos 74.58 307 P P **20 15 52.8 +0.8**
LBTB Lobatse 74.78 244 P P **20 15 54.6 +1.1**
LBTB Lobatse 74.78 244 P P **20 15 54.6 +1.1**
LBTB pmax pmax
comp=Z,30nm,1.3s
KLMR Klimovskoe 74.92 334 eP P **20 15 51.1 -2.3**
KLMR e 20 18 38.9
KLMR pmax pmax
comp=Z,186nm,1.5s
KLMR Klimovskoe 74.92 334 eP P **20 15 51.2 -2.2**
KLMR AMP 20 15 54.7
comp=Z,186nm,1.5s
KLMR ePP PP **20 18 39.0 -2.4**
PURM Purcari 75.05 318 ⇑P P **20 15 55.0 +0.6**
BLCB Balcova 75.21 310 P P **20 15 56.0 +0.5**
MANR Mangalia 75.24 315 ⇑P P **20 15 56.3 +0.7**
JURR Jurilovca 75.27 316 ⇑P P **20 15 56.0 +0.3**
TLCR 75.42 317 ⇑P P **20 15 57.3 +0.7**
PSN Preselentsi 75.50 315 *i* P P **20 15 57.5 +0.4**
TIRR Tirgusor 75.52 316 ⇑P P **20 15 57.3 +0.1**
TIRR Tirgusor 75.52 316 P P **20 15 57.0 -0.2**
TIRR Tirgusor 75.52 316 P P **20 15 57.0 -0.2**
TIRR pmax pmax
comp=Z,232nm,0.9s
DCZ Deep Cove 75.53 137 P P **20 15 57.0 -0.2**
DCZ IAmb IAmb 20 15 59.5
comp=Z,99nm,1.2s
BOSA Boshof 75.60 240 P P **20 15 59.4 +1.2**
comp=Z,2.8nm,0.8s,baz=218,slow=16,SNR=2.4
TPGR Topolog 75.61 316 ⇑P P **20 15 57.5 -0.2**
TLBR Topalu 75.79 316 ⇑P P **20 15 59.3 +0.6**
MILM Milestii Mici 75.85 318 ⇑P P **20 15 59.2 +0.2**
ICOR Ion Corvin 75.87 315 ⇑P P **20 16 00.1 +0.9**
CFR Carcaliu 75.88 317 ⇑P P **20 15 59.8 +0.6**
HARR Harsova 75.91 316 ⇑P P **20 16 00.1 +0.7**
PRD Provadia 75.94 314 *i* P P **20 15 59.7 +0.1**
PRK Paraskevi 75.96 310 P P **20 16 00.3 +0.5**
VLDR Vladesti 76.08 317 ⇑P P **20 16 01.2 +0.8**
LEOM Leova 76.12 318 ⇑P P **20 16 01.3 +0.7**
EDRB Edirne 76.13 313 P P **20 16 00.7 0.0**
VARL Varlezi 76.25 317 ⇑P P **20 16 02.3 +1.0**
TUDR 76.30 317 ⇑P P **20 16 02.8 +1.2**
IDI Anoyia 76.36 306 ⇓P P **20 16 02.5 +0.2**
IDI Anoyia 76.36 306 P P **20 16 03.0 +0.7**
IDI Anoyia 76.36 306 P P **20 16 02.8 +0.5**
IDI IAmb IAmb 20 16 04.0
comp=Z,62nm,0.8s
ALN Alexandroupoli 76.45 312 P P **20 16 02.3 -0.3**
ALN Alexandroupoli 76.45 312 P P **20 16 02.9 +0.3**
ALN IAmb IAmb 20 16 03.9
comp=Z,59nm,1.0s
ALN Alexandroupoli 76.45 312 P P **20 16 02.9 +0.3**
ALN pmax pmax
comp=Z,59nm,1.0s
VASR Vaslui 76.47 318 ⇑P P **20 16 03.5 +0.9**
AK05 Malin Array Si 76.58 322 P P **20 16 02.6 -0.5**
AK05 IAmb IAmb 20 16 04.0
comp=Z,92nm,0.9s
GHRR 76.59 317 ⇑P P **20 16 04.4 +1.2**
AKASG Malin Array Be 76.59 322 P P **20 16 02.6 -0.6**
DCZ comp=Z,25nm,0.6s,baz=83,slow=5.1,SNR=189
AKASG PP PP **20 18 52.5 -3.2**
comp=Z,1.1nm,0.5s,baz=85,slow=7.9,SNR=6.1
comp=Z,25nm,0.6s
AKASG Malin Array Be 76.59 322 P P **20 16 02.4 -0.7**
AKASG IAmb IAmb 20 16 04.0
comp=Z,77nm,0.8s
AKASG Malin Array Be 76.59 322 *i* P P **20 16 02.5 -0.6**
AKASG pmax pmax
comp=Z,44nm,0.6s
AKBB Malin Array Si 76.59 322 P P **20 16 02.3 -0.9**
AKBB IAmb IAmb 20 16 03.9
comp=Z,79nm,0.8s
AKBB Malin Array Si 76.59 322*ce*P P **20 16 03.0 -0.1**
AKBB pmax pmax
comp=Z,76nm,0.7s
LEHL Lehliu 76.63 316 ⇑P P **20 16 04.3 +0.8**
RAZG Razgrad 76.66 315 ⇑P P **20 16 04.5 +0.7**
PANC Panciu 76.72 317 ⇑P P **20 16 05.4 +1.5**
IAS Iasi 76.75 319 ⇑P P **20 16 04.7 +0.5**
SMTH Samothraki Isl 76.76 311 P P **20 16 03.8 -0.5**
RDO Rodhopi 76.88 312 P P **20 16 04.1 -0.9**
RDO Rodhopi 76.88 312 P P **20 16 05.0 0.0**
LIA Limnos Island 76.91 311 P P **20 16 04.8 -0.4**
ISR Istrita 76.97 316 ⇓P P **20 16 06.7 +1.2**
VRI Vrincioaia 77.00 317 ⇑P P **20 16 06.5 +0.8**
SZH Strazhica 77.00 314 *i* P P **20 16 05.2 -0.5**
PLOR Plostina 77.05 317 ⇑P P **20 16 06.8 +0.9**
SULR 77.07 316 ⇑P P **20 16 07.4 +1.4**
IMMV Iera Moni Meta 77.12 306 P P **20 16 07.1 +0.6**
TESR Tescani 77.20 318 ⇑P P **20 16 07.8 +1.1**
NEHR Nehoiu 77.20 317 ⇑P P **20 16 08.0 +1.2**
KNDR Palaiochora Ch 77.33 306 P P **20 16 08.1 +0.5**
COVR Voineasa-Covas 77.36 317 ⇑P P **20 16 08.2 +0.6**
THAS Thassos island 77.39 311 P P **20 16 07.7 -0.1**
MLR Muntele Rosu 77.46 317 ⇑P P **20 16 09.0 +0.7**
MLR Muntele Rosu 77.46 317 P P **20 16 07.8 -0.5**
MLR Muntele Rosu 77.46 317 P P **20 16 07.8 -0.5**
MLR pmax pmax
comp=Z,187nm,1.0s
ZIMR 77.49 315 ⇑P P **20 16 08.8 +0.5**
DION Dionisos Attik 77.56 309 P P **20 16 08.6 -0.3**
RZN Rozhen 77.58 313 *i* P P **20 16 09.0 -0.2**
KAVA Kavala 77.61 312 P P **20 16 09.0 -0.1**
PTL Penteli 77.61 309 P P **20 16 08.6 -0.6**
VLY Voula,Athens 77.64 309 P P **20 16 07.9 -1.4**
ATHU Athens Univers 77.66 309 P P **20 16 08.3 -1.2**
BIZ Bicaz 77.66 318 ⇑P P **20 16 10.1 +0.8**

COPA Copaceanca 77.69 315 ⇑P P **20 16 10.0 +0.6**
OZUR 77.69 317 ⇑P P **20 16 09.2 -0.3**
ANKY Antikythira Is 77.73 307 P P **20 16 10.9 +1.0**
RPZ Rata Peaks 77.80 135 P P **20 16 10.5 +0.4**
comp=Z,79nm,0.7s,baz=264,slow=3.6,SNR=22
RPZ LR LR 20 49 18.7
comp=Z,636nm,21.5s,baz=256,slow=35
comp=Z,79nm,0.7s
RPZ Rata Peaks 77.80 135 P P **20 16 10.8 +0.6**
RPZ IAmb IAmb 20 16 11.8
comp=Z,75nm,0.7s
HUMR Humele 77.93 315 ⇑P P **20 16 10.9 +0.1**
DOPR Dopca 77.94 317 ⇑P P **20 16 11.2 +0.3**
KOKK Kokkinochori, 77.96 312 P P **20 16 10.7 -0.4**
STFAR Stefanesti-Arg 78.01 316 ⇑P P **20 16 12.0 +0.8**
MTUR Matau 78.01 316 ⇑P P **20 16 12.0 +0.6**
KTHR Kythira 78.02 307 P P **20 16 11.7 +0.2**
PAIG Paliouri 78.06 311 P P **20 16 11.3 -0.3**
VILL Villia 78.06 309 P P **20 16 10.4 -1.3**
VOIR 78.06 316 ⇑P P **20 16 11.8 +0.1**
KRND KRANIDI 78.07 308 P P **20 16 11.0 -0.7**
EPID Epidavros 78.13 308 P P **20 16 10.0 -2.1**
NVR Nevrokopi 78.16 312 P P **20 16 11.8 -0.4**
VLAD Vladila 78.24 315 ⇑P P **20 16 13.5 +1.0**
QRZ Quartz Range 78.28 132 P P **20 16 14.0 +1.2**
QRZ IAmb IAmb 20 16 14.9
comp=Z,146nm,0.9s
MMB Musomiste 78.30 312 *i* P P **20 16 12.4 -0.6**
SRS Serrai 78.32 312 P P **20 16 12.2 -0.9**
ARR Arges 78.34 316 ⇑P P **20 16 13.5 +0.3**
ATAL Atalanti 78.37 309 P P **20 16 12.0 -1.4**
LKR Lokris 78.38 309 P P **20 16 11.2 -2.2**
BURAR Bucovina Array 78.40 319 ⇑P P **20 16 14.6 +1.2**
BURAR Bucovina Array 78.40 319 P P **20 16 14.3 +0.8**
BUR08 Bucovina Ar. S 78.41 319 P P **20 16 14.4 +0.8**
BUR08 IAmb IAmb 20 16 16.1
comp=Z,116nm,0.8s
MNK Minsk 78.41 326 *i* P P **20 16 13.8 +0.6**
MNK *i* *PP pP **20 16 26.6 +0.4**
MNK *i* 20 19 11.1
MNK *i* PPP PPP 20 20 59.3
MNK *i* S S **20 26 04.3 -1.5**
MNK *i* *SS sS **20 26 28.8 +1.4**
MNK *i* SS SS **20 31 11.2 +1.8**
MNK *i* SSS SSS 20 34 36.3
MNK pmax pmax
comp=Z,201nm,1.0s
MNK pmax pmax
comp=E,17nm,1.0s
MNK Minsk 78.41 326 *i* P P **20 16 13.8 +0.6**
comp=E,17nm,1.0s,baz=286
MNK *i* P P **20 16 13.8 +0.6**
MNK *i* P P **20 16 13.8 +0.6**
comp=Z,201nm,1.0s
MNK *i* pP pP **20 16 26.6 +0.4**
MNK *i* PP PP **20 19 11.2 +0.2**
MNK *i* PPP PPP 20 20 59.4
MNK *i* S S **20 26 04.4 -1.5**
MNK *i* sS sS **20 26 28.8 +1.4**
MNK *i* SS SS **20 31 11.3 +1.8**
MNK *i* SSS SSS 20 34 36.4
MNK *i* LQ LQ 20 45 48.8
MNK *i* LR LR 20 50 21.0
OXZ Oxford 78.42 134 P P **20 16 13.2 -0.3**
OXZ IAmb IAmb 20 16 16.1
comp=Z,59nm,1.0s
SOH Sokhos 78.45 312 P P **20 16 13.1 -0.7**
MPEP Malo Peshtene 78.59 314 *i* P P **20 16 15.3 +0.8**
HORT Hortiatis 78.60 311 P P **20 16 13.8 -0.9**
AXAR Agios Charalam 78.66 309 P P **20 16 14.0 -1.0**
PUL Pulkovo 78.71 331*ce*P P **20 16 15.8 +1.1**
PUL pmax pmax
comp=Z,180nm,0.4s
THZ Tophouse 78.74 133 P P **20 16 15.4 0.0**
THZ IAmb IAmb 20 16 16.8
comp=Z,101nm,0.9s
KKB Krupnik 78.82 313 *i* P P **20 16 15.3 -0.5**
VTS Vitosha 78.83 313 ⇑P P **20 16 16.5 +0.5**
VTS Vitosha 78.83 313 P P **20 16 15.7 -0.3**
VTS IAmb IAmb 20 16 17.4
comp=Z,67nm,0.8s
VTS Vitosha 78.83 313 P P **20 16 15.7 -0.3**
VTS pmax pmax
comp=Z,67nm,0.8s
VTS Vitosha 78.83 313 *i* P P **20 16 16.0 0.0**
VTS Vitosha 78.83 313 ⇑P P **20 16 16.0 0.0**
KNT Kendrikon 78.84 312 P P **20 16 15.4 -0.6**
ARCR ARCALIA 78.86 318 ⇑P P **20 16 16.9 +1.0**
KLV Kalavryta, Ach 78.95 309 P P **20 16 15.8 -0.9**
LOT Lotru 78.95 316 ⇓P P **20 16 17.0 +0.4**
LIT Litokhoron 78.99 311 P P **20 16 15.9 -0.8**
LIT Litokhoron 78.99 311 P P **20 16 16.0 -0.8**
LIT Litokhoron 78.99 311 P P **20 16 16.0 -0.8**
BAIL Bailesti 78.99 315 ⇑P P **20 16 17.7 +1.1**
ITM Ithomi 79.01 308 P P **20 16 16.4 -0.5**
ITM Ithomi 79.01 308 P P **20 16 16.8 -0.1**
ITM IAmb IAmb 20 16 17.9
comp=Z,92nm,0.9s
SERG Sergoula 79.07 309 P P **20 16 15.9 -1.4**
LAKA Lakka 79.11 309 P P **20 16 16.9 -0.6**
VAY Valandovo 79.11 312 *i* P P **20 16 17.2 -0.2**
PYL PYLOS 79.11 307 P P **20 16 16.7 -0.8**
NACGM Naroch 79.14 326⇓ eP P 20 16 09.3 -7.9
baz=105
EFP Efpalio 79.19 309 P P **20 16 17.3 -0.6**
ANX Ano Chora 79.20 309 P P **20 16 17.7 -0.4**
THL Klokotos Trika 79.27 310 P P **20 16 17.0 -1.3**
DRO Drossia 79.28 308 P P **20 16 18.1 -0.3**
CJR Cluj-Napoca 79.30 317 ⇑P P **20 16 19.9 +1.6**
KHZ Kahutara 79.32 133 P P **20 16 17.5 -1.0**
KHZ IAmb IAmb 20 16 19.8
comp=Z,103nm,1.0s
EVR Evrytania 79.34 309 P P **20 16 18.1 -0.7**
CBBR Cluj-Babes-Bol 79.34 318 ⇑P P **20 16 20.0 +1.4**
BLKB Belogradchik 79.40 314 ⇑P P **20 16 19.5 +0.5**
TUWZ Tuamarina 79.44 132 P P **20 16 19.0 -0.2**
STIP Stip 79.45 312 *i* P P **20 16 18.1 -1.2**
PVO Paravola 79.51 309 P P **20 16 19.3 -0.3**
BMR Baia Mare 79.55 318 ⇑P P **20 16 20.6 +0.9**
IIGN Ignalina 79.56 326 eP P **20 16 20.1 +0.6**
LVV L'vov 79.62 321 eP P **20 16 19.7 -0.3**
DEV Deva 79.62 317 ⇑P P **20 16 21.1 +1.1**
GZR Gura Zlata 79.63 316 ⇑P P **20 16 20.9 +0.7**
ISAL Salakas 79.67 327 eP P **20 16 21.1 +1.0**
DJES Djerdap 79.69 315 ⇑P P **20 16 20.9 +0.4**
HERR Herculane 79.79 315 ⇑P P **20 16 21.8 +0.8**
MESR Meseseni 79.82 318 ⇑P P **20 16 22.4 +1.3**
LVZ Lovozero 79.91 340 P P **20 16 21.6 +0.4**
LVZ IAmb IAmb 20 16 22.4
comp=Z,67nm,0.8s
LVZ Lovozero 79.91 340*ce*P P **20 16 21.2 0.0**
LVZ pmax pmax
comp=Z,70nm,1.3s
DRGR 79.92 317 ⇑P P **20 16 22.7 +0.9**
VSU Vasula 80.09 330 eP P **20 16 23.2 +0.9**
BOVS Bovan 80.10 314 ⇑P P **20 16 22.6 -0.1**
NEST Nestorio 80.12 311 P P **20 16 22.0 -1.0**
NYDR Nydri-Lefkada 80.17 309 P P **20 16 22.9 -0.3**
JAN Janina 80.17 310 P P **20 16 22.1 -1.1**
MSVF Nonsavu 80.19 108 P P **20 16 23.9 +0.1**
comp=Z,29nm,1.0s,baz=303,slow=1.8,SNR=5.2
comp=Z,29nm,1.0s
MSVF Nonsavu 80.19 108 P P **20 16 23.2 -0.6**
MSVF Nonsavu 80.19 108 P P **20 16 23.2 -0.6**
MSVF pmax pmax
comp=Z,61nm,1.2s
LKD2 Lefkada island 80.21 309 P P **20 16 23.2 -0.3**
APA Apatity 80.21 339⇑ iP P **20 16 22.2 -0.6**
APA *i* 20 16 28.5
APA *i* S S **20 26 22.0 -2.4**
APA pmax pmax
comp=Z,44nm,1.0s
APA MLR MLR
comp=Z,1µm,21.0s
TSLK Tsoukalades, L 80.22 309 P P **20 16 23.7 +0.2**
MDVR Moldovita 80.27 315 ⇑P P **20 16 24.3 +0.6**
KBN Korca 80.35 311 P P **20 16 23.3 -0.9**
KBN Korca 80.35 311 P P **20 16 23.3 -0.9**
KBN pmax pmax
comp=Z,41nm,1.0s
LSK Leskovik 80.43 311 P P **20 16 24.5 -0.2**
BZS Buzias 80.47 316 ⇑P P **20 16 25.2 +0.6**

UZH	Uzhgorod	80.51	319	⇓	*i*P		P	20 16 25.3	+0.5
UZH					*i*			20 16 34.0	
UZH					*e*			20 16 39.0	
UZH					*e*			20 19 25.7	
SIRR	Siria	80.54	317	⇑	P		P	20 16 26.4	+1.3
LTVH	Ltavrtes, Hu	80.56	318	⇑	P		P	20 16 26.1	+1.0
LTVH	Ltavrtes, Hu	80.56	318		P		P	20 16 26.7	+1.6
KOLS	Kolonicke sedl	80.58	320		*e*P		P	20 16 27.1	+1.9
KOLS					pmax	pmax			
	comp=Z,165nm,0.8s								
KOLS	Kolonicke sedl	80.58	320		*e*P		P	20 16 27.1	+1.9
BORR	Bors	80.59	318	⇑	P		P	20 16 26.1	+0.9
PHP	Peshkopia	80.75	312		P		P	20 16 24.9	-1.4
PABE	Paberze	80.85	326		P		P	20 16 26.2	-0.2
PABE	Paberze	80.85	326		*e*P		P	20 16 26.7	+0.3
SRN	Sarande	80.85	310		P		P	20 16 26.1	-0.7
SHEM	Shemya Is, Ala	80.86	37		P		P	20 16 26.5	-0.1
	comp=Z,84nm,0.8s,baz=299,slow=15,SNR=3.8								
	comp=Z,84nm,0.8s								
VSVD	Vaisvydziai	80.97	327		*e*P		P	20 16 28.1	+1.0
KEK	Kerkira	80.98	310		P		P	20 16 27.4	-0.2
KEK	Kerkira	80.98	310		P		P	20 16 27.5	0.0
KEK					IAmb	IAmb		20 16 28.7	
	comp=Z,116nm,0.8s								
TIR	Tirane	81.13	312		P		P	20 16 27.9	-0.4
TIR	Tirane	81.13	312		P		P	20 16 27.9	-0.4
TIR					pmax	pmax			
	comp=Z,42nm,1.0s								
FIA1	FINESS Array S	81.20	332		P		P	20 16 28.8	+0.6
FIA1					IAmb	IAmb		20 16 29.7	
	comp=Z,128nm,0.9s								
FINES	FINESS Array B	81.20	332		P		P	20 16 28.4	+0.2
	comp=Z,68nm,0.6s,baz=103,slow=5.7,SNR=372								
	comp=Z,68nm,0.6s								
FINES	FINESS Array B	81.20	332		P		P	20 16 28.2	+0.1
FINES	FINESS Array B	81.20	332		*i* P		P	20 16 28.3	+0.1
FINES					pmax	pmax			
	comp=Z,68nm,0.6s								
PVY	Plav	81.22	313	⇑	*i*P		P	20 16 28.6	-0.3
IVA	Berane	81.30	313	⇑	*i*P		P	20 16 28.9	-0.4
VLO	Vlora	81.31	311		P		P	20 16 29.5	+0.3
VLO	Vlora	81.31	311		P		P	20 16 29.5	+0.3
VLO					pmax	pmax			
	comp=Z,251nm,1.4s								
BILL	Bilibino	81.32	21		IAMs_20	IAMs_20		20 48 55.9	
	comp=Z,2µm,20.0s								
BILL	Bilibino	81.32	21	*de*	P		P	20 16 28.0	-0.7
BILL				*e*				20 19 31.5	
BILL				*e*	PPP	PPP		20 21 26.8	
BILL					pmax	pmax			
	comp=Z,70nm,2.5s								
BILL					MLR	MLR			
	comp=Z,960nm,16.0s								
URZ	Urewera	81.37	129		LR	LR		20 54 25.3	
	comp=Z,720nm,19.2s,baz=213,slow=37								
DIVS	Divibare	81.39	314		P		P	20 16 29.8	+0.1
DIVS					IAmb	IAmb		20 16 31.5	
	comp=Z,64nm,1.1s								
DIVS	Divibare	81.39	314	⇑	*i*P		P	20 16 29.8	+0.1
KOME	Kolasin	81.58	313	⇑	*i*P		P	20 16 30.5	-0.3
MTSE	Matsula	81.63	329		*e*P		P	20 16 31.0	+0.5
BSZH	Besenyszg	81.65	318		P		P	20 16 31.3	+0.4
FRGS	Fruska Gora	81.66	315	⇑	P		P	20 16 31.4	+0.4
FRGS	Fruska Gora	81.66	315	⇑	*i*P		P	20 16 31.1	0.0
KECS	Kecovo	81.67	319		*e*P		P	20 16 32.2	+1.2
KECS					pmax	pmax			
	comp=Z,56nm,0.7s								
KECS	Kecovo	81.67	319		*e*P		P	20 16 32.2	+1.2
MEF	Metsahovi	81.69	331		*e*P		P	20 16 31.3	+0.5
PDG	Podgorica	81.72	313	⇑	P		P	20 16 31.0	-0.3
PDG	Podgorica	81.72	313		P		P	20 16 30.8	-0.5
TTG	Podgorica	81.72	313	⇑	*i*P		P	20 16 31.1	-0.3
PLE	Pljevlja	81.73	314	⇑	*i*P		P	20 16 31.8	+0.2
DRME	Dracevica, Mon	81.74	312	⇑	*i*P		P	20 16 31.2	-0.3
DRME	Dracevica, Mon	81.74	312	⇑	*i*P		P	20 16 31.3	-0.3
RUDO	Rudo	81.78	314	⇑	*i*P		P	20 16 31.8	+0.1
NKY	Niksic	81.95	313	⇑	*i*P		P	20 16 33.1	+0.3
BUM	Brajici-Budva	81.97	313	⇑	*i*P		P	20 16 31.7	-1.1
CEME	Cevo	81.98	313	⇑	*i*P		P	20 16 32.5	-0.3
NKME	Niksic	81.98	313	⇑	*i*P		P	20 16 32.5	-0.3
PSZ	Piszkesteto	81.98	318	⇑	P		P	20 16 33.1	+0.4
PSZ	Piszkesteto	81.98	318		P		P	20 16 32.8	+0.1
PSZ					IAmb	IAmb		20 16 34.6	
	comp=Z,75nm,0.8s								
PSZ	Piszkesteto	81.98	318		P		P	20 16 32.8	+0.1
PSZ					pmax	pmax			
	comp=Z,75nm,0.8s								
PSZ	Piszkesteto	81.98	318		PP		P	20 16 51.5	+19
PSZ	Piszkesteto	81.98	318		P		P	20 16 33.2	+0.4
SCTE	Santa Cesarea	82.04	310		P		P	20 16 33.5	+0.4
SCTE					IAmb	IAmb		20 16 34.4	
	comp=Z,133nm,0.9s								
UPM	Unac-Piva	82.06	313	⇑	*i*P		P	20 16 33.3	-0.1
UPM	Unac-Piva	82.06	313	⇑	*i*P		P	20 16 32.5	-0.9
PBUR	Paburge	82.08	327		*e*P		P	20 16 33.4	+0.4
SLIT	Slitere, Latvi	82.19	328		*e*P		P	20 16 33.9	+0.4
HCY	Herceg Novi	82.28	313	⇑	*i*P		P	20 16 34.0	-0.3
HCY	Herceg Novi	82.28	313	⇑	*i*P		P	20 16 34.0	-0.3
BRY	Bratogost	82.30	313	⇑	*i*P		P	20 16 34.6	0.0
BRY	Bratogost	82.30	313	⇑	*i*P		P	20 16 34.1	-0.5
OJC	Ojcow	82.38	321		P		P	20 16 33.9	-0.8
OJC					IAmb	IAmb		20 16 35.5	
	comp=Z,58nm,0.9s								
OJC	Ojcow	82.38	321		P		P	20 16 33.9	-0.8
OJC					pmax	pmax			
	comp=Z,58nm,0.9s								
TREB	Trebinje	82.41	313	⇑	*i*P		P	20 16 34.8	-0.2
LANS	Liptovska Anna	82.44	319		*e*P		P	20 16 36.2	+1.1
LANS					pmax	pmax			
	comp=Z,16nm,0.8s								
LANS	Liptovska Anna	82.44	319		*e*P		P	20 16 36.2	+1.1
BUD	Budapest	82.51	318		P		P	20 16 35.8	+0.4
MORH	Mrgy, Hungar	82.61	316	⇑	P		P	20 16 36.2	+0.3
MORH	Mrgy, Hungar	82.61	316		P		P	20 16 35.8	-0.1
VYHS	Vyhne	82.76	319		*e*P		P	20 16 37.5	+0.8
VYHS					pmax	pmax			
	comp=Z,61nm,1.3s								
VYHS	Vyhne	82.76	319		*e*P		P	20 16 37.5	+0.8
DOB	Doboj	82.82	315		*e*P		P	20 16 38.1	+1.0
STON	Ston	82.91	313	⇑	*i*P		P	20 16 35.4	-2.1
KOVH	Kovagotottos	82.97	316		P		P	20 16 38.2	+0.4
CSKK	Cskako	83.01	318		P		P	20 16 39.0	+1.0
SRO	Srobarova	83.03	318		*e*P		P	20 16 39.7	+1.6
SRO					pmax	pmax			
	comp=Z,86nm,0.9s								
SRO	Srobarova	83.03	318		*e*P		P	20 16 39.7	+1.6
RAF	Rauma	83.13	331		*e*P		P	20 16 38.3	0.0
KEV	Kevo	83.17	341		P		P	20 16 38.3	0.0
KEV					IAmb	IAmb		20 16 40.0	
	comp=Z,48nm,0.9s								
KEV	Kevo	83.17	341		P		P	20 16 38.3	0.0
KEV					pmax	pmax			
	comp=Z,48nm,0.9s								
TIH	Tihany	83.20	317		P		P	20 16 39.9	+0.9
A052A	Srbac	83.27	315	⇑	*i*P		P	20 16 39.5	+0.1
TIP	Timpagrande	83.27	309	⇑	P		P	20 16 41.0	+1.3
TIP	Timpagrande	83.27	309		P		P	20 16 40.5	+0.9
TIP					IAmb	IAmb		20 16 42.0	
	comp=Z,84nm,1.3s								
OKC	Ostrava-Krasne	83.38	320		*e*P		P	20 16 41.1	+1.2
OKC					*e*			20 16 53.5	
OKC	Ostrava-Krasne	83.38	320		*e*P		P	20 16 41.1	+1.2
OKC					*ep*P		pP	20 16 53.5	+0.6
SRKY	Kupres RS	83.41	314	⇑	*i*P		P	20 16 39.5	-0.8
MATE	Matera	83.44	311	⇑	P		P	20 16 40.2	-0.1
BLY	Banja Luka	83.47	315	⇑	*i*P		P	20 16 40.7	+0.3
MPLH	Magyarpolny	83.47	317		P		P	20 16 41.1	+0.7
MGRS	Mrkonjic Grad	83.50	315	⇑	*i*P		P	20 16 41.1	+0.4
MAUC	Maruska	83.53	320		*e*P		P	20 16 41.7	+1.0
JAVC	Velka Javorina	83.57	319	⇑	*i*P		P	20 16 42.6	+1.6
ARA0	ARCESS Array S	83.61	340		*e*P		P	20 16 41.5	+0.9
ARA0					IAmb	IAmb		20 16 42.3	
	comp=Z,64nm,0.9s								
ARCES	ARCESS Array B	83.61	340		P		P	20 16 41.5	+0.8
	comp=Z,20nm,0.6s,baz=101,slow=4.7,SNR=144								
	comp=Z,20nm,0.6s								
ARCES	ARCESS Array B	83.61	340		P		P	20 16 40.8	+0.2
ARCES					IAmb	IAmb		20 16 42.6	
	comp=Z,74nm,1.1s								
ARCES	ARCESS Array B	83.61	340		P		P	20 16 40.8	+0.2
ARCES					pmax	pmax			
	comp=Z,74nm,1.1s								
EGYH	Egyhazaskeszo	83.64	318		P		P	20 16 42.6	+1.4
A051A	Mrakovica	83.69	315	⇑	*i*P		P	20 16 41.7	0.0
SMOL	Smolenice	83.69	319		*e*P		P	20 16 42.3	+0.8
SMOL					pmax	pmax			
	comp=Z,10.0nm,1.0s								
MORC	Moravsky Berou	83.76	320	⇑	P		P	20 16 42.4	+0.5
MORC	Moravsky Berou	83.76	320		P		P	20 16 41.2	-0.7
MORC					IAmb	IAmb		20 16 44.0	
	comp=Z,52nm,0.9s								
MORC	Moravsky Berou	83.76	320	⇑	*i*P		P	20 16 42.5	+0.5
MORC	Moravsky Berou	83.76	320		P		P	20 16 41.2	-0.7
MORC					pmax	pmax			
	comp=Z,52nm,0.9s								
MODS	Modra-Piesok	83.78	318		*e*P		P	20 16 42.9	+0.9
MODS					pmax	pmax			
	comp=Z,210nm,1.4s								
MODS	Modra-Piesok	83.78	318		*e*P		P	20 16 42.9	+0.9
AMKA	Amchitka	83.82	38		P		P	20 16 41.4	-0.7
CEL	Celeste	83.88	308		P		P	20 16 43.3	+0.6
CEL					IAmb	IAmb		20 16 45.3	
	comp=Z,81nm,0.9s								
CEL					IAMs_20	IAMs_20		20 56 43.8	
	comp=Z,559nm,21.0s								
ZST	Bratislava	83.88	318		*e*P		P	20 16 43.7	+1.3
ZST					pmax	pmax			
	comp=Z,221nm,1.0s								
ZST	Bratislava	83.88	318		*e*P		P	20 16 43.7	+1.3
A050A	Klekovaca	83.91	315	⇑	*i*P		P	20 16 42.1	-0.7
CUC	Castrocucco	84.06	310		P		P	20 16 43.7	+0.1
SOP	Sopron	84.19	318		P		P	20 16 44.4	+0.3
SGRT	San Giovanni R	84.25	312		P		P	20 16 45.0	+0.3
SGRT					IAmb	IAmb		20 16 46.0	
	comp=Z,63nm,0.9s								
KTK1	Kautokeino	84.25	339		*e*P		P	20 16 44.8	+0.8
KTK1					IAmb	IAmb		20 16 45.3	
	comp=Z,57nm,0.8s								
KOGS	Kog	84.28	316		*i* P		P	20 16 45.4	+0.9
KRLC	Kraliky	84.28	320		*e*P		P	20 16 46.0	+1.4
KRLC	Kraliky	84.28	320		*e*P		P	20 16 46.0	+1.4
VRAC	Vranov	84.33	319	⇑	*i*P		P	20 16 45.4	+0.7
GKP	Gorka Klasztor	84.36	323		*e*P		P	20 16 45.8	+1.1
RONA	Rosalia, Austr	84.37	318		*i* P		P	20 16 45.4	+0.3
	SNR=17								
KRUC	Moravsky	84.43	319	⇑	*i*P		P	20 16 45.7	+0.4
HAMF	Hammerfest	84.50	341		*e*P		P	20 16 46.0	+0.8
HAMF					IAmb	IAmb		20 16 46.5	
	comp=Z,64nm,0.9s								
DPC	Dobruska-Polom	84.61	320		*e*P		P	20 16 47.8	+1.6
DPC	Dobruska-Polom	84.61	320		*e*P		P	20 16 47.8	+1.6
CONA	Conrad Observa	84.68	318		*i* P		P	20 16 47.3	+0.6
	comp=Z,25nm,1.0s,SNR=16								
OSTC	Ostas	84.69	321		*e*P		P	20 16 48.1	+1.5
CRES	Cresnjev	84.78	316	⇑	*i*P		P	20 16 47.6	+0.5
CHVC	Chvalec	84.80	321		*e*P		P	20 16 48.5	+1.4
UPC	Upice	84.82	321		*e*P		P	20 16 48.6	+1.4
UPC	Upice	84.82	321		*e*P		P	20 16 48.6	+1.4
ARSA	Arzberg	84.85	317		*i* P		P	20 16 48.2	+0.7
	comp=Z,62nm,1.9s,SNR=32								
BOJS	Bojanci	84.90	315	⇑	*i* P		P	20 16 48.2	+0.5
BOJS	Bojanci	84.90	315		*i* P		P	20 16 48.1	+0.4
BOJS					*e*			20 17 00.1	
VNDA	Vanda	84.92	169		P		P	20 16 48.6	+1.5
	comp=Z,3.8nm,0.8s,baz=251,slow=5.4,SNR=4.4								
VNDA					LR	LR		20 52 08.7	
	comp=Z,440nm,19.8s,baz=304,slow=34								
TREC	Trest	85.05	319		*e*P		P	20 16 49.4	+1.0
TREC	Trest	85.05	319		*e*P		P	20 16 49.4	+1.0
PAOL	Paolisi	85.08	311		P		P	20 16 48.7	-0.1
PAOL					IAmb	IAmb		20 16 50.2	
	comp=Z,104nm,1.4s								
SOKA	Soboth	85.14	317		*i* P		P	20 16 49.7	+0.8
	comp=Z,81nm,1.0s,SNR=56								
JETT	Jettan, Norway	85.35	340		*e*P		P	20 16 50.4	+0.9
JETT					IAmb	IAmb		20 16 51.0	
	comp=Z,63nm,0.8s								
LJU	Ljubljana	85.44	316		*i* P		P	20 16 51.4	+0.9
OBKA	Obir	85.46	316	⇑	*i*P		P	20 16 51.0	+0.4
OBKA	Obir	85.46	316		*i* P		P	20 16 51.2	+0.6
	comp=Z,52nm,1.5s,SNR=22								
CEY	Cerknica	85.49	316	⇑	*i*P		P	20 16 50.4	-0.3
PRU	Pruhonice	85.71	320		*e*P		P	20 16 52.9	+1.2
PRU					*e*			20 17 00.2	
PRU	Pruhonice	85.71	320		*e*P		P	20 16 52.9	+1.2
PRU					*ex*	x		20 17 00.2	
PVCC	Panska Ves	85.74	320		*e*P		P	20 16 53.2	+1.4
PVCC					*e*			20 17 05.6	
PVCC	Panska Ves	85.74	320		*e*P		P	20 16 53.2	+1.4
PVCC					*ep*P		pP	20 17 05.6	+0.8
MOA	Molln	85.74	318		*i* P		P	20 16 52.1	+0.2
	comp=Z,21nm,0.8s,SNR=15								
SKDS	Skadanscina	85.77	315	⇑	*i*P		P	20 16 51.7	-0.4
CKRC	Cesky Krumlov	85.78	319		*e*P		P	20 16 53.3	+1.2
TRO	Tromso	85.88	340		*e*P		P	20 16 52.5	+0.5
TRO					IAmb	IAmb		20 16 53.5	
	comp=Z,37nm,0.9s								
BSD	Bornholm Skovb	85.90	325		*i* P		P	20 16 52.0	-0.4
BSD					IAmb	IAmb		20 16 53.5	
	comp=Z,77nm,0.8s								
TRI	Trieste	85.95	316		P		P	20 16 53.1	+0.2
TRI					IAmb	IAmb		20 16 54.0	
	comp=Z,43nm,0.9s								
TRI	Trieste	85.95	316		P		P	20 16 53.1	+0.2
TRI					pmax	pmax			
	comp=Z,43nm,0.9s								
CAMP	Campotosto	86.03	312		P		P	20 16 54.3	+0.7
CAMP					IAmb	IAmb		20 16 55.2	
	comp=Z,41nm,0.8s								
KIWB	Kanaga Island	86.07	38		P		P	20 16 53.0	-0.4
SABO	M.te Sabotino	86.08	316		P		P	20 16 53.9	+0.2
SABO					IAmb	IAmb		20 16 54.9	
	comp=Z,46nm,0.9s								
MYKA	Terra Mystica	86.09	317		*i* P		P	20 16 54.4	+0.7
	comp=Z,17nm,0.7s,SNR=16								
PRED	Cave del Predi	86.13	316		P		P	20 16 54.0	0.0
PRED					IAmb	IAmb		20 16 55.6	
	comp=Z,71nm,0.8s								
BIOA	Bad Ischl, Aus	86.16	318		*i* P		P	20 16 54.3	+0.4
	comp=Z,25nm,1.2s,SNR=14								
BRG	Berggiesshubel	86.16	321		*i* P		P	20 16 55.3	+1.4
BRG					Amp			20 16 56.1	
	comp=Z,38nm,0.9s								
BRG					*ex*	x		20 17 17.5	
BRG					Amp			20 17 19.4	
	comp=Z,19nm,1.0s								
BRG	Berggiesshubel	86.16	321		*i* P		P	20 16 55.2	+1.4
BRG					pmax	pmax			
	comp=Z,38nm,0.9s								
BRG					pmax	pmax			
	comp=Z,19nm,1.0s								
GEC2	GERESS Array S	86.18	319		P		P	20 16 54.5	+0.4
GEC2					IAmb	IAmb		20 16 56.2	
	comp=Z,80nm,1.1s								
GERES	GERESS Array B	86.18	319		P		P	20 16 54.6	+0.4
	comp=Z,28nm,0.9s,baz=108,slow=3.0,SNR=162								
	comp=Z,28nm,0.9s								
GERES	GERESS Array B	86.18	319		P		P	20 16 53.5	-0.6
GERES	GERESS Array B	86.18	319		P		P	20 16 53.5	-0.6
NRCA	Norcia	86.27	313		P		P	20 16 55.3	+0.6
NRCA					IAmb	IAmb		20 16 56.4	
	comp=Z,68nm,1.1s								
KHC	Kasperske Hory	86.28	319		P		P	20 16 55.3	+0.7
KHC	Kasperske Hory	86.28	319		*e*P		P	20 16 55.1	+0.5
KHC					*e*			20 17 08.0	
KHC	Kasperske Hory	86.28	319		*e*P		P	20 16 55.1	+0.5
KHC					*ep*P		pP	20 17 08.0	+0.4
FDMO	Fiordimonte	86.30	313		P		P	20 16 54.9	+0.1
KBA	Koelnbreinsper	86.32	317		*i* P		P	20 16 55.4	+0.4
	comp=Z,22nm,1.3s,SNR=9.1								
RUE	Ruedersdorf	86.37	322		*e*P		P	20 16 55.5	+0.8
DEL	Delary	86.59	326		*i* P		P	20 16 56.0	+0.2
CLUD	Cludinico	86.61	316		P		P	20 16 56.3	+0.1
CESX	Cesi	86.65	312		P		P	20 16 55.8	-0.7
STAL	STALIGIAL	86.72	316		P		P	20 16 57.0	+0.2
STAL					IAmb	IAmb		20 16 58.3	
	comp=Z,117nm,1.2s								
MURB	Monte Urbino	86.72	313		P		P	20 16 56.8	0.0
MURB					IAmb	IAmb		20 17 15.1	
	comp=Z,40nm,1.1s								
GSTR	Great Sitkin T	86.76	38		P		P	20 16 56.4	-0.4
CLL	Collm	86.78	321		P		P	20 16 56.7	-0.1
CLL					IAmb	IAmb		20 16 58.7	
	comp=Z,39nm,1.1s								
CLL	Collm	86.78	321	⇑	*i*P		P	20 16 57.2	+0.3
CLL					*i* *PP		pP	20 17 11.5	+1.6
CLL					pmax	pmax			
	comp=Z,44nm,1.2s								
CLL	Collm	86.78	321	⇑	*i*P		P	20 16 57.2	+0.3
	comp=Z,44nm,1.2s								
CLL					*i* sP		pP	20 17 11.5	+1.6
CLL					*ex*	x		20 17 19.0	
ABTA	Abfaltersbach	86.87	317		*i* P		P	20 16 57.6	0.0
	SNR=13								
FAUS	Fauske	86.90	337		*e*P		P	20 16 57.9	+0.8
FAUS					IAmb	IAmb		20 16 58.4	
	comp=Z,89nm,0.9s								
CIMO	Cimolais	86.90	316		P		P	20 16 57.7	+0.1
CIMO					IAmb	IAmb		20 16 59.3	
	comp=Z,92nm,0.8s								
STEI	Steigen	86.98	338		*e*P		P	20 16 58.3	+0.9
STEI					IAmb	IAmb		20 16 58.8	
	comp=Z,109nm,0.8s								
NKC	Novy Kostel	87.08	320		*e*P		P	20 16 59.7	+1.3
NKC	Novy Kostel	87.08	320		*e*P		P	20 16 59.7	+1.3
MOR8	Moi Rana	87.12	336		IAmb	IAmb		20 16 58.4	
	comp=Z,92nm,1.3s								
MOR8					*e*P		P	20 16 58.5	+0.3
LATE	Laterza	87.22	312		P		P	20 16 58.7	-0.6
LATE					IAmb	IAmb		20 17 00.6	
	comp=Z,59nm,0.8s								
COP	Copenhagen	87.35	326		*i* P		P	20 17 00.4	+0.9
COP					IAmb	IAmb		20 17 01.5	
	comp=Z,159nm,0.8s								
TEOL	Teolo	87.41	315		P		P	20 17 00.2	+0.1
TEOL					IAmb	IAmb		20 17 01.9	
	comp=Z,49nm,1.1s								
CTI	Castel Tesino	87.44	316		P		P	20 17 00.8	+0.4
CTI					IAmb	IAmb		20 17 02.4	
	comp=Z,66nm,0.8s								
CTI	Castel Tesino	87.44	316		P		P	20 17 00.8	+0.4
CTI					pmax	pmax			
	comp=Z,66nm,0.8s								
WTTA	Wattenberg	87.49	317		*i* P		P	20 17 00.5	-0.2
	comp=Z,34nm,0.7s,SNR=25								
WATA	Walderalm	87.54	317		*i* P		P	20 17 00.7	-0.2
	comp=Z,4.6nm,0.5s,SNR=18								
LOF	Lofoten	87.63	338		*e*P		P	20 17 00.5	-0.2
OSSC	Osservatorio P	87.66	313		P		P	20 17 00.8	-0.5
SQTA	Sankt Quirin	87.78	317		*i* P		P	20 17 02.3	+0.3
	comp=Z,33nm,0.9s,SNR=19								
GRA1	Grafenberg Arr	87.84	320		P		P	20 17 02.3	+0.2
GRA1					IAmb	IAmb		20 17 04.5	
	comp=Z,54nm,0.9s								
GRF	Grafenberg Arr	87.84	320		P		P	20 17 02.3	+0.2
GRF					pmax	pmax			
	comp=Z,55nm,0.9s								
GRFO	Grafenberg	87.85	320		P		P	20 17 01.2	-0.8
GRFO					IAmb	IAmb		20 17 04.5	
	comp=Z,50nm,0.9s								
GRFO	Grafenberg	87.85	320		P		P	20 17 01.3	-0.8
GRFO					pmax	pmax			
	comp=Z,50nm,0.9s								
MOTA	Moosalm	87.86	317		*i* P		P	20 17 02.1	-0.3
	comp=Z,30nm,1.0s,SNR=25								
SPB2	Spitsbergen Ar	87.87	348		P		P	20 17 01.6	0.0
SPB2					IAmb	IAmb		20 17 02.8	
	comp=Z,74nm,0.9s								
SPA0	Spitsbergen Ar	87.87	348		*e*P		P	20 17 02.0	+0.4
SPA0					IAmb	IAmb		20 17 02.6	
	comp=Z,136nm,1.2s								
SPITS	Spitsbergen Ar	87.87	348		P		P	20 17 01.3	-0.3
SPITS					pmax	pmax			
	comp=Z,107nm,1.1s								
ZCCA	Zocca	87.87	314		P		P	20 17 03.1	+0.7
ZCCA					IAmb	IAmb		20 17 23.6	
	comp=Z,68nm,1.1s								
NC405	NORSAR Array S	87.99	331		P		P	20 17 03.1	+0.6
NSS	Namsos	88.03	334		*e*P		P	20 17 03.2	+0.6
NSS					IAmb	IAmb		20 17 04.2	
	comp=Z,30nm,0.8s								
NC602	NORSAR Array S	88.06	331		P		P	20 17 02.7	-0.1
NC602	NORSAR Array S	88.06	331		IAmb	IAmb		20 17 03.5	
	comp=Z,104nm,1.3s								
NC602					*e*P		P	20 17 03.8	+1.0
RETA	Reutte	88.09	317		*i* P		P	20 17 03.5	+0.1
	comp=Z,35nm,0.7s,SNR=25								
FETA	Feichten	88.11	317		*i* P		P	20

comp=Z,28nm,0.9s
TNA Tin City 91.00 25 P **P** 20 17 16.6 +0.1
baz=274
BTNL Ternell 91.12 320 *d*PcP **PcP** 20 17 18.4 0.0
BTNL *dx* x 20 17 31.0
WLF Walferdange 91.14 320 P **P** 20 17 18.4 +0.9
WLF IAmb IAmb 20 17 20.2
comp=Z,74nm,1.1s
WLF Walferdange 91.14 320 P **P** 20 17 18.4 +0.9
WLF pmax pmax
comp=Z,73nm,1.1s
WLF Walferdange 91.14 320 *d*PcP **PcP** 20 17 19.0 +0.5
WLF *dx* x 20 17 31.1
NIKH Nikolski High 91.17 37 P **P** 20 17 17.7 +0.2
baz=272
MEM Membach 91.19 320 *d*PcP **PcP** 20 17 18.9 +0.2
MEM *dp*P **pP** 20 17 25.1 -5.8
MEM *dx* x 20 17 31.5
BHOU Houvegnez 91.21 320 *d*PcP **PcP** 20 17 19.3 +0.5
BHOU *dx* x 20 17 31.7
BSTI Sart Tilman 91.48 320 *d*PcP **PcP** 20 17 20.2 +0.3
BSTI *dx* x 20 17 33.0
BCLA Clavier 91.65 320 *d*PcP **PcP** 20 17 20.7 0.0
BCLA *dx* x 20 17 33.4
RCHB Rochefort 91.71 320 *d*PcP **PcP** 20 17 21.0 0.0
RCHB *dx* x 20 17 33.2
BMRD Maredsous 92.00 320 *d*PcP **PcP** 20 17 22.6 +0.3
BMRD *dp*P **pP** 20 17 28.8 -5.8
BMRD *dx* x 20 17 35.2
DOU Dourbes 92.12 320 *d*PcP **PcP** 20 17 23.1 +0.3
DOU *dx* x 20 17 35.7
ANM Nome 92.16 25 P **P** 20 17 22.2 +0.3
baz=276
SSB Saint Sauveur 92.44 315 P **P** 20 17 24.4 +0.7
SSB IAmb IAmb 20 17 25.6
comp=Z,30nm,0.9s
SSB Saint Sauveur 92.44 315 P **P** 20 17 24.4 +0.7
SSB pmax pmax
comp=Z,30nm,0.9s
UNV Unalaska Valle 92.52 36 P **P** 20 17 23.5 -0.2
baz=274
RDOG Red Dog Mine 92.72 22 IAMs_20 IAMs_20 20 58 30.9
comp=Z,742nm,21.0s
AKUT Akutan 92.93 36 P **P** 20 17 25.2 -0.4
NOR Nord 93.07 352 *i* P **P** 20 17 25.4 -0.4
NOR IAmb IAmb 20 17 26.7
comp=Z,19nm,1.0s
CLF Chambon-Foret 93.81 318 P **P** 20 17 30.6 +0.8
CLF IAmb IAmb 20 17 32.1
comp=Z,35nm,0.9s
A21K Barrow 94.24 18 P **P** 20 17 32.5 +1.2
A21K Barrow 94.24 18 P **P** 20 17 31.9 +0.6
baz=284
JMIC Jan Mayen 95.01 342 LR LR 21 06 45.4
comp=Z,238nm,20.7s,baz=34,slow=39
DAG Danmarks Havn 95.52 348 *i* P **P** 20 17 35.2 -1.9
DAG IAmb IAmb 20 17 36.9
comp=Z,29nm,1.2s
GCSA Galena City Sc 95.73 25 P **P** 20 17 38.7 +0.5
baz=284
N16K Nishlik Lake 95.79 29 P **P** 20 17 39.8 +1.0
baz=281,SNR=56
SDPT Sand Point 95.82 34 P **P** 20 17 38.2 -0.7
baz=279
S14K Fog Glacier 96.17 33 P **P** 20 17 39.9 -0.7
baz=280
O16K Kokwok River B 96.30 30 P **P** 20 17 41.8 +0.8
baz=282,SNR=18
CHNA Chernabura Isl 96.41 35 P **P** 20 17 42.1 +0.5
baz=280
F21K Alatna River 96.42 22 P **P** 20 17 41.7 +0.3
baz=287,SNR=61
P16K Nushagak River 96.47 30 P **P** 20 17 41.3 -0.4
baz=282
TORD Torodi Ar. Bea 96.53 283 P **P** 20 17 43.8 +0.8
comp=Z,2.1nm,0.9s,baz=72,slow=3.9,SNR=9.6
TORD PKKPbc **PKKPbc** 20 34 27.1 +0.1
comp=Z,1.8nm,0.9s,baz=297,slow=3.0,SNR=5.2
comp=Z,2.1nm,0.9s
TTA Tatalina 96.53 26 P **P** 20 17 42.8 +0.7
TTA IAmb IAmb 20 17 44.0
comp=Z,29nm,1.0s
TTA Tatalina 96.53 26 P **P** 20 17 42.8 +0.7
TTA pmax pmax
comp=Z,29nm,1.0s
TTA Tatalina 96.53 26 P **P** 20 17 43.0 +0.9
baz=284,SNR=23
C23K Itkillik River 96.59 19 P **P** 20 17 42.6 +0.5
baz=290,SNR=13
G21K Allakaket 96.61 23 P **P** 20 17 43.0 +0.7
baz=287,SNR=96
IMAR Indian Mountai 96.67 23 P **P** 20 17 43.0 +0.5
E22K Anaktuvuk Pass 96.75 21 P **P** 20 17 43.5 +0.6
baz=288
O17K Koliganek Bris 96.76 30 P **P** 20 17 43.3 +0.2
baz=283,SNR=12
CHGN Chignik 96.80 33 P **P** 20 17 42.2 -1.1
CHGN IAmb IAmb 20 17 48.5
comp=Z,15nm,0.8s
F22K John River 96.81 21 P **P** 20 17 44.1 +0.9
baz=288
D23K Nanushuk River 96.87 20 P **P** 20 17 44.3 +0.9
baz=290,SNR=14
R16K Pilot Point 96.99 32 P **P** 20 17 44.8 +0.7
baz=282
J20K Nowinta River 97.02 25 P **P** 20 17 44.2 0.0
J20K IAmb IAmb 20 17 46.4
comp=Z,42nm,0.9s
J20K Nowinta River 97.02 25 P Pdif 20 17 44.9 +0.6
baz=286,SNR=48
N18K Kilae Creek 97.14 29 P Pdif 20 17 45.5 +0.7
N18K IAmb IAmb 20 17 46.7
comp=Z,23nm,0.9s
N18K Kilae Creek 97.14 29 P Pdif 20 17 45.3 +0.4
baz=284,SNR=14
H21K Melozitna Rive 97.14 23 P Pdif 20 17 45.3 +0.5
H21K Melozitna Rive 97.14 23 P Pdif 20 17 45.7 +0.9
baz=287,SNR=56
SVW2 Sparrevohn 97.18 28 P Pdif 20 17 45.7 +0.6
SVW2 IAmb IAmb 20 17 47.1
comp=Z,22nm,1.0s
P17K Kvichak River 97.22 30 P Pdif 20 17 45.6 +0.4
baz=283
CART Cartagena 97.23 308 IAMs_20 IAMs_20 20 55 43.3
comp=Z,743nm,21.0s
L19K White Mountain 97.24 27 P Pdif 20 17 45.9 +0.6
L19K IAmb IAmb 20 17 47.4
comp=Z,23nm,0.9s
L19K White Mountain 97.24 27 P Pdif 20 17 46.0 +0.7
baz=285,SNR=22
G22K Bettles 97.25 22 P Pdif 20 17 45.4 +0.2
baz=289,SNR=20
K20K Telida 97.28 26 P Pdif 20 17 46.0 +0.6
K20K Telida 97.28 26 P Pdif 20 17 46.0 +0.6
baz=286,SNR=65
TOLK Toolik Lake Re 97.36 20 P Pdif 20 17 46.5 +0.8
TOLK IAmb IAmb 20 17 47.6
comp=Z,35nm,1.1s
TOLK Toolik Lake Re 97.36 20 P Pdif 20 17 46.4 +0.6
baz=291,SNR=15
D24K Happy Valley 97.43 19 P Pdif 20 17 46.8 +0.8
baz=292
M19K Big River Lodg 97.53 27 P Pdif 20 17 47.2 +0.6
M19K IAmb IAmb 20 17 48.8
comp=Z,17nm,1.1s
M19K Big River Lodg 97.53 27 P Pdif 20 17 47.1 +0.6
baz=285,SNR=12
L20K Farewell, AK 97.60 27 P Pdif 20 17 47.6 +0.7
baz=286,SNR=18
I21K Tanana 97.61 24 P Pdif 20 17 47.6 +0.7
I21K IAmb IAmb 20 17 49.5
comp=Z,47nm,0.9s
I21K Tanana 97.61 24 P Pdif 20 17 48.0 +1.1
baz=288,SNR=22
H22K Ishtalitna Cre 97.63 23 P Pdif 20 17 47.8 +0.9
baz=289
O18K Koktuh Hills 97.67 29 P Pdif 20 17 48.0 +0.7
O18K IAmb IAmb 20 17 49.0
comp=Z,35nm,0.8s
O18K Koktuh Hills 97.67 29 P Pdif 20 17 47.6 +0.3
baz=284,SNR=16
N19K Bonanza Creek 97.77 28 P **P** 20 17 47.7 0.0
N19K Bonanza Creek 97.77 28 P Pdif 20 17 48.4 +0.6
baz=285,SNR=34
P18K Big Mountain, 97.77 30 P **P** 20 17 47.7 0.0
P18K Big Mountain, 97.77 30 P **P** 20 17 47.5 -0.3
baz=284
G23K Bananza Creek 97.87 22 P Pdif 20 17 48.7 +0.6
baz=290,SNR=23
CHUM Lake Minchumin 97.88 25 P Pdif 20 17 48.6 +0.5
baz=288,SNR=9.1
E24K Your Creek 97.94 20 P Pdif 20 17 49.0 +0.6
baz=292,SNR=11
O19K Port Alsworth 98.01 29 P Pdif 20 17 48.8 +0.1
O19K IAmb IAmb 20 17 50.0
comp=Z,24nm,0.8s
O19K Port Alsworth 98.01 29 P **P** 20 17 48.2 -0.5
baz=285
M20K Styx River 98.11 27 P Pdif 20 17 49.9 +0.7
M20K IAmb IAmb 20 17 54.0
comp=Z,20nm,1.1s
M20K Styx River 98.11 27 P Pdif 20 17 49.5 +0.2
baz=287,SNR=18
CAST Castle Rocks 98.11 25 P Pdif 20 17 49.4 +0.2
CAST IAmb IAmb 20 17 51.5
comp=Z,59nm,1.3s
CAST IAMs_20 IAMs_20 21 06 52.5
comp=Z,1µm,19.0s
CAST Castle Rocks 98.11 25 P Pdif 20 17 49.2 0.0
baz=288
MLY Manley 98.16 24 P Pdif 20 17 49.5 +0.1
MLY IAmb IAmb 20 17 51.1
comp=Z,21nm,1.2s
MLY IAMs_20 IAMs_20 21 05 19.6
comp=Z,1µm,20.0s
MLY Manley 98.16 24 P Pdif 20 17 49.7 +0.3
baz=289,SNR=19
D25K Kavik River 98.17 19 P Pdif 20 17 49.6 +0.3
baz=294,SNR=17
PPLA Purkeypile 98.23 26 P Pdif 20 17 49.9 +0.1
PPLA Purkeypile 98.23 26 P Pdif 20 17 49.9 +0.1
baz=288
F24K Squaw Lake 98.36 21 P Pdif 20 17 50.7 +0.5
baz=292,SNR=12
H23K Yukon River 98.36 23 P Pdif 20 17 51.2 +1.0
H23K IAmb IAmb 20 17 52.5
comp=Z,34nm,1.3s
H23K Yukon River 98.36 23 P Pdif 20 17 51.0 +0.7
baz=290,SNR=18
BPAW Bear Paw Mtn. 98.36 25 P **P** 20 17 50.1 -0.2
BPAW Bear Paw Mtn. 98.36 25 P Pdif 20 17 50.4 +0.1
baz=289,SNR=45
C26K Camden Bay 98.38 18 P Pdif 20 17 50.7 +0.5
baz=295
CHIR Chirikof Islan 98.43 33 P Pdif 20 17 51.7 +1.1
baz=284
ILSW Iliamna Southw 98.64 29 P **P** 20 17 50.6 -1.1
ILSW IAmb IAmb 20 17 51.8
comp=Z,12nm,0.9s
I23K Minto, Yukon-K 98.67 23 P **P** 20 17 50.6 -0.9
I23K Minto, Yukon-K 98.67 23 P Pdif 20 17 51.7 +0.2
baz=290
P19K Oil Pt 98.69 29 P Pdif 20 17 51.8 0.0
baz=286
N20K Mount Spurr 98.73 28 P **P** 20 17 51.6 -0.4
baz=287
SPCR Spurr Chakacha 98.73 28 P **P** 20 17 51.7 -0.3
baz=287
SKT Skwentna 98.80 27 P **P** 20 17 51.4 -0.9
SKT IAmb IAmb 20 17 53.5
comp=Z,33nm,1.3s
SKT Skwentna 98.80 27 P **P** 20 17 51.8 -0.5
baz=288,SNR=22
SPU Mount Spurr 98.80 28 P **P** 20 17 52.1 -0.2
G24K Hadweenzic Riv 98.82 22 P Pdif 20 17 52.5 +0.3
baz=292,SNR=8.3
O20K Slope Mountain 98.86 29 P **P** 20 17 51.7 -0.9
baz=287
TRF Thorofare Moun 98.87 25 P Pdif 20 17 53.1 +0.3
TRF IAmb IAmb 20 17 55.4
comp=Z,17nm,0.9s
TRF Thorofare Moun 98.87 25 P **P** 20 17 52.6 -0.1
baz=289
C27K Jago River 98.89 18 P Pdif 20 17 52.8 +0.3
baz=296,SNR=12
E25K Arctic Village 98.93 20 P Pdif 20 17 52.9 +0.1
baz=294,SNR=10.0
BWN Browne 98.97 24 P Pdif 20 17 53.1 +0.2
NEA2 Nenana 98.98 24 P **P** 20 17 51.5 -1.5
NEA2 Nenana 98.98 24 P **P** 20 17 52.3 -0.7
baz=291
H24K Noodor Dome 99.00 22 P Pdif 20 17 53.6 +0.5
H24K Noodor Dome 99.00 22 P Pdif 20 17 53.6 +0.5
baz=292,SNR=9.0
SII Sitkinak Islan 99.03 32 P **Pdif** 20 17 53.8 +0.4
SII IAmb IAmb 20 17 54.5
comp=Z,20nm,1.0s
SII Sitkinak Islan 99.03 32 P **Pdif** 20 17 53.5 +0.1
baz=285
F25K Christian Rive 99.12 20 P **Pdif** 20 17 54.5 +0.9
baz=294,SNR=13
MDM Murphy Dome 99.19 23 P **Pdif** 20 17 54.6 +0.7
ESDC Sonseca Array 99.26 310 P **Pdif** 20 17 55.2 +0.3
comp=Z,1.4nm,0.9s,baz=63,slow=4.1,SNR=9.7
ESDC PKKPbc **PKKPbc** 20 34 20.1 -0.3
comp=Z,1.2nm,0.7s,baz=266,slow=3.0,SNR=7.2
comp=Z,1.4nm,0.9s
ESDC Sonseca Array 99.26 310 **Pdif** 20 17 53.8 -1.1
SUA Susitna One 99.32 27 P **Pdif** 20 17 54.1 -0.6
SUA IAmb IAmb 20 17 57.7
comp=Z,28nm,1.0s
SUA Susitna One 99.32 27 P **Pdif** 20 17 54.3 -0.4
baz=289,SNR=23
OHAK Old Harbor 99.33 32 P **Pdif** 20 17 54.1 -0.5
OHAK IAmb IAmb 20 17 55.6
comp=Z,15nm,0.9s
OHAK Old Harbor 99.33 32 P **Pdif** 20 17 54.6 -0.1
baz=286
MCK McKinley 99.34 25 **Pdif** 20 17 54.5 -0.2
MCK IAmb IAmb 20 17 56.2
comp=Z,46nm,1.0s
MCK McKinley 99.34 25 P **Pdif** 20 17 54.5 -0.2
MCK pmax pmax
comp=Z,46nm,1.0s
MCK McKinley 99.34 25 P **Pdif** 20 17 54.4 -0.2
baz=291,SNR=23
Q20K Shuyak Island 99.40 30 P **Pdif** 20 17 54.2 -0.7
baz=287
WRH Wood River Hil 99.42 24 P **Pdif** 20 17 55.2 +0.3
POKR Poker Plat Res 99.44 23 P **Pdif** 20 17 54.5 -0.6
baz=292
CCB Clear Creek Bu 99.47 24 P **Pdif** 20 17 54.9 -0.2
RND Reindeer 99.49 25 P **Pdif** 20 17 54.3 -1.1
RND IAmb IAmb 20 17 56.8
comp=Z,28nm,1.4s
RND Reindeer 99.49 25 P **Pdif** 20 17 54.3 -1.1
RND pmax pmax
comp=Z,28nm,1.4s
M22K Willow 99.50 27 IAMs_20 IAMs_20 21 00 05.3
comp=Z,783nm,21.0s
KDAK Kodiak Island 99.54 31 P **Pdif** 20 17 55.0 -0.5
baz=286
BMAR Burnt Mountain 99.56 20 P **Pdif** 20 17 56.3 +0.7
F26K Sheenjek River 99.60 20 P **Pdif** 20 17 55.9 +0.2
baz=296,SNR=12
H25K Birch Creek 99.60 22 P **Pdif** 20 17 56.0 +0.3
baz=294,SNR=6.0
CNPM China Poot 99.69 29 Pdif **Pdif** 20 17 55.9 -0.4
CNPM IAmb IAmb 20 17 57.3
comp=Z,18nm,0.8s
ILAR Eielson Array 99.79 23 P **Pdif** 20 17 55.5 -1.0
comp=Z,2.7nm,0.9s,baz=293,slow=4.3,SNR=16
ILAR PP **PP** 20 21 56.4 -4.7
comp=Z,5.2nm,0.9s,baz=291,slow=7.5,SNR=9.1
ILAR PKKPbc **PKKPbc** 20 34 17.6 -2.1
comp=Z,0.6nm,0.3s,baz=153,slow=2.2,SNR=5.6
ILAR LR LR 21 08 59.6
comp=Z,709nm,18.5s,baz=208,slow=39
comp=Z,2.7nm,0.9s
BRLK Bradley Lake 99.79 29 IAMs_20 IAMs_20 20 58 44.8
comp=Z,1µm,22.0s
WAT1 Susitna Watana 99.83 25 P **Pdif** 20 17 56.1 -0.8
baz=291
BRSE Bradley Lake S 99.87 29 P **Pdif** 20 17 56.5 -0.6
baz=288
RC01 Rabbit Creek A 99.90 27 P **Pdif** 20 17 56.5 -0.6
baz=290,SNR=9.2
HDA Harding Lake 99.90 24 P **Pdif** 20 17 56.9 -0.2
baz=293,SNR=5.1
PRP Porcupine Dome 100.02 22 P **Pdif** 20 17 57.9 +0.2
baz=294
G26K Porcupine Rive 100.05 21 P **Pdif** 20 17 58.5 +0.8
baz=296,SNR=11
E27K Coleen River 100.23 19 P **Pdif** 20 17 59.0 +0.4
baz=298
DHY Denali Highway 100.23 25 P **Pdif** 20 17 58.0 -0.8
baz=292
WAT6 Susitna Watana 100.26 26 P **Pdif** 20 17 59.0 +0.1
baz=292
SML Sawmill 100.28 26 P **Pdif** 20 17 59.0 +0.1
baz=291,SNR=18
NEEM North Greenlan 100.35 354 *i* P **Pdif** 20 17 59.9 +0.7
SEW Seward 100.36 28 P **Pdif** 20 17 59.7 +0.5
baz=290
KNK Knik Glacier 100.37 27 P **Pdif** 20 17 59.3 0.0
baz=291,SNR=5.8
J25K Salcha River, 100.45 23 P **Pdif** 20 17 59.9 +0.3
baz=294
M23K Glacier View 100.56 26 P **Pdif** 20 18 00.2 +0.1
baz=291,SNR=5.8
K24K Donnelly Dome 100.61 24 P **Pdif** 20 18 00.3 0.0
baz=294
PWL Port Wells 100.62 27 P **Pdif** 20 18 00.4 0.0
baz=291,SNR=10
SCM Sheep Creek Mo 100.72 26 P **Pdif** 20 18 00.8 -0.1
baz=292
G27K Doyon Strip 100.86 20 P **Pdif** 20 18 01.8 +0.4
baz=298,SNR=16
I26K Coal Creek Min 101.01 22 P **Pdif** 20 18 02.3 +0.3
baz=296
RIDG Independent Ri 101.02 24 P **Pdif** 20 18 01.9 -0.3
baz=294
PAX Paxson 101.08 25 P **Pdif** 20 18 02.3 -0.2
baz=294,SNR=5.7
M24K Tolsona, Glenn 101.12 26 P **Pdif** 20 18 03.4 +0.7
baz=293,SNR=9.1
GLI Glacier Island 101.18 27 P **Pdif** 20 18 03.0 +0.1
baz=292
H27K Steamboat Moun 101.18 21 P **Pdif** 20 18 03.3 +0.5
baz=298,SNR=10
J26L Joseph Creek 101.20 23 P **Pdif** 20 18 02.6 -0.4
baz=296
SCRK Sand Creek 101.27 24 P **Pdif** 20 18 03.1 -0.2
baz=295,SNR=9.5
HARP HAARP 101.44 25 P **Pdif** 20 18 04.1 +0.1
baz=294
I27K Kandik River 101.44 22 P **Pdif** 20 18 04.3 +0.3
baz=298,SNR=8.5
KLU Kluting 101.47 26 P **Pdif** 20 18 04.7 +0.5
baz=293,SNR=6.1
SFS San Fernando 101.51 307 IAMs_20 IAMs_20 20 52 40.6
comp=Z,1µm,20.0s
EYAK Cordova Ski Ar 101.92 27 P **Pdif** 20 18 06.3 +0.2
baz=293
L26K Log Cabin Wild 101.93 24 P **Pdif** 20 18 06.5 +0.3
baz=296,SNR=5.8
K27K Chicken 102.00 23 IAMs_20 IAMs_20 20 59 42.1
comp=Z,1µm,19.0s
K27K Chicken 102.00 23 P **Pdif** 20 18 07.2 +0.8
baz=297
N25K Chitina, Valde 102.00 26 P **Pdif** 20 18 06.9 +0.3
baz=294,SNR=11
SUMG Summit 102.21 348 *e*P **Pdif** 20 18 10.2 +2.5
SUMG Summit 102.21 348 *i* P **PP** 20 22 19.0 -0.6
BMRM Bremner River 102.27 26 P **Pdif** 20 18 08.0 +0.2
baz=294,SNR=11
M26K Nabesna, AK 102.35 25 P **Pdif** 20 18 08.7 +0.6
baz=296,SNR=15
GLB Gilahina Butte 102.42 26 IAMs_20 IAMs_20 20 58 40.3
comp=Z,872nm,21.0s
A36M Sachs Harbour 102.47 13 Pdif **Pdif** 20 18 08.5 +0.2
A36M Sachs Harbour 102.47 13 P **Pdif** 20 18 08.6 +0.2
baz=315
RAGM Ragged Mountai 102.47 27 IAMs_20 IAMs_20 20 58 04.7
comp=Z,µm,21.0s
L27K Beaver Creek, 102.54 24 P **Pdif** 20 18 09.2 +0.3
baz=297,SNR=6.9
BCAR Beaver Creek A 102.55 24 Pdif **Pdif** 20 18 09.6 +0.6
G30M tAoh Zraii Nji 102.62 19 P **Pdif** 20 18 09.6 +0.4
baz=303
INK Inuvik 102.71 17 P **Pdif** 20 18 10.2 +0.7
comp=Z,10.0nm,0.8s,baz=325,slow=5.5,SNR=13
INK PP **PP** 20 22 18.9 -4.1
comp=Z,12nm,0.8s,baz=329,slow=7.1,SNR=3.7
KAIM Kayak Island 102.78 27 P **Pdif** 20 18 10.5 +0.5
baz=294
MCARA McCarthy VSAT 102.78 26 P **Pdif** 20 18 10.6 +0.6
baz=296
EPYK Eagle Plains 102.79 20 IAMs_20 IAMs_20 21 07 06.9
comp=Z,2µm,20.0s
EPYK Eagle Plains 102.79 20 P **Pdif** 20 18 10.3 +0.4
baz=303,SNR=11
M27K Edge Creek, AK 102.84 25 IAMs_20 IAMs_20 21 04 57.4
comp=Z,951nm,21.0s
M27K Edge Creek, AK 102.84 25 P **Pdif** 20 18 10.7 +0.3
baz=297,SNR=5.8
F31M Tsiigehtchic 103.16 18 P **Pdif** 20 18 11.9 +0.4
baz=306
CTG Chitna Glacier 103.70 26 P **Pdif** 20 18 14.3 +0.1
baz=297
MESA MESA 103.79 27 P **Pdif** 20 18 14.9 +0.2
baz=296
YAH Yahtse 103.80 26 IAMs_20 IAMs_20 20 56 54.8
comp=Z,2µm,21.0s
K29M Barlow Dome 103.84 22 P **Pdif** 20 18 15.0 +0.2
baz=301
M29M Somme Creek 104.19 24 P **Pdif** 20 18 17.1 +0.7
baz=300
O28M Mount Upton 104.29 26 P **Pdif** 20 18 17.0 0.0
baz=298
C36M Paulatuk 104.63 14 Pdif **Pdif** 20 18 18.1 +0.1
C36M Paulatuk 104.63 14 P **Pdif** 20 18 18.4 +0.4
baz=316
M30M Minto, Yukon 104.79 23 P **Pdif** 20 18 19.2 +0.3
baz=302
BCPM Bancas Point 104.92 26 IAMs_20 IAMs_20 21 02 22.5
comp=Z,2µm,20.0s
YUK6 Outpost Mounta 104.99 25 P **Pdif** 20 18 20.1 0.0
baz=300,SNR=5.6
ICESG Greenland Ices 105.00 346 *i* P **PKiKP** 20 22 27.4 -7.3
FARO Faro, Yukon 106.32 23 P **PKiKP** 20 22 37.7 +0.8
baz=305
P32M Atlin 107.67 25 P **PKiKP** 20 22 40.0 +0.5
baz=304
P33M Teslin, Yukon 107.69 24 IAMs_20 IAMs_20 20 58 13.7
comp=Z,2µm,20.0s
TGTN Hyland Airport 108.66 22 P **PKiKP** 20 22 41.8 +0.5
baz=310
S34M Telegraph Cree 109.74 26 P **PKiKP** 20 22 44.2 +0.8
baz=306,SNR=5.7
WRAK Wrangell Islan 110.06 27 P **PKiKP** 20 22 44.8 +0.8
baz=304
CRAG Craig 110.23 28 P **PKiKP** 20 22 44.7 +0.5
baz=303
T35M Bob Quinn 110.68 26 P **PKiKP** 20 22 45.1 0.0
baz=307
V35K Ketchikan 111.02 28 P **PKiKP** 20 22 46.0 +0.2
baz=305
YKA Yellowknife Ar 112.37 16 PP **PP** 20 23 34.0 +0.4
comp=Z,16nm,1.1s,baz=334,slow=6.9,SNR=6.0
LLLB Lillooet 118.56 28 PKPdf **PKiKP** 20 23 00.8 +0.2
EDM Edmonton 120.22 22 PKPdf **PKiKP** 20 23 03.9 +0.2
EDM Edmonton 120.22 22 PKiKP **PKiKP** 20 23 03.9 +0.2
D05A Enumclaw 120.78 31 PKPdf **PKiKP** 20 23 05.9 +1.0
B08A Colville Reser 121.31 29 PKPdf **PKPdf** 20 23 05.6 -0.2
G03D McMinnville, O 121.37 33 P **PKPdf** 20 23 05.9 -0.1
baz=309
LTY Liberty 121.41 30 **PKPdf** 20 23 05.8 -0.3
I02E Swisshome, OR 121.72 35 P **PKiKP** 20 23 07.2 +0.4
baz=308
H04D Lebanon 122.09 34 **PKiKP** 20 23 08.5 +0.9
H04D Lebanon 122.09 34 P **PKiKP** 20 23 07.9 +0.4
baz=309,SNR=8.1
BUCK Buck Mountain 122.16 34 PKPdf **PKiKP** 20 23 08.6 +0.8
HOOD Mount Hood Mea 122.17 33 **PKiKP** 20 23 08.1 +0.2
C09A Chrisman Ranch 122.21 29 PKPdf **PKiKP** 20 23 07.8 0.0
J01E Myrtle Point 122.25 36 **PKiKP** 20 23 08.4 +0.5
J01E Myrtle Point 122.25 36 P **PKiKP** 20 23 08.3 +0.5
baz=307,SNR=5.9
I03D Drain, OR 122.26 35 P **PKiKP** 20 23 08.2 +0.3
baz=308,SNR=9.8
H04A Detroit Lake 122.29 33 PKPdf **PKiKP** 20 23 07.9 -0.1
FFC Flin Flon 122.40 14 PKPdf **PKPdf** 20 23 06.6 -1.1
FFC Flin Flon 122.40 14 PKiKP **PKPdf** 20 23 06.6 -1.1
G05D Wamic, OR 122.41 32 P **PKiKP** 20 23 08.6 +0.4
baz=311
D08A Wollman Farm, 122.42 30 PKPdf **PKiKP** 20 23 08.3 +0.2
NEW Newport 122.42 27 PKP **PKPdf** 20 23 07.8 -0.2
comp=Z,19nm,1.0s,baz=233,slow=1.7,SNR=14
NEW Newport 122.42 27 P **PKiKP** 20 23 08.4 +0.2

baz=316,SNR=9.9
HAWA Hanford 122.57 30 PKPdf PKiKP 20 23 09.2 +0.7
DBO Dodson Butte 122.67 35 PKPdf PKiKP 20 23 09.3 +0.5
K02D Willamette Mer 122.68 36 P PKiKP 20 23 09.1 +0.1
baz=307,SNR=7.4
I04A Tendick Farm, 122.73 34 P PKPdf 20 23 08.6 -0.2
baz=309,SNR=13
E08A Dider Farm, El 122.74 30 PKiKP 20 23 09.8 +1.0
I05D Terrebonne, OR 122.98 33 P PKPdf 20 23 08.9 -0.3
baz=310
KSXB Camp Six Broad 123.08 37 PKiKP 20 23 10.7 +1.0
L02F Cave Junction 123.08 37 P PKiKP 20 23 09.7 +0.1
baz=307,SNR=7.8
HUMO Hull Mountain 123.15 36 PKPdf PKiKP 20 23 10.6 +0.8
E09A Wood Farm, Sta 123.18 30 PKiKP 20 23 09.8 +0.1
WALA Waterton Lakes 123.25 25 PKPdf PKPdf 20 23 09.2 -0.5
J04D Umpqua Nationa 123.25 35 PKiKP 20 23 10.2 0.0
J04D Umpqua Nationa 123.25 35 P PKiKP 20 23 10.1 0.0
baz=309,SNR=11
SCHQ Schefferville 123.52 350 PKP PKPdf 20 23 09.7 -0.2
comp=Z,4.4nm,0.8s,baz=16,slow=4.9,SNR=6.1
PINE Pine Mountain 123.55 34 PKPdf PKiKP 20 23 11.7 +1.0
G08A Pilot Rock 123.61 31 PKPdf PKiKP 20 23 10.6 -0.1
J05D Fort Rock, OR 123.72 34 P PKiKP 20 23 11.2 +0.2
baz=310,SNR=15
KHMM Horse Mountain 123.73 38 PKPdf 20 23 11.0 +0.1
L04D Klamath Falls 123.77 36 PKPdf PKiKP 20 23 11.2 0.0
L04D Klamath Falls 123.77 36 P PKPdf 20 23 10.8 -0.1
baz=308,SNR=16
YBH Yreka Blue Hor 123.83 36 PKP PKiKP 20 23 11.5 +0.3
comp=Z,3.7nm,0.7s,baz=63,slow=2.8,SNR=7.2
YBH Yreka Blue Hor 123.83 36 PKPdf PKiKP 20 23 11.2 0.0
YBH Yreka Blue Hor 123.83 36 PKIKP PKiKP 20 23 11.2 0.0
K04D Chiloquin, OR 123.84 35 P PKiKP 20 23 11.4 +0.1
baz=309
I07A Izee 124.14 32 PKPdf PKiKP 20 23 12.4 +0.6
K05A Summer Lake 124.27 34 PKPdf PKiKP 20 23 12.8 +0.6
BMO Blue Mountains 124.76 30 PKPdf 20 23 12.0 -0.7
BMO Blue Mountains 124.76 30 PKIKP PKPdf 20 23 12.0 -0.7
USHA Ushuaia 124.83 189 PKP PKiKP 20 23 12.9 +0.2
comp=Z,7.1nm,0.4s,baz=346,slow=2.5,SNR=1.5
MSO Missoula 124.93 27 PKPdf PKPdf 20 23 12.4 -0.5
MSO Missoula 124.93 27 P PKPdf 20 23 12.9 0.0
baz=319,SNR=28
MOD Modoc Plateau 125.13 35 PKiKP 20 23 13.9 0.0
J08A Circle Bar Ran 125.18 32 PKiKP 20 23 14.2 +0.3
PLID Pearl Lake 125.25 29 PKPdf PKPdf 20 23 13.0 -0.7
WVOR Wild Horse Val 125.72 33 PKiKP 20 23 15.2 +0.2
WVOR Wild Horse Val 125.72 33 PKIKP PKiKP 20 23 15.2 +0.2
EGMT Eagleton 125.76 23 PKPdf PKiKP 20 23 15.0 +0.1
EGMT Eagleton 125.76 23 P PKPdf 20 23 14.6 +0.2
baz=324,SNR=27
ORV Oroville 125.89 38 PKiKP 20 23 15.2 0.0
ORV Oroville 125.89 38 PKIKP PKiKP 20 23 15.2 0.0
LRM Limekiln Ridge 126.37 27 PKPdf 20 23 15.9 0.0
BEKR Beckworth 126.39 37 PKPdf 20 23 15.8 -0.3
MFID Camas Ranch 126.53 31 PKPdf PKiKP 20 23 16.8 +0.2
AFDM Forest Hills D 126.58 38 PKPdf PKiKP 20 23 16.6 -0.1
BOZ Bozeman (W) 126.91 26 PKiKP 20 23 17.3 0.0
BOZ Bozeman (W) 126.91 26 PKIKP PKiKP 20 23 17.3 0.0
BOZ Bozeman (W) 126.91 26 P PKiKP 20 23 17.3 0.0
baz=321,SNR=35
MCMT McKenzie Canyo 126.95 28 PKiKP 20 23 17.8 +0.3
PAHR Pah Rah Range 127.07 36 PKiKP 20 23 18.1 +0.2
HLID Hailey 127.14 30 PKPdf PKiKP 20 23 18.3 +0.5
HLID Hailey 127.14 30 P PKiKP 20 23 18.1 +0.2
baz=317
PNTR Pine Nut 127.33 37 PKPdf PKPdf 20 23 18.0 +0.1
DGMT Dagmar 127.37 19 PKPdf PKiKP 20 23 18.1 +0.1
DGMT Dagmar 127.37 19 P PKiKP 20 23 19.0 +1.1
baz=331
DGMT Dagmar 127.37 19 P PKiKP 20 23 17.9 -0.1
baz=331
CMB Columbia Colle 127.50 39 PKPdf 20 23 18.0 0.0
CMB Columbia Colle 127.50 39 PKIKP PKPdf 20 23 18.0 0.0
QLMT Earthquake Lak 127.59 27 PKPdf PKiKP 20 23 19.2 +0.4
GCMT Greycliff 127.59 25 PKiKP 20 23 19.1 +0.4
YERR Yerington 127.61 37 PKiKP 20 23 19.1 +0.1
YHL Hebgen Lake 127.69 26 PKiKP 20 23 19.6 +0.6
BMN Battle Mountai 127.85 34 PKiKP 20 23 19.7 +0.3
BMN Battle Mountai 127.85 34 PKIKP PKiKP 20 23 19.7 +0.3
YMR Madison River 127.92 26 PKiKP 20 23 20.2 +0.7
ULM Lac du Bonnet 127.93 12 PKP PKPdf 20 23 18.4 0.0
comp=Z,16nm,0.6s,baz=353,slow=2.3,SNR=16
ULM Lac du Bonnet 127.93 12 PKPdf PKPdf 20 23 17.7 -0.7
ULM Lac du Bonnet 127.93 12 PKIKP PKPdf 20 23 17.7 -0.7
LAO LASA Array 128.21 22 PKiKP 20 23 19.9 +0.2
LAO LASA Array 128.21 22 P PKiKP 20 23 20.6 +0.9
baz=328,SNR=36
LAO LASA Array 128.21 22 P PKiKP 20 23 20.4 +0.7
baz=328,SNR=36
KVN Kaiserville 128.25 36 PKPdf PKiKP 20 23 20.3 +0.1
KVN Kaiserville 128.25 36 PKIKP PKiKP 20 23 20.3 +0.1
RLMT Red Lodge 128.30 25 PKPdf PKiKP 20 23 20.0 -0.2
RLMT Red Lodge 128.30 25 P PKiKP 20 23 20.0 -0.2
baz=324,SNR=12
H17A Grant Village 128.31 26 P PKiKP 20 23 21.7 +1.4
baz=322,SNR=9.0
NVAR Mina Array Bea 128.53 37 PKP PKiKP 20 23 21.7 +0.8
comp=Z,11nm,0.7s,baz=269,slow=1.8,SNR=46
NVAR SKPbc SKPbc 20 26 36.9
comp=Z,1.7nm,0.8s,baz=284,slow=2.3,SNR=2.7
NVAR Mina Array Bea 128.53 37 PKiKP 20 23 20.6 -0.3
IMW Indian Meadow 128.54 27 PKiKP 20 23 20.9 0.0
NV11 Mina Array Sit 128.62 37 PKiKP 20 23 21.0 +0.1
FXWY Fox Creek 128.70 27 PKPdf 20 23 20.6 +0.2
ELK Elko 128.73 33 PKP PKiKP 20 23 21.6 +0.4
comp=Z,12nm,0.8s,baz=340,slow=1.8,SNR=46
ELK Elko 128.73 33 PKPdf PKiKP 20 23 21.2 0.0
MOOW Moose Ponds 128.74 27 PKPdf PKiKP 20 23 20.8 -0.3
TPAW Teton Pass 128.85 27 PKPdf PKPdf 20 23 20.0 -0.7
LOHW Long Hollow 128.91 27 PKPdf 20 23 20.9 +0.1
ECR Eagle Creek 128.99 28 PKiKP 20 23 21.7 +0.1
REDW Red Top Meadow 128.99 27 PKiKP 20 23 21.7 +0.1
HVU Hansel Valley 129.27 30 PKiKP 20 23 21.8 -0.4
HVU Hansel Valley 129.27 30 PKIKP PKiKP 20 23 21.8 -0.4
MDND Maddock 129.29 16 PKPdf PKPdf 20 23 21.0 -0.1
MDND Maddock 129.29 16 P PKiKP 20 23 21.9 +0.1
baz=336
MDND Maddock 129.29 16 P PKPdf 20 23 21.4 +0.3
baz=336,SNR=6.9
AHID Auburn Hatcher 129.34 28 PKiKP 20 23 22.1 -0.2
SMMC Simmler 129.39 41 P PKiKP 20 23 22.4 -0.1
baz=306
TPH Tonopah 129.41 37 PKPdf 20 23 22.1 +0.2
TPH Tonopah 129.41 37 PKIKP PKPdf 20 23 22.1 +0.2
DSP Deep Springs 129.41 38 PKPdf PKiKP 20 23 22.5 +0.2
TIN Tinemaha, Big 129.45 38 P PKiKP 20 23 22.6 0.0
baz=309
PKM Mcpherson Peak 129.76 42 P PKiKP 20 23 23.5 +0.2
baz=306
BGU Big Grassy Mou 129.77 31 PKPdf PKPdf 20 23 21.7 -0.8
AGMN Agassiz Nation 129.79 12 PKPdf 20 23 21.8 -0.2
AGMN Agassiz Nation 129.79 12 P PKPdf 20 23 22.1 +0.1
baz=341
AGMN Agassiz Nation 129.79 12 P PKiKP 20 23 22.8 0.0
baz=341
GMN Gold Mountain 129.89 37 PKiKP 20 23 23.8 +0.2
CWC Cottonwood Cre 129.93 39 P PKiKP 20 23 23.3 -0.4
baz=309
HWUT Hardware Ranch 130.00 29 PKPdf PKPdf 20 23 23.0 +0.2
BW06 Boulder Array 130.05 27 PKPdf 20 23 23.1 +0.1
BW06 Boulder Array 130.05 27 P PKPdf 20 23 23.1 +0.1
baz=322,SNR=9.4
PD31 Pinedale Array 130.05 27 PKPdf 20 23 23.0 0.0
PDAR Pinedale Array 130.05 27 PKhKP PKPpre 20 23 16.1
comp=Z,3.5nm,0.7s,baz=150,slow=2.0,SNR=8.7
PDAR PKP PKPdf 20 23 23.2 +0.2
comp=Z,8.6nm,0.8s,baz=208,slow=1.2,SNR=33
PDAR SKPbc SKPab 20 26 41.2 -0.9
comp=Z,5.9nm,1.0s,baz=354,slow=1.5,SNR=8.2
E28A Huff 130.14 17 PKPdf 20 23 23.1 +0.3
E28A Huff 130.14 17 P PKiKP 20 23 23.7 +0.1
baz=335
B35A Bob, Littlefor 130.16 11 PKPdf PKPdf 20 23 22.1 -0.6
B35A Bob, Littlefor 130.16 11 P PKPdf 20 23 21.9 -0.8
baz=344
ISA Isabella, Lake 130.16 40 PKPdf 20 23 23.2 0.0
ISA Isabella, Lake 130.16 40 PKIKP PKPdf 20 23 23.2 0.0
ISA Isabella, Lake 130.16 40 P PKPdf 20 23 23.5 +0.3
baz=308
R11A Troy Canyon, C 130.19 35 PKiKP 20 23 24.1 0.0
R11A Troy Canyon, C 130.19 35 P PKiKP 20 23 24.2 0.0
baz=313,SNR=50
DUG Dugway, Tooele 130.41 32 PKPdf 20 23 23.7 0.0
DUG Dugway, Tooele 130.41 32 PKIKP PKPdf 20 23 23.7 0.0
DUG Dugway, Tooele 130.41 32 P PKiKP 20 23 24.2 -0.2
baz=317
TCUT Toone Canyon 130.44 30 PKiKP 20 23 24.3 -0.4
SPR3 Spring Creek 3 130.45 34 PKPdf PKiKP 20 23 24.9 0.0
MPMC Manual Prospec 130.54 39 P PKiKP 20 23 24.9 -0.1
baz=310,SNR=13
CTU Camp Tracy 130.59 30 PKPdf PKPdf 20 23 24.4 +0.4
FURC Furnace Creek, 130.67 38 P PKiKP 20 23 25.3 +0.5
baz=310
TPNV Topopah Spring 130.73 37 P PKiKP 20 23 25.0 -0.3
baz=311
LRMC Laurel Mtn Rad 130.78 40 P PKPdf 20 23 24.9 +0.4
baz=309
JLU Jordanelle 130.81 30 PKPdf 20 23 24.9 +0.3
EYMN Ely 130.94 9 PKPdf PKPdf 20 23 23.9 -0.4
EYMN Ely 130.94 9 P PKiKP 20 23 24.8 -0.3
baz=347,SNR=6.5
EDW2 Edwards Air Fo 130.96 40 P PKiKP 20 23 25.6 -0.1
baz=308,SNR=8.0
GBN Guysborough 130.96 341 PKPdf PKiKP 20 23 26.3 +1.1
GWY Greenwater Val 130.97 38 PKPdf PKPdf 20 23 24.7 -0.1
NLU North Lily Min 130.97 31 PKPdf PKiKP 20 23 25.4 -0.3
QSM Queen of Sheba 130.99 38 PKiKP 20 23 25.6 0.0
PSUT Pine Spring 131.04 34 PKPdf 20 23 25.0 0.0
PRN Pahroc Range 131.14 36 PKPdf PKPdf 20 23 24.2 -0.9
MPU Maple Canyon 131.16 31 PKPdf 20 23 25.2 +0.1
RSSD Black Hills 131.20 22 PKPdf PKPdf 20 23 24.4 -0.7
RSSD Black Hills 131.20 22 PKIKP PKPdf 20 23 24.4 -0.7
RSSD Black Hills 131.20 22 P PKiKP 20 23 25.6 -0.4
baz=329
RSSD Black Hills 131.20 22 P PKPdf 20 23 25.1 0.0
baz=329
GSC Goldstone, Bar 131.45 39 PKPdf PKiKP 20 23 26.2 -0.5
GSC Goldstone, Bar 131.45 39 PKIKP PKiKP 20 23 26.2 -0.5
GSC Goldstone, Bar 131.45 39 P PKiKP 20 23 26.6 -0.1
baz=310,SNR=7.8
K22A Casper 131.46 25 PKPdf 20 23 25.4 -0.2
K22A Casper 131.46 25 P PKPdf 20 23 25.4 -0.2
baz=326
K22A Casper 131.46 25 P PKPdf 20 23 25.4 -0.2
baz=326,SNR=16
LMN Caledonia Moun 131.52 344 PKPdf 20 23 25.6 +0.2
SHPR Sheep Range 131.68 37 PKPdf PKiKP 20 23 27.7 +0.6
RDMU Red Mountain 131.76 29 PKPdf 20 23 26.7 +0.4
TMUT Trail Mountain 131.91 31 PKiKP 20 23 27.4 -0.3
TUQ Turquoise Moun 131.92 38 P PKiKP 20 23 27.8 +0.1
baz=311,SNR=5.9
RWWY Rawlins 131.96 26 PKPdf 20 23 26.8 +0.1
MSU Marysvale 131.98 33 PKPdf PKiKP 20 23 27.9 +0.2
MSU Marysvale 131.98 33 PKIKP PKiKP 20 23 28.0 +0.2
F33A 5 Mile Ranch, 132.01 14 PKPdf 20 23 26.4 +0.2
F33A 5 Mile Ranch, 132.01 14 P PKiKP 20 23 27.0 -0.3
baz=340
P17A Butcher Ranch, 132.02 31 PKiKP 20 23 27.6 -0.2
HEC Hector,Ludlow 132.05 39 P PKiKP 20 23 27.6 -0.3
baz=326
P18A Preston Nutter 132.15 30 PKPdf 20 23 26.1 -1.0
Q16A Castle Valley 132.21 31 PKiKP 20 23 28.0 -0.2
MURC Murrieta 132.26 41 P PKiKP 20 23 28.9 +0.7
baz=308
F64A Sherman 132.37 348 PKiKP 20 23 28.3 +0.2
V12A Nelson 132.38 37 PKPdf PKPdf 20 23 27.0 -0.5
SRU San Rafael Swe 132.40 31 PKPdf 20 23 26.9 -0.6
SRU San Rafael Swe 132.40 31 PKIKP PKPdf 20 23 26.9 -0.6
GMRC Granite Mounta 132.50 39 P PKiKP 20 23 28.9 0.0
baz=310,SNR=10
SUSD Miller 132.59 17 PKPdf 20 23 27.7 +0.2
SUSD Miller 132.59 17 P PKPdf 20 23 27.5 0.0
baz=336,SNR=9.0
F36A Milaca 132.59 11 PKPdf PKPdf 20 23 26.9 -0.5
F36A Milaca 132.59 11 P PKPdf 20 23 27.2 -0.2
baz=344
O20A White River Ci 132.73 28 PKPdf 20 23 26.7 -1.4
O20A White River Ci 132.73 28 P PKPdf 20 23 28.3 +0.2
baz=322,SNR=6.8
PFO Pinyon Flats O 132.74 41 PKP PKiKP 20 23 29.7 +0.4
comp=Z,7.2nm,0.8s,baz=248,slow=1.5,SNR=9.2
PFO Pinyon Flats O 132.74 41 P PKiKP 20 23 28.8 -0.6
baz=309
TPFO Pinon Flats 132.74 41 P PKiKP 20 23 28.9 -0.5
baz=309
BELC Belle Mtn. Jos 132.79 40 P PKiKP 20 23 29.2 -0.2
baz=310,SNR=5.9
PHWY Pilot Hill 133.03 25 PKPdf 20 23 28.2 -0.5
TRQ Mont Tremblant 133.04 353 PKPdf PKPdf 20 23 28.1 -0.2
COWI Conover 133.07 7 PKPdf 20 23 28.2 -0.1
PKME Peaks-Kenny Pk 133.14 348 P PKPdf 20 23 28.8 +0.4
baz=17
N23A Red Feather La 133.16 25 P PKPdf 20 23 28.9 -0.1
baz=326,SNR=7.3
MONP2 Monument Peak 133.21 41 P PKiKP 20 23 29.9 -0.5
baz=308,SNR=5.1
E46A Sault Ste Mari 133.23 3 PKPdf PKPdf 20 23 28.6 +0.1
IRM Iron Mountain 133.23 39 P PKiKP 20 23 30.0 -0.2
baz=311
BC3 Big Chuckawall 133.36 40 P PKiKP 20 23 30.4 -0.2
baz=310,SNR=5.5
IKP In-Ko-Pah, Jac 133.56 41 P PKiKP 20 23 30.6 -0.4
baz=308,SNR=5.6
SWSC Sam W. Stewart 133.58 41 P PKiKP 20 23 30.7 -0.2
baz=309
PV23 Carpenter Ridg 133.67 30 PKPdf PKPdf 20 23 30.5 +0.5
YUH Yuha Desert 133.69 41 PKPdf PKiKP 20 23 31.0 -0.1
G40A Rib Lake 133.74 9 PKPdf 20 23 29.9 +0.3
G40A Rib Lake 133.74 9 P PKPdf 20 23 30.1 +0.5
baz=348
PDMCI Parker Dam,Lak 133.76 38 P PKiKP 20 23 30.8 -0.4
baz=312
PV07 Paradox Valley 133.86 30 PKPdf 20 23 29.8 -0.5
ECSD EROS Data Cent 133.90 15 PKPdf 20 23 30.1 +0.2
ECSD EROS Data Cent 133.90 15 P PKPdf 20 23 30.5 +0.5
baz=339
ECSD EROS Data Cent 133.90 15 P PKiKP 20 23 30.8 -0.5
baz=339,SNR=11
SMCO Snowmass 134.09 28 PKPpre 20 23 18.3
GLA Glamis 134.15 40 P PKiKP 20 23 31.7 -0.4
baz=310,SNR=7.2
ISCO Idaho Springs 134.20 26 PKPdf PKPdf 20 23 29.6 -1.4
ISCO Idaho Springs 134.20 26 PKIKP PKPdf 20 23 29.6 -1.4
ISCO Idaho Springs 134.20 26 P PKiKP 20 23 31.8 -0.6
baz=325
ISCO Idaho Springs 134.20 26 P PKPdf 20 23 31.6 +0.6
baz=325,SNR=6.8
K31A O'Neill 134.31 18 PKPdf PKPdf 20 23 28.8 -2.0
K31A O'Neill 134.31 18 P PKiKP 20 23 32.4 +0.2
baz=336
I37A Lemond, Waseca 134.39 12 PKPdf PKPdf 20 23 29.9 -0.9
BMNY Brushton-Moira 134.40 353 P PKiKP 20 23 31.5 -0.7
baz=9.7
WUAZ Wupatki 134.58 35 P PKPdf 20 23 32.1 +0.4
baz=316,SNR=13
LBNH Lisbon 134.62 350 P PKPdf 20 23 31.8 +0.5
baz=13
LONY Lake Ozonia 134.63 353 P PKPdf 20 23 31.9 +0.6
baz=9.7
SADO Sadowa 134.85 358 PKP PKPdf 20 23 31.4 -0.3
comp=Z,9.9nm,0.7s,baz=283,slow=3.3,SNR=5.3
MVCO Mesa Verde 134.88 31 PKPdf PKiKP 20 23 33.1 -0.6
MVCO Mesa Verde 134.88 31 P PKPdf 20 23 32.6 +0.3
baz=320,SNR=10
Q24A Divide 135.09 26 P PKPdf 20 23 33.0 +0.2
baz=326
NCB Newcomb 135.22 353 PKiKP 20 23 33.5 -0.5
S22A 4UR Ranch, Cre 135.29 29 PKPdf PKPdf 20 23 33.3 +0.2
S22A 4UR Ranch, Cre 135.29 29 P PKPdf 20 23 33.8 +0.7
baz=323,SNR=9.1
X16A Lo Mia Camp, P 135.31 36 PKPdf 20 23 33.3 +0.2
ALF01 Guarapari-ES 135.46 241 eP PKiKP 20 23 35.5 +0.5
BGNE Belgrade 135.60 18 PKPdf PKPdf 20 23 32.9 -0.3
BGNE Belgrade 135.60 18 P PKPdf 20 23 32.7 -0.5
baz=336
BGNE Belgrade 135.60 18 P PKPdf 20 23 33.3 +0.1
baz=336,SNR=8.3
L34A Svendsen Farm, 135.60 16 PKPdf 20 23 32.9 -0.3
J59A Piesco 135.75 353 PKPdf 20 23 32.8 -0.6
W18A Petrified Fore 135.79 34 P PKiKP 20 23 35.2 -0.4
baz=317,SNR=29
SDCO Great Sand Dun 135.92 28 PKPdf 20 23 32.4 -1.9
SDCO Great Sand Dun 135.92 28 P PKPdf 20 23 32.8 -1.4
baz=324
SDCO Great Sand Dun 135.92 28 P PKPdf 20 23 34.2 -0.1
baz=324,SNR=6.5
J58A Remsen 135.95 354 PKPdf 20 23 33.9 +0.1
JFWS Jewell Farm 136.04 9 P PKPdf 20 23 34.4 +0.5
baz=347
KSCO Kaye Shedlock' 136.12 24 P PKiKP 20 23 35.9 -0.2
baz=329
214A Organ Pipe Nat 136.15 40 P PKiKP 20 23 36.0 -0.2
baz=312
HRV Adam Dziewonsk 136.23 349 P PKiKP 20 23 35.5 -0.5
baz=14
N33A J Bar K, Exete 136.43 18 PKPdf 20 23 34.5 -0.3
L61B Northampton 136.48 351 P PKiKP 20 23 36.2 -0.4
baz=13
GDU01 Guandu, BA 136.51 251 eP PKiKP 20 23 37.6 +0.4
L40A Anamosa 136.69 11 PKPpre 20 23 27.1
L40A PKPdf PKPdf 20 23 35.0 -0.2
T25A Trinidad 136.92 27 PKPpre 20 23 25.6
T25A Trinidad 136.92 27 P PKiKP 20 23 37.7 -0.2
baz=325,SNR=8.3
L44A Lake County Fo 137.09 7 P PKiKP 20 23 37.6 -0.1
baz=351
BINY Binghamton 137.18 354 PKiKP 20 23 37.1 -0.8
BINY Binghamton 137.18 354 P PKiKP 20 23 37.5 -0.4
baz=8.0
TUC Tucson 137.18 38 PKPpre 20 23 26.2
TUC Tucson 137.18 38 PKHKP PKPpre 20 23 26.2
TUC Tucson 137.18 38 P PKiKP 20 23 37.8 -0.6
baz=314
CBKS Cedar Bluff 137.40 21 P PKPdf 20 23 37.4 +0.7
baz=332
ERPA Erie 137.52 358 P PKiKP 20 23 38.2 -0.5
baz=2.2
L48A N Adams 137.63 3 PKPpre 20 23 27.9
ANMO Albuquerque 137.68 31 PKPpre 20 23 27.0
ANMO PKPdf PKPdf 20 23 38.0 +0.6
ANMO Albuquerque 137.68 31 PKIKP PKPdf 20 23 38.1 +0.6
ANMO Albuquerque 137.68 31 P PKiKP 20 23 38.8 -0.7
baz=321,SNR=8.1
ANMO Albuquerque 137.68 31 P PKiKP 20 23 38.8 -0.7
baz=321
KSPA Keystone Colle 137.79 354 PKPdf 20 23 37.9 +0.7
SBM South Baldy 138.04 33 PKPdf 20 23 39.1 +0.6
N41A Harden Midland 138.07 11 PKPdf PKPdf 20 23 35.8 -2.0
PAL Palisades 138.09 351 P PKiKP 20 23 39.4 -0.4
baz=11
ODNJ Ogdensburg 138.11 352 PKPdf 20 23 34.5 -3.3
R32A Long Quarter, 138.11 20 PKPpre 20 23 28.6
M55A Ridgway 138.12 357 PKPdf PKPdf 20 23 37.6 -0.3
M57A Sunshine Farm, 138.14 355 PKPpre 20 23 29.1
Y22A Socorro 138.19 32 P PKiKP 20 23 39.9 -0.6
baz=320,SNR=8.7
BNM Barren Site 138.20 32 PKPpre 20 23 28.5
M53A WI Miller and 138.22 359 P PKiKP 20 23 39.5 -0.5
baz=1.2
CRNM Carthage 138.30 32 PKPdf 20 23 39.2 +0.6
HDIL Hopedale 138.49 9 P PKPdf 20 23 39.4 +0.8
baz=348
P38A Dawn 138.54 14 PKPpre 20 23 29.3
N58A Sunbury 138.59 355 PKPpre 20 23 29.7
319A Douglas 138.74 37 PKPdf PKPdf 20 23 38.1 -1.3
PLCA Paso Flores 138.77 193 PKhKP PKPpre 20 23 32.3
comp=Z,1.3nm,0.7s,baz=65,slow=4.8,SNR=3.5
121A Cookes Peak, D 138.79 35 PKPdf PKPdf 20 23 39.2 -0.4
121A Cookes Peak, D 138.79 35 P PKPdf 20 23 40.2 +0.6
baz=318
121A Cookes Peak, D 138.79 35 P PKiKP 20 23 40.7 -1.1
baz=318
PANJ Princeton 138.82 352 P PKPdf 20 23 39.8 +0.7
baz=10
SSPA Standing Stone 138.90 356 PKPpre 20 23 28.9
SSPA Standing Stone 138.90 356 P PKPdf 20 23 40.2 +0.9
baz=5.4
SFIN Lafayette 138.96 7 P PKPdf 20 23 39.2 -0.2
baz=351
P40A Paris 138.97 12 PKPpre 20 23 30.5
O48B Farmland 139.27 4 P PKPdf 20 23 39.7 -0.2
baz=354
P43A Skaggs, Pawnee 139.35 10 PKPpre 20 23 31.3
O49A Covington 139.39 3 PKPpre 20 23 32.4
MVL Millersville 139.39 354 PKPpre 20 23 32.1
ACSO Alum Creek Sta 139.41 2 P PKPdf 20 23 40.9 +0.7
baz=358
O54A Avella 139.47 359 PKPdf 20 23 40.8 +0.4
KAN10 Anthony SW Sta 139.49 21 PKPpre 20 23 30.9
O52A Adamsville 139.54 0 PKPdf 20 23 40.5 0.0
KS20 Mayfield South 139.59 20 PKPpre 20 23 31.6
NOKA Waynoka 139.62 22 PKPpre 20 23 32.4
OK035 E0210 Rd and N 139.64 22 PKPpre 20 23 31.5
KAN09 Caldwell North 139.65 20 PKPdf 20 23 38.0 -2.8
KAN17 Caldwell West 139.68 20 PKPpre 20 23 31.8
KAN14 Manchester OK 139.69 21 PKPpre 20 23 31.5
P46A Rosedale 139.70 7 PKPpre 20 23 31.1
OK032 Salt Plains WL 139.74 21 PKPpre 20 23 33.1
KAN13 South Haven SW 139.81 20 PKPpre 20 23 31.7
U32A Winter Ranch, 139.82 22 PKPpre 20 23 33.4
OK038 West end E0370 139.83 22 PKPpre 20 23 31.8
MCWV Mont Chateau 139.97 358 P PKPdf 20 23 41.4 +0.1
baz=2.5
P49A Miami Univ. Ec 140.02 4 P PKPdf 20 23 41.3 0.0
baz=355
AMTX Amarillo 140.02 26 P PKPdf 20 23 41.6 0.0
baz=328
P52A Corning 140.02 1 PKPpre 20 23 37.4
P52A Corning 140.02 1 P PKPdf 20 23 42.0 +0.6
baz=359
P48A Milroy 140.04 5 PKPpre 20 23 32.7
P57A Homestead Farm 140.05 356 PKPpre 20 23 34.5
CROK Carrier 140.09 21 PKPpre 20 23 34.9
CPSB Cacapava Do Su 140.10 219 eP PKPdf 20 23 42.1 +0.3
R40A Maddies Statio 140.11 13 PKPpre 20 23 33.0
BLOK Blackwell 140.12 20 PKPpre 20 23 33.4
P51A Williamsport 140.15 2 PKPpre 20 23 34.3
P53A Whipple 140.17 360 PKPdf 20 23 39.5 -2.1
T35A Sooner Cattle 140.22 19 PKPpre 20 23 34.4
T35B Sooner Cattle 140.22 19 P PKPpre 20 23 35.1
baz=336
MSTX Muleshoe 140.28 28 PKPpre 20 23 34.5
MSTX Muleshoe 140.28 28 P PKPpre 20 23 35.8
baz=326
MSTX Muleshoe 140.28 28 P PKPdf 20 23 43.4 +1.2
baz=326
S39A Bolivar 140.42 15 P PKPpre 20 23 34.2
baz=341
OLIL Olney 140.45 8 PKPpre 20 23 34.9
JANB Januaria 140.55 247 eP PKiKP 20 23 44.6 -1.0
CCM Cathedral Cave 140.56 12 PKPpre 20 23 35.2
CCM Cathedral Cave 140.56 12 PKHKP PKPpre 20 23 35.2
Q56A Snyder Ridge, 140.56 357 PKPdf 20 23 39.4 -3.0
CSTR Hydro, Custer 140.59 22 PKPpre 20 23 34.4
Q51A Peebles 140.60 2 PKPpre 20 23 35.5
Q52A Bidwell 140.69 1 PKPpre 20 23 34.0
MNTX Cornudas Mount 140.75 33 P PKPdf 20 23 38.6 -4.4
baz=320
MNTX Cornudas Mount 140.75 33 P PKPdf 20 23 43.3 +0.4
baz=320
FVM French Village 140.79 11 PKPpre 20 23 35.0
FVM French Village 140.79 11 PKHKP PKPpre 20 23 35.1
QUOK Quay 140.83 20 PKPpre 20 23 36.2
GDL2 Guadalupe Moun 140.91 32 PKPpre 20 23 36.9
OK029 Liberty Lake 140.91 21 PKPpre 20 23 36.2
OK029 IAMs_20 IAMs_20 21 07 09.3
comp=Z,743nm,20.0s
OK034 N. Norfolk Rd. 140.97 20 PKPpre 20 23 36.3
OK034 IAMs_20 IAMs_20 21 08 25.3
comp=Z,638nm,19.0s
BCOK Bluff Creek, N 140.98 21 PKPpre 20 23 35.8
OK031 S. Brethren Rd 140.98 20 PKPpre 20 23 36.1
OK030 Cody Creek RV 141.02 20 PKPpre 20 23 37.1
CLN7 Carlsbad 7 141.03 31 PKPpre 20 23 37.4
HTMS Hat Mesa 141.07 30 PKPpre 20 23 38.3
OK025 Westminster Rd 141.14 21 PKPpre 20 23 36.6
WCI Wyandotte Cave 141.18 6 PKPpre 20 23 36.1
WCI Wyandotte Cave 141.18 6 PKHKP PKPpre 20 23 36.2
WCI Wyandotte Cave 141.18 6 P PKPpre 20 23 38.1
baz=352
MGMO Mountain Grove 141.19 14 PKPpre 20 23 35.2
DEOK Depew 141.20 20 PKPpre 20 23 36.5
R49A Shelbyville 141.22 5 PKPpre 20 23 37.4
R49A Shelbyville 141.22 5 P PKPpre 20 23 37.1
baz=354
R49A P PKPpre 20 23 37.1
baz=354
SIUC Southern Illin 141.28 10 PKPpre 20 23 36.6
R50A Paris 141.29 4 PKPpre 20 23 37.1
R50A Paris 141.29 4 P PKPpre 20 23 37.7
baz=355

R50A				P	PKPpre	20 23 37.7		
	baz=355							
S44A	Carbondale	141.29	10		PKPpre	20 23 36.8		
S44A	Carbondale	141.29	10	P	PKPpre	20 23 36.9		
	baz=348							
U38A	Gravette	141.31	17		PKPpre	20 23 36.8		
U38A	Gravette	141.31	17	P	PKPpre	20 23 37.1		
	baz=339							
R53A	Hurricane	141.33	1		PKPpre	20 23 38.7		
WMOK	Wichita Mounta	141.35	23		PKPpre	20 23 37.7		
WMOK	Wichita Mounta	141.35	23	PKHKP	PKPpre	20 23 37.7		
WMOK	Wichita Mounta	141.35	23	P	PKPpre	20 23 37.7		
	baz=332,SNR=29							
TUL1	Leonard	141.37	19		PKPpre	20 23 36.5		
RLO	Rose Lookout	141.37	18		PKPpre	20 23 36.8		
FNO	Franklin	141.41	21		PKPpre	20 23 36.6		
HHAR	Hobbs	141.58	16		PKPpre	20 23 38.3		
HHAR	Hobbs	141.58	16	P	PKPpre	20 23 38.4		
	baz=340							
S57A	Dark Hollow, R	141.83	357		PKPpre	20 23 39.4		
X34A	Smith Ranch, M	141.84	22		PKPpre	20 23 39.4		
S51A	Beattyville	141.97	3		PKPpre	20 23 39.8		
S51A	Beattyville	141.97	3	P	PKPpre	20 23 40.2		
	baz=357							
S51A				P	PKPpre	20 23 40.2		
	baz=357							
T47A	Sharon Grove	142.31	7		PKPpre	20 23 39.1		
T47A	Sharon Grove	142.31	7	P	PKPpre	20 23 40.6		
	baz=351,SNR=7.9							
FCAR	Ozark Folk Cen	142.43	14		PKPpre	20 23 39.6		
BLA	Blacksburg	142.43	359	P	PKPdf	20 23 45.9	0.0	
	baz=1.7							
LCAR	Lake Charles	142.49	13		PKPpre	20 23 40.6		
T50A	Nancy	142.51	4		PKPpre	20 23 40.2		
T50A	Nancy	142.51	4	P	PKPpre	20 23 40.3		
	baz=354							
T50A				P	PKPpre	20 23 40.3		
	baz=354							
T59A	Double "B" Far	142.51	355		PKPpre	20 23 41.2		
T57A	Hurt	142.60	357		PKPpre	20 23 41.6		
LOOK	Love County	142.62	22		PKPpre	20 23 41.7		
X37A	Clayton	142.72	19		PKPpre	20 23 42.2		
X37A	Clayton	142.72	19	P	PKPdf	20 23 42.1	-4.3	
	baz=337							
ABTX	Abilene, Hawle	142.83	26	PKPdf	PKPdf	20 23 43.3	-3.4	
U49A	Red Boiling Sp	142.93	6		PKPpre	20 23 42.4		
U49A	Red Boiling Sp	142.93	6	P	PKPpre	20 23 42.1		
	baz=353,SNR=11							
WHAR	Wooly Hollow	142.96	15		PKPpre	20 23 42.3		
WVT	Waverly	143.05	9	PKPdf	PKPbc	20 23 44.0	+0.3	
WVT	Waverly	143.05	9	PKIKP	PKPbc	20 23 44.0	+0.3	
WVT	Waverly	143.05	9	P	PKPab	20 23 42.6	+0.4	
	baz=349,SNR=24							
TZTN	Tazewell	143.06	3	PKPdf	PKPbc	20 23 43.6	-0.2	
TZTN	Tazewell	143.06	3	P	PKPbc	20 23 43.4	-0.3	
	baz=357,SNR=13							
U54A	Nelsons Funny	143.13	0		PKPpre	20 23 42.6		
Z35A	Perchaven, San	143.19	22		PKPbc	20 23 43.7	-0.4	
Z35A	Perchaven, San	143.19	22	P	PKPbc	20 23 43.6	-0.6	
	baz=333							
CLTN	Cedars of Leba	143.28	7	PKPdf	PKPbc	20 23 43.8	-0.5	
U56A	King	143.29	359		PKPbc	20 23 45.2	+0.8	
MIAR	Mount Ida	143.31	17	PKPdf	PKPbc	20 23 44.7	+0.2	
MIAR	Mount Ida	143.31	17	PKIKP	PKPbc	20 23 44.7	+0.2	
MIAR	Mount Ida	143.31	17	P	PKPbc	20 23 45.0	+0.6	
	baz=340							
MIAR	Mount Ida	143.31	17	P	PKPbc	20 23 44.9	+0.5	
	baz=340							
UALR	University of	143.43	15	PKPdf	PKPbc	20 23 44.9	+0.1	
TX31	Lajitas Ar. Si	143.51	34		PKPbc	20 23 45.3	-0.1	
TX31	Lajitas Ar. Si	143.51	34	P	PKPbc	20 23 45.9	+0.6	
	baz=321							
TX32	Lajitas Array	143.51	34		PKPbc	20 23 45.3	-0.1	
TXAR	Lajitas Array	143.51	34	PKP	PKPbc	20 23 46.2	+0.9	
	comp=Z,13nm,0.7s,baz=272,slow=1.1,SNR=85							
TXAR				SKP		20 27 12.7		
	comp=Z,5.9nm,1.0s,baz=18,slow=4.4,SNR=6.1							
TXAR	Lajitas Array	143.51	34	PKPdf	PKPbc	20 23 45.0	-0.3	
TXAR	Lajitas Array	143.51	34	PKIKP	PKPbc	20 23 45.0	-0.3	
V48A	Smith Brothers	143.57	7		PKPab	20 23 44.4	+0.1	
V48A	Smith Brothers	143.57	7	P	PKPbc	20 23 45.0	-0.2	
	baz=351,SNR=16							
BBSR	BB Station	143.63	336	IAMs_20	IAMs_20	21 13 48.5		
	comp=Z,715nm,20.0s							
BDFB	Brasilia	143.72	244	PKP	PKPdf	20 23 47.6	-1.2	
	comp=Z,10nm,0.6s,baz=125,slow=4.1,SNR=15							
V51A	Loudon	143.75	4		PKPpre	20 23 44.8		
V51A	Loudon	143.75	4	P	PKPab	20 23 45.0	0.0	
	baz=355,SNR=8.1							
V52A	Sevierville	143.76	3		PKPpre	20 23 44.8		
V52A	Sevierville	143.76	3	P	PKPbc	20 23 45.6	-0.1	
	baz=356,SNR=12							
W45A	Hickory Valley	143.77	11		PKPbc	20 23 45.8	0.0	
W45A	Hickory Valley	143.77	11	P	PKPbc	20 23 46.5	+0.7	
	baz=347							
V58A	Windy Hill, Pi	143.79	357		PKPbc	20 23 46.0	+0.1	
V58A	Windy Hill, Pi	143.79	357	P	PKPbc	20 23 46.2	+0.4	
	baz=4.0,SNR=9.8							
V58A				P	PKPbc	20 23 46.2	+0.4	
	baz=4.0,SNR=9.8							
V55A	Taylorsville	143.80	360		PKPbc	20 23 45.5	-0.3	
V55A	Taylorsville	143.80	360	P	PKPbc	20 23 46.0	+0.2	
	baz=0.4,SNR=12							
V55A				P	PKPbc	20 23 46.0	+0.2	
	baz=0.4,SNR=12							
TKL	Tuckaleechee C	143.93	3	PKP	PKPbc	20 23 46.3	+0.1	
	comp=Z,24nm,0.5s,baz=270,slow=9.1,SNR=53							
TKL	Tuckaleechee C	143.93	3		PKPab	20 23 45.6	0.0	
TKL	Tuckaleechee C	143.93	3	PKIKP	PKPab	20 23 45.6	-0.1	
TKL	Tuckaleechee C	143.93	3	P	PKPbc	20 23 46.4	+0.1	
	baz=356,SNR=14							
V53A	Saluda	143.96	2		PKPab	20 23 46.0	+0.1	
V53A	Saluda	143.96	2	P	PKPbc	20 23 46.5	+0.1	
	baz=358,SNR=28							
V53A				P	PKPbc	20 23 46.5	+0.1	
	baz=358,SNR=28							
Z38A	Mt. Pleasant	144.06	19	PKPdf	PKPbc	20 23 47.1	+0.4	
Z38A	Mt. Pleasant	144.06	19	P	PKPab	20 23 45.9	-0.3	
	baz=337,SNR=10							
CPCT	Cooper Cave	144.09	4	PKPdf	PKPab	20 23 46.3	+0.1	
HPIG		144.11	39	PKPdf	PKPbc	20 23 48.0	+0.7	
PLAL	Pickwick Lake	144.13	9	PKPdf	PKPab	20 23 46.0	-0.5	
SWET	Sewanee	144.19	5		PKPab	20 23 46.2	-0.5	
WLAR	White Oak Lake	144.25	17	PKPdf	PKPbc	20 23 47.8	+0.6	
W50A	Signal Mountai	144.27	5		PKPab	20 23 46.9	-0.1	
W50A	Signal Mountai	144.27	5	P	PKPbc	20 23 47.2	-0.1	
	baz=353,SNR=7.2							
WHTX	Lake Whitney,	144.29	24	PKPdf	PKPbc	20 23 47.4	-0.1	
WHTX	Lake Whitney,	144.29	24	P	PKPab	20 23 47.3	+0.1	
	baz=332,SNR=8.1							
WHTX	Lake Whitney,	144.29	24	P	PKPab	20 23 47.2	+0.1	
	baz=332							
OXF	Oxford	144.35	11		PKPbc	20 23 47.9	+0.3	
OXF	Oxford	144.35	11	PKIKP	PKPbc	20 23 47.9	+0.3	
OXF	Oxford	144.35	11	P	PKPbc	20 23 47.9	+0.3	
	baz=346							
CCAR	Cane Creek	144.39	15		PKPdf	20 23 48.5	-0.8	
W57A	Gilead	144.47	358	PKPdf	PKPbc	20 23 48.1	+0.2	
W57A	Gilead	144.47	358	P	PKPbc	20 23 48.6	+0.7	
	baz=2.5,SNR=23							
W57A				P	PKPbc	20 23 48.6	+0.7	
	baz=2.5,SNR=23							
BO02	Sierra Bellavi	144.48	195		PKPdf	20 23 49.1	-0.5	
W52A	Murphy	144.49	3		PKPab	20 23 47.4	-0.4	
W52A	Murphy	144.49	3	P	PKPbc	20 23 48.2	+0.2	
	baz=356,SNR=16							
KMSC	Kings Mountain	144.51	360		PKPab	20 23 47.9	+0.1	
KMSC	Kings Mountain	144.51	360	P	PKPbc	20 23 48.4	+0.3	
	baz=0.2,SNR=31							
KMSC	Kings Mountain	144.51	360	P	PKPab	20 23 47.8	-0.1	
	baz=0.2							
GO05	Huala	144.56	194	PKPdf	PKPdf	20 23 49.2	-0.4	
JCT	Junction City	144.57	28	PKPdf	PKPbc	20 23 48.4	-0.1	
JCT	Junction City	144.57	28	PKIKP	PKPbc	20 23 48.4	-0.1	
JCT	Junction City	144.57	28	P	PKPbc	20 23 48.9	+0.5	
	baz=327							
JCT	Junction City	144.57	28	P	PKPdf	20 23 49.5	-0.3	
	baz=327							
BG3	Lake Jocassee	144.63	2		PKPbc	20 23 48.5	0.0	
CASEE	Lake Jocassee	144.63	2	P	PKPbc	20 23 48.8	+0.3	
	baz=358,SNR=46							
X48A	Hartselle	144.81	8	PKPdf	PKPab	20 23 48.3	-0.7	
X48A	Hartselle	144.81	8	P	PKPab	20 23 48.7	-0.2	
	baz=350							
PAULI	Pauline	144.83	0		PKPab	20 23 49.0	0.0	
FPAL	Fort Paine	144.90	6		PKPab	20 23 48.7	-0.6	
237A	Washetta, Mont	144.91	21		PKPbc	20 23 49.8	+0.4	
237A	Washetta, Mont	144.91	21	P	PKPdf	20 23 50.6	+0.3	
	baz=335,SNR=37							
X51A	Calhoun	144.94	5		PKPbc	20 23 49.6	+0.2	
X51A	Calhoun	144.94	5	P	PKPdf	20 23 50.1	-0.2	
	baz=354,SNR=40							
X51A				P	PKPdf	20 23 50.1	-0.2	
	baz=354,SNR=40							
Y45A	Yeager Farm, C	144.95	12	PKPdf	PKPdf	20 23 50.1	-0.2	
Y45A	Yeager Farm, C	144.95	12	P	PKPdf	20 23 50.2	-0.2	
	baz=346							
BIRD	Birdtown, Kers	144.99	359		PKPbc	20 23 49.8	+0.2	
BIRD	Birdtown, Kers	144.99	359	P	PKPdf	20 23 50.3	0.0	
	baz=1.7,SNR=28							
X58A	Rowland	145.04	357	P	PKPab	20 23 50.1	+0.3	
	baz=3.7,SNR=12							
X58A				P	PKPab	20 23 50.1	+0.3	
	baz=3.7,SNR=12							
SMTB	Santa Maria do	145.26	255	eP	PKPbc	20 23 50.4	-0.7	
SMTB	Santa Maria do	145.26	255	eP	PKPdf	20 23 52.8	+1.5	
435B	Jarrell	145.30	25		PKPbc	20 23 50.6	-0.1	
435B	Jarrell	145.30	25	P	PKPab	20 23 50.8	0.0	
	baz=331							
435B	Jarrell	145.30	25	P	PKPbc	20 23 50.1	-0.6	
	baz=331							
JSC	Jenkinsville	145.37	360		PKPbc	20 23 50.8	0.0	
JSC	Jenkinsville	145.37	360	PKIKP	PKPbc	20 23 50.8	0.0	
JSC	Jenkinsville	145.37	360	P	PKPab	20 23 51.3	+0.3	
	baz=0.4,SNR=36							
CPUP	Villa Florida	145.38	220	PKPbc	PKPab	20 23 52.3	+1.0	
	comp=Z,16nm,0.6s,baz=115,slow=2.6,SNR=44							
CPUP	Villa Florida	145.38	220	eP	PKPab	20 23 52.8	+1.5	
HODGE	Hodges	145.41	1		PKPbc	20 23 50.4	-0.6	
HODGE	Hodges	145.41	1	P	PKPab	20 23 51.4	+0.3	
	baz=359,SNR=39							
Y49A	Blount Mountai	145.48	7	PKPdf	PKPdf	20 23 50.8	-0.4	
Y49A	Blount Mountai	145.48	7	P	PKPab	20 23 51.7	+0.3	
	baz=351,SNR=122							
Y60A	Bolivia	145.51	355	P	PKPab	20 23 52.4	+0.9	
	baz=5.7,SNR=23							
Y60A				P	PKPab	20 23 52.4	+0.9	
	baz=5.7,SNR=23							
NATX	Nacogdoches	145.54	20		PKPab	20 23 51.8	+0.1	
NATX	Nacogdoches	145.54	20	P	PKPab	20 23 52.5	+0.8	
	baz=336,SNR=13							
NATX	Nacogdoches	145.54	20	P	PKPbc	20 23 51.6	+0.1	
	baz=336,SNR=13							
Y59A	Loris	145.57	356	P	PKPab	20 23 52.5	+0.8	
	baz=4.6,SNR=14							
Y59A				P	PKPab	20 23 52.5	+0.8	
	baz=4.6,SNR=14							
Y57A	Sumter	145.62	358		PKPab	20 23 51.8	-0.1	
Y57A	Sumter	145.62	358	P	PKPab	20 23 52.4	+0.5	
	baz=1.9,SNR=10							
Y57A				P	PKPab	20 23 52.4	+0.5	
	baz=1.9,SNR=10							
Y52A	Lilburn	145.70	4		PKPab	20 23 52.2	-0.1	
Y52A	Lilburn	145.70	4	P	PKPab	20 23 52.9	+0.6	
	baz=355,SNR=100							
Y52A				P	PKPab	20 23 52.9	+0.6	
	baz=355,SNR=100							
Y58A	Scranton	145.70	357	P	PKPab	20 23 53.0	+0.8	
	baz=3.2,SNR=11							
Y58A				P	PKPab	20 23 53.0	+0.8	
	baz=3.2,SNR=11							
Z47A	Carrollton	145.88	10		PKPbc	20 23 52.3	-0.1	
Z47A	Carrollton	145.88	10	P	PKPab	20 23 52.9	0.0	
	baz=348,SNR=36							
Z51A	Franklin	146.15	6		PKPbc	20 23 53.5	+0.2	
Z51A	Franklin	146.15	6	P	PKPab	20 23 53.7	-0.3	
	baz=353,SNR=32							
GOGA	Godfrey	146.19	3		PKPab	20 23 53.8	-0.3	
GOGA	Godfrey	146.19	3	PKP2	PKPab	20 23 53.8	-0.3	
GOGA	Godfrey	146.19	3	P	PKPab	20 23 54.2	+0.2	
	baz=356,SNR=52							
GOGA	Godfrey	146.19	3	P	PKPbc	20 23 53.6	+0.2	
	baz=356							
LRAL	Lakeview Retre	146.21	8		PKPbc	20 23 53.0	-0.4	
LRAL	Lakeview Retre	146.21	8	P	PKPbc	20 23 53.6	+0.1	
	baz=350,SNR=46							
LRAL	Lakeview Retre	146.21	8	P	PKPbc	20 23 53.3	-0.2	
	baz=350							
146A	Union	146.24	12	P	PKPab	20 23 55.1	+0.8	
	baz=346,SNR=48							
HAW	Hawthorne Fire	146.29	0	P	PKPab	20 23 54.2	-0.3	
	baz=360,SNR=39							
VBMS	Vicksburg	146.32	14	P	PKPab	20 23 54.3	-0.3	
	baz=344							
VA03	San Esteban	146.33	197		PKPbc	20 23 54.3	+0.3	
NHSC	New Hope	146.52	358		PKPbc	20 23 54.5	+0.2	
NHSC	New Hope	146.52	358	P	PKPab	20 23 55.1	-0.3	
	baz=2.3							
833A	Chaparral WMA,	146.56	29		PKPbc	20 23 54.0	-0.6	
833A	Chaparral WMA,	146.56	29	P	PKPbc	20 23 54.7	0.0	
	baz=326							
833A	Chaparral WMA,	146.56	29	P	PKPab	20 23 55.3	-0.4	
	baz=326,SNR=37							
TMAB	Tom-Au,PA,Br	146.58	267	eP	PKPbc	20 23 55.4	+0.2	
342B	Flagon Creek P	146.64	17	P	PKPbc	20 23 55.1	+0.3	
	baz=340,SNR=13							
HKT	Hockley	146.74	23		PKPdf	20 23 54.2	+0.8	
HKT	Hockley	146.74	23	IAMs_20	IAMs_20	21 19 49.4		
	comp=Z,679nm,19.0s							
HKT	Hockley	146.74	23	PKP2	PKPdf	20 23 54.2	+0.8	
HKT				MLR	MLR			
	comp=Z,700nm,19.0s							
HKT	Hockley	146.74	23	P	PKPbc	20 23 55.2	+0.2	
	baz=333							
152A	Waverly Hall	146.84	5		PKPdf	20 23 54.1	+0.6	
152A	Waverly Hall	146.84	5	P	PKPbc	20 23 54.9	-0.4	
	baz=354,SNR=49							
735A	Kenedy	146.86	27	P	PKiKP	20 23 57.7	-0.5	
	baz=329							
154A	Montrose	147.00	3	P	PKPbc	20 23 55.6	-0.2	
	baz=357,SNR=14							
344A	Westbrook Farm	147.00	15		PKPbc	20 23 55.4	-0.5	
344A	Westbrook Farm	147.00	15	P	PKPbc	20 23 55.5	-0.3	
	baz=343,SNR=23							
250A	Grady	147.35	8		PKPbc	20 23 55.9	-0.9	
250A	Grady	147.35	8	P	PKPdf	20 23 55.0	+0.6	
	baz=351,SNR=24							
346A	Big Creek Wild	147.36	13	P	PKPbc	20 23 56.4	-0.5	
	baz=345,SNR=16							
255A	Hazlehurst	147.70	2		PKPbc	20 23 57.2	-0.5	
PRPB	Parauapebas	147.91	259	eP	PKPdf	20 23 56.2	+0.3	
PRPB	Parauapebas	147.91	259	eP	PKPdf	20 23 57.0	+1.1	
KVTX	Kingsville	147.93	28		PKPbc	20 23 57.6	-0.9	
AQDB	Aquidauana	147.94	230		PKPbc	20 23 58.6	-0.1	
AQDB	Aquidauana	147.94	230	eP	PKPdf	20 23 55.5	-0.1	
AQDB	Aquidauana	147.94	230	eP	PKPdf	20 23 56.7	+1.0	
SNDB	Serra Nova Dou	147.97	248	eP	PKPdf	20 23 57.3	+1.4	
SNDB	Serra Nova Dou	147.97	248	eP	PKPbc	20 23 57.6	-1.4	
352A	Blakely	148.00	6		PKPbc	20 23 59.4	+0.8	
352A	Blakely	148.00	6	P	PKPbc	20 23 57.5	-1.1	
	baz=354,SNR=13							
BRAL	Brewton	148.03	9		PKPbc	20 23 59.2	+0.5	
BRAL	Brewton	148.03	9	P	PKPbc	20 23 57.7	-0.9	
	baz=350,SNR=7.3							
BRAL	Brewton	148.03	9	P	PKiKP	20 23 59.7	-0.8	
	baz=350							
TIGA	Tifton	148.14	3	P	PKPab	20 24 01.8	+0.1	
	baz=356							
CO01	Juntas del Tor	148.78	199		PKiKP	20 24 02.1	-0.4	
GO04	Tololo Observa	148.82	198		PKPbc	20 24 01.2	+0.1	
456A	Hilliard	148.91	1		PKiKP	20 24 02.1	-0.2	
ZAIG	Zacatecas	149.05	40		PKPdf	20 23 59.1	+1.3	
DWPF	Disney Wildern	151.52	360	P	PKPbc	20 24 07.4	+0.1	
	baz=0.1							
MALB	Monte Alegre	152.76	267	eP	PKPdf	20 24 03.1	-0.3	
NPGB	Novo Progresso	153.16	255	eP	PKPdf	20 24 04.3	+0.3	
PTLB	Pontes e Lacer	153.43	235	eP	PKPdf	20 24 05.4	+1.1	
SMRT	St. Maarten	154.14	316		PKiKP	20 24 13.4	0.0	
STVI	Saint Thomas	155.18	320	PKPdf	PKPdf	20 24 06.2	-0.4	
STVI					pPKPdf	20 24 16.6	-3.7	
GCPR	Guaynabo City	155.92	322		PKPab	20 24 34.4	-0.2	
BOAV	Boa Vista	158.85	278	eP	PKPdf	20 24 11.1	-0.4	
LPAZ	La Paz	159.55	219	PKP	PKPdf	20 24 13.5	+0.5	
LPAZ				PKPab				
	comp=Z,4.0nm,0.8s,baz=54,slow=2.9,SNR=9.9							
PETF	Flores	160.79	25		PKPab	20 24 55.7	+0.2	
ESQI	Esquipulas	163.11	27		PKPab	20 25 06.2	+0.3	
MTO3	Montecristo	163.24	27		PKPab	20 25 06.5	-0.2	
TGUH	Tegucigalpa,Un	164.41	21		PKPab	20 25 10.7	-0.9	
SDV	Santo Domingo	165.71	311	PKPdf	PKPdf	20 24 15.9	-2.7	
SDV				PKPab	PKPab	20 25 17.8	+0.2	
ESPN	Las Esperanzas	167.05	12		PKPab	20 25 23.0	-0.1	
ACON	Acoyapa	167.05	16	PKPdf	PKPdf	20 24 17.8	-1.6	
ACON					PKPab	20 25 22.6	-0.5	
COVE	Coope Vega, Sa	168.45	15		PKPab	20 25 28.6	-0.7	
PEZE	Perez Zeledon,	169.91	12		PKPab	20 25 35.4	-0.5	
ROSC	El Rosal	171.08	307	PKP	PKPdf	20 24 21.9	-0.6	
	comp=Z,8.0nm,0.4s,baz=147,slow=4.0,SNR=7.7							

WEL ***01*** *20:06:00,37.˚14S×179.˚66E,h8km,ML6.0,Mw5.8, Moment Tensor Solution. s8 Moment tensor: Scale 10^17 Nm; Mrr-2.24; Mθθ0.71; Mϕϕ1.53; Mrθ3.20; Mθϕ-0.65; Mϕr5.78; Fault plane solution: Mo6.82000×10^17 NP1: ϕs342.00000°,δ9.00000°,λ-134.00000°. NP2: ϕs206.00000°,δ83.00000°,λ-84.00000°. Principal axes: T -75234.2700, Plg38.0000°, Azm290.0000°; N 14104.3900, Plg6.0000°, Azm25.0000°; P 61129.8800, Plg51.0000°, Azm123.0000°;*

WEL ***01*** *20:06:03.0±4.0,37.˚S±14.˚×18.˚0E±2.˚3,h18km±27km, M6.0/67,ML6.3/67,MLv6.0/67 Error ellipse: s-maj=0.0km s-min=0.0km az=60.3*

BJI ***01*** *20:06:06.8±0.0,37.˚98S×178.˚60E,h7km,mb5.2/14, mB5.3/1,Ms5.5/10,Ms7 5.3/10*

MOS ***01*** *20:06:09.5±0.8,37.˚22S×178.˚55E,h13km,mb5.6/19,Error ellipse: s-maj=15.1km s-min=12.3km az=36.5*

NOU ***01*** *20:06:10.5,37.˚61S×179.˚28E,h29km,mb5.6/58,Off E. Coast of N. Island, N.Z.*

NEIC ***01*** *20:06:10.0±2.0,37.˚32S±0.˚08×178.˚7E±0.˚1,h10km±1km, mb5.5/75,Error ellipse: s-maj=16.5km s-min=12.7km az=110.0*

IDC ***01*** *20:06:17.2±1.1,37.˚19S×178.˚48E,h56km±8km,mb4.9/28, mbtmp5.1/29,MS5.2/48,Error ellipse: s-maj=10.8km s-min=8.4km az=156.0*

GCMT ***01*** *20:06:19.0±0.4,37.˚50S±0.˚03×178.˚69E±0.˚03,h18km±2km, MW5.8/93,Moment Tensor Solution. s13,c13; s93,c118; Duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr0.05±.22; Mθθ-0.99±.14; Mϕϕ0.94±.16; Mrθ3.82±.82; Mθϕ-1.77±.10; Mϕr5.98±1.20; Best double couple: M07.31400×10^17 NP1:ϕs30.00000°,δ88.00000°, λ76.00000°. NP2:ϕs291.00000°,δ14.00000°,λ171.00000°. Principal axes: T 6.7570, Plg45.0000°, Azm286.0000°; N 1.1150, Plg14.0000°, Azm30.0000°; P -7.8720, Plg41.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 20:06:09.4±0.2,37.34S±0.03×178.85E±0.03,h10km,n661, c252/621,mb5.5/66,MS5.3/52,23C-2D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.49	243		Pb	20 06 19.8	-0.3
MXZ	Matakaoa Point	0.49	243	P	Pn	20 06 21.1	-1.3
WMGZ	Waiomatatini S	0.59	216	P	Pn	20 06 24.6	+0.8
PKGZ	Pakihiroa	0.82	228	P	Pn	20 06 27.7	+0.5
PUZ	Puketiti	0.87	213	P	Pn	20 06 28.5	+0.8
HAZ	Te Kaha	0.95	244	P	Pn	20 06 29.8	+1.1
TWGZ	Tauwhareparae	1.08	219	P	Pn	20 06 32.1	+1.4
RUGZ	Raukumara Rang	1.12	236	P	Pn	20 06 33.0	+1.7
CNGZ	Carnagh Statio	1.25	204	P	Pg	20 06 34.0	+0.6
WIZ	White Island	1.34	262	P	Pg	20 06 35.7	+0.7
WSRZ	White Island S	1.34	262	P	Pg	20 06 36.4	+1.2
TKGZ	Te Karaka	1.35	216	P	Pg	20 06 35.2	-0.2
MWZ	Matawai	1.44	226	P	Pg	20 06 36.9	-0.2
WHRZ	Whale Island	1.58	250	P	Pg	20 06 39.8	+0.1
RIGZ	Rimuhau	1.61	212	P	Pb	20 06 39.2	-0.1
RAGZ	Rawiri	1.62	224	P	Pb	20 06 39.2	-0.2
URZ	Urewera	1.66	236	P	Pg	20 06 40.4	-0.8
	14μm,0.6s,baz=121,slow=3.4,SNR=146						
URZ				LR	LR	20 06 58.4	
	comp=Z,9μm,20.9s,baz=291,slow=27.						
URZ				S	Sg	20 07 01.5	-1.1
	26μm,0.4s,baz=121,slow=0.7,SNR=7.6						
URZ	Urewera	1.66	236		Pn	20 06 38.6	+0.2
URZ	Urewera	1.66	236	P	Pg	20 06 40.4	-0.8
URZ	Urewera	1.66	236	P	Pg	20 06 41.7	+0.5
PRGZ	Paritu Road	1.75	206	P	Pn	20 06 40.8	+0.9
EDRZ	Edgecumbe	1.84	245	P	Pb	20 06 42.9	-0.3
MARZ	Manawahe	1.84	249	P	Pb	20 06 42.6	-0.6
SNGZ	Shannon Statio	1.87	219	P	Pn	20 06 42.3	+0.8
OPRZ	Ohinepanea

HIZ Hauiti 3.37 248 P **Pn** **20 07 04.3 +2.2**
HIZ Hauiti 3.37 248 P **Pb** **20 07 04.9 -4.3**
AWAZ Awhitu Peninsu 3.37 273 P **Pn** **20 07 03.3 +1.2**
PKVZ Pokaka 3.37 234 P **Pn** **20 07 03.4 +1.2**
PRHZ Porangahau 3.40 210 P **Pn** **20 07 01.0 -1.4**
WTAZ Waiatarua 3.44 276 P **Pn** **20 07 05.4 +2.3**
RVAZ Riverhead Bore 3.46 278 P **Pn** **20 07 04.5 +1.2**
TSZ Takapari Road 3.53 219 P **Pn** **20 07 02.8 -1.5**
DVHZ Dannevirke 3.62 215 P **Pn** **20 07 04.4 -1.1**
ANWZ Angora Road 3.62 210 P **Pn** **20 07 04.4 -1.2**
WAZ Wanganui 3.87 230 P **Pn** **20 07 10.1 +1.1**
POWZ Post Office Ro 3.88 217 P **Pn** **20 07 08.3 -0.8**
WCZ Waipu Caves 3.88 290 P **Pn** **20 07 10.0 +0.9**
BFZ Birch Farm 3.91 211 **Pn** **20 07 07.1 -2.3**
BFZ Birch Farm 3.91 211 P **Pn** **20 07 08.6 -0.8**
PRWZ Pori Road 3.92 214 P **Pn** **20 07 08.4 -1.2**
MHEZ Mangahewa 3.96 243 P **Pb** **20 07 14.7 -4.6**
OHWZ Ohakea 3.98 223 P **Pn** **20 07 10.8 +0.4**
LREZ Lake Rotokare 4.09 237 P **Pn** **20 07 13.9 +2.0**
DREZ Durham Road 4.10 242 P **Pn** **20 07 16.1 +4.0**
CPWZ Castlepoint 4.12 209 P **Pn** **20 07 11.4 -0.9**
PREZ Palmer Road 4.20 240 P **Pn** **20 07 16.6 +3.1**
NEZ North Egmont 4.21 241 P **Pn** **20 07 16.6 +2.9**
PKE Pukeiti 4.25 243 P **Pn** **20 07 18.0 +3.8**
KHEZ Kahui Hut 4.28 241 P **Pn** **20 07 17.9 +3.3**
NBEZ Newall Road No 4.37 242 P **Pn** **20 07 19.5 +3.8**
NMEZ Namu Road 4.42 241 P **Pn** **20 07 20.6 +4.1**
OUZ Omahuta 4.74 295 Pn **Pn** **20 07 22.2 +1.4**
OUZ Omahuta 4.74 295 P **Pn** **20 07 22.3 +1.4**
OUZ Omahuta 4.74 295 P **Pn** **20 07 23.8 +2.9**
MSWZ Moikau Station 4.93 213 **Pn** **20 07 19.4 -4.2**
PLWZ Palliser 5.06 212 **Pn** **20 07 21.0 -4.3**
SNZO South Karori 5.10 218 Pn **Pn** **20 07 23.6 -2.3**
SNZO South Karori 5.10 218 P **Pn** **20 07 24.7 -1.2**
TUWZ Tuamarina 5.58 221 **Pn** **20 07 29.3 -3.1**
CMWZ Cape Campbell 5.68 218 **Pn** **20 07 32.0 -1.8**
CMWZ Cape Campbell 5.68 218 P **Pn** **20 07 32.6 -1.2**
NNZ Nelson 5.74 226 **Pn** **20 07 31.9 -2.8**
BSWZ Blackbirch Sta 5.82 220 **Pn** **20 07 32.2 -3.5**
QRZ Quartz Range 6.02 233 Pn **Pn** **20 07 36.3 -2.2**
QRZ Quartz Range 6.02 233 P **Pn** **20 07 38.5 0.0**
THZ Tophouse 6.37 224 Pn **Pn** **20 07 40.4 -3.0**
KHZ Kahutara 6.51 217 Pn **Pn** **20 07 41.0 -4.1**
KHZ Kahutara 6.51 217 P **Pn** **20 07 44.6 -0.6**
CTZ Chatham Island 7.26 153 P **Pn** **20 07 55.0 -0.5**
LTZ Lake Taylor 7.41 221 Pn **Pn** **20 07 55.2 -2.5**
MQZ McQueen's Wall 7.92 215 Pn **Pn** **20 08 00.6 -3.9**
OXZ Oxford 7.92 219 **Pn** **20 08 00.7 -3.9**
RAO Raoul Island 8.51 19 LR LR 20 10 19.4
comp=Z,2µm,21.9s,baz=202,slow=29
RPZ Rata Peaks 8.70 221 P **Pn** **20 08 12.1 -3.2**
81nm,0.4s,baz=34,slow=16,SNR=28
RPZ S Sn 20 09 43.2 -10
766nm,0.5s,baz=67,slow=20,SNR=25
RPZ Rata Peaks 8.70 221 Pn **Pn** **20 08 12.7 -2.6**
RPZ Rata Peaks 8.70 221 P **Pn** **20 08 13.5 -1.8**
FOZ Fox Glacier 9.25 225 **Pn** **20 08 21.0 -1.8**
LBZ Lake Benmore 9.62 220 Pn **Pn** **20 08 25.0 -2.9**
ODZ Otahua Downs 9.87 216 **Pn** **20 08 27.6 -3.7**
ODZ Otahua Downs 9.87 216 P **Pn** **20 08 28.5 -2.8**
WKZ Wanaka 10.53 222 Pn **Pn** **20 08 37.5 -2.8**
MLZ Mavora Lakes 11.37 222 Pn **Pn** **20 08 50.0 -1.7**
WHZ Wether Hill Ro 11.80 220 Pn **Pn** 20 08 52.8 -5.0
DCZ Deep Cove 11.95 224 Pn **Pn** **20 08 56.0 -3.8**
PYZ Puysegur Point 12.65 222 Pn **Pn** **20 09 05.9 -3.4**
LHI Lord Howe Isla 17.32 284 P **Pn** **20 10 09.2 -2.0**
baz=17,SNR=7.7
LHI Lord Howe Isla 17.32 284 P **P** **20 10 15.7 +3.1**
OUENC Ouen Island, N 18.13 322 **Pn** **20 10 20.8 -0.5**
MARNC Mare, Loyalty 18.38 326 P **Pn** **20 10 23.0 -1.4**
ONTNC Ouen Toro 18.41 321 P **Pn** **20 10 23.9 -1.0**
DZM Mont Dzumac 18.62 321 *e*Pn **Pn** **20 10 31.6 +4.2**
241nm,1.4s
DZM *e*LR LR 20 14 55.7
comp=Z,35µm,23.8s
DZM Mont Dzumac 18.62 321 P **Pn** **20 10 31.8 +4.4**
47nm,1.1s,baz=126,slow=18,SNR=3.7
DZM LR LR 20 16 25.1
comp=Z,20µm,21.3s,baz=142,slow=33
DZM Mont Dzumac 18.62 321 P **Pn** **20 10 27.6 +0.2**
DZM Mont Dzumac 18.62 321 P **Pn** **20 10 31.1 +3.7**
MSVF Nonsavu 19.55 358 P **Pn** **20 10 39.3 +0.7**
38nm,1.0s,baz=156,slow=10,SNR=6.9
MSVF LR LR 20 16 34.6
comp=Z,10µm,21.0s,baz=194,slow=32
MSVF Nonsavu 19.55 358 P **P** **20 10 35.0 -2.3**
MSVF Nonsavu 19.55 358 P **P** **20 10 35.0 -2.3**
MSVF pmax pmax
comp=Z,52nm,0.9s
MSVF Nonsavu 19.55 358 P **Pn** **20 10 41.0 +2.4**
KOUNC Koumac, New Ca 20.99 319 P **P** **20 10 53.0 +0.1**
KOUNC Koumac, New Ca 20.99 319 P Pn 20 10 55.7 +0.2
ARMA Armidale 23.58 279 P **P** **20 11 21.1 +0.7**
baz=23,SNR=8.1
ARMA Armidale 23.58 279 P **P** **20 11 21.9 +1.5**
ARMA IAmb IAmb 20 11 25.1
comp=Z,135nm,1.4s
ARMA Armidale 23.58 279 P **P** **20 11 23.4 +3.0**
MILA Mila 23.62 262 P **P** **20 11 20.6 0.0**
baz=23,SNR=22
CNB Canberra Magne 23.80 266 P **P** **20 11 22.4 -0.1**
baz=23,SNR=48
CNB Canberra Magne 23.80 266 P **P** **20 11 25.8 +3.4**
CAN Canberra 24.09 266 P **P** **20 11 26.7 +1.5**
CAN IAmb IAmb 20 11 29.1
comp=Z,136nm,1.0s
CAN Canberra 24.09 266 P **P** **20 11 26.7 +1.5**
CAN pmax pmax
comp=Z,136nm,1.0s
CAN Canberra 24.09 266 P **P** **20 11 27.7 +2.5**
GLAD Gladstone 24.13 252 P **P** **20 11 26.0 +0.7**
RAR Rarotonga 24.53 55 LR LR 20 19 10.2
comp=Z,4µm,20.6s,baz=224,slow=31
TAU Tasmania Unive 24.66 247 P **P** **20 11 28.7 -1.4**
TAU IAmb IAmb 20 11 33.6
comp=Z,103nm,0.7s
TAU Tasmania Unive 24.66 247 P **P** **20 11 28.7 -1.4**
TAU pmax pmax
comp=Z,103nm,0.7s
TAU Tasmania Unive 24.66 247 P **P** **20 11 31.6 +1.4**
MOO Moorlands 24.74 248 P **P** **20 11 30.5 -0.4**
baz=24,SNR=13
MOO Moorlands 24.74 248 P **P** **20 11 33.2 +2.3**
AFI Afiamalu 24.79 22 P **P** **20 11 33.5 +1.9**
comp=Z,28nm,0.6s,baz=218,slow=17,SNR=7.2
comp=Z,28nm,0.6s
AFI Afiamalu 24.79 22 P **P** **20 11 32.6 +1.0**
AFI IAmb IAmb 20 11 58.6
comp=Z,62nm,0.7s
AFI Afiamalu 24.79 22 P **P** **20 11 32.6 +1.0**
AFI pmax pmax
comp=Z,62nm,0.7s
TOO Toolangi 26.41 259 P **P** **20 11 46.0 -0.2**
baz=26,SNR=37
TOO Toolangi 26.41 259 P **P** **20 11 46.3 +0.2**
TOO IAmb IAmb 20 11 48.6
comp=Z,112nm,1.1s
TOO Toolangi 26.41 259 P **P** **20 11 46.3 +0.2**
TOO pmax pmax
comp=Z,112nm,1.2s
TOO Toolangi 26.41 259 P **P** **20 11 46.5 +0.3**
EIDS Eidsvold 26.45 289 P **P** **20 11 47.7 +1.1**
baz=26,SNR=11
EIDS Eidsvold 26.45 289 P **P** **20 11 46.6 0.0**
EIDS IAmb IAmb 20 11 57.9
comp=Z,69nm,0.9s
EIDS Eidsvold 26.45 289 P **P** **20 11 49.3 +2.7**
BRAT Ballarat 27.63 259 P **P** **20 11 58.5 +1.4**
RMQ Roma 27.63 284 P **P** **20 11 58.2 +1.0**
baz=27,SNR=39
RMQ Roma 27.63 284 P **P** **20 11 59.1 +1.9**
CMSA Cobar Meteorol 27.86 272 P **P** **20 12 00.3 +1.1**
ARPS Mount Arapiles 29.43 260 P **P** **20 12 13.3 +0.2**
baz=29,SNR=9.5
ARPS Mount Arapiles 29.43 260 P **P** **20 12 15.3 +2.2**
TBI Tubuai 30.53 72 *e*LR LR 20 20 13.5
comp=Z,8µm,24.0s
STKA Stephens Creek 31.01 269 P **P** **20 12 27.7 +0.6**
baz=31,SNR=75
STKA Stephens Creek 31.01 269 P **P** **20 12 27.6 +0.5**
comp=Z,120nm,0.9s,baz=102,slow=10,0,SNR=125
STKA LR LR 20 23 56.3
comp=Z,12µm,21.1s,baz=102,slow=34
comp=Z,120nm,0.9s
STKA Stephens Creek 31.01 269 P **P** **20 12 27.0 -0.1**
STKA Stephens Creek 31.01 269 *i* P **P** **20 12 26.3 -0.8**
STKA Stephens Creek 31.01 269 P **P** **20 12 28.9 +1.8**
QLP Quilpie 31.11 280 P **P** **20 12 28.9 +0.8**
baz=31,SNR=9.0
TWOA Tennyson Woods 32.42 262 P **P** **20 12 40.8 +1.3**
HNR Honiara 32.62 324 P **P** **20 12 41.2 -0.2**
comp=Z,129nm,0.9s,baz=180,slow=7.1,SNR=6.6
HNR LR LR 20 24 50.2
comp=Z,3µm,18.8s,baz=154,slow=34
comp=Z,129nm,0.9s
HNR Honiara 32.62 324 P **P** **20 12 41.4 0.0**
HTT Hallett 32.62 265 P **P** **20 12 41.5 +0.2**
baz=32,SNR=32
HTT Hallett 32.62 265 P **P** **20 12 41.7 +0.4**
CTA Charters Tower 33.14 292 P **P** **20 12 46.2 +0.2**
comp=Z,37nm,0.8s,baz=126,slow=10,SNR=23
CTA LR LR 20 25 25.7
comp=Z,8µm,20.1s,baz=128,slow=35
comp=Z,37nm,0.8s
CTA Charters Tower 33.14 292 P **P** **20 12 48.2 +2.2**
CTAO Charters Tower 33.14 292 P **P** **20 12 46.4 +0.4**
CTAO IAmb IAmb 20 12 50.9
comp=Z,78nm,1.1s
CTAO Charters Tower 33.14 292 P **P** **20 12 46.4 +0.4**
CTAO pmax pmax
comp=Z,78nm,1.1s
CTAO Charters Tower 33.14 292 P **P** **20 12 48.0 +2.0**
INKA Innaminka 33.33 275 P **P** **20 12 49.8 +2.3**
WHYH Whyalla 33.82 265 P **P** **20 12 53.2 +1.5**
PPT2 Papeete2 33.99 63 *e*LR LR 20 21 52.2
comp=Z,7µm,22.8s
PPT Papeete 34.01 63 LR LR 20 23 36.1
comp=Z,4µm,20.9s,baz=235,slow=30
COEN Coen 39.35 297 P **P** **20 13 39.6 +0.5**
baz=39,SNR=15
COEN Coen 39.35 297 P **P** **20 13 38.3 -0.8**
COEN Coen 39.35 297 P **P** **20 13 40.5 +1.4**
PMG Port Moresby 39.90 306 LR LR 20 29 54.3
comp=Z,5µm,18.3s,baz=147,slow=36
PMG Port Moresby 39.90 306 P **P** **20 13 42.9 -0.7**
PMG Port Moresby 39.90 306 P **P** **20 13 42.9 -0.7**
PMG pmax pmax
comp=Z,72nm,0.9s
AS31 Alice Springs 40.69 277 P **P** **20 13 49.1 -1.1**
ASAR Alice Springs 40.69 277 P **P** **20 13 49.2 -1.0**
comp=Z,129nm,0.8s,baz=118,slow=7.5,SNR=115
ASAR PcP **PcP** **20 15 52.2 +0.3**
comp=Z,4.3nm,0.6s,baz=128,slow=5.2,SNR=1.7
ASAR ScP **ScP** **20 19 34.7 -6.6**
comp=Z,4.9nm,1.0s,baz=120,slow=5.6,SNR=5.0
ASAR S **S** **20 19 53.5 -7.0**
comp=Z,12nm,1.0s,baz=123,slow=13,SNR=10
comp=Z,129nm,0.8s
ASAR Alice Springs 40.69 277 P **P** **20 13 48.4 -1.8**
SBA Scott Base 40.94 184 P **P** **20 13 54.3 +2.7**
SBA Scott Base 40.94 184 P **P** **20 13 54.3 +2.7**
SBA pmax pmax
comp=Z,71nm,1.7s
VNDA Vanda 40.95 186 P **P** **20 13 54.4 +2.8**
comp=Z,1.2nm,0.9s,baz=5.6,slow=10,SNR=6.2
VNDA LR LR 20 27 59.9
comp=Z,3µm,21.2s,baz=22,slow=32
VNDA Vanda 40.95 186 P **P** **20 13 51.8 +0.1**
RABL Rabaul 41.06 317 P **P** **20 13 53.2 0.0**
RABL Rabaul 41.06 317 P **P** **20 13 54.5 +1.3**
WR0 Warramunga Arr 42.15 282 P **P** **20 14 01.2 -1.0**
WR0 IAmb IAmb 20 14 03.4
comp=Z,131nm,1.1s
FORT Forrest 42.17 263 P **P** **20 14 01.0 -1.2**
baz=42,SNR=24
FORT Forrest 42.17 263 P **P** **20 14 00.5 -1.8**
WB2 Warramunga Arr 42.30 282 P **P** **20 14 01.9 -1.5**
WB2 IAmb IAmb 20 14 04.6
comp=Z,211nm,1.1s
WRAB Tennant Creek 42.31 282 P **P** **20 14 01.9 -1.6**
WRAB IAmb IAmb 20 14 04.6
comp=Z,130nm,0.9s
WRAB Tennant Creek 42.31 282 P **P** **20 14 01.9 -1.6**
WRAB pmax pmax
comp=Z,130nm,0.9s
WRA Warramunga Arr 42.31 282 P **P** **20 14 02.0 -1.5**
comp=Z,87nm,0.8s,baz=122,slow=7.9,SNR=70
WRA PcP **PcP** **20 15 57.9 +0.7**
comp=Z,4.8nm,0.8s,baz=129,slow=3.6,SNR=2.0
WRA ScP **ScP** **20 19 42.7 -5.2**
comp=Z,3.9nm,0.9s,baz=118,slow=3.8,SNR=5.5
WRA S **S** **20 20 17.2 -7.4**
comp=Z,8.9nm,0.9s,baz=121,slow=15,SNR=8.6
WRA LR LR 20 31 21.3
comp=Z,9µm,20.6s,baz=126,slow=36
comp=Z,87nm,0.8s
WRA Warramunga Arr 42.31 282 P **P** **20 14 01.6 -2.0**
WB0 Warramunga Arr 42.37 282 P **P** **20 14 03.0 -1.0**
WB0 IAmb IAmb 20 14 05.1
comp=Z,118nm,0.8s
WRKA Warakurna 44.48 271 P **P** **20 14 20.1 -0.9**
baz=44,SNR=7.7
WRKA Warakurna 44.48 271 P **P** **20 14 20.5 -0.5**
TAOE Nuku Hiva Isla 46.62 63 *e*LR LR 20 27 42.8
comp=Z,5µm,22.7s
TAOE Nuku Hiva Isla 46.62 63 P **P** **20 14 34.7 -3.4**
CASY Casey 47.82 210 P **P** **20 14 47.1 +0.4**
CASY IAmb IAmb 20 14 56.8
comp=Z,55nm,0.8s
KDU Kakadu 48.06 288 P **P** **20 14 48.9 -0.2**
baz=48,SNR=14
KDU Kakadu 48.06 288 P **P** **20 14 49.7 +0.5**
MTN Manton Dam 48.98 287 P **P** **20 14 55.1 -1.1**
baz=49,SNR=25
MTN Manton Dam 48.98 287 P **P** **20 14 54.6 -1.6**
MTN Manton Dam 48.98 287 P **P** **20 14 56.3 0.0**
KNRA Kununurra 49.10 282 P **P** **20 14 57.6 +0.4**
baz=49,SNR=19
KNRA Kununurra 49.10 282 P **P** **20 14 56.7 -0.4**
KNRA Kununurra 49.10 282 P **P** **20 14 57.7 +0.5**
NWAO Narrogin (SRO) 49.81 256 P **P** **20 15 01.7 -0.8**
baz=49,SNR=12
NWAO P **P** **20 15 01.7 -0.8**
baz=49,SNR=12
NWAO Narrogin (SRO) 49.81 256 P **P** **20 15 02.2 -0.2**
comp=Z,22nm,0.7s,baz=166,slow=19,SNR=13
NWAO LR LR 20 34 40.6
comp=Z,4µm,19.8s,baz=312,slow=34
comp=Z,22nm,0.7s
NWAO Narrogin (SRO) 49.81 256 P **P** **20 15 02.1 -0.4**
NWAO IAmb IAmb 20 15 03.7
comp=Z,116nm,1.6s
NWAO Narrogin (SRO) 49.81 256 P **P** **20 15 02.3 -0.2**
KLBR Kellerberrin 49.94 257 P **P** **20 15 03.0 -0.5**
baz=50,SNR=5.2
KLBR Kellerberrin 49.94 257 P **P** **20 15 03.6 +0.1**
FITZ Fitzroy Crossi 50.17 277 P **P** **20 15 04.4 -0.9**
baz=50,SNR=44
FITZ Fitzroy Crossi 50.17 277 P **P** **20 15 05.1 -0.2**
comp=Z,92nm,0.9s,baz=142,slow=7.1,SNR=32
FITZ S **S** **20 22 10.9 -6.5**
comp=Z,4.0nm,1.0s,baz=24,slow=20,SNR=6.4
FITZ LR LR 20 36 08.0
comp=Z,553nm,19.0s,baz=116,slow=36
comp=Z,92nm,0.9s
FITZ Fitzroy Crossi 50.17 277 P **P** **20 15 03.4 -1.9**
FITZ Fitzroy Crossi 50.17 277 P **P** **20 15 05.4 0.0**
MUN Mundaring 50.98 256 P **P** **20 15 11.6 +0.2**
baz=50,SNR=14
MUN Mundaring 50.98 256 P **P** **20 15 11.5 +0.2**
BLDU Ballidu 51.16 258 P **P** **20 15 12.6 -0.1**
baz=51,SNR=14
BLDU Ballidu 51.16 258 P **P** **20 15 12.8 +0.1**
MEEK Meekatharra 51.43 264 P **P** **20 15 14.5 -0.3**
MORW Morawa 52.36 260 P **P** **20 15 21.6 -0.1**
baz=52,SNR=13
MORW Morawa 52.36 260 P **P** **20 15 20.8 -0.9**
MORW IAmb IAmb 20 15 25.6
comp=Z,39nm,0.8s
MORW Morawa 52.36 260 P **P** **20 15 21.3 -0.4**
SRPI Serui, Papua 52.71 302 P **P** 20 15 31.5 +7.1
QSPA South Pole Qui 52.78 180 P **P** **20 15 27.6 +3.1**
comp=Z,23nm,0.8s,baz=28,slow=2.6,SNR=57
QSPA LR LR 20 34 22.5
comp=Z,5µm,21.2s,baz=40,slow=32
comp=Z,23nm,0.8s
QSPA South Pole Qui 52.78 180 P **P** **20 15 26.4 +1.9**
QSPA IAmb IAmb 20 15 45.8
comp=Z,47nm,0.8s
PSA00 Pilbara Seismi 52.93 270 P **P** **20 15 24.2 -1.8**
PSA00 IAmb IAmb 20 15 25.9
comp=Z,68nm,1.2s
PSA00 Pilbara Seismi 52.93 270 P **P** **20 15 25.8 -0.2**
MBWA Marble Bar 53.23 270 P **P** **20 15 25.6 -2.6**
MBWA IAmb IAmb 20 15 28.6
comp=Z,44nm,0.8s
MBWA Marble Bar 53.23 270 P **P** **20 15 27.3 -0.9**
FAKI Fak Fak 54.73 297 P **P** **20 15 37.4 -1.8**
FAKI IAmb IAmb 20 15 40.8
comp=Z,36nm,0.7s
FAKI Fak Fak 54.73 297 P **P** **20 15 39.4 +0.2**
JOHN Johnston Islan 54.89 14 **P** **20 15 40.8 +0.7**
BATI Baumata 56.34 284 P **P** **20 15 51.0 +0.1**
comp=Z,109nm,0.9s,baz=102,slow=2.4,SNR=9.0
BATI LR LR 20 41 58.9
comp=Z,7µm,18.9s,baz=142,slow=38
comp=Z,109nm,0.9s
BATI Baumata 56.34 284 P **P** **20 15 53.0 +2.1**
GIRL Giralia 56.85 265 P **P** **20 15 55.6 +1.2**
baz=56,SNR=5.7
GIRL Giralia 56.85 265 P **P** **20 15 55.4 +1.0**
SIJI Sorong 56.87 298 P **P** **20 15 53.5 -1.1**
comp=Z,64nm,0.8s,baz=114,slow=3.8,SNR=29
SIJI LR LR 20 40 44.7
comp=Z,3µm,20.2s,baz=130,slow=37
comp=Z,64nm,0.8s
SWI Sorong 56.87 298 P **P** **20 15 54.8 +0.2**
NLAI Namlea 58.23 293 P **P** **20 16 07.6 +3.5**
MMRI Maumere 58.41 284 P **P** **20 16 04.5 -0.9**
MMRI Maumere 58.41 284 P **P** **20 16 05.8 +0.3**
EDFI Ende, Flores 58.77 284 P **P** **20 16 07.8 -0.3**
LBMI Labuha 59.71 295 P **P** **20 16 19.0 +4.6**
SANI Sanana 59.85 293 P **P** **20 16 15.7 +0.3**
GUMO Guam 59.89 321 LR LR 20 39 09.9
comp=Z,888nm,21.6s,baz=168,slow=33
BBSI Bau Bau 60.15 287 P P 20 16 24.2 +6.8
RPN Rapa Nui 60.29 103 LR LR 20 36 21.2
comp=Z,2µm,20.8s,baz=214,slow=30
HMH Humu'ula Sheep 61.59 28 P **P** **20 16 29.2 +1.9**
PLAI Plampang 61.77 281 P **P** **20 16 29.3 +0.8**
PLAI Plampang 61.77 281 P **P** **20 16 29.1 +0.6**
BKSI Bulukumba 62.12 286 P **P** **20 16 31.5 +0.7**
TWSI Taliwang, Sumb 62.52 280 P **P** **20 16 33.9 +0.4**
KAPI Kappang 62.60 286 P **P** **20 16 34.0 -0.1**
comp=Z,24nm,0.8s,baz=76,slow=4.4,SNR=3.9
KAPI LR LR 20 45 17.1
comp=Z,4µm,18.2s,baz=120,slow=38
comp=Z,24nm,0.8s
KAPI Kappang 62.60 286 P **P** **20 16 33.1 -1.0**
KAPI IAmb IAmb 20 16 52.5
comp=Z,84nm,1.1s
LUWI Luwuk 62.90 291 P **P** **20 16 35.8 -0.2**
LUWI Luwuk 62.90 291 P P 20 16 45.1 +9.1
SPSI Sidrap Palu 63.26 287 P **P** **20 16 38.7 +0.3**
BELA Belgrano 2 63.27 172 P **P** **20 16 38.2 +0.6**
BELA IAmb IAmb 20 16 40.5
comp=Z,49nm,0.9s
TTSI Tana Toraja 63.81 287 P **P** **20 16 42.6 +0.5**
APSI Ampana 63.82 291 P **P** **20 16 43.7 +1.6**
SMAI San Martin Ant 64.00 158 P **P** **20 16 44.4 +1.9**
SMAI IAmb IAmb 20 16 47.3
comp=Z,43nm,1.0s
SRBI Singaraja 64.23 280 P **P** **20 16 45.7 +0.9**
JAGI Jajag, Banyuwa 64.83 279 P **P** **20 16 48.0 -0.8**
JAGI Jajag, Banyuwa 64.83 279 P **P** **20 16 49.1 +0.3**
JAGI Jajag, Banyuwa 64.83 279 P **P** **20 16 48.8 0.0**
MAW Mawson 64.91 202 P **P** **20 16 51.7 +3.3**
comp=Z,22nm,1.0s,baz=104,slow=8.8,SNR=7.1
MAW LR LR 20 46 16.3
comp=Z,3µm,18.2s,baz=106,slow=37
comp=Z,22nm,1.0s
MAW Mawson 64.91 202 P **P** **20 16 49.7 +1.3**
ABJI Asem Bagus 65.17 279 P **P** **20 16 54.4 +3.4**
GMJI Gumukmas 65.50 279 P **P** **20 16 53.3 +0.1**
BLJI Banyuglugur 65.70 279 P **P** **20 16 55.9 +1.5**
TOLI2 Tolitoli 65.81 292 P **P** **20 16 53.1 -1.9**
TOLI2 IAmb IAmb 20 17 13.7
comp=Z,21nm,0.9s
TOLI2 Tolitoli 65.81 292 P **P** **20 16 58.2 +3.1**
KMMI Kalianget 65.83 280 P **P** **20 16 57.2 +1.9**
DAV Davao City (W) 66.47 300 P **P** **20 16 58.2 -1.2**
comp=Z,81nm,0.4s,baz=70,slow=3.8,SNR=7.4
DAV LR LR 20 45 47.7
comp=Z,936nm,21.8s,baz=137,slow=36
comp=Z,81nm,0.4s
DAV Davao City (W) 66.47 300 P **P** **20 16 57.7 -1.7**
PWJI Pagerwojo 66.95 278 P **P** **20 17 02.9 +0.5**
PMSA Palmer Station 67.04 156 P **P** **20 17 05.1 +2.9**
comp=Z,22nm,0.9s,baz=272,slow=5.3,SNR=2.8
PMSA LR LR 20 43 10.7
comp=Z,2µm,18.1s,baz=226,slow=33
comp=Z,22nm,0.9s
PCJI Pacitan 67.34 277 P **P** **20 17 06.7 +1.8**
BBKI Banjar Baru 67.36 284 P **P** **20 17 06.6 +1.5**
NGJI Ngawi 67.61 278 P P 20 17 20.1 +13
UGM Wanagama 68.03 277 P **P** **20 17 09.4 +0.1**
UGM Wanagama 68.03 277 P **P** **20 17 10.9 +1.6**
SMRI Semarang 68.61 278 P **P** **20 17 10.9 -2.1**
SMRI Semarang 68.61 278 P P 20 17 22.2 +9.3
MYLDM Lahad Datu 70.22 293 P **P** **20 17 23.2 +0.5**
MYLDM IAmb IAmb 20 18 01.8
comp=Z,53nm,1.2s
PBKI Pangkalan Bun 70.30 282 P P 20 17 35.2 +12
TROLL Troll, Antarti 70.92 181 P **P** **20 17 28.4 +2.0**
LEM Lembang 70.98 276 P **P** **20 17 27.4 -0.3**
comp=Z,57nm,0.7s,baz=155,slow=10,SNR=13
LEM LR LR 20 50 31.2
comp=Z,5µm,19.5s,baz=122,slow=38
comp=Z,57nm,0.7s
CNJI Cibinong 71.08 275 P P 20 17 36.2 +8.1
SNAA Sanae 71.28 179 P **P** **20 17 30.3 +1.7**
SNAA Sanae 71.28 179 LR LR 20 45 55.0
comp=Z,2µm,20.8s,baz=185,slow=33
SNAA Sanae 71.28 179 P **P** **20 17 29.0 +0.4**
SNAA IAmb IAmb 20 17 54.1
comp=Z,46nm,1.2s
VNA3 Neumayer Olymp 71.55 177 P **P** **20 17 31.3 +1.2**
USHA Ushuaia 71.67 146 LR LR 20 43 22.7
comp=Z,3µm,19.2s,baz=216,slow=31
MG05 Puerto Natales 71.70 142 P **P** **20 17 31.2 -0.1**
MG05 IAmb IAmb 20 17 35.1
comp=Z,81nm,1.1s
DBJI Dramaga 71.83 276 P **P** **20 17 33.2 +0.5**
VNA2 Neumayer--Watz 71.94 178 P **P** **20 17 33.3 +0.8**
baz=175,slow=4.9
MG01 Puerto William 71.96 146 P **P** **20 17 30.7 -2.1**
STKI Sintang 72.19 284 P P 20 17 41.6 +6.8
VNA1 Neumayer--Stat 72.19 178 P **P** **20 17 34.8 +0.9**
KKM Kota Kinabalu 72.47 292 P **P** **20 17 35.2 -1.4**
KKM IAmb IAmb 20 17 48.6
comp=Z,50nm,1.2s
KKM Kota Kinabalu 72.47 292 P **P** **20 17 36.7 +0.1**
JCJ Chichijima 72.77 326 LR LR 20 46 21.7
comp=Z,575nm,21.2s,baz=138,slow=33
SBUM Sibu 73.13 287 P **P** **20 17 38.8 -1.6**
SBUM IAmb IAmb 20 17 49.6
comp=Z,41nm,1.2s
TPI Tanjungpandan 73.42 279 P P 20 17 49.4 +7.3
TGY Tagaytay City 74.66 302 P **P** **20 17 49.5 +0.2**
baz=213,slow=16
TGY LR LR 20 53 07.1
comp=Z,497nm,19.2s,baz=178,slow=38
LWLI Liwa 74.89 275 P P 20 17 56.3 +5.5
PPBI Pangkal Pinang 74.97 279 P **P** **20 17 51.3 +0.1**
COYC Coyhaique 75.70 137 P **P** **20 17 57.8 +2.9**
COYC IAmb IAmb 20 17 59.3
comp=Z,38nm,1.0s
ORCD Orcadas 75.97 160 P **P** **20 17 56.6 +0.4**
ORCD IAmb IAmb 20 17 58.2
comp=Z,44nm,1.1s
AY01 Puyuhuapi 76.11 136 P **P** **20 17 56.6 -0.6**
DSRI Dabo 77.23 279 P P 20 18 10.8 +6.8
LL02 Futaleuf 77.33 135 P **P** **20 18 06.2 +2.0**
LL02 IAmb IAmb 20 18 08.8
comp=Z,41nm,1.1s
MASI Maura Aman, Be 77.46 276 P P 20 18 11.3 +5.9
H03S2 Juan Fernandez 78.80 124 T T 21 44 44.5
baz=230,SNR=27
H03S1 Juan Fernandez 78.81 124 T T 21 44 43.1
baz=230
H03S3 Juan Fernandez 78.81 124 T T 21 44 48.4
baz=230,SNR=32
JHJ Hachijo jima 2 79.00 327 LR LR 20 52 04.7
comp=Z,552nm,18.3s,baz=168,slow=35

H03N3 Juan Fernandez 79.03 124 T T 21 44 56.7
baz=234,slow=72,SNR=228
H03N2 Juan Fernandez 79.03 124 T T 21 44 50.7
baz=234,slow=72,SNR=290
H03N1 Juan Fernandez 79.05 124 T T 21 44 55.7
baz=234,slow=72,SNR=273
MYKOM **Kota Tinggi 79.20 281** P **P** **20 18 14.4 -0.5**
MYKOM IAmb IAmb 20 18 24.0
comp=Z,45nm,1.4s
PLCA Paso Flores 79.66 134 P **P** **20 18 19.3 +2.1**
comp=Z,20nm,1.0s,baz=215,slow=6.3,SNR=17
PLCA LR LR 20 45 25.4
comp=Z,1μm,21.5s,baz=209,slow=29
comp=Z,20nm,1.0s
PLCA Paso Flores 79.66 134 P **P** **20 18 17.4 +0.2**
PLCA IAmb IAmb 20 18 21.5
comp=Z,34nm,1.1s
PLCA Paso Flores 79.66 134 *e*P **P** **20 18 18.4 +1.2**
GO06 Curarrehue 79.87 132 P **P** **20 18 20.9 +2.5**
BKNI Bangkinang 80.51 278 P **P** **20 18 19.4 -2.7**
BKNI Bangkinang 80.51 278 P P 20 18 28.4 +6.3
MJAR Matsushiro Arr 82.59 328 P **P** **20 18 31.4 -1.1**
comp=Z,4.3nm,0.9s,baz=154,slow=5.6,SNR=6.7
MJAR LR LR 20 53 00.9
comp=Z,488nm,20.1s,baz=169,slow=34
comp=Z,4.3nm,0.9s
MAJO Matsushiro 82.59 328 P **P** **20 18 31.8 -0.7**
MAJO Matsushiro 82.59 328 P **P** **20 18 31.8 -0.7**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
BO02 Sierra Bellavi 83.41 129 P **P** **20 18 36.9 -0.2**
BO02 IAmb IAmb 20 18 41.6
comp=Z,46nm,1.1s
RPSI Rantau Prapat 83.63 278 P **P** **20 18 37.0 -1.4**
PSI Prapat 83.69 278 P **P** **20 18 37.0 -1.9**
comp=Z,4.2nm,0.4s,baz=207,slow=22,SNR=4.2
PSI LR LR 20 59 30.9
comp=Z,4μm,18.8s,baz=141,slow=38
comp=Z,4.2nm,0.4s
MT01 Popeta 83.72 128 P **P** **20 18 40.2 +1.5**
MT01 IAmb IAmb 20 18 42.8
comp=Z,42nm,1.1s
GSI Gunungsitoli 83.85 276 P **P** **20 18 38.3 -1.3**
GSI Gunungsitoli 83.85 276 P **P** **20 18 40.8 +1.2**
KSRS Korea Array 88.05 322 P **P** **20 19 00.4 +0.7**
comp=Z,12nm,0.8s,baz=141,slow=4.6,SNR=21
KSRS LR LR 20 57 12.6
comp=Z,372nm,18.2s,baz=325,slow=35
comp=Z,12nm,0.8s
KSAR Wonju Array Be 88.06 322 P **P** **20 19 00.0 +0.3**
KSAR Wonju Array Be 88.06 322 P **P** **20 19 00.0 +0.3**
KS19 Wonju Array Si 88.11 322 P **P** **20 19 00.4 +0.4**
KS19 IAmb IAmb 20 19 39.3
comp=Z,96nm,1.8s
NJ2 Nanjing 88.89 313 *e*P **P** **20 19 05.5 +1.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
YSS Yuzh-Sakhalins 89.93 336 *e*P **P** **20 19 12.5 +4.2**
YSS pmax pmax
comp=Z,20nm,0.9s
LPIG La Paz 90.36 60 LR LR 20 50 43.6
comp=Z,1μm,20.8s,baz=234,slow=30
WHN Wuhan 90.54 309 P **P** **20 19 12.0 +0.4**
GO02 Mina Guanaco 90.57 123 P **P** **20 19 12.2 -0.3**
GO02 IAmb IAmb 20 19 16.2
comp=Z,38nm,1.2s
USRK Ussuriysk Ar. 91.58 328 P **P** **20 19 17.5 +1.4**
comp=Z,6.0nm,0.8s,baz=149,slow=4.0,SNR=5.0
USRK LR LR 20 58 53.7
comp=Z,327nm,19.6s,baz=226,slow=35
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 91.93 347 P **P** **20 19 19.3 +1.8**
comp=Z,3.4nm,0.7s,baz=131,slow=8.2,SNR=3.8
PETK LR LR 20 55 59.2
comp=Z,1μm,20.0s,baz=166,slow=32
comp=Z,3.4nm,0.7s
ESJX Sierra Juarez 91.98 51 P **P** **20 19 19.3 +0.8**
IKP In-Ko-Pah, Jac 92.32 50 P P 20 19 25.2 +5.2
baz=226
BFSC Mount Baldy Ra 92.50 48 P **P** **20 19 24.5 +3.7**
baz=225
LVC Limon Verde 92.74 121 *e*P **P** **20 19 19.6 -3.0**
TPFO Pinon Flats 92.78 49 P **P** **20 19 26.5 +4.4**
baz=226
PFO Pinyon Flats O 92.78 49 P **P** **20 19 24.8 +2.7**
comp=Z,3.2nm,0.9s,baz=288,slow=5.8,SNR=2.8
PFO LR LR 20 52 03.6
comp=Z,1μm,20.9s,baz=237,slow=30
comp=Z,3.2nm,0.9s
GYA Guiyang 92.81 301 ⇑P **P** **20 19 23.9 +1.5**
GYA pmax pmax
comp=Z,10.0nm,1.1s
CMAR Chiang Mai Arr 93.30 291 P **P** **20 19 24.9 +0.2**
comp=Z,3.7nm,0.6s,baz=152,slow=3.5,SNR=11
CMAR PP **PP** **20 23 06.6 -2.2**
comp=Z,6.0nm,1.1s,baz=141,slow=5.9,SNR=12
CMAR LR LR 21 03 24.4
comp=Z,733nm,21.3s,baz=130,slow=37
comp=Z,3.7nm,0.6s
CMAR Chiang Mai Arr 93.30 291 P **P** **20 19 23.7 -1.0**
BELC Belle Mtn. Jos 93.32 49 P **P** **20 19 28.9 +4.3**
baz=226
BC3 Big Chuckawall 93.41 50 P **P** **20 19 29.2 +4.2**
baz=226
CHTO Chiang Mai 93.52 291 P **P** **20 19 25.8 +0.1**
CHTO Chiang Mai 93.52 291 P **P** **20 19 25.8 +0.1**
CMB Columbia Colle 93.62 44 P **P** **20 19 27.2 +1.5**
CMB Columbia Colle 93.62 44 P **P** **20 19 27.2 +1.5**
CMB pmax pmax
comp=Z,7.0nm,1.3s
NNA Nana 93.90 108 LR LR 20 53 35.8
comp=Z,2μm,20.1s,baz=208,slow=30
IRM Iron Mountain 93.94 49 P P 20 19 32.2 +4.9
baz=226
CN2 Changchun 94.16 324 *e*P **P** **20 19 30.5 +2.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NVAR Mina Array Bea 95.06 45 P **P** **20 19 35.5 +2.9**
comp=Z,0.9nm,0.9s,baz=215,slow=7.3,SNR=4.6
NVAR LR LR 20 53 33.5
comp=Z,1μm,21.9s,baz=242,slow=30
comp=Z,0.9nm,0.9s
YBH Yreka Blue Hor 95.06 40 P **P** **20 19 34.9 +2.6**
comp=Z,0.9nm,0.4s,baz=188,slow=9.7,SNR=2.7
YBH LR LR 20 55 10.6
comp=Z,1μm,20.2s,baz=230,slow=31
comp=Z,0.9nm,0.4s
ITQB Itaqui 95.49 134 *e*P P 20 19 30.8 -3.8
ITQB Itaqui 95.49 134 *e*P **P** **20 19 35.7 +1.1**
PLTB Pedras Altas 95.58 137 *e*P P 20 19 31.3 -3.8
ATAH Atahualpa 95.74 103 LR LR 20 52 58.9
comp=Z,3μm,21.3s,baz=238,slow=29
KLR Kul'dur 95.77 331 LR LR 20 58 46.0
comp=Z,638nm,20.3s,baz=172,slow=33
PZH PanZhiHua 96.24 299 P **P** **20 19 38.7 +0.6**
PZH S **S** **20 30 57.3 -0.7**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH LR LR
comp=Z,670nm,18.6s
PZH LR LR
comp=Z,540nm,18.6s
PZH LR LR
comp=Z,800nm,18.6s
CPSB Cacapava Do Su 96.72 137 *e*P P 20 19 36.3 -4.0
CMIG Matias Romero 97.28 74 LR LR 20 55 21.1
comp=Z,748nm,19.6s,baz=201,slow=30
LPAZ La Paz 97.52 117 P Pdif 20 19 47.6 +2.7
comp=Z,1.1nm,0.6s,baz=180,slow=4.5,SNR=3.7
LPAZ LR LR 20 55 57.7
comp=Z,1μm,20.7s,baz=160,slow=30
comp=Z,1.1nm,0.6s
LPAZ La Paz 97.52 117 *e*P Pdif 20 19 47.9 +2.9
CPUP Villa Florida 97.56 131 LR LR 20 56 57.9
comp=Z,4μm,20.3s,baz=206,slow=31
CPUP Villa Florida 97.56 131 *e*P P 20 19 40.3 -3.9
CD2 Chengdu 97.61 303 *e*P **P** **20 19 44.0 -0.2**
TXAR Lajitas Array 98.25 59 P Pdif 20 19 49.6 +2.5
comp=Z,0.4nm,0.9s,baz=193,slow=2.4,SNR=3.9
TXAR LR LR 20 57 10.0
comp=Z,1μm,19.0s,baz=249,slow=31
comp=Z,0.4nm,0.9s
ELK Elko 98.37 45 LR LR 20 58 26.8
comp=Z,856nm,20.1s,baz=238,slow=32
I07A Izee 98.39 40 **P** **20 19 46.4 -1.0**
HHC Hu-ho-hao-te 99.21 315 *e*P **Pdif** **20 19 53.1 +2.0**
HHC pmax pmax
comp=Z,15nm,0.9s
MA2 Magadan 99.33 346 LR LR 20 58 29.4
comp=Z,1μm,21.1s,baz=196,slow=32
PDAR Pinedale Array 102.90 46 PKKPbc PKKPbc 20 36 06.0 +0.4
comp=Z,0.4nm,0.5s,baz=105,slow=6.9,SNR=4.4
ILAR Eielson Array 105.27 14 PP **PKiKP** **20 24 34.9 +3.7**
comp=Z,0.8nm,0.6s,baz=256,slow=3.4,SNR=3.2
SONM Songino Array 106.53 318 PKKPbc PKKPbc 20 35 56.9 +2.3
comp=Z,0.3nm,0.3s,baz=267,slow=2.6,SNR=2.1
YKA Yellowknife Ar 112.81 28 PP **PP** **20 25 34.7 +0.7**
comp=Z,2.3nm,0.8s,baz=235,slow=7.5,SNR=4.1
TIXI Tiksi 114.24 345 PKP PKPdf 20 24 46.9 -1.0
comp=Z,3.4nm,0.8s,baz=93,slow=23,SNR=7.8
WMQ Urumqi 115.36 307 *e*P **PKPdf** **20 24 49.7 -1.3**
WMQ LR LR
comp=Z,500nm,21.1s
WMQ LR LR
comp=Z,480nm,21.1s
WMQ LR LR
comp=Z,620nm,19.9s
MKAR Makanchi Array 120.09 308 PKP **PKPdf** **20 24 59.5 -0.5**
comp=Z,2.0nm,0.9s,baz=120,slow=1.1,SNR=10.0
MKAR PKKPbc **PKKPbc** **20 35 09.9 +1.6**
comp=Z,1.0nm,0.8s,baz=268,slow=4.7,SNR=6.5
MKAR Makanchi Array 120.09 308 PKPdf **PKPdf** **20 24 59.0 -1.0**
KPKS Kokpek 121.09 303 *e*PKIKP **PKPdf** **20 25 00.0 -2.1**
KPKS Kokpek 121.09 303 *e*PKP **PKPdf** **20 25 00.1 -2.1**
baz=303
TMAB Tom-Au,PA,Br 121.25 121 *e*P **PKPdf** **20 25 00.4 -2.8**
ZALV Zalesovo Beam 121.35 316 PKP **PKPdf** **20 25 01.2 -0.9**
comp=Z,0.9nm,0.4s,baz=144,slow=2.6,SNR=4.4
MDOK Medeo 122.07 302 *e*PKIKP **PKPdf** **20 25 01.5 -2.6**
MDOK Medeo 122.07 302 *e*PKP **PKPdf** **20 25 01.6 -2.6**
baz=302
SEM Semipalatinsk 122.71 311 *e*PKIKP **PKPdf** **20 25 02.4 -2.7**
SEM Semipalatinsk 122.71 311 *e*PKP **PKPdf** **20 25 02.5 -2.7**
baz=311
NBAN Anadia - AL 122.82 138 *e*P **PKPdf** **20 25 03.1 -3.1**
SADO Sadowa 122.82 56 PKP **PKPdf** **20 25 05.8 +0.6**
comp=Z,4.7nm,0.8s,baz=273,slow=8.5,SNR=1.4
KUU Kurty 122.83 303 *e*PKIKP **PKPdf** **20 25 02.5 -2.8**
KUU Kurty 122.83 303 *e*PKP **PKPdf** **20 25 02.6 -2.8**
baz=303
ROSB Rosrio 123.51 125 *e*P **PKPdf** **20 25 04.6 -3.0**
KURK Kurchatov 123.80 311 PKPdf **PKPdf** **20 25 05.7 -1.2**
KURK Kurchatov 123.80 311 PKIKP **PKPdf** **20 25 06.2 -0.7**
KURBB Kurchatov Arra 123.82 311 PKP **PKPdf** **20 25 06.2 -0.8**
comp=Z,2.3nm,0.5s,baz=114,slow=2.0,SNR=15
NBRF Rio Formoso - 124.26 138 *e*P **PKPdf** **20 25 06.0 -3.0**
BTLS Baital 124.77 303 *e*PKIKP **PKPdf** **20 25 06.4 -2.6**
BTLS Baital 124.77 303 *e*PKP **PKPdf** **20 25 06.5 -2.6**
baz=303
RCBR Riachuelo 126.20 135 *e*P **PKPdf** **20 25 09.7 -3.1**
KK31 Karatay Array 126.51 300 PKPdf **PKPdf** **20 25 11.4 -1.0**
KK31 Karatay Array 126.51 300 PKIKP **PKPdf** **20 25 11.4 -1.0**
KKAR Karatay Array 126.51 300 **PKPdf** **20 25 11.2 -1.2**
KKAR Karatay Array 126.51 300 PKPdf **PKPdf** **20 25 10.9 -1.5**
KKAR Karatay Array 126.51 300 PKIKP **PKPdf** **20 25 11.2 -1.2**
IUG luzhnay 126.51 299 *e*PKIKP **PKPdf** **20 25 09.8 -2.7**
IUG luzhnay 126.51 299 *e*PKP **PKPdf** **20 25 09.8 -2.7**
baz=299
BRZS Berezniki 127.20 309 *e*PKIKP **PKPdf** **20 25 11.5 -1.9**
BRZS Berezniki 127.20 309 *e*PKP **PKPdf** **20 25 11.6 -1.9**
baz=309
KMBO Kilima Mbogo 127.78 232 PKP **PKiKP** **20 25 16.9 +0.2**
comp=Z,12nm,1.1s,baz=52,slow=19,SNR=9.8
BVAR Borovoye Array 129.33 312 PKP **PKPdf** **20 25 18.1 +0.7**
comp=Z,1.4nm,0.6s,baz=90,slow=1.5,SNR=9.1
BVAR SKPbc SKPab 20 28 32.6 -5.4
comp=Z,1.2nm,0.9s,baz=130,slow=3.9,SNR=2.9
BRVK Borovoye 129.40 312 *i* PKIKP **PKPdf** **20 25 16.8 -0.8**
GEYT Alibeck 133.77 290 PKP **PKiKP** **20 25 28.9 +1.3**
comp=Z,0.8nm,0.4s,baz=176,slow=4.3,SNR=2.8
GEYT SKPbc **SKPbc** **20 28 49.2 -6.1**
comp=Z,6.6nm,0.8s,baz=121,slow=2.5,SNR=3.2
ABKAR Akbulak array 135.13 306 PKPdf **PKPdf** **20 25 29.7 +1.2**
ARU Arti 136.51 316 PKP **PKPdf** **20 25 31.6 +0.8**
comp=Z,4.0nm,0.6s,baz=114,slow=2.7,SNR=7.8
ARU SKPbc **SKPbc** **20 28 59.4 -3.8**
comp=Z,5.9nm,0.8s,baz=143,slow=4.9,SNR=6.0
ARU Arti 136.51 316 **PKiKP** **20 25 32.3 -0.3**
ARU Arti 136.51 316 *i* PKIKP **PKPdf** **20 25 28.7 -2.1**
ARU 20 28 09.0
ARU SS SS 20 46 06.4 -8.9
AKTO Aktyubinsk 136.52 307 PKP **PKPdf** **20 25 29.7 -1.4**
comp=Z,1.0nm,0.4s,baz=58,slow=5.2,SNR=3.0
AKTO SKPbc **SKPbc** **20 28 58.9 -4.5**
comp=Z,2.1nm,0.9s,baz=124,slow=0.6,SNR=4.4
SPA0 Spitsbergen Ar 138.39 355 *e*PKPdf **PKPdf** **20 25 34.4 +0.6**
SPITS Spitsbergen Ar 138.39 355 PKP **PKPdf** **20 25 34.4 +0.6**
comp=Z,4.4nm,0.5s,baz=91,slow=5.4,SNR=17
SPITS SKPbc **SKPbc** **20 29 04.9 -3.2**
comp=Z,24nm,0.9s,baz=112,slow=13,SNR=6.6
SUMG Summit 140.08 17 *i* P **PKPdf** **20 25 35.4 -2.1**
DY2G Dye2 141.16 27 *i* P **PKPdf** **20 25 35.6 -3.7**
ICESG Greenland Ices 141.97 21 *i* P **PKPdf** **20 25 37.3 -3.6**
PRGR Permogore 142.31 325 *e*PKIKP **PKPdf** **20 25 39.4 -1.8**
MAK Makhachkala 142.81 294 *e*P **Pdif** **20 22 57.9 -6.9**
MAK *i* 20 25 39.5
MAK *e*SS SS 20 47 20.7 -9.5
MAK pmax pmax
comp=Z,211nm,0.9s
BELG Belogornoye 143.05 310 PKhKP PKPpre 20 25 37.6
comp=Z,6.0nm,0.6s,baz=297,slow=4.0,SNR=5.1
BELG SKPbc **SKPbc** **20 29 17.5 -3.5**
comp=Z,30nm,0.9s,baz=116,slow=3.0,SNR=7.0
APA Apatity 144.06 338 ⇑*i* PKIKP **PKiKP** **20 25 52.2 +4.5**
APA pmax pmax
comp=Z,24nm,0.8s
APA MLR MLR
comp=Z,1μm,22.0s
GROC Groznyy 144.08 294 *e*PKIKP PKPbc 20 25 43.8 +0.8
GROC pmax pmax
comp=Z,179nm,1.2s
HAMF Hammerfest 144.15 346 *e*PKPdf **PKPdf** **20 25 44.2 -0.1**
GNI Garni 144.40 289 PKP **PKPdf** **20 25 45.9 0.0**
comp=Z,39nm,1.2s,baz=222,slow=16,SNR=5.3
ANGG Ammassalik, Gr 144.64 25 *i* P **PKPab** **20 25 44.0 +0.2**
ARA0 ARCESS Array S 144.68 344 *e*pPKPbc **PKPdf** **20 25 47.6 +2.4**
ARA0 IAmb IAmb 20 25 57.6
comp=Z,30nm,0.9s
ARCES ARCESS Array B 144.68 344 PKP **PKPab** **20 25 44.5 +0.5**
comp=Z,11nm,0.5s,baz=29,slow=2.4,SNR=21
ARCES ARCESS Array B 144.68 344 **PKPab** **20 25 43.7 -0.2**
ARCES ARCESS Array B 144.68 344 PKIKP **PKPab** **20 25 43.7 -0.2**
GUDG Gudauri 144.96 293 **PKPab** **20 25 45.3 -0.8**
GUDG Gudauri 144.96 293 PKIKP **PKPab** **20 25 45.3 -0.8**
SCO Scoresbysund 145.01 12 ⇓*i* P **PKPab** **20 25 46.0 +0.9**
KLMR Klimovskoe 145.35 326 *e*PKHKP PKPpre 20 25 42.5
KLMR pmax pmax
comp=Z,53nm,1.2s
KLMR Klimovskoe 145.35 326 *e*SKPbc **SKPbc** **20 29 21.5 -4.6**
KLMR Klimovskoe 145.35 326 *e*PKPdf **PKPbc** **20 25 42.6 -3.8**
KLMR Klimovskoe 145.35 326 AMP 20 25 51.1
comp=Z,53nm,1.2s
ZEI Tsey 145.42 293 *i* PKIKP **PKPbc** **20 25 47.6 +0.1**
ZEI pmax pmax
comp=Z,94nm,1.3s
KTK1 Kautokeino 145.58 345 *e*PKPdf **PKPdf** **20 25 47.1 +0.3**
KTK1 IAmb IAmb 20 25 57.0
comp=Z,190nm,2.0s
JETT Jettan, Norway 145.68 347 *e*pPKPdf **pPKPdf** **20 25 50.4 +0.1**
JETT IAmb IAmb 20 26 04.6
comp=Z,61nm,1.3s
NCK Nalchik 145.71 295 *i* PKIKP **PKPdf** **20 25 46.8 -1.0**
TRO Tromso 145.88 348 *e*PKPbc **PKPbc** **20 25 48.2 +0.3**
TRO IAmb IAmb 20 26 00.9
comp=Z,33nm,0.9s
GURO Guroymak-BITLI 146.16 286 **PKPdf** **20 25 48.7 -0.2**
GOF Gofitskoye 146.21 297 ⇑*e*PKP2 **PKPab** **20 25 51.0 +0.6**
GOF pmax pmax
comp=Z,95nm,1.0s
KBZ Khabaz 146.24 295 PKPbc **PKPdf** **20 25 49.4 +0.8**
comp=Z,26nm,1.0s,baz=62,slow=1.7,SNR=15
KBZ Khabaz 146.24 295 *i* PKP2 **PKPdf** **20 25 49.3 +0.7**
KVAR Kislovodsk Arr 146.40 295 PKPbc **PKPab** **20 25 51.2 -0.1**
comp=Z,3.2nm,0.7s,baz=86,slow=23,SNR=1.9
KIV Kislovodsk 146.40 295 ⇑P **PKiKP** **20 25 52.8 -0.6**
KIV Kislovodsk 146.40 295 *i* PKHKP PKPpre 20 25 46.3
KIV pmax pmax
comp=Z,27nm,1.1s
SHA1 Shidzhatmaz 146.41 295 *i* PKHKP PKPpre 20 25 45.3
VRH Novokhopyorsk 146.82 309 *e*PKIKP **PKPdf** **20 25 48.9 -0.5**
VRH pmax pmax
comp=Z,30nm,0.8s
MARD Mardin 146.86 283 PKPdf **PKPdf** **20 25 50.3 +0.2**
STEI Steigen 148.01 348 *ep*PKPdf **PKPbc** **20 25 54.6 +0.6**
STEI IAmb IAmb 20 25 55.2
comp=Z,212nm,1.6s
LOF Lofoten 148.08 350 *e*PKPab **PKPab** **20 25 57.0 +0.1**
MOS Moscow 148.16 318 *e*PKP2 **PKPbc** **20 25 55.1 +0.4**
MOS pmax pmax
comp=Z,62nm,1.2s
LPSR Galich'ya Gora 148.28 312 *e*PKP2 **PKPbc** **20 25 54.6 -0.5**
LPSR pmax pmax
comp=Z,50nm,1.0s
VORR Voronezh 148.30 310 *e*PKP2 **PKPbc** **20 25 54.9 -0.3**
VORR pmax pmax
comp=Z,40nm,0.5s
VSR Storozhevoye 148.41 309 *e*PKP2 **PKPdf** **20 25 54.1 +2.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
FAUS Fauske 148.50 348 *e*PKPbc **PKPbc** **20 25 55.8 +0.5**
FAUS IAmb IAmb 20 26 01.1
comp=Z,98nm,1.4s
LIC Lamlo 148.83 173 ⇑*e*PKP1 **PKPbc** **20 25 59.1 +1.4**
comp=Z,80nm,0.9s
OBN Obninsk 148.93 317 PKPbc **PKPbc** **20 25 56.5 -0.2**
comp=Z,3.6nm,0.5s,baz=38,slow=2.2,SNR=6.8
OBN Obninsk 148.93 317 *e*PKP2 **PKPbc** **20 25 56.1 -0.6**
OBN *e* 20 29 27.0
OBN *e*PPP PPP 20 32 48.0
OBN pmax pmax
comp=Z,25nm,0.9s
KIC Kosan Boka 148.99 173 ⇓*e*PKP1 **PKPbc** **20 25 59.1 +0.9**
comp=Z,33nm,0.9s
GHAJ Ghor Haditha 149.22 270 **PKPbc** **20 25 58.6 +0.3**
TIC Toumodi 149.24 172 ⇑*e*PKP1 **PKPbc** **20 26 00.1 +1.3**
comp=Z,50nm,1.0s
DBIC Dimbokro 149.28 173 PKPbc **PKiKP** **20 26 00.2 +0.1**
comp=Z,28nm,1.0s,baz=181,slow=3.3,SNR=13
DBIC Dimbokro 149.28 173 **PKPdf** **20 25 56.6 +2.0**
DBIC Dimbokro 149.28 173 ⇑PKHKP PKPpre 20 25 56.2
KONS Konsvik 149.66 349 *e*PKPbc **PKPbc** **20 25 59.0 +0.9**
KONS IAmb IAmb 20 26 14.7
comp=Z,200nm,1.8s
MOR8 Moi Rana 149.74 347 *e*PKPbc **PKPbc** **20 25 58.1 -0.4**
MOR8 IAmb IAmb 20 26 00.2
comp=Z,258nm,2.1s
FIA1 FINESS Array S 150.48 334 **PKPbc** **20 25 58.5 -1.9**
FINES FINESS Array B 150.48 334 PKPbc **PKPbc** **20 26 00.0 -0.3**
comp=Z,24nm,0.7s,baz=60,slow=2.5,SNR=32
FINES FINESS Array B 150.48 334 **PKPbc** **20 25 59.0 -1.3**
BNN Bunyan 150.97 284 **PKPbc** **20 26 00.4 -2.0**
NSS Namsos 151.67 348 *e*PKPbc **PKPbc** **20 26 03.5 +0.5**
NSS IAmb IAmb 20 26 17.1
comp=Z,55nm,1.1s
MEF Metsahovi 151.92 333 *e*P **PKPbc** **20 26 04.0 +0.3**
VSU Vasula 152.14 328 *e*P **PKiKP** **20 26 06.8 +2.2**
RAF Rauma 152.25 336 *e*P **PKPbc** **20 26 03.9 -0.6**
SIM Simferopol' 152.54 297 PKIKP **PKPbc** **20 26 05.1 -0.5**
SIM pmax pmax
comp=Z,29nm,0.8s
BR131 Keskin Array S 152.78 286 **PKPbc** **20 26 05.0 -1.6**
BR131 Keskin Array S 152.78 286 PKIKP **PKPbc** **20 26 05.0 -1.6**
BRTR Keskin Array B 152.78 286 PKPbc **PKPbc** **20 26 04.9 -1.6**
comp=Z,9.3nm,0.9s,baz=151,slow=3.9,SNR=18
ILGA Ilgaz 152.84 289 **PKPbc** **20 26 06.2 -0.5**
MTSE Matsula 153.16 331 *e*P **PKiKP** **20 26 07.8 +1.1**
MNK Minsk 153.77 320 *i* PKIKP **PKPdf** **20 25 55.3 -4.8**
MNK *i* 20 29 53.8
MNK *i* PPP PPP 20 33 21.9
MNK *i* SS SS 20 49 30.2 -2.0
MNK *i* SSS SSS 20 55 22.6
MNK pmax pmax
comp=E,4.0nm,1.4s
MNK pmax pmax
comp=Z,35nm,1.3s
MNK Minsk 153.77 320 *i* PKP **PKPdf** **20 25 55.4 -4.8**
comp=E,4.0nm,1.4s
MNK *i* PKP **PKPdf** **20 25 55.4 -4.8**
MNK *i* PKP **PKPdf** **20 25 55.4 -4.8**
comp=Z,35nm,1.3s,baz=242
MNK *i* SKP 20 28 58.6
MNK *i* PP **PP** **20 29 53.9 -1.7**
MNK *i* SKS 20 32 03.1
MNK *i* PPP PPP 20 33 22.0
MNK *i* SKKS **SKKSdf** **20 41 39.6 -9.0**
MNK *i* PPS PPS 20 47 04.8
MNK *i* SS **SS** **20 49 30.3 -1.9**
MNK *i* SSS SSS 20 55 22.6
MNK *i* LR LR 21 31 30.4
MNK *i* LRM MLR 21 34 33.6
comp=E,57nm,19.7s
MNK *i* LRM MLR 21 34 33.6
MNK *i* LRM MLR 21 34 33.6
comp=Z,681nm,20.0s
ISAL Salakas 154.09 323 *e*P **PKiKP** **20 26 13.2 +4.5**
NACGM Naroch 154.12 322 ⇑*e*PKP **PKPdf** **20 25 60.0 -0.6**
baz=59
IIGN Ignalina 154.16 323 *e*P **PKiKP** **20 26 12.5 +3.6**
MOL Molde 154.18 351 *e*PKPbc **PKPbc** **20 26 09.0 +0.4**
DOMB Dombas 154.47 349 *e*PKPbc **PKPbc** **20 26 09.8 +0.4**
AKASG Malin Array Be 154.61 311 PKPbc **PKPbc** **20 26 08.7 -1.2**
comp=Z,2.9nm,0.6s,baz=60,slow=2.8,SNR=12
AKASG Malin Array Be 154.61 311 **PKPdf** **20 25 59.0 -2.4**
AKASG Malin Array Be 154.61 311 PKIKP **PKPdf** **20 25 59.0 -2.4**
AKBB Malin Array Si 154.61 311 **PKPbc** **20 26 08.7 -1.2**
AKBB Malin Array Si 154.61 311 PKIKP **PKPbc** **20 26 08.7 -1.2**
AKN Aaknes 154.63 351 *e*PKPbc **PKiKP** **20 26 10.4 +0.7**
NC303 NORSAR Array S 154.83 346 **PKPbc** **20 26 09.3 -0.8**
NB2 NORSAR Subarra155.03 346 PKP 20 26 10.6
comp=Z,0.8nm,0.6s,baz=38,slow=2.9
NB2 NORSAR Subarra155.03 346 *e* 20 26 10.6
baz=38,slow=2.9
NOA NORSAR Array B155.03 346 PKPbc 20 26 09.9
comp=Z,3.2nm,0.8s,baz=31,slow=2.0,SNR=7.9
NOA NORSAR Array B155.03 346 PKIKP 20 26 10.0
NBO00 NORSAR Array S 155.12 346 PKPdf **PKPdf** **20 26 00.5 -1.4**
NBO00 pPKPbc 20 26 10.6 -3.1
PABE Paberze 155.13 325 PKPdf **PKPdf** **20 26 00.5 -1.5**
PABE pPKPbc 20 26 13.9 -0.3
PABE Paberze 155.13 325 *e*P PKPdf 20 26 14.2 +12
NC602 NORSAR Array S 155.24 345 *e*PKPdf **PKPdf** **20 26 01.6 -0.4**
TORD Torodi Ar. Sit 155.77 187 PKPdf **PKPdf** **20 26 04.9 +0.8**
TORD Torodi Ar. Bea 155.77 187 PKP **PKPdf** **20 26 05.4 +1.3**
comp=Z,3.3nm,1.1s,baz=150,slow=0.6,SNR=6.4
TORD PKPab **PKPab** **20 26 32.6 +2.1**
comp=Z,10nm,0.8s,baz=169,slow=2.3,SNR=9.2
SKAR Skarslia 155.88 349 *ep*PKPdf pPKPdf 20 26 06.3 0.0
TESR Tescani 157.48 303 ⇑P PKPdf 20 26 20.6 +15
VRI Vrincioaia 157.57 301 ⇑P **PKPab** **20 26 32.2 -5.4**
VRI Vrincioaia 157.57 301 ⇑PKP2 **PKPab** **20 26 32.2 -5.4**
PLOR Plostina 157.63 301 ⇑P PKPab 20 26 25.2 -13
PLOR Plostina 157.63 301 ⇑PKP2 PKPab 20 26 25.2 -13
BIZ Bicaz 157.73 304 ⇑P **PKPdf** **20 26 03.3 -2.4**
BURAR Bucovina Array 158.11 306 ⇑P PKPdf 20 25 57.8 -8.5
BURAR Bucovina Array 158.11 306 ⇑PKIKP PKPdf 20 25 57.8 -8.5
MLR Muntele Rosu 158.19 300 ⇑P **PKPdf** **20 26 13.4 +6.9**
MLR Muntele Rosu 158.19 300 ⇑PKIKP **PKPdf** **20 26 13.4 +6.9**
ARR Arges 159.11 301 ⇑P **PKPdf** **20 26 07.2 -0.3**
UZH Uzhgorod 159.56 311 *e*PKP2 **PKPab** **20 26 45.5 -0.6**
GZR Gura Zlata 160.37 302 ⇑P **PKPdf** **20 26 03.3 -5.6**
GZR Gura Zlata 160.37 302 ⇑PKIKP **PKPdf** **20 26 03.3 -5.6**
BLKB Belogradchik 160.85 297 ⇑P **PKPdf** **20 26 07.0 -2.4**
BOVS Bovan 161.54 297 ⇑P **PKPdf** **20 26 15.5 +5.4**
VYHS Vyhne 161.66 314 *e*PKP2 **PKPab** **20 26 54.6 -0.7**
MORC Moravsky Berou 161.68 319 *e*PKP **PKPdf** **20 26 08.0 -2.2**
MAUC Maruska 161.76 317 *e*PKPAB PKPab 20 27 04.0 +8.3
KRLC Kraliky 161.89 320 *e*PKP2 **PKPab** **20 27 00.5 +4.2**
KRLC Kraliky 161.89 320 *e*PKPAB **PKPab** **20 27 00.5 +4.2**
DPC Dobruska-Polom 161.95 322 *e*PKP2 **PKPab** **20 26 56.9 +0.4**
DPC Dobruska-Polom 161.95 322 *e*PKPAB **PKPab** **20 26 56.9 +0.4**
JAVC Velka Javorina 162.13 316 *e*PKP **PKPdf** **20 26 08.9 -1.8**
SMOL Smolenice 162.45 315 *e*PKIKP **PKPdf** **20 26 11.6 +0.7**
SMOL *e* 20 26 59.3
VRAC Vranov 162.45 319 *e*PKP **PKPdf** **20 26 09.5 -1.4**
MODS Modra-Piesok 162.61 315 *e*PKIKP **PKPdf** **20 26 11.5 +0.4**
MODS *e* 20 27 00.6
MODS Modra-Piesok 162.61 315 *e*PKP **PKPdf** **20 26 11.5 +0.4**
MODS *e* 20 27 00.6
DIVS Divibare 162.63 299 PKPdf **PKPdf** **20 26 10.8 -0.6**
KRUC Moravsky 162.70 318 *e*PKP **PKPdf** **20 26 09.7 -1.4**
BRG Berggiesshubel 162.71 326 *e*PKP2 **PKPab** **20 27 00.3 +0.5**
BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=Z,13nm,1.4s

BRG				MLR	MLR		
	comp=Z,1μm,22.0s						
BRG				MLR	MLR		
	comp=E,588nm,24.2s						
BRG				MLR	MLR		
	comp=N,904nm,21.2s						
CLL	**Collm**	**162.80 329**		PKPab	**PKPab**	**20 26 58.6**	**-1.4**
CLL	**Collm**	**162.80 329**	*e*	PKIKP	**PKPdf**	**20 26 09.0**	**-2.1**
CLL			*i*			20 26 58.2	
CLL				pmax	pmax		
	comp=Z,8.0nm,1.7s						
CLL				pmax	pmax		
	comp=Z,23nm,1.5s						
CLL				MLR	MLR		
	comp=Z,800nm,21.7s						
CLL	**Collm**	**162.80 329**		LmV		21 54 00.0	
	comp=Z,800nm,21.7s						
CLL	**Collm**	**162.80 329**	*e*	PKPdf	**PKPdf**	**20 26 09.0**	**-2.1**
	comp=Z,8.0nm,1.7s						
CLL	**Collm**	**162.80 329**	*i*	PKPab	**PKPab**	**20 26 58.2**	**-1.9**
	comp=Z,23nm,1.5s						
CLL	**Collm**	**162.80 329**	*e*	pPKPab	pPKPab	20 27 05.0	+2.0
CLL	**Collm**	**162.80 329**	*e*	PP	PP	20 30 45.0	+0.3
CLL	**Collm**	**162.80 329**		LmH		21 50 00.0	
	comp=N,700nm,22.0s						
CLL	**Collm**	**162.80 329**		LmH		21 50 00.0	
	comp=E,700nm,21.9s						
PRU	**Pruhonice**	**163.06 323**	*e*	PKP2	**PKPab**	**20 27 01.5**	**+0.2**
PRU	**Pruhonice**	**163.06 323**	*e*	PKPAB	**PKPab**	**20 27 01.5**	**+0.2**
RONA	**Rosalia, Austr**	**163.53 314**	*e*	P	**PKPdf**	**20 26 13.4**	**+1.3**
	comp=E,2.1nm,0.9s						
RONA			*e*	P	**PKPab**	**20 27 03.0**	**-0.6**
	comp=E,5.7nm,1.4s						
CONA	**Conrad Observa**	**163.65 316**	*e*	P	**PKPdf**	**20 26 12.4**	**+0.2**
	comp=E,2.4nm,1.0s						
CONA			*e*	P	**PKPab**	**20 27 03.1**	**-1.0**
	comp=E,11nm,1.7s						
NKC	**Novy Kostel**	**163.84 327**	*e*	PKP2	**PKPab**	**20 27 05.5**	**+0.8**
NKC	**Novy Kostel**	**163.84 327**	*e*	PKPAB	**PKPab**	**20 27 05.5**	**+0.8**
KHC	**Kasperske Hory**	**164.10 322**		PKPdf	**PKPdf**	**20 26 10.9**	**-1.6**
KHC					**PKPab**	20 27 02.0	**-4.0**
KHC	**Kasperske Hory**	**164.10 322**		PKIKP	**PKPdf**	**20 26 10.9**	**-1.6**
KHC						20 27 02.0	
KHC	**Kasperske Hory**	**164.10 322**	*e*	PKPAB	**PKPab**	**20 27 04.4**	**-1.6**
ARSA	**Arzberg**	**164.21 314**	*e*	P	**PKPab**	**20 27 08.3**	**+1.7**
	comp=E,6.2nm,0.8s						
GERES	**GERESS Array B**	**164.23 321**		PKP	**PKPdf**	**20 26 13.3**	**+0.6**
	comp=E,0.4nm,0.8s,baz=225,slow=0.6,SNR=4.7						
GERES				PKPab	**PKPab**	**20 27 06.0**	**-0.7**
	comp=E,1.4nm,0.8s,baz=44,slow=5.9,SNR=5.2						
GRA1	**Grafenberg Arr**	**164.76 328**			**PKPab**	**20 27 06.9**	**-1.9**
GRF	**Grafenberg Arr**	**164.76 328**		PKP2	**PKPab**	**20 27 06.9**	**-1.9**
GRFO	**Grafenberg**	**164.77 328**		PKPab	**PKPab**	**20 27 07.3**	**-1.5**
GRFO	**Grafenberg**	**164.77 328**		PKP2	**PKPab**	**20 27 07.3**	**-1.5**
SOKA	**Soboth**	**164.80 313**	*e*	P	**PKPdf**	**20 26 14.2**	**+0.9**
	comp=E,1.2nm,0.9s						
SOKA			*e*	P	**PKPab**	**20 27 10.0**	**+0.8**
	comp=E,5.1nm,1.3s						
BIOA	**Bad Ischl, Aus**	**165.00 318**	*e*	P	**PKPdf**	**20 26 13.0**	**-0.3**
	comp=E,0.7nm,0.4s						
BIOA			*e*	P	**PKPab**	**20 27 11.4**	**+1.5**
	comp=E,3.7nm,1.1s						
OBKA	**Obir**	**165.18 313**	*e*	P	**PKPdf**	**20 26 14.5**	**+0.9**
	comp=E,2.8nm,1.1s						
OBKA			*e*	P	**PKPab**	**20 27 11.0**	**+0.1**
	comp=E,4.8nm,1.1s						
KBA	**Koelnbreinsper**	**165.53 317**	*e*	P	**PKPdf**	**20 26 15.2**	**+1.2**
	comp=E,3.6nm,0.8s						
MYKA	**Terra Mystica**	**165.63 315**	*e*	P	**PKPdf**	**20 26 12.6**	**-1.4**
	comp=E,4.8nm,1.2s						
MYKA			*e*	P	**PKPab**	**20 27 12.5**	**-0.4**
	comp=E,1.5nm,0.5s						
ABTA	**Abfaltersbach**	**166.18 317**	*e*	P	**PKPdf**	**20 26 14.4**	**0.0**
	comp=E,3.7nm,1.1s						
ABTA			*e*	P	**PKPab**	**20 27 15.4**	**+0.1**
	comp=E,4.4nm,1.3s						
WATA	**Walderalm**	**166.29 321**	*e*	P	**PKPab**	**20 27 16.2**	**+0.3**
	comp=E,4.4nm,1.1s						
WTTA	**Wattenberg**	**166.31 320**	*e*	P	**PKPdf**	**20 26 15.2**	**+0.6**
	comp=E,4.5nm,0.8s						
WTTA			*e*	P	**PKPab**	**20 27 16.8**	**+0.8**
	comp=E,5.5nm,1.1s						
MOTA	**Moosalm**	**166.53 322**	*e*	P	**PKPdf**	**20 26 14.6**	**-0.1**
	comp=E,4.0nm,1.2s						
MOTA			*e*	P	**PKPab**	**20 27 17.4**	**+0.5**
	comp=E,4.8nm,0.9s						
SQTA	**Sankt Quirin**	**166.56 321**	*e*	P	**PKPdf**	**20 26 14.6**	**-0.2**
	comp=E,4.7nm,1.3s						
SQTA			*e*	P	**PKPab**	**20 27 15.0**	**-1.9**
	comp=E,2.2nm,0.6s						
RETA	**Reutte**	**166.59 323**	*e*	P	**PKPab**	**20 27 16.2**	**-0.8**
	comp=E,3.6nm,1.0s						
FETA	**Feichten**	**166.93 321**	*e*	P	**PKPdf**	**20 26 13.5**	**-1.6**
	comp=E,4.0nm,1.2s						
FETA			*e*	P	**pPKPab**	**20 27 20.9**	**-0.7**
	comp=E,4.9nm,1.1s						
BFO	**Black Forest**	**167.01 331**		PKPab	**PKPab**	**20 27 17.6**	**-1.1**
BFO	**Black Forest**	**167.01 331**		PKP2	**PKPab**	**20 27 17.7**	**-1.1**
DAVA	**Damuels**	**167.15 324**	*e*	P	**PKPdf**	**20 26 16.4**	**+1.2**
	comp=E,6.8nm,1.6s						
DAVA			*e*	P	**PKPab**	**20 27 20.0**	**+0.3**
	comp=E,8.1nm,1.1s						
NRCA	**Norcia**	**167.78 301**			**PKPab**	**20 27 21.1**	**-1.4**
KEST	**Kesra**	**171.40 262**		PKPab	**PKPab**	**20 27 38.5**	**-0.4**
	comp=E,6.3nm,1.1s,baz=128,slow=5.9,SNR=3.4						
ESDC	**Sonseca Array**	**176.79 43**		PKP	**PKPdf**	**20 26 21.4**	**+1.6**
	comp=E,2.6nm,1.1s,baz=302,slow=2.2,SNR=5.2						
ESDC				PKPab	**pPKPab**	**20 28 05.1**	**-0.3**
	comp=E,3.5nm,1.2s,baz=323,slow=4.0,SNR=6.4						

WEL 01 20:11:36.7±1.5, 37°S±6°×17°9E±°, h15km±6km, M3.8/19, ML4.1/30, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=71.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.49**	**245**	P	Pg	20 11 46.6	+0.2
MXZ				S	Sb	20 11 53.8	-0.2
WMGZ	**Waiomatatini S**	**0.59**	**218**	P	Pn	20 11 49.8	-0.6
PKGZ	**Pakihiroa**	**0.82**	**229**	P	Pb	20 11 53.1	+0.4
PKGZ				S	Sn	20 12 05.1	-0.6
PUZ	**Puketiti**	**0.86**	**214**	P	Pg	20 11 53.8	+0.3
HAZ	**Te Kaha**	**0.95**	**245**	P	Pn	20 11 55.5	+0.1
HAZ				S	Sg	20 12 07.6	+0.1
TWGZ	**Tauwhareparae**	**1.08**	**220**	P	Pb	20 11 57.0	-0.1
TWGZ				S	Sn	20 12 12.3	+0.3
RUGZ	**Raukumara Rang**	**1.12**	**237**	P	Pn	20 11 58.1	+0.1
CNGZ	**Carnagh Statio**	**1.24**	**205**	P	Pb	20 11 59.7	-0.1
TKGZ	**Te Karaka**	**1.35**	**216**	P	Pn	20 12 00.1	-0.9
MWZ	**Matawai**	**1.44**	**227**	P	Pn	20 12 01.7	-0.6
WHRZ	**Whale Island**	**1.58**	**251**	P	Pn	20 12 04.5	+0.3
RAGZ	**Rawiri**	**1.62**	**225**	P	Pn	20 12 04.9	+0.2
URZ	**Urewera**	**1.66**	**236**	P	Pn	20 12 05.3	+0.1
PRGZ	**Paritu Road**	**1.75**	**206**	P	Pn	20 12 05.8	-0.7
EDRZ	**Edgecumbe**	**1.85**	**245**	P	Pn	20 12 07.9	0.0
OPRZ	**Ohinepanea**	**1.90**	**254**	P	Pn	20 12 08.1	-0.4
MUGZ	**Murupara**	**2.00**	**235**	P	Pn	20 12 09.5	-0.4
TARZ	**Mount Tarawera**	**2.07**	**244**	P	Pn	20 12 11.3	+0.4
RRRZ	**Republican Roa**	**2.10**	**241**	P	Pn	20 12 11.3	-0.1
OMRZ	**Omania**	**2.12**	**248**	P	Pn	20 12 11.9	+0.4
HLRZ	**Highlands Stat**	**2.18**	**245**	P	Pn	20 12 12.7	+0.3
KARZ	**Kaharoa**	**2.18**	**251**	P	Pn	20 12 12.2	-0.2
MTHZ	**Maungataniwha**	**2.19**	**226**	P	Pn	20 12 12.4	-0.1
PRRZ	**Plateau Road**	**2.27**	**239**	P	Pn	20 12 13.8	+0.2
ARHZ	**Aropaoanui**	**2.41**	**217**	P	Pn	20 12 14.6	-0.9
MRHZ	**Matea Rd**	**2.43**	**232**	P	Pn	20 12 15.5	-0.4
KUZ	**Kuaotunu**	**2.59**	**283**	P	Pn	20 12 16.1	-1.8
BKZ	**Black Stump Fm**	**2.60**	**225**	P	Pn	20 12 17.3	-0.9
TOZ	**Tahuroa Road**	**2.70**	**261**	P	Pn	20 12 19.0	-0.5
RITZ	**Rihia Road**	**2.87**	**235**	P	Pn	20 12 21.9	0.0
KAHZ	**Kahuranaki**	**2.89**	**212**	P	Pn	20 12 20.3	-1.9
GRZ	**Great Barrier**	**2.95**	**291**	P	Pn	20 12 22.9	0.0
MKAZ	**Moumakai**	**2.97**	**274**	P	Pn	20 12 22.5	-0.7
WIAZ	**Waiheke Island**	**3.04**	**280**	P	Pn	20 12 23.8	-0.3
TMVZ	**Te Maari**	**3.05**	**234**	P	Pn	20 12 23.7	-0.7
ETVZ	**East Tongariro**	**3.06**	**233**	P	Pn	20 12 23.8	-0.7
NTVZ	**North Tongarir**	**3.06**	**234**	P	Pn	20 12 24.0	-0.6
SNVZ	**South Ngauruho**	**3.13**	**233**	P	Pn	20 12 24.9	-0.7
MOVZ	**Moawhango**	**3.19**	**229**	P	Pn	20 12 25.3	-1.0
MBAZ	**Motutapu North**	**3.23**	**279**	P	Pn	20 12 27.6	+0.9
ABAZ	**Army Bay**	**3.32**	**282**	P	Pn	20 12 28.7	+0.7
HIZ	**Hauiti**	**3.38**	**249**	P	Pn	20 12 29.4	+0.6
AWAZ	**Awhitu Peninsu**	**3.38**	**274**	P	Pn	20 12 29.3	+0.4
WCZ	**Waipu Caves**	**3.90**	**290**	P	Pn	20 12 35.2	-0.8
KHEZ	**Kahui Hut**	**4.28**	**242**	P	Pn	20 12 45.4	+4.1
OUZ	**Omahuta**	**4.76**	**295**	P	Pn	20 12 47.8	0.0
CTZ	**Chatham Island**	**7.24**	**153**	P	Pn	20 13 20.5	-1.4

*JMA **01** 20:14:08.0±0.6, 47°N×3°×14°7E±°, h419km, MV3.7/22, SOUTHERN SEA OF OKHOTSK*
*IDC **01** 20:14:08.2±2.1, 47°49N×147°08E, h414km±25km, mb3.4/16, mbtmp4.2/20, Error ellipse: s-maj=18.2km s-min=14.2km az=162.0*
ISC 01 20:14:06.5±1.5, 47°27N±0°10×147°2E±0°2, h400km, n36, σ1s80/28, mb3.7/16, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**3.95**	**236**	*e*P	**Pn**	**20 15 20.6**	**+2.5**
JTKR	**Abashiri--Toko**	**4.02**	**216**	*e*P	**Pn**	**20 15 20.8**	**+2.0**
NEM2	**Nemuro 2**	**4.04**	**195**	*e*P	**Pn**	**20 15 18.9**	**0.0**
NEM2				*e*S	**S**	**20 16 15.0**	**-2.7**
JNK	**Nakash**	**4.08**	**206**	*e*P	**Pn**	**20 15 20.6**	**+1.3**
JNK				*e*S	**S**	**20 16 18.7**	**+0.3**
JWK2	**Keihoku**	**4.16**	**244**	*e*P	**Pn**	**20 15 23.3**	**+3.3**
JMP	**Maruseppu**	**4.23**	**221**	*e*P	**Pn**	**20 15 22.6**	**+1.8**
JAK	**Akkeshi**	**4.62**	**203**	*e*P	**Pn**	**20 15 24.6**	**-0.1**
JAK				*e*S	**S**	**20 16 25.6**	**-2.6**
JAR	**Ashorobuto**	**4.65**	**213**	*e*P	**Pn**	**20 15 26.6**	**+1.6**
JCH	**Churui**	**5.39**	**212**	*e*P	**Pn**	**20 15 32.3**	**-0.3**
JCH				*e*S	**S**	**20 16 39.1**	**-3.6**
JNBK	**Urakawa-nobuka**	**5.90**	**214**	*e*P	**Pn**	**20 15 38.5**	**+0.3**
JEW	**Eniwo**	**6.01**	**225**	*e*S	**S**	**20 16 52.5**	**-2.3**
JOT	**Ohata**	**7.35**	**219**	*e*P	**Pn**	**20 15 54.4**	**+0.3**
JOSM	**Okushiri--Mats**	**7.56**	**229**	*e*P	**P**	**20 15 58.1**	**+1.2**
JSI2	**Shiura 2**	**7.89**	**221**	*e*P	**Pn**	**20 16 01.2**	**+1.0**
JANG	**Nango**	**8.02**	**213**	*e*P	**Pn**	**20 16 02.1**	**+0.3**
JANG				*e*S	S	20 17 30.3	-5.9
JIW	**Iwasaki**	**8.45**	**220**	*e*P	**P**	**20 16 08.2**	**+1.3**
PETK	**Petropavlovsk-**	**8.92**	**45**	P	P	20 16 11.5	-0.4
	5.4nm,0.8s,baz=216,slow=6.3,SNR=0.9						
USRK	**Ussuriysk Ar.**	**11.06**	**259**	P	**Pn**	**20 16 36.1**	**-0.7**
	5.0nm,0.7s,baz=59,slow=14,SNR=5.2						
MJAR	**Matsushiro Arr**	**12.62**	**215**	P	**Pn**	**20 16 56.9**	**+2.0**
	1.2nm,0.6s,baz=20,slow=8.9,SNR=3.3						
KSRS	**Korea Array**	**17.25**	**242**	P	**P**	**20 17 45.5**	**+2.5**
	5.5nm,0.6s,baz=47,slow=9.8,SNR=17						
SONM	**Songino Array**	**27.32**	**286**	P	**P**	**20 19 16.4**	**-0.2**
	1.0nm,0.6s,baz=75,slow=7.8,SNR=1.5						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**38.68**	**39**	P	P	20 20 52.6	-0.6
	0.7nm,0.6s,baz=266,slow=6.7,SNR=4.4						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**38.98**	**304**	P	P	20 20 54.6	-1.2
	1.3nm,0.5s,baz=66,slow=7.0,SNR=4.8						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**43.07**	**294**	P	P	20 21 28.3	-0.5
	2.5nm,0.6s,baz=73,slow=7.7,SNR=18						
	2.5nm,0.6s						
KURBB	**Kurchatov Arra**	**43.75**	**301**	P	**P**	**20 21 32.7**	**-1.3**
	7.8nm,0.7s,baz=72,slow=8.9,SNR=4.0						
	7.8nm,0.7s						
BVAR	**Borovoye Array**	**47.35**	**307**	P	P	20 22 01.2	-0.6
	3.1nm,0.6s,baz=69,slow=7.9,SNR=5.7						
	3.1nm,0.6s						
AAK	**Ala-Archa**	**49.93**	**293**	P	**P**	**20 22 20.8**	**-0.8**
	0.9nm,0.3s,baz=27,slow=2.3,SNR=1.8						
	0.9nm,0.3s						
ARU	**Arti**	**51.83**	**315**	P	P	20 22 33.9	-1.2
	10nm,0.5s,baz=69,slow=5.4,SNR=17						
	10nm,0.5s						
BELG	**Belogornoye**	**59.38**	**315**	P	P	20 23 27.0	-1.0
	10nm,0.8s,baz=5.8,slow=19,SNR=6.7						
	10nm,0.8s						
FINES	**FINESS Array B**	**61.76**	**332**	P	P	20 23 42.2	-1.5
	2.4nm,0.5s,baz=42,slow=8.2,SNR=10						
	2.4nm,0.5s						
GEYT	**Allbeck**	**62.81**	**297**	P	P	20 23 51.2	+0.1
	1.5nm,0.6s,baz=57,slow=5.5,SNR=2.7						
	1.5nm,0.6s						
NOA	**NORSAR Array B**	**66.33**	**338**	P	P	20 24 11.8	-1.5
	0.9nm,0.7s,baz=42,slow=5.3,SNR=3.3						
	0.9nm,0.7s						
PDAR	**Pinedale Array**	**67.64**	**51**	P	P	20 24 22.7	+0.8
	1.2nm,0.6s,baz=28,slow=0.8,SNR=4.0						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**67.89**	**193**	P	**P**	**20 24 24.2**	**+0.8**
	0.7nm,0.5s,baz=8.6,slow=6.2,SNR=6.2						
	0.7nm,0.5s						
AKASG	**Malin Array Be**	**68.77**	**323**	P	**P**	**20 24 26.7**	**-1.7**
	0.5nm,0.4s,baz=37,slow=5.4,SNR=3.0						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**80.68**	**57**	P	P	20 25 37.2	+0.8
	1.4nm,0.8s,baz=337,slow=2.1,SNR=1.3						
	1.4nm,0.8s						

*NEIC **01** 20:14:14.7±0.6, 37°2S±0°2×179°39E±0°09, h10km±2km, mb4.4/3, Error ellipse: s-maj=31.1km s-min=4.7km az=157.0*
*IDC **01** 20:14:15.6±3.5, 36°76S×179°05E, h0km, mb3.9/2, mbtmp3.9/3, ML4.1/1, Error ellipse: s-maj=79.8km s-min=43.7km az=123.0*
*WEL **01** 20:14:19.1±1.2, 37°S±5°×17°9E±°, h15km±6km, M3.8/19, ML4.1/26, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=91.3*
ISC 01 20:14:16.4±2.4, 37°03S±0°06×179°19E±0°10, h11km±11km, n49, σ1s04/56, mb4.1/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**233**		**Pg**	**20 14 32.9**	**-0.6**
MXZ	**Matakaoa Point**	**0.88**	**233**	P	**Pg**	**20 14 33.1**	**-0.3**
MXZ				S	**Sg**	**20 14 43.2**	**-1.7**
WMGZ	**Waiomatatini S**	**1.00**	**218**	P	Pn	**20 14 37.9**	**+1.5**
WMGZ				S	**Sn**	**20 14 50.7**	**+0.3**
PUZ	**Puketiti**	**1.28**	**215**	P	Pn	**20 14 41.4**	**+1.2**
PUZ				S	**Sn**	**20 14 57.6**	**+0.3**
HAZ	**Te Kaha**	**1.33**	**237**	P	**Pg**	**20 14 42.8**	**+0.8**
HAZ				S	**Sg**	**20 15 00.0**	**+0.7**
RUGZ	**Raukumara Rang**	**1.52**	**232**	P	**Pb**	**20 14 45.4**	**+0.7**
RUGZ				S	**Sb**	**20 15 04.0**	**0.0**
CNGZ	**Carnagh Statio**	**1.65**	**208**	P	**Pn**	**20 14 47.0**	**+1.8**
CNGZ				S	**Sb**	**20 15 08.6**	**+1.1**
WIZ	**White Island**	**1.67**	**252**	P	**Pb**	**20 14 47.5**	**+0.4**
WIZ				S	**Sn**	**20 15 05.0**	**-1.9**
MWZ	**Matawai**	**1.85**	**225**	P	**Pn**	**20 14 49.5**	**+1.5**
MWZ				S	**Sn**	**20 15 10.8**	**-0.7**
WHRZ	**Whale Island**	**1.94**	**244**	P	**Pb**	**20 14 51.5**	**-0.3**
RAGZ	**Rawiri**	**2.03**	**223**	P	**Pn**	**20 14 51.8**	**+1.2**
URZ	**Urewera**	**2.06**	**233**	Pn	**Pn**	**20 14 52.1**	**+1.3**
	52nm,0.3s,baz=121,slow=3.7,SNR=9.1						
URZ				Sn	**Sn**	**20 15 15.8**	**-0.6**
	54nm,0.3s,baz=121,slow=23,SNR=10						
	119nm,0.3s						
URZ	**Urewera**	**2.06**	**233**		**Pn**	**20 14 49.9**	**-1.0**
URZ	**Urewera**	**2.06**	**233**	P	**Pn**	**20 14 52.2**	**+1.4**
PRGZ	**Paritu Road**	**2.15**	**208**	P	**Pn**	**20 14 53.3**	**+1.1**
SNGZ	**Shannon Statio**	**2.28**	**219**	P	**Pn**	**20 14 54.3**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.35**	**205**	P	**Pn**	**20 14 55.6**	**+0.7**
MYRZ	**Mayor Island**	**2.37**	**263**	P	**Pn**	**20 14 56.6**	**+1.4**
MUGZ	**Murupara**	**2.40**	**232**	P	**Pn**	**20 14 56.9**	**+1.3**
RAHZ	**Arahi**	**2.51**	**221**	P	**Pn**	**20 14 58.1**	**+0.9**
KARZ	**Kaharoa**	**2.54**	**246**	P	**Pn**	**20 14 59.5**	**+2.0**
MTHZ	**Maungataniwha**	**2.60**	**225**	P	**Pn**	**20 14 58.0**	**-0.3**
KUZ	**Kuaotunu**	**2.79**	**275**	P	**Pn**	**20 15 00.6**	**-0.4**
ARHZ	**Aropaoanui**	**2.82**	**217**	P	**Pn**	**20 15 02.0**	**+0.7**
MRHZ	**Matea Rd**	**2.84**	**230**	P	**Pn**	**20 15 02.8**	**+1.1**
BKZ	**Black Stump Fm**	**3.01**	**224**		**Pn**	**20 15 02.6**	**-1.4**
BKZ	**Black Stump Fm**	**3.01**	**224**	P	**Pn**	**20 15 04.7**	**+0.7**
GRZ	**Great Barrier**	**3.10**	**283**	P	**Pn**	**20 15 06.8**	**+1.6**
CKHZ	**Cape Kidnapper**	**3.10**	**212**	P	**Pn**	**20 15 04.7**	**-0.6**
MKAZ	**Moumakai**	**3.22**	**267**	P	**Pn**	**20 15 06.2**	**-0.7**
WIAZ	**Waiheke Island**	**3.26**	**273**	P	**Pn**	**20 15 08.4**	**+1.1**
KAHZ	**Kahuranaki**	**3.30**	**213**	P	**Pn**	**20 15 07.5**	**-0.6**
TMVZ	**Te Maari**	**3.45**	**232**	P	**Pn**	**20 15 10.7**	**+0.6**
MBAZ	**Motutapu North**	**3.45**	**273**	P	**Pn**	**20 15 11.5**	**+1.5**
NTVZ	**North Tongarir**	**3.46**	**232**	P	**Pn**	**20 15 10.8**	**+0.5**
BHHZ	**Black Hill Sta**	**3.48**	**224**	P	**Pn**	**20 15 11.0**	**+0.6**
KRVZ	**Karewarewa**	**3.48**	**233**	P	**Pn**	**20 15 11.4**	**+0.9**
SNVZ	**South Ngauruho**	**3.53**	**231**	P	**Pn**	**20 15 11.9**	**+0.6**
HIZ	**Hauiti**	**3.74**	**245**		**Pn**	**20 15 14.3**	**+0.4**
BFZ	**Birch Farm**	**4.31**	**211**	Pn	**Pn**	**20 15 20.0**	**-1.8**
OUZ	**Omahuta**	**4.87**	**290**	Pn	**Pn**	**20 15 29.9**	**+0.4**
MSWZ	**Moikau Station**	**5.34**	**214**	Pn	Pn	20 15 31.7	-4.3
RPZ	**Rata Peaks**	**9.11**	**220**	Sn	**Sn**	20 17 57.7	-13
	2.4nm,0.3s,baz=311,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**40.92**	**276**	P	**P**	**20 21 59.1**	**+0.2**
	0.8nm,0.6s,baz=118,slow=7.8,SNR=4.2						
	0.8nm,0.6s						
WB2	**Warramunga Arr**	**42.51**	**281**	P	**P**	**20 22 10.9**	**-1.1**
WB2				IAmb	IAmb	20 22 16.6	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**42.52**	**281**	P	**P**	**20 22 11.5**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=121,slow=7.9,SNR=6.5						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**42.52**	**281**	P	**P**	**20 22 11.0**	**-1.0**
WRA				IAmb	IAmb	20 22 16.5	
	comp=Z,0.9nm,1.5s						
WB0	**Warramunga Arr**	**42.57**	**281**	P	**P**	**20 22 11.8**	**-0.6**
WB0				IAmb	IAmb	20 22 12.5	
	comp=Z,17nm,1.4s						
FINES	**FINESS Array B**	**150.32**	**334**	PKPbc	**PKPbc**	**20 34 06.6**	**-0.2**
	comp=Z,3.1nm,1.1s,baz=62,slow=6.8,SNR=2.0						

VIE 01 20:14:21.3±0.5, 47°32N×11°59E, h2km±3km, ml0.7/4, Error ellipse: s-maj=3.3km s-min=1.2km az=45.0 7 km ENE of Hall in Tirol, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.02**	**333**	*e*Pg	Pg	20 14 22.3	+0.2
	17nm,0.1s						
WATA				*e*Sg	Sg	20 14 23.0	+0.4
	192nm,0.1s						
WTTA	**Wattenberg**	**0.06**	**150**	*e*Pg	Pg	20 14 22.9	+0.4
	11nm,0.1s						
WTTA				*e*Sg	Sg	20 14 24.0	+0.6
	4.8nm,0.1s						
SQTA	**Sankt Quirin**	**0.28**	**250**	*e*Pg	Pg	20 14 26.9	+0.2
	0.4nm,0.1s						
SQTA				*e*Sg	Sg	20 14 30.6	+0.3
	1.1nm,0.1s						
MOTA	**Moosalm**	**0.33**	**275**	*e*Pg	Pg	20 14 27.6	-0.1
	0.1nm,0.1s						
MOTA				*e*Sg	Sg	20 14 32.9	+0.8
	0.3nm,0.1s						

ROM 01 20:14:50.9±0.2, 42°71N±0°01×13°25E±0°03, h7km, ML1.2/3, 1C-1D, Error ellipse: s-maj=2.3km s-min=0.9km az=248.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.06**	**125**	P	Pg	20 14 53.4	+0.6
T1244	**Arquata del Tr**	**0.06**	**34**	P	Pg	20 14 53.8	+1.1
T1244				AML	AML		
	comp=N,336μm,1.4s						
T1244				AML	AML		
	comp=E,602μm,0.8s						
T1244				AML	AML		
	comp=N,275μm,0.1s						
T1244				AML	AML		
	comp=E,460μm,1.6s						
SMA1	**SAN MARTINO**	**0.10**	**143**	P	Pg	20 14 53.6	+0.3
SMA1				S	Sg	20 14 54.7	-0.2
SMA1				AML	AML		
	comp=E,159μm,0.1s						
SMA1				AML	AML		
	comp=N,90μm,0.1s						
T1242	**Castelluccio d**	**0.13**	**343**	P	Pg	20 14 55.2	+1.4
T1242				S	Sg	20 14 56.2	+0.5
T1242				AML	AML		
	comp=E,159μm,0.1s						
T1242				AML	AML		
	comp=N,201μm,0.1s						
NRCA	**Norcia**	**0.16**	**321**	P	Pg	20 14 55.3	+1.0
NRCA				S	Sg	20 14 56.5	-0.1
MMO1	**Montemonaco**	**0.20**	**16**	P	Pg	20 14 56.6	+1.6
MMO1				S	Sg	20 14 58.8	+1.1
MC2	**Monte Cornacci**	**0.21**	**347**	P	Pg

BKZ	Black Stump Fm	3.07 224		Pn		20 17 24.7 +1.3
BKZ	Black Stump Fm	3.07 224	P	Pn		20 17 25.2 +1.8
WHTZ	Whakaora	3.09 236	P	Pb		20 17 27.2 -2.4
KUTZ	Kaahu Road	3.09 240	P	Pb		20 17 26.2 -3.3
GRZ	Great Barrier	3.12 282	P	Pn		20 17 25.3 +1.3
CKHZ	Cape Kidnapper	3.17 212	P	Pn		20 17 25.1 +0.5
TLZ	Tolley Road	3.23 244	P	Pn		20 17 27.6 +2.1
MKAZ	Moumakai	3.26 267	P	Pn		20 17 26.7 +0.8
WATZ	Wairara	3.26 237	P	Pn		20 17 28.5 +2.5
WIAZ	Waiheke Island	3.29 272	P	Pn		20 17 27.4 +1.1
KWHZ	Kaweka Forest	3.29 221	P	Pn		20 17 27.4 +0.9
RATZ	Rangitukua	3.32 234	P	Pn		20 17 29.0 +2.2
KAHZ	Kahuranaki	3.37 213	P	Pn		20 17 27.6 +0.2
KATZ	Kakaramea	3.43 233	P	Pn		20 17 31.2 +2.8
ETAZ	East Tamaki Re	3.44 269	P	Pn		20 17 31.7 -3.8
MBAZ	Motutapu North	3.48 272	P	Pn		20 17 30.5 +1.6
KRHZ	Kereru	3.48 219	P	Pn		20 17 29.4 +0.3
TMVZ	Te Maari	3.51 231	P	Pn		20 17 31.1 +1.6
NTVZ	North Tongarir	3.51 232	P	Pn		20 17 31.4 +1.8
ETVZ	East Tongariro	3.52 231	P	Pn		20 17 31.0 +1.5
KRVZ	Karewarewa	3.53 232	P	Pn		20 17 31.6 +1.8
BHHZ	Black Hill Sta	3.54 224	P	Pn		20 17 31.0 +1.2
ABAZ	Army Bay	3.55 275	P	Pn		20 17 31.9 +1.9
OTVZ	Oturere	3.56 231	P	Pn		20 17 31.8 +1.6
NNVZ	North Ngauruho	3.57 232	P	Pn		20 17 32.5 +2.1
WTVZ	West Tongariro	3.58 232	P	Pn		20 17 32.5 +2.0
SNVZ	South Ngauruho	3.59 231	P	Pn		20 17 32.1 +1.5
EPAZ	Eden Park BICE	3.59 270	P	Pb		20 17 34.2 -3.9
HBAZ	Herne Bay Bore	3.61 271	P	Pb		20 17 33.9 -4.4
NGZ	Ngauruhoe	3.61 231	P	Pn		20 17 32.4 +1.5
TUVZ	Tukino	3.63 230	P	Pn		20 17 32.5 +1.4
TWVZ	Taurewa	3.65 234	P	Pn		20 17 33.3 +1.9
MOVZ	Moawhango	3.66 227	P	Pn		20 17 32.2 +0.7
AWAZ	Awhitu Peninsu	3.67 267	P	Pn		20 17 33.2 +1.6
WHVZ	Whangaehu Hut	3.68 230	P	Pn		20 17 33.5 +1.6
FWVZ	Far West T-bar	3.68 231	P	Pn		20 17 33.4 +1.5
WNVZ	Wahianoa	3.70 230	P	Pn		20 17 33.4 +1.2
TRVZ	Turoa	3.71 230	P	Pn		20 17 34.0 +1.6
WTAZ	Waiatarua	3.73 269	P	Pn		20 17 34.3 +1.9
RVAZ	Riverhead Bore	3.73 272	P	Pn		20 17 34.3 +1.8
PNHZ	Pukenui	3.77 218	P	Pn		20 17 32.9 -0.2
WPHZ	Waipukurau	3.78 215	P	Pn		20 17 33.0 -0.1
HIZ	Hauiti	3.79 245		Pn		20 17 35.9 +2.7
HIZ	Hauiti	3.79 245	P	Pn		20 17 36.5 +3.2
MTVZ	Mangateitei	3.81 230	P	Pn		20 17 34.2 +0.6
PKVZ	Pokaka	3.83 232	P	Pn		20 17 35.9 +2.0
WCZ	Waipu Caves	4.07 283	P	Pn		20 17 39.1 +2.0
WAZ	Wanganui	4.34 229	P	Pn		20 17 42.2 +1.5
BFZ	Birch Farm	4.37 211		Pn		20 17 39.6 -1.6
PRWZ	Pori Road	4.39 214	P	Pn		20 17 41.0 -0.4
MHEZ	Mangahewa	4.40 240	P	Pn		20 17 46.0 +4.3
LREZ	Lake Rotokare	4.54 235	P	Pn		20 17 46.3 +2.8
DREZ	Durham Road	4.54 239	P	Pn		20 17 46.2 +2.7
PREZ	Palmer Road	4.64 238	P	Pn		20 17 49.3 +4.3
NEZ	North Egmont	4.65 239	P	Pn		20 17 48.8 +3.7
PKE	Pukeiti	4.69 240	P	Pn		20 17 49.2 +3.6
KHEZ	Kahui Hut	4.72 239	P	Pn		20 17 49.8 +3.7
NMEZ	Namu Road	4.87 238	P	Pn		20 17 52.4 +4.4
OUZ	Omahuta	4.89 289		Pn		20 17 50.2 +1.9
OUZ	Omahuta	4.89 289	P	Pn		20 17 50.7 +2.4
MSWZ	Moikau Station	5.40 214	Pn	Pn		20 17 52.1 -3.3
PLWZ	Palliser	5.53 213	Pn	Pn		20 17 53.8 -3.3
SNZO	South Karori	5.58 218	Pn	Pn		20 17 56.0 -1.8
TUWZ	Tuamarina	6.05 221	Pn	Pn		20 18 02.1 -2.2
NNZ	Nelson	6.21 225	Pn	Pn		20 18 04.0 -2.5
BSWZ	Blackbirch Sta	6.29 220	Pn	Pn		20 18 05.8 -1.8
TKNZ	Takaka Hill	6.34 221	P	Pn		20 18 07.8 -0.5
QRZ	Quartz Range	6.49 232	Pn	Pn		20 18 08.2 -2.1
THZ	Tophouse	6.84 224	Pn	Pn		20 18 13.1 -2.1
KHZ	Kahutara	6.98 217	Pn	Pn		20 18 14.4 -2.6
KHZ	Kahutara	6.98 217	P	Pn		20 18 17.7 +0.7
CTZ	Chatham Island	7.46 156	P	Pn		20 18 27.1 +3.5
LTZ	Lake Taylor	7.89 221	Pn	Pn		20 18 26.4 -3.1
MQZ	McQueen's Vall	8.39 215	Pn	Pn		20 18 32.6 -3.7
OXZ	Oxford	8.39 219	Pn	Pn		20 18 34.0 -2.5
RPZ	Rata Peaks	9.17 220	Pn	Pn		20 18 44.6 -2.6
	2.5nm,0.3s,baz=2.3,slow=22,SNR=1.9					
RPZ			Sn	Sn	20 20 17.6	-13
	5.2nm,0.3s,baz=128,slow=20,SNR=9.1					
LBZ	Lake Benmore	10.09 220	Pn	Pn		20 18 56.8 -2.9
NIUE	Niue	20.21 31	P	Pn		20 21 15.1 +3.2
STKA	Stephens Creek	31.32 268	P	P		20 22 55.8 +0.3
	2.5nm,1.0s,baz=90,slow=13,SNR=1.8					
STKA			LR	LR	20 35 39.8	
	comp=Z,2µm,18.8s,baz=266,slow=37					
	2.5nm,1.0s					
BBOO	Buckleboo	35.43 264	P	P		20 23 31.5 +0.1
BBOO			IAmb	IAmb	20 23 43.3	
	comp=Z,21nm,1.5s					
COEN	Coen	39.46 296	P	P		20 24 06.5 +0.8
COEN			IAmb	IAmb	20 24 42.3	
	comp=Z,20nm,1.4s					
AS31	Alice Springs	40.95 276	P	P		20 24 18.3 +0.3
ASAR	Alice Springs	40.95 276	P	P		20 24 18.6 +0.6
	comp=Z,3.6nm,0.6s,baz=119,slow=8.0,SNR=20					
	comp=Z,3.6nm,0.6s					
ASAR	Alice Springs	40.95 276	P	P		20 24 17.9 -0.1
WR0	Warramunga Arr	42.37 281	P	P		20 24 29.9 +0.2
FORT	Forrest	42.51 263	P	P		20 24 29.8 -0.9
FORT			IAmb	IAmb	20 24 32.1	
	comp=Z,26nm,1.1s					
WB2	Warramunga Arr	42.53 281	P	P		20 24 31.5 +0.5
WB2			IAmb	IAmb	20 24 32.0	
	comp=Z,7.5nm,0.5s					
WRAB	Tennant Creek	42.54 281	P	P		20 24 31.5 +0.4
WRAB			IAmb	IAmb	20 24 32.1	
	comp=Z,7.4nm,0.6s					
WRA	Warramunga Arr	42.54 281	P	P		20 24 31.6 +0.6
	comp=Z,4.0nm,0.5s,baz=121,slow=7.9,SNR=35					
	comp=Z,4.0nm,0.5s					
WRA	Warramunga Arr	42.54 281	P	P		20 24 31.4 +0.4
WB0	Warramunga Arr	42.59 281	P	P		20 24 31.9 +0.4
WB0			IAmb	IAmb	20 24 34.2	
	comp=Z,6.8nm,0.5s					
CASY	Casey	48.28 210	P	P		20 25 13.4 -2.6
CASY			IAmb	IAmb	20 25 54.7	
	comp=Z,11nm,1.4s					
MTN	Manton Dam	49.16 286	P	P		20 25 23.8 +0.5
KNRA	Kununurra	49.32 282	P	P		20 25 24.4 -0.1
NWAO	Narrogin (SRO)	50.19 255	P	P		20 25 31.3 +0.2
FITZ	Fitzroy Crossi	50.43 277	P	P		20 25 33.6 +0.6
	comp=Z,4.5nm,0.8s,baz=140,slow=5.3,SNR=9.1					
	comp=Z,4.5nm,0.8s					
FITZ	Fitzroy Crossi	50.43 277	P	P		20 25 33.5 +0.6
FITZ			IAmb	IAmb	20 25 40.2	
	comp=Z,18nm,1.4s					
QSPA	South Pole Qui	53.15 180	P	P		20 25 57.0 +4.1
	comp=Z,4.6nm,1.0s,baz=13,slow=0.8,SNR=8.1					
	comp=Z,4.6nm,1.0s					
SMAI	San Martin Ant	64.22 158	P	P		20 27 06.3 -3.4
SMAI			IAmb	IAmb	20 27 41.1	
	comp=Z,9.1nm,1.4s					
MAW	Mawson	65.36 202	P	P		20 27 15.5 -1.6
H03N3	Juan Fernandez	78.98 124	T	T		21 55 34.8
	baz=231					
H03N2	Juan Fernandez	78.98 124	T	T		21 55 33.1
	baz=231					
H03N1	Juan Fernandez	78.99 124	T	T		21 55 33.8
	baz=231					
CMAR	Chiang Mai Arr	93.45 290	P	P		20 29 52.8 +1.6
	comp=Z,0.2nm,0.3s,baz=161,slow=3.8,SNR=1.9					
	comp=Z,0.2nm,0.3s					
ARCES	ARCESS Array B	144.41 344	PKP	PKPdf		20 36 11.4 +0.8
	comp=Z,3.2nm,0.9s,baz=26,slow=2.3,SNR=2.5					
FINES	FINESS Array B	150.29 334	PKPbc	PKiKP		20 36 27.2 +0.7
	comp=Z,0.7nm,0.5s,baz=25,slow=6.3,SNR=4.6					
TORD	Torodi Ar. Bea	156.17 186	PKPab	PKPab		20 36 59.6 +1.7
	comp=Z,1.1nm,1.0s,baz=172,slow=4.1,SNR=4.2					

HEL 01 20:23:26.5±0.3, 68°.06N×33°.66E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	Lovozero	0.41	114	PG	Pg	20 23 34.0	-0.3
LVZ				SG	Sg	20 23 39.5	-0.1
VRF	Varrio	1.56	260	PG	Pn	20 23 54.8	-0.7
VRF				MSG		20 24 13.4	
	comp=Z,5.4nm,0.2s						
VRF				SG	Sn	20 24 14.7	-1.8
OLKF	Oulanka, Finla	2.41	225	PN	Pn	20 24 05.2	-2.0
OLKF				SN	Sn	20 24 34.8	-2.5
KU6	Riekki	2.52	218	PN	Pn	20 24 05.8	-2.9
KU6				MSG		20 24 41.1	
	comp=Z,2.7nm,0.2s						
SGF	Sodankyl	2.79	260	PG	Pb	20 24 15.3	-1.8
SGF				SB	Sb	20 24 49.7	-2.0
MSF	Maaselka	2.82	222	PN	Pn	20 24 11.4	-1.4
MSF				SN	Sn	20 24 46.7	-0.8
KEV	Kevo	2.94	308	MSG		20 24 53.0	
	comp=Z,2.0nm,0.2s						
KEV				SG	Sb	20 24 56.7	+0.4
RNF	Rovaniemi	3.30	247	SN	Sn	20 24 57.0	-2.2
HEF	Hetta	3.74	280	SN	Sn	20 25 11.2	+1.1
PAJU	Pajala	4.18	260	SN	Sn	20 25 18.9	-2.0
LANU	Lannavaara	4.38	275	SG	Sb	20 25 41.9	+4.4
ERTU	Ertsjaerv	4.69	257	SN	Sn	20 25 30.6	-2.9

PRU 01 20:24:58.6±0.0, 50°.20N×19°.14E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.42	87	*e*Pg	Pg	20 25 06.2	-0.5
OJC				*e*Sg	Sg	20 25 11.9	-0.3
LANS	Liptovska Anna	1.07	168	*e*PG	Pg	20 25 18.6	-0.5
LANS				*e*SG	Sg	20 25 31.8	-1.2
LANS				*e*LG	Lg	20 25 32.8	
NIE	Niedzica	1.08	136	*e*Pg	Pg	20 25 18.9	-0.4
NIE				*e*Sg	Sg	20 25 34.0	+0.6
MORC	Moravsky Berou	1.11	248	*e*PG	Pb	20 25 20.4	-0.4
MORC				*e*SG	Sg	20 25 34.7	+0.3
MAUC	Maruska	1.19	226	*e*PG	Pg	20 25 21.6	+0.2
MAUC				*e*SG	Sb	20 25 37.7	-0.4
	comp=Z,8.6nm,0.4s						
KRLC	Kraliky	1.52	266	*e*PG	Pn	20 25 26.8	-0.3
KRLC				*e*SG	Sg	20 25 47.4	-0.1
	comp=Z,3.1nm,0.3s						
VYHS	Vyhne	1.72	187	*e*PN	Pn	20 25 28.4	-1.4
VYHS				*e*SN	Sn	20 25 49.9	-2.5
VYHS				*e*LG	Lg	20 25 53.9	
DPC	Dobruska-Polom	1.81	276	*e*PG	Pb	20 25 32.4	-0.3
DPC				*e*SG	Sb	20 25 56.3	+0.3
VRAC	Vranov	1.88	243	*e*SG	Sb	20 25 57.7	-0.1
KRUC	Moravsky	2.12	238	*e*SG	Sb	20 26 04.4	-0.2
KHC	Kasperske Hory	3.77	256	*e*SG	Sg	20 26 58.3	-1.3

*IDC **01** 20:29:08.3±3.4, 36°.74S×178°.93E, h0km, mb3.7/2, mbtmp3.8/3, ML3.8/1, MS4.7/1, Error ellipse: s-maj=73.8km s-min=43.2km az=120.0*
*NEIC **01** 20:29:09.2±1.5, 36°.92S±0°.10×179°.1E±0°.1, h10km±1km, mb4.4/12, Error ellipse: s-maj=23.2km s-min=6.6km az=133.0*

ISC 01 20:29:10.7±1.2, 37°.1S±0°.1×179°.1E±0°.1, h10km, n30, σ1s58/11, mb4.3/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.77	233		Pg	20 29 26.1	+0.5
URZ	Urewera	1.94	233	Pn	Pn	20 29 44.3	+0.5
	31nm,0.3s,baz=121,slow=10,SNR=8.3						
URZ				Sn	Sn	20 30 08.4	+0.2
	33nm,0.3s,baz=37,slow=20,SNR=6.0						
	100nm,0.4s						
BKZ	Black Stump Fm	2.90	224		Pn	20 29 56.5	-0.5
HIZ	Hauiti	3.63	246	Pn	Pn	20 30 08.5	+1.5
BFZ	Birch Farm	4.20	211	Pn	Pn	20 30 13.2	-1.7
OUZ	Omahuta	4.82	291		Pn	20 30 23.9	+0.6
QRZ	Quartz Range	6.32	232	Pn	Pn	20 30 40.5	-3.4
THZ	Tophouse	6.67	224	Pn	Pn	20 30 45.4	-3.4
LTZ	Lake Taylor	7.71	221	Pn	Pn	20 31 00.0	-3.1
RPZ	Rata Peaks	9.00	220	Sn	Sn	20 32 49.7	-12
	1.8nm,0.3s,baz=41,slow=19,SNR=7.2						
COEN	Coen	39.41	296	P	P	20 36 35.5	-5.4
COEN				IAmb	IAmb	20 36 51.3	
	comp=Z,17nm,1.4s						
AS31	Alice Springs	40.84	276	P	P	20 36 51.0	-1.8
ASAR	Alice Springs	40.84	276	P	P	20 36 50.7	-2.1
	comp=Z,0.6nm,0.5s,baz=120,slow=8.0,SNR=13						
	comp=Z,0.6nm,0.5s						
ASAR	Alice Springs	40.84	276	P	P	20 36 49.6	-3.2
WR0	Warramunga Arr	42.28	281	P	P	20 37 01.9	-2.7
FORT	Forrest	42.38	263	P	P	20 37 01.9	-3.4
WB2	Warramunga Arr	42.44	281	P	P	20 37 03.3	-2.6
WB2				IAmb	IAmb	20 37 18.7	
	comp=Z,7.5nm,1.4s						
WRAB	Tennant Creek	42.44	281	P	P	20 37 03.2	-2.8
WRAB				IAmb	IAmb	20 37 10.0	
	comp=Z,8.0nm,1.4s						
WRA	Warramunga Arr	42.45	281	P	P	20 37 03.4	-2.6
	comp=Z,0.8nm,0.6s,baz=120,slow=7.6,SNR=16						
	comp=Z,0.8nm,0.6s						
WRA	Warramunga Arr	42.45	281	P	P	20 37 03.6	-2.4
WB0	Warramunga Arr	42.50	281	P	P	20 37 04.0	-2.5
WB0				IAmb	IAmb	20 37 34.3	
	comp=Z,7.5nm,1.4s						
TAOE	Nuku Hiva Isla	46.35	63	P	P	20 37 33.9	-3.4
NWAO	Narrogin (SRO)	50.04	255	LR	LR	20 56 33.6	
	comp=Z,788nm,21.9s,baz=243,slow=33						
FITZ	Fitzroy Crossi	50.33	277	P	P	20 38 06.2	-1.6
FITZ				IAmb	IAmb	20 38 30.6	
	comp=Z,6.7nm,1.2s						
BELA	Belgrano 2	63.48	172	P	P	20 39 40.1	-0.3
SMAI	San Martin Ant	64.15	158	P	P	20 39 45.1	+0.2
SMAI				IAmb	IAmb	20 40 11.2	
	comp=Z,3.3nm,1.0s						
H03N3	Juan Fernandez	79.01	124	T	T	22 08 02.7	
	baz=234,slow=72,SNR=4.1						
H03N2	Juan Fernandez	79.01	124	T	T	22 08 02.2	
	baz=234,slow=72,SNR=4.2						
H03N1	Juan Fernandez	79.03	124	T	T	22 08 03.0	
	baz=234,slow=72,SNR=4.9						
FINES	FINESS Array B	150.35	334	PKPbc	PKPdf	20 48 59.3	+3.2
	comp=Z,1.7nm,0.9s,baz=60,slow=8.2,SNR=1.8						

WEL 01 20:29:32.0±1.1, 37°S±6°×17°9E±°, h21km±5km, M3.8/12, ML4.0/12, MLv3.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=106.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.54	227	P	Pb	20 29 42.3	-0.4
MXZ				S	Sb	20 29 50.5	+0.4
WMGZ	Waiomatatini S	0.69	206	P	Pn	20 29 46.2	-0.3
WMGZ				S	Sn	20 29 57.4	+0.7
PKGZ	Pakihiroa	0.90	219	P	Pb	20 29 49.1	+0.2
PKGZ				S	Sn	20 30 02.2	+0.4
PUZ	Puketiti	0.97	206	P	Pb	20 29 49.5	-0.7
PUZ				S	Sb	20 30 02.9	+0.3
HAZ	Te Kaha	0.98	235	P	Pn	20 29 50.6	+0.1
HAZ				S	Sn	20 30 05.3	+1.5
RUGZ	Raukumara Rang	1.18	229	P	Pb	20 29 53.9	+0.2
RUGZ				S	Sn	20 30 10.2	+1.5
TWGZ	Tauwhareparae	1.18	213	P	Pn	20 29 53.3	+0.1
TWGZ				S	Sn	20 30 10.7	+2.0
CNGZ	Carnagh Statio	1.37	200	P	Pn	20 29 55.7	-0.1
TKGZ	Te Karaka	1.45	211	P	Pn	20 29 56.0	-0.9
TKGZ				S	Sb	20 30 16.1	-0.3
MWZ	Matawai	1.52	221	P	Pn	20 29 57.7	-0.2
MWZ				S	Sn	20 30 16.6	-0.5
WHRZ	Whale Island	1.59	245	P	Pb	20 30 00.1	-0.5
WHRZ				S	Sb	20 30 20.9	+0.5
RAGZ	Rawiri	1.70	220	P	Pn	20 29 59.8	-0.6
URZ	Urewera	1.71	231	P	Pn	20 30 00.5	0.0
URZ				S	Sn	20 30 22.1	+0.5
RIGZ	Rimuhau	1.72	208	P	Pn	20 29 59.8	-0.9
MARZ	Manawahe	1.86	244	P	Pn	20 30 02.9	+0.3
EDRZ	Edgecumbe	1.87	240	P	Pn	20 30 03.5	+0.8
EDRZ				S	Sn	20 30 24.9	-0.8
OPRZ	Ohinepanea	1.90	249	P	Pn	20 30 03.4	+0.3
OPRZ				S	Sn	20 30 25.3	-1.1
SNGZ	Shannon Statio	1.96	216	P	Pn	20 30 03.4	-0.6
SNGZ				S	Sn	20 30 27.4	-0.5
KNZ	Kokohu	2.03	206	P	Pn	20 30 03.0	-1.8
MYRZ	Mayor Island	2.04	267	P	Pn	20 30 06.5	+1.4
MUGZ	Murupara	2.05	231	P	Pn	20 30 05.0	-0.2
MHGZ	Mahia Peninsul	2.08	199	P	Pn	20 30 04.1	-1.4
TARZ	Mount Tarawera	2.09	240	P	Pn	20 30 06.9	+1.0
RRRZ	Republican Roa	2.14	237	P	Pn	20 30 07.4	+1.0
RAHZ	Arahi	2.19	218	P	Pn	20 30 06.5	-0.6
HLRZ	Highlands Stat	2.21	241	P	Pn	20 30 08.4	+1.0
WHHZ	Waihua	2.25	213	P	Pn	20 30 06.9	-1.0
MTHZ	Maungataniwha	2.26	222	P	Pn	20 30 08.2	0.0
PRRZ	Plateau Road	2.31	235	P	Pn	20 30 08.5	-0.2
HSRZ	Hossack Road	2.31	240	P	Pb	20 30 15.8	+2.9
NMHZ	Naumai	2.46	219	P	Pn	20 30 10.6	-0.3
ARHZ	Aropaoanui	2.51	214	P	Pn	20 30 10.3	-1.1
KUTZ	Kaahu Road	2.69	240	P	Pn	20 30 14.3	+0.3
TLZ	Tolley Road	2.82	245	P	Pn	20 30 16.6	+0.8
WIAZ	Waiheke Island	2.96	277	P	Pn	20 30 17.9	+0.3
KRHZ	Kereru	3.10	217	P	Pn	20 30 17.6	-2.0
TMVZ	Te Maari	3.10	231	P	Pn	20 30 19.2	-0.6
NTVZ	North Tongarir	3.11	231	P	Pn	20 30 19.3	-0.6
ETVZ	East Tongariro	3.11	231	P	Pn	20 30 19.2	-0.6
KRVZ	Karewarewa	3.13	232	P	Pn	20 30 19.8	-0.3
BHHZ	Black Hill Sta	3.14	222	P	Pn	20 30 19.4	-0.8
OTVZ	Oturere	3.15	231	P	Pn	20 30 20.5	0.0
NNVZ	North Ngauruho	3.17	231	P	Pn	20 30 20.5	-0.2
WTVZ	West Tongariro	3.17	232	P	Pn	20 30 20.8	0.0
SNVZ	South Ngauruho	3.19	230	P	Pn	20 30 20.4	-0.6
NGZ	Ngauruhoe	3.20	231	P	Pn	20 30 20.6	-0.5
TUVZ	Tukino	3.23	229	P	Pn	20 30 20.9	-0.6
TWVZ	Taurewa	3.24	234	P	Pn	20 30 22.1	+0.4
MOVZ	Moawhango	3.26	226	P	Pn	20 30 20.6	-1.2
WHVZ	Whangaehu Hut	3.27	229	P	Pn	20 30 21.4	-0.8
FWVZ	Far West T-bar	3.28	230	P	Pn	20 30 21.4	-0.9
WNVZ	Wahianoa	3.30	229	P	Pn	20 30 21.6	-0.9
AWAZ	Awhitu Peninsu	3.32	271	P	Pn	20 30 23.6	+0.9
HIZ	Hauiti	3.39	246	P	Pn	20 30 25.0	+1.5
PNHZ	Pukenui	3.39	216	P	Pn	20 30 21.2	-2.5
RVAZ	Riverhead Bore	3.40	276	P	Pn	20 30 24.7	+1.0
WPHZ	Waipukurau	3.41	212	P	Pn	20 30 21.4	-2.5
MTVZ	Mangateitei	3.41	229	P	Pn	20 30 23.1	-0.9
TSZ	Takapari Road	3.62	217	P	Pn	20 30 23.9	-2.9
DVHZ	Dannevirke	3.72	213	P	Pn	20 30 25.2	-3.0
WAZ	Wanganui	3.94	228	P	Pn	20 30 30.8	-0.3
BFZ	Birch Farm	4.01	209	P	Pn	20 30 28.1	-4.0
PRWZ	Pori Road	4.01	212	P	Pn	20 30 29.3	-2.9
MRZ	Mangatainoka R	4.28	215	P	Pn	20 30 32.1	-3.7
PKE	Pukeiti	4.28	241	P	Pn	20 30 38.0	+2.1
KHEZ	Kahui Hut	4.31	239	P	Pn	20 30 38.0	+1.7
HOWZ	Holdsworth Sta	4.49	214	P	Pn	20 30 34.7	-4.1
QRZ	Quartz Range	6.08	231	P	Pn	20 30 57.7	-2.8
KHZ	Kahutara	6.60	216	P	Pn	20 31 04.0	-3.6
CTZ	Chatham Island	7.41	153	P	Pn	20 31 17.7	-1.1

WEL 01 20:41:33.0±2.7, 37°S±9°×17°9E±1°9, h24km±10km, M3.6/33, ML3.8/35, MLv3.6/33, Error ellipse: s-maj=0.0km s-min=0.0km az=67.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.65	241	P	Pb	20 41 45.3	-0.5
WMGZ	Waiomatatini S	0.75	220	P	Pn	20 41 48.4	+0.3
PKGZ	Pakihiroa	0.99	230	P	Pb	20 41 51.5	0.0
PUZ	Puketiti	1.02	216	P	Pb	20 41 52.3	+0.2
HAZ	Te Kaha	1.11	243	P	Pn	20 41 52.3	-0.7
TWGZ	Tauwhareparae	1.24	222	P	Pb	20 41 55.5	-0.3
RUGZ	Raukumara Rang	1.28	236	P	Pn	20 41 56.1	+0.5
CNGZ	Carnagh Statio	1.39	207	P	Pb	20 41 58.2	-0.2
WIZ	White Island	1.49	259	P	Pn	20 41 58.3	+0.1
TKGZ	Te Karaka	1.51	218	P	Pn	20 41 58.6	0.0
MWZ	Matawai	1.60	227	P	Pn	20 42 00.2	+0.3
WHRZ	Whale Island	1.74	249	P	Pn	20 42 02.5	+0.8
RAGZ	Rawiri	1.78	225	P	Pn	20 42 02.7	+0.3
URZ	Urewera	1.82	236	P	Pn	20 42 03.1	+0.3
EDRZ	Edgecumbe	2.00	244	P	Pn	20 42 05.7	+0.3
SNGZ	Shannon Statio	2.03	221	P	Pn	20 42 06.0	+0.2
MHGZ	Mahia Peninsul	2.09	205	P	Pn	20 42 06.7	+0.1
MUGZ	Murupara	2.16	235	P	Pn	20 42 07.4	-0.1
MYRZ	Mayor Island	2.22	268	P	Pn	20 42 08.3	-0.1
TARZ	Mount Tarawera	2.23	243	P	Pn	20 42 09.2	+0.7
RAHZ	Arahi	2.26	222	P	Pn	20 42 08.8	-0.2
MTHZ	Maungataniwha	2.35	226	P	Pn	20 42 10.2	0.0
NMHZ	Naumai	2.54	223	P	Pn	20 42 13.2	+0.4
ARHZ	Aropaoanui	2.57	218	P	Pn	20 42 13.0	-0.1
MRHZ	Matea Rd	2.59	232	P	Pn	20 42 13.3	-0.2
KUZ	Kuaotunu	2.69	280	P	Pn	20 42 13.8	-1.0
BKZ	Black Stump Fm	2.76	225	P

mbtmp4.0/3,ML3.7/1,Error ellipse: s-maj=79.6km s-min=43.6km az=128.0
*NEIC **01** 20:50:38.0±1.1,37°.3S×0°.1×179°.2E±0°.1,h10km±1km, mb4.4/12,Error ellipse: s-maj=22.9km s-min=4.6km az=144.0*
*WEL **01** 20:50:40.0±1.1,37°S±5°×17°9E±°,h9km±4km,M3.5/26, ML3.7/29,MLv3.5/26,Error ellipse: s-maj=0.0km s-min=0.0km az=112.2*

ISC 01 20:50:37.0±1.9,37°.21S±0°.05×179°.27E±0°.07,h9km±10km, n83,σ1§32/90,mb4.2/8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.84**	**245**		**Pg**	**20 50 53.3**	**+0.2**
MXZ	**Matakaoa Point**	**0.84**	**245**	P	**Pg**	**20 50 52.9**	**-0.2**
MXZ				S	**Sg**	**20 51 01.6**	**-2.4**
WMGZ	**Waiomatatini S**	**0.91**	**228**	P	**Pn**	**20 50 57.5**	**+1.6**
WMGZ				S	**Sn**	**20 51 09.4**	**+0.3**
PKGZ	**Pakihiroa**	**1.16**	**234**	P	**Pn**	**20 50 59.8**	**+0.3**
PKGZ				S	**Sb**	**20 51 14.6**	**+0.2**
PUZ	**Puketiti**	**1.17**	**223**	P	**Pn**	**20 51 01.6**	**+2.0**
PUZ				S	**Sn**	**20 51 16.0**	**+0.3**
HAZ	**Te Kaha**	**1.30**	**245**	P	**Pg**	**20 51 03.1**	**+1.2**
HAZ				S	**Sn**	**20 51 18.6**	**-0.1**
TWGZ	**Tauwhareparae**	**1.40**	**226**	P	**Pg**	**20 51 04.9**	**+1.0**
TWGZ				S	**Sg**	**20 51 22.4**	**+0.3**
CNGZ	**Carnagh Statio**	**1.52**	**213**	P	**Pg**	**20 51 07.0**	**+0.9**
CNGZ				S	**Sg**	**20 51 27.1**	**+1.2**
TKGZ	**Te Karaka**	**1.66**	**222**	P	**Pb**	**20 51 07.7**	**0.0**
TKGZ				S	**Sn**	**20 51 28.0**	**+0.3**
MWZ	**Matawai**	**1.77**	**230**	P	**Pb**	**20 51 09.6**	**-0.1**
RIGZ	**Rimuhau**	**1.91**	**218**	P	**Pb**	**20 51 11.9**	**0.0**
RIGZ				S	**Sn**	**20 51 34.6**	**+0.8**
WHRZ	**Whale Island**	**1.93**	**250**	P	**Pb**	**20 51 11.7**	**-0.6**
WHRZ				S	**Sb**	**20 51 36.0**	**-0.5**
RAGZ	**Rawiri**	**1.95**	**228**	P	**Pb**	**20 51 12.1**	**-0.5**
URZ	**Urewera**	**2.00**	**238**	Pn	**Pb**	**20 51 12.5**	**-1.0**
	26nm,0.3s,baz=301,slow=2.1,SNR=14						
URZ				Sn	**Sn**	**20 51 35.7**	**-0.4**
	51nm,0.3s,baz=301,slow=22,SNR=28 102nm,0.5s						
URZ	**Urewera**	**2.00**	**238**	P	**Pb**	**20 51 12.7**	**-0.8**
PRGZ	**Paritu Road**	**2.03**	**212**	P	**Pn**	**20 51 12.9**	**+1.6**
SNGZ	**Shannon Statio**	**2.18**	**224**	P	**Pn**	**20 51 15.2**	**+1.7**
EDRZ	**Edgecumbe**	**2.19**	**245**	P	**Pb**	**20 51 15.4**	**-1.4**
OPRZ	**Ohinepanea**	**2.25**	**253**	P	**Pn**	**20 51 15.0**	**+0.7**
MUGZ	**Murupara**	**2.34**	**237**	P	**Pn**	**20 51 17.6**	**+2.0**
TARZ	**Mount Tarawera**	**2.42**	**244**	P	**Pb**	**20 51 18.9**	**-1.7**
RAHZ	**Arahi**	**2.42**	**225**	P	**Pn**	**20 51 19.0**	**+2.3**
MTHZ	**Maungataniwha**	**2.52**	**229**	P	**Pn**	**20 51 19.7**	**+1.6**
KARZ	**Kaharoa**	**2.53**	**250**	P	**Pn**	**20 51 19.3**	**+1.1**
NMHZ	**Naumai**	**2.70**	**225**	P	**Pn**	**20 51 23.1**	**+2.5**
ARHZ	**Aropaoanui**	**2.72**	**220**	P	**Pn**	**20 51 22.3**	**+1.5**
MRHZ	**Matea Rd**	**2.77**	**233**	P	**Pn**	**20 51 22.7**	**+1.2**
BKZ	**Black Stump Fm**	**2.93**	**227**		**Pn**	**20 51 24.8**	**+1.1**
BKZ	**Black Stump Fm**	**2.93**	**227**	P	**Pn**	**20 51 25.0**	**+1.2**
TOZ	**Tahuroa Road**	**3.04**	**259**	P	**Pn**	**20 51 26.1**	**+0.9**
KAHZ	**Kahuranaki**	**3.19**	**215**	P	**Pn**	**20 51 27.6**	**+0.3**
KRHZ	**Kereru**	**3.33**	**222**	P	**Pn**	**20 51 29.8**	**+0.6**
TMVZ	**Te Maari**	**3.39**	**235**	P	**Pn**	**20 51 31.1**	**+1.0**
BHHZ	**Black Hill Sta**	**3.39**	**227**	P	**Pn**	**20 51 31.1**	**+0.9**
ETVZ	**East Tongariro**	**3.40**	**234**	P	**Pn**	**20 51 31.2**	**+0.9**
OTVZ	**Oturere**	**3.44**	**234**	P	**Pn**	**20 51 32.0**	**+1.1**
NNVZ	**North Ngauruho**	**3.46**	**235**	P	**Pn**	**20 51 33.1**	**+2.0**
WTVZ	**West Tongariro**	**3.46**	**236**	P	**Pn**	**20 51 33.1**	**+1.9**
NGZ	**Ngauruhoe**	**3.49**	**235**	P	**Pn**	**20 51 32.5**	**+0.9**
MOVZ	**Moawhango**	**3.53**	**231**	P	**Pn**	**20 51 32.7**	**+0.7**
TWVZ	**Taurewa**	**3.54**	**237**	P	**Pn**	**20 51 33.9**	**+1.7**
FWVZ	**Far West T-bar**	**3.56**	**234**	P	**Pn**	**20 51 34.2**	**+1.5**
WNVZ	**Wahianoa**	**3.58**	**233**	P	**Pn**	**20 51 33.6**	**+0.8**
PNHZ	**Pukenui**	**3.61**	**221**	P	**Pn**	**20 51 33.1**	**-0.1**
MTVZ	**Mangateitei**	**3.69**	**233**	P	**Pb**	**20 51 40.6**	**-1.7**
AWAZ	**Awhitu Peninsu**	**3.70**	**271**	P	**Pn**	**20 51 36.7**	**+2.5**
HIZ	**Hauiti**	**3.72**	**248**	Pn	**Pn**	**20 51 36.4**	**+1.7**
HIZ	**Hauiti**	**3.72**	**248**	P	**Pn**	**20 51 36.7**	**+2.1**
TSZ	**Takapari Road**	**3.84**	**221**	P	**Pn**	**20 51 36.5**	**+0.2**
WCZ	**Waipu Caves**	**4.16**	**286**	P	**Pn**	**20 51 41.0**	**+0.4**
BFZ	**Birch Farm**	**4.19**	**213**	Pn	**Pn**	**20 51 38.8**	**-2.2**
BFZ	**Birch Farm**	**4.19**	**213**	P	**Pn**	**20 51 40.4**	**-0.6**
WAZ	**Wanganui**	**4.21**	**232**	P	**Pn**	**20 51 42.7**	**+1.4**
MRZ	**Mangatainoka R**	**4.49**	**219**	P	**Pn**	**20 51 45.0**	**-0.1**
PKE	**Pukeiti**	**4.60**	**243**	P	**Pn**	**20 51 51.4**	**+4.7**
KHEZ	**Kahui Hut**	**4.63**	**242**	P	**Pn**	**20 51 50.9**	**+3.8**
OUZ	**Omahuta**	**5.00**	**292**	Pn	**Pn**	**20 51 52.9**	**+0.8**
CAW	**Cannon Point**	**5.08**	**219**	P	**Pn**	**20 51 52.9**	**-0.3**
TUWZ	**Tuamarina**	**5.89**	**223**	P	**Pn**	**20 52 05.6**	**+1.2**
BSWZ	**Blackbirch Sta**	**6.13**	**221**	Pn	**Pn**	**20 52 07.1**	**-0.6**
QRZ	**Quartz Range**	**6.37**	**233**	Pn	**Pn**	**20 52 10.1**	**-0.8**
THZ	**Tophouse**	**6.70**	**225**	Pn	**Pn**	**20 52 14.0**	**-1.5**
KHZ	**Kahutara**	**6.81**	**219**	Pn	**Pn**	**20 52 15.6**	**-1.4**
RPZ	**Rata Peaks**	**9.02**	**221**	Sn	Sn	20 54 16.4	-13
	0.7nm,0.3s,baz=353,slow=16,SNR=2.1						
NIUE	**Niue**	**20.40**	**31**	P	**P**	**20 55 15.1**	**+0.9**
BBOO	**Buckleboo**	**35.43**	**264**	P	**P**	**20 57 32.1**	**-1.4**
BBOO				IAmb	IAmb	20 57 55.0	
	comp=Z,24nm,1.5s						
AS31	**Alice Springs**	**41.00**	**276**	P	**P**	**20 58 21.1**	**+0.6**
ASAR	**Alice Springs**	**41.00**	**276**	P	**P**	**20 58 20.4**	**0.0**
	comp=Z,1.4nm,0.7s,baz=117,slow=8.0,SNR=21 comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**41.00**	**276**	P	**P**	**20 58 20.7**	**+0.2**
SBA	**Scott Base**	**41.10**	**184**	P	**P**	**20 58 20.5**	**0.0**
WR0	**Warramunga Arr**	**42.45**	**281**	P	**P**	**20 58 32.3**	**0.0**
WR0				IAmb	IAmb	20 58 53.9	
	comp=Z,7.5nm,1.4s						
FORT	**Forrest**	**42.51**	**263**	P	**P**	**20 58 32.2**	**-0.5**
WB2	**Warramunga Arr**	**42.60**	**281**	P	**P**	**20 58 33.6**	**0.0**
WB2				IAmb	IAmb	20 58 34.0	
	comp=Z,3.1nm,0.6s						
WRAB	**Tennant Creek**	**42.61**	**281**	P	**P**	**20 58 33.3**	**-0.4**
WRAB				IAmb	IAmb	20 58 59.4	
	comp=Z,7.5nm,1.4s						
WRA	**Warramunga Arr**	**42.61**	**281**	P	**P**	**20 58 33.4**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=121,slow=8.0,SNR=40 comp=Z,1.7nm,0.6s						
WRA	**Warramunga Arr**	**42.61**	**281**		**P**	**20 58 33.2**	**-0.5**
WB0	**Warramunga Arr**	**42.67**	**281**	P	**P**	**20 58 33.4**	**-0.7**
WB0				IAmb	IAmb	20 59 05.3	
	comp=Z,4.9nm,1.2s						
KNRA	**Kununurra**	**49.39**	**282**	P	**P**	**20 59 27.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.48**	**277**	P	**P**	**20 59 36.1**	**+0.7**
FITZ				IAmb	IAmb	20 59 50.0	
	comp=Z,13nm,1.5s						
H03N3	**Juan Fernandez**	**78.83**	**123**	T	T	22 29 31.3	
	baz=232						
H03N2	**Juan Fernandez**	**78.83**	**123**	T	T	22 29 28.1	
	baz=232						
H03N1	**Juan Fernandez**	**78.84**	**123**	T	T	22 29 27.1	
	baz=232						
FINES	**FINESS Array B**	**150.51**	**334**	PKPbc	**PKPbc**	**21 10 27.5**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=26,slow=3.9,SNR=1.6						

*CUPWA **01** 20:50:38.2±21.0,30°.50S×118°.92E,h2km±138km,Region: WESTERN AUSTRALIA*

AUST 01 20:50:38.0±0.0,30°.38S×118°.80E,h0km,Error ellipse: s-maj=0.1km s-min=0.1km az=311.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BENC	**Bencubbin**	**0.91**	**242**	P	Pg	20 50 46.8	-8.8
BENC				S	Sg	20 50 59.5	-7.9
CADX	**Cadoux**	**1.48**	**254**	P	Pn	20 51 05.7	-0.3
CADX				S	Sb	20 51 25.9	+0.1
KLBR	**Kellerberrin**	**1.50**	**216**	P	Pn	20 51 04.7	-1.6
	baz=1.5						
KLBR				S	Sg	20 51 23.8	-2.5
	baz=1.5						
KLBR	**Kellerberrin**	**1.50**	**216**	P	Pn	20 51 04.1	-2.2
KLBR				S	Sg	20 51 23.8	-2.5
BLDU	**Ballidu**	**1.82**	**262**	P	Pn	20 51 08.7	-1.9
	baz=1.8						
BLDU				S	Sn	20 51 33.4	-0.9
	baz=1.8						
BLDU	**Ballidu**	**1.82**	**262**	P	Pn	20 51 08.7	-1.9
BLDU				S	Sn	20 51 33.4	-0.9
QUAI	**Quairading**	**2.02**	**216**	P	Pn	20 51 13.2	-0.1
QUAI				S	Sn	20 51 39.4	0.0
MORW	**Morawa**	**2.73**	**298**	P	Pn	20 51 20.6	-2.5
	baz=2.7						
MORW				S	Sn	20 51 54.2	-2.7
	baz=2.7						
MORW	**Morawa**	**2.73**	**298**	P	Pn	20 51 20.6	-2.5
MORW				S	Sn	20 51 54.2	-2.7
MUN	**Mundaring**	**2.73**	**234**	P	Pn	20 51 21.3	-1.8
	baz=2.7						
MUN				S	Sn	20 51 53.2	-3.6
	baz=2.7						
MUN	**Mundaring**	**2.73**	**234**	P	Pn	20 51 21.4	-1.8
MUN	**Mundaring**	**2.73**	**234**	S	Sn	20 51 53.2	-3.6
NWAO	**Narrogin (SRO)**	**2.87**	**207**	P	Pn	20 51 22.8	-2.2
	baz=2.9						
NWAO				P	Pn	20 51 22.8	-2.2
	baz=2.9						
NWAO				S	Sn	20 51 57.1	-3.2
	baz=2.9						
NWAO	**Narrogin (SRO)**	**2.87**	**207**	P	Pn	20 51 22.8	-2.2
NWAO	**Narrogin (SRO)**	**2.87**	**207**	S	Sn	20 51 57.1	-3.2
MEEK	**Meekatharra**	**3.73**	**357**	P	Pn	20 51 35.3	-1.6
	baz=3.7						
MEEK				S	Sn	20 52 18.8	-2.8
	baz=3.7						
MEEK	**Meekatharra**	**3.73**	**357**	P	Pn	20 51 35.3	-1.6
MEEK				S	Sn	20 52 18.8	-2.9
FORT	**Forrest**	**8.00**	**95**	P	Pn	20 52 31.1	-4.5
	baz=8.0						
FORT				S	Sn	20 53 55.9	-11
	baz=8.0						

*IDC **01** 20:56:35.8±1.1,16°.17N×95°.79W,h0km,mb3.9/8, mbtmp3.9/9,ML3.5/1,Error ellipse: s-maj=18.4km s-min=15.3km az=128.0*
*NEIC **01** 20:56:40.7±2.5,16°.18N±0°.06×95°.86W±0°.04,h29km±6km, mb4.3/61,Md4.5/82(MEX),Error ellipse: s-maj=8.8km s-min=5.0km az=190.0*
*MEX **01** 20:56:41.3±0.4,16°.13N×95°.85W,h61km±6km,MD4.3*

ISC 01 20:56:40.5±0.9,16°.16N±0°.03×95°.86W±0°.02,h38km±1km, n167,σ1§52/219,mb4.3/21,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.46**	**211**		**Pn**	**20 56 51.2**	**+0.7**
HUIG					**Sn**	**20 56 59.3**	**+1.6**
HUIG	**Huatulco**	**0.46**	**211**	*e*P	**Pn**	**20 56 51.2**	**+0.7**
HUIG				*e*S	**Sn**	**20 56 59.1**	**+1.5**
PANG	**Puerto Angel**	**0.77**	**230**		**Pn**	**20 56 54.9**	**+0.1**
PANG					**Sn**	**20 57 08.1**	**+2.9**
PANG	**Puerto Angel**	**0.77**	**230**	*e*P	**Pn**	**20 56 54.9**	**+0.1**
PANG				*e*S	**Sn**	**20 57 05.2**	**0.0**
OXLC	**Oaxaca**	**1.21**	**318**	*e*P	**Pn**	**20 57 01.5**	**+0.4**
OXLC				*e*S	**Sn**	**20 57 16.8**	**+0.4**
OXBJ	**Oaxaca**	**1.22**	**317**		**Pn**	**20 57 01.4**	**+0.2**
OXBJ					**Sn**	**20 57 16.8**	**+0.2**
OXBJ	**Oaxaca**	**1.22**	**317**	*e*P	**Pn**	**20 57 01.4**	**+0.2**
OXBJ				*e*S	**Sn**	**20 57 16.8**	**+0.2**
OXIG	**Oaxaca**	**1.23**	**317**		**Pn**	**20 57 01.7**	**+0.3**
OXIG					**Sn**	**20 57 17.2**	**+0.3**
VHO	**Vista Hermosa**	**1.23**	**317**	*i* P	**Pn**	**20 57 01.7**	**+0.3**
VHO				*i* S	**Sn**	**20 57 17.2**	**+0.3**
PEIG	**Puerto Escondi**	**1.25**	**263**		**Pn**	**20 57 00.8**	**-0.6**
PEIG	**Puerto Escondi**	**1.25**	**263**	*e*P	**Pn**	**20 57 00.8**	**-0.6**
NILT	**Santiago Nilte**	**1.26**	**71**	*e*P	**Pn**	**20 57 01.8**	**+0.2**
NILT				*e*S	**Sn**	**20 57 16.5**	**-0.7**
CMIG	**Matias Romero**	**1.31**	**45**	Pg	**Pn**	**20 57 01.7**	**-0.7**
	84nm,0.3s,baz=236,slow=13,SNR=737						
CMIG				Lg	Lg	20 57 15.8	
	199nm,0.3s,baz=258,slow=14,SNR=9.0						
CMIG	**Matias Romero**	**1.31**	**45**		**Pn**	**20 57 01.7**	**-0.7**
CMIG					**Sn**	**20 57 18.5**	**-0.1**
CMIG	**Matias Romero**	**1.31**	**45**	*e*P	**Pn**	**20 57 01.7**	**-0.7**
CMIG				*e*S	**Sn**	**20 57 18.5**	**-0.1**
NEUV	**Arroyo Zacate**	**1.54**	**2**	*e*P	**Pn**	**20 57 05.2**	**-0.3**
YOIG	**Yosondua**	**1.76**	**293**		**Pn**	**20 57 09.7**	**+1.0**
YOIG					**Sn**	**20 57 30.9**	**+0.9**
YOIG	**Yosondua**	**1.76**	**293**	*e*P	**Pn**	**20 57 09.7**	**+1.0**
YOIG				*e*S	**Sn**	**20 57 30.9**	**+0.9**
CARR	**Arriaga**	**1.87**	**87**	*e*P	**Pn**	**20 57 09.6**	**-0.4**
CARR				*e*S	**Sn**	**20 57 31.5**	**-0.9**
UXUV	**UXUV**	**2.00**	**55**	*e*P	**Pn**	**20 57 11.5**	**-0.3**
UXUV				*e*S	**Sn**	**20 57 34.7**	**-1.0**
TXIG	**Tlaxiaco**	**2.12**	**301**		**Pn**	**20 57 14.6**	**+0.8**
TXIG					**Sn**	**20 57 37.3**	**-1.8**
TXIG	**Tlaxiaco**	**2.12**	**301**	*e*P	**Pn**	**20 57 14.6**	**+0.8**
TXIG				*i* S	**Sn**	**20 57 37.3**	**-1.8**
PNIG	**Pinotepa**	**2.19**	**276**		**Pn**	**20 57 14.3**	**0.0**
PNIG	**Pinotepa**	**2.19**	**276**	*e*P	**Pn**	**20 57 14.3**	**0.0**
TOIG	**Toxpalan**	**2.24**	**329**		**Pn**	**20 57 17.1**	**+1.9**
TOIG					**Sn**	**20 57 43.1**	**+1.4**
TOIG	**Toxpalan**	**2.24**	**329**	*e*P	**Pn**	**20 57 17.1**	**+1.9**
TOIG				*e*S	**Sn**	**20 57 43.1**	**+1.4**
HLIG	**Huajuapan de L**	**2.49**	**312**		**Pn**	**20 57 20.4**	**+1.6**
HLIG					**Sn**	**20 57 46.5**	**-1.5**
HLIG	**Huajuapan de L**	**2.49**	**312**	*e*P	**Pn**	**20 57 20.4**	**+1.6**
HLIG				*e*S	**Sn**	**20 57 46.5**	**-1.5**
PCIG		**2.58**	**100**		**Pn**	**20 57 20.0**	**+0.2**
PCIG		**2.58**	**100**	*e*P	**Pn**	**20 57 20.0**	**+0.2**
TGIG		**2.70**	**77**		**Pn**	**20 57 22.8**	**+1.4**
TGIG					**Sn**	**20 57 51.5**	**-1.3**
TGIG		**2.70**	**77**	*e*P	**Pn**	**20 57 22.8**	**+1.4**
TGIG				*e*S	**Sn**	**20 57 51.5**	**-1.3**
THEZ	**Tehuacan**	**2.72**	**328**	*e*P	**Pn**	**20 57 21.6**	**-0.3**
THEZ				*e*S	**Sn**	**20 57 56.9**	**+3.2**
FTIG	**Fresnillo de T**	**2.78**	**309**		**Pn**	**20 57 24.6**	**+2.0**
FTIG					**Sn**	**20 57 55.8**	**+0.7**
FTIG	**Fresnillo de T**	**2.78**	**309**	*e*P	**Pn**	**20 57 24.6**	**+2.0**
FTIG				*e*S	**Sn**	**20 57 55.8**	**+0.7**
MGIG	**Malinaltepec**	**2.86**	**292**		**Pn**	**20 57 25.3**	**+1.5**
MGIG					**Sn**	**20 57 56.9**	**-0.2**
MGIG	**Malinaltepec**	**2.86**	**292**	*e*P	**Pn**	**20 57 25.3**	**+1.5**
MGIG				*e*S	**Sn**	**20 57 56.9**	**-0.2**
OZST	**Orizaba**	**2.93**	**336**	*e*P	**Pn**	**20 57 26.2**	**+1.4**
OZST				*e*S	**Sn**	**20 58 01.2**	**+2.4**
TLIG	**Tlapa**	**2.94**	**299**		**Pn**	**20 57 25.9**	**+1.0**
TLIG	**Tlapa**	**2.94**	**299**	*e*P	**Pn**	**20 57 26.0**	**+1.2**
TLIG				*e*S	**Sn**	**20 57 59.6**	**+0.6**
HMTT	**Tlapaneco**	**3.05**	**303**		Pn	20 57 34.2	+7.9
HMTT					**Sn**	**20 58 00.7**	**-1.0**
HMTT	**Tlapaneco**	**3.05**	**303**	*e*P	Pn	20 57 34.2	+7.9
HMTT				*e*S	**Sn**	**20 58 00.7**	**-1.0**
CRIG	**Cruz Grande**	**3.19**	**281**		**Pn**	**20 57 28.0**	**-0.1**
CRIG	**Cruz Grande**	**3.19**	**281**	*e*P	**Pn**	**20 57 28.0**	**-0.1**
JAUV	**Jalcomulco**	**3.31**	**344**	*e*P	**Pn**	**20 57 29.1**	**-0.8**
JAUV				*e*S	**Sn**	**20 58 09.2**	**+1.2**
CCIG	**Comitan**	**3.58**	**88**		Pn	20 57 28.9	-4.7
CCIG	**Comitan**	**3.58**	**88**	*e*P	**Pn**	**20 57 35.8**	**+2.1**
CCIG				*e*S	**Sn**	**20 58 15.3**	**+0.5**
PATR	**El Naranjo**	**3.65**	**106**	*e*P	**Pn**	**20 57 35.2**	**+0.6**
PATR				*e*S	**Sn**	**20 58 14.8**	**-1.7**
PAVE	**Pavencul**	**3.68**	**105**	*e*P	**Pn**	**20 57 36.0**	**+0.9**
PAVE				*e*S	**Sn**	**20 58 16.1**	**-1.2**
THIG		**3.68**	**109**		**Sn**	**20 58 15.2**	**-1.9**
THIG		**3.68**	**109**	*e*	Pn	20 58 15.2	+40
DAIG	**Los Arroyos**	**3.73**	**284**		**Pn**	**20 57 36.0**	**+0.3**
DAIG					**Sn**	**20 58 15.2**	**-3.2**
DAIG	**Los Arroyos**	**3.73**	**284**	*e*P	**Pn**	**20 57 36.0**	**+0.3**
DAIG				*e*S	**Sn**	**20 58 15.2**	**-3.2**
CHUJ	**Union Juarez**	**3.77**	**106**	*e*P	**Pn**	**20 57 36.9**	**+0.6**
CHUJ				*e*S	**Sn**	**20 58 17.3**	**-2.3**
PPM	**Popocatepetl**	**3.91**	**318**	*e*P	**Pn**	**20 57 41.6**	**+3.1**
PPM				*e*S	**Sn**	**20 58 24.0**	**+0.6**
PPIG	**Popocatepetl**	**3.91**	**318**		**Pn**	**20 57 41.6**	**+3.1**
PPIG					**Sn**	**20 58 24.0**	**+0.5**
MEIG	**Mezcala**	**4.00**	**297**		**Pn**	**20 57 41.6**	**+2.2**
MEIG					**Sn**	**20 58 24.2**	**-0.9**
MEIG	**Mezcala**	**4.00**	**297**	*e*P	**Pn**	**20 57 41.6**	**+2.2**
MEIG				*e*S	**Sn**	**20 58 24.2**	**-0.9**
YAIG	**Yautepec**	**4.07**	**312**		**Pn**	**20 57 42.8**	**+2.4**
YAIG					**Sn**	**20 58 26.6**	**-0.3**
YAIG	**Yautepec**	**4.07**	**312**	*e*P	**Pn**	**20 57 42.8**	**+2.4**
YAIG				*e*S	**Sn**	**20 58 26.6**	**-0.3**
PLIG	**Platanillo**	**4.13**	**303**		**Pn**	**20 57 43.7**	**+2.6**
PLIG					**Sn**	**20 58 27.0**	**-1.2**
PLIG	**Platanillo**	**4.13**	**303**	*e*P	**Pn**	**20 57 43.7**	**+2.6**
PLIG				*e*S	**Sn**	**20 58 27.0**	**-1.2**
HUEH	**Huehuetenango**	**4.28**	**101**	Pn	**Pn**	**20 57 43.1**	**-0.3**
CXUV	**Coxquihui**	**4.32**	**338**	*e*P	**Pn**	**20 57 45.1**	**+1.5**
CXUV				*e*S	**Sn**	**20 58 32.4**	**-0.4**
CAIG	**El Cayaco**	**4.32**	**282**		**Pn**	**20 57 42.2**	**-1.4**
CAIG					**Sn**	**20 58 28.9**	**-3.8**
CAIG	**El Cayaco**	**4.32**	**282**	*e*P	**Pn**	**20 57 42.2**	**-1.4**
CAIG				*e*S	**Sn**	**20 58 28.9**	**-3.8**
RTAL	**Retalhuleu**	**4.34**	**112**	Pn	**Pn**	**20 57 44.0**	**+0.1**
TLVM	**San Miguel Top**	**4.36**	**314**	*e*P	**Pn**	**20 57 47.4**	**+2.8**
TLVM				*e*S	**Sn**	**20 58 37.8**	**+3.4**
XCVM	**Xochimilco**	**4.37**	**315**	*e*P	**Pn**	**20 57 47.9**	**+3.3**
XCVM				*e*S	**Sn**	**20 58 37.8**	**+3.4**
MAVM	**Malinalco, Edo**	**4.44**	**309**		Pn	20 57 50.8	+5.2
MAVM					**Sn**	**20 58 32.4**	**-3.8**
MAVM	**Malinalco, Edo**	**4.44**	**309**	*e*P	Pn	20 57 50.8	+5.2
MAVM				*e*S	**Sn**	**20 58 32.4**	**-3.8**
AOVM	**Tlapan**	**4.52**	**314**	*e*P	**Pn**	**20 57 48.3**	**+1.5**
AOVM				*e*S	**Sn**	**20 58 37.5**	**-0.9**
ARIG	**Puente Sto Nin**	**4.78**	**297**		**Pn**	**20 57 52.4**	**+2.4**
ARIG					**Sn**	**20 58 42.3**	**-1.9**
ARIG	**Puente Sto Nin**	**4.78**	**297**	*e*P	**Pn**	**20 57 52.4**	**+2.4**
ARIG				*e*S	**Sn**	**20 58 42.3**	**-1.9**
ZIIG	**Zihuatanejo**	**5.55**	**286**		**Pn**	**20 58 01.3**	**+0.7**
ZIIG					**Sn**	**20 59 00.3**	**-2.9**
ZIIG	**Zihuatanejo**	**5.55**	**286**	*e*P	**Pn**	**20 58 01.3**	**+0.7**
ZIIG				*e*S	**Sn**	**20 59 00.3**	**-2.9**
PETF	**Flores**	**5.80**	**82**	Pn	**Pn**	**20 58 04.5**	**+0.5**
MOIG	**Morelia**	**6.16**	**305**	Pn	**Pn**	**20 58 08.0**	**-1.2**
ESQI	**Esquipulas**	**6.49**	**103**	Pn	**Pn**	**20 58 13.2**	**-0.4**
MTO3	**Montecristo**	**6.51**	**105**		**Pn**	**20 58 15.0**	**+0.9**
TEIG	**Tepich**	**8.26**	**60**	Pn	**Pn**	**20 58 36.4**	**-1.4**
ZAIG	**Zacatecas**	**9.12**	**317**	Pn	**Pn**	**20 58 49.2**	**-0.7**
MATN	**Matagalpa**	**10.14**	**107**	Pn	**Pn**	**20 59 05.1**	**+1.4**
833A	**Chaparral WMA,**	**12.54**	**346**	Pn	**Pn**	**20 59 38.4**	**+2.0**
435B	**Jarrell**	**14.64**	**354**	Pn	**Pn**	**21 00 04.2**	**-0.8**
JCT	**Junction City**	**14.70**	**346**	P	**Pn**	**21 00 08.0**	**+2.1**
TX32	**Lajitas Array**	**14.95**	**333**		**Pn**	**21 00 10.4**	**+1.2**
TXAR	**Lajitas Array**	**14.95**	**333**	Pn	**Pn**	**21 00 10.2**	**+1.0**
	baz=155,slow=13,SNR=16 1.4nm,0.8s						
TXAR	**Lajitas Array**	**14.95**	**333**	Pn	**Pn**	**21 00 10.6**	**+1.3**
TX31	**Lajitas Ar. Si**	**14.95**	**333**		**Pn**	**21 00 10.7**	**+1.5**
237A	**Washetta, Mont**	**15.77**	**0**	Pn	**Pn**	**21 00 19.9**	**0.0**
237A				IAmb	IAmb	21 00 29.6	
	comp=Z,19nm,0.9s						
WLAR	**White Oak Lake**	**17.62**	**8**	Pn	**Pn**	**21 00 40.3**	**-2.8**
WLAR				IAmb	IAmb	21 00 57.2	
	comp=Z,22nm,0.8s						
HTMS	**Hat Mesa**	**17.70**	**338**	P	**P**	**21 00 45.3**	**+0.4**
CLN7	**Carlsbad 7**	**17.71**	**337**		**Pn**	**21 00 44.2**	**-0.1**
MNTX	**Cornudas Mount**	**17.73**	**332**		**Pn**	**21 00 44.6**	**+0.1**
GDL2	**Guadalupe Moun**	**17.74**	**336**		**P**	**21 00 45.7**	**+0.5**
LOOK	**Love County**	**17.79**	**356**	Pn	**Pn**	**21 00 41.1**	**-4.2**
LOOK				IAmb	IAmb	21 01 08.0	
	comp=Z,17nm,0.6s						
CPRX	**Cap Rock**	**18.29**	**338**		**P**	**21 00 50.2**	**-1.1**
X37A	**Clayton**	**18.36**	**1**	P	**P**	**21 00 51.1**	**-0.8**
X37A				IAmb	IAmb	21 01 21.2	
	comp=Z,9.8nm,0.6s						
MIAR	**Mount Ida**	**18.42**

comp=Z,0.3nm,0.4s,baz=157,slow=9.0,SNR=3.8
comp=Z,0.3nm,0.4s
SNOW Snow King Moun 30.02 338 P **P** **21 02 47.0 +0.9**
SNOW IAmb IAmb 21 02 48.1
comp=Z,7.1nm,0.8s
HLID Hailey 31.55 334 P **P** **21 02 58.6 -0.8**
E46A Sault Ste Mari 31.62 15 P **P** **21 02 59.3 -0.5**
MCMT McKenzie Canyo 31.97 337 P **P** **21 03 04.3 +1.1**
AGMN Agassiz Nation 32.05 360 P **P** **21 03 02.5 -1.0**
WVOR Wild Horse Val 32.66 328 P **P** **21 03 09.7 +0.5**
WVOR IAmb IAmb 21 03 11.6
comp=Z,5.8nm,1.2s
LRM Limekiln Ridge 32.67 338 P **P** **21 03 10.2 +0.9**
GDHS Morne Mazeau, 32.72 85 P **P** **21 03 10.2 +0.3**
SIV San Ignacio 46.90 131 P **P** **21 05 08.1 +0.5**
comp=Z,2.4nm,0.6s,baz=301,slow=9.0,SNR=14
comp=Z,2.4nm,0.6s
VA03 San Esteban 54.34 154 P **P** **21 06 05.6 +2.0**
ILAR Eielson Array 59.40 337 P **P** **21 06 38.3 -0.6**
comp=Z,0.4nm,0.3s,baz=121,slow=6.4,SNR=3.3
comp=Z,0.4nm,0.3s
MDM Murphy Dome 60.00 337 P **P** **21 06 43.4 +0.3**
MDM IAmb IAmb 21 07 14.3
comp=Z,3.8nm,1.2s
PLCA Paso Flores 61.29 158 P **P** **21 06 52.5 +0.3**
comp=Z,2.1nm,0.9s,baz=15,slow=6.5,SNR=3.1
comp=Z,2.1nm,0.9s

IDC ***01*** *20:57:12.7±3.7, 36.81S×179.61E, h0km, mb3.8/2, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=93.6km s-min=48.2km az=139.0*
NEIC ***01*** *20:57:17.3±0.4, 37.3S±0.2×179.2E±0.1, h10km±2km, mb4.2/5, Error ellipse: s-maj=35.6km s-min=6.1km az=155.0*
ISC 01 20:57:17.5±1.9, 37.3S±0.1×179.0E±0.2, h10km, n16, σ2s46/17, mb4.1/5, Off east coast of North Island

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.64 241**	**Pg**	**Pg**	**20 57 31.4**	**+1.4**
URZ	**Urewera**	**1.81 236**	**Pn**	**Pg**	**20 57 54.0**	**+1.8**
URZ	15nm,0.3s,baz=121,slow=8.1,SNR=1.1		Sn	**Sg**	**20 58 18.0**	**+2.3**
	20nm,0.3s,baz=121,slow=21,SNR=2.3 51nm,0.3s					
URZ	**Urewera**	**1.81 236**	Pn	**Pn**	**20 57 49.2**	**+0.5**
BKZ	**Black Stump Fm**	**2.75 225**	Pn	**Pn**	**20 58 02.2**	**+0.3**
HIZ	**Hauiti**	**3.52 248**	Pn	**Pn**	**20 58 14.3**	**+2.0**
OUZ	**Omahuta**	**4.82 293**		**Pn**	**20 58 28.5**	**-1.6**
THZ	**Tophouse**	**6.52 224**	Pn	**Pn**	**20 58 53.7**	**+0.1**
RPZ	**Rata Peaks**	**8.85 221**	Sn	**Sn**	**21 00 57.2**	**-8.1**
	0.6nm,0.3s,baz=350,slow=9.9,SNR=1.6					
ASAR	**Alice Springs**	**40.80 276**	P	**P**	**21 04 59.6**	**+0.3**
	0.8nm,0.6s,baz=120,slow=8.2,SNR=7.4 0.8nm,0.6s					
WR0	**Warramunga Arr**	**42.25 281**	P	**P**	**21 05 10.8**	**-0.4**
WB2	**Warramunga Arr**	**42.41 281**	P	**P**	**21 05 12.4**	**0.0**
WB2			IAmb	IAmb	21 05 17.1	
	comp=Z,6.4nm,1.2s					
WRAB	**Tennant Creek**	**42.42 281**	P	**P**	**21 05 12.4**	**-0.1**
WRAB			IAmb	IAmb	21 05 19.9	
	comp=Z,3.7nm,1.0s					
WRA	**Warramunga Arr**	**42.42 281**	P	**P**	**21 05 12.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=124,slow=7.3,SNR=15 comp=Z,0.4nm,0.3s					
WRA	**Warramunga Arr**	**42.42 281**	P	**P**	**21 05 12.2**	**-0.4**
WB0	**Warramunga Arr**	**42.47 282**	P	**P**	**21 05 12.9**	**-0.1**
WB0			IAmb	IAmb	21 05 49.4	
	comp=Z,9.6nm,1.5s					
FINES	**FINESS Array B**	**150.46 334**	PKPbc	**PKPdf**	**21 17 04.5**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=32,slow=5.2,SNR=0.9					

IDC ***01*** *20:59:47.0±1.5, 36.73S×179.19E, h0km, mb4.1/5, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=37.2km s-min=30.0km az=47.0*
NEIC ***01*** *20:59:46.1±0.5, 37.08S±0.07×179.6E±0.1, h10km±2km, mb4.4/11, Error ellipse: s-maj=20.4km s-min=11.6km az=101.0*
WEL ***01*** *20:59:51.8±1.0, 37.5S±4.1×17.9E±1.1, h23km±10km, M4.1/68, ML4.3/67, MLv4.1/68, Error ellipse: s-maj=0.0km s-min=0.0km az=86.0*
ISC 01 20:59:48.8±1.9, 37.10S±0.05×179.27E±0.07, h16km±9km, n135, σ1s71/144, mb4.3/12, Off east coast of North Island

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.89 239**		**Pn**	**21 00 06.8**	**0.0**
MXZ	**Matakaoa Point**	**0.89 239**	P	**Pn**	**21 00 06.6**	**-0.1**
MXZ			S	**Sb**	**21 00 17.2**	**-0.4**
WMGZ	**Waiomatatini S**	**0.99 223**	P	**Pn**	**21 00 10.4**	**+2.4**
WMGZ			S	**Sn**	**21 00 24.4**	**+2.8**
PKGZ	**Pakihiroa**	**1.23 230**	P	**Pg**	**21 00 13.5**	**+0.9**
PKGZ			S	**Sg**	**21 00 29.6**	**+1.0**
PUZ	**Puketiti**	**1.26 219**	P	**Pg**	**21 00 14.5**	**+1.4**
PUZ			S	**Sg**	**21 00 30.6**	**+1.1**
HAZ	**Te Kaha**	**1.35 241**	P	**Pg**	**21 00 15.7**	**+0.8**
HAZ			S	**Sg**	**21 00 33.2**	**+0.8**
TWGZ	**Tauwhareparae**	**1.48 223**	P	**Pg**	**21 00 17.6**	**+0.2**
TWGZ			S	**Sg**	**21 00 36.8**	**+0.1**
RUGZ	**Raukumara Rang**	**1.53 235**	P	**Pg**	**21 00 18.2**	**-0.1**
RUGZ			S	**Sg**	**21 00 37.6**	**-0.6**
CNGZ	**Carnagh Statio**	**1.61 211**	P	**Pg**	**21 00 19.6**	**-0.3**
WIZ	**White Island**	**1.71 255**	P	**Pn**	**21 00 18.0**	**0.0**
WIZ			S	**Sn**	**21 00 38.1**	**-1.4**
WSRZ	**White Island S**	**1.72 255**	P	**Pb**	**21 00 18.9**	**-1.2**
TKGZ	**Te Karaka**	**1.75 220**	P	**Pb**	**21 00 20.4**	**0.0**
MWZ	**Matawai**	**1.85 228**	P	**Pb**	**21 00 22.0**	**-0.2**
MWZ			S	**Sn**	**21 00 44.1**	**+1.1**
WHRZ	**Whale Island**	**1.97 247**	P	**Pb**	**21 00 23.6**	**-0.8**
RIGZ	**Rimuhau**	**2.00 216**	P	**Pb**	**21 00 23.7**	**-1.0**
RIGZ			S	**Sn**	**21 00 47.9**	**+1.3**
RAGZ	**Rawiri**	**2.02 226**	P	**Pb**	**21 00 24.2**	**-1.0**
RAGZ			S	**Sn**	**21 00 47.9**	**+0.6**
URZ	**Urewera**	**2.06 235**	Pn	**Pb**	**21 00 24.9**	**-1.0**
URZ	88nm,0.3s,baz=301,slow=2.3,SNR=19		Sn	**Sb**	**21 00 49.9**	**-1.5**
	116nm,0.3s,baz=121,slow=20,SNR=15 199nm,0.3s					
URZ	**Urewera**	**2.06 235**	P	**Pb**	**21 00 24.9**	**-1.0**
URZ			S	**Sb**	**21 00 50.0**	**-1.3**
EDRZ	**Edgecumbe**	**2.25 243**	P	**Pb**	**21 00 27.4**	**-1.6**
SNGZ	**Shannon Statio**	**2.27 222**	P	**Pn**	**21 00 27.4**	**+1.8**
OPRZ	**Ohinepanea**	**2.28 250**	P	**Pn**	**21 00 27.3**	**+1.4**
KNZ	**Kokohu**	**2.29 213**	P	**Pn**	**21 00 26.9**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.31 207**	P	**Pn**	**21 00 27.8**	**+1.5**
MUGZ	**Murupara**	**2.41 235**	P	**Pn**	**21 00 29.2**	**+1.6**
MYRZ	**Mayor Island**	**2.42 265**	P	**Pb**	**21 00 29.4**	**-2.7**
TARZ	**Mount Tarawera**	**2.47 242**	P	**Pb**	**21 00 30.8**	**-2.0**
TGRZ	**Tauranga**	**2.48 254**	P	**Pn**	**21 00 30.0**	**+1.5**
RAHZ	**Arahi**	**2.50 223**	P	**Pb**	**21 00 31.3**	**-2.0**
RRRZ	**Republican Roa**	**2.51 240**	P	**Pb**	**21 00 31.4**	**-2.1**
OMRZ	**Omania**	**2.51 246**	P	**Pb**	**21 00 31.2**	**-2.3**
WHHZ	**Waihua**	**2.54 219**	P	**Pn**	**21 00 31.0**	**+1.6**
KARZ	**Kaharoa**	**2.57 248**	P	**Pn**	**21 00 31.6**	**+1.8**
HLRZ	**Highlands Stat**	**2.58 243**	P	**Pb**	**21 00 32.6**	**-2.2**
MTHZ	**Maungataniwha**	**2.59 227**	P	**Pn**	**21 00 32.2**	**+2.1**
NGRZ	**Ngongotaha**	**2.64 247**	P	**Pb**	**21 00 33.5**	**-2.3**
PRRZ	**Plateau Road**	**2.67 238**	P	**Pn**	**21 00 32.0**	**+0.8**
HSRZ	**Hossack Road**	**2.68 242**	P	**Pb**	**21 00 34.0**	**-2.5**
HRRZ	**Handcock Road**	**2.69 241**	P	**Pn**	**21 00 33.5**	**+1.9**
ALRZ	**Allen Road**	**2.74 237**	P	**Pb**	**21 00 34.6**	**-2.8**
KMRZ	**Kaimai**	**2.75 253**	P	**Pn**	**21 00 33.5**	**+1.2**
NMHZ	**Naumai**	**2.78 224**	P	**Pn**	**21 00 35.0**	**+2.2**
GRRZ	**Galatos Road**	**2.80 243**	P	**Pb**	**21 00 35.4**	**-3.0**
ARHZ	**Aropaoanui**	**2.80 219**	P	**Pn**	**21 00 34.4**	**+1.4**
MRHZ	**Matea Rd**	**2.84 232**	P	**Pn**	**21 00 35.1**	**+1.5**
KUZ	**Kuaotunu**	**2.87 276**	P	**Pn**	**21 00 34.3**	**+0.4**
BKZ	**Black Stump Fm**	**3.00 226**		**Pn**	**21 00 36.8**	**+0.9**
BKZ	**Black Stump Fm**	**3.00 226**	P	**Pn**	**21 00 37.3**	**+1.4**
KUTZ	**Kaahu Road**	**3.06 242**	P	**Pn**	**21 00 39.1**	**+2.5**
TOZ	**Tahuroa Road**	**3.06 257**	P	**Pn**	**21 00 37.1**	**+0.5**
CKHZ	**Cape Kidnapper**	**3.08 213**	P	**Pn**	**21 00 37.2**	**+0.4**
GRZ	**Great Barrier**	**3.18 284**	P	**Pn**	**21 00 39.8**	**+1.6**
TLZ	**Tolley Road**	**3.20 246**	P	**Pn**	**21 00 40.3**	**+1.8**
KWHZ	**Kaweka Forest**	**3.22 223**	P	**Pn**	**21 00 40.8**	**+2.0**
RATZ	**Rangitukua**	**3.28 236**	P	**Pn**	**21 00 41.7**	**+2.2**
KAHZ	**Kahuranaki**	**3.28 214**	P	**Pn**	**21 00 39.9**	**+0.4**
RITZ	**Rihia Road**	**3.28 234**	P	**Pn**	**21 00 42.0**	**+2.4**
MKAZ	**Moumakai**	**3.28 269**	P	**Pn**	**21 00 40.1**	**+0.5**
WIAZ	**Waiheke Island**	**3.33 274**	P	**Pn**	**21 00 41.1**	**+0.9**
KRHZ	**Kereru**	**3.41 221**	P	**Pn**	**21 00 42.2**	**+0.8**
TMVZ	**Te Maari**	**3.46 233**	P	**Pn**	**21 00 43.7**	**+1.6**
ETVZ	**East Tongariro**	**3.46 233**	P	**Pn**	**21 00 43.8**	**+1.6**
NTVZ	**North Tongarir**	**3.46 234**	P	**Pn**	**21 00 44.0**	**+1.8**
BHHZ	**Black Hill Sta**	**3.47 226**	P	**Pn**	**21 00 43.5**	**+1.2**
ETAZ	**East Tamaki Re**	**3.48 271**	P	**Pn**	**21 00 43.4**	**+1.1**
PXZ	**Pawanui**	**3.48 212**	P	**Pn**	**21 00 42.6**	**+0.3**
KRVZ	**Karewarewa**	**3.48 234**	P	**Pn**	**21 00 44.1**	**+1.7**
OTVZ	**Oturere**	**3.51 233**	P	**Pn**	**21 00 44.4**	**+1.6**
MBAZ	**Motutapu North**	**3.52 274**	P	**Pn**	**21 00 44.7**	**+1.9**
NNVZ	**North Ngauruho**	**3.52 234**	P	**Pn**	**21 00 45.0**	**+1.9**
WTVZ	**West Tongariro**	**3.53 234**	P	**Pn**	**21 00 45.4**	**+2.3**
SNVZ	**South Ngauruho**	**3.54 233**	P	**Pn**	**21 00 46.4**	**+1.4**
NGZ	**Ngauruhoe**	**3.56 233**	P	**Pn**	**21 00 45.1**	**+1.6**
TUVZ	**Tukino**	**3.58 232**	P	**Pn**	**21 00 45.4**	**+1.7**
MOVZ	**Moawhango**	**3.60 229**	P	**Pn**	**21 00 45.2**	**+1.2**
TWVZ	**Taurewa**	**3.60 236**	P	**Pn**	**21 00 46.1**	**+2.0**
EPAZ	**Eden Park BICE**	**3.63 272**	P	**Pn**	**21 00 46.9**	**+2.6**
FWVZ	**Far West T-bar**	**3.63 233**	P	**Pn**	**21 00 46.1**	**+1.5**
WNVZ	**Wahianoa**	**3.65 231**	P	**Pn**	**21 00 46.1**	**+1.4**
WPHZ	**Waipukurau**	**3.69 216**	P	**Pn**	**21 00 45.5**	**+0.2**
PNHZ	**Pukenui**	**3.70 220**	P	**Pn**	**21 00 45.6**	**+0.3**
AWAZ	**Awhitu Peninsu**	**3.70 269**	P	**Pn**	**21 00 46.7**	**+1.3**
WTAZ	**Waiatarua**	**3.76 271**	P	**Pn**	**21 00 48.0**	**+1.8**
HIZ	**Hauiti**	**3.77 247**		**Pn**	**21 00 48.8**	**+2.6**
HIZ	**Hauiti**	**3.77 247**	P	**Pn**	**21 00 48.9**	**+2.6**
RVAZ	**Riverhead Bore**	**3.77 274**	P	**Pn**	**21 00 48.4**	**+2.1**
WCZ	**Waipu Caves**	**4.13 285**	P	**Pn**	**21 00 52.5**	**+1.2**
POWZ	**Post Office Ro**	**4.27 219**	P	**Pn**	**21 00 54.1**	**+0.9**
WAZ	**Wangaruai**	**4.28 230**	P	**Pn**	**21 00 55.3**	**+2.0**
BFZ	**Birch Farm**	**4.28 212**	Pn	**Pn**	**21 00 52.0**	**-1.3**
PRWZ	**Pori Road**	**4.30 216**	P	**Pn**	**21 00 53.6**	**0.0**
LREZ	**Lake Rotokare**	**4.49 237**	P	**Pn**	**21 00 59.4**	**+3.1**
PREZ	**Palmer Road**	**4.60 239**	P	**Pn**	**21 01 01.5**	**+3.7**
NEZ	**North Egmont**	**4.61 240**	P	**Pn**	**21 01 01.8**	**+3.9**
PKE	**Pukeiti**	**4.66 242**	P	**Pn**	**21 01 02.0**	**+3.5**
KHEZ	**Kahui Hut**	**4.68 241**	P	**Pn**	**21 01 02.7**	**+3.8**
OUZ	**Omahuta**	**4.96 291**			**21 01 04.4**	**+1.7**
OUZ	**Omahuta**	**4.96 291**	P	**Pn**	**21 01 04.5**	**+1.9**
MSWZ	**Moikau Station**	**5.32 215**	Pn	**Pn**	**21 01 04.2**	**-3.4**
PLWZ	**Palliser**	**5.44 214**	Pn	**Pn**	**21 01 07.2**	**-2.1**
SNZO	**South Karori**	**5.50 219**	Pn	**Pn**	**21 01 06.5**	**-3.5**
TUWZ	**Tuamarina**	**5.98 222**	Pn	**Pn**	**21 01 14.9**	**-1.7**
BSWZ	**Blackbirch Sta**	**6.22 221**	Pn	**Pn**	**21 01 17.1**	**-2.8**
TKNZ	**Takaka Hill**	**6.28 229**	P	**Pn**	**21 01 20.5**	**-0.3**
QRZ	**Quartz Range**	**6.43 233**	Pn	**Pn**	**21 01 21.6**	**-1.3**
QRZ	**Quartz Range**	**6.43 233**	P	**Pn**	**21 01 22.6**	**-0.2**
THZ	**Tophouse**	**6.77 225**	Pn	**Pn**	**21 01 24.4**	**-1.2**
KHZ	**Kahutara**	**6.90 218**	Pn	**Pn**	**21 01 27.7**	**-1.0**
CTZ	**Chatham Island**	**7.33 156**	P	**Pn**	**21 01 37.6**	**+2.4**
RPZ	**Rata Peaks**	**9.10 221**	Sn	**Sn**	**21 03 29.2**	**-12**
	3.2nm,0.3s,baz=350,slow=20,SNR=16					
LBZ	**Lake Benmore**	**10.02 221**	Pn	**Pn**	**21 02 09.8**	**-2.2**
ODZ	**Otahua Downs**	**10.26 217**	Pn	**Pn**	**21 02 12.4**	**-2.9**
WKZ	**Wanaka**	**10.93 222**	Pn	**Pn**	**21 02 22.9**	**-1.6**
STKA	**Stephens Creek**	**31.34 268**	P	**P**	**21 06 09.4**	**+0.8**
	1.0nm,0.7s,baz=81,slow=7.1,SNR=3.4 1.0nm,0.7s					
BBOO	**Buckleboo**	**35.45 264**	P	**P**	**21 06 44.3**	**-0.1**
COEN	**Coen**	**39.54 296**	P	**P**	**21 07 18.7**	**-0.5**
COEN			IAmb	IAmb	21 07 45.4	
	comp=Z,15nm,1.4s					
AS31	**Alice Springs**	**40.99 276**	P	**P**	**21 07 31.2**	**0.0**
AS31			IAmb	IAmb	21 07 31.9	
	comp=Z,2.0nm,0.5s					
ASAR	**Alice Springs**	**40.99 276**	P	**P**	**21 07 31.0**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=120,slow=8.1,SNR=45 comp=Z,4.5nm,0.6s					
ASAR	**Alice Springs**	**40.99 276**		**P**	**21 07 30.9**	**-0.3**
WR0	**Warramunga Arr**	**42.43 281**	P	**P**	**21 07 42.7**	**-0.2**
FORT	**Forrest**	**42.53 263**	P	**P**	**21 07 43.4**	**-0.3**
FORT			IAmb	IAmb	21 08 10.2	
	comp=Z,22nm,1.1s					
WB2	**Warramunga Arr**	**42.59 281**	P	**P**	**21 07 44.0**	**-0.3**
WB2			IAmb	IAmb	21 07 44.6	
	comp=Z,4.9nm,0.7s					
WRAB	**Tennant Creek**	**42.59 281**	P	**P**	**21 07 44.0**	**-0.3**
WRAB			IAmb	IAmb	21 07 44.8	
	comp=Z,4.0nm,0.7s					
WRA	**Warramunga Arr**	**42.59 281**	P	**P**	**21 07 43.8**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=122,slow=7.5,SNR=34 comp=Z,4.1nm,0.7s					
WRA	**Warramunga Arr**	**42.59 281**	P	**P**	**21 07 44.0**	**-0.3**
WB0	**Warramunga Arr**	**42.65 281**	P	**P**	**21 07 44.3**	**-0.5**
WB0			IAmb	IAmb	21 07 45.0	
	comp=Z,4.5nm,0.7s					
FITZ	**Fitzroy Crossi**	**50.48 277**	P	**P**	**21 08 46.2**	**0.0**
FITZ			IAmb	IAmb	21 08 46.9	
	comp=Z,4.1nm,0.8s					
MORW	**Morawa**	**52.73 259**	P	**P**	**21 09 01.8**	**-1.1**
QSPA	**South Pole Qui**	**53.02 180**	P	**P**	**21 09 08.6**	**+3.8**
	comp=Z,0.6nm,0.6s,baz=19,slow=1.2,SNR=6.0 comp=Z,0.6nm,0.6s					
H03N3	**Juan Fernandez**	**78.88 123**	T	T	22 38 27.5	
	baz=234,slow=72,SNR=15					
H03N2	**Juan Fernandez**	**78.89 123**	T	T	22 38 20.0	
	baz=234,slow=72,SNR=13					
H03N1	**Juan Fernandez**	**78.90 123**	T	T	22 38 24.7	
	baz=234,slow=72,SNR=10					
CMAR	**Chiang Mai Arr**	**93.53 290**	P	**P**	**21 13 02.7**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=160,slow=2.9,SNR=2.6 comp=Z,0.4nm,0.7s					
ARCES	**ARCESS Array B**	**144.54 344**	PKP	**PKPdf**	**21 19 22.8**	**-0.6**
	comp=Z,6.1nm,1.1s,baz=32,slow=2.2,SNR=3.8					
FINES	**FINESS Array B**	**150.42 334**	PKPbc	**PKiKP**	**21 19 38.5**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=46,slow=5.5,SNR=7.2					
TORD	**Torodi Ar. Bea**	**156.05 186**	PKPab	**PKPab**	**21 20 11.5**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=159,slow=3.5,SNR=3.1					

IDC 01 21:08:44.7±3.8, 49.24S×120.60E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=132.4km s-min=29.6km az=99.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.11 339**	T	T	21 27 56.8	
	baz=156,slow=74					
H01W2	**Cape Leeuwin H**	**15.11 339**	T	T	21 27 55.3	
	baz=156,slow=74					
H01W3	**Cape Leeuwin H**	**15.12 339**	T	T	21 27 54.2	
	baz=156,slow=74					
STKA	**Stephens Creek**	**23.43 50**	P	P	21 13 55.5	0.0
	1.2nm,0.8s,baz=187,slow=16,SNR=3.2 1.2nm,0.8s					
ASAR	**Alice Springs**	**27.59 27**	P	P	21 14 33.6	0.0
	1.5nm,0.9s,baz=201,slow=7.7,SNR=8.6 1.5nm,0.9s					
WRA	**Warramunga Arr**	**31.24 26**	P	P	21 15 05.9	0.0
	0.3nm,0.8s,baz=199,slow=8.1,SNR=1.1 0.3nm,0.8s					
VNDA	**Vanda**	**32.39 164**	P	P	21 15 15.5	0.0
	0.4nm,0.8s,baz=312,slow=10,SNR=2.3 0.4nm,0.8s					

NEIC ***01*** *21:14:38.5±1.2, 37.15S±0.10×180.0W±0.1, h10km±2km, mb4.4/13, Error ellipse: s-maj=16.8km s-min=16.3km az=32.0*
IDC ***01*** *21:14:41.4±1.7, 36.65S×179.31E, h0km, mb4.1/5, mbtmp4.1/6, ML4.1/1, Error ellipse: s-maj=41.9km s-min=30.1km az=44.0*
WEL ***01*** *21:14:47.1, 37.5S±29.3×17.9E±3.1, h22km, M3.9/8, ML4.2/8, MLv3.9/8, Error ellipse: s-maj=0.1km s-min=0.0km az=127.3*
ISC 01 21:14:38.9±2.1, 37.13S±0.06×179.69E±0.07, h7km±11km, n85, σ1s75/87, mb4.2/9, Off east coast of North Island

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.18 248**		**Pg**	**21 15 01.9**	**+0.3**
MXZ	**Matakaoa Point**	**1.18 248**	P	**Pn**	**21 15 02.4**	**+0.5**
MXZ			S	**Sn**	**21 15 18.5**	**+0.2**
PKGZ	**Pakihiroa**	**1.49 239**	P	**Pg**	**21 15 08.6**	**+1.2**
PKGZ			S	**Sn**	**21 15 24.9**	**-1.1**
HAZ	**Te Kaha**	**1.64 247**	P	**Pg**	**21 15 10.9**	**+0.5**
HAZ			S	**Sg**	**21 15 31.6**	**0.0**
CNGZ	**Carnagh Statio**	**1.79 221**	P	**Pg**	**21 15 14.8**	**+1.5**
RUGZ	**Raukumara Rang**	**1.80 242**	P	**Pg**	**21 15 13.5**	**0.0**
RUGZ			S	**Sg**	**21 15 37.5**	**+0.6**
WIZ	**White Island**	**2.03 258**	P	**Pb**	**21 15 15.6**	**-0.6**
MWZ	**Matawai**	**2.09 234**	P	**Pb**	**21 15 17.2**	**-0.1**
RAGZ	**Rawiri**	**2.26 232**	P	**Pb**	**21 15 19.4**	**-0.7**
WHRZ	**Whale Island**	**2.27 251**	P	**Pb**	**21 15 21.0**	**+0.7**
WHRZ			S	**Sb**	**21 15 46.3**	**-2.5**
URZ	**Urewera**	**2.33 240**	Pn	**Pn**	**21 15 19.6**	**+1.9**
URZ	42nm,0.3s,baz=301,slow=4.2,SNR=8.5		Sn	**Sb**	**21 15 48.2**	**-2.2**
	70nm,0.3s,baz=301,slow=23,SNR=9.2 130nm,0.5s					
URZ	**Urewera**	**2.33 240**	P	**Pb**	**21 15 20.2**	**-1.1**
SNGZ	**Shannon Statio**	**2.48 228**	P	**Pn**	**21 15 18.7**	**-1.1**
MARZ	**Manawahe**	**2.54 249**	P	**Pb**	**21 15 24.8**	**-0.1**
OPRZ	**Ohinepanea**	**2.59 253**	P	**Pn**	**21 15 22.8**	**+1.4**
RAHZ	**Arahi**	**2.72 228**	P	**Pn**	**21 15 23.9**	**+0.8**
TARZ	**Mount Tarawera**	**2.75 245**	P	**Pb**	**21 15 26.6**	**-2.0**
TGRZ	**Tauranga**	**2.79 257**	P	**Pb**	**21 15 26.8**	**-2.4**
OMRZ	**Omania**	**2.81 249**	P	**Pb**	**21 15 28.4**	**-1.0**
MTHZ	**Maungataniwha**	**2.83 232**	P	**Pn**	**21 15 25.8**	**+1.1**
HLRZ	**Highlands Stat**	**2.87 246**	P	**Pn**	**21 15 27.5**	**+2.3**
KARZ	**Kaharoa**	**2.88 251**	P	**Pb**	**21 15 28.4**	**-2.2**
PRRZ	**Plateau Road**	**2.94 241**	P	**Pn**	**21 15 28.5**	**+2.3**
NMHZ	**Naumai**	**3.00 228**	P	**Pn**	**21 15 30.0**	**+2.9**
KMRZ	**Kaimai**	**3.06 255**	P	**Pn**	**21 15 30.3**	**+2.4**
MRHZ	**Matea Rd**	**3.09 236**	P	**Pn**	**21 15 30.3**	**+2.0**
KUZ	**Kuaotunu**	**3.20 276**	P	**Pn**	**21 15 28.9**	**-0.8**
BKZ	**Black Stump Fm**	**3.23 230**		**Pn**	**21 15 32.4**	**+2.1**
BKZ	**Black Stump Fm**	**3.23 230**	P	**Pn**	**21 15 32.6**	**+2.3**
CKHZ	**Cape Kidnapper**	**3.25 218**	P	**Pn**	**21 15 32.0**	**+1.6**
TOZ	**Tahuroa Road**	**3.38 259**	P	**Pn**	**21 15 32.7**	**+0.5**
KAHZ	**Kahuranaki**	**3.46 219**	P	**Pn**	**21 15 35.1**	**+1.9**
GRZ	**Great Barrier**	**3.51 283**	P	**Pn**	**21 15 35.0**	**+1.0**
RITZ	**Rihia Road**	**3.54 237**	P	**Pb**	**21 15 39.7**	**-2.2**
RATZ	**Rangitukua**	**3.54 240**	P	**Pb**	**21 15 39.8**	**-2.3**
MKAZ	**Moumakai**	**3.62 269**	P	**Pn**	**21 15 35.3**	**-0.1**
PXZ	**Pawanui**	**3.64 217**	P	**Pn**	**21 15 37.3**	**+1.5**
WIAZ	**Waiheke Island**	**3.66 274**	P	**Pn**	**21 15 36.3**	**+0.3**
TMVZ	**Te Maari**	**3.71 237**	P	**Pn**	**21 15 38.7**	**+1.8**
ETVZ	**East Tongariro**	**3.72 236**	P	**Pn**	**21 15 38.7**	**+1.8**
OTVZ	**Oturere**	**3.76 236**	P	**Pn**	**21 15 42.2**	**-3.6**
NNVZ	**North Ngauruho**	**3.78 237**	P	**Pn**	**21 15 41.7**	**+3.9**
WTVZ	**West Tongariro**	**3.79 237**	P	**Pn**	**21 15 42.3**	**+4.4**
ETAZ	**East Tamaki Re**	**3.81 271**	P	**Pn**	**21 15 39.7**	**+1.6**
NGZ	**Ngauruhoe**	**3.81 236**	P	**Pn**	**21 15 39.9**	**+1.7**
MBAZ	**Motutapu North**	**3.85 274**	P	**Pn**	**21 15 40.1**	**+1.5**
ABAZ	**Army Bay**	**3.93 276**	P	**Pn**	**21 15 40.9**	**+1.2**
EPAZ	**Eden Park BICE**	**3.96 272**	P	**Pn**	**21 15 41.8**	**+1.6**
HIZ	**Hauiti**	**4.07 249**		**Pn**	**21 15 43.7**	**+2.1**
BFZ	**Birch Farm**	**4.45 216**	Pn	**Pn**	**21 15 47.2**	**+0.4**
OUZ	**Omahuta**	**5.28 289**		**Pn**	**21 15 59.3**	**+0.9**
MSWZ	**Moikau Station**	**5.49 217**	Pn	**Pn**	**21 16 00.7**	**-0.5**
PLWZ	**Palliser**	**5.61 216**		**Pn**	**21 16 03.5**	**+0.7**
TUWZ	**Tuamarina**	**6.19 224**		**Pn**	**21 16 12.1**	**+1.4**
NNZ	**Nelson**	**6.38 228**	Pn	**Pn**	**21 16 13.4**	**+0.1**
BSWZ	**Blackbirch Sta**	**6.42 223**	Pn	**Pn**	**21 16 14.4**	**+0.5**
QRZ	**Quartz Range**	**6.69 234**	Pn	**Pn**	**21 16 16.4**	**-1.1**
THZ	**Tophouse**	**6.99 227**		**Pn**	**21 16 20.8**	**-1.0**
OXZ	**Oxford**	**8.51 221**	Pn	**Pn**	**21 16 45.6**	**+2.9**
RPZ	**Rata Peaks**	**9.30 222**	Pn	**Pn**	**21 16 51.0**	**-2.4**
	0.7nm,0.3s,baz=224,slow=16,SNR=1.8					
RPZ			Sn	Sn	21 18 25.9	-12
	1.3nm,0.3s,baz=62,slow=12,SNR=2.4					
RPZ	**Rata Peaks**	**9.30 222**	Pn	**Pn**	**21 16 54.4**	**+1.0**
MSVF

HSRZ	Hossack Road	2.56 246	P		Pn	21 17 16.2	+2.2
NMHZ	Naumai	2.61 226	P		Pn	21 17 16.7	+1.9
KMRZ	Kaimai	2.66 257	P		Pn	21 17 15.8	+0.3
BKZ	Black Stump Fm	2.84 228	Pn		Pn	21 17 18.6	+0.8
BKZ	Black Stump Fm	2.84 228	P		Pn	21 17 18.9	+1.0
KUZ	Kuaotunu	2.86 280	P		Pn	21 17 16.8	-1.2
TOZ	Tahuroa Road	2.99 261	P		Pn	21 17 20.2	+0.3
RITZ	Rihia Road	3.13 237	P		Pn	21 17 24.1	+2.2
GRZ	Great Barrier	3.20 288	P		Pn	21 17 22.7	0.0
MKAZ	Moumakai	3.25 272	P		Pn	21 17 23.5	+0.1
TMVZ	Te Maari	3.31 236	P		Pn	21 17 25.0	+0.6
WIAZ	Waiheke Island	3.31 278	P		Pn	21 17 23.9	-0.4
ETVZ	East Tongariro	3.31 235	P		Pn	21 17 25.0	+0.5
NTVZ	North Tongarir	3.32 236	P		Pn	21 17 25.2	+0.7
ETAZ	East Tamaki Re	3.45 275	P		Pn	21 17 27.6	+1.4
TWVZ	Taurewa	3.46 238	P		Pn	21 17 28.2	+1.7
MBAZ	Motutapu North	3.50 278	P		Pn	21 17 28.3	+1.4
ABAZ	Army Bay	3.58 280	P		Pn	21 17 29.8	+1.7
HIZ	Hauiti	3.66 249	Pn		Pn	21 17 30.4	+1.4
HIZ	Hauiti	3.66 249	P		Pn	21 17 30.9	+1.8
AWAZ	Awhitu Peninsu	3.66 272	P		Pn	21 17 30.2	+1.0
WTAZ	Waiatarua	3.73 274	P		Pn	21 17 31.6	+1.5
RVAZ	Riverhead Bore	3.75 277	P		Pn	21 17 32.0	+1.6
BFZ	Birch Farm	4.09 214	Pn		Pn	21 17 32.5	-2.6
BFZ			Sn		Sn	21 18 20.0	-2.9
WCZ	Waipu Caves	4.15 288	P		Pn	21 17 35.9	+0.1
PKE	Pukeiti	4.53 244	P		Pn	21 17 45.4	+4.3
KHEZ	Kahui Hut	4.55 243	P		Pn	21 17 45.0	+3.5
OUZ	Omahuta	5.00 293	Pn		Pn	21 17 48.4	+0.9
OUZ	Omahuta	5.00 293	P		Pn	21 17 48.3	+0.9
RPZ	Rata Peaks	8.92 222	Sn		Sn	21 20 08.9	-13
	4.9nm,0.3s,baz=150,slow=23,SNR=8.4						
ODZ	Otahua Downs	10.07 217	Pn		Pn	21 18 55.7	-1.4
WKZ	Wanaka	10.75 223	Pn		Pn	21 19 06.3	-0.2
STKA	Stephens Creek	31.30 269	P		P	21 22 52.8	0.0
	1.6nm,0.9s,baz=121,slow=12,SNR=2.9 1.6nm,0.9s						
ASAR	Alice Springs	40.98 276	P		P	21 24 14.6	-1.0
	1.1nm,0.9s,baz=115,slow=7.0,SNR=4.3 1.1nm,0.9s						
WR0	Warramunga Arr	42.43 281	P		P	21 24 26.7	-0.8
WR0			IAmb		IAmb	21 24 55.8	
	comp=Z,9.8nm,1.5s						
FORT	Forrest	42.47 263	P		P	21 24 26.9	-0.8
WB2	Warramunga Arr	42.59 281	P		P	21 24 28.1	-0.7
WB2			IAmb		IAmb	21 24 34.9	
	comp=Z,13nm,1.4s						
WRAB	Tennant Creek	42.59 281	P		P	21 24 28.2	-0.7
WRAB			IAmb		IAmb	21 25 00.7	
	comp=Z,9.9nm,1.4s						
WRA	Warramunga Arr	42.60 281	P		P	21 24 28.0	-0.9
	comp=Z,1.5nm,0.7s,baz=120,slow=8.3,SNR=8.1 comp=Z,1.5nm,0.7s						
WRA	Warramunga Arr	42.60 281	P		P	21 24 28.2	-0.7
WB0	Warramunga Arr	42.65 281	P		P	21 24 29.0	-0.3
WB0			IAmb		IAmb	21 24 55.3	
	comp=Z,6.4nm,1.4s						
TAOE	Nuku Hiva Isla	46.35 63	P		P	21 24 58.9	-0.1
FITZ	Fitzroy Crossi	50.46 277	P		P	21 25 30.6	0.0
	comp=Z,2.7nm,1.0s,baz=153,slow=2.3,SNR=2.2 comp=Z,2.7nm,1.0s						
FITZ	Fitzroy Crossi	50.46 277	P		P	21 25 30.4	-0.2
FITZ			IAmb		IAmb	21 25 38.1	
	comp=Z,9.7nm,1.4s						
H03N3	Juan Fernandez	78.80 123	T		T	22 55 15.7	
	baz=232,slow=74						
H03N2	Juan Fernandez	78.81 123	T		T	22 55 19.4	
	baz=232						
H03N1	Juan Fernandez	78.82 123	T		T	22 55 19.5	
	baz=232,slow=74						
ARCES	ARCESS Array B	144.72 344	PKP		PKPbc	21 36 08.9	+1.6
	comp=Z,3.0nm,0.9s,baz=35,slow=3.3,SNR=3.8						
FINES	FINESS Array B	150.58 334	PKPbc		PKPbc	21 36 24.6	+1.0
	comp=Z,3.1nm,1.0s,baz=45,slow=2.6,SNR=2.0						
TORD	Torodi Ar. Bea	155.84 186	PKPab		PKPab	21 36 56.0	+2.2
	comp=Z,0.4nm,0.8s,baz=176,slow=2.1,SNR=1.6						

*IDC **01** 21:19:02.9±1.1,36°.79S×179°.08E,h0km,mb4.1/5, mbtmp4.2/6,ML4.6/1,Error ellipse: s-maj=32.8km s-min=26.8km az=44.0*

*NEIC **01** 21:19:02.5±1.3,37°.25S±0°.09×179°.43E±0°.08,h8km±5km, mb4.5/15,Error ellipse: s-maj=13.7km s-min=8.8km az=156.0*

*WEL **01** 21:19:04.5±1.0,37°.5±6°×17°9E±°,h12km,M4.3/17, ML4.6/17,MLv4.3/17,Error ellipse: s-maj=0.0km s-min=0.0km az=99.3*

ISC 01 21:19:04.3±1.9,37°21S±0°06×179°35E±0°07,h16km±10km, n156,σ1§50/162,mb4.4/15,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.90 247			Pb	21 19 20.6	-0.9
MXZ	Matakaoa Point	0.90 247		P	Pb	21 19 20.8	-0.7
MXZ				S	Sb	21 19 33.0	-0.3
WMGZ	Waiomatatini S	0.96 231		P	Pn	21 19 24.7	+1.6
WMGZ				S	Sn	21 19 39.3	+2.9
PKGZ	Pakihiroa	1.22 236		P	Pg	21 19 28.1	+0.3
PKGZ				S	Sg	21 19 44.6	+1.0
HAZ	Te Kaha	1.36 246		P	Pg	21 19 30.3	-0.1
HAZ				S	Sg	21 19 47.9	-0.3
TWGZ	Tauwhareparae	1.45 228		P	Pg	21 19 31.7	-0.6
RUGZ	Raukumara Rang	1.52 240		P	Pg	21 19 33.0	-0.7
RUGZ				S	Sg	21 19 54.2	+0.6
CNGZ	Carnagh Statio	1.56 215		P	Pg	21 19 34.0	-0.3
TKGZ	Te Karaka	1.71 224		P	Pb	21 19 34.7	-0.5
WIZ	White Island	1.75 259		P	Pn	21 19 33.8	-0.2
WSRZ	White Island S	1.76 259		P	Pb	21 19 35.1	-1.0
WSRZ				S	Sn	21 19 56.5	+0.4
MWZ	Matawai	1.83 232		P	Pb	21 19 36.7	-0.6
MWZ				S	Sg	21 20 06.6	+3.5
RIGZ	Rimuhau	1.95 220		P	Pb	21 19 38.3	-1.1
WHRZ	Whale Island	1.99 250		P	Pb	21 19 39.6	-0.6
RAGZ	Rawiri	2.00 229		P	Pb	21 19 39.0	-1.3
URZ	Urewera	2.06 239		Pn	Pn	21 19 39.7	+1.5
	198nm,0.3s,baz=300,slow=1.1,SNR=26						
URZ				Sn	Sn	21 20 04.1	+0.6
	95nm,0.3s,baz=121,slow=6.8,SNR=14 447nm,0.3s						
URZ	Urewera	2.06 239			Pn	21 19 39.4	+1.2
URZ	Urewera	2.06 239		P	Pn	21 19 39.7	+1.5
PRGZ	Paritu Road	2.06 214		P	Pn	21 19 39.9	+1.6
SNGZ	Shannon Statio	2.23 225		P	Pn	21 19 41.7	+1.1
KNZ	Kokohu	2.24 216		P	Pn	21 19 41.4	+0.8
MHGZ	Mahia Peninsul	2.25 210		P	Pn	21 19 42.5	+1.7
EDRZ	Edgecumbe	2.25 246		P	Pn	21 19 42.4	+1.4
MARZ	Manawahe	2.26 249		P	Pb	21 19 44.1	-0.6
OPRZ	Ohinepanea	2.31 253		P	Pn	21 19 42.7	+1.1
MUGZ	Murupara	2.40 237		P	Pn	21 19 43.9	+1.0
MKRZ	Makatiti	2.47 247		P	Pb	21 19 46.9	-1.3
RAHZ	Arahi	2.47 226		P	Pn	21 19 45.1	+1.3
TARZ	Mount Tarawera	2.47 245		P	Pn	21 19 45.6	+1.6
MYRZ	Mayor Island	2.48 268		P	Pn	21 19 44.3	+0.3
WHHZ	Waihua	2.50 221		P	Pn	21 19 45.5	+1.2
RRRZ	Republican Roa	2.51 243		P	Pn	21 19 46.4	+1.9
OMRZ	Omania	2.52 248		P	Pn	21 19 46.8	+2.1
MTHZ	Maungataniwha	2.57 230		P	Pn	21 19 46.9	+1.6
HLRZ	Highlands Stat	2.59 245		P	Pn	21 19 47.0	+1.4
KARZ	Kaharoa	2.59 251		P	Pn	21 19 46.7	+1.1
NGRZ	Ngongotaha	2.66 250		P	Pb	21 19 49.1	-2.4
PRRZ	Plateau Road	2.67 240		P	Pn	21 19 47.6	+1.0
HSRZ	Hossack Road	2.69 245		P	Pn	21 19 48.7	+1.7
HRRZ	Handcock Road	2.70 243		P	Pn	21 19 48.3	+1.2
NMHZ	Naumai	2.75 226		P	Pn	21 19 49.1	+1.4
ARHZ	Aropaoanui	2.76 221		P	Pn	21 19 49.0	+1.1
GRRZ	Galatos Road	2.81 245		P	Pn	21 19 50.4	+1.9
MRHZ	Matea Rd	2.82 234		P	Pn	21 19 50.0	+1.2
KUZ	Kuaotunu	2.94 278		P	Pn	21 19 48.7	-1.6
BKZ	Black Stump Fm	2.98 228			Pn	21 19 51.4	+0.5
BKZ	Black Stump Fm	2.98 228		P	Pn	21 19 51.8	+0.9
CKHZ	Cape Kidnapper	3.02 215		P	Pn	21 19 51.9	+0.5
KUTZ	Kaahu Road	3.07 244		P	Pn	21 19 53.5	+1.4
TOZ	Tahuroa Road	3.10 259		P	Pn	21 19 52.0	-0.6
KWHZ	Kaweka Forest	3.19 225		P	Pn	21 19 54.4	+0.5
TLZ	Tolley Road	3.22 249		P	Pn	21 19 55.6	+1.4
KAHZ	Kahuranaki	3.23 216		P	Pn	21 19 54.6	+0.3
RITZ	Rihia Road	3.27 236		P	Pn	21 19 56.6	+1.7
GRZ	Great Barrier	3.27 286		P	Pn	21 19 53.7	-1.1
RATZ	Rangitukua	3.27 239		P	Pn	21 19 56.3	+1.4
MKAZ	Moumakai	3.35 271		P	Pn	21 19 54.9	-1.0
KRHZ	Kereru	3.37 223		P	Pn	21 19 56.1	-0.2
KATZ	Kakaramea	3.38 237		P	Pn	21 19 58.5	+2.0
WIAZ	Waiheke Island	3.40 276		P	Pn	21 19 56.7	0.0
PXZ	Pawanui	3.42 214		P	Pn	21 19 56.6	-0.3
BHHZ	Black Hill Sta	3.44 228		P	Pn	21 19 58.1	+0.8
TMVZ	Te Maari	3.44 235		P	Pn	21 19 57.9	+0.6
ETVZ	East Tongariro	3.45 235		P	Pn	21 19 58.0	+0.5
NTVZ	North Tongarir	3.45 236		P	Pn	21 19 58.6	+1.1
OTVZ	Oturere	3.50 235		P	Pn	21 19 58.9	+0.8
NNVZ	North Ngauruho	3.51 236		P	Pn	21 19 59.4	+1.0
WTVZ	West Tongariro	3.52 236		P	Pn	21 19 59.5	+1.1
SNVZ	South Ngauruho	3.52 235		P	Pn	21 19 59.5	+1.0
NGZ	Ngauruhoe	3.54 235		P	Pn	21 19 59.5	+0.8
ETAZ	East Tamaki Re	3.54 273		P	Pn	21 19 59.8	+1.2
TUVZ	Tukino	3.56 234		P	Pn	21 19 59.9	+0.9
MOVZ	Moawhango	3.58 231		P	Pn	21 19 59.6	+0.5
MBAZ	Motutapu North	3.59 276		P	Pn	21 19 59.2	0.0
TWVZ	Taurewa	3.60 238		P	Pn	21 20 01.3	+1.8
WHVZ	Whangaehu Hut	3.61 234		P	Pn	21 20 00.5	+0.8
WNVZ	Wahianoa	3.63 233		P	Pn	21 20 00.6	+0.6
WPHZ	Waipukurau	3.65 218		P	Pn	21 19 59.8	-0.2
PNHZ	Pukenui	3.66 221		P	Pn	21 19 59.8	-0.4
ABAZ	Army Bay	3.67 278		P	Pn	21 20 01.5	+1.2
EPAZ	Eden Park BICE	3.70 274		P	Pn	21 20 02.3	+1.5
HBAZ	Herne Bay Bore	3.71 274		P	Pn	21 20 02.4	+1.5
AWAZ	Awhitu Peninsu	3.76 271		P	Pn	21 20 01.8	+0.2
PKVZ	Pokaka	3.77 235		P	Pn	21 20 03.4	+1.6
HIZ	Hauiti	3.79 249			Pn	21 20 03.5	+1.5
HIZ	Hauiti	3.79 249		P	Pn	21 20 04.1	+2.2
WTAZ	Waiatarua	3.83 273		P	Pn	21 20 02.9	+0.3
RVAZ	Riverhead Bore	3.84 275		P	Pn	21 20 04.0	+1.3
DVHZ	Dannevirke	3.96 218		P	Pn	21 20 04.0	-0.4
WCZ	Waipu Caves	4.22 286		P	Pn	21 20 07.5	-0.4
BFZ	Birch Farm	4.22 214			Pn	21 20 06.3	-1.7
BFZ					Sn	21 20 55.0	-2.0
POWZ	Post Office Ro	4.23 220		P	Pn	21 20 08.0	-0.1
PRWZ	Pori Road	4.25 217		P	Pn	21 20 08.4	0.0
WAZ	Wanganui	4.26 232		P	Pn	21 20 09.9	+1.4
DREZ	Durham Road	4.51 242		P	Pn	21 20 14.5	+2.6
PREZ	Palmer Road	4.60 241		P	Pn	21 20 16.4	+3.2
NEZ	North Egmont	4.62 242		P	Pn	21 20 17.1	+3.6
PKE	Pukeiti	4.66 243		P	Pn	21 20 17.3	+3.2
KHEZ	Kahui Hut	4.68 242		P	Pn	21 20 17.2	+2.8
NBEZ	Newall Road No	4.78 243		P	Pn	21 20 19.1	+3.6
OUZ	Omahuta	5.06 291			Pn	21 20 19.2	-0.3
OUZ	Omahuta	5.06 291		P	Pn	21 20 19.2	-0.3
MSWZ	Moikau Station	5.26 216		Pn	Pn	21 20 20.0	-2.3
PLWZ	Palliser	5.38 215		Pn	Pn	21 20 22.1	-1.8
SNZO	South Karori	5.45 220		Pn	Pn	21 20 23.9	-0.9
TUWZ	Tuamarina	5.94 223		Pn	Pn	21 20 31.3	-0.3
CMWZ	Cape Campbell	6.02 220		Pn	Pn	21 20 33.7	+1.0
NNZ	Nelson	6.12 227		Pn	Pn	21 20 33.1	-0.9
BSWZ	Blackbirch Sta	6.17 222		Pn	Pn	21 20 33.0	-1.7
BSWZ					Sn	21 21 43.9	-1.1
TKNZ	Takaka Hill	6.26 231		P	Pn	21 20 35.3	-0.7
QRZ	Quartz Range	6.42 234		Pn	Pn	21 20 37.0	-1.1
THZ	Tophouse	6.74 226		Pn	Pn	21 20 40.8	-1.9
THZ					Sn	21 21 56.0	-3.1
KHZ	Kahutara	6.85 219		Pn	Pn	21 20 43.5	-0.6
CTZ	Chatham Island	7.20 156		P	Pn	21 20 52.6	+3.7
LTZ	Lake Taylor	7.77 222		Pn	Pn	21 20 55.4	-1.4
MQZ	McQueen's Vall	8.25 216		Pn	Pn	21 21 02.1	-1.1
RPZ	Rata Peaks	9.06 222		Pn	Pn	21 21 11.7	-2.6
	1.2nm,0.3s,baz=32,slow=19,SNR=1.5						
RPZ				Sn	Sn	21 22 45.1	-11
	3.5nm,0.3s,baz=40,slow=17,SNR=8.6						
RPZ	Rata Peaks	9.06 222		Pn	Pn	21 21 11.4	-3.0
LBZ	Lake Benmore	9.97 221		Pn	Pn	21 21 24.4	-2.5
ODZ	Otahua Downs	10.21 217		Pn	Pn	21 21 26.7	-3.3
STKA	Stephens Creek	31.41 268		P	P	21 25 23.6	-1.0
	1.3nm,0.8s,baz=111,slow=8.6,SNR=3.7 1.3nm,0.8s						
STKA	Stephens Creek	31.41 268		P	P	21 25 24.3	-0.3
BBOO	Buckleboo	35.50 264		P	P	21 26 00.5	+0.3
BBOO				IAmb	IAmb	21 26 21.1	
	comp=Z,33nm,1.5s						
COEN	Coen	39.65 296		P	P	21 26 34.1	-1.4
COEN				IAmb	IAmb	21 26 49.3	
	comp=Z,6.4nm,0.9s						
AS31	Alice Springs	41.07 276		P	P	21 26 46.4	-0.9
ASAR	Alice Springs	41.07 276		P	P	21 26 46.5	-0.8
	comp=Z,2.3nm,0.5s,baz=119,slow=7.8,SNR=27						
ASAR				PcP	PcP	21 28 45.2	-1.8
	comp=Z,0.1nm,0.5s,baz=130,slow=4.1,SNR=1.0 comp=Z,2.3nm,0.5s						
ASAR	Alice Springs	41.07 276		P	P	21 26 46.7	-0.6
WR0	Warramunga Arr	42.51 281		P	P	21 26 58.1	-1.0
WR0				IAmb	IAmb	21 27 09.5	
	comp=Z,4.2nm,0.7s						
FORT	Forrest	42.58 263		P	P	21 26 58.7	-0.8
WB2	Warramunga Arr	42.67 281		P	P	21 26 59.7	-0.7
WB2				IAmb	IAmb	21 27 12.8	
	comp=Z,7.2nm,0.6s						
WRAB	Tennant Creek	42.67 281		P	P	21 26 59.4	-1.0
WRAB				IAmb	IAmb	21 27 11.1	
	comp=Z,6.6nm,0.7s						
WRA	Warramunga Arr	42.68 281		P	P	21 26 59.4	-1.1
	comp=Z,2.7nm,0.7s,baz=121,slow=7.9,SNR=28						
WRA				PcP	PcP	21 28 53.3	+1.1
	comp=Z,0.5nm,0.7s,baz=122,slow=3.0,SNR=2.7 comp=Z,2.7nm,0.7s						
WRA	Warramunga Arr	42.68 281		P	P	21 26 59.2	-1.3
WB0	Warramunga Arr	42.73 281		P	P	21 26 59.9	-1.0
WB0				IAmb	IAmb	21 27 11.3	
	comp=Z,5.7nm,0.7s						
KNRA	Kununurra	49.46 282		P	P	21 27 53.9	0.0
FITZ	Fitzroy Crossi	50.55 277		P	P	21 28 01.1	-1.1
	baz=142,slow=9.6						
FITZ	Fitzroy Crossi	50.55 277		P	P	21 28 01.3	-0.9
FITZ				IAmb	IAmb	21 28 08.8	
	comp=Z,15nm,1.4s						
MORW	Morawa	52.77 259		P	P	21 28 18.9	+0.2
MORW				IAmb	IAmb	21 28 32.7	
	comp=Z,14nm,1.2s						
QSPA	South Pole Qui	52.91 180		P	P	21 28 24.1	+4.7
	comp=Z,2.6nm,0.8s,baz=51,slow=2.2,SNR=14 comp=Z,2.6nm,0.8s						
QSPA	South Pole Qui	52.91 180		P	P	21 28 21.2	+1.8
QSPA				IAmb	IAmb	21 28 43.5	
	comp=Z,6.8nm,1.1s						
MBWA	Marble Bar	53.63 270			P	21 28 24.1	-0.9
H03S2	Juan Fernandez	78.54 124		T	T	22 57 35.0	
	baz=231						
H03S1	Juan Fernandez	78.55 124		T	T	22 57 39.8	
	baz=231						
H03S3	Juan Fernandez	78.56 124		T	T	22 57 37.6	
	baz=231						
H03N3	Juan Fernandez	78.77 123		T	T	22 57 56.7	
	baz=234,slow=72,SNR=28						
H03N2	Juan Fernandez	78.77 123		T	T	22 57 54.7	
	baz=234,slow=72,SNR=19						
H03N1	Juan Fernandez	78.78 123		T	T	22 57 55.4	
	baz=234,slow=72,SNR=24						
CMAR	Chiang Mai Arr	93.62 290		P	P	21 32 18.9	-1.2
	comp=Z,0.3nm,0.5s,baz=116,slow=4.1,SNR=1.6 comp=Z,0.3nm,0.5s						
PZH	PanZhiHua	96.53 298		P	P	21 32 38.6	+5.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,8.0s						
HHC	Hu-ho-hao-te	99.40 315		eP	Pdif	21 32 48.4	+2.5
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,6.2s						
LZH	Lanzhou	101.03 307		eP	Pdif	21 32 55.5	+2.2
LZH				pP	sPdif	21 32 58.7	-1.2
LZH				sP	pwP	21 33 00.8	+0.2
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
ARCES	ARCESS Array B	144.66 344		PKP	PKPdf	21 38 39.2	+0.2
	comp=Z,2.6nm,0.8s,baz=38,slow=3.4,SNR=6.3						
FINES	FINESS Array B	150.54 334		PKPbc	PKPbc	21 38 54.1	-0.2
	comp=Z,1.1nm,0.5s,baz=44,slow=4.2,SNR=9.3						
BRTR	Keskin Array B	153.13 286		PKPbc	PKiKP	21 39 03.8	+2.4
	comp=Z,0.3nm,0.5s,baz=105,slow=2.0,SNR=2.4						
AKASG	Malin Array Be	154.82 312		PKPbc	PKPbc	21 39 04.0	-0.2
	comp=Z,0.2nm,0.3s,baz=41,slow=3.0,SNR=1.9						
TORD	Torodi Ar. Bea	155.94 186		PKPab	PKPab	21 39 26.6	+1.6
	comp=Z,0.4nm,0.7s,baz=169,slow=3.4,SNR=5.0						

*NEIC **01** 21:43:09.2±2.5,37°.5S±0°.1×179°.35E±0°.07,h11km±7km, mb4.6/10,Error ellipse: s-maj=17.1km s-min=7.4km az=183.0*

*IDC **01** 21:43:11.0±3.3,36°.83S×178°.67E,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=61.4km s-min=41.1km az=71.0*

*WEL **01** 21:43:13.6±1.2,37°.5±9°×17°9E±°,h22km±7km,M3.5/13, ML3.8/13,MLv3.5/13,Error ellipse: s-maj=0.0km s-min=0.0km az=138.4*

ISC 01 21:43:10.1±2.1,37°40S±0°06×179°28E±0°08,h17km±9km, n52,σ1§75/66,mb4.4/9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.79 258			Pg	21 43 24.7	-0.9
MXZ	Matakaoa Point	0.79 258		P	Pg	21 43 25.1	-0.5
MXZ				S	Sg	21 43 36.3	+0.2
WMGZ	Waiomatatini S	0.81 238		P	Pn	21 43 29.7	+3.0
WMGZ				S	Sn	21 43 41.9	+3.6
PUZ	Puketiti	1.05 230		P	Pn	21 43 33.3	+3.2
PUZ				S	Sn	21 43 47.2	+2.8
PKGZ	Pakihiroa	1.07 243		P	Pn	21 43 32.4	+2.0
PKGZ				S	Sn	21 43 46.3	+1.3
HAZ	Te Kaha	1.24 253		P	Pg	21 43 34.2	+0.1
HAZ				S	Sn	21 43 49.8	+0.7
TWGZ	Tauwhareparae	1.29 233		P	Pg	21 43 36.5	+1.5
TWGZ				S	Sg	21 43 54.1	+2.2
CNGZ	Carnagh Statio	1.38 218		P	Pg	21 43 38.9	+2.3
CNGZ				S	Sg	21 43 59.5	+4.8
RUGZ	Raukumara Rang	1.39 246		P	Pg	21 43 37.6	+0.6
RUGZ				S	Sg	21 43 54.4	-0.8
TKGZ	Te Karaka	1.54 227		P	Pg	21 43 39.9	+0.2
TKGZ				S	Sg	21 43 59.8	0.0
MWZ	Matawai	1.67 236		P	Pg	21 43 41.6	-0.7
MWZ				S	Sg	21 44 02.5	-1.6
RIGZ	Rimuhau	1.77 222		P	Pg	21 43 42.9	-1.3
RIGZ				S	Sg	21 44 04.6	-2.7
RAGZ	Rawiri	1.84 233		P	Pg	21 43 43.9	-1.5
RAGZ				S	Sb	21 44 05.7	-0.3
PRGZ	Paritu Road	1.88 216		P	Pg	21 43 45.4	-0.8
URZ	Urewera	1.92 243		Pn	Pb	21 43 44.1	-0.5
	47nm,0.3s,baz=301,slow=1.1,SNR=24						
URZ				Sn	Sn	21 44 06.6	+0.8
	54nm,0.3s,baz=121,slow=21,SNR=36						
URZ	Urewera	1.92 243		Pn	Pb	21 43 44.2	-0.5
URZ				Sn	Sn	21 44 06.1	+0.3
URZ	Urewera	1.92 243		P	Pb	21 43 43.9	-0.7
URZ				S	Sn	21 44 06.1	+0.3
MHGZ	Mahia Peninsul	2.06 211		P	Pg	21 43 47.5	-2.1
BKZ	Black Stump Fm	2.82 230		Pn	Pn	21 43 56.1	+1.7
HIZ	Hauiti	3.67 251		Pn	Pn	21 44 07.7	+1.6
BFZ	Birch Farm	4.04 215		Pn	Pn	21 44 11.5	+0.3
BFZ				Sn	Sn	21 44 57.2	-0.9
MSWZ	Moikau Station	5.08 217		Pn	Pn	21 44 25.3	-0.2
MSWZ				Sn	Sn	21 45 20.5	-3.3
PLWZ	Palliser	5.20 216		Pn	Pn	21 44 27.2	+0.1
PLWZ				Sn	Sn	21 45 24.0	-2.8
SNZO	South Karori	5.28 221		Pn	Pn	21 44 28.5	+0.4
BSWZ	Blackbirch Sta	6.00 222		Pn	Pn	21 44 37.8	-0.3
QRZ	Quartz Range	6.27 235		Pn	Pn	21 44 40.7	-1.0
THZ	Tophouse	6.58 227		Pn	Pn	21 44 46.1	+0.1
KHZ	Kahutara	6.68 220		Pn	Pn	21 44 49.9	+2.5
LTZ	Lake Taylor	7.60 223		Pn	Pn	21 45 00.6	+0.5
RPZ	Rata Peaks	8.89 222		Sn	Sn	21 46 47.4	-10
	1.2nm,0.3s,baz=351,slow=22,SNR=6.0						
LBZ	Lake Benmore	9.80 222		Pn	Pn	21 45 27.8	-2.5
ODZ	Otahua Downs	10.03 218		Pn	Pn	21 45 33.9	+0.6
STKA	Stephens Creek	31.35 269		P	P	21 49 28.4	-1.4
	0.9nm,0.6s,baz=112,slow=16,SNR=3.0 0.9nm,0.6s						
AS31	Alice Springs	41.03 276		P	P	21 50 52.4	-0.3
ASAR	Alice Springs	41.04 276		P	P	21 50 51.6	-1.1
	1.3nm,0.6s,baz=119,slow=8.0,SNR=20 1.3nm,0.6s						
ASAR	Alice Springs	41.04 276		P	P	21 50 52.2	-0.5
WR0	Warramunga Arr	42.50 281		P	P	21 51 03.8	-0.8
WR0				IAmb	IAmb	21 51 27.9	
	comp=Z,5.8nm,1.2s						
FORT	Forrest	42.51 263		P	P	21 51 04.3	-0.3
FORT				IAmb	IAmb	21 51 32.7	
	comp=Z,23nm,1.1s						
WB2	Warramunga Arr	42.65 281		P	P	21 51 05.1	-0.8
WB2				IAmb	IAmb	21 51 05.4	
	com

URZ			Sn	**Sn**	**21 51 35.6**	**+0.4**
URZ	**Urewera**	**2.15 242**	P	**Pb**	**21 51 11.5**	**-0.9**
MARZ	**Manawahe**	**2.36 251**	P	**Pb**	**21 51 15.6**	**-0.4**
RAHZ	**Arahi**	**2.53 228**	P	**Pn**	**21 51 17.3**	**+3.0**
RRRZ	**Republican Roa**	**2.60 245**	P	**Pn**	**21 51 17.8**	**+2.5**
ARHZ	**Aropaoanui**	**2.81 224**	P	**Pn**	**21 51 20.6**	**+2.5**
MRHZ	**Matea Rd**	**2.90 236**	P	**Pn**	**21 51 21.6**	**+2.2**
BKZ	**Black Stump Fm**	**3.04 230**	Pn	**Pn**	**21 51 22.9**	**+1.5**
BKZ			Sn	**Sn**	**21 51 57.4**	**-0.1**
BKZ	**Black Stump Fm**	**3.04 230**	P	**Pn**	**21 51 23.5**	**+2.1**
CKHZ	**Cape Kidnapper**	**3.06 218**	P	**Pn**	**21 51 23.4**	**+1.9**
KWHZ	**Kaweka Forest**	**3.25 227**	P	**Pn**	**21 51 26.0**	**+1.8**
KAHZ	**Kahuranaki**	**3.27 218**	P	**Pn**	**21 51 26.1**	**+1.7**
GRZ	**Great Barrier**	**3.41 223**	P	**Pn**	**21 51 26.6**	**+0.3**
KRHZ	**Kereru**	**3.42 225**	P	**Pn**	**21 51 28.2**	**+1.6**
PXZ	**Pawanui**	**3.46 216**	P	**Pn**	**21 51 28.1**	**+1.1**
MKAZ	**Moumakai**	**3.48 271**	P	**Pn**	**21 51 27.8**	**+0.5**
BHHZ	**Black Hill Sta**	**3.50 230**	P	**Pn**	**21 51 29.6**	**+1.8**
TMVZ	**Te Maari**	**3.52 237**	P	**Pn**	**21 51 29.6**	**+1.5**
ETVZ	**East Tongariro**	**3.53 237**	P	**Pn**	**21 51 29.7**	**+1.5**
WIAZ	**Waiheke Island**	**3.53 276**	P	**Pn**	**21 51 28.5**	**+0.5**
NNVZ	**North Ngauruho**	**3.59 237**	P	**Pn**	**21 51 31.2**	**+2.2**
WTVZ	**West Tongariro**	**3.60 238**	P	**Pn**	**21 51 31.8**	**+2.7**
NGZ	**Ngauruhoe**	**3.62 237**	P	**Pn**	**21 51 31.6**	**+2.2**
TUVZ	**Tukino**	**3.64 235**	P	**Pn**	**21 51 31.7**	**+2.1**
MOVZ	**Moawhango**	**3.65 233**	P	**Pn**	**21 51 31.8**	**+2.1**
ETAZ	**East Tamaki Re**	**3.67 273**	P	**Pn**	**21 51 31.2**	**+1.2**
TWVZ	**Taurewa**	**3.68 239**	P	**Pn**	**21 51 33.0**	**+2.8**
WPHZ	**Waipukurau**	**3.69 220**	P	**Pn**	**21 51 31.4**	**+1.2**
WNVZ	**Wahianoa**	**3.71 235**	P	**Pn**	**21 51 32.6**	**+2.0**
PNHZ	**Pukenui**	**3.71 223**	P	**Pn**	**21 51 31.5**	**+1.0**
MBAZ	**Motutapu North**	**3.72 276**	P	**Pn**	**21 51 31.8**	**+1.1**
PRHZ	**Porangahau**	**3.75 216**	P	**Pn**	**21 51 32.0**	**+1.0**
ABAZ	**Army Bay**	**3.80 279**	P	**Pn**	**21 51 32.9**	**+1.2**
HIZ	**Hauiti**	**3.89 250**	Pn	**Pn**	**21 51 34.6**	**+1.7**
HIZ	**Hauiti**	**3.89 250**	P	**Pn**	**21 51 35.2**	**+2.2**
AWAZ	**Awhitu Peninsu**	**3.89 271**	P	**Pn**	**21 51 34.3**	**+1.3**
TSZ	**Takapari Road**	**3.94 224**	P	**Pn**	**21 51 34.3**	**+0.6**
WTAZ	**Waiatarua**	**3.96 273**	P	**Pn**	**21 51 35.5**	**+1.5**
RVAZ	**Riverhead Bore**	**3.98 276**	P	**Pn**	**21 51 35.6**	**+1.4**
DVHZ	**Dannevirke**	**4.00 220**	P	**Pn**	**21 51 35.2**	**+0.6**
BFZ	**Birch Farm**	**4.26 216**	Pn	**Pn**	**21 51 38.6**	**+0.5**
BFZ			Sn	**Sn**	**21 52 25.8**	**-1.6**
BFZ	**Birch Farm**	**4.26 216**	P	**Pn**	**21 51 38.7**	**+0.7**
POWZ	**Post Office Ro**	**4.28 222**	P	**Pn**	**21 51 39.4**	**+1.0**
PRWZ	**Pori Road**	**4.29 219**	P	**Pn**	**21 51 39.5**	**+1.0**
WAZ	**Wanganui**	**4.33 234**	P	**Pn**	**21 51 42.0**	**+2.9**
WCZ	**Waipu Caves**	**4.36 286**	P	**Pn**	**21 51 40.2**	**+0.8**
NEZ	**North Egmont**	**4.71 243**	P	**Pn**	**21 51 48.4**	**+4.1**
KHEZ	**Kahui Hut**	**4.78 243**	P	**Pn**	**21 51 49.8**	**+4.5**
OUZ	**Omahuta**	**5.19 291**	P	**Pn**	**21 51 52.1**	**+1.2**
MSWZ	**Moikau Station**	**5.30 217**	Pn	**Pn**	**21 51 51.7**	**-0.7**
MSWZ				Pb	21 51 51.8	-14
MSWZ			Sn	**Sn**	**21 52 48.6**	**-4.6**
PLWZ	**Palliser**	**5.42 216**	Pn	**Pn**	**21 51 52.5**	**-1.5**
PLWZ			Sn	**Sn**	**21 52 52.1**	**-3.9**
SNZO	**South Karori**	**5.50 221**	Pn	Pn	21 51 50.5	-4.5
SNZO			Sn	**Sn**	**21 52 54.1**	**-3.8**
NNZ	**Nelson**	**6.18 228**	Pn	**Pn**	**21 52 02.4**	**-2.1**
BSWZ	**Blackbirch Sta**	**6.23 223**	Pn	**Pn**	**21 52 04.3**	**-0.7**
TKNZ	**Takaka Hill**	**6.33 231**	P	**Pn**	**21 52 06.4**	**-0.1**
QRZ	**Quartz Range**	**6.49 235**	Pn	**Pn**	**21 52 08.7**	**0.0**
THZ	**Tophouse**	**6.80 227**	Pn	**Pn**	**21 52 12.3**	**-0.7**
KHZ	**Kahutara**	**6.90 220**	Pn	**Pn**	**21 52 13.1**	**-1.2**
CTZ	**Chatham Island**	**7.11 157**	P	Pn	21 52 23.3	+6.1
LTZ	**Lake Taylor**	**7.82 223**	Pn	**Pn**	**21 52 25.8**	**-1.2**
MQZ	**McQueen's Vall**	**8.29 217**	Pn	**Pn**	**21 52 31.6**	**-1.7**
RPZ	**Rata Peaks**	**9.11 222**	Pn	**Pn**	**21 52 44.0**	**-0.7**
RPZ	0.8nm,0.3s,baz=358,slow=7.0,SNR=1.8		Sn	Sn	21 54 15.0	-12
	1.2nm,0.3s,baz=119,slow=21,SNR=8.6					
RPZ	**Rata Peaks**	**9.11 222**	Pn	**Pn**	**21 52 43.8**	**-0.8**
LBZ	**Lake Benmore**	**10.03 222**	Pn	**Pn**	**21 52 55.8**	**-1.4**
ODZ	**Otahua Downs**	**10.25 218**	Pn	**Pn**	**21 52 57.8**	**-2.4**
MSVF	**Nonsavu**	**19.50 356**	P	**P**	**21 54 58.8**	**-1.6**
MSVF			IAmb	IAmb	21 55 34.2	
	comp=Z,41nm,1.2s					
ASAR	**Alice Springs**	**41.20 276**	P	**P**	**21 58 16.6**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=122,slow=8.1,SNR=16					
	comp=Z,1.1nm,0.5s					
FORT	**Forrest**	**42.70 263**	P	**P**	**21 58 29.0**	**-1.0**
WB2	**Warramunga Arr**	**42.80 281**	P	**P**	**21 58 30.0**	**-1.0**
WB2			IAmb	IAmb	21 59 05.8	
	comp=Z,12nm,1.4s					
WRAB	**Tennant Creek**	**42.81 281**	P	**P**	**21 58 29.9**	**-1.2**
WRAB			IAmb	IAmb	21 58 41.0	
	comp=Z,7.2nm,1.4s					
WRA	**Warramunga Arr**	**42.81 281**	P	**P**	**21 58 29.9**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=122,slow=7.8,SNR=19					
	comp=Z,0.5nm,0.4s					
WRA	**Warramunga Arr**	**42.81 281**	P	**P**	**21 58 30.1**	**-1.0**
WB0	**Warramunga Arr**	**42.87 281**	P	**P**	**21 58 30.6**	**-0.9**
WB0			IAmb	IAmb	21 58 56.5	
	comp=Z,6.2nm,1.3s					
FITZ	**Fitzroy Crossi**	**50.68 277**	P	**P**	**21 59 32.3**	**-0.5**
FITZ			IAmb	IAmb	21 59 55.0	
	comp=Z,9.0nm,1.4s					
H03N3	**Juan Fernandez**	**78.64 123**	T	T	23 29 20.7	
	baz=229					
H03N2	**Juan Fernandez**	**78.64 123**	T	T	23 29 18.5	
	baz=229					
H03N1	**Juan Fernandez**	**78.65 123**	T	T	23 29 17.7	
	baz=229					
FINES	**FINESS Array B**	**150.64 334**	PKPbc	**PKPbc**	**22 10 24.5**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=35,slow=5.1,SNR=4.2					
TORD	**Torodi Ar. Bea**	**155.91 185**	PKPab	**PKPab**	**22 11 00.2**	**+5.7**
	comp=Z,0.5nm,1.1s,baz=179,slow=3.6,SNR=1.2					

WEL 01 21:57:36.6±1.3,37°S±7°×17°9E±1°1,h12km±6km,M3.1/15, ML3.6/11,MLv3.1/15,Error ellipse: s-maj=0.0km s-min=0.0km az=115.2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.83 223**		P	Pg	21 57 51.1	-1.5
MXZ				S	Sg	21 58 01.9	-1.6
WMGZ	**Waiomatatini S**	**0.99 209**		P	Pg	21 57 55.5	-0.1
WMGZ				S	Sn	21 58 10.2	0.0
PKGZ	**Pakihiroa**	**1.20 218**		P	Pn	21 57 58.8	-0.4
PKGZ				S	Sn	21 58 15.3	-0.1
HAZ	**Te Kaha**	**1.27 230**		P	Pg	21 58 01.4	+0.5
HAZ				S	Sg	21 58 18.3	+0.9
RUGZ	**Raukumara Rang**	**1.47 226**		P	Pb	21 58 04.0	+0.2
RUGZ				S	Sg	21 58 23.9	+0.1
CNGZ	**Carnagh Statio**	**1.66 203**		P	Pn	21 58 04.9	-0.6
MWZ	**Matawai**	**1.81 220**		P	Pn	21 58 07.1	-0.6
MWZ				S	Sn	21 58 31.1	+0.5
URZ	**Urewera**	**2.00 229**		P	Pn	21 58 10.0	-0.1
URZ				S	Sn	21 58 34.9	-0.2
SNGZ	**Shannon Statio**	**2.25 216**		P	Pn	21 58 13.3	-0.5
SNGZ				S	Sn	21 58 40.6	-1.0
RTZ	**Ruatahuna**	**2.31 224**		P	Pn	21 58 14.7	+0.1
MTHZ	**Maungataniwha**	**2.56 222**		P	Pn	21 58 17.5	-0.4
KUZ	**Kuaotunu**	**2.65 274**		P	Pn	21 58 18.4	-0.7
MKAZ	**Moumakai**	**3.09 266**		P	Pn	21 59 25.0	-0.2
NNZ	**Nelson**	**6.11 224**		P	Pn	21 59 11.0	+1.4
THZ	**Tophouse**	**6.74 223**		P	Pn	21 59 16.8	+1.3

*IDC **01** 22:02:26.8±1.9,36°.75S×179°.24E,h0km,mb3.8/3, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=43.9km s-min=33.4km az=50.0*
*NEIC **01** 22:02:28.1±2.4,37°.4S±0°.1×179°.50E±0°.06,h10km±1km, mb4.4/9, Error ellipse: s-maj=17.3km s-min=7.8km az=349.0*
*WEL **01** 22:02:32.5±1.0,37°S±5°×17°9E±°,h19km±8km,M3.6/32, ML3.9/32,MLv3.6/32, Error ellipse: s-maj=0.0km s-min=0.0km az=103.6*

ISC 01 22:02:31.4±1.3,37°.20S±0°.05×179°.34E±0°.07,h34km±3km, n94,σ1§72/112,mb4.2/8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.90 246**		Pg	**Pn**	**22 02 47.1**	**-0.4**
MXZ				Sg	**Sn**	**22 02 58.8**	**-0.5**
MXZ	**Matakaoa Point**	**0.90 246**		P	**Pn**	**22 02 47.2**	**-0.4**
MXZ				S	**Sn**	**22 02 58.6**	**-0.7**
WMGZ	**Waiomatatini S**	**0.96 229**		P	**Pb**	**22 02 51.2**	**+1.6**
WMGZ				S	**Sb**	**22 03 04.3**	**+2.4**
PKGZ	**Pakihiroa**	**1.22 235**		P	**Pb**	**22 02 54.1**	**+0.2**
PKGZ				S	**Sb**	**22 03 09.6**	**+0.3**
PUZ	**Puketiti**	**1.22 224**		P	**Pb**	**22 02 55.6**	**+1.6**
PUZ				S	**Sb**	**22 03 11.6**	**+2.1**
HAZ	**Te Kaha**	**1.35 245**		P	**Pb**	**22 02 56.4**	**+0.2**
HAZ				S	**Sb**	**22 03 12.9**	**-0.3**
TWGZ	**Tauwhareparae**	**1.45 227**		P	**Pb**	**22 02 58.4**	**+0.5**
TWGZ				S	**Sb**	**22 03 16.6**	**+0.5**
RUGZ	**Raukumara Rang**	**1.52 239**		P	**Pb**	**22 02 59.2**	**0.0**
RUGZ				S	**Sb**	**22 03 18.5**	**+0.4**
CNGZ	**Carnagh Statio**	**1.56 214**		P	**Pb**	**22 03 00.4**	**+0.7**
WIZ	**White Island**	**1.74 259**		P	**Pb**	**22 03 00.2**	**+1.0**
WIZ				S	**Sb**	**22 03 22.5**	**-1.7**
MWZ	**Matawai**	**1.83 231**		P	**Pb**	**22 03 02.8**	**-1.4**
MWZ				S	**Sn**	**22 03 24.1**	**+1.7**
RAGZ	**Rawiri**	**2.00 229**		P	**Pb**	**22 03 05.1**	**-2.0**
RAGZ				S	**Sn**	**22 03 28.8**	**+2.2**
URZ	**Urewera**	**2.06 238**		Pn	**Pn**	**22 03 05.3**	**+1.8**
	33nm,0.3s,baz=121,slow=1.9,SNR=20						
URZ				Sn	**Sn**	**22 03 28.9**	**+0.9**
	55nm,0.3s,baz=120,slow=20,SNR=22						
	101nm,0.4s						
URZ	**Urewera**	**2.06 238**			**Pb**	**22 03 05.7**	**-2.3**
URZ				Sn	**Sn**	**22 03 29.8**	**+1.8**
URZ	**Urewera**	**2.06 238**		P	**Pn**	**22 03 05.6**	**+2.1**
URZ				S	**Sn**	**22 03 29.7**	**+1.7**
SNGZ	**Shannon Statio**	**2.23 224**		P	**Pn**	**22 03 08.3**	**+2.3**
SNGZ				S	**Sb**	**22 03 36.9**	**-1.4**
EDRZ	**Edgecumbe**	**2.25 245**		P	**Pb**	**22 03 08.8**	**-2.6**
OPRZ	**Ohinepanea**	**2.30 253**		P	**Pn**	**22 03 08.5**	**+1.6**
MUGZ	**Murupara**	**2.40 237**		P	**Pn**	**22 03 10.0**	**+1.8**
RAHZ	**Arahi**	**2.47 225**		P	**Pn**	**22 03 11.2**	**+2.0**
MYRZ	**Mayor Island**	**2.47 267**		P	**Pn**	**22 03 09.7**	**+0.5**
TARZ	**Mount Tarawera**	**2.47 244**		P	**Pn**	**22 03 11.5**	**+2.2**
WHHZ	**Waihua**	**2.50 221**		P	**Pn**	**22 03 11.8**	**+2.1**
MTHZ	**Maungataniwha**	**2.57 229**		P	**Pn**	**22 03 13.0**	**+2.4**
KARZ	**Kaharoa**	**2.59 251**		P	**Pn**	**22 03 12.7**	**+1.9**
ARHZ	**Aropaoanui**	**2.77 221**		P	**Pn**	**22 03 15.1**	**+1.9**
MRHZ	**Matea Rd**	**2.83 234**		P	**Pn**	**22 03 15.9**	**+1.8**
KUZ	**Kuaotunu**	**2.93 278**		P	**Pn**	**22 03 13.9**	**-1.6**
BKZ	**Black Stump Fm**	**2.98 228**		Pn	**Pn**	**22 03 17.6**	**+1.3**
BKZ				Sn	**Sn**	**22 03 51.6**	**+0.8**
BKZ	**Black Stump Fm**	**2.98 228**		P	**Pn**	**22 03 17.9**	**+1.6**
TOZ	**Tahuroa Road**	**3.10 259**		P	**Pn**	**22 03 18.9**	**+1.1**
GRZ	**Great Barrier**	**3.26 286**		P	**Pn**	**22 03 19.9**	**-0.1**
RATZ	**Rangitukua**	**3.27 238**		P	**Pn**	**22 03 22.4**	**+2.2**
MKAZ	**Moumakai**	**3.34 270**		P	**Pn**	**22 03 20.7**	**-0.4**
KRHZ	**Kereru**	**3.37 223**		P	**Pn**	**22 03 23.0**	**+1.3**
BHHZ	**Black Hill Sta**	**3.44 227**		P	**Pn**	**22 03 24.3**	**+1.6**
TMVZ	**Te Maari**	**3.44 235**		P	**Pn**	**22 03 24.1**	**+1.4**
ETVZ	**East Tongariro**	**3.45 235**		P	**Pn**	**22 03 24.1**	**+1.3**
NNVZ	**North Ngauruho**	**3.51 236**		P	**Pn**	**22 03 25.4**	**+1.8**
WTVZ	**West Tongariro**	**3.52 236**		P	**Pn**	**22 03 25.9**	**+2.2**
NGZ	**Ngauruhoe**	**3.54 235**		P	**Pn**	**22 03 25.4**	**+1.3**
TUVZ	**Tukino**	**3.56 233**		P	**Pn**	**22 03 26.3**	**+2.0**
MOVZ	**Moawhango**	**3.58 231**		P	**Pn**	**22 03 25.8**	**+1.3**
MBAZ	**Motutapu North**	**3.58 276**		P	**Pn**	**22 03 24.3**	**-0.2**
TWVZ	**Taurewa**	**3.60 238**		P	**Pn**	**22 03 26.5**	**+1.7**
WNVZ	**Wahianoa**	**3.63 233**		P	**Pn**	**22 03 26.4**	**+1.1**
ABAZ	**Army Bay**	**3.66 278**		P	**Pn**	**22 03 26.2**	**+0.6**
AWAZ	**Awhitu Peninsu**	**3.75 271**		P	**Pn**	**22 03 28.0**	**+1.2**
HIZ	**Hauiti**	**3.78 248**		Pn	**Pn**	**22 03 29.2**	**+2.0**
HIZ	**Hauiti**	**3.78 248**		P	**Pn**	**22 03 29.6**	**+2.4**
WTAZ	**Waiatarua**	**3.82 273**		P	**Pn**	**22 03 29.1**	**+1.4**
TSZ	**Takapari Road**	**3.89 222**		P	**Pn**	**22 03 29.3**	**+0.5**
WCZ	**Waipu Caves**	**4.21 286**		P	**Pn**	**22 03 32.9**	**-0.2**
BFZ	**Birch Farm**	**4.23 214**		Pn	**Pn**	**22 03 31.8**	**-1.7**
BFZ				Sn	**Sn**	**22 04 20.8**	**-0.9**
BFZ	**Birch Farm**	**4.23 214**		P	**Pn**	**22 03 33.0**	**-0.4**
PRWZ	**Pori Road**	**4.26 217**		P	**Pn**	**22 03 34.7**	**+1.0**
MRZ	**Mangatainoka R**	**4.53 219**		P	**Pn**	**22 03 38.1**	**+0.5**
KHEZ	**Kahui Hut**	**4.68 242**		P	**Pn**	**22 03 43.8**	**+4.1**
TMWZ	**Te Maipa**	**4.73 213**		P	**Pn**	**22 03 40.0**	**-0.4**
HOWZ	**Holdsworth Sta**	**4.74 218**		P	**Pn**	**22 03 40.9**	**+0.4**
OUZ	**Omahuta**	**5.04 291**		P	**Pn**	**22 03 44.5**	**-0.1**
MSWZ	**Moikau Station**	**5.27 216**		Pn	**Pn**	**22 03 46.1**	**-1.6**
MSWZ				Sn	**Sn**	**22 04 43.8**	**-3.4**
PLWZ	**Palliser**	**5.39 215**		Pn	**Pn**	**22 03 47.0**	**-2.3**
SNZO	**South Karori**	**5.46 220**		Pn	**Pn**	**22 03 48.3**	**-2.0**
CMWZ	**Cape Campbell**	**6.03 220**		Pn	**Pn**	**22 03 56.4**	**-1.8**
CMWZ				Sn	**Sn**	**22 05 04.8**	**-1.2**
NNZ	**Nelson**	**6.12 227**		Pn	**Pn**	**22 03 58.3**	**-1.1**
NNZ				Sn	**Sn**	**22 05 04.6**	**-3.6**
BSWZ	**Blackbirch Sta**	**6.18 221**		Pn	**Pn**	**22 03 58.4**	**-1.7**
QRZ	**Quartz Range**	**6.42 234**		Pn	**Pn**	**22 04 03.2**	**-0.3**
QRZ	**Quartz Range**	**6.42 234**		P	**Pn**	**22 04 02.9**	**-0.5**
THZ	**Tophouse**	**6.75 226**		Pn	**Pn**	**22 04 06.4**	**-1.6**
THZ					**Sn**	**22 05 20.1**	**-3.5**
KHZ	**Kahutara**	**6.86 219**		Pn	**Pn**	**22 04 07.7**	**-1.7**
LTZ	**Lake Taylor**	**7.78 222**		Pn	**Pn**	**22 04 20.8**	**-1.4**
MQZ	**McQueen's Vall**	**8.26 216**		Pn	**Pn**	**22 04 26.5**	**-2.1**
OXZ	**Oxford**	**8.28 220**			**Pn**	**22 04 24.4**	**-4.5**
RPZ	**Rata Peaks**	**9.06 222**		Pn	**Pn**	**22 04 37.2**	**-2.6**
	0.4nm,0.3s,baz=103,slow=17,SNR=1.3						
RPZ				Sn	Sn	22 06 10.0	-11
	3.4nm,0.3s,baz=74,slow=13,SNR=9.4						
LBZ	**Lake Benmore**	**9.98 221**		Pn	**Pn**	**22 04 49.2**	**-3.1**
BBOO	**Buckleboo**	**35.49 264**		P	**P**	**22 09 25.0**	**+0.2**
ASAR	**Alice Springs**	**41.06 276**		P	**P**	**22 10 11.4**	**-0.4**
	1.2nm,0.6s,baz=120,slow=8.2,SNR=17						
	1.2nm,0.6s						
FORT	**Forrest**	**42.57 263**		P	**P**	**22 10 22.6**	**-1.5**
FORT				IAmb	IAmb	22 10 40.4	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	**42.66 281**		P	**P**	**22 10 24.3**	**-0.6**
WB2				IAmb	IAmb	22 10 51.3	
	comp=Z,9.0nm,1.4s						
WRAB	**Tennant Creek**	**42.66 281**		P	**P**	**22 10 24.2**	**-0.7**
WRAB				IAmb	IAmb	22 10 54.3	
	comp=Z,6.2nm,1.3s						
WRA	**Warramunga Arr**	**42.67 281**		P	**P**	**22 10 23.7**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=123,slow=7.5,SNR=19						
	comp=Z,1.3nm,0.6s						
WRA	**Warramunga Arr**	**42.67 281**		P	**P**	**22 10 24.3**	**-0.6**
WB0	**Warramunga Arr**	**42.72 281**		P	**P**	**22 10 24.7**	**-0.7**
WB0				IAmb	IAmb	22 10 36.1	
	comp=Z,12nm,1.5s						
FITZ	**Fitzroy Crossi**	**50.54 277**		P	**P**	**22 11 25.9**	**-0.7**
FITZ				IAmb	IAmb	22 11 42.8	
	comp=Z,12nm,1.5s						
QSPA	**South Pole Qui**	**52.93 180**		P	**P**	**22 11 48.0**	**+4.0**
	comp=Z,0.6nm,0.8s,baz=47,slow=3.7,SNR=1.6						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**52.93 180**		P	**P**	**22 11 42.0**	**-2.0**
MAW	**Mawson**	**65.19 202**		P	**P**	**22 13 09.2**	**+0.6**
H03N3	**Juan Fernandez**	**78.78 123**		T	T	23 41 14.0	
	baz=235						
H03N2	**Juan Fernandez**	**78.79 123**		T	T	23 41 14.5	
	baz=235						
H03N1	**Juan Fernandez**	**78.80 123**		T	T	23 41 21.0	
	baz=235						
JOW	**Kunigami**	**79.74 315**		P	**P**	**22 14 37.2**	**+1.3**
FINES	**FINESS Array B**	**150.53 334**		PKPbc	**PKiKP**	**22 22 18.3**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=64,slow=3.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**155.96 186**		PKPab	**PKPab**	**22 22 51.6**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=156,slow=3.7,SNR=1.0						

WEL 01 22:10:53.0±2.6,37°S±8°×17°9E±1°1,h18km±26km,M3.5/18, ML3.7/18,MLv3.5/18,Error ellipse: s-maj=0.0km s-min=0.0km az=91.3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.08 214**		P	Pb	22 11 12.7	-0.4
PUZ				S	Sb	22 11 26.7	-0.1
HAZ	**Te Kaha**	**1.14 239**		P	Pb	22 11 14.4	+0.3
HAZ				S	Sn	22 11 28.9	-0.2
TWGZ	**Tauwhareparae**	**1.29 219**		P	Pn	22 11 16.0	-0.2
TWGZ				S	Sn	22 11 33.0	0.0
RUGZ	**Raukumara Rang**	**1.32 233**		P	Pb	22 11 17.2	-0.1
CNGZ	**Carnagh Statio**	**1.45 206**		P	Pn	22 11 18.6	+0.3
CNGZ				S	Sb	22 11 38.8	+1.2
WIZ	**White Island**	**1.50 256**		P	Pn	22 11 19.4	+0.5
TKGZ	**Te Karaka**	**1.56 216**		P	Pn	22 11 19.1	-0.7
MWZ	**Matawai**	**1.65 225**		P	Pn	22 11 20.7	-0.4
WHRZ	**Whale Island**	**1.76 247**		P	Pn	22 11 23.2	+0.7
RIGZ	**Rimuhau**	**1.82 213**		P	Pn	22 11 22.6	-0.8
RAGZ	**Rawiri**	**1.83 223**		P	Pn	22 11 23.7	+0.1
URZ	**Urewera**	**1.86 234**		P	Pn	22 11 24.1	+0.2
MARZ	**Manawahe**	**2.03 246**		P	Pn	22 11 24.1	-2.1
EDRZ	**Edgecumbe**	**2.03 242**		P	Pn	22 11 26.6	+0.3
OPRZ	**Ohinepanea**	**2.07 250**		P	Pn	22 11 26.6	-0.1
SNGZ	**Shannon Statio**	**2.08 219**		P	Pn	22 11 27.3	+0.4
RTZ	**Ruatahuna**	**2.16 228**		P	Pn	22 11 28.1	0.0
RRRZ	**Republican Roa**	**2.30 239**		P	Pn	22 11 30.2	+0.3
KARZ	**Kaharoa**	**2.36 248**		P	Pn	22 11 30.9	+0.2
HLRZ	**Highlands Stat**	**2.37 242**		P	Pn	22 11 31.4	+0.4
MTHZ	**Maungataniwha**	**2.40 225**		P	Pn	22 11 31.2	-0.1
NMHZ	**Naumai**	**2.59 222**		P	Pn	22 11 34.1	0.0
ARHZ	**Aropaoanui**	**2.62 217**		P	Pn	22 11 33.5	-0.9
KUZ	**Kuaotunu**	**2.67 278**		P	Pn	22 11 34.5	-0.6
BKZ	**Black Stump Fm**	**2.81 224**		P	Pn	22 11 36.3	-0.7
GRZ	**Great Barrier**	**3.01 287**		P	Pn	22 11 41.2	+1.6
KAHZ	**Kahuranaki**	**3.11 212**		P	Pn	22 11 39.0	-2.1
WIAZ	**Waiheke Island**	**3.13 276**		P	Pn	22 11 42.9	+1.5
KRHZ	**Kereru**	**3.22 219**		P	Pn	22 11 41.0	-1.7
ETVZ	**East Tongariro**	**3.26 232**		P	Pn	22 11 42.4	-0.8
NNVZ	**North Ngauruho**	**3.32 233**		P	Pn	22 11 43.8	-0.2
MBAZ	**Motutapu North**	**3.32 276**		P	Pn	22 11 45.7	+1.7
WTVZ	**West Tongariro**	**3.32 233**		P	Pn	22 11 43.8	-0.3
NGZ	**Ngauruhoe**	**3.35 232**		P	Pn	22 11 43.8	-0.7
TUVZ	**Tukino**	**3.37 231**		P	Pn	22 11 44.1	-0.7
TWVZ	**Taurewa**	**3.40 235**		P	Pn	22 11 45.5	+0.3
MOVZ	**Moawhango**	**3.40 228**		P	Pn	22 11 44.0	-1.1
ABAZ	**Army Bay**	**3.40 278**		P	Pn	22 11 47.2	+2.0
AWAZ	**Awhitu Peninsu**	**3.50 271**		P	Pn	22 11 48.0	+1.6
HIZ	**Hauiti**	**3.55 247**		P	Pn	22 11 48.4	+1.2
WAZ	**Wanganui**	**4.08 230**		P	Pn	22 11 54.3	-0.1
PKE	**Pukeiti**	**4.45 242**		P	Pn	22 11 59.1	-0.4
KHEZ	**Kahui Hut**	**4.47 240**		P	Pn	22 12 01.3	+1.5
HOWZ	**Holdsworth Sta**	**4.61 215**		P	Pn	22 12 05.6	+3.9
OUZ	**Omahuta**	**4.80 292**		P	Pn	22 12 05.9	+1.6
INZ	**Inchbonnie**	**8.03 224**		P	Pn	22 12 54.1	+5.5
ARCZ	**Arundel**	**9.02 219**		P	Pn	22 13 03.0	+0.9

*NEIC **01** 22:22:33.5±1.8,37°.1S±0°.1×179°.64E±0°.10,h10km±2km, mb4.2/5, Error ellipse: s-maj=19.7km s-min=12.1km az=158.0*
*IDC **01** 22:22:34.3±3.2,36°.60S×179°.19E,h0km,mb4.0/2, mbtmp4.0/3,ML4.0/1,Error ellipse: s-maj=73.1km s-min=42.8km az=125.0*
*WEL **01** 22:22:39.3±1.1,37°S±5°×17°9E±°,h18km±10km,M3.5/24, ML3.8/

RPZ	**Rata Peaks**	**9.19 221**	Pn	**Pn**	**22 24 46.9**	**-0.5**
	0.3nm,0.3s,baz=84,slow=18,SNR=1.3						
RPZ			Sn	Sn	22 26 19.5	-11
	0.7nm,0.3s,baz=6.3,slow=18,SNR=8.6						
ASAR	**Alice Springs**	**41.07 276**	P	**P**	**22 30 18.2**	**-0.4**
	1.7nm,0.7s,baz=116,slow=7.4,SNR=13						
	1.7nm,0.7s						
WR0	**Warramunga Arr**	**42.50 281**	P	**P**	**22 30 29.8**	**-0.5**
WR0			IAmb	IAmb	22 30 48.3		
	comp=Z,7.4nm,1.4s						
WB2	**Warramunga Arr**	**42.66 281**	P	**P**	**22 30 31.2**	**-0.4**
WB2			IAmb	IAmb	22 30 32.7		
	comp=Z,2.7nm,0.8s						
WRA	**Warramunga Arr**	**42.67 281**	P	**P**	**22 30 30.9**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=121,slow=7.7,SNR=23						
	comp=Z,0.8nm,0.4s						
WRA	**Warramunga Arr**	**42.67 281**	P	**P**	**22 30 31.6**	**-0.1**
WB0	**Warramunga Arr**	**42.72 281**	P	**P**	**22 30 31.8**	**-0.3**
WB0			IAmb	IAmb	22 30 38.0		
	comp=Z,8.6nm,1.5s						
FITZ	**Fitzroy Crossi**	**50.55 277**	P	**P**	**22 31 34.0**	**+0.5**
FINES	**FINESS Array B**	**150.41 334**	PKPbc	**PKPbc**	**22 42 25.2**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=41,slow=4.4,SNR=4.1						

WEL 01 22:24:48.0±0.8, 37°S±5″×17°9E±°, h24km±4km, M3.9/36, ML4.1/36, MLv3.9/36, Error ellipse: s-maj=0.0km s-min=0.0km az=119.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.57**	**253**	P	Pb	22 24 59.4	0.0
MXZ				S	Sb	22 25 06.6	-0.6
WMGZ	**Waiomatatini S**	**0.62**	**228**	P	Pn	22 25 01.9	+0.6
WMGZ				S	Sn	22 25 11.6	+1.1
PKGZ	**Pakihiroa**	**0.88**	**236**	P	Pn	22 25 05.5	+0.6
PKGZ				S	Sn	22 25 17.0	+0.1
PUZ	**Puketiti**	**0.89**	**221**	P	Pn	22 25 05.8	+0.7
PUZ				S	Sn	22 25 18.3	+1.1
HAZ	**Te Kaha**	**1.03**	**249**	P	Pn	22 25 06.1	-0.8
HAZ				S	Sn	22 25 20.0	+0.1
TWGZ	**Tauwhareparae**	**1.12**	**226**	P	Pn	22 25 09.0	+0.3
TWGZ				S	Sn	22 25 24.8	+1.9
RUGZ	**Raukumara Rang**	**1.19**	**241**	P	Pn	22 25 08.8	-0.5
RUGZ				S	Sb	22 25 25.6	+0.7
CNGZ	**Carnagh Statio**	**1.25**	**210**	P	Pn	22 25 10.4	+0.5
TKGZ	**Te Karaka**	**1.38**	**221**	P	Pn	22 25 12.0	+0.3
TKGZ				S	Sb	22 25 29.9	-0.4
MWZ	**Matawai**	**1.49**	**231**	P	Pn	22 25 12.4	-0.9
MWZ				S	Sn	22 25 31.6	-0.4
RIGZ	**Rimuhau**	**1.63**	**216**	P	Pn	22 25 15.1	-0.1
RIGZ				S	Sn	22 25 35.2	-0.2
RAGZ	**Rawiri**	**1.66**	**228**	P	Pn	22 25 15.2	-0.5
RAGZ				S	Sn	22 25 37.3	+1.0
WHRZ	**Whale Island**	**1.67**	**254**	P	Pn	22 25 15.7	0.0
WHRZ				S	Sn	22 25 37.5	+1.1
URZ	**Urewera**	**1.72**	**240**	P	Pn	22 25 15.4	-1.1
URZ				S	Sn	22 25 38.6	+0.9
PRGZ	**Paritu Road**	**1.75**	**210**	P	Pn	22 25 16.1	-0.9
SNGZ	**Shannon Statio**	**1.90**	**223**	P	Pn	22 25 18.9	0.0
SNGZ				S	Sn	22 25 42.2	0.0
EDRZ	**Edgecumbe**	**1.92**	**248**	P	Pn	22 25 20.1	+0.8
KNZ	**Kokohu**	**1.93**	**212**	P	Pn	22 25 17.8	-1.5
KNZ				S	Sn	22 25 42.2	-0.4
MARZ	**Manawahe**	**1.93**	**252**	P	Pn	22 25 20.1	+0.8
MHGZ	**Mahia Peninsul**	**1.95**	**206**	P	Pn	22 25 18.8	-0.7
OPRZ	**Ohinepanea**	**1.99**	**256**	P	Pn	22 25 18.3	-1.8
OPRZ				S	Sn	22 25 42.8	-1.4
RTZ	**Ruatahuna**	**2.00**	**232**	P	Pn	22 25 19.9	-0.5
RTZ				S	Sn	22 25 46.3	+1.6
MUGZ	**Murupara**	**2.06**	**238**	P	Pn	22 25 21.4	+0.3
RAHZ	**Arahi**	**2.13**	**224**	P	Pn	22 25 22.4	+0.3
TARZ	**Mount Tarawera**	**2.14**	**246**	P	Pn	22 25 22.9	+0.6
WHHZ	**Waihua**	**2.17**	**219**	P	Pn	22 25 22.8	+0.1
RRRZ	**Republican Roa**	**2.18**	**244**	P	Pn	22 25 23.0	+0.3
OMRZ	**Omania**	**2.20**	**251**	P	Pn	22 25 24.0	+1.0
MYRZ	**Mayor Island**	**2.20**	**272**	P	Pn	22 25 23.6	+0.6
MTHZ	**Maungataniwha**	**2.23**	**229**	P	Pn	22 25 22.9	-0.7
HLRZ	**Highlands Stat**	**2.26**	**247**	P	Pn	22 25 24.9	+1.0
KARZ	**Kaharoa**	**2.27**	**253**	P	Pn	22 25 24.5	+0.5
PRRZ	**Plateau Road**	**2.33**	**241**	P	Pn	22 25 24.9	0.0
HSRZ	**Hossack Road**	**2.36**	**247**	P	Pn	22 25 26.4	+1.1
ALRZ	**Allen Road**	**2.40**	**240**	P	Pn	22 25 26.6	+0.8
ARHZ	**Aropaoanui**	**2.44**	**220**	P	Pn	22 25 25.7	-0.6
MRHZ	**Matea Rd**	**2.49**	**234**	P	Pn	22 25 27.4	+0.3
BKZ	**Black Stump Fm**	**2.64**	**227**	P	Pn	22 25 28.1	-1.0
CKHZ	**Cape Kidnapper**	**2.71**	**213**	P	Pn	22 25 29.4	-0.7
TOZ	**Tahuroa Road**	**2.80**	**262**	P	Pn	22 25 28.8	-2.4
KWHZ	**Kaweka Forest**	**2.86**	**224**	P	Pn	22 25 31.8	-0.4
KAHZ	**Kahuranaki**	**2.91**	**214**	P	Pn	22 25 31.2	-1.7
RITZ	**Rihia Road**	**2.93**	**237**	P	Pn	22 25 33.5	+0.4
RATZ	**Rangitukua**	**2.93**	**239**	P	Pn	22 25 33.8	+0.6
KATZ	**Kakaramea**	**3.04**	**238**	P	Pn	22 25 35.1	+0.4
KRHZ	**Kereru**	**3.04**	**222**	P	Pn	22 25 33.8	-0.9
TMVZ	**Te Maari**	**3.11**	**236**	P	Pn	22 25 35.2	-0.4
BHHZ	**Black Hill Sta**	**3.11**	**227**	P	Pn	22 25 35.2	-0.4
PXZ	**Pawanui**	**3.11**	**212**	P	Pn	22 25 34.0	-1.5
ETVZ	**East Tongariro**	**3.11**	**235**	P	Pn	22 25 35.2	-0.5
NTVZ	**North Tongarir**	**3.12**	**236**	P	Pn	22 25 35.7	0.0
KRVZ	**Karewarewa**	**3.14**	**236**	P	Pn	22 25 36.2	+0.2
OTVZ	**Oturere**	**3.16**	**235**	P	Pn	22 25 36.4	0.0
NNVZ	**North Ngauruho**	**3.17**	**236**	P	Pn	22 25 36.9	+0.3
WTVZ	**West Tongariro**	**3.18**	**236**	P	Pn	22 25 36.9	+0.3
SNVZ	**South Ngauruho**	**3.19**	**235**	P	Pn	22 25 36.7	-0.1
NGZ	**Ngauruhoe**	**3.21**	**235**	P	Pn	22 25 36.4	-0.6
TUVZ	**Tukino**	**3.22**	**234**	P	Pn	22 25 37.3	+0.1
MOVZ	**Moawhango**	**3.24**	**231**	P	Pn	22 25 37.0	-0.4
TWVZ	**Taurewa**	**3.26**	**238**	P	Pn	22 25 37.9	+0.2
WHVZ	**Whangaehu Hut**	**3.27**	**234**	P	Pn	22 25 37.9	-0.1
ETAZ	**East Tamaki Re**	**3.28**	**277**	P	Pn	22 25 39.3	+1.4
WNVZ	**Wahianoa**	**3.29**	**233**	P	Pn	22 25 38.2	0.0
WPHZ	**Waipukurau**	**3.33**	**216**	P	Pn	22 25 37.2	-1.3
PNHZ	**Pukenui**	**3.33**	**220**	P	Pn	22 25 37.0	-1.6
PKVZ	**Pokaka**	**3.43**	**236**	P	Pn	22 25 40.3	+0.3
HIZ	**Hauiti**	**3.46**	**250**	P	Pn	22 25 41.4	+1.1
AWAZ	**Awhitu Peninsu**	**3.49**	**274**	P	Pn	22 25 41.1	+0.3
TSZ	**Takapari Road**	**3.56**	**221**	P	Pn	22 25 40.0	-1.8
BFZ	**Birch Farm**	**3.91**	**212**	P	Pn	22 25 44.1	-2.5
WAZ	**Wanganui**	**3.92**	**232**	P	Pn	22 25 47.0	+0.2
PRWZ	**Pori Road**	**3.93**	**216**	P	Pn	22 25 45.5	-1.4
LREZ	**Lake Rotokare**	**4.15**	**239**	P	Pn	22 25 50.9	+1.1
MRZ	**Mangatainoka R**	**4.21**	**218**	P	Pn	22 25 48.1	-2.5
PREZ	**Palmer Road**	**4.27**	**242**	P	Pn	22 25 53.8	+2.3
NEZ	**North Egmont**	**4.28**	**243**	P	Pn	22 25 54.6	+2.9
PKE	**Pukeiti**	**4.33**	**244**	P	Pn	22 25 55.1	+2.8
KHEZ	**Kahui Hut**	**4.35**	**243**	P	Pn	22 25 54.6	+2.0
BSWZ	**Blackbirch Sta**	**5.85**	**221**	P	Pn	22 26 10.3	-2.9
CTZ	**Chatham Island**	**7.15**	**154**	P	Pn	22 26 30.7	-0.4

*NOU **01** 22:29:04.6, 38°07′S×175°99′E, h161km, MLv3.8/4, North Island, New Zealand*

*WEL **01** 22:29:06.7±1.0, 38°S±7″×17°6E±°, h135km±7km, M2.7/27, ML2.3/7, MLv2.7/27, Error ellipse: s-maj=0.0km s-min=0.0km az=34.0*

ISC 01 22:28:59.3±2.0, 37°99S±0′06×176°49E±0′07, h195km±10km, n107, σ2§20/116, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.15**	**90**	P	**Pn**	**22 29 27.0**	**+2.0**
OMRZ	**Omania**	**0.15**	**217**	P	**Pn**	**22 29 26.6**	**+1.7**
KARZ	**Kaharoa**	**0.19**	**259**	P	**Pn**	**22 29 26.6**	**+1.5**
KARZ				S	**Sn**	**22 29 40.3**	**-4.6**
TARZ	**Mount Tarawera**	**0.25**	**176**	P	**Pn**	**22 29 27.1**	**+1.8**
NGRZ	**Ngongotaha**	**0.26**	**243**	P	**Pn**	**22 29 27.0**	**+1.8**
HLRZ	**Highlands Stat**	**0.29**	**201**	P	**Pn**	**22 29 27.2**	**+2.0**
RRRZ	**Republican Roa**	**0.35**	**176**	P	**Pn**	**22 29 27.0**	**+1.6**
HSRZ	**Hossack Road**	**0.38**	**210**	P	**Pn**	**22 29 27.3**	**+1.9**
GRRZ	**Galatos Road**	**0.47**	**219**	P	**Pn**	**22 29 27.5**	**+1.8**
MUGZ	**Murupara**	**0.54**	**156**	P	**Pn**	**22 29 27.6**	**+1.6**
MUGZ				S	**Sn**	**22 29 44.8**	**-2.0**
URZ	**Urewera**	**0.56**	**119**	P	**Pn**	**22 29 27.6**	**+1.6**
URZ				S	**Sn**	**22 29 45.2**	**-1.6**
KUTZ	**Kaahu Road**	**0.72**	**226**	P	**Pn**	**22 29 28.8**	**+1.9**
RTZ	**Ruatahuna**	**0.74**	**148**	P	**Pn**	**22 29 29.0**	**+2.0**
RTZ				S	**Sn**	**22 29 47.1**	**-1.5**
TOZ	**Tahuroa Road**	**0.82**	**288**	P	**Pn**	**22 29 29.3**	**+1.9**
TOZ				S	**Sn**	**22 29 43.9**	**-5.1**
TLZ	**Tolley Road**	**0.82**	**245**	P	**Pn**	**22 29 29.3**	**+1.9**
MRHZ	**Matea Rd**	**0.85**	**184**	P	**Pn**	**22 29 29.5**	**+1.9**
RAGZ	**Rawiri**	**0.89**	**125**	P	**Pn**	**22 29 30.2**	**+2.3**
MTHZ	**Maungataniwha**	**0.91**	**162**	P	**Pn**	**22 29 30.2**	**+2.2**
MTHZ				S	**Sn**	**22 29 49.0**	**-1.3**
WATZ	**Wairara**	**0.93**	**219**	P	**Pn**	**22 29 30.1**	**+2.0**
SNGZ	**Shannon Statio**	**1.04**	**140**	P	**Pn**	**22 29 31.3**	**+2.5**
SNGZ				S	**Sn**	**22 29 51.2**	**-0.7**
RAHZ	**Arahi**	**1.04**	**153**	P	**Pn**	**22 29 31.7**	**+2.9**
RAHZ				S	**Sn**	**22 29 52.0**	**0.0**
RATZ	**Rangitukua**	**1.04**	**212**	P	**Pn**	**22 29 30.9**	**+2.0**
RITZ	**Rihia Road**	**1.11**	**206**	P	**Pn**	**22 29 31.8**	**+2.4**
NMHZ	**Naumai**	**1.14**	**167**	P	**Pn**	**22 29 32.7**	**+3.1**
BKZ	**Black Stump Fm**	**1.18**	**180**	P	**Pn**	**22 29 31.9**	**+2.0**
BKZ				S	**Sn**	**22 29 52.5**	**-1.3**
BKZ	**Black Stump Fm**	**1.18**	**180**	P	**Pn**	**22 29 31.9**	**+2.0**
RIGZ	**Rimuhau**	**1.23**	**126**	P	**Pn**	**22 29 29.8**	**-0.6**
WHHZ	**Waihua**	**1.24**	**152**	P	**Pn**	**22 29 33.4**	**+3.1**
NTVZ	**North Tongarir**	**1.28**	**209**	P	**Pn**	**22 29 33.3**	**+2.6**
TMVZ	**Te Maari**	**1.28**	**208**	P	**Pn**	**22 29 32.9**	**+2.1**
KRVZ	**Karewarewa**	**1.29**	**211**	P	**Pn**	**22 29 33.0**	**+2.1**
ETVZ	**East Tongariro**	**1.30**	**208**	P	**Pn**	**22 29 33.1**	**+2.1**
WTVZ	**West Tongariro**	**1.33**	**212**	P	**Pn**	**22 29 33.3**	**+2.1**
NNVZ	**North Ngauruho**	**1.33**	**211**	P	**Pn**	**22 29 33.5**	**+2.3**
ARHZ	**Aropaoanui**	**1.34**	**163**	P	**Pn**	**22 29 34.2**	**+3.1**
OTVZ	**Oturere**	**1.34**	**208**	P	**Pn**	**22 29 34.3**	**+2.9**
TWVZ	**Taurewa**	**1.36**	**217**	P	**Pn**	**22 29 33.6**	**+2.2**
MKAZ	**Moumakai**	**1.37**	**309**	P	**Pn**	**22 29 34.0**	**+2.5**
NGZ	**Ngauruhoe**	**1.38**	**210**	P	**Pn**	**22 29 33.9**	**+2.3**
KUZ	**Kuaotunu**	**1.38**	**334**	P	**Pn**	**22 29 33.9**	**+2.4**
HIZ	**Hauiti**	**1.39**	**247**	P	**Pn**	**22 29 33.9**	**+2.4**
KNZ	**Kokohu**	**1.39**	**138**	P	**Pn**	**22 29 33.5**	**+2.0**
TUVZ	**Tukino**	**1.44**	**207**	P	**Pn**	**22 29 34.5**	**+2.4**
KWHZ	**Kaweka Forest**	**1.44**	**182**	P	**Pn**	**22 29 34.6**	**+2.5**
PRGZ	**Paritu Road**	**1.44**	**131**	P	**Pn**	**22 29 31.5**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.47**	**208**	P	**Pn**	**22 29 34.9**	**+2.3**
WNVZ	**Wahianoa**	**1.51**	**207**	P	**Pn**	**22 29 35.1**	**+2.3**
MOVZ	**Moawhango**	**1.53**	**202**	P	**Pn**	**22 29 34.8**	**+1.9**
BHHZ	**Black Hill Sta**	**1.54**	**192**	P	**Pn**	**22 29 35.1**	**+2.1**
PKVZ	**Pokaka**	**1.58**	**214**	P	**Pn**	**22 29 35.7**	**+2.4**
WIAZ	**Waiheke Island**	**1.60**	**317**	P	**Pn**	**22 29 36.3**	**+2.8**
MTVZ	**Mangateitei**	**1.61**	**209**	P	**Pn**	**22 29 36.1**	**+2.5**
MHGZ	**Mahia Peninsul**	**1.61**	**137**	P	**Pn**	**22 29 33.8**	**+0.2**
KRHZ	**Kereru**	**1.66**	**183**	P	**Pn**	**22 29 36.4**	**+2.4**
AWAZ	**Awhitu Peninsu**	**1.73**	**302**	P	**Pn**	**22 29 37.4**	**+2.7**
CKHZ	**Cape Kidnapper**	**1.73**	**165**	P	**Pn**	**22 29 38.0**	**+3.3**
MBAZ	**Motutapu North**	**1.75**	**313**	P	**Pn**	**22 29 37.9**	**+3.0**
KAHZ	**Kahuranaki**	**1.83**	**171**	P	**Pn**	**22 29 38.9**	**+3.2**
WTAZ	**Waiatarua**	**1.85**	**304**	P	**Pn**	**22 29 36.3**	**+0.4**
ABAZ	**Army Bay**	**1.91**	**316**	P	**Pn**	**22 29 39.8**	**+3.3**
PNHZ	**Pukenui**	**1.94**	**187**	P	**Pn**	**22 29 39.1**	**+2.3**
PXZ	**Pawanui**	**2.06**	**172**	P	**Pn**	**22 29 40.9**	**+2.9**
WPHZ	**Waipukurau**	**2.08**	**181**	P	**Pn**	**22 29 40.7**	**+2.5**
TSZ	**Takapari Road**	**2.11**	**191**	P	**Pn**	**22 29 40.8**	**+2.2**
WAZ	**Wanganui**	**2.12**	**213**	P	**Pn**	**22 29 41.2**	**+2.6**
NEZ	**North Egmont**	**2.27**	**235**	P	**Pn**	**22 29 44.1**	**+3.7**
PRHZ	**Porangahau**	**2.28**	**177**	P	**Pn**	**22 29 43.1**	**+2.7**
DVHZ	**Dannevirke**	**2.32**	**186**	P	**Pn**	**22 29 43.1**	**+2.2**
KHEZ	**Kahui Hut**	**2.33**	**235**	P	**Pn**	**22 29 44.6**	**+3.5**
POWZ	**Post Office Ro**	**2.47**	**193**	P	**Pn**	**22 29 44.7**	**+2.2**
ANWZ	**Angora Road**	**2.47**	**180**	P	**Pn**	**22 29 45.3**	**+2.8**
PRWZ	**Pori Road**	**2.60**	**189**	P	**Pn**	**22 29 46.5**	**+2.6**
BFZ	**Birch Farm**	**2.70**	**184**	P	**Pn**	**22 29 47.4**	**+2.3**
BFZ	**Birch Farm**	**2.70**	**184**	P	**Pn**	**22 29 47.6**	**+2.5**
MRZ	**Mangatainoka R**	**2.76**	**194**	P	**Pn**	**22 29 47.7**	**+1.9**
TIWZ	**Tintock**	**2.83**	**189**	P	**Pn**	**22 29 48.7**	**+2.1**
CPWZ	**Castlepoint**	**2.93**	**184**	P	**Pn**	**22 29 50.8**	**+3.0**
HOWZ	**Holdsworth Sta**	**3.00**	**194**	P	**Pn**	**22 29 50.3**	**+1.6**
OGWZ	**Otaki Gorge**	**3.01**	**199**	P	**Pn**	**22 29 51.1**	**+1.8**
KIW	**Kapiti Island**	**3.12**	**203**	P	**Pn**	**22 29 51.4**	**+1.3**
TMWZ	**Te Maipa**	**3.15**	**188**	P	**Pn**	**22 29 52.3**	**+1.9**
MTW	**Mount Morrison**	**3.26**	**193**	P	**Pn**	**22 29 53.1**	**+1.4**
CAW	**Cannon Point**	**3.31**	**199**	P	**Pn**	**22 29 53.7**	**+1.4**
DUWZ	**D'Urville Isla**	**3.44**	**214**	P	**Pn**	**22 29 55.5**	**+1.5**
TRWZ	**Traveller**	**3.46**	**190**	P	**Pn**	**22 29 56.0**	**+1.7**
PAWZ	**Paruwai Farm**	**3.49**	**193**	P	**Pn**	**22 29 55.9**	**+1.3**
WEL	**Wellington**	**3.55**	**201**	P	**Pn**	**22 29 56.6**	**+1.4**
MSWZ	**Moikau Station**	**3.56**	**195**	P	**Pn**	**22 29 56.6**	**+1.2**
SNZO	**South Karori**	**3.59**	**202**	P	**Pn**	**22 29 57.1**	**+1.3**
OUZ	**Omahuta**	**3.61**	**319**	P	**Pn**	**22 30 00.4**	**+4.4**
TCW	**Tory Channel**	**3.65**	**207**	P	**Pn**	**22 29 57.7**	**+1.2**
PLWZ	**Palliser**	**3.70**	**194**	P	**Pn**	**22 29 58.3**	**+1.1**
TUWZ	**Tuamarina**	**3.96**	**209**	P	**Pn**	**22 30 01.4**	**+1.1**
NNZ	**Nelson**	**4.02**	**216**	P	**Pn**	**22 30 02.2**	**+1.1**
TKNZ	**Takaka Hill**	**4.09**	**221**	P	**Pn**	**22 30 02.8**	**+0.9**
QRZ	**Quartz Range**	**4.18**	**226**	P	**Pn**	**22 30 03.6**	**+0.5**
BSWZ	**Blackbirch Sta**	**4.23**	**208**	P	**Pn**	**22 30 04.9**	**+1.1**
MRNZ	**Mairaki Terra**	**4.46**	**219**	P	**Pn**	**22 30 07.1**	**+0.5**
THZ	**Tophouse**	**4.67**	**215**	P	**Pn**	**22 30 10.3**	**+0.9**
KHZ	**Kahutara**	**4.97**	**206**	P	**Pn**	**22 30 14.0**	**+0.9**
KHZ	**Kahutara**	**4.97**	**206**	P	**Pn**	**22 30 14.5**	**+1.4**
GVZ	**Greta Valley S**	**5.63**	**207**	P	**Pn**	**22 30 22.5**	**+0.9**
LTZ	**Lake Taylor**	**5.77**	**213**	P	**Pn**	**22 30 23.8**	**+0.3**
OKCZ	**Okains Bay**	**6.29**	**203**	P	**Pn**	**22 30 30.8**	**+0.6**
MQZ	**McQueen's Vall**	**6.41**	**206**	P	**Pn**	**22 30 31.3**	**-0.4**
TMZ	**Timaru**	**7.61**	**211**	P	**Pn**	**22 30 47.5**	**+0.2**
ODZ	**Otahua Downs**	**8.30**	**210**	P	**Pn**	**22 30 57.4**	**+1.0**

WEL 01 22:32:03.9±1.6, 37°S±6″×17°9E±°, h10km±7km, M3.2/2, ML3.7/4, MLv3.2/2, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.87**	**233**	P	Pg	22 32 19.6	-1.1
MXZ				S	Sg	22 32 29.0	-3.0
WMGZ	**Waiomatatini S**	**0.99**	**218**	P	Pn	22 32 24.3	+0.3
WMGZ				S	Sn	22 32 38.3	+0.3
PKGZ	**Pakihiroa**	**1.22**	**226**	P	Pg	22 32 27.5	+0.1
PKGZ				S	Sg	22 32 43.2	-0.1
PUZ	**Puketiti**	**1.27**	**215**	P	Pb	22 32 28.0	0.0
PUZ				S	Sb	22 32 44.1	-0.2
HAZ	**Te Kaha**	**1.32**	**237**	P	Pg	22 32 29.4	0.0
HAZ				S	Sg	22 32 46.5	0.0
TWGZ	**Tauwhareparae**	**1.48**	**220**	P	Pb	22 32 31.3	-0.4
TWGZ				S	Sg	22 32 51.3	-0.4
RUGZ	**Raukumara Rang**	**1.51**	**232**	P	Pb	22 32 32.0	-0.2
CNGZ	**Carnagh Statio**	**1.64**	**208**	P	Pb	22 32 33.7	-0.5
TKGZ	**Te Karaka**	**1.75**	**217**	P	Pn	22 32 34.3	-0.1
MWZ	**Matawai**	**1.84**	**225**	P	Pn	22 32 36.0	+0.3
WHRZ	**Whale Island**	**1.94**	**244**	P	Pn	22 32 38.1	+1.1
RIGZ	**Rimuhau**	**2.01**	**214**	P	Pn	22 32 38.0	0.0
RAGZ	**Rawiri**	**2.02**	**223**	P	Pn	22 32 38.5	+0.3
URZ	**Urewera**	**2.04**	**233**	P	Pn	22 32 38.7	+0.3
PRGZ	**Paritu Road**	**2.14**	**208**	P	Pn	22 32 39.9	0.0
OPRZ	**Ohinepanea**	**2.24**	**248**	P	Pn	22 32 41.0	-0.1
SNGZ	**Shannon Statio**	**2.27**	**219**	P	Pn	22 32 41.5	0.0
MHGZ	**Mahia Peninsul**	**2.34**	**205**	P	Pn	22 32 42.3	-0.2
RTZ	**Ruatahuna**	**2.35**	**227**	P	Pn	22 32 42.7	0.0
MUGZ	**Murupara**	**2.39**	**232**	P	Pn	22 32 43.3	0.0
MTHZ	**Maungataniwha**	**2.59**	**225**	P	Pn	22 32 46.2	+0.3
NMHZ	**Naumai**	**2.78**	**222**	P	Pn	22 32 49.2	+0.5
ARHZ	**Aropaoanui**	**2.81**	**217**	P	Pn	22 32 48.5	-0.5
MRHZ	**Matea Rd**	**2.83**	**230**	P	Pn	22 32 49.1	-0.1
BKZ	**Black Stump Fm**	**3.00**	**224**	P	Pn	22 32 51.3	-0.4
TOZ	**Tahuroa Road**	**3.01**	**256**	P	Pn	22 32 50.5	-1.2
KUTZ	**Kaahu Road**	**3.03**	**240**	P	Pn	22 32 52.2	+0.2
CKHZ	**Cape Kidnapper**	**3.09**	**212**	P	Pn	22 32 51.3	-1.6
RITZ	**Rihia Road**	**3.26**	**233**	P	Pn	22 32 55.4	+0.2
KAHZ	**Kahuranaki**	**3.29**	**213**	P	Pn	22 32 54.1	-1.5
TMVZ	**Te Maari**	**3.44**	**232**	P	Pn	22 32 57.4	-0.3
ETVZ	**East Tongariro**	**3.45**	**232**	P	Pn	22 32 57.5	-0.4
NTVZ	**North Tongarir**	**3.45**	**232**	P	Pn	22 32 57.7	-0.1
BHHZ	**Black Hill Sta**	**3.46**	**224**	P	Pn	22 32 57.5	-0.6
NNVZ	**North Ngauruho**	**3.50**	**232**	P	Pn	22 32 59.0	+0.4
WTVZ	**West Tongariro**	**3.51**	**233**	P	Pn	22 32 59.2	+0.5
NGZ	**Ngauruhoe**	**3.54**	**232**	P	Pn	22 32 58.8	-0.4
TWVZ	**Taurewa**	**3.58**	**234**	P	Pn	22 33 00.1	+0.4
MOVZ	**Moawhango**	**3.59**	**228**	P	Pn	22 32 58.9	-0.8
WNVZ	**Wahianoa**	**3.63**	**230**	P	Pn	22 33 00.1	-0.4
PNHZ	**Pukenui**	**3.70**	**218**	P	Pn	22 32 59.3	-2.0
HIZ	**Hauiti**	**3.73**	**245**	P	Pn	22 33 02.7	+1.1
PRHZ	**Porangahau**	**3.79**	**211**	P	Pn	22 32 59.5	-3.0
WAZ	**Wanganui**	**4.27**	**229**	P	Pn	22 33 08.9	-0.1
KHEZ	**Kahui Hut**	**4.65**	**239**	P	Pn	22 33 16.2	+1.9
OUZ	**Omahuta**	**4.87**	**290**	P	Pn	22 33 17.3	+0.1

*NEIC **01** 22:42:03±2.8, 6°53S±0′05×129°66E±0′08, h175km±16km, mb4.1/3, Error ellipse: s-maj=12.0km s-min=5.7km*

az=65.0

*IDC **01** 22:42:04.5±2.1, 6°64S×130°02E, h152km±24km, mb3.4/2, mbtmp3.8/7, MS3.0/1, Error ellipse: s-maj=33.1km s-min=17.0km az=82.0*

ISC 01 22:42:02.1±0.7, 6°63S±0′05×129°72E±0′08, h150km, n24, σ2§84/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.06**	**131**		**Pn**	**22 42 41.2**	**+3.2**
FAKI	**Fak Fak**	**4.46**	**34**	Pn	**Pn**	**22 43 10.0**	**+1.6**
FAKI				Sn	**Sn**	**22 43 58.2**	**-1.9**
SIJI	**Sorong**	**5.92**	**15**	P	**Pn**	**22 43 29.9**	**+2.0**
	5.4nm,0.3s,baz=180,slow=20,SNR=16						
SIJI				S	**Sn**	**22 44 31.8**	**-3.1**
	12nm,0.3s,baz=250,slow=23,SNR=8.9						
MTN	**Manton Dam**	**6.33**	**167**		**Pn**	**22 43 36.3**	**+3.0**
BATI	**Baumata**	**6.97**	**239**	P	Pn	22 43 48.3	+6.5
	18nm,0.4s,baz=86,slow=13,SNR=2.3						
BATI				S	**Sn**	**22 45 02.0**	**+2.0**
	26nm,0.4s,baz=73,slow=20,SNR=1.9						
KNRA	**Kununurra**	**9.04**	**186**	Pn	**Pn**	**22 44 11.9**	**+2.5**
FITZ	**Fitzroy Crossi**	**12.08**	**199**	P	**Pn**	**22 44 51.4**	**+2.0**
	0.9nm,0.3s,baz=31,slow=14,SNR=16						
FITZ				S	**Sn**	**22 46 55.7**	**-7.3**
	1.5nm,0.3s,baz=22,slow=16,SNR=2.9						
FITZ	**Fitzroy Crossi**	**12.08**	**199**	Pn	**Pn**	**22 44 51.1**	**+1.7**
WB0	**Warramunga Arr**	**13.83

PLTB Pedras Altas 28.41 316 eP P 23 02 28.5 +0.7
CPSB Cacapava Do Su 29.55 318 eP P 23 02 38.9 +1.0
PLCA Paso Flores 29.78 282 LR LR 23 14 41.0
comp=Z,130nm,20.5s,baz=121,slow=36
ITQB Itaqui 31.47 314 P P 23 02 54.6 -0.2
ITQB IAmb IAmb 23 02 56.3
comp=Z,23nm,0.8s
ITQB Itaqui 31.47 314 eP P 23 02 56.2 +1.3
ITAB Concordia 31.93 322 eP P 23 02 57.6 -1.3
MAN01 Angra dos Reis 33.74 338 eP P 23 03 12.9 -2.0
PTGB Pitanga 34.23 324 eP P 23 03 19.7 +0.5
CPUP Villa Florida 34.71 315 P P 23 03 23.0 -0.2
comp=Z,29nm,1.0s,baz=152,slow=7.4,SNR=36
CPUP LR LR 23 15 05.7
comp=Z,129nm,20.9s,baz=155,slow=32
comp=Z,29nm,1.0s
CPUP Villa Florida 34.71 315 P P 23 03 23.1 0.0
CPUP IAmb IAmb 23 03 24.4
comp=Z,25nm,0.9s
CPUP Villa Florida 34.71 315 eP P 23 03 22.9 -0.2
QSPA South Pole Qui 35.05 180 P P 23 03 26.6 +0.7
comp=Z,16nm,1.0s,baz=197,slow=5.2,SNR=18
comp=Z,16nm,1.0s
QSPA South Pole Qui 35.05 180 P P 23 03 27.0 +1.0
QSPA IAmb IAmb 23 03 40.0
comp=Z,33nm,1.0s
QSPA South Pole Qui 35.05 180 pP 23 03 27.7 0.0
MT09 Talagante 35.06 291 P P 23 03 26.0 -0.3
ALF01 Guarapari-ES 35.33 344 eP P 23 03 25.8 -2.7
PEL Peldehue 35.38 292 P P 23 03 29.5 +0.6
ZON Zonda 35.58 296 P P 23 03 30.6 -0.2
ZON IAmb IAmb 23 03 31.6
comp=Z,39nm,1.5s
VA03 San Esteban 35.60 292 P P 23 03 31.3 +0.3
VA03 IAmb IAmb 23 03 33.3
comp=Z,18nm,0.8s
ROC1 El Roble 35.69 292 P P 23 03 32.2 +0.4
VA06 Catapilco 36.16 292 P P 23 03 35.1 -0.5
TRCB Terra Rica 36.20 325 eP P 23 03 35.6 -0.5
PCMB Pacaembu 36.87 327 eP P 23 03 41.2 -0.6
CO02 Combarbal 37.06 294 P P 23 03 43.8 +0.3
CO02 IAmb IAmb 23 03 45.2
comp=Z,73nm,1.2s
CO01 Juntas del Tor 37.56 296 P P 23 03 48.9 +1.0
AQDB Aquidauana 39.40 322 P P 23 04 03.0 -0.1
AQDB Aquidauana 39.40 322 eP P 23 04 03.2 +0.1
C2SB Chapadao do Su 40.03 327 eP P 23 04 08.3 0.0
GO02 Mina Guanaco 41.25 301 P P 23 04 19.2 +0.4
BDFB Brasilia 41.65 335 LR LR 23 19 35.5
comp=Z,235nm,21.0s,baz=153,slow=33
MAW Mawson 42.05 145 P P 23 04 23.7 -0.8
comp=Z,2.2nm,0.9s,baz=248,slow=12,SNR=5.8
comp=Z,2.2nm,0.9s
MAW Mawson 42.05 145 P P 23 04 25.1 +0.7
SUR Sutherland 42.49 79 LR LR 23 16 01.5
comp=Z,43nm,21.7s,baz=222,slow=28
LVC Limon Verde 43.08 304 P P 23 04 34.6 +0.9
comp=Z,4.8nm,0.5s,baz=170,slow=2.5,SNR=7.9
LVC LR LR 23 25 57.5
comp=Z,88nm,18.1s,baz=152,slow=41
comp=Z,4.8nm,0.5s
LVC Limon Verde 43.08 304 P P 23 04 33.8 0.0
SALV Santo Antonio 43.64 324 eP P 23 04 38.0 +0.1
SDBA SAO DESIDERIO 44.09 340 eP P 23 04 39.1 -2.4
PB01 IPOC Station P 44.69 304 P P 23 04 46.7 +0.3
PB01 IAmb IAmb 23 04 48.6
comp=Z,34nm,1.1s
PTLB Pontes e Lacer 45.27 320 P P 23 04 51.0 +0.2
PTLB IAmb IAmb 23 04 52.1
comp=Z,18nm,0.9s
PTLB Pontes e Lacer 45.27 320 eP P 23 04 50.6 -0.3
SIV San Ignacio 45.51 317 P P 23 04 52.2 -0.6
comp=Z,2.2nm,0.5s,baz=158,slow=6.6,SNR=14
comp=Z,2.2nm,0.5s
GO01 Chusmiza 45.73 305 P P 23 04 55.6 +0.4
GO01 IAmb IAmb 23 05 00.8
comp=Z,29nm,1.1s
SBA Scott Base 46.76 185 P P 23 05 02.8 +0.9
SBA IAmb IAmb 23 05 08.4
comp=Z,22nm,1.3s
PB16 IPOC Station P 47.04 306 P P 23 05 05.4 -0.1
VNDA Vanda 47.30 184 P P 23 05 05.2 -1.0
comp=Z,3.1nm,1.0s,baz=269,slow=12,SNR=5.1
comp=Z,3.1nm,1.0s
VNDA Vanda 47.30 184 P P 23 05 06.4 +0.2
VNDA IAmb IAmb 23 05 11.6
comp=Z,12nm,1.1s
BOSA Boshof 47.84 80 P P 23 05 09.6 -1.6
comp=Z,2.8nm,0.9s,baz=223,slow=9.1,SNR=5.1
BOSA LR LR 23 21 30.4
comp=Z,116nm,21.1s,baz=198,slow=31
comp=Z,2.8nm,0.9s
H10S2 ASCENSION HYDR 47.90 22 T T 23 56 45.9
baz=192,slow=74,SNR=24
H10S3 ASCENSION HYDR 47.90 22 T T 23 56 46.8
baz=28,slow=74,SNR=45
VILB Vilhena 47.95 320 P P 23 05 12.0 0.0
VILB IAmb IAmb 23 05 12.9
comp=Z,24nm,1.0s
VILB Vilhena 47.95 320 eP P 23 05 12.6 +0.6
PDRB Porto dos Gac 47.99 325 eP P 23 05 12.6 +0.4
LPAZ La Paz 48.20 309 P P 23 05 15.6 +1.0
comp=Z,8.1nm,0.5s,baz=151,slow=6.9,SNR=29
comp=Z,8.1nm,0.5s
LPAZ La Paz 48.20 309 P P 23 05 14.9 +0.3
LPAZ IAmb IAmb 23 05 17.0
comp=Z,34nm,1.2s
LPAZ La Paz 48.20 309 eP P 23 05 15.5 +1.0
CLDB Colider 48.38 326 eP P 23 05 14.4 -0.9
ASCN Ascension 48.95 22 P P 23 05 20.2 +0.6
H10N1 ASCENSION HYDR 49.01 22 T T 23 58 14.3
baz=192,slow=75,SNR=30
H10N3 ASCENSION HYDR 49.01 22 T T 23 58 17.8
baz=192,slow=75,SNR=53
H10N2 ASCENSION HYDR 49.03 22 T T 23 58 22.7
baz=192,slow=75,SNR=49
CRZF Crozet Islands 50.07 117 P P 23 05 27.4 -0.5
LBTB Lobatse 50.82 77 P P 23 05 32.6 -1.3
comp=Z,4.2nm,0.6s,baz=215,slow=8.3,SNR=9.6
LBTB LR LR 23 24 49.3
comp=Z,65nm,19.0s,baz=190,slow=34
comp=Z,4.2nm,0.6s
LBTB Lobatse 50.82 77 P P 23 05 33.8 -0.1
TSUM Tsumeb 51.16 65 LR LR 23 22 40.5
comp=Z,86nm,19.5s,baz=32,slow=31
TSUM Tsumeb 51.16 65 P P 23 05 37.3 +0.7
POGA Pongola 52.47 85 P P 23 05 47.3 +0.9
ETMB Extrema 53.16 315 P P 23 05 51.7 +0.4
ETMB IAmb IAmb 23 05 52.6
comp=Z,23nm,1.4s
ETMB Extrema 53.16 315 eP P 23 05 51.6 +0.4
CASY Casey 55.38 162 P P 23 06 08.1 +1.2
CZSB Cruzeiro do Su 57.81 309 eP P 23 06 25.1 +0.4
LSZ Lusaka 60.07 73 LR LR 23 30 56.8
comp=Z,145nm,18.1s,baz=172,slow=34
LSZ Lusaka 60.07 73 P P 23 06 40.6 0.0
LSZ IAmb IAmb 23 06 50.9
comp=Z,9.0nm,0.9s
ATAH Atahualpa 60.97 303 LR LR 23 36 29.8
comp=Z,65nm,18.1s,baz=157,slow=39
BOAV Boa Vista 62.37 326 P P 23 06 55.4 -0.6
BOAV IAmb IAmb 23 06 56.2
comp=Z,10nm,1.0s
BOAV Boa Vista 62.37 326 eP P 23 06 55.1 -0.9
MDP Montagnes des 62.75 335 LR LR 23 35 38.8
comp=Z,117nm,18.0s,baz=144,slow=37
BOSC San Juan Bosco 64.50 305 P P 23 07 09.7 -0.6
BOSC IAmb IAmb 23 07 25.1
comp=Z,28nm,1.6s
DBIC Dimbokro 65.35 29 P P 23 07 16.3 +0.8
comp=Z,2.7nm,0.9s,baz=280,slow=5.9,SNR=1.9
comp=Z,2.7nm,0.9s
CHSH Refugio Sur-Vo 66.13 306 P P 23 07 22.5 +1.1
CHSH IAmb IAmb 23 07 23.9
comp=Z,17nm,1.1s
OTAV Otavalo 67.46 307 P P 23 07 30.3 +0.6
OTAV IAmb IAmb 23 07 33.1
comp=Z,17nm,1.3s
OTAV Otavalo 67.46 307 eP P 23 07 32.1 +2.3
TULM Tulcon-Chalpat 67.58 308 P P 23 07 28.0 -2.5
BAUV El Baul 71.05 321 P P 23 07 51.3 0.0
SDV Santo Domingo 71.96 318 LR LR 23 42 15.5
comp=Z,268nm,18.0s,baz=150,slow=38
SDV Santo Domingo 71.96 318 P P 23 07 57.1 0.0
SDV IAmb IAmb 23 08 11.5
comp=Z,10nm,0.9s
SDV Santo Domingo 71.96 318 eP P 23 07 58.2 +1.1
KOWA Kowa 73.06 27 P P 23 08 03.6 +0.3
KOWA IAmb IAmb 23 08 15.9
comp=Z,32nm,1.8s
TOA0 Torodi Ar. Sit 73.42 33 P P 23 08 05.5 0.0
TOA0 IAmb IAmb 23 08 16.6
comp=Z,41nm,1.8s
TORD Torodi Ar. Bea 73.42 33 P P 23 08 04.8 -0.7
comp=Z,2.7nm,0.8s,baz=204,slow=6.4,SNR=13
TORD LR LR 23 35 48.2
comp=Z,110nm,18.4s,baz=228,slow=32
comp=Z,2.7nm,0.8s
MBAR Mbarara 73.68 66 LR LR 23 36 05.6
comp=Z,132nm,21.6s,baz=210,slow=32
MBAR Mbarara 73.68 66 P P 23 08 08.7 +1.4
MBAR IAmb IAmb 23 08 12.2
comp=Z,23nm,1.6s
KMBO Kilima Mbogo 76.73 72 LR LR 23 40 47.3
comp=Z,123nm,18.2s,baz=274,slow=35
HUMP Col San Antoni 78.87 326 P P 23 08 36.7 +0.4
CRPR Cabo Rojo, PR 79.15 325 P P 23 08 37.7 -0.2
ACON Acoyapa 80.88 306 P P 23 08 47.4 0.0
ACON IAmb IAmb 23 08 48.4
comp=Z,20nm,0.8s
MATN Matagalpa 82.07 306 P P 23 08 53.3 -0.5
TAM Tamanrasset 83.68 33 P P 23 08 58.3 -3.8
TAM IAmb IAmb 23 09 08.2
comp=Z,17nm,1.8s
MTO3 Montecristo 84.96 304 P P 23 09 08.4 -0.4
MTO3 IAmb IAmb 23 09 09.9
comp=Z,7.2nm,0.8s
ATD Arta Tunnel 90.30 70 LR LR 23 46 41.9
comp=Z,146nm,21.1s,baz=184,slow=33
KEST Kesra 96.91 32 LR LR 23 50 59.6
comp=Z,102nm,18.2s,baz=222,slow=34
ASAR Alice Springs 100.37 166 P Pdif 23 10 18.7 -1.6
comp=Z,0.3nm,0.5s,baz=175,slow=3.4,SNR=2.3
ASAR PP PP 23 14 22.2 -3.3
comp=Z,0.4nm,0.7s,baz=196,slow=9.6,SNR=2.6
NVAR Mina Array Bea 119.14 296 PKP PKPdf 23 15 21.4 -0.6
comp=Z,0.1nm,0.3s,baz=193,slow=3.7,SNR=1.4
FXWY Fox Creek 119.49 305 PKiKP 23 15 23.2 +0.7
BMO Blue Mountains 123.41 302 PKPdf 23 15 29.8 0.0
G08A Pilot Rock 124.53 301 PKPdf PKiKP 23 15 32.8 +0.5
FINES FINESS Array B 124.64 29 PKP PKPdf 23 15 30.4 -1.1
comp=Z,1.7nm,0.7s,baz=202,slow=3.1,SNR=7.7
BTK Batken 127.91 72 PKiKP 23 15 40.7 +1.6
KSH Kashi 130.38 76 PKP PKiKP 23 15 52.6 +8.4
ARCES ARCESS Array B 130.95 23 PKP PKPdf 23 15 42.5 -0.8
comp=Z,5.2nm,1.0s,baz=252,slow=0.8,SNR=7.7
YKA Yellowknife Ar 134.16 320 PKP PKPdf 23 15 49.5 0.0
comp=Z,1.6nm,0.6s,baz=107,slow=3.3,SNR=2.5
PZH PanZhiHua 135.36 110 PKP PKiKP 23 15 54.3 -0.3
MKAR Makanchi Array 138.62 73 PKP PKPdf 23 15 55.7 -2.7
comp=Z,0.2nm,0.7s,baz=270,slow=7.1,SNR=2.2
WMQ Urumqi 139.80 80 ePKP PKPdf 23 15 59.7 -1.0
CD2 Chengdu 139.91 108 PKP PKiKP 23 16 02.0 -1.7
M31M Drury Creek, Y 141.87 312 PKPdf PKiKP 23 16 07.1 +0.4
LZH Lanzhou 143.83 103 ePKP PKPbc 23 16 06.2 +0.2
LZH pPKP PKiKP 23 16 14.5 +2.8
INK Inuvik 143.84 322 PKP PKPbc 23 16 04.4 -0.3
comp=Z,8.4nm,1.1s,baz=144,slow=1.4,SNR=5.4
INK Inuvik 143.84 322 PKPpre 23 16 05.3
ZALV Zalesovo Beam 143.89 65 PKP PKPab 23 16 04.2 -0.5
comp=Z,1.4nm,0.8s,baz=318,slow=1.9,SNR=3.9
ZALV Zalesovo Beam 143.89 65 PKPpre 23 16 05.6
BVCY Beaver Creek 144.73 311 P PKPbc 23 16 07.8 0.0
baz=111,SNR=5.4
WAX Waxell Ridge 144.88 307 PKPdf 23 16 09.1 -0.1
XAN Xi'an 145.10 110 PKPbc PKPdf 23 16 10.9 +0.5
XAN pPKP PKiKP 23 16 19.3 +5.1
XAN LR LR
comp=Z,130nm,13.1s
XAN LR LR
comp=Z,130nm,15.1s
M27K Edge Creek, AK 145.15 310 P PKPbc 23 16 08.9 -0.4
baz=111,SNR=19
MCARA McCarthy VSAT 145.31 308 PKPab 23 16 10.0 +0.2
MCARA McCarthy VSAT 145.31 308 P PKPdf 23 16 09.6 -0.1
baz=111
BCAR Beaver Creek A 145.35 312 PKPdf 23 16 09.4 -0.4
L27K Beaver Creek, 145.37 312 P PKPbc 23 16 09.7 -0.1
baz=110,SNR=16
KAIM Kaik Island 145.41 306 P PKPbc 23 16 09.9 0.0
baz=112
EGAK Eagle 145.64 315 P PKPdf 23 16 10.1 -0.1
baz=108
M26K Nabesna, AK 145.65 310 P PKPdf 23 16 09.9 -0.5
baz=110
K27K Chicken 145.79 313 P PKPbc 23 16 11.0 -0.1
baz=108
BMRM Bremner River 145.88 307 P PKPbc 23 16 11.5 0.0
baz=111,SNR=10
L26K Log Cabin Wild 146.01 311 P PKPbc 23 16 11.5 -0.3
baz=109
I27K Kandik River 146.07 316 P PKPbc 23 16 11.9 0.0
baz=106,SNR=15
N25K Chitina, Valde 146.09 308 P PKPbc 23 16 12.1 -0.1
baz=110
H27K Steamboat Moun 146.20 317 P PKPbc 23 16 11.9 -0.4
baz=106,SNR=11
EYAK Cordova Ski Ar 146.25 306 P PKPbc 23 16 12.8 +0.2
baz=111
G27K Doyon Strip 146.40 318 P PKPbc 23 16 12.4 -0.5
baz=105,SNR=10
J26L Joseph Creek 146.55 314 P PKPbc 23 16 13.2 -0.3
baz=106,SNR=20
SCRK Sand Creek 146.58 313 P PKPbc 23 16 13.2 -0.4
baz=107,SNR=9.3
I26K Coal Creek Min 146.60 315 P PKPbc 23 16 13.0 -0.5
baz=106
KLU Klutina 146.65 308 P PKPbc 23 16 13.7 -0.2
baz=109,SNR=19
E27K Coleen River 146.70 320 P PKPbc 23 16 13.7 -0.1
baz=103,SNR=9.8
RIDG Independent Ri 146.87 312 P PKPbc 23 16 14.5 +0.1
baz=107,SNR=28
PAX Paxson 146.92 310 P PKPbc 23 16 14.4 -0.2
baz=107,SNR=24
M24K Tolsona, Glenn 146.97 309 P PKPbc 23 16 15.1 +0.4
baz=108,SNR=9.9
GLI Glacier Island 146.99 306 P PKPbc 23 16 14.3 -0.5
baz=109,SNR=21
G26K Porcupine Rive 147.25 318 P PKPbc 23 16 15.4 +0.1
baz=103
K24K Donnelly Dome 147.29 312 P PKPbc 23 16 15.4 -0.1
baz=106
J25K Salcha River, 147.33 313 P PKPbc 23 16 15.5 -0.2
baz=105,SNR=6.8
LYN LuoYang 147.37 114 ePKPbc PKPbc 23 16 15.4 -1.2
SCM Sheep Creek Mo 147.40 308 P PKPbc 23 16 16.2 +0.2
baz=108,SNR=11
F26K Sheenjek River 147.54 319 P PKPbc 23 16 13.3 +0.2
baz=101,SNR=6.3
PWL Port Wells 147.56 306 P PKPbc 23 16 16.4 +0.1
baz=109,SNR=9.9
M23K Glacier View 147.57 308 P PKPbc 23 16 16.1 -0.2
baz=108,SNR=8.3
PRP Porcupine Dome 147.62 315 P PKPbc 23 16 16.5 0.0
baz=104
C27K Jago River 147.72 323 P PKPbc 23 16 16.8 +0.3
baz=99
DHY Denali Highway 147.78 310 P PKPbc 23 16 17.0 0.0
baz=106,SNR=13
KNK Knik Glacier 147.78 307 P PKPbc 23 16 16.8 -0.1
baz=108
WAT6 Susitna Watana 147.80 309 P PKPbc 23 16 16.8 -0.3
baz=106,SNR=10
SEW Seward 147.84 304 P PKPbc 23 16 17.0 0.0
baz=109
SML Sawmill 147.84 308 P PKPbc 23 16 16.8 -0.3
baz=107,SNR=16
H25K Birch Creek 147.90 316 P PKPbc 23 16 17.0 0.0
baz=102,SNR=6.3
HDA Harding Lake 147.94 313 P PKPbc 23 16 17.0 -0.3
baz=104
ILAR Eielson Array 148.00 313 PKPbc PKPbc 23 16 16.8 -0.6
comp=Z,12nm,0.9s,baz=123,slow=1.5,SNR=67
F25K Christian Rive 148.09 319 P PKPbc 23 16 17.7 0.0
baz=100,SNR=11
E25K Arctic Village 148.15 320 P PKPbc 23 16 17.6 -0.1
baz=99,SNR=17
C26K Camden Bay 148.17 323 P PKPbc 23 16 18.1 +0.5
baz=97
WAT1 Susitna Watana 148.23 309 P PKPbc 23 16 17.9 -0.2
baz=106
RC01 Rabbit Creek A 148.28 306 P PKPbc 23 16 18.2 0.0
baz=108
POKR Poker Plat Res 148.31 314 P PKPbc 23 16 18.1 -0.1
baz=103
BRSE Bradley Lake S 148.33 303 P PKPbc 23 16 18.4 0.0
baz=109
CCB Clear Creek Bu 148.36 313 PKPab PKPab 23 16 29.3 +7.7
TCOL CIGO, UAF Yank 148.43 313 P PKPbc 23 16 18.4 0.0
baz=103
WRH Wood River Hil 148.44 313 PKPbc 23 16 18.0 -0.5
WRH PKPab sPKPab 23 16 29.4 +5.3
KDAK Kodiak Island 148.57 299 P PKPbc 23 16 18.7 -0.3
baz=111
D25K Kavik River 148.61 322 P PKPbc 23 16 18.6 -0.3
baz=97,SNR=6.6
MCK McKinley 148.63 311 PKPbc 23 16 17.9 -1.1
MCK PKPab sPKPab 23 16 29.4 +4.5
MCK McKinley 148.63 311 P PKPbc 23 16 19.0 -0.1
baz=104,SNR=11
G24K Hadweenzic Riv 148.64 317 P PKPbc 23 16 19.1 +0.1
baz=100,SNR=11
H24K Noodor Dome 148.64 315 PKPab PKPab 23 16 30.9 +8.1
H24K Noodor Dome 148.64 315 P PKPbc 23 16 18.8 -0.3
baz=101,SNR=5.5
OHAK Old Harbor 148.73 298 P PKPbc 23 16 19.3 -0.1
baz=111
SUA Susitna One 148.85 306 P PKPbc 23 16 19.7 -0.1
baz=106,SNR=8.0
NEA2 Nenana 148.88 313 PKPab PKPab 23 16 30.4 +6.7
NEA2 Nenana 148.88 313 P PKPbc 23 16 19.4 -0.3
baz=102,SNR=6.4
F24K Squaw Lake 148.93 318 P PKPbc 23 16 19.7 -0.1
baz=98,SNR=6.4
SII Sitkinak Islan 148.94 296 P PKPbc 23 16 19.9 -0.2
baz=112
BWN Browne 148.96 312 PKPab PKPab 23 16 29.6 +5.6
TRF Thorofare Moun 149.15 310 PKPab PKPab 23 16 32.0 +6.9
TRF Thorofare Moun 149.15 310 P PKPbc 23 16 20.4 -0.2
baz=103,SNR=6.2
E24K Your Creek 149.23 319 P PKPbc 23 16 20.6 +0.1
baz=97
H23K Yukon River 149.31 315 P PKPbc 23 16 20.5 -0.2
baz=100
SKT Skwentna 149.35 307 PKPab PKPab 23 16 32.3 +6.6
SKT Skwentna 149.35 307 P PKPbc 23 16 20.6 -0.4
baz=105,SNR=17
SPU Mount Spurr 149.38 306 PKPab PKPab 23 16 33.6 +7.7
C24K Franklin Bluff 149.46 323 P PKPbc 23 16 20.8 -0.2
baz=94
D24K Happy Valley 149.46 322 P PKPbc 23 16 20.7 -0.2
baz=95,SNR=5.8
Q19K Cape Douglas, 149.48 301 P PKPbc 23 16 20.9 -0.5
baz=108
BPAW Bear Paw Mtn. 149.59 311 P PKPbc 23 16 21.4 0.0
baz=102,SNR=25
G23K Bananza Creek 149.64 317 P PKPbc 23 16 21.8 +0.3
baz=98,SNR=17
MLY Manley 149.66 313 P PKPbc 23 16 20.7 -0.9
baz=100,SNR=10
TOLK Toolik Lake Re 149.69 320 P PKPbc 23 16 21.8 +0.2
baz=95,SNR=15
COLD Coldfoot 149.78 318 PKPab PKPab 23 16 32.7 +5.4
COLD Coldfoot 149.78 318 P PKiKP 23 16 22.1 -0.6
baz=97,SNR=6.2
PPLA Purkeypile 149.87 309 PKPab PKPab 23 16 33.5 +5.5
PPLA Purkeypile 149.87 309 P PKPbc 23 16 22.1 -0.3
baz=103,SNR=7.0
CAST Castle Rocks 149.93 310 P PKPbc 23 16 21.9 -0.4
baz=102,SNR=7.2
M20K Styx River 150.06 307 P PKPbc 23 16 22.1 -0.6
baz=104
H22K Ishtalitna Cre 150.06 315 P PKPbc 23 16 22.4 -0.2
baz=98,SNR=11
D23K Nanushuk River 150.11 321 P PKiKP 23 16 22.9 -0.5
baz=94
CHUM Lake Minchumin 150.12 311 P PKPbc 23 16 22.3 -0.4
baz=101
C23K Itkillik River 150.13 323 P PKPbc 23 16 22.5 -0.1
baz=92
O19K Port Alsworth 150.19 303 P PKPbc 23 16 22.5 -0.4
baz=106
I21K Tanana 150.21 313 PKPab PKPab 23 16 33.8 +4.6
I21K Tanana 150.21 313 P PKPbc 23 16 22.6 -0.3
baz=99
G22K Bettles 150.25 317 P PKPbc 23 16 22.8 -0.1
baz=96
P18K Big Mountain, 150.40 301 PKPab PKPab 23 16 35.2 +5.0
P18K Big Mountain, 150.40 301 P PKPbc 23 16 23.0 -0.6
baz=107
N19K Bonanza Creek 150.43 304 P PKPbc 23 16 22.9 -0.8
baz=105,SNR=11
R17K Ugashik Creek 150.44 297 P PKPbc 23 16 23.5 -0.2
baz=109,SNR=8.4
E22K Anaktuvuk Pass 150.47 319 P PKPbc 23 16 23.6 +0.1
baz=94
O18K Koktuh Hills 150.52 302 P PKPbc 23 16 23.1 -0.8
baz=106,SNR=11
L20K Farewell, AK 150.54 308 P PKPbc 23 16 23.0 -0.8
baz=102
F22K John River 150.56 318 P PKiKP 23 16 23.9 -0.5
baz=95
H21K Melozitna Rive 150.62 314 P PKPbc 23 16 24.0 +0.1
baz=98,SNR=9.7
M19K Big River Lodg 150.65 306 PKPab PKPab 23 16 35.3 +4.2
M19K Big River Lodg 150.65 306 P PKPbc 23 16 23.7 -0.3
baz=103,SNR=5.4
HNS HongShan 150.71 113 PKPbc PKiKP 23 16 26.2 +0.6
K20K Telida 150.80 309 P PKPbc 23 16 24.4 +0.1
baz=101,SNR=9.8
Q16K King Salmon 150.90 299 P PKPbc 23 16 24.2 -0.5
baz=107
L19K White Mountain 150.92 307 P PKPbc 23 16 24.5 -0.2
baz=102
P17K Kvichak River 150.94 300 P PKPbc 23 16 24.1 -0.6
baz=106,SNR=9.3
J20K Nowinta River 150.97 311 PKPab PKPab 23 16 36.2 +3.9
J20K Nowinta River 150.97 311 P PKPbc 23 16 24.5 -0.2
baz=99,SNR=5.6
G21K Allakaket 151.00 316 P PKPbc 23 16 24.7 0.0
baz=96,SNR=6.6
R16K Pilot Point 151.03 297 P PKPbc 23 16 25.0 0.0
baz=109
IMAR Indian Mountai 151.04 315 PKPbc PKiKP 23 16 25.4 0.0
CHGN Chignik 151.04 294 P PKiKP 23 16 25.3 -0.3
baz=110
F21K Alatna River 151.05 317 P PKiKP 23 16 25.4 -0.1
baz=94,SNR=9.8
TIA Tai'an 151.06 118 PKPbc PKiKP 23 16 26.8 +0.4
N18K Kilae Creek 151.06 304 P PKPbc 23 16 24.7 -0.4
baz=104
CHNA Chernabura Isl 151.13 291 P PKPbc 23 16 24.5 -0.8
baz=112
O17K Koliganek Bris 151.42 301 P PKPbc 23 16 25.6 -0.3
baz=105
JCJ Chichijima 151.46 167 PKPbc PKPbc 23 16 26.6 -0.4
comp=Z,23nm,0.3s,baz=119,slow=19,SNR=1.9
HHC Hu-ho-hao-te 151.47 104 ePKPbc PKPdf 23 16 18.4 -2.3
TTA Tatalina 151.59 308 PKPab PKPab 23 16 38.4 +3.3
TTA Tatalina 151.59 308 P PKiKP 23 16 26.6 -0.1
baz=100,SNR=7.0
S14K Fog Glacier 151.63 294 P PKiKP 23 16 26.9 -0.1
baz=110
O16K Kokwok River B 151.86 301 P PKiKP 23 16 27.5 +0.2
baz=105
N16K Nishlik Lake 152.40 302 P PKiKP 23 16 28.7 +0.3
baz=103
SONM Songino Array 152.78 88 PKPbc PKPbc 23 16 28.9 -0.7
comp=Z,1.5nm,0.6s,baz=212,slow=2.8,SNR=10
SONM Songino Array 152.78 88 PKiKP 23 16 30.6 +0.9
ULN Ulaanbaatar 153.17 88 PKPdf PKPdf 23 16 23.4 +0.4
ULN pPKPab 23 16 42.3 -1.6
KSRS Korea Array 157.14 132 PKP PKPdf 23 16 27.8 -0.7
comp=Z,0.9nm,0.4s,baz=233,slow=6.7,SNR=2.2

IDC 01 23:14:09.2±2.4, 2°28N×126°65E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=199.2km s-min=28.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.2nm,0.3s,baz=340,slow=11,SNR=13 0.2nm,0.3s	23.34	161	P	P	23 19 18.8	-0.6
ASAR	Alice Springs 0.1nm,0.3s,baz=343,slow=11,SNR=2.4 0.1nm,0.3s	26.74	165	P	P	23 19 51.7	+0.9

MKAR Makanchi Array 58.69 326 P P 23 24 08.5 -0.2
0.1nm,0.3s,baz=121,slow=6.7,SNR=2.1
0.1nm,0.3s

WEL 01 23:16:45.4±2.2,37°S±5'×17°9E±', h16km±14km, M3.5/39, ML3.8/43, MLv3.5/39, Error ellipse: s-maj=0.0km s-min=0.0km az=76.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.85**	**232**	P	Pb	23 17 01.1	-0.6
MXZ				S	Sb	23 17 11.6	-1.1
WMGZ	**Waiomatatini S**	**0.97**	**217**	P	Pn	23 17 04.8	+0.5
WMGZ				S	Sn	23 17 18.3	+0.6
PKGZ	**Pakihiroa**	**1.20**	**225**	P	Pb	23 17 07.8	0.0
PKGZ				S	Sn	23 17 23.5	0.0
PUZ	**Puketiti**	**1.25**	**214**	P	Pb	23 17 08.8	+0.3
PUZ				S	Sg	23 17 25.4	-0.4
HAZ	**Te Kaha**	**1.30**	**236**	P	Pn	23 17 08.3	-0.5
TWGZ	**Tauwhareparae**	**1.46**	**219**	P	Pn	23 17 11.1	0.0
RUGZ	**Raukumara Rang**	**1.49**	**231**	P	Pb	23 17 12.6	-0.1
CNGZ	**Carnagh Statio**	**1.62**	**207**	P	Pb	23 17 14.2	-0.7
WIZ	**White Island**	**1.63**	**252**	P	Pn	23 17 12.0	-1.4
TKGZ	**Te Karaka**	**1.73**	**216**	P	Pn	23 17 15.1	+0.3
MWZ	**Matawai**	**1.82**	**224**	P	Pn	23 17 16.4	+0.4
WHRZ	**Whale Island**	**1.91**	**244**	P	Pn	23 17 18.0	+0.7
RIGZ	**Rimuhau**	**1.99**	**213**	P	Pn	23 17 18.1	-0.2
RAGZ	**Rawiri**	**2.00**	**223**	P	Pn	23 17 18.9	+0.4
URZ	**Urewera**	**2.02**	**232**	P	Pn	23 17 19.5	+0.8
PRGZ	**Paritu Road**	**2.13**	**208**	P	Pn	23 17 19.9	-0.3
OPRZ	**Ohinepanea**	**2.21**	**248**	P	Pn	23 17 21.4	0.0
SNGZ	**Shannon Statio**	**2.25**	**219**	P	Pn	23 17 22.0	+0.1
KNZ	**Kokohu**	**2.29**	**210**	P	Pn	23 17 21.5	-0.9
MHGZ	**Mahia Peninsul**	**2.32**	**204**	P	Pn	23 17 22.4	-0.5
RTZ	**Ruatahuna**	**2.33**	**227**	P	Pn	23 17 24.1	+1.1
MYRZ	**Mayor Island**	**2.33**	**263**	P	Pn	23 17 23.1	0.0
RAHZ	**Arahi**	**2.48**	**220**	P	Pn	23 17 25.7	+0.6
WHHZ	**Waihua**	**2.53**	**216**	P	Pn	23 17 25.8	0.0
MTHZ	**Maungataniwha**	**2.57**	**224**	P	Pn	23 17 26.7	+0.4
KUZ	**Kuaotunu**	**2.76**	**275**	P	Pn	23 17 28.3	-0.6
NMHZ	**Naumai**	**2.76**	**221**	P	Pn	23 17 29.5	+0.6
ARHZ	**Aropaoanui**	**2.79**	**217**	P	Pn	23 17 28.9	-0.5
MRHZ	**Matea Rd**	**2.80**	**229**	P	Pn	23 17 30.3	+0.8
BKZ	**Black Stump Fm**	**2.98**	**224**	P	Pn	23 17 31.9	-0.1
TOZ	**Tahuroa Road**	**2.98**	**256**	P	Pn	23 17 31.3	-0.7
GRZ	**Great Barrier**	**3.07**	**284**	P	Pn	23 17 33.6	+0.5
CKHZ	**Cape Kidnapper**	**3.08**	**211**	P	Pn	23 17 32.2	-1.1
MKAZ	**Moumakai**	**3.19**	**268**	P	Pn	23 17 34.4	-0.3
WIAZ	**Waiheke Island**	**3.22**	**273**	P	Pn	23 17 33.9	-1.4
KAHZ	**Kahuranaki**	**3.28**	**212**	P	Pn	23 17 34.5	-1.6
KRHZ	**Kereru**	**3.39**	**219**	P	Pn	23 17 36.7	-0.9
MBAZ	**Motutapu North**	**3.41**	**273**	P	Pn	23 17 38.8	+0.9
TMVZ	**Te Maari**	**3.42**	**232**	P	Pn	23 17 37.8	-0.2
ETVZ	**East Tongariro**	**3.42**	**231**	P	Pn	23 17 38.3	+0.2
KRVZ	**Karewarewa**	**3.44**	**232**	P	Pn	23 17 38.6	+0.2
BHHZ	**Black Hill Sta**	**3.44**	**224**	P	Pn	23 17 38.2	-0.2
OTVZ	**Oturere**	**3.47**	**231**	P	Pn	23 17 37.2	-1.6
NNVZ	**North Ngauruho**	**3.48**	**232**	P	Pn	23 17 39.7	+0.8
PXZ	**Pawanui**	**3.48**	**210**	P	Pn	23 17 37.1	-1.7
WTVZ	**West Tongariro**	**3.49**	**232**	P	Pn	23 17 39.7	+0.7
NGZ	**Ngauruhoe**	**3.52**	**232**	P	Pn	23 17 39.5	+0.1
TWVZ	**Taurewa**	**3.56**	**234**	P	Pn	23 17 37.4	-2.6
MOVZ	**Moawhango**	**3.57**	**227**	P	Pn	23 17 39.4	-0.6
AWAZ	**Awhitu Peninsu**	**3.60**	**268**	P	Pn	23 17 40.9	+0.4
WNVZ	**Wahianoa**	**3.61**	**230**	P	Pn	23 17 40.6	-0.1
PNHZ	**Pukenui**	**3.68**	**218**	P	Pn	23 17 40.2	-1.5
HIZ	**Hauiti**	**3.70**	**245**	P	Pn	23 17 40.0	-1.8
TSZ	**Takapari Road**	**3.91**	**219**	P	Pn	23 17 42.9	-1.9
WCZ	**Waipu Caves**	**4.02**	**284**	P	Pn	23 17 46.9	+0.7
WAZ	**Wanganui**	**4.25**	**229**	P	Pn	23 17 49.7	+0.4
KHEZ	**Kahui Hut**	**4.63**	**239**	P	Pn	23 17 58.4	+3.8
OUZ	**Omahuta**	**4.84**	**290**	P	Pn	23 17 59.1	+1.6

*ATH **01** 23:17:52.7,34°.67N×24°.02E,h22km±2km, ML2.8/7, Error ellipse: s-maj=4.4km s-min=2.2km az=19.0*
*THE **01** 23:17:52.8,34°.70N×24°.00E,h22km± 1km, ML2.8/5, Error ellipse: s-maj=2.6km s-min=1.4km az=23.0*
*ISK **01** 23:17:53.4,34°.92N×24°.24E,h3km, ML3.1/5*
*DDA **01** 23:18:48.9±0.0,36°.72N×28°.41E,h7km±5km, ML1.4*

ISC 01 23:17:51.6±2.6, 34°.7N±0°.2×24°.06E±0°.07, h29km±6km, n34, σ1§33/46, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.18**	**8**	P	**Pb**	**23 17 57.5**	**0.0**
GVD				S	**Sb**	**23 18 01.4**	**-0.2**
	11μm,0.3s						
GVD	**Gavdhos**	**0.18**	**8**	PG	**Pb**	**23 17 57.2**	**-0.3**
GVD	**Gavdhos**	**0.18**	**8**	P	**Pb**	**23 17 57.5**	**0.0**
GVD				S	**Sb**	**23 18 01.3**	**-0.2**
GVD				AML	AML	23 18 01.8	
	comp=N,27200μm,0.4s						
GVD				AML	AML	23 18 03.2	
	comp=E,15903μm,0.2s						
GVDS	**Gavdos**	**0.19**	**9**	P	**Pb**	**23 17 57.4**	**-0.2**
GVDS				S	**Sb**	**23 18 01.1**	**-0.5**
	comp=E,12μm,0.2s						
GVDS	**Gavdos**	**0.19**	**9**	PG	**Pb**	**23 17 57.4**	**-0.2**
GVDS				SG	**Sb**	**23 18 00.9**	**-0.7**
KNDR	**Palaiochora Ch**	**0.65**	**332**	P	**Pb**	**23 18 04.4**	**0.0**
KNDR				S	**Sn**	**23 18 13.5**	**-0.7**
	comp=E,360nm,0.5s						
KNDR	**Palaiochora Ch**	**0.65**	**332**	PG	**Pb**	**23 18 04.7**	**+0.3**
KNDR				SG	**Sn**	**23 18 14.5**	**+0.4**
KNDR	**Palaiochora Ch**	**0.65**	**332**	P	**Pb**	**23 18 04.4**	**0.0**
KNDR				S	**Sn**	**23 18 13.4**	**-0.7**
KNDR				AML	AML	23 18 20.0	
	comp=N,2470μm,0.5s						
KNDR				AML	AML	23 18 21.0	
	comp=E,1764μm,0.5s						
TMBK	**Timbaki Herakl**	**0.72**	**55**	P	**Pn**	**23 18 06.9**	**+1.1**
TMBK	**Timbaki Herakl**	**0.72**	**55**	P	**Pn**	**23 18 06.9**	**+1.1**
TMBK				AML	AML	23 18 28.1	
	comp=E,1888μm,0.5s						
TMBK				AML	AML	23 18 28.9	
	comp=N,1375μm,0.6s						
SIVA	**Sivas**	**0.72**	**60**	P	**Pn**	**23 18 07.2**	**+1.4**
SIVA				S	**Sn**	**23 18 16.6**	**+0.8**
SIVA	**Sivas**	**0.72**	**60**	P	**Pn**	**23 18 07.2**	**+1.4**
SIVA				AML	AML	23 18 21.2	
	comp=N,1209μm,0.3s						
SIVA				AML	AML	23 18 27.9	
	comp=E,2246μm,0.5s						
PRNS	**Prines Rethymn**	**0.79**	**27**	P	**Pn**	**23 18 06.2**	**-0.6**
PRNS				S	**Sn**	**23 18 16.9**	**-0.8**
	comp=E,200nm,0.3s						
IMMV	**Iera Moni Meta**	**0.80**	**356**	P	**Pn**	**23 18 06.1**	**-0.9**
IMMV				S	**Sn**	**23 18 18.7**	**+0.7**
	comp=E,885nm,0.3s						
IMMV	**Iera Moni Meta**	**0.80**	**356**	PG	**Pn**	**23 18 05.6**	**-1.4**
IMMV	**Iera Moni Meta**	**0.80**	**356**	P	**Pn**	**23 18 06.3**	**-0.7**
IMMV				S	**Sn**	**23 18 18.7**	**+0.7**
IMMV				AML	AML	23 18 22.0	
	comp=E,2148μm,0.4s						
IMMV				AML	AML	23 18 22.6	
	comp=N,1382μm,0.3s						
CHAN	**Chania**	**0.86**	**359**	P	**Pn**	**23 18 09.2**	**+1.5**
CHAN				AML	AML	23 18 22.7	
	comp=N,940μm,0.6s						
CHAN				AML	AML	23 18 24.7	
	comp=E,1085μm,0.4s						
IDI	**Anoyia**	**0.93**	**47**	P	**Pn**	**23 18 09.4**	**+0.6**
IDI	**Anoyia**	**0.93**	**47**	P	**Pn**	**23 18 09.3**	**+0.5**
IDI				S	**Sn**	**23 18 22.1**	**+0.9**
IDI				AML	AML	23 18 29.3	
	comp=N,366μm,0.4s						
IDI				AML	AML	23 18 31.2	
	comp=E,427μm,0.7s						
RODP	**Rodopos**	**0.93**	**345**	P	**Pn**	**23 18 09.4**	**+0.6**
HRKL	**Herakleio**	**1.08**	**53**	PG	**Pn**	**23 18 09.7**	**-1.0**
ANKY	**Antikythira Is**	**1.35**	**333**	P	**Pb**	**23 18 17.2**	**+0.9**
KTHA	**Kythira Island**	**1.79**	**333**	PN	**Pb**	**23 18 24.0**	**+0.3**
KTHA	**Kythira Island**	**1.79**	**333**	P	**Pb**	**23 18 24.0**	**+0.3**
KTHR	**Kythira**	**1.81**	**332**	P	**Pb**	**23 18 24.6**	**+0.4**
VLI	**Veliai**	**2.25**	**336**	P	**Pb**	**23 18 30.7**	**-0.9**
KARP	**Karpathos**	**2.70**	**70**	PN	**Pb**	**23 18 35.9**	**-3.3**
ITM	**Ithomi**	**3.05**	**326**	PN	**Pb**	**23 18 42.4**	**-2.8**
TURN	**Turunc**	**4.01**	**57**	P	**Pn**	**23 18 52.7**	**+1.7**
MULA	**Mugla, Merkez-**	**4.32**	**52**	P	**Pn**	**23 18 58.5**	**+3.1**
FETY	**Fethiye**	**4.54**	**63**	P	**Pn**	**23 18 59.5**	**+1.1**

TAVA DENIZLI_Tavas 4.83 53 P **Pn** **23 19 05.8 +3.3**
CAEL Denizli, Camel 4.93 59 P **Pn** **23 19 01.9 -2.0**
GOLH Golhisar 5.15 58 P **Pn** **23 19 09.3 +2.4**
GOLH *i* AML AML 23 19 28.0
comp=E,8.1nm,1.7s
GOLH *i* AML AML 23 19 48.0
comp=E,13nm,2.2s

*IDC **01** 23:26:06.9±1.8,9°.96S×118°.97E,h0km,mb3.7/2, mbtmp3.9/8,ML3.8/6,MS3.2/1,Error ellipse: s-maj=47.4km s-min=20.8km az=55.0*
*DJA **01** 23:26:10.4±0.3,10°S±3'×11°9E±', h10km,M4.3/12, mb4.4/6,MLv4.2/12*
*NEIC **01** 23:26:13.3±2.1,9°.92S±0°.08×119°.08E±0°.07,h55km±9km, mb4.0/11,Error ellipse: s-maj=11.8km s-min=9.2km az=199.0*

ISC 01 23:26:11.8±0.6, 9°.86S±0°.05×119°.10E±0°.04, h33km, n59, σ1§59/65, mb4.0/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.50**	**104**	P	**Pn**	**23 26 36.5**	**+0.1**
PLAI	**Plampang**	**1.66**	**308**	P	**Pn**	**23 26 37.6**	**-1.0**
PLAI				S	**Sn**	**23 26 57.1**	**-1.6**
PLAI	**Plampang**	**1.66**	**308**	P	**Pn**	**23 26 38.3**	**-0.3**
TWSI	**Taliwang, Sumb**	**2.45**	**297**	P	**Pn**	**23 26 49.7**	**+0.2**
TWSI				S	**Sn**	**23 27 17.5**	**-0.9**
EDFI	**Ende, Flores**	**2.79**	**67**	P	**Pn**	**23 26 53.6**	**-0.6**
EDFI				S	**Sn**	**23 27 26.0**	**-0.8**
MMRI	**Maumere**	**3.33**	**69**	Pn	**Pn**	**23 27 03.2**	**+1.7**
MMRI	**Maumere**	**3.33**	**69**	P	**Pn**	**23 27 02.8**	**+1.2**
BSSI	**Bau Bau, Buton**	**3.94**	**21**	P	**Pn**	**23 27 10.2**	**+0.2**
BSSI				S	**Sn**	**23 27 54.4**	**-0.8**
SRBI	**Singaraja**	**4.22**	**294**	P	**Pn**	**23 27 15.0**	**+1.2**
BATI	**Baumata**	**4.51**	**95**	Pn	**Pn**	**23 27 19.8**	**+2.0**
BATI	33nm,0.3s,baz=242,slow=17,SNR=24			Sn	**Sn**	**23 28 10.3**	**+1.0**
	baz=67,slow=23						
	136nm,0.5s						
BATI	**Baumata**	**4.51**	**95**	P	**Pn**	**23 27 20.0**	**+2.2**
BATI				S	**Sn**	**23 28 10.9**	**+1.7**
BKSI	**Bulukumba**	**4.62**	**13**	P	**Pn**	**23 27 19.4**	**0.0**
BKSI				S	**Sn**	**23 28 11.4**	**-0.5**
KAPI	**Kappang**	**4.86**	**8**	Pn	**Pn**	**23 27 23.5**	**+0.9**
KAPI	7.9nm,0.3s,baz=187,slow=8.1,SNR=12			Sn	**Sn**	**23 28 15.6**	**-2.2**
	2.7nm,0.3s,baz=179,slow=23,SNR=1.6						
	19nm,0.3s						
KAPI	**Kappang**	**4.86**	**8**		**Pn**	**23 27 23.7**	**+1.1**
KAPI	**Kappang**	**4.86**	**8**	P	**Pn**	**23 27 23.7**	**+1.1**
JAGI	**Jajag, Banyuwa**	**5.07**	**285**		**Pn**	**23 27 26.0**	**+0.5**
JAGI	**Jajag, Banyuwa**	**5.07**	**285**	P	**Pn**	**23 27 24.7**	**-0.9**
JAGI	0.3nm48nm,0.8s			S	**Sn**	**23 28 23.5**	**+0.4**
	0.3nm48nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.07**	**285**	P	**Pn**	**23 27 27.2**	**+1.6**
SOEI	**Soe**	**5.10**	**89**		**Pn**	**23 27 27.4**	**+1.4**
SOEI	**Soe**	**5.10**	**89**	P	**Pn**	**23 27 28.6**	**+2.6**
ABJI	**Asem Bagus**	**5.22**	**293**	P	**Pn**	**23 27 30.2**	**+2.6**
	0.3nm48nm,1.2s						
GMJI	**Gumukmas**	**5.80**	**285**	P	**Pn**	**23 27 37.1**	**+1.6**
	0.2nm36nm,0.9s						
SPSI	**Sidrap Palu**	**5.90**	**7**	P	**Pn**	**23 27 38.6**	**+1.7**
	0.1nm25nm,0.8s						
TTSI	**Tana Toraja**	**6.81**	**6**	P	Pn	23 27 57.7	+8.3
PWJI	**Pagerwojo**	**7.43**	**284**	P	**Pn**	**23 28 01.3**	**+3.3**
	0.1nm23nm,1.1s						
PCJI	**Pacitan**	**8.00**	**281**	P	**Pn**	**23 28 05.7**	**0.0**
FITZ	**Fitzroy Crossi**	**10.36**	**143**	Pn	**Pn**	**23 28 36.8**	**-1.4**
	0.2nm,0.3s,baz=325,slow=11,SNR=8.2						
FITZ				Sn	Sn	23 30 23.8	-9.4
	0.1nm,0.3s,baz=252,slow=20,SNR=1.3						
	0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**10.36**	**143**	Pn	**Pn**	**23 28 38.2**	**+0.1**
KNRA	**Kununurra**	**11.06**	**123**	Pn	**Pn**	**23 28 47.5**	**-0.1**
KNRA	**Kununurra**	**11.06**	**123**	P	**Pn**	**23 28 48.6**	**+0.9**
MBWA	**Marble Bar**	**11.25**	**177**	Pn	**Pn**	**23 28 49.5**	**-0.8**
MBWA	**Marble Bar**	**11.25**	**177**	P	**Pn**	**23 28 50.1**	**-0.2**
PSA00	**Pilbara Seismi**	**11.67**	**177**	Pn	**Pn**	**23 28 55.4**	**-0.6**
MTN	**Manton Dam**	**12.17**	**105**		**Pn**	**23 29 02.2**	**-0.7**
GIRL	**Giralia**	**13.54**	**200**	Pn	**Pn**	**23 29 22.2**	**+0.7**
GIRL	**Giralia**	**13.54**	**200**	P	**Pn**	**23 29 22.7**	**+1.1**
FAKI	**Fak Fak**	**14.77**	**63**	Pn	**Pn**	**23 29 39.0**	**+0.6**
SIJI	**Sorong**	**15.04**	**54**	Pn	**Pn**	**23 29 42.0**	**-0.1**
	1.1nm,0.3s,baz=213,slow=17,SNR=4.4						
SIJI				LR	LR	23 37 18.9	
	comp=Z,96nm,20.1s,baz=224,slow=44						
	6.4nm,0.4s						
MEEK	**Meekatharra**	**16.69**	**182**	P	**Pn**	**23 30 04.2**	**+0.9**
WB0	**Warramunga Arr**	**17.75**	**125**		**Pn**	**23 30 15.9**	**-0.6**
WB0				IAmb	IAmb	23 30 18.6	
	comp=Z,6.8nm,0.9s						
WRA	**Warramunga Arr**	**17.80**	**126**	P	**Pn**	**23 30 15.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=304,slow=12,SNR=18						
WRA				S	Sn	23 33 20.8	-14
	comp=Z,0.3nm,0.8s,baz=291,slow=21,SNR=2.2						
	comp=Z,2.3nm,0.7s						
WRA	**Warramunga Arr**	**17.80**	**126**	Pn	**Pn**	**23 30 14.5**	**-2.6**
WB2	**Warramunga Arr**	**17.81**	**126**		**Pn**	**23 30 15.7**	**-1.5**
WB2				IAmb	IAmb	23 30 50.5	
	comp=Z,4.7nm,1.1s						
WR0	**Warramunga Arr**	**17.97**	**126**		**Pn**	**23 30 19.6**	**+0.3**
WR0				IAmb	IAmb	23 30 21.4	
	comp=Z,3.6nm,0.8s						
MYKOM	**Kota Tinggi**	**19.09**	**307**	P	**P**	**23 30 32.1**	**+0.3**
MYKOM				IAmb	IAmb	23 30 36.5	
	comp=Z,19nm,1.5s						
MORW	**Morawa**	**19.32**	**188**	P	**Pn**	**23 30 37.0**	**+1.5**
MORW				IAmb	IAmb	23 30 43.5	
	comp=Z,32nm,1.5s						
MORW	**Morawa**	**19.32**	**188**	P	**Pn**	**23 30 36.6**	**+1.1**
AS31	**Alice Springs**	**19.71**	**136**		**P**	**23 30 39.6**	**+1.0**
ASAR	**Alice Springs**	**19.71**	**136**	P	**P**	**23 30 38.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=315,slow=11,SNR=14						
ASAR				S	**S**	**23 34 11.7**	**-7.5**
	comp=Z,0.6nm,0.7s,baz=317,slow=24,SNR=4.2						
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**19.71**	**136**	Pn	**Pn**	**23 30 40.1**	**-0.1**
LHI	**Lord Howe Isla**	**42.82**	**126**	P	**P**	**23 34 06.5**	**-0.2**
H08S2	**Diego Garcia H**	**46.09**	**269**	T	T	00 23 47.3	
	baz=96,slow=75,SNR=35						
H08S3	**Diego Garcia H**	**46.10**	**269**	T	T	00 23 48.3	
	baz=96,slow=75,SNR=53						
H08S1	**Diego Carcia H**	**46.10**	**269**	T	T	00 23 48.9	
	baz=96,slow=75,SNR=38						
THZ	**Tophouse**	**56.76**	**134**	P	**P**	**23 35 52.3**	**-0.4**
SONM	**Songino Array**	**58.54**	**350**	P	**P**	**23 36 04.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=169,slow=8.3,SNR=4.2						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**58.54**	**350**	P	**P**	**23 36 05.9**	**+0.8**
SONM				IAmb	IAmb	23 36 49.5	
	comp=Z,2.4nm,1.3s						
MKAR	**Makanchi Array**	**65.26**	**333**	P	**P**	**23 36 51.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=148,slow=7.5,SNR=1.6						
	comp=Z,0.4nm,0.6s						
QSPA	**South Pole Qui**	**80.14**	**180**	P	**P**	**23 38 16.1**	**-2.3**
QSPA				IAmb	IAmb	23 38 30.6	
	comp=Z,4.8nm,1.4s						

*JMA **01** 23:27:00.4±0.1,38°.3N±0°.3×141°.9E±0°.6,h46km, MD4.1/40, MV4.6/40,E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*NEIC **01** 23:27:01.0±1.4,38°.22N±0°.04×141°.91E±0°.09,h44km±7km, mb4.5/25,Error ellipse: s-maj=10.8km s-min=4.7km az=117.0*
*NIED **01** 23:27:00.4,38°.28N×141°.92E,h46km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.57; Mθθ-0.50; Mφφ-1.07; Mrθ0.75; Mθφ-1.14; Mφr2.07; Fault plane solution: M₀2.84000×10¹⁵ NP1: φs237.00000°,δ22.00000°,λ122.00000°. NP2: φs23.00000°,δ71.00000°,λ78.00000°.*
*IDC **01** 23:27:01.2±0.6,38°.23N×141°.84E,h48km±5km,mb3.8/17, mbtmp4.1/21,MS3.2/10 Error ellipse: s-maj=15.2km s-min=13.8km az=107.0*

ISC 01 23:27:00.8±0.6, 38°.23N±0°.04×141°.95E±0°.06, h46km±5km, n134, σ0§93/127, mb4.4/46, MS3.3/6, 1C-22D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.39**	**282**	⇓P	**Pn**	**23 27 09.8**	**-0.7**
JIKH				⇓S	**Sn**	**23 27 16.0**	**-1.3**
JIKH	**Ishinomakikobu**	**0.39**	**282**	A	A	23 27 09.8	
	comp=E,45nm,0.3s,comp=E,35nm,0.3s						
JIO	**Ouri**	**0.52**	**295**	⇓P	**Pn**	**23 27 11.3**	**-0.8**
JIO				⇓S	**Sn**	**23 27 18.8**	**-1.3**
JIO	**Ouri**	**0.52**	**295**	A	A	23 27 11.3	
	comp=E,16nm,0.6s,comp=E,16nm,0.8s						
JKMT	**Kesennumamotoy**	**0.69**	**327**	⇓P	**Pn**	**23 27 13.3**	**-0.9**
JKMT				⇓S	**Sn**	**23 27 22.5**	**-1.4**
JKMT	**Kesennumamotoy**	**0.69**	**327**	A	A	23 27 13.3	
	comp=E,13nm,1.0s,comp=E,9.0nm,1.2s						
OFUJ	**Ofunato**	**0.88**	**346**	⇓*i*P	**Pn**	**23 27 15.7**	**-1.0**
OFUJ				⇓S	**Sn**	**23 27 26.8**	**-1.6**
OFUJ	**Ofunato**	**0.88**	**346**	A	A	23 27 15.7	
	comp=E,10.0nm,0.2s,comp=E,13nm,0.6s						
JOFO	**Osakifurukawao**	**0.90**	**295**	A	A	23 27 16.2	
	comp=E,25nm,3.0s,comp=E,24nm,2.0s						
JMK	**Ichinoseki**	**0.92**	**322**	⇓*i*P	**Pn**	**23 27 16.7**	**-0.6**
JMK	**Ichinoseki**	**0.92**	**322**	A	A	23 27 16.7	
	comp=E,8.0nm,1.4s,comp=E,11nm,0.4s						
JMST	**Minamisoumatoc**	**0.98**	**239**	A	A	23 27 18.1	
	comp=E,10.0nm,0.3s,comp=E,12nm,0.6s						
JMM	**Marumori**	**0.98**	**249**		**Pn**	**23 27 17.3**	**-0.8**
JMM				Sn	**Sn**	**23 27 29.6**	**-1.4**
JMM	**Marumori**	**0.98**	**249**	⇓*i*P	**Pn**	**23 27 17.4**	**-0.8**
JMM				⇓S	**Sn**	**23 27 29.7**	**-1.3**
JMM	**Marumori**	**0.98**	**249**	A	A	23 27 17.4	
	comp=E,4.0nm,0.4s,comp=E,6.0nm,0.5s						
JOU	**Okura**	**1.02**	**278**	⇓*i*P	**Pn**	**23 27 18.4**	**-0.3**
JOU				⇓S	**Sn**	**23 27 31.1**	**-0.8**
JOU	**Okura**	**1.02**	**278**	A	A	23 27 18.4	
	comp=E,15nm,0.4s,comp=E,21nm,0.6s						
JFK	**Kawauchi**	**1.21**	**225**	⇓*i*P	**Pn**	**23 27 20.8**	**-0.6**
JFK				⇓S	**Sn**	**23 27 35.7**	**-1.0**
JOM	**Ohasama**	**1.34**	**338**	⇓*i*P	**Pn**	**23 27 22.6**	**-0.5**
JOM				⇓*e*S	**Sn**	**23 27 38.8**	**-0.9**
JOM	**Ohasama**	**1.34**	**338**	A	A	23 27 22.6	
	comp=E,7.0nm,0.3s,comp=E,7.0nm,1.3s						
JYK	**Kaneyama**	**1.42**	**299**	⇓*i*P	**Pn**	**23 27 23.8**	**-0.4**
JYAR	**Yonezawaarcadi**	**1.46**	**258**	A	A	23 27 24.8	
	comp=E,8.0nm,1.4s,comp=E,9.0nm,1.2s						
JFT	**Otama**	**1.46**	**241**	⇓*i*P	**Pn**	**23 27 24.9**	**+0.2**
JFT				⇓S	**Sn**	**23 27 42.7**	**0.0**
JYS	**Shirataka**	**1.48**	**270**	⇓*i*P	**Pn**	**23 27 24.8**	**-0.2**
JYS				⇓*e*S	**Sn**	**23 27 43.0**	**-0.3**
JYS	**Shirataka**	**1.48**	**270**	A	A	23 27 24.8	
	comp=E,5.0nm,3.6s,comp=E,6.0nm,2.8s						
JRG	**Rokugo**	**1.55**	**319**	*i* P	**Pn**	**23 27 25.8**	**-0.1**
JRG	**Rokugo**	**1.55**	**319**	A	A	23 27 25.8	
	comp=E,5.0nm,3.5s,comp=E,5.0nm,1.1s						
JTH	**Tanohata**	**1.71**	**358**	A	A	23 27 27.8	
	comp=E,4.0nm,0.5s,comp=E,3.0nm,1.3s						
JYA	**Atsumi**	**1.79**	**282**	A	A	23 27 29.3	
	comp=E,6.0nm,1.6s,comp=E,8.0nm,1.0s						
JYW	**Yuwa**	**1.88**	**314**	A	A	23 27 30.4	
	comp=E,9.0nm,1.9s,comp=E,10.0nm,4.2s						
JKEN	**Kujiedanarisaw**	**1.98**	**355**	A	A	23 27 31.7	
	comp=E,10.0nm,0.6s,comp=E,9.0nm,0.8s						
JANG	**Nango**	**2.17**	**351**	A	A	23 27 34.4	
	comp=E,3.0nm,1.7s,comp=E,2.0nm,2.0s						
JYT	**Yasato**	**2.44**	**216**	Pn	**Pn**	**23 27 38.4**	**+0.2**
JYT				Sn	**Sn**	**23 28 06.6**	**-0.1**
JTM	**Tenmabayashi**	**2.64**	**345**	Pn	**Pn**	**23 27 40.8**	**0.0**
JTM				Sn	**Sn**	**23 28 11.4**	**-0.3**
JSD	**Sado**	**2.92**	**267**		**Pn**	**23 27 44.2**	**-0.5**
MJAR	**Matsushiro Arr**	**3.42**	**242**	P	**Pn**	**23 27 50.9**	**-0.7**
	9.3nm,0.5s,baz=61,slow=12,SNR=9.3						
MJAR				LR	LR	23 29 26.5	
	comp=Z,408nm,19.7s,baz=62,slow=43						
MAJO	**Matsushiro**	**3.42**	**242**		**Pn**	**23 27 52.0**	**+0.3**
JGF	**Kuroka**	**4.52**	**236**		**Pn**	**23 28 06.8**	**+0.1**
JEW	**Eniwo**	**4.62**	**355**	Pn	**Pn**	**23 28 08.4**	**+0.4**
INU	**Inuyama**	**4.89**	**235**		**Pn

comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.3s
CRAI Chiangrai 40.09 255 P **P** **23 34 31.3 -0.6**
CRAI IAmb IAmb 23 34 34.1
comp=Z,6.7nm,1.2s
WMQ Urumqi 40.69 296 *e*P **P** **23 34 38.2 +1.4**
WMQ pP pP 23 34 47.9 -1.3
WMQ pmax pmax
comp=Z,27nm,0.7s
ZAA0 Zalesovo Array 41.43 311 P **P** **23 34 41.8 -0.8**
ZALV Zalesovo Beam 41.43 311 P **P** **23 34 42.1 -0.5**
comp=Z,3.0nm,0.4s,baz=84,slow=7.8,SNR=14
ZALV PcP **PcP** **23 36 39.8 +0.1**
comp=Z,0.6nm,0.4s,baz=104,slow=2.8,SNR=3.3
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 41.43 311 P **P** **23 34 41.9 -0.7**
MK31 Makanchi Array 43.85 301 P **P** **23 35 02.4 0.0**
MKAR Makanchi Array 43.85 301 P **P** **23 35 02.3 -0.1**
comp=Z,2.0nm,0.6s,baz=81,slow=9.7,SNR=20
MKAR pP **pP** **23 35 16.0 +1.1**
comp=Z,1.8nm,0.6s,baz=83,slow=9.9,SNR=6.7
comp=Z,2.0nm,0.6s
MAKZ Makanchi 44.06 301 P **P** **23 35 03.5 -0.6**
KURK Kurchatov 45.54 307 P **P** **23 35 15.1 -0.6**
KURK IAmb IAmb 23 35 16.2
comp=Z,12nm,1.0s
JIRN Jiri 47.34 274 *e*P **P** **23 35 31.1 +0.5**
comp=Z,3.8nm,0.2s
RAMN Ramite 47.35 273 *e*P **P** **23 35 30.8 +0.2**
GUN Gumba 47.47 275 *e*P **P** **23 35 31.9 +0.3**
PKI Pulchoki 47.99 275 *e*P **P** **23 35 35.6 0.0**
comp=Z,8.1nm,0.5s
PKIN Phulchoki 48.00 275 *e*P **P** **23 35 35.6 0.0**
comp=Z,9.8nm,0.5s
ILAR Eielson Array 48.26 33 P **P** **23 35 37.2 +0.4**
comp=Z,1.0nm,0.7s,baz=270,slow=6.0,SNR=13
comp=Z,1.0nm,0.7s
GKN Gorkha 48.40 276 *e*P **P** **23 35 38.7 +0.1**
comp=Z,27nm,0.8s
DANN Dangsing 48.93 277 *e*P **P** **23 35 42.9 +0.1**
comp=Z,48nm,0.7s
PYUN Piuthan 49.65 277 *e*P **P** **23 35 48.1 -0.1**
comp=Z,14nm,0.6s
BCAR Beaver Creek A 50.67 35 P **P** **23 35 55.9 +0.7**
CHGR Chuyangaron 55.54 295 P **P** **23 36 31.5 0.0**
ARU Arti 55.75 318 P **P** **23 36 32.5 0.0**
ARU IAmb IAmb 23 36 33.3
comp=Z,8.3nm,1.1s
KBL Kabul 57.39 290 P **P** **23 36 44.5 -0.4**
KBL IAmb IAmb 23 36 45.7
comp=Z,5.8nm,1.1s
ABKAR Akbulak array 57.50 310 IAmb IAmb 23 36 45.4
comp=Z,3.1nm,1.1s
WRA Warramunga Arr 58.30 188 P **P** **23 36 50.6 -0.4**
comp=Z,1.1nm,0.6s,baz=5.8,slow=7.1,SNR=14
comp=Z,1.1nm,0.6s
ASAR Alice Springs 62.03 188 P **P** **23 37 16.8 +0.3**
comp=Z,0.9nm,0.6s,baz=16,slow=6.4,SNR=9.5
comp=Z,0.9nm,0.6s
FINES FINESS Array B 67.95 332 P **P** **23 37 54.1 -0.4**
comp=Z,4.5nm,0.7s,baz=43,slow=9.1,SNR=14
comp=Z,4.5nm,0.7s
FINES FINESS Array B 67.95 332 P **P** **23 37 54.2 -0.3**
SUMG Summit 69.49 0 P **P** **23 38 03.0 -1.4**
SUMG IAmb IAmb 23 38 26.0
comp=Z,15nm,1.5s
KIV Kislovodsk 70.44 311 **P** **23 38 10.8 +0.4**
KIV IAmb IAmb 23 38 29.8
comp=Z,9.4nm,0.9s
KBZ Khabaz 70.45 311 P **P** **23 38 10.8 +0.6**
comp=Z,4.5nm,0.9s,baz=45,slow=4.3,SNR=4.8
comp=Z,4.5nm,0.9s
NB2 NORSAR Subarra 73.25 337 P **P** **23 38 27.2 +0.4**
comp=Z,1.8nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 73.25 337 P **P** **23 38 26.6 -0.2**
comp=Z,2.7nm,0.7s,baz=38,slow=5.8,SNR=9.4
NOA LR LR 00 13 00.8
comp=Z,33nm,21.2s,baz=190,slow=38
comp=Z,2.7nm,0.7s
AKASG Malin Array Be 73.61 322 P **P** **23 38 28.6 -0.5**
comp=Z,1.3nm,0.4s,baz=44,slow=6.4,SNR=9.7
comp=Z,1.3nm,0.4s
AKASG Malin Array Be 73.61 322 P **P** **23 38 28.5 -0.5**
AKASG IAmb IAmb 23 38 30.3
comp=Z,6.6nm,1.4s
AKBB Malin Array Si 73.61 322 P **P** **23 38 28.5 -0.5**
AKBB IAmb IAmb 23 38 29.3
comp=Z,5.1nm,0.8s
NVAR Mina Array Bea 73.93 54 P **P** **23 38 33.0 +1.5**
comp=Z,0.5nm,0.8s,baz=289,slow=5.6,SNR=3.6
NVAR pP **PcP** **23 38 46.3 -0.4**
comp=Z,1.2nm,0.9s,baz=278,slow=6.5,SNR=4.8
comp=Z,0.5nm,0.8s
PDAR Pinedale Array 76.53 46 P **P** **23 38 46.9 +0.6**
comp=Z,0.6nm,0.6s,baz=270,slow=1.8,SNR=7.0
PDAR pP **pP** **23 39 00.7 +1.2**
comp=Z,0.8nm,0.5s,baz=283,slow=3.0,SNR=6.5
comp=Z,0.6nm,0.6s
RGN Rugen 77.62 332 P **P** **23 38 50.1 -1.8**
BUR08 Bucovina Ar. S 77.62 322 P **P** **23 38 52.0 -0.2**
BUR08 IAmb IAmb 23 38 52.6
comp=Z,9.0nm,1.5s
BURAR Bucovina Array 77.64 322 P **P** **23 38 52.4 +0.1**
BRTR Keskin Array B 78.38 312 P **P** **23 38 56.3 -0.3**
comp=Z,0.6nm,0.6s,baz=61,slow=7.2,SNR=5.3
BRTR pP **pP** **23 39 09.2 -0.8**
comp=Z,0.4nm,0.5s,baz=59,slow=4.4,SNR=2.1
comp=Z,0.6nm,0.6s
PV23 Carpenter Ridg 79.63 49 P **P** **23 39 03.0 -0.7**
N23A Red Feather La 79.79 46 P **P** **23 39 04.2 -0.2**
N23A IAmb IAmb 23 39 33.4
comp=Z,6.9nm,1.4s
VYHS Vyhne 79.98 326 *e*P **P** **23 39 06.1 +1.1**
CLL Collm 80.27 330 *i* P **P** **23 39 06.6 +0.1**
comp=Z,4.0nm,0.9s
RONA Rosalia, Austr 81.70 326 *e*P **P** **23 39 13.8 -0.5**
comp=Z,3.0nm,0.9s
CONA Conrad Observa 81.71 327 *e*P **P** **23 39 14.2 -0.2**
comp=Z,1.6nm,0.7s
KHC Kasperske Hory 81.74 329 P **P** **23 39 14.7 +0.3**
KHC Kasperske Hory 81.74 329 *e*P **P** **23 39 14.5 0.0**
GERES GERESS Array B 81.92 328 P **P** **23 39 15.4 0.0**
comp=Z,0.9nm,0.9s,baz=38,slow=6.8,SNR=5.7
GERES pP **pP** **23 39 28.0 -0.9**
comp=Z,0.4nm,0.7s,baz=356,slow=2.9,SNR=2.6
comp=Z,0.9nm,0.9s
GERES GERESS Array B 81.92 328 P **P** **23 39 15.2 -0.2**
ARSA Arzberg 82.38 326 *e*P **P** **23 39 18.3 +0.5**
comp=Z,1.7nm,0.9s
BIOA Bad Ischl, Aus 82.85 328 *e*P **P** **23 39 20.6 +0.4**
comp=Z,3.7nm,1.1s
SOKA Soboth 83.04 326 *e*P **P** **23 39 20.6 -0.7**
comp=Z,5.1nm,1.5s
WATA Walderalm 83.98 329 *e*P **P** **23 39 25.6 -0.6**
WTTA Wattenberg 84.02 329 *e*P **P** **23 39 26.5 +0.1**
comp=Z,1.9nm,0.6s
MOTA Moosalm 84.17 329 *e*P **P** **23 39 26.6 -0.6**
comp=Z,1.9nm,0.7s
RETA Reutte 84.19 329 *e*P **P** **23 39 27.4 +0.2**
comp=Z,4.6nm,1.1s
SQTA Sankt Quirin 84.23 329 *e*P **P** **23 39 27.5 +0.1**
comp=Z,1.4nm,0.6s
FETA Feichten 84.58 329 *e*P **P** **23 39 29.3 0.0**
comp=Z,3.7nm,1.2s
DAVA Damuels 84.71 330 *e*P **P** **23 39 29.5 -0.5**
comp=Z,6.4nm,1.2s
TXAR Lajitas Array 89.06 53 P **P** **23 39 52.0 +0.7**
comp=Z,0.3nm,0.6s,baz=305,slow=3.2,SNR=2.3
TXAR pP **pP** **23 40 06.1 +1.2**
comp=Z,0.5nm,0.6s,baz=284,slow=3.6,SNR=4.3
comp=Z,0.3nm,0.6s

*IDC **01** 23:27:20.9±1.2,54.°96S×30.°47W,h0km,mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=53.3km s-min=23.5km az=77.0*
*NEIC **01** 23:27:22.6±1.4,55.°02S±0.°09×31.°0W±0.°2,h10km±2km, mb4.4/8, Error ellipse: s-maj=23.2km s-min=11.1km az=55.0*
ISC 01 23:27:22.4±0.9,**55.°0S**±0.°1×**31.°0W**±0.°1,**h10**km,**n19,**
σ1s28/15,mb4.1/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.29**	**281**		**Pn**	**23 28 14.2**	**+0.3**
ORCD	**Orcadas**	**9.29**	**226**	Pn	**Pn**	**23 29 35.9**	**-0.2**
SNAA	**Sanae**	**20.57**	**155**	P	**P**	**23 31 58.3**	**-2.6**
	1.9nm,0.9s,baz=309,slow=10,SNR=5.9						
	1.9nm,0.9s						
SNAA	**Sanae**	**20.57**	**155**	P	**P**	**23 32 01.0**	**0.0**
MG05	**Puerto Natales**	**24.75**	**260**	P	**P**	**23 32 41.6**	**-2.1**
CPUP	**Villa Florida**	**34.54**	**315**	P	**P**	**23 34 11.6**	**+0.8**
	0.9nm,0.4s,baz=141,slow=8.9,SNR=3.7						
	0.9nm,0.4s						
CPUP	**Villa Florida**	**34.54**	**315**	P	**P**	**23 34 10.4**	**-0.4**
QSPA	**South Pole Qui**	**35.23**	**180**	P	**P**	**23 34 18.1**	**+1.6**
	1.5nm,0.9s,baz=205,slow=1.1,SNR=5.9						
	1.5nm,0.9s						
QSPA	**South Pole Qui**	**35.23**	**180**	P	**P**	**23 34 17.4**	**+0.8**
QSPA				IAmb	IAmb	23 34 33.7	
	comp=Z,7.1nm,1.4s						
PB01	**IPOC Station P**	**44.55**	**304**	P	**P**	**23 35 33.9**	**-0.4**
PB01				IAmb	IAmb	23 36 00.8	
	comp=Z,20nm,1.5s						
VNDA	**Vanda**	**47.47**	**184**	P	**P**	**23 35 57.6**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=153,slow=6.8,SNR=5.7						
	comp=Z,1.1nm,0.8s						
VNDA	**Vanda**	**47.47**	**184**	P	**P**	**23 35 57.7**	**+1.0**
VNDA				IAmb	IAmb	23 35 59.7	
	comp=Z,2.2nm,0.9s						
LPAZ	**La Paz**	**48.04**	**309**	P	**P**	**23 36 03.6**	**+1.2**
LPAZ				IAmb	IAmb	23 36 10.2	
	comp=Z,2.4nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.87**	**22**	T	T	00 29 02.7	
	baz=191						
H10N3	**ASCENSION HYDR**	**48.87**	**22**	T	T	00 29 05.0	
	baz=191						
H10N2	**ASCENSION HYDR**	**48.88**	**22**	T	T	00 29 11.9	
	baz=191						
TORD	**Torodi Ar. Bea**	**73.30**	**33**	P	**P**	**23 38 53.4**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=216,slow=5.8,SNR=2.4						
	comp=Z,0.5nm,0.9s						
MTP	**Monte Pirata**	**78.55**	**327**	P	P	23 39 18.7	-5.0
ILAR	**Eielson Array**	**147.84**	**314**	PKPbc	**PKPbc**	**23 47 05.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=129,slow=1.0,SNR=4.4						

WEL 01 23:30:31.8±1.0,**37.°S**±5.°×**17.°9E**±.°,**h22**km±5km,**M3.2/25,**
ML3.5/30,MLv3.2/25,Error ellipse: s-maj=0.0km
s-min=0.0km az=101.9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.59**	**239**	P	Pb	23 30 43.4	-0.1
MXZ				S	Sb	23 30 51.7	+0.3
WMGZ	**Waiomatatini S**	**0.70**	**216**	P	Pn	23 30 46.6	+0.2
WMGZ				S	Sn	23 30 57.0	+0.5
PKGZ	**Pakihiroa**	**0.93**	**227**	P	Pn	23 30 49.8	+0.1
PKGZ				S	Sn	23 31 02.5	+0.1
PUZ	**Puketiti**	**0.98**	**213**	P	Pn	23 30 50.3	+0.1
PUZ				S	Sn	23 31 03.5	+0.1
HAZ	**Te Kaha**	**1.05**	**241**	P	Pn	23 30 50.6	-0.6
HAZ				S	Sn	23 31 05.8	+0.7
TWGZ	**Tauwhareparae**	**1.19**	**219**	P	Pb	23 30 53.7	-0.1
TWGZ				S	Sb	23 31 10.5	+1.7
RUGZ	**Raukumara Rang**	**1.23**	**234**	P	Pb	23 30 54.5	+0.1
CNGZ	**Carnagh Statio**	**1.36**	**205**	P	Pn	23 30 56.1	-0.4
TKGZ	**Te Karaka**	**1.46**	**216**	P	Pn	23 30 57.0	+0.2
MWZ	**Matawai**	**1.55**	**226**	P	Pn	23 30 58.4	+0.2
WHRZ	**Whale Island**	**1.67**	**248**	P	Pn	23 31 00.2	+0.4
RAGZ	**Rawiri**	**1.73**	**224**	P	Pn	23 31 01.2	+0.5
URZ	**Urewera**	**1.76**	**235**	P	Pn	23 31 01.5	+0.5
URZ				S	Sn	23 31 23.0	+0.2
PRGZ	**Paritu Road**	**1.86**	**206**	P	Pn	23 31 02.2	-0.2
KNZ	**Kokohu**	**2.03**	**209**	P	Pn	23 31 02.8	-1.8
RTZ	**Ruatahuna**	**2.06**	**228**	P	Pn	23 31 05.5	+0.3
RTZ				S	Sn	23 31 30.6	+0.4
MHGZ	**Mahia Peninsul**	**2.06**	**203**	P	Pn	23 31 04.7	-0.4
RAHZ	**Arahi**	**2.21**	**221**	P	Pn	23 31 08.1	+0.9
RAHZ				S	Sn	23 31 33.1	-0.8
MTHZ	**Maungataniwha**	**2.30**	**225**	P	Pn	23 31 08.7	+0.3
NMHZ	**Naumai**	**2.49**	**222**	P	Pn	23 31 11.9	+0.8
ARHZ	**Aropaoanui**	**2.52**	**217**	P	Pn	23 31 11.0	-0.5
MRHZ	**Matea Rd**	**2.54**	**231**	P	Pn	23 31 11.9	+0.1
KUZ	**Kuaotunu**	**2.63**	**280**	P	Pn	23 31 12.0	-0.9
BKZ	**Black Stump Fm**	**2.71**	**225**	P	Pn	23 31 13.0	-0.3
TOZ	**Tahuroa Road**	**2.77**	**259**	P	Pn	23 31 15.2	+0.3
GRZ	**Great Barrier**	**2.97**	**289**	P	Pn	23 31 17.6	0.0
KAHZ	**Kahuranaki**	**3.01**	**212**	P	Pn	23 31 16.5	-1.7
MKAZ	**Moumakai**	**3.02**	**272**	P	Pn	23 31 18.1	-0.2
KRHZ	**Kereru**	**3.12**	**219**	P	Pn	23 31 18.8	-1.0
TMVZ	**Te Maari**	**3.15**	**233**	P	Pn	23 31 19.9	-0.4
ETVZ	**East Tongariro**	**3.16**	**233**	P	Pn	23 31 20.1	-0.2
BHHZ	**Black Hill Sta**	**3.17**	**225**	P	Pn	23 31 20.1	-0.4
OTVZ	**Oturere**	**3.21**	**233**	P	Pn	23 31 21.1	0.0
NGZ	**Ngauruhoe**	**3.25**	**233**	P	Pn	23 31 21.5	-0.2
TWVZ	**Taurewa**	**3.30**	**236**	P	Pn	23 31 22.9	+0.6
PNHZ	**Pukenui**	**3.41**	**218**	P	Pn	23 31 21.8	-1.9
WCZ	**Waipu Caves**	**3.92**	**288**	P	Pn	23 31 31.3	+0.6
LREZ	**Lake Rotokare**	**4.19**	**237**	P	Pn	23 31 35.0	+0.6
OUZ	**Omahuta**	**4.77**	**294**	P	Pn	23 31 43.5	+1.2
CTZ	**Chatham Island**	**7.30**	**154**	P	Pn	23 32 17.7	+0.6

*LDG **01** 23:44:13.0±0.1,43.°52N×0.°66W,h2km,Md2.6/2,Ml2.5/15, Error ellipse: s-maj=1.2km s-min=0.7km az=114.0*
*STR **01** 23:44:14.0±0.5,43.°N±3.°×±.°,h5km,MLv1.9/7,Error ellipse: s-maj=0.0km s-min=0.0km az=100.5,preliminary*
*MDD **01** 23:44:14.3±0.4,43.°50N×0.°68W,h12km,mb_Lg2.0/4, Error ellipse: s-maj=2.6km s-min=2.4km az=58.0*
ISC 01 23:44:12.3±1.0,**43.°54N**±0.°02×**0.°63W**±0.°02,**h17**km±8km,
n33,σ0s86/66,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.45**	**186**	Pg	**Pg**	**23 44 21.5**	**+0.1**
ATE				Sg	**Sg**	**23 44 27.0**	**-0.6**
OSSF	**Osses**	**0.54**	**239**	Pg	**Pg**	**23 44 22.7**	**-0.3**
OSSF				Sg	**Sb**	**23 44 30.8**	**+0.1**
SJPF	**Ste Jean**	**0.60**	**226**	*e*Pg	**Pg**	**23 44 24.0**	**-0.2**
SJPF				*e*Sg	**Sg**	**23 44 32.0**	**-0.3**
	22nm,0.3s						
PYLO	**Lourdes**	**0.61**	**136**	Pg	**Pb**	**23 44 25.5**	**+1.0**
PYLO				Sg	**Sb**	**23 44 33.7**	**+0.9**
ETSF	**Etsaut**	**0.64**	**175**	*e*Pg	**Pg**	**23 44 24.5**	**-0.4**
ETSF				*e*Sg	**Sg**	**23 44 33.0**	**-0.4**
	15nm,0.3s						
EALK	**Alkurruntz**	**0.71**	**244**	Pg	**Pb**	**23 44 25.9**	**-0.4**
EALK				Sg	**Sg**	**23 44 35.3**	**-0.4**
EALK				*i* Vmb_Lg		23 44 38.6	
EALK	**Alkurruntz**	**0.71**	**244**	Pg	**Pb**	**23 44 26.4**	**+0.1**
EALK	**Alkurruntz**	**0.71**	**244**	Sg	**Sb**	**23 44 36.6**	**+0.7**
CANF	**Canfranc**	**0.78**	**174**	Pg	**Pb**	**23 44 27.0**	**-0.4**
CANF				Sg	**Sb**	**23 44 37.2**	**-0.4**
VIEF	**Viey**	**0.81**	**144**	Pg	**Pb**	**23 44 28.0**	**+0.1**
VIEF				Sg	**Sb**	**23 44 38.9**	**+0.3**
EORO	**Oroz-Betelu**	**0.81**	**218**	Pg	**Pb**	**23 44 28.0**	**0.0**
EORO				Sg	**Sb**	**23 44 38.4**	**-0.2**
EORO				*i* Vmb_Lg		23 44 40.7	
EPF	**Esparros**	**0.87**	**125**	*e*Pg	**Pg**	**23 44 29.5**	**+0.3**
EPF				*e*Sg	**Sg**	**23 44 41.1**	**+0.4**
	21nm,0.2s						
ECHI	**Chisagues Biel**	**1.06**	**145**	Pg	**Pb**	**23 44 32.3**	**+0.1**
ECHI	**Chisagues Biel**	**1.06**	**145**	Sg	**Sb**	**23 44 46.4**	**+0.5**
LRVF	**chteau la Riv**	**1.43**	**9**	Pg	**Pg**	**23 44 41.0**	**+1.2**
LRVF				Sg	**Sg**	**23 45 00.7**	**+2.3**
MONQ	**Montcuq**	**1.56**	**57**	Pn	**Pg**	**23 44 42.9**	**+0.7**
MONQ				Sn	**Sg**	**23 45 04.0**	**+1.4**
LFF	**La Frestale**	**1.71**	**35**	*e*Pg	**Pg**	**23 44 45.8**	**+0.6**
LFF				*e*Sn	**Sb**	**23 45 03.9**	**-0.7**
LFF				*e*Sg	**Sg**	**23 45 07.8**	**+0.3**
	11nm,0.2s						
ESAC	**San Caprasio**	**1.82**	**176**	Pg	**Pg**	**23 44 46.6**	**-0.6**
ESAC				Sn	**Sn**	**23 45 06.1**	**+0.6**
ESAC				Sg	**Sg**	**23 45 10.4**	**-0.4**
RJF	**Les Rejaudoux**	**2.34**	**40**	*e*Pg	**Pg**	**23 44 57.3**	**+0.1**
RJF				*e*Sn	**Sn**	**23 45 18.8**	**+0.4**
	3.0nm,0.2s						
RJF				*e*Sg	**Sg**	**23 45 27.3**	**-0.3**
	6.2nm,0.2s						
CAF	**Calviac**	**2.38**	**53**	*e*Pn	**Pn**	**23 44 51.5**	**+0.9**
CAF	**Calviac**	**2.38**	**53**	*e*Pg	**Pg**	**23 44 57.8**	**-0.2**
CAF				*e*Sn	**Sn**	**23 45 20.0**	**+0.6**
	2.2nm,0.3s						
CAF				*e*Sg	**Sg**	**23 45 28.6**	**-0.3**
	4.9nm,0.2s						
MFF	**Saint Martin d**	**3.08**	**6**	*e*Pn	**Pn**	**23 45 00.8**	**+0.6**
MFF	**Saint Martin d**	**3.08**	**6**	*e*Pg	**Pg**	**23 45 10.5**	**-0.9**
MFF				*e*Sn	**Sn**	**23 45 36.6**	**-0.1**
MFF				*e*Sg	**Sg**	**23 45 50.5**	**-0.9**
	3.8nm,0.3s						
EMOS	**Mosqueruela**	**3.17**	**178**	Sn	**Sn**	**23 45 40.6**	**+1.6**
EMOS				Sg	**Sg**	**23 45 52.7**	**-1.5**
LASF	**Ste Croix**	**3.29**	**79**	*e*Pn	**Pn**	**23 45 04.0**	**+0.9**
LASF	**Ste Croix**	**3.29**	**79**	*e*Pg	**Pg**	**23 45 14.5**	**-0.9**
LASF				*e*Sn	**Sn**	**23 45 41.4**	**-0.4**
LASF				*e*Sg	**Sg**	**23 45 57.2**	**-0.8**
	2.7nm,0.3s						
TCF	**Toulx Ste Croi**	**3.41**	**35**	*e*Pn	**Pn**	**23 45 05.4**	**+0.7**
TCF	**Toulx Ste Croi**	**3.41**	**35**	*e*Pg	**Pg**	**23 45 16.6**	**-1.0**
TCF				*e*Sn	**Sn**	**23 45 44.4**	**-0.4**
TCF				*e*Sg	**Sg**	**23 46 00.7**	**-1.1**
	4.6nm,0.3s						
BGF	**Bois d'Agland**	**3.90**	**38**	*e*Pn	**Pn**	**23 45 11.8**	**+0.4**
BGF	**Bois d'Agland**	**3.90**	**38**	*e*Pg	**Pg**	**23 45 26.1**	**-0.8**
BGF				*e*Sn	**Sn**	**23 45 56.6**	**-0.1**
	3.0nm,0.4s						
BGF				*e*Sg	**Sg**	**23 46 15.5**	**-1.9**
	9.1nm,0.4s						
VIVF	**Saint-Julien-l**	**4.04**	**69**	*e*Pn	**Pn**	**23 45 14.4**	**+1.1**
VIVF	**Saint-Julien-l**	**4.04**	**69**	*e*Pg	**Pg**	**23 45 27.9**	**-1.6**
VIVF				*e*Sn	**Sn**	**23 45 58.9**	**-1.3**
	0.5nm,0.2s						
VIVF				*e*Sg	**Sg**	**23 46 20.3**	**-1.5**
	3.6nm,0.6s						
AVF	**Avril sur Loir**	**4.30**	**39**	*e*Pn	**Pn**	**23 45 17.3**	**+0.4**
AVF				*e*Sn	**Sn**	**23 46 05.7**	**-1.0**
AVF				*e*Sg	**Sg**	**23 46 28.6**	**-1.8**
	4.1nm,0.5s						

WEL 01 23:49:31.6±1.1,**37.°S**±4.°×**17.°9E**±.°,**h26**km±6km,**M3.4/52,**
ML3.7/46,MLv3.4/52,Error ellipse: s-maj=0.0km
s-min=0.0km az=86.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.62**	**242**	P	Pb	23 49 43.8	0.0
MXZ				S	Sb	23 49 51.9	-0.3
WMGZ	**Waiomatatini S**	**0.71**	**220**	P	Pn	23 49 47.0	+1.0
WMGZ				S	Sn	23 49 57.8	+1.7
PKGZ	**Pakihiroa**	**0.95**	**230**	P	Pb	23 49 49.9	+0.3
PKGZ				S	Sn	23 50 02.3	+0.2
PUZ	**Puketiti**	**0.99**	**216**	P	Pb	23 49 50.3	+0.3
PUZ				S	Sn	23 50 03.8	+0.8
HAZ	**Te Kaha**	**1.08**	**243**	P	Pn	23 49 50.8	-0.1
HAZ				S	Sb	23 50 05.8	+0.5
TWGZ	**Tauwhareparae**	**1.21**	**221**	P	Pb	23 49 53.6	-0.2
TWGZ				S	Sb	23 50 09.7	+0.6
RUGZ	**Raukumara Rang**	**1.25**	**236**	P	Pb	23 49 54.3	-0.3
RUGZ				S	Sb	23 50 10.4	-0.1
CNGZ	**Carnagh Statio**	**1.36**	**207**	P	Pb	23 49 56.0	-0.3
TKGZ	**Te Karaka**	**1.48**	**218**	P	Pn	23 49 56.7	+0.2
TKGZ				S	Sn	23 50 15.0	0.0
MWZ	**Matawai**	**1.57**	**227**	P	Pn	23 49 58.3	+0.4
MWZ				S	Sn	23 50 16.6	-0.8
WHRZ	**Whale Island**	**1.71**	**249**	P	Pn	23 50 00.1	+0.5
RIGZ	**Rimuhau**	**1.73**	**214**	P	Pn	23 50 00.4	+0.4
RAGZ	**Rawiri**	**1.75**	**225**	P	Pn	23 50 00.7	+0.5
URZ	**Urewera**	**1.79**	**236**	P	Pn	23 50 01.1	+0.3
PRGZ	**Paritu Road**	**1.87**	**208**	P	Pn	23 50 02.1	+0.2
EDRZ	**Edgecumbe**	**1.98**	**244**	P	Pn	23 50 03.7	+0.3
SNGZ	**Shannon Statio**	**2.00**	**220**	P	Pn	23 50 03.8	+0.1
OPRZ	**Ohinepanea**	**2.02**	**253**	P	Pn	23 50 03.6	-0.4
KNZ	**Kokohu**	**2.03**	**210**	P	Pn	23 50 03.6	-0.5
MHGZ	**Mahia Peninsul**	**2.06**	**204**	P	Pn	23 50 04.7	+0.1
RTZ	**Ruatahuna**	**2.08**	**229**	P	Pn	23 50 05.4	+0.5
MUGZ	**Murupara**	**2.13**	**235**	P	Pn	23 50 05.7	+0.2
TARZ	**Mount Tarawera**	**2.20**	**243**	P	Pn	23 50 07.5	+1.1
MYRZ	**Mayor Island**	**2.20**	**269**	P	Pn	23 50 06.1	-0.3
RAHZ	**Arahi**	**2.23**	**222**	P	Pn	23 50 06.9	0.0
MTHZ	**Maungataniwha**	**2.32**	**227**	P	Pn	23 50 08.7	+0.6
NMHZ	**Naumai**	**2.51**	**223**	P	Pn	23 50 11.0	+0.2
ARHZ	**Aropaoanui**	**2.54**	**218**	P	Pn	23 50 10.7	-0.3
MRHZ	**Matea Rd**	**2.56**	**232**	P	Pn	23 50 11.3	-0.1
KUZ	**Kuaotunu**	**2.67**	**280**	P	Pn	23 50 11.8	-1.1
BKZ	**Black Stump Fm**	**2.73**	**225**	P	Pn	23 50 13.5	-0.3
TOZ	**Tahuroa Road**	**2.82**	**260**	P	Pn	23 50 14.7	-0.2
CKHZ	**Cape Kidnapper**	**2.82**	**212**	P	Pn	23 50 13.7	-1.2
KWHZ	**Kaweka Forest**	**2.95**	**223**	P	Pn	23 50 16.6	-0.2
GRZ	**Great Barrier**	**3.02**	**289**	P	Pn	23 50 17.6	-0.1
MKAZ	**Moumakai**	**3.07**	**272**	P	Pn	23 50 17.8	-0.5
WIAZ	**Waiheke Island**	**3.13**	**278**	P	Pn	23 50 18.7	-0.5
KRHZ	**Kereru**	**3.14**	**220**	P	Pn	23 50 18.0	-1.4
TMVZ	**Te Maari**	**3.18**	**234**	P	Pn	23 50 19.9	-0.2
ETVZ	**East Tongariro**	**3.19**	**233**	P	Pn	23 50 17.5	-2.6
NTVZ	**North Tongariro**	**3.19**	**234**	P	Pn	23 50 20.2	+0.1
BHHZ	**Black Hill Sta**	**3.20**	**225**	P	Pn	23 50 19.7	-0.5
KRVZ	**Karewarewa**	**3.21**	**234**	P	Pn	23 50 20.3	-0.1
PXZ	**Pawanui**	**3.22**	**211**	P	Pn	23 50 18.2	-2.3
OTVZ	**Oturere**	**3.23**	**233**	P	Pn	23 50 21.0	+0.2
NNVZ	**North Ngauruho**	**3.25**	**234**	P	Pn	23 50 21.1	+0.1
WTVZ	**West Tongariro**	**3.25**	**235**	P	Pn	23 50 21.5	+0.5
SNVZ	**South Ngauruho**	**3.26**	**233**	P	Pn	23 50 21.2	0.0
ETAZ	**East Tamaki Re**	**3.27**	**274**	P	Pn	23 50 21.4	+0.3
NGZ	**Ngauruhoe**	**3.28**	**234**	P	Pn	23 50 21.1	-0.3
MBAZ	**Motutapu North**	**3.32**	**277**	P	Pn	23 50 22.1	+0.3
MOVZ	**Moawhango**	**3.32**	**229**	P	Pn	23 50 21.3	-0.6
TWVZ	**Taurewa**	**3.33**	**236**	P	Pn	23 50 22.7	+0.7
WHVZ	**Whangaehu Hut**	**3.35**	**232

PRGZ	Paritu Road	2.19 214	P	Pn	23 53 36.5	+2.3
SNGZ	Shannon Statio	2.36 225	P	Pn	23 53 38.6	+2.1
SNGZ			S	Sn	23 54 06.2	+1.1
KNZ	Kokohu	2.37 216	P	Pn	23 53 38.4	+1.8
KNZ			S	Sn	23 54 05.7	+0.5
MHGZ	Mahia Peninsul	2.37 211	P	Pn	23 53 39.2	+2.5
EDRZ	Edgecumbe	2.38 245	P	Pn	23 53 38.7	+1.9
MARZ	Manawahe	2.38 248	P	Pb	23 53 39.2	-1.8
OPRZ	Ohinepanea	2.42 252	P	Pn	23 53 38.4	+1.0
RTZ	Ruatahuna	2.47 232	P	Pn	23 53 40.5	+2.4
MUGZ	Murupara	2.52 237	P	Pn	23 53 40.6	+1.8
MYRZ	Mayor Island	2.58 265	P	Pn	23 53 40.6	+1.1
RAHZ	Arahi	2.59 226	P	Pn	23 53 42.6	+2.8
TAHZ	Mount Tarawera	2.59 247	P	Pb	23 53 41.7	-2.3
RRRZ	Republican Roa	2.63 242	P	Pn	23 53 42.5	+2.1
OMRZ	Omania	2.64 247	P	Pn	23 53 42.5	+2.0
MTHZ	Maungataniwha	2.70 229	P	Pn	23 53 43.5	+2.3
KARZ	Kaharoa	2.71 250	P	Pn	23 53 43.0	+1.7
NMHZ	Naumai	2.88 226	P	Pn	23 53 46.1	+2.4
ARHZ	Aropaoanui	2.89 221	P	Pn	23 53 45.8	+2.0
KMRZ	Kaimai	2.89 254	P	Pn	23 53 44.7	+0.8
MRHZ	Matea Rd	2.95 234	P	Pn	23 53 46.5	+1.7
KUZ	Kuaotunu	3.02 276	P	Pn	23 53 45.2	-0.4
BKZ	Black Stump Fm	3.11 228	Pn	Pn	23 53 48.0	+1.1
BKZ	Black Stump Fm	3.11 228	P	Pn	23 53 48.5	+1.6
CKHZ	Cape Kidnapper	3.15 216	P	Pn	23 53 48.8	+1.4
TOZ	Tahuroa Road	3.21 258	P	Pn	23 53 49.4	+1.2
GRZ	Great Barrier	3.33 284	P	Pn	23 53 50.8	+0.9
KAHZ	Kahuranaki	3.35 216	P	Pn	23 53 51.3	+1.1
MKAZ	Moumakai	3.44 269	P	Pn	23 53 51.3	0.0
WIAZ	Waiheke Island	3.48 274	P	Pn	23 53 53.4	+1.5
KRRZ	Kereru	3.50 223	P	Pn	23 53 53.3	+1.1
PXZ	Pawanui	3.55 214	P	Pn	23 53 53.7	+0.9
BHHZ	Black Hill Sta	3.57 227	P	Pn	23 53 55.1	+1.9
TMVZ	Te Maari	3.57 235	P	Pn	23 53 54.5	+1.2
ETVZ	East Tongariro	3.58 235	P	Pn	23 53 54.6	+1.2
NTVZ	North Tongarir	3.58 235	P	Pn	23 53 54.4	+1.0
KRVZ	Karewarewa	3.60 236	P	Pn	23 53 55.7	+2.0
OTVZ	Oturere	3.62 235	P	Pn	23 53 55.6	+1.6
NNVZ	North Ngauruho	3.64 235	P	Pn	23 53 56.4	+2.1
WTVZ	West Tongariro	3.65 236	P	Pn	23 53 56.2	+1.8
NGZ	Ngauruhoe	3.67 235	P	Pn	23 53 56.1	+1.4
MBAZ	Motutapu North	3.67 274	P	Pn	23 53 56.3	+1.7
MOVZ	Moawhango	3.71 231	P	Pn	23 53 56.3	+1.2
TWVZ	Taurewa	3.72 237	P	Pn	23 53 57.0	+1.6
ABAZ	Army Bay	3.75 277	P	Pn	23 53 57.4	+1.8
WNVZ	Wahianoa	3.76 233	P	Pn	23 53 56.9	+1.0
PNHZ	Pukenui	3.78 222	P	Pn	23 53 56.8	+0.6
PRHZ	Porangahau	3.84 214	P	Pn	23 53 57.3	+0.4
HIZ	Hauiti	3.90 248	Pn	Pn	23 54 00.0	+2.3
WTAZ	Waiatarua	3.92 271	P	Pn	23 54 00.2	+2.2
RVAZ	Riverhead Bore	3.93 274	P	Pn	23 53 60.0	+1.9
WCZ	Waipu Caves	4.29 284	P	Pn	23 54 04.0	+1.0
WAZ	Wanganui	4.39 232	P	Pn	23 54 06.2	+1.8
MRZ	Mangatainoka R	4.66 219	P	Pn	23 54 08.0	-0.1
KHEZ	Kahui Hut	4.81 242	P	Pn	23 54 15.4	+5.2
OUZ	Omahuta	5.11 290	P	Pn	23 54 15.9	+1.6
PLWZ	Palliser	5.51 215	Pn	Pn	23 54 17.4	-2.5
PLWZ			Sn	Sn	23 55 17.9	-4.9
SNZO	South Karori	5.58 220	Pn	Pn	23 54 19.6	-1.2
NNZ	Nelson	6.25 227	Pn	Pn	23 54 28.6	-1.4
CTZ	Chatham Island	7.25 157	P	Pn	23 54 50.2	+6.5
RPZ	Rata Peaks	9.19 222	Sn	Sn	23 56 41.8	-11
	0.8nm,0.3s,baz=163,slow=13,SNR=1.8					
DZM	Mont Dzumac	18.76 319	P	Pn	23 57 17.6	+0.3
DZM			IAmb	IAmb	23 57 27.0	
	comp=Z,35nm,1.4s					
COEN	Coen	39.69 296	P	P	00 00 29.2	-0.8
AS31	Alice Springs	41.15 276	P	P	00 00 41.8	-0.3
ASAR	Alice Springs	41.15 276	P	P	00 00 41.6	-0.4
	comp=Z,1.8nm,0.6s,baz=121,slow=8.2,SNR=21					
	comp=Z,1.8nm,0.6s					
WR0	Warramunga Arr	42.58 281	P	P	00 00 53.1	-0.7
WR0			IAmb	IAmb	00 01 17.9	
	comp=Z,5.2nm,1.3s					
WB2	Warramunga Arr	42.74 281	P	P	00 00 54.8	-0.3
WB2			IAmb	IAmb	00 01 16.7	
	comp=Z,5.9nm,1.2s					
WRA	Warramunga Arr	42.75 281	P	P	00 00 54.6	-0.6
	comp=Z,1.3nm,0.6s,baz=127,slow=6.7,SNR=15					
	comp=Z,1.3nm,0.6s					
WRA	Warramunga Arr	42.75 281	P	P	00 00 54.7	-0.4
WB0	Warramunga Arr	42.80 281	P	P	00 00 55.5	-0.2
WB0			IAmb	IAmb	00 01 34.0	
	comp=Z,8.4nm,1.3s					
FITZ	Fitzroy Crossi	50.63 277	P	P	00 01 56.4	-0.5
QSPA	South Pole Qui	53.01 180	P	P	00 02 10.1	-4.1
QSPA			IAmb	IAmb	00 02 11.6	
	comp=Z,5.3nm,1.4s					
FINES	FINESS Array B	150.50 334	PKPbc	PKPbc	00 12 49.6	+1.2
	comp=Z,1.7nm,0.8s,baz=74,slow=5.1,SNR=1.7					

*NOU **01** 23:56:06.6, 37.24S×179.87W, h127km, MLv4.8/6, East of North Island, N.Z.*
*WEL **01** 23:56:15.6±1.8, 37°S±10°×17°9E±1°1, h6km±10km, M3.8/7, ML4.0/7, MLv3.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=123.6*

ISC 01 23:56:13.7±3.0, 37.17S±0.08×179.1E±0.1, h7km±15km, n53, σ0s74/57, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.77 239		P	Pg	23 56 28.9	+0.5
MXZ				S	Sg	23 56 37.8	-0.6
WMGZ	Waiomatatini S	0.86 221		P	Pb	23 56 31.9	+0.9
WMGZ				S	Sb	23 56 44.0	+1.2
PKGZ	Pakihiroa	1.10 229		P	Pg	23 56 35.1	+0.2
PKGZ				S	Sb	23 56 49.3	-0.4
PUZ	Puketiti	1.14 218		P	Pg	23 56 36.0	+0.5
PUZ				S	Sg	23 56 50.2	-0.1
HAZ	Te Kaha	1.22 241		P	Pg	23 56 36.0	-1.2
HAZ				S	Sb	23 56 52.8	-0.3
TWGZ	Tauwhareparae	1.36 222		P	Pn	23 56 39.6	+0.5
RUGZ	Raukumara Rang	1.40 235		P	Pn	23 56 40.2	+0.4
CNGZ	Carnagh Statio	1.50 209		P	Pn	23 56 42.0	+0.9
WIZ	White Island	1.50 257		P	Pn	23 56 42.1	-0.1
TKGZ	Te Karaka	1.62 218		P	Pn	23 56 42.7	-0.1
MWZ	Matawai	1.72 227		P	Pn	23 56 44.3	+0.2
WHRZ	Whale Island	1.85 248		P	Pn	23 56 45.8	0.0
RIGZ	Rimuhau	1.88 215		P	Pn	23 56 46.2	-0.1
RAGZ	Rawiri	1.90 225		P	Pn	23 56 46.8	+0.2
URZ	Urewera	1.94 235		P	Pn	23 56 47.2	+0.2
URZ	Urewera	1.94 235		P	Pn	23 56 47.4	+0.4
MARZ	Manawahe	2.12 247		P	Pn	23 56 49.8	+0.3
EDRZ	Edgecumbe	2.12 243		P	Pn	23 56 49.8	+0.2
SNGZ	Shannon Statio	2.14 221		P	Pn	23 56 49.5	-0.4
OPRZ	Ohinepanea	2.16 251		P	Pn	23 56 49.6	-0.5
KNZ	Kokohu	2.18 212		P	Pn	23 56 49.4	-0.9
MHGZ	Mahia Peninsul	2.20 206		P	Pn	23 56 50.2	-0.5
RTZ	Ruatahuna	2.23 229		P	Pn	23 56 51.2	0.0
MUGZ	Murupara	2.28 234		P	Pn	23 56 51.6	-0.2
MYRZ	Mayor Island	2.31 266		P	Pn	23 56 52.2	0.0
TARZ	Mount Tarawera	2.34 242		P	Pn	23 56 53.0	+0.3
RAHZ	Arahi	2.38 222		P	Pn	23 56 53.1	-0.1
RRRZ	Republican Roa	2.38 240		P	Pn	23 56 53.4	+0.2
OMRZ	Omania	2.38 246		P	Pn	23 56 54.0	+0.7
WHHZ	Waihua	2.42 218		P	Pn	23 56 53.6	-0.1
KARZ	Kaharoa	2.45 249		P	Pn	23 56 54.0	-0.1
MTHZ	Maungataniwha	2.47 227		P	Pn	23 56 54.5	+0.1
PRRZ	Plateau Road	2.54 238		P	Pn	23 56 55.2	-0.2
HRRZ	Handcock Road	2.56 241		P	Pn	23 56 56.9	+1.1
KMRZ	Kaimai	2.63 254		P	Pn	23 56 56.2	-0.3
NMHZ	Naumai	2.66 223		P	Pn	23 56 57.1	0.0
ARHZ	Aropaoanui	2.68 218		P	Pn	23 56 56.8	-0.5
MRHZ	Matea Rd	2.71 231		P	Pn	23 56 57.5	-0.2
KUZ	Kuaotunu	2.77 278		P	Pn	23 56 57.1	-1.3
BKZ	Black Stump Fm	2.88 225		P	Pn	23 56 59.6	-0.5
BKZ	Black Stump Fm	2.88 225		P	Pn	23 56 59.6	-0.5
KUTZ	Kaahu Road	2.93 242		P	Pn	23 57 01.2	+0.5
TOZ	Tahuroa Road	2.94 258		P	Pn	23 57 00.1	-0.8
CKHZ	Cape Kidnapper	2.96 212		P	Pn	23 56 59.5	-1.6
KWHZ	Kaweka Forest	3.10 223		P	Pn	23 57 02.6	-0.5
KAHZ	Kahuranaki	3.16 213		P	Pn	23 57 02.3	-1.6
MKAZ	Moumakai	3.18 270		P	Pn	23 57 03.3	-0.7
ETVZ	East Tongariro	3.33 233		P	Pn	23 57 05.6	-0.8
SNVZ	South Ngauruho	3.41 233		P	Pn	23 57 06.9	-0.5
HIZ	Hauiti	3.64 247		P	Pn	23 57 11.7	+1.2
OUZ	Omahuta	4.88 292		P	Pn	23 57 28.3	+0.7
QRZ	Quartz Range	6.31 233		P	Pn	23 57 44.6	-2.5
ODZ	Otahua Downs	10.14 216		P	Pn	23 58 34.6	-5.0

*IDC **01** 23:59:22.2±2.0, 36.64S×179.29E, h0km, mb4.0/2, mbtmp4.0/3, ML3.8/1, Error ellipse: s-maj=45.2km s-min=43.0km az=143.0*
*NEIC **01** 23:59:23.1±2.4, 37.04S±0.04×179.46E±0.08, h10km±2km, mb4.4/7, Error ellipse: s-maj=10.5km s-min=6.6km az=84.0*
*WEL **01** 23:59:26.9±1.8, 37°S±11°×17°9E±1°4, h11km±14km, M3.7/8, ML4.0/8, MLv3.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=118.6*

ISC 01 23:59:23.8±2.3, 36.94S±0.07×179.33E±0.08, h13km±11km, n111, σ1s60/115, mb4.4/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.03 232			Pn	23 59 44.2	+0.3
MXZ				Sg	Sg	23 59 55.6	-1.4
MXZ	Matakaoa Point	1.03 232		P	Pn	23 59 44.4	+0.5
MXZ				S	Sg	23 59 55.8	-1.2
WMGZ	Waiomatatini S	1.14 219		P	Pg	23 59 48.1	+2.3
WMGZ				S	Sn	00 00 02.6	+1.6
PKGZ	Pakihiroa	1.38 226		P	Pg	23 59 51.1	+0.8
PKGZ				S	Sg	00 00 08.2	+0.1
PUZ	Puketiti	1.42 217		P	Pg	23 59 51.6	+0.5
PUZ				S	Sg	00 00 10.1	+0.6
HAZ	Te Kaha	1.48 236		P	Pb	23 59 51.4	+0.3
HAZ				S	Sb	00 00 10.5	+0.6
TWGZ	Tauwhareparae	1.64 220		P	Pg	23 59 55.1	-0.1
RUGZ	Raukumara Rang	1.67 232		P	Pg	23 59 55.7	-0.1
CNGZ	Carnagh Statio	1.78 210		P	Pb	23 59 57.3	+0.9
WIZ	White Island	1.81 250		P	Pn	23 59 55.2	+0.6
TKGZ	Te Karaka	1.91 218		P	Pb	23 59 58.1	-0.3
MWZ	Matawai	2.00 225		P	Pb	23 59 59.4	-0.6
WHRZ	Whale Island	2.09 243		P	Pb	00 00 01.6	0.0
RIGZ	Rimuhau	2.16 215		P	Pn	00 00 01.2	+1.7
RAGZ	Rawiri	2.17 224		P	Pb	00 00 02.2	-0.8
URZ	Urewera	2.20 232		Pn	Pb	00 00 02.6	-0.9
	21nm,0.3s,baz=300,slow=3.0,SNR=16						
URZ				Sn	Sn	00 00 26.7	-0.4
	28nm,0.3s,baz=301,slow=21,SNR=24						
	105nm,0.4s						
URZ	Urewera	2.20 232			Pb	00 00 02.0	-1.4
URZ	Urewera	2.20 232		P	Pb	00 00 02.4	-1.1
PRGZ	Paritu Road	2.29 210		P	Pn	00 00 03.0	+1.7
MARZ	Manawahe	2.36 243		P	Pb	00 00 04.5	-1.6
EDRZ	Edgecumbe	2.37 240		P	Pb	00 00 04.9	-1.4
OPRZ	Ohinepanea	2.39 247		P	Pn	00 00 04.2	+1.6
SNGZ	Shannon Statio	2.42 220		P	Pn	00 00 04.8	+1.6
KNZ	Kokohu	2.46 212		P	Pn	00 00 04.6	+0.9
MHGZ	Mahia Peninsul	2.48 206		P	Pn	00 00 05.5	+1.6
MYRZ	Mayor Island	2.49 261		P	Pn	00 00 04.9	+0.9
RTZ	Ruatahuna	2.50 227		P	Pn	00 00 06.4	+2.1
MUGZ	Murupara	2.55 232		P	Pn	00 00 06.8	+2.0
TGRZ	Tauranga	2.57 251		P	Pb	00 00 07.9	-1.8
TARZ	Mount Tarawera	2.59 239		P	Pb	00 00 08.3	-1.8
OMRZ	Omania	2.63 243		P	Pb	00 00 09.7	-1.0
RRRZ	Republican Roa	2.64 237		P	Pb	00 00 08.5	-2.4
RAHZ	Arahi	2.66 221		P	Pb	00 00 09.3	-2.0
KARZ	Kaharoa	2.68 245		P	Pb	00 00 09.2	-2.5
WHHZ	Waihua	2.70 217		P	Pn	00 00 09.4	+2.5
MTHZ	Maungataniwha	2.75 225		P	Pn	00 00 10.0	+2.4
PRRZ	Plateau Road	2.80 235		P	Pn	00 00 10.2	+1.8
HRRZ	Handcock Road	2.82 238		P	Pn	00 00 10.7	+2.1
KMRZ	Kaimai	2.85 250		P	Pn	00 00 10.3	+1.3
KUZ	Kuaotunu	2.90 273		P	Pn	00 00 10.0	+0.3
NMHZ	Naumai	2.94 222		P	Pn	00 00 12.7	+2.5
ARHZ	Aropaoanui	2.96 218		P	Pn	00 00 12.3	+1.8
MRHZ	Matea Rd	2.98 230		P	Pn	00 00 13.1	+2.2
TOZ	Tahuroa Road	3.15 254		P	Pn	00 00 13.9	+0.8
BKZ	Black Stump Fm	3.16 224			Pn	00 00 14.6	+1.4
BKZ	Black Stump Fm	3.16 224		P	Pn	00 00 14.7	+1.4
KUTZ	Kaahu Road	3.18 240		P	Pn	00 00 16.5	+2.9
GRZ	Great Barrier	3.19 281		P	Pn	00 00 15.0	+1.4
CKHZ	Cape Kidnapper	3.24 212		P	Pn	00 00 15.1	+0.7
MKAZ	Moumakai	3.34 266		P	Pn	00 00 16.7	+1.0
WIAZ	Waiheke Island	3.37 271		P	Pn	00 00 17.2	+1.1
KWHZ	Kaweka Forest	3.38 222		P	Pn	00 00 19.4	+3.1
RATZ	Rangitukua	3.41 235		P	Pb	00 00 21.9	-2.2
KAHZ	Kahuranaki	3.44 213		P	Pn	00 00 17.4	+0.2
ETAZ	East Tamaki Re	3.53 268		P	Pn	00 00 20.2	+2.0
MBAZ	Motutapu North	3.56 271		P	Pn	00 00 18.3	-0.4
KRHZ	Kereru	3.57 220		P	Pn	00 00 20.1	+1.3
TMVZ	Te Maari	3.60 232		P	Pn	00 00 21.0	+1.7
ETVZ	East Tongariro	3.60 231		P	Pn	00 00 21.4	+1.9
NTVZ	North Tongarir	3.60 232		P	Pn	00 00 22.4	+3.0
BHHZ	Black Hill Sta	3.62 224		P	Pn	00 00 20.9	+1.3
KRVZ	Karewarewa	3.62 232		P	Pn	00 00 21.6	+1.9
ABAZ	Army Bay	3.63 274		P	Pn	00 00 21.6	+2.0
OTVZ	Oturere	3.65 231		P	Pn	00 00 22.1	+2.1
NNVZ	North Ngauruho	3.66 232		P	Pn	00 00 23.0	+2.7
WTVZ	West Tongariro	3.67 232		P	Pn	00 00 22.7	+2.3
SNVZ	South Ngauruho	3.68 231		P	Pn	00 00 22.8	+2.3
NGZ	Ngauruhoe	3.70 232		P	Pn	00 00 23.3	+2.6
TWVZ	Taurewa	3.74 234		P	Pn	00 00 23.8	+2.5
MOVZ	Moawhango	3.75 228		P	Pn	00 00 22.7	+1.4
AWAZ	Awhitu Peninsu	3.75 267		P	Pn	00 00 23.3	+1.9
WNVZ	Wahianoa	3.79 230		P	Pn	00 00 23.5	+1.5
WTAZ	Waiatarua	3.81 269		P	Pn	00 00 24.4	+2.2
PNHZ	Pukenui	3.86 219		P	Pn	00 00 23.5	+0.6
HIZ	Hauiti	3.88 245	Pn	Pn	Pn	00 00 25.2	+2.1
HIZ	Hauiti	3.88 245	P	Pn	Pn	00 00 26.2	+3.1
TSZ	Takapari Road	4.09 219	P	Pn	Pn	00 00 27.6	+1.0
WCZ	Waipu Caves	4.14 282	P	Pn	Pn	00 00 28.5	+1.8
WAZ	Wanganui	4.42 229	P	Pn	Pn	00 00 32.5	+1.9
BFZ	Birch Farm	4.45 212	Pn	Pn	Pn	00 00 29.8	-1.1
NEZ	North Egmont	4.74 239	P	Pb	Pb	00 00 40.9	-5.8
KHEZ	Kahui Hut	4.81 239	P	Pn	Pn	00 00 40.7	+4.8
OUZ	Omahuta	4.95 289			Pn	00 00 39.7	+1.9
OUZ	Omahuta	4.95 289	P	Pn	Pn	00 00 40.0	+2.2
OGWZ	Otaki Gorge	5.05 219	P	Pn	Pn	00 00 40.1	+0.9
MSWZ	Moikau Station	5.48 214	Pn	Pn	Pn	00 00 44.0	-1.1
NNZ	Nelson	6.30 225	Pn	Pn	Pn	00 00 57.5	+1.2
BSWZ	Blackbirch Sta	6.38 220	Pn	Pn	Pn	00 00 58.7	+1.3
TKNZ	Takaka Hill	6.43 229	P	Pn	Pn	00 00 59.4	+1.2
QRZ	Quartz Range	6.57 232	Pn	Pn	Pn	00 01 00.1	0.0
QRZ	Quartz Range	6.57 232	P	Pn	Pn	00 01 00.1	0.0
THZ	Tophouse	6.93 224	Pn	Pn	Pn	00 01 04.4	-0.6
THZ	Tophouse	6.93 224	P	Pn	Pn	00 01 05.6	+0.6
KHZ	Kahutara	7.06 217	Pn	Pn	Pn	00 01 06.3	-0.5
CTZ	Chatham Island	7.46 157	P	Pn	Pn	00 01 15.3	+3.0
OXZ	Oxford	8.48 219	Pn	Pn	Pn	00 01 24.4	-1.8
RPZ	Rata Peaks	9.26 220	Sn	Sn	Sn	00 03 09.5	-11
	1.0nm,0.3s,baz=132,slow=14,SNR=2.2						
LBZ	Lake Benmore	10.18 220	Pn	Pn	Pn	00 01 47.0	-2.5
ODZ	Otahua Downs	10.42 216	Pn	Pn	Pn	00 01 51.9	-1.0
WKZ	Wanaka	11.09 221	Pn	Pn	Pn	00 02 01.2	-0.8
ASAR	Alice Springs	41.02 276	P	P	P	00 07 06.5	-0.4
	2.0nm,0.7s,baz=119,slow=8.1,SNR=22						
	2.0nm,0.7s						
WR0	Warramunga Arr	42.44 281	P	P	P	00 07 17.2	-1.3
WR0			IAmb	IAmb	IAmb	00 07 54.4	
	comp=Z,14nm,1.4s						
FORT	Forrest	42.60 263	P	P	P	00 07 20.2	+0.6
WB2	Warramunga Arr	42.60 281	P	P	P	00 07 19.6	-0.2
WB2			IAmb	IAmb	IAmb	00 07 28.8	
	comp=Z,4.6nm,0.8s						
WRA	Warramunga Arr	42.61 281	P	P	P	00 07 19.3	-0.6
	comp=Z,1.0nm,0.6s,baz=122,slow=7.4,SNR=17						
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	42.61 281	P	P		00 07 18.9	-1.0
WB0	Warramunga Arr	42.66 281	P	P		00 07 19.4	-0.9
WB0			IAmb	IAmb	IAmb	00 07 27.1	
	comp=Z,11nm,1.4s						
CASY	Casey	48.36 210	P	P	P	00 08 05.6	+0.8
CASY			IAmb	IAmb	IAmb	00 08 40.2	
	comp=Z,7.3nm,1.3s						
QSPA	South Pole Qui	53.19 180			P	00 08 40.0	-1.4
QSPA			IAmb	IAmb	IAmb	00 09 14.2	
	comp=Z,6.8nm,1.4s						
FINES	FINESS Array B	150.29 334	PKPbc	PKiKP		00 19 14.2	-0.4
	comp=Z,0.9nm,0.8s,baz=20,slow=4.4,SNR=4.2						
TORD	Torodi Ar. Bea	156.22 186	PKPab	PKPab		00 19 47.2	+1.0
	comp=Z,0.9nm,0.8s,baz=178,slow=2.7,SNR=4.5						

*HEL **02** 00:02:50.7±0.1, 67.86N×20.21E, h0km, ML2.1, ML2.0(UPP), Explosion*
*UPP **02** 00:02:50.2±0.0, 67.86N×20.20E, h0km, ML2.0, Explosion*
*IDC **02** 00:02:52.0±1.3, 67.82N×20.85E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=19.4km s-min=7.6km az=116.0*

ISC 02 00:02:50.5±0.8, 67.85N±0.02×20.26E±0.03, h0km, n41, σ1s04/62, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	Kurravaara	0.11	15	P	Pg	00 02 52.6	0.0
KUA				S	Sg	00 02 54.3	+0.2
KUA	Kurravaara	0.11	15	*i* P	Pg	00 02 52.6	0.0
KUA				*i* S	Sg	00 02 54.3	+0.2
RATU	Laukkuluspa	0.26	265	P	Pg	00 02 54.8	-0.5
RATU	Laukkuluspa	0.26	265	*i* P	Pg	00 02 54.8	-0.5
KOVU	Salmi	0.38	354	P	Pg	00 02 57.3	-0.4
KOVU	Salmi	0.38	354	*i* P	Pg	00 02 57.3	-0.4
NIKU	Nikkaluokta	0.47	273	P	Pg	00 02 58.7	-0.7
NIKU	Nikkaluokta	0.47	273	*i* P	Pg	00 02 58.7	-0.7
LANU	Lannavaara	0.68	72	P	Pg	00 03 03.5	0.0
LANU	Lannavaara	0.68	72	*e*P	Pg	00 03 03.3	-0.2
LANU				*e*S	Sg	00 03 12.7	+0.3
DUNU	Dundret	0.74	171	P	Pg	00 03 04.5	-0.1
DUNU				S	Sg	00 03 14.4	+0.2
DUNU	Dundret	0.74	171	*i* P	Pg	00 03 04.5	-0.1
DUNU				*i* S	Sg	00 03 14.4	+0.2
SALU	Saltoluokta	0.82	236	P	Pg	00 03 05.2	-1.0
SALU	Saltoluokta	0.82	236	*i* P	Pg	00 03 05.2	-1.0
KIF	Kilpisjarvi	1.18	10	*e*P	Pg	00 03 12.9	-0.1
KIF	Kilpisjarvi	1.18	10	MSG	Sg	00 03 27.6	-0.7
	comp=Z,26nm,0.2s						
KIF				*e*S	Sg	00 03 27.6	-0.7
PAJU	Pajala	1.38	126	P	Pg	00 03 15.7	-1.1
PAJU	Pajala	1.38	126	*e*P	Pg	00 03 15.4	-1.4
	baz=304						
PAJU				*e*SB	Sg	00 03 34.7	+0.1
HEF	Hetta	1.39	65	*e*P	Pn	00 03 16.2	-0.9
HEF	Hetta	1.39	65	*e*PG	Pn	00 03 16.1	-1.0
	baz=250						
HEF				MSG		00 03 33.3	
	comp=Z,15nm,0.2s						
HEF				*e*SB	Sg	00 03 34.6	-0.5
ERTU	Ertsjaerv	1.50	149	P	Pn	00 03 17.9	-0.7
ERTU	Ertsjaerv	1.50	149	*e*P	Pn	00 03 17.6	-1.0
ERTU				*e*SB	Sg	00 03 38.6	0.0
KLF	Kolari	1.55	112	*e*PG	Pn	00 03 18.8	-0.4
	baz=293						
KLF				*e*SN	Sn	00 03 40.4	+0.3
KTK1	Kautokeino	1.61	42	*e*PN	Pn	00 03 20.3	+0.2
KTK1				*e*SN	Sn	00 03 41.5	0.0
HARU	Harads	1.71	170	P	Pn	00 03 21.6	+0.1
HARU	Harads	1.71	170	*e*P	Pn	00 03 21.6	+0.1
TRO	Tromso	1.86	345	*e*PG	Pn	00 03 23.7	+0.2
TRO				*e*SN	Sb	00 03 48.2	-0.8
TOF	Tornio	2.39	136	*e*PB	Pn	00 03 32.4	+1.7
TOF				MSG		00 04 01.6	
	comp=Z,11nm,0.2s						
TOF				*e*SB	Sb	00 04 03.8	-0.4
SGF	Sodankyl	2.43	97	*e*PB	Pn	00 03 32.8	+1.5
SGF				*e*SB	Sb	00 04 03.9	-1.5
ARA0	ARCESS Array S	2.56	46	*e*P	Pn	00 03 33.9	+0.8
	baz=227						
ARA0				*e*S	Sn	00 04 05.8	+0.9
ARCES	ARCESS Array B	2.56	46	Pn	Pn	00 03 34.3	+1.2
	comp=Z,0.6nm,0.3s,baz=226,slow=15,SNR=24						
ARCES				Lg	Lg	00 04 06.9	
	comp=Z,1.8nm,0.3s,baz=225,slow=26,SNR=20						
	comp=Z,1.0nm,0.3s						
RNF	Rovaniemi	2.56	116	*e*PB	Pn	00 03 34.8	+1.7
	baz=304						
RNF				*e*SB	Sb	00 04 08.7	-0.5
KEV	Kevo	3.11	49	*e*PG	Pb	00

KMRZ	Kaimai	2.59 259	P	Pn	00 06 06.2	+0.5
MRHZ	Matea Rd	2.59 235	P	Pn	00 06 06.5	+0.8
BKZ	Black Stump Fm	2.74 229		Pn	00 06 08.2	+0.4
BKZ	Black Stump Fm	2.74 229	P	Pn	00 06 08.4	+0.7
CKHZ	Cape Kidnapper	2.78 215	P	Pn	00 06 08.1	-0.2
KUZ	Kuaotunu	2.82 282	P	Pn	00 06 07.7	-1.1
TOZ	Tahuroa Road	2.92 262	P	Pn	00 06 10.3	+0.1
KWHZ	Kaweka Forest	2.95 226	P	Pn	00 06 10.7	+0.1
KAHZ	Kahuranaki	2.99 216	P	Pn	00 06 10.9	-0.2
RITZ	Rihia Road	3.04 238	P	Pn	00 06 12.9	+1.1
RATZ	Rangitukua	3.04 240	P	Pn	00 06 13.2	+1.3
KRHZ	Kereru	3.13 223	P	Pn	00 06 12.6	-0.5
GRZ	Great Barrier	3.18 290	P	Pn	00 06 14.5	+0.8
MKAZ	Moumakai	3.20 274	P	Pn	00 06 13.6	-0.4
BHHZ	Black Hill Sta	3.20 228	P	Pn	00 06 14.4	+0.3
TMVZ	Te Maari	3.21 237	P	Pn	00 06 14.7	+0.4
ETVZ	East Tongariro	3.22 236	P	Pn	00 06 14.9	+0.5
NTVZ	North Tongarir	3.22 237	P	Pn	00 06 15.1	+0.6
KRVZ	Karewarewa	3.24 237	P	Pn	00 06 15.6	+0.9
OTVZ	Oturere	3.26 236	P	Pn	00 06 15.5	+0.5
WIAZ	Waiheke Island	3.27 279	P	Pn	00 06 15.8	+0.8
NNVZ	North Ngauruho	3.28 237	P	Pn	00 06 16.2	+0.9
WTVZ	West Tongariro	3.29 237	P	Pn	00 06 16.2	+0.9
SNVZ	South Ngauruho	3.29 236	P	Pn	00 06 16.2	+0.7
NGZ	Ngauruhoe	3.31 236	P	Pn	00 06 16.5	+0.8
TUVZ	Tukino	3.33 235	P	Pn	00 06 16.4	+0.5
MOVZ	Moawhango	3.34 232	P	Pn	00 06 16.4	+0.4
TWVZ	Taurewa	3.37 239	P	Pn	00 06 17.5	+1.1
WHVZ	Whangaehu Hut	3.38 235	P	Pn	00 06 17.2	+0.5
WNVZ	Wahianoa	3.39 234	P	Pn	00 06 17.3	+0.4
ETAZ	East Tamaki Re	3.40 276	P	Pn	00 06 17.9	+1.1
WPHZ	Waipukurau	3.41 218	P	Pn	00 06 16.5	-0.4
PNHZ	Pukenui	3.42 222	P	Pn	00 06 15.9	-1.1
MBAZ	Motutapu North	3.46 279	P	Pn	00 06 15.7	-1.9
PRHZ	Porangahau	3.48 214	P	Pn	00 06 16.6	-1.2
ABAZ	Army Bay	3.55 282	P	Pn	00 06 20.1	+1.3
HIZ	Hauiti	3.57 250	Pn	Pn	00 06 20.2	+1.0
HIZ	Hauiti	3.57 250	P	Pn	00 06 20.6	+1.4
AWAZ	Awhitu Peninsu	3.61 274	P	Pn	00 06 21.1	+1.4
TSZ	Takapari Road	3.65 222	P	Pn	00 06 19.1	-1.1
WTAZ	Waiatarua	3.69 276	P	Pn	00 06 22.2	+1.5
BFZ	Birch Farm	3.99 214	Pn	Pn	00 06 23.3	-1.5
BFZ			Sn	Sn	00 07 07.8	-3.5
BFZ	Birch Farm	3.99 214	P	Pn	00 06 23.5	-1.4
PRWZ	Pori Road	4.01 217	P	Pn	00 06 24.7	-0.5
WAZ	Wanganui	4.03 233	P	Pn	00 06 26.6	+1.2
WCZ	Waipu Caves	4.13 289	P	Pn	00 06 27.0	+0.2
MRZ	Mangatainoka R	4.29 219	P	Pn	00 06 27.8	-1.1
NEZ	North Egmont	4.39 243	P	Pn	00 06 33.8	+3.3
PKEZ	Pukeiti	4.44 245	P	Pn	00 06 34.3	+3.1
KHEZ	Kahui Hut	4.46 243	P	Pn	00 06 34.5	+3.0
HOWZ	Holdsworth Sta	4.50 218	P	Pn	00 06 30.8	-1.1
OUZ	Omahuta	4.98 294		Pn	00 06 39.7	+1.2
OUZ	Omahuta	4.98 294	P	Pn	00 06 39.2	+0.6
CTZ	Chatham Island	7.11 154	P	Pn	00 07 11.6	+4.0
RPZ	Rata Peaks	8.82 222	Pn	Pn	00 07 26.5	-4.7
	0.7nm,0.3s,baz=80,slow=18,SNR=1.3					
RPZ			Sn	Sn	00 08 57.5	-13
	1.2nm,0.3s,baz=39,slow=16,SNR=5.6					
LIFNC	LIFOU	19.53 325	P	P	00 09 50.8	-0.4
COEN	Coen	39.59 296	P	P	00 12 55.8	+0.6
COEN			IAmb	IAmb	00 13 25.4	
	comp=Z,7.4nm,1.0s					
AS31	Alice Springs	40.93 276	P	P	00 13 05.8	-0.6
ASAR	Alice Springs	40.93 276	P	P	00 13 05.2	-1.1
	comp=Z,1.2nm,0.6s,baz=123,slow=8.1,SNR=13					
	comp=Z,1.2nm,0.6s					
ASAR	Alice Springs	40.93 276	P	P	00 13 06.4	+0.1
WR0	Warramunga Arr	42.39 282	P	P	00 13 17.6	-0.7
WR0			IAmb	IAmb	00 13 21.0	
	comp=Z,8.0nm,1.5s					
FORT	Forrest	42.40 263	P	P	00 13 17.6	-0.7
WB2	Warramunga Arr	42.55 281	P	P	00 13 19.0	-0.6
WB2			IAmb	IAmb	00 13 38.4	
	comp=Z,4.7nm,1.2s					
WRA	Warramunga Arr	42.56 281	P	P	00 13 18.6	-1.0
	comp=Z,1.1nm,0.7s,baz=120,slow=7.7,SNR=17					
	comp=Z,1.1nm,0.7s					
WRA	Warramunga Arr	42.56 281	P	P	00 13 19.0	-0.7
WB0	Warramunga Arr	42.62 282	P	P	00 13 19.4	-0.7
WB0			IAmb	IAmb	00 13 43.2	
	comp=Z,6.0nm,1.4s					
FITZ	Fitzroy Crossi	50.42 277	P	P	00 14 21.0	-0.4
FITZ			IAmb	IAmb	00 14 57.1	
	comp=Z,4.0nm,1.1s					
H03N3	Juan Fernandez	78.80 124	T	T	01 44 05.5	
	baz=235					
H03N2	Juan Fernandez	78.80 123	T	T	01 44 00.2	
	baz=235					
H03N1	Juan Fernandez	78.82 123	T	T	01 44 02.1	
	baz=235					
ARCES	ARCESS Array B	144.79 344	PKP	PKPdf	00 25 00.7	+1.3
	comp=Z,6.4nm,1.1s,baz=42,slow=4.1,SNR=1.9					
FINES	FINESS Array B	150.64 334	PKPbc	PKPbc	00 25 14.8	+0.1
	comp=Z,1.6nm,0.9s,baz=52,slow=2.5,SNR=1.4					

*IDC **02** 00:08:37.2±3.4,36.˚72S×179.˚10E,h0km,mb3.9/2, mbtmp3.9/3,ML3.8/1,MS3.4/1,Error ellipse: s-maj=74.6km s-min=42.9km az=124.0*

*WEL **02** 00:08:39.2±1.1,37.˚S±4.˚×17.˚9E±.˚,h7km±6km,M3.8/53, ML4.0/39,MLv3.8/53,Error ellipse: s-maj=0.0km s-min=0.0km az=109.4*

*NEIC **02** 00:08:39.6±0.9,37.˚0S±0.˚1×179.˚1E±0.˚1,h10km±2km, mb4.3/5, Error ellipse: s-maj=24.0km s-min=9.4km az=136.0*

ISC 02 00:08:38.9±2.2,37.˚00S±0.˚06×179.˚25E±0.˚08,h9km±10km, n71,σ1$09/80,mb4.2/5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.94 233		Pg	Pg	00 08 56.1	-0.9
MXZ	Matakaoa Point	0.94 233		P	Pg	00 08 56.3	-0.6
MXZ				S	Sg	00 09 06.8	-2.3
WMGZ	Waiomatatini S	1.05 219		P	Pn	00 09 00.1	+0.3
WMGZ				S	Sb	00 09 14.3	+1.1
PKGZ	Pakihiroa	1.29 226		P	Pn	00 09 03.4	+0.3
PKGZ				S	Sg	00 09 20.1	-0.2
PUZ	Puketiti	1.33 216		P	Pn	00 09 02.0	-1.6
PUZ				S	Sb	00 09 21.8	+0.7
HAZ	Te Kaha	1.39 237		P	Pb	00 09 05.3	+0.3
HAZ				S	Sb	00 09 23.2	+0.3
TWGZ	Tauwhareparae	1.55 220		P	Pb	00 09 07.8	0.0
TWGZ				S	Sn	00 09 27.6	+0.7
RUGZ	Raukumara Rang	1.58 232		P	Pn	00 09 08.0	+0.8
RUGZ				S	Sn	00 09 28.3	+0.5
CNGZ	Carnagh Statio	1.69 209		P	Pg	00 09 15.1	+3.7
CNGZ				S	Sg	00 09 33.5	+0.1
WIZ	White Island	1.73 252		P	Pn	00 09 09.3	+0.2
TKGZ	Te Karaka	1.81 217		P	Pb	00 09 12.9	+0.6
TKGZ				S	Sn	00 09 33.4	0.0
MWZ	Matawai	1.91 225		P	Pn	00 09 11.7	+0.1
MWZ				S	Sn	00 09 35.6	-0.3
WHRZ	Whale Island	2.00 244		P	Pn	00 09 14.1	+1.1
RIGZ	Rimuhau	2.07 214		P	Pn	00 09 13.4	-0.5
RAGZ	Rawiri	2.08 224		P	Pn	00 09 14.3	+0.2
URZ	Urewera	2.11 233		Pn	Pn	00 09 14.7	+0.3
	26nm,0.3s,baz=121,slow=2.1,SNR=16						
URZ				Sn	Sn	00 09 39.8	-1.0
	55nm,0.3s,baz=121,slow=8.1,SNR=24						
	62nm,0.3s						
URZ	Urewera	2.11 233		Pn	Pn	00 09 13.9	-0.5
URZ	Urewera	2.11 233		P	Pn	00 09 14.8	+0.4
PRGZ	Paritu Road	2.20 209		P	Pn	00 09 15.1	-0.5
EDRZ	Edgecumbe	2.28 240		P	Pn	00 09 16.7	-0.1
OPRZ	Ohinepanea	2.31 248		P	Pn	00 09 18.3	+1.3
SNGZ	Shannon Statio	2.33 220		P	Pn	00 09 16.9	-0.5
KNZ	Kokohu	2.37 211		P	Pn	00 09 17.1	-0.8
MHGZ	Mahia Peninsul	2.39 206		P	Pn	00 09 17.7	-0.6
RTZ	Ruatahuna	2.41 228		P	Pn	00 09 18.9	+0.3
MYRZ	Mayor Island	2.42 263		P	Pn	00 09 19.2	+0.5
MUGZ	Murupara	2.46 232		P	Pn	00 09 19.7	+0.6
TARZ	Mount Tarawera	2.50 240		P	Pn	00 09 21.5	+1.6
RAHZ	Arahi	2.56 221		P	Pn	00 09 21.4	+0.8
KARZ	Kaharoa	2.60 246		P	Pg	00 09 28.4	-0.3
MTHZ	Maungataniwha	2.65 225		P	Pn	00 09 22.4	+0.5
KUZ	Kuaotunu	2.84 274		P	Pn	00 09 23.2	-1.2
NMHZ	Naumai	2.85 222		P	Pn	00 09 26.1	+1.6
ARHZ	Aropaoanui	2.87 218		P	Pn	00 09 24.2	-0.7
MRHZ	Matea Rd	2.89 230		P	Pn	00 09 25.1	-0.1
BKZ	Black Stump Fm	3.07 224		Pn	Pn	00 09 27.1	-0.5
BKZ	Black Stump Fm	3.07 224		P	Pn	00 09 27.1	-0.5
TOZ	Tahuroa Road	3.08 255		P	Pn	00 09 27.4	-0.3
GRZ	Great Barrier	3.14 283		P	Pn	00 09 29.6	+1.0
KWHZ	Kaweka Forest	3.29 222		P	Pn	00 09 30.8	+0.1
WIAZ	Waiheke Island	3.31 272		P	Pn	00 09 31.9	+1.0
KRHZ	Kereru	3.48 220		P	Pn	00 09 32.6	-0.6
MBAZ	Motutapu North	3.50 273		P	Pn	00 09 34.7	+1.2
TMVZ	Te Maari	3.51 232		P	Pn	00 09 33.3	-0.3
ETVZ	East Tongariro	3.51 232		P	Pn	00 09 33.7	-0.1
NTVZ	North Tongarir	3.51 232		P	Pn	00 09 34.6	+0.8
BHHZ	Black Hill Sta	3.53 224		P	Pn	00 09 33.4	-0.6
PXZ	Pawanui	3.56 211		P	Pn	00 09 34.0	-0.3
ABAZ	Army Bay	3.57 275		P	Pn	00 09 35.9	+1.5
NNVZ	North Ngauruho	3.57 232		P	Pn	00 09 35.5	+0.8
TUVZ	Tukino	3.63 230		P	Pn	00 09 35.6	+0.2
TWVZ	Taurewa	3.65 234		P	Pn	00 09 37.3	+1.6
MOVZ	Moawhango	3.66 228		P	Pn	00 09 34.9	-0.8
WNVZ	Wahianoa	3.70 230		P	Pn	00 09 35.6	-0.8
PNHZ	Pukenui	3.77 219		P	Pn	00 09 36.7	-0.5
HIZ	Hauiti	3.80 245		Pn	Pn	00 09 38.1	+0.5
HIZ	Hauiti	3.80 245		P	Pn	00 09 38.8	+1.2
PRHZ	Porangahau	3.85 211		P	Pn	00 09 37.3	-1.0
BFZ	Birch Farm	4.36 212		Pn	Pn	00 09 43.2	-2.0
MSWZ	Moikau Station	5.39 214		Pn	Pn	00 09 57.1	-2.4
RPZ	Rata Peaks	9.17 220		Sn	Sn	00 12 19.5	-15
	1.0nm,0.3s,baz=52,slow=19,SNR=1.6						
LBZ	Lake Benmore	10.08 220		Pn	Pn	00 11 03.7	-0.1
HNR	Honiara	32.54 323		LR	LR	00 26 43.0	
	comp=Z,72nm,20.4s,baz=328,slow=34						
ASAR	Alice Springs	40.97 276		P	P	00 16 20.6	-1.7
	1.3nm,0.6s,baz=120,slow=8.2,SNR=15						
	1.3nm,0.6s						
WB2	Warramunga Arr	42.55 281		P	P	00 16 33.7	-1.5
WB2				IAmb	IAmb	00 16 59.0	
	comp=Z,6.8nm,1.2s						
WRA	Warramunga Arr	42.56 281		P	P	00 16 33.5	-1.7
	comp=Z,1.1nm,0.6s,baz=122,slow=7.6,SNR=20						
	comp=Z,1.1nm,0.6s						
WRA	Warramunga Arr	42.56 281		P	P	00 16 34.0	-1.3
WB0	Warramunga Arr	42.62 281		P	P	00 16 34.3	-1.4
WB0				IAmb	IAmb	00 16 34.5	
	comp=Z,9.7nm,1.4s						
FITZ	Fitzroy Crossi	50.45 277		P	P	00 17 35.5	-1.7
FITZ				IAmb	IAmb	00 17 49.4	
	comp=Z,6.2nm,1.2s						
QSPA	South Pole Qui	53.12 180		P	P	00 17 59.2	+2.5
FINES	FINESS Array B	150.32 334		PKPbc	PKPbc	00 28 28.4	-1.2
	comp=Z,2.5nm,0.9s,baz=27,slow=7.8,SNR=3.5						

*NEIC **02** 00:12:01.1±1.7,37.˚28S±0.˚08×179.˚18E±0.˚07,h10km±1km, mb4.5/15, Error ellipse: s-maj=14.5km s-min=8.7km az=339.0*

*IDC **02** 00:12:02.5±1.8,36.˚82S×178.˚72E,h0km,mb4.3/3, mbtmp4.3/3,MS3.3/1,Error ellipse: s-maj=42.5km s-min=37.5km az=131.0*

*WEL **02** 00:12:04.8±1.3,37.˚S±4.˚×17.˚9E±.˚,h20km±8km,M4.1/90, ML4.3/65,MLv4.1/90,Error ellipse: s-maj=0.0km s-min=0.0km az=83.9*

ISC 02 00:12:06.4±1.9,37.˚30S±0.˚06×178.˚97E±0.˚08,h30km±11km, n126,σ1$47/136,mb4.4/12,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.59 243			Pb	00 12 17.9	-0.4
MXZ				Sg	Sb	00 12 25.4	-1.0
MXZ	Matakaoa Point	0.59 243		P	Pb	00 12 18.0	-0.3
MXZ				S	Sb	00 12 25.9	-0.5
WMGZ	Waiomatatini S	0.68 220		P	Pn	00 12 21.4	+1.3
WMGZ				S	Sn	00 12 32.5	+2.8
PKGZ	Pakihiroa	0.92 230		P	Pn	00 12 24.4	+1.0
PKGZ				S	Sb	00 12 36.9	+1.1
PUZ	Puketiti	0.96 216		P	Pn	00 12 24.9	+1.0
PUZ				S	Sb	00 12 38.2	+1.4
HAZ	Te Kaha	1.05 244		P	Pn	00 12 25.1	0.0
HAZ				S	Sb	00 12 40.7	+1.4
TWGZ	Tauwhareparae	1.18 221		P	Pn	00 12 27.3	+0.4
TWGZ				S	Sb	00 12 44.9	+1.9
RUGZ	Raukumara Rang	1.22 237		P	Pb	00 12 29.1	+0.1
RUGZ				S	Sn	00 12 45.3	+2.1
CNGZ	Carnagh Statio	1.33 207		P	Pb	00 12 30.7	0.0
CNGZ				S	Sb	00 12 49.7	+2.4
WIZ	White Island	1.43 260		P	Pn	00 12 30.0	-0.4
WSRZ	White Island S	1.44 261		P	Pn	00 12 31.9	+1.4
TKGZ	Te Karaka	1.44 218		P	Pn	00 12 31.4	+0.9
MWZ	Matawai	1.54 227		P	Pn	00 12 33.0	+1.1
MWZ				S	Sn	00 12 52.2	+1.2
WHRZ	Whale Island	1.68 250		P	Pn	00 12 34.7	+0.9
RIGZ	Rimuhau	1.70 214		P	Pn	00 12 34.9	+0.8
RAGZ	Rawiri	1.71 225		P	Pn	00 12 35.6	+1.3
URZ	Urewera	1.76 236		Pn	Pn	00 12 35.6	+0.7
	61nm,0.3s,baz=121,slow=1.5,SNR=22						
URZ				Sn	Sn	00 12 57.3	+1.1
	94nm,0.3s,baz=121,slow=6.0,SNR=5.7						
URZ				LR	LR	00 13 25.2	
	comp=Z,189nm,21.0s,baz=51,slow=43						
URZ	Urewera	1.76 236		P	Pn	00 12 35.7	+0.9
PRGZ	Paritu Road	1.83 207		P	Pn	00 12 36.6	+0.7
EDRZ	Edgecumbe	1.94 245		P	Pn	00 12 38.4	+0.9
MARZ	Manawahe	1.94 249		P	Pn	00 12 38.1	+0.6
SNGZ	Shannon Statio	1.96 220		P	Pn	00 12 38.5	+0.8
OPRZ	Ohinepanea	1.99 253		P	Pn	00 12 38.0	0.0
KNZ	Kokohu	2.00 210		P	Pn	00 12 38.1	0.0
MHGZ	Mahia Peninsul	2.03 204		P	Pn	00 12 39.1	+0.5
RTZ	Ruatahuna	2.05 229		P	Pn	00 12 39.8	+0.9
MUGZ	Murupara	2.10 235		P	Pn	00 12 40.2	+0.6
TARZ	Mount Tarawera	2.16 244		P	Pn	00 12 41.8	+1.3
MYRZ	Mayor Island	2.17 270		P	Pn	00 12 40.8	+0.2
RAHZ	Arahi	2.19 222		P	Pn	00 12 42.1	+1.2
TGRZ	Tauranga	2.19 258		P	Pn	00 12 41.3	+0.5
RRRZ	Republican Roa	2.20 241		P	Pn	00 12 42.6	+1.6
OMRZ	Omania	2.21 248		P	Pn	00 12 42.0	+0.9
WHHZ	Waihua	2.24 217		P	Pn	00 12 41.9	+0.4
KARZ	Kaharoa	2.28 251		P	Pn	00 12 42.5	+0.5
HLRZ	Highlands Stat	2.28 245		P	Pn	00 12 43.2	+1.1
MTHZ	Maungataniwha	2.29 227		P	Pn	00 12 43.3	+1.1
PRRZ	Plateau Road	2.36 239		P	Pn	00 12 43.7	+0.5
HSRZ	Hossack Road	2.38 244		P	Pn	00 12 45.3	+1.9
HRRZ	Handcock Road	2.39 242		P	Pn	00 12 45.9	+2.3
KMRZ	Kaimai	2.46 256		P	Pn	00 12 44.7	+0.1
NMHZ	Naumai	2.48 223		P	Pn	00 12 46.3	+1.5
ARHZ	Aropaoanui	2.50 218		P	Pn	00 12 45.3	+0.2
MRHZ	Matea Rd	2.53 232		P	Pn	00 12 46.4	+0.9
KUZ	Kuaotunu	2.66 281		P	Pn	00 12 46.2	-1.0
BKZ	Black Stump Fm	2.70 226		Pn	Pn	00 12 48.4	+0.5
BKZ	Black Stump Fm	2.70 226		P	Pn	00 12 48.2	+0.4
KUTZ	Kaahu Road	2.76 243		P	Pn	00 12 49.4	+0.8
CKHZ	Cape Kidnapper	2.78 212		P	Pn	00 12 48.3	-0.7
TOZ	Tahuroa Road	2.79 260		P	Pn	00 12 47.7	-1.3
TLZ	Tolley Road	2.90 248		P	Pn	00 12 51.2	+0.5
KWHZ	Kaweka Forest	2.92 223		P	Pn	00 12 49.0	-1.9
RATZ	Rangitukua	2.97 237		P	Pn	00 12 52.5	+0.9
RITZ	Rihia Road	2.97 235		P	Pn	00 12 52.7	+1.2
KAHZ	Kahuranaki	2.98 213		P	Pn	00 12 51.2	-0.6
GRZ	Great Barrier	3.00 289		P	Pn	00 12 52.2	+0.2
MKAZ	Moumakai	3.04 272		P	Pn	00 12 52.2	-0.3
KRHZ	Kereru	3.10 220		P	Pn	00 12 52.7	-0.7
WIAZ	Waiheke Island	3.11 278		P	Pn	00 12 53.1	-0.3
TMVZ	Te Maari	3.15 234		P	Pn	00 12 54.3	+0.3
ETVZ	East Tongariro	3.15 233		P	Pn	00 12 54.5	+0.3
NTVZ	North Tongarir	3.15 234		P	Pn	00 12 54.8	+0.6
BHHZ	Black Hill Sta	3.16 225		P	Pn	00 12 54.6	+0.3
KRVZ	Karewarewa	3.17 235		P	Pn	00 12 52.9	-1.6
PXZ	Pawanui	3.19 210		P	Pn	00 12 53.1	-1.4
OTVZ	Oturere	3.20 233		P	Pn	00 12 55.2	+0.3
NNVZ	North Ngauruho	3.21 234		P	Pn	00 12 55.5	+0.5
WTVZ	West Tongariro	3.22 235		P	Pn	00 12 55.7	+0.6
ETAZ	East Tamaki Re	3.25 275		P	Pn	00 12 55.5	+0.2
NGZ	Ngauruhoe	3.25 234		P	Pn	00 12 55.8	+0.3
TUVZ	Tukino	3.27 232		P	Pn	00 12 56.1	+0.3
MOVZ	Moawhango	3.29 229		P	Pn	00 12 56.0	0.0
TWVZ	Taurewa	3.30 236		P	Pn	00 12 57.0	+0.9
MBAZ	Motutapu North	3.30 278		P	Pn	00 12 56.6	+0.6
WHVZ	Whangaehu Hut	3.31 232		P	Pn	00 12 56.9	+0.4
WNVZ	Wahianoa	3.34 232		P	Pn	00 12 56.7	0.0
ABAZ	Army Bay	3.38 281		P	Pn	00 12 57.5	+0.3
PNHZ	Pukenui	3.39 219		P	Pn	00 12 56.3	-1.1
WPHZ	Waipukurau	3.40 215		P	Pn	00 12 56.5	-0.9
AWAZ	Awhitu Peninsu	3.46 273		P	Pn	00 12 58.8	+0.5
HIZ	Hauiti	3.47 248		Pn	Pn	00 12 59.0	+0.6
HIZ	Hauiti	3.47 248		P	Pn	00 12 59.8	+1.4
WTAZ	Waiatarua	3.53 275		P	Pn	00 12 59.9	+0.6
TSZ	Takapari Road	3.62 220		P	Pn	00 12 58.9	-1.6
WCZ	Waipu Caves	3.96 289		P	Pn	00 13 05.6	+0.5
WAZ	Wanganui	3.97 231		P	Pn	00 13 06.0	+0.7
BFZ	Birch Farm	3.99 211	Pn	Pn	00 13 03.5	-2.1
BFZ			Sn	Sn	00 13 49.0	-2.3
MRZ	Mangatainoka R	4.27 217	P	Pn	00 13 07.6	-1.8
NEZ	North Egmont	4.31 241	P	Pn	00 13 12.4	+2.4
KHEZ	Kahui Hut	4.38 241	P	Pn	00 13 13.3	+2.4
KIW	Kapiti Island	4.76 220	P	Pn	00 13 14.3	-1.8
OUZ	Omahuta	4.81 294	P	Pn	00 13 17.6	+0.8
MSWZ	Moikau Station	5.02 214	Pn	Pn	00 13 17.4	-2.3
MSWZ			Sn	Sn	00 14 11.8	-5.0
PLWZ	Palliser	5.14 213	Pn	Pn	00 13 20.1	-1.3
PLWZ			Sn	Sn	00 14 14.6	-5.1
TUWZ	Tuamarina	5.67 222	Pn	Pn	00 13 26.9	-1.8
QRZ	Quartz Range	6.12 233	Pn	Pn	00 13 33.0	-1.9
QRZ	Quartz Range	6.12 233	P	Pn	00 13 32.9	-1.9
THZ	Tophouse	6.47 225	Pn	Pn	00 13 36.9	-2.8
KHZ	Kahutara	6.60 218	P	Pn	00 13 39.8	-1.6
CTZ	Chatham Island	7.26 154	P	Pn	00 13 51.5	+1.1
RPZ	Rata Peaks	8.79 221	Sn	Sn	00 15 38.2	-11
	8.4nm,0.3s,baz=35,slow=21,SNR=9.5					
STKA	Stephens Creek	31.10 269	P	P	00 18 21.9	-0.3
	2.2nm,0.7s,baz=113,slow=12,SNR=5.2					
	2.2nm,0.7s					
STKA	Stephens Creek	31.10 269	P	P	00 18 21.8	-0.4
CTA	Charters Tower	33.21 292	LR	LR	00 31 30.9	
	comp=Z,53nm,19.7s,baz=83,slow=36					
BBOO	Buckleboo	35.19 264	P	P	00 18 56.1	-1.7
BBOO			IAmb	IAmb	00 19 17.4	
	comp=Z,21nm,1.4s					
COEN	Coen	39.41 297	P	P	00 19 33.0	-0.8
COEN			IAmb	IAmb	00 19 34.3	
	comp=Z,7.3nm,0.8s					
AS31	Alice Springs	40.77 276	P	P	00 19 43.9	-1.2
ASAR	Alice Springs	40.77 276	P	P	00 19 43.2	-1.8
	comp=Z,3.8nm,0.8s,baz=118,slow=7.4,SNR=28					
	comp=Z,3.8nm,0.8s					
ASAR	Alice Springs	40.77 276	P	P	00 19 43.1	-2.0
WR0	Warramunga Arr	42.23 282	P	P	00 19 54.6	-2.4
WR0			IAmb	IAmb	00 20 06.3	
	comp=Z,6.9nm,1.2s					
FORT	Forrest	42.27 263	P	P	00 19 55.4	-1.8
FORT			IAmb	IAmb	00 20 13.5	
	comp=Z,25nm,1.0s					
WB2	Warramunga Arr	42.39 281	P	P	00 19 56.2	-2.1
WB2			IAmb	IAmb	00 19 57.3	
	comp=Z,5.1nm,0.7s					
WRAB	Tennant Creek	42.39 281	P	P	00 19 54.4	-4.0
WRAB			IAmb	IAmb	00 19 57.4	
	comp=Z,4.9nm,0.8s					
WRA	Warramunga Arr	42.40 281	P	P	00 19 56.3	-2.0
	comp=Z,3.9nm,0.7s,baz=121,slow=7.9,SNR=43					
WRA			PcP	PcP	00 21 50.9	-0.4
	comp=Z,0.4nm,0.7s,baz=128,slow=3.1,SNR=3.0					
	comp=Z,3.9nm,0.7s					
WRA	Warramunga Arr	42.40 281	P	P	00 19 56.4	-2.0
WB0	Warramunga Arr	42.45 282	P	P	00 19 57.1	-1.7
WB0			IAmb	IAmb	00 19 57.8	
	comp=Z,5.3nm,0.6s					
KNRA	Kununurra	49.18 282	P	P	00 20 50.5	-1.4
FITZ	Fitzroy Crossi	50.26 277	P	P	00 20 58.1	-2.0
FITZ			IAmb	IAmb	00 21 18.7	
	comp=Z,16nm,1.4s					
QSPA	South Pole Qui	52.83 180	P	P	00 21 20.6	+1.7
QSPA			IAmb	IAmb	00 21 29.4	
	comp=Z,6.4nm,1.4s					
MG04	Isla Riesco	71.42 143	P	P	00 23 24.7	+1.1
ORCD	Orcadas	75.98 160		P	00 23 53.2	+3.1
H03N3	Juan Fernandez	78.97 124	T	T	01 50 38.9	
	baz=228,slow=74					
H03N2	Juan Fernandez	78.98 124	T	T	01 50 36.6	
	baz=228,slow=74					
H03N1	Juan Fernandez	78.

CKHZ	Cape Kidnapper	3.05 215	P		Pn	00 21 49.1	+1.7
TOZ	Tahuroa Road	3.12 259	P		Pn	00 21 48.8	+0.5
KWHZ	Kaweka Forest	3.22 225	P		Pn	00 21 51.7	+1.9
KAHZ	Kahuranaki	3.26 216	P		Pn	00 21 51.7	+1.4
GRZ	Great Barrier	3.27 285	P		Pn	00 21 50.6	+0.1
RITZ	Rihia Road	3.29 236	P		Pn	00 21 53.1	+2.3
RATZ	Rangitukua	3.30 238	P		Pn	00 21 54.1	+3.3
MKAZ	Moumakai	3.36 270	P		Pn	00 21 51.8	+0.2
KRHZ	Kereru	3.40 223	P		Pn	00 21 53.7	+1.4
WIAZ	Waiheke Island	3.41 275	P		Pn	00 21 52.6	+0.3
BHHZ	Black Hill Sta	3.47 227	P		Pn	00 21 55.3	+2.1
TMVZ	Te Maari	3.47 235	P		Pn	00 21 55.1	+1.8
ETVZ	East Tongariro	3.48 235	P		Pn	00 21 55.3	+1.9
NTVZ	North Tongarir	3.48 236	P		Pn	00 21 55.4	+2.0
KRVZ	Karewarewa	3.50 236	P		Pn	00 21 56.0	+2.3
OTVZ	Oturere	3.52 235	P		Pn	00 21 55.8	+1.8
NNVZ	North Ngauruho	3.54 236	P		Pn	00 21 56.6	+2.3
WTVZ	West Tongariro	3.54 236	P		Pn	00 21 56.7	+2.4
SNVZ	South Ngauruho	3.55 235	P		Pn	00 21 56.6	+2.2
ETAZ	East Tamaki Re	3.56 272	P		Pn	00 21 55.4	+1.0
NGZ	Ngauruhoe	3.57 235	P		Pn	00 21 56.5	+1.8
TUVZ	Tukino	3.59 233	P		Pn	00 21 57.0	+2.1
MBAZ	Motutapu North	3.60 275	P		Pn	00 21 55.7	+0.8
MOVZ	Moawhango	3.60 231	P		Pn	00 21 56.8	+1.7
TWVZ	Taurewa	3.62 238	P		Pn	00 21 57.8	+2.4
WHVZ	Whangaehu Hut	3.64 234	P		Pn	00 21 57.7	+2.0
WNVZ	Wahianoa	3.66 233	P		Pn	00 21 57.5	+1.6
WPHZ	Waipukurau	3.68 218	P		Pn	00 21 57.0	+1.0
ABAZ	Army Bay	3.68 278	P		Pn	00 21 57.1	+1.0
AWAZ	Awhitu Peninsu	3.78 270	P		Pn	00 21 58.5	+1.1
HIZ	Hauiti	3.81 248			Pn	00 22 00.8	+3.0
WTAZ	Waiatarua	3.84 272	P		Pn	00 21 59.5	+1.3
RVAZ	Riverhead Bore	3.85 275	P		Pn	00 22 00.1	+1.7
TSZ	Takapari Road	3.92 222	P		Pn	00 22 00.1	+0.7
ANWZ	Angora Road	3.97 214	P		Pn	00 22 02.5	+2.4
WCZ	Waipu Caves	4.23 286	P		Pn	00 22 04.5	+0.9
BFZ	Birch Farm	4.25 214	Pn		Pn	00 22 04.0	0.0
BFZ					Sn	00 22 52.0	-1.1
WAZ	Wanganui	4.29 232	P		Pn	00 22 06.9	+2.5
NEZ	North Egmont	4.64 242	P		Pn	00 22 13.2	+3.8
PKE	Pukeiti	4.69 243	P		Pn	00 22 13.9	+3.9
KHEZ	Kahui Hut	4.71 242	P		Pn	00 22 15.4	+5.1
OUZ	Omahuta	5.06 291			Pn	00 22 16.2	+1.2
OUZ	Omahuta	5.06 291	P		Pn	00 22 16.2	+1.2
MSWZ	Moikau Station	5.29 216	Pn		Pn	00 22 17.7	-0.6
MSWZ					Sn	00 23 14.7	-4.1
PLWZ	Palliser	5.41 215	Pn		Pn	00 22 18.7	-1.2
PLWZ					Sn	00 23 18.9	-2.8
SNZO	South Karori	5.48 220	Pn		Pn	00 22 20.5	-0.3
SNZO					Sn	00 23 18.7	-4.5
TUWZ	Tuamarina	5.97 223	Pn		Pn	00 22 26.6	-0.9
TUWZ					Sn	00 23 31.3	-4.0
BSWZ	Blackbirch Sta	6.21 221	Pn		Pn	00 22 29.8	-1.0
BSWZ					Sn	00 23 38.4	-2.7
QRZ	Quartz Range	6.45 234	Pn		Pn	00 22 33.5	-0.5
THZ	Tophouse	6.77 226	Pn		Pn	00 22 37.3	-1.2
THZ					Sn	00 23 51.4	-3.8
KHZ	Kahutara	6.88 219	Pn		Pn	00 22 38.8	-1.3
KHZ					Sn	00 23 51.1	-6.6
CTZ	Chatham Island	7.22 156	P		Pn	00 22 50.1	+5.4
LTZ	Lake Taylor	7.80 222	Pn		Pn	00 22 51.6	-1.1
MQZ	McQueen's Vall	8.28 216	Pn		Pn	00 22 57.6	-1.6
MQZ			Sn		Sn	00 24 23.3	-8.8
OXZ	Oxford	8.30 220	Pn		Pn	00 22 57.5	-2.1
OXZ			Sn		Sn	00 24 25.4	-7.3
RPZ	Rata Peaks baz=27,slow=2.3	9.09 222	Pn		Pn	00 23 08.7	-1.6
RPZ			Sn		Sn	00 24 41.7	-10
	3.9nm,0.3s,baz=4.6,slow=18,SNR=13						
ODZ	Otahua Downs	10.24 217	Pn		Pn	00 23 23.2	-2.9
FUNA	Funafuti	28.53 360	P		P	00 26 56.7	+2.1
STKA	Stephens Creek 0.4nm,0.4s,baz=99,slow=18,SNR=1.3 0.4nm,0.4s	31.42 268	P		P	00 27 18.6	-1.6
PPTF	Pamatai, Papee	33.57 63	P		P	00 27 37.0	-2.2
BBOO	Buckleboo	35.52 264	P		P	00 27 55.5	-0.4
BBOO			IAmb		IAmb	00 28 20.0	
	comp=Z,30nm,1.4s						
COEN	Coen	39.65 296	P		P	00 28 31.6	+0.7
COEN			IAmb		IAmb	00 28 33.8	
	comp=Z,15nm,1.4s						
AS31	Alice Springs	41.08 276	P		P	00 28 43.1	+0.3
ASAR	Alice Springs comp=Z,3.2nm,0.6s,baz=119,slow=8.1,SNR=49 comp=Z,3.2nm,0.6s	41.08 276	P		P	00 28 42.5	-0.3
ASAR	Alice Springs	41.08 276	P		P	00 28 43.0	+0.2
WR0	Warramunga Arr	42.52 281	P		P	00 28 54.5	-0.1
WR0			IAmb		IAmb	00 29 27.0	
	comp=Z,9.2nm,1.4s						
FORT	Forrest	42.60 263	P		P	00 28 55.0	-0.1
FORT			IAmb		IAmb	00 29 23.0	
	comp=Z,32nm,1.3s						
WB2	Warramunga Arr	42.68 281	P		P	00 28 55.8	0.0
WB2			IAmb		IAmb	00 28 56.3	
	comp=Z,6.3nm,0.8s						
WRAB	Tennant Creek	42.68 281	P		P	00 28 55.9	0.0
WRAB			IAmb		IAmb	00 28 56.2	
	comp=Z,4.2nm,0.7s						
WRA	Warramunga Arr comp=Z,3.7nm,0.7s,baz=122,slow=7.6,SNR=59 comp=Z,3.7nm,0.7s	42.69 281	P		P	00 28 55.6	-0.4
WRA	Warramunga Arr	42.69 281	P		P	00 28 55.9	-0.1
WB0	Warramunga Arr	42.74 281	P		P	00 28 56.3	-0.1
WB0			IAmb		IAmb	00 28 56.7	
	comp=Z,4.6nm,0.7s						
PATS	Pohnpei	48.02 331	P		P	00 29 36.2	-1.9
FITZ	Fitzroy Crossi	50.56 277	P		P	00 29 58.1	+0.4
FITZ			IAmb		IAmb	00 30 19.8	
	comp=Z,12nm,1.4s						
MORW	Morawa	52.79 259	P		P	00 30 13.1	-1.1
MORW			IAmb		IAmb	00 30 34.5	
	comp=Z,23nm,1.5s						
QSPA	South Pole Qui	52.94 180	P		P	00 30 14.2	-0.8
H03S2	Juan Fernandez baz=241,SNR=4.9	78.54 124	T		T	01 59 33.4	
H03S1	Juan Fernandez baz=241,SNR=5.2	78.55 124	T		T	01 59 32.1	
H03S3	Juan Fernandez baz=241,SNR=3.8	78.56 124	T		T	01 59 35.7	
H03N3	Juan Fernandez baz=234,slow=72	78.77 123	T		T	01 59 43.4	
H03N2	Juan Fernandez baz=234,slow=72	78.78 123	T		T	01 59 41.3	
H03N1	Juan Fernandez baz=234,slow=72	78.79 123	T		T	01 59 44.6	
ARCES	ARCESS Array B	144.64 344	PKP		PKPab	00 40 33.7	+0.6
	comp=Z,2.4nm,0.8s,baz=36,slow=3.4,SNR=4.2						
FINES	FINESS Array B	150.53 334	PKPbc		PKPdf	00 40 47.9	+3.6
	comp=Z,1.2nm,0.7s,baz=46,slow=4.0,SNR=1.8						
TORD	Torodi Ar. Bea comp=Z,0.2nm,0.5s,baz=168,slow=3.8,SNR=1.3	155.97 186	PKPab		PKPab	00 41 25.6	+5.1

*IDC **02** 00:21:38.9±0.7,55.°10S×30.°60W,h0km,mb4.2/8, mbtmp4.2/8,MS3.2/4,Error ellipse: s-maj=25.3km s-min=18.7km az=68.0*

*NEIC **02** 00:21:41.0±2.8,55.°18S±0.°09×30.°9W±0.°2,h10km±1km, mb4.7/27,Error ellipse: s-maj=16.9km s-min=15.2km az=60.0*

ISC 02 00:21:40.6±0.6,**55°14S**±0'.08×**30°81W**±0'.09,**h10**km,**n53**, σ1§**04**/**44**,**mb4.6**/**17**,**MS3.1**/**3**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.40 282		P	Pn	00 22 33.0	-0.7
ORCD	Orcadas	9.28 227		Pn	Pn	00 23 52.5	-1.7
VNA1	Neumayer--Stat	18.43 156		P	Pn	00 25 57.6	+1.8
VNA3	Neumayer Olymp	18.56 158		P	P	00 25 56.9	-0.3
VNA2	Neumayer--Watz	18.83 156		P	P	00 25 59.7	-0.5
PMSA	Palmer Station comp=Z,58nm,21.7s,baz=340,slow=30	18.99 226		LR	LR	00 31 19.8	
PMSA	Palmer Station	18.99 226		P	Pn	00 26 02.8	+0.2
SNAA	Sanae	20.43 155		P	P	00 26 16.8	-0.8
SNAA	Sanae 4.4nm,0.9s,baz=310,slow=8.6,SNR=11 4.4nm,0.9s	20.43 155		P	P	00 26 16.5	-1.1
SNAA	Sanae	20.43 155		P	P	00 26 17.0	-0.7
TROLL	Troll, Antarti	21.98 153		P	P	00 26 33.4	-1.2
MG02	Cerro Sombrero	22.53 260		P	P	00 26 40.2	-0.2
MG05	Puerto Natales	24.82 261		P	P	00 27 01.6	-1.0
MG05				IAmb	IAmb	00 27 15.6	
	comp=Z,67nm,1.4s						
GO09	Cerro Castillo	24.90 262		P	P	00 27 01.9	-1.5
GO09				IAmb	IAmb	00 27 11.9	
	comp=Z,48nm,1.3s						
TRQA	Tornquist	27.07 296		P	P	00 27 22.7	-0.5
PLTB	Pedras Altas	28.39 316		P	P	00 27 33.8	-1.1
PLTB				IAmb	IAmb	00 27 57.7	
	comp=Z,8.3nm,1.2s						
AY01	Puyuhuapi	28.64 274		P	P	00 27 36.9	-0.2
AY01				IAmb	IAmb	00 28 20.3	
	comp=Z,13nm,1.3s						
LL01	San Ignacio de	29.78 278		P	P	00 27 47.3	+0.1
PLCA	Paso Flores comp=Z,46nm,20.1s,baz=226,slow=37	29.81 282		LR	LR	00 39 57.5	
CPUP	Villa Florida comp=Z,2.9nm,0.6s,baz=159,slow=7.0,SNR=11 comp=Z,2.9nm,0.6s	34.69 315		P	P	00 28 30.4	+0.1
CPUP	Villa Florida	34.69 315		P	P	00 28 30.6	+0.2
QSPA	South Pole Qui comp=Z,5.0nm,0.9s,baz=234,slow=2.4,SNR=15 comp=Z,5.0nm,0.9s	35.11 180		P	P	00 28 33.5	-0.3
QSPA	South Pole Qui	35.11 180			sP	00 28 36.8	+1.0
QSPA	South Pole Qui	35.11 180		P	P	00 28 35.2	+1.3
QSPA				IAmb	IAmb	00 28 37.9	
	comp=Z,11nm,1.1s						
MT02	Curacav	35.55 291		P	P	00 28 37.3	-0.4
VA06	Catapilco	36.17 292		P	P	00 28 43.5	+0.4
CO02	Combarbal	37.07 293		P	P	00 28 51.9	+1.0
CO02				IAmb	IAmb	00 28 56.5	
	comp=Z,51nm,1.4s						
CO01	Juntas del Tor	37.57 296		P	P	00 28 56.1	+0.8
CO01				IAmb	IAmb	00 29 35.6	
	comp=Z,25nm,1.5s						
AC05	El Transito	38.58 297		P	P	00 29 03.6	-0.1
AC05				IAmb	IAmb	00 29 37.7	
	comp=Z,15nm,1.1s						
GO01	Chusmiza	45.73 305		P	P	00 30 03.3	+0.9
GO01				IAmb	IAmb	00 30 24.1	
	comp=Z,14nm,1.4s						
VNDA	Vanda	47.37 184		P	P	00 30 15.6	+1.5
	comp=Z,1.6nm,0.7s,baz=187,slow=4.8,SNR=11 comp=Z,1.6nm,0.7s						
VNDA	Vanda	47.37 184		P	P	00 30 16.0	+1.9
BOSA	Boshof comp=Z,2.1nm,0.9s,baz=246,slow=10.0,SNR=1.6 comp=Z,2.1nm,0.9s	47.79 80		P	P	00 30 16.9	-1.2
BOSA	Boshof	47.79 80		P	P	00 30 17.0	-1.2
BOSA				IAmb	IAmb	00 30 32.7	
	comp=Z,10nm,1.2s						
LPAZ	La Paz comp=Z,3.3nm,0.6s,baz=99,slow=5.4,SNR=12 comp=Z,3.3nm,0.6s	48.19 309		P	P	00 30 22.5	+0.7
LPAZ	La Paz	48.19 309		P	P	00 30 22.9	+1.1
LPAZ				IAmb	IAmb	00 30 34.9	
	comp=Z,5.3nm,0.8s						
H10N1	ASCENSION HYDR baz=192	48.94 22		T	T	01 23 22.3	
H10N3	ASCENSION HYDR baz=192	48.94 22		T	T	01 23 24.2	
H10N2	ASCENSION HYDR baz=192	48.95 22		T	T	01 23 26.6	
LBTB	Lobatse comp=Z,4.5nm,0.9s,baz=229,slow=9.6,SNR=4.7 comp=Z,4.5nm,0.9s	50.77 77		P	P	00 30 40.2	-0.6
LBTB	Lobatse	50.77 77		P	P	00 30 40.8	-0.1
LBTB				IAmb	IAmb	00 30 41.0	
	comp=Z,13nm,1.3s						
NNA	Nana comp=Z,9.5nm,18.1s,baz=130,slow=39	56.02 302		LR	LR	00 58 11.9	
BOAV	Boa Vista	62.34 326		P	P	00 32 02.3	-0.8
BOAV				IAmb	IAmb	00 32 26.3	
	comp=Z,7.8nm,1.4s						
MDP	Montagnes des comp=Z,53nm,18.4s,baz=142,slow=37	62.71 335		LR	LR	01 00 02.7	
TOA0	Torodi Ar. Sit	73.35 33		P	P	00 33 12.6	+0.2
TOA0				IAmb	IAmb	00 33 25.5	
	comp=Z,7.5nm,1.3s						
TORD	Torodi Ar. Bea comp=Z,1.9nm,0.7s,baz=200,slow=6.4,SNR=9.8 comp=Z,1.9nm,0.7s	73.35 33		P	P	00 33 12.3	0.0
MLPR	Magueyes Islan	79.06 325		P	P	00 33 46.0	+1.2
EMPR	Esperanza - Ma	79.37 326		P	P	00 33 49.1	+2.6
RPZ	Rata Peaks	79.78 196		P	P	00 33 48.7	+0.1
FINES	FINESS Array B comp=Z,1.0nm,0.7s,baz=209,slow=2.6,SNR=1.5	124.57 29		PKP	PKPdf	00 40 37.8	-0.9
ZALV	Zalesovo Beam comp=Z,0.6nm,0.4s,baz=238,slow=3.9,SNR=4.4	143.82 65		PKP	PKPbc	00 41 13.3	+0.8
ILAR	Eielson Array comp=Z,2.1nm,0.7s,baz=126,slow=1.7,SNR=8.2	147.99 313		PKPbc	PKPbc	00 41 23.6	-1.0
SONM	Songino Array comp=Z,1.4nm,0.6s,baz=219,slow=3.3,SNR=8.8	152.73 88		PKPbc	PKPbc	00 41 35.2	-1.6

*NEIC **02** 00:26:04.3±2.5,37.°24S±0.°06×179.°5E±0.°1,h10km±1km, mb4.3/7,Error ellipse: s-maj=16.1km s-min=8.6km az=294.0*

*IDC **02** 00:26:06.8±1.6,36.°90S×178.°98E,h0km,mb4.1/3, mbtmp4.1/4,ML4.2/1,Error ellipse: s-maj=38.3km s-min=33.1km az=54.0*

*WEL **02** 00:26:12.6±0.8,37.°3S±4.°×17.°9E±.°,h30km±8km, M3.9/88, ML4.1/66,MLv3.9/88,Error ellipse: s-maj=0.0km s-min=0.0km az=81.1*

ISC 02 00:26:06.5±1.7,**37°21S**±0'.05×**179°37E**±0'.07,**h17**km±9km, **n123**,σ1§**59**/**131**,**mb4.2**/**7**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.91 247			Pb	00 26 24.9	+1.0
MXZ	Matakaoa Point	0.91 247		P	Pb	00 26 24.9	+1.0
MXZ				S	Sg	00 26 33.7	-2.5
WMGZ	Waiomatatini S	0.97 231		P	Pn	00 26 28.3	+2.9
WMGZ				S	Sb	00 26 39.8	+2.4
PKGZ	Pakihiroa	1.23 236		P	Pg	00 26 31.0	+0.8
PKGZ				S	Sb	00 26 44.2	-0.7
PUZ	Puketiti	1.23 225		P	Pg	00 26 31.7	+1.4
PUZ				S	Sb	00 26 46.1	+1.2
HAZ	Te Kaha	1.37 246		P	Pn	00 26 31.9	+1.0
HAZ				S	Sn	00 26 47.0	-1.7
TWGZ	Tauwhareparae	1.46 228		P	Pg	00 26 34.9	+0.2
RUGZ	Raukumara Rang	1.54 240		P	Pb	00 26 35.5	+0.9
RUGZ				S	Sn	00 26 52.4	-0.6
CNGZ	Carnagh Statio	1.57 215		P	Pg	00 26 37.2	+0.6
TKGZ	Te Karaka	1.71 224		P	Pb	00 26 37.9	+0.4
WIZ	White Island	1.76 259		P	Pn	00 26 36.4	+0.1
WIZ				S	Sn	00 26 54.7	-3.6
MWZ	Matawai	1.84 232		P	Pn	00 26 39.3	+2.0
MWZ				S	Sn	00 26 58.6	-1.7
RIGZ	Rimuhau	1.96 220		P	Pn	00 26 41.3	+2.3
RAGZ	Rawiri	2.01 230		P	Pn	00 26 41.8	+2.1
RAGZ				S	Sn	00 27 03.0	-1.5
WHRZ	Whale Island	2.01 251		P	Pn	00 26 41.1	+1.5
PRGZ	Paritu Road	2.07 214		P	Pn	00 26 43.0	+2.5
PRGZ				S	Sn	00 27 06.6	+0.6
URZ	Urewera 92nm,0.3s,baz=121,slow=0.6,SNR=82	2.07 239		Pn	Pn	00 26 42.0	+1.5
URZ				Sn	Sn	00 27 03.8	-2.2
	136nm,0.3s,baz=121,slow=12,SNR=24 180nm,0.3s						
URZ	Urewera	2.07 239		P	Pn	00 26 42.2	+1.7
URZ				S	Sn	00 27 03.6	-2.4
SNGZ	Shannon Statio	2.24 225		P	Pn	00 26 44.9	+2.0
SNGZ				S	Sn	00 27 08.8	-1.4
KNZ	Kokohu	2.25 216		P	Pn	00 26 44.6	+1.7
MHGZ	Mahia Peninsul	2.25 210		P	Pn	00 26 45.7	+2.6
EDRZ	Edgecumbe	2.27 246		P	Pn	00 26 44.6	+1.4
MARZ	Manawahe	2.27 249		P	Pn	00 26 44.3	+0.9
OPRZ	Ohinepanea	2.32 253		P	Pn	00 26 44.8	+0.9
RTZ	Ruatahuna	2.35 233		P	Pn	00 26 46.2	+1.8
MUGZ	Murupara	2.41 238		P	Pn	00 26 46.5	+1.3
RAHZ	Arahi	2.48 226		P	Pn	00 26 48.1	+2.0
TARZ	Mount Tarawera	2.49 245		P	Pn	00 26 47.9	+1.6
MYRZ	Mayor Island	2.49 267		P	Pn	00 26 46.9	+0.6
WHHZ	Waihua	2.51 221		P	Pn	00 26 48.6	+2.1
RRRZ	Republican Roa	2.52 243		P	Pn	00 26 48.5	+1.7
OMRZ	Omania	2.54 248		P	Pn	00 26 48.9	+1.9
MTHZ	Maungataniwha	2.58 230		P	Pn	00 26 49.5	+1.9
HLRZ	Highlands Stat	2.60 246		P	Pn	00 26 49.9	+2.0
KARZ	Kaharoa	2.61 251		P	Pn	00 26 49.0	+1.1
PRRZ	Plateau Road	2.68 240		P	Pn	00 26 50.0	+1.1
HSRZ	Hossack Road	2.71 245		P	Pn	00 26 51.2	+1.9
NMHZ	Naumai	2.76 226		P	Pn	00 26 52.1	+2.1
ARHZ	Aropaoanui	2.77 222		P	Pn	00 26 52.1	+2.0
KMRZ	Kaimai	2.79 256		P	Pn	00 26 51.2	+0.7
MRHZ	Matea Rd	2.83 234		P	Pn	00 26 52.6	+1.5
KUZ	Kuaotunu	2.96 278		P	Pn	00 26 52.6	0.0
BKZ	Black Stump Fm	2.99 228			Pn	00 26 54.0	+0.8
BKZ	Black Stump Fm	2.99 228		P	Pn	00 26 54.7	+1.5
CKHZ	Cape Kidnapper	3.03 216		P	Pn	00 26 54.9	+1.2
KUTZ	Kaahu Road	3.08 244		P	Pn	00 26 55.6	+1.2
TOZ	Tahuroa Road	3.12 259		P	Pn	00 26 55.5	+0.6
KWHZ	Kaweka Forest	3.20 225		P	Pn	00 26 57.4	+1.3
KAHZ	Kahuranaki	3.23 216		P	Pn	00 26 57.5	+1.0
RITZ	Rihia Road	3.28 236		P	Pn	00 26 59.1	+1.9
GRZ	Great Barrier	3.28 286		P	Pn	00 26 58.1	+1.0
RATZ	Rangitukua	3.28 239		P	Pn	00 26 59.1	+1.9
MKAZ	Moumakai	3.36 271		P	Pn	00 26 58.7	+0.5
KRHZ	Kereru	3.38 223		P	Pn	00 26 59.3	+0.8
WIAZ	Waiheke Island	3.41 276		P	Pn	00 26 59.7	+0.8
PXZ	Pawanui	3.43 214		P	Pn	00 26 59.5	+0.3
BHHZ	Black Hill Sta	3.45 228		P	Pn	00 27 00.9	+1.4
TMVZ	Te Maari	3.46 236		P	Pn	00 27 00.5	+0.8
ETVZ	East Tongariro	3.46 235		P	Pn	00 27 01.0	+1.2
NTVZ	North Tongarir	3.46 236		P	Pn	00 27 01.1	+1.3
KRVZ	Karewarewa	3.48 236		P	Pn	00 27 01.4	+1.3
OTVZ	Oturere	3.51 235		P	Pn	00 27 01.3	+0.9
NNVZ	North Ngauruho	3.52 236		P	Pn	00 27 02.0	+1.4
WTVZ	West Tongariro	3.53 236		P	Pn	00 27 02.3	+1.6
SNVZ	South Ngauruho	3.54 235		P	Pn	00 27 02.0	+1.2
NGZ	Ngauruhoe	3.55 235		P	Pn	00 27 01.9	+0.9
ETAZ	East Tamaki Re	3.56 273		P	Pn	00 27 02.4	+1.5
TUVZ	Tukino	3.57 234		P	Pn	00 27 02.5	+1.2
MOVZ	Moawhango	3.59 231		P	Pn	00 27 02.2	+0.7
MBAZ	Motutapu North	3.60 276		P	Pn	00 27 03.0	+1.5
TWVZ	Taurewa	3.61 238		P	Pn	00 27 03.1	+1.4
WHVZ	Whangaehu Hut	3.62 234		P	Pn	00 27 03.4	+0.9
WNVZ	Wahianoa	3.64 233		P	Pn	00 27 02.9	+0.7
WPHZ	Waipukurau	3.65 218		P	Pn	00 27 03.0	+0.7
PNHZ	Pukenui	3.67 222		P	Pn	00 27 02.6	+0.1
ABAZ	Army Bay	3.68 278		P	Pn	00 27 04.8	+2.1
PRHZ	Porangahau	3.72 214		P	Pn	00 27 03.4	+0.1
AWAZ	Awhitu Peninsu	3.78 271		P	Pn	00 27 05.1	+1.2
HIZ	Hauiti	3.80 249			Pn	00 27 04.0	-0.3
HIZ	Hauiti	3.80 249		P	Pn	00 27 06.2	+2.0
WTAZ	Waiatarua	3.84 273		P	Pn	00 27 06.1	+1.2
TSZ	Takapari Road	3.90 222		P	Pn	00 27 05.5	-0.2
BFZ	Birch Farm	4.23 214		Pn	Pn	00 27 09.8	-0.5
POWZ	Post Office Ro	4.24 220		P	Pn	00 27 10.5	+0.2
PRWZ	Pori Road	4.26 217		P	Pn	00 27 10.8	+0.2
WAZ	Wanganui	4.27 232		P	Pn	00 27 12.1	+1.3
NEZ	North Egmont	4.63 242		P	Pn	00 27 18.4	+2.6
PKE	Pukeiti	4.67 243		P	Pn	00 27 19.2	+2.9
KHEZ	Kahui Hut	4.70 242		P	Pn	00 27 19.7	+3.0
NBEZ	Newall Road No	4.79 243		P	Pn	00 27 21.1	+3.2
OUZ	Omahuta	5.07 291		P	Pn	00 27 23.9	+2.2
MSWZ	Moikau Station	5.27 216		Pn	Pn	00 27 23.0	-1.6
PLWZ	Palliser	5.39 215		Pn	Pn	00 27 24.4	-1.8
SNZO	South Karori	5.46 220		Pn	Pn	00 27 24.9	-2.1
TUWZ	Tuamarina	5.95 223			Pn	00 27 32.5	-1.3
CMWZ	Cape Campbell	6.03 220		Pn	Pn	00 27 35.6	+0.6
NNZ	Nelson	6.13 227		Pn	Pn	00 27 34.4	-1.9
BSWZ	Blackbirch Sta	6.18 222		Pn	Pn	00 27 36.5	-0.6
QRZ	Quartz Range	6.43 234		Pn	Pn	00 27 39.4	-1.0
THZ	Tophouse	6.75 226		Pn	Pn	00 27 43.0	-1.9
KHZ	Kahutara	6.86 219		Pn	Pn	00 27 44.6	-1.7
CTZ	Chatham Island	7.20 156		P	Pn	00 27 58.3	+7.3
LTZ	Lake Taylor	7.78 222		Pn	Pn	00 27 56.7	-2.3
RAO	Raoul Island	8.26 17		Pn	Pn	00 28 03.2	-2.4
RPZ	Rata Peaks 1.1nm,0.3s,baz=133,slow=7.2,SNR=1.8	9.07 222		Pn	Pn	00 28 13.4	-3.3
RPZ				Sn	Sn	00 29 44.1	-14
	2.9nm,0.3s,baz=141,slow=22,SNR=11						
RPZ	Rata Peaks	9.07 222		Pn	Pn	00 28 14.7	-1.9
LBZ	Lake Benmore	9.98 221		Pn	Pn	00 28 26.3	-2.9
ASAR	Alice Springs 0.9nm,0.6s,baz=119,slow=7.8,SNR=15 0.9nm,0.6s	41.08 276		P	P	00 33 49.3	-0.2
FORT	Forrest	42.59 263		P	P	00 34 01.4	-0.3
WB2	Warramunga Arr	42.68 281		P	P	00 34 02.2	-0.4
WB2				IAmb	IAmb	00 34 02.7	
	comp=Z,10nm,1.4s						
WRAB	Tennant Creek	42.69 281		P	P	00 34 02.4	-0.3
WRAB				IAmb	IAmb	00 34 07.0	
	comp=Z,7.4nm,1.4s						
WRA	Warramunga Arr comp=Z,2.0nm,0.5s,baz=121,slow=7.8,SNR=61 comp=Z,2.0nm,0.5s	42.69 281		P	P	00 34 02.6	-0.1
WRA	Warramunga Arr	42.69 281		P	P	00 34 02.5	-0.2
WB0	Warramunga Arr	42.74 281		P	P	00 34 03.0	-0.2
WB0				IAmb	IAmb	00 34 03.7	
	comp=Z,3.8nm,0.5s						
FITZ	Fitzroy Crossi	50.56 277		P	P	00 35 05.0	+0.7
FITZ				IAm

URZ	Urewera	1.87 241	P		Pb	00 30 45.2	-1.5	
URZ	Urewera	1.87 241	P		Pb	00 30 45.3	-1.4	
SNGZ	Shannon Statio	2.03 226	P		Pn	00 30 47.3	+1.6	
KNZ	Kokohu	2.04 216	P		Pn	00 30 46.9	+1.2	
MHGZ	Mahia Peninsul	2.04 209	P		Pb	00 30 48.1	-1.5	
EDRZ	Edgecumbe	2.08 249	P		Pn	00 30 47.7	+1.3	
MARZ	Manawahe	2.09 252	P		Pn	00 30 47.3	+0.7	
RTZ	Ruatahuna	2.14 234	P		Pn	00 30 48.9	+1.6	
OPRZ	Ohinepanea	2.15 257	P		Pn	00 30 47.5	+0.2	
MUGZ	Murupara	2.21 239	P		Pn	00 30 49.3	+1.1	
RAHZ	Arahi	2.27 227	P		Pn	00 30 50.4	+1.5	
MKRZ	Makatiti	2.29 250	P		Pn	00 30 51.2	+1.8	
WHHZ	Waihua	2.30 222	P		Pn	00 30 50.9	+1.6	
TARZ	Mount Tarawera	2.30 247	P		Pn	00 30 50.9	+1.4	
LIRZ	Lichensteins R	2.32 253	P		Pn	00 30 51.2	+1.6	
RRRZ	Republican Roa	2.33 245	P		Pn	00 30 51.1	+1.3	
OMRZ	Omania	2.36 251	P		Pn	00 30 52.1	+1.9	
MYRZ	Mayor Island	2.36 271	P		Pn	00 30 49.4	-0.8	
TGRZ	Tauranga	2.36 261	P		Pn	00 30 50.5	+0.3	
MTHZ	Maungataniwha	2.37 231	P		Pn	00 30 52.2	+1.8	
HLRZ	Highlands Stat	2.42 248	P		Pn	00 30 52.5	+1.4	
KARZ	Kaharoa	2.43 254	P		Pn	00 30 52.0	+0.8	
PRRZ	Plateau Road	2.48 242	P		Pn	00 30 52.9	+1.0	
NGRZ	Ngongotaha	2.49 252	P		Pn	00 30 53.7	+1.6	
HSRZ	Hossack Road	2.52 247	P		Pn	00 30 53.8	+1.4	
HRRZ	Handcock Road	2.52 245	P		Pn	00 30 53.7	+1.3	
ALRZ	Allen Road	2.55 241	P		Pn	00 30 54.0	+1.2	
NMHZ	Naumai	2.55 227	P		Pn	00 30 54.6	+1.7	
ARHZ	Aropaoanui	2.56 222	P		Pn	00 30 54.4	+1.5	
KMRZ	Kaimai	2.63 259	P		Pn	00 30 54.2	+0.3	
GRRZ	Galatos Road	2.63 247	P		Pn	00 30 55.5	+1.5	
MRHZ	Matea Rd	2.63 256	P		Pn	00 30 55.2	+1.2	
WPRZ	Whakapapatarin	2.66 244	P		Pn	00 30 55.8	+1.5	
BKZ	Black Stump Fm	2.78 229			Pn	00 30 57.2	+1.1	
BKZ				Sn	Sn	00 31 28.1	-0.6	
BKZ	Black Stump Fm	2.78 229	P		Pn	00 30 57.2	+1.1	
BKZ	Black Stump Fm	2.78 229	P		Pn	00 30 57.4	+1.4	
CKHZ	Cape Kidnapper	2.82 215	P		Pn	00 30 57.1	+0.6	
KUZ	Kuaotunu	2.85 282	P		Pn	00 30 55.5	-1.5	
WHTZ	Whakaora	2.86 242	P		Pn	00 30 59.7	+2.5	
HATZ	Hinemaiaia	2.88 237	P		Pn	00 30 58.8	+1.4	
KUTZ	Kaahu Road	2.89 246	P		Pn	00 30 58.7	+1.2	
TOZ	Tahuroa Road	2.96 262	P		Pn	00 30 58.3	-0.1	
KWHZ	Kaweka Forest	2.99 226	P		Pn	00 30 59.7	+0.8	
KAHZ	Kahuranaki	3.02 216	P		Pn	00 30 59.8	+0.5	
WATZ	Wairara	3.04 243	P		Pn	00 31 01.0	+1.3	
TLZ	Tolley Road	3.05 251	P		Pn	00 31 00.8	+1.1	
RITZ	Rihia Road	3.08 238	P		Pn	00 31 01.5	+1.4	
RATZ	Rangitukua	3.08 240	P		Pn	00 31 01.6	+1.4	
KRHZ	Kereru	3.17 224	P		Pn	00 31 01.6	+0.2	
KATZ	Kakaramea	3.19 239	P		Pn	00 31 03.2	+1.5	
GRZ	Great Barrier	3.20 289	P		Pn	00 31 01.0	-0.8	
PXZ	Pawanui	3.22 214	P		Pn	00 31 01.9	-0.1	
MKAZ	Moumakai	3.23 274	P		Pn	00 31 01.5	-0.7	
BHHZ	Black Hill Sta	3.24 228	P		Pn	00 31 03.1	+0.7	
TMVZ	Te Maari	3.25 237	P		Pn	00 31 03.3	+0.7	
ETVZ	East Tongariro	3.26 236	P		Pn	00 31 03.3	+0.6	
NTVZ	North Tongarir	3.26 237	P		Pn	00 31 03.6	+0.9	
KRVZ	Karewarewa	3.28 237	P		Pn	00 31 04.0	+1.0	
WIAZ	Waiheke Island	3.30 279	P		Pn	00 31 02.5	-0.7	
OTVZ	Oturere	3.30 236	P		Pn	00 31 04.0	+0.7	
NNVZ	North Ngauruho	3.32 237	P		Pn	00 31 04.5	+0.9	
WTVZ	West Tongariro	3.33 237	P		Pn	00 31 04.9	+1.2	
SNVZ	South Ngauruho	3.33 236	P		Pn	00 31 04.5	+0.7	
NGZ	Ngauruhoe	3.35 236	P		Pn	00 31 04.6	+0.6	
TUVZ	Tukino	3.37 235	P		Pn	00 31 04.8	+0.7	
MOVZ	Moawhango	3.38 232	P		Pn	00 31 04.7	+0.3	
TWVZ	Taurewa	3.41 239	P		Pn	00 31 05.7	+1.0	
WHVZ	Whangaehu Hut	3.42 235	P		Pn	00 31 05.6	+0.6	
FWVZ	Far West T-bar	3.43 236	P		Pn	00 31 06.0	+0.9	
DRZ	Dome Shelter	3.43 235	P		Pn	00 31 06.1	+0.9	
WNVZ	Wahianoa	3.44 234	P		Pn	00 31 05.7	+0.5	
ETAZ	East Tamaki Re	3.44 276	P		Pn	00 31 04.8	-0.2	
TRVZ	Turoa	3.45 235	P		Pn	00 31 06.3	+0.9	
PNHZ	Pukenui	3.45 222	P		Pn	00 31 04.9	-0.4	
MBAZ	Motutapu North	3.49 279	P		Pn	00 31 05.5	-0.2	
PRHZ	Porangahau	3.51 214	P		Pn	00 31 05.6	-0.5	
MTVZ	Mangateitei	3.55 234	P		Pn	00 31 07.6	+0.9	
ABAZ	Army Bay	3.58 281	P		Pn	00 31 06.9	0.0	
PKVZ	Pokaka	3.58 237	P		Pn	00 31 08.3	+1.2	
EPAZ	Eden Park BICE	3.59 277	P		Pn	00 31 07.7	+0.6	
HBAZ	Herne Bay Bore	3.61 277	P		Pn	00 31 07.8	+0.4	
HIZ	Hauiti	3.62 250	Pn		Pn	00 31 08.2	+0.7	
HIZ	Hauiti	3.62 250	P		Pn	00 31 09.2	+1.7	
HIZ	Hauiti	3.62 250	P		Pn	00 31 09.5	+2.0	
AWAZ	Awhitu Peninsu	3.65 274	P		Pn	00 31 08.2	+0.3	
TSZ	Takapari Road	3.69 222	P		Pn	00 31 07.8	-0.7	
WTAZ	Waiatarua	3.72 275	P		Pn	00 31 09.1	+0.2	
ANWZ	Angora Road	3.74 214	P		Pn	00 31 09.3	+0.1	
RVAZ	Riverhead Bore	3.74 278	P		Pn	00 31 09.4	+0.2	
DVHZ	Dannevirke	3.76 218	P		Pn	00 31 09.1	-0.3	
BFZ	Birch Farm	4.02 214			Pn	00 31 11.3	-1.8	
BFZ				Sn	Sn	00 31 58.5	-0.9	
BFZ	Birch Farm	4.02 214	P		Pn	00 31 12.1	-1.0	
BFZ	Birch Farm	4.02 214	P		Pn	00 31 12.1	-1.0	
POWZ	Post Office Ro	4.03 221	P		Pn	00 31 13.0	-0.2	
PRWZ	Pori Road	4.05 217	P		Pn	00 31 13.5	+0.1	
WAZ	Wanganui	4.07 233	P		Pn	00 31 14.7	+1.0	
OHWZ	Ohakea	4.14 226	P		Pn	00 31 15.5	+0.8	
WCZ	Waipu Caves	4.16 289	P		Pn	00 31 14.7	-0.2	
MHEZ	Mangahewa	4.20 245	P		Pn	00 31 18.5	+3.1	
TIWZ	Tintock	4.26 216	P		Pn	00 31 16.3	-0.1	
LREZ	Lake Rotokare	4.37 240	P		Pn	00 31 18.8	+1.9	
DREZ	Durham Road	4.33 244	P		Pn	00 31 19.8	+2.5	
PREZ	Palmer Road	4.42 242	P		Pn	00 31 20.5	+2.0	
NEZ	North Egmont	4.43 243	P		Pn	00 31 21.3	+2.5	
PKE	Pukeiti	4.48 245	P		Pn	00 31 22.1	+2.7	
KHEZ	Kahui Hut	4.50 243	P		Pn	00 31 22.0	+2.3	
NBEZ	Newall Road No	4.60 244	P		Pn	00 31 23.9	+3.0	
NMEZ	Namu Road	4.65 242	P		Pn	00 31 25.5	+3.9	
OUZ	Omahuta	5.01 294	Pn		Pn	00 31 26.8	+0.2	
OUZ	Omahuta	5.01 294	P		Pn	00 31 26.8	+0.2	
OUZ	Omahuta	5.01 294	P		Pn	00 31 27.1	+0.5	
MSWZ	Moikau Station	5.06 216			Pn	00 31 24.9	-2.5	
MSWZ				Sn	Sn	00 32 20.9	-4.1	
PLWZ	Palliser	5.18 215			Pn	00 31 26.2	-2.8	
PLWZ				Sn	Sn	00 32 23.4	-4.6	
SNZO	South Karori	5.25 220	Pn		Pn	00 31 27.6	-2.3	
SNZO	South Karori	5.25 220	P		Pn	00 31 28.1	-1.8	
TUWZ	Tuamarina	5.74 224			Pn	00 31 34.5	-2.2	
CMWZ	Cape Campbell	5.82 220			Pn	00 31 36.6	-1.2	
CMWZ				Sn	Sn	00 32 40.1	-3.5	
NNZ	Nelson	5.92 228	Pn		Pn	00 31 37.1	-2.0	
BSWZ	Blackbirch Sta	5.97 222			Pn	00 31 37.7	-2.2	
QRZ	Quartz Range	6.22 234	Pn		Pn	00 31 41.5	-1.8	
QRZ					Sn	00 32 48.8	-4.8	
QRZ	Quartz Range	6.22 234	P		Pn	00 31 40.8	-2.5	
THZ	Tophouse	6.54 226	Pn		Pn	00 31 45.2	-2.6	
THZ				Sn	Sn	00 32 56.6	-4.9	
KHZ	Kahutara	6.65 219			Pn	00 31 46.9	-2.3	
KHZ	Kahutara	6.65 219	P		Pn	00 31 46.9	-2.3	
CTZ	Chatham Island	7.11 155	P		Pn	00 32 00.2	+4.8	
LTZ	Lake Taylor	7.57 222	Pn		Pn	00 31 59.2	-2.6	
MQZ	McQueen's Vall	8.05 216			Pn	00 32 05.3	-3.0	
OXZ	Oxford	8.07 220	Pn		Pn	00 32 05.8	-2.8	
RPZ	Rata Peaks	8.86 222	P		Pn	00 32 17.1	-2.4	
	19nm,0.3s,baz=81,slow=1.3,SNR=28							
RPZ				S	Sn	00 33 46.6	-12	
	63nm,0.3s,baz=51,slow=20,SNR=20							
FOZ	Fox Glacier	9.43 226	Pn		Pn	00 32 25.2	-2.0	
LBZ	Lake Benmore	9.77 221			Pn	00 32 27.9	-4.0	
ODZ	Otahua Downs	10.01 217			Pn	00 32 31.7	-3.4	
MLZ	Mavora Lakes	11.52 223	Pn		Pn	00 32 52.9	-3.1	
WHZ	Wether Hill Ro	11.96 221	Pn		Pn	00 33 00.7	-1.2	
DZM	Mont Dzumac	18.82 321	*e*LR		LR	00 38 57.3		
	comp=Z,159nm,23.8s							
CAN	Canberra	24.36 266	P		P	00 35 30.2	+1.1	
CAN				IAmb	IAmb	00 35 32.9		
	comp=Z,29nm,1.3s							
TOO	Toolangi	26.67 259	P		P	00 35 50.3	+0.3	
TBI	Tubuai	30.28 71	*e*LR		LR	00 44 12.2		
	comp=Z,149nm,25.5s							
TBI	Tubuai	30.28 71	*e*T		T	01 08 05.6		
	comp=Z,28nm,0.3s							
STKA	Stephens Creek	31.28 269	P		P	00 36 31.3	+0.3	
	comp=Z,16nm,0.8s,baz=108,slow=11,SNR=31							
	comp=Z,16nm,0.8s							
STKA	Stephens Creek	31.28 269	P		P	00 36 31.6	+0.7	
CTAO	Charters Tower	33.41 292	P		P	00 36 50.1	+0.4	
CTAO				IAmb	IAmb	00 36 50.8		
	comp=Z,17nm,1.1s							
PAE	Paea	33.72 63	*e*T		T	01 12 33.3		
	comp=Z,3.0nm,0.3s							
PPT2	Papeete2	33.77 63	*e*LR		LR	00 45 49.6		
	comp=Z,108nm,22.5s							
VAH	Vaihoa	36.73 62	*e*T		T	01 16 18.6		
	comp=Z,9.1nm,0.3s							
COEN	Coen	39.61 296	P		P	00 37 42.8	+0.2	
COEN				IAmb	IAmb	00 37 43.3		
	comp=Z,32nm,0.8s							
AS31	Alice Springs	40.97 276	P		P	00 37 53.5	-0.4	
ASAR	Alice Springs	40.97 276	P		P	00 37 52.8	-1.1	
	comp=Z,23nm,0.8s,baz=117,slow=7.3,SNR=135							
ASAR				PcP	PcP	00 39 54.7	+0.8	
	comp=Z,0.8nm,0.6s,baz=119,slow=4.3,SNR=1.7							
	comp=Z,23nm,0.8s							
WR0	Warramunga Arr	42.42 281	P		P	00 38 05.0	-0.8	
WR0				IAmb	IAmb	00 38 05.6		
	comp=Z,18nm,0.8s							
FORT	Forrest	42.44 263	P		P	00 38 05.3	-0.6	
WB2	Warramunga Arr	42.58 281	P		P	00 38 06.1	-1.0	
WB2				IAmb	IAmb	00 38 06.8		
	comp=Z,33nm,0.6s							
WRA	Warramunga Arr	42.59 281	P		P	00 38 06.1	-1.1	
	comp=Z,22nm,0.6s,baz=122,slow=7.6,SNR=314							
WRA				PcP	PcP	00 40 00.1	+0.8	
	comp=Z,0.8nm,0.3s,baz=124,slow=3.1,SNR=10							
WRA				ScP	ScP	00 43 45.3	-3.0	
	comp=Z,0.5nm,1.0s,baz=119,slow=3.8,SNR=2.4							
	comp=Z,22nm,0.6s							
WB0	Warramunga Arr	42.65 282	P		P	00 38 06.7	-0.9	
WB0				IAmb	IAmb	00 38 07.3		
	comp=Z,33nm,0.6s							
KNRA	Kununurra	49.38 282	P		P	00 39 00.1	-0.5	
NWAO	Narrogin (SRO)	50.06 255	P		P	00 39 02.5	-3.3	
FITZ	Fitzroy Crossi	50.45 277	IAmb		IAmb	00 39 09.1		
	comp=Z,18nm,0.8s							
MORW	Morawa	52.62 259	P		P	00 39 24.3	-0.7	
MORW				IAmb	IAmb	00 39 24.8		
	comp=Z,7.4nm,0.6s							
QSPA	South Pole Qui	52.75 180	P		P	00 39 29.2	+3.6	
	comp=Z,2.9nm,0.8s,baz=26,slow=3.7,SNR=10							
	comp=Z,2.9nm,0.8s							
QSPA	South Pole Qui	52.75 180	P		P	00 39 30.6	+5.0	
QSPA				IAmb	IAmb	00 39 51.8		
	comp=Z,10nm,1.1s							
PSA00	Pilbara Seismi	53.20 270	P		P	00 39 27.1	-2.3	
PSA00				IAmb	IAmb	00 39 28.9		
	comp=Z,15nm,1.5s							
FAKI	Fak Fak	54.99 297	P		P	00 39 41.2	-1.3	
FAKI				IAmb	IAmb	00 39 42.0		
	comp=Z,9.5nm,0.7s							
GIRL	Giralia	57.12 265	P		P	00 39 57.1	-0.5	
MAW	Mawson	64.98 202	P		P	00 40 53.8	+3.6	
	comp=Z,0.9nm,0.7s,baz=126,slow=6.2,SNR=1.7							
	comp=Z,0.9nm,0.7s							
TROLL	Troll, Antarti	70.89 181	P		P	00 41 40.4	+13	
SNAA	Sanae	71.25 179	P		P	00 41 41.8	+12	
VNA3	Neumayer Olymp	71.50 177	P		P	00 41 44.6	+14	
VNA2	Neumayer--Watz	71.90 178	P		P	00 41 47.0	+14	
	baz=183,slow=4.3							
VNA1	Neumayer--Stat	72.14 177	P		P	00 41 48.7	+14	
H03S2	Juan Fernandez	78.55 124	T		T	02 08 47.2		
	baz=231							
H03S1	Juan Fernandez	78.56 124	T		T	02 08 48.7		
	baz=231							
H03S3	Juan Fernandez	78.56 124	T		T	02 08 48.2		
	baz=231							
H03N3	Juan Fernandez	78.78 123	T		T	02 08 55.2		
	baz=234,slow=72							
H03N2	Juan Fernandez	78.78 123	T		T	02 08 53.5		
	baz=234,slow=72							
H03N1	Juan Fernandez	78.80 123	T		T	02 08 54.0		
	baz=234,slow=72							
KSRS	Korea Array	88.25 322	P		P	00 43 02.9	+1.1	
	comp=Z,2.4nm,0.8s,baz=141,slow=5.5,SNR=7.2							
	comp=Z,2.4nm,0.8s							
CMAR	Chiang Mai Arr	93.57 290	P		P	00 43 27.4	+0.3	
	comp=Z,1.4nm,0.5s,baz=143,slow=3.4,SNR=1.6							
	comp=Z,1.4nm,0.5s							
PZH	PanZhiHua	96.50 298	P		P	00 43 41.7	+1.2	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,130nm,5.7s							
HHC	Hu-ho-hao-te	99.43 315	*e*P		Pdif	00 43 56.2	+2.9	
HHC				pmax	pmax			
	comp=Z,200nm,8.5s							
WMQ	Urumqi	115.61 307	PKP		PKiKP	00 48 53.5	+0.9	
WMQ			PP		PP	00 49 52.1	-3.7	
WMQ				AMB	AMB			
	comp=Z,210nm,5.9s							
MKAR	Makanchi Array	120.33 308	PKP		PKPdf	00 49 01.4	-0.2	
	comp=Z,0.2nm,0.4s,baz=116,slow=3.4,SNR=2.5							
ARCES	ARCESS Array B	144.79 344	PKP		PKPbc	00 49 45.8	+0.2	
	comp=Z,2.8nm,0.8s,baz=23,slow=3.4,SNR=11							
KBZ	Khabaz	146.50 295	PKPbc		PKPab	00 49 53.0	+0.3	
	comp=Z,4.7nm,0.9s,baz=190,slow=6.1,SNR=4.2							
DBIC	Dimbokro	149.21 172	PKPbc		PKiKP	00 50 02.2	+1.1	
	comp=Z,2.5nm,0.9s,baz=193,slow=8.2,SNR=1.9							
FINES	FINESS Array B	150.64 334	PKPbc		PKPbc	00 50 01.9	+0.1	
	comp=Z,3.3nm,0.6s,baz=58,slow=3.9,SNR=14							
BRTR	Keskin Array B	153.06 286	PKPbc		PKiKP	00 50 08.3	-0.1	
	comp=Z,3.1nm,0.8s,baz=133,slow=2.4,SNR=17							
AKASG	Malin Array Be	154.84 312	PKPbc		PKiKP	00 50 11.4	-0.1	
	comp=Z,0.9nm,0.5s,baz=61,slow=2.4,SNR=6.3							
TORD	Torodi Ar. Bea	155.77 186	PKPbc		PKPdf	00 50 17.8	+13	
	comp=Z,0.6nm,1.0s,baz=159,slow=2.2,SNR=1.6							
TORD				PKPab	PKPab	00 50 33.8	+2.1	
	comp=Z,1.6nm,0.7s,baz=155,slow=3.7,SNR=5.4							
CLL	Collm	162.97 329	*e*PKPab		PKPab	00 51 01.0	-1.0	

WEL ***02*** *00:36:00,37.37S×179.07E,h12km,ML4.7,Mw4.5, Moment Tensor Solution. s7 Moment tensor: Scale 10^15 Nm; Mrr0.07; Mθθ-2.14; Mϕϕ2.07; Mrθ2.94; Mθϕ-0.13; Mϕr6.06; Fault plane solution: M06.99000×10^15 NP1: ϕs305.00000°,δ15.00000°,λ-174.00000°. NP2: ϕs209.00000°,δ88.00000°,λ-75.00000°. Principal axes: T -641.7600, Plg41.0000°, Azm285.0000°; N -114.8000, Plg15.0000°, Azm28.0000°; P 756.5600, Plg45.0000°, Azm134.0000°;*

IDC ***02*** *00:36:45.9±1.0,37.02S×179.01E,h0km,mb4.5/7, mbtmp4.5/7,MS3.8/14 Error ellipse: s-maj=30.6km s-min=24.0km az=42.0*

NEIC ***02*** *00:36:49.8±2.8,37.51S±0.08×179.02E±0.09,h24km±6km, mb4.8/26,Mwr4.7/14,Error ellipse: s-maj=11.8km s-min=10.0km az=174.0*

WEL ***02*** *00:36:49.4±1.2,37.3S±4×17.9E±,h17km±7km,M4.7/112, ML5.0/85,MLv4.7/112,Error ellipse: s-maj=0.0km s-min=0.0km az=82.5*

NEIC ***02*** *00:36:49.7,37.52S×179.03E,h30km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr-0.33; Mθθ0.54; Mϕϕ-0.21; Mrθ-1.05; Mθϕ-0.26; Mϕr-0.52; Fault plane solution: M01.29000×10^16 NP1:ϕs319.78000°, δ21.95000°,λ-20.19000°. NP2:ϕs68.61000°,δ82.59000°, λ-110.72000°. Principal axes: T 1.2476, Plg34.0000°, Azm176.0000°; N 0.0813, Plg21.0000°, Azm71.0000°; P -1.3288, Plg48.0000°, Azm317.0000°;*

ISC 02 00:36:49.5±1.2,37.39S±0.05×179.06E±0.07,h22km±8km, n213,σ1§48/208,mb4.7/20,MS3.7/14,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MXZ	Matakaoa Point	0.62	254		Pb	00 37 01.6	-0.2
MXZ					Sb	00 37 08.8	-1.3
MXZ	Matakaoa Point	0.62	254	P	Pb	00 37 01.6	-0.2
MXZ				S	Sb	00 37 09.0	-1.1
WMGZ	Waiomatatini S	0.67	230	P	Pn	00 37 04.6	+0.9
WMGZ				S	Sn	00 37 14.4	+1.0
PKGZ	Pakihiroa	0.92	237	P	Pn	00 37 07.7	+0.5
PKGZ				S	Sn	00 37 19.9	0.0
PUZ	Puketiti	0.93	223	P	Pn	00 37 08.3	+1.0
PUZ				S	Sn	00 37 21.0	+1.1
HAZ	Te Kaha	1.08	250	P	Pn	00 37 09.0	-0.3
HAZ				S	Sb	00 37 23.5	+0.3
TWGZ	Tauwhareparae	1.16	227	P	Pb	00 37 11.6	+0.7
TWGZ				S	Sn	00 37 27.1	+1.4
RUGZ	Raukumara Rang	1.24	242	P	Pb	00 37 12.6	+0.3
RUGZ				S	Sn	00 37 28.2	+0.5
CNGZ	Carnagh Statio	1.28	212	P	Pb	00 37 14.1	+1.2
CNGZ				S	Sb	00 37 32.5	+3.5
TKGZ	Te Karaka	1.42	222	P	Pb	00 37 14.8	-0.5
TKGZ				S	Sb	00 37 32.7	-0.2
WIZ	White Island	1.50	264	P	Pn	00 37 15.2	+0.2
WSRZ	White Island S	1.50	265	P	Pn	00 37 15.7	+0.5
MWZ	Matawai	1.53	232	P	Pn	00 37 16.3	+0.7
MWZ				S	Sn	00 37 34.9	0.0
RIGZ	Rimuhau	1.66	218	P	Pn	00 37 18.0	+0.6
RAGZ	Rawiri	1.70	229	P	Pn	00 37 18.8	+0.9
WHRZ	Whale Island	1.72	254	P	Pn	00 37 18.8	+0.7
URZ	Urewera	1.77	240	Pn	Pn	00 37 19.7	+0.9
	421nm,0.3s,baz=118,slow=0.0,SNR=376						
URZ					Sn		
					Sn	00 37 41.6	+1.0
	1μm,0.3s,baz=198,slow=20,SNR=10.0						
URZ				LR	LR	00 38 20.0	
	comp=Z,2μm,19.5s,baz=181,slow=48						
URZ	Urewera	1.77	240	P	Pn	00 37 19.9	+1.1
PRGZ	Paritu Road	1.79	211	P	Pn	00 37 19.9	+0.9
SNGZ	Shannon Statio	1.94	224	P	Pn	00 37 21.6	+0.4
KNZ	Kokohu	1.96	213	P	Pn	00 37 21.5	+0.1
EDRZ	Edgecumbe	1.97	248	P	Pn	00 37 22.5	+0.8
MHGZ	Mahia Peninsul	1.98	207	P	Pn	00 37 22.5	+0.8
MARZ	Manawahe	1.98	252	P	Pn	00 37 22.1	+0.3
OPRZ	Ohinepanea	2.04	257	P	Pn	00 37 22.5	0.0
RTZ	Ruatahuna	2.05	233	P	Pn	00 37 23.8	+1.1
MUGZ	Murupara	2.11	238	P	Pn	00 37 24.3	+0.8
RAHZ	Arahi	2.17	225	P	Pn	00 37 24.9	+0.5
MKRZ	Makatiti	2.19	249	P	Pn	00 37 26.1	+1.5
TARZ	Mount Tarawera	2.19	247	P	Pn	00 37 25.6	+0.8
LIRZ	Lichensteins R	2.21	253	P	Pn	00 37 25.7	+0.8
WHHZ	Waihua	2.21	220	P	Pn	00 37 25.3	+0.4
RRRZ	Republican Roa	2.23	244	P	Pn	00 37 26.0	+0.9
OMRZ	Omania	2.25	251	P	Pn	00 37 26.1	+0.7
MYRZ	Mayor Island	2.25	272	P	Pn	00 37 25.5	0.0
TGRZ	Tauranga	2.25	261	P	Pn	00 37 25.6	+0.2
MTHZ	Maungataniwha	2.28	230	P	Pn	00 37 26.8	+1.0
HLRZ	Highlands Stat	2.31	247	P	Pn	00 37 27.3	+1.0
KARZ	Kaharoa	2.32	254	P	Pn	00 37 26.9	+0.5
PRRZ	Plateau Road	2.38	242	P	Pn	00 37 28.4	+1.2
NGRZ	Ngongotaha	2.38	252	P	Pn	00 37 28.3	+0.9
UTU	Utuhina	2.40	250	P	Pn	00 37 29.1	+1.6
HSRZ	Hossack Road	2.41	247	P	Pn	00 37 29.0	+1.3
HRRZ	Handcock Road	2.41	245	P	Pn	00 37 28.5	+0.9
ALRZ	Allen Road	2.44	241	P	Pn	00 37 29.1	+1.0
NMHZ	Naumai	2.46	226	P	Pn	00 37 29.6	+1.3
ARHZ	Aropaoanui	2.47	220	P	Pn	00 37 29.0	+0.5
KMRZ	Kaimai	2.52	259	P	Pn	00 37 29.3	+0.2
GRRZ	Galatos Road	2.52	247	P	Pn	00 37 30.5	+1.3
MRHZ	Matea Rd	2.53	235	P	Pn	00 37 30.0	+0.6
WPRZ	Whakapapatarin	2.55	243	P	Pn	00 37 30.9	+1.3
BKZ	Black Stump Fm	2.69	228	Pn	Pn	00 37 31.8	+0.4
BKZ					Sn	00 38 01.9	-1.4
BKZ	Black Stump Fm	2.69	228	P	Pn	00 37 31.9	+0.4
CKHZ	Cape Kidnapper	2.74	214	P	Pn	00 37 31.7	-0.5
KUZ	Kuaotunu	2.75	283	P	Pn	00 37 30.8	-1.5
WHTZ	Whakaora	2.76	242	P	Pn	00 37 35.3	+2.8
KUTZ	Kaahu Road	2.78	246	P	Pn	00 37 33.7	+0.9
TOZ	Tahuroa Road	2.85	262	P	Pn	00 37 33.7	+0.1
KWHZ	Kaweka Forest	2.90	225	P	Pn	00 37 34.3	-0.1
WATZ	Wairara	2.94	242	P	Pn	00 37 36.3	+1.4
TLZ	Tolley Road	2.94	250	P	Pn	00 37 35.6	+0.7
KAHZ	Kahuranaki	2.94	215	P	Pn	00 37 34.4	+0.6
RITZ	Rihia Road	2.98	237	P	Pn	00 37 36.1	+0.7
RATZ	Rangituk

TBI Tubuai 30.39 72 *e*LR LR 00 50 50.7
comp=Z,146nm,23.0s
TBI Tubuai 30.39 72 *e*T T 01 14 54.1
comp=Z,18nm,0.3s
STKA Stephens Creek 31.17 269 P **P 00 43 06.8 -0.1**
comp=Z,3.1nm,0.3s,baz=108,slow=9.6,SNR=11
STKA LR LR 00 54 35.5
comp=Z,195nm,20.7s,baz=55,slow=34
comp=Z,3.1nm,0.3s
STKA Stephens Creek 31.17 269 P **P 00 43 07.4 +0.5**
CTA Charters Tower 33.32 292 LR LR 00 55 43.8
comp=Z,148nm,18.3s,baz=80,slow=34
CTAO Charters Tower 33.32 292 P **P 00 43 25.6 -0.3**
CTAO IAmb IAmb 00 44 04.3
comp=Z,18nm,1.4s
PAE Paea 33.82 63 *e*T T 01 19 18.0
comp=Z,1.6nm,0.3s
PPT2 Papeete2 33.87 63 *e*LR LR 00 52 28.0
comp=Z,177nm,25.2s
VAH Vaihoa 36.83 62 *e*T T 01 23 00.6
comp=Z,6.7nm,0.3s
COEN Coen 39.52 297 P **P 00 44 18.9 0.0**
COEN IAmb IAmb 00 44 19.5
comp=Z,15nm,1.1s
PMG Port Moresby 40.06 306 LR LR 01 00 05.5
comp=Z,101nm,18.2s,baz=185,slow=35
AS31 Alice Springs 40.86 276 P **P 00 44 29.0 -0.9**
ASAR Alice Springs 40.86 276 P **P 00 44 28.8 -1.1**
comp=Z,7.3nm,0.7s,baz=127,slow=8.6,SNR=38
ASAR PcP **PcP 00 46 29.9 -0.6**
comp=Z,0.3nm,0.6s,baz=116,slow=4.2,SNR=1.3
ASAR ScP **ScP 00 50 19.4 +0.6**
comp=Z,0.4nm,0.5s,baz=114,slow=3.7,SNR=2.8
comp=Z,7.3nm,0.7s
ASAR Alice Springs 40.86 276 P **P 00 44 29.0 -0.9**
VNDA Vanda 40.91 186 LR LR 00 58 15.7
comp=Z,80nm,20.6s,baz=19,slow=31
WR0 Warramunga Arr 42.32 282 IAmb IAmb 00 44 47.9
comp=Z,19nm,1.5s
FORT Forrest 42.33 263 P **P 00 44 40.6 -1.2**
WB2 Warramunga Arr 42.48 281 P **P 00 44 42.2 -1.0**
WB2 IAmb IAmb 00 44 42.6
comp=Z,8.9nm,0.7s
WRAB Tennant Creek 42.49 281 P **P 00 44 40.8 -2.4**
WRAB IAmb IAmb 00 44 42.6
comp=Z,8.4nm,0.6s
WRA Warramunga Arr 42.49 281 P **P 00 44 42.0 -1.3**
comp=Z,8.4nm,0.7s,baz=122,slow=7.5,SNR=59
WRA PcP **PcP 00 46 35.9 0.0**
comp=Z,0.6nm,0.7s,baz=122,slow=3.0,SNR=2.8
WRA LR LR 01 02 11.0
comp=Z,193nm,19.4s,baz=124,slow=36
comp=Z,8.4nm,0.7s
WRA Warramunga Arr 42.49 281 P **P 00 44 42.1 -1.2**
WB0 Warramunga Arr 42.54 282 P **P 00 44 42.4 -1.3**
WB0 IAmb IAmb 00 44 43.1
comp=Z,12nm,0.6s
TAOE Nuku Hiva Isla 46.50 63 *e*LR LR 00 58 18.6
comp=Z,193nm,27.5s
CASY Casey 47.86 211 P **P 00 45 25.8 +0.5**
CASY IAmb IAmb 00 45 41.1
comp=Z,7.5nm,0.8s
MTN Manton Dam 49.15 287 P **P 00 45 35.5 -0.4**
KNRA Kununurra 49.27 282 P **P 00 45 36.1 -0.7**
KNRA IAmb IAmb 00 45 53.5
comp=Z,16nm,0.9s
NWAO Narrogin (SRO) 49.95 256 P **P 00 45 39.5 -2.3**
FITZ Fitzroy Crossi 50.35 277 P **P 00 45 44.0 -0.9**
comp=Z,6.4nm,0.8s,baz=115,slow=6.5,SNR=4.8
comp=Z,6.4nm,0.8s
FITZ Fitzroy Crossi 50.35 277 P **P 00 45 44.2 -0.8**
FITZ IAmb IAmb 00 45 45.2
comp=Z,22nm,1.5s
MORW Morawa 52.51 259 P **P 00 45 59.7 -1.4**
MORW IAmb IAmb 00 46 07.0
comp=Z,22nm,1.2s
QSPA South Pole Qui 52.73 180 P **P 00 46 06.0 +3.6**
comp=Z,3.9nm,0.7s,baz=28,slow=1.5,SNR=18
comp=Z,3.9nm,0.7s
QSPA South Pole Qui 52.73 180 P **P 00 46 05.7 +3.3**
SIJI Sorong 57.04 298 P **P 00 46 32.5 -1.5**
comp=Z,3.3nm,0.3s,baz=41,slow=4.9,SNR=3.8
comp=Z,3.3nm,0.3s
RPN Rapa Nui 60.12 103 LR LR 01 06 47.5
comp=Z,82nm,20.3s,baz=349,slow=30
KAPI Kappang 62.78 286 LR LR 01 17 36.2
comp=Z,49nm,18.2s,baz=120,slow=39
BELA Belgrano 2 63.20 172 P **P 00 47 17.2 +1.8**
BELA IAmb IAmb 00 47 18.7
comp=Z,8.3nm,0.9s
MAW Mawson 64.92 202 LR LR 01 15 34.9
comp=Z,61nm,18.3s,baz=86,slow=36
MAW Mawson 64.92 202 P **P 00 47 28.6 +1.8**
TROLL Troll, Antarti 70.87 181 P **P 00 48 05.8 +1.4**
SNAA Sanae 71.23 179 P **P 00 48 08.6 +2.2**
SNAA Sanae 71.23 179 P **P 00 48 07.2 +0.8**
SNAA IAmb IAmb 00 48 09.6
comp=Z,10nm,1.4s
VNA3 Neumayer Olymp 71.49 177 P **P 00 48 09.2 +1.2**
MG05 Puerto Natales 71.56 141 P **P 00 48 10.5 +1.8**
VNA2 Neumayer--Watz 71.89 178 P **P 00 48 12.8 +2.5**
LL05 Los Muermos 77.37 133 P **P 00 48 41.0 -1.7**
EFI East Falkland 78.23 148 P **P 00 48 44.1 -3.1**
H03N3 Juan Fernandez 78.86 124 T T 02 15 22.1
baz=234,slow=72
H03N2 Juan Fernandez 78.86 124 T T 02 15 21.1
baz=234,slow=72
H03N1 Juan Fernandez 78.88 124 T T 02 15 22.1
baz=234,slow=72
KSRS Korea Array 88.19 322 P **P 00 49 37.1 -1.4**
comp=Z,0.9nm,0.7s,baz=129,slow=6.3,SNR=1.6
comp=Z,0.9nm,0.7s
NNA Nana 93.73 108 LR LR 01 24 11.3
comp=Z,47nm,18.0s,baz=220,slow=30
ATAH Atahualpa 95.57 103 LR LR 01 25 15.9
comp=Z,39nm,18.9s,baz=213,slow=30
HHC Hu-ho-hao-te 99.37 315 *e*P **Pdif 00 50 31.5 +1.5**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,200nm,6.2s
WMQ Urumqi 115.53 307 *e*P **PKiKP 00 55 30.5 +1.0**
SPA0 Spitsbergen Ar 138.46 355 *e*PKPdf **PKiKP 00 56 13.0 -1.1**
ARA0 ARCESS Array S 144.77 344 *e*PKPbc **PKPdf 00 56 23.1 -0.4**
ARCES ARCESS Array B 144.77 344 PKP PKPbc 00 56 22.4 -0.1
comp=Z,5.4nm,1.0s,baz=50,slow=2.8,SNR=11
KTK1 Kautokeino 145.68 345 *e*PKPdf **PKPab 00 56 25.8 0.0**
TRO Tromso 145.96 348 *e*PKPdf **PKPab 00 56 26.5 -0.3**
STEI Steigen 148.10 349 *e*PKPbc **PKiKP 00 56 33.3 -0.8**
DBIC Dimbokro 149.21 172 PKPbc **PKPbc 00 56 35.9 -0.9**
comp=Z,1.4nm,0.5s,baz=191,slow=3.3,SNR=5.1
MOR8 Moi Rana 149.83 348 *e*PKPdf **PKPdf 00 56 32.3 +0.3**
FINES FINESS Array B 150.61 334 PKPbc **PKPbc 00 56 38.3 -0.4**
comp=Z,1.9nm,0.5s,baz=49,slow=4.9,SNR=16
NSS Namsos 151.76 348 *e*PKPbc **PKiKP 00 56 41.8 +0.1**
BRTR Keskin Array B 152.96 286 PKPbc **PKPbc 00 56 44.5 -0.5**
comp=Z,0.6nm,0.6s,baz=121,slow=3.8,SNR=4.1
TORD Torodi Ar. Bea 155.74 186 PKPbc PKPdf 00 56 52.2 +10
comp=Z,0.3nm,0.8s,baz=155,slow=2.5,SNR=1.3
TORD PKPab **PKPab 00 57 08.9 +0.4**
comp=Z,1.3nm,0.9s,baz=160,slow=3.4,SNR=5.7
OSL Oslo 156.23 345 *e*PKPdf **PKPdf 00 56 41.4 0.0**
CLL Collm 162.93 329 *e*PKPab **PKPab 00 57 43.0 +4.2**

IDC 02 00:38:15.4±2.4, 13°.57N×50°.92E, h0km, mb3.7/4, mbtmp3.7/4, MS3.4/2, Error ellipse: s-maj=81.1km s-min=28.6km az=173.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**19.92**	**224**	LR	LR	00 49 00.3	
	comp=Z,58nm,19.0s,baz=258,slow=32						
MKAR	**Makanchi Array**	**42.28**	**32**	P	P	00 46 09.9	-0.9
	0.2nm,0.5s,baz=221,slow=7.3,SNR=2.2						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**46.32**	**77**	P	P	00 46 43.8	+0.3
	0.6nm,0.3s,baz=270,slow=8.2,SNR=1.6						
	0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.82**	**276**	P	P	00 46 54.8	-0.5
	1.0nm,0.7s,baz=84,slow=8.3,SNR=6.6						
	1.0nm,0.7s						
ESDC	**Sonseca Array**	**54.55**	**309**	P	P	00 47 46.0	+0.5
	1.0nm,1.0s,baz=104,slow=5.8,SNR=6.2						
	1.0nm,1.0s						
MA2	**Magadan**	**83.34**	**30**	LR	LR	01 29 17.0	
	comp=Z,42nm,18.2s,baz=150,slow=37						

IDC ***02*** *00:42:45.5±1.9, 36°.69S×179°.33E, h0km, mb4.2/3, mbtmp4.2/4, ML4.4/1, Error ellipse: s-maj=42.0km s-min=34.2km az=60.0*

WEL ***02*** *00:42:48.3±1.3, 37°.5S×4°×17°.9E±°, h10km, 8km, M4.2/91, ML4.4/71, MLv4.2/91, Error ellipse: s-maj=0.0km s-min=0.0km az=86.9*

NEIC ***02*** *00:42:48.7±1.7, 37°.05S±0°.07×179°.21E±0°.08, h12km±6km, mb4.3/12, Error ellipse: s-maj=11.3km s-min=8.1km az=153.0*

ISC 02 00:42:46.9±2.2, 36°.95S±0°.06×179°.37E±0°.07, h5km±11km, n127, σ1$23/134, mb4.3/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.05**	**234**		**Pg**	**00 43 06.4**	**-0.5**
MXZ	**Matakaoa Point**	**1.05**	**234**	P	**Pg**	**00 43 06.9**	**0.0**
MXZ				S	**Sg**	**00 43 19.4**	**-1.1**
WMGZ	**Waiomatatini S**	**1.15**	**221**	P	**Pn**	**00 43 11.3**	**+1.7**
WMGZ				S	**Sn**	**00 43 26.6**	**+0.8**
PKGZ	**Pakihiroa**	**1.39**	**228**	P	**Pb**	**00 43 14.2**	**+0.8**
PKGZ				S	**Sb**	**00 43 31.7**	**+0.2**
PUZ	**Puketiti**	**1.43**	**218**	P	**Pb**	**00 43 14.8**	**+0.8**
PUZ				S	**Sg**	**00 43 33.2**	**+0.5**
HAZ	**Te Kaha**	**1.50**	**237**	P	**Pn**	**00 43 13.9**	**-0.5**
HAZ				S	**Sb**	**00 43 34.9**	**+0.4**
TWGZ	**Tauwhareparae**	**1.65**	**222**	P	**Pb**	**00 43 18.2**	**+0.4**
TWGZ				S	**Sn**	**00 43 38.4**	**+0.3**
RUGZ	**Raukumara Rang**	**1.69**	**233**	P	**Pn**	**00 43 18.1**	**+1.0**
RUGZ				S	**Sn**	**00 43 39.5**	**+0.4**
CNGZ	**Carnagh Statio**	**1.79**	**211**	P	**Pb**	**00 43 20.8**	**+0.7**
WIZ	**White Island**	**1.83**	**251**	P	**Pn**	**00 43 18.3**	**-0.7**
TKGZ	**Te Karaka**	**1.91**	**219**	P	**Pn**	**00 43 21.3**	**+1.2**
MWZ	**Matawai**	**2.01**	**226**	P	**Pn**	**00 43 22.7**	**+1.2**
WHRZ	**Whale Island**	**2.11**	**244**	P	**Pn**	**00 43 23.9**	**+1.1**
RIGZ	**Rimuhau**	**2.17**	**216**	P	**Pn**	**00 43 24.7**	**+1.1**
RAGZ	**Rawiri**	**2.18**	**225**	P	**Pn**	**00 43 25.2**	**+1.3**
URZ	**Urewera**	**2.22**	**233**	Pn	**Pn**	**00 43 25.2**	**+0.9**
	96nm,0.3s,baz=120,slow=2.4,SNR=41						
URZ				Sn	**Sn**	**00 43 51.3**	**-0.8**
	111nm,0.3s,baz=121,slow=22,SNR=13						
	275nm,0.4s						
URZ	**Urewera**	**2.22**	**233**		**Pn**	**00 43 24.5**	**+0.2**
URZ	**Urewera**	**2.22**	**233**	P	**Pn**	**00 43 25.4**	**+1.0**
PRGZ	**Paritu Road**	**2.29**	**210**	P	**Pn**	**00 43 26.3**	**+1.0**
MARZ	**Manawahe**	**2.38**	**244**	P	**Pn**	**00 43 27.4**	**+0.8**
EDRZ	**Edgecumbe**	**2.39**	**240**	P	**Pn**	**00 43 27.8**	**+1.0**
OPRZ	**Ohinepanea**	**2.41**	**248**	P	**Pn**	**00 43 27.3**	**+0.4**
SNGZ	**Shannon Statio**	**2.43**	**221**	P	**Pn**	**00 43 28.0**	**+0.7**
KNZ	**Kokohu**	**2.46**	**213**	P	**Pn**	**00 43 27.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.48**	**207**	P	**Pn**	**00 43 29.0**	**+1.0**
RTZ	**Ruatahuna**	**2.52**	**228**	P	**Pn**	**00 43 29.3**	**+0.8**
MYRZ	**Mayor Island**	**2.52**	**262**	P	**Pn**	**00 43 28.8**	**+0.3**
MKRZ	**Makatiti**	**2.59**	**242**	P	**Pn**	**00 43 31.3**	**+1.7**
TGRZ	**Tauranga**	**2.60**	**252**	P	**Pn**	**00 43 30.6**	**+1.0**
TARZ	**Mount Tarawera**	**2.61**	**240**	P	**Pn**	**00 43 31.1**	**+1.3**
OMRZ	**Omania**	**2.65**	**243**	P	**Pn**	**00 43 32.3**	**+2.1**
RRRZ	**Republican Roa**	**2.66**	**238**	P	**Pn**	**00 43 31.5**	**+1.1**
RAHZ	**Arahi**	**2.67**	**222**	P	**Pn**	**00 43 31.9**	**+1.4**
KARZ	**Kaharoa**	**2.71**	**246**	P	**Pn**	**00 43 32.1**	**+1.1**
WHHZ	**Waihua**	**2.71**	**218**	P	**Pn**	**00 43 32.7**	**+1.6**
HLRZ	**Highlands Stat**	**2.73**	**241**	P	**Pn**	**00 43 32.6**	**+1.3**
MTHZ	**Maungataniwha**	**2.76**	**226**	P	**Pn**	**00 43 32.8**	**+1.1**
PRRZ	**Plateau Road**	**2.82**	**236**	P	**Pn**	**00 43 33.4**	**+0.7**
HSRZ	**Hossack Road**	**2.83**	**240**	P	**Pn**	**00 43 34.2**	**+1.5**
HRRZ	**Handcock Road**	**2.84**	**239**	P	**Pn**	**00 43 34.0**	**+1.1**
KMRZ	**Kaimai**	**2.87**	**251**	P	**Pn**	**00 43 33.8**	**+0.5**
KUZ	**Kuaotunu**	**2.94**	**273**	P	**Pn**	**00 43 32.8**	**-1.3**
NMHZ	**Naumai**	**2.95**	**223**	P	**Pn**	**00 43 35.6**	**+1.2**
ARHZ	**Aropaoanui**	**2.97**	**218**	P	**Pn**	**00 43 35.5**	**+0.9**
MRHZ	**Matea Rd**	**3.00**	**230**	P	**Pn**	**00 43 36.0**	**+0.9**
BKZ	**Black Stump Fm**	**3.17**	**225**		**Pn**	**00 43 37.0**	**-0.4**
BKZ	**Black Stump Fm**	**3.17**	**225**	P	**Pn**	**00 43 37.7**	**+0.3**
TOZ	**Tahuroa Road**	**3.18**	**255**	P	**Pn**	**00 43 37.2**	**-0.3**
KUTZ	**Kaahu Road**	**3.21**	**240**	P	**Pn**	**00 43 39.1**	**+1.2**
GRZ	**Great Barrier**	**3.23**	**281**	P	**Pn**	**00 43 38.4**	**+0.3**
CKHZ	**Cape Kidnapper**	**3.25**	**213**	P	**Pn**	**00 43 38.5**	**0.0**
TLZ	**Tolley Road**	**3.34**	**245**	P	**Pn**	**00 43 41.3**	**+1.6**
MKAZ	**Moumakai**	**3.37**	**266**	P	**Pn**	**00 43 39.4**	**-0.8**
KWHZ	**Kaweka Forest**	**3.39**	**222**	P	**Pn**	**00 43 41.4**	**+0.9**
WIAZ	**Waiheke Island**	**3.40**	**271**	P	**Pn**	**00 43 40.9**	**+0.3**
RATZ	**Rangitukua**	**3.43**	**235**	P	**Pn**	**00 43 42.6**	**+1.6**
RITZ	**Rihia Road**	**3.44**	**233**	P	**Pn**	**00 43 41.9**	**+0.8**
KAHZ	**Kahuranaki**	**3.45**	**214**	P	**Pn**	**00 43 40.8**	**-0.5**
ETAZ	**East Tamaki Re**	**3.56**	**269**	P	**Pn**	**00 43 43.4**	**+0.6**
KRHZ	**Kereru**	**3.58**	**220**	P	**Pn**	**00 43 42.7**	**-0.3**
MBAZ	**Motutapu North**	**3.59**	**272**	P	**Pn**	**00 43 44.1**	**+0.9**
TMVZ	**Te Maari**	**3.61**	**232**	P	**Pn**	**00 43 43.8**	**+0.2**
ETVZ	**East Tongariro**	**3.62**	**232**	P	**Pn**	**00 43 43.8**	**+0.1**
NTVZ	**North Tongarir**	**3.62**	**233**	P	**Pn**	**00 43 44.6**	**+0.9**
BHHZ	**Black Hill Sta**	**3.63**	**225**	P	**Pn**	**00 43 44.0**	**+0.1**
KRVZ	**Karewarewa**	**3.64**	**233**	P	**Pn**	**00 43 43.2**	**-0.8**
PXZ	**Pawanui**	**3.65**	**212**	P	**Pn**	**00 43 43.5**	**-0.5**
ABAZ	**Army Bay**	**3.66**	**274**	P	**Pn**	**00 43 44.8**	**+0.7**
OTVZ	**Oturere**	**3.67**	**232**	P	**Pn**	**00 43 45.1**	**+0.8**
NNVZ	**North Ngauruho**	**3.68**	**233**	P	**Pn**	**00 43 45.2**	**+0.7**
WTVZ	**West Tongariro**	**3.69**	**233**	P	**Pn**	**00 43 45.5**	**+0.9**
SNVZ	**South Ngauruho**	**3.69**	**232**	P	**Pn**	**00 43 45.5**	**+0.8**
EPAZ	**Eden Park BICE**	**3.71**	**270**	P	**Pn**	**00 43 46.6**	**+1.8**
NGZ	**Ngauruhoe**	**3.71**	**232**	P	**Pn**	**00 43 45.6**	**+0.6**
HBAZ	**Herne Bay Bore**	**3.72**	**270**	P	**Pn**	**00 43 46.5**	**+1.5**
TUVZ	**Tukino**	**3.73**	**231**	P	**Pn**	**00 43 45.9**	**+0.6**
TWVZ	**Taurewa**	**3.76**	**235**	P	**Pn**	**00 43 46.6**	**+1.0**
MOVZ	**Moawhango**	**3.76**	**228**	P	**Pn**	**00 43 45.2**	**-0.4**
WHVZ	**Whangaehu Hut**	**3.78**	**231**	P	**Pn**	**00 43 46.5**	**+0.4**
AWAZ	**Awhitu Peninsu**	**3.79**	**267**	P	**Pn**	**00 43 45.9**	**0.0**
WNVZ	**Wahianoa**	**3.81**	**230**	P	**Pn**	**00 43 46.1**	**-0.2**
WTAZ	**Waiatarua**	**3.84**	**269**	P	**Pn**	**00 43 47.1**	**+0.4**
RVAZ	**Riverhead Bore**	**3.85**	**271**	P	**Pn**	**00 43 47.5**	**+0.8**
WPHZ	**Waipukurau**	**3.87**	**216**	P	**Pn**	**00 43 46.7**	**-0.3**
PNHZ	**Pukenui**	**3.87**	**219**	P	**Pn**	**00 43 46.4**	**-0.5**
HIZ	**Hauiti**	**3.91**	**245**		**Pn**	**00 43 46.9**	**-0.6**
HIZ	**Hauiti**	**3.91**	**245**	P	**Pn**	**00 43 49.1**	**+1.6**
PRHZ	**Porangahau**	**3.94**	**212**	P	**Pn**	**00 43 46.9**	**-1.1**
TSZ	**Takapari Road**	**4.10**	**220**	P	**Pn**	**00 43 49.4**	**-0.7**
DVHZ	**Dannevirke**	**4.18**	**216**	P	**Pn**	**00 43 50.7**	**-0.6**
WAZ	**Wanganui**	**4.44**	**230**	P	**Pn**	**00 43 55.5**	**+0.7**
BFZ	**Birch Farm**	**4.45**	**212**	Pn	**Pn**	**00 43 52.7**	**-2.3**
PRWZ	**Pori Road**	**4.47**	**215**	P	**Pn**	**00 43 54.7**	**-0.6**
NEZ	**North Egmont**	**4.76**	**239**	P	**Pn**	**00 43 58.8**	**+2.4**
PKE	**Pukeiti**	**4.80**	**241**	P	**Pn**	**00 44 03.2**	**+3.3**
KHEZ	**Kahui Hut**	**4.83**	**239**	P	**Pn**	**00 44 03.1**	**+2.8**
NBEZ	**Newall Road No**	**4.92**	**240**	P	**Pn**	**00 44 04.7**	**+3.3**
OUZ	**Omahuta**	**4.99**	**289**		**Pn**	**00 44 03.2**	**+0.8**
OUZ	**Omahuta**	**4.99**	**289**	P	**Pn**	**00 44 03.8**	**+1.4**
MSWZ	**Moikau Station**	**5.49**	**214**	Pn	**Pn**	**00 44 07.2**	**-2.1**
PLWZ	**Palliser**	**5.61**	**213**	Pn	**Pn**	**00 44 07.8**	**-3.1**
NNZ	**Nelson**	**6.31**	**226**	Pn	**Pn**	**00 44 19.6**	**-0.9**
BSWZ	**Blackbirch Sta**	**6.38**	**220**	Pn	**Pn**	**00 44 19.6**	**-2.0**
TKNZ	**Takaka Hill**	**6.45**	**229**	P	**Pn**	**00 44 20.9**	**-1.5**
QRZ	**Quartz Range**	**6.59**	**232**	Pn	**Pn**	**00 44 22.6**	**-1.8**
THZ	**Tophouse**	**6.94**	**224**	Pn	**Pn**	**00 44 28.1**	**-1.1**
KHZ	**Kahutara**	**7.07**	**218**	Pn	**Pn**	**00 44 29.7**	**-1.2**
KHZ	**Kahutara**	**7.07**	**218**	P	**Pn**	**00 44 30.8**	**-0.1**
CTZ	**Chatham Island**	**7.43**	**157**	P	**Pn**	**00 44 38.3**	**+2.4**
RPZ	**Rata Peaks**	**9.27**	**221**	Pn	Pn	00 44 56.7	-4.4
	1.5nm,0.3s,baz=17,slow=5.4,SNR=1.9						
RPZ				Sn	Sn	00 46 32.1	-14
	3.3nm,0.3s,baz=344,slow=13,SNR=4.0						
AS31	**Alice Springs**	**41.06**	**276**	P	**P**	**00 50 30.5**	**-1.0**
ASAR	**Alice Springs**	**41.06**	**276**	P	**P**	**00 50 30.3**	**-1.2**
	5.5nm,0.7s,baz=119,slow=7.4,SNR=38						
	5.5nm,0.7s						
ASAR	**Alice Springs**	**41.06**	**276**	P	**P**	**00 50 30.0**	**-1.5**
WR0	**Warramunga Arr**	**42.48**	**281**	P	**P**	**00 50 41.9**	**-1.2**
WR0				IAmb	IAmb	00 51 02.4	
	comp=Z,8.0nm,1.2s						
FORT	**Forrest**	**42.63**	**263**	P	**P**	**00 50 42.7**	**-1.6**
WB2	**Warramunga Arr**	**42.64**	**281**	P	**P**	**00 50 43.0**	**-1.4**
WB2				IAmb	IAmb	00 50 44.0	
	comp=Z,6.7nm,1.1s						
WRAB	**Tennant Creek**	**42.65**	**281**	P	**P**	**00 50 43.3**	**-1.2**
WRAB				IAmb	IAmb	00 51 26.5	
	comp=Z,4.5nm,0.8s						
WRA	**Warramunga Arr**	**42.65**	**281**	P	**P**	**00 50 43.2**	**-1.3**
	comp=Z,2.0nm,0.4s,baz=122,slow=7.3,SNR=50						
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**42.65**	**281**	P	**P**	**00 50 43.2**	**-1.3**
WB0	**Warramunga Arr**	**42.70**	**281**	P	**P**	**00 50 43.8**	**-1.2**
WB0				IAmb	IAmb	00 51 25.2	
	comp=Z,4.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.54**	**277**	P	**P**	**00 51 45.7**	**-0.7**
FITZ				IAmb	IAmb	00 51 53.9	
	comp=Z,8.0nm,1.2s						
MORW	**Morawa**	**52.84**	**259**	P	**P**	**00 52 01.4**	**-2.1**
QSPA	**South Pole Qui**	**53.17**	**180**	P	**P**	**00 52 07.1**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=29,slow=6.6,SNR=5.2						
	comp=Z,0.9nm,0.9s						
QSPA	**South Pole Qui**	**53.17**	**180**	P	**P**	**00 52 08.9**	**+3.3**
PSA00	**Pilbara Seismi**	**53.35**	**269**	P	**P**	**00 52 07.9**	**+0.6**
PSA00				IAmb	IAmb	00 52 48.8	
	comp=Z,5.4nm,1.3s						
MG04	**Isla Riesco**	**71.50**	**143**	P	**P**	**00 54 09.8**	**+1.5**
FINES	**FINESS Array B**	**150.32**	**334**	PKPbc	**PKPbc**	**01 02 36.9**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=20,slow=4.4,SNR=7.0						

WEL 02 00:46:19.4±1.3, 37°S±4°×17°9E±°, h17km±7km, M3.7/80, ML4.0/64, MLv3.7/80, Error ellipse: s-maj=0.0km s-min=0.0km az=84.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.65**	**243**	P	Pg	00 46 31.7	-0.4
MXZ				S	Sg	00 46 38.9	-1.8
WMGZ	**Waiomatatini S**	**0.74**	**222**	P	Pn	00 46 35.5	+0.5
WMGZ				S	Sn	00 46 45.7	-0.2
PKGZ	**Pakihiroa**	**0.98**	**231**	P	Pn	00 46 38.4	0.0
PKGZ				S	Sg	00 46 51.1	-0.1
PUZ	**Puketiti**	**1.01**	**217**	P	Pg	00 46 39.5	+0.5
PUZ				S	Sn	00 46 52.8	+0.1
HAZ	**Te Kaha**	**1.11**	**244**	P	Pb	00 46 38.8	-1.2
HAZ				S	Sb	00 46 54.6	+0.4
TWGZ	**Tauwhareparae**	**1.23**	**222**	P	Pb	00 46 42.7	+0.5
TWGZ				S	Sn	00 46 58.5	+0.3
RUGZ	**Raukumara Rang**	**1.28**	**237**	P	Pb	00 46 43.4	+0.3
RUGZ				S	Sn	00 46 59.6	+0.1
CNGZ	**Carnagh Statio**	**1.38**	**208**	P	Pb	00 46 45.1	+0.4
WIZ	**White Island**	**1.49**	**260**	P	Pn	00 46 45.4	0.0
TKGZ	**Te Karaka**	**1.50**	**218**	P	Pn	00 46 45.8	+0.3
TKGZ				S	Sn	00 47 04.3	-0.4
MWZ	**Matawai**	**1.60**	**228**	P	Pn	00 46 47.4	+0.5
MWZ				S	Sn	00 47 07.0	-0.2
WHRZ	**Whale Island**	**1.74**	**250**	P	Pn	00 46 49.6	+0.8
RIGZ	**Rimuhau**	**1.75**	**215**	P	Pn	00 46 49.2	+0.1
RAGZ	**Rawiri**	**1.77**	**226**	P	Pn	00 46 50.2	+0.9
URZ	**Urewera**	**1.81**	**236**	P	Pn	00 46 50.6	+0.7
PRGZ	**Paritu Road**	**1.88**	**208**	P	Pn	00 46 50.9	+0.1
EDRZ	**Edgecumbe**	**2.00**	**245**	P	Pn	00 46 53.1	+0.6
MARZ	**Manawahe**	**2.00**	**248**	P	Pn	00 46 52.8	+1.3
SNGZ	**Shannon Statio**	**2.02**	**221**	P	Pn	00 46 52.8	+0.2
OPRZ	**Ohinepanea**	**2.05**	**253**	P	Pn	00 46 52.9	-0.2
KNZ	**Kokohu**	**2.05**	**211**	P	Pn	00 46 52.5	-0.6
MHGZ	**Mahia Peninsul**	**2.08**	**205**	P	Pn	00 46 53.8	+0.3
RTZ	**Ruatahuna**	**2.11**	**230**	P	Pn	00 46 54.6	+0.6
MUGZ	**Murupara**	**2.16**	**235**	P	Pn	00 46 55.0	+0.4
TARZ	**Mount Tarawera**	**2.22**	**244**	P	Pn	00 46 56.3	+0.8
MYRZ	**Mayor Island**	**2.23**	**269**	P	Pn	00 46 55.9	+0.3
RAHZ	**Arahi**	**2.25**	**222**	P	Pn	00 46 56.4	+0.5
RRRZ	**Republican Roa**	**2.26**	**241**	P	Pn	00 46 56.7	+0.7
OMRZ	**Omania**	**2.27**	**248**	P	Pn	00 46 56.3	+0.1
WHHZ	**Waihua**	**2.29**	**218**	P	Pn	00 46 57.6	+1.2
KARZ	**Kaharoa**	**2.34**	**250**	P	Pn	00 46 57.4	+0.3
MTHZ	**Maungataniwha**	**2.34**	**227**	P	Pn	00 46 57.9	+0.7
PRRZ	**Plateau Road**	**2.42**	**239**	P	Pn	00 46 58.4	+0.2
HSRZ	**Hossack Road**	**2.44**	**244**	P	Pn	00 46 59.0	+1.1
HRRZ	**Handcock Road**	**2.45**	**242**	P	Pn	00 47 00.5	+1.9
NMHZ	**Naumai**	**2.53**	**223**	P	Pn	00 47 00.5	+0.7
ARHZ	**Aropaoanui**	**2.56**	**218**	P	Pn	00 47 00.2	+0.2
MRHZ	**Matea Rd**	**2.59**	**232**	P	Pn	00 47 00.9	+0.3
KUZ	**Kuaotunu**	**2.70**	**280**	P	Pn	00 47 00.3	-1.8
BKZ	**Black Stump Fm**	**2.75**	**226**	P	Pn	00 47 02.8	-0.1
KUTZ	**Kaahu Road**	**2.82**	**243**	P	Pn	00 47 04.4	+0.8
CKHZ	**Cape Kidnapper**	**2.84**	**212**	P	Pn	00 47 03.1	-0.8
TOZ	**Tahuroa Road**	**2.84**	**260**	P	Pn	00 47 03.0	-1.0
KWHZ	**K

7.3nm,0.4s,baz=12,slow=22,SNR=5.9
KAPI S Sn 00 49 17.1 +0.8
10nm,0.5s,baz=63,slow=20,SNR=9.3
KAPI Kappang 6.11 221 Pn Pn 00 48 08.4 +0.9
BKSI Bulukumba 6.12 216 P Pn 00 48 08.5 +0.9
0.1nm13nm,1.0s
BSSI Bau Bau, Buton 6.61 209 P Pn 00 48 14.6 +0.5
0.1nm22nm,0.8s
FAKI Fak Fak 8.88 107 P Pn 00 48 44.4 -0.3
KNRA Kununurra 16.02 162 P 00 50 19.4 +1.3
KNRA IAmb IAmb 00 51 01.8
comp=Z,22nm,1.2s
FITZ Fitzroy Crossi 17.74 174 P Pn 00 50 37.8 -0.3
comp=Z,1.8nm,0.4s,baz=3.1,slow=8.4,SNR=8.6
FITZ Fitzroy Crossi 17.74 174 Pn 00 50 38.5 +0.3
WB0 Warramunga Arr 21.94 152 P P 00 51 24.6 +2.2
WRA Warramunga Arr 22.07 153 P P 00 51 24.8 +1.1
comp=Z,3.5nm,0.6s,baz=331,slow=9.9,SNR=18
comp=Z,3.5nm,0.6s
WRA Warramunga Arr 22.07 153 P P 00 51 26.3 +2.5
WB2 Warramunga Arr 22.07 153 P P 00 51 26.1 +2.3
WB2 IAmb IAmb 00 51 26.5
comp=Z,4.3nm,0.7s
WR0 Warramunga Arr 22.18 152 P P 00 51 25.2 +0.4
ASAR Alice Springs 25.19 158 P P 00 51 54.6 +1.8
comp=Z,1.0nm,0.7s,baz=342,slow=9.0,SNR=12
comp=Z,1.0nm,0.7s
ASAR Alice Springs 25.19 158 P P 00 51 55.5 +2.8
MORW Morawa 29.49 194 P P 00 52 37.8 +6.7
MORW IAmb IAmb 00 52 57.8
comp=Z,25nm,1.4s
FORT Forrest 30.54 173 P P 00 52 41.3 +1.0
JCJ Chichijima 32.55 32 P P 00 53 11.4 +13
STKA Stephens Creek 35.62 153 P P 00 53 25.8 +1.4
comp=Z,0.6nm,0.4s,baz=343,slow=11,SNR=3.5
comp=Z,0.6nm,0.4s
SONM Songino Array 50.31 345 P P 00 55 21.1 -1.5
comp=Z,0.7nm,0.6s,baz=163,slow=8.4,SNR=4.4
comp=Z,0.7nm,0.6s
MKAR Makanchi Array 59.30 328 P P 00 56 25.6 -1.5
comp=Z,0.4nm,0.3s,baz=123,slow=8.3,SNR=8.2
comp=Z,0.4nm,0.3s
PETK Petropavlovsk- 60.31 23 P P 00 56 34.2 +0.3
comp=Z,1.8nm,0.8s,baz=209,slow=7.9,SNR=2.7
comp=Z,1.8nm,0.8s
PLWZ Palliser 61.91 138 P P 00 56 51.6 +6.6
ZALV Zalesovo Beam 62.93 335 P P 00 56 48.5 -2.9
comp=Z,0.4nm,0.4s,baz=129,slow=5.7,SNR=2.5
comp=Z,0.4nm,0.4s

*IDC **02** 00:49:43.9±3.4,36˚.77S×178˚.93E,h0km,mb3.7/3, mbtmp3.7/4,ML3.2/1,Error ellipse: s-maj=75.6km s-min=43.1km az=120.0*
*WEL **02** 00:49:47.3±1.2,37˚S±6˚×17˚9E±˚,h20km±10km,M3.4/34, ML3.6/31,MLv3.4/34,Error ellipse: s-maj=0.0km s-min=0.0km az=130.9*
ISC 02 00:49:44.7±1.8,37˚13S±0˚.07×179˚.4E±0˚.1,h20km±7km, n48,σ1§18/59,mb3.5/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.95**	**242**	P	**Pb**	**00 50 02.6**	**0.0**
MXZ				S	Sb	00 50 12.7	-2.0
WMGZ	**Waiomatatini S**	**1.03**	**227**	P	**Pb**	**00 50 05.6**	**+1.8**
WMGZ				S	Sn	00 50 18.6	+0.8
PKGZ	**Pakihiroa**	**1.28**	**233**	P	**Pb**	**00 50 08.8**	**+0.6**
PKGZ				S	Sn	00 50 24.0	-0.1
PUZ	**Puketiti**	**1.30**	**223**	P	**Pb**	**00 50 09.2**	**+0.8**
PUZ				S	Sn	00 50 25.5	+1.1
HAZ	**Te Kaha**	**1.41**	**243**	P	**Pb**	**00 50 11.2**	**+0.8**
HAZ				S	Sn	00 50 27.5	+0.3
TWGZ	**Tauwhareparae**	**1.52**	**226**	P	**Pb**	**00 50 12.8**	**+0.5**
TWGZ				S	Sn	00 50 31.3	+1.2
RUGZ	**Raukumara Rang**	**1.59**	**238**	P	**Pb**	**00 50 13.7**	**+0.3**
RUGZ				S	Sn	00 50 31.9	+0.2
CNGZ	**Carnagh Statio**	**1.64**	**214**	P	**Pb**	**00 50 15.0**	**+0.7**
TKGZ	**Te Karaka**	**1.78**	**222**	P	**Pn**	**00 50 16.0**	**+1.6**
TKGZ				S	Sn	00 50 37.2	+0.9
WIZ	**White Island**	**1.79**	**256**	P	**Pn**	**00 50 15.3**	**+0.9**
MWZ	**Matawai**	**1.90**	**230**	P	**Pn**	**00 50 17.4**	**+1.4**
RIGZ	**Rimuhau**	**2.03**	**218**	P	**Pn**	**00 50 19.1**	**+1.4**
RIGZ				S	Sn	00 50 43.4	+0.9
WHRZ	**Whale Island**	**2.04**	**248**	P	**Pn**	**00 50 19.6**	**+1.6**
RAGZ	**Rawiri**	**2.07**	**228**	P	**Pn**	**00 50 19.9**	**+1.6**
URZ	**Urewera**	**2.12**	**237**	Pn	**Pn**	**00 50 20.0**	**+1.0**
URZ	7.1nm,0.3s,baz=120,slow=9.7,SNR=11			Sn	Sn	00 50 43.1	-1.6
	12nm,0.3s,baz=121,slow=19,SNR=8.9						
	21nm,0.3s						
URZ	**Urewera**	**2.12**	**237**	P	**Pn**	**00 50 20.4**	**+1.5**
PRGZ	**Paritu Road**	**2.15**	**213**	P	**Pn**	**00 50 20.7**	**+1.4**
SNGZ	**Shannon Statio**	**2.31**	**224**	P	**Pn**	**00 50 22.5**	**+1.0**
SNGZ				S	Sn	00 50 48.5	-0.8
KNZ	**Kokohu**	**2.32**	**215**	P	**Pn**	**00 50 22.3**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.33**	**209**	P	**Pn**	**00 50 23.4**	**+1.5**
OPRZ	**Ohinepanea**	**2.35**	**251**	P	**Pn**	**00 50 23.1**	**+1.0**
RTZ	**Ruatahuna**	**2.41**	**231**	P	**Pn**	**00 50 24.3**	**+1.3**
MUGZ	**Murupara**	**2.46**	**236**	P	**Pn**	**00 50 24.7**	**+1.0**
MYRZ	**Mayor Island**	**2.50**	**266**	P	**Pn**	**00 50 25.2**	**+0.9**
TARZ	**Mount Tarawera**	**2.53**	**243**	P	**Pn**	**00 50 26.6**	**+1.9**
MTHZ	**Maungataniwha**	**2.64**	**228**	P	**Pn**	**00 50 27.8**	**+1.6**
NMHZ	**Naumai**	**2.82**	**225**	P	**Pn**	**00 50 30.6**	**+1.8**
ARHZ	**Aropaoanui**	**2.84**	**221**	P	**Pn**	**00 50 29.8**	**+0.9**
KUZ	**Kuaotunu**	**2.95**	**276**	P	**Pn**	**00 50 30.0**	**-0.3**
BKZ	**Black Stump Fm**	**3.05**	**227**	P	**Pn**	**00 50 32.8**	**+1.0**
CKHZ	**Cape Kidnapper**	**3.11**	**215**	P	**Pn**	**00 50 32.7**	**+0.1**
TOZ	**Tahuroa Road**	**3.14**	**258**	P	**Pn**	**00 50 33.8**	**+0.8**
GRZ	**Great Barrier**	**3.27**	**284**	P	**Pn**	**00 50 36.0**	**+1.3**
KAHZ	**Kahuranaki**	**3.31**	**216**	P	**Pn**	**00 50 35.3**	**0.0**
MKAZ	**Moumakai**	**3.37**	**269**	P	**Pn**	**00 50 36.2**	**+0.1**
TMVZ	**Te Maari**	**3.51**	**234**	P	**Pn**	**00 50 38.6**	**+0.4**
BHHZ	**Black Hill Sta**	**3.51**	**227**	P	**Pn**	**00 50 38.8**	**+0.6**
MOVZ	**Moawhango**	**3.65**	**230**	P	**Pn**	**00 50 40.7**	**+0.7**
PNHZ	**Pukenui**	**3.73**	**221**	P	**Pn**	**00 50 41.1**	**-0.1**
PRHZ	**Porangahau**	**3.80**	**213**	P	**Pn**	**00 50 41.3**	**-0.7**
HIZ	**Hauiti**	**3.84**	**247**	P	**Pn**	**00 50 44.6**	**+2.1**
WCZ	**Waipu Caves**	**4.22**	**285**	P	**Pn**	**00 50 49.2**	**+1.4**
MRZ	**Mangatainoka R**	**4.61**	**219**	P	**Pn**	**00 50 51.9**	**-1.3**
OUZ	**Omahuta**	**5.04**	**290**	P	**Pn**	**00 51 00.9**	**+1.8**
ASAR	**Alice Springs**	**41.08**	**276**	P	**P**	**00 57 26.9**	**-0.2**
	0.5nm,0.6s,baz=122,slow=7.9,SNR=5.7						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**42.68**	**281**	P	**P**	**00 57 39.5**	**-0.8**
	0.7nm,0.7s,baz=123,slow=7.5,SNR=5.6						
	0.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.56**	**277**	P	**P**	**00 58 39.8**	**-2.2**
	1.8nm,0.9s,baz=111,slow=8.6,SNR=1.9						
	1.8nm,0.9s						
FINES	**FINESS Array B**	**150.47**	**334**	PKPbc	**PKiKP**	**01 09 35.2**	**+0.6**
	2.3nm,1.0s,baz=69,slow=3.3,SNR=2.0						

*IDC **02** 00:50:28.0±1.9,4˚.60S×151˚.06E,h111km±35km,mb3.6/3, mbtmp4.0/3,MS3.5/1,Error ellipse: s-maj=97.0km s-min=33.8km az=130.0*
*NEIC **02** 00:50:28.6±1.2,4˚.9S±0˚.1×151˚.73E±0˚.08,h141km±7km, mb4.6/16,Error ellipse: s-maj=18.3km s-min=9.6km az=208.0*
ISC 02 00:50:28.5±0.8,4˚.8S±0˚.1×151˚.8E±0˚.2,h150km,n22, σ0§92/22,mb4.3/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.58**	**27**	P	**Pn**	**00 50 49.9**	**-0.5**
	321nm,0.3s,baz=112,slow=1.6,SNR=13						
KRVT				S	Sn	00 51 05.7	-1.2
	174nm,0.5s,baz=120,slow=21,SNR=7.0						
RABL	**Rabaul**	**0.75**	**32**		**Pn**	**00 50 50.2**	**-1.2**
WB0	**Warramunga Arr**	**22.51**	**227**	P	**P**	**00 55 15.6**	**-0.3**
WR0	**Warramunga Arr**	**22.52**	**227**	P	**P**	**00 55 15.9**	**-0.1**
WRAB	**Tennant Creek**	**22.64**	**227**	P	**P**	**00 55 16.8**	**-0.4**
WB2	**Warramunga Arr**	**22.65**	**227**	P	**P**	**00 55 16.8**	**-0.4**
WB2				IAmb	IAmb	00 55 18.4	
	comp=Z,5.5nm,0.5s						
WRA	**Warramunga Arr**	**22.66**	**227**	P	**P**	**00 55 16.4**	**-0.9**
	comp=Z,2.7nm,0.4s,baz=50,slow=10.0,SNR=37						
	comp=Z,2.7nm,0.4s						
WRA	**Warramunga Arr**	**22.66**	**227**	P	**P**	**00 55 16.1**	**-1.2**
KNRA	**Kununurra**	**25.03**	**243**	P	**P**	**00 55 38.6**	**-0.4**
KNRA				IAmb	IAmb	00 56 11.8	
	comp=Z,10nm,1.1s						
ASAR	**Alice Springs**	**25.44**	**221**	P	**P**	**00 55 42.8**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=54,slow=9.1,SNR=9.2						
	comp=Z,0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**28.74**	**241**	P	**P**	**00 56 11.7**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=58,slow=3.5,SNR=7.1						
	comp=Z,0.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**28.74**	**241**	P	**P**	**00 56 11.6**	**-0.5**
FITZ				IAmb	IAmb	00 56 20.1	
	comp=Z,12nm,1.5s						
MSVF	**Nonsavu**	**28.74**	**119**	LR	LR	01 07 14.3	
	comp=Z,94nm,20.3s,baz=168,slow=34						
MBWA	**Marble Bar**	**35.06**	**240**	P	**P**	**00 57 06.3**	**-1.0**
MBWA				IAmb	IAmb	00 57 43.8	
	comp=Z,21nm,1.2s						
YOJ	**Yonaguni jima**	**40.38**	**317**	P	**P**	**00 57 53.4**	**+1.4**
NACB	**Ninganchiao**	**41.16**	**316**	P	**P**	**00 57 59.4**	**+1.0**
NACB				IAmb	IAmb	00 58 00.0	
	comp=Z,16nm,0.8s						
MORW	**Morawa**	**41.53**	**230**	P	**P**	**00 58 00.9**	**-0.5**
MORW				IAmb	IAmb	00 58 37.2	
	comp=Z,30nm,1.4s						
BSWZ	**Blackbirch Sta**	**41.70**	**155**	P	**P**	**00 58 03.5**	**+1.0**
NIKH	**Nikolski High**	**66.47**	**25**	P	**P**	**01 01 03.0**	**+1.3**
SPIA	**Saint Paul Isl**	**69.05**	**21**	P	**P**	**01 01 16.3**	**-1.5**
BERG	**Berg Lake**	**81.94**	**27**	P	**P**	**01 02 32.0**	**+0.7**
BERG				IAmb	IAmb	01 02 33.0	
	comp=Z,15nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.33**	**288**	PKPbc	**PKiKP**	**01 10 01.9**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=112,slow=2.1,SNR=1.4						

*IDC **02** 00:51:21.7±3.2,36˚.85S×178˚.25E,h0km,mb3.5/2, mbtmp3.5/2,Error ellipse: s-maj=67.4km s-min=28.6km az=104.0*
*WEL **02** 00:51:23.2±1.5,37˚S±5˚×17˚9E±˚,h15km±8km,M3.4/38, ML3.6/30,MLv3.4/38,Error ellipse: s-maj=0.0km s-min=0.0km az=84.9*
ISC 02 00:51:20.0±1.7,37˚25S±0˚.06×179˚.2E±0˚.1,h19km±4km, n45,σ1§25/50,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**245**	P	**Pg**	**00 51 34.1**	**-0.5**
WMGZ	**Waiomatatini S**	**0.81**	**225**	P	**Pn**	**00 51 37.5**	**+1.0**
PKGZ	**Pakihiroa**	**1.06**	**233**	P	**Pg**	**00 51 40.7**	**0.0**
PKGZ				S	Sb	00 51 51.7	-1.8
PUZ	**Puketiti**	**1.08**	**220**	P	**Pg**	**00 51 41.5**	**+0.4**
PUZ				S	Sb	00 51 54.7	+0.7
HAZ	**Te Kaha**	**1.20**	**245**	P	**Pb**	**00 51 42.3**	**+0.2**
HAZ				S	Sb	00 51 56.7	-0.6
TWGZ	**Tauwhareparae**	**1.31**	**225**	P	**Pg**	**00 51 44.7**	**-0.7**
TWGZ				S	Sb	00 52 01.2	+0.6
RUGZ	**Raukumara Rang**	**1.37**	**238**	P	**Pb**	**00 51 45.6**	**+0.5**
CNGZ	**Carnagh Statio**	**1.44**	**211**	P	**Pg**	**00 51 47.5**	**-0.3**
WIZ	**White Island**	**1.58**	**259**	P	**Pb**	**00 51 48.8**	**+0.1**
MWZ	**Matawai**	**1.68**	**229**	P	**Pn**	**00 51 49.4**	**+0.9**
WHRZ	**Whale Island**	**1.83**	**250**	P	**Pb**	**00 51 52.2**	**-0.7**
RAGZ	**Rawiri**	**1.85**	**227**	P	**Pb**	**00 51 52.8**	**-0.5**
URZ	**Urewera**	**1.90**	**237**	Pn	**Pn**	**00 51 53.0**	**+1.5**
URZ	31nm,0.3s,baz=301,slow=1.2,SNR=11			Sn	Sn	00 52 15.3	+0.4
	28nm,0.3s,baz=301,slow=22,SNR=15						
URZ	**Urewera**	**1.90**	**237**	P	**Pn**	**00 51 53.1**	**+1.5**
PRGZ	**Paritu Road**	**1.95**	**210**	P	**Pb**	**00 51 54.0**	**-0.9**
SNGZ	**Shannon Statio**	**2.09**	**222**	P	**Pn**	**00 51 56.0**	**+1.8**
EDRZ	**Edgecumbe**	**2.09**	**245**	P	**Pn**	**00 51 55.5**	**+1.4**
MARZ	**Manawahe**	**2.10**	**249**	P	**Pn**	**00 51 55.1**	**+0.9**
OPRZ	**Ohinepanea**	**2.15**	**253**	P	**Pn**	**00 51 55.6**	**+0.8**
RTZ	**Ruatahuna**	**2.19**	**231**	P	**Pn**	**00 51 56.9**	**+1.4**
MUGZ	**Murupara**	**2.25**	**236**	P	**Pn**	**00 51 57.4**	**+1.2**
TARZ	**Mount Tarawera**	**2.31**	**244**	P	**Pn**	**00 51 59.0**	**+1.7**
MYRZ	**Mayor Island**	**2.32**	**268**	P	**Pn**	**00 51 58.0**	**+0.8**
MTHZ	**Maungataniwha**	**2.42**	**228**	P	**Pn**	**00 52 00.1**	**+1.3**
KARZ	**Kaharoa**	**2.43**	**251**	P	**Pn**	**00 51 59.9**	**+1.1**
HLRZ	**Highlands Stat**	**2.43**	**245**	P	**Pn**	**00 52 00.3**	**+1.5**
NMHZ	**Naumai**	**2.61**	**224**	P	**Pn**	**00 52 02.9**	**+1.6**
KUZ	**Kuaotunu**	**2.79**	**279**	P	**Pn**	**00 52 03.0**	**-0.7**
BKZ	**Black Stump Fm**	**2.83**	**227**	P	**Pn**	**00 52 05.3**	**+1.0**
TOZ	**Tahuroa Road**	**2.94**	**259**	P	**Pn**	**00 52 05.3**	**-0.5**
KAHZ	**Kahuranaki**	**3.10**	**214**	P	**Pn**	**00 52 07.9**	**-0.1**
GRZ	**Great Barrier**	**3.13**	**287**	P	**Pn**	**00 52 10.1**	**+1.8**
MKAZ	**Moumakai**	**3.19**	**271**	P	**Pn**	**00 52 09.0**	**-0.1**
TMVZ	**Te Maari**	**3.29**	**234**	P	**Pn**	**00 52 11.3**	**+0.6**
BHHZ	**Black Hill Sta**	**3.30**	**226**	P	**Pn**	**00 52 11.3**	**+0.5**
MOVZ	**Moawhango**	**3.43**	**230**	P	**Pn**	**00 52 13.4**	**+0.8**
MBAZ	**Motutapu North**	**3.44**	**277**	P	**Pn**	**00 52 14.1**	**+1.5**
ABAZ	**Army Bay**	**3.52**	**279**	P	**Pn**	**00 52 16.0**	**+2.3**
AWAZ	**Awhitu Peninsu**	**3.60**	**272**	P	**Pn**	**00 52 17.3**	**+2.5**
HIZ	**Hauiti**	**3.62**	**248**	P	**Pn**	**00 52 17.2**	**+2.0**
WCZ	**Waipu Caves**	**4.08**	**287**	P	**Pn**	**00 52 21.3**	**-0.1**
OUZ	**Omahuta**	**4.92**	**293**	P	**Pn**	**00 52 34.4**	**+1.4**
ASAR	**Alice Springs**	**40.91**	**276**	P	**P**	**00 58 59.6**	**-1.7**
	0.6nm,0.8s,baz=128,slow=7.9,SNR=5.5						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**42.53**	**281**	P	**P**	**00 59 12.5**	**-2.1**
	0.6nm,0.6s,baz=123,slow=7.6,SNR=8.3						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**150.51**	**334**	PKPbc	**PKiKP**	**01 11 12.3**	**+2.0**
	5.1nm,1.2s,baz=33,slow=5.6,SNR=1.9						

WEL 02 00:57:20.0±1.5,37˚S±11˚×17˚9E±1˚3,h15km±10km, M2.9/12,ML3.2/9,MLv2.9/12,Error ellipse: s-maj=0.0km s-min=0.0km az=126.9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.82**	**229**	P	Pb	00 57 34.8	-1.1
MXZ				S	Sg	00 57 46.1	-0.6
WMGZ	**Waiomatatini S**	**0.95**	**214**	P	Pg	00 57 38.5	0.0
WMGZ				S	Sn	00 57 52.3	+0.1
PKGZ	**Pakihiroa**	**1.18**	**222**	P	Pn	00 57 41.5	-0.5
PKGZ				S	Sb	00 57 57.4	+0.3
HAZ	**Te Kaha**	**1.27**	**234**	P	Pb	00 57 43.9	+0.3
HAZ				S	Sg	00 58 01.3	+0.4
RUGZ	**Raukumara Rang**	**1.46**	**229**	P	Pn	00 57 46.2	+0.3
RUGZ				S	Sg	00 58 06.7	-0.5
MWZ	**Matawai**	**1.80**	**223**	P	Pn	00 57 50.1	-0.4
MWZ				S	Sn	00 58 11.9	-1.1
URZ	**Urewera**	**1.99**	**231**	S	Sn	00 58 17.7	0.0
URZ	**Urewera**	**1.99**	**231**	P	Pn	00 57 53.1	0.0
URZ	**Urewera**	**1.99**	**231**	P	Pn	00 57 53.1	0.0
SNGZ	**Shannon Statio**	**2.23**	**218**	P	Pn	00 57 56.5	+0.1
RTZ	**Ruatahuna**	**2.30**	**226**	P	Pn	00 57 56.8	-0.6
MTHZ	**Maungataniwha**	**2.54**	**223**	P	Pn	00 58 00.5	-0.3
KUZ	**Kuaotunu**	**2.71**	**275**	P	Pn	00 58 02.7	-0.3
MKAZ	**Moumakai**	**3.14**	**267**	P	Pn	00 58 08.5	-0.3

*WEL **02** 01:16:05.9±1.2,37˚S±4˚×17˚9E±˚,h15km±7km,M3.9/82, ML4.2/63,MLv3.9/82,Error ellipse: s-maj=0.0km s-min=28.8km az=120.0*
*IDC **02** 01:16:05.4±2.9,36˚.99S×178˚.58E,h0km,mb3.8/2, mbtmp3.8/2,MS3.5/2,Error ellipse: s-maj=66.1km s-min=28.8km az=120.0*
ISC 02 01:16:03.9±2.3,37˚32S±0˚.06×179˚.16E±0˚.08,h12km±11km, n95,σ1§17/101,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.72**	**250**	P	**Pb**	**01 16 18.4**	**+0.1**
MXZ				S	**Sg**	**01 16 25.3**	**-1.9**
WMGZ	**Waiomatatini S**	**0.77**	**230**	P	**Pn**	**01 16 21.5**	**+0.8**
WMGZ				S	**Sb**	**01 16 31.2**	**+1.4**
PKGZ	**Pakihiroa**	**1.03**	**236**	P	**Pb**	**01 16 24.6**	**+0.9**
PKGZ				S	**Sg**	**01 16 36.5**	**-0.6**
PUZ	**Puketiti**	**1.04**	**223**	P	**Pn**	**01 16 25.3**	**+1.0**
PUZ				S	**Sg**	**01 16 37.9**	**+0.5**
HAZ	**Te Kaha**	**1.18**	**248**	P	**Pb**	**01 16 26.3**	**+0.2**
HAZ				S	**Sg**	**01 16 40.1**	**-1.8**
TWGZ	**Tauwhareparae**	**1.27**	**227**	P	**Pb**	**01 16 28.6**	**+0.8**
TWGZ				S	**Sg**	**01 16 44.5**	**-0.3**
RUGZ	**Raukumara Rang**	**1.34**	**241**	P	**Pg**	**01 16 29.4**	**-0.2**
CNGZ	**Carnagh Statio**	**1.39**	**213**	P	**Pg**	**01 16 31.1**	**+0.6**
CNGZ				S	**Sg**	**01 16 49.5**	**+1.0**
TKGZ	**Te Karaka**	**1.53**	**222**	P	**Pn**	**01 16 31.8**	**+0.8**
TKGZ				S	**Sn**	**01 16 49.7**	**-1.1**
WIZ	**White Island**	**1.58**	**262**	P	**Pn**	**01 16 32.2**	**+0.5**
WIZ				S	**Sn**	**01 16 50.0**	**-2.2**
MWZ	**Matawai**	**1.64**	**231**	P	**Pn**	**01 16 33.2**	**+0.5**
MWZ				S	**Sn**	**01 16 55.0**	**+1.3**
RIGZ	**Rimuhau**	**1.77**	**218**	P	**Pn**	**01 16 35.0**	**+0.6**
RAGZ	**Rawiri**	**1.81**	**229**	P	**Pn**	**01 16 35.9**	**+0.8**
WHRZ	**Whale Island**	**1.82**	**252**	P	**Pn**	**01 16 36.0**	**+1.0**
URZ	**Urewera**	**1.88**	**239**	Pn	**Pn**	**01 16 37.0**	**+1.2**
URZ	125nm,0.3s,baz=121,slow=4.3,SNR=343			Sn	Sn	00 51 16.8	-13
	235nm,0.3s,baz=121,slow=22,SNR=76						
URZ	**Urewera**	**1.88**	**239**	P	**Pn**	**01 16 36.7**	**+0.9**
PRGZ	**Paritu Road**	**1.89**	**212**	P	**Pn**	**01 16 37.2**	**+1.1**
SNGZ	**Shannon Statio**	**2.05**	**224**	P	**Pn**	**01 16 38.6**	**+0.4**
KNZ	**Kokohu**	**2.06**	**214**	P	**Pn**	**01 16 38.4**	**0.0**
EDRZ	**Edgecumbe**	**2.07**	**247**	P	**Pn**	**01 16 39.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.08**	**208**	P	**Pn**	**01 16 39.4**	**+0.8**
MARZ	**Manawahe**	**2.08**	**251**	P	**Pn**	**01 16 39.1**	**+0.4**
OPRZ	**Ohinepanea**	**2.13**	**255**	P	**Pn**	**01 16 39.5**	**+0.2**
RTZ	**Ruatahuna**	**2.15**	**232**	P	**Pn**	**01 16 40.6**	**+0.9**
MUGZ	**Murupara**	**2.22**	**238**	P	**Pn**	**01 16 40.8**	**+0.3**
RAHZ	**Arahi**	**2.28**	**225**	P	**Pn**	**01 16 42.7**	**+1.2**
MKRZ	**Makatiti**	**2.29**	**248**	P	**Pn**	**01 16 43.5**	**+1.9**
TARZ	**Mount Tarawera**	**2.29**	**246**	P	**Pn**	**01 16 42.4**	**+0.8**
WHHZ	**Waihua**	**2.32**	**220**	P	**Pn**	**01 16 42.4**	**+0.5**
MYRZ	**Mayor Island**	**2.33**	**270**	P	**Pn**	**01 16 42.5**	**+0.4**
RRRZ	**Republican Roa**	**2.33**	**243**	P	**Pn**	**01 16 42.8**	**+0.7**
OMRZ	**Omania**	**2.35**	**250**	P	**Pn**	**01 16 43.5**	**+1.1**
MTHZ	**Maungataniwha**	**2.39**	**229**	P	**Pn**	**01 16 43.7**	**+0.8**
HLRZ	**Highlands Stat**	**2.41**	**246**	P	**Pn**	**01 16 44.2**	**+1.0**
KARZ	**Kaharoa**	**2.42**	**252**	P	**Pn**	**01 16 43.8**	**+0.6**
HSRZ	**Hossack Road**	**2.51**	**246**	P	**Pn**	**01 16 45.8**	**+1.3**
NMHZ	**Naumai**	**2.57**	**225**	P	**Pn**	**01 16 46.5**	**+1.1**
ARHZ	**Aropaoanui**	**2.58**	**221**	P	**Pn**	**01 16 46.2**	**+0.7**
KMRZ	**Kaimai**	**2.61**	**257**	P	**Pn**	**01 16 46.2**	**+0.2**
GRRZ	**Galatos Road**	**2.62**	**246**	P	**Pn**	**01 16 47.3**	**+1.2**
MRHZ	**Matea Rd**	**2.64**	**234**	P	**Pn**	**01 16 47.0**	**+0.6**
BKZ	**Black Stump Fm**	**2.79**	**228**	P	**Pn**	**01 16 48.8**	**+0.3**
KUZ	**Kuaotunu**	**2.81**	**281**	P	**Pn**	**01 16 47.4**	**-1.2**
CKHZ	**Cape Kidnapper**	**2.85**	**214**	P	**Pn**	**01 16 48.7**	**-0.5**
TOZ	**Tahuroa Road**	**2.94**	**261**	P	**Pn**	**01 16 50.9**	**+0.5**
KWHZ	**Kaweka Forest**	**3.01**	**225**	P	**Pn**	**01 16 51.3**	**-0.1**
KAHZ	**Kahuranaki**	**3.05**	**215**	P	**Pn**	**01 16 50.2**	**-1.8**
RITZ	**Rihia Road**	**3.08**	**237**	P	**Pn**	**01 16 53.0**	**+0.6**
RATZ	**Rangitukua**	**3.09**	**239**	P	**Pn**	**01 16 53.3**	**+0.8**
GRZ	**Great Barrier**	**3.16**	**289**	P	**Pn**	**01 16 53.4**	**0.0**
KRHZ	**Kereru**	**3.19**	**222**	P	**Pn**	**01 16 53.3**	**-0.6**
MKAZ	**Moumakai**	**3.20**	**273**	P	**Pn**	**01 16 53.4**	**-0.6**
PXZ	**Pawanui**	**3.25**	**213**	P	**Pn**	**01 16 53.7**	**-1.0**
BHHZ	**Black Hill Sta**	**3.26**	**227**	P	**Pn**	**01 16 54.2**	**-0.7**
TMVZ	**Te Maari**	**3.26**	**236**	P	**Pn**	**01 16 53.6**	**+0.1**
WIAZ	**Waiheke Island**	**3.26**	**278**	P	**Pn**	**01 16 55.3**	**+0.5**
ETVZ	**East Tongariro**	**3.27**	**235**	P	**Pn**	**01 16 55.1**	**+0.1**
NTVZ	**North Tongarir**	**3.27**	**236**	P	**Pn**	**01 16 55.3**	**+0.2**
KRVZ	**Karewarewa**	**3.29**	**236**	P	**Pn**	**01 16 55.7**	**+0.3**
OTVZ	**Oturere**	**3.31**	**235**	P	**Pn**	**01 16 55.8**	**+0.1**
NNVZ	**North Ngauruho**	**3.33**	**236**	P	**Pn**	**01 16 56.1**	**+0.2**
WTVZ	**West Tongariro**	**3.33**	**236**	P	**Pn**	**01 16 56.4**	**+0.4**
SNVZ	**South Ngauruho**	**3.34**	**235**	P	**Pn**	**01 16 56.2**	**+0.1**
NGZ	**Ngauruhoe**	**3.36**	**235**	P	**Pn**	**01 16 56.4**	**+0.1**
MOVZ	**Moawhango**	**3.39**	**231**	P	**Pn**	**01 16 56.6**	**-0.1**
ETAZ	**East Tamaki Re**	**3.40**	**275**	P	**Pn**	**01 16 57.7**	**+1.0**
TWVZ	**Taurewa**	**3.41**	**238**	P	**Pn**	**01 16 57.8**	**+0.7**
WHVZ	**Whangaehu Hut**	**3.43**	**234**	P	**Pn**	**01 16 57.4**	**+0.1

comp=Z,1.7nm,0.7s,baz=109,slow=2.6,SNR=4.7
WRA S **S** **01 35 28.0 -4.8**

comp=Z,0.5nm,0.7s,baz=100,slow=13,SNR=3.0
comp=Z,16nm,0.5s
BAKI Biak 48.57 287 P **P** **01 30 06.6 -2.1**

comp=Z,57nm,0.8s
MTN Manton Dam 48.99 271 P **P** **01 30 10.4 -1.4**
FORT Forrest 49.16 247 P **P** **01 30 12.1 -0.7**
KNRA Kununurra 50.49 266 P **P** **01 30 21.6 -1.2**
FAKI Fak Fak 51.33 283 P **P** **01 30 28.0 -0.9**

comp=Z,20nm,1.1s
FITZ Fitzroy Crossi 52.87 262 P **P** **01 30 40.0 +0.1**

comp=Z,5.8nm,0.6s,baz=103,slow=4.4,SNR=23
comp=Z,5.8nm,0.6s
FITZ Fitzroy Crossi 52.87 262 P **P** **01 30 39.0 -1.0**
SIJI Sorong 53.06 285 P **P** **01 30 41.3 -0.1**

comp=Z,72nm,0.8s,baz=85,slow=5.6,SNR=33
comp=Z,72nm,0.8s
SWI Sorong 53.07 285 P **P** **01 30 41.2 -0.2**

comp=Z,8µmcomp=Z,1µmcomp=Z,120nm,0.8s
LBMI Labuha 56.58 283 P **P** **01 31 06.5 +0.5**
TNTI Ternate 57.29 285 P **P** **01 31 10.2 -0.6**
TNTI Ternate 57.29 285 P **P** **01 31 11.4 +0.6**
VNDA Vanda 57.93 185 P **P** **01 31 16.5 +2.3**

comp=Z,1.0nm,0.7s,baz=357,slow=6.3,SNR=7.6
comp=Z,1.0nm,0.7s
GTOI Gorontalo 61.20 283 P **P** **01 31 37.3 +0.3**

comp=Z,12nm,0.7s
TOLI2 Tolitoli 63.43 282 P **P** **01 31 50.7 -0.7**
TOLI2 IAmb IAmb 01 31 51.9

comp=Z,13nm,1.0s
MPSI Mapaga 63.94 281 P **P** **01 31 53.8 -0.9**
QSPA South Pole Qui 69.61 180 P **P** **01 32 29.7 +0.8**
MJAR Matsushiro Arr 70.08 324 P **P** **01 32 31.6 -0.3**

comp=Z,1.1nm,0.5s,baz=138,slow=9.1,SNR=4.2
comp=Z,1.1nm,0.5s
UNV Unalaska Valle 74.68 7 P **P** **01 32 57.4 -0.6**

baz=191
PETK Petropavlovsk- 76.19 345 P **P** **01 33 06.9 +0.4**

comp=Z,3.8nm,0.7s,baz=150,slow=10,SNR=6.1
comp=Z,3.8nm,0.7s
KSRS Korea Array 76.75 319 P **P** **01 33 10.4 +0.6**

comp=Z,1.2nm,0.5s,baz=121,slow=5.9,SNR=4.2
comp=Z,1.2nm,0.5s
KSAR Wonju Array Be 76.76 319 P **P** **01 33 10.0 +0.1**
S14K Fog Glacier 78.05 10 P **P** **01 33 16.5 -0.1**

baz=198
CHGN Chignik 78.27 11 P **P** **01 33 18.2 +0.6**

baz=199
USRK Ussuriysk Ar. 78.84 326 P **P** **01 33 21.6 +0.7**

comp=Z,4.0nm,0.7s,baz=95,slow=5.2,SNR=7.3
comp=Z,4.0nm,0.7s
R17K Ugashik Creek 79.91 12 P **P** **01 33 26.0 -0.3**

baz=201
OHAK Old Harbor 80.15 13 P **P** **01 33 27.2 -0.4**

baz=204
L04D Klamath Falls 80.90 39 P **P** **01 33 31.9 -0.2**

baz=232
NVAR Mina Array Bea 81.11 43 P **P** **01 33 35.4 +2.1**

comp=Z,1.6nm,0.8s,baz=223,slow=9.4,SNR=12
comp=Z,1.6nm,0.8s
NVAR Mina Array Bea 81.11 43 P **P** **01 33 34.6 +1.3**
P17K Kvichak River 81.36 11 P **P** **01 33 33.3 -0.5**

baz=200
O16K Kokwok River B 81.44 10 P **P** **01 33 33.9 -0.3**

baz=199
MAW Mawson 81.54 200 P **P** **01 33 36.2 +1.4**

comp=Z,2.1nm,0.2s,baz=61,slow=12,SNR=26
comp=Z,2.1nm,0.2s
KVN Kaiserville 81.60 43 P **P** **01 33 37.0 +1.3**
P18K Big Mountain, 81.76 12 IAmb IAmb 01 33 36.7

comp=Z,7.9nm,0.8s
P18K Big Mountain, 81.76 12 P **P** **01 33 35.4 -0.5**

baz=202
O17K Koliganek Bris 81.78 11 P **P** **01 33 35.3 -0.6**

baz=200
I04A Tendick Farm, 81.82 37 P **P** **01 33 36.9 +0.3**

baz=231
H04D Lebanon 82.09 36 P **P** **01 33 38.8 +0.9**

baz=231
N16K Nishlik Lake 82.17 10 P **P** **01 33 38.7 +0.7**

baz=198
J05D Fort Rock, OR 82.18 38 P **P** **01 33 39.3 +0.8**

baz=232
O18K Koktuh Hills 82.20 11 IAmb IAmb 01 33 39.2

comp=Z,11nm,0.8s
O18K Koktuh Hills 82.20 11 P **P** **01 33 37.9 -0.2**

baz=202
BNX BinXian 82.30 325 ⇑P **P** **01 33 39.1 +0.2**
BNX pmax pmax

comp=Z,10.0nm,0.8s
BNX pmax pmax

comp=Z,160nm,5.0s
P19K Oil Pt 82.40 12 P **P** **01 33 39.1 0.0**

baz=203
PINE Pine Mountain 82.66 38 IAmb IAmb 01 33 44.2

comp=Z,5.9nm,0.8s
O19K Port Alsworth 82.68 12 P **P** **01 33 40.4 -0.1**

baz=202
ILSW Iliamna Southw 82.72 12 IAmb IAmb 01 33 41.5

comp=Z,13nm,0.8s
BMN Battle Mountai 82.94 42 P **P** **01 33 42.5 0.0**
BRSE Bradley Lake S 83.00 14 P **P** **01 33 42.7 +0.6**

baz=206
N19K Bonanza Creek 83.22 11 P **P** **01 33 43.1 -0.2**

baz=202
M19K Big River Lodg 84.25 11 P **P** **01 33 48.0 -0.2**

baz=202
L19K White Mountain 84.43 11 IAmb IAmb 01 33 50.8

comp=Z,6.4nm,1.1s
L19K White Mountain 84.43 11 P **P** **01 33 49.4 +0.3**

baz=202
RC01 Rabbit Creek A 84.44 13 P **P** **01 33 49.3 +0.1**

baz=207
F07A Phinny Hill Vi 84.50 37 P **P** **01 33 48.7 -1.2**
F07A IAmb IAmb 01 33 49.4

comp=Z,14nm,1.4s
PWL Port Wells 84.55 14 P **P** **01 33 49.2 -0.5**
PWL IAmb IAmb 01 33 50.7

comp=Z,6.7nm,0.8s
PWL Port Wells 84.55 14 P **P** **01 33 49.7 0.0**

baz=206
SUA Susitna One 84.56 13 IAmb IAmb 01 33 50.7

comp=Z,6.0nm,0.7s
SUA Susitna One 84.56 13 P **P** **01 33 49.7 -0.2**

baz=206,SNR=7.6
G08A Pilot Rock 84.69 38 P **P** **01 33 52.0 +1.0**
GLI Glacier Island 84.85 15 IAmb IAmb 01 33 52.2

comp=Z,7.9nm,0.8s
GLI Glacier Island 84.85 15 P **P** **01 33 51.4 +0.2**

baz=209,SNR=8.3
L20K Farewell, AK 84.88 11 P **P** **01 33 51.7 +0.4**

baz=203
TTA Tatalina 84.94 10 P **P** **01 33 52.2 +0.5**

baz=201
KNK Knik Glacier 85.01 14 P **P** **01 33 52.6 +0.7**

baz=208
GHO Glory Hole Cre 85.22 13 P **P** **01 33 53.6 +0.5**
GHO IAmb IAmb 01 33 54.2

comp=Z,9.8nm,0.8s
HNS HongShan 85.40 313 ⇓P **P** **01 33 54.8 +0.4**
HNS pmax pmax

comp=Z,9.0nm,0.9s
M23K Glacier View 85.51 14 P **P** **01 33 55.2 +0.8**

baz=208
PPLA Purkeypile 85.58 12 P **P** **01 33 54.8 -0.1**

baz=204
SCM Sheep Creek Mo 85.64 14 IAmb IAmb 01 33 56.7

comp=Z,9.4nm,0.8s
SCM Sheep Creek Mo 85.64 14 P **P** **01 33 55.5 +0.4**

baz=209
K20K Telida 85.66 11 P **P** **01 33 55.2 +0.1**

baz=202
KLU Klutina 85.67 15 P **P** **01 33 55.5 +0.3**

baz=210
D08A Wollman Farm, 85.75 36 P **P** **01 33 57.1 +1.2**
D08A IAmb IAmb 01 33 58.1

comp=Z,5.4nm,1.0s
CAST Castle Rocks 86.07 11 P **P** **01 33 56.4 -0.7**

baz=204,SNR=5.6
N25K Chitina, Valde 86.09 15 P **P** **01 33 57.5 +0.2**

baz=211
WAT6 Susitna Watana 86.20 14 P **P** **01 33 58.4 +0.5**

baz=208
WAT1 Susitna Watana 86.25 13 P **P** **01 33 58.3 +0.4**

baz=208
HLID Hailey 86.41 41 P **P** **01 34 00.5 +1.2**

baz=237
J20K Nowinta River 86.41 10 P **P** **01 33 59.4 +0.8**

baz=202
MNTX Cornudas Mount 86.86 55 P **P** **01 34 02.5 +0.9**

baz=244
MCK McKinley 86.97 13 IAmb IAmb 01 34 02.1

comp=Z,11nm,1.3s
MCK McKinley 86.97 13 P **P** **01 34 01.1 -0.2**

baz=207
P30M Million Dollar 87.00 19 P **P** **01 34 02.5 +1.0**

baz=218
M26K Nabesna, AK 87.17 16 P **P** **01 34 03.2 +1.0**

baz=213
TX31 Lajitas Ar. Si 87.18 57 IAmb IAmb 01 34 06.6

comp=Z,5.8nm,1.0s
TXAR Lajitas Array 87.18 57 P **P** **01 34 05.4 +2.2**

comp=Z,1.4nm,0.8s,baz=214,slow=6.8,SNR=13
TXAR pP **pwP** **01 36 10.3 +4.4**

comp=Z,0.4nm,0.8s,baz=237,slow=5.0,SNR=3.6
comp=Z,1.4nm,0.8s
YUK3 Moose Creek 87.31 17 P **P** **01 34 03.8 +0.6**

baz=215
HYT Haines Junctio 87.39 19 P **P** **01 34 04.7 +1.2**

baz=218
M27K Edge Creek, AK 87.42 16 P **P** **01 34 03.9 +0.4**
M27K IAmb IAmb 01 34 05.6

comp=Z,8.6nm,1.1s
M27K Edge Creek, AK 87.42 16 P **P** **01 34 04.3 +0.8**

baz=214
YUK4 Talbot Arm 87.47 18 P **P** **01 34 05.1 +1.2**

baz=217
I21K Tanana 87.70 11 IAmb IAmb 01 34 06.0

comp=Z,5.2nm,0.9s
I21K Tanana 87.70 11 P **P** **01 34 04.5 -0.1**

baz=204,SNR=5.9
K24K Donnelly Dome 87.71 14 P **P** **01 34 05.1 +0.3**

baz=210
MLY Manley 87.79 11 IAmb IAmb 01 34 05.3

comp=Z,2.6nm,0.6s
MLY Manley 87.79 11 P **P** **01 34 04.5 -0.6**

baz=206,SNR=5.2
RIDG Independent Ri 87.86 14 P **P** **01 34 05.9 +0.4**

baz=211
DOT Dot Lake 87.97 15 P **P** **01 34 06.5 +0.5**
XAN Xi'an 87.98 307 P **P** **01 34 07.5 +0.8**
XAN pP PcP 01 34 19.0 +11
XAN pmax pmax

comp=Z,8.0nm,0.8s
HDA Harding Lake 87.98 13 IAmb IAmb 01 34 06.7

comp=Z,5.8nm,0.6s
HDA Harding Lake 87.98 13 P **P** **01 34 05.9 -0.1**

baz=209
H21K Melozitna Rive 88.00 10 IAmb IAmb 01 34 06.9

comp=Z,2.6nm,0.8s
H21K Melozitna Rive 88.00 10 P **P** **01 34 06.2 +0.2**

baz=204
L27K Beaver Creek, 88.02 16 P **P** **01 34 07.0 +0.8**

baz=214
N30M Aishikik Lake 88.02 18 P **P** **01 34 06.2 -0.1**

baz=218
VNA3 Neumayer Olymp 88.19 176 P **P** **01 34 07.8 +0.8**
MDM Murphy Dome 88.20 12 IAmb IAmb 01 34 07.5

comp=Z,6.5nm,0.8s
SCRK Sand Creek 88.27 14 P **P** **01 34 07.9 +0.4**

baz=212
IL31 88.31 13 IAmb IAmb 01 34 08.1

comp=Z,4.1nm,1.1s
ILAR Eielson Array 88.31 13 P **P** **01 34 07.3 -0.2**

comp=Z,3.0nm,0.9s,baz=230,slow=5.8,SNR=15
comp=Z,3.0nm,0.9s
M29M Somme Creek 88.41 17 P **P** **01 34 08.6 +0.5**

baz=217,SNR=7.9
N31M Braeburn, Yuko 88.43 19 P **P** **01 34 09.0 +0.9**

baz=219
H22K Ishtilitna Cre 88.46 11 P **P** **01 34 08.2 0.0**

baz=205,SNR=7.3
J25K Salcha River, 88.50 14 IAmb IAmb 01 34 09.5

comp=Z,3.0nm,0.8s
J25K Salcha River, 88.50 14 P **P** **01 34 08.8 +0.4**

baz=210
VNA2 Neumayer--Watz 88.63 177 P **P** **01 34 07.1 -2.0**
G21K Allakaket 88.68 10 P **P** **01 34 09.3 +0.2**

baz=203
H23K Yukon River 88.72 11 P **P** **01 34 09.9 +0.5**

baz=207
K27K Chicken 88.77 15 IAmb IAmb 01 34 11.7

comp=Z,3.3nm,0.9s
K27K Chicken 88.77 15 P **P** **01 34 10.2 +0.6**

baz=214
LRM Limekiln Ridge 88.79 40 P **P** **01 34 10.2 -0.3**
J26L Joseph Creek 88.81 14 IAmb IAmb 01 34 11.8

comp=Z,5.6nm,0.9s
J26L Joseph Creek 88.81 14 P **P** **01 34 10.4 +0.5**

baz=212
M30M Minto, Yukon 88.98 18 IAmb IAmb 01 34 12.4

comp=Z,4.1nm,0.8s
M30M Minto, Yukon 88.98 18 P **P** **01 34 11.5 +0.8**

baz=218,SNR=9.5
BW06 Boulder Array 89.05 43 P **P** **01 34 12.3 +0.5**

baz=241
PDAR Pinedale Array 89.05 43 P **P** **01 34 13.0 +1.2**

comp=Z,1.1nm,0.6s,baz=227,slow=3.3,SNR=12
comp=Z,1.1nm,0.6s
PDAR Pinedale Array 89.05 43 P **P** **01 34 12.2 +0.4**
BOZ Bozeman (W) 89.17 40 P **P** **01 34 13.6 +1.5**

baz=239
HHC Hu-ho-hao-te 89.21 314 *e*P **P** **01 34 13.9 +1.5**
HHC Hu-ho-hao-te 89.21 314 pmax pmax

comp=Z,150nm,7.9s
HHC Hu-ho-hao-te 89.21 314 pmax pmax

comp=Z,38nm,0.6s
HHC Hu-ho-hao-te 89.21 314 pmax pmax

comp=Z,150nm,7.0s
H17A Grant Village 89.21 42 P **P** **01 34 12.8 +0.4**

baz=240
PRP Porcupine Dome 89.25 13 IAmb IAmb 01 34 14.2

comp=Z,3.1nm,0.9s
PRP Porcupine Dome 89.25 13 P **P** **01 34 12.6 +0.6**

baz=210
G22K Bettles 89.37 10 P **P** **01 34 13.3 +1.0**

baz=205
M31M Drury Creek, Y 89.41 19 P **P** **01 34 13.5 +0.9**

baz=220
G23K Bananza Creek 89.44 11 P **P** **01 34 12.8 +0.1**

baz=206
DAWY Dawson 89.47 16 IAmb IAmb 01 34 14.6

comp=Z,3.6nm,0.8s
I26K Coal Creek Min 89.59 14 IAmb IAmb 01 34 15.0

comp=Z,4.9nm,1.1s
I26K Coal Creek Min 89.59 14 P **P** **01 34 13.9 +0.5**

baz=212
EGAK Eagle 89.61 15 IAmb IAmb 01 34 14.9

comp=Z,4.3nm,0.9s
EGAK Eagle 89.61 15 P **P** **01 34 13.8 +0.3**

baz=214
K29M Barlow Dome 89.78 17 P **P** **01 34 15.2 +0.7**

baz=218,SNR=5.3
F22K John River 89.80 10 P **P** **01 34 14.6 +0.2**

baz=204
COLD Coldfoot 89.87 11 IAmb IAmb 01 34 16.9

comp=Z,3.5nm,1.0s
COLD Coldfoot 89.87 11 P **P** **01 34 15.3 +0.7**

baz=206
CMAR Chiang Mai Arr 89.94 290 P **P** **01 34 17.2 +1.1**

comp=Z,2.2nm,0.5s,baz=133,slow=2.8,SNR=14
comp=Z,2.2nm,0.5s
CMAR Chiang Mai Arr 89.94 290 P **P** **01 34 16.9 +0.7**
CHTO Chiang Mai 90.07 290 P **P** **01 34 16.9 +0.1**
I27K Kandik River 90.19 14 P **P** **01 34 16.6 +0.3**

baz=214
E22K Anaktuvuk Pass 90.43 10 P **P** **01 34 17.6 +0.3**

baz=204
PZH PanZhiHua 90.54 298 P **P** **01 34 18.6 -0.3**
PZH pmax pmax

comp=Z,10.0nm,0.9s
PZH pmax pmax

comp=Z,130nm,7.3s
MMPY Sheldon Lake, 90.69 20 P **P** **01 34 19.7 +1.1**

baz=223
G26K Porcupine Rive 90.85 13 P **P** **01 34 20.2 +1.0**

baz=212
E24K Your Creek 90.93 11 P **P** **01 34 19.3 -0.3**

baz=208
EPYK Eagle Plains 91.99 15 P **P** **01 34 24.9 +0.4**

baz=218
E27K Coleen River 92.34 13 P **P** **01 34 26.8 +0.7**

baz=214
G30M tAoh Zraii Nji 92.59 15 P **P** **01 34 27.8 +0.5**

baz=219
ZALV Zalesovo Beam 110.36 321 PKiKP **PKiKP** **01 39 43.6 -0.7**

comp=Z,1.1nm,0.6s,baz=117,slow=0.3,SNR=3.9
MKAR Makanchi Array 111.05 313 PKiKP **PKiKP** **01 39 45.1 -0.8**

comp=Z,1.0nm,0.6s,baz=91,slow=0.9,SNR=9.3
GEYT Alibeck 128.62 303 PKP **PKiKP** **01 40 20.7 +0.1**

comp=Z,1.5nm,0.5s,baz=190,slow=2.7,SNR=3.6
ARCES ARCESS Array B 128.85 350 PKP **PKiKP** **01 40 19.2 -0.9**

comp=Z,5.3nm,1.0s,baz=48,slow=1.8,SNR=5.7
FINES FINESS Array B 135.69 344 PKP **PKPdf** **01 40 31.4 -0.9**

comp=Z,1.5nm,0.8s,baz=117,slow=2.1,SNR=3.9
NB2 NORSAR Subarra 138.92 353 PKP PKPpre 01 40 31.3

comp=Z,2.9nm,0.9s,baz=13,slow=2.2
NOA NORSAR Array B 138.92 353 PKhKP PKPpre 01 40 31.1

comp=Z,0.9nm,0.7s,baz=14,slow=2.3,SNR=4.5
MARD Mardin 142.29 305 **PKPdf** **01 40 41.3 -4.0**
AKASG Malin Array Be 142.90 331 PKhKP PKPpre 01 40 42.6

comp=Z,8.6nm,0.6s,baz=42,slow=4.6,SNR=56
AKBB Malin Array Si 142.90 331 PKPdf **PKPdf** **01 40 42.8 -3.0**
LODK Lodwar 143.21 247 **PKPbc** 01 40 45.9 +0.1
MBAR Mbarara 144.79 237 PKPdf **PKPdf** **01 40 49.1 -1.3**
GKP Gorka Klasztor 145.16 344 *e*PKP **PKPab** **01 40 50.5 -1.1**
PURM Purcari 145.36 325 ⇑P **PKPab** **01 40 51.5 -1.1**
BNN Bunyan 145.48 310 **PKPdf** **01 40 50.8 0.0**
MILM Milestii Mici 145.67 327 ⇑P **PKPbc** **01 40 51.9 -0.4**
VASR Vaslui 146.38 327 ⇑P **PKiKP** **01 40 54.8 -1.7**
BRTR Keskin Array B 146.69 312 PKPbc **PKPbc** **01 40 55.1 -0.4**

comp=Z,4.4nm,0.7s,baz=132,slow=4.6,SNR=24
BRTR Keskin Array B 146.69 312 **PKPbc** **01 40 54.5 -1.1**
VLDR Vladesti 146.75 326 ⇑P **PKPbc** **01 40 53.5 -1.8**
TLCR 146.78 324 ⇑P **PKPbc** **01 40 55.7 +0.3**
SCTR Scanteiesti 146.91 325 ⇑P **PKPbc** **01 40 54.5 -1.2**
BURAR Bucovina Array 146.94 330 ⇑P **PKiKP** **01 40 56.7 -1.1**
GHRR 146.96 327 ⇑P **PKiKP** **01 40 57.0 -0.7**
BIZ Bicaz 147.01 329 ⇑P **PKiKP** **01 40 57.0 -0.8**
TESR Tescani 147.04 328 ⇑P **PKPbc** **01 40 56.3 +0.2**
OJC Ojcow 147.06 339 PKPbc **PKPbc** **01 40 55.3 -0.7**
CFR Carcaliu 147.16 325 ⇑P **PKPbc** **01 40 56.6 +0.2**
KOLS Kolonicke sedl 147.21 335 *e*PKP **PKiKP** **01 40 56.8 -1.4**
TPGR Topolog 147.21 324 ⇑P **PKiKP** **01 40 57.1 -1.2**
ANTO Ankara 147.21 313 PKPbc **PKPbc** **01 40 55.6 -1.2**
VRI Vrincioaia 147.44 327 ⇑P **PKPbc** **01 40 57.3 +0.1**
PLOR Plostina 147.49 327 ⇑P **PKPbc** **01 40 56.5 -0.8**
HARR Harsova 147.58 324 ⇑P **PKiKP** **01 40 58.0 -1.0**
TLBR Topalu 147.61 324 ⇑P **PKiKP** **01 40 58.2 -0.8**
COVR Voineasa-Covas 147.72 327 ⇓P **PKiKP** **01 40 58.1 -1.2**
OSTC Ostas 147.88 343 ⇑*e*PKP **PKiKP** **01 40 59.0 -0.5**
CHVC Chvalec 147.90 343 ⇑*e*PKP **PKiKP** **01 40 58.5 -1.1**
CLL Collm 147.99 347 **PKPbc** **01 40 57.1 -1.2**
CLL Collm 147.99 347 *e*PKPdf **PKPdf** **01 40 55.0 +0.6**
CLL ⇓*i*PKPbc **PKiKP** **01 40 58.6 -1.0**

comp=Z,20nm,0.9s
CLL ⇑*i*PKPab **PKPab** **01 41 03.0 0.0**

comp=Z,7.0nm,0.7s
CLL *ex* x 01 41 07.0
CLL *ep*PKPab **pPKPab** **01 43 11.0 +4.7**
DPC Dobruska-Polom 148.04 342 ⇑*e*PKP **PKiKP** **01 40 59.0 -0.9**
DOPR Dopca 148.05 328 ⇑P **PKiKP** **01 40 59.6 -0.4**
LANS Liptovska Anna 148.08 338 *e*PKP **PKiKP** **01 41 00.0 0.0**
LANS *e* 01 41 04.6
MLR Muntele Rosu 148.10 327 ⇑P **PKPbc** **01 40 58.5 -0.4**
KRLC Kraliky 148.15 342 ⇑*e*PKP **PKiKP** **01 40 59.2 -0.9**
BRG Berggiesshubel 148.18 345 *e*PKP **PKiKP** **01 40 59.3 -0.8**
BRG Amp 01 40 59.8

comp=Z,8.4nm,0.9s
BRG *ex* x 01 41 04.1
BRG Amp 01 41 04.7

comp=Z,6.2nm,0.7s
MORC Moravsky Berou 148.18 341 ⇑P **PKiKP** **01 40 59.9 -0.3**
MORC Moravsky Berou 148.18 341 PKPbc **PKPbc** **01 40 58.5 -0.5**
MORC Moravsky Berou 148.18 341 *e*PKP **PKiKP** **01 40 59.4 -0.8**
PVCC Panska Ves 148.35 344 ⇑*e*PKP **PKiKP** **01 40 59.9 -0.5**
MAUC Maruska 148.45 340 ⇑*e*PKP **PKiKP** **01 41 00.4 -0.3**
VOIR 148.59 328 ⇓P **PKiKP** **01 41 00.6 -0.6**
DRGR 148.69 332 ⇑P **PKiKP** **01 41 00.2 -1.1**
ARR Arges 148.85 328 ⇑P **PKiKP** **01 41 01.9 +0.2**
PRU Pruhonice 148.85 344 ⇑*e*PKP **PKiKP** **01 41 00.9 -0.6**
VYHS Vyhne 148.86 338 *e*PKP **PKiKP** **01 41 01.1 -0.5**
VYHS *e* 01 41 07.5
VRAC Vranov 148.89 341 ⇓P **PKiKP** **01 41 01.1 -0.5**
VRAC Vranov 148.89 341 *e*PKP **PKiKP** **01 41 01.1 -0.5**
JAVC Velka Javorina 148.94 340 *e*PKP **PKiKP** **01 41 02.5 +0.7**
PSZ Piszkesteto 148.96 336 PKPbc **PKPbc** **01 41 00.5 -0.4**
RAZG Razgrad 149.09 324 ⇑P **PKiKP** **01 41 01.8 -0.4**
NKC Novy Kostel 149.12 347 ⇑*e*PKP **PKiKP** **01 41 01.6 -0.5**
KRUC Moravsky 149.17 341 *e*PKP **PKiKP** **01 41 01.7 -0.5**
LOT Lotru 149.21 329 ⇑P **PKPbc** **01 41 01.3 -0.4**
TREC Trest 149.22 342 ⇑*e*PKP **PKiKP** **01 41 01.6 -0.7**
MODS Modra-Piesok 149.50 340 *e*PKP **PKiKP** **01 41 03.2 +0.3**
SIRR Siria 149.56 332 ⇑P **PKiKP** **01 41 02.9 -0.2**
GZR Gura Zlata 149.72 330 ⇓P **PKPbc** **01 41 02.5 -0.4**
MEM Membach 149.73 355 *d*PKPdf **PKPdf** **01 40 57.1 -0.1**
MEM *d*PKiKP **PKiKP** **01 41 02.7 -0.5**
BTNL Ternell 149.75 355 *d*PKiKP **PKiKP** **01 41 02.4 -0.9**
BSTI Sart Tilman 149.79 355 *d*PKiKP **PKiKP** **01 41 03.1 -0.3**
KHC Kasperske Hory 149.88 345 ⇑*e*PKP **PKiKP** **01 41 03.3 -0.4**
KHC *e*PKPAB **PKPab** **01 41 11.0 0.0**
BCLA Clavier 149.98 356 *d*PKiKP **PKiKP** **01 41 03.2 -0.6**
BCLA *d*PKPab **PKPab** **01 41 10.9 -0.3**
CKRC Cesky Krumlov 149.98 343 ⇑*e*PKP **PKiKP** **01 41 03.7 -0.2**
BHOU Houvegnez 149.99 355 *d*PKiKP **PKiKP** **01 41 03.9 0.0**
BZS Buzias 150.08 332 ⇑P **PKiKP** **01 41 03.9 -0.3**
GERES GERESS Array B 150.12 344 PKPbc **PKiKP** **01 41 03.9 -0.4**

comp=Z,2.8nm,0.8s,baz=48,slow=2.0,SNR=23
BMRD Maredsous 150.13 356 *d*PKiKP **PKiKP** **01 41 03.7 -0.4**
RCHB Rochefort 150.25 356 *d*PKiKP **PKiKP** **01 41 03.9 -0.4**
RCHB *d*PKPab **PKPab** **01 41 11.2 -1.2**
HERR Herculane 150.28 330 ⇓P **PKPbc** **01 41 03.1 -1.0**
CONA Conrad Observa 150.34 341 *e*P **PKiKP** **01 41 04.6 -0.2**

comp=Z,5.7nm,0.7s
RONA Rosalia, Austr 150.40 340 *e*P **PKiKP** **01 41 04.7 -0.2**

comp=Z,6.1nm,0.6s
WLF Walferdange 150.66 354 *d*PKiKP **PKiKP** **01 41 05.2 -0.1**
WLF *d*PKPab **PKPab** **01 41 14.0 -0.1**
MOA Molln 150.88 343 *e*P **PKiKP** **01 41 05.1 -0.7**

comp=Z,2.1nm,0.6s
BLKB Belogradchik 151.07 328 ⇑P **PKiKP** **01 41 05.6 -0.8**
BIOA Bad Ischl, Aus 151.20 343 *e*P **PKiKP** **01 41 06.0 -0.5**

comp=Z,2.4nm,0.6s
BIOA *e*P **PKPab** **01 41 17.6 +1.1**

comp=Z,6.4nm,1.0s
VTS Vitosha 151.50 326 ⇓P **PKiKP** **01 41 07.0 -0.4**
VTS Vitosha 151.50 326 **PKPbc** **01 41 05.8 -1.4**
SOKA Soboth 151.71 341 *e*P **PKiKP** **01 41 07.0 -0.6**

comp=Z,4.4nm,1.2s
KBA Koelnbreinsper 151.84 343 *e*P **PKiKP** **01 41 07.7 -0.3**

comp=Z,4.8nm,1.0s
WATA Walderalm 152.04 346 *e*P **PKiKP** **01 41 08.0 -0.4**

comp=Z,2.7nm,0.5s
WATA *e*P **PKPab** **01 41 21.1 +0.8**

comp=Z,4.6nm,1.0s
RETA Reutte 152.08 347 *e*P **PKiKP** **01 41 08.3 -0.1**

comp=Z,1.7nm,0.5s
WTTA Wattenberg 152.10 346 *e*P **PKiKP** **01 41 08.2 -0.3**

comp=Z,6.3nm,0.8s
WTTA *e*P **PKPab** **01 41 21.0 +0.5**

comp=Z,4.0nm,0.6s
MOTA Moosalm 152.14 346 *e*P **PKiKP** **01 41 08.0 -0.6**

comp=Z,1.8nm,0.6s
MOTA *e*P **PKPab** **01 41 20.9 +0.2**

comp=Z,6.4nm,1.1s
MYKA Terra Mystica 152.17 342 *e*P **PKPbc** **01 41 07.6 -0.7**

comp=Z,2.0nm,0.5s
SQTA Sankt Quirin 152.24 346 *e*P **PKPdf** **01 41 01.0 -0.2**

comp=Z,3.1nm,0.9s
SQTA *e*P **PKiKP** **01 41 08.5 -0.3**

comp=Z,4.3nm,0.8s
SQTA *e*P **PKPab** **01 41 20.6 -0.5**

comp=Z,2.7nm,0.9s
ABTA Abfaltersbach 152.36 344 *e*P **PKPdf** **01 41 01.2 -0.2**

comp=Z,3.5nm,1.0s
ABTA *e*P **PKiKP** **01 41 08.3 -0.7**

comp=Z,7.7nm,0.9s
ABTA *e*P **PKPab** **01 41 21.8 +0.2**

comp=Z,3.4nm,0.7s
FETA Feichten 152.53 347 *e*P **PKPdf** **01 41 01.3 -0.5**

comp=Z,2.5nm,0.8s
FETA *e*P **PKiKP** **01 41 09.3 -0.1**

comp=Z,4.0nm,0.9s
CIMO Cimolais 152.79 344 **PKPbc** **01 41 08.7 -1.0**
TORD Torodi Ar. Bea 172.73 179 PKP **PKPdf** **01 41 20.9 -0.8**

comp=Z,0.6nm,0.8s,baz=214,slow=1.9,SNR=2.9
TORD PKPab **PKPab** **01 42 52.2 +0.9**

comp=Z,0.6nm,0.9s,baz=186,slow=3.5,SNR=2.1

WEL 02 01:22:28.9±1.5, 37°S×8°×17°9E±°, h17km±7km, M2.8/13, ML3.0/11, MLv2.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=104.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.47**	**233**	P	Pb	01 22 38.7	0.0
MXZ				S	Sb	01 22 45.8	+0.5
WMGZ	**Waiomatatini S**	**0.61**	**208**	P	Pn	01 22 42.0	-0.7
WMGZ				S	Sn	01 22 51.5	-0.7
PKGZ	**Pakihiroa**	**0.82**	**222**	P	Pb	01 22 44.7	-0.1
PKGZ				S	Sg	01 22 56.3	+0.5
HAZ	**Te Kaha**	**0.92**	**239**	P	Pn	01 22 47.0	-0.1
HAZ				S	Sn	01 22 59.9	0.0
RUGZ	**Raukumara Rang**	**1.11**	**232**	P	Pb	01 22 49.6	0.0
RUGZ				S	Sb	01 23 04.1	+0.2
CNGZ	**Carnagh Statio**	**1.28**	**200**	P	Pn	01 22 51.2	-0.8
MWZ	**Matawai**	**1.44**	**223**	P	Pn	01 22 53.7	-0.6
URZ	**Urewera**	**1.64**	**233**	P	Pn	01 22 56.9	-0.1
RTZ	**Ruatahuna**	**1.94**	**226**	P	Pn	01 23 00.6	-0.6
MUGZ	**Murupara**	**1.98**	**233**	P	Pn	01 23 01.1	-0.6
KUZ	**Kuaotunu**	**2.50**	**281**	P	Pn	01 23 08.8	0.0
GRZ	**Great Barrier**	**2.86**	**290**	P	Pn	01 23 14.4	+0.7
MKAZ	**Moumakai**	**2.89**	**272**	P	Pn	01 23 14.1	-0.1

WEL 02 01:25:22.3±1.5, 37°S×15°×17°9E±1°4, h20km, M2.7/8, ML3.0/6, MLv2.7/8, Error ellipse: s-maj=0.0km s-min=0.0km az=138.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**231**	P	Pb	01 25 35.1	-1.4
MXZ				S	Sb	01 25 45.7	-0.6
PKGZ	**Pakihiroa**	**1.10**	**223**	P	Pn	01 25 42.2	-0.4
PKGZ				S	Sn	01 25 57.5	+0.3
PUZ	**Puketiti**	**1.15**	**212**	P	Pn	01 25 42.8	-0.5
PUZ				S	Sn	01 25 59.4	+0.8
HAZ	**Te Kaha**	**1.19**	**236**	P	Pb	01 25 44.6	+0.4
HAZ				S	Sn	01 26 01.0	+1.5
RUGZ	**Raukumara Rang**	**1.38**	**231**	P	Pn	01 25 47.1	+0.5
RUGZ				S	Sb	01 26 05.6	+0.8
URZ	**Urewera** 27nm,0.5s,baz=300,slow=8.2,SNR=9.6	**1.92**	**232**	P	Pn	01 25 53.8	0.0
URZ	**Urewera**	**1.92**	**232**	S	Sn	01 26 18.0	+0.7
URZ	**Urewera**	**1.92**	**232**	P	Pn	01 25 53.7	-0.1
RTZ	**Ruatahuna**	**2.22**	**226**	P	Pn	01 25 58.3	+0.2
MTHZ	**Maungataniwha**	**2.46**	**224**	P	Pn	01 26 01.4	0.0
MTHZ				S	Sn	01 26 30.8	-0.2

*IDC **02** 01:25:27.1±1.0, 5°77S×102°76E, h0km, mb4.3/15, mbtmp4.3/16, ML4.7/1, MS3.3/4, Error ellipse: s-maj=34.7km s-min=14.5km az=42.0*
*NEIC **02** 01:25:29.2±1.4, 5°79S±0°06×102°68E±0°05, h10km±1km, mb4.5/15, Error ellipse: s-maj=11.9km s-min=5.9km az=218.0*
*DJA **02** 01:25:30.5±0.4, 6°S±4°×10°3E±°, h43km±5km, M4.8/19, mB5.7/3, mb4.7/19, MLv4.8/17, Mw(mB)5.2/3*

ISC 02 01:25:31.6±0.5, 5°83S±0°07×102°78E±0°05, h33km, n94, σ1§44/88, mb4.5/28, MS3.2/3, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.47**	**7**	Pn	**Pb**	**01 25 56.5**	**-1.8**
MNAI	**Manna**	**1.47**	**7**	P	**Pn**	**01 25 55.7**	**0.0**
LWLI	**Liwa**	**1.50**	**58**	P	**Pn**	**01 25 55.0**	**-1.3**
KASI	**Kota Agung**	**1.73**	**80**	P	**Pn**	**01 25 58.2**	**-1.2**
KSI	**Kapahiang**	**2.17**	**355**	P	**Pn**	**01 26 06.5**	**+1.1**
KLI	**Kotabumi**	**2.28**	**65**	P	**Pn**	**01 26 07.2**	**+0.3**
BLSI	**Bandar Lampung**	**2.50**	**80**	P	**Pn**	**01 26 09.3**	**-0.6**
BLSI				S	**Sn**	**01 26 41.5**	**+2.3**
MASI	**Maura Aman, Be**	**2.72**	**349**	P	**Pn**	**01 26 14.3**	**+1.3**
SBJI	**Serang**	**3.34**	**95**	P	**Pn**	**01 26 23.0**	**+1.5**
PMBI	**Palembang**	**3.50**	**35**	Pn	**Pn**	**01 26 22.9**	**-0.8**
SKJI	**Sukabumi**	**3.93**	**108**	P	**Pn**	**01 26 29.2**	**-0.4**
KRJI	**Kerinci**	**3.94**	**340**	P	**Pn**	**01 26 30.8**	**+1.0**
DBJI	**Dramaga**	**4.01**	**101**	P	**Pn**	**01 26 32.2**	**+1.4**
CBJI	**Citeko**	**4.09**	**98**	P	**Pn**	**01 26 34.0**	**+2.2**
PPSI	**Pulau Pagai**	**4.11**	**318**	P	**Pn**	**01 26 33.4**	**+1.3**
JMBI	**JAMBI**	**4.25**	**12**	P	**Pn**	**01 26 35.2**	**+1.1**
CNJI	**Cibinong**	**4.56**	**109**	P	**Pn**	**01 26 36.7**	**-1.6**
LEM	**Lembang** 27nm,0.3s,baz=292,slow=19,SNR=2.9	**4.91**	**102**	Pn	**Pn**	**01 26 44.8**	**+1.6**
LEM	17nm,0.3s,baz=348,slow=22,SNR=6.8			Sn	**Sn**	**01 27 42.6**	**+3.5**
LEM	comp=Z,361nm,20.8s,baz=239,slow=44 58nm,0.3s			LR	LR	01 29 03.3	
DSRI	**Dabo** 0.2nm36nm,0.7s	**5.61**	**19**	P	**Pn**	**01 26 53.9**	**+1.2**
TPI	**Tanjungpandan** 0.1nm13nm,0.7s	**5.74**	**58**	P	**Pn**	**01 26 55.6**	**+1.1**
SISI	**Saibi** 0.3nm37nm,0.7s	**5.79**	**320**	P	**Pn**	**01 26 56.1**	**+0.9**
MYKOM	**Kota Tinggi**	**7.64**	**8**	Pn	**Pn**	**01 27 20.0**	**-0.7**
UGM	**Wanagama** 0.7nm133nm,1.0s	**7.96**	**106**	P	**Pn**	**01 27 23.6**	**-1.5**
COCO	**West Island**	**8.63**	**222**	Pn	**Pn**	**01 27 32.6**	**-1.6**
PCJI	**Pacitan** 82nm,1.3s	**8.66**	**106**	P	**Pn**	**01 27 33.7**	**-0.9**
PWJI	**Pagerwojo** 48nm,0.7s	**9.22**	**104**	P	**Pn**	**01 27 41.9**	**-0.4**
GMJI	**Gumukmas** 26nm,1.4s	**10.86**	**104**	P	**Pn**	**01 28 05.5**	**+0.7**
ABJI	**Asem Bagus** 94nm,0.9s	**11.54**	**100**	P	**Pn**	**01 28 16.2**	**+2.1**
JAGI	**Jajag, Banyuwa**	**11.58**	**104**	Pn	**Pn**	**01 28 14.4**	**-0.4**
JAGI	**Jajag, Banyuwa** 34nm,0.5s	**11.58**	**104**	P	**Pn**	**01 28 13.4**	**-1.3**
SRBI	**Singaraja** 31nm,0.6s	**12.54**	**101**	P	**Pn**	**01 28 26.8**	**-1.0**
TWSI	**Taliwang, Sumb**	**14.28**	**103**	P	**Pn**	**01 28 47.8**	**-3.8**
PLAI	**Plampang** 30nm,0.9s	**15.17**	**102**	P	**Pn**	**01 28 58.8**	**-4.7**
KAPI	**Kappang** comp=Z,101nm,19.5s,baz=276,slow=40	**16.91**	**88**	LR	LR	01 36 41.3	
BKSI	**Bulukumba** 9.8nm,1.4s	**17.27**	**89**	P	**P**	**01 29 31.1**	**-0.5**
MPSI	**Mapaga** 15nm,0.9s	**18.15**	**71**	P	**P**	**01 29 41.5**	**+0.2**
EDFI	**Ende, Flores** 7.8nm,1.0s	**18.98**	**100**	P	**P**	**01 29 48.8**	**-1.7**
MYLDM	**Lahad Datu**	**19.13**	**55**	P	**Pn**	**01 29 52.7**	**-0.4**
MYLDM	comp=Z,15nm,0.7s			IAmb	IAmb	01 29 55.2	
TOLI2	**Tolitoli**	**19.25**	**70**	P	**P**	**01 29 52.8**	**-0.6**
APSI	**Ampana** comp=Z,1μmcomp=Z,22nm,0.9s	**19.45**	**76**	P	**P**	**01 29 51.5**	**-4.1**
MRSI	**Marisa** comp=Z,36nm,0.8s	**20.13**	**72**	P	**P**	**01 30 02.0**	**-1.0**
BATI	**Baumata** comp=Z,28nm,0.3s,baz=188,slow=2.9,SNR=5.0 comp=Z,28nm,0.3s	**21.13**	**103**	P	**P**	**01 30 16.0**	**+2.2**
BATI	**Baumata**	**21.13**	**103**	P	**P**	**01 30 12.7**	**-1.1**
CMAR	**Chiang Mai Arr** comp=Z,4.5nm,0.6s,baz=182,slow=9.0,SNR=22	**24.43**	**351**	P	**P**	**01 30 46.7**	**-0.7**
CMAR	comp=Z,57nm,19.4s,baz=180,slow=40 comp=Z,4.5nm,0.6s			LR	LR	01 41 47.5	
CHTO	**Chiang Mai**	**24.77**	**351**	P	**P**	**01 30 49.7**	**-0.8**
LBMI	**Labuha**	**25.20**	**79**	P	**P**	**01 30 54.2**	**-0.3**
FITZ	**Fitzroy Crossi** comp=Z,81nm,19.7s,baz=342,slow=38	**25.43**	**121**	LR	LR	01 41 22.1	
CRAI	**Chiangrai**	**26.00**	**355**	P	**P**	**01 31 01.1**	**-0.5**
H08S2	**Diego Garcia H** baz=88,slow=75,SNR=110	**30.13**	**265**	T	T	02 03 09.9	
H08S3	**Diego Garcia H** baz=88,slow=75,SNR=176	**30.14**	**265**	T	T	02 03 16.2	
H08S1	**Diego Carcia H** baz=88,slow=75,SNR=89	**30.15**	**265**	T	T	02 03 06.3	
H01W3	**Cape Leeuwin H** baz=338,slow=76,SNR=33	**30.76**	**162**	T	T	02 03 56.5	
H01W2	**Cape Leeuwin H** baz=338,slow=76,SNR=24	**30.77**	**162**	T	T	02 03 58.3	
H01W1	**Cape Leeuwin H** baz=338,slow=76,SNR=34	**30.77**	**162**	T	T	02 03 57.9	
PZH	**PanZhiHua** comp=Z,10.0nm,0.9s	**32.15**	**358**	P pmax	**P** pmax	**01 31 57.3**	**+0.9**
PZH	comp=Z,80nm,5.7s			pmax	pmax		
WRA	**Warramunga Arr**	**33.72**	**118**	P	**P**	**01 32 09.9**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=290,slow=9.8,SNR=4.7 comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs** comp=Z,1.5nm,0.6s,baz=300,slow=8.1,SNR=7.1 comp=Z,1.5nm,0.6s	**34.80**	**124**	P	**P**	**01 32 19.6**	**0.0**
NJ2	**Nanjing**	**40.66**	**21**	*eP*	**P**	**01 33 07.3**	**-1.5**
NJ2	comp=Z,9.0nm,0.6s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,2.0nm,0.7s,baz=300,slow=8.1,SNR=2.1 comp=Z,2.0nm,0.7s	**44.56**	**131**	P	**P**	**01 33 41.2**	**+0.7**
GTA	**Gaotai**	**45.09**	**357**	*eP*	**P**	**01 33 45.3**	**+0.5**
GTA				pP	pP	01 33 52.2	-2.0
GTA				sP	sP	01 33 56.3	-1.8
GTA	comp=Z,3.0nm,0.9s			pmax	pmax		
GTA	comp=Z,68nm,4.1s			pmax	pmax		
GTA	comp=N,110nm,14.9s			LR	LR		
GTA	comp=E,150nm,16.7s			LR	LR		
GTA	comp=Z,120nm,16.4s			LR	LR		
HHC	**Hu-ho-hao-te**	**47.14**	**9**	*eP*	**P**	**01 34 04.8**	**+3.9**
NIL	**Nilore**	**48.20**	**327**	P	**P**	**01 34 08.4**	**-0.8**
KSRS	**Korea Array** comp=Z,2.1nm,0.6s,baz=230,slow=7.8,SNR=6.1 comp=Z,2.1nm,0.6s	**49.03**	**27**	P	**P**	**01 34 15.2**	**-0.2**
WMQ	**Urumqi**	**51.26**	**346**	*eP*	**P**	**01 34 33.5**	**+1.2**
WMQ				sP	sP	01 34 47.5	+1.7
KSH	**Kashi**	**51.47**	**334**	P	**P**	**01 34 33.5**	**-0.5**
KSH	comp=Z,4.0nm,0.8s			pmax	pmax		
NRN	**Naryn**	**53.03**	**335**	P	**P**	**01 34 45.6**	**-0.2**
NRN	comp=Z,4.1nm,1.0s			IAmb	IAmb	01 34 47.1	
SONM	**Songino Array** comp=Z,4.5nm,0.7s,baz=184,slow=8.8,SNR=24 comp=Z,4.5nm,0.7s	**53.53**	**3**	P	**P**	**01 34 49.7**	**+0.6**
SONM	**Songino Array**	**53.53**	**3**	P	**P**	**01 34 49.5**	**+0.4**
SONM	comp=Z,4.0nm,0.8s			IAmb	IAmb	01 34 50.4	
BTK	**Batken**	**54.33**	**330**	P	**P**	**01 34 55.0**	**0.0**
BTK	comp=Z,3.9nm,0.7s			IAmb	IAmb	01 34 56.7	
HRA	**Herat**	**55.35**	**319**	P	**P**	**01 35 03.7**	**+1.0**
HRA	comp=Z,4.7nm,1.4s			IAmb	IAmb	01 35 18.8	
MK31	**Makanchi Array**	**55.46**	**343**	P	**P**	**01 35 02.9**	**-0.1**
MK31	comp=Z,5.0nm,1.0s			IAmb	IAmb	01 35 17.9	
MKAR	**Makanchi Array** comp=Z,1.9nm,0.4s,baz=142,slow=7.3,SNR=49 comp=Z,1.9nm,0.4s	**55.46**	**343**	P	**P**	**01 35 03.2**	**+0.2**
MKAR	**Makanchi Array**	**55.46**	**343**	P	**P**	**01 35 02.7**	**-0.3**
MDJ	**Mudanjiang**	**55.70**	**23**	P	**P**	**01 35 07.4**	**+2.7**
MDJ	comp=Z,14nm,0.9s			pmax	pmax		
MDJ	comp=Z,170nm,4.6s			pmax	pmax		
BNX	**BinXian**	**55.85**	**21**	⇓P	**P**	**01 35 05.2**	**-0.6**
BNX	comp=Z,13nm,1.2s			pmax	pmax		
BNX	comp=Z,130nm,3.9s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,3.3nm,0.6s,baz=214,slow=5.1,SNR=7.4 comp=Z,3.3nm,0.6s	**56.32**	**25**	P	**P**	**01 35 08.5**	**-0.7**
KURK	**Kurchatov**	**60.05**	**343**	P	**P**	**01 35 35.1**	**-0.1**
KURK	comp=Z,9.5nm,1.2s			IAmb	IAmb	01 35 50.3	
GEYT	**Alibeck** comp=Z,0.8nm,0.4s,baz=145,slow=5.3,SNR=3.2 comp=Z,0.8nm,0.4s	**60.14**	**320**	P	**P**	**01 35 37.1**	**+0.9**
ZAAO	**Zalesovo Array**	**61.44**	**348**	P	**P**	**01 35 43.6**	**-0.9**
ZALV	**Zalesovo Beam** comp=Z,6.5nm,0.3s,baz=159,slow=5.9,SNR=41 comp=Z,6.5nm,0.3s	**61.44**	**348**	P	**P**	**01 35 44.4**	**-0.2**
ZALV	**Zalesovo Beam**	**61.44**	**348**	P	**P**	**01 35 44.1**	**-0.5**
BRVK	**Borovoye**	**64.78**	**339**	P	**P**	**01 36 05.6**	**-1.2**
BRVK	comp=Z,3.3nm,0.8s			IAmb	IAmb	01 36 07.4	
ABKAR	**Akbulak array**	**66.31**	**331**	P	**P**	**01 36 16.8**	**+0.1**
KBZ	**Khabaz** comp=Z,2.0nm,0.8s,baz=121,slow=5.9,SNR=2.2 comp=Z,2.0nm,0.8s	**73.00**	**319**	P	**P**	**01 36 58.4**	**+0.4**
BRTR	**Keskin Array B** comp=Z,1.2nm,0.9s,baz=138,slow=6.2,SNR=5.9 comp=Z,1.2nm,0.9s	**77.94**	**313**	P	**P**	**01 37 27.4**	**+0.7**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=86,slow=4.5,SNR=1.9 comp=Z,0.2nm,0.3s	**84.19**	**322**	P	**P**	**01 38 00.2**	**+0.7**
BUR08	**Bucovina Ar. S**	**85.96**	**319**	P	**P**	**01 38 09.4**	**+0.7**
BUR08	comp=Z,4.3nm,1.1s			IAmb	IAmb	01 38 26.1	
KOLS	**Kolonicke sedl**	**88.14**	**319**	*eP*	**P**	**01 38 22.0**	**+2.9**
KOLS				*e*		01 38 33.9	
FINES	**FINESS Array B** comp=Z,1.9nm,0.9s,baz=104,slow=8.0,SNR=3.6 comp=Z,1.9nm,0.9s	**88.77**	**332**	P	**P**	**01 38 22.4**	**+0.7**
VYHS	**Vyhne**	**90.31**	**319**	*eP*	**P**	**01 38 29.2**	**-0.1**
P46A	**Rosedale**	**145.17**	**14**	PKPbc	**PKPdf**	**01 45 05.4**	**-0.8**
TUL1	**Leonard**	**145.54**	**27**		**PKPab**	**01 45 06.9**	**-0.4**
TXAR	**Lajitas Array** comp=Z,4.2nm,0.8s,baz=331,slow=2.0,SNR=23	**145.79**	**44**	PKPbc	**PKPab**	**01 45 08.9**	**+0.3**
TXAR	**Lajitas Array**	**145.79**	**44**	PKPbc	**PKPab**	**01 45 07.8**	**-0.8**

*IDC **02** 01:27:00.5±2.7, 37°06S×178°56E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=64.7km s-min=28.8km az=123.0*
*WEL **02** 01:27:01.4±1.0, 37°S±4°×17°9E±°, h17km±5km, M4.0/82, ML4.2/62, MLv4.0/82, Error ellipse: s-maj=0.0km s-min=0.0km az=94.1*

ISC 02 01:26:58.7±2.1, 37°38S±0°06×179°14E±0°08, h12km±10km, n90, σ1§19/103, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.69**	**255**	P	**Pb**	**01 27 13.1**	**+0.5**
MXZ				S	**Sg**	**01 27 20.0**	**-1.1**
WMGZ	**Waiomatatini S**	**0.72**	**233**	P	**Pn**	**01 27 15.7**	**+1.0**
WMGZ				S	**Sb**	**01 27 24.9**	**+1.9**
PUZ	**Puketiti**	**0.98**	**225**	P	**Pg**	**01 27 16.5**	**-1.2**
PUZ				S	**Sb**	**01 27 31.6**	**+1.0**
PKGZ	**Pakihiroa**	**0.98**	**239**	P	**Pn**	**01 27 19.2**	**+0.8**
PKGZ				S	**Sg**	**01 27 30.4**	**-0.1**
HAZ	**Te Kaha**	**1.14**	**250**	P	**Pb**	**01 27 20.2**	**-0.1**
HAZ				S	**Sb**	**01 27 34.2**	**-1.0**
TWGZ	**Tauwhareparae**	**1.22**	**229**	P	**Pg**	**01 27 22.8**	**+0.8**
TWGZ				S	**Sb**	**01 27 38.0**	**+0.7**
RUGZ	**Raukumara Rang**	**1.30**	**243**	P	**Pg**	**01 27 23.8**	**+0.1**
RUGZ				S	**Sb**	**01 27 39.0**	**-0.7**
CNGZ	**Carnagh Statio**	**1.32**	**214**	P	**Pg**	**01 27 25.3**	**+1.2**
CNGZ				S	**Sg**	**01 27 43.1**	**+1.7**
TKGZ	**Te Karaka**	**1.47**	**224**	P	**Pn**	**01 27 25.8**	**+0.8**
TKGZ				S	**Sn**	**01 27 44.3**	**+0.2**
WIZ	**White Island**	**1.56**	**264**	P	**Pg**	**01 27 27.5**	**-1.2**
MWZ	**Matawai**	**1.59**	**233**	P	**Pn**	**01 27 27.7**	**+1.0**
MWZ				S	**Sn**	**01 27 46.5**	**-0.7**
RIGZ	**Rimuhau**	**1.71**	**219**	P	**Pn**	**01 27 29.4**	**+1.1**
RAGZ	**Rawiri**	**1.76**	**230**	P	**Pn**	**01 27 30.0**	**+0.9**
RAGZ				S	**Sn**	**01 27 50.4**	**-1.0**
WHRZ	**Whale Island**	**1.78**	**254**	P	**Pb**	**01 27 30.8**	**-0.5**
PRGZ	**Paritu Road**	**1.83**	**212**	P	**Pn**	**01 27 31.3**	**+1.3**
URZ	**Urewera** 52nm,0.3s,baz=121,slow=3.5,SNR=34	**1.83**	**241**	Pn	**Pb**	**01 27 31.2**	**-0.9**
URZ	82nm,0.3s,baz=121,slow=17,SNR=5.4			Sn	**Sn**	**01 27 52.4**	**-0.7**
URZ	**Urewera**	**1.83**	**241**	P	**Pb**	**01 27 31.2**	**-0.9**
URZ				S	**Sn**	**01 27 52.3**	**-0.7**
SNGZ	**Shannon Statio**	**1.99**	**225**	P	**Pn**	**01 27 32.8**	**+0.6**
KNZ	**Kokohu**	**2.00**	**215**	P	**Pn**	**01 27 32.7**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.02**	**208**	P	**Pn**	**01 27 33.7**	**+1.2**
EDRZ	**Edgecumbe**	**2.04**	**248**	P	**Pn**	**01 27 34.0**	**+1.2**
MARZ	**Manawahe**	**2.05**	**252**	P	**Pn**	**01 27 34.1**	**+1.1**
OPRZ	**Ohinepanea**	**2.10**	**257**	P	**Pn**	**01 27 34.1**	**+0.4**
RTZ	**Ruatahuna**	**2.10**	**234**	P	**Pn**	**01 27 35.0**	**+1.2**
MUGZ	**Murupara**	**2.17**	**239**	P	**Pn**	**01 27 35.4**	**+0.8**
RAHZ	**Arahi**	**2.23**	**226**	P	**Pn**	**01 27 37.2**	**+1.7**
TARZ	**Mount Tarawera**	**2.25**	**247**	P	**Pn**	**01 27 37.6**	**+1.7**
WHHZ	**Waihua**	**2.26**	**221**	P	**Pn**	**01 27 36.7**	**+0.8**
RRRZ	**Republican Roa**	**2.29**	**245**	P	**Pn**	**01 27 37.2**	**+1.0**
OMRZ	**Omania**	**2.31**	**251**	P	**Pn**	**01 27 38.0**	**+1.4**
MYRZ	**Mayor Island**	**2.31**	**272**	P	**Pn**	**01 27 37.3**	**+0.7**
MTHZ	**Maungataniwha**	**2.33**	**230**	P	**Pn**	**01 27 38.0**	**+1.1**
KARZ	**Kaharoa**	**2.38**	**254**	P	**Pn**	**01 27 38.3**	**+0.7**
PRRZ	**Plateau Road**	**2.44**	**242**	P	**Pn**	**01 27 39.4**	**+1.1**
HSRZ	**Hossack Road**	**2.47**	**247**	P	**Pb**	**01 27 42.8**	**-0.3**
HRRZ	**Handcock Road**	**2.48**	**245**	P	**Pn**	**01 27 39.8**	**+0.9**
ALRZ	**Allen Road**	**2.51**	**241**	P	**Pn**	**01 27 41.4**	**+2.1**
NMHZ	**Naumai**	**2.51**	**226**	P	**Pn**	**01 27 40.7**	**+1.3**
ARHZ	**Aropaoanui**	**2.52**	**221**	P	**Pn**	**01 27 40.2**	**+0.7**
MRHZ	**Matea Rd**	**2.59**	**235**	P	**Pn**	**01 27 41.0**	**+0.6**
BKZ	**Black Stump Fm**	**2.74**	**229**	P	**Pn**	**01 27 43.1**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.79**	**215**	P	**Pn**	**01 27 43.2**	**0.0**
KUTZ	**Kaahu Road**	**2.85**	**246**	P	**Pn**	**01 27 45.4**	**+1.5**
TOZ	**Tahuroa Road**	**2.91**	**262**	P	**Pn**	**01 27 45.3**	**+0.5**
KWHZ	**Kaweka Forest**	**2.95**	**225**	P	**Pn**	**01 27 45.6**	**+0.2**
KAHZ	**Kahuranaki**	**2.99**	**216**	P	**Pn**	**01 27 45.7**	**-0.2**
RITZ	**Rihia Road**	**3.04**	**237**	P	**Pn**	**01 27 47.4**	**+0.9**
RATZ	**Rangitukua**	**3.04**	**240**	P	**Pn**	**01 27 48.1**	**+1.4**
KRHZ	**Kereru**	**3.13**	**223**	P	**Pn**	**01 27 47.7**	**-0.2**
GRZ	**Great Barrier**	**3.16**	**290**	P	**Pn**	**01 27 49.3**	**+1.0**
MKAZ	**Moumakai**	**3.19**	**274**	P	**Pn**	**01 27 48.8**	**+0.2**
PXZ	**Pawanui**	**3.19**	**213**	P	**Pn**	**01 27 47.8**	**-0.8**
BHHZ	**Black Hill Sta**	**3.21**	**228**	P	**Pn**	**01 27 49.1**	**+0.2**
TMVZ	**Te Maari**	**3.21**	**236**	P	**Pn**	**01 27 49.4**	**+0.4**
ETVZ	**East Tongariro**	**3.22**	**236**	P	**Pn**	**01 27 49.5**	**+0.4**
NTVZ	**North Tongarir**	**3.22**	**237**	P	**Pn**	**01 27 49.6**	**+0.4**
KRVZ	**Karewarewa**	**3.24**	**237**	P	**Pn**	**01 27 50.1**	**+0.7**
WIAZ	**Waiheke Island**	**3.26**	**279**	P	**Pn**	**01 27 50.5**	**+0.9**
OTVZ	**Oturere**	**3.26**	**236**	P	**Pn**	**01 27 50.4**	**+0.6**
NNVZ	**North Ngauruho**	**3.28**	**237**	P	**Pn**	**01 27 50.7**	**+0.7**
WTVZ	**West Tongariro**	**3.29**	**237**	P	**Pn**	**01 27 51.0**	**+0.9**
SNVZ	**South Ngauruho**	**3.29**	**236**	P	**Pn**	**01 27 50.8**	**+0.6**
NGZ	**Ngauruhoe**	**3.31**	**236**	P	**Pn**	**01 27 50.8**	**+0.3**
TUVZ	**Tukino**	**3.33**	**234**	P	**Pn**	**01 27 51.1**	**+0.4**
MOVZ	**Moawhango**	**3.34**	**232**	P	**Pn**	**01 27 50.9**	**+0.1**
TWVZ	**Taurewa**	**3.37**	**239**	P	**Pn**	**01 27 51.9**	**+0.7**
WHVZ	**Whangaehu Hut**	**3.38**	**235**	P	**Pn**	**01 27 51.5**	**0.0**
ETAZ	**East Tamaki Re**	**3.39**	**276**	P	**Pn**	**01 27 52.8**	**+1.4**
WNVZ	**Wahianoa**	**3.40**	**234**	P	**Pn**	**01 27 51.9**	**+0.3**
WPHZ	**Waipukurau**	**3.41**	**217**	P	**Pn**	**01 27 51.0**	**-0.7**
PNHZ	**Pukenui**	**3.42**	**221**	P	**Pn**	**01 27 50.8**	**-1.0**
MBAZ	**Motutapu North**	**3.45**	**279**	P	**Pn**	**01 27 53.5**	**+1.3**
PRHZ	**Porangahau**	**3.48**	**213**	P	**Pn**	**01 27 51.7**	**-1.0**
HIZ	**Hauiti**	**3.57**	**250**	P	**Pn**	**01 27 55.5**	**+1.7**
AWAZ	**Awhitu Peninsu**	**3.60**	**274**	P	**Pn**	**01 27 55.2**	**+0.9**
TSZ	**Takapari Road**	**3.65**	**222**	P	**Pn**	**01 27 54.1**	**-0.9**
PRWZ	**Pori Road**	**4.02**	**217**	P	**Pn**	**01 27 59.4**	**-0.6**
WAZ	**Wanganui**	**4.03**	**233**	P	**Pn**	**01 28 01.1**	**+1.0**
WWZ	**Waipu Caves**	**4.12**	**289**	P	**Pn**	**01 28 02.2**	**+0.9**
MRZ	**Mangatainoka R**	**4.29**	**219**	P	**Pn**	**01 28 02.0**	**-1.7**
NEZ	**North Egmont**	**4.39**	**243**	P	**Pn**	**01 28 07.6**	**+2.4**
PKE	**Pukeiti**	**4.44**	**244**	P	**Pn**	**01 28 08.9**	**+3.1**
KHEZ	**Kahui Hut**	**4.46**	**243**	P	**Pn**	**01 28 09.1**	**+3.0**
OUZ	**Omahuta**	**4.97**	**294**	P	**Pn**	**01 28 14.5**	**+1.4**
CTZ	**Chatham Island**	**7.12**	**154**	P	**Pn**	**01 28 47.0**	**+4.5**
RPZ	**Rata Peaks** 0.5nm,0.3s,baz=121,slow=3.6,SNR=1.7	**8.82**	**222**	Pn	**Pn**	**01 29 02.7**	**-3.3**
RPZ	1.9nm,0.3s,baz=11,slow=16,SNR=4.1			Sn	Sn	01 30 32.1	-13
ASAR	**Alice Springs** 2.5nm,0.8s,baz=124,slow=8.2,SNR=9.6 2.5nm,0.8s	**40.92**	**276**	P	**P**	**01 34 40.8**	**-0.3**
WRA	**Warramunga Arr** 1.4nm,0.7s,baz=123,slow=7.7,SNR=6.4 1.4nm,0.7s	**42.55**	**281**	P	**P**	**01 34 53.8**	**-0.6**
ARCES	**ARCESS Array B** 1.4nm,0.8s,baz=45,slow=1.4,SNR=5.2	**144.78**	**344**	PKP	**PKiKP**	**01 46 38.2**	**+0.1**
FINES	**FINESS Array B** 1.2nm,0.7s,baz=86,slow=4.3,SNR=1.3	**150.62**	**334**	PKPbc	**PKiKP**	**01 46 51.0**	**+0.7**

*WEL **02** 01:35:29.0±1.2, 37°S±4°×17°9E±°, h17km±7km, M3.9/68, ML4.1/54, MLv3.9/68, Error ellipse: s-maj=0.0km s-min=0.0km az=94.3*
*IDC **02** 01:35:28.3±2.9, 36°94S×178°56E, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=66.1km s-min=29.1km az=118.0*

ISC 02 01:35:26.4±2.4, 37°27S±0°06×179°17E±0°10, h11km±13km, n78, σ1§07/89, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**247**	P	**Pb**	**01 35 41.6**	**+0.3**
MXZ				S	**Sb**	**01 35 49.3**	**-2.2**
WMGZ	**Waiomatatini S**	**0.81**	**227**	P	**Pn**	**01 35 45.0**	**+1.2**
WMGZ				S	**Sn**	**01 35 55.5**	**-0.2**
PKGZ	**Pakihiroa**	**1.06**	**234**

MBAZ	Motutapu North	3.45 277	P		Pn	01 36 20.8	+0.7
WNVZ	Wahianoa	3.48 233	P		Pn	01 36 21.2	+0.6
WPHZ	Waipukurau	3.51 217	P		Pn	01 36 20.4	-0.5
PNHZ	Pukenui	3.51 220	P		Pn	01 36 20.0	-0.9
ABAZ	Army Bay	3.54 280	P		Pn	01 36 22.9	+1.7
HIZ	Hauiti	3.63 249	P		Pn	01 36 24.3	+1.8
WTAZ	Waiatarua	3.69 274	P		Pn	01 36 25.3	+2.0
BFZ	Birch Farm	4.09 213	P		Pn	01 36 27.4	-1.5
WCZ	Waipu Caves	4.10 288	P		Pn	01 36 29.7	+0.7
WAZ	Wanganui	4.11 232	P		Pn	01 36 30.2	+1.0
PRWZ	Pori Road	4.12 216	P		Pn	01 36 28.3	-0.9
ASAR	Alice Springs	40.93 276	P		P	01 43 08.1	-1.0
	0.8nm,0.8s,baz=116,slow=7.4,SNR=6.3 0.8nm,0.8s						
WRA	Warramunga Arr	42.55 281	P		P	01 43 21.8	-0.5
	1.2nm,0.7s,baz=121,slow=7.8,SNR=24 1.2nm,0.7s						
FINES	FINESS Array B	150.54 334	PKPbc		PKPbc	01 55 19.3	+2.0
	3.1nm,0.9s,baz=90,slow=1.8,SNR=6.8						

WEL 02 01:40:55.1±1.6, 37°S±6°×17°9E±°, h8km±6km, M3.5/51, ML3.8/43, MLv3.5/51, Error ellipse: s-maj=0.0km s-min=0.0km az=83.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.75**	**243**	P	Pg	01 41 08.8	-0.8
MXZ				S	Sg	01 41 17.3	-2.1
WMGZ	**Waiomatatini S**	**0.84**	**224**	P	Pn	01 41 12.5	-0.6
WMGZ				S	Sn	01 41 25.2	-0.4
PKGZ	**Pakihiroa**	**1.08**	**232**	P	Pg	01 41 15.7	-0.1
PKGZ				S	Sb	01 41 30.6	+0.3
PUZ	**Puketiti**	**1.11**	**220**	P	Pn	01 41 16.7	-0.1
PUZ				S	Sn	01 41 31.9	-0.4
HAZ	**Te Kaha**	**1.21**	**244**	P	Pb	01 41 15.9	-2.3
TWGZ	**Tauwhareparae**	**1.33**	**224**	P	Pb	01 41 20.2	-0.1
RUGZ	**Raukumara Rang**	**1.39**	**237**	P	Pn	01 41 20.2	-0.6
CNGZ	**Carnagh Statio**	**1.47**	**210**	P	Pb	01 41 22.3	-0.2
WIZ	**White Island**	**1.59**	**258**	P	Pn	01 41 23.8	+0.3
TKGZ	**Te Karaka**	**1.59**	**220**	P	Pn	01 41 23.8	+0.3
TKGZ				S	Sn	01 41 43.9	-0.4
MWZ	**Matawai**	**1.70**	**229**	P	Pn	01 41 24.3	-0.7
WHRZ	**Whale Island**	**1.84**	**249**	P	Pn	01 41 27.2	+0.2
RIGZ	**Rimuhau**	**1.84**	**216**	P	Pn	01 41 26.8	-0.3
RAGZ	**Rawiri**	**1.87**	**227**	P	Pn	01 41 27.4	-0.1
URZ	**Urewera**	**1.92**	**237**	P	Pn	01 41 28.3	+0.2
PRGZ	**Paritu Road**	**1.97**	**210**	P	Pn	01 41 28.4	-0.3
EDRZ	**Edgecumbe**	**2.11**	**245**	P	Pn	01 41 31.3	+0.7
MARZ	**Manawahe**	**2.11**	**248**	P	Pn	01 41 30.9	+0.2
SNGZ	**Shannon Statio**	**2.12**	**222**	P	Pn	01 41 30.2	-0.5
OPRZ	**Ohinepanea**	**2.16**	**252**	P	Pn	01 41 30.5	-0.7
MHGZ	**Mahia Peninsul**	**2.16**	**207**	P	Pn	01 41 30.8	-0.6
RTZ	**Ruatahuna**	**2.21**	**230**	P	Pn	01 41 31.5	-0.6
MUGZ	**Murupara**	**2.26**	**236**	P	Pn	01 41 32.9	+0.2
MYRZ	**Mayor Island**	**2.32**	**268**	P	Pn	01 41 33.7	+0.1
TARZ	**Mount Tarawera**	**2.33**	**243**	P	Pn	01 41 35.0	+1.3
RRRZ	**Republican Roa**	**2.37**	**241**	P	Pn	01 41 34.3	0.0
KARZ	**Kaharoa**	**2.44**	**250**	P	Pn	01 41 35.7	+0.5
MTHZ	**Maungataniwha**	**2.44**	**228**	P	Pn	01 41 35.7	+0.5
NMHZ	**Naumai**	**2.63**	**224**	P	Pn	01 41 39.4	+1.6
ARHZ	**Aropaoanui**	**2.65**	**219**	P	Pn	01 41 37.5	-0.6
BKZ	**Black Stump Fm**	**2.86**	**226**	P	Pn	01 41 40.3	-0.7
CKHZ	**Cape Kidnapper**	**2.93**	**213**	P	Pn	01 41 40.0	-1.9
KWHZ	**Kaweka Forest**	**3.07**	**223**	P	Pn	01 41 43.9	-0.1
GRZ	**Great Barrier**	**3.12**	**287**	P	Pn	01 41 44.4	-0.1
KAHZ	**Kahuranaki**	**3.13**	**214**	P	Pn	01 41 42.9	-1.8
MKAZ	**Moumakai**	**3.17**	**271**	P	Pn	01 41 43.5	-1.9
KRHZ	**Kereru**	**3.26**	**221**	P	Pn	01 41 45.1	-1.4
TMVZ	**Te Maari**	**3.31**	**234**	P	Pn	01 41 46.6	-0.7
ETVZ	**East Tongariro**	**3.32**	**234**	P	Pn	01 41 46.2	-1.1
BHHZ	**Black Hill Sta**	**3.32**	**226**	P	Pn	01 41 46.5	-0.8
NNVZ	**North Ngauruho**	**3.38**	**235**	P	Pn	01 41 48.4	+0.2
WTVZ	**West Tongariro**	**3.38**	**235**	P	Pn	01 41 48.5	+0.2
SNVZ	**South Ngauruho**	**3.39**	**234**	P	Pn	01 41 48.7	+0.3
NGZ	**Ngauruhoe**	**3.41**	**234**	P	Pn	01 41 48.0	-0.6
MBAZ	**Motutapu North**	**3.44**	**276**	P	Pn	01 41 49.7	+0.9
MOVZ	**Moawhango**	**3.45**	**230**	P	Pn	01 41 48.8	-0.3
TWVZ	**Taurewa**	**3.46**	**237**	P	Pn	01 41 49.5	+0.1
WNVZ	**Wahianoa**	**3.50**	**232**	P	Pn	01 41 49.1	-0.8
PNHZ	**Pukenui**	**3.55**	**220**	P	Pn	01 41 48.4	-2.0
HIZ	**Hauiti**	**3.64**	**248**	P	Pn	01 41 50.3	-1.3
TSZ	**Takapari Road**	**3.78**	**220**	P	Pn	01 41 52.1	-1.5
WAZ	**Wanganui**	**4.13**	**231**	P	Pn	01 41 58.2	-0.2
NEZ	**North Egmont**	**4.47**	**241**	P	Pn	01 42 05.7	+2.4
PKE	**Pukeiti**	**4.52**	**242**	P	Pn	01 42 06.5	+2.8
KHEZ	**Kahui Hut**	**4.54**	**241**	P	Pn	01 42 06.1	+2.0
CAW	**Cannon Point**	**5.01**	**218**	P	Pn	01 42 16.4	+5.9

*IDC **02** 01:46:07.3±1.1, 36°.90S×179°.01E, h0km, mb4.3/5, mbtmp4.4/6, ML4.5/1, MS3.2/3, Error ellipse: s-maj=33.1km s-min=25.2km az=40.0*

*NEIC **02** 01:46:08.3±1.2, 37°.17S±0°.08×179°.13E±0°.10, h10km±2km, mb4.5/11, Error ellipse: s-maj=17.8km s-min=6.0km az=136.0*

*WEL **02** 01:46:09.2±1.4, 37°S±5°×17°9E±°, h12km±6km, M4.0/76, ML4.3/57, MLv4.0/76, Error ellipse: s-maj=0.0km s-min=0.0km az=73.8*

ISC 02 01:46:07.6±2.1, 37°.19S±0°.06×179°.13E±0°.07, h7km±11km, n110, σ1§07/116, mb4.5/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.76**	**240**		Pb	01 46 23.1	+0.1
MXZ	**Matakaoa Point**	**0.76**	**240**	P	Pb	01 46 23.2	+0.1
MXZ				S	Sg	01 46 31.4	-0.6
WMGZ	**Waiomatatini S**	**0.85**	**222**	P	Pn	01 46 26.9	+0.9
WMGZ				S	Sn	01 46 38.5	-0.1
PUZ	**Puketiti**	**1.12**	**218**	P	Pn	01 46 30.6	+0.8
PUZ				S	Sb	01 46 44.8	+0.6
HAZ	**Te Kaha**	**1.21**	**242**	P	Pg	01 46 30.5	+0.5
HAZ				S	Sg	01 46 46.9	+0.2
TWGZ	**Tauwhareparae**	**1.35**	**222**	P	Pg	01 46 34.1	+0.6
TWGZ				S	Sb	01 46 51.2	+0.6
RUGZ	**Raukumara Rang**	**1.39**	**236**	P	Pg	01 46 34.6	+0.3
RUGZ				S	Sb	01 46 51.7	-0.3
CNGZ	**Carnagh Statio**	**1.49**	**209**	P	Pg	01 46 36.5	+0.3
WIZ	**White Island**	**1.58**	**257**	P	Pn	01 46 35.0	-1.1
TKGZ	**Te Karaka**	**1.61**	**219**	P	Pn	01 46 37.2	+0.8
MWZ	**Matawai**	**1.71**	**227**	P	Pb	01 46 38.9	-0.4
WHRZ	**Whale Island**	**1.84**	**248**	P	Pn	01 46 40.5	+0.9
RIGZ	**Rimuhau**	**1.86**	**215**	P	Pn	01 46 40.7	+0.8
RAGZ	**Rawiri**	**1.89**	**226**	P	Pn	01 46 41.4	+1.2
URZ	**Urewera**	**1.93**	**236**	Pn	Pb	01 46 42.2	-0.8
	166nm,0.3s,baz=121,slow=3.6,SNR=104						
URZ				Sn	Sn	01 47 04.1	-1.1
	119nm,0.3s,baz=301,slow=21,SNR=31						
URZ				LR	LR	01 47 46.6	
	comp=Z,481nm,19.4s,baz=184,slow=49 387nm,0.3s						
URZ	**Urewera**	**1.93**	**236**		Pn	01 46 41.7	+0.9
URZ	**Urewera**	**1.93**	**236**	P	Pn	01 46 42.0	+1.2
PRGZ	**Paritu Road**	**1.99**	**209**	P	Pn	01 46 42.3	+0.6
EDRZ	**Edgecumbe**	**2.11**	**243**	P	Pn	01 46 44.4	+1.1
OPRZ	**Ohinepanea**	**2.15**	**251**	P	Pn	01 46 44.0	+0.2
KNZ	**Kokohu**	**2.16**	**212**	P	Pn	01 46 44.1	0.0
MHGZ	**Mahia Peninsul**	**2.19**	**206**	P	Pn	01 46 44.9	+0.6
RTZ	**Ruatahuna**	**2.22**	**229**	P	Pn	01 46 46.0	+1.1
MUGZ	**Murupara**	**2.27**	**235**	P	Pn	01 46 46.3	+0.8
MYRZ	**Mayor Island**	**2.31**	**267**	P	Pn	01 46 46.1	+0.1
TARZ	**Mount Tarawera**	**2.33**	**242**	P	Pn	01 46 47.9	+1.5
RAHZ	**Arahi**	**2.36**	**222**	P	Pn	01 46 47.8	+0.9
RRRZ	**Republican Roa**	**2.37**	**240**	P	Pn	01 46 48.0	+1.1
OMRZ	**Omania**	**2.37**	**246**	P	Pn	01 46 48.2	+1.3
WHHZ	**Waihua**	**2.41**	**218**	P	Pn	01 46 48.2	+0.8
KARZ	**Kaharoa**	**2.44**	**249**	P	Pn	01 46 48.6	+0.7
HLRZ	**Highlands Stat**	**2.45**	**243**	P	Pn	01 46 49.5	+1.6
MTHZ	**Maungataniwha**	**2.46**	**227**	P	Pn	01 46 49.2	+1.1
PRRZ	**Plateau Road**	**2.53**	**238**	P	Pn	01 46 49.8	+0.7
HSRZ	**Hossack Road**	**2.55**	**243**	P	Pn	01 46 50.5	+1.1
ALRZ	**Allen Road**	**2.60**	**237**	P	Pn	01 46 51.1	+1.1
ARHZ	**Aropaoanui**	**2.67**	**218**	P	Pn	01 46 51.5	+0.5
MRHZ	**Matea Rd**	**2.70**	**232**	P	Pn	01 46 52.3	+0.8
KUZ	**Kuaotunu**	**2.77**	**278**	P	Pn	01 46 51.5	-0.8
BKZ	**Black Stump Fm**	**2.87**	**226**		Pn	01 46 53.7	0.0
BKZ	**Black Stump Fm**	**2.87**	**226**	P	Pn	01 46 54.2	+0.4
KUTZ	**Kaahu Road**	**2.92**	**243**	P	Pn	01 46 55.7	+1.2
TOZ	**Tahuroa Road**	**2.94**	**258**	P	Pn	01 46 54.4	-0.3
CKHZ	**Cape Kidnapper**	**2.95**	**212**	P	Pn	01 46 54.4	-0.4
KWHZ	**Kaweka Forest**	**3.09**	**223**	P	Pn	01 46 56.6	-0.2
GRZ	**Great Barrier**	**3.09**	**286**	P	Pn	01 46 56.8	0.0
RATZ	**Rangitukua**	**3.14**	**237**	P	Pn	01 46 58.9	+1.5
RITZ	**Rihia Road**	**3.14**	**234**	P	Pn	01 46 58.8	+1.3
KAHZ	**Kahuranaki**	**3.15**	**213**	P	Pn	01 46 57.0	-0.6
MKAZ	**Moumakai**	**3.17**	**270**	P	Pn	01 46 57.3	-0.6
KRHZ	**Kereru**	**3.27**	**221**	P	Pn	01 46 58.9	-0.5
TMVZ	**Te Maari**	**3.32**	**233**	P	Pn	01 47 00.3	+0.2
ETVZ	**East Tongariro**	**3.33**	**233**	P	Pn	01 47 00.3	+0.2
BHHZ	**Black Hill Sta**	**3.33**	**225**	P	Pn	01 47 00.1	-0.1
PXZ	**Pawanui**	**3.35**	**211**	P	Pn	01 46 59.1	-1.3
OTVZ	**Oturere**	**3.37**	**233**	P	Pn	01 47 01.3	+0.5
NNVZ	**North Ngauruho**	**3.38**	**234**	P	Pn	01 47 01.6	+0.7
WTVZ	**West Tongariro**	**3.38**	**234**	P	Pn	01 47 01.8	+0.8
SNVZ	**South Ngauruho**	**3.40**	**233**	P	Pn	01 47 01.4	+0.2
MBAZ	**Motutapu North**	**3.41**	**276**	P	Pn	01 47 02.2	+1.0
NGZ	**Ngauruhoe**	**3.42**	**233**	P	Pn	01 47 01.7	+0.3
TUVZ	**Tukino**	**3.44**	**232**	P	Pn	01 47 01.8	+0.1
MOVZ	**Moawhango**	**3.46**	**229**	P	Pn	01 47 01.7	-0.3
TWVZ	**Taurewa**	**3.47**	**236**	P	Pn	01 47 03.1	+1.0
WHVZ	**Whangaehu Hut**	**3.49**	**232**	P	Pn	01 47 02.5	+0.1
FWVZ	**Far West T-bar**	**3.49**	**233**	P	Pn	01 47 03.0	+0.5
WNVZ	**Wahianoa**	**3.51**	**231**	P	Pn	01 47 02.6	0.0
PNHZ	**Pukenui**	**3.56**	**219**	P	Pn	01 47 02.0	-1.3
AWAZ	**Awhitu Peninsu**	**3.59**	**271**	P	Pn	01 47 04.0	+0.4
HIZ	**Hauiti**	**3.63**	**247**		Pn	01 47 05.3	+1.1
HIZ	**Hauiti**	**3.63**	**247**	P	Pn	01 47 05.4	+1.1
PRHZ	**Porangahau**	**3.64**	**212**	P	Pn	01 47 03.6	-0.7
WTAZ	**Waiatarua**	**3.65**	**273**	P	Pn	01 47 05.2	+0.7
TSZ	**Takapari Road**	**3.79**	**220**	P	Pn	01 47 05.0	-1.5
WCZ	**Waipu Caves**	**4.05**	**286**	P	Pn	01 47 10.5	+0.6
WAZ	**Wanganui**	**4.14**	**230**	P	Pn	01 47 11.9	+0.6
PRWZ	**Pori Road**	**4.17**	**215**	P	Pn	01 47 10.6	-1.0
NEZ	**North Egmont**	**4.48**	**241**	P	Pn	01 47 18.2	+2.3
PKE	**Pukeiti**	**4.52**	**242**	P	Pn	01 47 19.4	+3.0
KHEZ	**Kahui Hut**	**4.54**	**241**	P	Pn	01 47 19.5	+2.7
NBEZ	**Newall Road No**	**4.63**	**242**	P	Pn	01 47 21.2	+3.2
OUZ	**Omahuta**	**4.88**	**292**		Pn	01 47 22.0	+0.6
OUZ	**Omahuta**	**4.88**	**292**	P	Pn	01 47 22.5	+1.1
CTZ	**Chatham Island**	**7.30**	**155**	P	Pn	01 47 56.9	+2.3
RPZ	**Rata Peaks**	**8.96**	**221**	Pn	Pn	01 48 14.1	-3.4
	1.3nm,0.3s,baz=338,slow=2.7,SNR=6.1						
RPZ				Sn	Sn	01 49 45.1	-14
	4.1nm,0.3s,baz=306,slow=22,SNR=14						
RPZ				LR	LR	01 51 28.7	
	comp=Z,89nm,18.7s,baz=30,slow=35						
STKA	**Stephens Creek**	**31.23**	**268**	P	P	01 52 27.8	+0.1
	3.1nm,0.8s,baz=100,slow=9.7,SNR=6.6						
STKA				LR	LR	02 03 28.2	
	comp=Z,58nm,19.9s,baz=40,slow=33 3.1nm,0.8s						
STKA	**Stephens Creek**	**31.23**	**268**	P	P	01 52 26.1	-1.6
STKA				IAmb	IAmb	01 52 37.4	
	comp=Z,2.2nm,1.4s						
CTA	**Charters Tower**	**33.29**	**292**	P	P	01 52 46.5	+0.6
	comp=Z,1.7nm,0.5s,baz=117,slow=9.0,SNR=2.0 comp=Z,1.7nm,0.5s						
CTAO	**Charters Tower**	**33.29**	**292**	P	P	01 52 45.8	-0.1
CTAO				IAmb	IAmb	01 52 55.1	
	comp=Z,10nm,1.2s						
COEN	**Coen**	**39.48**	**296**	P	P	01 53 37.9	-0.9
COEN				IAmb	IAmb	01 53 40.3	
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**40.89**	**276**	P	P	01 53 48.8	-1.7
ASAR	**Alice Springs**	**40.89**	**276**	P	P	01 53 49.8	-0.7
	comp=Z,4.0nm,0.8s,baz=118,slow=7.5,SNR=36						
ASAR				PcP	PcP	01 55 51.4	+0.2
	comp=Z,0.2nm,0.6s,baz=116,slow=4.2,SNR=1.7 comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**40.89**	**276**	P	P	01 53 50.3	-0.2
FORT	**Forrest**	**42.41**	**263**	P	P	01 54 01.9	-0.9
WB2	**Warramunga Arr**	**42.49**	**281**	P	P	01 54 03.0	-0.6
WB2				IAmb	IAmb	01 54 03.5	
	comp=Z,7.7nm,0.7s						
WRAB	**Tennant Creek**	**42.50**	**281**	P	P	01 54 03.0	-0.7
WRAB				IAmb	IAmb	01 54 03.4	
	comp=Z,7.5nm,0.7s						
WRA	**Warramunga Arr**	**42.50**	**281**	P	P	01 54 02.9	-0.8
	comp=Z,6.4nm,0.6s,baz=124,slow=6.9,SNR=101						
WRA				PcP	PcP	01 55 57.4	+0.9
	comp=Z,0.3nm,0.5s,baz=121,slow=3.1,SNR=2.8 comp=Z,6.4nm,0.6s						
WRA	**Warramunga Arr**	**42.50**	**281**	P	P	01 54 02.9	-0.8
CASY	**Casey**	**48.06**	**210**	P	P	01 54 47.0	-0.2
CASY				IAmb	IAmb	01 54 55.9	
	comp=Z,10nm,1.5s						
FITZ	**Fitzroy Crossi**	**50.37**	**277**	P	P	01 55 05.3	-0.3
QSPA	**South Pole Qui**	**52.94**	**180**	P	P	01 55 27.9	+3.6
	comp=Z,2.6nm,0.8s,baz=27,slow=1.1,SNR=12 comp=Z,2.6nm,0.8s						
QSPA	**South Pole Qui**	**52.94**	**180**	P	P	01 55 25.3	+1.0
QSPA				IAmb	IAmb	01 55 29.1	
	comp=Z,7.1nm,1.4s						
H03N3	**Juan Fernandez**	**78.93**	**124**	T	T	03 24 58.0	
	baz=234,slow=72,SNR=4.6						
H03N2	**Juan Fernandez**	**78.93**	**124**	T	T	03 24 54.1	
	baz=234,slow=72,SNR=3.6						
H03N1	**Juan Fernandez**	**78.95**	**124**	T	T	03 24 57.6	
	baz=234,slow=72,SNR=3.6						
ARCES	**ARCESS Array B**	**144.59**	**344**	PKP	PKPdf	02 05 43.2	-0.5
	comp=Z,2.7nm,0.7s,baz=22,slow=2.1,SNR=11						
DBIC	**Dimbokro**	**149.41**	**172**	PKPbc	PKiKP	02 05 59.0	0.0
	comp=Z,3.3nm,0.8s,baz=135,slow=5.7,SNR=3.4						
FINES	**FINESS Array B**	**150.44**	**334**	PKPbc	PKPbc	02 05 58.7	-0.2
	comp=Z,1.4nm,0.5s,baz=44,slow=2.9,SNR=18						
BRTR	**Keskin Array B**	**152.95**	**286**	PKPbc	PKPbc	02 06 05.4	-0.2
	comp=Z,1.1nm,0.9s,baz=68,slow=2.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**155.95**	**186**	PKPab	PKPab	02 06 30.8	+0.9
	comp=Z,1.0nm,0.9s,baz=183,slow=3.3,SNR=4.7						

*IDC **02** 01:50:13.8±3.4, 37°.02S×178°.81E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=76.8km s-min=31.2km az=124.0*

*WEL **02** 01:50:15.0±1.5, 37°S±5°×17°9E±°, h14km±6km, M3.7/56, ML3.9/45, MLv3.7/56, Error ellipse: s-maj=0.0km s-min=0.0km az=76.8*

ISC 02 01:50:12.7±2.4, 37°.20S±0°.07×179°.12E±0°.09, h4km±11km, n67, σ1§07/74, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**241**	P	Pg	01 50 25.4	-1.4
MXZ				S	Sg	01 50 36.4	+0.1
WMGZ	**Waiomatatini S**	**0.83**	**222**	P	Pn	01 50 31.4	+0.3
WMGZ				S	Sb	01 50 42.5	+1.4
PKGZ	**Pakihiroa**	**1.07**	**230**	P	Pn	01 50 34.6	+0.1
PKGZ				S	Sb	01 50 48.0	-0.1
PUZ	**Puketiti**	**1.10**	**218**	P	Pb	01 50 35.3	+1.0
PUZ				S	Sg	01 50 49.3	+1.2
HAZ	**Te Kaha**	**1.19**	**242**	P	Pg	01 50 35.6	0.0
HAZ				S	Sn	01 50 51.8	-1.0
TWGZ	**Tauwhareparae**	**1.32**	**222**	P	Pn	01 50 38.5	+0.5
TWGZ				S	Sb	01 50 55.5	0.0
RUGZ	**Raukumara Rang**	**1.37**	**236**	P	Pg	01 50 39.5	+0.6
RUGZ				S	Sn	01 50 57.3	-0.1
CNGZ	**Carnagh Statio**	**1.47**	**209**	P	Pn	01 51 41.0	+1.1
TKGZ	**Te Karaka**	**1.59**	**219**	P	Pn	01 51 41.7	+0.1
MWZ	**Matawai**	**1.69**	**228**	P	Pn	01 51 43.3	+0.3
WHRZ	**Whale Island**	**1.82**	**248**	P	Pb	01 50 46.2	-0.4
RAGZ	**Rawiri**	**1.86**	**226**	P	Pn	01 50 45.8	+0.4
URZ	**Urewera**	**1.91**	**236**	Pn	Pn	01 50 46.8	+0.8
	67nm,0.3s,baz=121,slow=1.4,SNR=23						
URZ				Sn	Sn	01 51 09.5	-0.8
	47nm,0.3s,baz=121,slow=8.6,SNR=18						
URZ	**Urewera**	**1.91**	**236**	P	Pn	01 50 46.7	+0.8
PRGZ	**Paritu Road**	**1.97**	**209**	P	Pn	01 50 46.9	0.0
EDRZ	**Edgecumbe**	**2.09**	**244**	P	Pn	01 50 49.6	+1.1
MARZ	**Manawahe**	**2.09**	**247**	P	Pn	01 50 49.8	-1.3
SNGZ	**Shannon Statio**	**2.11**	**221**	P	Pn	01 50 48.6	-0.2
OPRZ	**Ohinepanea**	**2.13**	**252**	P	Pn	01 50 49.4	+0.3
KNZ	**Kokohu**	**2.14**	**212**	P	Pn	01 50 48.4	-0.8
MHGZ	**Mahia Peninsul**	**2.17**	**206**	P	Pn	01 50 49.6	+0.1
RTZ	**Ruatahuna**	**2.20**	**229**	P	Pn	01 50 50.6	+0.6
MUGZ	**Murupara**	**2.25**	**235**	P	Pn	01 50 51.0	+0.3
MYRZ	**Mayor Island**	**2.29**	**267**	P	Pb	01 50 52.4	-2.2
TARZ	**Mount Tarawera**	**2.31**	**243**	P	Pn	01 50 52.6	+1.0
RAHZ	**Arahi**	**2.34**	**223**	P	Pn	01 50 52.8	+0.8
RRRZ	**Republican Roa**	**2.35**	**240**	P	Pn	01 50 52.8	+0.7
OMRZ	**Omania**	**2.36**	**247**	P	Pn	01 50 53.4	+1.3
KARZ	**Kaharoa**	**2.42**	**249**	P	Pn	01 50 54.5	+1.5
HLRZ	**Highlands Stat**	**2.43**	**244**	P	Pn	01 50 54.1	+1.0
MTHZ	**Maungataniwha**	**2.44**	**227**	P	Pn	01 50 53.9	+0.6
HSRZ	**Hossack Road**	**2.53**	**243**	P	Pn	01 50 56.3	+1.8
NMHZ	**Naumai**	**2.62**	**223**	P	Pn	01 50 56.4	+0.5
ARHZ	**Aropaoanui**	**2.65**	**218**	P	Pn	01 50 55.9	-0.2
KUZ	**Kuaotunu**	**2.76**	**279**	P	Pn	01 50 56.9	-0.7
BKZ	**Black Stump Fm**	**2.85**	**226**	P	Pn	01 50 58.9	0.0
CKHZ	**Cape Kidnapper**	**2.93**	**213**	P	Pn	01 50 58.8	-1.1
KWHZ	**Kaweka Forest**	**3.06**	**223**	P	Pn	01 51 01.2	-0.7
GRZ	**Great Barrier**	**3.09**	**287**	P	Pn	01 51 03.7	+1.5
KAHZ	**Kahuranaki**	**3.13**	**213**	P	Pn	01 51 01.5	-1.2
MKAZ	**Moumakai**	**3.16**	**271**	P	Pn	01 51 02.8	-0.3
TMVZ	**Te Maari**	**3.30**	**234**	P	Pn	01 51 04.9	-0.2
ETVZ	**East Tongariro**	**3.30**	**233**	P	Pn	01 51 05.2	-0.1
BHHZ	**Black Hill Sta**	**3.31**	**226**	P	Pn	01 51 04.9	-0.4
OTVZ	**Oturere**	**3.35**	**233**	P	Pn	01 51 06.3	+0.4
NNVZ	**North Ngauruho**	**3.36**	**234**	P	Pn	01 51 06.3	+0.2
WTVZ	**West Tongariro**	**3.37**	**234**	P	Pn	01 51 06.5	+0.3
SNVZ	**South Ngauruho**	**3.38**	**233**	P	Pn	01 51 06.1	-0.2
NGZ	**Ngauruhoe**	**3.40**	**234**	P	Pn	01 51 06.4	-0.1
MBAZ	**Motutapu North**	**3.40**	**276**	P	Pn	01 51 07.7	+1.2
MOVZ	**Moawhango**	**3.44**	**229**	P	Pn	01 51 06.7	-0.4
TWVZ	**Taurewa**	**3.45**	**236**	P	Pn	01 51 08.0	+0.8
ABAZ	**Army Bay**	**3.48**	**279**	P	Pn	01 51 08.3	+0.7
WNVZ	**Wahianoa**	**3.49**	**231**	P	Pn	01 51 07.4	-0.4
PNHZ	**Pukenui**	**3.54**	**219**	P	Pn	01 51 06.6	-1.8
AWAZ	**Awhitu Peninsu**	**3.58**	**271**	P	Pn	01 51 11.2	+2.3
HIZ	**Hauiti**	**3.62**	**248**	P	Pn	01 51 10.2	+0.8
WCZ	**Waipu Caves**	**4.04**	**287**	P	Pn	01 51 16.1	+0.9
WAZ	**Wanganui**	**4.12**	**231**	P	Pn	01 51 16.8	+0.4
NEZ	**North Egmont**	**4.46**	**241**	P	Pn	01 51 24.3	+3.2
KHEZ	**Kahui Hut**	**4.52**	**241**	P	Pn	01 51 24.6	+2.6
OUZ	**Omahuta**	**4.88**	**292**	P	Pn	01 51 28.2	+1.4
CTZ	**Chatham Island**	**7.29**	**155**	P	Pn	01 52 02.7	+2.8
RPZ	**Rata Peaks**	**8.94**	**221**	Sn	Sn	01 53 50.4	-13
	0.7nm,0.3s,baz=309,slow=15,SNR=2.2						
ASAR	**Alice Springs**	**40.88**	**276**	P	P	01 57 56.2	+0.2
	0.5nm,0.7s,baz=123,slow=7.9,SNR=4.9 0.5nm,0.7s						
WRA	**Warramunga Arr**	**42.49**	**281**	P	P	01 58 08.2	-1.0
	0.6nm,0.5s,baz=122,slow=7.7,SNR=13 0.6nm,0.5s						
FINES	**FINESS Array B**	**150.46**	**334**	PKPbc	PKPbc	02 10 05.0	+0.5
	2.8nm,1.0s,baz=77,slow=3.1,SNR=3.4						

*IDC **02** 01:57:49.0±0.3, 55°.17S×30°.77W, h0km, mb5.1/21, mbtmp5.1/22, ML5.0/1, MS5.1/37, Error ellipse: s-maj=13.1km s-min=12.1km az=49.0*

*BJI **02** 01:57:49.0±0.0, 55°.30S×30°.90W, h10km, mB5.5/30, Ms5.4/37, Ms7 5.2/37*

*MOS **02** 01:57:50.1±1.0, 55°.35S×31°.17W, h10km, mb5.7/27, MS5.2/9, Error ellipse: s-maj=19.0km s-min=10.0km az=113.0*

*NEIC **02** 01:57:50.6±1.9, 55°.33S±0°.08×30°.9W±0°.1, h8km±1km, mb5.6/140, Ms_20 5.3/321, Mwb5.5/25, Error ellipse: s-maj=14.0km s-min=13.1km az=226.0*

*NEIC **02** 01:57:50.5, 55°.31S×30°.92W, h11km, Moment Tensor Solution. Moment tensor: Scale $10

LL02 Futaleuf 28.90 277 P **P 02 03 49.7 +0.5**
CPSB Cacapava Do Su 29.57 318 *e*P **P 02 03 55.4 +0.1**
CNLB Canela 29.62 323 *e*P **P 02 03 57.4 +1.7**
TER01 Tubaro-SC 29.77 326 *e*P **P 02 03 58.9 +1.9**
PLCA Paso Flores 29.78 283 P **P 02 03 57.5 +0.3**
comp=Z,5.4nm,0.8s,baz=150,slow=7.4,SNR=11
PLCA ScP **ScP 02 10 40.9 -1.3**
comp=Z,7.6nm,1.2s,baz=199,slow=4.3,SNR=3.2
PLCA LR LR 02 15 59.9
comp=Z,2µm,18.9s,baz=126,slow=37
comp=Z,5.4nm,0.8s
PLCA Paso Flores 29.78 283 *e*P **P 02 03 55.6 -1.5**
RODS Rosario do Sul 30.32 315 *e*P **P 02 04 01.1 -0.8**
LL04 Puerto Octay 30.70 280 P **P 02 04 04.9 -0.3**
ALGR Alto Alegre (B 30.86 320 *e*P **P 02 04 07.5 +0.8**
UNIS Unistalda (Bra 31.40 317 *e*P **P 02 04 10.7 -0.7**
ITQB Itaqui 31.50 314 P **P 02 04 12.3 +0.1**
ITQB Itaqui 31.50 314 *e*P **P 02 04 11.4 -0.8**
ITAB Concordia 31.97 322 P **P 02 04 17.4 +1.0**
ITAB Concordia 31.97 322 *e*P **P 02 04 17.0 +0.6**
CRSM Crissiumal (Br 32.42 319 *e*P **P 02 04 19.8 -0.6**
TIJ01 Guaruva-PR 32.73 329 *e*P **P 02 04 23.6 +0.3**
PET01 Itanhaem-SP 33.22 332 *e*P **P 02 04 28.2 +0.9**
FRBT Francisco Belt 33.45 322 *e*P **P 02 04 29.3 -0.2**
PARB Paraibuna 33.71 335 *e*P **P 02 04 31.7 0.0**
MAN01 Angra dos Reis 33.79 338 *e*P **P 02 04 32.3 -0.1**
PTGB Pitanga 34.27 324 *e*P **P 02 04 36.0 -0.6**
CAM01 Campos-RJ 34.35 342 *e*P **P 02 04 37.2 0.0**
VAO Valinhos 34.37 333 *e*P **P 02 04 39.3 +1.9**
CPUP Villa Florida 34.74 316 P **P 02 04 40.3 -0.3**
comp=Z,64nm,0.7s,baz=152,slow=7.8,SNR=78
CPUP ScP **ScP 02 10 57.9 -1.3**
comp=Z,10nm,1.2s,baz=127,slow=2.8,SNR=4.4
CPUP LR LR 02 18 59.9
comp=Z,2µm,20.1s,baz=161,slow=37
comp=Z,64nm,0.7s
CPUP Villa Florida 34.74 316 IAmb IAmb 02 04 52.3
comp=Z,90nm,0.9s
CPUP Villa Florida 34.74 316 *e*P **P 02 04 39.8 -0.7**
QSPA South Pole Qui 34.99 180 P **P 02 04 43.6 +1.0**
comp=Z,66nm,0.9s,baz=198,slow=3.5,SNR=104
QSPA ScP **ScP 02 10 57.7 -2.0**
comp=Z,6.9nm,1.0s,baz=200,slow=1.2,SNR=3.1
QSPA LR LR 02 18 38.3
comp=Z,4µm,18.5s,baz=186,slow=36
comp=Z,66nm,0.9s
QSPA South Pole Qui 34.99 180 P **P 02 04 43.3 +0.7**
QSPA IAmb IAmb 02 04 50.7
comp=Z,122nm,1.1s
QSPA South Pole Qui 34.99 180 IAMs_20 IAMs_20 02 18 26.9
comp=Z,5µm,18.0s
MT03 Universidad Ad 35.02 292 IAmb IAmb 02 04 48.9
comp=Z,115nm,1.1s
MT01 Popeta 35.13 291 IAmb IAmb 02 04 56.0
comp=Z,68nm,0.9s
MCR1 Marechal Candi 35.18 322 *e*P **P 02 04 45.7 +1.3**
PEL Peldehue 35.38 292 IAmb IAmb 02 04 58.6
comp=Z,122nm,0.9s
MT02 Curacav 35.53 291 IAmb IAmb 02 05 01.0
comp=Z,73nm,0.9s
ZON Zonda 35.59 296 IAmb IAmb 02 05 02.5
comp=Z,76nm,0.8s
ROC1 El Roble 35.69 292 IAmb IAmb 02 05 13.4
comp=Z,99nm,0.9s
TRCB Terra Rica 36.24 325 P **P 02 04 54.5 +1.0**
TRCB Terra Rica 36.24 325 *e*P **P 02 04 53.7 +0.2**
RIB01 Linhares ES 36.60 345 *e*P **P 02 04 57.8 +1.2**
BB19B Bebedouro 36.63 332 *e*P **P 02 04 57.1 +0.2**
PCMB Pacaembu 36.91 327 *e*P **P 02 04 59.2 0.0**
SJMB Sao Joao De Ma 37.33 344 *e*P **P 02 05 04.5 +1.7**
CO01 Juntas del Tor 37.57 296 IAmb IAmb 02 05 13.0
comp=Z,93nm,0.9s
GO04 Tololo Observa 37.78 295 IAmb IAmb 02 05 11.8
comp=Z,98nm,0.9s
NAN01 Guarapari, ES 38.01 346 *e*P **P 02 05 08.6 +0.1**
ANTJ Antonio Joao (38.14 320 *e*P **P 02 05 09.4 -0.3**
DIAM Diamantina, MG 38.16 340 *e*P **P 02 05 10.1 0.0**
ITRB Iturama 38.43 330 *e*P **P 02 05 12.6 +0.5**
PMNB Patos De Minas 38.52 336 *e*P **P 02 05 14.2 +1.2**
AC05 El Transito 38.58 297 IAmb IAmb 02 05 21.1
comp=Z,99nm,1.0s
LCO Las Campanas 38.66 296 P **P 02 05 13.9 -0.4**
LCO Las Campanas 38.66 296 P **P 02 05 13.9 -0.4**
LCO pmax pmax
comp=Z,64nm,1.0s
GUA01 Guaratinga, BA 39.21 346 *e*P **P 02 05 18.5 -0.1**
AQDB Aquidauana 39.43 322 P **P 02 05 19.6 -0.9**
AQDB Aquidauana 39.43 322 *e*P **P 02 05 18.9 -1.6**
IPMB Ipameri, GO 39.49 334 *e*P **P 02 05 21.7 +0.7**
AC04 Llanos de Chal 39.50 297 IAmb IAmb 02 05 26.4
comp=Z,156nm,0.9s
MC01 Montes Claros 39.76 340 *e*P **P 02 05 23.3 0.0**
C2SB Chapadao do Su 40.06 327 *e*P **P 02 05 26.6 +0.9**
CMC01 Camacan, BA 40.37 347 *e*P **P 02 05 28.8 +0.5**
CER Ceres 40.94 79 *e*P P 02 05 17.1 -16
CER IAmb IAmb 02 05 27.2
comp=Z,94nm,1.4s
GO02 Mina Guanaco 41.27 301 P **P 02 05 36.0 -0.1**
GO02 IAmb IAmb 02 05 51.9
comp=Z,98nm,0.8s
JANB Januaria 41.44 340 *e*P **P 02 05 37.3 +0.1**
BDFB Brasilia 41.69 335 P **P 02 05 39.7 +0.5**
comp=Z,5.9nm,0.8s,baz=149,slow=10,SNR=8.5
BDFB LR LR 02 23 55.0
comp=Z,4µm,18.1s,baz=161,slow=38
comp=Z,5.9nm,0.8s
BDFB Brasilia 41.69 335 P **P 02 05 40.6 +1.3**
BDFB Brasilia 41.69 335 P **P 02 05 40.6 +1.3**
BDFB pmax pmax
comp=Z,76nm,1.7s
BDFB Brasilia 41.69 335 *e*P **P 02 05 40.2 +0.9**
MATJ Matjiesfontein 41.73 80 *e*P **P 02 05 38.6 -0.9**
MATJ IAmb IAmb 02 05 40.4
comp=Z,703nm,2.9s
MAW Mawson 42.02 145 P **P 02 05 40.9 -0.4**
comp=Z,7.3nm,0.8s,baz=221,slow=5.6,SNR=11
comp=Z,7.3nm,0.8s
MAW Mawson 42.02 145 P **P 02 05 40.6 -0.8**
PB14 IPOC Station P 42.12 300 P **P 02 05 42.3 -0.7**
AF01 San Pedro de A 42.45 304 IAmb IAmb 02 05 52.0
comp=Z,181nm,1.0s
SUR Sutherland 42.52 79 P **P 02 05 45.3 -0.8**
comp=Z,28nm,1.0s,baz=209,slow=7.3,SNR=7.8
SUR LR LR 02 19 32.1
comp=Z,1µm,18.6s,baz=220,slow=31
comp=Z,28nm,1.0s
SUR Sutherland 42.52 79 P **P 02 05 47.1 +1.0**
SUR IAmb IAmb 02 05 59.3
comp=Z,284nm,1.9s
CVNA Calvinia 42.60 78 *e*P **P 02 05 46.3 -0.4**
CVNA IAmb IAmb 02 05 58.0
comp=Z,88nm,1.2s
LVC Limon Verde 43.09 304 LR LR 02 27 04.4
comp=Z,2µm,18.1s,baz=156,slow=41
LVC Limon Verde 43.09 304 P **P 02 05 51.2 +0.2**
LVC IAmb IAmb 02 06 11.0
comp=Z,130nm,1.4s
LVC Limon Verde 43.09 304 P **P 02 05 51.2 +0.2**
LVC pmax pmax
comp=Z,130nm,1.4s
LVC MLR MLR
comp=Z,2µm,18.0s
LVC Limon Verde 43.09 304 *e*P **P 02 05 50.5 -0.5**
FRAZ Fraserburg 43.19 79 *e*P **P 02 05 49.9 -1.6**
FRAZ IAmb IAmb 02 06 02.0
comp=Z,46nm,1.1s
GRAN Grantham 43.34 81 *e*P **P 02 05 52.2 -0.4**
GRAN IAmb IAmb 02 05 54.5
comp=Z,32nm,0.9s
KROM Kromhout 43.38 85 *e*P **P 02 05 55.8 +3.0**
KROM IAmb IAmb 02 06 04.1
comp=Z,150nm,1.2s
BUFB Buffelsbos 43.45 85 *e*P **P 02 05 53.8 +0.5**
BUFB IAmb IAmb 02 06 05.1
comp=Z,916nm,2.5s
SALV Santo Antonio 43.67 324 *e*P **P 02 05 54.8 -0.5**
PB09 IPOC Station P 43.95 304 IAmb IAmb 02 06 21.5
comp=Z,204nm,1.5s
SDBA SAO DESIDERIO 44.14 340 *e*P **P 02 06 00.1 +1.0**
BRAK Brakfontein 44.14 81 *e*P **P 02 05 57.4 -1.7**
BRAK IAmb IAmb 02 06 08.9
comp=Z,100nm,1.4s
AUSN Aus 44.42 70 *e*P **P 02 05 57.2 -4.2**
AUSN IAmb IAmb 02 06 11.7
comp=Z,75nm,1.4s
BFON Badfontein, M 44.58 81 *e*P **P 02 06 01.6 -0.9**
BFON IAmb IAmb 02 06 03.6
comp=Z,36nm,1.0s
PB02 IPOC Station P 44.66 303 IAmb IAmb 02 06 08.9
comp=Z,75nm,1.1s
GRAF Camdeboo Natio 44.67 83 *e*P **P 02 06 01.7 -1.6**
GRAF IAmb IAmb 02 06 14.7
comp=Z,400nm,1.9s
SOE Somerset East 44.96 84 P **P 02 06 05.6 0.0**
SOE IAmb IAmb 02 06 16.4
comp=Z,100nm,1.2s
SOE Somerset East 44.96 84 *e*P **P 02 06 04.8 -0.8**
SOE IAmb IAmb 02 06 16.1
comp=Z,99nm,1.2s
ARMS Ukamas 45.23 74 *e*P **P 02 06 06.4 -1.4**
ARMS IAmb IAmb 02 06 18.0
comp=Z,88nm,1.4s
PTLB Pontes e Lacer 45.30 320 P **P 02 06 07.4 -0.9**
PTLB IAmb IAmb 02 06 10.5
comp=Z,72nm,0.7s
PTLB Pontes e Lacer 45.30 320 *e*P **P 02 06 07.2 -1.1**
KEIM Keimoes 45.40 76 *e*P **P 02 06 08.2 -0.8**
KEIM IAmb IAmb 02 06 19.8
comp=Z,35nm,1.0s
SIV San Ignacio 45.53 317 LR LR 02 23 12.5
comp=Z,979nm,21.2s,baz=172,slow=34
NBAN Anadia - AL 45.67 353 *e*P **P 02 06 10.8 -0.4**
GO01 Chusmiza 45.75 305 IAmb IAmb 02 06 23.7
comp=Z,74nm,0.9s
UPI Upington 45.82 76 *e*P **P 02 06 10.7 -1.7**
SNDB Serra Nova Dou 46.05 332 *e*P **P 02 06 14.3 +0.1**
HVD Gariep Dam 46.49 82 *e*P **P 02 06 15.8 -2.0**
HVD IAmb IAmb 02 06 19.2
comp=Z,57nm,1.1s
NBRF Rio Formoso - 46.58 354 *e*P **P 02 06 19.1 +0.8**
SBA Scott Base 46.70 185 P **P 02 06 20.0 +1.3**
SBA Scott Base 46.70 185 P **P 02 06 20.0 +1.3**
SBA pmax pmax
comp=Z,49nm,1.3s
PB16 IPOC Station P 47.05 306 IAmb IAmb 02 06 35.1
comp=Z,86nm,1.4s
VNDA Vanda 47.24 184 P **P 02 06 24.2 +1.3**
comp=Z,20nm,0.8s,baz=184,slow=6.2,SNR=43
comp=Z,20nm,0.8s
VNDA Vanda 47.24 184 P **P 02 06 23.4 +0.5**
BOSA Boshof 47.87 80 P **P 02 06 26.9 -1.5**
comp=Z,38nm,1.0s,baz=220,slow=7.7,SNR=28
BOSA LR LR 02 22 58.0
comp=Z,2µm,18.9s,baz=222,slow=32
comp=Z,38nm,1.0s
BOSA Boshof 47.87 80 P **P 02 06 27.0 -1.5**
BOSA IAmb IAmb 02 06 40.5
comp=Z,84nm,1.1s
BOSA Boshof 47.87 80⇓ *i*P **P 02 06 27.1 -1.4**
BOSA IAmb IAmb 02 06 40.2
comp=Z,94nm,1.2s
BOSA Boshof 47.87 80 P **P 02 06 27.0 -1.5**
BOSA pmax pmax
comp=Z,84nm,1.2s
BOSA Boshof 47.87 80 *i*P **P 02 06 26.5 -2.0**
BOSA Boshof 47.87 80 *i*P **P 02 06 26.5 -2.0**
H10S2 ASCENSION HYDR 47.95 22 T T 02 58 10.7
baz=28,slow=74,SNR=38
H10S3 ASCENSION HYDR 47.96 22 T T 02 58 07.5
baz=192,slow=74,SNR=47
VILB Vilhena 47.99 320 P **P 02 06 28.6 -0.7**
VILB IAmb IAmb 02 06 41.2
comp=Z,133nm,0.9s
VILB Vilhena 47.99 320 *e*P **P 02 06 28.7 -0.7**
PDRB Porto dos Gac 48.02 325 *e*P **P 02 06 28.7 -1.0**
SMTB Santa Maria do 48.14 338 *e*P **P 02 06 30.9 +0.4**
WIN Windhoek 48.18 67 *e*P **P 02 06 30.3 -0.7**
WIN IAmb IAmb 02 06 42.6
comp=Z,34nm,1.2s
LPAZ La Paz 48.22 309 P **P 02 06 31.8 -0.1**
comp=Z,21nm,0.5s,baz=101,slow=6.6,SNR=43
LPAZ LR LR 02 26 52.9
comp=Z,612nm,21.4s,baz=158,slow=36
comp=Z,21nm,0.5s
LPAZ La Paz 48.22 309 *e*P **P 02 06 31.7 -0.1**
CLDB Colider 48.41 326 *e*P **P 02 06 32.3 -0.3**
KSTD Kokstad 48.65 85 *e*P **P 02 06 34.1 -0.4**
KSTD IAmb IAmb 02 06 34.7
comp=Z,147nm,1.5s
SWZ Schweizer 49.01 79 *e*P **P 02 06 35.7 -1.7**
SWZ IAmb IAmb 02 06 38.2
comp=Z,61nm,0.9s
H10N1 ASCENSION HYDR 49.07 22 T T 02 59 32.9
baz=192,slow=76,SNR=45
H10N3 ASCENSION HYDR 49.07 22 T T 02 59 35.1
baz=192,slow=76,SNR=56
H10N2 ASCENSION HYDR 49.08 22 T T 02 59 31.3
baz=192,slow=76,SNR=56
RCBR Riachuelo 49.46 353 LR LR 02 25 26.1
comp=Z,2µm,18.2s,baz=330,slow=34
SNKL Senekal, Frees 49.55 82 *e*P **P 02 06 39.9 -1.6**
SNKL IAmb IAmb 02 06 42.7
comp=Z,177nm,1.2s
PRYS Parys 50.35 80 *e*P **P 02 06 45.7 -1.8**
PRYS IAmb IAmb 02 06 48.3
comp=Z,87nm,1.0s
LBTB Lobatse 50.85 77 P **P 02 06 49.9 -1.4**
comp=Z,49nm,0.9s,baz=222,slow=8.0,SNR=39
LBTB LR LR 02 24 11.6
comp=Z,612nm,20.5s,baz=204,slow=31
comp=Z,49nm,0.9s
LBTB Lobatse 50.85 77 P **P 02 06 49.5 -1.8**
LBTB IAmb IAmb 02 06 52.5
comp=Z,85nm,1.1s
LBTB Lobatse 50.85 77⇓ *i*P **P 02 06 50.2 -1.1**
LBTB IAmb IAmb 02 06 52.3
comp=Z,97nm,1.1s
LBTB Lobatse 50.85 77 *i*P **P 02 06 47.5 -3.7**
LBTB Lobatse 50.85 77 *i*P **P 02 06 47.5 -3.7**
KSR Koster 50.92 79 *e*P **P 02 06 50.4 -1.5**
KSR IAmb IAmb 02 06 52.8
comp=Z,145nm,0.9s
NWCL Newcastle 51.16 83 *e*P **P 02 06 52.3 -1.4**
NWCL IAmb IAmb 02 07 07.2
comp=Z,317nm,1.8s
TSUM Tsumeb 51.20 65 P **P 02 06 52.8 -1.2**
comp=Z,41nm,1.1s,baz=200,slow=5.8,SNR=16
TSUM LR LR 02 24 20.0
comp=Z,980nm,20.0s,baz=224,slow=31
comp=Z,41nm,1.1s
TSUM Tsumeb 51.20 65 P **P 02 06 52.3 -1.7**
TSUM IAmb IAmb 02 07 05.7
comp=Z,116nm,1.2s
TSUM Tsumeb 51.20 65 *e*P **P 02 06 53.3 -0.7**
TSUM IAmb IAmb 02 07 04.7
comp=Z,124nm,1.3s
PRPB Parauapebas 51.24 336 *e*P **P 02 06 55.3 +1.1**
HRAO HartRAO 51.34 80⇓ *i*P **P 02 06 53.3 -1.7**
SLR Silverton 51.79 80 *e*P **P 02 06 56.7 -1.7**
SLR IAmb IAmb 02 07 08.9
comp=Z,217nm,1.6s
NPGB Novo Progresso 51.90 329 *e*P **P 02 06 58.3 -0.7**
POGA Pongola 52.49 85 P **P 02 07 02.3 -1.1**
POGA IAmb IAmb 02 07 04.8
comp=Z,60nm,1.0s
POGA Pongola 52.49 85 *e*P **P 02 07 01.7 -1.8**
POGA IAmb IAmb 02 07 15.3
comp=Z,425nm,2.1s
LEPH Lephalale, Lim 52.99 78 *e*P **P 02 07 05.3 -1.9**
LEPH IAmb IAmb 02 07 18.0
comp=Z,228nm,1.7s
ETMB Extrema 53.18 315 IAmb IAmb 02 07 30.4
comp=Z,146nm,1.5s
ETMB Extrema 53.18 315 *e*P **P 02 07 07.6 -0.9**
ROSB Rosrio 53.29 343 *e*P **P 02 07 10.9 +1.5**
RUDU RUNDU 53.39 66 *e*P **P 02 07 09.4 -0.9**
RUDU IAmb IAmb 02 07 21.9
comp=Z,136nm,1.2s
TMAB Tom-Au,PA,Br 54.54 339 *e*P **P 02 07 19.0 +0.5**
ITTB Itaituba 54.55 329 *e*P **P 02 07 18.0 -0.6**
MOPA Mopani 55.28 81 *e*P **P 02 07 21.6 -2.3**
MOPA IAmb IAmb 02 07 25.3
comp=Z,6.6nm,1.0s
MOPA Mopani 55.28 81 *i*P **P 02 07 24.5 +0.6**
MOPA Mopani 55.28 81 *i*P **P 02 07 24.5 +0.6**
CASY Casey 55.33 162 P **P 02 07 23.3 -0.4**
CASY Casey 55.33 162 IAMs_20 IAMs_20 02 28 58.7
comp=Z,2µm,19.0s
MUSN Musina, Limpop 55.38 79 *e*P **P 02 07 22.8 -1.9**
MUSN IAmb IAmb 02 07 25.8
comp=Z,76nm,0.9s
MUSN Musina, Limpop 55.38 79 *i*P **P 02 07 23.1 -1.6**
MUSN Musina, Limpop 55.38 79 *i*P **P 02 07 23.1 -1.6**
NNA Nana 56.03 302 LR LR 02 34 14.7
comp=Z,639nm,18.4s,baz=146,slow=39
NNA Nana 56.03 302 P **P 02 07 29.6 +0.3**
NNA IAmb IAmb 02 07 41.2
comp=Z,79nm,1.1s
NNA Nana 56.03 302 *ce*P **P 02 07 29.7 +0.4**
NNA pmax pmax
comp=Z,104nm,1.3s
MATP Matopo 56.10 77 LR LR 02 27 46.1
comp=Z,1µm,21.5s,baz=234,slow=32
MATP Matopo 56.10 77 *e*P **P 02 07 27.6 -2.3**
MATP IAmb IAmb 02 07 41.4
comp=Z,168nm,1.0s
MATP Matopo 56.10 77 *i*P **P 02 07 25.6 -4.3**
MATP Matopo 56.10 77 *i*P **P 02 07 25.6 -4.3**
BLWY Bulawayo 56.40 76⇓ *i*P **P 02 07 30.1 -1.9**
BLWY IAmb IAmb 02 07 32.6
comp=Z,290nm,1.1s
BLWY Bulawayo 56.40 76 *i*P P 02 07 26.7 -5.3
BLWY Bulawayo 56.40 76 *i*P P 02 07 26.7 -5.3
MALB Monte Alegre 56.52 332 *e*P **P 02 07 33.4 +0.6**
MACA Manacapuru-AM 57.25 324 IAmb IAmb 02 07 38.8
comp=Z,50nm,0.7s
MACA Manacapuru-AM 57.25 324 *e*P **P 02 07 37.3 -0.6**
CZSB Cruzeiro do Su 57.83 309 IAmb IAmb 02 07 53.2
comp=Z,258nm,1.9s
CZSB Cruzeiro do Su 57.83 309 *e*P **P 02 07 40.5 -1.5**
TBTG Tabatinga, AM 59.79 313 P **P 02 07 54.8 -0.9**
TBTG IAmb IAmb 02 08 15.3
comp=Z,39nm,0.6s
TBTG Tabatinga, AM 59.79 313 *e*P **P 02 07 55.3 -0.3**
LSZ Lusaka 60.10 73 LR LR 02 30 18.5
comp=Z,2µm,19.8s,baz=220,slow=32
LSZ Lusaka 60.10 73 P **P 02 07 56.4 -1.6**
LSZ Lusaka 60.10 73 IAMs_20 IAMs_20 02 29 57.1
comp=Z,2µm,19.0s
LSZ Lusaka 60.10 73 *e*P **P 02 07 57.0 -1.0**
LSZ IAmb IAmb 02 08 10.0
comp=Z,159nm,1.5s
LSZ Lusaka 60.10 73 P **P 02 07 56.4 -1.6**
LSZ pmax pmax
comp=Z,132nm,1.5s
BOAV Boa Vista 62.41 326 P **P 02 08 11.8 -1.6**
BOAV IAmb IAmb 02 08 14.6
comp=Z,40nm,0.9s
BOAV Boa Vista 62.41 326 *e*P **P 02 08 11.8 -1.6**
MDP Montagnes des 62.79 336 LR LR 02 36 29.8
comp=Z,2µm,18.2s,baz=148,slow=37
FOMA Nahampoana Res 63.04 95 IAMs_20 IAMs_20 02 30 10.8
comp=Z,2µm,20.0s
LIC Lamto 64.93 29⇑ *e*P **P 02 08 28.0 -2.0**
comp=Z,172nm,1.2s
KIC Kosan Boka 65.14 29⇑ *e*P **P 02 08 30.4 -1.0**
comp=Z,48nm,1.1s
VOI Vohitsoka 65.33 93 P **P 02 08 32.0 -0.8**
VOI IAmb IAmb 02 08 35.7
comp=Z,39nm,1.1s
TIC Toumodi 65.34 29⇑ *e*P **P 02 08 30.7 -2.0**
comp=Z,64nm,1.0s
DBIC Dimbokro 65.41 29 P **P 02 08 31.8 -1.3**
comp=Z,33nm,1.0s,baz=201,slow=6.5,SNR=18
DBIC LR LR 02 30 21.1
comp=Z,550nm,19.8s,baz=209,slow=30
comp=Z,33nm,1.0s
DBIC Dimbokro 65.41 29 P **P 02 08 32.1 -0.9**
DBIC IAmb IAmb 02 08 35.1
comp=Z,73nm,1.2s
DBIC Dimbokro 65.41 29 *e*P **P 02 08 32.0 -1.1**
DBIC Dimbokro 65.41 29 P **P 02 08 32.2 -0.9**
DBIC pmax pmax
comp=Z,73nm,1.3s
PORT Chimborazo Vol 66.13 306 P **P 02 08 39.5 +1.0**
PORT IAmb IAmb 02 08 54.9
comp=Z,46nm,1.0s
CHSH Refugio Sur-Vo 66.14 306 IAmb IAmb 02 08 45.6
comp=Z,46nm,0.8s
SLOR San Lorenzo - 66.65 306 IAmb IAmb 02 08 55.4
comp=Z,31nm,1.0s
OTAV Otavalo 67.48 307 P **P 02 08 47.1 +0.1**
OTAV Otavalo 67.48 307 P **P 02 08 47.1 +0.1**
OTAV pmax pmax
comp=Z,115nm,1.4s
OTAV MLR MLR
comp=Z,1µm,18.0s
OPO Ambohidratompo 68.19 91 LR LR 02 35 15.8
comp=Z,1µm,18.5s,baz=342,slow=33
ROSC El Rosal 69.78 313 P **P 02 09 01.0 -0.2**
comp=Z,13nm,0.7s,baz=144,slow=2.9,SNR=9.2
ROSC LR LR 02 44 19.7
comp=Z,2µm,18.0s,baz=200,slow=40
comp=Z,13nm,0.7s
ROSC El Rosal 69.78 313 P **P 02 09 02.8 +1.6**
ROSC El Rosal 69.78 313 P **P 02 09 02.8 +1.6**
ROSC pmax pmax
comp=Z,143nm,1.8s
MBO M'Bour 70.38 14 P **P 02 09 05.8 +1.6**
BBTS Babate 70.71 15 P **P 02 09 06.0 -0.3**
comp=Z,24nm,1.0s,baz=296,slow=11,SNR=4.8
BBTS LR LR 02 36 19.6
comp=Z,1µm,18.0s,baz=220,slow=33
comp=Z,24nm,1.0s
PCRV Puerto La Cruz 71.05 325 LR LR 02 42 44.2
comp=Z,3µm,18.0s,slow=38
BAUV El Baul 71.08 321 P **P 02 09 09.2 +0.5**
SDV Santo Domingo 71.99 318 LR LR 02 43 41.8
comp=Z,7µm,18.1s,baz=148,slow=38
SDV Santo Domingo 71.99 318 P **P 02 09 13.8 -0.6**
SDV IAmb IAmb 02 09 30.1
comp=Z,36nm,0.8s
SDV Santo Domingo 71.99 318 *e*P **P 02 09 13.8 -0.6**
KOWA Kowa 73.11 27 LR LR 02 36 05.1
comp=Z,725nm,18.8s,baz=198,slow=32
KOWA Kowa 73.11 27 P **P 02 09 21.1 +0.3**
KOWA IAmb IAmb 02 09 23.8
comp=Z,163nm,2.0s
TOA0 Torodi Ar. Sit 73.48 33 P **P 02 09 21.8 -1.2**
TOA0 IAmb IAmb 02 09 24.7
comp=Z,69nm,1.0s
TORD Torodi Ar. Bea 73.48 33 P **P 02 09 21.9 -1.0**
comp=Z,61nm,1.1s,baz=199,slow=5.1,SNR=83
TORD LR LR 02 36 29.8
comp=Z,2µm,18.0s,baz=196,slow=32
comp=Z,61nm,1.1s
MBAR Mbarara 73.72 66 LR LR 02 38 35.7
comp=Z,1µm,19.0s,baz=201,slow=33
MBAR Mbarara 73.72 66 P **P 02 09 25.3 +0.6**
MBAR Mbarara 73.72 66 IAMs_20 IAMs_20 02 39 37.2
comp=Z,2µm,19.0s
MBAR Mbarara 73.72 66 *c i*P **P 02 09 25.4 +0.7**
MBAR pmax pmax
comp=Z,49nm,1.5s
MBAR pmax pmax
comp=Z,53nm,1.7s
BIM Bigot 74.03 330 P **P 02 09 26.3 +0.1**
KIBK Kibwezi 76.19 74 P **P 02 09 39.5 +0.6**
KIBK IAmb IAmb 02 10 00.8
comp=Z,98nm,1.6s
KIBK IAMs_20 IAMs_20 02 43 10.0
comp=Z,2µm,18.0s
KMBO Kilima Mbogo 76.77 72 P **P 02 09 43.0 +0.6**
comp=Z,2.5nm,0.9s,baz=159,slow=6.5,SNR=5.3
KMBO LR LR 02 41 56.4
comp=Z,2µm,18.3s,baz=200,slow=34
comp=Z,2.5nm,0.9s
KMBO Kilima Mbogo 76.77 72 P **P 02 09 42.9 +0.5**
KMBO Kilima Mbogo 76.77 72 *ce*P **P 02 09 43.9 +1.5**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
SRBA San Rafael, Bu 77.66 307 IAmb IAmb 02 10 11.5
comp=Z,64nm,1.3s
PEZE Perez Zeledon, 77.94 307 IAmb IAmb 02 10 02.3
comp=Z,58nm,1.0s
WHZ Wether Hill Ro 77.96 193 P **P 02 09 48.0 -0.4**
WHZ IAmb IAmb 02 09 51.7
comp=Z,62nm,1.2s
RIMA Rio Macho 78.36 307 IAmb IAmb 02 10 14.0
comp=Z,76nm,1.3s
CVTR Volcan Turrial 78.54 307 IAmb IAmb 02 10 03.7
comp=Z,47nm,1.1s
MTP Monte Pirata 78.77 327 IAmb IAmb 02 10 03.0
comp=Z,62nm,1.2s
STVI Saint Thomas 78.82 327 IAmb IAmb 02 09 54.8
comp=Z,52nm,0.9s

SJG	**San Juan**	**78.97**	**326**	LR	LR	02 48 15.6			
	comp=Z,1µm,18.1s,baz=162,slow=38								
SJG	**San Juan**	**78.97**	**326**	P	**P**	**02 09 54.2**	**+0.1**		
SJG	**San Juan**	**78.97**	**326**	IAms_20	IAms_20	02 46 33.7			
	comp=Z,1µm,18.0s								
SJG	**San Juan**	**78.97**	**326**	P	**P**	**02 09 54.2**	**+0.1**		
SJG				pmax	pmax				
	comp=Z,25nm,0.9s								
SJG				MLR	MLR				
	comp=Z,1µm,18.0s								
CBYP	**Canovanas**	**79.03**	**326**	IAmb	IAmb	02 10 00.2			
	comp=Z,44nm,0.9s								
CRPR	**Cabo Rojo, PR**	**79.19**	**325**	IAmb	IAmb	02 09 58.7			
	comp=Z,72nm,1.1s								
JTS	**Las Juntas de**	**79.33**	**306**	P	**P**	**02 09 56.5**	**+0.3**		
JTS	**Las Juntas de**	**79.33**	**306**	P	**P**	**02 09 56.5**	**+0.3**		
LODK	**Lodwar**	**79.55**	**68**	IAms_20	IAms_20	02 41 44.8			
	comp=Z,2µm,20.0s								
ORTG	**Ortega, Santa**	**79.62**	**305**	IAmb	IAmb	02 10 22.3			
	comp=Z,56nm,1.1s								
RPZ	**Rata Peaks**	**79.65**	**196**	P	**P**	**02 09 56.7**	**-0.9**		
	comp=Z,47nm,0.9s,baz=220,slow=3.0,SNR=8.1								
	comp=Z,47nm,0.9s								
RPZ	**Rata Peaks**	**79.65**	**196**	IAmb	IAmb	02 10 01.1			
	comp=Z,72nm,1.1s								
LTZ	**Lake Taylor**	**80.36**	**197**	IAmb	IAmb	02 10 06.4			
	comp=Z,148nm,1.5s								
LTZ				IAms_20	IAms_20	02 49 42.2			
	comp=Z,2µm,19.0s								
ACON	**Acoyapa**	**80.90**	**306**	IAmb	IAmb	02 10 10.2			
	comp=Z,57nm,0.8s								
SDDR	**Presa de Saban**	**81.52**	**322**	IAms_20	IAms_20	02 47 15.0			
	comp=Z,1µm,19.0s								
BOAB	**BOACO BROADBAN**	**81.55**	**306**	IAms_20	IAms_20	02 48 30.3			
	comp=Z,1µm,18.0s								
MATN	**Matagalpa**	**82.09**	**306**	IAmb	IAmb	02 10 19.2			
	comp=Z,40nm,1.0s								
TAU	**Tasmania Unive**	**82.19**	**179**	P	**P**	**02 10 11.1**	**-0.1**		
TAU	**Tasmania Unive**	**82.19**	**179**	P	**P**	**02 10 11.1**	**-0.1**		
TAU				pmax	pmax				
	comp=Z,126nm,1.3s								
MTDJ	**Mount Denham**	**83.18**	**316**	IAms_20	IAms_20	02 51 09.0			
	comp=Z,2µm,19.0s								
TGUH	**Tegucigalpa,Un**	**83.70**	**306**	P	**P**	**02 10 18.1**	**-1.3**		
TGUH				IAmb	IAmb	02 10 25.2			
	comp=Z,36nm,0.9s								
TAM	**Tamanrasset**	**83.73**	**33**	P	P	02 10 14.6	-4.9		
TAM				IAmb	IAmb	02 10 16.9			
	comp=Z,51nm,1.2s								
TAM				IAms_20	IAms_20	02 43 18.5			
	comp=Z,1µm,18.0s								
TAM	**Tamanrasset**	**83.73**	**33**	P	P	02 10 14.6	-4.9		
TAM				pmax	pmax				
	comp=Z,51nm,1.2s								
MTO3	**Montecristo**	**84.97**	**304**	IAmb	IAmb	02 10 29.2			
	comp=Z,31nm,0.8s								
TBI	**Tubuai**	**85.89**	**234**	*e*S	**S**	**02 20 59.8**	**-3.9**		
	comp=Z,221nm,27.0s								
TBI				*e*SS	**SS**	**02 26 39.0**	**-0.9**		
	comp=Z,129nm,24.8s								
TBI	**Tubuai**	**85.89**	**234**	*e*LR	LR	02 37 39.0			
	comp=Z,1µm,29.0s								
OUZ	**Omahuta**	**87.46**	**200**	IAmb	IAmb	02 10 58.8			
	comp=Z,44nm,1.2s								
OUZ				IAms_20	IAms_20	02 50 23.3			
	comp=Z,1µm,18.0s								
TOO	**Toolangi**	**87.48**	**177**	P	**P**	**02 10 38.3**	**+0.2**		
TOO	**Toolangi**	**87.48**	**177**	P	**P**	**02 10 38.3**	**+0.2**		
TOO				pmax	pmax				
	comp=Z,26nm,1.4s								
CCIG	**Comitan**	**87.93**	**303**	IAmb	IAmb	02 11 06.7			
	comp=Z,28nm,1.0s								
NWAO	**Narrogin (SRO)**	**88.01**	**154**	LR	LR	02 46 51.2			
	comp=Z,351nm,20.0s,baz=92,slow=33								
TEIG	**Tepich**	**89.54**	**308**	P	**P**	**02 10 47.5**	**-0.2**		
TEIG				IAms_20	IAms_20	02 57 55.1			
	comp=Z,1µm,19.0s								
CAN	**Canberra**	**89.78**	**180**	P	**P**	**02 10 47.3**	**-1.7**		
CAN				IAmb	IAmb	02 10 52.6			
	comp=Z,71nm,1.3s								
CAN				IAms_20	IAms_20	02 51 47.5			
	comp=Z,1µm,18.0s								
CAN	**Canberra**	**89.78**	**180**	P	**P**	**02 10 47.3**	**-1.7**		
CAN				pmax	pmax				
	comp=Z,71nm,1.3s								
CAN				MLR	MLR				
	comp=Z,1µm,18.0s								
CMIG	**Matias Romero**	**89.96**	**301**	LR	LR	02 51 17.7			
	comp=Z,283nm,18.4s,baz=136,slow=36								
ATD	**Arta Tunnel**	**90.34**	**70**	LR	LR	02 48 11.5			
	comp=Z,2µm,20.3s,baz=195,slow=34								
AVE	**Averroes**	**90.48**	**20**	IAms_20	IAms_20	02 46 54.2			
	comp=Z,1µm,19.0s								
MDT	**Midelt**	**90.58**	**22**	LR	LR	02 48 40.5			
	comp=Z,2µm,18.3s,baz=214,slow=34								
PPT2	**Papeete2**	**90.89**	**237**	*e*LR	LR	02 39 57.4			
	comp=Z,2µm,28.5s								
PPT	**Papeete**	**90.91**	**237**	LR	LR	02 42 59.0			
	comp=Z,369nm,21.5s,baz=144,slow=30								
BBSR	**BB Station**	**91.97**	**332**	IAms_20	IAms_20	02 56 59.4			
	comp=Z,862nm,19.0s								
TLIG	**Tlapa**	**92.20**	**298**	IAmb	IAmb	02 11 23.8			
	comp=Z,40nm,1.5s								
STKA	**Stephens Creek**	**92.97**	**174**	P	**P**	**02 11 05.4**	**+1.6**		
	comp=Z,4.2nm,1.0s,baz=168,slow=5.3,SNR=4.8								
STKA				LR	LR	02 52 24.4			
	comp=Z,1µm,18.3s,baz=171,slow=35								
	comp=Z,4.2nm,1.0s								
TAOE	**Nuku Hiva Isla**	**93.50**	**249**	*e*SS	SS	02 28 29.8	-1.3		
	comp=Z,205nm,25.4s								
TAOE	**Nuku Hiva Isla**	**93.50**	**249**	*e*LR	LR	02 41 10.0			
	comp=Z,1µm,26.8s								
KEST	**Kesra**	**96.97**	**32**	P	**P**	**02 11 24.3**	**+2.6**		
	comp=Z,7.6nm,1.1s,baz=190,slow=4.5,SNR=3.9								
KEST				LR	LR	02 52 15.1			
	comp=Z,1µm,18.0s,baz=170,slow=34								
KEST	**Kesra**	**96.97**	**32**	IAmb	IAmb	02 11 26.0			
	comp=Z,20nm,1.4s								
PAB	**San Pablo**	**97.13**	**20**	IAms_20	IAms_20	02 50 12.1			
	comp=Z,987nm,20.0s								
ESDC	**Sonseca Array**	**97.33**	**21**	P	Pdif	02 11 24.0	+0.7		
	comp=Z,0.9nm,0.7s,baz=189,slow=4.6,SNR=9.3								
ESDC				LR	LR	02 50 18.6			
	comp=Z,1µm,20.2s,baz=181,slow=32								
	comp=Z,0.9nm,0.7s								
ESDC	**Sonseca Array**	**97.33**	**21**	P	Pdif	02 11 25.2	+2.0		
MTE	**Manteigas**	**97.36**	**18**	IAms_20	IAms_20	02 51 22.2			
	comp=Z,1µm,18.0s								
GOGA	**Godfrey**	**99.11**	**318**	IAms_20	IAms_20	03 00 00.3			
	comp=Z,1µm,19.0s								
MAHO	**Mahon**	**99.43**	**27**	IAms_20	IAms_20	02 56 17.3			
	comp=Z,766nm,18.0s								
ASAR	**Alice Springs**	**100.32**	**166**	P	**Pdif**	**02 11 36.4**	**-0.9**		
	comp=Z,2.1nm,0.9s,baz=180,slow=4.2,SNR=8.3								
ASAR				PP	**PP**	**02 15 42.4**	**+0.1**		
	comp=Z,2.7nm,0.9s,baz=190,slow=6.8,SNR=8.1								
ASAR				PKKPbc	**PKKPbc**	**02 27 51.1**	**-0.1**		
	comp=Z,0.6nm,0.8s,baz=357,slow=3.2,SNR=3.1								
DZM	**Mont Dzumac**	**101.56**	**196**	*e*LR	LR	02 44 54.5			
	comp=Z,779nm,22.4s								
RAYN	**Ar Rayn**	**101.65**	**66**	IAms_20	IAms_20	02 54 29.5			
	comp=Z,901nm,21.0s								
PLAL	**Pickwick Lake**	**102.31**	**315**	IAms_20	IAms_20	02 59 09.9			
	comp=Z,1µm,20.0s								
OXF	**Oxford**	**102.44**	**314**	IAms_20	IAms_20	03 02 54.5			
	comp=Z,1µm,18.0s								
PAL	**Palisades**	**102.66**	**328**	IAms_20	IAms_20	03 01 44.3			
	comp=Z,746nm,19.0s								
BRYW	**Bryant College**	**102.80**	**330**	IAms_20	IAms_20	02 59 08.1			
	comp=Z,833nm,19.0s								
BCX	**Boston College**	**103.08**	**331**	IAms_20	IAms_20	02 58 14.5			
	comp=Z,835nm,20.0s								
SLBS	**Sierra La Lagu**	**103.16**	**292**	IAms_20	IAms_20	02 55 56.0			
	comp=Z,755nm,18.0s								
WES	**Weston**	**103.17**	**330**	IAms_20	IAms_20	03 03 04.9			
	comp=Z,805nm,19.0s								
GHAJ	**Ghor Haditha**	**103.20**	**54**	IAms_20	IAms_20	03 03 35.8			
	comp=Z,946nm,18.0s								
HRV	**Adam Dziewonsk**	**103.35**	**330**	IAms_20	IAms_20	03 03 01.6			
	comp=Z,894nm,18.0s								
QUA2	**Belchertown**	**103.36**	**330**	IAms_20	IAms_20	02 59 35.1			
	comp=Z,776nm,20.0s								
SSPA	**Standing Stone**	**103.58**	**325**	IAms_20	IAms_20	02 59 52.6			
	comp=Z,831nm,19.0s								
L61B	**Northampton**	**103.62**	**330**	IAms_20	IAms_20	03 00 00.8			
	comp=Z,722nm,19.0s								
WRA	**Warramunga Arr**	**104.05**	**166**	Pdiff	**Pdif**	**02 11 53.7**	**-0.1**		
	comp=Z,0.8nm,0.9s,baz=186,slow=4.2,SNR=4.5								
WRA				PP	**PP**	**02 16 08.7**	**-1.6**		
	comp=Z,1.4nm,0.8s,baz=189,slow=6.1,SNR=7.3								
WRA				PKKPbc	**PKKPbc**	**02 27 39.0**	**-1.3**		
	comp=Z,0.3nm,0.8s,baz=356,slow=3.0,SNR=8.6								
P52A	**Corning**	**104.13**	**322**	IAms_20	IAms_20	03 04 32.2			
	comp=Z,825nm,19.0s								
TRY	**Troy**	**104.17**	**329**	IAms_20	IAms_20	02 59 49.2			
	comp=Z,743nm,19.0s								
MIAR	**Mount Ida**	**104.23**	**311**	IAms_20	IAms_20	03 07 24.9			
	comp=Z,754nm,18.0s								
FFD	**Franklin Falls**	**104.26**	**331**	IAms_20	IAms_20	03 02 16.9			
	comp=Z,989nm,18.0s								
O53A	**New Philadelph**	**104.35**	**323**	IAms_20	IAms_20	03 05 33.1			
	comp=Z,835nm,19.0s								
BINY	**Binghamton**	**104.38**	**327**	IAms_20	IAms_20	03 04 17.0			
	comp=Z,826nm,18.0s								
WCI	**Wyandotte Cave**	**104.43**	**318**	IAms_20	IAms_20	03 00 49.2			
	comp=Z,1µm,20.0s								
TXAR	**Lajitas Array**	**104.57**	**300**	PP	**PKiKP**	**02 16 11.1**	**-0.6**		
	comp=Z,0.3nm,0.7s,baz=134,slow=5.4,SNR=3.5								
TXAR				PKKPbc	**PKKPbc**	**02 27 38.8**	**-0.6**		
	comp=Z,0.2nm,0.7s,baz=307,slow=0.5,SNR=2.4								
HNH	**Hanover**	**104.66**	**330**	IAms_20	IAms_20	03 02 57.3			
	comp=Z,988nm,19.0s								
BNI	**Bardonecchia**	**104.89**	**27**	IAms_20	IAms_20	02 57 23.5			
	comp=Z,714nm,18.0s								
CTAO	**Charters Tower**	**104.92**	**177**	IAms_20	IAms_20	02 57 42.4			
	comp=Z,1µm,19.0s								
P49A	**Miami Univ. Ec**	**104.98**	**320**	IAms_20	IAms_20	03 06 26.7			
	comp=Z,861nm,18.0s								
LBNH	**Lisbon**	**105.05**	**331**	IAms_20	IAms_20	03 00 28.7			
	comp=Z,777nm,20.0s								
M53A	**WI Miller and**	**105.23**	**323**	IAms_20	IAms_20	03 01 21.3			
	comp=Z,729nm,19.0s								
CSS	**Mathiatis**	**105.27**	**50**	IAms_20	IAms_20	02 57 07.7			
	comp=Z,955nm,20.0s								
VT1	**Waterbury**	**105.37**	**330**	IAms_20	IAms_20	03 03 44.8			
	comp=Z,804nm,18.0s								
CCM	**Cathedral Cave**	**106.24**	**314**	IAms_20	IAms_20	03 05 29.1			
	comp=Z,858nm,19.0s								
SENIN	**Lac Senin/Sane**	**106.26**	**26**	IAms_20	IAms_20	02 57 26.0			
	comp=Z,951nm,20.0s								
OK025	**Westminster Rd**	**106.76**	**309**	IAms_20	IAms_20	03 05 26.7			
	comp=Z,742nm,18.0s								
OK030	**Cody Creek RV**	**106.81**	**309**	IAms_20	IAms_20	03 06 45.9			
	comp=Z,807nm,20.0s								
OK034	**N. Norfolk Rd.**	**106.84**	**309**	IAms_20	IAms_20	03 05 16.9			
	comp=Z,889nm,19.0s								
OK029	**Liberty Lake**	**106.99**	**309**	IAms_20	IAms_20	03 05 24.9			
	comp=Z,854nm,20.0s								
AAM	**Ann Arbor**	**107.02**	**322**	IAms_20	IAms_20	03 05 28.8			
	comp=Z,726nm,19.0s								
HDIL	**Hopedale**	**107.60**	**317**	IAms_20	IAms_20	03 06 50.1			
	comp=Z,1µm,19.0s								
ECH	**Echery**	**107.95**	**26**	IAms_20	IAms_20	03 01 45.7			
	comp=Z,883nm,18.0s								
OK032	**Salt Plains WL**	**108.17**	**309**	IAms_20	IAms_20	03 05 53.0			
	comp=Z,854nm,18.0s								
PALK	**Pallekele**	**108.20**	**104**	IAms_20	IAms_20	02 57 03.8			
	comp=Z,676nm,19.0s								
BFO	**Black Forest**	**108.35**	**26**	IAms_20	IAms_20	02 59 33.2			
	comp=Z,740nm,18.0s								
L44A	**Lake County Fo**	**108.47**	**319**	IAms_20	IAms_20	03 03 08.1			
	comp=Z,926nm,19.0s								
UOSS	**Minazif**	**108.53**	**73**	IAms_20	IAms_20	02 59 24.3			
	comp=Z,786nm,20.0s								
BRTR	**Keskin Array B**	**109.41**	**48**	PKiKP	**PKiKP**	**02 16 21.1**	**+0.7**		
	comp=Z,0.7nm,1.0s,baz=166,slow=2.4,SNR=2.2								
BRTR				PP	**PP**	**02 16 45.7**	**-5.2**		
	comp=Z,2.8nm,1.0s,baz=222,slow=8.2,SNR=6.4								
BRTR				PKKPbc	**PKKPbc**	**02 27 24.8**	**+0.2**		
	comp=Z,1.2nm,1.0s,baz=96,slow=13,SNR=3.8								
GLMI	**Grayling**	**109.57**	**323**	IAms_20	IAms_20	03 08 11.2			
	comp=Z,860nm,18.0s								
JFWS	**Jewell Farm**	**109.99**	**318**	IAms_20	IAms_20	03 03 28.3			
	comp=Z,764nm,19.0s								
GERES	**GERESS Array B**	**110.27**	**30**	PKiKP	**PKiKP**	**02 16 22.1**	**+0.5**		
	comp=Z,0.5nm,0.8s,baz=205,slow=2.8,SNR=4.4								
GERES				PKKPbc	**PKKPbc**	**02 27 21.6**	**-0.5**		
	comp=Z,0.4nm,0.9s,baz=348,slow=3.3,SNR=3.9								
CKRC	**Cesky Krumlov**	**110.42**	**30**	AMS	AMS	03 04 20.0			
	comp=Z,500nm,15.9s								
KHC	**Kasperske Hory**	**110.49**	**29**	IAms_20	IAms_20	02 58 31.9			
	comp=Z,741nm,20.0s								
KHC	**Kasperske Hory**	**110.49**	**29**	AMS	AMS	02 58 10.0			
	comp=Z,800nm,21.0s								
ANMO	**Albuquerque**	**110.50**	**302**	*i* PKiKP	**PKiKP**	**02 16 21.5**	**-1.1**		
CBKS	**Cedar Bluff**	**110.51**	**309**	IAms_20	IAms_20	03 09 33.9			
	comp=Z,1µm,19.0s								
NKC	**Novy Kostel**	**111.18**	**28**	AMS	AMS	03 02 30.0			
	comp=Z,500nm,19.4s								
TREC	**Trest**	**111.19**	**31**	AMS	AMS	03 00 20.0			
	comp=Z,600nm,20.6s								
TIRR	**Tirgusor**	**111.30**	**41**	IAms_20	IAms_20	03 09 03.2			
	comp=Z,1µm,19.0s								
PRU	**Pruhonice**	**111.54**	**30**	AMS	AMS	03 01 00.0			
	comp=Z,700nm,20.6s								
MAUC	**Maruska**	**111.94**	**32**	AMS	AMS	03 05 20.0			
	comp=Z,1µm,18.2s								
SOEI	**Soe**	**111.97**	**153**	IAms_20	IAms_20	02 56 39.0			
	comp=Z,1µm,21.0s								
SOEI	**Soe**	**111.97**	**153**	P	**Pdif**	**02 12 40.3**	**+11**		
PVCC	**Panska Ves**	**112.03**	**29**	AMS	AMS	02 59 10.0			
	comp=Z,600nm,17.1s								
KRLC	**Kraliky**	**112.26**	**31**	AMS	AMS	03 01 00.0			
	comp=Z,500nm,17.3s								
SDCO	**Great Sand Dun**	**112.29**	**304**	IAms_20	IAms_20	03 08 58.0			
	comp=Z,613nm,19.0s								
SDCO	**Great Sand Dun**	**112.29**	**304**	P	**PKiKP**	**02 16 26.8**	**+0.7**		
	baz=144								
CLL	**Collm**	**112.30**	**28**	*e*PP	**PP**	**02 17 12.0**	**+0.6**		
CLL				*e*SKKSac	SKKSac	02 24 12.0	-0.4		
CLL				*e*Sdif	**Sdif**	**02 24 54.0**	**+2.8**		
CLL				*e*PS	**PS**	**02 26 42.0**	**-2.1**		
CLL				*e*PPS	PPS	02 28 00.0			
CLL				*e*SS	**SS**	**02 32 49.0**	**-1.7**		
CLL				*ex*	x	02 36 24.0			
CLL				*e*SSS	SSS	02 36 56.0			
CLL				*ex*	x	02 38 00.0			
CLL				*e*SSSS		02 40 18.0			
CLL				Lm	MLR	03 02 00.0			
	comp=N,400nm,18.7s								
CLL				Lm	MLR	03 02 00.0			
	comp=E,200nm,20.0s								
CLL				Lm	MLR	03 02 00.0			
	comp=Z,400nm,19.5s								
CLL				Lm	MLR	04 33 00.0			
	comp=Z,100nm,19.3s								
CLL				LmV		06 24 00.0			
	comp=Z,100nm,19.6s								
DPC	**Dobruska-Polom**	**112.37**	**31**	AMS	AMS	03 01 10.0			
	comp=Z,600nm,21.5s								
UPC	**Upice**	**112.42**	**30**	AMS	AMS	03 01 20.0			
	comp=Z,500nm,21.0s								
OKC	**Ostrava-Krasne**	**112.46**	**32**	AMS	AMS	03 02 50.0			
	comp=Z,300nm,17.9s								
CHVC	**Chvalec**	**112.51**	**30**	AMS	AMS	03 01 00.0			
	comp=Z,100nm,17.1s								
OSTC	**Ostas**	**112.53**	**30**	AMS	AMS	03 01 30.0			
	comp=Z,500nm,21.1s								
S22A	**4UR Ranch, Cre**	**112.92**	**303**	P	**PKiKP**	**02 16 27.8**	**+0.5**		
	baz=143								
ECSD	**EROS Data Cent**	**113.21**	**314**	IAms_20	IAms_20	03 07 17.5			
	comp=Z,988nm,19.0s								
MVCO	**Mesa Verde**	**113.30**	**302**	IAms_20	IAms_20	03 10 49.4			
	comp=Z,653nm,18.0s								
RPSI	**Rantau Prapat**	**113.86**	**123**	IAms_20	IAms_20	02 53 01.5			
	comp=Z,1µm,22.0s								
MONP2	**Monument Peak**	**113.92**	**293**	P	**PKiKP**	**02 16 29.4**	**+0.1**		
	baz=142								
ISCO	**Idaho Springs**	**113.98**	**306**	IAms_20	IAms_20	03 12 41.8			
	comp=Z,33nm,18.0s								
ISCO	**Idaho Springs**	**113.98**	**306**	P	**PKiKP**	**02 16 29.8**	**+0.6**		
	baz=143								
BC3	**Big Chuckawall**	**114.01**	**295**	P	**PKiKP**	**02 16 29.8**	**+0.5**		
	baz=142								
IRM	**Iron Mountain**	**114.24**	**295**	P	**PKiKP**	**02 16 30.1**	**+0.5**		
	baz=142								
TPFO	**Pinon Flats**	**114.50**	**294**	P	**PKiKP**	**02 16 30.8**	**+0.6**		
	baz=141								
PFO	**Pinyon Flats O**	**114.50**	**294**	P	PKPdf	02 16 30.2	0.0		
	baz=141								
BELC	**Belle Mtn. Jos**	**114.56**	**294**	P	**PKiKP**	**02 16 31.1**	**+0.7**		
	baz=141								
EYMN	**Ely**	**114.71**	**320**	IAms_20	IAms_20	03 13 14.2			
	comp=Z,904nm,18.0s								
SOC	**Sochi**	**115.17**	**49**	*i* PKiKP	**PKiKP**	**02 16 32.0**	**+1.0**		
SOC				*e*		02 17 32.8			
SOC				*e*PPP	PPP	02 19 57.6			
SOC				*e*		02 23 15.9			
SOC				*e*PS	PKKPdf	02 27 20.4	-9.4		
SOC				*e*SS	SS	02 33 27.7	-1.2		
SOC				*e*SSS	SSS	02 37 48.1			
HYBB	**Hyderabad (bro**	**115.22**	**96**	*e*PKiKP	**PKiKP**	**02 16 32.6**	**+0.7**		
KNB	**Kanab**	**115.28**	**299**		**PKiKP**	**02 16 32.7**	**+1.0**		
KNB	**Kanab**	**115.28**	**299**	PKiKP	**PKiKP**	**02 16 32.7**	**+1.0**		
RGN	**Rugen**	**115.31**	**27**	IAms_20	IAms_20	03 04 48.3			
	comp=Z,1µm,20.0s								
O20A	**White River Ci**	**115.48**	**304**	P	**PKiKP**	**02 16 32.8**	**+0.8**		
	baz=142								
PMG	**Port Moresby**	**115.55**	**178**	IAms_20	IAms_20	03 05 53.3			
	comp=Z,828nm,19.0s								
BFSC	**Mount Baldy Ra**	**115.62**	**293**	P	**PKPdf**	**02 16 32.4**	**0.0**		
	baz=141								
RWWY	**Rawlins**	**116.22**	**306**	IAms_20	IAms_20	03 12 38.9			
	comp=Z,865nm,19.0s								
EDW2	**Edwards Air Fo**	**116.29**	**294**	P	**PKiKP**	**02 16 33.9**	**+0.4**		
	baz=141								
K22A	**Casper**	**116.65**	**307**	P	**PKiKP**	**02 16 34.8**	**+0.7**		
	baz=142								
RSSD	**Black Hills**	**116.69**	**310**	PKPdf	**PKiKP**	**02 16 34.8**	**+0.6**		
RSSD	**Black Hills**	**116.69**	**310**	IAms_20	IAms_20	03 11 57.6			
	comp=Z,774nm,18.0s								
RSSD	**Black Hills**	**116.69**	**310**	PKiKP	**PKiKP**	**02 16 34.8**	**+0.6**		
RSSD	**Black Hills**	**116.69**	**310**	P	**PKiKP**	**02 16 34.6**	**+0.4**		
	baz=142								
AKASG	**Malin Array Be**	**116.84**	**38**	PKP	**PKPdf**	**02 16 34.0**	**0.0**		
	comp=Z,1.8nm,0.8s,baz=248,slow=2.2,SNR=7.5								
AKASG				PP	**PP**	**02 17 40.4**	**-3.2**		
	comp=Z,0.1nm,0.2s,baz=229,slow=6.8,SNR=4.6								
AKASG	**Malin Array Be**	**116.84**	**38**		**PKPdf**	**02 16 33.7**	**-0.3**		
AKASG	**Malin Array Be**	**116.84**	**38**	PKiKP	**PKPdf**	**02 16 34.0**	**0.0**		
FURC	**Furnace Creek,**	**116.92**	**296**	P	**PKiKP**	**02 16 35.0**	**+0.5**		
	baz=140								
MPMC	**Manual Prospec**	**116.93**	**295**	P	**PKiKP**	**02 16 35.2**	**+0.3**		
	baz=140								
KULM	**Kulim**	**116.95**	**123**	IAms_20	IAms_20	02 55 07.3			
	comp=Z,760nm,21.0s								
TPNV	**Topopah Spring**	**116.97**	**296**	P	**PKiKP**	**02 16 35.2**	**+0.3**		
	baz=140								
ISA	**Isabella, Lake**	**117.14**	**294**	P	**PKiKP**	**02 16 35.5**	**+0.4**		
	baz=140								
CWC	**Cottonwood Cre**	**117.53**	**295**	P	**PKiKP**	**02 16 36.6**	**+0.6**		
	baz=140								
R11A	**Troy Canyon, C**	**117.70**	**298**	P	**PKiKP**	**02 16 36.8**	**+0.4**		
	baz=140								
DUG	**Dugway, Tooele**	**117.73**	**301**	IAms_20	IAms_20	03 13 02.0			
	comp=Z,744nm,18.0s								
DUG	**Dugway, Tooele**	**117.73**	**301**	P	**PKiKP**	**02 16 37.0**	**+0.7**		
	baz=140								
GOF	**Gofitskoye**	**117.80**	**50**⇑	*e*P	**Pdif**	**02 12 42.0**	**-12**		
BW06	**Boulder Array**	**118.15**	**305**	P	**PKiKP**	**02 16 38.0**	**+0.9**		
	baz=141								
PDAR	**Pinedale Array**	**118.15**	**305**	PKP	**PKPdf**	**02 16 37.1**	**+0.1**		
	comp=Z,0.9nm,0.6s,baz=144,slow=5.7,SNR=9.7								
PDAR				PKKPbc	**PKKPbc**	**02 26 55.0**	**0.0**		
	comp=Z,0.3nm,0.7s,baz=328,slow=3.2,SNR=2.3								
PDAR	**Pinedale Array**	**118.15**	**305**	PKPdf	**PKPdf**	**02 16 36.8**	**-0.3**		
MAK	**Makhachkala**	**118.19**	**55**	*e*P	**Pdif**	**02 12 54.5**	**-1.4**		
MAK				*e*PS	**PS**	**02 27 43.0**	**+5.0**		
MAK				pmax	pmax				
	comp=Z,297nm,1.4s								
HWUT	**Hardware Ranch**	**118.21**	**303**	IAms_20	IAms_20	03 15 24.7			
	comp=Z,756nm,18.0s								
ULM	**Lac du Bonnet**	**118.24**	**319**	PKP	**PKiKP**	**02 16 37.0**	**+0.3**		
	comp=Z,2.0nm,0.6s,baz=81,slow=0.1,SNR=2.3								
NVAR	**Mina Array Bea**	**119.15**	**296**	PKP	**PKiKP**	**02 16 39.5**	**+0.3**		
	comp=Z,2.5nm,0.7s,baz=141,slow=2.5,SNR=22								
NVAR				PK

OBN	**Obninsk**	123.04	39	e	PKIKP		**PKiKP**	02 16 46.7	+0.8
OBN				e				02 18 25.2	
OBN				i	SS		SS	02 35 13.7	+3.6
OBN					pmax		pmax		
	comp=Z,40nm,1.4s								
MSO	**Missoula**	123.26	305		P		**PKiKP**	02 16 47.5	+0.7
	baz=137								
BMO	**Blue Mountains**	123.42	302		IAMs_20		IAMs_20	03 18 03.5	
	comp=Z,570nm,19.0s								
YBH	**Yreka Blue Hor**	123.86	296		PKPdf		**PKiKP**	02 16 48.6	+0.4
YBH	**Yreka Blue Hor**	123.86	296		PKIKP		**PKiKP**	02 16 48.6	+0.4
MOS	**Moscow**	123.90	39	i	PKIKP		**PKiKP**	02 16 48.1	+0.5
MOS				e				02 16 56.2	
MOS				e				02 18 36.0	
MOS					pmax		pmax		
	comp=Z,40nm,1.3s								
MOS					MLR		MLR		
	comp=Z,500nm,21.0s								
L04D	**Klamath Falls**	124.01	296		P		**PKiKP**	02 16 48.9	+0.4
	baz=136								
FFC	**Flin Flon**	124.07	319		IAMs_20		IAMs_20	03 12 42.7	
	comp=Z,660nm,18.0s								
ICESG	**Greenland Ices**	124.21	356	i	P		**PKPdf**	02 16 47.5	-0.5
J05D	**Fort Rock, OR**	124.23	298		P		**PKiKP**	02 16 49.7	+0.7
	baz=136								
MYLDM	**Lahad Datu**	124.35	142		IAMs_20		IAMs_20	03 03 23.0	
	comp=Z,676nm,20.0s								
L02F	**Cave Junction**	124.59	295		P		**PKiKP**	02 16 49.9	+0.4
	baz=136								
J04D	**Umpqua Nationa**	124.64	297		P		**PKiKP**	02 16 50.3	+0.5
	baz=136								
NIL	**Nilore**	124.69	80		PKPdf		**PKiKP**	02 16 50.0	0.0
NIL	**Nilore**	124.69	80		PKIKP		**PKiKP**	02 16 50.0	0.0
FINES	**FINESS Array B**	124.70	29		PKPdf		**PKiKP**	02 16 48.1	-0.6
	comp=Z,5.8nm,0.5s,baz=167,slow=0.2,SNR=19								
FINES	**FINESS Array B**	124.70	29		PKPdf		**PKiKP**	02 16 49.7	+0.7
I05D	**Terrebonne, OR**	125.04	299		P		**PKiKP**	02 16 51.0	+0.6
	baz=136								
K02D	**Willamette Mer**	125.05	296		P		**PKiKP**	02 16 51.2	+0.7
	baz=136								
I04A	**Tendick Farm,**	125.19	298		P		**PKiKP**	02 16 51.4	+0.7
	baz=136								
BELG	**Belogornoye**	125.33	47		PKP		**PKiKP**	02 16 50.8	+0.3
	comp=Z,23nm,1.1s,baz=220,slow=2.2,SNR=4.9								
J01E	**Myrtle Point**	125.52	296		IAMs_20		IAMs_20	03 19 50.0	
	comp=Z,739nm,20.0s								
J01E	**Myrtle Point**	125.52	296		P		**PKiKP**	02 16 52.1	+0.9
	baz=136								
I03D	**Drain, OR**	125.60	297		P		**PKiKP**	02 16 52.0	+0.6
	baz=136								
HAWA	**Hanford**	125.61	302		IAMs_20		IAMs_20	03 17 24.5	
	comp=Z,751nm,18.0s								
G05D	**Wamic, OR**	125.67	300		P		**PKiKP**	02 16 52.2	+0.6
	baz=135								
H04A	**Detroit Lake**	125.71	299		PKPdf		**PKiKP**	02 16 52.1	+0.5
NEW	**Newport**	125.79	305		P		**PKPdf**	02 16 51.1	-0.2
	baz=135								
H04D	**Lebanon**	125.88	298		IAMs_20		IAMs_20	03 21 17.5	
	comp=Z,705nm,18.0s								
H04D	**Lebanon**	125.88	298		P		**PKPdf**	02 16 51.5	0.0
	baz=135								
CHGR	**Chuyangaron**	126.05	72				**PKiKP**	02 16 53.0	+0.4
CHGR	**Chuyangaron**	126.05	72		PKIKP		**PKiKP**	02 16 53.0	+0.4
PYUN	**Piuthan**	126.09	92	e	P		**PKPdf**	02 16 51.3	-1.5
	comp=Z,76nm,1.0s								
I02E	**Swisshome, OR**	126.15	297		P		**PKPdf**	02 16 52.1	0.0
	baz=135								
G03D	**McMinnville, O**	126.63	298		IAMs_20		IAMs_20	03 22 30.4	
	comp=Z,566nm,19.0s								
G03D	**McMinnville, O**	126.63	298		P		**PKPdf**	02 16 53.0	0.0
	baz=135								
DANN	**Dangsing**	126.72	92	e	P		**PKPdf**	02 16 52.8	-1.3
	comp=Z,114nm,0.9s								
GAR	**Garm**	126.92	73		PKPdf		**PKiKP**	02 16 54.8	+0.4
GKN	**Gorkha**	126.96	93	e	P		**PKPdf**	02 16 53.9	-0.5
	comp=Z,63nm,0.9s								
PKIN	**Phulchoki**	127.07	94	e	P		**PKiKP**	02 16 55.2	0.0
	comp=Z,47nm,0.8s								
PKI	**Pulchoki**	127.07	94	e	P		**PKiKP**	02 16 55.3	0.0
	comp=Z,74nm,1.1s								
RAMN	**Ramite**	127.28	96	e	P		**PKiKP**	02 16 56.0	+0.4
	comp=Z,81nm,1.1s								
CMAR	**Chiang Mai Arr**	127.32	114		PKP		**PKPdf**	02 16 55.0	-0.1
	comp=Z,6.3nm,0.6s,baz=234,slow=3.7,SNR=15								
JIRN	**Jiri**	127.58	95	e	P		**PKPdf**	02 16 56.1	+0.3
	comp=Z,75nm,0.7s								
GUN	**Gumba**	127.60	94	e	P		**PKPdf**	02 16 55.0	-0.8
	comp=Z,50nm,0.8s								
CHTO	**Chiang Mai**	127.61	113		PKPdf		**PKiKP**	02 16 56.6	+0.4
CHTO	**Chiang Mai**	127.61	113		PKIKP		**PKiKP**	02 16 56.6	+0.4
SUMG	**Summit**	127.66	357		PKPdf		**PKiKP**	02 16 56.2	+1.0
SUMG					IAMs_20		IAMs_20	03 05 52.2	
	comp=Z,784nm,19.0s								
SUMG	**Summit**	127.66	357		PKIKP		**PKiKP**	02 16 56.2	+1.0
SUMG	**Summit**	127.66	357	i	P		**PKPdf**	02 16 54.5	-0.2
TAS	**Tashkent**	128.01	70		PKPdf		**PKiKP**	02 16 58.2	+1.9
TAS	**Tashkent**	128.01	70		PKIKP		**PKiKP**	02 16 58.2	+1.9
TAPN	**Taplejung**	128.21	96	e	P		**PKiKP**	02 16 58.2	+0.6
KLMR	**Klimovskoe**	128.40	36	e	PKIKP		**PKPdf**	02 16 55.8	0.0
KLMR				e				02 19 00.4	
KLMR					pmax		pmax		
	comp=Z,47nm,1.4s								
KLMR	**Klimovskoe**	128.40	36	e	PKPdf		**PKPdf**	02 16 55.8	0.0
KLMR					AMP			02 16 59.7	
	comp=Z,47nm,1.4s								
KLMR				e	PP		**PP**	02 19 00.5	-1.1
KLMR				e	SKKS		**SKKSdf**	02 34 21.3	+4.5
KLMR				e	SKKS		**SKKSdf**	02 34 21.3	+4.5
KLMR					LQ		LQ	03 01 40.7	
KLMR					LQ		LQ	03 01 40.7	
KLMR					LR		LR	03 06 22.7	
AKTO	**Aktyubinsk**	128.57	55		PKP		**PKPdf**	02 16 56.8	+0.3
	comp=Z,12nm,1.0s,baz=167,slow=3.1,SNR=17								
ABKAR	**Akbulak array**	128.69	57		PKPdf		**PKPdf**	02 16 55.6	-1.2
IUG	**luzhnay**	128.98	70	e	PKIKP		**PKiKP**	02 16 58.2	-0.2
IUG	**luzhnay**	128.98	70	e	PKP		**PKiKP**	02 16 58.2	-0.2
	baz=70								
SHL	**Shillong**	129.19	102		PKPdf		**PKiKP**	02 17 00.4	+1.0
SHL	**Shillong**	129.19	102		PKIKP		**PKiKP**	02 17 00.4	+1.0
CRAI	**Chiangrai**	129.53	114		PKPdf		**PKPdf**	02 16 59.5	+0.2
KKAR	**Karatay Array**	129.89	69		PKPdf		**PKPdf**	02 16 57.3	-2.0
KKAR	**Karatay Array**	129.89	69		PKIKP		**PKPdf**	02 16 57.3	-2.0
DZA	**Taraz**	130.19	70	e	PKIKP		**PKiKP**	02 17 00.5	-0.2
DZA	**Taraz**	130.19	70	e	PKP		**PKiKP**	02 17 00.5	-0.2
	baz=70								
KIRV	**Kirov**	130.40	43		PKP		**PKPdf**	02 16 59.8	+0.1
	comp=Z,6.7nm,0.7s,baz=158,slow=0.4,SNR=7.5								
KIRV	**Kirov**	130.40	43	i	PKIKP		**PKiKP**	02 17 00.7	+0.2
KSH	**Kashi**	130.41	76		PKP		**PKPdf**	02 17 00.0	-0.5
KSH					LR		LR		
	comp=Z,430nm,19.9s								
KSH					LR		LR		
	comp=Z,180nm,14.8s								
KSH					LR		LR		
	comp=Z,360nm,18.5s								
ARCES	**ARCESS Array B**	131.01	23		PKP		**PKPdf**	02 17 00.1	-0.5
	comp=Z,13nm,0.9s,baz=196,slow=1.3,SNR=21								
ARCES					PKP2ab			02 32 38.6	
	comp=Z,2.7nm,0.9s,baz=50,slow=1.9,SNR=4.6								
ARCES	**ARCESS Array B**	131.01	23		PKPdf		**PKiKP**	02 17 01.3	-0.2
ARCES	**ARCESS Array B**	131.01	23		PKIKP		**PKiKP**	02 17 01.3	-0.2
PRGR	**Permogore**	131.06	38	e	PKIKP		**PKPdf**	02 17 00.8	0.0
PRGR				e				02 19 26.3	
APA	**Apatity**	131.45	27	i	PKIKP		**PKiKP**	02 17 03.7	+1.3
AAK	**Ala-Archa**	131.73	72		PKP		**PKiKP**	02 17 04.2	+0.2
	comp=Z,6.2nm,0.7s,baz=187,slow=2.5,SNR=14								
LSA	**Lhasa**	131.96	97		PKPdf		**PKiKP**	02 17 05.7	+0.4
LSA	**Lhasa**	131.96	97		PKIKP		**PKiKP**	02 17 05.7	+0.4
LSA					MLR		MLR		
	comp=Z,300nm,19.0s								
DAG	**Danmarks Havn**	132.00	4	i	P		**PKPdf**	02 17 01.4	-0.9
LVZ	**Lovozero**	132.02	28	i	PKIKP		**PKiKP**	02 17 05.0	+1.4
SGDS	**Sogindy**	132.35	72	e	PKIKP		**PKPdf**	02 17 04.4	+0.4
SGDS	**Sogindy**	132.35	72	e	PKP		**PKPdf**	02 17 04.4	+0.4
	baz=72								
ARU	**Arti**	132.75	49		PKP		**PKPdf**	02 17 04.7	+0.5
	comp=Z,3.8nm,0.6s,baz=208,slow=3.2,SNR=17								
ARU	**Arti**	132.75	49		PKPdf		**PKiKP**	02 17 05.4	+0.1
ARU	**Arti**	132.75	49	i	PKIKP		**PKiKP**	02 17 05.5	+0.1
ARU								02 19 28.1	
BTLS	**Baital**	133.08	70	e	PKIKP		**PKPdf**	02 17 05.8	+0.6
BTLS	**Baital**	133.08	70	e	PKP		**PKPdf**	02 17 05.9	+0.6
	baz=70								
QIZ	**Qiongzhong**	133.24	125		PKP		**PKPdf**	02 17 05.2	-1.1
QIZ					PP		**PP**	02 19 32.8	-0.2
QIZ					SS		SS	02 37 15.1	-1.4
QIZ					LR		LR		
	comp=Z,320nm,17.6s								
QIZ					LR		LR		
	comp=Z,320nm,20.0s								
QIZ					LR		LR		
	comp=Z,470nm,22.0s								
AAA	**Alma-Ata**	133.43	73	e	PKIKP		**PKiKP**	02 17 06.9	-0.4
AAA	**Alma-Ata**	133.43	73	e	PKP		**PKPdf**	02 17 06.1	+0.1
	baz=74								
MDOK	**Medeo**	133.48	74	e	PKIKP		**PKPdf**	02 17 06.8	+0.6
MDOK	**Medeo**	133.48	74	e	PKP		**PKPdf**	02 17 06.9	+0.6
	baz=74								
CHKK	**Chushkaly**	133.90	73	e	PKIKP		**PKPdf**	02 17 07.1	+0.3
CHKK	**Chushkaly**	133.90	73	e	PKP		**PKPdf**	02 17 07.1	+0.3
	baz=73								
SATY	**Saty**	134.16	75	e	PKIKP		**PKPdf**	02 17 08.0	+0.5
SATY	**Saty**	134.16	75	e	PKP		**PKPdf**	02 17 08.1	+0.5
	baz=75								
YKA	**Yellowknife Ar**	134.19	320		PKP		**PKPdf**	02 17 07.0	+0.3
	comp=Z,6.9nm,0.7s,baz=125,slow=2.5,SNR=15								
YKA					SKPbc		**SKPbc**	02 20 35.3	-0.6
	comp=Z,4.4nm,0.9s,baz=104,slow=2.6,SNR=4.5								
YKA	**Yellowknife Ar**	134.19	320		PKIKP		**PKPdf**	02 17 07.0	+0.3
UZB	**Uzynbulak**	134.55	75	e	PKIKP		**PKPdf**	02 17 08.6	+0.3
UZB	**Uzynbulak**	134.55	75	e	PKP		**PKPdf**	02 17 08.6	+0.3
	baz=75								
KPKS	**Kokpek**	134.57	74	e	PKIKP		**PKPdf**	02 17 08.7	+0.5
KPKS	**Kokpek**	134.57	74	e	PKP		**PKPdf**	02 17 08.8	+0.5
	baz=75								
SHLS	**Shalkode**	134.80	75	e	PKIKP		**PKPdf**	02 17 09.4	+0.7
SHLS	**Shalkode**	134.80	75	e	PKP		**PKPdf**	02 17 09.4	+0.7
	baz=76								
PZH	**PanZhiHua**	135.36	110		PKP		**PKPdf**	02 17 09.3	-1.0
PZH					SKKS			02 26 36.7	
PZH					AMB		AMB		
	comp=Z,170nm,9.8s								
PZH					LR		LR		
	comp=Z,260nm,18.6s								
PZH					LR		LR		
	comp=Z,220nm,18.1s								
PZH					LR		LR		
	comp=Z,330nm,19.6s								
TDK	**Taldyqorghan**	135.41	73	i	PKIKP		**PKPdf**	02 17 09.9	+0.3
TDK	**Taldyqorghan**	135.41	73	i	PKP		**PKPdf**	02 17 10.0	+0.3
	baz=73								
BRZS	**Berezniki**	135.48	64	e	PKIKP		**PKPdf**	02 17 10.4	+0.8
BRZS	**Berezniki**	135.48	64	e	PKP		**PKPdf**	02 17 10.4	+0.8
	baz=64								
BRVK	**Borovoye**	136.12	59		PKPdf		**PKPdf**	02 17 11.4	+0.8
BRVK	**Borovoye**	136.12	59		IAMs_20		IAMs_20	03 15 26.0	
	comp=Z,754nm,22.0s								
BRVK	**Borovoye**	136.12	59		PKIKP		**PKPdf**	02 17 11.4	+0.8
BRVK					MLR		MLR		
	comp=Z,800nm,22.0s								
BVAR	**Borovoye Array**	136.16	59		PKP		**PKPdf**	02 17 08.1	-2.6
	comp=Z,3.8nm,0.9s,baz=209,slow=4.9,SNR=5.4								
NOR	**Nord**	136.84	3	i	P		**PKPdf**	02 17 11.8	+0.5
V35K	**Ketchikan**	137.19	304		P		**PKPdf**	02 17 13.1	+0.6
	baz=124								
T35M	**Bob Quinn**	137.48	307		P		**PKPdf**	02 17 14.0	+1.0
	baz=124								
CRAG	**Craig**	137.99	304		P		**PKPdf**	02 17 14.8	+0.9
	baz=123								
WRAK	**Wrangell Islan**	138.14	305		IAMs_20		IAMs_20	03 26 48.9	
	comp=Z,572nm,20.0s								
WRAK	**Wrangell Islan**	138.14	305		P		**PKPdf**	02 17 14.9	+0.7
	baz=123								
S34M	**Telegraph Cree**	138.38	308		P		**PKPdf**	02 17 15.3	+0.7
	baz=122								
WTLY	**Watson Lake, Y**	138.51	312		P		**PKPdf**	02 17 15.7	+0.8
	baz=121								
MK31	**Makanchi Array**	138.65	73	i	PKIKP		**PKPdf**	02 17 14.8	-0.8
MKAR	**Makanchi Array**	138.65	73		PKhKP		PKPpre	02 17 06.8	
	comp=Z,0.8nm,0.5s,baz=238,slow=4.1,SNR=6.2								
MKAR					PKP		**PKPdf**	02 17 15.6	0.0
	comp=Z,2.7nm,0.7s,baz=245,slow=2.7,SNR=9.6								
MKAR					PP		**PP**	02 20 07.2	-0.2
	comp=Z,3.0nm,1.0s,baz=220,slow=4.7,SNR=4.3								
MKAR	**Makanchi Array**	138.65	73		PKPdf		**PKPdf**	02 17 16.1	+0.5
MKAR	**Makanchi Array**	138.65	73		PKIKP		**PKPdf**	02 17 16.1	+0.5
GOMU	**GeErMu**	138.81	94		PKP		**PKiKP**	02 17 17.9	-0.9
GOMU					PP		**PP**	02 20 13.2	+4.4
GOMU					AMB		AMB		
	comp=Z,150nm,4.2s								
GOMU					LR		LR		
	comp=Z,220nm,20.1s								
GOMU					LR		LR		
	comp=Z,140nm,20.0s								
GOMU					LR		LR		
	comp=Z,240nm,22.9s								
KURBB	**Kurchatov Arra**	138.89	66		PKhKP		PKPpre	02 17 09.4	
	comp=Z,3.7nm,0.9s,baz=244,slow=4.0,SNR=14								
KURK	**Kurchatov**	138.99	66		PKPdf		**PKPdf**	02 17 13.8	-2.2
KURK	**Kurchatov**	138.99	66		IAMs_20		IAMs_20	03 20 24.8	
	comp=Z,693nm,19.0s								
KURK	**Kurchatov**	138.99	66		PKIKP		**PKPdf**	02 17 13.8	-2.2
KURK					MLR		MLR		
	comp=Z,700nm,19.0s								
TGTN	**Hyland Airport**	139.01	314		P		**PKPdf**	02 17 16.8	+1.0
	baz=120								
R33M	**Jennings River**	139.08	310		P		**PKPdf**	02 17 16.8	+0.7
	baz=121								
SEM	**Semipalatinsk**	139.67	67	e	PKIKP		**PKPdf**	02 17 18.3	+0.8
SEM	**Semipalatinsk**	139.67	67	e	PKP		**PKPdf**	02 17 18.4	+0.8
	baz=68								
WMQ	**Urumqi**	139.83	80		PKP		**PKPdf**	02 17 19.0	+1.1
WMQ					AMB		AMB		
	comp=Z,63nm,5.5s								
WMQ					LR		LR		
	comp=Z,280nm,20.5s								
WMQ					LR		LR		
	comp=Z,440nm,20.5s								
WMQ					LR		LR		
	comp=Z,480nm,22.1s								
SIT	**Sitka**	139.87	305		P		**PKPdf**	02 17 17.8	+0.4
	baz=121								
CD2	**Chengdu**	139.91	108		PKP		**PKPdf**	02 17 18.0	-0.4
CD2					PP		**PP**	02 20 15.2	+0.1
CD2					AMB		AMB		
	comp=Z,340nm,7.8s								
CD2					LR		LR		
	comp=Z,440nm,23.5s								
CD2					LR		LR		
	comp=Z,310nm,23.5s								
CD2					LR		LR		
	comp=Z,300nm,25.5s								
R32K	**Eaglecrest**	140.11	307		P		**PKPdf**	02 17 18.8	+1.0
	baz=120								
P33M	**Teslin, Yukon**	140.30	310		IAMs_20		IAMs_20	03 23 58.0	
	comp=Z,497nm,18.0s								
P33M	**Teslin, Yukon**	140.30	310		P		**PKPdf**	02 17 18.5	+0.3
	baz=119								
P32M	**Atlin**	140.40	309		P		**PKPdf**	02 17 18.6	+0.2
	baz=119								
MMPY	**Sheldon Lake,**	140.77	314		P		**PKPdf**	02 17 19.4	+0.4
	baz=117								
N32M	**Quiet Lake**	140.86	311		P		**PKPdf**	02 17 19.8	+0.6
	baz=118								
SKAG	**Skagway**	141.06	308		P		**PKPdf**	02 17 20.2	+0.8
	baz=118								
C36M	**Paulatuk**	141.06	326		PKPdf		**PKPdf**	02 17 19.2	0.0
C36M					IAMs_20		IAMs_20	03 18 46.9	
	comp=Z,712nm,19.0s								
C36M	**Paulatuk**	141.06	326		P		**PKPdf**	02 17 19.1	0.0
	baz=115								
N31M	**Braeburn, Yuko**	142.18	311		IAMs_20		IAMs_20	03 24 26.5	
	comp=Z,552nm,19.0s								
P29M	**Windy Craggy**	142.23	307		IAMs_20		IAMs_20	03 29 08.9	
	comp=Z,578nm,18.0s								
ENH	**Enshi**	142.45	115		PKPdf		**PKPdf**	02 17 19.7	-3.3
DGZ	**Jazzator, Alta**	143.13	72	i	PKIKP		PKPbc	02 17 21.9	+1.2
BCPM	**Bancas Point**	143.23	307		IAMs_20		IAMs_20	03 29 48.5	
	comp=Z,595nm,19.0s								
LZH	**Lanzhou**	143.83	103	e	PKP		PKPab	02 17 22.9	+0.4
LZH					SKKS			02 27 29.4	
LZH					AMB		AMB		
	comp=Z,520nm,4.5s								
INK	**Inuvik**	143.87	322		PKPdf		**PKPdf**	02 17 23.6	-0.6
INK	**Inuvik**	143.87	322		PKIKP		**PKPdf**	02 17 23.6	-0.6
GTA	**Gaotai**	143.88	95	e	PKP		PKPab	02 17 22.6	+0.1
GTA					pPKP		PKiKP	02 17 33.1	+4.3
GTA					AMB		AMB		
	comp=Z,240nm,5.5s								
GTA					LR		LR		
	comp=Z,230nm,21.8s								
GTA					LR		LR		
	comp=Z,200nm,24.0s								
GTA					LR		LR		
	comp=Z,360nm,22.5s								
ZAA0	**Zalesovo Array**	143.93	65		PKPdf		**PKPdf**	02 17 24.2	-0.5
ZALV	**Zalesovo Beam**	143.93	65		PKhKP		PKPpre	02 17 20.6	
	comp=Z,11nm,0.6s,baz=234,slow=3.8,SNR=25								
ZALV					PP		**PP**	02 20 38.7	-0.7
	comp=Z,0.8nm,0.4s,baz=273,slow=8.5,SNR=2.5								
TABL	**Table Mountain**	144.12	307		IAMs_20		IAMs_20	03 27 52.0	
	comp=Z,662nm,19.0s								
LOGN	**Logan Glacier**	144.21	308		IAMs_20		IAMs_20	03 32 35.3	
	comp=Z,490nm,18.0s								
J29M	**Klondike Camp**	144.36	315		P		PKPbc	02 17 24.4	+0.6
	baz=110								
MESA	**MESA**	144.38	307				PKPbc	02 17 24.6	+0.5
MESA	**MESA**	144.38	307		P		**PKPab**	02 17 23.9	+0.1
	baz=114,SNR=20								
CTGM	**Chitina Glacie**	144.41	308		IAMs_20		IAMs_20	03 25 45.8	
	comp=Z,467nm,19.0s								
CTG	**Chitna Glacier**	144.41	308		P		**PKPab**	02 17 24.0	+0.1
	baz=113								
EPYK	**Eagle Plains**	144.42	318		P		**PKPab**	02 17 23.3	-0.3
	baz=109								
G30M	**tAoh Zraii Nji**	144.42	319		P		**PKPab**	02 17 23.8	+0.2
	baz=108								
I29M	**Ogilvie Camp,**	144.70	316		P		PKPbc	02 17 25.3	+0.5
	baz=109,SNR=66								
ISLE	**Juniper Island**	144.73	307		IAMs_20		IAMs_20	03 27 51.0	
	comp=Z,668nm,19.0s								
BVCY	**Beaver Creek**	144.75	311		P		PKPbc	02 17 25.5	+0.5
	baz=111,SNR=42								
WAX	**Waxell Ridge**	144.90	307		IAMs_20		IAMs_20	03 32 12.6	
	comp=Z,575nm,18.0s								
BGLC	**Bering Glacier**	144.97	306		P		**PKPdf**	02 17 26.6	+0.3
	baz=113								
XAN	**Xi'an**	145.09	111		PKPbc		**PKPbc**	02 17 25.9	-1.1
XAN					SKKS			02 27 31.5	
XAN					LR		LR		
	comp=Z,300nm,21.2s								
XAN					LR		LR		
	comp=Z,170nm,20.6s								
XAN					LR		LR		
	comp=Z,290nm,20.4s								
WHN	**Wuhan**	145.13	121		PKPbc		**PKPbc**	02 17 25.9	-1.2
WHN					LR		LR		
	comp=Z,700nm,17.7s								
M27K	**Edge Creek, AK**	145.17	310		P		**PKPdf**	02 17 27.0	+0.1
	baz=111,SNR=72								
MCARA	**McCarthy VSAT**	145.33	308		IAMs_20		IAMs_20	03 30 19.9	
	comp=Z,443nm,18.0s								
MCARA	**McCarthy VSAT**	145.33	308		P		**PKPab**	02 17 27.1	+0.1
	baz=111								
L27K	**Beaver Creek,**	145.39	311		P		**PKPab**	02 17 27.3	0.0
	baz=110,SNR=51								
KAIM	**Kayak Island**	145.43	306		PKPdf		**PKPab**	02 17 27.9	+0.5
KAIM	**Kayak Island**	145.43	306		P		**PKPab**	02 17 27.5	+0.1
	baz=112,SNR=12								
EGAK	**Eagle**	145.67	315		P		**PKPab**	02 17 28.2	0.0
	baz=108								
M26K	**Nabesna, AK**	145.68	310		IAMs_20		IAMs_20	03 27 14.1	
	comp=Z,632nm,18.0s								
M26K	**Nabesna, AK**	145.68	310		P		**PKPab**	02 17 28.6	+0.3
	baz=110,SNR=20								
K27K	**Chicken**	145.81	313		P		**PKPab**	02 17 29.2	+0.5
	baz=108

HDA	Harding Lake	147.97	313	P	PKPbc	02 17 34.3	-0.1
	baz=104,SNR=10						
ILAR	Eielson Array	148.03	313	PKPbc	PKPbc	02 17 34.2	-0.3
	comp=Z,39nm,0.7s,baz=128,slow=1.1,SNR=61						
ILAR	Eielson Array	148.03	313	PKPbc	PKPbc	02 17 35.4	+0.8
ILAR	Eielson Array	148.03	313	PKP2	PKPbc	02 17 35.4	+0.8
O22K	Cooper Landing	148.10	305	IAMs_20	IAMs_20	03 35 24.3	
	comp=Z,632nm,18.0s						
O22K	Cooper Landing	148.10	305	P	PKPbc	02 17 35.1	+0.3
	baz=108						
F25K	Christian Rive	148.12	319	P	PKPbc	02 17 35.1	+0.2
	baz=100,SNR=44						
PMR	Palmer	148.16	307	P	PKPbc	02 17 34.8	-0.2
	baz=107						
E25K	Arctic Village	148.18	320	P	PKPbc	02 17 34.7	-0.2
	baz=100,SNR=66						
C26K	Camden Bay	148.20	323	P	PKPbc	02 17 34.9	0.0
	baz=97						
WAT1	Susitna Watana	148.25	309	P	PKPbc	02 17 34.7	-0.6
	baz=106						
RC01	Rabbit Creek A	148.29	306	P	PKPbc	02 17 35.1	-0.3
	baz=108,SNR=30						
POKR	Poker Plat Res	148.33	314	P	PKPbc	02 17 35.4	0.0
	baz=103,SNR=14						
BRSE	Bradley Lake S	148.35	303	P	PKPbc	02 17 35.6	0.0
	baz=109,SNR=26						
CCB	Clear Creek Bu	148.38	313	IAMs_20	IAMs_20	03 23 55.6	
	comp=Z,467nm,19.0s						
BRLK	Bradley Lake	148.42	303	IAMs_20	IAMs_20	03 29 11.0	
	comp=Z,580nm,18.0s						
COLA	College	148.45	313		PKPbc	02 17 36.1	+0.4
COLA	College	148.45	313	IAMs_20	IAMs_20	03 34 58.5	
	comp=Z,496nm,19.0s						
COLA	College	148.45	313	PKP2	PKPbc	02 17 36.1	+0.4
COLA	College	148.45	313	P	PKPbc	02 17 35.0	-0.6
	baz=103						
TCOL	CIGO, UAF Yank	148.46	313	IAMs_20	IAMs_20	03 30 04.5	
	comp=Z,631nm,20.0s						
TCOL	CIGO, UAF Yank	148.46	313	P	PKPbc	02 17 35.3	-0.4
	baz=103						
WRH	Wood River Hil	148.46	313	IAMs_20	IAMs_20	03 25 38.7	
	comp=Z,501nm,19.0s						
NJ2	Nanjing	148.54	125	PKPbc	PKPbc	02 17 37.2	+0.3
KDAK	Kodiak Island	148.58	299		PKPbc	02 17 35.8	-0.4
KDAK	Kodiak Island	148.58	299	IAMs_20	IAMs_20	03 24 44.1	
	comp=Z,558nm,19.0s						
KDAK	Kodiak Island	148.58	299	PKP2	PKPbc	02 17 35.8	-0.4
KDAK				MLR	MLR		
	comp=Z,600nm,19.0s						
KDAK	Kodiak Island	148.58	299	P	PKPbc	02 17 35.9	-0.4
	baz=111						
D25K	Kavik River	148.64	322	P	PKPbc	02 17 36.1	0.0
	baz=97						
MCK	McKinley	148.65	311	P	PKPbc	02 17 35.9	-0.4
	baz=104,SNR=23						
G24K	Hadweenzic Riv	148.66	317	P	PKPbc	02 17 36.3	+0.1
	baz=100						
H24K	Noodor Dome	148.66	315	P	PKPbc	02 17 36.3	0.0
	baz=101,SNR=16						
M22K	Willow	148.66	307	P	PKPbc	02 17 36.2	0.0
	baz=106,SNR=15						
OHAK	Old Harbor	148.74	298		PKPbc	02 17 36.9	+0.3
OHAK	Old Harbor	148.74	298	P	PKPbc	02 17 36.1	-0.5
	baz=112						
HOM	Homer	148.75	303	IAMs_20	IAMs_20	03 18 37.6	
	comp=Z,626nm,20.0s						
HOM	Homer	148.75	303	P	PKPbc	02 17 36.4	-0.2
	baz=109						
Q20K	Shuyak Island	148.78	301	P	PKPbc	02 17 36.5	-0.1
	baz=110						
SSE	Sheshan	148.80	129	PKPbc	PKPdf	02 17 32.9	-0.8
SSE				PP	PP	02 21 10.2	+2.3
SSE				SS	SS	02 40 15.3	-2.5
SSE				AMB	AMB		
	comp=Z,26nm,4.6s						
SSE				LR	LR		
	comp=Z,140nm,23.3s						
SSE				LR	LR		
	comp=Z,100nm,23.2s						
CAPN	Captain Cook N	148.86	305	P	PKPbc	02 17 37.2	+0.4
	baz=107						
SUA	Susitna One	148.87	306	P	PKPbc	02 17 37.1	+0.1
	baz=106						
NEA2	Nenana	148.90	313	IAMs_20	IAMs_20	03 28 34.3	
	comp=Z,443nm,18.0s						
NEA2	Nenana	148.90	313	P	PKPbc	02 17 36.3	-0.6
	baz=102,SNR=22						
CUT	Chulitna	148.91	308	IAMs_20	IAMs_20	03 35 01.4	
	comp=Z,586nm,18.0s						
CUT	Chulitna	148.91	308	P	PKPbc	02 17 36.6	-0.2
	baz=105,SNR=16						
SII	Sitkinak Islan	148.95	296		PKPbc	02 17 36.9	-0.3
SII	Sitkinak Islan	148.95	296	P	PKPbc	02 17 36.7	-0.5
	baz=112						
F24K	Squaw Lake	148.96	318	P	PKPbc	02 17 37.1	+0.1
	baz=98						
I23K	Minto, Yukon-K	149.14	314	P	PKPbc	02 17 37.0	-0.4
	baz=101						
TRF	Thorofare Moun	149.17	310	P	PKPbc	02 17 37.4	-0.4
	baz=103						
E24K	Your Creek	149.26	319	P	PKPbc	02 17 37.6	-0.2
	baz=97						
H23K	Yukon River	149.34	315	IAMs_20	IAMs_20	03 28 38.7	
	comp=Z,621nm,18.0s						
H23K	Yukon River	149.34	315	P	PKPbc	02 17 37.9	0.0
	baz=100,SNR=10						
O20K	Slope Mountain	149.35	303	P	PKPbc	02 17 37.8	-0.4
	baz=107,SNR=6.2						
SKT	Skwentna	149.37	307	IAMs_20	IAMs_20	03 32 06.8	
	comp=Z,653nm,19.0s						
SKT	Skwentna	149.37	307	P	PKPbc	02 17 37.8	-0.3
	baz=105						
CHIR	Chirikof Islan	149.41	294	P	PKPbc	02 17 38.0	-0.4
	baz=112						
N20K	Mount Spurr	149.48	305	P	PKPbc	02 17 37.9	-0.6
	baz=106,SNR=7.4						
D24K	Happy Valley	149.49	321	P	PKPbc	02 17 37.9	-0.3
	baz=95						
C24K	Franklin Bluff	149.49	323	P	PKPbc	02 17 37.9	-0.2
	baz=94						
Q19K	Cape Douglas,	149.50	301	IAMs_20	IAMs_20	03 37 20.2	
	comp=Z,545nm,18.0s						
Q19K	Cape Douglas,	149.50	301	P	PKPbc	02 17 37.9	-0.6
	baz=109						
P19K	Oil Pt	149.52	302	P	PKPbc	02 17 37.7	-0.9
	baz=108						
BPAW	Bear Paw Mtn.	149.62	311	P	PKPbc	02 17 38.3	-0.3
	baz=102,SNR=28						
G23K	Bananza Creek	149.67	317	P	PKPbc	02 17 38.9	+0.1
	baz=98,SNR=31						
MLY	Manley	149.69	313	P	PKPbc	02 17 38.5	-0.4
	baz=100						
TOLK	Toolik Lake Re	149.72	320	IAMs_20	IAMs_20	03 31 15.7	
	comp=Z,480nm,19.0s						
TOLK	Toolik Lake Re	149.72	320	P	PKPbc	02 17 39.0	+0.1
	baz=95						
COLD	Coldfoot	149.80	318	P	PKPbc	02 17 39.3	+0.3
	baz=97						
PPLA	Purkeypile	149.89	309	P	PKPbc	02 17 39.4	-0.1
	baz=103						
CAST	Castle Rocks	149.95	310	P	PKPbc	02 17 39.1	-0.4
	baz=102,SNR=22						
M20K	Styx River	150.08	307	IAMs_20	IAMs_20	03 36 22.5	
	comp=Z,605nm,18.0s						
M20K	Styx River	150.08	307	P	PKPbc	02 17 39.2	-0.8
	baz=104						
H22K	Ishtalitna Cre	150.09	315	P	PKPbc	02 17 39.6	-0.1
	baz=98,SNR=22						
D23K	Nanushuk River	150.14	321	P	PKPbc	02 17 39.6	-0.2
	baz=94						
CHUM	Lake Minchumin	150.15	311	P	PKPbc	02 17 39.5	-0.4
	baz=101						
C23K	Itkillik River	150.16	323	P	PKPbc	02 17 39.8	0.0
	baz=92						
O19K	Port Alsworth	150.20	303		PKPbc	02 17 39.6	-0.4
O19K				IAMs_20	IAMs_20	03 31 19.8	
	comp=Z,510nm,19.0s						
O19K	Port Alsworth	150.20	303	P	PKPbc	02 17 39.7	-0.4
	baz=106						
I21K	Tanana	150.23	313	IAMs_20	IAMs_20	03 28 51.5	
	comp=Z,591nm,20.0s						
I21K	Tanana	150.23	313	P	PKPbc	02 17 39.6	-0.4
	baz=99,SNR=8.2						
G22K	Bettles	150.28	317	P	PKPbc	02 17 39.9	-0.2
	baz=96						
P18K	Big Mountain,	150.41	301	IAMs_20	IAMs_20	03 32 05.5	
	comp=Z,586nm,18.0s						
P18K	Big Mountain,	150.41	301	P	PKPbc	02 17 39.7	-1.1
	baz=107						
N19K	Bonanza Creek	150.44	304	P	PKPbc	02 17 40.1	-0.8
	baz=105						
R17K	Ugashik Creek	150.45	297	P	PKPbc	02 17 40.4	-0.4
	baz=109						
BTO	Baotou	150.46	103	*e*PKPbc	PKPdf	02 17 34.2	-2.0
E22K	Anaktuvuk Pass	150.50	319	P	PKPbc	02 17 40.5	-0.2
	baz=94						
O18K	Koktuh Hills	150.54	302	IAMs_20	IAMs_20	03 34 27.7	
	comp=Z,478nm,18.0s						
O18K	Koktuh Hills	150.54	302	P	PKPbc	02 17 40.4	-0.6
	baz=106						
L20K	Farewell, AK	150.56	308	P	PKPbc	02 17 40.2	-0.8
	baz=102,SNR=15						
F22K	John River	150.59	318	P	PKPbc	02 17 41.0	+0.1
	baz=95						
H21K	Melozitna Rive	150.64	314	P	PKPbc	02 17 40.8	-0.2
	baz=98						
M19K	Big River Lodg	150.66	306	P	PKPbc	02 17 41.2	0.0
	baz=103,SNR=20						
HNS	HongShan	150.71	113	||PKPbc	PKPdf	02 17 36.9	+0.4
HNS				SKKS			02 28 08.3	
HNS				LR	LR		
	comp=Z,290nm,22.3s						
HNS				LR	LR		
	comp=Z,410nm,21.6s						
K20K	Telida	150.82	309	P	PKiKP	02 17 42.0	-0.2
	baz=101						
Q16K	King Salmon	150.91	299	P	PKPbc	02 17 41.7	-0.2
	baz=107						
L19K	White Mountain	150.94	307	IAMs_20	IAMs_20	03 24 15.2	
	comp=Z,489nm,20.0s						
L19K	White Mountain	150.94	307	P	PKPbc	02 17 42.3	+0.4
	baz=102						
P17K	Kvichak River	150.95	300	P	PKPbc	02 17 42.3	+0.4
	baz=106						
J20K	Nowinta River	150.99	311	P	PKPbc	02 17 41.7	-0.2
	baz=99,SNR=5.8						
G21K	Allakaket	151.02	316	P	PKiKP	02 17 42.8	+0.3
	baz=96						
R16K	Pilot Point	151.03	297	P	PKPbc	02 17 41.5	-0.7
	baz=109						
TIA	Tai'an	151.05	118	PKPbc	PKPdf	02 17 37.2	0.0
TIA				LR	LR		
	comp=Z,210nm,22.6s						
TIA				LR	LR		
	comp=Z,220nm,24.7s						
TIA				LR	LR		
	comp=Z,420nm,25.9s						
CHGN	Chignik	151.05	294	P	PKPbc	02 17 42.1	-0.1
	baz=110						
F21K	Alatna River	151.07	317	P	PKiKP	02 17 42.5	-0.1
	baz=94						
N18K	Kilae Creek	151.08	303	IAMs_20	IAMs_20	03 38 19.0	
	comp=Z,515nm,18.0s						
N18K	Kilae Creek	151.08	303	P	PKPbc	02 17 42.5	+0.2
	baz=104						
CNBA	Chernabura Isl	151.13	291		PKPbc	02 17 41.9	-0.6
CHNA	Chernabura Isl	151.14	291	P	PKPbc	02 17 42.2	-0.3
	baz=112						
O17K	Koliganek Bris	151.43	301	P	PKPbc	02 17 42.9	-0.1
	baz=105						
HHC	Hu-ho-hao-te	151.48	105	*e*PKPbc	PKPdf	02 17 37.3	-0.5
MOY	Mondy	151.60	77	*e*PKiKP	PKPbc	02 17 44.2	+0.3
MOY				pmax	pmax		
	comp=Z,159nm,2.4s						
TTA	Tatalina	151.61	308	P	PKiKP	02 17 44.1	+0.2
	baz=100						
S14K	Fog Glacier	151.64	294	P	PKiKP	02 17 44.2	0.0
	baz=110						
P16K	Nushagak River	151.68	300	P	PKPbc	02 17 43.2	-0.4
	baz=106						
SDPT	Sand Point	151.80	291	P	PKPbc	02 17 43.8	-0.2
	baz=111						
O16K	Kokwok River B	151.88	301	P	PKPbc	02 17 44.0	0.0
	baz=105						
A21K	Barrow	152.11	326	IAMs_20	IAMs_20	03 36 19.0	
	comp=Z,575nm,20.0s						
A21K	Barrow	152.11	326	P	PKiKP	02 17 45.0	+0.4
	baz=84						
GCSA	Galena City Sc	152.24	312	P	PKiKP	02 17 45.8	+0.8
	baz=96						
ZAK	Zakamensk	152.29	81	*e*PKiKP	PKPdf	02 17 38.5	-0.2
ZAK				pmax	pmax		
	comp=Z,47nm,1.8s						
N16K	Nishlik Lake	152.41	302	P	PKiKP	02 17 46.5	+1.0
	baz=103						
SONM	Songino Array	152.79	88	PKP	PKPdf	02 17 40.2	+0.6
	comp=Z,3.1nm,0.9s,baz=232,slow=0.7,SNR=15						
SONM				PKPbc	PKiKP	02 17 47.0	+0.1
	comp=Z,20nm,0.7s,baz=228,slow=2.3,SNR=32						
SONM	Songino Array	152.79	88	PKPdf	PKPdf	02 17 39.5	-0.1
ULN	Ulaanbaatar	153.19	88	PKPdf	PKPdf	02 17 39.9	-0.3
ULN				PKPbc	PKiKP	02 17 48.7	+0.9
ULN	Ulaanbaatar	153.19	88	IAMs_20	IAMs_20	03 41 14.1	
	comp=Z,564nm,18.0s						
ULN	Ulaanbaatar	153.19	88	PKiKP	PKPdf	02 17 39.9	-0.3
FALS	False Pass	153.21	289	P	PKiKP	02 17 48.2	+0.9
	baz=111						
BJI	Beijing	153.42	111	PKPbc	PKPdf	02 17 39.9	-0.6
IRK	Irkutsk	153.68	78	*e*PKiKP	PKPdf	02 17 40.7	+0.2
IRK				pmax	pmax		
	comp=Z,79nm,2.4s						
RDOG	Red Dog Mine	154.66	319	IAMs_20	IAMs_20	03 43 13.4	
	comp=Z,551nm,18.0s						
ANM	Nome	155.88	311	IAMs_20	IAMs_20	03 36 13.9	
	comp=Z,651nm,20.0s						
XLT	XiLinHaoTe	156.00	104	*i* PKP	PKPdf	02 17 44.9	+0.8
XLT				PKPab	PKPab	02 18 11.0	-0.5
XLT				AMB	AMB		
	comp=Z,220nm,6.5s						
XLT				LR	LR		
	comp=Z,25nm,18.0s						
XLT				LR	LR		
	comp=Z,210nm,13.0s						
XLT				LR	LR		
	comp=Z,300nm,22.6s						
INCN	Inchon	156.59	130	IAMs_20	IAMs_20	03 22 39.6	
	comp=Z,484nm,21.0s						
KSAR	Wonju Array Be	157.09	132	PKPdf	PKPdf	02 17 44.7	-0.9
KSAR				PKPab	PKPab	02 18 17.3	+1.1
KSAR	Wonju Array Be	157.09	132	PKP2	PKPab	02 18 17.3	+1.1
KSAR						03 17 44.7	
KSRS	Korea Array	157.12	132	PKP	PKPdf	02 17 45.8	+0.2
	comp=Z,3.6nm,1.0s,baz=221,slow=1.7,SNR=10.0						
KSRS				PKPab	pPKPab	02 18 17.4	-0.7
	comp=Z,5.3nm,0.8s,baz=224,slow=3.6,SNR=7.0						
CIT	Chita	158.83	84	*e*PKiKP	PKPdf	02 17 47.2	-0.1
CIT				*e*		02 18 21.2	
CIT				*e*		02 22 11.6	
CIT				pmax	pmax		
	comp=Z,122nm,2.7s						
MJAR	Matsushiro Arr	159.85	154	PKP	PKPdf	02 17 48.7	-0.3
	comp=Z,1.4nm,0.8s,baz=209,slow=2.2,SNR=2.5						
CN2	Changchun	160.95	117	*e*PKP	PKPdf	02 17 49.3	-0.6
CN2				SS	SS	02 42 33.3	+3.3
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
TIXI	Tiksi	161.42	20	PKP	PKPdf	02 17 49.4	-0.1
	comp=Z,0.7nm,0.3s,baz=268,slow=23,SNR=6.6						
TIXI				PKPab	PKPab	02 18 34.4	+0.4
	comp=Z,1.8nm,0.3s,baz=91,slow=23,SNR=7.3						
TIXI				PP	PP	02 22 18.4	+0.4
	comp=Z,1.2nm,0.4s,baz=270,slow=20,SNR=7.6						
TIXI	Tiksi	161.42	20	PKPdf	PKPdf	02 17 48.7	-0.8
TIXI					PKPab	02 18 34.9	+0.8
BNX	BinXian	163.30	116	||P	PKPab	02 18 41.4	-1.6
BNX				pmax	pmax		
	comp=Z,12nm,1.2s						
BNX				pmax	pmax		
	comp=Z,140nm,3.8s						
BNX	BinXian	163.30	116	PKP	PKPdf	02 17 50.8	-1.4
MDJ	Mudanjiang	163.60	122		PKPdf	02 17 52.1	-0.4
USRK	Ussuriysk Ar.	164.40	128	PKP	PKPdf	02 17 53.0	-0.3
	comp=Z,2.3nm,0.9s,baz=186,slow=3.9,SNR=2.3						
USRK				PKPab	PKPab	02 18 48.4	+0.5
	comp=Z,4.6nm,0.9s,baz=251,slow=5.8,SNR=4.8						
ZEA	Zeya	167.22	88	*i* PKIKP	PKPdf	02 17 56.6	+1.3
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,200nm,8.7s						
ZEA				pmax	pmax		
	comp=Z,200nm,10.1s						
KLR	Kul'dur	167.79	112	PKP	PKPdf	02 17 55.7	-0.2
	comp=Z,9.0nm,1.0s,baz=312,slow=2.4,SNR=11						
KLR				PKPab	PKPab	02 19 01.9	-0.8
	comp=Z,7.1nm,0.9s,baz=240,slow=6.7,SNR=6.5						
YSS	Yuzh-Sakhalins	170.78	152	*i* PKIKP	PKPdf	02 17 58.3	+0.6
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				pmax	pmax		
	comp=Z,300nm,7.4s						
SEY	Seymchan	172.12	349	PKP	PKPdf	02 17 56.5	-1.3
	comp=Z,9.9nm,1.1s,baz=52,slow=1.0,SNR=16						
SEY				PKPab	PKPab	02 19 21.1	-0.3
	comp=Z,3.5nm,0.8s,baz=67,slow=4.5,SNR=3.7						
PET	Petropavlovsk	173.95	252	*i* PKIKP	PKPdf	02 18 02.2	+3.3
PET				*e*		02 23 26.4	
PET				*e*PPS	PPS	02 37 30.6	
PET				*e*SS	SS	02 44 36.9	-4.2
PET				*e*SSS	SSS	02 51 39.5	
PET				pmax	pmax		
	comp=Z,200nm,10.3s						
PET				pmax	pmax		
	comp=Z,100nm,16.6s						
PET				pmax	pmax		
	comp=Z,800nm,16.8s						
PETK	Petropavlovsk-	174.50	250	PKP	PKPdf	02 17 58.3	-0.9
	comp=Z,4.2nm,0.9s,baz=113,slow=3.4,SNR=5.4						
MA2	Magadan	175.58	349	PKP	PKPdf	02 17 58.6	-0.6
	comp=Z,2.2nm,0.3s,baz=50,slow=16,SNR=5.9						
MA2				PKPab	PKPab	02 19 36.7	-0.2
	comp=Z,7.6nm,0.8s,baz=3.9,slow=3.8,SNR=6.0						

WEL 02 02:05:18.4±2.1,37°S±6°×17°9E±1°0,h13km±9km,M3.5/58, ML3.7/42,MLv3.5/58,Error ellipse: s-maj=0.0km s-min=0.0km az=70.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.90	230	P	Pg	02 05 35.5	-0.4
MXZ				S	Sg	02 05 45.1	-2.6
WMGZ	Waiomatatini S	1.03	216	P	Pn	02 05 39.2	+0.6
WMGZ				S	Sn	02 05 54.1	+1.2
PKGZ	Pakihiroa	1.26	224	P	Pb	02 05 42.1	0.0
PUZ	Puketiti	1.31	214	P	Pn	02 05 42.5	+0.1
PUZ				S	Sn	02 06 00.2	+0.4
HAZ	Te Kaha	1.35	235	P	Pn	02 05 42.7	-0.2
TWGZ	Tauwhareparae	1.52	218	P	Pb	02 05 46.0	-0.5
RUGZ	Raukumara Rang	1.54	230	P	Pb	02 05 46.5	-0.5
CNGZ	Carnagh Statio	1.68	207	P	Pn	02 05 48.2	+0.7
TKGZ	Te Karaka	1.79	215	P	Pn	02 05 49.5	+0.4
MWZ	Matawai	1.88	224	P	Pn	02 05 50.4	+0.1
WHRZ	Whale Island	1.96	243	P	Pb	02 05 52.7	-1.2
RIGZ	Rimuhau	2.05	213	P	Pn	02 05 52.2	-0.5
RAGZ	Rawiri	2.06	222	P	Pn	02 05 52.9	+0.1
URZ	Urewera	2.08	232	P	Pn	02 05 53.2	+0.3
PRGZ	Paritu Road	2.19	207	P	Pn	02 05 53.9	-0.7
EDRZ	Edgecumbe	2.24	239	P	Pn	02 05 55.8	+0.5
OPRZ	Ohinepanea	2.25	247	P	Pn	02 05 55.3	-0.2
SNGZ	Shannon Statio	2.31	218	P	Pn	02 05 55.8	-0.4
KNZ	Kokohu	2.35	210	P	Pn	02 05 55.8	-1.0
MYRZ	Mayor Island	2.36	262	P	Pn	02 05 56.7	-0.2
RTZ	Tuatahuna	2.38	226	P	Pn	02 05 57.0	-0.2
MHGZ	Mahia Peninsul	2.38	204	P	Pn	02 05 56.3	-0.9
MUGZ	Murupara	2.42	231	P	Pn	02 05 58.6	+0.9
TARZ	Mount Tarawera	2.46	239	P	Pn	02 05 59.5	+1.1
RRRZ	Republican Roa	2.51	237	P	Pn	02 06 00.3	+1.4
RAHZ	Arahi	2.54	220	P	Pn	02 06 00.1	+0.8
KARZ	Kaharoa	2.55	245	P	Pn	02 06 01.3	+1.8
MTHZ	Maungataniwha	2.62	224	P	Pn	02 06 00.6	+0.1
KMRZ	Kaimai	2.71	251	P	Pn	02 06 02.5	+0.7
KUZ	Kuaotunu	2.78	274	P	Pn	02 06 01.3	-1.3
NMHZ	Naumai	2.82	221	P	Pn	02 06 03.1	-0.1
ARHZ	Aropaoanui	2.85	216	P	Pn	02 06 03.5	-0.1
TOZ	Tahuroa Road	3.02	255	P	Pn	02 06 06.2	+0.3
BKZ	Black Stump Fm	3.04	223	P	Pn	02 06 05.7	-0.5
GRZ	Great Barrier	3.08	283	P	Pn	02 06 06.1	-0.6
MKAZ	Moumakai	3.21	267	P	Pn	02 06 08.0	-0.6
WIAZ	Waiheke Island	3.24	272	P	Pn	02 06 07.6	-1.5
KWHZ	Kaweka Forest	3.26	221	P	Pn	02 06 09.2	-0.1
KAHZ	Kahuranaki	3.34	212	P	Pn	02 06 08.5	-1.9
ETAZ	East Tamaki Re	3.40	269	P	Pn	02 06 11.5	+0.3
MBAZ	Motutapu North	3.44	272	P	Pn	02 06 11.1	-0.6
KRHZ	Kereru	3.45	219	P	Pn	02 06 10.8	-1.1
TMVZ	Te Maari	3.47	231	P	Pn	02 06 12.1	-0.2
BHHZ	Black Hill Sta	3.50	223	P	Pn	02 06 12.1	-0.5
NNVZ	North Ngauruho	3.53	232	P	Pn	02 06 13.4	+0.2
WTVZ	West Tongariro	3.54	232	P	Pn	02 06 14.6	+1.4
NGZ	Ngauruhoe	3.57	231	P	Pn	02 06 13.4	-0.2
TUVZ	Tukino	3.59	230	P	Pn	02 06 15.2	+1.2
TWVZ	Taurewa	3.61	234	P	Pn	02 06 14.4	+0.2
MOVZ	Moawhango	3.62	227	P	Pn	02 06 13.3	-1.0
AWAZ	Awhitu Peninsu	3.63	267	P	Pn	02 06 14.4	+0.2
WNVZ	Wahianoa	3.66	229	P	Pn	02 06 14.7	-0.2
PRHZ	Porangahau	3.83	210	P	Pn	02 06 14.9	-2.2
TSZ	Takapari Road	3.97	218	P	Pn	02 06 17.1	-2.0
WCZ	Waipu Caves	4.03	284	P	Pn	02 06 19.9	+0.1
MRZ	Mangatainoka R	4.62	216	P	Pn	02 06 25.3	-2.6
OUZ	Omahuta	4.85	290	P	Pn	02 06 31.4	+0.4
CTZ	Chatham Island	7.47	156	P	Pn	02 07 06.2	-0.9

*IDC **02** 02:06:46.8±3.3,36°99S×178°48E,h0km,mb3.6/2, mbtmp3.6/2,Error ellipse: s-maj=75.2km s-min=30.8km az=116.0*

*WEL **02** 02:06:48.0±1.6,37°S±8°×17°9E±°,h12km±7km,M3.3/16, ML3.5/13,MLv3.3/16,Error ellipse: s-maj=0.0km s-min=0.0km az=86.2*

ISC 02 02:06:47.2±2.4,37°28S±0°07×179°0E±0°1,h15km±11km, n20,σ0°80/26,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.59	241	P	Pb	02 06 58.6	-0.5
MXZ				S	Sg	02 07 05.

PKGZ	**Pakihiroa**	**0.98 229**	P	Pg	02 09 03.1	+0.1
PKGZ			S	Sg	02 09 16.5	+0.5
PUZ	**Puketiti**	**1.02 216**	P	Pn	02 09 04.3	+0.3
PUZ			S	Sn	02 09 17.8	-0.4
HAZ	**Te Kaha**	**1.11 242**	P	Pb	02 09 03.7	-1.3
HAZ			S	Sg	02 09 19.8	0.0
TWGZ	**Tauwhareparae**	**1.24 221**	P	Pg	02 09 07.6	-0.3
TWGZ			S	Sn	02 09 23.7	0.0
RUGZ	**Raukumara Rang**	**1.28 236**	P	Pb	02 09 08.0	-0.1
RUGZ			S	Sb	02 09 24.3	-0.2
CNGZ	**Carnagh Statio**	**1.39 207**	P	Pb	02 09 10.2	+0.4
CNGZ			S	Sg	02 09 29.3	+0.4
WIZ	**White Island**	**1.48 259**	P	Pn	02 09 10.0	-0.3
TKGZ	**Te Karaka**	**1.51 218**	P	Pn	02 09 10.8	+0.1
TKGZ			S	Sn	02 09 29.2	-0.9
MWZ	**Matawai**	**1.60 227**	P	Pn	02 09 12.5	+0.4
WHRZ	**Whale Island**	**1.73 249**	P	Pn	02 09 14.4	+0.6
RIGZ	**Rimuhau**	**1.76 214**	P	Pn	02 09 14.2	-0.1
RAGZ	**Rawiri**	**1.78 225**	P	Pn	02 09 14.8	+0.3
URZ	**Urewera**	**1.82 236**	P	Pn	02 09 15.4	+0.5
PRGZ	**Paritu Road**	**1.90 208**	P	Pn	02 09 15.9	-0.2
EDRZ	**Edgecumbe**	**2.00 244**	P	Pn	02 09 18.1	+0.5
MARZ	**Manawahe**	**2.00 248**	P	Pn	02 09 18.6	+1.1
SNGZ	**Shannon Statio**	**2.03 220**	P	Pn	02 09 17.7	-0.2
OPRZ	**Ohinepanea**	**2.05 252**	P	Pn	02 09 17.8	-0.3
KNZ	**Kokohu**	**2.06 211**	P	Pn	02 09 17.4	-0.9
MHGZ	**Mahia Peninsul**	**2.09 204**	P	Pn	02 09 18.5	-0.3
RTZ	**Ruatahuna**	**2.11 229**	P	Pn	02 09 19.4	+0.4
MYRZ	**Mayor Island**	**2.22 268**	P	Pn	02 09 19.8	-0.6
TARZ	**Mount Tarawera**	**2.22 243**	P	Pn	02 09 21.1	+0.5
RAHZ	**Arahi**	**2.26 222**	P	Pn	02 09 21.1	+0.1
RRRZ	**Republican Roa**	**2.26 240**	P	Pn	02 09 21.8	+0.7
OMRZ	**Omania**	**2.27 247**	P	Pn	02 09 22.8	+1.6
WHHZ	**Waihua**	**2.31 217**	P	Pn	02 09 21.5	-0.2
KARZ	**Kaharoa**	**2.33 250**	P	Pn	02 09 22.5	+0.5
MTHZ	**Maungataniwha**	**2.35 226**	P	Pn	02 09 22.8	+0.5
KMRZ	**Kaimai**	**2.52 255**	P	Pn	02 09 24.7	+0.1
NMHZ	**Naumai**	**2.54 223**	P	Pn	02 09 25.4	+0.5
ARHZ	**Aropaoanui**	**2.57 218**	P	Pn	02 09 25.2	-0.1
MRHZ	**Matea Rd**	**2.59 232**	P	Pn	02 09 25.8	+0.2
KUZ	**Kuaotunu**	**2.69 280**	P	Pn	02 09 25.1	-1.8
BKZ	**Black Stump Fm**	**2.76 225**	P	Pn	02 09 27.8	-0.2
TOZ	**Tahuroa Road**	**2.84 259**	P	Pn	02 09 28.2	-0.8
CKHZ	**Cape Kidnapper**	**2.85 212**	P	Pn	02 09 28.1	-1.0
TLZ	**Tolley Road**	**2.96 248**	P	Pn	02 09 30.9	+0.2
KWHZ	**Kaweka Forest**	**2.98 222**	P	Pn	02 09 30.4	-0.6
GRZ	**Great Barrier**	**3.03 288**	P	Pn	02 09 30.8	-0.8
RATZ	**Rangitukua**	**3.03 237**	P	Pn	02 09 32.4	+0.7
KAHZ	**Kahuranaki**	**3.05 213**	P	Pn	02 09 30.4	-1.5
MKAZ	**Moumakai**	**3.08 272**	P	Pn	02 09 31.1	-1.3
KRHZ	**Kereru**	**3.17 220**	P	Pn	02 09 32.3	-1.3
TMVZ	**Te Maari**	**3.21 233**	P	Pn	02 09 34.0	-0.2
ETVZ	**East Tongariro**	**3.22 233**	P	Pn	02 09 34.1	-0.2
NTVZ	**North Tongariro**	**3.22 234**	P	Pn	02 09 34.0	-0.3
BHHZ	**Black Hill Sta**	**3.23 225**	P	Pn	02 09 33.8	-0.5
KRVZ	**Karewarewa**	**3.24 234**	P	Pn	02 09 34.5	0.0
PXZ	**Pawanui**	**3.25 211**	P	Pn	02 09 32.6	-2.0
NNVZ	**North Ngauruho**	**3.28 234**	P	Pn	02 09 35.1	0.0
WTVZ	**West Tongariro**	**3.28 234**	P	Pn	02 09 35.2	0.0
ETAZ	**East Tamaki Re**	**3.29 274**	P	Pn	02 09 35.8	+0.7
SNVZ	**South Ngauruho**	**3.29 233**	P	Pn	02 09 35.1	-0.2
NGZ	**Ngauruhoe**	**3.31 233**	P	Pn	02 09 35.4	-0.2
TUVZ	**Tukino**	**3.33 232**	P	Pn	02 09 35.6	-0.3
MBAZ	**Motutapu North**	**3.33 277**	P	Pn	02 09 35.0	-0.7
MOVZ	**Moawhango**	**3.35 229**	P	Pn	02 09 35.2	-0.9
TWVZ	**Taurewa**	**3.36 236**	P	Pn	02 09 36.5	+0.3
WHVZ	**Whangaehu Hut**	**3.38 232**	P	Pn	02 09 36.2	-0.4
WNVZ	**Wahianoa**	**3.40 231**	P	Pn	02 09 36.2	-0.6
ABAZ	**Army Bay**	**3.42 280**	P	Pn	02 09 37.7	+0.8
PNHZ	**Pukenui**	**3.46 219**	P	Pn	02 09 35.9	-1.6
WPHZ	**Waipukurau**	**3.46 215**	P	Pn	02 09 36.0	-1.6
HIZ	**Hauiti**	**3.53 248**	P	Pn	02 09 39.8	+1.4
PRHZ	**Porangahau**	**3.54 211**	P	Pn	02 09 36.4	-2.3
WTAZ	**Waiatarua**	**3.57 274**	P	Pn	02 09 40.3	+1.2
TSZ	**Takapari Road**	**3.69 220**	P	Pn	02 09 38.5	-2.2
WCZ	**Waipu Caves**	**3.98 288**	P	Pn	02 09 44.4	-0.2
WAZ	**Wanganui**	**4.03 230**	P	Pn	02 09 45.5	+0.1
BFZ	**Birch Farm**	**4.05 211**	P	Pn	02 09 43.2	-2.5
PRWZ	**Pori Road**	**4.07 215**	P	Pn	02 09 43.9	-2.0
NEZ	**North Egmont**	**4.37 241**	P	Pn	02 09 51.9	+1.8
KHEZ	**Kahui Hut**	**4.44 241**	P	Pn	02 09 53.1	+2.0
OUZ	**Omahuta**	**4.83 293**	P	Pn	02 09 56.6	+0.3
CTZ	**Chatham Island**	**7.28 154**	P	Pn	02 10 31.6	+1.6

*IDC **02** 02:13:01.5±1.5,36.74S×179.17E,h0km,mb4.0/4, mbtmp4.0/5,ML3.9/1,Error ellipse: s-maj=39.0km s-min=32.1km az=49.0*
*WEL **02** 02:13:08.1±2.2,37.5±6.1×17.9E±1.9,h15km,M3.7/6, MLv3.7/6,Error ellipse: s-maj=0.0km s-min=0.0km az=86.7*

ISC 02 02:13:03.5±2.4,36.98S±0.07×179.1E±0.1,h11km±12km, n21,σ1.9°31/27,mb4.0/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.86**	**227**	P	**Pg**	**02 13 19.9**	**-0.2**
MXZ				S	**Sg**	**02 13 28.9**	**-2.5**
WMGZ	**Waiomatatini S**	**1.00**	**213**	P	**Pn**	**02 13 24.3**	**+0.7**
WMGZ				S	**Sb**	**02 13 37.8**	**+1.7**
PKGZ	**Pakihiroa**	**1.22**	**221**	Pg	**Pn**	**02 13 26.3**	**-0.3**
PKGZ				S	**Sb**	**02 13 42.9**	**+0.4**
HAZ	**Te Kaha**	**1.30**	**233**	Pg	**Pb**	**02 13 27.4**	**-0.7**
HAZ				P	**Pg**	**02 13 29.9**	**+1.3**
HAZ				S	**Sg**	**02 13 46.4**	**+0.9**
TWGZ	**Tauwhareparae**	**1.49**	**216**	P	**Pg**	**02 13 32.6**	**+0.5**
TWGZ				S	**Sb**	**02 13 51.8**	**+1.6**
CNGZ	**Carnagh Statio**	**1.66**	**205**	P	**Pn**	**02 13 33.6**	**+0.9**
CNGZ				S	**Sg**	**02 13 58.0**	**+1.1**
MWZ	**Matawai**	**1.84**	**222**	P	**Pb**	**02 13 36.4**	**-0.9**
URZ	**Urewera**	**2.03**	**230**	Pn	**Pb**	**02 13 39.4**	**-1.0**
	37nm,0.3s,baz=121,slow=4.5,SNR=8.9						
URZ				Sn	**Sn**	**02 14 03.0**	**-0.1**
	72nm,0.3s,baz=121,slow=22,SNR=33						
	132nm,0.5s						
KUZ	**Kuaotunu**	**2.72**	**274**	P	**Pn**	**02 13 47.2**	**0.0**
WCZ	**Waipu Caves**	**3.97**	**284**	P	**Pn**	**02 14 06.0**	**+1.6**
RPZ	**Rata Peaks**	**9.11**	**220**	Pn	**Pn**	**02 15 12.0**	**-2.9**
	1.0nm,0.3s,baz=16,slow=13,SNR=2.1						
RPZ				Sn	Sn	02 16 44.3	-13
	1.9nm,0.3s,baz=75,slow=18,SNR=6.2						
ASAR	**Alice Springs**	**40.84**	**276**	P	**P**	**02 20 45.7**	**+0.2**
	1.6nm,0.7s,baz=120,slow=7.7,SNR=12						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**42.44**	**281**	P	**P**	**02 20 58.5**	**-0.1**
	2.2nm,0.5s,baz=121,slow=7.8,SNR=41						
WRA				PcP	**PcP**	**02 22 51.8**	**+0.1**
	0.2nm,0.6s,baz=115,slow=3.1,SNR=1.6						
	2.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.32**	**277**	P	**P**	**02 21 59.5**	**-1.0**
	1.7nm,0.7s,baz=110,slow=8.1,SNR=1.9						
	1.7nm,0.7s						
QSPA	**South Pole Qui**	**53.15**	**180**	P	**P**	**02 22 23.5**	**+2.3**
	1.6nm,1.1s,baz=332,slow=6.5,SNR=2.9						
	1.6nm,1.1s						
H03N3	**Juan Fernandez**	**79.07**	**124**	T	T	03 51 53.8	
	baz=233						
H03N2	**Juan Fernandez**	**79.07**	**124**	T	T	03 51 49.7	
	baz=233						
H03N1	**Juan Fernandez**	**79.08**	**124**	T	T	03 51 53.5	
	baz=233						
FINES	**FINESS Array B**	**150.25**	**334**	PKPbc	**PKPbc**	**02 32 53.0**	**-0.8**
	1.6nm,0.7s,baz=20,slow=4.4,SNR=5.8						
BRTR	**Keskin Array B**	**152.87**	**286**	PKPbc	**PKiKP**	**02 33 00.2**	**-0.8**
	0.6nm,0.9s,baz=120,slow=3.3,SNR=1.6						
TORD	**Torodi Ar. Bea**	**156.16**	**186**	PKPab	**PKPab**	**02 33 25.0**	**-1.1**
	0.6nm,0.8s,baz=172,slow=3.7,SNR=2.1						

IDC 02 02:17:32.1±5.0,54.92S×30.61W,h0km,mb3.7/2, mbtmp3.7/2,Error ellipse: s-maj=167.3km s-min=57.9km az=176.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**48.14**	**308**	P	P	02 26 14.4	-0.1
	0.5nm,0.5s,baz=170,slow=6.1,SNR=1.7						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.09**	**33**	P	P	02 29 04.0	0.0
	0.7nm,0.9s,baz=198,slow=5.4,SNR=2.5						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**147.92**	**314**	PKPbc	PKPbc	02 37 17.0	-0.7
	0.2nm,0.7s,baz=92,slow=2.7,SNR=1.9						

*IDC **02** 02:34:43.0±0.8,55.17S×30.48W,h0km,mb3.9/7, mbtmp4.0/7,Error ellipse: s-maj=30.2km s-min=20.2km az=73.0*
*NEIC **02** 02:34:45.2±0.4,55.31S±0.09×30.7W±0.2,h10km±2km, mb4.2/7,Error ellipse: s-maj=18.8km s-min=11.1km az=127.0*

ISC 02 02:34:44.8±0.7,55.17S±0.09×30.8W±0.1,h10km,n23, σ1.9°74/22,mb4.1/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.44**	**283**	Pn	**Pn**	**02 35 39.2**	**+0.9**
ORCD	**Orcadas**	**9.29**	**227**	Pn	**Pn**	**02 36 57.5**	**-1.0**
VNA3	**Neumayer Olymp**	**18.53**	**159**	P	**Pn**	**02 39 03.0**	**+1.9**
VNA2	**Neumayer--Watz**	**18.80**	**156**	P	**Pn**	**02 39 08.1**	**+3.7**
	baz=309,slow=5.3						
SNAA	**Sanae**	**20.39**	**155**	P	Pn	02 39 23.9	+0.4
SNAA	**Sanae**	**20.39**	**155**	P	**P**	**02 39 19.4**	**-2.0**
	1.4nm,0.7s,baz=276,slow=9.2,SNR=2.3						
	1.4nm,0.7s						
SNAA	**Sanae**	**20.39**	**155**	P	**P**	**02 39 18.7**	**-2.7**
SNAA				IAmb	IAmb	02 39 59.1	
	comp=Z,6.2nm,1.3s						
SMAI	**San Martin Ant**	**21.18**	**218**	P	**P**	**02 39 29.0**	**-0.8**
TROLL	**Troll, Antarti**	**21.95**	**153**	P	**P**	**02 39 42.5**	**+4.3**
CPUP	**Villa Florida**	**34.73**	**315**	P	**P**	**02 41 34.5**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=144,slow=8.2,SNR=5.4						
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**35.09**	**180**	P	**P**	**02 41 37.3**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=189,slow=2.5,SNR=6.8						
	comp=Z,1.5nm,0.9s						
QSPA	**South Pole Qui**	**35.09**	**180**	P	**P**	**02 41 37.0**	**-0.8**
PTLB	**Pontes e Lacer**	**45.28**	**320**	P	**P**	**02 43 02.4**	**-0.1**
PTLB				IAmb	IAmb	02 43 05.5	
	comp=Z,2.9nm,1.1s						
VNDA	**Vanda**	**47.34**	**184**	P	**P**	**02 43 18.8**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=187,slow=6.1,SNR=9.3						
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**47.34**	**184**	P	**P**	**02 43 17.9**	**-0.1**
VNDA				IAmb	IAmb	02 43 32.4	
	comp=Z,2.0nm,1.1s						
LPAZ	**La Paz**	**48.23**	**309**	P	**P**	**02 43 27.2**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=153,slow=5.1,SNR=6.2						
	comp=Z,1.2nm,0.5s						
LPAZ	**La Paz**	**48.23**	**309**	P	**P**	**02 43 27.2**	**+0.9**
LPAZ				IAmb	IAmb	02 43 30.2	
	comp=Z,3.0nm,0.9s						
LBTB	**Lobatse**	**50.73**	**77**	P	**P**	**02 43 43.4**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=235,slow=12,SNR=1.8						
	comp=Z,1.1nm,0.4s						
TOA0	**Torodi Ar. Sit**	**73.34**	**33**	P	**P**	**02 46 17.4**	**+0.9**
TOA0				IAmb	IAmb	02 46 28.3	
	comp=Z,3.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.34**	**33**	P	**P**	**02 46 16.4**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=198,slow=6.6,SNR=10						
	comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**124.57**	**29**	PKP	**PKPdf**	**02 53 42.5**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=202,slow=1.5,SNR=3.3						
ILAR	**Eielson Array**	**148.03**	**313**	PKPbc	**PKPbc**	**02 54 28.9**	**0.0**
	comp=Z,1.9nm,0.8s,baz=118,slow=2.1,SNR=16						
SONM	**Songino Array**	**152.70**	**88**	PKPbc	**PKPbc**	**02 54 39.1**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=213,slow=3.3,SNR=5.0						

ROM 02 02:35:24.2±0.0,42.921N±0.003×13.250E±0.004, h9km,ML2.6/45,21C-7D,Error ellipse: s-maj=0.4km s-min=0.1km az=65.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**259**	P	Pg	02 35 26.4	+0.1
MC2				S	Sg	02 35 27.5	-0.2
MMO1	**Montemonaco**	**0.06**	**111**	P	Pg	02 35 26.3	+0.1
MMO1				S	Sg	02 35 27.5	-0.2
MMO1				AML	AML		
	comp=N,77550μm,0.3s						
MMO1				AML	AML		
	comp=E,53100μm,0.1s						
T1242	**Castelluccio d**	**0.10**	**200**	↑P	Pg	02 35 27.2	+0.5
T1242				S	Sg	02 35 29.3	+0.7
T1242				AML	AML		
	comp=E,19100μm,0.3s						
T1242				AML	AML		
	comp=E,19000μm,0.3s						
T1242				AML	AML		
	comp=E,19050μm,0.3s						
T1242				AML	AML		
	comp=N,15100μm,0.5s						
T1242				AML	AML		
	comp=N,15000μm,0.5s						
NRCA	**Norcia**	**0.13**	**229**	↑P	Pg	02 35 27.8	+0.6
NRCA				S	Sg	02 35 30.3	+1.0
NRCA				AML	AML		
	comp=N,13050μm,0.2s						
NRCA				AML	AML		
	comp=E,18850μm,0.1s						
NRCA				AML	AML		
	comp=N,13000μm,0.1s						
NRCA				AML	AML		
	comp=E,21350μm,0.1s						
NRCA				AML	AML		
	comp=N,13950μm,0.2s						
NRCA				AML	AML		
	comp=E,18850μm,0.1s						
NRCA				AML	AML		
	comp=N,13000μm,0.2s						
T1241	**Roccafluvione,**	**0.15**	**116**	P	Pg	02 35 28.0	+0.5
T1241				S	Sg	02 35 30.4	+0.8
T1241				AML	AML		
	comp=E,5075μm,0.2s						
T1241				AML	AML		
	comp=N,4025μm,1.0s						
T1241				AML	AML		
	comp=E,5075μm,0.2s						
T1241				AML	AML		
	comp=N,3840μm,1.0s						
T1241				AML	AML		
	comp=N,4025μm,1.0s						
T1241				AML	AML		
	comp=E,4975μm,0.2s						
T1241				AML	AML		
	comp=N,3845μm,1.0s						
T1241				AML	AML		
	comp=E,4970μm,0.2s						
FEMA	**Monte Fema**	**0.15**	**286**	↓P	Pg	02 35 28.2	+0.7
FEMA				S	Sg	02 35 31.0	+1.1
FEMA				AML	AML		
	comp=E,9285μm,0.2s						
FEMA				AML	AML		
	comp=N,8080μm,1.2s						
FEMA				AML	AML		
	comp=E,9260μm,0.2s						
FEMA				AML	AML		
	comp=N,8100μm,1.2s						
FEMA				AML	AML		
	comp=N,8105μm,1.2s						
FEMA				AML	AML		
	comp=E,9245μm,0.2s						
GUMA	**Gualdo di Mace**	**0.15**	**24**	↑P	Pg	02 35 28.3	+0.8
GUMA				S	Sg	02 35 31.4	+1.5
GUMA				AML	AML		
	comp=N,14950μm,0.5s						
GUMA				AML	AML		
	comp=E,11700μm,0.2s						
GUMA				AML	AML		
	comp=E,15350μm,0.6s						
GUMA				AML	AML		
	comp=N,14950μm,0.5s						
GUMA				AML	AML		
	comp=N,14550μm,1.1s						
FDMO	**Fiordimonte**	**0.17**	**314**	↑P	Pg	02 35 28.2	+0.4
FDMO				S	Sg	02 35 30.9	+0.8
FDMO				AML	AML		
	comp=N,3680μm,0.2s						
FDMO				AML	AML		
	comp=E,3070μm,0.4s						
FDMO				AML	AML		
	comp=N,3675μm,0.2s						
T1244	**Arquata del Tr**	**0.17**	**168**	↑P	Pg	02 35 28.6	+0.8
T1244				S	Sg	02 35 32.0	+1.8
T1244				AML	AML		
	comp=E,9950μm,0.2s						
T1244				AML	AML		
	comp=N,7850μm,0.6s						
T1244				AML	AML		
	comp=E,9740μm,0.2s						
T1244				AML	AML		
	comp=N,7815μm,0.6s						
T1244				AML	AML		
	comp=N,7850μm,0.6s						
T1244				AML	AML		
	comp=E,9750μm,0.2s						
T1244				AML	AML		
	comp=N,7805μm,0.6s						
T1244				AML	AML		
	comp=E,9945μm,0.2s						
T1244				AML	AML		
	comp=N,7885μm,0.6s						
T1244				AML	AML		
	comp=E,9760μm,0.2s						
T1244				AML	AML		
	comp=N,7855μm,0.6s						
T1244				AML	AML		
	comp=E,9930μm,0.2s						
T1244				AML	AML		
	comp=E,9745μm,0.2s						
T1244				AML	AML		
	comp=N,7865μm,0.6s						
T1244				AML	AML		
	comp=N,7840μm,0.6s						
CSP1	**Cessapalombo**	**0.17**	**349**	P	Pg	02 35 28.4	+0.4
CSP1				S	Sg	02 35 31.4	+0.9
T1202	**Accumoli, Fraz**	**0.22**	**185**	P	Pg	02 35 29.5	+0.8
T1202				S	Sg	02 35 33.4	+1.7
T1202				AML	AML		
	comp=N,14300μm,0.1s						
T1202				AML	AML		
	comp=E,6335μm,0.7s						
T1202				AML	AML		
	comp=N,14295μm,0.1s						
T1202				AML	AML		
	comp=E,6340μm,0.7s						
T1204	**Amatrice, Fraz**	**0.25**	**169**	P	Pg	02 35 30.0	+0.7
T1204				S	Sg	02 35 34.4	+1.7
T1204				AML	AML		
	comp=E,3615μm,0.3s						
T1204				AML	AML		
	comp=N,2065μm,0.9s						
T1204				AML	AML		
	comp=E,3600μm,0.3s						
T1204				AML	AML		
	comp=E,3610μm,0.3s						
T1204				AML	AML		
	comp=N,2062μm,0.9s						
T1201	**Domo (RI)**	**0.26**	**180**	P	Pb	02 35 30.4	-0.7
T1201				S	Sg	02 35 34.2	+1.2
CESI	**CESI - Serrava**	**0.27**	**288**	↑P	Pg	02 35 30.2	+0.7
CESI				S	Sb	02 35 34.9	-1.1
CESI				AML	AML		
	comp=E,2910μm,1.2s						
CESI				AML	AML		
	comp=N,5780μm,0.3s						
T1243	**Rocca Santa Ma**	**0.27**	**147**	↓P	Pg	02 35 30.0	+0.4
SMA1	**SAN MARTINO**	**0.30**	**168**	↓P	Pg	02 35 30.6	+0.5
SMA1				AML	AML		
	comp=N,1570μm,1.5s						
SMA1				AML	AML		
	comp=E,1825μm,0.6s						
T1215	**Vallo di Nera,**	**0.30**	**247**	↑P	Pg	02 35 30.9	+0.6
T1215				S	Sb	02 35 36.1	-0.9
T1215				AML	AML		
	comp=E,950μm,0.5s						
T1215				AML	AML		
	comp=N,811μm,1.1s						
SSM1	**San Severino M**	**0.31**	**350**	P	Pg	02 35 31.0	+0.6
OFFI	**Offida**	**0.32**	**87**	P	Pb	02 35 32.1	+0.1
OFFI				AML	AML		
	comp=E,1860μm,1.3s						
OFFI				AML	AML		
	comp=N,3075μm,0.6s						
LNSS	**Leonessa**	**0.35**	**206**	↑P	Pg	02 35 31.7	+0.5
LNSS				S	Sb	02 35 38.0	-0.4
LNSS				AML	AML		
	comp=E,3095μm,0.2s						
LNSS				AML	AML		
	comp=N,3110μm,0.4s						
TERO	**Teramo**	**0.40**	**139**	↓P	Pg	02 35 32.2	+0.3
TERO				AML	AML		
	comp=N,892μm,0.3s						
TERO				AML	AML		
	comp=E,1050μm,0.9s						
CAMP	**Campotosto**	**0.40**	**163**	↓P	Pg	02 35 32.4	+0.3
CAMP				AML	AML		
	comp=E,1175μm,0.3s						
CAMP				AML	AML		
	comp=N,568μm,0.4s						
SNTG	**Esanatoglia**	**0.40**	**326**	P	Pg	02 35 32.5	+0.3
SNTG				AML	AML		
	comp=E,609μm,0.3s						
SNTG				AML	AML		
	comp=N,609μm,0.3s						
RM33	**Pellescritta (**	**0.41**	**184**	↑P	Pg	02 35 32.8	+0.5
RM33				AML	AML		
	comp=E,1190μm,0.6s						
RM33				AML	AML		
	comp=N,949μm,0.3s						
RM33				AML	AML		
	comp=N,920μm,0.3s						
RM33				AML	AML		
	comp=E,1195μm,0.6s						
RM33				AML	AML		
	comp=N,946μm,0.3s						
RM33				AML	AML		
	comp=E,1140μm,0.6s						
RM33				AML	AML		
	comp=N,922μm,0.3s						
RM33				AML	AML		
	comp=E,1145μm,0.6s						
RM33				AML	AML		
	comp=N,948μm,0.3s						
RM33				AML	AML		
	comp=N,923μm,0.3s						
EL6	**Elcito**	**0.42**	**345**	P	Pg	02 35 32.8	+0.3
ASSB	**Assisi San Ben**	**0.45**	**286**	↑P	Pg	02 35 33.4	+0.4
ASSB				AML	AML		
	comp=E,1110μm,0.3s						
ASSB				AML	AML		
	comp=N,1192μm,0.2s						
CING	**Cingoli**	**0.46**	**355**	P	Pg	02 35 33.6	+0.5
CING				AML	AML		
	comp=E,416μm,0.3s						
CING				AML	AML		
	comp=N,376μm,0.2s						
ARRO	**Arrone**	**0.49**	**226**	↑P	Pg	02 35 34.2	+0.4
FOSV	**Fossato di Vic**	**0.52**	**316**	↑P	Pg	02 35 34.5	+0.3
FOSV				S	Sb	02 35 42.7	-0.5
FOSV				AML	AML		
	comp=E,666μm,0.3s						
FOSV				AML	AML		
	comp=N,1017μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.52**	**301**	↑P	Pg	02 35 34.7	+0.4
ATCC				S	Sb	02 35 43.1	0.0
ATCC				AML	AML		
	comp=E,1206μm,0.3s						
ATCC				AML	AML		
	comp=N,916μm,1.2s						
GIGS	**Gran Sasso**	**0.53**	**153**	↑P	Pg	02 35 34.6	+0.2
GIGS				S	Sb	02 35 42.9	-0.5
GIGS				AML	AML		
	comp=N,410μm,0.2s						
GIGS				AML	AML		
	comp=N,409μm,0.2s						
GIGS				AML	AML		
	comp=E,242μm,0.5s						
PP3	**Marolino**	**0.53**	**30**	P	Pb	02 35 35.9	+0.3
PP3				AML	AML		
	comp=E,1885μm,0.3s						
PP3				AML	AML		
	comp=N,2815μm,0.3s						
PP3				AML	AML		
	comp

CESX				AML	AML		
	comp=E,330µm,0.6s						
SSFR	**Montelago di S**	**0.62**	**327**	⇓P	Pg	02 35 36.4	+0.2
SSFR				AML	AML		
	comp=N,707µm,0.7s						
SSFR				AML	AML		
	comp=E,1046µm,0.2s						
SSFR				AML	AML		
	comp=E,1075µm,0.2s						
SSFR				AML	AML		
	comp=N,763µm,0.2s						
ARVD	**Arcevia**	**0.62**	**339**	⇑P	Pg	02 35 36.4	+0.2
ARVD				S	Sb	02 35 46.7	+0.7
ARVD				AML	AML		
	comp=E,226µm,1.0s						
ARVD				AML	AML		
	comp=E,226µm,1.0s						
ARVD				AML	AML		
	comp=N,204µm,0.4s						
MURB	**Monte Urbino**	**0.63**	**303**	P	Pg	02 35 36.8	+0.3
MURB				AML	AML		
	comp=N,1115µm,0.2s						
MURB				AML	AML		
	comp=N,1110µm,0.2s						
MURB				AML	AML		
	comp=E,1415µm,0.2s						
FIAM	**Fiamignano**	**0.66**	**189**	⇑P	Pg	02 35 36.9	0.0
FIAM				AML	AML		
	comp=E,274µm,0.7s						
FIAM				AML	AML		
	comp=N,304µm,0.8s						
FIAM				AML	AML		
	comp=N,303µm,0.8s						
FIAM				AML	AML		
	comp=E,274µm,0.7s						
ATFO	**Monte Foce - G**	**0.67**	**312**	⇑P	Pg	02 35 37.3	+0.2
ATFO				AML	AML		
	comp=N,329µm,0.4s						
ATFO				AML	AML		
	comp=E,376µm,1.1s						
ATFO				AML	AML		
	comp=N,328µm,0.4s						
VCEL	**Villa Celiera**	**0.68**	**140**	⇓P	Pg	02 35 37.6	+0.3
VCEL				AML	AML		
	comp=E,372µm,0.3s						
VCEL				AML	AML		
	comp=N,364µm,0.5s						
VCEL				AML	AML		
	comp=N,363µm,0.5s						
FAGN	**Fagnano**	**0.70**	**159**	⇑P	Pg	02 35 38.0	+0.3
FAGN				AML	AML		
	comp=E,652µm,0.8s						
FAGN				AML	AML		
	comp=N,799µm,0.3s						
FAGN				AML	AML		
	comp=N,798µm,0.3s						
FRON	**Frontone**	**0.71**	**327**	⇑P	Pg	02 35 37.9	0.0
FRON				AML	AML		
	comp=E,270µm,0.7s						
FRON				AML	AML		
	comp=N,388µm,0.4s						
ATVO	**AVT- Monte Val**	**0.77**	**307**	⇑P	Pg	02 35 39.0	0.0
ATVO				AML	AML		
	comp=E,207µm,1.3s						
ATVO				AML	AML		
	comp=N,211µm,0.6s						
MPAG	**Monte Paganucc**	**0.79**	**333**	AML	AML		
	comp=N,212µm,0.9s						
MPAG				AML	AML		
	comp=E,964µm,1.4s						
MPAG				AML	AML		
	comp=N,1072µm,1.4s						
MPAG				AML	AML		
	comp=E,180µm,0.7s						
MPAG				AML	AML		
	comp=N,212µm,0.9s						
MPAG				AML	AML		
	comp=E,180µm,0.7s						
MPAG				AML	AML		
	comp=E,964µm,1.4s						
MPAG				AML	AML		
	comp=N,1070µm,1.4s						
T0110	**Collepietro**	**0.80**	**150**	AML	AML		
	comp=E,538µm,0.4s						
T0110				AML	AML		
	comp=N,364µm,1.2s						
ATPI	**Pietralunga -**	**0.81**	**311**	AML	AML		
	comp=E,190µm,1.0s						
ATPI				AML	AML		
	comp=N,152µm,0.6s						
ATMI	**Monte Miggiano**	**0.83**	**300**	AML	AML		
	comp=E,325µm,0.6s						
ATMI				AML	AML		
	comp=N,484µm,0.4s						
ATMI				AML	AML		
	comp=N,484µm,0.4s						
MGAB	**Montegabbione**	**0.84**	**270**	AML	AML		
	comp=N,364µm,0.9s						
MGAB				AML	AML		
	comp=E,318µm,0.4s						
FSSB	**Fossombrone**	**0.84**	**336**	AML	AML		
	comp=E,681µm,0.3s						
FSSB				AML	AML		
	comp=N,796µm,1.4s						
NARO	**Abbazia di Nar**	**0.84**	**325**	AML	AML		
	comp=N,140µm,1.1s						
NARO				AML	AML		
	comp=N,140µm,1.1s						
NARO				AML	AML		
	comp=E,125µm,0.3s						
SRES	**S.Oreste - Sor**	**0.88**	**219**	AML	AML		
	comp=N,100µm,0.5s						
SRES				AML	AML		
	comp=E,92µm,0.7s						
SACS	**San Casciano d**	**0.99**	**266**	AML	AML		
	comp=N,103µm,1.2s						
SACS				AML	AML		
	comp=E,100µm,0.9s						
SACS				AML	AML		
	comp=E,100µm,0.9s						
SACS				AML	AML		
	comp=N,104µm,1.2s						
CERT	**Cerreto**	**0.99**	**192**	AML	AML		
	comp=E,245µm,0.5s						
CERT				AML	AML		
	comp=N,155µm,1.0s						
CAFI	**Castiglion Fio**	**1.02**	**294**	AML	AML		
	comp=E,102µm,0.5s						
CAFI				AML	AML		
	comp=N,96µm,0.9s						
TOLF	**Tolfa**	**1.26**	**228**	AML	AML		
	comp=E,59µm,0.5s						
TOLF				AML	AML		
	comp=N,93µm,0.3s						
DBRK	**Dubrovnik**	**3.61**	**92**	*e*Pn	Pn	02 36 20.4	0.0
DBRK				Sn	Sn	02 36 40.6	-22
MYKA	**Terra Mystica**	**3.72**	**4**	*e*Pn	Pn	02 36 25.7	+3.8
	comp=N,0.6nm,0.2s						
ABTA	**Abfaltersbach**	**3.86**	**352**	*e*Pn	Pn	02 36 26.1	+2.2
	comp=N,1.5nm,0.3s						
ABTA				*e*Sn	Sn	02 37 12.5	+3.1
	comp=N,3.3nm,0.7s						
FETA	**Feichten**	**4.47**	**337**	*e*Pn	Pb	02 36 38.5	-4.5
	comp=N,0.6nm,0.3s						
WTTA	**Wattenberg**	**4.49**	**346**	*e*Pn	Pb	02 36 38.6	-4.6
	comp=N,1.6nm,0.7s						

ROM 02 02:35:44.1±0.1, 42°30.930N±0.004×13°25.6E±0.004, h9km, Md0.7/4, 5C-9D, Error ellipse: s-maj=0.4km s-min=0.3km az=184.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.05**	**250**	⇓P	Pg	02 35 46.3	+0.1
MC2				S	Sg	02 35 47.6	-0.1
MC2				END			
MMO1	**Montemonaco**	**0.06**	**120**	⇑P	Pg	02 35 46.3	+0.2
MMO1				S	Sg	02 35 47.5	-0.1
MMO1				END			
T1242	**Castelluccio d**	**0.11**	**201**	⇓P	Pg	02 35 47.3	+0.5
T1242				S	Sg	02 35 49.4	+0.7
T1242				END			
NRCA	**Norcia**	**0.14**	**227**	⇓P	Pg	02 35 47.9	+0.6
NRCA				S	Sg	02 35 50.5	+1.0
NRCA				END			
T1241	**Roccafluvione,**	**0.15**	**120**	⇑P	Pg	02 35 48.0	+0.7
T1241				S	Sg	02 35 50.5	+0.9
FDMO	**Fiordimonte**	**0.16**	**311**	⇓P	Pg	02 35 48.2	+0.6
CSP1	**Cessapalombo**	**0.17**	**347**	⇑P	Pg	02 35 48.5	+0.7
T1244	**Arquata del Tr**	**0.17**	**170**	⇓P	Pg	02 35 48.8	+1.0
T1202	**Accumoli, Fraz**	**0.23**	**186**	⇓P	Pg	02 35 49.6	+0.8
T1204	**Amatrice, Fraz**	**0.26**	**170**	⇓P	Pg	02 35 50.1	+0.7
MNTP	**Montappone**	**0.26**	**37**	⇓P	Pb	02 35 51.0	0.0
CESI	**CESI - Serrava**	**0.27**	**286**	⇑P	Pg	02 35 50.2	+0.7
CESI				S	Sb	02 35 54.8	-1.1
SSM1	**San Severino M**	**0.30**	**349**	⇑P	Pg	02 35 51.0	+0.8
T1215	**Vallo di Nera,**	**0.31**	**246**	⇓P	Pg	02 35 51.0	+0.7
T1215				S	Sb	02 35 56.1	-1.0
ARVD	**Arcevia**	**0.61**	**338**	S	Sb	02 36 07.0	+1.2
NARO	**Abbazia di Nar**	**0.84**	**324**	S	Sn	02 36 14.0	-0.7

NEIC ***02*** *02:42:24.2±1.7, 51°.34N±0°.05×179°.22W±0°.06, h22km±13km, ML3.7(AEIC), Error ellipse: s-maj=9.1km s-min=3.7km az=146.0*

AEIC 02 02:42:23±1.1, 51°.37N±0°.10×179°.19W±0°.04, h10km±7km, Error ellipse: s-maj=14.1km s-min=2.8km az=170.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.30**	**51**		Pb	02 42 31.3	+0.8
GASW	**Gareloi Southw**	**0.46**	**27**		Pb	02 42 34.0	+0.7
GALAA	**Gareloi Lava P**	**0.47**	**33**		Pb	02 42 34.5	+1.1
GAEA	**Gareloi East**	**0.50**	**33**		Pb	02 42 34.7	+0.9
GANO	**Gareloi North**	**0.51**	**28**		Pb	02 42 34.5	+0.5
TASE	**Tanaga Southea**	**0.85**	**56**		Pb	02 42 40.4	+0.5
TANO	**Tanaga North**	**0.86**	**50**		Pn	02 42 40.7	-0.5
CERAA	**Semis' Rag'd T**	**0.89**	**308**		Pn	02 42 41.1	-0.4
TAFL	**Tanaga Flats**	**0.89**	**64**		Pb	02 42 40.9	+0.3
TAFP	**Tanaga Falls P**	**0.92**	**54**		Pb	02 42 41.1	0.0
CEPE	**Semis' Perret**	**0.94**	**310**		Pn	02 42 41.9	-0.4
CESW	**Semis' Southwe**	**0.94**	**305**		Pb	02 42 41.9	+0.4
AMKA	**Amchitka**	**0.95**	**271**		Pb	02 42 41.6	+0.1
TAPA	**Tanaga Point A**	**0.97**	**62**		Pb	02 42 42.0	+0.2
KIMD	**Kanaga Island**	**1.28**	**71**		Pn	02 42 46.5	-0.4
KIKV	**Kanaga Island**	**1.36**	**67**		Pn	02 42 48.2	+0.2
KICM	**Kanaga Island**	**1.36**	**65**		Pb	02 42 48.4	-0.1
KIWB	**Kanaga Island**	**1.36**	**68**		Pn	02 42 47.9	-0.1
LSSE	**Little Sitkin**	**1.51**	**293**		Pb	02 42 50.7	-0.4
LSPA	**Little Sitkin**	**1.52**	**294**		Pb	02 42 50.7	-0.5
LSSA	**Little Sitkin**	**1.55**	**293**		Pn	02 42 51.1	+0.4
LSNW	**Little Sitkin**	**1.55**	**294**		Pn	02 42 51.0	+0.3
ADK	**Adak**	**1.64**	**71**		Pn	02 42 51.6	-0.3
GSCK	**Great Sitkin C**	**1.99**	**70**		Pn	02 42 57.3	+0.6
GSSP	**Great Sitkin S**	**2.01**	**68**		Pn	02 42 57.9	+0.9
GSTD	**Great Sitkin T**	**2.01**	**69**		Pn	02 42 57.7	+0.6
GSMY	**Great Sitkin M**	**2.06**	**70**		Pn	02 42 58.4	+0.7
GSTR	**Great Sitkin T**	**2.08**	**68**		Pn	02 42 58.6	+0.7
KOFP	**Korovin Flat P**	**3.29**	**72**		Pn	02 43 15.5	+0.9
SMY	**Shemya**	**4.36**	**291**		Pn	02 43 30.6	+1.3
SPIA	**Saint Paul Isl**	**7.82**	**38**		Pn	02 44 19.5	+2.8
UNV	**Unalaska Valle**	**8.11**	**67**		Pn	02 44 23.5	+2.8

IDC ***02*** *02:45:48.9±1.0, 55°.15S×30°.55W, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/1, Error ellipse: s-maj=45.3km s-min=22.4km az=76.0*

NEIC ***02*** *02:45:50.0±1.4, 55°.0S±0°.2×30°.7W±0°.3, h10km±1km, mb4.3/5, Error ellipse: s-maj=28.8km s-min=20.5km az=39.0*

ISC 02 02:45:49.8±0.7, 55°.1S±0°.1×30°.9W±0°.1, h10km, n28, σ1s00/26, mb4.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.34**	**282**	Pn	**Pn**	**02 46 42.5**	**+0.6**
ESPZ	**Base Esperanza**	**15.62**	**227**	Pn	**P**	**02 49 32.8**	**-1.1**
ESPZ				IAmb	IAmb	02 50 08.1	
	comp=Z,18nm,1.4s						
VNA3	**Neumayer Olymp**	**18.64**	**158**	P	**P**	**02 50 08.1**	**+0.9**
SNAA	**Sanae**	**20.50**	**155**	P	Pn	02 50 31.3	+1.5
SNAA	**Sanae**	**20.50**	**155**	P	**P**	**02 50 26.0**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=249,slow=8.6,SNR=2.3						
	comp=Z,0.9nm,0.8s						
SNAA	**Sanae**	**20.50**	**155**	P	**P**	**02 50 27.5**	**-0.1**
TROLL	**Troll, Antarti**	**22.06**	**153**	P	**P**	**02 50 45.9**	**+1.4**
PLCA	**Paso Flores**	**29.74**	**282**	LR	LR	03 03 04.1	
	comp=Z,121nm,18.2s,baz=50,slow=35						
QSPA	**South Pole Qui**	**35.17**	**180**	P	**P**	**02 52 43.8**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=206,slow=3.3,SNR=10						
	comp=Z,2.6nm,0.8s						
QSPA	**South Pole Qui**	**35.17**	**180**	P	**P**	**02 52 43.7**	**+0.2**
VNDA	**Vanda**	**47.42**	**184**	P	**P**	**02 54 24.0**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=194,slow=6.0,SNR=12						
	comp=Z,1.6nm,0.8s						
VNDA	**Vanda**	**47.42**	**184**	P	**P**	**02 54 24.8**	**+1.1**
VNDA				IAmb	IAmb	02 54 28.6	
	comp=Z,4.2nm,1.3s						
LPAZ	**La Paz**	**48.11**	**309**	P	**P**	**02 54 32.5**	**+2.1**
	comp=Z,2.7nm,0.7s,baz=159,slow=7.5,SNR=10						
	comp=Z,2.7nm,0.7s						
LPAZ	**La Paz**	**48.11**	**309**	P	**P**	**02 54 30.4**	**0.0**
LPAZ				IAmb	IAmb	02 54 34.5	
	comp=Z,2.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.33**	**33**	P	**P**	**02 57 22.2**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=208,slow=5.5,SNR=3.4						
	comp=Z,0.9nm,0.9s						
YAH	**Yahtse**	**144.26**	**307**	PKPdf	**PKPdf**	**03 05 24.2**	**-0.6**
CTGM	**Chitina Glacie**	**144.30**	**308**	PKPdf	**PKPdf**	**03 05 23.5**	**-1.3**
DAWY	**Dawson**	**144.59**	**314**	PKPdf	**PKPab**	**03 05 22.9**	**-0.7**
L27K	**Beaver Creek,**	**145.28**	**312**	PKPbc	**PKPdf**	**03 05 26.0**	**-0.2**
EGAK	**Eagle**	**145.54**	**315**		**PKPab**	**03 05 26.2**	**-0.9**
K27K	**Chicken**	**145.69**	**313**		**PKPab**	**03 05 28.3**	**+0.6**
RIDG	**Independent Ri**	**146.78**	**312**	PKPbc	**PKPab**	**03 05 31.2**	**-0.8**
GLI	**Glacier Island**	**146.90**	**307**	PKPbc	**PKPab**	**03 05 31.4**	**-1.0**
ILAR	**Eielson Array**	**147.91**	**314**	PKPbc	**PKiKP**	**03 05 34.1**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=126,slow=1.7,SNR=30						
ILAR	**Eielson Array**	**147.91**	**314**	PKPbc	**PKPbc**	**03 05 33.4**	**-0.3**
BPAW	**Bear Paw Mtn.**	**149.50**	**312**	PKPbc	**PKiKP**	**03 05 37.8**	**-1.1**
TOLK	**Toolik Lake Re**	**149.58**	**321**	PKPbc	**PKiKP**	**03 05 37.9**	**-1.0**
SONM	**Songino Array**	**152.79**	**88**	PKPbc	**PKiKP**	**03 05 46.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=225,slow=0.4,SNR=2.3						

IDC ***02*** *02:46:29.8±1.0, 54°.95S×30°.33W, h0km, mb3.9/5, mbtmp4.0/5, Error ellipse: s-maj=47.3km s-min=24.5km az=78.0*

NEIC ***02*** *02:46:33.4±1.3, 55°.0S±0°.1×30°.3W±0°.3, h15km±5km, mb4.5/7, Error ellipse: s-maj=27.2km s-min=16.9km az=51.0*

ISC 02 02:46:31.7±0.7, 54°.9S±0°.1×30°.3W±0°.1, h10km, n29, σ0s63/28, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.68**	**278**	Pn	**Pn**	**02 47 28.1**	**-0.4**
ESPZ	**Base Esperanza**	**15.99**	**227**	Pn	**Pn**	**02 50 16.9**	**+0.5**
SNAA	**Sanae**	**20.47**	**155**	P	**P**	**02 51 10.0**	**+0.8**
	4.7nm,1.1s,baz=316,slow=12,SNR=2.1						
	4.7nm,1.1s						
SNAA	**Sanae**	**20.47**	**155**	P	**P**	**02 51 09.1**	**0.0**
SNAA				IAmb	IAmb	02 51 29.3	
	comp=Z,13nm,1.3s						
QSPA	**South Pole Qui**	**35.31**	**180**	P	**P**	**02 53 26.4**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=194,slow=3.3,SNR=1.9						
	comp=Z,1.9nm,0.8s						
QSPA	**South Pole Qui**	**35.31**	**180**	P	**P**	**02 53 25.6**	**-0.9**
QSPA				IAmb	IAmb	02 53 52.1	
	comp=Z,11nm,1.1s						
PTLB	**Pontes e Lacer**	**45.30**	**319**	P	**P**	**02 54 49.8**	**+0.4**
PTLB				IAmb	IAmb	02 55 02.2	
	comp=Z,8.5nm,1.4s						
VNDA	**Vanda**	**47.58**	**184**	P	**P**	**02 55 05.8**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=188,slow=7.0,SNR=5.7						
	comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**47.58**	**184**	P	**P**	**02 55 08.1**	**+1.3**
VNDA				IAmb	IAmb	02 55 26.4	
	comp=Z,2.2nm,0.8s						
LPAZ	**La Paz**	**48.31**	**308**	P	**P**	**02 55 13.1**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=138,slow=5.7,SNR=4.5						
	comp=Z,1.5nm,0.5s						
LPAZ	**La Paz**	**48.31**	**308**	P	**P**	**02 55 14.2**	**+0.3**
OTAV	**Otavalo**	**67.58**	**306**	P	**P**	**02 57 28.9**	**0.0**
OTAV				IAmb	IAmb	02 57 48.5	
	comp=Z,7.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.01**	**33**	P	**P**	**02 58 01.5**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=200,slow=5.7,SNR=3.7						
	comp=Z,1.2nm,0.9s						
DAWY	**Dawson**	**144.75**	**314**		PKPbc	03 06 06.4	+0.2
ISLE	**Juniper Island**	**144.83**	**307**	PKPdf	**PKPab**	**03 06 06.5**	**-0.1**
TGL	**Tana Glacier**	**145.11**	**308**	PKPbc	**PKPdf**	**03 06 08.0**	**0.0**
BCAR	**Beaver Creek A**	**145.44**	**312**		**PKPdf**	**03 06 08.4**	**0.0**
M26K	**Nabesna, AK**	**145.75**	**310**		**PKPbc**	**03 06 09.4**	**-0.1**
K27K	**Chicken**	**145.87**	**313**	PKPbc	**PKPab**	**03 06 11.2**	**+1.0**
RIDG	**Independent Ri**	**146.96**	**312**		**PKPbc**	**03 06 13.6**	**+0.6**
PAX	**Paxson**	**147.01**	**311**		**PKPbc**	**03 06 13.8**	**+0.5**
PWL	**Port Wells**	**147.69**	**306**	PKPbc	**PKPbc**	**03 06 15.3**	**+0.3**
ILAR	**Eielson Array**	**148.08**	**314**	PKPbc	**PKPbc**	**03 06 15.8**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=117,slow=1.6,SNR=7.2						
ILAR	**Eielson Array**	**148.08**	**314**		**PKPbc**	**03 06 15.4**	**-0.6**
WRH	**Wood River Hil**	**148.52**	**313**	PKPbc	**PKiKP**	**03 06 19.1**	**+0.5**
NEA2	**Nenana**	**148.96**	**313**	PKPbc	**PKPbc**	**03 06 17.7**	**-0.6**
BPAW	**Bear Paw Mtn.**	**149.68**	**312**		**PKPbc**	**03 06 20.2**	**+0.1**
IMAR	**Indian Mountai**	**151.10**	**315**		**PKPbc**	**03 06 23.7**	**+0.3**
SONM	**Songino Array**	**152.41**	**87**	PKPbc	**PKPbc**	**03 06 25.9**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=224,slow=3.8,SNR=1.8						

IDC 02 02:56:51.1±3.8, 11°.78S×117°.33E, h0km, mb3.5/1, mbtmp3.5/4, ML3.8/3, Error ellipse: s-maj=232.0km s-min=27.5km az=46.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.20**	**129**	Pn	Pn	02 59 17.9	-0.9
	0.8nm,0.3s,baz=306,slow=11,SNR=38						
FITZ				Sn	Sn	03 01 06.1	-7.9
	0.3nm,0.3s,baz=299,slow=13,SNR=2.5						
	2.9nm,0.5s						
WRA	**Warramunga Arr**	**18.25**	**119**	P	Pn	03 01 04.6	-1.4
	0.3nm,0.3s,baz=288,slow=15,SNR=22						
WRA				S	Sn	03 04 17.6	-13
	0.2nm,0.4s,baz=292,slow=25,SNR=4.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**19.70**	**129**	P	Pn	03 01 23.8	+0.2
	0.3nm,0.3s,baz=306,slow=12,SNR=18						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**66.20**	**334**	P	P	03 07 40.6	-0.1
	0.3nm,0.5s,baz=140,slow=7.9,SNR=2.3						
	0.3nm,0.5s						

WEL ***02*** *02:57:00, 37°.16S×179°.27E, h18km, ML4.9, Mw4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16} Nm; M_{rr}=1.60; $M_{\theta\theta}$ 1.02; $M_{\phi\phi}$ 0.58; $M_{r\theta}$ 1.24; $M_{r\phi}$ -0.05; $M_{\theta\phi}$ 2.55; Fault plane solution: M_o3.05000×10^{16} NP1: ϕ_s45.00000°, δ11.00000°, λ-73.00000°. NP2:ϕ_s208.00000°, δ79.00000°, λ-93.00000°. Principal axes: T -3536.6900, Plg34.0000°, Azm301.0000°; N 969.6800, Plg3.0000°, Azm208.0000°; P 2567.0100, Plg56.0000°, Azm114.0000°;*

BJI ***02*** *02:57:24.5±0.0, 37°.54S×178°.96E, h18km, mb5.1/5, mB5.8/7*

WEL ***02*** *02:57:24.4±0.8, 37°S±3°×17°9E±°, h6km±4km, M4.9/90, ML5.1/91, MLv4.9/90, Error ellipse: s-maj=0.0km s-min=0.0km az=99.1*

NEIC ***02*** *02:57:26.4±2.1, 37°.26S±0°.08×179°.10E±0°.07, h10km±1km, mb5.2/37, Error ellipse: s-maj=14.8km s-min=8.1km az=152.0*

IDC ***02*** *02:57:27.9±3.6, 36°.93S×179°.15E, h29km±22km, mb4.7/11, mbtmp4.8/13, ML4.3/2, MS4.4/32, Error ellipse: s-maj=26.7km s-min=19.0km az=38.0*

NOU ***02*** *02:57:31.2, 37°.73S×179°.18E, h57km, mb5.1/34, Off E. Coast of N. Island, N.Z.*

ISC 02 02:57:27.3±1.0, 37°.21S±0°.04×179°.16E±0°.05, h23km±6km, n325, σ1s43/311, mb5.1/35, MS4.4/31, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.77**	**243**	Pg	**Pb**	**02 57 40.0**	**-2.0**
MXZ	**Matakaoa Point**	**0.77**	**243**	P	**Pb**	**02 57 40.5**	**-1.4**
MXZ				S	**Sb**	**02 57 50.2**	**-1.8**
WMGZ	**Waiomatatini S**	**0.85**	**224**	P	**Pn**	**02 57 44.2**	**+0.3**
WMGZ				S	**Sn**	**02 57 56.9**	**+1.2**
PKGZ	**Pakihiroa**	**1.10**	**232**	P	**Pb**	**02 57 47.7**	**0.0**
PKGZ				S	**Sn**	**02 58 02.0**	**+0.2**
PUZ	**Puketiti**	**1.12**	**220**	P	**Pb**	**02 57 47.9**	**-0.2**
PUZ				S	**Sn**	**02 58 03.9**	**+1.5**
HAZ	**Te Kaha**	**1.23**	**243**	P	**Pn**	**02 57 47.5**	**-1.5**
HAZ				S	**Sb**	**02 58 05.9**	**+0.7**
TWGZ	**Tauwhareparae**	**1.34**	**224**	P	**Pb**	**02 57 51.2**	**-0.6**
RUGZ	**Raukumara Rang**	**1.40**	**237**	P	**Pn**	**02 57 51.7**	**+0.1**
RUGZ				S	**Sb**	**02 58 12.2**	**+1.9**
CNGZ	**Carnagh Statio**	**1.48**	**211**	P	**Pb**	**02 57 53.5**	**-0.6**
CNGZ				S	**Sb**	**02 58 15.9**	**+3.5**
WIZ	**White Island**	**1.60**	**258**	P	**Pn**	**02 57 52.3**	**-2.0**
TKGZ	**Te Karaka**	**1.61**	**220**	P	**Pn**	**02 57 54.6**	**+0.2**
TKGZ				S	**Sb**	**02 58 17.8**	**+1.6**
WSRZ	**White Island S**	**1.61**	**258**	P	**Pn**	**02 57 55.2**	**+0.8**
WSRZ				S	**Sb**	**02 58 15.3**	**-1.0**
MWZ	**Matawai**	**1.71**	**229**	P	**Pn**	**02 57 55.9**	**+0.1**
MWZ				S	**Sb**	**02 58 21.0**	**+1.7**
WHRZ	**Whale Island**	**1.85**	**249**	P	**Pn**	**02 57 58.0**	**+0.2**
RIGZ	**Rimuhau**	**1.86**	**216**	P	**Pn**	**02 57 57.7**	**-0.1**
RIGZ				S	**Sb**	**02 58 23.6**	**+0.2**
RAGZ	**Rawiri**	**1.89**	**227**	P	**Pn**	**02 57 58.6**	**+0.4**
RAGZ				S	**Sn**	**02 58 22.3**	**+0.9**
URZ	**Urewera**	**1.93**	**237**	Pn	**Pn**	**02 57 59.2**	**+0.4**
	790nm,0.3s,baz=121,slow=3.2,SNR=516						
URZ				Sn	**Sn**	**02 58 22.7**	**+0.3**
	555nm,0.3s,baz=121,slow=21,SNR=9.2						
URZ				LR	LR	02 59 00.6	
	comp=Z,6µm,19.4s,baz=301,slow=44						
	2µm,0.3s						
URZ	**Urewera**	**1.93**	**237**	Pn	**Pn**	**02 57 59.1**	**+0.3**
URZ	**Urewera**	**1.93**	**237**	P	**Pn**	**02 57 59.1**	**+0.3**
URZ				S	**Sb**	**02 58 24.9**	**-0.7**
URZ	**Urewera**	**1.93**	**237**	P	**Pn**	**02 57 59.5**	**+0.7**
PRGZ	**Paritu Road**	**1.98**	**210**	P	**Pn**	**02 57 59.5**	**0.0**
PRGZ				S	**Sb**	**02 58 27.6**	**+0.6**
EDRZ	**Edgecumbe**	**2.12**	**244**	P	**Pn**	**02 58 01.9**	**+0.4**
EDRZ				S	**Sb**	**02 58 30.3**	**-0.8**
MARZ	**Manawahe**	**2.12**	**248**	P	**Pn**	**02 58 02.0**	**+0.6**
SNGZ	**Shannon Statio**	**2.13**	**222**	P	**Pn**	**02 58 01.7**	**+0.2**
KNZ	**Kokohu**	**2.16**	**213**	P	**Pn**	**02 58 01.3**	**-0.5**
OPRZ	**Ohinepanea**	**2.17**	**252**	P	**Pn**	**02 58 01.8**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.18**	**207**	P	**Pn**	**02 58 02.1**	**-0.1**
RTZ	**Ruatahuna**	**2.22**	**230**	P	**Pn**

KAHZ **Kahuranaki** 3.14 214 P Pn 02 58 14.2 -1.3
RATZ **Rangitukua** 3.15 237 P Pn 02 58 16.0 +0.4
RITZ **Rihia Road** 3.15 235 P Pn 02 58 15.8 +0.3
MKAZ **Moumakai** 3.20 271 P Pn 02 58 14.7 -1.5
WIAZ **Waiheke Island** 3.25 276 P Pn 02 58 16.1 -0.8
KATZ **Kakaramea** 3.25 236 P Pn 02 58 17.7 +0.6
KRHZ **Kereru** 3.27 221 P Pn 02 58 16.0 -1.3
TMVZ **Te Maari** 3.32 234 P Pn 02 58 17.6 -0.5
ETVZ **East Tongariro** 3.33 234 P Pn 02 58 17.6 -0.6
BHHZ **Black Hill Sta** 3.33 226 P Pn 02 58 17.5 -0.6
NTVZ **North Tongariro** 3.33 235 P Pn 02 58 18.2 0.0
PXZ **Pawanui** 3.34 212 P Pn 02 58 16.1 -2.1
KRVZ **Karewarewa** 3.35 235 P Pn 02 58 18.3 -0.1
OTVZ **Oturere** 3.38 234 P Pn 02 58 18.7 -0.1
NNVZ **North Ngauruho** 3.39 234 P Pn 02 58 18.9 -0.1
ETAZ **East Tamaki Re** 3.40 273 P Pn 02 58 18.9 0.0
WTVZ **West Tongariro** 3.40 235 P Pn 02 58 19.0 -0.1
SNVZ **South Ngauruho** 3.40 234 P Pn 02 58 18.9 -0.3
NGZ **Ngauruhoe** 3.42 234 P Pn 02 58 19.3 -0.2
TUVZ **Tukino** 3.44 232 P Pn 02 58 19.5 -0.2
MBAZ **Motutapu North** 3.44 276 P Pn 02 58 19.2 -0.4
MOVZ **Moawhango** 3.46 230 P Pn 02 58 19.0 -0.9
TWVZ **Taurewa** 3.48 237 P Pn 02 58 20.8 +0.6
WHVZ **Whangaehu Hut** 3.49 233 P Pn 02 58 19.9 -0.6
FWVZ **Far West T-bar** 3.50 233 P Pn 02 58 20.2 -0.4
DRZ **Dome Shelter** 3.50 233 P Pn 02 58 18.3 -2.4
WNVZ **Wahianoa** 3.51 232 P Pn 02 58 20.2 -0.5
ABAZ **Army Bay** 3.52 279 P Pn 02 58 20.2 -0.5
TRVZ **Turoa** 3.53 233 P Pn 02 58 21.3 +0.3
EPAZ **Eden Park BICE** 3.55 274 P Pn 02 58 22.5 +1.4
WPHZ **Waipukurau** 3.56 216 P Pn 02 58 19.7 -1.4
PNHZ **Pukenui** 3.56 220 P Pn 02 58 19.4 -1.9
HBAZ **Herne Bay Bore** 3.57 274 P Pn 02 58 22.7 +1.5
AWAZ **Awhitu Peninsu** 3.62 271 P Pn 02 58 21.6 -0.3
MTVZ **Mangateitei** 3.63 232 P Pn 02 58 22.5 +0.3
PRHZ **Porangahau** 3.63 212 P Pn 02 58 20.0 -2.2
HIZ **Hauiti** 3.65 248 Pn Pn 02 58 23.6 +1.1
HIZ **Hauiti** 3.65 248 P Pn 02 58 23.4 +1.0
HIZ **Hauiti** 3.65 248 P Pn 02 58 23.5 +1.1
PKVZ **Pokaka** 3.65 234 P Pn 02 58 23.3 +0.8
WTAZ **Waiatarua** 3.68 273 P Pn 02 58 22.6 -0.3
RVAZ **Riverhead Bore** 3.70 275 P Pn 02 58 23.0 -0.1
TSZ **Takapari Road** 3.79 220 P Pn 02 58 22.0 -2.4
ANWZ **Angora Road** 3.86 212 P Pn 02 58 23.9 -1.4
DVHZ **Dannevirke** 3.87 216 P Pn 02 58 23.7 -1.8
WCZ **Waipu Caves** 4.08 287 P Pn 02 58 27.8 -0.5
POWZ **Post Office Ro** 4.14 219 P Pn 02 58 27.3 -1.8
BFZ **Birch Farm** 4.14 212 Pn 02 58 26.6 -2.7
BFZ **Birch Farm** 4.14 212 P Pn 02 58 26.5 -2.7
WAZ **Wanganui** 4.15 231 P Pn 02 58 29.1 -0.1
PRWZ **Pori Road** 4.17 216 P Pn 02 58 27.8 -1.7
OHWZ **Ohakea** 4.24 224 P Pn 02 58 30.7 +0.2
MHEZ **Mangahewa** 4.25 243 P Pb 02 58 36.1 -5.2
CPWZ **Castlepoint** 4.35 211 P Pn 02 58 30.3 -1.8
LREZ **Lake Rotokare** 4.37 238 P Pn 02 58 33.1 +0.9
DREZ **Durham Road** 4.38 242 P Pn 02 58 35.4 +2.9
TIWZ **Tintock** 4.38 215 P Pn 02 58 30.4 -2.1
PREZ **Palmer Road** 4.48 240 P Pn 02 58 36.9 +3.1
NEZ **North Egmont** 4.49 241 P Pn 02 58 35.9 +1.8
PKE **Pukeiti** 4.53 243 P Pn 02 58 38.3 +3.8
KHEZ **Kahui Hut** 4.55 241 P Pn 02 58 37.0 +2.0
NBEZ **Newall Road No** 4.65 242 P Pn 02 58 39.1 +3.0
NMEZ **Namu Road** 4.70 241 P Pn 02 58 41.2 +4.4
OUZ **Omahuta** 4.92 292 Pn Pn 02 58 39.4 -0.5
OUZ **Omahuta** 4.92 292 P Pn 02 58 39.8 -0.1
MSWZ **Moikau Station** 5.18 215 Pn 02 58 39.1 -4.3
PLWZ **Palliser** 5.37 214 Pn Pn 02 58 37.6 -2.6
SNZO **South Karori** 5.36 219 Pn Pn 02 58 43.5 -2.3
SNZO **South Karori** 5.36 219 P Pn 02 58 42.8 -3.1
TUWZ **Tuamarina** 5.84 222 Pn 02 58 50.4 -2.1
BSWZ **Blackbirch Sta** 6.08 221 Pn 02 58 54.3 -1.5
QRZ **Quartz Range** 6.30 233 Pn Pn 02 58 57.0 -1.8
QRZ **Quartz Range** 6.30 233 P Pn 02 58 56.1 -2.7
THZ **Tophouse** 6.64 225 Pn 02 59 01.3 -2.2
KHZ **Kahutara** 6.76 218 Pn Pn 02 59 02.7 -2.5
KHZ **Kahutara** 6.76 218 P Pn 02 59 01.6 -3.5
CTZ **Chatham Island** 7.27 155 P Pn 02 59 13.3 +1.3
LTZ **Lake Taylor** 7.67 221 Pn Pn 02 59 14.9 -2.8
MQZ **McQueen's Vall** 8.16 215 Pn 02 59 21.4 -3.0
RAO **Raoul Island** 8.30 18 Sn Sn 03 00 58.4 -1.1
77nm,0.3s,baz=111,slow=23,SNR=2.4
RPZ **Rata Peaks** 8.96 221 Pn Pn 02 59 31.1 -4.2
4.4nm,0.3s,baz=39,slow=1.6,SNR=10
RPZ Sn Sn 03 01 02.5 -13
9.6nm,0.3s,baz=45,slow=20,SNR=3.8
RPZ LR LR 03 03 43.5
comp=Z,3µm,18.5s,baz=42,slow=41
RPZ **Rata Peaks** 8.96 221 Pn Pn 02 59 33.1 -2.2
RPZ **Rata Peaks** 8.96 221 P Pn 02 59 31.7 -3.7
DZM **Mont Dzumac** 18.68 320 *eP* Pn 03 01 45.2 +0.8
165nm,21.6s
DZM *e*LR LR 03 06 05.4
comp=Z,4µm,23.9s
DZM **Mont Dzumac** 18.68 320 P P 03 01 42.0 -2.0
0.1nm,0.3s,baz=187,slow=18,SNR=1.3
DZM LR LR 03 08 07.3
comp=Z,2µm,18.1s,baz=182,slow=35
3.3nm,0.7s
DZM **Mont Dzumac** 18.68 320 P Pn 03 01 48.9 +4.5
MSVF **Nonsavu** 19.43 357 P P 03 01 52.0 -0.2
6.3nm,0.8s,baz=217,slow=20,SNR=2.1
MSVF LR LR 03 07 54.0
comp=Z,1µm,18.3s,baz=186,slow=33
MSVF **Nonsavu** 19.43 357 P Pn 03 01 58.2 +4.7
CNB **Canberra Magne** 24.06 265 P P 03 02 40.0 -1.0
baz=24,SNR=7.4
CNB **Canberra Magne** 24.06 265 P P 03 02 41.9 +0.9
RAR **Rarotonga** 24.25 55 LR LR 03 11 02.5
comp=Z,224nm,18.9s,baz=261,slow=34
CAN **Canberra** 24.35 265 P P 03 02 43.9 +0.3
CAN IAmb IAmb 03 02 46.9
comp=Z,106nm,1.6s
CAN **Canberra** 24.35 265 P P 03 02 43.8 +0.2
TAU **Tasmania Unive** 24.93 247 P P 03 02 48.7 -0.1
TAU IAmb IAmb 03 02 50.7
comp=Z,120nm,1.6s
MOO **Moorlands** 25.02 248 P P 03 02 47.7 -1.8
baz=24,SNR=3.2
EIDS **Eidsvold** 26.64 288 P P 03 03 04.6 +0.2
baz=26,SNR=3.4
EIDS **Eidsvold** 26.64 288 P P 03 03 05.5 +1.1
TOO **Toolangi** 26.68 259 P P 03 03 05.0 +0.3
baz=26,SNR=5.5
TOO **Toolangi** 26.68 259 P P 03 03 04.3 -0.3
RMQ **Roma** 27.84 284 P P 03 03 17.0 +1.8
baz=28,SNR=5.8
CMSA **Cobar Meteorol** 28.11 272 P P 03 03 18.4 +0.9
baz=28,SNR=28
CMSA **Cobar Meteorol** 28.11 272 P P 03 03 19.0 +1.5
TBI **Tubuai** 30.26 72 *e*LR LR 03 11 23.0
comp=Z,603nm,28.8s
STKA **Stephens Creek** 31.26 269 P P 03 03 45.8 +0.4
baz=31,SNR=14
STKA **Stephens Creek** 31.26 269 P P 03 03 45.9 +0.4
comp=Z,13nm,0.6s,baz=107,slow=10,SNR=53
STKA LR LR 03 15 12.7
comp=Z,951nm,20.7s,baz=105,slow=34
comp=Z,13nm,0.6s
STKA **Stephens Creek** 31.26 269 P P 03 03 45.5 +0.1
STKA **Stephens Creek** 31.26 269 P P 03 03 46.5 +1.1
HNR **Honiara** 32.66 323 LR LR 03 14 49.2
comp=Z,439nm,18.4s,baz=152,slow=32
HTT **Hallett** 32.88 264 P P 03 03 59.9 +0.2
baz=32,SNR=29
HTT **Hallett** 32.88 264 P P 03 04 00.1 +0.4
CTA **Charters Tower** 33.32 292 P P 03 04 02.5 -1.2
comp=Z,4.2nm,0.7s,baz=122,slow=10,SNR=7.1
CTA LR LR 03 16 41.5
comp=Z,765nm,19.5s,baz=114,slow=35
comp=Z,4.2nm,0.7s
CTAO **Charters Tower** 33.32 292 P P 03 04 04.3 +0.7
CTAO IAmb IAmb 03 04 07.1
comp=Z,24nm,1.4s
PPT2 **Papeete2** 33.72 63 *e*LR LR 03 12 59.5
comp=Z,633nm,25.2s
PPT **Papeete** 33.73 63 LR LR 03 14 26.5
comp=Z,249nm,21.6s,baz=286,slow=30
WHYH **Whyalla** 34.08 264 P P 03 04 10.2 +0.2
comp=Z,61nm,0.7s
LCRK **Leigh Creek** 34.48 269 P P 03 04 14.0 +0.5
BBOO **Buckleboo** 35.35 264 P P 03 04 20.3 -0.8
baz=35,SNR=43
BBOO **Buckleboo** 35.35 264 P P 03 04 19.7 -1.4

BBOO IAmb IAmb 03 04 22.0
comp=Z,84nm,1.5s
BBOO **Buckleboo** 35.35 264 P P 03 04 21.2 +0.1
OOD **Oodnadatta** 37.57 272 P P 03 04 40.6 +0.5
MULG **Mulgathing** 37.85 267 P P 03 04 42.0 -0.4
QIS **Mount Isa** 38.09 285 P P 03 04 44.6 0.0
baz=38,SNR=16
QIS **Mount Isa** 38.09 285 P P 03 04 44.8 +0.2
COEN **Coen** 39.51 296 P P 03 04 56.4 0.0
baz=39,SNR=18
COEN **Coen** 39.51 296 P P 03 04 56.4 0.0
COEN **Coen** 39.51 296 P P 03 04 56.9 +0.4
AS31 **Alice Springs** 40.92 276 IAmb IAmb 03 05 08.4
comp=Z,13nm,0.6s
ASAR **Alice Springs** 40.92 276 P P 03 05 07.3 -0.8
comp=Z,26nm,0.6s,baz=118,slow=8.0,SNR=64
ASAR PcP PcP 03 07 06.7 -1.7
comp=Z,0.8nm,0.7s,baz=120,slow=4.7,SNR=0.9
ASAR ScP ScP 03 10 55.2 -1.5
comp=Z,0.5nm,0.6s,baz=121,slow=3.7,SNR=2.8
ASAR LR LR 03 21 53.5
comp=Z,520nm,18.4s,baz=108,slow=36
comp=Z,26nm,0.6s
ASAR **Alice Springs** 40.92 276 P P 03 05 07.5 -0.6
VNDA **Vanda** 41.10 186 LR LR 03 19 08.0
comp=Z,338nm,20.2s,baz=19,slow=31
VNDA **Vanda** 41.10 186 P P 03 05 09.3 +0.4
WR0 **Warramunga Arr** 42.37 281 IAmb IAmb 03 05 21.0
comp=Z,77nm,1.5s
FORT **Forrest** 42.43 263 P P 03 05 19.6 -0.8
baz=42,SNR=108
FORT **Forrest** 42.43 263 P P 03 05 19.1 -1.3
FORT **Forrest** 42.43 263 P P 03 05 20.2 -0.2
WRAB **Tennant Creek** 42.53 281 P P 03 05 20.3 -1.0
WRAB IAmb IAmb 03 05 21.1
comp=Z,42nm,0.6s
WRA **Warramunga Arr** 42.53 281 P P 03 05 20.0 -1.4
comp=Z,31nm,0.6s,baz=121,slow=7.7,SNR=397
WRA PcP PcP 03 07 11.8 -2.0
comp=Z,1.7nm,0.8s,baz=140,slow=4.0,SNR=2.0
WRA ScP ScP 03 11 00.9 -2.2
comp=Z,0.5nm,0.6s,baz=114,slow=3.9,SNR=2.8
WRA LR LR 03 22 15.8
comp=Z,819nm,21.4s,baz=122,slow=35
comp=Z,31nm,0.6s
WB0 **Warramunga Arr** 42.59 281 P P 03 05 20.4 -1.4
WRKA **Warakurna** 44.72 271 P P 03 05 37.2 -1.8
baz=44,SNR=16
WRKA **Warakurna** 44.72 271 P P 03 05 37.4 -1.6
TAOE **Nuku Hiva Isla** 46.34 63 *e*LR LR 03 18 48.6
comp=Z,363nm,25.3s
CASY **Casey** 48.06 210 P P 03 06 04.7 +0.2
CASY IAmb IAmb 03 06 24.0
comp=Z,14nm,0.8s
MTN **Manton Dam** 49.18 287 P P 03 06 12.9 -0.9
MTN IAmb IAmb 03 06 14.9
comp=Z,71nm,1.7s
KNRA **Kununurra** 49.31 282 P P 03 06 14.1 -0.7
baz=49,SNR=9.1
KNRA **Kununurra** 49.31 282 P P 03 06 14.1 -0.7
KNRA IAmb IAmb 03 06 15.5
comp=Z,53nm,1.2s
KNRA **Kununurra** 49.31 282 P P 03 06 14.1 -0.7
NWAO **Narrogin (SRO)** 50.08 255 P P 03 06 20.3 -0.2
comp=Z,8.5nm,0.8s,baz=146,slow=7.4,SNR=1.9
NWAO LR LR 03 25 39.6
comp=Z,370nm,21.2s,baz=256,slow=34
comp=Z,8.5nm,0.8s
NWAO **Narrogin (SRO)** 50.08 255 P P 03 06 19.6 -0.9
KLBR **Kellerberrin** 50.21 257 P P 03 06 19.9 -1.7
baz=57,SNR=7.7
KLBR **Kellerberrin** 50.21 257 P P 03 06 21.1 -0.4
FITZ **Fitzroy Crossi** 50.41 277 P P 03 06 22.3 -0.8
baz=50,SNR=64
FITZ **Fitzroy Crossi** 50.41 277 P P 03 06 22.0 -1.1
comp=Z,27nm,0.6s,baz=148,slow=6.7,SNR=89
FITZ LR LR 03 27 01.8
comp=Z,348nm,19.1s,baz=116,slow=35
comp=Z,27nm,0.6s
FITZ **Fitzroy Crossi** 50.41 277 P P 03 06 22.5 -0.7
FITZ IAmb IAmb 03 06 25.1
comp=Z,29nm,0.8s
FITZ **Fitzroy Crossi** 50.41 277 P P 03 06 22.9 -0.2
MUN **Mundaring** 51.25 256 P P 03 06 29.1 -0.3
baz=51,SNR=4.8
MUN **Mundaring** 51.25 256 P P 03 06 28.8 -0.6
comp=Z,32nm,1.6s
BLDU **Ballidu** 51.43 258 P P 03 06 29.6 -1.2
baz=51,SNR=11
BLDU **Ballidu** 51.43 258 P P 03 06 30.6 -0.2
MEEK **Meekatharra** 51.69 263 P P 03 06 31.0 -1.8
baz=51,SNR=24
MEEK **Meekatharra** 51.69 263 P P 03 06 31.4 -1.4
MORW **Morawa** 52.63 259 P P 03 06 38.1 -1.6
baz=52,SNR=21
MORW **Morawa** 52.63 259 P P 03 06 38.4 -1.2
MORW IAmb IAmb 03 06 39.2
comp=Z,16nm,0.6s
MORW **Morawa** 52.63 259 P P 03 06 39.1 -0.6
QSPA **South Pole Qui** 52.91 180 P P 03 06 44.7 +3.2
comp=Z,11nm,0.8s,baz=33,slow=1.9,SNR=56
QSPA LR LR 03 25 52.5
comp=Z,423nm,20.3s,baz=48,slow=32
comp=Z,11nm,0.8s
QSPA **South Pole Qui** 52.91 180 P P 03 06 43.7 +2.3
QSPA IAmb IAmb 03 06 59.4
comp=Z,22nm,0.9s
PSA00 **Pilbara Seismi** 53.18 270 P P 03 06 42.1 -1.7
PSA00 IAmb IAmb 03 06 43.9
comp=Z,16nm,0.9s
MBWA **Marble Bar** 53.48 270 P P 03 06 44.5 -1.5
MBWA IAmb IAmb 03 06 58.5
comp=Z,74nm,1.6s
MBWA **Marble Bar** 53.48 270 P P 03 06 44.7 -1.4
comp=Z,15nm,1.4s
FAKI **Fak Fak** 54.89 297 P P 03 06 54.3 -2.1
FAKI IAmb IAmb 03 07 03.4
comp=Z,12nm,0.8s
FAKI **Fak Fak** 54.89 297 P P 03 07 03.1 +6.7
comp=Z,21nm,0.8s
FAKI **Fak Fak** 54.89 297 P P 03 06 57.3 +0.9
SOEI **Soe** 56.36 284 P P 03 07 07.9 +0.8
SOEI **Soe** 56.36 284 P P 03 07 09.1 +2.0
comp=Z,45nm,1.1s
BATI **Baumata** 56.55 284 LR LR 03 31 30.6
comp=Z,1µm,20.0s,baz=145,slow=36
SIJI **Sorong** 57.02 298 P P 03 07 10.1 -1.5
comp=Z,5.8nm,0.4s,baz=79,slow=4.2,SNR=12
SIJI LR LR 03 31 58.5
comp=Z,316nm,20.1s,baz=118,slow=36
comp=Z,5.8nm,0.4s
SWI **Sorong** 57.03 298 P P 03 07 15.2 +3.5
comp=Z,24nm,1.0s
GIRL **Giralia** 57.11 265 P P 03 07 11.7 -0.5
baz=57,SNR=3.2
GIRL **Giralia** 57.11 265 P P 03 07 11.6 -0.5
MMRI **Maumere** 58.62 284 P P 03 07 23.9 +1.0
EDFI **Ende, Flores** 58.98 283 P P 03 07 26.9 +1.4
comp=Z,19nm,1.1s
GUMO **Guam** 59.95 321 LR LR 03 30 42.3
comp=Z,122nm,18.8s,baz=128,slow=33
RPN **Rapa Nui** 60.08 103 LR LR 03 27 55.0
comp=Z,207nm,19.6s,baz=345,slow=30
TWSI **Taliwang, Sumb** 62.74 280 P P 03 07 58.2 +7.2
KAPI **Kappang** 62.81 285 LR LR 03 36 04.0
comp=Z,322nm,18.8s,baz=118,slow=37
BELA **Belgrano 2** 63.36 172 P P 03 07 54.2 0.0
BELA IAmb IAmb 03 07 57.4
comp=Z,9.0nm,0.7s
SMAI **San Martin Ant** 64.03 158 P P 03 08 00.1 +1.5
MAW **Mawson** 65.12 202 LR LR 03 37 11.2
comp=Z,276nm,18.2s,baz=102,slow=36
MAW **Mawson** 65.12 202 P P 03 08 04.9 -0.9
GMJI **Gumukmas** 65.73 278 P P 03 08 12.6 +2.0
comp=Z,42nm,1.1s
TOLI2 **Tolitoli** 65.99 291 P P 03 08 09.4 -2.9
MPSI **Mapaga** 66.14 290 P P 03 08 21.6 +8.4
PMSA **Palmer Station** 67.05 155 LR LR 03 30 42.4
comp=Z,370nm,19.8s,baz=228,slow=30
PWJI **Pagerwojo** 67.18 277 P P 03 08 20.2 +0.4
comp=Z,53nm,0.8s
PCJI **Pacitan** 67.57 277 P P 03 08 34.2 +12
UGM **Wanagama** 68.26 277 P P 03 08 26.9 +0.2
MYLDM **Lahad Datu** 70.39 293 P P 03 08 40.3 +0.5
MYLDM IAmb IAmb 03 08 53.5
comp=Z,18nm,1.2s

TROLL **Troll, Antarti** 71.05 181 P P 03 08 45.2 +2.0
LEM **Lembang** 71.21 276 LR LR 03 42 14.9
comp=Z,317nm,19.1s,baz=152,slow=38
SNAA **Sanae** 71.41 179 P P 03 08 48.0 +2.8
SNAA **Sanae** 71.41 179 PcP PcP 03 09 06.0 +1.2
SNAA **Sanae** 71.41 179 LR LR 03 37 14.8
comp=Z,216nm,20.5s,baz=194,slow=33
SNAA **Sanae** 71.41 179 P P 03 08 46.2 +1.0
SNAA IAmb IAmb 03 08 59.5
comp=Z,22nm,1.7s
VNA3 **Neumayer Olymp** 71.66 177 P P 03 08 48.4 +1.7
VNA3 **Neumayer Olymp** 71.66 177 PcP PcP 03 09 06.5 +0.7
VNA2 **Neumayer--Watz** 72.06 178 P P 03 08 51.1 +2.0
baz=184,slow=3.7
VNA2 **Neumayer--Watz** 72.06 178 PcP PcP 03 09 09.0 +1.5
DBJI **Dramaga** 72.06 275 P P 03 08 58.8 +8.8
VNA1 **Neumayer--Stat** 72.31 177 P P 03 08 52.8 +2.3
VNA1 **Neumayer--Stat** 72.31 177 PcP PcP 03 09 10.5 +2.0
H03N3 **Juan Fernandez** 78.89 124 T T 04 36 10.6
baz=234,slow=72,SNR=55
H03N2 **Juan Fernandez** 78.90 124 T T 04 36 09.4
baz=234,slow=72,SNR=55
H03N1 **Juan Fernandez** 78.91 124 T T 04 36 09.7
baz=234,slow=72,SNR=49
PLCA **Paso Flores** 79.57 134 P P 03 09 31.9 -0.7
comp=Z,2.4nm,0.7s,baz=190,slow=6.1,SNR=2.3
PLCA LR LR 03 36 30.8
comp=Z,85nm,21.6s,baz=233,slow=29
comp=Z,2.4nm,0.7s
PLCA **Paso Flores** 79.57 134 P P 03 09 34.2 +1.6
PSI **Prapat** 83.92 278 LR LR 03 50 28.4
comp=Z,262nm,19.1s,baz=124,slow=38
KSRS **Korea Array** 88.10 322 P P 03 10 15.2 -0.6
comp=Z,0.6nm,0.3s,baz=157,slow=6.5,SNR=2.8
comp=Z,0.6nm,0.3s
LVC **Limon Verde** 92.60 121 LR LR 03 43 21.4
comp=Z,212nm,20.9s,baz=214,slow=30
CMAR **Chiang Mai Arr** 93.48 290 P P 03 10 40.7 -0.7
comp=Z,1.7nm,0.3s,baz=156,slow=2.7,SNR=1.8
CMAR LR LR 03 54 08.6
comp=Z,67nm,21.9s,baz=0.0,slow=36
comp=Z,1.7nm,0.3s
CMAR **Chiang Mai Arr** 93.48 290 P P 03 10 41.8 +0.4
NNA **Nana** 93.71 108 LR LR 03 45 18.0
comp=Z,172nm,18.5s,baz=226,slow=31
ATAH **Atahualpa** 95.53 103 LR LR 03 44 12.3
comp=Z,196nm,20.8s,baz=239,slow=29
PZH **PanZhiHua** 96.40 298 P P 03 10 55.8 +1.1
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,150nm,9.0s
LPAZ **La Paz** 97.36 117 LR LR 03 46 40.7
comp=Z,72nm,20.9s,baz=218,slow=30
CPUP **Villa Florida** 97.46 131 LR LR 03 49 10.5
comp=Z,311nm,18.4s,baz=230,slow=32
CD2 **Chengdu** 97.75 303 *eP* P 03 11 00.5 -0.2
HHC **Hu-ho-hao-te** 99.30 315 *eP* Pdif 03 11 08.2 +0.8
HHC pmax pmax
comp=Z,120nm,7.8s
WMQ **Urumqi** 115.49 307 *e*PKP PKPdf 03 16 06.6 -0.5
MKAR **Makanchi Array** 120.21 308 PKP PKPdf 03 16 12.5 -3.5
comp=Z,0.2nm,0.6s,baz=111,slow=28,SNR=1.6
MKAR **Makanchi Array** 120.21 308 PKPdf PKiKP 03 16 16.6 +0.5
KURBB **Kurchatov Array** 123.92 311 PKP PKPdf 03 16 21.5 -1.5
comp=Z,0.7nm,0.5s,baz=114,slow=1.9,SNR=2.9
SPA0 **Spitsbergen Ar** 138.29 355 *e*PKPdf PKiKP 03 16 52.7 +1.2
HOPEN **Hopen** 138.94 351 *e*PKPdf PKiKP 03 16 53.6 +0.8
ARA0 **ARCESS Array S** 144.62 344 *e*PKPdf PKPdf 03 17 01.0 +0.1
ARA0 IAmb IAmb 03 17 07.1
comp=Z,352nm,2.5s
ARCES **ARCESS Array B** 144.62 344 PKP PKPbc 03 16 59.8 +0.1
comp=Z,2.6nm,0.6s,baz=54,slow=4.0,SNR=19
GUDG **Gudauri** 145.13 293 PKPbc PKPdf 03 17 03.2 +0.3
KLMR **Klimovskoe** 145.38 326 *e* PKPbc 03 17 01.2 -1.2
KLMR AMP 03 17 05.1
comp=Z,30nm,1.3s
KTK1 **Kautokeino** 145.52 345 *e*PKPab PKPbc 03 17 02.7 +0.1
KTK1 IAmb IAmb 03 17 03.1
comp=Z,48nm,2.0s
KARS **Kars** 145.93 290 PKPbc PKPbc 03 17 04.8 -0.2
GURO **Guroymak-BITLI** 146.36 286 PKPbc PKPdf 03 17 05.3 +0.2
KBZ **Khabaz** 146.41 295 PKPbc PKPbc 03 17 05.5 -0.6
comp=Z,4.4nm,0.9s,baz=127,slow=7.3,SNR=4.0
MARD **Mardin** 147.07 283 PKPbc PKPbc 03 17 07.8 -0.6
STEI **Steigen** 147.93 349 *e*PKPdf PKPbc 03 17 10.2 +0.6
STEI IAmb IAmb 03 17 12.9
comp=Z,85nm,1.6s
LOF **Lofoten** 148.00 350 *e*PKPdf PKPdf 03 17 06.0 -0.7
FAUS **Fauske** 148.43 348 *e*PKPdf PKPbc 03 17 10.3 -0.6
FAUS IAmb IAmb 03 17 12.8
comp=Z,102nm,1.9s
DBIC **Dimbokro** 149.38 172 PKPbc PKPbc 03 17 15.1 +0.1
comp=Z,4.1nm,0.7s,baz=209,slow=3.5,SNR=6.2
KONS **Konsvik** 149.58 349 *e*PKPbc PKPbc 03 17 13.5 -0.4
KONS IAmb IAmb 03 17 20.7
comp=Z,139nm,1.7s
MOR8 **Moi Rana** 149.67 348 *e*PKPdf PKPdf 03 17 09.1 -0.4
FINES **FINESS Array B** 150.48 334 PKPbc PKPbc 03 17 15.3 -0.9
comp=Z,4.5nm,0.5s,baz=45,slow=3.8,SNR=23
BNN **Bunyan** 151.18 285 PKPbc 03 17 18.0 -0.7
NSS **Namsos** 151.59 348 *e*PKPbc PKiKP 03 17 19.2 +0.1
NSS IAmb IAmb 03 17 30.1
comp=Z,146nm,1.6s
BRTR **Keskin Array B** 152.99 286 PKPbc PKPbc 03 17 21.7 -1.1
comp=Z,1.8nm,0.8s,baz=139,slow=3.9,SNR=9.7
BRTR **Keskin Array B** 152.99 286 PKPbc 03 17 22.3 -0.5
BRTR **sPKPbc** 03 17 31.8 -0.6
DOMB **Dombas** 154.39 349 *e*PKPbc PKPbc 03 17 24.6 -0.3
AKASG **Malin Array Be** 154.71 312 PKPbc PKPbc 03 17 24.6 -1.3
comp=Z,0.9nm,0.4s,baz=59,slow=3.1,SNR=1.6
NB2 **NORSAR Subarra** 154.96 346 PKP PKPbc 03 17 26.5 +0.3
comp=Z,10nm,1.4s,baz=43,slow=2.7
NOA **NORSAR Array B** 154.96 346 PKPbc PKPbc 03 17 26.1 -0.2
comp=Z,0.6nm,0.9s,baz=31,slow=2.0,SNR=4.4
NC602 **NORSAR Array S** 155.18 345 PKPbc PKPdf 03 17 27.0 +9.3
FOO **Floro** 155.31 353 *e*PKPbc PKPdf 03 17 26.5 +8.7
GERES **GERESS Array B** 164.28 322 PKPab PKPab 03 18 21.3 -1.4
comp=Z,0.5nm,0.7s,baz=43,slow=8.0,SNR=1.7
ESDC **Sonseca Array** 176.53 44 PKP PKPdf 03 17 33.3 -2.3
comp=Z,0.1nm,0.3s,baz=11,slow=0.9,SNR=2.2

IDC ***02*** *03:02:37.0±1.2,29.32N×139.37E,h442km±15km,mb2.9/5, mbtmp3.8/8,Error ellipse: s-maj=35.9km s-min=13.9km az=87.0*

ISC 02 03:02:37.4±1.0,29.3N±0.1×139.4E±0.2,h450km,n8, σ0§63/9,mb3.3/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.30**	**132**	P	P	P	**03 03 47.2**	**+0.4**
	26nm,0.4s,baz=282,slow=20,SNR=1.6							
JCJ				S	S	S	**03 04 42.1**	**-0.9**
	72nm,0.3s,baz=278,slow=22,SNR=12							
JHJ	**Hachijo jima 2**	**3.77**	**4**	P	P	P	**03 03 50.4**	**-0.1**
	45nm,0.5s,baz=233,slow=20,SNR=2.4							
USRK	**Ussuriysk Ar.**	**15.37**	**340**	P	P	P	**03 05 58.0**	**-0.7**
	2.0nm,0.5s,baz=144,slow=11,SNR=8.0							
KLR	**Kul'dur**	**20.71**	**346**	P	P	P	**03 06 45.3**	**+0.2**
	1.0nm,0.6s,baz=139,slow=1.5,SNR=4.4							
	1.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**49.01**	**197**	P	P	P	**03 10 42.0**	**+0.2**
	1.8nm,0.9s,baz=14,slow=9.5,SNR=1.5							
	1.8nm,0.9s							
WRA	**Warramunga Arr**	**49.25**	**186**	P	P	P	**03 10 43.2**	**-0.3**
	0.5nm,0.4s,baz=1.6,slow=7.6,SNR=9.2							
	0.5nm,0.4s							
ILAR	**Eielson Array**	**56.93**	**29**	P	P	P	**03 11 38.2**	**+0.2**
	0.2nm,0.6s,baz=265,slow=5.4,SNR=2.2							
	0.2nm,0.6s							
INK	**Inuvik**	**62.00**	**25**	P	P	P	**03 12 12.8**	**+0.8**
	0.5nm,0.4s,baz=259,slow=7.3,SNR=4.2							
	0.5nm,0.4s							

WEL 02 03:20:41.7±1.4,37°S±5°×17°9E±°,h12km±6km,M3.6/61, ML3.8/46,MLv3.6/61,Error ellipse: s-maj=0.0km s-min=0.0km az=88.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.79**	**244**	P	P	Pg	03 20 56.6	-0.4
MXZ				S	S	Sg	03 21 05.5	-1.9
WMGZ	**Waiomatatini S**	**0.87**	**226**	P	P	Pn	03 21 00.3	+0.6
WMGZ				S	S	Sn	03 21 11.7	-0.6

PKGZ	**Pakihiroa**	**1.12 233**	P	Pg	03 21 03.5	+0.2
PKGZ			S	Sb	03 21 17.6	+0.1
PUZ	**Puketiti**	**1.14 221**	P	Pg	03 21 03.9	+0.3
PUZ			S	Sn	03 21 18.9	-0.1
HAZ	**Te Kaha**	**1.25 244**	P	Pn	03 21 04.7	-0.3
HAZ			S	Sb	03 21 21.3	0.0
TWGZ	**Tauwhareparae**	**1.36 225**	P	Pb	03 21 07.0	-0.1
TWGZ			S	Sg	03 21 25.7	0.0
RUGZ	**Raukumara Rang**	**1.42 238**	P	Pb	03 21 08.1	-0.1
CNGZ	**Carnagh Statio**	**1.49 212**	P	Pb	03 21 09.7	+0.4
TKGZ	**Te Karaka**	**1.63 221**	P	Pn	03 21 10.4	+0.2
TKGZ			S	Sn	03 21 30.7	-0.2
MWZ	**Matawai**	**1.73 229**	P	Pn	03 21 12.0	+0.4
RIGZ	**Rimuhau**	**1.87 217**	P	Pn	03 21 14.0	+0.4
WHRZ	**Whale Island**	**1.88 249**	P	Pn	03 21 14.4	+0.7
URZ	**Urewera**	**1.96 237**	P	Pn	03 21 09.6	-5.1
URZ			P	Pb	03 21 15.2	-2.0
EDRZ	**Edgecumbe**	**2.15 245**	P	Pn	03 21 18.1	+0.8
SNGZ	**Shannon Statio**	**2.15 223**	P	Pn	03 21 17.7	+0.3
KNZ	**Kokohu**	**2.17 213**	P	Pn	03 21 17.1	-0.5
OPRZ	**Ohinepanea**	**2.20 253**	P	Pn	03 21 18.0	+0.1
RTZ	**Ruatahuna**	**2.25 231**	P	Pn	03 21 19.2	+0.5
MUGZ	**Murupara**	**2.30 236**	P	Pn	03 21 19.4	0.0
MYRZ	**Mayor Island**	**2.36 267**	P	Pn	03 21 20.8	+0.6
TARZ	**Mount Tarawera**	**2.37 244**	P	Pn	03 21 21.0	+0.6
RAHZ	**Arahi**	**2.38 224**	P	Pn	03 21 20.9	+0.3
RRRZ	**Republican Roa**	**2.41 241**	P	Pn	03 21 21.3	+0.5
MTHZ	**Maungataniwha**	**2.48 228**	P	Pn	03 21 22.4	+0.5
KARZ	**Kaharoa**	**2.48 250**	P	Pn	03 21 23.0	+1.1
HRRZ	**Handcock Road**	**2.59 242**	P	Pb	03 21 25.8	-2.3
NMHZ	**Naumai**	**2.66 224**	P	Pn	03 21 24.7	+0.2
ARHZ	**Aropaoanui**	**2.68 220**	P	Pn	03 21 24.5	-0.2
MRHZ	**Matea Rd**	**2.73 233**	P	Pn	03 21 25.5	+0.2
KUZ	**Kuaotunu**	**2.83 278**	P	Pn	03 21 24.8	-1.8
BKZ	**Black Stump Fm**	**2.89 227**	P	Pn	03 21 27.5	-0.1
CKHZ	**Cape Kidnapper**	**2.96 214**	P	Pn	03 21 27.3	-1.1
TOZ	**Tahuroa Road**	**2.99 259**	P	Pn	03 21 28.5	-0.3
KWHZ	**Kaweka Forest**	**3.11 224**	P	Pn	03 21 29.9	-0.6
KAHZ	**Kahuranaki**	**3.16 215**	P	Pn	03 21 30.1	-1.1
GRZ	**Great Barrier**	**3.16 287**	P	Pn	03 21 30.6	-0.6
MKAZ	**Moumakai**	**3.23 271**	P	Pn	03 21 30.9	-1.3
KRHZ	**Kereru**	**3.29 222**	P	Pn	03 21 32.0	-1.1
TMVZ	**Te Maari**	**3.35 234**	P	Pn	03 21 33.6	-0.3
BHHZ	**Black Hill Sta**	**3.35 226**	P	Pn	03 21 33.8	-0.1
ETVZ	**East Tongariro**	**3.35 234**	P	Pn	03 21 33.7	-0.2
PXZ	**Pawanui**	**3.36 212**	P	Pn	03 21 32.0	-1.9
NNVZ	**North Ngauruho**	**3.41 235**	P	Pn	03 21 34.7	-0.1
WTVZ	**West Tongariro**	**3.42 235**	P	Pn	03 21 35.1	+0.2
SNVZ	**South Ngauruho**	**3.43 234**	P	Pn	03 21 34.9	-0.2
NGZ	**Ngauruhoe**	**3.45 234**	P	Pn	03 21 35.2	-0.1
MBAZ	**Motutapu North**	**3.47 276**	P	Pn	03 21 35.3	-0.2
MOVZ	**Moawhango**	**3.49 230**	P	Pn	03 21 35.2	-0.6
TWVZ	**Taurewa**	**3.50 237**	P	Pn	03 21 36.5	+0.5
FWVZ	**Far West T-bar**	**3.52 234**	P	Pn	03 21 36.3	-0.1
WNVZ	**Wahianoa**	**3.53 232**	P	Pn	03 21 35.9	-0.6
PNHZ	**Pukenui**	**3.58 220**	P	Pn	03 21 35.2	-1.8
PRHZ	**Porangahau**	**3.65 213**	P	Pn	03 21 35.9	-2.1
HIZ	**Hauiti**	**3.67 248**	P	Pn	03 21 39.4	+1.1
TSZ	**Takapari Road**	**3.81 221**	P	Pn	03 21 38.5	-1.7
WCZ	**Waipu Caves**	**4.11 287**	P	Pn	03 21 44.1	-0.2
BFZ	**Birch Farm**	**4.16 213**	P	Pn	03 21 42.3	-2.6
WAZ	**Wanganui**	**4.17 231**	P	Pn	03 21 45.5	+0.4
OUZ	**Omahuta**	**4.95 292**	P	Pn	03 21 56.0	+0.2
QRZ	**Quartz Range**	**6.32 233**	P	Pn	03 22 12.3	-2.4
CTZ	**Chatham Island**	**7.25 155**	P	Pn	03 22 30.3	+2.9

*IDC **02** 03:22:19.1±2.6,36°.74S×178°.96E, h0km, mb3.9/3, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=63.6km s-min=40.1km az=132.0*
*WEL **02** 03:22:23.0±1.0,37°.5±5°×17°.9E±°, h23km±9km, M3.6/49, ML3.8/40, MLv3.6/49, Error ellipse: s-maj=0.0km s-min=0.0km az=105.1*

ISC 02 03:22:18.8±2.1, 37°.13S±0°.06×179°.32E±0°.08, h11km±10km, n61, σ1§21/71, mb3.9/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.92**	**242**	P	**Pb**	**03 22 37.3**	**+0.6**
MXZ				S	**Sg**	**03 22 47.6**	**-0.8**
WMGZ	**Waiomatatini S**	**0.99**	**226**	P	**Pn**	**03 22 40.7**	**+2.0**
WMGZ				S	**Sn**	**03 22 53.4**	**+0.6**
PKGZ	**Pakihiroa**	**1.25**	**232**	P	**Pn**	**03 22 43.8**	**+1.6**
PKGZ				S	**Sb**	**03 22 58.9**	**+0.4**
PUZ	**Puketiti**	**1.26**	**222**	P	**Pn**	**03 22 44.2**	**+1.7**
PUZ				S	**Sb**	**03 22 59.9**	**+1.0**
HAZ	**Te Kaha**	**1.37**	**243**	P	**Pb**	**03 22 44.8**	**+0.3**
HAZ				S	**Sn**	**03 23 02.4**	**+0.3**
TWGZ	**Tauwhareparae**	**1.49**	**225**	P	**Pg**	**03 22 47.7**	**+0.3**
TWGZ				S	**Sn**	**03 23 06.2**	**+1.1**
RUGZ	**Raukumara Rang**	**1.55**	**237**	P	**Pg**	**03 22 48.6**	**+0.1**
RUGZ				S	**Sb**	**03 23 07.4**	**+0.1**
CNGZ	**Carnagh Statio**	**1.61**	**213**	P	**Pg**	**03 22 49.9**	**+0.2**
WIZ	**White Island**	**1.74**	**256**	P	**Pb**	**03 22 50.4**	**-0.4**
TKGZ	**Te Karaka**	**1.75**	**221**	P	**Pb**	**03 22 50.9**	**-0.1**
MWZ	**Matawai**	**1.86**	**229**	P	**Pb**	**03 22 52.4**	**-0.4**
MWZ				S	**Sn**	**03 23 13.5**	**-0.8**
RIGZ	**Rimuhau**	**2.00**	**218**	P	**Pn**	**03 22 54.3**	**+1.7**
WHRZ	**Whale Island**	**2.00**	**248**	P	**Pb**	**03 22 54.5**	**-0.8**
RAGZ	**Rawiri**	**2.03**	**227**	P	**Pn**	**03 22 54.7**	**+1.6**
RAGZ				S	**Sn**	**03 23 17.2**	**-1.4**
URZ	**Urewera**	**2.08**	**237**	Pn	**Pn**	**03 22 55.2**	**+1.5**
	21nm,0.3s,baz=301,slow=0.3,SNR=8.8						
URZ				Sn	**Sn**	**03 23 18.3**	**-1.3**
	30nm,0.3s,baz=121,slow=4.6,SNR=4.0 58nm,0.3s						
URZ	**Urewera**	**2.08**	**237**	P	**Pn**	**03 22 55.4**	**+1.7**
URZ				S	**Sn**	**03 23 18.5**	**-1.2**
PRGZ	**Paritu Road**	**2.12**	**212**	P	**Pn**	**03 22 55.8**	**+1.6**
SNGZ	**Shannon Statio**	**2.27**	**223**	P	**Pn**	**03 22 57.6**	**+1.2**
SNGZ				S	**Sn**	**03 23 23.8**	**-0.6**
KNZ	**Kokohu**	**2.29**	**214**	P	**Pn**	**03 22 57.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.31**	**208**	P	**Pn**	**03 22 58.5**	**+1.7**
OPRZ	**Ohinepanea**	**2.31**	**251**	P	**Pn**	**03 22 58.2**	**+1.4**
RTZ	**Ruatahuna**	**2.37**	**231**	P	**Pn**	**03 22 59.3**	**+1.6**
MUGZ	**Murupara**	**2.45**	**236**	P	**Pn**	**03 22 59.6**	**+1.2**
MYRZ	**Mayor Island**	**2.46**	**266**	P	**Pn**	**03 22 60.0**	**+1.0**
TARZ	**Mount Tarawera**	**2.49**	**243**	P	**Pb**	**03 23 01.7**	**-1.9**
RAHZ	**Arahi**	**2.51**	**224**	P	**Pn**	**03 23 00.8**	**+1.2**
MTHZ	**Maungataniwha**	**2.61**	**228**	P	**Pn**	**03 23 02.7**	**+1.8**
NGRZ	**Ngongotaha**	**2.67**	**248**	P	**Pb**	**03 23 04.8**	**-1.9**
KMRZ	**Kaimai**	**2.78**	**254**	P	**Pn**	**03 23 04.4**	**+1.1**
NMHZ	**Naumai**	**2.79**	**225**	P	**Pn**	**03 23 05.4**	**+1.9**
ARHZ	**Aropaoanui**	**2.81**	**220**	P	**Pn**	**03 23 04.9**	**+1.2**
MRHZ	**Matea Rd**	**2.85**	**233**	P	**Pn**	**03 23 05.9**	**+1.5**
KUZ	**Kuaotunu**	**2.91**	**277**	P	**Pn**	**03 23 05.1**	**+0.1**
BKZ	**Black Stump Fm**	**3.02**	**227**	P	**Pn**	**03 23 07.8**	**+1.3**
CKHZ	**Cape Kidnapper**	**3.08**	**214**	P	**Pn**	**03 23 07.6**	**+0.2**
TOZ	**Tahuroa Road**	**3.10**	**258**	P	**Pn**	**03 23 08.7**	**+1.1**
GRZ	**Great Barrier**	**3.23**	**285**	P	**Pn**	**03 23 10.8**	**+1.4**
KWHZ	**Kaweka Forest**	**3.23**	**224**	P	**Pn**	**03 23 10.3**	**+0.7**
KAHZ	**Kahuranaki**	**3.28**	**215**	P	**Pn**	**03 23 10.3**	**+0.2**
MKAZ	**Moumakai**	**3.32**	**269**	P	**Pn**	**03 23 11.1**	**+0.4**
TMVZ	**Te Maari**	**3.47**	**234**	P	**Pn**	**03 23 13.8**	**+0.9**
PXZ	**Pawanui**	**3.48**	**213**	P	**Pn**	**03 23 12.3**	**-0.5**
ETVZ	**East Tongariro**	**3.48**	**234**	P	**Pn**	**03 23 13.9**	**+0.9**
BHHZ	**Black Hill Sta**	**3.48**	**226**	P	**Pn**	**03 23 13.7**	**+0.7**
KRVZ	**Karewarewa**	**3.50**	**235**	P	**Pn**	**03 23 14.4**	**+1.1**
ETAZ	**East Tamaki Re**	**3.52**	**272**	P	**Pn**	**03 23 15.4**	**+1.9**
SNVZ	**South Ngauruho**	**3.55**	**234**	P	**Pn**	**03 23 15.0**	**+1.0**
NGZ	**Ngauruhoe**	**3.57**	**234**	P	**Pn**	**03 23 15.3**	**+1.0**
MOVZ	**Moawhango**	**3.61**	**230**	P	**Pn**	**03 23 15.3**	**+0.5**
TWVZ	**Taurewa**	**3.62**	**237**	P	**Pn**	**03 23 16.8**	**+1.8**
AWAZ	**Awhitu Peninsu**	**3.74**	**270**	P	**Pn**	**03 23 17.7**	**+1.2**
PRHZ	**Porangahau**	**3.77**	**213**	P	**Pn**	**03 23 16.2**	**-0.7**
HIZ	**Hauiti**	**3.79**	**247**	P	**Pn**	**03 23 19.8**	**+2.6**
OUZ	**Omahuta**	**5.01**	**291**	P	**Pn**	**03 23 35.7**	**+1.8**
ASAR	**Alice Springs**	**41.04**	**276**	P	**P**	**03 30 01.6**	**-0.8**
	0.9nm,0.6s,baz=120,slow=8.1,SNR=13 0.9nm,0.6s						
WRA	**Warramunga Arr**	**42.64**	**281**	P	**P**	**03 30 14.8**	**-0.7**
	1.3nm,0.6s,baz=120,slow=8.0,SNR=15						
WRA				PcP	**PcP**	**03 32 07.1**	**-0.5**
	0.2nm,0.8s,baz=122,slow=3.2,SNR=2.0 1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.52**	**277**	P	**P**	**03 31 16.7**	**-0.6**
	0.9nm,0.6s,baz=139,slow=9.3,SNR=1.5 0.9nm,0.6s						
H03N3	**Juan Fernandez**	**78.83**	**123**	T	T	05 01 01.9	
	baz=231						
H03N2	**Juan Fernandez**	**78.84**	**123**	T	T	05 01 05.4	
	baz=231						
H03N1	**Juan Fernandez**	**78.85**	**123**	T	T	05 01 03.2	
	baz=231						
FINES	**FINESS Array B**	**150.46**	**334**	PKPbc	**PKPbc**	**03 42 10.5**	**+0.9**
	0.8nm,0.5s,baz=72,slow=4.5,SNR=7.6						

*IDC **02** 03:27:11.7±0.7, 43°.38N×40°.93E, h0km, mb3.5/4, mbtmp3.4/7, ML3.4/3, Error ellipse: s-maj=15.3km s-min=7.2km az=161.0*
*ISK **02** 03:27:12.4, 43°.61N×40°.69E, h23km, ML3.8/8*
*MOS **02** 03:27:14.4±0.0, 43°.46N×40°.93E, h6km, MPVA4.1*
*AZER **02** 03:27:19.7±13.0, 42°.95N×39°.68E, h30km, Error ellipse: s-maj=278.0km s-min=90.8km az=15.0*

ISC 02 03:27:13.9±1.0, 43°.41N±0°.02×40°.92E±0°.02, h8km±8km, n112, σ1§49/168, mb3.6/5, 4C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARXR	**Arkhyz**	**0.30**	**59**	*i* P	**Pg**	**03 27 19.5**	**-0.4**
ARXR	**Arkhyz**	**0.30**	**59**	*i* Pg	**Pg**	**03 27 19.5**	**-0.4**
ARXR				*i* Sg	**Sg**	**03 27 24.1**	**+0.2**
VSLR	**Vesyoloye**	**0.65**	**275**	*c* iPG	**Pg**	**03 27 26.0**	**-0.4**
AHMR	**Akhmetovskaya**	**0.75**	**7**	*i* PG	**Pg**	**03 27 28.2**	**-0.2**
AHMR	**Akhmetovskaya**	**0.75**	**7**	*i* Pg	**Pg**	**03 27 28.4**	**0.0**
AHMR				*e*Sg	**Sb**	**03 27 38.9**	**-0.9**
GUZR	**Guzeripl'**	**0.82**	**315**	*i* PG	**Pg**	**03 27 29.5**	**-0.3**
GUZR				*i* S	**Sb**	**03 27 41.4**	**-0.5**
GUZR	**Guzeripl'**	**0.82**	**315**	*i* Pg	**Pg**	**03 27 29.7**	**-0.1**
GUZR				*i* Sg	**Sb**	**03 27 41.7**	**-0.2**
SOC	**Sochi**	**0.89**	**282**	*e*PG	**Pg**	**03 27 28.9**	**-2.2**
SOC				*e*		03 27 41.9	
SOC				pmax	pmax		
	comp=Z,122nm,0.5s						
SOC				smax	smax		
	comp=N,868nm,0.4s						
SOC				smax	smax		
	comp=E,1μm,0.4s						
LZRR	**Lazarevskoye**	**1.23**	**296**	*e*PG	**Pn**	**03 27 38.3**	**+0.8**
LZRR				*e*S	**Sn**	**03 27 56.1**	**+1.7**
LZRR	**Lazarevskoye**	**1.23**	**296**	*e*Pg	**Pn**	**03 27 38.3**	**+0.8**
LZRR				*e*Sg	**Sn**	**03 27 56.1**	**+1.7**
LABN	**Labinsk**	**1.24**	**353**	*i* PG	**Pn**	**03 27 37.9**	**+0.3**
LABN				*e*S	**Sn**	**03 27 56.0**	**+1.5**
LABN	**Labinsk**	**1.24**	**353**	*i* Pg	**Pn**	**03 27 38.5**	**+1.0**
LABN				*e*Sg	**Sn**	**03 27 55.1**	**+0.6**
SHA1	**Shidzhatmaz**	**1.30**	**75**	*i* PG	**Pn**	**03 27 36.8**	**-1.9**
SHA1	**Shidzhatmaz**	**1.30**	**75**	*e*Pg	**Pg**	**03 27 39.2**	**+0.2**
SHA1				*e*Sg	**Sn**	**03 27 56.6**	**+0.2**
NEY	**Neytrino**	**1.32**	**96**	*e*PG	**Pn**	**03 27 36.7**	**-2.2**
NEY	**Neytrino**	**1.32**	**96**	*e*Pg	**Pn**	**03 27 39.1**	**+0.2**
NEY				*e*Sg	**Sn**	**03 27 57.7**	**+0.8**
KIV	**Kislovodsk**	**1.39**	**66**	PN	**Pn**	**03 27 38.7**	**-1.1**
KIV				SN	**Sb**	**03 27 57.0**	**-1.2**
KIV	**Kislovodsk**	**1.39**	**66**	*d* iPG	**Pn**	**03 27 38.7**	**-1.1**
KIV				pmax	pmax		
	comp=Z,288nm,0.9s						
KIV	**Kislovodsk**	**1.39**	**66**	*e*Pg	**Pn**	**03 27 38.9**	**-0.9**
KIV				*e*Sg	**Sb**	**03 27 57.7**	**-0.6**
GOYR	**Goytkh**	**1.40**	**307**	*e*PG	**Pg**	**03 27 40.7**	**0.0**
GOYR				*e*S	**Sg**	**03 28 00.8**	**+2.0**
GOYR	**Goytkh**	**1.40**	**307**	*e*Pg	**Pg**	**03 27 40.7**	**0.0**
GOYR				*e*Sg	**Sg**	**03 28 00.8**	**+2.0**
KVAR	**Kislovodsk Arr**	**1.40**	**66**	Pg	**Pn**	**03 27 39.2**	**-0.7**
	baz=258,slow=20						
KVAR				Lg	Lg	03 27 57.2	
	baz=326,slow=11						
NVNR	**Nevinnomyssk**	**1.42**	**32**	*e*PG	**Pn**	**03 27 39.3**	**-0.8**
NVNR				*e*S	**Sg**	**03 27 59.6**	**0.0**
NVNR	**Nevinnomyssk**	**1.42**	**32**	*e*Pg	**Pn**	**03 27 39.7**	**-0.4**
NVNR				*e*Sg	**Sg**	**03 27 60.0**	**+0.4**
KBZ	**Khabaz**	**1.47**	**77**	Pg	**Pn**	**03 27 39.8**	**-0.9**
	comp=Z,10nm,0.3s,baz=243,slow=9.0,SNR=93						
KBZ				Lg	Lg	03 27 59.2	
	comp=Z,19nm,0.3s,baz=164,slow=18,SNR=15						
KBZ	**Khabaz**	**1.47**	**77**	*c* iPG	**Pn**	**03 27 40.0**	**-0.7**
KBZ	**Khabaz**	**1.47**	**77**	*e*Pg	**Pb**	**03 27 41.8**	**+0.2**
KBZ				*e*Sg	**Sg**	**03 28 02.0**	**+0.8**
BEYR	**Belyy Ugol+**	**1.50**	**66**	*e*PG	**Pn**	**03 27 41.0**	**-0.2**
TKB	**Tkibuli**	**1.86**	**124**	P	**Pn**	**03 27 46.2**	**+0.2**
TKB				S	**Sb**	**03 28 12.3**	**+0.7**
TKB	**Tkibuli**	**1.86**	**124**	PN	**Pn**	**03 27 46.3**	**+0.2**
BATM	**Batumi**	**1.89**	**162**	P	**Pn**	**03 27 47.2**	**+0.6**
BATM				S	**Sb**	**03 28 12.9**	**+0.4**
BATM	**Batumi**	**1.89**	**162**	PN	**Pn**	**03 27 47.2**	**+0.6**
BATM				S	**Sb**	**03 28 13.0**	**+0.4**
NCK	**Nalchik**	**1.95**	**87**	*e*PN	**Pb**	**03 27 50.1**	**+0.4**
NCK	**Nalchik**	**1.95**	**87**	*e*Pg	**Pb**	**03 27 50.1**	**+0.4**
NCK				*e*Sg	**Sb**	**03 28 14.9**	**+0.7**
ALER	**Alexandrovskoy**	**1.97**	**46**	*e*PN	**Pb**	**03 27 50.0**	**-0.1**
ALER	**Alexandrovskoy**	**1.97**	**46**	*e*Pg	**Pb**	**03 27 50.0**	**-0.1**
ALER				*e*Sg	**Sb**	**03 28 15.4**	**+0.6**
DIGR	**Digorskoe uzhe**	**2.01**	**104**	*e*PN	**Pb**	**03 27 51.2**	**+0.3**
DIGR	**Digorskoe uzhe**	**2.01**	**104**	*e*Pg	**Pb**	**03 27 51.2**	**+0.3**
DIGR				*e*Sg	**Sb**	**03 28 17.0**	**+0.8**
ONI	**Oni**	**2.03**	**113**	PN	**Pn**	**03 27 49.8**	**+1.3**
ONI				SN	**Sb**	**03 28 16.6**	**0.0**
ONI	**Oni**	**2.03**	**113**	P	**Pn**	**03 27 49.9**	**+1.4**
ONI				S	**Sb**	**03 28 18.0**	**+1.4**
ONI	**Oni**	**2.03**	**113**	PN	**Pn**	**03 27 49.9**	**+1.4**
ONI				S	**Sb**	**03 28 18.0**	**+1.4**
ABS	**Abastumani**	**2.17**	**139**	P	**Pn**	**03 27 50.0**	**-0.5**
ABS				S	**Sb**	**03 28 20.4**	**-0.2**
ABS	**Abastumani**	**2.17**	**139**	PN	**Pn**	**03 27 50.0**	**-0.5**
ABS				S	**Sb**	**03 28 20.4**	**-0.2**
GOF	**Gofitskoye**	**2.25**	**42**	↑ePN	**Pg**	**03 27 56.6**	**-0.3**
GOF				*e*S	**Sg**	**03 28 25.7**	**-0.3**
GOF				pmax	pmax		
	comp=Z,55nm,0.6s						
GOF				smax	smax		
	comp=E,403nm,0.6s						
GOF				smax	smax		
	comp=N,395nm,0.6s						
GOF	**Gofitskoye**	**2.25**	**42**	*i* Pg	**Pn**	**03 27 51.4**	**0.0**
GOF				*i* Sg	**Sn**	**03 28 20.4**	**+1.0**
ZEI	**Tsey**	**2.27**	**105**	*e*PN	**Pb**	**03 27 55.4**	**-0.1**
ZEI				*e*S	**Sg**	**03 28 27.8**	**+0.9**
ZEI				pmax	pmax		
	comp=Z,42nm,0.4s						
ZEI				smax	smax		
	comp=N,107nm,0.8s						
ZEI				smax	smax		
	comp=E,120nm,0.8s						
ZEI	**Tsey**	**2.27**	**105**	*e*Pn	**Pb**	**03 27 54.4**	**-0.9**
ZEI				*e*Sn	**Sb**	**03 28 23.4**	**-0.3**
STDR	**Stavd-Durt**	**2.29**	**90**	*e*PN	**Pb**	**03 27 55.6**	**+0.1**
STDR				*e*S	**Sb**	**03 28 24.7**	**+0.7**
STDR	**Stavd-Durt**	**2.29**	**90**	*e*Pn	**Pb**	**03 27 55.6**	**+0.1**
STDR				*e*Sn	**Sb**	**03 28 24.7**	**+0.7**
CHOM	**Cayeli-Rize**	**2.31**	**183**	PN	**Pn**	**03 27 53.1**	**+0.7**
KORR	**Kora**	**2.32**	**97**	*e*PN	**Pg**	**03 27 58.2**	**-0.2**
KORR				*e*S	**Sg**	**03 28 27.7**	**-0.8**
KORR	**Kora**	**2.32**	**97**	*e*Pn	**Pg**	**03 27 58.2**	**-0.2**
KORR				*e*Sn	**Sg**	**03 28 27.7**	**-0.8**
ERBR	**Yeremizino-Bor**	**2.33**	**352**	*i* PN	**Pb**	**03 27 56.8**	**+0.7**
ERBR				*e*S	**Sb**	**03 28 26.4**	**+1.4**
ERBR	**Yeremizino-Bor**	**2.33**	**352**	*i* Pn	**Pb**	**03 27 56.9**	**+0.7**
ERBR				*e*Sn	**Sb**	**03 28 26.4**	**+1.4**
SPGR	**Shapsug**	**2.45**	**304**	*e*PN	**Pg**	**03 27 59.7**	**-1.1**
SPGR				*e*S	**Sb**	**03 28 29.7**	**+1.3**
SPGR	**Shapsug**	**2.45**	**304**	*e*Pn	**Pg**	**03 27 59.7**	**-1.1**
SPGR				*e*Sn	**Sb**	**03 28 29.7**	**+1.3**
PRTR	**Priterechnaya**	**2.47**	**81**	*e*PN	**Pg**	**03 28 03.4**	**+2.2**
PRTR				*e*S	**Sg**	**03 28 33.6**	**+0.5**
PRTR	**Priterechnaya**	**2.47**	**81**	*e*Pn	**Pg**	**03 28 03.4**	**+2.2**
PRTR				*e*Sn	**Sg**	**03 28 33.6**	**+0.5**
LACR	**Lac**	**2.54**	**102**	*e*PN	**Pb**	**03 28 00.7**	**+0.9**
LACR				*e*S	**Sb**	**03 28 33.2**	**+1.9**
LACR	**Lac**	**2.54**	**102**	*e*Pn	**Pb**	**03 28 00.7**	**+0.9**
LACR				*e*Sn	**Sb**	**03 28 33.2**	**+1.9**
AKH	**Akhalkalaki**	**2.76**	**136**	PN	**Pn**	**03 27 59.9**	**+1.2**
AKH				SN	**Sn**	**03 28 35.2**	**+2.9**
GUDG	**Gudauri**	**2.78**	**109**	P	**Pb**	**03 28 03.5**	**-0.4**
GUDG				S	**Sg**	**03 28 42.0**	**-1.1**
GUDG	**Gudauri**	**2.78**	**109**	PN	**Pb**	**03 28 03.5**	**-0.4**
GUDG				S	**Sg**	**03 28 42.0**	**-1.1**
TRKR	**Terskaya**	**2.79**	**82**	*i* PN	**Pg**	**03 28 10.5**	**+3.1**
TRKR				*e*S	**Sg**	**03 28 44.8**	**+1.3**
TRKR	**Terskaya**	**2.79**	**82**	*i* Pn	**Pg**	**03 28 10.5**	**+3.1**
TRKR				*e*Sn	**Sg**	**03 28 44.8**	**+1.3**
PNSH	**Pansheti**	**2.82**	**105**	P	**Pn**	**03 27 58.5**	**-1.0**
PNSH	**Pansheti**	**2.82**	**105**	PN	**Pn**	**03 27 58.5**	**-1.0**
ANN	**Anapa**	**2.87**	**300**	*e*PN	**Pn**	**03 28 02.6**	**+2.6**
ANN				*e*		03 28 40.7	
ANN				pmax	pmax		
	comp=Z,25nm,0.4s						
ANN				smax	smax		
	comp=N,92nm,0.7s						
ANN	**Anapa**	**2.87**	**300**	*e*Pn	**Pb**	**03 28 03.2**	**-2.2**
ANN				*e*Sn	**Sb**	**03 28 39.3**	**-1.3**
ESPY	**Espiye-Giresun**	**2.98**	**214**	PN	**Pn**	**03 28 00.6**	**-0.9**
SENK	**Senkaya-Erzuru**	**3.04**	**159**	PN	**Pn**	**03 28 03.8**	**+1.3**
BAYT	**Aydıntepe-Bayb**	**3.07**	**191**	PN	**Pn**	**03 28 03.5**	**+0.6**
KARS	**Kars**	**3.21**	**149**	PN	**Pn**	**03 28 06.8**	**+2.0**
KARS	**Kars**	**3.21**	**149**	PN	**Pn**	**03 28 07.4**	**+2.6**
GROC	**Groznyy**	**3.56**	**92**	*e*PN	**Pg**	**03 28 20.2**	**-2.0**
GROC				*e*		03 28 53.4	
GROC				*e*		03 29 10.6	
GROC				pmax	pmax		
	comp=Z,21nm,0.5s						
GROC				smax	smax		
	comp=N,20nm,0.6s						
GROC				smax	smax		
	comp=N,20nm,0.6s						
GROC				smax	smax		
	comp=E,32nm,1.5s						
DGRG	**David-gareji**	**3.83**	**119**	P	**Pb**	**03 28 22.6**	**+0.8**
DGRG	**David-gareji**	**3.83**	**119**	PN	**Pb**	**03 28 22.6**	**+0.8**
RSDY	**Resadiye-TOKAT**	**4.03**	**223**	PN	**Pn**	**03 28 15.1**	**-0.9**
QZX	**Qazax, Azerbai**	**4.06**	**124**	P	**Pb**	**03 28 27.8**	**+2.2**
QZX				S	**Sg**	**03 29 21.7**	**-2.5**
LGD	**Lagodekhi**	**4.23**	**110**	P	**Pb**	**03 28 30.2**	**+1.6**
LGD				S	**Sg**	**03 29 26.2**	**-3.6**
LGD	**Lagodekhi**	**4.23**	**110**	PN	**Pb**	**03 28 30.2**	**+1.6**
LGD				S	**Sg**	**03 29 26.2**	**-3.6**
GNI	**Garni**	**4.33**	**137**	Pg	**Pb**	**03 28 31.0**	**+0.6**
	comp=E,0.8nm,0.3s,baz=333,slow=22,SNR=2.3						
GNI				Lg	Lg	03 29 23.6	
	comp=E,1.6nm,0.3s,baz=28,slow=23,SNR=1.5						
GDB	**GEDABAY**	**4.49**	**125**	P	**Pb**	**03 28 33.0**	**-0.1**
GDB				S	**Sb**	**03 29 32.9**	**+5.4**
SUDU	**Sudak**	**4.51**	**291**	*e*PN	**Pn**	**03 28 23.7**	**+1.2**
SUDU				*e*S	**Sn**	**03 29 17.0**	**+1.9**
SUDU	**Sudak**	**4.51**	**291**	Sm		03 29 17.2	
	comp=E,8.0nm,0.3s						
SUDU	**Sudak**	**4.51**	**291**	⇑*e*P	**Pn**	**03 28 23.7**	**+1.2**
SUDU	**Sudak**	**4.51**	**291**	Pm		03 28 25.4	
	comp=Z,6.0nm,0.3s						
**S

1.5nm,0.4s
QIS **Mount Isa** 18.38 219 P Pn 03 33 03.6 0.0
baz=18,SNR=28
QIS **Mount Isa** 18.38 219 P Pn 03 33 05.4 +1.8
EIDS **Eidsvold** 18.94 182 P Pn 03 33 11.7 +1.3
FAKI **Fak Fak** 19.68 279 P P 03 33 16.2 -1.6
FAKI **Fak Fak** 19.68 279 P Pn 03 33 19.1 -0.3
27nm,1.1s
KDU **Kakadu** 19.98 250 P P 03 33 20.8 -0.3
baz=20,SNR=19
KDU **Kakadu** 19.98 250 P Pn 03 33 22.0 -0.9
RMQ **Roma** 20.24 188 P Pn 03 33 25.5 -0.4
baz=20,SNR=8.0
SIJI **Sorong** 21.09 284 P P 03 33 31.6 -1.5
8.6nm,0.5s,baz=86,slow=14,SNR=2.0
SIJI LR LR 03 43 32.0
comp=Z,241nm,19.3s,baz=276,slow=42
8.6nm,0.5s
SWI **Sorong** 21.10 284 P P 03 33 32.5 -0.7
30nm,0.7s
DZM **Mont Dzumac** 21.16 139 P P 03 33 33.5 -0.4
3.4nm,0.8s,baz=311,slow=19,SNR=1.5
DZM LR LR 03 40 36.6
comp=Z,496nm,19.4s,baz=356,slow=33
3.4nm,0.8s
MTN **Manton Dam** 21.28 251 P P 03 33 36.2 +1.1
baz=21,SNR=17
MTN **Manton Dam** 21.28 251 P P 03 33 35.3 +0.2
MTN **Manton Dam** 21.28 251 P P 03 33 36.7 +1.6
WB0 **Warramunga Arr** 21.48 230 P P 03 33 36.7 -0.5
WB0 IAmb IAmb 03 33 50.6
comp=Z,104nm,1.4s
WR0 **Warramunga Arr** 21.48 229 P P 03 33 37.5 +0.2
WR0 IAmb IAmb 03 33 40.9
comp=Z,30nm,0.9s
WRAB **Tennant Creek** 21.61 230 P P 03 33 38.6 0.0
WRAB IAmb IAmb 03 33 42.1
comp=Z,38nm,0.8s
WRAB **Tennant Creek** 21.61 230 P P 03 33 38.9 +0.3
WRA **Warramunga Arr** 21.62 230 P P 03 33 38.5 -0.3
comp=Z,27nm,0.8s,baz=54,slow=10.0,SNR=58
WRA S S 03 37 33.3 -3.6
comp=Z,5.3nm,1.1s,baz=54,slow=19,SNR=5.9
WRA LR LR 03 42 10.2
comp=Z,315nm,18.9s,baz=41,slow=37
comp=Z,27nm,0.8s
WRA **Warramunga Arr** 21.62 230 P P 03 33 37.6 -1.2
AS31 **Alice Springs** 24.29 223 P P 03 34 05.7 -0.2
ASAR **Alice Springs** 24.29 223 P P 03 34 05.7 -0.2
comp=Z,46nm,0.8s,baz=55,slow=9.2,SNR=208
ASAR PcP PcP 03 37 45.1 -0.4
comp=Z,0.5nm,0.5s,baz=66,slow=2.2,SNR=2.1
ASAR S S 03 38 27.5 +4.3
comp=Z,2.2nm,1.0s,baz=45,slow=20,SNR=6.7
ASAR LR LR 03 43 10.4
comp=Z,256nm,20.1s,baz=74,slow=35
comp=Z,46nm,0.8s
ASAR **Alice Springs** 24.29 223 P P 03 34 05.6 -0.3
KNRA **Kununurra** 24.33 246 P P 03 34 05.8 -0.5
baz=24,SNR=19
KNRA **Kununurra** 24.33 246 P P 03 34 05.7 -0.6
CMSA **Cobar Meteorol** 25.70 192 P P 03 34 18.1 -0.4
baz=26,SNR=7.3
CMSA **Cobar Meteorol** 25.70 192 P P 03 34 19.9 +1.4
SANI **Sanana** 25.99 278 P P 03 34 23.2 +1.9
comp=Z,27nm,1.0s
OOD **Oodnadatta** 26.20 214 P P 03 34 24.6 +1.5
STKA **Stephens Creek** 27.11 199 P P 03 34 30.3 -1.0
baz=27,SNR=6.7
STKA **Stephens Creek** 27.11 199 P P 03 34 29.7 -1.6
comp=Z,6.0nm,0.7s,baz=13,slow=12,SNR=4.3
STKA LR LR 03 44 30.8
comp=Z,234nm,20.7s,baz=17,slow=35
comp=Z,6.0nm,0.7s
STKA **Stephens Creek** 27.11 199 P P 03 34 33.1 +1.8
STKA **Stephens Creek** 27.11 199 P P 03 34 31.8 +0.5
LCRK **Leigh Creek** 27.13 206 P P 03 34 32.3 +0.8
SOEI **Soe** 27.37 261 P P 03 34 32.9 -1.0
SOEI **Soe** 27.37 261 P P 03 34 32.6 -1.4
comp=Z,69nm,1.1s
FITZ **Fitzroy Crossi** 27.98 243 P P 03 34 38.9 -0.3
baz=28,SNR=60
FITZ **Fitzroy Crossi** 27.98 243 P P 03 34 38.6 -0.6
comp=Z,27nm,0.6s,baz=67,slow=7.5,SNR=93
FITZ LR LR 03 46 32.9
comp=Z,204nm,18.8s,baz=46,slow=38
comp=Z,27nm,0.6s
FITZ **Fitzroy Crossi** 27.98 243 P P 03 34 38.7 -0.6
FITZ **Fitzroy Crossi** 27.98 243 P P 03 34 39.3 +0.1
BATI **Baumata** 28.00 260 P P 03 34 40.4 +0.8
comp=Z,46nm,0.6s,baz=180,slow=7.1,SNR=4.6
MULG **Mulgathing** 29.03 213 P P 03 34 47.5 -1.0
WRKA **Warakurna** 29.12 228 P P 03 34 48.7 -0.7
baz=29,SNR=20
WRKA **Warakurna** 29.12 228 P P 03 34 48.9 -0.5
GTOI **Gorontalo** 29.46 283 P P 03 34 56.2 +3.8
HTT **Hallett** 29.46 202 P P 03 34 51.5 -0.8
baz=30,SNR=4.7
EDFI **Ende, Flores** 29.84 263 P P 03 34 54.9 -1.1
comp=Z,33nm,0.8s
BKSI **Bulukumba** 31.43 270 P P 03 35 10.5 +0.7
comp=Z,24nm,0.9s
ARPS **Mount Arapiles** 31.61 195 P P 03 35 10.8 -0.4
baz=32,SNR=5.9
KAPI **Kappang** 31.82 271 P P 03 35 12.6 -0.6
KAPI IAmb IAmb 03 35 14.6
comp=Z,21nm,0.8s
MPSI **Mapaga** 32.42 281 P P 03 35 17.6 -1.0
comp=Z,13nm,0.9s
FORT **Forrest** 32.92 219 P P 03 35 22.0 -0.8
baz=33,SNR=14
FORT **Forrest** 32.92 219 P P 03 35 21.9 -0.8
PLAI **Plampang** 33.71 264 P P 03 35 28.0 -1.9
comp=Z,64nm,0.8s
PLAI **Plampang** 33.71 264 P P 03 35 28.9 -1.0
MBWA **Marble Bar** 34.27 241 P P 03 35 32.3 -2.3
MBWA **Marble Bar** 34.27 241 P P 03 35 35.8 +1.1
PSA00 **Pilbara Seismi** 34.32 241 P P 03 35 33.3 -1.7
JAGI **Jajag, Banyuwa** 37.29 264 P P 03 35 59.7 -0.9
comp=Z,60nm,0.7s
MEEK **Meekatharra** 37.41 234 P P 03 36 01.1 -0.5
baz=38,SNR=25
MEEK **Meekatharra** 37.41 234 P P 03 36 01.6 0.0
GIRL **Giralia** 39.58 242 P P 03 36 20.4 +0.6
baz=40,SNR=4.1
GIRL **Giralia** 39.58 242 P P 03 36 19.1 -0.7
GIRL **Giralia** 39.58 242 P P 03 36 19.8 0.0
KLBR **Kellerberrin** 40.47 227 P P 03 36 25.9 -1.1
baz=41,SNR=4.6
MORW **Morawa** 40.54 232 P P 03 36 26.8 -0.9
baz=41,SNR=5.4
RPZ **Rata Peaks** 40.94 158 LR LR 03 53 02.8
comp=Z,281nm,18.0s,baz=282,slow=36
MUN **Mundaring** 41.80 228 P P 03 36 36.6 -1.4
baz=42,SNR=3.7
YULB **Yu-li** 41.89 316 P P 03 36 39.3 +0.5
YULB IAmb IAmb 03 36 41.7
comp=Z,58nm,1.8s
MJAR **Matsushiro Arr** 44.48 344 LR LR 03 55 08.8
comp=Z,169nm,19.2s,baz=40,slow=35
DSRI **Dabo** 47.37 275 P P 03 37 23.1 +0.3
KSRS **Korea Array** 48.89 335 P P 03 37 34.7 +0.7
comp=Z,1.7nm,0.9s,baz=143,slow=10,SNR=3.2
comp=Z,1.7nm,0.9s
NJ2 **Nanjing** 49.36 323 *e*P P 03 37 38.3 +0.5
NJ2 pmax pmax
comp=Z,13nm,0.9s
CRAI **Chiangrai** 56.93 299 P P 03 38 33.8 0.0
CRAI IAmb IAmb 03 38 44.5
comp=Z,7.0nm,0.9s
XAN **Xi'an** 56.99 318 P P 03 38 33.2 -0.8
XAN pP sP 03 38 42.9 -0.8
XAN pmax pmax
comp=Z,12nm,0.8s
CMAR **Chiang Mai Arr** 57.55 296 P P 03 38 38.6 +0.4
comp=Z,2.1nm,0.4s,baz=108,slow=5.8,SNR=1.4
comp=Z,2.1nm,0.4s
PZH **PanZhiHua** 58.37 306 P P 03 38 46.4 +2.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,6.9s
CD2 **Chengdu** 58.91 312 *e*P P 03 38 48.0 +0.4
PETK **Petropavlovsk-** 59.43 4 P P 03 38 50.2 -0.4
comp=Z,3.3nm,0.8s,baz=180,slow=7.0,SNR=5.1
comp=Z,3.3nm,0.8s
HHC **Hu-ho-hao-te** 59.66 325 *e*P P 03 38 54.8 +2.2
HHC pmax pmax
comp=Z,24nm,0.5s
HHC pmax pmax
comp=Z,170nm,8.9s
LZH **Lanzhou** 61.57 317 *e*P P 03 39 06.9 +1.1
LZH pP pP 03 39 11.7 -1.2
LZH pmax pmax
comp=Z,15nm,1.0s
SHEM **Shemya Is, Ala** 61.84 15 LR LR 04 02 03.7
comp=Z,68nm,20.5s,baz=329,slow=32
SONM **Songino Array** 67.04 329 P P 03 39 41.6 +0.2
comp=Z,1.4nm,0.5s,baz=144,slow=6.5,SNR=7.2
SONM PcP PcP 03 40 09.4 -0.2
comp=Z,2.0nm,0.7s,baz=134,slow=3.7,SNR=4.5
comp=Z,1.4nm,0.5s
SONM **Songino Array** 67.04 329 P P 03 39 42.6 +1.2
SONM IAmb IAmb 03 39 58.1
comp=Z,6.1nm,1.3s
UNV **Unalaska Valle** 69.46 25 P P 03 39 57.8 +1.7
baz=225
VNDA **Vanda** 71.35 178 P P 03 40 07.0 -0.5
comp=Z,5.3nm,0.8s,baz=333,slow=6.0,SNR=28
comp=Z,5.3nm,0.8s
VNDA **Vanda** 71.35 178 P P 03 40 07.4 0.0
VNDA IAmb IAmb 03 40 08.3
comp=Z,6.8nm,0.9s
SBA **Scott Base** 71.92 177 P P 03 40 13.7 +2.8
CNBA **Chernabura Isl** 73.13 27 P P 03 40 20.0 +1.6
GAMB **Gambell** 75.14 16 P P 03 40 31.3 +1.4
baz=218
WMQ **Urumqi** 76.13 318 *e*P P 03 40 38.1 +2.0
R17K **Ugashik Creek** 76.27 26 P P 03 40 37.8 +1.3
baz=234
P16K **Nushagak River** 76.44 24 P P 03 40 38.8 +1.4
baz=232
SII **Sitkinak Islan** 76.62 27 P P 03 40 39.9 +1.3
SII **Sitkinak Islan** 76.62 27 P P 03 40 40.1 +1.5
baz=236
O16K **Kodiak River B** 76.74 24 P P 03 40 40.5 +1.3
baz=232
N16K **Nishlik Lake** 77.03 23 P P 03 40 42.2 +1.4
baz=231
O17K **Koliganek Bris** 77.25 24 P P 03 40 44.0 +2.0
baz=233
OHAK **Old Harbor** 77.40 27 P P 03 40 44.3 +1.4
baz=237
P18K **Big Mountain,** 77.79 25 P P 03 40 45.6 +0.5
baz=237
KDAK **Kodiak Island** 78.03 27 P P 03 40 47.2 +0.8
baz=237
O18K **Koktuh Hills** 78.07 24 P P 03 40 47.2 +0.6
baz=234
Q19K **Cape Douglas,** 78.19 26 P P 03 40 48.3 +1.0
baz=236
N18K **Kilae Creek** 78.28 23 IAmb IAmb 03 40 51.7
comp=Z,8.3nm,1.0s
N18K **Kilae Creek** 78.28 23 P P 03 40 48.5 +0.7
baz=234,SNR=5.8
SVW2 **Sparrevohn** 78.65 23 P P 03 40 51.4 +1.6
SVW2 IAmb IAmb 03 40 53.6
comp=Z,7.5nm,0.8s
P19K **Oil Pt** 78.78 25 P P 03 40 50.2 -0.4
baz=236,SNR=5.7
N19K **Bonanza Creek** 78.92 24 P P 03 40 51.2 -0.2
baz=235
ILSW **Iliamna Southw** 79.00 25 P P 03 40 53.6 +1.8
ILSW IAmb IAmb 03 40 53.9
comp=Z,21nm,1.6s
TIXI **Tiksi** 79.26 353 P P 03 40 51.6 -1.3
comp=Z,0.7nm,0.3s,baz=90,slow=24,SNR=3.3
comp=Z,0.7nm,0.3s
TIXI **Tiksi** 79.26 353 P P 03 40 52.5 -0.4
O20K **Slope Mountain** 79.27 25 P P 03 40 52.7 -0.6
baz=237
L19K **White Mountain** 79.57 23 IAmb IAmb 03 40 58.3
comp=Z,0.7nm,0.8s
L19K **White Mountain** 79.57 23 P P 03 40 55.5 +0.6
baz=234,SNR=12
TTA **Tatalina** 79.58 22 P P 03 40 56.2 +1.2
TTA **Tatalina** 79.58 22 P P 03 40 56.4 +1.4
baz=233,SNR=6.0
M19K **Big River Lodg** 79.59 23 P P 03 40 55.7 +0.8
baz=235,SNR=5.6
BRLK **Bradley Lake** 79.84 26 IAmb IAmb 03 40 59.2
comp=Z,9.9nm,0.8s
M20K **Styx River** 80.07 23 P P 03 40 58.5 +0.9
baz=236
L20K **Farewell, AK** 80.12 23 P P 03 40 58.5 +0.7
baz=235
K20K **Telida** 80.55 22 P P 03 41 00.5 +0.4
baz=235,SNR=7.1
SEW **Seward** 80.63 26 P P 03 41 01.2 +0.7
baz=240
SKT **Skwentna** 80.75 24 P P 03 41 02.3 +1.1
baz=238
MK31 **Makanchi Array** 80.76 319 P P 03 41 01.5 -0.1
MKAR **Makanchi Array** 80.76 319 P P 03 41 00.9 -0.7
comp=Z,1.6nm,0.8s,baz=109,slow=6.0,SNR=11
comp=Z,1.6nm,0.8s
SUA **Susitna One** 80.79 24 P P 03 41 01.9 +0.4
baz=238,SNR=5.3
J20K **Nowinta River** 81.00 21 P P 03 41 03.0 +0.5
baz=235,SNR=6.0
RC01 **Rabit Creek A** 81.01 25 IAmb IAmb 03 41 09.8
comp=Z,8.6nm,1.0s
RC01 **Rabbit Creek A** 81.01 25 P P 03 41 03.2 +0.6
baz=239
CAST **Castle Rocks** 81.32 22 P P 03 41 05.1 +0.8
baz=237,SNR=5.6
P23K **Montague Islan** 81.47 26 P P 03 41 04.6 -0.4
baz=242
PWL **Port Wells** 81.49 25 IAmb IAmb 03 41 08.2
comp=Z,12nm,0.8s
PWL **Port Wells** 81.49 25 P P 03 41 05.4 +0.2
baz=241,SNR=11
CHUM **Lake Minchumin** 81.50 22 P P 03 41 04.7 -0.4
baz=236
PMR **Palmer** 81.52 25 P P 03 41 04.9 -0.4
baz=240
GHO **Glory Hole Cre** 81.70 24 IAmb IAmb 03 41 09.0
comp=Z,5.3nm,0.8s
ZAA0 **Zalesovo Array** 81.82 327 P P 03 41 06.7 -0.3
ZALV **Zalesovo Beam** 81.82 327 P P 03 41 05.6 -1.3
comp=Z,1.9nm,0.4s,baz=111,slow=6.5,SNR=9.4
comp=Z,1.9nm,0.4s
ZALV **Zalesovo Beam** 81.82 327 P P 03 41 06.1 -0.9
SML **Sawmill** 81.96 25 IAmb IAmb 03 41 10.5
comp=Z,10.0nm,0.7s
SML **Sawmill** 81.96 25 P P 03 41 07.0 -0.6
baz=240,SNR=8.9
TRF **Thorofare Moun** 82.02 23 IAmb IAmb 03 41 10.6
comp=Z,14nm,1.6s
TRF **Thorofare Moun** 82.02 23 P P 03 41 07.2 -0.9
baz=238
GLI **Glacier Island** 82.03 26 IAmb IAmb 03 41 11.0
comp=Z,7.1nm,0.7s
GLI **Glacier Island** 82.03 26 P P 03 41 07.2 -0.8
baz=242,SNR=8.1
BPAW **Bear Paw Mtn.** 82.11 22 P P 03 41 07.4 -0.9
baz=238
IMAR **Indian Mountai** 82.18 20 P P 03 41 09.0 +0.3
M23K **Glacier View** 82.20 25 P P 03 41 09.6 +0.7
baz=241
FID **Port Fidalgo** 82.23 26 IAmb IAmb 03 41 12.0
comp=Z,5.6nm,0.8s
H21K **Melozitna Rive** 82.31 20 P P 03 41 09.5 +0.1
baz=236
I21K **Tanana** 82.33 21 IAmb IAmb 03 41 13.8
comp=Z,5.1nm,0.9s
I21K **Tanana** 82.33 21 P P 03 41 08.7 -0.7
baz=237
WAT1 **Susitna Watana** 82.38 24 P P 03 41 09.7 -0.1
baz=240
SCM **Sheep Creek Mo** 82.39 25 IAmb IAmb 03 41 13.5
comp=Z,6.5nm,0.8s
SCM **Sheep Creek Mo** 82.39 25 P P 03 41 09.7 -0.2
baz=241
G21K **Allakaket** 82.57 19 P P 03 41 11.0 +0.3
baz=235
WAT6 **Susitna Watana** 82.58 24 P P 03 41 10.8 -0.2
baz=241
MCK **McKinley** 82.69 23 IAmb IAmb 03 41 13.5
comp=Z,10nm,0.7s
MCK **McKinley** 82.69 23 P P 03 41 11.4 0.0
baz=240,SNR=7.6
MLY **Manley** 82.69 21 IAmb IAmb 03 41 14.0
comp=Z,6.6nm,0.6s
MLY **Manley** 82.69 21 P P 03 41 11.3 -0.2
baz=238,SNR=14
KLU **Klutina** 82.82 25 P P 03 41 13.5 +1.3
KLU IAmb IAmb 03 41 15.7
comp=Z,9.7nm,1.0s
KLU **Klutina** 82.82 25 P P 03 41 12.4 +0.2
baz=243,SNR=11
H22K **Ishtalitna Cre** 82.94 20 P P 03 41 12.9 +0.2
baz=237
DHY **Denali Highway** 82.97 24 P P 03 41 12.4 -0.7
baz=241
F21K **Alatna River** 82.98 19 P P 03 41 12.4 -0.5
baz=235
M24K **Tolsona, Glenn** 83.00 25 P P 03 41 12.8 -0.3
baz=242
NEA2 **Nenana** 83.08 22 IAmb IAmb 03 41 15.2
comp=Z,4.7nm,0.7s
NEA2 **Nenana** 83.08 22 P P 03 41 13.9 +0.6
baz=240,SNR=5.0
KSH **Kashi** 83.10 311 P P 03 41 16.4 +2.2
KSH pmax pmax
comp=Z,7.0nm,1.1s
BMRM **Bremner River** 83.15 26 IAmb IAmb 03 41 25.7
comp=Z,8.0nm,0.8s
BMRM **Bremner River** 83.15 26 P P 03 41 13.8 -0.1
baz=244
I23K **Minto, Yukon-K** 83.25 21 P P 03 41 14.6 +0.4
baz=239
WRH **Wood River Hil** 83.38 22 IAmb IAmb 03 41 17.2
comp=Z,7.2nm,1.1s
G22K **Bettles** 83.46 19 P P 03 41 15.4 +0.2
baz=237
H23K **Yukon River** 83.54 21 P P 03 41 15.6 -0.1
baz=239
NRN **Naryn** 83.55 313 P P 03 41 17.0 +0.3
NRN IAmb IAmb 03 41 19.6
comp=Z,7.1nm,1.4s
F22K **John River** 83.56 19 P P 03 41 15.8 0.0
baz=236
QSPA **South Pole Qui** 83.64 180 P P 03 41 16.3 -0.2
PAX **Paxson** 83.69 24 P P 03 41 16.7 +0.1
baz=243
GLB **Gilahina Butte** 83.70 26 IAmb IAmb 03 41 27.1
comp=Z,10nm,1.2s
MAW **Mawson** 83.75 203 P P 03 41 16.7 -0.1
baz=84,SNR=12
MAW **Mawson** 83.75 203 P P 03 41 16.0 -0.7
comp=Z,2.2nm,0.6s,baz=108,slow=5.5,SNR=8.0
comp=Z,2.2nm,0.6s
MAW **Mawson** 83.75 203 P P 03 41 16.9 +0.1
HDA **Harding Lake** 83.78 23 P P 03 41 17.7 +0.7
baz=242
G23K **Bananza Creek** 83.84 20 P P 03 41 17.8 +0.5
baz=238
NIL **Nilore** 83.94 305 P P 03 41 18.9 +0.4
K24K **Donnelly Dome** 83.95 23 P P 03 41 18.2 +0.3
baz=243
IL31 **Eielson Array** 83.98 22 P P 03 41 17.3 -0.7
comp=Z,4.9nm,0.8s
ILAR **Eielson Array** 83.98 22 P P 03 41 17.3 -0.7
comp=Z,4.7nm,0.7s,baz=250,slow=5.0,SNR=36
comp=Z,4.7nm,0.7s
E22K **Anaktuvuk Pass** 84.03 18 P P 03 41 18.4 +0.2
baz=237
COLD **Coldfoot** 84.05 19 P P 03 41 18.5 +0.2
baz=238
H24K **Noodor Dome** 84.14 21 P P 03 41 19.2 +0.4
baz=240
RIDG **Independent Ri** 84.29 24 IAmb IAmb 03 41 31.7
comp=Z,4.3nm,0.8s
RIDG **Independent Ri** 84.29 24 P P 03 41 19.8 +0.1
baz=244
KURK **Kurchatov** 84.30 322 P P 03 41 19.8 -0.1
KURK IAmb IAmb 03 41 20.5
comp=Z,10nm,1.2s
KURBB **Kurchatov Arra** 84.32 322 P P 03 41 19.1 -1.0
comp=Z,0.7nm,0.3s,baz=110,slow=4.2,SNR=14
comp=Z,0.7nm,0.3s
M26K **Nabesna, AK** 84.46 25 P P 03 41 20.4 -0.1
baz=245
J25K **Salcha River,** 84.48 23 P P 03 41 20.7 +0.1
baz=243,SNR=11
DOT **Dot Lake** 84.56 24 IAmb IAmb 03 41 24.0
comp=Z,5.5nm,0.8s
L26K **Log Cabin Wild** 84.58 25 P P 03 41 21.1 0.0
baz=245
G24K **Hadweenzic Riv** 84.71 20 P P 03 41 22.3 +0.6
baz=241
SCRK **Sand Creek** 84.74 24 IAmb IAmb 03 41 24.8
comp=Z,3.9nm,0.9s
SCRK **Sand Creek** 84.74 24 P P 03 41 22.0 0.0
baz=244
D23K **Nanushuk River** 84.83 18 P P 03 41 22.6 +0.3
baz=238
M27K **Edge Creek, AK** 84.92 25 IAmb IAmb 03 41 26.9
comp=Z,7.0nm,0.7s
M27K **Edge Creek, AK** 84.92 25 P P 03 41 22.9 0.0
baz=246
AAK **Ala-Archa** 84.92 314 P P 03 41 23.3 -0.1
comp=Z,4.8nm,0.6s,baz=112,slow=5.2,SNR=9.2
comp=Z,4.8nm,0.6s
AAK **Ala-Archa** 84.92 314 P P 03 41 23.2 -0.3
AAK IAmb IAmb 03 41 25.2
comp=Z,7.5nm,0.8s
F24K **Squaw Lake** 84.97 20 P P 03 41 23.0 0.0
baz=240
TOLK **Toolik Lake Re** 85.00 18 P P 03 41 23.2 0.0
baz=239
E24K **Your Creek** 85.06 19 P P 03 41 24.1 +0.7
baz=240
H25K **Birch Creek** 85.08 21 P P 03 41 24.4 +0.9
baz=242
J26L **Joseph Creek** 85.13 23 P P 03 41 24.4 +0.5
baz=245
L27K **Beaver Creek,** 85.23 25 P P 03 41 24.9 +0.5
baz=246
K27K **Chicken** 85.52 24 IAmb IAmb 03 41 30.2
comp=Z,4.2nm,0.9s
K27K **Chicken** 85.52 24 P P 03 41 26.1 +0.4
baz=246
I26K **Coal Creek Min** 85.64 22 P P 03 41 26.4 0.0
baz=245
C24K **Franklin Bluff** 85.83 18 P P 03 41 27.9 +0.8
baz=239
G26K **Porcupine Rive** 86.12 21 P P 03 41 28.7 +0.1
baz=244
EGAK **Eagle** 86.19 23 IAmb IAmb 03 41 32.9
comp=Z,5.8nm,0.9s
EGAK **Eagle** 86.19 23 P P 03 41 29.3 +0.3
baz=247
HYT **Haines Junctio** 86.29 28 P P 03 41 30.1 +0.3
baz=250
D25K **Kavik River** 86.34 18 P P 03 41 30.4 +0.5
baz=242
I27K **Kandik River** 86.34 22 P P 03 41 29.9 0.0
baz=246
M29M **Somme Creek** 86.42 26 P P 03 41 30.6 +0.2
baz=249
DAWY **Dawson** 86.62 24 IAmb IAmb 03 41 41.0
comp=Z,6.3nm,1.2s
H27K **Steamboat Moun** 86.63 22 P P 03 41 31.3 +0.1
baz=246
M30M **Minto, Yukon** 87.20 26 P P 03 41 34.4 +0.3
baz=251
GAR **Garm** 87.28 310 P P 03 41 34.3 -0.8
GAR IAmb IAmb 03 41 35.7
comp=Z,13nm,1.2s
N31M **Braeburn, Yuko** 87.30 27 P P 03 41 35.0 +0.5
baz=252
K29M **Barlow Dome** 87.31 25 P P 03 41 35.2 +0.5
baz=250,SNR=15
C27K **Jago River** 87.32 18 P P 03 41 35.0 +0.5
baz=244
E27K **Coleen River** 87.40 20 P P 03 41 35.5 +0.5
baz=246
KBL **Kabul** 87.53 305 P P 03 41 35.5 -1.1
KBL IAmb IAmb 03 41 36.0
comp=Z,4.5nm,0.8s
P32M **Atlin** 87.70 29 P P 03 41 37.2 +0.6
baz=254
KK31 **Karatay Array** 87.88 314 IAmb IAmb 03 41 38.7
comp=Z,11nm,1.1s
KKAR **Karatay Array** 87.88 314 P P 03 41 37.4 -0.4
M31M **Drury Creek, Y** 88.14 27 IAmb IAmb 03 41 58.4
comp=Z,4.8nm,1.0s
M31M **Drury Creek, Y** 88.14 27 P P 03 41 39.2 +0.5
baz=253
P33M **Teslin, Yukon** 88.31 29 P P 03 41 39.7 +0.2
baz=254

N32M	**Quiet Lake**	**88.44**	**28**	P	**P**	**03 41 40.1**	**0.0**
	baz=254							
EPYK	**Eagle Plains**	**88.49**	**22**	P	**P**	**03 41 40.6**	**+0.4**
	baz=251							
S34M	**Telegraph Cree**	**88.56**	**31**	P	**P**	**03 41 41.6**	**+1.0**
	baz=256							
FARO	**Faro, Yukon**	**88.62**	**27**	IAmb	IAmb	03 41 53.1		
	comp=Z,5.8nm,1.2s							
FARO	**Faro, Yukon**	**88.62**	**27**	P	**P**	**03 41 41.4**	**+0.5**
	baz=254							
G30M	**tAoh Zraii Nji**	**88.88**	**22**	P	**P**	**03 41 42.8**	**+0.8**
	baz=251							
R33M	**Jennings River**	**89.00**	**30**	P	**P**	**03 41 43.9**	**+1.0**
	baz=256							
BVAR	**Borovoye Array**	**89.80**	**323**	P	**P**	**03 41 45.1**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=104,slow=6.3,SNR=12							
	comp=Z,2.2nm,0.8s							
INK	**Inuvik**	**90.27**	**21**	P	**P**	**03 41 50.6**	**+2.3**
INK				IAmb	IAmb	03 41 58.4		
	comp=Z,10nm,1.4s							
HRA	**Herat**	**93.08**	**304**	P	**P**	**03 42 01.8**	**-0.7**
NVAR	**Mina Array Bea**	**93.89**	**52**	P	**P**	**03 42 07.2**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=259,slow=5.4,SNR=9.7							
NVAR				LR	LR	04 16 52.8		
	comp=Z,118nm,20.3s,baz=272,slow=31							
	comp=Z,1.7nm,0.8s							
ABKAR	**Akbulak array**	**95.89**	**319**	P	**P**	**03 42 12.9**	**-1.8**
GEYT	**Alibeck**	**96.67**	**307**	P	**P**	**03 42 18.0**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=213,slow=11,SNR=3.6							
	comp=Z,2.7nm,0.8s							
LCMT	**Little Creek M**	**97.80**	**54**	P	Pdif	03 42 24.6	+0.6	
SNAA	**Sanae**	**100.37**	**188**	P	**PKiKP**	**03 47 00.6**	**-0.8**	
PLCA	**Paso Flores**	**119.20**	**144**	PKP	**PKPdf**	**03 47 36.8**	**-0.8**	
	comp=Z,0.7nm,0.6s,baz=221,slow=6.5,SNR=3.9							
GERES	**GERESS Array B**	**124.76**	**327**	PKP	**PKPdf**	**03 47 46.9**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=316,slow=4.1,SNR=6.6							
TRCB	**Terra Rica**	**142.52**	**141**	PKPdf	**PKPdf**	**03 48 21.3**	**-0.6**	
MACA	**Manacapuru-AM**	**146.32**	**105**	PKPbc	**PKPdf**	**03 48 28.7**	**0.0**	
BOAV	**Boa Vista**	**147.64**	**96**	PKPbc	**PKPbc**	**03 48 33.2**	**-0.4**	
TORD	**Torodi Ar. Bea**	**149.69**	**285**	PKPbc	**PKPbc**	**03 48 37.9**	**-1.0**	
	comp=Z,7.9nm,0.7s,baz=71,slow=2.7,SNR=46							
BDFB	**Brasilia**	**150.71**	**138**	PKPbc	**PKPbc**	**03 48 40.2**	**-1.2**	
	comp=Z,9.5nm,0.8s,baz=198,slow=1.5,SNR=11							

MAN 02 03:29:41.1, 11°.73N×125°.76E, h16km, mb4.4, ML3.3, MS3.1, 7C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BESP	**Borongan**	**0.34**	**249**	↑	*eP*	Pb	03 29 49.0	+0.2
BESP					*eS*	Sb	03 29 55.5	+1.5
OCLP	**Ormoc**	**1.31**	**239**	↓	*eP*	Pn	03 30 01.8	-3.0
OCLP					*eS*	Sg	03 30 24.7	+1.1
CNP	**Catarman**	**1.33**	**306**	↓	*eP*	Pg	03 30 06.2	-0.5
CNP					*eS*	Sg	03 30 27.1	+3.1
MSLP	**Maasin**	**1.81**	**209**	↑	*eP*	Pn	03 30 12.5	+0.8
MSLP					*eS*	Sb	03 30 36.1	-0.3
PVCP	**Virac**	**2.43**	**320**	↑	*eP*	Pn	03 30 20.8	+0.6
PVCP					*eS*	Sg	03 31 02.0	+2.7
RCP	**Roxas**	**2.96**	**267**	↑	*eP*	Pb	03 30 30.7	-2.8
RCP					*eS*	Sb	03 31 07.0	-2.5
GUIM	**Jordan**	**3.30**	**251**	↑	*eP*	Pn	03 30 31.9	-0.2
GUIM					*eS*	Sn	03 31 08.9	-2.1
BIPH	**Bislig**	**3.57**	**170**	↑	*eP*	Pn	03 30 33.1	-2.7
BIPH					*eS*	Sn	03 31 17.8	+0.1
BUKP	**Musuan**	**3.88**	**190**	↑	*eP*	Pn	03 30 39.4	-0.9
BUKP					*eS*	Sb	03 31 34.2	-1.9

*IDC **02** 03:29:42.0±3.5, 37°.07S×178°.97E, h0km, mb3.8/2, mbtmp3.8/2, MS3.6/1, Error ellipse: s-maj=87.8km s-min=32.2km az=130.0*
*WEL **02** 03:29:44.0±0.8, 37°S±7°×17°9E±°, h12km, M3.5/22, ML3.8/26, MLv3.5/22, Error ellipse: s-maj=0.0km s-min=0.0km az=131.5*

ISC 02 03:29:41.9±2.4, 37°.18S±0°.07×179°.1E±0°.1, h6km±12km, n39, σ1°9̸04/51, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.76**	**239**	P		**Pg**	**03 29 55.5**	**-1.0**
WMGZ	**Waiomatatini S**	**0.86**	**221**	P		**Pb**	**03 30 00.2**	**+1.0**
WMGZ				S		**Sn**	**03 30 14.3**	**+0.9**
PKGZ	**Pakihiroa**	**1.10**	**229**	P		**Pb**	**03 30 03.9**	**+0.6**
PKGZ				S		**Sn**	**03 30 19.5**	**+0.1**
PUZ	**Puketiti**	**1.13**	**217**	P		**Pn**	**03 30 05.9**	**+1.6**
PUZ				S		**Sn**	**03 30 20.4**	**+0.1**
HAZ	**Te Kaha**	**1.22**	**241**	P		**Pn**	**03 30 06.2**	**+0.7**
HAZ				S		**Sn**	**03 30 23.0**	**+0.8**
TWGZ	**Tauwhareparae**	**1.35**	**222**	P		**Pg**	**03 30 08.3**	**+0.5**
TWGZ				S		**Sn**	**03 30 27.8**	**+2.1**
RUGZ	**Raukumara Rang**	**1.40**	**235**	P		**Pb**	**03 30 08.7**	**+0.3**
CNGZ	**Carnagh Statio**	**1.50**	**209**	P		**Pn**	**03 30 09.8**	**+0.5**
TKGZ	**Te Karaka**	**1.62**	**218**	P		**Pn**	**03 30 11.8**	**+0.8**
MWZ	**Matawai**	**1.71**	**227**	P		**Pn**	**03 30 12.3**	**+0.1**
WHRZ	**Whale Island**	**1.84**	**248**	P		**Pb**	**03 30 15.8**	**-0.2**
RIGZ	**Rimuhau**	**1.87**	**215**	P		**Pn**	**03 30 15.7**	**+1.2**
RAGZ	**Rawiri**	**1.89**	**225**	P		**Pn**	**03 30 15.4**	**+0.6**
URZ	**Urewera**	**1.93**	**235**	Pn		**Pn**	**03 30 15.2**	**0.0**
	22nm,0.3s,baz=121,slow=2.0,SNR=18							
URZ				Sn		**Sb**	**03 30 40.9**	**-0.9**
	22nm,0.3s,baz=301,slow=21,SNR=15							
URZ	**Urewera**	**1.93**	**235**	P		**Pn**	**03 30 15.3**	**0.0**
PRGZ	**Paritu Road**	**2.00**	**209**	P		**Pn**	**03 30 17.1**	**+0.8**
SNGZ	**Shannon Statio**	**2.14**	**221**	P		**Pn**	**03 30 18.5**	**+0.3**
KNZ	**Kokohu**	**2.17**	**211**	P		**Pn**	**03 30 18.3**	**-0.2**
RRRZ	**Republican Roa**	**2.37**	**240**	P		**Pb**	**03 30 24.8**	**-0.3**
MTHZ	**Maungataniwha**	**2.46**	**226**	P		**Pn**	**03 30 22.8**	**+0.1**
MTHZ				S		**Sn**	**03 30 53.7**	**+0.6**
BKZ	**Black Stump Fm**	**2.87**	**225**	P		**Pn**	**03 30 29.2**	**+0.9**
BKZ				S		**Sn**	**03 31 02.2**	**-1.1**
KAHZ	**Kahuranaki**	**3.15**	**213**	P		**Pn**	**03 30 32.2**	**0.0**
KAHZ				S		**Sn**	**03 31 09.2**	**-1.0**
KRHZ	**Kereru**	**3.28**	**220**	P		**Pn**	**03 30 34.8**	**+0.9**
KRHZ				S		**Sn**	**03 31 10.9**	**-2.3**
TMVZ	**Te Maari**	**3.32**	**233**	P		**Pn**	**03 30 35.7**	**+1.2**
TMVZ				S		**Sn**	**03 31 13.0**	**-1.4**
ETVZ	**East Tongariro**	**3.33**	**233**	P		**Pn**	**03 30 35.3**	**+0.7**
ETVZ				S		**Sn**	**03 31 13.2**	**-1.4**
BHHZ	**Black Hill Sta**	**3.34**	**225**	P		**Pn**	**03 30 35.9**	**+1.1**
BHHZ				S		**Sn**	**03 31 14.3**	**-0.5**
NNVZ	**North Ngauruho**	**3.39**	**234**	P		**Pn**	**03 30 37.2**	**+1.7**
WTVZ	**West Tongariro**	**3.40**	**234**	P		**Pn**	**03 30 37.2**	**+1.6**
MOVZ	**Moawhango**	**3.46**	**229**	P		**Pn**	**03 30 37.4**	**+1.0**
HIZ	**Hauiti**	**3.63**	**247**	P		**Pn**	**03 30 41.5**	**+2.8**
PRHZ	**Porangahau**	**3.65**	**212**	P		**Pn**	**03 30 38.6**	**-0.3**
TSZ	**Takapari Road**	**3.80**	**220**	P		**Pn**	**03 30 41.2**	**+0.2**
WCZ	**Waipu Caves**	**4.04**	**286**	P		**Pn**	**03 30 44.0**	**-0.3**
BFZ	**Birch Farm**	**4.16**	**212**	P		**Pn**	**03 30 44.5**	**-1.5**
MRZ	**Mangatainoka R**	**4.45**	**217**	P		**Pn**	**03 30 48.8**	**-1.0**
ASAR	**Alice Springs**	**40.89**	**276**	P		**P**	**03 37 25.2**	**+0.1**
	0.7nm,0.5s,baz=116,slow=8.5,SNR=2.8							
	0.7nm,0.5s							
WRA	**Warramunga Arr**	**42.50**	**281**	P		**P**	**03 37 37.8**	**-0.4**
	1.0nm,0.5s,baz=122,slow=7.8,SNR=3.8							
	1.0nm,0.5s							
NWAO	**Narrogin (SRO)**	**50.06**	**255**	LR		LR	04 01 30.7	
	comp=Z,53nm,18.1s,baz=100,slow=38							
FINES	**FINESS Array B**	**150.43**	**334**	PKPbc		**PKPbc**	**03 49 33.7**	**+0.2**
	3.0nm,1.1s,baz=27,slow=1.6,SNR=3.5							

WEL 02 03:35:50.9±1.4, 37°S±5°×17°9E±°, h12km±6km, M3.5/56, ML3.7/43, MLv3.5/56, Error ellipse: s-maj=0.0km s-min=0.0km az=81.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.69**	**238**	P		Pg	03 36 04.0	-0.3
MXZ				S		Sg	03 36 11.7	-1.7
WMGZ	**Waiomatatini S**	**0.80**	**219**	P		Pn	03 36 08.1	+0.1
WMGZ				S		Sn	03 36 19.6	-0.1
PKGZ	**Pakihiroa**	**1.03**	**228**	P		Pn	03 36 11.2	-0.1
PKGZ				S		Sb	03 36 24.3	+0.1
PUZ	**Puketiti**	**1.07**	**215**	P		Pn	03 36 11.8	+0.1
PUZ				S		Sg	03 36 25.9	+0.4
HAZ	**Te Kaha**	**1.15**	**241**	P		Pb	03 36 11.1	-1.5
HAZ				S		Sg	03 36 27.8	-0.1
TWGZ	**Tauwhareparae**	**1.29**	**221**	P		Pb	03 36 15.2	0.0
TWGZ				S		Sg	03 36 32.8	+0.3
RUGZ	**Raukumara Rang**	**1.33**	**234**	P		Pn	03 36 15.4	0.0
RUGZ				S		Sb	03 36 32.5	-0.3
WIZ	**White Island**	**1.51**	**257**	P		Pn	03 36 17.8	-0.1
TKGZ	**Te Karaka**	**1.56**	**217**	P		Pn	03 36 18.4	-0.1
MWZ	**Matawai**	**1.65**	**226**	P		Pn	03 36 19.9	+0.1
WHRZ	**Whale Island**	**1.77**	**248**	P		Pn	03 36 21.6	+0.2
RIGZ	**Rimuhau**	**1.81**	**214**	P		Pn	03 36 21.8	-0.2
RAGZ	**Rawiri**	**1.83**	**224**	P		Pn	03 36 22.6	+0.4
URZ	**Urewera**	**1.86**	**235**	P		Pn	03 36 22.9	+0.2
PRGZ	**Paritu Road**	**1.95**	**208**	P		Pn	03 36 23.7	-0.2
EDRZ	**Edgecumbe**	**2.04**	**243**	P		Pn	03 36 25.2	0.0
SNGZ	**Shannon Statio**	**2.08**	**220**	P		Pn	03 36 25.4	-0.2
OPRZ	**Ohinepanea**	**2.08**	**251**	P		Pn	03 36 25.4	-0.2
KNZ	**Kokohu**	**2.12**	**210**	P		Pn	03 36 25.3	-0.8
MHGZ	**Mahia Peninsul**	**2.15**	**204**	P		Pn	03 36 26.2	-0.4
RTZ	**Ruatahuna**	**2.16**	**229**	P		Pn	03 36 27.1	+0.3
MUGZ	**Murupara**	**2.21**	**234**	P		Pn	03 36 27.2	-0.1
MYRZ	**Mayor Island**	**2.24**	**267**	P		Pn	03 36 27.9	+0.1
TARZ	**Mount Tarawera**	**2.26**	**242**	P		Pb	03 36 30.3	-1.4
RRRZ	**Republican Roa**	**2.31**	**240**	P		Pn	03 36 28.0	-0.7
RAHZ	**Arahi**	**2.31**	**221**	P		Pn	03 36 28.7	-0.1
MTHZ	**Maungataniwha**	**2.40**	**226**	P		Pn	03 36 30.4	+0.3
NMHZ	**Naumai**	**2.59**	**222**	P		Pn	03 36 32.9	+0.2
ARHZ	**Aropaoanui**	**2.62**	**217**	P		Pn	03 36 32.7	-0.3
MRHZ	**Matea Rd**	**2.64**	**231**	P		Pn	03 36 33.6	+0.2
KUZ	**Kuaotunu**	**2.70**	**279**	P		Pn	03 36 32.7	-1.4
BKZ	**Black Stump Fm**	**2.81**	**225**	P		Pn	03 36 35.2	-0.5
TOZ	**Tahuroa Road**	**2.87**	**258**	P		Pn	03 36 35.9	-0.5
CKHZ	**Cape Kidnapper**	**2.90**	**212**	P		Pn	03 36 35.7	-1.2
KWHZ	**Kaweka Forest**	**3.03**	**222**	P		Pn	03 36 37.8	-0.9
GRZ	**Great Barrier**	**3.03**	**287**	P		Pn	03 36 39.2	+0.5
KAHZ	**Kahuranaki**	**3.10**	**213**	P		Pn	03 36 38.1	-1.5
MKAZ	**Moumakai**	**3.10**	**271**	P		Pn	03 36 38.4	-1.3
KRHZ	**Kereru**	**3.22**	**220**	P		Pn	03 36 39.8	-1.5
TMVZ	**Te Maari**	**3.25**	**233**	P		Pn	03 36 41.9	0.0
ETVZ	**East Tongariro**	**3.26**	**233**	P		Pn	03 36 41.7	-0.3
BHHZ	**Black Hill Sta**	**3.27**	**225**	P		Pn	03 36 41.3	-0.8
NNVZ	**North Ngauruho**	**3.32**	**233**	P		Pn	03 36 42.8	0.0
WTVZ	**West Tongariro**	**3.33**	**234**	P		Pn	03 36 44.6	+1.8
NGZ	**Ngauruhoe**	**3.35**	**233**	P		Pn	03 36 43.3	0.0
MOVZ	**Moawhango**	**3.40**	**229**	P		Pn	03 36 43.4	-0.4
TWVZ	**Taurewa**	**3.40**	**236**	P		Pn	03 36 44.7	+0.8
WNVZ	**Wahianoa**	**3.44**	**231**	P		Pn	03 36 43.9	-0.6
PNHZ	**Pukenui**	**3.51**	**219**	P		Pn	03 36 43.3	-2.0
AWAZ	**Awhitu Peninsu**	**3.52**	**271**	P		Pn	03 36 46.3	+0.9
HIZ	**Hauiti**	**3.56**	**247**	P		Pn	03 36 47.0	+1.0
TSZ	**Takapari Road**	**3.74**	**219**	P		Pn	03 36 46.0	-2.4
WCZ	**Waipu Caves**	**3.99**	**287**	P		Pn	03 36 51.6	-0.2
KHEZ	**Kahui Hut**	**4.48**	**241**	P		Pn	03 37 01.2	+2.5
OUZ	**Omahuta**	**4.83**	**293**	P		Pn	03 37 03.9	+0.5
CTZ	**Chatham Island**	**7.32**	**154**	P		Pn	03 37 38.1	+0.6

*NEIC **02** 03:44:35.1±1.1, 37°.2S±0°.1×179°.7E±0°.1, h10km±2km, mb4.4/9, Error ellipse: s-maj=22.3km s-min=5.9km az=140.0*
*IDC **02** 03:44:38.1±1.6, 36°.61S×179°.02E, h0km, mb4.4/2, mbtmp4.4/3, ML4.2/1, MS3.5/1, Error ellipse: s-maj=44.2km s-min=36.4km az=142.0*
*WEL **02** 03:44:40.1±1.5, 37°S±4°×17°9E±°, h15km±12km, M4.1/63, ML4.4/63, MLv4.1/63, Error ellipse: s-maj=0.0km s-min=0.0km az=88.3*

ISC 02 03:44:37.5±2.1, 37°.13S±0°.06×179°.36E±0°.07, h10km±11km, n113, σ1°49/119, mb4.3/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.94**	**242**			**Pn**	**03 44 56.7**	**-0.1**
MXZ	**Matakaoa Point**	**0.94**	**242**	P		**Pn**	**03 44 56.5**	**-0.3**
MXZ				S		**Sg**	**03 45 06.6**	**-1.3**
WMGZ	**Waiomatatini S**	**1.02**	**227**	P		**Pn**	**03 45 00.2**	**+2.3**
WMGZ				S		**Sn**	**03 45 13.6**	**+1.4**
PKGZ	**Pakihiroa**	**1.27**	**233**	P		**Pg**	**03 45 03.2**	**+1.3**
PKGZ				S		**Sn**	**03 45 19.0**	**+0.5**
PUZ	**Puketiti**	**1.28**	**222**	P		**Pg**	**03 45 03.7**	**+1.5**
PUZ				S		**Sn**	**03 45 20.5**	**+1.7**
HAZ	**Te Kaha**	**1.40**	**243**	P		**Pb**	**03 45 04.7**	**0.0**
HAZ				S		**Sg**	**03 45 22.4**	**-0.1**
TWGZ	**Tauwhareparae**	**1.51**	**226**	P		**Pg**	**03 45 07.1**	**+0.5**
TWGZ				S		**Sg**	**03 45 26.7**	**+0.5**
RUGZ	**Raukumara Rang**	**1.57**	**237**	P		**Pg**	**03 45 08.1**	**+0.4**
RUGZ				S		**Sb**	**03 45 27.2**	**+0.4**
TKGZ	**Te Karaka**	**1.77**	**222**	P		**Pb**	**03 45 10.1**	**0.0**
WIZ	**White Island**	**1.77**	**256**	P		**Pn**	**03 45 08.3**	**+0.1**
WIZ				S		**Sn**	**03 45 29.4**	**-1.4**
WSRZ	**White Island S**	**1.78**	**257**	P		**Pb**	**03 45 09.9**	**-0.3**
MWZ	**Matawai**	**1.89**	**230**	P		**Pb**	**03 45 11.8**	**-0.2**
RAGZ	**Rawiri**	**2.06**	**228**	P		**Pb**	**03 45 14.2**	**-0.7**
URZ	**Urewera**	**2.11**	**237**	Pn		**Pb**	**03 45 14.7**	**-1.1**
	72nm,0.3s,baz=301,slow=3.5,SNR=156							
URZ				Sn		**Sn**	**03 45 37.8**	**-1.3**
	76nm,0.3s,baz=301,slow=17,SNR=4.6							
	248nm,0.3s							
URZ	**Urewera**	**2.11**	**237**			**Pb**	**03 45 14.4**	**-1.4**
URZ	**Urewera**	**2.11**	**237**	P		**Pb**	**03 45 14.7**	**-1.1**
PRGZ	**Paritu Road**	**2.14**	**213**	P		**Pb**	**03 45 15.1**	**-1.2**
SNGZ	**Shannon Statio**	**2.29**	**223**	P		**Pn**	**03 45 17.1**	**+1.7**
EDRZ	**Edgecumbe**	**2.30**	**244**	P		**Pn**	**03 45 17.3**	**+1.8**
MARZ	**Manawahe**	**2.30**	**247**	P		**Pn**	**03 45 16.9**	**+1.4**
KNZ	**Kokohu**	**2.31**	**215**	P		**Pn**	**03 45 16.8**	**+1.2**
MHGZ	**Mahia Peninsul**	**2.32**	**209**	P		**Pb**	**03 45 17.7**	**-1.7**
OPRZ	**Ohinepanea**	**2.34**	**251**	P		**Pn**	**03 45 17.0**	**+1.0**
RTZ	**Ruatahuna**	**2.40**	**231**	P		**Pb**	**03 45 18.9**	**-1.9**
MUGZ	**Murupara**	**2.45**	**236**	P		**Pn**	**03 45 19.1**	**+1.6**
MYRZ	**Mayor Island**	**2.49**	**266**	P		**Pn**	**03 45 19.0**	**+0.9**
TARZ	**Mount Tarawera**	**2.52**	**243**	P		**Pn**	**03 45 21.0**	**-1.9**
RAHZ	**Arahi**	**2.53**	**224**	P		**Pn**	**03 45 20.2**	**+1.6**
TGRZ	**Tauranga**	**2.54**	**255**	P		**Pn**	**03 45 19.8**	**+1.1**
RRRZ	**Republican Roa**	**2.56**	**241**	P		**Pn**	**03 45 20.7**	**+1.7**
WHHZ	**Waihua**	**2.57**	**220**	P		**Pn**	**03 45 20.7**	**+1.6**
KARZ	**Kaharoa**	**2.63**	**249**	P		**Pn**	**03 45 21.5**	**+1.5**
MTHZ	**Maungataniwha**	**2.63**	**228**	P		**Pn**	**03 45 21.9**	**+1.9**
HLRZ	**Highlands Stat**	**2.63**	**244**	P		**Pb**	**03 45 22.6**	**-2.2**
ALRZ	**Allen Road**	**2.78**	**238**	P		**Pn**	**03 45 24.0**	**+1.9**
KMRZ	**Kaimai**	**2.81**	**254**	P		**Pn**	**03 45 23.6**	**+1.1**
NMHZ	**Naumai**	**2.81**	**225**	P		**Pn**	**03 45 24.3**	**+1.7**
ARHZ	**Aropaoanui**	**2.83**	**220**	P		**Pn**	**03 45 24.2**	**+1.4**
MRHZ	**Matea Rd**	**2.88**	**233**	P		**Pn**	**03 45 25.0**	**+1.5**
KUZ	**Kuaotunu**	**2.94**	**276**	P		**Pn**	**03 45 23.8**	**-0.5**
BKZ	**Black Stump Fm**	**3.04**	**227**			**Pn**	**03 45 26.0**	**+0.3**
BKZ	**Black Stump Fm**	**3.04**	**227**	P		**Pn**	**03 45 27.0**	**+1.3**
CKHZ	**Cape Kidnapper**	**3.10**	**215**	P		**Pn**	**03 45 27.1**	**+0.7**
KUTZ	**Kaahu Road**	**3.11**	**243**	P		**Pn**	**03 45 28.5**	**+1.9**
TOZ	**Tahuroa Road**	**3.13**	**268**	P		**Pn**	**03 45 27.0**	**+0.2**
GRZ	**Great Barrier**	**3.25**	**284**	P		**Pn**	**03 45 29.6**	**+1.0**
KWHZ	**Kaweka Forest**	**3.25**	**224**	P		**Pn**	**03 45 29.4**	**+0.8**
KAHZ	**Kahuranaki**	**3.30**	**215**	P		**Pn**	**03 45 29.7**	**+0.5**
RATZ	**Rangitukua**	**3.32**	**237**	P		**Pn**	**03 45 31.4**	**+1.9**
RITZ	**Rihia Road**	**3.32**	**235**	P		**Pn**	**03 45 31.2**	**+1.6**
MKAZ	**Moumakai**	**3.35**	**269**	P		**Pn**	**03 45 30.0**	**+0.1**
WIAZ	**Waiheke Island**	**3.40**	**274**	P		**Pn**	**03 45 31.7**	**+1.1**
KATZ	**Kakaramea**	**3.43**	**236**	P		**Pb**	**03 45 35.8**	**-2.5**
KRHZ	**Kereru**	**3.44**	**222**	P		**Pn**	**03 45 31.5**	**+0.3**
PXZ	**Pawanui**	**3.50**	**213**	P		**Pn**	**03 45 31.9**	**0.0**
TMVZ	**Te Maari**	**3.50**	**234**	P		**Pn**	**03 45 33.1**	**+1.1**
BHHZ	**Black Hill Sta**	**3.50**	**227**	P		**Pn**	**03 45 32.8**	**+0.7**
ETVZ	**East Tongariro**	**3.50**	**234**	P		**Pn**	**03 45 33.2**	**+1.0**
NTVZ	**North Tongarir**	**3.51**	**235**	P		**Pn**	**03 45 33.4**	**+1.2**
KRVZ	**Karewarewa**	**3.53**	**235**	P		**Pn**	**03 45 33.8**	**+1.4**
ETAZ	**East Tamaki Re**	**3.55**	**271**	P		**Pn**	**03 45 34.4**	**+1.8**
OTVZ	**Oturere**	**3.55**	**234**	P		**Pn**	**03 45 34.2**	**+1.4**
NNVZ	**North Ngauruho**	**3.56**	**235**	P		**Pn**	**03 45 34.2**	**+1.6**
WTVZ	**West Tongariro**	**3.57**	**235**	P		**Pn**	**03 45 34.7**	**+1.6**
SNVZ	**South Ngauruho**	**3.58**	**234**	P		**Pn**	**03 45 34.3**	**+1.1**
MBAZ	**Motutapu North**	**3.59**	**274**	P		**Pn**	**03 45 34.6**	**+1.4**
NGZ	**Ngauruhoe**	**3.60**	**234**	P		**Pn**	**03 45 34.5**	**+1.1**
TUVZ	**Tukino**	**3.62**	**233**	P		**Pn**	**03 45 35.0**	**+1.4**
MOVZ	**Moawhango**	**3.64**	**230**	P		**Pn**	**03 45 34.6**	**+0.7**
TWVZ	**Taurewa**	**3.65**	**237**	P		**Pn**	**03 45 35.7**	**+1.6**
ABAZ	**Army Bay**	**3.67**	**277**	P		**Pn**	**03 45 35.4**	**+1.2**
WHVZ	**Whangaehu Hut**	**3.67**	**233**	P		**Pn**	**03 45 35.2**	**+0.7**
FWVZ	**Far West T-bar**	**3.67**	**234**	P		**Pn**	**03 45 35.9**	**+1.3**
WNVZ	**Wahianoa**	**3.69**	**232**	P		**Pn**	**03 45 35.5**	**+0.8**
WPHZ	**Waipukurau**	**3.72**	**217**	P		**Pn**	**03 45 35.0**	**+0.1**
PNHZ	**Pukenui**	**3.72**	**221**	P		**Pn**	**03 45 34.8**	**-0.3**
AWAZ	**Awhitu Peninsu**	**3.77**	**270**	P		**Pn**	**03 45 36.8**	**+1.1**
PRHZ	**Porangahau**	**3.79**	**213**	P		**Pn**	**03 45 35.4**	**-0.5**
HIZ	**Hauiti**	**3.82**	**247**			**Pn**	**03 45 37.3**	**+0.9**
HIZ	**Hauiti**	**3.82**	**247**	P		**Pn**	**03 45 38.7**	**+2.3**
WTAZ	**Waiatarua**	**3.83**	**271**	P		**Pn**	**03 45 38.4**	**+1.9**
RVAZ	**Riverhead Bore**	**3.84**	**274**	P		**Pn**	**03 45 36.6**	**0.0**
TSZ	**Takapari Road**	**3.96**	**221**	P		**Pn**	**03 45 37.7**	**-0.5**
WCZ	**Waipu Caves**	**4.21**	**285**	P		**Pn**	**03 45 42.5**	**+0.9**
BFZ	**Birch Farm**	**4.30**	**213**	Pn		**Pn**	**03 45 41.7**	**-1.2**
POWZ	**Post Office Ro**	**4.30**	**220**	P		**Pn**	**03 45 42.7**	**-0.3**
WAZ	**Wanganui**	**4.32**	**231**	P		**Pn**	**03 45 44.3**	**+1.1**
PRWZ	**Pori Road**	**4.32**	**217**	P		**Pn**	**03 45 43.2**	**-0.1**
NEZ	**North Egmont**	**4.66**	**241**	P		**Pn**	**03 45 51.6**	**+3.5**
KHEZ	**Kahui Hut**	**4.73**	**241**	P		**Pn**	**03 45 52.5**	**+3.5**
OUZ	**Omahuta**	**5.03**	**291**	P		**Pn**	**03 45 54.1**	**+1.1**
CTZ	**Chatham Island**	**7.28**	**156**	P		**Pn**	**03 46 28.1**	**+4.2**
RPZ	**Rata Peaks**	**9.13**	**221**	Pn		**Pn**	**03 46 45.8**	**-3.4**
	1.1nm,0.3s,baz=222,slow=23,SNR=1.8							
RPZ				Sn		Sn	03 48 19.6	-12
	6.4nm,0.3s,baz=154,slow=24,SNR=16							
DZM	**Mont Dzumac**	**18.71**	**320**	LR		LR	03 54 36.9	
	comp=Z,145nm,18.7s,baz=204,slow=33							
COEN	**Coen**	**39.62**	**296**	P		**P**	**03 52 09.8**	**+0.4**
COEN				IAmb		IAmb	03 52 16.2	
	comp=Z,13nm,1.4s							
AS31	**Alice Springs**	**41.06**	**276**	P		**P**	**03 52 19.8**	**-1.6**
ASAR	**Alice Springs**	**41.06**	**276**	P		**P**	**03 52 21.2**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=119,slow=8.0,SNR=39							
	comp=Z,3.1nm,0.5s							
ASAR	**Alice Springs**	**41.06**	**276**	P		**P**	**03 52 20.3**	**-1.1**
FORT	**Forrest**	**42.60**	**263**	P		**P**	**03 52 33.0**	**-0.8**
WB2	**Warramunga Arr**	**42.66**	**281

RUGZ			S		**Sn**	**04 17 42.7**	**-1.6**
CNGZ	**Carnagh Statio**	**1.47 214**	P		**Pg**	**04 17 27.8**	**+0.8**
TKGZ	**Te Karaka**	**1.62 223**	P		**Pn**	**04 17 28.6**	**+1.0**
TKGZ			S		**Sn**	**04 17 48.4**	**-0.1**
WIZ	**White Island**	**1.66 260**	P		**Pn**	**04 17 27.4**	**-0.7**
WSRZ	**White Island S**	**1.67 261**	P		**Pn**	**04 17 29.0**	**+0.7**
MWZ	**Matawai**	**1.73 231**	P		**Pn**	**04 17 30.0**	**+0.8**
RIGZ	**Rimuhau**	**1.86 219**	P		**Pn**	**04 17 31.9**	**+1.0**
RAGZ	**Rawiri**	**1.90 229**	P		**Pn**	**04 17 32.8**	**+1.2**
WHRZ	**Whale Island**	**1.90 251**	P		**Pn**	**04 17 32.1**	**+0.6**
URZ	**Urewera**	**1.97 239**	Pn		**Pn**	**04 17 33.4**	**+1.1**
	220nm,0.3s,baz=121,slow=5.3,SNR=285						
URZ			Sn		**Sn**	**04 17 55.1**	**-2.0**
	350nm,0.3s,baz=121,slow=19,SNR=18						
URZ			LR		LR	04 18 03.8	
	comp=Z,169nm,19.1s,baz=137,slow=34						
URZ	**Urewera**	**1.97 239**	Pn		**Pn**	**04 17 32.5**	**+0.1**
URZ	**Urewera**	**1.97 239**	P		**Pn**	**04 17 33.5**	**+1.1**
URZ	**Urewera**	**1.97 239**	P		**Pn**	**04 17 33.7**	**+1.4**
PRGZ	**Paritu Road**	**1.98 213**	P		**Pn**	**04 17 33.5**	**+1.0**
SNGZ	**Shannon Statio**	**2.14 224**	P		**Pn**	**04 17 35.4**	**+0.6**
KNZ	**Kokohu**	**2.15 215**	P		**Pn**	**04 17 35.3**	**+0.4**
EDRZ	**Edgecumbe**	**2.16 246**	P		**Pn**	**04 17 36.0**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.16 209**	P		**Pn**	**04 17 36.2**	**+1.1**
MARZ	**Manawahe**	**2.17 250**	P		**Pn**	**04 17 36.2**	**+1.1**
OPRZ	**Ohinepanea**	**2.22 254**	P		**Pn**	**04 17 35.8**	**0.0**
RTZ	**Ruatahuna**	**2.25 232**	P		**Pn**	**04 17 37.3**	**+1.0**
MUGZ	**Murupara**	**2.31 238**	P		**Pn**	**04 17 37.6**	**+0.5**
MKRZ	**Makatiti**	**2.38 248**	P		**Pn**	**04 17 39.6**	**+1.6**
RAHZ	**Arahi**	**2.38 225**	P		**Pn**	**04 17 38.9**	**+0.9**
TARZ	**Mount Tarawera**	**2.38 245**	P		**Pn**	**04 17 39.3**	**+1.1**
MYRZ	**Mayor Island**	**2.40 269**	P		**Pn**	**04 17 38.4**	**0.0**
WHHZ	**Waihua**	**2.41 221**	P		**Pn**	**04 17 39.4**	**+0.9**
RRRZ	**Republican Roa**	**2.42 243**	P		**Pn**	**04 17 39.6**	**+1.0**
TGRZ	**Tauranga**	**2.42 258**	P		**Pn**	**04 17 38.8**	**+0.1**
MTHZ	**Maungataniwha**	**2.48 229**	P		**Pn**	**04 17 40.5**	**+1.1**
HLRZ	**Highlands Stat**	**2.50 246**	P		**Pn**	**04 17 40.9**	**+1.1**
KARZ	**Kaharoa**	**2.50 252**	P		**Pn**	**04 17 40.3**	**+0.5**
NGRZ	**Ngongotaha**	**2.57 250**	P		**Pn**	**04 17 42.1**	**+1.4**
PRRZ	**Plateau Road**	**2.58 241**	P		**Pn**	**04 17 41.1**	**+0.4**
HSRZ	**Hossack Road**	**2.60 245**	P		**Pn**	**04 17 42.5**	**+1.4**
HRRZ	**Handcock Road**	**2.60 244**	P		**Pn**	**04 17 41.9**	**+0.7**
ALRZ	**Allen Road**	**2.64 240**	P		**Pn**	**04 17 42.0**	**+0.4**
NMHZ	**Naumai**	**2.66 226**	P		**Pn**	**04 17 43.0**	**+1.0**
ARHZ	**Aropaoanui**	**2.67 221**	P		**Pn**	**04 17 42.7**	**+0.7**
KMRZ	**Kaimai**	**2.69 257**	P		**Pn**	**04 17 41.5**	**-0.9**
GRRZ	**Galatos Road**	**2.71 245**	P		**Pn**	**04 17 43.8**	**+1.1**
MRHZ	**Matea Rd**	**2.73 234**	P		**Pn**	**04 17 43.7**	**+0.7**
WPRZ	**Whakapapatarin**	**2.75 242**	P		**Pn**	**04 17 44.1**	**+1.0**
KUZ	**Kuaotunu**	**2.87 279**	P		**Pn**	**04 17 43.8**	**-1.0**
BKZ	**Black Stump Fm**	**2.89 228**	Pn		**Pn**	**04 17 45.1**	**+0.1**
BKZ	**Black Stump Fm**	**2.89 228**	P		**Pn**	**04 17 45.5**	**+0.4**
BKZ	**Black Stump Fm**	**2.89 228**	P		**Pn**	**04 17 45.7**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.94 215**	P		**Pn**	**04 17 45.6**	**-0.1**
HATZ	**Hinemaiaia**	**2.98 236**	P		**Pn**	**04 17 46.9**	**+0.6**
KUTZ	**Kaahu Road**	**2.98 245**	P		**Pn**	**04 17 47.0**	**+0.7**
TOZ	**Tahuroa Road**	**3.02 260**	P		**Pn**	**04 17 46.8**	**0.0**
KWHZ	**Kaweka Forest**	**3.10 225**	P		**Pn**	**04 17 48.0**	**0.0**
TLZ	**Tolley Road**	**3.13 249**	P		**Pn**	**04 17 48.7**	**+0.3**
WATZ	**Wairara**	**3.13 242**	P		**Pn**	**04 17 49.4**	**+1.0**
KAHZ	**Kahuranaki**	**3.14 216**	P		**Pn**	**04 17 48.2**	**-0.4**
RITZ	**Rihia Road**	**3.18 226**	P		**Pn**	**04 17 49.7**	**+0.7**
RATZ	**Rangitukua**	**3.18 239**	P		**Pn**	**04 17 50.0**	**+0.9**
GRZ	**Great Barrier**	**3.21 287**	P		**Pn**	**04 17 49.3**	**-0.1**
MKAZ	**Moumakai**	**3.27 272**	P		**Pn**	**04 17 50.0**	**-0.3**
KRHZ	**Kereru**	**3.28 223**	P		**Pn**	**04 17 49.9**	**-0.6**
KATZ	**Kakaramea**	**3.28 238**	P		**Pn**	**04 17 51.4**	**+0.8**
WIAZ	**Waiheke Island**	**3.33 277**	P		**Pn**	**04 17 50.8**	**-0.3**
PXZ	**Pawanui**	**3.34 213**	P		**Pn**	**04 17 50.3**	**-0.8**
BHHZ	**Black Hill Sta**	**3.35 227**	P		**Pn**	**04 17 51.4**	**0.0**
TMVZ	**Te Maari**	**3.35 235**	P		**Pn**	**04 17 51.6**	**+0.1**
ETVZ	**East Tongariro**	**3.36 235**	P		**Pn**	**04 17 51.6**	**0.0**
NTVZ	**North Tongarir**	**3.36 236**	P		**Pn**	**04 17 51.7**	**+0.1**
KRVZ	**Karewarewa**	**3.38 236**	P		**Pn**	**04 17 52.5**	**+0.6**
OTVZ	**Oturere**	**3.40 235**	P		**Pn**	**04 17 52.4**	**+0.1**
NNVZ	**North Ngauruho**	**3.42 236**	P		**Pn**	**04 17 52.9**	**+0.4**
WTVZ	**West Tongariro**	**3.43 236**	P		**Pn**	**04 17 53.1**	**+0.5**
SNVZ	**South Ngauruho**	**3.43 235**	P		**Pn**	**04 17 52.8**	**+0.1**
NGZ	**Ngauruhoe**	**3.45 235**	P		**Pn**	**04 17 53.1**	**+0.1**
TUVZ	**Tukino**	**3.47 234**	P		**Pn**	**04 17 53.3**	**+0.1**
ETAZ	**East Tamaki Re**	**3.47 274**	P		**Pn**	**04 17 53.1**	**0.0**
MOVZ	**Moawhango**	**3.48 231**	P		**Pn**	**04 17 53.1**	**-0.3**
TWVZ	**Taurewa**	**3.50 238**	P		**Pn**	**04 17 54.3**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.52 234**	P		**Pn**	**04 17 54.0**	**+0.1**
MBAZ	**Motutapu North**	**3.52 277**	P		**Pn**	**04 17 53.8**	**+0.1**
FWVZ	**Far West T-bar**	**3.52 235**	P		**Pn**	**04 17 54.2**	**+0.2**
WNVZ	**Wahianoa**	**3.54 233**	P		**Pn**	**04 17 54.0**	**-0.1**
TRVZ	**Turoa**	**3.55 234**	P		**Pn**	**04 17 54.5**	**+0.1**
WPHZ	**Waipukurau**	**3.56 217**	P		**Pn**	**04 17 53.6**	**-0.6**
PNHZ	**Pukenui**	**3.57 221**	P		**Pn**	**04 17 53.3**	**-1.1**
ABAZ	**Army Bay**	**3.60 279**	P		**Pn**	**04 17 55.2**	**+0.4**
EPAZ	**Eden Park BICE**	**3.63 275**	P		**Pn**	**04 17 55.7**	**+0.6**
PRHZ	**Porangahau**	**3.63 213**	P		**Pn**	**04 17 54.1**	**-1.2**
HBAZ	**Herne Bay Bore**	**3.64 275**	P		**Pn**	**04 17 56.1**	**+0.8**
PKVZ	**Pokaka**	**3.68 235**	P		**Pn**	**04 17 56.9**	**+0.9**
AWAZ	**Awhitu Peninsu**	**3.69 272**	P		**Pn**	**04 17 56.3**	**+0.3**
HIZ	**Hauiti**	**3.69 226**	Pn		**Pn**	**04 17 57.1**	**+1.0**
HIZ	**Hauiti**	**3.69 249**	P		**Pn**	**04 17 57.5**	**+1.4**
HIZ	**Hauiti**	**3.69 249**	P		**Pn**	**04 17 57.8**	**+1.7**
WTAZ	**Waiatarua**	**3.75 274**	P		**Pn**	**04 17 57.3**	**+0.3**
RVAZ	**Riverhead Bore**	**3.77 276**	P		**Pn**	**04 17 57.6**	**+0.5**
TSZ	**Takapari Road**	**3.80 222**	P		**Pn**	**04 17 56.1**	**-1.5**
ANWZ	**Angora Road**	**3.86 213**	P		**Pn**	**04 17 58.1**	**-0.2**
DVHZ	**Dannevirke**	**3.87 218**	P		**Pn**	**04 17 57.6**	**-1.0**
BFZ	**Birch Farm**	**4.14 214**	Pn		**Pn**	**04 18 00.2**	**-2.0**
BFZ	**Birch Farm**	**4.14 214**	P		**Pn**	**04 18 00.5**	**-1.7**
POWZ	**Post Office Ro**	**4.14 220**	P		**Pn**	**04 18 01.2**	**-1.0**
WCZ	**Waipu Caves**	**4.16 287**	P		**Pn**	**04 18 03.2**	**+0.7**
PRWZ	**Pori Road**	**4.17 217**	P		**Pn**	**04 18 01.7**	**-0.9**
WAZ	**Wanganui**	**4.17 232**	P		**Pn**	**04 18 02.8**	**+0.1**
MHEZ	**Mangahewa**	**4.28 244**	P		**Pn**	**04 18 07.5**	**+3.3**
LREZ	**Lake Rotokare**	**4.40 239**	P		**Pn**	**04 18 07.2**	**+1.5**
PREZ	**Palmer Road**	**4.51 241**	P		**Pn**	**04 18 09.5**	**+2.1**
NEZ	**North Egmont**	**4.53 242**	P		**Pn**	**04 18 09.8**	**+2.1**
PKE	**Pukeiti**	**4.57 243**	P		**Pn**	**04 18 11.1**	**+2.9**
KHEZ	**Kahui Hut**	**4.59 242**	P		**Pn**	**04 18 10.9**	**+2.4**
NBEZ	**Newall Road No**	**4.69 243**	P		**Pn**	**04 18 12.5**	**+2.8**
OUZ	**Omahuta**	**5.00 292**	P		**Pn**	**04 18 15.3**	**+1.2**
OUZ	**Omahuta**	**5.00 292**	P		**Pn**	**04 18 15.5**	**+1.4**
SNZO	**South Karori**	**5.36 220**	Pn		**Pn**	**04 18 17.3**	**-1.7**
SNZO	**South Karori**	**5.36 220**	P		**Pn**	**04 18 16.6**	**-2.4**
QRZ	**Quartz Range**	**6.33 234**	P		**Pn**	**04 18 28.8**	**-3.5**
KHZ	**Kahutara**	**6.77 219**	P		**Pn**	**04 18 35.4**	**-2.9**
CTZ	**Chatham Island**	**7.19 155**	P		**Pn**	**04 18 48.2**	**+4.1**
RPZ	**Rata Peaks**	**8.97 222**	Pn		**Pn**	**04 19 05.0**	**-3.6**
	3.6nm,0.3s,baz=53,slow=20,SNR=12						
RPZ			Sn		Sn	04 20 35.1	-15
	14nm,0.3s,baz=333,slow=23,SNR=8.9						
RPZ	**Rata Peaks**	**8.97 222**	P		**Pn**	**04 19 05.2**	**-3.4**
ODZ	**Otahua Downs**	**10.12 217**	P		**Pn**	**04 19 21.1**	**-3.2**
STKA	**Stephens Creek**	**31.33 269**	P		**P**	**04 23 19.3**	**-0.3**
	1.9nm,0.3s,baz=112,slow=9.0,SNR=9.8						
	1.9nm,0.3s						
STKA	**Stephens Creek**	**31.33 269**	P		**P**	**04 23 18.1**	**-1.5**
STKA			IAmb	IAmb		04 23 27.0	
	comp=Z,1.8nm,1.4s						
BBOO	**Buckleboo**	**35.42 264**	P		**P**	**04 23 53.5**	**-1.8**
COEN	**Coen**	**39.60 296**	P		**P**	**04 24 30.0**	**-0.8**
COEN			IAmb	IAmb		04 24 31.7	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**40.99 276**	P		**P**	**04 24 41.0**	**-1.4**
AS31			IAmb	IAmb		04 24 41.9	
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**41.00 276**	P		**P**	**04 24 41.1**	**-1.2**
	comp=Z,4.1nm,0.7s,baz=117,slow=7.4,SNR=34						
	comp=Z,4.1nm,0.7s						
ASAR	**Alice Springs**	**41.00 276**	P		**P**	**04 24 40.7**	**-1.7**
FORT	**Forrest**	**42.50 263**	P		**P**	**04 24 53.4**	**-1.1**
WB2	**Warramunga Arr**	**42.60 281**	P		**P**	**04 24 54.3**	**-1.2**
WB2			IAmb	IAmb		04 24 55.1	
	comp=Z,8.5nm,0.5s						
WRAB	**Tennant Creek**	**42.61 281**	P		**P**	**04 24 53.8**	**-1.8**
WRAB			IAmb	IAmb		04 24 55.1	
	comp=Z,6.6nm,0.6s						
WRA	**Warramunga Arr**	**42.61 281**	P		**P**	**04 24 54.5**	**-1.2**
	comp=Z,4.0nm,0.4s,baz=123,slow=7.0,SNR=66						
	comp=Z,4.0nm,0.4s						
WRA	**Warramunga Arr**	**42.61 281**	P		**P**	**04 24 54.1**	**-1.5**
QSPA	**South Pole Qui**	**52.86 180**	P		**P**	**04 26 17.9**	**+3.1**
	comp=Z,1.7nm,0.7s,baz=28,slow=2.9,SNR=8.8						
	comp=Z,1.7nm,0.7s						
H03S2	**Juan Fernandez**	**78.57 124**	T		T	05 55 30.7	
	baz=230						
H03S1	**Juan Fernandez**	**78.58 124**	T		T	05 55 29.4	
	baz=230						
H03S3	**Juan Fernandez**	**78.59 124**	T		T	05 55 31.9	
	baz=230						
H03N3	**Juan Fernandez**	**78.81 123**	T		T	05 55 40.0	
	baz=234,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**78.81 123**	T		T	05 55 45.5	
	baz=234,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**78.82 123**	T		T	05 55 42.3	
	baz=234,slow=72,SNR=14						
ARCES	**ARCESS Array B**	**144.69 344**	PKP		**PKPdf**	**04 36 35.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=45,slow=2.7,SNR=9.9						
FINES	**FINESS Array B**	**150.56 334**	PKPbc		**PKiKP**	**04 36 51.4**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=26,slow=3.5,SNR=12						
BRTR	**Keskin Array B**	**153.07 286**	PKPbc		**PKiKP**	**04 36 58.9**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=106,slow=3.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**155.88 186**	PKP		**PKPdf**	**04 36 54.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=174,slow=0.5,SNR=1.4						
TORD			PKPab		**sPKPab**	**04 37 21.9**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=170,slow=3.1,SNR=2.6						

*DJA **02** 04:23:03.5±0.2,7°S±2°×12°6E±°,h490km±3km, M4.3/28, mB4.8/12,mb4.5/28,MLv4.8/15,Mw(mB)4.1/12*
*NEIC **02** 04:23:03.7±1.9,6°94S±0°10×125°9E±0°1,h510km±9km, mb4.4/34,Error ellipse: s-maj=16.6km s-min=13.8km az=92.0*
*IDC **02** 04:23:04.0±0.9,6°93S×125°92E,h508km±10km,mb3.7/14, mbtmp4.6/19,Error ellipse: s-maj=14.5km s-min=7.6km az=79.0*

ISC 02 04:23:03.1±0.3,6°94S±0°04×125°91E±0°06,h500km,n151, σ1**§26**/164,**mb4.4**/34,**1C-2D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.23**	**210**	P	**P**	**04 24 17.2**	**+1.4**
SOEI	**Soe**	**3.23**	**210**	P	**P**	**04 24 17.1**	**+1.3**
SOEI				S	**S**	**04 25 15.0**	**0.0**
SOEI	**Soe**	**3.23**	**210**	P	**P**	**04 24 17.2**	**+1.4**
NLAI	**Namlea**	**3.86**	**18**	P	**P**	**04 24 21.3**	**+0.8**
NLAI				S	**S**	**04 25 22.1**	**-1.3**
BATI	**Baumata**	**3.93**	**214**	P	**P**	**04 24 22.6**	**+1.6**
	1μm,0.5s,baz=57,slow=0.7,SNR=97						
BATI				S	**S**	**04 25 24.1**	**-0.3**
	449nm,0.5s,baz=30,slow=20,SNR=15						
BATI	**Baumata**	**3.93**	**214**	P	**P**	**04 24 22.3**	**+1.3**
BATI				S	**S**	**04 25 23.5**	**-0.9**
AAI	**Ambon**	**3.95**	**35**	P	**P**	**04 24 22.0**	**+0.8**
MMRI	**Maumere**	**4.01**	**245**	P	**P**	**04 24 21.7**	**+0.1**
MMRI	**Maumere**	**4.01**	**245**	P	**P**	**04 24 20.9**	**-0.7**
MMRI				S	**S**	**04 25 23.0**	**-2.5**
MMRI	**Maumere**	**4.01**	**245**	P	**P**	**04 24 23.5**	**+1.9**
EDFI	**Ende, Flores**	**4.55**	**246**	P	**P**	**04 24 25.6**	**-0.6**
EDFI				S	**S**	**04 25 30.9**	**-3.1**
BNDI	**Bandanaira**	**4.65**	**59**	P	**P**	**04 24 27.0**	**0.0**
BNDI	**Bandanaira**	**4.65**	**59**	P	**P**	**04 24 29.2**	**+2.2**
MSAI	**Masohi**	**4.67**	**40**	P	**P**	**04 24 27.1**	**-0.1**
MSAI				S	**S**	**04 25 34.9**	**-0.8**
SANI	**Sanana**	**4.86**	**1**	P	**P**	**04 24 29.0**	**+0.1**
SANI				S	**S**	**04 25 36.3**	**-2.5**
SANI	**Sanana**	**4.86**	**1**	P	**P**	**04 24 29.4**	**+0.5**
BSSI	**Bau Bau, Buton**	**5.44**	**278**	P	**P**	**04 24 35.7**	**+1.5**
	0.3nm1μm105nm,1.0s						
BKSI	**Bulukumba**	**5.97**	**285**	P	**P**	**04 24 41.1**	**+1.9**
	0.2nm745nm70nm,0.7s						
KAPI	**Kappang**	**6.42**	**287**	P	**P**	**04 24 46.0**	**+2.5**
	36nm,0.6s,baz=128,slow=5.9,SNR=28						
KAPI	**Kappang**	**6.42**	**287**	P	**P**	**04 24 45.2**	**+1.7**
KAPI	**Kappang**	**6.42**	**287**	P	**P**	**04 24 45.6**	**+2.1**
LBMI	**Labuha**	**6.46**	**14**	P	**P**	**04 24 44.9**	**+0.9**
	0.5nm1μm77nm,0.8s						
LUWI	**Luwuk**	**6.64**	**332**	P	**P**	**04 24 47.9**	**+2.1**
SPSI	**Sidrap Palu**	**6.79**	**295**	P	**P**	**04 24 51.1**	**+3.9**
WBSI	**Wakabaka, Su**	**6.99**	**247**	P	**P**	**04 24 48.2**	**-1.0**
	145nm,0.7s						
TTSI	**Tana Toraja**	**7.19**	**302**	P	P	04 25 01.8	+10
FAKI	**Fak Fak**	**7.47**	**58**	P	**P**	**04 24 53.6**	**-0.6**
FAKI	**Fak Fak**	**7.47**	**58**	P	**P**	**04 24 53.6**	**-0.6**
	3.6nm13μm777nm,0.5s						
FAKI	**Fak Fak**	**7.47**	**58**	P	**P**	**04 24 55.2**	**+1.0**
TNTI	**Ternate**	**7.80**	**11**	P	**P**	**04 24 57.9**	**+0.4**
TNTI	**Ternate**	**7.80**	**11**	P	**P**	**04 24 57.6**	**+0.1**
	0.2nm40nm,0.9s						
MTN	**Manton Dam**	**7.80**	**139**	P	**P**	**04 24 57.4**	**-0.1**
MTN	**Manton Dam**	**7.80**	**139**	P	**P**	**04 24 58.9**	**+1.4**
SIJI	**Sorong**	**8.06**	**42**	P	**P**	**04 25 01.4**	**+1.2**
	234nm,0.5s,baz=216,slow=5.8,SNR=185						
SIJI				S	**S**	**04 26 34.0**	**-2.2**
	78nm,0.6s,baz=233,slow=20,SNR=9.6						
SWI	**Sorong**	**8.06**	**42**	P	**P**	**04 25 01.0**	**+0.8**
	6μm626nm,0.9s						
GTOI	**Gorontalo**	**8.06**	**339**	P	**P**	**04 25 03.1**	**+2.9**
	198nm12nm,0.9s						
PLAI	**Plampang**	**8.27**	**256**	P	**P**	**04 25 01.4**	**-1.0**
	2μm91nm,0.5s						
PLAI	**Plampang**	**8.27**	**256**	P	**P**	**04 25 01.3**	**-1.1**
MRSI	**Marisa**	**8.36**	**332**	P	**P**	**04 25 04.7**	**+1.4**
	608nm58nm,0.7s						
TWSI	**Taliwang, Sumb**	**9.12**	**258**	P	**P**	**04 25 09.0**	**-2.2**
	26nm,0.5s						
KNRA	**Kununurra**	**9.12**	**162**	P	**P**	**04 25 11.9**	**+0.8**
KNRA	**Kununurra**	**9.12**	**162**	P	**P**	**04 25 12.8**	**+1.6**
TOLI2	**Tolitoli**	**9.49**	**327**	P	**P**	**04 25 16.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.09**	**181**	P	**P**	**04 25 32.7**	**+0.7**
	16nm,0.3s,baz=16,slow=9.8,SNR=117						
FITZ				S	**S**	**04 27 32.4**	**-2.3**
	39nm,1.0s,baz=33,slow=16,SNR=14						
FITZ	**Fitzroy Crossi**	**11.09**	**181**	P	**P**	**04 25 32.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.09**	**181**	P	**P**	**04 25 33.2**	**+1.2**
BBKI	**Banjar Baru**	**11.55**	**287**	P	**P**	**04 25 39.7**	**+2.7**
	21nm,0.5s						
JAGI	**Jajag, Banyuwa**	**11.75**	**262**	P	**P**	**04 25 37.0**	**-2.1**
JAGI	**Jajag, Banyuwa**	**11.75**	**262**	P	**P**	**04 25 36.9**	**-2.2**
	44nm,0.5s						
JAGI	**Jajag, Banyuwa**	**11.75**	**262**	P	**P**	**04 25 38.1**	**-1.0**
BLJI	**Banyuglugur**	**12.24**	**265**	P	**P**	**04 25 44.0**	**-0.3**
	3μm73nm,0.9s						
SMPI	**Sampi**	**13.67**	**70**	P	**P**	**04 26 01.1**	**+1.6**
	24nm,1.2s						
MYLDM	**Lahad Datu**	**14.13**	**328**	P	**P**	**04 26 05.3**	**+1.1**
GENI	**Genyem**	**14.85**	**74**	P	**P**	**04 26 11.9**	**+0.1**
	2μm113nm,1.1s						
WB0	**Warramunga Arr**	**15.18**	**148**	P	**P**	**04 26 14.8**	**-0.4**
WB0				IAmb	IAmb	04 26 18.1	
	comp=Z,6.8nm,0.8s						
WRAB	**Tennant Creek**	**15.30**	**148**	P	**P**	**04 26 16.9**	**+0.5**
WRAB				IAmb	IAmb	04 26 20.6	
	comp=Z,5.2nm,0.8s						
WRAB	**Tennant Creek**	**15.30**	**148**	P	**P**	**04 26 16.5**	**+0.1**
WRA	**Warramunga Arr**	**15.30**	**148**	P	**P**	**04 26 16.2**	**-0.2**
	comp=Z,3.4nm,0.3s,baz=339,slow=8.9,SNR=34						
WRA				S	**S**	**04 28 53.2**	**-2.8**
	comp=Z,4.8nm,0.7s,baz=307,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**15.30**	**148**	P	**P**	**04 26 16.5**	**0.0**
WB2	**Warramunga Arr**	**15.30**	**148**	P	**P**	**04 26 16.4**	**-0.1**
WB2				IAmb	IAmb	04 26 22.6	
	comp=Z,5.0nm,0.8s						
MBWA	**Marble Bar**	**15.35**	**202**	P	**P**	**04 26 17.0**	**+0.1**
MBWA	**Marble Bar**	**15.35**	**202**	P	**P**	**04 26 17.1**	**+0.2**
WR0	**Warramunga Arr**	**15.42**	**148**	P	**P**	**04 26 17.4**	**-0.3**
WR0				IAmb	IAmb	04 26 20.4	
	comp=Z,10nm,0.6s						
PSA00	**Pilbara Seismi**	**15.68**	**201**	P	**P**	**04 26 19.9**	**-0.5**
PSA00	**Pilbara Seismi**	**15.68**	**201**	P	**P**	**04 26 20.7**	**+0.3**
WRKA	**Warakurna**	**18.14**	**173**	P	**P**	**04 26 46.1**	**+1.3**
LEM	**Lembang**	**18.16**	**269**	P	**P**	**04 26 45.4**	**+0.1**
	comp=Z,25nm,0.6s,baz=130,slow=20,SNR=4.3						
AS31	**Alice Springs**	**18.32**	**156**	P	**P**	**04 26 46.8**	**+0.4**
ASAR	**Alice Springs**	**18.32**	**156**	P	**P**	**04 26 47.5**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=342,slow=13,SNR=33						
ASAR				S	**S**	**04 29 49.1**	**+0.5**
	comp=Z,4.8nm,0.9s,baz=336,slow=22,SNR=5.5						
ASAR				ScP	**ScP**	**04 33 38.2**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=335,slow=1.9,SNR=6.0						
ASAR	**Alice Springs**	**18.32**	**156**	P	**P**	**04 26 46.0**	**-0.4**
COEN	**Coen**	**18.35**	**114**	P	**P**	**04 26 46.7**	**0.0**
COEN	**Coen**	**18.35**	**114**	P	**P**	**04 26 47.0**	**+0.2**
CNJI	**Cibinong**	**18.64**	**268**	P	**P**	**04 26 49.3**	**-0.1**
	comp=Z,225nm,1.1s						
TPI	**Tanjungpandan**	**18.65**	**282**	P	**P**	**04 26 50.3**	**+0.7**
	comp=Z,13nm,1.0s						
QIS	**Mount Isa**	**18.96**	**137**	P	**P**	**04 26 53.0**	**+0.7**
GIRL	**Giralia**	**19.24**	**215**	P	**P**	**04 26 55.6**	**+0.8**
GIRL	**Giralia**	**19.24**	**215**	P	**P**	**04 26 56.8**	**+2.0**
PPBI	**Pangkal Pinang**	**20.27**	**283**	P	**P**	**04 27 09.7**	**+5.4**
MEEK	**Meekatharra**	**20.78**	**199**	P	**P**	**04 27 09.0**	**+0.1**
OOD	**Oodnadatta**	**22.72**	**157**	P	**P**	**04 27 28.0**	**+1.7**
FORT	**Forrest**	**23.80**	**175**	P	**P**	**04 27 35.2**	**-0.7**
FORT	**Forrest**	**23.80**	**175**	P	**P**	**04 27 36.5**	**+0.6**
MORW	**Morawa**	**23.90**	**202**	P	**P**	**04 27 37.9**	**+1.1**
MULG	**Mulgathing**	**24.45**	**163**	P	**P**	**04 27 42.8**	**+1.1**
BLDU	**Ballidu**	**25.08**	**199**	P	**P**	**04 27 47.7**	**+0.4**
KLBR	**Kellerberrin**	**25.68**	**196**	P	**P**	**04 27 53.1**	**+0.5**
NWAO	**Narrogin (SRO)**	**27.09**	**196**	P	**P**	**04 28 05.2**	**+0.3**
	comp=Z,5.9nm,0.3s,baz=12,slow=9.3,SNR=13						
	comp=Z,5.9nm,0.3s						
NWAO	**Narrogin (SRO)**	**27.09**	**196**	P	**P**	**04 28 04.8**	**-0.2**
NWAO				IAmb	IAmb	04 28 18.0	
	comp=Z,15nm,1.0s						
NWAO	**Narrogin (SRO)**	**27.09**	**196**	P	**P**	**04 28 05.2**	**+0.3**
BBOO	**Buckleboo**	**27.42**	**161**	P	**P**	**04 28 08.5**	**+0.6**
BBOO				IAmb	IAmb	04 28 09.2	
	comp=Z,7.6nm,0.7s						
BBOO	**Buckleboo**	**27.42**	**161**	P	**P**	**04 28 08.4**	**+0.5**
PSI	**Prapat**	**28.62**	**289**	P	**P**	**04 28 18.9**	**+0.1**
	comp=Z,17nm,0.8s,baz=110,slow=6.4,SNR=16						
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**28.81**	**151**	P	**P**	**04 28 20.9**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=315,slow=9.5,SNR=9.3						
	comp=Z,2.4nm,0.5s						
STKA	**Stephens Creek**	**28.81**	**151**	P	**P**	**04 28 20.4**	**+0.3**
STKA	**Stephens Creek**	**28.81**	**151**	P	**P**	**04 28 21.2**	**+1.1**
YULB	**Yu-li

comp=Z,0.9nm,0.5s,baz=216,slow=1.2,SNR=6.8

WEL ***02*** *04:26:00,37.08S×179.32E,h9km,ML4.8,Mw4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.59; Mθθ 0.36; Mϕϕ 0.23; Mrθ 0.17; Mθϕ-0.14; Mϕr 1.19; Fault plane solution: Mo1.27000×10¹⁶ NP1: ϕs330.00000°,δ11.00000°,λ-124.00000°. NP2: ϕs184.00000°,δ81.00000°,λ-84.00000°. Principal axes: T -1461.2000, Plg36.0000°, Azm269.0000°; N 385.5000, Plg6.0000°, Azm3.0000°; P 1075.7000, Plg54.0000°, Azm101.0000°;*

IDC ***02*** *04:26:05.8±0.9,36.69S×179.16E,h0km,mb4.8/8, mbtmp4.8/9,ML5.0/1,MS3.9/25 Error ellipse: s-maj=29.3km s-min=22.5km az=47.0*

WEL ***02*** *04:26:07.7±1.2,37.5S±4.4×17.9E±.,h12km±7km,M4.8/84, ML5.0/85,MLv4.8/84,Error ellipse: s-maj=0.0km s-min=0.0km az=73.2*

NEIC ***02*** *04:26:07.9±1.6,36.98S±0.06×179.10E±0.08,h10km±1km, mb4.7/17,Error ellipse: s-maj=11.5km s-min=9.4km az=285.0*

NOU ***02*** *04:26:08.8,37.23S×179.26E,h163km,mb4.6/6,Off E. Coast of N. Island, N.Z.*

ISC 02 04:26:06.3±2.1,37.02S±0.05×179.28E±0.06,h7km±11km, n202,σ1s37/182,mb4.8/16,MS4.0/25,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.94**	**235**		**Pg**	**04 26 24.6**	**+0.2**
MXZ	**Matakaoa Point**	**0.94**	**235**	P	**Pg**	**04 26 24.7**	**+0.2**
MXZ				S	**Sg**	**04 26 37.1**	**+0.5**
WMGZ	**Waiomatatini S**	**1.05**	**220**	P	**Pn**	**04 26 28.4**	**+1.0**
WMGZ				S	**Sn**	**04 26 42.5**	**+0.1**
PKGZ	**Pakihiroa**	**1.29**	**227**	P	**Pb**	**04 26 31.1**	**+0.2**
PKGZ				S	**Sb**	**04 26 48.0**	**+0.3**
PUZ	**Puketiti**	**1.32**	**217**	P	**Pb**	**04 26 32.0**	**+0.5**
PUZ				S	**Sb**	**04 26 49.2**	**+0.5**
HAZ	**Te Kaha**	**1.40**	**238**	P	**Pn**	**04 26 31.6**	**-0.6**
HAZ				S	**Sb**	**04 26 51.4**	**+0.7**
TWGZ	**Tauwhareparae**	**1.55**	**221**	P	**Pb**	**04 26 35.4**	**+0.1**
TWGZ				S	**Sb**	**04 26 55.3**	**+0.3**
RUGZ	**Raukumara Rang**	**1.58**	**233**	P	**Pb**	**04 26 36.0**	**0.0**
RUGZ				S	**Sb**	**04 26 57.0**	**+0.8**
CNGZ	**Carnagh Statio**	**1.69**	**210**	P	**Pb**	**04 26 37.7**	**+0.1**
WIZ	**White Island**	**1.74**	**253**	P	**Pn**	**04 26 35.8**	**-1.0**
WIZ				S	**Sn**	**04 26 58.7**	**-0.7**
WSRZ	**White Island S**	**1.75**	**253**	P	**Pb**	**04 26 37.5**	**-1.2**
TKGZ	**Te Karaka**	**1.81**	**218**	P	**Pn**	**04 26 38.4**	**+0.5**
MWZ	**Matawai**	**1.91**	**226**	P	**Pn**	**04 26 40.2**	**+0.9**
WHRZ	**Whale Island**	**2.01**	**245**	P	**Pb**	**04 26 41.9**	**-1.3**
RIGZ	**Rimuhau**	**2.06**	**215**	P	**Pn**	**04 26 41.9**	**+0.5**
RAGZ	**Rawiri**	**2.08**	**225**	P	**Pn**	**04 26 42.6**	**+0.8**
URZ	**Urewera**	**2.12**	**234**	Pn	**Pb**	**04 26 43.6**	**-1.3**
	379nm,0.3s,baz=121,slow=0.2,SNR=207						
URZ				Sn	**Sn**	**04 27 07.7**	**-0.9**
	731nm,0.3s,baz=301,slow=22,SNR=9.6						
URZ				LR	LR	04 27 16.2	
	comp=Z,476nm,21.6s,baz=318,slow=31 1µm,0.3s						
URZ	**Urewera**	**2.12**	**234**	P	**Pn**	**04 26 43.3**	**+1.2**
PRGZ	**Paritu Road**	**2.19**	**210**	P	**Pn**	**04 26 43.3**	**+0.2**
EDRZ	**Edgecumbe**	**2.29**	**241**	P	**Pn**	**04 26 45.8**	**+1.3**
OPRZ	**Ohinepanea**	**2.32**	**248**	P	**Pn**	**04 26 45.6**	**+0.8**
SNGZ	**Shannon Statio**	**2.33**	**220**	P	**Pn**	**04 26 45.4**	**+0.4**
KNZ	**Kokohu**	**2.36**	**212**	P	**Pn**	**04 26 45.1**	**-0.4**
MHGZ	**Mahia Peninsul**	**2.39**	**207**	P	**Pn**	**04 26 46.0**	**+0.2**
RTZ	**Ruatahuna**	**2.42**	**228**	P	**Pn**	**04 26 47.2**	**+0.9**
MYRZ	**Mayor Island**	**2.44**	**263**	P	**Pn**	**04 26 47.0**	**+0.5**
MUGZ	**Murupara**	**2.46**	**233**	P	**Pn**	**04 26 47.5**	**+0.7**
MKRZ	**Makatiti**	**2.50**	**243**	P	**Pb**	**04 26 49.3**	**-2.1**
TGRZ	**Tauranga**	**2.50**	**253**	P	**Pn**	**04 26 48.3**	**+0.9**
TARZ	**Mount Tarawera**	**2.51**	**240**	P	**Pn**	**04 26 49.0**	**+1.4**
OMRZ	**Omania**	**2.55**	**244**	P	**Pn**	**04 26 49.6**	**+1.5**
RRRZ	**Republican Roa**	**2.56**	**238**	P	**Pn**	**04 26 49.4**	**+1.2**
RAHZ	**Arahi**	**2.56**	**222**	P	**Pn**	**04 26 48.5**	**+0.3**
KARZ	**Kaharoa**	**2.61**	**247**	P	**Pn**	**04 26 50.0**	**+1.1**
WHHZ	**Waihua**	**2.61**	**218**	P	**Pn**	**04 26 49.1**	**+0.2**
HLRZ	**Highlands Stat**	**2.63**	**241**	P	**Pn**	**04 26 50.8**	**+1.7**
MTHZ	**Maungataniwha**	**2.66**	**226**	P	**Pn**	**04 26 50.4**	**+0.9**
NGRZ	**Ngongotaha**	**2.68**	**245**	P	**Pn**	**04 26 51.8**	**+1.9**
UTU	**Utuhina**	**2.71**	**244**	P	**Pb**	**04 26 52.9**	**-2.1**
PRRZ	**Plateau Road**	**2.72**	**236**	P	**Pn**	**04 26 51.1**	**+0.7**
HSRZ	**Hossack Road**	**2.73**	**241**	P	**Pn**	**04 26 52.3**	**+1.8**
HRRZ	**Handcock Road**	**2.74**	**239**	P	**Pn**	**04 26 51.7**	**+1.1**
KMRZ	**Kaimai**	**2.78**	**252**	P	**Pn**	**04 26 52.1**	**+0.8**
ALRZ	**Allen Road**	**2.79**	**236**	P	**Pn**	**04 26 52.2**	**+0.9**
GRRZ	**Galatos Road**	**2.84**	**241**	P	**Pn**	**04 26 53.7**	**+1.7**
NMHZ	**Naumai**	**2.84**	**223**	P	**Pn**	**04 26 52.7**	**+0.5**
KUZ	**Kuaotunu**	**2.86**	**274**	P	**Pn**	**04 26 51.7**	**-0.6**
ARHZ	**Aropaoanui**	**2.87**	**218**	P	**Pn**	**04 26 52.5**	**+0.1**
WPRZ	**Whakapapataran**	**2.88**	**238**	P	**Pn**	**04 26 53.9**	**+1.2**
MRHZ	**Matea Rd**	**2.90**	**230**	P	**Pn**	**04 26 53.3**	**+0.5**
BKZ	**Black Stump Fm**	**3.07**	**225**		**Pn**	**04 26 55.0**	**-0.2**
BKZ	**Black Stump Fm**	**3.07**	**225**	P	**Pn**	**04 26 55.4**	**+0.2**
BKZ	**Black Stump Fm**	**3.07**	**225**	P	**Pn**	**04 26 55.7**	**+0.5**
TOZ	**Tahuroa Road**	**3.09**	**256**	P	**Pn**	**04 26 55.1**	**-0.3**
KUTZ	**Kaahu Road**	**3.10**	**241**	P	**Pn**	**04 26 56.9**	**+1.2**
HATZ	**Hinemaiaia**	**3.13**	**232**	P	**Pn**	**04 26 56.9**	**+0.8**
CKHZ	**Cape Kidnapper**	**3.15**	**213**	P	**Pn**	**04 26 55.4**	**-0.9**
GRZ	**Great Barrier**	**3.17**	**283**	P	**Pn**	**04 26 57.4**	**+0.9**
TLZ	**Tolley Road**	**3.24**	**245**	P	**Pn**	**04 26 59.3**	**+1.7**
WATZ	**Wairara**	**3.27**	**238**	P	**Pn**	**04 26 58.9**	**+0.9**
KWHZ	**Kaweka Forest**	**3.29**	**222**	P	**Pn**	**04 26 57.7**	**-0.5**
MKAZ	**Moumakai**	**3.29**	**267**	P	**Pn**	**04 26 58.2**	**-0.1**
RATZ	**Rangitukua**	**3.33**	**235**	P	**Pn**	**04 26 59.9**	**+1.1**
WIAZ	**Waiheke Island**	**3.33**	**273**	P	**Pn**	**04 26 59.5**	**+0.7**
RITZ	**Rihia Road**	**3.33**	**233**	P	**Pn**	**04 26 59.5**	**+0.7**
KAHZ	**Kahuranaki**	**3.35**	**214**	P	**Pn**	**04 26 58.0**	**-1.1**
KATZ	**Kakaramea**	**3.44**	**234**	P	**Pn**	**04 27 01.1**	**+0.7**
KRHZ	**Kereru**	**3.48**	**220**	P	**Pn**	**04 26 59.8**	**-0.9**
ETAZ	**East Tamaki Re**	**3.48**	**270**	P	**Pn**	**04 27 01.5**	**+0.7**
TMVZ	**Te Maari**	**3.51**	**232**	P	**Pn**	**04 27 01.5**	**+0.1**
ETVZ	**East Tongariro**	**3.52**	**232**	P	**Pn**	**04 27 01.5**	**0.0**
NTVZ	**North Tongarir**	**3.52**	**233**	P	**Pn**	**04 27 01.7**	**+0.2**
MBAZ	**Motutapu North**	**3.52**	**273**	P	**Pn**	**04 27 01.9**	**+0.6**
BHHZ	**Black Hill Sta**	**3.53**	**225**	P	**Pn**	**04 27 01.3**	**-0.3**
KRVZ	**Karewarewa**	**3.54**	**233**	P	**Pn**	**04 27 02.0**	**+0.3**
PXZ	**Pawanui**	**3.55**	**211**	P	**Pn**	**04 27 00.2**	**-1.6**
OTVZ	**Oturere**	**3.56**	**232**	P	**Pn**	**04 27 02.3**	**+0.2**
NNVZ	**North Ngauruho**	**3.58**	**233**	P	**Pn**	**04 27 02.8**	**+0.5**
WTVZ	**West Tongariro**	**3.58**	**233**	P	**Pn**	**04 27 02.8**	**+0.5**
ABAZ	**Army Bay**	**3.59**	**275**	P	**Pn**	**04 27 03.1**	**+0.8**
SNVZ	**South Ngauruho**	**3.59**	**232**	P	**Pn**	**04 27 02.6**	**+0.1**
NGZ	**Ngauruhoe**	**3.61**	**232**	P	**Pn**	**04 27 02.9**	**+0.1**
TUVZ	**Tukino**	**3.63**	**231**	P	**Pn**	**04 27 03.0**	**0.0**
EPAZ	**Eden Park BICE**	**3.63**	**271**	P	**Pn**	**04 27 05.4**	**+2.5**
HBAZ	**Herne Bay Bore**	**3.65**	**271**	P	**Pn**	**04 27 05.1**	**+2.1**
TWVZ	**Taurewa**	**3.66**	**235**	P	**Pn**	**04 27 03.9**	**+0.6**
MOVZ	**Moawhango**	**3.66**	**228**	P	**Pn**	**04 27 02.8**	**-0.5**
WHVZ	**Whangaehu Hut**	**3.68**	**231**	P	**Pn**	**04 27 03.8**	**0.0**
FWVZ	**Far West T-bar**	**3.69**	**232**	P	**Pn**	**04 27 03.8**	**-0.1**
WNVZ	**Wahianoa**	**3.70**	**230**	P	**Pn**	**04 27 03.9**	**-0.2**
AWAZ	**Awhitu Peninsu**	**3.71**	**268**	P	**Pn**	**04 27 04.7**	**+0.7**
TRVZ	**Turoa**	**3.71**	**231**	P	**Pn**	**04 27 04.3**	**0.0**
PNHZ	**Pukenui**	**3.76**	**219**	P	**Pn**	**04 27 03.1**	**-1.7**
WPHZ	**Waipukurau**	**3.77**	**215**	P	**Pn**	**04 27 03.4**	**-1.4**
WTAZ	**Waiatarua**	**3.77**	**270**	P	**Pn**	**04 27 05.6**	**+0.8**
RVAZ	**Riverhead Bore**	**3.77**	**272**	P	**Pn**	**04 27 06.1**	**+1.3**
HIZ	**Hauiti**	**3.81**	**246**		**Pn**	**04 27 06.0**	**+0.7**
HIZ	**Hauiti**	**3.81**	**246**	P	**Pn**	**04 27 07.1**	**+1.8**
PKVZ	**Pokaka**	**3.84**	**233**	P	**Pn**	**04 27 07.1**	**+1.3**
DVHZ	**Dannevirke**	**4.08**	**216**	P	**Pn**	**04 27 07.7**	**-1.3**
WCZ	**Waipu Caves**	**4.12**	**284**	P	**Pn**	**04 27 10.5**	**+0.9**
WAZ	**Wanganui**	**4.34**	**230**	P	**Pn**	**04 27 12.7**	**0.0**
POWZ	**Post Office Ro**	**4.34**	**218**	P	**Pn**	**04 27 11.9**	**-0.8**
BFZ	**Birch Farm**	**4.35**	**212**		**Pn**	**04 27 10.6**	**-2.3**
BFZ	**Birch Farm**	**4.35**	**212**	P	**Pn**	**04 27 11.5**	**-1.3**
PRWZ	**Pori Road**	**4.37**	**215**	P	**Pn**	**04 27 11.5**	**-1.5**
MHEZ	**Mangahewa**	**4.42**	**241**	P	**Pn**	**04 27 17.4**	**+3.7**
LREZ	**Lake Rotokare**	**4.54**	**236**	P	**Pn**	**04 27 17.1**	**+1.7**
DREZ	**Durham Road**	**4.55**	**240**	P	**Pn**	**04 27 18.6**	**+3.0**
TIWZ	**Tintock**	**4.59**	**214**	P	**Pn**	**04 27 14.5**	**-1.6**
PREZ	**Palmer Road**	**4.65**	**239**	P	**Pn**	**04 27 19.9**	**+3.0**
NEZ	**North Egmont**	**4.66**	**240**	P	**Pn**	**04 27 19.7**	**+2.5**
PKE	**Pukeiti**	**4.70**	**241**	P	**Pn**	**04 27 20.9**	**+3.2**
KHEZ	**Kahui Hut**	**4.73**	**240**	P	**Pn**	**04 27 20.8**	**+2.8**
NBEZ	**Newall Road No**	**4.82**	**241**	P	**Pn**	**04 27 22.7**	**+3.5**
NMEZ	**Namu Road**	**4.88**	**239**	P	**Pn**	**04 27 23.1**	**+3.1**
OUZ	**Omahuta**	**4.94**	**290**	P	**Pn**	**04 27 22.5**	**+1.6**
OUZ	**Omahuta**	**4.94**	**290**	P	**Pn**	**04 27 22.3**	**+1.5**
QRZ	**Quartz Range**	**6.49**	**232**	P	**Pn**	**04 27 40.2**	**-2.0**
CTZ	**Chatham Island**	**7.40**	**156**	P	**Pn**	**04 27 55.8**	**+1.2**
RPZ	**Rata Peaks**	**9.16**	**221**	Pn	**Pn**	**04 28 15.3**	**-3.6**
	3.6nm,0.3s,baz=28,slow=2.2,SNR=7.1						
RPZ				Sn	Sn	04 29 48.5	-14
	26nm,0.3s,baz=329,slow=14,SNR=16						
RPZ	**Rata Peaks**	**9.16**	**221**	P	**Pn**	**04 28 15.3**	**-3.6**
GCSZ	**Gaunt Creek Bo**	**9.29**	**225**	P	**Pn**	**04 28 18.8**	**-1.9**
ODZ	**Otahua Downs**	**10.33**	**216**	P	**Pn**	**04 28 30.5**	**-4.3**
DZM	**Mont Dzumac**	**18.59**	**320**	*eP*	Pn	04 30 35.7	+11
	122nm,24.4s						
DZM				*e*LR	LR	04 35 06.7	
	comp=Z,1µm,23.8s						
DZM	**Mont Dzumac**	**18.59**	**320**	LR	LR	04 36 36.7	
	comp=Z,848nm,18.5s,baz=208,slow=34						
MSVF	**Nonsavu**	**19.25**	**356**	LR	LR	04 35 57.7	
	comp=Z,283nm,19.5s,baz=186,slow=31						
RAR	**Rarotonga**	**24.07**	**55**	LR	LR	04 38 26.6	
	comp=Z,290nm,20.9s,baz=281,slow=31						
TOO	**Toolangi**	**26.80**	**258**	P	**P**	**04 31 46.7**	**-0.3**
TOO				IAmb	IAmb	04 31 48.3	
	comp=Z,14nm,1.0s						
TBI	**Tubuai**	**30.11**	**72**	*e*LR	LR	04 39 30.2	
	comp=Z,263nm,24.2s						
TBI	**Tubuai**	**30.11**	**72**	*e*T	T	05 04 04.4	
	comp=Z,12nm,0.3s						
STKA	**Stephens Creek**	**31.35**	**268**	P	**P**	**04 32 27.1**	**-0.5**
	comp=Z,7.4nm,0.8s,baz=99,slow=11,SNR=6.9						
STKA				LR	LR	04 45 18.7	
	comp=Z,285nm,18.3s,baz=63,slow=37 comp=Z,7.4nm,0.8s						
STKA	**Stephens Creek**	**31.35**	**268**	P	**P**	**04 32 26.7**	**-0.8**
HNR	**Honiara**	**32.57**	**323**	LR	LR	04 44 32.9	
	comp=Z,198nm,18.1s,baz=176,slow=34						
CTA	**Charters Tower**	**33.34**	**291**	LR	LR	04 45 02.7	
	comp=Z,252nm,20.5s,baz=90,slow=34						
CTAO	**Charters Tower**	**33.34**	**291**	P	**P**	**04 32 44.7**	**-0.3**
PAE	**Paea**	**33.50**	**63**	*e*T	T	05 08 17.4	
	comp=Z,1.3nm,0.3s						
PPT2	**Papeete2**	**33.55**	**63**	*e*LR	LR	04 41 08.7	
	comp=Z,306nm,23.8s						
PPT	**Papeete**	**33.56**	**63**	*e*LR	LR	04 43 34.0	
	comp=Z,112nm,19.5s,baz=218,slow=31						
BBOO	**Buckleboo**	**35.46**	**264**	P	**P**	**04 33 02.8**	**-0.5**
VAH	**Vaihoa**	**36.51**	**62**	*e*T	T	05 11 57.5	
	comp=Z,6.4nm,0.2s						
COEN	**Coen**	**39.51**	**296**	P	**P**	**04 33 37.5**	**-0.3**
PMG	**Port Moresby**	**39.98**	**305**	LR	LR	04 48 35.4	
	comp=Z,181nm,18.8s,baz=146,slow=34						
AS31	**Alice Springs**	**40.99**	**276**	P	**P**	**04 33 48.7**	**-1.4**
AS31				IAmb	IAmb	04 33 50.1	
	comp=Z,7.5nm,0.7s						
ASAR	**Alice Springs**	**40.99**	**276**	P	**P**	**04 33 49.2**	**-0.8**
	comp=Z,25nm,0.9s,baz=116,slow=7.3,SNR=40						
ASAR				PcP	**PcP**	**04 35 49.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=115,slow=3.9,SNR=1.8						
ASAR				LR	LR	04 49 46.9	
	comp=Z,209nm,21.0s,baz=94,slow=35 comp=Z,25nm,0.9s						
ASAR	**Alice Springs**	**40.99**	**276**	P	**P**	**04 33 48.2**	**-1.9**
VNDA	**Vanda**	**41.30**	**186**	LR	LR	04 48 03.3	
	comp=Z,94nm,20.1s,baz=12,slow=32						
WR0	**Warramunga Arr**	**42.42**	**281**	P	**P**	**04 34 00.3**	**-1.4**
WR0				IAmb	IAmb	04 34 01.9	
	comp=Z,17nm,0.8s						
FORT	**Forrest**	**42.55**	**263**	P	**P**	**04 34 01.8**	**-0.9**
WRAB	**Tennant Creek**	**42.58**	**281**	P	**P**	**04 34 02.3**	**-0.8**
WRA	**Warramunga Arr**	**42.59**	**281**	P	**P**	**04 34 02.2**	**-0.9**
	comp=Z,20nm,0.7s,baz=122,slow=7.6,SNR=30						
WRA				PcP	**PcP**	**04 35 56.5**	**+1.0**
	comp=Z,1.4nm,1.0s,baz=122,slow=3.0,SNR=2.5						
WRA				LR	LR	04 50 47.6	
	comp=Z,231nm,21.4s,baz=124,slow=35 comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**42.59**	**281**	P	**P**	**04 34 02.2**	**-0.9**
TAOE	**Nuku Hiva Isla**	**46.18**	**63**	*e*LR	LR	04 47 00.4	
	comp=Z,170nm,23.0s						
CASY	**Casey**	**48.27**	**210**	P	**P**	**04 34 48.5**	**+1.0**
CASY				IAmb	IAmb	04 34 49.7	
	comp=Z,7.5nm,0.8s						
KNRA	**Kununurra**	**49.37**	**282**	P	**P**	**04 34 56.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**50.22**	**255**	LR	LR	04 55 30.4	
	comp=Z,142nm,19.5s,baz=332,slow=35						
FITZ	**Fitzroy Crossi**	**50.47**	**277**	P	**P**	**04 35 04.7**	**-0.3**
	comp=Z,22nm,0.8s,baz=128,slow=7.2,SNR=19 comp=Z,22nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.47**	**277**	P	**P**	**04 35 04.1**	**-0.9**
MORW	**Morawa**	**52.75**	**259**	P	**P**	**04 35 20.4**	**-1.6**
MORW				IAmb	IAmb	04 35 24.0	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**53.10**	**180**	P	**P**	**04 35 27.5**	**+3.3**
	comp=Z,2.5nm,1.0s,baz=1.8,slow=1.9,SNR=6.7						
QSPA				LR	LR	04 56 08.8	
	comp=Z,157nm,18.0s,baz=44,slow=34 comp=Z,2.5nm,1.0s						
QSPA	**South Pole Qui**	**53.10**	**180**	P	**P**	**04 35 25.6**	**+1.4**
QSPA				IAmb	IAmb	04 35 28.5	
	comp=Z,7.6nm,1.4s						
FAKI	**Fak Fak**	**54.89**	**297**	P	**P**	**04 35 34.8**	**-2.9**
FAKI				IAmb	IAmb	04 35 37.0	
	comp=Z,10nm,0.9s						
BATI	**Baumata**	**56.60**	**283**	LR	LR	05 00 54.3	
	comp=Z,384nm,18.4s,baz=171,slow=37						
SIJI	**Sorong**	**57.02**	**298**	P	**P**	**04 35 52.8**	**-0.2**
	comp=Z,7.3nm,0.6s,baz=75,slow=3.9,SNR=12						
SIJI				LR	LR	05 00 38.8	
	comp=Z,86nm,20.5s,baz=118,slow=36 comp=Z,7.3nm,0.6s						
GUMO	**Guam**	**59.86**	**321**	LR	LR	04 58 49.6	
	comp=Z,43nm,21.5s,baz=248,slow=33						
BELA	**Belgrano 2**	**63.54**	**172**	P	**P**	**04 36 38.2**	**+1.4**
BELA				IAmb	IAmb	04 36 45.0	
	comp=Z,3.1nm,0.9s						
MAW	**Mawson**	**65.33**	**202**	P	**P**	**04 36 52.1**	**+3.6**
	comp=Z,4.3nm,1.1s,baz=134,slow=13,SNR=3.6 comp=Z,4.3nm,1.1s						
PMSA	**Palmer Station**	**67.19**	**155**	LR	LR	05 00 41.4	
	comp=Z,180nm,21.7s,baz=237,slow=31						
LEM	**Lembang**	**71.28**	**276**	LR	LR	05 10 37.5	
	comp=Z,166nm,18.0s,baz=150,slow=38						
SNAA	**Sanae**	**71.60**	**179**	P	**P**	**04 37 30.3**	**+2.4**
H03S2	**Juan Fernandez**	**78.69**	**124**	T	T	06 04 48.3	
	baz=231						
H03S1	**Juan Fernandez**	**78.70**	**124**	T	T	06 04 44.0	
	baz=231						
H03S3	**Juan Fernandez**	**78.71**	**124**	T	T	06 04 44.9	
	baz=231						
H03N3	**Juan Fernandez**	**78.92**	**124**	T	T	06 04 57.6	
	baz=234,slow=72,SNR=58						
H03N2	**Juan Fernandez**	**78.92**	**123**	T	T	06 04 57.5	
	baz=234,slow=72,SNR=76						
H03N1	**Juan Fernandez**	**78.94**	**123**	T	T	06 04 57.5	
	baz=234,slow=72,SNR=55						
PLCA	**Paso Flores**	**79.63**	**134**	LR	LR	05 06 07.8	
	comp=Z,22nm,19.3s,baz=216,slow=30						
PSI	**Prapat**	**83.98**	**278**	LR	LR	05 16 24.9	
	comp=Z,149nm,21.1s,baz=104,slow=36						
LVC	**Limon Verde**	**92.62**	**121**	LR	LR	05 12 13.4	
	comp=Z,84nm,20.6s,baz=222,slow=30						
CMAR	**Chiang Mai Arr**	**93.50**	**290**	P	**P**	**04 39 21.9**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=126,slow=4.6,SNR=1.6 comp=Z,1.7nm,0.3s						
CPUP	**Villa Florida**	**97.52**	**131**	LR	LR	05 17 43.3	
	comp=Z,126nm,18.5s,baz=233,slow=32						
MA2	**Magadan**	**99.10**	**346**	LR	LR	05 18 08.9	
	comp=Z,56nm,21.6s,baz=162,slow=32						
HHC	**Hu-ho-hao-te**	**99.23**	**315**	*eP*	**Pdif**	**04 39 50.2**	**+1.6**
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,7.3s						
BBB	**Bella Bella**	**99.97**	**30**	LR	LR	05 17 26.0	
	comp=Z,43nm,19.6s,baz=240,slow=31						
WMQ	**Urumqi**	**115.45**	**307**	*eP*	**PKiKP**	**04 44 50.2**	**+1.6**
MK31	**Makanchi Array**	**120.17**	**308**	PKPdf	**PKiKP**	**04 44 56.7**	**-0.9**
MKAR	**Makanchi Array**	**120.17**	**308**	PKP	**PKPdf**	**04 44 56.0**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=95,slow=3.2,SNR=3.7						
MKAR	**Makanchi Array**	**120.17**	**308**	PKPdf	**PKPdf**	**04 44 56.4**	**-1.1**
KURK	**Kurchatov**	**123.84**	**311**	PKPdf	**PKiKP**	**04 45 05.4**	**+0.7**
KK31	**Karatay Array**	**126.64**	**300**	PKPdf	**PKiKP**	**04 45 10.2**	**-0.4**
KKAR	**Karatay Array**	**126.64**	**300**	PKPdf	**PKiKP**	**04 45 10.7**	**+0.2**
BRVK	**Borovoye**	**129.44**	**312**	PKPdf	**PKiKP**	**04 45 15.0**	**-0.8**
ARCES	**ARCESS Array B**	**144.46**	**344**	PKP	**PKPdf**	**04 45 41.0**	**-1.3**
	comp=Z,4.0nm,0.9s,baz=48,slow=1.8,SNR=9.1						
KLMR	**Klimovskoe**	**145.27**	**326**	*e*	**PKPbc**	**04 45 41.9**	**-1.7**
KLMR				AMP		04 45 46.2	
	comp=Z,26nm,1.5s						
GURO	**Guroymak-BITLI**	**146.40**	**286**	PKPbc	**PKPdf**	**04 45 46.3**	**-0.4**
MARD	**Mardin**	**147.12**	**283**	PKPbc	**PKPbc**	**04 45 49.9**	**-0.3**
DBIC	**Dimbokro**	**149.56**	**172**	PKPab	**PKPab**	**04 46 04.1**	**+2.3**
	comp=Z,5.1nm,1.0s,baz=148,slow=9.1,SNR=3.0						
FINES	**FINESS Array B**	**150.35**	**334**	PKPbc	**PKiKP**	**04 45 57.1**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=36,slow=1.6,SNR=11						
BRTR	**Keskin Array B**	**153.02**	**286**	PKPbc	**PKiKP**	**04 46 04.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=141,slow=3.6,SNR=3.8						
NB2	**NORSAR Subarra**	**154.80**	**346**	PKP	**PKiKP**	**04 46 06.6**	**-0.9**
	comp=Z,3.8nm,1.1s,baz=30,slow=2.4						
NOA	**NORSAR Array B**	**154.80**	**346**	PKPbc	**PKiKP**	**04 46 08.0**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=29,slow=2.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**156.13**	**186**	PKP	**PKPdf**	**04 46 02.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=194,slow=2.7,SNR=4.1						
TORD				PKPab	**PKPab**	**04 46 29.9**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=174,slow=3.6,SNR=6.0						

WEL 02 04:35:08.3±1.7,37°S±5°×17°9E±°,h19km±9km,M3.5/40, ML3.8/46,MLv3.5/40,Error ellipse: s-maj=0.0km s-min=0.0km az=73.8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.69**	**243**	P	Pb	04 35 21.6	0.0
MXZ				S	Sb	04 35 29.9	-0.8
WMGZ	**Waiomatatini S**	**0.77**	**223**	P	Pn	04 35 24.9	+0.7
WMGZ				S	Sn	04 35 35.9	+0.6
PKGZ	**Pakihiroa**	**1.02**	**231**	P	Pg	04 35 28.0	-0.1
PKGZ				S	Sn	04 35 41.0	-0.4
PUZ	**Puketiti**	**1.04**	**218**	P	Pg	04 35 28.4	-0.2
PUZ				S	Sg	04 35 42.8	+0.4
HAZ	**Te Kaha**	**1.15**	**244**	P	Pn	04 35 28.7	-0.6
HAZ				S	Sn	04 35 44.9	+0.4
TWGZ	**Tauwhareparae**	**1.27**	**223**	P	Pb	04 35 31.7	+0.1
RUGZ	**Raukumara Rang**	**1.32**	**237**	P	Pb	04 35 32.7	+0.2
CNGZ	**Carnagh Statio**	**1.41**	**209**	P	Pb	04 35 34.2	+0.2
WIZ	**White Island**	**1.53**	**259**	P	Pn	04 35 34.6	+0.1
TKGZ	**Te Karaka**	**1.53**	**219**	P	Pn	04 35 34.9	+0.3
MWZ	**Matawai**	**1.63**	**228**	P	Pn	04 35 36.6	+0.5
WHRZ	**Whale Island**	**1.77**	**249**	P	Pn	04 35 38.5	+0.5
RIGZ

ARHZ	Aropaoanui	2.52 221	P	Pn	04 41 20.1	-0.2	
MRHZ	Matea Rd	2.58 235	P	Pn	04 41 20.9	-0.3	
BKZ	Black Stump Fm	2.73 228		Pn	04 41 22.8	-0.5	
BKZ	Black Stump Fm	2.73 228	P	Pn	04 41 22.8	-0.5	
CKHZ	Cape Kidnapper	2.78 214	P	Pn	04 41 23.3	-0.7	
KUZ	Kuaotunu	2.79 282	P	Pn	04 41 24.3	+0.2	
TOZ	Tahuroa Road	2.90 262	P	Pn	04 41 25.1	-0.4	
KWHZ	Kaweka Forest	2.94 225	P	Pn	04 41 25.3	-0.9	
KAHZ	Kahuranaki	2.98 215	P	Pn	04 41 25.3	-1.5	
RITZ	Rihia Road	3.02 237	P	Pn	04 41 27.5	+0.2	
RATZ	Rangitukua	3.03 240	P	Pn	04 41 27.6	+0.2	
KRHZ	Kereru	3.12 223	P	Pn	04 41 27.7	-1.0	
KATZ	Kakaramea	3.13 238	P	Pn	04 41 29.8	+0.8	
GRZ	Great Barrier	3.15 290	P	Pn	04 41 29.3	+0.4	
MKAZ	Moumakai	3.17 274	P	Pn	04 41 28.5	-0.8	
PXZ	Pawanui	3.18 213	P	Pn	04 41 28.9	-0.5	
BHHZ	Black Hill Sta	3.19 228	P	Pn	04 41 28.8	-0.9	
TMVZ	Te Maari	3.20 236	P	Pn	04 41 29.2	-0.6	
ETVZ	East Tongariro	3.20 236	P	Pn	04 41 29.3	-0.7	
NTVZ	North Tongarir	3.21 237	P	Pn	04 41 29.7	-0.3	
KRVZ	Karewarewa	3.23 237	P	Pn	04 41 29.8	-0.5	
OTVZ	Oturere	3.25 236	P	Pn	04 41 30.2	-0.4	
NNVZ	North Ngauruho	3.27 237	P	Pn	04 41 30.6	-0.2	
WTVZ	West Tongariro	3.27 237	P	Pn	04 41 30.7	-0.2	
SNVZ	South Ngauruho	3.28 236	P	Pn	04 41 30.7	-0.3	
NGZ	Ngauruhoe	3.30 236	P	Pn	04 41 30.8	-0.4	
TUVZ	Tukino	3.31 234	P	Pn	04 41 31.1	-0.3	
MOVZ	Moawhango	3.33 232	P	Pn	04 41 30.9	-0.7	
TWVZ	Taurewa	3.35 239	P	Pn	04 41 32.1	+0.1	
FWVZ	Far West T-bar	3.37 235	P	Pn	04 41 31.8	-0.5	
WNVZ	Wahianoa	3.38 234	P	Pn	04 41 32.0	-0.4	
WPHZ	Waipukurau	3.40 217	P	Pn	04 41 31.4	-1.2	
PNHZ	Pukenui	3.41 221	P	Pn	04 41 31.8	-0.9	
MBAZ	Motutapu North	3.43 279	P	Pn	04 41 34.6	+1.7	
PRHZ	Porangahau	3.47 213	P	Pn	04 41 32.5	-1.0	
HIZ	Hauiti	3.55 250		Pn	04 41 35.0	+0.4	
AWAZ	Awhitu Peninsu	3.58 274	P	Pn	04 41 36.1	+1.1	
TSZ	Takapari Road	3.64 222	P	Pn	04 41 34.3	-1.6	
BFZ	Birch Farm	3.98 213	Pn	Pn	04 41 38.8	-1.7	
WAZ	Wanganui	4.01 233	P	Pn	04 41 41.1	+0.1	
KHEZ	Kahui Hut	4.44 243	P	Pn	04 41 49.5	+2.6	
OUZ	Omahuta	4.95 294		Pn	04 41 55.5	+1.7	
QRZ	Quartz Range	6.17 234	P	Pn	04 42 08.0	-2.6	
OUENC	Ouen Island, N	18.29 321		P	04 44 54.0	+0.4	
OUENC			IAmb	IAmb	04 45 32.5		
	comp=Z,21nm,1.0s						
AS31	Alice Springs	40.90 276	P	P	04 48 22.5	+0.3	
AS31			IAmb	IAmb	04 48 23.4		
	comp=Z,1.3nm,0.9s						
ASAR	Alice Springs	40.90 276	P	P	04 48 21.8	-0.5	
	comp=Z,1.7nm,0.9s,baz=119,slow=7.4,SNR=12						
	comp=Z,1.7nm,0.9s						
ASAR	Alice Springs	40.90 276	P	P	04 48 22.5	+0.3	
WB2	Warramunga Arr	42.52 281	P	P	04 48 34.6	-0.9	
WB2			IAmb	IAmb	04 48 53.8		
	comp=Z,9.4nm,1.4s						
WRA	Warramunga Arr	42.53 281	P	P	04 48 33.9	-1.7	
	comp=Z,1.7nm,0.8s,baz=121,slow=8.0,SNR=28						
	comp=Z,1.7nm,0.8s						
WRA	Warramunga Arr	42.53 281	P	P	04 48 34.2	-1.4	
QSPA	South Pole Qui	52.75 180	P	P	04 49 56.9	+2.3	
QSPA			IAmb	IAmb	04 50 07.0		
	comp=Z,3.9nm,1.1s						
PSA00	Pilbara Seismi	53.14 270	P	P	04 49 56.4	-1.5	
H03S2	Juan Fernandez	78.60 124	T	T	06 19 08.0		
	baz=231						
H03S1	Juan Fernandez	78.61 124	T	T	06 19 07.4		
	baz=231						
H03S3	Juan Fernandez	78.62 124	T	T	06 19 06.0		
	baz=231						
H03N3	Juan Fernandez	78.83 124	T	T	06 19 20.2		
	baz=234,slow=72						
H03N2	Juan Fernandez	78.83 124	T	T	06 19 20.5		
	baz=234,slow=72						
H03N1	Juan Fernandez	78.85 124	T	T	06 19 18.7		
	baz=234,slow=72						
ARCES	ARCESS Array B	144.77 344	PKP	PKPbc	05 00 13.5	-1.3	
	comp=Z,2.2nm,0.8s,baz=62,slow=2.6,SNR=4.3						
FINES	FINESS Array B	150.61 334	PKPbc	PKiKP	05 00 29.9	-1.8	
	comp=Z,1.2nm,0.7s,baz=32,slow=5.6,SNR=5.5						

WEL ***02*** *04:45:00,37˚29S×178˚99E,h10km,ML4.6,Mw4.6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15} Nm; M_{rr}-1.39; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$1.52; $M_{r\theta}$2.25; $M_{\theta\phi}$0.37; M_{rf}9.18; Fault plane solution: $M_0$9.57000×10^{15} NP1: ϕ_s10.00000°,δ4.00000°,λ-94.00000°. NP2:ϕ_s194.00000°, δ86.00000°,λ-90.00000°. Principal axes: T 967.6900, Plg41.0000°, Azm284.0000°; N -20.7500, Plg0.0000°, Azm13.0000°; P -946.9400, Plg49.0000°, Azm104.0000°;*

NOU ***02*** *04:45:42.2,37.43S×179.79E,h0km,mb4.7/19,Off E. Coast of N. Island, N.Z.*

NEIC ***02*** *04:45:48.6±1.1,37.2S±0.1×179.08E±0.10,h10km±1km, mb4.6/14, Error ellipse: s-maj=25.7km s-min=6.6km az=332.0*

IDC ***02*** *04:45:48.0±0.9,37.18S×178.86E,h0km,mb4.4/8, mbtmp4.4/8,MS3.8/24, Error ellipse: s-maj=24.1km s-min=22.0km az=168.0*

WEL ***02*** *04:45:50.6±1.1,37˚S±5˙×17˚9E±˚,h15km±6km,M4.5/18, ML4.7/18,MLv4.5/18,Error ellipse: s-maj=0.0km s-min=0.0km az=107.6*

ISC 02 04:45:50.0±1.8,37.30S±0.05×179.04E±0.07,h16km±9km, n100,σ1^{s}21/86,mb4.5/19,MS3.8/23,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.64 245			Pg	04 46 02.3	-0.3
MXZ	Matakaoa Point	0.64 245		P	Pg	04 46 02.3	-0.3
MXZ				S	Sg	04 46 10.1	-1.0
WMGZ	Waiomatatini S	0.72 223		P	Pn	04 46 05.8	+0.3
WMGZ				S	Sb	04 46 16.5	+2.7
PKGZ	Pakihiroa	0.96 232		P	Pn	04 46 09.1	+0.2
PKGZ				S	Sg	04 46 22.1	+0.8
PUZ	Puketiti	0.99 218		P	Pn	04 46 09.7	+0.4
PUZ				S	Sg	04 46 23.1	+0.9
HAZ	Te Kaha	1.10 245		P	Pg	04 46 11.2	0.0
HAZ				S	Sb	04 46 25.0	+0.4
TWGZ	Tauwhareparae	1.21 223		P	Pb	04 46 13.2	+0.5
TWGZ				S	Sb	04 46 29.4	+1.3
RUGZ	Raukumara Rang	1.27 238		P	Pb	04 46 14.1	+0.4
RUGZ				S	Sb	04 46 29.9	+0.1
CNGZ	Carnagh Statio	1.35 209		P	Pb	04 46 15.5	+0.5
TKGZ	Te Karaka	1.48 219		P	Pn	04 46 16.2	+0.2
MWZ	Matawai	1.58 229		P	Pn	04 46 17.7	+0.3
RIGZ	Rimuhau	1.73 215		P	Pn	04 46 19.6	+0.1
RIGZ				S	Sn	04 46 42.0	+0.8
URZ	Urewera	1.80 237		Pn	Pn	04 46 20.7	+0.3
	451nm,0.3s,baz=121,slow=0.5,SNR=290						
URZ				Sn	Sn	04 46 43.3	+0.3
	503nm,0.3s,baz=124,slow=16,SNR=56						
URZ				LR	LR	04 47 12.0	
	comp=Z,2μm,20.1s,baz=190,slow=48						
URZ	Urewera	1.80 237		Pn	Pn	04 46 20.5	+0.1
URZ	Urewera	1.80 237		P	Pn	04 46 21.4	+0.9
URZ				S	Sn	04 46 43.7	+0.7
URZ	Urewera	1.80 237		P	Pn	04 46 21.8	+1.4
PRGZ	Paritu Road	1.86 209		P	Pn	04 46 21.3	+0.1
SNGZ	Shannon Statio	2.00 222		P	Pn	04 46 22.7	-0.4
KNZ	Kokohu	2.03 212		P	Pn	04 46 23.0	-0.6
MHGZ	Mahia Peninsul	2.05 205		P	Pn	04 46 23.9	0.0
MUGZ	Murupara	2.14 236		P	Pn	04 46 25.6	+0.4
MTHZ	Maungataniwha	2.33 227		P	Pn	04 46 28.3	+0.7
NMHZ	Naumai	2.51 224		P	Pn	04 46 30.8	+0.5
KUZ	Kuaotunu	2.71 281		P	Pn	04 46 31.0	-1.9
BKZ	Black Stump Fm	2.74 226		P	Pn	04 46 33.2	-0.1
BKZ				S	Sn	04 47 04.0	-2.2
BKZ	Black Stump Fm	2.74 226		P	Pn	04 46 33.9	+0.6
TOZ	Tahuroa Road	2.84 260		P	Pn	04 46 34.5	-0.3
HIZ	Hauiti	3.52 249			Pn	04 46 44.9	+0.8
HIZ	Hauiti	3.52 249		P	Pn	04 46 45.6	+1.5
WCZ	Waipu Caves	4.01 288		P	Pn	04 46 50.9	+0.1
BFZ	Birch Farm	4.02 212		P	Pn	04 46 48.7	-2.2
OUZ	Omahuta	4.86 294		P	Pn	04 47 03.2	+0.7
OUZ	Omahuta	4.86 294		P	Pn	04 47 03.5	+1.0
	231nm,0.6s						
QRZ	Quartz Range	6.17 233		P	Pn	04 47 19.4	-1.0
	86nm,1.6s						
KHZ	Kahutara	6.63 218		P	Pn	04 47 25.0	-1.8
	44nm,1.7s						
RPZ	Rata Peaks	8.83 221		Pn	Pn	04 47 52.7	-4.3
	1.3nm,0.3s,baz=37,slow=5.1,SNR=1.7						
RPZ				Sn	Sn	04 49 23.9	-12
	10.0nm,0.3s,baz=119,slow=21,SNR=15						
RPZ	Rata Peaks	8.83 221		P	Pn	04 47 54.1	-2.9
	111nm,2.3s						
ODZ	Otahua Downs	9.99 217		P	Pn	04 48 09.3	-3.5
	28nm,1.7s						
DZM	Mont Dzumac	18.68 321		LR	LR	04 55 52.9	
	comp=Z,499nm,20.9s,baz=204,slow=33						
RAR	Rarotonga	24.38 55		LR	LR	05 01 17.7	
	comp=Z,163nm,18.8s,baz=284,slow=38						
AFI	Afiamalu	24.69 22		LR	LR	05 01 05.2	
	comp=Z,103nm,18.8s,baz=156,slow=37						
CMSA	Cobar Meteorol	28.01 272		P	P	04 51 40.8	+0.5
	11nm,1.8s						
STKA	Stephens Creek	31.16 269		P	P	04 52 08.2	0.0
	1.5nm,0.3s,baz=100,slow=8.3,SNR=9.9						
STKA				LR	LR	05 03 55.7	
	comp=Z,280nm,18.7s,baz=76,slow=35						
	1.5nm,0.3s						
STKA	Stephens Creek	31.16 269		P	P	04 52 07.2	-0.9
STKA	Stephens Creek	31.16 269		P	P	04 52 08.6	+0.4
	1.8nm,2.1s						
CTA	Charters Tower	33.26 292		LR	LR	05 04 45.8	
	comp=Z,222nm,20.8s,baz=88,slow=34						
CTAO	Charters Tower	33.26 292		P	P	04 52 25.4	-1.3
CTAO				IAmb	IAmb	04 52 28.3	
	comp=Z,16nm,1.3s						
PPT	Papeete	33.86 63		LR	LR	05 02 39.8	
	comp=Z,117nm,21.4s,baz=134,slow=30						
BBOO	Buckleboo	35.24 264		P	P	04 52 42.3	-1.5
BBOO				IAmb	IAmb	04 52 48.1	
	comp=Z,18nm,1.1s						
BBOO	Buckleboo	35.24 264		P	P	04 52 42.9	-0.9
	comp=Z,17nm,1.9s						
OOD	Oodaatta	37.48 272		P	P	04 53 02.4	-0.5
MULG	Mulgathing	37.75 267		P	P	04 53 04.4	-0.8
	comp=Z,11nm,1.3s						
COEN	Coen	39.46 297		P	P	04 53 19.4	-0.4
COEN				IAmb	IAmb	04 53 26.3	
	comp=Z,16nm,1.0s						
COEN	Coen	39.46 297		P	P	04 53 20.0	+0.3
	comp=Z,22nm,1.0s						
PMG	Port Moresby	39.99 306		LR	LR	05 08 57.6	
	comp=Z,159nm,18.0s,baz=99,slow=35						
AS31	Alice Springs	40.83 276		P	P	04 53 29.9	-1.2
ASAR	Alice Springs	40.83 276		P	P	04 53 29.9	-1.2
	comp=Z,5.6nm,0.8s,baz=118,slow=7.3,SNR=52						
ASAR				LR	LR	05 10 36.9	
	comp=Z,137nm,18.1s,baz=91,slow=37						
	comp=Z,5.6nm,0.8s						
ASAR	Alice Springs	40.83 276		P	P	04 53 29.5	-1.6
VNDA	Vanda	41.00 186		LR	LR	05 08 26.9	
	comp=Z,95nm,18.1s,baz=25,slow=33						
WR0	Warramunga Arr	42.28 282		P	P	04 53 41.4	-1.6
WR0				IAmb	IAmb	04 53 42.6	
	comp=Z,8.4nm,1.1s						
FORT	Forrest	42.32 263		P	P	04 53 42.7	-0.5
FORT	Forrest	42.32 263		P	P	04 53 42.2	-1.0
	comp=Z,30nm,0.8s						
WB2	Warramunga Arr	42.44 281		P	P	04 53 43.2	-1.1
WB2				IAmb	IAmb	04 53 43.8	
	comp=Z,6.9nm,0.8s						
WRAB	Tennant Creek	42.45 281		P	P	04 53 41.9	-2.4
WRAB				IAmb	IAmb	04 53 49.6	
	comp=Z,7.2nm,0.7s						
WRAB	Tennant Creek	42.45 281		P	P	04 53 43.2	-1.1
	comp=Z,10nm,2.1s						
WRA	Warramunga Arr	42.45 281		P	P	04 53 42.7	-1.7
	comp=Z,4.6nm,0.7s,baz=126,slow=6.6,SNR=68						
WRA				LR	LR	05 10 41.3	
	comp=Z,224nm,20.5s,baz=129,slow=35						
	comp=Z,4.6nm,0.7s						
WRA	Warramunga Arr	42.45 281		P	P	04 53 43.1	-1.3
KNRA	Kununurra	49.23 282		P	P	04 54 37.4	-0.5
FITZ	Fitzroy Crossi	50.31 277		LR	LR	05 17 46.8	
	comp=Z,80nm,18.4s,baz=115,slow=38						
FITZ	Fitzroy Crossi	50.31 277		P	P	04 54 45.7	-0.5
FITZ	Fitzroy Crossi	50.31 277		P	P	04 54 45.7	-0.5
	comp=Z,14nm,1.4s						
QSPA	South Pole Qui	52.83 180		P	P	04 55 06.3	+1.8
	comp=Z,2.3nm,0.9s,baz=25,slow=3.7,SNR=6.2						
QSPA				LR	LR	05 13 51.4	
	comp=Z,142nm,21.4s,baz=45,slow=32						
	comp=Z,2.3nm,0.9s						
QSPA	South Pole Qui	52.83 180		P	P	04 55 04.6	+0.1
QSPA				IAmb	IAmb	04 55 19.9	
	comp=Z,6.3nm,1.1s						
GUMO	Guam	59.95 321		LR	LR	05 18 49.2	
	comp=Z,31nm,20.8s,baz=250,slow=33						
KAPI	Kappang	62.73 286		LR	LR	05 24 27.3	
	comp=Z,138nm,18.2s,baz=100,slow=37						
BELA	Belgrano 2	63.29 172		P	P	04 56 17.9	+0.5
BELA				IAmb	IAmb	04 56 19.8	
	comp=Z,5.2nm,1.0s						
MAW	Mawson	65.00 202		LR	LR	05 23 31.8	
	comp=Z,68nm,20.2s,baz=92,slow=35						
SNAA	Sanae	71.32 179		LR	LR	05 25 22.2	
	comp=Z,71nm,20.4s,baz=184,slow=33						
H03S2	Juan Fernandez	78.70 124		T	T	06 24 20.5	
	baz=230						
H03S1	Juan Fernandez	78.71 124		T	T	06 24 21.7	
	baz=230						
H03S3	Juan Fernandez	78.71 124		T	T	06 24 19.1	
	baz=230						
H03N3	Juan Fernandez	78.93 124		T	T	06 24 36.0	
	baz=234,slow=72,SNR=63						
H03N2	Juan Fernandez	78.93 124		T	T	06 24 26.5	
	baz=234,slow=72,SNR=52						
H03N1	Juan Fernandez	78.94 124		T	T	06 24 30.2	
	baz=234,slow=72,SNR=65						
PLCA	Paso Flores	79.58 134		P	P	04 57 58.1	+1.6
	comp=Z,2.8nm,0.9s,baz=214,slow=7.2,SNR=5.3						
PLCA				LR	LR	05 26 20.1	
	comp=Z,40nm,21.3s,baz=227,slow=30						
	comp=Z,2.8nm,0.9s						
PSI	Prapat	83.83 278		LR	LR	05 39 20.2	
	comp=Z,149nm,18.3s,baz=106,slow=38						
KSRS	Korea Array	88.11 322		P	P	04 58 39.7	+0.1
	comp=Z,2.1nm,0.9s,baz=145,slow=4.8,SNR=6.0						
	comp=Z,2.1nm,0.9s						
KSAR	Wonju Array Be	88.12 322		P	P	04 58 39.5	-0.2
LPIG	La Paz	90.21 60		LR	LR	05 29 49.6	
	comp=Z,46nm,21.6s,baz=207,slow=29						
PETK	Petropavlovsk-	91.92 347		P	P	04 58 58.7	+1.6
	comp=Z,1.8nm,0.8s,baz=161,slow=7.2,SNR=3.6						
	comp=Z,1.8nm,0.8s						
LVC	Limon Verde	92.64 121		LR	LR	05 31 44.1	
	comp=Z,58nm,21.1s,baz=220,slow=30						
CMAR	Chiang Mai Arr	93.42 290		P	P	04 59 04.4	-0.5
	comp=Z,1.1nm,0.3s,baz=133,slow=4.0,SNR=1.7						
CMAR				LR	LR	05 43 25.9	
	comp=Z,26nm,19.5s,baz=125,slow=37						
	comp=Z,1.1nm,0.3s						
YBH	Yreka Blue Hor	94.94 40		LR	LR	05 32 29.8	
	comp=Z,36nm,21.6s,baz=189,slow=30						
CMIG	Matias Romero	97.13 74		LR	LR	05 33 31.8	
	comp=Z,28nm,19.9s,baz=265,slow=30						
ELK	Elko	98.23 44		LR	LR	05 35 14.6	
	comp=Z,30nm,21.9s,baz=245,slow=30						
ARCES	ARCESS Array B	144.68 344		PKP	PKPbc	05 05 23.6	-0.2
	comp=Z,3.0nm,0.8s,baz=36,slow=2.4,SNR=16						
FINES	FINESS Array B	150.51 334		PKPbc	PKiKP	05 05 40.0	-0.7
	comp=Z,2.9nm,0.7s,baz=53,slow=3.5,SNR=14						
BRTR	Keskin Array B	152.91 286		PKPbc	PKPbc	05 05 45.3	-1.2
	comp=Z,2.4nm,0.8s,baz=126,slow=5.0,SNR=3.2						
TORD	Torodi Ar. Bea	155.83 186		PKPab	PKPab	05 06 10.4	+0.1
	comp=Z,0.8nm,0.9s,baz=160,slow=5.2,SNR=3.4						
GERES	GERESS Array B	164.28 322		PKPab	PKPab	05 06 47.0	+0.5
	comp=Z,0.2nm,0.4s,baz=58,slow=6.1,SNR=2.4						

IDC ***02*** *04:55:21.8±0.7,6.75N×73.02W,h162km±11km,mb3.1/3, mbtmp3.8/6,Error ellipse: s-maj=33.5km s-min=7.8km az=133.0*

RSNC ***02*** *04:55:22.9±1.1,6.82N×73.13W,h152km±4km,ML3.5, Mw3.9,Fault plane solution: NP1:ϕ_s25.00000°, δ52.00000°,λ18.00000°.*

ISC 02 04:55:21.6±0.8,6.82N±0.03×73.10W±0.03,h157km±6km, n50,σ1^{s}68/94,mb3.3/3,8C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23 199		eP	Pn	04 55 43.5	+0.4
BARC				eS	Sn	04 55 58.7	-0.8
BARC				IAML		04 56 00.2	
	comp=Z,2μm,0.4s						
PAMC	Pamplona, Colo	0.66 38		eP	Pn	04 55 46.2	+1.1
PAMC				eS	Sn	04 56 03.7	+0.5
PAMC				IAML		04 56 05.8	
	comp=Z,356nm,0.4s						
BRRC	Barranca, Sant	0.67 296		iP	Pn	04 55 45.3	+0.6
BRRC				eS	Sn	04 56 02.4	+0.2
BRRC				IAML		04 56 03.9	
	comp=Z,469nm,0.4s						
RUSC	La Rusia	0.92 179		iP	Pn	04 55 47.3	+0.3
RUSC				eS	Sn	04 56 05.7	-0.6
RUSC				IAML		04 56 07.4	
	comp=Z,671nm,0.4s						
TAMC	Tame, Arauca	1.36 106		iP	Pn	04 55 51.7	+1.4
TAMC				IAML		04 56 12.7	
	comp=Z,253nm,0.3s						
TAMC				eS	Sn	04 56 13.4	+1.1
PTBC	PUERTO BERRIO,	1.37 259		eP	Pn	04 55 50.0	-0.4
PTBC				eS	Sn	04 56 11.3	-1.2
PTBC				IAML		04 56 17.1	
	comp=Z,360nm,0.3s						
OCAC	Ocana	1.43 351		eP	Pn	04 55 51.5	+0.3
OCAC				eS	Sn	04 56 13.9	-0.1
OCAC				IAML		04 56 18.7	
	comp=Z,679nm,0.5s						
SPBC	San Pablo de B	1.50 220		eP	Pn	04 55 52.3	+0.5
SPBC				eS	Sn	04 56 15.0	-0.1
SPBC				IAML		04 56 19.2	
	comp=Z,748nm,0.4s						
ZARC	Zaragoza, Cauc	1.87 291		eP	Pn	04 55 56.0	+0.4
ZARC				eS	Sn	04 56 21.3	-0.5
ZARC				IAML		04 56 26.9	
	comp=Z,424nm,0.3s						
NORC	Norcasia	2.15 235		eP	Pn	04 55 59.3	+0.4
NORC				eS	Sn	04 56 27.6	-0.1
NORC				IAML		04 56 31.8	
	comp=Z,340nm,0.3s						
CHIC	Chingaza	2.26 196		eP	Pn	04 56 01.2	+0.6
CHIC				eS	Sn	04 56 30.8	+0.1
CHIC				IAML		04 56 34.3	
	comp=Z,293nm,0.5s						
ROSC	El Rosal	2.31 212		P	Pn	04 56 03.1	+2.0
	comp=Z,199nm,0.3s,baz=61,slow=19,SNR=181						
ROSC				S	Sn	04 56 32.0	+0.5
	comp=Z,668nm,0.5s,baz=54,slow=19,SNR=11						
ROSC	El Rosal	2.31 212		eP	Pn	04 56 02.9	+1.7
ROSC				eS	Sn	04 56 32.1	+0.5
ROSC				IAML		04 56 41.2	
	comp=Z,698nm,0.3s						
HELC	Santa Helena	2.49 256		eP	Pn	04 56 04.1	+0.8
HELC				eS	Sn	04 56 35.8	+0.4
HELC				IAML		04 56 41.9	
	comp=Z,166nm,0.3s						
UREC	San Jos de Ur	2.58 291		eP	Pn	04 56 03.3	-0.8
UREC				eS	Sn	04 56 33.9	-3.0
UREC				IAML		04 56 46.1	
	comp=Z,144nm,0.3s						
SOCV	Socops	2.66 57		eP	Pn	04 56 06.1	+1.0
SOCV				eS	Sn	04 56 38.0	-0.7
LL1C	La Loma 1 Cana	2.75 351		eP	Pn	04 56 08.4	+2.4
LL1C				eS	Sn	04 56 43.8	+3.2
VILC	Villavicencio,	2.75 192		eP	Pn	04 56 06.7	+0.4
VILC				eS	Sn	04 56 41.1	+0.3
VILC				IAML		04 56 43.8	
	comp=Z,356nm,0.4s						
GUY2C	Guyana, Caldas	2.75 235		eP	Pn	04 56 07.7	+1.1
GUY2C				eS	Sn	04 56 42.7	+1.4
GUY2C				IAML		04 56 55.8	
	comp=Z,294nm,0.5s						
PTGC	Puerto Gaitan,	2.77 160		iP	Pn	04 56 06.4	-0.1
PTGC				eS	Sn	04 56 39.7	-1.5
PTGC				IAML		04 56 41.8	
	comp=Z,91nm,0.3s						
LL6C	La Loma 6 Bece	2.91 357		eP	Pn	04 56 08.0	-0.1
LL6C				eS	Sn	04 56 42.8	-1.3
LL6C				IAML		04 56 57.1	
	comp=Z,76nm,0.5s						
LL5C	La Loma 5 El P	2.98 348		eP	Pn	04 56 09.8	+0.8
LL5C				eS	Sn	04 56 47.1	+1.4
CBOC	Ciudad Bolivar	3.04 252		eP	Pn	04 56 11.0	+1.1
CBOC				eS	Sn	04 56 48.0	+0.7
CBOC				IAML		04 57 01.4	
	comp=Z,67nm,0.5s						
DBBC	Dabeiba	3.09 274		eP	Pn	04 56 11.5	+1.0
DBBC				eS	Sn	04 56 47.3	-1.0
DBBC				IAML		04 56 51.2	
	comp=Z,83nm,0.5s						
SDV	Santo Domingo	3.20 50		P	Pn	04 56 12.9	+0.9
	comp=Z,64nm,0.3s,baz=225,slow=7.1,SNR=70						
SDV				S	Sn	04 56 51.0	+0.1
	comp=Z,41nm,0.4s,baz=252,slow=20,SNR=10						
ARGC	Ariguani, Magd	3.23 340		eP	Pn	04 56 13.3	+1.2
ARGC				eS	Sn	04 56 52.5	+1.1
ARGC				IAML		04 57 05.6	
	comp=Z,55nm,0.4s						
ANIL	Santa Ana	3.25 225		eP	Pn	04 56 14.7	+1.9
ANIL				eS	Sn	04 56 53.2	+0.9
SJCC	San Jacinto, C	3.69 326		eP	Pn	04 56 17.5	-0.5
SJCC				eS	Sn	04 56 58.6	-3.4
SJCC				IAML		04 57 05.5	
	comp=Z,59nm,0.5s						
PLMC	San Jos del P	3.69 239		eP	Pn	04 56 18.8	+0.7
PLMC				eS	Sn	04 57 02.1	+0.1
PLMC				IAML		04 57 13.9	
	comp=Z,55nm,0.4s						
LCBC	Los crdobas,	3.82 302		eP	Pn	04 56 21.8	+2.1
LCBC				eS	Sn	04 57 05.3	+0.4
LCBC				IAML		04 57 07.5	
	comp=Z,58nm,0.4s						
CRJC	Cerrejon, Guaj	4.18 3		eP	Pn	04 56 23.7	-0.9
CRJC				eS	Sn	04

PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**	05 03 46.3	**+0.6**
	comp=Z,0.3nm,0.5s,baz=140,slow=7.1,SNR=3.0							
	comp=Z,0.3nm,0.5s							
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	05 05 33.4	**+0.1**
	comp=Z,0.7nm,0.6s,baz=133,slow=5.9,SNR=4.5							
	comp=Z,0.7nm,0.6s							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	05 14 51.5	**-0.9**
	comp=Z,0.4nm,0.8s,baz=120,slow=3.8,SNR=2.3							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc		**PKPbc**	05 14 54.4	**-1.0**
	comp=Z,0.3nm,0.5s,baz=109,slow=2.8,SNR=5.0							

NOU ***02*** *04:56:30.7, 37.°05S×179.°59W, h144 km, MLv4.9/8, East of North Island, N.Z.*
NEIC ***02*** *04:56:33.2±1.3, 37.°0S±0.°1×179.°99W±0.°06, h10 km±2 km, mb4.3/10, Error ellipse: s-maj=24.2km s-min=6.2km az=344.0*
IDC ***02*** *04:56:37.7±1.2, 36.°70S×179.°10E, h0 km, mb4.2/4, mbtmp4.3/5, ML4.4/1, MS3.6/3, Error ellipse: s-maj=34.2km s-min=29.0km az=49.0*
WEL ***02*** *04:57:36.5, 41.°S±30.°×17.°6E±1.°4, h36 km±18 km, M2.7/15, ML3.0/16, MLv2.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=176.7*

ISC 02 04:56:40.9±0.9, 37.°43S±0.°09×179.°4E±0.°1, h35 km, n61, σ1 9 93/54, mb4.3/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.89**	**261**		**Pn**	**04 56 57.5**	**+0.5**
URZ	**Urewera**	**2.00**	**245**	Pn	**Pn**	**04 57 15.1**	**+2.9**
	112nm,0.3s,baz=121,slow=0.5,SNR=278						
URZ				Sn	**Sn**	**04 57 39.9**	**+3.9**
	169nm,0.3s,baz=120,slow=20,SNR=7.7						
	264nm,0.3s						
URZ	**Urewera**	**2.00**	**245**		Pn	04 57 15.6	+3.4
URZ	**Urewera**	**2.00**	**245**	P	Pn	04 57 15.7	+3.5
BKZ	**Black Stump Fm**	**2.88**	**232**		Pn	04 57 27.6	+3.3
BKZ	**Black Stump Fm**	**2.88**	**232**	P	Pn	04 57 27.7	+3.4
PRHZ	**Porangahau**	**3.57**	**217**	P	**Pn**	**04 57 36.0**	**+2.3**
HIZ	**Hauiti**	**3.76**	**252**		**Pn**	**04 57 39.5**	**+3.1**
HIZ	**Hauiti**	**3.76**	**252**	P	**Pn**	**04 57 39.5**	**+3.1**
BFZ	**Birch Farm**	**4.08**	**216**		**Pn**	**04 57 42.8**	**+2.0**
BFZ	**Birch Farm**	**4.08**	**216**	P	**Pn**	**04 57 42.3**	**+1.5**
BFZ	**Birch Farm**	**4.08**	**216**	P	**Pn**	**04 57 42.2**	**+1.5**
CPWZ	**Castlepoint**	**4.28**	**215**	P	**Pn**	**04 57 45.5**	**+2.0**
MRZ	**Mangatainoka R**	**4.39**	**222**	P	**Pn**	**04 57 46.5**	**+1.4**
TMWZ	**Te Maipa**	**4.58**	**216**	P	**Pn**	**04 57 48.6**	**+1.0**
HOWZ	**Holdsworth Sta**	**4.60**	**220**	P	**Pn**	**04 57 49.3**	**+1.4**
OGWZ	**Otaki Gorge**	**4.72**	**223**	P	**Pn**	**04 57 50.7**	**+1.1**
MTW	**Mount Morrison**	**4.80**	**218**	P	**Pn**	**04 57 52.0**	**+1.4**
KIW	**Kapiti Island**	**4.90**	**224**	P	**Pn**	**04 57 52.9**	**+0.9**
TRWZ	**Traveller**	**4.90**	**215**	P	**Pn**	**04 57 52.3**	**+0.3**
CAW	**Cannon Point**	**4.99**	**221**	P	**Pn**	**04 57 54.0**	**+0.8**
PAWZ	**Paruwai Farm**	**5.01**	**217**	P	**Pn**	**04 57 54.5**	**+0.9**
MSWZ	**Moikau Station**	**5.12**	**218**	P	**Pn**	**04 57 55.5**	**+0.4**
OUZ	**Omahuta**	**5.19**	**293**	P	**Pn**	**04 57 54.7**	**-1.4**
PLWZ	**Palliser**	**5.24**	**217**	P	**Pn**	**04 57 57.0**	**+0.3**
DUWZ	**D'Urville Isla**	**5.44**	**230**	P	**Pn**	**04 58 00.5**	**+1.1**
TCW	**Tory Channel**	**5.49**	**225**	P	**Pn**	**04 58 01.1**	**+1.1**
TUWZ	**Tuamarina**	**5.82**	**225**	P	**Pn**	**04 58 06.0**	**+1.3**
BSWZ	**Blackbirch Sta**	**6.05**	**223**	P	**Pn**	**04 58 08.3**	**+0.5**
QRZ	**Quartz Range**	**6.34**	**236**	P	**Pn**	**04 58 12.8**	**+1.1**
MRNZ	**Matariki Terra**	**6.50**	**230**	P	**Pn**	**04 58 14.3**	**+0.3**
THZ	**Tophouse**	**6.63**	**227**	P	**Pn**	**04 58 16.1**	**+0.3**
KHZ	**Kahutara**	**6.72**	**220**	P	**Pn**	**04 58 17.4**	**+0.4**
RPZ	**Rata Peaks**	**8.93**	**223**	Pn	**Pn**	**04 58 47.2**	**-0.2**
	1.5nm,0.3s,baz=79,slow=16,SNR=6.9						
RPZ				Sn	**Sn**	**05 00 21.4**	**-5.3**
	3.4nm,0.3s,baz=54,slow=22,SNR=17						
RPZ	**Rata Peaks**	**8.93**	**223**	P	**Pn**	**04 58 47.4**	**0.0**
ODZ	**Otahua Downs**	**10.07**	**218**	P	**Pn**	**04 59 01.9**	**-1.0**
DZM	**Mont Dzumac**	**18.98**	**320**	LR	LR	05 06 39.7	
	comp=Z,153nm,19.5s,baz=22,slow=33						
STKA	**Stephens Creek**	**31.46**	**269**	P	**P**	**05 02 59.0**	**0.0**
	1.7nm,0.9s,baz=113,slow=7.7,SNR=2.1						
	1.7nm,0.9s						
CTA	**Charters Tower**	**33.60**	**292**	LR	LR	05 15 00.2	
	comp=Z,44nm,19.8s,baz=264,slow=33						
COEN	**Coen**	**39.79**	**296**	P	**P**	**05 04 08.5**	**-2.2**
COEN				IAmb	IAmb	05 04 11.0	
	comp=Z,7.0nm,1.0s						
AS31	**Alice Springs**	**41.15**	**276**	P	**P**	**05 04 20.3**	**-1.6**
AS31				IAmb	IAmb	05 04 21.6	
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**41.15**	**276**	P	**P**	**05 04 21.1**	**-0.7**
	comp=Z,4.8nm,0.6s,baz=121,slow=8.2,SNR=53						
ASAR				PcP	**PcP**	**05 06 21.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=116,slow=5.3,SNR=2.2						
	comp=Z,4.8nm,0.6s						
ASAR	**Alice Springs**	**41.15**	**276**	P	**P**	**05 04 19.7**	**-2.2**
FORT	**Forrest**	**42.61**	**263**	P	**P**	**05 04 32.1**	**-1.6**
WR0	**Warramunga Arr**	**42.61**	**281**	P	**P**	**05 04 30.3**	**-3.5**
WR0				IAmb	IAmb	05 04 33.7	
	comp=Z,4.1nm,1.0s						
WB2	**Warramunga Arr**	**42.77**	**281**	P	**P**	**05 04 33.7**	**-1.4**
WB2				IAmb	IAmb	05 04 34.5	
	comp=Z,7.4nm,0.8s						
WRA	**Warramunga Arr**	**42.78**	**281**	P	**P**	**05 04 34.1**	**-1.1**
	comp=Z,4.2nm,0.7s,baz=122,slow=7.5,SNR=72						
WRA				PcP	**PcP**	**05 06 27.7**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=116,slow=3.4,SNR=4.7						
	comp=Z,4.2nm,0.7s						
WRA	**Warramunga Arr**	**42.78**	**281**	P	**P**	**05 04 33.3**	**-1.9**
WB0	**Warramunga Arr**	**42.83**	**281**	P	**P**	**05 04 33.5**	**-2.2**
WB0				IAmb	IAmb	05 04 35.0	
	comp=Z,4.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.63**	**277**	P	**P**	**05 05 35.3**	**-1.4**
QSPA	**South Pole Qui**	**52.69**	**180**	P	P	05 05 59.0	+7.3
	comp=Z,1.7nm,0.8s,baz=24,slow=0.6,SNR=10						
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**52.69**	**180**	P	**P**	**05 05 52.4**	**+0.8**
QSPA				IAmb	IAmb	05 06 11.5	
	comp=Z,3.7nm,0.8s						
MAW	**Mawson**	**64.99**	**202**	P	**P**	**05 07 16.4**	**-0.3**
H03N3	**Juan Fernandez**	**78.60**	**123**	T	T	06 35 28.2	
	baz=234,slow=72,SNR=11						
H03N2	**Juan Fernandez**	**78.60**	**123**	T	T	06 35 24.9	
	baz=234,slow=72,SNR=8.7						
H03N1	**Juan Fernandez**	**78.62**	**123**	T	T	06 35 32.3	
	baz=234,slow=72,SNR=12						
JHJ	**Hachijo jima 2**	**79.32**	**327**	LR	LR	05 40 27.3	
	comp=Z,80nm,20.7s,baz=104,slow=34						
KURBB	**Kurchatov Arra**	**124.22**	**311**	PKP	**PKiKP**	**05 15 35.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=96,slow=2.2,SNR=4.2						
ARCES	**ARCESS Array B**	**144.89**	**344**	PKP	**PKPdf**	**05 16 13.2**	**+0.1**
	comp=Z,3.3nm,1.0s,baz=41,slow=1.7,SNR=5.7						
FINES	**FINESS Array B**	**150.77**	**334**	PKPbc	**PKiKP**	**05 16 28.8**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=20,slow=4.4,SNR=7.9						
TORD	**Torodi Ar. Bea**	**155.73**	**185**	PKPab	**PKPab**	**05 17 03.9**	**+6.1**
	comp=Z,0.2nm,0.3s,baz=178,slow=4.8,SNR=1.5						

IDC ***02*** *05:03:27.7±1.0, 12.°21N×87.°40W, h0 km, mb3.9/7, mbtmp3.9/8, ML3.5/1, MS3.1/1, Error ellipse: s-maj=41.3km s-min=17.3km az=55.0*
INET ***02*** *05:03:30.4±0.7, 12.°04N×87.°73W, h2 km±1 km, MW4.0*
NEIC ***02*** *05:03:30.5±1.2, 12.°14N±0.°04×87.°63W±0.°02, h12 km±6 km, mb4.5/15, Md4.0(SNET), Error ellipse: s-maj=6.3km s-min=1.8km az=197.0*
UCR ***02*** *05:03:32.5±1.7, 12.°04N×87.°81W, h36 km±33 km, MW4.1, mb4.5(NEIC)*

ISC 02 05:03:33.8±0.7, 12.°16N±0.°05×87.°64W±0.°04, h48 km, n112, σ1 9 16/119, mb4.2/15, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.79**	**47**		**Pn**	**05 03 47.6**	**-1.1**
CRIN				Sg	**Sn**	**05 03 54.8**	**-4.7**
CRIN	**San Cristobal**	**0.79**	**47**	*eP*	**Pn**	**05 03 49.2**	**+0.5**
CSGN	**Cosiguina Volc**	**0.81**	**6**	*eP*	**Pn**	**05 03 48.8**	**-0.2**
TEL3	**Telica 3**	**0.88**	**62**	*eP*	**Pn**	**05 03 49.8**	**-0.1**
TELN	**Telica**	**0.91**	**61**	*eP*	**Pn**	**05 03 50.4**	**+0.1**
CNGN	**Cerro Negro**	**0.98**	**70**		**Pn**	**05 03 49.3**	**-2.0**
CNGN				Sn	**Sn**	**05 04 03.4**	**-0.8**
CNGN	**Cerro Negro**	**0.98**	**70**	*eP*	**Pn**	**05 03 51.0**	**-0.3**
COPN	**Copaltepe**	**1.03**	**89**	*eP*	**Pn**	**05 03 51.6**	**-0.3**
MOMN	**Momotombo**	**1.11**	**77**	*eP*	**Pn**	**05 03 52.5**	**-0.4**
CNCH	**Conchagua**	**1.12**	**351**	*eP*	**Pn**	**05 03 53.0**	**-0.3**
CNCH	**Conchagua**	**1.12**	**351**	*eP*	**Pn**	**05 03 53.0**	**-0.3**
MGAN	**Managua**	**1.37**	**91**	*eP*	**Pn**	**05 03 56.1**	**-0.3**
MGAN				*eP*	**Pn**	**05 03 56.6**	**+0.2**
BRAN	**Las Pilas**	**1.38**	**66**	*eP*	**Pn**	**05 03 55.0**	**-1.7**

LCY	**Lacayo**	**1.40**	**333**	*eP*	**Pn**	**05 03 56.4**	**-0.6**
LCY	**Lacayo**	**1.40**	**333**	*eP*	**Pn**	**05 03 56.4**	**-0.6**
WILN	**Americas 2**	**1.43**	**90**	*eP*	**Pn**	**05 03 57.3**	**+0.1**
HUEN		**1.45**	**83**	*eP*	**Pn**	**05 03 58.1**	**+0.6**
PACA	**Pacayal**	**1.46**	**333**	*eP*	**Pn**	**05 03 57.3**	**-0.5**
PACA	**Pacayal**	**1.46**	**333**	*eP*	**Pn**	**05 03 57.3**	**-0.5**
COEB	**Comit de Eme**	**1.58**	**327**	*eP*	**Pn**	**05 03 58.5**	**-1.1**
COEB	**Comit de Eme**	**1.58**	**327**	*eP*	**Pn**	**05 03 58.5**	**-1.1**
CAHU	**Cacacuatique**	**1.69**	**341**	*eP*	**Pn**	**05 04 01.6**	**+0.5**
CAHU	**Cacacuatique**	**1.69**	**341**	*eP*	**Pn**	**05 04 01.6**	**+0.5**
MATN	**Matagalpa**	**1.84**	**65**	Pn	**Pn**	**05 04 02.1**	**-0.9**
MATN	**Matagalpa**	**1.84**	**65**	*eP*	**Pn**	**05 04 03.5**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.86**	**325**	*eP*	**Pn**	**05 04 02.6**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.86**	**325**	*eP*	**Pn**	**05 04 02.6**	**-0.6**
SCLA				*eS*	**Sn**	**05 04 26.5**	**+0.9**
COEG	**Centro de Oper**	**1.88**	**320**	*eP*	**Pn**	**05 04 02.4**	**-1.2**
COEG	**Centro de Oper**	**1.88**	**320**	*eP*	**Pn**	**05 04 02.4**	**-1.2**
TGUH	**Tegucigalpa,Un**	**1.92**	**11**	Pn	**Pn**	**05 04 04.6**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.92**	**11**	*i* P	**Pn**	**05 04 05.0**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.92**	**11**	*i* P	**Pn**	**05 04 05.0**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.92**	**11**	*eP*	**Pn**	**05 04 05.1**	**+0.9**
BOAB	**BOACO BROADBAN**	**1.95**	**81**		**Pn**	**05 04 04.1**	**-0.4**
SJTE	**Alcalda de S**	**1.96**	**317**	*eP*	**Pn**	**05 04 03.5**	**-1.2**
SJTE	**Alcalda de S**	**1.96**	**317**	*eP*	**Pn**	**05 04 03.5**	**-1.2**
PAVA	**Las Pavas**	**1.99**	**321**	*eP*	**Pn**	**05 04 04.3**	**-0.8**
PAVA	**Las Pavas**	**1.99**	**321**	*eP*	**Pn**	**05 04 04.3**	**-0.8**
LFRS	**El Faro**	**2.00**	**317**	*eP*	**Pn**	**05 04 03.9**	**-1.4**
LFRS	**El Faro**	**2.00**	**317**	*eP*	**Pn**	**05 04 03.9**	**-1.4**
P5NO	**Presa 5 de nov**	**2.11**	**329**	*eP*	**Pn**	**05 04 06.1**	**-0.5**
JAYA	**Jayaque - finc**	**2.30**	**310**	*eP*	**Pn**	**05 04 07.8**	**-1.6**
JAYA	**Jayaque - finc**	**2.30**	**310**	*eP*	**Pn**	**05 04 07.8**	**-1.6**
ACON	**Acoyapa**	**2.42**	**94**		**Pn**	**05 04 10.0**	**-1.0**
HZTE	**Horizontes, Gu**	**2.47**	**125**		**Pn**	**05 04 10.8**	**-0.8**
HZTE	**Horizontes, Gu**	**2.47**	**125**	*eP*	**Pn**	**05 04 10.8**	**-0.8**
GBS3	**Finca Las Img**	**2.55**	**122**	*eP*	**Pn**	**05 04 12.5**	**-0.1**
LAPC	**Finca la Perla**	**2.57**	**122**	*eP*	**Pn**	**05 04 12.7**	**-0.3**
GB1A	**Borinquen Arri**	**2.58**	**121**	*eP*	**Pn**	**05 04 12.8**	**-0.3**
BUEV	**Buena Vista**	**2.58**	**122**	*eP*	**Pn**	**05 04 13.3**	**+0.1**
BUAI	**Buenos Aires**	**2.60**	**119**	*eP*	**Pn**	**05 04 14.7**	**+1.3**
NUBE	**Las Nubes**	**2.71**	**310**	*eP*	**Pn**	**05 04 13.8**	**-1.1**
NUBE				*eS*	**Sn**	**05 04 44.6**	**-1.9**
NUBE	**Las Nubes**	**2.71**	**310**	*eP*	**Pn**	**05 04 13.8**	**-1.1**
NUBE				*eS*	**Sn**	**05 04 44.6**	**-1.9**
LIM1	**Limonal**	**2.76**	**122**	*eP*	**Pn**	**05 04 15.2**	**-0.4**
GUAB	**Guayabo de Bag**	**2.77**	**121**	*eP*	**Pn**	**05 04 18.3**	**+2.4**
MTO3	**Montecristo**	**2.78**	**323**		**Pn**	**05 04 15.3**	**-0.7**
MTO3	**Montecristo**	**2.78**	**323**	*eP*	**Pn**	**05 04 15.6**	**-0.4**
MTO3	**Montecristo**	**2.78**	**323**	*eP*	**Pn**	**05 04 15.6**	**-0.4**
MTO3	**Montecristo**	**2.78**	**323**	*eP*	**Pn**	**05 04 15.9**	**-0.2**
ORTG	**Ortega, Santa**	**2.79**	**130**		**Pn**	**05 04 14.8**	**-1.3**
HORNC	**Hornillas**	**2.81**	**121**	*eP*	**Pn**	**05 04 15.9**	**-0.5**
CUI	**Cuipilapa**	**2.86**	**121**	*eP*	**Pn**	**05 04 16.5**	**-0.4**
ESQI	**Esquipulas**	**2.90**	**325**		**Pn**	**05 04 17.3**	**-0.3**
ESQI	**Esquipulas**	**2.90**	**325**	*eP*	**Pn**	**05 04 17.7**	**+0.2**
NICO	**Nicoya**	**2.95**	**133**	*eP*	**Pn**	**05 04 16.5**	**-1.7**
ACAL	**Aguas Claras**	**2.98**	**120**	*eP*	**Pn**	**05 04 18.1**	**-0.6**
PTEN	**Parque Tenorio**	**2.98**	**119**	*eP*	**Pn**	**05 04 18.4**	**-0.2**
JTS	**Las Juntas de**	**3.23**	**125**		**Pn**	**05 04 20.8**	**-1.2**
JTS	**Las Juntas de**	**3.23**	**125**	*eP*	**Pn**	**05 04 23.4**	**+1.4**
CASO	**Castillo**	**3.33**	**121**	*eP*	**Pn**	**05 04 24.6**	**+1.1**
COVE	**Coope Vega, Sa**	**3.49**	**114**		**Pn**	**05 04 25.0**	**-0.5**
HDC	**Heredia**	**4.08**	**121**		**Pn**	**05 04 33.0**	**-0.8**
LCR2	**La Lucha 2**	**4.31**	**124**	*eP*	**Pn**	**05 04 37.5**	**+0.5**
CVTR	**Volcan Turrial**	**4.37**	**119**	Pn	**Pn**	**05 04 36.5**	**-1.5**
RIMA	**Rio Macho**	**4.41**	**122**		**Pn**	**05 04 36.1**	**-2.3**
PEZE	**Perez Zeledon,**	**4.78**	**125**		**Pn**	**05 04 42.7**	**-0.7**
SRFA	**San Rafael, Bu**	**5.12**	**124**		**Pn**	**05 04 43.5**	**-0.6**
PETF	**Flores**	**5.19**	**336**		**Pn**	**05 04 48.9**	**0.0**
DRK0	**Durika**	**5.20**	**123**		**Pn**	**05 04 47.6**	**-1.6**
DRK0	**Durika**	**5.20**	**123**	*eP*	**Pn**	**05 04 50.3**	**+1.2**
CDITO	**Canoas**	**5.90**	**127**		**Pn**	**05 04 58.1**	**-0.5**
BRU2	**Volcan**	**5.91**	**124**		**Pn**	**05 04 57.6**	**-1.4**
CMIG	**Matias Romero**	**8.55**	**306**	Pn	**Pn**	**05 05 34.9**	**-0.1**
	0.5nm,0.3s,baz=149,slow=13,SNR=7.6						
CMIG				Sn	**Sn**	**05 07 16.2**	**+6.1**
	0.3nm,0.3s,baz=30,slow=14,SNR=2.1						
CMIG				LR	LR	05 09 19.8	
	comp=Z,124nm,19.5s,baz=146,slow=40						
	1.3nm,0.3s						
833A	**Chaparral WMA,**	**19.47**	**327**		**P**	**05 07 56.9**	**+0.2**
833A				IAmb	IAmb	05 07 58.8	
	comp=Z,27nm,0.8s						
JCT	**Junction City**	**21.43**	**330**	P	**P**	**05 08 17.6**	**-0.3**
JCT				IAmb	IAmb	05 08 21.2	
	comp=Z,7.4nm,0.8s						
WHTX	**Lake Whitney,**	**21.70**	**337**	P	**P**	**05 08 20.6**	**-0.2**
TXAR	**Lajitas Array**	**22.68**	**321**	P	**P**	**05 08 31.9**	**+0.6**
	comp=Z,7.6nm,0.7s,baz=136,slow=10,SNR=91						
	comp=Z,7.6nm,0.7s						
TXAR	**Lajitas Array**	**22.68**	**321**	P	**P**	**05 08 31.6**	**+0.2**
TX31	**Lajitas Ar. Si**	**22.68**	**321**	P	**P**	**05 08 31.5**	**+0.1**
TX32	**Lajitas Array**	**22.68**	**321**	P	**P**	**05 08 30.9**	**-0.5**
TX32				IAmb	IAmb	05 08 33.0	
	comp=Z,9.0nm,0.8s						
MIAR	**Mount Ida**	**22.93**	**347**	P	**P**	**05 08 33.9**	**+0.1**
MIAR				IAmb	IAmb	05 08 36.8	
	comp=Z,5.7nm,0.8s						
TKL	**Tuckaleechee C**	**23.65**	**8**	P	**P**	**05 08 41.2**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=186,slow=10,SNR=2.9						
	comp=Z,3.5nm,0.8s						
X34A	**Smith Ranch, M**	**24.18**	**339**	P	**P**	**05 08 46.2**	**+0.5**
FNO	**Franklin**	**24.63**	**341**	P	**P**	**05 08 49.3**	**-0.5**
U54A	**Nelsons Funny**	**24.81**	**11**	P	**P**	**05 08 52.1**	**+0.6**
U54A				IAmb	IAmb	05 08 56.5	
	comp=Z,19nm,1.1s						
HTMS	**Hat Mesa**	**24.98**	**327**	P	**P**	**05 08 53.2**	**0.0**
GDL2	**Guadalupe Moun**	**25.18**	**325**	P	**P**	**05 08 54.7**	**-0.2**
MNTX	**Cornudas Mount**	**25.40**	**323**	P	**P**	**05 08 57.0**	**+0.2**
MSTX	**Muleshoe**	**25.72**	**330**	P	**P**	**05 08 59.4**	**-0.4**
MSTX				IAmb	IAmb	05 09 01.4	
	comp=Z,15nm,0.8s						
ETMB	**Extrema**	**30.50**	**135**	P	**P**	**05 09 42.7**	**+0.1**
ETMB				IAmb	IAmb	05 09 43.7	
	comp=Z,6.9nm,0.7s						
PDAR	**Pinedale Array**	**35.93**	**332**	P	**P**	**05 10 30.3**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=130,slow=9.8,SNR=7.8						
	comp=Z,0.5nm,0.5s						
HWUT	**Hardware Ranch**	**36.02**	**329**	P	**P**	**05 10 31.0**	**+0.4**
REDW	**Red Top Meadow**	**36.99**	**331**	P	**P**	**05 10 39.3**	**+0.3**
REDW				IAmb	IAmb	05 10 40.4	
	comp=Z,6.0nm,0.8s						
SNOW	**Snow King Moun**	**37.03**	**332**	P	**P**	**05 10 39.8**	**+0.6**
SNOW				IAmb	IAmb	05 10 41.3	
	comp=Z,8.0nm,0.8s						
NVAR	**Mina Array Bea**	**37.79**	**319**	P	**P**	**05 10 48.4**	**+2.6**
	comp=Z,0.4nm,0.6s,baz=129,slow=7.1,SNR=4.7						
	comp=Z,0.4nm,0.6s						
SIV	**San Ignacio**	**38.39**	**136**	P	**P**	**05 10 50.5**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=317,slow=9.1,SNR=13						
	comp=Z,3.1nm,0.7s						
MCMT	**McKenzie Canyo**	**39.04**	**331**	P	**P**	**05 10 57.3**	**+1.0**
SCHQ	**Scheferville**	**45.60**	**17**	P	**P**	**05 11 47.9**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=230,slow=8.3,SNR=2.0						
	comp=Z,1.4nm,0.4s						
PLCA	**Paso Flores**	**54.96**	**164**	P	**P**	**05 13 00.1**	**0.0**
	comp=Z,1.4nm,0.9s,baz=326,slow=7.3,SNR=2.3						
	comp=Z,1.4nm,0.9s						
WRA	**Warramunga Arr**	**139.01**	**254**	PKP	**PKPdf**	**05 22 56.6**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=95,slow=2.4,SNR=7.0						
PZH	**PanZhiHua**	**140.50**	**347**	PKP	**PKPdf**	**05 22 57.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**148.89**	**348**	PKPbc	**PKPbc**	**05 23 16.7**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=342,slow=3.4,SNR=5.1						

WEL 02 05:07:15.6±1.4, 37.°5S±6.°×17.°9E±.°, h16 km±11 km, M3.6/35, mB5.5/1, ML3.9/39, MLv3.6/35, Mw(mB)5.0/1, Error ellipse: s-maj=0.0km s-min=0.0km az=123.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.91**	**237**	P	Pb	05 07 32.1	-1.0
MXZ				S	Sb	05 07 43.8	-1.2
WMGZ	**Waiomatatini S**	**1.01**	**222**	P	Pn	05 07 35.9	+0.7
WMGZ				S	Sn	05 07 49.4	+0.3
PKGZ	**Pakihiroa**	**1.25**	**229**	P	Pb	05 07 38.9	0.0
PKGZ				S	Sb	05 07 54.7	-0.1
PUZ	**Puketiti**	**1.28**	**219**	P	Pb	05 07 39.2	-0.2
PUZ				S	Sg	05 07 56.8	-0.3
HAZ	**Te Kaha**	**1.37**	**240**	P	Pn	05 07 40.0	-0.1
HAZ				S	Sb	05 07 58.3	+0.2
TWGZ	**Tauwhareparae**	**1.50**	**222**	P	Pb	05 07 42.9	-0.4
TWGZ				S	Sb	05 08 02.1	-0.1

RUGZ	**Raukumara Rang**	**1.55**	**234**	P	Pb	05 07 43.6	-0.4
RUGZ				S	Sn	05 08 03.0	+0.4
CNGZ	**Carnagh Statio**	**1.64**	**210**	P	Pb	05 07 45.2	-0.4
TKGZ	**Te Karaka**	**1.77**	**219**	P	Pn	05 07 45.8	+0.1
TKGZ				S	Sb	05 08 09.6	-0.1
MWZ	**Matawai**	**1.87**	**227**	P	Pn	05 07 47.5	+0.4
MWZ				S	Sn	05 08 09.6	-0.8
WHRZ	**Whale Island**	**1.99**	**246**	P	Pn	05 07 49.1	+0.4
RIGZ	**Rimuhau**	**2.02**	**216**	P	Pn	05 07 49.5	+0.3
RAGZ	**Rawiri**	**2.04**	**225**	P	Pn	05 07 50.0	+0.4
URZ	**Urewera**	**2.08**	**235**	P	Pn	05 07 50.1	+0.2
EDRZ	**Edgecumbe**	**2.26**	**242**	P	Pn	05 07 52.6	+0.2
SNGZ	**Shannon Statio**	**2.29**	**221**	P	Pn	05 07 53.1	+0.2
KNZ	**Kokohu**	**2.32**	**212**	P	Pn	05 07 52.5	-0.7
MHGZ	**Mahia Peninsul**	**2.34**	**207**	P	Pn	05 07 53.6	0.0
RTZ	**Ruatahuna**	**2.38**	**229**	P	Pn	05 07 54.4	+0.3
MUGZ	**Murupara**	**2.43**	**234**	P	Pn	05 07 54.8	+0.1
TARZ	**Mount Tarawera**	**2.48**	**241**	P	Pn	05 07 56.6	+1.0
RAHZ	**Arahi**	**2.52**	**222**	P	Pn	05 07 56.7	+0.7
WHHZ	**Waihua**	**2.57**	**218**	P	Pn	05 07 57.3	+0.7
MTHZ	**Maungataniwha**	**2.62**	**226**	P	Pn	05 07 58.0	+0.7
NMHZ	**Naumai**	**2.81**	**223**	P	Pn	05 07 59.7	-0.3
ARHZ	**Aropaoanui**	**2.83**	**219**	P	Pn	05 07 60.0	-0.2
MRHZ	**Matea Rd**	**2.86**	**231**	P	Pn	05 08 00.6	-0.1
KUZ	**Kuaotunu**	**2.86**	**275**	P	Pn	05 07 59.7	-1.0
BKZ	**Black Stump Fm**	**3.03**	**225**	P	Pn	05 08 02.5	-0.5
TOZ	**Tahuroa Road**	**3.07**	**256**	P	Pn	05 08 03.2	-0.3
KWHZ	**Kaweka Forest**	**3.25**	**223**	P	Pn	05 08 05.0	-1.0
MKAZ	**Moumakai**	**3.29**	**268**	P	Pn	05 08 06.3	-0.2
KAHZ	**Kahuranaki**	**3.31**	**214**	P	Pn	05 08 05.4	-1.5
KRHZ	**Kereru**	**3

YOJ	**Yonaguni jima**	**18.96**	**243**	P	**Pn**	**05 38 04.7**	**-0.2**
YOJ				IAmb	IAmb	05 38 24.7	
	comp=Z,36nm,1.1s						
NJ2	**Nanjing**	**19.15**	**269**	*e*P	**P**	**05 38 05.8**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YULB	**Yu-li**	**20.86**	**243**	P	**P**	**05 38 24.8**	**0.0**
YULB				IAmb	IAmb	05 38 48.2	
	comp=Z,19nm,1.4s						
SSLB	**Suanglung**	**20.88**	**245**	P	**P**	**05 38 25.5**	**+0.4**
XLT	**XiLinHaoTe**	**21.82**	**303**	*e*P	**P**	**05 38 32.4**	**-2.7**
XLT				pP	pwP	05 38 47.2	-2.0
XLT				SS	Sn	05 42 56.6	+11
XLT				pmax	pmax		
	comp=Z,4.0nm,1.2s						
XLT				pmax	pmax		
	comp=Z,82nm,4.5s						
XLT				LR	LR		
	comp=Z,18nm,12.3s						
XLT				LR	LR		
	comp=Z,180nm,18.6s						
XLT				LR	LR		
	comp=Z,220nm,16.1s						
HIA	**Hailar**	**21.87**	**319**	P	**P**	**05 38 35.4**	**-0.1**
HIA				IAmb	IAmb	05 38 38.7	
	comp=Z,6.8nm,0.4s						
KNMB	**Chin-men Tao**	**22.47**	**250**	P	**P**	**05 38 44.4**	**+2.3**
KNMB				IAmb	IAmb	05 39 03.8	
	comp=Z,47nm,0.9s						
WHN	**Wuhan**	**23.26**	**268**	P	**P**	**05 38 48.1**	**-2.2**
WHN				LR	LR		
	comp=Z,400nm,4.0s						
WHN				LR	LR		
	comp=Z,640nm,10.0s						
WHN				LR	LR		
	comp=Z,820nm,17.8s						
HHC	**Hu-ho-hao-te**	**24.52**	**294**	*e*P	**P**	**05 39 02.9**	**+0.7**
HHC				pmax	pmax		
	comp=Z,140nm,7.4s						
HHC				LR	LR		
	comp=Z,330nm,15.6s						
HHC				LR	LR		
	comp=Z,440nm,15.9s						
HHC				LR	LR		
	comp=Z,380nm,14.3s						
MA2	**Magadan**	**25.84**	**11**	LR	LR	05 51 22.3	
	comp=Z,76nm,18.1s,baz=163,slow=41						
H11N2	**WAKE ISLAND Hy**	**26.80**	**117**	T	T	06 07 20.5	
	baz=309,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**26.81**	**117**	T	T	06 07 28.1	
	baz=309,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**26.82**	**117**	T	T	06 07 27.0	
	baz=309,slow=75,SNR=10						
XAN	**Xi'an**	**26.93**	**278**	P	**P**	**05 39 23.5**	**-0.5**
XAN				pP	pwP	05 39 41.6	+2.4
XAN				S	**S**	**05 43 51.8**	**-7.7**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				LR	LR		
	comp=Z,220nm,12.0s						
XAN				LR	LR		
	comp=Z,310nm,13.3s						
XAN				LR	LR		
	comp=Z,420nm,16.1s						
H11S3	**WAKE ISLAND Hy**	**27.43**	**119**	T	T	06 08 25.8	
	baz=311,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.43**	**119**	T	T	06 08 19.4	
	baz=311,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	06 08 20.5	
	baz=311						
ULN	**Ulaanbaatar**	**28.97**	**308**	P	**P**	**05 39 43.0**	**+0.7**
ULN				IAmb	IAmb	05 39 55.1	
	comp=Z,10.0nm,1.2s						
SONM	**Songino Array**	**29.39**	**308**	LR	LR	05 52 48.1	
	comp=Z,222nm,18.7s,baz=146,slow=39						
SHEM	**Shemya Is, Ala**	**29.44**	**42**	LR	LR	05 51 01.0	
	comp=Z,35nm,19.4s,baz=5.5,slow=35						
DAV	**Davao City (W)**	**31.00**	**212**	LR	LR	05 50 18.2	
	comp=Z,77nm,20.9s,baz=150,slow=32						
GYA	**Guiyang**	**31.01**	**265**	P	**P**	**05 40 00.2**	**-0.3**
GYA				pmax	pmax		
	comp=Z,13nm,1.0s						
CD2	**Chengdu**	**31.90**	**274**	*e*P	**P**	**05 40 09.4**	**+1.2**
GTA	**Gaotai**	**33.52**	**291**	*e*P	**P**	**05 40 22.2**	**-0.2**
GTA				pP	pwP	05 40 38.4	+1.8
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,64nm,4.7s						
GTA				LR	LR		
	comp=Z,140nm,14.2s						
GTA				LR	LR		
	comp=Z,150nm,14.5s						
GTA				LR	LR		
	comp=Z,150nm,13.1s						
PZH	**PanZhiHua**	**35.05**	**268**	P	**P**	**05 40 38.9**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,6.7s						
GOMU	**GeErMu**	**37.90**	**286**	P	**P**	**05 40 59.4**	**-0.9**
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.04**	**258**	P	**P**	**05 41 25.3**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=48,slow=7.9,SNR=7.1						
	comp=Z,1.0nm,0.4s						
WMQ	**Urumqi**	**42.16**	**299**	*e*P	**P**	**05 41 34.9**	**-0.3**
WMQ				sP	pwP	05 41 58.3	+8.7
WMQ				pmax	pmax		
	comp=Z,43nm,1.1s						
ZAA0	**Zalesovo Array**	**43.77**	**314**	P	**P**	**05 41 48.1**	**+0.1**
ZALV	**Zalesovo Beam**	**43.77**	**314**	P	**P**	**05 41 48.2**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=90,slow=6.7,SNR=6.0						
ZALV				PcP	**PcP**	**05 43 34.4**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=106,slow=3.2,SNR=4.2						
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**43.77**	**314**	P	**P**	**05 41 47.2**	**-0.7**
MK31	**Makanchi Array**	**45.63**	**304**	P	**P**	**05 42 02.8**	**-0.1**
MKAR	**Makanchi Array**	**45.63**	**304**	P	**P**	**05 42 03.5**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=93,slow=8.5,SNR=13						
MKAR				LR	LR	06 02 22.5	
	comp=Z,73nm,18.7s,baz=86,slow=38						
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**45.63**	**304**	P	**P**	**05 42 02.6**	**-0.3**
KURK	**Kurchatov**	**47.65**	**310**	P	**P**	**05 42 18.4**	**-0.2**
KURK				IAmb	IAmb	05 42 24.1	
	comp=Z,16nm,0.8s						
KURBB	**Kurchatov Arra**	**47.71**	**310**	LR	LR	06 03 57.0	
	comp=Z,124nm,19.3s,baz=82,slow=38						
IMAR	**Indian Mountai**	**48.80**	**29**	P	**P**	**05 42 30.2**	**+2.8**
SEW	**Seward**	**50.50**	**37**	P	**P**	**05 42 38.9**	**-1.4**
SEW				IAmb	IAmb	05 42 44.4	
	comp=Z,8.4nm,1.3s						
KNRA	**Kununurra**	**51.33**	**196**	P	**P**	**05 42 45.9**	**-1.1**
KNRA				IAmb	IAmb	05 43 04.1	
	comp=Z,15nm,1.1s						
IL31		**51.60**	**31**	P	**P**	**05 42 48.9**	**+0.4**
ILAR	**Eielson Array**	**51.60**	**31**	P	**P**	**05 42 50.7**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=269,slow=6.2,SNR=6.5						
ILAR				LR	LR	06 08 00.9	
	comp=Z,19nm,19.9s,baz=195,slow=40						
	comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**51.60**	**31**	P	**P**	**05 42 47.4**	**-1.1**
GLI	**Glacier Island**	**51.63**	**36**	P	**P**	**05 42 46.8**	**-2.0**
Q23K	**Middleton Isla**	**52.11**	**38**	P	**P**	**05 42 50.7**	**-1.7**
MID	**Middleton Isla**	**52.12**	**38**	P	**P**	**05 42 49.8**	**-2.6**
KLU	**Klutina**	**52.16**	**35**	P	**P**	**05 42 50.6**	**-2.2**
BVAR	**Borovoye Array**	**52.42**	**314**	LR	LR	06 06 44.5	
	comp=Z,88nm,18.6s,baz=91,slow=38						
BRVK	**Borovoye**	**52.47**	**314**	P	**P**	**05 42 55.9**	**+0.7**
BRVK				IAmb	IAmb	05 42 57.1	
	comp=Z,3.3nm,0.7s						
BCAR	**Beaver Creek A**	**53.95**	**33**	P	**P**	**05 43 04.3**	**-1.7**
YAH	**Yahtse**	**54.31**	**37**	P	**P**	**05 43 11.7**	**+2.8**
WRAB	**Tennant Creek**	**54.53**	**188**	P	**P**	**05 43 09.2**	**-1.4**
WRAB				IAmb	IAmb	05 43 27.4	
	comp=Z,6.1nm,1.1s						
WR0	**Warramunga Arr**	**54.54**	**188**	P	**P**	**05 43 09.4**	**-1.2**
WR0				IAmb	IAmb	05 43 14.9	
	comp=Z,6.7nm,1.1s						
WRA	**Warramunga Arr**	**54.54**	**188**	P	**P**	**05 43 09.6**	**-1.1**
	comp=Z,4.5nm,1.1s,baz=6.1,slow=7.7,SNR=20						
	comp=Z,4.5nm,1.1s						
WRA	**Warramunga Arr**	**54.54**	**188**	P	**P**	**05 43 09.7**	**-1.0**
KK31	**Karatay Array**	**54.55**	**302**	P	**P**	**05 43 10.6**	**0.0**
KK31				IAmb	IAmb	05 43 12.6	
	comp=Z,7.5nm,0.9s						
KKAR	**Karatay Array**	**54.55**	**302**	P	**P**	**05 43 10.6**	**0.0**
PCA	**Pinnacle**	**55.08**	**37**	P	**P**	**05 43 12.1**	**-2.2**
BTK	**Batken**	**55.24**	**298**	P	**P**	**05 43 17.0**	**+1.2**
BTK				IAmb	IAmb	05 43 43.0	
	comp=Z,3.5nm,0.9s						
GAR	**Garm**	**55.95**	**297**	P	**P**	**05 43 21.2**	**+0.3**
GAR				IAmb	IAmb	05 43 22.0	
	comp=Z,16nm,1.4s						
CHGR	**Chuyangaron**	**56.91**	**297**	P	**P**	**05 43 27.3**	**-0.5**
CHGR				IAmb	IAmb	05 43 29.4	
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**58.27**	**188**	P	**P**	**05 43 37.0**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=15,slow=8.7,SNR=11						
	comp=Z,0.9nm,0.8s						
ABKAR	**Akbulak array**	**59.71**	**311**	P	**P**	**05 43 46.7**	**-0.2**
KIRV	**Kirov**	**62.38**	**324**	LR	LR	06 13 49.0	
	comp=Z,85nm,18.6s,baz=61,slow=38						
BELG	**Belogornoye**	**65.78**	**318**	LR	LR	06 16 39.6	
	comp=Z,70nm,18.3s,baz=137,slow=39						
OBN	**Obninsk**	**70.23**	**324**	LR	LR	06 16 54.8	
	comp=Z,16nm,20.4s,baz=176,slow=37						
FINES	**FINESS Array B**	**71.15**	**333**	P	**P**	**05 45 01.7**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=107,slow=7.4,SNR=5.8						
	comp=Z,2.5nm,0.8s						
KBZ	**Khabaz**	**72.68**	**311**	P	**P**	**05 45 11.6**	**+1.3**
	comp=Z,3.6nm,0.9s,baz=162,slow=3.2,SNR=4.0						
	comp=Z,3.6nm,0.9s						
KVAR	**Kislovodsk Arr**	**72.69**	**312**	LR	LR	06 22 04.3	
	comp=Z,52nm,18.8s,baz=299,slow=40						
NACGM	**Naroch**	**74.94**	**327**	*e*P	**P**	**05 45 24.1**	**+0.8**
	baz=51						
AKASG	**Malin Array Be**	**76.41**	**323**	P	**P**	**05 45 31.7**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=45,slow=5.9,SNR=7.9						
AKASG				LR	LR	06 22 38.0	
	comp=Z,109nm,19.2s,baz=62,slow=38						
	comp=Z,1.3nm,0.6s						
NVAR	**Mina Array Bea**	**76.43**	**53**	P	**P**	**05 45 35.4**	**+3.0**
	comp=Z,0.2nm,0.5s,baz=280,slow=7.2,SNR=2.2						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**76.48**	**336**	LR	LR	06 22 09.5	
	comp=Z,85nm,19.6s,baz=52,slow=38						
NB2	**NORSAR Subarra**	**76.60**	**338**	P	**P**	**05 45 33.0**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**76.60**	**338**	P	**P**	**05 45 33.4**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=40,slow=5.7,SNR=6.2						
NOA				LR	LR	06 24 03.5	
	comp=Z,62nm,18.6s,baz=35,slow=39						
	comp=Z,1.7nm,0.8s						
FRB	**Frobisher Bay**	**79.24**	**13**	LR	LR	06 24 49.2	
	comp=Z,33nm,18.3s,baz=24,slow=39						
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**05 45 50.9**	**+2.1**
	comp=Z,0.1nm,0.5s,baz=270,slow=4.5,SNR=1.9						
	comp=Z,0.1nm,0.5s						
PFO	**Pinyon Flats O**	**80.36**	**56**	LR	LR	06 22 01.2	
	comp=Z,30nm,18.2s,baz=264,slow=36						
BRTR	**Keskin Array B**	**80.65**	**312**	P	**P**	**05 45 56.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=74,slow=5.1,SNR=6.3						
	comp=Z,1.4nm,0.8s						
PPT	**Papeete**	**83.38**	**116**	LR	LR	06 17 15.1	
	comp=Z,48nm,19.6s,baz=94,slow=31						
GERES	**GERESS Array B**	**84.96**	**328**	P	**P**	**05 46 18.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=41,slow=7.1,SNR=3.8						
	comp=Z,0.3nm,0.5s						

WEL 02 05:34:09.6±1.4,37°S±5°×17°9E±°, h22km±8km, M3.4/36, ML3.6/46, MLv3.4/36, Error ellipse: s-maj=0.0km s-min=0.0km az=70.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.59**	**253**	P	Pb	05 34 21.4	+0.1
MXZ				S	Sb	05 34 28.6	-0.7
WMGZ	**Waiomatatini S**	**0.64**	**228**	P	Pn	05 34 24.3	+0.9
PKGZ	**Pakihiroa**	**0.90**	**236**	P	Pn	05 34 27.3	+0.3
PKGZ				S	Sn	05 34 38.9	-0.4
PUZ	**Puketiti**	**0.91**	**221**	P	Pn	05 34 27.9	+0.8
PUZ				S	Sn	05 34 40.4	+0.9
HAZ	**Te Kaha**	**1.05**	**249**	P	Pn	05 34 28.6	-0.4
HAZ				S	Sb	05 34 42.0	-0.2
TWGZ	**Tauwhareparae**	**1.14**	**226**	P	Pb	05 34 31.3	+0.7
TWGZ				S	Sn	05 34 46.4	+1.2
RUGZ	**Raukumara Rang**	**1.21**	**241**	P	Pb	05 34 32.1	+0.2
RUGZ				S	Sn	05 34 47.5	+0.4
CNGZ	**Carnagh Statio**	**1.26**	**210**	P	Pb	05 34 33.6	+0.8
TKGZ	**Te Karaka**	**1.40**	**221**	P	Pn	05 34 34.2	+0.4
MWZ	**Matawai**	**1.51**	**231**	P	Pn	05 34 35.8	+0.4
RIGZ	**Rimuhau**	**1.64**	**217**	P	Pn	05 34 37.8	+0.6
RAGZ	**Rawiri**	**1.68**	**228**	P	Pb	05 34 38.8	-1.0
WHRZ	**Whale Island**	**1.69**	**253**	P	Pn	05 34 38.5	+0.6
URZ	**Urewera**	**1.74**	**240**	P	Pn	05 34 39.2	+0.7
PRGZ	**Paritu Road**	**1.77**	**210**	P	Pn	05 34 39.4	+0.4
SNGZ	**Shannon Statio**	**1.92**	**223**	P	Pn	05 34 41.3	+0.3
KNZ	**Kokohu**	**1.94**	**213**	P	Pn	05 34 41.0	-0.3
EDRZ	**Edgecumbe**	**1.94**	**248**	P	Pn	05 34 41.9	+0.6
MHGZ	**Mahia Peninsul**	**1.96**	**206**	P	Pn	05 34 42.2	+0.6
RTZ	**Ruatahuna**	**2.02**	**232**	P	Pn	05 34 43.2	+0.7
MUGZ	**Murupara**	**2.08**	**238**	P	Pn	05 34 43.4	+0.2
RAHZ	**Arahi**	**2.15**	**224**	P	Pn	05 34 44.8	+0.6
TARZ	**Mount Tarawera**	**2.16**	**246**	P	Pn	05 34 45.2	+0.8
WHHZ	**Waihua**	**2.19**	**219**	P	Pn	05 34 45.0	+0.2
MTHZ	**Maungataniwha**	**2.25**	**229**	P	Pn	05 34 46.4	+0.7
ALRZ	**Allen Road**	**2.42**	**240**	P	Pn	05 34 47.9	+0.1
NMHZ	**Naumai**	**2.44**	**225**	P	Pn	05 34 48.9	+0.7
ARHZ	**Aropaoanui**	**2.45**	**220**	P	Pn	05 34 48.5	+0.2
MRHZ	**Matea Rd**	**2.51**	**234**	P	Pn	05 34 49.6	+0.4
BKZ	**Black Stump Fm**	**2.66**	**228**	P	Pn	05 34 51.3	+0.1
TOZ	**Tahuroa Road**	**2.81**	**262**	P	Pn	05 34 52.9	-0.4
KWHZ	**Kaweka Forest**	**2.88**	**224**	P	Pn	05 34 53.9	-0.4
KAHZ	**Kahuranaki**	**2.93**	**214**	P	Pn	05 34 54.1	-0.8
KRHZ	**Kereru**	**3.06**	**222**	P	Pn	05 34 55.9	-0.8
MKAZ	**Moumakai**	**3.09**	**274**	P	Pn	05 34 56.4	-0.7
BHHZ	**Black Hill Sta**	**3.12**	**227**	P	Pn	05 34 57.5	-0.1
TMVZ	**Te Maari**	**3.12**	**236**	P	Pn	05 34 57.5	-0.2
PXZ	**Pawanui**	**3.13**	**212**	P	Pn	05 34 56.0	-1.6
ETVZ	**East Tongariro**	**3.13**	**235**	P	Pn	05 34 57.6	-0.2
NTVZ	**North Tongarir**	**3.13**	**236**	P	Pn	05 34 57.7	-0.1
KRVZ	**Karewarewa**	**3.15**	**236**	P	Pn	05 34 58.0	-0.1
NNVZ	**North Ngauruho**	**3.19**	**236**	P	Pn	05 34 59.0	+0.3
WTVZ	**West Tongariro**	**3.20**	**236**	P	Pn	05 34 58.8	+0.1
SNVZ	**South Ngauruho**	**3.21**	**235**	P	Pn	05 34 58.6	-0.2
NGZ	**Ngauruhoe**	**3.23**	**235**	P	Pn	05 34 59.0	-0.1
TUVZ	**Tukino**	**3.24**	**234**	P	Pn	05 34 59.3	0.0
MOVZ	**Moawhango**	**3.26**	**231**	P	Pn	05 34 59.3	-0.2
WNVZ	**Wahianoa**	**3.31**	**233**	P	Pn	05 34 60.0	-0.3
PNHZ	**Pukenui**	**3.35**	**220**	P	Pn	05 34 58.9	-1.8
MBAZ	**Motutapu North**	**3.35**	**279**	P	Pn	05 35 01.0	+0.3
PRHZ	**Porangahau**	**3.42**	**212**	P	Pn	05 34 59.8	-1.9
HIZ	**Hauiti**	**3.48**	**250**	P	Pn	05 35 03.4	+1.1
AWAZ	**Awhitu Peninsu**	**3.51**	**274**	P	Pn	05 35 02.5	-0.3
TSZ	**Takapari Road**	**3.58**	**221**	P	Pn	05 35 02.1	-1.7
RVAZ	**Riverhead Bore**	**3.60**	**279**	P	Pn	05 35 03.9	-0.2
BFZ	**Birch Farm**	**3.93**	**212**	P	Pn	05 35 06.2	-2.4
WAZ	**Wanganui**	**3.94**	**232**	P	Pn	05 35 08.8	-0.1
WCZ	**Waipu Caves**	**4.03**	**290**	P	Pn	05 35 09.7	-0.2
MRZ	**Mangatainoka R**	**4.22**	**218**	P	Pn	05 35 10.6	-2.1
TMWZ	**Te Maipa**	**4.43**	**212**	P	Pn	05 35 12.6	-3.0
OUZ	**Omahuta**	**4.88**	**295**	P	Pn	05 35 22.1	+0.3
CTZ	**Chatham Island**	**7.15**	**154**	P	Pn	05 35 55.5	+2.6

WEL 02 05:40:44.4±1.3,37°S±5°×17°9E±°, h22km±7km, M3.3/36, ML3.6/43, MLv3.3/36, Error ellipse: s-maj=0.0km s-min=0.0km az=82.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.71**	**244**	P	Pb	05 40 57.4	-0.7
MXZ				S	Sb	05 41 06.3	-1.1
WMGZ	**Waiomatatini S**	**0.79**	**224**	P	Pn	05 41 00.9	+0.6
WMGZ				S	Sn	05 41 13.0	+1.6
PKGZ	**Pakihiroa**	**1.04**	**232**	P	Pn	05 41 04.1	+0.4
PUZ	**Puketiti**	**1.06**	**219**	P	Pb	05 41 04.5	+0.4
PUZ				S	Sn	05 41 19.4	+1.3
HAZ	**Te Kaha**	**1.17**	**244**	P	Pn	05 41 04.9	-0.5
HAZ				S	Sn	05 41 21.8	+1.1
TWGZ	**Tauwhareparae**	**1.28**	**224**	P	Pb	05 41 08.1	+0.2
RUGZ	**Raukumara Rang**	**1.34**	**238**	P	Pb	05 41 08.8	-0.1
TKGZ	**Te Karaka**	**1.55**	**220**	P	Pn	05 41 11.2	+0.6
MWZ	**Matawai**	**1.65**	**229**	P	Pn	05 41 12.8	+0.7
RIGZ	**Rimuhau**	**1.80**	**216**	P	Pn	05 41 14.6	+0.4
RIGZ				S	Sn	05 41 35.5	-0.8
WHRZ	**Whale Island**	**1.80**	**250**	P	Pn	05 41 15.0	+0.8
URZ	**Urewera**	**1.88**	**237**	P	Pn	05 41 15.8	+0.7
URZ				S	Sn	05 41 38.2	+0.1
PRGZ	**Paritu Road**	**1.93**	**210**	P	Pn	05 41 16.0	0.0
EDRZ	**Edgecumbe**	**2.06**	**245**	P	Pn	05 41 17.1	-0.8
SNGZ	**Shannon Statio**	**2.07**	**222**	P	Pn	05 41 18.1	+0.3
KNZ	**Kokohu**	**2.10**	**212**	P	Pn	05 41 17.8	-0.4
MHGZ	**Mahia Peninsul**	**2.12**	**206**	P	Pn	05 41 18.7	+0.1
RTZ	**Ruatahuna**	**2.16**	**230**	P	Pn	05 41 20.4	+1.2
MUGZ	**Murupara**	**2.22**	**236**	P	Pn	05 41 20.0	+0.1
TARZ	**Mount Tarawera**	**2.29**	**244**	P	Pn	05 41 22.1	+1.2
RAHZ	**Arahi**	**2.30**	**223**	P	Pn	05 41 21.1	0.0
MTHZ	**Maungataniwha**	**2.40**	**228**	P	Pn	05 41 23.0	+0.6
ALRZ	**Allen Road**	**2.55**	**238**	P	Pn	05 41 24.9	+0.5
NMHZ	**Naumai**	**2.58**	**224**	P	Pn	05 41 25.9	+0.9
ARHZ	**Aropaoanui**	**2.61**	**219**	P	Pn	05 41 25.2	0.0
MRHZ	**Matea Rd**	**2.65**	**233**	P	Pn	05 41 25.9	+0.1
KUZ	**Kuaotunu**	**2.76**	**280**	P	Pn	05 41 25.4	-1.9
BKZ	**Black Stump Fm**	**2.81**	**226**	P	Pn	05 41 27.9	-0.1
CKHZ	**Cape Kidnapper**	**2.88**	**213**	P	Pn	05 41 28.1	-0.9
TOZ	**Tahuroa Road**	**2.91**	**259**	P	Pn	05 41 29.1	-0.2
KWHZ	**Kaweka Forest**	**3.03**	**223**	P	Pn	05 41 30.4	-0.6
KAHZ	**Kahuranaki**	**3.08**	**214**	P	Pn	05 41 30.7	-1.1
GRZ	**Great Barrier**	**3.10**	**288**	P	Pn	05 41 31.9	-0.1
MKAZ	**Moumakai**	**3.16**	**271**	P	Pn	05 41 31.5	-1.2
KRHZ	**Kereru**	**3.21**	**221**	P	Pn	05 41 32.9	-0.7
TMVZ	**Te Maari**	**3.26**	**234**	P	Pn	05 41 34.4	+0.1
ETVZ	**East Tongariro**	**3.27**	**234**	P	Pn	05 41 34.4	-0.1
NTVZ	**North Tongarir**	**3.27**	**235**	P	Pn	05 41 34.5	0.0
KRVZ	**Karewarewa**	**3.29**	**235**	P	Pn	05 41 34.7	0.0
NNVZ	**North Ngauruho**	**3.33**	**235**	P	Pn	05 41 35.9	+0.6
WTVZ	**West Tongariro**	**3.34**	**235**	P	Pn	05 41 35.8	+0.4
SNVZ	**South Ngauruho**	**3.34**	**234**	P	Pn	05 41 33.6	-1.9
ETAZ	**East Tamaki Re**	**3.35**	**274**	P	Pn	05 41 36.1	+0.6
NGZ	**Ngauruhoe**	**3.36**	**234**	P	Pn	05 41 36.0	+0.2
MBAZ	**Motutapu North**	**3.41**	**277**	P	Pn	05 41 36.7	+0.5
TWVZ	**Taurewa**	**3.42**	**237**	P	Pn	05 41 37.1	+0.7
FWVZ	**Far West T-bar**	**3.44**	**233**	P	Pn	05 41 37.3	+0.5
WNVZ	**Wahianoa**	**3.45**	**232**	P	Pn	05 41 36.8	-0.2
PNHZ	**Pukenui**	**3.50**	**220**	P	Pn	05 41 36.2	-1.4
AWAZ	**Awhitu Peninsu**	**3.57**	**272**	P	Pn	05 41 39.3	+0.9
PRHZ	**Porangahau**	**3.58**	**212**	P	Pn	05 41 36.6	-2.0
HIZ	**Hauiti**	**3.59**	**248**	P	Pn	05 41 40.1	+1.4
RVAZ	**Riverhead Bore**	**3.66**	**276**	P	Pn	05 41 40.1	+0.4
TSZ	**Takapari Road**	**3.73**	**220**	P	Pn	05 41 38.6	-2.1
WCZ	**Waipu Caves**	**4.05**	**287**	P	Pn	05 41 44.5	-0.6
WAZ	**Wanganui**	**4.09**	**231**	P	Pn	05 41 46.0	+0.4
MRZ	**Mangatainoka R**	**4.38**	**218**	P	Pn	05 41 47.4	-2.1

*IDC **02** 05:46:27.4±0.8,2°.18N×126°.57E, h0km, mb3.9/10, mbtmp4.0/10, MS3.6/1, Error ellipse: s-maj=57.9km s-min=14.6km az=81.0*
*DJA **02** 05:46:31.7±0.3,2°.1N±4°×12°.7E±°, h10km, M4.4/12, mb4.6/7, mB5.4/5, MLv4.1/12, Mw(mB)4.8/5*
*NEIC **02** 05:46:35.5±2.8,2°.02N±0°.05×126°.67E±0°.10, h58km±9km, mb4.3/12, Error ellipse: s-maj=15.1km s-min=6.1km az=70.0*

ISC 02 05:46:34.1±0.5,2°.22N±0°.05×126°.81E±0°.09, h50km, n43, σ1s81/44, mb4.1/12, 1C-1D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.54**	**159**		**Pn**	**05 46 59.0**	**-0.2**
TNTI	**Ternate**	**1.54**	**159**	P	**Pn**	**05 47 00.2**	**+1.0**
SGSI	**Sangihe**	**1.94**	**319**	P	**Pn**	**05 47 03.4**	**-1.3**
LBMI	**Labuha**	**2.92**	**166**	P	**Pn**	**05 47 21.9**	**+3.8**
KMSI	**Cibinong**	**3.27**	**240**	P	**Pn**	**05 47 23.9**	**+1.1**
DDMP	**Don Marcelino,**	**4.01**	**344**	*e*P	**Pn**	**05 47 31.4**	**-1.7**
DDMP				*e*S	Sn	05 48 08.7	-10
SANI	**Sanana**	**4.32**	**191**	P	**Pn**	**05 47 38.6**	**+1.3**
DAV	**Davao City (W)**	**4.97**	**346**	Pn	**Pn**	**05 47 50.0**	**+3.6**
KCP	**Kidapawan**	**5.06**	**340**	*e*P	**Pn**	**05 47 49

0.3nm,0.8s,baz=338,slow=1.8,SNR=1.2
1.0nm,0.4s
ASAR Alice Springs 26.79 165 P **P** **05 54 37.1 +1.4**
0.3nm,0.3s,baz=343,slow=7.8,SNR=5.3
0.3nm,0.3s
KSRS Korea Array 34.99 2 LR LR 06 10 15.3
comp=Z,15nm,20.8s,baz=185,slow=37
STKA Stephens Creek 36.86 158 P **P** **05 56 04.4 +0.5**
1.4nm,0.6s,baz=341,slow=9.3,SNR=3.6
1.4nm,0.6s
MKAR Makanchi Array 58.64 326 P **P** **05 58 52.0 -0.3**
0.2nm,0.3s,baz=134,slow=8.3,SNR=2.9
0.2nm,0.3s
VNDA Vanda 82.05 173 P **P** **06 01 14.4 -0.1**
0.2nm,0.4s,baz=308,slow=7.4,SNR=2.0
0.2nm,0.4s

NOU ***02*** *06:06:39.9,36˚.80S×177˚.64W,h0km,mb4.6/5,East of North Island, N.Z.*
WEL ***02*** *06:07:13.9±1.1,37˚.5±4˚×17˚.9E±˚,h14km±6km,M3.8/70, mB4.7/1,ML4.0/56,MLv3.8/70,Mw(mB)3.9/1,Error ellipse: s-maj=0.0km s-min=0.0km az=91.0*

ISC 02 06:07:12.2±2.9,37˚.06S±0˚.08×179˚.3E±0˚.1,h4km±13km, n81,σ0.85/88,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**236**	P	**Pg**	**Pg**	**06 07 29.7**	**+0.2**
MXZ				S	**Sg**	**Sg**	**06 07 40.0**	**-1.2**
WMGZ	**Waiomatatini S**	**1.01**	**221**	P	**Pn**	**Pn**	**06 07 33.9**	**+0.8**
WMGZ				S	**Sn**	**Sn**	**06 07 47.7**	**0.0**
PKGZ	**Pakihiroa**	**1.25**	**228**	P	**Pn**	**Pn**	**06 07 37.0**	**+0.6**
PKGZ				S	**Sb**	**Sb**	**06 07 52.8**	**0.0**
PUZ	**Puketiti**	**1.28**	**218**	P	**Pn**	**Pn**	**06 07 37.7**	**+0.8**
PUZ				S	**Sb**	**Sb**	**06 07 54.4**	**+0.7**
HAZ	**Te Kaha**	**1.36**	**239**	P	**Pn**	**Pn**	**06 07 37.3**	**-0.6**
HAZ				S	**Sn**	**Sn**	**06 07 56.6**	**+0.2**
TWGZ	**Tauwhareparae**	**1.50**	**222**	P	**Pb**	**Pb**	**06 07 41.3**	**+0.6**
TWGZ				S	**Sn**	**Sn**	**06 08 00.1**	**+0.1**
RUGZ	**Raukumara Rang**	**1.54**	**234**	P	**Pn**	**Pn**	**06 07 41.7**	**+1.1**
RUGZ				S	**Sb**	**Sb**	**06 08 01.9**	**+0.6**
CNGZ	**Carnagh Statio**	**1.64**	**210**	P	**Pn**	**Pn**	**06 07 43.4**	**+1.5**
WIZ	**White Island**	**1.71**	**254**	P	**Pn**	**Pn**	**06 07 41.8**	**-0.9**
TKGZ	**Te Karaka**	**1.77**	**218**	P	**Pn**	**Pn**	**06 07 44.5**	**+0.9**
TKGZ				S	**Sn**	**Sn**	**06 08 05.8**	**-0.7**
MWZ	**Matawai**	**1.86**	**227**	P	**Pn**	**Pn**	**06 07 45.7**	**+0.7**
MWZ				S	**Sn**	**Sn**	**06 08 07.6**	**-1.4**
WHRZ	**Whale Island**	**1.98**	**246**	P	**Pn**	**Pn**	**06 07 47.5**	**+1.0**
RIGZ	**Rimuhau**	**2.02**	**215**	P	**Pn**	**Pn**	**06 07 47.6**	**+0.5**
RAGZ	**Rawiri**	**2.04**	**225**	P	**Pn**	**Pn**	**06 07 48.2**	**+0.8**
URZ	**Urewera**	**2.08**	**234**	P	**Pn**	**Pn**	**06 07 48.5**	**+0.7**
PRGZ	**Paritu Road**	**2.15**	**210**	P	**Pn**	**Pn**	**06 07 49.3**	**+0.4**
EDRZ	**Edgecumbe**	**2.25**	**242**	P	**Pn**	**Pn**	**06 07 51.5**	**+1.2**
OPRZ	**Ohinepanea**	**2.28**	**249**	P	**Pn**	**Pn**	**06 07 50.6**	**0.0**
SNGZ	**Shannon Statio**	**2.29**	**221**	P	**Pn**	**Pn**	**06 07 51.0**	**+0.3**
KNZ	**Kokohu**	**2.32**	**212**	P	**Pn**	**Pn**	**06 07 50.8**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.34**	**206**	P	**Pn**	**Pn**	**06 07 51.7**	**+0.3**
RTZ	**Ruatahuna**	**2.37**	**228**	P	**Pn**	**Pn**	**06 07 52.5**	**+0.6**
MYRZ	**Mayor Island**	**2.41**	**264**	P	**Pn**	**Pn**	**06 07 52.4**	**0.0**
MUGZ	**Murupara**	**2.42**	**233**	P	**Pn**	**Pn**	**06 07 53.0**	**+0.5**
TGRZ	**Tauranga**	**2.47**	**253**	P	**Pn**	**Pn**	**06 07 53.1**	**-0.1**
TARZ	**Mount Tarawera**	**2.47**	**241**	P	**Pn**	**Pn**	**06 07 55.7**	**+2.3**
RRRZ	**Republican Roa**	**2.52**	**239**	P	**Pn**	**Pn**	**06 07 54.5**	**+0.6**
RAHZ	**Arahi**	**2.52**	**222**	P	**Pn**	**Pn**	**06 07 55.4**	**+1.4**
WHHZ	**Waihua**	**2.56**	**218**	P	**Pn**	**Pn**	**06 07 54.6**	**0.0**
KARZ	**Kaharoa**	**2.57**	**247**	P	**Pn**	**Pn**	**06 07 54.9**	**+0.3**
MTHZ	**Maungataniwha**	**2.61**	**226**	P	**Pn**	**Pn**	**06 07 56.1**	**+0.8**
ALRZ	**Allen Road**	**2.75**	**236**	P	**Pn**	**Pn**	**06 07 57.3**	**+0.2**
NMHZ	**Naumai**	**2.80**	**223**	P	**Pn**	**Pn**	**06 07 58.5**	**+0.6**
ARHZ	**Aropaoanui**	**2.83**	**218**	P	**Pn**	**Pn**	**06 07 58.1**	**0.0**
KUZ	**Kuaotunu**	**2.84**	**275**	P	**Pn**	**Pn**	**06 07 56.9**	**-1.5**
MRHZ	**Matea Rd**	**2.85**	**231**	P	**Pn**	**Pn**	**06 07 58.8**	**+0.2**
BKZ	**Black Stump Fm**	**3.02**	**225**	P	**Pn**	**Pn**	**06 08 01.1**	**+0.2**
TOZ	**Tahuroa Road**	**3.06**	**256**	P	**Pn**	**Pn**	**06 08 00.8**	**-0.5**
CKHZ	**Cape Kidnapper**	**3.10**	**213**	P	**Pn**	**Pn**	**06 08 01.3**	**-0.6**
GRZ	**Great Barrier**	**3.15**	**284**	P	**Pn**	**Pn**	**06 08 02.0**	**-0.6**
KWHZ	**Kaweka Forest**	**3.24**	**222**	P	**Pn**	**Pn**	**06 08 04.1**	**+0.2**
MKAZ	**Moumakai**	**3.27**	**268**	P	**Pn**	**Pn**	**06 08 03.0**	**-1.2**
KAHZ	**Kahuranaki**	**3.30**	**214**	P	**Pn**	**Pn**	**06 08 03.7**	**-1.0**
WIAZ	**Waiheke Island**	**3.31**	**273**	P	**Pn**	**Pn**	**06 08 04.4**	**-0.4**
KRHZ	**Kereru**	**3.43**	**220**	P	**Pn**	**Pn**	**06 08 05.7**	**-0.8**
ETAZ	**East Tamaki Re**	**3.46**	**270**	P	**Pn**	**Pn**	**06 08 07.4**	**+0.6**
TMVZ	**Te Maari**	**3.47**	**233**	P	**Pn**	**Pn**	**06 08 07.0**	**0.0**
ETVZ	**East Tongariro**	**3.48**	**232**	P	**Pn**	**Pn**	**06 08 07.1**	**-0.1**
NTVZ	**North Tongarir**	**3.48**	**233**	P	**Pn**	**Pn**	**06 08 07.3**	**+0.1**
BHHZ	**Black Hill Sta**	**3.49**	**225**	P	**Pn**	**Pn**	**06 08 07.3**	**0.0**
KRVZ	**Karewarewa**	**3.50**	**233**	P	**Pn**	**Pn**	**06 08 07.7**	**+0.2**
MBAZ	**Motutapu North**	**3.50**	**273**	P	**Pn**	**Pn**	**06 08 07.2**	**-0.2**
OTVZ	**Oturere**	**3.52**	**232**	P	**Pn**	**Pn**	**06 08 08.3**	**+0.5**
NNVZ	**North Ngauruho**	**3.53**	**233**	P	**Pn**	**Pn**	**06 08 09.4**	**+1.4**
WTVZ	**West Tongariro**	**3.54**	**233**	P	**Pn**	**Pn**	**06 08 09.3**	**+1.2**
SNVZ	**South Ngauruho**	**3.55**	**232**	P	**Pn**	**Pn**	**06 08 08.2**	**-0.1**
NGZ	**Ngauruhoe**	**3.57**	**233**	P	**Pn**	**Pn**	**06 08 08.5**	**0.0**
ABAZ	**Army Bay**	**3.57**	**276**	P	**Pn**	**Pn**	**06 08 08.6**	**+0.3**
MOVZ	**Moawhango**	**3.61**	**229**	P	**Pn**	**Pn**	**06 08 08.8**	**-0.2**
TWVZ	**Taurewa**	**3.62**	**235**	P	**Pn**	**Pn**	**06 08 09.6**	**+0.5**
FWVZ	**Far West T-bar**	**3.64**	**232**	P	**Pn**	**Pn**	**06 08 09.9**	**+0.3**
AWAZ	**Awhitu Peninsu**	**3.68**	**269**	P	**Pn**	**Pn**	**06 08 09.8**	**-0.1**
PNAZ	**Pukenui**	**3.72**	**219**	P	**Pn**	**Pn**	**06 08 09.7**	**-0.7**
WPHZ	**Waipukurau**	**3.72**	**215**	P	**Pn**	**Pn**	**06 08 10.2**	**-0.2**
WTAZ	**Waiatarua**	**3.74**	**271**	P	**Pn**	**Pn**	**06 08 11.8**	**+1.0**
RVAZ	**Riverhead Bore**	**3.75**	**273**	P	**Pn**	**Pn**	**06 08 11.1**	**+0.3**
HIZ	**Hauiti**	**3.77**	**246**	P	**Pn**	**Pn**	**06 08 12.6**	**+1.5**
HIZ	**Hauiti**	**3.77**	**246**	P	**Pn**	**Pn**	**06 08 12.6**	**+1.5**
PRHZ	**Porangahau**	**3.80**	**212**	P	**Pn**	**Pn**	**06 08 10.0**	**-1.5**
TSZ	**Takapari Road**	**3.95**	**220**	P	**Pn**	**Pn**	**06 08 13.2**	**-0.4**
WCZ	**Waipu Caves**	**4.11**	**284**	P	**Pn**	**Pn**	**06 08 15.7**	**0.0**
WAZ	**Wanganui**	**4.29**	**230**	P	**Pn**	**Pn**	**06 08 19.1**	**+0.8**
MRZ	**Mangatainoka R**	**4.59**	**217**	P	**Pn**	**Pn**	**06 08 20.6**	**-1.9**
OUZ	**Omahuta**	**4.93**	**290**	P	**Pn**	**Pn**	**06 08 27.4**	**+0.3**
OUZ	**Omahuta**	**4.93**	**290**	P	**Pn**	**Pn**	**06 08 27.3**	**+0.3**
MTW	**Mount Morrison**	**5.02**	**214**	P	**Pn**	**Pn**	**06 08 26.6**	**-1.7**
QRZ	**Quartz Range**	**6.45**	**232**	P	**Pn**	**Pn**	**06 08 46.3**	**-1.6**
QRZ	**Quartz Range**	**6.45**	**232**	P	**Pn**	**Pn**	**06 08 46.3**	**-1.6**
KHZ	**Kahutara**	**6.92**	**218**	P	Pn	06 08 48.3		-6.1
CTZ	**Chatham Island**	**7.38**	**156**	P	**Pn**	**Pn**	**06 09 01.9**	**+1.3**
ODZ	**Otahua Downs**	**10.28**	**216**	P	Pn	06 09 33.4		-7.1

IDC 02 06:08:58.6±2.9,54˚.13N×87˚.15E,h0km,mbtmp2.6/1, ML2.6/1,Error ellipse: s-maj=23.5km s-min=16.4km az=67.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA 1.39 263**			*i*			06 17 52.6	
	baz=83,slow=321,SNR=0.7							
ZALV	**Zalesovo Beam 1.39 263**				Pg	Pg	06 09 23.3	-1.9
	1.7nm,0.3s,baz=81,slow=15,SNR=16							
ZALV					Lg	Lg	06 09 43.3	
	1.5nm,0.3s,baz=77,slow=24,SNR=8.8							
KURBB	**Kurchatov Arra 6.34 240**				Pn	Pn	06 10 33.9	+0.6
	baz=54,slow=13							
KURBB					Sn	Sn	06 11 45.8	-0.5
	baz=48,slow=19,SNR=2.4							
KURBB					Lg	Lg	06 12 20.1	
	baz=59,slow=36,SNR=1.7							
MKAR	**Makanchi Array 7.97 205**				Pn	Pn	06 10 57.7	+2.0
	0.1nm,0.3s,baz=28,slow=14,SNR=2.2							
MKAR					Sn	Sn	06 12 25.7	-0.8
	0.1nm,0.3s,baz=21,slow=25,SNR=1.6							
MKAR					Lg	Lg	06 13 09.1	
	0.1nm,0.3s,baz=30,slow=32,SNR=1.8							
	0.1nm,0.3s							

BJI ***02*** *06:12:47.9±0.0,36˚.06N×70˚.55E,h91km,mb4.5/29, mB4.6/12*
MOS ***02*** *06:12:47.9±0.8,36˚.08N×70˚.54E,h108km,mb4.5/18,Error ellipse: s-maj=7.8km s-min=3.9km az=78.5*
NEIC ***02*** *06:12:49.2±2.1,36˚.04N±0˚.06×70˚.37E±0˚.08,h104km±8km, mb4.5/18, Error ellipse: s-maj=9.5km s-min=8.6km az=116.0*
NNC ***02*** *06:12:49.9±1.5,36˚.25N×70˚.32E,h99km±17km,mb4.4, mpv5.0,Error ellipse: s-maj=15.2km s-min=7.3km az=156.0*
IDC ***02*** *06:12:49.3±0.6,35˚.94N×70˚.48E,h112km±5km,mb3.7/20, mbtmp4.2/27,Error ellipse: s-maj=14.1km s-min=10.5km az=14.0*

ISC 02 06:12:48.0±0.4,35˚.99N±0˚.04×70˚.47E±0˚.04,h98km±4km, h98km:pP-P,n191,σ1.78/222,mb4.2/42,22C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.85**	**219**	Pn	**Pn**	**Pn**	**06 13 21.0**	**+2.1**
KBL	**Kabul**	**1.85**	**219**	PN	**Pn**	**Pn**	**06 13 21.0**	**+2.1**
CEP	**Cherat**	**2.46**	**151**	P	**Pn**	**Pn**	**06 13 30.0**	**+3.3**
CEP				S	**Sn**	**Sn**	**06 14 00.0**	**+3.7**
CHGR	**Chuyangaron**	**2.87**	**339**		**Pn**	**Pn**	**06 13 31.8**	**-0.2**
CHGR	**Chuyangaron**	**2.87**	**339**	PN	**Pn**	**Pn**	**06 13 31.8**	**-0.2**
GAR	**Garm**	**3.01**	**358**		**Pn**	**Pn**	**06 13 34.6**	**+0.6**
NIL	**Nilore**	**3.26**	**135**		**Pn**	**Pn**	**06 13 38.9**	**+1.6**
NIL	**Nilore**	**3.26**	**135**	PN	**Pn**	**Pn**	**06 13 38.9**	**+1.6**
CHCP	**Chirah Chowk**	**3.27**	**134**	P	**Pn**	**Pn**	**06 13 39.5**	**+2.2**
THW	**Thamme Wali**	**3.35**	**161**	P	**Pn**	**Pn**	**06 13 40.3**	**+1.8**
BTK	**Batken**	**4.08**	**4**		**Pn**	**Pn**	**06 13 50.5**	**+2.2**
BTK	**Batken**	**4.08**	**4**	PN	**Pn**	**Pn**	**06 13 50.5**	**+2.2**
JMU	**Jammu**	**4.90**	**130**	*ex*	**Pn**	**Pn**	**06 14 00.7**	**+1.3**
JMU				*ex*	**Sn**	**Sn**	**06 14 54.0**	**-0.9**
TAS	**Tashkent**	**5.41**	**351**	Pn	**Pn**	**Pn**	**06 14 07.0**	**+0.7**
TAS	**Tashkent**	**5.41**	**351**	PN	**Pn**	**Pn**	**06 14 07.0**	**+0.7**
KSH	**Kashi**	**5.61**	**49**	P	**Pn**	**Pn**	**06 14 06.6**	**-2.4**
KSH				S	Sn	Sn	06 15 02.4	-10
KSH				smax	smax	smax		
	comp=N,1μm,0.9s							
KSH				smax	smax	smax		
	comp=E,850nm,0.8s							
THN	**Thein Dam**	**5.61**	**128**	*e*P	**Pn**	**Pn**	**06 14 10.6**	**+1.7**
THN				*e*P	**Pn**	**Pn**	**06 14 12.0**	**+3.1**
THN				*e*S	**Sn**	**Sn**	**06 15 11.9**	**0.0**
THN				*e*S	**Sn**	**Sn**	**06 15 12.0**	**0.0**
IUG	**Iuzhnay**	**6.16**	**357**	*i* PN	**Pn**	**Pn**	**06 14 17.1**	**+0.6**
IUG	**Iuzhnay**	**6.16**	**357**	*e*P	**Pn**	**Pn**	**06 14 16.7**	**+0.2**
	baz=357							
AML	**Almayashu**	**6.63**	**21**	P	**Pn**	**Pn**	**06 14 23.4**	**+0.2**
	SNR=293							
BHK	**Bhakra**	**6.73**	**131**	*e*P	**Pn**	**Pn**	**06 14 25.4**	**+1.1**
BHK				*i* x	x	x	06 14 36.9	
BHK				*e*S	**Sn**	**Sn**	**06 15 37.4**	**-2.0**
HRA	**Herat**	**6.92**	**259**	Pn	**Pn**	**Pn**	**06 14 27.2**	**+0.2**
DZA	**Taraz**	**6.93**	**5**	*e*PN	**Pn**	**Pn**	**06 14 26.7**	**-0.2**
DZA	**Taraz**	**6.93**	**5**	*e*P	**Pn**	**Pn**	**06 14 26.8**	**-0.2**
	baz=5.1							
NRN	**Naryn**	**6.95**	**37**		**Pn**	**Pn**	**06 14 26.8**	**-0.6**
NRN	**Naryn**	**6.95**	**37**	PN	**Pn**	**Pn**	**06 14 26.8**	**-0.6**
UCH	**Uchtor**	**6.98**	**26**	P	**Pn**	**Pn**	**06 14 28.2**	**+0.2**
	SNR=118							
KK31	**Karatay Array**	**7.11**	**0**	Pn	**Pn**	**Pn**	**06 14 28.6**	**-0.7**
KK31	**Karatay Array**	**7.11**	**0**	*i* PN	**Pn**	**Pn**	**06 14 29.0**	**-0.3**
KK31				pmax	pmax	pmax		
	comp=Z,31nm,0.4s							
KK31	**Karatay Array**	**7.11**	**0**	P	**Pn**	**Pn**	**06 14 29.0**	**-0.3**
	comp=Z,31nm,0.5s,baz=189,slow=13,SNR=240							
KK31				⇑S	**Sn**	**Sn**	**06 15 44.4**	**-4.1**
	comp=Z,53nm,0.6s,baz=185,slow=26,SNR=4.0							
KKAR	**Karatay Array**	**7.11**	**0**		**Pn**	**Pn**	**06 14 29.2**	**-0.1**
KKAR	**Karatay Array**	**7.11**	**0**	PN	**Pn**	**Pn**	**06 14 29.2**	**-0.1**
EKS2	**Erkin-Say**	**7.14**	**20**	P	**Pn**	**Pn**	**06 14 30.4**	**+0.6**
	SNR=104							
AAK	**Ala-Archa**	**7.34**	**24**	P	**Pn**	**Pn**	**06 14 33.0**	**+0.4**
	SNR=58							
AAK	**Ala-Archa**	**7.34**	**24**	P	**Pn**	**Pn**	**06 14 33.0**	**+0.4**
	comp=Z,52nm,0.4s,baz=210,slow=8.3,SNR=85							
AAK				S	**Sn**	**Sn**	**06 15 52.1**	**-2.2**
	comp=Z,49nm,0.3s,baz=330,slow=20,SNR=11							
AAK	**Ala-Archa**	**7.34**	**24**	Pn	**Pn**	**Pn**	**06 14 32.8**	**+0.2**
KBK	**Karagaybulak**	**7.51**	**26**	P	**Pn**	**Pn**	**06 14 36.3**	**+1.4**
	SNR=32							
ULHL	**Ulahol**	**7.69**	**34**	P	**Pn**	**Pn**	**06 14 38.1**	**+0.6**
	SNR=8.9							
CHMS	**Chumysh**	**7.75**	**24**	P	**Pn**	**Pn**	**06 14 38.5**	**+0.5**
	SNR=31							
CHMS	**Chumysh**	**7.75**	**24**	⇑P	**Pn**	**Pn**	**06 14 37.8**	**-0.2**
	comp=Z,61nm,0.4s							
CHMS				⇑S	**Sn**	**Sn**	**06 16 01.2**	**-2.9**
	comp=Z,85nm,0.6s							
USP	**Ospenovka**	**7.91**	**22**	P	**Pn**	**Pn**	**06 14 41.2**	**+1.0**
	SNR=17							
TKM2	**Tokmak 2**	**7.98**	**28**	P	**Pn**	**Pn**	**06 14 41.5**	**+0.2**
	SNR=58							
TKM2	**Tokmak 2**	**7.98**	**28**	*i* PN	**Pn**	**Pn**	**06 14 41.5**	**+0.2**
TKM2				pmax	pmax	pmax		
	comp=Z,39nm,0.5s							
TKM2	**Tokmak 2**	**7.98**	**28**	⇑P	**Pn**	**Pn**	**06 14 41.5**	**+0.2**
	comp=Z,42nm,0.5s							
TKM2				⇑S	**Sn**	**Sn**	**06 16 08.7**	**-1.3**
	comp=Z,34nm,0.6s							
SGDS	**Sogindy**	**8.12**	**22**	*i* PN	**Pn**	**Pn**	**06 14 42.4**	**-0.6**
SGDS	**Sogindy**	**8.12**	**22**	*i* P	**Pn**	**Pn**	**06 14 42.4**	**-0.6**
	baz=22							
AAA	**Alma-Ata**	**8.76**	**33**	*e*PN	**Pn**	**Pn**	**06 14 51.3**	**-0.5**
AAA	**Alma-Ata**	**8.76**	**33**	*e*P	**Pn**	**Pn**	**06 14 51.3**	**-0.5**
	baz=33							
MDOK	**Medeo**	**8.78**	**33**	*e*PN	**Pn**	**Pn**	**06 14 52.4**	**+0.2**
MDOK	**Medeo**	**8.78**	**33**	*e*P	**Pn**	**Pn**	**06 14 52.4**	**+0.2**
	baz=33							
MDOK				*e*S	**Sn**	**Sn**	**06 16 28.0**	**-1.5**
	baz=33							
MDOK	**Medeo**	**8.78**	**33**	⇑P	**Pn**	**Pn**	**06 14 52.4**	**+0.2**
	comp=Z,39nm,0.9s							
NDI	**New Delhi**	**9.25**	**140**	*ex*	Pn	Pn	06 14 50.0	-8.5
NDI				*ex*	**Sn**	**Sn**	**06 16 37.0**	**-3.7**
CHKK	**Chushkaly**	**9.31**	**30**	*e*P	**Pn**	**Pn**	**06 14 58.0**	**-1.3**
CHKK	**Chushkaly**	**9.31**	**30**	*e*P	**Pn**	**Pn**	**06 14 58.1**	**-1.3**
	baz=31							
KUDL	**Kundal**	**9.33**	**145**	*e*P	**Pn**	**Pn**	**06 14 59.0**	**-0.6**
KUDL				*e*S	**Sn**	**Sn**	**06 16 34.8**	**-8.0**
SATY	**Saty**	**9.35**	**39**	*e*P	**Pn**	**Pn**	**06 14 59.8**	**-0.1**
SATY	**Saty**	**9.35**	**39**	*e*P	**Pn**	**Pn**	**06 14 59.8**	**-0.1**
	baz=39							
BTLS	**Baital**	**9.45**	**16**	*e*P	**Pn**	**Pn**	**06 14 59.7**	**-1.3**
BTLS				*e*S	**Sn**	**Sn**	**06 16 43.7**	**-1.6**
BTLS	**Baital**	**9.45**	**16**	*e*P	**Pn**	**Pn**	**06 14 59.8**	**-1.3**
	baz=16							
BTLS				*e*S	**Sn**	**Sn**	**06 16 43.8**	**-1.6**
	baz=16							
UZB	**Uzynbulak**	**9.73**	**40**	*e*P	**Pn**	**Pn**	**06 15 04.8**	**-0.3**
UZB	**Uzynbulak**	**9.73**	**40**	*e*P	**Pn**	**Pn**	**06 15 04.9**	**-0.2**
	baz=40							
KPKS	**Kokpek**	**9.79**	**38**	*e*P	**Pn**	**Pn**	**06 15 04.9**	**-0.8**
KPKS	**Kokpek**	**9.79**	**38**	*e*P	**Pn**	**Pn**	**06 15 05.0**	**-0.8**
	baz=38							
SHLS	**Shalkode**	**9.97**	**41**	*e*P	**Pn**	**Pn**	**06 15 10.8**	**+2.5**
SHLS	**Shalkode**	**9.97**	**41**	*e*P	**Pn**	**Pn**	**06 15 10.8**	**+2.5**
	baz=43							
GEYT	**Alibeck**	**10.08**	**285**	P	**Pn**	**Pn**	**06 15 09.2**	**-0.5**
	comp=Z,43nm,0.5s,baz=121,slow=9.0,SNR=46							
GEYT				S	**Sn**	**Sn**	**06 16 57.1**	**-3.8**
	comp=Z,30nm,0.7s,baz=92,slow=19,SNR=4.8							
GEYT	**Alibeck**	**10.08**	**285**	Pn	**Pn**	**Pn**	**06 15 08.4**	**-1.4**
GYA0B	**ALIBECK ARRAY**	**10.08**	**285**		**Pn**	**Pn**	**06 15 08.4**	**-1.3**
GYA0B	**ALIBECK ARRAY**	**10.08**	**285**	⇑P	**Pn**	**Pn**	**06 15 08.6**	**-1.2**
GYA0B				⇑S	**Sn**	**Sn**	**06 16 58.0**	**-2.8**
PDGK	**Podgornoye**	**10.10**	**41**	*i* P	**Pn**	**Pn**	**06 15 09.6**	**-0.5**
PDGK				pmax	pmax	pmax		
	comp=Z,8.0nm,0.5s							
PDGK	**Podgornoye**	**10.10**	**41**	⇑P	**Pn**	**Pn**	**06 15 09.2**	**-0.9**
	comp=Z,8.0nm,0.6s							
PTH	**Pithoragarh**	**10.41**	**125**	*e*P	**Pn**	**Pn**	**06 15 12.3**	**-2.2**
LGTI	**Lohaghat**	**10.49**	**126**	*e*P	**Pn**	**Pn**	**06 15 13.2**	**-2.2**
TDK	**Taldyqorghan**	**10.84**	**31**	*e*P	**Pn**	**Pn**	**06 15 19.3**	**-0.7**
TDK	**Taldyqorghan**	**10.84**	**31**	*e*P	**Pn**	**Pn**	**06 15 19.3**	**-0.7**
	baz=31							
JHNI	**Jhansi**	**12.57**	**144**	*e*P	**Pn**	**Pn**	**06 15 41.9**	**-1.4**
PYUN	**Piuthan**	**13.20**	**123**	*e*P	**Pn**	**Pn**	**06 15 48.0**	**-3.8**
	comp=Z,88nm,0.4s							
PYUN				*e*S	Sn	Sn	06 18 06.3	-11
DANN	**Dangsing**	**13.58**	**120**	*e*P	**Pn**	**Pn**	**06 15 53.6**	**-3.2**
	comp=Z,82nm,0.6s							
MAKZ	**Makanchi**	**13.82**	**35**		**Pn**	**Pn**	**06 15 59.3**	**-0.3**
MAKZ	**Makanchi**	**13.82**	**35**	P	**Pn**	**Pn**	**06 15 59.3**	**-0.3**
MAKZ	**Makanchi**	**13.82**	**35**	⇓P	**Pn**	**Pn**	**06 15 58.7**	**-0.9**
	comp=Z,42nm,0.8s							
MK31	**Makanchi Array**	**13.96**	**36**	Pn	**Pn**	**Pn**	**06 16 02.0**	**+0.7**
MK31	**Makanchi Array**	**13.96**	**36**	P	**Pn**	**Pn**	**06 16 02.0**	**+0.7**
MK31	**Makanchi Array**	**13.96**	**36**	⇑P	**Pn**	**Pn**	**06 16 00.7**	**-0.6**
	comp=Z,14nm,0.7s,baz=233,slow=11,SNR=97							
MKAR	**Makanchi Array**	**13.96**	**36**	P	**Pn**	**Pn**	**06 16 00.9**	**-0.5**
	comp=Z,7.0nm,0.6s,baz=222,slow=14,SNR=31							
MKAR	**Makanchi Array**	**13.96**	**36**		**Pn**	**Pn**	**06 16 01.4**	**+0.1**
MKAR	**Makanchi Array**	**13.96**	**36**	P	**Pn**	**Pn**	**06 16 01.4**	**+0.1**
BHPL	**Bhopal**	**14.06**	**153**	*e*S	Sn	Sn	06 18 25.6	-12
GKN	**Gorkha**	**14.40**	**120**	*e*P	**Pn**	**Pn**	**06 16 04.4**	**-3.0**
	comp=Z,66nm,0.3s							
DMN	**Daman 14.97 120**			*e*P	**Pn**	**Pn**	**06 16 12.6**	**-2.1**
	comp=Z,70nm,0.4s							
PKIN	**Phulchoki 15.20 119**			*e*P	**Pn**	**Pn**	**06 16 14.6**	**-3.0**
	comp=Z,48nm,0.5s							
JBP	**Jabalpur 15.21 145**			*e*P	Pn	Pn	06 16 10.6	-6.8
JBP				*e*S	**Sn**	**Sn**	**06 18 55.5**	**-10**
PKI	**Pulchoki 15.21 119**			*e*P	**Pn**	**Pn**	**06 16 14.7**	**-3.1**
	comp=Z,37nm,0.3s							
AB31	**Akbulak array 15.34 333**			*i* P	**Pn**	**Pn**	**06 16 17.3**	**-1.6**
AB31				pmax	pmax	pmax		
	comp=Z,13nm,0.5s							
AB31	**Akbulak array 15.34 333**			⇓P	**Pn**	**Pn**	**06 16 17.5**	**-1.4**
	comp=Z,13nm,0.6s							
AB31				⇑S	Sn	Sn	06 18 55.1	-13
	comp=Z,5.5nm,0.5s,baz=160,slow=24,SNR=6.9							
ABKAR	**Akbulak array 15.34 333**				**Pn**	**Pn**	**06 16 17.0**	**-1.9**
WMQ	**Urumqi 15.34 54**			*e*P	**P**	**P**	**06 16 22.7**	**+1.1**
WMQ				pmax	pmax	pmax		
	comp=Z,28nm,1.1s							
GUN	**Gumba 15.35 117**			*e*P	**Pn**	**Pn**	**06 16 17.6**	**-1.9**
	comp=Z,66nm,0.5s							
ZSN	**Zaisan 15.68 39**			*e*P	**Pn**	**Pn**	**06 16 23.0**	**-0.2**
ZSN	**Zaisan 15.68 39**			*e*P	**Pn**	**Pn**	**06 16 23.0**	**-0.2**
	baz=39							
JIRN	**Jiri 15.71 117**			*e*P	**Pn**	**Pn**	**06 16 22.6**	**-1.6**
	comp=Z,110nm,0.4s							
KURBB	**Kurchatov Arra 15.75 19**			P	**Pn**	**Pn**	**06 16 23.2**	**-0.8**
	comp=Z,66nm,0.8s,baz=209,slow=10,SNR=19							
KURBB	**Kurchatov Arra 15.75 19**			⇑P	**Pn

ELL	**Elmali**	**32.50**	**284**	P	**P**	**06 19 10.3**	**+0.9**		
ELL				pmax	pmax				
	comp=Z,45nm,0.6s								
AKASG	**Malin Array Be**	**32.94**	**310**	P	**P**	**06 19 13.9**	**+1.0**		
	comp=Z,0.3nm,0.3s,baz=82,slow=6.7,SNR=4.1								
	comp=Z,0.3nm,0.3s								
AKASG	**Malin Array Be**	**32.94**	**310**	*ceP*	**P**	**06 19 14.6**	**+1.7**		
MNK	**Minsk**	**34.57**	**316**	*i* P	**P**	**06 19 25.6**	**-1.3**		
MNK				*i* *PP	**pP**	**06 19 46.8**	**-3.1**		
MNK				*i*		06 20 44.9			
MNK				*i* S	**S**	**06 24 47.9**	**-0.8**		
MNK				*i* *SS	**sS**	**06 25 28.0**	**-1.2**		
MNK				*i* SS	**SnSn**	**06 27 11.8**	**+1.4**		
MNK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
MNK				pmax	pmax				
	comp=E,3.0nm,1.1s								
MNK				MLR	MLR				
	comp=E,15nm,17.0s								
MNK				MLR	MLR				
	comp=Z,49nm,17.0s								
MNK	**Minsk**	**34.57**	**316**	*i* P	**P**	**06 19 25.7**	**-1.3**		
	comp=E,3.0nm,1.1s								
MNK				*i* P	**P**	**06 19 25.7**	**-1.3**		
	baz=104								
MNK				*i* P	**P**	**06 19 25.7**	**-1.3**		
	comp=Z,9.0nm,0.8s								
MNK				*i* pP	**pP**	**06 19 46.9**	**-3.1**		
MNK				*i* PP	**PnPn**	**06 20 45.0**	**-0.6**		
MNK				*i* S	**S**	**06 24 47.9**	**-0.8**		
MNK				*i* sS	**sS**	**06 25 28.0**	**-1.2**		
MNK				*i* SS	**SnSn**	**06 27 11.8**	**+1.4**		
MNK				*i* LQ	LQ	06 30 56.1			
MNK				*i* LR	LR	06 32 36.4			
MNK				*i* LRM	MLR	06 34 39.0			
	comp=E,15nm,16.6s								
MNK				*i* LRM	MLR	06 34 42.9			
	comp=Z,49nm,16.6s								
MLR	**Muntele Rosu**	**34.66**	**300**	P	**P**	**06 19 30.4**	**+2.3**		
MLR				IAmb	IAmb	06 19 31.5			
	comp=Z,8.6nm,0.9s								
MLR	**Muntele Rosu**	**34.66**	**300**	P	**P**	**06 19 30.4**	**+2.3**		
MLR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
FINES	**FINESS Array B**	**37.67**	**327**	P	**P**	**06 19 53.0**	**-0.4**		
	comp=Z,1.8nm,0.8s,baz=152,slow=8.6,SNR=7.5								
FINES				pP	**pP**	**06 20 20.6**	**+3.9**		
	comp=Z,1.5nm,0.7s,baz=120,slow=11,SNR=1.9								
	comp=Z,1.8nm,0.8s								
FINES	**FINESS Array B**	**37.67**	**327**	*i* P	**P**	**06 19 54.4**	**+1.1**		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
NJ2	**Nanjing**	**39.97**	**81**	*e*P	**P**	**06 20 15.6**	**+2.7**		
NJ2				pmax	pmax				
	comp=Z,12nm,0.6s								
ARCES	**ARCESS Array B**	**41.46**	**338**	P	**P**	**06 20 24.4**	**-0.3**		
	comp=Z,1.4nm,0.5s,baz=90,slow=6.3,SNR=7.4								
	comp=Z,1.4nm,0.5s								
CUC	**Castrocucco**	**42.70**	**292**	P	**P**	**06 20 36.4**	**+1.1**		
CUC				IAmb	IAmb	06 20 38.1			
	comp=Z,9.8nm,0.8s								
NB2	**NORSAR Subarra**	**44.54**	**323**	P	**P**	**06 20 49.9**	**+0.3**		
	comp=Z,0.8nm,0.5s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.54**	**323**	P	**P**	**06 20 49.8**	**+0.2**		
	comp=Z,0.6nm,0.5s,baz=97,slow=7.7,SNR=3.8								
	comp=Z,0.6nm,0.5s								
KSRS	**Korea Array**	**45.45**	**70**	P	**P**	**06 20 56.9**	**-0.2**		
	comp=Z,0.8nm,0.5s,baz=262,slow=8.7,SNR=4.4								
	comp=Z,0.8nm,0.5s								
KLR	**Kul'dur**	**45.79**	**53**	*i* P	**P**	**06 20 58.5**	**-1.2**		
KLR				pmax	pmax				
	comp=Z,14nm,3.3s								
KEST	**Kesra**	**48.80**	**289**	P	**P**	**06 21 24.6**	**+1.4**		
	comp=Z,3.3nm,0.5s,baz=58,slow=0.7,SNR=4.0								
	comp=Z,3.3nm,0.5s								
SEY	**Seymchan**	**55.08**	**34**	*ce*P	**P**	**06 22 07.6**	**-1.8**		
SEY				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ESDC	**Sonseca Array**	**57.32**	**298**	P	**P**	**06 22 25.6**	**-0.2**		
	comp=Z,1.5nm,0.8s,baz=58,slow=6.5,SNR=12								
	comp=Z,1.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**65.28**	**269**	P	**P**	**06 23 18.7**	**-1.0**		
TORD				pP	**pP**	**06 23 46.0**	**+0.4**		
	comp=Z,1.4nm,0.8s,baz=58,slow=5.5,SNR=3.5								
	comp=Z,0.8nm,0.4s								
DBIC	**Dimbokro**	**74.24**	**267**	P	**P**	**06 24 14.4**	**-0.3**		
	comp=Z,1.6nm,0.6s,baz=72,slow=3.2,SNR=1.7								
	comp=Z,1.6nm,0.6s								
INK	**Inuvik**	**74.48**	**9**	P	**P**	**06 24 15.8**	**+0.6**		
	comp=Z,1.1nm,0.6s,baz=337,slow=6.7,SNR=5.7								
	comp=Z,1.1nm,0.6s								
COLA	**College**	**75.09**	**16**	*i* P	**P**	**06 24 18.9**	**+0.2**		
COLA				pmax	pmax				
	comp=Z,8.0nm,2.0s								
CAST	**Castle Rocks**	**75.31**	**18**	P	**P**	**06 24 20.1**	**0.0**		
CAST				IAmb	IAmb	06 25 00.6			
	comp=Z,8.0nm,1.4s								
KNRA	**Kununurra**	**75.31**	**122**	P	**P**	**06 24 21.9**	**+1.2**		
KNRA				IAmb	IAmb	06 24 32.7			
	comp=Z,20nm,1.4s								
ILAR	**Eielson Array**	**75.39**	**16**	P	**P**	**06 24 18.8**	**-1.7**		
	comp=Z,0.3nm,0.5s,baz=315,slow=5.0,SNR=4.9								
	comp=Z,0.3nm,0.5s								
KTH	**Kantishna Hill**	**75.48**	**18**	P	**P**	**06 24 21.5**	**+0.4**		
KTH				IAmb	IAmb	06 25 02.3			
	comp=Z,5.5nm,1.2s								
SCRK	**Sand Creek**	**76.70**	**15**	P	**P**	**06 24 28.5**	**+0.4**		
RIDG	**Independent Ri**	**76.73**	**15**	P	**P**	**06 24 27.9**	**-0.3**		
SCM	**Sheep Creek Mo**	**77.83**	**17**	P	**P**	**06 24 35.3**	**+0.9**		
SCM				IAmb	IAmb	06 25 01.8			
	comp=Z,6.9nm,1.4s								
SCM	**Sheep Creek Mo**	**77.83**	**17**	P	**P**	**06 24 35.3**	**+0.9**		
SCM				pmax	pmax				
	comp=Z,7.0nm,1.4s								
BCAR	**Beaver Creek A**	**77.97**	**14**	P	**P**	**06 24 36.0**	**+0.9**		
WRA	**Warramunga Arr**	**82.08**	**121**	P	**P**	**06 24 56.6**	**-1.2**		
	comp=Z,0.6nm,0.7s,baz=322,slow=4.9,SNR=12								
WRA				pP	**pP**	**06 25 25.1**	**+0.4**		
	comp=Z,0.6nm,0.8s,baz=321,slow=5.0,SNR=2.9								
	comp=Z,0.6nm,0.7s								
WB2	**Warramunga Arr**	**82.09**	**121**	P	**P**	**06 24 57.6**	**-0.2**		
WB2				IAmb	IAmb	06 24 58.2			
	comp=Z,4.5nm,1.1s								
ASAR	**Alice Springs**	**84.31**	**124**	P	**P**	**06 25 09.2**	**0.0**		
	comp=Z,0.7nm,0.7s,baz=315,slow=5.4,SNR=8.9								
ASAR				pP	**pP**	**06 25 38.5**	**+2.3**		
	comp=Z,0.4nm,0.6s,baz=314,slow=5.2,SNR=2.8								
ASAR				sP	**sP**	**06 25 50.2**	**+3.0**		
	comp=Z,0.9nm,0.7s,baz=310,slow=4.8,SNR=3.9								
	comp=Z,0.7nm,0.7s								

WEL 02 06:17:15.0±0.9, 37°S±5°×17°9E±°, h18km±8km, M3.6/43, ML3.8/46, MLv3.6/43, Error ellipse: s-maj=0.0km s-min=0.0km az=102.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**239**	P	Pb	06 17 31.0	-1.0
MXZ				S	Sb	06 17 41.9	-1.8
WMGZ	**Waiomatatini S**	**0.99**	**224**	P	Pg	06 17 34.6	+0.4
WMGZ				S	Sn	06 17 48.8	+1.3
PKGZ	**Pakihiroa**	**1.23**	**230**	P	Pn	06 17 37.6	+0.2
PKGZ				S	Sn	06 17 54.1	+0.5
PUZ	**Puketiti**	**1.26**	**220**	P	Pb	06 17 38.0	-0.2
PUZ				S	Sg	06 17 55.1	-0.7
HAZ	**Te Kaha**	**1.35**	**241**	P	Pn	06 17 30.6	-8.3
HAZ				S	Sg	06 17 58.1	-0.7
TWGZ	**Tauwhareparae**	**1.48**	**224**	P	Pb	06 17 41.5	-0.6
TWGZ				S	Sb	06 18 01.2	+0.6
RUGZ	**Raukumara Rang**	**1.53**	**236**	P	Pb	06 17 42.3	-0.6
CNGZ	**Carnagh Statio**	**1.61**	**211**	P	Pb	06 17 43.9	-0.4
WIZ	**White Island**	**1.72**	**255**	P	Pn	06 17 42.4	-1.5
TKGZ	**Te Karaka**	**1.75**	**220**	P	Pn	06 17 44.7	+0.3
TKGZ				S	Sn	06 18 06.8	+0.6
MWZ	**Matawai**	**1.85**	**228**	P	Pn	06 17 46.1	+0.2
MWZ				S	Sn	06 18 08.5	-0.3
WHRZ	**Whale Island**	**1.98**	**247**	P	Pn	06 17 47.9	+0.3
RIGZ	**Rimuhau**	**2.00**	**216**	P	Pn	06 17 48.0	+0.1
RIGZ				S	Sn	06 18 12.1	-0.3
RAGZ	**Rawiri**	**2.02**	**226**	P	Pn	06 17 48.5	+0.2
RAGZ				S	Sn	06 18 12.1	-1.0
URZ	**Urewera**	**2.07**	**236**	P	Pn	06 17 49.2	+0.4
URZ				S	Sn	06 18 14.0	-0.1
EDRZ	**Edgecumbe**	**2.25**	**243**	P	Pn	06 17 51.7	+0.4
EDRZ				S	Sb	06 18 23.4	+0.8
SNGZ	**Shannon Statio**	**2.27**	**222**	P	Pn	06 17 51.7	+0.1
SNGZ				S	Sn	06 18 18.6	-0.5
OPRZ	**Ohinepanea**	**2.29**	**250**	P	Pn	06 17 50.1	-1.7
RTZ	**Ruatahuna**	**2.36**	**230**	P	Pn	06 17 53.1	+0.2
RTZ				S	Sn	06 18 21.3	-0.1
MUGZ	**Murupara**	**2.41**	**235**	P	Pn	06 17 53.4	-0.2
MYRZ	**Mayor Island**	**2.43**	**265**	P	Pn	06 17 53.7	-0.2
TARZ	**Mount Tarawera**	**2.47**	**242**	P	Pn	06 17 55.5	+1.0
TGRZ	**Tauranga**	**2.48**	**255**	P	Pn	06 17 54.2	-0.2
RAHZ	**Arahi**	**2.50**	**223**	P	Pn	06 17 54.9	+0.1
RRRZ	**Republican Roa**	**2.51**	**240**	P	Pn	06 17 55.4	+0.5
WHHZ	**Waihua**	**2.54**	**219**	P	Pn	06 17 55.4	0.0
KARZ	**Kaharoa**	**2.58**	**248**	P	Pn	06 17 56.0	+0.2
MTHZ	**Maungatapiri**	**2.60**	**227**	P	Pn	06 17 57.1	+0.9
PRRZ	**Plateau Road**	**2.67**	**238**	P	Pn	06 17 57.0	-0.2
ALRZ	**Allen Road**	**2.74**	**237**	P	Pn	06 17 58.1	0.0
NMHZ	**Naumai**	**2.78**	**224**	P	Pn	06 17 59.1	+0.4
ARHZ	**Aropaoanui**	**2.80**	**219**	P	Pn	06 17 58.6	-0.3
MRHZ	**Matea Rd**	**2.84**	**232**	P	Pn	06 17 59.4	-0.1
BKZ	**Black Stump Fm**	**3.01**	**226**	P	Pn	06 18 01.4	-0.4
KUTZ	**Kaahu Road**	**3.06**	**242**	P	Pn	06 18 02.7	+0.2
TOZ	**Tahuroa Road**	**3.07**	**257**	P	Pn	06 18 01.5	-1.1
KWHZ	**Kaweka Forest**	**3.22**	**223**	P	Pn	06 18 04.0	-0.8
RITZ	**Rihia Road**	**3.28**	**234**	P	Pn	06 18 05.9	+0.4
MKAZ	**Moumakai**	**3.29**	**269**	P	Pn	06 18 04.3	-1.3
WIAZ	**Waiheke Island**	**3.33**	**274**	P	Pn	06 18 06.4	+0.2
KRHZ	**Kereru**	**3.41**	**221**	P	Pn	06 18 06.0	-1.3
TMVZ	**Te Maari**	**3.46**	**233**	P	Pn	06 18 07.4	-0.6
ETVZ	**East Tongariro**	**3.47**	**233**	P	Pn	06 18 07.4	-0.7
NTVZ	**North Tongariro**	**3.47**	**234**	P	Pn	06 18 07.6	-0.6
BHHZ	**Black Hill Sta**	**3.47**	**226**	P	Pn	06 18 07.6	-0.6
ETAZ	**East Tamaki Re**	**3.48**	**271**	P	Pn	06 18 08.7	+0.4
KRVZ	**Karewarewa**	**3.49**	**234**	P	Pn	06 18 08.0	-0.5
OTVZ	**Oturere**	**3.51**	**233**	P	Pn	06 18 08.2	-0.6
MBAZ	**Motutapu North**	**3.52**	**274**	P	Pn	06 18 09.2	+0.4
NNVZ	**North Ngauruho**	**3.52**	**234**	P	Pn	06 18 09.0	0.0
WTVZ	**West Tongariro**	**3.53**	**234**	P	Pn	06 18 08.9	-0.1
NGZ	**Ngauruhoe**	**3.56**	**233**	P	Pn	06 18 08.9	-0.5
ABAZ	**Army Bay**	**3.60**	**277**	P	Pn	06 18 10.4	+0.5
MOVZ	**Moawhango**	**3.60**	**229**	P	Pn	06 18 09.2	-0.8
TWVZ	**Taurewa**	**3.61**	**236**	P	Pn	06 18 10.1	0.0
FWVZ	**Far West T-bar**	**3.63**	**233**	P	Pn	06 18 10.2	-0.4
WNVZ	**Wahianoa**	**3.65**	**231**	P	Pn	06 18 09.8	-0.8
AWAZ	**Awhitu Peninsu**	**3.71**	**269**	P	Pn	06 18 10.7	-0.6
WTAZ	**Waiatarua**	**3.77**	**271**	P	Pn	06 18 13.1	+0.9
HIZ	**Hauiti**	**3.77**	**247**	P	Pn	06 18 13.1	+0.9
RVAZ	**Riverhead Bore**	**3.78**	**274**	P	Pn	06 18 12.8	+0.5
WAZ	**Wanganui**	**4.28**	**231**	P	Pn	06 18 18.6	-0.7
CAW	**Cannon Point**	**5.16**	**218**	P	Pn	06 18 37.4	+6.0
QRZ	**Quartz Range**	**6.44**	**233**	P	Pn	06 18 46.3	-2.6

IDC 02 06:23:02.7±4.6, 5.71S×129.45E, h285km±96km, mb3.2/1, mbtmp3.6/4, Error ellipse: s-maj=113.7km s-min=42.7km az=106.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.87**	**196**	P	P	06 25 57.7	+0.6
	0.8nm,0.6s,baz=31,slow=9.9,SNR=1.6						
FITZ				S	S	06 28 16.0	-2.9
	1.8nm,0.9s,baz=51,slow=8.9,SNR=2.3						
WRA	**Warramunga Arr**	**14.93**	**162**	P	P	06 26 19.0	-0.9
	0.3nm,0.2s,baz=349,slow=11,SNR=16						
WRA				S	S	06 29 05.4	+1.7
	0.2nm,0.4s,baz=334,slow=21,SNR=1.1						
ASAR	**Alice Springs**	**18.36**	**167**	P	P	06 26 57.7	+0.4
	1.0nm,0.5s,baz=351,slow=12,SNR=13						
ASAR				S	S	06 30 13.0	+1.0
	0.2nm,0.6s,baz=346,slow=19,SNR=2.7						
STKA	**Stephens Creek**	**28.41**	**158**	P	P	06 28 31.0	-0.5
	1.1nm,0.7s,baz=342,slow=9.6,SNR=2.1						
	1.1nm,0.7s						

*SOF **02** 06:38:48.4, 40.47N×23.00E, h28km, MD3.3*
*THE **02** 06:39:02.0, 41.13N×23.86E, h12km±3km, ML2.4/8, Error ellipse: s-maj=3.7km s-min=0.6km az=347.0*
*ATH **02** 06:39:02.2, 41.13N×23.87E, h11km±5km, ML2.3/3, Error ellipse: s-maj=5.6km s-min=1.0km az=7.0*
*BEO **02** 06:39:02.4±0.9, 41.07N×23.84E, h7km±2km, ML2.2/7*
*SKO **02** 06:39:03.6, 41.13N×23.81E, h3km*

ISC 02 06:39:02.0±0.8, 41.13N±0.02×23.85E±0.02, h15km±5km, n36, σ0966/60, 2D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.20**	**266**	P	**Pg**	**06 39 06.7**	**+0.1**
SRS				S	**Sg**	**06 39 09.8**	**+0.1**
	2μm,0.2s						
SRS	**Serrai**	**0.20**	**266**	*e*Pg	**Pg**	**06 39 06.7**	**+0.1**
SRS				*e*Sg	**Sg**	**06 39 09.8**	**+0.1**
SRS	**Serrai**	**0.20**	**266**	⇓*i*Pg	**Pg**	**06 39 06.8**	**+0.1**
SRS				*i* Sg	**Sg**	**06 39 09.8**	**+0.1**
SRS	**Serrai**	**0.20**	**266**	P	**Pg**	**06 39 06.7**	**+0.1**
SRS				S	**Sg**	**06 39 09.7**	**+0.1**
SRS				AML	AML	06 39 09.9	
	comp=E,2728μm,0.2s						
SRS				AML	AML	06 39 10.1	
	comp=N,3557μm,0.2s						
NVR	**Nevrokopi**	**0.22**	**2**	P	**Pg**	**06 39 06.8**	**-0.2**
NVR				S	**Sg**	**06 39 10.3**	**-0.1**
	comp=N,428nm,0.1s						
NVR	**Nevrokopi**	**0.22**	**2**	P	**Pg**	**06 39 06.9**	**-0.2**
NVR				S	**Sg**	**06 39 10.3**	**-0.1**
NVR				AML	AML	06 39 10.6	
	comp=N,961μm,0.2s						
NVR				AML	AML	06 39 11.2	
	comp=E,723μm,0.1s						
KOKK	**Kokkinochori,**	**0.33**	**160**	P	**Pg**	**06 39 08.7**	**-0.2**
KOKK				S	**Sg**	**06 39 13.5**	**0.0**
	comp=E,280nm,0.2s						
KOKK	**Kokkinochori,**	**0.33**	**160**	P	**Pg**	**06 39 08.7**	**-0.2**
KOKK				S	**Sg**	**06 39 13.5**	**0.0**
KVLA	**Kavala**	**0.45**	**115**	P	**Pg**	**06 39 10.5**	**-0.5**
KVLA				S	**Sg**	**06 39 16.5**	**-0.6**
KVLA				AML	AML	06 39 17.1	
	comp=E,1563μm,0.1s						
KVLA				AML	AML	06 39 17.2	
	comp=N,1637μm,0.1s						
MMB	**Musomiste**	**0.47**	**349**	*i* P	**Pg**	**06 39 11.0**	**-0.3**
SOH	**Sokhos**	**0.49**	**231**	P	**Pg**	**06 39 11.7**	**0.0**
SOH				S	**Sg**	**06 39 18.6**	**+0.4**
	comp=N,368nm,0.2s						
SOH	**Sokhos**	**0.49**	**231**	⇓*i*Pg	**Pg**	**06 39 11.7**	**0.0**
SOH				*i* Sg	**Sg**	**06 39 18.6**	**+0.4**
SOH	**Sokhos**	**0.49**	**231**	P	**Pg**	**06 39 11.7**	**0.0**
KAVA	**Kavala**	**0.52**	**105**	P	**Pg**	**06 39 11.7**	**-0.6**
KAVA				S	**Sg**	**06 39 18.7**	**-0.5**
	comp=N,2μm,0.1s						
KAVA	**Kavala**	**0.52**	**105**	P	**Pg**	**06 39 11.8**	**-0.5**
KNT	**Kendrikon**	**0.72**	**273**	P	**Pg**	**06 39 15.9**	**-0.1**
KNT				S	**Sg**	**06 39 25.4**	**-0.1**
	comp=N,280nm,0.2s						
KNT	**Kendrikon**	**0.72**	**273**	*i* Pg	**Pg**	**06 39 15.9**	**-0.1**
KNT				*i* Sg	**Sg**	**06 39 25.5**	**-0.1**
KNT	**Kendrikon**	**0.72**	**273**	P	**Pg**	**06 39 15.9**	**-0.1**
HORT	**Hortiatis**	**0.78**	**227**	P	**Pg**	**06 39 17.0**	**-0.1**
HORT	**Hortiatis**	**0.78**	**227**	P	**Pg**	**06 39 17.1**	**-0.1**
OUR	**Ouranopolis**	**0.80**	**173**	P	**Pb**	**06 39 17.9**	**+0.3**
OUR				S	**Sb**	**06 39 28.5**	**+0.3**
	comp=N,812nm,0.3s						
OUR	**Ouranopolis**	**0.80**	**173**	P	**Pb**	**06 39 18.0**	**+0.3**
THE	**Thessaloniki**	**0.83**	**234**	*i* Pg	**Pg**	**06 39 18.3**	**+0.1**
THE				*i* Sg	**Sb**	**06 39 29.5**	**+0.3**
THAS	**Thassos island**	**0.84**	**128**	P	**Pg**	**06 39 17.7**	**-0.6**
THAS				S	**Sb**	**06 39 30.4**	**+1.0**
	comp=N,535nm,0.2s						
RZN	**Rozhen**	**0.86**	**49**	*i* P	**Pg**	**06 39 19.2**	**+0.5**
KKB	**Krupnik**	**0.93**	**322**	*i* P	Pg	06 39 13.3	-6.8
VAY	**Valandovo**	**0.98**	**282**	*i* Pg	**Pg**	**06 39 21.3**	**+0.3**
VAY				*i* Sg	**Sg**	**06 39 34.7**	**+0.8**
VAY				*e*Lg	Lg	06 39 35.7	
	comp=N,51nm,0.5s						
PLD	**Plovdiv**	**1.17**	**33**	*e*Pg	**Pg**	**06 39 25.0**	**+0.5**
PLD				*e*Sg	**Sn**	**06 39 40.7**	**+1.3**
PLD	**Plovdiv**	**1.17**	**33**	*i* Pg	**Pg**	**06 39 25.2**	**+0.7**
PLD				*i* Sg	**Sn**	**06 39 40.9**	**+1.5**
KDZ	**Kurdzhali**	**1.29**	**66**	*i* P	**Pn**	**06 39 25.0**	**-0.5**
STIP	**Stip**	**1.37**	**295**	*i* Pg	**Pn**	**06 39 25.2**	**-1.4**
STIP				*i* Sg	**Sn**	**06 39 41.9**	**-2.6**
VTS	**Vitosha**	**1.56**	**343**	*i* Pg	**Pb**	**06 39 30.7**	**+0.1**
BOSS	**Bosilegrad**	**1.71**	**324**	*e*Pn	**Pb**	**06 39 33.1**	**0.0**
BOSS				*e*Sn	**Sg**	**06 39 56.1**	**-0.8**
PRVS	**Prvonek**	**1.91**	**317**	*e*Pn	**Pn**	**06 39 35.1**	**+1.1**
PRVS				*e*Sn	**Sb**	**06 40 00.6**	**+0.4**
BARS	**Barje**	**2.27**	**319**	*e*Pn	**Pn**	**06 39 40.1**	**+1.2**
BARS				*e*Sn	**Sb**	**06 40 09.7**	**-0.8**
ZAPS	**Zavoj**	**2.32**	**338**	*e*Pn	**Pb**	**06 39 42.4**	**-1.2**
ZAPS				*e*Sn	**Sb**	**06 40 11.8**	**-0.3**

ROM 02 06:39:40.3±0.1, 42.868N±0.003×13.277E±0.004, h15km, ML1.4/5, 5C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=255.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMO1	**Montemonaco**	**0.05**	**49**	P	Pg	06 39 43.4	+0.1
MMO1				S	Sg	06 39 45.5	+0.3
MMO1	**Montemonaco**	**0.05**	**49**	S	Sg	06 39 45.5	+0.3
MC2	**Monte Cornacci**	**0.08**	**305**	P	Pg	06 39 43.8	+0.2
MC2				S	Sg	06 39 46.2	+0.4
MC2	**Monte Cornacci**	**0.08**	**305**	S	Sg	06 39 46.3	+0.5
T1244	**Arquata del Tr**	**0.11**	**172**	P	Pb	06 39 44.1	-0.1
T1244				S	Sb	06 39 46.5	-0.4
T1244	**Arquata del Tr**	**0.11**	**172**	S	Sb	06 39 46.6	-0.2
T1241	**Roccafluvione,**	**0.11**	**96**	⇓P	Pg	06 39 44.0	+0.2
T1241				S	Sb	06 39 46.5	-0.3
T1241				AML	AML		
	comp=E,156μm,0.7s						
T1241				AML	AML		
	comp=N,155μm,0.6s						
T1241				AML	AML		
	comp=E,156μm,0.7s						
T1241				AML	AML		
	comp=N,156μm,0.6s						
T1241	**Roccafluvione,**	**0.11**	**96**	S	Sb	06 39 46.6	-0.3
T1241				AML	AML		
	comp=N,156μm,0.6s						
T1241				AML	AML		
	comp=E,156μm,0.7s						
NRCA	**Norcia**	**0.12**	**254**	P	Pg	06 39 44.2	+0.2
NRCA				S	Sg	06 39 46.6	+0.2
NRCA	**Norcia**	**0.12**	**254**	S	Sb	06 39 46.8	-0.4
T1202	**Accumoli, Fraz**	**0.17**	**193**	AML	AML		
	comp=N,333μm,0.3s						
T1202				AML	AML		
	comp=E,282μm,0.7s						
T1204	**Amatrice, Fraz**	**0.19**	**171**	AML	AML		
	comp=N,349μm,0.3s						
T1204				AML	AML		
	comp=E,681μm,0.1s						
FDMO	**Fiordimonte**	**0.22**	**320**	⇑P	Pg	06 39 45.5	+0.2
FDMO				S	Sg	06 39 49.2	+0.5
FDMO				AML	AML		
	comp=E,97μm,0.1s						
FDMO				AML	AML		
	comp=N,121μm,0.4s						
FDMO	**Fiordimonte**	**0.22**	**320**	S	Sb	06 39 49.5	-0.5
FDMO				AML	AML		
	comp=N,121μm,0.4s						
FDMO				AML	AML		
	comp=E,97μm,0.1s						
CSP1	**Cessapalombo**	**0.23**	**347**	⇑P	Pg	06 39 45.8	+0.3
CSP1				S	Sb	06 39 49.8	-0.5
CSP1	**Cessapalombo**	**0.23**	**347**	S	Sb	06 39 50.0	-0.3
SMA1	**SAN MARTINO**	**0.24**	**170**	AML	AML		
	comp=E,198μm,1.4s						
SMA1				AML	AML		
	comp=N,295μm,0.3s						
SMA1	**SAN MARTINO**	**0.24**	**170**	AML	AML		
	comp=N,295μm,0.3s						
SMA1				AML	AML		
	comp=E,338μm,0.5s						
SMA1				AML	AML		
	comp=E,338μm,0.5s						
T1215	**Vallo di Nera,**	**0.31**	**258**	⇑P	Pb	06 39 47.4	-0.2
T1215				S	Sg	06 39 51.7	+0.5
T1215	**Vallo di Nera,**	**0.31**	**258**	S	Sb	06 39 52.0	-0.5
LNSS	**Leonessa**	**0.32**	**213**	⇑P	Pg	06 39 47.4	+0.4
LNSS				S	Sb	06 39 52.3	-0.4
LNSS				AML	AML		
	comp=E,93μm,0.1s						
LNSS				AML	AML		
	comp=N,78μm,1.2s						
LNSS	**Leonessa**	**0.32**	**213**	P	Pg	06 39 47.2	+0.3
LNSS				S	Sb	06 39 52.5	-0.3
TERO	**Teramo**	**0.34**	**135**	⇓P	Pg	06 39 47.6	+0.2
TERO				S	Sb	06 39 52.9	-0.6
TERO				AML	AML		
	comp=E,112μm,0.1s						
TERO				AML	AML		
	comp=N,91μm

KNZ	**Kokohu**	**2.10 212**	P	**Pn**	06 42 00.9	-0.4	
OPRZ	**Ohinepanea**	**2.11 253**	P	**Pn**	06 42 01.4	0.0	
MHGZ	**Mahia Peninsul**	**2.12 206**	P	**Pn**	06 42 01.9	+0.3	
RTZ	**Ruatahuna**	**2.17 230**	P	**Pn**	06 42 03.0	+0.8	
MUGZ	**Murupara**	**2.22 236**	P	**Pn**	06 42 03.3	+0.4	
MYRZ	**Mayor Island**	**2.28 268**	P	**Pn**	06 42 04.3	+0.5	
TARZ	**Mount Tarawera**	**2.28 244**	P	**Pn**	06 42 04.9	+1.1	
LIRZ	**Lichensteins R**	**2.29 250**	P	**Pn**	06 42 03.0	-0.8	
RAHZ	**Arahi**	**2.31 223**	P	**Pn**	06 42 04.9	+0.8	
TGRZ	**Tauranga**	**2.31 257**	P	**Pn**	06 42 04.4	+0.3	
RRRZ	**Republican Roa**	**2.32 241**	P	**Pn**	06 42 05.2	+0.9	
OMRZ	**Omania**	**2.33 248**	P	**Pn**	06 42 05.6	+1.1	
WHHZ	**Waihua**	**2.35 218**	P	**Pn**	06 42 06.4	+1.8	
KARZ	**Kaharoa**	**2.40 250**	P	**Pn**	06 42 05.8	+0.4	
MTHZ	**Maungatapu**	**2.40 227**	P	**Pn**	06 42 06.3	+0.8	
HLRZ	**Highlands Stat**	**2.40 244**	P	**Pn**	06 42 06.4	+1.0	
NGRZ	**Ngongotaha**	**2.47 249**	P	**Pn**	06 42 07.8	+1.5	
PRRZ	**Plateau Road**	**2.48 239**	P	**Pn**	06 42 07.0	+0.5	
UTU	**Utuhina**	**2.49 247**	P	**Pb**	06 42 08.7	-2.1	
HSRZ	**Hossack Road**	**2.50 244**	P	**Pn**	06 42 08.5	+1.7	
HRRZ	**Handcock Road**	**2.51 242**	P	**Pn**	06 42 07.4	+0.5	
ALRZ	**Allen Road**	**2.55 238**	P	**Pn**	06 42 07.8	+0.4	
KMRZ	**Kaimai**	**2.58 256**	P	**Pn**	06 42 08.2	+0.3	
NMHZ	**Naumai**	**2.59 224**	P	**Pn**	06 42 09.1	+1.1	
ARHZ	**Aropaoanui**	**2.61 219**	P	**Pn**	06 42 08.7	+0.4	
GRRZ	**Galatos Road**	**2.62 244**	P	**Pn**	06 42 09.5	+1.2	
MRHZ	**Matea Rd**	**2.65 232**	P	**Pn**	06 42 09.1	+0.3	
WPRZ	**Whakapapatarin**	**2.65 240**	P	**Pn**	06 42 09.7	+0.9	
KUZ	**Kuaotunu**	**2.75 279**	P	**Pn**	06 42 08.8	-1.4	
BKZ	**Black Stump Fm**	**2.81 226**		**Pn**	06 42 11.2	+0.2	
BKZ	**Black Stump Fm**	**2.81 226**	P	**Pn**	06 42 11.3	+0.2	
BKZ	**Black Stump Fm**	**2.81 226**	P	**Pn**	06 42 11.7	+0.6	
KUTZ	**Kaahu Road**	**2.88 243**	P	**Pn**	06 42 12.7	+0.8	
CKHZ	**Cape Kidnapper**	**2.89 213**	P	**Pn**	06 42 11.5	-0.6	
TOZ	**Tahuroa Road**	**2.91 259**	P	**Pn**	06 42 11.9	-0.4	
KWHZ	**Kaweka Forest**	**3.03 223**	P	**Pn**	06 42 13.7	-0.4	
KAHZ	**Kahuranaki**	**3.09 214**	P	**Pn**	06 42 14.1	-0.8	
RATZ	**Rangitukua**	**3.09 237**	P	**Pn**	06 42 15.5	+0.7	
GRZ	**Great Barrier**	**3.09 288**	P	**Pn**	06 42 14.2	-0.6	
MKAZ	**Moumakai**	**3.15 271**	P	**Pn**	06 42 14.8	-0.9	
KATZ	**Kakaramea**	**3.19 236**	P	**Pn**	06 42 17.9	+1.4	
WIAZ	**Waiheke Island**	**3.21 277**	P	**Pn**	06 42 17.8	+1.4	
KRHZ	**Kereru**	**3.21 221**	P	**Pn**	06 42 15.9	-0.7	
TMVZ	**Te Maari**	**3.27 234**	P	**Pn**	06 42 17.4	0.0	
ETVZ	**East Tongariro**	**3.27 234**	P	**Pn**	06 42 17.4	-0.1	
NTVZ	**North Tongarir**	**3.27 235**	P	**Pn**	06 42 17.6	+0.1	
BHHZ	**Black Hill Sta**	**3.27 226**	P	**Pn**	06 42 17.4	0.0	
PXZ	**Pawanui**	**3.29 212**	P	**Pn**	06 42 16.2	-1.4	
KRVZ	**Karewarewa**	**3.29 235**	P	**Pn**	06 42 17.9	+0.2	
OTVZ	**Oturere**	**3.32 234**	P	**Pn**	06 42 18.4	+0.3	
NNVZ	**North Ngauruho**	**3.33 235**	P	**Pn**	06 42 18.7	+0.4	
WTVZ	**West Tongariro**	**3.34 235**	P	**Pn**	06 42 18.9	+0.5	
ETAZ	**East Tamaki Re**	**3.35 274**	P	**Pn**	06 42 17.9	-0.5	
NGZ	**Ngauruhoe**	**3.37 234**	P	**Pn**	06 42 18.8	0.0	
TUVZ	**Tukino**	**3.38 232**	P	**Pn**	06 42 19.1	0.0	
MBAZ	**Motutapu North**	**3.40 277**	P	**Pn**	06 42 19.1	0.0	
MOVZ	**Moawhango**	**3.41 230**	P	**Pn**	06 42 19.0	-0.3	
TWVZ	**Taurewa**	**3.42 237**	P	**Pn**	06 42 20.5	+1.1	
WHVZ	**Whangaehu Hut**	**3.43 233**	P	**Pn**	06 42 19.7	-0.1	
FWVZ	**Far West T-bar**	**3.44 233**	P	**Pn**	06 42 19.8	0.0	
WNVZ	**Wahianoa**	**3.45 232**	P	**Pn**	06 42 19.9	-0.1	
TRVZ	**Turoa**	**3.47 233**	P	**Pn**	06 42 20.3	0.0	
ABAZ	**Army Bay**	**3.48 279**	P	**Pn**	06 42 21.9	+1.6	
WPHZ	**Waipukurau**	**3.50 216**	P	**Pn**	06 42 19.4	-1.1	
PNHZ	**Pukenui**	**3.50 220**	P	**Pn**	06 42 19.4	-1.2	
EPAZ	**Eden Park BICE**	**3.51 275**	P	**Pn**	06 42 22.6	+2.0	
HBAZ	**Herne Bay Bore**	**3.52 275**	P	**Pn**	06 42 22.7	+2.0	
AWAZ	**Awhitu Peninsu**	**3.57 272**	P	**Pn**	06 42 22.8	+1.4	
PRHZ	**Porangahau**	**3.58 212**	P	**Pn**	06 42 19.9	-1.7	
HIZ	**Hauiti**	**3.59 248**		**Pn**	06 42 23.1	+1.3	
HIZ	**Hauiti**	**3.59 248**	P	**Pn**	06 42 23.1	+1.3	
HIZ	**Hauiti**	**3.59 248**	P	**Pn**	06 42 23.6	+1.9	
WTAZ	**Waiatarua**	**3.63 274**	P	**Pn**	06 42 24.0	+1.7	
RVAZ	**Riverhead Bore**	**3.65 276**	P	**Pn**	06 42 22.4	-0.1	
TSZ	**Takapari Road**	**3.73 220**	P	**Pn**	06 42 21.9	-1.8	
ANWZ	**Angora Road**	**3.81 212**	P	**Pn**	06 42 23.3	-1.4	
WCZ	**Waipu Caves**	**4.04 287**	P	**Pn**	06 42 28.0	0.0	
POWZ	**Post Office Ro**	**4.08 219**	P	**Pn**	06 42 27.3	-1.2	
WAZ	**Wanganui**	**4.09 231**	P	**Pn**	06 42 28.6	+0.1	
BFZ	**Birch Farm**	**4.09 212**	Pn	**Pn**	06 42 25.6	-3.0	
BFZ	**Birch Farm**	**4.09 212**	P	**Pn**	06 42 26.7	-1.9	
MRZ	**Mangatainoka R**	**4.38 218**	P	**Pn**	06 42 30.6	-2.0	
PREZ	**Palmer Road**	**4.42 240**	P	**Pn**	06 42 35.6	+2.5	
NEZ	**North Egmont**	**4.43 241**	P	**Pn**	06 42 36.3	+2.9	
PKZ	**Pukeiti**	**4.47 243**	P	**Pn**	06 42 37.2	+3.3	
KHEZ	**Kahui Hut**	**4.50 241**	P	**Pn**	06 42 37.5	+3.2	
NBEZ	**Newall Road No**	**4.59 242**	P	**Pn**	06 42 38.4	+3.0	
OGWZ	**Otaki Gorge**	**4.70 219**	P	**Pn**	06 42 35.0	-2.0	
KIW	**Kapiti Island**	**4.87 221**	P	**Pn**	06 42 37.2	-2.1	
OUZ	**Omahuta**	**4.89 293**		**Pn**	06 42 39.9	+0.3	
OUZ	**Omahuta**	**4.89 293**	P	**Pn**	06 42 40.3	+0.8	
OUZ	**Omahuta**	**4.89 293**	P	**Pn**	06 42 40.3	+0.8	
SNZO	**South Karori**	**5.30 219**	P	**Pn**	06 42 44.2	-1.0	
TUWZ	**Tuamarina**	**5.78 222**	Pn	**Pn**	06 42 49.2	-2.6	
BSWZ	**Blackbirch Sta**	**6.02 221**	Pn	**Pn**	06 42 52.6	-2.5	
QRZ	**Quartz Range**	**6.24 233**	P	**Pn**	06 42 56.5	-1.7	
QRZ	**Quartz Range**	**6.24 233**	P	**Pn**	06 42 58.4	+0.2	
KHZ	**Kahutara**	**6.71 218**	P	**Pn**	06 43 02.8	-1.7	
CTZ	**Chatham Island**	**7.26 155**	P	**Pn**	06 43 14.1	+2.0	
RPZ	**Rata Peaks**	**8.90 221**	Pn	**Pn**	06 43 34.6	-0.1	
	0.7nm,0.3s,baz=100,slow=17,SNR=2.1						
RPZ			Sn	Sn	06 45 02.0	-13	
	2.6nm,0.3s,baz=329,slow=23,SNR=11						
ODZ	**Otahua Downs**	**10.06 217**	P	**Pn**	**06 43 48.4**	**-2.2**	
DZM	**Mont Dzumac**	**18.67 321**	LR	LR	06 52 06.4		
	comp=Z,102nm,18.4s,baz=212,slow=35						
DZM	**Mont Dzumac**	**18.67 321**	P	**Pn**	**06 45 45.5**	**+0.8**	
DZM			IAmb	IAmb	06 45 58.9		
	comp=Z,25nm,1.4s						
LIFNC	**LIFOU**	**19.38 325**	P	**P**	**06 45 50.4**	**-1.7**	
STKA	**Stephens Creek**	**31.21 269**	P	**P**	**06 47 45.0**	**-0.5**	
	comp=Z,21nm,0.7s,baz=88,slow=8.3,SNR=5.5						
	comp=Z,21nm,0.7s						
STKA	**Stephens Creek**	**31.21 269**	P	**P**	**06 47 45.0**	**-0.5**	
CTA	**Charters Tower**	**33.29 292**	P	**P**	**06 48 03.0**	**-1.0**	
	comp=Z,1.7nm,0.6s,baz=107,slow=11,SNR=1.5						
CTA			LR	LR	06 59 35.2		
	comp=Z,63nm,21.1s,baz=86,slow=33						
	comp=Z,1.7nm,0.6s						
COEN	**Coen**	**39.48 296**	P	**P**	**06 48 57.0**	**+0.1**	
COEN			IAmb	IAmb	06 48 58.0		
	comp=Z,5.9nm,0.6s						
AS31	**Alice Springs**	**40.88 276**	P	**P**	**06 49 07.4**	**-1.0**	
ASAR	**Alice Springs**	**40.88 276**	P	**P**	**06 49 07.4**	**-1.0**	
	comp=Z,3.5nm,0.8s,baz=115,slow=7.0,SNR=24						
	comp=Z,3.5nm,0.8s						
ASAR	**Alice Springs**	**40.88 276**	P	**P**	**06 49 08.1**	**-0.3**	
WB2	**Warramunga Arr**	**42.48 281**	P	**P**	**06 49 20.3**	**-1.3**	
WB2			IAmb	IAmb	06 49 21.3		
	comp=Z,5.4nm,0.7s						
WRA	**Warramunga Arr**	**42.49 281**	P	**P**	**06 49 20.9**	**-0.8**	
	comp=Z,4.0nm,0.6s,baz=121,slow=7.8,SNR=32						
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**42.49 281**	P	**P**	**06 49 20.2**	**-1.4**	
CASY	**Casey**	**48.00 210**	P	**P**	**06 50 03.1**	**-1.6**	
CASY			IAmb	IAmb	06 50 15.9		
	comp=Z,5.5nm,1.2s						
MTN	**Manton Dam**	**49.14 287**	P	**P**	**06 50 13.5**	**-0.7**	
KNRA	**Kununurra**	**49.27 282**	P	**P**	**06 50 14.1**	**-1.1**	
FITZ	**Fitzroy Crossi**	**50.36 277**	P	**P**	**06 50 23.1**	**-0.4**	
	comp=Z,1.6nm,0.6s,baz=141,slow=9.1,SNR=2.4						
	comp=Z,1.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.36 277**	P	**P**	**06 50 22.8**	**-0.7**	
FITZ			IAmb	IAmb	06 50 56.7		
	comp=Z,8.2nm,1.4s						
QSPA	**South Pole Qui**	**52.88 180**	P	**P**	**06 50 45.7**	**+3.8**	
	comp=Z,0.4nm,0.7s,baz=44,slow=4.3,SNR=1.2						
	comp=Z,0.4nm,0.7s						
MAW	**Mawson**	**65.07 202**	P	**P**	**06 52 08.9**	**+2.7**	
MAW			IAmb	IAmb	06 52 32.0		
	comp=Z,0.9nm,1.1s						
H03N3	**Juan Fernandez**	**78.91 124**	T	T	08 20 13.1		
	baz=234,slow=72,SNR=24						
H03N2	**Juan Fernandez**	**78.92 124**	T	T	08 20 14.3		
	baz=234,slow=72,SNR=23						
H03N1	**Juan Fernandez**	**78.93 124**	T	T	08 20 14.9		
	baz=234,slow=72,SNR=24						
ARCES	**ARCESS Array B**	**144.64 344**	PKP	**PKPdf**	**07 01 01.1**	**-0.7**	
	comp=Z,2.4nm,0.8s,baz=22,slow=2.0,SNR=8.8						
FINES	**FINESS Array B**	**150.49 334**	PKPbc	**PKiKP**	**07 01 16.9**	**-0.9**	
	comp=Z,1.5nm,0.4s,baz=67,slow=2.1,SNR=11						

2016 SEP

NEIC ***02*** *06:42:59.4±2.3,8.55S×0.09×121.68E±0.04,h10km±8km, mb4.0/6,Error ellipse: s-maj=12.8km s-min=3.8km az=195.0*

DJA ***02*** *06:43:01.7±0.3,9.3°S×2.1×12.2E±1.0°,h10km,M4.2/11,mb5.1/1, mB5.9/1,MLv3.8/11,Mw(mB)5.5/1,MwMwp5.0/1,Mwp5.2/1*

ISC 02 06:42:59.4±0.7,8.45S±0.05×121.70E±0.04,h10km,n34, σ2°35/37,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.30**	**181**	P	**Pg**	**06 43 07.8**	**+2.3**
EDFI				S	**Sg**	**06 43 11.9**	**+2.4**
MMRI	**Maumere**	**0.57**	**109**		**Pg**	**06 43 10.5**	**+0.1**
MMRI				Sg	**Sg**	**06 43 17.1**	**-0.8**
MMRI	**Maumere**	**0.57**	**109**	P	**Pb**	**06 43 11.0**	**-0.4**
MMRI				S	**Sg**	**06 43 17.5**	**-0.4**
MMRI	**Maumere**	**0.57**	**109**	P	**Pb**	**06 43 11.1**	**-0.4**
BASI	**Baing, Sumba**	**2.08**	**212**	P	**Pb**	**06 43 35.4**	**-1.8**
BSSI	**Bau Bau, Buton**	**2.58**	**332**	P	**Pb**	**06 43 45.0**	**-0.9**
BATI	**Baumata**	**2.61**	**132**	P	**Pn**	**06 43 43.1**	**+1.4**
SOEI	**Soe**	**2.85**	**117**		**Pn**	**06 43 46.0**	**+0.8**
SOEI	**Soe**	**2.85**	**117**	P	**Pb**	**06 43 49.2**	**-1.3**
BBSI	**Bau Bau**	**3.07**	**16**	P	**Pn**	**06 43 50.9**	**+2.9**
BKSI	**Bulukumba**	**3.48**	**333**	P	**Pn**	**06 43 57.0**	**+3.4**
PLAI	**Plampang**	**3.90**	**264**	P	**Pn**	**06 44 02.5**	**+3.1**
PLAI	**Plampang**	**3.90**	**264**	P	**Pb**	**06 44 04.1**	**-4.1**
KAPI	**Kappang**	**3.92**	**330**	Pn	**Pn**	**06 44 01.2**	**+1.5**
KAPI	**Kappang**	**3.92**	**330**	P	**Pn**	**06 44 04.1**	**+4.4**
TWSI	**Taliwang, Sumb**	**4.77**	**266**	P	**Pn**	**06 44 15.1**	**+3.7**
JAGI	**Jajag, Banyuwa**	**7.46**	**269**	Pn	**Pn**	**06 44 48.0**	**-0.5**
TOLI2	**Tolitoli**	**9.54**	**354**	Pn	**Pn**	**06 45 18.4**	**+1.5**
TOLI2	**Tolitoli**	**9.54**	**354**	P	**Pn**	**06 45 19.6**	**+2.6**
KNRA	**Kununurra**	**9.96**	**137**	Pn	**Pn**	**06 45 21.2**	**-1.6**
KNRA	**Kununurra**	**9.96**	**137**	P	**Pn**	**06 45 22.0**	**-0.8**
MTKI	**Muara Teweh, K**	**10.07**	**317**	P	**Pn**	**06 45 24.8**	**+0.5**
MTN	**Manton Dam**	**10.25**	**116**	Pn	**Pn**	**06 45 24.9**	**-1.8**
MTN	**Manton Dam**	**10.25**	**116**	P	**Pn**	**06 45 26.7**	**0.0**
FITZ	**Fitzroy Crossi**	**10.33**	**159**	Pn	**Pn**	**06 45 24.8**	**-2.9**
FITZ	**Fitzroy Crossi**	**10.33**	**159**	P	**Pn**	**06 45 29.2**	**+1.4**
WB0	**Warramunga Arr**	**16.66**	**134**	Pn	**Pn**	**06 46 48.4**	**-4.8**
WB0				IAmb	IAmb	06 47 15.1	
	comp=Z,8.9nm,1.5s						
WRA	**Warramunga Arr**	**16.74**	**134**	Pn	**Pn**	**06 46 50.2**	**-4.0**
AS31	**Alice Springs**	**19.12**	**144**	P	**P**	**06 47 20.4**	**-2.4**
AS31				IAmb	IAmb	06 47 31.1	
	comp=Z,2.7nm,1.4s						
ASAR	**Alice Springs**	**19.12**	**144**	P	**P**	**06 47 20.4**	**-2.3**
MYKOM	**Kota Tinggi**	**20.50**	**299**	P	**P**	**06 47 38.1**	**+0.3**
MYKOM				IAmb	IAmb	06 47 52.6	
	comp=Z,21nm,0.3s						
COEN	**Coen**	**21.76**	**106**	P	**P**	**06 47 50.4**	**-1.1**
COEN				IAmb	IAmb	06 48 00.4	
	comp=Z,7.0nm,0.9s						
MAW	**Mawson**	**70.67**	**200**	P	**P**	**06 54 17.6**	**+2.5**
BELA	**Belgrano 2**	**92.80**	**185**	P	**P**	**06 56 12.4**	**+0.6**

IDC 02 06:45:46.1±2.5,54.31N×85.97E,h0km,mbtmp3.3/2, ML2.9/2,Error ellipse: s-maj=17.9km s-min=11.2km az=50.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.77**	**242**	*i*		06 50 30.0	
	baz=64,slow=318,SNR=0.6						
ZALV	**Zalesovo Beam**	**0.77**	**242**	Pg	Pg	06 45 59.2	-1.6
	1.1nm,0.3s,baz=62,slow=17,SNR=9.3						
ZALV				Lg	Lg	06 46 11.9	
	8.8nm,0.3s,baz=60,slow=30,SNR=40						
KURBB	**Kurchatov Arra**	**5.86**	**234**	Pn	Pn	06 47 14.3	+0.2
	0.2nm,0.3s,baz=49,slow=14,SNR=5.2						
KURBB				Sn	Sn	06 48 21.6	-0.2
	baz=300,slow=5.6,SNR=1.2						
KURBB				Lg	Lg	06 48 55.5	
	baz=8.2,slow=25,SNR=1.3						
	1.7nm,0.2s						
MKAR	**Makanchi Array**	**7.88**	**199**	Pn	Pn	06 47 43.5	+1.6
	0.3nm,0.3s,baz=23,slow=15,SNR=8.0						
MKAR				Sn	Sn	06 49 18.7	+6.9
	0.1nm,0.3s,baz=7.0,slow=25,SNR=1.5						
	0.3nm,0.3s						

IDC ***02*** *06:46:57.7±0.6,55.06S×30.36W,h0km,mb4.3/10, mbtmp4.4/11,ML4.1/1,Error ellipse: s-maj=21.4km s-min=16.0km az=69.0*

BJI ***02*** *06:47:00.8±0.0,55.19S×31.70W,h33km,mB5.6/3*

NEIC ***02*** *06:47:00.5±1.5,55.26S±0.08×31.0W±0.1,h10km±1km, mb4.8/34,Error ellipse: s-maj=18.2km s-min=4.9km az=39.0*

ISC 02 06:46:59.3±0.4,55.15S±0.07×30.70W±0.08,h10km,n183, σ0°71/178,mb4.7/21,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.47**	**282**	Pn	**Pn**	**06 47 51.3**	**-1.9**
ORCD	**Orcadas**	**9.32**	**227**	Pn	**Pn**	**06 49 09.9**	**-3.6**
VNA1	**Neumayer--Stat**	**18.40**	**156**	P	**P**	**06 51 14.8**	**+0.7**
VNA3	**Neumayer Olymp**	**18.53**	**159**	P	**P**	**06 51 15.7**	**+0.2**
VNA2	**Neumayer--Watz**	**18.80**	**156**	P	**P**	**06 51 18.1**	**-0.4**
	baz=308,slow=14						
PMSA	**Palmer Station**	**19.03**	**226**	P	**Pn**	**06 51 23.8**	**+2.0**
	0.6nm,0.3s,baz=91,slow=12,SNR=3.7						
	26nm,1.0s						
PMSA	**Palmer Station**	**19.03**	**226**	P	**P**	**06 51 19.6**	**-1.4**
SNAA	**Sanae**	**20.39**	**155**	P	**P**	**06 51 36.0**	**+0.1**
SNAA	**Sanae**	**20.39**	**155**	P	**P**	**06 51 36.2**	**+0.3**
	5.6nm,0.8s,baz=309,slow=11,SNR=19						
	5.6nm,0.8s						
SNAA	**Sanae**	**20.39**	**155**	P	**P**	**06 51 35.9**	**0.0**
SMAI	**San Martin Ant**	**21.20**	**218**	P	**P**	**06 51 44.2**	**-0.4**
TROLL	**Troll, Antarti**	**21.95**	**153**	P	**P**	**06 51 52.2**	**-0.5**
MG02	**Cerro Sombrero**	**22.59**	**260**	P	**P**	**06 52 00.2**	**+0.6**
BELA	**Belgrano 2**	**22.87**	**182**	P	**P**	**06 52 03.6**	**+1.3**
MG05	**Puerto Natales**	**24.88**	**261**	P	**P**	**06 52 21.1**	**-0.7**
GO09	**Cerro Castillo**	**24.96**	**262**	P	**P**	**06 52 20.7**	**-1.8**
GO09				IAmb	IAmb	06 52 24.8	
	comp=Z,33nm,1.4s						
TRQA	**Tornquist**	**27.14**	**296**	P	**P**	**06 52 42.5**	**+0.1**
TRQA				IAmb	IAmb	06 52 45.8	
	comp=Z,20nm,1.4s						
AY01	**Puyuhuapi**	**28.71**	**274**	P	**P**	**06 52 55.4**	**-0.9**
PLCA	**Paso Flores**	**29.87**	**282**	P	**P**	**06 53 09.2**	**+2.4**
	comp=Z,1.1nm,0.9s,baz=275,slow=11,SNR=2.9						
	comp=Z,1.1nm,0.9s						
CPUP	**Villa Florida**	**34.74**	**315**	P	**P**	**06 53 49.9**	**+0.5**
	comp=Z,5.7nm,0.8s,baz=152,slow=7.6,SNR=14						
	comp=Z,5.7nm,0.8s						
CPUP	**Villa Florida**	**34.74**	**315**	P	**P**	**06 53 49.5**	**+0.1**
CPUP				IAmb	IAmb	06 53 52.2	
	comp=Z,9.7nm,1.0s						
QSPA	**South Pole Qui**	**35.10**	**180**	P	**P**	**06 53 53.3**	**+0.9**
	comp=Z,13nm,1.1s,baz=199,slow=3.2,SNR=18						
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**35.10**	**180**	P	**P**	**06 53 52.5**	**+0.1**
QSPA				IAmb	IAmb	06 53 57.2	
	comp=Z,19nm,1.1s						
MT02	**Curacav**	**35.61**	**291**	P	**P**	**06 53 56.5**	**-0.4**
MT02				IAmb	IAmb	06 54 14.5	
	comp=Z,19nm,1.1s						
VA03	**San Esteban**	**35.67**	**292**	P	**P**	**06 53 57.1**	**-0.5**
VA03				IAmb	IAmb	06 54 01.7	
	comp=Z,16nm,0.9s						
VA06	**Catapilco**	**36.23**	**292**	P	**P**	**06 54 02.0**	**-0.2**
CO02	**Combarbal**	**37.13**	**293**	P	**P**	**06 54 09.8**	**-0.2**
CO01	**Juntas del Tor**	**37.63**	**296**	P	**P**	**06 54 15.5**	**+1.1**
CO01				IAmb	IAmb	06 54 19.2	
	comp=Z,16nm,1.1s						
AC05	**El Transito**	**38.64**	**296**	P	**P**	**06 54 23.1**	**+0.3**
AC05				IAmb	IAmb	06 54 49.6	
	comp=Z,46nm,1.5s						
AQDB	**Aquidauana**	**39.42**	**321**	P	**P**	**06 54 30.9**	**+1.6**
GO02	**Mina Guanaco**	**41.31**	**300**	P	**P**	**06 54 45.8**	**+0.5**
MAW	**Mawson**	**42.04**	**145**	P	**P**	**06 54 50.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=222,slow=11,SNR=4.7						
	comp=Z,2.3nm,0.8s						
MAW	**Mawson**	**42.04**	**145**	P	**P**	**06 54 50.8**	**+0.5**
LVC	**Limon Verde**	**43.13**	**303**	P	**P**	**06 55 01.1**	**+0.9**
LVC				IAmb	IAmb	06 55 28.3	
	comp=Z,10nm,0.9s						
PB01	**IPOC Station P**	**44.74**	**304**	P	**P**	**06 55 13.3**	**+0.6**
PB01				IAmb	IAmb	06 55 23.5	
	comp=Z,19nm,1.1s						

PTLB	**Pontes e Lacer**	**45.29**	**320**	P	**P**	**06 55 17.2**	**+0.2**
PTLB				IAmb	IAmb	06 55 20.5	
	comp=Z,6.4nm,0.7s						
SBA	**Scott Base**	**46.82**	**185**	P	**P**	**06 55 29.8**	**+1.3**
SBA				IAmb	IAmb	06 55 32.6	
	comp=Z,8.8nm,1.1s						
VNDA	**Vanda**	**47.36**	**184**	P	**P**	**06 55 33.4**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=188,slow=6.6,SNR=29						
	comp=Z,5.9nm,0.8s						
VNDA	**Vanda**	**47.36**	**184**	P	**P**	**06 55 33.7**	**+1.1**
VNDA				IAmb	IAmb	06 55 36.2	
	comp=Z,7.1nm,0.8s						
BOSA	**Boshof**	**47.73**	**80**	P	**P**	**06 55 35.4**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=211,slow=7.0,SNR=2.6						
	comp=Z,3.3nm,0.9s						
LPAZ	**La Paz**	**48.24**	**309**	P	**P**	**06 55 41.8**	**+0.9**
	comp=Z,6.5nm,0.6s,baz=128,slow=5.1,SNR=31						
	comp=Z,6.5nm,0.6s						
LPAZ	**La Paz**	**48.24**	**309**	P	**P**	**06 55 41.0**	**+0.2**
LPAZ				IAmb	IAmb	06 55 44.3	
	comp=Z,8.2nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.92**	**22**	T	T	07 48 47.4	
	baz=192,slow=74						
H10N3	**ASCENSION HYDR**	**48.92**	**22**	T	T	07 48 41.6	
	baz=192						
H10N2	**ASCENSION HYDR**	**48.94**	**22**	T	T	07 48 38.7	
	baz=192,slow=74						
ETMB	**Extrema**	**53.19**	**314**	P	**P**	**06 56 17.6**	**+0.2**
ETMB				IAmb	IAmb	06 56 20.4	
	comp=Z,6.9nm,1.3s						
ARNL	**Arenillas**	**64.95**	**303**	P	**P**	**06 57 39.8**	**+0.8**
DBIC	**Dimbokro**	**65.25**	**28**	P	**P**	**06 57 38.6**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=180,slow=7.1,SNR=1.8						
	comp=Z,1.5nm,0.6s						
TOA0	**Torodi Ar. Sit**	**73.32**	**33**	P	**P**	**06 58 32.4**	**+1.5**
TOA0				IAmb	IAmb	06 58 32.4	
	comp=Z,5.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**73.32**	**33**	P	**P**	**06 58 31.1**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=198,slow=5.3,SNR=16						
	comp=Z,3.6nm,0.9s						
CDITO	**Canoas**	**76.89**	**307**	P	**P**	**06 58 51.6**	**+0.1**
THZ	**Tophouse**	**81.38**	**198**	P	**P**	**06 59 16.8**	**+0.9**
TUWZ	**Tuamarina**	**81.52**	**198**	P	**P**	**06 59 17.0**	**+0.4**
MATN	**Matagalpa**	**82.12**	**306**	P	**P**	**06 59 20.1**	**0.0**
MATN				IAmb	IAmb	06 59 22.9	
	comp=Z,7.6nm,0.9s						
ASAR	**Alice Springs**	**100.40**	**166**	P	**Pdif**	**07 00 44.6**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=186,slow=3.7,SNR=2.1						
PDAR	**Pinedale Array**	**118.18**	**305**	PKP	**PKPdf**	**07 05 44.5**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=151,slow=2.1,SNR=2.3						
NVAR	**Mina Array Bea**	**119.21**	**296**	PKP	**PKiKP**	**07 05 48.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=162,slow=3.7,SNR=4.7						
ELK	**Elko**	**119.40**	**300**	PKP	**PKiKP**	**07 05 48.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=99,slow=

RC01	**Rabbit Creek A**	148.33	306	P	PKPbc	07 06 43.8	-0.5
	baz=108,SNR=5.0						
BRSE	**Bradley Lake S**	148.39	303	P	PKPbc	07 06 44.0	-0.5
	baz=109,SNR=6.1						
COLA	**College**	148.46	313	P	PKPbc	07 06 43.6	-0.9
	baz=103						
TCOL	**CIGO, UAF Yank**	148.47	313	P	PKPbc	07 06 43.6	-0.9
	baz=103						
D25K	**Kavik River**	148.62	322	P	PKPbc	07 06 44.6	-0.3
	baz=97,SNR=7.7						
KDAK	**Kodiak Island**	148.63	299	P	PKPbc	07 06 44.7	-0.4
	baz=111						
G24K	**Hadweenzic Riv**	148.66	317	P	PKPbc	07 06 45.0	-0.1
	baz=100,SNR=14						
MCK	**McKinley**	148.66	311	P	PKPbc	07 06 44.8	-0.3
	baz=104,SNR=10						
H24K	**Noodor Dome**	148.67	315	P	PKPbc	07 06 44.9	-0.3
	baz=101,SNR=7.1						
OHAK	**Old Harbor**	148.79	298	P	PKPbc	07 06 45.5	0.0
	baz=111						
Q20K	**Shuyak Island**	148.82	301	P	PKPbc	07 06 45.7	+0.1
	baz=110						
SUA	**Susitna One**	148.90	306	P	PKPbc	07 06 45.9	-0.1
	baz=106,SNR=5.8						
NEA2	**Nenana**	148.91	313	P	PKPbc	07 06 45.1	-0.6
	baz=102,SNR=12						
F24K	**Squaw Lake**	148.95	318	P	PKPbc	07 06 46.0	+0.2
	baz=98,SNR=9.1						
SII	**Sitkinak Islan**	149.01	296	P	PKPbc	07 06 45.6	-0.6
	baz=112						
TRF	**Thorofare Moun**	149.19	310	P	PKPbc	07 06 46.0	-0.7
	baz=103						
E24K	**Your Creek**	149.25	319	P	PKPbc	07 06 46.4	-0.2
	baz=97,SNR=12						
SKT	**Skwentna**	149.40	307	P	PKPbc	07 06 46.4	-0.6
	baz=105,SNR=16						
C24K	**Franklin Bluff**	149.48	323	P	PKPbc	07 06 46.9	-0.1
	baz=94						
D24K	**Happy Valley**	149.48	322	P	PKPbc	07 06 46.5	-0.5
	baz=95						
N20K	**Mount Spurr**	149.51	306	P	PKPbc	07 06 46.6	-0.8
	baz=106						
Q19K	**Cape Douglas,**	149.54	301	P	PKPbc	07 06 46.6	-0.9
	baz=108						
P19K	**Oil Pt**	149.56	302	P	PKPbc	07 06 46.4	-1.1
	baz=108						
BPAW	**Bear Paw Mtn.**	149.63	311	P	PKPbc	07 06 47.1	-0.4
	baz=102,SNR=27						
G23K	**Bananza Creek**	149.67	317	P	PKPbc	07 06 47.6	0.0
	baz=98,SNR=15						
MLY	**Manley**	149.70	313	P	PKPbc	07 06 46.9	-0.8
	baz=100,SNR=6.7						
TOLK	**Toolik Lake Re**	149.71	321	P	PKPbc	07 06 47.8	+0.1
	baz=95,SNR=17						
COLD	**Coldfoot**	149.80	318	P	PKPbc	07 06 48.3	+0.4
	baz=97,SNR=9.1						
PPLA	**Purkeypile**	149.91	309	P	PKPbc	07 06 47.9	-0.5
	baz=103,SNR=7.2						
CAST	**Castle Rocks**	149.97	310	P	PKPbc	07 06 48.0	-0.4
	baz=102,SNR=13						
H22K	**Ishtalitna Cre**	150.10	315	P	PKPbc	07 06 48.9	+0.2
	baz=98,SNR=10						
M20K	**Styx River**	150.11	307	P	PKPbc	07 06 48.5	-0.4
	baz=104,SNR=13						
D23K	**Nanushuk River**	150.13	321	P	PKPbc	07 06 48.9	+0.3
	baz=94						
C23K	**Itkillik River**	150.15	323	P	PKPbc	07 06 48.8	+0.2
	baz=92						
CHUM	**Lake Minchumin**	150.16	311	P	PKPbc	07 06 48.4	-0.3
	baz=101						
O19K	**Port Alsworth**	150.24	303	P	PKPbc	07 06 48.4	-0.6
	baz=106						
I21K	**Tanana**	150.24	313	P	PKPbc	07 06 48.6	-0.4
	baz=99						
G22K	**Bettles**	150.28	317	P	PKPbc	07 06 49.0	0.0
	baz=96						
P18K	**Big Mountain,**	150.46	301	P	PKPbc	07 06 48.9	-0.8
	baz=107						
N19K	**Bonanza Creek**	150.48	304	P	PKPbc	07 06 49.0	-0.7
	baz=105,SNR=17						
E22K	**Anaktuvuk Pass**	150.50	319	P	PKPbc	07 06 49.5	-0.1
	baz=94						
R17K	**Ugashik Creek**	150.51	297	P	PKPbc	07 06 49.6	-0.2
	baz=109,SNR=8.7						
O18K	**Koktuh Hills**	150.58	302	P	PKPbc	07 06 49.3	-0.7
	baz=106,SNR=14						
L20K	**Farewell, AK**	150.58	308	P	PKPbc	07 06 49.9	0.0
	baz=102						
F22K	**John River**	150.59	318	P	PKPbc	07 06 50.1	+0.3
	baz=95						
H21K	**Melozitna Rive**	150.65	314	P	PKPbc	07 06 50.1	+0.2
	baz=98,SNR=12						
M19K	**Big River Lodg**	150.69	306	P	PKPbc	07 06 49.6	-0.6
	baz=103,SNR=6.1						
K20K	**Telida**	150.84	309	P	PKPbc	07 06 50.2	-0.3
	baz=101,SNR=11						
Q16K	**King Salmon**	150.96	299	P	PKPbc	07 06 49.8	-0.9
	baz=107						
L19K	**White Mountain**	150.97	307	P	PKPbc	07 06 50.2	-0.6
	baz=102						
P17K	**Kvichak River**	151.00	300	P	PKPbc	07 06 50.3	-0.6
	baz=106						
J20K	**Nowinta River**	151.01	311	P	PKPbc	07 06 50.4	-0.4
	baz=99						
G21K	**Allakaket**	151.03	316	P	PKPbc	07 06 50.7	-0.1
	baz=96,SNR=8.7						
F21K	**Alatna River**	151.07	317	P	PKPbc	07 06 51.0	+0.1
	baz=94						
CHGN	**Chignik**	151.11	294	P	PKPbc	07 06 50.5	-0.7
	baz=110						
N18K	**Kilae Creek**	151.12	304	P	PKPbc	07 06 50.2	-1.0
	baz=104						
CHNA	**Chernabura Isl**	151.21	291	P	PKPbc	07 06 50.6	-0.9
	baz=112						
HHC	**Hu-ho-hao-te**	151.39	104	*e*PKPbc	PKPdf	07 06 47.3	+0.8
O17K	**Koliganek Bris**	151.48	301	P	PKPbc	07 06 51.6	-0.4
	baz=105,SNR=10						
TTA	**Tatalina**	151.63	308	P	PKPbc	07 06 52.5	+0.1
	baz=100,SNR=7.6						
S14K	**Fog Glacier**	151.70	294	P	PKPbc	07 06 52.9	+0.1
	baz=110						
P16K	**Nushagak River**	151.73	300	P	PKiKP	07 06 53.5	+0.6
	baz=106						
SDPT	**Sand Point**	151.87	291	P	PKPbc	07 06 53.0	0.0
	baz=111						
O16K	**Kokwok River B**	151.92	301	P	PKiKP	07 06 53.5	+0.1
	baz=105						
N16K	**Nishlik Lake**	152.46	303	P	PKiKP	07 06 55.1	+0.6
	baz=103,SNR=5.5						
SONM	**Songino Array**	152.67	87	PKPbc	PKPbc	07 06 54.7	-0.6
	comp=Z,2.4nm,0.5s,baz=235,slow=2.8,SNR=11						

IDC ***02*** *06:48:51.5±0.3,55°.21S×30°.62W,h0km,mb4.8/24, mbtmp4.8/25,ML4.6/1,MS4.2/18,Error ellipse: s-maj=14.1km s-min=12.3km az=72.0*

NEIC ***02*** *06:48:53.0±1.5,55°.23S±0°.08×30°.6W±0°.2,h10km±1km, mb5.3/78,Ms_20 4.8/34,Error ellipse: s-maj=15.0km s-min=13.1km az=60.0*

MOS ***02*** *06:48:55.8±1.1,55°.26S×30°.72W,h39km,mb5.4/22,Error ellipse: s-maj=17.7km s-min=10.3km az=116.4*

GCMT ***02*** *06:48:57.0±0.1,55°.34S±0°.01×30°.69W±0°.01,h12km, MW5.1/136,Moment Tensor Solution. s89,c120; s136,c198; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr6.11±.09; Mθθ-1.03±.09; Mϕϕ-5.08±.08; Mrθ-0.63±.34; Mθϕ0.30±.08; Mϕr0.20±.27; Best double couple: M05.63800×10^16 NP1:ϕs351.00000°,δ46.00000°, λ83.00000°. NP2:ϕs181.00000°,δ44.00000°,λ97.00000°. Principal axes: T 6.1680, Plg85.0000°, Azm190.0000°; N -1.0600, Plg5.0000°, Azm355.0000°; P -5.1080, Plg1.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 06:48:52.9±0.2,55°.23S±0°.05×30°.66W±0°.06,h10km,n504, σ0s89/478,mb5.3/75,MS4.6/41,14C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	3.51	283	Pn	**Pn**	06 49 48.9	+1.6
HOPE	**Hope Point**	3.51	283	P	**Pn**	06 49 48.9	+1.6
ORCD	**Orcadas**	9.29	228	Pn	**Pn**	06 51 04.5	-2.1
EFI	**East Falkland**	16.66	271	P	**P**	06 52 47.9	-0.7
EFI	**East Falkland**	16.66	271	P	**P**	06 52 47.9	-0.7
EFI				pmax	pmax		

	comp=Z,99nm,1.2s						
VNA1	**Neumayer--Stat**	18.32	156	P	**P**	06 53 08.3	+1.5
VNA3	**Neumayer Olymp**	18.45	159	P	**Pn**	06 53 09.9	+1.6
VNA3	**Neumayer Olymp**	18.45	159	PcP	**PcP**	06 57 37.8	-0.1
VNA2	**Neumayer--Watz**	18.72	156	P	**Pn**	06 53 12.3	+0.7
	baz=311,slow=13						
VNA2	**Neumayer--Watz**	18.72	156	PcP	**PcP**	06 57 33.3	-5.1
PMSA	**Palmer Station**	19.00	226	P	**Pn**	06 53 15.6	+0.7
	comp=Z,1.8nm,0.3s,baz=57,slow=9.0,SNR=4.6						
PMSA				LR	LR	06 59 25.5	
	comp=Z,496nm,21.7s,baz=64,slow=33						
	comp=Z,17nm,0.8s						
PMSA	**Palmer Station**	19.00	226	P	**Pn**	06 53 16.0	+1.1
PMSA	**Palmer Station**	19.00	226	*e*P	**Pn**	06 53 17.2	+2.3
SNAA	**Sanae**	20.31	155	P	**P**	06 53 29.7	+1.1
SNAA	**Sanae**	20.31	155	PcP	**PcP**	06 57 41.5	+0.2
SNAA	**Sanae**	20.31	155	P	**P**	06 53 29.5	+0.9
	comp=Z,19nm,0.8s,baz=312,slow=8.8,SNR=9.2						
SNAA				LR	LR	07 00 22.1	
	comp=Z,511nm,19.0s,baz=328,slow=34						
	comp=Z,19nm,0.8s						
SNAA	**Sanae**	20.31	155	P	**P**	06 53 27.8	-0.9
SNAA	**Sanae**	20.31	155	*i*P	**P**	06 53 29.4	+0.7
SNAA	**Sanae**	20.31	155	*ce*P	**P**	06 53 28.4	-0.2
SNAA				pmax	pmax		
	comp=Z,37nm,1.3s						
SMAI	**San Martin Ant**	21.16	218	P	**P**	06 53 37.6	-0.1
USHA	**Ushuaia**	21.49	255	P	**P**	06 53 41.8	+0.5
	comp=Z,64nm,1.0s,baz=97,slow=6.8,SNR=8.5						
	comp=Z,64nm,1.0s						
TROLL	**Troll, Antarti**	21.87	153	P	**P**	06 53 46.0	+0.5
TROLL	**Troll, Antarti**	21.87	153	PcP	**PcP**	06 57 45.5	+1.1
MG02	**Cerro Sombrero**	22.60	260	P	**P**	06 53 53.5	+0.2
BELA	**Belgrano 2**	22.79	182	P	**P**	06 53 54.3	-0.9
MG04	**Isla Riesco**	23.90	259	P	**P**	06 54 07.1	+0.7
NVL	**N'lazarevskaya**	24.03	147	*e*P	**P**	06 54 05.7	-1.8
NVL				*e*S	**S**	06 58 24.9	+0.7
NVL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NVL				MLR	MLR		
	comp=Z,797nm,18.0s						
MG05	**Puerto Natales**	24.89	261	P	**P**	06 54 15.0	-0.5
TRQA	**Tornquist**	27.19	296	P	**P**	06 54 36.8	+0.3
TRQA	**Tornquist**	27.19	296	P	**P**	06 54 36.8	+0.3
TRQA				pmax	pmax		
	comp=Z,62nm,1.6s						
TRQA	**Tornquist**	27.19	296	*e*P	**P**	06 54 38.7	+2.3
COYC	**Coyhaique**	27.73	273	P	**P**	06 54 41.1	-0.1
PLTB	**Pedras Altas**	28.51	316	P	**P**	06 54 48.5	+0.2
PLTB	**Pedras Altas**	28.51	316	*e*P	**P**	06 54 48.6	+0.3
AY01	**Puyuhuapi**	28.74	274	P	**P**	06 54 49.7	-0.5
LL02	**Futaleuf**	29.04	277	P	**P**	06 54 52.6	-0.3
CPSB	**Cacapava Do Su**	29.65	317	*e*P	**P**	06 54 59.1	+0.7
CNLB	**Canela**	29.68	322	*e*P	**P**	06 54 57.3	-1.4
TER01	**Tubaro-SC**	29.82	326	*e*P	**P**	06 55 01.1	+1.2
PLCA	**Paso Flores**	29.91	282	P	**P**	06 55 00.8	+0.1
	comp=Z,2.6nm,0.8s,baz=123,slow=11,SNR=4.3						
PLCA				LR	LR	07 06 52.0	
	comp=Z,349nm,18.8s,baz=124,slow=36						
	comp=Z,2.6nm,0.8s						
RODS	**Rosario do Sul**	30.39	315	*e*P	**P**	06 55 05.4	+0.4
ALGR	**Alto Alegre (B**	30.93	319	*e*P	**P**	06 55 10.7	+0.9
UNIS	**Unistalda (Bra**	31.48	316	*e*P	**P**	06 55 15.1	+0.6
ITQB	**Itaqui**	31.58	313	P	**P**	06 55 15.5	+0.1
ITQB	**Itaqui**	31.58	313	*e*P	**P**	06 55 15.5	+0.1
ITAB	**Concordia**	32.03	322	*e*P	**P**	06 55 19.4	+0.1
CRSM	**Crissiumal (Br**	32.49	319	*e*P	**P**	06 55 24.2	+0.8
FRBT	**Francisco Belt**	33.51	322	*e*P	**P**	06 55 33.1	+0.7
PARB	**Paraibuna**	33.74	335	*e*P	**P**	06 55 35.5	+1.1
MAN01	**Angra dos Reis**	33.81	338	*e*P	**P**	06 55 36.7	+1.6
DUB01	**Friburgo-RJ**	34.24	340	*e*P	**P**	06 55 40.4	+1.6
PTGB	**Pitanga**	34.32	324	*e*P	**P**	06 55 39.2	-0.3
VAO	**Valinhos**	34.40	333	*e*P	**P**	06 55 41.5	+1.3
LMEL	**Las Melosas**	34.71	291	P	**P**	06 55 42.7	-0.2
CPUP	**Villa Florida**	34.81	315	P	**P**	06 55 43.5	-0.1
	comp=Z,44nm,0.8s,baz=154,slow=8.0,SNR=57						
CPUP				LR	LR	07 11 16.5	
	comp=Z,325nm,18.4s,baz=167,slow=39						
	comp=Z,44nm,0.8s						
CPUP	**Villa Florida**	34.81	315	P	**P**	06 55 42.7	-1.0
CPUP				IAmb	IAmb	06 55 45.1	
	comp=Z,45nm,0.8s						
CPUP	**Villa Florida**	34.81	315	P	**P**	06 55 42.7	-1.0
CPUP				pmax	pmax		
	comp=Z,45nm,0.9s						
CPUP	**Villa Florida**	34.81	315	*e*P	**P**	06 55 43.6	-0.1
QSPA	**South Pole Qui**	35.02	180	P	**P**	06 55 46.7	+1.4
	comp=Z,32nm,0.9s,baz=188,slow=2.3,SNR=17						
	comp=Z,32nm,0.9s						
QSPA	**South Pole Qui**	35.02	180	P	**P**	06 55 46.3	+1.0
QSPA				IAmb	IAmb	06 56 00.8	
	comp=Z,39nm,0.9s						
QSPA	**South Pole Qui**	35.02	180	IAMs_20	IAMs_20	07 11 19.5	
	comp=Z,1μm,18.0s						
MCR1	**Marechal Candi**	35.24	321	*e*P	**P**	06 55 47.4	0.0
MT01	**Popeta**	35.26	290	P	**P**	06 55 46.4	-1.0
MT01				IAmb	IAmb	06 55 54.2	
	comp=Z,40nm,1.2s						
PEL	**Peldehue**	35.51	292	P	**P**	06 55 49.0	-0.7
PEL				IAmb	IAmb	06 55 51.2	
	comp=Z,44nm,0.8s						
PEL	**Peldehue**	35.51	292	P	**P**	06 55 49.0	-0.7
PEL				pmax	pmax		
	comp=Z,44nm,0.8s						
ZON	**Zonda**	35.70	296	P	**P**	06 55 50.9	-0.5
ZON	**Zonda**	35.70	296	P	**P**	06 55 50.9	-0.5
ZON				pmax	pmax		
	comp=Z,20nm,0.9s						
VA03	**San Esteban**	35.73	292	P	**P**	06 55 51.5	-0.1
VA03				IAmb	IAmb	06 55 53.5	
	comp=Z,53nm,1.0s						
ROC1	**El Roble**	35.81	292	P	**P**	06 55 51.8	-0.7
ROC1				IAmb	IAmb	06 56 08.5	
	comp=Z,34nm,0.8s						
VA06	**Catapilco**	36.28	292	P	**P**	06 55 55.5	-0.7
TRCB	**Terra Rica**	36.29	324	P	**P**	06 55 56.1	-0.3
TRCB	**Terra Rica**	36.29	324	*e*P	**P**	06 55 56.8	+0.3
BB19B	**Bebedouro**	36.66	331	*e*P	**P**	06 56 00.1	+0.5
PCMB	**Pacaembu**	36.96	327	*e*P	**P**	06 56 03.2	+1.1
CO02	**Combarbal**	37.18	293	P	**P**	06 56 04.2	+0.1
CO02				IAmb	IAmb	06 56 38.0	
	comp=Z,95nm,1.2s						
CO01	**Juntas del Tor**	37.69	296	P	**P**	06 56 08.3	-0.2
CO01				IAmb	IAmb	06 56 13.6	
	comp=Z,42nm,0.9s						
NAN01	**Guarapari, ES**	38.01	345	*e*P	**P**	06 56 11.4	+0.4
DIAM	**Diamantina, MG**	38.18	340	*e*P	**P**	06 56 12.1	-0.5
ANTJ	**Antonio Joao (**	38.21	320	*e*P	**P**	06 56 12.2	-0.5
CO05	**La Serena**	38.33	294	P	**P**	06 56 13.2	-0.4
CO05				IAmb	IAmb	06 56 14.8	
	comp=Z,72nm,0.8s						
ITRB	**Iturama**	38.48	329	*e*P	**P**	06 56 14.0	-1.0
PMNB	**Patos De Minas**	38.55	336	*e*P	**P**	06 56 16.5	+0.9
GUA01	**Guaratinga, BA**	39.21	346	*e*P	**P**	06 56 21.1	0.0
AQDB	**Aquidauana**	39.49	321	P	**P**	06 56 22.8	-0.6
AQDB	**Aquidauana**	39.49	321	*e*P	**P**	06 56 23.2	-0.2
IPMB	**Ipameri, GO**	39.52	333	*e*P	**P**	06 56 24.4	+0.7
AC02	**Maricunga**	39.75	300	P	**P**	06 56 26.3	+0.1
AC02				IAmb	IAmb	06 56 52.7	
	comp=Z,123nm,1.9s						
MC01	**Montes Claros**	39.78	340	*e*P	**P**	06 56 26.0	+0.1
C2SB	**Chapadao do Su**	40.11	326	*e*P	**P**	06 56 29.8	+1.2
GO02	**Mina Guanaco**	41.37	301	P	**P**	06 56 39.5	+0.2
GO02				IAmb	IAmb	06 56 40.9	
	comp=Z,100nm,1.3s						
JANB	**Januaria**	41.46	340	*e*P	**P**	06 56 39.7	-0.1
MATJ	**Matjiesfontein**	41.59	80	*e*P	**P**	06 56 42.0	+1.2
MATJ				IAmb	IAmb	06 56 56.5	
	comp=Z,76nm,1.4s						
BDFB	**Brasilia**	41.72	334	P	**P**	06 56 42.9	+0.9
	comp=Z,7.0nm,1.1s,baz=114,slow=2.0,SNR=6.2						
BDFB				LR	LR	07 15 06.5	
	comp=Z,662nm,18.0s,baz=164,slow=38						
	comp=Z,7.0nm,1.1s						
BDFB	**Brasilia**	41.72	334	P	**P**	06 56 42.9	+0.9
BDFB	**Brasilia**	41.72	334	*e*P	**P**	06 56 42.8	+0.9
MAW	**Mawson**	41.97	145	P	**P**	06 56 43.4	+0.1
	comp=Z,7.5nm,0.8s,baz=235,slow=7.7,SNR=13						
MAW				LR	LR	07 14 11.8	
	comp=Z,334nm,18.1s,baz=240,slow=36						
	comp=Z,7.5nm,0.8s						
MAW	**Mawson**	41.97	145	P	**P**	06 56 43.8	+0.5
SUR	**Sutherland**	42.37	79	P	**P**	06 56 46.2	-1.1
	comp=Z,11nm,1.0s,baz=188,slow=13,SNR=2.2						
SUR				LR	LR	07 10 34.2	
	comp=Z,249nm,18.5s,baz=214,slow=31						
	comp=Z,11nm,1.0s						
AF01	**San Pedro de A**	42.55	304	P	**P**	06 56 50.4	+1.4
LVC	**Limon Verde**	43.19	303	P	**P**	06 56 55.0	+0.7
LVC				IAmb	IAmb	06 56 57.3	
	comp=Z,57nm,1.4s						
LVC	**Limon Verde**	43.19	303	P	**P**	06 56 55.0	+0.7
LVC				pmax	pmax		
	comp=Z,57nm,1.4s						
LVC	**Limon Verde**	43.19	303	*e*P	**P**	06 56 55.3	+1.1
SALV	**Santo Antonio**	43.73	324	*e*P	**P**	06 56 57.9	-0.3
PB09	**IPOC Station P**	44.05	304	P	**P**	06 57 01.8	+0.9
SDBA	**SAO DESIDERIO**	44.15	340	*e*P	**P**	06 57 00.9	-0.8
PB01	**IPOC Station P**	44.81	304	P	**P**	06 57 06.6	-0.3
PB01				IAmb	IAmb	06 57 08.3	
	comp=Z,29nm,0.8s						
ARMS	**Ukamas**	45.08	74	*e*P	**P**	06 57 09.9	+0.9
ARMS				IAmb	IAmb	06 57 34.5	
	comp=Z,369nm,2.7s						
PTLB	**Pontes e Lacer**	45.37	320	P	**P**	06 57 10.7	-0.6
PTLB				IAmb	IAmb	06 57 12.3	
	comp=Z,50nm,1.0s						
PTLB	**Pontes e Lacer**	45.37	320	*e*P	**P**	06 57 11.2	-0.1
NBAN	**Anadia - AL**	45.66	352	*e*P	**P**	06 57 13.1	-0.4
GO01	**Chusmiza**	45.85	305	P	**P**	06 57 15.9	+0.3
GO01				IAmb	IAmb	06 57 17.6	
	comp=Z,35nm,0.9s						
SNDB	**Serra Nova Dou**	46.09	331	*e*P	**P**	06 57 18.0	+1.0
SBA	**Scott Base**	46.75	185	P	**P**	06 57 22.6	+1.1
SBA				IAmb	IAmb	06 57 26.5	
	comp=Z,25nm,1.0s						
SBA	**Scott Base**	46.75	185	P	**P**	06 57 22.6	+1.1
SBA				pmax	pmax		
	comp=Z,25nm,1.0s						
PB16	**IPOC Station P**	47.15	306	P	**P**	06 57 25.0	-1.0
PB16				IAmb	IAmb	06 57 35.8	
	comp=Z,44nm,1.6s						
VNDA	**Vanda**	47.29	184	P	**P**	06 57 26.6	+0.9
	comp=Z,17nm,0.7s,baz=190,slow=5.5,SNR=33						
VNDA				LR	LR	07 15 28.4	
	comp=Z,184nm,18.6s,baz=126,slow=34						
	comp=Z,17nm,0.7s						
VNDA	**Vanda**	47.29	184	P	**P**	06 57 26.9	+1.2
VNDA				IAmb	IAmb	06 57 30.1	
	comp=Z,24nm,0.8s						
BOSA	**Boshof**	47.72	80	P	**P**	06 57 30.1	+0.4
	comp=Z,8.7nm,0.8s,baz=201,slow=5.8,SNR=8.7						
BOSA				LR	LR	07 13 50.6	
	comp=Z,437nm,19.6s,baz=212,slow=31						
	comp=Z,8.7nm,0.8s						
BOSA	**Boshof**	47.72	80	P	**P**	06 57 30.0	+0.2
BOSA				IAmb	IAmb	06 57 42.3	
	comp=Z,22nm,0.9s						
BOSA	**Boshof**	47.72	80	*e*P	**P**	06 57 30.3	+0.6
BOSA				IAmb	IAmb	06 57 42.1	
	comp=Z,28nm,1.1s						
BOSA	**Boshof**	47.72	80	P	**P**	06 57 30.0	+0.2
BOSA				pmax	pmax		
	comp=Z,22nm,1.0s						
BOSA	**Boshof**	47.72	80	*i* P	**P**	06 57 31.0	+1.2
BOSA	**Boshof**	47.72	80	*i* P	**P**	06 57 31.0	+1.2
VILB	**Vilhena**	48.05	320	P	**P**	06 57 32.1	-0.3
VILB				IAmb	IAmb	06 57 33.1	
	comp=Z,54nm,1.0s						
VILB	**Vilhena**	48.05	320	*e*P	**P**	06 57 32.5	+0.1
PDRB	**Porto dos Gac**	48.08	325	*e*P	**P**	06 57 32.1	-0.5
SMTB	**Santa Maria do**	48.16	337	*e*P	**P**	06 57 33.5	+0.4
LPAZ	**La Paz**	48.31	309	P	**P**	06 57 35.9	+0.9
	comp=Z,20nm,0.6s,baz=101,slow=4.8,SNR=40						
LPAZ				PcP	**PcP**	06 59 02.5	+0.8
	comp=Z,7.3nm,0.7s,baz=182,slow=4.1,SNR=1.6						
	comp=Z,20nm,0.6s						
LPAZ	**La Paz**	48.31	309	P	**P**	06 57 35.1	+0.1
LPAZ	**La Paz**	48.31	309	*e*P	**P**	06 57 36.1	+1.1
CLDB	**Colider**	48.47	326	*e*P	**P**	06 57 34.9	-0.6
KSTD	**Kokstad**	48.51	85	*e*P	**P**	06 57 37.2	+1.3
KSTD				IAmb	IAmb	06 57 38.5	
	comp=Z,3μm,4.5s						
SWZ	**Schweizer**	48.86	79	*e*P	**P**	06 57 38.4	-0.3
SWZ				IAmb	IAmb	06 57 50.3	
	comp=Z,181nm,2.1s						
H10N1	**ASCENSION HYDR**	48.98	21	T	T	07 50 41.2	
	baz=192,slow=76						
H10N3	**ASCENSION HYDR**	48.98	21	T	T	07 50 46.2	
	baz=192,slow=76						
H10N2	**ASCENSION HYDR**	49.00	21	T	T	07 50 42.9	
	baz=192,slow=76						
SNKL	**Senekal, Frees**	49.40	82	*e*P	**P**	06 57 43.5	+0.7
SNKL				IAmb	IAmb	06 57 55.5	
	comp=Z,63nm,1.0s						
RCBR	**Riachuelo**	49.44	353	LR	LR	07 16 29.5	
	comp=Z,337nm,18.3s,baz=327,slow=34						
PRYS	**Parys**	50.20	80	*e*P	**P**	06 57 48.0	-0.9
PRYS				IAmb	IAmb	06 57 52.9	
	comp=Z,70nm,1.4s						
LBTB	**Lobatse**	50.70	77	LR	LR	07 15 59.8	
	comp=Z,84nm,18.1s,baz=190,slow

MACA IAmb IAmb 06 58 40.1
comp=Z,25nm,0.8s
MACA Manacapuru-AM 57.30 324 *e*P **P 06 58 39.8 -1.0**
CZSB Cruzeiro do Su 57.92 308 P **P 06 58 44.2 -1.0**
CZSB IAmb IAmb 06 58 45.3
comp=Z,24nm,1.0s
CZSB Cruzeiro do Su 57.92 308 *e*P **P 06 58 44.7 -0.4**
TBTG Tabatinga, AM 59.87 313 *e*P **P 06 58 57.7 -1.0**
LSZ Lusaka 59.96 73 P **P 06 58 59.4 0.0**
LSZ Lusaka 59.96 73 *e*P **P 06 58 59.7 +0.3**
LSZ IAmb IAmb 06 59 13.6
comp=Z,117nm,1.9s
LSZ Lusaka 59.96 73 P **P 06 58 59.4 0.0**
LSZ pmax pmax
comp=Z,55nm,1.5s
ATAH Atahualpa 61.09 303 LR LR 07 26 34.2
comp=Z,261nm,19.6s,baz=163,slow=37
BOAV Boa Vista 62.46 326 P **P 06 59 15.0 -1.2**
BOAV IAmb IAmb 06 59 16.5
comp=Z,34nm,1.0s
BOAV Boa Vista 62.46 326 *e*P **P 06 59 15.7 -0.5**
BOSC San Juan Bosco 64.61 305 P **P 06 59 30.7 +0.1**
LIC Lamto 64.83 28⇑ *e*P **P 06 59 31.8 0.0**
comp=Z,77nm,0.9s
ARNL Arenillas 65.01 303 P **P 06 59 33.8 +0.8**
KIC Kosan Boka 65.04 29⇑ *e*P **P 06 59 33.1 -0.1**
comp=Z,26nm,1.0s
TIC Toumodi 65.24 28⇑ *e*P **P 06 59 34.5 0.0**
comp=Z,42nm,0.9s
DBIC Dimbokro 65.31 28 P **P 06 59 35.1 +0.2**
comp=Z,19nm,0.9s,baz=208,slow=6.6,SNR=17
DBIC LR LR 07 22 30.5
comp=Z,121nm,18.5s,baz=205,slow=31
comp=Z,19nm,0.9s
DBIC Dimbokro 65.31 28 P **P 06 59 34.9 0.0**
DBIC IAmb IAmb 06 59 36.2
comp=Z,25nm,1.0s
DBIC Dimbokro 65.31 28 P **P 06 59 34.9 0.0**
DBIC pmax pmax
comp=Z,25nm,1.0s
PORT Chimborazo Vol 66.22 306 P **P 06 59 42.2 +0.6**
PORT IAmb IAmb 07 00 11.0
comp=Z,28nm,1.1s
OTAV Otavalo 67.57 307 P **P 06 59 50.5 +0.5**
OTAV Otavalo 67.57 307 P **P 06 59 50.5 +0.5**
OTAV pmax pmax
comp=Z,60nm,1.5s
OTAV Otavalo 67.57 307 *e*P **P 06 59 50.4 +0.5**
OPO Ambohidratompo 68.05 91 LR LR 07 24 55.2
comp=Z,207nm,18.7s,baz=18,slow=32
ROSC El Rosal 69.86 313 P **P 07 00 04.8 +0.7**
comp=Z,7.3nm,0.4s,baz=254,slow=3.0,SNR=7.8
comp=Z,7.3nm,0.4s
ROSC El Rosal 69.86 313 P **P 07 00 04.6 +0.4**
ROSC IAmb IAmb 07 00 06.4
comp=Z,21nm,1.1s
ROSC El Rosal 69.86 313 P **P 07 00 04.6 +0.4**
ROSC pmax pmax
comp=Z,21nm,1.1s
BBTS Babate 70.64 14 P **P 07 00 08.7 +0.4**
comp=Z,13nm,0.5s,baz=322,slow=22,SNR=1.3
comp=Z,13nm,0.5s
BAUV El Baul 71.14 321 P **P 07 00 11.1 -0.4**
SDV Santo Domingo 72.06 318 P **P 07 00 16.4 -0.8**
SDV IAmb IAmb 07 00 18.3
comp=Z,33nm,0.9s
SDV Santo Domingo 72.06 318 *e*P **P 07 00 17.4 +0.1**
KOWA Kowa 73.02 27 P **P 07 00 22.9 +0.3**
comp=Z,6.1nm,0.9s,baz=218,slow=5.6,SNR=7.2
comp=Z,6.1nm,0.9s
KOWA Kowa 73.02 27 P **P 07 00 23.1 +0.5**
KOWA IAmb IAmb 07 00 27.0
comp=Z,41nm,1.5s
TOA0 Torodi Ar. Sit 73.37 33 P **P 07 00 24.7 0.0**
TOA0 IAmb IAmb 07 00 26.6
comp=Z,38nm,0.9s
TORD Torodi Ar. Bea 73.37 33 P **P 07 00 25.3 +0.6**
comp=Z,30nm,0.8s,baz=200,slow=6.5,SNR=62
comp=Z,30nm,0.8s
TORD Torodi Ar. Bea 73.37 33 P **P 07 00 25.1 +0.4**
TORD IAmb IAmb 07 00 26.5
comp=Z,28nm,0.9s
MBAR Mbarara 73.57 66 P **P 07 00 26.2 -0.1**
MBAR IAmb IAmb 07 00 32.9
comp=Z,56nm,1.6s
MBAR Mbarara 73.57 66 P **P 07 00 26.2 -0.1**
MBAR pmax pmax
comp=Z,56nm,1.7s
HATO Hato, Curacao 74.47 321 IAMs_20 IAMs_20 07 36 21.6
comp=Z,573nm,19.0s
KIBK Kibwezi 76.05 74 P **P 07 00 41.6 +1.1**
KIBK IAmb IAmb 07 00 46.2
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 76.62 72 P **P 07 00 44.3 +0.3**
comp=Z,0.6nm,0.3s,baz=247,slow=4.8,SNR=1.3
comp=Z,0.6nm,0.3s
KMBO Kilima Mbogo 76.62 72 IAMs_20 IAMs_20 07 33 39.4
comp=Z,642nm,18.0s
SRBA San Rafael, Bu 77.76 307 P **P 07 00 50.9 +0.8**
SRBA IAmb IAmb 07 00 52.1
comp=Z,40nm,1.2s
CVTR Volcan Turrial 78.63 307 P **P 07 00 54.4 -0.9**
CBYP Canovanas 79.08 326 P **P 07 00 56.6 -0.6**
CBYP IAmb IAmb 07 00 57.7
comp=Z,36nm,0.9s
JTS Las Juntas de 79.42 306 *i* P **P 07 01 00.0 +0.8**
JTS pmax pmax
comp=Z,43nm,1.0s
COVE Coope Vega, Sa 79.54 306 P **P 07 00 59.7 -0.1**
RPZ Rata Peaks 79.72 196 P **P 07 01 00.5 0.0**
comp=Z,29nm,0.9s,baz=185,slow=5.1,SNR=8.9
RPZ LR LR 07 32 15.3
comp=Z,128nm,19.8s,baz=98,slow=33
comp=Z,29nm,0.9s
ACON Acoyapa 80.99 306 P **P 07 01 07.1 -0.5**
BOAB BOACO BROADBAN 81.64 306 P **P 07 01 11.0 -0.1**
TAU Tasmania Unive 82.22 179 P **P 07 01 13.3 -0.6**
TAU Tasmania Unive 82.22 179 P **P 07 01 13.3 -0.6**
TAU pmax pmax
comp=Z,64nm,1.2s
TAM Tamanrasset 83.62 33 P P 07 01 16.8 -4.6
TAM IAmb IAmb 07 01 18.0
comp=Z,26nm,1.2s
TAM IAMs_20 IAMs_20 07 34 41.8
comp=Z,362nm,18.0s
TAM Tamanrasset 83.62 33 P **P 07 01 16.8 -4.6**
TAM pmax pmax
comp=Z,26nm,1.2s
URZ Urewera 83.89 202 P **P 07 01 22.1 -0.5**
comp=Z,6.2nm,0.8s,baz=122,slow=4.7,SNR=2.3
URZ LR LR 07 34 09.8
comp=Z,154nm,19.0s,baz=212,slow=32
comp=Z,6.2nm,0.8s
MTO3 Montecristo 85.08 304 P **P 07 01 28.6 -0.4**
MTO3 IAmb IAmb 07 01 29.9
comp=Z,22nm,0.9s
TBI Tubuai 86.03 234 *e*LR LR 07 28 44.5
comp=Z,394nm,31.0s
NWAO Narrogin (SRO) 87.98 153 P **P 07 01 40.2 -2.7**
comp=Z,14nm,1.0s,baz=166,slow=5.1,SNR=3.2
TEIG Tepich 89.63 308 P **P 07 01 50.9 +0.3**
CMIG Matias Romero 90.07 301 P **P 07 01 51.6 -1.1**
comp=Z,6.0nm,0.8s,baz=177,slow=5.7,SNR=8.5
comp=Z,6.0nm,0.8s
ATD Arta Tunnel 90.19 70 IAMs_20 IAMs_20 07 38 54.1
comp=Z,475nm,22.0s
MDT Midelt 90.50 22 P **P 07 01 53.1 -1.4**
comp=Z,2.5nm,0.9s,baz=249,slow=6.5,SNR=5.0
comp=Z,2.5nm,0.9s
PPT2 Papeete2 91.03 237 *e*LR LR 07 31 05.8
comp=Z,381nm,27.8s
PPT Papeete 91.05 237 LR LR 07 34 43.6
comp=Z,96nm,21.4s,baz=126,slow=30
STKA Stephens Creek 92.99 173 P **P 07 02 07.0 +0.7**
comp=Z,1.5nm,0.9s,baz=218,slow=12,SNR=2.8
comp=Z,1.5nm,0.9s
TAOE Nuku Hiva Isla 93.64 249 *e*LR LR 07 32 16.2
comp=Z,289nm,30.6s
KEST Kesra 96.86 32 P **P 07 02 25.4 +1.7**
comp=Z,3.4nm,0.8s,baz=311,slow=7.8,SNR=3.7
comp=Z,3.4nm,0.8s
ESDC Sonseca Array 97.25 20 P Pdif 07 02 26.4 +1.1
comp=Z,1.1nm,1.0s,baz=180,slow=3.2,SNR=5.0
comp=Z,1.1nm,1.0s
ASAR Alice Springs 100.32 166 P **Pdif 07 02 38.4 -1.3**
comp=Z,0.9nm,0.8s,baz=178,slow=3.7,SNR=9.1
ASAR PP **PP 07 06 42.3 -2.4**
comp=Z,2.1nm,0.9s,baz=191,slow=7.6,SNR=6.8
ASAR PKKPbc **PKKPbc 07 18 54.5 +0.9**
comp=Z,0.5nm,0.7s,baz=19,slow=1.9,SNR=4.7
HKT Hockley 101.44 307 *i* P **Pdif 07 02 43.3 -0.8**
HKT pmax pmax
comp=Z,5.0nm,1.2s
DZM Mont Dzumac 101.64 196 *e*LR LR 07 35 59.7
comp=Z,252nm,24.9s
WRA Warramunga Arr 104.05 165 PP **PP 07 07 12.6 -0.1**
comp=Z,0.9nm,0.8s,baz=188,slow=7.0,SNR=2.9
WRA PKKPbc **PKKPbc 07 18 45.4 +2.6**
comp=Z,0.5nm,0.8s,baz=12,slow=3.7,SNR=4.8
EMMW East Machias 104.33 334 IAMs_20 IAMs_20 07 55 58.5
comp=Z,248nm,20.0s
TXAR Lajitas Array 104.67 300 PKiKP **PKiKP 07 07 12.5 -1.7**
comp=Z,0.3nm,0.9s,baz=338,slow=3.9,SNR=2.4
CSS Mathiatis 105.14 50 IAMs_20 IAMs_20 07 48 20.5
comp=Z,291nm,21.0s
HQIL Hanson Quary C 108.19 319 IAMs_20 IAMs_20 07 45 32.8
comp=Z,398nm,19.0s
OK032 Salt Plains WL 108.26 309 IAMs_20 IAMs_20 07 58 44.7
comp=Z,252nm,18.0s
BRTR Keskin Array B 109.28 47 PP **PP 07 07 50.9 -1.6**
comp=Z,0.3nm,0.3s,baz=166,slow=7.4,SNR=3.6
Y22D IRIS PASSCAL I 110.13 301 IAMs_20 IAMs_20 07 52 52.2
comp=Z,195nm,18.0s
CBKS Cedar Bluff 110.60 309 IAMs_20 IAMs_20 07 59 54.6
comp=Z,294nm,18.0s
CBKS Cedar Bluff 110.60 309 P **PKiKP 07 07 24.9 0.0**
baz=145
ANMO Albuquerque 110.60 302 P **PKiKP 07 07 25.3 0.0**
baz=144
TUC Tucson 110.66 297 P **PKiKP 07 07 25.2 -0.1**
baz=143
214A Organ Pipe Nat 111.42 295 P **PKiKP 07 07 26.7 0.0**
baz=143
SDCO Great Sand Dun 112.39 304 P **PKiKP 07 07 28.6 -0.1**
baz=143
S22A 4UR Ranch, Cre 113.02 303 P **PKiKP 07 07 30.1 +0.2**
baz=143
MVCO Mesa Verde 113.40 302 P **PKiKP 07 07 30.7 +0.1**
baz=142
WUAZ Wupatki 113.49 299 P **PKiKP 07 07 30.7 -0.1**
baz=142
SWSC Sam W. Stewart 113.76 294 P **PKiKP 07 07 30.9 -0.2**
baz=142
PDMCI Parker Dam,Lak 113.95 296 P **PKiKP 07 07 31.7 +0.3**
baz=142
ISCO Idaho Springs 114.08 305 P PKPdf 07 07 32.1 +0.2
baz=143
BC3 Big Chuckawall 114.13 294 P PKPdf 07 07 31.8 -0.1
baz=141
IRM Iron Mountain 114.36 295 P **PKiKP 07 07 32.7 +0.5**
baz=141
TPFO Pinon Flats 114.61 294 P PKPdf 07 07 32.9 0.0
baz=141
BELC Belle Mtn. Jos 114.68 294 P PKPdf 07 07 32.7 -0.3
baz=141
N23A Red Feather La 115.10 306 P **PKPdf 07 07 33.7 -0.1**
baz=142
GMRC Granite Mounta 115.11 295 P **PKPdf 07 07 33.7 -0.1**
baz=141
PHWY Pilot Hill 115.20 307 IAMs_20 IAMs_20 08 04 49.4
comp=Z,194nm,19.0s
O20A White River Ci 115.58 304 P **PKPdf 07 07 34.6 0.0**
baz=142
GSC Goldstone, Bar 116.11 295 P **PKPdf 07 07 35.4 -0.2**
baz=141
RWWY Rawlins 116.31 306 IAMs_20 IAMs_20 08 05 28.9
comp=Z,182nm,19.0s
EDW2 Edwards Air Fo 116.41 294 P **PKPdf 07 07 36.5 +0.3**
baz=140
AKASG Malin Array Be 116.73 38 PKP **PKPdf 07 07 34.8 -1.4**
comp=Z,2.1nm,0.7s,baz=245,slow=1.9,SNR=2.0
AKASG PP **PP 07 08 45.8 +0.6**
comp=Z,0.4nm,0.3s,baz=219,slow=5.3,SNR=3.6
RSSD Black Hills 116.78 309 P **PKPdf 07 07 36.9 +0.1**
baz=142
FURC Furnace Creek, 117.03 295 P **PKiKP 07 07 37.7 +0.5**
baz=140
MPMC Manual Prospec 117.04 295 P **PKPdf 07 07 37.6 +0.1**
baz=140
TPNV Topopah Spring 117.08 296 P **PKPdf 07 07 37.7 +0.2**
baz=140,SNR=5.7
ISA Isabella, Lake 117.25 294 P **PKiKP 07 07 38.3 +0.4**
baz=140
CWC Cottonwood Cre 117.64 295 P **PKPdf 07 07 38.9 +0.2**
baz=140
GRAC Grapevine Rang 117.69 295 P **PKiKP 07 07 39.0 +0.4**
baz=140
R11A Troy Canyon, C 117.81 298 P **PKPdf 07 07 39.1 +0.2**
baz=140
DUG Dugway, Tooele 117.84 301 P **PKiKP 07 07 39.5 +0.6**
baz=140,SNR=5.9
BW06 Boulder Array 118.25 305 P **PKPdf 07 07 39.6 -0.1**
baz=140
PDAR Pinedale Array 118.25 305 PKP **PKPdf 07 07 38.8 -0.9**
comp=Z,0.8nm,0.7s,baz=144,slow=6.6,SNR=8.4
NVAR Mina Array Bea 119.27 296 PKP **PKiKP 07 07 42.6 +0.8**
comp=Z,1.9nm,0.7s,baz=130,slow=2.5,SNR=16
NVAR PKKPab **PKKPab 07 17 59.0 +4.1**
comp=Z,0.1nm,0.4s,baz=291,slow=2.8,SNR=5.0
NACGM Naroch 119.41 34⇓ *e*PKP **PKPdf 07 07 40.1 -1.1**
baz=214
ELK Elko 119.46 300 PKP **PKPdf 07 07 42.4 +0.3**
comp=Z,2.1nm,0.7s,baz=210,slow=3.5,SNR=11
LAO LASA Array 119.75 310 P **PKPdf 07 07 42.4 +0.1**
baz=140
RLMT Red Lodge 119.92 307 P **PKPdf 07 07 42.6 -0.3**
baz=140
DGMT Dagmar 120.25 312 P **PKiKP 07 07 43.7 +0.5**
baz=141
HFS Hagfors 120.30 24 PKP **PKPdf 07 07 42.2 -0.6**
comp=Z,2.4nm,0.7s,baz=219,slow=0.9,SNR=3.0
NB2 NORSAR Subarra 120.56 22 PKPdf **PKPdf 07 07 42.8 -0.5**
comp=Z,0.7nm,0.6s,baz=202,slow=1.9
NOA NORSAR Array B 120.56 22 PKP **PKPdf 07 07 43.0 -0.3**
comp=Z,19nm,0.7s,baz=206,slow=2.0,SNR=5.2
NOA NORSAR Array B 120.56 22 PKIKP **PKPdf 07 07 43.0 -0.3**
HLID Hailey 121.17 302 P **PKPdf 07 07 45.1 -0.1**
baz=138
BOZ Bozeman (W) 121.37 306 P **PKPdf 07 07 45.9 +0.4**
baz=139
EGMT Eagleton 122.33 309 P **PKPdf 07 07 47.4 +0.2**
baz=138
VSU Vasula 122.34 32 *i* PKIKP **PKPdf 07 07 46.3 -0.4**
MSO Missoula 123.36 305 P **PKPdf 07 07 49.0 -0.2**
baz=137
BMO Blue Mountains 123.52 302 IAMs_20 IAMs_20 08 06 35.7
comp=Z,173nm,18.0s
YBH Yreka Blue Hor 123.98 296 PKP **PKPdf 07 07 50.4 -0.1**
comp=Z,2.3nm,0.6s,baz=88,slow=10,SNR=5.3
L04D Klamath Falls 124.12 296 P **PKPdf 07 07 50.9 +0.1**
baz=136
K04D Chiloquin, OR 124.13 297 P **PKPdf 07 07 51.0 +0.1**
baz=136
J05D Fort Rock, OR 124.34 298 P **PKiKP 07 07 51.9 +0.3**
baz=136,SNR=9.6
FINES FINESS Array B 124.60 29 PKP **PKPdf 07 07 51.0 +0.1**
comp=Z,8.4nm,0.7s,baz=134,slow=5.5,SNR=17
FINES FINESS Array B 124.60 29 PKIKP **PKPdf 07 07 51.0 +0.1**
L02F Cave Junction 124.70 295 P **PKiKP 07 07 52.4 +0.2**
baz=136
J04D Umpqua Nationa 124.76 297 P **PKPdf 07 07 52.2 0.0**
baz=136,SNR=6.1
I05D Terrebonne, OR 125.15 299 P **PKPdf 07 07 53.2 +0.5**
baz=136,SNR=7.2
K02D Willamette Mer 125.17 296 P **PKPdf 07 07 53.3 +0.5**
baz=136,SNR=5.1
I04A Tendick Farm, 125.31 298 P **PKiKP 07 07 53.5 +0.2**
baz=136
J01E Myrtle Point 125.63 296 P **PKPdf 07 07 53.8 +0.3**
baz=135
NEW Newport 125.89 305 PKP **PKPdf 07 07 52.7 -1.3**
comp=Z,0.7nm,0.3s,baz=90,slow=2.0,SNR=3.9
NEW Newport 125.89 305 P **PKPdf 07 07 54.2 +0.3**
baz=135
PYUN Piuthan 125.95 92 *e*P **PKPdf 07 07 54.2 -0.7**
comp=Z,61nm,0.9s
H04D Lebanon 125.99 298 P **PKPdf 07 07 54.6 +0.4**
baz=135
DANN Dangsing 126.58 92 *e*P **PKPdf 07 07 55.8 -0.4**
comp=Z,66nm,0.8s
DMN Daman 126.79 94 *e*P **PKPdf 07 07 56.6 0.0**
comp=Z,48nm,0.9s
GKN Gorkha 126.82 93 *e*P **PKPdf 07 07 56.2 -0.3**
comp=Z,55nm,0.9s
PKIN Phulchoki 126.93 94 *e*P **PKPdf 07 07 56.5 -0.4**
comp=Z,33nm,0.8s
PKI Pulchoki 126.93 94 *e*P **PKPdf 07 07 56.7 -0.3**
comp=Z,64nm,1.1s
CMAR Chiang Mai Arr 127.20 113 PKP **PKPdf 07 07 57.0 -0.3**
comp=Z,3.8nm,0.5s,baz=232,slow=4.0,SNR=17
CMAR Chiang Mai Arr 127.20 113 *c i* PKIKP **PKPdf 07 07 57.7 +0.4**
CMAR pmax pmax
comp=Z,4.0nm,0.5s
F04D Rainier, OR 127.22 299 P **PKPdf 07 07 56.8 +0.4**
baz=134
GUN Gumba 127.46 94 *e*P **PKPdf 07 07 57.1 -0.9**
comp=Z,34nm,0.7s
SUMG Summit 127.63 357 *i* P **PKPdf 07 07 57.0 0.0**
TAPN Taplejung 128.07 96 *e*P **PKPdf 07 07 58.5 -0.6**
comp=Z,34nm,1.0s
KLMR Klimovskoe 128.29 36 *e*PKIKP **PKPdf 07 07 55.5 -2.5**
KLMR *e* 07 10 05.1
KLMR pmax pmax
comp=Z,32nm,1.4s
KLMR Klimovskoe 128.29 36 *e*PKPdf **PKPdf 07 07 55.5 -2.5**
KLMR AMP 07 08 00.0
comp=Z,32nm,1.4s
KLMR *e*PP **PP 07 10 05.1 +1.8**
KSH Kashi 130.26 76 PKP **PKPdf 07 08 03.3 +0.6**
KSH sPKP 07 08 14.7
ARCES ARCESS Array B 130.93 23 PKP **PKPdf 07 08 03.2 +0.4**
comp=Z,16nm,0.9s,baz=143,slow=0.6,SNR=12
PRGR Permogore 130.94 38 *e*PKIKP **PKPdf 07 08 01.6 -1.4**
AAK Ala-Archa 131.58 72 *c i* PKIKP **PKPdf 07 08 05.7 +0.6**
AAK pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 132.62 49 *i* PKIKP **PKPdf 07 08 06.5 +0.1**
ARU 07 10 29.8
BBB Bella Bella 133.76 302 PKP **PKPdf 07 08 08.8 +0.2**
comp=Z,5.1nm,0.9s,baz=49,slow=5.0,SNR=4.8
YKA Yellowknife Ar 134.26 320 PKP **PKPdf 07 08 08.8 -0.5**
comp=Z,2.6nm,0.6s,baz=128,slow=2.2,SNR=8.3
PZH PanZhiHua 135.23 110 PKP **PKPdf 07 08 12.5 0.0**
BRVK Borovoye 135.98 59 *c i* PKIKP **PKiKP 07 08 14.0 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
T35M Bob Quinn 137.57 307 P **PKPdf 07 08 16.0 +0.3**
baz=123
CRAG Craig 138.09 304 P **PKPdf 07 08 17.2 +0.6**
baz=123
WRAK Wrangell Islan 138.24 305 P **PKPdf 07 08 17.6 +0.7**
baz=123
S34M Telegraph Cree 138.48 308 P **PKPdf 07 08 18.1 +0.9**
baz=122
MKAR Makanchi Array 138.50 73 PKhKP PKPpre 07 08 09.4
comp=Z,1.1nm,0.7s,baz=247,slow=2.5,SNR=3.9
MKAR PP **PP 07 11 09.7 +0.8**
comp=Z,0.7nm,0.9s,baz=200,slow=3.2,SNR=3.9
MKAR Makanchi Array 138.50 73 *c i* PKIKP **PKPdf 07 08 17.3 -0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
WTLY Watson Lake, Y 138.59 311 P **PKPdf 07 08 18.2 +0.7**
baz=121,SNR=10
GOMU GeErMu 138.66 94 PKP PKPpre 07 08 10.8
GOMU GeErMu 138.66 94 AMB AMB
comp=Z,130nm,5.0s
KURK Kurchatov 138.84 66 *c i* PKIKP **PKiKP 07 08 21.4 +1.1**
KURK pmax pmax
comp=Z,6.0nm,0.6s
TGTN Hyland Airport 139.09 314 P **PKPdf 07 08 18.9 +0.5**
baz=120
R33M Jennings River 139.17 310 P **PKPdf 07 08 19.2 +0.5**
baz=120,SNR=8.5
WMQ Urumqi 139.68 80 PKP **PKPdf 07 08 19.8 -0.3**
WMQ sPKP 07 08 33.1
WMQ PP **PP 07 11 20.1 +3.8**
WMQ SKS **SKSdf 07 15 22.4 -7.7**
WMQ AMB AMB
comp=Z,220nm,5.5s
CD2 Chengdu 139.78 108 PKP **PKPdf 07 08 20.0 -0.6**
SIT Sitka 139.97 305 P **PKPdf 07 08 20.6 +0.6**
baz=120
R32K Eaglecrest 140.21 307 P **PKPdf 07 08 20.5 +0.1**
baz=120
P33M Teslin, Yukon 140.39 310 P **PKPdf 07 08 20.9 +0.1**
baz=119
P32M Atlin 140.49 309 P **PKPdf 07 08 21.2 +0.2**
baz=119
N32M Quiet Lake 140.95 311 P **PKPdf 07 08 22.8 +1.0**
baz=117
LZH Lanzhou 143.70 103 *e*PKP PKPbc 07 08 26.2 +1.0
LZH pPKP PKiKP 07 08 36.5 +5.5
LZH sPKP 07 08 40.7
GTA Gaotai 143.74 95 *e*PKP PKPbc 07 08 25.6 +0.4
GTA pPKP PKiKP 07 08 37.1 +6.1
GTA LR LR
comp=Z,140nm,19.6s
GTA LR LR
comp=Z,310nm,23.3s
GTA LR LR
comp=Z,1μm,23.6s
ZALV Zalesovo Beam 143.78 65 PKP PKPbc 07 08 24.8 +0.2
comp=Z,6.0nm,0.6s,baz=234,slow=4.0,SNR=16
INK Inuvik 143.93 322 PKP PKPab 07 08 24.5 +0.4
comp=Z,23nm,1.0s,baz=125,slow=2.2,SNR=21
YAH Yahtse 144.46 307 IAMs_20 IAMs_20 08 20 47.2
comp=Z,223nm,19.0s
XAN Xi'an 144.97 110 PKPbc **PKPab 07 08 29.0 -0.1**
XAN pPKP PKiKP 07 08 39.9 +6.3
WHN Wuhan 145.02 120 PKPbc **PKPbc 07 08 29.0 -0.2**
EGAK Eagle 145.75 315 **PKPdf 07 08 29.4 -0.6**
K27K Chicken 145.90 313 **PKPdf 07 08 29.9 -0.3**
BMRM Bremner River 145.99 307 P **PKPbc 07 08 31.5 0.0**
baz=111,SNR=27
I27K Kandik River 146.17 316 P **PKPbc 07 08 32.2 +0.4**
baz=106,SNR=33
N25K Chitina, Valde 146.21 308 P **PKPbc 07 08 32.0 -0.1**
baz=110,SNR=11
H27K Steamboat Moun 146.31 317 P **PKPbc 07 08 32.5 +0.2**
baz=105,SNR=46
EYAK Cordova Ski Ar 146.37 306 P **PKPbc 07 08 33.1 +0.6**
baz=110,SNR=18
G27K Doyon Strip 146.50 318 P **PKPbc 07 08 33.0 +0.2**
baz=104,SNR=32
J26L Joseph Creek 146.66 313 P **PKPbc 07 08 33.4 0.0**
baz=106,SNR=43
SCRK Sand Creek 146.68 312 P **PKPbc 07 08 33.9 +0.4**
baz=107,SNR=34
I26K Coal Creek Min 146.71 315 P **PKPbc 07 08 33.3 0.0**
baz=105
HARP HAARP 146.71 309 P **PKPbc 07 08 33.2 -0.3**
baz=108
KLU Klutina 146.77 308 P **PKPbc 07 08 33.9 +0.1**
baz=109,SNR=37
E27K Coleen River 146.80 320 P **PKPbc 07 08 34.0 +0.4**
baz=102,SNR=39
RIDG Independent Ri 146.98 312 P **PKPbc 07 08 34.6 +0.3**
baz=106,SNR=49
PAX Paxson 147.03 310 P **PKPbc 07 08 34.5 +0.1**
baz=107,SNR=59
M24K Tolsona, Glenn 147.08 309 P **PKPbc 07 08 35.5 +0.9**
baz=108,SNR=24
GLI Glacier Island 147.10 306 IAMs_20 IAMs_20 08 19 41.2
comp=Z,189nm,22.0s
GLI Glacier Island 147.10 306 P **PKPbc 07 08 34.4 -0.2**
baz=109,SNR=57
LYN LuoYang 147.25 114⇑ *i* PKPbc **PKPdf 07 08 34.8 +1.3**
LYN pPKP sPKPab 07 08 45.8 +6.2
LYN SS SS 07 31 01.8 -1.4
LYN LR LR
comp=Z,190nm,15.3s
G26K Porcupine Rive 147.35 318 P **PKPbc 07 08 35.6 +0.4**
baz=102,SNR=21
K24K Donnelly Dome 147.40 312 P **PKPbc 07 08 35.8 +0.3**
baz=106,SNR=17
J25K Salcha River, 147.44 313 P **PKPbc 07 08 35.8 +0.3**
baz=105,SNR=21
SCM Sheep Creek Mo 147.51 308 P **PKPbc 07 08 36.2 +0.4**
baz=108,SNR=32
F26K Sheenjek River 147.64 319 P **PKPbc 07 08 36.7 +0.7**
baz=101,SNR=29
PWL Port Wells 147.67 306 P **PKPbc 07 08 36.4 +0.2**
baz=108,SNR=25
M23K Glacier View 147.68 308 P **PKPbc 07 08 36.6 +0.4**
baz=107,SNR=22
PRP Porcupine Dome 147.72 315 P **PKPbc 07 08 36.5 +0.1**
baz=103,SNR=22
C27K Jago River 147.81 323 P **PKPbc 07 08 37.2 +0.9**
baz=98,SNR=29
FYU Fort Yukon 147.83 317 IAMs_20 IAMs_20 08 08 13.2
comp=Z,153nm,20.0s

DHY	Denali Highway	147.89	310	P		PKPbc	07 08 37.3	+0.4
	baz=106,SNR=37							
KNK	Knik Glacier	147.90	307	P		PKPbc	07 08 37.1	+0.3
	baz=108							
WAT6	Susitna Watana	147.91	309	P		PKPbc	07 08 37.4	+0.3
	baz=106							
SEW	Seward	147.95	304	P		PKPbc	07 08 37.2	+0.3
	baz=109,SNR=20							
SML	Sawmill	147.96	308	P		PKPbc	07 08 37.1	+0.1
	baz=107,SNR=18							
H25K	Birch Creek	148.00	316	P		PKPbc	07 08 37.6	+0.7
	baz=102,SNR=20							
HDA	Harding Lake	148.05	313	P		PKPbc	07 08 37.0	-0.1
	baz=104,SNR=9.8							
ILAR	Eielson Array	148.11	313	PKPbc		PKPbc	07 08 37.2	0.0
	comp=Z,46nm,0.9s,baz=125,slow=1.6,SNR=47							
F25K	Christian Rive	148.19	319	P		PKPbc	07 08 38.0	+0.6
	baz=100,SNR=29							
E25K	Arctic Village	148.25	320	P		PKPbc	07 08 37.9	+0.3
	baz=99,SNR=54							
PMR	Palmer	148.26	307	P		PKPbc	07 08 37.9	+0.2
	baz=107,SNR=12							
C26K	Camden Bay	148.26	323	P		PKPbc	07 08 37.8	+0.4
	baz=97,SNR=6.0							
WAT1	Susitna Watana	148.34	309	P		PKPbc	07 08 38.6	+0.6
	baz=105							
RC01	Rabbit Creek A	148.39	306	P		PKPbc	07 08 38.5	+0.4
	baz=107,SNR=16							
POKR	Poker Plat Res	148.41	314	P		PKPbc	07 08 38.1	0.0
	baz=102							
NJ2	Nanjing	148.44	125	*e*P		PKPdf	07 08 27.7	-7.9
NJ2				pmax		pmax		
	comp=Z,9.0nm,1.0s							
BRSE	Bradley Lake S	148.45	303	P		PKPbc	07 08 38.7	+0.4
	baz=109,SNR=21							
COLA	College	148.53	313	P		PKPbc	07 08 38.1	-0.2
	baz=102							
TCOL	CIGO, UAF Yank	148.54	313	P		PKPbc	07 08 38.3	0.0
	baz=102,SNR=15							
KDAK	Kodiak Island	148.69	299	P		PKPbc	07 08 38.9	0.0
	baz=111							
D25K	Kavik River	148.70	322	P		PKPbc	07 08 38.6	-0.1
	baz=96,SNR=22							
MCK	McKinley	148.74	311	P		PKPbc	07 08 39.2	+0.3
	baz=104,SNR=32							
G24K	Hadweenzic Riv	148.74	317	P		PKPbc	07 08 39.3	+0.4
	baz=100,SNR=44							
H24K	Noodor Dome	148.74	315	P		PKPbc	07 08 38.9	0.0
	baz=101,SNR=19							
M22K	Willow	148.76	307			PKPbc	07 08 38.5	-0.4
M22K	Willow	148.76	307	P		PKPbc	07 08 39.4	+0.4
	baz=106,SNR=17							
OHAK	Old Harbor	148.85	298			PKPbc	07 08 39.1	-0.2
OHAK	Old Harbor	148.85	298	P		PKPbc	07 08 39.5	+0.2
	baz=111,SNR=17							
HOM	Homer	148.86	303	P		PKPbc	07 08 39.9	+0.6
	baz=108,SNR=5.4							
Q20K	Shuyak Island	148.88	301	P		PKPbc	07 08 39.9	+0.5
	baz=110,SNR=7.5							
SUA	Susitna One	148.97	306	P		PKPbc	07 08 40.3	+0.6
	baz=106,SNR=23							
NEA2	Nenana	148.98	313	P		PKPbc	07 08 39.4	-0.1
	baz=102,SNR=38							
F24K	Squaw Lake	149.03	318	P		PKPbc	07 08 40.5	+0.9
	baz=98,SNR=28							
SII	Sitkinak Islan	149.06	296	P		PKPbc	07 08 40.6	+0.6
	baz=112,SNR=7.1							
TRF	Thorofare Moun	149.26	310	P		PKPbc	07 08 40.7	+0.3
	baz=103,SNR=13							
E24K	Your Creek	149.32	319	P		PKPbc	07 08 41.1	+0.7
	baz=97,SNR=37							
H23K	Yukon River	149.41	315	P		PKPbc	07 08 40.5	0.0
	baz=100,SNR=9.1							
O20K	Slope Mountain	149.46	303	P		PKPbc	07 08 40.7	-0.2
	baz=107,SNR=7.9							
SKT	Skwentna	149.46	307	P		PKPbc	07 08 41.1	+0.3
	baz=105,SNR=28							
CHIR	Chirikof Islan	149.53	294	P		PKPbc	07 08 41.3	+0.2
	baz=112							
C24K	Franklin Bluff	149.55	323	P		PKPbc	07 08 41.4	+0.7
	baz=94,SNR=15							
D24K	Happy Valley	149.56	321	P		PKPbc	07 08 41.0	+0.2
	baz=95							
N20K	Mount Spurr	149.57	305	P		PKPbc	07 08 41.0	-0.1
	baz=105,SNR=5.3							
SPCR	Spurr Chakacha	149.57	305	P		PKPbc	07 08 41.1	0.0
	baz=105							
Q19K	Cape Douglas,	149.60	301	P		PKPbc	07 08 41.5	+0.3
	baz=108,SNR=5.4							
TIY	Taiyuan	149.60	110	*e*P		PKPbc	07 08 42.5	+0.5
P19K	Oil Pt	149.62	302	P		PKPbc	07 08 41.4	+0.1
	baz=107,SNR=11							
BPAW	Bear Paw Mtn.	149.70	311	P		PKPbc	07 08 41.4	+0.1
	baz=101,SNR=45							
G23K	Bananza Creek	149.74	317	P		PKiKP	07 08 42.3	-0.1
	baz=98,SNR=41							
MLY	Manley	149.77	313	P		PKPbc	07 08 40.9	-0.5
	baz=100,SNR=24							
TOLK	Toolik Lake Re	149.78	320	P		PKPbc	07 08 42.1	+0.7
	baz=95,SNR=43							
COLD	Coldfoot	149.88	318	P		PKiKP	07 08 42.5	0.0
	baz=97,SNR=29							
PPLA	Purkeypile	149.98	309	P		PKPbc	07 08 42.5	+0.3
	baz=103,SNR=16							
CAST	Castle Rocks	150.04	310	P		PKPbc	07 08 41.9	-0.2
	baz=102,SNR=34							
H22K	Ishtalitna Cre	150.17	315	P		PKPbc	07 08 42.8	+0.4
	baz=98,SNR=28							
M20K	Styx River	150.17	307	P		PKPbc	07 08 42.6	0.0
	baz=104,SNR=31							
D23K	Nanushuk River	150.21	321	P		PKiKP	07 08 43.3	+0.1
	baz=93,SNR=16							
C23K	Itkillik River	150.22	323	P		PKPbc	07 08 43.1	+0.7
	baz=92,SNR=22							
CHUM	Lake Minchumin	150.23	311	P		PKPbc	07 08 42.6	+0.1
	baz=101,SNR=10							
O19K	Port Alsworth	150.30	303	P		PKPbc	07 08 42.6	-0.2
	baz=106,SNR=17							
I21K	Tanana	150.31	313	P		PKPbc	07 08 42.7	0.0
	baz=99,SNR=5.9							
BTO	Baotou	150.32	103	*e*P		PKPbc	07 08 43.7	0.0
G22K	Bettles	150.35	317	P		PKPbc	07 08 43.4	+0.6
	baz=96							
P18K	Big Mountain,	150.52	301	P		PKPbc	07 08 42.9	-0.5
	baz=107							
N19K	Bonanza Creek	150.54	304	P		PKPbc	07 08 43.1	-0.5
	baz=105,SNR=52							
R17K	Ugashik Creek	150.57	297	P		PKPbc	07 08 43.9	+0.4
	baz=109,SNR=25							
E22K	Anaktuvuk Pass	150.57	319	P		PKPbc	07 08 43.7	+0.4
	baz=94							
HNS	HongShan	150.59	113	PKPbc		PKPdf	07 08 38.9	+0.1
O18K	Koktuh Hills	150.64	302	P		PKPbc	07 08 43.7	0.0
	baz=106,SNR=62							
L20K	Farewell, AK	150.65	308	P		PKPbc	07 08 43.3	-0.3
	baz=102,SNR=13							
F22K	John River	150.66	318	P		PKiKP	07 08 44.4	+0.2
	baz=94							
H21K	Melozitna Rive	150.72	314	P		PKPbc	07 08 44.3	+0.6
	baz=97,SNR=5.7							
M19K	Big River Lodg	150.76	306	P		PKPbc	07 08 43.8	-0.1
	baz=103,SNR=18							
K20K	Telida	150.91	309	P		PKPbc	07 08 44.0	-0.2
	baz=100,SNR=26							
TIA	Tai'an	150.94	117	PKPbc		PKPdf	07 08 39.6	+0.2
Q16K	King Salmon	151.02	299	P		PKPbc	07 08 44.5	-0.1
	baz=107,SNR=16							
L19K	White Mountain	151.03	307	P		PKPbc	07 08 44.5	-0.1
	baz=102,SNR=11							
P17K	Kvichak River	151.06	300	P		PKPbc	07 08 44.4	-0.2
	baz=106							
J20K	Nowinta River	151.08	311	P		PKPbc	07 08 44.8	+0.2
	baz=99,SNR=7.6							
G21K	Allakaket	151.10	316	P		PKPbc	07 08 45.1	+0.5
	baz=95,SNR=12							
F21K	Alatna River	151.15	317	P		PKPbc	07 08 45.0	+0.4
	baz=94,SNR=5.3							
R16K	Pilot Point	151.15	297	P		PKPbc	07 08 44.8	-0.1
	baz=108							
CHGN	Chignik	151.17	294	P		PKPbc	07 08 44.3	-0.6
	baz=110,SNR=8.4							
N18K	Kilae Creek	151.18	303	P		PKPbc	07 08 44.3	-0.7
	baz=104,SNR=15							
CHNA	Chernabura Isl	151.26	291	P		PKPbc	07 08 44.6	-0.6
	baz=112,SNR=12							
HHC	Hu-ho-hao-te	151.35	104	*e*PKPbc		PKPdf	07 08 40.1	+0.1
O17K	Koliganek Bris	151.54	301	P		PKPbc	07 08 45.4	-0.3
	baz=105,SNR=35							
TTA	Tatalina	151.70	308	P		PKPbc	07 08 46.5	+0.4
	baz=100,SNR=15							
S14K	Fog Glacier	151.76	293	P		PKPbc	07 08 46.4	-0.1
	baz=110,SNR=9.1							
P16K	Nushagak River	151.79	300	P		PKPbc	07 08 45.9	-0.4
	baz=106							
SDPT	Sand Point	151.92	291	P		PKPbc	07 08 45.9	-0.8
	baz=111,SNR=6.4							
O16K	Kokwok River B	151.98	301	P		PKPbc	07 08 46.5	-0.2
	baz=104,SNR=14							
ZAK	Zakamensk	152.15	81	*e*PKIKP		PKPdf	07 08 40.1	-0.8
ZAK				pmax		pmax		
	comp=Z,20nm,1.3s							
A21K	Barrow	152.17	326	P		PKPbc	07 08 47.2	+0.3
	baz=83							
GCSA	Galena City Sc	152.33	312	P		PKiKP	07 08 48.3	+0.7
	baz=96							
N16K	Nishlik Lake	152.52	302	P		PKiKP	07 08 49.1	+0.9
	baz=102							
SONM	Songino Array	152.65	88	PKP		PKPdf	07 08 41.7	-0.1
	comp=Z,1.6nm,0.7s,baz=189,slow=1.8,SNR=5.2							
SONM				PKPbc		PKPbc	07 08 48.9	0.0
	comp=Z,17nm,0.7s,baz=224,slow=2.8,SNR=36							
SONM				PKPab		PKPab	07 08 59.5	-0.1
	comp=Z,10nm,0.6s,baz=220,slow=2.7,SNR=11							
ULN	Ulaanbaatar	153.04	88*c*	*i*PKIKP		PKiKP	07 08 50.2	+0.3
ULN				pmax		pmax		
	comp=Z,13nm,1.3s							
BJI	Beijing	153.30	111	PKPbc		PKPdf	07 08 41.9	-0.9
XLT	XiLinHaoTe	155.87	104	*i* PKP		PKPdf	07 08 46.4	0.0
XLT				pPKP		pPKPbc	07 08 56.2	-1.2
XLT				sPKP			07 09 00.8	
XLT				PKPab		PKPab	07 09 14.0	+0.6
XLT				PP		PP	07 12 52.3	+1.2
XLT				AMB		AMB		
	comp=Z,83nm,7.7s							
ANM	Nome	155.97	311	IAMs_20		IAMs_20	08 31 17.4	
	comp=Z,194nm,18.0s							
KSRS	Korea Array	157.04	132	PKP		PKPdf	07 08 47.8	-0.1
	comp=Z,1.8nm,0.7s,baz=284,slow=1.2,SNR=5.8							
KSRS				PKPab		PKPab	07 09 18.1	-0.2
	comp=Z,5.8nm,1.1s,baz=223,slow=4.6,SNR=5.8							
MJAR	Matsushiro Arr	159.81	153	PKP		PKPdf	07 08 50.7	-0.7
	comp=Z,0.7nm,0.3s,baz=166,slow=3.2,SNR=4.1							
MJAR				PKPab		PKPab	07 09 31.3	+0.9
	comp=Z,0.6nm,0.4s,baz=204,slow=2.7,SNR=1.3							
CN2	Changchun	160.84	117	*e*PKP		PKPdf	07 08 52.2	0.0
BNX	BinXian	163.18	115	⇓P		PKPab	07 09 44.1	-0.9
BNX				pmax		pmax		
	comp=Z,11nm,0.8s							
BNX				pmax		pmax		
	comp=Z,110nm,3.5s							
MDJ	Mudanjiang	163.49	122	PKP		PKPdf	07 08 54.7	-0.2
KLR	Kul'dur	167.67	112	PKP		PKPdf	07 08 57.9	-0.3
	comp=Z,4.5nm,1.0s,baz=304,slow=5.0,SNR=3.8							
KLR				PKPab		PKPab	07 10 03.7	-1.0
	comp=Z,6.2nm,1.0s,baz=291,slow=7.0,SNR=6.8							

NOU ***02*** *06:49:04.3,37˚.45S×179˚.86E,h170km,MLv4.6/6, Off E. Coast of N. Island, N.Z.*

WEL ***02*** *06:49:11.8±1.2, 37˚.5S±4˚×17˚.9E±˚, h14km±5km, M3.5/64, ML3.6/48, MLv3.5/64, Error ellipse: s-maj=0.0km s-min=0.0km az=84.9*

ISC 02 06:49:10.5±2.7, 37˚.26S±0˚.06×179˚.1E±0˚.1, h13km±10km, n70, σ1°02/78, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.70	244	P	Pg	06 49 24.4	+0.2
MXZ				S	Sg	06 49 31.9	-1.6
WMGZ	Waiomatatini S	0.79	224	P	Pn	06 49 27.9	+0.6
WMGZ				S	Sn	06 49 38.5	-0.4
PKGZ	Pakihiroa	1.03	232	P	Pg	06 49 30.9	+0.5
PKGZ				S	Sg	06 49 44.1	+0.1
PUZ	Puketiti	1.06	219	P	Pn	06 49 31.8	+0.8
PUZ				S	Sn	06 49 45.6	0.0
HAZ	Te Kaha	1.16	244	P	Pb	06 49 31.6	-0.9
HAZ				S	Sn	06 49 48.0	-0.3
TWGZ	Tauwhareparae	1.28	224	P	Pb	06 49 35.1	+0.6
TWGZ				S	Sn	06 49 51.3	+0.1
RUGZ	Raukumara Rang	1.34	238	P	Pb	06 49 35.9	+0.4
RUGZ				S	Sb	06 49 52.3	-0.3
CNGZ	Carnagh Statio	1.42	210	P	Pb	06 49 37.6	+0.8
CNGZ				S	Sg	06 49 56.3	+0.2
TKGZ	Te Karaka	1.54	220	P	Pn	06 49 38.2	+0.5
TKGZ				S	Sn	06 49 57.2	-0.4
WIZ	White Island	1.55	259	P	Pb	06 49 38.8	-0.2
MWZ	Matawai	1.65	229	P	Pn	06 49 39.9	+0.7
RIGZ	Rimuhau	1.79	216	P	Pn	06 49 41.7	+0.4
WHRZ	Whale Island	1.79	250	P	Pn	06 49 42.2	+1.0
RAGZ	Rawiri	1.82	227	P	Pn	06 49 42.5	+0.8
URZ	Urewera	1.87	237	P	Pn	06 49 43.2	+1.0
URZ	Urewera	1.87	237	P	Pn	06 49 43.3	+1.1
PRGZ	Paritu Road	1.92	210	P	Pn	06 49 43.5	+0.5
EDRZ	Edgecumbe	2.06	245	P	Pn	06 49 45.7	+0.8
SNGZ	Shannon Statio	2.06	222	P	Pn	06 49 45.3	+0.3
KNZ	Kokohu	2.09	212	P	Pn	06 49 45.0	-0.3
OPRZ	Ohinepanea	2.11	253	P	Pn	06 49 45.7	+0.2
MHGZ	Mahia Peninsul	2.12	206	P	Pn	06 49 46.2	+0.6
RTZ	Ruatahuna	2.16	230	P	Pn	06 49 47.2	+1.0
MUGZ	Murupara	2.21	236	P	Pn	06 49 47.4	+0.4
TARZ	Mount Tarawera	2.28	244	P	Pn	06 49 49.0	+1.1
RAHZ	Arahi	2.30	223	P	Pn	06 49 49.5	+1.3
TGRZ	Tauranga	2.31	257	P	Pn	06 49 48.8	+0.6
RRRZ	Republican Roa	2.32	241	P	Pn	06 49 49.3	+0.8
WHHZ	Waihua	2.34	218	P	Pn	06 49 49.7	+1.0
MTHZ	Maungataniwha	2.39	228	P	Pn	06 49 50.4	+0.9
KARZ	Kaharoa	2.40	251	P	Pn	06 49 50.1	+0.7
HLRZ	Highlands Stat	2.40	245	P	Pn	06 49 50.7	+1.2
PRRZ	Plateau Road	2.48	239	P	Pn	06 49 50.9	+0.3
ALRZ	Allen Road	2.54	238	P	Pn	06 49 52.0	+0.5
NMHZ	Naumai	2.58	224	P	Pn	06 49 53.3	+1.3
ARHZ	Aropaoanui	2.60	219	P	Pn	06 49 52.5	+0.3
MRHZ	Matea Rd	2.64	233	P	Pn	06 49 53.4	+0.5
KUZ	Kuaotunu	2.76	280	P	Pn	06 49 53.2	-1.1
BKZ	Black Stump Fm	2.81	226	P	Pn	06 49 55.6	+0.5
BKZ	Black Stump Fm	2.81	226	P	Pn	06 49 55.7	+0.6
TOZ	Tahuroa Road	2.91	260	P	Pn	06 49 56.7	+0.3
KWHZ	Kaweka Forest	3.02	223	P	Pn	06 49 57.9	-0.3
KAHZ	Kahuranaki	3.08	214	P	Pn	06 49 58.1	-0.8
GRZ	Great Barrier	3.10	288	P	Pn	06 49 59.2	+0.2
MKAZ	Moumakai	3.15	272	P	Pn	06 49 59.1	-0.7
KRHZ	Kereru	3.21	221	P	Pn	06 50 00.0	-0.6
TMVZ	Te Maari	3.26	234	P	Pn	06 50 01.6	+0.2
ETVZ	East Tongariro	3.27	234	P	Pn	06 50 01.7	+0.2
BHHZ	Black Hill Sta	3.27	226	P	Pn	06 50 01.5	0.0
NTVZ	North Tongarir	3.27	235	P	Pn	06 50 01.8	+0.2
PXZ	Pawanui	3.28	212	P	Pn	06 50 00.3	-1.3
KRVZ	Karewarewa	3.29	235	P	Pn	06 50 02.2	+0.3
NNVZ	North Ngauruho	3.33	235	P	Pn	06 50 03.0	+0.6
WTVZ	West Tongariro	3.33	235	P	Pn	06 50 03.1	+0.7
MOVZ	Moawhango	3.40	230	P	Pn	06 50 03.4	+0.1
MBAZ	Motutapu North	3.40	277	P	Pn	06 50 03.4	+0.2
FWVZ	Far West T-bar	3.44	233	P	Pn	06 50 04.3	+0.4
WNVZ	Wahianoa	3.45	232	P	Pn	06 50 04.1	0.0
AWAZ	Awhitu Peninsu	3.57	272	P	Pn	06 50 07.2	+1.6
HIZ	Hauiti	3.59	248	P	Pn	06 50 07.5	+1.6
HIZ	Hauiti	3.59	248	P	Pn	06 50 07.1	+1.3
RVAZ	Riverhead Bore	3.65	276	P	Pn	06 50 07.0	+0.3
TSZ	Takapari Road	3.73	220	P	Pn	06 50 06.2	-1.6
WCZ	Waipu Caves	4.05	288	P	Pn	06 50 11.3	-0.8
WAZ	Wanganui	4.08	231	P	Pn	06 50 13.1	+0.4
PKE	Pukeiti	4.47	243	P	Pn	06 50 22.2	+4.2
OUZ	Omahuta	4.89	293	P	Pn	06 50 24.9	+1.2
OUZ	Omahuta	4.89	293	P	Pn	06 50 25.0	+1.2
QRZ	Quartz Range	6.24	233	P	Pn	06 50 38.2	-4.0
KHZ	Kahutara	6.70	218	P	Pn	06 50 43.8	-4.7

NEIC ***02*** *06:56:39.1±1.0,56˚.2S±0˚.2×124˚.0W±0˚.1, h10km±1km, mb4.8/18, Error ellipse: s-maj=28.5km s-min=4.5km az=334.0*

IDC ***02*** *06:56:39.2±0.9,56˚.09S×124˚.08W, h0km, mb4.1/7, mbtmp4.1/7, MS4.0/14, Error ellipse: s-maj=33.9km s-min=26.8km az=56.0*

ISC 02 06:56:39.1±0.6, 56˚.1S±0˚.1×123˚.98W±0˚.10, h10km, n49, σ1°11/29, mb4.6/16, MS4.1/14, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAI	San Martin Ant	28.06	138	P	P	07 02 28.6	-1.5
PMSA	Palmer Station	29.72	132	P	P	07 02 46.8	+1.9
	18nm,0.8s,baz=270,slow=10,SNR=8.9						
PMSA				LR	LR	07 11 21.8	
	comp=Z,338nm,18.9s,baz=287,slow=30						
	18nm,0.8s						
PMSA	Palmer Station	29.72	132	P	P	07 02 44.6	-0.3
ESPZ	Base Esperanza	33.07	131	P	P	07 03 13.9	-0.5
ESPZ				IAmb	IAmb	07 03 32.0	
	comp=Z,15nm,1.4s						
AY01	Puyuhuapi	34.05	92	P	P	07 03 22.8	-0.3
QSPA	South Pole Qui	34.11	180	P	P	07 03 26.3	+2.6
	comp=Z,2.6nm,0.9s,baz=101,slow=5.2,SNR=4.0						
	comp=Z,2.6nm,0.9s						
QSPA	South Pole Qui	34.11	180	P	P	07 03 22.5	-1.2
QSPA				IAmb	IAmb	07 03 29.8	
	comp=Z,7.9nm,1.2s						
LL05	Los Muermos	35.53	87	P	P	07 03 35.2	-0.7
BELA	Belgrano 2	35.85	159	P	P	07 03 37.3	-1.0
BELA				IAmb	IAmb	07 03 56.7	
	comp=Z,7.8nm,0.9s						
LR03	Panguipulli	37.37	86	P	P	07 03 51.1	-0.5
LR03				IAmb	IAmb	07 03 57.9	
	comp=Z,17nm,1.2s						
H03S2	Juan Fernandez	37.94	73	T	T	07 43 48.3	
	baz=217						
H03S1	Juan Fernandez	37.95	73	T	T	07 43 42.9	
	baz=217						
H03S3	Juan Fernandez	37.96	73	T	T	07 43 49.6	
	baz=217						
H03N3	Juan Fernandez	38.23	73	T	T	07 44 08.4	
	baz=221,slow=72,SNR=38						
H03N2	Juan Fernandez	38.24	73	T	T	07 44 03.5	
	baz=221,slow=72,SNR=64						
H03N1	Juan Fernandez	38.25	73	T	T	07 44 00.9	
	baz=221,slow=72,SNR=42						
BFZ	Birch Farm	41.21	266	P	P	07 04 23.4	-0.3
BO02	Sierra Bellavi	41.69	82	P	P	07 04 27.3	-0.5
BO02				IAmb	IAmb	07 04 33.2	
	comp=Z,13nm,1.2s						
RPZ	Rata Peaks	42.08	259	LR	LR	07 17 33.6	
	comp=Z,249nm,20.5s,baz=96,slow=30						
MXZ	Matakaoa Point	42.21	271	P	P	07 04 31.7	-0.2
MXZ				IAmb	IAmb	07 04 49.7	
	comp=Z,44nm,1.1s						
URZ	Urewera	42.39	269	LR	LR	07 18 05.7	
	comp=Z,135nm,19.6s,baz=30,slow=30						
PPT	Papeete	43.04	323	LR	LR	07 16 07.4	
	comp=Z,26nm,21.2s,baz=128,slow=27						
SNAA	Sanae	46.08	158	P	P	07 05 03.1	+0.4
	comp=Z,2.3nm,1.1s,baz=197,slow=6.7,SNR=3.5						
SNAA				LR	LR	07 25 35.8	
	comp=Z,268nm,18.0s,baz=195,slow=38						
	comp=Z,2.3nm,1.1s						
PB01	IPOC Station P	53.15	72	P	P	07 05 56.2	-0.9
PB01				IAmb	IAmb	07 06 11.5	
	comp=Z,20nm,1.5s						
MAW	Mawson	56.54	183	P	P	07 06 22.1	+1.2
	comp=Z,2.2nm,1.0s,baz=139,slow=1.5,SNR=1.9						
	comp=Z,2.2nm,1.0s						
LPAZ	La Paz	57.78	70	LR	LR	07 24 32.6	
	comp=Z,271nm,20.6s,baz=178,slow=29						
CAN	Canberra	59.97	251	P	P	07 06 45.1	-0.4
CAN				IAmb	IAmb	07 07 06.5	
	comp=Z,24nm,1.3s						
TOO	Toolangi	60.09	246	P	P	07 06 45.3	-1.0
TOO				IAmb	IAmb	07 07 08.2	
	comp=Z,15nm,1.4s						
DZM	Mont Dzumac	60.60	274	P	P	07 06 49.3	-0.7
CTAO	Charters Tower	73.45	259	P	P	07 08 10.7	-0.9
CTAO				IAmb	IAmb	07 08 21.8	
	comp=Z,14nm,1.3s						
HNR	Honiara	74.45	276	LR	LR	07 34 38.7	
	comp=Z,62nm,18.9s,baz=145,slow=31						
H01W1	Cape Leeuwin H	76.81	226	T	T	08 34 15.2	
	baz=151,slow=76,SNR=22						
H01W2	Cape Leeuwin H	76.82	226	T	T	08 34 14.8	
	baz=151,slow=76,SNR=23						
H01W3	Cape Leeuwin H	76.83	226	T	T	08 34 16.4	
	baz=151,slow=76,SNR=24						
ASAR	Alice Springs	77.14	247	P	P	07 08 33.9	+1.1
	comp=Z,1.3nm,0.9s,baz=148,slow=5.5,SNR=4.0						
	comp=Z,1.3nm,0.9s						
ASAR	Alice Springs	77.14	247	P	P	07 08 33.6	+0.7
WRA	Warramunga Arr	79.98	249	P	P	07 08 49.5	+0.9
	comp=Z,1.8nm,0.8s,baz=146,slow=5.0,SNR=8.7						
	comp=Z,1.8nm,0.8s						
WRA	Warramunga Arr	79.98	249	P	P	07 08 49.0	+0.5
FITZ	Fitzroy Crossi	85.99	243	LR	LR	07 42 51.0	
	comp=Z,90nm,21.8s,baz=186,slow=32						
TXAR	Lajitas Array	86.81	18	P	P	07 09 24.7	+1.4
	comp=Z,0.2nm,0.7s,baz=200,slow=6.7,SNR=3.2						
	comp=Z,0.2nm,0.7s						
SUR	Sutherland	86.93	151	LR	LR	07 46 30.7	
	comp=Z,108nm,18.2s,baz=173,slow=34						
BOSA	Boshof	91.68	153	LR	LR	07 44 05.3	
	comp=Z,88nm,20.3s,baz=192,slow=31						
BATI	Baumata	93.68	246	LR	LR	07 47 40.7	
	comp=Z,206nm,20.6s,ba

comp=Z,2.1nm,0.4s

*IDC **02** 07:04:16.5±0.7,55.°08S×30.°43W,h0km,mb4.2/8, mbtmp4.2/8, Error ellipse: s-maj=32.3km s-min=16.4km az=63.0*

*NEIC **02** 07:04:19.1±2.2,55.°28S±0.°10×31.°1W±0.°2,h10km±1km, mb4.6/23, Error ellipse: s-maj=19.3km s-min=15.6km az=61.0*

ISC 02 07:04:18.1±0.6,**55.°17S**±0.°08×**30.°84W**±0.°10,**h10**km,**n50,** σ1§**41**/45,**mb4.5**/15,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.39**	**283**		**Pn**	**07 05 10.2**	**-0.8**
ORCD	**Orcadas**	**9.25**	**227**	Pn	**Pn**	**07 06 28.5**	**-2.8**
EFI	**East Falkland**	**16.55**	**271**	Pn	**Pn**	**07 08 08.0**	**-2.1**
EFI				IAmb	IAmb	07 08 45.7	
	comp=Z,107nm,1.4s						
VNA1	**Neumayer--Stat**	**18.42**	**156**	P	**Pn**	**07 08 33.3**	**+0.2**
VNA3	**Neumayer Olymp**	**18.55**	**158**	P	**Pn**	**07 08 35.4**	**+0.7**
VNA2	**Neumayer--Watz**	**18.82**	**156**	P	**P**	**07 08 36.3**	**-1.2**
	baz=308,slow=8.7						
PMSA	**Palmer Station**	**18.96**	**226**	P	**Pn**	**07 08 45.7**	**+6.0**
	comp=Z,6.7nm,0.5s,baz=62,slow=12,SNR=8.6						
SNAA	**Sanae**	**20.41**	**155**	P	**P**	**07 08 54.6**	**-0.3**
SNAA	**Sanae**	**20.41**	**155**	P	**P**	**07 08 54.4**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=296,slow=9.2,SNR=8.6						
	comp=Z,2.3nm,0.9s						
SNAA	**Sanae**	**20.41**	**155**	P	**P**	**07 08 54.7**	**-0.3**
SMAI	**San Martin Ant**	**21.14**	**218**	P	**P**	**07 09 01.9**	**-0.8**
TROLL	**Troll, Antarti**	**21.97**	**153**	P	**P**	**07 09 13.8**	**+2.0**
BELA	**Belgrano 2**	**22.85**	**182**	P	**P**	**07 09 19.6**	**-1.4**
MG05	**Puerto Natales**	**24.80**	**261**	P	**P**	**07 09 38.3**	**-1.6**
GO09	**Cerro Castillo**	**24.88**	**262**	P	**P**	**07 09 39.6**	**-1.0**
GO09				IAmb	IAmb	07 10 19.4	
	comp=Z,39nm,1.4s						
TRQA	**Tornquist**	**27.07**	**296**	P	**P**	**07 10 01.3**	**+0.7**
CPUP	**Villa Florida**	**34.70**	**315**	P	**P**	**07 11 07.9**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=155,slow=9.0,SNR=12						
	comp=Z,5.9nm,0.8s						
CPUP	**Villa Florida**	**34.70**	**315**	P	**P**	**07 11 08.0**	**+0.1**
CPUP				IAmb	IAmb	07 11 08.9	
	comp=Z,5.9nm,0.8s						
MT09	**Talagante**	**35.06**	**291**	P	**P**	**07 11 10.3**	**-0.9**
QSPA	**South Pole Qui**	**35.09**	**180**	P	**P**	**07 11 11.7**	**+0.7**
	comp=Z,5.3nm,1.0s,baz=184,slow=8.5,SNR=15						
	comp=Z,5.3nm,1.0s						
QSPA	**South Pole Qui**	**35.09**	**180**	P	**P**	**07 11 11.3**	**+0.3**
QSPA				IAmb	IAmb	07 11 14.3	
	comp=Z,7.6nm,1.1s						
VA06	**Catapilco**	**36.16**	**292**	P	**P**	**07 11 20.9**	**+0.5**
CO02	**Combarbal**	**37.06**	**294**	P	**P**	**07 11 29.0**	**+0.7**
AC05	**El Transito**	**38.58**	**297**	P	**P**	**07 11 41.4**	**+0.3**
AC05				IAmb	IAmb	07 12 12.3	
	comp=Z,27nm,1.4s						
GO02	**Mina Guanaco**	**41.25**	**301**	P	**P**	**07 12 04.5**	**+0.9**
GO02				IAmb	IAmb	07 12 19.4	
	comp=Z,17nm,1.1s						
MAW	**Mawson**	**42.08**	**145**	P	**P**	**07 12 08.7**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=270,slow=7.1,SNR=7.6						
	comp=Z,1.4nm,0.4s						
LVC	**Limon Verde**	**43.07**	**303**	P	**P**	**07 12 19.8**	**+1.4**
	comp=Z,5.4nm,1.0s,baz=216,slow=4.0,SNR=3.6						
	comp=Z,5.4nm,1.0s						
LVC	**Limon Verde**	**43.07**	**303**	P	**P**	**07 12 20.1**	**+1.6**
LVC				IAmb	IAmb	07 12 22.2	
	comp=Z,13nm,1.2s						
PB09	**IPOC Station P**	**43.93**	**304**	P	**P**	**07 12 24.7**	**-0.4**
PB01	**IPOC Station P**	**44.69**	**304**	P	**P**	**07 12 32.3**	**+1.1**
PB01				IAmb	IAmb	07 12 37.4	
	comp=Z,27nm,1.5s						
PTLB	**Pontes e Lacer**	**45.25**	**320**	P	**P**	**07 12 35.8**	**+0.2**
PTLB				IAmb	IAmb	07 12 36.6	
	comp=Z,5.6nm,0.9s						
GO01	**Chusmiza**	**45.73**	**305**	P	**P**	**07 12 40.5**	**+0.6**
GO01				IAmb	IAmb	07 12 42.0	
	comp=Z,4.4nm,0.7s						
VNDA	**Vanda**	**47.34**	**184**	P	**P**	**07 12 52.4**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=190,slow=6.3,SNR=10						
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**47.34**	**184**	P	**P**	**07 12 53.0**	**+1.7**
H10S2	**ASCENSION HYDR**	**47.85**	**22**	T	T	08 04 33.5	
	baz=192						
H10S3	**ASCENSION HYDR**	**47.85**	**22**	T	T	08 04 32.0	
	baz=28						
LPAZ	**La Paz**	**48.19**	**309**	P	**P**	**07 13 00.6**	**+1.3**
	comp=Z,2.8nm,0.5s,baz=114,slow=4.7,SNR=17						
	comp=Z,2.8nm,0.5s						
LPAZ	**La Paz**	**48.19**	**309**	P	**P**	**07 13 00.1**	**+0.8**
LPAZ				IAmb	IAmb	07 13 08.3	
	comp=Z,4.4nm,0.7s						
H10N1	**ASCENSION HYDR**	**48.97**	**22**	T	T	08 05 57.6	
	baz=192						
H10N3	**ASCENSION HYDR**	**48.97**	**22**	T	T	08 05 58.0	
	baz=192,slow=74						
H10N2	**ASCENSION HYDR**	**48.98**	**22**	T	T	08 06 00.9	
	baz=192,slow=74						
BOAV	**Boa Vista**	**62.35**	**326**	P	**P**	**07 14 39.5**	**-1.2**
BOAV				IAmb	IAmb	07 14 40.8	
	comp=Z,3.2nm,0.9s						
COHC	**Cochancay**	**65.45**	**305**	P	**P**	**07 15 01.9**	**+0.8**
TOA0	**Torodi Ar. Sit**	**73.38**	**33**	P	**P**	**07 15 50.5**	**+0.5**
TOA0				IAmb	IAmb	07 16 22.0	
	comp=Z,5.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.38**	**33**	P	**P**	**07 15 49.5**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=197,slow=6.5,SNR=9.5						
	comp=Z,2.2nm,0.8s						
NVAR	**Mina Array Bea**	**119.14**	**296**	PKP	**PKiKP**	**07 23 07.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=151,slow=4.1,SNR=4.3						
FINES	**FINESS Array B**	**124.60**	**29**	PKP	**PKPdf**	**07 23 15.1**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=205,slow=2.9,SNR=4.3						
ARCES	**ARCESS Array B**	**130.91**	**23**	PKP	**PKPdf**	**07 23 27.5**	**-0.5**
	comp=Z,4.3nm,1.0s,baz=198,slow=1.7,SNR=5.3						
ILAR	**Eielson Array**	**147.99**	**313**	PKPbc	**PKPbc**	**07 24 01.9**	**-0.3**
	comp=Z,4.6nm,0.8s,baz=120,slow=1.6,SNR=34						
SONM	**Songino Array**	**152.75**	**88**	PKPbc	**PKPbc**	**07 24 13.3**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=222,slow=1.9,SNR=5.7						

*IDC **02** 07:05:29.3±0.7,55.°05S×30.°39W,h0km,mb4.2/8, mbtmp4.2/9,ML4.3/1, Error ellipse: s-maj=23.0km s-min=19.7km az=55.0*

*NEIC **02** 07:05:31.9±1.5,55.°3S±0.°1×31.°1W±0.°2,h10km±2km, mb4.7/20, Error ellipse: s-maj=21.0km s-min=16.7km az=54.0*

ISC 02 07:05:30.5±0.6,**55.°18S**±0.°08×**30.°69W**±0.°09,**h10**km,**n43,** σ1§**22**/**38**,**mb4.6**/14,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.48**	**283**	Pn	**Pn**	**07 06 25.3**	**+0.7**
ORCD	**Orcadas**	**9.30**	**228**		**Pn**	**07 07 42.4**	**-2.0**
PMSA	**Palmer Station**	**19.02**	**226**	P	**Pn**	**07 09 55.6**	**+2.9**
	1.0nm,0.3s,baz=71,slow=5.6,SNR=8.6						
	20nm,0.8s						
PMSA	**Palmer Station**	**19.02**	**226**	P	**P**	**07 09 50.2**	**-1.9**
SNAA	**Sanae**	**20.37**	**155**	P	Pn	07 10 08.8	-0.1
	4.8nm,1.0s,baz=318,slow=7.2,SNR=2.3						
	4.8nm,1.0s						
SNAA	**Sanae**	**20.37**	**155**	P	**P**	**07 10 08.1**	**+1.3**
SMAI	**San Martin Ant**	**21.19**	**218**	P	**P**	**07 10 15.5**	**-0.1**
MG02	**Cerro Sombrero**	**22.59**	**260**	P	**P**	**07 10 28.8**	**-2.1**
BELA	**Belgrano 2**	**22.84**	**182**	P	**P**	**07 10 34.0**	**+0.7**
GO10	**Punta Arenas**	**23.48**	**258**	P	**P**	**07 10 38.9**	**-1.2**
MG05	**Puerto Natales**	**24.88**	**261**	P	**P**	**07 10 51.7**	**-1.3**
MG05				IAmb	IAmb	07 10 52.8	
	comp=Z,33nm,0.8s						
GO09	**Cerro Castillo**	**24.96**	**262**	P	**P**	**07 10 52.0**	**-1.8**
GO09				IAmb	IAmb	07 11 07.2	
	comp=Z,26nm,1.0s						
TRQA	**Tornquist**	**27.15**	**296**	P	**P**	**07 11 13.1**	**-0.6**
TRQA				IAmb	IAmb	07 11 36.9	
	comp=Z,16nm,1.4s						
AY01	**Puyuhuapi**	**28.71**	**274**	P	**P**	**07 11 26.9**	**-0.6**
AY01				IAmb	IAmb	07 11 31.8	
	comp=Z,15nm,1.2s						
PLCA	**Paso Flores**	**29.88**	**282**	P	**P**	**07 11 40.6**	**+2.6**
	comp=Z,1.0nm,0.7s,baz=148,slow=7.3,SNR=3.1						
	comp=Z,1.0nm,0.7s						
CPUP	**Villa Florida**	**34.76**	**315**	P	**P**	**07 12 20.6**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=152,slow=7.2,SNR=12						
	comp=Z,3.1nm,0.5s						
CPUP	**Villa Florida**	**34.76**	**315**	P	**P**	**07 12 20.1**	**-0.7**
CPUP				IAmb	IAmb	07 12 27.1	
	comp=Z,8.6nm,1.0s						
QSPA	**South Pole Qui**	**35.08**	**180**	P	**P**	**07 12 23.6**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=202,slow=12,SNR=2.8						
	comp=Z,2.6nm,0.8s						
QSPA	**South Pole Qui**	**35.08**	**180**	P	**P**	**07 12 24.2**	**+0.8**
QSPA				IAmb	IAmb	07 12 56.8	
	comp=Z,9.5nm,1.1s						
MT09	**Talagante**	**35.14**	**291**	P	**P**	**07 12 22.6**	**-1.6**
VA06	**Catapilco**	**36.24**	**292**	P	**P**	**07 12 33.2**	**-0.3**
CO02	**Combarbal**	**37.14**	**293**	P	**P**	**07 12 40.9**	**-0.5**
CO01	**Juntas del Tor**	**37.64**	**296**	P	**P**	**07 12 47.3**	**+1.5**
CO01				IAmb	IAmb	07 12 48.0	
	comp=Z,12nm,0.9s						
AC05	**El Transito**	**38.65**	**296**	P	**P**	**07 12 54.5**	**+0.4**
AC05				IAmb	IAmb	07 13 56.7	
	comp=Z,54nm,1.4s						
AQDB	**Aquidauana**	**39.44**	**321**	P	**P**	**07 13 01.0**	**+0.4**
PTLB	**Pontes e Lacer**	**45.31**	**320**	P	**P**	**07 13 48.4**	**0.0**
PTLB				IAmb	IAmb	07 13 58.5	
	comp=Z,7.4nm,0.8s						
VNDA	**Vanda**	**47.34**	**184**	P	**P**	**07 14 05.0**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=169,slow=4.0,SNR=4.4						
	comp=Z,1.4nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.83**	**22**	T	T	08 05 50.5	
	baz=191						
H10S3	**ASCENSION HYDR**	**47.83**	**22**	T	T	08 05 50.0	
	baz=29						
LPAZ	**La Paz**	**48.26**	**309**	P	**P**	**07 14 12.9**	**+0.7**
	comp=Z,3.3nm,0.5s,baz=116,slow=6.4,SNR=10.0						
	comp=Z,3.3nm,0.5s						
LPAZ	**La Paz**	**48.26**	**309**	P	**P**	**07 14 12.7**	**+0.4**
LPAZ				IAmb	IAmb	07 14 18.5	
	comp=Z,10.0nm,1.1s						
H10N1	**ASCENSION HYDR**	**48.94**	**22**	T	T	08 07 23.1	
	baz=192,slow=76,SNR=4.8						
H10N3	**ASCENSION HYDR**	**48.94**	**21**	T	T	08 07 15.6	
	baz=192,slow=76,SNR=3.6						
H10N2	**ASCENSION HYDR**	**48.96**	**22**	T	T	08 07 14.1	
	baz=192,slow=76,SNR=5.1						
LBTB	**Lobatse**	**50.71**	**77**	P	**P**	**07 14 29.0**	**-1.3**
	comp=Z,4.4nm,0.9s,baz=214,slow=12,SNR=3.8						
	comp=Z,4.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**73.34**	**33**	P	**P**	**07 17 02.4**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=202,slow=6.2,SNR=7.0						
	comp=Z,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**119.22**	**296**	PKP	**PKiKP**	**07 24 19.8**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=132,slow=5.0,SNR=2.8						
FINES	**FINESS Array B**	**124.56**	**29**	PKP	**PKiKP**	**07 24 28.9**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=224,slow=3.8,SNR=1.5						
MKAR	**Makanchi Array**	**138.51**	**73**	PKP	**PKPdf**	**07 24 56.0**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=247,slow=5.8,SNR=1.9						
ZALV	**Zalesovo Beam**	**143.78**	**65**	PKP	**PKPdf**	**07 25 04.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=242,slow=3.1,SNR=1.9						
INK	**Inuvik**	**143.88**	**322**	PKP	**PKPdf**	**07 25 04.8**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=63,slow=2.4,SNR=3.8						
ILAR	**Eielson Array**	**148.06**	**313**	PKPbc	**PKPbc**	**07 25 13.8**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=119,slow=1.6,SNR=4.6						
SONM	**Songino Array**	**152.67**	**88**	PKPbc	**PKPbc**	**07 25 26.0**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=225,slow=0.8,SNR=4.5						
SONM				PKPab	**PKPab**	**07 25 35.8**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=238,slow=2.8,SNR=5.3						

WEL 02 07:06:24.2±1.3,**37.°S**±5.°×**17.°9E**±.°,**h15**km±6km,**M3.4**/35, **ML3.6**/42,**MLv3.4**/35,**Error ellipse: s-maj=0.0km s-min=0.0km az=96.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.83**	**232**	P	Pg	07 06 39.2	-1.1
MXZ				S	Sg	07 06 49.7	-1.5
WMGZ	**Waiomatatini S**	**0.95**	**216**	P	Pn	07 06 43.3	+0.2
WMGZ				S	Sn	07 06 56.8	+0.3
PKGZ	**Pakihiroa**	**1.18**	**225**	P	Pn	07 06 46.3	0.0
PKGZ				S	Sn	07 07 02.2	+0.1
PUZ	**Puketiti**	**1.23**	**214**	P	Pn	07 06 46.9	0.0
PUZ				S	Sb	07 07 02.5	-0.5
HAZ	**Te Kaha**	**1.28**	**236**	P	Pb	07 06 48.3	+0.3
HAZ				S	Sg	07 07 05.2	-0.4
TWGZ	**Tauwhareparae**	**1.45**	**219**	P	Pn	07 06 50.4	+0.4
TWGZ				S	Sb	07 07 10.0	+0.8
RUGZ	**Raukumara Rang**	**1.47**	**231**	P	Pb	07 06 50.8	-0.5
RUGZ				S	Sb	07 07 10.1	+0.2
CNGZ	**Carnagh Statio**	**1.61**	**207**	P	Pn	07 06 52.6	+0.6
TKGZ	**Te Karaka**	**1.72**	**216**	P	Pn	07 06 53.4	-0.1
MWZ	**Matawai**	**1.80**	**224**	P	Pn	07 06 54.5	-0.3
MWZ				S	Sn	07 07 16.7	-0.7
WHRZ	**Whale Island**	**1.89**	**244**	P	Pn	07 06 56.7	+0.7
RAGZ	**Rawiri**	**1.98**	**223**	P	Pn	07 06 57.3	+0.1
URZ	**Urewera**	**2.00**	**232**	P	Pn	07 06 57.6	+0.1
PRGZ	**Paritu Road**	**2.11**	**207**	P	Pn	07 06 58.6	-0.5
EDRZ	**Edgecumbe**	**2.17**	**240**	P	Pn	07 07 00.2	+0.3
OPRZ	**Ohinepanea**	**2.19**	**248**	P	Pn	07 07 00.1	0.0
SNGZ	**Shannon Statio**	**2.23**	**219**	P	Pn	07 07 00.5	-0.2
RTZ	**Ruatahuna**	**2.31**	**227**	P	Pn	07 07 02.0	+0.2
MUGZ	**Murupara**	**2.35**	**232**	P	Pn	07 07 01.9	-0.3
TGRZ	**Tauranga**	**2.38**	**253**	P	Pn	07 07 02.6	-0.1
RRRZ	**Republican Roa**	**2.44**	**237**	P	Pn	07 07 04.2	+0.7
RAHZ	**Arahi**	**2.46**	**220**	P	Pn	07 07 04.3	+0.4
KARZ	**Kaharoa**	**2.49**	**246**	P	Pn	07 07 04.3	+0.1
HLRZ	**Highlands Stat**	**2.51**	**241**	P	Pn	07 07 05.3	+0.8
WHHZ	**Waihua**	**2.52**	**216**	P	Pn	07 07 04.7	+0.2
MTHZ	**Maungataniwha**	**2.55**	**224**	P	Pn	07 07 05.2	+0.2
PRRZ	**Plateau Road**	**2.60**	**235**	P	Pn	07 07 05.8	0.0
ALRZ	**Allen Road**	**2.67**	**235**	P	Pn	07 07 06.8	0.0
NMHZ	**Naumai**	**2.74**	**221**	P	Pn	07 07 07.7	0.0
KUZ	**Kuaotunu**	**2.75**	**275**	P	Pn	07 07 06.3	-1.4
ARHZ	**Aropaoanui**	**2.78**	**217**	P	Pn	07 07 07.3	-0.8
MRHZ	**Matea Rd**	**2.79**	**229**	P	Pn	07 07 07.9	-0.4
BKZ	**Black Stump Fm**	**2.96**	**224**	P	Pn	07 07 10.1	-0.7
TOZ	**Tahuroa Road**	**2.96**	**256**	P	Pn	07 07 10.2	-0.5
KUTZ	**Kaahu Road**	**2.99**	**240**	P	Pn	07 07 11.6	+0.5
GRZ	**Great Barrier**	**3.06**	**284**	P	Pn	07 07 12.4	+0.5
MKAZ	**Moumakai**	**3.17**	**268**	P	Pn	07 07 12.5	-1.0
KAHZ	**Kahuranaki**	**3.26**	**212**	P	Pn	07 07 12.9	-1.9
ETAZ	**East Tamaki Re**	**3.36**	**270**	P	Pn	07 07 16.6	+0.5
TMVZ	**Te Maari**	**3.40**	**232**	P	Pn	07 07 16.3	-0.5
MBAZ	**Motutapu North**	**3.40**	**273**	P	Pn	07 07 16.4	-0.2
NTVZ	**North Tongarir**	**3.41**	**232**	P	Pn	07 07 16.6	-0.3
ETVZ	**East Tongariro**	**3.41**	**231**	P	Pn	07 07 16.3	-0.6
KRVZ	**Karewarewa**	**3.42**	**232**	P	Pn	07 07 16.8	-0.3
BHHZ	**Black Hill Sta**	**3.43**	**224**	P	Pn	07 07 16.2	-1.0
NNVZ	**North Ngauruho**	**3.46**	**232**	P	Pn	07 07 17.6	-0.1
PXZ	**Pawanui**	**3.47**	**210**	P	Pn	07 07 16.1	-1.5
WTVZ	**West Tongariro**	**3.47**	**232**	P	Pn	07 07 18.4	+0.6
AWAZ	**Awhitu Peninsu**	**3.59**	**268**	P	Pn	07 07 19.4	+0.1
WNVZ	**Wahianoa**	**3.59**	**230**	P	Pn	07 07 18.8	-0.7
RVAZ	**Riverhead Bore**	**3.65**	**273**	P	Pn	07 07 20.2	+0.1
HIZ	**Hauiti**	**3.69**	**245**	P	Pn	07 07 21.3	+0.7
WCZ	**Waipu Caves**	**4.01**	**265**	P	Pn	07 07 25.1	+0.1
WAZ	**Wanganui**	**4.23**	**229**	P	Pn	07 07 27.8	-0.3
OUZ	**Omahuta**	**4.83**	**291**	P	Pn	07 07 36.8	+0.4

*ISU **02** 07:06:19.5,40.°87N×73.°43E,h14km*

*KRNET **02** 07:06:41.3±0.1,39.°24N×74.°00E,mb3.1*

ISC 02 07:06:47.6±2.3,**39.°5N**±0.1×**73.°62E**±0.°09,**h29**km,**n7,** σ1§**37**/**11**,**2C-4D**,**Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**1.56**	**322**	S	**Sb**	**07 07 34.8**	**-0.3**
FRG	**Fergana**	**1.64**	**301**	P	**Pn**	**07 07 15.7**	**+1.2**
FRG				S	**Sn**	**07 07 34.3**	**-0.4**
CHMI	**Chimion**	**1.77**	**295**	S	**Sn**	**07 07 37.8**	**-0.2**
MINT	**Mingtut**	**2.24**	**295**	S	**Sn**	**07 07 48.2**	**-1.1**
ARLS	**Aral**	**2.39**	**13**⇑*eP*		**Pn**	**07 07 23.9**	**-1.0**
	baz=5.0						
ARLS				⇑*iS*	**Sn**	**07 07 55.0**	**+1.7**
	baz=5.0						
GAR	**Garm**	**2.62**	**259**⇓*eP*		**Pn**	**07 07 27.2**	**-0.8**
	baz=66						
GAR				⇓*iS*	**Sn**	**07 08 00.9**	**+2.0**
	baz=66						
UCH	**Uchtor**	**2.78**	**14**⇓*iP*		**Pn**	**07 07 29.4**	**-1.1**
	baz=7.0						
UCH				⇓*iS*	**Sn**	**07 08 04.8**	**+1.5**
	baz=7.0						

*IDC **02** 07:07:10.3±0.8, 13.°21N×125.°12E, h0km, mb3.8/8, mbtmp3.9/8, MS3.6/9, Error ellipse: s-maj=41.1km s-min=16.8km az=71.0*

*NEIC **02** 07:07:19.3±2.4, 13.°49N±0.°08×125.°1E±0.°1, h46km±12km, mb4.2/11, Error ellipse: s-maj=16.2km s-min=9.5km az=119.0*

ISC 02 07:07:16.7±0.6,**13.°51N**±0.°06×**125.°11E**±0.°08,**h33**km,**n38,** σ1§**78**/**27**,**mb4.1**/12,**MS3.7**/8,**1C-2D**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**3.02**	**230**⇑*eP*		**Pn**	**07 08 01.7**	**-0.5**
RCP				*eS*	**Sn**	**07 08 37.5**	**+0.3**
LQP	**Lukban**	**3.52**	**280**⇓*eP*		**Pb**	**07 08 16.8**	**-1.6**
PCPH	**Palayan**	**4.39**	**298**⇓*eP*		**Pn**	**07 08 21.0**	**-0.1**
DAV	**Davao City (W)**	**6.42**	**176**	Pn	**Pn**	**07 08 51.6**	**+2.6**
MYLDM	**Lahad Datu**	**10.54**	**219**	Pn	**Pn**	**07 09 47.0**	**+1.5**
JOW	**Kunigami**	**13.58**	**12**	Pn	**Pn**	**07 10 28.1**	**+1.0**
SBUM	**Sibu**	**16.83**	**230**	P	**P**	**07 11 14.7**	**+2.8**
SBUM				IAmb	IAmb	07 11 58.7	
	comp=Z,12nm,1.4s						
FAKI	**Fak Fak**	**17.80**	**156**		**P**	**07 11 23.7**	**+1.2**
FAKI				IAmb	IAmb	07 11 44.2	
	comp=Z,7.8nm,0.9s						
KAPI	**Kappang**	**19.16**	**196**	P	**Pn**	**07 11 40.5**	**+1.9**
KAPI				IAmb	IAmb	07 11 49.3	
	comp=Z,9.3nm,0.8s						
GUMO	**Guam**	**19.21**	**87**	LR	LR	07 18 15.7	
	comp=Z,46nm,18.5s,baz=285,slow=35						
TJN	**Taejon**	**22.86**	**5**	P	**P**	**07 12 17.1**	**-0.1**
JHJ	**Hachijo jima 2**	**23.66**	**32**	LR	LR	07 21 41.6	
	comp=Z,61nm,18.1s,baz=302,slow=36						
KSRS	**Korea Array**	**23.97**	**6**	P	**P**	**07 12 28.9**	**+0.8**
	comp=Z,2.7nm,1.0s,baz=184,slow=11,SNR=5.0						
KSRS				LR	LR	07 22 37.9	
	comp=Z,35nm,19.4s,baz=205,slow=38						
	comp=Z,2.7nm,1.0s						
CRAI	**Chiangrai**	**24.58**	**289**	P	**P**	**07 12 34.6**	**+0.7**
CRAI				IAmb	IAmb	07 13 08.5	
	comp=Z,14nm,1.5s						
CMAR	**Chiang Mai Arr**	**25.62**	**285**	P	**P**	**07 12 41.3**	**-2.1**
	comp=Z,1.9nm,0.4s,baz=116,slow=8.1,SNR=2.9						
	comp=Z,1.9nm,0.4s						
MJAR	**Matsushiro Arr**	**25.77**	**25**	LR	LR	07 22 53.5	
	comp=Z,62nm,18.9s,baz=178,slow=36						
KNRA	**Kununurra**	**29.23**	**173**	P	**P**	**07 13 16.3**	**+0.7**
KNRA				IAmb	IAmb	07 13 24.0	
	comp=Z,9.0nm,0.8s						
WRA	**Warramunga Arr**	**34.46**	**165**	P	P	07 13 57.0	-4.7
	comp=Z,0.5nm,0.7s,baz=342,slow=9.2,SNR=7.8						
WRA				PcP	**PcP**	**07 16 34.3**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=332,slow=2.9,SNR=1.9						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**34.46**	**165**	P	P	07 13 57.9	-3.7
WB2	**Warramunga Arr**	**34.47**	**165**	P	**P**	**07 13 58.2**	**-3.4**
WB2				IAmb	IAmb	07 14 18.0	
	comp=Z,8.2nm,1.4s						
SONM	**Songino Array**	**37.60**	**339**	P	**P**	**07 14 28.7**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=159,slow=8.5,SNR=3.6						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**37.94**	**167**	P	**P**	**07 14 30.7**	**-0.6**
ASAR	**Alice Springs**	**37.94**	**167**	P	P	07 14 27.4	-3.9
	comp=Z,0.6nm,0.4s,baz=345,slow=7.2,SNR=12						
ASAR				PcP	**PcP**	**07 16 45.2**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=342,slow=3.4,SNR=2.0						
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**37.94**	**167**	P	**P**	**07 14 31.4**	**+0.1**
H11N1	**WAKE ISLAND Hy**	**40.43**	**75**	T	T	07 58 22.5	
	baz=268						
H11N2	**WAKE ISLAND Hy**	**40.44**	**75**	T	T	07 58 27.1	
	baz=268						
H11N3	**WAKE ISLAND Hy**	**40.45**	**75**	T	T	07 58 28.3	
	baz=268						
STKA	**Stephens Creek**	**47.82**	**161**	P	**P**	**07 15 47.6**	**-3.6**
	comp=Z,1.7nm,0.7s,baz=335,slow=12,SNR=4.5						
	comp=Z,1.7nm,0.7s						
**MK

RAHZ	Arahi	2.63	224	P		Pn	07 20 22.3	+1.3
OMRZ	Omania	2.64	245	P		Pn	07 20 22.7	+1.6
RRRZ	Republican Roa	2.64	239	P		Pn	07 20 22.4	+1.2
WHHZ	Waihua	2.67	219	P		Pn	07 20 23.1	+1.6
KARZ	Kaharoa	2.70	248	P		Pn	07 20 22.7	+0.8
HLRZ	Highlands Stat	2.71	242	P		Pn	07 20 23.7	+1.6
MTHZ	Maungataniwha	2.72	227	P		Pn	07 20 23.8	+1.5
NGRZ	Ngongotaha	2.77	246	P		Pn	07 20 24.7	+1.8
UTU	Utuhina	2.79	245	P		Pn	07 20 25.5	+2.3
PRRZ	Plateau Road	2.80	238	P		Pn	07 20 24.3	+1.0
HSRZ	Hossack Road	2.81	242	P		Pn	07 20 25.3	+1.7
HRRZ	Handcock Road	2.82	240	P		Pn	07 20 25.0	+1.3
ALRZ	Allen Road	2.87	237	P		Pn	07 20 25.1	+0.8
KMRZ	Kaimai	2.88	253	P		Pn	07 20 24.9	+0.5
NMHZ	Naumai	2.91	224	P		Pn	07 20 26.4	+1.5
GRRZ	Galatos Road	2.93	242	P		Pn	07 20 26.6	+1.5
ARHZ	Aropaoanui	2.93	220	P		Pn	07 20 26.1	+1.1
KUZ	Kuaotunu	2.97	274	P		Pn	07 20 24.2	-1.4
WPRZ	Whakapapatarin	2.97	239	P		Pn	07 20 27.1	+1.5
MRHZ	Matea Rd	2.97	232	P		Pn	07 20 26.5	+0.8
BKZ	Black Stump Fm	3.13	226			Pn	07 20 27.7	-0.3
BKZ	Black Stump Fm	3.13	226	P		Pn	07 20 28.7	+0.8
BKZ	Black Stump Fm	3.13	226	P		Pn	07 20 29.3	+1.4
TOZ	Tahuroa Road	3.19	256	P		Pn	07 20 27.8	-0.8
KUTZ	Kaahu Road	3.19	242	P		Pn	07 20 30.1	+1.4
GRZ	Great Barrier	3.27	283	P		Pn	07 20 29.2	-0.6
TLZ	Tolley Road	3.33	246	P		Pn	07 20 31.7	+1.1
KWHZ	Kaweka Forest	3.35	224	P		Pn	07 20 31.4	+0.5
MKAZ	Moumakai	3.40	268	P		Pn	07 20 30.7	-0.8
KAHZ	Kahuranaki	3.40	215	P		Pn	07 20 31.8	+0.3
RATZ	Rangitukua	3.41	236	P		Pn	07 20 33.2	+1.5
RITZ	Rihia Road	3.41	234	P		Pn	07 20 32.8	+1.1
WIAZ	Waiheke Island	3.43	273	P		Pn	07 20 32.7	+0.7
KRHZ	Kereru	3.54	222	P		Pn	07 20 33.4	0.0
ETAZ	East Tamaki Re	3.59	270	P		Pn	07 20 33.9	-0.2
TMVZ	Te Maari	3.59	233	P		Pn	07 20 34.7	+0.5
ETVZ	East Tongariro	3.59	233	P		Pn	07 20 34.8	+0.4
NTVZ	North Tongarir	3.59	234	P		Pn	07 20 34.9	+0.6
BHHZ	Black Hill Sta	3.60	226	P		Pn	07 20 35.1	+0.7
KRVZ	Karewarewa	3.62	234	P		Pn	07 20 35.4	+0.8
MBAZ	Motutapu North	3.62	273	P		Pn	07 20 34.4	-0.2
OTVZ	Oturere	3.64	233	P		Pn	07 20 36.3	+1.3
NNVZ	North Ngauruho	3.65	234	P		Pn	07 20 36.1	+1.0
WTVZ	West Tongariro	3.66	234	P		Pn	07 20 36.3	+1.0
NGZ	Ngauruhoe	3.69	233	P		Pn	07 20 36.3	+0.7
ABAZ	Army Bay	3.69	275	P		Pn	07 20 34.6	-1.0
TUVZ	Tukino	3.71	232	P		Pn	07 20 36.8	+0.9
MOVZ	Moawhango	3.73	229	P		Pn	07 20 36.2	+0.1
TWVZ	Taurewa	3.73	236	P		Pn	07 20 37.5	+1.2
EPAZ	Eden Park BICE	3.74	271	P		Pn	07 20 37.9	+1.7
HBAZ	Herne Bay Bore	3.75	271	P		Pn	07 20 37.3	+1.0
WHVZ	Whangaehu Hut	3.75	232	P		Pn	07 20 37.4	+0.7
FWVZ	Far West T-bar	3.76	233	P		Pn	07 20 37.1	+0.3
WNVZ	Wahianoa	3.78	231	P		Pn	07 20 37.2	+0.3
AWAZ	Awhitu Peninsu	3.81	268	P		Pn	07 20 37.2	+0.1
WPHZ	Waipukurau	3.82	217	P		Pn	07 20 37.0	-0.3
PNHZ	Pukenui	3.82	220	P		Pn	07 20 36.9	-0.5
WTAZ	Waiatarua	3.87	270	P		Pn	07 20 38.2	+0.2
RVAZ	Riverhead Bore	3.88	272	P		Pn	07 20 38.4	+0.3
MTVZ	Mangateitei	3.89	232	P		Pn	07 20 39.3	+0.9
HIZ	Hauiti	3.90	246			Pn	07 20 38.7	+0.3
HIZ	Hauiti	3.90	246	P		Pn	07 20 40.0	+1.6
HIZ	Hauiti	3.90	246	P		Pn	07 20 40.5	+2.1
ANWZ	Angora Road	4.12	213	P		Pn	07 20 41.3	-0.1
WCZ	Waipu Caves	4.22	283	P		Pn	07 20 42.9	+0.1
POWZ	Post Office Ro	4.40	219	P		Pn	07 20 45.5	+0.2
BFZ	Birch Farm	4.40	213			Pn	07 20 43.0	-2.0
BFZ	Birch Farm	4.40	213	P		Pn	07 20 43.6	-1.7
WAZ	Wanganui	4.41	231	P		Pn	07 20 45.9	+0.5
LREZ	Lake Rotokare	4.62	237	P		Pn	07 20 49.0	+0.6
PREZ	Palmer Road	4.73	239	P		Pn	07 20 52.9	+3.0
NEZ	North Egmont	4.75	240	P		Pn	07 20 53.0	+2.9
PKE	Pukeiti	4.79	242	P		Pn	07 20 53.6	+3.0
KHEZ	Kahui Hut	4.81	240	P		Pn	07 20 54.1	+3.0
NBEZ	Newall Road No	4.90	241	P		Pn	07 20 55.6	+3.4
HOWZ	Holdsworth Sta	4.91	217	P		Pn	07 20 52.0	-0.3
OUZ	Omahuta	5.04	289			Pn	07 20 53.5	-0.5
OUZ	Omahuta	5.04	289	P		Pn	07 20 54.6	+0.5
OUZ	Omahuta	5.04	289	P		Pn	07 20 54.6	+0.5
SNZO	South Karori	5.62	219	P		Pn	07 20 59.5	-2.5
TUWZ	Tuamarina	6.10	222	Pn		Pn	07 21 06.8	-1.8
QRZ	Quartz Range	6.56	233	P		Pn	07 21 13.7	-1.3
RPZ	Rata Peaks	9.22	221	Pn		Pn	07 21 49.2	-2.3
	0.8nm,0.3s,baz=18,slow=19,SNR=6.1							
RPZ				Sn		Sn	07 23 22.9	-11
	4.5nm,0.3s,baz=60,slow=20,SNR=16							
RPZ	Rata Peaks	9.22	221	P		Pn	07 21 48.9	-2.6
ODZ	Otahua Downs	10.38	217	P		Pn	07 22 03.7	-3.6
CAN	Canberra	24.56	265	P		P	07 24 57.7	-0.1
CAN				IAmb		IAmb	07 25 13.3	
	comp=Z,22nm,1.3s							
TAU	Tasmania Unive	25.18	247	P		P	07 25 02.7	-0.5
TAU				IAmb		IAmb	07 25 26.4	
	comp=Z,28nm,1.1s							
BBOO	Buckleboo	35.56	264	P		P	07 26 34.9	-0.3
PMG	Port Moresby	40.08	305	P		P	07 27 13.4	0.0
PMG				IAmb		IAmb	07 27 44.1	
	comp=Z,23nm,1.2s							
AS31	Alice Springs	41.09	276	P		P	07 27 21.2	-0.7
ASAR	Alice Springs	41.09	276	P		P	07 27 22.1	+0.2
ASAR				PcP		PcP	07 29 23.0	+1.8
	comp=Z,3.2nm,0.5s,baz=119,slow=7.8,SNR=66							
	comp=Z,0.4nm,0.8s,baz=139,slow=3.5,SNR=2.2							
	comp=Z,3.2nm,0.5s							
ASAR	Alice Springs	41.09	276	P		P	07 27 21.3	-0.5
WB2	Warramunga Arr	42.68	281	P		P	07 27 34.8	0.0
WB2				IAmb		IAmb	07 27 35.4	
	comp=Z,4.3nm,0.6s							
WRAB	Tennant Creek	42.69	281	P		P	07 27 34.7	-0.1
WRAB				IAmb		IAmb	07 27 35.4	
	comp=Z,4.1nm,0.6s							
WRA	Warramunga Arr	42.69	281	P		P	07 27 34.8	0.0
	comp=Z,4.6nm,0.7s,baz=121,slow=7.7,SNR=97							
WRA				PcP		PcP	07 29 28.6	+2.2
	comp=Z,0.3nm,0.6s,baz=125,slow=3.0,SNR=2.2							
	comp=Z,4.6nm,0.7s							
WRA	Warramunga Arr	42.69	281	P		P	07 27 34.5	-0.4
CASY	Casey	48.31	210	P		P	07 28 19.0	+0.3
CASY				IAmb		IAmb	07 28 39.0	
	comp=Z,3.5nm,1.1s							
MTN	Manton Dam	49.31	286	P		P	07 28 26.2	-0.9
H03N3	Juan Fernandez	78.83	123	T		T	08 58 38.7	
	baz=234,slow=72,SNR=8.8							
H03N2	Juan Fernandez	78.83	123	T		T	08 58 35.1	
	baz=234,slow=72,SNR=5.7							
H03N1	Juan Fernandez	78.85	123	T		T	08 58 31.7	
	baz=234,slow=72,SNR=7.9							
ARCES	ARCESS Array B	144.50	345	PKP		PKiKP	07 39 14.3	-2.2
	comp=Z,2.6nm,0.9s,baz=13,slow=2.7,SNR=6.5							
FINES	FINESS Array B	150.40	334	PKPbc		PKiKP	07 39 29.9	+1.1
	comp=Z,1.3nm,0.6s,baz=45,slow=3.0,SNR=6.6							

ISC 02 07:38:47.7±1.1,**49°36N**±0.06×**17°08E**±0.04,**h8km,n6,**
σ0.38/10,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRAC	Vranov	0.33	261	*e*PG	**Pg**	07 38 54.3	+0.2
MORC	Moravsky Berou	0.52	35	*e*PG	**Pg**	07 38 57.8	+0.2
MORC				*e*SG	**Sg**	07 39 04.4	0.0
KRUC	Moravsky	0.54	237	*e*PG	**Pg**	07 38 58.1	0.0
KRUC				*e*SG	**Sg**	07 39 05.5	+0.4
JAVC	Velka Javorina	0.63	142	*e*PG	**Pb**	07 39 00.9	-0.1
VYHS	Vyhne	1.44	126	*e*PG	**Pn**	07 39 13.5	-0.6
VYHS				*e*SG	**Sn**	07 39 33.4	+0.2
LANS	Liptovska Anna	1.58	97	*e*PG	**Pg**	07 39 18.0	+0.1
LANS				*e*SG	**Sg**	07 39 38.9	+0.6

IDC ***02*** *07:49:08.6±1.6,1°.75S×121°.64E,h0km,mb3.5/3,*
mbtmp3.6/4,ML3.7/1,MS3.1/4,Error ellipse: s-maj=40.8km
s-min=25.8km az=71.0
DJA ***02*** *07:49:12.8±0.7,2°.5S×12°.1E±°,h12km±5km,M3.9/12,*
MLv3.9/12

ISC 02 07:49:14.8±1.0,**1°.81S**±0.05×**121°.44E**±0.07,**h35km,n16,**
σ1.62/18,mb3.6/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	Ampana	0.91	13	P	**Pn**	07 49 29.8	-1.4
APSI				S	**Sn**	07 49 44.7	+1.6
LUWI	Luwuk	1.53	60	P	**Pn**	07 49 39.8	+0.1
LUWI				S	**Sn**	07 50 01.6	+3.2
TTSI	Tana Toraja	2.04	233	P	**Pn**	07 49 46.7	+0.1
MRSI	Marisa	2.32	12	P	**Pn**	07 49 51.0	+0.4
MRSI				S	**Sn**	07 50 20.2	+2.3
MPSI	Mapaga	2.63	324	P	**Pn**	07 49 54.9	+0.1
SPSI	Sidrap Palu	2.72	218	P	**Pn**	07 49 55.8	-0.2
SPSI				S	**Sn**	07 50 29.3	+1.6
GTOI	Gorontalo	2.89	33	P	**Pn**	07 49 57.5	-0.9
KAPI	Kappang	3.61	208	Pn	**Pn**	07 50 07.6	-0.6
	5.6nm,0.3s,baz=29,slow=13,SNR=14						
KAPI				Sn	**Sn**	07 50 52.2	+2.6
	2.5nm,0.3s,baz=33,slow=20,SNR=1.5						
KAPI				LR	LR	07 51 28.9	
	comp=Z,154nm,21.0s,baz=109,slow=37						
	23nm,0.4s						
BKSI	Bulukumba	3.73	201	P	**Pn**	07 50 09.8	-0.2
BSSI	Bau Bau, Buton	4.41	192	P	**Pn**	07 50 19.8	+0.4
DAV	Davao City (W)	9.73	25	LR	LR	07 55 31.2	
	comp=Z,39nm,18.6s,baz=176,slow=40						
WRA	Warramunga Arr	22.00	146	P	**P**	07 54 03.6	-2.6
	2.7nm,0.9s,baz=326,slow=11,SNR=22						
	2.7nm,0.9s						
ASAR	Alice Springs	24.86	152	P	**P**	07 54 33.3	-1.0
	1.3nm,1.0s,baz=330,slow=9.3,SNR=7.9						
	1.3nm,1.0s						
JCJ	Chichijima	35.00	33	LR	LR	08 11 21.0	
	comp=Z,29nm,19.9s,baz=53,slow=38						
MKAR	Makanchi Array	59.35	330	P	**P**	07 59 12.9	-0.6
	0.4nm,0.8s,baz=128,slow=7.7,SNR=3.8						
	0.4nm,0.8s						
RAO	Raoul Island	63.68	122	LR	LR	08 23 35.0	
	comp=Z,116nm,21.4s,baz=262,slow=32						

NOU ***02*** *07:54:02.4,37°.11S×179°.88W,h133km,MLv4.8/9,East of*
North Island, N.Z.
IDC ***02*** *07:54:07.2±2.5,36°.75S×179°.07E,h0km,mb4.3/3,*
mbtmp4.3/4,ML4.1/1,Error ellipse: s-maj=62.3km
s-min=39.4km az=137.0
NEIC ***02*** *07:54:09.0±1.3,36°.96S±0°.06×179°.09E±0°.09,h10km±2km,*
mb4.3/8,Error ellipse: s-maj=13.3km s-min=9.0km
az=127.0
WEL ***02*** *07:54:12.0±0.9,37°.5S±4°×17°.9E±°,h19km±7km,M4.0/74,*
ML4.3/59,MLv4.0/74,Error ellipse: s-maj=0.0km
s-min=0.0km az=102.2

ISC 02 07:54:08.6±2.2,**37°.08S**±0°.05×**179°.24E**±0°.07,**h12**km±12km,
n115,σ1.9/54/125,mb4.2/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.89	237		**Pb**	07 54 25.5	-0.4
MXZ	Matakaoa Point	0.89	237	P	**Pb**	07 54 25.6	-0.3
MXZ				S	**Sb**	07 54 35.6	-2.2
WMGZ	Waiomatatini S	0.99	221	P	**Pn**	07 54 29.3	+1.1
WMGZ				S	**Sn**	07 54 43.0	+0.8
PKGZ	Pakihiroa	1.23	229	P	**Pb**	07 54 32.3	+0.6
PKGZ				S	**Sn**	07 54 48.1	-0.1
PUZ	Puketiti	1.26	218	P	**Pb**	07 54 32.9	+0.6
PUZ				S	**Sn**	07 54 49.4	+0.4
HAZ	Te Kaha	1.34	239	P	**Pg**	07 54 34.9	+0.5
HAZ				S	**Sb**	07 54 51.5	+0.7
TWGZ	Tauwhareparae	1.48	222	P	**Pb**	07 54 36.2	+0.1
TWGZ				S	**Sb**	07 54 55.6	+0.7
RUGZ	Raukumara Rang	1.53	234	P	**Pb**	07 54 37.0	+0.1
RUGZ				S	**Sn**	07 54 55.6	0.0
CNGZ	Carnagh Statio	1.62	210	P	**Pb**	07 54 38.5	+0.1
WIZ	White Island	1.70	254	P	**Pn**	07 54 38.0	0.0
WIZ				S	**Sn**	07 54 57.1	-2.4
TKGZ	Te Karaka	1.75	219	P	**Pn**	07 54 39.3	+0.5
TKGZ				S	**Sn**	07 55 01.1	+0.2
MWZ	Matawai	1.85	227	P	**Pn**	07 54 40.8	+0.7
MWZ				S	**Sn**	07 55 03.3	-0.2
WHRZ	Whale Island	1.96	246	P	**Pn**	07 54 43.2	+1.5
WHRZ				S	**Sn**	07 55 06.3	0.0
RIGZ	Rimuhau	2.00	215	P	**Pn**	07 54 43.0	+0.7
RIGZ				S	**Sn**	07 55 07.1	-0.1
RAGZ	Rawiri	2.02	225	P	**Pn**	07 54 43.6	+1.1
RAGZ				S	**Sn**	07 55 06.5	-1.3
URZ	Urewera	2.06	234	Pn	**Pn**	07 54 43.9	+1.0
	56nm,0.3s,baz=121,slow=3.1,SNR=158						
URZ				Sn	**Sn**	07 55 08.1	-0.5
	80nm,0.3s,baz=120,slow=20,SNR=7.4						
	131nm,0.3s						
URZ	Urewera	2.06	234	P	**Pn**	07 54 44.0	+1.0
URZ				S	**Sn**	07 55 07.1	-1.5
URZ	Urewera	2.06	234	P	**Pn**	07 54 44.5	+1.5
PRGZ	Paritu Road	2.13	210	P	**Pn**	07 54 44.4	+0.4
EDRZ	Edgecumbe	2.24	242	P	**Pn**	07 54 46.8	+1.4
OPRZ	Ohinepanea	2.27	249	P	**Pn**	07 54 46.4	+0.5
SNGZ	Shannon Statio	2.27	221	P	**Pn**	07 54 46.2	+0.3
RTZ	Ruatahuna	2.36	229	P	**Pn**	07 54 48.2	+1.0
MYRZ	Mayor Island	2.40	264	P	**Pn**	07 54 48.4	+0.7
MUGZ	Murupara	2.41	234	P	**Pn**	07 54 48.5	+0.8
TARZ	Mount Tarawera	2.46	241	P	**Pn**	07 54 50.0	+1.5
TGRZ	Tauranga	2.46	254	P	**Pn**	07 54 49.0	+0.6
OMRZ	Omania	2.50	245	P	**Pn**	07 54 50.8	+1.7
RRRZ	Republican Roa	2.50	239	P	**Pn**	07 54 49.9	+0.8
RAHZ	Arahi	2.50	222	P	**Pn**	07 54 50.6	+1.5
WHHZ	Waihua	2.55	218	P	**Pn**	07 54 50.0	+0.4
KARZ	Kaharoa	2.56	248	P	**Pn**	07 54 50.7	+0.8
HLRZ	Highlands Stat	2.57	242	P	**Pn**	07 54 51.5	+1.4
MTHZ	Maungataniwha	2.59	226	P	**Pn**	07 54 51.3	+1.0
NGRZ	Ngongotaha	2.63	246	P	**Pn**	07 54 53.3	+2.4
UTU	Utuhina	2.66	245	P	**Pn**	07 54 53.8	+2.7
PRRZ	Plateau Road	2.67	237	P	**Pn**	07 54 52.1	+0.8
HSRZ	Hossack Road	2.68	242	P	**Pn**	07 54 53.0	+1.5
HRRZ	Handcock Road	2.69	240	P	**Pn**	07 54 52.8	+1.1
ALRZ	Allen Road	2.73	236	P	**Pn**	07 54 52.9	+0.6
NMHZ	Naumai	2.78	223	P	**Pn**	07 54 53.7	+0.7
ARHZ	Aropaoanui	2.81	218	P	**Pn**	07 54 53.5	+0.2
WPRZ	Whakapapatarin	2.83	239	P	**Pn**	07 54 54.7	+1.1
MRHZ	Matea Rd	2.84	231	P	**Pn**	07 54 54.4	+0.6
BKZ	Black Stump Fm	3.01	225		**Pn**	07 54 56.2	+0.1
BKZ	Black Stump Fm	3.01	225	P	**Pn**	07 54 55.8	-0.2
BKZ	Black Stump Fm	3.01	225	P	**Pn**	07 54 56.2	+0.1
TOZ	Tahuroa Road	3.05	257	P	**Pn**	07 54 56.2	-0.4
KUTZ	Kaahu Road	3.05	241	P	**Pn**	07 54 57.8	+1.1
TLZ	Tolley Road	3.19	246	P	**Pn**	07 55 00.5	+1.9
KWHZ	Kaweka Forest	3.23	223	P	**Pn**	07 54 58.7	-0.4
RATZ	Rangitukua	3.27	236	P	**Pn**	07 55 00.8	+1.2
RITZ	Rihia Road	3.27	234	P	**Pn**	07 55 00.5	+0.8
WIAZ	Waiheke Island	3.30	274	P	**Pn**	07 55 00.9	+0.9
KRHZ	Kereru	3.41	221	P	**Pn**	07 55 00.8	-0.9
TMVZ	Te Maari	3.45	233	P	**Pn**	07 55 02.3	+0.1
ETAZ	East Tamaki Re	3.45	271	P	**Pn**	07 55 02.6	+0.5
ETVZ	East Tongariro	3.46	233	P	**Pn**	07 55 02.5	+0.2
NTVZ	North Tongarir	3.46	233	P	**Pn**	07 55 02.7	+0.3
BHHZ	Black Hill Sta	3.47	225	P	**Pn**	07 55 02.2	-0.2
KRVZ	Karewarewa	3.48	234	P	**Pn**	07 55 02.9	+0.3
OTVZ	Oturere	3.50	232	P	**Pn**	07 55 03.6	+0.6
NNVZ	North Ngauruho	3.52	233	P	**Pn**	07 55 04.0	+0.8
WTVZ	West Tongariro	3.53	234	P	**Pn**	07 55 03.8	+0.5
NGZ	Ngauruhoe	3.55	233	P	**Pn**	07 55 04.2	+0.6
ABAZ	Army Bay	3.57	276	P	**Pn**	07 55 05.5	+1.8
MOVZ	Moawhango	3.60	229	P	**Pn**	07 55 04.1	-0.1
TWVZ	Taurewa	3.60	235	P	**Pn**	07 55 05.1	+0.8
HBAZ	Herne Bay Bore	3.62	272	P	**Pn**	07 55 05.9	+1.6
FWVZ	Far West T-bar	3.63	232	P	**Pn**	07 55 05.3	+0.5
WNVZ	Wahianoa	3.64	231	P	**Pn**	07 55 04.8	-0.1
AWAZ	Awhitu Peninsu	3.68	269	P	**Pn**	07 55 06.2	+1.0
WTAZ	Waiatarua	3.74	271	P	**Pn**	07 55 06.9	+0.9
RVAZ	Riverhead Bore	3.75	273	P	**Pn**	07 55 07.1	+0.9
HIZ	Hauiti	3.76	246	Pn	**Pn**	07 55 07.1	+0.8
HIZ	Hauiti	3.76	246	P	**Pn**	07 55 08.0	+1.7
HIZ	Hauiti	3.76	246	P	**Pn**	07 55 08.0	+1.7
ANWZ	Angora Road	4.01	212	P	**Pn**	07 55 10.5	+0.7
WAZ	Wanganui	4.28	230	P	**Pn**	07 55 13.7	+0.3
BFZ	Birch Farm	4.29	212	P	**Pn**	07 55 11.0	-2.6
MHEZ	Mangahewa	4.36	241	P	**Pn**	07 55 18.8	+4.2
PREZ	Palmer Road	4.60	239	P	**Pn**	07 55 20.4	+2.5
NEZ	North Egmont	4.61	240	P	**Pn**	07 55 21.5	+3.4
PKE	Pukeiti	4.65	241	P	**Pn**	07 55 21.3	+2.7
KHEZ	Kahui Hut	4.67	240	P	**Pn**	07 55 21.8	+2.8
NBEZ	Newall Road No	4.76	241	P	**Pn**	07 55 23.7	+3.6
OUZ	Omahuta	4.93	290		**Pn**	07 55 20.9	-1.5
OUZ	Omahuta	4.93	290	P	**Pn**	07 55 23.6	+1.2
QRZ	Quartz Range	6.43	232	P	**Pn**	07 55 41.7	-1.3
KHZ	Kahutara	6.91	218	P	**Pn**	07 55 47.2	-2.3
RPZ	Rata Peaks	9.10	221	Pn	**Pn**	07 56 15.7	-4.1
	1.1nm,0.3s,baz=61,slow=13,SNR=6.4						
RPZ				Sn	Sn	07 57 50.4	-12
	5.1nm,0.3s,baz=343,slow=21,SNR=14						
RPZ	Rata Peaks	9.10	221	P	**Pn**	07 56 15.8	-3.9
ODZ	Otahua Downs	10.26	216	P	**Pn**	07 56 32.0	-3.6
MLZ	Mavora Lakes	11.77	222	Pn	**Pn**	07 56 53.7	-2.5
ONTNC	Ouen Toro	18.41	320	P	**P**	07 58 21.7	-1.9
ONTNC				IAmb	IAmb	07 58 59.8	
	comp=Z,29nm,0.9s						
TAU	Tasmania Unive	25.04	247	P	**P**	07 59 32.1	-0.4
BBOO	Buckleboo	35.43	264	P	**P**	08 01 03.3	-1.2
COEN	Coen	39.51	296	P	**P**	08 01 39.1	-0.2
COEN				IAmb	IAmb	08 02 01.9	
	comp=Z,15nm,1.4s						
AS31	Alice Springs	40.97	276	P	**P**	08 01 51.0	-0.4
ASAR	Alice Springs	40.97	276	P	**P**	08 01 50.4	-1.0
	comp=Z,2.7nm,0.6s,baz=119,slow=8.0,SNR=58						
	comp=Z,2.7nm,0.6s						
ASAR	Alice Springs	40.97	276	P	**P**	08 01 49.7	-1.7
WR0	Warramunga Arr	42.40	281	P	**P**	08 02 01.8	-1.3
WR0				IAmb	IAmb	08 02 02.7	
	comp=Z,3.1nm,0.8s						
WRA	Warramunga Arr	42.57	281	P	**P**	08 02 03.4	-1.1
	comp=Z,3.5nm,0.6s,baz=122,slow=7.6,SNR=71						
WRA				PcP	**PcP**	08 03 56.8	0.0
	comp=Z,0.5nm,0.8s,baz=114,slow=3.1,SNR=2.7						
	comp=Z,3.5nm,0.6s						
WRA	Warramunga Arr	42.57	281	P	**P**	08 02 03.3	-1.1
FITZ	Fitzroy Crossi	50.45	277	P	**P**	08 03 05.4	-0.9
	comp=Z,3.5nm,0.8s,baz=130,slow=7.1,SNR=11						
	comp=Z,3.5nm,0.8s						
QSPA	South Pole Qui	53.05	180	P	**P**	08 03 28.1	+2.9
QSPA				IAmb	IAmb	08 03 41.2	
	comp=Z,2.1nm,0.8s						
H03S2	Juan Fernandez	78.68	124	T	T	09 32 51.0	
	baz=227						
H03S1	Juan Fernandez	78.69	124	T	T	09 33 00.1	
	baz=227						
H03S3	Juan Fernandez	78.70	124	T	T	09 32 36.0	
	baz=227						
H03N3	Juan Fernandez	78.91	124	T	T	09 32 56.4	
	baz=234,slow=72,SNR=5.7						
H03N2	Juan Fernandez	78.92	123	T	T	09 33 02.8	
	baz=234,slow=72,SNR=5.2						
H03N1	Juan Fernandez	78.93	124	T	T	09 32 57.4	
	baz=234,slow=72,SNR=7.8						
ARCES	ARCESS Array B	144.51	344	PKP	**PKPdf**	08 13 43.6	-0.2
	comp=Z,2.5nm,0.8s,baz=15,slow=3.8,SNR=2.7						
FINES	FINESS Array B	150.39	334	PKPbc	**PKPbc**	08 13 58.2	-0.7
	comp=Z,1.3nm,0.6s,baz=45,slow=2.2,SNR=3.6						
TORD	Torodi Ar. Bea	156.07	186	PKPab	**PKPab**	08 14 36.8	+6.3
	comp=Z,0.3nm,0.5s,baz=158,slow=5.0,SNR=1.9						

BGR ***02*** *07:58:35.1±0.2,48°.22N×8°.98E,h10km,ML2.6/8,Error*
ellipse: s-maj=2.2km s-min=2.2km az=123.0
ZUR ***02*** *07:58:35.0,48°.23N×8°.97E,h-1km±3km,MLh2.3/40,Error*
ellipse: s-maj=6.5km s-min=1.2km az=160.0
STR ***02*** *07:58:35.4±0.2,48°.N±

ECH				Sg	**Sb**	**07 59 12.0**	**-1.3**
BALST	**Balsthal**	**1.23**	**225**	Pn	**Pn**	**07 58 56.9**	**-0.9**
BALST				Pg	**Pg**	**07 58 58.8**	**+0.3**
BALST	**Balsthal**	**1.23**	**225**	Sg	**Sg**	**07 59 14.7**	**+0.3**
BALST	**Balsthal**	**1.23**	**225**	⇑Pg	**Pn**	**07 58 56.9**	**-0.9**
MOF	**Molkenrain**	**1.29**	**254**	Pn	**Pn**	**07 58 58.0**	**-0.6**
MOF	**Molkenrain**	**1.29**	**254**	⇑Pg	**Pn**	**07 58 57.9**	**-0.8**
RETA	**Reutte**	**1.41**	**120**	*e*Pg	**Pg**	**07 59 02.3**	**+0.5**
	0.9nm,0.1s							
RETA				*i* Sg	**Sg**	**07 59 20.4**	**+0.2**
	7.3nm,0.1s							
BOURR	**Bourrignon**	**1.43**	**236**	Pg	**Pg**	**07 59 02.5**	**+0.1**
BOURR				Sg	**Sg**	**07 59 21.9**	**+1.0**
HINF	**Hinteralfeld**	**1.48**	**255**	*e*Pn	**Pn**	**07 59 01.4**	**+0.2**
HINF	**Hinteralfeld**	**1.48**	**255**	*e*Pg	**Pb**	**07 59 03.1**	**+0.9**
HINF				*e*Sn	**Sn**	**07 59 19.6**	**-0.9**
HINF				*e*Sg	**Sg**	**07 59 22.3**	**0.0**
	15nm,0.4s							
MILB	**Miltenberg**	**1.63**	**7**	Pn	**Pn**	**07 59 02.2**	**-1.1**
MOTA	**Moosalm**	**1.68**	**120**	*e*Pg	**Pg**	**07 59 07.5**	**+0.4**
	0.7nm,0.1s							
MOTA				*e*Sg	**Sg**	**07 59 28.2**	**-0.6**
	16nm,0.2s							
FETA	**Feichten**	**1.68**	**134**	Pg	**Pg**	**07 59 06.9**	**-0.2**
	0.4nm,0.2s							
FETA				*i* Sg	**Sg**	**07 59 29.1**	**+0.1**
	3.7nm,0.2s							
HAU	**Haudompre**	**1.77**	**264**	*e*Pn	**Pn**	**07 59 05.6**	**+0.3**
HAU	**Haudompre**	**1.77**	**264**	*e*Pg	**Pg**	**07 59 08.7**	**-0.1**
HAU				*e*Sg	**Sg**	**07 59 31.4**	**-0.3**
	18nm,0.3s							
SQTA	**Sankt Quirin**	**1.81**	**123**	*e*Sg	**Sb**	**07 59 32.0**	**+1.5**
	6.5nm,0.1s							
CHMF	**Charmoille**	**1.84**	**239**	Pn	**Pn**	**07 59 05.4**	**-0.9**
GRC1	**Grafenberg Arr**	**1.86**	**64**	Pn	**Pn**	**07 59 06.1**	**-0.5**
GRC1				Pg	**Pb**	**07 59 09.6**	**+0.8**
ABH	**Alteburg**	**1.92**	**331**	Pn	**Pn**	**07 59 07.5**	**+0.3**
ABH				Pg	**Pg**	**07 59 11.7**	**+0.1**
ABH	**Alteburg**	**1.92**	**331**	Pn	**Pn**	**07 59 07.5**	**+0.3**
WATA	**Walderalm**	**1.96**	**116**	*e*Sg	**Sg**	**07 59 36.9**	**-1.1**
	3.2nm,0.1s							
WTTA	**Wattenberg**	**2.03**	**117**	*i* Sg	**Sg**	**07 59 39.7**	**-0.5**
	1.5nm,0.1s							
GRF	**Grafenberg Arr**	**2.10**	**44**	*e*Pg	**Pg**	**07 59 14.5**	**-0.5**
GRF				*e*Sg	**Sb**	**07 59 39.9**	**+1.3**
PAGF	**Fort de Pagny**	**2.19**	**280**	*e*Pg	**Pg**	**07 59 16.5**	**-0.3**
PAGF				*e*Sg	**Sg**	**07 59 44.5**	**-0.7**
	7.8nm,0.3s							
CABF	**La Chapelle**	**2.53**	**232**	*e*Pg	**Pg**	**07 59 22.6**	**-0.7**
CABF				*e*Sg	**Sg**	**07 59 55.1**	**-1.0**
	1.8nm,0.2s							
SAVF	**Savonnieres en**	**2.59**	**280**	*e*Pg	**Pg**	**07 59 23.7**	**-0.8**
SAVF				*e*Sg	**Sg**	**07 59 57.0**	**-1.1**
	4.9nm,0.3s,baz=96							
MEZF	**Maizieres J'vi**	**2.63**	**278**	*e*Pn	**Pn**	**07 59 17.3**	**+0.3**
MEZF	**Maizieres J'vi**	**2.63**	**278**	*e*Pg	**Pb**	**07 59 22.6**	**+0.8**
MEZF				*e*Sn	**Sn**	**07 59 47.4**	**-1.4**
	2.9nm,0.2s							
MEZF				*e*Sg	**Sg**	**07 59 58.5**	**-0.8**
	4.1nm,0.2s,baz=99							
SFTF	**Sexfontaines**	**2.63**	**271**	*e*Pg	**Pg**	**07 59 24.2**	**-1.0**
SFTF				*e*Sg	**Sg**	**07 59 58.3**	**-1.0**
	5.0nm,0.2s							
WERN	**Wernitzgruen**	**3.05**	**46**	*e*Pg	**Pg**	**07 59 31.9**	**-1.2**
GUNZ	**Gunzen**	**3.08**	**44**	*e*Pg	**Pg**	**07 59 32.6**	**-1.1**
WERD	**Werda**	**3.12**	**43**	*e*Pg	**Pg**	**07 59 33.8**	**-0.8**
TANN	**Tannenbergstha**	**3.17**	**45**	*e*Pn	**Pn**	**07 59 23.3**	**-1.3**
TANN				*e*Pg	**Pg**	**07 59 33.9**	**-1.7**
LOR	**Lormes**	**3.58**	**257**	*e*Pg	**Pg**	**07 59 42.2**	**-1.1**
	baz=75							
LOR				*e*Sg	**Sg**	**08 00 27.7**	**-2.0**
	2.6nm,0.3s,baz=74							
SSF	**Saint Saulge**	**3.87**	**255**	*e*Pg	**Pg**	**07 59 47.2**	**-1.7**
SSF				*e*Sg	**Sg**	**08 00 36.8**	**-2.3**
	1.3nm,0.3s							

ROM 02 07:58:46.2±0.1, 42°810N±0°003×13°247E±0°004, h14km, ML1.2/1, Error ellipse: s-maj=0.3km s-min=0.0km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**302**	P	Pg	07 58 49.0	+0.1
T1242				S	Sg	07 58 50.9	0.0
T1244	**Arquata del Tr**	**0.07**	**144**	P	Pg	07 58 49.4	+0.3
T1244				S	Sg	07 58 51.3	+0.3
NRCA	**Norcia**	**0.10**	**284**	P	Pg	07 58 49.6	+0.1
NRCA				S	Sg	07 58 51.7	+0.1
T1202	**Accumoli, Fraz**	**0.11**	**189**	P	Pb	07 58 49.9	-0.3
T1202				S	Sb	07 58 52.5	-0.2
MC2	**Monte Cornacci**	**0.11**	**338**	P	Pg	07 58 49.9	+0.2
MC2				S	Sg	07 58 52.5	+0.4
T1204	**Amatrice, Fraz**	**0.14**	**159**	P	Pg	07 58 50.4	+0.3
T1204				S	Sg	07 58 53.1	+0.5
T1241	**Roccafluvione,**	**0.14**	**71**	P	Sg	07 58 50.2	+0.3
T1241				S	Sg	07 58 53.0	+0.5
T1241				AML	AML		
	comp=E,136µm,0.3s						
T1241				AML	AML		
	comp=N,110µm,0.9s						
T1241				AML	AML		
	comp=E,136µm,0.3s						
T1241				AML	AML		
	comp=N,110µm,0.9s						
T1243	**Rocca Santa Ma**	**0.19**	**127**	P	Pg	07 58 50.8	+0.2
T1243				S	Sg	07 58 54.2	+0.5
SMA1	**SAN MARTINO**	**0.19**	**160**	P	Pb	07 58 51.2	-0.4
SMA1				S	Sg	07 58 54.2	+0.5
LNSS	**Leonessa**	**0.26**	**216**	P	Pg	07 58 52.0	+0.2
T1215	**Vallo di Nera,**	**0.28**	**269**	P	Pg	07 58 52.3	+0.2
T1215				S	Sb	07 58 56.9	-0.8
CSP1	**Cessapalombo**	**0.28**	**354**	P	Pg	07 58 52.6	+0.4
CSP1				S	Sb	07 58 57.4	-0.5
RM33	**Pellescritta (**	**0.30**	**185**	P	Pg	07 58 52.7	+0.1
RM33				S	Sb	07 58 57.8	-0.6
RM33				AML	AML		
	comp=E,34µm,1.2s						
RM33				AML	AML		
	comp=N,31µm,0.5s						
TERO	**Teramo**	**0.32**	**125**	P	Pg	07 58 53.1	+0.3
LPEL	**Lama dei Pelig**	**1.03**	**137**	P	Pb	07 59 05.7	-0.2
LPEL				AML	AML		
	comp=E,53µm,1.2s						
LPEL				AML	AML		
	comp=N,51µm,0.1s						

IDC ***02*** *08:01:59.7±3.4, 55°72N×86°05E, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=29.2km s-min=23.7km az=23.0*

NNC 02 08:01:56.9±2.2, 55°72N×86°49E, h0km, mb3.4, mpv2.9, 3C-1D, Error ellipse: s-maj=64.9km s-min=16.7km az=118.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.02**	**209**	*i*		08 12 23.0	
	baz=21,slow=321,SNR=0.9						
ZAA0	**Zalesovo Array**	**2.02**	**209**	⇑Pn	Pn	08 02 32.3	+0.1
	0.9nm,0.3s						
ZAA0				Sn	Sb	08 02 59.2	-1.0
	1.5nm,0.3s						
ZALV	**Zalesovo Beam**	**2.02**	**209**	Pn	Pn	08 02 32.6	+0.4
	7.7nm,0.3s,baz=22,slow=17,SNR=44						
ZALV				Sn	Sb	08 02 59.8	-0.4
	4.6nm,0.3s,baz=21,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.99**	**226**	Pn	Pn	08 03 40.7	+0.2
	0.2nm,0.3s,baz=44,slow=14,SNR=18						
KURBB				Sn	Sn	08 04 57.7	-2.9
	baz=44,slow=26						
KURBB				Lg	Lg	08 05 36.2	
	baz=37,slow=29,SNR=2.0						
	1.4nm,0.4s						
KURBB	**Kurchatov Arra**	**6.99**	**226**	⇑Pn	Pn	08 03 40.5	0.0
	1.9nm,0.5s						
KURBB				⇑Lg	Lg	08 05 36.8	
	5.4nm,0.7s						
MK31	**Makanchi Array**	**9.32**	**198**	⇓Pn	Pn	08 04 11.7	-0.7
	0.8nm,0.6s,baz=21,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**9.32**	**198**	Pn	Pn	08 04 14.2	+1.8
	0.2nm,0.3s,baz=16,slow=13,SNR=4.6						
MKAR				Sn	Sn	08 05 57.4	-0.4
	0.1nm,0.3s,baz=14,slow=25,SNR=2.5						
MKAR				Lg	Lg	08 06 51.0	
	0.1nm,0.3s,baz=20,slow=31,SNR=2.6						
	0.3nm,0.3s						

ATH ***02*** *08:05:24.6, 38°47N×20°57E, h14km±1km, ML3.3/6, Error ellipse: s-maj=1.7km s-min=0.6km az=280.0*
THE ***02*** *08:05:24.4, 38°47N×20°53E, h14km, ML3.6/9, Error ellipse: s-maj=1.9km s-min=0.7km az=289.0*
IDC ***02*** *08:05:29.9±2.4, 38°57N×20°48E, h60km±28km, mb3.6/4, mbtmp3.7/8, ML3.8/3, Error ellipse: s-maj=20.8km s-min=18.1km az=59.0*

ISC 02 08:05:24.4±0.7, 38°47N±0°02×20°55E±0°03, h13km±4km, n47, σ1s00/71, mb3.9/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.01**	**149**	P	**Pg**	**08 05 27.0**	**+0.2**
FSK				S	**Sg**	**08 05 28.1**	**-0.3**
FSK	**Fiskardo**	**0.01**	**149**	P	**Pg**	**08 05 27.0**	**+0.2**
FSK				S	**Sg**	**08 05 28.0**	**-0.4**
EVGI	**Lefkada island**	**0.17**	**28**	P	**Pg**	**08 05 28.5**	**+0.1**
EVGI				S	**Sg**	**08 05 31.7**	**+0.4**
	50µm,0.1s						
EVGI	**Lefkada island**	**0.17**	**28**	P	**Pg**	**08 05 28.6**	**+0.1**
EVGI				S	**Sg**	**08 05 31.6**	**+0.4**
DRAG	**Dragano-Lefkad**	**0.21**	**4**	P	**Pg**	**08 05 29.2**	**0.0**
DRAG				S	**Sg**	**08 05 32.7**	**+0.3**
	40µm,0.4s						
KEF4	**Livadi, Kephal**	**0.23**	**206**	P	**Pb**	**08 05 29.7**	**-0.8**
KEF4				S	**Sg**	**08 05 33.7**	**+0.8**
NYDR	**Nydri-Lefkada**	**0.27**	**25**	P	**Pb**	**08 05 30.1**	**-1.0**
NYDR				S	**Sg**	**08 05 34.0**	**+0.1**
	7µm,0.3s						
DMLN	**Damoulianata-K**	**0.27**	**211**	P	**Pg**	**08 05 30.3**	**+0.1**
DMLN				S	**Sb**	**08 05 34.7**	**-1.0**
	64µm,0.4s						
VLS	**Valsamata**	**0.29**	**174**	P	**Pg**	**08 05 30.3**	**-0.3**
VLS				S	**Sg**	**08 05 35.0**	**+0.3**
VLS				AML	AML	08 05 35.5	
	comp=E,51583µm,0.2s						
VLS				AML	AML	08 05 35.6	
	comp=N,48763µm,0.2s						
KEF3	**Kipouria, Keph**	**0.31**	**211**	P	**Pg**	**08 05 30.5**	**-0.4**
KEF3				S	**Sg**	**08 05 35.0**	**-0.1**
LKD2	**Lefkada island**	**0.33**	**14**	P	**Pb**	**08 05 31.2**	**-1.0**
LKD2				S	**Sg**	**08 05 35.7**	**0.0**
LKD2				AML	AML	08 05 45.2	
	comp=E,8385µm,0.5s						
LKD2				AML	AML	08 05 48.7	
	comp=N,9280µm,0.5s						
PSDA	**Pessada-Kefalo**	**0.36**	**176**	P	**Pg**	**08 05 31.6**	**-0.1**
PSDA				S	**Sg**	**08 05 37.2**	**+0.7**
	comp=N,4µm,0.2s						
PSDA	**Pessada-Kefalo**	**0.36**	**176**	P	**Pg**	**08 05 31.4**	**-0.2**
PSDA				S	**Sg**	**08 05 37.2**	**+0.7**
TSLK	**Tsoukalades, L**	**0.36**	**13**	P	**Pb**	**08 05 32.0**	**-0.7**
TSLK	**Tsoukalades, L**	**0.36**	**13**	P	**Pb**	**08 05 32.0**	**-0.7**
TSLK				S	**Sb**	**08 05 37.7**	**-0.6**
TSLK				AML	AML	08 05 41.2	
	comp=N,9659µm,0.5s						
TSLK				AML	AML	08 05 41.4	
	comp=E,10608µm,0.5s						
PVO	**Paravola**	**0.78**	**79**	P	**Pg**	**08 05 39.3**	**-0.2**
PVO				S	**Sn**	**08 05 51.9**	**-0.6**
	comp=E,5µm,0.6s						
PVO	**Paravola**	**0.78**	**79**	P	**Pg**	**08 05 39.3**	**-0.2**
PVO				S	**Sg**	**08 05 50.3**	**+0.6**
LTHK	**Lithakia**	**0.79**	**164**	P	**Pb**	**08 05 38.7**	**-1.3**
LTHK	**Lithakia**	**0.79**	**164**	P	**Pb**	**08 05 38.7**	**-1.3**
LTHK				S	**Sg**	**08 05 50.7**	**+0.5**
RLS	**Riolos of Patr**	**0.83**	**120**	P	**Pb**	**08 05 39.8**	**-0.9**
RLS				S	**Sg**	**08 05 51.5**	**+0.2**
RLS				AML	AML	08 05 58.9	
	comp=N,3503µm,0.7s						
RLS				AML	AML	08 06 01.1	
	comp=E,2802µm,0.7s						
UPR	**University Cam**	**0.99**	**101**	P	**Pg**	**08 05 43.7**	**+0.2**
DRO	**Drossia**	**1.05**	**119**	P	**Pb**	**08 05 43.5**	**-0.9**
DRO	**Drossia**	**1.05**	**119**	P	**Pb**	**08 05 43.5**	**-0.9**
DRO				S	**Sg**	**08 05 58.3**	**0.0**
DRO				AML	AML	08 06 07.0	
	comp=N,5372µm,0.3s						
DRO				AML	AML	08 06 10.6	
	comp=E,7259µm,0.7s						
EFP	**Efpalio**	**1.06**	**92**	P	**Pb**	**08 05 43.3**	**-1.3**
EFP	**Efpalio**	**1.06**	**92**	P	**Pb**	**08 05 43.3**	**-1.3**
EVR	**Evrytania**	**1.08**	**65**	P	**Pb**	**08 05 44.3**	**-1.0**
ANX	**Ano Chora**	**1.08**	**83**	P	**Pb**	**08 05 44.0**	**-1.0**
ANX	**Ano Chora**	**1.08**	**83**	P	**Pb**	**08 05 44.1**	**-1.0**
LAKA	**Lakka**	**1.14**	**101**	P	**Pn**	**08 05 44.9**	**-1.2**
LAKA				S	**Sg**	**08 06 02.6**	**+1.2**
	comp=E,4µm,0.7s						
LAKA	**Lakka**	**1.14**	**101**	P	**Pn**	**08 05 44.9**	**-1.2**
LAKA				S	**Sb**	**08 05 60.0**	**-0.9**
LAKA				AML	AML	08 06 08.9	
	comp=N,2612µm,0.7s						
LAKA				AML	AML	08 06 09.8	
	comp=E,2132µm,0.7s						
SERG	**Sergoula**	**1.18**	**92**	P	**Pn**	**08 05 45.5**	**-1.2**
JAN	**Janina**	**1.21**	**11**	P	**Pg**	**08 05 47.5**	**-0.1**
JAN				S	**Sg**	**08 06 02.4**	**-1.0**
ALIK	**Aliki, Aigiali**	**1.24**	**99**	P	**Pn**	**08 05 46.7**	**-0.7**
ALIK				S	**Sg**	**08 06 03.7**	**-0.8**
KLV	**Kalavryta, Ach**	**1.33**	**108**	P	**Pn**	**08 05 47.9**	**-0.8**
KLV				S	**Sg**	**08 06 06.5**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.35**	**66**	P	**Pb**	**08 05 49.2**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.35**	**66**	P	**Pb**	**08 05 49.2**	**-0.4**
THL	**Klokotos Trika**	**1.58**	**46**	P	**Pb**	**08 05 53.3**	**-0.1**
ATAL	**Atalanti**	**1.95**	**83**	P	**Pb**	**08 05 59.7**	**0.0**
VIL2	**Platees**	**2.15**	**96**	P	**Pb**	**08 06 03.2**	**-0.1**
IDI	**Anoyia**	**4.71**	**131**	P	Pb	08 06 41.3	-5.6
	comp=E,12nm,1.0s,baz=324,slow=19,SNR=2.0						
IDI				S	**Sn**	**08 07 34.3**	**+4.6**
	comp=E,6.1nm,0.6s,baz=322,slow=19,SNR=1.5						
MLR	**Muntele Rosu**	**8.08**	**28**	P	**Pn**	**08 07 24.9**	**+3.4**
	comp=E,0.2nm,0.3s,baz=192,slow=9.3,SNR=2.5						
	comp=E,0.9nm,0.5s						
GERES	**GERESS Array B**	**11.49**	**337**	P	**Pn**	**08 08 07.8**	**-0.4**
	comp=E,0.3nm,0.3s,baz=151,slow=17,SNR=2.7						
	comp=E,0.3nm,0.2s						
ESDC	**Sonseca Array**	**19.06**	**281**	P	**Pn**	**08 09 46.6**	**-0.6**
	comp=E,0.1nm,0.3s,baz=84,slow=12,SNR=1.9						
	comp=E,0.7nm,0.7s						
BELG	**Belogornoye**	**23.38**	**45**	P	**P**	**08 10 33.1**	**+0.6**
	comp=E,3.6nm,0.3s,baz=228,slow=5.4,SNR=4.9						
	comp=E,3.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**30.27**	**219**	P	**P**	**08 11 35.9**	**+0.6**
	comp=E,1.1nm,0.9s,baz=35,slow=8.7,SNR=5.4						
	comp=E,1.1nm,0.9s						
MKAR	**Makanchi Array**	**45.13**	**59**	P	**P**	**08 13 39.8**	**-0.6**
	comp=E,0.2nm,0.4s,baz=276,slow=7.9,SNR=4.5						
	comp=E,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**45.48**	**48**	P	**P**	**08 13 42.5**	**-0.5**
	comp=E,0.7nm,0.3s,baz=284,slow=7.7,SNR=2.8						
	comp=E,0.7nm,0.3s						

DNK ***02*** *08:06:05.2±0.8, 60°83N×31°24E, h0km, ML2.6(UPP), Suspected explosion*
HEL ***02*** *08:06:10.8±0.3, 61°02N×30°23E, h0km, ML2.5, Explosion*
UPP ***02*** *08:06:14.1±3.2, 61°07N×30°09E, h0km, ML2.6, Suspected explosion*
IDC ***02*** *08:06:14.8±1.3, 61°08N×29°91E, h0km, mbtmp3.4/5, ML3.4/5, Error ellipse: s-maj=11.6km s-min=10.4km az=10.0*

ISC 02 08:06:10.3±1.1, 60°93N±0°04×30°29E±0°06, h0km, n34, σ2s08/49, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUFX	**Ruokolahti**	**0.82**	**308**	PG	**Pg**	**08 06 24.6**	**-1.3**
	baz=121						
RUFX				SG	**Sg**	**08 06 33.8**	**-2.7**
VJF	**Virojoki**	**1.40**	**255**	PG	**Pn**	**08 06 36.7**	**-0.3**
VJF				MSG		08 06 52.8	
	comp=Z,65nm,0.2s						
VJF				SN	**Sn**	**08 06 59.4**	**+3.2**
JOF	**Joensuu**	**2.05**	**13**	PG	**Pn**	**08 06 46.1**	**+0.2**
JOF				SG	**Sn**	**08 07 11.5**	**-0.7**
FIA0	**FINESS Array S**	**2.10**	**286**	PG	**Pn**	**08 06 47.3**	**+0.6**
FIA0				SG	**Sn**	**08 07 13.8**	**+0.3**
FINES	**FINESS Array B**	**2.10**	**286**	Pg	**Pn**	**08 06 47.9**	**+1.2**
	comp=Z,5.9nm,0.3s,baz=99,slow=17,SNR=179						
FINES				Lg	Lg	08 07 14.3	
	comp=Z,2.3nm,0.3s,baz=97,slow=32,SNR=6.7						
PVF	**Pernaja**	**2.21**	**262**	PG	**Pn**	**08 06 49.6**	**+1.5**
PVF				MSG		08 07 15.8	
	comp=Z,60nm,0.2s						
PVF				SG	**Sb**	**08 07 20.2**	**+1.3**
KAF	**Kangasniemi**	**2.25**	**304**	PG	**Pn**	**08 06 50.0**	**+1.4**
KAF				MSG		08 07 15.1	
	comp=Z,18nm,0.2s						
KAF				SG	**Sn**	**08 07 17.4**	**+0.4**
NUR	**Nurmijrvi**	**2.80**	**264**	PB	**Pn**	**08 06 59.1**	**+2.8**
	baz=75						
KEF	**Keuruu**	**2.87**	**298**	PB	**Pn**	**08 06 58.8**	**+1.5**
KEF				MSG		08 07 33.5	
	comp=Z,8.3nm,0.2s						
KEF				SB	**Sn**	**08 07 33.5**	**+1.0**
MEF	**Metsahovi**	**3.00**	**259**	PB	**Pn**	**08 07 00.7**	**+1.8**
MEF				SB	**Sn**	**08 07 37.4**	**+1.9**
MEF				MSG		08 07 38.6	
	comp=Z,30nm,0.2s						
VSU	**Vasula**	**3.06**	**218**	PB	**Pb**	**08 07 04.4**	**-1.2**
VSU				SB	**Sb**	**08 07 43.6**	**+0.1**
RMF	**Romuvaara**	**3.30**	**357**	PB	**Pn**	**08 07 04.3**	**+1.1**
	baz=175						
RMF				SB	**Sn**	**08 07 46.1**	**+3.1**
VAF	**Ylistaro**	**4.17**	**304**	PG	**Pb**	**08 07 25.2**	**+0.8**
VAF				SG	**Sb**	**08 08 17.2**	**+1.9**
OUF	**Merijarvi**	**4.29**	**326**	PB	**Pn**	**08 07 20.3**	**+3.5**
OUF				SG	**Sb**	**08 08 20.2**	**+1.3**
OBF0	**Syolatti, Pyha**	**4.53**	**325**	SG	**Sb**	**08 08 29.2**	**+3.5**
OUL	**Oulu**	**4.62**	**336**	PB	Pn	08 07 26.8	+5.5
OUL				SG	**Sb**	**08 08 29.8**	**+1.6**
AAL	**Aland**	**5.14**	**266**	P	**Pn**	**08 07 29.8**	**+1.5**
AAL				S	**Sn**	**08 08 25.8**	**-2.4**
BURU	**Burvik**	**5.49**	**316**	P	**Pn**	**08 07 32.9**	**-0.3**
BURU	**Burvik**	**5.49**	**316**	P	**Pn**	**08 07 32.9**	**-0.3**
ODEU	**Stanfors**	**5.62**	**312**	P	**Pn**	**08 07 35.2**	**+0.3**
ODEU	**Stanfors**	**5.62**	**312**	P	**Pn**	**08 07 35.2**	**+0.3**
SJUU	**Sjulsmark**	**6.04**	**323**	P	**Pn**	**08 07 40.9**	**+0.2**
SJUU	**Sjulsmark**	**6.04**	**323**	P	**Pn**	**08 07 40.9**	**+0.2**
HEMU	**Hemsoen**	**6.07**	**292**	P	**Pn**	**08 07 42.0**	**+0.9**
HEMU	**Hemsoen**	**6.07**	**292**	P	**Pn**	**08 07 42.0**	**+0.9**
SVAU	**Svanoeiden**	**6.08**	**311**	P	**Pn**	**08 07 42.0**	**+0.7**
SVAU	**Svanoeiden**	**6.08**	**311**	P	**Pn**	**08 07 42.0**	**+0.7**
ARNU	**Arnoeviken**	**6.26**	**283**	P	**Pn**	**08 07 44.6**	**+0.8**
ARNU	**Arnoeviken**	**6.26**	**283**	P	**Pn**	**08 07 44.6**	**+0.8**
HFS	**Hagfors**	**8.22**	**272**	Pn	**Pn**	**08 08 11.0**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=78,slow=13,SNR=4.0						
HFS				Sn	**Sn**	**08 09 37.1**	**-7.1**
	comp=Z,0.5nm,0.3s,baz=72,slow=25,SNR=2.3						
HFS				Lg	Lg	08 10 26.5	
	comp=Z,1.1nm,0.3s,baz=76,slow=30,SNR=3.2						
	comp=Z,1.4nm,0.3s						
ARCES	**ARCESS Array B**	**8.86**	**349**	Pn	**Pn**	**08 08 18.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=172,slow=13,SNR=9.0						
ARCES				Sn	**Sn**	**08 09 53.2**	**-6.7**
	comp=Z,0.2nm,0.3s,baz=164,slow=24,SNR=2.4						
	comp=Z,1.7nm,0.8s						
NOA	**NORSAR Array B**	**9.27**	**279**	Pn	**Pn**	**08 08 24.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=23						
	comp=Z,0.5nm,0.3s						
AKASG	**Malin Array Be**	**10.28**	**184**	Pn	**Pn**	**08 08 39.2**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=8.0,slow=13,SNR=4.6						
	comp=Z,0.5nm,0.3s						
EKA	**Eskdalemuir Ar**	**18.38**	**267**	Pn	**Pn**	**08 10 26.6**	**+0.4**
	baz=57,slow=14						
	comp=Z,0.2nm,0.4s						

ROM 02 08:16:11.8±0.2, 42°831N±0°005×13°143E±0°009, h9km, Md1.1/2, 2D, Error ellipse: s-maj=0.6km s-min=0.6km az=36.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.02**	**276**	⇓P	Pg	08 16 13.8	+0.2
NRCA				S	Sg	08 16 14.7	-0.1
NRCA				AML	AML		
	comp=E,2015µm,0.1s						
NRCA				AML	AML		
	comp=N,1890µm,0.8s						
NRCA				END			
T1242	**Castelluccio d**	**0.04**	**92**	⇓P	Pg	08 16 13.9	+0.1
T1242				S	Sg	08 16 15.0	-0.2
T1242				AML	AML		
	comp=E,344µm,0.6s						
T1242				AML	AML		
	comp=N,309µm,0.2s						
T1242				END			
MC2	**Monte Cornacci**	**0.09**	**23**	P	Pg	08 16 14.7	+0.4
MC2				S	Sg	08 16 16.6	+0.4
T1244	**Arquata del Tr**	**0.14**	**123**	P	Pg	08 16 15.6	+0.7
T1244				S	Sg	08 16 18.2	+1.2
T1202	**Accumoli, Fraz**	**0.14**	**155**	P	Pg	08 16 15.6	+0.6
MMO1	**Montemonaco**	**0.15**	**63**	P	Pg	08 16 15.7	+0.5
MMO1				S	Sg	08 16 18.3	+0.8
T1204	**Amatrice, Fraz**	**0.20**	**140**	P	Pg	08 16 16.8	+0.8
T1204				S	Sg	08 16 20.2	+1.3
T1241	**Roccafluvione,**	**0.21**	**83**	P	Pg	08 16 16.8	+0.5
T1241				S	Sg	08 16 20.5	+1.3
T1243	**Rocca Santa Ma**	**0.26**	**121**	P	Pg	08

CNGZ	**Carnagh Statio**	**1.61**	**207**	P	**Pn**	**08 18 42.0**	**+0.8**
CNGZ				S	**Sn**	**08 19 04.0**	**+3.1**
WIZ	**White Island**	**1.64**	**253**	P	**Pn**	**08 18 39.7**	**-1.8**
TKGZ	**Te Karaka**	**1.73**	**216**	P	**Pn**	**08 18 42.8**	**0.0**
MWZ	**Matawai**	**1.82**	**225**	P	**Pn**	**08 18 44.4**	**+0.4**
MWZ				S	**Sn**	**08 19 07.4**	**+1.5**
WHRZ	**Whale Island**	**1.91**	**245**	P	**Pn**	**08 18 45.4**	**+0.1**
RIGZ	**Rimuhau**	**1.98**	**213**	P	**Pn**	**08 18 46.2**	**-0.1**
RAGZ	**Rawiri**	**1.99**	**223**	P	**Pn**	**08 18 46.7**	**+0.2**
RAGZ				S	**Sn**	**08 19 11.1**	**+0.8**
URZ	**Urewera**	**2.02**	**233**	Pn	**Pn**	**08 18 46.8**	**0.0**
	157nm,0.3s,baz=121,slow=3.1,SNR=384						
URZ				Sn	**Sn**	**08 19 12.2**	**+1.4**
	154nm,0.3s,baz=301,slow=9.3,SNR=26						
	502nm,0.3s						
URZ	**Urewera**	**2.02**	**233**		**Pn**	**08 18 44.5**	**-2.2**
URZ	**Urewera**	**2.02**	**233**	P	**Pn**	**08 18 46.7**	**0.0**
PRGZ	**Paritu Road**	**2.12**	**208**	P	**Pn**	**08 18 47.8**	**-0.3**
MARZ	**Manawahe**	**2.18**	**244**	P	**Pn**	**08 18 48.8**	**-0.2**
EDRZ	**Edgecumbe**	**2.19**	**241**	P	**Pn**	**08 18 49.2**	**+0.1**
OPRZ	**Ohinepanea**	**2.21**	**248**	P	**Pn**	**08 18 48.9**	**-0.5**
SNGZ	**Shannon Statio**	**2.24**	**219**	P	**Pn**	**08 18 49.6**	**-0.3**
KNZ	**Kokohu**	**2.29**	**210**	P	**Pn**	**08 18 49.4**	**-1.0**
MHGZ	**Mahia Peninsul**	**2.32**	**205**	P	**Pn**	**08 18 50.6**	**-0.2**
RTZ	**Ruatahuna**	**2.32**	**227**	P	**Pn**	**08 18 50.6**	**-0.3**
MYRZ	**Mayor Island**	**2.34**	**264**	P	**Pn**	**08 18 50.8**	**-0.3**
MUGZ	**Murupara**	**2.36**	**232**	P	**Pn**	**08 18 51.3**	**-0.2**
MKRZ	**Makatiti**	**2.39**	**242**	P	**Pn**	**08 18 52.7**	**+0.7**
LIRZ	**Lichensteins R**	**2.40**	**246**	P	**Pn**	**08 18 52.6**	**+0.7**
TGRZ	**Tauranga**	**2.40**	**253**	P	**Pn**	**08 18 51.4**	**-0.5**
TARZ	**Mount Tarawera**	**2.41**	**240**	P	**Pn**	**08 18 52.6**	**+0.4**
OMRZ	**Omania**	**2.45**	**244**	P	**Pn**	**08 18 53.0**	**+0.4**
RRRZ	**Republican Roa**	**2.46**	**238**	P	**Pn**	**08 18 52.8**	**+0.1**
RAHZ	**Arahi**	**2.48**	**221**	P	**Pn**	**08 18 52.9**	**-0.1**
KARZ	**Kaharoa**	**2.51**	**246**	P	**Pn**	**08 18 53.5**	**+0.1**
HLRZ	**Highlands Stat**	**2.52**	**241**	P	**Pn**	**08 18 54.4**	**+0.7**
WHHZ	**Waihua**	**2.53**	**216**	P	**Pn**	**08 18 53.3**	**-0.3**
MTHZ	**Maungataniwha**	**2.56**	**225**	P	**Pn**	**08 18 54.5**	**+0.3**
NGRZ	**Ngongotaha**	**2.58**	**245**	P	**Pn**	**08 18 55.0**	**+0.5**
UTU	**Utuhina**	**2.60**	**244**	P	**Pn**	**08 18 56.2**	**+1.5**
PRRZ	**Plateau Road**	**2.62**	**236**	P	**Pn**	**08 18 54.7**	**-0.3**
HSRZ	**Hossack Road**	**2.63**	**241**	P	**Pn**	**08 18 55.8**	**+0.7**
HRRZ	**Handcock Road**	**2.64**	**239**	P	**Pn**	**08 18 55.6**	**+0.3**
KMRZ	**Kaimai**	**2.68**	**252**	P	**Pn**	**08 18 55.5**	**-0.3**
ALRZ	**Allen Road**	**2.69**	**235**	P	**Pn**	**08 18 55.7**	**-0.2**
GRRZ	**Galatos Road**	**2.74**	**241**	P	**Pn**	**08 18 57.3**	**+0.6**
NMHZ	**Naumai**	**2.76**	**221**	P	**Pn**	**08 18 57.0**	**+0.1**
KUZ	**Kuaotunu**	**2.77**	**275**	P	**Pn**	**08 18 54.2**	**-2.8**
ARHZ	**Aropaoanui**	**2.79**	**217**	P	**Pn**	**08 18 56.7**	**-0.6**
WPRZ	**Whakapapatarin**	**2.79**	**237**	P	**Pn**	**08 18 57.5**	**+0.3**
MRHZ	**Matea Rd**	**2.80**	**230**	P	**Pn**	**08 18 57.0**	**-0.5**
BKZ	**Black Stump Fm**	**2.98**	**224**	Pn	**Pn**	**08 18 58.5**	**-1.4**
BKZ	**Black Stump Fm**	**2.98**	**224**	P	**Pn**	**08 18 59.3**	**-0.6**
BKZ	**Black Stump Fm**	**2.98**	**224**	P	**Pn**	**08 18 59.8**	**-0.1**
TOZ	**Tahuroa Road**	**2.99**	**256**	P	**Pn**	**08 18 57.9**	**-2.1**
KUTZ	**Kaahu Road**	**3.00**	**240**	P	**Pn**	**08 19 00.7**	**+0.4**
CKHZ	**Cape Kidnapper**	**3.07**	**211**	P	**Pn**	**08 18 59.7**	**-1.4**
GRZ	**Great Barrier**	**3.08**	**284**	P	**Pn**	**08 18 59.6**	**-1.6**
TLZ	**Tolley Road**	**3.14**	**245**	P	**Pn**	**08 19 02.3**	**+0.2**
WATZ	**Wairara**	**3.17**	**238**	P	**Pn**	**08 19 02.8**	**+0.3**
MKAZ	**Moumakai**	**3.19**	**268**	P	**Pn**	**08 19 00.8**	**-2.0**
KWHZ	**Kaweka Forest**	**3.20**	**221**	P	**Pn**	**08 19 01.9**	**-1.1**
RATZ	**Rangitukua**	**3.23**	**235**	P	**Pn**	**08 19 03.5**	**+0.2**
WIAZ	**Waiheke Island**	**3.23**	**273**	P	**Pn**	**08 19 03.2**	**-0.1**
RITZ	**Rihia Road**	**3.23**	**233**	P	**Pn**	**08 19 03.4**	**0.0**
KAHZ	**Kahuranaki**	**3.27**	**212**	P	**Pn**	**08 19 02.3**	**-1.6**
KATZ	**Kakaramea**	**3.34**	**234**	P	**Pn**	**08 19 05.2**	**+0.2**
ETAZ	**East Tamaki Re**	**3.38**	**270**	P	**Pn**	**08 19 04.4**	**-1.0**
KRHZ	**Kereru**	**3.39**	**219**	P	**Pn**	**08 19 03.8**	**-1.7**
TMVZ	**Te Maari**	**3.41**	**232**	P	**Pn**	**08 19 05.3**	**-0.6**
ETVZ	**East Tongariro**	**3.42**	**232**	P	**Pn**	**08 19 05.5**	**-0.6**
NTVZ	**North Tongarir**	**3.42**	**232**	P	**Pn**	**08 19 05.5**	**-0.5**
MBAZ	**Motutapu North**	**3.42**	**273**	P	**Pn**	**08 19 04.6**	**-1.4**
BHHZ	**Black Hill Sta**	**3.44**	**224**	P	**Pn**	**08 19 05.4**	**-0.9**
KRVZ	**Karewarewa**	**3.44**	**233**	P	**Pn**	**08 19 05.9**	**-0.5**
OTVZ	**Oturere**	**3.46**	**231**	P	**Pn**	**08 19 06.8**	**+0.1**
PXZ	**Pawanui**	**3.47**	**210**	P	**Pn**	**08 19 04.2**	**-2.5**
NNVZ	**North Ngauruho**	**3.48**	**232**	P	**Pn**	**08 19 06.9**	**+0.1**
WTVZ	**West Tongariro**	**3.48**	**233**	P	**Pn**	**08 19 06.8**	**-0.1**
SNVZ	**South Ngauruho**	**3.50**	**230**	P	**Pn**	**08 19 07.0**	**-0.1**
ABAZ	**Army Bay**	**3.50**	**276**	P	**Pn**	**08 19 05.3**	**-1.7**
NGZ	**Ngauruhoe**	**3.51**	**232**	P	**Pn**	**08 19 06.8**	**-0.6**
TUVZ	**Tukino**	**3.54**	**230**	P	**Pn**	**08 19 07.1**	**-0.5**
EPAZ	**Eden Park BICE**	**3.54**	**272**	P	**Pn**	**08 19 08.7**	**+1.2**
HBAZ	**Herne Bay Bore**	**3.55**	**272**	P	**Pn**	**08 19 08.0**	**+0.3**
TWVZ	**Taurewa**	**3.56**	**234**	P	**Pn**	**08 19 07.8**	**-0.1**
MOVZ	**Moawhango**	**3.56**	**228**	P	**Pn**	**08 19 06.7**	**-1.3**
WHVZ	**Whangaehu Hut**	**3.58**	**231**	P	**Pn**	**08 19 07.7**	**-0.7**
FWVZ	**Far West T-bar**	**3.59**	**231**	P	**Pn**	**08 19 07.8**	**-0.7**
WNVZ	**Wahianoa**	**3.61**	**230**	P	**Pn**	**08 19 07.7**	**-0.9**
AWAZ	**Awhitu Peninsu**	**3.61**	**268**	P	**Pn**	**08 19 07.2**	**-1.2**
TRVZ	**Turoa**	**3.62**	**231**	P	**Pn**	**08 19 08.1**	**-0.7**
WTAZ	**Waiatarua**	**3.67**	**270**	P	**Pn**	**08 19 08.3**	**-1.0**
RVAZ	**Riverhead Bore**	**3.68**	**273**	P	**Pn**	**08 19 08.4**	**-1.1**
PNHZ	**Pukenui**	**3.68**	**218**	P	**Pn**	**08 19 07.2**	**-2.3**
WPHZ	**Waipukurau**	**3.68**	**214**	P	**Pn**	**08 19 07.5**	**-2.0**
HIZ	**Hauiti**	**3.70**	**246**		**Pn**	**08 19 09.4**	**-0.4**
HIZ	**Hauiti**	**3.70**	**246**	P	**Pn**	**08 19 10.6**	**+0.8**
HIZ	**Hauiti**	**3.70**	**246**	P	**Pn**	**08 19 11.1**	**+1.3**
MTVZ	**Mangateitei**	**3.72**	**230**	P	**Pn**	**08 19 10.0**	**-0.1**
PKVZ	**Pokaka**	**3.74**	**232**	P	**Pn**	**08 19 10.3**	**0.0**
PRHZ	**Porangahau**	**3.77**	**211**	P	**Pn**	**08 19 08.1**	**-2.6**
TSZ	**Takapari Road**	**3.91**	**219**	P	**Pn**	**08 19 10.0**	**-2.6**
ANWZ	**Angora Road**	**4.00**	**211**	P	**Pn**	**08 19 11.0**	**-2.8**
DVHZ	**Dannevirke**	**4.00**	**215**	P	**Pn**	**08 19 11.6**	**-2.3**
WCZ	**Waipu Caves**	**4.03**	**285**	P	**Pn**	**08 19 12.8**	**-1.5**
WAZ	**Wanganui**	**4.24**	**229**	P	**Pn**	**08 19 16.4**	**-0.8**
POWZ	**Post Office Ro**	**4.26**	**217**	P	**Pn**	**08 19 15.3**	**-2.1**
BFZ	**Birch Farm**	**4.28**	**211**		**Pn**	**08 19 14.4**	**-3.3**
BFZ	**Birch Farm**	**4.28**	**211**	P	**Pn**	**08 19 14.5**	**-3.2**
PRWZ	**Pori Road**	**4.29**	**214**	P	**Pn**	**08 19 15.8**	**-2.1**
MHEZ	**Mangahewa**	**4.31**	**241**	P	**Pn**	**08 19 20.1**	**+2.0**
OHWZ	**Ohakea**	**4.35**	**222**	P	**Pn**	**08 19 17.8**	**-0.9**
DREZ	**Durham Road**	**4.45**	**240**	P	**Pn**	**08 19 21.9**	**+1.8**
PREZ	**Palmer Road**	**4.55**	**238**	P	**Pn**	**08 19 23.2**	**+1.8**
NEZ	**North Egmont**	**4.56**	**239**	P	**Pn**	**08 19 23.3**	**+1.7**
PKE	**Pukeiti**	**4.60**	**241**	P	**Pn**	**08 19 24.6**	**+2.5**
KHEZ	**Kahui Hut**	**4.63**	**240**	P	**Pn**	**08 19 24.7**	**+2.2**
NBEZ	**Newall Road No**	**4.72**	**240**	P	**Pn**	**08 19 25.2**	**+1.5**
NMEZ	**Namu Road**	**4.78**	**239**	P	**Pn**	**08 19 26.6**	**+2.2**
OUZ	**Omahuta**	**4.86**	**290**	Pn	**Pn**	**08 19 24.1**	**-1.5**
OUZ	**Omahuta**	**4.86**	**290**	P	**Pn**	**08 19 24.4**	**-1.2**
OUZ	**Omahuta**	**4.86**	**290**	P	**Pn**	**08 19 24.2**	**-1.4**
	50nm,1.0s						
MSWZ	**Moikau Station**	**5.31**	**214**		**Pn**	08 19 27.2	-4.6
PLWZ	**Palliser**	**5.43**	**213**		**Pn**	08 19 28.4	-5.1
SNZO	**South Karori**	**5.48**	**218**	Pn	**Pn**	**08 19 29.8**	**-4.3**
TUWZ	**Tuamarina**	**5.95**	**221**		**Pn**	**08 19 36.8**	**-3.9**
QRZ	**Quartz Range**	**6.39**	**232**	Pn	**Pn**	**08 19 43.3**	**-3.4**
THZ	**Tophouse**	**6.75**	**224**	Pn	**Pn**	**08 19 47.7**	**-3.8**
CTZ	**Chatham Island**	**7.41**	**156**	P	**Pn**	**08 20 00.6**	**0.0**
MQZ	**McQueen's Vall**	**8.29**	**215**	Pn	**Pn**	08 20 07.2	-5.4
OXZ	**Oxford**	**8.30**	**219**	Pn	**Pn**	08 20 08.1	-4.7
RPZ	**Rata Peaks**	**9.08**	**220**	Pn	**Pn**	08 20 17.8	-5.7
	2.5nm,0.3s,baz=304,slow=2.3,SNR=12						
RPZ				Sn	Sn	08 21 52.7	-11
	6.8nm,0.3s,baz=144,slow=22,SNR=17						
RPZ	**Rata Peaks**	**9.08**	**220**	P	**Pn**	**08 20 19.5**	**-4.0**
	121nm,2.5s						
LBZ	**Lake Benmore**	**9.99**	**220**	Pn	Pn	08 20 31.0	-4.9
ODZ	**Otahua Downs**	**10.24**	**216**	P	Pn	08 20 34.2	-5.2
	31nm,1.9s						
WHZ	**Wether Hill Ro**	**12.18**	**220**	P	**Pn**	**08 21 03.5**	**-2.3**
DZM	**Mont Dzumac**	**18.55**	**320**	LR	LR	08 28 37.9	
	comp=Z,259nm,19.1s,baz=210,slow=34						
MSVF	**Nonsavu**	**19.27**	**357**	LR	LR	08 27 59.0	
	comp=Z,240nm,19.9s,baz=193,slow=31						
STKA	**Stephens Creek**	**31.25**	**268**	P	**P**	**08 24 29.0**	**-0.9**
	1.2nm,0.7s,baz=96,slow=9.2,SNR=5.0						
STKA				LR	LR	08 36 47.3	
	comp=Z,90nm,18.2s,baz=51,slow=36						
	1.2nm,0.7s						
STKA	**Stephens Creek**	**31.25**	**268**	P	**P**	**08 24 29.2**	**-0.7**
CTA	**Charters Tower**	**33.26**	**291**	LR	LR	08 37 03.4	
	comp=Z,61nm,18.3s,baz=80,slow=34						
COEN	**Coen**	**39.44**	**296**	P	**P**	**08 25 39.8**	**-0.5**
AS31	**Alice Springs**	**40.90**	**276**	P	**P**	**08 25 52.2**	**-0.2**
AS31				IAmb	IAmb	08 25 53.9	
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**40.90**	**276**	P	**P**	**08 25 52.4**	**-0.1**
	comp=Z,6.5nm,0.7s,baz=118,slow=7.8,SNR=65						
ASAR				PcP	**PcP**	**08 27 53.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=117,slow=3.6,SNR=1.5						
ASAR				S	**S**	**08 31 56.9**	**-3.5**
	comp=Z,0.8nm,0.9s,baz=121,slow=14,SNR=6.0						
	comp=Z,6.5nm,0.7s						
ASAR	**Alice Springs**	**40.90**	**276**	P	**P**	**08 25 51.6**	**-0.8**
VNDA	**Vanda**	**41.26**	**186**	LR	LR	08 39 37.3	
	comp=Z,50nm,18.7s,baz=5.5,slow=31						
WR0	**Warramunga Arr**	**42.33**	**281**	P	**P**	**08 26 03.8**	**-0.3**
WR0				IAmb	IAmb	08 26 08.8	
	comp=Z,5.0nm,1.2s						
WRAB	**Tennant Creek**	**42.49**	**281**	P	**P**	**08 26 05.2**	**-0.2**
WRAB				IAmb	IAmb	08 26 07.9	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**42.49**	**281**	P	**P**	**08 26 05.1**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=122,slow=7.7,SNR=15						
WRA				PcP	**PcP**	**08 27 59.2**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=132,slow=3.7,SNR=3.2						
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**42.49**	**281**	P	**P**	**08 26 04.9**	**-0.6**
WB0	**Warramunga Arr**	**42.55**	**281**	P	**P**	**08 26 05.6**	**-0.3**
WB0				IAmb	IAmb	08 26 08.6	
	comp=Z,5.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**50.38**	**277**	P	**P**	**08 27 06.8**	**-0.5**
QSPA	**South Pole Qui**	**53.07**	**180**	P	**P**	**08 27 30.8**	**+3.9**
	comp=Z,4.2nm,0.9s,baz=45,slow=5.5,SNR=18						
	comp=Z,4.2nm,0.9s						
MAW	**Mawson**	**65.27**	**202**	LR	LR	08 57 34.8	
	comp=Z,40nm,18.9s,baz=55,slow=36						
H03N3	**Juan Fernandez**	**78.99**	**124**	T	T	09 56 58.1	
	baz=234,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**78.99**	**124**	T	T	09 56 58.3	
	baz=234,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**79.00**	**124**	T	T	09 56 53.9	
	baz=234,slow=72,SNR=10						
YBH	**Yreka Blue Hor**	**94.69**	**40**	P	**P**	**08 31 31.0**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=233,slow=7.7,SNR=4.1						
	comp=Z,1.2nm,0.7s						
ARCES	**ARCESS Array B**	**144.47**	**344**	PKP	**PKPdf**	**08 37 45.1**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=32,slow=3.6,SNR=6.1						
FINES	**FINESS Array B**	**150.33**	**334**	PKPbc	**PKiKP**	**08 38 00.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=53,slow=5.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**156.09**	**186**	PKPab	**PKPab**	**08 38 33.4**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=174,slow=2.6,SNR=9.3						

ROM 02 08:18:27.0±0.1, 42°.833N±0°.003×13°.143E±0°.003, h9km, ML0.9/4, 1C, Error ellipse: s-maj=0.2km s-min=0.2km az=254.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.02**	**272**	P	Pg	08 18 29.0	+0.2
NRCA				S	Sg	08 18 30.0	0.0
T1242	**Castelluccio d**	**0.05**	**95**	P	Pg	08 18 29.3	+0.2
T1242				S	Sg	08 18 30.4	0.0
T1242				AML	AML		
	comp=E,429μm,1.3s						
T1242				AML	AML		
	comp=N,444μm,0.5s						
T1242				AML	AML		
	comp=E,430μm,1.3s						
T1242				AML	AML		
	comp=N,444μm,0.5s						
MC2	**Monte Cornacci**	**0.09**	**24**	⇑P	Pg	08 18 29.9	+0.4
MC2				S	Sg	08 18 31.7	+0.4
T1244	**Arquata del Tr**	**0.14**	**124**	P	Pg	08 18 30.6	+0.1
T1244				S	Sg	08 18 33.4	+1.1
T1202	**Accumoli, Fraz**	**0.14**	**155**	P	Pg	08 18 31.1	+0.8
MMO1	**Montemonaco**	**0.15**	**64**	P	Pg	08 18 30.9	+0.5
MMO1				S	Sg	08 18 33.6	+0.9
MMO1				AML	AML		
	comp=N,178μm,0.6s						
MMO1				AML	AML		
	comp=E,126μm,0.2s						
MMO1				AML	AML		
	comp=N,179μm,0.6s						
T1204	**Amatrice, Fraz**	**0.20**	**141**	P	Pg	08 18 32.2	+1.0
T1215	**Vallo di Nera,**	**0.20**	**261**	P	Pg	08 18 32.0	+0.7
T1215				S	Sg	08 18 35.5	+1.3
FDMO	**Fiordimonte**	**0.21**	**349**	P	Pg	08 18 31.8	+0.5
FDMO				S	Sg	08 18 35.5	+1.2
FDMO				AML	AML		
	comp=N,30μm,0.7s						
FDMO				AML	AML		
	comp=E,30μm,0.7s						
T1241	**Roccafluvione,**	**0.21**	**84**	P	Pg	08 18 32.1	+0.7
T1241				S	Sg	08 18 35.6	+1.3
T1241				AML	AML		
	comp=N,39μm,1.3s						
T1241				AML	AML		
	comp=E,44μm,0.9s						
T1241				AML	AML		
	comp=N,39μm,1.3s						
LNSS	**Leonessa**	**0.24**	**198**	P	Pg	08 18 32.7	+0.7
LNSS				S	Sg	08 18 36.7	+1.5
CESI	**CESI - Serrava**	**0.24**	**315**	P	Pg	08 18 32.8	+0.8
CESI				S	Sg	08 18 36.6	+1.2
SMA1	**SAN MARTINO**	**0.25**	**145**	P	Pg	08 18 32.3	+0.2
T1243	**Rocca Santa Ma**	**0.26**	**121**	P	Pg	08 18 32.8	+0.5
T1243				S	Sg	08 18 37.2	+1.3
GUMA	**Gualdo di Mace**	**0.27**	**32**	P	Pb	08 18 33.3	-0.8
GUMA				S	Sb	08 18 37.9	-0.9
GUMA				AML	AML		
	comp=N,167μm,0.3s						
GUMA				AML	AML		
	comp=E,170μm,0.3s						
RM33	**Pellescritta (**	**0.33**	**171**	P	Pb	08 18 34.7	-0.4
RM33				S	Sb	08 18 39.6	-0.9
TERO	**Teramo**	**0.40**	**122**	P	Pg	08 18 35.3	+0.5
TERO				S	Sb	08 18 41.6	-0.9
TERO				AML	AML		
	comp=E,28μm,0.1s						
TERO				AML	AML		
	comp=N,40μm,0.3s						

*ATH **02** 08:19:42.0, 37°.72N×21°.44E, h9km±4km, ML2.6/5, Error ellipse: s-maj=4.5km s-min=1.7km az=330.0*
*THE **02** 08:19:41.8, 37°.84N×21°.36E, h30km±1km, ML2.6/4, Error ellipse: s-maj=2.3km s-min=1.0km az=288.0*

ISC 02 08:19:40.7±1.7, 37°.77N±0°.06×21°.31E±0°.05, h17km±12km, n18, σ0°.71/28, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.32**	**23**	P	**Pb**	**08 19 47.6**	**-0.2**
RLS				S	**Sb**	**08 19 53.6**	**+0.9**
	2μm,0.3s						
RLS	**Riolos of Patr**	**0.32**	**23**	P	**Pb**	**08 19 47.7**	**-0.2**
RLS				S	**Sb**	**08 19 53.5**	**+0.8**
RLS				AML	AML	08 19 54.2	
	comp=N,3700μm,0.4s						
RLS				AML	AML	08 19 54.3	
	comp=E,3481μm,0.3s						
DRO	**Drossia**	**0.37**	**59**	P	**Pb**	**08 19 48.4**	**-0.3**
DRO				S	**Sb**	**08 19 55.0**	**+0.8**
	comp=E,2μm,0.4s						
DRO	**Drossia**	**0.37**	**59**	P	**Pb**	**08 19 48.6**	**-0.1**
DRO				S	**Sg**	**08 19 53.4**	**-0.2**
DRO				AML	AML	08 19 55.4	
	comp=N,3220μm,0.3s						
DRO				AML	AML	08 19 56.1	
	comp=E,4628μm,0.2s						
LTHK	**Lithakia**	**0.38**	**262**	P	**Pn**	**08 19 51.8**	**+0.5**
LTHK				S	**Sn**	**08 19 58.3**	**+0.1**
LTHK				AML	AML	08 20 00.5	
	comp=N,1776μm,0.2s						
LTHK				AML	AML	08 20 04.4	
	comp=E,1418μm,0.3s						
LAKA	**Lakka**	**0.71**	**48**	P	**Pb**	**08 19 53.6**	**-1.0**
LAKA	**Lakka**	**0.71**	**48**	P	**Pb**	**08 19 53.8**	**-0.8**
LAKA				S	**Sg**	**08 20 03.8**	**-0.2**
LAKA				AML	AML	08 20 04.9	
	comp=E,723μm,0.7s						
LAKA				AML	AML	08 20 07.7	
	comp=N,482μm,1.0s						
KLV	**Kalavryta, Ach**	**0.72**	**67**	P	**Pb**	**08 19 54.1**	**-0.6**
KLV				S	**Sb**	**08 20 03.6**	**-0.8**
	comp=N,222nm,0.6s						
KLV	**Kalavryta, Ach**	**0.72**	**67**	P	**Pb**	**08 19 54.1**	**-0.6**
KLV				S	**Sb**	**08 20 03.8**	**-0.6**
ITM	**Ithomi**	**0.76**	**140**	P	**Pn**	**08 19 56.9**	**+0.3**
SERG	**Sergoula**	**0.87**	**42**	P	**Pb**	**08 19 56.1**	**-1.3**
SERG				S	**Sb**	**08 20 08.0**	**-0.8**
	comp=N,452nm,0.3s						
LKD2	**Lefkada island**	**1.14**	**333**	P	**Pb**	**08 20 00.8**	**-1.2**
LOUT	**Loutraki**	**1.33**	**80**	P	**Pb**	**08 20 05.3**	**+0.1**
LTK	**Loutraki**	**1.33**	**78**	P	**Pb**	**08 20 04.9**	**-0.3**
LTK	**Loutraki**	**1.33**	**78**	P	**Pb**	**08 20 05.0**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.40**	**27**	P	**Pg**	**08 20 08.2**	**+0.5**
MAKR				S	**Sg**	**08 20 27.2**	**+1.2**
MAKR				AML	AML	08 20 28.8	
	comp=E,542μm,0.9s						
MAKR				AML	AML	08 20 31.7	
	comp=N,497μm,0.5s						
VIL2	**Platees**	**1.61**	**73**	P	**Pb**	**08 20 09.5**	**-0.4**
ATAL	**Atalanti**	**1.63**	**55**	P	**Pb**	**08 20 09.8**	**-0.5**

*IDC **02** 08:19:47.2±0.6, 34°.68N×72°.87E, h0km, mb4.2/21, mbtmp4.1/27, ML4.0/6, MS3.7/2, Error ellipse: s-maj=14.8km s-min=12.9km az=33.0*
*NDI **02** 08:19:48.2±2.6, 34°.87N×72°.21E, h33km, ML4.4, mb4.5(NEIC)*
*BJI **02** 08:19:48.7±0.0, 34°.66N×72°.65E, h30km, mb4.3/22, mB4.5/12, ML4.2/3, Ms3.9/4, Ms7 3.6/4*
*MOS **02** 08:19:49.0±1.0, 34°.71N×72°.92E, h19km, mb4.2/4, Error ellipse: s-maj=9.9km s-min=5.5km az=98.0*
*NEIC **02** 08:19:53.3±1.9, 34°.68N±0°.04×72°.96E±0°.09, h35km±4km, mb4.5/18, Error ellipse: s-maj=11.1km s-min=5.7km az=75.0*
*NNC **02** 08:19:53.8±2.8, 34°.74N×72°.72E, h42km±35km, mb4.2, mpv4.2, Error ellipse: s-maj=27.1km s-min=20.5km az=91.0*

ISC 02 08:19:50.6±0.4, 34°.69N±0°.04×72°.87E±0°.04, h21km, n135, σ2s06/153, mb4.4/35, MS3.6/5, 6C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**1.08**	**162**	P	**Pb**	**08 20 11.1**	**+0.5**
NIL	**Nilore**	**1.08**	**163**		**Pn**	**08 20 10.8**	**+0.2**
NIL	**Nilore**	**1.08**	**163**	P	**Pn**	**08 20 10.8**	**+0.2**
CEP	**Cherat**	**1.17**	**223**	P	**Pb**	**08 20 12.5**	**+0.2**
CEP				S	**Sn**	**08 20 30.0**	**+2.6**
THW	**Thamme Wali**	**2.11**	**207**	P	**Pb**	**08 20 27.8**	**-0.4**
JMU	**Jammu**	**2.59**	**139**	eP	**Pb**	**08 20 35.0**	**-1.3**
JMU				eS	**Sb**	**08 21 08.9**	**+1.1**
SARP	**Sargodha**	**2.77**	**183**	P	**Pn**	**08 20 36.1**	**+2.4**
KBL	**Kabul**	**3.16**	**268**	Pn	**Pn**	**08 20 41.8**	**+2.5**
KBL	**Kabul**	**3.16**	**268**	P	**Pn**	**08 20 41.8**	**+2.5**
THN	**Thein Dam**	**3.27**	**133**	eP	**Pb**	**08 20 45.4**	**-2.5**
THN				eS	**Sb**	**08 21 26.6**	**-0.7**
BHK	**Bhakra**	**4.42**	**137**	eP	**Pn**	**08 21 00.0**	**+3.6**
BHK				eS	**Sn**	**08 21 52.5**	**+5.3**
GAR	**Garm**	**4.76**	**335**		**Pn**	**08 21 04.6**	**+3.3**
CHGR	**Chuyangaron**	**4.96**	**324**		**Pn**	**08 21 03.9**	**0.0**
CHGR	**Chuyangaron**	**4.96**	**324**	P	**Pn**	**08 21 03.9**	**0.0**
KSH	**Kashi**	**5.42**	**26**	Pn	**Pn**	**08 21 09.0**	**-1.3**
KSH				sP	Pb	08 21 17.8	-6.8
KSH				Sn	**Sn**	**08 22 05.7**	**-6.4**
KSH				pmax	pmax		
	comp=Z,34nm,0.5s						
KSH				smax	smax		
	comp=N,290nm,0.4s						
KSH	

WMQ				sP			08 23 29.4		
WMQ				pmax	pmax				
	comp=Z,20nm,0.7s								
TAPN	**Taplejung**	**14.67**	**116**	*e*P	**Pn**		**08 23 14.8**	**-2.4**	
	comp=Z,72nm,0.4s								
KURBB	**Kurchatov Arra**	**16.45**	**13**	Pn	**Pn**		**08 23 37.1**	**-2.9**	
	comp=Z,0.2nm,0.3s,baz=205,slow=11,SNR=10								
	comp=Z,1.4nm,0.6s								
KURBB	**Kurchatov Arra**	**16.45**	**13**	⇑P	**Pn**		**08 23 38.8**	**-1.2**	
	comp=Z,4.7nm,0.6s								
KURK	**Kurchatov**	**16.56**	**13**	*i* P	**P**		**08 23 44.7**	**+0.9**	
KURK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
WSAR	**Wadi Sarin**	**16.87**	**231**	Pn	**P**		**08 23 51.1**	**+3.6**	
	comp=Z,0.3nm,0.3s,baz=50,slow=7.9,SNR=1.5								
AB31	**Akbulak array**	**17.40**	**331**	P	**Pn**		**08 23 51.1**	**-0.9**	
	comp=Z,2.2nm,0.5s,baz=148,slow=11,SNR=66								
ABKAR	**Akbulak array**	**17.40**	**331**	Pn	**Pn**		**08 23 51.9**	**-0.1**	
BVA0	**Borovoye Array**	**18.42**	**355**	P	**Pn**		**08 24 05.1**	**+0.7**	
	comp=Z,5.6nm,0.8s,baz=165,slow=10,SNR=11								
BVAR	**Borovoye Array**	**18.42**	**355**	P	**Pn**		**08 24 04.5**	**0.0**	
	comp=Z,0.9nm,0.3s,baz=171,slow=10,SNR=14								
	comp=Z,2.0nm,0.4s								
DGZ	**Jazzator, Alta**	**18.43**	**31**	*i* P	**P**		**08 24 04.0**	**-0.6**	
DGZ				pmax	pmax				
	comp=Z,7.0nm,0.6s								
BRVK	**Borovoye**	**18.46**	**355**		**Pn**		**08 24 05.2**	**+0.3**	
BRVK	**Borovoye**	**18.46**	**355**	*i* P	**Pn**		**08 24 05.5**	**+0.6**	
BRVK				pmax	pmax				
	comp=Z,9.0nm,0.9s								
BRVK	**Borovoye**	**18.46**	**355**	⇑P	**Pn**		**08 24 05.3**	**+0.3**	
	comp=Z,8.0nm,0.9s								
AKTO	**Aktyubinsk**	**19.11**	**330**	P	**Pn**		**08 24 12.6**	**-0.3**	
	comp=Z,1.8nm,0.3s,baz=138,slow=11,SNR=20								
AKTO				S	**Sn**		**08 27 36.8**	**-9.4**	
	comp=Z,1.3nm,0.7s,baz=137,slow=18,SNR=1.8								
	comp=Z,8.6nm,0.5s								
AKTO	**Aktyubinsk**	**19.11**	**330**	⇓P	**P**		**08 24 12.2**	**+0.2**	
	comp=Z,11nm,0.7s								
ZAA0	**Zalesovo Array**	**21.01**	**20**	P	**P**		**08 24 32.3**	**-0.3**	
ZAA0				IAmb	IAmb		08 24 39.6		
	comp=Z,17nm,0.7s								
ZALV	**Zalesovo Beam**	**21.01**	**20**	P	**P**		**08 24 31.9**	**-0.7**	
	comp=Z,14nm,0.5s,baz=216,slow=11,SNR=23								
	comp=Z,14nm,0.5s								
SEKA	**Sheki**	**21.22**	**295**	P	**P**		**08 24 36.3**	**+1.2**	
MAK	**Makhachkala**	**21.36**	**300**	*e*P	**P**		**08 24 33.9**	**-2.5**	
MAK				*e*S	**S**		**08 28 28.8**	**-3.8**	
MAK				pmax	pmax				
	comp=Z,101nm,0.8s								
MAK				MLR	MLR				
	comp=Z,188nm,19.0s								
GTA	**Gaotai**	**21.98**	**70**	*e*P	**P**		**08 24 43.8**	**+0.5**	
GTA				pP	pP		08 24 50.9	+1.2	
GTA				sP	sP		08 24 53.9	+0.6	
GTA				pmax	pmax				
	comp=Z,94nm,6.1s								
GTA				LR	LR				
	comp=Z,120nm,9.5s								
GTA				LR	LR				
	comp=Z,150nm,9.8s								
GTA				LR	LR				
	comp=Z,160nm,12.7s								
ARU	**Arti**	**23.84**	**340**	P	**P**		**08 25 02.1**	**0.0**	
	comp=Z,2.5nm,0.4s,baz=164,slow=3.7,SNR=3.8								
ARU				LR	LR		08 33 48.1		
	comp=Z,100nm,18.3s,baz=140,slow=35								
	comp=Z,2.5nm,0.4s								
ARU	**Arti**	**23.84**	**340**	P	**P**		**08 25 03.0**	**+0.9**	
ARU	**Arti**	**23.84**	**340**	*d* P	**P**		**08 25 07.1**	**+5.0**	
ARU							08 25 35.1		
ARU				SS	Sn		08 30 09.0	+29	
ARU				pmax	pmax				
	comp=Z,8.0nm,1.0s								
ZEI	**Tsey**	**23.91**	**298**	*e*P	**P**		**08 25 05.5**	**+2.3**	
ZEI				pmax	pmax				
	comp=Z,7.0nm,0.8s								
KARS	**Kars**	**24.25**	**293**	P	**P**		**08 25 07.3**	**+1.0**	
KARS	**Kars**	**24.25**	**293**	P	**P**		**08 25 07.3**	**+1.0**	
KARS				pmax	pmax				
	comp=Z,69nm,0.5s								
LZH	**Lanzhou**	**25.24**	**78**	*e*P	P		08 25 29.1	+14	
LZH				pP	sP		08 25 29.2	+4.0	
LZH				pmax	pmax				
	comp=Z,20nm,1.0s								
LZH				pmax	pmax				
	comp=Z,17nm,1.0s								
LZH				LR	LR				
	comp=N,290nm,6.4s								
LZH				LR	LR				
	comp=E,250nm,5.8s								
LZH				LR	LR				
	comp=Z,200nm,6.5s								
BELG	**Belogornoye**	**25.25**	**322**	P	**P**		**08 25 15.6**	**+0.6**	
	comp=Z,10nm,0.7s,baz=130,slow=8.9,SNR=5.1								
	comp=Z,10nm,0.7s								
PZH	**PanZhiHua**	**26.09**	**100**	P	**P**		**08 25 24.1**	**+1.0**	
PZH				pmax	pmax				
	comp=Z,10.0nm,0.8s								
PZH				pmax	pmax				
	comp=Z,100nm,5.2s								
SOC	**Sochi**	**27.06**	**299**	*e*P	**P**		**08 25 30.5**	**-1.0**	
SOC				*e*			08 26 18.0		
SOC				*e*PPP	PPP		08 26 27.1		
SOC				*e*S	**S**		**08 30 07.9**	**-0.3**	
SOC				*e*SS	**SnSn**		**08 31 16.0**	**+1.0**	
SOC				*e*SSS	SSS		08 31 32.4		
SOC				MLR	MLR				
	comp=Z,150nm,18.0s								
CHTO	**Chiang Mai**	**28.03**	**118**	P	**P**		**08 25 41.1**	**+0.8**	
CHTO	**Chiang Mai**	**28.03**	**118**	P	**P**		**08 25 41.2**	**+0.8**	
CMAR	**Chiang Mai Arr**	**28.25**	**118**	P	**P**		**08 25 42.4**	**0.0**	
	comp=Z,2.3nm,0.4s,baz=304,slow=9.7,SNR=12								
	comp=Z,2.3nm,0.4s								
CMAR	**Chiang Mai Arr**	**28.25**	**118**	P	**P**		**08 25 43.7**	**+1.3**	
CMAR	**Chiang Mai Arr**	**28.25**	**118**	P	**P**		**08 25 43.7**	**+1.3**	
HHC	**Hu-ho-hao-te**	**31.02**	**67**	*e*P	**P**		**08 26 09.2**	**+2.4**	
HHC				pmax	pmax				
	comp=Z,27nm,0.7s								
HHC				pmax	pmax				
	comp=Z,200nm,8.1s								
BRTR	**Keskin Array B**	**31.47**	**291**	P	**P**		**08 26 11.4**	**+0.5**	
	comp=Z,0.8nm,0.8s,baz=99,slow=10,SNR=2.3								
BRTR				PcP	**PcP**		**08 29 03.9**	**+0.2**	
	comp=Z,0.5nm,0.6s,baz=109,slow=3.8,SNR=3.1								
	comp=Z,0.8nm,0.8s								
AKASG	**Malin Array Be**	**35.27**	**311**	P	**P**		**08 26 42.7**	**-1.0**	
	comp=Z,0.3nm,0.4s,baz=80,slow=7.9,SNR=3.2								
	comp=Z,0.3nm,0.4s								
FINES	**FINESS Array B**	**39.83**	**327**	P	**P**		**08 27 21.6**	**-0.5**	
	comp=Z,0.8nm,0.5s,baz=112,slow=11,SNR=3.7								
	comp=Z,0.8nm,0.5s								
FINES	**FINESS Array B**	**39.83**	**327**	*i* P	**P**		**08 27 23.1**	**+1.0**	
FINES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**43.39**	**338**	P	**P**		**08 27 51.4**	**+0.2**	
	comp=Z,4.1nm,0.7s,baz=115,slow=8.2,SNR=19								
	comp=Z,4.1nm,0.7s								
HEF	**Hetta**	**43.48**	**336**	*e*P	**P**		**08 27 53.5**	**+1.5**	
KSRS	**Korea Array**	**44.05**	**70**	P	**P**		**08 27 57.0**	**+0.1**	
	comp=Z,1.0nm,0.7s,baz=284,slow=9.8,SNR=4.0								
	comp=Z,1.0nm,0.7s								
KIF	**Kilpisjarvi**	**44.68**	**336**	*e*P	P		08 27 56.2	-5.3	
KLR	**Kul'dur**	**45.01**	**53**	P	**P**		**08 28 04.5**	**+0.1**	
	comp=Z,0.8nm,0.5s,baz=282,slow=9.3,SNR=2.9								
	comp=Z,0.8nm,0.5s								
NB2	**NORSAR Subarra**	**46.74**	**324**	P	**P**		**08 28 17.1**	**-0.8**	
	comp=Z,1.3nm,0.7s,baz=97,slow=7.9								
NOA	**NORSAR Array B**	**46.74**	**324**	P	**P**		**08 28 17.6**	**-0.3**	
	comp=Z,0.7nm,0.7s,baz=97,slow=7.7,SNR=4.3								
	comp=Z,0.7nm,0.7s								
MJAR	**Matsushiro Arr**	**52.21**	**68**	P	**P**		**08 28 60.0**	**-0.1**	
	comp=Z,2.2nm,0.8s,baz=286,slow=8.4,SNR=4.8								
	comp=Z,2.2nm,0.8s								
MJAR	**Matsushiro Arr**	**52.21**	**68**	P	**P**		**08 29 00.0**	**-0.1**	
TORD	**Torodi Ar. Bea**	**67.23**	**271**	P	**P**		**08 30 43.2**	**-0.5**	
	comp=Z,1.5nm,0.5s,baz=48,slow=6.3,SNR=30								
	comp=Z,1.5nm,0.5s								
KOWA	**Kowa**	**71.22**	**275**	P	**P**		**08 31 08.5**	**+0.1**	
	comp=Z,7.3nm,0.6s,baz=58,slow=4.6								
	comp=Z,7.3nm,0.6s								
KOWA	**Kowa**	**71.22**	**275**	P	**P**		**08 31 08.8**	**+0.3**	
TOLK	**Toolik Lake Re**	**72.28**	**15**	P	**P**		**08 31 14.6**	**+0.6**	
TOLK				IAmb	IAmb		08 31 15.2		
	comp=Z,4.6nm,0.7s								
H23K	**Yukon River**	**74.59**	**17**	IAmb	IAmb		08 31 28.9		
	comp=Z,4.8nm,1.1s								
H23K				P	**P**		**08 31 29.0**	**+1.3**	
K20K	**Telida**	**75.40**	**20**	P	**P**		**08 31 33.8**	**+1.4**	
K20K				IAmb	IAmb		08 31 34.5		
	comp=Z,3.3nm,0.8s								
INK	**Inuvik**	**75.43**	**10**	P	**P**		**08 31 32.8**	**+0.4**	
	comp=Z,2.2nm,0.5s,baz=352,slow=4.2,SNR=15								
	comp=Z,2.2nm,0.5s								
C36M	**Paulatuk**	**75.52**	**6**	P	**P**		**08 31 33.0**	**+0.1**	
NEA2	**Nenana**	**75.72**	**17**	P	**P**		**08 31 34.4**	**+0.2**	
NEA2				IAmb	IAmb		08 31 35.0		
	comp=Z,4.2nm,0.8s								
CAST	**Castle Rocks**	**75.90**	**19**	P	**P**		**08 31 36.3**	**+1.0**	
CAST				IAmb	IAmb		08 31 36.6		
	comp=Z,5.9nm,0.9s								
ILAR	**Eielson Array**	**76.09**	**16**	P	**P**		**08 31 35.7**	**-0.6**	
	comp=Z,1.4nm,1.0s,baz=310,slow=4.4,SNR=11								
	comp=Z,1.4nm,1.0s								
DBIC	**Dimbokro**	**76.15**	**269**	P	**P**		**08 31 37.6**	**+0.2**	
	comp=Z,2.1nm,0.5s,baz=46,slow=4.4,SNR=2.2								
	comp=Z,2.1nm,0.5s								
J26L	**Joseph Creek**	**77.07**	**15**	P	**P**		**08 31 42.0**	**0.0**	
J26L				IAmb	IAmb		08 31 42.7		
	comp=Z,2.9nm,0.8s								
BOSA	**Boshof**	**77.38**	**222**	P	**P**		**08 31 44.3**	**+0.2**	
	comp=Z,2.7nm,0.8s,baz=44,slow=4.5,SNR=3.7								
	comp=Z,2.7nm,0.8s								
DHY	**Denali Highway**	**77.40**	**18**	P	**P**		**08 31 44.0**	**+0.1**	
DHY				IAmb	IAmb		08 31 44.8		
	comp=Z,2.3nm,0.7s								
DAWY	**Dawson**	**78.32**	**14**	P	**P**		**08 31 48.9**	**0.0**	
BCAR	**Beaver Creek A**	**78.72**	**15**	P	**P**		**08 31 51.6**	**+0.6**	
NWAO	**Narrogin (SRO)**	**79.11**	**143**	LR	LR		09 06 23.1		
	comp=Z,56nm,19.3s,baz=280,slow=35								
WRA	**Warramunga Arr**	**79.74**	**123**	P	**P**		**08 31 57.3**	**+0.2**	
	comp=Z,0.6nm,0.5s,baz=326,slow=5.1,SNR=20								
	comp=Z,0.6nm,0.5s								
WRA	**Warramunga Arr**	**79.74**	**123**	*i* P	**P**		**08 31 56.7**	**-0.5**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ASAR	**Alice Springs**	**81.97**	**126**	P	**P**		**08 32 09.2**	**+0.2**	
	comp=Z,0.8nm,0.6s,baz=308,slow=5.4,SNR=17								
	comp=Z,0.8nm,0.6s								
YKA	**Yellowknife Ar**	**82.97**	**3**	P	**P**		**08 32 12.8**	**-0.8**	
	comp=Z,1.9nm,0.8s,baz=346,slow=5.4,SNR=2.2								
	comp=Z,1.9nm,0.8s								

*IDC **02** 08:31:18.8±1.6,36.07N×0.47W, h0km, mb3.2/2, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=28.8km s-min=19.8km az=120.0*
*CRAAG **02** 08:31:21.3, 35.96N×0.41W, Ml3.5*
*MDD **02** 08:31:22.2±0.8, 36.01N×0.51W, h24km±7km, mb_Lg2.9/17, Error ellipse: s-maj=5.1km s-min=2.8km az=166.0*
*INMG **02** 08:31:22.1±1.5, 36.07N×0.57W, h22km±16km, ML2.4, Error ellipse: s-maj=9.8km s-min=5.6km az=150.0*
*CNRM **02** 08:31:25.2, 35.98N×1.18W, h13km, ml2.4*

ISC 02 08:31:21.3±1.3, 36.02N±0.03×0.55W±0.04, h26km±11km, n39, σ1s84/66, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
USTO	**Oran**	**0.29**	**179**	P	**Pb**		**08 31 28.1**	**-0.1**
ODJA	**Bouhanifia**	**0.77**	**155**	P	**Pb**		**08 31 34.9**	**-1.1**
OJGS	**Djebel Guires**	**1.18**	**116**	P	**Pn**		**08 31 42.7**	**+0.5**
EANR	**'Ain N'Sour**	**1.34**	**93**	P	Pn		08 31 41.0	-3.4
ENIJ	**Nijar**	**1.63**	**306**	Pn	**Pn**		**08 31 47.7**	**-0.7**
ENIJ				Sn	**Sn**		**08 32 06.4**	**-2.2**
ENIJ				*i* Vmb_Lg			08 32 06.8	
TLOR	**Lorca, Murcia**	**1.87**	**331**	Pn	**Pn**		**08 31 51.1**	**-0.4**
TLOR				Sn	**Sn**		**08 32 11.4**	**-2.9**
EMUR	**La Murta**	**1.90**	**343**	Pn	**Pn**		**08 31 52.0**	**0.0**
EMUR				Sn	**Sn**		**08 32 13.2**	**-1.9**
EMUR				*i* Vmb_Lg			08 32 15.7	
TAF	**Taforalt**	**1.94**	**232**	P	**Pn**		**08 31 52.4**	**-0.3**
TAF				S	**Sn**		**08 32 14.6**	**-1.6**
EZAR	**Zarzadilla de**	**2.06**	**334**	Pn	**Pn**		**08 31 53.2**	**-1.1**
EZAR				Sn	**Sn**		**08 32 17.6**	**-1.7**
EBER	**Berja**	**2.08**	**296**	Pn	**Pn**		**08 31 53.7**	**-0.9**
EBER				Sn	**Sn**		**08 32 18.8**	**-0.9**
EBER				*i* Vmb_Lg			08 32 22.9	
JBK	**JBK**	**2.36**	**225**	P	**Pn**		**08 31 58.6**	**+0.1**
JBK				S	**Sn**		**08 32 25.7**	**-1.0**
EQUE	**Quentar**	**2.60**	**298**	Pn	**Pn**		**08 32 03.2**	**+1.4**
EQUE				Sn	**Sn**		**08 32 33.8**	**+1.2**
EQUE				*i* Vmb_Lg			08 32 36.3	
ELGU	**Los Guajares,**	**2.62**	**290**	Pn	**Pn**		**08 32 01.8**	**-0.1**
ELGU				Sn	**Sn**		**08 32 31.5**	**-1.4**
ELGU				*i* Vmb_Lg			08 32 34.9	
EBEN2	**Beniarda presa**	**2.66**	**6**	Pn	**Pn**		**08 32 02.7**	**+0.1**
EBEN2				Sn	**Sn**		**08 32 32.7**	**-1.3**
EBEN2				*i* Vmb_Lg			08 32 38.6	
EQES	**Quesada**	**2.69**	**312**	Pn	**Pn**		**08 32 05.2**	**+2.2**
EQES				Sn	**Sn**		**08 32 35.7**	**+1.0**
EQES				*i* Vmb_Lg			08 32 39.7	
ETOB	**Tobarra**	**2.73**	**343**	Pn	**Pn**		**08 32 04.4**	**+0.9**
ETOB				Sn	**Sn**		**08 32 35.4**	**-0.4**
ETOB				*i* Vmb_Lg			08 32 38.0	
EGOR	**Sierra Gorda,**	**3.06**	**292**	Pn	**Pn**		**08 32 10.9**	**+2.7**
EGOR				Sn	**Sn**		**08 32 44.4**	**+0.4**
EGOR				*i* Vmb_Lg			08 32 50.6	
EIBI	**Ibiza**	**3.35**	**26**	Pn	**Pn**		**08 32 11.8**	**-0.2**
EIBI				Sn	**Sn**		**08 32 49.4**	**-1.6**
EIBI				*i* Vmb_Lg			08 32 51.8	
EMIJ	**Mijas**	**3.45**	**280**	Sn	**Sn**		**08 32 50.5**	**-2.9**
EMIJ				*i* Vmb_Lg			08 32 55.3	
EADA	**Adamuz**	**3.86**	**305**	Sn	**Sn**		**08 33 04.0**	**+0.4**
EADA				*i* Vmb_Lg			08 33 16.3	
ECOL	**Islas Columbre**	**3.99**	**14**	Pn	**Pn**		**08 32 21.4**	**+0.7**
ECOL				Sn	**Sn**		**08 33 03.8**	**-2.8**
EMOS	**Mosqueruela**	**4.33**	**1**	Pn	**Pn**		**08 32 27.2**	**+1.6**
EMOS				Sn	**Sn**		**08 33 15.4**	**0.0**
EMOS				*i* Vmb_Lg			08 33 16.8	
ECAB	**El Cabril**	**4.40**	**299**	Pn	**Pn**		**08 32 26.7**	**+0.3**
ECAB				Sn	**Sn**		**08 33 14.6**	**-2.1**
ECAB				*i* Vmb_Lg			08 33 19.4	
ESDC	**Sonseca Array**	**4.53**	**324**	Pn	**Pn**		**08 32 30.1**	**+1.8**
	0.5nm,0.3s,baz=136,slow=13,SNR=13							
ESDC				Pg	**Pb**		**08 32 40.5**	**+0.4**
	0.3nm,0.3s,baz=145,slow=14,SNR=6.1							
ESDC				Sn	**Sn**		**08 33 18.0**	**-2.1**
	0.6nm,0.3s,baz=138,slow=23,SNR=5.2							
ESDC				Lg	Lg		08 33 33.5	
	0.9nm,0.3s,baz=143,slow=29,SNR=5.6							
	1.5nm,0.3s							
ETOS	**Mallorca**	**4.59**	**34**	Pn	**Pn**		**08 32 29.1**	**+0.1**
ETOS				Sn	**Sn**		**08 33 19.3**	**-2.2**
ETOS				*i* Vmb_Lg			08 33 21.9	
PAB	**San Pablo**	**4.62**	**321**	Pn	**Pn**		**08 32 31.5**	**+1.9**
PAB				Sn	**Sn**		**08 33 21.1**	**-1.4**
PAB				*i* Vmb_Lg			08 33 22.8	
MDT	**Midelt**	**4.63**	**227**	Pn	**Pn**		**08 32 30.6**	**+0.9**
	0.6nm,0.3s,baz=72,slow=19,SNR=14							
MDT				Sn	**Sn**		**08 33 26.5**	**+3.8**
	0.2nm,0.3s,baz=12,slow=14,SNR=1.5							
MDT				Lg	Lg		08 33 49.5	
	0.3nm,0.3s,baz=30,slow=20,SNR=2.1							
	1.4nm,0.3s							
MDT	**Midelt**	**4.63**	**227**	P	**Pn**		**08 32 30.2**	**+0.5**
MDT				S	**Sn**		**08 33 17.6**	**-5.1**
MD31	**MD31**	**4.69**	**229**	P	**Pn**		**08 32 31.2**	**+0.8**
MD31				S	**Sn**		**08 33 25.3**	**+1.2**
PBAR	**Barrancos**	**5.61**	**294**	*e*Pn	**Pn**		**08 32 44.3**	**+1.3**
PBAR				*e*Sn	**Sn**		**08 33 43.6**	**-3.0**
PBAR				A	A		08 33 50.1	
	2.1nm,0.5s							
PVAQ	**Vaqueiros**	**5.92**	**286**	*e*Pn	**Pn**		**08 32 47.4**	**+0.2**
PVAQ	**Vaqueiros**	**5.92**	**286**	P	**Pn**		**08 32 46.5**	**-0.7**
PVAQ				S	**Sn**		**08 33 47.2**	**-7.0**
PESTR	**Estremoz**	**6.28**	**299**	P	**Pn**		**08 32 51.9**	**-0.3**
PESTR				S	**Sn**		**08 34 01.1**	**-1.9**
PMRV	**Marv??o**	**6.40**	**304**	*e*Sn	**Sn**		**08 34 04.6**	**-1.4**
PMRV				A	A		08 34 39.2	
	3.8nm,0.6s							
MESJ	**Messejana**	**6.40**	**289**	*e*Pn	**Pn**		**08 32 54.2**	**+0.3**
MESJ				A	A		08 34 04.5	
	2.5nm,0.5s							
MESJ				*e*Sn	**Sn**		**08 34 05.1**	**-1.0**
PNCL	**Nicolau / Gran**	**6.71**	**290**	*e*Pn	**Pn**		**08 32 58.6**	**+0.5**
PMTG	**Montargil**	**6.81**	**299**	*e*Pn	**Pn**		**08 33 00.7**	**+1.2**
TORD	**Torodi Ar. Bea**	**22.87**	**174**	P	**P**		**08 36 24.8**	**+2.0**
	0.6nm,0.8s,baz=353,slow=11,SNR=2.5							
	0.6nm,0.8s							
MKAR	**Makanchi Array**	**60.34**	**52**	P	**P**		**08 41 28.6**	**+0.7**
	0.2nm,0.6s,baz=305,slow=6.5,SNR=2.0							
	0.2nm,0.6s							

ROM 02 08:34:54.3±0.1, 42.812N±0.004×13.245E±0.006, h9km, ML1.3/5, 2C-3D, Error ellipse: s-maj=0.6km s-min=0.1km az=224.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**301**	P	Pg		08 34 56.0	-0.2
T1242				S	Sg		08 34 56.9	-0.7
T1242				AML	AML			
	comp=N,724μm,0.1s							
T1242				AML	AML			
	comp=E,410μm,0.5s							
T1244	**Arquata del Tr**	**0.07**	**145**	P	Pg		08 34 56.7	+0.3
T1244				S	Sg		08 34 58.3	+0.3
T1244				AML	AML			
	comp=N,396μm,1.2s							
T1244				AML	AML			
	comp=E,604μm,0.1s							
NRCA	**Norcia**	**0.10**	**283**	P	Pg		08 34 57.1	+0.3
NRCA				S	Sg		08 34 59.1	+0.4
NRCA				AML	AML			
	comp=N,393μm,0.4s							
NRCA				AML	AML			
	comp=E,456μm,1.2s							
MC2	**Monte Cornacci**	**0.11**	**338**	⇓P	Pg		08 34 57.4	+0.3
MC2				S	Sg		08 35 00.1	+0.9
T1202	**Accumoli, Fraz**	**0.11**	**188**	P	Pg		08 34 57.6	+0.5
T1202				S	Sg		08 35 00.4	+1.4
T1241	**Roccafluvione,**	**0.14**	**72**	⇑P	Pg		08 34 58.2	+0.7
T1241				S	Sg		08 35 00.9	+1.1
T1241				AML	AML			
	comp=N,58μm,0.8s							
T1241				AML	AML			
	comp=E,76μm,0.8s							
T1241				AML	AML			
	comp=N,58μm,0.8s							
T1243	**Rocca Santa Ma**	**0.19**	**127**	⇑P	Pg		08 34 58.8	+0.5
T1243				S	Sg		08 35 01.9	+0.9
FDMO	**Fiordimonte**	**0.25**	**333**	⇓P	Pg		08 35 00.1	+0.7
FDMO				S	Sb		08 35 04.6	-1.0
FDMO				AML	AML			
	comp=E,41μm,0.1s							
FDMO				AML	AML			
	comp=N,30μm,0.2s							
T1215	**Vallo di Nera,**	**0.28**	**268**	⇓P	Pb		08 35 00.7	-0.7
T1215				S	Sb		08 35 05.3	-0.9
CSP1	**Cessapalombo**	**0.28**	**354**	P	Pb		08 35 00.8	-0.8
CSP1				S	Sb		08 35 05.5	-0.9
TERO	**Teramo**	**0.33**	**125**	P	Pg		08 35 01.3	+0.5
TERO				S	Sb		08 35 06.5	-1.1
TERO				AML	AML			
	comp=E,35μm,1.4s							
TERO				AML	AML			
	comp=N,46μm,1.2s							

*NOU **02** 08:38:47.0, 36.37S×178.59W, h125km, mb4.5/6, East of North Island, N.Z.*
*WEL **02** 08:39:11.0±1.2, 37.2S±5.1×17.9E±1.1, h16km±9km, M3.6/43, ML3.7/46, MLv3.6/43, Error ellipse: s-maj=0.0km s-min=0.0km az=105.8*

ISC 02 08:39:08.2±3.0, 37.07S±0.08×179.4E±0.1, h10km±11km, n66, σ1s04/75, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.97**	**239**	P	**Pg**		**08 39 26.2**	**-0.6**
MXZ				S	**Sg**		**08 39 37.7**	**-1.7**
WMGZ	**Waiomatatini S**	**1.06**	**224**	P	**Pb**		**08 39 30.2**	**+1.6**
WMGZ				S	**Sg**		**08 39 43.6**	**+1.3**
PKGZ	**Pakihiroa**	**1.30**	**230**	P	**Pn**		**08 39 33.2**	**+0.7**
PKGZ				S	**Sb**		**08 39 49.1**	**-0.5**
PUZ	**Puketiti**	**1.33**	**220**	P	**Pn**		**08 39 33.9**	**+1.1**
PUZ				S	**Sb**		**08 39 49.8**	**-0.4**
HAZ	**Te Kaha**	**1.42**	**241**	P	**Pn**		**08 39 35.1**	**+1.0**
HAZ				S	**Sn**		**08 39 52.6**	**-0.3**
TWGZ	**Tauwhareparae**	**1.55**	**224**	P	**Pn**		**08 39 37.5**	**+1.6**
TWGZ				S	**Sn**		**08 39 56.7**	**+0.5**
RUGZ	**Raukumara Rang**	**1.60**	**235**	P	**Pn**		**08 39 37.7**	**+1.0**
RUGZ				S	**Sn**		**08 39 57.2**	**-0.3**
CNGZ	**Carnagh Statio**	**1.68**	**212**	P	**Pn**		**08 39 39.7**	**+2.1**
TKGZ	**Te Karaka**	**1.81**	**220**	P	**Pn**		**08 39 40.5**	**+1.0**
TKGZ				S	**Sn**		**08 40 02.5**	**-0.1**

$M_{\theta\theta}$-0.39±.11; $M_{\phi\phi}$-2.88±.13; $M_{r\theta}$0.55±.18; $M_{\theta\phi}$0.90±.07; $M_{\theta r}$-3.19±.23; Best double couple: M_{θ}4.56100×10^{16} NP1:ϕ_s168.00000°,δ68.00000°,λ94.00000°. NP2: ϕ_s337.00000°,δ23.00000°,λ80.00000°. Principal axes: T 4.6220, Plg67.0000°, Azm85.0000°; N -0.1270, Plg4.0000°, Azm346.0000°; P -4.5000, Plg23.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

DJA ***02*** *08:39:19.0±0.2,6°N±2°×12°4E±°, h10km,M4.8/27, mb4.8/27,mB5.2/10,MLv5.1/13,Mw(mB)4.6/10, MwMwp4.8/5,Mwp5.1/5*

IDC ***02*** *08:39:24.3±1.6,6°31N×123°97E,h75km±16km,mb4.1/23, mbtmp4.5/25,MS3.9/27,Error ellipse: s-maj=14.5km s-min=9.4km az=88.0*

ISC 02 08:39:17.2±0.7,6°41N±0°03×123°79E±0°03,h14km±4km, n313,σ1§53/313,mb4.8/64,MS4.0/41,7C-12D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.76**	**82**	⇑*eP*		**Pg**	**08 39 30.3**	**-1.7**
SKMP				*eS*		**Sg**	**08 39 38.4**	**-3.6**
CTBH	**Cotabato--PC H**	**0.92**	**30**	⇓*iP*		**Pn**	**08 39 34.5**	**-1.2**
CTBH				*i* S		**Sn**	**08 39 47.7**	**-1.1**
GSPH	**General Santos**	**1.20**	**106**	⇓*iP*		**Pg**	**08 39 41.4**	**+1.0**
GSPH				*i* S		**Sn**	**08 40 01.2**	**+5.3**
KCP	**Kidapawan**	**1.43**	**65**	⇓*iP*		**Pb**	**08 39 41.9**	**-1.8**
KCP				*i* S		**Sb**	**08 40 00.9**	**-0.8**
PAGZ	**Pagadian**	**1.48**	**344**	⇓*eP*		**Pg**	**08 39 43.4**	**-2.3**
PAGZ				*i* S		**Sg**	**08 40 04.4**	**-0.6**
ZCP	**Zamboanga City**	**1.77**	**287**	⇓*iP*		**Pb**	**08 39 47.5**	**-2.1**
ZCP				*i* S		**Sg**	**08 40 11.1**	**-3.3**
DAV	**Davao City (W)**	**1.90**	**70**	P		**Pg**	**08 39 51.4**	**-2.3**
	2µm,0.5s,baz=272,slow=3.0,SNR=34							
DAV				S		**Sg**	**08 40 15.7**	**-2.7**
	7µm,0.9s,baz=80,slow=23,SNR=9.5							
DAV					LR	LR	08 40 44.2	
	comp=Z,17µm,18.5s,baz=249,slow=45							
DAV	**Davao City (W)**	**1.90**	**70**	Pn		**Pb**	**08 39 50.7**	**-1.0**
BUKP	**Musuan**	**1.93**	**41**	⇑*eP*		**Pb**	**08 39 51.0**	**-1.3**
BUKP				*eS*		**Sg**	**08 40 17.4**	**-2.0**
DDMP	**Don Marcelino,**	**1.94**	**99**	⇓*eP*		**Pb**	**08 39 50.7**	**-1.7**
DDMP				*eS*		**Sg**	**08 40 16.5**	**-3.2**
MATI	**Mati**	**2.51**	**78**	⇑*eP*		**Pn**	**08 39 57.3**	**-0.3**
MATI				*eS*		**Sg**	**08 40 41.1**	**+3.1**
SNPH	**Sibulan**	**2.96**	**349**	*eP*		**Pb**	**08 40 07.2**	**-2.7**
SNPH				*i* S		**Sb**	**08 40 45.1**	**-0.8**
BIPH	**Bislig**	**3.10**	**55**	⇓*eP*		**Pn**	**08 40 06.6**	**+0.8**
BIPH				*eS*		**Sn**	**08 40 44.6**	**+1.9**
BUTP	**Butuan**	**3.12**	**36**	⇑*eP*		**Pb**	**08 40 12.2**	**-0.3**
BUTP				*eS*		**Sg**	**08 40 55.0**	**-2.6**
SGSI	**Sangihe**	**3.22**	**147**	P		**Pn**	**08 40 07.1**	**-0.3**
CNOP	**Candoni, Negro**	**3.58**	**342**	⇓*eP*		**Pn**	**08 40 14.2**	**+1.9**
CNOP				*eS*		**Sn**	**08 40 55.9**	**+1.5**
SCPH	**Surigao**	**3.75**	**27**	⇓*eP*		**Pn**	**08 40 14.8**	**+0.1**
MSLP	**Maasin**	**3.85**	**16**	⇓*eP*		**Pb**	**08 40 20.7**	**-4.2**
MSLP				*eS*		**Sg**	**08 41 18.5**	**-2.3**
LLP	**Lapu-Lapu**	**3.88**	**3**	*eP*		**Pb**	**08 40 25.2**	**-0.3**
RCP	**Roxas**	**5.22**	**349**	*eP*		Pb	08 40 39.9	-8.3
MYLDM	**Lahad Datu**	**5.40**	**257**	Pn		**Pn**	**08 40 38.6**	**+1.2**
GTOI	**Gorontalo**	**5.79**	**188**	P		**Pn**	**08 40 39.4**	**-3.4**
	0.4nm686nm52nm,0.6s							
KMSI	**Cibinong**	**5.80**	**178**	P		**Pn**	**08 40 42.4**	**-0.5**
	2.3nm224nm,0.5s							
PPR	**Puerto Princes**	**6.02**	**304**	⇓*iP*		**Pn**	**08 40 46.8**	**+0.9**
TOLI2	**Tolitoli**	**6.06**	**210**	Pn		**Pn**	**08 40 42.5**	**-4.0**
MRSI	**Marisa**	**6.18**	**197**	P		**Pn**	**08 40 46.5**	**-1.6**
	1.5nm2µm1µm92nm,0.6s							
TNTI	**Ternate**	**6.65**	**147**			**Pn**	**08 40 54.1**	**-0.5**
TNTI	**Ternate**	**6.65**	**147**	P		**Pn**	**08 40 54.5**	**0.0**
	0.6nm112nm,0.9s							
MPSI	**Mapaga**	**7.17**	**213**	P		**Pn**	**08 41 00.0**	**-1.8**
	0.1nm2µm5.3nm,0.4s							
LUWI	**Luwuk**	**7.47**	**188**	Pn		**Pn**	**08 41 05.3**	**-0.6**
LUWI	**Luwuk**	**7.47**	**188**	P		**Pn**	**08 41 05.5**	**-0.4**
	1.8nm3µm262nm,0.7s							
APSI	**Ampana**	**7.58**	**196**	P		**Pn**	**08 41 07.9**	**+0.5**
	0.6nm602nm28nm,0.5s							
LBMI	**Labuha**	**7.93**	**152**	P		**Pn**	**08 41 11.9**	**-0.2**
	0.4nm864nm36nm,0.9s							
SANI	**Sanana**	**8.69**	**165**	P		**Pn**	**08 41 21.7**	**-0.9**
	35nm,0.9s							
SIJI	**Sorong**	**10.40**	**134**	P		**Pn**	**08 41 46.0**	**-0.1**
	12nm,0.4s,baz=334,slow=17,SNR=5.8							
SIJI					LR	LR	08 46 28.3	
	comp=Z,383nm,18.3s,baz=142,slow=42							
KAPI	**Kappang**	**12.04**	**200**	P		Pn	08 42 12.4	+3.8
	5.8nm,0.3s,baz=216,slow=11,SNR=5.6							
KAPI					LR	LR	08 46 48.5	
	comp=Z,567nm,20.8s,baz=34,slow=37							
SBUM	**Sibu**	**12.18**	**252**	Pn		**Pn**	**08 42 09.5**	**-0.9**
FAKI	**Fak Fak**	**12.54**	**137**	Pn		**Pn**	**08 42 14.2**	**-1.2**
FAKI	**Fak Fak**	**12.54**	**137**	P		**Pn**	**08 42 15.3**	**-0.1**
	30nm,1.1s							
BAKI	**Biak**	**14.44**	**121**	P		P	08 42 52.6	+4.5
MMRI	**Maumere**	**15.03**	**186**	Pn		**Pn**	**08 42 47.0**	**-2.4**
EDFI	**Ende, Flores**	**15.21**	**188**	P		P	08 43 10.0	+13
BATI	**Baumata**	**16.51**	**180**	P		**P**	**08 43 12.5**	**+1.3**
	18nm,0.3s,baz=88,slow=11,SNR=1.6							
TWSI	**Taliwang, Sumb**	**16.55**	**205**	P		P	08 43 19.7	+8.1
KMMI	**Kalianget**	**16.58**	**216**	P		P	08 43 25.5	+14
SMPI	**Sarmi**	**17.08**	**119**	P		**P**	**08 43 20.7**	**+3.2**
SSLB	**Suanglung**	**17.49**	**351**	P		**P**	**08 43 21.3**	**-0.7**
GMJI	**Gumukmas**	**17.87**	**215**	P		P	08 43 38.3	+12
QIZ	**Qiongzhong**	**18.48**	**314**	P		**Pn**	**08 43 33.1**	**+0.1**
QIZ				S		**S**	**08 47 00.9**	**-2.7**
QIZ					pmax	pmax		
	comp=Z,310nm,6.5s							
QIZ					LR	LR		
	comp=N,510nm,16.7s							
QIZ					LR	LR		
	comp=E,550nm,15.1s							
QIZ					LR	LR		
	comp=Z,670nm,15.9s							
GENI	**Genyem**	**18.64**	**118**	P		**Pn**	**08 43 35.6**	**+0.5**
	5µm386nm,1.1s							
UBPT	**Khong Chiam**	**20.01**	**298**	P		Pn	08 43 49.4	-2.1
DSRI	**Dabo**	**20.36**	**251**	P		Pn	08 44 00.6	+5.0
MTN	**Manton Dam**	**20.48**	**159**	P		**P**	**08 43 54.0**	**-0.8**
MTN					IAmb	IAmb	08 44 00.3	
	comp=Z,62nm,1.3s							
JOW	**Kunigami**	**20.75**	**11**	P		Pn	08 43 59.0	-1.1
JOW					IAmb	IAmb	08 44 12.7	
	comp=Z,50nm,1.1s							
LEM	**Lembang**	**20.81**	**231**	P		Pn	08 44 00.5	-0.6
	comp=Z,21nm,0.4s,baz=32,slow=19,SNR=2.2							
	comp=Z,21nm,0.4s							
GUMO	**Guam**	**21.94**	**69**	LR		LR	08 50 53.2	
	comp=Z,295nm,21.2s,baz=221,slow=32							
RGRI	**Rengat**	**22.44**	**253**	P		P	08 44 04.7	-11
KNRA	**Kununurra**	**22.50**	**167**	P		**P**	**08 44 15.1**	**-1.4**
KNRA					IAmb	IAmb	08 44 35.5	
	comp=Z,31nm,0.8s							
IPM	**Ipoh**	**22.74**	**266**	P		**P**	**08 44 18.9**	**-0.3**
IPM					IAmb	IAmb	08 44 23.0	
	comp=Z,89nm,1.9s							
KULM	**Kulim**	**23.04**	**268**	P		**P**	**08 44 20.6**	**-1.7**
KULM					IAmb	IAmb	08 44 31.7	
	comp=Z,63nm,1.8s							
FITZ	**Fitzroy Crossi**	**24.43**	**176**	P		**P**	**08 44 35.1**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=5.7,slow=6.1,SNR=14							
	comp=Z,2.6nm,0.5s							
FITZ	**Fitzroy Crossi**	**24.43**	**176**	P		**P**	**08 44 33.5**	**-2.1**
FITZ					IAmb	IAmb	08 44 46.2	
	comp=Z,40nm,1.6s							
SSE	**Sheshan**	**24.68**	**355**	P		**P**	**08 44 39.4**	**+1.7**
SSE				S		**S**	**08 49 03.2**	**+4.2**
SSE					pmax	pmax		
	comp=Z,6.0nm,0.6s							
SSE					pmax	pmax		
	comp=Z,95nm,5.5s							
SSE					LR	LR		
	comp=Z,91nm,20.3s							
SSE					LR	LR		
	comp=Z,98nm,18.5s							
MANU	**Manus Island**	**25.00**	**109**	P		**P**	**08 44 40.1**	**-0.8**
MANU					IAmb	IAmb	08 44 42.8	
	comp=Z,59nm,1.2s							
PSI	**Prapat**	**25.04**	**263**	P		**P**	**08 44 43.7**	**+2.3**
	comp=Z,4.9nm,0.6s,baz=6.0,slow=17,SNR=6.1							
PSI					LR	LR	08 56 38.8	
	comp=Z,452nm,18.7s,baz=84,slow=41							
	comp=Z,4.9nm,0.6s							
NJ2	**Nanjing**	**25.92**	**350**	*eP*		**P**	**08 44 51.4**	**+2.4**
NJ2					pmax	pmax		
	comp=Z,6.0nm,0.5s							
GSI	**Gunungsitoli**	**26.63**	**260**	P		**P**	**08 44 55.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.00**	**299**	P		**P**	**08 45 01.7**	**+2.7**
	comp=Z,1.9nm,0.3s,baz=122,slow=8.6,SNR=1.8							
CMAR					LR	LR	08 56 05.7	
	comp=Z,366nm,18.3s,baz=105,slow=37							
	comp=Z,1.9nm,0.3s							
ENH	**Enshi**	**27.28**	**332**	P		**P**	**08 45 02.8**	**+1.4**
COEN	**Coen**	**27.93**	**137**	P		**P**	**08 45 06.1**	**-1.2**
COEN					IAmb	IAmb	08 45 22.5	
	comp=Z,22nm,1.1s							
WB0	**Warramunga Arr**	**28.03**	**158**	P		**P**	**08 45 06.5**	**-1.7**
PMG	**Port Moresby**	**28.10**	**124**	P		**P**	**08 45 06.7**	**-2.1**
	comp=Z,4.6nm,0.5s,baz=264,slow=19,SNR=2.0							
PMG					LR	LR	08 55 49.0	
	comp=Z,138nm,21.7s,baz=304,slow=35							
	comp=Z,4.6nm,0.5s							
WRAB	**Tennant Creek**	**28.17**	**159**	P		**P**	**08 45 07.8**	**-1.7**
WRA	**Warramunga Arr**	**28.18**	**159**	P		**P**	**08 45 07.7**	**-1.8**
	comp=Z,7.0nm,0.9s,baz=336,slow=9.8,SNR=35							
	comp=Z,7.0nm,0.9s							
WB2	**Warramunga Arr**	**28.18**	**159**	P		**P**	**08 45 07.3**	**-2.2**
WB2					IAmb	IAmb	08 45 18.6	
	comp=Z,23nm,1.1s							
PZH	**PanZhiHua**	**28.99**	**316**	P		**P**	**08 45 18.4**	**+1.6**
PZH				S		**S**	**08 50 04.1**	**-3.6**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.8s							
PZH					pmax	pmax		
	comp=Z,100nm,6.3s							
PZH					LR	LR		
	comp=Z,650nm,20.6s							
PZH					LR	LR		
	comp=Z,590nm,20.1s							
PZH					LR	LR		
	comp=Z,850nm,18.2s							
KRVT	**Keravat (AS076**	**30.14**	**110**	LR		LR	08 55 34.2	
	comp=Z,400nm,21.7s,baz=58,slow=32							
JHJ	**Hachijo jima 2**	**30.45**	**27**	LR		LR	08 56 04.5	
	comp=Z,216nm,21.9s,baz=253,slow=33							
XAN	**Xi'an**	**30.74**	**335**	P		**P**	**08 45 35.4**	**+3.2**
XAN				S		**S**	**08 50 36.2**	**+1.3**
XAN					pmax	pmax		
	comp=Z,6.0nm,1.2s							
XAN					LR	LR		
	comp=Z,330nm,16.3s							
XAN					LR	LR		
	comp=Z,550nm,14.5s							
XAN					LR	LR		
	comp=Z,510nm,15.5s							
CD2	**Chengdu**	**30.77**	**325**	*eP*		**P**	**08 45 33.7**	**+1.3**
CD2				S		**S**	**08 50 37.7**	**+2.3**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2					LR	LR		
	comp=Z,390nm,15.2s							
CD2					LR	LR		
	comp=Z,400nm,13.2s							
CD2					LR	LR		
	comp=Z,480nm,16.2s							
KSAR	**Wonju Array Be**	**31.11**	**6**	P		**P**	**08 45 36.4**	**+1.1**
KSRS	**Korea Array**	**31.13**	**6**	P		**P**	**08 45 36.5**	**+1.1**
	comp=Z,3.9nm,0.7s,baz=186,slow=10,SNR=14							
	comp=Z,3.9nm,0.7s							
AS31	**Alice Springs**	**31.49**	**162**	P		**P**	**08 45 37.4**	**-1.4**
ASAR	**Alice Springs**	**31.49**	**162**	P		**P**	**08 45 37.8**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=337,slow=7.5,SNR=46							
ASAR					PcP	**PcP**	**08 48 31.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=334,slow=2.5,SNR=2.2							
ASAR					LR	LR	09 01 52.3	
	comp=Z,99nm,18.6s,baz=267,slow=43							
	comp=Z,2.6nm,0.5s							
HNS	**HongShan**	**31.93**	**346**	⇑P		**P**	**08 45 44.7**	**+2.2**
HNS				S		**S**	**08 50 54.5**	**+1.2**
HNS				SS		**SnSn**	**08 52 48.2**	**+6.0**
HNS					pmax	pmax		
	comp=Z,10.0nm,1.4s							
HNS					pmax	pmax		
	comp=Z,140nm,5.0s							
HNS					LR	LR		
	comp=Z,360nm,15.9s							
HNS					LR	LR		
	comp=Z,380nm,19.1s							
HNS					LR	LR		
	comp=Z,470nm,16.7s							
MJAR	**Matsushiro Arr**	**32.76**	**22**	P		**P**	**08 45 48.6**	**-1.2**
	comp=Z,2.6nm,1.0s,baz=192,slow=9.3,SNR=5.6							
MJAR					LR	LR	08 58 16.7	
	comp=Z,302nm,19.9s,baz=201,slow=34							
	comp=Z,2.6nm,1.0s							
BJI	**Beijing**	**34.17**	**350**	P		**P**	**08 46 03.2**	**+1.2**
BJI				S		**S**	**08 51 32.0**	**+4.0**
BJI					pmax	pmax		
	comp=Z,10.0nm,1.2s							
BJI					pmax	pmax		
	comp=Z,130nm,5.9s							
BJI					LR	LR		
	comp=Z,38nm,15.3s							
BJI					LR	LR		
	comp=Z,210nm,16.1s							
BJI					LR	LR		
	comp=Z,250nm,19.0s							
CTA	**Charters Tower**	**34.38**	**140**	LR		LR	09 03 30.1	
	comp=Z,144nm,18.7s,baz=50,slow=42							
LZH	**Lanzhou**	**34.73**	**331**	*eP*		P	08 46 11.2	+4.0
LZH					pP	pwP	08 46 18.3	+3.5
LZH					S	**S**	**08 51 40.3**	**+3.1**
LZH					sS	sS	08 51 51.1	+8.9
LZH					pmax	pmax		
	comp=Z,22nm,1.1s							
LZH					pmax	pmax		
	comp=Z,140nm,4.3s							
LZH					LR	LR		
	comp=Z,240nm,12.2s							
LZH					LR	LR		
	comp=Z,410nm,12.4s							
LZH					LR	LR		
	comp=Z,480nm,14.6s							
BRDH	**Bariadhala**	**34.94**	**301**	LR		LR	09 01 14.7	
	comp=Z,311nm,20.1s,baz=167,slow=37							
SNY	**Shenyang**	**35.27**	**360**	⇑P		**P**	**08 46 12.7**	**+1.2**
SNY				S		**S**	**08 51 45.4**	**+0.6**
SNY					pmax	pmax		
	comp=Z,18nm,1.1s							
SNY					pmax	pmax		
	comp=Z,140nm,3.5s							
HHC	**Hu-ho-hao-te**	**35.99**	**344**	*eP*		**P**	**08 46 20.6**	**+2.7**
HHC					pmax	pmax		
	comp=Z,23nm,0.8s							
HHC					pmax	pmax		
	comp=Z,140nm,7.4s							
HHC					LR	LR		
	comp=Z,480nm,16.1s							
HHC					LR	LR		
	comp=Z,580nm,17.9s							
HHC					LR	LR		
	comp=Z,420nm,14.6s							
CN2	**Changchun**	**37.27**	**2**	*eP*		**P**	**08 46 28.5**	**-0.1**
CN2				S		**S**	**08 52 15.1**	**-0.3**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
CN2					pmax	pmax		
	comp=Z,100nm,3.0s							
CN2					LR	LR		
	comp=Z,200nm,12.0s							
CN2					LR	LR		
	comp=Z,200nm,12.0s							
CN2					LR	LR		
	comp=Z,200nm,16.5s							
XLT	**XiLinHaoTe**	**37.95**	**351**	⇓*iP*		**P**	**08 46 36.3**	**+1.9**
XLT					pP	pwP	08 46 43.9	+1.5
XLT					sP	sP	08 46 48.0	+8.9
XLT					S	**S**	**08 52 26.6**	**+0.7**
XLT				PcS		**PcS**	**08 52 36.9**	**-2.1**
XLT					sS	ScP	08 52 41.4	+3.7
XLT				ScS		**ScS**	**08 56 41.8**	**-4.9**
XLT					pmax	pmax		
	comp=Z,13nm,0.8s							
XLT					pmax	pmax		
	comp=Z,130nm,9.7s							
XLT					LR	LR		
	comp=Z,21nm,14.2s							
XLT					LR	LR		
	comp=Z,190nm,10.1s							
XLT					LR	LR		
	comp=Z,200nm,17.4s							
GTA	**Gaotai**	**39.31**	**330**	*eP*		P	08 46 49.5	+3.4
GTA					pP	pwP	08 46 56.7	+3.0
GTA					sP	sP	08 47 00.4	+10
GTA					S	**S**	**08 52 52.6**	**+5.7**
GTA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,140nm,5.4s							
GTA					LR	LR		
	comp=Z,100nm,16.7s							
GTA					LR	LR		
	comp=Z,270nm,17.1s							
GTA					LR	LR		
	comp=Z,260nm,17.4s							
HNR	**Honiara**	**39.32**	**113**	LR		LR	09 01 46.6	
	comp=Z,216nm,20.5s,baz=306,slow=34							
GOMU	**GeErMu**	**39.78**	**322**	P		**P**	**08 46 53.5**	**+3.2**
GOMU				S		**S**	**08 52 54.9**	**+0.5**
GOMU					pmax	pmax		
	comp=Z,3.0nm,0.8s							
GOMU					LR	LR		
	comp=Z,180nm,16.9s							
GOMU					LR	LR		
	comp=Z,190nm,15.8s							
GOMU					LR	LR		
	comp=Z,240nm,16.2s							
BBOO	**Buckleboo**	**40.72**	**164**	P		**P**	**08 46 56.9**	**-0.7**
BBOO					IAmb	IAmb	08 46 59.0	
	comp=Z,44nm,1.3s							
STKA	**Stephens Creek**	**41.70**	**157**	P		**P**	**08 47 05.6**	**-0.1**
	comp=Z,25nm,1.0s,baz=335,slow=8.9,SNR=35							
	comp=Z,25nm,1.0s							
STKA	**Stephens Creek**	**41.70**	**157**	P		**P**	**08 47 05.3**	**-0.3**
PALK	**Pallekele**	**42.77**	**274**	LR		LR	09 06 05.2	
	comp=Z,198nm,20.6s,baz=194,slow=37							
KLR	**Kul'dur**	**43.20**	**8**	P		**P**	**08 47 18.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=180,slow=4.0,SNR=2.6							
KLR					LR	LR	09 04 57.9	
	comp=Z,160nm,21.6s,baz=214,slow=35							
	comp=Z,1.1nm,0.7s							
ULN	**Ulaanbaatar**	**43.70**	**344**	P		**P**	**08 47 22.9**	**+0.9**
ULN				sP		pwP	08 47 35.8	+6.0
SONM	**Songino Array**	**43.86**	**343**	P		**P**	**08 47 24.8**	**+1.6**
	comp=Z,2.0nm,0.5s,baz=161,slow=9.7,SNR=15							
SONM					LR	LR	09 07 34.6	
	comp=Z,192nm,19.6s,baz=152,slow=38							
	comp=Z,2.0nm,0.5s							
SONM	**Songino Array**	**43.86**	**343**	P		**P**	**08 47 25.1**	**+1.8**
TOO	**Toolangi**	**48.22**	**157**	P		**P**	**08 47 58.2**	**+0.6**
TOO					IAmb	IAmb	08 48 00.4	
	comp=Z,21nm,1.2s							
WMQ	**Urumqi**	**48.86**	**326**	*eP*		**P**	**08 48 05.6**	**+3.0**
WMQ					LR	LR		
	comp=Z,420nm,19.1s							
WMQ					LR	LR		
	comp=Z,520nm,20.5s							
WMQ					LR	LR		
	comp=Z,180nm,19.1s							
WMQ	**Urumqi**	**48.86**	**326**	P		**P**	**08 47 59.5**	**-3.0**
WMQ				pP		**pwP**	**08 48 12.5**	**+2.3**
WMQ				sP		sP	08 48 15.8	+8.5
DZM	**Mont Dzumac**	**50.47**	**125**	*e*LR		LR	09 02 39.2	
	comp=Z,270nm,28.9s							
DZM	**Mont Dzumac**	**50.47**	**125**	LR		LR	09 11 16.0	
	comp=Z,66nm,18.2s,baz=36,slow=38							
MK31	**Makanchi Array**	**53.70**	**326**	P		**P**	**08 48 40.1**	**+1.4**
MKAR	**Makanchi Array**	**53.70**	**326**	P		**P**	**08 48 40.2**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=116,slow=8.5,SNR=14							
	comp=Z,2.3nm,0.7s							
MKAR	**Makanchi Array**	**53.70**	**326**	P		**P**	**08 48 40.1**	**+1.4**
MAKZ	**Makanchi**	**53.88**	**325**	P		**P**	**08 48 41.0**	**+1.0**
NIL	**Nilore**	**53.98**	**307**	P		**P**	**08 48 42.5**	**+1.5**
NIL					IAmb	IAmb	08 48 57.9	
	comp=Z,16nm,0.9s							
NIL	**Nilore**	**53.98**	**307**	P		**P**	**08 48 43.2**	**+2.2**
NIL				sP		**pwP**	**08 48 54.2**	**+4.4**
PETK	**Petropavlovsk-**	**54.14**	**25**	P		**P**	**08 48 42.0**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=202,slow=6.2,SNR=6.9							
PETK					LR	LR	09 09 57.7	
	comp=Z,135nm,21.7s,baz=217,slow=34							
	comp=Z,2.8nm,0.6s							
PETK	**Petropavlovsk-**	**54.14**	**25**	P		**P**	**08 48 41.9**	**0.0**
YAK	**Yakutsk**	**55.67**	**3**	LR		LR	09 15 37.1	
	comp=Z,96nm,18.6s,baz=267,slow=39							
AAK	**Ala-Archa**	**56.41**	**318**	P		**P**	**08 49 01.2**	**+2.5**
	comp=Z,0.8nm,0.3s,baz=116,slow=6.8,SNR=4.4							
	comp=Z,0.8nm,0.3s							
MA2	**Magadan**	**56.89**	**16**	LR		LR	09 14 20.8	
	comp=Z,71nm,20.9s,baz=215,slow=37							
ZAA0	**Zalesovo Array**	**56.89**	**334**	P		**P**	**08 49 02.3**	**+0.7**
ZALV	**Zalesovo Beam**	**56.89**	**334**	P		**P**	**08 49 02.3**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=130,slow=6.0,SNR=5.8							
	comp=Z,2.8nm,0.7s							
ZALV	**Zalesovo Beam**	**56.89**	**334**	P		**P**	**08 49 01.9**	**+0.3**
KBL	**Kabul**	**57.57**	**307**	P		**P**	**08 49 08.2**	**+1.1**
KBL					IAmb	IAmb	08 49 23.0	
	comp=Z,5.8nm,0.7s							
KURBB	**Kurchatov Arra**	**57.91**	**328**	P		**P**	**08 49 10.1**	**+1.3**
	comp=Z,7.7nm,0.8s,baz=130,slow=6.0,SNR=23							
	comp=Z,7.7nm,0.8s							
KURK	**Kurchatov**	**57.92**	**328**	P		**P**	**08 49 09.9**	**+1.1**
KURK	**Kurchatov**	**57.92**	**328**	P		**P**	**08 49 09.5**	**+0.6**
KURK				sP		pwP	08 49 25.0	+8.4
GAR	**Garm**	**57.96**	**312**	P		**P**	**08 49 11.4**	**+1.8**
MSVF	**Nonsavu**	**58.70**	**115**	LR		LR	09 11 27.3	
	comp=Z,104nm,20.6s,baz=192,slow=33							
KK31	**Karatay Array**	**59.28**	**317**	P		**P**	**08 49 20.0**	**+1.4**
KKAR	**Karatay Array**	**59.28**	**317**	P		**P**	**08 49 19.6**	**+1.0**
SHEM	**Shemya Is, Ala**	**61.70**	**32**	LR		LR	09 13 25.9	
	comp=Z,24nm,20.2s,baz=2.5,slow=33							
BVAR	**Borovoye Array**	**63.49**	**327**	P		**P**	**08 49 47.4**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=125,slow=7.6,SNR=13							
	comp=Z,3.0nm,0.8s							
**

baz=265,SNR=8.1
SII Sitkinak Islan 80.29 34 P P 08 51 26.8 -0.9
baz=267
L19K White Mountain 80.33 28 P P 08 51 27.8 +0.1
L19K IAmb IAmb 08 51 29.6
comp=Z,15nm,1.4s
L19K White Mountain 80.33 28 P P 08 51 27.4 -0.4
baz=265,SNR=8.9
N19K Bonanza Creek 80.40 29 P P 08 51 28.2 -0.1
N19K IAmb IAmb 08 51 29.8
comp=Z,22nm,1.2s
N19K Bonanza Creek 80.40 29 P P 08 51 27.9 -0.4
baz=266,SNR=9.8
O19K Port Alsworth 80.44 30 P P 08 51 27.6 -0.7
baz=266
M19K Big River Lodg 80.52 28 P P 08 51 28.9 +0.1
M19K Big River Lodg 80.52 28 P P 08 51 28.5 -0.3
baz=266,SNR=8.3
K20K Telida 80.78 27 P P 08 51 30.2 0.0
baz=266,SNR=7.4
L20K Farewell, AK 80.80 28 P P 08 51 30.1 -0.2
baz=266,SNR=6.7
J20K Nowinta River 80.80 26 P P 08 51 30.8 +0.6
J20K IAmb IAmb 08 51 32.5
comp=Z,15nm,1.4s
J20K Nowinta River 80.80 26 P P 08 51 30.0 -0.2
baz=266,SNR=6.8
OHAK Old Harbor 80.81 33 P P 08 51 30.4 0.0
OHAK IAmb IAmb 08 51 30.6
comp=Z,29nm,1.4s
OHAK Old Harbor 80.81 33 P P 08 51 29.8 -0.6
baz=268
P19K Oil Pt 80.95 31 P P 08 51 30.9 -0.3
baz=267
M20K Styx River 81.12 28 P P 08 51 31.7 -0.4
M20K Styx River 81.12 28 P P 08 51 31.9 -0.2
baz=267,SNR=15
KDAK Kodiak Island 81.21 33 P P 08 51 32.3 -0.3
baz=268
G21K Allakaket 81.25 24 P P 08 51 32.7 +0.1
baz=266
H21K Melozitna Rive 81.47 25 P P 08 51 33.6 -0.2
baz=267,SNR=5.6
N20K Mount Spurr 81.53 29 P P 08 51 33.3 -1.0
baz=268
PPLA Purkeypile 81.60 27 P P 08 51 34.4 -0.4
baz=268,SNR=5.3
KLMR Klimovskoe 81.64 331 *e*P P 08 51 31.0 -3.7
KLMR AMP 08 51 44.2
comp=Z,19nm,1.4s
KLMR *e*PP **PP 08 54 37.4 -3.9**
CAST Castle Rocks 81.67 27 P P 08 51 34.9 -0.1
CAST IAmb IAmb 08 51 36.4
comp=Z,11nm,1.0s
CAST Castle Rocks 81.67 27 P P 08 51 34.3 -0.7
baz=268,SNR=14
I21K Tanana 81.79 25 P P 08 51 35.1 -0.3
baz=267,SNR=8.0
F22K John River 81.83 23 P P 08 51 35.1 -0.6
baz=267
SKT Skwentna 81.88 28 P P 08 51 34.8 -1.2
SKT IAmb IAmb 08 51 35.9
comp=Z,21nm,1.4s
SKT Skwentna 81.88 28 P P 08 51 34.3 -1.7
baz=268,SNR=7.9
CNPM China Poot 81.96 31 P P 08 51 36.3 -0.2
CNPM IAmb IAmb 08 51 39.6
comp=Z,8.7nm,0.8s
E22K Anaktuvuk Pass 82.00 22 P P 08 51 35.7 -0.9
baz=267
G22K Bettles 82.06 23 P P 08 51 36.3 -0.5
baz=268
H22K Ishtalitna Cre 82.07 24 P P 08 51 36.5 -0.5
baz=268
BPAW Bear Paw Mtn. 82.18 26 P P 08 51 37.1 -0.5
baz=268,SNR=6.3
BRSE Bradley Lake S 82.22 31 P P 08 51 36.9 -1.0
baz=269
SUA Susitna One 82.24 29 P P 08 51 37.4 -0.7
SUA IAmb IAmb 08 51 41.4
comp=Z,10nm,0.9s
SUA Susitna One 82.24 29 P P 08 51 36.8 -1.3
baz=269,SNR=8.9
MLY Manley 82.31 25 P P 08 51 37.4 -0.9
baz=269
D23K Nanushuk River 82.45 21 P P 08 51 38.5 -0.4
baz=268
CUT Chulitna 82.48 28 P P 08 51 37.9 -1.2
baz=269
TRF Thorofare Moun 82.48 27 P P 08 51 38.0 -1.3
baz=269,SNR=5.6
C23K Itkillik River 82.50 20 P P 08 51 38.7 -0.4
baz=268
M22K Willow 82.54 29 P P 08 51 38.1 -1.3
baz=270,SNR=8.7
COLD Coldfoot 82.58 23 P P 08 51 39.0 -0.6
baz=269
G23K Bananza Creek 82.64 24 P P 08 51 39.1 -0.9
baz=269
RC01 Rabbit Creek A 82.72 29 P P 08 51 39.6 -0.8
RC01 IAmb IAmb 08 51 40.5
comp=Z,7.5nm,0.7s
RC01 Rabbit Creek A 82.72 29 P P 08 51 39.1 -1.3
baz=270
O22K Cooper Landing 82.73 30 P P 08 51 39.2 -1.3
baz=270
H23K Yukon River 82.83 24 P P 08 51 40.3 -0.7
baz=270
TOLK Toolik Lake Re 82.84 22 P P 08 51 40.8 -0.2
baz=269
SEW Seward 82.87 30 P P 08 51 40.3 -0.8
baz=270,SNR=6.5
PMR Palmer 83.01 29 P P 08 51 40.9 -1.0
baz=270,SNR=11
NEA2 Nenana 83.02 26 P P 08 51 40.6 -1.3
baz=270
MCK McKinley 83.09 27 P P 08 51 41.1 -1.2
baz=270,SNR=8.4
D24K Happy Valley 83.12 21 P P 08 51 42.3 -0.1
baz=270
C24K Franklin Bluff 83.16 21 P P 08 51 41.6 -1.0
baz=270
E24K Your Creek 83.24 22 P P 08 51 42.9 -0.2
baz=270
WAT1 Susitna Watana 83.27 28 P P 08 51 42.1 -1.2
baz=271
KNK Knik Glacier 83.34 29 P P 08 51 43.0 -0.7
baz=271,SNR=6.9
SML Sawmill 83.39 29 P P 08 51 43.3 -0.7
baz=271,SNR=10
PWL Port Wells 83.41 29 P P 08 51 43.3 -0.7
baz=271,SNR=13
F24K Squaw Lake 83.48 23 P P 08 51 43.5 -0.8
baz=271
H24K Noodor Dome 83.51 24 P P 08 51 44.2 -0.3
baz=271,SNR=8.9
WAT6 Susitna Watana 83.65 28 P P 08 51 44.4 -1.1
baz=272,SNR=17
G24K Hadweenzic Riv 83.66 24 P P 08 51 44.9 -0.3
baz=271
M23K Glacier View 83.68 29 P P 08 51 44.2 -1.2
baz=272
DHY Denali Highway 83.80 27 P P 08 51 46.2 0.0
DHY Denali Highway 83.80 27 P P 08 51 45.4 -0.8
baz=272
SCM Sheep Creek Mo 83.87 28 P P 08 51 45.8 -0.6
SCM Sheep Creek Mo 83.87 28 P P 08 51 46.1 -0.3
baz=272,SNR=8.2
HDA Harding Lake 83.94 26 P P 08 51 44.7 -2.0
baz=272,SNR=6.4
IL31 83.96 26 P P 08 51 45.1 -1.5
ILAR Eielson Array 83.96 26 P P 08 51 45.9 -0.9
comp=Z,2.6nm,1.0s,baz=263,slow=4.9,SNR=16
comp=Z,2.6nm,1.0s
ILAR Eielson Array 83.96 26 P P 08 51 44.5 -2.3
D25K Kavik River 83.99 21 P P 08 51 46.0 -0.9
baz=272,SNR=5.1
GLI Glacier Island 84.02 29 P P 08 51 46.5 -0.6
GLI Glacier Island 84.02 29 P P 08 51 46.2 -0.9
baz=272
HIN Hinchinbrook I 84.33 30 P P 08 51 48.8 +0.1
F25K Christian Rive 84.34 23 P P 08 51 48.7 0.0
baz=273,SNR=5.6
H25K Birch Creek 84.34 24 P P 08 51 48.3 -0.3
baz=273
E25K Arctic Village 84.34 22 P P 08 51 48.2 -0.5
baz=273,SNR=6.3
M24K Tolsona, Glenn 84.40 28 P P 08 51 49.1 -0.1
M24K Tolsona, Glenn 84.40 28 P P 08 51 48.3 -0.9
baz=273,SNR=6.2
K24K Donnelly Dome 84.49 26 P P 08 51 48.6 -0.9
baz=273
PRP Porcupine Dome 84.50 25 P P 08 51 48.7 -1.0
baz=273
KLU Klutina 84.55 29 P P 08 51 49.3 -0.7
KLU IAmb IAmb 08 51 50.7
comp=Z,6.1nm,1.0s
KLU Klutina 84.55 29 P P 08 51 49.0 -0.9
baz=273
FYU Fort Yukon 84.56 24 P P 08 51 50.0 +0.3
J25K Salcha River, 84.62 26 P P 08 51 49.1 -1.0
baz=274
DIV Divide 84.65 29 P P 08 51 49.7 -0.7
PAX Paxson 84.67 27 P P 08 51 49.6 -0.9
baz=274,SNR=11
EYAK Cordova Ski Ar 84.69 30 P P 08 51 50.0 -0.6
baz=274,SNR=5.1
BMAR Burnt Mountain 84.75 23 P P 08 51 50.9 +0.1
HARP HAARP 84.86 28 P P 08 51 50.7 -0.7
baz=274
F26K Sheenjek River 84.90 23 P P 08 51 51.1 -0.4
baz=274
RIDG Independent Ri 84.90 27 P P 08 51 50.9 -0.7
RIDG Independent Ri 84.90 27 P P 08 51 50.7 -1.0
baz=274,SNR=16
C27K Jago River 84.91 21 P P 08 51 51.2 -0.3
baz=274,SNR=6.2
G26K Porcupine Rive 85.10 23 P P 08 51 52.7 +0.2
baz=275,SNR=9.4
N25K Chitina, Valde 85.18 29 P P 08 51 53.0 -0.1
N25K IAmb IAmb 08 51 54.8
comp=Z,14nm,1.3s
N25K Chitina, Valde 85.18 29 P P 08 51 52.5 -0.6
baz=274,SNR=7.4
BMRM Bremner River 85.22 29 P P 08 51 53.3 0.0
BMRM IAmb IAmb 08 51 54.7
comp=Z,11nm,1.2s
BMRM Bremner River 85.22 29 P P 08 51 52.3 -1.0
baz=274
SCRK Sand Creek 85.27 26 P P 08 51 53.2 -0.3
baz=275,SNR=11
KAIM Kayak Island 85.40 30 P P 08 51 53.7 -0.4
baz=275
J26L Joseph Creek 85.40 26 P P 08 51 53.3 -0.8
baz=275,SNR=8.6
I26K Coal Creek Min 85.50 25 P P 08 51 53.5 -1.0
I26K Coal Creek Min 85.50 25 P P 08 51 54.1 -0.4
baz=275
L26K Log Cabin Wild 85.64 27 P P 08 51 54.8 -0.5
baz=275,SNR=6.4
E27K Coleen River 85.81 22 P P 08 51 55.9 -0.2
baz=277
M26K Nabesna, AK 85.86 28 P P 08 51 55.7 -0.7
baz=276,SNR=6.7
G27K Doyon Strip 85.95 23 P P 08 51 56.8 0.0
baz=277,SNR=6.0
H27K Steamboat Moun 86.07 24 P P 08 51 57.4 0.0
baz=277,SNR=7.7
K27K Chicken 86.10 26 P P 08 51 57.7 +0.2
K27K Chicken 86.10 26 P P 08 51 57.8 +0.3
baz=276
I27K Kandik River 86.11 25 P P 08 51 57.7 +0.1
baz=277,SNR=12
L27K Beaver Creek, 86.32 27 P P 08 51 58.8 +0.1
L27K IAmb IAmb 08 52 00.1
comp=Z,15nm,1.6s
L27K Beaver Creek, 86.32 27 P P 08 51 58.4 -0.3
baz=277,SNR=5.9
BCAR Beaver Creek A 86.34 27 P P 08 51 58.7 -0.1
M27K Edge Creek, AK 86.38 28 P P 08 51 58.5 -0.6
baz=277
EGAK Eagle 86.40 25 P P 08 51 58.6 -0.3
baz=277
VNDA Vanda 86.45 172 P P 08 51 57.8 -1.1
comp=Z,1.5nm,1.1s,baz=294,slow=6.4,SNR=4.0
comp=Z,1.5nm,1.1s
I29M Ogilvie Camp, 87.51 25 P P 08 52 03.9 -0.5
baz=280,SNR=6.2
FINES FINESS Array B 88.09 332 P P 08 52 06.8 -0.4
comp=Z,2.3nm,0.8s,baz=49,slow=4.2,SNR=4.8
comp=Z,2.3nm,0.8s
K29M Barlow Dome 88.11 26 P P 08 52 07.1 -0.4
baz=281
M30M Minto, Yukon 88.68 27 P P 08 52 10.0 0.0
baz=281
HYT Haines Junctio 88.68 29 P P 08 52 09.8 -0.4
baz=281
PPT2 Papeete2 88.72 108 *e*LR LR 09 20 22.9
comp=Z,163nm,23.5s
P30M Million Dollar 89.08 30 P P 08 52 11.2 -0.8
baz=281
N31M Braeburn, Yuko 89.37 28 P P 08 52 12.1 -1.2
baz=282
TBI Tubuai 89.54 113 *e*LR LR 09 20 44.8
comp=Z,110nm,23.5s
SKAG Skagway 90.03 30 P P 08 52 14.5 -1.8
baz=283
FARO Faro, Yukon 90.32 27 P P 08 52 16.1 -1.6
baz=284
SIT Sitka 90.55 32 P P 08 52 17.3 -1.5
baz=282
R32K Eaglecrest 90.70 31 P P 08 52 18.2 -1.4
baz=283
N32M Quiet Lake 90.72 28 P P 08 52 18.5 -1.1
baz=284
P32M Atlin 90.80 30 P P 08 52 19.3 -0.7
baz=284
MMPY Sheldon Lake, 91.16 27 P P 08 52 21.0 -0.7
baz=286
R33M Jennings River 92.20 30 P P 08 52 25.6 -1.0
baz=286
WRAK Wrangell Islan 92.30 33 P P 08 52 26.4 -0.5
baz=285
S34M Telegraph Cree 92.53 31 P P 08 52 27.5 -0.5
baz=286
TGTN Hyland Airport 92.83 27 P P 08 52 28.6 -0.8
baz=289
V35K Ketchikan 92.99 34 P P 08 52 29.6 -0.5
baz=286
WTLY Watson Lake, Y 93.03 29 P P 08 52 30.3 0.0
WTLY IAmb IAmb 08 52 31.3
comp=Z,7.7nm,1.2s
WTLY Watson Lake, Y 93.03 29 P P 08 52 29.8 -0.5
baz=288
MBAR Mbarara 93.09 270 LR LR 09 32 03.4
comp=Z,49nm,20.5s,baz=111,slow=34
T35M Bob Quinn 93.26 32 P P 08 52 30.9 -0.5
baz=287
TAOE Nuku Hiva Isla 96.94 98 *e*LR LR 09 24 11.3
comp=Z,255nm,29.7s
LSZ Lusaka 97.04 255 LR LR 09 34 49.1
comp=Z,75nm,18.3s,baz=138,slow=34
MNTX Cornudas Mount 119.73 48 P PKPdf 08 58 06.0 -1.7
baz=300
JCT Junction City 124.43 46 P PKPdf 08 58 15.0 -1.7
baz=304
CCM Cathedral Cave 125.05 34 P PKiKP 08 58 16.5 -1.5
baz=316
MIAR Mount Ida 126.11 38 P PKPdf 08 58 18.2 -1.6
baz=312
BLA Blacksburg 131.06 26 P PKiKP 08 58 28.3 -1.8
baz=327

IDC ***02*** *08:40:18.3₃0.5,0.°12N×17.°00W,h0km,mb4.4/22, mbtmp4.4/25,ML4.5/3,MS4.1/67,Error ellipse: s-maj=16.8km s-min=12.3km az=124.0*
GCMT ***02*** *08:40:20.3₃0.2,0.°23N±0.°02×16.°83W±0.°02,h12km, MW4.9/113,Moment Tensor Solution. s38,c42; s113,c163; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}=3.11±.07; $M_{\theta\theta}$2.06±.07; $M_{\phi\phi}$1.06±.07; $M_{r\theta}$0.84±.30; $M_{\theta\phi}$-1.12±.06; $M_{\phi r}$-1.19±.29; Best double couple: M₀3.28200×10¹⁶ NP1:φ8312.00000°,δ58.00000°, λ-81.00000°. NP2:φ8116.00000°,δ33.00000°, λ-103.00000°. Principal axes: T 3.0850, Plg12.0000°, Azm35.0000°; N 0.4030, Plg7.0000°, Azm127.0000°; P -3.4780, Plg76.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***02*** *08:40:21.3₃1.8,0.°19N±0.°07×16.°86W±0.°10,h10km±1km, mb4.9/37 Error ellipse: s-maj=17.1km s-min=10.7km*

az=287.0
ISC 02 08:40:20.4±0.3,0.°18N±0.°06×16.°84W±0.°07,h13km,n146, σ1977/96,mb4.8/36,MS4.2/67,3C-1D,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.29**	**164**	T	T	08 51 43.1	
	baz=342,slow=74,SNR=593						
H10N3	**ASCENSION HYDR**	**8.30**	**164**	T	T	08 51 46.2	
	baz=342,slow=74,SNR=610						
H10N1	**ASCENSION HYDR**	**8.31**	**164**	T	T	08 51 47.2	
	baz=342,slow=74,SNR=1038						
ASCN	**Ascension**	**8.43**	**163**	Pn	**Pn**	**08 42 22.6**	**+0.3**
H10S3	**ASCENSION HYDR**	**9.32**	**167**	T	T	08 53 02.4	
	baz=235,slow=74,SNR=118						
H10S2	**ASCENSION HYDR**	**9.34**	**167**	T	T	08 53 01.2	
	baz=345,slow=74,SNR=31						
LIC	**Lamto**	**13.23**	**63**	*e*P	**Pn**	**08 43 28.4**	**+0.3**
	30nm,0.6s						
TIC	**Toumodi**	**13.43**	**61**	*e*P	**Pn**	**08 43 30.1**	**-0.7**
	15nm,0.4s						
KIC	**Kosan Boka**	**13.54**	**63**	*e*P	**Pn**	**08 43 29.8**	**-2.6**
	29nm,0.5s						
DBIC	**Dimbokro**	**13.58**	**61**	Pn	**Pn**	**08 43 31.9**	**-1.0**
	4.0nm,0.3s,baz=262,slow=14,SNR=28						
DBIC				Sn	Sn	08 45 53.2	-11
	0.4nm,0.3s,baz=340,slow=17,SNR=1.5						
DBIC				LR	LR	08 47 48.4	
	comp=Z,1μm,21.0s,baz=252,slow=33						
DBIC	**Dimbokro**	**13.58**	**61**	Pn	**Pn**	**08 43 32.4**	**-0.5**
BBTS	**Babate**	**14.39**	**1**	Pn	**Pn**	**08 43 42.1**	**-1.9**
	1.7nm,0.3s,baz=180,slow=5.1,SNR=4.1						
BBTS				Sn	Sn	08 46 11.7	-12
	6.3nm,0.3s,baz=150,slow=20,SNR=10						
BBTS				LR	LR	08 49 09.7	
	comp=Z,2μm,18.6s,baz=210,slow=37						
	22nm,0.4s						
KOWA	**Kowa**	**19.06**	**41**	P	**P**	**08 44 42.8**	**+0.1**
	1.5nm,0.3s,baz=213,slow=10,SNR=66						
KOWA				S	Sn	08 48 02.0	-15
	10.0nm,0.6s,baz=232,slow=19,SNR=1.8						
KOWA				LR	LR	08 51 33.1	
	comp=Z,2μm,19.7s,baz=232,slow=35						
	43nm,0.7s						
KOWA	**Kowa**	**19.06**	**41**		**P**	**08 44 42.6**	**-0.1**
KOWA				IAmb	IAmb	08 44 47.6	
	comp=Z,57nm,0.8s						
RCBR	**Riachuelo**	**19.95**	**252**	P	**P**	**08 44 50.3**	**-2.1**
	comp=Z,1.7nm,0.3s,baz=46,slow=6.7,SNR=8.3						
RCBR				LR	LR	08 50 26.6	
	comp=Z,671nm,20.4s,baz=210,slow=31						
	comp=Z,16nm,1.0s						
TOA0	**Torodi Ar. Sit**	**22.43**	**54**	P	**P**	**08 45 19.0**	**-0.3**
TOA0				IAmb	IAmb	08 45 22.4	
	comp=Z,39nm,0.8s						
TORD	**Torodi Ar. Bea**	**22.43**	**54**	P	**P**	**08 45 20.0**	**+0.7**
	comp=Z,30nm,0.8s,baz=238,slow=8.5,SNR=60						
TORD				S	**S**	**08 49 16.2**	**-9.3**
	comp=Z,5.8nm,0.9s,baz=237,slow=27,SNR=4.3						
TORD				LR	LR	08 53 17.6	
	comp=Z,936nm,20.0s,baz=210,slow=34						
	comp=Z,30nm,0.8s						
TORD	**Torodi Ar. Bea**	**22.43**	**54**	P	**P**	**08 45 19.6**	**+0.3**
TORD				IAmb	IAmb	08 45 23.0	
	comp=Z,81nm,1.6s						
TAM	**Tamanrasset**	**31.28**	**43**	P	P	08 46 35.9	-4.6
TAM				IAmb	IAmb	08 46 38.7	
	comp=Z,28nm,1.9s						
MDT	**Midelt**	**34.45**	**18**	P	**P**	**08 47 08.9**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=203,slow=15,SNR=5.0						
MDT				LR	LR	09 01 02.4	
	comp=Z,815nm,19.9s,baz=203,slow=36						
	comp=Z,2.1nm,0.7s						
BDFB	**Brasilia**	**34.57**	**242**	P	**P**	**08 47 07.2**	**-2.2**
	comp=Z,8.9nm,1.1s,baz=57,slow=7.0,SNR=5.4						
BDFB				LR	LR	08 58 49.2	
	comp=Z,352nm,21.9s,baz=108,slow=32						
	comp=Z,8.9nm,1.1s						
BDFB	**Brasilia**	**34.57**	**242**	P	**P**	**08 47 09.1**	**-0.3**
BDFB				IAmb	IAmb	08 47 25.2	
	comp=Z,20nm,1.4s						
MDP	**Montagnes des**	**36.09**	**278**	LR	LR	08 59 33.0	
	comp=Z,152nm,21.5s,baz=98,slow=32						
TSUM	**Tsumeb**	**38.87**	**122**	LR	LR	09 00 26.0	
	comp=Z,289nm,18.4s,baz=329,slow=31						
PAB	**San Pablo**	**40.81**	**15**	P	**P**	**08 48 01.5**	**-0.3**
ESDC	**Sonseca Array**	**41.03**	**15**	P	**P**	**08 48 02.9**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=203,slow=8.5,SNR=5.4						
ESDC				PP	**PP**	**08 49 37.5**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=197,slow=11,SNR=5.7						
ESDC				PcP	**PcP**	**08 50 03.6**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=193,slow=2.8,SNR=4.8						
ESDC				LR	LR	09 05 48.5	
	comp=Z,455nm,18.8s,baz=195,slow=37						
	comp=Z,0.3nm,0.4s						
ESDC	**Sonseca Array**	**41.03**	**15**	P	**P**	**08 48 06.0**	**+2.5**
KEST	**Kesra**	**42.95**	**32**	P	**P**	**08 48 21.6**	**+2.3**
	comp=Z,2.6nm,0.6s,baz=221,slow=17,SNR=2.3						
KEST				PP	**PP**	**08 50 00.9**	**+1.7**
	comp=Z,3.4nm,0.7s,baz=342,slow=11,SNR=2.1						
KEST				LR	LR	09 07 20.3	
	comp=Z,917nm,20.7s,baz=188,slow=38						
	comp=Z,2.6nm,0.6s						
BOAV	**Boa Vista**	**43.73**	**273**	P	**P**	**08 48 26.3**	**+0.4**
BOAV				IAmb	IAmb	08 48 29.0	
	comp=Z,14nm,1.3s						
SIV	**San Ignacio**	**46.51**	**248**	LR	LR	09 06 53.7	
	comp=Z,490nm,20.3s,baz=92,slow=34						
VAE	**Valguarnera**	**47.00**	**34**	LR	LR	09 10 29.5	
	comp=Z,618nm,18.6s,baz=164,slow=38						
LSZ	**Lusaka**	**47.05**	**111**	LR	LR	09 05 07.3	
	comp=Z,168nm,21.2s,baz=318,slow=32						
CPUP	**Villa Florida**	**47.07**	**233**	P	**P**	**08 48 50.6**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=65,slow=9.2,SNR=3.5						
CPUP				PcP	**PcP**	**08 50 23.4**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=90,slow=5.1,SNR=3.2						
	comp=Z,1.5nm,0.9s						
MBAR	**Mbarara**	**47.58**	**91**	LR	LR	09 06 47.6	
	comp=Z,342nm,20.2s,baz=232,slow=33						
LBTB	**Lobatse**	**48.06**	**125**	P	**P**	**08 49 00.6**	**+0.6**
	comp=Z,10nm,0.8s,baz=293,slow=7.4,SNR=16						
LBTB				LR	LR	09 06 43.0	
	comp=Z,100nm,19.2s,baz=232,slow=33						
	comp=Z,10nm,0.8s						
LBTB	**Lobatse**	**48.06**	**125**	P	**P**	**08 49 01.3**	**+1.2**
LBTB				IAmb	IAmb	08 49 03.2	
	comp=Z,14nm,0.9s						
SUR	**Sutherland**	**48.06**	**136**	P	**P**	**08 49 00.8**	**+0.7**
	comp=Z,12nm,0.8s,baz=307,slow=14,SNR=5.4						
SUR				LR	LR	09 04 42.2	
	comp=Z,180nm,21.6s,baz=310,slow=30						
	comp=Z,12nm,0.8s						
SUR	**Sutherland**	**48.06**	**136**	P	**P**	**08 49 01.1**	**+1.0**
BOSA	**Boshof**	**49.38**	**129**	P	**P**	**08 49 10.6**	**+0.3**
	comp=Z,13nm,0.9s,baz=296,slow=7.5,SNR=13						
BOSA				LR	LR	09 06 28.1	
	comp=Z,106nm,19.5s,baz=302,slow=32						
	comp=Z,13nm,0.9s						
BOSA	**Boshof**	**49.38**	**129**	P	**P**	**08 49 10.9**	**+0.7**
BOSA				IAmb	IAmb	08 49 12.9	
	comp=Z,16nm,0.9s						
LATE	**Laterza**	**49.46**	**28**	P	**P**	**08 49 11.1**	**+0.6**
TIP	**Timpagrande**	**49.51**	**34**	P	**P**	**08 49 12.4**	**+1.5**
TIP				IAmb	IAmb	08 49 16.1	
	comp=Z,29nm,1.5s						
PAOL	**Paolisi**	**49.63**	**31**	P	**P**	**08 49 12.8**	**+1.0**
PAOL				IAmb	IAmb	08 49 55.5	
	comp=Z,22nm,1.4s						
SJG	**San Juan**	**51.61**	**293**	LR	LR	09 05 52.7	
	comp=Z,61nm,21.8s,baz=84,slow=30						
BAUV	**El Baul**	**51.72**	**281**	P	**P**	**08 49 28.1**	**+0.1**
DAVOX	**Davos/Dischmat**	**51.97**	**23**	LR	LR	09 11 27.1	
	comp=Z,249nm,20.4s,baz=262,slow=36						
CTI	**Castel Tesino**	**52.09**	**25**	P	**P**	**08 49 32.6**	**+2.3**
IDI	**Anoyia**	**52.24**	**44**	LR	LR	09 14 51.7	
	comp=Z,169nm,18.3s,baz=205,slow=40						
TRI	**Trieste**	**52.75**	**27**	P	**P**	**08 49 37.5**	**+2.4**
TRI				IAmb	IAmb	08 49 48.3	
	comp=Z,13nm,1.1s						
LPAZ	**La Paz**	**53.15**	**249**	P	**P**	**08 49 38.0**	**-1.3**
	comp=Z,2.4nm,1.0s,baz=63,slow=4.4,SNR=5.8						
LPAZ				PcP	**PcP**	**08 50 46.6**	**-0.9**
	comp=Z,2.2nm,1.0s,baz=153,slow=2.3,SNR=2.4						
LPAZ				LR	LR	09 11 20.8	
	comp=Z,223nm,19.0s,baz=76,slow=35						
	comp=Z,2.4nm,1.0s						
PRED	**Cave del Predi**	**53.23**	**26**	P	**P**	**08 49 40.4**	**+1.7**

PRED					IAmb	IAmb	08 49 56.2	
	comp=Z,16nm,1.4s							
KMBO	**Kilima Mbogo**	**54.10**	**92**	LR	LR	LR	09 10 31.6	
	comp=Z,246nm,21.1s,baz=279,slow=33							
SDV	**Santo Domingo**	**54.26**	**281**	LR	LR	LR	09 11 47.9	
	comp=Z,61nm,18.6s,baz=87,slow=35							
DIVS	**Divibare**	**54.63**	**32**	P		**P**	**08 49 49.1 +0.1**	
GERES	**GERESS Array B**	**55.16**	**24**	P		**P**	**08 49 53.3 +0.5**	
	comp=Z,1.5nm,0.6s,baz=214,slow=8.3,SNR=10							
GERES				PP		**PP**	**08 51 50.7 -5.6**	
	comp=Z,2.1nm,0.7s,baz=213,slow=10,SNR=2.7							
	comp=Z,1.5nm,0.6s							
GERES	**GERESS Array B**	**55.16**	**24**	P		**P**	**08 49 52.9 +0.2**	
VTS	**Vitosha**	**55.46**	**35**	P		**P**	**08 49 57.1 +2.0**	
LVC	**Limon Verde**	**55.47**	**242**	LR		LR	09 13 17.1	
	comp=Z,138nm,21.7s,baz=75,slow=36							
BANI	**BANI**	**55.56**	**292**	P		**P**	**08 49 56.8 +0.6**	
EKA	**Eskdalemuir Ar**	**56.10**	**9**	LR		LR	09 13 08.2	
	comp=Z,152nm,19.4s,baz=193,slow=35							
VRAC	**Vranov**	**56.73**	**26**	LR		LR	09 16 53.4	
	comp=Z,171nm,18.3s,baz=227,slow=39							
CLL	**Collm**	**56.85**	**22**	*e*Px		Px	08 50 08.0	
CLL				*e*S		**S**	**08 58 01.0 +3.2**	
CLL				*ex*		x	08 58 54.0	
CLL				*e*SSS		SSS	09 04 06.0	
CLL				Lm		MLR	09 15 00.0	
	comp=N,100nm,19.0s							
CLL				Lm		MLR	09 15 00.0	
	comp=E,100nm,21.1s							
CLL				Lm		MLR	09 15 00.0	
	comp=Z,200nm,19.8s							
BRG	**Berggiesshubel**	**56.86**	**23**	*e*P		**P**	**08 50 09.5 +4.8**	
BRG				Amp			08 50 11.1	
	comp=Z,3.3nm,0.8s							
BRG				*ex*		x	08 50 20.2	
BRG				Amp			08 50 21.7	
	comp=Z,14nm,1.4s							
BRG				Amp			09 13 58.0	
	comp=N,0.2nm,20.8s							
BRG				Amp			09 13 59.0	
	comp=Z,0.2nm,21.6s							
BRG				Amp			09 14 04.0	
	comp=E,0.2nm,21.2s							
VYHS	**Vyhne**	**57.13**	**28**	*e*P		**P**	**08 50 10.8 +4.0**	
EIL	**Elat**	**57.32**	**54**	LR		LR	09 14 23.7	
	comp=E,28nm,21.6s,baz=264,slow=36							
ROSC	**El Rosal**	**57.59**	**276**	LR		LR	09 11 50.0	
	comp=E,213nm,21.6s,baz=96,slow=33							
MLR	**Muntele Rosu**	**58.77**	**34**	LR		LR	09 18 10.4	
	comp=E,379nm,18.8s,baz=244,slow=39							
MLR	**Muntele Rosu**	**58.77**	**34**	P		**P**	**08 50 20.8 +2.3**	
MMAI	**Mount Meron Ar**	**58.92**	**51**	LR		LR	09 17 41.7	
	comp=E,186nm,19.4s,baz=56,slow=38							
BRTR	**Keskin Array B**	**60.48**	**43**	P		**P**	**08 50 31.9 +1.5**	
	comp=E,2.9nm,0.9s,baz=248,slow=7.2,SNR=8.8							
BRTR				LR		LR	09 18 20.5	
	comp=E,128nm,20.7s,baz=224,slow=38							
	comp=E,2.9nm,0.9s							
BRTR	**Keskin Array B**	**60.48**	**43**	P		**P**	**08 50 31.1 +0.7**	
NNA	**Nana**	**60.76**	**256**	LR		LR	09 15 58.5	
	comp=E,237nm,18.8s,baz=72,slow=35							
ATAH	**Atahualpa**	**61.82**	**262**	LR		LR	09 15 52.7	
	comp=E,303nm,21.4s,baz=92,slow=35							
PLCA	**Paso Flores**	**63.40**	**223**	LR		LR	09 14 08.2	
	comp=E,202nm,21.9s,baz=76,slow=32							
AKASG	**Malin Array Be**	**63.66**	**31**	P		**P**	**08 50 52.5 +1.2**	
	comp=E,0.5nm,0.3s,baz=232,slow=7.4,SNR=18							
AKASG				LR		LR	09 21 05.8	
	comp=E,231nm,18.2s,baz=236,slow=38							
	comp=E,0.5nm,0.3s							
AKBB	**Malin Array Si**	**63.66**	**31**	P		**P**	**08 50 53.4 +2.0**	
HFS	**Hagfors**	**64.29**	**16**	LR		LR	09 21 38.1	
	comp=E,161nm,18.1s,baz=225,slow=38							
NB2	**NORSAR Subarra**	**64.39**	**15**	P		**P**	**08 50 58.3 +2.3**	
	comp=Z,17nm,1.4s,baz=212,slow=6.5							
NOA	**NORSAR Array B**	**64.39**	**15**	P		**P**	**08 50 57.2 +1.2**	
	comp=Z,1.2nm,0.7s,baz=211,slow=6.8,SNR=4.6							
NOA				LR		LR	09 20 59.0	
	comp=Z,206nm,19.8s,baz=205,slow=38							
	comp=Z,1.2nm,0.7s							
BORG	**Borgarnes**	**64.51**	**358**	LR		LR	09 13 29.2	
	comp=Z,102nm,21.5s,baz=178,slow=31							
NACGM	**Naroch**	**65.13**	**26**⇓	*e*P		P	08 50 52.0 -8.8	
	baz=229							
LL02	**Futaleuf**	**65.34**	**221**	P		**P**	**08 51 01.9 -0.6**	
LL02				IAmb		IAmb	08 53 08.2	
	comp=Z,21nm,1.6s							
LATQ	**La Tuque**	**67.49**	**322**	P		**P**	**08 51 17.2 +1.1**	
SCHQ	**Schefferville**	**68.01**	**331**	LR		LR	09 17 53.6	
	comp=Z,146nm,18.2s,baz=104,slow=33							
KBZ	**Khabaz**	**68.44**	**42**	P		**P**	**08 51 22.7 +0.5**	
	comp=Z,4.9nm,0.9s,baz=242,slow=2.7,SNR=5.8							
KBZ				LR		LR	09 23 45.4	
	comp=Z,74nm,19.8s,baz=262,slow=38							
	comp=Z,4.9nm,0.9s							
GNI	**Garni**	**68.48**	**46**	LR		LR	09 25 56.2	
	comp=Z,46nm,18.3s,baz=293,slow=40							
FINES	**FINESS Array B**	**69.23**	**20**	P		**P**	**08 51 28.1 +1.4**	
	comp=Z,4.0nm,0.6s,baz=228,slow=5.4,SNR=15							
FINES				LR		LR	09 22 12.7	
	comp=Z,197nm,21.1s,baz=234,slow=36							
	comp=Z,4.0nm,0.6s							
OBN	**Obninsk**	**69.82**	**29**	LR		LR	09 25 19.0	
	comp=Z,59nm,18.1s,baz=186,slow=39							
JMIC	**Jan Mayen**	**70.90**	**3**	LR		LR	09 18 06.5	
	comp=Z,56nm,22.0s,baz=260,slow=32							
VNA1	**Neumayer--Stat**	**70.93**	**177**	P		**P**	**08 51 38.4 +1.3**	
VNA2	**Neumayer--Watz**	**71.25**	**177**	P		**P**	**08 51 39.0 0.0**	
	baz=335,slow=4.1							
TKL	**Tuckaleechee C**	**71.29**	**308**	LR		LR	09 17 25.2	
	comp=Z,67nm,21.9s,baz=70,slow=31							
VNA3	**Neumayer Olymp**	**71.45**	**178**	P		**P**	**08 51 41.1 +0.8**	
SNAA	**Sanae**	**72.30**	**175**	P		**P**	**08 51 45.2 -0.2**	
SNAA	**Sanae**	**72.30**	**175**	PcP		**PcP**	**08 52 04.4 +1.0**	
SNAA	**Sanae**	**72.30**	**175**	P		**P**	**08 51 44.6 -0.8**	
	comp=Z,2.4nm,1.0s,baz=333,slow=8.8,SNR=5.3							
SNAA				LR		LR	09 15 32.6	
	comp=Z,134nm,20.9s,baz=12,slow=29							
	comp=Z,2.4nm,1.0s							
TROLL	**Troll, Antarti**	**73.13**	**174**	P		**P**	**08 51 50.5 +0.1**	
PMSA	**Palmer Station**	**73.24**	**199**	LR		LR	09 16 43.4	
	comp=Z,197nm,19.2s,baz=40,slow=30							
FRB	**Frobisher Bay**	**73.84**	**339**	LR		LR	09 18 11.6	
	comp=Z,99nm,20.7s,baz=128,slow=31							
ARCES	**ARCESS Array B**	**74.76**	**14**	LR		LR	09 26 40.8	
	comp=Z,138nm,20.6s,baz=244,slow=37							
SMAI	**San Martin Ant**	**76.31**	**197**	P		**P**	**08 52 09.5 +0.8**	
SMAI				IAmb		IAmb	08 52 10.8	
	comp=Z,11nm,1.2s							
WSAR	**Wadi Sarin**	**76.58**	**66**	LR		LR	09 27 45.0	
	comp=Z,125nm,18.3s,baz=340,slow=37							
143A	**Socs Landing,**	**76.94**	**303**	P		**P**	**08 52 14.0 +1.0**	
143A				IAmb		IAmb	08 52 23.7	
	comp=Z,22nm,1.2s							
GEYT	**Alibeck**	**78.04**	**51**	LR		LR	09 30 01.9	
	comp=Z,190nm,19.8s,baz=280,slow=38							
BELA	**Belgrano 2**	**78.56**	**184**	P		**P**	**08 52 21.1 -0.1**	
BELA				IAmb		IAmb	08 52 22.6	
	comp=Z,6.3nm,0.6s							
SPITS	**Spitsbergen Ar**	**79.89**	**7**	LR		LR	09 23 35.6	
	comp=Z,74nm,21.0s,baz=179,slow=32							
AKTO	**Aktyubinsk**	**80.24**	**39**	LR		LR	09 33 25.6	
	comp=Z,86nm,18.1s,baz=250,slow=40							
B35A	**Bob, Littlefor**	**81.17**	**319**	P		**P**	**08 52 35.6 -0.3**	
B35A				IAmb		IAmb	08 52 37.1	
	comp=Z,13nm,0.9s							
ARU	**Arti**	**81.80**	**33**	LR		LR	09 31 45.8	
	comp=Z,157nm,18.9s,baz=157,slow=38							
AGMN	**Agassiz Nation**	**82.56**	**319**	P		**P**	**08 52 43.4 +0.1**	
ULM	**Lac du Bonnet**	**82.85**	**321**	P		**P**	**08 52 44.2 -0.5**	
	comp=Z,6.5nm,0.9s,baz=105,slow=8.2,SNR=5.4							
ULM				LR		LR	09 27 51.9	
	comp=Z,56nm,18.3s,baz=96,slow=34							
	comp=Z,6.5nm,0.9s							
ZAIG	**Zacatecas**	**85.99**	**293**	P		**P**	**08 53 01.3 -0.3**	
MAW	**Mawson**	**86.24**	**158**	P		**P**	**08 53 02.2 +0.8**	
	comp=Z,4.8nm,0.9s,baz=284,slow=7.7,SNR=5.9							
MAW				LR		LR	09 25 28.3	
	comp=Z,92nm,18.2s,baz=314,slow=31							
	comp=Z,4.8nm,0.9s							
MAW	**Mawson**	**86.24**	**158**	P		**P**	**08 53 01.8 +0.4**	
MSTX	**Muleshoe**	**86.53**	**304**	P		**P**	**08 53 04.1 +0.3**	
TXAR	**Lajitas Array**	**87.15**	**299**	P		**P**	**08 53 06.5 -0.4**	
	comp=Z,2.7nm,1.0s,baz=101,slow=4.7,SNR=16							
	comp=Z,2.7nm,1.0s							
TXAR	**Lajitas Array**	**87.15**	**299**	P		**P**	**08 53 07.1 +0.2**	
TX32	**Lajitas Array**	**87.15**	**299**	P		**P**	**08 53 07.1 +0.2**	
TX32				IAmb		IAmb	08 53 08.9	
	comp=Z,11nm,1.4s							
GDL2	**Guadalupe Moun**	**87.81**	**302**	P		**P**	**08 53 10.5 +0.4**	
BVAR	**Borovoye Array**	**88.18**	**37**	LR		LR	09 36 07.4	
	comp=Z,91nm,18.3s,baz=257,slow=38							
SDCO	**Great Sand Dun**	**88.83**	**308**	P		**P**	**08 53 15.6 +0.6**	
SDCO				IAmb		IAmb	08 53 17.4	
	comp=Z,6.0nm,1.1s							
S22A	**4UR Ranch, Cre**	**89.89**	**308**	P		**P**	**08 53 20.4 +0.4**	
QSPA	**South Pole Qui**	**90.25**	**180**	LR		LR	09 28 19.0	
	comp=Z,135nm,18.1s,baz=215,slow=32							
QSPA	**South Pole Qui**	**90.25**	**180**	P		**P**	**08 53 21.0 +0.3**	
AAK	**Ala-Archa**	**90.86**	**48**	P		**P**	**08 53 25.1 +0.9**	
	comp=Z,1.0nm,0.2s,baz=270,slow=5.1,SNR=1.7							
AAK				LR		LR	09 40 08.2	
	comp=Z,119nm,19.0s,baz=250,slow=39							
	comp=Z,1.0nm,0.2s							
AAK	**Ala-Archa**	**90.86**	**48**	P		**P**	**08 53 24.4 +0.2**	
AAK				IAmb		IAmb	08 53 28.8	
	comp=Z,9.7nm,1.5s							
PDAR	**Pinedale Array**	**91.89**	**313**	P		**P**	**08 53 28.3 -0.8**	
	comp=Z,0.3nm,0.7s,baz=91,slow=6.3,SNR=4.3							
	comp=Z,0.3nm,0.7s							
KSH	**Kashi**	**92.06**	**51**	P		**P**	**08 53 27.4 -2.4**	
KSH				pP		pP	08 53 32.2 -0.4	
KSH				pmax		pmax		
	comp=Z,4.0nm,0.5s							
QLMT	**Earthquake Lak**	**93.14**	**315**	P		**P**	**08 53 35.4 +0.6**	
KURBB	**Kurchatov Arra**	**93.28**	**39**	LR		LR	09 42 41.9	
	comp=Z,59nm,18.2s,baz=261,slow=40							
YKA	**Yellowknife Ar**	**93.44**	**333**	LR		LR	09 31 20.6	
	comp=Z,95nm,19.4s,baz=130,slow=33							
MKAR	**Makanchi Array**	**96.13**	**43**	LR		LR	09 42 46.0	
	comp=Z,74nm,19.1s,baz=280,slow=39							
ELK	**Elko**	**96.26**	**311**	LR		LR	09 31 54.1	
	comp=Z,69nm,21.6s,baz=60,slow=32							
ZALV	**Zalesovo Beam**	**96.72**	**36**	LR		LR	09 42 19.0	
	comp=Z,119nm,18.5s,baz=278,slow=38							
NEW	**Newport**	**96.72**	**319**	LR		LR	09 32 54.0	
	comp=Z,110nm,20.9s,baz=54,slow=33							
PALK	**Pallekele**	**97.45**	**83**	LR		LR	09 33 57.9	
	comp=Z,102nm,20.2s,baz=19,slow=33							
WMQ	**Urumqi**	**100.34**	**45**	*e*P		**Pdif**	**08 54 07.9 +0.7**	
WMQ				pP		sP	08 54 12.9 +1.8	
PZH	**PanZhiHua**	**115.30**	**61**	PKP		**PKiKP**	**08 59 03.6 +0.8**	
CD2	**Chengdu**	**115.84**	**55**	PKP		**PKiKP**	**08 59 04.0 +0.4**	
HHC	**Hu-ho-hao-te**	**117.98**	**42**	*e*P		**PKPdf**	**08 59 04.1 -3.4**	
TAOE	**Nuku Hiva Isla**	**122.90**	**260**	*e*LR		LR	09 37 19.8	
	comp=Z,267nm,25.5s							
TBI	**Tubuai**	**128.58**	**240**	*e*LR		LR	09 39 55.0	
	comp=Z,128nm,30.0s							
PPT2	**Papeete2**	**130.41**	**247**	*e*LR		LR	09 40 45.0	
	comp=Z,110nm,23.0s							
STKA	**Stephens Creek**	**142.45**	**149**	PKhKP		PKPpre	08 59 49.4	
	comp=Z,1.7nm,0.8s,baz=239,slow=3.3,SNR=4.9							
ASAR	**Alice Springs**	**143.24**	**132**	PKhKP		PKPpre	08 59 51.6	
	comp=Z,2.9nm,0.8s,baz=224,slow=2.6,SNR=21							
WRA	**Warramunga Arr**	**145.61**	**127**	PKPbc		**PKPdf**	**08 59 59.1 -0.5**	
	comp=Z,8.6nm,1.0s,baz=238,slow=2.4,SNR=28							

*IDC **02** 08:44:44.2±3.4,54˚.19N×87˚.40E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=32.2km s-min=19.2km az=33.0*
*NNC **02** 08:44:46.9±2.7,54˚.17N×87˚.13E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=47.4km s-min=17.0km az=6.0, Suspected Mining explosion.*

ISC 02 08:44:43.5±4.2, 54˚.4N±0˚.3×87˚.2E±0˚.2, h0km, n7, σ0s54/7, 3C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**252**	*i*		08 53 30.0	
	baz=82,slow=320,SNR=1.0						
ZAA0	**Zalesovo Array**	**1.50**	**252**	⇑P		**Pg**	**08 45 12.5 +0.2**
	0.4nm,0.2s						
ZAA0				⇑S		**Sg**	**08 45 31.4 -0.3**
	2.6nm,0.4s						
ZALV	**Zalesovo Beam**	**1.50**	**252**	Pg		**Pn**	**08 45 11.1 -0.6**
	4.9nm,0.3s,baz=84,slow=16,SNR=29						
ZALV				Lg		Lg	08 45 33.3
	6.6nm,0.3s,baz=71,slow=29,SNR=20						
KURBB	**Kurchatov Arra**	**6.54**	**238**	Pn		**Pn**	**08 46 21.4 +0.5**
	0.1nm,0.3s,baz=53,slow=13,SNR=4.0						
KURBB				Lg		Lg	08 48 12.5
	0.1nm,0.3s,baz=48,slow=34,SNR=1.9						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**6.54**	**238**	⇑Pn		**Pn**	**08 46 21.4 +0.5**
	0.5nm,0.2s						
MK31	**Makanchi Array**	**8.27**	**204**	Pn		**Pn**	**08 46 44.6 0.0**
	0.4nm,0.6s,baz=28,slow=14,SNR=12						
MKAR	**Makanchi Array**	**8.27**	**204**	Pn		**Pn**	**08 46 44.3 -0.3**
	0.2nm,0.3s,baz=28,slow=15,SNR=8.1						
	0.2nm,0.2s						

MAN 02 09:07:37.8, 13˚.73N×120˚.54E, h84km, mb5.6, ML4.6, MS5.0, 2C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.29**	**271**	*i* P		09 07 52.5	+2.0
LUBP				*i* S		09 08 02.9	+3.0
PGP	**Puerto Galera**	**0.46**	**119**⇓	*e*P		09 07 52.8	+1.1
PGP				*i* S		09 08 04.3	+2.4
TGY	**Tagaytay City**	**0.54**	**46**⇓	*e*P		09 07 54.7	+2.3
TGY				*e*S		09 08 06.9	+3.8
LQP	**Lukban**	**1.04**	**68**⇑	*e*P		09 07 59.6	+1.8
LQP				*e*S		09 08 13.7	+0.9
GQP	**Guinayangan**	**1.86**	**84**⇓	*e*P		09 08 10.5	+2.6
PCPH	**Palayan**	**1.90**	**16**⇑	*e*P		09 08 09.7	+1.1
PCPH				*e*S		09 08 32.9	+1.0

WEL 02 09:11:37.9±0.9, 37˚S±4˚×17˚9E±˚, h21km±5km, M3.3/43, ML3.6/51, MLv3.3/43, Error ellipse: s-maj=0.0km s-min=0.0km az=88.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.59**	**248**	P	Pb	09 11 49.0	-0.5
MXZ				S	Sb	09 11 56.3	-1.2
WMGZ	**Waiomatatini S**	**0.66**	**224**	P	Pn	09 11 52.2	+0.1
WMGZ				S	Sn	09 12 02.7	+0.9
PKGZ	**Pakihiroa**	**0.91**	**233**	P	Pn	09 11 55.4	-0.1
PKGZ				S	Sn	09 12 08.4	+0.4
PUZ	**Puketiti**	**0.93**	**219**	P	Pn	09 11 56.2	+0.4
PUZ				S	Sn	09 12 09.1	+0.5
HAZ	**Te Kaha**	**1.04**	**246**	P	Pb	09 11 57.1	-0.1
HAZ				S	Sn	09 12 12.1	+0.8
TWGZ	**Tauwhareparae**	**1.15**	**224**	P	Pb	09 11 59.6	+0.4
TWGZ				S	Sn	09 12 15.6	+1.5
RUGZ	**Raukumara Rang**	**1.21**	**239**	P	Pb	09 12 00.1	-0.1
CNGZ	**Carnagh Statio**	**1.29**	**208**	P	Pb	09 12 01.9	+0.3
TKGZ	**Te Karaka**	**1.42**	**219**	P	Pn	09 12 02.5	0.0
TKGZ				S	Sn	09 12 20.7	+0.1
WIZ	**White Island**	**1.45**	**262**	P	Pb	09 12 03.6	-0.5
MWZ	**Matawai**	**1.52**	**229**	P	Pn	09 12 03.9	0.0
MWZ				S	Sn	09 12 23.0	-0.2
WHRZ	**Whale Island**	**1.68**	**252**	P	Pb	09 12 07.3	-0.8
RAGZ	**Rawiri**	**1.69**	**227**	P	Pn	09 12 06.6	+0.2
URZ	**Urewera**	**1.75**	**238**	P	Pn	09 12 06.7	-0.3
URZ				S	Sn	09 12 29.3	+0.6
PRGZ	**Paritu Road**	**1.80**	**209**	P	Pn	09 12 08.0	+0.2
SNGZ	**Shannon Statio**	**1.94**	**222**	P	Pn	09 12 09.6	-0.1
SNGZ				S	Sn	09 12 32.5	-1.0
EDRZ	**Edgecumbe**	**1.94**	**246**	P	Pn	09 12 10.7	+1.0
MARZ	**Manawahe**	**1.95**	**250**	P	Pn	09 12 10.1	+0.3
KNZ	**Kokohu**	**1.97**	**211**	P	Pn	09 12 09.6	-0.5
OPRZ	**Ohinepanea**	**2.00**	**255**	P	Pn	09 12 10.3	-0.2
RTZ	**Ruatahuna**	**2.03**	**231**	P	Pn	09 12 11.6	+0.6
MUGZ	**Murupara**	**2.09**	**237**	P	Pn	09 12 12.1	+0.4
TARZ	**Mount Tarawera**	**2.16**	**245**	P	Pn	09 12 13.9	+1.1
RAHZ	**Arahi**	**2.17**	**223**	P	Pn	09 12 13.3	+0.4
RRRZ	**Republican Roa**	**2.20**	**242**	P	Pn	09 12 13.8	+0.5
TGRZ	**Tauranga**	**2.20**	**259**	P	Pn	09 12 13.6	+0.3
WHHZ	**Waihua**	**2.21**	**218**	P	Pn	09 12 13.5	0.0
MTHZ	**Maungataniwha**	**2.27**	**228**	P	Pn	09 12 14.5	+0.3
KARZ	**Kaharoa**	**2.28**	**252**	P	Pn	09 12 15.0	+0.6
PRRZ	**Plateau Road**	**2.36**	**240**	P	Pn	09 12 15.9	+0.5
ALRZ	**Allen Road**	**2.42**	**239**	P	Pn	09 12 16.5	+0.2
NMHZ	**Naumai**	**2.45**	**224**	P	Pn	09 12 17.6	+0.8
ARHZ	**Aropaoanui**	**2.48**	**219**	P	Pn	09 12 17.1	0.0
MRHZ	**Matea Rd**	**2.52**	**233**	P	Pn	09 12 18.0	+0.4
BKZ	**Black Stump Fm**	**2.68**	**226**	P	Pn	09 12 19.4	-0.4
KUZ	**Kuaotunu**	**2.68**	**282**	P	Pn	09 12 18.0	-1.9
KUTZ	**Kaahu Road**	**2.75**	**245**	P	Pn	09 12 21.6	+0.7
TOZ	**Tahuroa Road**	**2.80**	**261**	P	Pn	09 12 20.0	-1.5
KWHZ	**Kaweka Forest**	**2.90**	**223**	P	Pn	09 12 22.3	-0.6
KAHZ	**Kahuranaki**	**2.95**	**213**	P	Pn	09 12 22.4	-1.2
GRZ	**Great Barrier**	**3.04**	**290**	P	Pn	09 12 24.7	-0.1
MKAZ	**Moumakai**	**3.07**	**273**	P	Pn	09 12 23.3	-1.9
KRHZ	**Kereru**	**3.08**	**221**	P	Pn	09 12 24.4	-1.0
TMVZ	**Te Maari**	**3.13**	**235**	P	Pn	09 12 26.3	0.0
BHHZ	**Black Hill Sta**	**3.14**	**226**	P	Pn	09 12 25.9	-0.4
ETVZ	**East Tongariro**	**3.14**	**234**	P	Pn	09 12 26.4	+0.1
NTVZ	**North Tongariro**	**3.14**	**235**	P	Pn	09 12 26.5	+0.2
PXZ	**Pawanui**	**3.16**	**211**	P	Pn	09 12 24.5	-1.9
KRVZ	**Karewarewa**	**3.16**	**235**	P	Pn	09 12 26.9	+0.3
NNVZ	**North Ngauruho**	**3.20**	**235**	P	Pn	09 12 27.7	+0.5
WTVZ	**West Tongariro**	**3.21**	**236**	P	Pn	09 12 27.5	+0.3
NGZ	**Ngauruhoe**	**3.23**	**235**	P	Pn	09 12 27.9	+0.3
ETAZ	**East Tamaki Re**	**3.27**	**276**	P	Pn	09 12 27.7	-0.2
MOVZ	**Moawhango**	**3.27**	**230**	P	Pn	09 12 27.8	-0.3
TWVZ	**Taurewa**	**3.29**	**237**	P	Pn	09 12 28.5	+0.2
MBAZ	**Motutapu North**	**3.33**	**279**	P	Pn	09 12 30.0	+1.3
PNHZ	**Pukenui**	**3.37**	**220**	P	Pn	09 12 27.6	-1.8
WPHZ	**Waipukurau**	**3.37**	**216**	P	Pn	09 12 27.8	-1.5
PRHZ	**Porangahau**	**3.45**	**212**	P	Pn	09 12 28.6	-1.9
HIZ	**Hauiti**	**3.47**	**249**	P	Pn	09 12 31.0	+0.2
AWAZ	**Awhitu Peninsu**	**3.48**	**273**	P	Pn	09 12 32.5	+1.6
RVAZ	**Riverhead Bore**	**3.58**	**278**	P	Pn	09 12 31.9	-0.2
TSZ	**Takapari Road**	**3.60**	**220**	P	Pn	09 12 30.7	-1.8
WAZ	**Wanganui**	**3.96**	**231**	P	Pn	09 12 38.0	+0.6
WCZ	**Waipu Caves**	**3.99**	**289**	P	Pn	09 12 37.7	-0.2
NEZ	**North Egmont**	**4.30**	**242**	P	Pn	09 12 44.1	+1.8
OUZ	**Omahuta**	**4.85**	**294**	P	Pn	09 12 50.1	+0.4
CTZ	**Chatham Island**	**7.21**	**154**	P	Pn	09 13 22.5	+0.5

DJA 02 09:11:54.4±0.4, 2˚N±3˚×11˚8E±˚, h10km, M4.3/7, mb5.8/1, MLv3.5/7, Borneo

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**2.15**	**126**	P	Pn	09 12 30.1	-0.3
MPSI				S	Sn	09 12 58.5	+1.4
SMKI	**Samarinda**	**2.24**	**205**	P	Pn	09 12 31.3	-0.3
MRSI	**Marisa**	**3.95**	**106**	P	Pn	09 12 55.3	+0.2
APSI	**Ampana**	**4.30**	**125**	P	Pn	09 13 00.2	+0.3

*TIR **02** 09:22:45.8, 41˚.27N×20˚.40E, h2km±1km, Md2.6, Ml2.6*
*SKO **02** 09:22:46.0, 41˚.18N×20˚.39E, h15km*
*BEO **02** 09:22:46.5±0.7, 41˚.19N×20˚.45E, h0km, ML2.5/5*
*PDG **02** 09:22:48.1±0.6, 41˚.27N×20˚.22E, h10km±1km, ML2.7/10, Error ellipse: s-maj=1.9km s-min=3.3km az=0.0*

ISC 02 09:22:47.3±1.2, 41˚.25N±0˚.03×20˚.38E±0˚.02, h2km±10km, n31, σ0s87/55, 9C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.40**	**285**	*e*Pg		**Pg**	**09 22 54.5 -0.4**
TIR				*e*Sg		**Sg**	**09 23 01.1 +1.0**
TIR	**Tirane**	**0.40**	**285**	*i* Pg		**Pg**	**09 22 54.8 0.0**
TIR				*i* Sg		**Sg**	**09 23 01.3 +1.2**
TIR	**Tirane**	**0.40**	**285**	P		**Pg**	**09 22 54.9 0.0**
	baz=282						
TIR				S		**Sg**	**09 23 01.2 +1.2**
	baz=282						
TIR				AMP			
	comp=N,2.3nm,0.1s,baz=282						
PHP	**Peshkopia**	**0.44**	**6**	P		**Pg**	**09 22 54.7 -1.0**
	baz=4.0						
PHP				S		**Sg**

	baz=318								
EGS		**0.40**	**354**	*i*	P	**Pb**	**09 31 40.6**	**0.0**	
	baz=360								
EGS					*e*S	**Sb**	**09 31 46.0**	**-0.5**	
	baz=360								
ENTT	**Nioudou**	**0.42**	**297**	⇓ *i*	P	**Pg**	**09 31 39.9**	**-0.4**	
	baz=298								
ENTT					*e*S	**Sg**	**09 31 45.1**	**-0.9**	
	baz=298								
LATG	**Datong**	**0.42**	**282**	*e*	P	**Pg**	**09 31 40.7**	**+0.4**	
	baz=281								
LATG					*e*S	**Sg**	**09 31 46.5**	**+0.5**	
	baz=281								
NTC	**Toucheng**	**0.42**	**342**		P	**Pb**	**09 31 41.2**	**+0.1**	
	baz=345								
NTC					*e*S	**Sb**	**09 31 47.2**	**-0.1**	
	baz=345								
ETL	**Fush Village**	**0.43**	**228**	*e*	P	**Pg**	**09 31 40.7**	**+0.1**	
	baz=225								
ETL					*e*S	**Sg**	**09 31 46.8**	**+0.4**	
	baz=225								
NACB	**Ninganchiao**	**0.44**	**232**	*e*	P	**Pg**	**09 31 40.6**	**-0.1**	
	baz=229								
NACB					*e*S	**Sg**	**09 31 47.0**	**+0.3**	
	baz=229								
NDT	**Datong Townshi**	**0.45**	**290**	*e*	P	**Pb**	**09 31 41.9**	**+0.4**	
	baz=290								
NDT					*e*S	**Sg**	**09 31 47.5**	**+0.6**	
	baz=290								
FUSB	**Fushanzhiwuyua**	**0.47**	**311**	*i*	P	**Pb**	**09 31 42.0**	**+0.2**	
	baz=312								
FUSB					*e*S	**Sb**	**09 31 48.9**	**+0.2**	
	baz=312								
TWD	**Chiawan**	**0.51**	**223**		P	**Pg**	**09 31 42.0**	**+0.2**	
	baz=223								
TWD					*e*S	**Sg**	**09 31 49.0**	**+0.3**	
	baz=223								
ETLH	**Xiulin Townshi**	**0.51**	**242**	*e*	P	**Pg**	**09 31 41.9**	**-0.1**	
	baz=240								
ETLH					*e*S	**Sg**	**09 31 49.3**	**+0.4**	
	baz=240								
TIPB	**Shuangxi**	**0.54**	**345**		P	**Pb**	**09 31 43.2**	**+0.2**	
	baz=348								
TIPB					*e*S	**Sb**	**09 31 50.1**	**-0.5**	
	baz=348								
NNSB	**Datong**	**0.54**	**268**	*i*	P	**Pg**	**09 31 43.0**	**+0.4**	
	baz=267								
NNSB					*e*S	**Sg**	**09 31 50.0**	**+0.2**	
	baz=267								
NNS	**Nan Shan**	**0.55**	**269**	*e*	P	**Pg**	**09 31 42.0**	**-0.7**	
	baz=268								
NNS					*e*S	**Sg**	**09 31 48.8**	**-1.3**	
	baz=268								
TWB1	**Santiao Chiao**	**0.56**	**1**	*e*	P	**Pb**	**09 31 43.5**	**+0.2**	
	baz=357								
TWB1					*e*S	**Sg**	**09 31 50.4**	**+0.1**	
	baz=357								
HWA	**Hwalien**	**0.58**	**216**	*e*	P	**Pn**	**09 31 45.1**	**-0.5**	
	baz=216								
YHNB	**Yeheng**	**0.59**	**292**	*i*	P	**Pb**	**09 31 44.1**	**+0.2**	
	baz=292								
YHNB					*e*S	**Sg**	**09 31 51.2**	**-0.2**	
	baz=292								
NSK	**Sanguang**	**0.61**	**292**	*i*	P	**Pg**	**09 31 43.4**	**-0.4**	
	baz=292								
NSK					S	**Sg**	**09 31 50.6**	**-1.2**	
	baz=292								
TWA	**Mucha**	**0.64**	**326**	*e*	P	**Pb**	**09 31 45.1**	**+0.4**	
	baz=328								
TWA					*e*S	**Sb**	**09 31 53.4**	**-0.1**	
	baz=328								
NWF	**Wu-fen Shan**	**0.64**	**344**	*e*	P	**Pb**	**09 31 45.5**	**+0.6**	
	baz=337								
NWF					*e*S	**Sb**	**09 31 54.0**	**+0.3**	
	baz=337								
SXI1	**Grass Mountain**	**0.65**	**352**	*e*	P	**Pb**	**09 31 45.5**	**+0.6**	
	baz=359								
SXI1					*e*S	**Sb**	**09 31 53.9**	**0.0**	
	baz=359								
FUSS	**Fushou**	**0.70**	**253**		P	**Pg**	**09 31 45.8**	**+0.2**	
	baz=252								
FUSS					*e*S	**Sg**	**09 31 54.8**	**0.0**	
	baz=252								
WHF	**Hehuan Shan**	**0.72**	**245**		P	**Pg**	**09 31 45.9**	**0.0**	
	baz=250								
WHF					*e*S	**Sg**	**09 31 55.5**	**0.0**	
	baz=250								
TWT	**Tachien**	**0.76**	**255**	*e*	P	**Pb**	**09 31 46.9**	**+0.1**	
	baz=254								
TWT					*e*S	**Sn**	**09 31 58.7**	**-0.8**	
	baz=254								
TDCB	**Techi**	**0.77**	**255**	*e*	P	**Pg**	**09 31 47.0**	**+0.1**	
	baz=250								
TDCB					*e*S	**Sg**	**09 31 57.1**	**0.0**	
	baz=250								
YM01	**YM01**	**0.79**	**332**	*e*	P	**Pn**	**09 31 48.5**	**+0.1**	
	baz=333								
YM01					*e*S	**Sb**	**09 31 58.0**	**+0.3**	
	baz=333								
NFF	**Wufeng Townshi**	**0.80**	**283**	*e*	P	**Pg**	**09 31 46.7**	**-0.8**	
	baz=283								
NFF					*e*S	**Sg**	**09 31 57.0**	**-1.1**	
	baz=283								
ESL	**Shilin**	**0.81**	**218**	*e*	P	**Pb**	**09 31 47.7**	**+0.2**	
	baz=223								
TWS1	**Kuangyinshan**	**0.82**	**322**	*e*	P	**Pn**	**09 31 49.8**	**+0.9**	
	baz=316								
TWS1					*e*S	**Sn**	**09 32 00.4**	**-0.5**	
	baz=316								
CHGB	**Renai**	**0.83**	**242**	*e*	P	**Pg**	**09 31 47.7**	**-0.3**	
	baz=249								
CHGB					*e*S	**Sb**	**09 32 00.2**	**+1.0**	
	baz=249								
ANP	**Anpu**	**0.84**	**331**	*e*	P	**Pn**	**09 31 49.2**	**-0.1**	
	baz=332								
JYNG	**Yonagunijimaku**	**0.88**	**90**		P	**Pb**	**09 31 49.0**	**+0.1**	
JYNG					*e*S	**Sg**	**09 32 01.0**	**+0.5**	
OWD	**Renai**	**0.88**	**236**	*e*	P	**Pb**	**09 31 48.9**	**-0.1**	
	baz=235								
OWD					*e*S	**Sn**	**09 32 01.8**	**-0.7**	
	baz=235								
NCUH	**Zhongli**	**0.89**	**306**	*e*	P	**Pn**	**09 31 50.7**	**+0.9**	
	baz=313								
NCUH					*e*S	**Sn**	**09 32 03.4**	**+0.9**	
	baz=313								
TWY	**Chenhua**	**0.89**	**337**	*e*	P	**Pb**	**09 31 49.1**	**0.0**	
	baz=329								
LIOB	**Emei**	**0.90**	**283**	*e*	P	**Pn**	**09 31 50.1**	**+0.1**	
	baz=282								
NSTT	**Nanjuang**	**0.91**	**282**	*e*	P	**Pn**	**09 31 50.1**	**0.0**	
	baz=281								
WUSB	**Renai**	**0.91**	**240**	*e*	P	**Pg**	**09 31 49.7**	**+0.3**	
	baz=245								
WUSB					*e*S	**Sn**	**09 32 02.8**	**-0.3**	
	baz=245								
EGFH	**Guangfu**	**0.93**	**213**	*e*	P	**Pn**	**09 31 50.9**	**+0.5**	
	baz=226								
YOJ	**Yonaguni jima**	**0.94**	**89**		P	**Pb**	**09 31 49.8**	**-0.1**	
YOJ					*e*S	**Sg**	**09 32 02.5**	**+0.1**	
WHP	**Taichung City**	**0.96**	**260**	*e*	P	**Pn**	**09 31 51.0**	**+0.2**	
	baz=258								
VWDT	**VWDT**	**1.03**	**228**	*e*	P	**Pg**	**09 31 52.5**	**+0.8**	
	baz=231								
WCS	**Beigang Elemen**	**1.05**	**248**	*e*	P	**Pb**	**09 31 51.4**	**-0.3**	
	baz=247								
HGSD	**Ruisui**	**1.08**	**208**	*e*	P	**Pn**	**09 31 52.6**	**+0.2**	
	baz=222								
NMLH	**Miaoli**	**1.08**	**275**	*e*	P	**Pg**	**09 31 53.8**	**+1.1**	
	baz=274								
EHY	**Hungye**	**1.11**	**213**	*e*	P	**Pb**	**09 31 52.5**	**-0.3**	
	baz=210								
SMLT	**Sun Moon Lake**	**1.13**	**240**	*e*	P	**Pn**	**09 31 53.5**	**+0.2**	
	baz=228								
SSLB	**Suanglung**	**1.14**	**235**	*e*	P	**Pb**	**09 31 53.6**	**+0.2**	
	baz=234								
TYC	**Yuchr**	**1.16**	**242**	*e*	P	**Pn**	**09 31 53.4**	**-0.1**	
	baz=241								
YULB	**Yu-li**	**1.22**	**211**	*e*	P	**Pn**	**09 31 54.2**	**-0.3**	
	baz=209								
IRIF	**Iriomote-Funau**	**1.60**	**94**		P	**Pn**	**09 31 59.2**	**-0.4**	
IRIF					*e*S	**Sn**	**09 32 19.4**	**-0.7**	
HATJ	**Hateruma jima**	**1.71**	**103**	*e*	P	**Pn**	**09 32 01.5**	**+0.4**	
JKRS	**Kuro-shima**	**1.87**	**96**		P	**Pn**	**09 32 03.4**	**+0.1**	
JKRS					S	**Sn**	**09 32 26.2**	**-0.4**	
JIJ	**Ishigaki jima**	**1.98**	**92**	*e*	P	**Pn**	**09 32 04.2**	**-0.5**	
JIJ					*e*S	**Sn**	**09 32 28.1**	**-1.2**	
JTJ	**Tarama**	**2.49**	**85**		P	**Pn**	**09 32 12.3**	**+0.5**	
JTJ					*e*S	**Sn**	**09 32 42.4**	**+0.5**	

*IDC **02** 09:36:24.1±2.2, 19°.77S×178°.05W, h464km±24km, mb3.1/11, mbtmp3.9/12, Error ellipse: s-maj=23.2km s-min=15.7km az=128.0*

ISC 02 09:36:22.9±0.8, **19°.8S**±0°.1×**178°.0W**±0°.1, **h450**km, **n13, σ0°73/13, mb3.5/11, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**4.29**	**298**	P		**P**	**09 37 41.8**	**+1.0**
	7.0nm,0.6s,baz=43,slow=16,SNR=11							
STKA	**Stephens Creek**	**38.13**	**243**	P		**P**	**09 43 02.4**	**+0.3**
	1.6nm,0.5s,baz=81,slow=9.4,SNR=9.9							
	1.6nm,0.5s							
ASAR	**Alice Springs**	**44.72**	**256**	P		**P**	**09 43 54.7**	**-0.1**
	3.4nm,0.6s,baz=95,slow=8.2,SNR=84							
	3.4nm,0.6s							
WRA	**Warramunga Arr**	**44.74**	**261**	P		**P**	**09 43 53.9**	**-1.1**
	0.7nm,0.3s,baz=96,slow=7.5,SNR=40							
	0.7nm,0.3s							
VNDA	**Vanda**	**58.62**	**185**	P		**P**	**09 45 35.2**	**+0.3**
	0.4nm,0.6s,baz=352,slow=7.5,SNR=2.3							
	0.4nm,0.6s							
MJAR	**Matsushiro Arr**	**69.66**	**324**	P		**P**	**09 46 45.9**	**-0.2**
	0.8nm,0.5s,baz=154,slow=15,SNR=2.7							
	0.8nm,0.5s							
QSPA	**South Pole Qui**	**70.28**	**180**	P		**P**	**09 46 49.3**	**-0.2**
	0.9nm,0.7s,baz=351,slow=1.4,SNR=8.9							
	0.9nm,0.7s							
PETK	**Petropavlovsk-**	**75.59**	**345**	P		**P**	**09 47 20.2**	**+0.1**
	1.2nm,0.6s,baz=132,slow=6.0,SNR=2.6							
	1.2nm,0.6s							
NVAR	**Mina Array Bea**	**80.49**	**43**	P		**P**	**09 47 48.1**	**+0.8**
	0.7nm,0.8s,baz=222,slow=9.1,SNR=6.8							
	0.7nm,0.8s							
TXAR	**Lajitas Array**	**86.65**	**57**	P		**P**	**09 48 18.4**	**+0.3**
	0.2nm,0.6s,baz=221,slow=6.6,SNR=3.7							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**87.62**	**13**	P		**P**	**09 48 20.9**	**-0.8**
	0.6nm,0.5s,baz=224,slow=5.0,SNR=10							
	0.6nm,0.5s							
PDAR	**Pinedale Array**	**88.42**	**43**	P		**P**	**09 48 26.4**	**+0.1**
	0.4nm,0.6s,baz=224,slow=2.5,SNR=4.8							
	0.4nm,0.6s							
GERES	**GERESS Array B**	**149.53**	**345**	PKPbc		**PKPbc**	**09 55 19.4**	**-1.1**
	0.3nm,0.4s,baz=8.7,slow=1.3,SNR=4.9							

*NEIC **02** 09:38:58.9±1.5, 29°.2S±0°.1×61°.14E±0°.09, h10km±1km, mb4.7/12, Error ellipse: s-maj=22.5km s-min=10.5km az=205.0*

*IDC **02** 09:38:58.4±0.8, 29°.30S×61°.13E, h0km, mb3.9/10, mbtmp3.9/11, ML4.3/1, MS3.7/11, Error ellipse: s-maj=31.8km s-min=21.0km az=49.0*

ISC 02 09:38:59.4±0.6, **29°.2S**±0°.1×**61°.2E**±0°.1, **h10**km, **n43, σ1§42/28, mb4.2/15, MS3.6/11, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RER	**Riviere de l'E**	**9.39**	**327**	Pn		**Pn**	**09 41 12.0**	**-2.9**
VOI	**Vohitsoka**	**14.87**	**296**	Pn		**Pn**	**09 42 28.8**	**-1.1**
OPO	**Ambohidratompo**	**16.59**	**306**	Pn		**Pn**	**09 42 51.0**	**-1.4**
	0.1nm,0.3s,baz=117,slow=18,SNR=1.8							
OPO				Sn		Sn	09 45 42.6	-14
	0.1nm,0.3s,baz=278,slow=19,SNR=1.4							
	2.4nm,0.5s							
H08S1	**Diego Carcia H**	**23.91**	**29**	T		T	10 09 00.1	
	baz=204,slow=76,SNR=28							
H08S2	**Diego Garcia H**	**23.92**	**29**	T		T	10 09 01.6	
	baz=204,slow=76,SNR=10							
H08S3	**Diego Garcia H**	**23.93**	**29**	T		T	10 09 01.7	
	baz=204,slow=76,SNR=19							
KMBO	**Kilima Mbogo**	**36.05**	**316**	LR		LR	09 59 27.1	
	comp=Z,45nm,19.0s,baz=92,slow=34							
MAW	**Mawson**	**38.47**	**179**	LR		LR	09 58 32.4	
	comp=Z,61nm,20.0s,baz=354,slow=31							
MBAR	**Mbarara**	**40.64**	**309**	LR		LR	10 01 51.7	
	comp=Z,74nm,18.7s,baz=136,slow=34							
ATD	**Arta Tunnel**	**44.18**	**334**	LR		LR	10 02 30.1	
	comp=Z,65nm,20.8s,baz=324,slow=32							
H01W2	**Cape Leeuwin H**	**44.81**	**111**	T		T	10 34 55.0	
	baz=261,slow=75,SNR=12							
H01W3	**Cape Leeuwin H**	**44.81**	**111**	T		T	10 35 09.1	
	baz=261,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**44.83**	**111**	T		T	10 34 56.2	
	baz=261,slow=75,SNR=15							
SNAA	**Sanae**	**54.46**	**200**	LR		LR	10 07 38.2	
	comp=Z,31nm,19.3s,baz=14,slow=32							
SNAA	**Sanae**	**54.46**	**200**	P		**P**	**09 48 25.7**	**-1.0**
QSPA	**South Pole Qui**	**60.98**	**180**	P		**P**	**09 49 12.7**	**0.0**
	1.2nm,1.1s,baz=297,slow=5.1,SNR=2.0							
	1.2nm,1.1s							
QSPA	**South Pole Qui**	**60.98**	**180**	P		**P**	**09 49 12.0**	**-0.7**
QSPA				IAmb		IAmb	09 49 45.9	
	comp=Z,9.0nm,1.5s							
EIL	**Elat**	**63.66**	**335**	LR		LR	10 13 34.4	
	comp=Z,63nm,19.0s,baz=356,slow=33							
VNDA	**Vanda**	**64.01**	**166**	P		**P**	**09 49 31.6**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=292,slow=11,SNR=2.0							
VNDA				LR		LR	10 15 57.6	
	comp=Z,56nm,18.6s,baz=331,slow=35							
	comp=Z,0.5nm,0.7s							
VNDA	**Vanda**	**64.01**	**166**	P		**P**	**09 49 32.6**	**0.0**
ASAR	**Alice Springs**	**64.41**	**104**	P		**P**	**09 49 37.1**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=242,slow=6.2,SNR=14							
	comp=Z,1.2nm,0.7s							
ASAR	**Alice Springs**	**64.41**	**104**	P		**P**	**09 49 34.0**	**-2.2**
AS31	**Alice Springs**	**64.41**	**104**	P		**P**	**09 49 34.2**	**-2.0**
MYLDM	**Lahad Datu**	**64.72**	**68**	P		**P**	**09 49 37.0**	**-1.2**
SBA	**Scott Base**	**64.89**	**167**	P		**P**	**09 49 39.8**	**+1.5**
SBA				IAmb		IAmb	09 50 04.3	
	comp=Z,4.2nm,0.8s							
WRA	**Warramunga Arr**	**66.23**	**100**	P		**P**	**09 49 49.1**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=245,slow=5.6,SNR=12							
	comp=Z,1.3nm,0.8s							
WB2	**Warramunga Arr**	**66.24**	**100**	P		**P**	**09 49 47.3**	**-0.8**
WB2				IAmb		IAmb	09 49 49.2	
	comp=Z,8.0nm,1.4s							
WRAB	**Tennant Creek**	**66.25**	**100**	P		**P**	**09 49 47.6**	**-0.5**
WB0	**Warramunga Arr**	**66.35**	**100**	P		**P**	**09 49 48.3**	**-0.5**
WB0				IAmb		IAmb	09 49 55.0	
	comp=Z,5.3nm,1.2s							
WR0	**Warramunga Arr**	**66.40**	**100**	P		**P**	**09 49 47.5**	**-1.6**
WR0				IAmb		IAmb	09 50 04.4	
	comp=Z,7.5nm,1.4s							
GEYT	**Alibeck**	**66.82**	**357**	P		**P**	**09 49 50.6**	**-0.7**
GEYT				IAmb		IAmb	09 50 28.4	
	comp=Z,7.8nm,1.4s							
GYA0B	**ALIBECK ARRAY**	**66.82**	**357**	P		**P**	**09 49 50.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**71.17**	**298**	P		**P**	**09 50 19.2**	**+0.5**
TORD	comp=Z,1.6nm,0.8s,baz=124,slow=5.5,SNR=7.3			LR		LR	10 21 31.4	
	comp=Z,54nm,19.0s,baz=218,slow=36							
	comp=Z,1.6nm,0.8s							
AAK	**Ala-Archa**	**72.50**	**10**	LR		LR	10 19 25.1	
	comp=Z,348nm,21.6s,baz=242,slow=33							
BRTR	**Keskin Array B**	**73.19**	**338**	P		**P**	**09 50 33.4**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=173,slow=5.7,SNR=2.1							
	comp=Z,0.5nm,0.8s							
KBZ	**Khabaz**	**74.47**	**346**	LR		LR	10 21 54.3	
	comp=Z,30nm,20.5s,baz=141,slow=34							
MKAR	**Makanchi Array**	**77.99**	**15**	P		**P**	**09 50 59.2**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=189,slow=4.6,SNR=4.0							
	comp=Z,0.7nm,0.8s							
BVAR	**Borovoye Array**	**82.25**	**6**	P		**P**	**09 51 22.2**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=172,slow=5.1,SNR=2.4							
	comp=Z,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**85.28**	**14**	P		**P**	**09 51 36.1**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=198,slow=4.2,SNR=1.7							
	comp=Z,0.9nm,0.5s							
SONM	**Songino Array**	**86.75**	**29**	P		**P**	**09 51 43.4**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=197,slow=4.4,SNR=2.6							
	comp=Z,0.6nm,0.4s							
JHJ	**Hachijo jima 2**	**96.81**	**56**	LR		LR	10 29 55.7	
	comp=Z,29nm,18.1s,baz=302,slow=32							
PDAR	**Pinedale Array**	**164.53**	**334**	PKP		**PKPdf**	**09 59 04.2**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=255,slow=1.8,SNR=4.8							
TXAR	**Lajitas Array**	**166.78**	**274**	PKP		**PKPdf**	**09 59 07.4**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=120,slow=3.2,SNR=3.9							

WEL 02 09:40:03.2±1.0, **37°S**±8°×**17°9E**±°, **h16**km±9km, **M3.5**/32, **ML3.8**/36, **MLv3.5**/32, **Error ellipse: s-maj=0.0km s-min=0.0km az=156.5, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.90**	**245**	P		Pb	09 40 19.0	-1.5
MXZ					S	Sb	09 40 29.5	-2.7
WMGZ	**Waiomatatini S**	**0.96**	**229**	P		Pn	09 40 22.8	+0.7
WMGZ					S	Sn	09 40 36.7	+1.2
PKGZ	**Pakihiroa**	**1.22**	**235**	P		Pb	09 40 26.0	0.0
PKGZ					S	Sg	09 40 42.5	-0.2
PUZ	**Puketiti**	**1.23**	**224**	P		Pb	09 40 26.0	0.0
PUZ					S	Sg	09 40 43.8	+0.8
HAZ	**Te Kaha**	**1.36**	**245**	P		Pb	09 40 28.4	+0.1
HAZ					S	Sb	09 40 45.4	+0.1
TWGZ	**Tauwhareparae**	**1.46**	**227**	P		Pn	09 40 27.7	-1.2
RUGZ	**Raukumara Rang**	**1.53**	**239**	P		Pb	09 40 30.9	-0.4
RUGZ					S	Sn	09 40 49.5	-0.1
CNGZ	**Carnagh Statio**	**1.57**	**214**	P		Pb	09 40 32.2	+0.3
TKGZ	**Te Karaka**	**1.71**	**223**	P		Pn	09 40 32.5	+0.1
MWZ	**Matawai**	**1.83**	**231**	P		Pn	09 40 34.6	+0.6
MWZ					S	Sn	09 40 57.1	+0.2
RIGZ	**Rimuhau**	**1.96**	**219**	P		Pn	09 40 36.2	+0.4
WHRZ	**Whale Island**	**1.99**	**250**	P		Pn	09 40 37.3	+1.1
RAGZ	**Rawiri**	**2.00**	**229**	P		Pn	09 40 36.8	+0.4
URZ	**Urewera**	**2.06**	**238**	P		Pn	09 40 37.7	+0.6
PRGZ	**Paritu Road**	**2.07**	**213**	P		Pn	09 40 37.7	+0.3
SNGZ	**Shannon Statio**	**2.24**	**224**	P		Pn	09 40 39.8	+0.2
SNGZ					S	Sn	09 41 08.6	+1.6
KNZ	**Kokohu**	**2.25**	**215**	P		Pn	09 40 39.5	-0.2
KNZ					S	Sn	09 41 08.0	+0.9
EDRZ	**Edgecumbe**	**2.25**	**245**	P		Pn	09 40 40.3	+0.4
MHGZ	**Mahia Peninsul**	**2.26**	**209**	P		Pn	09 40 40.5	+0.6
OPRZ	**Ohinepanea**	**2.31**	**253**	P		Pn	09 40 40.1	-0.5
RTZ	**Ruatahuna**	**2.34**	**232**	P		Pn	09 40 41.6	+0.5
RTZ					S	Sn	09 41 10.4	+0.7
RAHZ	**Arahi**	**2.47**	**225**	P		Pn	09 40 43.3	+0.4
RAHZ					S	Sn	09 41 12.9	+0.2
WHHZ	**Waihua**	**2.51**	**221**	P		Pn	09 40 43.6	+0.3
RRRZ	**Republican Roa**	**2.51**	**242**	P		Pn	09 40 43.4	0.0
MTHZ	**Maungataniwha**	**2.58**	**229**	P		Pn	09 40 44.9	+0.6
MTHZ					S	Sn	09 41 14.9	-0.4
KARZ	**Kaharoa**	**2.59**	**250**	P		Pn	09 40 44.6	+0.1
PRRZ	**Plateau Road**	**2.67**	**240**	P		Pn	09 40 45.4	-0.2
ALRZ	**Allen Road**	**2.73**	**239**	P		Pn	09 40 46.4	-0.1
NMHZ	**Naumai**	**2.76**	**226**	P		Pn	09 40 47.2	+0.4
ARHZ	**Aropaoanui**	**2.77**	**221**	P		Pn	09 40 46.9	0.0
BKZ	**Black Stump Fm**	**2.98**	**228**	P		Pn	09 40 49.9	-0.1
CKHZ	**Cape Kidnapper**	**3.04**	**215**	P		Pn	09 40 49.8	-0.8
KWHZ	**Kaweka Forest**	**3.20**	**225**	P		Pn	09 40 52.2	-0.6
KAHZ	**Kahuranaki**	**3.24**	**216**	P		Pn	09 40 52.4	-0.9
KRHZ	**Kereru**	**3.38**	**223**	P		Pn	09 40 54.7	-0.6
PXZ	**Pawanui**	**3.43**	**214**	P		Pn	09 40 54.5	-1.5
BHHZ	**Black Hill Sta**	**3.45**	**227**	P		Pn	09 40 56.0	-0.3
ETVZ	**East Tongariro**	**3.45**	**235**	P		Pn	09 40 56.1	-0.4
KRVZ	**Karewarewa**	**3.48**	**236**	P		Pn	09 40 56.6	-0.2
MOVZ	**Moawhango**	**3.58**	**231**	P		Pn	09 40 57.8	-0.4
TWVZ	**Taurewa**	**3.60**	**237**	P		Pn	09 40 58.8	+0.3
WPHZ	**Waipukurau**	**3.66**	**217**	P		Pn	09 40 57.6	-1.5
PNHZ	**Pukenui**	**3.67**	**221**	P		Pn	09 40 57.7	-1.6
PRHZ	**Porangahau**	**3.73**	**214**	P		Pn	09 40 58.1	-2.0
HIZ	**Hauiti**	**3.78**	**248**	P		Pn	09 41 01.8	+0.9
TSZ	**Takapari Road**	**3.90**	**222**	P		Pn	09 41 00.8	-1.7
WAZ	**Wanganui**	**4.27**	**232**	P		Pn	09 41 07.7	+0.2
MRZ	**Mangatainoka R**	**4.54**	**219**	P		Pn	09 41 09.7	-1.5

IDC 02 09:44:47.5±3.1, **53°.49N×87°.69E, h0**km, **mbtmp2.7**/2, **ML2.3**/2, **Error ellipse: s-maj=26.6km s-min=15.7km az=68.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**286**	*i*			09 55 50.0	
	baz=104,slow=323,SNR=1.5							
ZALV	**Zalesovo Beam**	**1.77**	**286**	Pn		Pn	09 45 18.0	-1.3
	0.9nm,0.3s,baz=105,slow=12,SNR=7.2							
ZALV				Lg		Lg	09 45 44.0	
	1.6nm,0.3s,baz=107,slow=25,SNR=6.7							
KURBB	**Kurchatov Arra**	**6.33**	**247**	Pn		Pn	09 46 23.2	+1.1
	baz=63,slow=14,SNR=4.3							
KURBB				Lg		Lg	09 48 06.8	
	baz=64,slow=31,SNR=6.1							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**7.54**	**210**	Pn		Pn	09 46 39.7	+1.0
	0.1nm,0.3s,baz=21,slow=12,SNR=2.2							
MKAR				Sn		Sn	09 48 04.9	+0.1
	0.1nm,0.3s,baz=26,slow=23,SNR=1.9							
MKAR				Lg		Lg	09 48 47.5	
	0.1nm,0.3s,baz=21,slow=29,SNR=2.1					

SIV	**San Ignacio**	**9.97**	**37**	P		**Pn**	**09 47 20.7**	**-2.7**
	comp=E,2.2nm,0.3s,baz=231,slow=8.6,SNR=16							
SIV				S		Sn	09 49 06.2	-8.6
	comp=E,1.1nm,0.7s,baz=243,slow=15,SNR=2.0							
LMEL	**Las Melosas**	**10.02**	**194**	Pn		**Pn**	**09 47 22.9**	**-1.1**
MT09	**Talagante**	**10.15**	**198**	Pn		**Pn**	**09 47 22.4**	**-3.3**
MT01	**Popeta**	**10.31**	**199**	Pn		**Pn**	**09 47 25.0**	**-2.6**
BO02	**Sierra Bellavi**	**11.06**	**195**	Pn		**Pn**	**09 47 36.0**	**-1.2**
PTLB	**Pontes e Lacer**	**11.54**	**43**	Pn		**Pn**	**09 47 44.1**	**+0.6**
PTLB	**Pontes e Lacer**	**11.54**	**43**	*eP*		**P**	**09 47 43.9**	**+0.4**
ML02	**Panimavida**	**12.14**	**196**	Pn		**Pn**	**09 47 50.2**	**-0.7**
CRSM	**Crissiumal (Br**	**12.40**	**109**	*eP*		**P**	**09 47 57.2**	**-1.3**
RODS	**Rosario do Sul**	**12.42**	**123**	*eP*		**P**	**09 47 58.2**	**-0.5**
VILB	**Vilhena**	**12.98**	**32**	*eP*		**Pn**	**09 48 01.8**	**0.0**
FRBT	**Francisco Belt**	**13.04**	**101**	*eP*		**P**	**09 48 05.9**	**+0.2**
TRCB	**Terra Rica**	**13.52**	**87**	*eP*		**P**	**09 48 11.4**	**+0.4**
ALGR	**Alto Alegre (B**	**13.60**	**113**	*eP*		**P**	**09 48 12.0**	**+0.1**
CPSB	**Cacapava Do Su**	**13.82**	**120**	*eP*		**P**	**09 48 13.3**	**-0.9**
PTGB	**Pitanga**	**13.89**	**96**	*eP*		**P**	**09 48 15.5**	**+0.3**
ITAB	**Concordia**	**14.02**	**106**	*eP*		**P**	**09 48 16.6**	**+0.1**
ETMB	**Extrema**	**14.26**	**4**	Pn		**Pn**	**09 48 16.7**	**-0.8**
ETMB	**Extrema**	**14.26**	**4**	*eP*		**Pn**	**09 48 16.8**	**-0.8**
TRQA	**Tornquist**	**14.62**	**163**	Pn		**Pn**	**09 48 20.1**	**-1.8**
PCMB	**Pacaembu**	**14.99**	**84**	*eP*		**P**	**09 48 28.1**	**+0.7**
CNLB	**Canela**	**15.57**	**113**	*eP*		**P**	**09 48 33.7**	**-0.1**
GO06	**Curarrehue**	**15.82**	**192**			**P**	**09 48 35.0**	**-1.4**
GO06				IAmb		IAmb	09 48 40.6	
	comp=Z,5.4nm,0.9s							
PDRB	**Porto dos Gac**	**15.98**	**41**	*eP*		**P**	**09 48 38.0**	**-0.3**
ITRB	**Iturama**	**16.32**	**78**	*eP*		**Pn**	**09 48 43.6**	**+0.9**
PLCA	**Paso Flores**	**16.79**	**189**	P		**Pn**	**09 48 48.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=17,slow=8.2,SNR=8.3							
PLCA	**Paso Flores**	**16.79**	**189**	P		**P**	**09 48 46.4**	**-0.7**
PLCA				IAmb		IAmb	09 48 57.5	
	comp=Z,6.3nm,1.1s							
PLCA	**Paso Flores**	**16.79**	**189**	*eP*		**Pn**	**09 48 49.1**	**+0.9**
CLDB	**Colider**	**17.12**	**42**	*eP*		**P**	**09 48 50.6**	**-0.2**
LL04	**Puerto Octay**	**17.29**	**193**	P		**Pn**	**09 48 53.5**	**-0.4**
LL04				IAmb		IAmb	09 49 22.4	
	comp=Z,14nm,1.4s							
BB19B	**Bebedouro**	**17.59**	**84**	*eP*		**P**	**09 48 55.9**	**-0.1**
VAO	**Valinhos**	**18.67**	**91**	*eP*		**P**	**09 49 07.1**	**-0.6**
IPMB	**Ipameri, GO**	**18.82**	**75**	*eP*		**P**	**09 49 09.2**	**-0.1**
LL02	**Futaleuf**	**19.39**	**190**	P		**P**	**09 49 16.6**	**+1.3**
LL02				IAmb		IAmb	09 49 20.4	
	comp=Z,9.2nm,0.8s							
SNDB	**Serra Nova Dou**	**19.40**	**54**	*eP*		**P**	**09 49 15.0**	**-0.6**
PARB	**Paraibuna**	**19.86**	**92**	*eP*		**P**	**09 49 21.0**	**+0.5**
BDFB	**Brasilia**	**19.98**	**69**	P		**P**	**09 49 21.3**	**-0.6**
	comp=Z,23nm,0.9s,baz=237,slow=10,SNR=23							
BDFB	**Brasilia**	**19.98**	**69**	P		**P**	**09 49 22.0**	**+0.1**
BDFB	**Brasilia**	**19.98**	**69**	*eP*		**P**	**09 49 21.4**	**-0.5**
PMNB	**Patos De Minas**	**20.20**	**78**	*eP*		**P**	**09 49 23.7**	**-0.5**
NPGB	**Novo Progresso**	**20.48**	**36**	*eP*		**P**	**09 49 25.7**	**-1.4**
AY01	**Puyuhuapi**	**20.72**	**191**	P		**P**	**09 49 29.1**	**-0.3**
AY01				IAmb		IAmb	09 49 49.9	
	comp=Z,7.9nm,1.2s							
VAS01	**Vassouras-RJ**	**22.00**	**90**	*eP*		**P**	**09 49 42.4**	**-0.4**
ITTB	**Itaituba**	**22.58**	**31**	*eP*		**P**	**09 49 47.7**	**-0.5**
DIAM	**Diamantina, MG**	**22.76**	**80**	*eP*		**P**	**09 49 49.4**	**-0.6**
DUB01	**Friburgo-RJ**	**23.01**	**90**	*eP*		**P**	**09 49 52.2**	**+0.1**
MC01	**Montes Claros**	**23.07**	**76**	*eP*		**P**	**09 49 52.5**	**-0.3**
JANB	**Januaria**	**23.43**	**72**	*eP*		**P**	**09 49 55.0**	**-1.0**
SMTB	**Santa Maria do**	**24.18**	**54**	*eP*		**P**	**09 50 03.2**	**+0.4**
SDBA	**SAO DESIDERIO**	**24.20**	**65**	*eP*		**P**	**09 50 02.8**	**-0.2**
PRPB	**Paraupapebas**	**24.50**	**46**	*eP*		**P**	**09 50 05.6**	**-0.1**
SJMB	**Sao Joao De Ma**	**24.88**	**83**	*eP*		**P**	**09 50 09.4**	**+0.3**
NAN01	**Guarapari, ES**	**26.10**	**81**	*eP*		**P**	**09 50 19.3**	**-0.8**
GUA01	**Guaratinga, BA**	**26.81**	**79**	*eP*		**P**	**09 50 26.2**	**-0.3**
GDU01	**Guandu, BA**	**28.14**	**73**	*eP*		**P**	**09 50 37.5**	**-0.8**
QSPA	**South Pole Qui**	**66.09**	**180**	P		**P**	**09 55 33.0**	**+3.0**
TORD	**Torodi Ar. Bea**	**76.86**	**69**	P		**P**	**09 56 35.8**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=257,slow=4.8,SNR=8.9							
	comp=Z,1.2nm,0.6s							
BOSA	**Boshof**	**80.92**	**117**	P		**P**	**09 56 59.0**	**+1.9**
	comp=Z,1.9nm,0.6s,baz=255,slow=4.8,SNR=3.7							
	comp=Z,1.9nm,0.6s							
MKAR	**Makanchi Array**	**146.79**	**39**	PKPbc		**PKiKP**	**10 04 25.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=310,slow=3.1,SNR=5.5							

*IDC **02** 09:48:52.9±0.9, 30.87N×57.14E, h0km, mb3.6/8, mbtmp3.7/13, ML3.3/5, MS2.9/1, Error ellipse: s-maj=23.7km s-min=18.6km az=114.0*
*TEH **02** 09:48:54.2, 31.01N×57.08E, h8km, ML3.6*
ISC 02 09:48:55.1±0.7, 30.93N±0.04×57.08E±0.04, h10km, n58, σ1§47/59, mb3.7/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHGB	**Koh Gabri**	**0.76**	**223**	*ePg*	**Pg**	**09 49 10.0**	**+0.2**
KHGB				*e*		09 49 25.5	
	comp=Z,20µm,0.6s						
TVBK	**TV Kerman**	**0.98**	**196**	*ePg*	**Pg**	**09 49 14.5**	**+0.5**
TVBK				*e*		09 49 40.8	
	comp=Z,29µm,0.4s						
KRBR	**Kerman**	**0.98**	**196**	*ePg*	**Pg**	**09 49 15.0**	**+1.0**
CHMN	**Cheshme madani**	**1.14**	**159**	*ePg*	**Pg**	**09 49 16.7**	**-0.3**
NGRK	**Negar Kerman**	**1.31**	**193**	*ePg*	**Pn**	**09 49 21.1**	**+1.2**
NGRK				*e*		09 49 22.8	
	comp=Z,37µm,0.4s						
IBAF	**Bafgh**	**1.45**	**297**	*ePg*	**Pn**	**09 49 20.3**	**-1.3**
IBAF				*e*		09 49 23.3	
	comp=Z,10µm,0.4s						
BSRN	**Basiran**	**2.03**	**59**	*ePn*	**Pn**	**09 49 29.8**	**+0.2**
TPRV	**Parvadeh(Tabas**	**2.12**	**351**	*ePn*	**Pn**	**09 49 30.5**	**-0.3**
TPRV				*e*		09 50 03.8	
	comp=Z,16µm,0.6s						
KBAM	**BAM**	**2.15**	**146**	*ePn*	**Pn**	**09 49 32.1**	**+1.0**
IMEH	**Mehriz**	**2.16**	**283**	*ePn*	**Pn**	**09 49 32.0**	**+0.5**
IMEH				*e*		09 50 07.6	
	comp=Z,11µm,0.7s						
IKOO	**Kooshah**	**2.22**	**47**	*ePn*	**Pn**	**09 49 32.4**	**+0.2**
IKOO				*e*		09 50 04.9	
	comp=Z,16µm,0.7s						
ITEG	**Tejag**	**2.42**	**35**	*ePn*	**Pn**	**09 49 34.5**	**-0.5**
ITEG				*e*		09 50 17.4	
	comp=Z,4µm,0.5s						
YZKH	**Yazd**	**2.57**	**305**	*ePn*	**Pn**	**09 49 37.3**	**+0.3**
ICHK	**Chekchek**	**2.63**	**301**	*ePn*	**Pn**	**09 49 38.8**	**+0.9**
TKDS	**Koohdasht(Taba**	**2.68**	**1**	*ePn*	**Pn**	**09 49 38.0**	**-0.4**
TKDS				*e*		09 50 33.7	
	comp=Z,4µm,0.7s						
TABS	**Tabas**	**2.71**	**1**	*ePn*	**Pn**	**09 49 38.8**	**-0.1**
AFRZ	**Afriz**	**2.98**	**33**	*ePn*	**Pn**	**09 49 42.9**	**+0.2**
IDAH	**Dahanechah**	**2.98**	**52**	*ePn*	**Pn**	**09 49 43.2**	**+0.4**
TNSJ	**Nastanj**	**3.05**	**353**	*ePn*	**Pn**	**09 49 43.4**	**-0.2**
ISAD	**Sadrabad**	**3.06**	**290**	*ePn*	**Pn**	**09 49 43.7**	**-0.2**
IMON	**Monand**	**3.15**	**44**	*ePn*	**Pn**	**09 49 46.4**	**+1.4**
IMON				*e*		09 49 57.3	
	comp=Z,3µm,0.4s						
ZHSF	**Zahedan**	**3.46**	**111**	*ePn*	**Pn**	**09 49 50.9**	**+1.7**
IBND	**Bandar-abas**	**3.50**	**188**	*ePn*	**Pn**	**09 49 51.9**	**+2.3**
ZHDN	**Zahedan**	**3.57**	**114**	*ePn*	**Pn**	**09 49 52.2**	**+1.4**
ZHDN				*e*		09 50 51.6	
	comp=Z,3µm,0.6s						
SHRT	**Shahrakht**	**3.84**	**44**	*ePn*	**Pn**	**09 49 54.8**	**+0.4**
NASN	**Na'in**	**4.08**	**298**	*ePn*	**Pn**	**09 49 58.5**	**+0.5**
IRAM	**Ramesheh**	**4.11**	**284**	*ePn*	**Pn**	**09 49 58.8**	**+0.6**
IZEF	**Zefreh**	**4.49**	**297**	*ePn*	**Pn**	**09 50 04.2**	**+0.7**
TBJM	**Torbat-e-JAM**	**5.12**	**31**	*ePn*	**Pn**	**09 50 12.6**	**+0.6**
SHRO	**Shahrood**	**5.13**	**350**	*ePn*	**Pn**	**09 50 12.3**	**+0.2**
KRSH	**Karshahi**	**5.16**	**307**	*ePn*	**Pn**	**09 50 14.0**	**+1.4**
IANJ	**Anjilo**	**5.25**	**330**	*ePn*	**Pn**	**09 50 13.7**	**-0.2**
AHBU	**AHRAM**	**5.43**	**249**	*ePn*	**Pn**	**09 50 17.6**	**+1.5**
SBZV	**Sabzevar**	**5.46**	**5**	*ePn*	**Pn**	**09 50 17.1**	**+0.3**
IPAY	**Payeh**	**5.74**	**16**	*ePn*	**Pn**	**09 50 20.1**	**-0.5**
SRVN	**Saravan**	**5.83**	**126**	*ePn*	**Pn**	**09 50 23.8**	**+2.0**
GHVR	**GHOM**	**6.03**	**308**	*ePn*	**Pn**	**09 50 25.1**	**+0.7**
IVRN	**Varamin**	**6.06**	**313**	*ePn*	**Pn**	**09 50 25.2**	**+0.4**
IKRD	**Kardeh**	**6.17**	**19**	*ePn*	**Pn**	**09 50 27.8**	**+1.2**
DAMV	**Damavand**	**6.35**	**319**	*ePn*	**Pn**	**09 50 29.1**	**+0.1**
KHMZ	**Khomeyn**	**6.64**	**297**	*ePn*	**Pn**	**09 50 34.5**	**+1.4**
BJRD	**Bojnurd**	**6.76**	**2**	*ePn*	**Pn**	**09 50 35.4**	**+0.8**
MRVT	**Maraveh tapeh**	**6.76**	**353**	*ePn*	**Pn**	**09 50 34.9**	**+0.3**
ASAO	**Ashtian**	**6.95**	**303**	*ePn*	**Pn**	**09 50 38.5**	**+1.2**
CHTH	**Charan**	**7.03**	**317**	*ePn*	**Pn**	**09 50 39.2**	**+0.8**
GEYT	**Alibeck**	**7.04**	**7**	Pn	**Pn**	**09 50 38.0**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=196,slow=20,SNR=2.1						
GEYT				Sn	**Sn**	**09 52 06.2**	**+7.9**
	baz=234,slow=42						
GEYT				Lg	Lg	09 52 39.3	
	comp=Z,0.5nm,0.3s,baz=212,slow=36,SNR=1.5						
	comp=Z,1.5nm,0.4s						
WSAR	**Wadi Sarin**	**7.78**	**169**	Pn	**Pn**	**09 50 48.3**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=17,slow=6.2,SNR=5.9						
	comp=Z,8.9nm,0.9s						
ASF	**Jabal al Asfar**	**17.25**	**279**	P	**Pn**	**09 52 54.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=68,slow=5.4,SNR=2.9						
	comp=Z,1.1nm,0.6s						
EIL	**Elat**	**19.15**	**272**	P	**Pn**	**09 53 20.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=110,slow=9.2,SNR=3.0						
EIL				LR	LR	10 02 23.9	
	comp=Z,41nm,20.8s,baz=288,slow=42						
	comp=Z,5.9nm,0.9s						
AKTO	**Aktyubinsk**	**19.50**	**2**	P	**P**	**09 53 23.0**	**+0.7**
	baz=207,slow=12,SNR=2.2						
	comp=Z,1.9nm,0.7s						
BVAR	**Borovoye Array**	**24.12**	**20**	P	**P**	**09 54 09.0**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=189,slow=7.3,SNR=2.6						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**25.35**	**33**	P	**P**	**09 54 23.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=231,slow=8.7,SNR=2.0						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**30.45**	**33**	P	**P**	**09 55 07.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=238,slow=8.2,SNR=2.3						
	comp=Z,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**53.76**	**264**	P	**P**	**09 58 16.8**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=60,slow=6.7,SNR=6.3						
	comp=Z,0.8nm,0.7s						
KSRS	**Korea Array**	**57.72**	**63**	P	**P**	**09 58 43.2**	**-2.9**
	comp=Z,0.8nm,0.7s,baz=261,slow=6.0,SNR=2.4						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**82.79**	**10**	P	**P**	**10 01 19.4**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=330,slow=4.4,SNR=4.2						
	comp=Z,0.4nm,0.8s						
WRA	**Warramunga Arr**	**89.72**	**113**	P	**P**	**10 01 52.9**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=312,slow=3.4,SNR=6.8						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**91.41**	**117**	P	**P**	**10 02 01.2**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=300,slow=5.2,SNR=5.1						
	comp=Z,0.4nm,0.7s						

*SOME **02** 09:48:58.3, 43.73N×69.63E*
*KRNET **02** 09:49:01.0±0.1, 43.31N×69.48E, mb3.1*
*NNC **02** 09:49:01.2±1.4, 43.65N×69.75E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=8.5km s-min=7.2km az=80.0, Suspected Mining explosion.*
ISC 02 09:49:03.9±2.1, 43.53N±0.08×70.14E±0.09, h0km, n12, σ1§04/18, 10C, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.51**	**147**	*iP*	**Pb**	**09 49 15.6**	**-0.1**
	1.3nm,0.2s,baz=316,slow=16,SNR=118						
KK31				*iS*	**Sn**	**09 49 27.2**	**-0.7**
	21nm,0.5s,baz=314,slow=28,SNR=106						
KKAR	**Karatay Array**	**0.51**	**147**	*iP*	**Pb**	**09 49 16.1**	**+0.4**
	baz=5.0						
KKAR				*iS*	**Sn**	**09 49 27.4**	**-0.5**
	baz=5.0						
IUG	**luzhnay**	**1.39**	**183**	P	**Pg**	**09 49 28.8**	**-1.6**
	391nm,0.3s						
IUG				S	**Sn**	**09 49 51.5**	**+1.8**
	95nm,0.5s						
TRKS	**Terek-Say**	**2.13**	**159**	*iP*	**Pn**	**09 49 41.6**	**+0.7**
	baz=45						
TRKS				*iS*	**Sb**	**09 50 11.1**	**+0.5**
	baz=45						
MRKS	**Merke**	**2.39**	**108**	Pg	**Pg**	**09 49 50.5**	**+0.7**
	4.6nm,0.5s						
MRKS				Lg	Lg	09 50 29.0	
	15nm,0.3s						
EKS2	**Erkin-Say**	**2.80**	**107**	*iP*	**Pb**	**09 49 55.4**	**+0.5**
	baz=0.0						
EKS2				*iS*	**Sg**	**09 50 34.8**	**+0.8**
	baz=0.0						
BTLS	**Baital**	**3.19**	**60**	Pg	**Pg**	**09 50 04.9**	**0.0**
	12nm,0.5s						
BTLS				Lg	Lg	09 50 53.2	
	5.7nm,0.6s						
USP	**Ospenovka**	**3.19**	**93**	*iP*	**Pb**	**09 50 01.5**	**0.0**
	baz=89						
USP				*iS*	**Sg**	**09 50 45.2**	**-1.2**
	baz=89						
SGDS	**Sogindy**	**3.27**	**90**	Pg	**Pg**	**09 50 04.8**	**-1.8**
	3.1nm,0.4s						
SGDS				Lg	Lg	09 50 53.1	
	6.5nm,0.6s						
KRBS	**Karabastau**	**4.02**	**86**	Pg	**Pg**	**09 50 19.9**	**-1.2**
	3.6nm,0.5s						
KRBS				Lg	Lg	09 51 18.6	
	6.9nm,0.6s						
DGS	**Degeres**	**4.12**	**92**	Pg	**Pg**	**09 50 21.7**	**-1.1**
	3.3nm,0.6s						
DGS				Lg	Lg	09 51 21.9	
	13nm,0.6s						
KST	**Kastek**	**4.28**	**95**	Pg	**Pg**	**09 50 25.3**	**-0.7**
	1.8nm,0.4s						
KST				Lg	Lg	09 51 27.9	
	8.7nm,0.4s						

*NOU **02** 09:55:29.0, 37.07S×179.88E, h127km, ML4.5/8, Off E. Coast of N. Island, N.Z.*
*IDC **02** 09:55:32.0±2.7, 36.80S×178.94E, h0km, mb3.9/2, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=50.3km s-min=36.5km az=103.0*
*NEIC **02** 09:55:33.2±1.8, 37.01S±0.05×179.05E±0.05, h10km±1km, mb4.0/7, Error ellipse: s-maj=9.2km s-min=5.8km az=155.0*
*WEL **02** 09:55:33.4±1.2, 37°S±4°×17°9E±°, h9km±6km, M3.8/57, ML4.0/60, MLv3.8/57, Error ellipse: s-maj=0.0km s-min=0.0km az=89.5*
ISC 02 09:55:34.4±1.8, 37.08S±0.05×179.19E±0.07, h19km±5km, n120, σ1§35/128, mb3.9/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.85**	**235**	Pg	**Pb**	**09 55 50.3**	**-0.3**
MXZ				Sg	**Sb**	**09 55 59.7**	**-1.9**
MXZ	**Matakaoa Point**	**0.85**	**235**	P	**Pb**	**09 55 50.3**	**-0.3**
MXZ				S	**Sb**	**09 56 00.4**	**-1.2**
WMGZ	**Waiomatatini S**	**0.96**	**220**	P	**Pn**	**09 55 54.3**	**+1.5**
WMGZ				S	**Sn**	**09 56 08.3**	**+2.3**
PKGZ	**Pakihiroa**	**1.20**	**227**	P	**Pn**	**09 55 57.0**	**+0.5**
PKGZ				S	**Sg**	**09 56 13.6**	**+0.2**
PUZ	**Puketiti**	**1.24**	**217**	P	**Pb**	**09 55 58.0**	**+0.8**
PUZ				S	**Sg**	**09 56 15.1**	**+0.5**
HAZ	**Te Kaha**	**1.31**	**238**	P	**Pn**	**09 55 57.2**	**-0.3**
HAZ				S	**Sg**	**09 56 16.9**	**+0.1**
TWGZ	**Tauwhareparae**	**1.46**	**221**	P	**Pb**	**09 56 01.3**	**+0.5**
TWGZ				S	**Sg**	**09 56 21.5**	**0.0**
RUGZ	**Raukumara Rang**	**1.49**	**233**	P	**Pb**	**09 56 01.7**	**+0.2**
RUGZ				S	**Sg**	**09 56 21.4**	**-1.3**
CNGZ	**Carnagh Statio**	**1.60**	**209**	P	**Pb**	**09 56 03.7**	**+0.4**
WIZ	**White Island**	**1.66**	**254**	P	**Pn**	**09 56 01.8**	**-0.6**
TKGZ	**Te Karaka**	**1.73**	**218**	P	**Pn**	**09 56 04.3**	**+1.0**
TKGZ				S	**Sb**	**09 56 27.4**	**+0.8**
MWZ	**Matawai**	**1.82**	**226**	P	**Pn**	**09 56 05.8**	**+1.1**
WHRZ	**Whale Island**	**1.93**	**246**	P	**Pn**	**09 56 07.5**	**+1.4**
RIGZ	**Rimuhau**	**1.98**	**214**	P	**Pn**	**09 56 07.9**	**+1.1**
RAGZ	**Rawiri**	**2.00**	**224**	P	**Pn**	**09 56 08.6**	**+1.5**
URZ	**Urewera**	**2.03**	**234**	Pn	**Pn**	**09 56 08.2**	**+0.7**
	33nm,0.3s,baz=301,slow=1.1,SNR=85						
URZ				Sn	**Sn**	**09 56 33.1**	**+0.9**
	43nm,0.3s,baz=301,slow=21,SNR=16						
	64nm,0.3s						
URZ	**Urewera**	**2.03**	**234**		**Pn**	**09 56 08.4**	**+0.9**
URZ				Sg	**Sn**	**09 56 32.8**	**+0.6**
URZ	**Urewera**	**2.03**	**234**	P	**Pn**	**09 56 08.5**	**+1.1**
URZ	**Urewera**	**2.03**	**234**	P	**Pn**	**09 56 08.9**	**+1.4**
PRGZ	**Paritu Road**	**2.11**	**209**	P	**Pn**	**09 56 09.3**	**+0.7**
MARZ	**Manawahe**	**2.20**	**245**	P	**Pn**	**09 56 10.8**	**+1.0**
EDRZ	**Edgecumbe**	**2.20**	**241**	P	**Pn**	**09 56 10.9**	**+1.0**
OPRZ	**Ohinepanea**	**2.23**	**249**	P	**Pn**	**09 56 10.9**	**+0.6**
SNGZ	**Shannon Statio**	**2.24**	**220**	P	**Pn**	**09 56 11.5**	**+1.0**
KNZ	**Kokohu**	**2.28**	**211**	P	**Pn**	**09 56 11.0**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.31**	**206**	P	**Pn**	**09 56 12.2**	**+0.9**
RTZ	**Ruatahuna**	**2.33**	**228**	P	**Pn**	**09 56 13.0**	**+1.3**
MYRZ	**Mayor Island**	**2.37**	**264**	P	**Pn**	**09 56 12.7**	**+0.6**
MUGZ	**Murupara**	**2.37**	**233**	P	**Pn**	**09 56 13.2**	**+1.0**
TGRZ	**Tauranga**	**2.42**	**254**	P	**Pn**	**09 56 13.4**	**+0.5**
TARZ	**Mount Tarawera**	**2.42**	**241**	P	**Pn**	**09 56 14.5**	**+1.4**
OMRZ	**Omania**	**2.46**	**245**	P	**Pn**	**09 56 13.8**	**+0.4**
RRRZ	**Republican Roa**	**2.47**	**239**	P	**Pn**	**09 56 14.7**	**+1.1**
RAHZ	**Arahi**	**2.48**	**222**	P	**Pn**	**09 56 15.7**	**+2.0**
WHHZ	**Waihua**	**2.52**	**217**	P	**Pn**	**09 56 15.7**	**+1.4**
KARZ	**Kaharoa**	**2.52**	**247**	P	**Pn**	**09 56 15.1**	**+0.8**
HLRZ	**Highlands Stat**	**2.54**	**242**	P	**Pn**	**09 56 15.9**	**+1.3**
MTHZ	**Maungataniwha**	**2.57**	**226**	P	**Pn**	**09 56 16.1**	**+1.2**
PRRZ	**Plateau Road**	**2.63**	**237**	P	**Pn**	**09 56 16.6**	**+0.8**
HSRZ	**Hossack Road**	**2.64**	**241**	P	**Pn**	**09 56 17.5**	**+1.6**
ALRZ	**Allen Road**	**2.70**	**236**	P	**Pn**	**09 56 17.5**	**+0.8**
NMHZ	**Naumai**	**2.76**	**222**	P	**Pn**	**09 56 18.8**	**+1.2**
ARHZ	**Aropaoanui**	**2.78**	**218**	P	**Pn**	**09 56 18.6**	**+0.7**
WPRZ	**Whakapapatarin**	**2.80**	**238**	P	**Pn**	**09 56 19.6**	**+1.5**
KUZ	**Kuaotunu**	**2.80**	**276**	P	**Pn**	**09 56 17.2**	**-0.9**
MRHZ	**Matea Rd**	**2.81**	**231**	P	**Pn**	**09 56 19.4**	**+1.2**
BKZ	**Black Stump Fm**	**2.98**	**225**		**Pn**	**09 56 20.7**	**+0.1**
BKZ	**Black Stump Fm**	**2.98**	**225**	P	**Pn**	**09 56 21.0**	**+0.4**
BKZ	**Black Stump Fm**	**2.98**	**225**	P	**Pn**	**09 56 21.4**	**+0.8**
TOZ	**Tahuroa Road**	**3.01**	**256**	P	**Pn**	**09 56 20.7**	**-0.3**
KUTZ	**Kaahu Road**	**3.02**	**241**	P	**Pn**	**09 56 22.4**	**+1.3**
GRZ	**Great Barrier**	**3.11**	**284**	P	**Pn**	**09 56 22.9**	**+0.6**
KWHZ	**Kaweka Forest**	**3.20**	**222**	P	**Pn**	**09 56 23.5**	**-0.1**
MKAZ	**Moumakai**	**3.22**	**268**	P	**Pn**	**09 56 23.7**	**-0.2**
RITZ	**Rihia Road**	**3.24**	**233**	P	**Pn**	**09 56 25.5**	**+1.3**
WIAZ	**Waiheke Island**	**3.26**	**274**	P	**Pn**	**09 56 23.8**	**-0.6**
KAHZ	**Kahuranaki**	**3.26**	**213**	P	**Pn**	**09 56 24.0**	**-0.5**
KRHZ	**Kereru**	**3.39**	**220**	P	**Pn**	**09 56 26.0**	**-0.2**
ETAZ	**East Tamaki Re**	**3.41**	**271**	P	**Pn**	**09 56 26.9**	**+0.4**
TMVZ	**Te Maari**	**3.42**	**232**	P	**Pn**	**09 56 27.8**	**+1.0**
ETVZ	**East Tongariro**	**3.43**	**232**	P	**Pn**	**09 56 28.3**	**+1.4**
BHHZ	**Black Hill Sta**	**3.44**	**225**	P	**Pn**	**09 56 28.3**	**+1.3**
KRVZ	**Karewarewa**	**3.45**	**233**	P	**Pn**	**09 56 26.5**	**-0.6**
MBAZ	**Motutapu North**	**3.45**	**274**	P	**Pn**	**09 56 27.7**	**+0.6**
NNVZ	**North Ngauruho**	**3.49**	**233**	P	**Pn**	**09 56 30.4**	**+2.7**
WTVZ	**West Tongariro**	**3.49**	**233**	P	**Pn**	**09 56 29.4**	**+1.6**
ABAZ	**Army Bay**	**3.53**	**276**	P	**Pn**	**09 56 28.8**	**+0.7**
EPAZ	**Eden Park BICE**	**3.57**	**272**	P	**Pn**	**09 56 30.0**	**+1.4**
MOVZ	**Moawhango**	**3.57**	**228**	P	**Pn**	**09 56 29.1**	**+0.4**
TWVZ	**Taurewa**	**3.57**	**235**	P	**Pn**	**09 56 29.2**	**+0.4**
HBAZ	**Herne Bay Bore**	**3.58**	**272**	P	**Pn**	**09 56 30.6**	**+1.8**
WNVZ	**Wahianoa**	**3.61**	**230**	P	**Pn**	**09 56 30.2**	**+0.8**
AWAZ	**Awhitu Peninsu**	**3.64**	**269**	P	**Pn**	**09 56 30.2**	**+0.6**
PNHZ	**Pukenui**	**3.68**	**219**	P	**Pn**	**09 56 29.7**	**-0.5**
WPHZ

KLF Kolari 3.72 314 PN Pn 10 01 14.7 +0.3
KEF Keuruu 3.80 228 PB Pn 10 01 17.0 +1.5
KEF SB Sn 10 02 02.4 +1.6
PAJU Pajala 3.88 308 PN Pn 10 01 16.4 -0.2
PAJU SG Sb 10 02 14.8 +2.4
ERTU Ertsjaerv 4.00 300 PN Pn 10 01 18.9 +0.8
FIA0 FINESS Array S 4.04 215 PG Pb 10 01 27.4 -0.3
baz=27
FINES FINESS Array B 4.04 215 Pn Pn 10 01 18.4 -0.3
comp=Z,0.2nm,0.3s,baz=34,slow=13,SNR=2.1
FINES Pg Pb 10 01 26.4 -1.3
comp=Z,0.2nm,0.3s,baz=37,slow=16,SNR=3.0
FINES Sn Sn 10 02 05.1 -1.6
comp=Z,0.4nm,0.3s,baz=40,slow=20,SNR=5.6
FINES Lg Lg 10 02 15.6
comp=Z,0.5nm,0.3s,baz=32,slow=29,SNR=3.2
comp=Z,2.3nm,1.0s
VAF Ylistaro 4.05 247 PB Pn 10 01 21.4 +2.5
BURU Burvik 4.10 271 PN Pn 10 01 18.5 -1.0
BURU SG Sb 10 02 20.1 +1.4
HEF Hetta 4.61 324 PN Pn 10 01 26.5 0.0
HEF SG Sb 10 02 37.2 +3.8
ARCES ARCESS Array B 5.17 338 Pn Pn 10 01 34.3 0.0
comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=24
ARCES Sn Sn 10 02 30.6 -4.0
comp=Z,0.1nm,0.3s,baz=158,slow=22,SNR=1.2
ARCES Lg Lg 10 02 54.2
comp=Z,0.5nm,0.3s,baz=154,slow=34,SNR=2.6
comp=Z,0.6nm,0.3s
NOA NORSAR Array B 9.73 256 Pn Pn 10 02 34.6 -2.2
baz=65,slow=13,SNR=2.3
comp=Z,0.3nm,0.7s

IDC 02 10:05:19.2±6.4, 53.70N×90.64E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=68.4km s-min=29.4km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	ZALESOVO INFRA	3.46	276	*i*			10 28 30.0	
	baz=93,slow=323,SNR=1.2							
ZALV	Zalesovo Beam	3.46	276	Pg		Pb	10 06 20.6	-0.6
	0.1nm,0.3s,baz=84,slow=15,SNR=2.4							
ZALV				Lg		Lg	10 07 09.2	
	0.4nm,0.3s,baz=89,slow=24,SNR=1.7							
KURBB	Kurchatov Arra	8.06	252	Pn		Pn	10 07 17.6	+0.3
	baz=66,slow=15,SNR=5.1							
	0.8nm,0.8s							
MKAR	Makanchi Array	8.74	221	Pn		Pn	10 07 27.3	+0.6
	0.1nm,0.3s,baz=39,slow=12,SNR=2.2							
	0.3nm,0.6s							

*NEIC **02** 10:10:17.1±1.9, 22.26N±0.09×143.7E±0.1, h105km±5km, mb4.4/70, Error ellipse: s-maj=19.5km s-min=12.5km az=102.0*
*IDC **02** 10:10:17.0±2.4, 22.28N×143.72E, h115km±21km, mb3.7/20, mbtmp4.1/22, Error ellipse: s-maj=20.1km s-min=11.5km az=91.0*
ISC 02 10:10:17.6±0.5, 22.28N±0.06×143.6E±0.1, h118km, n109, σ1s90/108, mb4.3/51, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	Chichijima	4.96	345	P		Pn	10 11 29.5	-0.5
	133nm,0.4s,baz=140,slow=7.4,SNR=33							
JCJ				S		Sn	10 12 24.5	-1.9
	150nm,0.3s,baz=101,slow=24,SNR=3.0							
JCJ	Chichijima	4.96	345			Pn	10 11 30.1	+0.1
JYT	Yasato	14.21	349	Pn		Pn	10 13 33.9	+0.5
MJAR	Matsushiro Arr	14.96	343	P		Pn	10 13 41.6	-1.4
	1.0nm,0.3s,baz=168,slow=10,SNR=2.9							
JMM	Marumori	15.72	352			Pn	10 13 52.0	-0.5
JMM				IAmb		IAmb	10 13 58.0	
	comp=Z,27nm,0.9s							
JSD	Sado	16.36	345			Pn	10 14 00.8	+0.5
JSD				IAmb		IAmb	10 14 18.4	
	comp=Z,40nm,1.5s							
KSRS	Korea Array	20.29	322	P		P	10 14 44.6	+0.6
	comp=Z,1.2nm,0.7s,baz=148,slow=8.4,SNR=6.7							
	comp=Z,1.2nm,0.7s							
SSLB	Suanglung	20.90	279	P		Pn	10 14 53.9	-0.5
TPUB	Ta-pu	21.20	277	P		P	10 14 54.0	0.0
H11N1	WAKE ISLAND Hy	21.89	92	T		T	10 37 43.1	
	baz=284,slow=74,SNR=2.5							
H11N2	WAKE ISLAND Hy	21.89	92	T		T	10 37 43.2	
	baz=284,slow=74,SNR=4.3							
H11N3	WAKE ISLAND Hy	21.91	92	T		T	10 37 42.6	
	baz=284,slow=74,SNR=3.2							
H11S3	WAKE ISLAND Hy	21.96	96	T		T	10 37 48.4	
	baz=283,slow=74,SNR=11							
H11S1	WAKE ISLAND Hy	21.97	96	T		T	10 37 46.6	
	baz=283,slow=74,SNR=12							
H11S2	WAKE ISLAND Hy	21.98	96	T		T	10 37 47.3	
	baz=283,slow=74,SNR=7.8							
USRK	Ussuriysk Ar.	23.87	339	P		P	10 15 20.4	+0.3
	comp=Z,3.2nm,0.7s,baz=159,slow=12,SNR=2.7							
	comp=Z,3.2nm,0.7s							
KLR	Kul'dur	28.49	344	P		P	10 16 02.6	+1.0
	comp=Z,1.8nm,0.6s,baz=174,slow=6.7,SNR=7.1							
	comp=Z,1.8nm,0.6s							
COEN	Coen	36.02	181	P		P	10 17 07.3	-0.3
SONM	Songino Array	39.14	320	P		P	10 17 34.0	+0.2
	comp=Z,0.7nm,0.3s,baz=124,slow=7.7,SNR=2.4							
	comp=Z,0.7nm,0.3s							
KNRA	Kununurra	40.43	202	P		P	10 17 43.6	-1.0
WB0	Warramunga Arr	42.75	193	P		P	10 18 02.4	-1.1
WR0	Warramunga Arr	42.91	193	P		P	10 18 03.5	-1.2
WR0				IAmb		IAmb	10 18 14.2	
	comp=Z,9.0nm,1.4s							
WRAB	Tennant Creek	42.92	193	P		P	10 18 04.4	-0.5
WB2	Warramunga Arr	42.93	193	P		P	10 18 04.4	-0.5
WB2				IAmb		IAmb	10 18 30.6	
	comp=Z,4.3nm,0.9s							
WRA	Warramunga Arr	42.93	193	P		P	10 18 04.2	-0.8
	comp=Z,1.0nm,0.5s,baz=17,slow=8.2,SNR=49							
WRA				PcP		PcP	10 19 53.5	-0.1
	comp=Z,0.7nm,0.8s,baz=5.7,slow=3.4,SNR=3.4							
WRA				ScP		ScP	10 23 33.1	-0.7
	comp=Z,0.7nm,0.8s,baz=8.2,slow=4.7,SNR=4.0							
	comp=Z,1.0nm,0.5s							
WRA	Warramunga Arr	42.93	193	P		P	10 18 05.0	+0.1
FITZ	Fitzroy Crossi	43.81	205	P		P	10 18 12.8	+0.8
	comp=Z,2.8nm,0.8s,baz=40,slow=12,SNR=7.6							
	comp=Z,2.8nm,0.8s							
FITZ	Fitzroy Crossi	43.81	205	P		P	10 18 13.2	+1.2
FITZ				IAmb		IAmb	10 18 13.2	
	comp=Z,11nm,1.4s							
AS31	Alice Springs	46.64	192	P		P	10 18 34.0	-0.3
ASAR	Alice Springs	46.64	192	P		P	10 18 33.5	-0.8
	comp=Z,0.4nm,0.5s,baz=9.3,slow=7.6,SNR=4.8							
ASAR				PcP		PcP	10 20 05.5	-0.8
	comp=Z,0.5nm,0.6s,baz=15,slow=3.5,SNR=6.0							
	comp=Z,0.4nm,0.5s							
PSA00	Pilbara Seismi	49.37	210	P		P	10 18 56.7	+1.4
PSA00				IAmb		IAmb	10 19 15.4	
	comp=Z,5.3nm,1.3s							
STKA	Stephens Creek	53.89	182	P		P	10 19 28.0	-0.7
	comp=Z,1.8nm,0.6s,baz=54,slow=7.0,SNR=3.7							
	comp=Z,1.8nm,0.6s							
ZALV	Zalesovo Beam	54.00	321	P		P	10 19 28.9	-0.5
	comp=Z,0.7nm,0.3s,baz=111,slow=16,SNR=4.1							
ZALV				PcP		PcP	10 20 31.6	-1.4
	comp=Z,0.8nm,0.4s,baz=98,slow=6.1,SNR=3.5							
	comp=Z,0.7nm,0.3s							
CHGN	Chignik	54.08	36	P		P	10 19 29.8	-0.1
MKAR	Makanchi Array	54.59	312	P		P	10 19 34.9	+1.1
	comp=Z,0.7nm,0.6s,baz=90,slow=10,SNR=6.6							
MKAR				PcP		PcP	10 20 35.1	-0.4
	comp=Z,0.7nm,0.7s,baz=79,slow=6.3,SNR=5.6							
	comp=Z,0.7nm,0.6s							
MKAR	Makanchi Array	54.59	312	P		P	10 19 35.4	+1.6
FORT	Forrest	54.83	196	P		P	10 19 36.1	+0.5
SII	Sitkinak Islan	56.42	36	P		P	10 19 47.4	+0.6
N18K	Kilae Creek	56.45	31	P		P	10 19 48.8	+1.9
N18K				IAmb		IAmb	10 19 52.7	
	comp=Z,6.7nm,1.4s							
O18K	Koktuh Hills	56.58	32	P		P	10 19 49.5	+1.7
SVW2	Sparrevohn	56.70	30	P		P	10 19 50.8	+2.1
SVW2				IAmb		IAmb	10 20 28.1	
	comp=Z,4.1nm,1.2s							
N19K	Bonanza Creek	57.16	31	P		P	10 19 53.5	+1.5
KDAK	Kodiak Island	57.50	35	P		P	10 19 55.8	+1.5
J20K	Nowinta River	58.14	27	P		P	10 20 00.6	+1.9
J20K				IAmb		IAmb	10 20 01.2	
	comp=Z,7.1nm,1.4s							
CNPM	China Poot	58.49	33	P		P	10 20 02.1	+0.9
BRLK	Bradley Lake	58.70	33	P		P	10 20 02.4	-0.3
IMAR	Indian Mountai	58.79	25	P		P	10 20 04.2	+1.1
SKT	Skwentna	58.79	30	P		P	10 20 03.7	+0.4
SKT				IAmb		IAmb	10 20 39.4	
	comp=Z,6.4nm,1.5s							
CAST	Castle Rocks	58.85	28	P		P	10 20 05.2	+1.5
CAST				IAmb		IAmb	10 20 39.7	
	comp=Z,3.7nm,1.4s							
SUA	Susitna One	59.06	31	P		P	10 20 05.9	+0.6
SUA				IAmb		IAmb	10 20 13.0	
	comp=Z,3.8nm,1.2s							
H21K	Melozitna Rive	59.08	26	P		P	10 20 06.7	+1.5
H21K				IAmb		IAmb	10 20 17.8	
	comp=Z,6.6nm,1.5s							
I21K	Tanana	59.30	26	P		P	10 20 08.4	+1.7
I21K				IAmb		IAmb	10 20 40.5	
	comp=Z,4.9nm,1.1s							
SEW	Seward	59.47	32	P		P	10 20 08.2	+0.3
TRF	Thorofare Moun	59.64	28	P		P	10 20 10.0	+0.7
TRF				IAmb		IAmb	10 20 10.1	
	comp=Z,2.1nm,0.7s							
PMR	Palmer	59.85	31	P		P	10 20 10.4	-0.1
PMR				IAmb		IAmb	10 20 22.6	
	comp=Z,4.6nm,1.2s							
GHO	Glory Hole Cre	59.97	30	P		P	10 20 12.0	+0.5
GHO				IAmb		IAmb	10 20 43.5	
	comp=Z,3.4nm,0.9s							
PWL	Port Wells	60.12	32	P		P	10 20 13.0	+0.6
SML	Sawmill	60.26	30	P		P	10 20 13.1	-0.3
H23K	Yukon River	60.43	26	P		P	10 20 15.0	+0.6
COLD	Coldfoot	60.48	24	P		P	10 20 15.8	+1.1
COLD				IAmb		IAmb	10 20 17.3	
	comp=Z,3.3nm,1.0s							
GLI	Glacier Island	60.73	32	P		P	10 20 17.2	+0.7
GLI				IAmb		IAmb	10 20 58.3	
	comp=Z,4.3nm,0.8s							
SCM	Sheep Creek Mo	60.73	31	P		P	10 20 17.7	+1.1
SCM				IAmb		IAmb	10 20 18.2	
	comp=Z,4.6nm,1.0s							
CCB	Clear Creek Bu	60.93	27	P		P	10 20 18.2	+0.4
HIN	Hinchinbrook I	60.97	32	P		P	10 20 19.1	+0.9
FID	Port Fidalgo	61.01	32	P		P	10 20 18.7	+0.2
FID				IAmb		IAmb	10 20 32.9	
	comp=Z,4.8nm,1.0s							
TOLK	Toolik Lake Re	61.03	23	P		P	10 20 20.6	+2.1
TOLK				IAmb		IAmb	10 20 51.7	
	comp=Z,4.0nm,1.1s							
IL31		61.34	27	P		P	10 20 19.6	-0.9
ILAR	Eielson Array	61.34	27	P		P	10 20 19.0	-1.6
	comp=Z,1.0nm,0.8s,baz=261,slow=5.7,SNR=9.6							
	comp=Z,1.0nm,0.8s							
ILAR	Eielson Array	61.34	27	P		P	10 20 20.4	-0.2
EYAK	Cordova Ski Ar	61.35	32	P		P	10 20 19.5	-1.2
EYAK				IAmb		IAmb	10 20 54.4	
	comp=Z,8.4nm,1.5s							
KLU	Klutina	61.36	31	P		P	10 20 20.7	-0.2
KLU				IAmb		IAmb	10 20 22.2	
	comp=Z,2.2nm,0.6s							
BMRM	Bremner River	61.95	32	P		P	10 20 24.3	-0.5
BMRM				IAmb		IAmb	10 20 26.5	
	comp=Z,6.7nm,1.4s							
N25K	Chitina, Valde	62.00	31	P		P	10 20 26.2	+1.0
N25K				IAmb		IAmb	10 20 51.6	
	comp=Z,5.3nm,1.5s							
HMT	Hamilton	62.07	32	P		P	10 20 26.6	+1.1
HMT				IAmb		IAmb	10 21 06.1	
	comp=Z,5.7nm,1.0s							
RIDG	Independent Ri	62.09	29	P		P	10 20 26.4	+0.7
RIDG				IAmb		IAmb	10 21 08.3	
	comp=Z,8.2nm,1.4s							
SUCK	Suckling Hills	62.30	33	P		P	10 20 28.3	+1.3
DOT	Dot Lake	62.43	29	P		P	10 20 27.3	-0.6
SCRK	Sand Creek	62.49	28	P		P	10 20 28.4	-0.1
L26K	Log Cabin Wild	62.70	29	P		P	10 20 31.3	+1.5
J26L	Joseph Creek	62.73	28	P		P	10 20 30.5	+0.6
M26K	Nabesna, AK	62.81	30	P		P	10 20 31.8	+1.3
M26K				IAmb		IAmb	10 21 14.9	
	comp=Z,3.9nm,1.1s							
KK31	Karatay Array	63.00	308	P		P	10 20 32.6	+0.5
KKAR	Karatay Array	63.00	308	P		P	10 20 31.8	-0.3
K27K	Chicken	63.34	28	P		P	10 20 34.0	+0.1
L27K	Beaver Creek,	63.39	29	P		P	10 20 35.5	+1.2
BCAR	Beaver Creek A	63.41	29	P		P	10 20 35.6	+1.1
TABL	Table Mountain	63.62	32	P		P	10 20 35.7	-0.4
TABL				IAmb		IAmb	10 21 11.3	
	comp=Z,4.2nm,0.9s							
EGAK	Eagle	63.78	28	P		P	10 20 36.1	-0.7
CHGR	Chuyangaron	64.59	303	P		P	10 20 42.8	+0.1
CHGR				IAmb		IAmb	10 21 24.7	
	comp=Z,8.1nm,1.1s							
HYT	Haines Junctio	65.41	32	P		P	10 20 47.5	-0.1
EPYK	Eagle Plains	65.67	26	P		P	10 20 50.0	+0.8
EPYK				IAmb		IAmb	10 21 21.6	
	comp=Z,3.6nm,0.9s							
N31M	Braeburn, Yuko	66.22	31	P		P	10 20 54.4	+1.7
N31M				IAmb		IAmb	10 21 14.5	
	comp=Z,6.6nm,1.4s							
INK	Inuvik	66.88	24	P		P	10 20 57.0	+0.4
	comp=Z,0.9nm,0.6s,baz=272,slow=2.8,SNR=5.5							
	comp=Z,0.9nm,0.6s							
INK	Inuvik	66.88	24	P		P	10 20 57.3	+0.6
INK				IAmb		IAmb	10 21 20.5	
	comp=Z,5.3nm,1.4s							
ABKAR	Akbulak array	69.40	316	P		P	10 21 13.0	+0.2
YKA	Yellowknife Ar	75.76	28	P		P	10 21 50.4	+0.2
	comp=Z,1.8nm,0.6s,baz=291,slow=5.8,SNR=5.1							
	comp=Z,1.8nm,0.6s							
YBH	Yreka Blue Hor	78.14	50	P		P	10 22 03.7	-0.4
	comp=Z,1.2nm,0.5s,baz=272,slow=2.4,SNR=5.0							
	comp=Z,1.2nm,0.5s							
ARCES	ARCESS Array B	78.49	342	P		P	10 22 05.6	+0.2
	comp=Z,3.9nm,0.7s,baz=69,slow=7.9,SNR=12							
	comp=Z,3.9nm,0.7s							
ARCES	ARCESS Array B	78.49	342	P		P	10 22 06.1	+0.7
PINE	Pine Mountain	78.68	47	P		P	10 22 09.0	+1.8
PINE				IAmb		IAmb	10 22 09.4	
	comp=Z,3.7nm,0.8s							
K05A	Summer Lake	79.08	48	P		P	10 22 11.0	+1.7
K05A				IAmb		IAmb	10 22 30.2	
	comp=Z,9.6nm,1.4s							
KBZ	Khabaz	82.24	314	P		P	10 22 27.1	+1.3
	comp=Z,3.2nm,0.9s,baz=52,slow=2.2,SNR=4.0							
	comp=Z,3.2nm,0.9s							
FINES	FINESS Array B	82.82	335	P		P	10 22 27.7	-0.8
	comp=Z,2.5nm,0.3s,baz=63,slow=4.9,SNR=31							
	comp=Z,2.5nm,0.3s							
ELK	Elko	83.75	49	P		P	10 22 32.0	-2.0
	comp=Z,5.5nm,0.5s,baz=169,slow=16,SNR=14							
	comp=Z,5.5nm,0.5s							
AKASG	Malin Array Be	87.26	325	P		P	10 22 49.6	-1.3
	comp=Z,0.6nm,0.4s,baz=51,slow=5.7,SNR=1.5							
	comp=Z,0.6nm,0.4s							
NOA	NORSAR Array B	88.54	339	P		P	10 22 55.5	-1.4
	comp=Z,0.8nm,0.9s,baz=49,slow=4.8,SNR=1.8							
	comp=Z,0.8nm,0.9s							
TORD	Torodi Ar. Bea	128.67	310	PKP		PKPdf	10 29 11.1	-0.7
	comp=Z,0.4nm,0.4s,baz=104,slow=1.6,SNR=6.1							
PLCA	Paso Flores	145.84	131	PKPbc		PKPbc	10 29 43.5	0.0
	comp=Z,6.4nm,0.6s,baz=238,slow=3.9,SNR=32							
LPAZ	La Paz	149.50	84	PKPbc		PKPbc	10 29 54.4	-0.3
	comp=Z,2.3nm,0.5s,baz=356,slow=2.8,SNR=13							

*IDC **02** 10:12:22.7±5.5, 22.81S×176.51W, h139km±43km, mb3.6/7, mbtmp4.1/8, Error ellipse: s-maj=48.1km s-min=21.3km az=141.0*
*NEIC **02** 10:12:24.4±0.4, 22.8S±0.1×176.5W±0.2, h153km±10km, mb4.2/12, Error ellipse: s-maj=29.3km s-min=9.8km az=50.0*
ISC 02 10:12:20.8±0.7, 22.9S±0.1×176.4W±0.1, h124km, n32, σ0s98/27, mb4.1/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	7.31	314	P		Pn	10 14 06.0	+1.0
	52nm,0.8s,baz=148,slow=11,SNR=30							
MSVF	Nonsavu	7.31	314			Pn	10 14 06.5	+1.4
EIDS	Eidsvold	29.74	259	P		P	10 18 14.8	-0.7
EIDS				IAmb		IAmb	10 18 22.6	
	comp=Z,7.6nm,1.2s							
CTAO	Charters Tower	34.80	267	P		P	10 19 00.8	+0.9
CTAO				IAmb		IAmb	10 19 07.3	
	comp=Z,15nm,1.3s							
AS31	Alice Springs	45.46	259	P		P	10 20 27.7	-0.1
ASAR	Alice Springs	45.46	259	P		P	10 20 27.2	-0.7
	comp=Z,1.4nm,0.8s,baz=92,slow=7.2,SNR=18							
ASAR				PcP		PcP	10 22 05.3	+0.4
	comp=Z,0.4nm,0.6s,baz=107,slow=3.8,SNR=5.0							
	comp=Z,1.4nm,0.8s							
ASAR	Alice Springs	45.46	259	P		P	10 20 25.6	-2.2
WR0	Warramunga Arr	45.59	264	P		P	10 20 27.1	-1.7
WB2	Warramunga Arr	45.77	264	P		P	10 20 29.5	-0.7
WB2				IAmb		IAmb	10 20 31.8	
	comp=Z,3.6nm,0.9s							
WB0	Warramunga Arr	45.77	264	P		P	10 20 29.6	-0.6
WB0				IAmb		IAmb	10 20 32.8	
	comp=Z,3.7nm,0.7s							
WRAB	Tennant Creek	45.78	264	P		P	10 20 28.9	-1.3
WRAB				IAmb		IAmb	10 20 31.8	
	comp=Z,3.9nm,0.9s							
WRA	Warramunga Arr	45.78	264	P		P	10 20 29.3	-1.1
	comp=Z,1.4nm,0.5s,baz=90,slow=5.9,SNR=24							
	comp=Z,1.4nm,0.5s							
WRA	Warramunga Arr	45.78	264	P		P	10 20 29.7	-0.7
KNRA	Kununurra	52.01	268	P		P	10 21 17.9	+0.1
MBWA	Marble Bar	58.80	258	P		P	10 22 05.7	-0.8
QSPA	South Pole Qui	67.19	180	P		P	10 23 02.6	+1.2
QSPA				IAmb		IAmb	10 23 21.8	
	comp=Z,3.3nm,1.2s							
MAW	Mawson	79.82	200	P		P	10 24 16.1	+1.1
	comp=Z,1.3nm,0.5s,baz=105,slow=5.3,SNR=2.4							
	comp=Z,1.3nm,0.5s							
NVAR	Mina Array Bea	81.76	42	P		P	10 24 26.5	+0.4
	comp=Z,0.4nm,0.6s,baz=224,slow=6.3,SNR=2.3							
	comp=Z,0.4nm,0.6s							
H03S2	Juan Fernandez	83.43	124	T		T	11 56 26.1	
	baz=246							
H03S1	Juan Fernandez	83.44	124	T		T	11 56 24.6	
	baz=246							
H03S3	Juan Fernandez	83.44	124	T		T	11 56 18.6	
	baz=246							
H03N2	Juan Fernandez	83.58	123	T		T	11 56 27.0	
	baz=250,slow=73,SNR=42							
H03N3	Juan Fernandez	83.58	123	T		T	11 56 20.6	
	baz=250,slow=73,SNR=28							
H03N1	Juan Fernandez	83.59	123	T		T	11 56 17.7	
	baz=250,slow=73,SNR=39							
TXAR	Lajitas Array	87.11	57	P		P	10 24 52.4	-0.7
	comp=Z,0.7nm,0.8s,baz=243,slow=8.0,SNR=5.4							
	comp=Z,0.7nm,0.8s							
TRF	Thorofare Moun	88.48	11	P		P	10 24 58.9	+0.1
SEY	Seymchan	89.03	346	P		P	10 25 01.0	-0.2
	comp=Z,2.9nm,0.7s,baz=178,slow=8.4,SNR=6.6							
	comp=Z,2.9nm,0.7s							
ILAR	Eielson Array	90.32	12	P		P	10 25 06.2	-1.0
	comp=Z,0.8nm,0.9s,baz=218,slow=5.7,SNR=6.3							
	comp=Z,0.8nm,0.9s							
ARCES	ARCESS Array B	131.53	350	PKP		PKPdf	10 31 18.4	+0.4
	comp=Z,2.0nm,0.9s,baz=72,slow=1.5,SNR=4.0							
AKASG	Malin Array Be	145.82	331	PKPbc		PKPbc	10 31 45.0	-0.3
	comp=Z,0.5nm,0.2s,baz=42,slow=4.7,SNR=7.2							
BRTR	Keskin Array B	149.53	310	PKPbc		PKPbc	10 31 55.4	-0.5
	comp=Z,0.4nm,0.5s,baz=152,slow=6.2,SNR=2.3							
GERES	GERESS Array B	152.89	345	PKPbc		PKPbc	10 32 02.9	-0.4
	comp=Z,0.1nm,0.2s,baz=57,slow=3.6,SNR=3.7							

*IDC **02** 10:16:40.2±1.0, 16.04N×95.85W, h0km, mb3.9/10, mbtmp3.9/11, ML3.9/1, MS3.4/11, Error ellipse: s-maj=20.9km s-min=15.5km az=135.0*
*MEX **02** 10:16:45.7±0.9, 16.01N×95.94W, h52km±13km, MD4.3*
*NEIC **02** 10:16:45.8±2.6, 16.01N±0.06×95.95W±0.04, h31km±5km, mb4.3/80, Md4.6/36(MEX), Error ellipse: s-maj=9.6km s-min=4.9km az=182.0*
ISC 02 10:16:44.8±1.0, 16.04N±0.03×95.95W±0.02, h30km±8km, n177, σ1s45/203, mb4.2/29, MS3.3/10, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	Huatulco	0.31	210			Pn	10 16 53.7	+0.4
HUIG						Sn	10 17 00.3	+1.6
HUIG	Huatulco	0.31	210	*i*	P	Pn	10 16 53.7	+0.4
HUIG				*e*	S	Sn	10 16 59.8	+1.0
PANG	Puerto Angel	0.62	234			Pb	10 16 56.8	-0.5
PANG						Sb	10 17 06.2	+0.4
PANG	Puerto Angel	0.62	234	*i*	P	Pb	10 16 56.8	-0.5
PANG				*i*	S	Sb	10 17 06.2	+0.4
PEIG	Puerto Escondi	1.15	268			Pn	10 17 04.0	-0.9
PEIG						Sn	10 17 18.7	-1.0
PEIG	Puerto Escondi	1.15	268	*i*	P	Pn	10 17 04.0	-0.9
PEIG				*i*	S	Sn	10 17 19.7	-1.8
OXLC	Oaxaca	1.25	325	*i*	P	Pn	10 17 06.6	+0.2
OXLC				*e*	S	Sn	10 17 22.1	-0.4
OXBJ	Oaxaca	1.27	324			Pn	10 17 06.5	-0.2
OXBJ						Sn	10 17 21.9	-0.8
OXBJ	Oaxaca	1.27	324	*i*	P	Pn	10 17 06.5	-0.2
OXBJ				*i*	S	Sn	10 17 21.9	-0.8
OXIG	Oaxaca	1.27	324			Pn	10 17 06.8	+0.1
OXIG						Sn	10 17 22.3	-0.7
VHO	Vista Hermosa	1.27	324	*i*	P	Pn	10 17 06.8	+0.1
VHO				*i*	S	Sn	10 17 22.3	-0.7
NILT	Santiago Nilte	1.38	68	*i*	P	Pn	10 17 07.8	-0.3
NILT				*i*	S	Sn	10 17 24.7	-0.6
CMIG	Matias Romero	1.47	44	Pg		Pn	10 17 07.8	-1.4
	206nm,0.3s,baz=238,slow=12,SNR=799							
CMIG				Lg		Lg	10 17 24.8	
	517nm,0.3s,baz=221,slow=20,SNR=9.4							
CMIG	Matias Romero	1.47	44	*i*	P

YAIG				*i* S		**Sn**	**10 18 31.7**	**-0.8**
CAIG	**El Cayaco**	**4.26**	**284**	*e*P		**Pn**	**10 17 47.8**	**+0.1**
CAIG				*e*			10 18 27.8	
HUEH	**Huehuetenango**	**4.34**	**99**			**Pn**	**10 17 48.7**	**-0.3**
RTAL	**Retalhuleu**	**4.37**	**110**	Pn		**Pn**	**10 17 50.2**	**+1.0**
XCVM	**Xochimilco**	**4.40**	**317**	*e*		Pb	10 18 14.9	+13
MAVM	**Malinalco, Edo**	**4.46**	**311**	*e*P		Pb	10 17 57.8	-4.7
CNCY	**Coyoacan**	**4.48**	**317**	*e*P		**Pn**	**10 17 55.3**	**+4.4**
AOVM	**Tlapan**	**4.54**	**315**	*e*		**Pb**	**10 18 03.7**	**-0.5**
APVM	**Azcapotzalco**	**4.63**	**318**	*e*		**Sb**	**10 18 57.6**	**-3.3**
PETF	**Flores**	**5.90**	**81**	Pn		**Pn**	**10 18 10.4**	**+0.1**
MOIG	**Morelia**	**6.16**	**307**	Pn		**Pn**	**10 18 16.0**	**+1.9**
ESQI	**Esquipulas**	**6.54**	**102**			**Pn**	**10 18 19.9**	**+0.7**
MTO3	**Montecristo**	**6.57**	**103**			**Pn**	**10 18 20.1**	**+0.5**
TEIG	**Tepich**	**8.40**	**59**	Pn		**Pn**	**10 18 41.7**	**-2.9**
TGUH	**Tegucigalpa,Un**	**8.61**	**102**	Pn		**Pn**	**10 18 47.9**	**+0.3**
ZAIG	**Zacatecas**	**9.15**	**318**	Pn		**Pn**	**10 18 53.7**	**-1.5**
MATN	**Matagalpa**	**10.19**	**106**	Pn		**Pn**	**10 19 10.2**	**+1.0**
HZTE	**Horizontes, Gu**	**11.38**	**116**	Pn		**Pn**	**10 19 27.1**	**+1.7**
ORTG	**Ortega, Santa**	**11.67**	**118**	Pn		**Pn**	**10 19 31.8**	**+2.4**
JTS	**Las Juntas de**	**12.13**	**117**	Pn		**Pn**	**10 19 34.7**	**-1.1**
CVTR	**Volcan Turrial**	**13.29**	**115**	Pn		**Pn**	**10 19 50.5**	**-1.5**
RIMA	**Rio Macho**	**13.32**	**116**	Pn		**Pn**	**10 19 54.5**	**+2.3**
PEZE	**Perez Zeledon,**	**13.67**	**117**	Pn		**Pn**	**10 19 57.1**	**+0.3**
SOR	**Soroa**	**13.93**	**59**	Pn		**Pn**	**10 19 58.3**	**-2.0**
SRBA	**San Rafael, Bu**	**14.02**	**117**	Pn		**Pn**	**10 20 02.8**	**+1.2**
DRK0	**Durika**	**14.10**	**117**			**Pn**	**10 20 02.8**	**0.0**
435B	**Jarrell**	**14.76**	**354**			**Pn**	**10 20 10.8**	**-0.7**
JCT	**Junction City**	**14.80**	**347**			**Pn**	**10 20 13.2**	**+1.1**
TX31	**Lajitas Ar. Si**	**15.02**	**333**			**Pn**	**10 20 16.7**	**+1.6**
TX31					IAmb	IAmb	10 20 37.9	
	comp=Z,16nm,1.1s							
TX32	**Lajitas Array**	**15.02**	**333**			**Pn**	**10 20 16.6**	**+1.4**
TXAR	**Lajitas Array**	**15.02**	**333**	Pn		**Pn**	**10 20 16.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=158,slow=15,SNR=8.9							
	comp=Z,0.6nm,0.5s							
LPIG	**La Paz**	**15.68**	**303**	LR		LR	10 25 58.1	
	comp=Z,103nm,20.4s,baz=185,slow=35							
237A	**Washetta, Mont**	**15.89**	**0**	Pn		**Pn**	**10 20 27.9**	**+1.6**
237A					IAmb	IAmb	10 20 44.5	
	comp=Z,18nm,0.8s							
WHTX	**Lake Whitney,**	**15.94**	**355**			**Pn**	**10 20 27.6**	**+0.6**
WHTX					IAmb	IAmb	10 20 45.7	
	comp=Z,42nm,1.2s							
Z38A	**Mt. Pleasant**	**17.17**	**3**			**P**	**10 20 45.3**	**+1.4**
Z38A					IAmb	IAmb	10 20 58.7	
	comp=Z,34nm,0.8s							
Z35A	**Perchaven, San**	**17.26**	**356**			**P**	**10 20 44.7**	**-0.2**
Z35A					IAmb	IAmb	10 21 00.3	
	comp=Z,17nm,0.8s							
WLAR	**White Oak Lake**	**17.76**	**8**	P		**Pn**	**10 20 50.2**	**+0.4**
WLAR					IAmb	IAmb	10 21 13.4	
	comp=Z,23nm,0.7s							
HTMS	**Hat Mesa**	**17.79**	**338**	P		**P**	**10 20 51.5**	**+0.6**
CLN7	**Carlsbad 7**	**17.80**	**338**	P		**P**	**10 20 51.8**	**+0.9**
MNTX	**Cornudas Mount**	**17.80**	**333**	P		**P**	**10 20 51.1**	**+0.2**
GDL2	**Guadalupe Moun**	**17.82**	**336**	P		**P**	**10 20 52.1**	**+0.9**
LOOK	**Love County**	**17.91**	**357**			**P**	**10 20 53.0**	**+0.9**
LOOK					IAmb	IAmb	10 21 17.4	
	comp=Z,27nm,0.8s							
CPRX	**Cap Rock**	**18.38**	**338**	P		**Pn**	**10 20 57.8**	**+0.3**
X37A	**Clayton**	**18.48**	**2**	P		**Pn**	**10 20 59.6**	**+1.0**
X37A					IAmb	IAmb	10 21 20.9	
	comp=Z,17nm,0.6s							
MIAR	**Mount Ida**	**18.55**	**6**	P		**P**	**10 20 58.9**	**-0.2**
MIAR					IAmb	IAmb	10 21 15.6	
	comp=Z,19nm,0.9s							
X34A	**Smith Ranch, M**	**18.56**	**355**	P		**Pn**	**10 21 00.6**	**+0.9**
X34A					IAmb	IAmb	10 21 23.9	
	comp=Z,14nm,0.6s							
Y45A	**Yeager Farm, C**	**18.67**	**17**	P		**Pn**	**10 21 01.8**	**+0.9**
WMOK	**Wichita Mounta**	**18.80**	**353**	P		**Pn**	**10 21 04.0**	**+1.5**
MSTX	**Muleshoe**	**18.89**	**342**	P		**P**	**10 21 03.1**	**+0.1**
UALR	**University of**	**18.94**	**9**			**P**	**10 21 03.0**	**-0.4**
UALR					IAmb	IAmb	10 21 18.5	
	comp=Z,21nm,0.8s							
OXF	**Oxford**	**19.31**	**17**	P		**Pn**	**10 21 08.9**	**+0.2**
OXF					IAmb	IAmb	10 21 23.4	
	comp=Z,16nm,0.7s							
AMTX	**Amarillo**	**19.46**	**346**	P		**P**	**10 21 07.7**	**-1.6**
AMTX					IAmb	IAmb	10 21 26.4	
	comp=Z,7.6nm,0.7s							
319A	**Douglas**	**19.52**	**324**	P		**Pn**	**10 21 12.1**	**+0.7**
BCOK	**Bluff Creek, N**	**19.60**	**356**	P		**P**	**10 21 10.7**	**+0.1**
BCOK					IAmb	IAmb	10 21 27.2	
	comp=Z,25nm,0.8s							
121A	**Cookes Peak, D**	**19.62**	**329**	P		**Pn**	**10 21 12.9**	**+0.3**
TUL1	**Leonard**	**19.79**	**0**	P		**P**	**10 21 13.2**	**+0.5**
TUL1					IAmb	IAmb	10 21 29.3	
	comp=Z,22nm,1.1s							
OK030	**Cody Creek RV**	**19.82**	**358**			**P**	**10 21 13.3**	**+0.2**
OK031	**S. Brethren Rd**	**19.85**	**358**			**P**	**10 21 12.0**	**-1.4**
X48A	**Hartselle**	**20.01**	**22**	P		**P**	**10 21 13.5**	**-1.6**
RLO	**Rose Lookout**	**20.06**	**2**	P		**P**	**10 21 13.9**	**-1.8**
RLO					IAmb	IAmb	10 21 33.0	
	comp=Z,8.2nm,0.7s							
FCAR	**Ozark Folk Cen**	**20.07**	**9**	P		**P**	**10 21 14.7**	**-1.0**
QUOK	**Quay**	**20.07**	**358**			**P**	**10 21 15.1**	**-0.6**
QUOK					IAmb	IAmb	10 21 30.1	
	comp=Z,34nm,0.7s							
PLAL	**Pickwick Lake**	**20.14**	**19**	P		Pn	10 21 18.1	-0.5
HHAR	**Hobbs**	**20.24**	**5**	P		**P**	**10 21 18.3**	**+0.6**
HHAR					IAmb	IAmb	10 21 36.1	
	comp=Z,6.8nm,0.8s							
CRNM	**Carthage**	**20.31**	**333**	P		Pn	10 21 20.2	-0.6
U38A	**Gravette**	**20.37**	**4**	P		**P**	**10 21 18.6**	**-0.4**
U38A					IAmb	IAmb	10 21 33.4	
	comp=Z,13nm,0.8s							
BNM	**Barren Site**	**20.44**	**334**	P		Pn	10 21 21.8	-0.5
Y22D	**IRIS PASSCAL I**	**20.50**	**333**	P		**P**	**10 21 21.3**	**+0.7**
Y22D					IAmb	IAmb	10 21 23.0	
	comp=Z,19nm,0.9s							
SBM	**South Baldy**	**20.53**	**333**	P		**P**	**10 21 19.8**	**-1.4**
LENM	**Lemitar**	**20.60**	**333**	P		**P**	**10 21 22.6**	**+0.9**
FPAL	**Fort Paine**	**20.64**	**25**	P		**P**	**10 21 21.8**	**-0.1**
FPAL					IAmb	IAmb	10 21 51.2	
	comp=Z,9.8nm,0.9s							
BLOK	**Blackwell**	**20.67**	**357**			**P**	**10 21 21.3**	**-1.0**
BLOK					IAmb	IAmb	10 21 39.1	
	comp=Z,37nm,1.1s							
T35A	**Sooner Cattle**	**20.80**	**359**	P		**P**	**10 21 23.4**	**-0.4**
ANMO	**Albuquerque**	**21.05**	**335**	P		**P**	**10 21 27.2**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=152,slow=12,SNR=12							
ANMO					LR	LR	10 30 33.8	
	comp=Z,57nm,18.0s,baz=161,slow=40							
	comp=Z,2.4nm,0.8s							
ANMO	**Albuquerque**	**21.05**	**335**	P		**P**	**10 21 26.8**	**+0.1**
TUC	**Tucson**	**21.07**	**323**	P		**P**	**10 21 28.1**	**+1.4**
WVT	**Waverly**	**21.28**	**18**	P		**P**	**10 21 27.4**	**-1.4**
WVT					IAmb	IAmb	10 21 44.8	
	comp=Z,23nm,1.4s							
MGMO	**Mountain Grove**	**21.29**	**8**	P		**P**	**10 21 30.4**	**+1.5**
MGMO					IAmb	IAmb	10 21 47.1	
	comp=Z,10nm,0.7s							
CPCT	**Cooper Cave**	**21.87**	**26**	P		**P**	**10 21 34.3**	**-0.9**
CPCT					IAmb	IAmb	10 21 40.6	
	comp=Z,17nm,1.5s							
214A	**Organ Pipe Nat**	**22.05**	**319**	P		**P**	**10 21 39.4**	**+2.2**
214A					IAmb	IAmb	10 21 40.1	
	comp=Z,8.5nm,1.1s							
T47A	**Sharon Grove**	**22.30**	**19**	P		**P**	**10 21 40.4**	**+0.6**
X18A	**Snowflake**	**22.30**	**328**	P		**P**	**10 21 39.3**	**-0.7**
T25A	**Trinidad**	**22.32**	**342**	P		**P**	**10 21 42.0**	**+1.8**
T25A					IAmb	IAmb	10 21 43.6	
	comp=Z,8.0nm,0.8s							
CCM	**Cathedral Cave**	**22.32**	**10**	P		**P**	**10 21 41.1**	**+1.1**
CCM					IAmb	IAmb	10 21 55.2	
	comp=Z,9.7nm,0.6s							
TKL	**Tuckaleechee C**	**22.36**	**27**	P		**P**	**10 21 38.1**	**-2.4**
	comp=Z,3.0nm,0.6s,baz=159,slow=12,SNR=2.6							
TKL					LR	LR	10 32 42.0	
	comp=Z,38nm,18.3s,baz=166,slow=43							
	comp=Z,3.0nm,0.6s							
SIUC	**Southern Illin**	**22.40**	**14**	P		**P**	**10 21 40.4**	**-0.4**
R40A	**Maddies Statio**	**22.41**	**8**	P		**P**	**10 21 40.5**	**-0.4**
KSU1	**Kansas State U**	**22.98**	**359**	P		**P**	**10 21 46.6**	**-0.4**
KSU1					IAmb	IAmb	10 22 01.9	
	comp=Z,19nm,1.1s							
X16A	**Lo Mia Camp, P**	**23.00**	**326**	P		**P**	**10 21 48.8**	**+1.4**
SDCO	**Great Sand Dun**	**23.21**	**341**	P		**P**	**10 21 50.3**	**+0.6**
S22A	**4UR Ranch, Cre**	**23.66**	**338**	P		**P**	**10 21 55.5**	**+1.4**
WUAZ	**Wupatki**	**23.80**	**327**	P		**P**	**10 21 57.4**	**+2.1**
WUAZ					IAmb	IAmb	10 21 58.3	
	comp=Z,10.0nm,0.9s							
MVCO	**Mesa Verde**	**23.84**	**335**	P		**P**	**10 21 57.4**	**+1.7**
MVCO					IAmb	IAmb	10 21 58.5	
	comp=Z,11nm,1.4s							
PV13	**Radium Mtn., P**	**24.78**	**335**	P		**P**	**10 22 05.4**	**+1.1**
PV13					IAmb	IAmb	10 22 24.2	
	comp=Z,5.6nm,1.0s							
PV15	**Paradox Valley**	**24.81**	**336**	P		**P**	**10 22 05.5**	**+0.9**
PV15					IAmb	IAmb	10 22 22.4	
	comp=Z,8.3nm,1.2s							
W13A	**Hualapai Mount**	**24.86**	**323**	P		**P**	**10 22 06.1**	**+1.0**
PV07	**Paradox Valley**	**24.95**	**336**	P		**P**	**10 22 07.3**	**+1.4**
PV07					IAmb	IAmb	10 22 08.5	
	comp=Z,7.0nm,1.0s							
U15A	**North Rim**	**24.97**	**327**	P		**P**	**10 22 07.9**	**+1.7**
SMCO	**Snowmass**	**25.00**	**339**	P		**P**	**10 22 07.5**	**+1.0**
SMCO					IAmb	IAmb	10 22 08.6	
	comp=Z,6.4nm,1.3s							
ISCO	**Idaho Springs**	**25.13**	**342**	P		**P**	**10 22 07.9**	**+0.3**
ISCO					IAmb	IAmb	10 22 08.7	
	comp=Z,3.5nm,0.7s							
SFIN	**Lafayette**	**25.45**	**16**	P		**P**	**10 22 11.6**	**+1.5**
PFO	**Pinyon Flats O**	**25.46**	**317**	P		**P**	**10 22 12.0**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=154,slow=14,SNR=2.6							
PFO					LR	LR	10 32 41.1	
	comp=Z,62nm,18.6s,baz=160,slow=38							
	comp=Z,1.9nm,0.8s							
SDV	**Santo Domingo**	**25.70**	**103**	LR		LR	10 33 03.6	
	comp=Z,74nm,19.4s,baz=290,slow=38							
V12A	**Nelson**	**25.87**	**323**	P		**P**	**10 22 14.7**	**+0.6**
O49A	**Covington**	**26.10**	**21**	P		**P**	**10 22 15.3**	**-0.7**
Q16A	**Castle Valley**	**26.42**	**333**	P		**P**	**10 22 20.1**	**+1.0**
K38A	**Parkersburg**	**26.66**	**5**	P		**P**	**10 22 21.5**	**+0.5**
TCUT	**Toone Canyon**	**28.35**	**335**	P		**P**	**10 22 38.1**	**+1.6**
PDAR	**Pinedale Array**	**29.08**	**339**	P		**P**	**10 22 42.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=142,slow=10,SNR=8.3							
PDAR					PcP	**PcP**	**10 25 49.7**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=134,slow=3.9,SNR=2.1							
	comp=Z,0.9nm,0.8s							
NVAR	**Mina Array Bea**	**29.73**	**323**	P		**P**	**10 22 50.0**	**+1.3**
	comp=Z,4.5nm,0.8s,baz=155,slow=8.8,SNR=2.8							
NVAR					LR	LR	10 36 16.5	
	comp=Z,101nm,18.4s,baz=136,slow=40							
	comp=Z,4.5nm,0.8s							
ELK	**Elko**	**29.76**	**330**	LR		LR	10 36 19.0	
	comp=Z,72nm,19.2s,baz=169,slow=40							
REDW	**Red Top Meadow**	**30.05**	**338**	P		**P**	**10 22 52.0**	**+0.5**
REDW					IAmb	IAmb	10 22 53.0	
	comp=Z,4.1nm,0.8s							
SNOW	**Snow King Moun**	**30.11**	**338**	P		**P**	**10 22 53.0**	**+0.9**
LOHW	**Long Hollow**	**30.18**	**339**	P		**P**	**10 22 53.2**	**+0.6**
LOHW					IAmb	IAmb	10 22 54.1	
	comp=Z,4.1nm,0.8s							
J08A	**Circle Bar Ran**	**33.31**	**329**	P		**P**	**10 23 21.6**	**+1.5**
I07A	**Izee**	**34.35**	**329**	P		**P**	**10 23 30.1**	**+1.0**
I07A					IAmb	IAmb	10 23 44.6	
	comp=Z,4.5nm,1.4s							
YBH	**Yreka Blue Hor**	**34.44**	**323**	P		**P**	**10 23 29.3**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=104,slow=4.0,SNR=6.8							
YBH					LR	LR	10 39 15.6	
	comp=Z,81nm,18.3s,baz=160,slow=39							
	comp=Z,1.5nm,0.6s							
NEW	**Newport**	**36.54**	**336**	LR		LR	10 41 09.4	
	comp=Z,55nm,20.2s,baz=149,slow=40							
NEW	**Newport**	**36.54**	**336**	P		**P**	**10 23 48.3**	**+0.6**
B08A	**Colville Reser**	**37.51**	**334**	P		**P**	**10 23 56.2**	**+0.2**
MDP	**Montagnes des**	**43.84**	**99**	LR		LR	10 45 26.9	
	comp=Z,58nm,18.4s,baz=178,slow=40							
INK	**Inuvik**	**57.44**	**344**	LR		LR	10 52 12.6	
	comp=Z,46nm,18.4s,baz=92,slow=37							
ILAR	**Eielson Array**	**59.48**	**337**	P		**P**	**10 26 44.5**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=136,slow=5.5,SNR=8.6							
	comp=Z,0.9nm,0.5s							
SUA	**Susitna One**	**59.53**	**333**	P		**P**	**10 26 46.1**	**+0.8**
BMAR	**Burnt Mountain**	**60.09**	**340**	P		**P**	**10 26 49.2**	**+0.3**
M20K	**Styx River**	**60.75**	**333**	P		**P**	**10 26 53.8**	**+0.2**
M20K					IAmb	IAmb	10 26 54.4	
	comp=Z,2.7nm,0.9s							
N19K	**Bonanza Creek**	**60.97**	**331**	P		**P**	**10 26 55.2**	**+0.1**
MLY	**Manley**	**61.06**	**337**	P		**P**	**10 26 55.2**	**-0.4**
MLY					IAmb	IAmb	10 26 55.9	
	comp=Z,2.7nm,0.8s							
PLCA	**Paso Flores**	**61.21**	**158**	P		**P**	**10 26 56.8**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=330,slow=8.9,SNR=5.0							
	comp=Z,1.6nm,0.9s							
ESDC	**Sonseca Array**	**81.44**	**51**	P		**P**	**10 28 58.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=290,slow=6.1,SNR=4.4							
	comp=Z,0.6nm,0.8s							
NOA	**NORSAR Array B**	**84.16**	**28**	P		**P**	**10 29 13.3**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=294,slow=5.1,SNR=3.4							
	comp=Z,1.3nm,0.8s							
WRA	**Warramunga Arr**	**132.15**	**257**	PKP		**PKPdf**	**10 35 57.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=82,slow=2.3,SNR=3.8							
ASAR	**Alice Springs**	**132.69**	**252**	PKP		**PKPdf**	**10 35 57.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=64,slow=2.2,SNR=2.4							
PZH	**PanZhiHua**	**134.35**	**338**	PKP		**PKPdf**	**10 35 58.8**	**-1.9**

NOU ***02*** *10:17:47.1,37.˙15S×179.˙86W,h53km,MLv4.7/8, East of North Island, N.Z.*
IDC ***02*** *10:17:52.0±2.9, 36.˙97S×179.˙07E,h0km,mb3.9/2, mbtmp4.0/3,ML3.9/1, Error ellipse: s-maj=72.1km s-min=40.3km az=136.0*
NEIC ***02*** *10:17:52.9±1.2, 37.˙35S±0.˙10×179.˙25E±0.˙07,h10km±2km, mb4.3/10, Error ellipse: s-maj=17.4km s-min=8.9km az=162.0*
WEL ***02*** *10:17:54.3±1.3, 37.˚S±4.˚×17.˚9E±.˚,h10km±5km, M3.8/57, ML4.0/64, MLv3.8/57, Error ellipse: s-maj=0.0km s-min=0.0km az=77.6*
ISC 02 10:17:52.3±2.2, 37.˙25S±0.˙05×179.˙22E±0.˙08, h9km±11km, n128, σ1ᵠ30/137, mb4.1/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.79**	**246**		**Pg**	**10 18 07.8**	**+0.4**
MXZ	**Matakaoa Point**	**0.79**	**246**	P	**Pg**	**10 18 08.0**	**+0.5**
MXZ				S	**Sg**	**10 18 15.8**	**-2.0**
WMGZ	**Waiomatatini S**	**0.85**	**228**	P	**Pn**	**10 18 11.6**	**+1.1**
WMGZ				S	**Sb**	**10 18 22.7**	**+1.8**
PKGZ	**Pakihiroa**	**1.11**	**234**	P	**Pn**	**10 18 14.7**	**+0.7**
PKGZ				S	**Sg**	**10 18 20.8**	**+0.1**
PUZ	**Puketiti**	**1.12**	**223**	P	**Pn**	**10 18 15.4**	**+1.3**
PUZ				S	**Sb**	**10 18 29.3**	**+0.8**
HAZ	**Te Kaha**	**1.25**	**246**	P	**Pn**	**10 18 15.3**	**-0.6**
HAZ				S	**Sb**	**10 18 31.5**	**-0.6**
TWGZ	**Tauwhareparae**	**1.35**	**226**	P	**Pb**	**10 18 18.8**	**+1.0**
TWGZ				S	**Sb**	**10 18 35.3**	**+0.1**
RUGZ	**Raukumara Rang**	**1.42**	**239**	P	**Pb**	**10 18 19.5**	**+0.6**
RUGZ				S	**Sn**	**10 18 37.0**	**-0.2**
CNGZ	**Carnagh Statio**	**1.47**	**213**	P	**Pb**	**10 18 21.2**	**+1.5**
CNGZ				S	**Sb**	**10 18 40.9**	**+2.3**
TKGZ	**Te Karaka**	**1.61**	**222**	P	**Pn**	**10 18 21.9**	**+1.0**
WIZ	**White Island**	**1.64**	**260**	P	**Pb**	**10 18 21.8**	**-0.9**
MWZ	**Matawai**	**1.72**	**230**	P	**Pn**	**10 18 23.8**	**+1.4**
RIGZ	**Rimuhau**	**1.85**	**218**	P	**Pn**	**10 18 25.4**	**+1.1**
WHRZ	**Whale Island**	**1.88**	**251**	P	**Pb**	**10 18 26.2**	**-0.6**
RAGZ	**Rawiri**	**1.89**	**228**	P	**Pn**	**10 18 26.4**	**+1.6**
URZ	**Urewera**	**1.95**	**238**	Pn	**Pn**	**10 18 26.7**	**+1.1**
	42nm,0.3s,baz=121,slow=2.2,SNR=93						
URZ				Sn	**Sn**	**10 18 47.7**	**-2.5**
	63nm,0.3s,baz=121,slow=12,SNR=24						
	195nm,0.5s						
URZ	**Urewera**	**1.95**	**238**		**Pn**	**10 18 26.3**	**+0.8**
URZ	**Urewera**	**1.95**	**238**	P	**Pn**	**10 18 26.9**	**+1.3**
URZ	**Urewera**	**1.95**	**238**	P	**Pn**	**10 18 27.1**	**+1.5**
PRGZ	**Paritu Road**	**1.97**	**212**	P	**Pn**	**10 18 27.2**	**+1.2**
EDRZ	**Edgecumbe**	**2.14**	**246**	P	**Pn**	**10 18 29.4**	**+1.1**
KNZ	**Kokohu**	**2.15**	**214**	P	**Pn**	**10 18 28.7**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.16**	**208**	P	**Pn**	**10 18 29.7**	**+1.2**
OPRZ	**Ohinepanea**	**2.20**	**254**	P	**Pn**	**10 18 29.3**	**+0.3**
RTZ	**Ruatahuna**	**2.23**	**232**	P	**Pn**	**10 18 30.9**	**+1.4**
MUGZ	**Murupara**	**2.29**	**237**	P	**Pn**	**10 18 31.2**	**+0.9**
TARZ	**Mount Tarawera**	**2.36**	**245**	P	**Pn**	**10 18 32.7**	**+1.4**
RAHZ	**Arahi**	**2.37**	**225**	P	**Pn**	**10 18 32.9**	**+1.6**
MYRZ	**Mayor Island**	**2.37**	**268**	P	**Pn**	**10 18 31.6**	**+0.2**
TGRZ	**Tauranga**	**2.40**	**258**	P	**Pn**	**10 18 32.2**	**+0.5**
RRRZ	**Republican Roa**	**2.40**	**242**	P	**Pn**	**10 18 33.1**	**+1.3**
WHHZ	**Waihua**	**2.40**	**220**	P	**Pn**	**10 18 32.7**	**+1.0**
OMRZ	**Omania**	**2.41**	**248**	P	**Pn**	**10 18 33.3**	**+1.3**
MTHZ	**Maungatapiri**	**2.46**	**229**	P	**Pn**	**10 18 34.0**	**+1.3**
HLRZ	**Highlands Stat**	**2.48**	**245**	P	**Pn**	**10 18 34.2**	**+1.3**
KARZ	**Kaharoa**	**2.48**	**251**	P	**Pn**	**10 18 33.7**	**+0.8**
PRRZ	**Plateau Road**	**2.56**	**240**	P	**Pn**	**10 18 34.6**	**+0.7**
UTU	**Utuhina**	**2.57**	**248**	P	**Pb**	**10 18 36.5**	**-2.0**
HSRZ	**Hossack Road**	**2.58**	**245**	P	**Pn**	**10 18 36.0**	**+1.8**
ALRZ	**Allen Road**	**2.62**	**239**	P	**Pn**	**10 18 35.8**	**+1.0**
NMHZ	**Naumai**	**2.65**	**225**	P	**Pn**	**10 18 37.2**	**+2.0**
ARHZ	**Aropaoanui**	**2.66**	**220**	P	**Pn**	**10 18 36.3**	**+0.9**
MRHZ	**Matea Rd**	**2.72**	**234**	P	**Pn**	**10 18 37.5**	**+1.3**
WPRZ	**Whakapapatarin**	**2.73**	**241**	P	**Pn**	**10 18 37.9**	**+1.6**
KUZ	**Kuaotunu**	**2.84**	**279**	P	**Pn**	**10 18 36.7**	**-1.1**
BKZ	**Black Stump Fm**	**2.88**	**227**		**Pn**	**10 18 38.8**	**+0.5**
BKZ	**Black Stump Fm**	**2.88**	**227**	P	**Pn**	**10 18 39.1**	**+0.8**
BKZ	**Black Stump Fm**	**2.88**	**227**	P	**Pn**	**10 18 39.5**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.93**	**214**	P	**Pn**	**10 18 39.3**	**+0.2**
KUTZ	**Kaahu Road**	**2.96**	**244**	P	**Pn**	**10 18 40.5**	**+1.1**
TOZ	**Tahuroa Road**	**2.99**	**260**	P	**Pn**	**10 18 39.8**	**-0.1**
KWHZ	**Kaweka Forest**	**3.09**	**224**	P	**Pn**	**10 18 41.5**	**+0.2**
TLZ	**Tolley Road**	**3.11**	**249**	P	**Pn**	**10 18 42.4**	**+0.9**
KAHZ	**Kahuranaki**	**3.13**	**215**	P	**Pn**	**10 18 41.9**	**0.0**
RITZ	**Rihia Road**	**3.16**	**236**	P	**Pn**	**10 18 43.6**	**+1.3**
GRZ	**Great Barrier**	**3.18**	**287**	P	**Pn**	**10 18 43.4**	**+1.0**
MKAZ	**Moumakai**	**3.24**	**271**	P	**Pn**	**10 18 42.7**	**-0.6**
KRHZ	**Kereru**	**3.27**	**222**	P	**Pn**	**10 18 43.8**	**0.0**
PXZ	**Pawanui**	**3.33**	**213**	P	**Pn**	**10 18 43.8**	**-0.8**
TMVZ	**Te Maari**	**3.34**	**235**	P	**Pn**	**10 18 45.4**	**+0.6**
ETVZ	**East Tongariro**	**3.34**	**235**	P	**Pn**	**10 18 45.5**	**+0.7**
NNVZ	**North Ngauruho**	**3.40**	**235**	P	**Pn**	**10 18 47.4**	**+1.7**
WTVZ	**West Tongariro**	**3.41**	**236**	P	**Pn**	**10 18 47.6**	**+1.8**
ETAZ	**East Tamaki Re**	**3.44**	**274**	P	**Pn**	**10 18 47.5**	**+1.4**
MOVZ	**Moawhango**	**3.47**	**231**	P	**Pn**	**10 18 46.9**	**+0.3**
MBAZ	**Motutapu North**	**3.49**	**277**	P	**Pn**	**10 18 47.1**	**+0.3**
TWVZ	**Taurewa**	**3.49**	**237**	P	**Pn**	**10 18 48.8**	**+1.9**
WHVZ	**Whangaehu Hut**	**3.50**	**233**	P	**Pn**	**10 18 47.6**	**+0.5**
FWVZ	**Far West T-bar**	**3.51**	**234**	P	**Pn**	**10 18 48.3**	**+1.0**
WNVZ	**Wahianoa**	**3.52**	**233**	P	**Pn**	**10 18 47.7**	**+0.4**
WPHZ	**Waipukurau**	**3.55**	**217**	P	**Pn**	**10 18 47.2**	**-0.5**
PNHZ	**Pukenui**	**3.56**	**221**	P	**Pn**	**10 18 47.2**	**-0.5**
ABAZ	**Army Bay**	**3.57**	**279**	P	**Pn**	**10 18 49.9**	**+2.0**
EPAZ	**Eden Park BICE**	**3.60**	**275**	P	**Pn**	**10 18 50.2**	**+2.0**
HBAZ	**Herne Bay Bore**	**3.61**	**275**	P	**Pn**	**10 18 50.5**	**+2.1**

σ1ᵍ88/237, **mb4.7**/23, **MS3.6**/16, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.98**	**246**		**Pn**	**10 25 07.8**	**+1.1**
MXZ				Sg	**Sg**	**10 25 19.4**	**+0.8**
MXZ	**Matakaoa Point**	**0.98**	**246**	P	**Pn**	**10 25 07.9**	**+1.1**
MXZ				S	**Sg**	**10 25 18.8**	**+0.3**
WMGZ	**Waiomatatini S**	**1.04**	**231**	P	**Pn**	**10 25 10.9**	**+3.3**
WMGZ				S	**Sn**	**10 25 25.6**	**+3.4**
PKGZ	**Pakihiroa**	**1.30**	**236**	P	**Pg**	**10 25 13.9**	**+2.1**
PKGZ				S	**Sg**	**10 25 29.8**	**+1.1**
PUZ	**Puketiti**	**1.30**	**226**	P	**Pg**	**10 25 14.6**	**+2.7**
PUZ				S	**Sg**	**10 25 31.5**	**+2.7**
HAZ	**Te Kaha**	**1.44**	**245**	P	**Pg**	**10 25 14.8**	**+0.3**
TWGZ	**Tauwhareparae**	**1.53**	**228**	P	**Pg**	**10 25 17.9**	**+1.6**
TWGZ				S	**Sg**	**10 25 37.9**	**+1.7**
RUGZ	**Raukumara Rang**	**1.61**	**240**	P	**Pg**	**10 25 18.6**	**+0.9**
RUGZ				S	**Sg**	**10 25 40.0**	**+1.3**
CNGZ	**Carnagh Statio**	**1.63**	**216**	P	**Pg**	**10 25 19.8**	**+1.6**
CNGZ				S	**Sg**	**10 25 41.6**	**+2.2**
TKGZ	**Te Karaka**	**1.79**	**224**	P	**Pg**	**10 25 20.9**	**-0.3**
TKGZ				S	**Sg**	**10 25 42.9**	**-1.4**
WIZ	**White Island**	**1.82**	**258**	P	**Pn**	**10 25 18.9**	**+0.6**
WIZ				S	**Sn**	**10 25 39.4**	**-2.1**
WSRZ	**White Island S**	**1.83**	**258**	P	**Pn**	**10 25 19.3**	**+0.8**
WSRZ				S	**Sn**	**10 25 40.6**	**-1.1**
MWZ	**Matawai**	**1.91**	**232**	P	**Pg**	**10 25 22.4**	**-1.1**
MWZ				S	**Sb**	**10 25 45.1**	**-0.6**
RIGZ	**Rimuhau**	**2.02**	**220**	P	**Pg**	**10 25 24.1**	**-1.7**
WHRZ	**Whale Island**	**2.07**	**250**	P	**Pb**	**10 25 24.4**	**-0.3**
RAGZ	**Rawiri**	**2.08**	**230**	P	**Pb**	**10 25 24.7**	**-0.1**
PRGZ	**Paritu Road**	**2.14**	**214**	P	**Pb**	**10 25 25.6**	**-0.2**
URZ	**Urewera**	**2.14**	**239**	P	**Pb**	**10 25 25.2**	**-0.5**
	509nm,0.3s,baz=301,slow=1.1,SNR=55						
URZ				S	**Sn**	**10 25 49.8**	**+0.5**
	2μm,0.6s,baz=301,slow=15,SNR=18						
URZ				LR	LR	10 26 20.2	
	comp=Z,606nm,21.9s,baz=33,slow=44						
URZ	**Urewera**	**2.14**	**239**	P	**Pb**	**10 25 25.5**	**-0.3**
URZ	**Urewera**	**2.14**	**239**	P	**Pb**	**10 25 25.6**	**-0.2**
SNGZ	**Shannon Statio**	**2.31**	**225**	P	**Pb**	**10 25 27.6**	**-1.1**
KNZ	**Kokohu**	**2.31**	**216**	P	**Pb**	**10 25 27.3**	**-1.4**
MHGZ	**Mahia Peninsul**	**2.32**	**211**	P	**Pb**	**10 25 28.2**	**-0.6**
EDRZ	**Edgecumbe**	**2.33**	**246**	P	**Pb**	**10 25 27.8**	**-1.4**
MARZ	**Manawahe**	**2.34**	**249**	P	**Pb**	**10 25 27.4**	**-1.8**
OPRZ	**Ohinepanea**	**2.39**	**253**	P	**Pn**	**10 25 27.4**	**+1.3**
RTZ	**Ruatahuna**	**2.42**	**232**	P	**Pb**	**10 25 29.7**	**-0.9**
MUGZ	**Murupara**	**2.48**	**237**	P	**Pb**	**10 25 29.7**	**-1.9**
MKRZ	**Makatiti**	**2.55**	**247**	P	**Pb**	**10 25 31.8**	**-1.0**
RAHZ	**Arahi**	**2.55**	**226**	P	**Pb**	**10 25 31.5**	**-1.2**
MYRZ	**Mayor Island**	**2.55**	**267**	P	**Pn**	**10 25 29.0**	**+0.7**
TARZ	**Mount Tarawera**	**2.56**	**244**	P	**Pb**	**10 25 31.1**	**-1.8**
LIRZ	**Lichensteins R**	**2.56**	**250**	P	**Pb**	**10 25 31.0**	**-1.9**
WHHZ	**Waihua**	**2.58**	**222**	P	**Pb**	**10 25 31.5**	**-1.8**
TGRZ	**Tauranga**	**2.59**	**257**	P	**Pn**	**10 25 30.1**	**+1.3**
RRRZ	**Republican Roa**	**2.59**	**242**	P	**Pb**	**10 25 31.6**	**-1.9**
OMRZ	**Omania**	**2.60**	**248**	P	**Pb**	**10 25 31.6**	**-2.2**
MTHZ	**Maungataniwha**	**2.65**	**230**	P	**Pb**	**10 25 32.6**	**-1.9**
HLRZ	**Highlands Stat**	**2.67**	**245**	P	**Pb**	**10 25 32.6**	**-2.3**
KARZ	**Kaharoa**	**2.67**	**250**	P	**Pn**	**10 25 32.0**	**+1.9**
NGRZ	**Ngongotaha**	**2.74**	**249**	P	**Pb**	**10 25 33.9**	**-2.1**
PRRZ	**Plateau Road**	**2.75**	**240**	P	**Pn**	**10 25 33.2**	**+2.1**
UTU	**Utuhina**	**2.76**	**248**	P	**Pb**	**10 25 34.8**	**-1.6**
HSRZ	**Hossack Road**	**2.77**	**245**	P	**Pb**	**10 25 34.6**	**-2.2**
HRRZ	**Handcock Road**	**2.78**	**243**	P	**Pn**	**10 25 33.7**	**+2.3**
ALRZ	**Allen Road**	**2.81**	**239**	P	**Pn**	**10 25 34.0**	**+2.0**
NMHZ	**Naumai**	**2.83**	**226**	P	**Pb**	**10 25 35.4**	**-2.2**
ARHZ	**Aropaoanui**	**2.84**	**222**	P	**Pb**	**10 25 35.0**	**-2.7**
KMRZ	**Kaimai**	**2.86**	**255**	P	**Pn**	**10 25 34.1**	**+1.5**
GRRZ	**Galatos Road**	**2.89**	**245**	P	**Pb**	**10 25 35.7**	**-2.8**
MRHZ	**Matea Rd**	**2.91**	**234**	P	**Pn**	**10 25 35.4**	**+2.1**
WPRZ	**Whakapapatarin**	**2.92**	**241**	P	**Pn**	**10 25 36.0**	**+2.6**
KUZ	**Kuaotunu**	**3.00**	**277**	P	**Pn**	**10 25 34.8**	**+0.2**
BKZ	**Black Stump Fm**	**3.06**	**228**	Pn	**Pn**	**10 25 36.0**	**+0.6**
BKZ	**Black Stump Fm**	**3.06**	**228**	P	**Pn**	**10 25 37.6**	**+2.2**
BKZ	**Black Stump Fm**	**3.06**	**228**	P	**Pb**	**10 25 37.9**	**-3.6**
CKHZ	**Cape Kidnapper**	**3.10**	**216**	P	**Pn**	**10 25 37.6**	**+1.8**
WHTZ	**Whakaora**	**3.13**	**240**	P	**Pb**	**10 25 41.3**	**-1.4**
KUTZ	**Kaahu Road**	**3.15**	**244**	P	**Pn**	**10 25 38.9**	**+2.3**
HATZ	**Hinemaiaia**	**3.15**	**236**	P	**Pn**	**10 25 39.1**	**+2.5**
TOZ	**Tahuroa Road**	**3.18**	**259**	P	**Pn**	**10 25 38.1**	**+1.1**
KWHZ	**Kaweka Forest**	**3.27**	**226**	P	**Pn**	**10 25 40.2**	**+2.4**
TLZ	**Tolley Road**	**3.30**	**248**	P	**Pn**	**10 25 40.7**	**+2.0**
KAHZ	**Kahuranaki**	**3.30**	**217**	P	**Pn**	**10 25 40.3**	**+1.6**
WATZ	**Wairara**	**3.31**	**241**	P	**Pb**	**10 25 43.7**	**-2.0**
GRZ	**Great Barrier**	**3.32**	**285**	P	**Pn**	**10 25 39.6**	**+0.6**
RITZ	**Rihia Road**	**3.35**	**236**	P	**Pb**	**10 25 42.9**	**-3.5**
RATZ	**Rangitukua**	**3.35**	**239**	P	**Pn**	**10 25 42.5**	**+3.1**
MKAZ	**Moumakai**	**3.42**	**270**	P	**Pn**	**10 25 41.0**	**+0.8**
KRHZ	**Kereru**	**3.45**	**223**	P	**Pn**	**10 25 42.5**	**+1.8**
KATZ	**Kakaramea**	**3.46**	**237**	P	**Pb**	**10 25 44.5**	**-3.8**
WIAZ	**Waiheke Island**	**3.46**	**275**	P	**Pn**	**10 25 42.0**	**+1.1**
BHHZ	**Black Hill Sta**	**3.52**	**228**	P	**Pn**	**10 25 44.0**	**+2.3**
TMVZ	**Te Maari**	**3.52**	**235**	P	**Pn**	**10 25 43.7**	**+1.8**
ETVZ	**East Tongariro**	**3.53**	**235**	P	**Pn**	**10 25 43.6**	**+1.7**
NTVZ	**North Tongarir**	**3.53**	**236**	P	**Pn**	**10 25 44.7**	**+2.7**
KRVZ	**Karewarewa**	**3.56**	**236**	P	**Pn**	**10 25 44.2**	**+1.9**
OTVZ	**Oturere**	**3.58**	**235**	P	**Pb**	**10 25 46.5**	**-3.9**
NNVZ	**North Ngauruho**	**3.59**	**236**	P	**Pn**	**10 25 46.3**	**+3.2**
WTVZ	**West Tongariro**	**3.60**	**236**	P	**Pn**	**10 25 45.2**	**+2.3**
SNVZ	**South Ngauruho**	**3.60**	**235**	P	**Pn**	**10 25 45.6**	**+2.6**
ETAZ	**East Tamaki Re**	**3.61**	**272**	P	**Pn**	**10 25 44.2**	**+1.3**
NGZ	**Ngauruhoe**	**3.62**	**235**	P	**Pn**	**10 25 46.3**	**+3.0**
TUVZ	**Tukino**	**3.64**	**234**	P	**Pb**	**10 25 48.8**	**-2.7**
MBAZ	**Motutapu North**	**3.65**	**275**	P	**Pn**	**10 25 44.8**	**+1.3**
MOVZ	**Moawhango**	**3.66**	**231**	P	**Pn**	**10 25 45.7**	**+2.0**
TWVZ	**Taurewa**	**3.68**	**238**	P	**Pn**	**10 25 46.6**	**+2.6**
WHVZ	**Whangaehu Hut**	**3.69**	**234**	P	**Pn**	**10 25 46.3**	**+2.1**
FWVZ	**Far West T-bar**	**3.70**	**235**	P	**Pn**	**10 25 46.5**	**+2.2**
DRZ	**Dome Shelter**	**3.70**	**234**	P	**Pb**	**10 25 50.8**	**-1.8**
WNVZ	**Wahianoa**	**3.71**	**233**	P	**Pn**	**10 25 46.0**	**+1.5**
TRVZ	**Turoa**	**3.73**	**234**	P	**Pn**	**10 25 47.6**	**+2.9**
ABAZ	**Army Bay**	**3.73**	**277**	P	**Pn**	**10 25 46.0**	**+1.4**
PNHZ	**Pukenui**	**3.73**	**222**	P	**Pn**	**10 25 45.7**	**+1.1**
EPAZ	**Eden Park BICE**	**3.77**	**273**	P	**Pn**	**10 25 47.1**	**+2.1**
HBAZ	**Herne Bay Bore**	**3.78**	**273**	P	**Pn**	**10 25 47.3**	**+2.1**
AWAZ	**Awhitu Peninsu**	**3.83**	**270**	P	**Pn**	**10 25 47.7**	**+1.8**
PKVZ	**Pokaka**	**3.85**	**235**	P	**Pn**	**10 25 49.3**	**+3.0**
HIZ	**Hauiti**	**3.86**	**248**		**Pn**	**10 25 49.0**	**+2.6**
HIZ	**Hauiti**	**3.86**	**248**	P	**Pn**	**10 25 49.0**	**+2.6**
HIZ	**Hauiti**	**3.86**	**248**	P	**Pn**	**10 25 49.2**	**+2.8**
WTAZ	**Waiatarua**	**3.90**	**272**	P	**Pn**	**10 25 48.8**	**+1.9**
RVAZ	**Riverhead Bore**	**3.91**	**274**	P	**Pn**	**10 25 48.8**	**+1.8**
ANWZ	**Angora Road**	**4.02**	**214**	P	**Pn**	**10 25 50.0**	**+1.5**
WCZ	**Waipu Caves**	**4.28**	**285**	P	**Pn**	**10 25 53.4**	**+1.3**
BFZ	**Birch Farm**	**4.30**	**214**		**Pn**	**10 25 52.1**	**-0.3**
BFZ	**Birch Farm**	**4.30**	**214**	P	**Pn**	**10 25 52.8**	**+0.4**
WAZ	**Wanganui**	**4.34**	**232**	P	**Pn**	**10 25 54.9**	**+1.9**
OHWZ	**Ohakea**	**4.42**	**225**	P	**Pn**	**10 25 56.6**	**+2.5**
MHEZ	**Mangahewa**	**4.46**	**243**	P	**Pb**	**10 26 01.5**	**-3.7**
LREZ	**Lake Rotokare**	**4.57**	**238**	P	**Pn**	**10 25 59.8**	**+3.6**
DREZ	**Durham Road**	**4.59**	**242**	P	**Pn**	**10 26 00.4**	**+4.0**
PREZ	**Palmer Road**	**4.68**	**241**	P	Pn	10 26 02.2	+4.5
NEZ	**North Egmont**	**4.70**	**242**	P	Pn	10 26 02.5	+4.5
PKE	**Pukeiti**	**4.74**	**243**	P	Pb	10 26 04.3	-5.9
KHEZ	**Kahui Hut**	**4.76**	**242**	P	Pn	10 26 03.7	+4.9
NBEZ	**Newall Road No**	**4.86**	**243**	P	**Pn**	**10 26 04.1**	**+4.0**
NMEZ	**Namu Road**	**4.91**	**241**	P	Pn	10 26 06.4	+5.7
OUZ	**Omahuta**	**5.11**	**291**		**Pn**	**10 26 04.8**	**+1.4**
OUZ	**Omahuta**	**5.11**	**291**	P	**Pn**	**10 26 05.0**	**+1.6**
OUZ	**Omahuta**	**5.11**	**291**	P	**Pn**	**10 26 05.2**	**+1.7**
MSWZ	**Moikau Station**	**5.34**	**216**		**Pn**	**10 26 05.6**	**-1.1**
PLWZ	**Palliser**	**5.46**	**215**	Pn	**Pn**	**10 26 06.7**	**-1.6**
SNZO	**South Karori**	**5.53**	**220**	Pn	**Pn**	**10 26 08.5**	**-0.7**
SNZO	**South Karori**	**5.53**	**220**	P	**Pn**	**10 26 08.8**	**-0.5**
TUWZ	**Tuamarina**	**6.02**	**223**	Pn	**Pn**	**10 26 14.4**	**-1.6**
CMWZ	**Cape Campbell**	**6.10**	**220**	Pn	**Pn**	**10 26 16.1**	**-1.1**
NNZ	**Nelson**	**6.20**	**227**	Pn	**Pn**	**10 26 17.6**	**-0.9**
BSWZ	**Blackbirch Sta**	**6.25**	**222**	Pn	**Pn**	**10 26 18.4**	**-0.8**
QRZ	**Quartz Range**	**6.50**	**234**	Pn	**Pn**	**10 26 22.1**	**-0.5**
QRZ	**Quartz Range**	**6.50**	**234**	P	**Pn**	**10 26 22.5**	**-0.1**
THZ	**Tophouse**	**6.82**	**226**	Pn	**Pn**	**10 26 25.7**	**-1.4**
KHZ	**Kahutara**	**6.93**	**219**	Pn	**Pn**	**10 26 27.4**	**-1.1**
KHZ	**Kahutara**	**6.93**	**219**	P	**Pn**	**10 26 27.7**	**-0.8**
CTZ	**Chatham Island**	**7.22**	**157**	P	Pn	10 26 37.3	+4.9
LTZ	**Lake Taylor**	**7.85**	**222**	Pn	**Pn**	**10 26 41.2**	**0.0**
MQZ	**McQueen's Vall**	**8.33**	**216**	Pn	**Pn**	**10 26 46.2**	**-1.4**
OXZ	**Oxford**	**8.35**	**220**	Pn	**Pn**	**10 26 45.9**	**-2.2**
WVZ	**Waitaha Valley**	**8.89**	**226**	P	**Pn**	**10 26 57.4**	**+1.9**
RPZ	**Rata Peaks**	**9.14**	**222**	P	**Pn**	**10 26 57.5**	**-1.3**
	6.2nm,0.3s,baz=233,slow=2.9,SNR=10						
RPZ				S	Sn	10 28 30.5	-11
	19nm,0.3s,baz=114,slow=5.5,SNR=13						
RPZ	**Rata Peaks**	**9.14**	**222**	P	**Pn**	**10 26 58.0**	**-0.8**
LBZ	**Lake Benmore**	**10.05**	**221**	Pn	**Pn**	**10 27 08.6**	**-2.7**
ODZ	**Otahua Downs**	**10.28**	**217**	Pn	**Pn**	**10 27 13.0**	**-1.5**
ODZ	**Otahua Downs**	**10.28**	**217**	P	**Pn**	**10 27 12.1**	**-2.4**
JCZ	**Jackson Bay**	**10.63**	**226**	P	**Pn**	**10 27 20.7**	**+1.4**
WKZ	**Wanaka**	**10.97**	**223**	Pn	**Pn**	**10 27 23.2**	**-0.7**
MLZ	**Mavora Lakes**	**11.80**	**223**	Pn	**Pn**	**10 27 33.7**	**-1.6**
WHZ	**Wether Hill Ro**	**12.24**	**221**	Pn	**Pn**	**10 27 39.2**	**-2.1**
DZM	**Mont Dzumac**	**18.78**	**320**	*e*LR	LR	10 33 30.0	
	comp=Z,580nm,24.9s						
DZM	**Mont Dzumac**	**18.78**	**320**	P	**P**	**10 29 03.2**	**-3.3**
	10nm,1.1s,baz=98,slow=20,SNR=1.9						
DZM				LR	LR	10 35 21.6	
	comp=Z,362nm,18.3s,baz=63,slow=34						
MSVF	**Nonsavu**	**19.40**	**356**	LR	LR	10 35 08.4	
	comp=Z,187nm,19.4s,baz=191,slow=32						
MSVF	**Nonsavu**	**19.40**	**356**	P	**Pn**	**10 29 16.9**	**+2.5**
KOUNC	**Koumac, New Ca**	**21.17**	**317**	P	**P**	**10 29 34.5**	**+2.1**
AFI	**Afiamalu**	**24.46**	**21**	P	**P**	**10 30 09.7**	**+3.5**
	12nm,0.6s,baz=211,slow=21,SNR=2.1						
	12nm,0.6s						
TAU	**Tasmania Unive**	**25.15**	**247**	P	**P**	**10 30 12.7**	**+0.5**
EIDS	**Eidsvold**	**26.83**	**288**	P	**P**	**10 30 26.6**	**-1.0**
TOO	**Toolangi**	**26.90**	**259**	P	**P**	**10 30 27.1**	**-1.0**
TOO	**Toolangi**	**26.90**	**259**	P	**P**	**10 30 29.1**	**+1.0**
CMSA	**Cobar Meteorol**	**28.32**	**271**	P	**P**	**10 30 42.1**	**+1.2**
ARPS	**Mount Arapiles**	**29.91**	**259**	P	**P**	**10 30 56.8**	**+1.8**
TBI	**Tubuai**	**30.04**	**72**	*e*LR	LR	10 38 40.6	
	comp=Z,206nm,24.8s						
TBI	**Tubuai**	**30.04**	**72**	*e*T	T	11 02 32.8	
	12nm,0.3s						
STKA	**Stephens Creek**	**31.48**	**268**	P	**P**	**10 31 08.4**	**-0.4**
	3.1nm,0.7s,baz=98,slow=12,SNR=6.1						
STKA				LR	LR	10 43 39.4	
	comp=Z,82nm,18.0s,baz=34,slow=36						
	3.1nm,0.7s						
STKA	**Stephens Creek**	**31.48**	**268**	P	**P**	**10 31 06.9**	**-1.9**
HTT	**Hallett**	**33.10**	**264**	P	**P**	**10 31 23.9**	**+0.8**
PAE	**Paea**	**33.45**	**63**	*e*T	T	11 06 57.8	
	1.7nm,0.3s						
PPT2	**Papeete2**	**33.50**	**63**	*e*LR	LR	10 40 16.6	
	comp=Z,185nm,24.0s						
PPT2	**Papeete2**	**33.50**	**63**	*e*T	T	11 06 53.8	
	1.6nm,0.3s						
CTA	**Charters Tower**	**33.51**	**291**	LR	LR	10 43 48.0	
	comp=Z,78nm,20.1s,baz=92,slow=34						
CTA	**Charters Tower**	**33.51**	**291**	P	**P**	**10 31 27.2**	**+0.5**
CTAO	**Charters Tower**	**33.51**	**291**	P	**P**	**10 31 25.6**	**-1.1**
CTAO				IAmb	IAmb	10 31 28.5	
	comp=Z,10nm,1.1s						
CTAO	**Charters Tower**	**33.51**	**291**	P	**P**	**10 31 27.4**	**+0.7**
PPT	**Papeete**	**33.52**	**63**	LR	LR	10 42 51.7	
	comp=Z,70nm,21.9s,baz=354,slow=32						
INKA	**Innaminka**	**33.78**	**275**	P	**P**	**10 31 29.9**	**+0.9**
LCRK	**Leigh Creek**	**34.69**	**269**	P	**P**	**10 31 37.4**	**+0.5**
BBOO	**Buckleboo**	**35.57**	**264**	P	**P**	**10 31 43.8**	**-0.7**
BBOO				IAmb	IAmb	10 31 51.5	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**35.57**	**264**	P	**P**	**10 31 44.6**	**+0.1**
VAH	**Vaihoa**	**36.46**	**62**	*e*T	T	11 10 32.6	
	comp=Z,6.1nm,0.2s						
OOD	**Oodnadatta**	**37.79**	**271**	P	**P**	**10 32 03.9**	**+0.5**
MULG	**Mulgathing**	**38.07**	**267**	P	**P**	**10 32 05.4**	**-0.4**
QIS	**Mount Isa**	**38.29**	**284**	P	**P**	**10 32 08.3**	**+0.6**
COEN	**Coen**	**39.69**	**296**	P	**P**	**10 32 19.0**	**-0.5**
COEN				IAmb	IAmb	10 32 20.3	
	comp=Z,23nm,0.8s						
COEN	**Coen**	**39.69**	**296**	P	**P**	**10 32 19.8**	**+0.4**
PMG	**Port Moresby**	**40.17**	**305**	LR	LR	10 47 20.7	
	comp=Z,71nm,19.2s,baz=92,slow=34						
PMG	**Port Moresby**	**40.17**	**305**	P	**P**	**10 32 22.4**	**-1.0**
PMG				IAmb	IAmb	10 32 25.2	
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**41.13**	**276**	P	**P**	**10 32 30.6**	**-0.8**
AS31				IAmb	IAmb	10 32 31.7	
	comp=Z,6.7nm,0.5s						
ASAR	**Alice Springs**	**41.13**	**276**	P	**P**	**10 32 30.6**	**-0.7**
	comp=Z,13nm,0.6s,baz=121,slow=8.1,SNR=324						
ASAR				PcP	**PcP**	**10 34 29.6**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=127,slow=4.0,SNR=3.3						
ASAR				ScP	**ScP**	**10 38 14.0**	**-6.6**
	comp=Z,0.4nm,0.8s,baz=121,slow=4.2,SNR=1.1						
ASAR				S	S	10 38 34.0	-11
	comp=Z,1.7nm,0.9s,baz=122,slow=14,SNR=8.7						
ASAR				LR	LR	10 48 43.5	
	comp=Z,90nm,20.0s,baz=89,slow=35						
	comp=Z,13nm,0.6s						
ASAR	**Alice Springs**	**41.13**	**276**	P	**P**	**10 32 30.0**	**-1.4**
VNDA	**Vanda**	**41.16**	**186**	LR	LR	10 48 18.2	
	comp=Z,50nm,18.1s,baz=16,slow=34						
WR0	**Warramunga Arr**	**42.57**	**281**	P	**P**	**10 32 41.8**	**-1.3**
FORT	**Forrest**	**42.65**	**263**	P	**P**	**10 32 42.5**	**-1.2**
FORT	**Forrest**	**42.65**	**263**	P	**P**	**10 32 43.1**	**-0.6**
WB2	**Warramunga Arr**	**42.73**	**281**	P	**P**	**10 32 43.5**	**-0.9**
WRAB	**Tennant Creek**	**42.73**	**281**	P	**P**	**10 32 43.5**	**-0.9**
WRAB				IAmb	IAmb	10 32 58.4	
	comp=Z,14nm,0.7s						
WRAB	**Tennant Creek**	**42.73**	**281**	P	**P**	**10 32 43.6**	**-0.9**
WRA	**Warramunga Arr**	**42.74**	**281**	P	**P**	**10 32 43.5**	**-1.0**
	comp=Z,5.3nm,0.4s,baz=121,slow=7.6,SNR=239						
WRA				PcP	**PcP**	**10 34 36.3**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=117,slow=3.3,SNR=5.3						
WRA				ScP	**ScP**	**10 38 19.5**	**-7.5**
	comp=Z,0.5nm,1.1s,baz=112,slow=4.1,SNR=2.0						
WRA				S	S	10 38 59.3	-9.0
	comp=Z,0.6nm,1.1s,baz=117,slow=20,SNR=3.0						
WRA				LR	LR	10 49 44.7	
	comp=Z,81nm,19.9s,baz=114,slow=35						
	comp=Z,5.3nm,0.4s						
WRA	**Warramunga Arr**	**42.74**	**281**	P	**P**	**10 32 43.2**	**-1.3**
WB0	**Warramunga Arr**	**42.79**	**281**	P	**P**	**10 32 44.0**	**-0.9**
WB0				IAmb	IAmb	10 32 58.9	
	comp=Z,14nm,0.6s						
WRKA	**Warakurna**	**44.94**	**271**	P	**P**	**10 33 00.5**	**-1.7**
CASY	**Casey**	**48.20**	**210**	P	**P**	**10 33 27.4**	**+0.2**
CASY				IAmb	IAmb	10 33 45.9	
	comp=Z,7.4nm,1.1s						
MTN	**Manton Dam**	**49.37**	**286**	P	**P**	**10 33 35.6**	**-1.3**
MTN				IAmb	IAmb	10 33 41.9	
	comp=Z,19nm,1.4s						
KNRA	**Kununurra**	**49.52**	**282**	P	**P**	**10 33 37.1**	**-0.8**
KNRA	**Kununurra**	**49.52**	**282**	P	**P**	**10 33 37.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**50.30**	**255**	P	**P**	**10 33 42.9**	**-0.8**
NWAO	**Narrogin (SRO)**	**50.30**	**255**	P	**P**	**10 33 42.9**	**-0.8**
KLBR	**Kellerberrin**	**50.43**	**257**	P	**P**	**10 33 43.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.61**	**277**	LR	LR	10 53 56.3	
	comp=Z,79nm,19.7s,baz=113,slow=35						
FITZ	**Fitzroy Crossi**	**50.61**	**277**	P	**P**	**10 33 45.5**	**-0.8**
FITZ				IAmb	IAmb	10 33 46.7	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.61**	**277**	P	**P**	**10 33 45.9**	**-0.3**
MUN	**Mundaring**	**51.47**	**256**	P	**P**	**10 33 52.4**	**-0.2**
BLDU	**Ballidu**	**51.65**	**258**	P	**P**	**10 33 53.3**	**-0.7**
MEEK	**Meekatharra**	**51.91**	**263**	P	**P**	**10 33 55.5**	**-0.5**
MORW	**Morawa**	**52.84**	**259**	P	**P**	**10 34 02.2**	**-0.6**
MORW				IAmb	IAmb	10 34 30.4	
	comp=Z,10nm,1.1s						
MORW	**Morawa**	**52.84**	**259**	P	**P**	**10 34 02.1**	**-0.8**
QSPA	**South Pole Qui**	**52.96**	**180**	P	P	10 34 08.8	+5.5
	comp=Z,7.6nm,0.8s,baz=31,slow=0.9,SNR=51						
QSPA				LR	LR	10 52 46.6	
	comp=Z,38nm,21.2s,baz=35,slow=31						
	comp=Z,7.6nm,0.8s						
QSPA	**South Pole Qui**	**52.96**	**180**	P	**P**	**10 34 00.8**	**-2.5**
QSPA				IAmb	IAmb	10 34 21.1	
	comp=Z,8.2nm,0.6s						
PSA00	**Pilbara Seismi**	**53.40**	**269**	IAmb	IAmb	10 34 06.0	
	comp=Z,5.6nm,0.8s						
PSA00				P	**P**	**10 34 06.1**	**-0.9**
MBWA	**Marble Bar**	**53.70**	**270**	P	**P**	**10 34 08.2**	**-1.0**
MBWA	**Marble Bar**	**53.70**	**270**	P	**P**	**10 34 08.2**	**-1.0**
GUMO	**Guam**	**60.05**	**320**	LR	LR	10 57 44.7	
	comp=Z,16nm,20.1s,baz=156,slow=33						
KAPI	**Kappang**	**63.00**	**285**	LR	LR	11 04 04.5	
	comp=Z,42nm,18.4s,baz=130,slow=38						
MAW	**Mawson**	**65.24**	**202**	P	**P**	**10 35 31.5**	**+3.3**
	comp=Z,2.3nm,0.7s,baz=124,slow=7.3,SNR=2.2						
MAW				LR	LR	11 04 01.8	
	comp=Z,43nm,18.1s,baz=76,slow=36						
	comp=Z,2.3nm,0.7s						
TROLL	**Troll, Antarti**	**71.10**	**181**	P	**P**	**10 36 08.5**	**+3.4**
SNAA	**Sanae**	**71.45**	**179**	P	**P**	**10 36 10.5**	**+3.4**
SNAA	**Sanae**	**71.45**	**179**	P	**P**	**10 36 07.4**	**+0.3**
VNA3	**Neumayer Olymp**	**71.69**	**177**	P	**P**	**10 36 11.7**	**+3.2**
VNA2	**Neumayer--Watz**	**72.10**	**178**	P	**P**	**10 36 13.4**	**+2.4**
	baz=178,slow=5.7						
VNA1	**Neumayer--Stat**	**72.34**	**177**	P	**P**	**10 36 14.7**	**+2.4**
H03N3	**Juan Fernandez**	**78.74**	**123**	T	T	12 03 29.9	
	baz=234,slow=72,SNR=84						
H03N2	**Juan Fernandez**	**78.74**	**123**	T	T	12 03 31.9	
	baz=234,slow=72,SNR=60						
H03N1	**Juan Fernandez**	**78.75**	**123**	T	T	12 03 31.8	
	baz=234,slow=72,SNR=72						
PLCA	**Paso Flores**	**79.44**	**133**	P	P	10 36 58.8	+5.2
	comp=Z,1.5nm,0.7s,baz=189,slow=10,SNR=6.0						
	comp=Z,1.5nm,0.7s						
KSRS	**Korea Array**	**88.20**	**321**	P	**P**	**10 37 37.9**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=147,slow=5.3,SNR=3.4						
	comp=Z,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.67**	**290**	P	**P**	**10 38 03.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=146,slow=3.9,SNR=7.2						
CMAR				LR	LR	11 22 22.2	
	comp=Z,16nm,19.2s,baz=130,slow=37						
	comp=Z,1.3nm,0.6s						
PZH	**PanZhiHua**	**96.57**	**298**	P	**P**	**10 38 18.8**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s				

comp=Z,2.5nm,0.9s,baz=64,slow=2.1,SNR=1.4
TORD Torodi Ar. Bea 155.99 187 PKPab **PKPab 10 49 24.1 +2.6**
comp=Z,0.3nm,0.5s,baz=155,slow=5.2,SNR=1.8

---

*IDC **02** 10:42:15.3±3.3, 36°.83S×178°.51E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=70.8km s-min=39.6km az=109.0*
*WEL **02** 10:42:18.2±1.2, 37°.5±5°×17°.9E±°, h20km±5km, M3.2/19, ML3.5/20, MLv3.2/19, Error ellipse: s-maj=0.0km s-min=0.0km az=104.6*
ISC 02 10:42:16.9±2.5, 37°.26S±0°.08×179°.0E±0°.1, h26km±13km, n32, σ1§17/43, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.65**	**242**	P	**Pb**	**10 42 29.4**	**-0.2**
MXZ				S	**Sb**	**10 42 37.4**	**-0.8**
WMGZ	**Waiomatatini S**	**0.74**	**221**	P	**Pn**	**10 42 32.8**	**+1.2**
WMGZ				S	**Sn**	**10 42 43.7**	**+1.6**
PKGZ	**Pakihiroa**	**0.98**	**230**	P	**Pb**	**10 42 35.5**	**+0.2**
PKGZ				S	**Sn**	**10 42 48.7**	**+0.6**
PUZ	**Puketiti**	**1.01**	**217**	S	**Sn**	**10 42 50.5**	**+1.6**
HAZ	**Te Kaha**	**1.10**	**243**	P	**Pn**	**10 42 37.8**	**+1.1**
HAZ				S	**Sn**	**10 42 52.2**	**+1.1**
TWGZ	**Tauwhareparae**	**1.23**	**222**	P	**Pn**	**10 42 39.6**	**+1.1**
TWGZ				S	**Sn**	**10 42 56.6**	**+2.3**
RUGZ	**Raukumara Rang**	**1.28**	**236**	P	**Pb**	**10 42 40.6**	**+0.2**
RUGZ				S	**Sn**	**10 42 56.9**	**+1.3**
CNGZ	**Carnagh Statio**	**1.38**	**208**	P	**Pb**	**10 42 42.6**	**+0.6**
WHRZ	**Whale Island**	**1.73**	**249**	P	**Pn**	**10 42 46.3**	**+0.9**
URZ	**Urewera**	**1.81**	**236**	Pn	**Pn**	**10 42 47.2**	**+0.8**
	30nm,0.3s,baz=121,slow=4.4,SNR=14						
URZ				Sn	**Sn**	**10 43 08.7**	**+0.2**
	16nm,0.3s,baz=301,slow=1.8,SNR=8.2						
EDRZ	**Edgecumbe**	**2.00**	**244**	P	**Pn**	**10 42 49.9**	**+0.8**
RTZ	**Ruatahuna**	**2.11**	**229**	P	**Pn**	**10 42 52.1**	**+1.5**
TGRZ	**Tauranga**	**2.25**	**257**	P	**Pn**	**10 42 52.4**	**0.0**
RAHZ	**Arahi**	**2.25**	**222**	P	**Pn**	**10 42 53.1**	**+0.6**
RAHZ				S	**Sn**	**10 43 19.7**	**+0.2**
KARZ	**Kaharoa**	**2.33**	**250**	P	**Pn**	**10 42 54.0**	**+0.4**
PRRZ	**Plateau Road**	**2.42**	**238**	P	**Pn**	**10 42 55.2**	**+0.3**
ALRZ	**Allen Road**	**2.49**	**238**	P	**Pn**	**10 42 56.3**	**+0.6**
NMHZ	**Naumai**	**2.53**	**223**	P	**Pn**	**10 42 57.6**	**+1.2**
NMHZ				S	**Sn**	**10 43 27.0**	**+0.6**
MRHZ	**Matea Rd**	**2.59**	**232**	P	**Pn**	**10 42 57.6**	**+0.5**
TMVZ	**Te Maari**	**3.20**	**234**	P	**Pn**	**10 43 06.1**	**+0.4**
TMVZ				S	**Sn**	**10 43 40.8**	**-2.3**
ETVZ	**East Tongariro**	**3.21**	**233**	P	**Pn**	**10 43 05.8**	**0.0**
ETAZ	**East Tamaki Re**	**3.29**	**274**	P	**Pn**	**10 43 07.7**	**+1.0**
MBAZ	**Motutapu North**	**3.34**	**277**	P	**Pn**	**10 43 08.5**	**+1.1**
MOVZ	**Moawhango**	**3.35**	**229**	P	**Pn**	**10 43 07.5**	**-0.1**
WNVZ	**Wahianoa**	**3.39**	**232**	P	**Pn**	**10 43 08.3**	**0.0**
ABAZ	**Army Bay**	**3.42**	**280**	P	**Pn**	**10 43 09.7**	**+1.2**
PNHZ	**Pukenui**	**3.45**	**219**	P	**Pn**	**10 43 07.7**	**-1.3**
PNHZ				S	**Sn**	**10 43 46.1**	**-2.9**
HIZ	**Hauiti**	**3.52**	**248**	P	**Pn**	**10 43 11.4**	**+1.4**
WAZ	**Wanganui**	**4.03**	**231**	P	**Pn**	**10 43 17.5**	**+0.5**
ASAR	**Alice Springs**	**40.81**	**276**	P	**P**	**10 49 54.8**	**-1.7**
	0.3nm,0.7s,baz=111,slow=6.9,SNR=6.3 0.3nm,0.7s						
WRA	**Warramunga Arr**	**42.43**	**281**	P	**P**	**10 50 08.2**	**-1.4**
	0.4nm,0.4s,baz=120,slow=7.9,SNR=8.2 0.4nm,0.4s						
FINES	**FINESS Array B**	**150.47**	**334**	PKPbc	**PKPbc**	**11 02 06.1**	**+0.9**
	2.4nm,0.9s,baz=48,slow=2.1,SNR=2.0						

---

*DNK **02** 10:49:04.3±1.2, 60°.98N×30°.50E, h0km, ML2.8(UPP), Suspected explosion*
*HEL **02** 10:49:06.9±0.3, 63°.26N×23°.71E, h0km, ML1.4, Explosion*
*UPP **02** 10:49:07.8±2.9, 61°.02N×30°.16E, h0km, ML2.8, Suspected explosion*
*IDC **02** 10:49:09.1±1.4, 61°.11N×29°.92E, h0km, mbtmp3.4/3, ML3.3/3, Error ellipse: s-maj=12.5km s-min=10.8km az=5.0*
ISC 02 10:49:04.9±1.5, 61°.10N±0°.07×30°.24E±0°.09, h0km, n24, σ2§23/34, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FIA0	**FINESS Array S**	**2.04**	**281**	SN	**Sn**	**10 50 08.3**	**+1.8**
FINES	**FINESS Array B**	**2.04**	**281**	Pg	**Pn**	**10 49 42.3**	**+2.0**
	5.9nm,0.3s,baz=100,slow=15,SNR=101						
FINES				Lg	Lg	10 50 08.1	
	1.9nm,0.3s,baz=99,slow=25,SNR=5.6						
NUR	**Nurmijrvi**	**2.80**	**260**	PN	**Pn**	**10 49 53.3**	**+2.4**
NUR				SG	**Sb**	**10 50 33.8**	**+3.3**
MEF	**Metsahovi**	**3.01**	**255**	PN	**Pn**	**10 49 55.8**	**+2.1**
MEF				SN	**Sn**	**10 50 32.2**	**+1.8**
RMF	**Romuvaara**	**3.13**	**358**	PG	**Pn**	**10 49 58.9**	**+3.5**
RMF				SG	**Sb**	**10 50 40.9**	**+0.9**
AAL	**Aland**	**5.13**	**264**	P	**Pn**	**10 50 23.7**	**+0.9**
AAL				S	**Sn**	**10 51 23.4**	**+0.9**
BURU	**Burvik**	**5.35**	**315**	P	**Pn**	**10 50 28.2**	**+2.3**
BURU	**Burvik**	**5.35**	**315**	P	**Pn**	**10 50 28.2**	**+2.3**
ODEU	**Stanfors**	**5.49**	**311**	P	**Pn**	**10 50 29.8**	**+2.1**
ODEU	**Stanfors**	**5.49**	**311**	P	**Pn**	**10 50 29.8**	**+2.1**
GRAU	**Graesoe**	**5.79**	**267**	P	**Pn**	**10 50 32.6**	**+0.7**
GRAU				S	**Sn**	**10 51 36.6**	**-2.3**
GRAU	**Graesoe**	**5.79**	**267**	P	**Pn**	**10 50 32.6**	**+0.7**
GRAU				S	**Sn**	**10 51 36.6**	**-2.3**
NRTU	**Norrtaelje**	**5.93**	**261**	P	**Pn**	**10 50 35.2**	**+1.5**
NRTU				S	**Sn**	**10 51 40.9**	**-1.4**
NRTU	**Norrtaelje**	**5.93**	**261**	P	**Pn**	**10 50 35.2**	**+1.5**
NRTU				S	**Sn**	**10 51 40.9**	**-1.4**
FLYU	**Flymyra**	**6.16**	**266**	P	**Pn**	**10 50 37.5**	**+0.6**
FLYU	**Flymyra**	**6.16**	**266**	P	**Pn**	**10 50 37.5**	**+0.6**
ARNU	**Arnoeviken**	**6.21**	**281**	P	**Pn**	**10 50 39.0**	**+1.5**
ARNU	**Arnoeviken**	**6.21**	**281**	P	**Pn**	**10 50 39.0**	**+1.5**
IGGU	**Iggoen**	**6.29**	**274**	P	**Pn**	**10 50 40.0**	**+1.2**
IGGU	**Iggoen**	**6.29**	**274**	P	**Pn**	**10 50 40.0**	**+1.2**
PAJU	**Pajala**	**6.71**	**335**	SN	**Pn**	**10 50 48.0**	**+3.5**
ARCES	**ARCESS Array B**	**8.69**	**349**	Pn	**Pn**	**10 51 12.3**	**+0.7**
	0.2nm,0.3s,baz=169,slow=12,SNR=8.8						
ARCES				Sn	**Sn**	**10 52 46.9**	**-3.4**
	0.2nm,0.3s,baz=163,slow=25,SNR=1.6 1.0nm,0.6s						
NOA	**NORSAR Array B**	**9.22**	**278**	Pn	**Pn**	**10 51 18.7**	**-0.2**
	0.1nm,0.3s,baz=78,slow=14,SNR=27						
NOA				Sn	**Sn**	**10 52 57.4**	**-5.8**
	baz=72,slow=20,SNR=1.4						
NOA				Lg	Lg	10 53 53.5	
	0.1nm,0.3s,baz=81,slow=12,SNR=1.9 0.5nm,0.3s						
AKASG	**Malin Array Be**	**10.44**	**184**	Pn	**Pn**	**10 51 34.1**	**-1.6**
	1.2nm,0.3s,baz=359,slow=14,SNR=3.8 0.5nm,0.3s						

---

*IDC **02** 10:49:09.0±2.2, 14°.97S×76°.28W, h0km, mb3.4/2, mbtmp3.5/6, ML3.3/4, Error ellipse: s-maj=55.7km s-min=16.5km az=63.0*
ISC 02 10:49:10.5±1.5, 15°.0S±0°.1×76°.3W±0°.2, h10km, n12, σ1§57/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.99**	**350**	Pn	**Pn**	**10 49 59.0**	**+0.9**
	1.0nm,0.3s,baz=172,slow=15,SNR=1.5						
NNA				Pg	**Pb**	**10 50 03.3**	**-0.7**
	7.4nm,0.3s,baz=167,slow=18,SNR=9.3						
NNA				Sn	**Sn**	**10 50 36.4**	**+2.3**
	14nm,0.3s,baz=206,slow=13,SNR=4.6						
NNA				Lg	Lg	10 50 45.3	
	54nm,0.3s,baz=222,slow=11,SNR=13 8.3nm,0.3s						
LPAZ	**La Paz**	**8.00**	**101**	Pn	**Pn**	**10 51 07.8**	**+0.4**
	0.5nm,0.3s,baz=284,slow=10.0,SNR=11 1.0nm,0.3s						
ATAH	**Atahualpa**	**8.03**	**345**	Pn	**Pn**	**10 51 08.4**	**+0.7**
	0.2nm,0.3s,baz=153,slow=9.9,SNR=1.5						
ATAH				Sn	**Sn**	**10 52 36.5**	**-2.4**
	0.1nm,0.3s,baz=83,slow=23,SNR=2.0 2.9nm,0.8s						
LVC	**Limon Verde**	**10.35**	**138**	Pn	**Pn**	**10 51 39.9**	**+0.4**
	0.7nm,0.3s,baz=318,slow=10,SNR=9.5 1.8nm,0.4s						
H03N1	**Juan Fernandez**	**18.55**	**187**	T	T	11 12 49.1	
	baz=8.9,slow=74,SNR=203						
H03N2	**Juan Fernandez**	**18.55**	**187**	T	T	11 12 44.4	
	baz=8.9,slow=74,SNR=230						
H03N3	**Juan Fernandez**	**18.57**	**187**	T	T	11 12 44.0	
	baz=8.9,slow=74,SNR=218						
TXAR	**Lajitas Array**	**51.34**	**329**	P	**P**	**10 58 15.9**	**+0.5**
	0.2nm,0.8s,baz=153,slow=8.1,SNR=1.7 0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.10**	**74**	P	**P**	**11 01 30.6**	**-1.3**
	0.7nm,0.8s,baz=269,slow=5.3,SNR=3.6 0.7nm,0.8s						
H11S2	**WAKE ISLAND Hyd**	**19.79**	**283**	T	T	13 19 28.0	
	baz=97,slow=74,SNR=5.7						
H11S1	**WAKE ISLAND Hyd**	**19.80**	**283**	T	T	13 19 27.3	
	baz=97,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hyd**	**19.81**	**283**	T	T	13 19 29.3	
	baz=97,slow=74,SNR=8.8						

---

*NOU **02** 11:00:16.4, 37°.21S×179°.78E, h0km, mb4.7/27, Off E. Coast of N. Island, N.Z.*
*NEIC **02** 11:00:20.0±1.4, 37°.34S±0°.07×179°.42E±0°.05, h10km±1km, mb4.8/24, Error ellipse: s-maj=12.3km s-min=6.5km az=187.0*
*IDC **02** 11:00:22.3±1.2, 36°.82S×178°.85E, h0km, mb4.5/7, mbtmp4.5/7, MS3.5/2, Error ellipse: s-maj=33.5km s-min=24.8km az=46.0*
*WEL **02** 11:00:22.9±1.2, 37°.5±4°×17°.9E±°, h9km±5km, M4.1/68, ML4.4/70, MLv4.1/68, Error ellipse: s-maj=0.0km s-min=0.0km az=85.2*
ISC 02 11:00:20.4±1.9, 37°.14S±0°.04×179°.24E±0°.06, h5km±10km, n183, σ1§52/187, mb4.8/17, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.86**	**240**	Pg	**Pg**	**11 00 37.5**	**+0.6**
MXZ	**Matakaoa Point**	**0.86**	**240**	P	**Pg**	**11 00 37.8**	**+1.0**
MXZ				S	**Sg**	**11 00 46.5**	**-1.5**
WMGZ	**Waiomatatini S**	**0.95**	**224**	P	**Pn**	**11 00 42.0**	**+1.6**
WMGZ				S	**Sn**	**11 00 56.0**	**+1.7**
PKGZ	**Pakihiroa**	**1.19**	**231**	P	**Pn**	**11 00 44.2**	**+0.4**
PKGZ				S	**Sb**	**11 00 59.3**	**+0.1**
PUZ	**Puketiti**	**1.22**	**220**	P	**Pg**	**11 00 45.7**	**+2.0**
PUZ				S	**Sb**	**11 01 00.3**	**+0.3**
HAZ	**Te Kaha**	**1.31**	**241**	P	**Pn**	**11 00 44.7**	**-0.6**
HAZ				S	**Sb**	**11 01 02.6**	**-0.1**
TWGZ	**Tauwhareparae**	**1.44**	**224**	P	**Pg**	**11 00 49.2**	**+1.1**
TWGZ				S	**Sb**	**11 01 07.4**	**+0.9**
RUGZ	**Raukumara Rang**	**1.49**	**236**	P	**Pn**	**11 00 48.8**	**+0.9**
RUGZ				S	**Sn**	**11 01 07.8**	**-0.1**
CNGZ	**Carnagh Statio**	**1.57**	**211**	P	**Pb**	**11 00 51.5**	**+1.5**
CNGZ				S	**Sb**	**11 01 11.6**	**+1.4**
WIZ	**White Island**	**1.68**	**256**	P	**Pn**	**11 00 49.6**	**-0.8**
WSRZ	**White Island S**	**1.69**	**256**	P	**Pb**	**11 00 51.8**	**-0.1**
TKGZ	**Te Karaka**	**1.71**	**220**	P	**Pb**	**11 00 52.3**	**+0.1**
MWZ	**Matawai**	**1.81**	**228**	P	**Pn**	**11 00 53.7**	**+1.5**
MWZ				S	**Sn**	**11 01 15.3**	**-0.3**
WHRZ	**Whale Island**	**1.94**	**248**	P	**Pn**	**11 00 55.3**	**+1.3**
RIGZ	**Rimuhau**	**1.96**	**216**	P	**Pn**	**11 00 55.6**	**+1.4**
RAGZ	**Rawiri**	**1.98**	**226**	P	**Pn**	**11 00 56.5**	**+1.8**
URZ	**Urewera**	**2.03**	**236**	Pn	**Pn**	**11 00 56.3**	**+1.1**
	109nm,0.3s,baz=301,slow=0.2,SNR=226						
URZ				Sn	**Sn**	**11 01 19.3**	**-1.6**
	159nm,0.3s,baz=121,slow=23,SNR=56						
URZ				LR	LR	11 01 55.4	
	comp=Z,286nm,19.7s,baz=202,slow=47						
URZ	**Urewera**	**2.03**	**236**	P	**Pn**	**11 00 56.5**	**+1.3**
URZ	**Urewera**	**2.03**	**236**	P	**Pn**	**11 00 56.9**	**+1.7**
PRGZ	**Paritu Road**	**2.08**	**211**	P	**Pn**	**11 00 57.4**	**+1.4**
MARZ	**Manawahe**	**2.21**	**247**	P	**Pb**	**11 00 59.8**	**-1.0**
EDRZ	**Edgecumbe**	**2.21**	**243**	P	**Pn**	**11 00 58.9**	**+1.1**
SNGZ	**Shannon Statio**	**2.23**	**222**	P	**Pn**	**11 00 59.5**	**+1.5**
OPRZ	**Ohinepanea**	**2.25**	**251**	P	**Pn**	**11 00 58.7**	**+0.4**
KNZ	**Kokohu**	**2.25**	**213**	P	**Pn**	**11 00 59.2**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.27**	**207**	P	**Pn**	**11 01 00.1**	**+1.5**
RTZ	**Ruatahuna**	**2.32**	**230**	P	**Pn**	**11 01 00.7**	**+1.4**
MUGZ	**Murupara**	**2.37**	**235**	P	**Pn**	**11 01 01.1**	**+1.2**
MYRZ	**Mayor Island**	**2.40**	**266**	P	**Pn**	**11 01 00.3**	**0.0**
TARZ	**Mount Tarawera**	**2.43**	**242**	P	**Pn**	**11 01 02.9**	**+2.0**
TGRZ	**Tauranga**	**2.44**	**255**	P	**Pn**	**11 01 01.8**	**+0.4**
RAHZ	**Arahi**	**2.46**	**223**	P	**Pn**	**11 01 02.6**	**+1.4**
RRRZ	**Republican Roa**	**2.47**	**240**	P	**Pn**	**11 01 02.6**	**+1.2**
OMRZ	**Onania**	**2.48**	**246**	P	**Pn**	**11 01 02.7**	**+1.3**
WHHZ	**Waihua**	**2.50**	**219**	P	**Pn**	**11 01 02.9**	**+1.2**
KARZ	**Kaharoa**	**2.54**	**249**	P	**Pn**	**11 01 03.1**	**+0.9**
HLRZ	**Highlands Stat**	**2.55**	**243**	P	**Pn**	**11 01 04.4**	**+2.0**
MTHZ	**Maungataniwha**	**2.56**	**227**	P	**Pn**	**11 01 04.0**	**+1.5**
UTU	**Utuhina**	**2.63**	**246**	P	**Pb**	**11 01 06.7**	**-1.4**
PRRZ	**Plateau Road**	**2.63**	**238**	P	**Pn**	**11 01 04.6**	**+1.0**
ALRZ	**Allen Road**	**2.70**	**237**	P	**Pn**	**11 01 05.5**	**+1.0**
KMRZ	**Kaimai**	**2.72**	**254**	P	**Pn**	**11 01 05.3**	**+0.6**
NMHZ	**Naumai**	**2.74**	**224**	P	**Pn**	**11 01 06.7**	**+1.6**
GRRZ	**Galatos Road**	**2.76**	**243**	P	**Pb**	**11 01 08.9**	**-1.4**
ARHZ	**Aropaoanui**	**2.76**	**219**	P	**Pn**	**11 01 06.4**	**+1.1**
MRHZ	**Matea Rd**	**2.80**	**232**	P	**Pn**	**11 01 07.2**	**+1.3**
KUZ	**Kuaotunu**	**2.85**	**277**	P	**Pn**	**11 01 05.5**	**-0.9**
BKZ	**Black Stump Fm**	**2.97**	**226**		**Pn**	**11 01 08.7**	**+0.5**
BKZ	**Black Stump Fm**	**2.97**	**226**	P	**Pn**	**11 01 09.1**	**+1.0**
BKZ	**Black Stump Fm**	**2.97**	**226**	P	**Pn**	**11 01 09.5**	**+1.3**
KUTZ	**Kaahu Road**	**3.02**	**242**	P	**Pn**	**11 01 10.8**	**+1.9**
TOZ	**Tahuroa Road**	**3.03**	**258**	P	**Pn**	**11 01 08.5**	**-0.5**
CKHZ	**Cape Kidnapper**	**3.04**	**213**	P	**Pn**	**11 01 09.5**	**+0.4**
GRZ	**Great Barrier**	**3.17**	**285**	P	**Pn**	**11 01 10.8**	**0.0**
KWHZ	**Kaweka Forest**	**3.18**	**223**	P	**Pn**	**11 01 11.7**	**+0.6**
KAHZ	**Kahuranaki**	**3.24**	**214**	P	**Pn**	**11 01 11.9**	**0.0**
RATZ	**Rangitukua**	**3.24**	**237**	P	**Pn**	**11 01 13.6**	**+1.7**
MKAZ	**Moumakai**	**3.26**	**269**	P	**Pn**	**11 01 11.7**	**-0.4**
WIAZ	**Waiheke Island**	**3.31**	**275**	P	**Pn**	**11 01 12.7**	**-0.1**
KRHZ	**Kereru**	**3.37**	**221**	P	**Pn**	**11 01 13.6**	**-0.1**
TMVZ	**Te Maari**	**3.42**	**234**	P	**Pn**	**11 01 15.2**	**+0.8**
ETVZ	**East Tongariro**	**3.42**	**233**	P	**Pn**	**11 01 15.3**	**+0.7**
NTVZ	**North Tongarir**	**3.43**	**234**	P	**Pn**	**11 01 15.9**	**+1.3**
BHHZ	**Black Hill Sta**	**3.43**	**226**	P	**Pn**	**11 01 15.3**	**+0.7**
ETAZ	**East Tamaki Re**	**3.46**	**272**	P	**Pn**	**11 01 14.8**	**0.0**
OTVZ	**Oturere**	**3.47**	**233**	P	**Pn**	**11 01 16.8**	**+1.6**
NNVZ	**North Ngauruho**	**3.48**	**234**	P	**Pn**	**11 01 17.0**	**+1.8**
WTVZ	**West Tongariro**	**3.49**	**234**	P	**Pn**	**11 01 17.2**	**+1.8**
MBAZ	**Motutapu North**	**3.50**	**275**	P	**Pn**	**11 01 15.8**	**+0.4**
SNVZ	**South Ngauruho**	**3.50**	**233**	P	**Pn**	**11 01 17.1**	**+1.5**
NGZ	**Ngauruhoe**	**3.52**	**234**	P	**Pn**	**11 01 17.0**	**+1.2**
MOVZ	**Moawhango**	**3.56**	**229**	P	**Pn**	**11 01 16.6**	**+0.3**
ABAZ	**Army Bay**	**3.58**	**277**	P	**Pn**	**11 01 17.1**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.59**	**232**	P	**Pn**	**11 01 17.5**	**+0.6**
FWVZ	**Far West T-bar**	**3.59**	**233**	P	**Pn**	**11 01 19.4**	**+2.4**
WNVZ	**Wahianoa**	**3.61**	**232**	P	**Pn**	**11 01 17.6**	**+0.5**
EPAZ	**Eden Park BICE**	**3.61**	**273**	P	**Pn**	**11 01 17.7**	**+0.8**
HBAZ	**Herne Bay Bore**	**3.62**	**273**	P	**Pn**	**11 01 18.4**	**+1.3**
WPHZ	**Waipukurau**	**3.66**	**216**	P	**Pn**	**11 01 17.4**	**-0.2**
PNHZ	**Pukenui**	**3.66**	**220**	P	**Pn**	**11 01 17.2**	**-0.4**
AWAZ	**Awhitu Peninsu**	**3.68**	**270**	P	**Pn**	**11 01 18.1**	**+0.3**
HIZ	**Hauiti**	**3.73**	**247**	Pn	**Pn**	**11 01 20.6**	**+1.9**
HIZ	**Hauiti**	**3.73**	**247**	P	**Pn**	**11 01 20.4**	**+1.8**
HIZ	**Hauiti**	**3.73**	**247**	P	**Pn**	**11 01 20.6**	**+1.9**
WTAZ	**Waiatarua**	**3.74**	**272**	P	**Pn**	**11 01 19.2**	**+0.4**
PKVZ	**Pokaka**	**3.75**	**234**	P	**Pn**	**11 01 20.3**	**+1.4**
RVAZ	**Riverhead Bore**	**3.75**	**274**	P	**Pn**	**11 01 19.4**	**+0.5**
ANWZ	**Angora Road**	**3.96**	**212**	P	**Pn**	**11 01 21.3**	**-0.4**
WCZ	**Waipu Caves**	**4.12**	**285**	P	**Pn**	**11 01 24.6**	**+0.7**
POWZ	**Post Office Ro**	**4.23**	**219**	P	**Pn**	**11 01 25.5**	**-0.1**
BFZ	**Birch Farm**	**4.24**	**212**		**Pn**	**11 01 24.0**	**-1.7**
BFZ	**Birch Farm**	**4.24**	**212**	P	**Pn**	**11 01 24.0**	**-1.7**
WAZ	**Wanganui**	**4.24**	**231**	P	**Pn**	**11 01 26.5**	**+0.9**
PRWZ	**Pori Road**	**4.26**	**216**	P	**Pn**	**11 01 25.5**	**-0.4**
MHEZ	**Mangahewa**	**4.33**	**242**	P	**Pn**	**11 01 31.5**	**+4.5**
LREZ	**Lake Rotokare**	**4.46**	**237**	P	**Pn**	**11 01 30.2**	**+1.6**
DREZ	**Durham Road**	**4.47**	**241**	P	**Pn**	**11 01 31.9**	**+3.1**
PREZ	**Palmer Road**	**4.57**	**240**	P	**Pn**	**11 01 33.1**	**+2.9**
NEZ	**North Egmont**	**4.58**	**241**	P	**Pn**	**11 01 33.6**	**+3.2**
PKE	**Pukeiti**	**4.62**	**242**	P	**Pn**	**11 01 34.8**	**+3.9**
KHEZ	**Kahui Hut**	**4.64**	**241**	P	**Pn**	**11 01 34.0**	**+2.8**
OUZ	**Omahuta**	**4.95**	**291**	Pn	**Pn**	**11 01 36.8**	**+1.4**
OUZ	**Omahuta**	**4.95**	**291**	P	**Pn**	**11 01 36.7**	**+1.4**
OUZ	**Omahuta**	**4.95**	**291**	P	**Pn**	**11 01 36.6**	**+1.2**
MSWZ	**Moikau Station**	**5.28**	**215**	Pn	**Pn**	**11 01 37.2**	**-2.7**
PLWZ	**Palliser**	**5.40**	**214**	Pn	**Pn**	**11 01 37.6**	**-3.9**
SNZO	**South Karori**	**5.46**	**219**	Pn	**Pn**	**11 01 40.9**	**-1.4**
SNZO	**South Karori**	**5.46**	**219**	P	**Pn**	**11 01 42.6**	**+0.3**
NNZ	**Nelson**	**6.11**	**226**	Pn	**Pn**	**11 01 49.2**	**-2.1**
BSWZ	**Blackbirch Sta**	**6.18**	**221**	Pn	**Pn**	**11 01 49.4**	**-2.9**
QRZ	**Quartz Range**	**6.39**	**233**	Pn	**Pn**	**11 01 52.9**	**-2.3**
QRZ	**Quartz Range**	**6.39**	**233**	P	**Pn**	**11 01 54.7**	**-0.5**
THZ	**Tophouse**	**6.74**	**225**	Pn	**Pn**	**11 01 56.4**	**-3.6**
KHZ	**Kahutara**	**6.86**	**218**	Pn	**Pn**	**11 01 59.5**	**-2.0**
KHZ	**Kahutara**	**6.86**	**218**	P	**Pn**	**11 02 00.4**	**-1.2**
LTZ	**Lake Taylor**	**7.77**	**221**	Pn	**Pn**	**11 02 10.9**	**-3.3**
MQZ	**McQueen's Vall**	**8.26**	**215**	Pn	**Pn**	**11 02 17.3**	**-3.5**
OXZ	**Oxford**	**8.28**	**219**	Pn	**Pn**	**11 02 18.4**	**-2.7**
RPZ	**Rata Peaks**	**9.06**	**221**	Pn	**Pn**	**11 02 29.1**	**-2.7**
	1.3nm,0.3s,baz=29,slow=10,SNR=2.4						
RPZ				Sn	Sn	11 04 00.5	-14
	1.7nm,0.3s,baz=12,slow=4.6,SNR=13						
ODZ	**Otahua Downs**	**10.22**	**217**	Pn	**Pn**	**11 02 45.5**	**-2.2**
ODZ	**Otahua Downs**	**10.22**	**217**	P	**Pn**	**11 02 46.7**	**-0.9**
DZM	**Mont Dzumac**	**18.66**	**320**	LR	LR	11 10 32.8	
	comp=Z,135nm,19.3s,baz=132,slow=34						
MSVF	**Nonsavu**	**19.36**	**357**	LR	LR	11 10 30.5	
	comp=Z,131nm,19.4s,baz=141,slow=32						
LIFNC	**LIFOU**	**19.36**	**324**	P	**P**	**11 04 46.5**	**-0.4**
NIUE	**Niue**	**20.34**	**31**	P	**P**	**11 04 56.7**	**-0.9**
AFI	**Afiamalu**	**24.48**	**21**	P	**P**	**11 05 39.8**	**-0.8**
EIDS	**Eidsvold**	**26.68**	**288**	P	**P**	**11 05 59.3**	**-1.1**
EIDS				IAmb	IAmb	11 06 10.3	
	comp=Z,14nm,1.4s						
CMSA	**Cobar Meteorol**	**28.17**	**271**	P	**P**	**11 06 14.2**	**+0.5**
STKA	**Stephens Creek**	**31.32**	**268**	P	**P**	**11 06 42.2**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=101,slow=9.8,SNR=13 comp=Z,3.6nm,0.6s						
STKA	**Stephens Creek**	**31.32**	**268**	P	**P**	**11 06 41.4**	**-0.2**
STKA	**Stephens Creek**	**31.32**	**268**	P	**P**	**11 06 42.4**	**+0.7**
HTT	**Hallett**	**32.95**	**264**	P	**P**	**11 06 55.9**	**-0.1**
CTA	**Charters Tower**	**33.35**	**291**	P	**P**	**11 06 59.2**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=89,slow=9.5,SNR=1.2 comp=Z,1.1nm,0.5s						
CTAO	**Charters Tower**	**33.35**	**291**	P	**P**	**11 06 59.0**	**-0.6**
CTAO				IAmb	IAmb	11 07 25.8	
	comp=Z,15nm,1.5s						
INKA	**Innaminka**	**33.62**	**275**	P	**P**	**11 07 02.9**	**+1.1**
LCRK	**Leigh Creek**	**34.54**	**269**	P	**P**	**11 07 10.1**	**+0.3**
BBOO	**Buckleboo**	**35.42**	**264**	P	**P**	**11 07 16.9**	**-0.5**
BBOO				IAmb	IAmb	11 07 29.1	
	comp=Z,24nm,1.4s						
BBOO	**Buckleboo**	**35.42**	**264**	P	**P**	**11 07 17.1**	**-0.3**
OOD	**Oodnadatta**	**37.63**	**271**	P	**P**	**11 07 36.6**	**+0.3**
MULG	**Mulgathing**	**37.92**	**267**	P	**P**	**11 07 38.4**	**-0.3**
QIS	**Mount Isa**	**38.13**	**285**	P	**P**	**11 07 42.0**	**+1.4**
COEN	**Coen**	**39.53**	**296**	P	**P**	**11 07 52.7**	**+0.3**
COEN				IAmb	IAmb	11 07 54.4	
	comp=Z,10.0nm,0.8s						
COEN	**Coen**	**39.53**	**296**	P	**P**	**11 07 53.7**	**+1.3**
AS31	**Alice Springs**	**40.97**	**276**	P	**P**

0.5nm,0.7s

IDC ***02*** *11:12:10.2±1.5,53˚.22N×158˚.37E, h313km±10km, mb2.7/2, mbtmp3.4/2, Error ellipse: s-maj=55.9km s-min=32.1km az=169.0*

KRSC ***02*** *11:12:11.1±1.4, 54˚.28N×158˚.55E, h279km±10km, ML3.7*

ISC 02 11:12:11.6±1.1, 54˚.32N±0˚.10×158˚.4E±0˚.1, h278km±10km, n25, σ1§17/35, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KII	**Karymskiy**	**0.66**	**115**	*eP*		**Pn**	**11 12 49.1**	**+0.8**
GNL	**Ganaly**	**0.69**	**205**	*eP*		**Pn**	**11 12 48.7**	**+0.3**
GNL				*eS*		**S**	**11 13 17.3**	**-0.2**
KRX	**Arik**	**0.97**	**172**	*eP*		**Pn**	**11 12 50.6**	**+0.9**
KRER	**Koryakskii**	**1.03**	**169**	*eP*		**Pn**	**11 12 50.9**	**+0.9**
KOK	**Koryaka**	**1.03**	**173**	*eP*		**Pn**	**11 12 51.0**	**+1.1**
AVH	**Avacha**	**1.07**	**170**	*eP*		**Pn**	**11 12 51.3**	**+1.2**
SDLR	**Sedlovina**	**1.07**	**165**	*eP*		**Pn**	**11 12 51.3**	**+1.1**
UGLR	**Uglovaya**	**1.14**	**168**	*eP*		**Pn**	**11 12 51.5**	**+1.0**
NLC	**Nalytchevo**	**1.27**	**154**	*eP*		**Pn**	**11 12 51.3**	**+0.2**
NLC				*eS*		**S**	**11 13 21.6**	**-0.7**
PETK	**Petropavlovsk-** 9.2nm,0.3s,baz=86,slow=5.7,SNR=151	**1.29**	**200**	P		**Pn**	**11 12 50.7**	**-0.5**
PETK				S		**S**	**11 13 21.9**	**-0.7**
	3.2nm,0.8s,baz=114,slow=6.5,SNR=2.5							
PET	**Petropavlovsk**	**1.30**	**174**	*eP*		**Pn**	**11 12 51.9**	**+0.6**
PET				*eS*		**S**	**11 13 22.9**	**+0.2**
DALK	**Dalny**	**1.30**	**171**	*eP*		**Pn**	**11 12 51.8**	**+0.5**
TUMR	**Tumrok**	**1.39**	**45**	*eP*		**Pn**	**11 12 53.0**	**+1.1**
KRMR	**Karymshinskiy**	**1.50**	**187**	*eP*		**Pn**	**11 12 52.9**	**+0.3**
KRMR				*eS*		**S**	**11 13 25.2**	**+0.1**
SPN	**Mys Shipunski**	**1.55**	**142**	*eP*		**Pn**	**11 12 52.9**	**0.0**
SPN				*eS*		**S**	**11 13 23.8**	**-1.8**
GRL	**Gorelyy**	**1.78**	**187**	*eP*		**Pn**	**11 12 54.8**	**0.0**
MTVR	**Mutnovka**	**1.84**	**185**	*eP*		**Pn**	**11 12 56.6**	**+1.3**
MTVR				*eS*		**S**	**11 13 31.2**	**+1.2**
RUS	**Russkaya**	**1.89**	**178**	*eP*		**Pn**	**11 12 55.0**	**-0.5**
RUS				*eS*		**S**	**11 13 28.6**	**-1.7**
MKZ	**Mys Kozlova**	**1.94**	**82**	*eP*		**Pn**	**11 12 56.2**	**+0.4**
ASAK	**Asacha**	**1.96**	**189**	*eP*		**Pn**	**11 12 56.8**	**+0.6**
ASAK				*eS*		**S**	**11 13 31.8**	**+0.2**
KDTR	**Khodutka, Kamc**	**2.52**	**185**	S		**S**	**11 13 37.9**	**-2.5**
KBG	**Krutoberegovo**	**3.12**	**50**	P		**Pn**	**11 13 07.1**	**+0.2**
KBG				S		**S**	**11 13 48.9**	**-2.2**
KBTR	**Krutoberegovo**	**3.15**	**51**	*eS*		**S**	**11 13 50.0**	**-1.6**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=277,slow=6.2,SNR=3.0	**28.68**	**47**	P		**P**	**11 17 45.0**	**+2.3**
	0.3nm,0.6s							
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=61,slow=6.8,SNR=4.2	**46.74**	**294**	P		**P**	**11 20 11.3**	**-1.7**
	0.3nm,0.5s							

IDC ***02*** *11:23:05.7±0.4, 19˚.44S×174˚.09W, h0km, mb5.0/22, mbtmp5.0/23, ML5.2/1, MS4.7/48, Error ellipse: s-maj=16.9km s-min=13.3km az=129.0*

NEIC ***02*** *11:23:06.3, 19˚.51S×173˚.71W, h23km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.72; Mθθ1.05; Mϕϕ-1.77; Mrθ0.83; Mθϕ1.01; Mϕr-0.47; Fault plane solution: M0 2.08000×10^17 NP1:ϕs123.26000°, δ76.98000°, λ35.20000°. NP2:ϕs24.23000°, δ55.83000°, λ164.20000°. Principal axes: T 1.8135, Plg34.0000°, Azm349.0000°; N 0.4537, Plg53.0000°, Azm141.0000°; P -2.2672, Plg14.0000°, Azm250.0000°;*

NEIC ***02*** *11:23:06.3±2.7, 19˚.50S±0˚.06×173˚.71W±0˚.05, h10km±1km, mb5.5/342, Ms_20 5.1/303, Mwb5.5/35 Error ellipse: s-maj=12.0km s-min=6.1km az=145.0*

BJI ***02*** *11:23:07.0±0.0, 19˚.14S×173˚.45W, h19km, mb5.5/56, mB5.5/35, Ms5.4/46, Ms7 5.1/44*

MOS ***02*** *11:23:07.7±1.6, 19˚.48S×173˚.98W, h24km, mb5.7/39, MS5.1/14, Error ellipse: s-maj=8.9km s-min=7.7km az=69.2*

NOU ***02*** *11:23:12.9, 19˚.38S×173˚.42W, h75km, mb5.3/42, Tonga Islands*

GCMT ***02*** *11:23:13.3±0.1, 19˚.50S±0˚.01×173˚.62W±0˚.01, h34km, MW5.3/138, Moment Tensor Solution. s111,c179; s138,c232; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.53±.02; Mθθ0.32±.01; Mϕϕ-0.84±.01; Mrθ0.96±.03; Mθϕ0.37±.01; Mϕr-0.31±.02; Best double couple: M0 1.29000×10^17 NP1:ϕs126.00000°, δ75.00000°, λ56.00000°. NP2:ϕs16.00000°, δ37.00000°, λ155.00000°. Principal axes: T 1.3850, Plg48.0000°, Azm359.0000°; N -0.1910, Plg33.0000°, Azm135.0000°; P -1.1940, Plg23.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 11:23:08.5±0.5, 19˚.60S±0˚.04×173˚.77W±0˚.04, h27km±3km, h27km:pP-P, n1202, σ1§86/1024, mb5.4/248, MS5.1/231, 63C-44D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue** baz=3.6,SNR=97	**3.66**	**83**	P		**Pn**	**11 24 01.4**	**-1.9**
NIUE				S		**Sn**	**11 24 39.1**	**-6.6**
	baz=3.6							
NIUE	**Niue**	**3.66**	**83**	Pn		**Pn**	**11 24 01.5**	**-1.9**
NIUE	**Niue**	**3.66**	**83**	P		**Pn**	**11 24 01.9**	**-1.5**
LKBA	**Tubou, Lakemba**	**4.97**	**285**	P		Pn	11 24 28.0	+6.6
AFI	**Afiamalu** 56nm,0.3s,baz=171,slow=1.4,SNR=78	**5.97**	**19**	Pn		**Pn**	**11 24 33.4**	**-1.7**
AFI				Sn		**Sn**	**11 25 34.4**	**-8.3**
	81nm,0.3s,baz=351,slow=18,SNR=6.5							
	234nm,0.5s							
AFI	**Afiamalu**	**5.97**	**19**	Pn		**Pn**	**11 24 32.6**	**-2.6**
AFI	**Afiamalu**	**5.97**	**19**	P		**Pn**	**11 24 32.6**	**-2.6**
AFI	**Afiamalu**	**5.97**	**19**	P		**Pn**	**11 24 33.5**	**-1.7**
TAVE	**Taveuni**	**6.51**	**295**	P		Pn	11 24 48.7	+6.2
DGTI	**Dogotuki**	**7.00**	**297**	P		Pn	11 24 55.9	+6.6
MSVF	**Nonsavu** comp=Z,μm,18.8s,baz=108,slow=35	**7.98**	**282**	LR		LR	11 27 32.3	
MSVF	**Nonsavu**	**7.98**	**282**	Pn		**Pn**	**11 25 03.5**	**+0.7**
MSVF	**Nonsavu**	**7.98**	**282**	P		**Pn**	**11 25 03.5**	**+0.7**
MSVF	**Nonsavu**	**7.98**	**282**	P		Pn	11 25 10.2	+7.4
RIZ	**Raoul Island**	**10.32**	**201**	S		**Sn**	**11 27 25.1**	**-4.6**
RAO	**Raoul Island** 55nm,0.3s,baz=302,slow=20,SNR=1.8	**10.33**	**201**	Sn		**Sn**	**11 27 24.2**	**-5.6**
GLKZ	**Green Lake**	**10.34**	**201**	P		**Pn**	**11 25 32.0**	**-3.0**
GLKZ				S		**Sn**	**11 27 27.7**	**-2.3**
FUNA	**Funafuti**	**12.95**	**327**	Pn		**Pn**	**11 26 09.4**	**-1.4**
RAR	**Rarotonga** 13nm,0.3s,baz=266,slow=6.3,SNR=21	**13.22**	**99**	Pn		**Pn**	**11 26 12.5**	**-1.9**
RAR				Sn		Sn	11 28 30.1	-11
	4.4nm,0.3s,baz=56,slow=15,SNR=1.7							
RAR				LR		LR	11 30 16.0	
	comp=Z,μm,19.7s,baz=286,slow=32							
RAR	**Rarotonga**	**13.22**	**99**	Pn		**Pn**	**11 26 11.8**	**-2.7**
RAR	**Rarotonga**	**13.22**	**99**	P		**Pn**	**11 26 11.8**	**-2.7**
RAR	**Rarotonga**	**13.22**	**99**	P		**Pn**	**11 26 14.7**	**+0.2**
MARNC	**Mare, Loyalty**	**17.15**	**261**			**P**	**11 27 07.1**	**-0.8**
MARNC	**Mare, Loyalty**	**17.15**	**261**	P		**P**	**11 27 12.8**	**+5.0**
PINNC	**Pines Island,**	**17.79**	**257**	P		**Pn**	**11 27 14.4**	**+0.2**
PINNC				IAmb		IAmb	11 27 22.1	
	comp=Z,633nm,1.8s							
PINNC	**Pines Island,**	**17.79**	**257**	P		**P**	**11 27 20.7**	**+5.9**
LIFOU	**LIFOU**	**17.87**	**263**	P		**Pn**	**11 27 15.3**	**+0.1**
YATNC	**Mamie plateau,**	**18.25**	**259**	P		**P**	**11 27 26.6**	**+6.7**
OUENC	**Ouen Island, N**	**18.32**	**258**			**P**	**11 27 22.1**	**+1.3**
OUENC	**Ouen Island, N**	**18.32**	**258**	P		**Pn**	**11 27 27.0**	**+6.2**
DZM	**Mont Dzumac** comp=Z,374nm,1.0s	**18.66**	**259**	*eP*		**Pn**	**11 27 25.8**	**+0.7**
DZM				*eLR*		LR	11 31 51.3	
	comp=Z,8μm,24.2s							
DZM	**Mont Dzumac**	**18.66**	**259**	Pn		**Pn**	**11 27 27.4**	**+2.3**
	comp=Z,2.1nm,0.3s,baz=83,slow=17,SNR=27							
DZM				LR		LR	11 33 33.4	
	comp=Z,6μm,20.4s,baz=96,slow=34							
DZM	**Mont Dzumac**	**18.66**	**259**	P		**Pn**	**11 27 25.4**	**+0.3**
DZM	**Mont Dzumac**	**18.66**	**259**	P		**Pn**	**11 27 28.7**	**+3.6**
ONTNC	**Ouen Toro**	**18.67**	**258**	P		**Pn**	**11 27 25.5**	**+0.4**
ONTNC	**Ouen Toro**	**18.67**	**258**	P		**Pn**	**11 27 31.6**	**+6.5**
NOUC	**Port Laguerre**	**18.79**	**259**	P		**Pn**	**11 27 29.5**	**+2.9**
OUZ	**Omahuta**	**19.16**	**213**	P		**Pn**	**11 27 31.7**	**+0.9**
OUZ	**Omahuta**	**19.16**	**213**	P		**Pn**	**11 27 32.0**	**+1.2**
WCZ	**Waipu Caves**	**19.35**	**210**	P		**Pn**	**11 27 32.9**	**-0.3**
KUZ	**Kuaotunu**	**19.41**	**206**	P		**Pn**	**11 27 37.2**	**+3.3**
MWZ	**Matawai**	**20.14**	**200**	P		Pn	11 27 43.7	+1.1
MWZ				S		S	11 31 12.8	-13
URZ	**Urewera** comp=Z,133nm,0.8s,baz=301,slow=2.7,SNR=25	**20.22**	**201**	P		Pn	11 27 43.3	0.0
URZ				S		**S**	**11 31 16.9**	**-10**
	comp=Z,7.1nm,0.7s,baz=122,slow=9.5,SNR=1.7							
	comp=Z,133nm,0.8s							
URZ	**Urewera**	**20.22**	**201**	P		Pn	11 27 43.1	-0.2
URZ	**Urewera**	**20.22**	**201**	P		Pn	11 27 44.2	+0.8
OMRZ	**Omania**	**20.34**	**203**	P		Pn	11 27 44.5	-0.4
TOZ	**Tahuroa Road**	**20.35**	**205**	P		Pn	11 27 46.4	+1.5
RRRZ	**Republican Roa**	**20.50**	**202**	P		Pn	11 27 47.9	+1.2
PRGZ	**Paritu Road**	**20.57**	**199**	P		Pn	11 27 51.4	+3.8
PRGZ				S		S	11 31 19.6	-14
KOUNC	**Koumac, New Ca**	**20.64**	**264**	P		Pn	11 27 52.2	+3.7
PRRZ	**Plateau Road**	**20.68**	**202**	P		Pn	11 27 48.7	-0.2
ALRZ	**Allen Road**	**20.75**	**202**	P		Pn	11 27 49.9	+0.2
WPRZ	**Whakapapatarin**	**20.78**	**203**	P		Pn	11 27 51.0	+1.0
TLZ	**Tolley Road**	**20.85**	**204**	P		Pn	11 27 52.8	+2.0
BKZ	**Black Stump Fm**	**21.24**	**201**	P		**P**	**11 27 53.6**	**+1.1**
BKZ	**Black Stump Fm**	**21.24**	**201**	P		**P**	**11 27 53.8**	**+1.3**
BKZ				S		**S**	**11 31 40.1**	**-7.2**
BKZ	**Black Stump Fm**	**21.24**	**201**	P		**P**	**11 27 53.9**	**+1.4**
HIZ	**Hauiti**	**21.28**	**205**	P		**P**	**11 27 52.0**	**-0.9**
HIZ	comp=Z,251nm,1.1s			IAmb		IAmb	11 27 57.5	
HIZ	**Hauiti**	**21.28**	**205**	P		**P**	**11 27 56.2**	**+3.3**
BHHZ	**Black Hill Sta**	**21.68**	**202**	P		**P**	**11 27 57.8**	**+0.6**
KRHZ	**Kereru**	**21.71**	**201**	P		**P**	**11 27 58.7**	**+1.2**
KRHZ				S		S	11 31 42.6	-14
MOVZ	**Moawhango**	**21.72**	**202**	P		**P**	**11 28 00.1**	**+2.4**
MOVZ				S		**S**	**11 31 51.4**	**-5.2**
BFZ	**Birch Farm**	**22.69**	**200**	P		**P**	**11 28 07.2**	**-0.7**
BFZ	**Birch Farm**	**22.69**	**200**	P		**P**	**11 28 11.9**	**+4.0**
TBI	**Tubuai**	**22.91**	**104**	*eLQ*		LQ	11 32 44.4	
TBI				*eLR*		LR	11 33 41.7	
	comp=Z,2μm,25.2s							
TBI	**Tubuai**	**22.91**	**104**	*eT*		T	11 51 52.3	
	comp=Z,49nm,0.3s							
PAE	**Paea**	**23.00**	**89**	*eT*		T	11 51 54.2	
	comp=Z,21nm,0.2s							
PPT2	**Papeete2**	**23.01**	**89**	*eP*		**P**	**11 28 12.3**	**+0.7**
	comp=Z,143nm,1.3s							
PPT2				*eLQ*		LQ	11 32 45.8	
PPT2				*eLR*		LR	11 33 44.2	
	comp=Z,4μm,23.5s							
PPT2	**Papeete2**	**23.01**	**89**	*eT*		T	11 51 57.8	
	comp=Z,18nm,0.3s							
PPT	**Papeete**	**23.01**	**89**	P		**P**	**11 28 13.9**	**+2.3**
	comp=Z,66nm,0.9s,baz=353,slow=9.2,SNR=4.4							
PPT				LR		LR	11 34 36.7	
	comp=Z,2μm,21.2s,baz=250,slow=30							
	comp=Z,66nm,0.9s							
TIAR	**Tiarei**	**23.23**	**89**	*eP*		**P**	**11 28 13.8**	**0.0**
	comp=Z,34nm,1.4s							
MSWZ	**Moikau Station**	**23.68**	**201**	P		**P**	**11 28 16.1**	**-1.8**
SNZO	**South Karori**	**23.77**	**202**	P		**P**	**11 28 18.4**	**-0.3**
SNZO				IAmb		IAmb	11 28 35.3	
	comp=Z,93nm,0.8s							
PLWZ	**Palliser**	**23.81**	**201**	P		**P**	**11 28 18.9**	**-0.4**
QRZ	**Quartz Range**	**24.19**	**206**	P		**P**	**11 28 22.7**	**+0.1**
QRZ				IAmb		IAmb	11 28 38.7	
	comp=Z,94nm,0.7s							
MEH	**Mehetia**	**24.39**	**90**	*eP*		**P**	**11 28 22.3**	**-2.5**
	comp=Z,84nm,1.2s							
MEH	**Mehetia**	**24.39**	**90**	*eT*		T	11 53 33.2	
	comp=Z,89nm,0.2s							
TARA	**Tarawa**	**24.58**	**326**	P		**P**	**11 28 23.6**	**-2.9**
TARA				IAmb		IAmb	11 28 35.1	
	comp=Z,71nm,0.9s							
THZ	**Tophouse**	**24.83**	**204**	P		**P**	**11 28 27.0**	**-1.6**
THZ				IAmb		IAmb	11 28 57.7	
	comp=Z,69nm,0.7s							
PMOR	**Pomariorio Ree** comp=Z,8.4nm,0.3s	**25.11**	**84**	*eT*		T	11 54 33.0	
LTZ	**Lake Taylor** comp=Z,5μm,22.0s	**25.95**	**204**	IAMs_20		IAMs_20	11 38 05.6	
XMAS	**Kiritimati**	**26.82**	**38**	P		**P**	**11 28 46.6**	**-0.2**
RPZ	**Rata Peaks** comp=Z,14nm,0.6s,baz=19,slow=22,SNR=4.8	**27.21**	**205**	P		**P**	**11 28 50.7**	**+0.7**
	comp=Z,14nm,0.6s							
RPZ	**Rata Peaks** comp=Z,4μm,22.0s	**27.21**	**205**	IAMs_20		IAMs_20	11 38 54.0	
HNR	**Honiara** comp=Z,1μm,20.8s,baz=127,slow=33	**27.34**	**288**	LR		LR	11 37 54.0	
LBZ	**Lake Benmore** comp=Z,3μm,20.0s	**28.11**	**205**	IAMs_20		IAMs_20	11 39 31.9	
ODZ	**Otahua Downs**	**28.49**	**204**	P		**P**	**11 29 05.4**	**+4.0**
EIDS	**Eidsvold** baz=33,SNR=5.9	**32.92**	**253**	P		**P**	**11 29 41.0**	**+0.2**
EIDS	**Eidsvold**	**32.92**	**253**	P		**P**	**11 29 39.6**	**-1.2**
ARMA	**Armidale** baz=33,SNR=6.5	**33.04**	**244**	P		**P**	**11 29 41.4**	**-0.5**
ARMA	**Armidale**	**33.04**	**244**	P		**P**	**11 29 41.0**	**-1.0**
TAOE	**Nuku Hiva Isla** comp=Z,144nm,24.4s	**34.22**	**77**	*eP*		**P**	**11 29 53.3**	**+1.0**
TAOE				*eS*		**S**	**11 35 16.8**	**-1.0**
	comp=Z,311nm,26.4s							
TAOE				*eLR*		LR	11 38 55.0	
	comp=Z,3μm,22.9s							
TAOE	**Nuku Hiva Isla** comp=Z,91nm,0.2s	**34.22**	**77**	*eT*		T	12 05 52.6	
RMQ	**Roma** baz=35,SNR=4.6	**35.07**	**252**	P		**P**	**11 29 59.8**	**+0.4**
RMQ	**Roma** comp=Z,15nm,1.1s	**35.07**	**252**	P		**P**	**11 30 02.5**	**+3.0**
CNB	**Canberra Magne** baz=36,SNR=5.3	**36.03**	**237**	P		**P**	**11 30 08.2**	**+0.5**
CAN	**Canberra**	**36.32**	**237**	P		**P**	**11 30 10.1**	**-0.1**
CAN	comp=Z,2μm,18.0s			IAMs_20		IAMs_20	11 44 36.5	
CAN	**Canberra**	**36.32**	**237**	P		**P**	**11 30 10.1**	**-0.1**
CAN	comp=Z,25nm,1.0s			pmax		pmax		
CAN				MLR		MLR		
	comp=Z,2μm,18.0s							
KRVT	**Keravat (AS076** comp=Z,15nm,0.6s,baz=126,slow=14,SNR=3.9	**36.64**	**290**	P		**P**	**11 30 09.4**	**-3.6**
KRVT				LR		LR	11 44 09.0	
	comp=Z,946nm,18.0s,baz=260,slow=35							
	comp=Z,15nm,0.6s							
MILA	**Mila** baz=37,SNR=4.1	**36.70**	**234**	P		**P**	**11 30 14.2**	**+0.8**
CTA	**Charters Tower** comp=Z,2μm,20.2s,baz=90,slow=34	**37.55**	**262**	LR		LR	11 44 18.7	
CTA	**Charters Tower**	**37.55**	**262**	P		**P**	**11 30 20.1**	**-0.6**
CTAO	**Charters Tower**	**37.55**	**262**	P		**P**	**11 30 19.4**	**-1.3**
CTAO				IAmb		IAmb	11 30 28.2	
	comp=Z,56nm,0.7s							
CTAO	**Charters Tower** comp=Z,2μm,20.0s	**37.55**	**262**	IAMs_20		IAMs_20	11 44 16.5	
CTAO	**Charters Tower**	**37.55**	**262**	P		**P**	**11 30 19.4**	**-1.3**
CTAO	comp=Z,56nm,0.7s			pmax		pmax		
CTAO	**Charters Tower**	**37.55**	**262**	P		**P**	**11 30 19.8**	**-0.9**
CMSA	**Cobar Meteorol** baz=38,SNR=14	**38.25**	**244**	P		**P**	**11 30 24.9**	**-1.6**
CMSA	**Cobar Meteorol**	**38.25**	**244**	P		**P**	**11 30 26.8**	**+0.3**
PMG	**Port Moresby** comp=Z,1μm,18.6s,baz=98,slow=34	**39.08**	**279**	LR		LR	11 45 09.7	
PMG	**Port Moresby**	**39.08**	**279**	P		**P**	**11 30 32.7**	**-0.9**
PMG	**Port Moresby**	**39.08**	**279**	P		**P**	**11 30 32.7**	**-0.9**
PMG	comp=Z,49nm,1.0s			pmax		pmax		
QLP	**Quilpie** baz=39,SNR=4.5	**39.12**	**252**	P		**P**	**11 30 34.3**	**+0.4**
QLP	**Quilpie**	**39.12**	**252**	P		**P**	**11 30 35.0**	**+1.1**
MTSU	**Mount Surprise** baz=40,SNR=41	**39.62**	**265**	P		**P**	**11 30 36.7**	**-1.4**
MTSU	**Mount Surprise**	**39.62**	**265**	P		**P**	**11 30 39.5**	**+1.3**
TOO	**Toolangi** baz=40,SNR=17	**39.65**	**234**	P		**P**	**11 30 38.1**	**-0.1**
TOO	**Toolangi**	**39.65**	**234**	P		**P**	**11 30 37.1**	**-1.0**
TOO	**Toolangi**	**39.65**	**234**	P		**P**	**11 30 37.2**	**-1.0**
TOO	comp=Z,14nm,0.8s			pmax		pmax		
TOO	**Toolangi**	**39.65**	**234**	P		**P**	**11 30 40.1**	**+1.9**
TAU	**Tasmania Unive**	**40.08**	**226**	P		**P**	**11 30 41.5**	**-0.1**
TAU	comp=Z,2μm,19.0s			IAMs_20		IAMs_20	11 45 17.9	
TAU	**Tasmania Unive**	**40.08**	**226**	P		**P**	**11 30 41.5**	**-0.1**
TAU	comp=Z,77nm,1.6s			pmax		pmax		
BRAT	**Ballarat** comp=Z,21nm,0.8s	**40.84**	**235**	P		**P**	**11 30 50.3**	**+2.3**
COEN	**Coen** baz=42,SNR=13	**41.52**	**271**	P		**P**	**11 30 53.1**	**-0.8**
COEN	**Coen**	**41.52**	**271**	P		**P**	**11 30 52.6**	**-1.3**
COEN	**Coen**	**41.52**	**271**	P		**P**	**11 30 54.2**	**+0.3**
STKA	**Stephens Creek** baz=42,SNR=16	**41.76**	**244**	P		**P**	**11 30 55.5**	**-0.3**
STKA	**Stephens Creek** comp=Z,9.2nm,0.7s,baz=85,slow=11,SNR=16	**41.76**	**244**	P		**P**	**11 30 55.4**	**-0.3**
STKA				LR		LR	11 46 45.1	
	comp=Z,μm,18.8s,baz=82,slow=34							
	comp=Z,9.2nm,0.7s							
STKA	**Stephens Creek**	**41.76**	**244**	P		**P**	**11 30 55.3**	**-0.4**
STKA	**Stephens Creek**	**41.76**	**244**	*eP*		**P**	**11 30 54.6**	**-1.1**
STKA	**Stephens Creek**	**41.76**	**244**	P		**P**	**11 30 56.4**	**+0.7**
INKA	**Innaminka** comp=Z,27nm,1.6s	**42.25**	**250**	P		P	11 31 05.1	+5.4
ARPS	**Mount Arapiles** baz=42,SNR=5.4	**42.30**	**237**	P		**P**	**11 31 00.7**	**+0.7**
ARPS	**Mount Arapiles** comp=Z,17nm,0.9s	**42.30**	**237**	P		**P**	**11 31 03.8**	**+3.8**
WAKE	**Wake Island**	**43.15**	**332**	P		**P**	**11 31 06.1**	**-0.9**
WAKE				IAmb		IAmb	11 31 07.4	
	comp=Z,113nm,1.0s							
WAKE	**Wake Island**	**43.15**	**332**	P		**P**	**11 31 06.5**	**-0.4**
KIP	**Kipapa**	**43.58**	**22**	*ceP*		**P**	**11 31 13.3**	**+2.9**
KIP	comp=Z,143nm,2.5s			pmax		pmax		
QIS	**Mount Isa** baz=44,SNR=4.4	**43.69**	**260**	P		**P**	**11 31 10.7**	**-0.8**
QIS	**Mount Isa**	**43.69**	**260**	P		**P**	**11 31 10.9**	**-0.6**
HTT	**Hallett** baz=44,SNR=14	**44.16**	**242**	P		**P**	**11 31 14.7**	**-0.4**
HTT	**Hallett**	**44.16**	**242**	P		**P**	**11 31 17.5**	**+2.3**
LCRK	**Leigh Creek**	**44.55**	**246**	P		**P**	**11 31 18.0**	**-0.2**
BBOO	**Buckleboo** baz=47,SNR=15	**46.51**	**243**	P		**P**	**11 31 32.7**	**-1.0**
BBOO	**Buckleboo**	**46.51**	**243**	P		**P**	**11 31 33.1**	**-0.6**
GENI	**Genyem** comp=Z,134nm,0.7s	**48.05**	**285**	P		**P**	**11 31 46.6**	**+0.6**
WR0	**Warramunga Arr**	**48.48**	**260**	P		**P**	**11 31 46.1**	**-3.1**
AS31	**Alice Springs**	**48.60**	**255**	P		**P**	**11 31 49.5**	**-0.7**
ASAR	**Alice Springs** comp=Z,13nm,0.5s,baz=100,slow=8.0,SNR=229	**48.60**	**255**	P		**P**	**11 31 48.1**	**-2.0**
ASAR				PcP		**PcP**	**11 33 15.9**	**+0.3**
	comp=Z,8.0nm,0.9s,baz=101,slow=3.8,SNR=1.3							
ASAR				S		**S**	**11 38 43.2**	**-7.4**
	comp=Z,3.2nm,1.0s,baz=92,slow=15,SNR=11							
ASAR				LR		LR	11 51 29.9	
	comp=Z,2μm,20.2s,baz=95,slow=35							
	comp=Z,13nm,0.5s							
WB0	**Warramunga Arr**	**48.65**	**261**	P		**P**	**11 31 48.2**	**-2.3**
WB0	comp=Z,25nm,0.6s			IAmb		IAmb	11 32 01.8	
WB2	**Warramunga Arr**	**48.66**	**260**	P		**P**	**11 31 48.2**	**-2.4**
WB2	comp=Z,22nm,0.7s			IAmb		IAmb	11 31 57.4	
WRAB	**Tennant Creek**	**48.66**	**260**	P		**P**	**11 31 48.3**	**-2.4**
WRAB	comp=Z,2μm,18.0s			IAMs_20		IAMs_20	11 51 12.2	
WRAB	**Tennant Creek**	**48.66**	**260**	*ceP*		**P**	**11 31 47.7**	**-2.9**
WRAB	comp=Z,23nm,1.3s			pmax		pmax		
WRA	**Warramunga Arr** comp=Z,7.6nm,0.5s,baz=98,slow=8.4,SNR=150	**48.67**	**260**	P		**P**	**11 31 48.3**	**-2.4**
WRA				PcP		**PcP**	**11 33 17.7**	**+1.8**
	comp=Z,2.3nm,0.6s,baz=91,slow=2.4,SNR=1.6							
WRA				S		**S**	**11 38 43.2**	**-8.5**
	comp=Z,1.5nm,0.9s,baz=96,slow=13,SNR=6.4							
WRA				LR		LR	11 51 25.2	
	comp=Z,μm,19.9s,baz=84,slow=35							
	comp=Z,7.6nm,0.5s							
WRA	**Warramunga Arr**	**48.67**	**260**	P		**P**	**11 31 48.7**	**-2.0**
WRA	**Warramunga Arr**	**48.67**	**260**	P		**P**	**11 31 48.7**	**-2.0**
WRA	comp=Z,1.0nm,0.9s			pmax		pmax		
KDU	**Kakadu** baz=52,SNR=11	**51.93**	**269**	P		**P**	**11 32 13.8**	**-1.5**
BAKI	**Biak** comp=Z,36nm,1.2s	**52.33**	**284**	P		**P**	**11 32 18.6**	**+0.2**
GUMO	**Guam**	**52.40**	**306**	P		**P**	**11 32 17.7**	**-1.1**
GUMO	**Guam**	**52.40**	**306**	P		**P**	**11 32 17.7**	**-1.1**
GUMO	comp=Z,150nm,1.1s			pmax		pmax		
MTN	**Manton Dam** baz=53,SNR=19	**53.15**	**268**	P		**P**	**11 32 23.2**	**-1.3**
MTN	**Manton Dam**	**53.15**	**268**	P		**P**	**11 32 23.2**	**-1.3**
MTN	comp=Z,45nm,0.8s			IAmb		IAmb	11 32 41.9	
FORT	**Forrest**	**53.30**	**246**	P		**P**	**11 32 24.1**	**-1.3**
FORT	comp=Z,31nm,0.8s			IAmb		IAmb	11 32 57.0	
WRKA	**Warakurna** baz=54,SNR=42	**53.54**	**253**	P		**P**	**11 32 25.6**	**-1.7**
**SAUI

comp=Z,717nmcomp=Z,55nm,0.8s
TOLI2 Tolitoli 67.34 280 P **P** **11 34 00.3 -1.4**
TWSI Taliwang, Sumb 67.73 268 P P 11 34 10.5 +6.3
MPSI Mapaga 67.89 279 P **P** **11 34 04.9 -0.2**
QSPA South Pole Qui 70.47 180 LR LR 11 59 45.8
comp=Z,726nm,22.0s,baz=37,slow=31
QSPA South Pole Qui 70.47 180 P **P** **11 34 22.2 +1.7**
QSPA IAmb IAmb 11 34 38.4
comp=Z,39nm,1.1s
JYT Yasato 70.55 322 P **P** **11 34 19.4 -1.7**
MYLDM Lahad Datu 70.98 283 P **P** **11 34 25.8 +1.5**
MYLDM IAmb IAmb 11 34 51.7
comp=Z,34nm,1.0s
KIWB Kanaga Island 71.20 358 P **P** **11 34 25.6 +0.9**
ADK Adak 71.22 358 P **P** **11 34 25.6 +0.9**
ADK Adak 71.22 358 P **P** **11 34 25.7 +0.9**
ADK pmax pmax
comp=Z,193nm,1.3s
JMM Marumori 71.35 323 P **P** **11 34 26.6 +0.7**
JGF Kuroka 71.82 320 P **P** **11 34 29.1 +0.2**
INU Inuyama 71.86 319 P **P** **11 34 29.0 -0.1**
INU IAmb IAmb 11 34 30.6
comp=Z,53nm,1.3s
MJAR Matsushiro Arr 71.93 321 P **P** **11 34 28.6 -0.9**
comp=Z,29nm,0.9s,baz=157,slow=6.1,SNR=47
comp=Z,29nm,0.9s
MAJO Matsushiro 71.93 321 P **P** **11 34 29.5 0.0**
MAJO IAmb IAmb 11 34 30.8
comp=Z,53nm,0.9s
MAJO Matsushiro 71.93 321*c i* P **P** **11 34 29.6 0.0**
MAJO pmax pmax
comp=Z,59nm,0.9s
NIKH Nikolski High 72.39 3 P **P** **11 34 31.6 -0.2**
baz=185
H06N1 SOCORRO T-PHAS 72.47 62 T T 12 53 58.5
SNR=4.3
JOW Kunigami 72.71 308 P **P** **11 34 34.9 +0.5**
SHEM Shemya Is, Ala 72.79 352 LR LR 12 02 31.6
comp=Z,1µm,19.7s,baz=154,slow=33
SMY Shemya 72.79 352 P **P** **11 34 34.4 +0.2**
SMY Shemya 72.79 352 P **P** **11 34 34.4 +0.2**
SMY pmax pmax
comp=Z,184nm,1.0s
JMN Monobe 72.81 316 P **P** **11 34 35.5 +0.6**
JMN IAmb IAmb 11 34 37.2
comp=Z,60nm,1.1s
JSD Sado 72.92 322 P **P** **11 34 34.8 -0.6**
JTM Tenmabayashi 73.28 326 P **P** **11 34 35.9 -1.5**
UNV Unalaska Valle 73.41 4 P **P** **11 34 37.5 -0.3**
UNV Unalaska Valle 73.41 4 P **P** **11 34 38.4 +0.6**
baz=187
JHS Saijyo 74.09 317 P **P** **11 34 42.4 +0.1**
JHS IAmb IAmb 11 34 44.5
comp=Z,68nm,1.0s
SBC Santa Barbara 74.35 44 P **P** **11 34 44.1 +0.3**
baz=232
JEW Eniwo 74.56 327 P **P** **11 34 44.7 -0.1**
PKM Mcpherson Peak 74.56 44 P **P** **11 34 45.7 +0.4**
baz=232,SNR=5.4
CIS Catalina Islan 74.59 46 P **P** **11 34 45.5 +0.1**
baz=233
SAO San Andreas Ge 74.69 41 P **P** **11 34 45.4 -0.4**
SAO IAmb IAmb 11 34 49.7
comp=Z,48nm,1.1s
SAO IAMs_20 IAMs_20 12 00 48.8
comp=Z,669nm,18.0s
SAO San Andreas Ge 74.69 41 P **P** **11 34 45.4 -0.4**
SAO pmax pmax
comp=Z,48nm,1.2s
SMMC Simmler 74.70 43 P **P** **11 34 48.0 +2.1**
baz=232,SNR=6.3
FMP Fort Macarthur 74.86 45 P **P** **11 34 48.6 +1.8**
baz=233
CNBA Chernabura Isl 75.10 8 P **P** **11 34 46.9 -0.8**
CNBA IAmb IAmb 11 34 51.0
comp=Z,83nm,1.4s
CNBA IAMs_20 IAMs_20 12 00 28.7
comp=Z,1µm,22.0s
OSI Osito Audit: C 75.11 44 P **P** **11 34 49.1 +0.7**
baz=233
CHNA Chernabura Isl 75.11 8 P **P** **11 34 48.2 +0.5**
baz=194
HOPS Hopland Field 75.14 39 IAMs_20 IAMs_20 12 00 56.7
comp=Z,1µm,20.0s
DECC Green Verdugo 75.15 45 P **P** **11 34 49.5 +1.0**
baz=233
CBX Cerro Bola 75.15 47 P **P** **11 34 47.6 -1.1**
109C Camp Elliot, M 75.18 47 P **P** **11 34 50.3 +1.6**
baz=234
PASC Pasadena Art C 75.20 45 IAMs_20 IAMs_20 11 59 50.4
comp=Z,662nm,20.0s
KCPM Cahto Peak 75.30 38 P **P** **11 34 47.3 -2.1**
KCPM IAmb IAmb 11 34 53.5
comp=Z,97nm,1.4s
ARVC Arvin 75.34 44 P **P** **11 34 51.1 +1.5**
baz=233,SNR=5.2
BAR Barrett 75.36 47 P **P** **11 34 48.6 -1.1**
ELS Elsinore Mount 75.40 46 P **P** **11 34 49.7 -0.4**
ELS IAmb IAmb 11 34 53.8
comp=Z,69nm,1.6s
SDPT Sand Point 75.50 8 P **P** **11 34 50.5 +0.5**
baz=193
MURC Murrieta 75.53 46 P **P** **11 34 52.6 +1.8**
baz=234,SNR=7.5
LPIG La Paz 75.55 58 LR LR 11 59 49.3
comp=Z,831nm,21.3s,baz=222,slow=29
BFSC Mount Baldy Ra 75.59 45 P **P** **11 34 53.0 +1.7**
baz=234,SNR=5.3
VES Vestal, Richgr 75.61 43 P **P** **11 34 53.1 +2.0**
baz=232,SNR=22
SLBS Sierra La Lagu 75.63 58 IAMs_20 IAMs_20 12 00 11.1
comp=Z,927nm,20.0s
MONP2 Monument Peak 75.65 47 P **P** **11 34 53.4 +1.7**
baz=235,SNR=13
SRIG Santa Rosalia 75.66 54 IAmb IAmb 11 34 55.4
comp=Z,62nm,1.0s
VOG Valley Oaks Go 75.71 43 P **P** **11 34 53.9 +2.3**
baz=232
IKP In-Ko-Pah, Jac 75.73 47 P **P** **11 34 54.3 +2.3**
baz=235,SNR=12
EDW2 Edwards Air Fo 75.75 45 P **P** **11 34 54.5 +2.5**
baz=233,SNR=18
JCC Jacoby Creek, 75.80 37 IAMs_20 IAMs_20 11 59 28.1
comp=Z,1µm,22.0s
SBUM Sibu 75.80 278 P **P** **11 34 51.8 -0.9**
ISA Isabella, Lake 75.90 44 IAmb IAmb 11 34 56.9
comp=Z,61nm,1.2s
ISA Isabella, Lake 75.90 44 P **P** **11 34 55.5 +2.7**
baz=233,SNR=26
PFO Pinyon Flats O 76.04 46 LR LR 12 00 47.1
comp=Z,614nm,20.9s,baz=248,slow=30
PFO Pinyon Flats O 76.04 46 P **P** **11 34 51.7 -2.1**
PFO IAmb IAmb 11 34 57.6
comp=Z,54nm,1.5s
PFO Pinyon Flats O 76.04 46 IAMs_20 IAMs_20 12 00 43.7
comp=Z,713nm,20.0s
PFO Pinyon Flats O 76.04 46*c i* P **P** **11 34 56.0 +2.2**
PFO pmax pmax
comp=Z,60nm,1.5s
PFO Pinyon Flats O 76.04 46 P **P** **11 34 56.2 +2.4**
baz=235,SNR=9.1
TPFO Pinon Flats 76.04 46 P **P** **11 34 55.8 +2.0**
baz=235,SNR=10
BBRC Big Bear Solar 76.10 46 P **P** **11 34 56.4 +2.1**
baz=234
SWSC Sam W. Stewart 76.11 47 P **P** **11 34 56.3 +2.3**
baz=235,SNR=7.0
PET Petropavlovsk 76.17 343 P **P** **11 34 54.0 +0.2**
PET Petropavlovsk 76.17 343*e* P **P** **11 34 53.0 -0.8**
PET *e*S **S** **11 44 33.0 -2.9**
PET pmax pmax
comp=Z,45nm,1.4s
PET pmax pmax
comp=Z,100nm,18.4s
PET MLR MLR
comp=Z,800nm,18.0s
PET MLR MLR
comp=Z,1µm,17.0s
LRMC Laurel Mtn Rad 76.31 44 P **P** **11 34 57.3 +2.0**
baz=234
YULB Yu-li 76.39 301 IAmb IAmb 11 35 12.4
comp=Z,26nm,0.9s
RRX Edison Barstow 76.41 45 P **P** **11 34 57.7 +2.0**
baz=234
PEA0B Petropavlovsk- 76.51 343 P **P** **11 34 56.5 +0.7**
PEA0B Petropavlovsk- 76.51 343*ce* P **P** **11 34 56.8 +1.0**
comp=Z,718nm,1.8s
PETK Petropavlovsk- 76.51 343 P **P** **11 34 56.2 +0.4**
comp=Z,18nm,0.9s,baz=142,slow=8.5,SNR=27
PETK LR LR 12 02 22.8
comp=Z,442nm,21.8s,baz=180,slow=31
comp=Z,18nm,0.9s
PETK Petropavlovsk- 76.51 343 P **P** **11 34 54.1 -1.7**
PETK Petropavlovsk- 76.51 343 P **P** **11 34 54.1 -1.7**
NACB Ninganchiao 76.52 302 P **P** **11 34 54.8 -1.8**
S14K Fog Glacier 76.53 8 P **P** **11 34 57.0 +1.0**
baz=194
SPIA Saint Paul Isl 76.53 2 P **P** **11 34 57.4 +1.5**
baz=183
BELC Belle Mtn. Jos 76.58 46 P **P** **11 34 59.0 +2.1**
baz=235,SNR=15
CWC Cottonwood Cre 76.62 43 P **P** **11 34 59.3 +2.2**
baz=233
CHIR Chirikof Islan 76.68 10 IAMs_20 IAMs_20 12 02 16.1
comp=Z,1µm,20.0s
CHIR Chirikof Islan 76.68 10 P **P** **11 34 58.1 +1.4**
baz=197
CHGN Chignik 76.71 9 P **P** **11 34 56.0 -0.8**
CHGN IAmb IAmb 11 34 58.3
comp=Z,59nm,1.2s
CHGN Chignik 76.71 9 P **P** **11 34 57.6 +0.8**
baz=195
MDPB Devils Postpil 76.71 42 IAmb IAmb 11 35 01.4
comp=Z,32nm,1.0s
BC3 Big Chuckawall 76.75 47 P **P** **11 35 00.2 +2.4**
baz=235,SNR=14
MPMC Manual Prospec 76.78 44 P **P** **11 35 00.6 +2.6**
baz=234,SNR=37
GSC Goldstone, Bar 76.78 45 P **P** **11 34 56.9 -1.0**
GSC IAmb IAmb 11 35 01.7
comp=Z,87nm,1.8s
GSC Goldstone, Bar 76.78 45 P **P** **11 34 56.9 -1.0**
GSC pmax pmax
comp=Z,87nm,1.8s
GSC Goldstone, Bar 76.78 45 P **P** **11 35 00.4 +2.5**
baz=234,SNR=8.5
HEC Hector,Ludlow 76.82 45 P **P** **11 35 00.2 +2.1**
baz=234,SNR=20
GLA Glamis 76.85 48 P **P** **11 35 00.9 +2.6**
baz=236,SNR=6.4
SSLB Suanglung 76.85 301 P **P** **11 34 56.9 -1.6**
SSLB IAmb IAmb 11 34 59.2
comp=Z,36nm,0.9s
MLAC Mammoth, Mammo 76.86 42 P **P** **11 35 00.8 +2.3**
baz=232
TPUB Ta-pu 76.89 301 P **P** **11 34 58.0 -0.7**
TIN Tinemaha, Big 76.89 43 P **P** **11 35 00.4 +1.9**
baz=233,SNR=5.6
L02F Cave Junction 76.92 36 P **P** **11 35 00.8 +2.3**
baz=228
YHNB Yeheng 76.94 302 IAmb IAmb 11 35 00.1
comp=Z,58nm,1.1s
YSS Yuzh-Sakhalins 76.95 331 P **P** **11 34 57.3 -1.2**
YSS Yuzh-Sakhalins 76.95 331*a i* P **P** **11 34 59.8 +1.4**
YSS *e*S **S** **11 44 46.2 +1.4**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS pmax pmax
comp=Z,200nm,4.2s
YSS smax smax
comp=E,200nm,3.2s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS MLR MLR
comp=N,200nm,18.0s
YBH Yreka Blue Hor 77.15 37 LR LR 12 01 08.4
comp=N,1µm,22.0s,baz=232,slow=30
YBH Yreka Blue Hor 77.15 37 IAmb IAmb 11 35 03.8
comp=Z,38nm,1.2s
YBH IAMs_20 IAMs_20 12 01 18.9
comp=Z,956nm,21.0s
IRM Iron Mountain 77.25 47 P **P** **11 35 02.8 +2.3**
baz=236,SNR=24
GMRC Granite Mounta 77.25 46 P **P** **11 35 02.8 +2.2**
baz=235,SNR=14
K02D Willamette Mer 77.26 35 P **P** **11 35 02.9 +2.5**
baz=228
LCH Last Change Ra 77.37 43 IAmb IAmb 11 35 05.1
comp=Z,74nm,1.6s
GWY Greenwater Val 77.39 44 IAmb IAmb 11 35 05.1
comp=Z,75nm,1.7s
GRAC Grapevine Rang 77.41 43 P **P** **11 35 04.2 +2.9**
baz=233,SNR=37
FURC Furnace Creek, 77.43 44 P **P** **11 35 03.8 +2.5**
baz=234,SNR=7.3
YERR Yerington 77.44 41 IAmb IAmb 11 35 05.4
comp=Z,88nm,1.5s
LHV Little Huntoon 77.44 42 P **P** **11 35 02.4 +1.0**
TUQ Turquoise Moun 77.45 45 P **P** **11 35 03.9 +2.2**
baz=235,SNR=11
SHOC Shoshone, Teco 77.48 45 P **P** **11 35 04.2 +2.5**
baz=234,SNR=11
HUMO Hull Mountain 77.59 36 IAMs_20 IAMs_20 12 00 59.5
comp=Z,1µm,22.0s
SII Sitkinak Islan 77.64 11 P **P** **11 35 02.8 +0.7**
SII IAmb IAmb 11 35 04.8
comp=Z,52nm,1.0s
SII IAMs_20 IAMs_20 12 02 12.2
comp=Z,1µm,20.0s
SII Sitkinak Islan 77.64 11 P **P** **11 35 03.6 +1.5**
baz=199
GMN Gold Mountain 77.66 43 P **P** **11 35 04.7 +1.7**
GMN IAmb IAmb 11 35 06.7
comp=Z,57nm,1.3s
214A Organ Pipe Nat 77.67 50 P **P** **11 35 05.5 +2.6**
baz=237,SNR=19
NVAR Mina Array Bea 77.68 41 P **P** **11 35 05.4 +2.4**
comp=Z,32nm,1.1s,baz=225,slow=8.1,SNR=116
NVAR LR LR 12 02 27.4
comp=Z,539nm,21.1s,baz=244,slow=30
comp=Z,32nm,1.1s
NVAR Mina Array Bea 77.68 41 P **P** **11 35 02.3 -0.7**
L04D Klamath Falls 77.69 36 IAMs_20 IAMs_20 12 01 15.3
comp=Z,776nm,21.0s
L04D Klamath Falls 77.69 36 P **P** **11 35 04.9 +2.0**
baz=229
NV11 Mina Array Sit 77.77 42 P **P** **11 35 04.4 +1.0**
WCT Wildcat Mounta 77.77 44 IAmb IAmb 11 35 07.5
comp=Z,72nm,1.7s
PAHR Pah Rah Range 77.80 40 IAmb IAmb 11 35 07.4
comp=Z,79nm,1.5s
NEE2 Needles Airpor 77.95 46 P **P** **11 35 07.0 +2.6**
baz=236
SMAI San Martin Ant 78.00 158 P **P** **11 35 05.0 +0.9**
PDMCI Parker Dam,Lak 78.02 47 P **P** **11 35 07.5 +2.8**
baz=236,SNR=12
R16K Pilot Point 78.05 9 P **P** **11 35 04.7 +0.4**
baz=195
I03D Drain, OR 78.10 35 P **P** **11 35 07.5 +2.5**
baz=228
TPNV Topopah Spring 78.11 44 IAmb IAmb 11 35 09.4
comp=Z,106nm,1.8s
TPNV Topopah Spring 78.11 44 P **P** **11 35 07.9 +2.5**
baz=234,SNR=22
I02E Swisshome, OR 78.11 34 P **P** **11 35 07.4 +2.5**
baz=227
TPH Tonopah 78.14 42 P **P** **11 35 04.1 -1.5**
TPH Tonopah 78.14 42 P **P** **11 35 04.1 -1.5**
TPH pmax pmax
comp=Z,379nm,1.3s
KVN Kaiserville 78.18 41 IAmb IAmb 11 35 09.5
comp=Z,67nm,1.4s
K04D Chiloquin, OR 78.27 36 P **P** **11 35 07.2 +1.1**
baz=229
R17K Ugashik Creek 78.30 9 P **P** **11 35 07.0 +1.3**
baz=197
OHAK Old Harbor 78.42 11 IAmb IAmb 11 35 08.6
comp=Z,39nm,1.2s
OHAK Old Harbor 78.42 11 P **P** **11 35 07.8 +1.4**
baz=200
J04D Umpqua Nationa 78.47 36 IAMs_20 IAMs_20 12 02 01.0
comp=Z,1µm,21.0s
J04D Umpqua Nationa 78.47 36 P **P** **11 35 09.4 +2.1**
baz=229
SHPR Sheep Range 78.57 45 IAmb IAmb 11 35 12.2
comp=Z,86nm,1.5s
MOD Modoc Plateau 78.63 38 P **P** **11 35 07.0 -1.1**
MOD IAmb IAmb 11 35 11.8
comp=Z,57nm,1.4s
MOD IAMs_20 IAMs_20 12 01 58.1
comp=Z,746nm,21.0s
I04A Tendick Farm, 78.67 35 P **P** **11 35 09.9 +1.7**
baz=228,SNR=5.6
K05A Summer Lake 78.82 37 IAmb IAmb 11 35 13.2
comp=Z,88nm,1.3s
S11A Rachel 78.84 43 IAmb IAmb 11 35 13.2
comp=Z,52nm,1.2s
UGL Uglegorsk 78.84 332*e* P **P** **11 35 08.6 -0.3**
UGL pmax pmax
comp=Z,30nm,1.0s
KSRS Korea Array 78.92 316 P **P** **11 35 10.5 +0.9**
comp=Z,21nm,0.9s,baz=132,slow=6.1,SNR=49
KSRS LR LR 12 04 00.8
comp=Z,114nm,21.7s,baz=155,slow=31
comp=Z,21nm,0.9s
KSAR Wonju Array Be 78.94 316 P **P** **11 35 09.0 -0.7**
KSAR Wonju Array Be 78.94 316 P **P** **11 35 09.0 -0.7**
H04D Lebanon 78.98 35 P **P** **11 35 11.3 +1.5**
baz=228
J05D Fort Rock, OR 78.99 36 P **P** **11 35 12.7 +2.6**
baz=230,SNR=22
KDAK Kodiak Island 79.08 11 P **P** **11 35 10.3 +0.3**
KDAK IAmb IAmb 11 35 12.4
comp=Z,43nm,1.1s
KDAK Kodiak Island 79.08 11 P **P** **11 35 10.3 +0.3**
KDAK pmax pmax
comp=Z,43nm,1.2s
KDAK Kodiak Island 79.08 11 P **P** **11 35 11.7 +1.7**
baz=200
G03D McMinnville, O 79.16 34 IAMs_20 IAMs_20 12 01 56.2
comp=Z,1µm,21.0s
G03D McMinnville, O 79.16 34 P **P** **11 35 10.7 0.0**
baz=228
Q16K King Salmon 79.26 9 P **P** **11 35 12.2 +1.3**
baz=196,SNR=13
QZH Quanzhou 79.30 301*e* P **P** **11 35 14.4 +2.5**
QZH S **S** **11 45 11.7 +0.8**
TUC Tucson 79.32 50 P **P** **11 35 14.8 +2.8**
baz=239
R11A Troy Canyon, C 79.35 43 P **P** **11 35 14.4 +2.2**
baz=234,SNR=35
H04A Detroit Lake 79.38 35 IAmb IAmb 11 35 16.3
comp=Z,114nm,2.0s
P16K Nushagak River 79.41 8 P **P** **11 35 13.0 +1.3**
baz=195,SNR=12
PINE Pine Mountain 79.48 36 IAmb IAmb 11 35 16.8
comp=Z,88nm,1.4s
BMN Battle Mountai 79.55 40 P **P** **11 35 14.7 +1.5**
BMN IAmb IAmb 11 35 17.0
comp=Z,67nm,1.4s
BMN Battle Mountai 79.55 40 P **P** **11 35 14.7 +1.5**
BMN pmax pmax
comp=Z,67nm,1.4s
I05D Terrebonne, OR 79.61 35 P **P** **11 35 15.4 +2.0**
baz=229,SNR=7.6
P17K Kvichak River 79.79 9 P **P** **11 35 14.8 +1.0**
baz=196
F04D Rainier, OR 79.88 33 P **P** **11 35 16.7 +2.0**
baz=228
Q20K Shuyak Island 79.89 11 P **P** **11 35 16.2 +1.7**
baz=200
BELA Belgrano 2 79.91 172 P **P** **11 35 15.9 +1.5**
TYV Tymovskoe 79.93 334*e* P **P** **11 35 15.7 +0.9**
TYV pmax pmax
comp=Z,39nm,1.6s
TYV pmax pmax
comp=Z,300nm,7.7s
WVOR Wild Horse Val 79.93 38 P **P** **11 35 16.8 +1.6**
WVOR IAMs_20 IAMs_20 12 03 00.5
comp=Z,896nm,22.0s
WVOR Wild Horse Val 79.93 38 P **P** **11 35 16.8 +1.6**
WVOR pmax pmax
comp=Z,44nm,1.3s
O16K Kokwok River B 79.94 8 P **P** **11 35 15.3 +0.6**
baz=195,SNR=25
Q19K Cape Douglas, 79.97 10 IAmb IAmb 11 35 17.6
comp=Z,94nm,1.2s
Q19K IAMs_20 IAMs_20 12 03 41.2
comp=Z,1µm,20.0s
Q19K Cape Douglas, 79.97 10 P **P** **11 35 16.2 +1.3**
baz=199
HOOD Mount Hood Mea 80.08 34 P **P** **11 35 15.8 -0.2**
HOOD IAmb IAmb 11 35 19.4
comp=Z,98nm,1.9s
P18K Big Mountain, 80.16 10 P **P** **11 35 15.3 -0.6**
P18K IAMs_20 IAMs_20 12 03 35.0
comp=Z,871nm,21.0s
P18K Big Mountain, 80.16 10 P **P** **11 35 16.9 +1.0**
baz=198,SNR=17
G05D Wamic, OR 80.21 35 P **P** **11 35 18.7 +2.2**
baz=229
O17K Koliganek Bris 80.25 8 P **P** **11 35 17.5 +1.2**
baz=196,SNR=28
NLWA Neilton Lookou 80.33 32 IAMs_20 IAMs_20 12 02 48.0
comp=Z,1µm,21.0s
I07A Izee 80.46 36 P **P** **11 35 18.0 0.0**
PMSA Palmer Station 80.51 156 LR LR 12 08 20.8
comp=Z,151nm,18.8s,baz=238,slow=34
SPR3 Spring Creek 3 80.53 43 IAmb IAmb 11 35 22.1
comp=Z,49nm,1.4s
USRK Ussuriysk Ar. 80.53 324 P **P** **11 35 19.4 +1.2**
comp=Z,8.4nm,0.9s,baz=107,slow=2.6,SNR=12
USRK LR LR 12 06 30.8
comp=Z,622nm,20.3s,baz=227,slow=32
comp=Z,8.4nm,0.9s
USRK Ussuriysk Ar. 80.53 324 P **P** **11 35 19.0 +0.8**
SZCU Shurtz Canyon 80.55 45 P **P** **11 35 16.6 -2.2**
SZCU IAmb IAmb 11 35 23.2
comp=Z,75nm,1.5s
HPIG 80.58 57 IAmb IAmb 11 35 23.1
comp=Z,56nm,1.4s
WUAZ Wupatki 80.58 47 P **P** **11 35 21.9 +3.0**
baz=238,SNR=30
O18K Koktuh Hills 80.60 9 IAMs_20 IAMs_20 12 03 48.8
comp=Z,815nm,22.0s
O18K Koktuh Hills 80.60 9 P **P** **11 35 19.4 +1.1**
baz=198,SNR=19
HOLB Holberg 80.64 27 P **P** **11 35 17.6 -1.1**
N16K Nishlik Lake 80.71 7 P **P** **11 35 20.8 +2.0**
baz=194,SNR=16
P19K Oil Pt 80.73 10 IAMs_20 IAMs_20 12 03 54.1
comp=Z,956nm,21.0s
P19K Oil Pt 80.73 10 P **P** **11 35 20.2 +1.2**
baz=199
ELK Elko 80.95 41 LR LR 12 08 54.7
comp=Z,220nm,18.1s,baz=234,slow=34
CNPM China Poot 80.97 11 IAmb IAmb 11 35 23.1
comp=Z,66nm,1.1s
HOM Homer 81.02 11 IAMs_20 IAMs_20 12 05 12.7
comp=Z,1µm,21.0s
HOM Homer 81.02 11 P **P** **11 35 21.7 +1.3**
baz=201
ILSW Iliamna Southw 81.06 10 IAmb IAmb 11 35 23.1
comp=Z,122nm,1.1s
O19K Port Alsworth 81.07 10 P **P** **11 35 21.0 +0.3**
O19K IAMs_20 IAMs_20 12 04 37.0
comp=Z,824nm,21.0s
O19K Port Alsworth 81.07 10 P **P** **11 35 22.0 +1.3**
baz=198,SNR=14
TLCB Telegraph Cove 81.14 28 P **P** **11 35 21.4 +0.1**
TLCB IAmb IAmb 11 35 24.7
comp=Z,53nm,1.5s
CLRS Cowichan Lake 81.18 31 IAmb IAmb 11 35 41.6
comp=Z,69nm,1.5s
O20K Slope Mountain 81.24 11 P **P** **11 35 22.4 +0.7**
baz=200
BRLK Bradley Lake 81.25 11 P **P** **11 35 21.8 +0.1**
BRLK IAmb IAmb 11 35 24.5
comp=Z,53nm,1.0s
BRLK IAMs_20 IAMs_20 12 05 48.6
comp=Z,1µm,20.0s
BRSE Bradley Lake S 81.26 12 P **P** **11 35 23.2 +1.4**
baz=202,SNR=15
N18K Kilae Creek 81.29 9 P **P** **11 35 21.7 -0.2**
N18K IAMs_20 IAMs_20 12 04 22.0
comp=Z,648nm,21.0s
N18K Kilae Creek 81.29 9 P **P** **11 35 23.3 +1.4**
baz=197,SNR=7.8
PGC Sidney 81.39 31 P **P** **11 35 21.7 -0.9**
PGC IAmb IAmb 11 35 26.1
comp=Z,80nm,1.6s
CBB Campbell River 81.44 29 IAmb IAmb 11 35 26.6
comp=Z,69nm,1.2s
W18A Petrified Fore 81.52 48 P **P** **11 35 26.9 +2.9**
baz=239,SNR=7.5
G08A Pilot Rock 81.52 36 P **P** **11 35 24.6 +1.0**
G08A IAmb IAmb 11 35 27.2
comp=Z,54nm,1.2s
RSO Redoubt South 81.58 10 P **P** **11 35 24.3 +0.6**
121A Cookes Peak, D 81.62 51 P **P** **11 35 27.9 +3.4**
baz=240

121A	**Cookes Peak, D**	**81.62**	**51**	P	**P**	**11 35 28.0**	**+3.5**
	baz=240							
N19K	**Bonanza Creek**	**81.63**	**9**	IAmb	IAmb	11 35 26.1		
N19K	comp=Z,56nm,1.2s			IAMs_20	IAMs_20	12 04 42.9		
	comp=Z,858nm,21.0s							
N19K	**Bonanza Creek**	**81.63**	**9**	P	**P**	**11 35 24.6**	**+0.9**
	baz=198,SNR=23							
SVW2	**Sparrevohn**	**81.74**	**9**	P	**P**	**11 35 23.1**	**-1.1**
BBB	**Bella Bella**	**81.78**	**26**	LR	LR	12 03 26.0		
	comp=Z,538nm,21.9s,baz=226,slow=30							
BBB	**Bella Bella**	**81.78**	**26**	IAmb	IAmb	11 35 28.0		
	comp=Z,43nm,1.2s							
SEW	**Seward**	**81.85**	**12**	P	**P**	**11 35 26.2**	**+1.4**
	baz=203,SNR=16							
HAWA	**Hanford**	**81.91**	**35**	P	**P**	**11 35 25.3**	**-0.2**
MDJ	**Mudanjiang**	**82.13**	**323**	P	**P**	**11 35 26.4**	**-0.3**
MDJ				IAmb	IAmb	11 35 29.6		
	comp=Z,80nm,1.3s							
MDJ				IAMs_20	IAMs_20	12 07 15.1		
	comp=Z,767nm,20.0s							
MDJ	**Mudanjiang**	**82.13**	**323**	P	**P**	**11 35 28.1**	**+1.4**
MDJ				pP	pP	11 35 35.2	+1.0	
MDJ				sP	pwP	11 35 38.4	-0.6	
MDJ				S	**S**	**11 45 43.8**	**+4.0**
MDJ				sS	sS	11 45 52.5	+0.3	
MDJ				pmax	pmax			
	comp=Z,56nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,360nm,5.3s							
MDJ				LR	LR			
	comp=Z,510nm,22.8s							
MDJ				LR	LR			
	comp=Z,560nm,21.7s							
MDJ				LR	LR			
	comp=Z,950nm,21.7s							
O22K	**Cooper Landing**	**82.14**	**12**	IAmb	IAmb	11 35 41.8		
O22K	comp=Z,44nm,1.0s							
				IAMs_20	IAMs_20	12 04 07.4		
	comp=Z,927nm,22.0s							
O22K	**Cooper Landing**	**82.14**	**12**	P	**P**	**11 35 27.5**	**+1.1**
	baz=203							
CAPN	**Captain Cook N**	**82.14**	**11**	P	**P**	**11 35 28.7**	**+2.4**
	baz=201							
MFID	**Camas Ranch**	**82.16**	**39**	IAmb	IAmb	11 35 30.7		
	comp=Z,54nm,1.6s							
MFID				IAMs_20	IAMs_20	12 03 58.6		
	comp=Z,646nm,22.0s							
DUG	**Dugway, Tooele**	**82.17**	**43**	P	**P**	**11 35 29.4**	**+2.2**
	baz=236,SNR=14							
BMO	**Blue Mountains**	**82.17**	**37**	P	**P**	**11 35 25.9**	**-1.2**
BMO				IAmb	IAmb	11 35 30.5		
	comp=Z,62nm,1.6s							
BMO				IAMs_20	IAMs_20	12 04 12.9		
	comp=Z,938nm,22.0s							
BMO	**Blue Mountains**	**82.17**	**37**	P	**P**	**11 35 25.9**	**-1.2**
BMO				pmax	pmax			
	comp=Z,62nm,1.6s							
E08A	**Dider Farm, El**	**82.22**	**35**	IAmb	IAmb	11 35 30.8		
	comp=Z,78nm,1.4s							
GRNB	**Grenville Isla**	**82.27**	**24**	IAmb	IAmb	11 35 30.8		
	comp=Z,45nm,1.2s							
CRAG	**Craig**	**82.34**	**22**	IAmb	IAmb	11 35 31.3		
	comp=Z,34nm,1.2s							
CRAG	**Craig**	**82.34**	**22**	P	**P**	**11 35 30.1**	**+2.6**
	baz=218,SNR=5.2							
N20K	**Mount Spurr**	**82.36**	**10**	P	**P**	**11 35 28.1**	**+0.4**
	baz=200							
SPCR	**Spurr Chakacha**	**82.36**	**10**	P	**P**	**11 35 27.9**	**+0.3**
	baz=200							
NJ2	**Nanjing**	**82.42**	**308**	*e*P	**P**	**11 35 29.9**	**+1.4**
NJ2				pmax	pmax			
	comp=Z,23nm,1.5s							
BGU	**Big Grassy Mou**	**82.44**	**42**	P	**P**	**11 35 28.7**	**+0.1**
RUBB	**Prince Rupert**	**82.52**	**24**	IAmb	IAmb	11 35 32.1		
	comp=Z,63nm,1.7s							
TLIG	**Tlapa**	**82.54**	**68**	P	**P**	**11 35 28.7**	**-0.9**
GRNR	**Gornyy**	**82.60**	**331**	⇑*e*P	**P**	**11 35 30.2**	**+1.2**
GRNR				pmax	pmax			
	comp=Z,20nm,1.3s							
M19K	**Big River Lodg**	**82.68**	**9**	IAMs_20	IAMs_20	12 04 42.8		
	comp=Z,745nm,22.0s							
M19K	**Big River Lodg**	**82.68**	**9**	P	**P**	**11 35 30.1**	**+0.9**
	baz=198,SNR=10							
RC01	**Rabbit Creek A**	**82.70**	**12**	IAMs_20	IAMs_20	12 04 59.3		
	comp=Z,826nm,22.0s							
RC01	**Rabbit Creek A**	**82.70**	**12**	P	**P**	**11 35 30.6**	**+1.3**
	baz=203,SNR=20							
UNM	**Universidad Na**	**82.71**	**67**	IAMs_20	IAMs_20	12 12 32.9		
	comp=Z,653nm,18.0s							
HIN	**Hinchinbrook I**	**82.72**	**13**	IAmb	IAmb	11 35 32.0		
	comp=Z,42nm,1.1s							
E09A	**Wood Farm, Sta**	**82.73**	**35**	P	**P**	**11 35 28.5**	**-1.3**
E09A				IAmb	IAmb	11 35 33.0		
	comp=Z,55nm,1.3s							
PWL	**Port Wells**	**82.76**	**12**	P	**P**	**11 35 29.4**	**-0.2**
PWL				IAmb	IAmb	11 35 32.1		
	comp=Z,48nm,1.0s							
PWL				IAMs_20	IAMs_20	12 06 07.8		
	comp=Z,918nm,20.0s							
PWL	**Port Wells**	**82.76**	**12**	P	**P**	**11 35 30.7**	**+1.1**
	baz=204,SNR=20							
KAIM	**Kayak Island**	**82.77**	**14**	IAmb	IAmb	11 35 33.0		
	comp=Z,49nm,1.0s							
KAIM	**Kayak Island**	**82.77**	**14**	P	**P**	**11 35 31.8**	**+2.2**
	baz=208,SNR=11							
V35K	**Ketchikan**	**82.77**	**23**	P	**P**	**11 35 32.0**	**+2.3**
	baz=220,SNR=9.3							
M20K	**Styx River**	**82.86**	**10**	IAMs_20	IAMs_20	12 04 27.3		
	comp=Z,915nm,22.0s							
M20K	**Styx River**	**82.86**	**10**	P	**P**	**11 35 30.6**	**+0.4**
	baz=199,SNR=9.1							
SIT	**Sitka**	**82.86**	**20**	P	**P**	**11 35 31.7**	**+1.5**
	baz=216							
SUA	**Susitna One**	**82.86**	**11**	IAmb	IAmb	11 35 32.0		
	comp=Z,26nm,1.1s							
SUA	**Susitna One**	**82.86**	**11**	P	**P**	**11 35 31.2**	**+0.9**
	baz=202,SNR=12							
L19K	**White Mountain**	**82.88**	**9**	P	**P**	**11 35 31.7**	**+1.5**
	baz=198,SNR=7.9							
Y22A	**Socorro**	**82.91**	**50**	P	**P**	**11 35 34.6**	**+3.3**
	baz=241							
Y22D	**IRIS PASSCAL I**	**83.00**	**50**	P	**P**	**11 35 35.1**	**+3.4**
	baz=241							
MNTX	**Cornudas Mount**	**83.01**	**53**	P	**P**	**11 35 34.6**	**+3.0**
	baz=242							
MNTX	**Cornudas Mount**	**83.01**	**53**	P	**P**	**11 35 34.3**	**+2.7**
	baz=242							
EYAK	**Cordova Ski Ar**	**83.02**	**14**	P	**P**	**11 35 32.2**	**+1.3**
	baz=206,SNR=11							
GLI	**Glacier Island**	**83.03**	**13**	P	**P**	**11 35 32.1**	**+1.0**
	baz=205,SNR=16							
FID	**Port Fidalgo**	**83.05**	**13**	IAmb	IAmb	11 35 33.5		
	comp=Z,32nm,1.2s							
PLID	**Pearl Lake**	**83.06**	**37**	P	**P**	**11 35 31.1**	**-0.7**
PLID				IAmb	IAmb	11 35 35.1		
	comp=Z,82nm,1.6s							
HVU	**Hansel Valley**	**83.07**	**41**	IAmb	IAmb	11 35 35.6		
	comp=Z,33nm,1.2s							
HLID	**Hailey**	**83.08**	**39**	IAmb	IAmb	11 35 35.9		
	comp=Z,48nm,1.1s							
HLID				IAMs_20	IAMs_20	12 05 01.0		
	comp=Z,608nm,21.0s							
HLID	**Hailey**	**83.08**	**39**	P	**P**	**11 35 34.6**	**+2.6**
	baz=235,SNR=76							
GAMB	**Gambell**	**83.11**	**1**	P	**P**	**11 35 33.6**	**+2.3**
	baz=182							
RAGM	**Ragged Mountai**	**83.12**	**14**	IAmb	IAmb	11 35 33.8		
	comp=Z,35nm,1.2s							
H03S2	**Juan Fernandez**	**83.19**	**123**	T	T	13 08 03.0		
	baz=250							
H03S1	**Juan Fernandez**	**83.20**	**123**	T	T	13 08 04.1		
	baz=250							
H03S3	**Juan Fernandez**	**83.21**	**123**	T	T	13 08 02.8		
	baz=250							
SKT	**Skwentna**	**83.21**	**10**	IAmb	IAmb	11 35 33.7		
	comp=Z,39nm,1.4s							
SKT				IAMs_20	IAMs_20	12 05 44.8		
	comp=Z,1μm,21.0s							
SKT	**Skwentna**	**83.21**	**10**	P	**P**	**11 35 32.5**	**+0.6**
	baz=201,SNR=15							
BGLC	**Bering Glacier**	**83.21**	**15**	P	**P**	**11 35 34.0**	**+2.1**
	baz=209							
TX31	**Lajitas Ar. Si**	**83.24**	**56**	P	**P**	**11 35 36.0**	**+3.0**
	baz=243							
TXAR	**Lajitas Array**	**83.24**	**56**	P	**P**	**11 35 35.9**	**+2.9**
	comp=Z,15nm,1.0s,baz=216,slow=6.2,SNR=88							
TXAR				PP	**PP**	**11 38 45.4**	**+0.5**
	comp=Z,1.0nm,1.1s,baz=245,slow=5.9,SNR=2.5							
TXAR				LR	LR	12 04 22.4		
	comp=Z,442nm,21.8s,baz=240,slow=30							
	comp=Z,15nm,1.0s							
KNK	**Knik Glacier**	**83.25**	**12**	IAmb	IAmb	11 35 36.2		
	comp=Z,32nm,1.1s							
KNK				IAMs_20	IAMs_20	12 05 53.6		
	comp=Z,965nm,21.0s							
KNK	**Knik Glacier**	**83.25**	**12**	P	**P**	**11 35 33.0**	**+0.9**
	baz=204,SNR=13							
M22K	**Willow**	**83.25**	**11**	P	**P**	**11 35 32.9**	**+0.9**
	baz=202,SNR=5.8							
B08A	**Colville Reser**	**83.26**	**33**	P	**P**	**11 35 32.2**	**-0.4**
B08A				IAmb	IAmb	11 35 35.4		
	comp=Z,38nm,1.1s							
PMR	**Palmer**	**83.28**	**12**	P	**P**	**11 35 31.3**	**-0.9**
PMR				IAmb	IAmb	11 35 34.9		
	comp=Z,61nm,1.4s							
PMR	**Palmer**	**83.28**	**12**	P	**P**	**11 35 31.3**	**-0.9**
PMR				pmax	pmax			
	comp=Z,61nm,1.4s							
PMR	**Palmer**	**83.28**	**12**	P	**P**	**11 35 33.5**	**+1.3**
	baz=203,SNR=23							
L20K	**Farewell, AK**	**83.31**	**9**	P	**P**	**11 35 33.5**	**+1.1**
	baz=199,SNR=18							
H03N2	**Juan Fernandez**	**83.31**	**123**	T	T	13 08 09.9		
	baz=254,slow=74							
H03N3	**Juan Fernandez**	**83.31**	**123**	T	T	13 08 12.7		
	baz=254							
H03N1	**Juan Fernandez**	**83.33**	**123**	T	T	13 08 04.6		
	baz=254,slow=74							
WRAK	**Wrangell Islan**	**83.36**	**22**	IAmb	IAmb	11 35 36.4		
	comp=Z,50nm,1.4s							
WRAK	**Wrangell Islan**	**83.36**	**22**	IAMs_20	IAMs_20	12 05 14.2		
	comp=Z,557nm,20.0s							
WRAK	**Wrangell Islan**	**83.36**	**22**	P	**P**	**11 35 34.9**	**+2.2**
	baz=219,SNR=8.0							
TTA	**Tatalina**	**83.44**	**8**	IAmb	IAmb	11 35 36.7		
	comp=Z,47nm,1.2s							
TTA	**Tatalina**	**83.44**	**8**	P	**P**	**11 35 35.2**	**+2.1**
	baz=197,SNR=18							
MVCO	**Mesa Verde**	**83.44**	**47**	P	**P**	**11 35 36.6**	**+2.6**
	baz=239,SNR=10							
LLLB	**Lillooet**	**83.47**	**30**	IAmb	IAmb	11 35 36.8		
	comp=Z,37nm,1.2s							
GHO	**Glory Hole Cre**	**83.48**	**12**	P	**P**	**11 35 31.8**	**-1.6**
GHO				IAmb	IAmb	11 35 36.1		
	comp=Z,39nm,1.0s							
DIV	**Divide**	**83.54**	**13**	IAmb	IAmb	11 35 36.4		
	comp=Z,45nm,1.0s							
MESA	**MESA**	**83.59**	**15**	P	**P**	**11 35 36.2**	**+2.1**
	baz=210,SNR=10							
SML	**Sawmill**	**83.63**	**12**	IAmb	IAmb	11 35 49.0		
	comp=Z,26nm,1.1s							
SML				IAMs_20	IAMs_20	12 05 34.8		
	comp=Z,794nm,21.0s							
SML	**Sawmill**	**83.63**	**12**	P	**P**	**11 35 35.1**	**+1.0**
	baz=204,SNR=6.1							
BMRM	**Bremner River**	**83.65**	**14**	P	**P**	**11 35 35.4**	**+1.2**
	baz=207,SNR=23							
MAW	**Mawson**	**83.73**	**199**	P	**P**	**11 35 37.6**	**+2.9**
	baz=84,SNR=16							
MAW	**Mawson**	**83.73**	**199**	P	**P**	**11 35 37.6**	**+2.9**
	comp=Z,4.6nm,0.6s,baz=133,slow=7.3,SNR=25							
MAW				LR	LR	12 09 25.5		
	comp=Z,1μm,21.6s,baz=120,slow=33							
	comp=Z,4.6nm,0.6s							
MAW	**Mawson**	**83.73**	**199**	P	**P**	**11 35 36.6**	**+1.9**
MAW	**Mawson**	**83.73**	**199**	P	**P**	**11 35 36.6**	**+1.9**
MAW				pmax	pmax			
	comp=Z,11nm,1.6s							
M23K	**Glacier View**	**83.74**	**12**	P	**P**	**11 35 35.4**	**+0.8**
	baz=204,SNR=6.4							
ANMO	**Albuquerque**	**83.76**	**50**	LR	LR	12 05 13.1		
	comp=Z,453nm,21.6s,baz=248,slow=30							
ANMO	**Albuquerque**	**83.76**	**50**	P	**P**	**11 35 35.6**	**-0.1**
ANMO	**Albuquerque**	**83.76**	**50**	*ce*P	**P**	**11 35 38.6**	**+3.0**
ANMO				pmax	pmax			
	comp=Z,112nm,1.7s							
ANMO	**Albuquerque**	**83.76**	**50**	P	**P**	**11 35 38.8**	**+3.2**
	baz=241							
ANMO	**Albuquerque**	**83.76**	**50**	P	**P**	**11 35 38.4**	**+2.7**
	baz=241							
PNL	**Peninsula**	**83.82**	**17**	P	**P**	**11 35 36.8**	**+1.7**
	baz=212,SNR=13							
CUT	**Chulitna**	**83.83**	**11**	P	**P**	**11 35 36.0**	**+1.0**
	baz=202,SNR=8.2							
KLU	**Klutina**	**83.83**	**13**	IAmb	IAmb	11 35 39.5		
	comp=Z,30nm,1.2s							
KLU	**Klutina**	**83.83**	**13**	P	**P**	**11 35 36.5**	**+1.3**
	baz=206,SNR=14							
KLR	**Kudur**	**83.84**	**328**	LR	LR	12 06 39.8		
	comp=Z,304nm,21.8s,baz=182,slow=31							
KLR	**Kul'dur**	**83.84**	**328**	*ce*P	**P**	**11 35 35.3**	**-0.1**
KLR				pmax	pmax			
	comp=Z,19nm,1.3s							
SCM	**Sheep Creek Mo**	**83.85**	**12**	IAmb	IAmb	11 35 38.0		
	comp=Z,45nm,1.0s							
SCM				IAMs_20	IAMs_20	12 06 00.7		
	comp=Z,818nm,20.0s							
SCM	**Sheep Creek Mo**	**83.85**	**12**	P	**P**	**11 35 36.1**	**+0.8**
	baz=205,SNR=25							
ISLE	**Juniper Island**	**83.86**	**15**	P	**P**	**11 35 34.6**	**-0.9**
ISLE				IAmb	IAmb	11 35 38.5		
	comp=Z,46nm,1.0s							
TGL	**Tana Glacier**	**83.88**	**15**	IAmb	IAmb	11 35 39.9		
	comp=Z,46nm,1.0s							
PCA	**Pinnacle**	**83.95**	**16**	IAmb	IAmb	11 35 39.0		
	comp=Z,50nm,1.4s							
PINM	**Pinnacle**	**83.95**	**16**	P	**P**	**11 35 37.4**	**+1.5**
	baz=211,SNR=5.4							
PPLA	**Purkeypile**	**83.96**	**10**	P	**P**	**11 35 34.9**	**-1.0**
PPLA				IAmb	IAmb	11 36 42.2		
	comp=Z,30nm,1.4s							
PPLA	**Purkeypile**	**83.96**	**10**	P	**P**	**11 35 35.8**	**-0.1**
	baz=200							
TABL	**Table Mountain**	**84.02**	**16**	IAmb	IAmb	11 35 39.4		
	comp=Z,47nm,1.1s							
MA2	**Magadan**	**84.04**	**343**	LR	LR	12 07 08.0		
	comp=Z,479nm,21.8s,baz=174,slow=32							
MA2	**Magadan**	**84.04**	**343**	P	**P**	**11 35 36.6**	**+0.4**
MA2				IAmb	IAmb	11 35 38.1		
	comp=Z,54nm,1.4s							
MA2	**Magadan**	**84.04**	**343**	*ce*P	**P**	**11 35 36.5**	**+0.3**
MA2				pmax	pmax			
	comp=Z,42nm,1.2s							
BNX	**BinXian**	**84.05**	**323**	⇑P	**P**	**11 35 37.3**	**+0.7**
BNX				pmax	pmax			
	comp=Z,64nm,1.0s							
BNX				pmax	pmax			
	comp=Z,190nm,4.8s							
CN2	**Changchun**	**84.08**	**321**	*e*P	**P**	**11 35 38.1**	**+1.3**
CN2				S	**S**	**11 46 04.8**	**+5.2**
CN2				SS	**SS**	**11 51 31.3**	**+2.2**
CN2				pmax	pmax			
	comp=Z,40nm,1.3s							
CN2				pmax	pmax			
	comp=Z,100nm,3.0s							
CN2				LR	LR			
	comp=Z,300nm,18.0s							
CN2				LR	LR			
	comp=Z,200nm,18.0s							
CN2				LR	LR			
	comp=Z,300nm,21.0s							
R32K	**Eaglecrest**	**84.10**	**20**	P	**P**	**11 35 38.1**	**+1.5**
	baz=217,SNR=5.5							
K20K	**Telida**	**84.11**	**9**	IAMs_20	IAMs_20	12 05 48.6		
	comp=Z,602nm,22.0s							
K20K	**Telida**	**84.11**	**9**	P	**P**	**11 35 38.1**	**+1.5**
	baz=198,SNR=18							
SNY	**Shenyang**	**84.14**	**318**	⇓P	**P**	**11 35 38.6**	**+1.5**
SNY				S	**S**	**11 46 05.4**	**+5.1**
SNY				pmax	pmax			
	comp=Z,31nm,1.4s							
SNY				pmax	pmax			
	comp=Z,240nm,3.5s							
SNY				LR	LR			
	comp=Z,130nm,12.0s							
SNY				LR	LR			
	comp=Z,240nm,14.9s							
SNY				LR	LR			
	comp=Z,330nm,19.3s							
ANM	**Nome**	**84.14**	**4**	P	**P**	**11 35 38.3**	**+1.6**
	baz=188							
JIS	**Juneau Island**	**84.15**	**20**	IAmb	IAmb	11 35 40.1		
	comp=Z,26nm,1.3s							
QIZ	**Qiongzhong**	**84.16**	**292**	P	**P**	**11 35 39.7**	**+2.0**
QIZ				S	**S**	**11 46 05.6**	**+4.2**
QIZ				LR	LR			
	comp=Z,270nm,20.7s							
QIZ				LR	LR			
	comp=Z,180nm,9.6s							
QIZ				LR	LR			
	comp=Z,320nm,21.5s							
N25K	**Chitina, Valde**	**84.22**	**14**	IAmb	IAmb	11 35 40.2		
	comp=Z,33nm,0.9s							
N25K				IAMs_20	IAMs_20	12 04 53.3		
	comp=Z,1μm,22.0s							
N25K	**Chitina, Valde**	**84.22**	**14**	P	**P**	**11 35 38.9**	**+1.7**
	baz=207,SNR=31							
BESE	**Bessie Mountai**	**84.24**	**19**	P	**P**	**11 35 36.9**	**-0.4**
BESE				IAmb	IAmb	11 35 40.9		
	comp=Z,52nm,1.3s							
P29M	**Windy Craggy**	**84.25**	**17**	IAMs_20	IAMs_20	12 05 11.0		
	comp=Z,1μm,21.0s							
GLB	**Gilahina Butte**	**84.25**	**14**	P	**P**	**11 35 37.4**	**0.0**
GLB				IAmb	IAmb	11 35 40.2		
	comp=Z,30nm,1.0s							
GLB				IAMs_20	IAMs_20	12 05 57.2		
	comp=Z,811nm,20.0s							
M24K	**Tolsona, Glenn**	**84.33**	**13**	IAMs_20	IAMs_20	12 07 06.3		
	comp=Z,890nm,20.0s							
M24K	**Tolsona, Glenn**	**84.33**	**13**	P	**P**	**11 35 40.0**	**+2.3**
	baz=206,SNR=14							
NEW	**Newport**	**84.36**	**34**	LR	LR	12 05 30.7		
	comp=Z,2μm,21.7s,baz=226,slow=30							
NEW	**Newport**	**84.36**	**34**	P	**P**	**11 35 39.5**	**+1.4**
	baz=232,SNR=8.4							
MCARA	**McCarthy VSAT**	**84.38**	**14**	P	**P**	**11 35 36.4**	**-1.5**
MCARA				IAmb	IAmb	11 35 41.0		
	comp=Z,28nm,1.0s							
MCARA				IAMs_20	IAMs_20	12 05 38.6		
	comp=Z,890nm,20.0s							
MCARA	**McCarthy VSAT**	**84.38**	**14**	P	**P**	**11 35 39.7**	**+1.8**
	baz=209,SNR=7.2							
LOGN	**Logan Glacier**	**84.39**	**15**	P	**P**	**11 35 36.3**	**-1.9**
LOGN				IAmb	IAmb	11 35 41.2		
	comp=Z,46nm,1.1s							
CTG	**Chitna Glacier**	**84.42**	**15**	P	**P**	**11 35 39.9**	**+1.6**
	baz=210,SNR=11							
CTGM	**Chitina Glacie**	**84.42**	**15**	IAmb	IAmb	11 35 41.4		
	comp=Z,36nm,1.0s							
WAT6	**Susitna Watana**	**84.45**	**12**	P	**P**	**11 35 40.0**	**+1.6**
	baz=204,SNR=20							
RDMU	**Red Mountain**	**84.46**	**44**	IAmb	IAmb	11 35 42.6		
	comp=Z,32nm,1.2s							
CAST	**Castle Rocks**	**84.47**	**10**	IAmb	IAmb	11 35 39.9		
	comp=Z,46nm,1.5s							
CAST	**Castle Rocks**	**84.47**	**10**	P	**P**	**11 35 38.2**	**-0.1**
	baz=200,SNR=16							
WAT1	**Susitna Watana**	**84.53**	**11**	P	**P**	**11 35 40.0**	**+1.3**
	baz=204							
T35M	**Bob Quinn**	**84.53**	**22**	P	**P**	**11 35 41.1**	**+2.3**
	baz=221,SNR=9.8							
O28M	**Mount Upton**	**84.55**	**16**	P	**P**	**11 35 41.1**	**+1.9**
	baz=211,SNR=18							
O29M	**Mount Kennedy**	**84.58**	**17**	P	**P**	**11 35 41.4**	**+2.3**
	baz=213,SNR=15							
ECR	**Eagle Creek**	**84.64**	**41**	P	**P**	**11 35 37.3**	**-2.7**
AHID	**Auburn Hatcher**	**84.65**	**41**	IAmb	IAmb	11 35 43.6		
	comp=Z,52nm,1.2s							
TRF	**Thorofare Moun**	**84.79**	**10**	P	**P**	**11 35 41.1**	**+1.0**
	baz=202,SNR=24							
HARP	**HAARP**	**84.81**	**13**	P	**P**	**11 35 41.7**	**+1.7**
	baz=207,SNR=6.9							
SKAG	**Skagway**	**84.81**	**19**	P	**P**	**11 35 42.5**	**+2.5**
	baz=216,SNR=30							
S22A	**4UR Ranch, Cre**	**84.86**	**47**	P	**P**	**11 35 44.3**	**+3.0**
	baz=240,SNR=65							
CHUM	**Lake Minchumin**	**84.87**	**9**	P	**P**	**11 35 41.1**	**+0.8**
	baz=200,SNR=5.1							
J20K	**Nowinta River**	**84.88**	**8**	IAMs_20	IAMs_20	12 06 23.9		
	comp=Z,668nm,22.0s							
J20K	**Nowinta River**	**84.88**	**8**	P	**P**	**11 35 42.0**	**+1.6**
	baz=198,SNR=43							
S34M	**Telegraph Cree**	**84.94**	**21**	P	**P**	**11 35 43.4**	**+2.6**
	baz=220,SNR=20							
DHY	**Denali Highway**	**84.97**	**12**	P	**P**	**11 35 40.1**	**-0.9**
DHY	**Denali Highway**	**84.97**	**12**	P	**P**	**11 35 42.0**	**+0.9**
	baz=205,SNR=17							
RND	**Reindeer**	**85.00**	**11**	IAMs_20	IAMs_20	12 07 40.1		
	comp=Z,1μm,20.0s							
TNA	**Tin City**	**85.01**	**2**	P	**P**	**11 35 43.2**	**+2.3**
	baz=185							
GCSA	**Galena City Sc**	**85.08**	**7**	P	**P**	**11 35 43.6**	**+2.3**
	baz=196,SNR=16							
O20A	**White River Ci**	**85.10**	**44**	IAmb	IAmb	11 35 45.4		
	comp=Z,26nm,1.1s							
O20A	**White River Ci**	**85.10**	**44**	P	**P**	**11 35 44.5**	**+2.2**
	baz=239,SNR=11							
LL02	**Futaleuf**	**85.12**	**134**	IAmb	IAmb	11 35 46.6		
	comp=Z,26nm,1.1s							
REDW	**Red Top Meadow**	**85.12**	**41**	P	**P**	**11 35 40.0**	**-2.5**
REDW				IAmb	IAmb	11 35 46.0		
	comp=Z,52nm,1.3s							
TPAW	**Teton Pass**	**85.13**	**41**	IAmb	IAmb	11 35 45.2		
	comp=Z,41nm,1.3s							
WHN	**Wuhan**	**85.16**	**305**	⇓P	**P**	**11 35 44.2**	**+1.6**
WHN				S	**S**	**11 46 13.6**	**+2.6**
WHN				pmax	pmax			
	comp=Z,150nm,1.4s							
WHN				LR	LR			
	comp=Z,3μm,19.9s							
WHN				LR	LR			
	comp=Z,2μm,13.5s							
WHN				LR	LR			
	comp=Z,2μm,16.1s							
FXWY	**Fox Creek**	**85.17**	**40**	IAmb	IAmb	11 35 46.4		
	comp=Z,36nm,1.3s							
YUK6	**Outpost Mounta**	**85.17**	**16**	P	**P**	**11 35 44.2**	**+2.0**
	baz=213							
SNOW	**Snow King Moun**	**85.24**	**41**	IAmb	IAmb	11 36 03.3		
	comp=Z,43nm,1.1s							
MSO	**Missoula**	**85.24**	**37**	P	**P**	**11 35 43.9**	**+1.2**
	baz=235,SNR=11							
PAX	**Paxson**	**85.26**	**13**	IAmb	IAmb	11 35 45.0		
	comp=Z,54nm,1.6s							
PAX	**Paxson**	**85.26**	**13**	P	**P**	**11 35 43.4**	**+1.0**
	baz=206,SNR=16							
BPAW	**Bear Paw Mtn.**	**85.28**	**10**

comp=Z,56nm,1.6s
MENT Mentasta 85.60 13 IAmb IAmb 11 35 46.8
comp=Z,37nm,1.2s
BWN Browne 85.60 10 P **P** **11 35 43.8 -0.2**
BW06 Boulder Array 85.61 42 P **P** **11 35 46.2 +1.4**
baz=238,SNR=16
PD31 Pinedale Array 85.61 42 P **P** **11 35 44.0 -0.8**
PDAR Pinedale Array 85.61 42 P **P** **11 35 46.8 +1.9**
comp=Z,7.0nm,0.9s,baz=219,slow=3.8,SNR=48
PDAR PP **PP** **11 38 58.7 -5.4**
comp=Z,0.5nm,0.8s,baz=248,slow=4.8,SNR=2.6
PDAR PKKPbc **PKKPbc** **11 53 48.1 -1.3**
comp=Z,0.5nm,0.9s,baz=100,slow=2.2,SNR=4.8
PDAR LR LR 12 08 47.0
comp=Z,194nm,20.2s,baz=250,slow=32
comp=Z,7.0nm,0.9s
PDAR Pinedale Array 85.61 42 P **P** **11 35 44.7 -0.2**
CMIG Matias Romero 85.61 70 LR LR 12 04 45.4
comp=Z,503nm,20.7s,baz=244,slow=29
O30N Mendenhall 85.66 18 P **P** **11 35 46.8 +2.4**
baz=215,SNR=27
TIA Tai'an 85.66 311 ⇑P **P** **11 35 46.0 +1.1**
TIA SKS **SKSac** **11 46 06.6 -2.1**
TIA S **SKKSac** **11 46 14.4 -1.3**
TIA sS **ScS** **11 46 25.2 0.0**
TIA pmax pmax
comp=Z,42nm,1.0s
TIA LR LR
comp=Z,570nm,17.1s
TIA LR LR
comp=Z,150nm,8.8s
TIA LR LR
comp=Z,270nm,15.7s
DLBC Dease Lake 85.72 21 LR LR 12 07 08.4
comp=Z,528nm,20.7s,baz=248,slow=31
L26K Log Cabin Wild 85.75 13 IAmb IAmb 11 35 48.2
comp=Z,25nm,1.1s
L26K Log Cabin Wild 85.75 13 P **P** **11 35 46.8 +1.9**
baz=208,SNR=16
SDCO Great Sand Dun 85.78 48 P **P** **11 35 45.7 -0.2**
SDCO IAmb IAmb 11 35 49.8
comp=Z,35nm,1.5s
SDCO Great Sand Dun 85.78 48 P **P** **11 35 47.5 +1.6**
baz=241
SDCO Great Sand Dun 85.78 48 P **P** **11 35 47.7 +1.8**
baz=241
BVCY Beaver Creek 85.79 15 P **P** **11 35 47.0 +2.0**
baz=211
H17A Grant Village 85.85 40 P **P** **11 35 49.0 +3.0**
baz=237,SNR=10
BOZ Bozeman (W) 85.87 38 IAmb IAmb 11 35 49.6
comp=Z,43nm,1.2s
BOZ IAMs_20 IAMs_20 12 06 40.8
comp=Z,667nm,21.0s
BOZ Bozeman (W) 85.87 38 P **P** **11 35 48.0 +2.0**
baz=237,SNR=30
K24K Donnelly Dome 85.94 12 P **P** **11 35 47.4 +1.6**
baz=206,SNR=19
N30M Aishikik Lake 85.95 17 P **P** **11 35 47.9 +2.1**
baz=214,SNR=8.4
MSTX Muleshoe 86.00 52 P **P** **11 35 49.5 +2.7**
baz=243
MSTX Muleshoe 86.00 52 P **P** **11 35 49.2 +2.4**
baz=243
NEA2 Nenana 86.06 10 IAmb IAmb 11 35 49.9
comp=Z,31nm,1.2s
NEA2 Nenana 86.06 10 P **P** **11 35 47.2 +0.9**
baz=203,SNR=8.3
RIDG Independent Ri 86.07 12 IAmb IAmb 11 35 49.4
comp=Z,61nm,1.4s
RIDG IAMs_20 IAMs_20 12 07 11.4
comp=Z,1μm,21.0s
RIDG Independent Ri 86.07 12 P **P** **11 35 48.0 +1.6**
baz=207,SNR=16
WRH Wood River Hil 86.12 11 P **P** **11 35 47.4 +0.8**
WRH IAMs_20 IAMs_20 12 06 51.6
comp=Z,982nm,22.0s
L27K Beaver Creek, 86.12 14 P **P** **11 35 45.6 -1.0**
L27K IAMs_20 IAMs_20 12 06 26.6
comp=Z,974nm,22.0s
L27K Beaver Creek, 86.12 14 P **P** **11 35 48.5 +1.8**
baz=210,SNR=17
R33M Jennings River 86.13 20 P **P** **11 35 49.2 +2.4**
baz=220,SNR=26
I21K Tanana 86.14 9 P **P** **11 35 47.0 +0.4**
I21K IAmb IAmb 11 35 49.5
comp=Z,69nm,1.3s
I21K Tanana 86.14 9 P **P** **11 35 47.9 +1.3**
baz=200,SNR=26
DOT Dot Lake 86.15 13 P **P** **11 35 47.6 +0.8**
DOT IAmb IAmb 11 35 49.8
comp=Z,40nm,1.1s
P33M Teslin, Yukon 86.18 19 IAmb IAmb 11 35 50.5
comp=Z,60nm,1.8s
P33M IAMs_20 IAMs_20 12 06 38.8
comp=Z,573nm,20.0s
P33M Teslin, Yukon 86.18 19 P **P** **11 35 48.8 +1.8**
baz=218,SNR=19
833A Chaparral WMA, 86.18 58 IAmb IAmb 11 35 51.4
comp=Z,44nm,1.2s
833A Chaparral WMA, 86.18 58 P **P** **11 35 49.9 +2.3**
baz=245
833A Chaparral WMA, 86.18 58 P **P** **11 35 50.0 +2.3**
baz=245
MLY Manley 86.19 10 IAmb IAmb 11 35 49.2
comp=Z,45nm,1.2s
MLY Manley 86.19 10 P **P** **11 35 47.9 +0.9**
baz=202,SNR=34
T25A Trinidad 86.26 49 P **P** **11 35 49.9 +1.7**
baz=242
HDA Harding Lake 86.27 11 IAmb IAmb 11 35 51.3
comp=Z,32nm,0.9s
HDA IAMs_20 IAMs_20 12 07 53.5
comp=Z,547nm,20.0s
HDA Harding Lake 86.27 11 P **P** **11 35 48.6 +1.4**
baz=205,SNR=23
CCB Clear Creek Bu 86.33 11 IAMs_20 IAMs_20 12 07 09.1
comp=Z,869nm,21.0s
N31M Braeburn, Yuko 86.33 17 P **P** **11 35 47.7 0.0**
N31M IAmb IAmb 11 35 51.2
comp=Z,54nm,1.2s
N31M IAMs_20 IAMs_20 12 07 08.9
comp=Z,974nm,20.0s
N31M Braeburn, Yuko 86.33 17 P **P** **11 35 49.7 +2.0**
baz=215,SNR=18
M29M Somme Creek 86.41 16 P **P** **11 35 50.2 +2.0**
baz=213,SNR=22
SCRK Sand Creek 86.46 13 P **P** **11 35 48.4 0.0**
SCRK IAmb IAmb 11 35 52.9
comp=Z,29nm,1.2s
SCRK IAMs_20 IAMs_20 12 07 53.5
comp=Z,874nm,20.0s
SCRK Sand Creek 86.46 13 P **P** **11 35 50.0 +1.6**
baz=208,SNR=24
SEY Seymchan 86.46 345*ce*P **P** **11 35 49.0 +0.8**
SEY pmax pmax
comp=Z,74nm,1.7s
H21K Melozitna Rive 86.47 9 P **P** **11 35 48.1 -0.2**
H21K IAMs_20 IAMs_20 12 07 36.0
comp=Z,652nm,21.0s
H21K Melozitna Rive 86.47 9 P **P** **11 35 50.2 +1.9**
baz=200,SNR=39
TCOL CIGO, UAF Yank 86.53 11 IAMs_20 IAMs_20 12 07 15.3
comp=Z,1μm,22.0s
TCOL CIGO, UAF Yank 86.53 11 P **P** **11 35 49.9 +1.4**
baz=204,SNR=15
COLA College 86.53 11 P **P** **11 35 49.2 +0.8**
COLA College 86.53 11 IAMs_20 IAMs_20 12 07 15.3
comp=Z,1μm,22.0s
COLA College 86.53 11*c i*P **P** **11 35 49.4 +0.9**
COLA pmax pmax
comp=Z,107nm,1.3s
COLA College 86.53 11 P **P** **11 35 49.7 +1.2**
baz=204
WALA Waterton Lakes 86.54 35 IAmb IAmb 11 35 52.3
comp=Z,39nm,1.2s
RWWY Rawlins 86.56 44 IAMs_20 IAMs_20 12 07 22.2
comp=Z,923nm,20.0s
Q24A Divide 86.61 47 P **P** **11 35 51.9 +1.9**
baz=242
ILAR Eielson Array 86.61 11 P **P** **11 35 49.9 +0.9**
comp=Z,13nm,1.1s,baz=213,slow=4.9,SNR=66
ILAR PP **PP** **11 39 04.5 -6.9**
comp=Z,3.0nm,1.2s,baz=220,slow=7.7,SNR=3.1
ILAR LR LR 12 08 46.4
comp=Z,343nm,20.4s,baz=186,slow=32
comp=Z,13nm,1.1s
ILAR Eielson Array 86.61 11 P **P** **11 35 49.7 +0.7**

UBPT Khong Chiam 86.63 287 IAmb IAmb 11 35 52.3
comp=Z,23nm,1.1s
IMAR Indian Mountai 86.66 8 P **P** **11 35 49.9 +0.8**
ISCO Idaho Springs 86.69 46 P **P** **11 35 49.2 -1.1**
ISCO Idaho Springs 86.69 46 P **P** **11 35 49.2 -1.1**
ISCO pmax pmax
comp=Z,5.0nm,1.0s
ISCO Idaho Springs 86.69 46 P **P** **11 35 52.5 +2.1**
baz=241
ISCO Idaho Springs 86.69 46 P **P** **11 35 52.5 +2.1**
baz=241
J25K Salcha River, 86.75 12 P **P** **11 35 50.7 +0.9**
J25K IAmb IAmb 11 35 52.8
comp=Z,67nm,1.4s
J25K IAMs_20 IAMs_20 12 07 11.2
comp=Z,595nm,22.0s
J25K Salcha River, 86.75 12 P **P** **11 35 51.4 +1.7**
baz=206,SNR=24
JCT Junction City 86.76 56 IAmb IAmb 11 35 53.9
comp=Z,45nm,1.5s
JCT Junction City 86.76 56 P **P** **11 35 52.3 +1.8**
baz=245
JCT Junction City 86.76 56 P **P** **11 35 52.5 +1.9**
baz=245
POKR Poker Plat Res 86.82 11 P **P** **11 35 49.9 -0.1**
POKR IAMs_20 IAMs_20 12 07 55.2
comp=Z,1μm,22.0s
POKR Poker Plat Res 86.82 11 P **P** **11 35 51.2 +1.2**
baz=205,SNR=20
H22K Ishtalitna Cre 86.90 9 P **P** **11 35 52.0 +1.6**
baz=201,SNR=36
K27K Chicken 86.91 13 P **P** **11 35 49.7 -0.8**
K27K IAmb IAmb 11 35 54.4
comp=Z,69nm,1.5s
K27K IAMs_20 IAMs_20 12 07 34.5
comp=Z,1μm,21.0s
K27K Chicken 86.91 13 P **P** **11 35 52.8 +2.4**
baz=210
M30M Minto, Yukon 86.95 16 IAmb IAmb 11 35 53.8
comp=Z,32nm,1.1s
M30M Minto, Yukon 86.95 16 P **P** **11 35 52.4 +1.7**
baz=214,SNR=22
PLCA Paso Flores 86.97 132 P **P** **11 35 54.0 +2.5**
comp=Z,5.0nm,1.0s,baz=217,slow=3.1,SNR=6.0
PLCA LR LR 12 07 28.6
comp=Z,271nm,19.8s,baz=236,slow=30
comp=Z,5.0nm,1.0s
PLCA Paso Flores 86.97 132 P **P** **11 35 51.2 -0.3**
PLCA IAmb IAmb 11 36 13.1
comp=Z,80nm,1.9s
IPM Ipoh 86.98 276 P **P** **11 35 52.3 +0.3**
IPM IAmb IAmb 11 35 54.6
comp=Z,43nm,1.1s
N23A Red Feather La 87.00 45 P **P** **11 35 53.8 +2.0**
baz=241,SNR=8.7
J26L Joseph Creek 87.01 13 P **P** **11 35 53.2 +2.1**
baz=208,SNR=38
RLMT Red Lodge 87.03 40 P **P** **11 35 51.5 -0.2**
RLMT Red Lodge 87.03 40 P **P** **11 35 53.9 +2.1**
baz=238,SNR=7.0
H23K Yukon River 87.12 10 IAMs_20 IAMs_20 12 08 19.0
comp=Z,1μm,21.0s
H23K Yukon River 87.12 10 P **P** **11 35 52.3 +0.9**
baz=203,SNR=8.0
GCMT Greycliff 87.14 39 P **P** **11 35 51.0 -1.2**
AMTX Amarillo 87.21 52 IAMs_20 IAMs_20 12 07 29.6
comp=Z,514nm,20.0s
AMTX Amarillo 87.21 52 P **P** **11 35 55.1 +2.4**
baz=244
AMTX Amarillo 87.21 52 P **P** **11 35 54.9 +2.2**
baz=244
M31M Drury Creek, Y 87.30 17 P **P** **11 35 52.8 +0.4**
M31M IAMs_20 IAMs_20 12 06 58.5
comp=Z,953nm,21.0s
M31M Drury Creek, Y 87.30 17 P **P** **11 35 53.9 +1.5**
baz=217,SNR=13
WTLY Watson Lake, Y 87.39 21 IAmb IAmb 11 35 56.5
comp=Z,23nm,1.2s
WTLY Watson Lake, Y 87.39 21 P **P** **11 35 54.7 +1.8**
baz=222,SNR=9.8
H24K Noodor Dome 87.41 10 IAmb IAmb 11 35 54.8
comp=Z,45nm,2.0s
H24K Noodor Dome 87.41 10 P **P** **11 35 53.4 +0.6**
baz=204
K22A Casper 87.48 43 P **P** **11 35 56.0 +2.0**
baz=240
K22A Casper 87.48 43 P **P** **11 35 55.5 +1.6**
baz=240
PRP Porcupine Dome 87.53 11 P **P** **11 35 54.1 +0.5**
PRP Porcupine Dome 87.53 11 P **P** **11 35 55.3 +1.7**
baz=206,SNR=26
FARO Faro, Yukon 87.61 18 IAmb IAmb 11 35 57.0
comp=Z,25nm,1.4s
FARO Faro, Yukon 87.61 18 P **P** **11 35 55.6 +1.7**
baz=218,SNR=15
RDOG Red Dog Mine 87.76 4 P **P** **11 35 57.0 +2.5**
baz=190
EGAK Eagle 87.76 13 P **P** **11 35 53.7 -0.8**
EGAK IAMs_20 IAMs_20 12 09 12.9
comp=Z,865nm,20.0s
EGAK Eagle 87.76 13 P **P** **11 35 56.3 +1.8**
baz=210,SNR=22
ABTX Abilene, Hawle 87.78 54 P **P** **11 35 57.6 +2.2**
baz=245
ABTX Abilene, Hawle 87.78 54 P **P** **11 35 57.2 +1.8**
baz=245
I26K Coal Creek Min 87.81 12 IAMs_20 IAMs_20 12 08 26.1
comp=Z,868nm,20.0s
I26K Coal Creek Min 87.81 12 P **P** **11 35 56.9 +2.1**
baz=209
K29M Barlow Dome 87.81 15 P **P** **11 35 57.1 +2.2**
baz=214,SNR=30
F21K Alatna River 87.87 8 P **P** **11 35 56.5 +1.5**
baz=199,SNR=16
G23K Bananza Creek 87.87 9 P **P** **11 35 56.8 +1.7**
baz=202,SNR=20
HNS HongShan 87.92 311 ⇑P **P** **11 35 57.6 +1.7**
HNS pP **sP** **11 36 06.5 +0.3**
HNS S **S** **11 46 37.5 0.0**
HNS pmax pmax
comp=Z,52nm,1.4s
HNS LR LR
comp=Z,200nm,18.6s
HNS LR LR
comp=Z,230nm,20.7s
MAYO Mayo, Yukon 88.02 16 P **P** **11 35 58.2 +2.4**
baz=215,SNR=8.9
BJI Beijing 88.10 314 P **P** **11 35 58.1 +1.4**
BJI pP **pP** **11 36 04.0 -0.2**
BJI S **S** **11 46 42.5 +3.5**
BJI pmax pmax
comp=Z,29nm,1.6s
BJI pmax pmax
comp=Z,230nm,3.8s
BJI LR LR
comp=Z,690nm,16.0s
BJI LR LR
comp=Z,500nm,19.5s
H25K Birch Creek 88.15 11 P **P** **11 35 59.7 +3.4**
baz=206
J29M Klondike Camp 88.16 15 IAMs_20 IAMs_20 12 07 18.3
comp=Z,943nm,22.0s
J29M Klondike Camp 88.16 15 P **P** **11 35 59.1 +2.6**
baz=213
G24K Hadweenzic Riv 88.26 10 P **P** **11 35 57.3 +0.4**
baz=205
EGMT Eagleton 88.27 37 IAmb IAmb 11 36 00.7
comp=Z,22nm,1.4s
EGMT IAMs_20 IAMs_20 12 07 55.2
comp=Z,1μm,22.0s
EGMT Eagleton 88.27 37 P **P** **11 35 59.1 +1.7**
baz=238
F22K John River 88.31 8 P **P** **11 35 58.9 +1.8**
baz=200,SNR=7.0
LYN LuoYang 88.32 308 ⇑P **P** **11 35 58.5 +0.6**
LYN pP pP 11 36 03.4 -2.0
LYN S **S** **11 46 39.2 -2.2**
LYN pmax pmax
comp=Z,20nm,1.4s
LYN pmax pmax
comp=Z,100nm,3.9s
LYN LR LR
comp=Z,1μm,15.7s
LYN LR LR
comp=Z,330nm,11.8s
LYN LR LR
comp=Z,990nm,16.5s

COLD Coldfoot 88.32 9 P **P** **11 35 58.3 +1.1**
COLD IAmb IAmb 11 36 02.1
comp=Z,52nm,1.5s
COLD Coldfoot 88.32 9 P **P** **11 35 59.4 +2.3**
baz=202,SNR=14
RPSI Rantau Prapat 88.36 273 IAmb IAmb 11 36 00.5
comp=Z,40nm,1.2s
KSCO Kaye Shedlock' 88.37 48 P **P** **11 35 55.8 -2.4**
KSCO Kaye Shedlock' 88.37 48 P **P** **11 36 00.9 +2.6**
baz=243
KSCO Kaye Shedlock' 88.37 48 P **P** **11 35 59.4 +1.2**
baz=243
I27K Kandik River 88.38 13 P **P** **11 35 59.6 +2.1**
baz=210,SNR=12
MMPY Sheldon Lake, 88.53 18 P **P** **11 36 00.7 +2.4**
baz=219,SNR=23
FYU Fort Yukon 88.53 11 IAMs_20 IAMs_20 12 08 19.3
comp=Z,675nm,22.0s
TROLL Troll, Antarti 88.59 179 P **P** **11 36 01.2 +2.4**
TROLL Troll, Antarti 88.59 179 pP pP 11 36 10.1 +3.6
BILL Bilibino 88.60 353 IAMs_20 IAMs_20 12 11 21.4
comp=Z,1μm,21.0s
BILL Bilibino 88.60 353*d i*P **P** **11 35 59.6 +1.2**
BILL *e* 11 39 27.5
BILL *e*PPP PPP 11 41 23.1
BILL *i*S **S** **11 46 40.7 -2.0**
BILL pmax pmax
comp=Z,49nm,1.2s
TGTN Hyland Airport 88.62 20 P **P** **11 36 01.3 +2.6**
baz=222,SNR=8.6
435B Jarrell 88.62 57 P **P** **11 36 01.5 +2.1**
baz=246
VNA3 Neumayer Olymp 88.73 175 P **P** **11 36 01.5 +2.2**
VNA3 Neumayer Olymp 88.73 175 pP pP 11 36 11.2 +4.2
SNAA Sanae 88.75 177 P **P** **11 36 01.3 +1.8**
SNAA Sanae 88.75 177 LR LR 12 10 05.7
comp=Z,463nm,21.3s,baz=196,slow=32
SNAA Sanae 88.75 177 P **P** **11 36 01.1 +1.6**
SNAA IAMs_20 IAMs_20 12 10 03.8
comp=Z,510nm,19.0s
SNAA Sanae 88.75 177*ce*P **P** **11 36 01.9 +2.4**
SNAA pmax pmax
comp=Z,8.0nm,1.3s
ZEA Zeya 88.83 329 *e*P **P** **11 36 01.5 +1.7**
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,50nm,1.2s
ENH Enshi 88.87 303 IAMs_20 IAMs_20 12 19 48.0
comp=Z,944nm,20.0s
I29M Ogilvie Camp, 88.90 14 IAMs_20 IAMs_20 12 09 05.9
comp=Z,979nm,20.0s
I29M Ogilvie Camp, 88.90 14 P **P** **11 36 01.2 +1.3**
baz=213,SNR=14
F24K Squaw Lake 88.94 10 P **P** **11 36 02.1 +1.9**
baz=204,SNR=11
E22K Anaktuvuk Pass 88.94 8 P **P** **11 36 01.8 +1.7**
baz=200
H27K Steamboat Moun 88.94 12 P **P** **11 36 01.9 +1.8**
baz=210,SNR=23
G26K Porcupine Rive 89.14 11 P **P** **11 36 03.3 +2.3**
baz=208,SNR=26
BO02 Sierra Bellavi 89.14 127 P **P** **11 36 00.8 -1.3**
BO02 IAmb IAmb 11 36 22.2
comp=Z,47nm,1.5s
GSI Gunungsitoli 89.17 272 P **P** **11 36 01.7 -0.7**
WHTX Lake Whitney, 89.21 56 P **P** **11 36 03.9 +1.8**
baz=246
VNA2 Neumayer--Watz 89.22 176 P **P** **11 36 03.5 +2.0**
baz=202,slow=3.3
EDM Edmonton 89.23 32 P **P** **11 36 02.3 +0.5**
EDM Edmonton 89.23 32 P **P** **11 36 02.3 +0.5**
EDM pmax pmax
comp=Z,97nm,1.4s
WMOK Wichita Mounta 89.31 53 **P** **11 36 00.6 -2.0**
WMOK Wichita Mounta 89.31 53 P **P** **11 36 00.6 -2.0**
WMOK pmax pmax
comp=Z,26nm,1.7s
WMOK MLR MLR
comp=Z,300nm,19.0s
WMOK Wichita Mounta 89.31 53 P **P** **11 36 04.7 +2.1**
baz=246
WMOK Wichita Mounta 89.31 53 P **P** **11 36 04.2 +1.6**
baz=246
FLDN Fort Liard 89.34 23 P **P** **11 36 04.5 +2.5**
baz=226
E24K Your Creek 89.36 9 P **P** **11 36 04.7 +2.6**
baz=204,SNR=5.3
F25K Christian Rive 89.38 10 P **P** **11 36 04.6 +2.5**
baz=206,SNR=10
BMAR Burnt Mountain 89.42 11 P **P** **11 36 03.2 +0.8**
G27K Doyon Strip 89.42 12 P **P** **11 36 04.6 +2.2**
baz=210,SNR=11
VNA1 Neumayer--Stat 89.42 175 P **P** **11 36 05.2 +2.8**
VNA1 Neumayer--Stat 89.42 175 pP pP 11 36 14.8 +4.7
SNET Serv Nac Est T 89.49 75 IAMs_20 IAMs_20 12 06 27.1
comp=Z,651nm,21.0s
OGNE Ogallala 89.64 46 P **P** **11 36 05.7 +1.6**
baz=243
LAO LASA Array 89.65 40 P **P** **11 36 04.0 +0.1**
LAO IAMs_20 IAMs_20 12 08 29.8
comp=Z,646nm,21.0s
LAO LASA Array 89.65 40 P **P** **11 36 06.7 +2.7**
baz=240
LAO LASA Array 89.65 40 P **P** **11 36 06.5 +2.5**
baz=240,SNR=9.5
TIY Taiyuan 89.69 310 *e*P **P** **11 36 06.0 +1.7**
TIY S **S** **11 46 55.0 +0.7**
TIY LR LR
comp=Z,930nm,17.7s
TIY LR LR
comp=Z,340nm,14.7s
TIY LR LR
comp=Z,780nm,19.9s
HKT Hockley 89.69 58 *i*P **P** **11 36 07.7 +3.4**
HKT pmax pmax
comp=Z,40nm,1.6s
GYA Guiyang 89.70 298 ⇓*i*P **P** **11 36 06.7 +2.0**
GYA pmax pmax
comp=Z,26nm,1.9s
TOLK Toolik Lake Re 89.72 9 P **P** **11 36 02.2 -1.5**
TOLK Toolik Lake Re 89.72 9 P **P** **11 36 05.8 +2.0**
baz=203,SNR=5.3
F26K Sheenjek River 89.73 11 P **P** **11 36 06.4 +2.6**
baz=208,SNR=9.0
RSSD Black Hills 89.78 43 P **P** **11 36 03.0 -1.8**
RSSD Black Hills 89.78 43 P **P** **11 36 03.0 -1.8**
RSSD pmax pmax
comp=Z,19nm,1.1s
RSSD Black Hills 89.78 43 P **P** **11 36 06.4 +1.6**
baz=242
RSSD Black Hills 89.78 43 P **P** **11 36 05.9 +1.1**
baz=242
E25K Arctic Village 89.87 10 P **P** **11 36 06.8 +2.4**
baz=206,SNR=12
D23K Nanushuk River 89.87 8 P **P** **11 36 06.8 +2.4**
baz=202,SNR=12
XLT XiLinHaoTe 89.94 317 ⇑*i*P **P** **11 36 06.1 +0.7**
XLT pP pP 11 36 11.9 -1.1
XLT sP sP 11 36 15.6 -0.1
XLT S **S** **11 46 52.5 -4.0**
XLT sS sS 11 47 10.1 +1.1
XLT SS **SS** **11 52 50.0 -5.2**
XLT pmax pmax
comp=Z,27nm,1.7s
XLT pmax pmax
comp=Z,120nm,4.0s
XLT LR LR
comp=Z,510nm,10.8s
XLT LR LR
comp=Z,270nm,13.9s
OK038 West end E0370 90.06 51 IAMs_20 IAMs_20 12 08 40.0
comp=Z,490nm,20.0s
ORCD Orcadas 90.07 158 P **P** **11 36 05.1 -0.6**
ORCD IAmb IAmb 11 36 20.0
comp=Z,24nm,1.1s
EPYK Eagle Plains 90.10 14 IAMs_20 IAMs_20 12 09 11.8
comp=Z,694nm,21.0s
EPYK Eagle Plains 90.10 14 P **P** **11 36 07.4 +1.8**
baz=214,SNR=14
OK035 E0210 Rd and N 90.17 51 IAMs_20 IAMs_20 12 08 23.1
comp=Z,594nm,22.0s
D24K Happy Valley 90.30 9 P **P** **11 36 08.6 +2.2**
baz=203
CBKS Cedar Bluff 90.31 49 IAMs_20 IAMs_20 12 09 19.6
comp=Z,481nm,20.0s

CBKS Cedar Bluff 90.31 49 P **P** **11 36 10.0 +2.7**
baz=245
CBKS Cedar Bluff 90.31 49 P **P** **11 36 08.8 +1.6**
baz=245
HIA Hailar 90.32 323 IAMs_20 IAMs_20 12 12 30.7
comp=Z,782nm,20.0s
OK032 Salt Plains WL 90.58 51 IAMs_20 IAMs_20 12 08 57.9
comp=Z,503nm,20.0s
E27K Coleen River 90.63 11 P **P** **11 36 10.4 +2.5**
baz=210,SNR=14
C23K Itkillik River 90.69 8 P **P** **11 36 10.2 +2.0**
baz=202,SNR=8.0
G30M tAoh Zraii Nji 90.72 14 P **P** **11 36 10.2 +1.8**
baz=215,SNR=27
XAN Xi'an 90.79 306 P **P** **11 36 10.8 +1.2**
XAN pP pP 11 36 15.6 -1.5
XAN S **S** **11 47 11.4 +6.8**
XAN pmax pmax
comp=Z,32nm,1.5s
XAN pmax pmax
comp=Z,250nm,5.3s
XAN LR LR
comp=Z,690nm,18.5s
XAN LR LR
comp=Z,1µm,15.5s
XAN LR LR
comp=Z,1µm,15.7s
D25K Kavik River 90.82 9 P **P** **11 36 10.4 +1.5**
baz=206
C24K Franklin Bluff 90.84 8 P **P** **11 36 10.8 +2.0**
baz=203
R32A Long Quarter, 90.88 49 IAmb IAmb 11 36 13.4
comp=Z,38nm,1.1s
R32A Long Quarter, 90.88 49 P **P** **11 36 12.5 +2.7**
baz=246
OK031 S. Brethren Rd 91.25 52 IAMs_20 IAMs_20 12 17 01.7
comp=Z,444nm,18.0s
NATX Nacogdoches 91.31 57 IAMs_20 IAMs_20 12 14 37.4
comp=Z,665nm,18.0s
NATX Nacogdoches 91.31 57 P **P** **11 36 12.2 +0.2**
baz=248
WRGLY Wrigley 91.41 20 P **P** **11 36 13.1 +1.5**
baz=226
A21K Barrow 91.45 5 IAMs_20 IAMs_20 12 12 08.9
comp=Z,505nm,20.0s
C27K Jago River 91.52 10 P **P** **11 36 14.0 +1.9**
baz=208,SNR=9.2
C26K Camden Bay 91.58 10 P **P** **11 36 14.6 +2.3**
baz=207
HHC Hu-ho-hao-te 91.61 313 *e*P **P** **11 36 15.4 +2.1**
HHC pmax pmax
comp=Z,83nm,1.3s
HHC pmax pmax
comp=Z,180nm,6.8s
HHC LR LR
comp=Z,1µm,18.0s
HHC LR LR
comp=Z,1µm,16.8s
HHC LR LR
comp=Z,2µm,17.8s
F31M Tsiigehtchic 91.66 14 P **P** **11 36 14.4 +1.7**
baz=217,SNR=50
DGMT Dagmar 91.71 39 IAMs_20 IAMs_20 12 09 59.4
comp=Z,943nm,21.0s
DGMT Dagmar 91.71 39 P **P** **11 36 16.1 +2.7**
baz=242
DGMT Dagmar 91.71 39 P **P** **11 36 15.7 +2.3**
baz=242,SNR=8.8
T35A Sooner Cattle 91.87 51 **P** **11 36 13.3 -1.2**
T35B Sooner Cattle 91.87 51 P **P** **11 36 16.9 +2.5**
baz=247
TUL1 Leonard 92.02 53 P **P** **11 36 17.5 +2.3**
baz=247
TUL1 Leonard 92.02 53 P **P** **11 36 17.1 +2.0**
baz=247
JTS Las Juntas de 92.29 80 *i* P **P** **11 36 20.0 +3.1**
JTS pmax pmax
comp=Z,29nm,1.0s
INK Inuvik 92.40 14 LR LR 12 11 47.9
comp=Z,799nm,20.6s,baz=192,slow=32
NNA Nana 92.43 104 LR LR 12 08 52.3
comp=Z,229nm,20.2s,baz=240,slow=30
BGNE Belgrade 92.49 47 P **P** **11 36 19.6 +2.3**
baz=246
KMI Kunming 92.52 296 ⇑P **P** **11 36 19.9 +1.9**
KMI pP pwP 11 36 30.5 0.0
KMI sP sP 11 36 35.7 +7.4
KMI PP **PP** **11 40 07.2 +7.5**
KMI S **S** **11 47 22.2 +1.2**
KMI pmax pmax
comp=Z,35nm,1.4s
KMI pmax pmax
comp=Z,140nm,3.5s
KMI LR LR
comp=Z,710nm,17.2s
KMI LR LR
comp=Z,640nm,18.7s
KMI LR LR
comp=Z,930nm,20.7s
K31A O'Neill 92.58 46 P **P** **11 36 21.0 +3.4**
baz=246
KSU1 Kansas State U 92.66 49 IAMs_20 IAMs_20 12 10 23.5
comp=Z,486nm,20.0s
YAK Yakutsk 92.81 337 LR LR 12 15 08.4
comp=Z,214nm,19.8s,baz=94,slow=34
YAK Yakutsk 92.81 337 *ce*P **P** **11 36 17.9 -0.2**
YAK pmax pmax
comp=Z,12nm,0.8s
MIAR Mount Ida 93.19 55 IAmb IAmb 11 36 24.1
comp=Z,39nm,1.9s
MIAR Mount Ida 93.19 55 P **P** **11 36 21.8 +1.2**
baz=248
SUSD Miller 93.19 44 P **P** **11 36 21.7 +1.3**
baz=246
U38A Gravette 93.27 53 P **P** **11 36 23.1 +2.1**
baz=248
HHAR Hobbs 93.55 53 P **P** **11 36 21.9 -0.4**
CM31 Chiang Mai Arr 93.59 288 P **P** **11 36 23.3 +0.5**
CMAR Chiang Mai Arr 93.59 288 P **P** **11 36 24.4 +1.7**
comp=Z,19nm,1.0s,baz=111,slow=3.0,SNR=70
comp=Z,19nm,1.0s
CMAR Chiang Mai Arr 93.59 288 P **P** **11 36 23.7 +0.9**
CD2 Chengdu 93.69 301 *e*P **P** **11 36 24.0 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CHTO Chiang Mai 93.71 289 P **P** **11 36 24.0 +0.7**
CHTO Chiang Mai 93.71 289 P **P** **11 36 24.0 +0.7**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
CHTO MLR MLR
comp=Z,1µm,19.0s
PZH PanZhiHua 93.84 297 P **P** **11 36 27.9 +4.0**
PZH S **S** **11 47 32.6 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.7s
PZH LR LR
comp=Z,640nm,17.1s
PZH LR LR
comp=Z,640nm,16.0s
PZH LR LR
comp=Z,920nm,16.7s
L34A Svendsen Farm, 93.93 47 P **P** **11 36 25.6 +1.8**
YKA Yellowknife Ar 94.06 24 P **P** **11 36 24.9 +1.0**
comp=Z,4.3nm,0.9s,baz=239,slow=4.8,SNR=3.8
YKA LR LR 12 11 09.5
comp=Z,678nm,21.8s,baz=268,slow=31
comp=Z,4.3nm,0.9s
MDND Maddock 94.19 41 P **P** **11 36 26.5 +1.6**
baz=245
ECSD EROS Data Cent 94.46 45 IAMs_20 IAMs_20 12 11 51.2
comp=Z,480nm,21.0s
ECSD EROS Data Cent 94.46 45 P **P** **11 36 26.6 +0.4**
baz=247
ECSD EROS Data Cent 94.46 45 P **P** **11 36 27.9 +1.7**
baz=247
P38A Dawn 95.06 50 IAmb IAmb 11 36 31.8
comp=Z,18nm,1.2s
OTAV Otavalo 95.09 92 IAMs_20 IAMs_20 12 08 35.1
comp=Z,516nm,20.0s
LZH Lanzhou 95.42 306 *e*P **P** **11 36 32.8 +1.8**
LZH sP pwP 11 36 44.6 +1.1
LZH S **S** **11 47 49.8 +4.0**
LZH sS sS 11 47 57.8 -0.6
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.3s
C36M Paulatuk 95.47 16 P **P** **11 36 32.0 +1.8**
baz=226
F33A 5 Mile Ranch, 95.48 43 P **P** **11 36 32.4 +1.6**
baz=248
LVC Limon Verde 95.50 116 LR LR 12 09 51.4
comp=Z,260nm,21.5s,baz=253,slow=29
R40A Maddies Statio 95.51 51 P **P** **11 36 32.7 +1.6**
baz=249
P40A Paris 96.10 50 IAmb IAmb 11 36 36.6
comp=Z,24nm,1.4s
P40A Paris 96.10 50 P **P** **11 36 36.0 +2.2**
baz=250
SCIA State Center 96.10 48 IAMs_20 IAMs_20 12 12 16.9
comp=Z,532nm,22.0s
SCIA State Center 96.10 48 P **P** **11 36 35.7 +2.0**
baz=249
CCM Cathedral Cave 96.19 52 P **P** **11 36 32.6 -1.6**
CCM Cathedral Cave 96.19 52 P **P** **11 36 32.7 -1.6**
CCM pmax pmax
comp=Z,11nm,1.1s
CCM Cathedral Cave 96.19 52 P **P** **11 36 35.9 +1.7**
baz=250
CCM Cathedral Cave 96.19 52 P **P** **11 36 35.0 +0.8**
baz=250
OXF Oxford 96.40 56 IAMs_20 IAMs_20 12 12 35.1
comp=Z,760nm,21.0s
OXF Oxford 96.40 56 P **P** **11 36 36.6 +1.3**
baz=251
AGMN Agassiz Nation 96.68 41 P **P** **11 36 35.9 -0.3**
AGMN IAmb IAmb 11 36 38.4
comp=Z,18nm,1.0s
AGMN IAMs_20 IAMs_20 12 14 28.8
comp=Z,505nm,21.0s
AGMN Agassiz Nation 96.68 41 P **P** **11 36 37.1 +0.9**
baz=248
AGMN Agassiz Nation 96.68 41 P **P** **11 36 36.9 +0.7**
baz=248
I37A Lemond, Waseca 96.72 46 P **P** **11 36 35.0 -1.5**
FVM French Village 96.77 52 P **P** **11 36 39.0 +2.1**
baz=250
A36M Sachs Harbour 97.04 14 IAMs_20 IAMs_20 12 14 57.2
comp=Z,823nm,20.0s
A36M Sachs Harbour 97.04 14 P Pdif 11 36 38.9 +1.5
baz=225
F36A Milaca 97.29 44 P **P** **11 36 38.9 -0.1**
F36A Milaca 97.29 44 P Pdif 11 36 41.0 +1.9
baz=249
ULN Ulaanbaatar 97.32 318 P **P** **11 36 38.5 -0.8**
ULN Ulaanbaatar 97.32 318 *ce*P **P** **11 36 38.5 -0.8**
ULN pmax pmax
comp=Z,10.0nm,1.7s
ULM Lac du Bonnet 97.39 39 P **P** **11 36 39.4 0.0**
comp=Z,7.5nm,1.0s,baz=248,slow=7.6,SNR=3.2
ULM LR LR 12 13 45.4
comp=Z,1µm,22.0s,baz=256,slow=31
comp=Z,7.5nm,1.0s
ULM Lac du Bonnet 97.39 39 P **P** **11 36 37.7 -1.6**
ULM IAmb IAmb 11 36 40.9
comp=Z,15nm,1.1s
SPMN Marine on St. 97.54 45 P **P** **11 36 39.6 -0.5**
SPMN Marine on St. 97.54 45 P Pdif 11 36 42.4 +2.2
baz=250
SPMN Marine on St. 97.54 45 P Pdif 11 36 41.1 +0.8
baz=250
SONM Songino Array 97.72 318 P **P** **11 36 40.9 -0.2**
comp=Z,1.5nm,0.9s,baz=108,slow=4.8,SNR=6.0
comp=Z,1.5nm,0.9s
WVT Waverly 98.14 55 IAMs_20 IAMs_20 12 13 19.2
comp=Z,805nm,21.0s
HDIL Hopedale 98.44 50 IAMs_20 IAMs_20 12 14 33.8
comp=Z,592nm,21.0s
JFWS Jewell Farm 98.51 48 IAMs_20 IAMs_20 12 14 31.6
comp=Z,562nm,20.0s
LPAZ La Paz 98.69 111 PP **PP** **11 40 50.1 +2.2**
comp=Z,1.3nm,0.9s,baz=275,slow=11,SNR=2.6
LPAZ LR LR 12 12 36.6
comp=Z,233nm,19.9s,baz=245,slow=30
TIXI Tiksi 98.93 344 LR LR 12 17 03.5
comp=Z,312nm,21.1s,baz=180,slow=33
TIXI Tiksi 98.93 344 P **P** **11 36 45.5 -0.2**
TIXI Tiksi 98.93 344 *ce*P Pdif 11 36 46.4 +0.6
TIXI pmax pmax
comp=Z,11nm,1.7s
EYMN Ely 99.30 42 IAMs_20 IAMs_20 12 16 38.2
comp=Z,433nm,20.0s
EYMN Ely 99.30 42 P **Pdif** **11 36 49.4 +1.3**
baz=251
GTA Gaotai 99.51 308 *e*P **Pdif** **11 36 51.4 +2.1**
GTA pP pP 11 36 55.7 -1.2
GTA sP sP 11 36 59.1 -0.6
GTA S **S** **11 48 22.5 +1.9**
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,49nm,4.7s
GTA LR LR
comp=Z,370nm,17.5s
GTA LR LR
comp=Z,720nm,20.0s
GTA LR LR
comp=Z,770nm,19.6s
WCI Wyandotte Cave 99.94 53 IAMs_20 IAMs_20 12 15 29.9
comp=Z,471nm,20.0s
COWI Conover 100.26 45 IAMs_20 IAMs_20 12 15 50.7
comp=Z,499nm,21.0s
TZTN Tazewell 101.57 55 IAMs_20 IAMs_20 12 15 46.9
comp=Z,726nm,22.0s
GLMI Grayling 102.96 47 IAMs_20 IAMs_20 12 15 52.3
comp=Z,494nm,21.0s
AAM Ann Arbor 103.00 50 IAMs_20 IAMs_20 12 17 23.0
comp=Z,584nm,20.0s
P52A Corning 103.45 53 IAMs_20 IAMs_20 12 21 00.2
comp=Z,394nm,20.0s
LSA Lhasa 103.71 297 IAMs_20 IAMs_20 12 27 15.7
comp=Z,406nm,19.0s
M53A WI Miller and 104.95 51 P **Pdif** **11 37 14.7 +1.4**
baz=257
MCWV Mont Chateau 105.17 53 IAMs_20 IAMs_20 12 17 51.9
comp=Z,562nm,20.0s
ERPA Erie 105.60 50 IAMs_20 IAMs_20 12 18 44.1
comp=Z,466nm,20.0s
CBN Corbin Frederi 106.74 55 IAMs_20 IAMs_20 12 19 10.6
comp=Z,616nm,21.0s
SSPA Standing Stone 106.84 52 IAMs_20 IAMs_20 12 22 30.1
comp=Z,420nm,21.0s
SDDR Presa de Saban 107.49 76 IAMs_20 IAMs_20 12 15 55.2
comp=Z,601nm,21.0s
BINY Binghamton 108.54 51 IAMs_20 IAMs_20 12 20 05.8
comp=Z,607nm,22.0s
LONY Lake Ozonia 109.93 49 IAMs_20 IAMs_20 12 21 40.4
comp=Z,526nm,22.0s
LONY Lake Ozonia 109.93 49 P **PKiKP** **11 41 39.0 +1.6**
baz=262
YLE Yale 110.65 52 IAMs_20 IAMs_20 12 20 51.2
comp=Z,730nm,22.0s
L61B Northampton 111.00 51 IAMs_20 IAMs_20 12 21 30.0
comp=Z,618nm,21.0s
VT1 Waterbury 111.19 49 IAMs_20 IAMs_20 12 22 07.8
comp=Z,462nm,22.0s
QUA2 Belchertown 111.22 51 IAMs_20 IAMs_20 12 25 40.8
comp=Z,488nm,18.0s
BRYW Bryant College 111.77 52 IAMs_20 IAMs_20 12 22 58.5
comp=Z,640nm,20.0s
HRV Adam Dziewonsk 111.83 51 IAMs_20 IAMs_20 12 26 43.3
comp=Z,434nm,18.0s
HRV Adam Dziewonsk 111.83 51 P **PKiKP** **11 41 42.5 +1.5**
baz=263
FFD Franklin Falls 111.88 50 IAMs_20 IAMs_20 12 29 28.4
comp=Z,505nm,18.0s
WES Weston 111.99 51 IAMs_20 IAMs_20 12 22 31.5
comp=Z,443nm,20.0s
ZALV Zalesovo Beam 112.29 321 PKiKP **PKiKP** **11 41 41.9 +0.4**
comp=Z,0.8nm,0.5s,baz=116,slow=3.4,SNR=4.6
ZALV PP **PP** **11 42 22.9 -4.2**
comp=Z,1.2nm,0.8s,baz=110,slow=8.4,SNR=1.7
MKAR Makanchi Array 113.47 313 Pdiff **Pdif** **11 37 52.4 +1.3**
comp=Z,0.2nm,0.6s,baz=57,slow=5.3,SNR=2.3
MKAR PKiKP **PKiKP** **11 41 43.9 -0.2**
comp=Z,1.1nm,0.8s,baz=34,slow=0.4,SNR=8.4
MKAR PKKPbc **PKKPbc** **11 52 30.1 +0.6**
comp=Z,0.3nm,0.8s,baz=309,slow=4.6,SNR=3.6
MAKZ Makanchi 113.69 313 IAMs_20 IAMs_20 12 36 29.0
comp=Z,652nm,19.0s
EMMW East Machias 114.99 49 IAMs_20 IAMs_20 12 23 07.5
comp=Z,476nm,21.0s
KURK Kurchatov 116.02 318 IAMs_20 IAMs_20 12 39 43.2
comp=Z,394nm,19.0s
AAK Ala-Archa 118.86 308 IAMs_20 IAMs_20 12 37 44.4
comp=Z,500nn,22.0s
BRVK Borovoye 120.99 321 **PKiKP** **11 41 58.6 +0.2**
BRVK Borovoye 120.99 321 IAMs_20 IAMs_20 12 43 13.0
comp=Z,422nm,18.0s
BRVK Borovoye 120.99 321 PKiKP **PKiKP** **11 41 58.6 +0.2**
SUMG Summit 121.32 14 PKPdf **PKPdf** **11 41 58.8 -0.1**
SUMG Summit 121.32 14 PKiKP **PKPdf** **11 41 58.8 -0.1**
KK31 Karatay Array 121.78 309 PKPdf **PKPdf** **11 41 59.7 -0.5**
KK31 Karatay Array 121.78 309 PKiKP **PKPdf** **11 41 59.7 -0.5**
KKAR Karatay Array 121.78 309 PKPdf **PKPdf** **11 41 59.5 -0.7**
KKAR Karatay Array 121.78 309 **PKPdf** **11 41 59.4 -0.8**
KKAR Karatay Array 121.78 309 PKiKP **PKPdf** **11 41 59.5 -0.7**
GAR Garm 122.01 304 PKPdf **PKiKP** **11 42 01.1 +0.1**
CHGR Chuyangaron 122.92 304 PKPdf **PKPdf** **11 42 02.4 -0.2**
CHGR Chuyangaron 122.92 304 PKiKP **PKPdf** **11 42 02.4 -0.2**
ARU Arti 126.68 327 PKPdf **PKPdf** **11 42 09.2 +0.1**
ARU Arti 126.68 327 *i* PKiKP **PKiKP** **11 42 10.4 +0.8**
ARU 11 44 10.4
ARU 11 49 21.5
ARU SS SS 12 01 13.9 +4.1
ARU MLR MLR
comp=Z,529nm,20.0s
ABKAR Akbulak array 128.13 318 **PKiKP** **11 42 12.6 -0.1**
ABKAR Akbulak array 128.13 318 **PKiKP** **11 42 12.5 -0.2**
LVZ Lovozero 128.49 347 IAMs_20 IAMs_20 12 50 26.6
comp=Z,385nm,20.0s
ARCES ARCESS Array B 128.69 351 PKP **PKiKP** **11 42 13.9 +0.7**
comp=Z,7.6nm,0.8s,baz=14,slow=1.8,SNR=13
ARCES ARCESS Array B 128.69 351 PKPdf **PKiKP** **11 42 14.2 +0.9**
PRGR Permogore 129.86 337 *e*PKiKP **PKPdf** **11 42 15.0 0.0**
GEYT Alibeck 131.63 304 PKP **PKiKP** **11 42 20.2 +0.1**
comp=Z,2.5nm,0.6s,baz=204,slow=3.2,SNR=3.6
GEYT PP **PP** **11 44 35.2 -3.9**
comp=Z,1.0nm,0.4s,baz=70,slow=12,SNR=1.6
KLMR Klimovskoe 132.57 339 *e*PKiKP **PKPdf** **11 42 19.1 -1.0**
KLMR pmax pmax
comp=Z,38nm,1.5s
KLMR Klimovskoe 132.57 339 *e*PKPdf **PKPdf** **11 42 19.1 -1.0**
KLMR AMP 11 42 23.8
comp=Z,38nm,1.5s
FINES FINESS Array B 135.93 346 PKP **PKiKP** **11 42 27.4 -0.7**
comp=Z,12nm,1.1s,baz=114,slow=2.3,SNR=9.1
OBN Obninsk 137.76 334 *de*PKiKP **PKiKP** **11 42 32.7 +0.7**
OBN *e* 11 45 16.5
OBN pmax pmax
comp=Z,15nm,1.2s
MAK Makhachkala 138.29 313 *e*P **Pdif** **11 39 38.8 -2.7**
MAK *e* 11 49 30.7
MAK *e*SS SS 12 03 23.7 -8.1
MAK *e*SSS SSS 12 08 36.5
MAK pmax pmax
comp=Z,141nm,1.2s
NB2 NORSAR Subarra 138.45 356 PKP **PKPdf** **11 42 25.1 -6.1**
comp=Z,14nm,1.7s,baz=24,slow=2.2
NOA NORSAR Array B 138.45 356 PKP **PKiKP** **11 42 32.7 -0.6**
comp=Z,2.9nm,1.0s,baz=13,slow=4.1,SNR=4.2
VORR Voronezh 138.89 329 *e*PKiKP **PKPdf** **11 42 30.5 -1.7**
VORR pmax pmax
comp=Z,40nm,0.4s
KIV Kislovodsk 141.10 317 IAMs_20 IAMs_20 12 51 20.8
comp=Z,239nm,19.0s
MNK Minsk 141.44 340 *i* PKiKP **PKPdf** **11 42 35.2 -1.5**
MNK *i* 11 45 35.9
MNK *i* PPP PPP 11 48 43.6
MNK *i* 11 49 44.8
MNK *i* SS SS 12 04 07.7 +0.7
MNK *i* SSS SSS 12 09 24.9
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=Z,549nm,25.0s
MNK MLR MLR
comp=E,116nm,19.0s
MNK Minsk 141.44 340 *i* PKP **PKPdf** **11 42 35.2 -1.5**
comp=E,4.0nm,0.8s
MNK *i* PKP **PKPdf** **11 42 35.2 -1.5**
MNK *i* PKP **PKPdf** **11 42 35.2 -1.5**
comp=Z,12nm,0.7s,baz=34
MNK *i* PP **PP** **11 45 35.9 -3.3**
MNK *i* PPP PPP 11 48 43.7
MNK *i* SKS **SKSdf** **11 49 44.8 0.0**
MNK *i* SKKS **SKKSdf** **11 59 06.0 -2.8**
MNK *i* SS **SS** **12 04 07.7 +0.7**
MNK *i* SSS SSS 12 09 24.9
MNK *i* LR LR 12 39 39.8
MNK *i* LRM MLR 12 42 04.5
comp=Z,549nm,24.8s
MNK *i* LRM MLR 12 42 07.0
comp=E,116nm,19.1s
NACGM Naroch 141.45 341 ⇓*e*PKP PKPpre 11 42 28.6
baz=32
KMBO Kilima Mbogo 143.25 239 PKP **PKPdf** **11 42 40.2 -1.4**
comp=E,1.4nm,0.4s,baz=41,slow=3.0,SNR=5.9
KMBO Kilima Mbogo 143.25 239 PKPdf **PKPdf** **11 42 40.9 -0.7**
GURO Guroymak-BITLI 143.76 309 **PKPdf** **11 42 40.9 -0.7**
AKASG Malin Array Be 144.02 335 PKP PKPbc 11 42 39.6 +0.3
comp=E,4.2nm,0.6s,baz=37,slow=4.5,SNR=33
AKASG Malin Array Be 144.02 335 PKPbc 11 42 40.0 +0.6
AK05 Malin Array Si 144.09 335 PKPdf PKPbc 11 42 40.0 +0.4
MARD Mardin 145.12 308 PKPbc **PKPdf** **11 42 44.7 +0.7**
HPK Haverah Park 145.17 8⇑ *e*P **PKPdf** **11 42 44.8 +1.5**
LBWR Ladybower, Pea 145.70 8⇑ *e*P **PKPab** **11 42 46.2 +1.2**
SIM Simferopol' 145.74 324 *e*PKiKP **PKPab** **11 42 46.0 +0.6**
SIM *i* 11 42 49.8
SIM pmax pmax
comp=Z,122nm,1.4s
IWEX Carrickbyrne, 145.75 14 *e*P **PKPab** **11 42 46.3 +1.1**
BEL Belsk 145.86 344 *e*PKP **PKiKP** **11 42 47.4 -1.3**
LLW Llanuwychllyn 145.93 11⇑ *e*P **PKPab** **11 42 46.8 +1.0**
STNC Stoke 145.93 9⇑ *e*P **PKPab** **11 42 47.3 +1.4**
FOEL Foel Wylfa 145.97 10⇑ *e*P **PKPab** **11 42 46.0 0.0**
HLM1 Long Mynd 146.38 10⇑ *e*P **PKPab** **11 42 48.3 +0.7**
CWF Charnwood Fore 146.41 8⇑ *e*P **PKPbc** **11 42 47.1 +0.4**
RSBS Rosebush, Pemb 146.58 12⇑ *e*P **PKPab** **11 42 48.6 +0.2**
LVV Lvov 146.66 339 *i* PKP2 **PKPab** **11 42 46.7 +0.7**
MCH1 Michaelchurch 146.87 10 *e*P **PKPbc** **11 42 48.7 +0.5**
DIKM Dikmen 146.99 318 ⇑P PKiKP 11 43 04.7 +13
MONM Monmouth 147.05 10 *e*P **PKPab** **11 42 49.5 -0.7**
MILM Milestii Mici 147.09 331 ⇓P **PKPab** **11 42 49.9 -0.6**
MILM Milestii Mici 147.09 331 ⇓PKP2 **PKPab** **11 42 49.9 -0.6**
KWP Kalwaria Pacla 147.26 340 PKPbc **PKPab** **11 42 50.6 -0.5**
KWP Kalwaria Pacla 147.26 340 PKP2 **PKPab** **11 42 50.6 -0.5**
OJC Ojcow 147.59 344 *i* PKPc **PKPbc** **11 42 50.8 +0.6**
OJC *e*L L 12 45 01.2
comp=Z,559nm,24.0s
OJC Ojcow 147.59 344 PKPbc **PKPbc** **11 42 50.4 +0.2**
OJC Ojcow 147.59 344 PKP2 **PKPbc** **11 42 50.4 +0.2**
BZK Bozkurt 147.59 320 PKPbc **PKPbc** **11 42 50.7 +0.2**
KSP Ksiaz 147.82 348 *i* PKPc **PKPab** **11 42 52.9 -0.4**
KSP *e*L L 12 44 29.1
comp=Z,358nm,23.3s
CLL Collm 147.91 352 PKPbc **PKiKP** **11 42 52.1 -0.8**
CLL Collm 147.91 352⇑ *e*PKP2 **PKPbc** **11 42 50.0 -1.0**
CLL pmax pmax
comp=Z,91nm,1.0s
CLL Collm 147.91 352 *e*PKPdf **PKPbc** **11 42 50.0 -1.0**
CLL ⇑*i*PKPbc **PKiKP** **11 42 52.5 -0.4**
comp=Z,91nm,1.0s
CLL *i* x x 11 42 56.7
CLL *e*PP **PP** **11 46 16.0 -1.7**
CLL *e*PPP PPP 11 49 42.0
CLL *e*PSKS 11 56 33.0
CLL *e*PPS PPS 11 59 00.0
CLL *ex* x 12 00 10.0
CLL *e*PSPS 12 06 24.0
CLL *e*SSS SSS 12 10 48.0
CLL *e*(SSSS) 12 15 42.0
CLL Lm MLR 12 46 00.0
comp=N,300nm,21.8s
CLL Lm MLR 12 46 00.0
comp=E,100nm,20.7s
KOLS Kolonicke sedl 148.01 340 *e*PKP2 **PKiKP** **11 42 53.7 +0.4**
KOLS Kolonicke sedl 148.01 340 *e*PKP **PKiKP** **11 42 53.6 +0.3**
BNN Bunyan 148.03 313 PKPdf **PKPdf** **11 42 48.0 -0.8**
BNN **PKPbc** **11 42 52.1 +0.2**
BUR08 Bucovina Ar. S 148.05 335 PKPbc **PKPbc** **11 42 51.2 -0.5**
BURAR Bucovina Array 148.07 335 ⇑P **PKPab** **11 42 54.4 -0.1**
BURAR Bucovina Array 148.07 335 PKPbc **PKPbc** **11 42 51.0 -0.8**
BURAR Bucovina Array 148.07 335 ⇑PKP2 **PKPab** **11 42 54.4 -0.1**

OSTC	**Ostas**	**148.11**	**348**⇑	*e*PKP	**PKPab**	**11 42 54.0**	**-0.4**
OSTC				AMS	AMS	12 51 40.0	
	comp=E,300nm,16.8s						
CHVC	**Chvalec**	**148.11**	**348**⇑	*e*PKP	**PKiKP**	**11 42 54.0**	**+0.6**
NIE	**Niedzica**	**148.18**	**342**	*e*PKP	**PKPab**	**11 42 54.3**	**-0.5**
NIE				*e*L	L	12 44 07.6	
	comp=E,217nm,25.1s						
DYA	**Yadsworthy**	**148.19**	**12**	*e*P	**PKiKP**	**11 42 53.1**	**-0.4**
UPC	**Upice**	**148.19**	**348**	*e*PKP2	**PKiKP**	**11 42 54.2**	**+0.6**
UPC				MLR	MLR		
	comp=Z,400nm,21.1s						
UPC	**Upice**	**148.19**	**348**⇑	*e*PKP	**PKiKP**	**11 42 54.2**	**+0.6**
UPC				AMS	AMS	12 44 20.0	
	comp=Z,400nm,21.1s						
BRG	**Berggiesshubel**	**148.20**	**351**	*i* PKP	**PKPbc**	**11 42 50.9**	**-1.0**
BRG				Amp		11 42 51.7	
	comp=Z,32nm,1.5s						
BRG				*i* x	**PKPab**	**11 42 54.2**	**-0.6**
BRG				Amp		11 42 55.0	
	comp=Z,49nm,1.0s						
BRG				*ex*	x	11 42 56.0	
BRG				Amp		11 42 57.0	
	comp=Z,46nm,1.2s						
BRG				*ex*	x	11 43 09.5	
BRG				Amp		11 43 11.4	
	comp=Z,38nm,1.2s						
BRG	**Berggiesshubel**	**148.20**	**351**	*i* PKP2	**PKPbc**	**11 42 50.8**	**-1.0**
BRG				pmax	pmax		
	comp=Z,32nm,1.5s						
BRG				pmax	pmax		
	comp=Z,49nm,1.0s						
BRG				pmax	pmax		
	comp=Z,46nm,1.2s						
BRG				pmax	pmax		
	comp=Z,38nm,1.2s						
BIZ	**Bicaz**	**148.25**	**334**	⇓P	**PKPab**	**11 42 54.6**	**-0.6**
UZH	**Uzhgorod**	**148.27**	**340**	*e*PKP2	**PKPbc**	**11 42 51.5**	**-0.6**
DPC	**Dobruska-Polom**	**148.28**	**348**	*e*PKP2	**PKiKP**	**11 42 54.5**	**+0.7**
DPC				MLR	MLR		
	comp=Z,300nm,23.2s						
DPC	**Dobruska-Polom**	**148.28**	**348**⇑	*e*PKP	**PKiKP**	**11 42 54.5**	**+0.7**
DPC				AMS	AMS	12 51 50.0	
	comp=Z,300nm,23.2s						
CRVS	**Cervenica-Dubn**	**148.30**	**341**	*e*PKP2	**PKiKP**	**11 42 53.9**	**+0.1**
CRVS	**Cervenica-Dubn**	**148.30**	**341**	*e*PKP	**PKiKP**	**11 42 53.9**	**+0.1**
OKC	**Ostrava-Krasne**	**148.36**	**345**	*e*PKP2	**PKiKP**	**11 42 54.4**	**+0.5**
OKC				MLR	MLR		
	comp=Z,400nm,23.7s						
OKC	**Ostrava-Krasne**	**148.36**	**345**⇑	*e*PKP	**PKiKP**	**11 42 54.4**	**+0.5**
OKC				AMS	AMS	12 45 10.0	
	comp=Z,400nm,23.7s						
PVCC	**Panska Ves**	**148.43**	**350**	*e*PKP2	**PKPab**	**11 42 55.0**	**-0.7**
PVCC				MLR	MLR		
	comp=Z,400nm,20.0s						
PVCC	**Panska Ves**	**148.43**	**350**⇑	*e*PKP	**PKPab**	**11 42 55.0**	**-0.7**
PVCC				AMS	AMS	12 45 50.0	
	comp=Z,400nm,20.0s						
KRLC	**Kraliky**	**148.45**	**347**	*e*PKIKP	**PKPbc**	**11 42 51.1**	**-1.5**
KRLC				*e*		11 42 54.9	
KRLC				MLR	MLR		
	comp=Z,500nm,17.9s						
KRLC	**Kraliky**	**148.45**	**347**	*e*PKPDF	**PKPbc**	**11 42 51.1**	**-1.5**
KRLC			⇑	*e*PKP	**PKiKP**	**11 42 54.9**	**+0.7**
KRLC				AMS	AMS	12 46 30.0	
	comp=Z,500nm,17.9s						
MORC	**Moravsky Berou**	**148.56**	**346**		**PKPbc**	**11 42 51.5**	**-1.4**
MORC	**Moravsky Berou**	**148.56**	**346**	*e*PKP	**PKPdf**	**11 42 50.8**	**+1.6**
MORC				*e*		11 42 54.7	
MORC	**Moravsky Berou**	**148.56**	**346**	PKIKP	**PKPbc**	**11 42 51.5**	**-1.4**
LANS	**Liptovska Anna**	**148.66**	**343**	*e*PKP2	**PKPab**	**11 42 56.3**	**-0.4**
LANS	**Liptovska Anna**	**148.66**	**343**	*e*PKP	**PKPab**	**11 42 56.3**	**-0.4**
CFR	**Carcaliu**	**148.69**	**329**	⇓P	**PKiKP**	**11 42 54.9**	**+0.2**
CFR	**Carcaliu**	**148.69**	**329**	⇓PKP2	**PKiKP**	**11 42 54.9**	**+0.2**
TPGR	**Topolog**	**148.79**	**329**	⇓P	**PKiKP**	**11 42 55.4**	**+0.4**
VRI	**Vrincioaia**	**148.82**	**332**	⇓P	**PKiKP**	**11 42 55.3**	**+0.3**
VRI	**Vrincioaia**	**148.82**	**332**	⇓PKP2	**PKiKP**	**11 42 55.3**	**+0.3**
BEBN	**Eben Emael**	**148.87**	**1**	*d*PKP	**PKPab**	**11 42 59.2**	**+1.8**
MAUC	**Maruska**	**148.88**	**345**⇑	*e*PKP	**PKPab**	**11 42 56.4**	**-1.2**
PRU	**Pruhonice**	**148.96**	**350**	*e*PKP2	**PKiKP**	**11 42 56.0**	**+0.8**
PRU				MLR	MLR		
	comp=Z,400nm,17.5s						
PRU	**Pruhonice**	**148.96**	**350**⇑	*e*PKP	**PKiKP**	**11 42 56.0**	**+0.8**
PRU				AMS	AMS	12 46 00.0	
	comp=Z,400nm,17.5s						
NKC	**Novy Kostel**	**149.03**	**352**	*e*PKP2	**PKiKP**	**11 42 56.3**	**+1.0**
NKC				MLR	MLR		
	comp=Z,2μm,15.6s						
NKC	**Novy Kostel**	**149.03**	**352**⇑	*e*PKP	**PKiKP**	**11 42 56.3**	**+1.0**
MEM	**Membach**	**149.06**	**0**	*d*PKP	**PKiKP**	**11 42 55.7**	**+0.4**
BR131	**Keskin Array S**	**149.06**	**316**		**PKPdf**	**11 42 51.8**	**+1.2**
BR131				PKPab	**PKPab**	**11 42 58.2**	**-0.7**
BR131	**Keskin Array S**	**149.06**	**316**	PKP2	**PKPab**	**11 42 58.2**	**-0.7**
BRTR	**Keskin Array B**	**149.06**	**316**	PKPbc	**PKiKP**	**11 42 55.4**	**-0.6**
	comp=Z,19nm,1.0s,baz=140,slow=3.0,SNR=33						
BRTR	**Keskin Array B**	**149.06**	**316**	PKPbc	**PKPdf**	**11 42 51.7**	**+1.2**
BSTI	**Sart Tilman**	**149.08**	**1**	*d*PKP	**PKiKP**	**11 42 56.0**	**+0.6**
BTNL	**Ternell**	**149.08**	**0**	*d*PKP	**PKiKP**	**11 42 55.5**	**+0.1**
BTNL				*d*pPKP	sPKPab	11 43 23.5	+15
TIRR	**Tirgusor**	**149.08**	**328**	⇓P	**PKiKP**	**11 42 56.1**	**+0.6**
TIRR	**Tirgusor**	**149.08**	**328**	⇓PKP2	**PKiKP**	**11 42 56.1**	**+0.6**
HARR	**Harsova**	**149.15**	**329**	⇓P	**PKiKP**	**11 42 56.4**	**+0.7**
HARR	**Harsova**	**149.15**	**329**	⇓PKP2	**PKiKP**	**11 42 56.4**	**+0.7**
VRAC	**Vranov**	**149.21**	**347**	⇑P	**PKiKP**	**11 42 56.3**	**+0.6**
VRAC	**Vranov**	**149.21**	**347**	*e*PKP	**PKPdf**	**11 42 51.5**	**+1.2**
VRAC				*e*		11 42 56.2	
VRAC	**Vranov**	**149.21**	**347**	⇑PKP2	**PKiKP**	**11 42 56.3**	**+0.6**
BCLA	**Clavier**	**149.24**	**1**	*d*PKiKP	**PKiKP**	**11 42 55.9**	**+0.2**
BHOU	**Houvegnez**	**149.31**	**0**	*d*PKP	**PKPbc**	**11 42 53.1**	**-1.6**
DOPR	**Dopca**	**149.33**	**333**	⇓P	**PKiKP**	**11 42 57.1**	**+1.1**
BMRD	**Maredsous**	**149.34**	**2**	*d*PKPdf	**PKPdf**	**11 42 52.4**	**+2.0**
BMRD				*d*PKP	**PKiKP**	**11 42 56.7**	**+0.8**
JAVC	**Velka Javorina**	**149.39**	**345**	*e*PKP	**PKPbc**	**11 42 52.9**	**-2.1**
JAVC				*e*		11 42 57.7	
VYHS	**Vyhne**	**149.43**	**343**	*e*PKP2	**PKiKP**	**11 42 57.2**	**+1.0**
VYHS	**Vyhne**	**149.43**	**343**	*e*PKP	**PKiKP**	**11 42 57.2**	**+1.0**
CJR	**Cluj-Napoca**	**149.44**	**336**	⇑P	**PKiKP**	**11 42 57.7**	**+1.4**
CJR	**Cluj-Napoca**	**149.44**	**336**	⇑PKP2	**PKiKP**	**11 42 57.7**	**+1.4**
TREC	**Trest**	**149.45**	**348**	AMS	AMS	12 48 50.0	
	comp=Z,400nm,23.2s						
MLR	**Muntele Rosu**	**149.46**	**332**	⇑P	**PKiKP**	**11 42 57.3**	**+0.8**
MLR	**Muntele Rosu**	**149.46**	**332**	⇑PKP2	**PKiKP**	**11 42 57.3**	**+0.8**
KRUC	**Moravsky**	**149.49**	**347**	*e*PKP	**PKPdf**	**11 42 52.0**	**+1.3**
KRUC				*e*		11 42 56.8	
RCHB	**Rochefort**	**149.50**	**1**	*d*PKP	**PKiKP**	**11 42 56.7**	**+0.5**
ANTO	**Ankara**	**149.53**	**317**	⇑P	**PKiKP**	**11 42 57.2**	**+0.4**
ANTO	**Ankara**	**149.53**	**317**	PKPbc	**PKPbc**	**11 42 55.2**	**-0.5**
ANTO	**Ankara**	**149.53**	**317**	⇑PKP2	**PKiKP**	**11 42 57.2**	**+0.4**
PSZ	**Piszkesteto**	**149.65**	**342**	⇑P	**PKiKP**	**11 42 57.1**	**+0.4**
PSZ	**Piszkesteto**	**149.65**	**342**	PKPbc	**PKiKP**	**11 42 56.3**	**-0.4**
PSZ				IAMs_20	IAMs_20	12 46 44.5	
	comp=Z,385nm,22.0s						
PSZ	**Piszkesteto**	**149.65**	**342**	⇑PKP2	**PKiKP**	**11 42 57.1**	**+0.4**
PSZ	**Piszkesteto**	**149.65**	**342**	PKP	**PKiKP**	**11 42 57.5**	**+0.7**
DRGR		**149.70**	**337**	⇓P	**PKiKP**	**11 42 57.7**	**+0.8**
DRGR		**149.70**	**337**	⇓PKP2	**PKiKP**	**11 42 57.7**	**+0.8**
GRA1	**Grafenberg Arr**	**149.71**	**354**	IAMs_20	IAMs_20	12 52 54.3	
	comp=Z,348nm,20.0s						
GRFO	**Grafenberg**	**149.71**	**354**	PKPbc	**PKiKP**	**11 42 57.0**	**+0.3**
GRFO				IAMs_20	IAMs_20	12 52 55.3	
	comp=Z,334nm,20.0s						
GRFO	**Grafenberg**	**149.71**	**354**	PKP2	**PKiKP**	**11 42 57.0**	**+0.3**
JSA	**Saint Aubin**	**149.72**	**11**⇑	*e*P	**PKiKP**	**11 42 57.0**	**+0.3**
SMOL	**Smolenice**	**149.77**	**345**	*e*PKP2	**PKiKP**	**11 42 58.7**	**+1.8**
VOIR		**149.89**	**333**	⇑P	**PKiKP**	**11 42 59.0**	**+1.7**
VOIR		**149.89**	**333**	⇑PKP2	**PKiKP**	**11 42 59.0**	**+1.7**
MODS	**Modra-Piesok**	**149.93**	**345**	*e*PKP2	**PKiKP**	**11 42 58.5**	**+1.2**
MODS	**Modra-Piesok**	**149.93**	**345**	*e*PKP	**PKiKP**	**11 42 58.5**	**+1.2**
KHC	**Kasperske Hory**	**149.95**	**350**	*e*PKHKP	PKPpre	11 42 53.2	
KHC				*e*		11 42 58.6	
KHC				MLR	MLR		
	comp=Z,600nm,24.3s						
KHC	**Kasperske Hory**	**149.95**	**350**	*e*PKPDF	**PKPdf**	**11 42 53.2**	**+1.7**
KHC			⇑	*e*PKP	**pPKPdf**	**11 42 58.6**	**-0.8**
KHC				*ex*	x	11 43 25.5	
KHC				AMS	AMS	12 45 50.0	
	comp=Z,600nm,24.3s						
WLF	**Walferdange**	**150.00**	**0**	*d*PKP	**PKiKP**	**11 42 58.5**	**+1.2**
ARR	**Arges**	**150.12**	**333**	⇑P	**PKPdf**	**11 42 54.4**	**+2.5**
CKRC	**Cesky Krumlov**	**150.13**	**349**	*e*PKPDF	**PKPdf**	**11 42 53.8**	**+2.1**
CKRC			⇑	*e*PKP	**pPKPdf**	**11 42 59.0**	**-0.6**
CKRC				AMS	AMS	12 50 10.0	
	comp=Z,300nm,19.5s						
ZST	**Bratislava**	**150.14**	**345**	*e*PKP2	**PKiKP**	**11 42 59.1**	**+1.5**
ZST	**Bratislava**	**150.14**	**345**	*e*PKP	**PKiKP**	**11 42 59.1**	**+1.5**
GEC2	**GERESS Array S**	**150.21**	**350**	PKPdf	**PKPdf**	**11 42 50.5**	**-1.5**
GEC2				PKPbc	**PKiKP**	**11 42 57.9**	**0.0**
GERES	**GERESS Array B**	**150.21**	**350**	PKP	**PKPdf**	**11 42 52.6**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=180,slow=0.8,SNR=14						
GERES				PKPbc	**PKiKP**	**11 42 58.8**	**+0.9**
	comp=Z,23nm,1.0s,baz=29,slow=3.0,SNR=56						
GERES	**GERESS Array B**	**150.21**	**350**		**PKPdf**	**11 42 51.3**	**-0.7**
GERES				PKPbc	**PKiKP**	**11 42 58.4**	**+0.5**
SIRR	**Siria**	**150.53**	**338**	⇓P	**PKiKP**	**11 42 59.6**	**+1.1**
CSKK	**Cskako**	**150.62**	**343**	PKP	**PKiKP**	**11 42 59.8**	**+1.2**
CONA	**Conrad Observa**	**150.68**	**347**	*e*P	**PKPdf**	**11 42 54.5**	**+1.8**
	comp=Z,7.9nm,1.3s						
CONA				*e*P	**pPKPdf**	**11 43 00.0**	**-0.5**
	comp=Z,85nm,1.3s						
SOP	**Sopron**	**150.75**	**346**	PKP	**PKiKP**	**11 43 00.6**	**+1.7**
RONA	**Rosalia, Austr**	**150.80**	**346**	*e*P	**PKPdf**	**11 42 54.5**	**+1.6**
	comp=Z,7.8nm,1.1s						
RONA				*i* P	**pPKPdf**	**11 43 00.3**	**-0.4**
	comp=Z,66nm,1.3s,SNR=15						
STU	**Stuttgart**	**150.80**	**356**	IAMs_20	IAMs_20	12 52 14.6	
	comp=Z,348nm,19.0s						
EGYH	**Egyhazaskeszo**	**150.81**	**344**	PKP	**PKiKP**	**11 43 01.2**	**+2.2**
GZR	**Gura Zlata**	**150.85**	**336**	⇓P	**PKiKP**	**11 43 00.1**	**+0.8**
GZR	**Gura Zlata**	**150.85**	**336**	⇓PKIKP	**PKiKP**	**11 43 00.1**	**+0.8**
MPLH	**Magyarpolny**	**150.99**	**344**	PKP	**PKiKP**	**11 43 00.6**	**+1.2**
BORA	**Eskisehir**	**150.99**	**319**	PKPdf	**PKPdf**	**11 42 52.3**	**-1.2**
BORA					**PKiKP**	**11 42 59.5**	**-0.3**
MOA	**Molln**	**151.07**	**349**	*e*P	**PKiKP**	**11 43 01.0**	**+1.3**
	comp=Z,24nm,1.0s						
BZS	**Buzias**	**151.10**	**337**	⇓P	**PKiKP**	**11 43 00.6**	**+0.9**
BZS	**Buzias**	**151.10**	**337**	⇓PKIKP	**PKiKP**	**11 43 00.6**	**+0.9**
BIOA	**Bad Ischl, Aus**	**151.34**	**350**	*e*P	**PKPdf**	**11 42 55.0**	**+1.3**
	comp=Z,5.3nm,0.9s						
BIOA				*i* P	**pPKPdf**	**11 43 01.2**	**-0.3**
	comp=Z,39nm,1.3s,SNR=8.5						
ARSA	**Arzberg**	**151.39**	**347**	*e*P	**PKPdf**	**11 42 53.8**	**0.0**
	comp=Z,4.3nm,0.8s						
ARSA				*i* P	**PKiKP**	**11 43 00.5**	**+0.2**
	comp=Z,28nm,1.4s,SNR=6.8						
HERR	**Herculane**	**151.42**	**336**	⇓P	**PKiKP**	**11 43 01.4**	**+1.0**
ECH	**Echery**	**151.44**	**359**	IAMs_20	IAMs_20	12 45 51.5	
	comp=Z,375nm,21.0s						
MORH	**Mrgy, Hungar**	**151.56**	**342**	⇓P	**PKiKP**	**11 43 01.8**	**+1.2**
MORH	**Mrgy, Hungar**	**151.56**	**342**	PKP	**PKPdf**	**11 42 55.6**	**+1.6**
CSS	**Mathiatis**	**151.59**	**308**		**PKiKP**	**11 43 01.4**	**+0.3**
MDVR	**Moldovita**	**151.78**	**336**	⇑P	**PKiKP**	**11 43 02.8**	**+1.6**
KOVH	**Kovagotottos**	**151.83**	**342**	PKP	**PKPdf**	**11 42 56.8**	**+2.4**
RETA	**Reutte**	**151.94**	**353**	*e*P	**PKPdf**	**11 42 56.8**	**+2.2**
	comp=Z,5.1nm,1.2s						
RETA				*i* P	**pPKPdf**	**11 43 03.0**	**+0.4**
	comp=Z,42nm,1.2s,SNR=13						
KBA	**Koelnbreinsper**	**151.98**	**350**	*e*P	**PKPdf**	**11 42 56.2**	**+1.4**
	comp=Z,9.7nm,1.2s						
KBA				*i* P	**PKiKP**	**11 43 02.1**	**+0.4**
	comp=Z,28nm,1.2s,SNR=7.7						
WATA	**Walderalm**	**151.99**	**352**	*i* P	**PKiKP**	**11 43 03.1**	**+1.4**
	comp=Z,51nm,1.5s,SNR=8.7						
MOTA	**Moosalm**	**152.04**	**353**	*e*P	**PKPdf**	**11 42 56.9**	**+2.0**
	comp=Z,14nm,1.6s						
MOTA				*i* P	**pPKPdf**	**11 43 03.2**	**+0.4**
	comp=Z,64nm,1.2s,SNR=14						
SOKA	**Soboth**	**152.04**	**347**	*i* P	**PKiKP**	**11 43 02.8**	**+1.1**
	comp=Z,45nm,1.4s,SNR=8.5						
WTTA	**Wattenberg**	**152.05**	**352**	*e*P	**PKPdf**	**11 42 56.7**	**+1.8**
	comp=Z,14nm,1.4s						
WTTA				*i* P	**pPKPdf**	**11 43 03.5**	**+0.7**
	comp=Z,68nm,1.4s,SNR=9.3						
FRGS	**Fruska Gora**	**152.13**	**339**	⇓P	**PKiKP**	**11 43 03.4**	**+1.5**
ISP	**Isparta**	**152.14**	**316**	IAMs_20	IAMs_20	13 00 26.0	
	comp=Z,328nm,19.0s						
GROS	**Grobnik**	**152.15**	**346**	*e*PKPdf	**PKPdf**	**11 42 55.4**	**+0.4**
GROS				*e*PKPbc	**pPKPdf**	**11 43 02.6**	**-0.3**
SQTA	**Sankt Quirin**	**152.15**	**353**	*e*P	**PKPdf**	**11 42 57.2**	**+2.2**
	comp=Z,0.4nm,0.2s						
SQTA				*i* P	**pPKPdf**	**11 43 03.4**	**+0.5**
	comp=Z,52nm,1.3s,SNR=8.9						
DAVA	**Damuels**	**152.22**	**355**	*e*P	**PKPdf**	**11 42 58.5**	**+3.3**
	comp=Z,2.2nm,0.5s						
DAVA				*i* P	**pPKPdf**	**11 43 04.0**	**+0.9**
	comp=Z,59nm,1.2s,SNR=13						
OBKA	**Obir**	**152.30**	**348**	*e*P	**PKiKP**	**11 43 03.4**	**+1.1**
	comp=Z,17nm,1.1s						
BLKB	**Belogradchik**	**152.36**	**334**	⇓P	**PKiKP**	**11 43 03.1**	**+0.6**
MYKA	**Terra Mystica**	**152.36**	**349**	*e*P	**PKPdf**	**11 42 56.9**	**+1.6**
	comp=Z,11nm,1.4s						
MYKA				*i* P	**pPKPdf**	**11 43 03.2**	**+0.1**
	comp=Z,32nm,1.4s,SNR=7.1						
FETA	**Feichten**	**152.40**	**353**	*e*P	**PKPdf**	**11 42 57.7**	**+2.2**
	comp=Z,12nm,1.3s						
FETA				*e*P	**pPKPdf**	**11 43 04.2**	**+0.9**
	comp=Z,44nm,1.2s						
ABTA	**Abfaltersbach**	**152.44**	**351**	*e*P	**PKPdf**	**11 42 57.1**	**+1.7**
	comp=Z,20nm,1.3s						
ABTA				*e*P	**pPKPdf**	**11 43 03.0**	**-0.3**
	comp=Z,60nm,1.2s						
PRED	**Cave del Predi**	**152.56**	**349**		**PKPdf**	**11 42 54.4**	**-1.2**
PRED					**PKPbc**	**11 43 01.5**	**-1.0**
PRED				PKPab	**PKPab**	**11 43 12.6**	**-0.4**
CLUD	**Cludinico**	**152.66**	**350**	PKPdf	**PKPdf**	**11 42 55.2**	**-0.5**
CLUD				PKPbc	**PKiKP**	**11 43 03.2**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**152.84**	**354**	PKPdf	**PKPdf**	**11 42 53.6**	**-2.7**
FUORN				PKPbc	**PKPbc**	**11 43 03.6**	**+0.1**
FUORN				PKPab	**sPKPbc**	**11 43 14.0**	**0.0**
VTS	**Vitosha**	**152.93**	**332**	⇓P	**PKiKP**	**11 43 05.4**	**+1.6**
VTS	**Vitosha**	**152.93**	**332**	⇓PKIKP	**PKiKP**	**11 43 05.4**	**+1.6**
DIVS	**Divibare**	**153.00**	**338**		**PKPdf**	**11 42 53.5**	**-2.9**
DIVS					**PKiKP**	**11 43 03.9**	**+0.1**
DIVS				PKPab	**sPKPbc**	**11 43 13.4**	**-0.7**
TRI	**Trieste**	**153.22**	**348**		**PKiKP**	**11 43 05.0**	**+0.9**
TRI	**Trieste**	**153.22**	**348**	PKIKP	**PKiKP**	**11 43 05.0**	**+0.9**
PGAV	**Gavieira, Arco**	**154.53**	**26**	eLR	LR	12 43 06.4	
	comp=Z,348nm,22.0s						
BNI	**Bardonecchia**	**154.61**	**359**	IAMs_20	IAMs_20	12 49 15.4	
	comp=Z,394nm,21.0s						
PDG	**Podgorica**	**154.71**	**337**	IAMs_20	IAMs_20	12 55 08.0	
	comp=Z,294nm,22.0s						
PCAB	**Cabril**	**154.84**	**26**	*e*PKPdf	**PKPdf**	**11 42 59.9**	**+0.9**
PCAB	**Cabril**	**154.84**	**26**	*e*PKPab	**PKPab**	**11 43 25.1**	**+2.4**
POLO	**Lamas de Olo**	**155.22**	**26**	*e*PKPab	**PKPab**	**11 43 26.8**	**+2.4**
PMOZ	**Porto Moniz, M**	**155.26**	**53**	eLR	LR	12 39 34.9	
	comp=Z,227nm,22.0s						
PBRG	**Braganca**	**155.27**	**24**	*e*PKPab	**PKPab**	**11 43 27.1**	**+2.6**
PVRL	**Vila Real**	**155.33**	**26**	*e*PKPab	**PKPab**	**11 43 27.5**	**+2.7**
MVO	**Moncorvo**	**155.71**	**25**	*e*PKPdf	**PKPdf**	**11 43 02.4**	**+2.2**
MVO	**Moncorvo**	**155.71**	**25**	*e*PKPab	**PKPab**	**11 43 29.4**	**+2.9**
MVO	**Moncorvo**	**155.71**	**25**	eLR	LR	12 43 11.2	
	comp=Z,334nm,22.0s						
PVIS	**Viseu**	**155.73**	**27**	*e*PKPab	**PKPab**	**11 43 29.0**	**+2.5**
PCAS	**Casmilo, Conde**	**156.00**	**29**	*e*PKPab	**PKPab**	**11 43 30.0**	**+2.3**
NRCA	**Norcia**	**156.12**	**347**		**PKPdf**	**11 42 57.4**	**-3.3**
NRCA				PKPab	**PKPab**	**11 43 28.8**	**+0.7**
MTE	**Manteigas**	**156.14**	**27**	*e*PKPab	**PKPab**	**11 43 30.0**	**+1.7**
MTE	**Manteigas**	**156.14**	**27**	eLR	LR	12 44 54.4	
	comp=Z,414nm,22.0s						
CESX	**Cesi**	**156.44**	**348**	PKPdf	**PKPdf**	**11 43 00.4**	**-0.7**
CESX					**PKPab**	**11 43 29.5**	**+0.1**
LATE	**Laterza**	**156.58**	**350**	PKPdf	**PKPdf**	**11 42 58.3**	**-2.9**
LATE				PKPab	**PKPab**	**11 43 29.6**	**-0.5**
PCBR	**Castelo Branco**	**156.63**	**27**	*e*PKPdf	**PKPdf**	**11 43 02.2**	**+0.9**
PMTG	**Montargil**	**156.92**	**30**	*e*PKPab	**PKPab**	**11 43 33.4**	**+1.8**
PMRV	**Marv??o**	**157.00**	**28**	*e*PKPdf	**PKPdf**	**11 43 03.9**	**+2.0**
PMRV	**Marv??o**	**157.00**	**28**	eLR	LR	12 39 36.0	
	comp=Z,221nm,22.0s						
PESTR	**Estremoz**	**157.37**	**29**	*e*PKPab	**PKPab**	**11 43 34.9**	**+1.3**
MESJ	**Messejana**	**157.89**	**32**	*e*PKPdf	**PKPdf**	**11 43 02.7**	**-0.3**
MESJ				*e*PP	**PP**	**11 47 15.2**	**+0.4**
MESJ				IAMs_20	IAMs_20	12 47 38.6	
	comp=Z,358nm,27.9s						
MESJ	**Messejana**	**157.89**	**32**	*e*PKIKP	**PKPdf**	**11 43 02.7**	**-0.3**
MESJ				*e*		11 47 15.2	
PCVE	**Castro Verde**	**158.14**	**32**	*e*PKPab	**PKPab**	**11 43 39.5**	**+2.5**
ESBB	**Sonseca Array**	**158.15**	**22**	PKPdf	**PKPdf**	**11 43 00.8**	**-2.5**
ESBB				PKPab	**PKPab**	**11 43 36.0**	**-1.0**
ESDC	**Sonseca Array**	**158.15**	**22**	PKP	**PKPdf**	**11 43 04.1**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=360,slow=2.6,SNR=10.0						
ESDC				PKPab	**PKPab**	**11 43 38.9**	**+1.9**
	comp=Z,4.8nm,1.2s,baz=338,slow=3.6,SNR=6.1						
ESDC				PP	PP	11 47 24.2	+8.2
	comp=Z,1.6nm,1.1s,baz=327,slow=6.8,SNR=3.9						
ESDC	**Sonseca Array**	**158.15**	**22**	PKPdf	**PKPdf**	**11 43 04.3**	**+0.1**
ESDC				PKPab	**PKPab**	**11 43 36.6**	**-0.4**
PBAR	**Barrancos**	**158.19**	**29**	*e*PKPdf	**PKPdf**	**11 43 05.5**	**+2.2**
TIP	**Timpagrande**	**158.47**	**337**	IAMs_20	IAMs_20	12 56 32.5	
	comp=Z,360nm,20.0s						
PVAQ	**Vaqueiros**	**158.48**	**32**	*e*PKPab	**PKPab**	**11 43 41.1**	**+2.7**
PBDV	**Barranco-do-Ve**	**158.50**	**32**	*e*PKPdf	**PKPdf**	**11 43 05.8**	**+2.0**
CEL	**Celeste**	**159.60**	**338**	IAMs_20	IAMs_20	12 57 45.3	
	comp=Z,276nm,20.0s						
MAHO	**Mahon**	**159.70**	**4**	IAMs_20	IAMs_20	12 48 43.7	
	comp=Z,307nm,21.0s						
DBIC	**Dimbokro**	**163.23**	**139**	PKP	**PKPdf**	**11 43 10.8**	**+1.3**
	comp=Z,7.5nm,1.0s,baz=62,slow=3.8,SNR=5.2						
KEST	**Kesra**	**163.69**	**351**	PKP	**PKPdf**	**11 43 11.0**	**+1.5**
	comp=Z,3.9nm,1.0s,baz=45,slow=7.1,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**172.25**	**145**	PKPdf	**PKPdf**	**11 43 14.2**	**-1.7**
TOA0				PKPab	**PKPab**	**11 44 39.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**172.25**	**145**	PKP	**PKPdf**	**11 43 16.5**	**+0.7**
	comp=Z,7.1nm,0.9s,baz=311,slow=1.0,SNR=29						
TORD				PKPab	**PKPab**	**11 44 41.5**	**+2.0**
	comp=Z,4.6nm,1.2s,baz=225,slow=5.3,SNR=3.8						
TORD				PP	**PP**	**11 48 34.4**	**+4.6**
	comp=Z,0.5nm,1.0s,baz=197,slow=4.5,SNR=3.3						
TAM	**Tamanrasset**	**176.75**	**12**	PKPdf	**PKPdf**	**11 43 12.8**	**-4.5**
TAM				PKPab	**PKPab**	**11 44 54.7**	**-4.7**
TAM	**Tamanrasset**	**176.75**	**12**	PKP2	**PKPab**	**11 44 54.7**	**-4.7**

NIED ***02*** *11:26:16.2, 31.06N × 129.06E, h12km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.58; $M_{\theta\theta}$0.35; $M_{\phi\phi}$0.24; $M_{r\theta}$-0.07; $M_{\theta\phi}$1.40; $M_{r\phi}$0.96; Fault plane solution: $M_0$1.77000×10^{14} NP1:ϕ_s87.00000

comp=Z,0.4nm,0.5s

IDC ***02*** *11:44:27.4±16.0,21°.94N×143°.21E,h170km±153km, mb3.2/7,mbtmp3.7/7,Error ellipse: s-maj=42.2km s-min=22.5km az=73.0*

ISC 02 11:44:25.3±1.0,**22°.0N**±0°.2×**143°.2E**±0°.2,**h150**km,**n8,** σ**0**9**90/8,mb3.2/7,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.54**	**192**	P		**P**	**11 52 06.1**	**-0.2**
	0.4nm,0.9s,baz=16,slow=9.3,SNR=6.8							
	0.4nm,0.9s							
ZALV	**Zalesovo Beam**	**54.04**	**322**	P		**P**	**11 53 33.1**	**-0.9**
	0.8nm,0.3s,baz=96,slow=6.8,SNR=2.1							
	0.8nm,0.3s							
MKAR	**Makanchi Array**	**54.56**	**313**	P		**P**	**11 53 38.5**	**+0.6**
	0.2nm,0.5s,baz=80,slow=7.9,SNR=2.3							
	0.2nm,0.5s							
ILAR	**Eielson Array**	**61.79**	**27**	P		**P**	**11 54 27.3**	**-0.6**
	0.2nm,0.6s,baz=256,slow=5.5,SNR=2.2							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**62.51**	**319**	P		**P**	**11 54 33.3**	**+0.4**
	1.0nm,0.5s,baz=101,slow=6.7,SNR=3.9							
	1.0nm,0.5s							
NVAR	**Mina Array Bea**	**82.95**	**52**	P		**P**	**11 56 35.1**	**+1.1**
	0.2nm,0.5s,baz=252,slow=7.5,SNR=2.2							
	0.2nm,0.5s							
FINES	**FINESS Array B**	**82.97**	**334**	P		**P**	**11 56 32.4**	**-0.9**
	1.5nm,0.9s,baz=76,slow=5.9,SNR=3.8							
	1.5nm,0.9s							
PLCA	**Paso Flores**	**145.88**	**131**	PKPbc		**PKPdf**	**12 03 46.0**	**-0.5**
	0.5nm,0.5s,baz=231,slow=3.6,SNR=1.3							

MAN ***02*** *11:56:49.1,6°.37N×123°.74E,h1km,mb5.2,ML4.2,MS4.3*
IDC ***02*** *11:56:49.1±0.7,6°.30N×123°.92E,h0km,mb4.0/12, mbtmp4.0/12,Error ellipse: s-maj=22.3km s-min=13.9km az=69.0*
NEIC ***02*** *11:56:50.7±2.1,6°.32N±0°.08×123°.85E±0°.07,h10km±1km, mb4.5/21,Error ellipse: s-maj=13.7km s-min=10.9km az=149.0*
DJA ***02*** *11:56:51.4±0.5,6°N±5°×12°4E±°,h10km,M4.4/12,mb4.5/9, mB4.9/6,MLv4.5/12,Mw(mB)4.2/6*

ISC 02 11:56:49.2±1.5,**6°.37N**±0°.04×**123°.79E**±0°.03,**h1**km±10km, **n69,**σ**1**9**46/82,mb4.2/23,4C-9D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.77**	**79**	**e**⇑**P**		**Pg**	**11 57 04.2**	**+0.2**
SKMP				*e*S		**Sg**	**11 57 12.8**	**-1.1**
CTBH	**Cotabato--PC H**	**0.96**	**28**	**i**⇓*i*P		**Pb**	**11 57 08.8**	**+0.1**
CTBH				*i* S		**Sb**	**11 57 21.4**	**-0.5**
GSPH	**General Santos**	**1.19**	**104**	**i**⇓*i*P		**Pg**	**11 57 15.1**	**+3.0**
GSPH				*i* S		**Sn**	**11 57 34.4**	**+4.4**
KCP	**Kidapawan**	**1.44**	**64**	**i**⇓*i*P		**Pn**	**11 57 15.8**	**-0.8**
KCP				*i* S		**Sg**	**11 57 35.9**	**+0.2**
PAGZ	**Pagadian**	**1.52**	**345**	**i**⇓*e*P		**Pb**	**11 57 17.6**	**-0.7**
PAGZ				*e*S		**Sb**	**11 57 37.2**	**-0.9**
ZCP	**Zamboanga City**	**1.79**	**288**	**i**⇓*i*P		**Pn**	**11 57 21.3**	**+0.1**
ZCP				*i* S		**Sn**	**11 57 44.1**	**-0.6**
DAV	**Davao City (W)**	**1.91**	**69**	Pn		**Pn**	**11 57 22.8**	**-0.2**
	412nm,0.3s,baz=244,slow=3.3,SNR=15							
DAV				Sn		**Sn**	**11 57 46.6**	**-1.1**
	273nm,0.3s,baz=120,slow=21,SNR=2.5							
DAV	**Davao City (W)**	**1.91**	**69**			**Pn**	**11 57 22.5**	**-0.4**
DDMP	**Don Marcelino,**	**1.93**	**98**	**i**⇑*e*P		**Pn**	**11 57 23.8**	**+0.6**
DDMP				*e*S		**Sb**	**11 57 50.2**	**+0.3**
BUKP	**Musuan**	**1.96**	**40**	**i**⇓*e*P		**Pb**	**11 57 25.0**	**-0.8**
BUKP				*e*S		**Sb**	**11 57 51.0**	**+0.2**
MATI	**Mati**	**2.52**	**77**	**i**⇓*e*P		**Pn**	**11 57 30.8**	**-0.6**
MATI				*e*S		**Sb**	**11 58 07.5**	**+0.6**
SNPH	**Sibulan**	**3.00**	**350**	*i* P		**Pb**	**11 57 41.5**	**-2.1**
BIPH	**Bislig**	**3.13**	**55**	**i**⇑*e*P		**Pn**	**11 57 40.4**	**+0.7**
BIPH				*e*S		**Sb**	**11 58 21.3**	**-3.0**
BUTP	**Butuan**	**3.16**	**35**	**i**⇑*e*P		**Pb**	**11 57 43.8**	**-2.4**
BUTP				*e*S		**Sg**	**11 58 30.1**	**-0.7**
SGSI	**Sangihe**	**3.18**	**147**	P		**Pn**	**11 57 38.5**	**-1.9**
MSLP	**Maasin**	**3.89**	**16**	**i**⇓*e*P		**Pb**	**11 57 56.5**	**-2.1**
MSLP				*e*S		**Sb**	**11 58 44.0**	**-2.3**
MYLDM	**Lahad Datu**	**5.39**	**258**			**Pn**	**11 58 12.6**	**+1.7**
GTOI	**Gorontalo**	**5.75**	**188**	P		**Pn**	**11 58 11.7**	**-4.0**
	0.1nm306nm16nm,0.4s							
KMSI	**Cibinong**	**5.76**	**178**	P		**Pn**	**11 58 14.1**	**-1.8**
	0.5nm69nm,0.4s							
TOLI2	**Toliloli**	**6.02**	**210**	Pn		**Pn**	**11 58 16.6**	**-2.9**
PPR	**Puerto Princes**	**6.04**	**304**	**i**⇓*i*P		**Pn**	**11 58 21.4**	**+1.6**
MRSI	**Marisa**	**6.14**	**198**	P		**Pn**	**11 58 20.0**	**-1.1**
	0.5nm743nm35nm,0.5s							
TNTI	**Ternate**	**6.61**	**147**	Pn		**Pn**	**11 58 26.1**	**-1.5**
TNTI	**Ternate**	**6.61**	**147**	P		**Pn**	**11 58 25.6**	**-2.0**
	0.1nm19nm,0.7s							
MPSI	**Mapaga**	**7.14**	**213**	P		**Pn**	**11 58 34.5**	**-0.3**
	0.0nm4.7nm,1.2s							
LUWI	**Luwuk**	**7.43**	**188**	Pn		**Pn**	**11 58 37.9**	**-1.0**
KKM	**Kota Kinabalu**	**7.53**	**268**	Pn		**Pn**	**11 58 40.6**	**+0.2**
APSI	**Ampana**	**7.54**	**197**	P		**Pn**	**11 58 39.1**	**-1.3**
	0.2nm15nm,0.5s							
SBUM	**Sibu**	**12.17**	**252**	Pn		**Pn**	**11 59 43.0**	**-0.9**
STKI	**Sintang**	**13.79**	**243**	P		**Pn**	**12 00 06.8**	**+0.8**
MTN	**Manton Dam**	**20.44**	**159**	P		**P**	**12 01 27.9**	**-0.2**
MTN				IAmb		IAmb	12 01 33.9	
	comp=Z,30nm,1.4s							
KNRA	**Kununurra**	**22.45**	**167**	P		**P**	**12 01 49.6**	**-0.3**
KNRA				IAmb		IAmb	12 01 59.2	
	comp=Z,31nm,1.4s							
FITZ	**Fitzroy Crossi**	**24.38**	**176**	P		**P**	**12 02 08.8**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=359,slow=5.7,SNR=9.5							
	comp=Z,0.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**24.38**	**176**	P		**P**	**12 02 09.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**27.03**	**299**	P		**P**	**12 02 35.9**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=119,slow=8.3,SNR=5.3							
	comp=Z,0.3nm,0.3s							
COEN	**Coen**	**27.90**	**136**	P		**P**	**12 02 39.8**	**-1.2**
COEN				IAmb		IAmb	12 03 06.4	
	comp=Z,13nm,1.3s							
WB0	**Warramunga Arr**	**27.99**	**158**	P		**P**	**12 02 40.4**	**-1.4**
WB0				IAmb		IAmb	12 02 41.3	
	comp=Z,7.3nm,1.1s							
WRAB	**Tennant Creek**	**28.13**	**159**	P		**P**	**12 02 41.8**	**-1.2**
WRAB				IAmb		IAmb	12 02 52.5	
	comp=Z,10.0nm,1.4s							
WRA	**Warramunga Arr**	**28.13**	**159**	P		**P**	**12 02 41.7**	**-1.4**
	comp=Z,2.8nm,0.9s,baz=332,slow=11,SNR=19							
	comp=Z,2.8nm,0.9s							
WRA	**Warramunga Arr**	**28.13**	**159**	P		**P**	**12 02 43.0**	**0.0**
WB2	**Warramunga Arr**	**28.14**	**159**	P		**P**	**12 02 41.1**	**-2.0**
WB2				IAmb		IAmb	12 02 52.5	
	comp=Z,14nm,1.4s							
WR0	**Warramunga Arr**	**28.22**	**158**	P		**P**	**12 02 43.3**	**-0.5**
WR0				IAmb		IAmb	12 02 53.7	
	comp=Z,9.8nm,1.4s							
KSRS	**Korea Array**	**31.17**	**6**	P		**P**	**12 03 10.3**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=182,slow=9.6,SNR=3.0							
	comp=Z,1.3nm,0.8s							
AS31	**Alice Springs**	**31.45**	**162**	P		**P**	**12 03 11.2**	**-1.2**
ASAR	**Alice Springs**	**31.45**	**162**	P		**P**	**12 03 11.3**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=341,slow=7.7,SNR=22							
	comp=Z,1.1nm,0.5s							
CTAO	**Charters Tower**	**34.35**	**140**	P		**P**	**12 03 35.3**	**-2.5**
CTAO				IAmb		IAmb	12 03 38.2	
	comp=Z,11nm,1.1s							
GTA	**Gaotai**	**39.35**	**330**	*e*P		**P**	**12 04 23.6**	**+3.2**
GTA				pP		pwP	12 04 27.1	+2.3
GTA				sP		sP	12 04 29.7	+10
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BBOO	**Buckleboo**	**40.67**	**164**	P		**P**	**12 04 30.7**	**-0.6**
STKA	**Stephens Creek**	**41.66**	**157**	P		**P**	**12 04 38.8**	**-0.6**
	comp=Z,11nm,0.9s,baz=333,slow=7.3,SNR=12							
	comp=Z,11nm,0.9s							
STKA	**Stephens Creek**	**41.66**	**157**	P		**P**	**12 04 39.4**	**0.0**
SONM	**Songino Array**	**43.91**	**343**	P		**P**	**12 04 59.0**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=157,slow=7.8,SNR=3.9							
	comp=Z,1.0nm,0.7s							
MK31	**Makanchi Array**	**53.73**	**326**	P		**P**	**12 06 13.9**	**+0.8**
MKAR	**Makanchi Array**	**53.73**	**326**	P		**P**	**12 06 13.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=122,slow=7.3,SNR=5.1							
	comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**53.73**	**326**	P		**P**	**12 06 12.1**	**-1.0**
MAKZ	**Makanchi**	**53.92**	**325**	P		**P**	**12 06 14.4**	**0.0**
ZALV	**Zalesovo Beam**	**56.93**	**334**	P		**P**	**12 06 36.5**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=125,slow=7.6,SNR=1.3							
	comp=Z,0.7nm,0.3s							
ZALV	**Zalesovo Beam**	**56.93**	**334**	P		**P**	**12 06 35.9**	**0.0**
KURK	**Kurchatov**	**57.96**	**328**	P		**P**	**12 06 42.0**	**-1.2**
BVAR	**Borovoye Array**	**63.52**	**327**	P		**P**	**12 07 22.9**	**+1.7**
	comp=Z,0.7nm,0.4s,baz=127,slow=9.6,SNR=5.3							
	comp=Z,0.7nm,0.4s							
ABKAR	**Akbulak array**	**68.26**	**321**	P		**P**	**12 07 51.8**	**0.0**
AKTO	**Aktyubinsk**	**69.78**	**322**	P		**P**	**12 08 00.8**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=102,slow=6.2,SNR=1.6							
	comp=Z,0.5nm,0.4s							
O18K	**Koktuh Hills**	**80.00**	**30**	P		**P**	**12 09 00.4**	**+0.2**
O18K				IAmb		IAmb	12 09 05.2	
	comp=Z,6.8nm,1.0s							
M20K	**Styx River**	**81.16**	**28**	P		**P**	**12 09 06.0**	**-0.4**
M20K				IAmb		IAmb	12 09 07.8	
	comp=Z,5.5nm,1.0s							
CAST	**Castle Rocks**	**81.71**	**27**	P		**P**	**12 09 08.7**	**-0.6**
CAST				IAmb		IAmb	12 09 10.1	
	comp=Z,5.2nm,1.1s							
ILAR	**Eielson Array**	**84.00**	**26**	P		**P**	**12 09 19.9**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=259,slow=4.6,SNR=4.8							
	comp=Z,0.8nm,0.9s							
PAX	**Paxson**	**84.71**	**27**	P		**P**	**12 09 23.7**	**-1.2**
BMAR	**Burnt Mountain**	**84.79**	**23**	P		**P**	**12 09 25.1**	**0.0**
RIDG	**Independent Ri**	**84.94**	**27**	P		**P**	**12 09 24.5**	**-1.5**
K27K	**Chicken**	**86.14**	**26**	P		**P**	**12 09 31.9**	**0.0**

BJI ***02*** *12:02:47.9±0.0,6°.14N×124°.08E,h15km,mb4.6/61, mB5.2/47,Ms4.7/59,Ms7 4.5/57*
MAN ***02*** *12:02:48.1,6°.26N×123°.69E,h13km,mb5.4,ML4.4,MS4.7*
MAN INTENSITY IV - KALAMANSIG SULTAN KUDARAT; INTENSITY III - LEBAK SULTAN KUDARAT; INTENSITY II - GENERAL SANTOS CITY; INTENSITY I - COTABATO CITY.
MOS ***02*** *12:02:50.3±0.8,6°.25N×123°.94E,h32km,mb5.1/41,Error ellipse: s-maj=12.0km s-min=5.4km az=118.4*
DJA ***02*** *12:02:51.7±1.9,6°N±4°×12°4E±°,h16km±14km,M5.0/32, mb5.0/32,mB5.4/19,MLv5.2/9,Mw(mB)4.9/19, MwMwp5.6/1,Mwp5.7/1*
NEIC ***02*** *12:02:51.4±1.9,6°.16N±0°.06×123°.92E±0°.06,h26km±5km, mb5.0/129,Error ellipse: s-maj=9.8km s-min=8.1km az=147.0*
GCMT ***02*** *12:02:52.9±0.1,6°.35N±0°.01×123°.85E±0°.01,h15km, MW5.3/132,Moment Tensor Solution. s85,c123; s132,c219; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.58±.02; Mθθ-0.02±.01; Mϕϕ-0.56±.01; Mrθ0.19±.04; Mθϕ0.20±.01; Mϕr-1.09±.07; Best double couple: M=1.26000×10^17 NP1:ϕs169.00000°,δ76.00000°, λ94.00000°. NP2:ϕs333.00000°,δ15.00000°,λ75.00000°. Principal axes: T 1.2420, Plg59.0000°, Azm85.0000°; N 0.0360, Plg4.0000°, Azm348.0000°; P -1.2780, Plg31.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***02*** *12:02:55.5±1.8,6°.31N×124°.01E,h61km±17km,mb4.2/32, mbtmp4.5/33,MS4.3/38 Error ellipse: s-maj=13.3km s-min=8.9km az=78.0*

ISC 02 12:02:48.6±1.0,**6°.30N**±0°.03×**123°.85E**±0°.03,**h4**km±6km, **n534,**σ**1**9**67/550,mb4.9/149,MS4.4/60,22C-14D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.72**	**72**	**i**⇓*e*P		**Pg**	**12 03 02.4**	**0.0**
SKMP				*e*S		**Sg**	**12 03 10.1**	**-1.8**
CTBH	**Cotabato--PC H**	**0.99**	**23**	**i**⇓*e*P		**Pg**	**12 03 07.2**	**-0.5**
CTBH				*i* S		**Sb**	**12 03 21.9**	**0.0**
GSPH	**General Santos**	**1.11**	**101**	**i**⇓*i*P		**Pn**	**12 03 13.5**	**+2.4**
GSPH				*i* S		**Sn**	**12 03 33.1**	**+6.2**
KCP	**Kidapawan**	**1.42**	**60**	**i**⇓*i*P		**Pn**	**12 03 14.0**	**-1.2**
KCP				*i* S		**Sn**	**12 03 34.6**	**+0.2**
PAGZ	**Pagadian**	**1.61**	**343**	**i**⇑*i*P		**Pn**	**12 03 16.0**	**-1.8**
PAGZ				*e*S		**Sn**	**12 03 37.8**	**-1.2**
DDMP	**Don Marcelino,**	**1.86**	**96**	**i**⇓*e*P		**Pn**	**12 03 22.0**	**+0.8**
DDMP				*e*S		**Sg**	**12 03 49.1**	**+0.7**
ZCP	**Zamboanga City**	**1.87**	**290**	**i**⇑*i*P		**Pn**	**12 03 20.2**	**-1.3**
ZCP				*i* S		**Sn**	**12 03 43.5**	**-2.1**
DAV	**Davao City (W)**	**1.88**	**66**	P		**Pb**	**12 03 23.2**	**-0.3**
	4μm,0.5s,baz=254,slow=5.4,SNR=54							
DAV				S		**Sn**	**12 03 45.1**	**-0.7**
	3μm,0.5s,baz=310,slow=20,SNR=6.7							
DAV	**Davao City (W)**	**1.88**	**66**			**Pb**	**12 03 23.1**	**-0.5**
BUKP	**Musuan**	**1.98**	**37**	**i**⇓*e*P		**Pn**	**12 03 23.5**	**+0.6**
BUKP				*i* S		**Sb**	**12 03 50.6**	**+0.4**
MATI	**Mati**	**2.47**	**75**	**i**⇑*e*P		Pn	12 03 21.6	-8.2
MATI				*e*S		**Sb**	**12 04 04.2**	**-0.3**
SNPH	**Sibulan**	**3.08**	**349**	*i* P		**Pn**	**12 03 39.8**	**+1.6**
SNPH				*i* S		**Sn**	**12 04 18.0**	**+2.4**
SGSI	**Sangihe**	**3.09**	**147**	P		**Pn**	**12 03 37.4**	**-0.8**
BIPH	**Bislig**	**3.11**	**53**	**i**⇑*e*P		**Pn**	**12 03 38.8**	**+0.2**
BIPH				*e*S		**Sb**	**12 04 23.4**	**+0.4**
BUTP	**Butuan**	**3.18**	**33**	**i**⇓*e*P		**Pn**	**12 03 41.9**	**+2.5**
BUTP				*e*S		**Sb**	**12 04 26.9**	**+2.1**
CNOP	**Candoni, Negro**	**3.70**	**341**	**i**⇓*e*P		**Pn**	**12 03 46.3**	**-0.3**
CNOP				*e*S		**Sn**	**12 04 29.8**	**-1.0**
CNOP	**Candoni, Negro**	**3.70**	**341**	**i**⇓*i*P		**Pn**	**12 03 47.2**	**+0.6**
SCPH	**Surigao**	**3.82**	**25**	**i**⇑*e*P		**Pb**	**12 03 53.3**	**-3.3**
MSLP	**Maasin**	**3.94**	**15**	**i**⇑*e*P		**Pn**	**12 03 53.5**	**+3.6**
MSLP				*e*S		**Sn**	**12 04 39.9**	**+3.3**
LLP	**Lapu-Lapu**	**3.99**	**2**	**i**⇓*e*P		**Pn**	**12 03 53.0**	**+2.3**
LLP				*e*S		**Sn**	**12 04 37.6**	**-0.3**
GUIM	**Jordan**	**4.48**	**344**	**i**⇓*e*P		Pn	12 03 48.6	-8.7
GUIM				*e*S		**Sn**	**12 04 49.0**	**-0.9**
JAP	**San Jose, Anti**	**4.80**	**337**	**i**⇑*e*P		**Pb**	**12 04 16.4**	**+3.0**
RCP	**Roxas**	**5.34**	**348**	**i**⇑*e*P		Pn	12 04 15.3	+6.1
MYLDM	**Lahad Datu**	**5.44**	**258**	Pn		**Pn**	**12 04 12.2**	**+1.7**
MRSI	**Marisa**	**6.09**	**198**	P		**Pn**	**12 04 18.3**	**-1.2**
	2.6nm2μm142nm,0.5s							
PPR	**Puerto Princes**	**6.14**	**305**	**i**⇓*i*P		**Pn**	**12 04 18.8**	**-1.3**
TNTI	**Ternate**	**6.52**	**147**	Pn		**Pn**	**12 04 23.4**	**-2.0**
TNTI	**Ternate**	**6.52**	**147**	P		**Pn**	**12 04 25.5**	**+0.1**
	0.5nm113nm,0.9s							
BUSP	**Coron**	**6.72**	**328**	**i**⇑*e*P		**Pn**	**12 04 26.0**	**-2.1**
BUSP				*e*S		**Sn**	**12 05 39.9**	**-5.2**
LUWI	**Luwuk**	**7.37**	**188**			**Pn**	**12 04 34.6**	**-2.5**
LUWI	**Luwuk**	**7.37**	**188**	P		**Pn**	**12 04 37.9**	**+0.8**
	2.0nm4μm252nm,0.7s							
KKM	**Kota Kinabalu**	**7.60**	**268**	Pn		**Pn**	**12 04 43.1**	**+2.8**
LBMI	**Labuha**	**7.80**	**152**	P		**Pn**	**12 04 42.2**	**-0.7**
	0.3nm879nm78nm,1.0s							
LUBP	**Lubang**	**8.20**	**335**	**i**⇑*e*P		**Pn**	**12 04 48.1**	**-0.3**
SANI	**Sanana**	**8.56**	**166**	P		**Pn**	**12 04 53.8**	**+0.3**
	749nm39nm,0.7s							
NLAI	**Namlea**	**10.02**	**161**	P		**Pn**	**12 05 16.9**	**+3.5**
	4μm51nm,0.8s							
AAI	**Ambon**	**10.83**	**156**	P		**Pn**	**12 05 26.0**	**+1.5**
	81nm,0.7s							
MSAI	**Masohi**	**10.84**	**152**	P		**Pn**	**12 05 27.1**	**+2.4**
	14nm,0.6s							
KAPI	**Kappang**	**11.96**	**200**	P		**Pn**	**12 05 43.5**	**+3.5**
	1.8nm,0.3s,baz=104,slow=19,SNR=1.3							
KAPI				LR		LR	12 10 20.9	
	comp=Z,1μm,20.7s,baz=34,slow=37							
SBUM	**Sibu**	**12.21**	**252**	Pn		**Pn**	**12 05 44.3**	**+0.8**
FAKI	**Fak Fak**	**12.42**	**137**			**Pn**	**12 05 44.7**	**-1.6**
FAKI	**Fak Fak**	**12.42**	**137**	P		**Pn**	**12 05 45.6**	**-0.7**
	2μm38nm,1.0s							
BAKI	**Biak**	**14.32**	**121**	P		**Pn**	**12 06 14.2**	**+1.9**
	2μm46nm,1.7s							
MMRI	**Maumere**	**14.93**	**186**	Pn		**Pn**	**12 06 16.3**	**-4.3**
SAUI	**Saumlaki**	**16.02**	**152**	Pn		**Pn**	**12 06 32.0**	**-3.0**
PLAI	**Plampang**	**16.20**	**202**	P		**P**	**12 06 43.5**	**+2.9**
	842nm47nm,1.2s							
BATI	**Baumata**	**16.40**	**181**	LR		LR	12 13 49.3	
	comp=Z,730nm,20.2s,baz=2.0,slow=40							
TWSI	**Taliwang, Sumb**	**16.48**	**205**	P		**P**	**12 06 43.9**	**+0.3**
	29nm,1.0s							
TWG	**Pinlang**	**16.64**	**351**	Pn		**P**	**12 06 44.3**	**-1.1**
SMPI	**Sarmi**	**16.97**	**119**	P		**P**	**12 06 49.6**	**+0.5**
	14nm,1.1s							
YULB	**Yu-li**	**17.17**	**352**	Pn		**Pn**	**12 06 49.6**	**0.0**
JAGI	**Jajag, Banyuwa**	**17.57**	**214**	Pn		**Pn**	**12 06 51.6**	**-3.0**
GMJI	**Gumukmas**	**17.81**	**216**	P		**P**	**12 07 00.5**	**+2.1**
	3μm78nm,2.8s							
TPI	**Tanjungpandan**	**18.51**	**241**	P		**Pn**	**12 07 08.1**	**+1.9**
	864nm22nm,2.7s							
GENI	**Genyem**	**18.53**	**118**	P		**Pn**	**12 07 07.0**	**+0.5**
	7μm426nm,1.1s							
QIZ	**Qiongzhong**	**18.60**	**314**	P		**Pn**	**12 07 08.7**	**+1.4**
QIZ				S		**Sn**	**12 10 37.1**	**+1.2**
QIZ				pmax		pmax		
	comp=Z,27nm,1.1s							
QIZ				pmax		pmax		
	comp=Z,820nm,5.6s							
QIZ				LR		LR		
	comp=N,1μm,9.6s							
QIZ				LR		LR		
	comp=E,1μm,12.7s							
QIZ				LR		LR		
	comp=Z,2μm,12.7s							
PWJI	**Pagerwojo**	**18.62**	**220**	P		**Pn**	**12 07 10.9**	**+3.3**
	40nm,1.8s							
QZH	**Quanzhou**	**19.21**	**345**	**i**⇑*i*P		**Pn**	**12 07 19.8**	**+5.2**
QZH				S		**S**	**12 10 51.8**	**-0.2**
QZH				pmax		pmax		
	comp=Z,400nm,4.6s							
QZH				LR		LR		
	comp=N,1μm,15.6s							
QZH				LR		LR		
	comp=E,580nm,16.6s							
QZH				LR		LR		
	comp=Z,2μm,16.6s							
PPBI	**Pangkal Pinang**	**19.58**	**245**	P		**Pn**	**12 07 20.1**	**+0.9**
UBPT	**Khong Chiam**	**20.12**	**298**	P		**P**	**12 07 24.2**	**+0.4**
MTN	**Manton Dam**	**20.35**	**159**	P		Pn	12 07 27.3	-0.9
	baz=20,SNR=51							
MTN	**Manton Dam**	**20.35**	**159**	P		**P**	**12 07 24.2**	**-2.1**
MTN	**Manton Dam**	**20.35**	**159**	P		**P**	**12 07 27.0**	**+0.8**
DSRI	**Dabo**	**20.38**	**251**	P		Pn	12 07 28.2	-0.5
	31nm,1.8s							
MYKOM	**Kota Tinggi**	**20.44**	**258**	P		**P**	**12 07 26.4**	**-0.9**
KDU	**Kakadu**	**20.72**	**156**	P		**P**	**12 07 30.4**	**+0.2**
	baz=21,SNR=52							
KDU	**Kakadu**	**20.72**	**156**	P		**P**	**12 07 31.1**	**+0.9**
LEM	**Lembang**	**20.80**	**231**	LR		LR	12 16 08.5	
	comp=Z,402nm,19.6s,slow=38							
JOW	**Kunigami**	**20.85**	**11**	P		**P**	**12 07 30.6**	**-1.0**
CBJI	**Citeko**	**21.16**	**234**	P		**P**	**12 07 39.6**	**+4.6**
	83nm,0.7s							
GUMO	**Guam**	**21.92**	**69**	LR		LR	12 14 26.4	
	comp=Z,784nm,21.2s,baz=218,slow=32							
KNRA	**Kununurra**	**22.37**	**167**	P		**P**	**12 07 47.9**	**-0.1**
	baz=22,SNR=36							
KNRA	**Kununurra**	**22.37**	**167**	P		**P**	**12 07 45.9**	**-2.1**
KNRA	**Kununurra**	**22.37**	**167**	P		**P**	**12 07 48.1**	**+0.1**
KASI	**Kota Agung**	**22.61**	**239**	P		**P**	**12 07 54.3**	**+3.7**
	54nm,1.2s							
LWLI	**Liwa**	**22.73**	**241**	P		**P**	**12 07 55.7**	**+3.6**
	6μm137nm,0.6s							
IPM	**Ipoh**	**22.80**	**267**	P		**P**	**12 07 52.8**	**+0.2**
IPM				IAmb		IAmb	12 07 55.8	
	comp=Z,69nm,1.3s							
KULM	**Kulim**	**23.11**	**269**	P		**P**	**12 07 55.3**	**-0.5**
KULM				IAmb		IAmb	12 07 59.7	
	comp=Z,70nm,1.3s							
BKNI	**Bangkinang**	**23.52**	**256**	P		**P**	**12 07 59.5**	**-0.6**
BKNI	**Bangkinang**	**23.52**	**256**	P		**P**	**12 08 02.2**	**+2.1**
	comp=Z,3μmcomp=Z,116nm,1.1s							
CNSH	**ChangSha**	**24.10**	**336**	⇑P		**P**	**12 08 05.3**	**-0.2**
CNSH				S		**S**	**12 12 24.2**	**+0.4**
CNSH				pmax		pmax		
	comp=Z,13nm,1.7s							
CNSH				LR		LR		
	comp=Z,960nm,16.1s							
CNSH				LR		LR		
	comp=Z,640nm,18.7s							
CNSH				LR		LR		
	comp=Z,1μm,16.1s							
SRIT	**Nakonsritamara**	**24.15**	**277**	P		**P**	**12 08 06.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**24.31**	**176**	P		**P**	**12 08 07.4**	**0.0**
	baz=24,SNR=32							
FITZ	**

WB0 Warramunga Arr 27.90 158 P **P** **12 08 37.9 -2.1**
WB0 IAmb IAmb 12 08 56.9
comp=Z,33nm,1.3s
PSA00 Pilbara Seismi 27.98 188 P **P** **12 08 38.5 -2.1**
PSA00 Pilbara Seismi 27.98 188 P **P** **12 08 42.2 +1.6**
PMG Port Moresby 27.98 124 P **P** **12 08 39.3 -1.4**
comp=Z,6.6nm,0.7s,baz=278,slow=13,SNR=2.2
PMG LR LR 12 20 28.5
comp=Z,340nm,18.5s,baz=302,slow=38
comp=Z,6.6nm,0.7s
PMG Port Moresby 27.98 124 P **P** **12 08 39.3 -1.4**
PMG Port Moresby 27.98 124 P **P** **12 08 39.3 -1.4**
PMG pmax pmax
comp=Z,22nm,1.2s
WRAB Tennant Creek 28.04 159 P **P** **12 08 39.7 -1.5**
WRAB Tennant Creek 28.04 159 P **P** **12 08 39.7 -1.5**
WRAB pmax pmax
comp=Z,15nm,1.0s
WRA Warramunga Arr 28.05 159 P **P** **12 08 39.8 -1.5**
comp=Z,7.8nm,0.6s,baz=335,slow=10,SNR=91
comp=Z,7.8nm,0.6s
WRA Warramunga Arr 28.05 159 P **P** **12 08 40.0 -1.3**
WRA Warramunga Arr 28.05 159 P **P** **12 08 40.0 -1.3**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WB2 Warramunga Arr 28.05 159 P **P** **12 08 40.6 -0.7**
WB2 IAmb IAmb 12 09 14.6
comp=Z,22nm,0.9s
WR0 Warramunga Arr 28.14 158 P **P** **12 08 40.5 -1.6**
PZH PanZhiHua 29.11 316 P P 12 08 56.0 +5.1
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,5.5s
LYN LuoYang 30.02 341 *e*P **P** **12 08 56.8 -1.8**
LYN PP **PnPn** **12 09 55.8 +0.7**
LYN S **S** **12 13 57.5 +0.1**
LYN LR LR
comp=Z,1μm,17.1s
LYN LR LR
comp=Z,990nm,16.6s
KRVT Keravat (AS076 30.04 110 P **P** **12 08 57.6 -1.4**
comp=Z,20nm,0.5s,baz=23,slow=15,SNR=6.6
KRVT LR LR 12 19 07.1
comp=Z,1μm,20.9s,baz=62,slow=32
comp=Z,20nm,0.5s
RABL Rabaul 30.13 110 P **P** **12 08 58.7 -1.2**
JHJ Hachijo jima 2 30.52 27 LR LR 12 19 26.8
comp=Z,697nm,22.0s,baz=244,slow=32
QIS Mount Isa 30.86 150 P **P** **12 09 06.6 +0.4**
baz=31,SNR=3.5
XAN Xi'an 30.87 335 P **P** **12 09 08.5 +2.2**
XAN pP pwP 12 09 20.5 +9.2
XAN pmax pmax
comp=Z,15nm,1.2s
CD2 Chengdu 30.90 325 P **P** **12 09 09.6 +3.1**
CD2 S **S** **12 14 14.0 +2.6**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 LR LR
comp=Z,1μm,17.8s
CD2 LR LR
comp=Z,1μm,16.5s
CD2 LR LR
comp=Z,1μm,17.5s
KSAR Wonju Array Be 31.21 6 P **P** **12 09 08.6 -0.5**
KSAR Wonju Array Be 31.21 6 P **P** **12 09 08.6 -0.5**
KSRS Korea Array 31.23 6 P **P** **12 09 08.8 -0.4**
comp=Z,3.9nm,0.6s,baz=186,slow=10,SNR=18
comp=Z,3.9nm,0.6s
KS19 Wonju Array Si 31.27 6 P **P** **12 09 09.1 -0.6**
INU Inuyama 31.35 21 P **P** **12 09 10.0 -0.4**
INU IAmb IAmb 12 09 29.8
comp=Z,39nm,1.5s
AS31 Alice Springs 31.36 162 P **P** **12 09 09.2 -1.4**
ASAR Alice Springs 31.36 162 P **P** **12 09 09.9 -0.7**
comp=Z,4.5nm,0.6s,baz=338,slow=6.9,SNR=66
ASAR PcP **PcP** **12 12 03.4 -1.2**
comp=Z,0.8nm,0.6s,baz=343,slow=3.9,SNR=1.3
ASAR LR LR 12 25 15.2
comp=Z,266nm,18.6s,baz=274,slow=43
comp=Z,4.5nm,0.6s
ASAR Alice Springs 31.36 162 P **P** **12 09 09.6 -1.0**
ASAR Alice Springs 31.36 162 P **P** **12 09 09.6 -1.0**
WRKA Warakurna 31.45 172 P **P** **12 09 12.2 +0.8**
baz=32,SNR=11
WRKA Warakurna 31.45 172 P **P** **12 09 11.0 -0.4**
MTSU Mount Surprise 31.58 141 P **P** **12 09 12.8 +0.2**
baz=32,SNR=9.7
MTSU Mount Surprise 31.58 141 P **P** **12 09 12.8 +0.2**
HNS HongShan 32.06 346 ⇑P **P** **12 09 19.4 +2.8**
HNS S **S** **12 14 30.8 +1.6**
HNS pmax pmax
comp=Z,11nm,1.0s
HNS LR LR
comp=Z,890nm,16.2s
HNS LR LR
comp=Z,1μm,17.7s
HNS LR LR
comp=Z,1μm,16.7s
MJAR Matsushiro Arr 32.84 22 P **P** **12 09 21.8 -1.7**
comp=Z,1.2nm,0.4s,baz=187,slow=8.6,SNR=6.9
MJAR LR LR 12 21 50.2
comp=Z,786nm,20.1s,baz=202,slow=35
comp=Z,1.2nm,0.4s
MEEK Meekatharra 33.13 189 P **P** **12 09 27.8 +1.6**
baz=33,SNR=5.5
MEEK Meekatharra 33.13 189 P **P** **12 09 27.8 +1.6**
CTA Charters Tower 34.25 140 P **P** **12 09 34.5 -1.5**
comp=Z,4.9nm,0.7s,baz=304,slow=11,SNR=7.5
CTA LR LR 12 26 12.0
comp=Z,415nm,18.3s,baz=7.0,slow=41
comp=Z,4.9nm,0.7s
CTA Charters Tower 34.25 140 P **P** **12 09 36.2 +0.2**
CTAO Charters Tower 34.25 140 P **P** **12 09 36.2 +0.2**
BJT Baijiatuan 34.27 349 P **P** **12 09 35.5 -0.4**
BJT IAmb IAmb 12 09 42.0
comp=Z,26nm,1.1s
BJT Baijiatuan 34.27 349 P **P** **12 09 35.5 -0.4**
BJT pmax pmax
comp=Z,26nm,1.1s
BJI Beijing 34.29 350 P **P** **12 09 37.1 +1.0**
BJI S **S** **12 15 06.2 +2.3**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI pmax pmax
comp=Z,220nm,5.5s
BJI LR LR
comp=Z,69nm,16.0s
BJI LR LR
comp=Z,690nm,16.0s
BJI LR LR
comp=Z,490nm,18.5s
LZH Lanzhou 34.86 331 *e*P **P** **12 09 42.8 +1.5**
LZH sP pwP 12 09 50.0 +3.7
LZH S **S** **12 15 10.5 -2.7**
LZH sS pS 12 15 23.0 +10
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,160nm,5.3s
LZH LR LR
comp=Z,1μm,16.1s
LZH LR LR
comp=Z,1μm,15.5s
LZH LR LR
comp=Z,1μm,18.4s
JMM Marumori 34.99 24 P **P** **12 09 42.3 +0.1**
BRDH Bariadhala 35.05 301 LR LR 12 24 04.0
comp=Z,702nm,21.7s,baz=126,slow=36
SNY Shenyang 35.38 360 ⇑P **P** **12 09 44.4 -1.0**
SNY S **S** **12 15 28.8 +8.2**
SNY pmax pmax
comp=Z,17nm,1.2s
SNY pmax pmax
comp=Z,350nm,3.6s
SNY LR LR
comp=Z,860nm,16.4s
SNY LR LR
comp=Z,670nm,16.6s
SNY LR LR
comp=Z,1μm,17.9s
OOD Oodnadatta 35.77 162 P **P** **12 09 48.7 -0.3**
MORW Morawa 35.96 192 P **P** **12 09 51.6 +1.1**
baz=36,SNR=4.9
SHL Shillong 36.05 306 P **P** **12 09 52.0 +0.3**
SHL Shillong 36.05 306 P **P** **12 09 52.0 +0.3**
SHL pmax pmax
comp=Z,42nm,1.1s
HHC Hu-ho-hao-te 36.12 344 *e*P **P** **12 09 54.1 +2.2**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,350nm,6.9s
HHC LR LR
comp=Z,1μm,17.7s
HHC LR LR
comp=Z,1μm,16.6s
HHC LR LR
comp=Z,2μm,19.1s
FORT Forrest 37.09 174 P **P** **12 09 59.0 -1.2**
FORT Forrest 37.09 174 P **P** **12 09 59.7 -0.5**
BLDU Ballidu 37.34 190 P **P** **12 10 04.2 +1.9**
MULG Mulgathing 37.67 165 P **P** **12 10 05.7 +0.6**
XLT XiLinHaoTe 38.07 351 ⇓*i*P **P** **12 10 09.2 +0.8**
XLT pP pwP 12 10 13.2 -0.3
XLT sP sP 12 10 16.1 +7.6
XLT S **S** **12 16 02.8 +1.0**
XLT PcS **PcS** **12 16 09.5 -3.1**
XLT sS ScP 12 16 13.2 +0.7
XLT SS **SnSn** **12 18 41.3 -2.9**
XLT pmax pmax
comp=Z,20nm,1.2s
XLT pmax pmax
comp=Z,250nm,6.4s
XLT LR LR
comp=Z,500nm,14.8s
XLT LR LR
comp=Z,410nm,18.5s
USRK Ussuriysk Ar. 38.42 9 P **P** **12 10 11.2 0.0**
comp=Z,1.8nm,0.6s,baz=211,slow=7.9,SNR=2.9
comp=Z,1.8nm,0.6s
MDJ Mudanjiang 38.49 7 P **P** **12 10 15.2 +3.3**
MDJ pP pwP 12 10 18.3 +1.3
MDJ S **S** **12 16 12.9 +4.9**
MDJ sS ScP 12 16 18.0 +4.0
MDJ pmax pmax
comp=Z,22nm,1.2s
MDJ pmax pmax
comp=Z,480nm,12.0s
MDJ LR LR
comp=Z,890nm,16.6s
MDJ LR LR
comp=Z,490nm,16.0s
MDJ LR LR
comp=Z,1μm,19.5s
LCRK Leigh Creek 39.05 160 P **P** **12 10 16.8 +0.1**
BNX BinXian 39.41 4 ⇑P P 12 10 24.7 +5.1
BNX pmax pmax
comp=Z,3.0nm,0.7s
BNX pmax pmax
comp=Z,230nm,3.5s
GTA Gaotai 39.45 330 *e*P **P** **12 10 21.8 +1.6**
GTA pP pwP 12 10 25.8 +0.6
GTA sP sP 12 10 28.7 +8.5
GTA S **S** **12 16 22.6 -0.2**
GTA sS sS 12 16 33.7 +11
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,190nm,5.2s
GTA LR LR
comp=Z,370nm,17.1s
GTA LR LR
comp=Z,720nm,19.6s
GTA LR LR
comp=Z,770nm,19.3s
GOMU GeErMu 39.91 322 P **P** **12 10 24.3 0.0**
GOMU S **S** **12 16 30.9 +0.6**
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU LR LR
comp=Z,580nm,18.4s
GOMU LR LR
comp=Z,610nm,16.4s
GOMU LR LR
comp=Z,530nm,16.9s
TAPN Taplejung 40.20 306 *e*P **P** **12 10 27.7 +0.9**
comp=Z,56nm,1.1s
BBOO Buckleboo 40.59 164 P **P** **12 10 29.7 +0.2**
baz=41,SNR=12
BBOO Buckleboo 40.59 164 P **P** **12 10 26.9 -2.6**
BBOO IAmb IAmb 12 10 31.2
comp=Z,21nm,0.8s
BBOO Buckleboo 40.59 164 P **P** **12 10 29.8 +0.2**
RAMN Ramite 40.94 304 *e*P **P** **12 10 33.9 +1.0**
comp=Z,52nm,1.2s
JIRN Jiri 41.55 305 *e*P **P** **12 10 39.2 +1.1**
comp=Z,74nm,1.1s
STKA Stephens Creek 41.57 157 P **P** **12 10 37.8 +0.2**
baz=42,SNR=21
STKA Stephens Creek 41.57 157 P **P** **12 10 37.6 0.0**
comp=Z,17nm,0.8s,baz=330,slow=8.5,SNR=23
comp=Z,17nm,0.8s
STKA Stephens Creek 41.57 157 P **P** **12 10 37.0 -0.6**
STKA Stephens Creek 41.57 157 *i*P **P** **12 10 36.1 -1.5**
STKA Stephens Creek 41.57 157 P **P** **12 10 38.3 +0.7**
GUN Gumba 41.91 305 *e*P **P** **12 10 41.9 +1.0**
comp=Z,66nm,0.8s
HTT Hallett 42.02 161 P **P** **12 10 41.7 +0.4**
baz=42,SNR=8.4
HTT Hallett 42.02 161 P **P** **12 10 42.0 +0.6**
PKI Pulchoki 42.16 305 *e*P **P** **12 10 43.7 +0.7**
PKIN Phulchoki 42.17 305 *e*P **P** **12 10 43.6 +0.6**
PALK Pallekele 42.85 274 LR LR 12 29 49.1
comp=Z,582nm,20.1s,baz=209,slow=38
HIA Hailar 42.96 356 P **P** **12 10 49.2 +0.4**
HIA IAmb IAmb 12 10 54.9
comp=Z,27nm,1.1s
HIA Hailar 42.96 356 P **P** **12 10 49.2 +0.4**
HIA pmax pmax
comp=Z,27nm,1.1s
CMSA Cobar Meteorol 43.02 152 P **P** **12 10 51.0 +1.5**
KLR Kul'dur 43.30 8 P **P** **12 10 50.8 -0.7**
comp=Z,1.0nm,0.5s,baz=229,slow=11,SNR=3.2
KLR LR LR 12 31 18.2
comp=Z,357nm,18.7s,baz=199,slow=39
comp=Z,1.0nm,0.5s
TWOA Tennyson Woods 43.39 162 P **P** **12 10 53.9 +1.5**
DANN Dangsing 43.80 305 *e*P **P** **12 10 56.4 +0.2**
ULN Ulaanbaatar 43.83 344 P **P** **12 10 56.7 +0.7**
ULN Ulaanbaatar 43.83 344 *ce*P **P** **12 10 57.6 +1.6**
ULN pmax pmax
comp=Z,48nm,1.5s
SONM Songino Array 43.99 343 P **P** **12 10 57.3 0.0**
comp=Z,9.5nm,0.9s,baz=158,slow=7.1,SNR=23
SONM LR LR 12 30 58.0
comp=Z,600nm,19.8s,baz=151,slow=38
comp=Z,9.5nm,0.9s
SONM Songino Array 43.99 343 P **P** **12 10 57.7 +0.4**
SONM IAmb IAmb 12 11 03.2
comp=Z,20nm,1.0s
SONM Songino Array 43.99 343 P **P** **12 10 57.7 +0.4**
SONM pmax pmax
comp=Z,20nm,1.0s
PYUN Piuthan 44.34 304 *e*P **P** **12 11 01.3 +0.8**
comp=Z,86nm,1.4s
ARPS Mount Arapiles 46.04 160 P **P** **12 11 14.1 +0.7**
baz=46,SNR=8.2
ARPS Mount Arapiles 46.04 160 P **P** **12 11 13.4 -0.1**
PCHI Peechi 47.15 278 *e*P **P** **12 11 22.5 -0.1**
ZAK Zakamensk 47.19 342 *e*P **P** **12 11 21.7 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
ZEA Zeya 47.38 3 *e*P **P** **12 11 24.1 +0.3**
ZEA MLR MLR
comp=Z,300nm,16.0s
CAN Canberra 47.69 152 P **P** **12 11 27.6 +1.0**
TOO Toolangi 48.09 157 P **P** **12 11 30.8 +1.2**
baz=48,SNR=15
TOO Toolangi 48.09 157 P **P** **12 11 29.7 +0.1**
WMQ Urumqi 48.99 326 *e*P **P** **12 11 39.8 +3.2**
WMQ ScP **ScP** **12 16 56.3 -0.5**
WMQ S **S** **12 18 37.6 -4.1**
WMQ sS sS 12 18 50.1 +8.4
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ LR LR
comp=Z,870nm,19.9s
WMQ LR LR
comp=Z,740nm,18.9s
WMQ LR LR
comp=Z,440nm,18.9s
DZM Mont Dzumac 50.35 125 *e*LR LR 12 26 10.9
comp=Z,505nm,25.4s
DZM Mont Dzumac 50.35 125 P **P** **12 11 45.7 -1.5**
comp=Z,7.2nm,0.9s,baz=230,slow=7.9,SNR=3.1
comp=Z,7.2nm,0.9s
BOD Bodaibo 51.96 353 *e*P **P** **12 11 58.0 -0.6**
BOD pmax pmax
comp=Z,10.0nm,1.4s
ZSN Zaisan 52.81 328 *e*P **P** **12 12 05.8 +0.6**
ZSN pmax pmax
comp=Z,27nm,1.9s
ZSN Zaisan 52.81 328 *e*P **P** **12 12 05.8 +0.6**
comp=Z,27nm,1.9s,baz=328
DGZ Jazzator, Alta 52.97 331 *i*P **P** **12 12 06.8 +0.3**
DGZ pmax pmax
comp=Z,23nm,1.4s
SHLS Shalkode 53.55 320 *e*P **P** **12 12 09.5 -1.3**
SHLS Shalkode 53.55 320 *e*P **P** **12 12 09.6 -1.3**
baz=321
PDGK Podgornoye 53.62 321 *i*P **P** **12 12 10.6 -0.8**
PDGK pmax pmax
comp=Z,13nm,1.1s
UZB Uzynbulak 53.83 320 *e*P **P** **12 12 13.3 +0.4**
UZB Uzynbulak 53.83 320 *e*P **P** **12 12 13.3 +0.4**
baz=320
MK31 Makanchi Array 53.83 326 P **P** **12 12 13.2 +0.5**
MK31 IAmb IAmb 12 12 18.5
comp=Z,15nm,1.1s
MK31 Makanchi Array 53.83 326 P **P** **12 12 13.2 +0.5**
MK31 pmax pmax
comp=Z,15nm,1.2s
MKAR Makanchi Array 53.83 326 P **P** **12 12 12.8 +0.1**
comp=Z,8.5nm,0.9s,baz=114,slow=8.7,SNR=18
MKAR LR LR 12 36 43.0
comp=Z,638nm,18.0s,baz=123,slow=38
comp=Z,8.5nm,0.9s
MKAR Makanchi Array 53.83 326 P **P** **12 12 12.7 0.0**
MKAR Makanchi Array 53.83 326 *i*P **P** **12 12 13.1 +0.4**
MKAR pmax pmax
comp=Z,9.0nm,1.0s
MAKZ Makanchi 54.01 325 P **P** **12 12 14.2 +0.1**
MAKZ Makanchi 54.01 325 P **P** **12 12 14.2 +0.1**
MAKZ pmax pmax
comp=Z,27nm,1.2s
NIL Nilore 54.10 307 P **P** **12 12 15.2 +0.4**
NIL Nilore 54.10 307 P **P** **12 12 15.3 +0.4**
NIL pmax pmax
comp=Z,45nm,1.0s
SATY Saty 54.17 320 *e*P **P** **12 12 15.6 +0.2**
SATY pmax pmax
comp=Z,12nm,1.1s
SATY Saty 54.17 320 *e*P **P** **12 12 15.7 +0.2**
comp=Z,12nm,1.1s,baz=320
KPKS Kokpek 54.20 320 *e*P **P** **12 12 16.1 +0.6**
KPKS Kokpek 54.20 320 *e*P **P** **12 12 16.2 +0.6**
baz=320
KSH Kashi 54.21 315 P **P** **12 12 18.2 +2.4**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=Z,420nm,15.8s
KSH LR LR
comp=Z,710nm,15.8s
KSH LR LR
comp=Z,750nm,16.1s
PEA0B Petropavlovsk- 54.22 24 P **P** **12 12 14.8 -0.6**
PEA0B Petropavlovsk- 54.22 24 P **P** **12 12 14.8 -0.6**
PEA0B pmax pmax
comp=Z,48nm,1.6s
PETK Petropavlovsk- 54.22 24 P **P** **12 12 14.6 -0.9**
comp=Z,3.8nm,0.6s,baz=128,slow=2.4,SNR=11
PETK PcP **PcP** **12 13 15.8 -3.9**
comp=Z,0.8nm,0.6s,baz=219,slow=8.9,SNR=1.7
PETK LR LR 12 34 24.0
comp=Z,344nm,21.1s,baz=213,slow=35
comp=Z,3.8nm,0.6s
PETK Petropavlovsk- 54.22 24 P **P** **12 12 14.8 -0.6**
PETK Petropavlovsk- 54.22 24 P **P** **12 12 14.8 -0.6**
PET Petropavlovsk 54.55 25 P **P** **12 12 17.2 -0.6**
MDOK Medeo 55.10 319 *e*P **P** **12 12 22.6 +0.4**
MDOK Medeo 55.10 319 *e*P **P** **12 12 22.6 +0.4**
baz=319
TDK Taldyqorghan 55.14 322 *e*P **P** **12 12 23.3 +1.1**
TDK Taldyqorghan 55.14 322 *e*P **P** **12 12 23.4 +1.1**
baz=322
CHKK Chushkaly 55.46 320 *e*P **P** **12 12 24.9 +0.3**
CHKK Chushkaly 55.46 320 *e*P **P** **12 12 25.0 +0.3**
baz=320
YAK Yakutsk 55.78 3 LR LR 12 39 11.3
comp=Z,205nm,18.9s,baz=260,slow=39
YAK Yakutsk 55.78 3 P **P** **12 12 26.9 +0.4**
YAK IAmb IAmb 12 13 12.0
comp=Z,17nm,0.9s
YAK Yakutsk 55.78 3 *ce*P **P** **12 12 25.1 -1.4**
YAK pmax pmax
comp=Z,18nm,1.1s
AAK Ala-Archa 56.54 318 LR LR 12 39 07.6
comp=Z,266nm,18.1s,baz=106,slow=38
AAK Ala-Archa 56.54 318 *ce*P **P** **12 12 34.4 +1.8**
AAK pmax pmax
comp=Z,15nm,1.8s
SGDS Sogindy 56.80 319 *e*P **P** **12 12 34.8 +0.5**
SGDS Sogindy 56.80 319 *e*P **P** **12 12 34.9 +0.5**
baz=319
MA2 Magadan 56.98 16 LR LR 12 36 23.1
comp=Z,189nm,21.9s,baz=205,slow=35
SEM Semipalatinsk 57.02 328 *e*P **P** **12 12 36.2 +0.3**
SEM Semipalatinsk 57.02 328 *e*P **P** **12 12 36.2 +0.3**
baz=328
ZAA0 Zalesovo Array 57.02 334 P **P** **12 12 36.5 +0.9**
ZAA0 IAmb IAmb 12 12 40.3
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 57.02 334 P **P** **12 12 34.0 -1.5**
comp=Z,5.3nm,0.8s,baz=123,slow=8.4,SNR=4.3
comp=Z,5.3nm,0.8s
ZALV Zalesovo Beam 57.02 334 P **P** **12 12 35.4 -0.1**
ZALV Zalesovo Beam 57.02 334 P **P** **12 12 35.4 -0.1**
KBL Kabul 57.69 307 P **P** **12 12 41.4 +0.5**
KBL IAmb IAmb 12 12 47.1
comp=Z,24nm,1.3s
KBL Kabul 57.69 307 P **P** **12 12 41.4 +0.5**
KBL pmax pmax
comp=Z,24nm,1.3s
KURK Kurchatov 58.05 328 P **P** **12 12 42.9 0.0**
KURK Kurchatov 58.05 328 *ce*P **P** **12 12 44.8 +2.0**
KURK pmax pmax
comp=Z,60nm,1.4s
BTK Batken 58.08 314 P **P** **12 12 44.9 +1.5**
BTK IAmb IAmb 12 13 04.9
comp=Z,11nm,0.8s
BTK Batken 58.08 314 P **P** **12 12 44.9 +1.5**
BTK pmax pmax
comp=Z,11nm,0.9s
GAR Garm 58.08 312 P **P** **12 12 43.4 -0.1**
MSVF Nonsavu 58.59 115 LR LR 12 35 31.3
comp=Z,416nm,20.7s,baz=302,slow=34
DZA Taraz 58.77 317 *e*P **P** **12 12 49.3 +1.2**
DZA Taraz 58.77 317 *e*P **P** **12 12 49.3 +1.2**
baz=317
CHGR Chuyangaron 58.83 312 P **P** **12 12 49.7 +1.0**
CHGR Chuyangaron 58.83 312 P **P** **12 12 49.7 +1.0**
CHGR pmax pmax
comp=Z,96nm,1.6s
IUG Iuzhnay 59.38 316 *e*P **P** **12 12 53.5 +1.1**
IUG Iuzhnay 59.38 316 *e*P **P** **12 12 53.6 +1.1**
baz=316
KK31 Karatay Array 59.41 317 P **P** **12 12 52.1 -0.4**
KK31 IAmb IAmb 12 13 10.0
comp=Z,15nm,1.2s
KK31 Karatay Array 59.41 317 *i*P **P** **12 12 53.2 +0.7**
KK31 pmax pmax
comp=Z,12nm,1.1s
KKAR Karatay Array 59.41 317 P **P** **12 12 51.8 -0.7**
KKAR Karatay Array 59.41 317 P **P** **12 12 51.2 -1.3**
KKAR IAmb IAmb 12 13 10.0
comp=Z,15nm,1.2s
KKAR Karatay Array 59.41 317 P **P** **12 12 51.8 -0.7**
SEY Seymchan 60.23 15 *i*P **P** **12 12 58.1 +0.3**
SEY pmax pmax
comp=Z,4.0nm,1.1s
BRZS Berezniki 60.95 325 *e*P **P** **12 13 03.4 +0.5**
BRZS pmax pmax
comp=Z,10.0nm,0.9s
BRZS Berezniki 60.95 325 *e*P **P** **12 13 03.5 +0.5**
comp=Z,10.0nm,0.9s,baz=325

SHEM Shemya Is, Ala 61.76 32 LR LR 12 36 59.3
comp=Z,88nm,21.0s,baz=186,slow=33
HRA Herat 63.12 305 P **P** **12 13 18.3 +0.2**
HRA IAmb IAmb 12 13 23.3
comp=Z,14nm,1.4s
BVA0 Borovoye Array 63.62 327 P **P** **12 13 21.5 +0.8**
BVAR Borovoye Array 63.62 327 P **P** **12 13 20.6 -0.1**
baz=108,slow=9.3
BRVK Borovoye 63.69 327 P **P** **12 13 21.1 -0.1**
BRVK Borovoye 63.69 327 *i* P **P** **12 13 21.8 +0.6**
BRVK pmax pmax
comp=Z,38nm,1.1s
TIXI Tiksi 65.35 2 P **P** **12 13 30.0 -1.7**
comp=Z,1.7nm,0.6s,baz=270,slow=23,SNR=2.4
TIXI LR LR 12 46 00.2
comp=Z,336nm,18.7s,baz=181,slow=40
comp=Z,1.7nm,0.6s
TIXI Tiksi 65.35 2 P **P** **12 13 30.6 -1.1**
TIXI Tiksi 65.35 2 P **P** **12 13 30.6 -1.1**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
RPZ Rata Peaks 65.50 144 P **P** **12 13 32.2 -1.0**
comp=Z,8.3nm,0.9s,baz=342,slow=4.0,SNR=2.0
comp=Z,8.3nm,0.9s
RAO Raoul Island 66.15 126 LR LR 12 39 32.9
comp=Z,91nm,20.4s,baz=296,slow=33
AFI Afiamalu 66.95 108 LR LR 12 38 18.6
comp=Z,344nm,21.2s,baz=279,slow=32
GEYT Alibeck 67.06 308 P **P** **12 13 43.7 +0.3**
comp=Z,4.2nm,0.8s,baz=174,slow=6.0,SNR=5.8
GEYT LR LR 12 47 54.3
comp=Z,418nm,19.5s,baz=128,slow=40
comp=Z,4.2nm,0.8s
GEYT Alibeck 67.06 308 P **P** **12 13 41.9 -1.6**
GEYT IAmb IAmb 12 13 49.5
comp=Z,15nm,1.2s
GYA0B ALIBECK ARRAY 67.06 308 P **P** **12 13 41.2 -2.3**
GYA0B IAmb IAmb 12 13 49.5
comp=Z,18nm,1.2s
AB31 Akbulak array 68.36 321 *i* P **P** **12 13 50.7 -0.6**
AB31 pmax pmax
comp=Z,12nm,1.1s
ABKAR Akbulak array 68.36 321 P **P** **12 13 51.0 -0.3**
AKTO Aktyubinsk 69.88 322 *i* P **P** **12 14 00.8 +0.1**
AKTO pmax pmax
comp=Z,19nm,1.2s
ARU Arti 71.25 328 P **P** **12 14 10.2 +1.3**
ARU IAmb IAmb 12 14 16.4
comp=Z,14nm,1.0s
ARU Arti 71.25 328 *d i* P **P** **12 14 09.0 0.0**
ARU 12 16 45.9
ARU S **S** **12 23 28.0 +1.1**
ARU SS **SS** **12 27 57.7 -3.0**
ARU pmax pmax
comp=Z,18nm,1.2s
BELG Belogornoye 76.63 322 P **P** **12 14 41.2 +0.7**
comp=Z,29nm,1.0s,baz=144,slow=19,SNR=5.1
comp=Z,29nm,1.0s
RAYN Ar Rayn 76.85 293 P **P** **12 14 40.1 -2.4**
RAYN IAmb IAmb 12 14 58.8
comp=Z,17nm,1.5s
RAYN Ar Rayn 76.85 293 P **P** **12 14 40.1 -2.4**
RAYN pmax pmax
comp=Z,17nm,1.5s
GNI Garni 77.65 310 *i* P **P** **12 14 46.9 +0.1**
GNI pmax pmax
comp=Z,14nm,1.0s
CHGN Chignik 77.98 34 P **P** **12 14 46.4 -1.7**
CHGN Chignik 77.98 34 P **P** **12 14 47.1 -0.9**
baz=263
N16K Nishlik Lake 78.33 30 P **P** **12 14 48.7 -1.2**
baz=262
ZEI Tsey 78.38 312 *e* P **P** **12 14 53.9 +3.0**
ZEI pmax pmax
comp=Z,11nm,1.0s
O16K Kokwok River B 78.55 31 P **P** **12 14 50.4 -0.7**
baz=263
O17K Koliganek Bris 79.07 30 P **P** **12 14 52.9 -1.1**
baz=264
KBZ Khabaz 79.14 313 P **P** **12 14 56.2 +1.5**
comp=Z,2.1nm,0.8s,baz=99,slow=5.0,SNR=2.3
comp=Z,2.1nm,0.8s
Q16K King Salmon 79.18 32 P **P** **12 14 53.7 -0.9**
baz=264
R17K Ugashik Creek 79.23 33 P **P** **12 14 54.0 -1.0**
baz=265
P17K Kvichak River 79.35 31 P **P** **12 14 54.4 -1.1**
baz=264
RAR Rarotonga 79.67 113 LR LR 12 49 37.7
comp=Z,120nm,18.4s,baz=287,slow=35
GCSA Galena City Sc 79.75 25 P **P** **12 14 56.1 -1.5**
baz=263
N18K Kilae Creek 79.77 30 P **P** **12 14 57.8 0.0**
N18K IAmb IAmb 12 15 02.9
comp=Z,29nm,1.9s
N18K Kilae Creek 79.77 30 P **P** **12 14 56.2 -1.6**
baz=264
TTA Tatalina 79.93 27 P **P** **12 14 57.6 -1.2**
baz=264
SVW2 Sparrevohn 79.95 29 P **P** **12 14 58.3 -0.5**
P18K Big Mountain, 79.98 31 P **P** **12 14 58.4 -0.6**
P18K IAmb IAmb 12 15 49.7
comp=Z,15nm,1.3s
O18K Koktuh Hills 80.03 30 P **P** **12 14 58.7 -0.6**
O18K IAmb IAmb 12 15 00.2
comp=Z,14nm,0.8s
O18K Koktuh Hills 80.03 30 P **P** **12 14 58.3 -1.0**
baz=265
VRH Novokhopyorsk 80.19 321 *e* P **P** **12 15 00.4 +0.1**
VRH pmax pmax
comp=Z,20nm,1.2s
L19K White Mountain 80.39 28 P **P** **12 15 00.6 -0.7**
L19K White Mountain 80.39 28 P **P** **12 14 60.0 -1.3**
baz=265,SNR=7.4
N19K Bonanza Creek 80.46 29 P **P** **12 15 01.1 -0.6**
N19K Bonanza Creek 80.46 29 P **P** **12 15 01.0 -0.7**
baz=266
O19K Port Alsworth 80.50 30 P **P** **12 15 00.2 -1.6**
baz=266
M19K Big River Lodg 80.59 28 P **P** **12 15 01.8 -0.5**
M19K Big River Lodg 80.59 28 P **P** **12 15 01.0 -1.3**
baz=266
Q19K Cape Douglas, 80.77 31 P **P** **12 15 01.7 -1.6**
baz=267
K20K Telida 80.85 27 P **P** **12 15 02.0 -1.6**
baz=266
OHAK Old Harbor 80.87 33 P **P** **12 15 02.7 -1.1**
OHAK IAmb IAmb 12 15 04.7
comp=Z,12nm,1.0s
OHAK Old Harbor 80.87 33 P **P** **12 15 02.2 -1.6**
baz=267
L20K Farewell, AK 80.87 28 P **P** **12 15 02.5 -1.3**
baz=266
J20K Nowinta River 80.88 26 P **P** **12 15 03.2 -0.5**
J20K Nowinta River 80.88 26 P **P** **12 15 02.1 -1.6**
baz=266,SNR=6.4
IMAR Indian Mountai 81.18 24 P **P** **12 15 04.4 -0.9**
M20K Styx River 81.18 28 P **P** **12 15 04.7 -0.9**
M20K IAmb IAmb 12 15 16.1
comp=Z,12nm,0.9s
M20K Styx River 81.18 28 P **P** **12 15 03.2 -2.3**
baz=267,SNR=12
KDAK Kodiak Island 81.27 33 P **P** **12 15 04.8 -1.1**
KDAK Kodiak Island 81.27 33 P **P** **12 15 04.8 -1.1**
KDAK pmax pmax
comp=Z,44nm,1.7s
KDAK Kodiak Island 81.27 33 P **P** **12 15 04.9 -1.0**
baz=268
RSO Redoubt South 81.29 30 P **P** **12 15 04.6 -1.7**
H21K Melozitna Rive 81.55 25 P **P** **12 15 06.7 -0.6**
H21K Melozitna Rive 81.55 25 P **P** **12 15 06.1 -1.2**
baz=266
PPLA Purkeypile 81.67 27 P **P** **12 15 07.0 -1.2**
PPLA IAmb IAmb 12 15 39.9
comp=Z,37nm,1.9s
PPLA Purkeypile 81.67 27 P **P** **12 15 06.0 -2.1**
baz=267
CAST Castle Rocks 81.74 27 P **P** **12 15 07.2 -1.2**
CAST IAmb IAmb 12 15 08.8
comp=Z,18nm,1.4s
CAST Castle Rocks 81.74 27 P **P** **12 15 06.5 -1.9**
baz=268
KLMR Klimovskoe 81.77 331 *e* P **P** **12 15 06.7 -1.8**
KLMR pmax pmax
comp=Z,22nm,1.3s
KLMR Klimovskoe 81.77 331 *e* P **P** **12 15 06.7 -1.8**
KLMR AMP 12 15 22.0
comp=Z,22nm,1.3s
VORR Voronezh 81.77 321 *e* P P 12 15 01.9 -6.8
VORR pmax pmax
comp=Z,80nm,0.4s
VSR Storozhevoye 81.80 321 *e* P **P** **12 15 07.9 -1.0**
VSR pmax pmax
comp=Z,7.0nm,0.5s
I21K Tanana 81.87 25 P **P** **12 15 08.0 -0.9**
I21K IAmb IAmb 12 15 15.7
comp=Z,14nm,1.3s
I21K Tanana 81.87 25 P **P** **12 15 06.8 -2.1**
baz=267,SNR=9.1
F22K John River 81.91 23 P **P** **12 15 07.7 -1.4**
baz=267
SKT Skwentna 81.94 28 P **P** **12 15 07.8 -1.7**
SKT IAmb IAmb 12 15 19.1
comp=Z,18nm,1.4s
SKT Skwentna 81.94 28 P **P** **12 15 07.8 -1.7**
baz=268,SNR=7.2
LPSR Galich'ya Gora 81.95 322 *e* P **P** **12 15 12.6 +3.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
CNPM China Poot 82.03 31 P **P** **12 15 08.8 -1.1**
CNPM IAmb IAmb 12 15 10.2
comp=Z,9.6nm,0.7s
E22K Anaktuvuk Pass 82.08 22 P **P** **12 15 08.0 -2.1**
baz=267
H22K Ishtalitna Cre 82.15 24 P **P** **12 15 08.4 -2.0**
baz=268
BRLK Bradley Lake 82.21 31 P **P** **12 15 08.9 -2.0**
BRLK IAmb IAmb 12 15 13.4
comp=Z,24nm,1.2s
BPAW Bear Paw Mtn. 82.25 26 P **P** **12 15 11.2 +0.2**
BPAW Bear Paw Mtn. 82.25 26 P **P** **12 15 09.0 -2.1**
baz=268
BRSE Bradley Lake S 82.28 31 P **P** **12 15 09.1 -2.2**
baz=269
SUA Susitna One 82.31 29 P **P** **12 15 09.8 -1.7**
SUA IAmb IAmb 12 15 20.7
comp=Z,11nm,0.8s
SUA Susitna One 82.31 29 P **P** **12 15 09.3 -2.2**
baz=269,SNR=7.4
MLY Manley 82.39 25 P **P** **12 15 10.7 -1.1**
MLY Manley 82.39 25 P **P** **12 15 10.0 -1.8**
baz=268,SNR=7.0
D23K Nanushuk River 82.53 21 P **P** **12 15 10.7 -1.7**
baz=268
TRF Thorofare Moun 82.55 27 P **P** **12 15 11.1 -1.7**
TRF IAmb IAmb 12 15 22.3
comp=Z,22nm,1.4s
TRF Thorofare Moun 82.55 27 P **P** **12 15 10.6 -2.2**
baz=269
C23K Itkillik River 82.58 20 P **P** **12 15 10.7 -1.9**
baz=268
M22K Willow 82.61 29 P **P** **12 15 10.8 -2.1**
baz=269,SNR=6.5
COLD Coldfoot 82.66 23 P **P** **12 15 13.9 +0.8**
COLD Coldfoot 82.66 23 P **P** **12 15 11.1 -2.0**
baz=269
G23K Bananza Creek 82.72 24 P **P** **12 15 12.2 -1.3**
baz=269
RC01 Rabbit Creek A 82.79 29 P **P** **12 15 13.0 -0.9**
RC01 IAmb IAmb 12 15 17.8
comp=Z,8.9nm,1.0s
RC01 Rabbit Creek A 82.79 29 P **P** **12 15 12.1 -1.8**
baz=270
O22K Cooper Landing 82.80 30 P **P** **12 15 12.2 -1.7**
baz=270
H23K Yukon River 82.90 24 P **P** **12 15 13.9 -0.5**
H23K IAmb IAmb 12 15 20.8
comp=Z,22nm,1.9s
H23K Yukon River 82.90 24 P **P** **12 15 12.4 -2.0**
baz=269
TOLK Toolik Lake Re 82.92 22 P **P** **12 15 13.1 -1.4**
TOLK IAmb IAmb 12 15 54.7
comp=Z,24nm,1.8s
TOLK Toolik Lake Re 82.92 22 P **P** **12 15 12.6 -1.9**
baz=269
SEW Seward 82.93 30 P **P** **12 15 13.5 -1.1**
SEW Seward 82.93 30 P **P** **12 15 12.6 -2.0**
baz=270
PMR Palmer 83.08 29 P **P** **12 15 14.7 -0.6**
PMR IAmb IAmb 12 15 15.0
comp=Z,12nm,1.1s
PMR Palmer 83.08 29 P **P** **12 15 14.7 -0.6**
PMR pmax pmax
comp=Z,12nm,1.1s
PMR Palmer 83.08 29 P **P** **12 15 13.0 -2.3**
baz=269,SNR=5.9
MCK McKinley 83.16 27 P **P** **12 15 15.0 -0.8**
MCK McKinley 83.16 27 P **P** **12 15 15.0 -0.8**
MCK pmax pmax
comp=Z,20nm,1.2s
MCK McKinley 83.16 27 P **P** **12 15 14.0 -1.8**
baz=270
RND Reindeer 83.20 27 P **P** **12 15 13.9 -2.1**
RND IAmb IAmb 12 15 25.9
comp=Z,9.4nm,0.9s
RND Reindeer 83.20 27 P **P** **12 15 14.0 -2.1**
RND pmax pmax
comp=Z,9.0nm,0.9s
D24K Happy Valley 83.20 21 P **P** **12 15 14.3 -1.5**
baz=270
E24K Your Creek 83.32 22 P **P** **12 15 14.9 -1.7**
baz=270
WAT1 Susitna Watana 83.34 28 P **P** **12 15 14.9 -1.8**
baz=271
KNK Knik Glacier 83.41 29 P **P** **12 15 17.2 +0.1**
KNK IAmb IAmb 12 15 17.4
comp=Z,10nm,0.8s
KNK Knik Glacier 83.41 29 P **P** **12 15 14.4 -2.6**
baz=271
MDM Murphy Dome 83.45 25 P **P** **12 15 15.6 -1.7**
MDM IAmb IAmb 12 15 18.7
comp=Z,9.6nm,1.3s
SML Sawmill 83.46 29 P **P** **12 15 15.9 -1.5**
SML Sawmill 83.46 29 P **P** **12 15 15.5 -1.9**
baz=271,SNR=7.0
PWL Port Wells 83.47 29 P **P** **12 15 15.5 -2.0**
PWL Port Wells 83.47 29 P **P** **12 15 15.1 -2.3**
baz=271,SNR=8.1
WRH Wood River Hil 83.52 26 P **P** **12 15 15.9 -1.7**
WRH IAmb IAmb 12 15 17.3
comp=Z,20nm,1.5s
F24K Squaw Lake 83.56 23 P **P** **12 15 15.8 -2.0**
baz=271
H24K Noodor Dome 83.59 24 P **P** **12 15 18.0 0.0**
H24K IAmb IAmb 12 15 20.2
comp=Z,11nm,1.2s
H24K Noodor Dome 83.59 24 P **P** **12 15 16.5 -1.4**
baz=271,SNR=7.3
CCB Clear Creek Bu 83.64 26 P **P** **12 15 16.4 -1.7**
CCB IAmb IAmb 12 15 28.0
comp=Z,8.8nm,1.0s
WAT6 Susitna Watana 83.72 28 P **P** **12 15 16.8 -2.0**
baz=271,SNR=11
G24K Hadweenzic Riv 83.73 24 P **P** **12 15 17.4 -1.3**
baz=271
M23K Glacier View 83.75 29 P **P** **12 15 16.6 -2.2**
baz=272,SNR=6.0
DHY Denali Highway 83.87 27 P **P** **12 15 17.7 -1.9**
DHY IAmb IAmb 12 15 23.9
comp=Z,9.8nm,1.3s
DHY Denali Highway 83.87 27 P **P** **12 15 17.4 -2.2**
baz=272
SCM Sheep Creek Mo 83.93 28 P **P** **12 15 18.7 -1.2**
SCM IAmb IAmb 12 15 25.2
comp=Z,13nm,1.1s
SCM Sheep Creek Mo 83.93 28 P **P** **12 15 18.7 -1.2**
SCM pmax pmax
comp=Z,13nm,1.1s
SCM Sheep Creek Mo 83.93 28 P **P** **12 15 17.0 -2.8**
baz=272
HDA Harding Lake 84.02 26 P **P** **12 15 17.1 -3.0**
baz=272,SNR=5.1
IL31 84.03 26 P **P** **12 15 18.9 -1.3**
IL31 IAmb IAmb 12 15 19.9
comp=Z,13nm,1.6s
ILAR Eielson Array 84.03 26 P **P** **12 15 17.8 -2.4**
comp=Z,1.6nm,0.6s,baz=243,slow=4.8,SNR=23
ILAR LR LR 12 50 55.4
comp=Z,103nm,21.6s,baz=238,slow=34
comp=Z,1.6nm,0.6s
ILAR Eielson Array 84.03 26 P **P** **12 15 18.6 -1.5**
ILAR Eielson Array 84.03 26 P **P** **12 15 18.7 -1.5**
D25K Kavik River 84.07 21 P **P** **12 15 18.2 -2.2**
baz=272
GLI Glacier Island 84.08 29 P **P** **12 15 18.2 -2.3**
baz=272
H25K Birch Creek 84.41 24 P **P** **12 15 20.5 -1.6**
baz=273
F25K Christian Rive 84.42 23 P **P** **12 15 20.4 -1.8**
baz=273
E25K Arctic Village 84.42 22 P **P** **12 15 20.4 -1.7**
baz=273
M24K Tolsona, Glenn 84.47 28 P **P** **12 15 21.8 -0.8**
M24K Tolsona, Glenn 84.47 28 P **P** **12 15 20.7 -1.8**
baz=273
K24K Donnelly Dome 84.56 26 P **P** **12 15 21.2 -1.7**
baz=273,SNR=8.8
KLU Klutina 84.62 29 P **P** **12 15 22.6 -0.8**
KLU IAmb IAmb 12 15 23.8
comp=Z,6.4nm,0.8s
KLU Klutina 84.62 29 P **P** **12 15 21.6 -1.7**
baz=273,SNR=6.4
J25K Salcha River, 84.69 26 P **P** **12 15 21.6 -2.0**
baz=273
DIV Divide 84.71 29 P **P** **12 15 23.6 -0.2**
PAX Paxson 84.74 27 P **P** **12 15 23.8 -0.2**
PAX IAmb IAmb 12 15 24.3
comp=Z,6.7nm,1.0s
PAX Paxson 84.74 27 P **P** **12 15 23.8 -0.2**
PAX pmax pmax
comp=Z,7.0nm,1.0s
PAX Paxson 84.74 27 P **P** **12 15 21.7 -2.3**
baz=273,SNR=7.8
EYAK Cordova Ski Ar 84.76 30 P **P** **12 15 23.9 0.0**
EYAK IAmb IAmb 12 15 34.9
comp=Z,18nm,1.5s
EYAK Cordova Ski Ar 84.76 30 P **P** **12 15 21.7 -2.2**
baz=273
BMAR Burnt Mountain 84.83 23 P **P** **12 15 23.9 -0.4**
HARP HAARP 84.92 28 P **P** **12 15 22.5 -2.3**
baz=274
RIDG Independent Ri 84.97 27 P **P** **12 15 23.4 -1.6**
RIDG Independent Ri 84.97 27 P **P** **12 15 23.5 -1.6**
baz=274,SNR=12
F26K Sheenjek River 84.98 23 P **P** **12 15 22.9 -2.1**
baz=274
C27K Jago River 84.99 21 P **P** **12 15 23.9 -1.1**
baz=274
G26K Porcupine Rive 85.18 23 P **P** **12 15 24.9 -1.0**
baz=275
MAW Mawson 85.18 200 P **P** **12 15 25.0 -0.8**
comp=Z,1.0nm,0.9s,baz=357,slow=9.9,SNR=1.3
comp=Z,1.0nm,0.9s
N25K Chitina, Valde 85.24 29 P **P** **12 15 25.2 -1.3**
N25K IAmb IAmb 12 15 36.8
comp=Z,8.0nm,1.2s
N25K Chitina, Valde 85.24 29 P **P** **12 15 24.7 -1.8**
baz=274
BMRM Bremner River 85.29 29 P **P** **12 15 24.4 -2.3**
baz=274
DOT Dot Lake 85.33 27 P **P** **12 15 25.2 -1.6**
SCRK Sand Creek 85.34 26 P **P** **12 15 25.8 -1.2**
SCRK IAmb IAmb 12 15 41.9
comp=Z,13nm,1.4s
SCRK Sand Creek 85.34 26 P **P** **12 15 25.2 -1.8**
baz=275,SNR=6.2
KAIM Kayak Island 85.47 30 P **P** **12 15 25.4 -2.1**
baz=275
J26L Joseph Creek 85.48 26 P **P** **12 15 26.0 -1.6**
J26L Joseph Creek 85.48 26 P **P** **12 15 25.6 -2.1**
baz=275
I26K Coal Creek Min 85.58 25 P **P** **12 15 26.2 -1.7**
I26K IAmb IAmb 12 15 50.9
comp=Z,11nm,1.1s
I26K Coal Creek Min 85.58 25 P **P** **12 15 25.6 -2.4**
baz=275
GLB Gilahina Butte 85.63 29 P **P** **12 15 27.6 -0.8**
GLB IAmb IAmb 12 15 28.8
comp=Z,9.7nm,1.3s
L26K Log Cabin Wild 85.71 27 P **P** **12 15 27.0 -1.7**
baz=275
E27K Coleen River 85.89 22 P **P** **12 15 28.2 -1.3**
baz=276
M26K Nabesna, AK 85.93 28 P **P** **12 15 29.3 -0.6**
M26K IAmb IAmb 12 15 35.4
comp=Z,17nm,1.7s
M26K Nabesna, AK 85.93 28 P **P** **12 15 28.6 -1.3**
baz=276
G27K Doyon Strip 86.03 23 P **P** **12 15 29.3 -0.9**
baz=277
H27K Steamboat Moun 86.15 24 P **P** **12 15 29.7 -1.2**
baz=277
K27K Chicken 86.17 26 P **P** **12 15 30.5 -0.4**
K27K IAmb IAmb 12 15 55.3
comp=Z,14nm,1.2s
K27K Chicken 86.17 26 P **P** **12 15 30.1 -0.8**
baz=276
BRTR Keskin Array B 86.18 309 P **P** **12 15 32.0 +0.3**
comp=Z,0.5nm,0.4s,baz=104,slow=6.1,SNR=2.7
comp=Z,0.5nm,0.4s
I27K Kandik River 86.19 25 P **P** **12 15 30.4 -0.6**
baz=277
VNDA Vanda 86.33 172 P **P** **12 15 31.6 +0.2**
comp=Z,1.1nm,0.7s,baz=336,slow=6.1,SNR=6.4
VNDA LR LR 12 54 41.0
comp=Z,66nm,20.9s,baz=324,slow=36
comp=Z,1.1nm,0.7s
VNDA Vanda 86.33 172 P **P** **12 15 30.9 -0.5**
VNDA Vanda 86.33 172 P **P** **12 15 30.9 -0.5**
VNDA pmax pmax
comp=Z,6.0nm,1.3s
L27K Beaver Creek, 86.39 27 P **P** **12 15 31.7 -0.4**
L27K IAmb IAmb 12 15 32.8
comp=Z,16nm,1.6s
L27K Beaver Creek, 86.39 27 P **P** **12 15 31.0 -1.1**
baz=277
BCAR Beaver Creek A 86.41 27 P **P** **12 15 31.4 -0.8**
M27K Edge Creek, AK 86.45 28 P **P** **12 15 31.3 -1.3**
baz=277
EGAK Eagle 86.48 25 P **P** **12 15 30.9 -1.5**
EGAK Eagle 86.48 25 P **P** **12 15 31.6 -0.8**
baz=277
KMBO Kilima Mbogo 86.74 269 P **P** **12 15 35.8 +0.7**
comp=Z,0.9nm,0.3s,baz=98,slow=14,SNR=1.3
KMBO LR LR 12 51 03.9
comp=Z,168nm,20.6s,baz=93,slow=33
comp=Z,0.9nm,0.3s
CTG Chitna Glacier 86.88 29 P **P** **12 15 33.2 -1.4**
baz=277
CTGM Chitina Glacie 86.88 29 P **P** **12 15 33.3 -1.4**
CTGM IAmb IAmb 12 15 35.9
comp=Z,6.5nm,0.6s
TABL Table Mountain 87.04 30 P **P** **12 15 34.4 -1.2**
ARCES ARCESS Array B 87.06 340 P **P** **12 15 36.0 +0.7**
comp=Z,2.1nm,1.0s,baz=64,slow=10,SNR=2.0
comp=Z,2.1nm,1.0s
O28M Mount Upton 87.46 29 P **P** **12 15 35.7 -2.0**
baz=278
I29M Ogilvie Camp, 87.59 25 P **P** **12 15 37.7 -0.1**
I29M Ogilvie Camp, 87.59 25 P **P** **12 15 36.3 -1.6**
baz=280
M29M Somme Creek 88.01 27 P **P** **12 15 38.8 -1.3**
baz=280
PNL Peninsula 88.02 30 P **P** **12 15 38.6 -1.4**
baz=279
EPYK Eagle Plains 88.04 23 P **P** **12 15 38.2 -1.8**
baz=281
AKASG Malin Array Be 88.10 321 P **P** **12 15 41.2 +0.6**
comp=Z,0.1nm,0.2s,baz=64,slow=4.8,SNR=1.4
comp=Z,0.1nm,0.2s
FINES FINESS Array B 88.22 332 P **P** **12 15 39.1 -1.8**
comp=Z,1.2nm,0.6s,baz=101,slow=6.0,SNR=2.0
comp=Z,1.2nm,0.6s
FINES FINESS Array B 88.22 332 *i* P **P** **12 15 43.5 +2.6**
FINES pmax pmax
comp=Z,1.0nm,0.5s
O29M Mount Kennedy 88.32 30 P **P** **12 15 39.8 -1.8**
baz=280
MNK Minsk 88.38 325 *i* P **P** **12 15 40.9 -0.9**
MNK *i* 12 19 07.3
MNK *i* PPP PPP 12 21 04.3
MNK *i* S **SKSac** **12 26 07.8 -3.8**
MNK *i* SS **SS** **12 32 20.5 +3.4**
MNK *i* SSS SSS 12 35 53.1
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,3.0nm,0.6s
MNK MLR MLR

	comp=Z,225nm,26.0s								
MNK					MLR	MLR			
	comp=E,27nm,19.0s								
MNK	**Minsk**	**88.38**	**325**	*i* P		**P**	**12 15 41.0**	**-0.9**	
	comp=E,3.0nm,0.8s								
MNK				*i* P		**P**	**12 15 41.0**	**-0.9**	
MNK				*i* P		**P**	**12 15 41.0**	**-0.9**	
	comp=Z,3.0nm,0.7s,baz=81								
MNK				*i* PP		**PP**	**12 19 07.3**	**-1.8**	
MNK				*i* PPP		PPP	12 21 04.3		
MNK				*i* S		**SKSac**	**12 26 07.8**	**-3.8**	
MNK				*i* SS		**SS**	**12 32 20.6**	**+3.4**	
MNK				*i* SSS		SSS	12 35 53.1		
MNK				*i* LQ		LQ	12 49 36.9		
MNK				*i* LR		LR	12 53 20.2		
MNK				*i* LRM		MLR	12 56 16.6		
	comp=Z,225nm,25.6s								
MNK				*i* LRM		MLR	12 56 31.9		
	comp=E,27nm,18.9s								
PPT	**Papeete**	**88.62**	**108**	LR		LR	12 50 50.1		
	comp=E,86nm,18.7s,baz=304,slow=32								
PPT2	**Papeete2**	**88.63**	**108**	*e*LR		LR	12 43 54.5		
	comp=E,315nm,25.8s								
HYT	**Haines Junctio**	**88.75**	**29**	P		**P**	**12 15 42.4**	**-1.2**	
HYT				IAmb		IAmb	12 18 34.0		
	comp=Z,13nm,1.8s								
HYT	**Haines Junctio**	**88.75**	**29**	P		**P**	**12 15 42.0**	**-1.6**	
	baz=281								
M30M	**Minto, Yukon**	**88.75**	**27**	P		**P**	**12 15 41.8**	**-1.7**	
	baz=281								
N30M	**Aishikik Lake**	**88.83**	**28**	P		**P**	**12 15 43.2**	**-0.7**	
	baz=281								
INK	**Inuvik**	**88.83**	**21**	LR		LR	12 58 31.7		
	comp=Z,68nm,21.6s,baz=258,slow=38								
MAYO	**Mayo, Yukon**	**88.95**	**26**	P		**P**	**12 15 43.3**	**-1.1**	
	baz=282								
NACGM	**Naroch**	**88.95**	**325**⇑	*e*P		P	12 15 55.5	+11	
	baz=80								
TBI	**Tubuai**	**89.44**	**113**	*e*SS		SS	12 32 34.3	-0.1	
	comp=Z,204nm,26.0s								
TBI	**Tubuai**	**89.44**	**113**	*e*LR		LR	12 44 17.2		
	comp=Z,366nm,22.8s								
O30N	**Mendenhall**	**89.44**	**29**	P		**P**	**12 15 45.8**	**-1.0**	
	baz=282								
M31M	**Drury Creek, Y**	**89.92**	**27**	P		**P**	**12 15 47.4**	**-1.6**	
	baz=283								
WHY	**Whitehorse**	**90.04**	**29**	P		**P**	**12 15 49.4**	**-0.3**	
SKAG	**Skagway**	**90.09**	**30**	P		**P**	**12 15 48.2**	**-1.5**	
SKAG	**Skagway**	**90.09**	**30**	P		**P**	**12 15 48.6**	**-1.1**	
	baz=282								
FARO	**Faro, Yukon**	**90.39**	**27**	P		**P**	**12 15 49.1**	**-2.0**	
FARO				IAmb		IAmb	12 16 01.0		
	comp=Z,8.4nm,1.4s								
FARO	**Faro, Yukon**	**90.39**	**27**	P		**P**	**12 15 50.0**	**-1.2**	
	baz=284								
P33M	**Teslin, Yukon**	**91.14**	**29**	P		**P**	**12 15 53.5**	**-1.3**	
	baz=285								
MMPY	**Sheldon Lake,**	**91.23**	**27**	P		**P**	**12 15 53.7**	**-1.3**	
	baz=286								
R33M	**Jennings River**	**92.27**	**30**	P		**P**	**12 15 58.7**	**-1.3**	
	baz=286								
WRAK	**Wrangell Islan**	**92.36**	**33**	P		**P**	**12 15 58.4**	**-1.9**	
	baz=285								
S34M	**Telegraph Cree**	**92.60**	**31**	P		**P**	**12 15 59.6**	**-1.8**	
	baz=286								
DLBC	**Dease Lake**	**93.01**	**30**	LR		LR	12 55 25.2		
	comp=Z,105nm,19.8s,baz=289,slow=34								
WTLY	**Watson Lake, Y**	**93.10**	**29**	P		**P**	**12 16 01.9**	**-1.9**	
	baz=288								
MBAR	**Mbarara**	**93.16**	**270**	LR		LR	12 55 49.0		
	comp=Z,188nm,21.5s,baz=57,slow=34								
NOA	**NORSAR Array B**	**95.22**	**333**	LR		LR	13 03 07.3		
	comp=Z,240nm,20.2s,baz=50,slow=38								
RES	**Resolute Bay**	**95.79**	**10**	LR		LR	13 04 10.8		
	comp=Z,79nm,19.4s,baz=350,slow=38								
TAOE	**Nuku Hiva Isla**	**96.86**	**98**	*e*LR		LR	12 47 43.2		
	comp=Z,384nm,22.3s								
TORD	**Torodi Ar. Bea**	**119.39**	**289**	PKP		**PKPdf**	**12 21 38.5**	**-2.0**	
	comp=Z,0.7nm,0.9s,baz=349,slow=1.5,SNR=2.8								

*NEIC **02** 12:07:59.8±1.6, 19.°4S×0.°1×173.°87W±0.°05, h10km±1km, mb4.6/16, Error ellipse: s-maj=20.9km s-min=7.3km az=350.0*
*IDC **02** 12:07:59.9±0.8, 19.°44S×174.°23W, h0km, mb4.2/14, mbtmp4.2/15, ML3.8/1, MS3.5/6, Error ellipse: s-maj=32.2km s-min=16.8km az=144.0*
ISC 02 12:07:59.9±0.5, 19.°37S±0.°07×173.°86W±0.°07, h10km, n52, σ2§00/46, mb4.5/23, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.73**	**86**	Pn	**Pn**	**12 08 55.8**	**-1.8**
AFI	**Afiamalu**	**5.79**	**20**	Pn	**Pn**	**12 09 27.1**	**+1.1**
	15nm,0.3s,baz=198,slow=6.4,SNR=24						
AFI				Sn	**Sn**	**12 10 26.4**	**-6.1**
	7.0nm,0.3s,baz=217,slow=20,SNR=1.5						
AFI				LR	LR	12 11 33.9	
	comp=Z,417nm,19.9s,baz=136,slow=36						
AFI	**Afiamalu**	**5.79**	**20**		**Pn**	**12 09 26.1**	**+0.2**
MSVF	**Nonsavu**	**7.85**	**281**	LR	LR	12 12 00.5	
	comp=Z,143nm,20.9s,baz=156,slow=32						
MSVF	**Nonsavu**	**7.85**	**281**	Pn	**Pn**	**12 09 53.5**	**-0.8**
RAO	**Raoul Island**	**10.51**	**200**	Pn	**Pn**	**12 10 29.9**	**-0.8**
	80nm,0.3s,baz=87,slow=18,SNR=2.3						
RAO				LR	LR	12 14 13.7	
	comp=Z,309nm,19.4s,baz=18,slow=36						
RAR	**Rarotonga**	**13.34**	**100**	Pn	**Pn**	**12 11 05.9**	**-3.6**
	7.1nm,0.3s,baz=254,slow=7.7,SNR=10						
RAR				Sn	Sn	12 13 21.3	-17
	2.2nm,0.3s,baz=350,slow=18,SNR=2.6						
RAR				LR	LR	12 15 46.0	
	comp=Z,107nm,20.7s,baz=266,slow=34						
DZM	**Mont Dzumac**	**18.62**	**258**	P	**P**	**12 12 14.1**	**-3.7**
	0.3nm,0.3s,baz=15,slow=19,SNR=1.9						
	4.7nm,0.7s						
DZM	**Mont Dzumac**	**18.62**	**258**	P	**P**	**12 12 17.4**	**-0.5**
PPT	**Papeete**	**23.10**	**89**	LR	LR	12 19 23.7	
	comp=Z,138nm,21.4s,baz=331,slow=29						
RPZ	**Rata Peaks**	**27.38**	**204**	P	**P**	**12 13 47.3**	**+1.9**
	8.1nm,0.5s,baz=343,slow=4.1,SNR=9.0						
RPZ				LR	LR	12 23 45.3	
	comp=Z,270nm,20.7s,baz=58,slow=35						
CTA	**Charters Tower**	**37.49**	**262**	P	**P**	**12 15 13.1**	**-1.1**
	7.6nm,0.4s,baz=84,slow=10,SNR=32						
	7.6nm,0.4s						
CTAO	**Charters Tower**	**37.49**	**262**	P	**P**	**12 15 13.3**	**-0.9**
PMG	**Port Moresby**	**38.95**	**279**	P	**P**	**12 15 24.8**	**-1.7**
PMG				IAmb	IAmb	12 15 31.7	
	comp=Z,11nm,0.9s						
COEN	**Coen**	**41.44**	**271**	P	**P**	**12 15 45.2**	**-1.9**
STKA	**Stephens Creek**	**41.78**	**244**	P	**P**	**12 15 48.9**	**-0.9**
	comp=Z,6.2nm,0.8s,baz=102,slow=9.8,SNR=7.4						
	comp=Z,6.2nm,0.8s						
BBOO	**Buckleboo**	**46.53**	**243**	P	**P**	**12 16 26.5**	**-1.4**
WR0	**Warramunga Arr**	**48.43**	**260**	P	**P**	**12 16 41.2**	**-1.7**
WR0				IAmb	IAmb	12 16 44.2	
	comp=Z,5.6nm,1.1s						
AS31	**Alice Springs**	**48.57**	**255**	P	**P**	**12 16 43.4**	**-0.5**
ASAR	**Alice Springs**	**48.57**	**255**	P	**P**	**12 16 41.9**	**-2.1**
	comp=Z,3.4nm,0.6s,baz=98,slow=8.5,SNR=52						
ASAR				PcP	**PcP**	**12 18 10.3**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=98,slow=4.1,SNR=4.2						
	comp=Z,3.4nm,0.6s						
ASAR	**Alice Springs**	**48.57**	**255**	P	**P**	**12 16 42.8**	**-1.2**
WB0	**Warramunga Arr**	**48.60**	**260**	P	**P**	**12 16 42.5**	**-1.7**
WB2	**Warramunga Arr**	**48.61**	**260**	P	**P**	**12 16 42.4**	**-1.8**
WB2				IAmb	IAmb	12 16 43.7	
	comp=Z,5.2nm,1.0s						
WRAB	**Tennant Creek**	**48.62**	**260**	P	**P**	**12 16 42.3**	**-2.0**
WRAB				IAmb	IAmb	12 16 43.6	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**48.62**	**260**	P	**P**	**12 16 42.0**	**-2.3**
	comp=Z,2.4nm,0.6s,baz=98,slow=7.5,SNR=36						
	comp=Z,2.4nm,0.6s						
WRA	**Warramunga Arr**	**48.62**	**260**	P	**P**	**12 16 42.3**	**-2.1**
MTN	**Manton Dam**	**53.07**	**268**	P	**P**	**12 17 16.4**	**-1.5**
MTN				IAmb	IAmb	12 17 41.1	
	comp=Z,7.0nm,0.8s						
KNRA	**Kununurra**	**54.64**	**264**	P	**P**	**12 17 29.5**	**+0.2**
KNRA				IAmb	IAmb	12 17 41.8	
	comp=Z,6.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**57.05**	**261**	P	**P**	**12 17 45.2**	**-1.4**
	comp=Z,2.5nm,0.7s,baz=89,slow=3.2,SNR=14						
	comp=Z,2.5nm,0.7s						
PSA00	**Pilbara Seismi**	**61.72**	**255**	P	**P**	**12 18 17.8**	**-1.1**
PSA00				IAmb	IAmb	12 18 19.0	
	comp=Z,4.0nm,0.9s						
CASY	**Casey**	**66.64**	**205**	P	**P**	**12 18 51.5**	**+1.1**
QSPA	**South Pole Qui**	**70.69**	**180**	P	**P**	**12 19 17.6**	**+1.6**
QSPA				IAmb	IAmb	12 19 18.7	
	comp=Z,5.7nm,1.1s						
MJAR	**Matsushiro Arr**	**71.70**	**321**	P	**P**	**12 19 22.3**	**0.0**
	comp=Z,2.4nm,0.8s,baz=153,slow=6.0,SNR=8.0						
	comp=Z,2.4nm,0.8s						
PETK	**Petropavlovsk-**	**76.27**	**343**	P	**P**	**12 19 49.8**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=122,slow=14,SNR=1.4						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**77.57**	**42**	P	**P**	**12 19 59.4**	**+2.8**
	comp=Z,1.1nm,0.9s,baz=224,slow=10,SNR=5.9						
	comp=Z,1.1nm,0.9s						
KSRS	**Korea Array**	**78.69**	**316**	P	**P**	**12 20 04.3**	**+1.8**
	comp=Z,2.0nm,0.9s,baz=140,slow=5.6,SNR=6.1						
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**83.19**	**56**	P	**P**	**12 20 30.2**	**+3.4**
	comp=Z,0.3nm,0.8s,baz=248,slow=9.6,SNR=3.0						
	comp=Z,0.3nm,0.8s						
H03S2	**Juan Fernandez**	**83.39**	**123**	T	T	13 53 06.0	
	baz=249						
H03S1	**Juan Fernandez**	**83.40**	**123**	T	T	13 53 04.1	
	baz=249						
H03S3	**Juan Fernandez**	**83.40**	**123**	T	T	13 53 02.8	
	baz=249						
H03N2	**Juan Fernandez**	**83.51**	**123**	T	T	13 53 14.5	
	baz=257,slow=72,SNR=16						
H03N3	**Juan Fernandez**	**83.51**	**123**	T	T	13 53 11.9	
	baz=257,slow=72,SNR=8.7						
H03N1	**Juan Fernandez**	**83.52**	**123**	T	T	13 53 08.6	
	baz=257,slow=72,SNR=10						
MAW	**Mawson**	**83.91**	**199**	P	**P**	**12 20 31.0**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=153,slow=5.4,SNR=4.8						
	comp=Z,2.3nm,0.8s						
PDAR	**Pinedale Array**	**85.50**	**42**	P	**P**	**12 20 42.4**	**+3.9**
	comp=Z,0.2nm,0.8s,baz=182,slow=5.4,SNR=1.5						
	comp=Z,0.2nm,0.8s						
ILAR	**Eielson Array**	**86.40**	**11**	P	**P**	**12 20 43.3**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=222,slow=6.5,SNR=2.1						
	comp=Z,0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.44**	**288**	P	**P**	**12 21 18.0**	**+1.7**
	comp=Z,3.5nm,1.1s,baz=118,slow=2.9,SNR=9.0						
	comp=Z,3.5nm,1.1s						
ARCES	**ARCESS Array B**	**128.46**	**351**	PKP	**PKPdf**	**12 27 05.4**	**-1.0**
	comp=Z,2.6nm,1.0s,baz=7.1,slow=2.9,SNR=3.9						
CLL	**Collm**	**147.67**	**352**	*i* PKPbc	**PKPab**	**12 27 46.8**	**0.0**
CLL				*i* x	x	12 28 03.2	
CLL				LmV		13 10 00.0	
	comp=Z,200nm,21.0s						
BRTR	**Keskin Array B**	**148.84**	**317**	PKPbc	**PKiKP**	**12 27 49.9**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=111,slow=3.8,SNR=5.3						
GERES	**GERESS Array B**	**149.97**	**350**	PKPbc	**PKiKP**	**12 27 53.0**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=318,slow=1.8,SNR=8.4						
TORD	**Torodi Ar. Bea**	**172.48**	**145**	PKP	**PKPdf**	**12 28 10.1**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=282,slow=2.8,SNR=3.2						

*NEIC **02** 12:10:15.8±1.8, 18.°7S±0.°1×173.°64W±0.°03, h10km±2km, mb4.4/10, Error ellipse: s-maj=22.6km s-min=4.1km az=173.0*
*IDC **02** 12:10:19.9±1.4, 18.°96S×174.°54W, h0km, mb4.1/8, mbtmp4.1/10, ML3.5/2, Error ellipse: s-maj=50.8km s-min=23.3km az=140.0*
ISC 02 12:10:15.8±0.7, 18.°67S±0.°08×173.°73W±0.°09, h10km, n30, σ1§82/25, mb4.3/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.62**	**97**	Pn	**Pn**	**12 11 11.1**	**-0.9**
AFI	**Afiamalu**	**5.09**	**22**	Pn	**Pb**	**12 11 45.2**	**0.0**
	1.8nm,0.3s,baz=202,slow=19,SNR=0.9						
AFI				Sn	**Sb**	**12 12 45.3**	**-1.2**
	5.5nm,0.3s,baz=208,slow=17,SNR=1.8						
	16nm,0.3s						
AFI	**Afiamalu**	**5.09**	**22**	Pn	**Pn**	**12 11 32.0**	**-0.3**
MSVF	**Nonsavu**	**7.87**	**276**	Pn	**Pn**	**12 12 11.9**	**+1.3**
DZM	**Mont Dzumac**	**18.89**	**256**	P	**P**	**12 14 31.8**	**-4.9**
	0.1nm,0.3s,baz=90,slow=19,SNR=1.1						
	2.9nm,0.8s						
RPZ	**Rata Peaks**	**28.06**	**204**	P	**P**	**12 16 08.1**	**+0.7**
	5.3nm,0.6s,baz=23,slow=13,SNR=1.9						
	5.3nm,0.6s						
CTA	**Charters Tower**	**37.72**	**261**	P	**P**	**12 17 30.6**	**-1.4**
	3.7nm,0.7s,baz=94,slow=10.0,SNR=5.2						
	3.7nm,0.7s						
CTAO	**Charters Tower**	**37.72**	**261**		**P**	**12 17 32.1**	**+0.1**
COEN	**Coen**	**41.55**	**270**	P	**P**	**12 18 03.7**	**-0.3**
COEN				IAmb	IAmb	12 18 12.0	
	comp=Z,6.7nm,1.1s						
STKA	**Stephens Creek**	**42.20**	**243**	P	**P**	**12 18 08.6**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=56,slow=5.8,SNR=4.9						
	comp=Z,3.1nm,0.8s						
WB0	**Warramunga Arr**	**48.84**	**260**	P	**P**	**12 18 59.7**	**-2.2**
WB0				IAmb	IAmb	12 19 31.7	
	comp=Z,6.8nm,1.3s						
WB2	**Warramunga Arr**	**48.86**	**260**	P	**P**	**12 19 00.4**	**-1.6**
WB2				IAmb	IAmb	12 19 11.3	
	comp=Z,8.1nm,1.4s						
WRAB	**Tennant Creek**	**48.86**	**260**	P	**P**	**12 19 01.2**	**-0.9**
WRAB				IAmb	IAmb	12 19 11.4	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**48.87**	**260**	P	**P**	**12 19 00.8**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=98,slow=8.7,SNR=5.0						
	comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**48.87**	**260**	P	**P**	**12 19 01.1**	**-1.1**
AS31	**Alice Springs**	**48.87**	**255**	P	**P**	**12 19 00.6**	**-1.6**
ASAR	**Alice Springs**	**48.87**	**255**	P	**P**	**12 19 01.3**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=96,slow=8.3,SNR=5.9						
ASAR				PcP	**PcP**	**12 20 28.7**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=91,slow=3.9,SNR=1.0						
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**48.87**	**255**	P	**P**	**12 19 00.8**	**-1.4**
KNRA	**Kununurra**	**54.83**	**264**	P	**P**	**12 19 46.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**57.29**	**260**	P	**P**	**12 20 03.8**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=112,slow=5.4,SNR=2.0						
	comp=Z,0.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**57.29**	**260**	P	**P**	**12 20 04.6**	**+0.4**
FITZ				IAmb	IAmb	12 20 14.4	
	comp=Z,6.8nm,1.4s						
QSPA	**South Pole Qui**	**71.39**	**180**	P	**P**	**12 21 36.6**	**+0.6**
QSPA				IAmb	IAmb	12 21 37.6	
	comp=Z,2.7nm,1.1s						
NVAR	**Mina Array Bea**	**76.97**	**42**	P	P	12 22 18.6	+9.5
	comp=Z,0.4nm,0.7s,baz=203,slow=5.9,SNR=2.2						
	comp=Z,0.4nm,0.7s						
H03S2	**Juan Fernandez**	**83.66**	**123**	T	T	13 55 17.4	
	baz=250						
H03S1	**Juan Fernandez**	**83.68**	**123**	T	T	13 55 24.7	
	baz=250						
H03S3	**Juan Fernandez**	**83.68**	**123**	T	T	13 55 17.8	
	baz=250						
H03N2	**Juan Fernandez**	**83.78**	**123**	T	T	13 55 24.4	
	baz=259,slow=74						
H03N3	**Juan Fernandez**	**83.78**	**123**	T	T	13 55 27.6	
	baz=259						
H03N1	**Juan Fernandez**	**83.80**	**123**	T	T	13 55 28.6	
	baz=259,slow=74						
CMAR	**Chiang Mai Arr**	**93.34**	**288**	P	**P**	**12 23 36.3**	**+4.5**
	comp=Z,1.0nm,0.9s,baz=126,slow=6.0,SNR=1.4						
	comp=Z,1.0nm,0.9s						

MAN 02 12:11:27.4, 6.°36N×123.°75E, h8km, mb4.3, ML3.1, MS2.8, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.98**	**30**⇓	*e*P	Pg	12 11 45.8	-0.5
CTBH				*i* S	Sb	12 12 00.3	+0.5
GSPH	**General Santos**	**1.22**	**103**⇑	*i*P	Pn	12 11 52.3	+1.4
GSPH				*i* S	Sn	12 12 11.4	+3.7
KCP	**Kidapawan**	**1.48**	**64**⇑	*i*P	Pn	12 11 53.1	-1.2
KCP				*i* S	Sg	12 12 15.1	+0.2
PAGZ	**Pagadian**	**1.52**	**346**⇓	*e*P	Pn	12 11 54.6	-0.4
PAGZ				*e*S	Sn	12 12 14.9	-0.1
DDMP	**Don Marcelino,**	**1.96**	**97**⇑	*e*P	Pn	12 12 01.4	+0.4
DDMP				*e*S	Sn	12 12 26.7	+0.9
BUKP	**Musuan**	**1.99**	**41**⇓	*e*P	Pn	12 12 01.7	+0.2
BUKP				*e*S	Sn	12 12 27.4	+0.9

MAN 02 12:14:09.7, 6.°44N×123.°78E, h11km, mb4.0, ML2.8, MS2.4, 6C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.76**	**84**⇑	*e*P	Pg	12 14 22.3	-2.2
SKMP				*e*S	Sg	12 14 31.3	-3.1
CTBH	**Cotabato--PC H**	**0.91**	**30**⇑	*i*P	Pg	12 14 26.8	-0.4
CTBH				*i* S	Sn	12 14 41.0	-0.5
GSPH	**General Santos**	**1.21**	**107**⇑	*i*P	Pg	12 14 33.5	+0.4
GSPH				*i* S	Sn	12 14 53.3	+4.1
KCP	**Kidapawan**	**1.42**	**66**⇑	*e*P	Pn	12 14 34.0	-1.5
KCP				*i* S	Sb	12 14 54.3	0.0
PAGZ	**Pagadian**	**1.46**	**344**⇑	*e*P	Pn	12 14 35.3	-0.8
PAGZ				*e*S	Sb	12 14 55.7	+0.2
BUKP	**Musuan**	**1.92**	**41**⇑	*e*P	Pn	12 14 42.6	+0.3
BUKP				*e*S	Sg	12 15 10.3	-1.1
DDMP	**Don Marcelino,**	**1.94**	**100**⇓	*e*P	Pn	12 14 42.8	0.0
DDMP				*e*S	Sb	12 15 08.6	-0.9

MAN 02 12:18:57.0, 6.°29N×123.°68E, h22km, mb4.1, ML2.9, MS2.6, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.89**	**75**	*e*S	Sb	12 19 18.7	-6.6
SKMP	**Bagumbayan, Su**	**0.89**	**75**⇓	*e*P	Pb	12 19 09.8	-4.0
PAGZ	**Pagadian**	**1.57**	**349**	*e*S	Sb	12 19 44.1	-0.8
PAGZ	**Pagadian**	**1.57**	**349**⇓	*e*P	Pn	12 19 23.2	-0.5
KCP	**Kidapawan**	**1.58**	**63**	*e*S	Sn	12 19 41.5	-2.0
KCP	**Kidapawan**	**1.58**	**63**⇑	*e*P	Pn	12 19 22.6	-1.1
DDMP	**Don Marcelino,**	**2.03**	**95**	*e*S	Sn	12 19 55.3	+0.6
DDMP	**Don Marcelino,**	**2.03**	**95**⇑	*e*P	Pn	12 19 30.8	+0.8
BUKP	**Musuan**	**2.09**	**41**	*e*S	Sn	12 19 57.4	+1.1
BUKP	**Musuan**	**2.09**	**41**⇓	*e*P	Pn	12 19 31.6	+0.7

MAN 02 12:26:28.7, 6.°31N×123.°67E, h17km, mb4.1, ML2.9, MS2.5, 6C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.89**	**77**⇑	*e*P	Pb	12 26 42.7	-3.0
SKMP				*e*S	Sb	12 26 51.1	-6.2
CTBH	**Cotabato--PC H**	**1.07**	**32**⇑	*i*P	Pb	12 26 47.3	-1.4
CTBH				*i* S	Sb	12 27 01.2	-1.3
GSPH	**General Santos**	**1.29**	**100**⇑	*e*P	Pg	12 26 53.9	+0.2
GSPH				*i* S	Sg	12 27 13.6	+3.1
PAGZ	**Pagadian**	**1.55**	**349**⇑	*e*P	Pn	12 26 55.6	+0.1
PAGZ				*e*S	Sb	12 27 15.9	-0.5
KCP	**Kidapawan**	**1.57**	**64**⇑	*i*P	Pn	12 26 54.4	-1.4
KCP				*i* S	Sn	12 27 15.0	-0.8
ZCP	**Zamboanga City**	**1.70**	**291**⇓	*i*P	Pg	12 27 16.9	+15
ZCP				*i* S	Sb	12 27 21.9	+1.3
DDMP	**Don Marcelino,**	**2.04**	**96**⇓	*e*P	Pn	12 27 02.2	0.0
DDMP				*e*S	Sn	12 27 28.7	+1.3
BUKP	**Musuan**	**2.08**	**41**⇑	*e*P	Pn	12 27 03.0	+0.1
BUKP				*e*S	Sn	12 27 29.6	+1.1

*NEIC **02** 12:29:25.1±2.2, 37.°38S±0.°09×179.°68E±0.°10, h10km±2km, mb4.5/14, Error ellipse: s-maj=17.9km s-min=8.1km az=41.0*
*IDC **02** 12:29:27.1±1.2, 36.°76S×179.°06E, h0km, mb4.2/6, mbtmp4.2/7, ML4.3/1, MS3.0/2, Error ellipse: s-maj=33.0km s-min=27.8km az=46.0*
*NOU **02** 12:29:28.3, 37.°22S×179.°64E, h110km, MLv4.8/9, Off E. Coast of N. Island, N.Z.*
*WEL **02** 12:29:31.5±1.1, 37.°S±4.°×17.°9E±.°, h24km±10km, M4.1/72, ML4.3/74, MLv4.1/72, Error ellipse: s-maj=0.0km s-min=0.0km az=81.2*
ISC 02 12:29:29.8±2.3, 37.°16S±0.°06×179.°31E±0.°08, h23km±14km, n166, σ1§51/166, mb4.5/13, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.90**	**243**		**Pb**	**12 29 46.1**	**-0.5**
MXZ	**Matakaoa Point**	**0.90**	**243**	P	**Pb**	**12 29 46.3**	**-0.3**
MXZ				S	**Sb**	**12 29 56.8**	**-1.3**
WMGZ	**Waiomatatini S**	**0.97**	**227**	P	**Pn**	**12 29 49.6**	**+1.6**
WMGZ				S	**Sn**	**12 30 02.7**	**+1.7**
PKGZ	**Pakihiroa**	**1.22**	**233**	P	**Pn**	**12 29 52.7**	**+1.1**
PKGZ				S	**Sb**	**12 30 08.0**	**+0.4**
PUZ	**Puketiti**	**1.24**	**222**	P	**Pb**	**12 29 53.2**	**+0.7**
PUZ				S	**Sb**	**12 30 09.4**	**+1.4**
HAZ	**Te Kaha**	**1.35**	**243**	P	**Pn**	**12 29 53.3**	**+0.1**
HAZ				S	**Sn**	**12 30 11.0**	**+0.4**
TWGZ	**Tauwhareparae**	**1.47**	**226**	P	**Pb**	**12 29 56.5**	**+0.2**
TWGZ				S	**Sb**	**12 30 15.0**	**+0.4**
RUGZ	**Raukumara Rang**	**1.53**	**238**	P	**Pb**	**12 29 57.5**	**0.0**
CNGZ	**Carnagh Statio**	**1.58**	**213**	P	**Pb**	**12 29 58.9

BHHZ	**Black Hill Sta**	**3.46 227**	P	**Pn**	**12 30 22.6**	**+0.4**
ETVZ	**East Tongariro**	**3.46 234**	P	**Pn**	**12 30 22.7**	**+0.4**
ETAZ	**East Tamaki Re**	**3.51 272**	P	**Pn**	**12 30 23.4**	**+0.4**
NNVZ	**North Ngauruho**	**3.52 235**	P	**Pn**	**12 30 24.1**	**+1.0**
WTVZ	**West Tongariro**	**3.52 235**	P	**Pn**	**12 30 24.3**	**+1.1**
SNVZ	**South Ngauruho**	**3.53 234**	P	**Pn**	**12 30 24.3**	**+0.9**
NGZ	**Ngauruhoe**	**3.55 234**	P	**Pn**	**12 30 23.9**	**+0.3**
MBAZ	**Motutapu North**	**3.56 275**	P	**Pn**	**12 30 24.3**	**+0.8**
MOVZ	**Moawhango**	**3.59 230**	P	**Pn**	**12 30 24.0**	**0.0**
TWVZ	**Taurewa**	**3.60 237**	P	**Pn**	**12 30 25.2**	**+0.9**
FWVZ	**Far West T-bar**	**3.62 234**	P	**Pn**	**12 30 25.4**	**+0.7**
ABAZ	**Army Bay**	**3.63 277**	P	**Pn**	**12 30 26.4**	**+1.8**
WNVZ	**Wahianoa**	**3.64 232**	P	**Pn**	**12 30 25.1**	**+0.3**
TRVZ	**Turoa**	**3.65 233**	P	**Pn**	**12 30 25.8**	**+0.7**
EPAZ	**Eden Park BICE**	**3.67 273**	P	**Pn**	**12 30 26.2**	**+1.2**
WPHZ	**Waipukurau**	**3.67 217**	P	**Pn**	**12 30 24.4**	**-0.7**
PNHZ	**Pukenui**	**3.67 221**	P	**Pn**	**12 30 24.6**	**-0.7**
HBAZ	**Herne Bay Bore**	**3.68 273**	P	**Pn**	**12 30 26.6**	**+1.4**
AWAZ	**Awhitu Peninsu**	**3.73 270**	P	**Pn**	**12 30 26.8**	**+0.8**
PRHZ	**Porangahau**	**3.74 213**	P	**Pn**	**12 30 25.3**	**-0.8**
HIZ	**Hauiti**	**3.78 248**		**Pn**	**12 30 27.9**	**+1.4**
HIZ	**Hauiti**	**3.78 248**	P	**Pn**	**12 30 28.3**	**+1.8**
HIZ	**Hauiti**	**3.78 248**	P	**Pn**	**12 30 28.4**	**+1.8**
PKVZ	**Pokaka**	**3.78 235**	P	**Pn**	**12 30 26.2**	**-0.4**
WTAZ	**Waiatarua**	**3.80 272**	P	**Pn**	**12 30 27.7**	**+0.8**
RVAZ	**Riverhead Bore**	**3.81 274**	P	**Pn**	**12 30 27.9**	**+0.9**
TSZ	**Takapari Road**	**3.91 221**	P	**Pn**	**12 30 27.6**	**-0.8**
ANWZ	**Angora Road**	**3.97 213**	P	**Pn**	**12 30 28.7**	**-0.6**
DVHZ	**Dannevirke**	**3.98 217**	P	**Pn**	**12 30 28.6**	**-0.9**
WCZ	**Waipu Caves**	**4.18 285**	P	**Pn**	**12 30 32.9**	**+0.8**
BFZ	**Birch Farm**	**4.25 213**	Pn	**Pn**	**12 30 31.4**	**-1.7**
BFZ	**Birch Farm**	**4.25 213**	P	**Pn**	**12 30 31.7**	**-1.4**
POWZ	**Post Office Ro**	**4.25 220**	P	**Pn**	**12 30 33.1**	**0.0**
WAZ	**Wanganui**	**4.27 231**	P	**Pn**	**12 30 33.7**	**+0.3**
PRWZ	**Pori Road**	**4.28 217**	P	**Pn**	**12 30 32.9**	**-0.6**
LREZ	**Lake Rotokare**	**4.49 238**	P	**Pn**	**12 30 38.0**	**+1.6**
NEZ	**North Egmont**	**4.62 241**	P	**Pn**	**12 30 41.5**	**+3.3**
PKE	**Pukeiti**	**4.66 243**	P	**Pn**	**12 30 42.2**	**+3.4**
KHEZ	**Kahui Hut**	**4.68 241**	P	**Pn**	**12 30 41.9**	**+2.8**
NBEZ	**Newall Road No**	**4.78 242**	P	**Pn**	**12 30 44.1**	**+3.8**
OUZ	**Omahuta**	**5.01 291**	Pn	**Pn**	**12 30 45.0**	**+1.4**
OUZ	**Omahuta**	**5.01 291**	P	**Pn**	**12 30 44.9**	**+1.3**
OUZ	**Omahuta**	**5.01 291**	P	**Pn**	**12 30 44.8**	**+1.3**
MSWZ	**Moikau Station**	**5.29 215**	Pn	**Pn**	**12 30 44.4**	**-3.0**
PLWZ	**Palliser**	**5.41 214**	Pn	**Pn**	**12 30 45.7**	**-3.4**
SNZO	**South Karori**	**5.47 219**	Pn	**Pn**	**12 30 46.8**	**-3.1**
TUWZ	**Tuamarina**	**5.96 223**	Pn	Pn	12 30 52.3	-4.3
NNZ	**Nelson**	**6.13 227**	Pn	**Pn**	**12 30 56.3**	**-2.7**
BSWZ	**Blackbirch Sta**	**6.20 221**	Pn	**Pn**	**12 30 56.3**	**-3.5**
QRZ	**Quartz Range**	**6.43 233**	Pn	**Pn**	**12 31 00.8**	**-2.1**
QRZ	**Quartz Range**	**6.43 233**	P	**Pn**	**12 31 00.9**	**-2.1**
THZ	**Tophouse**	**6.76 225**	Pn	**Pn**	**12 31 04.8**	**-2.8**
KHZ	**Kahutara**	**6.88 218**	Pn	**Pn**	**12 31 07.2**	**-2.0**
KHZ	**Kahutara**	**6.88 218**	P	**Pn**	**12 31 08.3**	**-0.8**
CTZ	**Chatham Island**	**7.26 156**	P	**Pn**	**12 31 17.6**	**+3.1**
LTZ	**Lake Taylor**	**7.79 222**	Pn	Pn	12 31 16.8	-5.0
MQZ	**McQueen's Vall**	**8.28 216**	Pn	Pn	12 31 24.1	-4.2
OXZ	**Oxford**	**8.29 220**	Pn	**Pn**	**12 31 24.9**	**-3.8**
RPZ	**Rata Peaks**	**9.08 221**	Pn	**Pn**	**12 31 36.2**	**-3.2**
	1.0nm,0.3s,baz=33,slow=20,SNR=1.3					
RPZ			Sn	Sn	12 33 06.0	-15
	3.9nm,0.3s,baz=323,slow=23,SNR=16					
RPZ	**Rata Peaks**	**9.08 221**	Pn	Pn	12 31 34.8	-4.6
RPZ	**Rata Peaks**	**9.08 221**	P	**Pn**	**12 31 39.0**	**-0.4**
LBZ	**Lake Benmore**	**9.99 221**	Pn	Pn	12 31 47.4	-4.5
ODZ	**Otahua Downs**	**10.23 217**	Pn	Pn	12 31 50.9	-4.3
ODZ	**Otahua Downs**	**10.23 217**	P	**Pn**	**12 31 53.3**	**-1.8**
TOO	**Toolangi**	**26.80 259**	P	**P**	**12 35 08.0**	**-0.2**
TOO			IAmb	IAmb	12 35 48.7	
	comp=Z,14nm,1.2s					
STKA	**Stephens Creek**	**31.38 268**	P	**P**	**12 35 46.5**	**-2.4**
	comp=Z,1.5nm,0.7s,baz=96,slow=10,SNR=2.4					
	comp=Z,1.5nm,0.7s					
CTA	**Charters Tower**	**33.41 291**	P	**P**	**12 36 04.8**	**-2.1**
	comp=Z,1.1nm,0.5s,baz=134,slow=11,SNR=2.1					
	comp=Z,1.1nm,0.5s					
CTAO	**Charters Tower**	**33.41 291**	P	**P**	**12 36 05.7**	**-1.1**
CTAO			IAmb	IAmb	12 36 23.8	
	comp=Z,11nm,1.3s					
BBOO	**Buckleboo**	**35.48 264**	P	**P**	**12 36 24.3**	**-0.3**
COEN	**Coen**	**39.60 296**	P	**P**	**12 36 59.9**	**+0.3**
COEN			IAmb	IAmb	12 37 00.6	
	comp=Z,17nm,0.9s					
AS31	**Alice Springs**	**41.03 276**	P	**P**	**12 37 08.9**	**-2.5**
ASAR	**Alice Springs**	**41.03 276**	P	**P**	**12 37 10.8**	**-0.6**
	comp=Z,5.8nm,0.6s,baz=120,slow=8.1,SNR=117					
ASAR			PcP	**PcP**	**12 39 12.1**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=135,slow=3.5,SNR=1.9					
	comp=Z,5.8nm,0.6s					
ASAR	**Alice Springs**	**41.03 276**	P	**P**	**12 37 09.1**	**-2.4**
RABL	**Rabaul**	**41.18 316**	P	**P**	**12 37 12.5**	**-0.2**
WR0	**Warramunga Arr**	**42.47 281**	P	**P**	**12 37 22.6**	**-0.7**
WR0			IAmb	IAmb	12 37 22.8	
	comp=Z,4.8nm,0.7s					
FORT	**Forrest**	**42.56 263**	P	**P**	**12 37 23.0**	**-0.8**
WB2	**Warramunga Arr**	**42.63 281**	P	**P**	**12 37 23.6**	**-0.9**
WB2			IAmb	IAmb	12 37 24.4	
	comp=Z,7.4nm,0.7s					
WRAB	**Tennant Creek**	**42.64 281**	P	**P**	**12 37 23.8**	**-0.9**
WRAB			IAmb	IAmb	12 37 24.4	
	comp=Z,6.3nm,0.7s					
WRA	**Warramunga Arr**	**42.64 281**	P	**P**	**12 37 23.3**	**-1.3**
	comp=Z,5.7nm,0.6s,baz=121,slow=7.4,SNR=99					
WRA			PcP	**PcP**	**12 39 17.5**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=125,slow=3.0,SNR=4.8					
	comp=Z,5.7nm,0.6s					
WRA	**Warramunga Arr**	**42.64 281**	P	**P**	**12 37 23.0**	**-1.6**
WB0	**Warramunga Arr**	**42.69 281**	P	**P**	**12 37 23.3**	**-1.8**
WB0			IAmb	IAmb	12 37 24.9	
	comp=Z,7.5nm,0.7s					
FITZ	**Fitzroy Crossi**	**50.52 277**	LR	LR	12 59 55.1	
	comp=Z,40nm,19.0s,baz=38,slow=36					
FITZ	**Fitzroy Crossi**	**50.52 277**	P	**P**	**12 38 26.0**	**-0.4**
FITZ			IAmb	IAmb	12 38 27.1	
	comp=Z,5.6nm,0.8s					
QSPA	**South Pole Qui**	**52.97 180**	P	**P**	**12 38 48.6**	**+4.3**
	comp=Z,0.7nm,0.7s,baz=36,slow=14,SNR=6.5					
	comp=Z,0.7nm,0.7s					
QSPA	**South Pole Qui**	**52.97 180**	P	**P**	**12 38 48.9**	**+4.6**
H03S2	**Juan Fernandez**	**78.59 124**	T	T	14 07 33.0	
	baz=230					
H03S1	**Juan Fernandez**	**78.60 124**	T	T	14 07 19.5	
	baz=230					
H03S3	**Juan Fernandez**	**78.61 124**	T	T	14 07 47.7	
	baz=230					
H03N3	**Juan Fernandez**	**78.82 123**	T	T	14 08 17.8	
	baz=234,slow=72,SNR=11					
H03N2	**Juan Fernandez**	**78.83 123**	T	T	14 08 17.3	
	baz=234,slow=72,SNR=7.0					
H03N1	**Juan Fernandez**	**78.84 123**	T	T	14 08 12.1	
	baz=234,slow=72,SNR=8.8					
CMAR	**Chiang Mai Arr**	**93.58 290**	P	**P**	**12 42 43.0**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=133,slow=5.3,SNR=1.4					
	comp=Z,0.6nm,0.8s					
KURBB	**Kurchatov Arra**	**123.98 311**	PKP	**PKPdf**	**12 48 24.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=122,slow=2.3,SNR=1.5					
SPITS	**Spitsbergen Ar**	**138.25 355**	PKP	**PKPdf**	**12 48 50.6**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=42,slow=2.3,SNR=4.5					
ARCES	**ARCESS Array B**	**144.60 344**	PKP	**PKPab**	**12 49 03.0**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=336,slow=2.7,SNR=4.6					
FINES	**FINESS Array B**	**150.49 334**	PKPbc	**PKPbc**	**12 49 18.4**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=35,slow=3.5,SNR=9.7					
TORD	**Torodi Ar. Bea**	**155.99 186**	PKPab	**PKPab**	**12 49 51.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=161,slow=3.5,SNR=2.0					

MAN 02 12:41:44.8, 6°.31N×123°.68E, h18km, mb4.3, ML3.1, MS2.8, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.88**	**77**↓↓	*eP*	Pb	12 41 58.1	-3.5
SKMP				*eS*	Sb	12 42 09.0	-4.0
PAGZ	**Pagadian**	**1.55**	**349**↓↓	*eP*	Pn	12 42 11.7	+0.1
PAGZ				*eS*	Sn	12 42 31.6	+0.3
KCP	**Kidapawan**	**1.56**	**64**↑↑	*eP*	Pn	12 42 01.5	-10
KCP				*i* S	Sn	12 42 21.9	-10
DDMP	**Don Marcelino,**	**2.03**	**96**↑↑	*eP*	Pn	12 42 19.0	+0.9
DDMP				*eS*	Sn	12 42 44.1	+1.1
BUKP	**Musuan**	**2.07**	**41**↓↓	*eP*	Pn	12 42 18.9	+0.1
BUKP				*eS*	Sn	12 42 45.3	+1.1

2016 SEP

*NOU **02** 12:41:41.4, 37°.03S×179°.79W, h0km, mb4.4/7, East of North Island, N.Z.*
*WEL **02** 12:41:53.3±1.0, 37°.5S±4°.×17°.9E±°, h25km±11km, M3.6/39, ML3.9/42, MLv3.6/39, Error ellipse: s-maj=0.0km s-min=0.0km az=81.1*
ISC 02 12:41:49.5±2.7, 37°.12S±0°.07×179°.4E±0°.1, h15km±10km, n63, σ1°35/75, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.98**	**243**	P	**Pn**	**12 42 08.7**	**+0.1**
MXZ				S	Sb	12 42 19.6	-1.2
WMGZ	**Waiomatatini S**	**1.05**	**228**	P	**Pg**	**12 42 11.9**	**+2.1**
WMGZ				S	Sn	12 42 24.8	+0.9
PKGZ	**Pakihiroa**	**1.30**	**234**	P	**Pg**	**12 42 15.2**	**+0.7**
PKGZ				S	Sn	12 42 30.4	+0.1
PUZ	**Puketiti**	**1.31**	**224**	P	**Pg**	**12 42 15.9**	**+1.2**
PUZ				S	Sg	12 42 32.4	+0.6
HAZ	**Te Kaha**	**1.44**	**243**	P	**Pg**	**12 42 16.5**	**-0.6**
HAZ				S	Sn	12 42 33.8	+0.4
TWGZ	**Tauwhareparae**	**1.54**	**227**	P	**Pg**	**12 42 18.3**	**-0.8**
TWGZ				S	Sb	12 42 38.1	+1.1
RUGZ	**Raukumara Rang**	**1.61**	**238**	P	**Pg**	**12 42 19.8**	**-0.6**
RUGZ				S	Sn	12 42 38.5	+0.6
CNGZ	**Carnagh Statio**	**1.66**	**215**	P	**Pg**	**12 42 21.1**	**-0.2**
TKGZ	**Te Karaka**	**1.80**	**223**	P	**Pb**	**12 42 21.9**	**-0.2**
TKGZ				S	Sn	12 42 42.9	+0.4
WIZ	**White Island**	**1.81**	**256**	P	**Pn**	**12 42 20.0**	**-0.1**
WIZ				S	Sn	12 42 41.6	-1.1
RIGZ	**Rimuhau**	**2.04**	**219**	P	**Pb**	**12 42 25.2**	**-1.1**
RIGZ				S	Sn	12 42 48.8	+0.2
WHRZ	**Whale Island**	**2.06**	**249**	P	**Pb**	**12 42 25.7**	**-0.9**
RAGZ	**Rawiri**	**2.09**	**228**	P	**Pb**	**12 42 25.9**	**-1.1**
RAGZ				S	Sn	12 42 49.4	-0.3
URZ	**Urewera**	**2.14**	**237**	P	**Pb**	**12 42 26.4**	**-1.5**
PRGZ	**Paritu Road**	**2.16**	**213**	P	**Pb**	**12 42 26.8**	**-1.5**
PRGZ				S	Sn	12 42 51.9	+0.5
EDRZ	**Edgecumbe**	**2.33**	**244**	P	**Pn**	**12 42 28.9**	**+1.6**
KNZ	**Kokohu**	**2.33**	**215**	P	**Pn**	**12 42 28.4**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.34**	**210**	P	**Pb**	**12 42 29.3**	**-2.1**
OPRZ	**Ohinepanea**	**2.38**	**252**	P	**Pn**	**12 42 28.7**	**+0.9**
MUGZ	**Murupara**	**2.48**	**236**	P	**Pn**	**12 42 30.9**	**+1.6**
TARZ	**Mount Tarawera**	**2.55**	**243**	P	**Pb**	**12 42 32.9**	**-2.1**
RAHZ	**Arahi**	**2.56**	**225**	P	**Pb**	**12 42 32.8**	**-2.2**
RRRZ	**Republican Roa**	**2.59**	**241**	P	**Pn**	**12 42 32.6**	**+1.8**
WHHZ	**Waihua**	**2.59**	**221**	P	**Pb**	**12 42 32.6**	**+1.7**
MTHZ	**Maungataniwha**	**2.66**	**229**	P	**Pb**	**12 42 34.1**	**-2.7**
KARZ	**Kaharoa**	**2.66**	**249**	P	**Pn**	**12 42 32.7**	**+0.9**
PRRZ	**Plateau Road**	**2.75**	**239**	P	**Pn**	**12 42 34.3**	**+1.3**
ALRZ	**Allen Road**	**2.81**	**238**	P	**Pn**	**12 42 35.1**	**+1.2**
ARHZ	**Aropaoanui**	**2.85**	**221**	P	**Pn**	**12 42 36.3**	**+1.9**
MRHZ	**Matea Rd**	**2.91**	**233**	P	**Pn**	**12 42 37.3**	**+2.0**
KUZ	**Kuaotunu**	**2.97**	**276**	P	**Pn**	**12 42 36.0**	**0.0**
BKZ	**Black Stump Fm**	**3.07**	**227**	P	**Pn**	**12 42 39.1**	**+1.7**
BKZ	**Black Stump Fm**	**3.07**	**227**	P	**Pn**	**12 42 38.8**	**+1.4**
CKHZ	**Cape Kidnapper**	**3.12**	**215**	P	**Pn**	**12 42 39.1**	**+1.0**
TOZ	**Tahuroa Road**	**3.16**	**258**	P	**Pn**	**12 42 39.1**	**+0.5**
KWHZ	**Kaweka Forest**	**3.28**	**225**	P	**Pn**	**12 42 41.8**	**+1.5**
GRZ	**Great Barrier**	**3.29**	**284**	P	**Pn**	**12 42 41.2**	**+0.8**
KAHZ	**Kahuranaki**	**3.32**	**216**	P	**Pn**	**12 42 41.4**	**+0.5**
MKAZ	**Moumakai**	**3.39**	**269**	P	**Pn**	**12 42 42.3**	**+0.6**
KRHZ	**Kereru**	**3.46**	**223**	P	**Pn**	**12 42 44.2**	**+1.3**
PXZ	**Pawanui**	**3.52**	**214**	P	**Pn**	**12 42 44.0**	**+0.4**
BHHZ	**Black Hill Sta**	**3.53**	**227**	P	**Pn**	**12 42 45.1**	**+1.7**
ETAZ	**East Tamaki Re**	**3.58**	**271**	P	**Pn**	**12 42 45.5**	**+1.0**
NNVZ	**North Ngauruho**	**3.60**	**235**	P	**Pn**	**12 42 47.2**	**+2.4**
MBAZ	**Motutapu North**	**3.62**	**274**	P	**Pn**	**12 42 46.2**	**+1.2**
NGZ	**Ngauruhoe**	**3.63**	**234**	P	**Pn**	**12 42 46.7**	**+1.5**
MOVZ	**Moawhango**	**3.67**	**230**	P	**Pn**	**12 42 47.3**	**+1.6**
WNVZ	**Wahianoa**	**3.72**	**233**	P	**Pb**	**12 42 51.6**	**-3.3**
EPAZ	**Eden Park BICE**	**3.74**	**272**	P	**Pn**	**12 42 48.2**	**+1.7**
WPHZ	**Waipukurau**	**3.74**	**217**	P	**Pn**	**12 42 46.9**	**+0.3**
HBAZ	**Herne Bay Bore**	**3.75**	**273**	P	**Pn**	**12 42 48.4**	**+1.7**
PNHZ	**Pukenui**	**3.75**	**221**	P	**Pn**	**12 42 47.1**	**+0.4**
AWAZ	**Awhitu Peninsu**	**3.81**	**269**	P	**Pn**	**12 42 48.8**	**+1.3**
PRHZ	**Porangahau**	**3.81**	**214**	P	**Pn**	**12 42 47.8**	**+0.2**
HIZ	**Hauiti**	**3.86**	**248**	P	**Pn**	**12 42 50.2**	**+2.0**
WTAZ	**Waiatarua**	**3.87**	**271**	P	**Pn**	**12 42 49.9**	**+1.5**
RVAZ	**Riverhead Bore**	**3.88**	**274**	P	**Pn**	**12 42 49.7**	**+1.2**
TSZ	**Takapari Road**	**3.98**	**222**	P	**Pn**	**12 42 50.0**	**+0.1**
DVHZ	**Dannevirke**	**4.06**	**218**	P	**Pn**	**12 42 51.0**	**+0.1**
BFZ	**Birch Farm**	**4.32**	**214**	P	**Pn**	**12 42 54.2**	**-0.4**
OUZ	**Omahuta**	**5.07**	**290**	P	**Pn**	**12 43 06.5**	**+1.7**
QRZ	**Quartz Range**	**6.50**	**233**	P	**Pn**	**12 43 26.8**	**+2.2**
ODZ	**Otahua Downs**	**10.30**	**217**	P	**Pn**	**12 44 16.9**	**+0.2**

WEL 02 12:44:51.4±1.4, 37°.5S×177°.9E±°, h14km±7km, M3.2/30, ML3.5/37, MLv3.2/30, Error ellipse: s-maj=0.0km s-min=0.0km az=85.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**240**	P	**Pg**	12 45 06.3	-0.6
MXZ				S	Sg	12 45 15.6	-1.9
WMGZ	**Waiomatatini S**	**0.89**	**223**	P	**Pn**	12 45 09.8	+0.2
WMGZ				S	Sn	12 45 22.1	-0.2
PKGZ	**Pakihiroa**	**1.13**	**230**	P	**Pb**	12 45 13.0	0.0
PKGZ				S	Sb	12 45 27.8	+0.2
PUZ	**Puketiti**	**1.16**	**219**	P	**Pn**	12 45 13.4	0.0
PUZ				S	Sg	12 45 28.7	-0.3
HAZ	**Te Kaha**	**1.26**	**242**	P	**Pb**	12 45 15.2	+0.2
HAZ				S	Sn	12 45 31.4	+0.1
TWGZ	**Tauwhareparae**	**1.39**	**223**	P	**Pb**	12 45 17.1	-0.1
TWGZ				S	Sg	12 45 35.8	-0.3
RUGZ	**Raukumara Rang**	**1.44**	**236**	P	**Pn**	12 45 17.6	+0.4
RUGZ				S	Sn	12 45 36.0	0.0
CNGZ	**Carnagh Statio**	**1.52**	**210**	P	**Pb**	12 45 19.2	-0.3
TKGZ	**Te Karaka**	**1.65**	**219**	P	**Pn**	12 45 20.0	-0.1
MWZ	**Matawai**	**1.75**	**228**	P	**Pn**	12 45 21.9	+0.3
RIGZ	**Rimuhau**	**1.90**	**216**	P	**Pn**	12 45 23.6	+0.1
RAGZ	**Rawiri**	**1.93**	**226**	P	**Pn**	12 45 24.2	+0.2
URZ	**Urewera**	**1.97**	**236**	P	**Pn**	12 45 24.8	+0.3
PRGZ	**Paritu Road**	**2.03**	**210**	P	**Pn**	12 45 25.3	-0.1
SNGZ	**Shannon Statio**	**2.17**	**221**	P	**Pn**	12 45 27.0	-0.2
OPRZ	**Ohinepanea**	**2.19**	**251**	P	**Pn**	12 45 28.0	+0.4
KNZ	**Kokohu**	**2.20**	**212**	P	**Pn**	12 45 26.7	-0.9
MHGZ	**Mahia Peninsul**	**2.22**	**206**	P	**Pn**	12 45 27.7	-0.2
RTZ	**Ruatahuna**	**2.26**	**230**	P	**Pn**	12 45 28.7	+0.1
MUGZ	**Murupara**	**2.31**	**235**	P	**Pn**	12 45 29.0	-0.2
TARZ	**Mount Tarawera**	**2.37**	**242**	P	**Pn**	12 45 30.8	+0.8
TGRZ	**Tauranga**	**2.39**	**255**	P	**Pn**	12 45 30.4	+0.2
RAHZ	**Arahi**	**2.41**	**223**	P	**Pn**	12 45 30.2	-0.2
KARZ	**Kaharoa**	**2.48**	**249**	P	**Pn**	12 45 33.0	+1.5
MTHZ	**Maungataniwha**	**2.50**	**227**	P	**Pn**	12 45 32.0	+0.3
ALRZ	**Allen Road**	**2.64**	**237**	P	**Pn**	12 45 33.7	-0.1
NMHZ	**Naumai**	**2.68**	**223**	P	**Pn**	12 45 34.4	0.0
ARHZ	**Aropaoanui**	**2.71**	**219**	P	**Pn**	12 45 34.1	-0.6
MRHZ	**Matea Rd**	**2.74**	**232**	P	**Pn**	12 45 35.1	-0.1
KUZ	**Kuaotunu**	**2.80**	**278**	P	**Pn**	12 45 34.3	-1.6
BKZ	**Black Stump Fm**	**2.91**	**226**	P	**Pn**	12 45 37.0	-0.5
TOZ	**Tahuroa Road**	**2.98**	**258**	P	**Pn**	12 45 37.6	-0.7
GRZ	**Great Barrier**	**3.12**	**286**	P	**Pn**	12 45 40.6	+0.3
KWHZ	**Kaweka Forest**	**3.13**	**223**	P	**Pn**	12 45 39.2	-1.2
KAHZ	**Kahuranaki**	**3.19**	**214**	P	**Pn**	12 45 39.6	-1.6
MKAZ	**Moumakai**	**3.21**	**270**	P	**Pn**	12 45 40.3	-1.2
KRHZ	**Kereru**	**3.31**	**221**	P	**Pn**	12 45 42.0	-0.9
BHHZ	**Black Hill Sta**	**3.37**	**226**	P	**Pn**	12 45 43.3	-0.5
ETAZ	**East Tamaki Re**	**3.41**	**272**	P	**Pn**	12 45 44.1	-0.1
MBAZ	**Motutapu North**	**3.45**	**275**	P	**Pn**	12 45 45.5	+0.7
NGZ	**Ngauruhoe**	**3.46**	**233**	P	**Pn**	12 45 44.4	-0.7
MOVZ	**Moawhango**	**3.50**	**229**	P	**Pn**	12 45 44.9	-0.7
HBAZ	**Herne Bay Bore**	**3.57**	**274**	P	**Pn**	12 45 47.8	+1.3
RVAZ	**Riverhead Bore**	**3.70**	**275**	P	**Pn**	12 45 47.6	-0.6
TSZ	**Takapari Road**	**3.83**	**220**	P	**Pn**	12 45 48.0	-2.1
WCZ	**Waipu Caves**	**4.08**	**286**	P	**Pn**	12 45 53.4	0.0
WAZ	**Wanganui**	**4.18**	**231**	P	**Pn**	12 45 54.9	0.0
LREZ	**Lake Rotokare**	**4.40**	**237**	P	**Pn**	12 46 01.2	+3.4
MRZ	**Mangatainoka R**	**4.48**	**218**	P	**Pn**	12 46 56.5	-2.5
OUZ	**Omahuta**	**4.91**	**292**	P	**Pn**	12 46 05.3	+0.4

*IDC **02** 12:52:27.7±0.8, 6°.14N×123°.86E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=26.7km s-min=14.6km az=69.0*
*MAN **02** 12:52:28.9, 6°.38N×123°.74E, h17km, mb5.0, ML3.9, MS3.9 MAN INTENSITY III - KALAMANSIG & LEBAK SULTAN KUDARAT.*
*NEIC **02** 12:52:29.6±1.6, 6°.17N±0°.08×123°.81E±0°.09, h10km±1km, mb4.1/11, Error ellipse: s-maj=17.0km s-min=10.3km az=308.0*
ISC 02 12:52:28.7±0.7, 6°.36N±0°.04×123°.79E±0°.04, h10km, n37, σ1°82/47, mb4.1/14, 7C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.76**	**78**↑↑	*eP*	**Pg**	**12 52 42.1**	**-1.3**
SKMP				*eS*	**Sg**	**12 52 51.1**	**-2.4**
CTBH	**Cotabato--PC H**	**0.97**	**28**↑↑	*iP*	**Pg**	**12 52 46.7**	**-0.7**
CTBH				*i* S	**Sb**	**12 53 00.8**	**+0.4**
GSPH	**General Santos**	**1.18**	**103**↓↓	*iP*	**Pg**	**12 52 53.1**	**+1.6**
GSPH				*i* S	**Sn**	**12 53 13.2**	**+5.5**
KCP	**Kidapawan**	**1.44**	**63**↑↑	*iP*	**Pn**	**12 52 54.0**	**-1.0**
KCP				*i* S	**Sb**	**12 53 13.8**	**-0.4**
PAGZ	**Pagadian**	**1.53**	**345**↑↑	*eP*	**Pn**	**12 52 54.7**	**-1.4**
PAGZ				*eS*	**Sn**	**12 53 14.7**	**-1.5**
DAV	**Davao City (W)**	**1.91**	**68**	Pn	**Pb**	**12 53 02.4**	**-1.3**
	60nm,0.3s,baz=292,slow=19,SNR=6.6						
DAV				Sn	**Sn**	**12 53 26.1**	**+0.6**
	115nm,0.3s,baz=220,slow=16,SNR=3.6						
DAV				LR	LR	12 53 56.1	
	comp=Z,903nm,18.2s,baz=178,slow=46						
DAV	**Davao City (W)**	**1.91**	**68**		**Pb**	**12 53 03.0**	**-0.7**
DDMP	**Don Marcelino,**	**1.93**	**97**↓↓	*eP*	**Pb**	**12 53 01.8**	**-2.1**
DDMP				*eS*	**Sb**	**12 53 28.2**	**+0.2**
BUKP	**Musuan**	**1.97**	**40**↑↑	*eP*	**Pb**	**12 53 02.8**	**-1.9**
BUKP				*eS*	**Sb**	**12 53 28.0**	**-1.3**
MATI	**Mati**	**2.52**	**76**↓↓	*eP*	**Pn**	**12 53 09.7**	**0.0**
MATI				*eS*	**Sn**	**12 53 41.1**	**+0.6**
BIPH	**Bislig**	**3.13**	**54**↑↑	*eP*	**Pn**	**12 53 18.0**	**-0.1**
BIPH				*eS*	**Sn**	**12 53 57.3**	**+1.8**
BUTP	**Butuan**	**3.16**	**35**↑↑	*eP*	**Pb**	**12 53 24.3**	**-0.8**
BUTP				*eS*	**Sg**	**12 54 10.1**	**-0.3**
MYLDM	**Lahad Datu**	**5.39**	**258**		**Pn**	**12 53 50.1**	**+0.9**
TOLI2	**Tolitoli**	**6

CO06				*i* S	**Sn**	**13 04 16.8**	**-0.5**
CO06				IAML		13 04 22.7	
	comp=N,880nm,0.6s						
CO06	**Fray Jorge**	**1.51**	**12**	⇑*i* P	**Pn**	**13 03 56.0**	**-0.9**
CO06				*i* S	**Sg**	**13 04 19.0**	**+1.6**
CO06				IAML		13 04 22.7	
	comp=N,886nm,0.4s						
MT05	**Renca**	**1.62**	**140**		**Pb**	**13 03 59.2**	**-0.3**
MT05	**Renca**	**1.62**	**140**	⇓*i* P	**Pb**	**13 03 59.2**	**-0.3**
MT05				*i* S	**Sn**	**13 04 19.6**	**-0.4**
MT05				IAML		13 04 24.1	
	comp=E,4μm,0.4s						
MT01	**Popeta**	**1.81**	**160**	⇑*i* P	**Pn**	**13 04 01.0**	**-0.1**
MT01				IAML		13 04 31.9	
	comp=N,804nm,0.3s						
MT01	**Popeta**	**1.81**	**160**	⇑*i* P	**Pn**	**13 04 01.1**	**+0.1**
MT01				*i* S	**Sb**	**13 04 26.0**	**+0.1**
MT01				IAML		13 04 31.9	
	comp=N,799nm,0.3s						
MT09	**Talagante**	**1.82**	**153**	*e*P	**Pn**	**13 04 01.9**	**+0.6**
MT09				*i* S	**Sb**	**13 04 25.6**	**-0.7**
MT09				IAML		13 04 31.7	
MT03	**Universidad Ad**	**1.83**	**137**	⇑*i* P	**Pn**	**13 04 02.1**	**+0.7**
MT03				*i* S	**Sn**	**13 04 25.8**	**+0.7**
MT03				IAML		13 04 28.0	
	comp=E,3μm,0.4s						
MT03	**Universidad Ad**	**1.83**	**137**	⇑*i* P	**Pn**	**13 04 02.1**	**+0.7**
MT03				*i* S	**Sb**	**13 04 25.9**	**-0.5**
MT03				IAML		13 04 29.3	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**1.85**	**129**	⇑*i* P	**Pn**	**13 04 02.2**	**+0.3**
FCH				*i* S	**Sn**	**13 04 25.9**	**-0.1**
FCH				IAML		13 04 28.5	
	comp=E,1μm,0.1s						
GO04	**Tololo Observa**	**2.23**	**28**		**Pn**	**13 04 07.1**	**0.0**
GO04	**Tololo Observa**	**2.23**	**28**	*e*P	**Pn**	**13 04 05.8**	**-1.3**
GO04				*i* S	**Sn**	**13 04 36.7**	**+1.4**
LMEL	**Las Melosas**	**2.26**	**139**	⇓*i* P	**Pn**	**13 04 08.7**	**+1.3**
LMEL				*i* S	**Sb**	**13 04 37.9**	**-1.0**
LMEL				IAML		13 04 45.4	
	comp=N,957nm,0.3s						
LMEL	**Las Melosas**	**2.26**	**139**	⇓*i* P	**Pn**	**13 04 08.5**	**+1.1**
LMEL				*i* S	**Sb**	**13 04 38.1**	**-0.9**
LMEL				IAML		13 04 45.0	
	comp=N,913nm,0.2s						
BO03	**Pichilemu**	**2.33**	**179**	⇑*i* P	**Pn**	**13 04 07.6**	**-0.6**
CO01	**Juntas del Tor**	**2.72**	**37**	*e*P	**Pn**	**13 04 15.4**	**+1.6**
CO01				IAML		13 04 56.7	
	comp=N,276nm,0.5s						
BO02	**Sierra Bellavi**	**2.81**	**159**		**Pn**	**13 04 15.8**	**+0.9**
BO02	**Sierra Bellavi**	**2.81**	**159**	*e*P	**Pn**	**13 04 15.4**	**+0.5**
ML02	**Panimavida**	**3.63**	**173**		**Pn**	**13 04 25.8**	**-0.2**
AC05	**El Transito**	**3.63**	**25**	Pn	**Pn**	**13 04 27.1**	**+0.9**
AC05	**El Transito**	**3.63**	**25**	*e*P	**Pn**	**13 04 26.8**	**+0.6**
BI05	**Punta Hualpn**	**4.68**	**192**	Pn	**Pn**	**13 04 39.1**	**-1.4**
AC02	**Maricunga**	**5.86**	**26**	Pn	**Pn**	**13 04 57.4**	**+0.1**
PLCA	**Paso Flores**	**8.63**	**173**	Pn	**Pn**	**13 05 35.3**	**+0.5**
SNAA	**Sanae**	**53.27**	**158**	P	**P**	**13 12 48.3**	**-0.4**
SNAA				IAmb	IAmb	13 13 09.7	
	comp=Z,3.6nm,1.3s						
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**13 13 23.8**	**+0.5**
QSPA				IAmb	IAmb	13 13 39.4	
	comp=Z,7.2nm,1.4s						

ROM 02 13:06:26.0±0.1,**42°.752N**±0°.003×**13°.204E**±0°.005,
h12km,**ML2.7**/14,**6C-6D,Error ellipse: s-maj=0.4km**
s-min=0.3km az=66.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.05**	**162**	P	Pg	13 06 28.7	+0.3
T1202				S	Sg	13 06 30.3	+0.2
T1242	**Castelluccio d**	**0.08**	**0**	P	Pg	13 06 29.0	+0.3
T1242				S	Sg	13 06 30.9	+0.2
T1242				AML	AML		
	comp=E,1164μm,0.4s						
T1242				AML	AML		
	comp=N,1360μm,0.2s						
T1242				AML	AML		
	comp=E,8390μm,1.5s						
T1242				AML	AML		
	comp=N,13150μm,1.4s						
T1242				AML	AML		
	comp=N,13000μm,1.4s						
T1242				AML	AML		
	comp=E,8420μm,1.5s						
T1201	**Domo (RI)**	**0.10**	**160**	P	Pb	13 06 29.4	-0.5
T1201				S	Sg	13 06 31.5	+0.6
NRCA	**Norcia**	**0.10**	**321**	⇑P	Pg	13 06 29.2	+0.3
NRCA				S	Sg	13 06 31.1	0.0
NRCA				AML	AML		
	comp=E,3215μm,0.2s						
NRCA				AML	AML		
	comp=N,3640μm,1.0s						
NRCA				AML	AML		
	comp=E,57950μm,0.2s						
NRCA				AML	AML		
	comp=E,55100μm,0.2s						
NRCA				AML	AML		
	comp=N,50500μm,0.2s						
NRCA				AML	AML		
	comp=N,46550μm,0.2s						
T1204	**Amatrice, Fraz**	**0.11**	**132**	P	Pg	13 06 29.5	+0.4
T1204				S	Sg	13 06 31.8	+0.4
MC2	**Monte Cornacci**	**0.16**	**357**	P	Pg	13 06 30.3	+0.4
MC2				S	Sg	13 06 33.6	+1.0
T1243	**Rocca Santa Ma**	**0.19**	**107**	⇑P	Pg	13 06 30.5	+0.3
T1243				S	Sg	13 06 33.7	+0.6
LNSS	**Leonessa**	**0.19**	**219**	⇑P	Pg	13 06 30.7	+0.4
LNSS				S	Sg	13 06 34.0	+0.8
LNSS				AML	AML		
	comp=E,452μm,0.8s						
LNSS				AML	AML		
	comp=N,316μm,0.1s						
LNSS				AML	AML		
	comp=E,2980μm,0.2s						
LNSS				AML	AML		
	comp=N,2675μm,1.1s						
RM33	**Pellescritta (**	**0.24**	**178**	P	Pg	13 06 31.7	+0.6
RM33				S	Sg	13 06 35.7	+1.1
RM33				AML	AML		
	comp=E,91μm,1.0s						
RM33				AML	AML		
	comp=N,95μm,1.0s						
RM33				AML	AML		
	comp=E,1255μm,1.0s						
RM33				AML	AML		
	comp=E,1315μm,1.0s						
RM33				AML	AML		
	comp=N,914μm,0.4s						
RM33				AML	AML		
	comp=N,897μm,0.4s						
CAMP	**Campotosto**	**0.26**	**145**	P	Pg	13 06 31.7	+0.2
CAMP				S	Sg	13 06 36.1	+0.9
FDMO	**Fiordimonte**	**0.30**	**343**	⇓P	Pg	13 06 32.5	+0.5
FDMO				AML	AML		
	comp=E,75μm,0.7s						
FDMO				AML	AML		
	comp=N,86μm,1.5s						
FDMO				AML	AML		
	comp=N,11650μm,0.2s						
FDMO				AML	AML		
	comp=E,9105μm,0.2s						
GUMA	**Gualdo di Mace**	**0.33**	**17**	⇑P	Pb	13 06 33.4	-0.4
GUMA				AML	AML		
	comp=E,5220μm,0.3s						
GUMA				AML	AML		
	comp=N,5145μm,1.3s						
GUMA				AML	AML		
	comp=E,5840μm,0.2s						
GUMA				AML	AML		
	comp=N,6150μm,0.2s						
CESI	**CESI - Serrava**	**0.34**	**319**	⇓P	Pg	13 06 33.2	+0.4
CESI				AML	AML		
	comp=E,4865μm,0.3s						
CESI				AML	AML		
	comp=N,7500μm,0.1s						
CSP1	**Cessapalombo**	**0.34**	**0**	S	Sb	13 06 39.0	-0.6
GIGS	**Gran Sasso**	**0.41**	**138**	⇓P	Pg	13 06 34.0	0.0
GIGS				AML	AML		
	comp=N,88μm,0.8s						
GIGS				AML	AML		
	comp=E,114μm,0.3s						
FIAM	**Fiamignano**	**0.49**	**188**	P	Pb	13 06 36.3	-0.3
FIAM				AML	AML		
	comp=E,266μm,0.8s						
FIAM				AML	AML		
	comp=N,209μm,0.5s						
ASSB	**Assisi San Ben**	**0.49**	**306**	⇓P	Pg	13 06 36.0	+0.3
ASSB				AML	AML		
	comp=N,1495μm,0.5s						
ASSB				AML	AML		
	comp=E,1510μm,1.2s						
SNTG	**Esanatoglia**	**0.54**	**339**	P	Pb	13 06 37.0	-0.4
SNTG				AML	AML		
	comp=E,1325μm,0.2s						
SNTG				AML	AML		
	comp=N,1110μm,0.4s						
EL6	**Elcito**	**0.58**	**353**	⇓P	Pb	13 06 38.0	-0.3
EL6				S	Sb	13 06 48.0	+1.5
EL6				AML	AML		
	comp=N,2600μm,0.3s						
EL6				AML	AML		
	comp=E,3405μm,0.2s						
VCEL	**Villa Celiera**	**0.59**	**127**	⇑P	Pb	13 06 38.2	-0.2
VCEL				AML	AML		
	comp=E,319μm,1.5s						
VCEL				AML	AML		
	comp=N,378μm,1.5s						
CING	**Cingoli**	**0.62**	**359**	⇑P	Pb	13 06 38.9	0.0
CING				AML	AML		
	comp=E,570μm,0.7s						
CING				AML	AML		
	comp=N,470μm,0.1s						
T0110	**Collepietro**	**0.68**	**141**	⇓P	Pg	13 06 39.4	+0.3
T0110				AML	AML		
	comp=E,283μm,0.6s						
T0110				AML	AML		
	comp=N,233μm,0.6s						
ARVD	**Arcevia**	**0.77**	**346**	S	Sn	13 06 54.0	-0.3

ROM 02 13:07:02.1±0.1,**42°.791N**±0°.004×**13°.178E**±0°.007,
h11km,**Md1.0/1,3C-1D,Error ellipse: s-maj=0.7km**
s-min=0.4km az=68.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**27**	P	Pg	13 07 04.6	+0.2
T1242				S	Sg	13 07 05.9	-0.1
T1242				AML	AML		
	comp=N,13150μm,1.4s						
T1242				AML	AML		
	comp=N,13000μm,1.4s						
T1242				AML	AML		
	comp=E,8390μm,1.5s						
T1242				AML	AML		
	comp=N,13150μm,1.4s						
T1242				AML	AML		
	comp=E,8420μm,1.5s						
T1242				END			
NRCA	**Norcia**	**0.06**	**312**	P	Pg	13 07 04.7	+0.2
NRCA				AML	AML		
	comp=E,55100μm,0.2s						
NRCA				AML	AML		
	comp=N,46500μm,0.2s						
NRCA				AML	AML		
	comp=E,57950μm,0.2s						
NRCA				AML	AML		
	comp=E,55100μm,0.2s						
NRCA				AML	AML		
	comp=N,46550μm,0.1s						
NRCA				AML	AML		
	comp=N,50500μm,0.2s						
T1202	**Accumoli, Fraz**	**0.09**	**158**	P	Pg	13 07 05.3	+0.4
T1202				S	Sg	13 07 07.3	+0.5
MC2	**Monte Cornacci**	**0.12**	**4**	⇑P	Pg	13 07 05.8	+0.5
T1204	**Amatrice, Fraz**	**0.15**	**138**	P	Pg	13 07 06.3	+0.6
T1204				S	Sg	13 07 09.1	+0.8
T1204				END			
LNSS	**Leonessa**	**0.21**	**208**	P	Pg	13 07 07.2	+0.5
LNSS				AML	AML		
	comp=E,1224μm,1.3s						
LNSS				AML	AML		
	comp=N,1182μm,0.6s						
LNSS				AML	AML		
	comp=E,2980μm,0.2s						
LNSS				AML	AML		
	comp=N,2675μm,1.1s						
T1243	**Rocca Santa Ma**	**0.22**	**115**	P	Pg	13 07 07.3	+0.5
T1243				S	Sg	13 07 11.2	+1.2
FDMO	**Fiordimonte**	**0.25**	**345**	⇑P	Pg	13 07 07.9	+0.5
FDMO				AML	AML		
	comp=N,11650μm,0.2s						
FDMO				AML	AML		
	comp=E,9105μm,0.2s						
RM33	**Pellescritta (**	**0.28**	**174**	P	Pg	13 07 08.3	+0.4
RM33				AML	AML		
	comp=E,1315μm,1.0s						
RM33				AML	AML		
	comp=N,897μm,0.4s						
RM33				AML	AML		
	comp=E,1255μm,1.0s						
RM33				AML	AML		
	comp=N,914μm,0.4s						
CESI	**CESI - Serrava**	**0.29**	**317**	⇓P	Pb	13 07 08.8	-0.7
CESI				AML	AML		
	comp=E,4865μm,0.3s						
CESI				AML	AML		
	comp=N,7500μm,0.1s						
CSP1	**Cessapalombo**	**0.30**	**4**	⇑P	Pg	13 07 08.8	+0.5
CSP1				AML	AML		
	comp=E,3175μm,0.5s						
CSP1				AML	AML		
	comp=N,3925μm,1.3s						
TERO	**Teramo**	**0.36**	**118**	P	Pg	13 07 09.6	+0.3
TERO				AML	AML		
	comp=E,639μm,0.5s						
TERO				AML	AML		
	comp=N,1115μm,0.3s						
SSM1	**San Severino M**	**0.44**	**360**	S	Sb	13 07 20.0	+1.5
SNTG	**Esanatoglia**	**0.50**	**340**	P	Pg	13 07 12.2	+0.4
SNTG				AML	AML		
	comp=E,1325μm,0.2s						
SNTG				AML	AML		
	comp=N,1110μm,0.4s						
ARVD	**Arcevia**	**0.73**	**346**	S	Sg	13 07 26.0	+0.2

ROM 02 13:07:23.8±0.1,**42°.857N**±0°.003×**13°.121E**±0°.006,
h8km,**Md1.7**/22,**ML2.6**/28,**15C-13D,Error ellipse:**
s-maj=0.5km s-min=0.1km az=66.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.02**	**191**	⇑P	Pg	13 07 25.4	-0.1
NRCA				S	Sg	13 07 26.1	-0.5
NRCA				AML	AML		
	comp=E,55100μm,0.2s						
NRCA				AML	AML		
	comp=N,46500μm,0.2s						
NRCA				AML	AML		
	comp=E,57950μm,0.2s						
NRCA				AML	AML		
	comp=N,50500μm,0.2s						
NRCA				END			
T1242	**Castelluccio d**	**0.07**	**114**	P	Pg	13 07 26.1	+0.2
T1242				S	Sg	13 07 27.8	+0.4
T1242				AML	AML		
	comp=E,8420μm,1.5s						
T1242				AML	AML		
	comp=E,8395μm,1.5s						
T1242				AML	AML		
	comp=N,13150μm,1.4s						
T1242				AML	AML		
	comp=N,13200μm,1.4s						
T1242				AML	AML		
	comp=N,13000μm,1.4s						
T1242				AML	AML		
	comp=E,8390μm,1.5s						
T1242				END			
MC2	**Monte Cornacci**	**0.08**	**43**	⇑P	Pg	13 07 26.1	+0.1
MC2				S	Sg	13 07 28.4	+0.7
MC2				END			
FEMA	**Monte Fema**	**0.12**	**334**	P	Pg	13 07 26.9	+0.4
FEMA				S	Sg	13 07 29.4	+0.8
FEMA				AML	AML		
	comp=N,10115μm,0.3s						
FEMA				AML	AML		
	comp=E,15500μm,0.2s						
FEMA				AML	AML		
	comp=N,10100μm,0.3s						
FEMA				AML	AML		
	comp=E,15550μm,0.2s						
FEMA				END			
T1202	**Accumoli, Fraz**	**0.17**	**153**	P	Pg	13 07 28.3	+0.9
T1202				END			
FDMO	**Fiordimonte**	**0.18**	**352**	⇑P	Pg	13 07 28.1	+0.5
FDMO				S	Sg	13 07 31.5	+1.3
FDMO				AML	AML		
	comp=N,11650μm,0.2s						
FDMO				AML	AML		
	comp=E,9105μm,0.2s						
FDMO				END			
CESI	**CESI - Serrava**	**0.22**	**313**	⇓P	Pg	13 07 28.9	+0.6
CESI				S	Sg	13 07 32.7	+1.5
CESI				AML	AML		
	comp=N,7500μm,0.1s						
CESI				AML	AML		
	comp=E,4870μm,0.3s						
CESI				AML	AML		
	comp=E,4865μm,0.3s						
CESI				END			
T1204	**Amatrice, Fraz**	**0.23**	**141**	AML	AML		
	comp=N,1354μm,0.7s						
T1204				AML	AML		
	comp=E,2635μm,0.6s						
CSP1	**Cessapalombo**	**0.24**	**15**	⇑P	Pg	13 07 29.2	+0.4
CSP1				S	Sg	13 07 33.5	+1.5
CSP1				AML	AML		
	comp=N,3935μm,1.3s						
CSP1				AML	AML		
	comp=E,3175μm,0.5s						
CSP1				AML	AML		
	comp=N,3925μm,1.3s						
CSP1				AML	AML		
	comp=E,3180μm,0.5s						
CSP1				AML	AML		
	comp=N,3930μm,1.3s						
CSP1				END			
GUMA	**Gualdo di Mace**	**0.26**	**37**	⇑P	Pb	13 07 29.9	-0.9
GUMA				S	Sb	13 07 34.7	-0.7
GUMA				AML	AML		
	comp=E,5225μm,0.3s						
GUMA				AML	AML		
	comp=N,5145μm,1.3s						
GUMA				AML	AML		
	comp=N,6150μm,0.2s						
GUMA				AML	AML		
	comp=E,5220μm,0.3s						
GUMA				AML	AML		
	comp=E,5840μm,0.2s						
GUMA				END			
LNSS	**Leonessa**	**0.26**	**193**	⇓P	Pg	13 07 29.9	+0.9
LNSS				S	Sb	13 07 35.1	-0.4
LNSS				AML	AML		
	comp=E,2980μm,0.2s						
LNSS				AML	AML		
	comp=N,2675μm,1.1s						
LNSS				END			
SEF1	**Sefro**	**0.32**	**336**	P	Pg	13 07 30.7	+0.6
SEF1				S	Sb	13 07 36.1	-0.9
SEF1				AML	AML		
	comp=E,11590μm,1.1s						
SEF1				AML	AML		
	comp=N,10305μm,0.2s						
SEF1				AML	AML		
	comp=E,11555μm,1.1s						
SEF1				AML	AML		
	comp=N,10330μm,0.2s						
SEF1				END			
RM33	**Pellescritta (**	**0.35**	**169**	P	Pg	13 07 31.4	+0.6
RM33				S	Sb	13 07 37.6	-0.6
RM33				AML	AML		
	comp=E,1320μm,1.0s						
RM33				AML	AML		
	comp=N,898μm,0.4s						
RM33				AML	AML		
	comp=E,1255μm,1.0s						
RM33				AML	AML		
	comp=N,914μm,0.4s						
RM33				AML	AML		
	comp=E,1315μm,1.0s						
RM33				AML	AML		
	comp=N,914μm,0.4s						
RM33				END			
ARRO	**Arrone**	**0.38**	**223**	AML	AML		
	comp=E,807μm,0.2s						
ARRO				AML	AML		
	comp=N,858μm,0.2s						
GAG1	**Gagliole**	**0.38**	**354**	AML	AML		
	comp=E,4175μm,1.6s						
GAG1				AML	AML		
	comp=E,4180μm,1.6s						
GAG1				AML	AML		
	comp=N,4825μm,0.5s						
CAMP	**Campotosto**	**0.39**	**146**	P	Pg	13 07 31.9	+0.6
CAMP				S	Sb	13 07 38.3	-0.8
CAMP				AML	AML		
	comp=N,418μm,0.4s						
CAMP				AML	AML		
	comp=N,418μm,0.4s						
CAMP				AML	AML		
	comp=E,382μm,0.5s						
CAMP				END			
ASSB	**Assisi San Ben**	**0.39**	**299**	⇓P	Pg	13 07 31.8	+0.4
ASSB				S	Sb	13 07 38.4	-0.7
ASSB				AML	AML		
	comp=N,1495μm,0.5s						
ASSB				AML	AML		
	comp=E,1510μm,1.2s						
ASSB				END			
SNTG	**Esanatoglia**	**0.42**	**342**	⇓P	Pg	13 07 32.4	+0.4
SNTG				S	Sb	13 07 39.5	-0.6
SNTG				AML	AML		
	comp=N,1110μm,0.4s						
SNTG				AML	AML		
	comp=E,1325μm,0.2s						
SNTG				END			
OFFI	**Offida**	**0.42**	**79**	⇓P	Pb	13 07 33.7	+0.2
OFFI				AML	AML		
	comp=N,1440μm,0.6s						
OFFI				AML	AML		
	comp=E,1055μm,0.7s						
TERO	**Teramo**	**0.43**	**123**	P	Pg	13 07 32.6	+0.5
TERO				S	Sb	13 07 39.8	-0.4
TERO				END			
CESX	**Cesi**	**0.47**	**238**	P	Pg	13 07 33.4	+0.5
CESX				S	Sb	13 07 41.3	-0.1
CESX				AML	AML		
	comp=N,907μm,0.2s						
CESX				AML	AML		
	comp=E,684μm,0.2s						
CESX				END			
EL6	**Elcito**	**0.47**	**358**	⇑P	Pg	13 07 33.3	+0.3
EL6				S	Sb	13 07 42.0	+0.4
EL6				AML	AML		
	comp=N,2590μm,0.3s						
EL6				AML	AML		
	comp=N,2600μm,0.3s						
EL6				AML	AML		
	comp=E,3405μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.48**	**313**	P	Pg	13 07 33.6	+0.4
ATCC				S	Sb	13 07 41.8	0.0
ATCC				AML	AML		
	comp=E,1135μm,0.4s						
ATCC				AML	AML		
	comp=N,861μm,0.3s						
ATCC				AML	AML		
	comp=N,860μm,0.3s						
ATCC				AML	AML		
	comp=E,1137μm,0.4s						
ATCC				END			
FOSV	**Fossato di Vic**	**0.51**	**329**	⇓P	Pg	13 07 34.1	+0.4
FOSV				S	Sb	13 07 42.3	-0.3
FOSV				AML	AML		
	comp=E,1110μm,1.3s						
FOSV				AML	AML		
	comp=N,1335μm,1.1s						
FOSV				END			
CING	**Cingoli**	**0.52**	**6**	⇓P	Pg	13 07 34.4	+0.4
CING				AML	AML		
	comp=E,570μm,0.7s						
CING				AML	AML		
	comp=N,470μm,0.1s						
GIGS	**Gran Sasso**	**0.52**	**141**	P	Pg	13 07 34.1	+0.2

GIGS				S	Sb	13 07 42.6	-0.5	
GIGS				AML	AML			
	comp=E,114µm,0.3s							
GIGS				AML	AML			
	comp=N,100µm,0.6s							
GIGS				END				
MURB	**Monte Urbino**	**0.60**	**313**	AML	AML			
	comp=E,2270µm,0.3s							
MURB				AML	AML			
	comp=N,2225µm,1.6s							
SSFR	**Montelago di S**	**0.63**	**337**	⇑P	Pg	13 07 36.2	+0.3	
SSFR				AML	AML			
	comp=E,1520µm,1.4s							
SSFR				AML	AML			
	comp=E,1345µm,1.4s							
SSFR				AML	AML			
	comp=N,1350µm,0.2s							
SSFR				AML	AML			
	comp=N,1530µm,0.2s							
ATFO	**Monte Foce - G**	**0.65**	**322**	⇑P	Pg	13 07 36.7	+0.4	
ATFO				AML	AML			
	comp=N,591µm,0.2s							
ATFO				AML	AML			
	comp=E,406µm,1.0s							
ARVD	**Arcevia**	**0.65**	**349**	⇑P	Pg	13 07 36.7	+0.2	
ARVD				S	Sb	13 07 48.0	+1.2	
ARVD				AML	AML			
	comp=N,358µm,0.4s							
ARVD				AML	AML			
	comp=E,386µm,0.1s							
FAGN	**Fagnano**	**0.68**	**150**	⇓P	Pb	13 07 38.5	+0.5	
FAGN				AML	AML			
	comp=N,458µm,0.6s							
FAGN				AML	AML			
	comp=E,1008µm,0.3s							
VCEL	**Villa Celiera**	**0.70**	**131**	⇑P	Pb	13 07 37.9	-0.4	
VCEL				AML	AML			
	comp=N,413µm,0.9s							
VCEL				AML	AML			
	comp=E,456µm,1.0s							
FRON	**Frontone**	**0.72**	**337**	⇑P	Pg	13 07 37.9	+0.2	
FRON				AML	AML			
	comp=E,482µm,0.5s							
FRON				AML	AML			
	comp=N,617µm,0.3s							
ATVO	**AVT- Monte Val**	**0.74**	**315**	⇑P	Pg	13 07 38.2	+0.1	
ATVO				S	Sn	13 07 51.0	-1.1	
ATVO				AML	AML			
	comp=E,229µm,0.4s							
ATVO				AML	AML			
	comp=N,246µm,1.6s							
MGAB	**Montegabbione**	**0.74**	**275**	P	Pb	13 07 38.6	-0.4	
MGAB				AML	AML			
	comp=N,504µm,0.4s							
MGAB				AML	AML			
	comp=E,510µm,1.6s							
ATPI	**Pietralunga -**	**0.79**	**319**	⇑P	Pb	13 07 39.5	-0.3	
ATPI				AML	AML			
	comp=E,242µm,0.4s							
ATPI				AML	AML			
	comp=N,242µm,0.4s							
T0110	**Collepietro**	**0.80**	**142**	⇑P	Pg	13 07 39.3	+0.2	
T0110				AML	AML			
	comp=N,395µm,1.6s							
T0110				AML	AML			
	comp=N,394µm,1.6s							
T0110				AML	AML			
	comp=E,352µm,0.3s							
MPAG	**Monte Paganucc**	**0.82**	**341**	⇓P	Pg	13 07 39.5	0.0	
MPAG				S	Sn	13 07 54.0	0.0	
MPAG				AML	AML			
	comp=E,416µm,0.4s							
MPAG				AML	AML			
	comp=N,327µm,0.2s							
APEC	**Apecchio**	**0.87**	**324**	P	Pg	13 07 38.7	-1.8	
FSSB	**Fossombrone**	**0.87**	**343**	⇓P	Pg	13 07 40.7	+0.1	
FSSB				S	Sn	13 07 56.0	+0.7	
FSSB				AML	AML			
	comp=E,932µm,0.4s							
FSSB				AML	AML			
	comp=N,1190µm,0.3s							
SACS	**San Casciano d**	**0.89**	**270**	⇓P	Pg	13 07 41.2	+0.3	
SACS				AML	AML			
	comp=N,136µm,1.1s							
SACS				AML	AML			
	comp=E,168µm,0.4s							
CAFI	**Castiglion Fio**	**0.97**	**300**	⇓P	Pb	13 07 42.9	+0.1	
CAFI				AML	AML			
	comp=E,155µm,0.3s							
CAFI				AML	AML			
	comp=N,136µm,0.9s							
PARC	**Parchiule**	**1.02**	**321**	⇑P	Pn	13 07 44.2	-0.2	
PARC				AML	AML			
	comp=E,151µm,0.4s							
PARC				AML	AML			
	comp=N,152µm,0.5s							
SEI	**Scarperia**	**1.76**	**314**	⇓P	Pg	13 07 59.8	+2.3	

ROM 02 13:08:07.5±0.1, 42°863N±0°003×13°129E±0°006, h8km, ML2.3/4, 5C-6D, Error ellipse: s-maj=0.4km s-min=0.2km az=83.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03**	**200**	P	Pg	13 08 08.9	-0.2
NRCA				S	Sg	13 08 09.7	-0.5
T1242	**Castelluccio d**	**0.07**	**121**	P	Pg	13 08 09.2	-0.2
T1242				S	Sg	13 08 11.2	+0.4
T1242				AML	AML		
	comp=E,2705µm,1.2s						
T1242				AML	AML		
	comp=N,3115µm,0.3s						
T1242				AML	AML		
	comp=E,2705µm,1.2s						
T1242				AML	AML		
	comp=N,3105µm,0.3s						
MC2	**Monte Cornacci**	**0.07**	**42**	P	Pg	13 08 09.6	0.0
MC2				S	Sg	13 08 11.4	+0.3
T1244	**Arquata del Tr**	**0.16**	**130**	P	Pg	13 08 11.8	+0.9
T1202	**Accumoli, Fraz**	**0.17**	**156**	P	Pg	13 08 12.1	+1.0
T1202				S	Sg	13 08 15.6	+2.0
FDMO	**Fiordimonte**	**0.18**	**350**	⇑P	Pg	13 08 11.5	+0.4
FDMO				S	Sg	13 08 14.9	+1.2
FDMO				AML	AML		
	comp=N,2180µm,0.2s						
FDMO				AML	AML		
	comp=E,2135µm,0.2s						
T1215	**Vallo di Nera,**	**0.20**	**253**	P	Pg	13 08 12.2	+0.6
T1215				S	Sg	13 08 15.8	+1.4
CESI	**CESI - Serrava**	**0.22**	**311**	⇓P	Pg	13 08 12.3	+0.4
CESI				S	Sg	13 08 16.1	+1.3
CESI				AML	AML		
	comp=N,1525µm,0.1s						
CESI				AML	AML		
	comp=E,1056µm,0.3s						
T1204	**Amatrice, Fraz**	**0.23**	**143**	P	Pg	13 08 11.9	-0.2
T1204				S	Sg	13 08 17.3	+2.0
CSP1	**Cessapalombo**	**0.24**	**14**	⇑P	Pg	13 08 12.7	+0.4
CSP1				S	Sg	13 08 16.9	+1.4
GUMA	**Gualdo di Mace**	**0.25**	**37**	⇑P	Pg	13 08 13.3	+0.8
GUMA				S	Sb	13 08 18.0	-0.9
LNSS	**Leonessa**	**0.27**	**194**	P	Pg	13 08 13.4	+0.6
LNSS				S	Sb	13 08 18.5	-0.9
LNSS				AML	AML		
	comp=E,748µm,0.3s						
LNSS				AML	AML		
	comp=N,778µm,0.1s						
RM33	**Pellescritta (**	**0.36**	**170**	⇓P	Pg	13 08 14.9	+0.4
RM33				S	Sb	13 08 21.0	-1.0
CAMP	**Campotosto**	**0.39**	**148**	⇑P	Pg	13 08 15.4	+0.4
CAMP				S	Sb	13 08 21.7	-1.1
ASSB	**Assisi San Ben**	**0.39**	**298**	⇓P	Pg	13 08 15.5	+0.4
ASSB				S	Sb	13 08 21.7	-1.2
ARRO	**Arrone**	**0.39**	**224**	P	Pb	13 08 16.2	-0.5
ARRO				S	Sb	13 08 22.2	-0.6
SNTG	**Esanatoglia**	**0.42**	**341**	P	Pg	13 08 16.1	+0.5
SNTG				S	Sb	13 08 23.1	-0.6
TERO	**Teramo**	**0.42**	**124**	P	Pg	13 08 16.1	+0.3
TERO				S	Sb	13 08 23.2	-0.7
EL6	**Elcito**	**0.47**	**358**	⇓P	Pg	13 08 16.8	+0.3
EL6				S	Sb	13 08 24.7	-0.5
CESX	**Cesi**	**0.48**	**238**	P	Pb	13 08 18.4	+0.3
CESX				S	Sb	13 08 25.3	0.0
ATCC	**AVT- Casa Cast**	**0.48**	**312**	⇑P	Pg	13 08 17.2	+0.4
ATCC				S	Sb	13 08 25.4	-0.1
FOSV	**Fossato di Vic**	**0.51**	**328**	⇓P	Pg	13 08 17.8	+0.4
FOSV				S	Sb	13 08 25.9	-0.4
CING	**Cingoli**	**0.52**	**5**	⇓P	Pb	13 08 18.5	-0.4
CING				S	Sb	13 08 26.4	-0.1
ARVD	**Arcevia**	**0.65**	**348**	S	Sb	13 08 31.0	+0.6
MPAG	**Monte Paganucc**	**0.81**	**341**	S	Sn	13 08 37.0	-0.7

WEL ***02*** *13:12:12.8±1.9, 37°S±5°×17°9E±1°0, h4km±7km, M4.3/76, ML4.5/77, MLv4.3/76, Error ellipse: s-maj=0.0km s-min=0.0km az=69.6*

NEIC ***02*** *13:12:12.0±1.8, 37°13S±0°09×179°32E±0°08, h10km±1km, mb4.6/16, Error ellipse: s-maj=15.7km s-min=9.0km az=333.0*

IDC ***02*** *13:12:12.2±1.4, 36°75S×178°99E, h0km, mb4.3/5, mbtmp4.3/6, ML4.5/1, Error ellipse: s-maj=35.7km s-min=30.2km az=52.0*

ISC 02 13:12:12.5±2.0, 37°08S±0°05×179°22E±0°07, h9km±10km, n142, σ1832/148, mb4.5/13, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**236**	P	**Pg**	**13 12 29.5**	**+0.1**
MXZ	**Matakaoa Point**	**0.88**	**236**	P	**Pg**	**13 12 29.4**	**+0.1**
MXZ				S	**Sg**	**13 12 39.2**	**-1.5**
WMGZ	**Waiomatatini S**	**0.98**	**221**	P	**Pn**	**13 12 33.7**	**+1.3**
WMGZ				S	**Sn**	**13 12 46.9**	**+0.5**
PKGZ	**Pakihiroa**	**1.22**	**228**	P	**Pn**	**13 12 35.8**	**0.0**
PKGZ				S	**Sb**	**13 12 51.9**	**+0.3**
PUZ	**Puketiti**	**1.25**	**218**	P	**Pg**	**13 12 37.4**	**+0.9**
PUZ				S	**Sb**	**13 12 52.5**	**-0.1**
HAZ	**Te Kaha**	**1.33**	**239**	P	**Pg**	**13 12 39.0**	**+1.0**
HAZ				S	**Sb**	**13 12 55.4**	**+0.6**
TWGZ	**Tauwhareparae**	**1.47**	**222**	P	**Pb**	**13 12 40.6**	**+0.5**
TWGZ				S	**Sb**	**13 12 59.7**	**+0.8**
RUGZ	**Raukumara Rang**	**1.51**	**234**	P	**Pn**	**13 12 40.4**	**+0.5**
RUGZ				S	**Sn**	**13 12 60.0**	**+0.1**
CNGZ	**Carnagh Statio**	**1.62**	**210**	P	**Pb**	**13 12 43.1**	**+0.6**
CNGZ				S	**Sg**	**13 13 04.5**	**+0.1**
WIZ	**White Island**	**1.68**	**254**	P	**Pn**	**13 12 41.0**	**-1.1**
WSRZ	**White Island S**	**1.69**	**254**	P	**Pn**	**13 12 42.5**	**+0.3**
TKGZ	**Te Karaka**	**1.74**	**218**	P	**Pb**	**13 12 43.7**	**-0.8**
TKGZ				S	**Sn**	**13 13 05.2**	**-0.1**
MWZ	**Matawai**	**1.84**	**227**	P	**Pn**	**13 12 45.3**	**+1.0**
WHRZ	**Whale Island**	**1.95**	**246**	P	**Pn**	**13 12 46.9**	**+1.1**
RIGZ	**Rimuhau**	**1.99**	**215**	P	**Pn**	**13 12 47.3**	**+0.9**
RAGZ	**Rawiri**	**2.01**	**225**	P	**Pn**	**13 12 48.0**	**+1.3**
URZ	**Urewera**	**2.05**	**234**	Pn	**Pn**	**13 12 48.1**	**+1.0**
	166nm,0.3s,baz=121,slow=1.5,SNR=182						
URZ				Sn	**Sn**	**13 13 10.9**	**-1.9**
	130nm,0.3s,baz=121,slow=4.3,SNR=15						
	332nm,0.3s						
URZ	**Urewera**	**2.05**	**234**	P	**Pn**	**13 12 48.1**	**+1.0**
PRGZ	**Paritu Road**	**2.12**	**210**	P	**Pn**	**13 12 49.0**	**+0.8**
MARZ	**Manawahe**	**2.22**	**245**	P	**Pn**	**13 12 50.3**	**+0.8**
EDRZ	**Edgecumbe**	**2.22**	**242**	P	**Pn**	**13 12 50.7**	**+1.1**
OPRZ	**Ohinepanea**	**2.26**	**249**	P	**Pn**	**13 12 49.8**	**-0.2**
SNGZ	**Shannon Statio**	**2.26**	**221**	P	**Pn**	**13 12 50.9**	**+0.8**
KNZ	**Kokohu**	**2.29**	**212**	P	**Pn**	**13 12 50.7**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.31**	**206**	P	**Pn**	**13 12 51.5**	**+0.7**
RTZ	**Ruatahuna**	**2.34**	**229**	P	**Pn**	**13 12 52.6**	**+1.3**
MYRZ	**Mayor Island**	**2.39**	**264**	P	**Pn**	**13 12 52.7**	**+0.8**
MUGZ	**Murupara**	**2.39**	**234**	P	**Pn**	**13 12 52.5**	**+0.6**
TARZ	**Mount Tarawera**	**2.45**	**241**	P	**Pn**	**13 12 54.3**	**+1.6**
TGRZ	**Tauranga**	**2.45**	**254**	P	**Pn**	**13 12 53.4**	**+0.8**
OMRZ	**Omania**	**2.49**	**245**	P	**Pn**	**13 12 54.6**	**+1.4**
RRRZ	**Republican Roa**	**2.49**	**239**	P	**Pn**	**13 12 54.3**	**+1.1**
RAHZ	**Arahi**	**2.49**	**222**	P	**Pn**	**13 12 54.0**	**+0.7**
WHHZ	**Waihua**	**2.54**	**218**	P	**Pn**	**13 12 54.5**	**+0.7**
KARZ	**Kararoa**	**2.55**	**247**	P	**Pn**	**13 12 55.0**	**+1.0**
HLRZ	**Highlands Stat**	**2.56**	**242**	P	**Pn**	**13 12 55.7**	**+1.4**
MTHZ	**Maungataniwha**	**2.58**	**226**	P	**Pn**	**13 12 55.6**	**+1.0**
NGRZ	**Ngongotaha**	**2.62**	**246**	P	**Pn**	**13 12 56.7**	**+1.7**
UTU	**Utuhina**	**2.64**	**245**	P	**Pb**	**13 12 58.5**	**-1.5**
PRRZ	**Plateau Road**	**2.65**	**237**	P	**Pn**	**13 12 56.3**	**+0.9**
HSRZ	**Hossack Road**	**2.66**	**242**	P	**Pn**	**13 12 57.5**	**+1.9**
HRRZ	**Handcock Road**	**2.67**	**240**	P	**Pn**	**13 12 57.2**	**+1.4**
ALRZ	**Allen Road**	**2.72**	**236**	P	**Pn**	**13 12 56.9**	**+0.6**
KMRZ	**Kaimai**	**2.72**	**253**	P	**Pn**	**13 12 57.2**	**+0.8**
NMHZ	**Naumai**	**2.77**	**223**	P	**Pn**	**13 12 58.0**	**+0.8**
GRRZ	**Galatos Road**	**2.77**	**242**	P	**Pn**	**13 12 58.8**	**+1.6**
ARHZ	**Aropaoanui**	**2.80**	**218**	P	**Pn**	**13 12 57.8**	**+0.4**
WPRZ	**Whakapapatarin**	**2.82**	**238**	P	**Pn**	**13 12 59.1**	**+1.3**
MRHZ	**Matea Rd**	**2.83**	**231**	P	**Pn**	**13 12 58.6**	**+0.7**
KUZ	**Kuaotunu**	**2.83**	**276**	P	**Pn**	**13 12 56.8**	**-1.1**
BKZ	**Black Stump Fm**	**3.00**	**225**		**Pn**	**13 13 00.9**	**+0.7**
BKZ	**Black Stump Fm**	**3.00**	**225**	P	**Pn**	**13 13 00.6**	**+0.4**
TOZ	**Tahuroa Road**	**3.03**	**257**	P	**Pn**	**13 12 59.9**	**-0.8**
KUTZ	**Kaahu Road**	**3.04**	**241**	P	**Pn**	**13 13 02.1**	**+1.4**
CKHZ	**Cape Kidnapper**	**3.08**	**213**	P	**Pn**	**13 13 00.8**	**-0.5**
GRZ	**Great Barrier**	**3.14**	**284**	P	**Pn**	**13 13 02.3**	**+0.2**
TLZ	**Tolley Road**	**3.18**	**246**	P	**Pn**	**13 13 04.2**	**+1.5**
WATZ	**Wairara**	**3.20**	**238**	P	**Pn**	**13 13 04.2**	**+1.2**
KWHZ	**Kaweka Forest**	**3.21**	**222**	P	**Pn**	**13 13 03.2**	**-0.1**
MKAZ	**Moumakai**	**3.25**	**268**	P	**Pn**	**13 13 02.9**	**-0.7**
RATZ	**Rangitukua**	**3.26**	**236**	P	**Pn**	**13 13 05.1**	**+1.2**
KAHZ	**Kahuranaki**	**3.28**	**214**	P	**Pn**	**13 13 03.6**	**-0.5**
WIAZ	**Waiheke Island**	**3.29**	**274**	P	**Pn**	**13 13 05.6**	**+1.4**
KRHZ	**Kereru**	**3.40**	**220**	P	**Pn**	**13 13 05.3**	**-0.5**
ETAZ	**East Tamaki Re**	**3.44**	**271**	P	**Pn**	**13 13 06.5**	**+0.3**
TMVZ	**Te Maari**	**3.44**	**233**	P	**Pn**	**13 13 07.3**	**+0.9**
ETVZ	**East Tongariro**	**3.45**	**232**	P	**Pn**	**13 13 07.3**	**+0.8**
BHHZ	**Black Hill Sta**	**3.46**	**225**	P	**Pn**	**13 13 06.6**	**0.0**
KRVZ	**Karewarewa**	**3.47**	**233**	P	**Pn**	**13 13 07.8**	**+1.0**
MBAZ	**Motutapu North**	**3.48**	**274**	P	**Pn**	**13 13 07.4**	**+0.6**
NNVZ	**North Ngauruho**	**3.51**	**233**	P	**Pn**	**13 13 08.2**	**+0.9**
WTVZ	**West Tongariro**	**3.51**	**234**	P	**Pn**	**13 13 08.5**	**+1.1**
SNVZ	**South Ngauruho**	**3.52**	**232**	P	**Pn**	**13 13 06.2**	**-1.3**
NGZ	**Ngauruhoe**	**3.54**	**233**	P	**Pn**	**13 13 08.2**	**+0.4**
ABAZ	**Army Bay**	**3.56**	**276**	P	**Pn**	**13 13 09.6**	**+1.8**
MOVZ	**Moawhango**	**3.59**	**229**	P	**Pn**	**13 13 08.6**	**+0.2**
TWVZ	**Taurewa**	**3.59**	**235**	P	**Pn**	**13 13 09.3**	**+0.9**
EPAZ	**Eden Park BICE**	**3.59**	**272**	P	**Pn**	**13 13 09.4**	**+1.0**
HBAZ	**Herne Bay Bore**	**3.61**	**272**	P	**Pn**	**13 13 09.8**	**+1.3**
WHVZ	**Whangaehu Hut**	**3.61**	**231**	P	**Pn**	**13 13 09.4**	**+0.5**
FWVZ	**Far West T-bar**	**3.62**	**232**	P	**Pn**	**13 13 09.5**	**+0.6**
WNVZ	**Wahianoa**	**3.63**	**231**	P	**Pn**	**13 13 09.2**	**+0.1**
TRVZ	**Turoa**	**3.65**	**231**	P	**Pn**	**13 13 10.0**	**+0.7**
AWAZ	**Awhitu Peninsu**	**3.66**	**269**	P	**Pn**	**13 13 09.8**	**+0.4**
PNHZ	**Pukenui**	**3.69**	**219**	P	**Pn**	**13 13 08.6**	**-1.1**
WPHZ	**Waipukurau**	**3.69**	**215**	P	**Pn**	**13 13 09.1**	**-0.7**
WTAZ	**Waiatarua**	**3.73**	**271**	P	**Pn**	**13 13 10.9**	**+0.7**
RVAZ	**Riverhead Bore**	**3.73**	**273**	P	**Pn**	**13 13 10.7**	**+0.4**
HIZ	**Hauiti**	**3.74**	**246**		**Pn**	**13 13 12.8**	**+2.3**
HIZ	**Hauiti**	**3.74**	**246**	P	**Pn**	**13 13 11.9**	**+1.4**
MTVZ	**Mangateitei**	**3.75**	**231**	P	**Pn**	**13 13 11.5**	**+1.0**
PKVZ	**Pokaka**	**3.77**	**233**	P	**Pn**	**13 13 12.3**	**+1.5**
TSZ	**Takapari Road**	**3.92**	**220**	P	**Pn**	**13 13 12.5**	**-0.4**
WCZ	**Waipu Caves**	**4.09**	**285**	P	**Pn**	**13 13 15.6**	**+0.4**
WAZ	**Wanganui**	**4.27**	**230**	P	**Pn**	**13 13 18.1**	**+0.5**
POWZ	**Post Office Ro**	**4.27**	**218**	P	**Pn**	**13 13 17.6**	**0.0**
PRWZ	**Pori Road**	**4.30**	**215**	P	**Pn**	**13 13 17.1**	**-1.0**
MHEZ	**Mangahewa**	**4.35**	**241**	P	**Pn**	**13 13 22.3**	**+3.5**
LREZ	**Lake Rotokare**	**4.48**	**236**	P	**Pn**	**13 13 21.8**	**+1.3**
DREZ	**Durham Road**	**4.48**	**240**	P	**Pn**	**13 13 24.5**	**+3.9**
PREZ	**Palmer Road**	**4.58**	**239**	P	**Pn**	**13 13 24.8**	**+2.7**
NEZ	**North Egmont**	**4.59**	**240**	P	**Pn**	**13 13 24.8**	**+2.6**
PKE	**Pukeiti**	**4.64**	**241**	P	**Pn**	**13 13 26.0**	**+3.3**
KHEZ	**Kahui Hut**	**4.66**	**240**	P	**Pn**	**13 13 25.6**	**+2.5**
NBEZ	**Newall Road No**	**4.75**	**241**	P	**Pn**	**13 13 27.3**	**+3.0**
NMEZ	**Namu Road**	**4.81**	**239**	P	**Pn**	**13 13 29.0**	**+4.0**
OUZ	**Omahuta**	**4.92**	**291**		**Pn**	**13 13 28.0**	**+1.5**
OUZ	**Omahuta**	**4.92**	**291**	P	**Pn**	**13 13 27.6**	**+1.0**
BSWZ	**Blackbirch Sta**	**6.21**	**220**		**Pn**	**13 13 43.3**	**-1.0**
KHZ	**Kahutara**	**6.90**	**218**		**Pn**	**13 13 52.1**	**-1.6**
RPZ	**Rata Peaks**	**9.09**	**221**	Pn	**Pn**	**13 14 21.3**	**-2.6**
	2.8nm,0.3s,baz=70,slow=1.5,SNR=18						
RPZ				Sn	Sn	13 15 52.4	-14
	5.4nm,0.3s,baz=326,slow=23,SNR=13						
STKA	**Stephens Creek**	**31.31**	**268**	P	**P**	**13 18 32.8**	**-0.3**
	3.0nm,1.0s,baz=106,slow=18,SNR=3.3						
	3.0nm,1.0s						
BBOO	**Buckleboo**	**35.41**	**264**	P	**P**	**13 19 07.1**	**-1.8**
BBOO				IAmb	IAmb	13 19 45.3	
	comp=Z,16nm,1.3s						
COEN	**Coen**	**39.50**	**296**	P	**P**	**13 19 43.8**	**+0.2**
COEN				IAmb	IAmb	13 20 05.9	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**40.95**	**276**	P	**P**	**13 19 55.0**	**-0.7**
ASAR	**Alice Springs**	**40.95**	**276**	P	**P**	**13 19 55.0**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=119,slow=7.9,SNR=88						
ASAR				PcP	**PcP**	**13 21 55.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=123,slow=3.4,SNR=1.5						
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**40.95**	**276**	P	**P**	**13 19 55.1**	**-0.6**
RABL	**Rabaul**	**41.07**	**316**	P	**P**	**13 19 56.7**	**+0.1**
WR0	**Warramunga Arr**	**42.39**	**281**	P	**P**	**13 20 06.7**	**-0.8**
FORT	**Forrest**	**42.50**	**263**	P	**P**	**13 20 07.4**	**-0.8**
WB2	**Warramunga Arr**	**42.55**	**281**	P	**P**	**13 20 08.1**	**-0.6**
WB2				IAmb	IAmb	13 20 08.4	
	comp=Z,6.2nm,0.6s						
WRAB	**Tennant Creek**	**42.55**	**281**	P	**P**	**13 20 07.4**	**-1.4**
WRAB				IAmb	IAmb	13 20 13.2	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**13 20 07.8**	**-0.9**
	comp=Z,3.5nm,0.4s,baz=121,slow=7.8,SNR=111						
WRA				PcP	**PcP**	**13 22 01.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=125,slow=3.2,SNR=3.7						
	comp=Z,3.5nm,0.4s						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**13 20 08.0**	**-0.8**
WB0	**Warramunga Arr**	**42.61**	**281**	P	**P**	**13 20 08.0**	**-1.2**
WB0				IAmb	IAmb	13 20 08.9	
	comp=Z,6.9nm,0.5s						
MTN	**Manton Dam**	**49.19**	**286**	P	**P**	**13 20 59.7**	**-1.5**
KNRA	**Kununurra**	**49.34**	**282**	P	**P**	**13 21 01.0**	**-1.3**
KNRA				IAmb	IAmb	13 21 36.8	
	comp=Z,15nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.44**	**277**	P	**P**	**13 21 10.1**	**-0.6**
FITZ				IAmb	IAmb	13 21 10.3	
	comp=Z,7.0nm,1.1s						
MORW	**Morawa**	**52.70**	**259**	P	**P**	**13 21 25.8**	**-1.7**
QSPA	**South Pole Qui**	**53.05**	**180**	P	**P**	**13 21 32.9**	**+3.2**
	comp=Z,2.3nm,0.9s,baz=139,slow=0.1,SNR=5.2						
	comp=Z,2.3nm,0.9s						
QSPA	**South Pole Qui**	**53.05**	**180**	P	**P**	**13 21 32.5**	**+2.8**
SNAA	**Sanae**	**71.54**	**179**	P	**P**	**13 23 31.9**	**-1.5**
SNAA				IAmb	IAmb	13 23 58.9	
	comp=Z,5.6nm,1.4s						
H03S2	**Juan Fernandez**	**78.69**	**124**	T	T	14 50 49.0	
	baz=226						
H03S1	**Juan Fernandez**	**78.70**	**124**	T	T	14 50 49.0	
	baz=226						
H03S3	**Juan Fernandez**	**78.71**	**124**	T	T	14 50 49.0	
	baz=226						
H03N3	**Juan Fernandez**	**78.92**	**124**	T	T	14 50 53.7	
	baz=234,slow=72						
H03N2	**Juan Fernandez**	**78.93**	**124**	T	T	14 51 00.9	
	baz=234,slow=72						
H03N1	**Juan Fernandez**	**78.94**	**124**	T	T	14 51 02.1	
	baz=234,slow=72						
CMAR	**Chiang Mai Arr**	**93.48**	**290**	P	**P**	**13 25 29.5**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=143,slow=3.4,SNR=2.1						
	comp=Z,1.1nm,0.7s						
ARCES	**ARCESS Array B**	**144.51**	**344**	PKP	**PKPdf**	**13 31 47.8**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=50,slow=2.1,SNR=3.7						
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKPbc**	**13 32 02.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=48,slow=2.8,SNR=8.2						
TORD	**Torodi Ar. Bea**	**156.06**	**186**	PKPab	**PKPab**	**13 32 38.6**	**+3.6**
	comp=Z,0.3nm,0.7s,baz=163,slow=6.8,SNR=1.8						

ROM 02 13:20:24.5±0.0, 42°766N±0°003×13°190E±0°003, h11km, Md1.3/3, 7C-8D, Error ellipse: s-maj=0.2km s-min=0.2km az=169.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.06**	**10**	⇑P	Pg	13 20 27.4	+0.3
T1242				S	Sg	13 20 29.3	+0.4
T1242				AML	AML		
	comp=E,23350µm,0.5s						
T1242				AML	AML		
	comp=N,14050µm,0.5s						
T1242				END			
T1244	**Arquata del Tr**	**0.08**	**97**	⇑P	Pg	13 20 27.6	+0.5
T1244				S	Sg	13 20 29.6	+0.5
T1244				AML	AML		
	comp=N,6730µm,0.3s						
T1244				AML	AML		
	comp=E,7885µm,0.3s						
NRCA	**Norcia**	**0.09**	**321**	P	Pg	13 20 27.5	+0.3
NRCA				S	Sg	13 20 29.2	0.0
NRCA				AML	AML		
	comp=E,18600µm,0.9s						
NRCA				AML	AML		
	comp=N,13300µm,0.1s						
NRCA				AML	AML		
	comp=E,20100µm,0.9s						
NRCA				AML	AML		
	comp=N,14050µm,0.1s						
NRCA				AML	AML		
	comp=E,18650µm,0.9s						
NRCA				AML	AML		
	comp=N,13350µm,0.1s						
NRCA				END			
T1204	**Amatrice, Fraz**	**0.13**	**134**	⇓P	Pg

comp=N,979µm,0.5s
TERO AML AML
comp=E,874µm,0.5s
TERO AML AML
comp=N,1028µm,0.5s
ARRO Arrone 0.36 239 P Pg 13 20 32.3 +0.5
ARRO AML AML
comp=E,533µm,1.0s
ARRO AML AML
comp=N,454µm,1.0s
OFFI Offida 0.40 65 P Pb 13 20 33.9 +0.2
OFFI AML AML
comp=E,1920µm,0.5s
OFFI AML AML
comp=N,2605µm,0.7s
GIGS Gran Sasso 0.42 138 P Pg 13 20 32.9 0.0
GIGS S Sg 13 20 39.3 +0.8
GIGS AML AML
comp=E,206µm,0.5s
GIGS AML AML
comp=N,156µm,0.3s
ASSB Assisi San Ben 0.48 305 ⇓P Pg 13 20 34.2 +0.3
ASSB AML AML
comp=E,1715µm,1.6s
ASSB AML AML
comp=N,1725µm,0.4s
SNTG Esanatoglia 0.52 340 S Sg 13 20 42.0 +0.3
EL6 Elcito 0.57 353 ⇓P Pg 13 20 35.9 +0.3
EL6 S Sb 13 20 46.0 +1.4
EL6 AML AML
comp=E,1635µm,0.8s
EL6 AML AML
comp=N,1637µm,0.3s
VCEL Villa Celiera 0.61 127 ⇑P Pb 13 20 36.9 -0.3
VCEL AML AML
comp=E,435µm,0.5s
VCEL AML AML
comp=N,441µm,1.1s
T0110 Collepietro 0.69 141 P Pg 13 20 38.0 0.0
T0110 AML AML
comp=E,477µm,0.4s
T0110 AML AML
comp=N,456µm,0.4s
SSFR Montelago di S 0.73 336 ⇓P Pb 13 20 39.4 +0.1
SSFR AML AML
comp=E,1980µm,0.2s
SSFR AML AML
comp=N,1615µm,0.2s
SSFR AML AML
comp=E,1980µm,0.2s
SSFR AML AML
comp=N,1455µm,1.3s
PE3 Peglio 1.06 332 P Pb 13 20 43.7 -1.2
MA9 Marino 1.07 202 P Pb 13 20 42.6 -2.5

ROM 02 13:20:39.9±0.1, 42°31'N±0'003×13°43E±0'007, h10km, ML2.7/20, 9C-13D, Error ellipse: s-maj=0.6km s-min=0.3km az=282.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.04**	**245**	⇓P		Pg	13 20 42.0	0.0
MC2				S		Sg	13 20 43.2	-0.3
T1242	**Castelluccio d**	**0.10**	**195**	⇑P		Pg	13 20 42.9	+0.3
T1242				S		Sg	13 20 45.0	+0.4
T1242				AML		AML		
	comp=E,23350µm,0.5s							
T1242				AML		AML		
	comp=N,14050µm,0.5s							
NRCA	**Norcia**	**0.14**	**224**	⇓P		Pg	13 20 43.5	+0.5
NRCA				S		Sg	13 20 46.1	+0.9
NRCA				AML		AML		
	comp=E,18600µm,0.9s							
NRCA				AML		AML		
	comp=N,13350µm,0.1s							
NRCA				AML		AML		
	comp=E,18600µm,0.9s							
NRCA				AML		AML		
	comp=N,14050µm,0.1s							
NRCA				AML		AML		
	comp=E,18650µm,0.9s							
NRCA				AML		AML		
	comp=N,13320µm,0.1s							
NRCA				AML		AML		
	comp=E,20100µm,0.9s							
FEMA	**Monte Fema**	**0.14**	**283**	P		Pg	13 20 43.9	+0.7
FEMA				S		Sg	13 20 46.6	+1.0
GUMA	**Gualdo di Mace**	**0.15**	**27**	P		Pg	13 20 43.9	+0.7
GUMA				S		Sg	13 20 46.9	+1.4
FDMO	**Fiordimonte**	**0.15**	**313**	⇑P		Pg	13 20 43.8	+0.5
FDMO				S		Sg	13 20 46.5	+0.8
FDMO				AML		AML		
	comp=E,4385µm,0.5s							
FDMO				AML		AML		
	comp=N,5150µm,0.6s							
CSP1	**Cessapalombo**	**0.16**	**350**	⇓P		Pg	13 20 44.0	+0.4
CSP1				S		Sg	13 20 46.8	+0.8
CSP1				AML		AML		
	comp=E,3520µm,0.2s							
CSP1				AML		AML		
	comp=N,6340µm,0.4s							
CSP1				AML		AML		
	comp=N,6335µm,0.4s							
CSP1				AML		AML		
	comp=E,3525µm,0.2s							
T1244	**Arquata del Tr**	**0.18**	**167**	P		Pg	13 20 44.3	+0.6
T1244				S		Sg	13 20 48.0	+1.6
T1202	**Accumoli, Fraz**	**0.23**	**183**	⇑P		Pg	13 20 45.2	+0.6
T1202				S		Sg	13 20 49.4	+1.7
CESI	**CESI - Serrava**	**0.26**	**287**	⇑P		Pg	13 20 45.8	+0.7
CESI				AML		AML		
	comp=N,8440µm,0.3s							
CESI				AML		AML		
	comp=E,4005µm,0.4s							
CESI				AML		AML		
	comp=N,8445µm,0.3s							
T1204	**Amatrice, Fraz**	**0.26**	**168**	P		Pg	13 20 45.6	+0.4
T1204				S		Sb	13 20 50.1	-1.3
T1201	**Domo (RI)**	**0.27**	**179**	P		Pb	13 20 46.2	-0.8
T1201				S		Sb	13 20 51.4	-0.3
T1243	**Rocca Santa Ma**	**0.28**	**147**	P		Pg	13 20 45.8	+0.3
T1243				S		Sg	13 20 50.3	+1.0
T1215	**Vallo di Nera,**	**0.30**	**245**	⇑P		Pg	13 20 46.6	+0.6
OFFI	**Offida**	**0.33**	**89**	⇑P		Pb	13 20 47.8	0.0
OFFI				AML		AML		
	comp=E,1920µm,0.5s							
OFFI				AML		AML		
	comp=N,2605µm,0.7s							
LNSS	**Leonessa**	**0.36**	**205**	⇓P		Pg	13 20 47.6	+0.6
LNSS				S		Sb	13 20 53.8	-0.4
TERO	**Teramo**	**0.41**	**139**	P		Pg	13 20 48.1	+0.2
TERO				AML		AML		
	comp=E,833µm,0.5s							
TERO				AML		AML		
	comp=N,978µm,0.5s							
TERO				AML		AML		
	comp=N,979µm,0.5s							
TERO				AML		AML		
	comp=N,1028µm,0.5s							
TERO				AML		AML		
	comp=E,874µm,0.5s							
TERO				AML		AML		
	comp=N,981µm,0.5s							
EL6	**Elcito**	**0.41**	**346**	S		Sb	13 20 56.0	+0.3
CAMP	**Campotosto**	**0.41**	**163**	P		Pg	13 20 48.1	+0.1
CAMP				S		Sb	13 20 54.8	-1.0
RM33	**Pellescritta (**	**0.42**	**183**	P		Pb	13 20 48.9	-0.6
RM33				S		Sb	13 20 55.8	-0.2
ASSB	**Assisi San Ben**	**0.44**	**285**	⇑P		Pg	13 20 49.0	+0.4
ASSB				AML		AML		
	comp=N,1725µm,0.4s							
ASSB				AML		AML		
	comp=E,1715µm,1.6s							
CING	**Cingoli**	**0.45**	**356**	⇓P		Pg	13 20 47.0	-1.6
ARRO	**Arrone**	**0.50**	**225**	S		Sb	13 20 59.0	+0.9
FOSV	**Fossato di Vic**	**0.51**	**316**	⇓P		Pg	13 20 50.2	+0.5
FOSV				S		Sb	13 20 59.0	+0.6
FOSV				AML		AML		
	comp=E,794µm,0.4s							
FOSV				AML		AML		
	comp=N,2465µm,0.3s							
FOSV				AML		AML		
	comp=N,2460µm,0.3s							
ATCC	**AVT- Casa Cast**	**0.51**	**300**	⇓P		Pb	13 20 50.4	-0.5
ATCC				S		Sb	13 20 59.0	+0.5
ATCC				AML		AML		
	comp=E,1475µm,0.2s							
ATCC				AML		AML		
	comp=N,1520µm,0.6s							
ATCC				AML		AML		
	comp=E,1480µm,0.2s							
ATCC				AML		AML		
	comp=N,1515µm,0.6s							
PP3	**Marolino 0.52 31**			⇑P		Pb	13 20 51.6	+0.4
PP3				AML		AML		
	comp=N,4675µm,0.3s							
PP3				AML		AML		
	comp=E,2860µm,0.2s							
PP3				AML		AML		
	comp=N,4705µm,0.3s							
PP3				AML		AML		
	comp=N,4675µm,0.2s							
PP3				AML		AML		
	comp=E,2830µm,0.2s							
GIGS	**Gran Sasso 0.54 153**			⇓P		Pg	13 20 50.4	0.0
GIGS				AML		AML		
	comp=E,206µm,0.5s							
GIGS				AML		AML		
	comp=N,156µm,0.3s							
CESX	**Cesi 0.58 237**			S		Sb	13 21 01.0	+0.4
ARVD	**Arcevia 0.61 339**			P		Pg	13 20 51.4	-0.3
ARVD				S		Sn	13 21 03.0	-1.6
ARVD				AML		AML		
	comp=E,412µm,0.3s							
ARVD				AML		AML		
	comp=N,310µm,0.2s							
ATFO	**Monte Foce - G 0.66 312**			⇓P		Pg	13 20 53.0	+0.4
ATFO				AML		AML		
	comp=E,528µm,1.2s							
ATFO				AML		AML		
	comp=N,472µm,1.1s							
ATFO				AML		AML		
	comp=E,527µm,1.2s							
ATFO				AML		AML		
	comp=N,473µm,1.1s							
FRON	**Frontone 0.70 327**			⇓P		Pg	13 20 53.8	+0.4
FRON				AML		AML		
	comp=E,497µm,0.7s							
FRON				AML		AML		
	comp=N,658µm,0.3s							
FRON				AML		AML		
	comp=E,496µm,0.7s							
ATVO	**AVT- Monte Val 0.76 307**			⇑P		Pg	13 20 54.5	-0.1
ATVO				S		Sb	13 21 07.0	+1.3
ATVO				AML		AML		
	comp=N,314µm,0.7s							
ATVO				AML		AML		
	comp=N,314µm,0.7s							
ATVO				AML		AML		
	comp=E,354µm,0.4s							
ATPI	**Pietralunga - 0.81 311**			⇓P		Pg	13 20 55.6	+0.2
ATPI				AML		AML		
	comp=N,263µm,0.3s							
ATPI				AML		AML		
	comp=E,245µm,0.8s							
ATMI	**Monte Miggiano 0.82 300**			S		Sn	13 21 10.0	+0.2
FSSB	**Fossombrone 0.83 336**			P		Pb	13 20 56.4	-0.1
FSSB				S		Sn	13 21 11.0	+0.8
FSSB				AML		AML		
	comp=E,1180µm,0.4s							
FSSB				AML		AML		
	comp=N,1280µm,1.4s							
FSSB				AML		AML		
	comp=N,1275µm,1.4s							
NARO	**Abbazia di Nar 0.83 325**			⇓P		Pg	13 20 56.1	+0.2
NARO				S		Sn	13 21 10.0	-0.1
NARO				AML		AML		
	comp=E,203µm,1.3s							
NARO				AML		AML		
	comp=N,162µm,1.1s							
BADI	**Badiali 0.93 309**			S		Sn	13 21 14.0	+1.4
CAFI	**Castiglion Fio 1.02 294**			⇓P		Pb	13 20 59.9	+0.3
CAFI				AML		AML		
	comp=N,114µm,0.7s							
CAFI				AML		AML		
	comp=E,113µm,0.4s							
TOLF	**Tolfa 1.26 227**			P		Pg	13 21 04.6	+0.5
ABTA	**Abfaltersbach 4.01 353**			*i* Pn		Pg	13 21 41.0	-0.3
	comp=E,3.2nm,0.5s							
KBA	**Koelnbreinsper 4.31 1**			Pn		Pg	13 21 45.5	-1.6
	comp=E,0.8nm,0.2s							
KBA				*e*Sn		Sb	13 22 32.8	+0.3
	comp=E,2.3nm,0.4s							

IDC ***02*** *13:20:38.1±0.9, 37°17S×178°79E, h0km, mb4.3/7, mbtmp4.3/7, MS3.6/3, Error ellipse: s-maj=26.4km s-min=20.6km az=19.0*

NEIC ***02*** *13:20:39.2±1.6, 37°59S±0°10×179°10E±0°06, h17km±6km, mb4.5/16, Error ellipse: s-maj=14.0km s-min=6.9km az=183.0*

WEL ***02*** *13:20:40.3±1.5, 37°S±6°×17°9E±°, h17km±8km, M4.3/62, ML4.6/62, MLv4.3/62, Error ellipse: s-maj=0.0km s-min=0.0km az=69.3*

ISC 02 13:20:41.6±1.8, 37°50S±0°05×178°95E±0°07, h25km±10km, n163, σ1°38/162, mb4.4/14, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.52**	**263**			**Pb**	**13 20 51.6**	**-0.6**
MXZ	**Matakaoa Point**	**0.52**	**263**	P		**Pb**	**13 20 51.5**	**-0.7**
MXZ				S		**Sb**	**13 20 58.4**	**-0.9**
WMGZ	**Waiomatatini S**	**0.53**	**233**	P		**Pn**	**13 20 54.1**	**+0.5**
PUZ	**Puketiti**	**0.80**	**224**	P		**Pn**	**13 20 58.1**	**+0.9**
PUZ				S		**Sn**	**13 21 09.5**	**+1.2**
PKGZ	**Pakihiroa**	**0.80**	**240**	P		**Pn**	**13 20 57.6**	**+0.3**
PKGZ				S		**Sn**	**13 21 09.4**	**+1.0**
HAZ	**Te Kaha**	**0.96**	**254**	P		**Pb**	**13 20 59.4**	**-0.3**
TWGZ	**Tauwhareparae**	**1.02**	**228**	P		**Pb**	**13 21 01.8**	**+1.0**
TWGZ				S		**Sn**	**13 21 17.1**	**+3.0**
RUGZ	**Raukumara Rang**	**1.11**	**245**	P		**Pb**	**13 21 02.7**	**+0.4**
RUGZ				S		**Sn**	**13 21 17.9**	**+1.5**
CNGZ	**Carnagh Statio**	**1.15**	**211**	P		**Pb**	**13 21 03.7**	**+0.9**
TKGZ	**Te Karaka**	**1.28**	**223**	P		**Pb**	**13 21 04.9**	**-0.2**
MWZ	**Matawai**	**1.40**	**233**	P		**Pb**	**13 21 06.4**	**-0.8**
WIZ	**White Island**	**1.40**	**268**	P		**Pn**	**13 21 06.2**	**+0.6**
WSRZ	**White Island S**	**1.41**	**269**	P		**Pb**	**13 21 08.3**	**+1.0**
RIGZ	**Rimuhau**	**1.53**	**218**	P		**Pn**	**13 21 07.9**	**+0.5**
RAGZ	**Rawiri**	**1.57**	**230**	P		**Pb**	**13 21 08.9**	**-1.2**
WHRZ	**Whale Island**	**1.61**	**257**	P		**Pb**	**13 21 10.1**	**-0.6**
URZ	**Urewera**	**1.64**	**242**	Pn		**Pb**	**13 21 10.0**	**-1.2**
	96nm,0.3s,baz=301,slow=3.8,SNR=35							
URZ				Sn		**Sb**	**13 21 31.2**	**-0.3**
	122nm,0.3s,baz=301,slow=22,SNR=20							
URZ				LR		LR	13 21 39.8	
	comp=Z,464nm,21.6s,baz=8.0,slow=36							
URZ	**Urewera**	**1.64**	**242**			**Pb**	**13 21 10.2**	**-1.0**
URZ	**Urewera**	**1.64**	**242**	P		**Pb**	**13 21 10.1**	**-1.2**
PRGZ	**Paritu Road**	**1.65**	**210**	P		**Pn**	**13 21 09.7**	**+0.6**
SNGZ	**Shannon Statio**	**1.81**	**224**	P		**Pn**	**13 21 11.9**	**+0.7**
KNZ	**Kokohu**	**1.82**	**213**	P		**Pn**	**13 21 11.4**	**0.0**
MHGZ	**Mahia Peninsul**	**1.84**	**206**	P		**Pn**	**13 21 12.6**	**+0.9**
EDRZ	**Edgecumbe**	**1.85**	**250**	P		**Pn**	**13 21 12.8**	**+1.0**
MARZ	**Manawahe**	**1.87**	**254**	P		**Pn**	**13 21 13.1**	**+1.0**
RTZ	**Ruatahuna**	**1.92**	**234**	P		**Pn**	**13 21 14.0**	**+1.2**
OPRZ	**Ohinepanea**	**1.93**	**259**	P		**Pn**	**13 21 13.0**	**+0.1**
MUGZ	**Murupara**	**1.98**	**240**	P		**Pn**	**13 21 14.4**	**+0.8**
RAHZ	**Arahi**	**2.04**	**225**	P		**Pn**	**13 21 15.6**	**+1.2**
MKRZ	**Makatiti**	**2.07**	**251**	P		**Pb**	**13 21 17.9**	**-0.6**
TARZ	**Mount Tarawera**	**2.07**	**248**	P		**Pn**	**13 21 16.2**	**+1.3**
WHHZ	**Waihua**	**2.08**	**220**	P		**Pn**	**13 21 15.6**	**+0.8**
LIRZ	**Lichensteins R**	**2.10**	**255**	P		**Pn**	**13 21 16.8**	**+1.6**
RRRZ	**Republican Roa**	**2.10**	**246**	P		**Pn**	**13 21 16.2**	**+1.0**
OMRZ	**Omania**	**2.13**	**253**	P		**Pb**	**13 21 19.2**	**-0.4**
MTHZ	**Maungataniwha**	**2.14**	**230**	P		**Pn**	**13 21 16.9**	**+1.1**
TGRZ	**Tauranga**	**2.15**	**263**	P		**Pn**	**13 21 16.4**	**+0.6**
MYRZ	**Mayor Island**	**2.17**	**275**	P		**Pn**	**13 21 16.0**	**-0.2**
HLRZ	**Highlands Stat**	**2.19**	**249**	P		**Pn**	**13 21 17.7**	**+1.3**
KARZ	**Kaharoa**	**2.21**	**256**	P		**Pn**	**13 21 17.2**	**+0.5**
PRRZ	**Plateau Road**	**2.25**	**243**	P		**Pn**	**13 21 18.1**	**+0.8**
NGRZ	**Ngongotaha**	**2.27**	**254**	P		**Pn**	**13 21 19.3**	**+1.7**
UTU	**Utuhina**	**2.29**	**252**	P		**Pb**	**13 21 23.1**	**+0.9**
HRRZ	**Handcock Road**	**2.29**	**246**	P		**Pn**	**13 21 18.9**	**+1.0**
HSRZ	**Hossack Road**	**2.29**	**248**	P		**Pn**	**13 21 19.1**	**+1.3**
ALRZ	**Allen Road**	**2.32**	**242**	P		**Pn**	**13 21 19.0**	**+0.8**
NMHZ	**Naumai**	**2.32**	**226**	P		**Pn**	**13 21 19.2**	**+0.9**
ARHZ	**Aropaoanui**	**2.34**	**220**	P		**Pn**	**13 21 19.1**	**+0.6**
MRHZ	**Matea Rd**	**2.40**	**235**	P		**Pn**	**13 21 20.1**	**+0.7**
KMRZ	**Kaimai**	**2.41**	**261**	P		**Pn**	**13 21 21.1**	**+1.6**
WPRZ	**Whakapapatarin**	**2.43**	**244**	P		**Pn**	**13 21 20.9**	**+1.1**
BKZ	**Black Stump Fm**	**2.55**	**229**	Pn		**Pn**	**13 21 21.9**	**+0.4**
BKZ	**Black Stump Fm**	**2.55**	**229**	P		**Pn**	**13 21 22.1**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.61**	**214**	P		**Pn**	**13 21 22.1**	**-0.1**
HATZ	**Hinemaiaia**	**2.65**	**237**	P		**Pn**	**13 21 23.0**	**+0.2**
KUTZ	**Kaahu Road**	**2.66**	**247**	P		**Pn**	**13 21 24.0**	**+1.0**
KUZ	**Kuaotunu**	**2.69**	**285**	P		**Pn**	**13 21 21.2**	**-2.0**
TOZ	**Tahuroa Road**	**2.75**	**264**	P		**Pn**	**13 21 24.2**	**+0.1**
KWHZ	**Kaweka Forest**	**2.76**	**225**	P		**Pn**	**13 21 24.4**	**+0.1**
KAHZ	**Kahuranaki**	**2.81**	**215**	P		**Pn**	**13 21 24.8**	**-0.2**
WATZ	**Wairara**	**2.81**	**244**	P		**Pn**	**13 21 26.1**	**+1.0**
TLZ	**Tolley Road**	**2.83**	**252**	P		**Pn**	**13 21 26.2**	**+1.0**
RATZ	**Rangitukua**	**2.85**	**240**	P		**Pn**	**13 21 26.7**	**+1.1**
KRHZ	**Kereru**	**2.95**	**223**	P		**Pn**	**13 21 26.6**	**-0.3**
KATZ	**Kakaramea**	**2.96**	**239**	P		**Pn**	**13 21 28.4**	**+1.3**
PXZ	**Pawanui**	**3.01**	**212**	P		**Pn**	**13 21 26.7**	**-1.0**
BHHZ	**Black Hill Sta**	**3.02**	**228**	P		**Pn**	**13 21 28.0**	**+0.1**
TMVZ	**Te Maari**	**3.02**	**237**	P		**Pn**	**13 21 28.5**	**+0.5**
ETVZ	**East Tongariro**	**3.03**	**236**	P		**Pn**	**13 21 28.6**	**+0.6**
MKAZ	**Moumakai**	**3.05**	**276**	P		**Pn**	**13 21 27.2**	**-1.0**
KRVZ	**Karewarewa**	**3.05**	**238**	P		**Pn**	**13 21 29.1**	**+0.6**
GRZ	**Great Barrier**	**3.07**	**293**	P		**Pn**	**13 21 27.9**	**-0.6**
NNVZ	**North Ngauruho**	**3.09**	**237**	P		**Pn**	**13 21 29.6**	**+0.7**
WTVZ	**West Tongariro**	**3.10**	**238**	P		**Pn**	**13 21 29.7**	**+0.7**
SNVZ	**South Ngauruho**	**3.10**	**236**	P		**Pn**	**13 21 29.8**	**+0.7**
NGZ	**Ngauruhoe**	**3.12**	**237**	P		**Pn**	**13 21 29.9**	**+0.5**
MOVZ	**Moawhango**	**3.15**	**232**	P		**Pn**	**13 21 29.7**	**-0.1**
TWVZ	**Taurewa**	**3.18**	**239**	P		**Pn**	**13 21 30.7**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.19**	**235**	P		**Pn**	**13 21 30.6**	**+0.2**
FWVZ	**Far West T-bar**	**3.20**	**236**	P		**Pn**	**13 21 30.9**	**+0.4**
DRZ	**Dome Shelter**	**3.20**	**235**	P		**Pn**	**13 21 31.5**	**+0.9**
WNVZ	**Wahianoa**	**3.21**	**234**	P		**Pn**	**13 21 30.8**	**+0.3**
TRVZ	**Turoa**	**3.22**	**235**	P		**Pn**	**13 21 31.2**	**+0.4**
WPHZ	**Waipukurau**	**3.23**	**217**	P		**Pn**	**13 21 30.0**	**-0.7**
PNHZ	**Pukenui**	**3.23**	**221**	P		**Pn**	**13 21 29.6**	**-1.2**
ETAZ	**East Tamaki Re**	**3.26**	**278**	P		**Pn**	**13 21 30.4**	**-0.7**
PRHZ	**Porangahau**	**3.30**	**212**	P		**Pn**	**13 21 30.5**	**-1.3**
MBAZ	**Motutapu North**	**3.32**	**281**	P		**Pn**	**13 21 31.3**	**-0.6**
MTVZ	**Mangateitei**	**3.32**	**234**	P		**Pn**	**13 21 32.3**	**+0.3**
PKVZ	**Pokaka**	**3.35**	**237**	P		**Pn**	**13 21 33.1**	**+0.7**
HIZ	**Hauiti**	**3.39**	**251**	Pn		**Pn**	**13 21 34.7**	**+1.8**
HIZ	**Hauiti**	**3.39**	**251**	P		**Pn**	**13 21 34.4**	**+1.5**
ABAZ	**Army Bay**	**3.42**	**284**	P		**Pn**	**13 21 32.6**	**-0.7**
EPAZ	**Eden Park BICE**	**3.42**	**279**	P		**Pn**	**13 21 34.2**	**+0.9**
HBAZ	**Herne Bay Bore**	**3.43**	**280**	P		**Pn**	**13 21 34.7**	**+1.2**
AWAZ	**Awhitu Peninsu**	**3.46**	**276**	P		**Pn**	**13 21 33.8**	**-0.1**
TSZ	**Takapari Road**	**3.46**	**222**	P		**Pn**	**13 21 32.9**	**-1.1**
ANWZ	**Angora Road**	**3.53**	**212**	P		**Pn**	**13 21 33.6**	**-1.2**
WTAZ	**Waiatarua**	**3.54**	**278**	P		**Pn**	**13 21 36.2**	**+1.2**
DVHZ	**Dannevirke**	**3.54**	**217**	P		**Pn**	**13 21 33.8**	**-1.2**
RVAZ	**Riverhead Bore**	**3.57**	**280**	P		**Pn**	**13 21 34.8**	**-0.5**
POWZ	**Post Office Ro**	**3.81**	**220**	P		**Pn**	**13 21 37.2**	**-1.4**
BFZ	**Birch Farm**	**3.81**	**213**			**Pn**	**13 21 36.7**	**-2.0**
BFZ	**Birch Farm**	**3.81**	**213**	P		**Pn**	**13 21 36.9**	**-1.8**
PRWZ	**Pori Road**	**3.83**	**216**	P		**Pn**	**13 21 37.9**	**-1.1**
WAZ	**Wanganui**	**3.84**	**233**	P		**Pn**	**13 21 40.0**	**+1.0**
MHEZ	**Mangahewa**	**3.97**	**245**	P		**Pn**	**13 21 43.7**	**+2.9**
WCZ	**Waipu Caves**	**4.01**	**291**	P		**Pn**	**13 21 40.5**	**-1.0**
LREZ	**Lake Rotokare**	**4.07**	**240**	P		**Pn**	**13 21 43.8**	**+1.5**
DREZ	**Durham Road**	**4.10**	**244**	P		**Pn**	**13 21 45.2**	**+2.5**
MRZ	**Mangatainoka R**	**4.11**	**219**	P		**Pn**	**13 21 41.2**	**-1.6**
PREZ	**Palmer Road**	**4.19**	**242**	P		**Pn**	**13 21 46.3**	**+2.3**
NEZ	**North Egmont**	**4.21**	**244**	P		**Pn**	**13 21 46.5**	**+2.3**
PKE	**Pukeiti**	**4.25**	**245**	P		**Pn**	**13 21 48.1**	**+3.2**
KHEZ	**Kahui Hut**	**4.27**	**244**	P		**Pn**	**13 21 47.4**	**+2.2**
NBEZ	**Newall Road No**	**4.37**	**245**	P		**Pn**	**13 21 49.3**	**+2.9**
NMEZ	**Namu Road**	**4.42**	**243**	P		**Pn**	**13 21 49.6**	**+2.6**
MSWZ	**Moikau Station**	**4.85**	**215**			**Pn**	**13 21 49.6**	**-3.4**
OUZ	**Omahuta**	**4.88**	**296**	Pn		**Pn**	**13 21 53.2**	**-0.3**
OUZ	**Omahuta**	**4.88**	**296**	P		**Pn**	**13 21 52.9**	**-0.6**
TUWZ	**Tuamarina**	**5.52**	**223**			**Pn**	**13 22 00.4**	**-1.7**
CTZ	**Chatham Island**	**7.08**	**153**	P		**Pn**	**13 22 24.7**	**+1.1**
LTZ	**Lake Taylor**	**7.35**	**222**	Pn		**Pn**	**13 22 24.4**	**-2.9**
OXZ	**Oxford**	**7.85**	**220**			**Pn**	**13 22 30.8**	**-3.4**
RPZ	**Rata Peaks**	**8.64**	**222**	Pn		**Pn**	**13 22 41.5**	**-3.4**
	1.6nm,0.3s,baz=290,slow=2.5,SNR=8.7							
RPZ				Sn		Sn	13 24 12.0	-10
	2.3nm,0.3s,baz=312,slow=22,SNR=13							
RPZ	**Rata Peaks**	**8.64**	**222**	Pn		**Pn**	**13 22 42.2**	**-2.7**
DZM	**Mont Dzumac**	**18.79**	**321**	LR		LR	13 30 57.0	
	comp=Z,271nm,19.5s,baz=206,slow=34							
MSVF	**Nonsavu**	**19.71**	**357**	LR		LR	13 30 39.4	
	comp=Z,107nm,18.8s,baz=185,slow=31							
STKA	**Stephens Creek**	**31.08**	**269**	P		**P**	**13 26 56.9**	**-0.9**
	4.8nm,0.9s,baz=112,slow=10.0,SNR=8.0							
STKA				LR		LR	13 38 37.0	
	comp=Z,147nm,18.7s,baz=32,slow=35							
	4.8nm,0.9s							
STKA	**Stephens Creek**	**31.08**	**269**	P		**P**	**13 26 57.8**	**0.0**
CTA	**Charters Tower**	**33.27**	**292**	P		**P**	**13 27 16.6**	**-0.5**
	4.3nm,1.1s,baz=110,slow=11,SNR=2.9							
	4.3nm,1.1s							
CTAO	**Charters Tower**	**33.27**	**292**	P		**P**	**13 27 17.8**	**+0.7**
CTAO				IAmb		IAmb	13 27 32.9	
	comp=Z,13nm,1.4s							
BBOO	**Buckleboo**	**35.16**	**265**	P		**P**	**13 27 32.2**	**-1.1**
COEN	**Coen**	**39.49**	**297**	P		**P**	**13 28 09.8**	**-0.4**
COEN				IAmb		IAmb	13 28 41.3	
	comp=Z,8.4nm,0.9s							
AS31	**Alice Springs**	**40.78**	**277**	P		**P**	**13 28 19.9**	**-1.1**
ASAR	**Alice Springs**	**40.78**	**277**	P		**P**	**13 28 19.5**	**-1.5**
	comp=Z,6.2nm,0.9s,baz=116,slow=7.2,SNR=38							
ASAR				S		**S**	**13 34 25.9**	**-4.5**
	comp=Z,0.7nm,0.9s,baz=137,slow=16,SNR=4.7							
	comp=Z,6.2nm,0.9s							
ASAR	**Alice Springs**	**40.78**	**277**	P		**P**	**13 28 19.6**	**-1.3**
FORT	**Forrest**	**42.23**	**264**	P		**P**	**13 28 31.4**	**-1.3**
WR0	**Warramunga Arr**	**42.26**	**282**	P		**P**	**13 28 32.1**	**-0.9**
WB2	**Warramunga Arr**	**42.41**	**282**			**P**	**13 28 33.2**	**-1.2**
WB2				IAmb		IAmb	13 28 33.9	
	comp=Z,12nm,1.3s							
WRAB	**Tennant Creek**	**42.42**	**282**	P		**P**	**13 28 33.2**	**-1.2**

comp=Z,0.7nm,0.6s,baz=116,slow=3.4,SNR=2.0
TORD Torodi Ar. Bea 155.63 186 PKPab **PKPab 13 41 00.2 +0.6**
comp=Z,0.9nm,0.8s,baz=163,slow=2.7,SNR=4.3

IDC 02 13:22:37.1±2.9, 16.64S×174.03W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=339.0km s-min=35.4km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.98**	**258**	P	P	13 31 25.3	-0.5
	0.1nm,0.3s,baz=94,slow=8.1,SNR=1.4						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**49.16**	**253**	P	P	13 31 27.4	+0.2
	1.0nm,0.3s,baz=89,slow=7.8,SNR=13						
	1.0nm,0.3s						
TXAR	**Lajitas Array**	**81.80**	**56**	P	P	13 34 58.5	0.0
	0.1nm,0.4s,baz=220,slow=5.4,SNR=1.7						
	0.1nm,0.4s						

---

*KEA **02** 13:29:32.3, 34.64N×142.30E, h15km, MS4.7/3*
*BJI **02** 13:29:32.7±0.0, 34.53N×141.56E, h9km, mb4.9/74, mB5.2/65, Ms5.4/85, Ms7 5.2/81*
*NIED **02** 13:29:33.8, 34.33N×141.80E, h27km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr5.23; Mθθ0.44; Mϕϕ -5.67; Mrθ1.39; Mθϕ -0.10; Mϕr3.14; Fault plane solution: M0 6.45000×10^16 NP1: ϕs168.00000°, δ31.00000°, λ68.00000°. NP2: ϕs13.00000°, δ61.00000°, λ103.00000°.*
*JMA **02** 13:29:33.8±0.5, 34°N±1.1°, 141.2°E±0.2°, h27km±2km, MD5.3/37, MW5.2/37, FAR SE OFF BOSO PEN*
*IDC **02** 13:29:34.8±0.4, 34.44N×141.49E, h0km, mb4.8/38, mbtmp4.8/41, ML3.1/2, MS4.9/76, Error ellipse: s-maj=12.5km s-min=9.6km az=86.0*
*MOS **02** 13:29:37.6±1.0, 34.44N×141.38E, h28km, mb5.4/64, MS5.2/28, Error ellipse: s-maj=7.8km s-min=4.0km az=122.3*
*NEIC **02** 13:29:37.3±1.7, 34.46N±0.04×141.50E±0.08, h10km±1km, mb5.3/147, Error ellipse: s-maj=12.1km s-min=5.1km az=114.0*
*GCMT **02** 13:29:40.3±0.1, 34.41N±0.01×141.69E±0.01, h21km, MW5.2/141, Moment Tensor Solution. s86,c128; s141,c233; Duration: 1ᵗ0 Moment tensor: Scale 10^17 Nm; Mrr0.70±.02; Mθθ-0.02±.01; Mϕϕ-0.67±.01; Mrθ-0.00±.02; Mθϕ-0.05±.01; Mϕr0.42±.02; Best double couple: M0 0.80500×10^17 NP1: ϕs2.00000°, δ61.00000°, λ88.00000°. NP2: ϕs187.00000°, δ29.00000°, λ94.00000°. Principal axes: T 0.8150, Plg74.0000°, Azm266.0000°; N -0.0190, Plg2.0000°, Azm3.0000°; P -0.7960, Plg16.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 13:29:38.8±0.4, 34.48N±0.03×141.51E±0.03, h30km±2km, h31km:pP-P, n950, σ1ˢ77/967, mb5.2/220, MS5.2/129, 56C-21D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.47**	**292**	P	**Pb**	**13 29 47.9**	**-0.4**
BSO3	**Boso 3**	**0.88**	**291**	P	**Pn**	**13 29 54.7**	**-0.2**
BSO4	**Boso 4**	**1.09**	**298**	P	**Pb**	**13 29 58.5**	**-0.5**
KTR	**Katsuura**	**1.18**	**304**	*e*P	**Pb**	**13 29 59.8**	**-0.8**
KTR				*e*S	**Sb**	**13 30 18.3**	**+2.7**
JKUC	**kamogawauchiur**	**1.27**	**303**	P	**Pn**	**13 30 00.7**	**+0.2**
JKUC	**kamogawauchiur**	**1.27**	**303**	A	A	13 30 00.7	
	comp=E,100nm,6.5s,comp=E,93nm,5.7s						
CHOJ	**Chosi**	**1.33**	**337**	P	**Pn**	**13 30 00.5**	**-0.8**
CHOJ				*e*S	**Sb**	**13 30 19.3**	**-0.4**
CHOJ	**Chosi**	**1.33**	**337**	A	A	13 30 00.5	
	comp=E,62nm,7.5s,comp=E,63nm,4.8s						
JCN	**Nagara**	**1.42**	**311**	A	A	13 30 02.6	
	comp=E,265nm,5.3s,comp=E,270nm,7.4s						
JSMT	**Sammumatsuo**	**1.45**	**323**	P	**Pn**	**13 30 03.4**	**+0.5**
JSMT				*e*S	**Sb**	**13 30 24.5**	**+1.4**
JSMT	**Sammumatsuo**	**1.45**	**323**	A	A	13 30 03.4	
	comp=E,350nm,5.7s,comp=E,493nm,6.1s						
JIHU	**Itakohorinouch**	**1.68**	**332**	A	A	13 30 05.9	
	comp=E,157nm,4.4s,comp=E,116nm,4.4s						
JYO	**Yokosk**	**1.69**	**297**	A	A	13 30 06.4	
	comp=E,153nm,5.5s,comp=E,100nm,6.6s						
JMKN	**Mikurajimanish**	**1.69**	**250**	P	**Pn**	**13 30 05.4**	**-0.9**
JIM2	**Oshima 3**	**1.73**	**278**	P	**Pn**	**13 30 06.6**	**-0.2**
JIM2				*e*S	**Sb**	**13 30 30.6**	**-0.6**
JIM2	**Oshima 3**	**1.73**	**278**	A	A	13 30 06.6	
	comp=E,49nm,4.5s,comp=E,66nm,3.0s						
JTHY	**Toshimahigashi**	**1.83**	**272**	A	A	13 30 08.0	
	comp=E,80nm,4.3s,comp=E,95nm,3.6s						
JNIO	**Niijimaoohara**	**1.85**	**267**	A	A	13 30 08.1	
	comp=E,77nm,7.5s,comp=E,73nm,1.7s						
TOK	**Tokyo**	**1.87**	**310**	A	A	13 30 09.1	
	comp=E,161nm,5.4s,comp=E,145nm,5.8s						
JSKK	**Shikinejimakit**	**1.90**	**266**	A	A	13 30 08.9	
	comp=E,59nm,2.9s,comp=E,42nm,3.8s						
JHJ2	**Mitsune**	**1.96**	**226**	Pn	**Pn**	**13 30 09.9**	**-0.1**
JHJ2	**Mitsune**	**1.96**	**226**	P	**Pn**	**13 30 09.7**	**-0.3**
JHJ2	**Mitsune**	**1.96**	**226**	A	A	13 30 09.7	
	comp=E,63nm,3.6s,comp=E,48nm,7.3s						
JHJ	**Hachijo jima 2**	**1.98**	**227**	Pn	**Pn**	**13 30 09.8**	**-0.5**
	201nm,0.3s,baz=155,slow=23,SNR=68						
JHJ				Sn	**Sn**	**13 30 34.8**	**+0.8**
	792nm,0.3s,baz=264,slow=23,SNR=12						
JHCJ	**Hachijojimakas**	**2.00**	**226**	A	A	13 30 08.1	
	comp=E,42nm,6.6s,comp=E,42nm,10.8s						
JHYU	**Hitachinakayam**	**2.01**	**338**	A	A	13 30 10.2	
	comp=E,41nm,2.6s,comp=E,31nm,4.9s						
JYT	**Yasato**	**2.05**	**329**	Pn	**Pn**	**13 30 11.4**	**+0.3**
JYT	**Yasato**	**2.05**	**329**	A	A	13 30 11.2	
	comp=E,24nm,8.0s,comp=E,23nm,3.6s						
JHTM	**Izuhatsuma**	**2.11**	**284**	A	A	13 30 12.3	
	comp=E,50nm,3.9s,comp=E,42nm,5.5s						
JOD2	**Odawara 2**	**2.14**	**292**	P	**Pn**	**13 30 12.2**	**-0.2**
JOD2				*e*S	**Sb**	**13 30 40.9**	**-2.0**
JOD2	**Odawara 2**	**2.14**	**292**	A	A	13 30 12.2	
	comp=E,27nm,8.3s,comp=E,29nm,5.7s						
JIZS	**Izushimoda**	**2.18**	**277**	P	**Pn**	**13 30 12.5**	**-0.5**
JIZS	**Izushimoda**	**2.18**	**277**	A	A	13 30 12.5	
	comp=E,20nm,2.9s,comp=E,17nm,11.5s						
JSGW	**Sagamiharawaka**	**2.19**	**301**	A	A	13 30 13.7	
	comp=E,22nm,5.5s,comp=E,33nm,4.8s						
JHO	**Hitachi**	**2.26**	**340**	A	A	13 30 13.9	
	comp=E,33nm,8.0s,comp=E,20nm,7.1s						
JHU	**Hanno**	**2.28**	**307**	A	A	13 30 14.9	
	comp=E,29nm,6.4s,comp=E,36nm,5.5s						
JFNN	**Fujinakano**	**2.43**	**288**	A	A	13 30 16.9	
	comp=E,32nm,3.3s,comp=E,36nm,9.3s						
JAOM	**Aogashimamukai**	**2.48**	**216**	*e*P	**Pn**	**13 30 17.5**	**+0.3**
JAOM	**Aogashimamukai**	**2.48**	**216**	A	A	13 30 17.5	
	comp=E,51nm,10.4s,comp=E,49nm,6.6s						
JAG	**Ashikaga**	**2.56**	**320**	A	A	13 30 18.9	
	comp=E,19nm,4.3s,comp=E,22nm,6.4s						
JRY	**Ryogami san**	**2.62**	**306**	A	A	13 30 19.9	
	comp=E,17nm,7.3s,comp=E,16nm,3.6s						
JYN	**Shimob**	**2.63**	**293**	A	A	13 30 20.0	
	comp=E,20nm,5.9s,comp=E,18nm,5.7s						
JSG	**Sagara**	**2.75**	**275**	A	A	13 30 21.2	
	comp=E,44nm,5.5s,comp=E,35nm,8.2s						
JSB	**Shiboa**	**2.80**	**333**	A	A	13 30 21.8	
	comp=E,52nm,4.1s,comp=E,50nm,5.1s						
JKKS	**Kakegawashinom**	**2.92**	**276**	A	A	13 30 23.6	
	comp=E,35nm,3.5s,comp=E,30nm,3.8s						
JKT	**Katashina**	**2.93**	**322**	A	A	13 30 24.0	
	comp=E,16nm,5.4s,comp=E,17nm,4.4s						
JNY	**Yasuok**	**3.12**	**287**	A	A	13 30 26.8	
	comp=E,13nm,5.3s,comp=E,13nm,3.5s						
HMMJ	**Hamamatsu 2**	**3.14**	**278**	A	A	13 30 26.9	
	comp=E,10.0nm,4.0s,comp=E,7.0nm,3.5s						
JFT	**Otama**	**3.17**	**343**	A	A	13 30 26.8	
	comp=E,37nm,4.6s,comp=E,28nm,3.3s						
JFY	**Yanaizu**	**3.26**	**334**	A	A	13 30 28.4	
	comp=E,23nm,3.6s,comp=E,17nm,6.0s						
JMST	**Minamisoumatoc**	**3.27**	**351**	A	A	13 30 27.8	
	comp=E,18nm,11.9s,comp=E,9.0nm,10.5s						
JSSY	**Shinshiroyabe**	**3.32**	**279**	A	A	13 30 29.5	
	comp=E,7.0nm,4.7s,comp=E,8.0nm,6.7s						
JUON	**Uonuma**	**3.37**	**325**	A	A	13 30 30.2	
	comp=E,19nm,7.1s,comp=E,11nm,7.3s						
JNG	**Nsakai**	**3.38**	**306**	A	A	13 30 30.6	
	comp=E,17nm,4.7s,comp=E,21nm,4.4s						
MJAR	**Matsushiro Arr**	**3.38**	**308**	Pn	**Pn**	**13 30 29.5**	**-0.1**
	9.1nm,0.3s,baz=13,slow=15,SNR=254						
MJAR				Sn	**Sn**	**13 31 11.3**	**+2.5**
	5.3nm,0.3s,baz=142,slow=11,SNR=4.0						
	88nm,0.5s						
MAJO	**Matsushiro**	**3.39**	**308**	Pn	**Pn**	**13 30 30.5**	**+0.8**
MAJO	**Matsushiro**	**3.39**	**308**	*i* P	**Pn**	**13 30 30.3**	**+0.7**
JMM	**Marumori**	**3.43**	**351**		**Pn**	**13 30 29.1**	**-1.1**
JAO	**Obara**	**3.58**	**284**	A	A	13 30 33.3	
	comp=E,8.0nm,5.0s,comp=E,9.0nm,11.8s						
JGF	**Kuroka**	**3.58**	**289**	Pn	**Pn**	**13 30 34.0**	**+1.6**
JYAR	**Yonezawaarcadi**	**3.60**	**343**	A	A	13 30 32.7	
	comp=E,21nm,3.3s,comp=E,22nm,6.5s						
JAA	**Atsumi**	**3.60**	**274**	A	A	13 30 33.3	
	comp=E,6.0nm,4.1s,comp=E,7.0nm,3.6s						
JNS	**Sasagawa**	**3.77**	**333**	A	A	13 30 35.6	
	comp=E,14nm,7.7s,comp=E,16nm,5.8s						
JJN	**Nakama**	**3.77**	**315**	A	A	13 30 36.1	
	comp=E,25nm,4.2s,comp=E,18nm,3.5s						
INU	**Inuyama**	**3.79**	**284**	Pn	**Pn**	**13 30 36.5**	**+1.4**
JIZZ	**Izumozaki**	**3.79**	**324**	A	A	13 30 36.2	
	comp=E,43nm,6.9s,comp=E,51nm,4.0s						
JYS	**Shirataka**	**3.91**	**343**	A	A	13 30 37.1	
	comp=E,22nm,6.4s,comp=E,15nm,3.9s						
JICN	**Ichinomiyachia**	**3.92**	**283**	A	A	13 30 38.0	
	comp=E,14nm,2.8s,comp=E,18nm,3.2s						
JOU	**Okura**	**3.94**	**350**	A	A	13 30 37.2	
	comp=E,21nm,11.4s,comp=E,15nm,4.0s						
JTT	**Ttatey**	**4.01**	**303**	A	A	13 30 39.5	
	comp=E,16nm,4.4s,comp=E,28nm,4.7s						
JOFO	**Osakifurukawao**	**4.14**	**354**	A	A	13 30 39.8	
	comp=E,67nm,3.2s,comp=E,75nm,3.2s						
JYA	**Atsumi**	**4.35**	**341**	A	A	13 30 43.4	
	comp=E,19nm,10.9s,comp=E,13nm,5.4s						
JSD	**Sado**	**4.41**	**324**	Pn	**Pn**	**13 30 44.1**	**+0.4**
JJH	**Hakui**	**4.55**	**304**	A	A	13 30 47.1	
	comp=E,7.0nm,4.9s,comp=E,11nm,4.2s						
JKG	**Kaga**	**4.59**	**294**	A	A	13 30 47.6	
	comp=E,8.0nm,12.0s,comp=E,10.0nm,10.9s						
JYYZ	**Yamagatayuza**	**4.70**	**345**	A	A	13 30 48.1	
	comp=E,66nm,4.4s,comp=E,72nm,5.4s						
JNTW	**Noshirotokiwa**	**5.88**	**350**	A	A	13 31 04.4	
	comp=E,40nm,4.9s,comp=E,31nm,6.2s						
JTM	**Tenmabayashi**	**6.30**	**357**	Pn	**Pn**	**13 31 09.6**	**-0.1**
JMN	**Monobe**	**6.37**	**265**	Pn	**Pn**	**13 31 13.2**	**+2.5**
JHS	**Saijyo**	**6.93**	**277**	Pn	**Pn**	**13 31 20.2**	**+1.9**
JCJ	**Chichijima**	**7.39**	**175**	Pn	**Pn**	**13 31 22.5**	**-2.1**
	156nm,0.6s,baz=275,slow=23,SNR=21						
JCJ				Sn	**Sn**	**13 32 38.9**	**-8.6**
	39nm,0.3s,baz=291,slow=23,SNR=4.2						
JCJ	**Chichijima**	**7.39**	**175**	Pn	**Pn**	**13 31 23.6**	**-1.0**
JEW	**Eniwo**	**8.35**	**360**	Pn	**Pn**	**13 31 38.0**	**+0.3**
NMR	**Nemuro--Hokkai**	**9.46**	**19**	*e*P	**Pn**	**13 31 49.7**	**-3.3**
RUSJ	**Misakicho**	**10.04**	**16**	*e*P	**Pn**	**13 31 57.5**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**10.12**	**18**	*e*P	**Pn**	**13 31 58.7**	**-3.2**
YUK				pmax	pmax		
	comp=Z,97nm,0.5s						
YUK				pmax	pmax		
	comp=E,71nm,0.6s						
YUK				pmax	pmax		
	comp=N,98nm,0.5s						
YUK				pmax	pmax		
	comp=Z,303nm,1.5s						
YUK				MLR	MLR		
	comp=Z,5μm,15.0s						
YUK				MLR	MLR		
	comp=N,2μm,16.0s						
YUK				MLR	MLR		
	comp=E,6μm,16.0s						
TEY	**Ternei**	**11.19**	**342**	*e*P	Pn	13 32 04.6	-12
TEY				pmax	pmax		
	comp=E,100nm,12.0s						
TEY				pmax	pmax		
	comp=N,300nm,15.0s						
TEY				pmax	pmax		
	comp=Z,500nm,12.0s						
KSCHJ	**Chungju**	**11.26**	**286**		**Pn**	**13 32 20.8**	**+3.1**
SEHB	**SEOHWA**	**11.33**	**293**	Pn	**Pn**	**13 32 16.2**	**-2.4**
KSRS	**Korea Array**	**11.40**	**289**	Pn	**Pn**	**13 32 23.4**	**+3.8**
	comp=Z,0.5nm,0.3s,baz=104,slow=14,SNR=73						
KSRS				LR	LR	13 37 23.9	
	comp=Z,8μm,18.2s,baz=95,slow=41						
KSAR	**Wonju Array Be**	**11.43**	**289**	Pn	**Pn**	**13 32 22.6**	**+2.7**
KSAR	**Wonju Array Be**	**11.43**	**289**	P	**Pn**	**13 32 22.6**	**+2.7**
KS19	**Wonju Array Si**	**11.45**	**289**		**Pn**	**13 32 23.4**	**+3.1**
TJN	**Taejon**	**11.69**	**283**	Pn	**Pn**	**13 32 25.6**	**+2.0**
TJN	**Taejon**	**11.69**	**283**	P	**Pn**	**13 32 25.6**	**+2.0**
KUR	**Kuril'sk**	**11.79**	**23**	*e*P	**Pn**	**13 32 22.5**	**-2.3**
KUR				pmax	pmax		
	comp=N,26nm,1.0s						
KUR				pmax	pmax		
	comp=Z,36nm,1.0s						
KUR				MLR	MLR		
	comp=Z,5μm,11.0s						
USA0B	**Ussuriysk Arra**	**12.17**	**326**		**Pn**	**13 32 31.3**	**+1.2**
USA0B	**Ussuriysk Arra**	**12.17**	**326**	P	**Pn**	**13 32 31.3**	**+1.2**
USRK	**Ussuriysk Ar.**	**12.17**	**326**	Pn	**Pn**	**13 32 30.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=143,slow=13,SNR=15						
USRK				LR	LR	13 37 21.7	
	comp=Z,5μm,18.1s,baz=221,slow=38						
	comp=Z,12nm,0.8s						
USRK	**Ussuriysk Ar.**	**12.17**	**326**	Pn	**Pn**	**13 32 29.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**12.17**	**326**	P	**Pn**	**13 32 29.6**	**-0.5**
HHU	**Hamhung**	**12.39**	**300**	P	**Pn**	**13 32 34.8**	**+1.7**
HHU				pP	P	13 32 37.9	-6.9
HHU				S	**Sn**	**13 34 56.0**	**+5.9**
HHU				AMS	AMS		
	comp=N,668nm,11.4s						
HHU				AMS	AMS		
	comp=E,150nm,2.6s						
HHU				AMS	AMS		
	comp=Z,238nm,4.0s						
INCN	**Inchon**	**12.41**	**288**		**Pn**	**13 32 37.0**	**+3.6**
INCN	**Inchon**	**12.41**	**288**	P	**Pn**	**13 32 37.1**	**+3.6**
YSS	**Yuzh-Sakhalins**	**12.49**	**4**	Pn	**Pn**	**13 32 33.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**12.49**	**4**	*e*P	**Pn**	**13 32 30.9**	**-3.5**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				pmax	pmax		
	comp=Z,300nm,4.0s						
YSS				MLR	MLR		
	comp=Z,11μm,16.0s						
YSS				MLR	MLR		
	comp=N,11μm,15.0s						
HJU	**Haeju**	**13.22**	**290**	P	**Pn**	**13 32 46.4**	**+2.0**
HJU				pP	**P**	**13 32 49.7**	**-4.3**
HJU				S	S	13 35 23.6	-11
HJU				AMS	AMS		
	comp=N,3μm,14.7s						
HJU				AMS	AMS		
	comp=E,3μm,15.1s						
HJU				AMS	AMS		
	comp=Z,1μm,4.9s						
PYAG	**Pyongyang**	**13.42**	**294**	P	**Pn**	**13 32 50.2**	**+3.0**
MDJ	**Mudanjiang**	**13.66**	**321**	Pn	**Pn**	**13 32 50.8**	**+0.5**
MDJ	**Mudanjiang**	**13.66**	**321**	P	**Pn**	**13 32 51.3**	**+1.0**
MDJ				sP	P	13 33 01.2	+2.4
MDJ				S	**Sn**	**13 35 25.0**	**+4.0**
MDJ				pmax	pmax		
	comp=Z,28nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,1μm,12.0s						
MDJ				LR	LR		
	comp=Z,12μm,19.5s						
MDJ				LR	LR		
	comp=Z,8μm,16.3s						
MDJ				LR	LR		
	comp=Z,10μm,17.3s						
UGL	**Uglegorsk**	**14.59**	**1**	*e*P	**P**	**13 33 10.4**	**+1.3**
UGL				pmax	pmax		
	comp=Z,510nm,3.5s						
UGL				pmax	pmax		
	comp=Z,70nm,1.1s						
UGL				MLR	MLR		
	comp=N,11μm,15.0s						
UGL				MLR	MLR		
	comp=E,8μm,15.0s						
UGL				MLR	MLR		
	comp=Z,9μm,14.0s						
SUJ	**Sinuiju**	**14.65**	**297**	P	**Pn**	**13 33 04.8**	**+0.8**
SUJ				pP	**P**	**13 33 08.5**	**-1.3**
SUJ				S	**Sn**	**13 35 52.2**	**+7.0**
SUJ				AMS	AMS		
	comp=N,5μm,14.5s						
SUJ				AMS	AMS		
	comp=E,5μm,12.9s						
SUJ				AMS	AMS		
	comp=Z,3μm,9.3s						
CN2	**Changchun**	**15.53**	**312**	*e*P	**Pn**	**13 33 14.3**	**-1.2**
CN2				S	**Sn**	**13 36 05.5**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,800nm,14.4s						
CN2				LR	LR		
	comp=Z,9μm,15.0s						
CN2				LR	LR		
	comp=Z,7μm,15.0s						
CN2				LR	LR		
	comp=Z,9μm,14.0s						
BNX	**BinXian**	**15.56**	**320**	⇓P	**Pn**	**13 33 13.7**	**-2.2**
BNX				pP	**P**	**13 33 20.7**	**+0.8**
BNX				sP	**pP**	**13 33 23.4**	**-2.9**
BNX				PP	**sP**	**13 33 27.1**	**-2.3**
BNX				S	**Sn**	**13 36 03.7**	**-3.5**
BNX				sS	**S**	**13 36 14.6**	**-7.4**
BNX				pmax	pmax		
	comp=Z,26nm,1.1s						
BNX				pmax	pmax		
	comp=Z,710nm,11.2s						
BNX				LR	LR		
	comp=Z,8μm,15.2s						
BNX				LR	LR		
	comp=Z,10μm,16.0s						
BNX				LR	LR		
	comp=Z,6μm,14.8s						
SNY	**Shenyang**	**15.88**	**303**	⇑P	**Pn**	**13 33 19.5**	**-0.6**
SNY				S	**Sn**	**13 36 08.6**	**-6.5**
SNY				pmax	pmax		
	comp=Z,40nm,1.7s						
SNY				pmax	pmax		
	comp=Z,830nm,6.5s						
SNY				LR	LR		
	comp=Z,5μm,16.7s						
SNY				LR	LR		
	comp=Z,6μm,17.5s						
SNY				LR	LR		
	comp=Z,8μm,18.0s						
TYV	**Tymovskoe**	**16.39**	**3**	*e*P	**P**	**13 33 32.7**	**+3.6**
TYV				pmax	pmax		
	comp=Z,64nm,1.8s						
TYV				pmax	pmax		
	comp=Z,500nm,2.8s						
KLR	**Kul'dur**	**16.41**	**337**	Pn	**Pn**	**13 33 24.1**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=135,slow=13,SNR=8.6						
KLR				LR	LR	13 40 50.1	
	comp=Z,4μm,18.4s,baz=150,slow=41						
KLR	**Kul'dur**	**16.41**	**337**	*i* P	**Pn**	**13 33 26.7**	**-0.1**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DL2	**Dalian**	**16.54**	**291**	P	**Pn**	**13 33 26.5**	**-2.0**
DL2				S	**S**	**13 36 37.9**	**-4.3**
DL2				pmax	pmax		
	comp=Z,77nm,1.2s						
DL2				pmax	pmax		
	comp=Z,1μm,7.9s						
DL2				LR	LR		
	comp=Z,7μm,13.7s						
DL2				LR	LR		
	comp=Z,3μm,18.1s						
DL2				LR	LR		
	comp=Z,10μm,15.9s						
GRNR	**Gornyy**	**16.69**	**349**	⇑*i* P	**Pn**	**13 33 27.1**	**-3.3**
GRNR				*e*S	**Sn**	**13 36 28.5**	**-6.3**
GRNR				pmax	pmax		
	comp=E,1.0nm,0.8s						
GRNR				pmax	pmax		
	comp=N,3.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GRNR				smax	smax		
	comp=N,3.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,2μm,13.0s						
GRNR				MLR	MLR		
	comp=N,2μm,15.0s						
GRNR				MLR	MLR		
	comp=Z,5μm,15.0s						
SSE	**Sheshan**	**17.41**	**264**	P	**Pn**	**13 33 39.8**	**+0.3**
SSE				S	**S**	**13 36 59.8**	**-0.4**
SSE				pmax	pmax		
	comp=Z,17nm,0.6s						
SSE				pmax	pmax		
	comp=Z,540nm,10.0s						
SSE				LR	LR		
	comp=Z,3μm,14.3s						
SSE				LR	LR		
	comp=Z,7μm,17.2s						
NJ2	**Nanjing**	**19.09**	**269**	*e*P	**P**	**13 33 59.1**	**+0.1**
NJ2				sP	**pP**	**13 34 04.4**	**-0.6**
NJ2				PP	**pwP**	**13 34 13.6**	**-0.7**
NJ2				S	**S**	**13 37 35.1**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,24nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,2μm,9.0s						
NJ2				LR	LR		
	comp=Z,4μm,14.2s						
NJ2				LR	LR		
	comp=Z,8μm,16.6s						
NJ2				LR	LR		
	comp=Z,9μm,16.2s						
TIA	**Tai'an**	**19.95**	**282**	⇑P	**P**	**13 34 07.5**	**-1.0**
TIA				LR	LR		
	comp=Z,4μm,17.2s						
TIA				LR	LR		
	comp=Z,2μm,21.1s						
TIA				LR	LR		
	comp=Z,3μm,19.4s						
SSLB	**Suanglung**	**20.84**	**245**	P	**P**	**13 34 16.2**	**-2.0**
BJI	**Beijing**	**20.88**	**293**	P	**P**	**13 34 16.0**	**-2.4**
BJI				S	**S**	**13 38 09.8**	**+0.2**
BJI				pmax	pmax		
	comp=Z,620nm,11.5s						
BJI				LR	LR		
	comp=Z,730nm,15.5s						
BJI				LR	LR		
	comp=Z,3μm,15.5s						
BJI				LR	LR		
	comp=Z,5μm,13.5s						
BJT	**Baijiatuau**	**20.88**	**293**		**P**	**13 34 15.9**	**-2.6**
BJT	**Baijiatuau**	**20.88**	**293**	P	**P**	**13 34 15.9**	**-2.6**
BJT				pmax	pmax		
	comp=Z,74nm,1.7s						
GUMO	**Guam**	**21.02**	**171**	P	**P**	**13 34 21.6**	**+1.5**
	comp=Z,311nm,1.2s,baz=176,slow=7.5,SNR=9.3						
GUMO				LR	LR	13 40 42.4	
	comp=Z,3μm,21.1s,baz=8.5,slow=32						
	comp=Z,311nm,1.2s						
GUMO	**Guam**	**21.02**	**171**		**P**	**13 34 22.7**	**+2.6**
GUMO	**Guam**	**21.02**	**171**	P	**P**	**13 34 22.7**	**+2.6**
GUMO				pmax	pmax		
	comp=Z,1μm,1.6s						
TWG	**Pinlang**	**21.32**	**242**	P	**P**	**13 34 21.7**	**-1.6**
ZEA	**Zeya**	**21.73**	**337**	*e*P	**P**	**13 34 26.5**	**-0.9**
ZEA				*e*S	S	13 38 12.5	-14
ZEA				pmax	pmax		
	comp=Z,300nm,1.6s						
ZEA				pmax	pmax		
	comp=E,40nm,1.1s						
ZEA				pmax	pmax		
	comp=N,110nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,180nm,1.0s						
ZEA				smax	smax		
	comp=Z,600nm

comp=Z,270nm,3.9s
XLT LR LR
comp=Z,450nm,12.5s
XLT LR LR
comp=Z,4µm,13.2s
XLT LR LR
comp=Z,4µm,13.1s
HNS HongShan 21.87 285 ⇓P P **P 13 34 26.4 -2.6**
HNS S **S 13 38 21.2 -7.9**
HNS pmax pmax
comp=Z,25nm,0.8s
HNS LR LR
comp=Z,5µm,15.9s
HNS LR LR
comp=Z,2µm,15.1s
HNS LR LR
comp=Z,3µm,17.1s
PEA0B Petropavlovsk- 21.89 27 P **P 13 34 30.5 +1.4**
PEA0B Petropavlovsk- 21.89 27 *ce*P **P 13 34 33.0 +3.8**
PETK Petropavlovsk- 21.89 27 P **P 13 34 30.2 +1.0**
comp=Z,6.9nm,1.1s,baz=55,slow=5.6,SNR=6.6
PETK LR LR 13 46 23.1
comp=Z,992nm,18.1s,baz=212,slow=46
PETK Petropavlovsk- 21.89 27 P **P 13 34 31.2 +2.0**
PETK Petropavlovsk- 21.89 27 P **P 13 34 31.2 +2.0**
QZH Quanzhou 22.02 251 ⇓*i*P **P 13 34 29.4 -1.3**
QZH S **S 13 38 29.8 -2.3**
QZH SS **SnSn 13 39 01.5 +2.6**
QZH LR LR
comp=Z,2µm,13.3s
QZH LR LR
comp=Z,3µm,15.2s
QZH LR LR
comp=Z,2µm,14.2s
PET Petropavlovsk 22.19 28 *e*P **P 13 34 33.5 +1.2**
PET *e*S **S 13 38 33.8 -1.1**
PET pmax pmax
comp=Z,34nm,1.3s
PET MLR MLR
comp=Z,2µm,16.0s
PET MLR MLR
comp=Z,2µm,14.0s
WHN Wuhan 23.21 268 ⇓*i*P **P 13 34 43.6 +0.4**
WHN sP **pP 13 34 49.5 +0.1**
WHN S **S 13 38 52.7 -0.5**
WHN pmax pmax
comp=Z,200nm,1.2s
WHN pmax pmax
comp=Z,670nm,3.1s
WHN LR LR
comp=Z,9µm,11.8s
WHN LR LR
comp=Z,3µm,11.5s
WHN LR LR
comp=Z,17µm,15.4s
TIY Taiyuan 23.67 286 ⇓P **P 13 34 48.7 +0.9**
TIY pmax pmax
comp=Z,21nm,0.5s
TIY pmax pmax
comp=Z,650nm,8.0s
TIY LR LR
comp=Z,6µm,14.8s
TIY LR LR
comp=Z,1µm,12.8s
TIY LR LR
comp=Z,5µm,14.4s
LYN LuoYang 23.89 278 ⇑*i*P **P 13 34 46.4 -3.5**
LYN pP pP 13 34 52.0 -4.6
LYN PP **PnPn 13 35 18.9 +0.3**
LYN S **S 13 38 58.4 -5.9**
LYN pmax pmax
comp=Z,10.0nm,0.6s
LYN pmax pmax
comp=Z,510nm,9.3s
LYN LR LR
comp=Z,12µm,16.5s
LYN LR LR
comp=Z,14µm,16.2s
HHC Hu-ho-hao-te 24.47 294 *e*P **P 13 34 57.6 +2.4**
HHC PP **PnPn 13 35 33.3 +6.8**
HHC S **S 13 39 13.0 -0.6**
HHC pmax pmax
comp=Z,86nm,0.9s
HHC pmax pmax
comp=Z,1µm,7.5s
HHC LR LR
comp=Z,7µm,15.8s
HHC LR LR
comp=Z,5µm,18.0s
HHC LR LR
comp=Z,6µm,17.4s
CNSH ChangSha 25.15 263 ⇑P P 13 34 54.0 -7.4
CNSH S S 13 39 13.1 -11
CNSH pmax pmax
comp=Z,480nm,9.2s
CNSH LR LR
comp=N,3µm,15.1s
CNSH LR LR
comp=E,9µm,15.1s
CNSH LR LR
comp=Z,10µm,15.2s
BTO Baotou 25.62 293 *e*P **P 13 35 06.8 +1.2**
MA2 Magadan 25.83 11 P **P 13 35 08.3 +1.0**
comp=Z,14nm,0.9s,baz=195,slow=8.3,SNR=19
MA2 LR LR 13 46 56.6
comp=Z,3µm,18.1s,baz=202,slow=40
comp=Z,14nm,0.9s
MA2 Magadan 25.83 11 P **P 13 35 08.2 +0.9**
MA2 IAmb IAmb 13 35 29.5
comp=Z,42nm,0.9s
MA2 Magadan 25.83 11 *ce*P **P 13 35 08.0 +0.7**
MA2 pmax pmax
comp=Z,39nm,1.2s
CIT Chita 26.62 320 *e*P **P 13 35 15.2 +0.6**
CIT *e* 13 35 27.8
CIT *e* 13 36 00.8
CIT pmax pmax
comp=Z,173nm,1.9s
H11N2 WAKE ISLAND Hy 26.86 117 T T 14 03 24.5
baz=309,slow=75
H11N1 WAKE ISLAND Hy 26.86 117 T T 14 03 22.2
baz=309,slow=75
H11N3 WAKE ISLAND Hy 26.88 117 T T 14 03 26.7
baz=309,slow=75
XAN Xi'an 26.88 278 P **P 13 35 15.1 -1.9**
XAN pP sP 13 35 25.3 -1.3
XAN S **S 13 39 50.0 -1.9**
XAN SS **SnSn 13 41 05.6 +7.8**
XAN pmax pmax
comp=Z,29nm,1.1s
XAN pmax pmax
comp=Z,680nm,9.5s
XAN LR LR
comp=Z,4µm,16.6s
XAN LR LR
comp=Z,9µm,15.3s
XAN LR LR
comp=Z,14µm,15.1s
ENH Enshi 27.30 270 P **P 13 35 19.6 -1.2**
ENH IAmb IAmb 13 35 21.7
comp=Z,42nm,0.8s
H11S1 WAKE ISLAND Hy 27.48 119 T T 14 04 21.9
baz=312,slow=76
H11S3 WAKE ISLAND Hy 27.48 119 T T 14 04 21.5
baz=312,slow=76
H11S2 WAKE ISLAND Hy 27.50 119 T T 14 04 17.4
baz=312,slow=76
YAK Yakutsk 28.57 348 P **P 13 35 31.9 +0.1**
comp=Z,9.5nm,0.6s,baz=335,slow=11,SNR=8.2
YAK LR LR 13 47 55.0
comp=Z,4µm,18.1s,baz=155,slow=38
comp=Z,9.5nm,0.6s
YAK Yakutsk 28.57 348 P **P 13 35 32.5 +0.6**
YAK IAmb IAmb 13 35 45.7
comp=Z,43nm,0.8s
YAK Yakutsk 28.57 348 *e*P **P 13 35 31.1 -0.7**
YAK *e**PP **pwP 13 35 43.3 -2.6**
YAK *e*PPP PPP 13 36 29.3
YAK *e* 13 38 41.7
YAK *e*S **S 13 40 17.1 -0.8**
YAK *e* 13 46 12.9
YAK pmax pmax
comp=Z,47nm,1.4s
YAK pmax pmax
comp=N,24nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,130nm,2.2s
YAK pmax pmax
comp=N,64nm,1.9s
YAK pmax pmax
comp=E,38nm,2.0s
YAK smax smax
comp=N,334nm,3.4s
YAK smax smax
comp=E,447nm,3.9s
ULN Ulaanbaatar 28.92 308 P **P 13 35 36.8 +1.5**
ULN IAmb IAmb 13 35 38.5
comp=Z,67nm,1.2s
ULN Ulaanbaatar 28.92 308 *ce*P **P 13 35 35.9 +0.6**
ULN pmax pmax
comp=Z,23nm,0.9s
SEY Seymchan 29.28 10 P **P 13 35 39.5 +1.4**
comp=Z,7.1nm,0.9s,baz=199,slow=8.2,SNR=8.2
comp=Z,7.1nm,0.9s
SEY Seymchan 29.28 10 *ce*P **P 13 35 39.1 +1.0**
SEY pmax pmax
comp=Z,31nm,1.6s
SONM Songino Array 29.34 308 P **P 13 35 40.4 +1.4**
comp=Z,29nm,1.0s,baz=112,slow=8.0,SNR=64
SONM LR LR 13 48 53.5
comp=Z,7µm,18.2s,baz=102,slow=40
comp=Z,29nm,1.0s
SONM Songino Array 29.34 308 P **P 13 35 40.4 +1.4**
SONM IAmb IAmb 13 35 42.2
comp=Z,64nm,1.2s
SONM Songino Array 29.34 308 P **P 13 35 40.4 +1.4**
SONM pmax pmax
comp=Z,64nm,1.2s
SHEM Shemya Is, Ala 29.47 42 LR LR 13 46 53.2
comp=Z,1µm,19.1s,baz=252,slow=35
BOD Bodaibo 29.75 330 *e*P **P 13 35 42.8 +0.5**
BOD pmax pmax
comp=Z,106nm,1.6s
LZH Lanzhou 30.66 284 *e*P **P 13 35 50.2 -0.7**
LZH pP pP 13 35 57.2 -0.5
LZH sP sP 13 36 01.5 +0.9
LZH S **S 13 40 57.0 +5.4**
LZH pmax pmax
comp=Z,32nm,1.2s
LZH pmax pmax
comp=Z,220nm,5.5s
LZH LR LR
comp=Z,2µm,13.6s
LZH LR LR
comp=Z,4µm,14.8s
LZH LR LR
comp=Z,5µm,16.1s
GYA Guiyang 30.96 265 ⇑P **P 13 35 50.4 -3.1**
GYA pP sP 13 36 03.2 +0.4
GYA S **S 13 40 51.1 -5.3**
GYA pmax pmax
comp=Z,25nm,1.0s
GYA LR LR
comp=Z,2µm,20.0s
GYA LR LR
comp=Z,8µm,16.3s
GYA LR LR
comp=Z,10µm,16.2s
DAV Davao City (W) 30.98 212 LR LR 13 49 07.5
comp=Z,2µm,18.4s,baz=45,slow=38
CD2 Chengdu 31.85 274 P **P 13 36 00.3 -0.9**
CD2 pP pP 13 36 08.1 +0.4
CD2 sP sP 13 36 12.0 +1.5
CD2 S **S 13 41 16.6 +6.6**
CD2 sS sS 13 41 25.0 +2.9
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,210nm,5.0s
CD2 LR LR
comp=Z,8µm,16.7s
CD2 LR LR
comp=Z,7µm,18.2s
CD2 LR LR
comp=Z,10µm,16.1s
IRK Irkutsk 31.91 315 *e*P **P 13 36 01.4 -0.1**
IRK pmax pmax
comp=Z,291nm,0.2s
ZAK Zakamensk 31.96 312 *e*P **P 13 36 02.4 +0.3**
ZAK pmax pmax
comp=Z,52nm,1.3s
QIZ Qiongzhong 32.03 249 P **P 13 36 05.8 +3.0**
QIZ PP **PP 13 37 13.5 -1.9**
QIZ S **S 13 41 18.8 +6.0**
QIZ LR LR
comp=Z,2µm,17.5s
QIZ LR LR
comp=Z,1µm,17.5s
QIZ LR LR
comp=Z,1µm,18.3s
GTA Gaotai 33.46 291 ⇑P **P 13 36 15.3 -0.1**
GTA pP pP 13 36 21.4 -0.8
GTA sP sP 13 36 24.9 -0.1
GTA PP **PP 13 37 29.7 -1.5**
GTA S **S 13 41 35.2 0.0**
GTA pmax pmax
comp=Z,31nm,1.5s
GTA pmax pmax
comp=Z,370nm,5.2s
GTA LR LR
comp=Z,4µm,16.4s
GTA LR LR
comp=Z,3µm,14.5s
GTA LR LR
comp=Z,4µm,15.3s
MOY Mondy 33.69 313 *e*P **P 13 36 18.7 +1.5**
MOY pmax pmax
comp=Z,62nm,1.7s
SGSI Sangihe 34.05 209 P **P 13 36 18.1 -2.4**
comp=Z,1µmcomp=Z,47nm,0.8s
KMI Kunming 34.73 265 ⇑P **P 13 36 24.4 -2.2**
KMI pP pP 13 36 31.8 -1.4
KMI sP sP 13 36 35.2 -0.8
KMI PP **PnPn 13 37 40.2 -2.8**
KMI S **S 13 41 52.5 -2.7**
KMI sS sS 13 42 07.2 +0.2
KMI pmax pmax
comp=Z,200nm,4.4s
KMI LR LR
comp=Z,4µm,14.9s
KMI LR LR
comp=Z,9µm,16.3s
KMI LR LR
comp=Z,10µm,16.2s
PZH PanZhiHua 35.00 268 P **P 13 36 27.8 -1.0**
PZH sP **sP 13 36 40.2 +2.1**
PZH PP **PP 13 37 49.5 +1.1**
PZH S **S 13 42 01.5 +2.4**
PZH sS **sS 13 42 12.5 +1.5**
PZH SS **SnSn 13 44 09.0 -6.7**
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax
comp=Z,170nm,7.6s
PZH LR LR
comp=Z,3µm,15.2s
PZH LR LR
comp=Z,3µm,17.0s
PZH LR LR
comp=Z,4µm,15.2s
BAKI Biak 35.85 189 P **P 13 36 36.1 +0.2**
comp=Z,50nm,1.2s
TNTI Ternate 36.05 205 P **P 13 36 36.2 -1.5**
comp=Z,44nm,1.2s
MYLDM Lahad Datu 36.11 221 P **P 13 36 37.9 -0.4**
MYLDM IAmb IAmb 13 37 03.7
comp=Z,52nm,1.4s
SMPI Sarmi 36.38 185 P **P 13 36 41.2 +0.8**
comp=Z,41nm,1.2s
SWI Sorong 36.45 197 P **P 13 36 39.6 -1.5**
comp=Z,1µmcomp=Z,45nm,1.0s
BILL Bilibino 36.45 15 ⇓*e*P **P 13 36 43.6 +3.0**
BILL *e* 13 38 03.2
BILL *e*S **S 13 42 16.5 -3.7**
BILL pmax pmax
comp=Z,20nm,1.2s
BILL MLR MLR
comp=Z,2µm,16.0s
SIJI Sorong 36.45 197 LR LR 13 49 01.2
comp=Z,3µm,19.0s,baz=30,slow=32
SRPI Serui, Papua 36.50 189 P **P 13 36 41.8 +0.3**
comp=Z,53nm,1.0s
MANU Manus Island 36.75 170 P **P 13 36 43.1 -0.5**
GENI Genyem 36.90 182 P **P 13 36 45.2 +0.3**
comp=Z,1µmcomp=Z,68nm,1.1s
LBMI Labuha 37.32 204 P **P 13 36 48.9 +0.4**
comp=Z,857nmcomp=Z,42nm,0.9s
KMSI Cibinong 37.51 210 P **P 13 36 48.5 -1.6**
comp=Z,150nm,0.8s
UBPT Khong Chiam 37.60 249 P **P 13 36 50.4 -0.5**
UBPT IAmb IAmb 13 36 51.6
comp=Z,50nm,1.0s
TIXI Tiksi 37.83 354 P **P 13 36 52.2 0.0**
comp=Z,8.2nm,0.9s,baz=92,slow=23,SNR=16
comp=Z,8.2nm,0.9s
TIXI Tiksi 37.83 354 P **P 13 36 52.7 +0.5**
GOMU GeErMu 37.84 286 P **P 13 36 53.6 +0.3**
GOMU sP pP 13 36 58.2 -2.0
GOMU PP **PP 13 38 20.4 +0.6**
GOMU PcP **PcP 13 39 11.1 +1.8**
GOMU S **S 13 42 43.7 +0.9**
GOMU sS ScP 13 42 55.3 +0.6
GOMU pmax pmax
comp=Z,46nm,1.4s
GOMU pmax pmax
comp=Z,340nm,4.7s
GOMU LR LR
comp=Z,1µm,14.4s
GOMU LR LR
comp=Z,2µm,13.7s
GOMU LR LR
comp=Z,2µm,14.1s
GTOI Gorontalo 37.85 211 P **P 13 36 49.1 -3.9**
comp=Z,236nmcomp=Z,21nm,1.1s
FAKI Fak Fak 38.21 195 P **P 13 36 55.6 -0.4**
FAKI IAmb IAmb 13 37 01.0
comp=Z,44nm,1.0s
FAKI Fak Fak 38.21 195 P **P 13 36 55.9 -0.1**
comp=Z,50nm,1.1s
TOLI2 Tolitoli 38.43 215 P **P 13 36 56.0 -1.9**
MRSI Marisa 38.46 213 P **P 13 36 56.9 -1.3**
comp=Z,85nm,1.2s
SANI Sanana 39.16 205 P **P 13 37 01.4 -2.5**
comp=Z,602nmcomp=Z,28nm,1.0s
NIKH Nikolski High 39.43 47 P **P 13 37 07.6 +1.7**
baz=262
SPIA Saint Paul Isl 39.44 40 P **P 13 37 06.3 +0.4**
baz=256
MSAI Masohi 39.45 200 P **P 13 37 07.3 +0.9**
comp=Z,364nmcomp=Z,10nm,1.0s
MPSI Mapaga 39.53 215 P **P 13 37 05.1 -2.0**
comp=Z,11nm,1.0s
APSI Ampana 39.83 212 P **P 13 37 07.5 -2.1**
comp=Z,686nmcomp=Z,86nm,1.1s
AAI Ambon 39.98 201 P **P 13 37 10.9 +0.1**
comp=Z,1µmcomp=Z,68nm,1.1s
BNDI Bandanaira 40.31 198 P **P 13 37 12.6 -0.9**
comp=Z,8µmcomp=Z,157nm,1.4s
CHTO Chiang Mai 40.80 259 P **P 13 37 17.3 -0.4**
CHTO Chiang Mai 40.80 259 P **P 13 37 17.3 -0.4**
CHTO pmax pmax
comp=Z,1.0nm,0.8s
UNV Unalaska Valle 40.94 45 P **P 13 37 18.6 +0.2**
baz=263
CM31 Chiang Mai Arr 40.99 258 P **P 13 37 18.2 -1.0**
CMAR Chiang Mai Arr 40.99 258 P **P 13 37 18.8 -0.5**
comp=Z,12nm,0.8s,baz=46,slow=7.3,SNR=68
CMAR LR LR 13 56 01.1
comp=Z,1µm,18.2s,baz=60,slow=39
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 40.99 258 *i*P **P 13 37 18.7 -0.5**
CMAR pmax pmax
comp=Z,13nm,0.8s
SBUM Sibu 41.95 227 P **P 13 37 25.9 -1.2**
DGZ Jazzator, Alta 41.99 308 *i*P **P 13 37 28.9 +1.7**
DGZ pmax pmax
comp=Z,137nm,0.9s
WMQ Urumqi 42.11 299 ⇓P **P 13 37 30.3 +2.1**
WMQ PP **PP 13 39 09.1 +3.3**
WMQ S **S 13 43 48.1 +2.2**
WMQ sS sS 13 44 00.1 +1.7
WMQ pmax pmax
comp=Z,100nm,1.1s
WMQ pmax pmax
comp=Z,760nm,4.3s
WMQ LR LR
comp=Z,3µm,17.1s
WMQ LR LR
comp=Z,2µm,16.3s
WMQ LR LR
comp=Z,640nm,19.9s
TNA Tin City 43.05 28 P **P 13 37 37.1 +1.6**
baz=249
SAUI Saumlaki 43.33 195 P **P 13 37 38.7 +0.5**
comp=Z,9µmcomp=Z,110nm,1.0s
SPSI Sidrap Palu 43.38 213 P **P 13 37 37.1 -1.6**
comp=Z,19nm,0.9s
ZAA0 Zalesovo Array 43.72 314 P **P 13 37 41.9 +0.9**
ZAA0 IAmb IAmb 13 37 47.1
comp=Z,39nm,1.1s
ZALV Zalesovo Beam 43.72 314 P **P 13 37 41.8 +0.8**
comp=Z,20nm,0.8s,baz=90,slow=6.8,SNR=38
ZALV PcP **PcP 13 39 28.6 +1.0**
comp=Z,5.7nm,0.7s,baz=64,slow=2.2,SNR=4.2
ZALV LR LR 13 55 30.0
comp=Z,684nm,18.6s,baz=94,slow=36
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 43.72 314 P **P 13 37 41.6 +0.6**
ZALV Zalesovo Beam 43.72 314 P **P 13 37 41.6 +0.6**
ANM Nome 43.75 30 P **P 13 37 42.0 +0.9**
baz=253
ZSN Zaisan 43.77 305 *c*P **P 13 37 42.6 +1.1**
ZSN *i*S **S 13 44 10.5 +0.5**
ZSN pmax pmax
comp=Z,76nm,1.5s
ZSN Zaisan 43.77 305 ⇑*i*P **P 13 37 42.6 +1.1**
comp=Z,76nm,1.5s,baz=305
ZSN *i*S **S 13 44 10.6 +0.5**
baz=305
STKI Sintang 44.29 226 P **P 13 37 45.9 -0.1**
comp=Z,31nm,1.3s
KAPI Kappang 44.32 212 LR LR 13 57 15.4
comp=Z,528nm,18.4s,baz=18,slow=38
KAPI Kappang 44.32 212 P **P 13 37 45.6 -0.6**
KAPI IAmb IAmb 13 38 10.4
comp=Z,35nm,1.0s
KAPI Kappang 44.32 212 P **P 13 37 45.7 -0.6**
KAPI pmax pmax
comp=Z,35nm,1.0s
BKSI Bulukumba 44.44 211 P **P 13 37 45.7 -1.4**
comp=Z,427nmcomp=Z,20nm,1.0s
BRDH Bariadhala 44.94 268 LR LR 14 00 02.9
comp=Z,4µm,19.6s,baz=64,slow=41
CHNA Chernabura Isl 45.05 44 P **P 13 37 51.5 -0.1**
baz=268
CNBA Chernabura Isl 45.05 44 P **P 13 37 53.1 +1.5**
CNBA IAmb IAmb 13 38 18.8
comp=Z,37nm,1.2s
S14K Fog Glacier 45.13 42 P **P 13 37 53.5 +1.1**
baz=267
BBKI Banjar Baru 45.33 219 P **P 13 37 54.2 -0.1**
comp=Z,2µmcomp=Z,30nm,1.2s
MK31 Makanchi Array 45.58 304 P **P 13 37 57.1 +1.2**
MK31 IAmb IAmb 13 38 01.1
comp=Z,47nm,1.1s
MK31 Makanchi Array 45.58 304 *i*P **P 13 37 56.3 +0.3**
MKAR Makanchi Array 45.58 304 P **P 13 37 56.9 +0.9**
comp=Z,29nm,0.9s,baz=89,slow=9.9,SNR=58
MKAR LR LR 13 58 38.4
comp=Z,2µm,20.6s,baz=88,slow=38
comp=Z,29nm,0.9s
MKAR Makanchi Array 45.58 304 P **P 13 37 57.0 +1.0**
NRIK Noril'sk 45.62 336 LR LR 13 59 21.7
comp=Z,3µm,18.5s,baz=108,slow=39
RDOG Red Dog Mine 45.76 26 P **P 13 37 57.4 +0.3**
baz=252
MAKZ Makanchi 45.79 304 P **P 13 37 58.2 +0.6**
MAKZ IAmb IAmb 13 38 03.0
comp=Z,54nm,1.1s
MAKZ Makanchi 45.79 304 P **P 13 37 58.2 +0.6**
MAKZ pmax pmax
comp=Z,54nm,1.2s
N16K Nishlik Lake 45.90 37 P **P 13 37 59.7 +1.4**
baz=263
O16K Kokwok River B 46.15 38 P **P 13 38 01.2 +1.0**
baz=265
P16K Nushagak River 46.16 39 P **P 13 38 02.2 +1.9**

baz=266,SNR=5.8
SRIT Nakonsritamara 46.24 246 P P 13 38 01.3 -0.2
TAPN Taplejung 46.25 276 *eP* **P 13 38 01.5 -0.4**
comp=Z,95nm,1.1s
R16K Pilot Point 46.28 41 P **P 13 38 01.5 +0.2**
baz=267
SEM Semipalatinsk 46.59 309 *eP* **P 13 38 03.6 -0.5**
SEM *eS* **S 13 44 50.3 -0.8**
SEM pmax pmax
comp=Z,44nm,1.5s
SEM MLR MLR
comp=Z,2µm,15.0s
SEM Semipalatinsk 46.59 309 *eP* **P 13 38 03.6 -0.5**
comp=Z,44nm,1.5s,baz=309
SEM *eS* **S 13 44 50.3 -0.8**
baz=309
SEM LR LR 13 56 28.7
comp=Z,2µm,15.4s,baz=309
MMRI Maumere 46.61 207 P **P 13 38 04.1 -0.2**
MMRI Maumere 46.61 207 P **P 13 38 03.6 -0.7**
comp=Z,2µmcomp=Z,91nm,1.0s
O17K Koliganek Bris 46.67 38 P **P 13 38 05.3 +1.0**
baz=266
Q16K King Salmon 46.83 39 P **P 13 38 05.8 +0.3**
baz=267
EDFI Ende, Flores 46.92 207 P **P 13 38 05.2 -1.7**
comp=Z,489nmcomp=Z,35nm,1.2s
P17K Kvichak River 46.97 38 P **P 13 38 07.7 +1.1**
baz=267
HNR Honiara 47.04 155 LR LR 13 58 41.8
comp=Z,1µm,19.2s,baz=328,slow=37
RAMN Ramite 47.31 276 *eP* **P 13 38 09.9 -0.2**
comp=Z,310nm,1.0s
CHIR Chirikof Islan 47.33 43 P **P 13 38 09.8 +0.3**
baz=270
N18K Kilae Creek 47.34 36 P **P 13 38 11.8 +2.2**
N18K IAmb IAmb 13 38 38.3
comp=Z,44nm,1.6s
N18K Kilae Creek 47.34 36 P **P 13 38 11.3 +1.7**
baz=266
GCSA Galena City Sc 47.35 31 P **P 13 38 10.2 +0.7**
baz=261
JIRN Jiri 47.38 278 *eP* **P 13 38 11.1 +0.3**
comp=Z,488nm,1.2s
TTA Tatalina 47.49 33 P **P 13 38 12.8 +2.0**
TTA Tatalina 47.49 33 P **P 13 38 12.8 +2.0**
TTA pmax pmax
comp=Z,16nm,1.2s
TTA Tatalina 47.49 33 P **P 13 38 10.7 0.0**
baz=264
SVW2 Sparrevohn 47.52 36 P **P 13 38 13.0 +2.0**
SVW2 IAmb IAmb 13 38 58.9
comp=Z,19nm,1.1s
GUN Gumba 47.53 278 *eP* **P 13 38 12.2 +0.2**
comp=Z,238nm,1.0s
BATI Baumata 47.56 204 P **P 13 38 10.5 -1.2**
comp=Z,837nmcomp=Z,98nm,1.1s
KURK Kurchatov 47.59 310 P **P 13 38 12.8 +1.2**
KURK Kurchatov 47.59 310 *ce* **P 13 38 12.4 +0.7**
KURK pmax pmax
comp=Z,176nm,1.3s
P18K Big Mountain, 47.59 38 P **P 13 38 12.3 +0.6**
baz=268
O18K Koktuh Hills 47.63 38 P **P 13 38 12.8 +1.0**
baz=267
KULM Kulim 47.64 242 P **P 13 38 12.1 -0.4**
KULM IAmb IAmb 13 38 14.7
comp=Z,19nm,1.1s
KURBB Kurchatov Arra 47.66 310 P **P 13 38 12.8 +0.7**
comp=Z,74nm,1.0s,baz=86,slow=7.9,SNR=236
KURBB LR LR 13 59 42.9
comp=Z,3µm,19.7s,baz=61,slow=38
comp=Z,74nm,1.0s
KURBB Kurchatov Arra 47.66 310 P **P 13 38 12.0 -0.2**
IPM Ipoh 47.92 241 P **P 13 38 13.6 -1.1**
IPM IAmb IAmb 13 38 16.9
comp=Z,26nm,1.1s
L19K White Mountain 47.95 34 P **P 13 38 15.8 +1.5**
L19K IAmb IAmb 13 38 38.6
comp=Z,27nm,1.3s
L19K White Mountain 47.95 34 P **P 13 38 15.2 +0.9**
baz=265
N19K Bonanza Creek 48.04 36 P **P 13 38 15.7 +0.6**
baz=267
PKI Pulchoki 48.05 278 *eP* **P 13 38 15.6 -0.3**
comp=Z,223nm,1.2s
PKIN Phulchoki 48.06 278 *eP* **P 13 38 15.4 -0.5**
comp=Z,163nm,1.1s
PDGK Podgornoye 48.07 300 P **P 13 38 15.9 +0.2**
MTN Manton Dam 48.09 194 P **P 13 38 15.5 -0.3**
O19K Port Alsworth 48.09 37 P **P 13 38 15.8 +0.5**
baz=268
SII Sitkinak Islan 48.12 42 P **P 13 38 16.5 +0.8**
baz=271
SHLS Shalkode 48.13 300 *eP* **P 13 38 14.2 -1.9**
SHLS *eS* **S 13 45 09.0 -4.1**
SHLS pmax pmax
comp=Z,32nm,1.2s
SHLS Shalkode 48.13 300 *eP* **P 13 38 14.3 -1.9**
comp=Z,32nm,1.2s,baz=300
SHLS *eS* **S 13 45 09.0 -4.1**
baz=300
M19K Big River Lodg 48.15 35 P **P 13 38 17.0 +1.1**
baz=266
COEN Coen 48.20 178 P **P 13 38 17.6 +0.9**
COEN IAmb IAmb 13 38 35.2
comp=Z,25nm,1.1s
DMN Daman 48.28 278 *eP* **P 13 38 17.5 -0.2**
comp=Z,173nm,1.1s
Q19K Cape Douglas, 48.40 39 P **P 13 38 18.2 +0.4**
baz=269
K20K Telida 48.41 33 P **P 13 38 19.1 +1.3**
K20K IAmb IAmb 13 38 36.7
comp=Z,25nm,1.1s
K20K Telida 48.41 33 P **P 13 38 18.6 +0.8**
baz=265
L20K Farewell, AK 48.43 34 P **P 13 38 18.9 +0.9**
baz=266,SNR=6.9
UZB Uzynbulak 48.45 300 *ce* **P 13 38 18.8 +0.2**
UZB *eS* **S 13 45 17.7 +0.1**
UZB Uzynbulak 48.45 300⇑ *eP* **P 13 38 18.9 +0.2**
baz=300
UZB *eS* **S 13 45 17.8 +0.1**
baz=300
J20K Nowinta River 48.45 32 P **P 13 38 19.1 +1.0**
baz=264
GKN Gorkha 48.51 279 *eP* **P 13 38 19.4 +0.1**
comp=Z,503nm,1.1s
TDK Taldyqorghan 48.52 302 *eP* **P 13 38 20.0 +1.0**
TDK *eS* **S 13 45 18.9 +0.5**
TDK MLR MLR
comp=Z,2µm,15.0s
TDK Taldyqorghan 48.52 302 *eP* **P 13 38 20.0 +1.0**
baz=302
TDK *eS* **S 13 45 18.9 +0.5**
baz=302
TDK LR LR 13 58 36.0
comp=Z,2µm,15.1s,baz=302
PLAI Plampang 48.59 212 P **P 13 38 18.4 -1.3**
comp=Z,80nm,1.1s
OHAK Old Harbor 48.60 41 P **P 13 38 19.3 0.0**
baz=271
P19K Oil Pt 48.62 38 P **P 13 38 20.5 +0.9**
baz=269
KPKS Kokpek 48.62 300 *i* P **P 13 38 20.5 +0.6**
KPKS *eS* **S 13 45 20.6 +0.6**
KPKS pmax pmax
comp=Z,39nm,1.6s
KPKS Kokpek 48.62 300 *i* P **P 13 38 20.6 +0.6**
comp=Z,39nm,1.6s,baz=300
KPKS *eS* **S 13 45 20.7 +0.6**
baz=300
M20K Styx River 48.74 35 P **P 13 38 21.5 +1.0**
baz=267
IMAR Indian Mountai 48.82 29 P **P 13 38 22.6 +1.7**
TPI Tanjungpandan 48.83 228 P **P 13 38 20.7 -0.9**
comp=Z,30nm,1.0s
ZHN Zhinishke 48.86 300 *eP* **P 13 38 22.0 +0.3**
ZHN Zhinishke 48.86 300 *eP* **P 13 38 22.0 +0.3**
baz=300
SATY Saty 48.91 300 *i* P **P 13 38 22.8 +0.7**
SATY *eS* **S 13 45 24.5 +0.5**
SATY pmax pmax
comp=Z,49nm,2.0s
SATY Saty 48.91 300 *i* P **P 13 38 22.9 +0.7**
comp=Z,49nm,2.0s,baz=300
SATY *eS* **S 13 45 24.6 +0.5**
baz=300
TWSI Taliwang, Sumb 48.91 213 P **P 13 38 21.2 -0.9**
comp=Z,54nm,1.1s
O20K Slope Mountain 48.93 37 P **P 13 38 22.1 +0.1**
baz=269
KDAK Kodiak Island 48.97 40 P **P 13 38 24.1 +2.0**
KDAK IAmb IAmb 13 38 39.4
comp=Z,30nm,1.1s
KDAK Kodiak Island 48.97 40 P **P 13 38 24.1 +2.0**
KDAK pmax pmax
comp=Z,30nm,1.1s
KDAK Kodiak Island 48.97 40 P **P 13 38 22.7 +0.5**
baz=271
G21K Allakaket 48.98 29 P **P 13 38 23.6 +1.4**
baz=263
DSRI Dabo 49.03 233 P **P 13 38 23.0 -0.2**
Q20K Shuyak Island 49.05 39 P **P 13 38 23.0 +0.2**
baz=271
F21K Alatna River 49.08 28 P **P 13 38 24.0 +1.1**
baz=262,SNR=6.5
DANN Dangsing 49.10 280 *eP* **P 13 38 24.5 +0.5**
comp=Z,636nm,1.1s
SRBI Singaraja 49.11 215 P **P 13 38 23.0 -0.7**
comp=Z,80nm,1.0s
N20K Mount Spurr 49.16 36 P **P 13 38 25.7 +2.0**
baz=269
SPCR Spurr Chakacha 49.16 36 P **P 13 38 24.9 +1.2**
baz=269
H21K Melozitna Rive 49.17 30 P **P 13 38 26.2 +2.6**
H21K IAmb IAmb 13 38 43.1
comp=Z,46nm,1.4s
H21K Melozitna Rive 49.17 30 P **P 13 38 25.4 +1.7**
baz=264
CHUM Lake Minchumin 49.23 32 P **P 13 38 24.9 +0.8**
baz=266
PPLA Purkeypile 49.23 34 P **P 13 38 26.4 +2.1**
PPLA IAmb IAmb 13 38 45.5
comp=Z,52nm,1.2s
PPLA Purkeypile 49.23 34 P **P 13 38 25.5 +1.2**
baz=267
SPU Mount Spurr 49.23 36 P **P 13 38 26.2 +2.0**
CAST Castle Rocks 49.30 33 P **P 13 38 26.6 +1.9**
CAST IAmb IAmb 13 38 45.8
comp=Z,30nm,1.4s
CAST Castle Rocks 49.30 33 P **P 13 38 26.3 +1.6**
baz=267
PPBI Pangkal Pinang 49.31 230 P **P 13 38 25.4 +0.1**
I21K Tanana 49.47 31 P **P 13 38 27.9 +2.0**
I21K IAmb IAmb 13 38 59.2
comp=Z,38nm,1.4s
I21K Tanana 49.47 31 P **P 13 38 27.6 +1.8**
baz=265,SNR=7.1
SKT Skwentna 49.50 35 P **P 13 38 27.7 +1.5**
SKT IAmb IAmb 13 38 44.8
comp=Z,35nm,1.4s
SKT Skwentna 49.50 35 P **P 13 38 27.1 +0.9**
baz=269
F22K John River 49.62 28 P **P 13 38 29.3 +2.2**
baz=263,SNR=10
CAPN Captain Cook N 49.67 36 P **P 13 38 29.0 +1.6**
baz=270
CHKK Chushkaly 49.75 301 *eP* **P 13 38 29.3 +0.9**
CHKK Chushkaly 49.75 301 *eP* **P 13 38 29.3 +0.9**
baz=301
H22K Ishtalitna Cre 49.78 30 P **P 13 38 30.3 +2.1**
baz=265,SNR=16
G22K Bettles 49.82 28 P **P 13 38 29.3 +0.8**
baz=264
PYUN Piuthan 49.82 280 *eP* **P 13 38 29.8 +0.4**
comp=Z,558nm,1.1s
BPAW Bear Paw Mtn. 49.83 32 P **P 13 38 31.0 +2.3**
BPAW Bear Paw Mtn. 49.83 32 P **P 13 38 29.1 +0.4**
baz=267
KTH Kantishna Hill 49.83 33 P **P 13 38 30.3 +1.5**
KTH IAmb IAmb 13 38 56.9
comp=Z,27nm,1.2s
E22K Anaktuvuk Pass 49.83 27 P **P 13 38 30.2 +1.5**
baz=263,SNR=30
MDOK Medeo 49.85 300 *i* P **P 13 38 30.3 +0.9**
MDOK *eS* **S 13 45 37.5 +0.2**
MDOK Medeo 49.85 300 *i* P **P 13 38 30.3 +0.9**
baz=300
MDOK *eS* **S 13 45 37.6 +0.2**
baz=300
MDOK LR LR 14 01 09.4
comp=Z,752nm,12.3s,baz=300
SUA Susitna One 49.87 36 P **P 13 38 28.6 -0.5**
BRSE Bradley Lake S 49.88 38 P **P 13 38 29.0 -0.2**
baz=271
AAA Alma-Ata 49.94 300 *eP* **P 13 38 30.5 +0.6**
AAA Alma-Ata 49.94 300 *eP* **P 13 38 30.8 +0.9**
comp=Z,62nm,1.1s,baz=300
MLY Manley 49.98 31 P **P 13 38 31.2 +1.3**
baz=267,SNR=12
CUT Chulitna 50.10 34 P **P 13 38 31.3 +0.6**
baz=269
TRF Thorofare Moun 50.11 33 P **P 13 38 31.3 +0.2**
baz=268
KUU Kurty 50.20 301 *c i* P **P 13 38 32.0 +0.2**
KUU *eS* **S 13 45 42.2 +0.4**
KUU pmax pmax
comp=Z,64nm,1.6s
KUU MLR MLR
comp=Z,965nm,14.0s
KUU Kurty 50.20 301⇑ *i* P **P 13 38 32.0 +0.2**
comp=Z,64nm,1.6s,baz=301
KUU *eS* **S 13 45 42.2 +0.4**
baz=301
KUU LR LR 13 59 06.9
comp=Z,965nm,13.6s,baz=301
D23K Nanushuk River 50.34 26 P **P 13 38 33.6 +1.1**
baz=264
COLD Coldfoot 50.35 28 P **P 13 38 33.8 +1.2**
baz=265
RC01 Rabbit Creek A 50.36 36 P **P 13 38 33.0 +0.3**
baz=271
O22K Cooper Landing 50.38 37 P **P 13 38 32.7 -0.1**
baz=271
G23K Bananza Creek 50.38 29 P **P 13 38 34.1 +1.2**
baz=266,SNR=8.0
C23K Itkillik River 50.47 25 P **P 13 38 34.4 +1.0**
baz=263,SNR=18
SEW Seward 50.52 37 P **P 13 38 34.1 +0.2**
baz=272
H23K Yukon River 50.52 30 P **P 13 38 35.6 +1.7**
baz=267,SNR=22
PMR Palmer 50.64 35 P **P 13 38 35.6 +0.8**
baz=271
NEA2 Nenana 50.68 31 P **P 13 38 36.5 +1.4**
NEA2 IAmb IAmb 13 39 08.2
comp=Z,45nm,1.2s
NEA2 Nenana 50.68 31 P **P 13 38 36.2 +1.1**
baz=269,SNR=20
TOLK Toolik Lake Re 50.71 26 P **P 13 38 36.6 +1.2**
TOLK IAmb IAmb 13 38 43.4
comp=Z,33nm,1.1s
TOLK Toolik Lake Re 50.71 26 P **P 13 38 36.9 +1.6**
baz=265,SNR=8.5
MCK McKinley 50.72 33 P **P 13 38 36.0 +0.5**
baz=269
PWJI Pagerwojo 50.77 219 P **P 13 38 34.9 -1.4**
comp=Z,74nm,0.9s
WAT1 Susitna Watana 50.90 34 P **P 13 38 36.5 -0.3**
baz=270
TKM2 Tokmak 2 50.94 300 P **P 13 38 39.3 +1.6**
SNR=30
TKM2 Tokmak 2 50.94 300 P **P 13 38 38.2 +0.5**
KNK Knik Glacier 50.97 36 P **P 13 38 38.0 +0.7**
KNK Knik Glacier 50.97 36 P **P 13 38 37.8 +0.5**
baz=272
SML Sawmill 51.02 35 P **P 13 38 38.0 +0.2**
baz=272
D24K Happy Valley 51.03 26 P **P 13 38 39.4 +1.8**
baz=265,SNR=14
PWL Port Wells 51.05 36 P **P 13 38 38.2 +0.2**
baz=272
E24K Your Creek 51.07 27 P **P 13 38 39.9 +1.9**
baz=266,SNR=24
C24K Franklin Bluff 51.12 25 P **P 13 38 39.5 +1.2**
baz=265
TCOL CIGO, UAF Yank 51.20 31 P **P 13 38 39.3 +0.4**
baz=270
COLA College 51.21 31 *i* P **P 13 38 41.2 +2.2**
COLA pmax pmax
comp=Z,27nm,2.5s
COLA College 51.21 31 P **P 13 38 39.3 +0.3**
baz=270
H24K Noodor Dome 51.21 30 P **P 13 38 40.0 +0.8**
baz=269
F24K Squaw Lake 51.27 28 P **P 13 38 41.1 +1.6**
baz=267
WAT6 Susitna Watana 51.27 34 P **P 13 38 40.5 +0.7**
baz=271
M23K Glacier View 51.30 35 P **P 13 38 40.7 +0.8**
baz=272
KNRA Kununurra 51.33 196 P **P 13 38 40.5 +0.1**
POKR Poker Plat Res 51.38 31 P **P 13 38 41.3 +0.9**
baz=270
G24K Hadweenzic Riv 51.40 29 P **P 13 38 42.6 +2.1**
baz=268,SNR=21
DHY Denali Highway 51.43 33 P **P 13 38 42.0 +1.0**
baz=271
BRZS Berezniki 51.47 310 *c i* P **P 13 38 41.3 +0.1**
BRZS *eS* **S 13 45 59.0 -0.2**
BRZS pmax pmax
comp=Z,38nm,1.8s
BRZS Berezniki 51.47 310⇑ *i* P **P 13 38 41.4 +0.1**
comp=Z,38nm,1.8s,baz=310
BRZS *eS* **S 13 45 59.0 -0.2**
baz=310
KBK Karagaybulak 51.47 300 P **P 13 38 43.5 +1.9**
SNR=14
SCM Sheep Creek Mo 51.49 35 P **P 13 38 41.4 +0.1**
baz=272
SGDS Sogindy 51.50 301 *c i* P **P 13 38 42.2 +0.5**
SGDS pmax pmax
comp=Z,37nm,1.7s
SGDS Sogindy 51.50 301⇑ *i* P **P 13 38 42.2 +0.5**
comp=Z,37nm,1.7s,baz=301
CHMS Chumysh 51.53 301 P **P 13 38 43.5 +1.6**
SNR=7.3
BTLS Baital 51.54 303 *c i* P **P 13 38 42.1 +0.2**
BTLS *eS* **S 13 46 00.7 +0.3**
BTLS pmax pmax
comp=Z,45nm,1.6s
BTLS Baital 51.54 303⇑ *i* P **P 13 38 42.1 +0.2**
comp=Z,45nm,1.6s,baz=303
BTLS *eS* **S 13 46 00.7 +0.3**
baz=303
KSH Kashi 51.55 296 P **P 13 38 46.9 +4.7**
KSH pP sP 13 38 52.3 +0.2
KSH S **S 13 46 06.9 +5.9**
KSH ScS **ScS 13 48 31.1 +0.6**
KSH pmax pmax
comp=Z,24nm,1.2s
KSH LR LR
comp=Z,970nm,18.2s
KSH LR LR
comp=Z,1µm,15.8s
KSH LR LR
comp=Z,2µm,17.9s
P23K Montague Islan 51.55 37 P **P 13 38 42.5 +0.8**
baz=274
HDA Harding Lake 51.59 32 P **P 13 38 42.1 +0.1**
baz=271
IL31 51.62 31 P **P 13 38 42.7 +0.6**
ILAR Eielson Array 51.62 31 P **P 13 38 42.3 +0.2**
comp=Z,6.5nm,1.0s,baz=266,slow=6.3,SNR=41
ILAR LR LR 14 03 45.4
comp=Z,590nm,19.7s,baz=271,slow=40
comp=Z,6.5nm,1.0s
ILAR Eielson Array 51.62 31 P **P 13 38 42.7 +0.6**
USP Ospenovka 51.64 301 P **P 13 38 44.2 +1.5**
SNR=9.5
GLI Glacier Island 51.65 36 P **P 13 38 42.6 +0.1**
baz=273
AAK Ala-Archa 51.80 300 P **P 13 38 45.5 +1.4**
SNR=6.9
AAK Ala-Archa 51.80 300 LR LR 14 03 15.2
comp=Z,2µm,18.3s,baz=73,slow=39
AAK Ala-Archa 51.80 300 P **P 13 38 45.4 +1.4**
AAK Ala-Archa 51.80 300 *ce* **P 13 38 44.7 +0.6**
AAK pmax pmax
comp=Z,66nm,2.5s
AAK Ala-Archa 51.80 300 *i* P **P 13 38 45.5 +1.4**
SNR=9.0
UCH Uchtor 51.89 300 P **P 13 38 47.1 +2.0**
SNR=17
D25K Kavik River 51.91 25 P **P 13 38 45.5 +1.2**
baz=267,SNR=15
FID Port Fidalgo 51.96 36 P **P 13 38 45.8 +1.1**
FID IAmb IAmb 13 39 09.5
comp=Z,86nm,1.6s
HIN Hinchinbrook I 51.98 37 P **P 13 38 46.5 +1.6**
HIN IAmb IAmb 13 39 10.8
comp=Z,69nm,1.4s
OTUK Ortayu 52.01 308 P **P 13 38 45.3 -0.1**
M24K Tolsona, Glenn 52.02 35 P **P 13 38 45.0 -0.3**
baz=273
H25K Birch Creek 52.05 29 P **P 13 38 45.6 +0.2**
baz=270
K24K Donnelly Dome 52.12 32 P **P 13 38 47.1 +1.2**
baz=272,SNR=5.3
F25K Christian Rive 52.13 28 P **P 13 38 47.0 +1.1**
baz=269,SNR=20
Q23K Middleton Isla 52.13 38 P **P 13 38 47.0 +1.0**
baz=275
E25K Arctic Village 52.16 27 P **P 13 38 48.1 +1.9**
baz=269,SNR=23
KLU Klutina 52.18 35 P **P 13 38 47.8 +1.3**
KLU IAmb IAmb 13 39 14.2
comp=Z,46nm,1.4s
KLU Klutina 52.18 35 P **P 13 38 47.8 +1.3**
baz=274,SNR=7.5
PRP Porcupine Dome 52.18 30 P **P 13 38 46.2 -0.3**
baz=271
J25K Salcha River, 52.27 31 P **P 13 38 47.2 +0.1**
baz=272
FYU Fort Yukon 52.29 29 P **P 13 38 49.4 +2.4**
PAX Paxson 52.30 34 P **P 13 38 47.6 +0.3**
baz=273
EKS2 Erkin-Say 52.31 300 P **P 13 38 49.0 +1.2**
SNR=9.5
EYAK Cordova Ski Ar 52.34 37 P **P 13 38 48.0 +0.5**
baz=275
BVA2 Borovoye Array 52.37 314 P **P 13 38 48.0 +0.1**
BVAR Borovoye Array 52.37 314 LR LR 14 03 00.6
comp=Z,2µm,18.0s,baz=74,slow=38
BRVK Borovoye 52.42 314 P **P 13 38 49.5 +1.1**
BRVK IAmb IAmb 13 38 59.6
comp=Z,42nm,1.1s
BRVK Borovoye 52.42 314 *ce* **P 13 38 49.4 +1.1**
BRVK pmax pmax
comp=Z,88nm,2.5s
C26K Camden Bay 52.44 25 P **P 13 38 49.9 +1.8**
baz=268
HARP HAARP 52.48 34 P **P 13 38 49.3 +0.7**
baz=274
AML Almayashu 52.50 300 P **P 13 38 51.8 +2.2**
SNR=15
BMAR Burnt Mountain 52.54 28 P **P 13 38 50.8 +1.8**
RIDG Independent Ri 52.54 33 P **P 13 38 50.1 +0.9**
RIDG Independent Ri 52.54 33 P **P 13 38 50.0 +0.9**
baz=273
GSI Gunungsitoli 52.59 241 P **P 13 38 49.4 -0.6**
GSI Gunungsitoli 52.59 241 P **P 13 38 48.6 -1.4**
comp=Z,90nm,1.4s
F26K Sheenjek River 52.70 28 P **P 13 38 52.4 +2.2**
baz=271,SNR=24
N25K Chitina, Valde 52.80 35 P **P 13 38 53.4 +2.2**
N25K Chitina, Valde 52.80 35 P **P 13 38 51.9 +0.8**
baz=275
C27K Jago River 52.86 25 P **P 13 38 52.1 +0.8**
baz=270
G26K Porcupine Rive 52.86 28 P **P 13 38 53.7 +2.4**
baz=272,SNR=18
BMRM Bremner River 52.86 36 P **P 13 38 53.4 +2.0**
BMRM IAmb IAmb 13 39 11.6
comp=Z,62nm,1.4s
BMRM Bremner River 52.86 36 P **P 13 38 53.0 +1.5**
baz=275
RAGM Ragged Mountai 52.88 37 P **P 13 38 54.4 +2.7**
RAGM IAmb IAmb 13 39 24.7
comp=Z,50nm,1.2s
DOT Dot Lake 52.90 33 P **P 13 38 52.8 +1.1**
SCRK Sand Creek 52.91 32 P **P 13 38 52.5 +0.6**
SCRK IAmb IAmb 13 39 09.5
comp=Z,30nm,1.2s
SCRK Sand Creek 52.91 32 P **P 13 38 52.7 +0.8**
baz=274,SNR=30
KAIM Kayak Island 53.06 37 P **P 13 38 53.8 +0.9**
baz=276
J26L Joseph Creek 53.06 32 P **P 13 38 53.8 +0.8**

J26L	**Joseph Creek**	**53.06**	**32**	P		**P**		**13 38 53.4**	**+0.5**
	baz=274									
L26K	**Log Cabin Wild**	**53.26**	**33**	P		**P**		**13 38 55.9**	**+1.5**
	baz=275,SNR=15									
M26K	**Nabesna, AK**	**53.48**	**34**	P		**P**		**13 38 57.4**	**+1.3**
	baz=276									
MCARA	**McCarthy VSAT**	**53.58**	**35**	P		**P**		**13 38 57.6**	**+0.9**
	baz=276									
E27K	**Coleen River**	**53.65**	**27**	P		**P**		**13 38 58.9**	**+1.7**
	baz=273,SNR=13									
G27K	**Doyon Strip**	**53.70**	**29**	P		**P**		**13 38 58.0**	**+0.5**
	baz=274									
K27K	**Chicken**	**53.74**	**32**	P		**P**		**13 38 59.4**	**+1.5**
	baz=275									
H27K	**Steamboat Moun**	**53.79**	**29**	P		**P**		**13 38 60.0**	**+1.7**
	baz=274,SNR=23									
I27K	**Kandik River**	**53.80**	**30**	P		**P**		**13 38 58.3**	**0.0**
	baz=274									
L27K	**Beaver Creek,**	**53.95**	**33**	P		**P**		**13 39 00.9**	**+1.4**
	baz=276,SNR=20									
BCAR	**Beaver Creek A**	**53.97**	**33**	P		**P**		**13 39 01.2**	**+1.6**
DZA	**Taraz**	**53.98**	**301**	*e*P		**P**		**13 39 00.5**	**+0.5**
DZA				*e*S		**S**		**13 46 33.9**	**+0.1**
DZA	**Taraz**	**53.98**	**301**	*e*P		**P**		**13 39 00.5**	**+0.5**
	baz=301									
DZA				*e*S		**S**		**13 46 34.0**	**+0.1**
	baz=301									
M27K	**Edge Creek, AK**	**54.01**	**34**	P		**P**		**13 39 01.3**	**+1.3**
	baz=277									
EGAK	**Eagle**	**54.07**	**31**	P		**P**		**13 39 01.1**	**+0.8**
EGAK	**Eagle**	**54.07**	**31**	P		**P**		**13 39 00.7**	**+0.5**
	baz=276									
MESA	**MESA**	**54.25**	**37**	P		**P**		**13 39 02.7**	**+0.9**
	baz=278									
WB0	**Warramunga Arr**	**54.37**	**188**	P		**P**		**13 39 02.8**	**-0.1**
WB0				IAmb	IAmb			13 40 03.0		
	comp=Z,46nm,1.1s									
FITZ	**Fitzroy Crossi**	**54.42**	**199**	LR		LR		14 01 46.9		
	comp=Z,414nm,19.5s,baz=32,slow=36									
FITZ	**Fitzroy Crossi**	**54.42**	**199**	P		**P**		**13 39 03.7**	**+0.4**
FITZ				IAmb	IAmb			13 39 08.1		
	comp=Z,48nm,1.2s									
CTG	**Chitna Glacier**	**54.44**	**36**	P		**P**		**13 39 03.9**	**+0.7**
	baz=278									
CTA	**Charters Tower**	**54.45**	**175**	P		**P**		**13 39 03.3**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=342,slow=9.6,SNR=2.4									
CTA				LR		LR		14 01 23.2		
	comp=Z,440nm,21.9s,baz=340,slow=35									
	comp=Z,4.4nm,0.9s									
BVCY	**Beaver Creek**	**54.47**	**34**	P		**P**		**13 39 03.3**	**+0.1**
	baz=278									
KK31	**Karatay Array**	**54.50**	**302**	P		**P**		**13 39 05.2**	**+1.5**
KK31	**Karatay Array**	**54.50**	**302**	*i* P		**P**		**13 39 04.2**	**+0.5**
KKAR	**Karatay Array**	**54.50**	**302**	P		**P**		**13 39 04.9**	**+1.1**
KKAR	**Karatay Array**	**54.50**	**302**	P		**P**		**13 39 04.7**	**+1.0**
KKAR				IAmb	IAmb			13 39 06.0		
	comp=Z,84nm,1.1s									
KKAR	**Karatay Array**	**54.50**	**302**	P		**P**		**13 39 04.7**	**+1.0**
KKAR				pmax	pmax					
	comp=Z,84nm,1.1s									
WRAB	**Tennant Creek**	**54.54**	**188**	P		**P**		**13 39 04.1**	**0.0**
WRAB				IAmb	IAmb			13 39 08.4		
	comp=Z,51nm,1.2s									
WRAB	**Tennant Creek**	**54.54**	**188**	P		**P**		**13 39 04.1**	**0.0**
WRAB				pmax	pmax					
	comp=Z,51nm,1.2s									
WR0	**Warramunga Arr**	**54.54**	**188**	P		**P**		**13 39 04.1**	**0.0**
WB2	**Warramunga Arr**	**54.55**	**188**	P		**P**		**13 39 04.1**	**-0.1**
WB2				IAmb	IAmb			13 39 58.5		
	comp=Z,35nm,1.0s									
WRA	**Warramunga Arr**	**54.55**	**188**	P		**P**		**13 39 03.5**	**-0.7**
	comp=Z,34nm,1.1s,baz=2.5,slow=7.3,SNR=64									
WRA				LR		LR		14 01 52.2		
	comp=Z,874nm,19.4s,baz=20,slow=36									
	comp=Z,34nm,1.1s									
WRA	**Warramunga Arr**	**54.55**	**188**	P		**P**		**13 39 03.5**	**-0.7**
WRA	**Warramunga Arr**	**54.55**	**188**	P		**P**		**13 39 03.5**	**-0.7**
WRA				pmax	pmax					
	comp=Z,5.0nm,1.3s									
YUK3	**Moose Creek**	**54.74**	**35**	P		**P**		**13 39 05.6**	**+0.2**
	baz=278									
DAWY	**Dawson**	**54.91**	**32**	P		**P**		**13 39 07.4**	**+1.0**
DAWY				IAmb	IAmb			13 39 40.5		
	comp=Z,35nm,1.6s									
O28M	**Mount Upton**	**55.02**	**36**	P		**P**		**13 39 08.1**	**+0.5**
	baz=279									
PINM	**Pinnacle**	**55.10**	**37**	P		**P**		**13 39 08.8**	**+0.9**
	baz=280									
IUG	**Iuzhnay**	**55.11**	**301**	*c i* P		**P**		**13 39 09.4**	**+1.1**
IUG				*e*S		**S**		**13 46 49.8**	**+0.5**
IUG	**Iuzhnay**	**55.11**	**301**	⇑ *i* P		**P**		**13 39 09.4**	**+1.1**
	baz=301									
IUG				*e*S		**S**		**13 46 49.8**	**+0.5**
	baz=301									
I29M	**Ogilvie Camp,**	**55.20**	**30**	P		**P**		**13 39 09.5**	**+1.0**
I29M				IAmb	IAmb			13 39 40.2		
	comp=Z,42nm,1.4s									
NIL	**Nilore**	**55.52**	**290**	P		**P**		**13 39 12.3**	**+1.0**
NIL	**Nilore**	**55.52**	**290**	P		**P**		**13 39 12.3**	**+1.0**
NIL				pmax	pmax					
	comp=Z,322nm,2.0s									
M29M	**Somme Creek**	**55.57**	**34**	P		**P**		**13 39 12.6**	**+1.3**
	baz=279,SNR=13									
PNL	**Peninsula**	**55.60**	**37**	P		**P**		**13 39 12.1**	**+0.7**
	baz=281									
YUK4	**Talbot Arm**	**55.67**	**35**	P		**P**		**13 39 13.6**	**+1.5**
	baz=280									
EPYK	**Eagle Plains**	**55.71**	**29**	P		**P**		**13 39 14.0**	**+1.9**
EPYK	**Eagle Plains**	**55.71**	**29**	P		**P**		**13 39 13.6**	**+1.4**
	baz=278,SNR=25									
K29M	**Barlow Dome**	**55.76**	**32**	P		**P**		**13 39 13.5**	**+0.8**
	baz=279,SNR=10									
G30M	**tAoh Zraii Nji**	**55.82**	**28**	P		**P**		**13 39 13.5**	**+0.6**
	baz=278									
YUK6	**Outpost Mounta**	**55.88**	**36**	P		**P**		**13 39 15.6**	**+1.9**
	baz=281									
GAR	**Garm**	**55.89**	**297**	P		**P**		**13 39 14.5**	**+0.5**
O29M	**Mount Kennedy**	**55.89**	**36**	P		**P**		**13 39 15.1**	**+1.5**
	baz=281									
M30M	**Minto, Yukon**	**56.31**	**33**	P		**P**		**13 39 17.6**	**+1.1**
	baz=281,SNR=12									
HYT	**Haines Junctio**	**56.31**	**36**	P		**P**		**13 39 18.3**	**+1.7**
HYT				IAmb	IAmb			13 39 44.9		
	comp=Z,25nm,1.1s									
HYT	**Haines Junctio**	**56.31**	**36**	P		**P**		**13 39 18.0**	**+1.4**
	baz=281,SNR=8.3									
N30M	**Aishikik Lake**	**56.38**	**35**	P		**P**		**13 39 18.6**	**+1.6**
	baz=281									
P29M	**Windy Craggy**	**56.44**	**37**	P		**P**		**13 39 19.3**	**+1.9**
	baz=282									
INK	**Inuvik**	**56.63**	**26**	P		**P**		**13 39 19.1**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=310,slow=2.8,SNR=14									
INK				LR		LR		14 07 46.8		
	comp=Z,971nm,18.6s,baz=264,slow=40									
	comp=Z,4.7nm,0.8s									
F31M	**Tsiigehtchic**	**56.70**	**27**	P		**P**		**13 39 19.8**	**+0.7**
	baz=280									
P30M	**Million Dollar**	**56.72**	**36**	P		**P**		**13 39 19.8**	**+0.3**
	baz=282									
CHGR	**Chuyangaron**	**56.86**	**297**	P		**P**		**13 39 20.7**	**-0.1**
CHGR	**Chuyangaron**	**56.86**	**297**	P		**P**		**13 39 20.7**	**-0.1**
CHGR				pmax	pmax					
	comp=Z,92nm,0.9s									
N31M	**Braeburn, Yuko**	**56.99**	**35**	P		**P**		**13 39 22.3**	**+0.9**
	baz=282									
O30N	**Mendenhall**	**57.00**	**35**	P		**P**		**13 39 23.1**	**+1.7**
	baz=282									
M31M	**Drury Creek, Y**	**57.48**	**34**	P		**P**		**13 39 26.0**	**+1.3**
	baz=283									
WHY	**Whitehorse**	**57.61**	**35**	P		**P**		**13 39 27.5**	**+1.7**
WHY				IAmb	IAmb			13 39 44.6		
	comp=Z,42nm,1.4s									
SKAG	**Skagway**	**57.67**	**37**	P		**P**		**13 39 27.8**	**+1.8**
	baz=284									
FARO	**Faro, Yukon**	**57.95**	**33**	P		**P**		**13 39 29.9**	**+1.8**
	baz=284									
HYBB	**Hyderabad (bro**	**58.25**	**270**	*e*P		**P**		**13 39 30.8**	**0.0**
HYBB				IVmB_BB				13 39 31.2		
	comp=Z,570nm,1.1s									
AS31	**Alice Springs**	**58.28**	**188**	P		**P**		**13 39 31.2**	**+0.5**
ASAR	**Alice Springs**	**58.28**	**188**	P		**P**		**13 39 30.6**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=8.2,slow=5.4,SNR=48									
ASAR				LR		LR		14 04 06.9		
	comp=Z,775nm,19.8s,baz=60,slow=36									
ASAR				PKP2bc		**P'P'ab**		**14 09 25.2**	**-4.6**
	comp=Z,0.8nm,0.9s,baz=180,slow=0.9,SNR=4.5									
	comp=Z,6.9nm,0.9s									

ASAR	**Alice Springs**	**58.28**	**188**	P		**P**		**13 39 31.1**	**+0.4**
SIT	**Sitka**	**58.28**	**40**	P		**P**		**13 39 31.9**	**+1.6**
	baz=285									
ARU	**Arti**	**58.33**	**320**	LR		LR		14 08 03.4		
	comp=Z,2µm,18.7s,baz=62,slow=40									
ARU	**Arti**	**58.33**	**320**	P		**P**		**13 39 31.3**	**+0.5**
ARU	**Arti**	**58.33**	**320**	*d* P		**P**		**13 39 30.7**	**-0.1**
ARU								13 40 21.2		
ARU				S		**S**		**13 47 31.7**	**+0.6**
ARU								13 49 10.0		
ARU				SS		**SS**		**13 51 23.1**	**+0.3**
ARU				pmax	pmax					
	comp=Z,58nm,1.0s									
ARU				MLR		MLR				
	comp=Z,2µm,17.0s									
N32M	**Quiet Lake**	**58.34**	**35**	P		**P**		**13 39 31.1**	**+0.3**
	baz=285									
R32K	**Eaglecrest**	**58.38**	**38**	P		**P**		**13 39 31.6**	**+0.6**
	baz=285									
KBL	**Kabul**	**58.43**	**293**	P		**P**		**13 39 32.7**	**+0.6**
KBL	**Kabul**	**58.43**	**293**	P		**P**		**13 39 32.7**	**+0.6**
KBL				pmax	pmax					
	comp=Z,48nm,1.2s									
P32M	**Atlin**	**58.44**	**36**	P		**P**		**13 39 32.1**	**+0.6**
	baz=285									
P33M	**Teslin, Yukon**	**58.71**	**36**	P		**P**		**13 39 36.0**	**+2.5**
P33M				IAmb	IAmb			13 39 52.3		
	comp=Z,39nm,1.2s									
P33M	**Teslin, Yukon**	**58.71**	**36**	P		**P**		**13 39 34.0**	**+0.6**
	baz=285									
MMPY	**Sheldon Lake,**	**58.79**	**33**	P		**P**		**13 39 34.6**	**+0.6**
	baz=285,SNR=5.5									
MBWA	**Marble Bar**	**59.08**	**204**	P		**P**		**13 39 36.6**	**+0.3**
PSA00	**Pilbara Seismi**	**59.43**	**204**	P		**P**		**13 39 39.1**	**+0.4**
PSA00	**Pilbara Seismi**	**59.43**	**204**	P		**P**		**13 39 38.7**	**0.0**
PSA00				IAmb	IAmb			13 40 06.4		
	comp=Z,70nm,1.9s									
AB31	**Akbulak array**	**59.66**	**311**	*i* P		**P**		**13 39 40.0**	**-0.1**
ABKAR	**Akbulak array**	**59.66**	**311**	P		**P**		**13 39 40.3**	**+0.2**
ABKAR	**Akbulak array**	**59.66**	**311**	P		**P**		**13 39 40.3**	**+0.2**
ABKAR				IAmb	IAmb			13 39 41.9		
	comp=Z,29nm,1.1s									
C36M	**Paulatuk**	**59.72**	**24**	P		**P**		**13 39 40.1**	**0.0**
	baz=288									
R33M	**Jennings River**	**59.84**	**36**	P		**P**		**13 39 41.5**	**+0.2**
	baz=287									
CRAG	**Craig**	**59.92**	**41**	P		**P**		**13 39 42.7**	**+1.0**
	baz=288									
WRAK	**Wrangell Islan**	**60.04**	**40**	P		**P**		**13 39 43.7**	**+1.1**
	baz=288									
AKTO	**Aktyubinsk**	**60.45**	**313**	P		**P**		**13 39 45.9**	**+0.3**
	comp=Z,12nm,0.8s,baz=77,slow=12,SNR=21									
AKTO				LR		LR		14 08 24.3		
	comp=Z,2µm,18.8s,baz=63,slow=38									
	comp=Z,12nm,0.8s									
AKTO	**Aktyubinsk**	**60.45**	**313**	P		**P**		**13 39 44.7**	**-0.8**
TGTN	**Hyland Airport**	**60.45**	**33**	P		**P**		**13 39 46.7**	**+1.3**
	baz=288									
DLBC	**Dease Lake**	**60.60**	**37**	P		**P**		**13 39 49.2**	**+2.8**
DLBC				IAmb	IAmb			13 40 05.7		
	comp=Z,41nm,1.4s									
WTLY	**Watson Lake, Y**	**60.66**	**35**	P		**P**		**13 39 49.3**	**+2.5**
WTLY				IAmb	IAmb			13 40 05.6		
	comp=Z,35nm,1.3s									
WTLY	**Watson Lake, Y**	**60.66**	**35**	P		**P**		**13 39 47.1**	**+0.3**
	baz=289									
V35K	**Ketchikan**	**60.78**	**41**	P		**P**		**13 39 46.6**	**-1.0**
	baz=289									
T35M	**Bob Quinn**	**60.96**	**39**	P		**P**		**13 39 48.9**	**0.0**
	baz=289									
DZM	**Mont Dzumac**	**61.03**	**153**	*e* LR		LR		13 57 58.2		
	comp=Z,2µm,20.4s									
DZM	**Mont Dzumac**	**61.03**	**153**	P		**P**		**13 39 50.8**	**+1.0**
	comp=Z,13nm,0.9s,baz=10,slow=3.7,SNR=4.2									
DZM				LR		LR		14 05 58.8		
	comp=Z,2µm,19.6s,baz=5.5,slow=36									
	comp=Z,13nm,0.9s									
PALK	**Pallekele**	**61.92**	**259**	LR		LR		14 09 15.8		
	comp=Z,568nm,18.9s,baz=149,slow=38									
PALK	**Pallekele**	**61.92**	**259**	P		**P**		**13 39 56.8**	**+0.8**
PALK	**Pallekele**	**61.92**	**259**	P		**P**		**13 39 56.8**	**+0.8**
PALK				pmax	pmax					
	comp=Z,58nm,1.0s									
WRGLY	**Wrigley**	**61.99**	**31**	P		**P**		**13 39 57.0**	**+1.3**
	baz=291									
KIRV	**Kirov**	**62.34**	**324**	P		**P**		**13 39 59.0**	**+1.0**
	comp=Z,21nm,0.8s,baz=83,slow=2.6,SNR=13									
KIRV				LR		LR		14 09 43.6		
	comp=Z,1µm,18.6s,baz=57,slow=39									
	comp=Z,21nm,0.8s									
KIRV	**Kirov**	**62.34**	**324**	*ce* P		**P**		**13 39 59.2**	**+1.1**
MSVF	**Nonsavu**	**62.49**	**140**	LR		LR		14 03 15.0		
	comp=Z,521nm,20.8s,baz=1.4,slow=32									
PRGR	**Permogore**	**62.95**	**328**	*e* P		**P**		**13 40 01.2**	**-0.9**
SPITS	**Spitsbergen Ar**	**63.04**	**349**	LR		LR		14 11 40.8		
	comp=Z,1µm,18.7s,baz=4.0,slow=40									
HRA	**Herat**	**63.63**	**295**	P		**P**		**13 40 08.4**	**+1.0**
PCHI	**Peechi**	**63.67**	**265**	⇑ *e* P		**P**		**13 40 07.5**	**0.0**
BBB	**Bella Bella**	**63.85**	**43**	LR		LR		14 05 49.3		
	comp=Z,220nm,19.8s,baz=304,slow=34									
APA	**Apatity**	**65.04**	**336**	⇑ *i* P				**13 40 15.2**	**-0.6**
APA				*i* S		S		13 48 47.0	-8.7
APA				*i* SSS		SSS		13 56 08.0		
APA				pmax	pmax					
	comp=Z,9µm,1.0s									
APA				MLR		MLR				
	comp=Z,3µm,14.0s									
RES	**Resolute Bay**	**65.05**	**14**	LR		LR		14 12 04.0		
	comp=Z,785nm,18.5s,baz=298,slow=39									
GEYT	**Alibeck**	**65.16**	**300**	P		**P**		**13 40 17.9**	**+0.8**
	comp=Z,19nm,0.9s,baz=90,slow=1.5,SNR=24									
GEYT				LR		LR		14 11 26.2		
	comp=Z,1µm,19.6s,baz=80,slow=38									
	comp=Z,19nm,0.9s									
GEYT	**Alibeck**	**65.16**	**300**	P		**P**		**13 40 17.8**	**+0.7**
GEYT				IAmb	IAmb			13 40 19.5		
	comp=Z,26nm,0.9s									
GYA0B	**ALIBECK ARRAY**	**65.16**	**300**	P		**P**		**13 40 18.4**	**+1.3**
GYA0B				IAmb	IAmb			13 40 19.4		
	comp=Z,23nm,0.9s									
AFI	**Afiamalu**	**65.46**	**129**	LR		LR		14 04 42.6		
	comp=Z,1µm,21.4s,baz=308,slow=32									
BELG	**Belogornoye**	**65.73**	**318**	P		**P**		**13 40 20.8**	**+0.4**
	comp=Z,34nm,1.0s,baz=237,slow=3.4,SNR=9.2									
BELG				LR		LR		14 09 59.6		
	comp=Z,956nm,18.8s,baz=36,slow=37									
	comp=Z,34nm,1.0s									
BELG	**Belogornoye**	**65.73**	**318**	*i* P		**P**		**13 40 21.1**	**+0.7**
BELG				pmax	pmax					
	comp=Z,5.0nm,0.9s									
KLMR	**Klimovskoe**	**65.96**	**328**	*e* P		**P**		**13 40 19.9**	**-1.9**
KLMR				*e*				13 42 44.0		
KLMR				*e* PPP		PPP		13 44 26.4		
KLMR				*e*S		**S**		**13 49 02.6**	**-4.5**
KLMR				*e*				13 50 12.0		
KLMR				*e*SS		**SS**		**13 53 16.9**	**-4.7**
KLMR				*e*SSS		SSS		13 56 22.7		
KLMR				pmax	pmax					
	comp=Z,19nm,0.9s									
KLMR	**Klimovskoe**	**65.96**	**328**	*e* P		**P**		**13 40 19.9**	**-1.9**
KLMR				AMP				13 40 23.5		
	comp=Z,19nm,0.9s									
KLMR				*e* PP		**PP**		**13 42 44.1**	**-2.6**
KLMR				*e* PPP		PPP		13 44 26.5		
KLMR				*e*S		**S**		**13 49 02.6**	**-4.5**
KLMR				*e*S		**S**		**13 49 02.6**	**-4.5**
KLMR				*e*ScS		**SKSac**		**13 50 12.0**	**-3.3**
KLMR				*e*ScS		**SKSac**		**13 50 12.0**	**-3.3**
KLMR				*e*SS		**SS**		**13 53 16.9**	**-4.7**
KLMR				*e*SS		**SS**		**13 53 16.9**	**-4.7**
KLMR				*e*SSS		SSS		13 56 22.7		
KLMR				*e*SSS		SSS		13 56 22.7		
KLMR				LQ		LQ		14 03 47.3		
KLMR				LQ		LQ		14 03 47.3		
KLMR				LR		LR		14 08 35.1		
YKA	**Yellowknife Ar**	**65.98**	**30**	P		**P**		**13 40 24.7**	**+2.8**
	comp=Z,6.2nm,0.9s,baz=295,slow=6.8,SNR=4.6									
	comp=Z,6.2nm,0.9s									
STKA	**Stephens Creek**	**66.01**	**180**	P		**P**		**13 40 22.9**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=330,slow=6.9,SNR=12									
STKA				LR		LR		14 08 25.6		
	comp=Z,754nm,21.1s,baz=357,slow=35									
	comp=Z,1.8nm,0.7s									
FORT	**Forrest**	**66.14**	**193**	P		**P**		**13 40 24.0**	**+0.8**
ARCES	**ARCESS Array B**	**66.41**	**340**	P		**P**		**13 40 26.1**	**+1.5**
	comp=Z,5.2nm,1.0s,baz=57,slow=3.7,SNR=5.9									

ARCES				LR		LR		14 14 33.1		
	comp=Z,2µm,18.1s,baz=48,slow=41									
	comp=Z,5.2nm,1.0s									
MOS	**Moscow**	**69.35**	**324**	*e* P		**P**		**13 40 42.6**	**-0.7**
MOS				*e*				13 41 03.0		
MOS				*e*				13 43 15.5		
MOS				*e*S		**S**		**13 49 45.8**	**-2.0**
MOS				pmax	pmax					
	comp=Z,38nm,0.8s									
MOS				MLR		MLR				
	comp=Z,1µm,14.0s									
VRH	**Novokhopyorsk**	**69.53**	**319**	*e* P		**P**		**13 40 42.7**	**-1.8**
VRH				pmax	pmax					
	comp=Z,20nm,0.8s									
VRH				MLR		MLR				
	comp=Z,1µm,15.0s									
F04D	**Rainier, OR**	**69.53**	**48**	P		**P**		**13 40 43.4**	**-1.2**
	baz=299									
G03D	**McMinnville, O**	**69.79**	**49**	P		**P**		**13 40 47.2**	**+1.0**
	baz=299									
I02E	**Swisshome, OR**	**69.96**	**50**	P		**P**		**13 40 48.2**	**+1.0**
	baz=299									
MAK	**Makhachkala**	**70.10**	**309**	*e* P		**P**		**13 40 45.0**	**-3.1**
MAK				*e*S		**S**		**13 49 50.7**	**-6.4**
MAK				pmax	pmax					
	comp=Z,167nm,0.9s									
MAK				MLR		MLR				
	comp=Z,2µm,15.0s									
OBN	**Obninsk**	**70.19**	**324**	LR		LR		14 13 47.4		
	comp=Z,261nm,19.2s,baz=78,slow=38									
OBN	**Obninsk**	**70.19**	**324**	‖ *e* P		**P**		**13 40 49.3**	**+0.9**
OBN				*e*				13 41 09.5		
OBN				*e*				13 43 32.5		
OBN				*e* PPP		PPP		13 45 09.8		
OBN				*i* S		**S**		**13 49 59.1**	**+1.4**
OBN				*i* SS		**SS**		**13 54 29.5**	**+2.4**
OBN				pmax	pmax					
	comp=Z,57nm,2.5s									
OBN				MLR		MLR				
	comp=Z,2µm,16.0s									
LPSR	**Galich'ya Gora**	**70.31**	**321**	*e* P		**P**		**13 40 48.0**	**-1.3**
LPSR				pmax	pmax					
	comp=Z,30nm,1.0s									
LPSR				MLR		MLR				
	comp=Z,2µm,17.0s									
J01E	**Myrtle Point**	**70.36**	**51**	P		**P**		**13 40 50.4**	**+0.6**
	baz=299									
H04D	**Lebanon**	**70.45**	**49**	P		**P**		**13 40 50.9**	**+0.6**
	baz=299									
I03D	**Drain, OR**	**70.47**	**50**	P		**P**		**13 40 51.8**	**+1.4**
	baz=299									
B08A	**Colville Reser**	**70.60**	**44**	P		**P**		**13 40 52.8**	**+1.7**
B08A				IAmb	IAmb			13 40 59.3		
	comp=Z,24nm,1.2s									
HOOD	**Mount Hood Mea**	**70.73**	**48**	P		**P**		**13 40 53.4**	**+1.2**
HOOD				IAmb	IAmb			13 41 00.7		
	comp=Z,34nm,1.1s									
K02D	**Willamette Mer**	**70.76**	**51**	P		**P**		**13 40 52.1**	**-0.2**
	baz=299									
NWAO	**Narrogin (SRO)**	**70.83**	**201**	LR		LR		14 13 04.3		
	comp=Z,325nm,18.6s,baz=158,slow=37									
VSR	**Storozhevoye**	**70.91**	**319**	*e* P		**P**		**13 40 53.0**	**+0.1**
VSR				pmax	pmax					
	comp=Z,40nm,1.2s									
VSR				MLR		MLR				
	comp=Z,2µm,17.0s									
G05D	**Wamic, OR**	**70.98**	**48**	P		**P**		**13 40 54.5**	**+1.0**
	baz=300									
I04A	**Tendick Farm,**	**71.02**	**50**	P		**P**		**13 40 53.8**	**0.0**
	baz=300									
GROC	**Grozny**	**71.08**	**310**	P		**P**		**13 40 55.0**	**+0.9**
L02F	**Cave Junction**	**71.10**	**52**	P		**P**		**13 40 54.1**	**-0.2**
	baz=300									
FIA1	**FINESS Array S**	**71.11**	**333**	P		**P**		**13 40 54.6**	**+0.7**
FIA1				IAmb	IAmb			13 40 55.7		
	comp=Z,40nm,1.1s									
FINES	**FINESS Array B**	**71.11**	**333**	P		**P**		**13 40 55.4**	**+1.4**
	comp=Z,14nm,0.9s,baz=64,slow=8.7,SNR=13									
FINES				LR		LR		14 15 13.8		
	comp=Z,1µm,18.1s,baz=41,slow=38									
	comp=Z,14nm,0.9s									
FINES	**FINESS Array B**	**71.11**	**333**	P		**P**		**13 40 54.8**	**+0.9**
I05D	**Terrebonne, OR**	**71.42**	**49**	P		**P**		**13 40 56.2**	**0.0**
	baz=300									
J04D	**Umpqua Nationa**	**71.48**	**50**	P		**P**		**13 40 56.5**	**-0.3**
	baz=300									
C09A	**Chrisman Ranch**	**71.49**	**44**	P		**P**		**13 40

BMO	**Blue Mountains**	**73.61**	**47**	P	**P**	**13 41 10.8**	**+1.5**
BMO	**Blue Mountains**	**73.61**	**47**	P	**P**	**13 41 10.8**	**+1.5**
BMO				pmax	pmax		
	comp=Z,16nm,1.2s						
J08A	**Circle Bar Ran**	**73.70**	**48**	P	**P**	**13 41 12.2**	**+2.3**
J08A				IAmb	IAmb	13 41 17.9	
	comp=Z,32nm,1.3s						
MTSE	**Matsula**	**73.72**	**331**	*e*P	**P**	**13 41 11.4**	**+1.9**
RAO	**Raoul Island**	**74.08**	**144**	LR	LR	14 14 49.6	
	comp=Z,638nm,18.0s,baz=44,slow=37						
WVOR	**Wild Horse Val**	**74.09**	**49**	P	**P**	**13 41 14.3**	**+2.1**
WVOR				IAmb	IAmb	13 41 30.8	
	comp=Z,38nm,1.4s						
WVOR	**Wild Horse Val**	**74.09**	**49**	P	**P**	**13 41 14.3**	**+2.1**
WVOR				pmax	pmax		
	comp=Z,38nm,1.5s						
MSO	**Missoula**	**74.50**	**44**	P	**P**	**13 41 13.1**	**-1.4**
	baz=304						
MNK	**Minsk**	**74.65**	**326**	*i* P	**P**	**13 41 14.5**	**-0.5**
MNK				*i*		13 41 28.6	
MNK				*i*		13 44 00.2	
MNK				*i* PPP	PPP	13 45 46.4	
MNK				*i* S	**S**	**13 50 47.7**	**-1.1**
MNK				*i* SS	**SS**	**13 55 34.4**	**-0.9**
MNK				*i* SSS	SSS	13 58 57.2	
MNK				pmax	pmax		
	comp=E,3.0nm,1.1s						
MNK				pmax	pmax		
	comp=Z,35nm,1.1s						
MNK				MLR	MLR		
	comp=Z,879nm,16.0s						
MNK				MLR	MLR		
	comp=E,221nm,16.0s						
MNK	**Minsk**	**74.65**	**326**	*i* P	**P**	**13 41 14.6**	**-0.5**
	comp=E,3.0nm,1.1s						
MNK				*i* P	**P**	**13 41 14.6**	**-0.5**
MNK				*i* P	**P**	**13 41 14.6**	**-0.5**
	comp=Z,35nm,1.1s,baz=52						
MNK				*i* PcP	**PcP**	**13 41 28.6**	**-0.6**
MNK				*i* PP	**PP**	**13 44 00.2**	**-1.3**
MNK				*i* PPP	PPP	13 45 46.4	
MNK				*i* S	**S**	**13 50 47.7**	**-1.1**
MNK				*i* SS	**SS**	**13 55 34.4**	**-0.9**
MNK				*i* SSS	SSS	13 58 57.3	
MNK				*i* LQ	LQ	14 09 02.7	
MNK				*i* LR	LR	14 14 45.6	
MNK				*i* LRM	MLR	14 17 20.8	
	comp=Z,879nm,16.0s						
MNK				*i* LRM	MLR	14 17 43.8	
	comp=E,221nm,16.0s						
SOC	**Sochi**	**74.66**	**312**	*e*P	**P**	**13 41 13.5**	**-1.9**
SOC				*e*		13 44 00.7	
SOC				*e*PPP	PPP	13 45 44.1	
SOC				*e*S	**S**	**13 50 45.5**	**-3.8**
SOC				*e*SS	**SS**	**13 55 33.2**	**-2.9**
SOC				*e*SSS	SSS	13 58 57.3	
SOC				MLR	MLR		
	comp=Z,1µm,16.0s						
ISAL	**Salakas**	**74.77**	**328**	*e*P	**P**	**13 41 17.6**	**+1.8**
IIGN	**Ignalina**	**74.86**	**328**	*e*P	**P**	**13 41 18.0**	**+1.7**
NACGM	**Naroch**	**74.90**	**327**⇓	*e*P	**P**	**13 41 17.4**	**+0.9**
ANN	**Anapa**	**75.36**	**314**	*e*P	**P**	**13 41 17.9**	**-1.4**
ANN				*e**PP	**sP**	**13 41 28.6**	**-0.8**
ANN				*e*		13 44 05.9	
ANN				*e*S	**S**	**13 50 54.4**	**-2.6**
ANN				pmax	pmax		
	comp=Z,61nm,1.0s						
PABE	**Paberze**	**75.75**	**329**	*e*P	**P**	**13 41 22.6**	**+1.2**
MZR	**Muzera**	**75.81**	**288**	*i* P	**P**	**13 41 22.8**	**+0.5**
	SNR=11						
FFC	**Flin Flon**	**75.81**	**32**	P	**P**	**13 41 22.8**	**+1.0**
FFC				IAmb	IAmb	13 41 28.6	
	comp=Z,22nm,0.9s						
FFC	**Flin Flon**	**75.81**	**32**	P	**P**	**13 41 22.8**	**+1.0**
FFC				pmax	pmax		
	comp=Z,22nm,1.0s						
LRM	**Limekiln Ridge**	**75.92**	**44**	P	**P**	**13 41 24.4**	**+1.5**
GURO	**Guroymak-BITLI**	**75.93**	**307**	P	**P**	**13 41 25.2**	**+2.3**
HLID	**Hailey**	**76.06**	**47**	P	**P**	**13 41 24.9**	**+1.3**
HLID	**Hailey**	**76.06**	**47**	P	**P**	**13 41 23.3**	**-0.3**
	baz=304						
BMN	**Battle Mountai**	**76.06**	**50**	P	**P**	**13 41 25.4**	**+1.7**
BMN				IAmb	IAmb	13 41 39.5	
	comp=Z,42nm,1.6s						
BMN	**Battle Mountai**	**76.06**	**50**	P	**P**	**13 41 25.4**	**+1.7**
BMN				pmax	pmax		
	comp=Z,42nm,1.6s						
EGMT	**Eagleton**	**76.14**	**41**	P	**P**	**13 41 22.8**	**-1.1**
	baz=306						
AKASG	**Malin Array Be**	**76.36**	**323**	P	**P**	**13 41 25.9**	**+1.0**
	comp=Z,11nm,0.9s,baz=45,slow=6.4,SNR=39						
AKASG				LR	LR	14 19 11.7	
	comp=Z,2µm,19.3s,baz=54,slow=39						
	comp=Z,11nm,0.9s						
AKASG	**Malin Array Be**	**76.36**	**323**	P	**P**	**13 41 26.0**	**+1.0**
AKBB	**Malin Array Si**	**76.36**	**323**	P	**P**	**13 41 25.0**	**+0.1**
AKBB				IAmb	IAmb	13 41 26.6	
	comp=Z,23nm,0.9s						
AKBB	**Malin Array Si**	**76.36**	**323**	*ce*P	**P**	**13 41 25.2**	**+0.2**
HFS	**Hagfors**	**76.44**	**336**	P	**P**	**13 41 26.3**	**+1.1**
	comp=Z,6.8nm,0.9s,baz=129,slow=4.0,SNR=6.3						
HFS				LR	LR	14 19 12.4	
	comp=Z,3µm,19.1s,baz=30,slow=39						
	comp=Z,6.8nm,0.9s						
NVAR	**Mina Array Bea**	**76.46**	**53**	P	**P**	**13 41 27.1**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=283,slow=5.7,SNR=28						
	comp=Z,2.8nm,0.8s						
NVAR	**Mina Array Bea**	**76.46**	**53**	P	**P**	**13 41 27.3**	**+1.2**
BOZ	**Bozeman (W)**	**76.52**	**44**	P	**P**	**13 41 25.5**	**-0.7**
	baz=306						
NV11	**Mina Array Sit**	**76.56**	**53**	P	**P**	**13 41 28.1**	**+1.5**
NB2	**NORSAR Subarra**	**76.57**	**338**	P	**P**	**13 41 26.9**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**76.57**	**338**	P	**P**	**13 41 26.8**	**+0.8**
	comp=Z,5.7nm,0.8s,baz=39,slow=5.7,SNR=17						
NOA				LR	LR	14 19 56.3	
	comp=Z,2µm,18.1s,baz=35,slow=39						
	comp=Z,5.7nm,0.8s						
SIM	**Simferopol'**	**77.20**	**316**	*e*P	**P**	**13 41 28.6**	**-1.2**
SIM				*e*		13 41 43.9	
SIM				pmax	pmax		
	comp=Z,22nm,0.9s						
SIM				pmax	pmax		
	comp=Z,101nm,20.3s						
SIM				MLR	MLR		
	comp=Z,424nm,18.5s						
PKM	**Mcpherson Peak**	**77.38**	**56**	P	**P**	**13 41 31.8**	**+0.5**
	baz=303						
MARD	**Mardin**	**77.43**	**307**	P	**P**	**13 41 32.7**	**+1.3**
SBC	**Santa Barbara**	**77.70**	**57**	P	**P**	**13 41 32.7**	**0.0**
	baz=303						
CWC	**Cottonwood Cre**	**77.71**	**54**	P	**P**	**13 41 33.9**	**+0.8**
	baz=304						
H17A	**Grant Village**	**77.83**	**44**	P	**P**	**13 41 34.7**	**+0.9**
	baz=307						
ISA	**Isabella, Lake**	**77.87**	**55**	P	**P**	**13 41 33.7**	**-0.2**
	baz=304						
GRAC	**Grapevine Rang**	**77.88**	**53**	P	**P**	**13 41 35.1**	**+1.3**
	baz=304						
ARVC	**Arvin**	**77.93**	**56**	P	**P**	**13 41 33.4**	**-0.6**
	baz=304						
RLMT	**Red Lodge**	**78.14**	**43**	P	**P**	**13 41 36.7**	**+1.3**
	baz=307						
R11A	**Troy Canyon, C**	**78.28**	**52**	P	**P**	**13 41 35.3**	**-0.9**
	baz=305						
OSI	**Osito Audit: C**	**78.28**	**56**	P	**P**	**13 41 36.3**	**+0.1**
	baz=304						
MPMC	**Manual Prospec**	**78.32**	**54**	P	**P**	**13 41 37.2**	**+0.8**
	baz=304						
SFJD	**Kangerlussuaq**	**78.42**	**5**	LR	LR	14 20 51.0	
	comp=Z,552nm,18.1s,baz=354,slow=39						
FURC	**Furnace Creek,**	**78.51**	**54**	P	**P**	**13 41 38.3**	**+1.1**
	baz=304						
RAR	**Rarotonga**	**78.61**	**126**	LR	LR	14 12 59.9	
	comp=Z,833nm,18.8s,baz=284,slow=33						
EDW2	**Edwards Air Fo**	**78.63**	**56**	P	**P**	**13 41 37.3**	**-0.7**
	baz=304						
TPNV	**Topopah Spring**	**78.64**	**53**	P	**P**	**13 41 38.7**	**+0.5**
	baz=305						
SPR3	**Spring Creek 3**	**78.71**	**50**	P	**P**	**13 41 40.7**	**+2.0**
SPR3				IAmb	IAmb	13 41 56.8	
	comp=Z,52nm,1.7s						
DECC	**Green Verdugo**	**78.75**	**56**	P	**P**	**13 41 38.8**	**+0.2**
	baz=304						
DGMT	**Dagmar**	**78.79**	**38**	P	**P**	**13 41 38.1**	**-0.5**
	baz=310						

LAO	**LASA Array**	**78.86**	**40**	P	**P**	**13 41 37.7**	**-1.4**
	baz=309						
HWUT	**Hardware Ranch**	**78.91**	**47**	P	**P**	**13 41 40.9**	**+1.3**
HWUT				IAmb	IAmb	13 41 48.4	
	comp=Z,55nm,1.3s						
DUG	**Dugway, Tooele**	**78.97**	**49**	P	**P**	**13 41 39.0**	**-0.9**
	baz=306						
GSC	**Goldstone, Bar**	**79.20**	**55**	P	**P**	**13 41 41.7**	**+0.5**
	baz=305						
SHOC	**Shoshone, Teco**	**79.22**	**54**	P	**P**	**13 41 41.9**	**+0.7**
	baz=305						
BFSC	**Mount Baldy Ra**	**79.22**	**56**	P	**P**	**13 41 41.1**	**-0.3**
	baz=304						
FRB	**Frobisher Bay**	**79.23**	**13**	LR	LR	14 20 05.0	
	comp=Z,740nm,19.0s,baz=347,slow=38						
SCI2	**San Clemente I**	**79.32**	**57**	P	**P**	**13 41 41.7**	**-0.1**
	baz=304						
BW06	**Boulder Array**	**79.40**	**45**	P	**P**	**13 41 43.2**	**+0.9**
BW06	**Boulder Array**	**79.40**	**45**	P	**P**	**13 41 43.0**	**+0.7**
	baz=307						
PD31	**Pinedale Array**	**79.40**	**45**	P	**P**	**13 41 43.4**	**+1.0**
PDAR	**Pinedale Array**	**79.40**	**45**	P	**P**	**13 41 43.4**	**+1.0**
	comp=Z,1.8nm,1.0s,baz=191,slow=3.0,SNR=12						
	comp=Z,1.8nm,1.0s						
PDAR	**Pinedale Array**	**79.40**	**45**	P	**P**	**13 41 42.8**	**+0.4**
LVV	**L'vov**	**79.48**	**324**	*e*P	**P**	**13 41 43.5**	**+1.2**
LVV				*e*S	**S**	**13 51 36.8**	**-4.8**
LVV				pmax	pmax		
	comp=Z,50nm,1.3s						
LVV				MLR	MLR		
	comp=E,800nm,16.0s						
LVV				MLR	MLR		
	comp=N,1µm,18.0s						
LVV				MLR	MLR		
	comp=Z,2µm,18.0s						
URZ	**Urewera**	**79.56**	**152**	LR	LR	14 13 02.4	
	comp=Z,262nm,20.9s,baz=31,slow=33						
NLU	**North Lily Min**	**79.57**	**49**	P	**P**	**13 41 44.6**	**+1.3**
NLU				IAmb	IAmb	13 41 51.2	
	comp=Z,22nm,1.0s						
JLU	**Jordanelle**	**79.57**	**48**	P	**P**	**13 41 45.0**	**+1.7**
JLU				IAmb	IAmb	13 41 51.3	
	comp=Z,33nm,1.3s						
TUQ	**Turquoise Moun**	**79.72**	**54**	P	**P**	**13 41 43.8**	**-0.3**
	baz=305						
HEC	**Hector,Ludlow**	**79.79**	**55**	P	**P**	**13 41 44.5**	**+0.1**
	baz=305						
MURC	**Murrieta**	**79.90**	**56**	P	**P**	**13 41 46.0**	**+1.0**
	baz=305						
BORG	**Borgarnes**	**80.18**	**353**	LR	LR	14 20 52.6	
	comp=Z,454nm,18.0s,baz=358,slow=38						
KWP	**Kalwaria Pacla**	**80.25**	**325**	*e*P	**P**	**13 41 47.0**	**+0.6**
KWP				*e*L	L	14 21 52.2	
	comp=Z,3µm,17.4s						
GMRC	**Granite Mounta**	**80.27**	**55**	P	**P**	**13 41 47.9**	**+0.8**
	baz=305						
TESR	**Tescani**	**80.34**	**321**	⇑P	**P**	**13 41 48.7**	**+1.6**
BIZ	**Bicaz**	**80.35**	**321**	⇑P	**P**	**13 41 49.2**	**+2.1**
BURAR	**Bucovina Array**	**80.36**	**322**	⇑P	**P**	**13 41 49.2**	**+2.0**
BURAR	**Bucovina Array**	**80.36**	**322**	P	**P**	**13 41 48.6**	**+1.3**
109C	**Camp Elliot, M**	**80.37**	**57**	P	**P**	**13 41 47.4**	**-0.1**
	baz=305						
PFO	**Pinyon Flats O**	**80.40**	**56**	LR	LR	14 15 54.7	
	comp=Z,924nm,18.2s,baz=320,slow=35						
PFO	**Pinyon Flats O**	**80.40**	**56**	P	**P**	**13 41 48.4**	**+0.6**
	baz=305						
TPFO	**Pinon Flats**	**80.41**	**56**	P	**P**	**13 41 48.4**	**+0.6**
	baz=305						
CFR	**Carcaliu**	**80.41**	**319**	⇑P	**P**	**13 41 48.7**	**+1.3**
TPGR	**Topolog**	**80.46**	**318**	⇓P	**P**	**13 41 48.8**	**+1.1**
BELC	**Belle Mtn. Jos**	**80.49**	**55**	P	**P**	**13 41 49.1**	**+0.8**
	baz=305						
LCMT	**Little Creek M**	**80.57**	**52**	P	**P**	**13 41 50.2**	**+1.6**
LCMT				IAmb	IAmb	13 41 56.7	
	comp=Z,30nm,1.1s						
BR131	**Keskin Array S**	**80.60**	**312**	P	**P**	**13 41 49.9**	**+1.1**
BR131				IAmb	IAmb	13 42 14.5	
	comp=Z,28nm,1.1s						
BR131	**Keskin Array S**	**80.60**	**312**	P	**P**	**13 41 49.9**	**+1.1**
BR131				pmax	pmax		
	comp=Z,28nm,1.2s						
BRTR	**Keskin Array B**	**80.60**	**312**	P	**P**	**13 41 49.7**	**+0.9**
	comp=Z,7.9nm,0.9s,baz=108,slow=3.1,SNR=16						
BRTR				LR	LR	14 22 51.6	
	comp=Z,1µm,18.0s,baz=56,slow=40						
	comp=Z,7.9nm,0.9s						
MTPU	**Mount Pierson**	**80.64**	**50**	P	**P**	**13 41 50.2**	**+0.9**
MTPU				IAmb	IAmb	13 41 57.7	
	comp=Z,31nm,1.1s						
VRI	**Vrincioaia**	**80.72**	**320**	⇑P	**P**	**13 41 50.6**	**+1.5**
RDMU	**Red Mountain**	**80.73**	**47**	P	**P**	**13 41 51.4**	**+1.8**
MONP2	**Monument Peak**	**80.84**	**56**	P	**P**	**13 41 51.0**	**+0.8**
	baz=305						
KOLS	**Kolonicke sedl**	**80.93**	**324**	*e*P	**P**	**13 41 51.8**	**+1.6**
KOLS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KOLS	**Kolonicke sedl**	**80.93**	**324**	*e*P	**P**	**13 41 51.8**	**+1.6**
NEE2	**Needles Airpor**	**80.98**	**54**	P	**P**	**13 41 50.8**	**+0.2**
	baz=306						
IRM	**Iron Mountain**	**80.98**	**55**	P	**P**	**13 41 51.7**	**+1.0**
	baz=306						
BC3	**Big Chuckawall**	**81.06**	**55**	P	**P**	**13 41 52.2**	**+0.9**
	baz=306						
OZUR		**81.07**	**321**	⇑P	**P**	**13 41 52.9**	**+1.9**
UZH	**Uzhgorod**	**81.13**	**324**	*e*P	P	13 42 00.0	+8.8
UZH				*e*		13 42 05.1	
IKP	**In-Ko-Pah, Jac**	**81.19**	**56**	P	**P**	**13 41 52.9**	**+0.9**
	baz=305						
OJC	**Ojcow**	**81.20**	**326**	*e*P	**P**	**13 41 52.3**	**+0.7**
OJC				*e*L	L	14 22 21.5	
	comp=Z,2µm,16.4s						
K22A	**Casper**	**81.23**	**44**	P	**P**	**13 41 54.9**	**+2.8**
	baz=309						
K22A	**Casper**	**81.23**	**44**	P	**P**	**13 41 52.9**	**+0.7**
	baz=309						
SWSC	**Sam W. Stewart**	**81.23**	**56**	P	**P**	**13 41 52.8**	**+0.8**
	baz=306						
CRVS	**Cervenica-Dubn**	**81.34**	**325**	*e*P	**P**	**13 41 54.0**	**+1.6**
CRVS				pmax	pmax		
	comp=Z,108nm,2.2s						
CRVS	**Cervenica-Dubn**	**81.34**	**325**	*e*P	**P**	**13 41 54.0**	**+1.6**
DOPR	**Dopca**	**81.36**	**321**	⇑P	**P**	**13 41 53.9**	**+1.4**
MLR	**Muntele Rosu**	**81.38**	**320**	⇑P	**P**	**13 41 54.6**	**+1.8**
MLR	**Muntele Rosu**	**81.38**	**320**	P	**P**	**13 41 52.8**	**0.0**
	comp=Z,3.2nm,0.8s,baz=66,slow=6.3,SNR=5.0						
MLR				LR	LR	14 22 28.6	
	comp=Z,2µm,18.1s,baz=38,slow=39						
	comp=Z,3.2nm,0.8s						
MDND	**Maddock**	**81.50**	**37**	P	**P**	**13 41 54.5**	**+1.2**
	baz=313						
NIE	**Niedzica**	**81.53**	**326**	*e*P	**P**	**13 41 54.8**	**+1.4**
NIE				*e*L	L	14 24 23.5	
	comp=Z,970nm,17.1s						
PDMCI	**Parker Dam,Lak**	**81.57**	**54**	P	**P**	**13 41 54.8**	**+1.0**
	baz=306						
ULM	**Lac du Bonnet**	**81.59**	**33**	P	**P**	**13 41 53.6**	**0.0**
	comp=Z,9.3nm,1.1s,baz=328,slow=3.9,SNR=3.1						
	comp=Z,9.3nm,1.1s						
ESJX	**Sierra Juarez**	**81.67**	**57**	P	**P**	**13 41 55.5**	**+0.9**
RSSD	**Black Hills**	**81.68**	**41**	P	**P**	**13 41 55.8**	**+1.2**
RSSD	**Black Hills**	**81.68**	**41**	P	**P**	**13 41 55.8**	**+1.2**
RSSD				pmax	pmax		
	comp=Z,15nm,1.3s						
RSSD	**Black Hills**	**81.68**	**41**	P	**P**	**13 41 55.2**	**+0.7**
	baz=311						
RAYN	**Ar Rayn**	**81.70**	**293**	P	**P**	**13 41 55.9**	**+1.1**
RAYN	**Ar Rayn**	**81.70**	**293**	P	**P**	**13 41 55.9**	**+1.1**
RAYN				pmax	pmax		
	comp=Z,51nm,1.2s						
RAYN	**Ar Rayn**	**81.70**	**293**	*i* P	**P**	**13 41 55.7**	**+1.0**
	SNR=36						
O20A	**White River Ci**	**81.80**	**47**	P	**P**	**13 41 56.9**	**+1.7**
O20A				IAmb	IAmb	13 42 02.6	
	comp=Z,35nm,1.1s						
O20A	**White River Ci**	**81.80**	**47**	P	**P**	**13 41 56.5**	**+1.3**
	baz=309						
GLA	**Glamis**	**81.84**	**56**	P	**P**	**13 41 56.6**	**+1.2**
	baz=306						
KECS	**Kecovo**	**82.10**	**325**	*e*P	**P**	**13 41 58.0**	**+1.7**
KECS	**Kecovo**	**82.10**	**325**	*e*P	**P**	**13 41 58.0**	**+1.7**
LANS	**Liptovska Anna**	**82.11**	**326**	*e*P	**P**	**13 41 59.0**	**+2.6**
LANS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LANS	**Liptovska Anna**	**82.11**	**326**	*e*P	**P**	**13 41 59.0**	**+2.6**
ARR	**Arges**	**82.16**	**321**	⇑P	**P**	**13 41 58.6**	**+1.8**
OKC	**Ostrava-Krasne**	**82.22**	**327**	AMS	AMS	14 23 50.0	

	comp=Z,2µm,15.8s						
RPZ	**Rata Peaks**	**82.36**	**159**	LR	LR	14 13 14.7	
	comp=Z,353nm,20.9s,baz=328,slow=32						
MORC	**Moravsky Berou**	**82.54**	**327**	P	**P**	**13 41 59.9**	**+1.2**
MORC	**Moravsky Berou**	**82.54**	**327**	*e*P	**P**	**13 41 59.4**	**+0.7**
MORC	**Moravsky Berou**	**82.54**	**327**	P	**P**	**13 41 59.9**	**+1.2**
MORC				pmax	pmax		
	comp=Z,19nm,1.4s						
OSTC	**Ostas**	**82.55**	**328**	*e*SKS	**S**	**13 52 12.4**	**-1.2**
OSTC				AMS	AMS	14 24 40.0	
	comp=Z,2µm,15.1s						
PV07	**Paradox Valley**	**82.61**	**48**	P	**P**	**13 42 01.7**	**+2.2**
KRLC	**Kraliky**	**82.66**	**328**	*e*SKS	**S**	**13 52 16.5**	**+1.8**
KRLC				AMS	AMS	14 25 40.0	
	comp=Z,2µm,17.4s						
DPC	**Dobruska-Polom**	**82.66**	**328**	*e*P	**P**	**13 42 00.7**	**+1.4**
DPC				*e*		13 52 13.8	
DPC				MLR	MLR		
	comp=Z,2µm,14.5s						
DPC	**Dobruska-Polom**	**82.66**	**328**	*e*P	**P**	**13 42 00.7**	**+1.4**
DPC				*ex*	x	13 52 13.8	
DPC				AMS	AMS	14 24 40.0	
	comp=Z,2µm,14.5s						
WUAZ	**Wupatki**	**82.67**	**52**	P	**P**	**13 42 00.4**	**+0.6**
	baz=307,SNR=8.1						
UPC	**Upice**	**82.68**	**328**	*e*SKS	**S**	**13 52 17.6**	**+2.8**
UPC				AMS	AMS	14 24 50.0	
	comp=Z,2µm,14.6s						
N23A	**Red Feather La**	**82.68**	**45**	P	**P**	**13 42 01.4**	**+1.5**
	baz=310,SNR=20						
MAUC	**Maruska**	**82.70**	**327**	AMS	AMS	14 22 50.0	
	comp=Z,3µm,16.7s						
PSZ	**Piszkesteto**	**82.78**	**325**	⇑P	**P**	**13 42 01.1**	**+1.1**
PSZ	**Piszkesteto**	**82.78**	**325**	P	**P**	**13 42 01.4**	**+1.4**
VYHS	**Vyhne**	**82.87**	**326**	*e*P	**P**	**13 42 01.6**	**+1.2**
VYHS				pmax	pmax		
	comp=Z,48nm,1.9s						
VYHS	**Vyhne**	**82.87**	**326**	*e*P	**P**	**13 42 01.6**	**+1.2**
AGMN	**Agassiz Nation**	**82.99**	**35**	P	**P**	**13 42 01.9**	**+0.9**
	baz=316						
SIRR	**Siria**	**83.07**	**323**	⇑P	**P**	**13 42 03.3**	**+1.9**
GZR	**Gura Zlata**	**83.10**	**322**	⇑P	**P**	**13 42 03.4**	**+1.6**
JAVC	**Velka Javorina**	**83.14**	**326**	*e*P	**P**	**13 42 03.7**	**+1.8**
PVCC	**Panska Ves**	**83.28**	**329**	AMS	AMS	14 24 20.0	
	comp=Z,2µm,15.2s						
BRG	**Berggiesshubel**	**83.28**	**330**	*e*P	**P**	**13 42 03.6**	**+1.2**
BRG				Amp		13 42 04.6	
	comp=Z,17nm,1.4s						
BRG				*ex*	x	13 42 18.0	
BRG				Amp		13 42 21.9	
	comp=Z,14nm,1.4s						
BRG				PP	**PP**	**13 45 14.4**	**+0.9**
BRG				Amp		13 45 16.0	
	comp=Z,15nm,1.5s						
BRG	**Berggiesshubel**	**83.28**	**330**	*e*P	**P**	**13 42 03.6**	**+1.2**
BRG				*e*		13 42 18.0	
BRG						13 45 14.4	
BRG				S	**S**	**13 52 16.0**	**-4.9**
BRG				pmax	pmax		
	comp=Z,17nm,1.4s						
BRG				pmax	pmax		
	comp=Z,14nm,1.4s						
BRG				pmax	pmax		
	comp=Z,15nm,1.5s						
BRG				pmax	pmax		
	comp=N,781nm,14.0s						
VRAC	**Vranov**	**83.30**	**327**	⇑P	**P**	**13 42 04.0**	**+1.4**
VRAC	**Vranov**	**83.30**	**327**	P	**P**	**13 42 03.5**	**+0.9**
	comp=N,5.0nm,0.8s,baz=48,slow=5.2,SNR=15						
VRAC				LR	LR	14 21 54.7	
	comp=N,992nm,18.6s,baz=30,slow=38						
	comp=N,5.0nm,0.8s						
VRAC	**Vranov**	**83.30**	**327**	*e*P	**P**	**13 42 03.2**	**+0.6**
CLL	**Collm**	**83.34**	**330**⇓	*i*P	**P**	**13 42 03.5**	**+0.8**
CLL				*e*		13 42 08.0	
CLL				pmax	pmax		
	comp=Z,21nm,1.3s						
CLL				MLR	MLR		
	comp=Z,900nm,18.9s						
CLL	**Collm**	**83.34**	**330**⇓	*i*P	**P**	**13 42 03.5**	**+0.8**
	comp=Z,21nm,1.3s						
CLL				*ep*P	**PcP**	**13 42 08.0**	**+0.9**
CLL				*ex*	x	13 42 13.0	
CLL				*e*PP	**PP**	**13 45 13.0**	**-1.0**
CLL				*es*PP		13 45 22.0	
CLL				*ex*	x	13 46 01.0	
CLL				*e*S	**S**	**13 52 28.0**	**+6.5**
CLL				*e*SS	**SS**	**13 57 54.0**	**+8.4**
CLL				*ex*	x	13 59 00.0	
CLL				LmV		14 22 00.0	
	comp=Z,900nm,18.9s						
PPT	**Papeete**	**83.43**	**116**	LR	LR	14 22 08.5	
	comp=Z,536nm,18.3s,baz=306,slow=38						
PPT2	**Papeete2**	**83.44**	**116**	*e*LR	LR	14 08 24.0	
	comp=Z,908nm,22.5s						
MVCO	**Mesa Verde**	**83.46**	**49**	P	**P**	**13 42 05.0**	**+1.1**
	baz=309,SNR=7.4						
SMOL	**Smolenice**	**83.50**	**326**	*e*P	**P**	**13 42 05.1**	**+1.5**
SMOL				pmax	pmax		
	comp=Z,14nm,1.4s						
MMAI	**Mount Meron Ar**	**83.51**	**306**	LR	LR	14 24 02.8	
	comp=Z,1µm,18.7s,baz=212,slow=39						
BZS	**Buzias**	**83.54**	**322**	⇓P	**P**	**13 42 05.3**	**+1.4**
KRUC	**Moravsky**	**83.57**	**327**	*e*P	**P**	**13 42 04.4**	**+0.4**
ISCO	**Idaho Springs**	**83.58**	**46**	P	**P**	**13 42 07.3**	**+2.7**
	baz=310						
ISCO	**Idaho Springs**	**83.58**	**46**	P	**P**	**13 42 06.3**	**+1.7**
	baz=310						
HERR	**Herculane**	**83.64**	**321**	⇑P	**P**	**13 42 05.9**	**+1.5**
MODS	**Modra-Piesok**	**83.67**	**326**	*e*P	**P**	**13 42 05.8**	**+1.3**
MODS				pmax	pmax		
	comp=Z,56nm,1.4s						
MODS	**Modra-Piesok**	**83.67**	**326**	*e*P	**P**	**13 42 05.8**	**+1.3**
PRU	**Pruhonice**	**83.70**	**329**	*e*P	**P**	**

KHC				AMS	AMS	14 26 00.0	
	comp=Z,2μm,14.2s						
VTS	**Vitosha**	**84.76**	**319**	⇑P	**P**	**13 42 11.2**	**+0.8**
FRGS	**Fruska Gora**	**84.77**	**323**	⇓P	**P**	**13 42 11.6**	**+1.4**
BOVS	**Bovan**	**84.87**	**321**	⇑P	**P**	**13 42 11.3**	**+0.7**
OGNE	**Ogallala**	**84.89**	**43**	P	**P**	**13 42 11.5**	**+0.5**
	baz=312						
GERES	**GERESS Array B**	**84.92**	**328**	P	**P**	**13 42 11.8**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=18,slow=1.7,SNR=15						
GERES				PP	**PP**	**13 45 28.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=350,slow=5.3,SNR=3.7						
	comp=Z,2.4nm,0.9s						
KOVH	**Kovagotottos**	**84.94**	**324**	P	**P**	**13 42 12.1**	**+1.1**
SDCO	**Great Sand Dun**	**84.97**	**47**	P	**P**	**13 42 13.5**	**+1.9**
	baz=310						
SDCO	**Great Sand Dun**	**84.97**	**47**	P	**P**	**13 42 13.4**	**+1.7**
	baz=310,SNR=23						
TUC	**Tucson**	**85.01**	**54**	P	**P**	**13 42 12.8**	**+1.1**
TUC				IAmb	IAmb	13 42 19.9	
	comp=Z,24nm,1.7s						
TUC	**Tucson**	**85.01**	**54**	P	**P**	**13 42 12.8**	**+1.1**
TUC				pmax	pmax		
	comp=Z,24nm,1.7s						
TUC	**Tucson**	**85.01**	**54**	P	**P**	**13 42 12.6**	**+0.9**
	baz=308						
EYMN	**Ely**	**85.24**	**33**	P	**P**	**13 42 12.5**	**0.0**
	baz=319						
ARSA	**Arzberg**	**85.30**	**326**	*e*P	**P**	**13 42 13.9**	**+1.1**
	comp=Z,11nm,1.3s						
MOA	**Molln**	**85.42**	**327**	*e*P	**P**	**13 42 15.2**	**+1.8**
	comp=Z,13nm,1.2s						
DIVS	**Divibare**	**85.43**	**322**	P	**P**	**13 42 14.4**	**+0.8**
DIVS				IAmb	IAmb	13 42 24.7	
	comp=Z,43nm,1.5s						
TAOE	**Nuku Hiva Isla**	**85.48**	**104**	*e*S	**S**	**13 52 44.4**	**+0.3**
	comp=Z,198nm,24.9s						
TAOE	**Nuku Hiva Isla**	**85.48**	**104**	*e*LR	LR	14 09 20.9	
	comp=Z,1μm,22.6s						
EKA	**Eskdalemuir Ar**	**85.56**	**341**	LR	LR	14 25 40.0	
	comp=Z,1μm,18.6s,baz=29,slow=39						
BIOA	**Bad Ischl, Aus**	**85.82**	**328**	*i* P	**P**	**13 42 16.7**	**+1.4**
	comp=Z,11nm,1.1s,SNR=5.6						
EIL	**Elat**	**85.83**	**303**	LR	LR	14 26 45.7	
	comp=Z,392nm,18.5s,baz=80,slow=40						
ECSD	**EROS Data Cent**	**85.87**	**38**	P	**P**	**13 42 16.2**	**+0.4**
	baz=315						
ECSD	**EROS Data Cent**	**85.87**	**38**	P	**P**	**13 42 16.6**	**+0.9**
	baz=315,SNR=6.4						
GROS	**Grobnik**	**85.90**	**326**	*i* P	**P**	**13 42 16.1**	**+0.2**
PERS	**Pernice**	**85.94**	**326**	*e*P	**P**	**13 42 16.0**	**0.0**
SOKA	**Soboth**	**85.95**	**326**	*i* P	**P**	**13 42 17.1**	**+0.9**
	comp=Z,22nm,1.3s,SNR=14						
T25A	**Trinidad**	**86.02**	**47**	P	**P**	**13 42 17.2**	**+0.4**
	baz=311,SNR=7.2						
ANMO	**Albuquerque**	**86.17**	**50**	LR	LR	14 18 14.7	
	comp=Z,255nm,18.8s,baz=331,slow=34						
ANMO	**Albuquerque**	**86.17**	**50**	P	**P**	**13 42 18.0**	**+0.4**
ANMO	**Albuquerque**	**86.17**	**50**	P	**P**	**13 42 18.0**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,22nm,1.7s						
ANMO	**Albuquerque**	**86.17**	**50**	P	**P**	**13 42 19.4**	**+1.8**
	baz=310						
CRES	**Cresnjev**	**86.39**	**325**	*e*P	**P**	**13 42 18.0**	**-0.2**
KBA	**Koelnbreinsper**	**86.41**	**327**	*e*P	**P**	**13 42 19.0**	**+0.4**
	comp=Z,9.6nm,1.8s						
BTNL	**Ternell**	**86.59**	**333**	*d*P	**P**	**13 42 20.6**	**+1.4**
MYKA	**Terra Mystica**	**86.62**	**327**	*e*P	**P**	**13 42 20.1**	**+0.6**
	comp=Z,8.3nm,1.3s						
121A	**Cookes Peak, D**	**86.85**	**52**	P	**P**	**13 42 20.0**	**-1.0**
	baz=309						
WATA	**Walderalm**	**86.99**	**329**	*e*P	**P**	**13 42 22.8**	**+1.5**
	comp=Z,3.8nm,0.6s						
BCLA	**Clavier**	**87.03**	**334**	*d*P	**P**	**13 42 22.7**	**+1.4**
TBI	**Tubuai**	**87.16**	**121**	*e*S	**S**	**13 53 00.2**	**+0.4**
	comp=Z,168nm,27.8s						
TBI	**Tubuai**	**87.16**	**121**	*e*LR	LR	14 10 06.6	
	comp=Z,1μm,21.5s						
RETA	**Reutte**	**87.22**	**329**	*i* P	**P**	**13 42 23.2**	**+0.9**
	comp=Z,16nm,1.6s,SNR=5.5						
I37B	**Waseca**	**87.27**	**36**	P	**P**	**13 42 23.3**	**+0.8**
	baz=318						
RCHB	**Rochefort**	**87.28**	**334**	*d*P	**P**	**13 42 23.1**	**+0.7**
BMRD	**Maredsous**	**87.33**	**334**	*d*P	**P**	**13 42 23.9**	**+1.2**
WLF	**Walferdange**	**87.34**	**333**	*d*P	**P**	**13 42 24.7**	**+2.0**
BFO	**Black Forest**	**87.56**	**331**	P	**P**	**13 42 23.9**	**0.0**
BFO				IAmb	IAmb	13 45 45.7	
	comp=Z,13nm,0.6s						
BFO	**Black Forest**	**87.56**	**331**	P	**P**	**13 42 23.9**	**0.0**
BFO				pmax	pmax		
	comp=Z,13nm,0.6s						
DAVA	**Damuels**	**87.75**	**329**	*e*P	**P**	**13 42 27.0**	**+2.0**
	comp=Z,3.0nm,0.4s						
SCHQ	**Schefferville**	**87.76**	**16**	P	**P**	**13 42 25.6**	**+0.9**
	comp=Z,4.4nm,1.0s,baz=311,slow=9.3,SNR=2.9						
SCHQ				LR	LR	14 22 40.2	
	comp=Z,556nm,21.8s,baz=2.0,slow=36						
	comp=Z,4.4nm,1.0s						
DAVOX	**Davos/Dischmat**	**88.15**	**329**	P	**P**	**13 42 27.6**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=335,slow=2.2,SNR=4.8						
DAVOX				LR	LR	14 28 27.6	
	comp=Z,870nm,18.6s,baz=56,slow=40						
	comp=Z,1.1nm,0.4s						
AMTX	**Amarillo**	**89.17**	**47**	P	**P**	**13 42 32.8**	**+1.0**
	baz=313						
KSU1	**Kansas State U**	**89.17**	**41**	P	**P**	**13 42 31.9**	**+0.3**
	baz=316						
LPIG	**La Paz**	**90.39**	**60**	LR	LR	14 23 50.8	
	comp=Z,247nm,18.0s,baz=310,slow=36						
ATD	**Arta Tunnel**	**90.57**	**284**	LR	LR	14 26 02.3	
	comp=Z,257nm,21.0s,baz=41,slow=37						
WMOK	**Wichita Mounta**	**91.00**	**46**	P	**P**	**13 42 41.2**	**+0.8**
	baz=314						
WMOK	**Wichita Mounta**	**91.00**	**46**	P	**P**	**13 42 39.7**	**-0.6**
	baz=314						
TX31	**Lajitas Ar. Si**	**91.61**	**52**	P	**P**	**13 42 44.4**	**+1.1**
	baz=312						
TXAR	**Lajitas Array**	**91.61**	**52**	P	**P**	**13 42 44.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=319,slow=3.3,SNR=10						
TXAR				LR	LR	14 24 35.3	
	comp=Z,568nm,18.0s,baz=328,slow=36						
	comp=Z,0.7nm,0.7s						
CCM	**Cathedral Cave**	**92.80**	**39**	P	**P**	**13 42 47.4**	**-1.1**
	baz=319						
CCM	**Cathedral Cave**	**92.80**	**39**	P	**P**	**13 42 48.4**	**-0.1**
	baz=319						
SADO	**Sadowa**	**92.92**	**28**	LR	LR	14 31 50.9	
	comp=Z,416nm,18.0s,baz=355,slow=40						
MIAR	**Mount Ida**	**94.14**	**43**	P	**P**	**13 42 54.4**	**-0.4**
	baz=317						
KEST	**Kesra**	**97.09**	**323**	LR	LR	14 30 33.0	
	comp=Z,825nm,19.6s,baz=4.5,slow=38						
TKL	**Tuckaleechee C**	**98.41**	**36**	LR	LR	14 33 09.3	
	comp=Z,163nm,18.6s,baz=343,slow=39						
PGAV	**Gavieira, Arco**	**99.03**	**338**	*e*LR	LR	14 25 41.8	
	comp=Z,841nm,20.0s						
MVO	**Moncorvo**	**99.35**	**336**	*e*LR	LR	14 24 19.3	
	comp=Z,784nm,18.0s						
ESDC	**Sonseca Array**	**99.61**	**334**	PP	**PP**	**13 47 25.6**	**+3.0**
	comp=Z,0.9nm,0.9s,baz=34,slow=6.9,SNR=4.8						
ESDC				LR	LR	14 35 13.8	
	comp=Z,1μm,18.6s,baz=22,slow=40						
MTE	**Manteigas**	**100.21**	**336**	*e*LR	LR	14 24 31.9	
	comp=Z,640nm,20.0s						
PMRV	**Marv??o**	**101.03**	**336**	*e*LR	LR	14 27 34.6	
	comp=Z,892nm,18.0s						
PVAQ	**Vaqueiros**	**102.96**	**335**	*e*LR	LR	14 28 46.3	
	comp=Z,794nm,18.0s						
PMOZ	**Porto Moniz, M**	**110.12**	**341**	*e*LR	LR	14 31 14.8	
	comp=Z,422nm,18.0s						
MAW	**Mawson**	**117.27**	**205**	PP	**PP**	**13 49 31.7**	**0.0**
	comp=Z,3.2nm,1.0s,baz=61,slow=9.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**119.17**	**314**	PKP	**PKPdf**	**13 48 25.0**	**-0.5**
	comp=Z,1.4nm,1.0s,baz=19,slow=0.7,SNR=4.8						
TORD				PP	**PP**	**13 49 43.5**	**-1.6**
	comp=Z,2.6nm,1.0s,baz=40,slow=3.9,SNR=6.0						
QSPA	**South Pole Qui**	**124.23**	**180**	PKPdf	**PKiKP**	**13 48 34.7**	**+0.7**
TROLL	**Troll, Antarti**	**136.83**	**197**	PKPdf	**PKPdf**	**13 48 57.0**	**-0.5**
SNAA	**Sanae**	**138.33**	**196**	PKPdf	**PKPdf**	**13 48 58.9**	**-1.3**
VNA2	**Neumayer--Watz**	**139.89**	**195**	PKPdf	**PKPdf**	**13 48 59.2**	**-3.8**
	baz=112,slow=1.5						
VNA3	**Neumayer Olymp**	**140.12**	**194**	PKPdf	**PKPdf**	**13 48 59.8**	**-3.5**
VNA1	**Neumayer--Stat**	**140.29**	**195**	PKPdf	**PKPdf**	**13 48 57.4**	**-6.2**
ETMB	**Extrema**	**144.70**	**53**	PKPdf	PKPbc	13 49 12.4	+0.3
PB12	**IPOC Station P**	**147.60**	**69**	PKPdf	**PKPbc**	**13 49 19.6**	**-1.1**
PB12				PKPab	**sPKPdf**	**13 49 27.4**	**-1.0**
LPAZ	**La Paz**	**147.85**	**63**	PKPbc	**PKPbc**	**13 49 22.9**	**+0.7**
	comp=Z,12nm,0.8s,baz=307,slow=2.6,SNR=13						
VILB	**Vilhena**	**150.90**	**48**		**PKiKP**	**13 49 31.4**	**+1.7**
PLCA	**Paso Flores**	**153.94**	**113**	PKPbc	**PKiKP**	**13 49 37.7**	**+2.4**
	comp=Z,1.8nm,0.9s,baz=301,slow=5.9,SNR=2.9						

WEL 02 13:33:38.2±1.2, 37°S±4°×17°9E±°, h12km±8km, M3.6/49, ML3.9/56, MLv3.6/49, Error ellipse: s-maj=0.0km s-min=0.0km az=88.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.99**	**231**	P	Pb	13 33 56.0	-1.3
MXZ				S	Sg	13 34 08.6	-1.7
WMGZ	**Waiomatatini S**	**1.11**	**218**	P	Pg	13 34 00.5	+0.8
WMGZ				S	Sn	13 34 15.8	+0.8
PKGZ	**Pakihiroa**	**1.34**	**225**	P	Pn	13 34 02.9	0.0
PKGZ				S	Sb	13 34 20.2	-0.4
PUZ	**Puketiti**	**1.39**	**215**	P	Pb	13 34 03.9	-0.3
PUZ				S	Sb	13 34 22.0	+0.1
HAZ	**Te Kaha**	**1.44**	**235**	P	Pn	13 34 02.8	-1.4
HAZ				S	Sn	13 34 23.1	+0.1
TWGZ	**Tauwhareparae**	**1.61**	**219**	P	Pn	13 34 07.0	+0.5
TWGZ				S	Sb	13 34 28.6	+0.4
RUGZ	**Raukumara Rang**	**1.63**	**231**	P	Pn	13 34 07.5	+0.6
RUGZ				S	Sb	13 34 28.8	-0.1
CNGZ	**Carnagh Statio**	**1.76**	**208**	P	Pb	13 34 09.5	-0.9
WIZ	**White Island**	**1.76**	**250**	P	Pn	13 34 07.0	-1.6
TKGZ	**Te Karaka**	**1.88**	**217**	P	Pn	13 34 10.1	0.0
TKGZ				S	Sn	13 34 32.8	-1.0
MWZ	**Matawai**	**1.96**	**224**	P	Pn	13 34 11.6	+0.2
WHRZ	**Whale Island**	**2.05**	**243**	P	Pn	13 34 13.2	+0.7
RIGZ	**Rimuhau**	**2.13**	**214**	P	Pn	13 34 13.5	-0.2
RAGZ	**Rawiri**	**2.14**	**223**	P	Pn	13 34 14.2	+0.3
URZ	**Urewera**	**2.17**	**232**	P	Pn	13 34 14.4	+0.3
PRGZ	**Paritu Road**	**2.27**	**209**	P	Pn	13 34 15.2	-0.3
MARZ	**Manawahe**	**2.32**	**242**	P	Pn	13 34 17.5	+1.3
EDRZ	**Edgecumbe**	**2.33**	**239**	P	Pn	13 34 17.2	+0.7
OPRZ	**Ohinepanea**	**2.34**	**246**	P	Pn	13 34 16.3	-0.2
SNGZ	**Shannon Statio**	**2.39**	**219**	P	Pn	13 34 17.0	-0.3
MYRZ	**Mayor Island**	**2.45**	**261**	P	Pn	13 34 17.9	-0.1
MHGZ	**Mahia Peninsul**	**2.46**	**206**	P	Pn	13 34 17.8	-0.4
RTZ	**Ruatahuna**	**2.47**	**227**	P	Pn	13 34 18.3	-0.1
MUGZ	**Murupara**	**2.51**	**231**	P	Pn	13 34 18.8	-0.1
TGRZ	**Tauranga**	**2.53**	**251**	P	Pn	13 34 18.8	-0.2
TARZ	**Mount Tarawera**	**2.55**	**239**	P	Pn	13 34 20.6	+1.1
RRRZ	**Republican Roa**	**2.60**	**237**	P	Pn	13 34 20.4	+0.3
RAHZ	**Arahi**	**2.62**	**221**	P	Pn	13 34 20.3	-0.2
KARZ	**Kaharoa**	**2.64**	**245**	P	Pn	13 34 21.1	+0.4
WHHZ	**Waihua**	**2.67**	**216**	P	Pn	13 34 22.2	+1.1
MTHZ	**Maungataniwha**	**2.71**	**224**	P	Pn	13 34 21.8	+0.1
UTU	**Utuhina**	**2.74**	**242**	P	Pb	13 34 27.7	+0.6
PRRZ	**Plateau Road**	**2.76**	**235**	P	Pn	13 34 22.5	+0.1
ALRZ	**Allen Road**	**2.83**	**234**	P	Pn	13 34 23.4	0.0
KUZ	**Kuaotunu**	**2.85**	**273**	P	Pn	13 34 21.9	-1.7
NMHZ	**Naumai**	**2.91**	**221**	P	Pn	13 34 24.4	0.0
WPRZ	**Whakapapatarin**	**2.93**	**236**	P	Pn	13 34 26.4	+1.8
ARHZ	**Aropaoanui**	**2.94**	**217**	P	Pn	13 34 24.2	-0.5
MRHZ	**Matea Rd**	**2.95**	**229**	P	Pn	13 34 24.7	-0.2
TOZ	**Tahuroa Road**	**3.11**	**254**	P	Pn	13 34 25.8	-1.3
BKZ	**Black Stump Fm**	**3.12**	**224**	P	Pn	13 34 27.4	+0.1
KUTZ	**Kaahu Road**	**3.14**	**239**	P	Pn	13 34 28.4	+0.8
GRZ	**Great Barrier**	**3.15**	**281**	P	Pn	13 34 27.2	-0.4
MKAZ	**Moumakai**	**3.29**	**266**	P	Pn	13 34 28.4	-1.2
KAHZ	**Kahuranaki**	**3.42**	**213**	P	Pn	13 34 29.9	-1.5
ETAZ	**East Tamaki Re**	**3.48**	**268**	P	Pn	13 34 31.7	-0.5
MBAZ	**Motutapu North**	**3.51**	**271**	P	Pn	13 34 32.2	-0.4
KRHZ	**Kereru**	**3.54**	**219**	P	Pn	13 34 32.0	-1.0
KRVZ	**Karewarewa**	**3.59**	**232**	P	Pn	13 34 36.9	+3.2
BHHZ	**Black Hill Sta**	**3.59**	**224**	P	Pn	13 34 33.3	-0.4
PXZ	**Pawanui**	**3.62**	**211**	P	Pn	13 34 32.0	-2.1
NNVZ	**North Ngauruho**	**3.62**	**232**	P	Pn	13 34 34.9	+0.5
EPAZ	**Eden Park BICE**	**3.63**	**270**	P	Pn	13 34 34.9	+0.7
WTVZ	**West Tongariro**	**3.63**	**232**	P	Pn	13 34 35.7	+1.3
HBAZ	**Herne Bay Bore**	**3.64**	**270**	P	Pn	13 34 35.2	+0.9
NGZ	**Ngauruhoe**	**3.66**	**231**	P	Pn	13 34 34.8	0.0
TWGZ	**Taurewa**	**3.70**	**234**	P	Pn	13 34 36.3	+1.0
AWAZ	**Awhitu Peninsu**	**3.71**	**267**	P	Pn	13 34 35.1	-0.3
MOVZ	**Moawhango**	**3.71**	**227**	P	Pn	13 34 34.7	-0.8
WNVZ	**Wahianoa**	**3.75**	**229**	P	Pn	13 34 36.2	0.0
WTAZ	**Waiatarua**	**3.76**	**269**	P	Pn	13 34 36.1	0.0
RVAZ	**Riverhead Bore**	**3.77**	**271**	P	Pn	13 34 36.0	-0.1
PNHZ	**Pukenui**	**3.83**	**218**	P	Pn	13 34 35.2	-1.8
HIZ	**Hauiti**	**3.84**	**244**	P	Pn	13 34 38.4	+1.3
PKVZ	**Pokaka**	**3.88**	**232**	P	Pn	13 34 38.1	+0.3
TSZ	**Takapari Road**	**4.06**	**219**	P	Pn	13 34 39.3	-0.9
WCZ	**Waipu Caves**	**4.09**	**283**	P	Pn	13 34 40.3	-0.3
DVHZ	**Dannevirke**	**4.14**	**215**	P	Pn	13 34 39.5	-1.9
WAZ	**Wanganui**	**4.39**	**229**	P	Pn	13 34 44.5	-0.2
KHEZ	**Kahui Hut**	**4.77**	**239**	P	Pn	13 34 53.1	+3.1
OUZ	**Omahuta**	**4.91**	**289**	P	Pn	13 34 51.9	+0.1
KIW	**Kapiti Island**	**5.19**	**220**	P	Pn	13 34 53.7	-2.0
TUWZ	**Tuamarina**	**6.10**	**221**	P	Pn	13 35 05.9	-2.3
BSNZ	**Blackbirch Sta**	**6.34**	**220**	P	Pn	13 35 09.3	-2.2
TKNZ	**Takaka Hill**	**6.39**	**228**	P	Pn	13 35 10.2	-2.1
CTZ	**Chatham Island**	**7.48**	**156**	P	Pn	13 35 27.9	+0.8

*IDC **02** 13:50:40.5±3.8, 20°.43S×169°.54E, h162km±41km, mb3.1/3, mbtmp3.5/4, Error ellipse: s-maj=186.7km s-min=35.9km az=154.0*

ISC 02 13:50:40.2±2.1, 19°.9S±0°.5×169°.3E±0°.5, h150km, n6, σ0s53/7, mb3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.40**	**231**	P	**Pn**	**13 51 33.2**	**+0.4**
	6.2nm,0.4s,baz=110,slow=15,SNR=74						
DZM				S	**Sn**	**13 52 12.8**	**-0.7**
	16nm,0.2s,baz=140,slow=22,SNR=14						
WRA	**Warramunga Arr**	**32.82**	**264**	P	**P**	**13 56 59.6**	**-0.1**
	0.2nm,0.7s,baz=100,slow=8.4,SNR=1.9						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**33.01**	**257**	P	**P**	**13 57 01.9**	**+0.6**
	1.1nm,0.6s,baz=85,slow=8.9,SNR=25						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**90.89**	**17**	P	**P**	**14 03 26.2**	**-0.2**
	0.2nm,0.6s,baz=217,slow=4.3,SNR=2.1						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**125.76**	**345**	PKP	**PKPdf**	**14 09 23.4**	**+0.1**
	0.4nm,0.3s,baz=54,slow=1.6,SNR=1.3						
GERES	**GERESS Array B**	**145.13**	**331**	PKPbc	**PKPdf**	**14 09 59.6**	**-0.3**
	0.4nm,0.8s,baz=55,slow=3.7,SNR=3.5						

*IDC **02** 13:57:36.2±0.6, 55°.03S×31°.83W, h0km, mb4.3/12, mbtmp4.3/12, MS3.9/10, Error ellipse: s-maj=21.7km s-min=14.6km az=52.0*

*NEIC **02** 13:57:39.3±1.9, 54°.96S±0°.10×31°.6W±0°.2, h14km±5km, mb4.9/21, Error ellipse: s-maj=15.0km s-min=13.1km az=222.0*

*GCMT **02** 13:57:43.3±0.4, 55°.23S±0°.03×31°.01W±0°.07, h17km±1km, MW5.0/69, Moment Tensor Solution. s22,c23; s69,c85; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.72±.29; Mθθ -1.70±.17; Mϕϕ -1.02±.18; Mrθ -0.30±.43; Mϕθ 1.46±.11; Mϕr 3.00±.60; Best double couple: M0 4.06300×10^16 NP1: ϕs 337.00000°, δ69.00000°, λ112.00000°. NP2: ϕs 109.00000°, δ30.00000°, λ46.00000°. Principal axes: T 4.4190, Plg60.0000°, Azm279.0000°; N -0.7130, Plg20.0000°, Azm150.0000°; P -3.7060, Plg21.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 13:57:37.9±0.5, 55°.00S±0°.08×31°.66W±0°.10, h10km, n58, σ1s23/46, mb4.7/17, MS3.9/9, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.90**	**282**	Pn	**Pn**	**13 58 23.5**	**-0.5**
ORCD	**Orcadas**	**9.03**	**225**		**Pn**	**13 59 48.2**	**+0.1**
PMSA	**Palmer Station**	**18.75**	**226**	LR	LR	14 07 59.7	
	comp=Z,154nm,18.5s,baz=66,slow=33						
VNA1	**Neumayer--Stat**	**18.77**	**156**	P	**Pn**	**14 01 58.0**	**+0.9**
VNA3	**Neumayer Olymp**	**18.88**	**158**	P	**Pn**	**14 01 59.3**	**+0.7**
VNA2	**Neumayer--Watz**	**19.16**	**156**	P	**P**	**14 02 00.1**	**-1.0**
SNAA	**Sanae**	**20.76**	**155**	P	**P**	**14 02 13.9**	**-4.6**
SNAA	**Sanae**	**20.76**	**155**	P	**P**	**14 02 18.0**	**-0.6**
	6.8nm,0.8s,baz=315,slow=11,SNR=22						
SNAA				LR	LR	14 08 38.3	
	comp=Z,118nm,21.3s,baz=333,slow=32						
	6.8nm,0.8s						
SNAA	**Sanae**	**20.76**	**155**	P	**P**	**14 02 18.1**	**-0.5**
SMAI	**San Martin Ant**	**20.99**	**217**	P	Pn	14 02 24.2	+0.7
SMAI				IAmb	IAmb	14 02 33.3	
	comp=Z,49nm,2.0s						
TROLL	**Troll, Antarti**	**22.34**	**153**	P	**P**	**14 02 32.4**	**-3.2**
TRQA	**Tornquist**	**26.57**	**297**	P	**P**	**14 03 16.7**	**+0.7**
PLCA	**Paso Flores**	**29.30**	**283**	P	**P**	**14 03 39.4**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=104,slow=6.7,SNR=4.3						
PLCA				LR	LR	14 15 10.1	
	comp=Z,266nm,21.3s,baz=148,slow=36						
	comp=Z,1.4nm,0.7s						
PLCA	**Paso Flores**	**29.30**	**283**	P	**P**	**14 03 40.2**	**-0.2**
CPUP	**Villa Florida**	**34.25**	**316**	P	**P**	**14 04 23.3**	**-0.5**
	comp=Z,4.9nm,0.6s,baz=148,slow=7.0,SNR=12						
CPUP				LR	LR	14 19 43.7	
	comp=Z,109nm,18.7s,baz=172,slow=39						
	comp=Z,4.9nm,0.6s						
CPUP	**Villa Florida**	**34.25**	**316**	P	**P**	**14 04 24.5**	**+0.7**
CPUP				IAmb	IAmb	14 04 43.8	
	comp=Z,22nm,1.6s						
MT01	**Popeta**	**34.64**	**291**	P	**P**	**14 04 26.1**	**-1.0**
QSPA	**South Pole Qui**	**35.26**	**180**	P	**P**	**14 04 32.1**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=189,slow=2.0,SNR=9.1						
QSPA				LR	LR	14 18 50.7	
	comp=Z,182nm,18.1s,baz=188,slow=36						
	comp=Z,2.3nm,0.7s						
QSPA	**South Pole Qui**	**35.26**	**180**	P	**P**	**14 04 32.4**	**0.0**
QSPA				IAmb	IAmb	14 04 43.7	
	comp=Z,19nm,1.2s						
VA06	**Catapilco**	**35.66**	**292**	P	**P**	**14 04 36.2**	**+0.3**
CO01	**Juntas del Tor**	**37.07**	**297**	P	**P**	**14 04 49.8**	**+1.5**
CO01				IAmb	IAmb	14 05 23.3	
	comp=Z,40nm,1.6s						
AC05	**El Transito**	**38.08**	**297**	P	**P**	**14 04 57.0**	**+0.3**
GO02	**Mina Guanaco**	**40.76**	**301**	P	**P**	**14 05 19.6**	**+0.2**
GO02				IAmb	IAmb	14 06 12.6	
	comp=Z,54nm,1.5s						
BDFB	**Brasilia**	**41.27**	**336**	P	**P**	**14 05 22.9**	**-0.5**
	comp=Z,2.5nm,0.4s,baz=126,slow=8.7,SNR=2.0						
BDFB				LR	LR	14 20 47.0	
	comp=Z,109nm,21.2s,baz=151,slow=34						
	comp=Z,2.5nm,0.4s						
MAW	**Mawson**	**42.48**	**146**	P	**P**	**14 05 32.5**	**0.0**
	comp=Z,3.8nm,0.7s,baz=238,slow=8.5,SNR=12						
	comp=Z,3.8nm,0.7s						
MAW	**Mawson**	**42.48**	**146**	P	**P**	**14 05 33.3**	**+0.7**
LVC	**Limon Verde**	**42.59**	**304**	P	**P**	**14 05 33.7**	**-0.7**
	comp=Z,3.0nm,0.5s,baz=113,slow=7.7,SNR=2.3						
	comp=Z,3.0nm,0.5s						
PB01	**IPOC Station P**	**44.20**	**305**	P	**P**	**14 05 48.0**	**+0.9**
PB01				IAmb	IAmb	14 06 55.1	
	comp=Z,83nm,2.0s						
GO01	**Chusmiza**	**45.25**	**306**	P	**P**	**14 05 56.9**	**+1.0**
GO01				IAmb	IAmb	14 06 01.5	
	comp=Z,17nm,1.2s						
VNDA	**Vanda**	**47.48**	**184**	P	**P**	**14 06 12.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=183,slow=3.3,SNR=8.2						
	comp=Z,1.9nm,0.8s						
VNDA	**Vanda**	**47.48**	**184**	P	**P**	**14 06 15.0**	**+2.7**
LPAZ	**La Paz**	**47.72**	**309**	P	**P**	**14 06 15.2**	**-0.3**
	comp=Z,3.6nm,0.5s,baz=120,slow=4.4,SNR=22						
	comp=Z,3.6nm,0.5s						
LPAZ	**La Paz**	**47.72**	**309**	P	**P**	**14 06 16.2**	**+0.8**
LPAZ				IAmb	IAmb	14 06 28.7	
	comp=Z,19nm,1.3s						
H10S2	**ASCENSION HYDR**	**47.87**	**23**	T	T	14 57 58.5	
	baz=193,slow=74,SNR=9.3						
H10S3	**ASCENSION HYDR**	**47.87**	**23**	T	T	14 58 19.5	
	baz=27,slow=74,SNR=15

RAGZ				S	**Sn**	**14 10 57.8**	**+0.6**	
URZ	**Urewera**	**2.10 235**		Pn	**Pn**	**14 10 34.0**	**+1.7**	
	43nm,0.3s,baz=121,slow=1.3,SNR=117							
URZ				Sn	**Sn**	**14 10 57.8**	**-0.2**	
	46nm,0.3s,baz=122,slow=0.8,SNR=6.3							
	163nm,0.5s							
URZ	**Urewera**	**2.10 235**			**Pb**	**14 10 34.2**	**-1.4**	
URZ	**Urewera**	**2.10 235**	P		**Pn**	**14 10 33.9**	**+1.5**	
URZ				S	**Sn**	**14 10 58.3**	**+0.3**	
URZ	**Urewera**	**2.10 235**	P		**Pb**	**14 10 34.2**	**-1.4**	
PRGZ	**Paritu Road**	**2.16 211**	P		**Pn**	**14 10 34.9**	**+1.7**	
EDRZ	**Edgecumbe**	**2.28 242**	P		**Pn**	**14 10 36.2**	**+1.3**	
SNGZ	**Shannon Statio**	**2.30 222**	P		**Pn**	**14 10 36.7**	**+1.5**	
OPRZ	**Ohinepanea**	**2.32 250**	P		**Pn**	**14 10 35.4**	**+0.1**	
KNZ	**Kokohu**	**2.33 213**	P		**Pn**	**14 10 36.5**	**+1.1**	
MHGZ	**Mahia Peninsul**	**2.35 207**	P		**Pn**	**14 10 37.7**	**+1.9**	
RTZ	**Ruatahuna**	**2.40 229**	P		**Pn**	**14 10 38.2**	**+1.7**	
MUGZ	**Murupara**	**2.45 234**	P		**Pn**	**14 10 38.3**	**+1.2**	
MYRZ	**Mayor Island**	**2.45 264**	P		**Pn**	**14 10 37.9**	**+0.7**	
TARZ	**Mount Tarawera**	**2.50 242**	P		**Pn**	**14 10 39.7**	**+1.7**	
TGRZ	**Tauranga**	**2.51 254**	P		**Pn**	**14 10 38.6**	**+0.7**	
RAHZ	**Arahi**	**2.54 223**	P		**Pn**	**14 10 39.8**	**+1.4**	
OMRZ	**Omania**	**2.54 245**	P		**Pn**	**14 10 40.1**	**+1.6**	
RRRZ	**Republican Roa**	**2.54 239**	P		**Pn**	**14 10 40.0**	**+1.5**	
KARZ	**Kaharoa**	**2.61 248**	P		**Pn**	**14 10 40.4**	**+1.1**	
HLRZ	**Highlands Stat**	**2.62 242**	P		**Pn**	**14 10 40.0**	**+0.5**	
MTHZ	**Maungataniwha**	**2.63 227**	P		**Pn**	**14 10 41.4**	**+1.7**	
UTU	**Utuhina**	**2.70 245**	P		**Pb**	**14 10 43.6**	**-2.3**	
PRRZ	**Plateau Road**	**2.71 237**	P		**Pn**	**14 10 41.9**	**+1.2**	
HSRZ	**Hossack Road**	**2.72 242**	P		**Pn**	**14 10 42.9**	**+2.0**	
HRRZ	**Handcock Road**	**2.73 240**	P		**Pn**	**14 10 42.6**	**+1.6**	
ALRZ	**Allen Road**	**2.77 237**	P		**Pn**	**14 10 42.8**	**+1.2**	
NMHZ	**Naumai**	**2.82 224**	P		**Pn**	**14 10 44.2**	**+1.9**	
GRRZ	**Galatos Road**	**2.83 242**	P		**Pn**	**14 10 44.3**	**+1.8**	
ARHZ	**Aropaoanui**	**2.84 219**	P		**Pn**	**14 10 43.8**	**+1.2**	
WPRZ	**Whakapapatarin**	**2.87 239**	P		**Pn**	**14 10 45.2**	**+2.2**	
MRHZ	**Matea Rd**	**2.88 232**	P		**Pn**	**14 10 44.2**	**+1.1**	
KUZ	**Kuaotunu**	**2.89 275**	P		**Pn**	**14 10 41.8**	**-1.4**	
BKZ	**Black Stump Fm**	**3.04 226**			**Pn**	**14 10 45.7**	**+0.3**	
BKZ	**Black Stump Fm**	**3.04 226**	P		**Pn**	**14 10 46.6**	**+1.2**	
BKZ	**Black Stump Fm**	**3.04 226**	P		**Pn**	**14 10 46.8**	**+1.4**	
TOZ	**Tahuroa Road**	**3.10 257**	P		**Pn**	**14 10 46.7**	**+0.7**	
KUTZ	**Kaahu Road**	**3.10 242**	P		**Pn**	**14 10 47.6**	**+1.6**	
CKHZ	**Cape Kidnapper**	**3.12 215**	P		**Pn**	**14 10 46.6**	**+0.3**	
GRRZ	**Great Barrier**	**3.20 284**	P		**Pn**	**14 10 48.2**	**+0.8**	
TLZ	**Tolley Road**	**3.24 246**	P		**Pn**	**14 10 49.6**	**+1.6**	
WATZ	**Wairara**	**3.26 239**	P		**Pn**	**14 10 50.3**	**+2.0**	
MKAZ	**Moumakai**	**3.31 268**	P		**Pn**	**14 10 48.2**	**-0.7**	
RATZ	**Rangitukua**	**3.31 236**	P		**Pn**	**14 10 51.1**	**+2.0**	
KAHZ	**Kahuranaki**	**3.32 214**	P		**Pn**	**14 10 49.3**	**+0.2**	
RITZ	**Rihia Road**	**3.32 234**	P		**Pn**	**14 10 50.5**	**+1.4**	
WIAZ	**Waiheke Island**	**3.35 274**	P		**Pn**	**14 10 50.6**	**+1.1**	
KRHZ	**Kereru**	**3.45 221**	P		**Pn**	**14 10 50.0**	**-0.9**	
TMVZ	**Te Maari**	**3.49 233**	P		**Pn**	**14 10 52.4**	**+0.8**	
ETVZ	**East Tongariro**	**3.50 233**	P		**Pn**	**14 10 52.6**	**+0.9**	
ETAZ	**East Tamaki Re**	**3.50 271**	P		**Pn**	**14 10 51.7**	**+0.1**	
BHHZ	**Black Hill Sta**	**3.51 226**	P		**Pn**	**14 10 52.6**	**+0.9**	
PXZ	**Pawanui**	**3.52 212**	P		**Pn**	**14 10 51.5**	**-0.3**	
MBAZ	**Motutapu North**	**3.54 274**	P		**Pn**	**14 10 52.3**	**+0.2**	
OTVZ	**Oturere**	**3.54 233**	P		**Pn**	**14 10 53.3**	**+1.0**	
NNVZ	**North Ngauruho**	**3.56 234**	P		**Pn**	**14 10 53.4**	**+0.8**	
NGZ	**Ngauruhoe**	**3.59 233**	P		**Pn**	**14 10 54.0**	**+1.0**	
MOVZ	**Moawhango**	**3.64 229**	P		**Pn**	**14 10 54.0**	**+0.5**	
EPAZ	**Eden Park BICE**	**3.66 272**	P		**Pn**	**14 10 55.5**	**+1.8**	
WHVZ	**Whangaehu Hut**	**3.66 232**	P		**Pn**	**14 10 55.0**	**+0.9**	
HBAZ	**Herne Bay Bore**	**3.67 272**	P		**Pn**	**14 10 55.7**	**+1.8**	
FWVZ	**Far West T-bar**	**3.67 232**	P		**Pn**	**14 10 55.0**	**+0.9**	
WNVZ	**Wahianoa**	**3.68 231**	P		**Pn**	**14 10 54.8**	**+0.6**	
AWAZ	**Awhitu Peninsu**	**3.73 269**	P		**Pn**	**14 10 56.0**	**+1.3**	
PNHZ	**Pukenui**	**3.73 220**	P		**Pn**	**14 10 54.6**	**-0.2**	
WTAZ	**Waiatarua**	**3.79 271**	P		**Pn**	**14 10 56.6**	**+1.0**	
RVAZ	**Riverhead Bore**	**3.80 273**	P		**Pn**	**14 10 55.8**	**+0.1**	
MTVZ	**Mangateitei**	**3.80 231**	P		**Pn**	**14 10 56.3**	**+0.5**	
HIZ	**Hauiti**	**3.80 246**	Pn		**Pn**	**14 10 57.3**	**+1.6**	
HIZ	**Hauiti**	**3.80 246**	P		**Pn**	**14 10 57.6**	**+1.8**	
HIZ	**Hauiti**	**3.80 246**	P		**Pn**	**14 10 57.6**	**+1.8**	
PRHZ	**Porangahau**	**3.81 212**	P		**Pn**	**14 10 55.5**	**-0.3**	
PKVZ	**Pokaka**	**3.82 233**	P		**Pn**	**14 10 57.3**	**+1.2**	
TSZ	**Takapari Road**	**3.97 220**	P		**Pn**	**14 10 57.8**	**-0.2**	
WCZ	**Waipu Caves**	**4.15 284**	P		**Pn**	**14 11 00.4**	**-0.2**	
WAZ	**Wanganui**	**4.32 230**	P		**Pn**	**14 11 03.8**	**+0.9**	
BFZ	**Birch Farm**	**4.32 213**			**Pn**	**14 11 01.7**	**-1.1**	
BFZ	**Birch Farm**	**4.32 213**	P		**Pn**	**14 11 01.2**	**-1.6**	
PRWZ	**Pori Road**	**4.34 216**	P		**Pn**	**14 11 03.1**	**0.0**	
LREZ	**Lake Rotokare**	**4.53 237**	P		**Pn**	**14 11 08.5**	**+2.7**	
DREZ	**Durham Road**	**4.54 241**	P		**Pn**	**14 11 09.3**	**+3.4**	
MRZ	**Mangatainoka R**	**4.61 218**	P		**Pn**	**14 11 06.1**	**-0.7**	
NEZ	**North Egmont**	**4.65 240**	P		**Pn**	**14 11 10.8**	**+3.3**	
KHEZ	**Kahui Hut**	**4.72 240**	P		**Pn**	**14 11 12.1**	**+3.7**	
NBEZ	**Newall Road No**	**4.81 241**	P		**Pn**	**14 11 13.5**	**+3.9**	
OUZ	**Omahuta**	**4.97 290**	Pn		**Pn**	**14 11 12.8**	**+1.0**	
OUZ	**Omahuta**	**4.97 290**	P		**Pn**	**14 11 12.4**	**+0.5**	
OUZ	**Omahuta**	**4.97 290**	P		**Pn**	**14 11 12.2**	**+0.4**	
TUWZ	**Tuamarina**	**6.02 222**			**Pn**	**14 11 23.8**	**-2.3**	
TKNZ	**Takaka Hill**	**6.32 229**	P		**Pn**	**14 11 29.7**	**-0.7**	
QRZ	**Quartz Range**	**6.47 233**	P		**Pn**	**14 11 31.0**	**-1.4**	
THZ	**Tophouse**	**6.81 225**			**Pn**	**14 11 30.6**	**-1.7**	
KHZ	**Kahutara**	**6.94 218**	P		**Pn**	**14 11 37.3**	**-1.5**	
CTZ	**Chatham Island**	**7.34 156**	P		**Pn**	**14 11 49.1**	**+4.7**	
RPZ	**Rata Peaks**	**9.14 221**	Pn		**Pn**	**14 12 05.6**	**-3.4**	
	0.4nm,0.3s,baz=165,slow=18,SNR=1.2							
RPZ				Sn	Sn	14 13 40.0	-11	
	2.9nm,0.3s,baz=313,slow=22,SNR=14							
RPZ	**Rata Peaks**	**9.14 221**	P		**Pn**	**14 12 07.7**	**-1.3**	
ODZ	**Otahua Downs**	**10.29 217**	Pn		**Pn**	**14 12 22.6**	**-2.3**	
ODZ	**Otahua Downs**	**10.29 217**	P		**Pn**	**14 12 21.8**	**-3.0**	
AS31	**Alice Springs**	**41.02 276**	P		**P**	**14 17 40.0**	**-0.4**	
AS31			IAmb		IAmb	14 17 40.6		
	comp=Z,1.1nm,0.8s							
ASAR	**Alice Springs**	**41.02 276**	P		**P**	**14 17 39.9**	**-0.5**	
	comp=Z,2.2nm,0.6s,baz=120,slow=7.8,SNR=54							
ASAR			PcP		**PcP**	**14 19 38.7**	**-1.6**	
	comp=Z,0.4nm,1.0s,baz=133,slow=4.4,SNR=1.8							
	comp=Z,2.2nm,0.6s							
ASAR	**Alice Springs**	**41.02 276**	P		**P**	**14 17 39.8**	**-0.6**	
WR0	**Warramunga Arr**	**42.45 281**	P		**P**	**14 17 51.8**	**-0.3**	
WR0			IAmb		IAmb	14 17 52.0		
	comp=Z,4.2nm,0.9s							
WB2	**Warramunga Arr**	**42.60 281**	P		**P**	**14 17 52.6**	**-0.7**	
WB2			IAmb		IAmb	14 17 53.2		
	comp=Z,5.7nm,0.6s							
WRA	**Warramunga Arr**	**42.62 281**	P		**P**	**14 17 52.9**	**-0.6**	
	comp=Z,3.6nm,0.6s,baz=121,slow=7.7,SNR=86							
WRA			PcP		**PcP**	**14 19 46.5**	**+1.0**	
	comp=Z,0.4nm,0.7s,baz=126,slow=2.9,SNR=2.4							
	comp=Z,3.6nm,0.6s							
WRA	**Warramunga Arr**	**42.62 281**	P		**P**	**14 17 52.7**	**-0.8**	
WB0	**Warramunga Arr**	**42.67 281**	P		**P**	**14 17 53.1**	**-0.8**	
WB0			IAmb		IAmb	14 17 53.8		
	comp=Z,4.5nm,0.6s							
KNRA	**Kununurra**	**49.40 282**	P		**P**	**14 18 46.1**	**-0.8**	
FITZ	**Fitzroy Crossi**	**50.50 277**	P		**P**	**14 18 55.0**	**-0.2**	
FINES	**FINESS Array B**	**150.40 334**	PKPbc		**PKPbc**	**14 29 47.6**	**+0.1**	
	comp=Z,1.8nm,0.9s,baz=45,slow=3.2,SNR=5.9							
TORD	**Torodi Ar. Bea**	**156.08 186**	PKPab		**PKPab**	**14 30 20.1**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=190,slow=3.7,SNR=2.4							

ANF ***02*** *14:10:22.6±0.1, 62°.13N×152°.08W, h103km±1km, ML3.3/84, ML3.3/84, Error ellipse: s-maj=1.3km s-min=1.1km az=107.0*

NEIC ***02*** *14:10:22.0±1.2, 62°.15N±0°.03×152°.15W±0°.07, h112km±5km, Error ellipse: s-maj=4.9km s-min=4.8km az=209.0*

AEIC ***02*** *14:10:23±1.3, 62°.16N±0°.02×152°.12W±0°.07, h104km±5km, ML3.0, ML3.2/180(NEIC), Error ellipse: s-maj=4.7km s-min=3.4km az=81.0*

IDC ***02*** *14:10:25.2±7.0, 62°.62N×151°.87W, h128km±62km, mb3.3/4, mbtmp3.6/6, Error ellipse: s-maj=68.9km s-min=23.8km az=38.0*

ISC 02 14:10:22.0±0.8, 62°.16N±0°.02×152°.11W±0°.02, h114km±5km, n372, σ0s76/368, mb3.7/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op		ISC	h	m	s	ISC
SKT	**Skwentna**	**0.33**	**124**			**Pn**	**14**	**10**	**38.0**	**-0.4**
SKT	**Skwentna**	**0.33**	**124**			**Sn**	**14**	**10**	**49.9**	**-0.8**
SKT	**Skwentna**	**0.33**	**124**	P		**Pn**	**14**	**10**	**38.2**	**-0.2**
	baz=304,SNR=311									
SKT				S		**Sn**	**14**	**10**	**50.0**	**-0.8**
	baz=304									
M20K	**Styx River**	**0.56**	**240**			**Pn**	**14**	**10**	**39.2**	**-0.6**
M20K	**Styx River**	**0.56**	**240**			**Sn**	**14**	**10**	**52.0**	**-1.2**
M20K	**Styx River**	**0.56**	**240**	IAML			14	10	40.3	
	comp=N,125nm,0.2s									
M20K	**Styx River**	**0.56**	**240**	P		**Pn**	**14**	**10**	**39.5**	**-0.3**
	baz=59,SNR=510									
M20K				S		**Sn**	**14**	**10**	**52.1**	**-1.1**
	baz=59									
STLK	**Strandline Lak**	**0.68**	**169**			**Pn**	**14**	**10**	**40.4**	**-0.3**
PPLA	**Purkeypile**	**0.74**	**357**			**Pn**	**14**	**10**	**41.3**	**+0.1**
PPLA						**Sn**	**14**	**10**	**56.1**	**+0.3**
PPLA	**Purkeypile**	**0.74**	**357**	P		**Pn**	**14**	**10**	**41.5**	**+0.2**
	baz=177,SNR=92									
PPLA				S		**Sn**	**14**	**10**	**55.6**	**-0.1**
	baz=177									
SPNN	**North Nagishla**	**0.85**	**199**			**Pn**	**14**	**10**	**42.4**	**+0.1**
SPNN						**Sn**	**14**	**10**	**57.0**	**-0.4**
L20K	**Farewell, AK**	**0.88**	**292**			**Pn**	**14**	**10**	**42.4**	**0.0**
L20K						**Sn**	**14**	**10**	**56.8**	**-1.1**
L20K	**Farewell, AK**	**0.88**	**292**	P		**Pn**	**14**	**10**	**42.5**	**0.0**
	baz=110,SNR=272									
L20K				S		**Sn**	**14**	**10**	**56.8**	**-1.1**
	baz=110									
CUT	**Chulitna**	**0.90**	**73**			**Pn**	**14**	**10**	**42.7**	**+0.2**
CUT						**Sn**	**14**	**10**	**57.6**	**-0.2**
CUT	**Chulitna**	**0.90**	**73**	P		**Pn**	**14**	**10**	**42.7**	**+0.2**
	baz=255,SNR=45									
CUT				S		**Sn**	**14**	**10**	**57.8**	**-0.1**
	baz=255									
CRP	**Crater Peak**	**0.90**	**181**			**Sn**	**14**	**10**	**58.1**	**-0.2**
SPCN	**Chakachatna No**	**0.94**	**182**			**Pn**	**14**	**10**	**43.3**	**+0.3**
SUA	**Susitna One**	**0.95**	**137**			**Pn**	**14**	**10**	**43.2**	**0.0**
SUA						**Sn**	**14**	**10**	**58.9**	**-0.3**
SUA	**Susitna One**	**0.95**	**137**	P		**Pn**	**14**	**10**	**43.2**	**0.0**
	baz=318,SNR=234									
SUA				S		**Sn**	**14**	**10**	**58.6**	**-0.6**
	baz=318									
N20K	**Mount Spurr**	**0.97**	**183**	P		**Pn**	**14**	**10**	**43.2**	**-0.1**
	baz=2.7,SNR=23									
N20K				S		**Sn**	**14**	**10**	**58.7**	**-0.6**
	baz=2.7									
SPCR	**Spurr Chakacha**	**0.97**	**183**			**Pn**	**14**	**10**	**43.2**	**-0.1**
SPCR						**Sn**	**14**	**10**	**58.8**	**-0.5**
SPCR	**Spurr Chakacha**	**0.97**	**183**			**Pn**	**14**	**10**	**43.2**	**-0.1**
SPCR						**Sn**	**14**	**10**	**58.9**	**-0.5**
SPCR	**Spurr Chakacha**	**0.97**	**183**	P		**Pn**	**14**	**10**	**43.2**	**-0.1**
	baz=2.7,SNR=20									
SPCR				S		**Sn**	**14**	**10**	**58.7**	**-0.6**
	baz=2.7									
CKL	**Chakachamna La**	**0.97**	**186**			**Pn**	**14**	**10**	**43.5**	**+0.1**
SPU	**Mount Spurr**	**0.98**	**178**			**Pn**	**14**	**10**	**43.1**	**-0.3**
M22K	**Willow**	**1.03**	**113**			**Pn**	**14**	**10**	**43.7**	**0.0**
M22K	**Willow**	**1.03**	**113**	IAML			14	11	05.0	
	comp=N,1μm,0.6s									
M22K				IAML			14	11	08.9	
	comp=E,874nm,0.5s									
M22K	**Willow**	**1.03**	**113**	P		**Pn**	**14**	**10**	**43.8**	**0.0**
	baz=294,SNR=168									
M22K				S		**Sn**	**14**	**10**	**60.0**	**-0.2**
	baz=294									
M19K	**Big River Lodg**	**1.10**	**257**			**Pn**	**14**	**10**	**44.6**	**0.0**
M19K						**Sn**	**14**	**11**	**01.0**	**-0.7**
M19K	**Big River Lodg**	**1.10**	**257**	P		**Pn**	**14**	**10**	**44.6**	**0.0**
	baz=76									
M19K				S		**Sn**	**14**	**11**	**00.8**	**-0.9**
	baz=76									
CAST	**Castle Rocks**	**1.26**	**1**			**Pn**	**14**	**10**	**46.4**	**+0.1**
CAST	**Castle Rocks**	**1.26**	**1**	P		**Pn**	**14**	**10**	**46.4**	**+0.1**
	baz=181,SNR=178									
CAST				S		**Sn**	**14**	**11**	**03.6**	**-1.1**
	baz=181									
L19K	**White Mountain**	**1.29**	**272**			**Pn**	**14**	**10**	**46.5**	**-0.1**
L19K						**Sn**	**14**	**11**	**04.6**	**-0.7**
L19K	**White Mountain**	**1.29**	**272**	IAML			14	11	05.8	
	comp=E,211nm,0.7s									
L19K	**White Mountain**	**1.29**	**272**	P		**Pn**	**14**	**10**	**46.8**	**+0.2**
	baz=90,SNR=122									
L19K				S		**Sn**	**14**	**11**	**04.3**	**-0.9**
	baz=90									
FIS	**Fire Island**	**1.36**	**138**			**Pn**	**14**	**10**	**49.2**	**+1.8**
FIS	**Fire Island**	**1.36**	**138**	IAML			14	11	17.9	
	comp=E,576nm,0.5s									
FIS				IAML			14	11	19.4	
	comp=N,562nm,0.6s									
CAPN	**Captain Cook N**	**1.47**	**161**			**Pn**	**14**	**10**	**50.3**	**+1.6**
CAPN	**Captain Cook N**	**1.47**	**161**	IAML			14	11	27.4	
	comp=N,523nm,0.5s									
CAPN	**Captain Cook N**	**1.47**	**161**	P		**Pn**	**14**	**10**	**50.3**	**+1.6**
	baz=342,SNR=8.0									
K20K	**Telida**	**1.50**	**324**			**Pn**	**14**	**10**	**49.2**	**+0.1**
K20K						**Sn**	**14**	**11**	**08.7**	**-0.9**
K20K	**Telida**	**1.50**	**324**	IAML			14	11	09.2	
	comp=E,194nm,0.6s									
K20K				IAML			14	11	09.8	
	comp=N,149nm,0.8s									
K20K	**Telida**	**1.50**	**324**	P		**Pn**	**14**	**10**	**49.2**	**+0.1**
	baz=142,SNR=69									
K20K				S		**Sn**	**14**	**11**	**08.4**	**-1.2**
	baz=142									
KTH	**Kantishna Hill**	**1.50**	**21**			**Pn**	**14**	**10**	**49.3**	**+0.2**
PMR	**Palmer**	**1.52**	**111**			**Pn**	**14**	**10**	**48.7**	**-0.6**
PMR						**Sn**	**14**	**11**	**09.6**	**-0.4**
PMR	**Palmer**	**1.52**	**111**	IAML			14	11	14.0	
	comp=E,198nm,0.3s									
PMR	**Palmer**	**1.52**	**111**	P		**Pn**	**14**	**10**	**48.7**	**-0.6**
	baz=293,SNR=65									
PMR				S		**Sn**	**14**	**11**	**09.3**	**-0.7**
	baz=293									
TRF	**Thorofare Moun**	**1.54**	**32**			**Pn**	**14**	**10**	**50.0**	**+0.4**
TRF	**Thorofare Moun**	**1.54**	**32**	IAML			14	11	13.6	
	comp=N,172nm,0.2s									
TRF	**Thorofare Moun**	**1.54**	**32**	P		**Pn**	**14**	**10**	**49.9**	**+0.3**
	baz=214,SNR=54									
TRF				S		**Sn**	**14**	**11**	**11.3**	**+0.6**
	baz=214									
GHO	**Glory Hole Cre**	**1.56**	**103**			**Pn**	**14**	**10**	**49.6**	**-0.2**
GHO						**Sn**	**14**	**11**	**10.9**	**0.0**
GHO	**Glory Hole Cre**	**1.56**	**103**	IAML			14	11	16.7	
	comp=N,409nm,0.7s									
GHO				IAML			14	11	17.1	
	comp=E,520nm,0.4s									
RC01	**Rabbit Creek A**	**1.56**	**132**			**Pn**	**14**	**10**	**49.7**	**-0.1**
RC01						**Sn**	**14**	**11**	**10.7**	**-0.3**
RC01	**Rabbit Creek A**	**1.56**	**132**	IAML			14	11	14.1	
	comp=E,210nm,0.4s									
RC01				IAML			14	11	14.7	
	comp=N,236nm,0.3s									
RC01	**Rabbit Creek A**	**1.56**	**132**	P		**Pn**	**14**	**10**	**49.7**	**-0.1**
	baz=315,SNR=47									
RC01				S		**Sn**	**14**	**11**	**10.3**	**-0.6**
	baz=315									
DFR	**Drift River**	**1.60**	**190**			**Pn**	**14**	**10**	**50.8**	**+0.5**
RDJH	**Redoubt Jeurge**	**1.61**	**192**			**Pn**	**14**	**10**	**50.9**	**+0.3**
NCT	**North Crescent**	**1.65**	**194**			**Pn**	**14**	**10**	**51.3**	**+0.3**
WAT7	**Susitna Watana**	**1.66**	**65**			**Pn**	**14**	**10**	**51.3**	**+0.3**
RDWB	**Redoubt West**	**1.72**	**192**			**Pn**	**14**	**10**	**52.2**	**+0.4**
CHUM	**Lake Minchumin**	**1.73**	**357**			**Pn**	**14**	**10**	**52.0**	**+0.3**
CHUM	**Lake Minchumin**	**1.73**	**357**	P		**Pn**	**14**	**10**	**52.0**	**+0.3**
	baz=177,SNR=10									
CHUM				S		**Sn**	**14**	**11**	**13.8**	**-0.6**
	baz=177									
RSO	**Redoubt South**	**1.73**	**191**			**Pn**	**14**	**10**	**52.7**	**+0.6**
N19K	**Bonanza Creek**	**1.77**	**221**			**Pn**	**14**	**10**	**52.6**	**+0.3**
N19K	**Bonanza Creek**	**1.77**	**221**	P		**Pn**	**14**	**10**	**52.7**	**+0.3**
	baz=39,SNR=37									
N19K				S		**Sn**	**14**	**11**	**14.2**	**-1.3**
	baz=39									
RED	**Redoubt Volcan**	**1.78**	**191**			**Pn**	**14**	**10**	**52.9**	**+0.4**
WAT1	**Susitna Watana**	**1.78**	**66**			**Pn**	**14**	**10**	**52.7**	**+0.2**
WAT1	**Susitna Watana**	**1.78**	**66**	P		**Pn**	**14**	**10**	**52.7**	**+0.2**
	baz=249									
WAT1				S		**Sn**	**14**	**11**	**15.6**	**-0.1**
	baz=249									
SML	**Sawmill**	**1.82**	**100**			**Pn**	**14**	**10**	**52.6**	**-0.3**
SML	**Sawmill**	**1.82**	**100**	IAML			14	11	22.4	
	comp=E,346nm,0.8s									
SML				IAML			14	11	22.7	
	comp=N,283nm,0.8s									
SML	**Sawmill**	**1.82**	**100**	P		**Pn**	**14**	**10**	**52.7**	**-0.3**
	baz=283,SNR=106									
SML				S		**Sn**	**14**	**11**	**16.1**	**-0.5**
	baz=283									
KNK	**Knik Glacier**	**1.89**	**112**			**Pn**	**14**	**10**	**53.4**	**-0.5**
KNK	**Knik Glacier**	**1.89**	**112**	IAML			14	11	18.5	
	comp=N,269nm,0.4s									
KNK	**Knik Glacier**	**1.89**	**112**	P		**Pn**	**14**	**10**	**53.3**	**-0.5**
	baz=295,SNR=27									
KNK				S		**Sn**	**14**	**11**	**17.6**	**-0.5**
	baz=295									
SLKM	**Skilak Lake**	**1.90**	**150**			**Pn**	**14**	**10**	**54.3**	**+0.4**
RND	**Reindeer**	**1.95**	**49**			**Pn**	**14**	**10**	**55.0**	**+0.5**
RND	**Reindeer**	**1.95**	**49**	IAML			14	11	20.6	
	comp=N,140nm,0.4s									
RND				IAML			14	11	20.7	
	comp=E,198nm,0.5s									
TT01	**Tatalina**	**1.96**	**294**			**Pn**	**14**	**10**	**54.4**	**-0.3**
TTA	**Tatalina**	**1.96**	**295**			**Pn**	**14**	**10**	**54.7**	**0.0**
TTA	**Tatalina**	**1.96**	**295**	P		**Pn**	**14**	**10**	**54.7**	**0.0**
	baz=111,SNR=37									
TTA				S		**Sn**	**14**	**11**	**18.6**	**-1.2**
	baz=111									
SVW2	**Sparrevohn**	**1.97**	**239**			**Pn**	**14**	**10**	**54.8**	**0.0**
BPAW	**Bear Paw Mtn.**	**2.01**	**14**			**Pn**	**14**	**10**	**55.4**	**+0.1**
BPAW	**Bear Paw Mtn.**	**2.01**	**14**	IAML			14	11	23.1	
	comp=E,99nm,0.5s									
BPAW	**Bear Paw Mtn.**	**2.01**	**14**	P		**Pn**	**14**	**10**	**55.2**	**0.0**
	baz=195,SNR=27									
BPAW				S		**Sn**	**14**	**11**	**20.3**	**-0.5**
	baz=195									
O22K	**Cooper Landing**	**2.04**	**145**			**Pn**	**14**	**10**	**56.0**	**+0.3**
O22K	**Cooper Landing**	**2.04**	**145**	P		**Pn**	**14**	**10**	**55.8**	**+0.1**
	baz=327,SNR=24									
O22K				S		**Sn**	**14**	**11**	**20.6**	**-0.8**
	baz=327									
WAT6	**Susitna Watana**	**2.08**	**76**			**Pn**	**14**	**10**	**56.1**	**-0.3**
WAT6	**Susitna Watana**	**2.08**	**76**	P		**Pn**	**14**	**10**	**56.0**	**-0.3**
	baz=260,SNR=28									
WAT6				S		**Sn**	**14**	**11**	**22.2**	**-0.4**
	baz=260									
O20K	**Slope Mountain**	**2.10**	**187**			**Pn**	**14**	**10**	**57.4**	**+0.8**
O20K	**Slope Mountain**	**2.10**	**187**	P		**Pn**	**14**	**10**	**57.3**	**+0.8**
	baz=6.6,SNR=8.0									
M23K	**Glacier View**	**2.10**	**98**			**Pn**	**14**	**10**	**56.1**	**-0.4**
M23K	**Glacier View**	**2.10**	**98**	P		**Pn**	**14**	**10**	**56.0**	**-0.5**
	baz=282,SNR=92									
M23K				S		**Sn**	**14**	**11**	**22.7**	**-0.2**
	baz=282									
MCK	**McKinley**	**2.14**	**41**			**Pn**	**14**	**10**	**57.6**	**+0.6

FID	Port Fidalgo	3.05	115			Pn	14 11 07.0	-1.8		
PS11	TAPS Pump St11	3.12	89			Pn	14 11 09.9	+0.2		
CCB	Clear Creek Bu	3.16	36			Pn	14 11 10.2	0.0		
P18K	Big Mountain,	3.17	210		Pn	Pn	14 11 11.3	+0.9		
P18K	Big Mountain, baz=27	3.17	210		P	Pn	14 11 10.7	+0.3		
PS10	TAPS Pump St10	3.18	64			Pn	14 11 11.5	+1.1		
PAX	Paxson	3.18	72			Pn	14 11 10.8	+0.3		
PAX	Paxson baz=258,SNR=35	3.18	72		P	Pn	14 11 10.9	+0.3		
DIV	Divide	3.20	106			Pn	14 11 09.7	-1.0		
HIN	Hinchinbrook I	3.24	121			Pn	14 11 09.9	-1.3		
HIN	Hinchinbrook I comp=E,90nm,0.7s	3.24	121		IAML		14 11 52.2			
HIN	comp=N,68nm,0.7s				IAML		14 12 11.5			
HDA	Harding Lake	3.24	44			Pn	14 11 11.3	0.0		
HDA	Harding Lake comp=N,89nm,0.4s	3.24	44		IAML		14 11 52.5			
HDA	comp=E,71nm,0.3s				IAML		14 11 52.7			
HDA	Harding Lake baz=226,SNR=18	3.24	44	P		Pn	14 11 11.3	0.0		
HARP	HAARP	3.26	83			Pn	14 11 11.9	+0.3		
HARP	HAARP baz=269,SNR=14	3.26	83	P		Pn	14 11 11.8	+0.3		
MDM	Murphy Dome	3.30	30			Pn	14 11 12.3	+0.3		
TCOL	CIGO, UAF Yank	3.32	33			Pn	14 11 12.8	+0.5		
TCOL	CIGO, UAF Yank comp=N,102nm,0.6s	3.32	33		IAML		14 11 54.7			
TCOL	comp=E,74nm,0.6s				IAML		14 12 01.6			
TCOL	CIGO, UAF Yank baz=217,SNR=14	3.32	33	P		Pn	14 11 12.9	+0.6		
COLA	College	3.32	33			Pn	14 11 12.8	+0.5		
COLA	College comp=E,88nm,0.5s	3.32	33		IAML		14 12 00.7			
COLA	College baz=217	3.32	33	P		Pn	14 11 12.7	+0.5		
K24K	Donnelly Dome	3.33	58			Pn	14 11 13.2	+0.7		
K24K	Donnelly Dome baz=243,SNR=9.8	3.33	58	P		Pn	14 11 13.3	+0.9		
Q19K	Cape Douglas,	3.33	194			Pn	14 11 13.1	+0.5		
Q19K	Cape Douglas, comp=N,58nm,0.8s	3.33	194		IAML		14 12 09.4			
Q19K	comp=E,86nm,1.3s				IAML		14 12 29.4			
Q19K	Cape Douglas, baz=12	3.33	194	P		Pn	14 11 13.0	+0.5		
GCSA	Galena City Sc	3.36	323			Pn	14 11 13.3	+0.5		
GCSA	Galena City Sc baz=138,SNR=15	3.36	323	P		Pn	14 11 13.3	+0.5		
PS08	TAPS Pump Stn8	3.38	43			Pn	14 11 13.2	+0.2		
PS12	TAPS Pump St12	3.38	99			Pn	14 11 12.3	-0.8		
O17K	Koliganek Bris	3.41	228			Pn	14 11 14.0	+0.5		
O17K	Koliganek Bris baz=43,SNR=7.9	3.41	228	P		Pn	14 11 14.0	+0.5		
EYAK	Cordova Ski Ar	3.46	115			Pn	14 11 13.9	-0.3		
EYAK	Cordova Ski Ar baz=301	3.46	115	P		Pn	14 11 13.4	-0.8		
IL31		3.52	40			Pn	14 11 14.9	+0.1		
ILAR	Eielson Array comp=E,7.6nm,0.3s,baz=224,slow=14,SNR=102	3.52	40	P		Pn	14 11 14.8	0.0		
ILAR	comp=E,5.1nm,0.6s,baz=220,slow=16,SNR=9.2			S		Sn	14 11 49.6	-6.1		
H21K	Melozitna Rive	3.52	355			Pn	14 11 15.5	+0.6		
H21K	Melozitna Rive baz=175,SNR=66	3.52	355	P		Pn	14 11 15.6	+0.6		
Q20K	Shuyak Island baz=2.1	3.57	182	P		Pn	14 11 15.4	-0.2		
N25K	Chitina, Valde	3.60	96			Pn	14 11 15.7	-0.5		
N25K	Chitina, Valde comp=E,72nm,0.5s	3.60	96		IAML		14 12 15.4			
N25K	Chitina, Valde baz=282,SNR=19	3.60	96	P		Pn	14 11 15.5	-0.6		
POKR	Poker Plat Res	3.63	33			Pn	14 11 16.7	+0.4		
POKR	Poker Plat Res comp=N,21nm,0.8s	3.63	33		IAML		14 12 01.6			
POKR	Poker Plat Res baz=217	3.63	33	P		Pn	14 11 16.7	+0.4		
N16K	Nishlik Lake	3.63	245			Pn	14 11 16.9	+0.4		
N16K	Nishlik Lake baz=59,SNR=5.5	3.63	245	P		Pn	14 11 16.8	+0.4		
P17K	Kvichak River	3.66	217			Pn	14 11 17.6	+0.9		
P17K	Kvichak River baz=34	3.66	217	P		Pn	14 11 17.0	+0.3		
WACK	Wrangell Chich	3.67	89			Pn	14 11 17.0	-0.1		
RIDG	Independent Ri	3.68	61			Pn	14 11 17.9	+0.8		
RIDG	Independent Ri baz=248,SNR=40	3.68	61	P		Pn	14 11 17.9	+0.8		
WASW	Wrangell South	3.75	90			Pn	14 11 17.9	-0.3		
H22K	Ishtalitna Cre	3.76	5			Pn	14 11 18.9	+0.8		
H22K	Ishtalitna Cre baz=185,SNR=20	3.76	5	P		Pn	14 11 18.9	+0.8		
BMRM	Bremner River	3.79	105			Pn	14 11 17.1	-1.4		
BMRM	Bremner River baz=292,SNR=7.6	3.79	105	P		Pn	14 11 17.1	-1.4		
H23K	Yukon River	3.85	16			Pn	14 11 20.1	+0.7		
H23K	Yukon River comp=N,19nm,1.4s	3.85	16		IAML		14 12 05.1			
H23K	comp=E,29nm,1.1s				IAML		14 12 05.5			
H23K	Yukon River baz=198,SNR=34	3.85	16	P		Pn	14 11 20.0	+0.7		
GOAT	Goat Mountain	3.89	111			Pn	14 11 18.8	-1.2		
O16K	Kokwok River B	3.90	231			Pn	14 11 20.2	+0.3		
O16K	Kokwok River B baz=46,SNR=5.6	3.90	231	P		Pn	14 11 20.3	+0.3		
IM03		3.90	350			Pn	14 11 20.4	+0.5		
IMAR	Indian Mountai	3.90	350	Pn		Pn	14 11 20.0	0.0		
J25K	Salcha River,	3.91	48			Pn	14 11 20.1	-0.1		
J25K	Salcha River, comp=N,36nm,0.5s	3.91	48		IAML		14 12 05.3			
J25K	comp=E,50nm,0.6s				IAML		14 12 09.1			
J25K	Salcha River, baz=234,SNR=61	3.91	48	P		Pn	14 11 20.2	0.0		
Q23K	Middleton Isla	3.94	132			Pn	14 11 20.1	-0.4		
Q23K	Middleton Isla comp=E,59nm,1.4s	3.94	132		IAML		14 12 50.2			
Q23K	comp=N,60nm,1.6s				IAML		14 13 05.0			
Q23K	Middleton Isla baz=317	3.94	132	P		Pn	14 11 20.2	-0.2		
MID	Middleton Isla	3.94	132			Pn	14 11 20.2	-0.4		
MID	Middleton Isla comp=E,54nm,1.4s	3.94	132		IAML		14 12 50.2			
MID	comp=N,57nm,1.1s				IAML		14 13 30.9			
MENT	Mentasta	3.96	75			Pn	14 11 21.2	+0.3		
DOT	Dot Lake	3.97	64			Pn	14 11 20.9	-0.2		
GLB	Gilahina Butte	4.01	97			Pn	14 11 20.7	-0.8		
GLB	Gilahina Butte comp=N,48nm,0.5s	4.01	97		IAML		14 12 25.3			
GLB	comp=E,38nm,0.7s				IAML		14 12 30.8			
RAGM	Ragged Mountai	4.01	113			Pn	14 11 21.5	0.0		
SCRK	Sand Creek	4.12	60			Pn	14 11 23.0	-0.1		
SCRK	Sand Creek comp=E,40nm,0.2s	4.12	60		IAML		14 12 10.1			
SCRK	Sand Creek baz=247,SNR=27	4.12	60	P		Pn	14 11 23.2	+0.2		
H24K	Noodor Dome	4.13	25			Pn	14 11 23.6	+0.5		
H24K	Noodor Dome baz=209,SNR=14	4.13	25	P		Pn	14 11 23.8	+0.6		
L26K	Log Cabin Wild	4.14	74			Pn	14 11 23.8	+0.5		
L26K	Log Cabin Wild baz=262,SNR=19	4.14	74	P		Pn	14 11 24.1	+0.8		
KAKN	Katmai Knife C	4.15	202			Pn	14 11 24.2	+0.7		
HMT	Hamilton	4.21	112			Pn	14 11 22.8	-1.4		
M26K	Nabesna, AK	4.27	83			Pn	14 11 24.8	-0.2		
M26K	comp=N,42nm,0.6s				IAML		14 12 33.6			
M26K	comp=E,36nm,0.5s				IAML		14 12 37.5			
M26K	Nabesna, AK baz=271,SNR=16	4.27	83	P		Pn	14 11 24.7	-0.3		
P16K	Nushagak River	4.27	225			Pn	14 11 25.9	+0.9		
P16K	Nushagak River baz=40	4.27	225	P		Pn	14 11 25.9	+0.9		
KAIM	Kayak Island	4.36	118			Pn	14 11 26.2	0.0		
KAIM	Kayak Island comp=E,20nm,0.8s	4.36	118		IAML		14 12 18.0			
KAIM	comp=N,26nm,1.1s				IAML		14 12 44.3			
KAIM	Kayak Island baz=304	4.36	118	P		Pn	14 11 25.6	-0.6		
MCARA	McCarthy VSAT	4.39	96			Pn	14 11 26.3	-0.3		
MCARA	McCarthy VSAT baz=284	4.39	96	P		Pn	14 11 26.1	-0.5		
NICHA	Nichawak Mount	4.39	112			Pn	14 11 26.0	-0.6		
KDAK	Kodiak Island	4.40	183			Pn	14 11 25.8	-0.9		
KDAK	Kodiak Island comp=N,17nm,1.1s	4.40	183		IAML		14 12 26.5			
KDAK	comp=N,18nm,1.1s				IAML		14 12 30.7			
KDAK	Kodiak Island baz=2.9	4.40	183	P		Pn	14 11 25.7	-1.1		
G21K	Allakaket	4.41	353			Pn	14 11 27.6	+0.8		
G21K	Allakaket baz=172,SNR=16	4.41	353	P		Pn	14 11 27.7	+0.8		
BERG	Berg Lake	4.43	110			Pn	14 11 26.5	-0.6		
PRP	Porcupine Dome	4.45	38			Pn	14 11 28.2	+0.7		
PRP	Porcupine Dome comp=E,11nm,0.6s	4.45	38		IAML		14 12 21.1			
PRP	comp=N,12nm,0.6s				IAML		14 12 22.0			
PRP	Porcupine Dome baz=224	4.45	38	P		Pn	14 11 28.3	+0.7		
J26L	Joseph Creek	4.51	55			Pn	14 11 28.9	+0.6		
J26L	Joseph Creek comp=N,36nm,0.3s	4.51	55		IAML		14 12 21.3			
J26L	comp=E,37nm,0.7s				IAML		14 12 29.0			
J26L	Joseph Creek baz=242,SNR=80	4.51	55	P		Pn	14 11 28.9	+0.6		
SUCK	Suckling Hills	4.55	114			Pn	14 11 28.4	-0.4		
SUCK	Suckling Hills comp=N,36nm,0.6s	4.55	114		IAML		14 12 50.4			
SUCK	comp=E,22nm,0.9s				IAML		14 12 54.2			
KHIT	Khitrov Hills	4.61	108			Pn	14 11 29.5	-0.1		
GRIN	Grindle Hills	4.65	110			Pn	14 11 29.9	-0.2		
G23K	Bananza Creek	4.66	10			Pn	14 11 31.0	+0.8		
G23K	Bananza Creek baz=192,SNR=13	4.66	10	P		Pn	14 11 31.0	+0.8		
TGL	Tana Glacier	4.67	103			Pn	14 11 29.8	-0.6		
PTPK	Patty Peak	4.70	98			Pn	14 11 30.6	-0.3		
BGLC	Bering Glacier	4.74	112			Pn	14 11 31.9	+0.6		
BGLC	Bering Glacier baz=299	4.74	112	P		Pn	14 11 32.3	+1.0		
WAX	Waxell Ridge	4.78	107			Pn	14 11 31.6	-0.3		
M27K	Edge Creek, AK	4.79	83			Pn	14 11 32.5	+0.4		
M27K	Edge Creek, AK comp=E,17nm,1.1s	4.79	83		IAML		14 12 53.3			
M27K	comp=N,21nm,1.4s				IAML		14 12 54.5			
M27K	Edge Creek, AK baz=272,SNR=9.9	4.79	83	P		Pn	14 11 32.7	+0.6		
L27K	Beaver Creek,	4.84	75			Pn	14 11 32.2	-0.3		
L27K	Beaver Creek, comp=N,12nm,1.1s	4.84	75		IAML		14 12 50.8			
L27K	comp=E,11nm,0.6s				IAML		14 12 57.9			
L27K	Beaver Creek, baz=264,SNR=7.9	4.84	75	P		Pn	14 11 32.3	-0.3		
BC03		4.86	75			Pn	14 11 32.5	-0.3		
BCAR	Beaver Creek A	4.86	75	Pn		Pn	14 11 32.0	-0.8		
SNH	Sunshine Point	4.91	110			Pn	14 11 33.4	-0.3		
SNH	Sunshine Point comp=N,30nm,1.0s	4.91	110		IAML		14 12 23.7			
K27K	Chicken	4.93	63			Pn	14 11 33.9	+0.1		
K27K	Chicken comp=E,14nm,0.9s	4.93	63		IAML		14 12 37.8			
K27K	comp=N,15nm,0.7s				IAML		14 12 41.8			
H25K	Birch Creek baz=27,SNR=6.2	4.95	31	P		Pn	14 11 35.0	+0.9		
ISLE	Juniper Island	4.95	104			Pn	14 11 33.9	-0.4		
BARK	Barkley Ridge	4.96	107			Pn	14 11 34.0	-0.4		
G24K	Hadweenzic Riv	4.98	22			Pn	14 11 35.0	+0.6		
G24K	Hadweenzic Riv baz=206,SNR=8.6	4.98	22	P		Pn	14 11 34.7	+0.2		
OHAK	Old Harbor	4.99	187			Pn	14 11 33.0	-1.7		
OHAK	Old Harbor comp=N,11nm,2.4s	4.99	187		IAML		14 12 24.1			
OHAK	comp=E,11nm,3.0s				IAML		14 12 51.7			
OHAK	Old Harbor baz=6.3	4.99	187	P		Pn	14 11 33.3	-1.4		
R17K	Ugashik Creek	5.02	207			Pn	14 11 36.0	+0.9		
R17K	Ugashik Creek baz=24	5.02	207	P		Pn	14 11 36.5	+1.4		
I26K	Coal Creek Min	5.08	48			Pn	14 11 36.7	+0.9		
I26K	Coal Creek Min comp=N,22nm,0.7s	5.08	48		IAML		14 12 34.7			
I26K	comp=E,16nm,0.4s				IAML		14 12 34.8			
BAGL	Bagley Icefiel	5.11	105			Pn	14 11 36.5	+0.2		
F21K	Alatna River	5.12	354			Pn	14 11 37.1	+0.8		
F21K	Alatna River baz=173,SNR=6.8	5.12	354	P		Pn	14 11 37.5	+1.2		
COLD	Coldfoot	5.15	8			Pn	14 11 37.3	+0.5		
COLD	Coldfoot baz=190	5.15	8	P		Pn	14 11 37.6	+0.8		
BVCY	Beaver Creek	5.26	82			Pn	14 11 38.5	+0.2		
BVCY	Beaver Creek baz=272,SNR=7.2	5.26	82	P		Pn	14 11 38.2	-0.1		
CTG	Chitna Glacier baz=288,SNR=6.0	5.29	98	P		Pn	14 11 38.5	-0.3		
CTGM	Chitina Glacie	5.29	98			Pn	14 11 38.7	-0.1		
CTGM	Chitina Glacie comp=E,18nm,0.9s	5.29	98		IAML		14 13 02.6			
MESA	MESA	5.31	108			Pn	14 11 38.8	-0.3		
MESA	MESA baz=296,SNR=8.4	5.31	108	P		Pn	14 11 38.4	-0.7		
YAH	Yahtse	5.32	105			Pn	14 11 39.1	-0.2		
YUK2	White River	5.33	89			Pn	14 11 39.3	0.0		
FYU	Fort Yukon	5.33	31	Pn		Pn	14 11 39.9	+0.7		
FYU	comp=N,18nm,4.2s				IAML		14 12 58.5			
FYU	comp=E,20nm,3.9s				IAML		14 13 42.7			
F22K	John River	5.37	360			Pn	14 11 40.5	+0.8		
F22K	John River baz=180	5.37	360	P		Pn	14 11 41.3	+1.6		
LOGN	Logan Glacier	5.49	99			Pn	14 11 41.1	-0.4		
YUK3	Moose Creek	5.51	89			Pn	14 11 41.8	-0.1		
YUK3	Moose Creek baz=279,SNR=41	5.51	89	P		Pn	14 11 41.8	-0.1		
TABL	Table Mountain	5.56	103			Pn	14 11 42.1	-0.5		
EGAK	Eagle	5.57	57			Pn	14 11 42.1	-0.2		
EGAK	Eagle baz=247,SNR=10	5.57	57	P		Pn	14 11 42.5	+0.2		
F24K	Squaw Lake baz=200	5.67	17	P		Pn	14 11 44.7	+0.8		
I27K	Kandik River	5.78	49			Pn	14 11 46.1	+0.8		
I27K	Kandik River baz=238,SNR=25	5.78	49	P		Pn	14 11 46.1	+0.8		
SAMH	Samovar Hills	5.85	105			Pn	14 11 46.1	-0.2		
O28M	Mount Upton	5.88	98			Pn	14 11 47.2	+0.2		
O28M	Mount Upton baz=289,SNR=16	5.88	98	P		Pn	14 11 47.4	+0.4		
G26K	Porcupine Rive baz=221	5.99	33	P		Pn	14 11 49.0	+0.9		
E22K	Anaktuvuk Pass baz=181	6.00	1	P		Pn	14 11 49.9	+1.7		
DAWY	Dawson	6.08	66			Pn	14 11 49.4	0.0		
DAWY	Dawson baz=257,SNR=8.9	6.08	66	P		Pn	14 11 49.2	-0.1		
PCA	Pinnacle	6.11	105			Pn	14 11 49.3	-0.5		
F25K	Christian Rive	6.11	24			Pn	14 11 49.6	-0.1		
F25K	Christian Rive baz=210	6.11	24	P		Pn	14 11 50.3	+0.6		
PINM	Pinnacle baz=295	6.11	105	P		Pn	14 11 49.5	-0.3		
E24K	Your Creek	6.13	13			Pn	14 11 50.9	+0.8		
E24K	Your Creek baz=196	6.13	13	P		Pn	14 11 51.0	+0.9		
H27K	Steamboat Moun	6.16	44			Pn	14 11 50.7	+0.3		
H27K	Steamboat Moun baz=233,SNR=25	6.16	44	P		Pn	14 11 51.1	+0.6		
BM03	Burnt Mountain	6.17	28			Pn	14 11 51.0	+0.4		
BM01	Burnt Mountain	6.21	28			Pn	14 11 51.5	+0.3		
M29M	Somme Creek	6.37	81			Pn	14 11 53.5	0.0		
M29M	Somme Creek baz=274	6.37	81	P		Pn	14 11 53.6	+0.2		
BCPM	Bancas Point	6.45	105			Pn	14 11 54.6	+0.2		
G27K	Doyon Strip baz=229	6.49	40	P		Pn	14 11 55.0	+0.1		
F26K	Sheenjek River baz=215	6.50	28	P		Pn	14 11 55.4	+0.4		
E25K	Arctic Village	6.58	22			Pn	14 11 56.3	+0.2		
E25K	Arctic Village baz=208	6.58	22	P		Pn	14 11 56.7	+0.6		
TOLK	Toolik Lake Re	6.59	8	Pn		Pn	14 11 59.0	+2.7		
J29M	Klondike Camp	6.67	64			Pn	14 11 57.2	-0.1		
PNL	Peninsula	6.68	106			Pn	14 11 57.3	-0.3		
PNL	Peninsula baz=298	6.68	106	P		Pn	14 11 57.2	-0.3		
O29M	Mount Kennedy baz=292	6.79	100	P		Pn	14 11 58.6	-0.6		
K29M	Barlow Dome	6.85	69			Pn	14 11 59.7	-0.2		
K29M	Barlow Dome baz=262	6.85	69	P		Pn	14 11 59.3	-0.6		
D23K	Nanushuk River baz=186	6.86	4	P		Pn	14 12 02.3	+2.5		
YUK5	Granite Creek	6.87	92			Pn	14 11 59.8	-0.4		
I29M	Ogilvie Camp,	6.91	56			Pn	14 12 01.1	+0.6		
S14K	Fog Glacier baz=30	7.02	216	P		Pn	14 12 01.8	-0.4		
HYT	Haines Junctio	7.12	94			Pn	14 12 03.2	-0.3		
HYT	Haines Junctio baz=287	7.12	94	P		Pn	14 12 02.8	-0.8		
N30M	Aishikik Lake	7.15	89			Pn	14 12 03.3	-0.7		
N30M	Aishikik Lake baz=282,SNR=12	7.15	89	P		Pn	14 12 03.2	-0.7		
P29M	Windy Craggy	7.45	104			Pn	14 12 08.8	+0.8		
P29M	Windy Craggy baz=296	7.45	104	P		Pn	14 12 07.6	-0.4		
P30M	Million Dollar baz=292	7.61	99	P		Pn	14 12 09.7	-0.4		
O30N	Mendenhall baz=287	7.80	93	P		Pn	14 12 11.9	-0.8		
INK	Inuvik comp=E,1.6nm,0.6s,baz=239,slow=12,SNR=6.4	9.90	44	P		Pn	14 12 39.1	-1.8		
TXAR	Lajitas Array comp=E,0.3nm,0.7s,baz=343,slow=6.5,SNR=3.6 comp=E,0.3nm,0.7s	45.39	113	P		P	14 18 31.8	+2.8		
SONM	Songino Array comp=E,0.4nm,0.4s,baz=46,slow=8.3,SNR=1.7 comp=E,0.4nm,0.4s	53.88	305	P		P	14 19 32.4	-0.7		
ZALV	Zalesovo Beam comp=E,1.1nm,0.7s,baz=44,slow=8.8,SNR=3.9 comp=E,1.1nm,0.7s	55.89	323	P		P	14 19 46.1	-1.2		
MKAR	Makanchi Array comp=E,0.5nm,0.5s,baz=35,slow=6.1,SNR=6.6 comp=E,0.5nm,0.5s	63.01	321	P		P	14 20 36.8	+0.4		

*NOU **02** 14:15:48.8,37˚.34S×179˚.38W,h106km,MLv4.9/6,East of North Island, N.Z.*
*WEL **02** 14:16:03.7±1.1,37˚S±4˚×17˚9E±˚,h25km±8km,M3.6/55, ML3.9/61,MLv3.6/55,Error ellipse: s-maj=0.0km s-min=0.0km az=83.3*

ISC 02 14:16:00.4±2.6,37˚.40S±0˚.06×179˚.2E±0˚.1,h15km±11km, n89,σ1°15/97,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	0.75	236	P	Pn	14 16 17.3	+0.8
WMGZ				S	Sb	14 16 26.7	+1.5
PUZ	Puketiti	1.00	228	P	Pn	14 16 21.2	+1.2
PUZ				S	Sb	14 16 33.5	+1.0
PKGZ	Pakihiroa	1.01	241	P	Pb	14 16 20.5	+0.8
PKGZ				S	Sg	14 16 32.1	-1.2
HAZ	Te Kaha	1.18	252	P	Pb	14 16 21.9	-0.5
HAZ				S	Sg	14 16 35.4	-3.1
TWGZ	Tauwhareparae	1.24	231	P	Pg	14 16 24.7	+0.4
TWGZ				S	Sb	14 16 39.4	+0.1
RUGZ	Raukumara Rang	1.33	245	P	Pn	14 16 25.5	+0.9
RUGZ				S	Sb	14 16 40.6	-1.5
CNGZ	Carnagh Statio	1.33	216	P	Pg	14 16 27.0	+1.0
CNGZ				S	Sg	14 16 45.0	+1.6
TKGZ	Te Karaka	1.49	226	P	Pn	14 16 27.7	+1.1
TKGZ				S	Sn	14 16 45.0	-0.8
WIZ	White Island	1.61	265	P	Pn	14 16 28.7	+0.5
MWZ	Matawai	1.62	234	P	Pn	14 16 29.3	+0.8
MWZ				S	Sn	14 16 48.4	-0.6
RIGZ	Rimuhau	1.73	221	P	Pn	14 16 31.2	+1.2
RAGZ	Rawiri	1.78	232	P	Pn	14 16 31.8	+1.0
WHRZ	Whale Island	1.82	255	P	Pn	14 16 33.1	+1.8
PRGZ	Paritu Road	1.84	214	P	Pn	14 16 32.8	+1.3
URZ	Urewera	1.86	242	P	Pn	14 16 32.9	+1.2
URZ	Urewera	1.86	242	P	Pn	14 16 33.1	+1.4
SNGZ	Shannon Statio	2.01	226	P	Pn	14 16 34.6	+0.7
KNZ	Kokohu	2.01	216	P	Pn	14 16 34.4	+0.6
MHGZ	Mahia Peninsul	2.02	210	P	Pn	14 16 35.4	+1.5
EDRZ	Edgecumbe	2.07	249	P	Pn	14 16 35.7	+1.0
MARZ	Manawahe	2.09	253	P	Pn	14 16 35.9	+1.1
RTZ	Ruatahuna	2.13	235	P	Pn	14 16 37.0	+1.4
OPRZ	Ohinepanea	2.15	257	P	Pn	14 16 35.8	+0.1
MUGZ	Murupara	2.20	240	P	Pn	14 16 37.2	+0.8
RAHZ	Arahi	2.25	227	P	Pn	14 16 38.3	+1.2
WHHZ	Waihua	2.28	222	P	Pn	14 16 38.5	+1.0
TARZ	Mount Tarawera	2.29	248	P	Pn	14 16 39.2	+1.5
RRRZ	Republican Roa	2.32	245	P	Pn	14 16 39.0	+0.9
MTHZ	Maungataniwha	2.36	231	P	Pn	14 16 39.8	+1.2
TGRZ	Tauranga	2.36	261	P	Pn	14 16 38.7	-0.3
KARZ	Kaharoa	2.42	254	P	Pn	14 16 40.2	+0.7
PRRZ	Plateau Road	2.47	243	P	Pn	14 16 40.9	+0.8
UTU	Utuhina	2.50	251	P	Pb	14 16 44.1	-1.0
HRRZ	Handcock Road	2.51	246	P	Pn	14 16 41.6	+0.9
HSRZ	Hossack Road	2.51	248	P	Pn	14 16 41.8	+1.1
NMHZ	Naumai	2.53	227	P	Pn	14 16 42.2	+1.2
ALRZ	Allen Road	2.54	242	P	Pn	14 16 41.8	+0.8
ARHZ	Aropaoanui	2.54	222	P	Pn	14 16 42.1	+1.0
MRHZ	Matea Rd	2.62	236	P	Pn	14 16 43.1	+0.9
WPRZ	Whakapapatarin	2.65	244	P	Pn	14 16 43.6	+1.1
BKZ	Black Stump Fm	2.76	230	P	Pn	14 16 45.1	+0.9
BKZ	Black Stump Fm	2.76	230	P	Pn	14 16 45.1	+0.9
CKHZ	Cape Kidnapper	2.80	216	P	Pn	14 16 44.7	+0.1
KUTZ	Kaahu Road	2.88	247	P	Pn	14 16 46.5	+0.7
TOZ	Tahuroa Road	2.96	263	P	Pn	14 16 46.8	0.0
KWHZ	Kaweka Forest	2.97	226	P	Pn	14 16 47.4	+0.4
KAHZ	Kahuranaki	3.00	217	P	Pn	14 16 47.4	-0.1
RITZ	Rihia Road	3.07	238	P	Pn	14 16 49.6	+1.0
RATZ	Rangitukua	3.07	241	P	Pn	14 16 49.6	+1.2
KRHZ	Kereru	3.15	224	P	Pn	14 16 49.3	-0.2
PXZ	Pawanui	3.20	214	P	Pn	14 16 49.8	-0.3
BHHZ	Black Hill Sta	3.23	229	P	Pn	14 16 50.9	+0.4
MKAZ	Moumakai	3.24	274	P	Pn	14 16 50.9	+0.2
TMVZ	Te Maari	3.24	237	P	Pn	14 16 51.3	+0.4
ETVZ	East

ML3.7/64,MLv3.5/52,Error ellipse: s-maj=0.0km s-min=0.0km az=87.7
*NOU **02** 14:21:02.3,37.64S×179.08E,h125km,mb4.2/7,Off E. Coast of N. Island, N.Z.*

ISC 02 14:20:57.1±2.9,37.30S±0.08×179.4E±0.1,h25km±15km, n92,σ1ᵍ40/101,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**253**	P	**Pn**	**14 21 13.6**	**-0.3**
MXZ				S	**Sb**	**14 21 21.5**	**-3.6**
WMGZ	**Waiomatatini S**	**0.91**	**235**	P	**Pb**	**14 21 16.9**	**+2.6**
WMGZ				S	**Sn**	**14 21 27.7**	**+1.0**
PUZ	**Puketiti**	**1.17**	**229**	P	**Pb**	**14 21 20.4**	**+1.8**
PUZ				S	**Sb**	**14 21 34.5**	**+1.1**
PKGZ	**Pakihiroa**	**1.18**	**240**	P	**Pb**	**14 21 20.0**	**+1.1**
PKGZ				S	**Sn**	**14 21 33.0**	**-0.4**
HAZ	**Te Kaha**	**1.34**	**250**	P	**Pb**	**14 21 21.8**	**+0.3**
HAZ				S	**Sn**	**14 21 36.3**	**-0.8**
TWGZ	**Tauwhareparae**	**1.40**	**231**	P	**Pb**	**14 21 23.8**	**+1.1**
TWGZ				S	**Sn**	**14 21 39.8**	**+0.9**
CNGZ	**Carnagh Statio**	**1.49**	**218**	P	**Pb**	**14 21 26.2**	**+2.1**
RUGZ	**Raukumara Rang**	**1.49**	**243**	P	**Pb**	**14 21 24.5**	**+0.3**
RUGZ				S	**Sn**	**14 21 40.9**	**-0.4**
TKGZ	**Te Karaka**	**1.65**	**226**	P	**Pb**	**14 21 26.7**	**-0.1**
TKGZ				S	**Sn**	**14 21 46.5**	**+1.6**
WIZ	**White Island**	**1.75**	**262**	P	**Pb**	**14 21 26.1**	**+0.3**
MWZ	**Matawai**	**1.78**	**234**	P	**Pb**	**14 21 28.4**	**-0.7**
MWZ				S	**Sn**	**14 21 48.4**	**+0.2**
RIGZ	**Rimuhau**	**1.89**	**222**	P	**Pb**	**14 21 30.4**	**-0.5**
RAGZ	**Rawiri**	**1.95**	**232**	P	**Pb**	**14 21 30.9**	**-1.1**
WHRZ	**Whale Island**	**1.98**	**253**	P	**Pn**	**14 21 30.4**	**+1.3**
PRGZ	**Paritu Road**	**1.99**	**215**	P	**Pb**	**14 21 31.9**	**-0.8**
URZ	**Urewera**	**2.02**	**241**	P	**Pn**	**14 21 31.4**	**+1.7**
URZ	**Urewera**	**2.02**	**241**	P	**Pn**	**14 21 31.4**	**+1.7**
MHGZ	**Mahia Peninsul**	**2.17**	**211**	P	**Pb**	**14 21 34.8**	**-1.0**
SNGZ	**Shannon Statio**	**2.17**	**227**	P	**Pn**	**14 21 33.8**	**+2.0**
EDRZ	**Edgecumbe**	**2.23**	**248**	P	**Pn**	**14 21 33.9**	**+1.3**
MARZ	**Manawahe**	**2.24**	**252**	P	**Pn**	**14 21 33.7**	**+1.0**
RTZ	**Ruatahuna**	**2.29**	**234**	P	**Pn**	**14 21 35.4**	**+1.9**
OPRZ	**Ohinepanea**	**2.30**	**256**	P	**Pn**	**14 21 33.7**	**+0.3**
MUGZ	**Murupara**	**2.36**	**240**	P	**Pn**	**14 21 35.8**	**+1.4**
RAHZ	**Arahi**	**2.41**	**227**	P	**Pn**	**14 21 37.1**	**+2.1**
WHTZ	**Waihua**	**2.44**	**223**	P	**Pn**	**14 21 36.4**	**+1.0**
TARZ	**Mount Tarawera**	**2.45**	**247**	P	**Pn**	**14 21 37.2**	**+1.6**
RRRZ	**Republican Roa**	**2.48**	**245**	P	**Pn**	**14 21 37.5**	**+1.5**
TGRZ	**Tauranga**	**2.50**	**259**	P	**Pn**	**14 21 36.7**	**+0.4**
MTHZ	**Maungataniwha**	**2.52**	**231**	P	**Pn**	**14 21 38.6**	**+2.1**
HLRZ	**Highlands Stat**	**2.57**	**247**	P	**Pn**	**14 21 38.7**	**+1.6**
KARZ	**Kaharoa**	**2.58**	**253**	P	**Pn**	**14 21 38.2**	**+0.9**
PRRZ	**Plateau Road**	**2.64**	**242**	P	**Pn**	**14 21 39.2**	**+1.1**
UTU	**Utuhina**	**2.66**	**250**	P	**Pn**	**14 21 40.6**	**+2.1**
HSRZ	**Hossack Road**	**2.67**	**247**	P	**Pn**	**14 21 40.4**	**+1.9**
HRRZ	**Handcock Road**	**2.67**	**245**	P	**Pn**	**14 21 40.1**	**+1.6**
NMHZ	**Naumai**	**2.70**	**228**	P	**Pn**	**14 21 41.2**	**+2.2**
ALRZ	**Allen Road**	**2.70**	**241**	P	**Pn**	**14 21 40.1**	**+1.1**
ARHZ	**Aropaoanui**	**2.70**	**223**	P	**Pn**	**14 21 41.0**	**+2.0**
MRHZ	**Matea Rd**	**2.78**	**236**	P	**Pn**	**14 21 41.8**	**+1.6**
WPRZ	**Whakapapatarin**	**2.81**	**243**	P	**Pn**	**14 21 42.1**	**+1.6**
BKZ	**Black Stump Fm**	**2.93**	**230**	P	**Pn**	**14 21 43.7**	**+1.5**
BKZ	**Black Stump Fm**	**2.93**	**230**	P	**Pn**	**14 21 43.7**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.96**	**217**	P	**Pn**	**14 21 44.0**	**+1.5**
KUZ	**Kuaotunu**	**2.97**	**280**	P	**Pn**	**14 21 41.9**	**-0.8**
KUTZ	**Kaahu Road**	**3.04**	**246**	P	**Pn**	**14 21 44.5**	**+0.8**
TOZ	**Tahuroa Road**	**3.10**	**261**	P	**Pn**	**14 21 44.7**	**+0.2**
KAHZ	**Kahuranaki**	**3.16**	**217**	P	**Pn**	**14 21 46.7**	**+1.4**
RITZ	**Rihia Road**	**3.23**	**238**	P	**Pn**	**14 21 47.9**	**+1.7**
GRZ	**Great Barrier**	**3.31**	**287**	P	**Pn**	**14 21 48.0**	**+0.7**
KRHZ	**Kereru**	**3.31**	**224**	P	**Pn**	**14 21 48.1**	**+0.6**
MKAZ	**Moumakai**	**3.36**	**272**	P	**Pn**	**14 21 47.8**	**-0.2**
BHHZ	**Black Hill Sta**	**3.39**	**229**	P	**Pn**	**14 21 47.4**	**-1.1**
TMVZ	**Te Maari**	**3.40**	**237**	P	**Pn**	**14 21 49.7**	**+1.0**
ETVZ	**East Tongariro**	**3.41**	**236**	P	**Pn**	**14 21 49.9**	**+1.1**
KRVZ	**Karewarewa**	**3.44**	**238**	P	**Pb**	**14 21 56.3**	**-1.1**
NGZ	**Ngauruhoe**	**3.50**	**237**	P	**Pn**	**14 21 51.4**	**+1.3**
MOVZ	**Moawhango**	**3.53**	**232**	P	**Pn**	**14 21 51.4**	**+0.9**
TWVZ	**Taurewa**	**3.56**	**239**	P	**Pn**	**14 21 52.8**	**+1.9**
ETAZ	**East Tamaki Re**	**3.56**	**274**	P	**Pn**	**14 21 51.1**	**+0.3**
WHZ	**Whangaehu Hut**	**3.57**	**235**	P	**Pn**	**14 21 51.9**	**+0.8**
WPHZ	**Waipukurau**	**3.58**	**219**	P	**Pn**	**14 21 51.8**	**+0.7**
WNVZ	**Wahianoa**	**3.59**	**235**	P	**Pn**	**14 21 52.4**	**+1.1**
PNHZ	**Pukenui**	**3.60**	**223**	P	**Pn**	**14 21 51.9**	**+0.6**
MBAZ	**Motutapu North**	**3.61**	**277**	P	**Pn**	**14 21 52.5**	**+1.0**
PRHZ	**Porangahau**	**3.65**	**215**	P	**Pn**	**14 21 52.8**	**+0.8**
MTVZ	**Mangateitei**	**3.70**	**235**	P	**Pn**	**14 21 54.3**	**+1.5**
EPAZ	**Eden Park BICE**	**3.72**	**275**	P	**Pn**	**14 21 54.3**	**+1.3**
PKVZ	**Pokaka**	**3.73**	**237**	P	**Pn**	**14 21 54.5**	**+1.3**
HBAZ	**Herne Bay Bore**	**3.73**	**276**	P	**Pn**	**14 21 54.7**	**+1.5**
HIZ	**Hauiti**	**3.77**	**250**	P	**Pn**	**14 21 55.4**	**+1.8**
HIZ	**Hauiti**	**3.77**	**250**	P	**Pn**	**14 21 55.6**	**+2.0**
AWAZ	**Awhitu Peninsu**	**3.78**	**272**	P	**Pn**	**14 21 54.4**	**+0.7**
TSZ	**Takapari Road**	**3.83**	**223**	P	**Pn**	**14 21 54.4**	**-0.1**
RVAZ	**Riverhead Bore**	**3.87**	**276**	P	**Pn**	**14 21 55.4**	**+0.4**
WAZ	**Wanganui**	**4.22**	**233**	P	**Pn**	**14 22 01.4**	**+1.6**
WCZ	**Waipu Caves**	**4.26**	**287**	P	**Pn**	**14 22 01.1**	**+0.7**
MHEZ	**Mangahewa**	**4.35**	**244**	P	**Pn**	**14 22 01.3**	**-0.3**
LREZ	**Lake Rotokare**	**4.45**	**240**	P	**Pn**	**14 22 03.1**	**+2.0**
MRZ	**Mangatainoka R**	**4.46**	**220**	P	**Pn**	**14 22 01.1**	**-0.1**
NEZ	**North Egmont**	**4.59**	**243**	P	**Pn**	**14 22 07.7**	**+2.7**
KHEZ	**Kahui Hut**	**4.65**	**243**	P	**Pn**	**14 22 09.0**	**+3.1**
HOWZ	**Holdsworth Sta**	**4.67**	**219**	P	**Pn**	**14 22 05.5**	**-0.6**
OGWZ	**Otaki Gorge**	**4.79**	**222**	P	**Pn**	**14 22 06.8**	**-0.9**
OUZ	**Omahuta**	**5.10**	**292**	P	**Pn**	**14 22 13.1**	**+1.1**
NNZ	**Nelson**	**6.07**	**228**	P	**Pn**	**14 22 24.3**	**-1.0**
BSWZ	**Blackbirch Sta**	**6.12**	**222**	P	**Pn**	**14 22 25.6**	**-0.3**
QRZ	**Quartz Range**	**6.38**	**234**	P	**Pn**	**14 22 28.5**	**-0.9**
QRZ	**Quartz Range**	**6.38**	**234**	P	**Pn**	**14 22 27.5**	**-2.0**
KHZ	**Kahutara**	**6.79**	**219**	P	**Pn**	**14 22 34.3**	**-0.8**
RPZ	**Rata Peaks**	**9.00**	**222**	P	**Pn**	**14 23 02.9**	**-2.6**
ODZ	**Otahua Downs**	**10.14**	**218**	P	**Pn**	**14 23 19.6**	**-1.5**

IDC 02 14:23:19.3±3.9,55.30S×31.44W,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=124.2km s-min=48.0km az=7.0,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**34.55**	**316**	P	P	14 30 08.6	-0.8
	1.3nm,0.6s,baz=135,slow=11,SNR=3.2 1.3nm,0.6s						
LPAZ	**La Paz**	**48.01**	**309**	P	P	14 32 01.2	+0.5
	1.9nm,0.5s,baz=151,slow=6.3,SNR=8.3 1.9nm,0.5s						
H10N1	**ASCENSION HYDR**	**49.21**	**22**	T	T	15 24 47.6	
	baz=192,slow=76,SNR=4.0						
H10N3	**ASCENSION HYDR**	**49.21**	**22**	T	T	15 24 50.6	
	baz=192,slow=76,SNR=7.2						
H10N2	**ASCENSION HYDR**	**49.23**	**22**	T	T	15 24 50.1	
	baz=192,slow=76,SNR=7.3						
TORD	**Torodi Ar. Bea**	**73.67**	**34**	P	P	14 34 54.8	+0.1
	0.8nm,1.0s,baz=197,slow=4.7,SNR=2.8 0.8nm,1.0s						
ILAR	**Eielson Array**	**147.83**	**313**	PKPbc	PKPbc	14 43 03.7	-1.0
	0.6nm,0.7s,baz=115,slow=1.3,SNR=4.9						

WEL 02 14:24:33.8±0.9,37°S±3°×17°9E±°,h16km±5km,M3.5/53, ML3.8/61,MLv3.5/53,Error ellipse: s-maj=0.0km s-min=0.0km az=98.4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.61**	**253**	P	Pg	14 24 45.4	-0.5
MXZ				S	Sg	14 24 52.6	-1.4
WMGZ	**Waiomatatini S**	**0.66**	**229**	P	Pn	14 24 48.5	0.0
WMGZ				S	Sn	14 24 58.1	-0.3
PKGZ	**Pakihiroa**	**0.91**	**237**	P	Pg	14 24 51.7	+0.1
PKGZ				S	Sg	14 25 03.9	+0.4
PUZ	**Puketiti**	**0.92**	**222**	P	Pn	14 24 52.3	+0.2
PUZ				S	Sn	14 25 04.8	-0.2
HAZ	**Te Kaha**	**1.07**	**250**	P	Pb	14 24 53.7	-0.1
HAZ				S	Sb	14 25 07.5	0.0
TWGZ	**Tauwhareparae**	**1.15**	**227**	P	Pg	14 24 55.8	-0.3
TWGZ				S	Sg	14 25 11.2	+0.1
RUGZ	**Raukumara Rang**	**1.23**	**242**	P	Pb	14 24 56.6	0.0
RUGZ				S	Sb	14 25 11.8	-0.4
CNGZ	**Carnagh Statio**	**1.28**	**211**	P	Pg	14 24 58.1	-0.3
CNGZ				S	Sg	14 25 16.8	+1.8
TKGZ	**Te Karaka**	**1.41**	**222**	P	Pn	14 24 58.8	+0.1
TKGZ				S	Sn	14 25 16.7	-0.3
MWZ	**Matawai**	**1.52**	**231**	P	Pn	14 25 00.5	+0.1
MWZ				S	Sn	14 25 19.3	-0.6
RIGZ	**Rimuhau**	**1.66**	**217**	P	Pn	14 25 02.3	+0.1
RIGZ				S	Sn	14 25 23.3	+0.1
RAGZ	**Rawiri**	**1.69**	**229**	P	Pn	14 25 02.9	+0.1
RAGZ				S	Sn	14 25 23.7	-0.5
WHRZ	**Whale Island**	**1.71**	**254**	P	Pn	14 25 03.6	+0.7
URZ	**Urewera**	**1.76**	**240**	P	Pn	14 25 04.1	+0.5
URZ				S	Sn	14 25 25.8	+0.2
PRGZ	**Paritu Road**	**1.78**	**210**	P	Pn	14 25 03.9	-0.1
SNGZ	**Shannon Statio**	**1.93**	**224**	P	Pn	14 25 05.9	-0.1
KNZ	**Kokohu**	**1.95**	**213**	P	Pn	14 25 05.2	-1.1
EDRZ	**Edgecumbe**	**1.96**	**248**	P	Pn	14 25 06.9	+0.5
MARZ	**Manawahe**	**1.97**	**252**	P	Pn	14 25 06.7	+0.2
MHGZ	**Mahia Peninsul**	**1.97**	**207**	P	Pn	14 25 06.7	+0.1
OPRZ	**Ohinepanea**	**2.03**	**256**	P	Pn	14 25 06.9	-0.3
RTZ	**Ruatahuna**	**2.04**	**232**	P	Pn	14 25 08.1	+0.6
RTZ				S	Sn	14 25 33.6	+1.0
MUGZ	**Murupara**	**2.10**	**238**	P	Pn	14 25 08.5	+0.2
RAHZ	**Arahi**	**2.17**	**225**	P	Pn	14 25 09.2	0.0
TARZ	**Mount Tarawera**	**2.18**	**246**	P	Pn	14 25 10.1	+0.7
WHHZ	**Waihua**	**2.21**	**220**	P	Pn	14 25 09.7	0.0
RRRZ	**Republican Roa**	**2.21**	**244**	P	Pn	14 25 10.4	+0.5
TGRZ	**Tauranga**	**2.24**	**260**	P	Pn	14 25 09.8	-0.3
MTHZ	**Maungataniwha**	**2.27**	**229**	P	Pn	14 25 11.0	+0.4
HLRZ	**Highlands Stat**	**2.30**	**247**	P	Pn	14 25 11.5	+0.5
KARZ	**Kaharoa**	**2.31**	**253**	P	Pn	14 25 11.4	+0.3
UTU	**Utuhina**	**2.39**	**250**	P	Pn	14 25 13.8	+1.6
HSRZ	**Hossack Road**	**2.40**	**247**	P	Pn	14 25 14.2	+1.8
ALRZ	**Allen Road**	**2.43**	**240**	P	Pn	14 25 12.9	+0.1
NMHZ	**Naumai**	**2.45**	**225**	P	Pn	14 25 13.4	+0.2
ARHZ	**Aropaoanui**	**2.47**	**220**	P	Pn	14 25 13.3	0.0
MRHZ	**Matea Rd**	**2.52**	**234**	P	Pn	14 25 14.4	+0.3
WPRZ	**Whakapapatarin**	**2.54**	**243**	P	Pn	14 25 15.9	+1.6
BKZ	**Black Stump Fm**	**2.68**	**228**	P	Pn	14 25 16.2	-0.1
KUZ	**Kuaotunu**	**2.73**	**283**	P	Pn	14 25 14.6	-2.3
CKHZ	**Cape Kidnapper**	**2.74**	**214**	P	Pn	14 25 16.1	-0.9
TOZ	**Tahuroa Road**	**2.83**	**262**	P	Pn	14 25 17.9	-0.4
KAHZ	**Kahuranaki**	**2.94**	**215**	P	Pn	14 25 18.7	-1.2
RITZ	**Rihia Road**	**2.97**	**237**	P	Pn	14 25 20.6	+0.3
RATZ	**Rangitukua**	**2.97**	**239**	P	Pn	14 25 21.0	+0.7
KRHZ	**Kereru**	**3.08**	**222**	P	Pn	14 25 20.5	-1.2
GRZ	**Great Barrier**	**3.09**	**290**	P	Pn	14 25 21.7	-0.2
MKAZ	**Moumakai**	**3.11**	**274**	P	Pn	14 25 21.3	-0.9
BHHZ	**Black Hill Sta**	**3.14**	**227**	P	Pn	14 25 22.1	-0.5
TMVZ	**Te Maari**	**3.14**	**236**	P	Pn	14 25 22.7	0.0
ETVZ	**East Tongariro**	**3.15**	**235**	P	Pn	14 25 22.7	-0.1
KRVZ	**Karewarewa**	**3.17**	**237**	P	Pn	14 25 24.1	+1.0
OTVZ	**Oturere**	**3.19**	**235**	P	Pn	14 25 21.6	-1.9
NNVZ	**North Ngauruho**	**3.21**	**236**	P	Pn	14 25 24.1	+0.4
NGZ	**Ngauruhoe**	**3.24**	**236**	P	Pn	14 25 24.0	-0.1
TUVZ	**Tukino**	**3.26**	**234**	P	Pn	14 25 24.4	+0.1
MOVZ	**Moawhango**	**3.28**	**231**	P	Pn	14 25 24.1	-0.4
WHVZ	**Whangaehu Hut**	**3.31**	**234**	P	Pn	14 25 24.9	-0.2
ETAZ	**East Tamaki Re**	**3.31**	**276**	P	Pn	14 25 24.8	-0.1
FWVZ	**Far West T-bar**	**3.32**	**235**	P	Pn	14 25 25.5	+0.3
WNVZ	**Wahianoa**	**3.33**	**233**	P	Pn	14 25 25.0	-0.3
WPHZ	**Waipukurau**	**3.36**	**217**	P	Pn	14 25 24.3	-1.2
PNHZ	**Pukenui**	**3.36**	**221**	P	Pn	14 25 23.8	-1.9
MBAZ	**Motutapu North**	**3.37**	**279**	P	Pn	14 25 26.7	+1.0
PRHZ	**Porangahau**	**3.43**	**212**	P	Pn	14 25 24.7	-1.9
PKVZ	**Pokaka**	**3.47**	**236**	P	Pn	14 25 27.3	+0.1
HBAZ	**Herne Bay Bore**	**3.49**	**278**	P	Pn	14 25 28.4	+1.1
HIZ	**Hauiti**	**3.49**	**250**	P	Pn	14 25 28.5	+1.1
AWAZ	**Awhitu Peninsu**	**3.53**	**274**	P	Pn	14 25 28.1	+0.3
TSZ	**Takapari Road**	**3.59**	**221**	P	Pn	14 25 26.8	-2.0
WTAZ	**Waiataraua**	**3.60**	**276**	P	Pn	14 25 29.8	+0.9
RVAZ	**Riverhead Bore**	**3.62**	**278**	P	Pn	14 25 28.3	-0.8
BFZ	**Birch Farm**	**3.94**	**213**	P	Pn	14 25 31.2	-2.4
WAZ	**Wanganui**	**3.96**	**232**	P	Pn	14 25 34.3	+0.4
PRWZ	**Pori Road**	**3.96**	**216**	P	Pn	14 25 32.5	-1.4
WCZ	**Waipu Caves**	**4.04**	**290**	P	Pn	14 25 34.3	-0.7
KHEZ	**Kahui Hut**	**4.39**	**243**	P	Pn	14 25 42.0	+2.2
OGWZ	**Otaki Gorge**	**4.56**	**220**	P	Pn	14 25 39.5	-2.5
OUZ	**Omahuta**	**4.90**	**295**	P	Pn	14 25 46.7	-0.1
BSWZ	**Blackbirch Sta**	**5.88**	**221**	P	Pn	14 25 58.5	-1.7
CTZ	**Chatham Island**	**7.15**	**154**	P	Pn	14 26 18.9	+1.3

*IDC **02** 14:26:15.7±1.7,6.04S×149.81E,h45km±25km,mb3.5/4, mbtmp3.9/6,ML2.4/1,MS3.4/3,Error ellipse: s-maj=84.4km s-min=8.9km az=135.0*
*NEIC **02** 14:26:16.1±1.0,6.2S±0.2×150.0E±0.2,h54km±11km, mb4.0/10,Error ellipse: s-maj=32.3km s-min=4.9km az=135.0*

ISC 02 14:26:15.8±0.7,6.2S±0.2×150.0E±0.2,h52km,n24, σ0ᵍ62/25,mb4.1/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.78**	**48**	P	**Pn**	**14 26 58.4**	**+0.6**
	261nm,0.5s,baz=31,slow=0.8,SNR=32						
KRVT				S	**Sn**	**14 27 30.9**	**+0.7**
	167nm,0.9s,baz=77,slow=22,SNR=4.0						
KRVT				LR	LR	14 28 06.7	
	comp=Z,232nm,18.9s,baz=348,slow=40						
RABL	**Rabaul**	**2.96**	**48**	Pn	**Pn**	**14 27 00.2**	**-0.1**
PMG	**Port Moresby**	**4.23**	**221**	P	**Pn**	**14 27 17.9**	**+0.1**
	15nm,0.3s,baz=30,slow=12,SNR=61						
PMG				S	**Sn**	**14 28 06.5**	**+0.6**
	141nm,0.4s,baz=221,slow=14,SNR=11 44nm,0.3s						
COEN	**Coen**	**10.20**	**220**	Pn	**Pn**	**14 28 39.3**	**-0.4**
WB0	**Warramunga Arr**	**20.27**	**227**	P	**P**	**14 30 47.9**	**+0.6**
WB0				IAmb	IAmb	14 30 56.0	
	comp=Z,5.5nm,0.9s						
WR0	**Warramunga Arr**	**20.29**	**226**	P	**P**	**14 30 48.0**	**+0.6**
WR0				IAmb	IAmb	14 30 56.2	
	comp=Z,6.5nm,0.9s						
WRAB	**Tennant Creek**	**20.41**	**227**	P	**P**	**14 30 48.5**	**-0.2**
WRAB				IAmb	IAmb	14 30 57.5	
	comp=Z,4.3nm,0.8s						
WB2	**Warramunga Arr**	**20.42**	**227**	P	**P**	**14 30 48.5**	**-0.3**
WB2				IAmb	IAmb	14 30 57.5	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**20.43**	**227**	P	**P**	**14 30 49.5**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=52,slow=11,SNR=33						
WRA				PcP	**PcP**	**14 35 00.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=53,slow=2.7,SNR=1.7 comp=Z,1.7nm,0.5s						
WRA	**Warramunga Arr**	**20.43**	**227**	P	**P**	**14 30 48.3**	**-0.5**
KNRA	**Kununurra**	**22.82**	**244**	P	**P**	**14 31 15.2**	**+0.6**
KNRA				IAmb	IAmb	14 31 15.5	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**23.25**	**220**	P	**P**	**14 31 19.5**	**+0.7**
ASAR	**Alice Springs**	**23.25**	**220**	P	**P**	**14 31 20.0**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=55,slow=8.9,SNR=25 comp=Z,0.5nm,0.4s						
ASAR	**Alice Springs**	**23.25**	**220**	P	**P**	**14 31 18.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**26.51**	**241**	P	**P**	**14 31 48.6**	**0.0**
	comp=Z,2.4nm,0.5s,baz=46,slow=8.6,SNR=15 comp=Z,2.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**26.51**	**241**	P	**P**	**14 31 48.1**	**-0.6**
MBWA	**Marble Bar**	**32.83**	**240**	P	**P**	**14 32 43.7**	**-1.0**
AFI	**Afiamalu**	**38.41**	**105**	LR	LR	14 46 53.2	
	comp=Z,124nm,18.1s,baz=256,slow=32						
LEM	**Lembang**	**42.06**	**267**	LR	LR	14 52 53.7	
	comp=Z,55nm,19.8s,baz=220,slow=38						
JNU	**Nakatsue**	**43.09**	**336**	P	**P**	**14 34 11.6**	**+0.7**
PETK	**Petropavlovsk-**	**59.44**	**5**	P	**P**	**14 36 12.1**	**-0.9**
QSPA	**South Pole Qui**	**83.78**	**180**	P	**P**	**14 38 39.0**	**-0.3**
QSPA				IAmb	IAmb	14 39 14.8	
	comp=Z,4.2nm,1.3s						
ILAR	**Eielson Array**	**84.51**	**23**	P	**P**	**14 38 42.8**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=229,slow=5.5,SNR=2.0 comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.98**	**285**	PKPbc	**PKPbc**	**14 45 56.0**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=84,slow=2.5,SNR=16						

WEL 02 14:27:43.3±0.4,42°S±3°×17°2E±°,h5km,M2.9/12, ML3.1/13,MLv2.9/12,Error ellipse: s-maj=0.0km s-min=0.0km az=135.7,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.30**	**268**	P	Pg	14 27 49.7	+0.5
DSZ				S	Sg	14 27 54.5	+1.2
THZ	**Tophouse**	**0.52**	**93**	P	Pg	14 27 52.9	-0.5
THZ				S	Sg	14 28 00.1	0.0
MRNZ	**Matariki Terra**	**0.53**	**51**	P	Pg	14 27 53.9	+0.4
TKNZ	**Takaka Hill**	**0.90**	**39**	P	Pg	14 28 00.4	-0.2
TKNZ				S	Sg	14 28 12.8	+0.6
QRZ	**Quartz Range**	**0.94**	**15**	P	Pg	14 28 01.4	0.0
NNZ	**Nelson**	**1.02**	**60**	P	Pg	14 28 02.3	-0.5
LTZ	**Lake Taylor**	**1.05**	**178**	P	Pg	14 28 02.9	-0.5
LTZ				S	Sg	14 28 17.3	+0.2
INZ	**Inchbonnie**	**1.14**	**210**	P	Pg	14 28 04.4	-0.8
INZ				S	Sg	14 28 19.0	-1.1
KHZ	**Kahutara**	**1.20**	**125**	P	Pg	14 28 06.3	-0.1
BSWZ	**Blackbirch Sta**	**1.25**	**90**	P	Pg	14 28 06.6	-0.6
TUWZ	**Tuamarina**	**1.33**	**77**	P	Pn	14 28 07.7	-0.9
GVZ	**Greta Valley S**	**1.38**	**154**	P	Pn	14 28 08.9	-0.4
GVZ				S	Sn	14 28 28.1	+0.2
AMCZ	**Amberley**	**1.48**	**167**	P	Pn	14 28 10.3	-0.3
CMWZ	**Cape Campbell**	**1.50**	**91**	P	Pg	14 28 12.6	+0.6
DUWZ	**D'Urville Isla**	**1.59**	**55**	P	Pn	14 28 11.8	-0.4
TCW	**Tory Channel**	**1.64**	**72**	P	Pn	14 28 12.9	+0.1
WVZ	**Waitaha Valley**	**1.73**	**219**	P	Pb	14 28 15.1	-0.4
GCSZ	**Gaunt Creek Bo**	**2.11**	**221**	P	Pb	14 28 21.7	-0.3
KIW	**Kapiti Island**	**2.21**	**68**	P	Pn	14 28 22.3	+1.5
CAW	**Cannon Point**	**2.24**	**75**	P	Pn	14 28 21.7	+0.6
MSWZ	**Moikau Station**	**2.30**	**83**	P	Pn	14 28 21.6	-0.3
OGWZ	**Otaki Gorge**	**2.41**	**69**	P	Pn	14 28 24.6	+1.1
FOZ	**Fox Glacier**	**2.52**	**224**	P	Pn	14 28 22.3	-2.6
MTW	**Mount Morrison**	**2.54**	**78**	P	Pn	14 28 24.5	-0.8
MRZ	**Mangatainoka R**	**2.76**	**68**	P	Pn	14 28 28.8	+0.6
ODZ	**Otahua Downs**	**3.50**	**199**	P	Pn	14 28 35.9	-2.5

*NDI **02** 14:30:56.5±3.3,28.93N×94.93E,h25km±61km,ML4.7, mb4.6(NEIC)*
*IDC **02** 14:30:56.5±0.6,28.59N×94.89E,h0km,mb4.1/22, mbtmp4.1/23,ML3.2/1,Error ellipse: s-maj=22.4km s-min=11.9km az=54.0*
*BJI **02** 14:30:59.0±0.0,28.76N×94.90E,h6km,mb4.5/25, mB4.9/7,ML4.0/8,Ms3.9/10,Ms7 3.9/8*
*MOS **02** 14:31:00.1±1.2,28.56N×95.03E,h37km,mb4.5/16,Error ellipse: s-maj=11.0km s-min=6.6km az=110.3*
*NEIC **02** 14:31:01.0±1.9,28.63N±0.07×94.94E±0.08,h24km±3km, mb4.6/42,Error ellipse: s-maj=11.6km s-min=8.9km az=213.0*

ISC 02 14:31:01.2±1.2,28.55N±0.04×94.81E±0.04,h32km±8km, n147,σ1ᵍ68/167,mb4.4/51,8C-1D,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**1.08**	**175**	*e*P	**Pb**	**14 31 20.7**	**-0.7**
DIBR

LZH pmax pmax
comp=Z,26nm,1.2s
LZH pmax pmax
comp=Z,23nm,1.0s
LZH LR LR
comp=N,670nm,8.8s
LZH LR LR
comp=E,920nm,9.6s
LZH LR LR
comp=Z,880nm,11.2s
CMAR Chiang Mai Arr 10.73 158 Pn **Pn 14 33 33.5 +0.8**
comp=Z,0.1nm,0.3s,baz=334,slow=14,SNR=11
comp=Z,1.9nm,0.8s
GTA Gaotai 11.60 20 *e*P **Pn 14 33 48.6 +4.0**
GTA pP 14 33 53.9
GTA pmax pmax
comp=Z,2.0nm,1.1s
ENH Enshi 12.91 79 Pn 14 34 00.2 -2.3
SMLA Simla 15.52 284 *e*P **Pn 14 34 32.3 -5.4**
WMQ Urumqi 16.28 341 *e*P **P 14 34 50.8 +0.7**
WMQ sP pP 14 34 54.8 -4.2
WMQ pmax pmax
comp=Z,34nm,0.9s
UBPT Khong Chiam 16.48 141 Pn 14 34 48.5 -1.5
BHPL Bhopal 16.50 255 *e*P **Pn 14 34 45.3 -5.0**
BHPL *e*S Sn 14 37 36.6 -16
BHPL *e*S Sn 14 37 36.6 -16
WHN Wuhan 17.12 79 P **P 14 34 59.5 0.0**
HYBB Hyderabad (bro 18.59 237 *e*P **Pn 14 35 17.5 +1.3**
KSH Kashi 19.02 310 P **Pn 14 35 26.2 +4.8**
KSH pmax pmax
comp=Z,6.0nm,0.9s
NIL Nilore 19.14 291 P **P 14 35 20.5 -1.2**
NIL IAmb IAmb 14 35 34.3
comp=Z,17nm,0.7s
NIL Nilore 19.14 291 P **P 14 35 20.5 -1.2**
NIL pmax pmax
comp=Z,17nm,0.7s
MK31 Makanchi Array 20.69 335 P **P 14 35 38.6 +0.1**
MK31 Makanchi Array 20.69 335 ⇑*i*P **P 14 35 38.3 -0.2**
MKAR Makanchi Array 20.69 335 P **P 14 35 38.3 -0.1**
comp=Z,1.3nm,0.4s,baz=136,slow=14,SNR=28
MKAR S **S 14 39 26.8 -1.0**
comp=Z,0.1nm,0.5s,baz=329,slow=40,SNR=1.5
comp=Z,1.3nm,0.4s
MAKZ Makanchi 20.82 335 P **P 14 35 40.0 +0.1**
MAKZ Makanchi 20.82 335 P **P 14 35 40.0 +0.1**
MAKZ pmax pmax
comp=Z,11nm,1.3s
NJ2 Nanjing 21.05 74 *e*P **P 14 35 37.3 -5.1**
NJ2 pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 21.26 22 P **P 14 35 43.7 -1.1**
comp=Z,8.5nm,0.7s,baz=204,slow=13,SNR=30
comp=Z,8.5nm,0.7s
SONM Songino Array 21.26 22 P **P 14 35 43.5 -1.2**
SONM Songino Array 21.26 22 P **P 14 35 43.5 -1.2**
SONM pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 21.51 23 P **P 14 35 45.0 -2.4**
ULN IAmb IAmb 14 35 46.9
comp=Z,14nm,0.7s
ULN Ulaanbaatar 21.51 23 *ce*P **P 14 35 46.0 -1.4**
ULN pmax pmax
comp=Z,14nm,0.7s
AAK Ala-Archa 21.62 316 P **P 14 35 49.7 +1.0**
comp=Z,1.3nm,0.4s,baz=119,slow=10,SNR=2.0
comp=Z,1.3nm,0.4s
AAK Ala-Archa 21.62 316 *ce*P **P 14 35 51.1 +2.5**
AAK pmax pmax
comp=Z,10.0nm,1.3s
DGZ Jazzator, Alta 21.87 347 *i*P **P 14 35 50.6 -0.6**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
KBL Kabul 22.73 292 P **P 14 36 01.2 +0.6**
KBL IAmb IAmb 14 36 06.1
comp=Z,20nm,0.8s
KBL Kabul 22.73 292 P **P 14 36 01.2 +0.6**
KBL pmax pmax
comp=Z,20nm,0.8s
ZAK Zakamensk 22.74 14 *e*P **P 14 35 58.2 -2.3**
GAR Garm 22.81 304 P **P 14 36 03.1 +1.7**
GAR IAmb IAmb 14 36 07.5
comp=Z,28nm,1.1s
BTK Batken 22.83 306 P **P 14 36 04.1 +2.5**
BTK IAmb IAmb 14 36 10.3
comp=Z,28nm,0.8s
BTK Batken 22.83 306 P **P 14 36 04.1 +2.5**
BTK pmax pmax
comp=Z,28nm,0.8s
XLT XiLinHaoTe 22.91 42 ⇑*i*P **P 14 36 03.9 +1.5**
XLT pmax pmax
comp=Z,30nm,1.0s
XLT pmax pmax
comp=Z,190nm,3.8s
CHGR Chuyangaron 23.55 302 P **P 14 36 10.6 +1.8**
CHGR IAmb IAmb 14 36 13.4
comp=Z,22nm,0.9s
CHGR Chuyangaron 23.55 302 P **P 14 36 10.6 +1.8**
CHGR pmax pmax
comp=Z,22nm,0.9s
KULM Kulim 23.78 165 P **P 14 36 10.1 -1.0**
KKAR Karatay Array 24.36 313 P **P 14 36 18.1 +1.9**
KKAR Karatay Array 24.36 313 P **P 14 36 18.1 +1.9**
KURBB Kurchatov Arra 25.26 335 P **P 14 36 24.6 +0.4**
comp=Z,1.2nm,0.4s,baz=145,slow=10,SNR=13
comp=Z,1.2nm,0.4s
KURK Kurchatov 25.30 336 *ce*P **P 14 36 24.5 -0.1**
KURK pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 26.41 347 P **P 14 36 34.5 -0.2**
comp=Z,3.4nm,0.7s,baz=176,slow=7.1,SNR=14
comp=Z,3.4nm,0.7s
ZALV Zalesovo Beam 26.41 347 P **P 14 36 34.7 0.0**
ZALV Zalesovo Beam 26.41 347 *e*P **P 14 36 34.4 -0.2**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
CN2 Changchun 28.84 50 *e*P **P 14 36 55.9 -0.6**
KSRS Korea Array 29.04 64 P **P 14 36 56.1 -2.2**
comp=Z,1.2nm,0.7s,baz=250,slow=8.4,SNR=3.9
comp=Z,1.2nm,0.7s
BRVK Borovoye 30.44 330 *i*P **P 14 37 13.7 +3.1**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BNX BinXian 30.86 47 ⇓P **P 14 37 14.6 +0.2**
BNX pmax pmax
comp=Z,19nm,0.9s
BNX pmax pmax
comp=Z,240nm,7.7s
MYLDM Lahad Datu 32.33 132 P **P 14 37 29.1 +1.6**
MYLDM IAmb IAmb 14 37 44.1
comp=Z,13nm,1.2s
ABKAR Akbulak array 33.69 318 P **P 14 37 40.7 +1.6**
ABKAR IAmb IAmb 14 37 47.8
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 33.69 318 P **P 14 37 40.5 +1.5**
ZEA Zeya 34.57 34 *e*P **P 14 37 48.0 +1.3**
KLR Kul'dur 34.92 43 P **P 14 37 49.5 -0.3**
comp=Z,2.1nm,0.8s,baz=261,slow=11,SNR=7.3
comp=Z,2.1nm,0.8s
KLR Kul'dur 34.92 43 *ce*P **P 14 37 49.3 -0.5**
KLR pmax pmax
comp=Z,4.0nm,1.0s
TOLI2 Tolitoli 36.88 133 P **P 14 38 07.9 +1.0**
TOLI2 IAmb IAmb 14 38 08.3
comp=Z,5.7nm,0.8s
ARU Arti 37.87 328 P **P 14 38 17.9 +3.1**
NRIK Noril'sk 41.05 356 P **P 14 38 41.1 0.0**
comp=Z,3.5nm,0.5s,baz=136,slow=5.8,SNR=4.9
comp=Z,3.5nm,0.5s
NRIK Noril'sk 41.05 356 P **P 14 38 41.6 +0.4**
BELG Belogornoye 42.09 318 P **P 14 38 51.6 +1.8**
comp=Z,8.2nm,0.8s,baz=69,slow=5.0,SNR=2.5
comp=Z,8.2nm,0.8s
TIXI Tiksi 47.02 14 P **P 14 39 28.3 -0.7**
TIXI IAmb IAmb 14 39 28.9
comp=Z,3.7nm,0.5s
TIXI Tiksi 47.02 14 P **P 14 39 28.3 -0.7**
TIXI pmax pmax
comp=Z,4.0nm,0.5s
FAKI Fak Fak 47.66 125 P **P 14 39 33.1 -1.6**
MA2 Magadan 48.71 34 *ce*P **P 14 39 42.9 +0.6**
MA2 pmax pmax
comp=Z,9.0nm,1.7s
KLMR Klimovskoe 48.72 328 *e*P **P 14 39 45.9 +3.7**
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 48.72 328 *e*P **P 14 39 46.0 +3.7**
KLMR AMP 14 39 55.0
comp=Z,11nm,1.3s
BRTR Keskin Array B 50.96 300 P **P 14 39 59.5 -0.4**
comp=Z,0.3nm,0.3s,baz=101,slow=7.5,SNR=1.7
comp=Z,0.3nm,0.3s
AKASG Malin Array Be 53.26 314 P **P 14 40 16.4 -0.2**
comp=Z,0.2nm,0.3s,baz=71,slow=5.7,SNR=2.6
comp=Z,0.2nm,0.3s
KNRA Kununurra 54.88 139 P **P 14 40 28.7 -0.1**
KNRA IAmb IAmb 14 41 12.6
comp=Z,16nm,1.4s
FITZ Fitzroy Crossi 55.13 144 P **P 14 40 30.4 -0.1**
comp=Z,0.8nm,0.5s,baz=336,slow=8.6,SNR=5.1
comp=Z,0.8nm,0.5s
FITZ Fitzroy Crossi 55.13 144 P **P 14 40 29.7 -0.8**
FITZ IAmb IAmb 14 40 33.7
comp=Z,5.1nm,1.4s
FINES FINESS Array B 55.23 327 P **P 14 40 31.7 +0.9**
comp=Z,1.5nm,0.7s,baz=104,slow=8.0,SNR=7.6
comp=Z,1.5nm,0.7s
FINES FINESS Array B 55.23 327 P **P 14 40 30.5 -0.2**
FINES FINESS Array B 55.23 327 P **P 14 40 30.5 -0.2**
ARCES ARCESS Array B 56.33 337 P **P 14 40 39.4 +0.8**
comp=Z,1.2nm,0.8s,baz=106,slow=9.4,SNR=1.4
comp=Z,1.2nm,0.8s
WB0 Warramunga Arr 61.40 137 P **P 14 41 14.9 +0.6**
WRA Warramunga Arr 61.50 137 P **P 14 41 15.4 +0.4**
comp=Z,5.1nm,0.6s,baz=324,slow=7.9,SNR=119
comp=Z,5.1nm,0.6s
WRA Warramunga Arr 61.50 137 P **P 14 41 15.3 +0.2**
WRA Warramunga Arr 61.50 137 P **P 14 41 15.3 +0.2**
WRAB Tennant Creek 61.50 137 P **P 14 41 15.7 +0.7**
WRAB Tennant Creek 61.50 137 P **P 14 41 15.7 +0.7**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WB2 Warramunga Arr 61.51 137 P **P 14 41 15.8 +0.7**
WR0 Warramunga Arr 61.63 137 P **P 14 41 16.5 +0.6**
WR0 IAmb IAmb 14 41 17.9
comp=Z,5.0nm,0.8s
NC405 NORSAR Array S 62.16 327 P **P 14 41 19.4 +0.4**
NB2 NORSAR Subarra 62.41 327 P **P 14 41 20.6 -0.1**
comp=Z,0.7nm,0.6s,baz=81,slow=6.5
NOA NORSAR Array B 62.41 327 P **P 14 41 20.2 -0.5**
comp=Z,0.9nm,0.6s,baz=80,slow=6.6,SNR=5.2
comp=Z,0.9nm,0.6s
GERES GERESS Array B 63.47 313 P **P 14 41 28.6 +0.6**
comp=Z,0.7nm,0.5s,baz=72,slow=3.2,SNR=6.5
comp=Z,0.7nm,0.5s
AS31 Alice Springs 64.13 140 P **P 14 41 33.3 +0.7**
ASAR Alice Springs 64.13 140 P **P 14 41 33.4 +0.8**
comp=Z,7.2nm,0.4s,baz=324,slow=6.4,SNR=330
comp=Z,7.2nm,0.4s
ASAR Alice Springs 64.13 140 P **P 14 41 33.2 +0.6**
ASAR Alice Springs 64.13 140 P **P 14 41 33.2 +0.6**
CTAO Charters Tower 69.33 128 P **P 14 42 05.6 -0.1**
CTAO Charters Tower 69.33 128 P **P 14 42 05.6 -0.1**
CTAO pmax pmax
comp=Z,16nm,1.4s
TOLK Toolik Lake Re 72.36 20 P **P 14 42 24.5 +1.0**
TOLK IAmb IAmb 14 42 24.6
comp=Z,3.0nm,0.7s
IMAR Indian Mountai 72.42 24 P **P 14 42 24.4 +0.5**
BBOO Buckleboo 72.50 144 P **P 14 42 24.4 -0.4**
H21K Melozitna Rive 72.92 24 P **P 14 42 27.4 +0.5**
MLY Manley 73.99 24 P **P 14 42 34.2 +1.0**
MLY IAmb IAmb 14 42 34.7
comp=Z,3.0nm,0.8s
SVW2 Sparrevohn 74.21 28 P **P 14 42 34.4 -0.1**
SVW2 IAmb IAmb 14 42 36.3
comp=Z,3.2nm,0.8s
BMAR Burnt Mountain 74.60 20 P **P 14 42 38.2 +1.5**
STKA Stephens Creek 74.77 140 P **P 14 42 38.2 +0.1**
comp=Z,3.4nm,0.8s,baz=318,slow=9.1,SNR=6.4
comp=Z,3.4nm,0.8s
STKA Stephens Creek 74.77 140 P **P 14 42 38.2 +0.1**
CNBA Chernabura Isl 75.48 35 P **P 14 42 41.2 -0.7**
ILAR Eielson Array 75.48 23 P **P 14 42 41.7 -0.1**
comp=Z,1.6nm,0.8s,baz=298,slow=5.3,SNR=15
comp=Z,1.6nm,0.8s
SML Sawmill 76.73 26 P **P 14 42 48.4 -0.6**
SML IAmb IAmb 14 42 50.0
comp=Z,7.0nm,0.8s
RIDG Independent Ri 76.82 23 P **P 14 42 49.3 -0.2**
RIDG IAmb IAmb 14 42 49.8
comp=Z,3.4nm,0.7s
SCRK Sand Creek 76.97 23 P **P 14 42 50.2 -0.2**
SCRK IAmb IAmb 14 42 51.3
comp=Z,4.2nm,0.8s
KDAK Kodiak Island 77.28 30 P **P 14 42 51.5 -0.6**
KDAK Kodiak Island 77.28 30 P **P 14 42 51.5 -0.6**
KDAK pmax pmax
comp=Z,21nm,1.4s
EGAK Eagle 77.38 21 P **P 14 42 52.7 +0.2**
N25K Chitina, Valde 78.26 25 P **P 14 42 58.8 +1.1**
N25K IAmb IAmb 14 42 59.2
comp=Z,2.8nm,0.7s
L27K Beaver Creek, 78.30 23 P **P 14 42 58.7 +1.0**
L27K IAmb IAmb 14 42 59.8
comp=Z,5.6nm,0.8s
BCAR Beaver Creek A 78.31 23 P **P 14 42 58.5 +0.7**
ESDC Sonseca Array 78.54 309 P **P 14 42 58.6 -0.9**
comp=Z,0.3nm,0.6s,baz=58,slow=8.0,SNR=1.6
comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 86.51 283 P **P 14 43 41.8 +0.4**
comp=Z,1.2nm,0.9s,baz=54,slow=4.8,SNR=4.6
comp=Z,1.2nm,0.9s

WEL 02 14:36:34.7±1.6,**37°S**±9°×**17°9E**±°,**h9**km±7km,**M3.3**/31, **ML3.6**/23,**MLv3.3**/31,**Error ellipse: s-maj=0.0km s-min=0.0km az=139.8,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.83**	**232**	P	Pg	14 36 50.2	-0.6
MXZ				S	Sg	14 36 59.4	-2.2
WMGZ	**Waiomatatini S**	**0.96**	**216**	P	Pn	14 36 54.5	+0.1
WMGZ				S	Sn	14 37 08.0	-0.1
PKGZ	**Pakihiroa**	**1.19**	**225**	P	Pb	14 36 56.4	-1.1
PKGZ				S	Sg	14 37 12.7	-0.2
PUZ	**Puketiti**	**1.23**	**214**	P	Pg	14 36 58.4	-0.1
PUZ				S	Sg	14 37 14.4	-0.1
HAZ	**Te Kaha**	**1.28**	**236**	P	Pg	14 36 59.6	+0.2
HAZ				S	Sn	14 37 16.2	0.0
TWGZ	**Tauwhareparae**	**1.45**	**219**	P	Pb	14 37 01.8	-0.1
RUGZ	**Raukumara Rang**	**1.47**	**231**	P	Pn	14 37 01.4	-0.2
RUGZ				S	Sb	14 37 21.6	+0.3
CNGZ	**Carnagh Statio**	**1.61**	**207**	P	Pb	14 37 04.1	-0.5
TKGZ	**Te Karaka**	**1.72**	**216**	P	Pn	14 37 05.0	+0.1
MWZ	**Matawai**	**1.81**	**224**	P	Pn	14 37 06.4	+0.3
RIGZ	**Rimuhau**	**1.98**	**213**	P	Pn	14 37 08.3	-0.1
RAGZ	**Rawiri**	**1.98**	**223**	P	Pn	14 37 09.3	+0.7
URZ	**Urewera**	**2.01**	**232**	P	Pn	14 37 02.5	-6.3
OPRZ	**Ohinepanea**	**2.20**	**248**	P	Pn	14 37 11.1	-0.3
MHGZ	**Mahia Peninsul**	**2.31**	**204**	P	Pn	14 37 12.6	-0.5
RTZ	**Ruatahuna**	**2.31**	**227**	P	Pn	14 37 13.9	+0.8
MUGZ	**Murupara**	**2.35**	**232**	P	Pn	14 37 13.4	-0.2
TARZ	**Mount Tarawera**	**2.40**	**240**	P	Pn	14 37 15.3	+1.1
RAHZ	**Arahi**	**2.47**	**220**	P	Pn	14 37 15.7	+0.5
ALRZ	**Allen Road**	**2.67**	**235**	P	Pn	14 37 18.1	+0.1
NMHZ	**Naumai**	**2.75**	**221**	P	Pn	14 37 19.2	+0.1
ARHZ	**Aropaoanui**	**2.78**	**217**	P	Pn	14 37 19.1	-0.4
MRHZ	**Matea Rd**	**2.79**	**229**	P	Pn	14 37 19.5	-0.1
BKZ	**Black Stump Fm**	**2.97**	**224**	P	Pn	14 37 21.7	-0.4
KAHZ	**Kahuranaki**	**3.26**	**212**	P	Pn	14 37 24.5	-1.6
KRHZ	**Kereru**	**3.38**	**219**	P	Pn	14 37 26.9	-0.8
KRVZ	**Karewarewa**	**3.43**	**232**	P	Pn	14 37 27.8	-0.7
HIZ	**Hauiti**	**3.69**	**245**	P	Pn	14 37 33.4	+1.5
MRZ	**Mangatainoka R**	**4.55**	**216**	P	Pn	14 37 41.5	-2.3
HOWZ	**Holdsworth Sta**	**4.76**	**215**	P	Pn	14 37 44.4	-2.3
MRNZ	**Matariki Terra**	**6.58**	**227**	P	Pn	14 38 08.9	-2.8
HHSZ	**Highcliff Hill**	**10.90**	**213**	P	Pn	14 39 15.9	+5.1

*WEL **02** 14:46:20.8±1.1,37°S±4°×17°9E±°,h16km±6km,M3.5/42, ML4.1/52,MLv3.5/42,Error ellipse: s-maj=0.0km s-min=0.0km az=89.7*
*IDC **02** 14:46:23.5±2.9,36°94S×178°06E,h0km,mb3.7/2, mbtmp3.7/2,Error ellipse: s-maj=56.2km s-min=27.9km az=88.0*
ISC 02 14:46:18.9±2.3,**37°22S**±0°06×**179°04E**±0°09,**h15**km±10km,

n66,σ1§19/75,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.68**	**240**	P	**Pn**	**14 46 33.0**	**-1.1**
MXZ				S	**Sb**	**14 46 41.2**	**-0.5**
WMGZ	**Waiomatatini S**	**0.78**	**220**	P	**Pn**	**14 46 36.7**	**+1.3**
WMGZ				S	**Sn**	**14 46 47.8**	**+0.9**
PKGZ	**Pakihiroa**	**1.02**	**229**	P	**Pn**	**14 46 39.6**	**+0.9**
PKGZ				S	**Sn**	**14 46 53.0**	**+0.1**
PUZ	**Puketiti**	**1.06**	**216**	P	**Pg**	**14 46 40.5**	**+1.1**
PUZ				S	**Sn**	**14 46 53.9**	**+0.2**
HAZ	**Te Kaha**	**1.14**	**241**	P	**Pg**	**14 46 42.1**	**+1.2**
HAZ				S	**Sn**	**14 46 56.0**	**+0.3**
TWGZ	**Tauwhareparae**	**1.28**	**221**	P	**Pg**	**14 46 43.8**	**+0.3**
TWGZ				S	**Sg**	**14 47 00.5**	**+0.4**
RUGZ	**Raukumara Rang**	**1.32**	**235**	P	**Pg**	**14 46 44.5**	**+0.2**
RUGZ				S	**Sg**	**14 47 01.5**	**+0.1**
CNGZ	**Carnagh Statio**	**1.43**	**207**	P	**Pg**	**14 46 46.2**	**-0.2**
CNGZ				S	**Sg**	**14 47 05.6**	**+0.7**
WIZ	**White Island**	**1.51**	**258**	P	**Pg**	**14 46 46.6**	**-1.4**
TKGZ	**Te Karaka**	**1.54**	**217**	P	**Pb**	**14 46 46.9**	**-0.3**
TKGZ				S	**Sn**	**14 47 05.9**	**+0.1**
WHRZ	**Whale Island**	**1.76**	**248**	P	**Pb**	**14 46 51.0**	**0.0**
RIGZ	**Rimuhau**	**1.80**	**214**	P	**Pn**	**14 46 50.4**	**+1.0**
RAGZ	**Rawiri**	**1.81**	**225**	P	**Pb**	**14 46 51.6**	**-0.3**
URZ	**Urewera**	**1.85**	**235**	Pn	**Pb**	**14 46 51.7**	**-0.7**
	31nm,0.3s,baz=301,slow=2.4,SNR=56						
URZ				Sn	**Sn**	**14 47 13.4**	**+0.1**
	32nm,0.3s,baz=121,slow=18,SNR=24						
URZ	**Urewera**	**1.85**	**235**	P	**Pb**	**14 46 51.7**	**-0.7**
URZ				S	**Sn**	**14 47 13.4**	**+0.1**
PRGZ	**Paritu Road**	**1.93**	**208**	P	**Pn**	**14 46 52.0**	**+0.6**
EDRZ	**Edgecumbe**	**2.03**	**243**	P	**Pb**	**14 46 54.4**	**-1.2**
SNGZ	**Shannon Statio**	**2.06**	**220**	P	**Pn**	**14 46 53.8**	**+0.8**
OPRZ	**Ohinepanea**	**2.08**	**252**	P	**Pn**	**14 46 54.1**	**+0.8**
KNZ	**Kokohu**	**2.10**	**211**	P	**Pn**	**14 46 53.7**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.13**	**205**	P	**Pn**	**14 46 54.7**	**+0.7**
RTZ	**Ruatahuna**	**2.15**	**229**	P	**Pb**	**14 46 55.8**	**-1.8**
MUGZ	**Murupara**	**2.19**	**234**	P	**Pn**	**14 46 56.1**	**+1.1**
MYRZ	**Mayor Island**	**2.24**	**268**	P	**Pb**	**14 46 57.2**	**-1.9**
TARZ	**Mount Tarawera**	**2.25**	**242**	P	**Pb**	**14 46 57.7**	**-1.7**
RAHZ	**Arahi**	**2.29**	**222**	P	**Pn**	**14 46 57.5**	**+1.2**
RRRZ	**Republican Roa**	**2.29**	**240**	P	**Pb**	**14 46 57.9**	**-2.1**
KARZ	**Kaharoa**	**2.36**	**249**	P	**Pn**	**14 46 58.6**	**+1.3**
MTHZ	**Maungataniwha**	**2.38**	**226**	P	**Pn**	**14 46 58.9**	**+1.4**
PRRZ	**Plateau Road**	**2.46**	**238**	P	**Pn**	**14 46 59.6**	**+1.1**
HSRZ	**Hossack Road**	**2.47**	**243**	P	**Pb**	**14 47 01.1**	**-2.0**
ALRZ	**Allen Road**	**2.52**	**237**	P	**Pn**	**14 47 00.4**	**+1.0**
NMHZ	**Naumai**	**2.58**	**223**	P	**Pn**	**14 47 01.6**	**+1.4**
ARHZ	**Aropaoanui**	**2.60**	**218**	P	**Pn**	**14 47 01.2**	**+0.7**
WPRZ	**Whakapapatarin**	**2.62**	**239**	P	**Pn**	**14 47 02.7**	**+1.9**
MRHZ	**Matea Rd**	**2.63**	**231**	P	**Pn**	**14 47 02.0**	**+1.1**
KUZ	**Kuaotunu**	**2.70**	**279**	P	**Pn**	**14 47 01.7**	**-0.2**
BKZ	**Black Stump Fm**	**2.80**	**225**	P	**Pn**	**14 47 04.0**	**+0.7**
TOZ	**Tahuroa Road**	**2.86**	**259**	P	**Pn**	**14 47 04.9**	**+0.8**
GRZ	**Great Barrier**	**3.04**	**287**	P	**Pn**	**14 47 07.6**	**+1.1**
KAHZ	**Kahuranaki**	**3.08**	**213**	P	**Pn**	**14 47 06.9**	**-0.2**
MKAZ	**Moumakai**	**3.10**	**271**	P	**Pn**	**14 47 07.7**	**+0.3**
WIAZ	**Waiheke Island**	**3.16**	**277**	P	**Pn**	**14 47 08.7**	**+0.5**
KRHZ	**Kereru**	**3.21**	**220**	P	**Pn**	**14 47 09.1**	**+0.3**
TMVZ	**Te Maari**	**3.24**	**233**	P	**Pn**	**14 47 10.0**	**+0.6**
ETVZ	**East Tongariro**	**3.25**	**233**	P	**Pn**	**14 47 10.4**	**+0.9**
BHHZ	**Black Hill Sta**	**3.26**	**225**	P	**Pn**	**14 47 10.1**	**+0.4**
ETAZ	**East Tamaki Re**	**3.30**	**273**	P	**Pn**	**14 47 10.9**	**+0.8**
NGAZ	**Ngauruhoe**	**3.34**	**233**	P	**Pn**	**14 47 11.8**	**+1.0**
MBAZ	**Motutaiko North**	**3.35**	**276**	P	**Pn**	**14 47 12.0**	**+1.3**
MOVZ	**Moawhango**	**3.39**	**229**	P	**Pn**	**14 47 11.8**	**+0.5**
WNVZ	**Wahianoa**	**3.43**	**231**	P	**Pn**	**14 47 12.6**	**+0.5**
HBAZ	**Herne Bay Bore**	**3.47**	**275**	P	**Pn**	**14 47 14.8**	**+2.4**
PNHZ	**Pukenui**	**3.49**	**219**	P	**Pn**	**14 47 12.9**	**+0.1**
AWAZ	**Awhitu Peninsu**	**3.52**	**271**	P	**Pn**	**14 47 15.3**	**+2.2**
HIZ	**Hauiti**	**3.56**	**247**	P	**Pn**	**14 47 15.8**	**+2.2**
WTAZ	**Waiatarua**	**3.59**	**273**	P	**Pn**	**14 47 16.8**	**+2.7**
TSZ	**Takapari Road**	**3.72**	**219**	P	**Pn**	**14 47 15.9**	**-0.1**
DVHZ	**Dannevirke**	**3.81**	**215**	P	**Pb**	**14 47 22.7**	**-3.2**
WCZ	**Waipu Caves**	**3.99**	**287**	P	**Pn**	**14 47 21.0**	**+1.4**
OUZ	**Omahuta**	**4.83**	**293**	P	**Pn**	**14 47 33.3**	**+2.1**
CTZ	**Chatham Island**	**7.30**	**154**	P	**Pn**	**14 48 06.5**	**+1.5**
RPZ	**Rata Peaks**	**8.89**	**221**	Sn	Sn	14 49 55.6	-11
	1.1nm,0.3s,baz=8.5,slow=13,SNR=0.8						
ASAR	**Alice Springs**	**40.83**	**276**	P	**P**	**14 54 00.2**	**+0.1**
	0.8nm,0.9s,baz=123,slow=8.2,SNR=12						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**42.44**	**281**	P	**P**	**14 54 13.3**	**-0.1**
	0.5nm,0.3s,baz=124,slow=7.3,SNR=23						
	0.5nm,0.3s						
TORD	**Torodi Ar. Bea**	**155.91**	**186**	PKPab	PKPab	15 06 47.5	+7.8
	0.3nm,0.4s,baz=177,slow=2.9,SNR=4.1						

WEL 02 14:46:60.0±0.2,**41°S**±3°×**17°5E**±°,**h31**km±3km,**M4.0**/26, **ML4.3**/26,**MLv4.0**/26,**Error ellipse: s-maj=0.0km s-min=0.0km az=159.6,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.29**	**218**	P	Pn	14 47 08.9	+0.8
TCW				S	Sn	14 47 15.3	+2.0
KIW	**Kapiti Island**	**0.32**	**68**	P	Pn	14 47 09.4	+0.8
KIW				S	Sn	14 47 16.1	+2.0
WEL	**Wellington**	**0.36**	**148**	P	Pn	14 47 10.1	+1.1
WEL				S	Sn	14 47 17.5	+2.5
CAW	**Cannon Point**	**0.43**	**107**	P	Pn	14 47 11.0	+0.9
CAW				S	Sn	14 47 19.5	+2.6
DUWZ	**D'Urville Isla**	**0.48**	**292**	P	Pb	14 47 10.2	0.0
DUWZ				S	Sn	14 47 18.5	+0.3
OGWZ	**Otaki Gorge**	**0.52**	**72**	P	Pn	14 47 12.0	+0.8
OGWZ				S	Sn	14 47 20.8	+1.7
TUWZ	**Tuamarina**	**0.62**	**224**	P	Pn	14 47 12.7	0.0
TUWZ				S	Sn	14 47 21.4	-0.1
MSWZ	**Moikau Station**	**0.70**	**128**	P	Pb	14 47 14.0	+0.3
MSWZ				S	Sn	14 47 24.5	+1.0
HOWZ	**Holdsworth Sta**	**0.76**	**84**	P	Pb	14 47 14.8	+0.1
HOWZ				S	Sn	14 47 26.5	+1.5
MTW	**Mount Morrison**	**0.77**	**103**	P	Pn	14 47 14.7	+0.1
MTW				S	Sn	14 47 26.1	+1.0
PAWZ	**Paruwai Farm**	**0.80**	**120**	P	Pn	14 47 15.1	0.0
PAWZ				S	Sn	14 47 26.5	+0.7
CMWZ	**Cape Campbell**	**0.80**	**196**	P	Pb	14 47 16.5	+1.1
CMWZ				S	Sn	14 47 29.0	+3.1
PLWZ	**Palliser**	**0.81**	**137**	P	Pn	14 47 15.2	-0.1
MRZ	**Mangatainoka R**	**0.87**	**69**	P	Pn	14 47 16.1	+0.1
BSWZ	**Blackbirch Sta**	**0.88**	**213**	P	Pb	14 47 16.4	-0.2
NNZ	**Nelson**	**0.89**	**254**	P	Pn	14 47 15.8	-0.5
TRWZ	**Traveller**	**0.98**	**115**	P	Pn	14 47 17.3	-0.3
OHWZ	**Ohakea**	**0.99**	**38**	P	Pb	14 47 18.3	-0.2
TMWZ	**Te Maipa**	**1.05**	**97**	P	Pn	14 47 18.1	-0.4
TIWZ	**Tintock**	**1.06**	**79**	P	Pn	14 47 18.4	-0.3
POWZ	**Post Office Ro**	**1.12**	**59**	P	Pn	14 47 19.1	-0.4
TKNZ	**Takaka Hill**	**1.18**	**267**	P	Pn	14 47 20.2	-0.1
TKNZ				S	Sn	14 47 35.7	+0.4
PRWZ	**Pori Road**	**1.19**	**69**	P	Pn	14 47 20.1	-0.3
CPWZ	**Castlepoint**	**1.28**	**87**	P	Pn	14 47 21.8	+0.2
WAZ	**Wanganui**	**1.28**	**16**	P	Pn	14 47 22.1	+0.4
WAZ	**Wanganui**	**1.28**	**16**	P	Pn	14 47 22.1	+0.4
BFZ	**Birch Farm**	**1.35**	**78**	P	Pn	14 47 21.9	-0.7
BFZ	**Birch Farm**	**1.35**	**78**	P	Pn	14 47 22.0	-0.6
BFZ				S	Sn	14 47 39.0	-0.4
MRNZ	**Matariki Terra**	**1.39**	**252**	P	Pn	14 47 23.4	+0.2
MRNZ				S	Sb	14 47 42.2	-0.4
TSZ	**Takapari Road**	**1.44**	**51**	P	Pn	14 47 23.5	-0.4
THZ	**Tophouse**

NBEZ	**Newall Road No**	**1.78**	**344**	P	Pn	14 47 28.6	0.0	
DREZ	**Durham Road**	**1.81**	**352**	P	Pn	14 47 29.3	+0.4	
PKVZ	**Pokaka**	**1.81**	**21**	P	Pn	14 47 29.1	+0.1	
PKE	**Pukeiti**	**1.83**	**347**	P	Pn	14 47 29.8	+0.5	
MOVZ	**Moawhango**	**1.84**	**31**	P	Pn	14 47 29.3	-0.2	
WNVZ	**Wahianoa**	**1.85**	**27**	P	Pn	14 47 30.3	+0.6	
TRVZ	**Turoa**	**1.86**	**26**	P	Pn	14 47 30.3	+0.5	
DRZ	**Dome Shelter**	**1.89**	**26**	P	Pn	14 47 31.6	+1.3	
WHVZ	**Whangaehu Hut**	**1.89**	**26**	P	Pn	14 47 30.6	+0.3	
FWVZ	**Far West T-bar**	**1.90**	**25**	P	Pn	14 47 30.8	+0.4	
BHHZ	**Black Hill Sta**	**1.91**	**39**	P	Pn	14 47 30.0	-0.4	
MHEZ	**Mangahewa**	**1.91**	**356**	P	Pn	14 47 30.9	+0.5	
TUVZ	**Tukino**	**1.92**	**27**	P	Pn	14 47 31.4	+0.7	
KRHZ	**Kereru**	**1.95**	**47**	P	Pn	14 47 33.6	-1.2	
NGZ	**Ngauruhoe**	**1.99**	**25**	P	Pn	14 47 32.0	+0.4	
SNVZ	**South Ngauruho**	**1.99**	**26**	P	Pn	14 47 32.4	+0.8	
OTVZ	**Oturere**	**2.02**	**26**	P	Pn	14 47 33.1	+1.0	
PXZ	**Pawanui**	**2.03**	**63**	P	Pb	14 47 34.2	-1.9	
NNVZ	**North Ngauruho**	**2.03**	**25**	P	Pn	14 47 32.7	+0.6	
TWVZ	**Taurewa**	**2.04**	**21**	P	Pn	14 47 32.3	+0.1	
WTVZ	**West Tongariro**	**2.04**	**24**	P	Pn	14 47 32.5	+0.3	
ETVZ	**East Tongariro**	**2.06**	**27**	P	Pn	14 47 33.3	+0.8	
KRVZ	**Karewarewa**	**2.08**	**25**	P	Pn	14 47 33.2	+0.4	
TMVZ	**Te Maari**	**2.08**	**26**	P	Pn	14 47 33.2	+0.5	
NTVZ	**North Tongarir**	**2.08**	**26**	P	Pn	14 47 34.2	+1.4	
KWHZ	**Kaweka Forest**	**2.13**	**44**	P	Pb	14 47 38.0	0.0	
DSZ	**Denniston Nort**	**2.18**	**249**	P	Pn	14 47 33.4	-0.6	
KATZ	**Kakaramea**	**2.20**	**25**	P	Pb	14 47 37.0	-2.2	
GVZ	**Greta Valley S**	**2.27**	**209**	P	Pn	14 47 34.3	-1.0	
RATZ	**Rangitukua**	**2.33**	**25**	P	Pn	14 47 37.0	+0.9	
LTZ	**Lake Taylor**	**2.46**	**222**	P	Pn	14 47 36.8	-1.1	
WATZ	**Wairara**	**2.46**	**23**	P	Pn	14 47 39.4	+1.5	
HIZ	**Hauiti**	**2.48**	**6**	P	Pn	14 47 38.5	+0.3	
AMCZ	**Amberley**	**2.59**	**212**	P	Pn	14 47 38.2	-1.5	
KUTZ	**Kaahu Road**	**2.69**	**22**	P	Pb	14 47 45.3	-2.1	
TLZ	**Tolley Road**	**2.77**	**17**	P	Pn	14 47 42.5	+0.4	
INZ	**Inchbonnie**	**2.88**	**232**	P	Pn	14 47 42.6	-1.1	
OKCZ	**Okains Bay**	**2.94**	**201**	P	Pn	14 47 42.7	-1.9	
OXZ	**Oxford**	**2.98**	**217**	P	Pn	14 47 42.7	-2.4	
MQZ	**McQueen's Vall**	**3.05**	**206**	P	Pn	14 47 43.3	-2.7	
AKCZ	**Akaroa Harbour**	**3.12**	**202**	P	Pn	14 47 45.0	-2.0	
RACZ	**Rakaia**	**3.26**	**212**	P	Pn	14 47 46.2	-2.6	
TOZ	**Tahuroa Road**	**3.34**	**14**	P	Pn	14 47 49.6	-0.3	
WACZ	**Wakanui South**	**3.56**	**213**	P	Pn	14 47 50.3	-2.7	

IDC 02 14:49:46.8±5.2, 18°.57S×174°.51W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=182.9km s-min=104.2km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.59**	**243**	P	P	14 57 36.2	-0.4
	0.6nm,0.5s,baz=84,slow=10,SNR=1.6 0.6nm,0.5s						
WRA	**Warramunga Arr**	**48.16**	**260**	P	P	14 58 28.9	-0.3
	0.3nm,0.3s,baz=97,slow=7.4,SNR=15 0.3nm,0.3s						
ASAR	**Alice Springs**	**48.19**	**255**	P	P	14 58 29.6	+0.3
	0.9nm,0.7s,baz=87,slow=8.3,SNR=30						
ASAR				PcP	PcP	14 59 56.5	-0.4
	0.3nm,0.9s,baz=106,slow=3.9,SNR=4.0 0.9nm,0.7s						

*DJA **02** 14:52:09.9±5.4, 7°.N±47°.×12°.4E±1°.1, h10km, M3.9/6, mb3.7/4, mB4.8/1, MLv4.0/6, Mw(mB)4.0/1*
*IDC **02** 14:52:25.9±1.6, 6°.06N×123°.91E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=36.9km s-min=21.5km az=104.0*
*MAN **02** 14:52:27.8, 6°.45N×123°.71E, h27km, mb4.6, ML3.5, MS3.4*
ISC 02 14:52:23.6±1.5, 6°.34N±0°.04×123°.68E±0°.04, h4km±11km, n20, σ1°.24/30, mb3.6/5, 7C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.88**	**78**	⇓*eP*	**Pg**	**14 52 39.5**	**-1.0**
SKMP				*eS*	**Sg**	**14 52 50.1**	**-1.7**
CTBH	**Cotabato--PC H**	**1.04**	**33**	⇑*iP*	**Pg**	**14 52 44.2**	**+0.6**
CTBH				*i* S	**Sb**	**14 52 58.1**	**-0.1**
GSPH	**General Santos**	**1.29**	**101**	⇑*eP*	**Pg**	**14 52 50.5**	**+2.1**
GSPH				*i* S	**Sn**	**14 53 09.7**	**+3.3**
PAGZ	**Pagadian**	**1.52**	**349**	⇓*iP*	**Pn**	**14 52 52.2**	**+0.6**
PAGZ				*eS*	**Sn**	**14 53 10.0**	**-2.0**
KCP	**Kidapawan**	**1.55**	**65**	⇑*iP*	**Pn**	**14 52 51.5**	**-0.6**
KCP				*i* S	**Sn**	**14 53 11.9**	**-0.9**
ZCP	**Zamboanga City**	**1.69**	**290**	⇑*iP*	**Pb**	**14 52 56.2**	**+0.8**
ZCP				*i* S	**Sb**	**14 53 16.8**	**-0.3**
DAV	**Davao City (W)**	**2.02**	**69**	Pn	**Pb**	**14 53 01.0**	**0.0**
	28nm,0.3s,baz=96,slow=10,SNR=4.7						
DAV				Sn	**Sn**	**14 53 24.4**	**0.0**
	42nm,0.3s,baz=230,slow=22,SNR=3.9						
DAV				LR	LR	14 53 53.7	
	comp=Z,380nm,19.0s,baz=243,slow=45						
DDMP	**Don Marcelino,**	**2.04**	**97**	⇑*eP*	**Pn**	**14 52 59.8**	**+1.1**
DDMP				*eS*	**Sn**	**14 53 09.3**	**+0.6**
BUKP	**Musuan**	**2.05**	**42**	⇓*eP*	**Pn**	**14 52 59.9**	**+0.9**
BUKP				*eS*	**Sn**	**14 53 25.4**	**+0.2**
BUKP	**Musuan**	**2.05**	**42**	⇑*iP*	**Pn**	**14 53 00.2**	**+1.2**
BUKP				*i* S	**Sb**	**14 53 28.0**	**+0.5**
SGSI	**Sangihe**	**3.22**	**145**	P	**Pn**	**14 53 12.8**	**-2.3**
BIPH	**Bislig**	**3.23**	**55**	⇓*eP*	**Pn**	**14 53 15.8**	**+0.6**
BIPH				*eS*	**Sb**	**14 53 59.9**	**-1.5**
CNOP	**Candoni, Negro**	**3.61**	**344**	⇑*eP*	**Pn**	**14 53 20.7**	**+0.2**
GTOI	**Gorontalo**	**5.71**	**187**	P	**Pn**	**14 53 48.7**	**-0.6**
	0.0nm4.4nm,1.0s						
MRSI	**Marisa**	**6.08**	**197**	P	**Pn**	**14 53 55.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.36**	**175**	P	**P**	**14 57 43.6**	**+0.6**
	0.9nm,0.5s,baz=355,slow=9.8,SNR=2.0 0.9nm,0.5s						
WRA	**Warramunga Arr**	**28.15**	**158**	P	**P**	**14 58 16.6**	**-0.6**
	0.5nm,0.7s,baz=336,slow=9.9,SNR=5.7 0.5nm,0.7s						
ASAR	**Alice Springs**	**31.45**	**162**	P	**P**	**14 58 46.8**	**+0.2**
	0.3nm,0.6s,baz=341,slow=7.9,SNR=8.6 0.3nm,0.6s						
STKA	**Stephens Creek**	**41.67**	**157**	P	**P**	**15 00 12.8**	**-0.7**
	2.6nm,0.9s,baz=323,slow=11,SNR=3.9 2.6nm,0.9s						
SONM	**Songino Array**	**43.90**	**343**	P	P	15 00 36.8	+5.3
	0.5nm,0.5s,baz=169,slow=8.2,SNR=1.8 0.5nm,0.5s						

*KRNET **02** 14:55:12.1±0.1, 39°.42N×73°.60E, mb3.9*
*SOME **02** 14:55:12.0, 39°.55N×73°.50E, h5km*
*IDC **02** 14:55:12.3±1.2, 39°.35N×73°.73E, h0km, mb3.7/4, mbtmp3.6/9, ML3.1/5, Error ellipse: s-maj=23.7km s-min=14.4km az=88.0*
*NNC **02** 14:55:19.6±1.6, 39°.91N×73°.36E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=14.1km s-min=8.1km az=173.0*
ISC 02 14:55:11.8±1.6, 39°.53N±0°.05×73°.71E±0°.04, h3km±10km, n68, σ1°.92/102, mb3.7/4, 30C-20D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.22**	**325**	⇓*iP*	**Pn**	**14 55 36.0**	**+0.1**
	baz=31						
OHH				⇓*iS*	**Sg**	**14 55 53.9**	**+2.8**
	baz=31						
DRK	**Karamyk**	**1.48**	**269**	⇓*iP*	**Pn**	**14 55 38.6**	**-1.0**
	baz=73						
DRK				⇓*iS*	**Sn**	**14 55 58.0**	**-1.6**
	baz=73						
BTK	**Batken**	**2.29**	**284**	⇑*iP*	**Pn**	**14 55 52.3**	**+1.7**
	baz=87						
BTK				⇑*iS*	**Sn**	**14 56 21.7**	**+2.4**
	baz=87						
ARLS	**Aral**	**2.38**	**11**	⇑*iP*	**Pb**	**14 55 55.9**	**+0.5**
	baz=13						
ARLS				⇑*iS*	**Sg**	**14 56 27.7**	**-0.5**
	baz=13						
AML	**Almayashu**	**2.60**	**360**	P	**Pb**	**14 55 59.8**	**+0.5**
	SNR=68						
GAR	**Garm**	**2.69**	**260**	⇑*iP*	**Pn**	**14 55 57.2**	**+1.2**
	baz=62						
GAR				⇑*iS*	**Sn**	**14 56 30.3**	**+1.2**
	baz=62						
UCH	**Uchtor**	**2.77**	**12**	P	**Pb**	**14 56 03.1**	**+0.9**
	SNR=36						
UCH	**Uchtor**	**2.77**	**12**	⇑*iP*	**Pb**	**14 56 01.5**	**-0.7**
	baz=14						
UCH				⇑*iS*	**Sb**	**14 56 37.7**	**+1.1**
	baz=14						
TRKS	**Terek-Say**	**2.80**	**316**	⇑*iP*	**Pn**	**14 55 59.5**	**+1.9**
	baz=18						
TRKS				⇑*iS*	**Sn**	**14 56 34.2**	**+2.2**
	baz=18						
EKS2	**Erkin-Say**	**3.13**	**1**	P	**Pb**	**14 56 07.7**	**-0.5**
	SNR=20						
EKS2	**Erkin-Say**	**3.13**	**1**	⇑*iP*	**Pb**	**14 56 06.3**	**-1.9**
	baz=2.0						
EKS2				⇑*iS*	**Sb**	**14 56 46.0**	**-0.9**
	baz=2.0						
AAK	**Ala-Archa**	**3.17**	**11**	P	**Pb**	**14 56 08.8**	**0.0**
	SNR=8.4						
AAK	**Ala-Archa**	**3.17**	**11**	Pn	**Pb**	**14 56 09.3**	**+0.5**
	2.5nm,0.3s,baz=173,slow=6.3,SNR=12						
AAK				Sn	**Sg**	**14 56 52.4**	**-1.0**
	1.4nm,0.3s,baz=123,slow=19,SNR=1.4						
AAK				Lg	Lg	14 56 57.6	
	6.4nm,0.3s,baz=120,slow=23,SNR=10 13nm,0.4s						
AAK	**Ala-Archa**	**3.17**	**11**	⇓*iP*	**Pb**	**14 56 06.9**	**-1.9**
	baz=12						
AAK				⇓*iS*	**Sb**	**14 56 47.0**	**-0.8**
	baz=12						
MRKS	**Merke**	**3.24**	**354**	*eP*	**Pb**	**14 56 12.0**	**+2.1**
	17nm,0.3s						
MRKS				*eS*	**Sg**	**14 56 55.2**	**-0.6**
	49nm,0.7s						
MRKS	**Merke**	**3.24**	**354**	Pg	**Pb**	**14 56 08.5**	**-1.4**
	26nm,0.3s						
MRKS				Lg	Lg	14 56 47.7	
	49nm,0.7s						
KBK	**Karagaybulak**	**3.27**	**16**	P	**Pg**	**14 56 14.8**	**+0.5**
	SNR=11						
KBK	**Karagaybulak**	**3.27**	**16**	⇓*iP*	**Pb**	**14 56 08.4**	**-2.1**
	baz=17						
KBK				⇓*iS*	**Sb**	**14 56 49.4**	**-1.3**
	baz=17						
ULHL	**Ulahol**	**3.33**	**34**	⇓*iP*	**Pb**	**14 56 09.4**	**-2.1**
	baz=35						
ULHL				⇓*iS*	**Sb**	**14 56 51.2**	**-1.3**
	baz=35						
CHMS	**Chmysh**	**3.56**	**12**	P	**Pb**	**14 56 14.3**	**-1.1**
	SNR=7.0						
CHMS	**Chumysh**	**3.56**	**12**	⇑Pn	**Pb**	**14 56 12.9**	**-2.5**
	3.8nm,0.3s						
CHMS				⇑Lg	Lg	14 57 05.4	
	19nm,0.5s						
CHMS	**Chumysh**	**3.56**	**12**	⇑*iP*	**Pb**	**14 56 12.3**	**-3.1**
	baz=13						
CHMS				⇑*iS*	**Sb**	**14 56 56.3**	**-2.7**
	baz=13						
CHGR	**Chuyangaron**	**3.65**	**258**	⇑*iP*	**Pn**	**14 56 10.4**	**+1.2**
	baz=59						
CHGR				⇑*iS*	**Sn**	**14 56 53.1**	**+0.3**
	baz=59						
TKM2	**Tokmak 2**	**3.68**	**22**	⇓Pn	**Pb**	**14 56 15.3**	**-2.2**
	1.4nm,0.3s						
TKM2				⇑Pg	**Pg**	**14 56 22.8**	**+0.5**
	4.3nm,0.3s						
TKM2				⇑Lg	Lg	14 57 10.9	
	13nm,0.5s						
TKM2	**Tokmak 2**	**3.68**	**22**	⇑*iP*	**Pb**	**14 56 14.3**	**-3.2**
	baz=23						
TKM2				⇑*iS*	**Sb**	**14 56 59.6**	**-3.0**
	baz=23						
USP	**Ospenovka**	**3.79**	**9**	⇓*iP*	**Pb**	**14 56 15.5**	**-3.8**
	baz=10.0						
USP				⇓*iS*	**Sb**	**14 57 01.7**	**-3.8**
	baz=10.0						
IUG	**Iuzhnay**	**3.83**	**314**	*eP*	**Pb**	**14 56 17.3**	**-2.7**
	209nm,0.2s						
IUG				*eS*	**Sb**	**14 57 04.8**	**-2.0**
	78nm,0.9s						
IUG	**Iuzhnay**	**3.83**	**314**	Pg	**Pb**	**14 56 19.5**	**-0.5**
	242nm,0.6s						
IUG				Lg	Lg	14 57 05.5	
	78nm,0.9s						
KST	**Kastek**	**3.90**	**25**	*eP*	**Pg**	**14 56 26.2**	**-0.4**
	4.7nm,0.4s						
KST				*eS*	**Sg**	**14 57 19.7**	**+2.6**
	26nm,0.6s						
KST	**Kastek**	**3.90**	**25**	Pg	**Pg**	**14 56 27.8**	**+1.3**
	4.7nm,0.4s						
KST				Lg	Lg	14 57 19.7	
	26nm,0.6s						
SGDS	**Sogindy**	**3.98**	**10**	*eP*	**Pg**	**14 56 26.9**	**-1.2**
	5.9nm,0.7s						
SGDS				*eS*	**Sg**	**14 57 21.0**	**+1.2**
	14nm,1.4s						
SGDS	**Sogindy**	**3.98**	**10**	Pg	**Pb**	**14 56 23.1**	**+0.4**
	4.1nm,0.4s						
SGDS				Lg	Lg	14 57 12.3	
	14nm,1.4s						
DGS	**Degeres**	**4.02**	**22**	*eP*	**Pg**	**14 56 28.4**	**-0.5**
	11nm,0.7s						
DGS				*eS*	**Sg**	**14 57 24.0**	**+3.0**
	27nm,0.6s						
DGS	**Degeres**	**4.02**	**22**	Pg	**Pg**	**14 56 30.7**	**+1.8**
	12nm,0.6s						
DGS				Lg	Lg	14 57 24.7	
	27nm,0.6s						
MTBS	**Maitube**	**4.14**	**29**	*eP*	**Pg**	**14 56 30.0**	**-1.2**
	7.4nm,0.6s						
MTBS				*eS*	**Sg**	**14 57 26.6**	**+1.8**
	14nm,0.7s						
KK31	**Karatay Array**	**4.31**	**327**	⇑Pn	**Pb**	**14 56 22.2**	**+3.9**
	1.6nm,0.3s,baz=139,slow=12,SNR=31						
KK31				⇑Pg	**Pb**	**14 56 30.7**	**+2.5**
	2.2nm,0.3s,baz=135,slow=13,SNR=12						
KK31				⇑Lg	Lg	14 57 24.5	
	22nm,0.7s,baz=147,slow=32,SNR=4.5						
KKAR	**Karatay Array**	**4.31**	**327**	⇓*iP*	**Pn**	**14 56 21.7**	**+3.4**
	baz=29						
KKAR				⇓*iS*	**Sn**	**14 57 12.6**	**+3.6**
	baz=29						
MDOK	**Medeo**	**4.42**	**34**	*eP*	**Pg**	**14 56 35.4**	**-1.0**
	5.0nm,0.4s						
MDOK				*eS*	**Sg**	**14 57 35.4**	**+1.7**
	26nm,0.8s						
MDOK	**Medeo**	**4.42**	**34**	⇓Pn	**Pb**	**14 56 26.8**	**-3.3**
	2.5nm,0.7s						
MDOK				⇑Pg	**Pg**	**14 56 36.6**	**+0.2**
	8.8nm,0.6s						
MDOK				⇓Lg	Lg	14 57 35.3	
	38nm,1.0s						
KRBS	**Karabastau**	**4.42**	**19**	*eP*	**Pg**	**14 56 34.7**	**-1.7**
	8.5nm,0.5s						
KRBS				*eS*	**Sg**	**14 57 34.8**	**+1.1**
	17nm,0.8s						
KRBS	**Karabastau**	**4.42**	**19**	Pg	**Pg**	**14 56 35.9**	**-0.6**
	8.5nm,0.5s						
KRBS				Lg	Lg	14 57 34.3	
	17nm,0.8s						
KTBS	**Karatobe**	**4.74**	**27**	*eP*	**Pg**	**14 56 40.7**	**-1.8**
	7.7nm,0.6s						
KTBS				*eS*	**Sg**	**14 57 45.5**	**+1.6**
	31nm,0.6s						
KUU	**Kurty**	**4.79**	**23**	*eP*	**Pg**	**14 56 42.7**	**-0.8**
	4.8nm,0.1s						
KUU				*eS*	**Sg**	**14 57 48.0**	**+2.5**
	29nm,0.9s						
CHKK	**Chushkaly**	**4.97**	**29**	*eP*	**Pg**	**14 56 44.9**	**-2.1**
	7.2nm,0.6s						
CHKK				*eS*	**Sg**	**14 57 52.1**	**+0.6**
	17nm,0.8s						
CHKK	**Chushkaly**	**4.97**	**29**	Pg	**Pg**	**14 56 46.6**	**-0.4**
	7.2nm,0.6s						
CHKK				Lg	Lg	14 57 52.1	
	17nm,0.8s						
SATY	**Saty**	**5.00**	**44**	*eP*	**Pg**	**14 56 45.8**	**-1.7**
	6.3nm,1.0s						
SATY				*eS*	**Sg**	**14 57 53.3**	**+1.0**
	21nm,1.1s						
UZB	**Uzynbulak**	**5.39**	**46**	*eP*	**Pg**	**14 56 53.8**	**-1.3**
	3.5nm,0.7s						
UZB				*eS*	**Sg**	**14 58 07.8**	**+2.8**
	8.5nm,0.6s						
UZB	**Uzynbulak**	**5.39**	**46**	Pg	**Pg**	**14 56 55.5**	**+0.4**
	3.5nm,0.7s						
UZB				Lg	Lg	14 58 07.8	
	8.5nm,0.6s						
BTLS	**Baital**	**5.52**	**2**	*eP*	**Pg**	**14 56 53.9**	**-3.5**
	4.5nm,0.5s						
BTLS				*eS*	**Sg**	**14 58 07.4**	**-1.5**
	7.5nm,0.5s						
ARXS	**Arharly**	**5.60**	**32**	*eP*	**Pg**	**14 56 56.8**	**-2.2**
	8.7nm,0.8s						
ARXS				*eS*	**Sg**	**14 58 12.1**	**+0.4**
	16nm,0.8s						
ARXS	**Arharly**	**5.60**	**32**	Pg	**Pg**	**14 56 58.2**	**-0.9**
	8.7nm,0.8s						
ARXS				Lg	Lg	14 58 12.1	
	16nm,0.8s						
SHLS	**Shalkode**	**5.65**	**48**	*eP*	**Pg**	**14 57 03.4**	**+3.4**
	4.7nm,0.5s						
SHLS				*eS*	Sg	14 58 23.0	+10
	16nm,1.1s						
SHLS	**Shalkode**	**5.65**	**48**	Pg	Pg	14 57 04.5	+4.6
	4.7nm,0.5s						
SHLS				Lg	Lg	14 58 23.0	
	16nm,1.1s						
PDGK	**Podgornoye**	**5.77**	**47**	⇑Pn	Pb	14 56 44.8	-8.3
	2.1nm,0.8s						
PDGK				⇓Pg	**Pg**	**14 57 03.3**	**+0.9**
	5.8nm,0.8s						
PDGK				⇓Lg	Lg	14 58 21.4	
	17nm,0.9s						
BLB	**Baldybastay**	**5.79**	**36**	*eP*	**Pg**	**14 56 59.7**	**-3.0**
	9.0nm,0.6s						
BLB				*eS*	**Sg**	**14 58 17.6**	**-0.1**
	17nm,0.6s						
BLB	**Baldybastay**	**5.79**	**36**	Pg	**Pg**	**14 57 01.3**	**-1.4**
	9.0nm,0.6s						
BLB				Lg	Lg	14 58 17.6	
	17nm,0.6s						
MKAR	**Makanchi Array**	**9.59**	**38**	Pn	Pn	14 57 35.6	+4.9
	0.1nm,0.3s,baz=218,slow=16,SNR=2.0						
MKAR				Lg	Lg	15 00 19.3	
	baz=217,slow=29,SNR=2.0 0.6nm,1.0s						
KURBB	**Kurchatov Arra**	**11.60**	**15**	Lg	Lg	15 01 23.8	
	baz=202,slow=28						
BVA0	**Borovoye Array**	**13.69**	**351**	⇑Pn	**Pn**	**14 58 28.0**	**+1.2**
	2.2nm,0.8s,baz=162,slow=12,SNR=6.3						
BVAR	**Borovoye Array**	**13.69**	**351**	Pn	**Pn**	**14 58 27.9**	**+1.1**
	0.1nm,0.3s,baz=163,slow=12,SNR=6.0						
BVAR				Lg	Lg	15 02 34.4	
	0.1nm,0.3s,baz=256,slow=36,SNR=2.5 0.6nm,0.5s						
AB31	**Akbulak array**	**13.82**	**319**	⇑Pn	**Pn**	**14 58 29.8**	**+1.3**
	0.5nm,0.5s,baz=130,slow=13,SNR=8.0						
AB31				⇓Sn	**Sn**	**15 00 58.0**	**-4.3**
	0.7nm,0.6s,baz=135,slow=24,SNR=4.0 0.3nm,0.7s						
AKTO	**Aktyubinsk**	**15.53**	**320**	Pn	**P**	**14 58 54.0**	**-2.1**
	0.2nm,0.3s,baz=118,slow=14,SNR=5.9 1.4nm,0.6s						
AKTO	**Aktyubinsk**	**15.53**	**320**	⇑Pn	**P**	**14 58 53.9**	**-2.1**
	3.5nm,0.9s						
ZALV	**Zalesovo Beam**	**16.28**	**24**	Pn	**P**	**14 59 03.2**	**-1.2**
	0.3nm,0.3s,baz=215,slow=9.8,SNR=3.7 0.5nm,0.3s						
ARCES	**ARCESS Array B**	**39.22**	**336**	P	**P**	**15 02 42.6**	**+1.7**
	1.6nm,0.8s,baz=104,slow=7.5,SNR=4.2 1.6nm,0.8s						
HFS	**Hagfors**	**42.08**	**320**	P	**P**	**15 03 04.7**	**+0.1**
	1.0nm,0.6s,baz=90,slow=9.1,SNR=1.5 1.0nm,0.6s						
WRA	**Warramunga Arr**	**81.84**	**124**	P	**P**	**15 07 33.1**	**+0.7**
	0.3nm,0.7s,baz=323,slow=4.9,SNR=5.0 0.3nm,0.7s						
ASAR	**Alice Springs**	**84.29**	**127**	P	**P**	**15 07 45.8**	**+0.7**
	0.3nm,0.7s,baz=332,slow=5.2,SNR=5.5 0.3nm,0.7s						

WEL 02 15:33:54.7±1.0, 37°.5S±4°.×17°.9E±°., h20km±9km, M3.7/54, ML3.9/61, MLv3.7/54, Error ellipse: s-maj=0.0km s-min=0.0km az=87.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**240**	P	Pb	15 34 10.3	-1.0
MXZ				S	Sb	15 34 20.1	-2.6
WMGZ	**Waiomatatini S**	**0.97**	**224**	P	Pn	15 34 14.0	+0.8
WMGZ				S	Sn	15 34 27.6	+1.3
PKGZ	**Pakihiroa**	**1.22**	**231**	P	Pb	15 34 16.8	-0.2
PKGZ				S	Sn	15 34 32.6	+0.1
PUZ	**Puketiti**	**1.24**	**220**	P	Pb	15 34 17.5	+0.1
PUZ				S	Sn	15 34 34.3	+1.2
HAZ	**Te Kaha**	**1.34**	**242**	P	Pb	15 34 19.4	+0.3
HAZ				S	Sb	15 34 36.3	+0.5
TWGZ	**Tauwhareparae**	**1.47**	**224**	P	Pb	15 34 20.8	-0.5
TWGZ				S	Sb	15 34 40.2	+0.7
RUGZ	**Raukumara Rang**	**1.52**	**236**	P	Pb	15 34 21.7	-0.5
RUGZ				S	Sb	15 34 41.5	+0.4
CNGZ	**Carnagh Statio**	**1.60**	**212**	P	Pb	15 34 23.3	-0.1
WIZ	**White Island**	**1.71**	**256**	P	Pn	15 34 23.2	0.0
TKGZ	**Te Karaka**	**1.73**	**220**	P	Pn	15 34 23.9	+0.3
TKGZ				S	Sb	15 34 46.8	-0.2
MWZ	**Matawai**	**1.83**	**228**	P	Pn	15 34 25.4	+0.3
MWZ				S	Sn	15 34 46.9	-0.8
WHRZ	**Whale Island**	**1.97**	**248**	P	Pb	15 34 28.5	-1.3
WHRZ				S	Sn	15 34 50.1	-0.9
RIGZ	**Rimuhau**	**1.98**	**217**	P	Pn	15 34 27.6	+0.5
RIGZ				S	Sn	15 34 52.3	+1.0
RAGZ	**Rawiri**	**2.01**	**226**	P	Pn	15 34 28.1	+0.6
URZ	**Urewera**	**2.05**	**236**	P	Pn	15 34 28.5	+0.5
URZ				S	Sn	15 34 52.7	-0.4
PRGZ	**Paritu Road**	**2.10**	**211**	P	Pn	15 34 29.0	+0.3
EDRZ	**Edgecumbe**	**2.23**	**243**	P	Pn	15 34 31.5	+0.9
SNGZ	**Shannon Statio**	**2.25**	**222**	P	Pn	15 34 30.8	+0.1
SNGZ				S	Sn	15 34 58.7	+0.8
KNZ	**Kokohu**	**2.27**	**213**	P	Pn	15 34 30.6	-0.5
OPRZ	**Ohinepanea**	**2.28**	**251**	P	Pn	15 34 30.9	-0.2
MHGZ	**Mahia Peninsul**	**2.29**	**208**	P	Pn	15 34 31.8	+0.5
RTZ	**Ruatahuna**	**2.34**	**230**	P	Pn	15 34

WAZ	**Wanganui**	**4.27**	**231**	P	Pn	15 34 58.3	-0.2
PRWZ	**Pori Road**	**4.28**	**216**	P	Pn	15 34 57.1	-1.6
NEZ	**North Egmont**	**4.60**	**241**	P	Pn	15 35 06.3	+3.1
KHEZ	**Kahui Hut**	**4.67**	**241**	P	Pn	15 35 07.3	+3.2
OUZ	**Omahuta**	**4.97**	**291**	P	Pn	15 35 08.3	+0.2
QRZ	**Quartz Range**	**6.42**	**233**	P	Pn	15 35 26.3	-1.7
KHZ	**Kahutara**	**6.88**	**218**	P	Pn	15 35 32.2	-2.2

*IDC **02** 15:40:22.5±1.9, 33°.87S×178°.98W, h0km, mb3.5/2, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=47.5km s-min=45.6km az=103.0*

ISC 02 15:40:26.1±1.7, 34°.6S±0°.2×179°.4W±0°.3, h10km, n12, σ1°73/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.62**	**216**	Pn	**Pb**	**15 41 45.0**	**-2.3**
	4.7nm,0.3s,baz=299,slow=0.9,SNR=17						
URZ				Sn	**Sb**	**15 42 42.6**	**-0.5**
	2.8nm,0.3s,baz=121,slow=4.2,SNR=1.8						
	8.6nm,0.3s						
RPZ	**Rata Peaks**	**11.74**	**216**	Pn	**Pn**	**15 43 15.5**	**+1.8**
	0.2nm,0.3s,baz=76,slow=19,SNR=1.7						
RPZ				Sn	**Sn**	**15 45 26.4**	**+1.6**
	0.2nm,0.3s,baz=82,slow=17,SNR=1.3						
ASAR	**Alice Springs**	**41.87**	**272**	P	**P**	**15 48 17.5**	**+0.8**
	0.4nm,0.5s,baz=112,slow=7.6,SNR=4.0						
ASAR				PcP	**PcP**	**15 50 10.2**	**-2.3**
	0.2nm,0.6s,baz=126,slow=4.7,SNR=1.3						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.23**	**277**	P	**P**	**15 48 27.9**	**+0.1**
	0.3nm,0.3s,baz=116,slow=7.6,SNR=16						
	0.3nm,0.3s						
H03S2	**Juan Fernandez**	**79.18**	**124**	T	T	17 20 39.1	
	baz=235						
H03S1	**Juan Fernandez**	**79.19**	**124**	T	T	17 20 38.6	
	baz=235						
H03S3	**Juan Fernandez**	**79.19**	**124**	T	T	17 20 39.8	
	baz=235						
H03N3	**Juan Fernandez**	**79.39**	**123**	T	T	17 20 52.6	
	baz=240,slow=72						
H03N2	**Juan Fernandez**	**79.40**	**123**	T	T	17 20 52.4	
	baz=240,slow=72						
H03N1	**Juan Fernandez**	**79.41**	**123**	T	T	17 20 51.8	
	baz=240,slow=72						
FINES	**FINESS Array B**	**148.56**	**337**	PKPbc	**PKPdf**	**16 00 09.5**	**+0.7**
	1.8nm,0.8s,baz=54,slow=7.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**158.66**	**183**	PKPab	**PKPab**	**16 01 00.0**	**+0.4**
	0.4nm,0.8s,baz=163,slow=3.8,SNR=1.7						

*ANF **02** 15:42:13.4±0.1, 34°.07N×116°.72W, h15km, ML3.1/28, Error ellipse: s-maj=0.9km s-min=0.7km az=50.0*

*NEIC **02** 15:42:14.3±1.0, 34°.08N±0°.02×116°.72W±0°.02, h13km±5km, Error ellipse: s-maj=3.7km s-min=0.9km az=153.0*

*PAS **02** 15:42:14.6±1.2, 34°.08N±0°.01×116°.72W±0°.01, h11km±5km, ML3.1/183, ML2.8/56(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=147.0*

ISC 02 15:42:14.3±0.8, 34°.07N±0°.01×116°.72W±0°.01, h16km±5km, n106, σ0°58/150, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEVC	**Devers**	**0.18**	**140**		**Pg**	**15 42 18.9**	**+0.2**
DEVC					**Sg**	**15 42 21.8**	**0.0**
BBRC	**Big Bear Solar**	**0.26**	**318**		**Pg**	**15 42 19.6**	**-0.5**
BBRC					**Sg**	**15 42 23.5**	**-0.6**
BBRC	**Big Bear Solar**	**0.26**	**318**	P	**Pg**	**15 42 19.6**	**-0.5**
	baz=136,SNR=293						
BBRC				S	**Sg**	**15 42 23.5**	**-0.6**
	baz=136						
BBSC	**Beaumont Base**	**0.27**	**236**		**Pg**	**15 42 20.2**	**+0.1**
BLAC	**Blackrock camp**	**0.27**	**90**		**Pg**	**15 42 20.1**	**-0.2**
BLAC					**Sg**	**15 42 24.4**	**0.0**
SIL	**Silver Peak**	**0.29**	**342**		**Pg**	**15 42 20.1**	**-0.5**
SIL					**Sg**	**15 42 24.7**	**-0.3**
CFT	**Crafton Hills**	**0.33**	**264**		**Pg**	**15 42 21.1**	**-0.2**
CFT					**Sg**	**15 42 26.2**	**+0.2**
GTM	**Goat Mountain**	**0.37**	**53**		**Pg**	**15 42 21.3**	**-0.7**
GTM					**Sg**	**15 42 26.3**	**-0.9**
GVDA	**Garner Valley**	**0.40**	**175**		**Pg**	**15 42 22.3**	**-0.2**
PERR	**Perris**	**0.41**	**244**		**Sg**	**15 42 28.4**	**0.0**
HLNC	**Highland**	**0.42**	**277**		**Pg**	**15 42 22.7**	**-0.1**
HLNC					**Sg**	**15 42 29.0**	**+0.4**
POB	**Polly Butte**	**0.42**	**204**		**Pg**	**15 42 22.9**	**0.0**
POB					**Sg**	**15 42 28.9**	**+0.2**
DGR	**Domenigoni Val**	**0.49**	**210**		**Sg**	**15 42 30.5**	**-0.1**
CRY	**Cary Ranch**	**0.51**	**182**		**Pg**	**15 42 24.3**	**-0.1**
CRY					**Sg**	**15 42 31.4**	**+0.2**
PFO	**Pinyon Flats O**	**0.51**	**155**		**Pg**	**15 42 24.1**	**-0.3**
PFO				IAML		15 42 31.7	
	508nm,0.3s						
PFO				IAML		15 42 31.8	
	1μm,0.1s						
PFO	**Pinyon Flats O**	**0.51**	**155**		**Sg**	**15 42 31.0**	**-0.2**
PFO	**Pinyon Flats O**	**0.51**	**155**	P	**Pg**	**15 42 24.2**	**-0.3**
	baz=336,SNR=170						
PFO				S	**Sg**	**15 42 30.8**	**-0.4**
	baz=336						
DNR	**Dunn Ranch,Anz**	**0.51**	**172**		**Sg**	**15 42 31.5**	**+0.2**
PMD	**Palm Desert**	**0.51**	**146**		**Pg**	**15 42 24.0**	**-0.4**
PMD				IAML		15 42 31.5	
	comp=N,935nm,0.2s						
PMD				IAML		15 42 31.7	
	comp=E,1μm,0.2s						
PMD	**Palm Desert**	**0.51**	**146**		**Sg**	**15 42 30.7**	**-0.5**
XPFO	**Pion Flat**	**0.51**	**155**		**Pg**	**15 42 24.1**	**-0.3**
XPFO					**Sg**	**15 42 30.8**	**-0.5**
RSBC	**Riverside Bore**	**0.52**	**259**		**Pg**	**15 42 24.3**	**-0.3**
RSBC					**Sg**	**15 42 31.3**	**-0.3**
BACC	**Bachelor Mtn.**	**0.53**	**211**		**Sg**	**15 42 31.8**	**-0.2**
RVR	**Riverside**	**0.55**	**262**		**Pg**	**15 42 24.8**	**-0.5**
RVR					**Sg**	**15 42 32.3**	**-0.4**
TPC	**Twentynine Pal**	**0.55**	**86**		**Pg**	**15 42 25.0**	**-0.3**
BZNA	**Buzz No.'s Pla**	**0.58**	**176**		**Sg**	**15 42 33.9**	**+0.4**
FRD	**Ford Ranch, An**	**0.58**	**171**		**Sg**	**15 42 33.7**	**+0.1**
FRD	**Ford Ranch, An**	**0.58**	**171**		**Sg**	**15 42 33.8**	**+0.1**
BELC	**Belle Mtn. Jos**	**0.60**	**97**		**Sg**	**15 42 34.3**	**+0.1**
BELC	**Belle Mtn. Jos**	**0.60**	**97**	P	**Pg**	**15 42 25.9**	**-0.2**
	baz=278,SNR=189						
BELC				S	**Sg**	**15 42 34.2**	**0.0**
	baz=278						
MURC	**Murrieta**	**0.62**	**220**		**Pg**	**15 42 26.1**	**-0.4**
MURC					**Sg**	**15 42 34.4**	**-0.2**
MURC	**Murrieta**	**0.62**	**220**	P	**Pg**	**15 42 26.1**	**-0.4**
	baz=39,SNR=41						
MURC				S	**Sg**	**15 42 34.5**	**-0.2**
	baz=39						
SS2	**San Sevaine**	**0.67**	**282**		**Pg**	**15 42 27.1**	**-0.2**
VTV	**Victorville**	**0.70**	**314**		**Pg**	**15 42 27.4**	**-0.7**
VTV					**Sg**	**15 42 36.6**	**-0.9**
ELS	**Elsinore Mount**	**0.73**	**235**	Pg	**Pg**	**15 42 27.6**	**-1.0**
ELS				IAML		15 42 37.8	
	comp=E,518nm,0.3s						
ELS				IAML		15 42 37.8	
	comp=N,379nm,0.5s						
PLM	**Palomar**	**0.73**	**190**		**Sg**	**15 42 37.9**	**-0.3**
CTCC	**Cactus City**	**0.73**	**124**		**Pg**	**15 42 28.5**	**-0.1**
CTCC					**Sg**	**15 42 38.1**	**-0.2**
ADO	**Adelanto Recei**	**0.76**	**309**		**Pg**	**15 42 28.9**	**-0.3**
ADO					**Sg**	**15 42 39.2**	**-0.1**
BFSC	**Mount Baldy Ra**	**0.80**	**282**		**Pg**	**15 42 29.2**	**-0.7**
BFSC					**Sg**	**15 42 40.1**	**-0.4**
BFSC	**Mount Baldy Ra**	**0.80**	**282**	P	**Pg**	**15 42 29.2**	**-0.7**
	baz=101,SNR=97						
BFSC				S	**Sg**	**15 42 39.8**	**-0.7**
	baz=101						
CHNC	**Chino**	**0.80**	**265**		**Pg**	**15 42 29.4**	**-0.5**
CTW	**Cottonwood Mou**	**0.80**	**119**		**Pg**	**15 42 29.7**	**-0.3**
CTW					**Sg**	**15 42 40.7**	**+0.1**
HEC	**Hector,Ludlow**	**0.82**	**22**		**Pg**	**15 42 29.6**	**-0.7**
HEC					**Sg**	**15 42 40.4**	**-0.7**
HEC	**Hector,Ludlow**	**0.82**	**22**	P	**Pg**	**15 42 29.5**	**-0.7**
	baz=203,SNR=74						
HEC				S	**Sg**	**15 42 40.6**	**-0.5**
	baz=203						
SSK	**Sunset Peak**	**0.82**	**280**		**Pg**	**15 42 29.8**	**-0.5**
RRX	**Edison Barstow**	**0.83**	**344**		**Pg**	**15 42 30.0**	**-0.6**
RRX					**Sb**	**15 42 41.4**	**0.0**
RRX	**Edison Barstow**	**0.83**	**344**	P	**Pg**	**15 42 29.9**	**-0.6**
	baz=164,SNR=12						
RRX				S	**Sg**	**15 42 41.3**	**-0.3**
	baz=164						
BORC	**Borrego Spring**	**0.84**	**163**		**Pg**	**15 42 30.3**	**-0.3**
BORC					**Sg**	**15 42 41.4**	**-0.2**
MATG	**Mataguay Scout**	**0.87**	**176**		**Pg**	**15 42 31.0**	**-0.2**
MATG					**Sg**	**15 42 42.4**	**-0.3**
PSRC	**Puddingstone R**	**0.91**	**272**		**Pg**	**15 42 31.0**	**-0.8**
PSRC					**Sg**	**15 42 43.1**	**-0.6**
GORC	**Green Oak Ranc**	**1.01**	**205**		**Pb**	**15 42 32.8**	**-0.5**
HYS	**Haystack Butte**	**1.06**	**319**		**Pb**	**15 42 33.8**	**-0.4**
GMRC	**Granite Mounta**	**1.13**	**51**		**Pb**	**15 42 34.9**	**-0.5**
GMRC	**Granite Mounta**	**1.13**	**51**	P	**Pb**	**15 42 34.8**	**-0.5**
	baz=231,SNR=83						
GMRC				S	**Sb**	**15 42 49.9**	**+0.1**
	baz=231						
BC3	**Big Chuckawall**	**1.13**	**111**	P	**Pb**	**15 42 34.8**	**-0.6**
	baz=293,SNR=35						
BC3				S	**Sb**	**15 42 50.2**	**+0.3**
	baz=293						
LRRC	**Littlerock Res**	**1.18**	**293**		**Pn**	**15 42 36.1**	**+0.1**
DSCC	**Desert Studies**	**1.18**	**25**		**Pn**	**15 42 36.1**	**0.0**
MONP2	**Monument Peak**	**1.20**	**168**	Pg	**Pn**	**15 42 36.6**	**0.0**
MONP2	baz=348,SNR=47						
	baz=348			S	**Sb**	**15 42 52.2**	**+0.1**
PASC	**Pasadena Art C**	**1.22**	**275**		**Pn**	**15 42 36.2**	**-0.4**
PASC				IAML		15 42 55.5	
	comp=N,189nm,0.3s						
PASC				IAML		15 42 56.0	
	comp=E,126nm,0.4s						
109C	**Camp Elliot, M**	**1.22**	**196**		**Pn**	**15 42 36.3**	**-0.4**
109C	**Camp Elliot, M**	**1.22**	**196**	P	**Pn**	**15 42 36.2**	**-0.4**
	baz=15,SNR=11						
109C				S	**Sb**	**15 42 51.9**	**-0.6**
	baz=15						
GSC	**Goldstone, Bar**	**1.23**	**357**		**Pn**	**15 42 36.7**	**-0.1**
GSC				IAML		15 42 55.9	
	comp=E,246nm,0.4s						
GSC				IAML		15 42 58.8	
	comp=N,151nm,0.5s						
GSC	**Goldstone, Bar**	**1.23**	**357**	Pg	**Pb**	**15 42 37.3**	**+0.1**
	baz=176,SNR=50						
GSC				S	**Sb**	**15 42 52.8**	**0.0**
	baz=176						
DANC	**Danby, Needles**	**1.24**	**63**		**Pb**	**15 42 37.6**	**+0.3**
IRM	**Iron Mountain**	**1.31**	**86**	P	**Pn**	**15 42 37.0**	**-0.8**
	baz=267,SNR=234						
EDW2	**Edwards Air Fo**	**1.33**	**308**	P	**Pn**	**15 42 38.0**	**-0.2**
	baz=127,SNR=39						
EDW2				Sb	**Sb**	**15 42 55.8**	**+0.1**
	baz=127						
DECC	**Green Verdugo**	**1.35**	**278**	Pb	**Pn**	**15 42 38.7**	**+0.3**
	baz=97						
DECC				Sb	**Sb**	**15 42 56.7**	**+0.4**
	baz=97						
SWSC	**Sam W. Stewart**	**1.36**	**145**	P	**Pn**	**15 42 37.6**	**-0.9**
	baz=326,SNR=25						
SWSC				Sb	**Sb**	**15 42 57.3**	**+0.9**
	baz=326						
FMP	**Fort Macarthur**	**1.36**	**255**	S	**Sn**	**15 42 55.9**	**-0.3**
	baz=74						
BAR	**Barrett**	**1.39**	**178**	Pn	**Pn**	**15 42 39.2**	**+0.2**
TKX	**Tecate**	**1.50**	**177**		**Pn**	**15 42 40.8**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**1.51**	**160**	P	**Pn**	**15 42 40.3**	**-0.3**
	baz=341,SNR=32						
IKP				S	**Sn**	**15 42 59.7**	**-0.2**
	baz=341						
TUQ	**Turquoise Moun**	**1.51**	**25**	P	**Pn**	**15 42 40.3**	**-0.4**
	baz=206						
TUQ				Sb	**Sb**	**15 43 01.6**	**+0.7**
	baz=206						
CCAC	**Calif City Air**	**1.52**	**316**		**Pn**	**15 42 41.6**	**+0.8**
RMX	**La Rumorosa**	**1.56**	**160**		**Pn**	**15 42 42.2**	**+0.7**
RMX				IAML		15 43 06.9	
	comp=E,77nm,0.2s						
CIS	**Catalina Islan**	**1.57**	**245**	P	**Pn**	**15 42 40.9**	**-0.5**
	baz=64						
CIS				Sb	**Sb**	**15 43 02.7**	**+0.3**
	baz=64						
YUH	**Yuha Desert**	**1.57**	**155**	Pn	**Pn**	**15 42 40.8**	**-0.6**
LRMC	**Laurel Mtn Rad**	**1.61**	**331**	Sb	**Sb**	**15 43 04.8**	**+0.9**
	baz=150						
OSI	**Osito Audit: C**	**1.75**	**289**	Pg	**Pb**	**15 42 46.3**	**+0.4**
	baz=107						
OSI				Sb	**Sb**	**15 43 08.5**	**+0.8**
	baz=107						
CBX	**Cerro Bola**	**1.75**	**179**		**Pn**	**15 42 44.9**	**+0.8**
CBX				IAML		15 43 11.5	
	comp=E,149nm,0.5s						
CBX				IAML		15 43 12.2	
	comp=N,112nm,0.4s						
SHOC	**Shoshone, Teco**	**1.86**	**11**	P	**Pn**	**15 42 45.3**	**-0.1**
	baz=191,SNR=12						
SHOC				Sb	**Sb**	**15 43 12.4**	**+1.5**
	baz=191						
NEE2	**Needles Airpor**	**1.87**	**68**	P	**Pn**	**15 42 44.9**	**-0.6**
	baz=249						
NEE2				Sb	**Sb**	**15 43 12.6**	**+1.5**
	baz=249						
GLA	**Glamis**	**1.88**	**122**	Pn	**Pn**	**15 42 45.8**	**+0.1**
GLA				IAML		15 43 20.9	
	comp=N,105nm,0.6s						
GLA	**Glamis**	**1.88**	**122**	S	**Sn**	**15 43 09.2**	**+0.2**
	baz=304						
SCI2	**San Clemente I**	**1.88**	**235**	S	**Sn**	**15 43 08.4**	**-0.5**
	baz=54						
QSM	**Queen of Sheba**	**1.89**	**356**		**Pn**	**15 42 46.7**	**+0.8**
QSM				IAML		15 43 21.0	
	comp=E,67nm,0.7s						
QSM				IAML		15 43 24.7	
	comp=N,69nm,0.7s						
ARVC	**Arvin**	**2.04**	**302**	Sb	**Sb**	**15 43 17.2**	**+1.2**
	baz=120						
MPMC	**Manual Prospec**	**2.08**	**342**	Sb	**Sb**	**15 43 19.2**	**+1.8**
	baz=162						
GWY	**Greenwater Val**	**2.11**	**1**	Pn	**Pn**	**15 42 49.1**	**+0.1**
GWY				IAML		15 43 24.8	
	comp=N,78nm,0.6s						
GWY				IAML		15 43 26.4	
	comp=E,101nm,0.5s						
ISA	**Isabella, Lake**	**2.15**	**318**	Pn	**Pn**	**15 42 49.9**	**+0.5**
ISA				IAML		15 43 25.0	
	comp=E,55nm,0.7s						
ISA	**Isabella, Lake**	**2.15**	**318**	Sb	**Sb**	**15 43 20.8**	**+1.6**
	baz=137						
ESJX	**Sierra Juarez**	**2.16**	**162**		**Pn**	**15 42 50.3**	**+0.6**
ESJX				IAML		15 43 23.6	
	comp=E,37nm,0.2s						
BCW	**Bitter Crk WRg**	**2.39**	**292**		**Pn**	**15 42 53.4**	**+0.6**
W13A	**Hualapai Mount**	**2.55**	**66**		**Pn**	**15 42 55.0**	**-0.1**
W13A				IAML		15 43 36.2	
	comp=N,34nm,0.4s						
W13A				IAML		15 43 39.9	
	comp=E,30nm,0.6s						
WCT	**Wildcat Mounta**	**2.72**	**2**	Pn	**Pn**	**15 42 57.7**	**+0.4**
WCT				IAML		15 43 44.0	
	comp=E,24nm,0.6s						
SHPR	**Sheep Range**	**2.74**	**27**	Pn	**Pn**	**15 42 58.1**	**+0.4**
SHPR				IAML		15 43 44.0	
	comp=E,31nm,0.7s						
TPNV	**Topopah Spring**	**2.90**	**7**		**Pn**	**15 43 00.5**	**+0.6**
TPNV				IAML		15 43 47.0	
	comp=E,46nm,0.5s						
TPNV				IAML		15 43 48.9	
	comp=E,44nm,0.5s						
Y14A	**Wickenburg**	**3.08**	**91**		**Pn**	**15 43 02.0**	**-0.3**
Y14A				IAML		15 43 55.9	
	comp=E,26nm,0.6s						
Y14A				IAML		15 43 56.0	
	comp=N,38nm,0.5s						
LCH	**Last Change Ra**	**3.24**	**347**		**Pn**	**15 43 05.5**	**+0.9**
GMN	**Gold Mountain**	**3.25**	**352**		**Pn**	**15 43 05.9**	**+1.1**
DSP	**Deep Springs**	**3.45**	**343**	Pn	**Pn**	**15 43 08.6**	**+1.4**
PRN	**Pahroc Range**	**3.59**	**22**		**Pn**	**15 43 10.8**	**+1.4**
TPH	**Tonopah**	**4.02**	**354**	Pn	**Pn**	**15 43 15.5**	**+0.2**
U15A	**North Rim**	**4.32**	**56**		**Pn**	**15 43 20.2**	**+0.7**
KNB	**Kanab**	**4.33**	**46**		**Pn**	**15 43 20.5**	**+1.0**
X16A	**Lo Mia Camp, P**	**4.38**	**84**	Pn	**Pn**	**15 43 20.9**	**+0.6**

*IDC **02** 15:45:40.0±3.8, 6°.64S×80°.73W, h75km±33km, mb3.3/4, mbtmp3.7/7, MS3.1/3, Error ellipse: s-maj=48.1km s-min=26.7km az=61.0*

ISC 02 15:45:41.9±1.1, 6°.7S±0°.1×80°.7W±0°.1, h100km, n20, σ1°40/11, mb3.5/4, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.35**	**100**	P	**Pn**	**15 46 17.6**	**-1.8**
	66nm,0.3s,baz=314,slow=14,SNR=105						
ATAH				S	**Sn**	**15 46 49.7**	**+1.6**
	1μm,0.5s,baz=12,slow=18,SNR=3.7						
ATAH				LR	LR	15 47 26.2	
	comp=Z,269nm,18.4s,baz=296,slow=45						
NNA	**Nana**	**6.47**	**144**	P	**Pn**	**15 47 14.7**	**-0.1**
	4.8nm,0.4s,baz=202,slow=18,SNR=1.3						
NNA				S	**Sn**	**15 48 27.5**	**+0.3**
	7.5nm,0.3s,baz=333,slow=19,SNR=1.4						
ROSC	**El Rosal**	**13.16**	**29**	LR	LR	15 53 31.9	
	comp=Z,69nm,20.5s,baz=70,slow=36						
LPAZ	**La Paz**	**15.56**	**129**	P	**Pn**	**15 49 16.2**	**-0.2**
	0.4nm,0.5s,baz=314,slow=9.3,SNR=2.9						
SIV	**San Ignacio**	**21.33**	**117**	P	**P**	**15 50 19.6**	**-1.5**
	0.5nm,0.3s,baz=198,slow=22,SNR=1.8						
	0.5nm,0.3s						
H03N2	**Juan Fernandez**	**26.62**	**177**	T	T	16 19 14.7	
	baz=355,slow=76,SNR=51						
H03N1	**Juan Fernandez**	**26.63**	**177**	T	T	16 19 17.1	
	baz=355,slow=76,SNR=34						
H03N3	**Juan Fernandez**	**26.64**	**177**	T	T	16 19 14.4	
	baz=355,slow=76,SNR=52						
ANMO	**Albuquerque**	**48.04**	**331**	LR	LR	16 13 12.3	
	comp=Z,49nm,20.9s,baz=161,slow=34						
PDAR	**Pinedale Array**	**55.81**	**335**	P	**P**	**15 55 08.5**	**-0.6**
	0.7nm,0.9s,baz=121,slow=8.5,SNR=5.5						
	0.7nm,0.9s						
ESDC	**Sonseca Array**	**84.18**	**49**	P	**P**	**15 58 03.4**	**+1.0**
	0.3nm,0.4s,baz=286,slow=4.3,SNR=3.9						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**84.19**	**76**	P	**P**	**15 58 04.5**	**+1.6**
	0.3nm,0.5s,baz=284,slow=5.1,SNR=2.1						
	0.3nm,0.5s						
H11N3	**WAKE ISLAND Hyl**	**13.27**	**288**	T	T	18 07 02.8	
	baz=91,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hyl**	**13.28**	**289**	T	T	18 07 05.4	
	baz=91,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hyl**	**13.29**	**288**	T	T	18 07 05.2	
	baz=91,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hyl**	**13.48**	**287**	T	T	18 07 17.8	
	baz=90,slow=75,SNR=96						
H11S1	**WAKE ISLAND Hyl**	**13.48**	**287**	T	T	18 07 15.3	
	baz=90,slow=75,SNR=123						
H11S3	**WAKE ISLAND Hyl**	**13.50**	**287**	T	T	18 07 19.1	
	baz=90,slow=75,SNR=88						
ASAR	**Alice Springs**	**134.65**	**227**	PKP	**PKiKP**	**16 04 52.0**	**+0.9**
	0.4nm,0.8s,baz=114,slow=2.0,SNR=5.2						
WRA	**Warramunga Arr**	**136.49**	**232**	PKP	**PKiKP**	**16 04 53.3**	**-1.6**
	0.6nm,0.8s,baz=130,slow=1.3,SNR=4.0						

*NEIC **02** 16:03:36.6±1.8, 16°.8N±0°.1×96°.34W±0°.08, h73km±9km, Error ellipse: s-maj=16.7km s-min=9.4km az=206.0*

*MEX **02** 16:03:36.6±0.5, 16°.69N×96°.39W, h63km±5km, MD4.6*

*IDC **02** 16:03:37.4±2.1, 16°.84N×96°.11W, h68km±17km, mb3.8/14, mbtmp4.0/15, MS3.3/14, Error ellipse: s-maj=24.4km s-min=12.8km az=48.0*

ISC 02 16:03:35.1±0.6, 16°.64N±0°.03×96°.41W±0°.03, h64km±6km, n318, σ1°72/348, mb4.6/38, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXLC	**Oaxaca**	**0.51**	**327**	*e*P	**Pn**	**16 03 47.3**	**-0.4**
OXLC				*e*S	**Sn**	**16 03 55.8**	**-1.1**
OXBJ	**Oaxaca**	**0.52**	**325**	*e*P	**Pn**	**16 03 47.4**	**-0.5**
OXBJ				*e*S	**Sn**	**16 03 55.7**	**-1.4**
VHO	**Vista Hermosa**	**0.53**	**325**	*i* P	**Pn**	**16 03 47.5**	**-0.5**
VHO				*i* S	**Sn**	**16 03 56.3**	**-1.0**
HUIG	**Huatulco**	**0.91**	**161**	*i* P	**Pn**	**16 03 52.9**	**+0.7**
HUIG				*e*S	**Sn**	**16 04 05.4**	**+0.6**
PEIG	**Puerto Escondi**	**0.95**	**228**	*e*P	**Pn**	**16 03 52.9**	**+0.2**
PANG	**Puerto Angel**	**0.96**	**183**	*e*P	**Pn**	**16 03 52.7**	**-0.2**
PANG				*e*S	**Sn**	**16 04 05.5**	**-0.5**
YOIG	**Yosondua**	**1.11**	**282**	*i* P	**Pn**	**16 03 55.4**	**+0.4**
YOIG				*i* S	**Sn**	**16 04 10.0**	**+0.3**
NEUV	**Arroyo Zacate**	**1.22**	**29**	*i* P	**Pn**	**16 03 55.4**	**-0.8**
NEUV				*i* S	**Sn**	**16 04 09.9**	**-2.1**
TXIG	**Tlaxiaco**	**1.43**	**296**	*i* P	**Pn**	**16 04 00.0**	**+0.7**
TXIG				*i* S	**Sn**	**16 04 15.6**	**-1.8**
CMIG	**Matias Romero**	**1.53**	**73**	P	**Pn**	**16 03 59.0**	**-1.4**
	613nm,0.5s,baz=250,slow=12,SNR=598						
CMIG				S	**Sn**	**16 04 13.9**	**-5.6**
	2μm,0.5s,baz=265,slow=10,SNR=12						
CMIG	**Matias Romero**	**1.53**	**73**	*i* P	**Pn**	**16 03 59.2**	**-1.2**
CMIG				*i* S	**Sn**	**16 04 17.7**	**-1.7**
PNIG	**Pinotepa**	**1.66**	**262**	*e*P	**Pn**	**16 04 01.9**	**-0.2**
PNIG				*i* S	**Sn**	**16 04 23.0**	**+0.5**
NILT	**Santiago Nilte**	**1.73**	**92**	*e*P	**Pn**	**16 04 02.2**	**-0.8**
NILT				*e*S	**Sn**	**16 04 24.1**	**+0.1**
HLIG	**Huajuapan de L**	**1.78**	**312**	*e*P	**Pn**	**16 04 04.4**	**+0.4**
HLIG				*e*S	**Sn**	**16 04 20.4**	**-5.4**
THEZ	**Tehuacan**	**2.05**	**333**	*e*P	**Pn**	**16 04 04.2**	**-3.3**
FTIG	**Fresnillo de T**	**2.07**	**308**	*e*P	**Pn**	**16 04 08.4**	**+0.6**
FTIG				*e*S	**Sn**	**16 04 25.9**	**-6.7**
TLIG	**Tlapa**	**2.25**	**294**	Pn	**Pn**	**16 04 09.2**	**-1.0**
TLIG	**Tlapa**	**2.25**	**294**	*e*P	**Pn**	**16 04 11.4**	**+1.1**
TLIG				*e*S	Sn	16 04 28.7	-8.4
UXUV	**UXUV**	**2.27**	**72**	*e*P	**Pn**	**16 04 09.5**	**-0.9**
UXUV				*e*S	**Sn**	**16 04 34.5**	**-2.9**
OZST	**Orizaba**	**2.31**	**344**	*e*P

HUEH	**Huehuetenango**	**4.90**	**105**	Pn		**Pn**	**16 04 45.2**	**-1.3**
ZIIG	**Zihuatanejo**	**4.92**	**282**	*e*P		**Pn**	**16 04 47.4**	**+0.8**
ZIIG				*e*S		**Sn**	**16 05 41.5**	**-0.9**
MOIG	**Morelia**	**5.46**	**304**	Pn		**Pn**	**16 04 55.5**	**+1.4**
MOIG	**Morelia**	**5.46**	**304**	*e*P		**Pn**	**16 04 57.6**	**+3.5**
MOIG				*e*S		**Sn**	**16 05 52.3**	**-3.4**
PETF	**Flores**	**6.28**	**87**			**Pn**	**16 05 05.1**	**-0.1**
MMIG	**Aquila**	**6.82**	**285**	*e*P		**Pn**	**16 05 13.5**	**+1.0**
MMIG				*e*S		**Sn**	**16 06 26.8**	**-2.0**
MTO3	**Montecristo**	**7.15**	**107**	Pn		**Pn**	**16 05 16.3**	**-1.1**
COIG	**Colima**	**7.37**	**291**	*e*P		**Pn**	**16 05 22.4**	**+2.2**
COIG				*e*S		**Sn**	**16 06 42.7**	**+0.1**
JUBC	**Volcan de Coli**	**7.38**	**294**	*e*P		**Pn**	**16 05 24.4**	**+3.8**
JUBC				*e*S		**Sn**	**16 06 46.0**	**+2.9**
EZ5V		**7.40**	**294**	*e*P		**Pn**	**16 05 25.0**	**+4.3**
EZ5V				*e*S		**Sn**	**16 06 45.7**	**+2.3**
MNGA	**Volcan de Coli**	**7.41**	**293**	*e*P		**Pn**	**16 05 24.1**	**+3.2**
MNGA				*e*S		**Sn**	**16 06 43.1**	**-0.6**
INCO	**Volcan de Coli**	**7.42**	**294**	*e*P		**Pn**	**16 05 23.9**	**+2.7**
INCO				*e*S		**Sn**	**16 06 44.4**	**+0.3**
CDAR	**Ciudad de Arme**	**7.59**	**289**	*e*P		**Pn**	**16 05 24.4**	**+1.3**
CDAR				*e*S		**Sn**	**16 06 44.7**	**-3.1**
R15V		**7.63**	**290**	*e*P		**Pn**	**16 05 27.1**	**+3.3**
R15V				*e*S		**Sn**	**16 06 50.6**	**+1.7**
TEIG	**Tepich**	**8.51**	**64**	Pn		**Pn**	**16 05 33.6**	**-2.1**
833A	**Chaparral WMA,**	**11.95**	**347**	Pn		**Pn**	**16 06 21.8**	**-0.9**
833A	**Chaparral WMA,** baz=166	**11.95**	**347**	P		**Pn**	**16 06 22.2**	**-0.5**
HZTE	**Horizontes, Gu**	**12.05**	**118**	Pn		**Pn**	**16 06 25.1**	**+1.0**
ORTG	**Ortega, Santa**	**12.34**	**119**			**Pn**	**16 06 29.8**	**+1.6**
JTS	**Las Juntas de**	**12.80**	**118**	Pn		**Pn**	**16 06 37.6**	**+3.1**
RIMA	**Rio Macho**	**13.99**	**118**	Pn		**Pn**	**16 06 52.6**	**+2.0**
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=150,slow=13,SNR=5.1	**14.29**	**333**	P		**Pn**	**16 06 55.9**	**+1.6**
TXAR				LR		LR	16 12 30.5	
	comp=Z,51nm,18.9s,baz=146,slow=37							
SRBA	**San Rafael, Bu**	**14.69**	**118**			**Pn**	**16 07 00.6**	**+0.9**
LPIG	**La Paz**	**14.99**	**302**	LR		LR	16 12 39.7	
	comp=Z,183nm,19.2s,baz=150,slow=36							
237A	**Washetta, Mont**	**15.31**	**2**	Pn		**Pn**	**16 07 05.8**	**-1.6**
237A				IAmb		IAmb	16 07 12.0	
	comp=Z,34nm,0.9s							
LCCY	**Blossom Villag**	**15.81**	**77**	Pn		**Pn**	**16 07 11.6**	**-2.4**
BRAL	**Brewton** baz=213	**16.80**	**29**	P		**Pn**	**16 07 25.1**	**-1.0**
WLAR	**White Oak Lake**	**17.24**	**9**	Pn		**Pn**	**16 07 28.9**	**-2.7**
WLAR				IAmb		IAmb	16 07 35.0	
	comp=Z,47nm,1.0s							
X37A	**Clayton**	**17.90**	**3**			**Pn**	**16 07 40.2**	**+0.4**
X37A				IAmb		IAmb	16 07 42.4	
	comp=Z,41nm,0.8s							
MIAR	**Mount Ida**	**18.02**	**8**			**Pn**	**16 07 40.5**	**-0.7**
MIAR	**Mount Ida** baz=189,SNR=16	**18.02**	**8**	P		**P**	**16 07 40.0**	**-0.9**
WMOK	**Wichita Mounta**	**18.15**	**354**	P		**P**	**16 07 41.5**	**-0.9**
WMOK	**Wichita Mounta** baz=173	**18.15**	**354**	P		**P**	**16 07 41.5**	**-0.9**
MSTX	**Muleshoe** baz=160	**18.18**	**343**	P		**P**	**16 07 41.8**	**-1.0**
LRAL	**Lakeview Retre**	**18.41**	**26**			**P**	**16 07 43.0**	**-2.3**
LRAL	**Lakeview Retre** baz=210	**18.41**	**26**	P		**P**	**16 07 43.4**	**-1.8**
UALR	**University of**	**18.43**	**11**			**P**	**16 07 42.4**	**-3.0**
UALR				IAmb		IAmb	16 07 46.1	
	comp=Z,38nm,0.8s							
AMTX	**Amarillo**	**18.77**	**346**	P		**P**	**16 07 47.5**	**-1.8**
AMTX	**Amarillo** baz=164	**18.77**	**346**	P		**P**	**16 07 48.2**	**-1.1**
TIGA	**Tifton** baz=221	**18.80**	**36**	P		**P**	**16 07 47.7**	**-1.8**
121A	**Cookes Peak, D** baz=144	**18.88**	**329**	P		**P**	**16 07 49.9**	**-0.7**
WHAR	**Wooly Hollow**	**18.94**	**10**	P		**P**	**16 07 49.2**	**-1.8**
TUL1	**Leonard**	**19.21**	**2**	P		**P**	**16 07 53.3**	**-0.7**
TUL1	**Leonard** baz=182,SNR=12	**19.21**	**2**	P		**P**	**16 07 53.7**	**-0.2**
Y49A	**Blount Mountai**	**19.37**	**26**	P		**P**	**16 07 52.9**	**-2.8**
Y49A				IAmb		IAmb	16 07 55.4	
	comp=Z,32nm,0.6s							
QUOK	**Quay**	**19.46**	**359**	P		**P**	**16 07 54.8**	**-1.9**
QUOK				IAmb		IAmb	16 08 20.1	
	comp=Z,32nm,0.7s							
RLO	**Rose Lookout**	**19.49**	**3**			**Pn**	**16 07 57.1**	**-1.7**
RLO				IAmb		IAmb	16 07 59.7	
	comp=Z,26nm,0.7s							
FCAR	**Ozark Folk Cen**	**19.55**	**10**	P		**P**	**16 07 57.4**	**-0.3**
FCAR				IAmb		IAmb	16 07 58.2	
	comp=Z,41nm,0.7s							
X48A	**Hartselle**	**19.63**	**24**	P		**P**	**16 07 57.4**	**-1.2**
PLAL	**Pickwick Lake**	**19.74**	**21**	P		**P**	**16 07 57.8**	**-1.9**
CROK	**Carrier**	**19.84**	**356**			**P**	**16 08 00.5**	**-0.4**
CROK				IAmb		IAmb	16 08 03.6	
	comp=Z,97nm,0.9s							
LCAR	**Lake Charles**	**19.91**	**13**	P		**P**	**16 08 00.8**	**-0.9**
T35A	**Sooner Cattle**	**20.20**	**360**	P		**P**	**16 08 03.6**	**-1.2**
T35A				IAmb		IAmb	16 08 07.8	
	comp=Z,34nm,0.8s							
FPAL	**Fort Paine**	**20.29**	**26**	P		**P**	**16 08 02.7**	**-3.1**
KAN13	**South Haven SW**	**20.32**	**358**			**P**	**16 08 04.8**	**-1.3**
KAN13				IAmb		IAmb	16 08 28.3	
	comp=Z,19nm,0.7s							
TUC	**Tucson** baz=137	**20.33**	**323**	P		**P**	**16 08 06.1**	**-0.2**
ANMO	**Albuquerque** comp=Z,1.3nm,0.8s,baz=138,slow=12,SNR=3.6 comp=Z,1.3nm,0.8s	**20.33**	**336**	P		Pn	16 08 08.6	-0.3
ANMO	**Albuquerque** baz=151	**20.33**	**336**	P		**P**	**16 08 05.8**	**-0.5**
GOGA	**Godfrey**	**20.38**	**33**	P		**P**	**16 08 04.3**	**-2.4**
GOGA	**Godfrey** baz=218	**20.38**	**33**	P		**P**	**16 08 04.9**	**-1.8**
Y52A	**Lilburn**	**20.44**	**31**	P		**P**	**16 08 05.4**	**-2.0**
Y52A				IAmb		IAmb	16 08 17.0	
	comp=Z,26nm,0.8s							
SWET	**Sewanee**	**20.74**	**25**	P		**P**	**16 08 08.6**	**-2.0**
MGMO	**Mountain Grove**	**20.77**	**9**	P		**P**	**16 08 10.2**	**-0.7**
MGMO				IAmb		IAmb	16 08 14.4	
	comp=Z,19nm,0.7s							
V48A	**Smith Brothers**	**20.86**	**22**	P		**P**	**16 08 10.5**	**-1.4**
WVT	**Waverly**	**20.86**	**20**	P		**P**	**16 08 09.9**	**-2.0**
WVT				IAmb		IAmb	16 08 14.3	
	comp=Z,36nm,0.7s							
WVT	**Waverly** baz=204	**20.86**	**20**	P		**P**	**16 08 10.4**	**-1.5**
W50A	**Signal Mountai**	**20.98**	**26**	P		**P**	**16 08 10.8**	**-2.5**
S39A	**Bolivar**	**21.15**	**7**	P		**P**	**16 08 12.9**	**-2.0**
214A	**Organ Pipe Nat** baz=132	**21.31**	**319**	P		**P**	**16 08 17.1**	**+0.3**
CLTN	**Cedars of Leba**	**21.35**	**23**	P		**P**	**16 08 15.3**	**-1.8**
T25A	**Trinidad** baz=159	**21.61**	**342**	P		**P**	**16 08 20.0**	**-0.1**
HODGE	**Hodges**	**21.65**	**33**	P		**P**	**16 08 17.6**	**-2.6**
HODGE				IAmb		IAmb	16 08 56.1	
	comp=Z,27nm,1.1s							
CCM	**Cathedral Cave**	**21.82**	**11**	P		**P**	**16 08 20.1**	**-2.0**
CCM	**Cathedral Cave** baz=193	**21.82**	**11**	P		**P**	**16 08 20.9**	**-1.2**
R40A	**Maddies Statio**	**21.88**	**9**	P		**P**	**16 08 21.4**	**-1.3**
R40A				IAmb		IAmb	16 08 45.7	
	comp=Z,16nm,0.8s							
T47A	**Sharon Grove**	**21.88**	**20**	P		**P**	**16 08 20.8**	**-2.0**
V51A	**Loudon**	**21.91**	**27**	P		**P**	**16 08 20.0**	**-3.0**
V51A				IAmb		IAmb	16 08 24.0	
	comp=Z,18nm,0.7s							
TKL	**Tuckaleechee C** comp=Z,8.0nm,0.7s,baz=16,slow=13,SNR=4.1 comp=Z,8.0nm,0.7s	**22.04**	**28**	P		**P**	**16 08 22.8**	**-1.8**
TKL	**Tuckaleechee C**	**22.04**	**28**	P		**P**	**16 08 22.3**	**-2.3**
V53A	**Saluda**	**22.50**	**30**	P		**P**	**16 08 27.7**	**-1.9**
KMSC	**Kings Mountain** baz=220	**22.83**	**33**	P		**P**	**16 08 30.3**	**-2.7**
TZTN	**Tazewell**	**22.88**	**27**	P		**P**	**16 08 30.5**	**-2.9**
TZTN				IAmb		IAmb	16 08 33.4	
	comp=Z,17nm,0.8s							
TZTN	**Tazewell** baz=213	**22.88**	**27**	P		**P**	**16 08 30.9**	**-2.6**
P38A	**Dawn**	**23.04**	**6**	P		**P**	**16 08 33.3**	**-1.7**
P38A				IAmb		IAmb	16 09 06.5	
	comp=Z,17nm,0.8s							
WUAZ	**Wupatki** baz=141	**23.06**	**327**	P		**P**	**16 08 35.0**	**-0.4**
Q44A	**Meyer Farm, Va**	**23.11**	**15**	P		**P**	**16 08 34.3**	**-1.4**
P40A	**Paris**	**23.13**	**9**	P		**P**	**16 08 33.7**	**-2.1**
P40A				IAmb		IAmb	16 08 35.8	
	comp=Z,21nm,0.8s							
WCI	**Wyandotte Cave**	**23.28**	**20**	P		**P**	**16 08 35.2**	**-2.1**
WCI	**Wyandotte Cave** baz=205	**23.28**	**20**	P		**P**	**16 08 36.2**	**-1.1**
V55A	**Taylorsville**	**23.44**	**32**	P		**P**	**16 08 36.5**	**-2.4**
V55A				IAmb		IAmb	16 08 37.1	
	comp=Z,20nm,0.6s							
W57A	**Gilead**	**23.57**	**35**	P		**P**	**16 08 37.0**	**-3.0**
W57A				IAmb		IAmb	16 09 10.4	
	comp=Z,39nm,1.2s							
U54A	**Nelsons Funny**	**23.66**	**30**	P		**P**	**16 08 38.3**	**-2.7**
S51A	**Beattyville**	**23.78**	**26**	P		**P**	**16 08 39.2**	**-2.8**
S51A				IAmb		IAmb	16 08 41.9	
	comp=Z,25nm,0.8s							
SWSC	**Sam W. Stewart** baz=128	**23.88**	**316**	P		**P**	**16 08 43.5**	**+0.7**
IKP	**In-Ko-Pah, Jac** baz=127	**23.91**	**315**	P		**P**	**16 08 44.0**	**+0.8**
R50A	**Paris**	**24.04**	**24**	P		**P**	**16 08 42.9**	**-1.4**
R50A				IAmb		IAmb	16 08 44.2	
	comp=Z,13nm,0.7s							
BC3	**Big Chuckawall** baz=130	**24.10**	**318**	P		**P**	**16 08 45.8**	**+0.7**
IRM	**Iron Mountain** baz=132	**24.23**	**320**	P		**P**	**16 08 47.2**	**+1.1**
MONP2	**Monument Peak** baz=127	**24.26**	**316**	P		**P**	**16 08 48.0**	**+1.3**
P46A	**Rosedale**	**24.27**	**18**	P		**P**	**16 08 44.6**	**-1.7**
ISCO	**Idaho Springs**	**24.43**	**343**	P		**P**	**16 08 45.8**	**-2.4**
V58A	**Windy Hill, Pi**	**24.52**	**36**	P		**P**	**16 08 47.1**	**-1.6**
V58A				IAmb		IAmb	16 09 12.3	
	comp=Z,19nm,0.8s							
BELC	**Belle Mtn. Jos** baz=130	**24.67**	**318**	P		**P**	**16 08 50.3**	**0.0**
P48A	**Milroy**	**24.68**	**21**	P		**P**	**16 08 48.3**	**-1.8**
TPFO	**Pinon Flats** baz=128	**24.72**	**317**	P		**P**	**16 08 51.8**	**+1.1**
PFO	**Pinyon Flats O** comp=Z,4.3nm,0.8s,baz=111,slow=6.4,SNR=5.3	**24.73**	**317**	P		**P**	**16 08 52.6**	**+1.9**
PFO				LR		LR	16 19 59.8	
	comp=Z,79nm,18.8s,baz=165,slow=40 comp=Z,4.3nm,0.8s							
PFO	**Pinyon Flats O** baz=128	**24.73**	**317**	P		**P**	**16 08 52.2**	**+1.4**
BLA	**Blacksburg** baz=219	**24.90**	**32**	P		**P**	**16 08 51.3**	**-0.9**
GMRC	**Granite Mounta** baz=132	**24.97**	**320**	P		**P**	**16 08 52.5**	**-0.4**
P49A	**Miami Univ. Ec**	**24.99**	**22**	P		**P**	**16 08 50.6**	**-2.4**
P49A	**Miami Univ. Ec** baz=207,SNR=15	**24.99**	**22**	P		**P**	**16 08 51.8**	**-1.1**
SFIN	**Lafayette**	**25.00**	**17**	P		**P**	**16 08 51.6**	**-1.4**
SFIN				IAmb		IAmb	16 08 53.3	
	comp=Z,22nm,0.6s							
SFIN	**Lafayette** baz=202	**25.00**	**17**	P		**P**	**16 08 51.9**	**-1.1**
T57A	**Hurt**	**25.34**	**34**	P		**P**	**16 08 55.1**	**-1.0**
Q52A	**Bidwell**	**25.46**	**26**	P		**P**	**16 08 55.7**	**-1.4**
O48B	**Farmland** baz=206,SNR=26	**25.49**	**20**	P		**P**	**16 08 56.2**	**-1.2**
TUQ	**Turquoise Moun** baz=132	**25.56**	**321**	P		**P**	**16 08 58.3**	**0.0**
O49A	**Covington**	**25.71**	**22**	P		**P**	**16 08 58.5**	**-0.9**
L40A	**Anamosa**	**25.73**	**9**	P		**P**	**16 08 59.1**	**-0.5**
L40A				IAmb		IAmb	16 09 01.8	
	comp=Z,38nm,1.4s							
N47A	**Urbana**	**25.88**	**19**	P		**P**	**16 08 59.1**	**-1.8**
R55A	**Marlinton**	**25.88**	**30**	P		**P**	**16 08 59.8**	**-1.3**
R55A				IAmb		IAmb	16 09 02.1	
	comp=Z,35nm,1.1s							
S57A	**Dark Hollow, R**	**26.07**	**33**	P		**P**	**16 09 01.8**	**-0.9**
P52A	**Corning**	**26.08**	**26**	P		**P**	**16 09 01.1**	**-1.7**
P52A	**Corning** baz=212,SNR=5.2	**26.08**	**26**	P		**P**	**16 09 01.7**	**-1.1**
ACSO	**Alum Creek Sta** baz=210	**26.25**	**24**	P		**P**	**16 09 03.9**	**-0.5**
P53A	**Whipple**	**26.27**	**27**	P		**P**	**16 09 02.8**	**-1.8**
SDV	**Santo Domingo** comp=Z,12nm,0.7s,baz=324,slow=4.3,SNR=9.4 comp=Z,12nm,0.7s	**26.27**	**104**	P		**P**	**16 09 05.1**	**+0.1**
O52A	**Adamsville**	**26.61**	**26**	P		**P**	**16 09 05.7**	**-1.9**
O52A				IAmb		IAmb	16 09 08.8	
	comp=Z,18nm,0.7s							
JFWS	**Jewell Farm**	**26.72**	**10**	P		**P**	**16 09 07.6**	**-0.9**
JFWS	**Jewell Farm** baz=193,SNR=5.9	**26.72**	**10**	P		**P**	**16 09 08.0**	**-0.6**
O53A	**New Philadelph**	**26.98**	**26**	P		**P**	**16 09 08.5**	**-2.4**
O53A				IAmb		IAmb	16 09 34.8	
	comp=Z,16nm,1.0s							
O53A	**New Philadelph** baz=214	**26.98**	**26**	P		**P**	**16 09 09.7**	**-1.2**
ECSD	**ERS Data Cent** baz=180	**27.01**	**360**	P		**P**	**16 09 10.7**	**-0.4**
MCWV	**Mont Chateau** baz=217	**27.10**	**29**	P		**P**	**16 09 10.8**	**-1.2**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.7s,baz=145,slow=11,SNR=4.0 comp=Z,0.5nm,0.7s	**28.36**	**339**	P		**P**	**16 09 24.8**	**+1.3**
SPMN	**Marine on St.** baz=187	**28.66**	**5**	P		**P**	**16 09 25.5**	**-0.3**
SSPA	**Standing Stone** baz=219	**28.80**	**30**	P		**P**	**16 09 26.0**	**-1.1**
NVAR	**Mina Array Bea** comp=Z,1.9nm,0.9s,baz=148,slow=9.9,SNR=13	**28.98**	**323**	P		**P**	**16 09 30.7**	**+1.7**
NVAR				PcP		**PcP**	**16 12 38.8**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=185,slow=2.1,SNR=3.5 comp=Z,1.9nm,0.9s							
ELK	**Elko** comp=Z,0.5nm,0.6s,baz=154,slow=0.8,SNR=3.3	**29.02**	**330**	P		**P**	**16 09 31.2**	**+1.8**
ELK				LR		LR	16 21 20.3	
	comp=Z,52nm,19.0s,baz=146,slow=37 comp=Z,0.5nm,0.6s							
ERPA	**Erie** baz=214	**29.04**	**26**	P		**P**	**16 09 28.0**	**-1.3**
ATAH	**Atahualpa** comp=Z,44nm,20.2s,baz=215,slow=33	**29.59**	**142**	LR		LR	16 19 40.5	
RLMT	**Red Lodge** baz=5	**30.39**	**342**	P		**P**	**16 09 40.8**	**-0.6**
BINY	**Binghamton** baz=221	**30.91**	**30**	P		**P**	**16 09 44.3**	**-1.5**
MCMT	**McKenzie Canyo**	**31.33**	**337**	P		**P**	**16 09 48.5**	**-1.2**
EYMN	**Ely** baz=189	**31.49**	**6**	P		**P**	**16 09 50.1**	**-0.7**
SADO	**Sadowa** comp=Z,7.9nm,0.7s,baz=266,slow=8.7,SNR=4.5 comp=Z,7.9nm,0.7s	**31.60**	**24**	P		**P**	**16 09 49.4**	**-2.4**
LONY	**Lake Ozonia** baz=220	**33.42**	**29**	P		**P**	**16 10 06.5**	**-1.3**
YBH	**Yreka Blue Hor** comp=Z,74nm,20.3s,baz=154,slow=39	**33.70**	**323**	LR		LR	16 25 22.2	
NNA	**Nana** comp=Z,40nm,18.7s,baz=338,slow=31	**34.40**	**145**	LR		LR	16 21 35.8	
LBNH	**Lisbon** baz=225	**34.42**	**32**	P		**P**	**16 10 15.4**	**-1.1**
I04A	**Tendick Farm,** baz=133	**34.90**	**326**	P		**P**	**16 10 20.8**	**+0.2**
LPAZ	**La Paz** comp=Z,1.8nm,1.0s,baz=294,slow=12,SNR=2.8	**42.99**	**138**	P		**P**	**16 11 30.4**	**+1.3**
LPAZ				LR		LR	16 26 57.3	
	comp=Z,36nm,19.3s,baz=295,slow=33 comp=Z,1.8nm,1.0s							
BBB	**Bella Bella** comp=Z,42nm,19.6s,baz=163,slow=40	**43.41**	**332**	LR		LR	16 32 10.9	
SCHQ	**Schefferville** comp=Z,3.4nm,0.6s,baz=248,slow=12,SNR=8.5	**44.40**	**24**	P		**P**	**16 11 38.3**	**-1.1**
SCHQ				LR		LR	16 31 21.3	
	comp=Z,49nm,20.2s,baz=108,slow=38 comp=Z,3.4nm,0.6s							
S34M	**Telegraph Cree** baz=133	**48.61**	**336**	P		**P**	**16 12 12.6**	**+0.3**
WTLY	**Watson Lake, Y** baz=137	**49.33**	**339**	P		**P**	**16 12 18.9**	**+1.1**
R33M	**Jennings River** baz=134	**49.58**	**338**	P		**P**	**16 12 19.6**	**-0.2**
R32K	**Eaglecrest** baz=130	**50.20**	**335**	P		**P**	**16 12 24.8**	**+0.4**
N32M	**Quiet Lake** baz=133	**51.56**	**338**	P		**P**	**16 12 34.6**	**0.0**
MMPY	**Sheldon Lake,** baz=136	**51.97**	**340**	P		**P**	**16 12 37.9**	**+0.2**
FARO	**Faro, Yukon** baz=133	**52.39**	**339**	P		**P**	**16 12 41.1**	**+0.4**
N31M	**Braeburn, Yuko** baz=130	**52.75**	**338**	P		**P**	**16 12 43.8**	**+0.3**
M29M	**Somme Creek** baz=128	**54.34**	**337**	P		**P**	**16 12 55.4**	**+0.2**
L27K	**Beaver Creek,** baz=124	**55.96**	**337**	P		**P**	**16 13 06.9**	**+0.2**
M26K	**Nabesna, AK** baz=123	**56.04**	**336**	P		**P**	**16 13 08.1**	**+0.8**
I29M	**Ogilvie Camp,** baz=130	**56.12**	**340**	P		**P**	**16 13 08.0**	**+0.2**
N25K	**Chitina, Valde** baz=121	**56.26**	**335**	P		**P**	**16 13 09.4**	**+0.5**
EPYK	**Eagle Plains** baz=132	**56.28**	**342**	P		**P**	**16 13 09.4**	**+0.4**
L26K	**Log Cabin Wild** baz=123	**56.51**	**336**	P		**P**	**16 13 11.1**	**+0.4**
G30M	**tAoh Zraii Nji** baz=133	**56.55**	**342**	P		**P**	**16 13 11.3**	**+0.4**
EGAK	**Eagle** baz=126	**56.71**	**339**	P		**P**	**16 13 12.8**	**+0.8**
INK	**Inuvik** comp=Z,52nm,18.2s,baz=225,slow=41	**56.74**	**344**	LR		LR	16 41 59.8	
INK	**Inuvik** baz=136	**56.74**	**344**	P		**P**	**16 13 12.7**	**+0.6**
KLU	**Klutina** baz=119	**56.75**	**334**	P		**P**	**16 13 13.1**	**+0.7**
SCRK	**Sand Creek** baz=123	**57.27**	**337**	P		**P**	**16 13 16.0**	**-0.1**
PAX	**Paxson** baz=121	**57.31**	**336**	P		**P**	**16 13 16.7**	**+0.3**
I27K	**Kandik River** baz=126	**57.36**	**340**	P		**P**	**16 13 16.6**	**0.0**
J26L	**Joseph Creek** baz=124	**57.41**	**338**	P		**P**	**16 13 16.9**	**-0.1**
RIDG	**Independent Ri** baz=122,SNR=5.7	**57.47**	**337**	P		**P**	**16 13 17.1**	**-0.3**
K24K	**Donnelly Dome** baz=121	**57.85**	**337**	P		**P**	**16 13 20.2**	**+0.1**
SML	**Sawmill** baz=117	**57.91**	**334**	P		**P**	**16 13 20.6**	**0.0**
WAT6	**Susitna Watana** baz=118	**58.03**	**335**	P		**P**	**16 13 21.6**	**+0.1**
G27K	**Doyon Strip** baz=127	**58.09**	**341**	P		**P**	**16 13 21.9**	**+0.2**
J25K	**Salcha River,** baz=122	**58.12**	**337**	P		**P**	**16 13 22.5**	**+0.5**
RC01	**Rabbit Creek A** baz=115	**58.20**	**333**	P		**P**	**16 13 22.5**	**0.0**
SFJD	**Kangerlussuaq** comp=Z,17nm,19.2s,baz=232,slow=38	**58.38**	**19**	LR		LR	16 40 01.8	
WAT1	**Susitna Watana** baz=117	**58.47**	**335**	P		**P**	**16 13 25.0**	**+0.6**
HDA	**Harding Lake** baz=120	**58.60**	**337**	P		**P**	**16 13 25.5**	**+0.2**
PRP	**Porcupine Dome** baz=122	**58.66**	**338**	P		**P**	**16 13 25.8**	**0.0**
SII	**Sitkinak Islan** baz=108	**58.67**	**327**	P		**P**	**16 13 26.5**	**+0.6**
CAPN	**Captain Cook N** baz=114	**58.70**	**332**	P		**P**	**16 13 26.3**	**+0.4**
ILAR	**Eielson Array** comp=Z,2.3nm,0.9s,baz=129,slow=5.1,SNR=17	**58.76**	**337**	P		**P**	**16 13 27.3**	**+0.9**
ILAR				pP		**pP**	**16 13 44.3**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=128,slow=4.7,SNR=3.5 comp=Z,2.3nm,0.9s							
SUA	**Susitna One**	**58.80**	**333**	P		**P**	**16 13 27.3**	**+0.5**
SUA				IAmb		IAmb	16 13 29.2	
	comp=Z,6.0nm,1.0s							
SUA	**Susitna One** baz=114	**58.80**	**333**	P		**P**	**16 13 27.5**	**+0.6**
G26K	**Porcupine Rive** baz=124	**58.86**	**340**	P		**P**	**16 13 27.3**	**+0.4**
E27K	**Coleen River** baz=128	**58.91**	**342**	P		**P**	**16 13 27.4**	**+0.1**
POKR	**Poker Plat Res** baz=120	**59.14**	**337**	P		**P**	**16 13 29.7**	**+0.8**
H25K	**Birch Creek** baz=122	**59.16**	**339**	P		**P**	**16 13 29.5**	**+0.5**
SKT	**Skwentna**	**59.36**	**333**	P		**P**	**16 13 31.4**	**+0.9**
SKT				IAmb		IAmb	16 13 33.1	
	comp=Z,5.5nm,0.9s							
SKT	**Skwentna** baz=114,SNR=6.6	**59.36**	**333**	P		**P**	**16 13 31.6**	**+1.1**
F26K	**Sheenjek River** baz=124	**59.40**	**341**	P		**P**	**16 13 31.4**	**+0.6**
TRF	**Thorofare Moun** baz=116,SNR=6.3	**59.46**	**335**	P		**P**	**16 13 31.9**	**+0.5**
NEA2	**Nenana** baz=118	**59.50**	**337**	P		**P**	**16 13 32.2**	**+0.8**
H24K	**Noodor Dome**	**59.66**	**338**	P		**P**	**16 13 32.4**	**-0.2**
H24K				IAmb		IAmb	16 13 34.4	
	comp=Z,5.3nm,1.0s							
H24K	**Noodor Dome** baz=120	**59.66**	**338**	P		**P**	**16 13 33.2**	**+0.6**
KTH	**Kantishna Hill**	**59.76**	**335**	P		**P**	**16 13 34.2**	**+0.8**
KTH				IAmb		IAmb	16 13 52.5	
	comp=Z,6.2nm,1.1s							
F25K	**Christian Rive** baz=123	**59.81**	**340**	P		**P**	**16 13 34.6**	**+0.9**
O19K	**Port Alsworth** baz=110	**59.94**	**331**	P		**P**	**16 13 35.5**	**+1.0**
G24K	**Hadweenzic Riv** baz=120	**59.95**	**339**	P		**P**	**16 13 35.4**	**+0.9**
PPLA	**Purkeypile** baz=114	**60.01**	**334**	P		**P**	**16 13 35.5**	**+0.4**
M20K	**Styx River**	**60.01**	**333**	P		**P**	**16 13 36.4**	**+1.2**
M20K				IAmb		IAmb	16 13 37.5	
	comp=Z,3.9nm,0.8s							
M20K	**Styx River** baz=112	**60.01**	**333**	P		**P**	**16 13 35.8**	**+0.6**
BPAW	**Bear Paw Mtn.** baz=116	**60.02**	**336**	P		**P**	**16 13 35.5**	**+0.4**
E25K	**Arctic Village** baz=123	**60.08**	**341**	P		**P**	**16 13 36.3**	**+0.8**
R17K	**Ugashik Creek** baz=107	**60.14**	**328**	P		**P**	**16 13 37.1**	**+1.1**
CAST	**Castle Rocks**	**60.18**	**335**	P		**P**	**16 13 35.8**	**-0.4**
CAST				IAmb		IAmb	16 13 38.4	
	comp=Z,5.7nm,1.2s							
CAST	**Castle Rocks** baz=114,SNR=5.1	**60.18**	**335**	P		**P**	**16 13 36.6**	**+0.4**
N19K	**Bonanza Creek** baz=110	**60.23**	**331**	P		**P**	**16 13 37.6**	**+1.0**
O18K	**Koktuh Hills** baz=109	**60.24**	**330**	P		**P**	**16 13 37.6**	**+0.9**
H23K	**Yukon River** baz=118	**60.25**	**338**	P		**P**	**16 13 37.5**	**+0.8**
MLY	**Manley**	**60.34**	**337**	P		**P**	**16 13 37.5**	**+0.2**
MLY				IAmb		IAmb	16 13 39.5	
	comp=Z,7.0nm,0.9s							
MLY	**Manley** baz=116,SNR=9.0	**60.34**	**337**	P		**P**	**16 13 38.0**	**+0.8**

baz=119
TTA Tatalina 61.64 333 P **P** **16 13 46.1 0.0**
baz=110
C24K Franklin Bluff 61.89 342 P **P** **16 13 48.2 +0.6**
baz=121
PLCA Paso Flores 61.93 158 P **P** **16 13 50.1 +1.8**
comp=Z,5.6nm,0.9s,baz=326,slow=8.4,SNR=13
comp=Z,5.6nm,0.9s
PLCA Paso Flores 61.93 158 P **P** **16 13 49.4 +1.1**
PLCA IAmb IAmb 16 13 51.5
comp=Z,7.4nm,0.9s
F22K John River 61.96 339 P **P** **16 13 48.9 +0.7**
baz=116
G21K Allakaket 62.00 338 P **P** **16 13 49.0 +0.5**
baz=114
N16K Nishlik Lake 62.13 330 P **P** **16 13 50.2 +0.8**
baz=106
D23K Nanushuk River 62.13 341 P **P** **16 13 50.0 +0.7**
baz=118
F21K Alatna River 62.29 338 P **P** **16 13 50.3 -0.1**
baz=115,SNR=6.5
C23K Itkillik River 62.53 342 P **P** **16 13 52.1 +0.2**
baz=119
TRQA Tornquist 63.29 150 P **P** **16 13 57.4 0.0**
TRQA IAmb IAmb 16 13 59.5
comp=Z,5.5nm,0.9s
SPIA Saint Paul Isl 67.42 325 P **P** **16 14 21.8 -2.0**
BORG Borgarnes 68.72 26 LR LR 16 46 02.1
comp=Z,33nm,18.2s,baz=332,slow=37
ESDC Sonseca Array 81.42 51 P **P** **16 15 46.7 +1.1**
comp=Z,0.3nm,0.5s,baz=293,slow=4.9,SNR=2.2
comp=Z,0.3nm,0.5s
NOA NORSAR Array B 83.84 28 P **P** **16 15 58.8 +1.1**
comp=Z,0.5nm,0.7s,baz=298,slow=5.4,SNR=1.7
comp=Z,0.5nm,0.7s
HFS Hagfors 85.33 28 LR LR 16 53 36.2
comp=Z,10nm,21.2s,baz=309,slow=35
BOSA Boshof 125.32 114 PKP **PKPdf** **16 22 30.1 +0.6**
comp=Z,3.8nm,1.0s,baz=307,slow=2.6,SNR=2.2
WRA Warramunga Arr 131.84 258 PKhKP PKPpre 16 22 37.8
comp=Z,1.0nm,1.0s,baz=74,slow=1.8,SNR=5.6
WRA PKP **PKPdf** **16 22 43.0 +1.0**
comp=Z,0.2nm,0.5s,baz=299,slow=3.1,SNR=4.9
ASAR Alice Springs 132.44 253 PKP **PKPdf** **16 22 44.4 +1.3**
comp=Z,0.2nm,0.5s,baz=74,slow=2.1,SNR=4.1
PZH PanZhiHua 133.63 337 PKP **PKPdf** **16 22 42.8 -2.7**
CMAR Chiang Mai Arr 141.99 336 PKhKP PKPpre 16 22 55.8
comp=Z,0.7nm,0.8s,baz=318,slow=1.2,SNR=3.4
CMAR PKP **PKPdf** **16 23 02.0 +1.2**
comp=Z,0.9nm,1.0s,baz=276,slow=0.8,SNR=3.4

IDC 02 16:13:39.7±2.4, 6.40S×154.74E, h0km, mb3.6/2, mbtmp3.8/4, ML1.4/1, Error ellipse: s-maj=39.2km s-min=24.1km az=56.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.41**	**307**	Pn	Pn	16 14 35.2	+1.0
	16nm,0.2s,baz=266,slow=2.6,SNR=16						
KRVT				Sn	Sn	16 15 11.2	-4.2
	17nm,0.3s,baz=145,slow=20,SNR=7.1						
KRVT				Lg	Lg	16 15 27.9	
	30nm,0.3s,baz=217,slow=20,SNR=6.2						
PMG	**Port Moresby**	**8.08**	**248**	Pn	Pn	16 15 39.0	+0.6
	0.3nm,0.3s,baz=115,slow=7.8,SNR=1.4						
PMG				Sn	Sn	16 17 10.5	-0.1
	0.9nm,0.3s,baz=159,slow=19,SNR=2.8						
	17nm,0.7s						
WRA	**Warramunga Arr**	**23.95**	**234**	P	P	16 18 55.8	-0.2
	2.1nm,0.9s,baz=59,slow=9.6,SNR=10						
	2.1nm,0.9s						
ASAR	**Alice Springs**	**26.38**	**227**	P	P	16 19 18.4	+0.3
	0.7nm,0.9s,baz=57,slow=9.8,SNR=7.5						
	0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**152.62**	**286**	PKPbc	PKPbc	16 33 38.8	-0.6
	0.8nm,0.8s,baz=50,slow=2.0,SNR=4.6						

IDC 02 16:34:03.7±3.1, 20.46S×175.22W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=162.4km s-min=48.4km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.09**	**264**	P	P	16 41 08.4	+0.9
	1.5nm,0.3s,baz=87,slow=11,SNR=8.1						
	1.5nm,0.3s						
ASAR	**Alice Springs**	**47.06**	**256**	P	P	16 42 37.6	+0.1
	2.4nm,0.8s,baz=89,slow=8.5,SNR=34						
ASAR				PcP	PcP	16 44 08.5	-1.3
	0.2nm,0.5s,baz=106,slow=3.8,SNR=5.4						
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**47.19**	**261**	P	P	16 42 37.4	-1.1
	0.8nm,0.4s,baz=97,slow=7.8,SNR=24						
	0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**92.56**	**289**	P	P	16 47 18.0	+0.3
	0.8nm,1.0s,baz=114,slow=4.4,SNR=2.5						
	0.8nm,1.0s						
AKASG	**Malin Array Be**	**144.19**	**333**	PKP	PKPbc	16 53 40.1	+0.6
	0.3nm,0.3s,baz=45,slow=4.1,SNR=4.3						
BRTR	**Keskin Array B**	**148.71**	**314**	PKPbc	PKPbc	16 53 53.6	+0.2
	0.5nm,0.6s,baz=38,slow=0.3,SNR=3.6						

*IDC **02** 16:38:26.3±0.5, 55.17S×30.70W, h0km, mb4.6/12, mbtmp4.6/13, ML4.1/1, MS3.8/27, Error ellipse: s-maj=18.8km s-min=14.7km az=62.0*
*NEIC **02** 16:38:28.8±2.1, 55.42S±0.09×30.9W±0.2, h10km±1km, mb5.0/39, Error ellipse: s-maj=16.4km s-min=14.3km az=40.0*
*GCMT **02** 16:38:29.8±0.3, 55.11S±0.03×30.46W±0.06, h18km±1km, MW5.0/89, Moment Tensor Solution. s25,c26; s89,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.69±.21; $M_{\theta\theta}$-1.85±.16; $M_{\phi\phi}$-0.83±.13; $M_{r\theta}$-2.67±.39; $M_{\theta\phi}$-0.98±.09; $M_{\phi r}$-0.05±.29; Best double couple: M_o3.68200×10^{16} NP1:ϕ_s259.00000°, δ68.00000°, λ103.00000°. NP2: ϕ_s46.00000°, δ25.00000°, λ60.00000°. Principal axes: T 3.9530, Plg64.0000°, Azm190.0000°; N -0.5400, Plg12.0000°, Azm74.0000°; P -3.4120, Plg22.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 16:38:28.3±0.3, 55.31S±0.06×30.85W±0.07, h10km, n303, σ0.88/281, mb4.9/26, MS3.8/26, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.42**	**285**	Pn	Pn	16 39 21.1	-0.5
ORCD	**Orcadas**	**9.15**	**228**	Pn	Pn	16 40 37.4	-2.7
ESPZ	**Base Esperanza**	**15.50**	**228**	Pn	Pn	16 42 06.8	+0.2
EFI	**East Falkland**	**16.55**	**271**	Pn	Pn	16 42 19.3	-0.9
VNA1	**Neumayer--Stat**	**18.30**	**156**	P	P	16 42 44.5	+2.6
VNA3	**Neumayer Olymp**	**18.42**	**158**	P	Pn	16 42 45.4	+2.0
VNA3	**Neumayer Olymp**	**18.42**	**158**	PcP	PcP	16 47 13.7	+0.4
VNA2	**Neumayer--Watz**	**18.69**	**156**	P	Pn	16 42 47.9	+1.3
	baz=309,slow=13						
VNA2	**Neumayer--Watz**	**18.69**	**156**	PcP	PcP	16 47 14.4	+0.7
PMSA	**Palmer Station**	**18.86**	**227**	P	Pn	16 42 49.6	+0.9
	0.5nm,0.3s,baz=34,slow=9.3,SNR=4.4						
PMSA				LR	LR	16 48 32.9	
	comp=Z,113nm,18.5s,baz=60,slow=32						
	14nm,0.8s						
PMSA	**Palmer Station**	**18.86**	**227**	P	P	16 42 48.6	+0.5
PMSA				IAmb	IAmb	16 43 00.1	
	comp=Z,198nm,1.8s						
SNAA	**Sanae**	**20.29**	**155**	P	Pn	16 43 05.2	-0.5
SNAA	**Sanae**	**20.29**	**155**	PcP	PcP	16 47 16.4	-0.2
SNAA	**Sanae**	**20.29**	**155**	P	Pn	16 43 04.9	-0.9
	comp=Z,23nm,0.8s,baz=298,slow=8.5,SNR=36						
SNAA				PcP	PcP	16 47 16.2	-0.5
	comp=Z,1.0nm,0.6s,baz=31,slow=9.2,SNR=2.2						
SNAA				LR	LR	16 50 16.3	
	comp=Z,113nm,18.1s,baz=338,slow=35						
	comp=Z,23nm,0.8s						
SNAA	**Sanae**	**20.29**	**155**	P	P	16 43 04.0	+0.3
USHA	**Ushuaia**	**21.36**	**256**	P	P	16 43 15.6	+0.2
	comp=Z,24nm,0.8s,baz=108,slow=14,SNR=4.0						
	comp=Z,24nm,0.8s						
TROLL	**Troll, Antarti**	**21.85**	**153**	P	P	16 43 21.6	+0.9
MG02	**Cerro Sombrero**	**22.48**	**260**	P	P	16 43 28.8	+1.3
BELA	**Belgrano 2**	**22.71**	**182**	P	P	16 43 27.0	-2.7
BELA				IAmb	IAmb	16 43 33.1	
	comp=Z,59nm,1.6s						
GO10	**Punta Arenas**	**23.37**	**258**	P	P	16 43 35.8	-0.9
MG05	**Puerto Natales**	**24.77**	**261**	P	P	16 43 48.8	-1.0
GO09	**Cerro Castillo**	**24.85**	**262**	P	P	16 43 50.4	-0.2
GO09				IAmb	IAmb	16 43 53.9	
	comp=Z,42nm,1.1s						
TRQA	**Tornquist**	**27.13**	**296**	P	P	16 44 13.1	+1.8
PLTB	**Pedras Altas**	**28.49**	**316**	P	P	16 44 24.2	+0.7
PLTB	**Pedras Altas**	**28.49**	**316**	*eP*	P	16 44 24.1	+0.6
AY01	**Puyuhuapi**	**28.64**	**275**	P	P	16 44 23.7	-1.0
CPSB	**Cacapava Do Su**	**29.63**	**318**	*eP*	P	16 44 35.5	+1.9
CNLB	**Canela**	**29.67**	**323**	*eP*	P	16 44 35.1	+1.1
PLCA	**Paso Flores**	**29.82**	**283**	P	P	16 44 35.0	-0.3
	comp=Z,3.3nm,1.0s,baz=134,slow=9.8,SNR=5.1						
PLCA				LR	LR	16 56 28.0	
	comp=Z,101nm,19.1s,baz=136,slow=36						
	comp=Z,3.3nm,1.0s						
PLCA	**Paso Flores**	**29.82**	**283**	P	P	16 44 35.4	0.0
PLCA				IAmb	IAmb	16 45 12.3	
	comp=Z,35nm,1.7s						
PLCA	**Paso Flores**	**29.82**	**283**	*eP*	P	16 44 37.5	+2.1
RODS	**Rosario do Sul**	**30.37**	**315**	*eP*	P	16 44 42.6	+2.4
ALGR	**Alto Alegre (B**	**30.92**	**320**	*eP*	P	16 44 46.0	+0.9
UNIS	**Unistalda (Bra**	**31.46**	**317**	*eP*	P	16 44 50.9	+1.1
ITQB	**Itaqui**	**31.55**	**314**	*eP*	P	16 44 51.6	+1.1
ITAB	**Concordia**	**32.02**	**322**	*eP*	P	16 44 57.1	+2.4
CRSM	**Crissiumal (Br**	**32.48**	**319**	*eP*	P	16 44 59.2	+0.5
FRBT	**Francisco Belt**	**33.50**	**322**	*eP*	P	16 45 09.6	+1.9
PTGB	**Pitanga**	**34.32**	**324**	*eP*	P	16 45 15.4	+0.6
CPUP	**Villa Florida**	**34.79**	**315**	P	P	16 45 18.7	-0.2
	comp=Z,26nm,0.9s,baz=154,slow=8.4,SNR=40						
CPUP				LR	LR	17 01 19.2	
	comp=Z,75nm,18.2s,baz=165,slow=40						
	comp=Z,26nm,0.9s						
CPUP	**Villa Florida**	**34.79**	**315**	P	P	16 45 18.6	-0.2
CPUP				IAmb	IAmb	16 45 21.6	
	comp=Z,36nm,1.0s						
CPUP	**Villa Florida**	**34.79**	**315**	*eP*	P	16 45 19.2	+0.4
QSPA	**South Pole Qui**	**34.95**	**180**	P	P	16 45 21.3	+1.2
	comp=Z,28nm,1.0s,baz=203,slow=3.6,SNR=30						
QSPA				LR	LR	16 58 50.6	
	comp=Z,150nm,19.0s,baz=186,slow=35						
	comp=Z,28nm,1.0s						
QSPA	**South Pole Qui**	**34.95**	**180**	P	P	16 45 21.7	+1.7
QSPA				IAmb	IAmb	16 45 26.1	
	comp=Z,28nm,0.9s						
MT09	**Talagante**	**35.11**	**291**	P	P	16 45 21.1	-0.6
MT09				IAmb	IAmb	16 45 23.9	
	comp=Z,14nm,0.8s						
MT01	**Popeta**	**35.18**	**291**	P	P	16 45 20.5	-1.7
MT01				IAmb	IAmb	16 46 37.3	
	comp=Z,16nm,1.0s						
ALF01	**Guarapari-ES**	**35.43**	**344**	*eP*	P	16 45 25.6	+1.3
MT02	**Curacav**	**35.58**	**291**	P	P	16 45 25.6	-0.1
MT02				IAmb	IAmb	16 46 24.6	
	comp=Z,49nm,1.2s						
VA06	**Catapilco**	**36.21**	**292**	P	P	16 45 31.2	+0.3
BB19B	**Bebedouro**	**36.68**	**332**	*eP*	P	16 45 36.1	+1.0
CO02	**Combarbal**	**37.11**	**294**	P	P	16 45 40.3	+1.4
CO03	**El Pedregal**	**37.24**	**294**	P	P	16 45 39.0	-0.9
CO03				IAmb	IAmb	16 45 43.6	
	comp=Z,24nm,1.0s						
CO01	**Juntas del Tor**	**37.62**	**296**	P	P	16 45 45.1	+1.7
CO01				IAmb	IAmb	16 45 47.5	
	comp=Z,65nm,1.4s						
AC05	**El Transito**	**38.63**	**297**	P	P	16 45 53.5	+1.8
AQDB	**Aquidauana**	**39.49**	**322**	*eP*	P	16 45 60.0	+1.2
C2SB	**Chapadao do Su**	**40.12**	**327**	*eP*	P	16 46 06.3	+2.3
BDFB	**Brasilia**	**41.74**	**335**	P	P	16 46 14.8	-2.7
	comp=Z,1.3nm,0.4s,baz=148,slow=9.5,SNR=1.5						
BDFB				LR	LR	17 04 32.1	
	comp=Z,190nm,18.1s,baz=152,slow=38						
	comp=Z,1.3nm,0.4s						
MAW	**Mawson**	**41.97**	**145**	P	P	16 46 18.2	-0.5
	comp=Z,2.8nm,0.7s,baz=244,slow=7.8,SNR=7.1						
MAW				LR	LR	17 01 18.3	
	comp=Z,135nm,20.3s,baz=247,slow=33						
	comp=Z,2.8nm,0.7s						
MAW	**Mawson**	**41.97**	**145**	P	P	16 46 19.2	+0.5
LVC	**Limon Verde**	**43.15**	**304**	LR	LR	17 07 30.8	
	comp=Z,111nm,18.2s,baz=173,slow=40						
LVC	**Limon Verde**	**43.15**	**304**	P	P	16 46 29.3	+0.1
LVC				IAmb	IAmb	16 46 34.3	
	comp=Z,45nm,1.4s						
LVC	**Limon Verde**	**43.15**	**304**	*eP*	P	16 46 28.6	-0.7
SALV	**Santo Antonio**	**43.73**	**324**	*eP*	P	16 46 33.8	+0.2
PB09	**IPOC Station P**	**44.00**	**304**	P	P	16 46 38.0	+2.1
PB01	**IPOC Station P**	**44.76**	**304**	P	P	16 46 41.7	-0.2
PB01				IAmb	IAmb	16 46 45.3	
	comp=Z,30nm,1.1s						
PTLB	**Pontes e Lacer**	**45.35**	**320**	P	P	16 46 46.9	+0.3
PTLB				IAmb	IAmb	16 46 49.4	
	comp=Z,28nm,0.9s						
PTLB	**Pontes e Lacer**	**45.35**	**320**	*eP*	P	16 46 46.7	+0.2
NBAN	**Anadia - AL**	**45.72**	**353**	*eP*	P	16 46 49.9	+0.4
SNDB	**Serra Nova Dou**	**46.10**	**332**	*eP*	P	16 46 53.8	+1.3
NBRF	**Rio Formoso -**	**46.63**	**354**	*eP*	P	16 46 58.6	+2.1
VNDA	**Vanda**	**47.20**	**184**	P	P	16 47 01.4	+1.0
	comp=Z,7.7nm,0.8s,baz=184,slow=6.4,SNR=30						
VNDA				LR	LR	17 06 38.7	
	comp=Z,66nm,18.1s,baz=168,slow=36						
	comp=Z,7.7nm,0.8s						
VNDA	**Vanda**	**47.20**	**184**	P	P	16 47 01.6	+1.1
VNDA				IAmb	IAmb	16 47 05.1	
	comp=Z,9.6nm,0.8s						
BOSA	**Boshof**	**47.84**	**80**	P	P	16 47 04.2	-1.9
	comp=Z,4.5nm,1.0s,baz=190,slow=8.3,SNR=5.3						
BOSA				LR	LR	17 03 35.3	
	comp=Z,124nm,19.2s,baz=196,slow=32						
	comp=Z,4.5nm,1.0s						
BOSA	**Boshof**	**47.84**	**80**		P	16 47 06.3	+0.2
BOSA				IAmb	IAmb	16 47 19.6	
	comp=Z,12nm,1.0s						
H10S2	**ASCENSION HYDR**	**47.98**	**22**	T	T	17 38 50.2	
	baz=192,slow=74,SNR=22						
H10S3	**ASCENSION HYDR**	**47.98**	**22**	T	T	17 38 52.5	
	baz=28,slow=74,SNR=22						
VILB	**Vilhena**	**48.04**	**320**	*eP*	P	16 47 08.6	+1.0
PDRB	**Porto dos Gac**	**48.08**	**325**	*eP*	P	16 47 08.0	+0.1
LPAZ	**La Paz**	**48.27**	**309**	P	P	16 47 09.6	-0.5
	comp=Z,16nm,0.8s,baz=165,slow=3.9,SNR=35						
LPAZ				LR	LR	17 08 16.2	
	comp=Z,86nm,20.5s,baz=164,slow=37						
	comp=Z,16nm,0.8s						
LPAZ	**La Paz**	**48.27**	**309**	P	P	16 47 09.8	-0.3
LPAZ	**La Paz**	**48.27**	**309**	*eP*	P	16 47 09.6	-0.5
H10N1	**ASCENSION HYDR**	**49.10**	**22**	T	T	17 40 17.6	
	baz=192,slow=75,SNR=24						
H10N3	**ASCENSION HYDR**	**49.10**	**22**	T	T	17 40 15.5	
	baz=192,slow=75,SNR=32						
H10N2	**ASCENSION HYDR**	**49.11**	**22**	T	T	17 40 16.8	
	baz=192,slow=75,SNR=30						
RCBR	**Riachuelo**	**49.50**	**353**	LR	LR	17 06 03.0	
	comp=Z,101nm,18.7s,baz=326,slow=34						
RCBR	**Riachuelo**	**49.50**	**353**	*eP*	P	16 47 19.2	+0.4
LBTB	**Lobatse**	**50.82**	**77**	LR	LR	17 05 28.8	
	comp=Z,31nm,19.4s,baz=159,slow=32						
LBTB	**Lobatse**	**50.82**	**77**	P	P	16 47 27.3	-1.6
LBTB				IAmb	IAmb	16 47 40.2	
	comp=Z,21nm,1.1s						
TSUM	**Tsumeb**	**51.19**	**65**	LR	LR	17 05 18.7	
	comp=Z,49nm,19.7s,baz=219,slow=32						
TSUM	**Tsumeb**	**51.19**	**65**	P	P	16 47 32.6	+0.8
TSUM				IAmb	IAmb	16 47 43.5	
	comp=Z,19nm,1.1s						
PRPB	**Parauapebas**	**51.30**	**336**	*eP*	P	16 47 33.8	+1.4
NPGB	**Novo Progresso**	**51.95**	**328**	*eP*	P	16 47 36.7	-0.6
POGA	**Pongola**	**52.46**	**85**	P	P	16 47 41.5	+0.5
POGA				IAmb	IAmb	16 47 54.2	
	comp=Z,17nm,1.0s						
TMAB	**Tom-Au,PA,Br**	**54.60**	**339**	*eP*	P	16 47 58.1	+1.4
ITTB	**Itaituba**	**54.60**	**329**	*eP*	P	16 47 58.0	+1.2
CASY	**Casey**	**55.28**	**162**	P	P	16 48 01.0	-0.1
CASY				IAmb	IAmb	16 48 03.0	
	comp=Z,13nm,0.9s						
NNA	**Nana**	**56.08**	**302**	LR	LR	17 13 56.2	
	comp=Z,32nm,19.6s,baz=174,slow=38						
ATAH	**Atahualpa**	**61.04**	**303**	LR	LR	17 16 36.8	
	comp=Z,28nm,20.0s,baz=147,slow=38						
BOAV	**Boa Vista**	**62.46**	**326**	P	P	16 48 50.6	-1.0
BOAV				IAmb	IAmb	16 48 53.6	
	comp=Z,16nm,1.1s						
MDP	**Montagnes des**	**62.85**	**335**	LR	LR	17 16 20.4	
	comp=Z,131nm,18.3s,baz=138,slow=36						
DBIC	**Dimbokro**	**65.43**	**29**	LR	LR	17 12 16.4	
	comp=Z,45nm,19.0s,baz=172,slow=31						
OTAV	**Otavalo**	**67.53**	**307**	*eP*	P	16 49 26.9	+1.8
ROSC	**El Rosal**	**69.83**	**313**	LR	LR	17 24 12.8	
	comp=Z,114nm,18.1s,baz=202,slow=39						
PCRV	**Puerto La Cruz**	**71.11**	**325**	LR	LR	17 23 38.6	
	comp=Z,169nm,18.1s,slow=38						
SDV	**Santo Domingo**	**72.04**	**318**	LR	LR	17 24 35.8	
	comp=Z,334nm,18.0s,baz=140,slow=38						
KOWA	**Kowa**	**73.14**	**27**	LR	LR	17 17 08.0	
	comp=Z,72nm,18.9s,baz=232,slow=32						
TOA0	**Torodi Ar. Sit**	**73.49**	**33**	P	P	16 50 00.9	0.0
TORD	**Torodi Ar. Bea**	**73.49**	**33**	P	P	16 50 00.2	-0.7
	comp=Z,2.7nm,0.6s,baz=195,slow=6.6,SNR=17						
	comp=Z,2.7nm,0.6s						
MBAR	**Mbarara**	**73.70**	**66**	LR	LR	17 19 41.2	
	comp=Z,116nm,18.1s,baz=226,slow=34						
KMBO	**Kilima Mbogo**	**76.75**	**72**	LR	LR	17 22 59.8	
	comp=Z,160nm,18.0s,baz=93,slow=35						
SJG	**San Juan**	**79.03**	**326**	LR	LR	17 27 31.5	
	comp=Z,58nm,18.8s,baz=160,slow=37						
RPZ	**Rata Peaks**	**79.61**	**196**	P	P	16 50 35.2	-0.1
	comp=Z,15nm,1.0s,baz=69,slow=8.1,SNR=3.9						
	comp=Z,15nm,1.0s						
TEIG	**Tepich**	**89.59**	**308**	P	P	16 51 25.8	0.0
ATD	**Arta Tunnel**	**90.32**	**70**	LR	LR	17 31 19.5	
	comp=Z,79nm,18.0s,baz=156,slow=35						
MDT	**Midelt**	**90.61**	**22**	LR	LR	17 29 16.9	
	comp=Z,83nm,18.2s,baz=166,slow=34						
ASAR	**Alice Springs**	**100.27**	**166**	P	**Pdif**	**16 52 13.4**	**-1.5**
	comp=Z,0.7nm,1.0s,baz=177,slow=4.2,SNR=6.3						
ASAR				PP	**PP**	**16 56 21.1**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=185,slow=6.2,SNR=8.5						
ASAR				PKKPbc	**PKKPbc**	**17 08 28.5**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=357,slow=1.9,SNR=1.8						
WRA	**Warramunga Arr**	**104.00**	**166**	Pdiff	**Pdif**	**16 52 29.8**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=195,slow=4.5,SNR=1.8						
WRA				PP	**PP**	**16 56 47.2**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=184,slow=6.3,SNR=3.2						
CLL	**Collm**	**112.32**	**28**	*e*PKiKP	**PKiKP**	**16 57 06.0**	**+2.9**
RSSD	**Black Hills**	**116.75**	**309**	P	**PKiKP**	**16 57 12.5**	**+0.3**
	baz=142						
MPMC	**Manual Prospec**	**116.97**	**295**	P	**PKPdf**	**16 57 12.6**	**-0.3**
	baz=140						
TPNV	**Topopah Spring**	**117.02**	**296**	P	**PKiKP**	**16 57 13.0**	**+0.1**
	baz=140						
ISA	**Isabella, Lake**	**117.19**	**294**	P	**PKPdf**	**16 57 12.7**	**-0.4**
	baz=140						
PKM	**Mcpherson Peak**	**117.30**	**292**	P	**PKPdf**	**16 57 12.3**	**-1.1**
	baz=140						
CWC	**Cottonwood Cre**	**117.57**	**295**	P	**PKPdf**	**16 57 13.4**	**-0.6**
	baz=140						
PDAR	**Pinedale Array**	**118.20**	**305**	PKP	**PKPdf**	**16 57 14.0**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=202,slow=1.7,SNR=2.7						
NVAR	**Mina Array Bea**	**119.20**	**296**	PKP	**PKPdf**	**16 57 16.5**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=144,slow=3.5,SNR=6.3						
GEYT	**Alibeck**	**119.61**	**65**	PKP	**PKPdf**	**16 57 16.4**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=104,slow=6.1,SNR=2.2						
NOA	**NORSAR Array B**	**120.67**	**22**	PKP	**PKPdf**	**16 57 18.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=214,slow=2.1,SNR=2.3						
MSO	**Missoula**	**123.31**	**305**	P	**PKPdf**	**16 57 24.2**	**-0.3**
	baz=138						
J05D	**Fort Rock, OR**	**124.28**	**298**	P	**PKPdf**	**16 57 25.9**	**-0.7**
	baz=136						
FINES	**FINESS Array B**	**124.72**	**29**	PKP	**PKPdf**	**16 57 25.8**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=243,slow=0.9,SNR=12						
I05D	**Terrebonne, OR**	**125.09**	**299**	P	**PKiKP**	**16 57 28.3**	**0.0**
	baz=136						
K02D	**Willamette Mer**	**125.10**	**296**	P	**PKPdf**	**16 57 27.6**	**-0.4**
	baz=136						
I04A	**Tendick Farm,**	**125.24**	**298**	P	**PKiKP**	**16 57 28.5**	**-0.1**
	baz=136						
NEW	**Newport**	**125.84**	**305**	P	**PKiKP**	**16 57 29.4**	**-0.2**
	baz=136						
H04D	**Lebanon**	**125.93**	**298**	P	**PKiKP**	**16 57 29.7**	**-0.2**
	baz=135						
PYUN	**Piuthan**	**126.06**	**92**	*eP*	**PKPdf**	**16 57 29.3**	**-1.2**
	comp=Z,25nm,0.9s						
GKN	**Gorkha**	**126.92**	**93**	*eP*	**PKPdf**	**16 57 31.5**	**-0.6**
	comp=Z,16nm,0.7s						
PKIN	**Phulchoki**	**127.03**	**94**	*eP*	**PKPdf**	**16 57 31.9**	**-0.6**
	comp=Z,15nm,0.7s						
PKI	**Pulchoki**	**127.03**	**94**	*eP*	**PKPdf**	**16 57 31.7**	**-0.9**
	comp=Z,21nm,1.0s						
RAMN	**Ramite**	**127.24**	**96**	*eP*	**PKPdf**	**16 57 32.9**	**0.0**
	comp=Z,14nm,0.7s						
CMAR	**Chiang Mai Arr**	**127.27**	**114**	PKP	**PKPdf**	**16 57 32.4**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=234,slow=4.1,SNR=12						
JIRN	**Jiri**	**127.55**	**95**	*eP*	**PKPdf**	**16 57 33.1**	**-0.5**
	comp=Z,28nm,0.7s						
GUN	**Gumba**	**127.56**	**94**	*eP*	**PKPdf**	**16 57 32.8**	**-0.8**
TAPN	**Taplejung**	**128.18**	**96**	*eP*	**PKPdf**	**16 57 33.2**	**-1.5**
	comp=Z,14nm,0.6s						
ABKAR	**Akbulak array**	**128.68**	**57**	PKPdf	**PKPdf**	**16 57 34.2**	**-0.4**
KSH	**Kashi**	**130.39**	**76**	PKP	**PKPdf**	**16 57 38.2**	**-0.1**
ARCES	**ARCESS Array B**	**131.04**	**23**	PKP	**PKPdf**	**16 57 37.7**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=221,sl

SCRK	**Sand Creek**	146.65 312	PKPdf	**PKPab**	16 58 09.7	-0.3	
SCRK	**Sand Creek**	146.65 312	P	**PKPbc**	16 58 08.3	-0.5	
	baz=107						
HARP	**HAARP**	146.68 309	P	**PKPbc**	16 58 08.4	-0.4	
	baz=109						
KLU	**Klutina**	146.73 308	P	**PKPbc**	16 58 09.1	0.0	
	baz=110,SNR=31						
E27K	**Coleen River**	146.79 320	P	**PKPbc**	16 58 08.7	-0.3	
	baz=103						
RIDG	**Independent Ri**	146.95 312	P	**PKPbc**	16 58 09.5	-0.1	
	baz=107						
PAX	**Paxson**	146.99 310		**PKPbc**	16 58 10.4	+0.6	
PAX	**Paxson**	146.99 310	P	**PKPbc**	16 58 09.1	-0.7	
	baz=108						
M24K	**Tolsona, Glenn**	147.04 309	P	**PKPbc**	16 58 09.5	-0.4	
	baz=108						
GLI	**Glacier Island**	147.06 306	P	**PKPbc**	16 58 09.7	-0.2	
	baz=110,SNR=22						
LYN	**LuoYang**	147.31 114⇑	r/PKPbc	**PKPdf**	16 58 10.0	+1.0	
LYN			AMB	AMB			
	comp=Z,110nm,4.4s						
G26K	**Porcupine Rive**	147.34 318	P	**PKPbc**	16 58 10.2	-0.2	
	baz=103,SNR=9.4						
K24K	**Donnelly Dome**	147.37 312	P	**PKPbc**	16 58 10.8	+0.1	
	baz=106						
J25K	**Salcha River,**	147.41 313	P	**PKPbc**	16 58 10.9	+0.1	
	baz=105						
SCM	**Sheep Creek Mo**	147.47 308		**PKPbc**	16 58 12.0	+0.9	
SCM	**Sheep Creek Mo**	147.47 308	P	**PKPbc**	16 58 10.8	-0.3	
	baz=108,SNR=17						
PWL	**Port Wells**	147.63 306	P	**PKPbc**	16 58 11.4	0.0	
	baz=109,SNR=20						
F26K	**Sheenjek River**	147.63 319	P	**PKPbc**	16 58 11.5	+0.2	
	baz=102,SNR=16						
M23K	**Glacier View**	147.64 308	P	**PKPbc**	16 58 11.1	-0.3	
	baz=108,SNR=19						
PRP	**Porcupine Dome**	147.70 315	P	**PKPbc**	16 58 11.9	+0.2	
	baz=104						
BMAR	**Burnt Mountain**	147.74 319		**PKiKP**	16 58 12.7	-0.9	
C27K	**Jago River**	147.81 323	P	**PKPbc**	16 58 11.7	0.0	
	baz=99						
DHY	**Denali Highway**	147.86 310	P	**PKPbc**	16 58 11.6	-0.6	
	baz=106						
KNK	**Knik Glacier**	147.86 307	P	**PKPbc**	16 58 11.5	-0.6	
	baz=108						
WAT6	**Susitna Watana**	147.88 309	P	**PKPbc**	16 58 12.0	-0.3	
	baz=107						
SEW	**Seward**	147.91 304	P	**PKPbc**	16 58 11.6	-0.6	
	baz=110						
SML	**Sawmill**	147.92 308	P	**PKPbc**	16 58 11.8	-0.5	
	baz=108,SNR=20						
H25K	**Birch Creek**	147.98 316	P	**PKPbc**	16 58 12.3	+0.1	
	baz=102						
HDA	**Harding Lake**	148.02 313	P	**PKPbc**	16 58 11.7	-0.8	
	baz=104						
ILAR	**Eielson Array**	148.08 313	PKPbc	**PKPbc**	16 58 12.1	-0.5	
	comp=Z,17nm,0.9s,baz=128,slow=1.9,SNR=66						
F25K	**Christian Rive**	148.17 319	P	**PKPbc**	16 58 12.7	-0.1	
	baz=100,SNR=16						
E25K	**Arctic Village**	148.23 320	P	**PKPbc**	16 58 13.4	+0.5	
	baz=100,SNR=27						
C26K	**Camden Bay**	148.26 323	P	**PKPbc**	16 58 13.2	+0.4	
	baz=97						
WAT1	**Susitna Watana**	148.31 309	P	**PKPbc**	16 58 12.9	-0.3	
	baz=106						
RC01	**Rabbit Creek A**	148.35 306	P	**PKPbc**	16 58 13.3	0.0	
	baz=108						
POKR	**Poker Plat Res**	148.39 314	P	**PKPbc**	16 58 12.9	-0.5	
	baz=103						
BRSE	**Bradley Lake S**	148.40 303	P	**PKPbc**	16 58 13.2	-0.4	
	baz=109						
CNPM	**China Poot**	148.57 303		**PKiKP**	16 58 14.8	-0.7	
KDAK	**Kodiak Island**	148.63 299		**PKiKP**	16 58 14.8	-0.8	
KDAK	**Kodiak Island**	148.63 299	P	**PKPbc**	16 58 13.1	-1.1	
	baz=111						
D25K	**Kavik River**	148.70 322	P	**PKPbc**	16 58 13.9	-0.2	
	baz=97						
MCK	**McKinley**	148.70 311	P	**PKPbc**	16 58 14.0	-0.2	
	baz=104						
M22K	**Willow**	148.72 307	P	**PKPbc**	16 58 14.1	-0.1	
	baz=106						
G24K	**Hadweenzic Riv**	148.72 317	P	**PKPbc**	16 58 14.6	+0.4	
	baz=100						
H24K	**Noodor Dome**	148.72 315	P	**PKPbc**	16 58 14.0	-0.2	
	baz=102						
OHAK	**Old Harbor**	148.79 298	P	**PKPbc**	16 58 14.4	-0.1	
	baz=112						
HOM	**Homer**	148.81 303	P	**PKPbc**	16 58 14.5	-0.1	
	baz=109						
Q20K	**Shuyak Island**	148.83 300	P	**PKPbc**	16 58 14.4	-0.2	
	baz=110						
SUA	**Susitna One**	148.92 306	P	**PKPbc**	16 58 14.8	-0.2	
	baz=106,SNR=18						
NEA2	**Nenana**	148.96 313	P	**PKPbc**	16 58 14.0	-0.9	
	baz=103						
CUT	**Chulitna**	148.96 308	P	**PKPbc**	16 58 14.6	-0.2	
	baz=105						
SII	**Sitkinak Islan**	149.00 296	P	**PKPbc**	16 58 14.9	-0.3	
	baz=112						
F24K	**Squaw Lake**	149.01 318	P	**PKPbc**	16 58 15.0	0.0	
	baz=99,SNR=13						
TRF	**Thorofare Moun**	149.23 310	P	**PKPbc**	16 58 15.3	-0.5	
	baz=104						
E24K	**Your Creek**	149.31 319	P	**PKPbc**	16 58 15.4	-0.2	
	baz=97,SNR=22						
H23K	**Yukon River**	149.39 315	P	**PKPbc**	16 58 15.6	-0.3	
	baz=100						
O20K	**Slope Mountain**	149.41 303	P	**PKPbc**	16 58 15.2	-0.9	
	baz=108						
SKT	**Skwentna**	149.42 307	P	**PKPbc**	16 58 15.6	-0.5	
	baz=105,SNR=17						
KTH	**Kantishna Hill**	149.53 310		**PKiKP**	16 58 16.9	-0.5	
N20K	**Mount Spurr**	149.53 305	P	**PKPbc**	16 58 15.5	-0.9	
	baz=106						
C24K	**Franklin Bluff**	149.55 323	P	**PKPbc**	16 58 15.9	-0.2	
	baz=94						
Q19K	**Cape Douglas,**	149.55 301	P	**PKPbc**	16 58 15.9	-0.6	
	baz=109						
P19K	**Oil Pt**	149.57 302	P	**PKPbc**	16 58 16.1	-0.4	
	baz=108						
BPAW	**Bear Paw Mtn.**	149.67 311	P	**PKPbc**	16 58 16.1	-0.5	
	baz=102						
NRIK	**Noril'sk**	149.72 38	PKPbc	**PKPbc**	16 58 15.7	-0.8	
	comp=Z,7.3nm,0.9s,baz=153,slow=1.0,SNR=7.4						
G23K	**Bananza Creek**	149.72 316	P	**PKiKP**	16 58 17.1	-0.6	
	baz=98						
MLY	**Manley**	149.74 313	P	**PKPbc**	16 58 15.9	-0.9	
	baz=101						
TOLK	**Toolik Lake Re**	149.77 320		**PKPbc**	16 58 17.0	+0.2	
TOLK	**Toolik Lake Re**	149.77 320	P	**PKPbc**	16 58 16.5	-0.3	
	baz=95						
COLD	**Coldfoot**	149.86 317	P	**PKiKP**	16 58 17.3	-0.6	
	baz=97,SNR=16						
PPLA	**Purkeypile**	149.94 309	P	**PKPbc**	16 58 16.9	-0.6	
	baz=103						
CAST	**Castle Rocks**	150.01 310	P	**PKPbc**	16 58 16.8	-0.6	
	baz=102						
M20K	**Styx River**	150.13 306	P	**PKPbc**	16 58 17.0	-0.9	
	baz=104,SNR=24						
H22K	**Ishtalitna Cre**	150.15 315	P	**PKPbc**	16 58 17.3	-0.4	
	baz=99						
D23K	**Nanushuk River**	150.20 321	P	**PKiKP**	16 58 18.2	-0.4	
	baz=94						
CHUM	**Lake Minchumin**	150.20 311	P	**PKPbc**	16 58 17.6	-0.2	
	baz=101						
C23K	**Itkillik River**	150.22 323	P	**PKPbc**	16 58 17.7	-0.1	
	baz=92						
O19K	**Port Alsworth**	150.25 303	P	**PKPbc**	16 58 17.3	-0.7	
	baz=106						
I21K	**Tanana**	150.29 313	P	**PKPbc**	16 58 17.9	-0.2	
	baz=99						
N19K	**Bonanza Creek**	150.50 304		**PKPbc**	16 58 18.6	-0.2	
N19K	**Bonanza Creek**	150.50 304	P	**PKPbc**	16 58 17.7	-1.1	
	baz=105						
R17K	**Ugashik Creek**	150.50 297	P	**PKPbc**	16 58 18.1	-0.6	
	baz=110						
O18K	**Koktuh Hills**	150.59 302	P	**PKPbc**	16 58 17.9	-1.0	
	baz=106						
L20K	**Farewell, AK**	150.61 307	P	**PKPbc**	16 58 18.3	-0.6	
	baz=103,SNR=7.7						
F22K	**John River**	150.65 318	P	**PKPbc**	16 58 19.0	+0.1	
	baz=95,SNR=18						
HNS	**HongShan**	150.66 113	⇓P	**PKPbc**	16 58 19.6	-0.2	
HNS			pmax	pmax			
	comp=Z,2μm,1.2s						
H21K	**Melozitna Rive**	150.70 314	P	**PKPbc**	16 58 19.2	+0.1	
	baz=98						
M19K	**Big River Lodg**	150.72 306	P	**PKPbc**	16 58 18.8	-0.4	
	baz=103,SNR=8.2						
K20K	**Telida**	150.87 309		**PKPbc**	16 58 19.4	-0.1	
K20K	**Telida**	150.87 309	P	**PKPbc**	16 58 19.1	-0.4	
	baz=101,SNR=15						
Q16K	**King Salmon**	150.96 299	P	**PKPbc**	16 58 18.8	-0.9	
	baz=108						
L19K	**White Mountain**	150.99 307	P	**PKPbc**	16 58 19.4	-0.5	
	baz=102						
TIA	**Tal'an**	151.00 118	P	**PKPbc**	16 58 20.0	-0.7	
TIA			pmax	pmax			
	comp=Z,11nm,1.0s						
J20K	**Nowinta River**	151.05 311	P	**PKPbc**	16 58 19.4	-0.5	
	baz=100						
G21K	**Allakaket**	151.08 316	P	**PKPbc**	16 58 19.6	-0.3	
	baz=96,SNR=9.7						
R16K	**Pilot Point**	151.09 297	P	**PKPbc**	16 58 19.5	-0.6	
	baz=109						
SVW2	**Sparrevohn**	151.09 304		**PKPbc**	16 58 20.1	0.0	
CHGN	**Chignik**	151.10 294	P	**PKPbc**	16 58 19.6	-0.6	
	baz=111						
IMAR	**Indian Mountai**	151.12 315		**PKiKP**	16 58 21.1	+0.5	
F21K	**Alatna River**	151.13 317	P	**PKPbc**	16 58 20.2	+0.1	
	baz=94,SNR=9.9						
N18K	**Kilae Creek**	151.13 303		**PKPbc**	16 58 20.1	-0.1	
N18K	**Kilae Creek**	151.13 303	P	**PKPbc**	16 58 19.2	-1.0	
	baz=104						
CHNA	**Chernabura Isl**	151.18 291	P	**PKPbc**	16 58 19.5	-0.9	
	baz=113						
O17K	**Koliganek Bris**	151.49 301	P	**PKPbc**	16 58 20.3	-0.7	
	baz=105						
TTA	**Tatalina**	151.66 308	P	**PKPbc**	16 58 21.5	+0.1	
	baz=100,SNR=12						
S14K	**Fog Glacier**	151.69 293	P	**PKPbc**	16 58 21.1	-0.7	
	baz=110						
P16K	**Nushagak River**	151.73 300	P	**PKPbc**	16 58 21.0	-0.5	
	baz=106						
SDPT	**Sand Point**	151.85 291	P	**PKPbc**	16 58 20.8	-1.1	
	baz=111						
O16K	**Kokwok River B**	151.93 301	P	**PKPbc**	16 58 22.0	0.0	
	baz=105						
GCSA	**Galena City Sc**	152.29 312	P	**PKPbc**	16 58 22.0	-0.6	
	baz=96						
N16K	**Nishlik Lake**	152.47 302	P	**PKPbc**	16 58 22.8	-0.5	
	baz=103						
SONM	**Songino Array**	152.76 88	PKP	**PKPdf**	16 58 16.7	-0.6	
	comp=Z,0.9nm,0.8s,baz=150,slow=1.6,SNR=3.6						
SONM			PKPbc	**PKPbc**	16 58 23.7	-0.8	
	comp=Z,5.9nm,0.6s,baz=202,slow=1.9,SNR=23						
SONM	**Songino Array**	152.76 88	PKPbc	**PKPbc**	16 58 24.0	-0.4	
BJI	**Beijing**	153.38 111	PKPbc	**PKPdf**	16 58 20.6	+2.3	
KSRS	**Korea Array**	157.07 132	PKP	**PKPdf**	16 58 22.3	-1.1	
	comp=Z,1.3nm,0.9s,baz=90,slow=3.6,SNR=4.4						
KSRS			PKPab	**PKPab**	16 58 53.1	-0.8	
	comp=Z,2.4nm,1.1s,baz=205,slow=5.4,SNR=3.3						

ROM 02 16:42:57.0±0.1, 42°.738N±0°.004×13°.189E±0°.005, h10km, Md1.1/12, ML1.1/4, 3C, Error ellipse: s-maj=0.4km s-min=0.4km az=155.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.04**	**143**	P	Pg	16 42 59.0	-0.1
T1202				S	Sg	16 43 00.4	-0.3
T1202				AML	AML		
	comp=E,1054μm,0.3s						
T1202				AML	AML		
	comp=N,1875μm,0.8s						
T1202				END			
T1202	**Accumoli, Fraz**	**0.04**	**143**	P	Pg	16 42 59.1	-0.1
T1202				S	Sg	16 43 00.4	-0.3
T1244	**Arquata del Tr**	**0.08**	**77**	⇑P	Pg	16 43 00.0	+0.5
T1244				S	Sg	16 43 01.9	+0.6
T1244				END			
T1242	**Castelluccio d**	**0.09**	**7**	⇑P	Pg	16 43 00.1	+0.4
T1242				S	Sg	16 43 02.0	+0.3
T1242				AML	AML		
	comp=E,132μm,0.1s						
T1242				AML	AML		
	comp=N,199μm,1.2s						
T1242				AML	AML		
	comp=E,132μm,0.1s						
T1242				AML	AML		
	comp=N,199μm,1.2s						
T1242				AML	AML		
	comp=N,199μm,1.2s						
T1242				AML	AML		
	comp=E,132μm,0.1s						
T1242				END			
T1204	**Amatrice, Fraz**	**0.11**	**123**	⇑P	Pg	16 43 00.4	+0.4
T1204				S	Sg	16 43 03.0	+0.9
T1204				END			
T1204	**Amatrice, Fraz**	**0.11**	**123**	P	Pg	16 43 00.3	+0.4
SMA1	**SAN MARTINO**	**0.15**	**135**	P	Pg	16 43 01.1	+0.6
SMA1				AML	AML		
	comp=E,92μm,0.6s						
SMA1				AML	AML		
	comp=N,89μm,0.2s						
SMA1				AML	AML		
	comp=N,89μm,0.2s						
SMA1				AML	AML		
	comp=E,92μm,0.6s						
SMA1				END			
LNSS	**Leonessa**	**0.17**	**219**	P	Pg	16 43 01.3	+0.5
LNSS				S	Sg	16 43 04.5	+1.0
LNSS				AML	AML		
	comp=E,165μm,0.5s						
LNSS				AML	AML		
	comp=N,128μm,0.6s						
LNSS				AML	AML		
	comp=E,165μm,0.5s						
LNSS				AML	AML		
	comp=N,128μm,0.6s						
LNSS				END			
LNSS	**Leonessa**	**0.17**	**219**	P	Pg	16 43 01.3	+0.5
LNSS				S	Sg	16 43 04.5	+0.9
T1243	**Rocca Santa Ma**	**0.20**	**102**	P	Pg	16 43 01.6	+0.4
T1243				S	Sg	16 43 05.0	+0.9
T1243				END			
T1243	**Rocca Santa Ma**	**0.20**	**102**	P	Pg	16 43 01.6	+0.4
T1243				S	Sg	16 43 04.9	+0.8
T1241	**Roccafluvione,**	**0.21**	**56**	P	Pg	16 43 02.1	+0.6
T1241				S	Sg	16 43 05.9	+1.3
T1241				AML	AML		
	comp=E,54μm,1.2s						
T1241				AML	AML		
	comp=N,67μm,1.5s						
T1241				AML	AML		
	comp=E,54μm,1.2s						
T1241				AML	AML		
	comp=N,67μm,1.5s						
T1241				AML	AML		
	comp=N,67μm,1.5s						
T1241				AML	AML		
	comp=E,54μm,1.2s						
T1241				END			
RM33	**Pellescritta (**	**0.23**	**175**	P	Pb	16 43 02.8	-0.4
RM33				S	Sg	16 43 06.2	+1.1
RM33				AML	AML		
	comp=E,36μm,1.0s						
RM33				AML	AML		
	comp=N,33μm,0.2s						
RM33				END			
T1215	**Vallo di Nera,**	**0.24**	**285**	P	Pg	16 43 02.6	+0.5
T1215				S	Sg	16 43 06.9	+1.4
T1215				END			
TERO	**Teramo**	**0.33**	**111**	P	Pg	16 43 03.8	+0.3
TERO				S	Sg	16 43 09.0	+1.1
TERO				AML	AML		
	comp=E,51μm,0.1s						
TERO				AML	AML		
	comp=N,78μm,0.1s						
TERO				AML	AML		
	comp=E,51μm,0.1s						
TERO				AML	AML		
	comp=N,78μm,0.1s						
TERO				END			
TERO	**Teramo**	**0.33**	**111**	P	Pg	16 43 03.8	+0.3
TERO				S	Sb	16 43 09.1	-1.1

*IDC **02** 16:52:03.8±0.7, 15°.87S×166°.54E, h0km, mb4.2/18, mbtmp4.2/23, ML3.7/3, MS3.6/10, Error ellipse: s-maj=20.7km s-min=16.2km az=114.0*
*NEIC **02** 16:52:05.4±2.0, 15°.83S±0°.04×166°.6E±0°.1, h10km±1km, mb4.8/18, Error ellipse: s-maj=18.8km s-min=7.0km az=280.0*
*NOU **02** 16:52:07.0, 15°.87S×166°.51E, h4km, MLv4.7/18, Vanuatu Islands*

ISC 02 16:52:07.8±0.5, 15°.87S±0°.06×166°.42E±0°.07, h26km, n76, σ1°.07/72, mb4.6/27, MS3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.51**	**138**	P	**Pn**	**16 52 47.8**	**+0.8**
RTV	**Rentapao**	**2.71**	**135**	P	**Pn**	**16 52 51.6**	**+1.8**
LIFNC	**LIFOU**	**4.95**	**171**	Pn	**Pn**	**16 53 20.5**	**0.0**
LIFNC	**LIFOU**	**4.95**	**171**	P	**Pn**	**16 53 21.7**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.08**	**203**	Pn	**Pn**	**16 53 23.6**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.08**	**203**	P	**Pn**	**16 53 24.3**	**+2.0**
MARNC	**Mare, Loyalty**	**5.79**	**165**	Pn	**Pn**	**16 53 32.8**	**+0.7**
MARNC	**Mare, Loyalty**	**5.79**	**165**	P	**Pn**	**16 53 33.5**	**+1.4**
DZM	**Mont Dzumac**	**6.17**	**180**	Pn	**Pn**	**16 53 37.4**	**-0.1**
	4.1nm,0.3s,baz=136,slow=22,SNR=40						
DZM				Sn	**Sn**	**16 54 44.9**	**-2.4**
	1.4nm,0.3s,baz=151,slow=22,SNR=1.4						
DZM				LR	LR	16 55 52.0	
	comp=Z,614nm,18.8s,baz=17,slow=37						
	14nm,0.4s						
DZM	**Mont Dzumac**	**6.17**	**180**	Pn	**Pn**	**16 53 38.1**	**+0.7**
DZM	**Mont Dzumac**	**6.17**	**180**	P	**Pn**	**16 53 38.6**	**+1.1**
YATNC	**Mamie plateau,**	**6.18**	**176**	P	**Pn**	**16 53 38.8**	**+1.4**
NOUC	**Port Laguerre**	**6.20**	**181**	P	**Pn**	**16 53 39.3**	**+1.5**
ONTNC	**Ouen Toro**	**6.41**	**180**		**Pn**	**16 53 41.9**	**+1.3**
ONTNC	**Ouen Toro**	**6.41**	**180**	P	**Pn**	**16 53 42.1**	**+1.5**
OUENC	**Ouen Island, N**	**6.53**	**177**	Pn	**Pn**	**16 53 42.3**	**0.0**
OUENC	**Ouen Island, N**	**6.53**	**177**	P	**Pn**	**16 53 44.0**	**+1.7**
PINNC	**Pines Island,**	**6.78**	**172**	Pn	**Pn**	**16 53 46.3**	**+0.6**
PINNC	**Pines Island,**	**6.78**	**172**	P	**Pn**	**16 53 47.1**	**+1.4**
HNR	**Honiara**	**8.98**	**315**	Pn	**Pn**	**16 54 16.8**	**+0.8**
	54nm,0.5s,baz=225,slow=4.3,SNR=4.3						
HNR				Sn	**Sn**	**16 55 54.0**	**-2.4**
	8.8nm,0.3s,baz=1.9,slow=23,SNR=1.7						
HNR				LR	LR	16 57 04.8	
	comp=Z,242nm,19.4s,baz=160,slow=33						
HNR	**Honiara**	**8.98**	**315**	Pn	**Pn**	**16 54 16.4**	**+0.4**
HNR	**Honiara**	**8.98**	**315**	P	**Pn**	**16 54 18.7**	**+2.7**
MSVF	**Nonsavu**	**11.30**	**101**	LR	LR	16 58 11.4	
	comp=Z,235nm,19.1s,baz=224,slow=33						
EIDS	**Eidsvold**	**17.17**	**234**	P	**P**	**16 56 07.9**	**+0.3**
KRVT	**Keravat (AS076**	**18.22**	**308**	P	**P**	**16 56 19.8**	**+0.6**
	0.1nm,0.3s,baz=240,slow=15,SNR=2.2						
	9.0nm,0.8s						
CTA	**Charters Tower**	**19.63**	**255**	P	**Pn**	**16 56 36.9**	**+0.8**
	0.2nm,0.3s,baz=94,slow=9.3,SNR=5.3						
CTA				LR	LR	17 03 19.9	
	comp=Z,93nm,18.5s,baz=84,slow=34						
	2.0nm,0.6s						
CTAO	**Charters Tower**	**19.63**	**255**	P	**P**	**16 56 35.0**	**+0.4**
RAO	**Raoul Island**	**19.64**	**135**	LR	LR	17 02 40.3	
	comp=Z,144nm,19.2s,baz=118,slow=33						
PMG	**Port Moresby**	**19.85**	**287**	P	**Pn**	**16 56 38.4**	**-0.3**
	12nm,1.0s,baz=211,slow=15,SNR=3.0						
STKA	**Stephens Creek**	**27.64**	**230**	P	**P**	**16 57 53.7**	**+0.2**
	1.8nm,0.9s,baz=53,slow=13,SNR=2.1						
	1.8nm,0.9s						
RPZ	**Rata Peaks**	**28.04**	**173**	LR	LR	17 07 15.7	
	comp=Z,132nm,18.5s,baz=34,slow=33						
WB0	**Warramunga Arr**	**30.71**	**258**	P	**P**	**16 58 20.5**	**-0.5**
WB2	**Warramunga Arr**	**30.75**	**258**	P	**P**	**16 58 19.9**	**-1.4**
WB2				IAmb	IAmb	16 58 33.1	
	comp=Z,6.3nm,1.4s						
WRA	**Warramunga Arr**	**30.76**	**258**	P	**P**	**16 58 21.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=87,slow=8.4,SNR=3.7						
WRA				LR	LR	17 10 09.0	
	comp=Z,114nm,18.4s,baz=42,slow=35						
	comp=Z,0.6nm,0.9s						
AS31	**Alice Springs**	**31.51**	**251**	P	**P**	**16 58 28.4**	**+0.4**
ASAR	**Alice Springs**	**31.51**	**251**	P	**P**	**16 58 28.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=74,slow=9.1,SNR=18						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**31.51**	**251**	P	**P**	**16 58 25.9**	**-2.1**
GUMO	**Guam**	**36.20**	**323**	LR	LR	17 11 59.7	
	comp=Z,113nm,21.9s,baz=135,slow=33						
KNRA	**Kununurra**	**36.20**	**265**	P	**P**	**16 59 07.0**	**-1.8**
KNRA				IAmb	IAmb	16 59 30.9	
	comp=Z,12nm,1.1s						
SIJI	**Sorong**	**37.73**	**290**	LR	LR	17 14 44.3	
	comp=Z,116nm,19.4s,baz=62,slow=36						
FORT	**Forrest**	**38.02**	**240**	P	**P**	**16 59 23.4**	**-0.6**
FORT				IAmb	IAmb	16 59 32.9	
	comp=Z,22nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.01**	**261**	P	**P**	**16 59 32.8**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=96,slow=10,SNR=3.2						
FITZ				LR	LR	17 15 21.8	
	comp=Z,213nm,18.1s,baz=94,slow=36						
	comp=Z,1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.01**	**261**	P	**P**	**16 59 32.2**	**-0.3**
MJAR	**Matsushiro Arr**	**58.54**	**333**	P	**P**	**17 02 01.2**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=173,slow=8.1,SNR=14						
	comp=Z,3.4nm,0.7s						
MAJO	**Matsushiro**	**58.54**	**333**	P	**P**	**17 02 00.3**	**-1.9**
MAJO				IAmb	IAmb	17 02 02.8	
	comp=Z,7.7nm,0.7s						
JHS	**Saijyo**	**59.65**	**329**	P	**P**	**17 02 09.7**	**-0.3**
JHS				IAmb	IAmb	17 02 35.4	
	comp=Z,24nm,1.4s						
KSRS	**Korea Array**	**64.22**	**327**	P	**P**	**17 02 40.4**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=135,slow=7.8,SNR=6.5						
	comp=Z,2.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**67.53**	**334**	P	**P**	**17 03 02.9**	**+1.2**
	comp=Z,5.5nm,0.7s,baz=147,slow=6.6,SNR=12						
	comp=Z,5.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**67.53**	**334**	P	**P**	**17 03 02.4**	**+0.6**
PET	**Petropavlovsk**	**68.93**	**355**	P	**P**	**17 03 08.5**	**-1.8**
PEA0B	**Petropavlovsk-**	**69.10**	**354**	P	**P**	**17 03 10.9**	**-0.5**
PETK	**Petropavlovsk-**	**69.10**	**354**	P	**P**	**17 03 11.3**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=181,slow=8.0,SNR=15						
	comp=Z,4.2nm,0.8s						
PETK	**Petropavlovsk-**	**69.10**	**354**	P	**P**	**17 03 10.4**	**-1.0**
KLR	**Kul'dur**	**71.72**	**337**	P	**P**	**17 03 28.6**	**+1.1**
	comp=Z,5.4nm,1.0s,baz=112,slow=5.2,SNR=12						
	comp=Z,5.4nm,1.0s						
QSPA	**South Pole Qui**	**74.17**	**180**	P	**P**	**17 03 42.0**	**-0.1**
	comp=Z,4.7nm,0.9s,baz=8.1,slow=7.1,SNR=2.5						
	comp=Z,4.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**74.66**	**295**	P	**P**	**17 03 46.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=138,slow=4.5,SNR=2.2						
	comp=Z,0.7nm,0.7s						
MA2	**Magadan**	**76.25

comp=Z,1.9nm,0.9s,baz=27,slow=4.5,SNR=1.3
KEST Kesra 151.53 318 PKPbc **PKiKP 17 12 01.1 +0.4**
comp=Z,1.8nm,0.7s,baz=306,slow=5.4,SNR=3.9
ESDC Sonseca Array 154.83 342 PKPab **PKPab 17 12 23.6 +1.3**
comp=Z,1.0nm,0.8s,baz=13,slow=4.7,SNR=7.5
TORD Torodi Ar. Bea 164.96 262 PKPab **PKPab 17 13 07.3 +0.1**
comp=Z,0.5nm,0.7s,baz=82,slow=3.1,SNR=2.3

---

*IDC **02** 16:55:38.1±0.6,55°.08S×31°.13W,h0km,mb4.4/11, mbtmp4.4/12,ML3.5/1,MS3.5/9,Error ellipse: s-maj=19.5km s-min=16.1km az=65.0*
*NEIC **02** 16:55:39.5±1.6,55°.18S±0°.10×31°.4W±0°.2,h10km±1km, mb4.8/35,Error ellipse: s-maj=17.3km s-min=14.6km az=33.0*
ISC 02 16:55:39.3±0.5,55°.12S±0°.07×31°.36W±0°.07,h10km,n71, σ1♀15/62,mb4.6/22,MS3.3/8,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HOPE	**Hope Point**	**3.09**	**284**			**Pn**	**16 56 27.7**	**-0.3**
ORCD	**Orcadas**	**9.06**	**226**	Pn		**Pn**	**16 57 48.5**	**-1.4**
EFI	**East Falkland**	**16.25**	**271**	Pn		**Pn**	**16 59 26.7**	**-0.7**
EFI				IAmb		IAmb	16 59 49.0	
	comp=Z,76nm,1.1s							
VNA1	**Neumayer--Stat**	**18.58**	**156**	P		**Pn**	**16 59 57.4**	**+1.1**
VNA3	**Neumayer Olymp**	**18.70**	**158**	P		**Pn**	**16 59 58.6**	**+0.9**
PMSA	**Palmer Station**	**18.78**	**226**	P		**Pn**	**17 00 00.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=164,slow=17,SNR=1.9							
PMSA				LR		LR	17 06 31.7	
	comp=Z,190nm,18.6s,baz=70,slow=35							
	comp=Z,14nm,1.0s							
VNA2	**Neumayer--Watz**	**18.98**	**156**	P		**Pn**	**17 00 01.5**	**+0.3**
	baz=309,slow=12							
SNAA	**Sanae**	**20.58**	**155**	P		**P**	**17 00 18.2**	**+0.3**
SNAA	**Sanae**	**20.58**	**155**	P		**P**	**17 00 18.5**	**+0.6**
	comp=Z,15nm,0.8s,baz=305,slow=7.4,SNR=39							
SNAA				LR		LR	17 06 40.2	
	comp=Z,104nm,20.6s,baz=328,slow=32							
	comp=Z,15nm,0.8s							
SNAA	**Sanae**	**20.58**	**155**	P		**P**	**17 00 18.0**	**0.0**
SMAI	**San Martin Ant**	**20.99**	**218**	P		**P**	**17 00 21.2**	**-1.1**
USHA	**Ushuaia**	**21.12**	**255**	P		**P**	**17 00 25.0**	**+1.2**
	comp=Z,22nm,0.9s,baz=316,slow=10.0,SNR=2.9							
	comp=Z,22nm,0.9s							
TROLL	**Troll, Antarti**	**22.15**	**153**	P		**P**	**17 00 35.3**	**+0.4**
BELA	**Belgrano 2**	**22.88**	**182**	P		**P**	**17 00 40.6**	**-1.9**
GO10	**Punta Arenas**	**23.12**	**258**	P		**P**	**17 00 44.8**	**-0.4**
MG05	**Puerto Natales**	**24.51**	**261**	P		**P**	**17 00 58.3**	**-0.2**
MG05				IAmb		IAmb	17 01 00.5	
	comp=Z,26nm,0.9s							
GO09	**Cerro Castillo**	**24.59**	**262**	P		**P**	**17 00 58.4**	**-0.8**
GO09				IAmb		IAmb	17 01 29.1	
	comp=Z,26nm,1.2s							
TRQA	**Tornquist**	**26.78**	**297**	P		**P**	**17 01 18.3**	**-0.9**
AY01	**Puyuhuapi**	**28.33**	**275**	P		**P**	**17 01 33.2**	**+0.3**
AY01				IAmb		IAmb	17 01 34.9	
	comp=Z,8.6nm,0.8s							
PLCA	**Paso Flores**	**29.49**	**283**	P		**P**	**17 01 43.6**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=145,slow=10,SNR=5.9							
PLCA				LR		LR	17 13 37.7	
	comp=Z,73nm,18.6s,baz=164,slow=36							
	comp=Z,2.4nm,0.8s							
PLCA	**Paso Flores**	**29.49**	**283**	P		**P**	**17 01 42.2**	**-1.2**
GO06	**Curarrehue**	**30.79**	**283**	P		**P**	**17 01 53.7**	**-1.3**
GO06				IAmb		IAmb	17 01 58.9	
	comp=Z,14nm,1.3s							
CPUP	**Villa Florida**	**34.45**	**316**	P		**P**	**17 02 28.1**	**+1.1**
	comp=Z,6.7nm,1.0s,baz=139,slow=7.2,SNR=11							
CPUP				LR		LR	17 16 29.0	
	comp=Z,54nm,19.8s,baz=180,slow=36							
	comp=Z,6.7nm,1.0s							
CPUP	**Villa Florida**	**34.45**	**316**	P		**P**	**17 02 26.8**	**-0.1**
CPUP				IAmb		IAmb	17 02 29.0	
	comp=Z,8.0nm,0.9s							
MT09	**Talagante**	**34.77**	**291**	P		**P**	**17 02 30.0**	**+0.2**
MT01	**Popeta**	**34.84**	**291**	P		**P**	**17 02 31.1**	**+0.8**
MT01				IAmb		IAmb	17 03 03.3	
	comp=Z,17nm,1.2s							
QSPA	**South Pole Qui**	**35.13**	**180**	P		**P**	**17 02 34.1**	**+1.5**
	comp=Z,6.1nm,1.0s,baz=102,slow=1.0,SNR=21							
	comp=Z,6.1nm,1.0s							
QSPA	**South Pole Qui**	**35.13**	**180**	P		**P**	**17 02 34.0**	**+1.3**
QSPA				IAmb		IAmb	17 02 52.6	
	comp=Z,22nm,1.5s							
MT02	**Curacav**	**35.24**	**292**	P		**P**	**17 02 33.5**	**-0.2**
MT02				IAmb		IAmb	17 02 39.4	
	comp=Z,22nm,1.1s							
VA06	**Catapilco**	**35.87**	**292**	P		**P**	**17 02 40.6**	**+1.5**
CO02	**Combarbal**	**36.77**	**294**	P		**P**	**17 02 43.3**	**-3.7**
MAW	**Mawson**	**42.28**	**145**	P		**P**	**17 03 32.0**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=264,slow=8.4,SNR=7.7							
MAW				LR		LR	17 20 41.9	
	comp=Z,63nm,18.2s,baz=227,slow=36							
	comp=Z,2.5nm,0.7s							
MAW	**Mawson**	**42.28**	**145**	P		**P**	**17 03 32.4**	**+0.1**
PB15	**IPOC Station P**	**42.56**	**303**	P		**P**	**17 03 34.4**	**-0.9**
PB15				IAmb		IAmb	17 03 41.3	
	comp=Z,19nm,0.7s							
LVC	**Limon Verde**	**42.80**	**304**	LR		LR	17 24 27.5	
	comp=Z,41nm,18.0s,baz=186,slow=40							
LVC	**Limon Verde**	**42.80**	**304**	P		**P**	**17 03 37.2**	**-0.3**
LVC				IAmb		IAmb	17 04 13.4	
	comp=Z,32nm,1.4s							
PB06	**IPOC Station P**	**43.03**	**303**	P		**P**	**17 03 37.5**	**-1.6**
PB01	**IPOC Station P**	**44.41**	**305**	P		**P**	**17 03 51.0**	**+0.8**
PB01				IAmb		IAmb	17 03 53.2	
	comp=Z,10nm,0.8s							
PTLB	**Pontes e Lacer**	**45.02**	**321**	P		**P**	**17 03 55.2**	**+0.3**
PTLB				IAmb		IAmb	17 03 58.8	
	comp=Z,5.6nm,0.7s							
GO01	**Chusmiza**	**45.46**	**306**	P		**P**	**17 03 58.4**	**-0.6**
PB16	**IPOC Station P**	**46.76**	**306**	P		**P**	**17 04 07.6**	**-1.7**
PB16				IAmb		IAmb	17 04 30.9	
	comp=Z,8.4nm,1.4s							
VNDA	**Vanda**	**47.37**	**184**	P		**P**	**17 04 13.8**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=173,slow=3.4,SNR=4.5							
	comp=Z,1.5nm,0.8s							
H10S2	**ASCENSION HYDR**	**47.92**	**23**	T		T	17 56 09.1	
	baz=27,slow=74,SNR=15							
H10S3	**ASCENSION HYDR**	**47.92**	**22**	T		T	17 56 00.9	
	baz=193,slow=74,SNR=16							
LPAZ	**La Paz**	**47.93**	**309**	P		**P**	**17 04 20.3**	**+1.8**
	comp=Z,6.5nm,0.5s,baz=93,slow=5.3,SNR=28							
LPAZ				LR		LR	17 27 03.7	
	comp=Z,35nm,19.1s,baz=162,slow=39							
	comp=Z,6.5nm,0.5s							
LPAZ	**La Paz**	**47.93**	**309**	P		**P**	**17 04 20.5**	**+2.0**
LPAZ				IAmb		IAmb	17 04 29.1	
	comp=Z,9.3nm,0.8s							
BOSA	**Boshof**	**48.10**	**81**	P		**P**	**17 04 18.6**	**-0.5**
	comp=Z,5.4nm,1.1s,baz=220,slow=4.0,SNR=2.8							
	comp=Z,5.4nm,1.1s							
BOSA	**Boshof**	**48.10**	**81**	P		**P**	**17 04 18.1**	**-1.0**
BOSA				IAmb		IAmb	17 04 58.1	
	comp=Z,14nm,1.4s							
H10N1	**ASCENSION HYDR**	**49.04**	**22**	T		T	17 57 25.9	
	baz=192,slow=75,SNR=57							
H10N3	**ASCENSION HYDR**	**49.04**	**22**	T		T	17 57 27.3	
	baz=192,slow=75,SNR=100							
H10N2	**ASCENSION HYDR**	**49.05**	**22**	T		T	17 57 27.7	
	baz=192,slow=75,SNR=120							
LBTB	**Lobatse**	**51.07**	**78**	P		**P**	**17 04 42.2**	**+0.4**
ETMB	**Extrema**	**52.90**	**315**	P		**P**	**17 04 54.1**	**-1.2**
ETMB				IAmb		IAmb	17 05 05.0	
	comp=Z,7.0nm,1.3s							
NNA	**Nana**	**55.73**	**302**	LR		LR	17 26 20.4	
	comp=Z,21nm,21.8s,baz=185,slow=33							
LSZ	**Lusaka**	**60.31**	**73**	LR		LR	17 29 35.0	
	comp=Z,77nm,18.2s,baz=190,slow=34							
BOAV	**Boa Vista**	**62.15**	**327**	P		**P**	**17 06 00.7**	**+0.2**
BOAV				IAmb		IAmb	17 06 01.3	
	comp=Z,3.8nm,0.8s							
DBIC	**Dimbokro**	**65.41**	**29**	P		**P**	**17 06 21.5**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=188,slow=4.2,SNR=4.1							
	comp=Z,3.5nm,0.8s							
VOI	**Vohitsoka**	**65.60**	**94**	P		**P**	**17 06 21.1**	**-2.3**
TOA0	**Torodi Ar. Sit**	**73.50**	**34**	P		**P**	**17 07 11.9**	**0.0**
TORD	**Torodi Ar. Bea**	**73.50**	**34**	P		**P**	**17 07 11.9**	**0.0**
	comp=Z,3.1nm,0.9s,baz=196,slow=6.6,SNR=12							
	comp=Z,3.1nm,0.9s							
ASAR	**Alice Springs**	**100.52**	**166**	P		**Pdif**	**17 09 25.4**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=180,slow=4.1,SNR=8.0							
CLL	**Collm**	**112.30**	**28**	*e*PKiKP		**PKiKP**	**17 14 17.0**	**+2.9**
FINES	**FINESS Array B**	**124.70**	**30**	PKP		**PKPdf**	**17 14 37.4**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=198,slow=1.8,SNR=9.2							
ARCES	**ARCESS Array B**	**130.98**	**23**	PKP		**PKPdf**	**17 14 49.5**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=180,slow=0.5,SNR=4.8							
PZH	**PanZhiHua**	**135.65**	**111**	PKP		**PKPdf**	**17 14 59.8**	**+0.2**
MKAR	**Makanchi Array**	**138.86**	**73**	PKhKP		PKPpre	17 14 58.6	
	comp=Z,0.3nm,0.7s,baz=191,slow=3.8,SNR=3.2							
MKAR				PKP		**PKPdf**	**17 15 05.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=225,slow=3.2,SNR=5.1							
ZALV	**Zalesovo Beam**	**144.10**	**65**	PKP		PKPbc	17 15 11.7	-0.3
	comp=Z,1.9nm,0.6s,baz=229,slow=3.4,SNR=9.9							
XAN	**Xi'an**	**145.39**	**111**	PKPbc		**PKPbc**	**17 15 16.6**	**-0.2**
XAN				sPKP			17 15 31.3	
ILAR	**Eielson Array**	**147.74**	**314**	PKPbc		**PKPbc**	**17 15 22.9**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=128,slow=1.9,SNR=32							
NRIK	**Noril'sk**	**149.75**	**38**	PKPbc		**PKPbc**	**17 15 27.6**	**0.0**
	comp=Z,1.6nm,0.5s,baz=60,slow=0.6,SNR=4.6							
SONM	**Songino Array**	**153.05**	**88**	PKPbc		**PKPbc**	**17 15 35.8**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=226,slow=3.8,SNR=8.6							

---

*NEIC **02** 17:05:00.3±0.2,18°.92S±0°.10×173°.82W±0°.10,h10km±2km, mb4.6/5,Error ellipse: s-maj=21.8km s-min=6.3km az=137.0*
*IDC **02** 17:05:02.5±2.8,19°.05S×174°.49W,h0km,mb3.6/3, mbtmp3.7/4,ML3.8/1,MS3.2/2,Error ellipse: s-maj=130.3km s-min=26.7km az=145.0*
ISC 02 17:04:59.7±1.0,18°.93S±0°.09×173°.9W±0°.1,h10km,n14, σ2♀76/12,mb4.1/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
NIUE	**Niue**	**3.72**	**93**	Pn		**Pn**	**17 05 57.1**	**-0.1**
AFI	**Afiamalu**	**5.38**	**22**	Pn		**Pb**	**17 06 29.3**	**-4.5**
	2.5nm,0.3s,baz=145,slow=21,SNR=2.0							
AFI				Sn		**Sn**	**17 07 28.8**	**+6.6**
	1.5nm,0.3s,baz=162,slow=16,SNR=1.8							
	15nm,0.5s							
AFI	**Afiamalu**	**5.38**	**22**	Pn		**Pn**	**17 06 20.2**	**+0.1**
DZM	**Mont Dzumac**	**18.72**	**257**	LR		LR	17 14 43.3	
	comp=Z,52nm,18.8s,baz=20,slow=32							
QRZ	**Quartz Range**	**24.75**	**205**	P		**P**	**17 10 21.6**	**+0.2**
QRZ				IAmb		IAmb	17 10 38.8	
	comp=Z,65nm,1.3s							
RPZ	**Rata Peaks**	**27.78**	**204**	LR		LR	17 22 32.2	
	comp=Z,57nm,18.1s,baz=104,slow=38							
FOZ	**Fox Glacier**	**28.12**	**206**	P		**P**	**17 10 53.6**	**+1.8**
WB0	**Warramunga Arr**	**48.68**	**260**	P		**P**	**17 13 44.2**	**-0.4**
WB0				IAmb		IAmb	17 14 13.6	
	comp=Z,4.7nm,1.4s							
ASAR	**Alice Springs**	**48.69**	**255**	P		**P**	**17 13 44.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=98,slow=8.6,SNR=20							
	comp=Z,0.6nm,0.6s							
ASAR	**Alice Springs**	**48.69**	**255**	P		**P**	**17 13 44.4**	**-0.2**
WB2	**Warramunga Arr**	**48.69**	**260**	P		**P**	**17 13 44.5**	**-0.2**
WB2				IAmb		IAmb	17 14 16.1	
	comp=Z,6.5nm,1.4s							
WRA	**Warramunga Arr**	**48.70**	**260**	P		**P**	**17 13 44.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=97,slow=7.6,SNR=8.0							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**48.70**	**260**	P		**P**	**17 13 44.5**	**-0.3**
NVAR	**Mina Array Bea**	**77.23**	**42**	P		P	17 17 01.6	+7.1
	comp=Z,0.4nm,0.7s,baz=219,slow=8.1,SNR=3.7							
	comp=Z,0.4nm,0.7s							

---

*JMA **02** 17:07:00.8±0.1,24°.16N×122°.25E,h29km,ML3.6,D*
*TAP **02** 17:07:01.1,24°.16N×122°.25E,h29km,ML3.6,D*
MV3.3/14,TAIWAN REGION
ISC 02 17:06:58.6±1.1,24°.05N±0°.02×122°.28E±0°.02,h4km±10km, n103,σ0♀74/182,21C-6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
EWUT	**Wuta**	**0.60**	**311**	⇑*e*P		**Pg**	**17 07 10.6**	**+0.4**
	baz=303							
ETL	**Fush Village**	**0.61**	**280**	*e*P		**Pb**	**17 07 12.8**	**+1.0**
	baz=270							
ETL				*e*S		**Sb**	**17 07 21.6**	**+0.8**
	baz=270							
ENA	**Nanau**	**0.62**	**307**	⇑*i*P		**Pb**	**17 07 11.9**	**-0.1**
	baz=300							
ENA				*i* S		**Sb**	**17 07 20.1**	**-0.9**
	baz=300							
HWA	**Hwalien**	**0.62**	**263**	*e*P		**Pb**	**17 07 13.3**	**+1.2**
	baz=253							
TWD	**Chiawan**	**0.63**	**273**	P		**Pb**	**17 07 12.8**	**+0.7**
	baz=263							
TWD				*e*S		**Sb**	**17 07 21.2**	**0.0**
	baz=263							
NACB	**Ninganchiao**	**0.64**	**281**	⇑*i*P		**Pb**	**17 07 13.0**	**+0.7**
	baz=271							
NACB				*e*S		**Sb**	**17 07 20.7**	**-0.8**
	baz=271							
TEYL	**Yanliau Villag**	**0.65**	**254**	*i* P		**Pb**	**17 07 13.5**	**+1.0**
	baz=247							
TEYL				*e*S		**Sb**	**17 07 23.8**	**+1.9**
	baz=247							
TWC	**Suao**	**0.68**	**325**	⇑*i*P		**Pb**	**17 07 12.5**	**-0.5**
	baz=321							
TWC				*e*S		**Sg**	**17 07 20.6**	**0.0**
	baz=321							
ETM	**Tongmen**	**0.72**	**263**	*e*P		**Pb**	**17 07 14.2**	**+0.4**
	baz=255							
ETM				*e*S		**Sb**	**17 07 24.3**	**+0.2**
	baz=255							
JYNG	**Yonagunijimaku**	**0.73**	**57**	P		**Pb**	**17 07 14.4**	**+0.5**
JYNG				S		**Sb**	**17 07 24.1**	**0.0**
ETLH	**Xiulin Townshi**	**0.74**	**282**	⇑*e*P		**Pb**	**17 07 14.6**	**+0.4**
	baz=274							
ETLH				*e*S		**Sb**	**17 07 25.1**	**+0.3**
	baz=274							
TEGC	**Jichi Village**	**0.76**	**243**	*e*P		**Pb**	**17 07 15.3**	**+0.9**
	baz=235							
TEGC				*e*S		**Sb**	**17 07 27.1**	**+2.1**
	baz=235							
NDS	**Dongshan**	**0.78**	**319**	*e*P		**Pg**	**17 07 13.7**	**+0.2**
	baz=314							
NDS				*e*S		**Sg**	**17 07 24.1**	**+0.5**
	baz=314							
YOJ	**Yonaguni jima**	**0.78**	**58**	*i* P		**Pb**	**17 07 15.4**	**+0.7**
	baz=66							
YOJ				S		**Sb**	**17 07 26.4**	**+0.6**
	baz=66							
YOJ	**Yonaguni jima**	**0.78**	**58**	P		**Pb**	**17 07 15.4**	**+0.7**
YOJ				*e*S		**Sb**	**17 07 25.9**	**+0.2**
ESL	**Shilin**	**0.81**	**253**	*e*P		**Pb**	**17 07 15.2**	**-0.1**
	baz=245							
ESL				*e*S		**Sb**	**17 07 26.7**	**+0.1**
	baz=245							
LATG	**Datong**	**0.84**	**305**	⇑*i*P		**Pb**	**17 07 16.1**	**+0.3**
	baz=300							
LATG				*e*S		**Sb**	**17 07 27.8**	**+0.3**
	baz=300							
EGS		**0.85**	**338**	P		**Pb**	**17 07 15.9**	**-0.1**
	baz=338							
EGS				*e*S		**Sb**	**17 07 26.9**	**-0.8**
	baz=338							
ILA	**Ilan**	**0.86**	**326**	*e*P		**Pb**	**17 07 16.2**	**+0.1**
	baz=323							
EGFH	**Guangfu**	**0.87**	**244**	*e*P		**Pb**	**17 07 16.4**	**+0.1**
	baz=237							
EGFH				*e*S		**Sg**	**17 07 27.1**	**+0.5**
	baz=237							
TWE	**Neicheng**	**0.87**	**320**	*e*P		**Pb**	**17 07 16.2**	**-0.1**
	baz=317							
TWE				*e*S		**Sb**	**17 07 27.2**	**-1.1**
	baz=317							
ENTT	**Nioudou**	**0.88**	**312**	⇑P		**Pg**	**17 07 15.6**	**+0.1**
	baz=308							
ENTT				*e*S		**Sg**	**17 07 26.9**	**0.0**
	baz=308							
NDT	**Datong Townshi**	**0.89**	**308**	⇑*e*P		**Pb**	**17 07 17.0**	**+0.4**
	baz=303							
NDT				*e*S		**Sb**	**17 07 28.6**	**-0.3**
	baz=303							
NTC	**Toucheng**	**0.90**	**333**	*e*P		**Pb**	**17 07 16.5**	**-0.2**
	baz=331							
NTC				*e*S		**Sg**	**17 07 27.7**	**+0.1**
	baz=331							
NNSB	**Datong**	**0.90**	**295**	⇑*e*P		**Pb**	**17 07 17.2**	**+0.4**
	baz=289							
NNSB				*e*S		**Sb**	**17 07 28.6**	**-0.6**
	baz=289							
NNSH	**Datong**	**0.90**	**295**	⇑*e*P		**Pb**	**17 07 17.2**	**+0.4**
	baz=289							
NNSH				*e*S		**Sb**	**17 07 29.1**	**-0.2**
	baz=289							
NNS	**Nan Shan**	**0.91**	**295**	*e*P		**Pg**	**17 07 16.4**	**+0.3**
	baz=289							
NNS				*e*S		**Sb**	**17 07 28.9**	**-0.8**
	baz=289							
WHF	**Hehuan Shan**	**0.93**	**276**	⇑P		**Pb**	**17 07 17.7**	**+0.1**
	baz=269							
WHF				*e*S		**Sb**	**17 07 29.9**	**-0.6**
	baz=269							
FUSB	**Fushanzhiwuyua**	**0.95**	**318**	⇑*e*P		**Pb**	**17 07 17.9**	**+0.3**
	baz=315							
FUSB				*e*S		**Sb**	**17 07 29.7**	**-0.8**
	baz=315							
HGSD	**Ruisui**	**0.96**	**235**	*e*P		**Pg**	**17 07 17.6**	**+0.5**
	baz=229							
HGSD				*e*S		**Sg**	**17 07 30.8**	**+1.3**
	baz=229							
FUSS	**Fushou**	**0.97**	**282**	⇑P		**Pb**	**17 07 18.3**	**+0.3**
	baz=276							
FUSS				*e*S		**Sb**	**17 07 32.1**	**+0.8**
	baz=276							
TWB1	**Santiao Chiao**	**0.99**	**344**	*e*P		**Pb**	**17 07 18.2**	**-0.1**
	baz=345							
TWB1				*e*S		**Sb**	**17 07 30.6**	**-1.1**
	baz=345							
TIPB	**Shuangxi**	**1.00**	**336**	*e*P		**Pb**	**17 07 18.8**	**+0.2**
	baz=334							
TIPB				*e*S		**Sg**	**17 07 30.7**	**-0.3**
	baz=334							
CHGB	**Renai**	**1.01**	**271**	⇑*i*P		**Pb**	**17 07 19.0**	**+0.2**
	baz=264							
CHGB				*e*S		**Sb**	**17 07 32.2**	**-0.4**
	baz=264							
OWD	**Renai**	**1.01**	**265**	⇓P		**Pb**	**17 07 18.9**	**0.0**
	baz=258							
OWD				*e*S		**Sg**	**17 07 31.4**	**+0.1**
	baz=258							
TWT	**Tachien**	**1.03**	**281**	*e*P		**Pn**	**17 07 20.3**	**+0.3**
	baz=275							
YHNB	**Yeheng**	**1.03**	**307**	⇑*e*P		**Pb**	**17 07 19.2**	**+0.2**
	baz=303							
YHNB				*e*S		**Sb**	**17 07 32.4**	**-0.5**
	baz=303							
EHY	**Hungye**	**1.03**	**238**	*e*P		**Pg**	**17 07 18.9**	**+0.5**
	baz=232							
EHY				*e*S		**Sg**	**17 07 32.7**	**+0.9**
	baz=232							
TDCB	**Techi**	**1.04**	**281**	*e*P		**Pn**	**17 07 20.0**	**-0.2**
	baz=275							
TDCB				*e*S		**Sb**	**17 07 33.6**	**+0.2**
	baz=275							
NSK	**Sanguang**	**1.05**	**307**	⇑*e*P		**Pg**	**17 07 18.4**	**-0.3**
	baz=302							
NSK				*e*S		**Sg**	**17 07 32.0**	**-0.3**
	baz=302							
ECBN	**Changbin**	**1.05**	**226**	⇓*e*P		**Pg**	**17 07 18.3**	**-0.5**
	baz=221							
WUSB	**Renai**	**1.06**	**267**	⇑*e*P		**Pb**	**17 07 19.8**	**+0.1**
	baz=261							
WUSB				*e*S		**Sg**	**17 07 33.3**	**+0.4**
	baz=261							
VWDT	**VWDT**	**1.08**	**254**	*e*P		**Pb**	**17 07 20.3**	**+0.4**
	baz=248							
VWDT				*e*S		**Sb**	**17 07 34.8**	**+0.4**
	baz=248							
SXI1	**Grass Mountain**	**1.10**	**341**	⇑*i*P		**Pb**	**17 07 20.0**	**-0.3**
	baz=340							
SXI1				S		**Sg**	**17 07 33.6**	**-0.5**
	baz=340							
NWF	**Wu-fen Shan**	**1.11**	**336**	⇑*e*P		**Pb**	**17 07 20.4**	**-0.1**
	baz=335							
NWF				*e*S		**Sb**	**17 07 34.4**	**-1.0**
	baz=335							
WFSB	**Wu-fen Shan**	**1.11**	**336**	⇑*e*P		**Pb**	**17 07 20.4**	**0.0**
	baz=335							
WFSB				*e*S		**Sg**	**17 07 34.1**	**-0.3**
	baz=335							
YULB	**Yu-li**	**1.11**	**234**	*e*P		**Pg**	**17 07 20.0**	**0.0**
	baz=229							
YULB				*e*S		**Sg**	**17 07 35.4**	**+1.0**
	baz=229							
TWA	**Mucha**	**1.12**	**326**	*e*P		**Pn**	**17 07 21.3**	**+0.2**
	baz=324							
TWA				*e*S		**Sb**	**17 07 35.0**	**-0.5**
	baz=324							
EYUL	**Yuli**	**1.13**	**232**	*e*P		**Pg**	**17 07 20.6**	**+0.3**
	baz=227							
EYUL				*e*S		**Sg**	**17 07 35.9**	**+1.1**
	baz=227							
NHDH	**Xindian Distri**	**1.14**	**323**	⇑*e*P		**Pn**	**17 07 21.8**	**+0.4**
	baz=320							
NHDH				*e*S		**Sb**	**17 07 35.7**	**-0.3**
	baz=320							
TWF1	**Yuli**	**1.14**	**232**	⇓*e*P		**Pg**	**17 07 20.4**	**-0.1**
	baz=227							
TWF1				*e*S		**Sg**	**17 07 35.3**	**+0.1**
	baz=227							
TNOU	**National Taiwa**	**1.19**	**337**	*e*P		**Pg**	**17 07 21.0**	**-0.4**
	baz=336							
TNOU				*e*S		**Sg**	**17 07 36.1**	**-0.7**
	baz=336							
NFF	**Wufeng Townshi**	**1.21**	**299**	*e*P		**Pg**	**17 07 21.2**	**-0.6**
	baz=295							
NFF				*e*S		**Sb**	**17 07 37.7**	**-0.3**
	baz=295							
WPL	**Puli Township**	**1.21**	**268**	*e*P		**Pb**	**17 07 22.3**	**+0.2**
	baz=263							
WPL				*e*S		**Sb**	**17 07 38.2**	**+0.1**
	baz=263							
DPDB	**Guoxing**	**1.24**	**269**	⇓*e*P		**Pb**	**17 07 22.8**	**+0.2**
	baz=

HATJ	**Hateruma jima**	**1.39**	**89**	P		**Pb**	**17 07 25.5**	**+0.3**
HATJ				*e*S		**Sn**	**17 07 44.2**	**+0.5**
EDH	**Donghe**	**1.40**	**220**	*e*P		**Pn**	**17 07 23.6**	**-1.3**
	baz=216							
EDH				*e*S		**Sg**	**17 07 40.5**	**-3.1**
	baz=216							
TWQ1	**Liyutan**	**1.41**	**282**	*e*P		**Pb**	**17 07 26.1**	**+0.7**
	baz=278							
WJS	**Zhushan**	**1.44**	**261**	*e*P		**Pg**	**17 07 26.7**	**+0.5**
	baz=256							
ELDTW	**Lidau**	**1.44**	**234**	*e*P		**Pn**	**17 07 24.5**	**-1.1**
	baz=229							
ELDTW				*e*S		**Sg**	**17 07 42.2**	**-2.8**
	baz=229							
WWF	**Wufeng**	**1.45**	**270**	*e*P		**Pn**	**17 07 25.6**	**+0.1**
	baz=265							
ALS	**Alishan**	**1.46**	**249⇓**	*e*P		**Pn**	**17 07 26.2**	**+0.3**
	baz=244							
ALS				*e*S		**Sg**	**17 07 44.7**	**-0.7**
	baz=244							
TCU	**Taichung**	**1.47**	**274**	*e*P		**Pg**	**17 07 27.1**	**+0.3**
	baz=269							
WNT	**Mingjian**	**1.47**	**264**	*e*P		**Pg**	**17 07 27.2**	**+0.4**
	baz=259							
CHN5	**Tsauling**	**1.54**	**253**	*e*P		**Pn**	**17 07 27.0**	**+0.2**
	baz=249							
CHN5				*e*S		**Sn**	**17 07 47.0**	**-0.3**
	baz=249							
LONT	**Longtian**	**1.55**	**223**	*e*P		**Pn**	**17 07 26.4**	**-0.7**
	baz=220							
LDUT	**Ludao**	**1.56**	**209**	*e*P		**Pn**	**17 07 25.8**	**-1.3**
	baz=206							
LDUT				*e*S		**Sn**	**17 07 44.2**	**-3.6**
	baz=206							
JKRS	**Kuro-shima**	**1.59**	**83**	P		**Pb**	**17 07 28.6**	**+0.1**
JKRS				*e*S		**Sb**	**17 07 49.3**	**+0.3**
WDLH	**Douliu**	**1.64**	**258**	*e*P		**Pb**	**17 07 29.5**	**+0.1**
	baz=253							
WDLH				*e*S		**Sn**	**17 07 50.6**	**+0.9**
	baz=253							
TWGBT	**Beinan**	**1.65**	**222**	*e*P		**Pn**	**17 07 27.1**	**-1.3**
	baz=219							
TWGBT				*e*S		**Sn**	**17 07 48.1**	**-1.9**
	baz=219							
WCKO	**Fanlu**	**1.65**	**249**	*e*P		**Pn**	**17 07 28.9**	**+0.4**
	baz=245							
STYT	**Tauyuan**	**1.65**	**238**	*e*P		**Pn**	**17 07 28.7**	**+0.3**
	baz=234							
STYT				*e*S		**Sn**	**17 07 49.8**	**-0.4**
	baz=234							
TPUB	**Ta-pu**	**1.69**	**244**	*e*P		**Pn**	**17 07 29.9**	**+1.0**
	baz=240							
WTP	**Ta-pu**	**1.73**	**243**	*e*P		**Pn**	**17 07 30.4**	**+1.0**
	baz=239							
WTP				*e*S		**Sn**	**17 07 53.0**	**+1.0**
	baz=239							
JIJ	**Ishigaki jima**	**1.73**	**79**	P		**Pn**	**17 07 29.4**	**0.0**
JIJ				*e*S		**Sn**	**17 07 51.1**	**-0.9**
WRL	**Guolierlin Hig**	**1.75**	**265**	*e*P		**Pn**	**17 07 30.1**	**+0.4**
	baz=262							
TWK	**Hsinying**	**1.82**	**245**	*e*P		**Pb**	**17 07 32.2**	**-0.3**
	baz=241							
TWK				*e*S		**Sn**	**17 07 55.3**	**+1.0**
	baz=241							
CHN1	**Nanshi**	**1.82**	**242**	*e*P		**Pb**	**17 07 32.5**	**-0.1**
	baz=238							
SGST	**Jiashian**	**1.83**	**239**	*e*P		**Pn**	**17 07 31.3**	**+0.4**
	baz=235							
SGST				*e*S		**Sn**	**17 07 55.0**	**+0.4**
	baz=235							
JISG	**Ishigakijimahi**	**1.93**	**74**	S		**Sn**	**17 07 55.7**	**-1.2**
SSD	**Sandimen**	**2.00**	**230**	*e*P		**Pn**	**17 07 33.9**	**+0.8**
	baz=226							
JTJ	**Tarama**	**2.29**	**75**	P		**Pn**	**17 07 38.0**	**+0.9**
JTJ				S		**Sn**	**17 08 05.3**	**-0.4**
JIRB	**Irabujima**	**2.75**	**73**	P		**Pn**	**17 07 44.1**	**+0.7**
JIRB				*e*S		**Sn**	**17 08 17.2**	**+0.1**
JIKM	**Ikemajima**	**2.84**	**72**	P		**Pn**	**17 07 45.8**	**+1.1**
JIKM				*e*S		**Sn**	**17 08 19.6**	**+0.3**
JMJ2	**Miyako jima3**	**2.86**	**76**	P		**Pn**	**17 07 46.3**	**+1.3**
JMJ2				S		**Sn**	**17 08 20.5**	**+0.6**

IDC ***02*** *17:13:38.6±0.8,55°.08S×30°.67W, h0km, mb3.8/7, mbtmp3.9/8, ML4.0/1, Error ellipse: s-maj=33.7km s-min=20.3km az=71.0*

NEIC ***02*** *17:13:42.0±2.4,55°.4S±0°.1×31°.3W±0°.1, h10km±2km, mb4.0/6, Error ellipse: s-maj=20.6km s-min=9.3km az=19.0*

ISC 02 17:13:40.4±0.8,55°.24S±0°.09×31°.07W±0°.10, h10km, n24, σ1§52/20, mb4.0/7, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.28**	**285**	Pn	**Pn**	**17 14 32.7**	**+0.9**
HOPE				Sn	**Sn**	**17 15 09.1**	**-1.7**
ORCD	**Orcadas**	**9.10**	**227**	Pn	**Pn**	**17 15 50.1**	**-1.5**
PMSA	**Palmer Station**	**18.81**	**226**	P	**Pn**	**17 18 02.0**	**+1.7**
	0.5nm,0.3s,baz=63,slow=11,SNR=1.4						
	8.4nm,0.9s						
PMSA	**Palmer Station**	**18.81**	**226**	P	**P**	**17 17 58.4**	**-1.4**
SNAA	**Sanae**	**20.40**	**155**	P	**P**	**17 18 16.6**	**-0.5**
	0.9nm,0.6s,baz=315,slow=11,SNR=3.5						
	0.9nm,0.6s						
SNAA	**Sanae**	**20.40**	**155**		**P**	**17 18 15.8**	**-1.3**
SNAA				IAmb	IAmb	17 18 33.5	
	comp=Z,5.3nm,1.2s						
BELA	**Belgrano 2**	**22.77**	**182**	P	**P**	**17 18 42.6**	**+0.2**
BELA				IAmb	IAmb	17 18 45.1	
	comp=Z,2.9nm,1.1s						
CPUP	**Villa Florida**	**34.66**	**316**	P	**P**	**17 20 29.7**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=185,slow=6.7,SNR=3.7						
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**35.01**	**180**	P	**P**	**17 20 33.3**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=190,slow=9.2,SNR=2.9						
	comp=Z,0.9nm,0.4s						
QSPA	**South Pole Qui**	**35.01**	**180**	P	**P**	**17 20 33.3**	**+0.6**
QSPA				IAmb	IAmb	17 20 48.4	
	comp=Z,6.3nm,1.2s						
MAW	**Mawson**	**42.09**	**145**	P	**P**	**17 21 31.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=245,slow=21,SNR=2.0						
	comp=Z,0.7nm,0.5s						
MAW	**Mawson**	**42.09**	**145**	P	**P**	**17 21 31.4**	**-0.5**
VNDA	**Vanda**	**47.26**	**184**	P	**P**	**17 22 15.9**	**+2.9**
	comp=Z,0.9nm,0.7s,baz=186,slow=9.2,SNR=4.3						
	comp=Z,0.9nm,0.7s						
VNDA	**Vanda**	**47.26**	**184**	P	**P**	**17 22 15.1**	**+2.1**
VNDA				IAmb	IAmb	17 22 43.6	
	comp=Z,4.4nm,1.4s						
H10S2	**ASCENSION HYDR**	**47.97**	**22**	T	T	18 14 01.3	
	baz=191						
H10S3	**ASCENSION HYDR**	**47.97**	**22**	T	T	18 14 01.7	
	baz=29						
LPAZ	**La Paz**	**48.13**	**309**	P	**P**	**17 22 21.6**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=116,slow=4.4,SNR=2.7						
	comp=Z,1.1nm,0.4s						
H10N1	**ASCENSION HYDR**	**49.09**	**22**	T	T	18 15 21.2	
	baz=192						
H10N3	**ASCENSION HYDR**	**49.09**	**22**	T	T	18 15 21.1	
	baz=192						
H10N2	**ASCENSION HYDR**	**49.10**	**22**	T	T	18 15 21.7	
	baz=192						
TORD	**Torodi Ar. Bea**	**73.51**	**33**	P	**P**	**17 25 12.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=201,slow=6.0,SNR=4.0						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**124.73**	**29**	PKP	**PKPdf**	**17 32 37.0**	**-1.8**
	comp=Z,1.7nm,0.9s,baz=160,slow=6.1,SNR=3.6						
ILAR	**Eielson Array**	**147.95**	**313**	PKPbc	**PKPdf**	**17 33 23.7**	**+2.4**
	comp=Z,1.7nm,0.9s,baz=85,slow=2.0,SNR=8.9						
SONM	**Songino Array**	**152.89**	**88**	PKPbc	**PKPbc**	**17 33 35.4**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=227,slow=4.3,SNR=2.6						

NEIC ***02*** *17:28:03.6±2.0, 17°.27S±0°.05×172°.08W±0°.08, h10km±1km, mb5.2/308, Error ellipse: s-maj=13.8km s-min=8.1km az=247.0*

NOU ***02*** *17:28:03.3, 17°.40S×171°.98W, h0km, mb5.5/92, Tonga Islands Region*

BJI ***02*** *17:28:03.0±0.0, 17°.40S×172°.20W, h5km, mb5.2/46, mB5.5/31, Ms4.9/13, Ms7 4.5/16*

IDC ***02*** *17:28:04.4±0.4, 17°.30S×172°.41W, h0km, mb5.0/30, mbtmp5.0/30, MS4.3/42, Error ellipse: s-maj=15.4km s-min=12.0km az=143.0*

MOS ***02*** *17:28:08.9±1.6, 17°.49S×172°.67W, h36km, mb5.3/16, MS4.6/6, Error ellipse: s-maj=10.2km s-min=9.1km az=83.7*

GCMT ***02*** *17:28:10.6±0.1, 17°.26S±0°.01×171°.94W±0°.01, h14km, MW5.2/146, Moment Tensor Solution. s91,c133; s146,c238; Duration: †§0 Moment tensor: Scale 10^16 Nm; Mrr=-6.62±.16; Mθθ 1.57±.12; Mϕϕ 5.05±. 12; Mrθ 1.69±.27; Mθϕ 3.95±.08; Mϕr -1.02±.25; Best double couple: M0 7.43500×10^16 NP1:ϕs 230.00000°, δ 48.00000°, λ -66.00000°. NP2:ϕs 16.00000°, δ 47.00000°, λ -114.00000°. Principal axes: T 7.6270, Plg 0.0000°, Azm 303.0000°; N -0.3820, Plg 18.0000°, Azm 33.0000°; P -7.2440, Plg 72.0000°, Azm 212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 17:28:04.5±0.5, 17°.49S±0°.04×172°.11W±0°.04, h9km±2km, h9km:pP-P, n966, σ1§68/881, mb5.3/266, MS4.5/60, 57C-34D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.60**	**128**	P	**Pn**	**17 28 46.3**	**-0.6**
	baz=2.7,SNR=102						
NIUE	**Niue**	**2.60**	**128**		**Pn**	**17 28 46.1**	**-0.7**
NIUE				Sn	**Sn**	**17 29 14.4**	**-4.2**
NIUE	**Niue**	**2.60**	**128**	P	**Pn**	**17 28 46.4**	**-0.4**
AFI	**Afiamalu**	**3.58**	**5**	Pn	Pn	17 28 54.9	-5.5
	21nm,0.3s,baz=225,slow=3.5,SNR=17						
AFI				Sn	Sn	17 29 31.4	-11
	94nm,0.3s,baz=98,slow=16,SNR=6.5						
AFI				LR	LR	17 30 02.5	
	comp=Z,3μm,19.4s,baz=172,slow=34						
AFI	**Afiamalu**	**3.58**	**5**	Pn	Pn	17 28 54.2	-6.2
AFI				Sn	Sn	17 29 29.6	-13
AFI	**Afiamalu**	**3.58**	**5**	P	Pn	17 28 55.3	-5.0
LKBA	**Tubou, Lakemba**	**6.43**	**262**	P	**Pn**	**17 29 42.5**	**+3.1**
TAVE	**Taveuni**	**7.50**	**275**	P	**Pn**	**17 29 56.4**	**+2.3**
DGTI	**Dogotuki**	**7.89**	**277**	P	**Pn**	**17 30 02.6**	**+3.0**
MSVF	**Nonsavu**	**9.39**	**267**	LR	LR	17 33 30.8	
	comp=Z,4μm,18.8s,baz=93,slow=36						
MSVF	**Nonsavu**	**9.39**	**267**	Pn	**Pn**	**17 30 21.2**	**+1.1**
MSVF	**Nonsavu**	**9.39**	**267**	P	**Pn**	**17 30 21.2**	**+1.1**
MSVF	**Nonsavu**	**9.39**	**267**	P	**Pn**	**17 30 23.7**	**+3.6**
RAR	**Rarotonga**	**12.22**	**110**	Pn	**Pn**	**17 30 57.2**	**-1.6**
	25nm,0.3s,baz=252,slow=8.4,SNR=29						
RAR	**Rarotonga**	**12.22**	**110**	Pn	**Pn**	**17 30 56.4**	**-2.4**
RAR	**Rarotonga**	**12.22**	**110**	P	**Pn**	**17 30 56.4**	**-2.4**
RAR	**Rarotonga**	**12.22**	**110**	P	**Pn**	**17 30 57.4**	**-1.4**
RAO	**Raoul Island**	**12.86**	**203**	Pn	**Pn**	**17 31 04.9**	**-2.7**
	40nm,0.3s,baz=242,slow=24,SNR=2.1						
RAO				Sn	Sn	17 33 21.3	-10
	62nm,0.3s,baz=291,slow=23,SNR=3.2						
RAO				LR	LR	17 36 04.1	
	comp=Z,864nm,20.0s,baz=53,slow=37						
RAO	**Raoul Island**	**12.86**	**203**	Pn	**Pn**	**17 31 06.3**	**-1.3**
RAO	**Raoul Island**	**12.86**	**203**	P	**Pn**	**17 31 06.3**	**-1.3**
MARNC	**Mare, Loyalty**	**19.14**	**255**	P	**P**	**17 32 25.2**	**-2.9**
LIFNC	**LIFOU**	**19.78**	**257**	P	**P**	**17 32 31.8**	**-3.4**
LIFNC				IAmb	IAmb	17 32 31.9	
	comp=Z,136nm,0.9s						
PINNC	**Pines Island,**	**19.86**	**252**	P	**P**	**17 32 34.4**	**-1.6**
PINNC				IAmb	IAmb	17 32 38.2	
	comp=Z,161nm,1.4s						
OUENC	**Ouen Island, N**	**20.38**	**253**	P	**P**	**17 32 41.3**	**-0.4**
DZM	**Mont Dzumac**	**20.68**	**254**	*e*P	Pn	17 32 48.2	+0.8
	comp=Z,148nm,1.8s						
DZM				*e*LR	LR	17 37 41.9	
	comp=Z,2μm,25.2s						
DZM	**Mont Dzumac**	**20.68**	**254**	P	**P**	**17 32 42.0**	**-3.1**
	comp=Z,10nm,0.7s,baz=77,slow=22,SNR=9.9						
	comp=Z,10nm,0.7s						
DZM	**Mont Dzumac**	**20.68**	**254**	P	**P**	**17 32 42.9**	**-2.2**
DZM				IAmb	IAmb	17 32 51.8	
	comp=Z,126nm,1.6s						
DZM	**Mont Dzumac**	**20.68**	**254**	P	**P**	**17 32 46.2**	**+1.1**
ONTNC	**Ouen Toro**	**20.71**	**253**	P	**P**	**17 32 44.0**	**-1.4**
ONTNC	**Ouen Toro**	**20.71**	**253**	P	Pn	17 32 48.8	+1.1
NOUC	**Port Laguerre**	**20.82**	**254**	P	Pn	17 32 48.4	-0.5
PAE	**Paea**	**21.48**	**94**	*e*P	**P**	**17 32 55.5**	**+1.9**
	comp=Z,16nm,0.9s						
PPT2	**Papeete2**	**21.49**	**94**	*e*P	**P**	**17 32 57.0**	**+3.2**
	comp=Z,199nm,1.5s						
PPT2				*e*LR	LR	17 38 03.1	
	comp=Z,971nm,20.8s						
PPT	**Papeete**	**21.49**	**94**	P	**P**	**17 32 55.2**	**+1.4**
	comp=Z,29nm,0.6s,baz=66,slow=13,SNR=2.1						
PPTF	**Pamatai, Papee**	**21.50**	**94**	P	**P**	**17 32 49.9**	**-4.0**
PPTF				IAmb	IAmb	17 33 02.9	
	comp=Z,199nm,1.2s						
TBI	**Tubuai**	**22.00**	**109**	*e*P	**P**	**17 33 01.7**	**+2.5**
	comp=Z,386nm,29.8s						
TBI				*e*LR	LR	17 38 17.7	
	comp=Z,2μm,22.5s						
KOUNC	**Koumac, New Ca**	**22.52**	**258**	P	**P**	**17 33 01.3**	**-3.5**
KOUNC				IAmb	IAmb	17 33 10.2	
	comp=Z,74nm,0.9s						
KOUNC	**Koumac, New Ca**	**22.52**	**258**	P	**P**	**17 33 05.8**	**+1.0**
OPRZ	**Ohinepanea**	**22.59**	**204**	P	**P**	**17 33 10.2**	**+4.9**
URZ	**Urewera**	**22.74**	**202**	P	**P**	**17 33 09.2**	**+2.2**
	comp=Z,314nm,0.8s,baz=121,slow=1.1,SNR=2.9						
URZ				S	**S**	**17 37 12.0**	**-3.8**
	comp=Z,6.1nm,0.4s,baz=301,slow=18,SNR=1.6						
	comp=Z,314nm,0.8s						
URZ	**Urewera**	**22.74**	**202**	P	**P**	**17 33 07.0**	**0.0**
URZ	**Urewera**	**22.74**	**202**	P	**P**	**17 33 12.7**	**+5.7**
KMRZ	**Kaimai**	**22.83**	**205**	P	P	17 33 15.6	+7.6
RAGZ	**Rawiri**	**22.84**	**202**	P	P	17 33 15.8	+7.7
KARZ	**Kaharoa**	**22.86**	**204**	P	**P**	**17 33 14.8**	**+6.5**
OMRZ	**Omania**	**22.88**	**204**	P	**P**	**17 33 12.4**	**+3.9**
NGRZ	**Ngongotaha**	**22.95**	**204**	P	**P**	**17 33 14.6**	**+5.4**
UTU	**Utuhina**	**23.01**	**204**	P	P	17 33 17.1	+7.2
HSRZ	**Hossack Road**	**23.11**	**204**	P	**P**	**17 33 17.8**	**+7.0**
HRRZ	**Handcock Road**	**23.16**	**204**	P	**P**	**17 33 16.0**	**+4.5**
BKZ	**Black Stump Fm**	**23.77**	**202**	P	**P**	**17 33 20.2**	**+2.8**
BKZ				IAmb	IAmb	17 33 24.6	
	comp=Z,71nm,0.6s						
HIZ	**Hauiti**	**23.84**	**206**	P	**P**	**17 33 18.9**	**+0.8**
BFZ	**Birch Farm**	**25.20**	**201**	P	**P**	**17 33 30.6**	**+0.1**
QRZ	**Quartz Range**	**26.76**	**207**	P	**P**	**17 33 45.7**	**+1.0**
QRZ				IAmb	IAmb	17 34 01.3	
	comp=Z,131nm,1.3s						
HNR	**Honiara**	**28.30**	**283**	LR	LR	17 43 22.2	
	comp=Z,2μm,21.6s,baz=116,slow=33						
HNR	**Honiara**	**28.30**	**283**	P	**P**	**17 33 54.6**	**-4.2**
HNR	**Honiara**	**28.30**	**283**	P	**P**	**17 33 54.6**	**-4.2**
HNR				pmax	pmax		
	comp=Z,369nm,1.4s						
RPZ	**Rata Peaks**	**29.77**	**205**	LR	LR	17 46 34.0	
	comp=Z,566nm,19.4s,baz=32,slow=37						
TAOE	**Nuku Hiva Isla**	**32.24**	**79**	*e*S	**S**	**17 39 46.9**	**-0.5**
	comp=Z,84nm,21.4s						
TAOE				*e*LR	LR	17 42 59.7	
	comp=Z,719nm,21.8s						
EIDS	**Eidsvold**	**35.06**	**251**	P	**P**	**17 34 55.8**	**-2.3**
	baz=35,SNR=7.4						
EIDS	**Eidsvold**	**35.06**	**251**	P	**P**	**17 34 55.9**	**-2.3**
EIDS				IAmb	IAmb	17 34 57.0	
	comp=Z,30nm,0.9s						
EIDS	**Eidsvold**	**35.06**	**251**	P	**P**	**17 34 56.3**	**-1.8**
ARMA	**Armidale**	**35.39**	**242**	P	**P**	**17 35 00.5**	**-0.5**
	baz=36,SNR=5.7						
ARMA	**Armidale**	**35.39**	**242**	P	**P**	**17 34 58.8**	**-2.2**
RK1H	**Rockhampton Ha**	**35.46**	**254**	P	**P**	**17 35 01.3**	**-0.2**
	comp=Z,22nm,0.7s						
RMQ	**Roma**	**37.25**	**249**	P	**P**	**17 35 15.9**	**-1.0**
	baz=37,SNR=23						
RMQ	**Roma**	**37.25**	**249**	P	**P**	**17 35 17.9**	**+1.0**
RABL	**Rabaul**	**37.40**	**287**	P	**P**	**17 35 14.4**	**-3.8**
RABL				IAmb	IAmb	17 35 33.6	
	comp=Z,43nm,0.8s						
RABL	**Rabaul**	**37.40**	**287**	P	**P**	**17 35 16.6**	**-1.7**
KRVT	**Keravat (AS076**	**37.48**	**286**	LR	LR	17 49 51.7	
	comp=Z,506nm,18.1s,baz=264,slow=35						
PATS	**Pohnpei**	**37.92**	**307**	P	**P**	**17 35 22.3**	**-0.3**
	baz=38,SNR=3.3						
CNB	**Canberra Magne**	**38.51**	**235**	P	**P**	**17 35 27.1**	**-0.3**
CTA	**Charters Tower**	**39.43**	**259**	P	**P**	**17 35 32.9**	**-2.3**
	comp=Z,29nm,0.7s,baz=98,slow=9.8,SNR=84						
CTA				PcP	**PcP**	**17 37 44.8**	**+1.3**
	comp=Z,8.3nm,1.0s,baz=135,slow=1.4,SNR=3.2						
	comp=Z,29nm,0.7s						
CTA	**Charters Tower**	**39.43**	**259**	P	**P**	**17 35 33.3**	**-2.0**
CTAO	**Charters Tower**	**39.43**	**259**	P	**P**	**17 35 32.4**	**-2.9**
CTAO				IAmb	IAmb	17 35 33.8	
	comp=Z,30nm,0.7s						
CTAO	**Charters Tower**	**39.43**	**259**	P	**P**	**17 35 32.4**	**-2.9**
CTAO				pmax	pmax		
	comp=Z,30nm,0.7s						
CTAO	**Charters Tower**	**39.43**	**259**	P	**P**	**17 35 33.2**	**-2.0**
PMG	**Port Moresby**	**40.35**	**276**	P	**P**	**17 35 42.6**	**-0.4**
	comp=Z,46nm,1.1s						
CMSA	**Cobar Meteorol**	**40.61**	**242**	P	**P**	**17 35 44.1**	**-0.7**
	baz=41,SNR=20						
CMSA	**Cobar Meteorol**	**40.61**	**242**	P	**P**	**17 35 44.2**	**-0.7**
KIP	**Kipapa**	**41.07**	**20**	*ce*P	**P**	**17 35 49.7**	**+1.0**
KIP				pmax	pmax		
	comp=Z,199nm,1.7s						
QLP	**Quilpie**	**41.30**	**249**	P	**P**	**17 35 49.2**	**-1.5**
	baz=41,SNR=64						
QLP	**Quilpie**	**41.30**	**249**	P	**P**	**17 35 49.2**	**-1.5**
MTSU	**Mount Surprise**	**41.42**	**262**	P	**P**	**17 35 49.4**	**-2.3**
	baz=42,SNR=41						
MTSU	**Mount Surprise**	**41.42**	**262**	P	**P**	**17 35 49.7**	**-2.1**
WAKE	**Wake Island**	**42.09**	**329**	P	**P**	**17 35 53.1**	**-3.9**
WAKE	**Wake Island**	**42.09**	**329**	P	**P**	**17 35 58.3**	**+1.3**
	comp=Z,228nm,1.1s						
TOO	**Toolangi**	**42.15**	**233**	P	**P**	**17 35 57.2**	**-0.3**
	baz=42,SNR=4.7						
TOO	**Toolangi**	**42.15**	**233**	P	**P**	**17 35 56.5**	**-1.1**
TOO				IAmb	IAmb	17 35 59.7	
	comp=Z,49nm,1.1s						
TOO	**Toolangi**	**42.15**	**233**	P	**P**	**17 35 56.5**	**-1.1**
TOO				pmax	pmax		
	comp=Z,49nm,1.1s						
TOO	**Toolangi**	**42.15**	**233**	P	**P**	**17 35 59.1**	**+1.5**
CORO	**Coronation Par**	**42.22**	**227**	P	**P**	**17 36 00.3**	**+2.3**
	comp=Z,41nm,1.0s						
H11N3	**WAKE ISLAND Hy**	**42.33**	**330**	T	T	18 21 25.0	
	baz=150,slow=76,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**42.34**	**330**	T	T	18 21 09.9	
	baz=150,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**42.35**	**330**	T	T	18 21 15.5	
	baz=150,slow=76,SNR=5.7						
MANU	**Manus Island**	**42.65**	**287**	P	**P**	**17 35 58.1**	**-3.7**
TAU	**Tasmania Unive**	**42.67**	**225**	P	**P**	**17 35 59.2**	**-2.4**
TAU				IAmb	IAmb	17 36 17.3	
	comp=Z,132nm,1.9s						
TAU	**Tasmania Unive**	**42.67**	**225**	P	**P**	**17 35 59.2**	**-2.4**
TAU				pmax	pmax		
	comp=Z,132nm,2.0s						
COEN	**Coen**	**43.11**	**268**	P	**P**	**17 36 04.3**	**-1.3**
	baz=43,SNR=28						
COEN	**Coen**	**43.11**	**268**	P	**P**	**17 36 02.6**	**-3.0**
COEN				IAmb	IAmb	17 36 05.0	
	comp=Z,25nm,0.8s						
COEN	**Coen**	**43.11**	**268**	P	**P**	**17 36 04.5**	**-1.1**
BRAT	**Ballarat**	**43.34**	**234**	P	**P**	**17 36 08.3**	**+1.2**
	comp=Z,39nm,1.0s						
STKA	**Stephens Creek**	**44.11**	**242**	P	**P**	**17 36 12.9**	**-0.5**
	baz=44,SNR=27						
STKA	**Stephens Creek**	**44.11**	**242**	P	**P**	**17 36 12.8**	**-0.7**
	comp=Z,20nm,0.7s,baz=90,slow=9.9,SNR=47						
STKA				LR	LR	17 53 14.8	
	comp=Z,437nm,18.2s,baz=66,slow=34						
	comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**44.11**	**242**	P	**P**	**17 36 12.3**	**-1.2**
STKA	**Stephens Creek**	**44.11**	**242**	*i* P	**P**	**17 36 11.7**	**-1.8**
STKA	**Stephens Creek**	**44.11**	**242**	P	**P**	**17 36 13.4**	**-0.1**
INKA	**Innaminka**	**44.47**	**248**	P	**P**	**17 36 16.6**	**+0.3**
ARPS	**Mount Arapiles**	**44.77**	**235**	P	**P**	**17 36 18.1**	**-0.6**
	baz=45,SNR=7.3						
ARPS	**Mount Arapiles**	**44.77**	**235**	P	**P**	**17 36 18.3**	**-0.4**
QIS	**Mount Isa**	**45.62**	**258**	P	**P**	**17 36 23.7**	**-2.0**
	baz=46,SNR=7.7						
QIS	**Mount Isa**	**45.62**	**258**	P	**P**	**17 36 24.6**	**-1.1**
HTT	**Hallett**	**46.55**	**240**	P	**P**	**17 36 32.7**	**-0.2**
	baz=47,SNR=20						
HTT	**Hallett**	**46.55**	**240**	P	**P**	**17 36 33.3**	**+0.4**
LCRK	**Leigh Creek**	**46.84**	**244**	P	**P**	**17 36 34.8**	**-0.3**
WHYH	**Whyalla**	**47.62**	**241**	P	**P**	**17 36 40.9**	**-0.3**
	comp=Z,72nm,0.7s						
BBOO	**Buckleboo**	**48.87**	**242**	P	**P**	**17 36 50.3**	**-0.5**
	baz=49,SNR=73						
BBOO	**Buckleboo**	**48.87**	**242**	P	**P**	**17 36 49.3**	**-1.5**
BBOO	**Buckleboo**	**48.87**	**242**	P	**P**	**17 36 50.6**	**-0.2**
OOD	**Oodnadatta**	**48.95**	**248**	P	**P**	**17 36 52.1**	**+0.6**
GENI	**Genyem**	**49.10**	**282**	P	**P**	**17 36 52.8**	**0.0**
	comp=Z,2μmcomp=Z,190nm,0.7s						
GENI	**Genyem**	**49.10**	**282**	P	**P**	**17 36 54.5**	**+1.7**
WR0	**Warramunga Arr**	**50.41**	**258**	P	**P**	**17 37 00.1**	**-2.7**
WR0				IAmb	IAmb	17 37 05.9	
	comp=Z,24nm,0.9s						
WR0				PcP	**PcP**	**17 38 21.6**	**+0.4**
MULG	**Mulgathing**	**50.42**	**245**	P	**P**	**17 37 02.5**	**-0.2**
WB0	**Warramunga Arr**	**50.57**	**259**	P	**P**	**17 37 02.0**	**-2.0**
WB0				IAmb	IAmb	17 37 05.2	
	comp=Z,49nm,

FITZ Fitzroy Crossi 59.01 259 P P 17 38 04.0 -1.1
FITZ PcP PcP 17 38 55.9 +1.7
FITZ IAmb IAmb 17 38 57.6
comp=Z,20nm,1.1s
FITZ Fitzroy Crossi 59.01 259 P P 17 38 05.7 +0.5
MSAI Masohi 59.43 277 P P 17 38 07.6 -0.6
comp=Z,161nmcomp=Z,13nm,0.8s
AAI Ambon 60.02 276 P P 17 38 11.4 -0.8
comp=Z,842nmcomp=Z,95nm,1.1s
NLAI Namlea 61.20 276 P P 17 38 20.7 +0.4
comp=Z,49nm,0.8s
SBA Scott Base 61.28 185 P P 17 38 20.9 +1.1
SBA IAmb IAmb 17 38 24.5
comp=Z,23nm,0.9s
SBA Scott Base 61.28 185 P P 17 38 20.9 +1.1
SBA pmax pmax
comp=Z,23nm,1.0s
VNDA Vanda 61.44 186 P P 17 38 23.8 +3.0
comp=Z,9.4nm,1.0s,baz=5.1,slow=7.4,SNR=19
comp=Z,9.4nm,1.0s
VNDA Vanda 61.44 186 P P 17 38 21.3 +0.5
VNDA IAmb IAmb 17 38 25.3
comp=Z,19nm,1.1s
VNDA Vanda 61.44 186 P P 17 38 21.3 +0.5
VNDA pmax pmax
comp=Z,19nm,1.2s
LBMI Labuha 61.65 279 P P 17 38 24.3 +1.0
comp=Z,892nmcomp=Z,98nm,1.1s
TNTI Ternate 62.25 280 P P 17 38 24.2 -3.2
TNTI IAmb IAmb 17 38 32.8
comp=Z,22nm,1.0s
TNTI Ternate 62.25 280 P P 17 38 27.7 +0.3
comp=Z,548nmcomp=Z,25nm,1.2s
TNTI Ternate 62.25 280 P P 17 38 28.5 +1.1
comp=Z,25nm,1.2s
BATI Baumata 62.54 267 P P 17 38 29.9 +0.5
comp=Z,30nm,0.8s,baz=177,slow=0.7,SNR=7.9
comp=Z,30nm,0.8s
BATI Baumata 62.54 267 P P 17 38 30.7 +1.3
comp=Z,20nm,0.9s
SANI Sanana 62.62 277 P P 17 38 29.4 -0.5
comp=Z,834nmcomp=Z,68nm,1.0s
SANI Sanana 62.62 277 P P 17 38 29.9 0.0
comp=Z,61nm,1.0s
JCJ Chichijima 62.69 314 P P 17 38 29.9 -0.1
comp=Z,88nm,1.0s,baz=207,slow=20,SNR=3.5
JCJ LR LR 18 01 41.1
comp=Z,211nm,19.5s,baz=129,slow=32
comp=Z,88nm,1.0s
PSA00 Pilbara Seismi 63.81 254 P P 17 38 36.8 -0.8
PSA00 Pilbara Seismi 63.81 254 IAmb IAmb 17 38 38.9
comp=Z,24nm,1.0s
PSA00 Pilbara Seismi 63.81 254 P P 17 38 38.8 +1.1
MBWA Marble Bar 63.98 255 P P 17 38 37.3 -1.5
MBWA Marble Bar 63.98 255 P P 17 38 40.2 +1.4
MEEK Meekatharra 64.18 248 P P 17 38 40.2 +0.1
baz=64,SNR=10
MEEK Meekatharra 64.18 248 P P 17 38 40.3 +0.2
MMRI Maumere 64.30 269 P P 17 38 38.9 -2.1
MMRI Maumere 64.30 269 P P 17 38 40.8 -0.2
comp=Z,66nm,0.8s
MMRI Maumere 64.30 269 P P 17 38 41.9 +0.9
KLBR Kellerberrin 64.37 243 P P 17 38 41.9 +0.7
baz=64,SNR=26
KLBR Kellerberrin 64.37 243 P P 17 38 42.1 +0.9
NWAO Narrogin (SRO) 64.69 241 P P 17 38 44.6 +1.4
baz=65,SNR=7.0
NWAO P P 17 38 44.6 +1.4
baz=65,SNR=7.0
NWAO Narrogin (SRO) 64.69 241 P P 17 38 41.6 -1.7
NWAO Narrogin (SRO) 64.69 241 P P 17 38 41.6 -1.7
NWAO pmax pmax
comp=Z,98nm,1.1s
NWAO Narrogin (SRO) 64.69 241 P P 17 38 44.4 +1.1
RKGY Rocky Gully 64.77 240 P P 17 38 45.7 +2.0
baz=65,SNR=6.3
RKGY Rocky Gully 64.77 240 P P 17 38 45.9 +2.2
comp=Z,211nm,0.9s
EDFI Ende, Flores 64.80 268 P P 17 38 43.4 -0.9
comp=Z,458nmcomp=Z,46nm,1.0s
BBSI Bau Bau 64.84 272 P P 17 38 45.4 +0.9
comp=Z,66nmcomp=Z,7,4nm,1.0s
SGSI Sangihe 64.99 283 P P 17 38 45.5 0.0
comp=Z,699nmcomp=Z,41nm,0.9s
BLDU Ballidu 65.37 244 P P 17 38 48.4 +0.7
baz=65,SNR=27
BLDU Ballidu 65.37 244 P P 17 38 48.9 +1.2
KMSI Cibinong 65.37 279 P P 17 38 50.4 +2.5
comp=Z,45nm,1.0s
MUN Mundaring 65.65 242 P P 17 38 50.7 +1.2
baz=66,SNR=14
MUN Mundaring 65.65 242 P P 17 38 51.0 +1.5
comp=Z,174nm,1.5s
LUWI Luwuk 65.99 277 P P 17 38 49.7 -2.3
LUWI Luwuk 65.99 277 P P 17 38 53.4 +1.4
comp=Z,1µmcomp=Z,102nm,1.1s
LUWI Luwuk 65.99 277 P P 17 38 54.2 +2.2
comp=Z,109nm,1.2s
MTKN Mount Kenneth 66.02 242 P P 17 38 55.8 +3.9
comp=Z,326nm,1.0s
MORW Morawa 66.13 245 P P 17 38 53.3 +0.7
baz=66,SNR=12
MORW Morawa 66.13 245 P P 17 38 50.6 -2.1
MORW Morawa 66.13 245 P P 17 38 53.8 +1.1
DAV Davao City (W) 66.20 286 LR LR 18 06 29.0
comp=Z,360nm,18.0s,baz=126,slow=35
GTOI Gorontalo 66.31 279 P P 17 38 55.5 +1.5
comp=Z,235nmcomp=Z,15nm,1.0s
BSSI Bau Bau, Buton 66.64 271 P P 17 38 55.4 -0.8
comp=Z,22nm,1.2s
APSI Ampana 67.10 277 P P 17 39 00.9 +1.9
comp=Z,1µmcomp=Z,85nm,1.2s
BKSI Bulukumba 67.23 272 P P 17 38 59.3 -0.6
KAPI Kappang 67.67 272 P P 17 39 01.6 -1.0
comp=Z,14nm,0.9s,baz=164,slow=3.6,SNR=3.6
comp=Z,14nm,0.9s
KAPI Kappang 67.67 272 P P 17 39 00.5 -2.1
KAPI IAmb IAmb 17 39 13.1
comp=Z,19nm,1.0s
KAPI Kappang 67.67 272 P P 17 39 00.5 -2.1
KAPI pmax pmax
comp=Z,19nm,1.0s
KAPI Kappang 67.67 272 P P 17 39 06.4 +3.7
SPSI Sidrap Palu 67.96 273 P P 17 39 04.3 -0.2
comp=Z,28nm,1.0s
JHJ Hachijo jima 2 68.14 318 LR LR 18 01 46.4
comp=Z,104nm,20.9s,baz=92,slow=30
TTSI Tana Toraja 68.18 274 P P 17 39 06.5 +0.6
comp=Z,35nm,1.2s
PLAI Plampang 68.51 267 P P 17 39 08.5 +0.6
comp=Z,2µmcomp=Z,133nm,1.0s
PLAI Plampang 68.51 267 P P 17 39 09.8 +1.9
TOLI2 Tolitoli 68.57 278 P P 17 39 05.6 -2.7
TOLI2 IAmb IAmb 17 39 24.4
comp=Z,46nm,1.4s
TOLI2 Tolitoli 68.57 278 P P 17 39 11.8 +3.5
GIRL Giralia 68.75 252 P P 17 39 11.6 +2.3
baz=69,SNR=4.0
GIRL Giralia 68.75 252 P P 17 39 07.1 -2.2
CASY Casey 69.04 205 P P 17 39 10.8 +0.5
MPSI Mapaga 69.15 277 P P 17 39 12.2 +0.3
comp=Z,528nmcomp=Z,33nm,1.0s
TWSI Taliwang, Sumb 69.38 267 P P 17 39 13.7 +0.3
comp=Z,768nmcomp=Z,89nm,1.3s
JYT Yasato 69.91 320 P P 17 39 13.1 -3.0
NIKH Nikolski High 70.23 2 P P 17 39 17.0 -0.7
baz=183
JMM Marumori 70.64 322 P P 17 39 21.4 +0.9
SHEM Shemya Is, Ala 70.94 351 LR LR 18 06 25.8
comp=Z,207nm,19.5s,baz=285,slow=32
SRBI Singaraja 71.15 267 P P 17 39 25.1 +0.9
comp=Z,112nm,1.4s
UNV Unalaska Valle 71.21 4 P P 17 39 22.7 -0.9
baz=186
INU Inuyama 71.32 318 IAmb IAmb 17 39 26.8
comp=Z,21nm,1.0s
INU Inuyama 71.32 318 P P 17 39 27.1 +2.3
comp=Z,23nm,1.4s
MJAR Matsushiro Arr 71.33 320 P P 17 39 22.9 -1.9
comp=Z,10nm,1.0s,baz=151,slow=5.9,SNR=22
MJAR LR LR 18 04 55.9
comp=Z,106nm,21.1s,baz=114,slow=31
comp=Z,10nm,1.0s
MAJO Matsushiro 71.33 320 P P 17 39 22.5 -2.3
MAJO IAmb IAmb 17 39 26.6
comp=Z,30nm,1.2s
MAJO Matsushiro 71.33 320 P P 17 39 22.5 -2.3
MAJO pmax pmax
comp=Z,30nm,1.2s
MAJO Matsushiro 71.33 320 P P 17 39 25.8 +1.0
comp=Z,20nm,1.2s
AKUT Akutan 71.54 4 P P 17 39 22.4 -3.2
PKM Mcpherson Peak 71.96 43 P P 17 39 29.4 +0.6
baz=233
CIS Catalina Islan 72.00 45 P P 17 39 30.1 +1.2
baz=234
JAGI Jajag, Banyuwa 72.06 267 P P 17 39 28.5 -1.2
JAGI Jajag, Banyuwa 72.06 267 P P 17 39 29.4 -0.3
comp=Z,139nm,1.0s
JAGI Jajag, Banyuwa 72.06 267 P P 17 39 29.7 0.0
MYLDM Lahad Datu 72.07 282 P P 17 39 32.1 +2.4
ABJI Asem Bagus 72.16 267 P P 17 39 30.6 +0.3
comp=Z,89nm,1.4s
BCW Bitter Crk WRg 72.25 43 P P 17 39 28.2 -2.3
JSD Sado 72.25 321 P P 17 39 27.9 -2.4
JSD IAmb IAmb 17 39 33.2
comp=Z,36nm,1.0s
CCX Cicese 72.33 47 P P 17 39 32.0 +1.1
CCX IAmb IAmb 17 39 37.0
comp=Z,13nm,0.7s
JMN Monobe 72.41 315 P P 17 39 29.2 -2.2
JTM Tenmabayashi 72.46 324 P P 17 39 31.7 +0.3
OSI Osito Audit: C 72.51 44 P P 17 39 33.0 +1.0
baz=233
HOPS Hopland Field 72.53 38 P P 17 39 29.3 -2.6
QSPA South Pole Qui 72.56 180 P P 17 39 34.8 +2.9
comp=Z,22nm,0.8s,baz=51,slow=4.4,SNR=5.1
comp=Z,22nm,0.8s
QSPA South Pole Qui 72.56 180 P P 17 39 30.4 -1.6
QSPA IAmb IAmb 17 39 35.6
comp=Z,38nm,1.1s
CBX Cerro Bola 72.58 47 P P 17 39 29.2 -3.3
KMMI Kalianget 72.62 268 P P 17 39 32.8 -0.2
comp=Z,54nm,1.0s
JOW Kunigami 72.71 306 P P 17 39 30.8 -2.5
JOW Kunigami 72.71 306 P P 17 39 36.5 +3.2
TKX Tecate 72.76 47 P P 17 39 34.7 +1.2
BAR Barrett 72.78 47 P P 17 39 29.3 -4.3
BAR IAmb IAmb 17 41 06.4
comp=Z,31nm,1.6s
BLJI Banyuglugur 72.78 267 P P 17 39 34.8 +0.8
comp=Z,52nm,0.8s
GMJI Gumukmas 72.78 267 P P 17 39 34.4 +0.4
comp=Z,56nm,1.4s
BBKI Banjar Baru 72.80 272 P P 17 39 35.6 +1.5
comp=Z,2µmcomp=Z,66nm,1.3s
CNBA Chernabura Isl 72.81 8 P P 17 39 29.8 -3.4
ELS Elsinore Mount 72.82 45 P P 17 39 29.9 -4.0
ELS IAmb IAmb 17 39 39.9
comp=Z,24nm,1.4s
CHNA Chernabura Isl 72.82 8 P P 17 39 32.7 -0.6
baz=192
KMPM Mount Pierce 72.86 36 P P 17 39 29.6 -4.4
KMPM IAmb IAmb 17 39 39.5
comp=Z,36nm,1.2s
ESJX Sierra Juarez 72.91 48 P P 17 39 31.2 -3.4
ESJX IAmb IAmb 17 39 41.0
comp=Z,18nm,1.2s
MURC Murrieta 72.95 46 P P 17 39 34.9 +0.3
baz=235
KMRM Mail Ridge 72.97 37 P P 17 39 30.6 -4.0
BFSC Mount Baldy Ra 73.00 45 P P 17 39 35.9 +0.8
baz=234
MONP2 Monument Peak 73.08 47 P P 17 39 36.5 +0.9
baz=236
LPIG La Paz 73.10 57 LR LR 18 05 59.5
comp=Z,299nm,18.1s,baz=234,slow=31
RMX La Rumorosa 73.15 47 P P 17 39 30.5 -5.5
RMX IAmb IAmb 17 39 42.1
comp=Z,20nm,1.1s
EDW2 Edwards Air Fo 73.16 44 P P 17 39 36.7 +0.9
baz=234
IKP In-Ko-Pah, Jac 73.16 47 P P 17 39 36.5 +0.5
baz=236
SLBS Sierra La Lagu 73.19 58 P P 17 39 38.9 +2.6
SLBS IAmb IAmb 17 39 42.4
comp=Z,24nm,1.2s
SDPT Sand Point 73.22 7 P P 17 39 31.4 -4.3
YUH Yuha Desert 73.28 47 P P 17 39 33.9 -2.7
YUH IAmb IAmb 17 39 42.6
comp=Z,20nm,1.2s
CCAC Calif City Air 73.30 44 P P 17 39 33.2 -3.4
CCAC IAmb IAmb 17 39 44.6
comp=Z,56nm,1.6s
ISA Isabella, Lake 73.30 43 P 17 39 33.8 -2.9
ISA IAmb IAmb 17 39 43.8
comp=Z,57nm,1.7s
ISA Isabella, Lake 73.30 43 P P 17 39 33.8 -2.9
ISA pmax pmax
comp=Z,57nm,1.7s
ISA Isabella, Lake 73.30 43 P P 17 39 37.2 +0.5
baz=233
KHMM Horse Mountain 73.39 36 P P 17 39 33.3 -3.9
KHMM IAmb IAmb 17 39 46.0
comp=Z,18nm,1.1s
PFO Pinyon Flats O 73.46 46 LR LR 18 08 12.0
comp=Z,453nm,18.1s,baz=220,slow=33
PFO Pinyon Flats O 73.46 46 P 17 39 34.8 -2.9
PFO Pinyon Flats O 73.46 46 P P 17 39 34.8 -2.9
PFO pmax pmax
comp=Z,16nm,1.2s
PFO Pinyon Flats O 73.46 46 P P 17 39 39.2 +1.5
baz=235
TPFO Pinon Flats 73.46 46 P P 17 39 39.1 +1.4
baz=235
MTKI Muara Teweh, K 73.50 274 P P 17 39 39.3 +1.0
CMB Columbia Colle 73.53 40 P P 17 39 34.8 -3.2
CMB Columbia Colle 73.53 40 P P 17 39 34.8 -3.2
CMB pmax pmax
comp=Z,11nm,1.1s
PMD Palm Desert 73.53 46 P P 17 39 35.9 -2.2
PMD IAmb IAmb 17 39 44.0
comp=Z,26nm,1.4s
SWSC Sam W. Stewart 73.54 47 P P 17 39 39.4 +1.4
baz=236
JHS Saijyo 73.66 316 P P 17 39 36.3 -2.5
JHS IAmb IAmb 17 39 41.6
comp=Z,50nm,1.1s
AFDM Forest Hills D 73.75 39 P P 17 39 34.7 -4.5
BELC Belle Mtn. Jos 73.99 46 P P 17 39 41.9 +1.0
baz=236,SNR=8.3
CWC Cottonwood Cre 74.02 43 P P 17 39 42.6 +1.6
baz=234
OMMB Old Mammoth Mi 74.14 41 P P 17 39 37.9 -4.0
OMMB IAmb IAmb 17 39 47.8
comp=Z,40nm,2.0s
BC3 Big Chuckawall 74.17 46 P P 17 39 43.7 +1.8
baz=236,SNR=10
MPMC Manual Prospec 74.18 43 P P 17 39 43.6 +1.5
baz=234,SNR=21
GSC Goldstone, Bar 74.19 44 P P 17 39 36.9 -5.1
GSC Goldstone, Bar 74.19 44 P P 17 39 36.9 -5.1
GSC pmax pmax
comp=Z,14nm,1.1s
GSC Goldstone, Bar 74.19 44 P P 17 39 43.6 +1.7
baz=235
HEC Hector,Ludlow 74.23 45 P P 17 39 43.5 +1.3
baz=235,SNR=5.5
S14K Fog Glacier 74.25 7 P P 17 39 42.2 +0.4
baz=192,SNR=5.8
GLA Glamis 74.28 47 P P 17 39 44.2 +1.8
baz=237
CHIR Chirikof Islan 74.35 10 P P 17 39 42.5 +0.2
baz=196
SPIA Saint Paul Isl 74.40 1 P P 17 39 42.6 +0.1
baz=182
CHGN Chignik 74.41 8 P 17 39 40.6 -1.9
CHGN Chignik 74.41 8 P P 17 39 43.0 +0.4
baz=194,SNR=7.5
PWJI Pagerwojo 74.41 266 P P 17 39 43.6 0.0
comp=Z,85nm,1.4s
KKM Kota Kinabalu 74.50 282 P P 17 39 46.9 +2.6
comp=Z,58nm,1.1s
YBH Yreka Blue Hor 74.53 36 LR LR 18 08 38.4
comp=Z,388nm,18.2s,baz=236,slow=33
YBH Yreka Blue Hor 74.53 36 P P 17 39 41.7 -2.1
YBH IAmb IAmb 17 39 49.8
comp=Z,15nm,0.9s
YBH Yreka Blue Hor 74.53 36 P P 17 39 41.7 -2.1
YBH pmax pmax
comp=Z,15nm,0.9s
QSM Queen of Sheba 74.53 44 P P 17 39 41.8 -2.0
QSM IAmb IAmb 17 39 50.6
comp=Z,19nm,1.1s
PET Petropavlovsk 74.64 342 *e*P P 17 39 51.3 +7.3
PET *e*S **S** **17 49 23.7 +3.9**
PET *e*SS **SS** **17 54 07.4 -0.1**
PET pmax pmax
comp=Z,100nm,13.4s
PET MLR MLR
comp=Z,400nm,16.0s
K02D Willamette Mer 74.64 35 P P 17 39 45.3 +0.9
baz=228
GMRC Granite Mounta 74.67 45 P P 17 39 46.3 +1.5
baz=236
IRM Iron Mountain 74.67 46 P P 17 39 46.2 +1.5
baz=236,SNR=12
GRAC Grapevine Rang 74.81 43 P P 17 39 47.4 +1.9
baz=234
J01E Myrtle Point 74.81 34 P P 17 39 46.0 +0.8
baz=228
YERR Yerington 74.83 40 P P 17 39 43.0 -2.7
YERR IAmb IAmb 17 39 51.4
comp=Z,38nm,1.7s
FURC Furnace Creek, 74.83 43 P P 17 39 47.0 +1.5
baz=234
TUQ Turquoise Moun 74.86 45 P P 17 39 47.0 +1.1
baz=235
BLYC Blythe 74.87 47 IAmb IAmb 17 39 52.1
comp=Z,29nm,1.3s
SHOC Shoshone, Teco 74.89 44 P P 17 39 46.7 +0.8
baz=235
NGJI Ngawi 74.92 267 P P 17 39 49.1 +2.6
comp=Z,98nm,1.1s
PCJI Pacitan 74.96 266 P P 17 39 47.1 +0.3
comp=Z,269nm,1.0s
PEA0B Petropavlovsk- 74.99 342 IAmb IAmb 17 40 03.1
comp=Z,26nm,1.1s
PEA0B Petropavlovsk- 74.99 342 *ce*P **P 17 39 46.1 0.0**
PETK Petropavlovsk- 74.99 342 P P **17 39 45.1 -1.0**
comp=Z,10nm,0.8s,baz=161,slow=9.4,SNR=22
PETK LR LR 18 11 33.2
comp=Z,76nm,19.0s,baz=147,slow=35
comp=Z,10nm,0.8s
RYN Ryan 75.05 41 P P 17 39 45.1 -1.8
NVAR Mina Array Bea 75.07 41 P P 17 39 48.9 +1.7
comp=Z,6.0nm,0.8s,baz=225,slow=9.8,SNR=32
NVAR LR LR 18 08 40.3
comp=Z,343nm,18.1s,baz=255,slow=32
comp=Z,6.0nm,0.8s
L04D Klamath Falls 75.08 36 P P 17 39 47.5 +0.5
baz=229
214A Organ Pipe Nat 75.12 49 IAmb IAmb 17 39 53.6
comp=Z,34nm,1.4s
214A Organ Pipe Nat 75.12 49 P P 17 39 49.0 +1.6
baz=238,SNR=8.2
NV11 Mina Array Sit 75.16 41 IAmb IAmb 17 39 53.5
comp=Z,20nm,1.1s
SII Sitkinak Islan 75.29 10 P 17 39 46.3 -1.4
SII Sitkinak Islan 75.29 10 P P 17 39 46.4 -1.4
baz=198,SNR=5.9
SII Sitkinak Islan 75.29 10 P P 17 39 46.6 -1.1
PDMCI Parker Dam,Lak 75.44 46 P P 17 39 50.2 +1.2
baz=237
TPNV Topopah Spring 75.51 43 IAmb IAmb 17 39 56.8
comp=Z,21nm,1.1s
TPNV Topopah Spring 75.51 43 P P 17 39 50.9 +1.3
baz=235
V12A Nelson 75.74 45 IAmb IAmb 17 39 57.2
comp=Z,45nm,1.9s
J04D Umpqua Nationa 75.86 35 IAmb IAmb 17 40 05.4
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 75.91 330 P 17 39 49.0 -2.4
YSS IAmb IAmb 17 39 53.7
comp=Z,37nm,0.9s
YSS Yuzh-Sakhalins 75.91 330 *ce*P **P 17 39 52.5 +1.1**
YSS *e*S **S 17 49 37.6 +3.4**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS pmax pmax
comp=Z,400nm,6.5s
YSS MLR MLR
comp=Z,200nm,16.0s
SHPR Sheep Range 75.97 44 IAmb IAmb 17 39 59.6
comp=Z,24nm,1.3s
SMRI Semarang 75.98 267 P P 17 39 53.9 +1.2
comp=Z,145nm,0.9s
SMRI Semarang 75.98 267 P P 17 39 56.2 +3.5
R17K Ugashik Creek 75.99 9 P P 17 39 51.5 -0.2
baz=195,SNR=16
W13A Hualapai Mount 76.05 46 IAmb IAmb 17 39 59.2
comp=Z,26nm,1.6s
I04A Tendick Farm, 76.06 35 P P 17 39 52.4 -0.1
baz=229
OHAK Old Harbor 76.08 10 P 17 39 49.8 -2.4
OHAK IAmb IAmb 17 39 53.8
comp=Z,26nm,0.9s
OHAK Old Harbor 76.08 10 P P 17 39 52.1 0.0
baz=198,SNR=7.0
K05A Summer Lake 76.20 36 IAmb IAmb 17 39 59.4
comp=Z,20nm,1.0s
J05D Fort Rock, OR 76.37 36 P P 17 39 55.4 +1.0
baz=230,SNR=7.2
YULB Yu-li 76.68 300 IAmb IAmb 17 39 57.7
comp=Z,18nm,0.8s
KDAK Kodiak Island 76.73 11 P P 17 39 56.3 +0.5
baz=199
R11A Troy Canyon, C 76.75 42 P P 17 39 57.4 +0.7
baz=235
H04A Detroit Lake 76.77 34 P 17 39 53.1 -3.4
H04A IAmb IAmb 17 40 05.7
comp=Z,43nm,1.8s
TUC Tucson 76.77 50 IAmb IAmb 17 40 03.4
comp=Z,19nm,1.1s
TUC Tucson 76.77 50 P P 17 39 58.1 +1.3
baz=239
NACB Ninganchiao 76.78 301 P P 17 39 54.4 -2.5
PINE Pine Mountain 76.86 35 IAmb IAmb 17 40 00.3
comp=Z,18nm,1.0s
I05D Terrebonne, OR 77.00 35 P P 17 39 58.7 +0.9
baz=229
STKI Sintang 77.06 274 P P 17 40 01.0 +2.2
SBUM Sibu 77.10 277 P P 17 39 55.9 -3.0
SBUM IAmb IAmb 17 40 01.9
comp=Z,24nm,1.1s
P16K Nushagak River 77.12 7 P P 17 39 57.8 -0.2
baz=194,SNR=9.3
SSLB Suanglung 77.14 300 IAmb IAmb 17 40 00.2
comp=Z,26nm,0.9s
SSLB Suanglung 77.14 300 P P 17 39 59.9 +0.9
YHNB Yeheng 77.17 301 P P 17 40 01.7 +2.5
TPUB Ta-pu 77.19 300 P P 17 39 57.1 -2.2
TPUB Ta-pu 77.19 300 P P 17 39 59.6 +0.3
comp=Z,98nm,1.0s
319A Douglas 77.41 51 IAmb IAmb 17 40 07.0
comp=Z,32nm,1.0s
P17K Kvichak River 77.48 8 P P 17 40 00.1 0.0
baz=195,SNR=17
Q20K Shuyak Island 77.55 10 P P 17 40 01.1 +0.6
baz=199
G05D Wamic, OR 77.60 34 P P 17 40 02.2 +1.0
baz=229
Q19K Cape Douglas, 77.64 10 P P 17 40 00.6 -0.4
baz=198
O16K Kokwok River B 77.66 7 P P 17 40 00.7 -0.4
baz=194,SNR=11
P18K Big Mountain, 77.84 9 P P 17 40 02.0 -0.2
baz=196
SPR3 Spring Creek 3 77.92 42 IAmb IAmb 17 40 08.7
comp=Z,13nm,1.1s
O17K Koliganek Bris 77.96 8 P P 17 40 02.6 -0.1
baz=195,SNR=14
PSUT Pine Spring 77.97 43 P P 17 40 02.5 -1.1
WUAZ Wupatki 78.01 47 IAmb IAmb 17 40 10.4
comp=Z,22nm,1.5s
WUAZ Wupatki 78.01 47 P P 17 40 05.4 +1.6
baz=238
HPIG 78.12 57 P 17 40 03.8 -0.9
HPIG IAmb IAmb 17 40 11.0
comp=Z,60nm,1.8s
JCJI Jatiwangi 78.20 267 P P 17 40 06.0 +0.8
comp=Z,240nm,0.5s
O18K Koktuh Hills 78.29 9 P P 17 40 04.8 +0.2
baz=196,SNR=7.9
ELK Elko 78.34 41 LR LR 18 11 27.6
comp=Z,425nm,18.1s,baz=238,slow=33
P19K Oil Pt 78.40 10 P P 17 40 05.1 -0.1
baz=198
N16K Nishlik Lake 78.44 7 P P 17 40 06.1 +0.7
baz=193,SNR=7.9

KSRS **Korea Array** 78.51 315 P P 17 40 06.4 +0.1
comp=Z,19nm,1.0s,baz=131,slow=6.2,SNR=40
KSRS LR LR 18 08 48.4
comp=Z,86nm,21.8s,baz=135,slow=31
comp=Z,19nm,1.0s
KSAR **Wonju Array Be** 78.53 315 P P 17 40 06.7 +0.3
KSAR **Wonju Array Be** 78.53 315 P P 17 40 06.7 +0.3
KS19 **Wonju Array Si** 78.57 315 IAmb IAmb 17 40 09.9
comp=Z,35nm,1.1s
ILSW **Iliamna Southw** 78.73 10 IAmb IAmb 17 40 09.2
comp=Z,37nm,0.8s
LEM **Lembang** 78.73 266 P P 17 40 09.6 +1.3
comp=Z,108nm,0.8s,baz=70,slow=4.2,SNR=31
comp=Z,108nm,0.8s
LEM **Lembang** 78.73 266 P P 17 40 09.4 +1.1
comp=Z,110nm,1.2s
O19K **Port Alsworth** 78.75 9 IAmb IAmb 17 40 09.3
comp=Z,38nm,0.9s
O19K **Port Alsworth** 78.75 9 P P 17 40 07.1 +0.1
baz=197,SNR=8.6
TYV **Tymovskoe** 78.77 333 *e*P P 17 40 08.5 +1.1
TYV *e*S S 17 50 06.0 +0.9
TYV pmax pmax
comp=Z,100nm,2.3s
TYV pmax pmax
comp=Z,16nm,1.6s
TYV smax smax
comp=E,200nm,5.1s
CBB **Campbell River** 78.85 29 IAmb IAmb 17 40 10.7
comp=Z,45nm,1.4s
ZAIG **Zacatecas** 78.88 62 P 17 40 04.8 -4.2
O20K **Slope Mountain** 78.90 10 P P 17 40 08.2 +0.2
baz=199
BRSE **Bradley Lake S** 78.90 11 P P 17 40 08.5 +0.5
baz=201
G08A **Pilot Rock** 78.91 35 P 17 40 06.3 -2.2
W18A **Petrified Fore** 78.95 48 P P 17 40 10.2 +1.1
baz=240
N18K **Kilae Creek** 78.99 8 P 17 40 07.0 -1.5
N18K **Kilae Creek** 78.99 8 P P 17 40 08.7 +0.2
baz=196,SNR=6.7
121A **Cookes Peak, D** 79.08 51 IAmb IAmb 17 40 16.5
comp=Z,26nm,1.1s
121A **Cookes Peak, D** 79.08 51 P P 17 40 12.7 +2.8
baz=241
121A **Cookes Peak, D** 79.08 51 P P 17 40 12.1 +2.3
baz=241,SNR=8.4
BBB **Bella Bella** 79.21 26 LR LR 18 12 00.8
comp=Z,174nm,18.3s,baz=204,slow=33
BBB **Bella Bella** 79.21 26 IAmb IAmb 17 40 12.3
comp=Z,20nm,1.2s
HAWA **Hanford** 79.30 34 P 17 40 09.3 -1.1
N19K **Bonanza Creek** 79.32 9 P 17 40 08.5 -1.8
N19K **Bonanza Creek** 79.32 9 P P 17 40 10.4 0.0
baz=197,SNR=7.2
SMAI **San Martin Ant** 79.37 158 P P 17 40 11.2 +0.6
INCN **Inchon** 79.39 315 P P 17 40 14.2 +3.0
comp=Z,61nm,1.1s
SEW **Seward** 79.48 11 P P 17 40 11.2 +0.1
baz=202
DUG **Dugway, Tooele** 79.56 42 P P 17 40 13.0 +0.8
baz=237
CBJI **Citeko** 79.58 267 P P 17 40 13.2 +0.5
comp=Z,127nm,0.8s
DBJI **Dramaga** 79.64 266 P P 17 40 13.7 +0.6
comp=Z,156nm,1.1s
USRK **Ussuriysk Ar.** 79.79 323 P P 17 40 13.4 +0.2
comp=Z,6.8nm,0.9s,baz=111,slow=4.3,SNR=7.7
USRK LR LR 18 08 30.7
comp=Z,89nm,21.9s,baz=213,slow=30
comp=Z,6.8nm,0.9s
BGU **Big Grassy Mou** 79.83 41 P P 17 40 11.3 -2.4
N20K **Mount Spurr** 80.03 10 P P 17 40 13.7 -0.5
baz=199
SPU **Mount Spurr** 80.04 10 P P 17 40 12.4 -1.7
V35K **Ketchikan** 80.24 22 P P 17 40 16.1 +0.8
baz=219
TLIG **Tlapa** 80.31 68 IAmb IAmb 17 40 24.6
comp=Z,69nm,1.4s
HIN **Hinchinbrook I** 80.33 13 IAmb IAmb 17 40 17.2
comp=Z,39nm,1.3s
RC01 **Rabbit Creek A** 80.34 11 P P 17 40 15.9 +0.1
baz=202,SNR=5.9
KAIM **Kayak Island** 80.36 14 IAmb IAmb 17 40 18.0
comp=Z,40nm,0.8s
KAIM **Kayak Island** 80.36 14 P P 17 40 17.1 +1.2
baz=207,SNR=11
Y22A **Socorro** 80.36 50 P P 17 40 19.1 +2.3
baz=242
M19K **Big River Lodg** 80.38 8 P P 17 40 15.8 -0.2
baz=197,SNR=6.1
PWL **Port Wells** 80.39 12 P P 17 40 14.0 -2.1
PWL IAmb IAmb 17 40 17.4
comp=Z,89nm,1.7s
PWL **Port Wells** 80.39 12 P P 17 40 15.9 -0.1
baz=203,SNR=7.3
HLID **Hailey** 80.47 39 P P 17 40 19.1 +1.9
baz=235,SNR=14
MNTX **Cornudas Mount** 80.49 53 P P 17 40 19.5 +2.2
baz=243
SUA **Susitna One** 80.52 10 IAmb IAmb 17 40 22.4
comp=Z,19nm,0.9s
SUA **Susitna One** 80.52 10 P P 17 40 16.6 -0.3
baz=201,SNR=16
M20K **Styx River** 80.54 9 P P 17 40 16.5 -0.4
baz=198,SNR=7.6
L19K **White Mountain** 80.58 8 P P 17 40 17.1 0.0
baz=197
EYAK **Cordova Ski Ar** 80.63 13 P P 17 40 17.6 +0.3
baz=205
SUCK **Suckling Hills** 80.64 14 IAmb IAmb 17 40 24.2
comp=Z,24nm,1.1s
GLI **Glacier Island** 80.65 12 IAmb IAmb 17 40 18.7
comp=Z,29nm,0.9s
GLI **Glacier Island** 80.65 12 P P 17 40 17.1 -0.3
baz=204,SNR=9.6
FID **Port Fidalgo** 80.66 12 P P 17 40 15.9 -1.6
RAGM **Ragged Mountai** 80.72 13 IAmb IAmb 17 40 19.7
comp=Z,23nm,1.2s
TX31 **Lajitas Ar. Si** 80.76 55 P P 17 40 21.1 +2.2
baz=244
TXAR **Lajitas Array** 80.76 55 P P 17 40 21.4 +2.5
comp=Z,7.6nm,1.0s,baz=223,slow=6.8,SNR=30
TXAR LR LR 18 10 42.9
comp=Z,221nm,18.2s,baz=242,slow=32
comp=Z,7.6nm,1.0s
HMT **Hamilton** 80.76 14 P P 17 40 14.9 -3.2
HMT IAmb IAmb 17 40 20.9
comp=Z,39nm,1.8s
WRAK **Wrangell Islan** 80.84 21 IAmb IAmb 17 40 21.1
comp=Z,26nm,1.3s
WRAK **Wrangell Islan** 80.84 21 P P 17 40 19.2 +0.7
baz=218
C09A **Chrisman Ranch** 80.85 33 IAmb IAmb 17 40 21.3
comp=Z,49nm,1.8s
SKT **Skwentna** 80.88 10 IAmb IAmb 17 40 19.2
comp=Z,46nm,1.7s
SKT **Skwentna** 80.88 10 P P 17 40 17.9 -0.7
baz=200,SNR=6.6
KNK **Knik Glacier** 80.88 11 IAmb IAmb 17 40 19.7
comp=Z,16nm,0.8s
KNK **Knik Glacier** 80.88 11 P P 17 40 18.9 +0.2
baz=203,SNR=7.9
M22K **Willow** 80.90 10 P P 17 40 18.9 +0.2
baz=201
PMR **Palmer** 80.92 11 P P 17 40 19.0 +0.2
baz=202
BERG **Berg Lake** 80.94 14 P P 17 40 17.3 -1.7
BERG IAmb IAmb 17 40 22.0
comp=Z,54nm,1.6s
SNH **Sunshine Point** 80.95 14 IAmb IAmb 17 40 21.6
comp=Z,37nm,1.0s
TCUT **Toone Canyon** 80.96 42 IAmb IAmb 17 40 22.8
comp=Z,18nm,0.7s
L20K **Farewell, AK** 81.00 8 P P 17 40 19.1 -0.2
baz=198,SNR=8.4
PV13 **Radium Mtn., P** 81.12 45 IAmb IAmb 17 40 26.8
comp=Z,25nm,1.4s
TTA **Tatalina** 81.15 7 IAmb IAmb 17 40 22.5
comp=Z,39nm,1.4s
TTA **Tatalina** 81.15 7 P P 17 40 20.9 +0.8
baz=196,SNR=12
MESA **MESA** 81.16 15 IAmb IAmb 17 42 25.0
comp=Z,30nm,0.7s
MESA **MESA** 81.16 15 P P 17 40 21.2 +0.8
baz=209,SNR=7.3
ANMO **Albuquerque** 81.21 49 LR LR 18 11 29.4
comp=Z,295nm,18.1s,baz=245,slow=32
ANMO **Albuquerque** 81.21 49 P P 17 40 22.0 +0.7
ANMO **Albuquerque** 81.21 49 *ce*P P 17 40 23.2 +1.9
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO **Albuquerque** 81.21 49 P P 17 40 23.7 +2.4
baz=242
ANMO **Albuquerque** 81.21 49 P P 17 40 23.3 +2.1
baz=242
BMRM **Bremner River** 81.25 13 P P 17 40 17.5 -3.2
BMRM **Bremner River** 81.25 13 P P 17 40 20.8 +0.1
baz=206,SNR=15
SML **Sawmill** 81.27 11 IAmb IAmb 17 40 22.4
comp=Z,46nm,1.6s
SML **Sawmill** 81.27 11 P P 17 40 20.8 +0.1
baz=203,SNR=6.2
M23K **Glacier View** 81.37 11 P P 17 40 21.4 +0.1
baz=204
PNL **Peninsula** 81.37 16 P P 17 40 21.6 +0.3
baz=211,SNR=13
MDJ **Mudanjiang** 81.43 322 P P 17 40 23.0 +1.1
MDJ pP PcP 17 40 27.2 -0.8
MDJ pmax pmax
comp=Z,16nm,1.1s
MDJ pmax pmax
comp=Z,370nm,5.7s
MDJ **Mudanjiang** 81.43 322 P P 17 40 25.5 +3.6
ISLE **Juniper Island** 81.44 14 IAmb IAmb 17 40 23.7
comp=Z,46nm,1.3s
KLU **Klutina** 81.45 12 P P 17 40 22.1 +0.3
baz=235,SNR=5.1
TGL **Tana Glacier** 81.46 14 P P 17 40 20.7 -1.2
TGL IAmb IAmb 17 40 23.9
comp=Z,38nm,1.2s
SCM **Sheep Creek Mo** 81.48 12 P P 17 40 22.3 +0.4
baz=204,SNR=12
CUT **Chulitna** 81.48 10 P P 17 40 21.9 +0.1
baz=201
PPBI **Pangkal Pinang** 81.49 270 P P 17 40 24.9 +1.9
comp=Z,1µmcomp=Z,71nm,1.2s
PCA **Pinnacle** 81.51 16 IAmb IAmb 17 40 24.0
comp=Z,61nm,1.7s
PINM **Pinnacle** 81.51 16 P P 17 40 22.7 +0.6
baz=211
BCPM **Bancas Point** 81.55 16 IAmb IAmb 17 40 24.3
comp=Z,29nm,1.0s
GRNR **Gornyy** 81.56 330 ⇓*i*P P 17 40 23.4 +0.9
GRNR pmax pmax
comp=Z,10.0nm,1.3s
GRNR MLR MLR
comp=E,140nm,18.0s
PPLA **Purkeypile** 81.64 9 P P 17 40 23.2 +0.4
baz=199
NEW **Newport** 81.75 34 LR LR 18 13 01.2
comp=E,550nm,18.0s,baz=192,slow=33
NEW **Newport** 81.75 34 P P 17 40 24.0 +0.4
baz=232
BESE **Bessie Mountai** 81.75 19 P P 17 40 23.7 +0.3
BELA **Belgrano 2** 81.76 172 P P 17 40 23.4 +0.1
BELA IAmb IAmb 17 40 26.0
comp=Z,20nm,1.0s
PMSA **Palmer Station** 81.77 156 LR LR 18 09 45.2
comp=Z,205nm,18.8s,baz=250,slow=30
P29M **Windy Craggy** 81.78 17 IAmb IAmb 17 40 26.0
comp=Z,23nm,1.1s
P29M **Windy Craggy** 81.78 17 P P 17 40 24.5 +1.0
baz=213,SNR=12
K20K **Telida** 81.81 8 IAmb IAmb 17 40 25.5
comp=Z,37nm,1.2s
K20K **Telida** 81.81 8 P P 17 40 24.2 +0.7
baz=197,SNR=13
N25K **Chitina, Valde** 81.83 13 P P 17 40 24.1 +0.3
baz=206,SNR=14
GLB **Gilahina Butte** 81.85 13 IAmb IAmb 17 40 25.8
comp=Z,76nm,1.7s
M24K **Tolsona, Glenn** 81.96 12 P P 17 40 25.5 +1.1
baz=205,SNR=7.4
LOGN **Logan Glacier** 81.96 15 IAmb IAmb 17 40 26.4
comp=Z,30nm,1.2s
ANM **Nome** 81.96 3 P P 17 40 24.4 0.0
baz=186
MCARA **McCarthy VSAT** 81.97 14 P P 17 40 25.0 +0.5
baz=208
CTG **Chitna Glacier** 82.00 15 P P 17 40 25.4 +0.6
baz=210,SNR=14
CTGM **Chitina Glacie** 82.00 15 P P 17 40 22.8 -2.0
CTGM IAmb IAmb 17 40 26.7
comp=Z,27nm,1.1s
T35M **Bob Quinn** 82.00 22 P P 17 40 26.0 +1.2
baz=220
PLBC **Pleasant Camp** 82.03 18 P P 17 40 25.6 +0.9
baz=214,SNR=8.8
KASI **Kota Agung** 82.08 267 P P 17 40 26.6 +0.5
comp=Z,139nm,1.1s
WAT6 **Susitna Watana** 82.09 11 P P 17 40 25.7 +0.4
baz=203,SNR=16
O28M **Mount Upton** 82.11 15 P P 17 40 26.3 +0.8
baz=211,SNR=19
O29M **Mount Kennedy** 82.13 16 P P 17 40 26.4 +1.0
baz=212,SNR=16
CAST **Castle Rocks** 82.15 9 IAmb IAmb 17 40 26.4
comp=Z,18nm,1.0s
CAST **Castle Rocks** 82.15 9 P P 17 40 24.5 -0.9
baz=199,SNR=12
WAT1 **Susitna Watana** 82.17 11 P P 17 40 25.5 0.0
baz=203
MG05 **Puerto Natales** 82.26 142 P P 17 40 27.7 +1.4
S22A **4UR Ranch, Cre** 82.29 47 IAmb IAmb 17 40 33.5
comp=Z,18nm,1.0s
S22A **4UR Ranch, Cre** 82.29 47 P P 17 40 28.9 +1.8
baz=241,SNR=17
SKAG **Skagway** 82.33 18 IAmb IAmb 17 40 29.2
comp=Z,31nm,1.3s
SKAG **Skagway** 82.33 18 P P 17 40 27.3 +1.0
baz=215,SNR=5.7
NJ2 **Nanjing** 82.41 307 *e*P P 17 40 25.4 -2.0
NJ2 pmax pmax
comp=Z,17nm,1.0s
S34M **Telegraph Cree** 82.42 21 P P 17 40 28.2 +1.4
baz=219,SNR=8.1
HARP **HAARP** 82.42 12 P P 17 40 27.2 +0.4
baz=206
KTH **Kantishna Hill** 82.46 9 IAmb IAmb 17 40 33.1
comp=Z,30nm,1.2s
TRF **Thorofare Moun** 82.46 10 P P 17 40 27.2 +0.1
baz=201,SNR=19
O20A **White River Ci** 82.51 44 P P 17 40 29.1 +1.1
baz=240
MA2 **Magadan** 82.53 342 LR LR 18 12 55.8
comp=Z,73nm,19.7s,baz=144,slow=33
MA2 **Magadan** 82.53 342 P P 17 40 25.4 -2.0
MA2 **Magadan** 82.53 342 *ce*P P 17 40 26.3 -1.1
MA2 pmax pmax
comp=Z,5.0nm,0.9s
MA2 **Magadan** 82.53 342 P P 17 40 27.8 +0.4
comp=Z,12nm,1.8s
FXWY **Fox Creek** 82.56 40 IAmb IAmb 17 40 31.2
comp=Z,20nm,1.4s
CHUM **Lake Minchumin** 82.56 9 P P 17 40 27.0 -0.4
baz=199
J20K **Nowinta River** 82.59 8 P P 17 40 28.1 +0.5
baz=197,SNR=23
DHY **Denali Highway** 82.61 11 IAmb IAmb 17 40 29.5
comp=Z,32nm,1.4s
DHY **Denali Highway** 82.61 11 P P 17 40 27.9 0.0
baz=204,SNR=10
MSO **Missoula** 82.62 36 P P 17 40 28.6 +0.3
MSO **Missoula** 82.62 36 P P 17 40 28.8 +0.5
baz=235
LWLI **Liwa** 82.64 267 P P 17 40 28.9 -0.3
comp=Z,76nm,0.8s
YUK6 **Outpost Mounta** 82.73 16 P P 17 40 29.6 +0.9
baz=212
LOHW **Long Hollow** 82.80 40 IAmb IAmb 17 40 35.1
comp=Z,33nm,1.7s
GCSA **Galena City Sc** 82.81 7 P P 17 40 29.7 +1.0
baz=195
HYT **Haines Junctio** 82.85 16 IAmb IAmb 17 40 31.8
comp=Z,30nm,1.2s
HYT **Haines Junctio** 82.85 16 P P 17 40 30.0 +0.8
baz=213,SNR=19
PAX **Paxson** 82.88 12 IAmb IAmb 17 40 30.7
comp=Z,39nm,1.6s
PAX **Paxson** 82.88 12 P P 17 40 29.2 0.0
baz=206,SNR=7.9
M26K **Nabesna, AK** 82.88 13 IAmb IAmb 17 40 31.3
comp=Z,45nm,1.4s
M26K **Nabesna, AK** 82.88 13 P P 17 40 29.7 +0.5
baz=208,SNR=27
SMCO **Snowmass** 82.88 45 IAmb IAmb 17 40 33.4
comp=Z,41nm,1.6s
YUK3 **Moose Creek** 82.91 15 P P 17 40 30.1 +0.4
baz=210,SNR=27
P32M **Atlin** 82.92 19 P P 17 40 29.6 +0.2
baz=217
KLR **Kul'dur** 82.94 327 P P 17 40 30.4 +0.7
comp=Z,6.7nm,1.0s,baz=93,slow=5.7,SNR=8.8
KLR LR LR 18 11 31.2
comp=Z,109nm,21.6s,baz=178,slow=32
comp=Z,6.7nm,1.0s
MCK **McKinley** 82.95 10 P 17 40 27.4 -2.1
MCK **McKinley** 82.95 10 P P 17 40 27.4 -2.1
MCK pmax pmax
comp=Z,55nm,1.0s
MCK **McKinley** 82.95 10 P P 17 40 29.3 -0.2
baz=202,SNR=20
BPAW **Bear Paw Mtn.** 82.96 9 P P 17 40 29.0 -0.5
baz=200,SNR=5.3
BW06 **Boulder Array** 83.00 41 P P 17 40 31.6 +1.1
baz=239,SNR=8.4
PD31 **Pinedale Array** 83.00 41 P P 17 40 28.4 -2.1
PDAR **Pinedale Array** 83.00 41 P P 17 40 31.9 +1.3
comp=Z,4.0nm,0.8s,baz=204,slow=3.3,SNR=23
PDAR LR LR 18 13 33.1
comp=Z,195nm,18.1s,baz=241,slow=33
comp=Z,4.0nm,0.8s
PDAR **Pinedale Array** 83.00 41 P P 17 40 29.4 -1.2
M27K **Edge Creek, AK** 83.09 14 P P 17 40 30.8 +0.4
baz=209,SNR=46
O30N **Mendenhall** 83.19 17 P P 17 40 31.5 +0.6
baz=214,SNR=22
DLBC **Dease Lake** 83.20 21 LR LR 18 13 24.4
comp=Z,146nm,18.1s,baz=280,slow=33
DLBC **Dease Lake** 83.20 21 P P 17 40 31.7 +0.7
baz=220
MENT **Mentasta** 83.21 13 IAmb IAmb 17 40 33.1
comp=Z,38nm,1.6s
SDCO **Great Sand Dun** 83.21 47 P P 17 40 33.7 +1.9
baz=242
SDCO **Great Sand Dun** 83.21 47 P P 17 40 33.5 +1.6
baz=242,SNR=8.9
BOZ **Bozeman (W)** 83.26 38 P P 17 40 29.8 -1.9
BOZ IAmb IAmb 17 40 37.3
comp=Z,13nm,1.0s
BOZ **Bozeman (W)** 83.26 38 P P 17 40 29.8 -1.9
BOZ pmax pmax
comp=Z,13nm,1.0s
BOZ **Bozeman (W)** 83.26 38 P P 17 40 33.2 +1.4
baz=237,SNR=17
BNX **BinXian** 83.34 322 ⇓P P 17 40 32.8 +0.9
BNX pmax pmax
comp=Z,30nm,0.9s
BNX pmax pmax
comp=Z,250nm,4.4s
YNR **Norris Junctio** 83.35 39 IAmb IAmb 17 40 41.1
comp=Z,30nm,1.5s
L26K **Log Cabin Wild** 83.36 13 IAmb IAmb 17 40 34.6
comp=Z,21nm,1.1s
L26K **Log Cabin Wild** 83.36 13 P P 17 40 32.6 +0.9
baz=208
BVCY **Beaver Creek** 83.37 14 P P 17 40 32.5 +0.8
baz=210,SNR=12
CMIG **Matias Romero** 83.42 70 LR LR 18 10 46.4
comp=Z,602nm,18.4s,baz=226,slow=31
WHY **Whitehorse** 83.44 17 P P 17 40 30.4 -1.9
WHY IAmb IAmb 17 40 34.7
comp=Z,18nm,1.3s
WHY **Whitehorse** 83.44 17 P P 17 40 33.3 +1.1
baz=216,SNR=5.5
MSTX **Muleshoe** 83.47 52 IAmb IAmb 17 40 39.0
comp=Z,26nm,1.1s
MSTX **Muleshoe** 83.47 52 P P 17 40 34.9 +1.8
baz=244
MSTX **Muleshoe** 83.47 52 P P 17 40 34.0 +1.0
baz=244
DSRI **Dabo** 83.47 272 P P 17 40 35.3 +1.9
comp=Z,515nmcomp=Z,40nm,1.3s
CN2 **Changchun** 83.48 320 *e*P P 17 40 33.2 +0.5
CN2 S S 17 50 59.5 +5.1
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,7.0s
CN2 LR LR
comp=Z,100nm,16.0s
CN2 LR LR
comp=Z,100nm,16.0s
CN2 LR LR
comp=Z,200nm,16.5s
N30M **Aishikik Lake** 83.50 16 P P 17 40 33.5 +1.0
baz=213,SNR=6.6
K24K **Donnelly Dome** 83.58 11 P P 17 40 33.9 +1.1
baz=205
R33M **Jennings River** 83.63 20 P P 17 40 34.2 +1.0
baz=219,SNR=16
P33M **Teslin, Yukon** 83.69 19 IAmb IAmb 17 40 35.7
comp=Z,14nm,1.2s
P33M **Teslin, Yukon** 83.69 19 P P 17 40 33.7 +0.2
baz=217,SNR=10
RIDG **Independent Ri** 83.70 12 IAmb IAmb 17 40 36.0
comp=Z,32nm,1.2s
RIDG **Independent Ri** 83.70 12 P P 17 40 33.5 0.0
baz=206,SNR=9.3
T25A **Trinidad** 83.70 48 IAmb IAmb 17 40 39.9
comp=Z,17nm,1.2s
T25A **Trinidad** 83.70 48 P P 17 40 35.3 +1.1
baz=243
L27K **Beaver Creek,** 83.72 13 IAmb IAmb 17 40 35.8
comp=Z,33nm,1.6s
L27K **Beaver Creek,** 83.72 13 P P 17 40 33.9 +0.3
baz=209,SNR=11
NEA2 **Nenana** 83.72 10 IAmb IAmb 17 40 36.6
comp=Z,14nm,1.0s
NEA2 **Nenana** 83.72 10 P P 17 40 33.4 0.0
baz=202,SNR=7.3
833A **Chaparral WMA,** 83.75 58 pwP 17 40 39.6 -4.5
833A **Chaparral WMA,** 83.75 58 P P 17 40 36.7 +2.3
baz=246
833A **Chaparral WMA,** 83.75 58 P P 17 40 36.1 +1.7
baz=246
DOT **Dot Lake** 83.77 12 P P 17 40 34.0 +0.3
DOT IAmb IAmb 17 40 36.9
comp=Z,24nm,1.0s
I21K **Tanana** 83.84 8 IAmb IAmb 17 40 35.6
comp=Z,28nm,1.4s
I21K **Tanana** 83.84 8 P P 17 40 33.9 -0.1
baz=199
N31M **Braeburn, Yuko** 83.87 17 IAmb IAmb 17 40 36.7
comp=Z,32nm,1.1s
N31M **Braeburn, Yuko** 83.87 17 P P 17 40 34.8 +0.5
baz=215,SNR=16
MLY **Manley** 83.88 9 P P 17 40 33.6 -0.7
MLY IAmb IAmb 17 40 35.4
comp=Z,30nm,1.1s
MLY **Manley** 83.88 9 P P 17 40 33.7 -0.6
baz=200,SNR=22
HDA **Harding Lake** 83.91 11 IAmb IAmb 17 40 36.0
comp=Z,29nm,1.0s
HDA **Harding Lake** 83.91 11 P P 17 40 34.5 +0.1
baz=204,SNR=16
WALA **Waterton Lakes** 83.93 34 IAmb IAmb 17 40 37.2
comp=Z,31nm,1.6s
M29M **Somme Creek** 83.97 15 P P 17 40 35.5 +0.6
baz=212,SNR=23
JMBI **JAMBI** 84.03 270 P P 17 40 38.8 +2.6
Q24A **Divide** 84.03 46 P P 17 40 37.6 +1.6
baz=242
SCRK **Sand Creek** 84.08 12 P P 17 40 35.9 +0.4
baz=207,SNR=8.1
ISCO **Idaho Springs** 84.11 45 P P 17 40 37.7 +1.3
baz=242
ISCO **Idaho Springs** 84.11 45 P P 17 40 37.3 +1.0
baz=242
H21K **Melozitna Rive** 84.18 8 P P 17 40 36.9 +1.1
baz=198,SNR=28
TCOL **CIGO, UAF Yank** 84.18 10 P P 17 40 35.9 +0.1
baz=203,SNR=11
COLA **College** 84.19 10 P P 17 40 35.3 -0.4
COLA **College** 84.19 10 *i*P P 17 40 36.1 +0.3
COLA pmax pmax
comp=Z,84nm,1.0s
COLA **College** 84.19 10 P P 17 40 36.0 +0.3
baz=203
ILAR **Eielson Array** 84.26 11 P P 17 40 36.4 +0.2
comp=Z,9.4nm,0.8s,baz=211,slow=5.8,SNR=36
ILAR LR LR 18 19 10.4
comp=Z,128nm,18.3s,baz=119,slow=36

	comp=Z,9.4nm,0.8s									
N32M	**Quiet Lake**	**84.36**	**18**	P	**P**	**17 40 38.3 +1.5**				
	baz=217									
IMAR	**Indian Mountai**	**84.37**	**7**		**P**	**17 40 35.9 -0.9**				
J25K	**Salcha River,**	**84.39**	**11**	P	**P**	**17 40 37.6 +0.7**				
	baz=206,SNR=17									
N23A	**Red Feather La**	**84.41**	**44**	P	**P**	**17 40 39.1 +1.2**				
	baz=241									
RLMT	**Red Lodge**	**84.41**	**39**	P	**P**	**17 40 38.9 +1.2**				
	baz=239,SNR=6.6									
POKR	**Poker Plat Res**	**84.48**	**10**	P	**P**	**17 40 35.4 -1.9**				
POKR	**Poker Plat Res**	**84.48**	**10**	P	**P**	**17 40 37.7 +0.3**				
	baz=204,SNR=17									
M30M	**Minto, Yukon**	**84.51**	**16**	IAmb	IAmb	17 40 39.4				
	comp=Z,16nm,1.0s									
M30M	**Minto, Yukon**	**84.51**	**16**	P	**P**	**17 40 37.8 +0.3**				
	baz=214,SNR=21									
H22K	**Ishtalina Cre**	**84.60**	**8**	P	**P**	**17 40 38.8 +0.9**				
	baz=200,SNR=29									
J26L	**Joseph Creek**	**84.63**	**12**	P	**P**	**17 40 39.3 +1.1**				
	baz=207,SNR=21									
AMTX	**Amarillo**	**84.68**	**51**	IAmb	IAmb	17 40 44.8				
	comp=Z,25nm,0.9s									
AMTX	**Amarillo**	**84.68**	**51**	P	**P**	**17 40 41.0 +1.9**				
	baz=245									
AMTX	**Amarillo**	**84.68**	**51**	P	**P**	**17 40 40.5 +1.3**				
	baz=245									
H23K	**Yukon River**	**84.80**	**9**		**P**	**17 40 38.1 -0.8**				
H23K				IAmb	IAmb	17 40 40.2				
	comp=Z,16nm,1.1s									
H23K	**Yukon River**	**84.80**	**9**	P	**P**	**17 40 39.0 +0.1**				
	baz=202,SNR=11									
QIZ	**Qiongzhong**	**84.83**	**292**	P	**P**	**17 40 37.9 -2.2**				
QIZ				S	**S**	**17 51 10.2 +1.2**				
QIZ				pmax	pmax					
	comp=Z,390nm,8.8s									
QIZ				LR	LR					
	comp=Z,160nm,14.7s									
QIZ				LR	LR					
	comp=Z,210nm,27.5s									
QIZ				LR	LR					
	comp=Z,290nm,28.7s									
M31M	**Drury Creek, Y**	**84.84**	**17**	IAmb	IAmb	17 40 40.9				
	comp=Z,17nm,1.2s									
M31M	**Drury Creek, Y**	**84.84**	**17**	P	**P**	**17 40 39.6 +0.4**				
	baz=216,SNR=14									
SEY	**Seymchan**	**84.85**	**345**	*ce*	P	**P**	**17 40 38.6 -0.6**			
SEY				pmax	pmax					
	comp=Z,11nm,0.9s									
WTLY	**Watson Lake, Y**	**84.89**	**20**		**P**	**17 40 36.6 -2.9**				
WTLY				IAmb	IAmb	17 40 41.7				
	comp=Z,11nm,0.9s									
G21K	**Allakaket**	**84.91**	**7**	P	**P**	**17 40 40.5 +1.0**				
	baz=198,SNR=31									
H24K	**Noodor Dome**	**85.07**	**10**	IAmb	IAmb	17 40 41.0				
	comp=Z,8.6nm,0.8s									
H24K	**Noodor Dome**	**85.07**	**10**	P	**P**	**17 40 40.0 -0.3**				
	baz=203,SNR=8.9									
DAWY	**Dawson**	**85.14**	**14**	P	**P**	**17 40 41.6 +0.9**				
	baz=211,SNR=15									
FARO	**Faro, Yukon**	**85.15**	**17**	IAmb	IAmb	17 40 42.6				
	comp=Z,11nm,1.0s									
FARO	**Faro, Yukon**	**85.15**	**17**	P	**P**	**17 40 41.6 +0.8**				
	baz=217,SNR=14									
PRP	**Porcupine Dome**	**85.18**	**11**	P	**P**	**17 40 41.9 +0.9**				
	baz=205,SNR=21									
ABTX	**Abilene, Hawle**	**85.28**	**54**	P	**P**	**17 40 43.7 +1.5**				
	baz=246									
WHN	**Wuhan**	**85.28**	**304**	⇓P	**P**	**17 40 41.9 -0.2**				
WHN				S	**S**	**17 51 17.5 +4.4**				
WHN				pmax	pmax					
	comp=Z,590nm,5.3s									
WHN				LR	LR					
	comp=Z,370nm,20.6s									
EGAK	**Eagle**	**85.37**	**13**	P	**P**	**17 40 42.5 +0.8**				
	baz=210,SNR=27									
K29M	**Barlow Dome**	**85.39**	**15**	P	**P**	**17 40 43.3 +1.3**				
	baz=213,SNR=38									
LL02	**Futaleuf**	**85.44**	**134**	P	**P**	**17 40 44.4 +1.6**				
LL02				IAmb	IAmb	17 40 52.2				
	comp=Z,40nm,1.4s									
TIA	**Tai'an**	**85.50**	**310**	⇓P	**P**	**17 40 44.7 +1.6**				
TIA				SKS	**SKSac**	**17 51 02.6 -6.2**				
TIA				S	**SKKSac**	**17 51 19.3 +3.8**				
TIA				pmax	pmax					
	comp=Z,11nm,1.2s									
CNSH	**ChangSha**	**85.51**	**301**	⇑P	**P**	**17 40 45.9 +2.6**				
CNSH				pmax	pmax					
	comp=Z,30nm,1.1s									
G23K	**Bananza Creek**	**85.56**	**9**	P	**P**	**17 40 43.4 +0.6**				
	baz=201,SNR=28									
F21K	**Alatna River**	**85.59**	**7**	P	**P**	**17 40 43.6 +0.8**				
	baz=198,SNR=23									
H25K	**Birch Creek**	**85.81**	**10**	P	**P**	**17 40 44.1 +0.2**				
	baz=205,SNR=9.1									
G24K	**Hadweenzic Riv**	**85.93**	**10**	P	**P**	**17 40 44.9 +0.3**				
	baz=204									
I27K	**Kandik River**	**86.00**	**12**	P	**P**	**17 40 45.9 +1.0**				
	baz=209,SNR=25									
COLD	**Coldfoot**	**86.02**	**8**		**P**	**17 40 43.0 -1.9**				
COLD	**Coldfoot**	**86.02**	**8**	P	**P**	**17 40 46.5 +1.6**				
	baz=201,SNR=22									
F22K	**John River**	**86.02**	**8**	P	**P**	**17 40 46.0 +1.0**				
	baz=199,SNR=14									
MMPY	**Sheldon Lake,**	**86.05**	**18**	P	**P**	**17 40 46.3 +1.0**				
	baz=219,SNR=24									
TGTN	**Hyland Airport**	**86.12**	**19**	P	**P**	**17 40 46.9 +1.3**				
	baz=222,SNR=6.8									
MAW	**Mawson**	**86.21**	**198**	P	**P**	**17 40 46.8 +0.7**				
	baz=86,SNR=11									
MAW	**Mawson**	**86.21**	**198**	P	**P**	**17 40 47.8 +1.7**				
	comp=Z,16nm,0.9s,baz=148,slow=6.9,SNR=24									
	comp=Z,16nm,0.9s									
I29M	**Ogilvie Camp,**	**86.49**	**14**	P	**P**	**17 40 48.4 +1.0**				
	baz=212									
H27K	**Steamboat Moun**	**86.57**	**12**	P	**P**	**17 40 49.0 +1.3**				
	baz=209,SNR=39									
F24K	**Squaw Lake**	**86.62**	**9**	P	**P**	**17 40 49.5 +1.5**				
	baz=203,SNR=19									
EDM	**Edmonton**	**86.62**	**31**	IAmb	IAmb	17 40 50.1				
	comp=Z,41nm,1.3s									
WHTX	**Lake Whitney,**	**86.73**	**55**	IAmb	IAmb	17 40 56.7				
	comp=Z,12nm,0.9s									
WHTX	**Lake Whitney,**	**86.73**	**55**	P	**P**	**17 40 51.4 +2.2**				
	baz=247									
WHTX	**Lake Whitney,**	**86.73**	**55**	P	**P**	**17 40 51.1 +1.9**				
	baz=247									
BILL	**Bilibino**	**86.74**	**352**	P	**P**	**17 40 47.3 -1.1**				
BILL				IAmb	IAmb	17 40 50.1				
	comp=Z,20nm,0.9s									
BILL	**Bilibino**	**86.74**	**352**	*c*	*i*P	**P**	**17 40 48.6 +0.1**			
BILL				pmax	pmax					
	comp=Z,15nm,0.9s									
BILL				MLR	MLR					
	comp=Z,101nm,18.0s									
G26K	**Porcupine Rive**	**86.78**	**11**	P	**P**	**17 40 50.2 +1.5**				
	baz=207,SNR=64									
WMOK	**Wichita Mounta**	**86.79**	**52**	P	**P**	**17 40 50.8 +1.2**				
	baz=246									
ELIS	**Ellis County**	**86.85**	**51**	IAmb	IAmb	17 40 56.0				
	comp=Z,21nm,1.0s									
GO06	**Curarrehue**	**86.94**	**130**	IAmb	IAmb	17 40 57.5				
	comp=Z,31nm,1.3s									
F25K	**Christian Rive**	**87.04**	**10**	P	**P**	**17 40 51.7 +1.7**				
	baz=205,SNR=18									
E24K	**Your Creek**	**87.05**	**9**	P	**P**	**17 40 51.5 +1.5**				
	baz=202,SNR=9.5									
G27K	**Doyon Strip**	**87.05**	**12**	P	**P**	**17 40 51.4 +1.3**				
	baz=209,SNR=19									
BKNI	**Bangkinang**	**87.09**	**271**	P	**P**	**17 40 53.0 +1.5**				
	comp=Z,65nm,0.4s									
RSSD	**Black Hills**	**87.17**	**42**		**P**	**17 40 49.9 -1.5**				
RSSD	**Black Hills**	**87.17**	**42**	P	**P**	**17 40 49.9 -1.5**				
RSSD				pmax	pmax					
	comp=Z,7.0nm,0.7s									
RSSD	**Black Hills**	**87.17**	**42**	P	**P**	**17 40 52.2 +0.7**				
	baz=242									
PLCA	**Paso Flores**	**87.20**	**132**	P	**P**	**17 40 54.4 +2.8**				
	comp=Z,10nm,1.0s,baz=246,slow=4.7,SNR=13									
	comp=Z,10nm,1.0s									
PLCA	**Paso Flores**	**87.20**	**132**	IAmb	IAmb	17 40 58.8				
	comp=Z,24nm,1.2s									
F26K	**Sheenjek River**	**87.39**	**10**	P	**P**	**17 40 53.1 +1.4**				
	baz=207,SNR=20									
TOLK	**Toolik Lake Re**	**87.43**	**8**	IAmb	IAmb	17 40 54.2				
	comp=Z,14nm,0.9s									
TOLK	**Toolik Lake Re**	**87.43**	**8**	P	**P**	**17 40 53.0 +1.1**				
	baz=201,SNR=7.9									

E25K	**Arctic Village**	**87.53**	**10**	P	**P**	**17 40 53.0 +0.6**				
	baz=205,SNR=17									
D23K	**Nanushuk River**	**87.59**	**8**	P	**P**	**17 40 54.0 +1.4**				
	baz=200,SNR=11									
EPYK	**Eagle Plains**	**87.70**	**14**	P	**P**	**17 40 54.1 +0.9**				
	baz=214,SNR=13									
HNS	**HongShan**	**87.75**	**310**	⇓P	**P**	**17 40 56.2 +2.1**				
HNS				pmax	pmax					
	comp=Z,19nm,1.0s									
HNS				pmax	pmax					
	comp=Z,270nm,6.4s									
HNS				LR	LR					
	comp=Z,160nm,18.6s									
HNS				LR	LR					
	comp=Z,180nm,15.7s									
BJI	**Beijing**	**87.80**	**313**	P	**P**	**17 40 55.8 +1.6**				
BJI				S	**S**	**17 51 42.9 +5.8**				
BJI				pmax	pmax					
	comp=Z,17nm,1.0s									
BJI				pmax	pmax					
	comp=Z,320nm,6.3s									
ZEA	**Zeya**	**87.84**	**329**	*e*	P	**P**	**17 40 54.6 +0.5**			
ZEA				pmax	pmax					
	comp=Z,10.0nm,1.6s									
D24K	**Happy Valley**	**88.00**	**8**	P	**P**	**17 40 55.8 +1.2**				
	baz=202									
E27K	**Coleen River**	**88.27**	**11**	P	**P**	**17 40 57.4 +1.5**				
	baz=209,SNR=10									
LYN	**LuoYang**	**88.30**	**307**	⇑	*i*P	**P**	**17 40 58.6 +1.8**			
LYN				pP	pwP	17 41 03.5 -2.8				
LYN				sP	PcP	17 41 05.9 +7.4				
LYN				S	**S**	**17 51 35.6 -6.6**				
LYN				pmax	pmax					
	comp=Z,10.0nm,1.3s									
LYN				pmax	pmax					
	comp=Z,270nm,6.4s									
LYN				LR	LR					
	comp=Z,250nm,36.3s									
G30M	**tAoh Zrail Nji**	**88.32**	**13**	P	**P**	**17 40 57.1 +0.9**				
	baz=214,SNR=30									
IPM	**Ipoh**	**88.34**	**275**	P	**P**	**17 40 59.7 +2.2**				
	comp=Z,61nm,1.2s									
C23K	**Itkillik River**	**88.42**	**7**	P	**P**	**17 40 57.6 +1.1**				
	baz=200,SNR=11									
D25K	**Kavik River**	**88.51**	**9**	P	**P**	**17 40 57.1 0.0**				
	baz=204									
C27K	**Jago River**	**89.19**	**10**	P	**P**	**17 41 01.0 +0.8**				
	baz=207,SNR=8.0									
F31M	**Tsiigehtchic**	**89.25**	**14**	P	**P**	**17 41 00.8 +0.4**				
	baz=216,SNR=14									
XLT	**XiLinHaoTe**	**89.49**	**317**	*e*	P	**P**	**17 41 03.6 +1.3**			
XLT				pP	pwP	17 41 09.0 -2.8				
XLT				sP	PcP	17 41 10.7 +7.1				
XLT				pmax	pmax					
	comp=Z,9.0nm,1.3s									
XLT				pmax	pmax					
	comp=Z,150nm,3.5s									
PSI	**Prapat**	**89.84**	**273**	P	**P**	**17 41 06.1 +1.4**				
	comp=Z,51nm,1.2s									
INK	**Inuvik**	**90.00**	**13**	IAmb	IAmb	17 41 05.7				
	comp=Z,22nm,1.0s									
INK	**Inuvik**	**90.00**	**13**	P	**P**	**17 41 04.2 +0.2**				
	baz=216,SNR=7.5									
GYA	**Guiyang**	**90.11**	**298**	⇑	*i*P	**P**	**17 41 08.5 +2.9**			
GYA				pP	pwP	17 41 11.3 -3.8				
GYA				pmax	pmax					
	comp=Z,32nm,0.8s									
TROLL	**Troll, Antarti**	**90.65**	**178**	P	**P**	**17 41 09.4 +2.0**				
VNA3	**Neumayer Olymp**	**90.67**	**174**	P	**P**	**17 41 09.1 +1.8**				
GSI	**Gunungsitoli**	**90.69**	**271**	P	**P**	**17 41 11.5 +3.1**				
	comp=Z,126nm,1.2s									
GSI	**Gunungsitoli**	**90.69**	**271**	P	**P**	**17 41 11.6 +3.1**				
	comp=Z,126nm,1.3s									
SNAA	**Sanae**	**90.76**	**177**	P	**P**	**17 41 09.6 +1.8**				
SNAA	**Sanae**	**90.76**	**177**	P	**P**	**17 41 08.1 +0.3**				
SNAA				IAmb	IAmb	17 41 10.4				
	comp=Z,12nm,0.9s									
SNAA	**Sanae**	**90.76**	**177**	*ce*	P	**P**	**17 41 09.3 +1.5**			
SNAA				pmax	pmax					
	comp=Z,18nm,1.3s									
XAN	**Xi'an**	**90.85**	**305**	P	**P**	**17 41 10.9 +2.1**				
XAN				pP	pwP	17 41 15.6 -2.7				
XAN				pmax	pmax					
	comp=Z,14nm,1.2s									
KCSI	**Kotacane, Aceh**	**91.16**	**273**	P	**P**	**17 41 11.9 +1.2**				
	comp=Z,30nm,1.4s									
VNA2	**Neumayer--Watz**	**91.17**	**175**	P	**P**	**17 41 12.0 +2.4**				
	baz=177,slow=4.2									
VNA1	**Neumayer--Stat**	**91.37**	**175**	P	**P**	**17 41 12.9 +2.4**				
NNA	**Nana**	**91.38**	**103**	LR	LR	18 13 56.4				
	comp=Z,158nm,20.1s,baz=226,slow=30									
ATAH	**Atahualpa**	**91.41**	**98**	LR	LR	18 14 31.8				
	comp=Z,231nm,19.1s,baz=271,slow=30									
YAK	**Yakutsk**	**91.52**	**336**	P	**P**	**17 41 10.3 -0.8**				
	comp=Z,3.5nm,0.7s,baz=103,slow=2.2,SNR=1.4									
	comp=Z,3.5nm,0.7s									
YAK	**Yakutsk**	**91.52**	**336**	*ce*	P	**P**	**17 41 10.5 -0.6**			
YAK				pmax	pmax					
	comp=Z,13nm,1.7s									
YKA	**Yellowknife Ar**	**91.52**	**23**	P	**P**	**17 41 12.4 +1.2**				
	comp=Z,3.7nm,0.8s,baz=233,slow=4.5,SNR=4.6									
YKA				LR	LR	18 18 13.8				
	comp=Z,107nm,18.4s,baz=306,slow=33									
	comp=Z,3.7nm,0.8s									
NVL	**N'lazarevskaya**	**91.93**	**181**	*e*	P	17 40 54.7 -18				
NVL				pmax	pmax					
	comp=Z,4.0nm,0.6s									
MGMO	**Mountain Grove**	**92.59**	**52**	IAmb	IAmb	17 41 22.8				
	comp=Z,13nm,1.0s									
R40A	**Maddies Statio**	**92.98**	**51**	IAmb	IAmb	17 41 20.7				
	comp=Z,12nm,1.1s									
C36M	**Paulatuk**	**93.04**	**15**	P	**P**	**17 41 18.2 +0.2**				
	baz=225									
KMI	**Kunming**	**93.04**	**295**	⇓P	**P**	**17 41 22.4 +3.0**				
KMI				pmax	pmax					
	comp=Z,24nm,1.0s									
KMI				LR	LR					
	comp=Z,150nm,19.3s									
KMI				LR	LR					
	comp=Z,220nm,16.5s									
KMI				LR	LR					
	comp=Z,200nm,20.0s									
CCM	**Cathedral Cave**	**93.66**	**51**	P	**P**	**17 41 23.0 +1.4**				
	baz=251									
CD2	**Chengdu**	**93.95**	**301**	*e*	P	**P**	**17 41 21.0 -2.2**			
PZH	**PanZhiHua**	**94.31**	**296**	P	**P**	**17 41 26.5 +1.4**				
PZH				S	**S**	**17 52 39.7 +2.2**				
PZH				pmax	pmax					
	comp=Z,10.0nm,1.1s									
PZH				pmax	pmax					
	comp=Z,150nm,8.4s									
PZH				LR	LR					
	comp=Z,220nm,17.3s									
PZH				LR	LR					
	comp=Z,340nm,18.2s									
PZH				LR	LR					
	comp=Z,470nm,18.6s									
CIT	**Chita**	**94.34**	**323**	*e*	P	**P**	**17 41 25.6 +1.1**			
CIT				*e*		17 41 37.4				
CIT				pmax	pmax					
	comp=Z,37nm,1.5s									
CMAR	**Chiang Mai Arr**	**94.44**	**288**	P	**P**	**17 41 27.2 +1.5**				
	comp=Z,4.2nm,1.0s,baz=110,slow=2.6,SNR=18									
CMAR				LR	LR	18 18 50.0				
	comp=Z,76nm,21.9s,baz=105,slow=32									
	comp=Z,4.2nm,1.0s									
CHTO	**Chiang Mai**	**94.54**	**288**	P	**P**	**17 41 26.5 +0.3**				
CHTO	**Chiang Mai**	**94.54**	**288**	P	**P**	**17 41 26.5 +0.3**				
CHTO				pmax	pmax					
	comp=Z,1.0nm,1.6s									
CHTO	**Chiang Mai**	**94.54**	**288**	P	**P**	**17 41 29.0 +2.9**				
	comp=Z,5.4nm,1.4s									
A36M	**Sachs Harbour**	**94.64**	**13**	P	**P**	**17 41 26.1 +0.7**				
	baz=224									
ULM	**Lac du Bonnet**	**94.78**	**39**	P	**P**	**17 41 26.2 -0.3**				
	comp=Z,2.5nm,0.8s,baz=230,slow=8.5,SNR=2.1									
	comp=Z,2.5nm,0.8s									
Y49A	**Blount Mountai**	**96.09**	**57**	P	**P**	**17 41 31.0 -1.9**				
ULN	**Ulaanbaatar**	**96.81**	**318**	*i*	P	**P**	**17 41 36.3 +0.3**			
ULN				pmax	pmax					
	comp=Z,3.0nm,1.0s									
SONM	**Songino Array**	**97.22**	**318**	P	Pdif	17 41 37.7 -0.2				
	comp=Z,0.9nm,0.8s,baz=115,slow=6.5,SNR=3.6									
SONM				LR	LR	18 22 59.1				
	comp=Z,29nm,18.0s,baz=88,slow=34									
	comp=Z,0.9nm,0.8s									
TIXI	**Tiksi**	**97.34**	**344**	*ce*	P	Pdif	17 41 40.0 +2.3			

TIXI				pmax	pmax					
	comp=Z,4.0nm,1.4s									
LPAZ	**La Paz**	**97.94**	**110**	P	Pdif	17 41 45.9 +3.4				
	comp=Z,1.0nm,0.8s,baz=253,slow=5.0,SNR=2.1									
	comp=Z,1.0nm,0.8s									
TKL	**Tuckaleechee C**	**98.67**	**55**	LR	LR	18 22 41.4				
	comp=Z,142nm,18.3s,baz=247,slow=33									
GTA	**Gaotai**	**99.44**	**308**	*e*	P	**Pdif**	**17 41 50.8 +2.8**			
GTA				pP	pwP	17 41 55.3 -2.3				
GTA				sP	sP	17 41 58.1 +9.2				
GTA				pmax	pmax					
	comp=Z,4.0nm,1.2s									
GTA				pmax	pmax					
	comp=Z,90nm,7.6s									
GTA				LR	LR					
	comp=Z,75nm,18.9s									
GTA				LR	LR					
	comp=Z,120nm,20.7s									
GTA				LR	LR					
	comp=Z,160nm,23.6s									
ZALV	**Zalesovo Beam**	**111.63**	**322**	PKiKP	**PKiKP**	**17 46 39.0 -0.4**				
	comp=Z,1.0nm,0.6s,baz=98,slow=2.2,SNR=5.6									
ZALV				PP	**PP**	**17 47 20.2 -1.0**				
	comp=Z,1.2nm,0.8s,baz=102,slow=6.1,SNR=5.1									
ZALV	**Zalesovo Beam**	**111.63**	**322**	*i*	PKiKP	**PKiKP**	**17 46 39.0 -0.4**			
MK31	**Makanchi Array**	**113.17**	**314**		PKiKP	**PKiKP**	**17 46 42.4 -0.2**			
MK31	**Makanchi Array**	**113.17**	**314**	*i*	PKiKP	**PKiKP**	**17 46 42.4 -0.2**			
MKAR	**Makanchi Array**	**113.17**	**314**		PKiKP	**PKiKP**	**17 46 42.6 0.0**			
	comp=Z,2.1nm,0.8s,baz=71,slow=1.6,SNR=15									
MKAR				PP	**PP**	**17 47 33.9 +1.4**				
	comp=Z,1.2nm,0.9s,baz=90,slow=4.3,SNR=3.6									
MKAR				PKKPbc	**PKKPbc**	**17 57 30.8 +1.1**				
	comp=Z,0.3nm,0.8s,baz=306,slow=5.0,SNR=4.1									
MKAR	**Makanchi Array**	**113.17**	**314**		PKiKP	**PKiKP**	**17 46 42.0 -0.6**			
MKAR	**Makanchi Array**	**113.17**	**314**	*i*	PKiKP	**PKiKP**	**17 46 42.0 -0.6**			
KURK	**Kurchatov**	**115.52**	**318**		PKiKP	**PKiKP**	**17 46 46.5 -0.4**			
KURK						**PP**	**17 47 42.7 -6.2**			
KURK	**Kurchatov**	**115.52**	**318**	*i*	PKiKP	**PKiKP**	**17 46 46.5 -0.4**			
KSH	**Kashi**	**117.70**	**306**		PKP	**PKiKP**	**17 46 53.8 +2.1**			
BRVK	**Borovoye**	**120.34**	**322**		PKPdf	**PKPdf**	**17 46 53.2 -2.9**			
BRVK	**Borovoye**	**120.34**	**322**	*c*	*i*PKiKP	**PKiKP**	**17 46 57.3 +1.1**			
BRVK				pmax	pmax					
	comp=Z,8.0nm,1.3s									
KKAR	**Karatay Array**	**121.66**	**310**		PKPdf	**PKPdf**	**17 46 57.2 -1.8**			
KKAR	**Karatay Array**	**121.66**	**310**		PKiKP	**PKPdf**	**17 46 57.2 -1.8**			
KBL	**Kabul**	**123.28**	**300**		PKPdf	**PKPdf**	**17 47 01.1 -1.5**			
KBL	**Kabul**	**123.28**	**300**		PKiKP	**PKPdf**	**17 47 01.1 -1.5**			
ARU	**Arti**	**125.76**	**328**		PKPdf	**PKPdf**	**17 47 05.6 -0.8**			
ARU	**Arti**	**125.76**	**328**	*i*	PKiKP	**PKiKP**	**17 47 07.7 +0.9**			
ARU							17 48 56.8			
ARU							17 54 19.1			
ARU				SS	SS	18 05 51.7 -7.2				
ARCES	**ARCESS Array B**	**126.84**	**352**		PKP	**PKPdf**	**17 47 06.7 -1.4**			
	comp=Z,5.6nm,0.9s,baz=29,slow=2.8,SNR=7.4									
PRGR	**Permogore**	**128.53**	**339**	*e*	PKiKP	**PKPdf**	**17 47 10.9 -0.6**			
KIRV	**Kirov**	**128.96**	**333**	*c*	*i*PKiKP	**PKiKP**	**17 47 14.1 +1.0**			
KLMR	**Klimovskoe**	**131.17**	**340**	*e*	PKiKP	**PKPdf**	**17 47 16.6 0.0**			
KLMR				*e*			17 49 34.2			
KLMR				pmax	pmax					
	comp=Z,18nm,1.3s									
KLMR	**Klimovskoe**	**131.17**	**340**	*e*	PKPdf	**PKPdf**	**17 47 16.7 +0.1**			
KLMR				AMP			17 47 19.1			
	comp=Z,18nm,1.3s									
KLMR				*e*	PP	**PP**	**17 49 34.3 +0.6**			
KLMR				*e*	SKKP		18 00 39.0			
BOSA	**Boshof**	**131.18**	**200**	PKP	**PKPdf**	**17 47 17.2 -0.7**				
	comp=Z,6.4nm,1.0s,baz=134,slow=6.6,SNR=4.4									
GEYT	**Alibeck**	**131.73**	**305**	PKP	**PKPdf**	**17 47 17.2 -1.3**				
	comp=Z,4.7nm,0.8s,baz=18,slow=0.9,SNR=6.8									
GEYT	**Alibeck**	**131.73**	**305**	PKPdf	**PKPdf**	**17 47 17.4 -1.0**				
BELG	**Belogornoye**	**133.30**	**327**	*i*	PKiKP	**PKiKP**	**17 47 21.8 -0.2**			
FINES	**FINESS Array B**	**134.24**	**348**	PKhKP	PKPpre	17 47 14.9				
	comp=Z,2.2nm,0.9s,baz=14,slow=1.7,SNR=1.8									
FINES				PKP	**PKiKP**	**17 47 23.0 -0.7**				
	comp=Z,3.8nm,0.9s,baz=32,slow=11,SNR=7.9									
FINES	**FINESS Array B**	**134.24**	**348**	PKiKP	**PKiKP**	**17 47 23.0 -0.7**				
NOA	**NORSAR Array B**	**136.44**	**358**	PKP	**PKPdf**	**17 47 26.2 -0.4**				
	comp=Z,1.8nm,0.9s,baz=13,slow=4.1,SNR=5.1									
**OBN

LANS	Liptovska Anna	147.06	346	ePKP2		PKiKP	17 47 50.1	-0.3
LANS	Liptovska Anna	147.06	346	ePKP		PKiKP	17 47 50.1	-0.3
BCLA	Clavier	147.09	3	dPKP		PKPab	17 47 49.2	-0.1
VLDR	Vladesti	147.11	334	⇑P		PKPab	17 47 49.1	-0.6
NKC	Novy Kostel	147.13	355	ePKP2		PKPab	17 47 49.5	-0.1
NKC	Novy Kostel	147.13	355	⇑ePKP		PKPab	17 47 49.5	-0.1
PRU	Pruhonice	147.14	352	ePKP2		PKPab	17 47 49.5	-0.1
PRU				MLR		MLR		
	comp=Z,200nm,19.6s							
PRU	Pruhonice	147.14	352	⇑ePKP		PKPab	17 47 49.5	-0.1
PRU				AMS		AMS	19 01 10.0	
	comp=Z,200nm,19.6s							
TESR	Tescani	147.16	336	⇓P		PKPab	17 47 48.9	-0.9
BMRD	Maredsous	147.17	4	dPKP		PKPab	17 47 49.5	-0.3
BHOU	Houvegnez	147.18	2	dPKP		PKiKP	17 47 50.0	-0.5
MAUC	Maruska	147.20	348	⇑ePKP		PKiKP	17 47 50.2	-0.5
GHRR		147.22	335	⇑P		PKiKP	17 47 50.7	-0.1
SCTR	Scanteiesti	147.28	334	⇓P		PKiKP	17 47 50.5	-0.4
BMR	Baia Mare	147.29	340	⇑P		PKPab	17 47 49.6	-0.7
TLCR		147.31	332	⇓P		PKPab	17 47 50.2	-0.2
TATR	Tatarca	147.32	333	⇑P		PKiKP	17 47 50.5	-0.4
RCHB	Rochefort	147.35	3	dPKP		PKPab	17 47 50.0	-0.4
DOU	Dourbes	147.37	4	dPKP		PKPab	17 47 50.1	-0.3
KECS	Kecovo	147.43	344	ePKP2		PKiKP	17 47 52.0	+0.9
KECS	Kecovo	147.43	344	ePKP		PKiKP	17 47 52.0	+0.9
PANC	Panciu	147.48	335	P		PKiKP	17 47 51.0	-0.3
IZVR	Izvoarele	147.49	334	⇑P		PKPab	17 47 50.7	-0.4
VRAC	Vranov	147.49	349	⇑P		PKPab	17 47 50.7	-0.3
VRAC	Vranov	147.49	349	PKPbc		PKPab	17 47 50.4	-0.6
	comp=Z,11nm,0.9s,baz=14,slow=2.6,SNR=17							
VRAC	Vranov	147.49	349	ePKP		PKPbc	17 47 48.4	-0.7
VRAC				e			17 47 50.5	
ARCR	ARCALIA	147.51	339	⇓P		PKiKP	17 47 51.0	-0.3
CFR	Carcaliu	147.62	333	⇑P		PKPab	17 47 50.9	-0.8
VRI	Vrincioaia	147.66	335	⇑P		PKPab	17 47 50.9	-0.8
VRI				⇑P		PKPab	17 47 51.0	-0.8
TREC	Trest	147.69	351	AMS		AMS	18 59 00.0	
	comp=Z,200nm,13.7s							
PLOR	Plostina	147.70	335	⇓P		PKPbc	17 47 49.9	+0.2
JAVC	Velka Javorina	147.72	348	ePKP		PKPbc	17 47 49.4	-0.4
JAVC				e			17 47 52.2	
TPQR	Topolog	147.74	332	⇑P		PKPab	17 47 51.7	-0.5
KRUC	Moravsky	147.76	349	ePKP		PKPbc	17 47 48.6	-1.2
KRUC				e			17 47 51.0	
GRFO	Grafenberg	147.77	356			PKPbc	17 47 48.7	-1.1
GRFO	Grafenberg	147.77	356	PKIKP		PKPbc	17 47 48.7	-1.1
VYHS	Vyhne	147.82	346	ePKP2		PKiKP	17 47 51.4	-0.5
VYHS	Vyhne	147.82	346	ePKP		PKiKP	17 47 51.4	-0.5
OZUR		147.84	336	⇓P		PKPab	17 47 52.1	-0.5
WLF	Walferdange	147.88	2	dPKP		PKiKP	17 47 51.6	-0.4
COVR	Voineasa-Covas	147.88	336	⇑P		PKiKP	17 47 51.0	-1.2
LTVH	Ltavrtes, Hu	148.04	342	⇑P		PKPab	17 47 52.6	-0.6
TIRR	Tirgusor	148.06	332	⇓P		PKPbc	17 47 51.2	+0.6
HARR	Harsova	148.09	332	⇓P		PKiKP	17 47 52.5	-0.1
DOPR	Dopca	148.09	337	⇑P		PKiKP	17 47 52.2	-0.4
CJR	Cluj-Napoca	148.09	339	⇓P		PKPab	17 47 52.8	-0.8
SMOL	Smolenice	148.10	348	ePKP2		PKPab	17 47 52.8	-0.6
PSZ	Piszkesteto	148.10	345	⇑P		PKiKP	17 47 52.5	-0.1
KHC	Kasperske Hory	148.11	353	ePKIKP		PKPbc	17 47 49.1	-1.7
KHC				e			17 47 52.3	
KHC	Kasperske Hory	148.11	353	⇑ePKP		PKPbc	17 47 49.1	-1.7
KHC				ePKPAB		PKiKP	17 47 52.3	-0.3
KHC				ex		x	17 48 08.5	
TLBR	Topalu	148.15	332	⇑P		PKiKP	17 47 52.6	-0.1
MODS	Modra-Piesok	148.26	348	ePKP2		PKPab	17 47 53.3	-0.8
MODS	Modra-Piesok	148.26	348	ePKP		PKPab	17 47 53.3	-0.8
MLR	Muntele Rosu	148.28	336	⇓P		PKPdf	17 47 49.1	+1.0
CKRC	Cesky Krumlov	148.32	352	ePKPDF		PKPbc	17 47 49.7	-1.6
CKRC				⇑ePKP		PKiKP	17 47 53.1	+0.1
CKRC				ePKPAB		sPKPab	17 47 56.4	+1.2
ISR	Istrita	148.34	334	⇓P		PKiKP	17 47 53.4	+0.2
GERES	GERESS Array B	148.37	353	PKPbc		PKiKP	17 47 52.8	-0.4
	comp=Z,11nm,0.8s,baz=0.0,slow=1.3,SNR=60							
ZST	Bratislava	148.47	348	ePKP2		PKiKP	17 47 53.4	+0.1
ZST	Bratislava	148.47	348	ePKP		PKiKP	17 47 53.4	+0.1
BRTR	Keskin Array B	148.55	320	PKPbc		PKiKP	17 47 53.4	-0.6
	comp=Z,5.1nm,0.7s,baz=119,slow=2.3,SNR=24							
BRTR	Keskin Array B	148.55	320			PKPdf	17 47 47.9	-0.9
BRTR						PKiKP	17 47 53.2	-0.7
VOIR		148.67	336	⇑P		PKiKP	17 47 54.3	+0.4
ARR	Arges	148.88	337	⇓P		PKPab	17 47 55.2	-1.6
CONA	Conrad Observa	148.95	350	eP		PKPbc	17 47 50.7	-2.3
	comp=Z,3.4nm,1.1s							
CONA				i P		PKiKP	17 47 54.8	+0.4
	comp=Z,61nm,1.4s,SNR=24							
ANTO	Ankara	148.97	321			PKPdf	17 47 50.0	+0.7
ANTO	Ankara	148.97	321	PKIKP		PKPdf	17 47 50.0	+0.7
DEV	Deva	149.06	339	⇑P		PKiKP	17 47 54.4	-0.1
RONA	Rosalia, Austr	149.09	349	eP		PKPdf	17 47 50.4	+1.2
	comp=Z,5.4nm,1.2s							
RONA				i P		PKiKP	17 47 55.1	+0.5
	comp=Z,52nm,1.3s,SNR=19							
SIRR	Siria	149.11	341	⇑P		PKiKP	17 47 55.0	+0.3
LOT	Lotru	149.13	338	⇑P		PKiKP	17 47 54.4	-0.5
BFO	Black Forest	149.24	359			PKPdf	17 47 49.1	-0.3
BFO						sPKPbc	17 47 54.1	-0.5
BFO	Black Forest	149.24	359	PKIKP		PKPdf	17 47 49.2	-0.3
BFO							17 47 54.1	
MOA	Molln	149.28	352	eP		PKPdf	17 47 49.9	+0.4
	comp=Z,3.9nm,1.3s							
MOA				i P		PKiKP	17 47 55.2	+0.2
	comp=Z,17nm,1.1s,SNR=10							
BIOA	Bad Ischl, Aus	149.52	352	i P		PKiKP	17 47 55.4	-0.1
	comp=Z,22nm,1.4s,SNR=9.3							
MDUB	Mudurnu	149.52	323	PKPdf		PKPdf	17 47 48.6	-1.6
MDUB				PKPab		pPKPbc	17 47 54.7	-0.7
GZR	Gura Zlata	149.53	339	⇑P		PKiKP	17 47 54.8	-0.8
RAZG	Razgrad	149.61	333	⇑P		PKiKP	17 47 56.0	+0.2
LODK	Lodwar	149.65	246			PKPbc	17 47 56.0	+0.2
ARSA	Arzberg	149.66	350	eP		PKPdf	17 47 50.8	+0.6
	comp=Z,3.7nm,1.0s							
ARSA				i P		pPKPbc	17 47 55.0	-0.5
	comp=Z,22nm,1.3s,SNR=7.8							
BZS	Buzias	149.71	341	⇑P		PKiKP	17 47 55.7	-0.2
RETA	Reutte	150.00	356	i P		PKiKP	17 47 56.9	+0.4
	comp=Z,38nm,1.5s,SNR=15							
MORH	Mrgy, Hungar	150.00	345	⇑P		PKiKP	17 47 56.4	0.0
WATA	Walderalm	150.09	355	i P		PKiKP	17 47 57.0	+0.2
	comp=Z,43nm,1.5s,SNR=12							
HERR	Herculane	150.10	339	⇓P		PKiKP	17 47 56.1	-0.6
MOTA	Moosalm	150.11	356	eP		PKPdf	17 47 52.2	+1.2
	comp=Z,3.8nm,0.8s							
MOTA				i P		PKiKP	17 47 57.3	+0.4
	comp=Z,46nm,1.2s,SNR=15							
WTTA	Wattenberg	150.15	355	i P		PKiKP	17 47 57.6	+0.6
	comp=Z,20nm,0.6s,SNR=16							
KBA	Koelnbreinsper	150.16	352	i P		PKiKP	17 47 56.7	-0.3
	comp=Z,12nm,0.8s,SNR=7.6							
SQTA	Sankt Quirin	150.23	355	eP		PKPbc	17 47 53.6	-2.7
	comp=Z,5.4nm,1.1s							
SQTA				i P		PKiKP	17 47 57.6	+0.5
	comp=Z,23nm,0.8s,SNR=13							
DAVA	Damuels	150.24	357	eP		PKPdf	17 47 53.3	+2.1
	comp=Z,2.5nm,0.7s							
DAVA				i P		PKiKP	17 47 57.6	+0.4
	comp=Z,40nm,1.2s,SNR=15							
SOKA	Soboth	150.30	350	eP		PKPdf	17 47 52.8	+1.5
	comp=Z,7.1nm,1.7s							
SOKA				i P		PKiKP	17 47 57.3	+0.1
	comp=Z,24nm,1.0s,SNR=13							
PERS	Pernice	150.33	350	i PKPbc		PKiKP	17 47 57.1	-0.1
MDVR	Moldovita	150.42	340	⇑P		PKiKP	17 47 58.1	+0.6
FETA	Feichten	150.46	356	eP		PKPdf	17 47 52.8	+1.2
	comp=Z,5.1nm,1.0s							
FETA				i P		PKiKP	17 47 58.3	+0.7
	comp=Z,31nm,1.0s,SNR=14							
OBKA	Obir	150.54	351	i P		PKiKP	17 47 57.7	-0.1
	comp=Z,8.1nm,0.9s,SNR=5.8							
MYKA	Terra Mystica	150.56	352	i P		PKiKP	17 47 57.8	0.0
	comp=Z,16nm,0.8s,SNR=8.4							
ABTA	Abfaltersbach	150.58	354	eP		PKPdf	17 47 52.5	+0.8
	comp=Z,5.8nm,1.1s							
ABTA				i P		PKiKP	17 47 58.0	+0.2
	comp=Z,43nm,0.8s,SNR=19							
FRGS	Fruska Gora	150.67	343	⇑P		PKiKP	17 47 58.4	+0.5
DAVOX	Davos/Dischmat	150.75	357	PKPbc		PKiKP	17 47 59.1	+0.8
	comp=Z,20nm,0.7s,baz=358,slow=1.5,SNR=8.6							
LEGS	Legarje	150.96	349	i PKPdf		PKPdf	17 47 53.7	+1.5
LEGS				ePKPbc		sPKPbc	17 47 58.7	0.0
LJU	Ljubljana	151.00	350	i PKPbc		PKiKP	17 47 59.0	+0.4
CRNS	Crni Vrh	151.01	351	ePKPdf		PKPdf	17 47 53.4	+1.1
CRNS				i PKPbc		sPKPbc	17 47 58.5	-0.4
CIMO	Cimolais	151.02	353	PKPdf		PKPdf	17 47 52.1	-0.2
CIMO				PKPbc		PKiKP	17 47 58.3	-0.3
BLKB	Belogradchik	151.10	337	⇓P		PKiKP	17 47 58.3	-0.6
SENIN	Lac Senin/Sane	151.21	1	PKPdf		PKPdf	17 47 51.2	-1.7
BOVS	Bovan	151.44	339	⇑P		PKiKP	17 47 59.1	-0.5
SALO	Salr	151.87	356			PKPbc	17 47 59.8	-0.3
PGAV	Gavieira, Arco	151.96	26	ePKPbc		PKiKP	17 48 01.9	+1.1
PGAV	Gavieira, Arco	151.96	26	eLR		LR	18 49 17.9	
	comp=Z,247nm,20.0s							
SSB	Saint Sauveur	152.16	5	PKPdf		PKPdf	17 47 51.1	-3.0
SSB	Saint Sauveur	152.16	5	PKiKP		PKPdf	17 47 51.1	-3.0
BNI	Bardonecchia	152.50	2	PKPdf		PKPdf	17 47 51.0	-3.7
BNI	Bardonecchia	152.50	2	PKiKP		PKPdf	17 47 51.0	-3.7
POLO	Lamas de Olo	152.55	26	ePKPbc		PKiKP	17 48 03.7	+1.4
PBRG	Braganca	152.72	24	ePKPbc		PKiKP	17 48 03.3	+1.0
MVO	Moncorvo	153.14	25	ePKPbc		PKiKP	17 48 04.8	+1.6
MVO	Moncorvo	153.14	25	eLR		LR	18 48 29.6	
	comp=Z,136nm,18.0s							
PCAS	Casmilo, Conde	153.41	29	ePKPbc		PKiKP	17 48 05.3	+1.5
MTE	Manteigas	153.56	27	ePKPbc		PKiKP	17 48 05.4	+1.3
PMTG	Montargil	154.32	30	ePKPbc		PKiKP	17 48 07.0	+1.4
PMRV	Marv??o	154.42	28	ePKPbc		PKiKP	17 48 07.1	+1.2
PMRV	Marv??o	154.42	28	eLR		LR	18 44 45.8	
	comp=Z,151nm,20.0s							
PESTR	Estremoz	154.78	29	ePKPab		PKPab	17 48 22.7	+1.2
MESJ	Messejana	155.29	32	ePKPdf		PKPdf	17 47 56.0	-2.8
MESJ	Messejana	155.29	32	ePKPdf		PKPdf	17 48 01.7	+3.0
PBAR	Barrancos	155.59	29	ePKPdf		PKPdf	17 48 01.2	+2.1
ESDC	Sonseca Array	155.62	23	PKP		PKPdf	17 48 00.6	+1.4
	comp=Z,0.6nm,0.7s,baz=355,slow=3.1,SNR=5.3							
ESDC				PKPbc		sPKPbc	17 48 09.6	+0.3
	comp=Z,3.1nm,0.8s,baz=329,slow=3.0,SNR=19							
ESDC				PKPab		PKPab	17 48 24.7	-0.4
	comp=Z,3.7nm,1.1s,baz=318,slow=3.9,SNR=6.0							
PVAQ	Vaqueiros	155.88	32	eLR		LR	18 46 31.5	
MDT	Midelt	161.04	34	PKP		PKPdf	17 48 07.3	+1.4
	comp=Z,4.3nm,1.0s,baz=344,slow=2.3,SNR=6.3							
MDT				PKPab		sPKPab	17 48 50.9	+1.2
	comp=Z,2.7nm,0.9s,baz=312,slow=2.2,SNR=2.6							
DBIC	Dimbokro	163.55	129	PKP		PKPdf	17 48 08.1	-0.8
	comp=Z,7.0nm,1.0s,baz=190,slow=2.8,SNR=5.4							
KOWA	Kowa	168.17	103			PKPdf	17 48 10.4	-2.2
KOWA				PKPab		sPKPab	17 49 21.6	+0.1
TOA0	Torodi Ar. Sit	172.63	125			PKPdf	17 48 10.7	-4.4
TOA0				PKPab		PKPab	17 49 39.8	-0.6
TORD	Torodi Ar. Bea	172.63	125	PKP		PKPdf	17 48 15.2	+0.1
	comp=Z,5.2nm,0.8s,baz=322,slow=1.3,SNR=26							
TORD				PKPab		sPKPab	17 49 42.1	+0.9
	comp=Z,6.1nm,1.0s,baz=252,slow=4.2,SNR=8.9							

WEL ***02*** *17:30:00,37˚.24S×179˚.18E,h15km,ML4.6,Mw4.6, Moment Tensor Solution. s4 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.27; Mθθ0.02; Mϕϕ0.25; Mrθ0.25; Mθϕ0.11; Mϕr0.98; Fault plane solution: M₀1.05000×10¹⁶ NP1: ϕs31.00000°, δ8.00000°, λ-74.00000°. NP2:ϕs194.00000°, δ82.00000°, λ-92.00000°. Principal axes: T 1063.3600, Plg37.0000°, Azm286.0000°; N -20.7900, Plg2.0000°, Azm194.0000°; P -1042.5700, Plg53.0000°, Azm101.0000°;*

NOU ***02*** *17:30:00.0,37˚.39S×179˚.54E, h98km, mb4.6/7, Off E. Coast of N. Island, N.Z.*

NEIC ***02*** *17:30:01.5±2.1,37˚.09S±0˚.05×178˚.95E±0˚.05, h10km±1km, mb4.8/19, Error ellipse: s-maj=8.8km s-min=5.7km az=154.0*

WEL ***02*** *17:30:02.9±1.0,37˚.5±4˚×17˚.9E±˚, h22km±7km, M4.6/83, ML4.8/82, MLv4.6/83, Error ellipse: s-maj=0.0km s-min=0.0km az=70.9*

IDC ***02*** *17:30:07.3±2.0, 37˚.09S×178˚.70E, h58km±15km, mb4.3/11, mbtmp4.5/11, MS4.3/1, Error ellipse: s-maj=19.2km s-min=12.0km az=172.0*

ISC 02 17:30:00.2±0.5, 37.18S±0˚.04×179˚.06E±0˚.05, h10km, n195, σ1s74/187, mb4.8/18, 3C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
MXZ	Matakaoa Point	0.71	238			Pb		17 30 15.8			+1.1
MXZ				Sg		Sg		17 30 23.9			+0.6
MXZ	Matakaoa Point	0.71	238	P		Pb		17 30 16.0			+1.3
MXZ				S		Sg		17 30 24.4			+1.1
WMGZ	Waiomatatini S	0.82	219	P		Pn		17 30 19.3			+1.5
WMGZ				S		Sn		17 30 30.9			+0.9
PKGZ	Pakihiroa	1.05	228	P		Pn		17 30 22.5			+1.4
PKGZ				S		Sb		17 30 36.1			+1.7
PUZ	Puketiti	1.09	216	P		Pb		17 30 23.0			+1.7
HAZ	Te Kaha	1.17	240	P		Pn		17 30 23.5			+0.9
TWGZ	Tauwhareparae	1.31	221	P		Pn		17 30 26.2			+1.6
RUGZ	Raukumara Rang	1.35	234	P		Pg		17 30 27.1			+1.0
RUGZ				S		Sb		17 30 42.2			-0.8
CNGZ	Carnagh Statio	1.47	207	P		Pn		17 30 28.7			+1.9
CNGZ				S		Sb		17 30 49.3			+3.0
WIZ	White Island	1.53	256	P		Pn		17 30 27.1			-0.5
WSNZ	White Island S	1.54	257	P		Pg		17 30 35.5			-0.3
TKGZ	Te Karaka	1.58	217	P		Pn		17 30 29.3			+1.0
TKGZ				S		Sn		17 30 49.1			+0.3
MWZ	Matawai	1.67	226	P		Pn		17 30 31.1			+1.5
WHRZ	Whale Island	1.79	247	P		Pn		17 30 32.6			+1.4
RIGZ	Rimuhau	1.84	214	P		Pn		17 30 32.8			+1.0
RAGZ	Rawiri	1.85	224	P		Pn		17 30 33.7			+1.6
URZ	Urewera	1.88	235	P		Pn		17 30 33.7			+1.3
	656nm,0.3s,baz=301,slow=2.0,SNR=600										
URZ				S		Sn		17 30 56.1			-0.1
	2µm,0.6s,baz=301,slow=17,SNR=8.6										
URZ				LR		LR		17 31 35.8			
	comp=Z,2µm,19.6s,baz=209,slow=52										
URZ	Urewera	1.88	235	P		Pn		17 30 33.8			+1.3
URZ				S		Sn		17 30 56.2			-0.1
URZ	Urewera	1.88	235	P		Pn		17 30 33.1			+0.6
PRGZ	Paritu Road	1.97	208	P		Pn		17 30 34.5			+0.8
MARZ	Manawahe	2.06	246	P		Pn		17 30 35.9			+0.9
EDRZ	Edgecumbe	2.06	243	P		Pn		17 30 36.4			+1.4
SNGZ	Shannon Statio	2.10	220	P		Pn		17 30 36.2			+0.7
OPRZ	Ohinepanea	2.10	251	P		Pn		17 30 36.2			+0.8
KNZ	Kokohu	2.14	210	P		Pn		17 30 36.2			+0.2
MHGZ	Mahia Peninsul	2.17	204	P		Pn		17 30 37.2			+0.8
RTZ	Ruatahuna	2.18	228	P		Pn		17 30 38.0			+1.3
RTZ				S		Sn		17 31 04.1			+0.3
MUGZ	Murupara	2.23	234	P		Pn		17 30 38.2			+1.0
MYRZ	Mayor Island	2.25	267	P		Pn		17 30 38.3			+0.7
TARZ	Mount Tarawera	2.28	242	P		Pn		17 30 39.6			+1.6
TGRZ	Tauranga	2.29	255	P		Pn		17 30 39.0			+0.9
OMRZ	Omania	2.33	246	P		Pn		17 30 40.2			+1.6
RRRZ	Republican Roa	2.33	229	P		Pn		17 30 39.7			+1.1
RAHZ	Arahi	2.33	221	P		Pn		17 30 39.7			+1.1
WHHZ	Waihua	2.38	217	P		Pn		17 30 40.0			+0.7
KARZ	Kaharoa	2.39	249	P		Pn		17 30 40.6			+1.1
HLRZ	Highlands Stat	2.40	243	P		Pn		17 30 41.2			+1.6
MTHZ	Maungataniwha	2.42	226	P		Pn		17 30 41.2			+1.3
NGRZ	Ngongotaha	2.46	247	P		Pn		17 30 42.2			+1.7
UTU	Utuhina	2.48	246	P		Pn		17 30 42.8			+2.1
PRRZ	Plateau Road	2.49	237	P		Pn		17 30 41.8			+1.0
HSRZ	Hossack Road	2.50	242	P		Pn		17 30 43.0			+2.0
HRRZ	Handcock Road	2.51	240	P		Pn		17 30 42.5			+1.4
ALRZ	Allen Road	2.56	237	P		Pn		17 30 42.8			+1.1
KMRZ	Kaimai	2.57	254	P		Pn		17 30 42.9			+1.0
NMHZ	Naumai	2.61	222	P		Pn		17 30 43.5			+1.0
GRRZ	Galatos Road	2.61	243	P		Pn		17 30 44.3			+1.7
ARHZ	Aropaoanui	2.64	217	P		Pn		17 30 43.5			+0.6
WPRZ	Whakapapatarin	2.66	239	P		Pn		17 30 44.5			+1.4
MRHZ	Matea Rd	2.66	231	P		Pn		17 30 43.9			+0.7
KUZ	Kuaotunu	2.71	278	P		Pn		17 30 43.9			+0.1
BKZ	Black Stump Fm	2.83	225	Pn		Pn		17 30 46.1			+0.6
BKZ	Black Stump Fm	2.83	225	P		Pn		17 30 46.1			+0.6
BKZ	Black Stump Fm	2.83	225	P		Pn		17 30 46.3			+0.7
KUTZ	Kaahu Road	2.88	242	P		Pn		17 30 47.7			+1.5
TOZ	Tahuroa Road	2.89	258	P		Pn		17 30 47.0			+0.8
CKHZ	Cape Kidnapper	2.92	212	P		Pn		17 30 46.5			-0.3
TLZ	Tolley Road	3.02	247	P		Pn		17 30 49.4			+1.2
WATZ	Wairara	3.04	239	P		Pn		17 30 50.3			+1.9
GRZ	Great Barrier	3.04	287	P		Pn		17 30 49.4			+1.0
KWHZ	Kaweka Forest	3.05	222	P		Pn		17 30 48.9			+0.3
RATZ	Rangitukua	3.10	236	P		Pn		17 30 51.0			+1.8
MKAZ	Moumakai	3.12	270	P		Pn		17 30 50.0			+0.6
KAHZ	Kahuranaki	3.12	213	P		Pn		17 30 49.1			-0.5
WIAZ	Waiheke Island	3.17	276	P		Pn		17 30 51.0			+0.9
KRHZ	Kereru	3.24	220	P		Pn		17 30 51.4			+0.2
TMVZ	Te Maari	3.28	233	P		Pn		17 30 52.3			+0.5
ETVZ	East Tongariro	3.28	233	P		Pn		17 30 52.4			+0.5
NTVZ	North Tongariro	3.29	233	P		Pn		17 30 52.9			+1.0
BHHZ	Black Hill Sta	3.30	225	P		Pn		17 30 52.5			+0.5
ETAZ	East Tamaki Re	3.31	273	P		Pn		17 30 53.4			+1.3
PXZ	Pawanui	3.33	211	P		Pn		17 30 51.1			-1.1
OTVZ	Oturere	3.33	233	P		Pn		17 30 53.4			+0.9
NNVZ	North Ngauruho	3.34	233	P		Pn		17 30 53.8			+1.2
WTVZ	West Tongariro	3.35	234	P		Pn		17 30 54.4			+1.7
SNVZ	South Ngauruho	3.36	232	P		Pn		17 30 53.7			+0.8
MBAZ	Motutapu North	3.36	276	P		Pn		17 30 54.1			+1.3
NGZ	Ngauruhoe	3.38	233	P		Pn		17 30 54.0			+0.9
TUVZ	Tukino	3.40	231	P		Pn		17 30 54.2			+0.8
MOVZ	Moawhango	3.42	229	P		Pn		17 30 54.2			+0.5
TWVZ	Taurewa	3.42	235	P		Pn		17 30 55.4			+1.7
ABAZ	Army Bay	3.44	278	P		Pn		17 30 55.4			+1.5
WHVZ	Whangaehu Hut	3.45	231	P		Pn		17 30 54.8			+0.6
FWVZ	Far West T-bar	3.45	232	P		Pn		17 30 55.1			+0.8
WNVZ	Wahianoa	3.47	231	P		Pn		17 30 54.7			+0.3
EPAZ	Eden Park BICE	3.47	274	P		Pn		17 30 56.2			+1.9
TRVZ	Turoa	3.48	232	P		Pn		17 30 55.6			+0.9
HBAZ	Herne Bay Bore	3.48	274	P		Pn		17 30 56.3			+1.9
PNHZ	Pukenui	3.53	219	P		Pn		17 30 54.3			-0.9
AWAZ	Awhitu Peninsu	3.53	271	P		Pn		17 30 56.6			+1.5
WPHZ	Waipukurau	3.54	215	P		Pn		17 30 54.5			-0.6
MTVZ	Mangateitei	3.58	231	P		Pn		17 30 56.6			+0.7
HIZ	Hauiti	3.58	247	Pn		Pn		17 30 57.7			+1.9
HIZ	Hauiti	3.58	247	P		Pn		17 30 57.8			+1.9
HIZ	Hauiti	3.58	247	P		Pn		17 30 58.0			+2.1
WTAZ	Waiatarua	3.60	273	P		Pn		17 30 57.8			+1.7
PKVZ	Pokaka	3.60	233	P		Pn		17 30 57.2			+1.0
RVAZ	Riverhead Bore	3.61	275	P		Pn		17 30 57.8			+1.6
PRHZ	Porangahau	3.62	211	P		Pn		17 30 55.3			-1.0
TSZ	Takapari Road	3.76	219	P		Pn		17 30 56.9			-1.4
ANWZ	Angora Road	3.85	211	P		Pn	

KSRS	**Korea Array**	**88.03 322**	P	**P**	**17 42 49.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=72,slow=3.3,SNR=2.3						
	comp=Z,0.6nm,0.7s						
PETK	**Petropavlovsk-**	**91.82 347**	P	**P**	**17 43 08.7**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=138,slow=9.7,SNR=1.7						
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.40 290**	P	**P**	**17 43 15.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=130,slow=2.3,SNR=1.3						
	comp=Z,0.5nm,0.3s						
LPAZ	**La Paz**	**97.45 117**	P	Pdif	17 43 37.6	+2.2	
	comp=Z,0.5nm,0.5s,baz=217,slow=5.1,SNR=2.2						
	comp=Z,0.5nm,0.5s						
CPUP	**Villa Florida**	**97.54 131**	LR	LR	18 22 20.0		
	comp=Z,123nm,18.9s,baz=228,slow=32						
MKAR	**Makanchi Array**	**120.13 308**	PKP	**PKPdf**	**17 48 50.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=151,slow=1.1,SNR=1.7						
ARCES	**ARCESS Array B**	**144.57 344**	PKP	**PKPab**	**17 49 34.2**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=29,slow=2.8,SNR=6.2						
LIC	**Lamto**	**148.96 172** ⇑*i*PKP1		**PKPbc**	**17 49 49.7**	**+0.8**
	comp=Z,28nm,0.7s						
KIC	**Kosan Boka**	**149.13 173** ⇑*i*PKP1		**PKPbc**	**17 49 50.1**	**+0.7**
	comp=Z,6.1nm,0.6s						
TIC	**Toumodi**	**149.38 172** ⇑*i*PKP1		**PKPbc**	**17 49 51.0**	**+1.0**
	comp=Z,8.5nm,0.7s						
DBIC	**Dimbokro**	**149.42 172**	PKPbc	**PKPbc**	**17 49 50.4**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=90,slow=4.3,SNR=6.0						
FINES	**FINESS Array B**	**150.42 334**	PKPbc	**PKPbc**	**17 49 50.4**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=29,slow=4.6,SNR=26						
BRTR	**Keskin Array B**	**152.90 286**	PKPbc	**PKPbc**	**17 49 56.4**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=151,slow=3.3,SNR=2.5						
AKASG	**Malin Array Be**	**154.63 312**	PKPbc	**PKPbc**	**17 49 59.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=62,slow=2.1,SNR=2.1						
NB2	**NORSAR Subarra**	**154.92 346**	PKP	**PKPbc**	**17 50 00.4**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=26,slow=2.2						
NOA	**NORSAR Array B**	**154.92 346**	PKPbc	**PKPbc**	**17 50 00.8**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=26,slow=4.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**155.95 186**	PKPab	**PKPab**	**17 50 20.4**	**-1.6**
	comp=Z,4.2nm,0.8s,baz=174,slow=3.3,SNR=7.0						

WEL 02 17:36:48.1±1.9**, 37°S**±6″×**18°0E**±°, **h11**km±12km, **M3.6**/36, **ML3.7**/28, **MLv3.6**/36, **Error ellipse: s-maj=0.0km s-min=0.0km az=97.8, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.17**	**244**	P	Pb	17 37 08.8	-1.5
MXZ				S	Sb	17 37 23.6	-1.7
WMGZ	**Waiomatatini S**	**1.23**	**231**	P	Pg	17 37 12.1	+0.4
WMGZ				S	Sn	17 37 27.8	+0.1
PUZ	**Puketiti**	**1.48**	**227**	P	Pb	17 37 15.7	-0.1
PUZ				S	Sn	17 37 33.9	-0.3
TWGZ	**Tauwhareparae**	**1.72**	**229**	P	Pb	17 37 19.0	-0.7
TWGZ				S	Sb	17 37 41.3	0.0
CNGZ	**Carnagh Statio**	**1.81**	**218**	P	Pb	17 37 21.1	-0.2
MWZ	**Matawai**	**2.09**	**222**	P	Pn	17 37 23.7	+0.5
RIGZ	**Rimuhau**	**2.21**	**221**	P	Pn	17 37 25.2	+0.4
WHRZ	**Whale Island**	**2.25**	**249**	P	Pb	17 37 27.3	-1.6
RAGZ	**Rawiri**	**2.26**	**230**	P	Pn	17 37 26.0	+0.5
PRGZ	**Paritu Road**	**2.31**	**216**	P	Pn	17 37 26.8	+0.6
URZ	**Urewera**	**2.33**	**238**	P	Pn	17 37 26.9	+0.6
SNGZ	**Shannon Statio**	**2.49**	**226**	P	Pn	17 37 29.0	+0.3
EDRZ	**Edgecumbe**	**2.52**	**245**	P	Pn	17 37 29.5	+0.4
MARZ	**Manawahe**	**2.52**	**248**	P	Pn	17 37 29.9	+0.8
TGRZ	**Tauranga**	**2.76**	**255**	P	Pn	17 37 31.8	-0.5
MTHZ	**Maungataniwha**	**2.84**	**230**	P	Pn	17 37 34.2	+0.8
KARZ	**Kaharoa**	**2.85**	**249**	P	Pn	17 37 33.8	+0.2
ARHZ	**Aropaoanui**	**3.02**	**222**	P	Pn	17 37 34.6	-1.3
MRHZ	**Matea Rd**	**3.09**	**234**	P	Pn	17 37 36.9	-0.1
KUZ	**Kuaotunu**	**3.15**	**275**	P	Pn	17 37 35.9	-1.7
BKZ	**Black Stump Fm**	**3.24**	**229**	P	Pn	17 37 39.2	+0.2
TOZ	**Tahuroa Road**	**3.35**	**257**	P	Pn	17 37 40.0	-0.4
KAHZ	**Kahuranaki**	**3.48**	**217**	P	Pn	17 37 41.7	-0.6
MKAZ	**Moumakai**	**3.57**	**228**	P	Pn	17 37 42.5	-0.9
WIAZ	**Waiheke Island**	**3.61**	**273**	P	Pn	17 37 43.8	-0.2
BHHZ	**Black Hill Sta**	**3.71**	**228**	P	Pn	17 37 44.5	-0.9
TMVZ	**Te Maari**	**3.71**	**235**	P	Pn	17 37 45.3	-0.2
ETAZ	**East Tamaki Re**	**3.76**	**270**	P	Pn	17 37 46.7	+0.6
MOVZ	**Moawhango**	**3.84**	**231**	P	Pn	17 37 47.0	-0.3
AWAZ	**Awhitu Peninsu**	**3.98**	**268**	P	Pn	17 37 50.3	+1.2
HIZ	**Hauiti**	**4.05**	**248**	P	Pn	17 37 50.8	+0.8
WCZ	**Waipu Caves**	**4.40**	**283**	P	Pn	17 37 54.4	-0.4
BFZ	**Birch Farm**	**4.48**	**215**	P	Pn	17 37 54.1	-1.8
MRZ	**Mangatainoka R**	**4.79**	**220**	P	Pn	17 37 58.0	-2.2
TMWZ	**Te Maipa**	**4.98**	**215**	P	Pn	17 38 00.3	-2.5
TKNZ	**Takaka Hill**	**6.53**	**231**	P	Pn	17 38 21.8	-2.3

*IDC **02** 17:40:60.0±1.3, 34°12N×141°56E, h0km, mb3.5/5, mbtmp3.6/7, ML3.1/2, MS4.0/3, Error ellipse: s-maj=29.3km s-min=19.1km az=68.0*
*JMA **02** 17:41:00.2±0.5, 34°N±1°×14°2E±°, h18km±2km, MV3.1/24, FAR SE OFF BOSO PEN*

ISC 02 17:41:02.6±1.0**, 34°06N**±0°.05×**141°55E**±0°.09**, h24**km, **n22**, σ1**§20**/20, **mb3.4**/5, **MS4.1**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.76**	**321**	*e*P	**Pb**	**17 41 15.8**	**-1.1**
BSO3	**Boso 3**	**1.14**	**311**	*e*P	**Pn**	**17 41 22.3**	**-0.4**
BSO3				*e*S	**Sb**	**17 41 38.0**	**+0.4**
BSO4	**Boso 4**	**1.37**	**313**	*e*P	**Pb**	**17 41 26.6**	**-0.9**
JKUC	**kamogawauchiur**	**1.56**	**315**	P	**Pn**	**17 41 28.8**	**-0.1**
JMKN	**Mikurajimanish**	**1.64**	**265**	P	**Pn**	**17 41 29.8**	**-0.1**
JHJ	**Hachijo jima 2**	**1.75**	**238**	Pn	**Pb**	**17 41 33.4**	**-0.6**
	16nm,0.3s,baz=353,slow=21,SNR=38						
JHJ				Sn	**Sb**	**17 41 55.5**	**0.0**
	27nm,0.3s,baz=81,slow=21,SNR=6.4						
JIM2	**Oshima 3**	**1.87**	**291**	P	**Pn**	**17 41 32.9**	**-0.2**
JIZS	**Izushimoda**	**2.31**	**287**	*e*P	**Pn**	**17 41 39.5**	**+0.4**
MJAR	**Matsushiro Arr**	**3.69**	**313**	Pn	**Pn**	**17 41 56.8**	**-1.3**
	0.2nm,0.3s,baz=180,slow=15,SNR=29						
MJAR				Sn	**Sn**	**17 42 41.7**	**+0.9**
	0.1nm,0.3s,baz=26,slow=27,SNR=5.1						
	3.0nm,0.5s						
JCJ	**Chichijima**	**6.96**	**175**	Pn	**Pn**	**17 42 43.9**	**+0.8**
	2.2nm,0.3s,baz=290,slow=14,SNR=2.2						
JCJ				Sn	**Sn**	**17 43 57.9**	**-3.6**
	1.3nm,0.3s,baz=141,slow=19,SNR=2.0						
	36nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**26.64**	**116**	T	T	18 14 37.5	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**26.64**	**116**	T	T	18 14 35.2	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**26.66**	**116**	T	T	18 14 39.0	
	baz=308						
SONM	**Songino Array**	**29.63**	**308**	P	**P**	**17 47 06.7**	**+0.6**
	0.5nm,0.8s,baz=116,slow=9.8,SNR=2.0						
	0.5nm,0.8s						
SIJI	**Sorong**	**36.06**	**198**	LR	LR	18 01 37.9	
	comp=Z,343nm,19.4s,baz=68,slow=34						
MKAR	**Makanchi Array**	**45.84**	**305**	P	**P**	**17 49 22.6**	**-0.1**
	0.2nm,0.6s,baz=100,slow=7.9,SNR=1.4						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**51.96**	**31**	LR	LR	18 10 48.3	
	comp=Z,72nm,21.9s,baz=112,slow=34						
FITZ	**Fitzroy Crossi**	**54.04**	**199**	P	**P**	**17 50 26.7**	**+1.6**
	1.5nm,0.7s,baz=3.3,slow=5.3,SNR=6.8						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**54.14**	**188**	P	**P**	**17 50 26.9**	**+1.0**
	0.4nm,0.5s,baz=5.6,slow=7.6,SNR=15						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**57.87**	**188**	P	**P**	**17 50 53.4**	**+0.9**
	0.2nm,0.7s,baz=2.9,slow=6.2,SNR=6.8						
	0.2nm,0.7s						
FRB	**Frobisher Bay**	**79.64**	**13**	LR	LR	18 30 54.9	
	comp=Z,106nm,18.0s,baz=264,slow=38						
LPAZ	**La Paz**	**148.00**	**64**	PKPbc	**PKPab**	**18 00 49.4**	**-0.6**
	0.6nm,0.5s,baz=313,slow=6.9,SNR=2.2						

*IDC **02** 17:44:25.8±0.9, 48°.09N×27°.93W, h0km, mb3.7/8, mbtmp3.7/10, ML4.1/2, MS3.5/13, Error ellipse: s-maj=27.9km s-min=22.8km az=30.0*
*NEIC **02** 17:44:28.7±1.6, 48°.1N±0°.2×27°.8W±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=27.5km s-min=19.6km az=185.0*

ISC 02 17:44:27.9±0.7**, 47°9N**±0°.1×**27°80W**±0°.09**, h10**km**, n36**, σ1**§55**/26**, mb3.9**/13**, MS3.4**/11**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**16.93**	**55**	Pn	**Pn**	**17 48 24.2**	**-0.5**
	baz=254,slow=9.5						
EKA				LR	LR	17 52 59.4	
	comp=Z,99nm,21.0s,baz=242,slow=30						
	1.7nm,0.8s						
PAB	**San Pablo**	**18.85**	**108**	P	**P**	**17 48 48.8**	**+0.7**
ESDC	**Sonseca Array**	**19.03**	**107**	P	**Pn**	**17 48 51.9**	**+1.2**
	0.3nm,0.3s,baz=305,slow=11,SNR=8.6						
ESDC				LR	LR	17 54 38.2	
	comp=Z,112nm,19.7s,baz=305,slow=32						
	2.3nm,1.0s						
ICESG	**Greenland Ices**	**22.02**	**349**	*i* P	**P**	**17 49 25.7**	**+3.2**
MDT	**Midelt**	**23.12**	**122**	LR	LR	17 56 50.1	
	comp=Z,51nm,20.4s,baz=352,slow=32						
SCHQ	**Schefferville**	**25.06**	**301**	LR	LR	17 57 59.3	
	comp=Z,68nm,18.7s,baz=100,slow=33						
SUMG	**Summit**	**25.20**	**352**	*i* P	**P**	**17 49 58.0**	**+4.3**
DAVOX	**Davos/Dischmat**	**25.39**	**78**	LR	LR	17 58 51.0	
	comp=Z,107nm,20.8s,baz=264,slow=34						
NOA	**NORSAR Array B**	**25.73**	**45**	LR	LR	17 59 10.1	
	comp=Z,32nm,18.2s,baz=250,slow=34						
NB201	**NORSAR Array S**	**25.77**	**45**	P	**P**	**17 49 60.0**	**+1.4**
NC303	**NORSAR Array S**	**25.84**	**45**	P	**P**	**17 50 00.2**	**+1.0**
NC303				IAmb	IAmb	17 50 13.7	
	comp=Z,15nm,1.4s						
FRB	**Frobisher Bay**	**27.19**	**321**	LR	LR	17 57 28.8	
	comp=Z,104nm,19.4s,baz=336,slow=29						
GERES	**GERESS Array B**	**27.34**	**72**	P	**P**	**17 50 13.0**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=300,slow=4.4,SNR=2.4						
	comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**27.34**	**72**	P	**P**	**17 50 12.7**	**-0.2**
EMMW	**East Machias**	**27.37**	**278**	P	**P**	**17 50 14.8**	**+1.7**
SABO	**M.te Sabotino**	**28.09**	**78**	P	**P**	**17 50 18.8**	**-0.8**
SABO				IAmb	IAmb	17 50 35.0	
	comp=Z,7.3nm,1.1s						
VRAC	**Vranov**	**29.07**	**70**	LR	LR	18 01 48.9	
	comp=Z,91nm,18.4s,baz=280,slow=36						
SADO	**Sadowa**	**35.05**	**284**	LR	LR	18 04 29.2	
	comp=Z,80nm,21.6s,baz=175,slow=34						
AKASG	**Malin Array Be**	**36.49**	**64**	P	**P**	**17 51 32.1**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=278,slow=9.0,SNR=4.3						
	comp=Z,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**42.48**	**135**	P	**P**	**17 52 23.2**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=333,slow=8.5,SNR=5.8						
TORD				LR	LR	18 09 05.6	
	comp=Z,62nm,18.1s,baz=194,slow=35						
	comp=Z,2.2nm,0.9s						
DBIC	**Dimbokro**	**45.53**	**147**	P	**P**	**17 52 48.5**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=326,slow=9.5,SNR=2.0						
	comp=Z,1.9nm,0.6s						
DBIC	**Dimbokro**	**45.53**	**147**	P	**P**	**17 52 49.2**	**+1.5**
DBIC				IAmb	IAmb	17 53 20.3	
	comp=Z,11nm,1.3s						
BELG	**Belogornoye**	**46.48**	**55**	LR	LR	18 11 44.5	
	comp=Z,38nm,18.3s,baz=61,slow=35						
MSTX	**Muleshoe**	**56.18**	**285**	P	**P**	**17 54 08.2**	**+0.1**
MSTX				IAmb	IAmb	17 54 14.4	
	comp=Z,9.2nm,1.2s						
SCRK	**Sand Creek**	**57.77**	**332**	P	**P**	**17 54 18.4**	**-0.5**
SCRK				IAmb	IAmb	17 54 24.4	
	comp=Z,5.9nm,1.3s						
ILAR	**Eielson Array**	**58.09**	**334**	P	**P**	**17 54 19.5**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=39,slow=7.2,SNR=2.4						
	comp=Z,0.5nm,0.9s						
SBM	**South Baldy**	**59.02**	**288**	P	**P**	**17 54 28.1**	**-0.3**
TXAR	**Lajitas Array**	**59.73**	**281**	P	**P**	**17 54 31.4**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=36,slow=8.4,SNR=2.1						
	comp=Z,0.3nm,0.7s						
KVN	**Kaiserville**	**62.51**	**299**	P	**P**	**17 54 50.5**	**-1.2**
KVN				IAmb	IAmb	17 54 55.2	
	comp=Z,2.6nm,1.1s						
MKAR	**Makanchi Array**	**67.72**	**44**	P	**P**	**17 55 23.5**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=348,slow=5.1,SNR=2.9						
	comp=Z,0.4nm,0.8s						
SIV	**San Ignacio**	**70.24**	**214**	LR	LR	18 21 12.7	
	comp=Z,99nm,21.8s,baz=276,slow=31						
SONM	**Songino Array**	**76.64**	**30**	P	**P**	**17 56 18.1**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=350,slow=7.3,SNR=3.1						
	comp=Z,0.9nm,0.9s						
BOSA	**Boshof**	**89.84**	**135**	LR	LR	18 39 02.7	
	comp=Z,81nm,19.1s,baz=176,slow=36						
WRA	**Warramunga Arr**	**148.55**	**34**	PKPbc	**PKPbc**	**18 04 13.7**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=336,slow=3.1,SNR=7.5						
VNDA	**Vanda**	**150.07**	**184**	PKPbc	**PKPbc**	**18 04 17.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=276,slow=3.1,SNR=3.8						
ASAR	**Alice Springs**	**151.74**	**37**	PKPbc	**PKPbc**	**18 04 21.4**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=347,slow=1.8,SNR=7.5						

WEL 02 17:49:57.3±1.2**, 37°S**±4″×**17°9E**±°, **h19**km±9km, **M3.3**/23, **ML3.5**/30, **MLv3.3**/23, **Error ellipse: s-maj=0.0km s-min=0.0km az=90.4, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.81**	**241**	P	Pb	17 50 12.4	-0.4
MXZ				S	Sb	17 50 23.1	-0.2
PUZ	**Puketiti**	**1.16**	**219**	P	Pb	17 50 19.3	+0.4
PUZ				S	Sg	17 50 35.6	+0.4
RUGZ	**Raukumara Rang**	**1.44**	**236**	P	Pb	17 50 23.5	-0.2
RUGZ				S	Sb	17 50 42.5	+0.8
CNGZ	**Carnagh Statio**	**1.52**	**211**	P	Pb	17 50 25.0	0.0
TKGZ	**Te Karaka**	**1.65**	**220**	P	Pn	17 50 25.6	+0.3
TKGZ				S	Sb	17 50 47.9	+0.2
MWZ	**Matawai**	**1.75**	**228**	P	Pn	17 50 27.2	+0.4
RAGZ	**Rawiri**	**1.93**	**226**	P	Pn	17 50 29.7	+0.5
RAGZ				S	Sn	17 50 53.0	-0.1
URZ	**Urewera**	**1.98**	**236**	P	Pn	17 50 30.2	+0.4
URZ				S	Sn	17 50 54.2	+0.1
PRGZ	**Paritu Road**	**2.03**	**210**	P	Pn	17 50 30.6	0.0
PRGZ				S	Sn	17 50 55.0	-0.4
SNGZ	**Shannon Statio**	**2.17**	**222**	P	Pn	17 50 32.5	0.0
SNGZ				S	Sn	17 50 59.2	+0.3
OPRZ	**Ohinepanea**	**2.20**	**252**	P	Pn	17 50 32.7	-0.3
RTZ	**Ruatahuna**	**2.27**	**230**	P	Pn	17 50 34.4	+0.5
MUGZ	**Murupara**	**2.32**	**235**	P	Pn	17 50 34.7	+0.1
TGRZ	**Tauranga**	**2.40**	**256**	P	Pn	17 50 35.5	-0.1
RRRZ	**Republican Roa**	**2.42**	**241**	P	Pn	17 50 37.2	+1.2
KARZ	**Kaharoa**	**2.49**	**249**	P	Pn	17 50 37.0	+0.1
MTHZ	**Maungataniwha**	**2.50**	**227**	P	Pn	17 50 37.7	+0.6
NMHZ	**Naumai**	**2.69**	**224**	P	Pn	17 50 40.5	+0.8
ARHZ	**Aropaoanui**	**2.71**	**219**	P	Pn	17 50 40.0	+0.1
KUZ	**Kuaotunu**	**2.81**	**278**	P	Pn	17 50 40.0	-1.3
BKZ	**Black Stump Fm**	**2.91**	**226**	P	Pn	17 50 42.5	-0.2
TOZ	**Tahuroa Road**	**2.99**	**258**	P	Pn	17 50 43.2	-0.5
GRZ	**Great Barrier**	**3.14**	**286**	P	Pn	17 50 45.5	-0.4
KAHZ	**Kahuranaki**	**3.18**	**214**	P	Pn	17 50 45.4	-1.1
MKAZ	**Moumakai**	**3.22**	**270**	P	Pn	17 50 46.4	-0.6
WIAZ	**Waiheke Island**	**3.27**	**275**	P	Pn	17 50 47.3	-0.4
BHHZ	**Black Hill Sta**	**3.38**	**226**	P	Pn	17 50 49.1	0.0
ETAZ	**East Tamaki Re**	**3.42**	**272**	P	Pn	17 50 49.9	+0.3
MBAZ	**Motutapu North**	**3.46**	**275**	P	Pn	17 50 50.5	+0.2
ABAZ	**Army Bay**	**3.54**	**278**	P	Pn	17 50 51.8	+0.4
PNHZ	**Pukenui**	**3.60**	**220**	P	Pn	17 50 50.8	-1.4
AWAZ	**Awhitu Peninsu**	**3.64**	**270**	P	Pn	17 50 53.3	+0.6
HIZ	**Hauiti**	**3.68**	**247**	P	Pn	17 50 54.3	+1.0
RVAZ	**Riverhead Bore**	**3.72**	**275**	P	Pn	17 50 54.6	+0.9
DVHZ	**Dannevirke**	**3.92**	**216**	P	Pn	17 50 55.8	-0.7
WCZ	**Waipu Caves**	**4.09**	**286**	P	Pn	17 50 58.9	-0.1
BFZ	**Birch Farm**	**4.19**	**212**	P	Pn	17 50 58.3	-2.0
MRZ	**Mangatainoka R**	**4.48**	**218**	P	Pn	17 51 02.0	-2.2
OUZ	**Omahuta**	**4.93**	**292**	P	Pn	17 51 10.7	+0.3
CTZ	**Chatham Island**	**7.29**	**155**	P	Pn	17 51 42.8	+0.1

*HVO **02** 17:56:20.0±0.9, 19°.487N±0°.010×155°.436W±0°.005, h3km±5km, ML2.7/23, ML2.4/50(NEIC), Error ellipse: s-maj=1.5km s-min=0.6km az=182.0*
*NEIC **02** 17:56:20.4±0.9, **19°.511N**±0°.009×**155°.431W**±0°.004, **h5**km±1km, **Error ellipse: s-maj=2.9km s-min=1.5km az=195.0, Hawaiian Islands***

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLH	**Mauna Loa**	**0.05**	**111**		Sg	17 56 23.0	+0.1
MLH	**Mauna Loa**	**0.05**	**111**	Pg	Pg	17 56 21.8	-0.1
MLH				IAML		17 56 22.4	
	comp=E,2μm,0.2s						
HMH	**Humu'ula Sheep**	**0.10**	**332**		Pg	17 56 23.3	+0.5
HMH					Sg	17 56 25.9	+1.5
HMH	**Humu'ula Sheep**	**0.10**	**332**	IAML		17 56 25.9	
	comp=E,1μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.14**	**281**		Pg	17 56 23.6	+0.2
MLOA					Sg	17 56 26.1	+0.7
AIN	**Ainahou**	**0.14**	**190**		Pg	17 56 23.2	-0.1
AIN					Sg	17 56 25.7	+0.5
RSD	**Rainshed**	**0.15**	**108**		Pg	17 56 23.7	+0.2
RSD					Sg	17 56 26.7	+1.1
MWH	**Moku'aweowe**	**0.16**	**261**		Pg	17 56 23.7	0.0
MWH	**Moku'aweowe**	**0.16**	**261**	IAML		17 56 27.9	
	comp=E,1μm,0.2s						
UWE	**Uwekahuna**	**0.16**	**124**		Pg	17 56 23.8	+0.2
UWE					Sg	17 56 26.7	+0.9
UWE	**Uwekahuna**	**0.16**	**124**	IAML		17 56 27.5	
	comp=E,3μm,0.3s						
WRMHI	**West Rim**	**0.16**	**130**		Pg	17 56 23.7	0.0
WRMHI					Sg	17 56 26.5	+0.7
WRMHI	**West Rim**	**0.16**	**130**	IAML		17 56 26.6	
	comp=N,1μm,0.3s						
OBL	**Observatory Le**	**0.17**	**124**		Pg	17 56 23.8	0.0
OBL					Sg	17 56 26.8	+0.8
OBL	**Observatory Le**	**0.17**	**124**	IAML		17 56 27.8	
	comp=E,3μm,0.2s						
UWB	**Uwekahuna B**	**0.17**	**121**		Pg	17 56 23.7	-0.1
UWB	**Uwekahuna B**	**0.17**	**121**	IAML		17 56 27.8	
	comp=N,563nm,0.3s						
UWB				IAML		17 56 27.8	
	comp=E,463nm,0.3s						
NPH	**North Pit**	**0.17**	**125**		Pg	17 56 23.7	-0.2
NPH					Sg	17 56 26.5	+0.3
NPH	**North Pit**	**0.17**	**125**	IAML		17 56 26.7	
	comp=E,432nm,0.3s						
SBLHI	**Steaming Bluff**	**0.17**	**118**		Pg	17 56 23.8	-0.1
SBLHI					Sg	17 56 26.8	+0.5
SBLHI	**Steaming Bluff**	**0.17**	**118**	IAML		17 56 29.1	
	comp=E,604nm,0.3s						
SDHHI	**Sand Hill**	**0.18**	**133**		Pg	17 56 23.9	-0.1
SDHHI	**Sand Hill**	**0.18**	**133**	IAML		17 56 28.5	
	comp=E,1μm,0.1s						
HATHI	**Halema'uma'u T**	**0.18**	**118**		Pg	17 56 23.9	-0.2
HATHI					Sg	17 56 27.1	+0.6
HATHI	**Halema'uma'u T**	**0.18**	**118**	IAML		17 56 28.8	
	comp=N,840nm,0.3s						
HATHI				IAML		17 56 29.5	
	comp=E,1μm,0.3s						
RIM	**Rim**	**0.19**	**128**		Pg	17 56 24.1	0.0
RIM					Sg	17 56 27.0	+0.4
RIM	**Rim**	**0.19**	**128**	IAML		17 56 27.3	
	comp=E,574nm,0.4s						
RIM				IAML		17 56 28.8	
	comp=N,607nm,0.4s						
BYL	**Byron's Ledge**	**0.19**	**121**		Pg	17 56 24.1	-0.1
BYL	**Byron's Ledge**	**0.19**	**121**	IAML		17 56 27.5	
	comp=N,296nm,0.7s						
BYL				IAML		17 56 29.2	
	comp=E,424nm,0.5s						
KKO	**Keanakako`i**	**0.19**	**126**		Pg	17 56 24.2	0.0
KKO	**Keanakako`i**	**0.19**	**126**	IAML		17 56 28.4	
	comp=N,632nm,1.1s						
KKO				IAML		17 56 28.4	
	comp=E,544nm,0.4s						
ALEP	**Alea Permanent**	**0.20**	**279**		Pg	17 56 24.5	0.0
ALEP					Sg	17 56 27.8	+0.6
HLP	**Hilina Pali**	**0.24**	**151**		Pg	17 56 24.9	-0.2
HLP					Sg	17 56 28.8	+0.4
HLP	**Hilina Pali**	**0.24**	**151**	IAML		17 56 29.0	
	comp=E,848nm,0.5s						
PUH	**Pauahi**	**0.24**	**124**		Pg	17 56 24.8	-0.4
PUH					Sg	17 56 28.6	+0.1
PUH	**Pauahi**	**0.24**	**124**	IAML		17 56 31.3	
	comp=N,633nm,2.7s						
POHA	**Pohakuloa**	**0.26**	**339**		Sg	17 56 25.9	-3.2
POHA	**Pohakuloa**	**0.26**	**339**	Pg	Pg	17 56 25.4	-0.2
POHA				IAML		17 56 34.9	
	comp=N,659nm,0.5s						
POHA				IAML		17 56 34.9	

baz=309,slow=76
YAK Yakutsk 28.62 348 P **P** **18 02 14.6 -0.2**
1.5nm,0.5s,baz=166,slow=3.3,SNR=1.7
1.5nm,0.5s
SONM Songino Array 29.41 308 P **P** **18 02 22.2 0.0**
1.4nm,0.7s,baz=102,slow=9.2,SNR=7.7
1.4nm,0.7s
SONM Songino Array 29.41 308 P **P** **18 02 23.1 +0.9**
TIXI Tiksi 37.87 353 P **P** **18 03 35.2 0.0**
1.0nm,0.6s,baz=91,slow=23,SNR=7.0
1.0nm,0.6s
TIXI Tiksi 37.87 353 P **P** **18 03 35.5 +0.4**
FAKI Fak Fak 38.20 195 P **P** **18 03 38.0 -0.5**
CMAR Chiang Mai Arr 41.04 258 P **P** **18 04 01.7 -0.6**
0.3nm,0.5s,baz=44,slow=8.0,SNR=2.3
0.3nm,0.5s
ZALV Zalesovo Beam 43.78 314 P **P** **18 04 24.1 -0.1**
1.3nm,0.6s,baz=82,slow=6.6,SNR=5.5
ZALV PcP **PcP** **18 06 09.8 -0.7**
1.0nm,0.5s,baz=84,slow=1.0,SNR=4.9
1.3nm,0.6s
MK31 Makanchi Array 45.64 304 P **P** **18 04 39.1 0.0**
MKAR Makanchi Array 45.64 304 P **P** **18 04 38.8 -0.4**
1.0nm,0.6s,baz=88,slow=8.1,SNR=10
1.0nm,0.6s
MKAR Makanchi Array 45.64 304 P **P** **18 04 39.4 +0.2**
NRIK Noril'sk 45.67 336 LR LR 18 25 22.8
comp=Z,60nm,19.8s,baz=122,slow=38
RDOG Red Dog Mine 45.76 26 P **P** **18 04 40.9 +1.2**
MAKZ Makanchi 45.85 304 P **P** **18 04 40.8 0.0**
MAKZ IAmb IAmb 18 04 57.0
comp=Z,3.0nm,1.1s
KURK Kurchatov 47.66 310 P **P** **18 04 54.6 -0.3**
KURK IAmb IAmb 18 04 59.7
comp=Z,9.1nm,0.9s
MTN Manton Dam 48.07 194 P **P** **18 04 58.7 +0.4**
KNRA Kununurra 51.32 196 P **P** **18 05 22.1 -0.9**
KNRA IAmb IAmb 18 06 01.3
comp=Z,18nm,1.4s
ILAR Eielson Array 51.61 31 P **P** **18 05 24.8 +0.1**
comp=Z,0.5nm,0.8s,baz=261,slow=5.4,SNR=5.6
comp=Z,0.5nm,0.8s
BMAR Burnt Mountain 52.54 28 P **P** **18 05 34.6 +2.9**
WB0 Warramunga Arr 54.35 188 P **P** **18 05 45.4 0.0**
WB0 IAmb IAmb 18 06 12.9
comp=Z,5.4nm,1.1s
FITZ Fitzroy Crossi 54.42 199 P **P** **18 05 46.8 +1.0**
FITZ IAmb IAmb 18 06 09.9
comp=Z,6.0nm,1.2s
WR0 Warramunga Arr 54.52 188 P **P** **18 05 47.1 +0.5**
WR0 IAmb IAmb 18 06 00.1
comp=Z,3.5nm,1.2s
WRA Warramunga Arr 54.53 188 P **P** **18 05 47.0 +0.4**
comp=Z,0.5nm,0.3s,baz=1.9,slow=7.7,SNR=38
comp=Z,0.5nm,0.3s
WRA Warramunga Arr 54.53 188 P **P** **18 05 46.7 0.0**
KK31 Karatay Array 54.56 302 P **P** **18 05 46.3 -0.6**
KK31 IAmb IAmb 18 05 48.5
comp=Z,3.1nm,0.9s
KKAR Karatay Array 54.56 302 P **P** **18 05 46.6 -0.2**
KKAR Karatay Array 54.56 302 P **P** **18 05 46.4 -0.5**
KKAR IAmb IAmb 18 05 48.5
comp=Z,3.1nm,0.9s
INK Inuvik 56.63 26 P **P** **18 06 02.1 +0.9**
comp=Z,1.1nm,0.3s,baz=349,slow=5.2,SNR=3.5
comp=Z,1.1nm,0.3s
CHGR Chuyangaron 56.93 297 P **P** **18 06 03.8 -0.1**
CHGR IAmb IAmb 18 06 06.7
comp=Z,16nm,1.4s
ASAR Alice Springs 58.26 188 P **P** **18 06 13.9 +0.6**
comp=Z,0.3nm,0.4s,baz=1.0,slow=6.5,SNR=14
comp=Z,0.3nm,0.4s
ARU Arti 58.40 320 P **P** **18 06 13.5 -0.3**
ARU IAmb IAmb 18 06 15.0
comp=Z,4.7nm,1.0s
MBWA Marble Bar 59.08 204 P **P** **18 06 19.2 +0.3**
ABKAR Akbulak array 59.72 311 P **P** **18 06 22.9 -0.3**
ABKAR IAmb IAmb 18 06 30.3
comp=Z,2.9nm,1.1s
ABKAR Akbulak array 59.72 311 P **P** **18 06 22.8 -0.4**
FINES FINESS Array B 71.16 333 P **P** **18 07 36.0 -0.9**
comp=Z,1.7nm,0.8s,baz=26,slow=4.9,SNR=6.2
FINES LR LR 18 41 39.6
comp=Z,70nm,20.3s,baz=30,slow=38
comp=Z,1.7nm,0.8s
KBZ Khabaz 72.69 311 P **P** **18 07 46.8 +0.3**
comp=Z,2.1nm,0.8s,baz=206,slow=4.9,SNR=4.1
comp=Z,2.1nm,0.8s
AKASG Malin Array Be 76.42 323 P **P** **18 08 07.8 -0.1**
comp=Z,0.6nm,0.4s,baz=45,slow=5.7,SNR=6.6
comp=Z,0.6nm,0.4s
NVAR Mina Array Bea 76.43 53 P **P** **18 08 10.5 +1.9**
comp=Z,0.3nm,0.6s,baz=292,slow=4.8,SNR=3.6
comp=Z,0.3nm,0.6s
NB2 NORSAR Subarra 76.62 338 P **P** **18 08 09.4 +0.5**
comp=Z,0.9nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 76.62 338 P **P** **18 08 09.0 +0.1**
comp=Z,0.7nm,0.6s,baz=40,slow=5.7,SNR=6.1
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 80.67 312 P **P** **18 08 32.3 +0.5**
comp=Z,0.8nm,0.8s,baz=76,slow=6.1,SNR=4.0
comp=Z,0.8nm,0.8s
VRAC Vranov 83.36 327 LR LR 18 49 26.4
comp=Z,74nm,19.0s,baz=26,slow=38
EKA Eskdalemuir Ar 85.61 341 LR LR 18 52 21.2
comp=Z,131nm,18.1s,baz=304,slow=39
TXAR Lajitas Array 91.58 52 P **P** **18 09 28.0 +2.1**
comp=Z,0.3nm,0.9s,baz=330,slow=5.2,SNR=2.0
comp=Z,0.3nm,0.9s
TORD Torodi Ar. Bea 119.23 314 PKP **PKiKP** **18 15 08.3 0.0**
comp=Z,0.1nm,0.4s,baz=63,slow=3.9,SNR=1.1

*IDC **02** 18:00:15.2±4.3,55.°19S×30.°96W,h0km,mb3.9/2,*
mbtmp3.9/2,Error ellipse: s-maj=146.4km s-min=53.4km
az=179.0
*NEIC **02** 18:00:18.1±3.0,55.°1S±0.°1×31.°4W±0.°2,h10km±2km,*
mb4.1/6,Error ellipse: s-maj=23.9km s-min=17.7km
az=61.0
ISC 02 18:00:17.5±0.9,**55.°1S**±0.°1×**31.°1W**±0.°2,**h10**km,**n17,**
σ1§**10**/11,**mb4.2**/4,**South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**3.21**	**282**	Pn		Pn	18 01 04.8	-3.1
ORCD	**Orcadas**	**9.18**	**226**	Pn		**Pn**	**18 02 29.4**	**-0.5**
SNAA	**Sanae**	**20.56**	**155**	P		**P**	**18 04 54.9**	**-1.1**
SNAA				IAmb		IAmb	18 05 07.2	
	comp=Z,3.5nm,1.0s							
BELA	**Belgrano 2**	**22.93**	**182**	P		**P**	**18 05 22.8**	**+1.5**
QSPA	**South Pole Qui**	**35.17**	**180**	P		**P**	**18 07 10.5**	**-0.8**
QSPA				IAmb		IAmb	18 07 24.7	
	comp=Z,2.0nm,1.1s							
PB01	**IPOC Station P**	**44.50**	**304**	P		**P**	**18 08 28.5**	**-0.6**
VNDA	**Vanda**	**47.41**	**184**	P		**P**	**18 08 52.1**	**+0.7**
VNDA				IAmb		IAmb	18 08 56.2	
	comp=Z,6.2nm,1.4s							
H10S2	**ASCENSION HYDR**	**47.83**	**22**	T		T	19 00 31.5	
	baz=192							
H10S3	**ASCENSION HYDR**	**47.84**	**22**	T		T	19 00 33.5	
	baz=28							
LPAZ	**La Paz**	**48.00**	**309**	P		**P**	**18 08 57.5**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=140,slow=4.2,SNR=8.7							
	comp=Z,1.9nm,0.4s							
LPAZ	**La Paz**	**48.00**	**309**	P		**P**	**18 08 57.5**	**+0.1**
LPAZ				IAmb		IAmb	18 09 03.1	
	comp=Z,2.2nm,0.8s							
H10N1	**ASCENSION HYDR**	**48.95**	**22**	T		T	19 01 57.1	
	baz=198							
H10N3	**ASCENSION HYDR**	**48.95**	**22**	T		T	19 01 55.2	
	baz=198							
H10N2	**ASCENSION HYDR**	**48.97**	**22**	T		T	19 01 55.8	
	baz=198							
TORD	**Torodi Ar. Bea**	**73.40**	**33**	P		**P**	**18 11 49.1**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=201,slow=7.8,SNR=1.7							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**147.81**	**314**	PKPbc		**PKPdf**	**18 20 00.1**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=117,slow=1.1,SNR=5.7							
TOLK	**Toolik Lake Re**	**149.50**	**321**			**PKPbc**	**18 20 05.0**	**-0.4**

*NNC **02** 18:01:23.7±1.2,42.°07N×75.°21E,h0km,mb3.4,mpv2.3,*
Error ellipse: s-maj=6.9km s-min=4.9km az=1.0
*SOME **02** 18:01:23.3,42.°05N×75.°18E,h5km*
*KNET **02** 18:01:23.9±0.9,42.°06N×75.°12E,h0km,ml1.2,Error*
ellipse: s-maj=6.1km s-min=3.0km az=137.0

ISC 02 18:01:23.2±1.8,**42.°04N**±0.°07×**75.°20E**±0.°04,**h11**km±14km,
n20,σ0§**59**/36,**13C-4D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
UCH	**Uchtor**	**0.55**	**291**	⇑P		**Pg**	**18 01 34.0**	**+0.1**
	0.9nm,0.1s,SNR=11							
UCH				⇓S		**Sg**	**18 01 41.5**	**+0.2**
	14nm,0.2s							
KBK	**Karagaybulak**	**0.65**	**343**	⇓P		**Pb**	**18 01 36.2**	**-0.4**
	15nm,0.1s,SNR=6.4							
KBK				⇑S		**Sb**	**18 01 45.3**	**-0.5**
	8.1nm,0.1s							
AAK	**Ala-Archa**	**0.80**	**319**	⇑P		**Pg**	**18 01 38.6**	**0.0**
	4.1nm,0.2s,SNR=6.2							
AAK				⇓S		**Sb**	**18 01 49.5**	**-0.5**
	4.6nm,0.2s							
TKM2	**Tokmak 2**	**0.93**	**18**	⇑P		**Pg**	**18 01 40.9**	**-0.2**
	1.0nm,0.1s,SNR=13							
TKM2				⇑S		**Sb**	**18 01 54.0**	**+0.1**
	5.6nm,0.1s							
TKM2	**Tokmak 2**	**0.93**	**18**	⇑P		**Pg**	**18 01 41.0**	**-0.2**
	0.5nm,0.3s							
TKM2				⇓S		**Sb**	**18 01 53.7**	**-0.2**
	1.0nm,0.2s							
CHMS	**Chumysh**	**1.02**	**341**	⇑P		**Pg**	**18 01 42.6**	**-0.2**
	0.9nm,0.1s							
CHMS				⇑S		**Sb**	**18 01 56.3**	**0.0**
	1.8nm,0.1s							
CHMS	**Chumysh**	**1.02**	**341**	⇑P		**Pg**	**18 01 42.4**	**-0.4**
	0.4nm,0.3s							
CHMS				⇑S		**Sb**	**18 01 56.3**	**0.0**
	1.1nm,0.4s							
AML	**Almayashu**	**1.13**	**275**	⇑P		**Pg**	**18 01 44.5**	**-0.5**
	1.0nm,0.1s							
AML				⇑S		**Sb**	**18 01 59.5**	**-0.2**
	5.5nm,0.2s							
KST	**Kastek**	**1.15**	**29**	*e*P		**Pb**	**18 01 44.7**	**-0.5**
	3.4nm,0.8s							
KST				*e*S		**Sb**	**18 02 00.4**	**+0.2**
	4.8nm,0.4s							
KST	**Kastek**	**1.15**	**29**	P		**Pb**	**18 01 44.7**	**-0.5**
KST				S		**Sb**	**18 02 00.4**	**+0.2**
USP	**Ospenovka**	**1.33**	**337**	⇑P		**Pb**	**18 01 48.3**	**+0.1**
	1.2nm,0.1s,SNR=5.2							
SGDS	**Sogindy**	**1.48**	**344**	*e*P		**Pg**	**18 01 51.4**	**-0.1**
	1.9nm,0.2s							
SGDS				*e*S		**Sg**	**18 02 11.9**	**+1.2**
	1.3nm,0.2s							
SGDS	**Sogindy**	**1.48**	**344**	P		**Pg**	**18 01 51.4**	**-0.1**
	1.9nm,0.2s							
SGDS				S		**Sg**	**18 02 11.9**	**+1.2**
	1.3nm,0.2s							
KRBS	**Karabastau**	**1.69**	**12**	*e*P		**Pb**	**18 01 54.5**	**+0.1**
	0.7nm,0.3s							
KRBS				*e*S		**Sg**	**18 02 16.9**	**-0.9**
	3.8nm,0.4s							
KTBS	**Karatobe**	**2.00**	**33**	*e*P		**Pb**	**18 02 00.3**	**+0.7**
	3.0nm,0.2s							
KTBS				*e*S		**Sg**	**18 02 26.9**	**-0.5**
	22nm,0.4s							
KTBS	**Karatobe**	**2.00**	**33**	Pg		**Pb**	**18 02 00.3**	**+0.7**
	3.0nm,0.2s							
KTBS				Lg		Lg	18 02 26.9	
	22nm,0.4s							
KUU	**Kurty**	**2.03**	**24**	*e*P		**Pb**	**18 02 01.1**	**+0.9**
	0.9nm,0.2s							
KUU				*e*S		**Sg**	**18 02 28.1**	**-0.5**
	6.6nm,0.2s							
KUU	**Kurty**	**2.03**	**24**	Pg		**Pb**	**18 02 01.1**	**+0.9**
KUU				Lg		Lg	18 02 28.1	
CHKK	**Chushkaly**	**2.24**	**35**	*e*P		**Pb**	**18 02 04.8**	**+1.1**
	0.4nm,0.1s							
CHKK				*e*S		**Sg**	**18 02 34.4**	**-0.8**
	7.4nm,0.2s							
CHKK	**Chushkaly**	**2.24**	**35**	Pg		**Pb**	**18 02 04.8**	**+1.1**
CHKK				Lg		Lg	18 02 34.4	

*MOS **02** 18:13:19.4±0.8,45.°58N×150.°95E,h69km,mb4.6/1,Error*
ellipse: s-maj=29.1km s-min=15.8km az=143.4
*SKHL **02** 18:13:19.2±0.4,45.°50N×151.°10E,h76km±4km,mb4.4/3*
*IDC **02** 18:13:23.0±8.7,45.°50N×151.°45E,h82km±127km,mb3.3/4,*
mbtmp3.6/5,ML2.2/1,MS3.6/1,Error ellipse:
s-maj=428.7km s-min=24.3km az=126.0
ISC 02 18:13:18.9±0.9,**45.°51N**±0.°10×**151.°13E**±0.°08,**h42**km,**n25,**
σ1§**28**/24,**mb3.5**/4,**1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**2.31**	**264**	*c i*PN		**Pn**	**18 13 55.1**	**+0.6**
KUR				*i* S		**Sn**	**18 14 21.0**	**-0.6**
KUR				pmax	pmax			
	comp=Z,76nm,0.1s							
KUR				smax	smax			
	comp=N,602nm,0.2s							
KUR	**Kuril'sk**	**2.31**	**264**	*i* P		**Pn**	**18 13 55.0**	**+0.6**
KUR				AMB	AMB		18 13 56.2	
	comp=N,40nm,0.2s							
KUR				*i* S		**Sn**	**18 14 21.1**	**-0.6**
KUR				A	A		18 14 22.1	
	comp=N,510nm,0.4s							
KUR				A	A		18 14 22.1	
	comp=N,300nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.03**	**250**	*e*PN		**Pn**	**18 14 19.7**	**+1.7**
YUK				*e*S		**Sn**	**18 15 06.0**	**+2.1**
YUK				pmax	pmax			
	comp=N,60nm,0.2s							
YUK				pmax	pmax			
	comp=Z,93nm,0.2s							
YUK				pmax	pmax			
	comp=E,37nm,0.3s							
YUK				smax	smax			
	comp=N,291nm,0.4s							
YUK				smax	smax			
	comp=E,316nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.03**	**250**	*e*P		**Pn**	**18 14 18.7**	**+0.7**
YUK				AMB	AMB		18 14 23.1	
	comp=E,120nm,0.7s							
YUK				*e*S		**Sn**	**18 15 03.4**	**-0.5**
YUK				A	A		18 15 08.6	
	comp=E,130nm,0.4s							
YUK				A	A		18 15 08.6	
	comp=E,200nm,0.4s							
RUSJ	**Misakicho**	**4.41**	**254**	*e*PN		**Pn**	**18 14 24.4**	**+1.1**
RUSJ				*e*S		**Sn**	**18 15 15.1**	**+1.7**
NMR	**Nemuro--Hokkai**	**4.42**	**243**	*e*PN		**Pn**	**18 14 23.4**	**+0.1**
NMR				*e*S		**Sn**	**18 15 12.7**	**-0.8**
NMR	**Nemuro--Hokkai**	**4.42**	**243**	*e*P		**Pn**	**18 14 23.4**	**+0.1**
NMR				*e*S		**Sn**	**18 15 12.0**	**-1.5**
AKK	**Akkeshi**	**5.16**	**243**	*e*P		**Pn**	**18 14 33.5**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.99**	**287**	*e*PN		**Pn**	**18 14 45.0**	**+0.2**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.6s							
YSS	**Yuzh-Sakhalins**	**5.99**	**287**	*e*P		**Pn**	**18 14 44.6**	**-0.2**
YSS				AMB	AMB		18 14 45.2	
	comp=Z,10.0nm,0.4s							
YSS				*e*S		**Sn**	**18 15 50.0**	**-2.1**
PETK	**Petropavlovsk-**	**8.73**	**27**	P		**Pn**	**18 15 25.1**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=212,slow=10,SNR=9.6							
	comp=Z,0.9nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.82**	**148**	T		T	18 50 45.4	
	baz=337,slow=76,SNR=216							
H11N1	**WAKE ISLAND Hy**	**28.84**	**148**	T		T	18 50 47.3	
	baz=337,slow=76,SNR=222							
H11N3	**WAKE ISLAND Hy**	**28.84**	**148**	T		T	18 50 45.5	
	baz=337,slow=76,SNR=222							
H11S1	**WAKE ISLAND Hy**	**29.87**	**149**	T		T	18 52 05.4	
	baz=338,slow=76,SNR=289							
H11S3	**WAKE ISLAND Hy**	**29.88**	**149**	T		T	18 52 01.9	
	baz=338,slow=76,SNR=168							
H11S2	**WAKE ISLAND Hy**	**29.89**	**149**	T		T	18 52 04.8	
	baz=338,slow=76,SNR=145							
BRDH	**Bariadhala**	**52.96**	**265**	LR		LR	18 45 39.1	
	comp=Z,57nm,18.8s,baz=108,slow=36							
PDAR	**Pinedale Array**	**66.60**	**52**	P		**P**	**18 24 03.0**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=258,slow=4.5,SNR=4.0							
	comp=Z,0.4nm,0.8s							
WRA	**Warramunga Arr**	**66.90**	**197**	P		**P**	**18 24 06.0**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=17,slow=6.7,SNR=5.2							
	comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**70.61**	**197**	P		**P**	**18 24 30.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=12,slow=6.3,SNR=5.8							
	comp=Z,0.3nm,0.5s							
TXAR	**Lajitas Array**	**79.31**	**59**	P		**P**	**18 25 19.1**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=297,slow=4.3,SNR=14							
TXAR				pP		**sP**	**18 25 36.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=294,slow=4.9,SNR=2.6							
	comp=Z,0.6nm,0.4s							
H03N2	**Juan Fernandez**	**140.12**	**90**	T		T	21 09 57.0	
	baz=307,slow=77,SNR=4.6							
H03N1	**Juan Fernandez**	**140.14**	**90**	T		T	21 09 55.4	
	baz=307,slow=77,SNR=4.6							
H03N3	**Juan Fernandez**	**140.14**	**90**	T		T	21 09 52.4	
	baz=307,slow=77,SNR=5.0							

*SKHL **02** 18:16:11.4±0.6,46.°10N×141.°70E,h10km±3km,mb4.1/7*
*JMA **02** 18:16:12.1±0.4,46.°1N±1.°×14.°2E±.°,h17km±3km,MV2.6/25,*
SOUTH SAKHALIN
ISC 02 18:16:13.4±1.7,**46.°21N**±0.°04×**141.°58E**±0.°08,**h14**km±13km,
n7,σ0§**63**/15,**Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JRBN	**Rebuntou**	**0.86**	**205**	P		**Pb**	**18 16 29.7**	**-0.4**
JRBN				*e*S		**Sb**	**18 16 41.7**	**+0.2**
KHLM	**Kholmsk**	**0.91**	**21**	*e*Pg		**Pn**	**18 16 31.6**	**-0.1**
KHLM				AMB	AMB		18 16 32.0	
	40nm,0.2s							
KHLM				*e*Sg		**Sn**	**18 16 45.6**	**+1.0**
KHLM				A	A		18 16 46.1	
	430nm,0.3s							
JWK2	**Keihoku**	**0.92**	**166**	*e*P		**Pb**	**18 16 31.0**	**0.0**
JWK2				*e*S		**Sn**	**18 16 44.5**	**-0.3**
JRR	**Rishiri**	**1.09**	**190**	*e*P		**Pn**	**18 16 34.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**1.10**	**47**	*e*P		**Pb**	**18 16 33.5**	**-0.7**
YSS				*e*Pg		**Pg**	**18 16 34.1**	**-0.5**
YSS				AMB	AMB		18 16 36.1	
	30nm,0.2s							
YSS				*e*S		**Sn**	**18 16 49.0**	**-0.3**
YSS				*e*Sg		**Sg**	**18 16 50.3**	**+1.3**
YSS				A	A		18 16 51.8	
	60nm,0.3s							
YSS				A	A		18 16 51.8	
	60nm,0.3s							
JSE	**Soyaes**	**1.43**	**150**	*e*P		**Pb**	**18 16 39.3**	**-0.5**
JSE				*e*S		**Sb**	**18 16 58.2**	**+0.3**
JSS	**Shosan**	**1.82**	**174**	*e*P		**Pn**	**18 16 44.5**	**+0.3**
JSS				*e*S		**Sb**	**18 17 08.8**	**-0.1**

*IDC **02** 18:28:43.4±1.7,6.°56S×129.°76E,h148km±19km,mb3.4/1,*
mbtmp3.8/6,Error ellipse: s-maj=28.0km s-min=13.0km
az=112.0
ISC 02 18:28:43.7±1.0,**6.°58S**±0.°08×**129.°8E**±0.°1,**h146**km,**n6,**
σ1§**14**/8,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.86**	**15**	P		**Pn**	**18 30 09.7**	**+1.1**
	2.1nm,0.4s,baz=160,slow=24,SNR=6.9							
SIJI				S		**Sn**	**18 31 13.6**	**-1.4**
	10nm,0.2s,baz=169,slow=22,SNR=17							
BATI	**Baumata**	**7.04**	**239**	P		**Pn**	**18 30 25.4**	**+1.0**
	7.5nm,0.4s,baz=156,slow=2.7,SNR=4.0							
BATI				S		**Sn**	**18 31 42.5**	**-0.8**
	8.9nm,0.4s,baz=90,slow=22,SNR=8.0							
FITZ	**Fitzroy Crossi**	**12.14**	**199**	P		**Pn**	**18 31 31.6**	**-0.4**
	3.5nm,1.3s,baz=38,slow=12,SNR=1.8							
FITZ				S		Sn	18 33 35.5	-11
	0.7nm,0.3s,baz=127,slow=19,SNR=2.8							
WRA	**Warramunga Arr**	**14.00**	**162**	P		**Pn**	**18 31 56.4**	**+0.5**
	0.6nm,0.3s,baz=340,slow=12,SNR=9.4							
WRA				S		Sn	18 34 19.6	-11
	0.3nm,0.5s,baz=332,slow=25,SNR=6.0							
ASAR	**Alice Springs**	**17.44**	**167**	P		**P**	**18 32 36.2**	**-1.1**
	0.8nm,0.4s,baz=342,slow=9.5,SNR=17							
MKAR	**Makanchi Array**	**67.76**	**327**	P		**P**	**18 39 25.1**	**-0.5**
	0.6nm,0.5s,baz=114,slow=8.1,SNR=10							
	0.6nm,0.5s							

*NEIC **02** 18:35:54.1±2.5,37.°46S±0.°09×179.°28E±0.°05,h10km±1km,*
mb4.6/17,Error ellipse: s-maj=16.1km s-min=6.3km
az=350.0
*IDC **02** 18:35:55.2±1.7,37.°19S×178.°88E,h0km,mb4.4/5,*
mbtmp4.4/5,MS3.5/14,Error ellipse: s-maj=45.7km
s-min=34.4km az=156.0
*WEL **02** 18:36:00.5±1.6,37.°5S±6.°×17.°9E±1.°1,h20km±9km,M4.1/34,*
ML4.4/34,MLv4.1/34,Error ellipse: s-maj=0.0km
s-min=0.0km az=79.0
ISC 02 18:35:54.8±2.0,**37.°47S**±0.°05×**179.°04E**±0.°07,**h9**km±10km,
n172,σ2§**03**/162,**mb4.5**/13,**MS3.6**/12,**Off east coast of**
North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.59**	**260**	Pg		**Pn**	**18 36 09.8**	**+0.5**
MXZ				Sg		**Sb**	**18 36 16.8**	**+1.2**
MXZ	**Matakaoa Point**	**0.59**	**260**	P		**Pn**	**18 36 09.7**	**+0.5**
WMGZ	**Waiomatatini S**	**0.61**	**234**	P		Pg	18 35 57.6	-8.9
TWGZ	**Tauwhareparae**	**1.10**	**229**	P		**Pn**	**18 36 20.0**	**+3.7**
TWGZ				S		**Sn**	**18 36 34.3**	**+2.7**
CNGZ	**Carnagh Statio**	**1.21**	**213**	P		**Pn**	**18 36 22.4**	**+4.6**
CNGZ				S		**Sn**	**18 36 39.7**	**+5.4**
TKGZ	**Te Karaka**	**1.35**	**224**	P		**Pg**	**18 36 23.2**	**+2.4**
TKGZ				S		**Sn**	**18 36 39.8**	**+2.0**
WIZ	**White Island**	**1.47**	**267**	P		**Pg**	**18 36 23.4**	**+0.3**
MWZ	**Matawai**	**1.47**	**234**	P		**Pg**	**18 36 24.8**	**+1.7**
WSRZ	**White Island S**	**1.48**	**267**	P		**Pg**	**18 36 24.5**	**+1.3**
RIGZ	**Rimuhau**	**1.59**	**219**	P		**Pg**	**18 36 26.6**	**+1.2**
RAGZ	**Rawiri**	**1.64**	**231**	P		**Pg**	**18 36 27.6**	**+1.2**
WHRZ	**Whale Island**	**1.68**	**256**	P		**Pg**	**18 36 27.5**	**+0.4**
PRGZ	**Paritu Road**	**1.71**	**212**	P		**Pg**	**18 36 28.5**	**+0.8**
URZ	**Urewera**	**1.72**	**242**	Pn		**Pg**	**18 36 27.8**	**0.0**
	127nm,0.3s,baz=121,slow=0.8,SNR=78							
URZ				Sn		**Sb**	**18 36 48.5**	**+0.4**
	85nm,0.3s,baz=301,slow=3.0,SNR=7.4							
URZ				LR		LR	18 37 08.2	
	comp=Z,385nm,19.4s,baz=234,slow=42							
URZ	**Urewera**	**1.72**	**242**	Pn		**Pg**	**18 36 28.1**	**+0.3**
URZ				Sn		**Sg**	**18 36 48.9**	**-1.1**
URZ	**Urewera**	**1.72**	**242**	P		**Pg**	**18 36 28.3**	**+0.6**
SNGZ	**Shannon Statio**	**1.87**	**225**	P		**Pg**	**18 36 30.7**	**-0.1**
KNZ	**Kokohu**	**1.89**	**214**	P		**Pb**	**18 36 29.8**	**+0.5**
KNZ				S		**Sn**	**18 36 51.9**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.90**	**207**	P		**Pg**	**18 36 30.9**	**-0.4**
EDRZ	**Edgecumbe**	**1.93**	**250**	P		**Pb**	**18 36 30.9**	**+0.7**
MARZ	**Manawahe**	**1.94**	**254**	P		**Pb**	**18 36 30.8**	**+0.4**
RTZ	**Ruatahuna**	**1.99**	**234**	P		**Pb**	**18 36 32.1**	**+0.9**
OPRZ	**Ohinepanea**	**2.00**	**258**	P		**Pb**	**18 36 30.8**	**-0.6**
MUGZ	**Murupara**	**2.06**	**240**	P		**Pb**	**18 36 32.4**	**+0.2**
RAHZ

NTVZ **North Tongarir** 3.11 237 P Pn 18 36 47.0 +2.9
MKAZ **Moumakai** 3.11 276 P Pn 18 36 46.0 +2.0
GRZ **Great Barrier** 3.12 292 P Pn 18 36 45.5 +1.5
KRVZ **Karewarewa** 3.13 238 P Pn 18 36 45.3 +1.0
OTVZ **Oturere** 3.15 236 P Pn 18 36 47.7 +3.1
NNVZ **North Ngauruho** 3.16 237 P Pn 18 36 48.1 +3.2
WTVZ **West Tongariro** 3.17 238 P Pn 18 36 48.0 +3.0
WIAZ **Waiheke Island** 3.19 281 P Pn 18 36 45.8 +0.7
NGZ **Ngauruhoe** 3.19 237 P Pn 18 36 47.9 +2.6
TUVZ **Tukino** 3.21 235 P Pn 18 36 48.2 +2.7
MOVZ **Moawhango** 3.23 232 P Pn 18 36 48.1 +2.5
TWVZ **Taurewa** 3.25 239 P Pn 18 36 49.4 +3.3
WHVZ **Whangaehu Hut** 3.26 235 P Pn 18 36 48.8 +2.6
FWVZ **Far West T-bar** 3.27 236 P Pn 18 36 48.9 +2.6
WPHZ **Waipukurau** 3.29 217 P Pn 18 36 48.2 +1.6
TRVZ **Turoa** 3.29 235 P Pn 18 36 49.1 +2.4
PNHZ **Pukenui** 3.30 221 P Pn 18 36 48.2 +1.5
ETAZ **East Tamaki Re** 3.32 278 P Pn 18 36 48.2 +1.3
PRHZ **Porangahau** 3.37 213 P Pn 18 36 48.6 +1.1
MTVZ **Mangateitei** 3.39 235 P Pn 18 36 50.6 +2.6
PKVZ **Pokaka** 3.42 237 P Pn 18 36 51.5 +3.1
HIZ **Hauiti** 3.46 251 Pn 18 36 52.2 +3.4
HIZ **Hauiti** 3.46 251 P Pn 18 36 52.3 +3.4
ABAZ **Army Bay** 3.47 283 P Pn 18 36 50.3 +1.3
EPAZ **Eden Park BICE** 3.48 278 P Pn 18 36 52.0 +3.0
AWAZ **Awhitu Peninsu** 3.53 275 P Pn 18 36 51.8 +2.1
TSZ **Takapari Road** 3.53 222 P Pn 18 36 51.2 +1.3
WTAZ **Waiatarua** 3.60 277 P Pn 18 36 53.3 +2.5
DVHZ **Dannevirke** 3.61 217 P Pn 18 36 52.2 +1.3
RVAZ **Riverhead Bore** 3.63 280 P Pn 18 36 52.6 +1.5
BFZ **Birch Farm** 3.88 213 Pn 18 36 55.2 +0.7
BFZ **Birch Farm** 3.88 213 P Pn 18 36 55.4 +0.9
POWZ **Post Office Ro** 3.88 220 P Pn 18 36 57.6 +3.1
PRWZ **Pori Road** 3.90 217 P Pn 18 36 56.3 +1.5
WAZ **Wanganui** 3.91 233 P Pn 18 36 58.2 +3.2
MHEZ **Mangahewa** 4.04 245 P Pb 18 37 02.3 -3.8
WCZ **Waipu Caves** 4.07 291 P Pn 18 36 58.3 +1.2
TIWZ **Tintock** 4.11 216 P Pn 18 36 59.1 +1.3
LREZ **Lake Rotokare** 4.15 240 P Pn 18 37 01.8 +3.6
DREZ **Durham Road** 4.17 244 P Pb 18 37 04.8 -3.6
MRZ **Mangatainoka R** 4.17 219 P Pn 18 36 59.1 +0.5
PREZ **Palmer Road** 4.26 242 P Pb 18 37 05.8 -4.2
NEZ **North Egmont** 4.28 244 P Pn 18 37 05.0 +4.9
PKE **Pukeiti** 4.33 245 P Pb 18 37 06.9 -4.1
KHEZ **Kahui Hut** 4.35 244 P Pn 18 37 05.9 +4.9
NBEZ **Newall Road No** 4.44 245 P Pb 18 37 08.6 -4.3
NMEZ **Namu Road** 4.49 243 P Pb 18 37 10.4 -3.4
KIW **Kapiti Island** 4.67 222 P Pn 18 37 06.1 +0.7
MSWZ **Moikau Station** 4.91 215 Pn Pn 18 37 07.0 -1.8
MSWZ **Moikau Station** 4.91 215 P Pn 18 37 09.7 +0.9
OUZ **Omahuta** 4.93 295 Pn 18 37 10.5 +1.5
OUZ **Omahuta** 4.93 295 P Pn 18 37 10.7 +1.7
PLWZ **Palliser** 5.03 214 Pn 18 37 09.4 -1.0
SNZO **South Karori** 5.10 220 Pn Pn 18 37 10.3 -1.0
TUWZ **Tuamarina** 5.58 223 Pn 18 37 17.1 -0.9
CMWZ **Cape Campbell** 5.67 220 Pn Pn 18 37 17.4 -1.8
NNZ **Nelson** 5.77 228 Pn Pn 18 37 16.4 -4.0
NNZ **Nelson** 5.77 228 P Pn 18 37 21.0 +0.5
BSWZ **Blackbirch Sta** 5.82 222 Pn Pn 18 37 20.5 -0.7
BSWZ **Blackbirch Sta** 5.82 222 P Pn 18 37 22.1 +0.8
QRZ **Quartz Range** 6.07 234 Pn Pn 18 37 23.7 -1.0
THZ **Tophouse** 6.39 226 Pn 18 37 27.9 -1.2
KHZ **Kahutara** 6.50 219 Pn Pn 18 37 29.1 -1.5
CTZ **Chatham Island** 7.08 154 P Pn 18 37 43.3 +4.8
GVZ **Greta Valley S** 7.16 218 P Pn 18 37 40.2 +0.6
LTZ **Lake Taylor** 7.42 222 Pn Pn 18 37 41.5 -1.7
MQZ **McQueen's Vall** 7.98 210 Pn Pn 18 37 48.7 -1.0
OXZ **Oxford** 7.92 220 P Pn 18 37 48.2 -1.8
RPZ **Rata Peaks** 8.70 222 Pn Pn 18 37 59.5 -1.3
0.8nm,0.3s,baz=275,slow=1.8,SNR=1.4
RPZ Sn Sn 18 39 30.7 -8.3
4.0nm,0.3s,baz=122,slow=24,SNR=10
LBZ **Lake Benmore** 9.62 221 Pn Pn 18 38 12.2 -1.2
ODZ **Otahua Downs** 9.86 217 Pn Pn 18 38 15.1 -1.5
HHSZ **Highcliff Hill** 10.51 214 P Pn 18 38 29.3 +3.8
DZM **Mont Dzumac** 18.81 321 LR LR 18 46 10.2
comp=Z,266nm,19.8s,baz=183,slow=33
MSVF **Nonsavu** 19.68 357 LR LR 18 45 56.8
comp=Z,132nm,20.1s,baz=164,slow=31
RAR **Rarotonga** 24.48 54 LR LR 18 49 18.7
comp=Z,100nm,18.9s,baz=266,slow=33
TAU **Tasmania Unive** 24.74 247 P P 18 41 17.4 +1.0
AFI **Afiamalu** 24.85 22 LR LR 18 50 28.3
comp=Z,49nm,18.6s,baz=240,slow=35
TOO **Toolangi** 26.53 259 P P 18 41 34.3 +1.5
TOO IAmb IAmb 18 41 35.5
comp=Z,31nm,1.4s
STKA **Stephens Creek** 31.15 269 P P 18 42 15.4 +1.5
comp=Z,7.2nm,0.9s,baz=97,slow=11,SNR=8.2
STKA LR LR 18 53 52.5
comp=Z,124nm,18.9s,baz=35,slow=35
comp=Z,7.2nm,0.9s
STKA **Stephens Creek** 31.15 269 P P 18 42 15.2 +1.3
CTA **Charters Tower** 33.33 292 LR LR 18 54 30.7
comp=Z,124nm,21.3s,baz=96,slow=34
BBOO **Buckleboo** 35.23 264 P P 18 42 47.4 -2.1
BBOO IAmb IAmb 18 42 49.1
comp=Z,15nm,1.1s
COEN **Coen** 39.54 297 P P 18 43 27.1 +1.0
COEN IAmb IAmb 18 43 27.8
comp=Z,12nm,1.0s
PMG **Port Moresby** 40.09 306 LR LR 18 59 01.1
comp=Z,93nm,19.1s,baz=116,slow=35
AS31 **Alice Springs** 40.85 277 P P 18 43 37.1 +0.1
ASAR **Alice Springs** 40.85 277 P P 18 43 37.1 +0.1
comp=Z,6.3nm,0.8s,baz=118,slow=7.3,SNR=45
ASAR LR LR 18 59 55.7
comp=Z,74nm,19.0s,baz=90,slow=35
comp=Z,6.3nm,0.8s
ASAR **Alice Springs** 40.85 277 P P 18 43 36.1 -1.0
FORT **Forrest** 42.30 263 P P 18 43 48.8 0.0
WR0 **Warramunga Arr** 42.32 282 P P 18 43 48.5 -0.5
WR0 IAmb IAmb 18 43 49.7
comp=Z,6.0nm,0.9s
WRAB **Tennant Creek** 42.48 282 P P 18 43 49.8 -0.6
WRAB IAmb IAmb 18 43 51.0
comp=Z,5.6nm,0.7s
WRA **Warramunga Arr** 42.48 282 P P 18 43 50.4 0.0
comp=Z,4.6nm,0.7s,baz=122,slow=7.5,SNR=57
comp=Z,4.6nm,0.7s
WRA **Warramunga Arr** 42.48 282 P P 18 43 49.7 -0.8
WB0 **Warramunga Arr** 42.54 282 P P 18 43 50.7 -0.2
WB0 IAmb IAmb 18 43 51.4
comp=Z,7.7nm,0.7s
CASY **Casey** 47.78 211 P P 18 44 30.1 -1.9
CASY IAmb IAmb 18 44 52.1
comp=Z,9.8nm,1.3s
MTN **Manton Dam** 49.16 287 P P 18 44 41.4 -1.8
KNRA **Kununurra** 49.27 282 P P 18 44 44.4 +0.4
KNRA IAmb IAmb 18 44 57.8
comp=Z,12nm,1.1s
FITZ **Fitzroy Crossi** 50.34 277 P P 18 44 52.1 0.0
comp=Z,4.3nm,0.9s,baz=169,slow=9.6,SNR=8.1
FITZ LR LR 19 05 12.0
comp=Z,22nm,20.2s,baz=66,slow=35
comp=Z,4.3nm,0.9s
FITZ **Fitzroy Crossi** 50.34 277 P P 18 44 52.4 +0.2
FITZ IAmb IAmb 18 44 53.1
comp=Z,6.1nm,0.9s
MORW **Morawa** 52.48 260 P P 18 45 07.4 -0.7
QSPA **South Pole Qui** 52.66 180 P P 18 45 07.0 -2.1
SIJI **Sorong** 57.05 298 LR LR 19 13 37.5
comp=Z,40nm,18.4s,baz=90,slow=40
GUMO **Guam** 60.09 321 LR LR 19 10 19.8
comp=Z,19nm,18.1s,baz=147,slow=34
RPN **Rapa Nui** 60.12 103 LR LR 19 08 09.2
comp=Z,32nm,18.9s,baz=302,slow=32
KAPI **Kappang** 62.78 286 LR LR 19 14 43.1
comp=Z,68nm,18.1s,baz=151,slow=37
LEM **Lembang** 71.14 276 LR LR 19 18 29.7
comp=Z,68nm,19.3s,baz=224,slow=36
H03N3 **Juan Fernandez** 78.84 124 T T 20 14 44.7
baz=234,slow=72,SNR=26
H03N2 **Juan Fernandez** 78.84 124 T T 20 14 39.7
baz=234,slow=72,SNR=25
H03N1 **Juan Fernandez** 78.85 124 T T 20 14 40.0
baz=234,slow=72,SNR=28
CMAR **Chiang Mai Arr** 93.48 290 P P 18 49 11.2 +0.2
comp=Z,0.4nm,0.6s,baz=144,slow=3.2,SNR=0.9
comp=Z,0.4nm,0.6s
ARCES **ARCESS Array B** 144.84 344 PKP PKPab 18 55 31.1 +1.0
comp=Z,3.0nm,1.0s,baz=31,slow=2.8,SNR=4.2
FINES **FINESS Array B** 150.66 334 PKPbc PKiKP 18 55 48.8 +1.8
comp=Z,3.1nm,0.8s,baz=90,slow=3.8,SNR=6.6
TORD **Torodi Ar. Bea** 155.66 186 PKPab PKPab 18 56 17.0 +1.6
comp=Z,0.6nm,0.9s,baz=159,slow=4.5,SNR=2.1

NEIC ***02*** *18:36:27.4±1.5,29.°1S±0.°1×61.°0E±0.°1, h10km±1km, mb4.5/6, Error ellipse: s-maj=24.5km s-min=11.4km az=218.0*
IDC ***02*** *18:36:27.9±0.8,29.°18S×61.°13E, h0km, mb4.0/8, mbtmp4.1/9, ML4.5/1, Error ellipse: s-maj=35.4km s-min=19.5km az=19.0*

ISC 02 18:36:28.3±0.6, 29°2S±0.°1×61°1E±0.°1, h10km, n24, σ1°63/21, mb4.2/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.37**	**328**	Pn	**Pn**	**18 38 40.9**	**-2.6**
FOMA	**Nahampoana Res**	**13.23**	**285**	Pn	**Pn**	**18 39 34.0**	**-2.3**
VOI	**Vohitsoka**	**14.78**	**296**	Pn	**Pn**	**18 39 57.7**	**+0.1**
OPO	**Ambohidratompo**	**16.52**	**307**	Pn	**Pn**	**18 40 20.5**	**+0.2**
	0.2nm,0.3s,baz=110,slow=15,SNR=8.6						
OPO				Sn	Sn	18 43 09.2	-15
	0.1nm,0.3s,baz=256,slow=22,SNR=1.8						
	3.2nm,0.4s						
H08S1	**Diego Carcia H**	**24.02**	**29**	T	T	19 06 27.4	
	baz=204,slow=76,SNR=7.9						
H08S2	**Diego Garcia H**	**24.03**	**29**	T	T	19 06 27.9	
	baz=204,slow=76,SNR=8.4						
H08S3	**Diego Garcia H**	**24.04**	**29**	T	T	19 06 28.9	
	baz=204,slow=76,SNR=18						
BOSA	**Boshof**	**31.26**	**262**	P	**P**	**18 42 50.8**	**+2.3**
	3.9nm,0.9s,baz=111,slow=14,SNR=3.7						
	3.9nm,0.9s						
BOSA	**Boshof**	**31.26**	**262**	P	**P**	**18 42 48.3**	**-0.2**
SNAA	**Sanae**	**54.36**	**200**	P	**P**	**18 45 51.8**	**-3.1**
SNAA				IAmb	IAmb	18 46 26.2	
	comp=Z,5.4nm,1.4s						
CMAR	**Chiang Mai Arr**	**59.89**	**42**	P	**P**	**18 46 36.0**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=224,slow=7.5,SNR=1.8						
	comp=Z,0.7nm,0.3s						
QSPA	**South Pole Qui**	**60.92**	**180**	P	**P**	**18 46 40.8**	**-0.4**
QSPA				IAmb	IAmb	18 46 49.9	
	comp=Z,4.0nm,1.1s						
VNDA	**Vanda**	**63.98**	**166**	P	**P**	**18 47 02.6**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=242,slow=6.3,SNR=2.6						
	comp=Z,0.7nm,0.8s						
VNDA	**Vanda**	**63.98**	**166**	P	**P**	**18 47 01.8**	**+0.5**
VNDA				IAmb	IAmb	18 47 13.0	
	comp=Z,4.5nm,1.4s						
ASAR	**Alice Springs**	**64.52**	**104**	P	**P**	**18 47 06.7**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=244,slow=5.7,SNR=13						
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**64.52**	**104**	P	**P**	**18 47 04.2**	**-1.6**
WRA	**Warramunga Arr**	**66.35**	**100**	P	**P**	**18 47 18.4**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=246,slow=5.4,SNR=6.7						
	comp=Z,1.5nm,0.9s						
WB0	**Warramunga Arr**	**66.47**	**100**	P	**P**	**18 47 18.4**	**0.0**
WB0				IAmb	IAmb	18 47 20.0	
	comp=Z,6.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**71.09**	**298**	P	**P**	**18 47 48.8**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=115,slow=4.7,SNR=8.4						
	comp=Z,1.8nm,0.8s						
DBIC	**Dimbokro**	**72.64**	**288**	P	**P**	**18 47 58.8**	**+2.3**
	comp=Z,3.6nm,1.1s,baz=143,slow=5.1,SNR=3.2						
	comp=Z,3.6nm,1.1s						
BRTR	**Keskin Array B**	**73.20**	**338**	P	**P**	**18 47 59.8**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=177,slow=9.9,SNR=4.3						
	comp=Z,0.9nm,0.9s						
ABKAR	**Akbulak array**	**78.15**	**359**	P	**P**	**18 48 25.1**	**-2.2**
PDAR	**Pinedale Array**	**164.52**	**333**	PKP	**PKPdf**	**18 56 32.5**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=36,slow=4.8,SNR=3.7						
TXAR	**Lajitas Array**	**166.66**	**274**	PKP	**PKPdf**	**18 56 34.4**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=116,slow=2.9,SNR=3.5						

WEL 02 18:42:27.0±1.1, 37°S±5°×17°9E±°, h20km±10km, M3.4/25, ML3.6/33, MLv3.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=98.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.90**	**236**	P	Pb	18 42 42.9	-1.0
MXZ				S	Sb	18 42 54.5	-0.9
WMGZ	**Waiomatatini S**	**1.00**	**221**	P	Pg	18 42 46.6	0.0
WMGZ				S	Sg	18 43 00.6	+0.8
PKGZ	**Pakihiroa**	**1.24**	**228**	P	Pb	18 42 49.6	-0.2
PKGZ				S	Sn	18 43 05.7	+0.2
PUZ	**Puketiti**	**1.28**	**217**	P	Pb	18 42 50.4	0.0
PUZ				S	Sb	18 43 07.3	+0.9
HAZ	**Te Kaha**	**1.35**	**239**	P	Pb	18 42 51.7	0.0
HAZ				S	Sb	18 43 08.8	+0.3
TWGZ	**Tauwhareparae**	**1.50**	**221**	P	Pb	18 42 53.6	-0.5
TWGZ				S	Sb	18 43 13.8	+1.0
RUGZ	**Raukumara Rang**	**1.54**	**233**	P	Pb	18 42 54.3	-0.5
RUGZ				S	Sb	18 43 14.1	+0.2
CNGZ	**Carnagh Statio**	**1.64**	**210**	P	Pb	18 42 55.9	-0.7
MWZ	**Matawai**	**1.86**	**226**	P	Pn	18 42 58.2	+0.4
MWZ				S	Sn	18 43 22.1	+0.3
WHRZ	**Whale Island**	**1.97**	**245**	P	Pn	18 42 59.8	+0.5
RIGZ	**Rimuhau**	**2.02**	**215**	P	Pn	18 42 60.0	0.0
RIGZ				S	Sn	18 43 24.7	+0.1
RAGZ	**Rawiri**	**2.04**	**225**	P	Pn	18 43 00.5	+0.3
RAGZ				S	Sn	18 43 25.0	-0.1
URZ	**Urewera**	**2.07**	**234**	P	Pn	18 43 00.9	+0.3
PRGZ	**Paritu Road**	**2.15**	**209**	P	Pn	18 43 01.6	-0.1
OPRZ	**Ohinepanea**	**2.27**	**249**	P	Pn	18 43 02.9	-0.5
SNGZ	**Shannon Statio**	**2.28**	**221**	P	Pn	18 43 03.8	+0.2
SNGZ				S	Sn	18 43 31.6	+0.4
RTZ	**Ruatahuna**	**2.37**	**228**	P	Pn	18 43 05.2	+0.4
MUGZ	**Murupara**	**2.41**	**233**	P	Pn	18 43 05.4	0.0
RAHZ	**Arahi**	**2.52**	**222**	P	Pn	18 43 06.8	0.0
MTHZ	**Maungataniwha**	**2.61**	**226**	P	Pn	18 43 08.3	+0.2
NMHZ	**Naumai**	**2.80**	**223**	P	Pn	18 43 10.6	-0.1
ARHZ	**Aropaoanui**	**2.82**	**218**	P	Pn	18 43 10.7	-0.3
KUZ	**Kuaotunu**	**2.84**	**275**	P	Pn	18 43 10.4	-0.7
MRHZ	**Matea Rd**	**2.85**	**231**	P	Pn	18 43 11.2	-0.2
BKZ	**Black Stump Fm**	**3.02**	**225**	P	Pn	18 43 13.2	-0.5
TOZ	**Tahuroa Road**	**3.05**	**256**	P	Pn	18 43 14.0	-0.1
GRZ	**Great Barrier**	**3.15**	**284**	P	Pn	18 43 15.5	+0.1
KWHZ	**Kaweka Forest**	**3.24**	**222**	P	Pn	18 43 15.7	-1.1
MKAZ	**Moumakai**	**3.26**	**268**	P	Pn	18 43 16.3	-0.7
WIAZ	**Waiheke Island**	**3.30**	**273**	P	Pn	18 43 17.0	-0.5
KAHZ	**Kahuranaki**	**3.30**	**213**	P	Pn	18 43 16.2	-1.4
TMVZ	**Te Maari**	**3.46**	**233**	P	Pn	18 43 19.7	-0.2
BHHZ	**Black Hill Sta**	**3.48**	**225**	P	Pn	18 43 18.2	-1.9
MOVZ	**Moawhango**	**3.61**	**228**	P	Pn	18 43 21.2	-0.7
WNVZ	**Wahianoa**	**3.65**	**231**	P	Pn	18 43 22.0	-0.6
RVAZ	**Riverhead Bore**	**3.74**	**273**	P	Pn	18 43 24.0	+0.3
HIZ	**Hauiti**	**3.76**	**246**	P	Pn	18 43 25.0	+1.1
MTVZ	**Mangateitei**	**3.77**	**231**	P	Pn	18 43 23.9	-0.1
PKVZ	**Pokaka**	**3.79**	**233**	P	Pn	18 43 24.8	+0.4
TSZ	**Takapari Road**	**3.94**	**220**	P	Pn	18 43 24.2	-2.3
WCZ	**Waipu Caves**	**4.10**	**284**	P	Pn	18 43 29.3	+0.8
WAZ	**Wanganui**	**4.29**	**230**	P	Pn	18 43 31.4	+0.2
CPWZ	**Castlepoint**	**4.51**	**211**	P	Pn	18 43 39.7	+5.5
OUZ	**Omahuta**	**4.92**	**290**	P	Pn	18 43 40.8	+1.0
AKCZ	**Akaroa Harbour**	**8.34**	**213**	P	Pn	18 44 25.6	-1.2

IDC ***02*** *18:43:33.6±1.0, 41.°54N×78.°92E, h0km, mb3.6/6, mbtmp3.5/9, ML2.9/2, Error ellipse: s-maj=16.1km s-min=12.7km az=144.0*
KRNET ***02*** *18:43:36.3±0.1, 41.°64N×79.°06E, h15km, mb4.2*
SOME ***02*** *18:43:36.4, 41.°68N×78.°97E, h10km*
NNC ***02*** *18:43:38.2±1.0, 41.°73N×78.°99E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=6.9km s-min=4.3km az=156.0*
KNET ***02*** *18:43:41.3±0.8, 42.°05N×78.°78E, h0km, ml3.7, Error ellipse: s-maj=16.7km s-min=6.4km az=5.0*

ISC 02 18:43:39.7±1.6, 41.°66N±0.°05×79.°10E±0.°04, h26km±12km, n101, σ1°82/160, mb3.7/5, 29C-30D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzunbulak**	**1.49**	**358**	*e*P	**Pn**	**18 44 04.4**	**-0.5**
	24nm,0.1s						
UZB				*e*S	**Sn**	**18 44 24.6**	**+0.9**
	266nm,0.3s						
UZB	**Uzunbulak**	**1.49**	**358**	P	**Pn**	**18 44 04.4**	**-0.5**
	24nm,0.1s						
UZB				S	**Sn**	**18 44 24.5**	**+0.9**
	266nm,0.3s						
UZB	**Uzunbulak**	**1.49**	**358**	*e*P	**Pn**	**18 44 04.4**	**-0.5**
	baz=59						
UZB				*e*S	**Sn**	**18 44 24.5**	**+0.9**
	baz=59						
SATY	**Saty**	**1.49**	**340**	*e*P	**Pn**	**18 44 04.3**	**-0.7**
	332nm,0.5s						
SATY				*e*S	**Sn**	**18 44 24.6**	**+0.9**
	434nm,0.2s						
SATY	**Saty**	**1.49**	**340**	P	**Pn**	**18 44 04.3**	**-0.7**
	332nm,0.5s						
SATY				S	**Sn**	**18 44 24.6**	**+0.9**
	434nm,0.2s						
SATY	**Saty**	**1.49**	**340**	*e*P	**Pn**	**18 44 04.3**	**-0.7**
	baz=41						
SATY				*e*S	**Sn**	**18 44 24.6**	**+0.9**
	baz=41						
SHLS	**Shalkode**	**1.52**	**10**	*e*P	**Pb**	**18 44 07.2**	**-0.1**
	260nm,0.4s						
SHLS				*e*S	**Sb**	**18 44 29.4**	**+3.1**
	549nm,0.3s						
SHLS	**Shalkode**	**1.52**	**10**	P	**Pb**	**18 44 07.2**	**-0.1**
	260nm,0.4s						
SHLS				S	**Sb**	**18 44 29.4**	**+3.1**
	549nm,0.3s						
SHLS	**Shalkode**	**1.52**	**10**	*e*P	**Pb**	**18 44 07.2**	**-0.1**
	baz=22						
SHLS				*e*S	**Sb**	**18 44 29.4**	**+3.1**
	baz=22						
ANVS	**Anan'yevo**	**1.55**	**317**	⇑*i*P	**Pn**	**18 44 05.3**	**-0.5**
	baz=18						
ANVS				⇑*i*S	**Sn**	**18 44 25.9**	**+0.8**
	baz=18						
ZHN	**Zhinishke**	**1.59**	**342**	*e*P	**Pn**	**18 44 06.1**	**-0.1**
	514nm,0.2s						
ZHN				*e*S	**Sn**	**18 44 27.6**	**+1.6**
	591nm,0.4s						
ZHN	**Zhinishke**	**1.59**	**342**	P	**Pn**	**18 44 06.1**	**-0.1**
	514nm,0.2s						
ZHN				S	**Sn**	**18 44 27.6**	**+1.6**
	591nm,0.4s						
ZHN	**Zhinishke**	**1.59**	**342**	*e*P	**Pn**	**18 44 06.1**	**-0.1**
	baz=43						
ZHN				*e*S	**Sn**	**18 44 27.6**	**+1.6**
	baz=43						
PDGK	**Podgornoye**	**1.70**	**10**	⇓P	**Pn**	**18 44 08.3**	**+0.5**
	112nm,0.5s						
PDGK				⇑S	**Sn**	**18 44 29.6**	**+0.9**
	329nm,0.5s						
KPKS	**Kokpek**	**1.83**	**351**	*e*P	**Pn**	**18 44 10.5**	**+0.9**
	326nm,0.3s						
KPKS				*e*S	**Sb**	**18 44 35.4**	**+0.2**
	850nm,0.3s						
KPKS	**Kokpek**	**1.83**	**351**	P	**Pn**	**18 44 10.5**	**+0.9**
	326nm,0.3s						
KPKS				S	**Sb**	**18 44 35.4**	**+0.2**
	850nm,0.3s						
KPKS	**Kokpek**	**1.83**	**351**	*e*P	**Pn**	**18 44 10.5**	**+0.9**
	baz=51						
KPKS				*e*S	**Sb**	**18 44 35.4**	**+0.2**
	baz=51						
KURS	**Kuram**	**1.96**	**340**	*e*P	**Pn**	**18 44 12.5**	**+1.3**
	252nm,0.3s						
KURS				*e*S	**Sb**	**18 44 38.5**	**0.0**
	445nm,0.5s						
KURS	**Kuram**	**1.96**	**340**	Pg	**Pn**	**18 44 12.5**	**+1.3**
	252nm,0.3s						
KURS				Lg	Lg	18 44 38.5	
	445nm,0.5s						
KURS	**Kuram**	**1.96**	**340**	*e*P	**Pn**	**18 44 12.5**	**+1.3**
	baz=41						
KURS				*e*S	**Sb**	**18 44 38.6**	**0.0**
	baz=41						
KTMS	**Ketmen**	**2.02**	**27**	*e*P	**Pn**	**18 44 13.5**	**+1.4**
	44nm,0.3s						
KTMS				*e*S	**Sb**	**18 44 40.8**	**+0.4**
	120nm,0.6s						
KTMS	**Ketmen**	**2.02**	**27**	Pg	**Pn**	**18 44 13.5**	**+1.4**
	44nm,0.3s						
KTMS				Lg	Lg	18 44 40.8	
	120nm,0.6s						
KTMS	**Ketmen**	**2.02**	**27**	*e*P	**Pn**	**18 44 13.5**	**+1.4**
	baz=27						
KTMS				*e*S	**Sb**	**18 44 40.8**	**+0.4**
	baz=27						
MDOK	**Medeo**	**2.14**	**315**	*e*P	**Pn**	**18 44 14.7**	**+0.9**
	93nm,0.5s						
MDOK				*e*S	**Sb**	**18 44 42.9**	**-1.1**
	742nm,0.7s						
MDOK	**Medeo**	**2.14**	**315**	Pg	**Pn**	**18 44 14.7**	**+0.9**
	93nm,0.5s						
MDOK				⇑Pn	**Pn**	**18 44 14.7**	**+0.9**
	70nm,0.5s						
MDOK				⇓Sn	**Sn**	**18 44 42.3**	**+2.7**
	705nm,0.6s						
MDOK				Lg	Lg	18 44 42.9	
	742nm,0.7s						
MDOK	**Medeo**	**2.14**	**315**	*e*P	**Pn**	**18 44 14.7**	**+0.9**
	baz=16						
MDOK				*e*S	**Sb**	**18 44 42.9**	**-1.1**
	baz=16						
KOTS	**Kotyrbulak**	**2.16**	**318**	*e*P	**Pn**	**18 44 15.6**	**+1.5**
	121nm,0.3s						
KOTS				*e*S	**Sb**	**18 44 43.9**	**-0.6**
	1μm,0.5s						
KOTS	**Kotyrbulak**	**2.16**	**318**	Pg	**Pn**	**18 44 15.6**	**+1.5**
	121nm,0.3s						
KOTS				Lg	Lg	18 44 43.9	
	1μm,0.5s						
KOTS	**Kotyrbulak**	**2.16**	**318**	*e*P	**Pn**	**18 44 15.6**	**+1.5**
	baz=18						
KOTS				*e*S	**Sb**	**18 44 43.9**	**-0.6**
	baz=18						
ULHL	**Ulahol**	**2.21**	**286**	⇓P	**Pn**	**18 44 16.1**	**+1.2**
	54nm,0.3s,SNR=117						
ULHL				⇑S	**Sb**	**18 44 44.6**	**-1.5**
	619nm,0.7s						
ULHL	**Ulahol**	**2.21**	**286**	⇑*i*P	**Pn**	**18 44 15.7**	**+0.8**
	baz=87						
ULHL				⇑*i*S	**Sb**	**18 44 44.5**	**-1.6**
	baz=87						
KNDC	**Almaty**	**2.22**	**315**	⇑Pn	**Pn**	**18 44 16.2**	**+1.3**
	147nm,0.8s						
KNDC				⇓Lg	Lg	18 44 46.1	
	940nm,0.7s						
AAA	**Alma-Ata**	**2.24**	**315**	*e*P	**Pn**	**18 44 16.8**	**+1.6**
	144nm,0.3s						
AAA				*e*S	**Sb**	**18 44 46.3**	**-0.5**
	1μm,0.5s						
AAA	**Alma-Ata**	**2.24**	**315**	Pg	**Pn**	**18 44 16.7**	**+1.6**
	144nm,0.3s						
AAA				Lg	Lg	18 44 46.3	
	1μm,0.5s						
AAA	**Alma-Ata**	**2.24**	**315**	*e*P	**Pn**	**18 44 16.8**	**+1.6**
	baz=15						
AAA				*e*S	**Sb**	**18 44 46.3**	**-0.5**
	baz=15						
MTBS	**Maitube**	**2.46**	**308**	*e*P	**Pn**	**18 44 20.1**	**+1.8

KTBS eS Sb 18 44 59.4 -1.1
1µm,0.5s
KTBS Karatobe 2.72 320 Pg Pn 18 44 24.7 +3.0
36nm,0.3s
KTBS Lg Lg 18 44 59.4
1µm,0.5s
ARXS Arharly 2.72 340 eP Pn 18 44 23.9 +2.1
86nm,0.7s
ARXS eS Sn 18 44 57.9 +4.0
110nm,0.3s
ARXS Arharly 2.72 340 Pg Pn 18 44 23.9 +2.1
86nm,0.7s
ARXS Lg Lg 18 44 57.8
110nm,0.3s
DJR Jarkent 2.72 11 eP Pb 18 44 25.7 -2.0
15nm,0.2s
DJR eS Sb 18 45 01.2 +0.5
245nm,0.4s
DJR Jarkent 2.72 11 Pg Pb 18 44 25.7 -2.0
15nm,0.2s
DJR Lg Lg 18 45 01.2
245nm,0.4s
TKM2 Tokmak 2 2.89 297 ⇑P Pn 18 44 25.9 +1.7
18nm,0.2s,SNR=26
TKM2 ⇓S Sn 18 45 02.5 +4.3
339nm,0.7s
TKM2 Tokmak 2 2.89 297 ⇓Pn Pn 18 44 25.7 +1.5
11nm,0.3s
TKM2 ⇑Pg Pb 18 44 30.8 +0.2
44nm,0.5s
TKM2 ⇑Lg Lg 18 45 06.6
294nm,0.7s
TKM2 Tokmak 2 2.89 297 ⇓*iP* Pn 18 44 25.3 +1.1
baz=98
TKM2 ⇓*iS* Sn 18 45 00.8 +2.6
baz=98
DGS Degeres 2.93 304 eP Pn 18 44 27.7 +3.1
43nm,0.6s
DGS eS Sb 18 45 04.6 -2.0
267nm,0.4s
DGS Degeres 2.93 304 Pg Pn 18 44 27.7 +3.1
43nm,0.6s
DGS Lg Lg 18 45 04.6
267nm,0.4s
KUU Kurty 3.02 319 eP Pb 18 44 30.0 -2.7
52nm,0.7s
KUU eS Sb 18 45 08.6 -0.6
367nm,0.5s
KUU Kurty 3.02 319 Pg Pb 18 44 30.0 -2.7
52nm,0.7s
KUU Lg Lg 18 45 08.6
367nm,0.5s
KBK Karagaybulak 3.24 289 ⇓P Pn 18 44 31.2 +2.2
30nm,0.3s,SNR=5.0
KBK ⇑S Sn 18 45 11.0 +4.1
321nm,0.8s
KBK Karagaybulak 3.24 289 ⇑*iP* Pn 18 44 30.1 +1.1
baz=90
KBK ⇑*iS* Sn 18 45 09.2 +2.3
baz=90
KRBS Karabastau 3.24 310 eP Pb 18 44 33.7 -2.9
16nm,0.5s
KRBS eS Sb 18 45 14.8 -0.9
127nm,0.6s
KRBS Karabastau 3.24 310 Pg Pb 18 44 33.7 -2.9
16nm,0.5s
KRBS Lg Lg 18 45 14.8
127nm,0.6s
TDK Taldyqorghan 3.38 352 eP Pb 18 44 37.0 -1.9
84nm,0.4s
TDK eS Sb 18 45 20.5 +0.9
221nm,0.6s
TDK Taldyqorghan 3.38 352 Pg Pb 18 44 37.0 -1.9
84nm,0.4s
TDK Lg Lg 18 45 20.5
221nm,0.6s
UCH Uchtor 3.47 281 ⇑P Pn 18 44 36.0 +3.6
9.8nm,0.4s,SNR=17
UCH Uchtor 3.47 281 ⇓eP Pn 18 44 33.3 +0.9
baz=81
UCH ⇓*iS* Sn 18 45 14.5 +1.7
baz=81
CHMS Chumysh 3.49 294 ⇑P Pn 18 44 35.0 +2.7
15nm,0.4s,SNR=6.2
CHMS Chumysh 3.49 294 ⇓Pn Pn 18 44 34.0 +1.7
27nm,0.9s
CHMS ⇑Lg Lg 18 45 25.5
52nm,0.6s
CHMS Chumysh 3.49 294 ⇓*iP* Pn 18 44 33.4 +1.1
baz=94
CHMS ⇓*iS* Sn 18 45 14.9 +2.1
baz=94
AAK Ala-Archa 3.56 288 ⇓P Pn 18 44 36.9 +3.5
14nm,0.3s,SNR=9.8
AAK Ala-Archa 3.56 288 Pg Pb 18 44 38.1 -3.9
5.8nm,0.3s,baz=128,slow=11,SNR=19
AAK Lg Lg 18 45 24.8
8.6nm,0.3s,baz=240,slow=18,SNR=13
AAK Ala-Archa 3.56 288 ⇓*iP* Pn 18 44 34.6 +1.2
baz=88
AAK ⇓*iS* Sn 18 45 16.9 +2.2
baz=88
ARLS Aral 3.58 275 ⇓*iP* Pn 18 44 34.7 +1.1
baz=75
ARLS ⇓*iS* Sn 18 45 17.1 +2.0
baz=75
SGDS Sogindy 3.76 300 eP Pb 18 44 42.4 -3.0
7.5nm,0.5s
SGDS eS Sb 18 45 30.3 -0.1
52nm,0.7s
SGDS Sogindy 3.76 300 Pg Pb 18 44 42.4 -3.0
7.5nm,0.5s
SGDS Lg Lg 18 45 30.3
52nm,0.7s
USP Ospenovka 3.76 297 ⇑P Pn 18 44 38.7 +2.6
9.6nm,0.3s,SNR=17
USP Ospenovka 3.76 297 ⇓*iP* Pn 18 44 37.3 +1.2
baz=97
USP ⇓*iS* Sn 18 45 21.5 +2.0
baz=97
EKS2 Erkin-Say 4.08 286 ⇑*iP* Pn 18 44 41.7 +1.2
baz=86
EKS2 ⇑*iS* Sn 18 45 29.2 +1.7
baz=86
MRKS Merke 4.50 286 eP Pb 18 44 56.8 -1.1
6.8nm,0.5s
MRKS eS Sb 18 45 54.4 +2.8
38nm,0.6s
MRKS Merke 4.50 286 Pg Pb 18 44 56.8 -1.1
6.8nm,0.5s
MRKS Lg Lg 18 45 54.4
38nm,0.6s
OHH Osh 4.90 259 ⇑*iP* Pn 18 44 53.1 +1.3
baz=59
OHH ⇑*iS* Sn 18 45 48.4 +0.7
baz=59
BTLS Baital 5.00 314 eP Pb 18 45 07.2 +0.7
8.3nm,0.7s
BTLS eS Sb 18 46 11.8 +5.7
31nm,1.0s
BTLS Baital 5.00 314 Pg Pb 18 45 07.2 +0.7
8.3nm,0.7s
BTLS Lg Lg 18 46 11.8
31nm,1.0s
MAKZ Makanchi 5.55 21 ⇓Pn Pn 18 45 01.8 +1.2
2.6nm,0.3s
MAKZ ⇓Sn Sn 18 46 05.1 +1.6
5.9nm,0.5s
MAKZ ⇓Lg Lg 18 46 30.7
12nm,0.5s
MK31 Makanchi Array 5.62 23 ⇓Pn Pn 18 45 02.5 +0.9
6.8nm,0.6s,baz=206,slow=14,SNR=24
MK31 ⇓Sn Sn 18 46 07.4 +2.1
8.0nm,0.6s,baz=204,slow=22,SNR=4.9
MK31 ⇑Lg Lg 18 46 34.3
12nm,0.5s
MKAR Makanchi Array 5.62 23 Pn Pn 18 45 02.1 +0.5
0.6nm,0.3s,baz=204,slow=12,SNR=29
MKAR Sn Sn 18 46 07.7 +2.3
2.1nm,0.3s,baz=206,slow=24,SNR=6.9
MKAR Lg Lg 18 46 33.3
2.1nm,0.3s,baz=216,slow=16,SNR=1.8
0.7nm,0.3s
TRKS Terek-Say 5.97 271 ⇑*iP* Pn 18 45 07.5 +1.0
baz=71
TRKS ⇑*iS* Sn 18 46 13.7 -0.3
baz=71
KK31 Karatay Array 6.52 286 ⇓Pg Pb 18 45 37.2 +4.9
1.3nm,0.3s,baz=90,slow=16,SNR=10
KK31 ⇓Lg Lg 18 47 04.7
10nm,0.6s,baz=87,slow=29,SNR=4.5
KKAR Karatay Array 6.52 286 ⇑*iP* Pn 18 45 15.1 +1.2
baz=86
KKAR ⇑*iS* Sn 18 46 27.2 -0.2
baz=86
IUG Iuzhnay 6.78 277 eP Pb 18 45 38.8 +2.0
93nm,0.6s
IUG eS Sb 18 47 06.5 +9.1
24nm,0.8s
IUG Iuzhnay 6.78 277 Pg Pb 18 45 38.8 +2.0
IUG Lg Lg 18 47 06.5
OTUK Ortayu 8.14 326 ⇑Pn Pn 18 45 38.2 +2.1
1.6nm,0.6s
OTUK ⇓Pg Pb 18 46 05.9 +5.9
4.5nm,0.8s
OTUK ⇑Lg Lg 18 47 52.4
19nm,0.7s
KURBB Kurchatov Arra 8.98 358 Pn Pn 18 45 47.1 -0.4
0.7nm,0.3s,baz=183,slow=9.8,SNR=1.0
KURBB Lg Lg 18 48 18.6
0.5nm,0.3s,baz=216,slow=31,SNR=9.3
KURBB Kurchatov Arra 8.98 358 ⇓Lg Lg 18 48 20.2
44nm,0.7s
BVAR Borovoye Array 12.80 336 Pn Pn 18 46 42.6 +2.7
0.1nm,0.3s,baz=148,slow=14,SNR=3.6
BVAR Lg Lg 18 50 16.7
0.1nm,0.3s,baz=149,slow=26,SNR=3.8
ZALV Zalesovo Beam 12.88 15 Pn Pn 18 46 41.5 +0.6
0.2nm,0.3s,baz=206,slow=13,SNR=3.0
ZALV Sn Sn 18 49 01.2 -2.0
0.2nm,0.3s,baz=201,slow=20,SNR=2.7
0.2nm,0.3s
AB31 Akbulak array 15.41 306 P Pn 18 47 14.8 -0.4
0.4nm,0.5s,baz=112,slow=14,SNR=6.7
SONM Songino Array 20.29 63 P P 18 48 13.9 +0.5
0.4nm,0.4s,baz=267,slow=11,SNR=2.9
0.4nm,0.4s
BRTR Keskin Array B 34.22 282 P P 18 50 18.5 -4.8
0.8nm,0.8s,baz=45,slow=8.4,SNR=3.9
0.8nm,0.8s
ESDC Sonseca Array 60.60 298 P P 18 53 46.2 -1.8
0.7nm,0.8s,baz=64,slow=7.8,SNR=5.4
0.7nm,0.8s
TORD Torodi Ar. Bea 72.01 272 P P 18 54 58.1 -3.3
1.2nm,0.6s,baz=46,slow=5.2,SNR=12
1.2nm,0.6s
WRA Warramunga Arr 79.78 128 P P 18 55 44.2 -1.4
0.5nm,1.0s,baz=330,slow=5.1,SNR=2.2
0.5nm,1.0s
ASAR Alice Springs 82.43 131 P P 18 55 57.8 -1.9
0.3nm,0.7s,baz=322,slow=5.2,SNR=2.6
0.3nm,0.7s

IDC 02 18:43:43.8±1.8,29.40S×61.09E,h0km,mb3.7/4,
mbtmp3.8/5,ML4.5/1,Error ellipse: s-maj=107.1km
s-min=27.9km az=25.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.65**	**307**	Pn	Pn		18 47 37.2	-1.6
	0.2nm,0.3s,baz=116,slow=17,SNR=7.2							
OPO				Sn	Sn		18 50 28.3	-16
	0.1nm,0.3s,baz=219,slow=24,SNR=5.6							
	1.9nm,0.3s							
H08S1	**Diego Garcia H**	**24.15**	**29**	T	T		19 13 44.2	
	baz=205							
H08S2	**Diego Garcia H**	**24.16**	**29**	T	T		19 13 48.7	
	baz=205							
H08S3	**Diego Garcia H**	**24.17**	**29**	T	T		19 13 46.1	
	baz=205							
H01W2	**Cape Leeuwin H**	**44.81**	**111**	T	T		19 39 45.7	
	baz=261,slow=75,SNR=8.2							
H01W3	**Cape Leeuwin H**	**44.82**	**111**	T	T		19 40 10.1	
	baz=261,slow=75,SNR=7.3							
H01W1	**Cape Leeuwin H**	**44.83**	**111**	T	T		19 40 01.3	
	baz=261,slow=75,SNR=7.2							
ASAR	**Alice Springs**	**64.44**	**104**	P	P		18 54 21.9	-0.6
	0.5nm,0.7s,baz=242,slow=5.7,SNR=6.4							
	0.5nm,0.7s							
WRA	**Warramunga Arr**	**66.28**	**100**	P	P		18 54 34.9	+0.6
	0.7nm,0.8s,baz=248,slow=5.7,SNR=3.5							
	0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**71.20**	**298**	P	P		18 55 05.4	+0.5
	0.6nm,0.8s,baz=113,slow=4.9,SNR=3.7							
	0.6nm,0.8s							
ZALV	**Zalesovo Beam**	**85.51**	**14**	P	P		18 56 23.3	+0.1
	0.6nm,0.6s,baz=202,slow=6.2,SNR=2.8							
	0.6nm,0.6s							

*MAN **02** 18:43:50.0,6.37N×123.73E,h15km,mb4.9,ML3.8,MS3.8*
*DJA **02** 18:43:51.3±2.5,6.1N±5.5×12.4E±.,h11km±19km,M4.4/13,*
mb4.7/5,mb4.5/13,MLv4.5/11,Mw(mB)3.9/5
*NEIC **02** 18:43:53.8±1.7,6.27N±0.05×123.87E±0.06,h51km±8km,*
mb4.4/38,Error ellipse: s-maj=8.9km s-min=7.6km
az=101.0
*IDC **02** 18:43:56.8±2.5,6.31N×124.08E,h75km±25km,mb3.7/14,*
mbtmp4.0/14,MS3.3/11,Error ellipse: s-maj=24.0km
s-min=12.3km az=78.0

ISC 02 18:43:48.6±1.2,6.33N±0.04×123.76E±0.03,h9km±8km,
n95,σ1.1f67/100,mb4.4/30,MS3.2/9,8C-7D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.80**	**76**	⇓*eP*	**Pg**		**18 44 03.3**	**-0.7**
SKMP				*eS*	**Sg**		**18 44 12.9**	**-1.6**
CTBH	**Cotabato--PC H**	**1.01**	**29**	⇑*iP*	**Pn**		**18 44 07.9**	**-1.1**
CTBH				*i* S	**Sn**		**18 44 22.5**	**-0.9**
GSPH	**General Santos**	**1.21**	**101**	⇓*iP*	**Pg**		**18 44 14.3**	**+2.5**
GSPH				*i* S	**Sn**		**18 44 33.5**	**+5.1**
KCP	**Kidapawan**	**1.49**	**63**	⇓*iP*	**Pn**		**18 44 14.9**	**-0.6**
KCP				*i* S	**Sg**		**18 44 36.4**	**0.0**
PAGZ	**Pagadian**	**1.56**	**346**	⇓*eP*	**Pb**		**18 44 16.2**	**-1.3**
ZCP	**Zamboanga City**	**1.78**	**290**	⇓*iP*	**Pb**		**18 44 19.6**	**-1.7**
ZCP				*i* S	**Sg**		**18 44 44.0**	**-1.7**
DAV	**Davao City (W)**	**1.95**	**68**	P	**Pb**		**18 44 24.0**	**-0.3**
	1µm,0.5s,baz=232,slow=1.9,SNR=35							
DAV				S	**Sg**		**18 44 51.7**	**+0.2**
	2µm,0.8s,baz=262,slow=24,SNR=8.1							
DAV				LR	LR		18 45 17.5	
	comp=Z,3µm,18.1s,baz=258,slow=48							
DAV	**Davao City (W)**	**1.95**	**68**		**Pb**		**18 44 23.5**	**-0.9**
DAV				Sn	**Sb**		**18 44 48.7**	**-0.2**
DDMP	**Don Marcelino,**	**1.96**	**96**	⇑*eP*	**Pb**		**18 44 22.9**	**-1.5**
DDMP				*eS*	**Sb**		**18 44 49.4**	**+0.5**
BUKP	**Musuan**	**2.01**	**40**	⇑*eP*	**Pb**		**18 44 23.8**	**-1.6**
BUKP				*i* S	**Sb**		**18 44 49.6**	**-1.0**
MATI	**Mati**	**2.56**	**76**	⇑*eP*	**Pn**		**18 44 30.1**	**-0.1**
MATI				*eS*	**Sb**		**18 45 04.4**	**-1.8**
SGSI	**Sangihe**	**3.16**	**146**	P	**Pn**		**18 44 37.8**	**-0.8**
BIPH	**Bislig**	**3.17**	**54**	⇑*eP*	**Pn**		**18 44 39.3**	**+0.6**
BIPH				*i* S	**Sn**		**18 45 18.4**	**+1.7**
BUTP	**Butuan**	**3.21**	**35**	⇓*eP*	**Pb**		**18 44 43.0**	**-2.8**
BUTP				*eS*	**Sg**		**18 45 37.5**	**+5.8**
CNOP	**Candoni, Negro**	**3.65**	**342**	⇑*eP*	**Pn**		**18 44 45.8**	**+0.5**
CNOP				*eS*	**Sn**		**18 45 29.3**	**+0.8**
MSLP	**Maasin**	**3.94**	**16**	⇑*eP*	**Pb**		**18 44 56.7**	**-1.5**
MSLP				*eS*	**Sb**		**18 45 45.8**	**-0.2**
GUIM	**Jordan**	**4.42**	**345**	⇑*eP*	**Pb**		**18 45 04.1**	**-2.4**
GUIM				*eS*	**Sn**		**18 45 49.8**	**+2.1**
MYLDM	**Lahad Datu**	**5.35**	**258**		**Pn**		**18 45 11.4**	**+2.6**
GTOI	**Gorontalo**	**5.70**	**188**	P	**Pn**		**18 45 12.4**	**-1.1**
	0.1nm243nm14nm,0.6s							
KMSI	**Cibinong**	**5.72**	**178**	P	**Pn**		**18 45 15.0**	**+1.3**
	0.7nm71nm,0.6s							
PPR	**Puerto Princes**	**6.04**	**305**	⇓*iP*	**Pn**		**18 45 21.4**	**+3.2**
MRSI	**Marisa**	**6.09**	**197**	P	**Pn**		**18 45 19.0**	**+0.2**
	0.6nm507nm31nm,0.6s							
TNTI	**Ternate**	**6.59**	**147**		**Pn**		**18 45 25.9**	**+0.2**
TNTI	**Ternate**	**6.59**	**147**	P	**Pn**		**18 45 26.0**	**+0.3**
	0.1nm26nm,0.8s							
LUWI	**Luwuk**	**7.39**	**188**		**Pn**		**18 45 39.5**	**+2.8**
LUWI	**Luwuk**	**7.39**	**188**	P	**Pn**		**18 45 40.0**	**+3.3**
	0.4nm715nm96nm,0.8s							
APSI	**Ampana**	**7.49**	**196**	P	**Pn**		**18 45 39.4**	**+1.3**
	0.1nm20nm,0.9s							
KKM	**Kota Kinabalu**	**7.50**	**268**	Pn	**Pn**		**18 45 42.3**	**+3.9**
SIJI	**Sorong**	**10.36**	**133**	LR	LR		18 49 46.7	
	comp=Z,75nm,18.9s,baz=220,slow=35							
FAKI	**Fak Fak**	**12.50**	**137**	Pn	**Pn**		**18 46 45.1**	**-1.7**
BATI	**Baumata**	**16.43**	**180**	LR	LR		18 56 37.7	
	comp=Z,213nm,18.1s,baz=285,slow=46							
GENI	**Genyem**	**18.63**	**118**	P	**Pn**		**18 48 08.0**	**+1.1**
	114nm,0.9s							
PPBI	**Pangkal Pinang**	**19.51**	**245**	P	**Pn**		**18 48 19.3**	**+1.7**
	7.1nm,1.1s							
UBPT	**Khong Chiam**	**20.03**	**298**	P	**Pn**		**18 48 24.5**	**+0.7**
UBPT				IAmb	IAmb		18 48 26.4	
	comp=Z,27nm,1.2s							
MYKOM	**Kota Tinggi**	**20.36**	**258**	P	Pn		18 48 26.1	-1.5
MYKOM				IAmb	IAmb		18 48 30.5	
	comp=Z,14nm,0.9s							
MTN	**Manton Dam**	**20.41**	**159**	P	**P**		**18 48 23.1**	**-3.0**
MTN				IAmb	IAmb		18 48 35.5	
	comp=Z,16nm,1.1s							
LEM	**Lembang**	**20.74**	**231**	P	Pn		18 48 35.1	+2.8
	comp=Z,21nm,1.0s,baz=175,slow=21,SNR=3.5							
LEM				LR	LR		18 56 23.8	
	comp=Z,98nm,20.3s,baz=135,slow=36							
	comp=Z,21nm,1.0s							
GUMO	**Guam**	**22.00**	**69**	LR	LR		18 55 26.5	
	comp=Z,43nm,21.1s,baz=214,slow=32							
KNRA	**Kununurra**	**22.42**	**167**	P	**P**		**18 48 47.6**	**-0.1**
KNRA				IAmb	IAmb		18 49 15.9	
	comp=Z,12nm,0.9s							
KULM	**Kulim**	**23.01**	**269**	P	**P**		**18 48 54.0**	**-0.1**
KULM				IAmb	IAmb		18 49 27.0	
	comp=Z,20nm,1.3s							
FITZ	**Fitzroy Crossi**	**24.34**	**176**	P	**P**		**18 49 07.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=9.4,slow=7.6,SNR=6.7							
	comp=Z,1.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.34**	**176**	P	**P**		**18 49 06.2**	**-0.7**
MANU	**Manus Island**	**25.00**	**109**	P	**P**		**18 49 10.7**	**-2.3**
MANU				IAmb	IAmb		18 49 26.2	
	comp=Z,12nm,1.1s							
PSI	**Prapat**	**25.00**	**263**	LR	LR		19 02 01.7	
	comp=Z,227nm,18.1s,baz=50,slow=43							
RPSI	**Rantau Prapat**	**25.01**	**263**	P	**P**		**18 49 12.0**	**-1.2**
RPSI				IAmb	IAmb		18 49 29.7	
	comp=Z,16nm,1.2s							
CMAR	**Chiang Mai Arr**	**27.02**	**299**	P	**P**		**18 49 34.6**	**+3.3**
	comp=Z,0.8nm,0.7s,baz=114,slow=5.8,SNR=5.1							
CMAR				LR	LR		19 00 27.3	
	comp=Z,68nm,18.7s,baz=135,slow=36							
	comp=Z,0.8nm,0.7s							
JCJ	**Chichijima**	**27.09**	**38**	LR	LR		19 01 33.9	
	comp=Z,40nm,18.2s,baz=201,slow=39							
COEN	**Coen**	**27.89**	**136**	P	**P**		**18 49 36.8**	**-2.3**
COEN				IAmb	IAmb		18 50 13.9	
	comp=Z,6.9nm,0.9s							
WB0	**Warramunga Arr**	**27.96**	**158**	P	**P**		**18 49 38.1**	**-1.6**
WRA	**Warramunga Arr**	**28.11**	**158**	P	**P**		**18 49 38.9**	**-2.1**
	comp=Z,2.4nm,0.7s,baz=337,slow=9.7,SNR=16							
	comp=Z,2.4nm,0.7s							
WRA	**Warramunga Arr**	**28.11**	**158**	P	**P**		**18 49 39.5**	**-1.5**
WB2	**Warramunga Arr**	**28.11**	**158**	P	**P**		**18 49 38.7**	**-2.3**
WB2				IAmb	IAmb		18 49 41.9	
	comp=Z,17nm,1.5s							
WR0	**Warramunga Arr**	**28.20**	**158**	P	**P**		**18 49 39.4**	**-2.3**
WR0				IAmb	IAmb		18 49 47.2	
	comp=Z,11nm,1.4s							
JHJ	**Hachijo jima 2**	**30.54**	**27**	LR	LR		19 00 14.9	
	comp=Z,44nm,21.7s,baz=282,slow=32							
KSRS	**Korea Array**	**31.21**	**6**	P	**P**		**18 50 08.6**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=182,slow=11,SNR=5.8							
	comp=Z,1.5nm,0.7s							
AS31	**Alice Springs**	**31.41**	**162**	P	**P**		**18 50 08.7**	**-1.6**
ASAR	**Alice Springs**	**31.41**	**162**	P	**P**		**18 50 10.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=347,slow=7.5,SNR=16							
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**31.41**	**162**	P	**P**		**18 50 08.8**	**-1.5**
MJAR	**Matsushiro Arr**	**32.85**	**22**	LR	LR		19 02 58.6	
	comp=Z,45nm,20.1s,baz=203,slow=35							
JMM	**Marumori**	**35.01**	**24**	P	**P**		**18 50 40.8**	**-0.7**
NWAO	**Narrogin (SRO)**	**39.53**	**189**	P	**P**		**18 51 18.8**	**-1.1**
BBOO	**Buckleboo**	**40.64**	**164**	P	**P**		**18 51 29.0**	**-0.2**
STKA	**Stephens Creek**	**41.63**	**157**	P	**P**		**18 51 37.8**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=331,slow=11,SNR=8.8							
	comp=Z,6.9nm,0.9s							
STKA	**Stephens Creek**	**41.63**	**157**	P	**P**		**18 51 37.8**	**+0.5**
ULN	**Ulaanbaatar**	**43.78**	**344**	P	**P**		**18 51 56.0**	**+1.2**
ULN				IAmb	IAmb		18 51 57.5	
	comp=Z,7.3nm,1.3s							
SONM	**Songino Array**	**43.94**	**343**	P	**P**		**18 51 57.8**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=160,slow=7.7,SNR=6.0							
	comp=Z,1.8nm,0.8s							
SONM	**Songino Array**	**43.94**	**343**	P	**P**		**18 51 54.5**	**-1.5**
MK31	**Makanchi Array**	**53.75**	**326**	P	**P**		**18 53 11.9**	**+0.6**
MKAR	**Makanchi Array**	**53.75**	**326**	P	**P**		**18 53 12.9**	**+1.6**
	comp=Z,1.3nm,0.9s,baz=127,slow=7.7,SNR=5.4							
	comp=Z,1.3nm,0.9s							
MKAR	**Makanchi Array**	**53.75**	**326**	P	**P**		**18 53 12.1**	**+0.8**
MAKZ	**Makanchi**	**53.94**	**326**	P	**P**		**18 53 14.1**	**+1.5**
MAKZ				IAmb	IAmb		18 53 31.7	
	comp=Z,5.3nm,1.2s							
NIL	**Nilore**	**54.01**	**307**	P	**P**		**18 53 13.3**	**-0.1**
PETK	**Petropavlovsk-**	**54.23**	**25**	P	**P**		**18 53 14.4**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=205,slow=6.4,SNR=3.1							
	comp=Z,1.2nm,0.7s							
ZALV	**Zalesovo Beam**	**56.95**	**334**	P	**P**		**18 53 35.0**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=116,slow=6.6,SNR=2.5							
	comp=Z,0.9nm,0.7s							
BVAR	**Borovoye Array**	**63.55**	**327**	P	**P**		**18 54 20.4**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=137,slow=9.3,SNR=7.7							
	comp=Z,2.3nm,0.9s							
BRVK	**Borovoye**	**63.62**	**327**	P	**P**		**18 54 19.5**	**-0.3**
ABKAR	**Akbulak array**	**68.28**	**321**	P	**P**		**18 54 49.1**	**-0.9**
ABKAR	**Akbulak array**	**68.28**	**321**	P	**P**		**18 54 49.0**	**-0.9**
ABKAR				IAmb	IAmb		18 54 55.3	
	comp=Z,3.4nm,1.1s							
AKTO	**Aktyubinsk**	**69.80**	**322**	P	**P**		**18 55 00.3**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=117,slow=11,SNR=3.1							
	comp=Z,1.6nm,0.8s							
OPO	**Ambohidratompo**	**79.38**	**250**	LR	LR		19 28 23.9	
	comp=Z,32nm,19.9s,baz=94,slow=34							
O18K	**Koktuh Hills**	**80.06**	**30**	P	**P**		**18 55 58.9**	**+0.3**
O18K				IAmb	IAmb		18 56 00.2	
	comp=Z,8.2nm,1.1s							
N19K	**Bonanza Creek**	**80.49**	**29**	P	**P**		**18 56 00.7**	**-0.3**
N19K				IAmb	IAmb		18 56 02.2	
	comp=Z,3.5nm,0.8s							
OHAK	**Old Harbor**	**80.90**	**33**	P	**P**		**18 56 02.5**	**-0.6**
M20K	**Styx River**	**81.20**	**28**	P	**P**		**18 56 04.7**	**-0.1**
M20K				IAmb	IAmb		18 56 05.9	
	comp=Z,6.0nm,1.0s							
KDAK	**Kodiak Island**	**81.30**	**33**	P	**P**		**18 56 04.0**	**-1.2**
KTH	**Kantishna Hill**	**82.29**	**27**	P	**P**		**18 56 09.2**	**-1.2**
KTH				IAmb	IAmb		18 56 28.4	
	comp=Z,6.4nm,1.4s							
SUA	**Susitna One**	**82.33**	**29**	P	**P**		**18 56 09.3**	**-1.5**
SUA				IAmb	IAmb		18 56 10.5	
	comp=Z,3.0nm,0.8s							
RND	**Reindeer**	**83.22**	**27**	P	**P**		**18 56 14.1**	**-1.1**
RND				IAmb	IAmb		18 56 15.6	
	comp=Z,7.2nm,1.2s							
SML	**Sawmill**	**83.48**	**29**	P	**P**		**18 56 15.2**	**-1.4**
CCB	**Clear Creek Bu**	**83.66**	**26**	P	**P**		**18 56 16.1**	**-1.2**
ILAR	**Eielson Array**	**84.05**	**26**	P	**P**		**18 56 18.4**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=235,slow=4.3,SNR=5.6							
ILAR				LR	LR		19 36 37.4	
	comp=Z,13nm,19.1s,baz=60,slow=38							
	comp=Z,0.6nm,0.7s							
BMAR	**Burnt Mountain**	**84.84**	**23**	P	**P**		**18 56 22.9**	**-0.6**
RIDG	**Independent Ri**	**84.99**	**27**	P	**P**		**18 56 23.3**	**-1.0**
I26K	**Coal Creek Min**	**85.59**	**25**	P	**P**		**18 56 26.2**	**-0.9**
I26K				IAmb	IAmb		18 56 28.1	
	comp=Z,6.1nm,1.2s							
K27K	**Chicken**	**86.19**	**26**	P	**P**		**18 56 30.2**	**+0.1**
K27K				IAmb	IAmb		18 56 32.5	
	comp=Z,3.5nm,1.1s							

WEL 02 18:50:59.3±1.3,37.5S±5.5×17.9E±.,h21km±7km,M3.3/30,
ML3.5/42,MLv3.3/30,Error ellipse: s-maj=0.0km
s-min=0.0km az=85.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.63**	**244**	P	P	Pb	18 51 11.8	+0.1
MXZ				S	S	Sb	18 51 19.7	-0.4
WMGZ	**Waiomatatini S**	**0.72**	**222**	P	P	Pn	18 51 15.0	+0.8
WMGZ				S	S	Sn	18 51 25.1	+0.6
PKGZ	**Pakihiroa**	**0.96**	**231**	P	P	Pn	18 51 18.0	+0.4
PKGZ				S	S	Sn	18 51 30.4	-0.3
PUZ	**Puketiti**	**0.99**	**217**	P	P	Pn	18 51 18.5	+0.5
PUZ				S	S	Sn	18 51 31.8	+0.4
HAZ	**Te Kaha**	**1.09**	**244**	P	P	Pb	18 51 19.5	+0.1
HAZ				S	S	Sn	18 51 33.7	0.0
TWGZ	**Tauwhareparae**	**1.21**	**222**	P	P	Pb	18 51 21.8	+0.2
TWGZ				S	S	Sn

RUGZ	**Raukumara Rang**	**1.26 237**	P	Pb	18 51 22.6	+0.1		
RUGZ			S	Sn	18 51 38.1	-0.1		
CNGZ	**Carnagh Statio**	**1.36 208**	P	Pb	18 51 24.2	+0.2		
MWZ	**Matawai**	**1.58 228**	P	Pn	18 51 26.4	+0.3		
RIGZ	**Rimuhau**	**1.73 215**	P	Pn	18 51 28.4	+0.2		
RAGZ	**Rawiri**	**1.75 226**	P	Pn	18 51 29.4	+0.9		
URZ	**Urewera**	**1.80 237**	P	Pn	18 51 29.6	+0.5		
PRGZ	**Paritu Road**	**1.86 208**	P	Pn	18 51 30.1	0.0		
SNGZ	**Shannon Statio**	**2.00 221**	P	Pn	18 51 31.9	+0.1		
KNZ	**Kokohu**	**2.03 211**	P	Pn	18 51 31.5	-0.7		
OPRZ	**Ohinepanea**	**2.03 253**	P	Pn	18 51 32.8	+0.5		
MHGZ	**Mahia Peninsul**	**2.06 205**	P	Pn	18 51 32.8	+0.1		
RTZ	**Ruatahuna**	**2.09 230**	P	Pn	18 51 33.5	+0.4		
MUGZ	**Murupara**	**2.14 236**	P	Pn	18 51 33.8	0.0		
TARZ	**Mount Tarawera**	**2.20 244**	P	Pn	18 51 36.0	+1.9		
RAHZ	**Arahi**	**2.23 223**	P	Pn	18 51 35.3	+0.2		
WHHZ	**Waihua**	**2.27 218**	P	Pn	18 51 35.5	-0.1		
MTHZ	**Maungataniwha**	**2.32 227**	P	Pn	18 51 36.7	+0.4		
KMRZ	**Kaimai**	**2.51 256**	P	Pn	18 51 40.1	+1.2		
NMHZ	**Naumai**	**2.51 223**	P	Pn	18 51 39.4	+0.4		
ARHZ	**Aropaoanui**	**2.54 218**	P	Pn	18 51 39.0	-0.2		
MRHZ	**Matea Rd**	**2.57 232**	P	Pn	18 51 39.8	+0.1		
KUZ	**Kuaotunu**	**2.69 281**	P	Pn	18 51 40.3	-1.1		
BKZ	**Black Stump Fm**	**2.73 226**	P	Pn	18 51 41.7	-0.3		
TOZ	**Tahuroa Road**	**2.83 260**	P	Pn	18 51 43.4	+0.1		
KWHZ	**Kaweka Forest**	**2.95 223**	P	Pn	18 51 44.2	-0.8		
KAHZ	**Kahuranaki**	**3.01 213**	P	Pn	18 51 44.7	-1.2		
MKAZ	**Moumakai**	**3.08 272**	P	Pn	18 51 46.4	-0.3		
KRHZ	**Kereru**	**3.14 221**	P	Pn	18 51 46.4	-1.1		
WIAZ	**Waiheke Island**	**3.15 278**	P	Pn	18 51 47.0	-0.6		
TMVZ	**Te Maari**	**3.19 234**	P	Pn	18 51 48.2	-0.1		
ETVZ	**East Tongariro**	**3.19 234**	P	Pn	18 51 46.7	-1.7		
BHHZ	**Black Hill Sta**	**3.20 226**	P	Pn	18 51 47.9	-0.5		
SNVZ	**South Ngauruho**	**3.27 233**	P	Pn	18 51 49.3	-0.2		
NGZ	**Ngauruhoe**	**3.29 234**	P	Pn	18 51 49.6	-0.1		
TUVZ	**Tukino**	**3.30 232**	P	Pn	18 51 49.8	-0.1		
MOVZ	**Moawhango**	**3.33 229**	P	Pn	18 51 49.4	-0.8		
WHVZ	**Whangaehu Hut**	**3.35 233**	P	Pn	18 51 50.4	-0.3		
FWVZ	**Far West T-bar**	**3.36 233**	P	Pn	18 51 50.7	-0.1		
WNVZ	**Wahianoa**	**3.37 232**	P	Pn	18 51 50.4	-0.5		
PNHZ	**Pukenui**	**3.43 219**	P	Pn	18 51 49.9	-1.7		
WPHZ	**Waipukurau**	**3.43 215**	P	Pn	18 51 49.9	-1.6		
MTVZ	**Mangateitei**	**3.49 232**	P	Pn	18 51 51.9	-0.5		
HIZ	**Hauiti**	**3.51 248**	P	Pn	18 51 53.8	+1.1		
PKVZ	**Pokaka**	**3.51 234**	P	Pn	18 51 52.6	-0.2		
TSZ	**Takapari Road**	**3.66 220**	P	Pn	18 51 52.7	-2.0		
WCZ	**Waipu Caves**	**3.99 288**	P	Pn	18 51 59.7	+0.4		
WAZ	**Wanganui**	**4.01 231**	P	Pn	18 51 59.8	+0.3		
OUZ	**Omahuta**	**4.84 294**	P	Pn	18 52 11.9	+1.0		
DSZ	**Denniston Nort**	**7.13 229**	P	Pn	18 52 44.7	+2.2		

*IDC **02** 18:54:31.2±2.3,36°.94S×178°.70E,h0km,mb3.7/3, mbtmp3.6/3,Error ellipse: s-maj=55.3km s-min=27.8km az=131.0*
*WEL **02** 18:54:32.2±2.2,37°.S±9°×17°.9E±1°.3,h5km±8km,M3.0/20, ML3.4/15,MLv3.0/20,Error ellipse: s-maj=0.0km s-min=0.0km az=62.9*

ISC 02 18:54:32.2±2.1,37°.07S±0°.06×178°.88E±0°.10,h7km±11km, n24,σ0ˢ76/32,mb3.5/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.67**	**223**	P	**Pg**	**18 54 45.5**	**+0.4**
MXZ				S	**Sg**	**18 54 53.2**	**-0.6**
WMGZ	**Waiomatatini S**	**0.83**	**206**	P	**Pb**	**18 54 49.8**	**+0.8**
WMGZ				S	**Sb**	**18 55 02.0**	**+1.7**
PKGZ	**Pakihiroa**	**1.03**	**218**	P	**Pb**	**18 54 52.8**	**+0.3**
PKGZ				S	**Sb**	**18 55 06.7**	**+0.4**
HAZ	**Te Kaha**	**1.11**	**232**	P	**Pg**	**18 54 52.4**	**-1.1**
HAZ				S	**Sn**	**18 55 09.9**	**+0.4**
PUZ	**Puketiti**	**1.11**	**206**	P	**Pg**	**18 54 53.5**	**-0.1**
PUZ				S	**Sg**	**18 55 07.5**	**-0.6**
RUGZ	**Raukumara Rang**	**1.31**	**227**	P	**Pn**	**18 54 57.6**	**+0.6**
RUGZ				S	**Sn**	**18 55 15.0**	**+0.3**
TWGZ	**Tauwhareparae**	**1.31**	**213**	P	**Pg**	**18 54 56.9**	**-0.5**
TWGZ				S	**Sg**	**18 55 15.1**	**+0.7**
CNGZ	**Carnagh Statio**	**1.51**	**201**	P	**Pn**	**18 54 59.3**	**-0.2**
MWZ	**Matawai**	**1.65**	**220**	P	**Pn**	**18 55 01.9**	**+0.2**
RAGZ	**Rawiri**	**1.83**	**219**	P	**Pn**	**18 55 04.6**	**+0.5**
URZ	**Urewera**	**1.84**	**229**	Pn	**Pn**	**18 55 04.3**	**+0.2**
	8.9nm,0.3s,baz=303,slow=0.7,SNR=16						
URZ				Sn	**Sn**	**18 55 27.0**	**-0.5**
	6.7nm,0.3s,baz=301,slow=16,SNR=10						
URZ	**Urewera**	**1.84**	**229**	P	**Pn**	**18 55 04.3**	**+0.2**
RTZ	**Ruatahuna**	**2.15**	**224**	P	**Pn**	**18 55 08.9**	**+0.4**
MUGZ	**Murupara**	**2.18**	**229**	P	**Pn**	**18 55 08.9**	**0.0**
MTHZ	**Maungataniwha**	**2.40**	**222**	P	**Pn**	**18 55 11.9**	**+0.1**
KUZ	**Kuaotunu**	**2.55**	**276**	P	**Pn**	**18 55 13.4**	**-0.5**
BKZ	**Black Stump Fm**	**2.81**	**221**	P	**Pn**	**18 55 17.2**	**-0.4**
GRZ	**Great Barrier**	**2.87**	**286**	P	**Pn**	**18 55 19.1**	**+0.7**
MKAZ	**Moumakai**	**2.98**	**268**	P	**Pn**	**18 55 19.4**	**-0.3**
WCZ	**Waipu Caves**	**3.83**	**286**	P	**Pn**	**18 55 32.4**	**+0.9**
OUZ	**Omahuta**	**4.66**	**292**	P	**Pn**	**18 55 44.5**	**+1.6**
ASAR	**Alice Springs**	**40.68**	**276**	P	**P**	**19 02 11.9**	**-1.4**
	0.4nm,0.7s,baz=119,slow=8.1,SNR=6.0 0.4nm,0.7s						
WRA	**Warramunga Arr**	**42.28**	**281**	P	**P**	**19 02 25.1**	**-1.4**
	0.5nm,0.3s,baz=122,slow=7.3,SNR=20 0.5nm,0.3s						
NVAR	**Mina Array Bea**	**94.85**	**45**	P	**P**	**19 07 55.1**	**+0.3**
	0.1nm,0.5s,baz=208,slow=5.6,SNR=1.9 0.1nm,0.5s						

MAN 02 18:54:38.1,6°.32N×123°.68E,h28km,mb4.3,ML3.1,MS2.8, 2C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.88**	**77**↑↑	*eP*	Pn	18 54 50.8	-3.9
SKMP				*eS*	Sb	18 54 58.5	-7.7
GSPH	**General Santos**	**1.28**	**100**↓↓	*iP*	Pb	18 55 02.2	+0.6
GSPH				*i* S	Sb	18 55 21.2	+3.4
PAGZ	**Pagadian**	**1.55**	**349**↓↓	*eP*	Pn	18 55 03.9	-0.1
PAGZ				*eS*	Sn	18 55 23.5	+0.4
KCP	**Kidapawan**	**1.56**	**64**↑↑	*iP*	Pn	18 55 02.8	-1.3
KCP				*i* S	Sn	18 55 24.4	+1.0
DDMP	**Don Marcelino,**	**2.03**	**96**↓↓	*eP*	Pn	18 55 11.3	+0.8
DDMP				*eS*	Sn	18 55 35.3	+0.4
BUKP	**Musuan**	**2.07**	**41**↓↓	*eP*	Pn	18 55 11.8	+0.7
BUKP				*eS*	Sn	18 55 36.8	+0.8

*IDC **02** 18:56:09.4±0.6,29°.23S×61°.15E,h0km,mb4.1/13, mbtmp4.1/13,MS3.6/23,Error ellipse: s-maj=22.5km s-min=18.5km az=34.0*
*NEIC **02** 18:56:11.4±2.0,29°.03S±0°.10×61°.1E±0°.1,h10km±1km, mb4.6/21,Error ellipse: s-maj=20.0km s-min=15.9km az=64.0*

ISC 02 18:56:11.4±0.5,29°.07S±0°.09×61°.00E±0°.10,h10km,n68, σ1ˢ41/43,mb4.4/20,MS3.7/22,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.20**	**328**		**Pn**	**18 58 3.3**	**-1.9**
FOMA	**Nahampoana Res**	**13.14**	**285**	Pn	**Pn**	**18 59 15.4**	**-2.7**
VOI	**Vohitsoka**	**14.66**	**296**		**Pn**	**18 59 39.1**	**0.0**
OPO	**Ambohidratompo**	**16.38**	**307**	Sn	Sn	19 02 53.1	-10
	0.1nm,0.3s,baz=102,slow=3.2,SNR=2.8						
OPO				LR	LR	19 03 42.4	
	comp=Z,128nm,20.8s,baz=8.5,slow=27						
H08S1	**Diego Carcia H**	**23.90**	**29**	T	T	19 26 24.9	
	baz=204,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**23.90**	**29**	T	T	19 26 25.7	
	baz=204,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**23.91**	**29**	T	T	19 26 26.8	
	baz=204,slow=75,SNR=27						
POGA	**Pongola**	**25.84**	**267**	P	**P**	**19 01 42.6**	**-0.5**
POGA				IAmb	IAmb	19 01 45.9	
	comp=Z,16nm,1.3s						
BOSA	**Boshof**	**31.24**	**262**	P	**P**	**19 02 32.0**	**+0.6**
	comp=Z,3.8nm,1.0s,baz=112,slow=11,SNR=3.5						
BOSA				LR	LR	19 13 33.3	
	comp=Z,96nm,18.5s,baz=68,slow=33 comp=Z,3.8nm,1.0s						
BOSA	**Boshof**	**31.24**	**262**	P	**P**	**19 02 31.9**	**+0.6**
BOSA				IAmb	IAmb	19 02 54.8	
	comp=Z,7.2nm,1.1s						
LBTB	**Lobatse**	**31.71**	**269**	LR	LR	19 14 11.3	
	comp=Z,79nm,18.1s,baz=341,slow=34						
LSZ	**Lusaka**	**33.21**	**287**	P	**P**	**19 02 48.9**	**+0.2**
SUR	**Sutherland**	**34.56**	**254**	LR	LR	19 15 05.6	
	comp=Z,74nm,18.5s,baz=30,slow=33						
KMBO	**Kilima Mbogo**	**35.84**	**317**	LR	LR	19 17 13.7	
	comp=Z,103nm,18.2s,baz=85,slow=35						
MAW	**Mawson**	**38.58**	**179**	LR	LR	19 16 02.2	
	comp=Z,160nm,19.1s,baz=358,slow=31						
MBAR	**Mbarara**	**40.43**	**309**	LR	LR	19 17 49.2	
	comp=Z,85nm,21.4s,baz=146,slow=32						
TSUM	**Tsumeb**	**40.62**	**274**	LR	LR	19 19 49.4	
	comp=Z,86nm,18.1s,baz=331,slow=35						
ATD	**Arta Tunnel**	**44.00**	**334**	LR	LR	19 20 12.5	
	comp=Z,113nm,19.8s,baz=126,slow=33						
H01W2	**Cape Leeuwin H**	**45.01**	**112**	T	T	19 52 04.9	
	baz=261,slow=75,SNR=28						
H01W3	**Cape Leeuwin H**	**45.02**	**112**	T	T	19 52 03.9	
	baz=261,slow=75,SNR=33						
H01W1	**Cape Leeuwin H**	**45.03**	**112**	T	T	19 52 06.2	
	baz=261,slow=75,SNR=29						
CASY	**Casey**	**47.79**	**155**	P	**P**	**19 04 51.2**	**+2.6**
CASY				IAmb	IAmb	19 05 28.3	
	comp=Z,8.3nm,1.4s						
WSAR	**Wadi Sarin**	**52.05**	**357**	LR	LR	19 24 05.3	
	comp=Z,100nm,18.0s,baz=216,slow=32						
SNAA	**Sanae**	**54.51**	**200**	LR	LR	19 23 58.5	
	comp=Z,59nm,20.4s,baz=15,slow=31						
SNAA	**Sanae**	**54.51**	**200**	P	**P**	**19 05 40.1**	**+1.1**
SNAA				IAmb	IAmb	19 05 41.4	
	comp=Z,7.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**59.79**	**42**	P	**P**	**19 06 17.5**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=227,slow=7.0,SNR=8.5 comp=Z,1.7nm,0.7s						
QSPA	**South Pole Qui**	**61.09**	**180**	P	**P**	**19 06 23.4**	**-2.0**
	comp=Z,2.6nm,0.9s,baz=213,slow=1.7,SNR=11						
QSPA				LR	LR	19 29 01.0	
	comp=Z,68nm,21.4s,baz=300,slow=32 comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**61.09**	**180**	P	**P**	**19 06 23.3**	**-2.2**
QSPA				IAmb	IAmb	19 06 31.2	
	comp=Z,5.9nm,1.1s						
CRAI	**Chiangrai**	**62.01**	**42**	P	**P**	**19 06 33.9**	**+1.9**
BELA	**Belgrano 2**	**62.98**	**194**	P	**P**	**19 06 39.3**	**+1.5**
BELA				IAmb	IAmb	19 07 14.9	
	comp=Z,5.2nm,1.3s						
EIL	**Elat**	**63.48**	**335**	LR	LR	19 30 38.5	
	comp=Z,73nm,18.9s,baz=272,slow=32						
VNDA	**Vanda**	**64.16**	**166**	P	**P**	**19 06 43.5**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=227,slow=1.8,SNR=2.7 comp=Z,0.9nm,0.8s						
VNDA	**Vanda**	**64.16**	**166**	P	**P**	**19 06 44.3**	**-1.3**
VNDA				IAmb	IAmb	19 06 54.4	
	comp=Z,3.9nm,1.1s						
ASAR	**Alice Springs**	**64.61**	**104**	P	**P**	**19 06 48.0**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=245,slow=5.8,SNR=26 comp=Z,2.2nm,0.7s						
ASAR	**Alice Springs**	**64.61**	**104**	P	**P**	**19 06 47.4**	**-2.0**
AS31	**Alice Springs**	**64.61**	**104**	P	**P**	**19 06 47.5**	**-1.9**
SBA	**Scott Base**	**65.04**	**167**	P	**P**	**19 06 51.8**	**+0.5**
SBA				IAmb	IAmb	19 07 05.5	
	comp=Z,5.5nm,1.2s						
MMAI	**Mount Meron Ar**	**66.34**	**337**	LR	LR	19 32 23.1	
	comp=Z,58nm,20.1s,baz=266,slow=33						
WRA	**Warramunga Arr**	**66.42**	**100**	P	**P**	**19 07 00.1**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=248,slow=5.6,SNR=10.0						
WRA				LR	LR	19 31 01.4	
	comp=Z,59nm,21.4s,baz=151,slow=32 comp=Z,1.8nm,0.8s						
WB2	**Warramunga Arr**	**66.44**	**100**	P	**P**	**19 06 59.8**	**-1.5**
WB0	**Warramunga Arr**	**66.54**	**100**	P	**P**	**19 07 00.2**	**-1.7**
WR0	**Warramunga Arr**	**66.59**	**101**	P	**P**	**19 07 00.9**	**-1.3**
WR0				IAmb	IAmb	19 07 01.8	
	comp=Z,5.2nm,1.2s						
GEYT	**Alibeck**	**66.70**	**358**	LR	LR	19 33 03.9	
	comp=Z,70nm,19.0s,baz=317,slow=33						
TOA0	**Torodi Ar. Sit**	**70.97**	**298**	P	**P**	**19 07 29.5**	**0.0**
TOA0				IAmb	IAmb	19 07 31.3	
	comp=Z,3.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.97**	**298**	P	**P**	**19 07 29.8**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=115,slow=5.1,SNR=13 comp=Z,2.4nm,0.8s						
HOPE	**Hope Point**	**71.06**	**218**	P	**P**	**19 07 27.4**	**-2.0**
KKAR	**Karatay Array**	**72.34**	**7**	P	**P**	**19 07 37.6**	**+0.5**
DBIC	**Dimbokro**	**72.54**	**288**	P	**P**	**19 07 41.2**	**+2.2**
	comp=Z,3.1nm,0.8s,baz=128,slow=4.4,SNR=3.5 comp=Z,3.1nm,0.8s						
BR131	**Keskin Array S**	**73.02**	**338**	P	**P**	**19 07 40.6**	**-0.9**
BR131				IAmb	IAmb	19 07 44.5	
	comp=Z,3.6nm,0.9s						
BRTR	**Keskin Array B**	**73.02**	**338**	P	**P**	**19 07 41.6**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=165,slow=10.0,SNR=7.4 comp=Z,1.5nm,0.8s						
BRTR	**Keskin Array B**	**73.02**	**338**	P	**P**	**19 07 41.4**	**-0.1**
KBZ	**Khabaz**	**74.32**	**346**	LR	LR	19 40 03.9	
	comp=Z,36nm,18.3s,baz=150,slow=35						
MK31	**Makanchi Array**	**77.92**	**15**	P	**P**	**19 08 09.0**	**-0.2**
MKAR	**Makanchi Array**	**77.92**	**15**	P	**P**	**19 08 09.9**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=165,slow=5.0,SNR=7.5 comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**77.92**	**15**	P	**P**	**19 08 09.5**	**+0.2**
ABKAR	**Akbulak array**	**77.97**	**359**	P	**P**	**19 08 09.3**	**-0.2**
AKTO	**Aktyubinsk**	**79.19**	**358**	LR	LR	19 40 29.8	
	comp=Z,28nm,20.1s,baz=211,slow=34						
KURK	**Kurchatov**	**80.95**	**11**	P	**P**	**19 08 24.7**	**-0.9**
BELG	**Belogornoye**	**81.95**	**352**	LR	LR	19 48 13.9	
	comp=Z,20nm,18.2s,baz=144,slow=38						
AKASG	**Malin Array Be**	**84.25**	**340**	P	**P**	**19 08 42.5**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=150,slow=4.2,SNR=4.1 comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**85.21**	**14**	P	**P**	**19 08 46.2**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=199,slow=4.1,SNR=5.4 comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**85.21**	**14**	P	**P**	**19 08 46.0**	**-1.6**
MDT	**Midelt**	**87.49**	**310**	LR	LR	19 48 36.3	
	comp=Z,32nm,18.2s,baz=158,slow=36						
ESDC	**Sonseca Array**	**91.22**	**316**	P	**P**	**19 09 18.7**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=116,slow=3.3,SNR=4.7						
ESDC				LR	LR	19 51 08.0	
	comp=Z,35nm,18.1s,baz=158,slow=36 comp=Z,0.6nm,0.7s						
PLCA	**Paso Flores**	**97.30**	**215**	LR	LR	19 44 11.6	
	comp=Z,21nm,21.4s,baz=145,slow=30						
MJAR	**Matsushiro Arr**	**97.50**	**52**	LR	LR	19 53 14.5	
	comp=Z,14nm,18.7s,baz=242,slow=35						
PDAR	**Pinedale Array**	**164.35**	**333**	PKP	**PKPdf**	**19 16 15.4**	**0.0**
	comp=Z,0.7nm,0.9s,baz=116,slow=3.4,SNR=5.1						
TXAR	**Lajitas Array**	**166.60**	**275**	PKP	**PKPdf**	**19 16 18.3**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=116,slow=2.9,SNR=4.0						

KRSC 02 19:00:45.4±1.7,50°.07N×159°.32E,h67km±38km,ML4.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.92**	**336**	*eP*	Pn	19 01 17.9	+2.1
KDTR				*eS*	Sn	19 01 41.4	+2.6
PAU	**Pauzhetka**	**2.12**	**312**	*eP*	Pn	19 01 20.1	+1.5
PAU				*eS*	Sn	19 01 45.7	+1.8
SKR	**Severo-Kuril's**	**2.14**	**288**	*eP*	Pn	19 01 18.8	0.0
SKR				*eS*	Sn	19 01 43.3	-1.1
RUS	**Russkaya**	**2.42**	**348**	*eP*	Pn	19 01 25.0	+2.4
RUS				*eS*	Sn	19 01 53.6	+2.4
ASAK	**Asacha**	**2.49**	**339**	*eP*	Pn	19 01 26.2	+2.6
ASAK				*eS*	Sn	19 01 56.2	+3.3
MTVR	**Mutnovka**	**2.52**	**344**	*eP*	Pn	19 01 26.6	+2.4
MTVR				*eS*	Sn	19 01 56.8	+2.9
GRL	**Gorelyy**	**2.61**	**343**	*eP*	Pn	19 01 28.3	+3.0
GRL				*eS*	Sn	19 01 59.5	+3.6
KRMR	**Karymshinskiy**	**2.87**	**345**	*eP*	Pn	19 01 30.9	+2.2
KRMR				*eS*	Sn	19 02 05.5	+3.5
DALK	**Dalny**	**2.99**	**353**	*eP*	Pn	19 01 33.0	+2.7
DALK				*eS*	Sn	19 02 07.4	+2.4
PET	**Petropavlovsk**	**2.99**	**352**	*eP*	Pn	19 01 33.2	+2.8
PET				*eS*	Sn	19 02 08.2	+3.2
SPN	**Mys Shipunski**	**3.07**	**8**	*eP*	Pn	19 01 34.3	+2.9
SPN				*eS*	Sn	19 02 09.2	+2.3
NLC	**Nalytchevo**	**3.11**	**0**	*eP*	Pn	19 01 34.4	+2.4
NLC				*eS*	Sn	19 02 09.2	+1.3
UGLR	**Uglovaya**	**3.16**	**355**	*eP*	Pn	19 01 35.7	+2.9
UGLR				*eS*	Sn	19 02 12.2	+2.8
APC	**Apacha**	**3.17**	**336**	*eP*	Pn	19 01 35.9	+3.2
APC				*eS*	Sn	19 02 12.9	+3.6
SMAR	**Somma**	**3.22**	**354**	*eP*	Pn	19 01 37.0	+3.3
SMAR				*eS*	Sn	19 02 15.4	+4.5
AVH	**Avacha**	**3.23**	**354**	*eP*	Pn	19 01 37.0	+3.4
SDLR	**Sedlovina**	**3.23**	**355**	*eP*	Pn	19 01 36.1	+2.4
KOK	**Koryaka**	**3.26**	**353**	*eP*	Pn	19 01 37.3	+3.2
KOK				*eS*	Sn	19 02 16.1	+4.4
KRER	**Koryakskii**	**3.26**	**354**	*eP*	Pn	19 01 37.2	+2.9
KRER				*eS*	Sn	19 02 14.9	+2.9
KRX	**Arik**	**3.33**	**353**	*eP*	Pn	19 01 38.0	+3.0
KRX				*eS*	Sn	19 02 16.0	+2.6
GNL	**Ganaly**	**3.73**	**347**	*eP*	Pn	19 01 44.2	+3.6
GNL				*eS*	Sn	19 02 26.7	+3.3
KII	**Karymskiy**	**3.98**	**1**	*eP*	Pn	19 01 47.7	+3.8
KII				*eS*	Sn	19 02 33.8	+4.5
MKZ	**Mys Kozlova**	**4.73**	**17**	*eP*	Pn	19 01 56.2	+2.1
MKZ				*eS*	Sn	19 02 48.2	+0.6
TUMR	**Tumrok**	**5.25**	**5**	*eP*	Pn	19 02 06.0	+4.7
TUMR				*eS*	Sn	19 03 04.1	+3.6
KBTR	**Krutoberegovo**	**6.50**	**18**	*eP*	Pn	19 02 21.6	+3.3
SMKR	**Semkarok**	**6.65**	**10**	P	Pn	19 02 24.5	+4.1
SRKR	**Sorokina**	**6.69**	**9**	P	Pn	19 02 25.7	+4.7

*IDC **02** 19:00:52.3±0.8,55°.14S×30°.69W,h0km,mb4.2/7, mbtmp4.2/7,Error ellipse: s-maj=30.5km s-min=19.7km az=66.0*
*NEIC **02** 19:00:53.6±2.1,55°.26S±0°.10×31°.0W±0°.2,h10km±1km, mb4.6/19,Error ellipse: s-maj=17.1km s-min=14.2km az=25.0*

ISC 02 19:00:53.5±0.6,55°.12S±0°.08×30°.95W±0°.08,h10km,n42, σ1ˢ56/38,mb4.5/13,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.32**	**282**		**Pn**	**19 01 45.9**	**+0.5**
HOPE					**Sn**	**19 02 22.1**	**-2.8**
ORCD	**Orcadas**	**9.23**	**227**	Pn	**Pn**	**19 03 04.2**	**-2.3**
VNA1	**Neumayer--Stat**	**18.48**	**156**	P	**P**	**19 05 09.3**	**+0.2**
VNA3	**Neumayer Olymp**	**18.61**	**158**	P	**Pn**	**19 05 11.2**	**+0.3**
VNA2	**Neumayer--Watz**	**18.88**	**156**	P	**Pn**	**19 05 13.5**	**-0.6**
	baz=309,slow=14						
PMSA	**Palmer Station**	**18.95**	**226**	P	**Pn**	**19 05 21.2**	**+6.2**
	13nm,0.8s,baz=62,slow=9.7,SNR=2.4						
SNAA	**Sanae**	**20.47**	**155**	P	**P**	**19 05 30.0**	**-1.0**
SNAA	**Sanae**	**20.47**	**155**	P	**P**	**19 05 29.6**	**-1.4**
	5.1nm,1.1s,baz=315,slow=9.9,SNR=15 5.1nm,1.1s						
SNAA	**Sanae**	**20.47**	**155**	P	**P**	**19 05 29.4**	**-1.6**
TROLL	**Troll, Antarti**	**22.04**	**153**	P	**P**	**19 05 48.5**	**+0.6**
MG02	**Cerro Sombrero**	**22.46**	**260**	P	**P**	**19 05 52.5**	**+0.1**
MG05	**Puerto Natales**	**24.75**	**261**	P	**P**	**19 06 13.6**	**-1.2**
GO09	**Cerro Castillo**	**24.82**	**262**	P	**P**	**19 06 13.3**	**-2.2**
GO09				IAmb	IAmb	19 06 41.3	
	comp=Z,31nm,1.4s						
TRQA	**Tornquist**	**27.00**	**296**		**P**	**19 06 34.6**	**-0.7**
CPUP	**Villa Florida**	**34.62**	**315**	P	**P**	**19 07 42.8**	**+0.2**
	comp=Z,6.6nm,0.9s,baz=161,slow=10,SNR=9.8 comp=Z,6.6nm,0.9s						
CPUP	**Villa Florida**	**34.62**	**315**	P	**P**	**19 07 42.6**	**0.0**
CPUP				IAmb	IAmb	19 07 45.5	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**19 07 47.1**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=179,slow=5.5,SNR=4.8 comp=Z,3.7nm,0.9s						
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**19 07 47.3**	**+0.5**
QSPA				IAmb	IAmb	19 08 00.3	
	comp=Z,5.4nm,1.0s						
CO03	**El Pedregal**	**37.12**	**294**	P	**P**	**19 08 05.3**	**+1.2**
CO01	**Juntas del Tor**	**37.49**	**296**	P	**P**	**19 08 09.1**	**+1.7**
CO01				IAmb	IAmb	19 08 13.0	
	comp=Z,9.0nm,0.8s						
GO02	**Mina Guanaco**	**41.18**	**301**	P	**P**	**19 08 38.8**	**+0.5**
LVC	**Limon Verde**	**43.00**	**304**	P	**P**	**19 08 55.3**	**+2.0**
LVC			

RIGZ	**Rimuhau**	**1.93 212**	P		Pn	19 12 52.8	-0.1
RAGZ	**Rawiri**	**1.93 222**	P		Pn	19 12 53.1	+0.1
URZ	**Urewera**	**1.95 232**	P		Pn	19 12 53.4	+0.2
PRGZ	**Paritu Road**	**2.07 206**	P		Pn	19 12 54.4	-0.4
SNGZ	**Shannon Statio**	**2.19 218**	P		Pn	19 12 56.2	-0.2
KNZ	**Kokohu**	**2.24 209**	P		Pn	19 12 56.0	-1.1
RTZ	**Ruatahuna**	**2.26 226**	P		Pn	19 12 58.4	+0.9
MHGZ	**Mahia Peninsul**	**2.27 203**	P		Pn	19 12 57.1	-0.4
MUGZ	**Murupara**	**2.30 232**	P		Pn	19 12 58.4	+0.5
WHHZ	**Waihua**	**2.47 215**	P		Pn	19 13 00.4	+0.1
MTHZ	**Maungataniwha**	**2.50 224**	P		Pn	19 13 00.8	0.0
NMHZ	**Naumai**	**2.70 221**	P		Pn	19 13 04.1	+0.7
KUZ	**Kuaotunu**	**2.70 276**	P		Pn	19 13 01.8	-1.6
ARHZ	**Aropaoanui**	**2.73 216**	P		Pn	19 13 03.4	-0.4
MRHZ	**Matea Rd**	**2.74 229**	P		Pn	19 13 04.1	+0.1
TOZ	**Tahuroa Road**	**2.91 256**	P		Pn	19 13 05.2	-1.1
BKZ	**Black Stump Fm**	**2.92 223**	P		Pn	19 13 05.9	-0.5
GRZ	**Great Barrier**	**3.01 285**	P		Pn	19 13 08.1	+0.4
MKAZ	**Moumakai**	**3.12 268**	P		Pn	19 13 07.9	-1.3
WIAZ	**Waiheke Island**	**3.16 274**	P		Pn	19 13 09.2	-0.6
KAHZ	**Kahuranaki**	**3.22 212**	P		Pn	19 13 08.8	-1.8
KRHZ	**Kereru**	**3.33 219**	P		Pn	19 13 10.9	-1.2
TMVZ	**Te Maari**	**3.35 231**	P		Pn	19 13 12.2	-0.2
MBAZ	**Motutapu North**	**3.35 274**	P		Pn	19 13 13.3	+1.0
ETVZ	**East Tongariro**	**3.36 231**	P		Pn	19 13 12.6	+0.1
BHHZ	**Black Hill Sta**	**3.38 223**	P		Pn	19 13 12.8	0.0
TWVZ	**Taurewa**	**3.49 234**	P		Pn	19 13 16.0	+1.6
AWAZ	**Awhitu Peninsu**	**3.54 269**	P		Pn	19 13 16.2	+1.3
PNHZ	**Pukenui**	**3.62 217**	P		Pn	19 13 14.8	-1.3
WCZ	**Waipu Caves**	**3.97 285**	P		Pn	19 13 20.8	0.0
WAZ	**Wanganui**	**4.18 229**	P		Pn	19 13 23.7	0.0
MRZ	**Mangatainoka R**	**4.50 216**	P		Pn	19 13 26.2	-2.0
OUZ	**Omahuta**	**4.79 291**	P		Pn	19 13 32.6	+0.5
OGWZ	**Otaki Gorge**	**4.82 218**	P		Pn	19 13 31.5	-1.0
MSWZ	**Moikau Station**	**5.25 213**	P		Pn	19 13 36.0	-2.6

NEIC ***02*** *19:13:29.8±1.8, 37°.55S±0°.05×179°.48E±0°.07, h10km±1km, mb4.4/14, Error ellipse: s-maj=9.8km s-min=7.7km az=307.0*

IDC ***02*** *19:13:33.1±4.1, 36°.22S×178°.91E, h0km, mb4.1/3, mbtmp4.1/3, MS2.6/1, Error ellipse: s-maj=205.2km s-min=46.6km az=167.0*

WEL ***02*** *19:13:34.9±1.2, 37°.3±4°×17°.9E±°, h12km±5km, M3.8/42, ML4.0/43, MLv3.8/42, Error ellipse: s-maj=0.0km s-min=0.0km az=77.1*

ISC 02 19:13:29.5±2.1, 37°.21S±0°.06×179°.32E±0°.08, h10km±10km, n95, σ1°64/91, mb4.4/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.88**	**246**		**Pb**	**19 13 47.6**	**+0.7**
MXZ					**Sg**	**19 13 54.8**	**-3.2**
MXZ	**Matakaoa Point**	**0.88**	**246**	P	**Pn**	**19 13 47.9**	**-0.1**
MXZ				S	**Sg**	**19 13 56.1**	**-1.9**
WMGZ	**Waiomatatini S**	**0.94**	**230**	P	**Pn**	**19 13 51.7**	**+2.8**
WMGZ				S	**Sn**	**19 14 03.1**	**+0.6**
PKGZ	**Pakihiroa**	**1.20**	**235**	P	**Pn**	**19 13 54.6**	**+2.1**
PKGZ				S	**Sg**	**19 14 07.9**	**-0.3**
PUZ	**Puketiti**	**1.21**	**224**	P	**Pn**	**19 13 55.4**	**+2.9**
PUZ				S	**Sn**	**19 14 09.3**	**+0.3**
HAZ	**Te Kaha**	**1.34**	**246**	P	**Pb**	**19 13 55.0**	**+0.2**
HAZ				S	**Sb**	**19 14 11.3**	**-0.7**
TWGZ	**Tauwhareparae**	**1.44**	**227**	P	**Pg**	**19 13 58.8**	**+1.7**
TWGZ				S	**Sg**	**19 14 15.7**	**-0.1**
RUGZ	**Raukumara Rang**	**1.51**	**240**	P	**Pg**	**19 13 59.5**	**+1.0**
RUGZ				S	**Sn**	**19 14 16.1**	**-0.5**
CNGZ	**Carnagh Statio**	**1.55**	**214**	P	**Pg**	**19 14 01.3**	**+2.0**
CNGZ				S	**Sg**	**19 14 20.9**	**+1.6**
TKGZ	**Te Karaka**	**1.69**	**223**	P	**Pg**	**19 14 02.2**	**+0.2**
WIZ	**White Island**	**1.73**	**259**	P	**Pn**	**19 13 59.5**	**-0.2**
MWZ	**Matawai**	**1.81**	**231**	P	**Pg**	**19 14 03.6**	**-0.7**
WHRZ	**Whale Island**	**1.97**	**250**	P	**Pb**	**19 14 06.3**	**+0.7**
RAGZ	**Rawiri**	**1.98**	**229**	P	**Pb**	**19 14 06.1**	**+0.3**
URZ	**Urewera**	**2.04**	**238**	LR	LR	19 15 18.7	
	comp=Z,116nm,21.0s,baz=32,slow=42						
URZ	**Urewera**	**2.04**	**238**	Pn	**Pb**	**19 14 06.3**	**-0.4**
URZ				Sn	**Sn**	**19 14 26.6**	**-3.0**
URZ	**Urewera**	**2.04**	**238**	P	**Pb**	**19 14 06.6**	**-0.1**
PRGZ	**Paritu Road**	**2.05**	**213**	P	**Pg**	**19 14 07.3**	**-1.6**
SNGZ	**Shannon Statio**	**2.22**	**224**	P	**Pb**	**19 14 09.2**	**-0.6**
EDRZ	**Edgecumbe**	**2.24**	**246**	P	**Pb**	**19 14 09.0**	**-1.1**
OPRZ	**Ohinepanea**	**2.29**	**253**	P	**Pn**	**19 14 08.8**	**+1.4**
RTZ	**Ruatahuna**	**2.32**	**232**	P	**Pb**	**19 14 10.7**	**-0.9**
MUGZ	**Murupara**	**2.38**	**237**	P	**Pb**	**19 14 10.9**	**-1.7**
TARZ	**Mount Tarawera**	**2.46**	**245**	P	**Pb**	**19 14 12.6**	**-1.3**
MYRZ	**Mayor Island**	**2.46**	**267**	P	**Pn**	**19 14 10.8**	**+1.0**
RRRZ	**Republican Roa**	**2.49**	**242**	P	**Pb**	**19 14 12.6**	**-1.9**
OMRZ	**Omania**	**2.51**	**248**	P	**Pb**	**19 14 12.9**	**-1.8**
MTHZ	**Maungataniwha**	**2.55**	**229**	P	**Pb**	**19 14 13.8**	**-1.7**
HLRZ	**Highlands Stat**	**2.57**	**245**	P	**Pb**	**19 14 14.1**	**-1.7**
KARZ	**Kaharoa**	**2.57**	**251**	P	**Pn**	**19 14 13.1**	**+1.8**
HSRZ	**Hossack Road**	**2.67**	**245**	P	**Pb**	**19 14 19.2**	**+1.7**
NMHZ	**Naumai**	**2.73**	**226**	P	**Pb**	**19 14 16.5**	**-2.1**
KMRZ	**Kaimai**	**2.76**	**256**	P	**Pn**	**19 14 15.5**	**+1.6**
MRHZ	**Matea Rd**	**2.81**	**234**	P	**Pn**	**19 14 17.0**	**+2.4**
KUZ	**Kuaotunu**	**2.92**	**278**	P	**Pn**	**19 14 16.1**	**0.0**
BKZ	**Black Stump Fm**	**2.96**	**228**	Pn	**Pn**	**19 14 17.7**	**+1.0**
BKZ	**Black Stump Fm**	**2.96**	**228**	P	**Pn**	**19 14 19.1**	**+2.4**
CKHZ	**Cape Kidnapper**	**3.01**	**215**	P	**Pn**	**19 14 19.0**	**+1.6**
KUTZ	**Kaahu Road**	**3.05**	**244**	P	**Pn**	**19 14 20.4**	**+2.5**
TOZ	**Tahuroa Road**	**3.08**	**259**	P	**Pn**	**19 14 18.6**	**+0.3**
KAHZ	**Kahuranaki**	**3.21**	**216**	P	**Pn**	**19 14 21.8**	**+1.6**
GRZ	**Great Barrier**	**3.25**	**286**	P	**Pn**	**19 14 21.6**	**+1.0**
MKAZ	**Moumakai**	**3.33**	**271**	P	**Pn**	**19 14 22.1**	**+0.4**
WIAZ	**Waiheke Island**	**3.38**	**276**	P	**Pn**	**19 14 22.9**	**+0.6**
TMVZ	**Te Maari**	**3.43**	**235**	P	**Pn**	**19 14 25.1**	**+1.9**
ETVZ	**East Tongariro**	**3.43**	**235**	P	**Pn**	**19 14 25.3**	**+2.0**
NNVZ	**North Ngauruho**	**3.50**	**236**	P	**Pn**	**19 14 26.2**	**+2.0**
ETAZ	**East Tamaki Re**	**3.52**	**273**	P	**Pn**	**19 14 25.4**	**+1.0**
MOVZ	**Moawhango**	**3.56**	**231**	P	**Pn**	**19 14 26.5**	**+1.5**
MBAZ	**Motutapu North**	**3.57**	**276**	P	**Pn**	**19 14 26.2**	**+1.2**
TWVZ	**Taurewa**	**3.58**	**238**	P	**Pn**	**19 14 27.8**	**+2.6**
ABAZ	**Army Bay**	**3.65**	**278**	P	**Pn**	**19 14 27.4**	**+1.3**
AWAZ	**Awhitu Peninsu**	**3.74**	**271**	P	**Pn**	**19 14 28.5**	**+1.1**
HIZ	**Hauiti**	**3.77**	**248**		**Pn**	**19 14 30.4**	**+2.7**
HIZ	**Hauiti**	**3.77**	**248**	P	**Pn**	**19 14 29.4**	**+1.7**
WTAZ	**Waiatarua**	**3.81**	**273**	P	**Pn**	**19 14 29.6**	**+1.3**
RVAZ	**Riverhead Bore**	**3.82**	**275**	P	**Pn**	**19 14 29.7**	**+1.3**
WCZ	**Waipu Caves**	**4.20**	**286**	P	**Pn**	**19 14 35.4**	**+1.7**
BFZ	**Birch Farm**	**4.21**	**214**	Pn	**Pn**	**19 14 33.8**	**-0.1**
WAZ	**Wanganui**	**4.25**	**232**	P	**Pn**	**19 14 36.7**	**+2.4**
KHEZ	**Kahui Hut**	**4.67**	**242**	P	**Pn**	**19 14 44.8**	**+4.7**
OUZ	**Omahuta**	**5.04**	**292**	P	**Pn**	**19 14 47.4**	**+2.3**
MSWZ	**Moikau Station**	**5.25**	**216**		Pn	19 14 31.1	-17
PLWZ	**Palliser**	**5.37**	**215**		Pn	19 14 29.7	-20
SNZO	**South Karori**	**5.44**	**220**		Pn	19 14 33.4	-17
CMWZ	**Cape Campbell**	**6.01**	**219**	Pn	Pn	19 14 49.7	-8.8
NNZ	**Nelson**	**6.11**	**227**	Pn	Pn	19 14 53.6	-6.3
QRZ	**Quartz Range**	**6.40**	**234**	Pn	Pn	19 14 57.0	-7.0
THZ	**Tophouse**	**6.73**	**226**	Pn	Pn	19 15 01.7	-6.7
KHZ	**Kahutara**	**6.84**	**219**	Pn	Pn	19 15 02.0	-8.0
CTZ	**Chatham Island**	**7.21**	**156**	P	Pn	19 15 22.1	+7.0
LTZ	**Lake Taylor**	**7.76**	**222**	Pn	Pn	19 15 14.9	-7.7
MQZ	**McQueen's Vall**	**8.24**	**216**		Pn	19 15 18.3	-11
MQZ	**McQueen's Vall**	**8.24**	**216**	P	Pn	19 15 39.4	+10
OXZ	**Oxford**	**8.26**	**220**		Pn	19 15 19.4	-10
STKA	**Stephens Creek**	**31.38**	**268**	P	**P**	**19 19 52.6**	**+2.0**
	2.3nm,0.8s,baz=107,slow=11,SNR=2.9						
	2.3nm,0.8s						
STKA	**Stephens Creek**	**31.38**	**268**	P	**P**	**19 19 52.2**	**+1.6**
COEN	**Coen**	**39.62**	**296**	P	**P**	**19 21 03.1**	**+1.6**
COEN				IAmb	IAmb	19 21 40.2	
	comp=Z,15nm,1.5s						
AS31	**Alice Springs**	**41.05**	**276**	P	**P**	**19 21 13.2**	**-0.2**
ASAR	**Alice Springs**	**41.05**	**276**	P	**P**	**19 21 14.4**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=118,slow=7.6,SNR=23						
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**41.05**	**276**	P	**P**	**19 21 13.2**	**-0.2**
WR0	**Warramunga Arr**	**42.49**	**281**	P	**P**	**19 21 26.2**	**+1.0**
WR0				IAmb	IAmb	19 21 33.4	
	comp=Z,5.6nm,1.3s						
FORT	**Forrest**	**42.56**	**263**	P	**P**	**19 21 26.1**	**+0.5**
WB2	**Warramunga Arr**	**42.65**	**281**	P	**P**	**19 21 27.6**	**+1.2**
WB2				IAmb	IAmb	19 21 28.2	
	comp=Z,4.0nm,0.5s						
WRA	**Warramunga Arr**	**42.66**	**281**	P	**P**	**19 21 27.8**	**+1.3**
	comp=Z,2.9nm,0.5s,baz=122,slow=7.5,SNR=53						
	comp=Z,2.9nm,0.5s						
WRA	**Warramunga Arr**	**42.66**	**281**	P	**P**	**19 21 26.9**	**+0.4**
WB0	**Warramunga Arr**	**42.71**	**281**	P	**P**	**19 21 28.2**	**+1.2**
WB0				IAmb	IAmb	19 21 28.7	
	comp=Z,4.9nm,0.5s						
CASY	**Casey**	**48.12**	**210**	P	**P**	**19 22 08.1**	**-1.2**
MTN	**Manton Dam**	**49.30**	**286**	P	**P**	**19 22 19.6**	**+0.7**
KNRA	**Kununurra**	**49.44**	**282**	P	**P**	**19 22 21.2**	**+1.2**
KNRA				IAmb	IAmb	19 23 04.0	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.53**	**277**	P	**P**	**19 22 28.6**	**+0.4**
FITZ				IAmb	IAmb	19 22 50.7	
	comp=Z,8.2nm,1.4s						
QSPA	**South Pole Qui**	**52.92**	**180**	P	**P**	**19 22 42.6**	**-3.0**
QSPA				IAmb	IAmb	19 22 55.2	
	comp=Z,1.0nm,0.9s						
SNAA	**Sanae**	**71.41**	**179**	P	**P**	**19 24 47.2**	**-2.4**
SNAA				IAmb	IAmb	19 25 08.0	
	comp=Z,4.5nm,1.5s						
ARCES	**ARCESS Array B**	**144.65**	**344**	PKP	**PKiKP**	**19 33 08.1**	**-1.0**
	comp=Z,3.4nm,1.1s,baz=46,slow=3.5,SNR=6.2						
FINES	**FINESS Array B**	**150.53**	**334**	PKPbc	**PKiKP**	**19 33 23.1**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=46,slow=5.5,SNR=9.2						

DDA ***02*** *19:24:57.8±0.0, 40°.71N×30°.13E, h13km±2km, MW3.5*
ISK ***02*** *19:24:57.5, 40°.71N×30°.13E, h9km, ML3.7/22*
IDC ***02*** *19:24:57.5±1.2, 40°.74N×30°.13E, h0km, mb3.4/1, mbtmp3.3/5, ML3.3/4, Error ellipse: s-maj=20.5km s-min=8.2km az=42.0*
CFUSG ***02*** *19:24:59.0, 40°.70N×30°.10E, h10km, mb2.8/3, Northwestern Turkey Magtype MSH 3.3 from 2 stations*

ISC 02 19:24:58.0±0.8, 40°.72N±0°.02×30°.13E±0°.02, h12km±6km, n65, σ1°15/94, 13C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUV	**Serdivan-Sakar**	**0.15**	**83**	PG	**Pg**	**19 25 01.3**	**-0.2**
SAUV				SG	**Sg**	**19 25 03.9**	**-0.1**
KAYN	**Sakarya, Kayna**	**0.29**	**33**	P	**Pg**	**19 25 04.0**	**+0.1**
KAYN				S	**Sg**	**19 25 07.8**	**-0.2**
HRT	**Hereke**	**0.37**	**286**	PG	**Pg**	**19 25 05.5**	**+0.2**
HRT				SG	**Sg**	**19 25 10.9**	**+0.6**
GULT	**Gulveren**	**0.41**	**135**	PG	**Pg**	**19 25 06.1**	**0.0**
GULT				SG	**Sb**	**19 25 12.5**	**-0.9**
ADVT	**Abdulvahap**	**0.42**	**226**	PG	**Pg**	**19 25 05.8**	**-0.4**
ADVT				SG	**Sg**	**19 25 11.6**	**-0.2**
GPA	**Golpazari**	**0.45**	**163**	PG	**Pg**	**19 25 06.6**	**-0.3**
GPA				SG	**Sb**	**19 25 13.2**	**-1.4**
CAVI	**Cavuskoy**	**0.56**	**203**	PG	**Pb**	**19 25 09.0**	**-0.8**
SILT	**Sile**	**0.57**	**319**	PG	**Pg**	**19 25 09.1**	**0.0**
SILT				SG	**Sg**	**19 25 17.4**	**+0.8**
BILE	**Bilecik/Merkez**	**0.59**	**199**	P	**Pb**	**19 25 09.7**	**-0.6**
BILE				S	**Sb**	**19 25 18.0**	**-0.6**
BILE				*i* AML	AML	19 25 22.0	
	comp=E,887nm,0.6s						
BILE				*i* AML	AML	19 25 23.0	
	comp=N,1µm,0.4s						
YLV	**Yalova**	**0.60**	**255**	PG	**Pb**	**19 25 09.7**	**-0.7**
GEMT	**Gemlik**	**0.77**	**249**	PG	**Pb**	**19 25 12.7**	**-0.6**
SRCK	**Saricakaya, Es**	**0.78**	**151**	PG	**Pb**	**19 25 12.8**	**-0.6**
AUBOZ	**BOZOYUK**	**0.81**	**185**	PG	**Pg**	**19 25 12.5**	**-1.2**
IGD	**Bursa**	**0.84**	**238**	P	**Pb**	**19 25 14.1**	**-0.4**
IGD				S	**Sb**	**19 25 25.3**	**-0.5**
IGD				*i* AML	AML	19 25 26.0	
	comp=E,809nm,0.5s						
IGD				*i* AML	AML	19 25 30.0	
	comp=N,856nm,0.4s						
MDUB	**Mudurnu**	**0.85**	**107**	PG	**Pg**	**19 25 13.4**	**-1.0**
BORA	**Eskisehir**	**0.88**	**164**	PG	**Pb**	**19 25 15.1**	**0.0**
KAVV	**Kandilli-Istan**	**0.88**	**293**	PG	**Pg**	**19 25 14.9**	**-0.1**
ISK	**Istanbul-Kandi**	**0.88**	**293**	PG	**Pg**	**19 25 14.8**	**-0.2**
ULDT	**Uludag**	**0.96**	**233**	P	**Pb**	**19 25 16.0**	**-0.6**
ULDT				S	**Sb**	**19 25 29.1**	**-0.1**
ULDT				*i* AML	AML	19 25 30.0	
	comp=E,1µm,0.4s						
ULDT				*i* AML	AML	19 25 35.0	
	comp=N,1µm,0.4s						
ARMT	**Armutlu**	**0.98**	**261**	PG	**Pb**	**19 25 16.8**	**-0.1**
KLYT	**Kilyos**	**0.98**	**303**	PG	**Pb**	**19 25 16.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.01**	**250**	PG	**Pg**	**19 25 16.7**	**-0.8**
YIGI	**Dzce**	**1.03**	**76**	P	**Pg**	**19 25 16.9**	**-0.8**
YIGI				S	**Sb**	**19 25 32.0**	**+0.9**
YIGI				*i* AML	AML	19 25 37.0	
	comp=N,362nm,0.5s						
YIGI				*i* AML	AML	19 25 37.0	
	comp=E,405nm,0.9s						
BGKT	**Bogazkoy**	**1.13**	**294**	PN	**Pb**	**19 25 19.4**	**0.0**
KDZE	**Karadeniz Ereo**	**1.15**	**59**	⇑P	**Pg**	**19 25 19.4**	**-0.8**
KDZE				⇑S	**Sg**	**19 25 33.1**	**-2.1**
KDZE	**Karadeniz Ereo**	**1.15**	**59**	PN	**Pb**	**19 25 20.1**	**+0.3**
ORLT	**Orhaneli**	**1.16**	**235**	PN	**Pb**	**19 25 19.9**	**-0.1**
ANDZ	**Kutahya, Merke**	**1.22**	**188**	P	**Pn**	**19 25 21.7**	**+0.7**
ANDZ				S	**Sn**	**19 25 38.5**	**+1.0**
ANDZ				*i* AML	AML	19 25 40.0	
	comp=N,365nm,0.7s						
ANDZ				*i* AML	AML	19 25 40.0	
	comp=E,574nm,0.8s						
YUVA	**Yuva-Kibriscik**	**1.23**	**105**	PN	**Pn**	**19 25 21.4**	**+0.4**
SGAZ	**Eskisehir, Sey**	**1.31**	**155**	P	**Pb**	**19 25 22.8**	**+0.3**
SGAZ				S	**Sn**	**19 25 42.0**	**+2.4**
SGAZ				*i* AML	AML	19 25 44.0	
	comp=N,381nm,0.5s						
SGAZ				*i* AML	AML	19 25 44.0	
	comp=E,567nm,0.5s						
ESKT	**Eskisehir**	**1.32**	**155**	PN	**Pb**	**19 25 22.5**	**-0.2**
AUMIH	**MIHALICIK**	**1.34**	**129**	PN	**Pn**	**19 25 22.9**	**+0.3**
KIBS	**BOLU**	**1.34**	**102**	P	**Pg**	**19 25 23.6**	**-0.2**
KIBS				S	**Sn**	**19 25 43.6**	**+3.2**
KIBS				*i* AML	AML	19 25 52.0	
	comp=N,315nm,0.7s						
KIBS				*i* AML	AML	19 25 52.0	
	comp=E,363nm,0.7s						
GDZ	**Gediz**	**1.71**	**197**	P	**Pn**	**19 25 27.5**	**-0.2**
GDZ				*i* AML	AML	19 25 53.0	
	comp=E,616nm,0.5s						
GDZ				*i* AML	AML	19 25 55.0	
	comp=N,516nm,0.4s						
BTIN	**Bartın**	**1.84**	**60**	P	**Pn**	**19 25 30.0**	**+0.6**
BTIN				S	**Sn**	**19 25 53.3**	**+0.7**
BTIN				*i* AML	AML	19 26 03.0	
	comp=E,413nm,0.6s						
BTIN				*i* AML	AML	19 26 04.0	
	comp=N,217nm,0.5s						
KNL	**Balıkesir**	**2.04**	**258**	P	**Pb**	**19 25 35.1**	**+0.2**
KNL				S	**Sg**	**19 26 03.3**	**-0.2**
KNL				*i* AML	AML	19 26 09.0	
	comp=N,214nm,0.7s						
KNL				*i* AML	AML	19 26 12.0	
	comp=E,394nm,0.6s						
USAK	**Uak-Merkez**	**2.18**	**204**	P	**Pn**	**19 25 34.7**	**+0.6**
USAK				S	**Sg**	**19 26 08.5**	**+0.5**
USAK				*i* AML	AML	19 26 10.0	
	comp=N,165nm,0.5s						
USAK				*i* AML	AML	19 26 10.0	
	comp=E,209nm,0.4s						
PELI	**Kastamonı-Ara**	**2.47**	**75**	P	**Pn**	**19 25 39.1**	**+1.0**
PELI				S	**Sg**	**19 26 16.5**	**-0.9**
PELI				*i* AML	AML	19 26 19.0	
	comp=N,121nm,0.9s						
PELI				*i* AML	AML	19 26 19.0	
	comp=E,134nm,0.7s						
BRTR	**Keskin Array B**	**2.86**	**109**	Pn	**Pn**	**19 25 44.4**	**+0.9**
	1.0nm,0.3s,baz=292,slow=11,SNR=29						
BRTR					Pg	**Pg**	**19 25 52.3**	**-0.5**
	1.2nm,0.3s,baz=283,slow=15,SNR=24						
BRTR					Sn	**Sn**	**19 26 19.0**	**+1.0**
	1.3nm,0.3s,baz=287,slow=15,SNR=5.6						
BRTR					Lg	Lg	19 26 28.3	
	0.9nm,0.3s,baz=256,slow=16,SNR=4.9						
	3.6nm,0.4s						
BZK	**Bozkurt**	**3.17**	**66**	⇓P	**Pn**	**19 25 49.0**	**+1.4**
MANR	**Mangalia**	**3.30**	**340**	⇑P	**Pn**	**19 25 50.2**	**+0.9**
ICOR	**Ion Corvin**	**3.81**	**334**	⇓P	**Pn**	**19 25 58.2**	**+1.8**
TIRR	**Tirgusor**	**3.94**	**342**	⇓P	**Pn**	**19 25 59.1**	**+0.9**
TIRR				⇓S	**Sn**	**19 26 42.8**	**-1.6**
JURR	**Jurilovca**	**4.15**	**348**	⇑P	**Pn**	**19 26 01.5**	**+0.5**
TPGR	**Topolog**	**4.32**	**344**	⇑P	**Pn**	**19 26 04.2**	**+0.7**
TPGR				⇑S	**Sn**	**19 26 51.9**	**-1.8**
TLCR		**4.56**	**348**	⇑P	**Pn**	**19 26 06.8**	**+0.1**
TLCR				⇓S	**Sn**	**19 26 58.0**	**-1.7**
SEV	**Sevastopol'**	**4.63**	**33**	*e*P	**Pn**	**19 26 08.3**	**+0.7**
SEV				Pm		19 26 11.2	
	comp=Z,4.0nm,0.3s						
SEV				*e*S	**Sn**	**19 27 03.0**	**+1.8**
SEV				Sm		19 27 03.6	
	comp=N,4.0nm,0.2s						
SEV				Sm		19 27 03.6	
	comp=E,17nm,0.5s						
CFR	**Carcaliu**	**4.69**	**342**	⇓P	**Pn**	**19 26 09.6**	**+1.1**
CFR				⇑S	**Sn**	**19 27 00.4**	**-2.3**
ALU	**Alushta**	**5.06**	**37**	*e*P	**Pn**	**19 26 13.5**	**0.0**
ALU				Pm		19 26 16.7	
	comp=Z,5.0nm,0.3s						
ISR	**Istrita**	**5.12**	**330**	⇑P	**Pn**	**19 26 16.5**	**+2.0**
SCTR	**Scanteiesti**	**5.19**	**343**	⇓P	**Pn**	**19 26 16.4**	**+1.0**
SUDU	**Sudak**	**5.49**	**39**	*e*P	**Pn**	**19 26 20.7**	**+1.2**
SUDU				Pm		19 26 22.2	
	comp=Z,10.0nm,0.5s						
SUDU				*e*S	**Sn**	**19 27 24.3**	**+1.8**
SUDU				Sm		19 27 26.0	
	comp=N,23nm,0.4s						
SUDU				Sm		19 27 26.0	
	comp=E,8.0nm,0.3s						
MLR	**Muntele Rosu**	**5.67**	**329**	⇑P	**Pn**	**19 26 23.5**	**+1.5**
MLR	**Muntele Rosu**	**5.67**	**329**	Pn	**Pn**	**19 26 24.5**	**+2.5**
	comp=E,0.8nm,0.3s,baz=146,slow=13,SNR=6.7						
	comp=E,4.8nm,0.5s						
VRI	**Vrincioaia**	**5.71**	**335**	⇓P	**Pn**	**19 26 23.7**	**+1.1**
PLOR	**Plostina**	**5.72**	**335**	⇑P	**Pn**	**19 26 24.5**	**+1.8**
COVR	**Voineasa-Covas**	**5.87**	**332**	⇓P	**Pn**	**19 26 26.3**	**+1.6**
COVR				⇓S	**Sn**	**19 27 31.9**	**0.0**
OZUR		**6.23**	**331**	⇓P	**Pn**	**19 26 31.0**	**+1.3**
DOPR	**Dopca**	**6.28**	**328**	⇓P	**Pn**	**19 26 31.8**	**+1.4**
TESR	**Tescani**	**6.32**	**338**	⇑P	**Pn**	**19 26 31.4**	**+0.6**
LOT	**Lotru**	**6.63**	**318**	⇓P	**Pn**	**19 26 36.7**	**+1.4**
SORM	**Soroca**	**7.52**	**351**	⇑P	**Pn**	**19 26 47.7**	**+0.4**
MMAI	**Mount Meron Ar**	**8.77**	**150**	Pn	**Pn**	**19 27 05.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=335,slow=16,SNR=1.9						
	comp=E,0.5nm,0.4s						
AKASG	**Malin Array Be**	**10.00**	**357**	Pn	**Pn**	**19 27 20.8**	**-0.6**
	comp=E,0.5nm,0.3s,baz=176,slow=12,SNR=6.5						
AKASG				Sn	**Sn**	**19 29 09.0**	**-4.3**
	comp=E,0.6nm,0.3s,baz=174,slow=24,SNR=1.8						
	comp=E,0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**37.07**	**230**	P	**P**	**19 32 08.5**	**+0.5**
	comp=E,0.4nm,0.6s,baz=36,slow=8.6,SNR=3.0						
	comp=E,0.4nm,0.6s						

NOU ***02*** *19:25:37.4, 37°.36S×179°.76E, h122km, MLv4.7/8, Off E. Coast of N. Island, N.Z.*
WEL ***02*** *19:25:43.3±1.1, 37°.3±4°×17°.9E±°, h21km±7km, M3.7/58, ML3.9/63, MLv3.7/58, Error ellipse: s-maj=0.0km s-min=0.0km az=86.9*

ISC 02 19:25:39.4±2.8, 37°.27S±0°.07×179°.4E±0°.1, h25km±15km, n95, σ1°52/104, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.90**	**251**	P	**Pb**	**19 25 56.4**	**+0.1**
MXZ				S	**Sb**	**19 26 04.7**	**-3.3**
WMGZ	**Waiomatatini S**	**0.94**	**234

*IDC **02** 19:26:13.8±2.2,43°.25N×105°.12W,h0km,mbtmp3.3/3, ML3.2/3,Error ellipse: s-maj=48.7km s-min=10.5km az=155.0*

*NEIC **02** 19:26:16.6±1.9,43°.63N±0°.04×105°.22W±0°.06,h0km±2km, ML3.5/65,Error ellipse: s-maj=9.4km s-min=5.0km az=315.0*

ISC 02 19:26:15.7±1.1,**43°.61N**±0°.05×**105°.25W**±0°.05,**h0**km,**n60,** σ1§**17**/59,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**1.01**	**59**		**Pg**		**19 26 34.3**	**-0.8**
K22A	**Casper**	**1.34**	**225**		**Pg**		**19 26 40.6**	**-0.8**
K22A					IAML		19 27 04.8	
	comp=N,620nm,0.3s							
PHWY	**Pilot Hill**	**2.31**	**184**			**Pn**	**19 26 55.8**	**+0.4**
PHWY					IAML		19 27 33.5	
	comp=N,198nm,0.6s							
RWWY	**Rawlins**	**2.41**	**218**			**Pn**	**19 26 58.0**	**+1.5**
RWWY					IAML		19 27 38.6	
	comp=N,295nm,0.9s							
N23A	**Red Feather La**	**2.77**	**191**			**Pn**	**19 27 02.5**	**+1.0**
LAO	**LASA Array**	**3.15**	**348**			**Pn**	**19 27 07.8**	**+1.1**
RLMT	**Red Lodge**	**3.25**	**299**			**Pn**	**19 27 09.7**	**+1.5**
RLMT					IAML		19 28 21.5	
	comp=N,88nm,0.9s							
RLMT					IAML		19 29 06.4	
	comp=N,85nm,3.9s							
BW06	**Boulder Array**	**3.27**	**256**			**Pn**	**19 27 09.2**	**+0.8**
PD31	**Pinedale Array**	**3.27**	**256**			**Pn**	**19 27 09.0**	**+0.7**
PDAR	**Pinedale Array**	**3.27**	**256**	Pn		**Pn**	**19 27 09.1**	**+0.7**
	comp=N,2.6nm,0.3s,baz=79,slow=16,SNR=47							
PDAR				Lg		Lg	19 27 57.0	
	comp=N,17nm,0.3s,baz=68,slow=33,SNR=13							
	comp=N,3.4nm,0.3s							
OGNE	**Ogallala**	**3.58**	**137**			**Pn**	**19 27 14.2**	**+1.7**
ISCO	**Idaho Springs**	**3.82**	**184**			**Pn**	**19 27 17.2**	**+1.2**
ISCO					IAML		19 29 25.4	
	comp=N,70nm,3.8s							
GCMT	**Greycliff**	**3.83**	**306**			**Pn**	**19 27 17.2**	**+1.2**
LOHW	**Long Hollow**	**3.89**	**272**			**Pn**	**19 27 19.6**	**+2.7**
LOHW					IAML		19 28 31.0	
	comp=N,49nm,2.5s							
H17A	**Grant Village**	**3.92**	**283**			**Pn**	**19 27 17.4**	**0.0**
H17A					IAML		19 28 25.2	
	comp=N,80nm,1.3s							
H17A					IAML		19 28 28.4	
	comp=E,52nm,0.9s							
MOOW	**Moose Ponds**	**3.99**	**274**			**Pn**	**19 27 18.6**	**+0.3**
SNOW	**Snow King Moun**	**4.01**	**270**			**Pn**	**19 27 20.4**	**+1.8**
YNR	**Norris Junctio**	**4.06**	**288**			**Pn**	**19 27 20.8**	**+1.4**
YNR					IAML		19 28 44.6	
	comp=E,41nm,2.5s							
REDW	**Red Top Meadow**	**4.09**	**268**			**Pn**	**19 27 21.7**	**+2.1**
REDW					IAML		19 28 58.0	
	comp=E,80nm,2.4s							
Q20A	**White River Ci**	**4.13**	**214**			**Pn**	**19 27 20.6**	**+0.4**
IMW	**Indian Meadow**	**4.13**	**276**			**Pn**	**19 27 20.2**	**-0.1**
IMW					IAML		19 27 50.5	
	comp=E,50nm,0.6s							
IMW					IAML		19 28 37.0	
	comp=E,44nm,1.8s							
TPAW	**Teton Pass**	**4.15**	**270**			**Pn**	**19 27 20.6**	**0.0**
TPAW					IAML		19 28 51.5	
	comp=E,74nm,1.6s							
TPAW					IAML		19 28 59.3	
	comp=E,54nm,1.8s							
FXWY	**Fox Creek**	**4.20**	**272**			**Pn**	**19 27 22.8**	**+1.6**
AHID	**Auburn Hatcher**	**4.36**	**261**			**Pn**	**19 27 24.7**	**+1.3**
AHID					IAML		19 28 39.6	
	comp=E,63nm,1.4s							
AHID					IAML		19 28 53.6	
	comp=E,60nm,1.4s							
RDMU	**Red Mountain**	**4.43**	**228**			**Pn**	**19 27 24.7**	**+0.4**
RDMU					IAML		19 28 53.9	
	comp=N,42nm,1.5s							
YHL	**Hebgen Lake**	**4.44**	**288**			**Pn**	**19 27 23.7**	**-0.9**
YHL					IAML		19 28 43.2	
	comp=E,52nm,1.1s							
YHL					IAML		19 28 56.6	
	comp=N,56nm,1.1s							
QLMT	**Earthquake Lak**	**4.61**	**287**			**Pn**	**19 27 26.7**	**-0.1**
SUSD	**Miller**	**4.61**	**77**			**Pn**	**19 27 27.8**	**+1.2**
SMCO	**Snowmass**	**4.62**	**197**			**Pn**	**19 27 29.0**	**+1.9**
SMCO					IAML		19 28 51.8	
	comp=N,46nm,1.2s							
SMCO					IAML		19 30 17.9	
	comp=N,38nm,3.5s							
Q24A	**Divide**	**4.64**	**179**			**Pn**	**19 27 27.9**	**+0.5**
Q24A					IAML		19 29 56.5	
	comp=E,37nm,3.4s							
Q24A					IAML		19 29 57.6	
	comp=N,42nm,3.6s							
K31A	**O'Neill**	**4.85**	**100**			**Pn**	**19 27 30.4**	**+0.4**
DGMT	**Dagmar**	**4.91**	**8**	Pn		**Pn**	**19 27 32.5**	**+1.7**
BOZ	**Bozeman (W)**	**4.97**	**296**			**Pn**	**19 27 31.8**	**+0.1**
BOZ					IAML		19 29 05.5	
	comp=N,33nm,0.9s							
BOZ					IAML		19 30 16.1	
	comp=N,28nm,4.6s							
KSCO	**Kaye Shedlock'**	**5.00**	**156**	Pn		**Pn**	**19 27 33.1**	**+1.0**
HWUT	**Hardware Ranch**	**5.08**	**249**	Pn		**Pn**	**19 27 33.4**	**+0.2**
HWUT					IAML		19 29 21.4	
	comp=N,42nm,1.6s							
TCUT	**Toone Canyon**	**5.20**	**243**			**Pn**	**19 27 35.1**	**+0.1**
EGMT	**Eagleton**	**5.42**	**326**			**Pn**	**19 27 38.4**	**+0.6**
P18A	**Preston Nutter**	**5.47**	**225**			**Pn**	**19 27 39.6**	**+0.9**
JLU	**Jordanelle**	**5.51**	**239**			**Pn**	**19 27 40.6**	**+1.5**
LRM	**Limekiln Ridge**	**5.59**	**296**			**Pn**	**19 27 41.3**	**+1.0**
HRY	**Holter Researc**	**5.59**	**306**			**Pn**	**19 27 41.2**	**+1.0**
MCMT	**McKenzie Canyo**	**5.60**	**285**			**Pn**	**19 27 42.5**	**+2.1**
CTU	**Camp Tracy**	**5.65**	**241**			**Pn**	**19 27 41.5**	**+0.4**
PV07	**Paradox Valley**	**5.77**	**208**			**Pn**	**19 27 44.5**	**+1.6**
PV15	**Paradox Valley**	**5.81**	**206**			**Pn**	**19 27 44.8**	**+1.5**
P17A	**Butcher Ranch,**	**5.84**	**227**			**Pn**	**19 27 44.7**	**+1.0**
HVU	**Hansel Valley**	**5.84**	**254**			**Pn**	**19 27 43.7**	**0.0**
SDCO	**Great Sand Dun**	**5.86**	**182**			**Pn**	**19 27 44.4**	**+0.3**
PV23	**Carpenter Ridg**	**5.89**	**210**			**Pn**	**19 27 46.5**	**+2.0**
S22A	**4UR Ranch, Cre**	**5.98**	**192**			**Pn**	**19 27 45.9**	**+0.1**
SRU	**San Rafael Swe**	**6.00**	**223**			**Pn**	**19 27 44.8**	**-1.1**
PV13	**Radium Mtn., P**	**6.08**	**208**			**Pn**	**19 27 48.5**	**+1.4**
TMUT	**Trail Mountain**	**6.22**	**228**			**Pn**	**19 27 50.4**	**+1.4**
Q16A	**Castle Valley**	**6.47**	**226**			**Pn**	**19 27 53.1**	**+0.6**
T25A	**Trinidad**	**6.50**	**174**	Pn		**Pn**	**19 27 53.6**	**+0.8**
DUG	**Dugway, Tooele**	**6.60**	**241**			**Pn**	**19 27 54.8**	**+0.7**
MSU	**Marysvale**	**7.30**	**228**	Pn		**Pn**	**19 28 05.0**	**+1.1**
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn		**Pn**	**19 28 28.8**	**-1.1**
	comp=N,0.6nm,0.3s,baz=231,slow=11,SNR=2.0							
ULM				Lg		Lg	19 31 05.7	
	comp=N,0.6nm,0.3s,baz=130,slow=20,SNR=3.1							
	comp=N,2.0nm,0.5s							
I56US	**NEWPORT INFRAS**	**9.49**	**303**	*i*			20 22 40.0	
	baz=115,slow=321,SNR=2.2							
NVAR	**Mina Array Bea**	**11.14**	**247**	Pn		**Pn**	**19 28 57.4**	**+1.0**
	comp=N,0.2nm,0.3s,baz=43,slow=15,SNR=2.7							
	comp=N,0.2nm,0.4s							

*NOU **02** 19:44:51.5,36°.93S×179°.95W,h149km,MLv5.0/9,East of North Island, N.Z.*

*IDC **02** 19:44:55.7±1.3,36°.66S×179°.03E,h0km,mb4.3/3, mbtmp4.3/4,ML4.5/1,MS3.4/4,Error ellipse: s-maj=32.2km s-min=28.0km az=94.0*

*NEIC **02** 19:44:56.7±1.9,36°.95S±0°.10×179°.3E±0°.1,h10km±1km, mb4.5/16,Error ellipse: s-maj=20.7km s-min=7.0km az=141.0*

*WEL **02** 19:44:58.2±1.3,37°.S±7°.×17°.9E±°,h11km±8km,M4.2/33, ML4.5/33,MLv4.2/33,Error ellipse: s-maj=0.0km s-min=0.0km az=113.5*

ISC 02 19:44:55.4±2.1,**36°.98S**±0°.05×**179°.33E**±0°.07,**h5**km±11km, **n165,** σ1§**88**/165,**mb4.4**/11,**MS3.5**/3,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.00**	**234**			**Pb**	**19 45 15.3**	**+0.1**
MXZ						**Sg**	**19 45 25.2**	**-2.5**
MXZ	**Matakaoa Point**	**1.00**	**234**	P		**Pb**	**19 45 15.4**	**+0.2**
WMGZ	**Waiomatatini S**	**1.11**	**221**	P		**Pn**	**19 45 19.8**	**+2.2**
WMGZ				S		**Sn**	**19 45 34.0**	**+0.7**
PKGZ	**Pakihiroa**	**1.35**	**227**	P		**Pg**	**19 45 23.1**	**+1.8**
PUZ	**Puketiti**	**1.39**	**218**	P		**Pg**	**19 45 23.5**	**+1.5**
PUZ				S		**Sg**	**19 45 41.6**	**+1.7**
HAZ	**Te Kaha**	**1.46**	**237**	P		**Pb**	**19 45 22.7**	**-0.2**
HAZ				S		**Sg**	**19 45 43.1**	**+0.9**
TWGZ	**Tauwhareparae**	**1.61**	**221**	P		**Pg**	**19 45 26.8**	**+0.6**
TWGZ				S		**Sg**	**19 45 48.7**	**+1.7**
RUGZ	**Raukumara Rang**	**1.64**	**233**	P		**Pg**	**19 45 26.9**	**0.0**
RUGZ				S		**Sg**	**19 45 48.9**	**+0.7**
CNGZ	**Carnagh Statio**	**1.75**	**210**	P		**Pg**	**19 45 28.9**	**0.0**
WIZ	**White Island**	**1.79**	**252**	P		**Pn**	**19 45 27.0**	**0.0**
TKGZ	**Te Karaka**	**1.87**	**218**	P		**Pb**	**19 45 30.6**	**+0.5**
MWZ	**Matawai**	**1.97**	**226**	P		**Pb**	**19 45 31.3**	**-0.4**
WHRZ	**Whale Island**	**2.07**	**244**	P		**Pb**	**19 45 32.9**	**-0.5**
RIGZ	**Rimuhau**	**2.12**	**215**	P		**Pb**	**19 45 33.3**	**-1.1**
RAGZ	**Rawiri**	**2.14**	**224**	P		**Pb**	**19 45 33.9**	**-0.8**
URZ	**Urewera**	**2.18**	**233**	Pn		**Pb**	**19 45 33.9**	**-1.3**
	137nm,0.3s,baz=121,slow=1.7,SNR=144							
URZ					LR	LR	19 45 57.5	
	comp=Z,130nm,18.9s,baz=50,slow=28							
URZ					Sn	**Sb**	**19 46 00.9**	**-1.6**
	139nm,0.3s,baz=301,slow=6.5,SNR=17							
	559nm,0.4s							
URZ	**Urewera**	**2.18**	**233**	P		**Pb**	**19 45 34.0**	**-1.3**
URZ				S		**Sn**	**19 46 00.0**	**+0.5**
URZ	**Urewera**	**2.18**	**233**	P		**Pb**	**19 45 34.2**	**-1.0**
PRGZ	**Paritu Road**	**2.25**	**210**	P		**Pn**	**19 45 34.8**	**+1.5**
MARZ	**Manawahe**	**2.34**	**244**	P		**Pb**	**19 45 37.6**	**-0.4**
EDRZ	**Edgecumbe**	**2.35**	**241**	P		**Pn**	**19 45 36.3**	**+1.7**
OPRZ	**Ohinepanea**	**2.37**	**248**	P		**Pn**	**19 45 36.0**	**+1.1**
SNGZ	**Shannon Statio**	**2.39**	**221**	P		**Pn**	**19 45 36.8**	**+1.6**
KNZ	**Kokohu**	**2.42**	**212**	P		**Pn**	**19 45 36.5**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.44**	**207**	P		**Pn**	**19 45 37.3**	**+1.4**
RTZ	**Ruatahuna**	**2.48**	**228**	P		**Pn**	**19 45 38.0**	**+1.6**
MYRZ	**Mayor Island**	**2.49**	**262**	P		**Pn**	**19 45 37.5**	**+1.0**
MUGZ	**Murupara**	**2.52**	**233**	P		**Pn**	**19 45 38.4**	**+1.4**
MKRZ	**Makatiti**	**2.55**	**242**	P		**Pb**	**19 45 40.0**	**-1.7**
LIRZ	**Lichensteins R**	**2.56**	**246**	P		**Pb**	**19 45 39.7**	**-2.1**
TGRZ	**Tauranga**	**2.56**	**252**	P		**Pn**	**19 45 39.0**	**+1.5**
TARZ	**Mount Tarawera**	**2.57**	**240**	P		**Pb**	**19 45 40.1**	**-2.0**
OMRZ	**Omania**	**2.61**	**244**	P		**Pn**	**19 45 40.3**	**+2.1**
RRRZ	**Republican Roa**	**2.61**	**238**	P		**Pn**	**19 45 40.3**	**+2.0**
RAHZ	**Arahi**	**2.62**	**222**	P		**Pn**	**19 45 40.4**	**+2.0**
KARZ	**Kaharoa**	**2.67**	**246**	P		**Pn**	**19 45 40.6**	**+1.8**
WHHZ	**Waihua**	**2.67**	**218**	P		**Pn**	**19 45 40.5**	**+1.5**
HLRZ	**Highlands Stat**	**2.68**	**241**	P		**Pn**	**19 45 41.3**	**+2.0**
MTHZ	**Maungataniwha**	**2.71**	**226**	P		**Pn**	**19 45 41.7**	**+2.0**
NGRZ	**Ngongotaha**	**2.74**	**245**	P		**Pb**	**19 45 43.2**	**-1.6**
UTU	**Utuhina**	**2.76**	**243**	P		**Pb**	**19 45 45.3**	**0.0**
HSRZ	**Hossack Road**	**2.79**	**241**	P		**Pn**	**19 45 42.9**	**+2.3**
HRRZ	**Handcock Road**	**2.80**	**239**	P		**Pn**	**19 45 42.6**	**+1.8**
KMRZ	**Kaimai**	**2.83**	**251**	P		**Pn**	**19 45 42.4**	**+1.1**
ALRZ	**Allen Road**	**2.85**	**235**	P		**Pn**	**19 45 43.0**	**+1.5**
GRRZ	**Galatos Road**	**2.90**	**241**	P		**Pn**	**19 45 44.4**	**+2.2**
KUZ	**Kuaotunu**	**2.90**	**274**	P		**Pn**	**19 45 41.2**	**-1.0**
NMHZ	**Naumai**	**2.91**	**223**	P		**Pn**	**19 45 44.1**	**+1.7**
ARHZ	**Aropaoanui**	**2.93**	**218**	P		**Pn**	**19 45 44.0**	**+1.4**
WPRZ	**Whakapapatarin**	**2.94**	**238**	P		**Pn**	**19 45 44.9**	**+2.1**
MRHZ	**Matea Rd**	**2.96**	**230**	P		**Pn**	**19 45 44.2**	**+1.2**
BKZ	**Black Stump Fm**	**3.13**	**225**	Pn		**Pn**	**19 45 46.1**	**+0.7**
BKZ	**Black Stump Fm**	**3.13**	**225**	P		**Pn**	**19 45 46.4**	**+1.1**
BKZ	**Black Stump Fm**	**3.13**	**225**	P		**Pn**	**19 45 46.5**	**+1.1**
TOZ	**Tahuroa Road**	**3.14**	**255**	P		**Pn**	**19 45 45.7**	**+0.2**
KUTZ	**Kaahu Road**	**3.16**	**240**	P		**Pn**	**19 45 47.7**	**+1.8**
GRZ	**Great Barrier**	**3.20**	**282**	P		**Pn**	**19 45 46.1**	**-0.1**
CKHZ	**Cape Kidnapper**	**3.21**	**213**	P		**Pn**	**19 45 46.8**	**+0.4**
TLZ	**Tolley Road**	**3.30**	**245**	P		**Pn**	**19 45 49.8**	**+2.1**
MKAZ	**Moumakai**	**3.34**	**267**	P		**Pn**	**19 45 47.9**	**-0.3**
KWHZ	**Kaweka Forest**	**3.35**	**222**	P		**Pn**	**19 45 50.7**	**+2.3**
WIAZ	**Waiheke Island**	**3.37**	**272**	P		**Pn**	**19 45 48.4**	**-0.3**
RATZ	**Rangitukua**	**3.39**	**235**	P		**Pn**	**19 45 51.0**	**+2.1**
RITZ	**Rihia Road**	**3.39**	**233**	P		**Pn**	**19 45 50.9**	**+2.0**
KAHZ	**Kahuranaki**	**3.41**	**214**	P		**Pn**	**19 45 49.4**	**+0.2**
ETAZ	**East Tamaki Re**	**3.52**	**269**	P		**Pn**	**19 45 51.9**	**+1.1**
KRHZ	**Kereru**	**3.54**	**220**	P		**Pn**	**19 45 51.3**	**+0.3**
MBAZ	**Motutapu North**	**3.56**	**272**	P		**Pn**	**19 45 52.8**	**+1.6**
TMVZ	**Te Maari**	**3.57**	**232**	P		**Pn**	**19 45 52.4**	**+0.9**
ETVZ	**East Tongariro**	**3.58**	**232**	P		**Pn**	**19 45 53.2**	**+1.6**
BHHZ	**Black Hill Sta**	**3.59**	**225**	P		**Pn**	**19 45 52.7**	**+0.9**
PXZ	**Pawanui**	**3.61**	**212**	P		**Pn**	**19 45 52.1**	**+0.2**
OTVZ	**Oturere**	**3.62**	**232**	P		**Pn**	**19 45 54.1**	**+1.8**
ABAZ	**Army Bay**	**3.63**	**275**	P		**Pn**	**19 45 53.1**	**+0.9**
NNVZ	**North Ngauruho**	**3.63**	**233**	P		**Pn**	**19 45 53.9**	**+1.4**
WTVZ	**West Tongariro**	**3.64**	**233**	P		**Pn**	**19 45 55.4**	**+2.9**
SNVZ	**South Ngauruho**	**3.65**	**232**	P		**Pn**	**19 45 53.8**	**+1.1**
NGZ	**Ngauruhoe**	**3.67**	**232**	P		**Pn**	**19 45 54.9**	**+1.9**
EPAZ	**Eden Park BICE**	**3.68**	**270**	P		**Pn**	**19 45 55.0**	**+2.1**
HBAZ	**Herne Bay Bore**	**3.69**	**271**	P		**Pn**	**19 45 55.2**	**+2.2**
TUVZ	**Tukino**	**3.69**	**231**	P		**Pn**	**19 45 55.5**	**+2.3**
TWVZ	**Taurewa**	**3.72**	**235**	P		**Pn**	**19 45 55.8**	**+2.3**
MOVZ	**Moawhango**	**3.72**	**228**	P		**Pn**	**19 45 53.8**	**+0.3**
WHVZ	**Whangaehu Hut**	**3.74**	**231**	P		**Pn**	**19 45 55.1**	**+1.1**
FWVZ	**Far West T-bar**	**3.75**	**232**	P		**Pn**	**19 45 55.7**	**+1.6**
AWAZ	**Awhitu Peninsu**	**3.75**	**267**	P		**Pn**	**19 45 54.5**	**+0.6**
WNVZ	**Wahianoa**	**3.76**	**230**	P		**Pn**	**19 45 54.8**	**+0.6**
WTAZ	**Waiatarua**	**3.81**	**269**	P		**Pn**	**19 45 55.7**	**+1.0**
RVAZ	**Riverhead Bore**	**3.81**	**272**	P		**Pn**	**19 45 56.6**	**+1.8**
PNHZ	**Pukenui**	**3.82**	**219**	P		**Pn**	**19 45 54.7**	**-0.2**
WPHZ	**Waipukurau**	**3.83**	**215**	P		**Pn**	**19 45 54.8**	**-0.1**
HIZ	**Hauiti**	**3.86**	**245**			**Pn**	**19 45 57.2**	**+1.7**
HIZ	**Hauiti**	**3.86**	**245**	P		**Pn**	**19 45 57.6**	**+2.2**
HIZ	**Hauiti**	**3.86**	**245**	P		**Pn**	**19 45 57.7**	**+2.2**
MTVZ	**Mangateitei**	**3.88**	**231**	P		**Pn**	**19 45 57.3**	**+1.6**
PKVZ	**Pokaka**	**3.90**	**232**	P		**Pn**	**19 45 58.2**	**+2.2**
TSZ	**Takapari Road**	**4.05**	**220**	P		**Pn**	**19 45 57.8**	**-0.3**
DVHZ	**Dannevirke**	**4.14**	**216**	P		**Pn**	**19 45 59.1**	**-0.1**
WCZ	**Waipu Caves**	**4.15**	**283**	P		**Pn**	**19 46 00.7**	**+1.3**
WAZ	**Wanganui**	**4.40**	**230**	P		**Pn**	**19 46 04.2**	**+1.4**
POWZ	**Post Office Ro**	**4.40**	**218**	P		**Pn**	**19 46 03.0**	**+0.1**
BFZ	**Birch Farm**	**4.41**	**212**			**Pn**	**19 46 01.6**	**-1.4**
MHEZ	**Mangahewa**	**4.47**	**241**	P		**Pb**	**19 46 10.6**	**-3.8**
DREZ	**Durham Road**	**4.61**	**240**	P		**Pn**	**19 46 08.8**	**+3.2**
TIWZ	**Tintock**	**4.65**	**214**	P		**Pn**	**19 46 06.4**	**+0.2**
PREZ	**Palmer Road**	**4.71**	**238**	P		**Pn**	**19 46 10.9**	**+3.8**
NEZ	**North Egmont**	**4.72**	**239**	P		**Pn**	**19 46 11.7**	**+4.4**
PKE	**Pukeiti**	**4.76**	**241**	P		**Pn**	**19 46 11.1**	**+3.3**
KHEZ	**Kahui Hut**	**4.79**	**239**	P		**Pn**	**19 46 11.6**	**+3.4**
NBEZ	**Newall Road No**	**4.88**	**240**	P		**Pn**	**19 46 13.4**	**+4.1**
NMEZ	**Namu Road**	**4.94**	**239**	P		**Pn**	19 46 15.2	+5.0
OUZ	**Omahuta**	**4.96**	**289**	P		**Pn**	**19 46 11.6**	**+1.0**
OUZ	**Omahuta**	**4.96**	**289**	P		**Pn**	**19 46 11.5**	**+1.0**
MSWZ	**Moikau Station**	**5.45**	**214**	Pn		**Pn**	**19 46 14.4**	**-2.8**
PLWZ	**Palliser**	**5.57**	**213**	Pn		**Pn**	**19 46 15.8**	**-3.1**
SNZO	**South Karori**	**5.62**	**218**	Pn		**Pn**	**19 46 17.1**	**-2.5**
SNZO	**South Karori**	**5.62**	**218**	P		**Pn**	**19 46 18.2**	**-1.4**
TUWZ	**Tuamarina**	**6.10**	**222**			**Pn**	**19 46 22.9**	**-3.2**
NNZ	**Nelson**	**6.27**	**226**	Pn		**Pn**	**19 46 25.7**	**-2.8**
BSWZ	**Blackbirch Sta**	**6.34**	**220**	Pn		**Pn**	**19 46 26.4**	**-3.1**
QRZ	**Quartz Range**	**6.55**	**232**	Pn		**Pn**	**19 46 28.9**	**-3.4**
QRZ	**Quartz Range**	**6.55**	**232**	P		**Pn**	**19 46 31.2**	**-1.1**
THZ	**Taphouse**	**6.90**	**224**	Pn		**Pn**	**19 46 33.6**	**-3.6**
KHZ	**Kahutara**	**7.03**	**218**	Pn		**Pn**	**19 46 35.2**	**-3.6**
KHZ	**Kahutara**	**7.03**	**218**	P		**Pn**	**19 46 38.0**	**-0.9**
LTZ	**Lake Taylor**	**7.94**	**221**	Pn		**Pn**	**19 46 47.4**	**-4.0**
MQZ	**McQueen's Vall**	**8.43**	**215**	Pn		**Pn**	**19 46 54.0**	**-4.2**
OXZ	**Oxford**	**8.45**	**219**	Pn		**Pn**	**19 46 54.4**	**-3.9**
RPZ	**Rata Peaks**	**9.23**	**221**	Pn		**Pn**	**19 47 06.4**	**-2.6**
	1.6nm,0.3s,baz=68,slow=17,SNR=8.0							
RPZ					Sn	Sn	19 48 41.8	-11
	2.5nm,0.3s,baz=313,slow=23,SNR=9.6							
RPZ	**Rata Peaks**	**9.23**	**221**	Pn		**Pn**	**19 47 04.9**	**-4.1**
RPZ						Sn	19 48 41.5	-12
RPZ	**Rata Peaks**	**9.23**	**221**	P		**Pn**	**19 47 06.5**	**-2.6**
FOZ	**Fox Glacier**	**9.78**	**225**	Pn		Pn	19 47 11.9	-4.7
LBZ	**Lake Benmore**	**10.14**	**220**	Pn		Pn	**19 47 13.3**	**-3.3**
ODZ	**Otahua Downs**	**10.39**	**216**	Pn		Pn	19 47 19.6	-5.3
ODZ	**Otahua Downs**	**10.39**	**216**	P		**Pn**	**19 47 21.3**	**-3.6**
WKZ	**Wanaka**	**11.05**	**222**	Pn		Pn	19 47 28.6	-5.5
MLZ	**Mavora Lakes**	**11.89**	**222**	Pn		Pn	19 47 40.8	-4.7
RAR	**Rarotonga**	**24.01**	**55**	LR		LR	19 58 52.5	
	comp=Z,163nm,18.5s,baz=272,slow=35							
RAR	**Rarotonga**	**24.01**	**55**	P		**P**	**19 50 10.8**	**-0.2**
TOO	**Toolangi**	**26.85**	**258**	P		**P**	**19 50 37.3**	**+0.4**
TOO						IAmb	IAmb	19 50 59.3
	comp=Z,11nm,1.1s							
STKA	**Stephens Creek**	**31.40**	**268**	P		**P**	**19 51 15.8**	**-1.5**
BBOO	**Buckleboo**	**35.51**	**264**	P		**P**	**19 51 52.7**	**-0.4**
COEN	**Coen**	**39.53**	**296**	P		**P**	**19 52 26.8**	**-0.5**
COEN						IAmb	IAmb	19 52 32.1
	comp=Z,4.8nm,0.9s							
AS31	**Alice Springs**	**41.03**	**276**	P		**P**	**19 52 37.9**	**-1.9**
ASAR	**Alice Springs**	**41.03**	**276**	P		**P**	**19 52 38.9**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=120,slow=8.0,SNR=64							
ASAR				PcP		**PcP**	**19 54 40.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=119,slow=4.3,SNR=1.2							
	comp=Z,3.9nm,0.5s							
ASAR	**Alice Springs**	**41.03**	**276**	P		**P**	**19 52 38.1**	**-1.7**
RABL	**Rabaul**	**41.06**	**316**	P		**P**	**19 52 39.3**	**-0.7**
VNDA	**Vanda**	**41.34**	**186**	P		**P**	**19 52 42.8**	**+1.1**
WR0	**Warramunga Arr**	**42.45**	**281**	P		**P**	**19 52 50.4**	**-1.0**
WR0				IAmb		IAmb	19 53 07.5	
	comp=Z,15nm,1.5s							
WB2	**Warramunga Arr**	**42.61**	**281**	P		**P**	**19 52 51.2**	**-1.5**
WB2				IAmb		IAmb	19 53 03.2	
	comp=Z,3.9nm,0.7s							
WRA	**Warramunga Arr**	**42.62**	**281**	P		**P**	**19 52 51.3**	**-1.5**
	comp=Z,1.6nm,0.4s,baz=121,slow=7.8,SNR=37							
WRA				PcP		**PcP**	**19 54 44.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=129,slow=3.3,SNR=2.7							
WRA				LR		LR	20 09 27.9	
	comp=Z,61nm,19.2s,baz=146,slow=35							
	comp=Z,1.6nm,0.4s							
WRA	**Warramunga Arr**	**42.62**	**281**	P		**P**	**19 52 51.4**	**-1.4**
WB0	**Warramunga Arr**	**42.67**	**281**	P		**P**	**19 52 52.2**	**-1.0**
WB0				IAmb		IAmb	19 52 59.2	
	comp=Z,3.7nm,0.8s							
KNRA	**Kununurra**	**49.40**	**282**	P		**P**	**19 53 45.4**	**-0.8**
KNRA				IAmb		IAmb	19 54 09.0	
	comp=Z,12nm,1.2s							
FITZ	**Fitzroy Crossi**	**50.51**	**277**	LR		LR	20 14 10.2	
	comp=Z,53nm,18.1s,baz=140,slow=35							
FITZ	**Fitzroy Crossi**	**50.51**	**277**	P		**P**	**19 53 54.8**	**+0.1**
FITZ				IAmb		IAmb	19 54 13.6	
	comp=Z,15nm,1.5s							
MORW	**Morawa**	**52.80**	**259**	P		**P**	**19 54 09.3**	**-2.4**
QSPA	**South Pole Qui**	**53.15**	**180**	P		**P**	**19 54 17.7**	**+3.7**
	comp=Z,1.9nm,0.8s,baz=50,slow=2.3,SNR=8.2							
	comp=Z,1.9nm,0.8s							
SNAA	**Sanae**	**71.64**	**179**	P		**P**	**19 56

NEIC ***02*** *20:08:41.9±2.5, 37°13S±0°10×179°41E±0°08, h10km±1km, mb4.5/22, Error ellipse: s-maj=18.0km s-min=7.0km az=331.0*

IDC ***02*** *20:08:42.4±2.0, 36°72S×179°10E, h0km, mb4.4/4, mbtmp4.4/5, ML3.4/1, MS3.2/2, Error ellipse: s-maj=62.7km s-min=35.9km az=147.0*

WEL ***02*** *20:08:45.1±1.5, 37°S±4°×17°9E±°, h16km±11km, M4.2/76, ML4.4/77, MLv4.2/76, Error ellipse: s-maj=0.0km s-min=0.0km az=85.0*

NOU ***02*** *20:08:50.4, 37°38S×178°78E, h149km, MLv4.5/6, Off E. Coast of N. Island, N.Z.*

ISC 02 20:08:43.0±1.6, 37°20S±0°06×179°49E±0°08, h22km±10km, n120, σ1§80/167, mb4.5/15, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.01**	**249**			**Pn**	**20 09 02.2**	**+0.4**
MXZ				Sg		**Sb**	**20 09 13.5**	**-1.1**
MXZ	**Matakaoa Point**	**1.01**		P		**Pn**	**20 09 02.4**	**+0.6**
MXZ				S		**Sb**	**20 09 13.2**	**-1.5**
WMGZ	**Waiomatatini S**	**1.06**	**234**	P		**Pb**	**20 09 05.7**	**+3.2**
WMGZ				S		**Sn**	**20 09 19.8**	**+3.4**
PUZ	**Puketiti**	**1.31**	**228**	P		**Pb**	**20 09 09.3**	**+2.4**
PUZ				S		**Sb**	**20 09 26.7**	**+3.4**
PKGZ	**Pakihiroa**	**1.32**	**238**	P		**Pb**	**20 09 08.7**	**+1.6**
PKGZ				S		**Sb**	**20 09 24.9**	**+1.3**
HAZ	**Te Kaha**	**1.47**	**247**	P		**Pb**	**20 09 09.6**	**0.0**
HAZ				S		**Sb**	**20 09 28.2**	**+0.4**
TWGZ	**Tauwhareparae**	**1.55**	**230**	P		**Pb**	**20 09 12.8**	**+1.8**
RUGZ	**Raukumara Rang**	**1.63**	**241**	P		**Pb**	**20 09 13.3**	**+0.9**
RUGZ				S		**Sb**	**20 09 32.7**	**0.0**
CNGZ	**Carnagh Statio**	**1.64**	**218**	P		**Pb**	**20 09 14.5**	**+2.1**
TKGZ	**Te Karaka**	**1.80**	**226**	P		**Pb**	**20 09 15.6**	**+0.4**
WIZ	**White Island**	**1.86**	**259**	P		**Pn**	**20 09 13.6**	**+0.1**
WSRZ	**White Island S**	**1.87**	**259**	P		**Pn**	**20 09 13.0**	**-0.7**
MWZ	**Matawai**	**1.93**	**233**	P		**Pb**	**20 09 17.1**	**-0.3**
RIGZ	**Rimuhau**	**2.03**	**222**	P		**Pb**	**20 09 18.8**	**-0.5**
RAGZ	**Rawiri**	**2.09**	**231**	P		**Pb**	**20 09 19.4**	**-0.9**
WHRZ	**Whale Island**	**2.10**	**251**	P		**Pb**	**20 09 18.6**	**-1.9**
PRGZ	**Paritu Road**	**2.14**	**216**	P		**Pb**	**20 09 20.4**	**-0.6**
URZ	**Urewera**	**2.16**	**240**	Pn		**Pb**	**20 09 20.0**	**-1.4**
	10nm,0.3s,baz=121,slow=14,SNR=5.0							
URZ				Sn		**Sn**	**20 09 44.2**	**+0.4**
	109nm,0.3s,baz=301,slow=18,SNR=4.5							
URZ				LR		LR	20 10 23.1	
	comp=Z,369nm,20.6s,baz=31,slow=46							
	288nm,0.3s							
URZ	**Urewera**	**2.16**	**240**	P		**Pb**	**20 09 20.0**	**-1.4**
MHGZ	**Mahia Peninsul**	**2.32**	**212**	P		**Pb**	**20 09 22.9**	**-1.1**
KNZ	**Kokohu**	**2.32**	**218**	P		**Pb**	**20 09 22.0**	**-2.0**
SNGZ	**Shannon Statio**	**2.32**	**222**	P		**Pb**	**20 09 22.4**	**-1.8**
EDRZ	**Edgecumbe**	**2.37**	**247**	P		**Pn**	**20 09 22.4**	**+2.0**
MARZ	**Manawahe**	**2.37**	**250**	P		**Pn**	**20 09 22.1**	**+1.5**
OPRZ	**Ohinepanea**	**2.42**	**254**	P		**Pn**	**20 09 22.1**	**+0.9**
RTZ	**Ruatahuna**	**2.44**	**234**	P		**Pb**	**20 09 24.0**	**-2.2**
MUGZ	**Murupara**	**2.50**	**238**	P		**Pb**	**20 09 24.3**	**+2.0**
MKRZ	**Makatiti**	**2.58**	**248**	P		**Pb**	**20 09 25.9**	**-2.6**
TARZ	**Mount Tarawera**	**2.58**	**245**	P		**Pn**	**20 09 25.8**	**+2.3**
WHHZ	**Waihua**	**2.59**	**223**	P		**Pn**	**20 09 25.8**	**+2.3**
LIRZ	**Lichensteins R**	**2.59**	**251**	P		**Pn**	**20 09 25.6**	**+2.0**
MYRZ	**Mayor Island**	**2.59**	**267**	P		**Pn**	**20 09 24.1**	**+0.5**
RRRZ	**Republican Roa**	**2.62**	**243**	P		**Pn**	**20 09 26.1**	**+2.1**
TGRZ	**Tauranga**	**2.62**	**257**	P		**Pn**	**20 09 25.0**	**+1.0**
OMRZ	**Omania**	**2.64**	**249**	P		**Pn**	**20 09 26.2**	**+2.0**
MTHZ	**Maungataniwha**	**2.67**	**231**	P		**Pn**	**20 09 27.1**	**+2.5**
KARZ	**Kaharoa**	**2.71**	**251**	P		**Pn**	**20 09 26.6**	**+1.5**
NGRZ	**Ngongotaha**	**2.77**	**250**	P		**Pn**	**20 09 28.2**	**+2.2**
PRRZ	**Plateau Road**	**2.77**	**241**	P		**Pn**	**20 09 27.9**	**+1.8**
UTU	**Utuhina**	**2.79**	**229**	P		**Pb**	**20 09 28.4**	**-2.7**
HSRZ	**Hossack Road**	**2.80**	**246**	P		**Pn**	**20 09 28.9**	**+2.4**
HRRZ	**Handcock Road**	**2.81**	**244**	P		**Pn**	**20 09 28.4**	**+1.9**
ALRZ	**Allen Road**	**2.84**	**240**	P		**Pn**	**20 09 28.8**	**+1.8**
NMHZ	**Naumai**	**2.84**	**227**	P		**Pn**	**20 09 29.5**	**+2.5**
ARHZ	**Aropaoanui**	**2.85**	**223**	P		**Pn**	**20 09 29.2**	**+2.1**
KMRZ	**Kaimai**	**2.90**	**256**	P		**Pn**	**20 09 28.6**	**+0.9**
GRRZ	**Galatos Road**	**2.92**	**246**	P		**Pn**	**20 09 30.4**	**+2.3**
MRHZ	**Matea Rd**	**2.93**	**235**	P		**Pn**	**20 09 30.4**	**+2.2**
WPRZ	**Whakapapatarin**	**2.95**	**242**	P		**Pn**	**20 09 30.7**	**+2.2**
KUZ	**Kuaotunu**	**3.05**	**277**	P		**Pn**	**20 09 29.3**	**-0.5**
BKZ	**Black Stump Fm**	**3.07**	**229**			**Pn**	**20 09 31.1**	**+0.9**
BKZ				Sn		**Sn**	**20 10 03.9**	**-2.4**
BKZ	**Black Stump Fm**	**3.07**	**229**	P		**Pn**	**20 09 31.9**	**+1.7**
BKZ	**Black Stump Fm**	**3.07**	**229**	P		**Pn**	**20 09 32.2**	**+2.0**
CKHZ	**Cape Kidnapper**	**3.10**	**217**	P		**Pn**	**20 09 32.4**	**+1.8**
KUTZ	**Kaahu Road**	**3.18**	**245**	P		**Pn**	**20 09 33.5**	**+1.9**
TOZ	**Tahuroa Road**	**3.22**	**259**	P		**Pn**	**20 09 32.6**	**+0.5**
KWHZ	**Kaweka Forest**	**3.28**	**226**	P		**Pn**	**20 09 35.0**	**+1.9**
KAHZ	**Kahuranaki**	**3.31**	**218**	P		**Pn**	**20 09 34.9**	**+1.5**
TLZ	**Tolley Road**	**3.33**	**249**	P		**Pn**	**20 09 35.4**	**+1.7**
WATZ	**Wairara**	**3.33**	**242**	P		**Pn**	**20 09 36.1**	**+2.3**
RITZ	**Rihia Road**	**3.37**	**237**	P		**Pn**	**20 09 36.2**	**+1.9**
GRZ	**Great Barrier**	**3.38**	**285**	P		**Pn**	**20 09 34.1**	**-0.2**
RATZ	**Rangitukua**	**3.38**	**239**	P		**Pn**	**20 09 37.2**	**+2.9**
KRHZ	**Kereru**	**3.46**	**224**	P		**Pn**	**20 09 36.7**	**+1.1**
MKAZ	**Moumakai**	**3.46**	**270**	P		**Pn**	**20 09 35.7**	**+0.2**
PXZ	**Pawanui**	**3.50**	**215**	P		**Pn**	**20 09 37.5**	**+1.5**
WIAZ	**Waiheke Island**	**3.51**	**275**	P		**Pn**	**20 09 36.5**	**+0.4**
BHHZ	**Black Hill Sta**	**3.54**	**229**	P		**Pn**	**20 09 38.1**	**+1.6**
TMVZ	**Te Maari**	**3.55**	**236**	P		**Pn**	**20 09 38.2**	**+1.4**
ETVZ	**East Tongariro**	**3.55**	**236**	P		**Pn**	**20 09 37.7**	**+0.8**
NTVZ	**North Tongarir**	**3.56**	**237**	P		**Pn**	**20 09 38.8**	**+1.8**
KRVZ	**Karewarewa**	**3.58**	**237**	P		**Pn**	**20 09 39.1**	**+1.9**
OTVZ	**Oturere**	**3.60**	**236**	P		**Pn**	**20 09 39.3**	**+1.8**
NNVZ	**North Ngauruho**	**3.61**	**237**	P		**Pn**	**20 09 39.4**	**+2.0**
WTVZ	**West Tongariro**	**3.62**	**237**	P		**Pn**	**20 09 40.2**	**+2.3**
SNVZ	**South Ngauruho**	**3.63**	**236**	P		**Pn**	**20 09 39.3**	**+1.4**
NGZ	**Ngauruhoe**	**3.65**	**236**	P		**Pn**	**20 09 39.7**	**+1.5**
ETAZ	**East Tamaki Re**	**3.66**	**272**	P		**Pn**	**20 09 38.9**	**+0.7**
MOVZ	**Moawhango**	**3.68**	**232**	P		**Pn**	**20 09 39.6**	**+1.1**
MBAZ	**Motutapu North**	**3.70**	**275**	P		**Pn**	**20 09 39.5**	**+0.7**
TWVZ	**Taurewa**	**3.70**	**238**	P		**Pn**	**20 09 40.9**	**+2.0**
WHVZ	**Whangaehu Hut**	**3.71**	**235**	P		**Pn**	**20 09 40.9**	**+1.7**
FWVZ	**Far West T-bar**	**3.72**	**235**	P		**Pn**	**20 09 41.0**	**+1.7**
WPHZ	**Waipukurau**	**3.73**	**219**	P		**Pn**	**20 09 40.3**	**+1.2**
WNVZ	**Wahianoa**	**3.73**	**234**	P		**Pn**	**20 09 40.6**	**+1.3**
PNHZ	**Pukenui**	**3.74**	**223**	P		**Pn**	**20 09 40.2**	**+0.8**
ABAZ	**Army Bay**	**3.78**	**278**	P		**Pn**	**20 09 40.9**	**+1.0**
EPAZ	**Eden Park BICE**	**3.81**	**273**	P		**Pn**	**20 09 41.7**	**+1.4**
HBAZ	**Herne Bay Bore**	**3.83**	**274**	P		**Pn**	**20 09 42.0**	**+1.5**
MTVZ	**Mangateitei**	**3.84**	**234**	P		**Pn**	**20 09 42.4**	**+1.5**
PKVZ	**Pokaka**	**3.87**	**236**	P		**Pn**	**20 09 43.0**	**+1.8**
AWAZ	**Awhitu Peninsu**	**3.88**	**271**	P		**Pn**	**20 09 42.1**	**+1.0**
HIZ	**Hauiti**	**3.90**	**249**			**Pn**	**20 09 43.5**	**+2.0**
HIZ	**Hauiti**	**3.90**	**249**	P		**Pn**	**20 09 43.9**	**+2.4**
WTAZ	**Waiatarua**	**3.94**	**272**	P		**Pn**	**20 09 43.1**	**+1.0**
RVAZ	**Riverhead Bore**	**3.96**	**275**	P		**Pn**	**20 09 43.3**	**+1.0**
BFZ	**Birch Farm**	**4.30**	**215**			**Pn**	**20 09 47.0**	**0.0**
BFZ				Sn		**Sn**	**20 10 33.8**	**-2.7**
WCZ	**Waipu Caves**	**4.33**	**285**	P		**Pn**	**20 09 48.0**	**+0.6**
WAZ	**Wanganui**	**4.36**	**233**	P		**Pn**	**20 09 49.6**	**+1.7**
MHEZ	**Mangahewa**	**4.49**	**244**	P		Pb	20 09 55.6	-5.4
LREZ	**Lake Rotokare**	**4.59**	**239**	P		**Pn**	**20 09 52.5**	**+1.4**
DREZ	**Durham Road**	**4.62**	**243**	P		**Pn**	**20 09 55.0**	**+3.6**
NEZ	**North Egmont**	**4.72**	**242**	P		**Pn**	**20 09 57.1**	**+4.1**
PKE	**Pukeiti**	**4.77**	**244**	P		**Pn**	**20 09 57.8**	**+4.3**
KHEZ	**Kahui Hut**	**4.79**	**242**	P		**Pn**	**20 09 57.6**	**+3.7**
NBEZ	**Newall Road No**	**4.89**	**243**	P		**Pn**	**20 09 59.2**	**+4.1**
OUZ	**Omahuta**	**5.16**	**291**	P		**Pn**	**20 09 59.7**	**+0.9**
OUZ	**Omahuta**	**5.16**	**291**	P		**Pn**	**20 09 59.9**	**+1.1**
MSWZ	**Moikau Station**	**5.34**	**217**			**Pn**	**20 09 59.5**	**-1.9**
PLWZ	**Palliser**	**5.46**	**216**			**Pn**	**20 10 01.6**	**-1.5**
SNZO	**South Karori**	**5.54**	**221**	Pn		**Pn**	**20 10 01.8**	**-2.2**
TUWZ	**Tuamarina**	**6.03**	**224**			**Pn**	**20 10 08.3**	**-2.5**
CMWZ	**Cape Campbell**	**6.11**	**220**	Pn		Pn	20 10 07.5	-4.4
NNZ	**Nelson**	**6.21**	**228**	Pn		**Pn**	**20 10 11.7**	**-1.6**
BSWZ	**Blackbirch Sta**	**6.26**	**222**			**Pn**	**20 10 12.7**	**-1.3**
QRZ	**Quartz Range**	**6.52**	**234**	Pn		**Pn**	**20 10 16.2**	**-1.3**
QRZ	**Quartz Range**	**6.52**	**234**	P		**Pn**	**20 10 16.5**	**-1.0**
THZ	**Tophouse**	**6.83**	**226**	Pn		**Pn**	**20 10 19.6**	**-2.3**
KHZ	**Kahutara**	**6.94**	**219**	Pn		**Pn**	**20 10 21.0**	**-2.3**
KHZ	**Kahutara**	**6.94**	**219**	P		**Pn**	**20 10 21.9**	**-1.3**
CTZ	**Chatham Island**	**7.17**	**157**	P		Pn	20 10 32.6	+6.1
LTZ	**Lake Taylor**	**7.86**	**223**	Pn		**Pn**	**20 10 33.0**	**-3.0**
MQZ	**McQueen's Vall**	**8.33**	**217**	Pn		**Pn**	**20 10 39.4**	**-3.0**
OXZ	**Oxford**	**8.36**	**221**	Pn		**Pn**	**20 10 40.0**	**-2.7**
RPZ	**Rata Peaks**	**9.15**	**222**	Pn		**Pn**	**20 10 52.1**	**-1.5**
	1.5nm,0.3s,baz=53,slow=1.1,SNR=12							
RPZ				Sn		Sn	20 12 25.8	-10
	3.2nm,0.3s,baz=277,slow=23,SNR=14							
RPZ	**Rata Peaks**	**9.15**	**222**	Pn		**Pn**	**20 10 51.6**	**-2.0**
RPZ	**Rata Peaks**	**9.15**	**222**	P		**Pn**	**20 10 51.9**	**-1.7**
LBZ	**Lake Benmore**	**10.06**	**222**	Pn		**Pn**	**20 11 03.8**	**-2.3**
ODZ	**Otahua Downs**	**10.29**	**218**	Pn		**Pn**	**20 11 06.3**	**-2.9**
ODZ	**Otahua Downs**	**10.29**	**218**	P		**Pn**	**20 11 08.3**	**-0.9**
WHZ	**Wether Hill Ro**	**12.25**	**221**	Pn		**Pn**	**20 11 32.3**	**-3.6**
DZM	**Mont Dzumac**	**18.83**	**320**	LR		LR	20 17 54.4	
	comp=Z,124nm,18.9s,baz=10,slow=30							
TOO	**Toolangi**	**26.94**	**259**	P		**P**	**20 14 23.7**	**+1.0**
TOO				IAmb		IAmb	20 14 56.1	
	comp=Z,18nm,1.2s							
STKA	**Stephens Creek**	**31.52**	**268**	P		**P**	**20 15 03.9**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=90,slow=13,SNR=4.4							
	comp=Z,0.7nm,0.4s							
STKA	**Stephens Creek**	**31.52**	**268**	P		**P**	**20 15 02.0**	**-1.4**
PPTF	**Pamatai, Papee**	**33.48**	**63**	P		**P**	**20 15 21.5**	**+0.8**
BBOO	**Buckleboo**	**35.61**	**264**	P		**P**	**20 15 39.0**	**-0.1**
COEN	**Coen**	**39.74**	**296**	P		**P**	**20 16 14.4**	**+0.4**
COEN				IAmb		IAmb	20 16 15.1	
	comp=Z,8.6nm,0.8s							
VNDA	**Vanda**	**41.14**	**186**	P		**P**	**20 16 25.3**	**+0.3**
AS31	**Alice Springs**	**41.18**	**276**	P		**P**	**20 16 25.7**	**-0.3**
AS31				IAmb		IAmb	20 16 26.4	
	comp=Z,4.1nm,0.5s							
ASAR	**Alice Springs**	**41.18**	**276**	P		**P**	**20 16 25.6**	**-0.4**
	comp=Z,8.1nm,0.6s,baz=122,slow=8.2,SNR=172							
ASAR				PcP		**PcP**	**20 18 26.8**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=120,slow=3.7,SNR=1.6							
	comp=Z,8.1nm,0.6s							
ASAR	**Alice Springs**	**41.18**	**276**	P		**P**	**20 16 24.8**	**-1.2**
WR0	**Warramunga Arr**	**42.62**	**281**	P		**P**	**20 16 37.1**	**-0.7**
FORT	**Forrest**	**42.69**	**263**	P		**P**	**20 16 37.6**	**-0.6**
WB2	**Warramunga Arr**	**42.78**	**281**	P		**P**	**20 16 38.4**	**-0.7**
WB2				IAmb		IAmb	20 16 39.0	
	comp=Z,9.6nm,0.9s							
WRAB	**Tennant Creek**	**42.78**	**281**	P		**P**	**20 16 36.9**	**-2.2**
WRAB				IAmb		IAmb	20 16 39.0	
	comp=Z,6.6nm,0.8s							
WRA	**Warramunga Arr**	**42.79**	**281**	P		**P**	**20 16 38.4**	**-0.8**
	comp=Z,3.2nm,0.3s,baz=123,slow=7.0,SNR=191							
WRA				PcP		**PcP**	**20 18 32.5**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=116,slow=3.3,SNR=3.7							
	comp=Z,3.2nm,0.3s							
WRA	**Warramunga Arr**	**42.79**	**281**	P		**P**	**20 16 38.1**	**-1.0**
WB0	**Warramunga Arr**	**42.84**	**281**	P		**P**	**20 16 39.0**	**-0.6**
WB0				IAmb		IAmb	20 16 39.5	
	comp=Z,8.3nm,0.8s							
CASY	**Casey**	**48.20**	**210**	P		**P**	**20 17 21.1**	**-0.2**
CASY				IAmb		IAmb	20 18 00.9	
	comp=Z,8.3nm,0.9s							
KNRA	**Kununurra**	**49.57**	**282**	P		**P**	**20 17 31.8**	**-0.7**
KNRA				IAmb		IAmb	20 17 50.8	
	comp=Z,7.1nm,1.0s							
NWAO	**Narrogin (SRO)**	**50.34**	**255**	P		**P**	**20 17 36.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**50.66**	**277**	P		**P**	**20 17 40.6**	**-0.2**
FITZ				IAmb		IAmb	20 17 41.8	
	comp=Z,6.2nm,0.8s							
MORW	**Morawa**	**52.88**	**259**	P		**P**	**20 17 56.1**	**-1.2**
QSPA	**South Pole Qui**	**52.93**	**180**	P		**P**	20 18 03.5	+6.2
PSA00	**Pilbara Seismi**	**53.44**	**269**	P		**P**	**20 17 60.0**	**-1.5**
PSA00				IAmb		IAmb	20 18 08.0	
	comp=Z,5.6nm,1.4s							
MBWA	**Marble Bar**	**53.74**	**270**	P		**P**	**20 18 02.6**	**-1.1**
TROLL	**Troll, Antarti**	**71.07**	**181**	P		P	20 20 12.3	+13
SNAA	**Sanae**	**71.42**	**179**	P		P	20 20 14.4	+13
SNAA	**Sanae**	**71.42**	**179**	P		P	20 20 08.0	+7.0
SNAA				IAmb		IAmb	20 20 46.7	
	comp=Z,7.3nm,1.5s							
VNA3	**Neumayer Olymp**	**71.66**	**177**	P		P	20 20 16.9	+14
VNA2	**Neumayer--Watz**	**72.07**	**178**	P		P	20 20 18.6	+14
	baz=174,slow=4.5							
VNA1	**Neumayer--Stat**	**72.31**	**177**	P		P	20 20 20.9	+15
H03N3	**Juan Fernandez**	**78.68**	**123**	T		T	21 47 39.3	
	baz=234,slow=72,SNR=17							
H03N2	**Juan Fernandez**	**78.69**	**123**	T		T	21 47 32.8	
	baz=234,slow=72,SNR=13							
H03N1	**Juan Fernandez**	**78.70**	**123**	T		T	21 47 31.5	
	baz=234,slow=72,SNR=14							
CMAR	**Chiang Mai Arr**	**93.72**	**290**	P		**P**	**20 21 59.3**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=138,slow=3.7,SNR=4.4							
	comp=Z,0.7nm,0.6s							
ARCES	**ARCESS Array B**	**144.68**	**345**	PKP		**PKPdf**	**20 28 17.8**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=27,slow=3.0,SNR=5.8							
FINES	**FINESS Array B**	**150.58**	**334**	PKPbc		**PKiKP**	**20 28 33.3**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=66,slow=1.7,SNR=14							
TORD	**Torodi Ar. Bea**	**155.97**	**185**	PKPab		PKPab	20 29 12.4	+10
	comp=Z,0.5nm,0.4s,baz=178,slow=3.9,SNR=8.1							

NOU ***02*** *20:18:18.1, 36°92S×179°62E, h52km, mb4.2/6, Off E. Coast of N. Island, N.Z.*

WEL ***02*** *20:18:18.7±1.2, 37°S±4°×17°9E±°, h13km±8km, M3.5/37, ML3.8/44, MLv3.5/37, Error ellipse: s-maj=0.0km s-min=0.0km az=89.6*

ISC 02 20:18:17.8±3.1, 36°98S±0°09×179°3E±0°1, h2km±13km, n67, σ0§82/74, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.98**	**233**	P		**Pg**	**20 18 36.7**	**+0.1**
MXZ				S		**Sg**	**20 18 49.4**	**+0.1**
WMGZ	**Waiomatatini S**	**1.09**	**220**	P		**Pn**	**20 18 40.8**	**+0.8**
WMGZ				S		**Sn**	**20 18 56.4**	**+0.6**
PKGZ	**Pakihiroa**	**1.33**	**227**	P		**Pb**	**20 18 43.6**	**+0.2**
PKGZ				S		**Sn**	**20 19 01.2**	**-0.4**
PUZ	**Puketiti**	**1.37**	**217**	P		**Pn**	**20 18 44.3**	**+0.4**
PUZ				S		**Sn**	**20 19 03.3**	**+0.7**
HAZ	**Te Kaha**	**1.43**	**237**	P		**Pn**	**20 18 43.7**	**-1.1**
HAZ				S		**Sn**	**20 19 04.7**	**+0.5**
TWGZ	**Tauwhareparae**	**1.59**	**221**	P		**Pn**	**20 18 47.6**	**+0.6**
TWGZ				S		**Sn**	**20 19 08.6**	**+0.6**
RUGZ	**Raukumara Rang**	**1.62**	**232**	P		**Pn**	**20 18 48.0**	**+0.5**
RUGZ				S		**Sg**	**20 19 09.8**	**-0.1**
CNGZ	**Carnagh Statio**	**1.73**	**210**	P		**Pb**	**20 18 50.1**	**-0.2**
MWZ	**Matawai**	**1.95**	**226**	P		**Pn**	**20 18 52.7**	**+0.3**
MWZ				S		**Sn**	**20 19 15.7**	**-1.2**
WHRZ	**Whale Island**	**2.04**	**244**	P		**Pn**	**20 18 53.7**	**+0.5**
RIGZ	**Rimuhau**	**2.11**	**215**	P		**Pn**	**20 18 54.2**	**+0.1**
RAGZ	**Rawiri**	**2.12**	**224**	P		**Pn**	**20 18 54.9**	**+0.5**
URZ	**Urewera**	**2.15**	**233**	P		**Pn**	**20 18 55.1**	**+0.4**
URZ	**Urewera**	**2.15**	**233**	P		**Pn**	**20 18 54.9**	**+0.2**
PRGZ	**Paritu Road**	**2.24**	**210**	P		**Pn**	**20 18 55.8**	**-0.1**
EDRZ	**Edgecumbe**	**2.32**	**240**	P		**Pn**	**20 18 57.3**	**+0.2**
OPRZ	**Ohinepanea**	**2.35**	**248**	P		**Pn**	**20 18 57.5**	**+0.2**
SNGZ	**Shannon Statio**	**2.37**	**220**	P		**Pn**	**20 18 57.9**	**+0.1**
KNZ	**Kokohu**	**2.41**	**212**	P		**Pn**	**20 18 57.8**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.43**	**206**	P		**Pn**	**20 18 58.5**	**0.0**
RTZ	**Ruatahuna**	**2.46**	**228**	P		**Pn**	**20 18 58.9**	**0.0**
MYRZ	**Mayor Island**	**2.46**	**262**	P		**Pn**	**20 18 58.4**	**-0.5**
MUGZ	**Murupara**	**2.50**	**233**	P		**Pn**	**20 18 59.2**	**-0.2**
TARZ	**Mount Tarawera**	**2.55**	**240**	P		**Pn**	**20 19 01.0**	**+0.9**
RRRZ	**Republican Roa**	**2.59**	**238**	P		**Pn**	**20 19 01.4**	**+0.7**
RAHZ	**Arahi**	**2.60**	**221**	P		**Pn**	**20 19 01.7**	**+0.7**
KARZ	**Kaharoa**	**2.64**	**246**	P		**Pn**	**20 19 01.6**	**+0.2**
WHHZ	**Waihua**	**2.65**	**217**	P		**Pn**	**20 19 01.9**	**+0.4**
MTHZ	**Maungataniwha**	**2.69**	**225**	P		**Pn**	**20 19 02.6**	**+0.5**
KMRZ	**Kaimai**	**2.81**	**251**	P		**Pn**	**20 19 03.6**	**-0.2**
KUZ	**Kuaotunu**	**2.88**	**274**	P		**Pn**	**20 19 02.2**	**-2.4**
NMHZ	**Naumai**	**2.89**	**222**	P		**Pn**	**20 19 05.4**	**+0.6**
ARHZ	**Aropaoanui**	**2.91**	**218**	P		**Pn**	**20 19 05.0**	**-0.1**
BKZ	**Black Stump Fm**	**3.11**	**225**	P		**Pn**	**20 19 07.3**	**-0.5**
BKZ	**Black Stump Fm**	**3.11**	**225**	P		**Pn**	**20 19 07.5**	**-0.4**
TOZ	**Tahuroa Road**	**3.12**	**255**	P		**Pn**	**20 19 06.6**	**-1.3**
KUTZ	**Kaahu Road**	**3.14**	**240**	P		**Pn**	**20 19 08.5**	**+0.3**
GRZ	**Great Barrier**	**3.17**	**282**	P		**Pn**	**20 19 08.6**	**-0.1**
MKAZ	**Moumakai**	**3.31**	**267**	P		**Pn**	**20 19 08.8**	**-1.8**
WIAZ	**Waiheke Island**	**3.34**	**272**	P		**Pn**	**20 19 10.4**	**-0.7**
KAHZ	**Kahuranaki**	**3.39**	**213**	P		**Pn**	**20 19 10.6**	**-1.1**
ETAZ	**East Tamaki Re**	**3.50**	**269**	P		**Pn**	**20 19 13.2**	**0.0**
KRHZ	**Kereru**	**3.52**	**220**	P		**Pn**	**20 19 12.5**	**-0.9**
MBAZ	**Motutapu North**	**3.53**	**272**	P		**Pn**	**20 19 13.4**	**-0.2**
BHHZ	**Black Hill Sta**	**3.57**	**225**	P		**Pn**	**20 19 14.0**	**-0.3**
ABAZ	**Army Bay**	**3.60**	**275**	P		**Pn**	**20 19 14.8**	**+0.2**
NNVZ	**North Ngauruho**	**3.61**	**232**	P		**Pn**	**20 19 15.9**	**+1.0**
TUVZ	**Tukino**	**3.67**	**230**	P		**Pn**	**20 19 13.5**	**-2.2**
MOVZ	**Moawhango**	**3.70**	**228**	P		**Pn**	**20 19 15.1**	**-0.9**
AWAZ	**Awhitu Peninsu**	**3.73**	**267**	P		**Pn**	**20 19 16.4**	**+0.1**
WNVZ	**Wahianoa**	**3.74**	**230**	P		**Pn**	**20 19 16.5**	**-0.2**
WTAZ	**Waiatarua**	**3.78**	**269**	P		**Pn**	**20 19 17.1**	**0.0**
RVAZ	**Riverhead Bore**	**3.79**	**272**	P		**Pn**	**20 19 17.9**	**+0.7**
PNHZ	**Pukenui**	**3.81**	**219**	P		**Pn**	**20 19 16.1**	**-1.3**
HIZ	**Hauiti**	**3.84**	**245**	P		**Pn**	**20 19 18.6**	**+0.7**
HIZ	**Hauiti**	**3.84**	**245**	P		**Pn**	**20 19 18.7**	**+0.9**
TSZ	**Takapari Road**	**4.04**	**219**	P		**Pn**	**20 19 19.6**	**-1.0**
WCZ	**Waipu Caves**	**4.13**	**283**	P		**Pn**	**20 19 21.2**	**-0.5**
WAZ	**Wanganui**	**4.38**	**229**	P		**Pn**	**20 19 25.2**	**0.0**
KHEZ	**Kahui Hut**	**4.76**	**239**	P		**Pn**	**20 19 33.1**	**+2.5**
OUZ	**Omahuta**	**4.94**	**289**	P		**Pn**	**20 19 33.1**	**+0.1**
OUZ	**Omahuta**	**4.94**	**289**	P		**Pn**	**20 19 32.9**	**-0.1**
TKNZ	**Takaka Hill**	**6.38**	**229**	P		**Pn**	**20 19 50.5**	**-2.3**
QRZ	**Quartz Range**	**6.53**	**232**	P		**Pn**	**20 19 54.2**	**-0.6**
KHZ	**Kahutara**	**7.01**	**218**	P		**Pn**	**20 20 01.3**	**-0.1**
CTZ	**Chatham Island**	**7.43**	**156**	P		**Pn**	**20 20 07.4**	**+0.3**
WHZ	**Wether

NOU ***02*** *20:31:17.7, 18°.71S×177°.55W, h628km, MLv4.6/18, Fiji Islands Region*
NEIC ***02*** *20:31:19.0±1.9, 18°.1S±0°.1×177°.9W±0°.1, h620km±7km, mb4.5/71, Error ellipse: s-maj=18.9km s-min=15.2km az=125.0*
IDC ***02*** *20:31:20.9±1.6, 18°.01S×178°.18W, h635km±19km, mb3.5/14, mbtmp4.5/15, Error ellipse: s-maj=20.7km s-min=10.3km az=149.0*

ISC 02 20:31:19.5±0.8, 18°.15S±0°.08×177°.99W±0°.08, h630km±8km, n169, σ1.5 01/181, mb4.5/52, 12C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.79**	**264**	P	**P**	**20 32 33.6**	**+0.4**
TAVE	**Taveuni**	**2.32**	**308**	P	**P**	**20 32 39.1**	**+1.2**
MSVF	**Nonsavu**	**3.79**	**276**	P	**P**	**20 32 47.0**	**+1.1**
MSVF	**Nonsavu**	**3.79**	**276**	P	**P**	**20 32 47.4**	**+1.5**
AFI	**Afiamalu**	**7.31**	**56**	P	**P**	**20 33 12.5**	**-1.3**
	52nm,0.5s,baz=240,slow=20,SNR=12						
AFI	**Afiamalu**	**7.31**	**56**		**P**	**20 33 12.2**	**-1.6**
MARNC	**Mare, Loyalty**	**13.56**	**254**	P	**P**	**20 34 12.8**	**-0.4**
LIFNC	**LIFOU**	**14.17**	**257**	P	**P**	**20 34 17.7**	**-1.2**
PINNC	**Pines Island,**	**14.35**	**250**	P	**P**	**20 34 21.4**	**+0.8**
DZM	**Mont Dzumac**	**15.13**	**252**	P	**P**	**20 34 28.9**	**+1.1**
	9.4nm,0.5s,baz=86,slow=19,SNR=17						
QRZ	**Quartz Range**	**24.03**	**198**	P	**P**	**20 35 47.8**	**+0.3**
QRZ	**Quartz Range**	**24.03**	**198**	P	**P**	**20 35 41.4**	**-6.1**
TUWZ	**Tuamarina**	**24.21**	**195**	P	**P**	**20 35 47.6**	**-1.5**
THZ	**Tophouse**	**24.79**	**196**	P	**P**	**20 35 53.7**	**-0.6**
LTZ	**Lake Taylor**	**25.91**	**197**	P	**P**	**20 36 02.2**	**-1.8**
LTZ				IAmb	IAmb	20 36 06.0	
	comp=Z,15nm,0.8s						
RPZ	**Rata Peaks**	**27.11**	**198**	P	**P**	**20 36 16.0**	**+1.5**
	comp=Z,7.1nm,0.8s,baz=53,slow=5.1,SNR=1.9						
	comp=Z,7.1nm,0.8s						
LBZ	**Lake Benmore**	**27.98**	**198**	P	**P**	**20 36 20.1**	**-1.9**
LBZ				IAmb	IAmb	20 36 48.8	
	comp=Z,28nm,1.4s						
EIDS	**Eidsvold**	**29.56**	**250**	P	**P**	**20 36 36.0**	**+0.1**
EIDS				IAmb	IAmb	20 36 36.1	
	comp=Z,12nm,1.1s						
WHZ	**Wether Hill Ro**	**30.03**	**200**	P	**P**	**20 36 40.0**	**+0.4**
ARMA	**Armidale**	**30.16**	**240**	P	**P**	**20 36 41.9**	**+0.8**
ARMA				IAmb	IAmb	20 36 42.9	
	comp=Z,12nm,0.6s						
RMQ	**Roma**	**31.79**	**249**	P	**P**	**20 36 56.1**	**+1.2**
CTAO	**Charters Tower**	**33.80**	**261**	P	**P**	**20 37 12.0**	**+0.1**
CTAO				IAmb	IAmb	20 37 12.8	
	comp=Z,9.9nm,0.7s						
CAN	**Canberra**	**33.87**	**233**	P	**P**	**20 37 13.4**	**+1.0**
PMG	**Port Moresby**	**34.89**	**280**	P	**P**	**20 37 22.1**	**+1.2**
CMSA	**Cobar Meteorol**	**35.38**	**241**	P	**P**	**20 37 25.6**	**+0.8**
MTSU	**Mount Surprise**	**35.77**	**264**	P	**P**	**20 37 28.7**	**+0.4**
QLP	**Quilpie**	**35.82**	**250**	P	**P**	**20 37 29.1**	**+0.6**
TOO	**Toolangi**	**37.33**	**231**	P	**P**	**20 37 41.2**	**+0.6**
TOO				IAmb	IAmb	20 37 43.1	
	comp=Z,21nm,1.2s						
COEN	**Coen**	**37.50**	**271**	P	**P**	**20 37 43.5**	**+1.2**
COEN	**Coen**	**37.50**	**271**	P	**P**	**20 37 43.5**	**+1.2**
MANU	**Manus Island**	**37.55**	**291**	P	**P**	**20 37 43.2**	**+0.4**
MANU				IAmb	IAmb	20 37 44.4	
	comp=Z,9.5nm,0.7s						
STKA	**Stephens Creek**	**38.86**	**242**	P	**P**	**20 37 54.0**	**+0.9**
	comp=Z,12nm,0.7s,baz=91,slow=10,SNR=20						
	comp=Z,2nm,0.7s						
STKA	**Stephens Creek**	**38.86**	**242**	P	**P**	**20 37 54.0**	**+0.9**
STKA	**Stephens Creek**	**38.86**	**242**	P	**P**	**20 37 54.0**	**+0.9**
INKA	**Innaminka**	**39.02**	**248**	P	**P**	**20 37 55.8**	**+1.4**
QIS	**Mount Isa**	**40.00**	**259**	P	**P**	**20 38 02.3**	**0.0**
WAKE	**Wake Island**	**40.14**	**337**	P	**P**	**20 38 02.2**	**-1.1**
LCRK	**Leigh Creek**	**41.51**	**244**	P	**P**	**20 38 14.6**	**+0.6**
BBOO	**Buckleboo**	**43.64**	**241**	P	**P**	**20 38 31.0**	**+0.4**
BBOO				IAmb	IAmb	20 38 31.7	
	comp=Z,20nm,0.8s						
GENI	**Genyem**	**43.81**	**286**	P	**P**	**20 38 34.4**	**+2.2**
WR0	**Warramunga Arr**	**44.79**	**260**	P	**P**	**20 38 39.7**	**+0.1**
WR0				IAmb	IAmb	20 38 40.5	
	comp=Z,7.0nm,0.6s						
WR0				PcP	**PcP**	**20 40 06.7**	**-0.8**
WB0	**Warramunga Arr**	**44.95**	**260**	P	**P**	**20 38 40.6**	**-0.2**
WB2	**Warramunga Arr**	**44.97**	**260**	P	**P**	**20 38 40.6**	**-0.4**
WB2				PcP	**PcP**	**20 40 08.1**	**-0.1**
WRAB	**Tennant Creek**	**44.97**	**260**	P	**P**	**20 38 40.8**	**-0.2**
WRAB				IAmb	IAmb	20 38 41.4	
	comp=Z,25nm,1.0s						
WRAB				PcP	**PcP**	**20 40 05.7**	**-2.5**
WRA	**Warramunga Arr**	**44.98**	**260**	P	**P**	**20 38 40.7**	**-0.3**
	comp=Z,10nm,0.4s,baz=96,slow=6.9,SNR=665						
WRA				PcP	**PcP**	**20 40 08.5**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=89,slow=3.8,SNR=5.1						
WRA				ScP	**ScP**	**20 43 04.0**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=88,slow=4.5,SNR=3.3						
WRA				S	**S**	**20 44 32.1**	**-3.4**
	comp=Z,0.9nm,0.9s,baz=96,slow=13,SNR=6.3						
	comp=Z,10nm,0.4s						
WRA	**Warramunga Arr**	**44.98**	**260**	P	**P**	**20 38 40.0**	**-1.0**
WRA					**PcP**	**20 40 08.2**	**0.0**
AS31	**Alice Springs**	**45.10**	**254**	P	**P**	**20 38 42.1**	**+0.1**
AS31				IAmb	IAmb	20 38 42.8	
	comp=Z,7.4nm,0.8s						
AS31				PcP	**PcP**	**20 40 08.7**	**+0.1**
ASAR	**Alice Springs**	**45.11**	**254**	P	**P**	**20 38 42.2**	**+0.2**
	comp=Z,38nm,0.7s,baz=92,slow=7.9,SNR=566						
ASAR				PcP	**PcP**	**20 40 08.8**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=102,slow=3.8,SNR=7.8						
ASAR				ScP	**ScP**	**20 43 04.7**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=81,slow=5.7,SNR=4.2						
ASAR				S	**S**	**20 44 35.9**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=87,slow=14,SNR=15						
	comp=Z,38nm,0.7s						
MTN	**Manton Dam**	**49.19**	**269**	P	**P**	**20 39 12.1**	**-0.4**
FORT	**Forrest**	**50.26**	**245**	P	**P**	**20 39 19.6**	**-0.5**
KNRA	**Kununurra**	**50.86**	**264**	P	**P**	**20 39 24.2**	**-0.4**
KNRA				IAmb	IAmb	20 39 25.3	
	comp=Z,20nm,0.8s						
FAKI	**Fak Fak**	**51.01**	**281**	P	**P**	**20 39 25.8**	**+0.1**
FAKI				PcP	**PcP**	**20 40 29.9**	**-0.4**
SIJI	**Sorong**	**52.67**	**283**	P	**P**	**20 39 37.7**	**+0.1**
	comp=Z,44nm,0.5s,baz=134,slow=4.5,SNR=13						
FITZ	**Fitzroy Crossi**	**53.38**	**261**		**P**	**20 39 42.9**	**+0.4**
FITZ				IAmb	IAmb	20 39 44.5	
	comp=Z,18nm,1.5s						
FITZ				PcP	**PcP**	**20 40 38.2**	**-1.1**
BATI	**Baumata**	**56.92**	**269**	P	**P**	**20 40 08.2**	**+1.1**
	comp=Z,17nm,0.6s,baz=137,slow=5.5,SNR=4.9						
	comp=Z,17nm,0.6s						
PSA00	**Pilbara Seismi**	**58.23**	**255**	P	**P**	**20 40 15.3**	**-0.6**
PSA00	**Pilbara Seismi**	**58.23**	**255**	P	**P**	**20 40 15.8**	**-0.1**
PSA00				IAmb	IAmb	20 40 16.5	
	comp=Z,18nm,0.9s						
MBWA	**Marble Bar**	**58.40**	**256**	P	**P**	**20 40 16.6**	**-0.4**
MBWA				IAmb	IAmb	20 40 35.2	
	comp=Z,34nm,1.4s						
JCJ	**Chichijima**	**59.28**	**318**	P	**P**	**20 40 22.2**	**-0.5**
NWAO	**Narrogin (SRO)**	**59.45**	**242**	P	**P**	**20 40 23.4**	**-0.4**
NWAO				IAmb	IAmb	20 40 35.3	
	comp=Z,44nm,1.4s						
VNDA	**Vanda**	**60.24**	**185**	P	**P**	**20 40 27.9**	**-0.2**
MORW	**Morawa**	**60.75**	**246**	P	**P**	**20 40 31.5**	**-0.9**
MORW				IAmb	IAmb	20 40 40.8	
	comp=Z,19nm,1.4s						
GIRL	**Giralia**	**63.20**	**253**	P	**P**	**20 40 47.6**	**-0.7**
JHJ2	**Mitsune**	**64.98**	**322**	P	**P**	**20 40 59.7**	**+0.5**
CASY	**Casey**	**66.08**	**205**	P	**P**	**20 41 05.8**	**+0.2**
CASY				IAmb	IAmb	20 41 06.7	
	comp=Z,11nm,1.2s						
JAGI	**Jajag, Banyuwa**	**66.43**	**269**	P	**P**	**20 41 07.6**	**-1.0**
JAGI				IAmb	IAmb	20 41 08.3	
	comp=Z,22nm,0.7s						
MJAR	**Matsushiro Arr**	**68.33**	**323**	P	**P**	**20 41 19.5**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=162,slow=5.9,SNR=10						
	comp=Z,3.1nm,0.6s						
MAJO	**Matsushiro**	**68.34**	**323**	P	**P**	**20 41 20.0**	**+0.2**
MAJO				IAmb	IAmb	20 41 20.4	
	comp=Z,5.1nm,0.6s						
KKM	**Kota Kinabalu**	**69.18**	**284**	P	**P**	**20 41 25.3**	**-0.1**
KKM				IAmb	IAmb	20 41 35.8	
	comp=Z,19nm,1.0s						
JSD	**Sado**	**69.36**	**324**	P	**P**	**20 41 26.2**	**+0.4**
JSD				IAmb	IAmb	20 42 09.2	
	comp=Z,19nm,1.2s						
UGM	**Wanagama**	**70.03**	**268**	P	**P**	**20 41 30.0**	**-0.4**
JHS	**Saijyo**	**70.34**	**319**	P	**P**	**20 41 32.3**	**+0.6**
JHS				IAmb	IAmb	20 41 33.5	
	comp=Z,17nm,0.9s						
SBUM	**Sibu**	**71.63**	**279**	P	**P**	**20 41 40.5**	**+0.8**
SBUM				IAmb	IAmb	20 41 41.5	
	comp=Z,4.2nm,0.7s						
QSPA	**South Pole Qui**	**71.91**	**180**	P	**P**	**20 41 40.9**	**+0.5**
TWG	**Pinlang**	**72.13**	**302**	P	**P**	**20 41 41.0**	**-1.3**
TWG				IAmb	IAmb	20 42 13.9	
	comp=Z,25nm,1.1s						
YULB	**Yu-li**	**72.23**	**303**	P	**P**	**20 41 41.9**	**-1.0**
YULB				IAmb	IAmb	20 41 54.1	
	comp=Z,27nm,1.4s						
NACB	**Ninganchiao**	**72.38**	**304**	P	**P**	**20 41 43.9**	**+0.2**
NACB				IAmb	IAmb	20 41 44.8	
	comp=Z,14nm,0.8s						
SSLB	**Suanglung**	**72.70**	**303**	P	**P**	**20 41 44.3**	**-1.3**
SSLB				IAmb	IAmb	20 41 44.7	
	comp=Z,35nm,1.5s						
TPUB	**Ta-pu**	**72.72**	**302**	P	**P**	**20 41 44.1**	**-1.6**
PEA0B	**Petropavlovsk-**	**74.01**	**345**	P	**P**	**20 41 52.8**	**+0.4**
PEA0B				IAmb	IAmb	20 41 53.3	
	comp=Z,24nm,1.4s						
PETK	**Petropavlovsk-**	**74.01**	**345**	P	**P**	**20 41 52.1**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=119,slow=7.9,SNR=22						
	comp=Z,4.0nm,0.6s						
PETK	**Petropavlovsk-**	**74.01**	**345**	P	**P**	**20 41 51.8**	**-0.6**
KSRS	**Korea Array**	**75.14**	**318**	P	**P**	**20 41 59.3**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=131,slow=6.8,SNR=2.4						
	comp=Z,0.9nm,0.8s						
SLBS	**Sierra La Lagu**	**78.34**	**60**	P	**P**	**20 42 16.9**	**+0.1**
SLBS				IAmb	IAmb	20 42 39.8	
	comp=Z,7.5nm,1.1s						
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**20 42 22.8**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=223,slow=9.4,SNR=10						
	comp=Z,1.4nm,0.7s						
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**20 42 23.1**	**+1.3**
P18K	**Big Mountain,**	**79.48**	**12**	P	**P**	**20 42 20.8**	**-1.1**
O18K	**Koktuh Hills**	**79.91**	**11**	P	**P**	**20 42 23.8**	**-0.3**
I07A	**Izee**	**81.75**	**38**	P	**P**	**20 42 34.4**	**+0.3**
SUA	**Susitna One**	**82.28**	**13**	P	**P**	**20 42 35.8**	**-0.6**
UBPT	**Khong Chiam**	**82.38**	**289**	P	**P**	**20 42 38.5**	**+0.7**
UBPT				IAmb	IAmb	20 43 09.4	
	comp=Z,19nm,1.5s						
U15A	**North Rim**	**82.39**	**48**	P	**P**	**20 42 39.1**	**+1.4**
IPM	**Ipoh**	**82.84**	**277**	P	**P**	**20 42 40.3**	**+0.1**
IPM				IAmb	IAmb	20 42 41.8	
	comp=Z,11nm,0.8s						
GHO	**Glory Hole Cre**	**82.95**	**13**	P	**P**	**20 42 39.5**	**-0.1**
GHO				IAmb	IAmb	20 43 20.2	
	comp=Z,7.6nm,1.4s						
SCM	**Sheep Creek Mo**	**83.36**	**14**	P	**P**	**20 42 41.6**	**-0.1**
K20K	**Telida**	**83.37**	**11**	P	**P**	**20 42 41.9**	**+0.3**
MAW	**Mawson**	**83.77**	**200**	P	**P**	**20 42 44.3**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=113,slow=8.3,SNR=2.3						
	comp=Z,1.0nm,0.5s						
CAST	**Castle Rocks**	**83.78**	**11**	P	**P**	**20 42 42.5**	**-1.1**
N25K	**Chitina, Valde**	**83.83**	**15**	P	**P**	**20 42 43.7**	**-0.3**
J20K	**Nowinta River**	**84.11**	**10**	P	**P**	**20 42 44.6**	**-0.7**
TRF	**Thorofare Moun**	**84.16**	**12**	P	**P**	**20 42 45.0**	**-0.8**
DHY	**Denali Highway**	**84.44**	**13**	P	**P**	**20 42 46.7**	**-0.3**
ENH	**Enshi**	**84.73**	**304**	P	**P**	**20 42 49.9**	**+0.8**
ENH				IAmb	IAmb	20 42 50.6	
	comp=Z,8.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**85.79**	**57**	P	**P**	**20 42 55.9**	**+1.6**
TX31				IAmb	IAmb	20 42 56.9	
	comp=Z,18nm,1.0s						
TX32	**Lajitas Array**	**85.79**	**57**	P	**P**	**20 42 56.1**	**+1.8**
TX32				IAmb	IAmb	20 42 56.9	
	comp=Z,5.5nm,0.9s						
TXAR	**Lajitas Array**	**85.79**	**57**	P	**P**	**20 42 56.0**	**+1.7**
	comp=Z,2.6nm,0.7s,baz=218,slow=6.2,SNR=37						
	comp=Z,2.6nm,0.7s						
TXAR	**Lajitas Array**	**85.79**	**57**	P	**P**	**20 42 55.9**	**+1.6**
ILAR	**Eielson Array**	**86.03**	**13**	P	**P**	**20 42 54.0**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=216,slow=5.0,SNR=9.4						
	comp=Z,0.5nm,0.4s						
SNOW	**Snow King Moun**	**86.81**	**42**	P	**P**	**20 43 01.0**	**+2.0**
SNOW				IAmb	IAmb	20 43 04.9	
	comp=Z,7.6nm,0.6s						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**20 43 01.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=189,slow=2.5,SNR=7.9						
	comp=Z,0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.34**	**290**	P	**P**	**20 43 12.4**	**+1.5**
	comp=Z,2.2nm,0.9s,baz=103,slow=2.4,SNR=8.5						
	comp=Z,2.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.34**	**290**	P	**P**	**20 43 12.2**	**+1.3**
MKAR	**Makanchi Array**	**109.58**	**314**	PKiKP	**PKiKP**	**20 48 39.1**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=122,slow=1.1,SNR=6.2						
ARCES	**ARCESS Array B**	**126.62**	**350**	PKP	**PKPdf**	**20 49 11.8**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=45,slow=1.9,SNR=8.8						
FINES	**FINESS Array B**	**133.53**	**344**	PKP	**PKPdf**	**20 49 24.8**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=90,slow=4.2,SNR=4.2						
AKASG	**Malin Array Be**	**140.96**	**333**	PKiKP	PKPpre	20 49 33.0	
	comp=Z,0.7nm,0.4s,baz=43,slow=4.1,SNR=5.5						
BNN	**Bunyan**	**144.11**	**312**		PKPbc	20 49 44.5	-0.7
VASR	**Vaslui**	**144.52**	**329**	⇓P	**PKPab**	**20 49 46.3**	**-0.4**
TLCR		**144.99**	**326**	⇑P	**PKPbc**	**20 49 47.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**144.99**	**332**		**PKPab**	**20 49 48.4**	**-0.3**
BURAR	**Bucovina Array**	**145.01**	**332**	⇓P	**PKPab**	**20 49 49.0**	**+0.2**
BURAR	**Bucovina Array**	**145.01**	**332**		**PKPab**	**20 49 48.4**	**-0.3**
BIZ	**Bicaz**	**145.11**	**331**	⇓P	**PKPab**	**20 49 48.7**	**-0.3**
GHRR		**145.12**	**329**	⇑P	**PKPab**	**20 49 48.8**	**-0.2**
TESR	**Tescani**	**145.16**	**330**	⇓P	**PKPab**	**20 49 48.2**	**+0.3**
BR131	**Keskin Array S**	**145.23**	**315**		**PKPbc**	**20 49 48.3**	**-0.2**
BRTR	**Keskin Array B**	**145.23**	**315**	PKPbc	**PKPbc**	**20 49 48.2**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=136,slow=3.8,SNR=14						
BRTR	**Keskin Array B**	**145.23**	**315**		**PKPdf**	**20 49 47.6**	**+0.3**
TPGR	**Topolog**	**145.42**	**326**	⇑P	**PKPab**	**20 49 49.3**	**-1.0**
VRI	**Vrincioaia**	**145.59**	**329**	⇑P	**PKPbc**	**20 49 48.9**	**-0.3**
BMR	**Baia Mare**	**145.70**	**334**	⇑P	**PKPbc**	**20 49 49.3**	**-0.1**
OSTC	**Ostas**	**145.73**	**344**	*e*PKP	**PKPab**	**20 49 50.6**	**-0.8**
CLL	**Collm**	**145.78**	**348**		**PKPbc**	**20 49 48.9**	**-0.6**
CLL	**Collm**	**145.78**	**348**	*i* PKPbc	**PKPbc**	**20 49 49.3**	**-0.2**
	comp=Z,9.0nm,0.7s						
CLL				*e*PKPab	**PKPab**	**20 49 51.0**	**-0.5**
CLL				*ex*		20 49 55.0	
HARR	**Harsova**	**145.79**	**326**	⇑P	**PKPbc**	**20 49 49.8**	**+0.1**
DPC	**Dobruska-Polom**	**145.89**	**344**	*e*PKP	**PKPbc**	**20 49 50.4**	**+0.5**
KRLC	**Kraliky**	**146.01**	**343**	*e*PKP	**PKPbc**	**20 49 50.4**	**+0.2**
DOPR	**Dopca**	**146.16**	**330**	⇓P	**PKPbc**	**20 49 51.4**	**+0.7**
PVCC	**Panska Ves**	**146.17**	**346**	*e*PKP	**PKPbc**	**20 49 51.1**	**+0.5**
MAUC	**Maruska**	**146.34**	**341**	*e*PKP	**PKPbc**	**20 49 51.6**	**+0.5**
PRU	**Pruhonice**	**146.68**	**345**	*e*PKP	**PKPbc**	**20 49 52.1**	**+0.1**
DRGR		**146.73**	**334**	⇑P	**PKPbc**	**20 49 52.5**	**+0.1**
ARR	**Arges**	**146.96**	**330**	⇓P	**PKiKP**	**20 49 54.1**	**-0.7**
KHC	**Kasperske Hory**	**147.71**	**346**	*e*PKP	**PKPbc**	**20 49 54.6**	**-0.1**
GZR	**Gura Zlata**	**147.79**	**332**	⇑P	**PKPbc**	**20 49 55.1**	**0.0**
CKRC	**Cesky Krumlov**	**147.82**	**345**	*e*PKP	**PKiKP**	**20 49 55.4**	**-0.9**
GERES	**GERESS Array B**	**147.94**	**345**	PKPbc	**PKPbc**	**20 49 55.4**	**0.0**
	comp=Z,1.7nm,0.6s,baz=24,slow=2.9,SNR=17						
GERES	**GERESS Array B**	**147.94**	**345**		**PKPbc**	**20 49 54.0**	**-1.4**
CONA	**Conrad Observa**	**148.21**	**342**	*e*P	**PKiKP**	**20 49 56.6**	**-0.7**
	comp=Z,5.5nm,1.2s						
RONA	**Rosalia, Austr**	**148.29**	**342**	*e*P	**PKiKP**	**20 49 56.6**	**-0.8**
	comp=Z,2.8nm,0.7s						
HERR	**Herculane**	**148.35**	**332**	⇓P	**PKPbc**	**20 49 56.0**	**-0.5**
MORH	**Mrgy, Hungar**	**148.81**	**337**	⇑P	**PKPbc**	**20 49 57.2**	**-0.3**
BLKB	**Belogradchik**	**149.20**	**330**	⇑P	**PKPbc**	**20 49 58.0**	**-0.6**
FRGS	**Fruska Gora**	**149.24**	**335**	⇓P	**PKPbc**	**20 49 58.5**	**-0.1**
SOKA	**Soboth**	**149.58**	**342**	*e*P	**PKPbc**	**20 49 59.1**	**-0.3**
	comp=Z,1.7nm,0.7s						
BOVS	**Bovan**	**149.64**	**331**	⇑P	**PKPbc**	**20 49 58.4**	**-1.1**
VTS	**Vitosha**	**149.67**	**328**	⇑P	**PKPbc**	**20 49 59.8**	**-0.1**
KBA	**Koelnbreinsper**	**149.68**	**345**	*e*P	**PKiKP**	**20 49 59.8**	**-0.6**
	comp=Z,2.4nm,0.7s						
WATA	**Walderalm**	**149.85**	**347**	*e*P	**PKPbc**	**20 50 00.1**	**0.0**
	comp=Z,2.8nm,0.7s						
RETA	**Reutte**	**149.87**	**348**	*e*P	**PKiKP**	**20 50 00.9**	**+0.2**
	comp=Z,2.9nm,1.3s						
WTTA	**Wattenberg**	**149.90**	**347**	*e*P	**PKPbc**	**20 50 00.2**	**-0.1**
	comp=Z,4.0nm,0.5s						
MOTA	**Moosalm**	**149.94**	**348**	*e*P	**PKPbc**	**20 50 00.3**	**-0.1**
	comp=Z,3.4nm,0.8s						
SQTA	**Sankt Quirin**	**150.03**	**347**	*e*P	**PKPbc**	**20 50 00.2**	**-0.3**
	comp=Z,3.4nm,0.7s						
ABTA	**Abfaltersbach**	**150.19**	**345**	*e*P	**PKPbc**	**20 50 00.2**	**-0.6**
	comp=Z,3.6nm,0.6s						
PRED	**Cave del Predi**	**150.21**	**344**		**PKPab**	**20 50 08.7**	**-1.2**
DAVA	**Damuels**	**150.23**	**349**	*e*P	**PKiKP**	**20 50 01.7**	**+0.2**
	comp=Z,5.6nm,1.2s						
FETA	**Feichten**	**150.32**	**348**	*e*P	**PKiKP**	**20 50 01.2**	**-0.5**
	comp=Z,5.0nm,1.0s						
STAL	**STALIGIAL**	**150.60**	**345**		**PKPbc**	**20 50 00.0**	**-1.7**
CIMO	**Cimolais**	**150.62**	**345**		**PKPbc**	**20 50 00.4**	**-1.4**
ZOBO	**Zobodat**	**150.64**	**346**		**PKPbc**	**20 50 00.3**	**-1.5

IDC ***02*** *20:33:50.9±2.9, 0.°02N×17.°47W, h0km, mb3.6/2, mbtmp4.1/4, ML4.4/2, MS3.3/3, Error ellipse: s-maj=87.7km s-min=47.3km az=126.0*

ISC 02 20:33:54.2±2.1, 0.°2N±0.°3×17.°2W±0.°2, h10km, n15, σ2°65/9, 2C-1D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.39**	**161**	T	T	20 44 58.6	
	baz=339,slow=74,SNR=65						
H10N3	**ASCENSION HYDR**	**8.40**	**161**	T	T	20 45 00.3	
	baz=339,slow=74,SNR=136						
H10N1	**ASCENSION HYDR**	**8.41**	**161**	T	T	20 45 01.7	
	baz=339,slow=74,SNR=182						
H10S3	**ASCENSION HYDR**	**9.41**	**164**	T	T	20 46 17.7	
	baz=238,slow=74,SNR=31						
H10S2	**ASCENSION HYDR**	**9.42**	**164**	T	T	20 46 14.5	
	baz=342,slow=74,SNR=14						
LIC	**Lamto**	**13.59**	**63**	*eP*	**Pn**	**20 37 10.5**	**+3.4**
	6.7nm,0.5s						
TIC	**Toumodi**	**13.78**	**62**	*eP*	**Pn**	**20 37 11.8**	**+2.0**
	7.4nm,0.4s						
KIC	**Kosan Boka**	**13.90**	**63**	*eP*	**Pn**	**20 37 13.5**	**+2.0**
	6.7nm,0.5s						
DBIC	**Dimbokro**	**13.94**	**62**	Pn	**Pn**	**20 37 13.6**	**+1.7**
	1.6nm,0.3s,baz=262,slow=15,SNR=30						
DBIC				Sn	**Sn**	**20 39 43.3**	**-3.6**
	0.7nm,0.3s,baz=176,slow=13,SNR=2.1						
	4.8nm,0.4s						
KOWA	**Kowa**	**19.33**	**42**	P	**Pn**	**20 38 21.1**	**+0.2**
	1.0nm,0.3s,baz=225,slow=11,SNR=26						
KOWA				LR	LR	20 44 47.4	
	comp=Z,54nm,20.7s,baz=241,slow=34						
	6.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**22.77**	**55**	P	**P**	**20 38 57.9**	**+0.9**
	3.2nm,0.8s,baz=240,slow=9.7,SNR=15						
	3.2nm,0.8s						
VAE	**Valguarnera**	**47.24**	**35**	LR	LR	21 04 55.3	
	comp=Z,37nm,18.3s,baz=38,slow=39						
GERES	**GERESS Array B**	**55.34**	**24**	P	**P**	**20 43 28.2**	**-0.1**
	0.3nm,0.6s,baz=221,slow=7.3,SNR=3.5						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**88.44**	**37**	LR	LR	21 29 46.8	
	comp=Z,22nm,20.0s,baz=224,slow=38						
WRA	**Warramunga Arr**	**145.92**	**127**	PKPbc	**PKPab**	**20 53 33.0**	**-2.5**
	0.1nm,0.5s,baz=216,slow=2.5,SNR=1.5						

IDC ***02*** *20:47:33.4±1.1, 0.°78N×28.°72W, h0km, mb4.0/10, mbtmp4.1/11, ML4.1/1, MS3.5/13, Error ellipse: s-maj=44.8km s-min=19.3km az=153.0*

NEIC ***02*** *20:47:35.0±2.8, 0.°7N±0.°2×28.°6W±0.°1, h10km±1km, mb4.6/7, Error ellipse: s-maj=33.1km s-min=14.9km az=136.0*

ISC 02 20:47:34.8±0.8, 0.°8N±0.°2×28.°7W±0.°1, h10km, n34, σ1°05/19, mb4.3/14, MS3.5/13, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.71**	**228**	Pn	**Pn**	**20 49 53.6**	**-1.1**
	1.6nm,0.3s,baz=188,slow=13,SNR=11						
RCBR				Sn	Sn	20 51 31.8	-12
	2.2nm,0.3s,baz=290,slow=18,SNR=6.3						
	13nm,0.7s						
RCBR	**Riachuelo**	**9.71**	**228**	Pn	**Pn**	**20 49 53.3**	**-1.4**
RCBR				Sn	Sn	20 51 33.0	-11
SACV	**Santiago Islan**	**15.00**	**19**	Pn	**Pn**	**20 51 04.3**	**-2.8**
H10N3	**ASCENSION HYDR**	**16.53**	**121**	T	T	21 08 27.7	
	baz=300,slow=74,SNR=93						
H10N2	**ASCENSION HYDR**	**16.54**	**121**	T	T	21 08 32.9	
	baz=300,slow=74,SNR=96						
H10N1	**ASCENSION HYDR**	**16.55**	**121**	T	T	21 08 29.9	
	baz=300,slow=74,SNR=77						
H10S3	**ASCENSION HYDR**	**16.98**	**125**	T	T	21 09 04.6	
	baz=302,slow=74,SNR=61						
H10S2	**ASCENSION HYDR**	**17.00**	**125**	T	T	21 09 12.4	
	baz=278,slow=74,SNR=31						
MDP	**Montagnes des**	**24.29**	**281**	LR	LR	20 59 26.6	
	comp=Z,59nm,19.7s,baz=92,slow=29						
DBIC	**Dimbokro**	**24.50**	**76**	P	**P**	**20 52 55.0**	**+0.5**
	10nm,0.8s,baz=273,slow=10,SNR=15						
DBIC				LR	LR	21 00 40.7	
	comp=Z,95nm,20.0s,baz=254,slow=32						
	10nm,0.8s						
DBIC	**Dimbokro**	**24.50**	**76**	P	**P**	**20 52 55.3**	**+0.7**
DBIC				IAmb	IAmb	20 52 57.0	
	comp=Z,11nm,0.8s						
BDFB	**Brasilia**	**25.09**	**229**	LR	LR	21 01 35.1	
	comp=Z,186nm,20.7s,baz=333,slow=34						
KOWA	**Kowa**	**27.97**	**60**	P	**P**	**20 53 25.9**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=239,slow=7.6,SNR=9.7						
KOWA				LR	LR	21 03 08.3	
	comp=Z,68nm,19.3s,baz=140,slow=33						
	comp=Z,5.7nm,0.9s						
KOWA	**Kowa**	**27.97**	**60**	P	**P**	**20 53 25.5**	**-0.3**
TOA0	**Torodi Ar. Sit**	**32.53**	**66**	P	**P**	**20 54 06.0**	**-0.3**
TOA0				IAmb	IAmb	20 54 08.0	
	comp=Z,4.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**32.53**	**66**	P	**P**	**20 54 06.2**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=257,slow=9.4,SNR=16						
TORD				LR	LR	21 05 59.2	
	comp=Z,73nm,20.1s,baz=207,slow=34						
	comp=Z,2.9nm,0.7s						
SIV	**San Ignacio**	**36.03**	**241**	LR	LR	21 09 00.6	
	comp=Z,117nm,18.9s,baz=97,slow=36						
BIRV	**Birongo**	**38.57**	**286**	P	**P**	**20 54 58.2**	**0.0**
BIRV				IAmb	IAmb	20 55 26.1	
	comp=Z,23nm,1.3s						
MDT	**Midelt**	**39.14**	**33**	LR	LR	21 09 02.5	
	comp=Z,29nm,20.1s,baz=216,slow=33						
LPAZ	**La Paz**	**42.43**	**245**	P	**P**	**20 55 31.7**	**+0.9**
	σ2.2,5nm,0.8s,baz=63,slow=4.5,SNR=3.0						
	comp=Z,2.5nm,0.8s						
ESDC	**Sonseca Array**	**44.83**	**27**	P	**P**	**20 55 49.6**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=220,slow=9.0,SNR=8.4						
	comp=Z,1.0nm,0.8s						
ROSC	**El Rosal**	**45.73**	**276**	LR	LR	21 13 54.9	
	comp=Z,84nm,20.5s,baz=146,slow=35						
ATAH	**Atahualpa**	**50.19**	**260**	LR	LR	21 17 50.6	
	comp=Z,74nm,19.2s,baz=135,slow=36						
DAVOX	**Davos/Dischmat**	**56.87**	**31**	LR	LR	21 22 18.4	
	comp=Z,37nm,18.1s,baz=254,slow=37						
G62A	**West of Eustis**	**57.60**	**326**	P	**P**	**20 57 27.1**	**+2.1**
G62A				IAmb	IAmb	20 57 27.9	
	comp=Z,6.7nm,0.8s						
LSZ	**Lusaka**	**58.41**	**108**	LR	LR	21 19 36.9	
	comp=Z,47nm,18.7s,baz=146,slow=33						
GERES	**GERESS Array B**	**60.16**	**31**	P	**P**	**20 57 43.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=225,slow=7.4,SNR=9.9						
	comp=Z,0.8nm,0.7s						
PSZ	**Piszkesteto**	**62.97**	**34**	P	**P**	**20 58 01.5**	**-0.3**
PSZ				IAmb	IAmb	20 58 03.8	
	comp=Z,6.6nm,0.9s						
NOA	**NORSAR Array B**	**67.38**	**20**	P	**P**	**20 58 30.0**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=222,slow=6.4,SNR=3.4						
	comp=Z,1.2nm,1.0s						
BRTR	**Keskin Array B**	**68.52**	**47**	P	**P**	**20 58 38.2**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=275,slow=7.1,SNR=2.7						
	comp=Z,0.6nm,0.7s						
AKASG	**Malin Array Be**	**69.66**	**35**	P	**P**	**20 58 44.5**	**0.0**
	comp=Z,1.3nm,0.6s,baz=241,slow=6.1,SNR=8.5						
	comp=Z,1.3nm,0.6s						
KBZ	**Khabaz**	**76.25**	**45**	LR	LR	21 34 38.8	
	comp=Z,20nm,19.1s,baz=167,slow=37						
TXAR	**Lajitas Array**	**76.54**	**300**	P	**P**	**20 59 25.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=119,slow=7.4,SNR=2.2						
	comp=Z,0.4nm,0.7s						
ANMO	**Albuquerque**	**79.54**	**305**	LR	LR	21 31 07.4	
	comp=Z,34nm,18.1s,baz=182,slow=33						

VAO ***02*** *20:48:43.2±2.9, 1.°42N×80.°02W, h10km, mb4.8*

IGQ ***02*** *20:48:59±0.2, 1.°N±2.°×7.°9W±.°, h23km*

IDC ***02*** *20:49:00.8±0.7, 0.°74N×79.°15W, h74km±7km, mb3.9/11, mbtmp4.2/14, MS3.0/4, Error ellipse: s-maj=15.8km s-min=11.4km az=78.0*

NEIC ***02*** *20:49:01.4±2.1, 0.°72N±0.°04×79.°09W±0.°06, h78km±8km, mb4.4/34, Error ellipse: s-maj=8.7km s-min=5.1km az=92.0*

ISC 02 20:48:59.6±0.5, 0.°72N±0.°03×79.°24W±0.°03, h67km±5km, n201, σ1°41/209, mb4.4/26, Near coast of Ecuador

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

AV21	**Acelerografo,**	**0.31**	**259**	P	**Pn**	**20 49 09.0**	**-1.5**
AV21	**Acelerografo,**	**0.31**	**259**	S	**Sn**	**20 49 17.0**	**-1.5**
AV18	**Acelerografo,**	**0.47**	**210**	P	**Pn**	**20 49 11.0**	**-0.8**
AMA1	**Acelerografo,**	**0.53**	**294**	P	**Pn**	**20 49 11.0**	**-1.4**
AMA1	**Acelerografo,**	**0.53**	**294**	S	**Sn**	**20 49 20.0**	**-1.9**
BV15	**Puerto Quito-O**	**0.56**	**178**	P	**Pn**	**20 49 11.0**	**-1.7**
BV15	**Puerto Quito-O**	**0.56**	**178**	S	**Sn**	**20 49 21.0**	**-1.4**
PAC1	**Pacto, Paraso**	**0.64**	**135**	P	**Pn**	**20 49 12.0**	**-1.7**
SNLR	**San Lorenzo-Es**	**0.69**	**35**	P	**Pn**	**20 49 14.0**	**-0.2**
SNLR	**San Lorenzo-Es**	**0.69**	**35**	S	**Sn**	**20 49 27.0**	**+2.1**
APR2	**Miler**	**0.69**	**157**	P	**Pn**	**20 49 13.0**	**-1.3**
PTGL	**Punta Galera**	**0.79**	**274**	P	**Pn**	**20 49 14.0**	**-1.4**
PTGL	**Punta Galera**	**0.79**	**274**	S	**Sn**	**20 49 26.0**	**-1.1**
ALIT	**Ecuador-Imbabu**	**0.88**	**85**	P	**Pn**	**20 49 15.0**	**-1.6**
ALIT	**Ecuador-Imbabu**	**0.88**	**85**	S	**Sn**	**20 49 27.0**	**-2.2**
LITE1	**Lita**	**0.88**	**85**	P	**Pn**	**20 49 14.0**	**-2.6**
OTAV	**Otavalo**	**0.92**	**121**	Pn	**Pn**	**20 49 17.0**	**-0.4**
OTAV				Sn	**Sn**	**20 49 29.8**	**-0.8**
OTAV	**Otavalo**	**0.92**	**121**	P	**Pn**	**20 49 16.0**	**-1.4**
OTAV	**Otavalo**	**0.92**	**121**	S	**Sn**	**20 49 29.0**	**-1.5**
CUSE	**Cuicocha Este**	**0.94**	**116**	P	**Pn**	**20 49 17.0**	**-0.5**
CUSE	**Cuicocha Este**	**0.94**	**116**	S	**Sn**	**20 49 30.0**	**-0.8**
MAG1	**Magdalena**	**0.95**	**214**	P	**Pn**	**20 49 16.0**	**-1.3**
CUIC	**Cuicocha-Domo**	**0.97**	**115**	P	**Pn**	**20 49 17.0**	**-0.9**
COTA	**Cotacachi**	**0.98**	**113**	P	**Pn**	**20 49 19.0**	**+0.8**
APR1	**Acelerografo,**	**0.98**	**141**	P	**Pn**	**20 49 17.0**	**-1.1**
APR1	**Acelerografo,**	**0.98**	**141**	S	**Sn**	**20 49 31.0**	**-0.8**
CUSW	**Cuicocha Oeste**	**0.99**	**116**	P	**Pn**	**20 49 18.0**	**-0.1**
PULU	**Pululahua**	**1.01**	**133**		**Pn**	**20 49 18.6**	**+0.1**
PULU				Sn	**Sn**	**20 49 33.1**	**+0.7**
PULU	**Pululahua**	**1.01**	**133**	P	**Pn**	**20 49 18.0**	**-0.5**
PULU	**Pululahua**	**1.01**	**133**	S	**Sn**	**20 49 33.0**	**+0.6**
URCU	**Urcuqui**	**1.02**	**106**	P	**Pn**	**20 49 18.0**	**-0.6**
YANA	**Yana**	**1.07**	**141**	P	**Pn**	**20 49 19.0**	**-0.3**
PINO	**Pino**	**1.08**	**144**	P	**Pn**	**20 49 19.0**	**-0.5**
GGPC	**Guagua Pichinc**	**1.10**	**144**	P	**Pn**	**20 49 19.0**	**-0.8**
DELA	**Administracion**	**1.11**	**138**	P	**Pn**	**20 49 20.0**	**+0.3**
DELA	**Administracion**	**1.11**	**138**	S	**Sn**	**20 49 35.0**	**+0.3**
IMBA	**Imbabura, San**	**1.13**	**113**		**Pn**	**20 49 21.2**	**+1.2**
IMBA				Sn	**Sn**	**20 49 35.2**	**0.0**
IMBA	**Imbabura, San**	**1.13**	**113**	P	**Pn**	**20 49 21.0**	**+1.0**
ROQE	**Tereno de la P**	**1.17**	**143**	P	**Pn**	**20 49 20.0**	**-0.5**
ROQE	**Tereno de la P**	**1.17**	**143**	S	**Sn**	**20 49 36.0**	**0.0**
AV11	**Acelerografo,**	**1.17**	**132**	P	**Pn**	**20 49 21.0**	**+0.6**
JBPC	**Jardin Botanic**	**1.17**	**140**	P	**Pn**	**20 49 20.0**	**-0.5**
JBPC	**Jardin Botanic**	**1.17**	**140**	S	**Sn**	**20 49 37.0**	**+0.9**
TUMC	**Tumaco**	**1.21**	**25**	P	**Pn**	**20 49 20.0**	**-0.6**
YAHU	**Yahuarcocha**	**1.22**	**107**	P	**Pn**	**20 49 22.0**	**+0.9**
FLF1	**Flavio Alfaro-**	**1.23**	**209**	P	**Pn**	**20 49 20.0**	**-0.9**
LNGL	**El Angel-Carch**	**1.24**	**89**	P	**Pn**	**20 49 21.0**	**-0.5**
LNGL	**El Angel-Carch**	**1.24**	**89**	S	**Sn**	**20 49 38.0**	**+0.2**
CHL1	**Volc¡n Chiles**	**1.29**	**87**	P	**Pn**	**20 49 22.0**	**-0.2**
CHL1	**Volc¡n Chiles**	**1.29**	**87**	S	**Sn**	**20 49 38.0**	**-1.2**
CHL2	**Volc¡n Chiles**	**1.32**	**86**	P	**Pn**	**20 49 22.0**	**-0.6**
JAMA	**Jama**	**1.37**	**225**	P	**Pn**	**20 49 21.0**	**-1.8**
ANGU	**Angureal**	**1.40**	**118**	P	**Pn**	**20 49 25.0**	**+1.3**
CAYA	**Cayambe**	**1.41**	**117**	P	**Pn**	**20 49 24.0**	**+0.3**
CAYR	**Refugio Cayamb**	**1.42**	**120**	P	**Pn**	**20 49 25.0**	**+1.1**
CMBC	**Cumbal**	**1.43**	**81**	P	**Pn**	**20 49 24.0**	**+0.1**
TOMA	**Boca Toma-Volc**	**1.45**	**146**	P	**Pn**	**20 49 25.0**	**+0.8**
TULM	**Tulcn-Chalpat**	**1.45**	**90**		**Pn**	**20 49 25.1**	**+0.8**
TULM				Sn	**Sn**	**20 49 39.5**	**-3.3**
TULM	**Tulcn-Chalpat**	**1.45**	**90**	P	**Pn**	**20 49 26.0**	**+1.7**
ILLI	**Illinizas Sur**	**1.51**	**160**	P	**Pn**	**20 49 25.0**	**-0.1**
ATUL	**Tulcn**	**1.52**	**88**	P	**Pn**	**20 49 26.0**	**+1.1**
PAST	**Pastocalle**	**1.53**	**157**	P	**Pn**	**20 49 25.0**	**-0.2**
SUCR	**Mariscal Sucre**	**1.54**	**157**	P	**Pn**	**20 49 25.0**	**+0.5**
NAS2	**Nasa**	**1.56**	**150**	P	**Pn**	**20 49 27.0**	**+1.3**
ANTG	**Antisana-Guama**	**1.56**	**141**	P	**Pn**	**20 49 26.0**	**+0.2**
CAMI	**Rancho Maria**	**1.57**	**152**	P	**Pn**	**20 49 27.0**	**+1.2**
BNAS	**Cotopaxi Volca**	**1.58**	**151**	P	**Pn**	**20 49 27.0**	**+1.0**
ANTI	**Antisana**	**1.58**	**137**	P	**Pn**	**20 49 27.0**	**+0.9**
VC1	**Cotopaxi 1**	**1.59**	**148**	P	**Pn**	**20 49 27.0**	**+0.8**
BREF	**Cotopaxi Volca**	**1.59**	**150**	P	**Pn**	**20 49 27.0**	**+0.7**
BVC2	**Cotopaxi Volca**	**1.60**	**149**	P	**Pn**	**20 49 27.0**	**+0.7**
SRAM	**San Ramn-Vol**	**1.61**	**155**	P	**Pn**	**20 49 27.0**	**+0.7**
ANTM	**Antisana-La Mi**	**1.61**	**141**	P	**Pn**	**20 49 27.0**	**+0.6**
ANTS	**Antisana-Sarah**	**1.61**	**139**	P	**Pn**	**20 49 27.0**	**+0.5**
CABP	**Cabo Pasado**	**1.62**	**227**	P	Pn	20 49 24.0	-2.0
SLOR	**San Lorenzo -**	**1.62**	**153**		**Pn**	**20 49 28.1**	**+1.5**
SLOR				Sn	**Sn**	**20 49 46.4**	**-0.3**
SLOR	**San Lorenzo -**	**1.62**	**153**	P	**Pn**	**20 49 28.0**	**+1.5**
BTAM	**Cotopaxi Volca**	**1.62**	**149**	P	**Pn**	**20 49 28.0**	**+1.4**
BMOR	**Cotopaxi Volca**	**1.64**	**152**	P	**Pn**	**20 49 28.0**	**+1.2**
TAMB	**Tambo**	**1.65**	**148**	P	**Pn**	**20 49 28.0**	**+1.0**
VCES	**Cotopaxi**	**1.73**	**151**	P	**Pn**	**20 49 29.0**	**+1.0**
BONI	**La Bonita**	**1.73**	**99**	P	**Pn**	**20 49 29.0**	**+1.2**
APSY	**Ecuador-Napo A**	**1.95**	**150**	P	**Pn**	**20 49 33.0**	**+2.2**
PIAT	**Ana Tenorio**	**1.97**	**150**	P	**Pn**	**20 49 32.0**	**+0.9**
CASC	**Dorado de Casc**	**1.99**	**107**	P	**Pn**	**20 49 32.0**	**+0.9**
PORT	**Chimborazo Vol**	**2.22**	**168**		**Pn**	**20 49 35.9**	**+1.2**
PORT				Sn	**Sn**	**20 50 02.6**	**+1.3**
PORT	**Chimborazo Vol**	**2.22**	**168**	P	**Pn**	**20 49 36.0**	**+1.3**
ARDO	**Archidona, Ten**	**2.23**	**140**	P	**Pn**	**20 49 35.0**	**+0.7**
CHSH	**Refugio Sur-Vo**	**2.23**	**170**		**Pn**	**20 49 36.2**	**+1.4**
CHSH				Sn	**Sn**	**20 50 03.7**	**+2.1**
CHSH	**Refugio Sur-Vo**	**2.23**	**170**	P	**Pn**	**20 49 36.0**	**+1.2**
JUI6	**Juive**	**2.27**	**160**	P	**Pn**	**20 49 36.0**	**+0.9**
POND	**Pondoa**	**2.27**	**160**	P	**Pn**	**20 49 36.0**	**+0.9**
BRUN	**Tungurahua Vol**	**2.27**	**159**	P	**Pn**	**20 49 37.0**	**+1.7**
IGUA	**Igualata**	**2.28**	**165**	P	**Pn**	**20 49 37.0**	**+1.6**
BBIL	**Ilba Tungurahu**	**2.28**	**161**	P	**Pn**	**20 49 37.0**	**+1.7**
BIL2	**Estacion Bilba**	**2.28**	**161**	P	**Pn**	**20 49 38.0**	**+2.7**
TAMH	**Tambohuasha Ch**	**2.29**	**168**	P	**Pn**	**20 49 37.0**	**+1.4**
RETU	**Refugio**	**2.30**	**160**	P	**Pn**	**20 49 37.0**	**+1.3**
BMAS	**Trigal station**	**2.33**	**161**	P	**Pn**	**20 49 37.0**	**+0.9**
ARRY	**Arrayan**	**2.35**	**160**	P	**Pn**	**20 49 37.0**	**+0.8**
BPAT	**Tungurahua Vol**	**2.35**	**160**	P	**Pn**	**20 49 38.0**	**+1.6**
BBAC	**Balboa, Cauca**	**2.38**	**57**	P	**Pn**	**20 49 36.0**	**-0.4**
PUYO	**Puyo, Santa Ro**	**2.51**	**151**	P	**Pn**	**20 49 43.0**	**+4.8**
ISPT	**Isla de la Pla**	**2.69**	**223**	P	Pn	20 49 37.0	-3.6
AMIL	**Milagro (Trans**	**2.86**	**187**	P	**Pn**	**20 49 42.0**	**-0.8**
MILO	**Milagro-Astudi**	**3.00**	**186**	P	**Pn**	**20 49 42.0**	**-2.7**
MORR	**Playas El Morr**	**3.51**	**198**	P	**Pn**	**20 49 51.0**	**-0.8**
MALC	**Bahia Malaga**	**3.78**	**30**	P	**Pn**	**20 49 53.0**	**-2.5**
BOSC	**San Juan Bosco**	**3.92**	**169**	Pn	**Pn**	**20 50 00.6**	**+3.1**
BOSC	**San Juan Bosco**	**3.92**	**169**	P	**Pn**	**20 50 00.0**	**+2.5**
ARNL	**Arenillas**	**4.32**	**191**		**Pn**	**20 50 02.5**	**-0.3**
ARNL				Sn	**Sn**	**20 50 51.6**	**-0.3**
ARNL	**Arenillas**	**4.32**	**191**	P	**Pn**	**20 50 02.0**	**-0.8**
PTLC	**Puerto Leguiza**	**4.48**	**97**	P	**Pn**	**20 50 06.0**	**+1.1**
ZUMB	**Zumba**	**5.55**	**179**	P	**Pn**	**20 50 21.0**	**+1.2**
ROSC	**El Rosal**	**6.39**	**50**	P	**Pn**	**20 50 32.6**	**+1.0**
	26nm,0.3s,baz=244,slow=12,SNR=7.2						
ROSC				S	**Sn**	**20 51 45.1**	**+1.8**
	32nm,0.5s,baz=347,slow=21,SNR=1.9						
ROSC	**El Rosal**	**6.39**	**50**	Pn	**Pn**	**20 50 30.0**	**-1.6**
ATAH	**Atahualpa**	**7.85**	**174**	P	**Pn**	**20 50 53.3**	**+1.9**
	16nm,0.8s,baz=10,slow=12,SNR=8.2						
ATAH				S	**Sn**	**20 52 22.7**	**+3.6**
	30nm,0.7s,baz=208,slow=23,SNR=8.6						
BCIP	**Isla Barro Col**	**8.41**	**356**	Pn	**Pn**	**20 51 00.4**	**+1.6**
CDITO	**Canoas**	**8.60**	**335**	Pn	**Pn**	**20 51 03.5**	**+2.1**
BRU2	**Volcan**	**8.73**	**337**		**Pn**	**20 51 04.8**	**+1.6**
DRK0	**Durika**	**9.38**	**335**		**Pn**	**20 51 15.4**	**+3.2**
SRBA	**San Rafael, Bu**	**9.40**	**334**		**Pn**	**20 51 13.9**	**+1.5**
RIMA	**Rio Macho**	**10.10**	**333**	Pn	**Pn**	**20 51 25.2**	**+3.2**
CVTR	**Volcan Turrial**	**10.28**	**334**	Pn	**Pn**	**20 51 27.3**	**+2.6**
TBTG	**Tabatinga, AM**	**10.52**	**118**	Pn	**Pn**	**20 51 25.4**	**-2.3**
CZSB	**Cruzeiro do Su**	**10.63**	**142**	Pn	**Pn**	**20 51 28.3**	**-0.8**
CZSB	**Cruzeiro do Su**	**10.63**	**142**	*eP*	**Pn**	**20 51 29.8**	**+0.7**
JTS	**Las Juntas de**	**11.08**	**329**	Pn	**Pn**	**20 51 37.6**	**+2.3**
PAYG	**Puerto Ayora**	**11.13**	**263**	Pn	**Pn**	**20 51 38.8**	**+2.7**
ORTG	**Ortega, Santa**	**11.40**	**327**	Pn	**Pn**	**20 51 41.5**	**+1.7**
HZTE	**Horizontes, Gu**	**11.77**	**328**	Pn	**Pn**	**20 51 48.1**	**+3.5**
SDV	**Santo Domingo**	**11.80**	**46**	LR	LR	20 56 02.0	
	comp=Z,53nm,18.1s,baz=236,slow=36						
NNA	**Nana**	**12.85**	**169**	LR	LR	20 57 53.0	
	comp=Z,54nm,18.9s,baz=336,slow=41						
BAUV	**El Baul**	**13.82**	**53**	Pn	**Pn**	**20 52 08.8**	**-3.7**
TGUH	**Tegucigalpa,Un**	**15.45**	**329**	P	**Pn**	**20 52 36.1**	**+2.3**
BIRV	**Birongo**	**16.13**	**53**	Pn	**Pn**	**20 52 41.3**	**-0.9**
BIRV				IAmb	IAmb	20 52 43.6	
	comp=Z,42nm,1.4s						
ETMB	**Extrema**	**16.66**	**129**	Pn	**Pn**	**20 52 44.9**	**-4.0**
ETMB				IAmb	IAmb	20 52 52.3	
	comp=Z,5.1nm,0.7s						
MTO3	**Montecristo**	**16.88**	**324**	P	**P**	**20 52 53.7**	**+0.8**
PCRV	**Puerto La Cruz**	**17.30**	**57**	P	**P**	**20 52 58.1**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=197,slow=14,SNR=0.9						

SDDR	**Presa de Saban**	**19.75**	**23**	P	**P**	**20 53 22.8**	**-1.4**
SDDR				IAmb	IAmb	20 53 42.0	
	comp=Z,21nm,1.2s						
LPAZ	**La Paz**	**20.14**	**148**	P	**P**	**20 53 29.4**	**+0.3**
	comp=Z,7.0nm,0.6s,baz=330,slow=12,SNR=21						
	comp=Z,7.0nm,0.6s						
LPAZ	**La Paz**	**20.14**	**148**	P	**P**	**20 53 29.3**	**+0.2**
PB12	**IPOC Station P**	**21.12**	**156**	P	**P**	**20 53 38.9**	**-0.1**
PB12				IAmb	IAmb	20 53 44.5	
	comp=Z,11nm,0.7s						
ICMP	**Isla Caja de M**	**21.15**	**36**	P	**P**	**20 53 39.0**	**-0.2**
PB16	**IPOC Station P**	**21.22**	**154**	P	**P**	**20 53 38.9**	**-1.7**
SJG	**San Juan**	**21.54**	**36**	P	**P**	**20 53 43.4**	**-0.1**
	comp=Z,6.2nm,0.3s,baz=355,slow=20,SNR=1.8						
SJG				LR	LR	21 04 32.4	
	comp=Z,15nm,18.2s,baz=243,slow=43						
	comp=Z,6.2nm,0.3s						
CBYP	**Canovanas**	**21.84**	**36**	P	**P**	**20 53 47.2**	**+0.5**
CBYP				IAmb	IAmb	20 54 28.5	
	comp=Z,18nm,1.1s						
MTP	**Monte Pirata**	**21.89**	**37**	P	**P**	**20 53 47.3**	**+0.2**
MTP				IAmb	IAmb	20 53 51.2	
	comp=Z,25nm,1.1s						
CUPR	**Culebra, Puert**	**22.21**	**37**	P	**P**	**20 53 50.9**	**+0.3**
CUPR				IAmb	IAmb	20 54 29.4	
	comp=Z,14nm,0.8s						
CMIG	**Matias Romero**	**22.40**	**317**	P	**P**	**20 53 54.2**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=73,slow=14,SNR=2.2						
	comp=Z,1.6nm,0.7s						
STVI	**Saint Thomas**	**22.45**	**38**	P	**P**	**20 53 52.9**	**-0.3**
STVI				IAmb	IAmb	20 54 23.8	
	comp=Z,36nm,1.2s						
GO01	**Chusmiza**	**22.53**	**155**	P	**P**	**20 53 54.3**	**-0.3**
VILB	**Vilhena**	**23.26**	**126**	P	**P**	**20 53 59.5**	**-2.1**
VILB				IAmb	IAmb	20 54 02.5	
	comp=Z,19nm,0.9s						
VILB	**Vilhena**	**23.26**	**126**	*eP*	**P**	**20 54 01.0**	**-0.6**
PB01	**IPOC Station P**	**23.64**	**157**	P	**P**	**20 54 04.2**	**-0.9**
PB01				IAmb	IAmb	20 54 14.4	
	comp=Z,17nm,1.2s						
PB09	**IPOC Station P**	**24.41**	**157**	P	**P**	**20 54 10.0**	**-2.1**
PB09				IAmb	IAmb	20 54 37.5	
	comp=Z,24nm,1.1s						
SIV	**San Ignacio**	**24.45**	**134**	P	**P**	**20 54 12.3**	**0.0**
	comp=Z,4.0nm,0.7s,baz=298,slow=

JOD2	Odawara 2	10.15 347	P	P	20 52 40.0	-0.3
JNY	Yasuok	10.53 342	*e*P	P	20 52 44.6	+0.1
JAO	Obara	10.63 340	P	P	20 52 45.6	+0.2
JHU	Hanno	10.69 349	P	P	20 52 45.8	-0.3
JRY	Ryogami san	10.92 348	P	P	20 52 48.3	-0.2
JYT	Yasato	10.93 353	P	P	20 52 49.2	+0.7
JAG	Ashikaga	11.22 350	P	P	20 52 51.2	-0.5
JHO	Hitachi	11.27 355	P	P	20 52 53.0	+0.8
MJAR	Matsushiro Arr	11.57 345	P	P	20 52 54.0	-1.4
	0.9nm,0.4s,baz=158,slow=11,SNR=6.5					
KSRS	Korea Array	16.88 319	P	P	20 53 51.9	+0.7
	0.9nm,0.7s,baz=153,slow=8.0,SNR=5.2					
WRA	Warramunga Arr	45.60 190	P	P	20 57 56.5	0.0
	2.2nm,0.4s,baz=7.8,slow=8.0,SNR=78					
	2.2nm,0.4s					
FITZ	Fitzroy Crossi	45.96 202	P	P	20 57 59.0	-0.2
	3.0nm,1.1s,baz=33,slow=6.3,SNR=11					
	3.0nm,1.1s					
ASAR	Alice Springs	49.32 190	P	P	20 58 24.2	-0.2
	0.3nm,0.3s,baz=11,slow=6.8,SNR=13					
	0.3nm,0.3s					
MKAR	Makanchi Array	51.32 311	P	P	20 58 39.0	+0.1
	0.1nm,0.4s,baz=92,slow=8.6,SNR=4.1					
	0.1nm,0.4s					
ILAR	Eielson Array	59.41 28	P	P	20 59 36.7	+1.7
	0.5nm,0.6s,baz=257,slow=4.5,SNR=5.5					
	0.5nm,0.6s					
FINES	FINESS Array B	79.35 334	P	P	21 01 34.8	+0.1
	1.0nm,0.6s,baz=70,slow=4.9,SNR=8.2					
	1.0nm,0.6s					

NEIC ***02*** *20:54:01.4±2.2,39.°09N±0.°06×143.°3E±0.°1,h10km±2km, mb4.1/7,Error ellipse: s-maj=15.0km s-min=9.3km az=117.0*

IDC ***02*** *20:54:04.0±1.1,39.°45N×142.°74E,h0km,mb3.9/11, mbtmp3.8/14,ML3.2/3,MS3.2/6,Error ellipse: s-maj=26.6km s-min=18.5km az=106.0*

JMA ***02*** *20:54:04.9±0.2,39.°1N±0.°3×142.°9E±0.°7,h26km±1km, MD4.1/40,MV4.1/40,FAR E OFF SANRIKU*

NIED ***02*** *20:54:04.9,39.°14N×142.°92E,h26km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.57; Mθθ1.18; Mφφ-3.74; Mrθ3.71; Mθφ-1.07; Mφr6.12; Fault plane solution: M₀7.92000×10¹⁴ NP1: φs163.00000°,δ16.00000°,λ44.00000°. NP2:φs31.00000°, δ79.00000°,λ102.00000°.*

ISC 02 20:54:03.5±2.0,39.°16N±0.°05×142.°94E±0.°07,h15km±10km, n58,σ1°59/55,mb4.0/14,MS3.2/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.96	296	*i* P	Pg	20 54 22.2	0.0
MIYJ				*e*S	Sg	20 54 34.7	-0.2
OFUJ	Ofunato	0.99	266	*i* P	Pg	20 54 22.7	0.0
OFUJ				*e*S	Sg	20 54 35.2	-0.6
JTH	Tanohata	1.14	313	P	Pb	20 54 24.9	0.0
JKMT	Kesennumamotoy	1.20	253	*i* P	Pb	20 54 25.6	-0.3
JKMT				*e*S	Sb	20 54 40.3	-0.9
JOM	Ohasama	1.32	284	*i* P	Pn	20 54 27.9	+0.5
JOM				S	Sb	20 54 44.6	-0.1
JMK	Ichinoseki	1.36	262	*i* P	Pn	20 54 28.4	+0.4
JMK				S	Sb	20 54 45.7	-0.1
JKEN	Kujiedanarisaw	1.41	318	A	A	20 54 29.4	
	comp=E,5.0nm,0.8s,comp=E,5.0nm,5.4s						
JIO	Ouri	1.43	241	*i* P	Pn	20 54 29.0	+0.1
JIO				S	Sn	20 54 47.0	-0.4
JANG	Nango	1.64	318	P	Pn	20 54 32.4	+0.6
JOFO	Osakifurukawao	1.68	251	A	A	20 54 33.1	
	comp=E,11nm,0.8s,comp=E,7.0nm,1.1s						
JRG	Rokugo	1.81	278	P	Pn	20 54 35.8	+1.7
JOU	Okura	1.95	247	*i* P	Pn	20 54 37.5	+1.4
JOU				S	Sn	20 55 01.8	+1.5
JOU	Okura	1.95	247	A	A	20 54 37.5	
	comp=E,2.0nm,2.1s,comp=E,2.0nm,2.6s						
JYK	Kaneyama	2.03	264	P	Pn	20 54 38.8	+1.7
JAH	Hinai	2.06	301	P	Pn	20 54 39.0	+1.5
JMM	Marumori	2.12	233		Pn	20 54 38.9	+0.4
JMM	Marumori	2.12	233	P	Pn	20 54 39.1	+0.6
JTM	Tenmabayashi	2.17	319		Pn	20 54 39.8	+0.7
JTM	Tenmabayashi	2.17	319	P	Pn	20 54 40.4	+1.3
JYT	Yasato	3.65	218		Pn	20 54 59.0	-0.4
JSD	Sado	3.84	254		Pn	20 55 03.1	+1.1
JEW	Eniwo	3.84	343	Pn	Pn	20 55 05.3	+3.1
MJAR	Matsushiro Arr	4.57	237	Pn	Pn	20 55 13.1	+0.9
	0.7nm,0.3s,baz=39,slow=11,SNR=31						
	8.4nm,0.4s						
MAJO	Matsushiro	4.57	237		Pn	20 55 14.2	+2.1
INU	Inuyama	6.07	233	Pn	Pn	20 55 35.5	+2.9
JHJ2	Mitsune	6.54	204	Pn	Pn	20 55 38.0	-1.2
JHJ	Hachijo jima 2	6.55	204	Pn	Pn	20 55 40.4	+1.1
	14nm,0.3s,baz=66,slow=20,SNR=1.6						
JHJ				Sn	Sn	20 56 48.4	-5.3
	17nm,0.3s,baz=1.9,slow=3.7,SNR=1.9						
JHS	Saijyo	8.88	245	Pn	Pn	20 56 14.4	+3.1
USRK	Ussuriysk Ar.	9.62	305	Pn	Pn	20 56 24.0	+2.7
	0.3nm,0.3s,baz=123,slow=14,SNR=2.9						
USRK				LR	LR	20 59 50.2	
	comp=Z,108nm,20.4s,baz=234,slow=37						
KSRS	Korea Array	11.93	266	Pn	Pn	20 56 55.6	+2.7
	0.2nm,0.3s,baz=87,slow=15,SNR=2.3						
KSRS				LR	LR	21 01 13.0	
	comp=Z,64nm,18.1s,baz=30,slow=36						
	3.5nm,1.1s						
KLR	Kul'dur	12.86	325	Pn	Pn	20 57 04.7	-1.0
	0.2nm,0.3s,baz=162,slow=13,SNR=2.2						
KLR				LR	LR	21 02 01.0	
	comp=Z,77nm,19.7s,baz=46,slow=38						
	0.4nm,0.6s						
MA2	Magadan	21.03	11	P	P	20 58 46.4	-0.1
	5.1nm,0.7s,baz=189,slow=7.8,SNR=6.4						
	5.1nm,0.7s						
MA2	Magadan	21.03	11	P	P	20 58 46.4	-0.1
MA2				IAmb	IAmb	20 58 48.2	
	comp=Z,5.1nm,0.7s						
YAK	Yakutsk	24.30	345	P	P	20 59 20.1	0.0
	comp=Z,2.1nm,0.3s,baz=152,slow=2.8,SNR=2.5						
	comp=Z,2.1nm,0.3s						
YAK	Yakutsk	24.30	345	P	P	20 59 18.0	-2.1
SEY	Seymchan	24.48	10	P	P	20 59 23.0	+1.3
	comp=Z,2.1nm,0.6s,baz=214,slow=15,SNR=6.5						
	comp=Z,2.1nm,0.6s						
SONM	Songino Array	27.68	300	P	P	20 59 51.6	+0.6
	comp=Z,0.8nm,0.5s,baz=94,slow=8.6,SNR=4.7						
SONM				LR	LR	21 11 17.4	
	comp=Z,59nm,18.4s,baz=88,slow=38						
	comp=Z,0.8nm,0.5s						
SONM	Songino Array	27.68	300	P	P	20 59 51.1	+0.1
SONM				IAmb	IAmb	20 59 54.4	
	comp=Z,3.3nm,1.4s						
H11N2	WAKE ISLAND Hy	28.31	126	T	T	21 30 47.5	
	baz=318,slow=75,SNR=166						
H11N1	WAKE ISLAND Hy	28.32	126	T	T	21 30 36.4	
	baz=318,slow=75,SNR=128						
H11N3	WAKE ISLAND Hy	28.33	126	T	T	21 30 35.5	
	baz=318,slow=75,SNR=2.5						
H11S1	WAKE ISLAND Hy	29.11	128	T	T	21 31 41.2	
	baz=319,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	29.11	128	T	T	21 31 30.6	
	baz=319,slow=76,SNR=15						
H11S2	WAKE ISLAND Hy	29.13	128	T	T	21 31 50.9	
	baz=319,slow=76,SNR=14						
CRAI	Chiangrai	41.08	255	P	P	21 01 47.6	+0.9
CRAI				IAmb	IAmb	21 01 53.9	
	comp=Z,5.7nm,1.2s						
ZAA0	Zalesovo Array	41.41	311	P	P	21 01 48.7	-0.3
ZALV	Zalesovo Beam	41.41	311	P	P	21 01 49.4	+0.4
	comp=Z,1.5nm,0.4s,baz=95,slow=7.8,SNR=8.1						
ZALV				LR	LR	21 19 52.0	
	comp=Z,43nm,18.9s,baz=240,slow=38						
	comp=Z,1.5nm,0.4s						
ZALV	Zalesovo Beam	41.41	311	P	P	21 01 48.2	-0.8
MK31	Makanchi Array	44.05	301		P	21 02 10.6	0.0
MK31				IAmb	IAmb	21 02 22.6	
	comp=Z,3.5nm,1.1s						
MKAR	Makanchi Array	44.05	301	P	P	21 02 10.7	+0.1
	comp=Z,2.2nm,0.9s,baz=86,slow=9.7,SNR=13						
	comp=Z,2.2nm,0.9s						
MKAR	Makanchi Array	44.05	301	P	P	21 02 10.5	-0.1
KURK	Kurchatov	45.60	307		P	21 02 22.7	-0.2
KURK				IAmb	IAmb	21 02 34.2	
	comp=Z,8.6nm,1.1s						
ILAR	Eielson Array	47.05	33	P	P	21 02 35.2	+1.1
	comp=Z,0.4nm,0.7s,baz=272,slow=6.9,SNR=4.7						
	comp=Z,0.4nm,0.7s						
WRA	Warramunga Arr	59.34 189	P	P	21 04 10.3	+5.4
	comp=Z,0.5nm,0.5s,baz=7.1,slow=6.9,SNR=2.5						
	comp=Z,0.5nm,0.5s						
ASAR	Alice Springs	63.07 189	P	P	21 04 34.9	+4.7
	comp=Z,0.4nm,0.8s,baz=20,slow=6.4,SNR=3.3						
	comp=Z,0.4nm,0.8s						
FINES	FINESS Array B	67.50 332	P	P	21 04 58.6	+0.2
	comp=Z,1.2nm,0.8s,baz=32,slow=11,SNR=3.7						
	comp=Z,1.2nm,0.8s						
YBH	Yreka Blue Hor	68.10 54	LR	LR	21 32 23.6		
	comp=Z,16nm,20.5s,baz=179,slow=34						
NOA	NORSAR Array B	72.69 338	P	P	21 05 30.0	-0.4
	comp=Z,1.2nm,1.0s,baz=31,slow=5.4,SNR=3.3						
	comp=Z,1.2nm,1.0s						

IDC ***02*** *21:00:56.9±8.0,36.°23S×179.°14E,h0km,mb3.7/2, mbtmp3.7/2,Error ellipse: s-maj=288.7km s-min=51.5km az=36.0*

WEL ***02*** *21:01:00.8±1.7,37.°S±9.°×17.°9E±1.°2,h24km±25km, M3.7/26,ML4.0/27,MLv3.7/26,Error ellipse: s-maj=0.0km s-min=0.0km az=70.9*

ISC 02 21:00:58.3±2.5,36.°94S±0.°07×179.°3E±0.°1,h13km±13km, n73,σ1°13/78,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.02	232	P	Pb	21 01 16.7	-1.1
WMGZ	Waiomatatini S	1.14	219	P	Pg	21 01 20.7	+0.5
WMGZ				S	Sb	21 01 35.5	+1.0
PKGZ	Pakihiroa	1.37	226	P	Pb	21 01 24.2	+0.4
PUZ	Puketiti	1.41	217	P	Pb	21 01 24.6	0.0
PUZ				S	Sn	21 01 41.8	-0.5
HAZ	Te Kaha	1.47	236	P	Pn	21 01 23.9	-0.7
HAZ				S	Sn	21 01 44.8	+1.1
TWGZ	Tauwhareparae	1.63	220	P	Pn	21 01 27.9	+1.1
RUGZ	Raukumara Rang	1.66	232	P	Pn	21 01 28.2	+1.0
RUGZ				S	Sn	21 01 48.9	+0.4
CNGZ	Carnagh Statio	1.78	210	P	Pb	21 01 30.2	-0.6
WIZ	White Island	1.80	250	P	Pn	21 01 28.1	-0.9
TKGZ	Te Karaka	1.90	218	P	Pn	21 01 31.6	+1.2
MWZ	Matawai	1.99	225	P	Pn	21 01 32.5	+0.7
WHRZ	Whale Island	2.08	243	P	Pn	21 01 33.7	+0.8
RIGZ	Rimuhau	2.15	215	P	Pn	21 01 34.3	+0.3
RAGZ	Rawiri	2.17	224	P	Pn	21 01 34.8	+0.6
URZ	Urewera	2.20	232	P	Pn	21 01 35.2	+0.7
PRGZ	Paritu Road	2.28	209	P	Pn	21 01 35.9	+0.1
EDRZ	Edgecumbe	2.36	240	P	Pn	21 01 37.7	+0.8
OPRZ	Ohinepanea	2.38	247	P	Pn	21 01 37.2	+0.1
SNGZ	Shannon Statio	2.42	220	P	Pn	21 01 38.0	+0.4
SNGZ				S	Sn	21 02 05.5	-1.5
KNZ	Kokohu	2.45	212	P	Pn	21 01 37.7	-0.3
MHGZ	Mahia Peninsul	2.48	206	P	Pn	21 01 38.5	+0.1
MYRZ	Mayor Island	2.49	261	P	Pn	21 01 38.8	+0.2
RTZ	Ruatahuna	2.50	227	P	Pn	21 01 39.2	+0.4
MUGZ	Murupara	2.54	232	P	Pn	21 01 39.6	+0.3
TGRZ	Tauranga	2.57	251	P	Pn	21 01 40.1	+0.6
RRRZ	Republican Roa	2.63	237	P	Pn	21 01 41.5	+1.0
RAHZ	Arahi	2.65	221	P	Pn	21 01 41.8	+1.1
KARZ	Kaharoa	2.68	245	P	Pn	21 01 42.4	+1.3
WHHZ	Waihua	2.70	217	P	Pn	21 01 42.6	+1.2
MTHZ	Maungataniwha	2.74	225	P	Pn	21 01 42.8	+0.8
HSRZ	Hossack Road	2.80	240	P	Pb	21 01 46.5	-1.7
KMRZ	Kaimai	2.84	250	P	Pn	21 01 44.5	+1.1
ALRZ	Allen Road	2.87	235	P	Pn	21 01 44.1	+0.4
KUZ	Kuaotunu	2.90	273	P	Pn	21 01 42.6	-1.5
NMNZ	Naumai	2.93	222	P	Pn	21 01 45.1	+0.4
ARHZ	Aropaoanui	2.96	218	P	Pn	21 01 45.2	+0.2
TOZ	Tahuroa Road	3.15	254	P	Pn	21 01 46.8	-0.7
BKZ	Black Stump Fm	3.15	224	P	Pn	21 01 47.6	-0.1
KUTZ	Kaahu Road	3.18	240	P	Pn	21 01 48.8	+0.7
GRZ	Great Barrier	3.19	281	P	Pn	21 01 48.5	+0.4
CKHZ	Cape Kidnapper	3.24	212	P	Pn	21 01 48.4	-0.4
MKAZ	Moumakai	3.34	266	P	Pn	21 01 49.2	-0.9
WIAZ	Waiheke Island	3.36	271	P	Pn	21 01 51.5	+0.9
RITZ	Rihia Road	3.41	232	P	Pn	21 01 54.4	+3.1
KAHZ	Kahuranaki	3.44	213	P	Pn	21 01 50.4	-1.2
ETAZ	East Tamaki Re	3.52	268	P	Pn	21 01 53.4	+0.7
MBAZ	Motutapu North	3.55	271	P	Pn	21 01 53.9	+0.8
KRHZ	Kereru	3.56	220	P	Pn	21 01 52.8	-0.5
TMVZ	Te Maari	3.59	232	P	Pn	21 01 54.3	+0.5
ABAZ	Army Bay	3.62	274	P	Pn	21 01 55.2	+1.1
NNVZ	North Ngauruho	3.66	232	P	Pn	21 01 57.6	+2.9
SNVZ	South Ngauruho	3.67	231	P	Pn	21 01 54.4	-0.5
NGZ	Ngauruhoe	3.69	232	P	Pn	21 01 55.6	+0.4
MOMZ	Mohango	3.74	228	P	Pn	21 01 55.4	-0.4
AWAZ	Awhitu Peninsu	3.75	267	P	Pn	21 01 56.6	+0.7
FWVZ	Far West T-bar	3.77	231	P	Pn	21 01 57.3	+1.0
WNVZ	Wahianoa	3.78	230	P	Pn	21 01 56.7	+0.2
WTAZ	Waiatarua	3.81	269	P	Pn	21 01 56.9	+0.2
RVAZ	Riverhead Bore	3.81	271	P	Pn	21 01 57.9	+1.2
PNHZ	Pukenui	3.85	219	P	Pn	21 01 56.5	-0.8
HIZ	Hauiti	3.88	245	P	Pn	21 01 59.0	+1.5
TSZ	Takapari Road	4.08	219	P	Pn	21 01 59.8	-0.7
WCZ	Waipu Caves	4.14	282	P	Pn	21 02 00.7	-0.5
WAZ	Wanganui	4.42	229	P	Pn	21 02 05.5	+0.5
PRWZ	Pori Road	4.46	215	P	Pn	21 02 04.3	-1.3
KHEZ	Kahui Hut	4.80	239	P	Pn	21 02 12.8	+2.4
OUZ	Omahuta	4.95	289	P	Pn	21 02 13.4	+1.1
TKNZ	Takaka Hill	6.42	229	P	Pn	21 02 30.8	-1.8
QRZ	Quartz Range	6.57	232	P	Pn	21 02 32.4	-2.2
CTZ	Chatham Island	7.46	157	P	Pn	21 02 47.9	+1.1
ASAR	Alice Springs	41.02	276	P	P	21 08 39.8	-1.6
	0.7nm,0.5s,baz=123,slow=7.8,SNR=9.6						
	0.7nm,0.5s						
WRA	Warramunga Arr	42.61	281	P	P	21 08 53.1	-1.3
	0.4nm,0.5s,baz=122,slow=7.7,SNR=6.2						
	0.4nm,0.5s						
TORD	Torodi Ar. Bea	156.21	186	PKPab	PKPab	21 21 24.1	+3.3
	0.8nm,1.0s,baz=184,slow=4.3,SNR=2.1						

WEL 02 21:02:41.7±1.4,37.°S±7.°×17.°9E±1.°0,h29km±22km,M3.8/28, ML4.1/30,MLv3.8/28,Error ellipse: s-maj=0.0km s-min=0.0km az=74.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.89	234	P	Pn	21 02 56.1	-2.2
MXZ				S	Sb	21 03 06.4	-3.7
WMGZ	Waiomatatini S	1.00	219	P	Pb	21 03 00.2	-0.3
WMGZ				S	Sb	21 03 13.4	+0.1
PKGZ	Pakihiroa	1.23	227	P	Pn	21 03 03.3	+0.2
PKGZ				S	Sn	21 03 18.8	0.0
PUZ	Puketiti	1.28	216	P	Pn	21 03 03.8	+0.1
PUZ				S	Sb	21 03 20.8	-0.4
HAZ	Te Kaha	1.34	237	P	Pb	21 03 05.7	-0.5
HAZ				S	Sn	21 03 22.0	+0.7
TWGZ	Tauwhareparae	1.49	220	P	Pn	21 03 07.4	+0.8
TWGZ				S	Sb	21 03 26.7	-0.7
RUGZ	Raukumara Rang	1.53	232	P	Pn	21 03 08.1	+0.9
RUGZ				S	Sn	21 03 27.2	+1.1
CNGZ	Carnagh Statio	1.64	209	P	Pn	21 03 09.5	+0.8
WIZ	White Island	1.68	253	P	Pn	21 03 09.1	-0.1
TKGZ	Te Karaka	1.76	217	P	Pn	21 03 10.2	-0.1
RIGZ	Rimuhau	2.02	214	P	Pn	21 03 13.8	-0.1
RAGZ	Rawiri	2.03	224	P	Pn	21 03 14.2	+0.1
RAGZ				S	Sn	21 03 37.3	-1.3
URZ	Urewera	2.06	233	P	Pn	21 03 13.6	-0.8
URZ				S	Sn	21 03 38.3	-0.8
PRGZ	Paritu Road	2.15	209	P	Pn	21 03 15.3	-0.4
MARZ	Manawahe	2.22	244	P	Pn	21 03 18.6	+1.9
OPRZ	Ohinepanea	2.26	248	P	Pn	21 03 16.8	-0.3
SNGZ	Shannon Statio	2.28	220	P	Pn	21 03 17.2	-0.3
KNZ	Kokohu	2.32	211	P	Pn	21 03 16.8	-1.1
MHGZ	Mahia Peninsul	2.34	206	P	Pn	21 03 17.9	-0.4
RTZ	Ruatahuna	2.36	228	P	Pn	21 03 18.8	+0.2
MYRZ	Mayor Island	2.38	263	P	Pn	21 03 19.0	+0.1
MUGZ	Murupara	2.41	233	P	Pn	21 03 19.1	0.0
TGRZ	Tauranga	2.45	253	P	Pn	21 03 19.8	+0.1
TARZ	Mount Tarawera	2.45	240	P	Pn	21 03 21.5	+1.6
RRRZ	Republican Roa	2.50	238	P	Pn	21 03 20.7	+0.2
RAHZ	Arahi	2.51	221	P	Pn	21 03 20.9	+0.2
KARZ	Kaharoa	2.55	247	P	Pn	21 03 21.2	0.0
HLRZ	Highlands Stat	2.57	241	P	Pn	21 03 21.7	+0.3
MTHZ	Maungataniwha	2.60	225	P	Pn	21 03 22.0	+0.1
ALRZ	Allen Road	2.73	235	P	Pn	21 03 23.6	-0.1
NMHZ	Naumai	2.79	222	P	Pn	21 03 24.3	-0.2
KUZ	Kuaotunu	2.81	275	P	Pn	21 03 23.3	-1.4
ARHZ	Aropaoanui	2.82	218	P	Pn	21 03 24.4	-0.5
MRHZ	Matea Rd	2.84	230	P	Pn	21 03 25.2	0.0
BKZ	Black Stump Fm	3.01	224	P	Pn	21 03 27.0	-0.6
TOZ	Tahuroa Road	3.03	256	P	Pn	21 03 26.8	-1.0
KUTZ	Kaahu Road	3.05	241	P	Pn	21 03 28.4	+0.4
CKHZ	Cape Kidnapper	3.10	212	P	Pn	21 03 27.0	-1.7
GRZ	Great Barrier	3.12	284	P	Pn	21 03 28.7	-0.2
MKAZ	Moumakai	3.24	268	P	Pn	21 03 29.6	-1.0
WIAZ	Waiheke Island	3.27	273	P	Pn	21 03 31.6	+0.5
KAHZ	Kahuranaki	3.30	213	P	Pn	21 03 29.9	-1.6
KRHZ	Kereru	3.42	220	P	Pn	21 03 31.6	-1.6
ETAZ	East Tamaki Re	3.43	270	P	Pn	21 03 33.4	+0.2
TMVZ	Te Maari	3.45	232	P	Pn	21 03 33.5	-0.2
MBAZ	Motutapu North	3.47	273	P	Pn	21 03 33.6	-0.1
BHHZ	Black Hill Sta	3.48	224	P	Pn	21 03 33.2	-0.7
OTVZ	Oturere	3.51	232	P	Pn	21 03 34.1	-0.4
NNVZ	North Ngauruho	3.52	233	P	Pn	21 03 34.3	-0.4
ABAZ	Army Bay	3.54	276	P	Pn	21 03 35.8	+1.0
NGZ	Ngauruhoe	3.55	232	P	Pn	21 03 34.5	-0.6
TWVZ	Taurewa	3.60	235	P	Pn	21 03 36.3	+0.6
MOVZ	Moawhango	3.60	228	P	Pn	21 03 34.7	-0.9
FWVZ	Far West T-bar	3.63	231	P	Pn	21 03 36.1	-0.1
WNVZ	Wahianoa	3.65	230	P	Pn	21 03 35.5	-0.8
AWAZ	Awhitu Peninsu	3.65	268	P	Pn	21 03 36.6	+0.3
RVAZ	Riverhead Bore	3.72	273	P	Pn	21 03 38.6	+1.4
HIZ	Hauiti	3.75	246	P	Pn	21 03 38.8	+1.2
PKVZ	Pokaka	3.78	232	P	Pn	21 03 38.2	0.0
TSZ	Takapari Road	3.94	219	P	Pn	21 03 37.7	-2.6
WCZ	Waipu Caves	4.07	284	P	Pn	21 03 42.1	0.0
MRZ	Mangatainoka R	4.59	217	P	Pn	21 03 46.5	-2.7
KHEZ	Kahui Hut	4.67	240	P	Pn	21 03 52.5	+2.1
OUZ	Omahuta	4.89	290	P	Pn	21 03 53.9	+0.5

IDC 02 21:10:53.2±2.2,20.°11N×122.°02E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=221.9km s-min=22.6km az=63.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.59	162	P	P	21 18 42.4	-0.7
	0.5nm,0.6s,baz=344,slow=9.1,SNR=13						
WRA				PcP	PcP	21 20 41.2	+0.7
	0.3nm,0.9s,baz=348,slow=3.5,SNR=1.8						
	0.5nm,0.6s						
MKAR	Makanchi Array	41.85	319	P	P	21 18 45.0	0.0
	0.5nm,0.8s,baz=109,slow=9.1,SNR=4.0						
	0.5nm,0.8s						
H11N1	WAKE ISLAND Hy	42.09	83	T	T	22 04 36.7	
	baz=278,slow=75,SNR=6.7						
H11S3	WAKE ISLAND Hy	42.09	84	T	T	22 04 34.3	
	baz=280						
H11N2	WAKE ISLAND Hy	42.10	83	T	T	22 04 36.3	
	baz=278,slow=75,SNR=4.7						
H11S1	WAKE ISLAND Hy	42.10	84	T	T	22 04 35.0	
	baz=280						
H11N3	WAKE ISLAND Hy	42.11	83	T	T	22 04 37.4	
	baz=278,slow=75,SNR=5.1						
H11S2	WAKE ISLAND Hy	42.11	84	T	T	22 04 36.6	
	baz=280						
ZALV	Zalesovo Beam	44.10	329	P	P	21 19 02.4	-0.7
	0.7nm,0.6s,baz=107,slow=8.0,SNR=2.4						
	0.7nm,0.6s						
ASAR	Alice Springs	45.03	165	P	P	21 19 10.9	+0.1
	0.3nm,0.5s,baz=343,slow=7.9,SNR=6.3						
	0.3nm,0.5s						

IDC ***02*** *21:15:49.3±2.0,3.°73S×151.°06E,h0km,mb3.8/3, mbtmp3.9/4,ML2.2/1,Error ellipse: s-maj=37.0km s-min=12.1km az=15.0*

NEIC ***02*** *21:15:52.6±1.6,3.°9S±0.°1×151.°13E±0.°07,h10km±1km, mb4.3/11,Error ellipse: s-maj=26.1km s-min=4.3km az=24.0*

ISC 02 21:15:51.8±0.9,3.°8S±0.°1×151.°19E±0.°06,h10km,n19, σ1°31/21,mb4.1/9,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.97	120	Pg	Pg	21 16 11.4	+0.9
	82nm,0.3s,baz=330,slow=1.9,SNR=57						
KRVT				Lg	Lg	21 16 25.8	
	112nm,0.3s,baz=258,slow=20,SNR=9.7						
RABL	Rabaul	1.04	111	Pg	Pg	21 16 10.9	-0.9
RABL				Sg	Sg	21 16 27.2	+1.7
PMG	Port Moresby	6.84	216	Pn	Pn	21 17 32.8	+0.5
	2.6nm,0.3s,baz=30,slow=20,SNR=2.8						
PMG				Sn	Sn	21 18 50.3	0.0

KEBM					IAML			21 26 23.7
	comp=E,100nm,1.0s							
KHMM	**Horse Mountain**	**1.98**	**108**			**Pn**	**21 25 55.3**	**+0.8**
KHMM					IAML		21 26 17.9	
	comp=N,64nm,0.6s							
KHMM					IAML		21 26 31.6	
	comp=E,72nm,0.8s							
KSMM	**Slide Mountain**	**2.05**	**130**			**Pn**	**21 25 56.0**	**+0.7**
L02F	**Cave Junction**	**2.06**	**72**	P		**Pn**	**21 25 56.3**	**+0.8**
	baz=252							
L02F					S	**Sn**	**21 26 19.2**	**-2.0**
	baz=252							
KOMM	**Orleans Mounta**	**2.09**	**96**			**Pn**	**21 25 57.0**	**+1.1**
KCRM	**Chalk Rock**	**2.12**	**120**			**Pn**	**21 25 57.2**	**+0.9**
KTRM	**Thompson Ridge**	**2.16**	**79**			**Pn**	**21 25 57.8**	**+1.0**
K02D	**Willamette Mer**	**2.23**	**58**	P		**Pn**	**21 25 58.8**	**+1.1**
	baz=236,SNR=120							
K02D					S	**Sn**	**21 26 22.1**	**-3.2**
	baz=236							
KMRM	**Mail Ridge**	**2.31**	**124**			**Pn**	**21 26 00.2**	**+1.4**
KMRM	**Mail Ridge**	**2.31**	**124**		IAML		21 26 30.3	
	comp=E,97nm,0.5s							
J01E	**Myrtle Point**	**2.35**	**45**			**Pn**	**21 26 00.1**	**+0.7**
J01E					IAML		21 26 28.0	
	comp=E,99nm,0.2s							
J01E					IAML		21 26 30.1	
	comp=N,95nm,0.2s							
J01E	**Myrtle Point**	**2.35**	**45**	P		**Pn**	**21 26 00.0**	**+0.7**
	baz=224,SNR=20							
J01E					S	**Sn**	**21 26 26.1**	**-2.1**
	baz=224							
KHBM	**Hayfork Bally**	**2.42**	**110**			**Pn**	**21 26 01.4**	**+0.8**
LGPM	**Granite Peak**	**2.63**	**102**			**Pn**	**21 26 04.3**	**+1.0**
YBH	**Yreka Blue Hor**	**2.64**	**84**	Pn		**Pn**	**21 26 05.1**	**+1.8**
HUMO	**Hull Mountain**	**2.66**	**65**			**Pn**	**21 26 04.9**	**+1.3**
HUMO	**Hull Mountain**	**2.66**	**65**	Pn		**Pn**	**21 26 04.8**	**+1.2**
KIPM	**Iron Peak**	**2.70**	**129**			**Pn**	**21 26 05.6**	**+1.4**
DBO	**Dodson Butte**	**2.72**	**53**	Pn		**Pn**	**21 26 05.8**	**+1.4**
KCPM	**Cahto Peak**	**2.72**	**132**			**Pn**	**21 26 05.6**	**+1.1**
KCPM					IAML		21 26 38.0	
	comp=N,67nm,0.8s							
KCPM					IAML		21 26 40.9	
	comp=E,78nm,0.5s							
L04D	**Klamath Falls**	**3.00**	**75**			**Pn**	**21 26 11.2**	**+2.7**
L04D					IAML		21 26 47.0	
	comp=E,40nm,2.0s							
L04D					IAML		21 26 48.4	
	comp=N,41nm,0.6s							
L04D	**Klamath Falls**	**3.00**	**75**	P		**Pn**	**21 26 11.1**	**+2.7**
	baz=256,SNR=123							
L04D					Sb	**Sn**	**21 26 47.3**	**+2.8**
	baz=256							
I03D	**Drain, OR**	**3.03**	**43**	P		**Pn**	**21 26 09.6**	**+0.9**
	baz=223,SNR=7.5							
I03D					S	**Sn**	**21 26 42.7**	**-2.3**
	baz=223							
I02E	**Swisshome, OR**	**3.11**	**33**	Pn		**Pn**	**21 26 11.3**	**+1.5**
I02E					IAML		21 26 37.0	
	comp=N,41nm,3.2s							
I02E					IAML		21 26 51.5	
	comp=E,43nm,2.6s							
I02E	**Swisshome, OR**	**3.11**	**33**	P		**Pn**	**21 26 11.7**	**+2.0**
	baz=213,SNR=8.8							
I02E					S	**Sn**	**21 26 45.8**	**-1.2**
	baz=213							
HOPS	**Hopland Field**	**3.49**	**135**	Pn		**Pn**	**21 26 14.2**	**-0.9**
HOPS					IAML		21 27 42.7	
	comp=E,32nm,3.2s							
J04D	**Umpqua Nationa**	**3.49**	**59**			**Pn**	**21 26 18.2**	**+3.0**
J04D	**Umpqua Nationa**	**3.49**	**59**	P		**Pn**	**21 26 17.5**	**+2.3**
	baz=240,SNR=12							
J04D					Sb	**Sb**	**21 27 04.1**	**-1.1**
	baz=240							
BUCK	**Buck Mountain**	**3.57**	**41**	Pn		**Pn**	**21 26 18.2**	**+2.0**
BUCK					IAML		21 27 08.0	
	comp=N,34nm,3.2s							
BUCK					IAML		21 27 32.7	
	comp=E,35nm,3.4s							
I04A	**Tendick Farm,**	**3.61**	**50**	P		**Pn**	**21 26 18.8**	**+2.1**
	baz=231,SNR=9.8							
H04D	**Lebanon**	**3.93**	**39**	Pn		**Pn**	**21 26 21.4**	**+0.3**
H04D					IAML		21 27 14.2	
	comp=N,27nm,1.9s							
H04D					IAML		21 28 38.0	
	comp=E,24nm,3.0s							
J05D	**Fort Rock, OR**	**4.09**	**63**	P		**Pn**	**21 26 25.5**	**+2.2**
	baz=245,SNR=13							
ORV	**Oroville**	**4.10**	**117**			**Pn**	**21 26 24.4**	**+1.0**
K05A	**Summer Lake**	**4.14**	**71**	Pn		**Pn**	**21 26 25.2**	**+1.2**
K05A					IAML		21 27 01.3	
	comp=N,13nm,3.3s							
K05A					IAML		21 27 41.0	
	comp=E,12nm,2.8s							
H04A	**Detroit Lake**	**4.32**	**42**	Pn		**Pn**	**21 26 27.1**	**+0.6**
H04A					IAML		21 27 19.9	
	comp=E,19nm,0.4s							
H04A					IAML		21 27 21.8	
	comp=N,18nm,0.4s							
MOD	**Modoc Plateau**	**4.44**	**83**			**Pn**	**21 26 30.1**	**+1.8**
PINE	**Pine Mountain**	**4.50**	**58**	Pn		**Pn**	**21 26 31.6**	**+2.5**
PINE					IAML		21 27 33.4	
	comp=N,9.8nm,3.5s							
PINE					IAML		21 27 37.4	
	comp=E,13nm,4.2s							
BEKR	**Beckworth**	**4.75**	**109**			**Pn**	**21 26 35.0**	**+2.5**
AFDM	**Forest Hills D**	**4.77**	**121**	Pn		**Pn**	**21 26 34.5**	**+1.9**
HOOD	**Mount Hood Mea**	**5.04**	**40**	Pn		**Pn**	**21 26 35.2**	**-1.2**
RADR	**Rader Ridge**	**5.20**	**19**	Pn		**Pn**	**21 26 40.4**	**+2.0**
RADR					IAML		21 28 29.2	
	comp=N,49nm,1.8s							
RADR					IAML		21 30 01.6	
	comp=E,78nm,1.9s							
MPK	**Martis Peak**	**5.22**	**113**	Pn		**Pn**	**21 26 38.9**	**-0.2**
EMB	**Emerald Bay**	**5.33**	**117**	Pn		**Pn**	**21 26 42.1**	**+1.7**
PAHR	**Pah Rah Range**	**5.51**	**107**	Pn		**Pn**	**21 26 44.6**	**+1.8**
I07A	**Izee**	**5.56**	**60**	Pn		**Pn**	**21 26 45.3**	**+1.8**
PNTR	**Pine Nut**	**5.61**	**114**			**Pn**	**21 26 46.9**	**+2.6**
WVOR	**Wild Horse Val**	**5.72**	**78**			**Pn**	**21 26 47.2**	**+1.4**
YERR	**Yerington**	**5.91**	**113**			**Pn**	**21 26 50.9**	**+2.5**
G08A	**Pilot Rock**	**6.49**	**52**	Pn		**Pn**	**21 26 59.3**	**+3.1**
RYN	**Ryan**	**6.57**	**114**	Pn		**Pn**	**21 26 56.6**	**-0.9**
KVN	**Kaiserville**	**6.68**	**109**			**Pn**	**21 27 01.0**	**+2.0**
BMO	**Blue Mountains**	**7.31**	**60**	Pn		**Pn**	**21 27 09.3**	**+1.7**

*IDC **02** 21:26:54.9±1.7,28.°39S×61.°61E,h0km,mb3.6/5, mbtmp3.7/6,ML4.0/1,MS2.8/1,Error ellipse: s-maj=74.2km s-min=27.9km az=28.0*

ISC 02 21:26:56.7±1.7,28.°1S±0.°5×61.°4E±0.°2,h10km,n13, σ2.997/7,mb3.7/5,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.14**	**303**	Pn	**Pn**	**21 30 45.8**	**+1.8**
	0.1nm,0.3s,baz=128,slow=17,SNR=1.8						
OPO				Sn	**Sn**	**21 33 38.8**	**-4.4**
	baz=127,slow=18,SNR=1.5 1.7nm,0.4s						
H08S1	**Diego Carcia H**	**22.92**	**29**	T	T	21 56 52.7	
	baz=203,slow=75,SNR=15						
H08S2	**Diego Garcia H**	**22.92**	**29**	T	T	21 56 52.9	
	baz=203,slow=75,SNR=7.4						
H08S3	**Diego Garcia H**	**22.94**	**29**	T	T	21 56 53.9	
	baz=203,slow=75,SNR=9.1						
KMBO	**Kilima Mbogo**	**35.43**	**315**	LR	LR	21 48 00.6	
	comp=Z,13nm,18.4s,baz=91,slow=35						
H01W2	**Cape Leeuwin H**	**45.03**	**112**	T	T	22 22 48.2	
	baz=261,slow=75,SNR=4.6						
H01W3	**Cape Leeuwin H**	**45.03**	**112**	T	T	22 22 48.5	
	baz=261,slow=75,SNR=4.6						
H01W1	**Cape Leeuwin H**	**45.05**	**112**	T	T	22 22 48.3	
	baz=261,slow=75,SNR=4.5						
ASAR	**Alice Springs**	**64.49**	**104**	P	**P**	**21 37 31.8**	**-2.3**
	0.4nm,0.8s,baz=251,slow=5.7,SNR=4.6 0.4nm,0.8s						
WRA	**Warramunga Arr**	**66.24**	**101**	P	**P**	**21 37 44.0**	**-1.4**
	0.4nm,0.9s,baz=251,slow=5.6,SNR=5.5 0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.86**	**297**	P	**P**	**21 38 16.0**	**+1.8**
	0.6nm,0.8s,baz=140,slow=7.0,SNR=3.2 0.6nm,0.8s						
MKAR	**Makanchi Array**	**76.94**	**15**	P	**P**	**21 38 50.2**	**+1.0**
	0.5nm,0.8s,baz=199,slow=4.0,SNR=4.2 0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**84.23**	**14**	P	**P**	**21 39 28.9**	**+0.9**
	0.4nm,0.5s,baz=204,slow=3.2,SNR=2.3 0.4nm,0.5s						

*IDC **02** 21:37:58.7±2.2,6.°65S×130.°19E,h143km±23km, mb3.5/2, mbtmp4.1/7,Error ellipse: s-maj=32.5km s-min=17.1km az=81.0*

*NEIC **02** 21:37:58.7±2.6,6.°64S±0.°03×130.°18E±0.°09,h129km±10km, mb4.3/8,Error ellipse: s-maj=12.4km s-min=4.4km az=87.0*

ISC 02 21:37:58.2±0.7,6.°64S±0.°06×130.°20E±0.°07,h146km,n28, σ1.995/33,mb4.1/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.73**	**141**	Pn	**Pn**	**21 38 28.7**	**-1.3**
SAUI					**Sn**	**21 38 53.0**	**-1.4**
FAKI	**Fak Fak**	**4.22**	**29**	Pn	**Pn**	**21 39 01.4**	**0.0**
FAKI					**Sn**	**21 39 47.3**	**-3.1**
SIJI	**Sorong**	**5.83**	**11**	P	**Pn**	**21 39 23.1**	**+0.4**
	6.6nm,0.3s,baz=168,slow=19,SNR=9.0						
SIJI				S	Sn	21 40 20.9	-7.8
	31nm,0.3s,baz=162,slow=20,SNR=16						
MTN	**Manton Dam**	**6.23**	**172**		**Pn**	**21 39 29.8**	**+1.7**
MTN					**Sn**	**21 40 37.3**	**-1.1**
BATI	**Baumata**	**7.37**	**241**	P	**Pn**	**21 39 45.1**	**+1.8**
	45nm,0.4s,baz=79,slow=2.4,SNR=16						
BATI				S	**Sn**	**21 41 02.4**	**-3.3**
	23nm,0.5s,baz=5.2,slow=11,SNR=2.4						
KNRA	**Kununurra**	**9.09**	**189**		**Pn**	**21 40 06.8**	**+0.6**
KNRA					**Sn**	**21 41 44.9**	**-2.3**
FITZ	**Fitzroy Crossi**	**12.23**	**201**	P	**Pn**	**21 40 46.2**	**-1.4**
	1.2nm,0.3s,baz=32,slow=12,SNR=15						
FITZ				S	Sn	21 42 53.2	-10
	5.5nm,0.3s,baz=20,slow=15,SNR=10						
FITZ	**Fitzroy Crossi**	**12.23**	**201**	Pn	**Pn**	**21 40 47.1**	**-0.5**
WB0	**Warramunga Arr**	**13.67**	**163**	Pn	**Pn**	**21 41 05.4**	**-0.8**
WRA	**Warramunga Arr**	**13.82**	**163**	P	**Pn**	**21 41 06.7**	**-1.5**
	1.0nm,0.4s,baz=343,slow=12,SNR=28						
WRA				S	Sn	21 43 31.0	-10
	2.9nm,0.4s,baz=348,slow=22,SNR=9.1						
WRA	**Warramunga Arr**	**13.82**	**163**	Pn	**Pn**	**21 41 08.1**	**-0.1**
WB2	**Warramunga Arr**	**13.83**	**163**		**Pn**	**21 41 08.2**	**0.0**
WR0	**Warramunga Arr**	**13.90**	**163**	Pn	**Pn**	**21 41 08.8**	**-0.3**
COEN	**Coen**	**14.69**	**121**		**P**	**21 41 22.9**	**+1.5**
AS31	**Alice Springs**	**17.30**	**168**	P	**Pn**	**21 41 52.3**	**+1.3**
ASAR	**Alice Springs**	**17.30**	**168**	P	**Pn**	**21 41 52.8**	**+1.7**
	2.6nm,0.4s,baz=346,slow=9.9,SNR=41						
ASAR				S	**S**	**21 44 56.3**	**-6.9**
	0.2nm,0.4s,baz=347,slow=20,SNR=1.9						
ASAR	**Alice Springs**	**17.30**	**168**	P	**Pn**	**21 41 52.4**	**+1.3**
MBWA	**Marble Bar**	**17.63**	**214**	P	**P**	**21 41 54.8**	**+0.9**
MBWA				IAmb	IAmb	21 42 24.9	
	comp=Z,28nm,1.4s						
PSA00	**Pilbara Seismi**	**17.90**	**213**	P	**Pn**	**21 41 58.9**	**+0.6**
PSA00				IAmb	IAmb	21 42 10.8	
	comp=Z,18nm,1.1s						
CTA	**Charters Tower**	**20.53**	**132**	P	Pn	21 42 29.2	0.0
	comp=Z,10nm,1.1s,baz=303,slow=11,SNR=3.7						
CTAO	**Charters Tower**	**20.53**	**132**	P	**P**	**21 42 26.6**	**+1.3**
FORT	**Forrest**	**24.10**	**185**	P	**P**	**21 43 01.5**	**+1.1**
BBOO	**Buckleboo**	**26.61**	**169**	P	**P**	**21 43 25.3**	**+2.2**
BBOO				IAmb	IAmb	21 43 35.7	
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**27.27**	**158**	P	**P**	**21 43 29.9**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=336,slow=10,SNR=6.6 comp=Z,1.4nm,0.5s						
STKA	**Stephens Creek**	**27.27**	**158**	P	**P**	**21 43 30.8**	**+1.8**
MARNC	**Mare, Loyalty**	**39.42**	**116**	P	**P**	**21 45 13.1**	**-1.1**
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**21 48 42.6**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=114,slow=8.2,SNR=13 comp=Z,0.5nm,0.5s						
QSPA	**South Pole Qui**	**83.33**	**180**	P	**P**	**21 50 09.8**	**+1.0**
QSPA				IAmb	IAmb	21 50 49.2	
	comp=Z,6.1nm,1.4s						

DJA 02 21:39:26.5±0.5,0.°S±4.°×12.°3E±.°,h125km±7km,M3.7/9, mb3.8/1,MLv3.7/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.82**	**39**	P	Pn	21 39 49.3	+1.9
GTOI	**Gorontalo**	**0.83**	**327**	P	Pn	21 39 49.4	+2.0
GTOI				S	Sn	21 40 06.6	+3.3
LUWI	**Luwuk**	**1.19**	**215**	P	Pn	21 39 51.0	+0.2
LUWI				S	Sn	21 40 09.5	+0.2
MRSI	**Marisa**	**1.61**	**290**	P	Pn	21 39 54.4	-1.2
APSI	**Ampana**	**1.99**	**245**	P	Pn	21 40 00.2	+0.1
SANI	**Sanana**	**3.20**	**128**	P	Pn	21 40 14.4	-1.2
MPSI	**Mapaga**	**3.58**	**276**	P	Pn	21 40 20.7	+0.1
LBMI	**Labuha**	**4.08**	**98**	P	Pn	21 40 26.6	-0.6
NLAI	**Namlea**	**4.81**	**131**	P	Pn	21 40 38.1	+1.1
SPSI	**Sidrap Palu**	**5.34**	**224**	P	Pn	21 40 45.0	+0.8

*IDC **02** 21:43:42.8±2.8,19.°01N×146.°90E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=111.5km s-min=29.5km az=87.0*

*NEIC **02** 21:44:04.9±0.5,18.°7N±0.°1×147.°3E±0.°3,h175km±13km, mb4.2/8,Error ellipse: s-maj=40.3km s-min=6.8km az=114.0*

ISC 02 21:44:01.9±1.3,18.°7N±0.°2×147.°2E±0.°3,h150km,n12, σ0.959/9,mb4.0/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**24.44**	**287**	P	**P**	**21 49 07.3**	**+0.4**
KNRA	**Kununurra**	**38.67**	**209**	P	**P**	**21 51 10.0**	**-1.1**
WB0	**Warramunga Arr**	**40.23**	**199**	P	**P**	**21 51 24.4**	**+0.4**
WR0	**Warramunga Arr**	**40.36**	**199**	P	**P**	**21 51 25.2**	**+0.1**
WR0				IAmb	IAmb	21 52 06.3	
	comp=Z,9.0nm,1.4s						
WB2	**Warramunga Arr**	**40.40**	**199**	P	**P**	**21 51 25.8**	**+0.3**
WB2				IAmb	IAmb	21 51 51.7	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**40.41**	**199**	P	**P**	**21 51 25.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=20,slow=8.8,SNR=6.9						
WRA				PcP	**PcP**	**21 53 26.0**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=18,slow=3.6,SNR=1.3 comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**40.41**	**199**	P	**P**	**21 51 25.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**42.25**	**211**	P	P	21 51 38.4	-2.1
	comp=Z,0.6nm,0.3s,baz=34,slow=5.9,SNR=6.4 comp=Z,0.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**42.25**	**211**	P	P	21 51 38.5	-2.0
FITZ				IAmb	IAmb	21 52 01.9	
	comp=Z,11nm,1.4s						
TTA	**Tatalina**	**58.62**	**27**	P	**P**	**21 53 42.8**	**-0.2**
TTA				IAmb	IAmb	21 53 44.6	
	comp=Z,6.0nm,1.4s						
MKAR	**Makanchi Array**	**59.51**	**314**	P	P	21 53 45.1	-4.2
	comp=Z,0.3nm,0.6s,baz=82,slow=8.2,SNR=4.4 comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**87.49**	**336**	P	P	21 56 30.2	-2.2
	comp=Z,1.5nm,0.9s,baz=46,slow=4.0,SNR=1.0 comp=Z,1.5nm,0.9s						

*IDC **02** 21:44:31.0±2.4,55.°06S×30.°73W,h0km,mb3.9/2, mbtmp3.9/2,MS3.3/4,Error ellipse: s-maj=98.4km s-min=48.3km az=12.0*

*NEIC **02** 21:44:32.6±2.4,54.°81S±0.°09×31.°3W±0.°1,h10km±2km, mb4.4/9,Error ellipse: s-maj=19.5km s-min=7.8km az=43.0*

ISC 02 21:44:32.4±0.8,54.°9S±0.°1×31.°3W±0.°1,h10km,n20, σ1.940/16,mb4.5/6,MS3.4/3,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.08**	**279**	Pn	**Pn**	**21 45 19.9**	**-1.1**
ORCD	**Orcadas**	**9.28**	**225**	Pn	**Pn**	**21 46 44.0**	**-2.0**
PMSA	**Palmer Station**	**18.99**	**225**	LR	LR	21 55 43.4	
	comp=Z,44nm,18.0s,baz=96,slow=35						
SNAA	**Sanae**	**20.80**	**155**		**P**	**21 49 14.8**	**+1.4**
BELA	**Belgrano 2**	**23.15**	**182**	P	**P**	**21 49 39.2**	**+0.9**
GO10	**Punta Arenas**	**23.22**	**258**	P	**P**	**21 49 41.1**	**+1.8**
MG05	**Puerto Natales**	**24.60**	**260**	P	**P**	**21 49 52.6**	**+0.2**
MG05				IAmb	IAmb	21 50 05.0	
	comp=Z,17nm,1.1s						
MT09	**Talagante**	**34.71**	**291**	P	**P**	**21 51 22.2**	**-0.2**
MT09				IAmb	IAmb	21 51 37.9	
	comp=Z,9.0nm,1.1s						
MT02	**Curacav**	**35.19**	**291**	P	**P**	**21 51 26.8**	**+0.5**
QSPA	**South Pole Qui**	**35.39**	**180**	P	**P**	**21 51 28.1**	**+0.1**
QSPA				IAmb	IAmb	21 51 45.5	
	comp=Z,1.2nm,0.8s						
LVC	**Limon Verde**	**42.69**	**304**	LR	LR	22 13 21.2	
	comp=Z,14nm,18.1s,baz=228,slow=40						
PB16	**IPOC Station P**	**46.64**	**306**	P	**P**	**21 53 01.1**	**-0.4**
VNDA	**Vanda**	**47.63**	**184**	LR	LR	22 13 41.1	
	comp=Z,41nm,18.0s,baz=8.0,slow=37						
LPAZ	**La Paz**	**47.80**	**309**	P	**P**	**21 53 13.3**	**+2.8**
	comp=Z,1.3nm,0.4s,baz=121,slow=4.8,SNR=5.8 comp=Z,1.3nm,0.4s						
LPAZ	**La Paz**	**47.80**	**309**	P	**P**	**21 53 09.0**	**-1.5**
LPAZ				IAmb	IAmb	21 53 25.7	
	comp=Z,3.9nm,1.1s						
BOSA	**Boshof**	**48.01**	**81**	P	**P**	**21 53 10.1**	**-1.5**
BOSA				IAmb	IAmb	21 53 14.6	
	comp=Z,4.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.26**	**34**	P	**P**	**21 56 03.9**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=195,slow=6.4,SNR=2.4 comp=Z,0.5nm,0.8s						
ATD	**Arta Tunnel**	**90.41**	**71**	LR	LR	22 37 13.1	
	comp=Z,43nm,18.0s,baz=164,slow=35						
ILAR	**Eielson Array**	**147.59**	**314**	PKPbc	**PKPbc**	**22 04 16.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=97,slow=2.8,SNR=4.6						
SONM	**Songino Array**	**153.00**	**87**	PKPbc	**PKPbc**	**22 04 28.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=240,slow=2.8,SNR=1.9						

*VAO **02** 21:55:31.4±0.6,23.°03S×69.°00W,h106km,mb3.9*

*NEIC **02** 21:55:32.7±2.2,23.°07S±0.°04×68.°67W±0.°08,h109km±4km, mb4.1/7,ML4.0(GUC),Error ellipse: s-maj=10.9km s-min=5.4km az=106.0*

*IDC **02** 21:55:33.7±0.8,22.°68S×68.°82W,h105km±10km,mb3.7/1, mbtmp4.0/3,Error ellipse: s-maj=39.3km s-min=12.5km az=130.0*

*GUC **02** 21:55:33.8±0.7,23.°01S×68.°73W,h106km±3km,ML4.0*

ISC 02 21:55:32.9±0.6,23.°01S±0.°04×68.°70W±0.°04,h105km±5km, n70,σ1.923/95,mb4.4/3,5C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.44**	**334**	P	**Pn**	**21 55 49.6**	**+0.2**
	2µm,0.3s,baz=154,slow=5.8,SNR=5677						
LVC				S	**Sn**	**21 56 00.8**	**-0.8**
	878nm,0.3s,baz=127,slow=20,SNR=151						
LVC	**Limon Verde**	**0.44**	**334**	*eP*	**Pn**	**21 55 49.1**	**-0.2**
LVC				*eS*	**Sn**	**21 56 00.7**	**-0.8**
LVC	**Limon Verde**	**0.44**	**334**	*eP*	**Pn**	**21 55 49.5**	**+0.2**
LVC				*eS*	**Sn**	**21 56 01.3**	**-0.3**
AF01	**San Pedro de A**	**0.49**	**83**		**Pn**	**21 55 50.1**	**+0.6**
AF01				Sn	**Sn**	**21 56 01.9**	**0.0**
AF01	**San Pedro de A**	**0.49**	**83**	*iP*	**Pn**	**21 55 50.2**	**+0.7**
AF01				*eS*	**Sn**	**21 56 02.6**	**+0.6**
AF01				IAML		21 56 03.3	
	comp=N,9µm,0.3s						
PB15	**IPOC Station P**	**0.73**	**254**		**Pn**	**21 55 51.9**	**+0.5**
PB15				Sn	**Sn**	**21 56 05.8**	**+0.6**
PB15	**IPOC Station P**	**0.73**	**254**	*iP*	**Pn**	**21 55 52.3**	**+1.0**
PB15				*eS*	**Sn**	**21 56 05.6**	**+0.4**
PB06	**IPOC Station P**	**0.86**	**291**		**Pn**	**21 55 52.7**	**+0.3**
PB06				Sn	**Sn**	**21 56 07.4**	**+0.3**
PB06	**IPOC Station P**	**0.86**	**291**	*iP*	**Pn**	**21 55 53.2**	**+0.7**
PB06				*iS*	**Sn**	**21 56 07.5**	**+0.3**
PB06				IAML		21 56 08.2	
	comp=N,9µm,0.2s						
PB09	**IPOC Station P**	**1.31**	**337**		**Pn**	**21 55 58.5**	**+1.1**
PB09				Sn	**Sn**	**21 56 16.7**	**+0.8**
PB09	**IPOC Station P**	**1.31**	**337**	*eP*	**Pn**	**21 55 58.6**	**+1.3**
PB09				*eS*	**Sn**	**21 56 16.9**	**+1.1**
PB04	**IPOC Station P**	**1.50**	**296**		**Pn**	**21 55 59.8**	**+0.2**
PB04				Sn	**Sn**	**21 56 20.0**	**+0.2**
PB04	**IPOC Station P**	**1.50**	**296**	*eP*	**Pn**	**21 56 00.2**	**+0.6**
PB04				*eS*	**Sn**	**21 56 19.9**	**+0.1**
PB04				IAML		21 56 26.9	
	comp=E,2µm,0.2s						
PB07	**IPOC Station P**	**1.68**	**319**		**Pn**	**21 56 02.3**	**+0.4**
PB07				Sn	**Sn**	**21 56 23.8**	**-0.1**
PB07	**IPOC Station P**	**1.68**	**319**	*iP*	**Pn**	**21 56 02.7**	**+0.8**
PB07				*eS*	**Sn**	**21 56 23.6**	**-0.2**
PB07				IAML		21 56 27.1	
	comp=N,982nm,0.3s						
PB10	**IPOC Station P**	**1.77**	**253**		**Pn**	**21 56 03.9**	**+1.1**
PB10				Sn	**Sn**	**21 56 24.4**	**-1.3**
PB10	**IPOC Station P**	**1.77**	**253**	*eP*	**Pn**	**21 56 04.0**	**+1.1**
PB10				*eS*	**Sn**	**21 56 25.8**	**+0.2**
PB02	**IPOC Station P**	**2.01**	**326**		**Pn**	**21 56 06.8**	**+0.8**
PB02				Sn	**Sn**	**21 56 32.1**	**+0.8**
PB02	**IPOC Station P**	**2.01**	**326**	*eP*	**Pn**	**21 56 06.9**	**+0.9**
PB02				*eS*	**Sn**	**21 56 31.9**	**+0.6**
PB02				IAML		21 56 39.2	
	comp=E,1µm,0.3s						
PB01	**IPOC Station P**	**2.09**	**339**		**Pn**	**21 56 07.8**	**+0.8**
PB01				Sn	**Sn**	**21 56 33.5**	**+0.6**
PB01	**IPOC Station P**	**2.09**	**339**	*eP*	**Pn**	**21 56 07.8**	**+0.8**
PB01				*eS*	**Sn**	**21 56 32.6**	**-0.4**
PB01				IAML		21 56 37.3	
	comp=E,1µm,0.3s						
PB14	**IPOC Station P**	**2.24**	**224**		**Pn**	**21 56 09.6**	**+0.5**
PB14	**IPOC Station P**	**2.24**	**224**	*eP*	**Pn**	**21 56 09.9**	**+0.9**

comp=Z,0.7nm,0.4s,baz=254,slow=5.2,SNR=14
TORD pP **pP** **22 07 45.9 -0.3**
comp=Z,0.8nm,0.5s,baz=256,slow=5.6,SNR=3.3
comp=Z,0.7nm,0.4s
WRA Warramunga Arr 131.75 210 PKP **PKPdf** **22 14 35.1 +0.7**
comp=Z,0.4nm,0.8s,baz=159,slow=1.7,SNR=2.1
MKAR Makanchi Array 146.72 37 PKPbc **PKPdf** **22 15 00.9 +0.2**
comp=Z,0.5nm,0.7s,baz=316,slow=4.0,SNR=3.0
MKAR pPKPbc **pPKPdf** **22 15 29.5 -1.0**
comp=Z,0.3nm,0.7s,baz=304,slow=3.3,SNR=1.8

WEL 02 22:02:48.4±0.9, 37°S±4°×17°9E±°, h13km±6km, M3.8/45, ML4.0/51, MLv3.8/45, Error ellipse: s-maj=0.0km s-min=0.0km az=92.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.96**	**229**	P	Pb	22 03 05.9	-1.0
MXZ				S	Sb	22 03 17.3	-2.1
WMGZ	**Waiomatatini S**	**1.09**	**216**	P	Pg	22 03 10.2	+0.8
WMGZ				S	Sn	22 03 25.7	+1.5
PKGZ	**Pakihiroa**	**1.31**	**223**	P	Pb	22 03 13.0	+0.1
PKGZ				S	Sn	22 03 30.1	+0.2
HAZ	**Te Kaha**	**1.41**	**234**	P	Pn	22 03 13.2	-0.4
HAZ				S	Sg	22 03 33.1	-0.6
RUGZ	**Raukumara Rang**	**1.60**	**230**	P	Pb	22 03 17.4	-0.4
RUGZ				S	Sb	22 03 38.3	+0.3
WIZ	**White Island**	**1.72**	**249**	P	Pn	22 03 16.5	-1.5
WIZ				S	Sn	22 03 40.1	+0.3
MWZ	**Matawai**	**1.94**	**223**	P	Pn	22 03 21.4	+0.4
MWZ				S	Sn	22 03 45.0	-0.2
WHRZ	**Whale Island**	**2.01**	**242**	P	Pn	22 03 23.0	+1.0
WHRZ				S	Sb	22 03 49.8	+0.2
RIGZ	**Rimuhau**	**2.11**	**213**	P	Pn	22 03 23.3	-0.1
RIGZ				S	Sn	22 03 49.5	0.0
RAGZ	**Rawiri**	**2.11**	**222**	P	Pn	22 03 24.1	+0.6
RAGZ				S	Sn	22 03 49.2	-0.4
URZ	**Urewera**	**2.13**	**231**	P	Pn	22 03 23.9	+0.2
PRGZ	**Paritu Road**	**2.25**	**208**	P	Pn	22 03 26.3	+1.0
EDRZ	**Edgecumbe**	**2.29**	**239**	P	Pn	22 03 26.3	+0.4
EDRZ				S	Sn	22 03 54.1	+0.1
OPRZ	**Ohinepanea**	**2.31**	**246**	P	Pn	22 03 26.0	-0.1
SNGZ	**Shannon Statio**	**2.37**	**218**	P	Pn	22 03 27.0	+0.1
KNZ	**Kokohu**	**2.41**	**210**	P	Pn	22 03 26.9	-0.6
RTZ	**Ruatahuna**	**2.44**	**226**	P	Pn	22 03 28.0	0.0
MHGZ	**Mahia Peninsul**	**2.44**	**205**	P	Pn	22 03 27.8	-0.1
MUGZ	**Murupara**	**2.48**	**231**	P	Pn	22 03 28.5	+0.1
TGRZ	**Tauranga**	**2.48**	**251**	P	Pn	22 03 29.0	+0.5
TARZ	**Mount Tarawera**	**2.51**	**238**	P	Pn	22 03 29.9	+0.9
RRRZ	**Republican Roa**	**2.56**	**236**	P	Pn	22 03 29.7	+0.1
RAHZ	**Arahi**	**2.60**	**220**	P	Pn	22 03 30.4	+0.3
KARZ	**Kaharoa**	**2.60**	**244**	P	Pn	22 03 30.5	+0.4
HLRZ	**Highlands Stat**	**2.63**	**239**	P	Pn	22 03 31.2	+0.7
WHHZ	**Waihua**	**2.65**	**216**	P	Pn	22 03 30.6	-0.2
MTHZ	**Maungataniwha**	**2.68**	**224**	P	Pn	22 03 31.8	+0.6
KMRZ	**Kaimai**	**2.76**	**250**	P	Pn	22 03 31.0	-1.4
ALRZ	**Allen Road**	**2.80**	**234**	P	Pn	22 03 32.8	0.0
KUZ	**Kuaotunu**	**2.81**	**273**	P	Pn	22 03 31.3	-1.7
NMHZ	**Naumai**	**2.88**	**221**	P	Pn	22 03 34.0	0.0
ARHZ	**Aropaoanui**	**2.91**	**216**	P	Pn	22 03 34.3	0.0
TOZ	**Tahuroa Road**	**3.06**	**254**	P	Pn	22 03 35.3	-1.2
BKZ	**Black Stump Fm**	**3.10**	**223**	P	Pn	22 03 36.5	-0.5
GRZ	**Great Barrier**	**3.10**	**282**	P	Pn	22 03 36.9	-0.1
CKHZ	**Cape Kidnapper**	**3.20**	**211**	P	Pn	22 03 37.0	-1.3
MKAZ	**Moumakai**	**3.25**	**266**	P	Pn	22 03 37.9	-1.1
RITZ	**Rihia Road**	**3.35**	**231**	P	Pn	22 03 41.2	+0.8
KAHZ	**Kahuranaki**	**3.40**	**212**	P	Pn	22 03 39.6	-1.4
ETAZ	**East Tamaki Re**	**3.44**	**268**	P	Pn	22 03 41.7	+0.1
MBAZ	**Motutapu North**	**3.47**	**271**	P	Pn	22 03 42.2	+0.2
KRHZ	**Kereru**	**3.51**	**219**	P	Pn	22 03 41.5	-1.2
TMVZ	**Te Maari**	**3.52**	**231**	P	Pn	22 03 42.8	-0.1
ABAZ	**Army Bay**	**3.54**	**274**	P	Pn	22 03 42.7	-0.3
KRVZ	**Karewarewa**	**3.55**	**232**	P	Pn	22 03 44.0	+0.7
BHHZ	**Black Hill Sta**	**3.56**	**223**	P	Pn	22 03 43.1	-0.3
OTVZ	**Oturere**	**3.58**	**230**	P	Pn	22 03 45.0	+1.3
NNVZ	**North Ngauruho**	**3.59**	**231**	P	Pn	22 03 44.6	+0.7
SNVZ	**South Ngauruho**	**3.61**	**230**	P	Pn	22 03 43.7	-0.4
NGZ	**Ngauruhoe**	**3.62**	**231**	P	Pn	22 03 44.0	-0.4
AWAZ	**Awhitu Peninsu**	**3.66**	**267**	P	Pn	22 03 45.0	+0.3
MOVZ	**Moawhango**	**3.68**	**227**	P	Pn	22 03 44.2	-0.8
WHVZ	**Whangaehu Hut**	**3.70**	**230**	P	Pn	22 03 44.7	-0.7
FWVZ	**Far West T-bar**	**3.70**	**230**	P	Pn	22 03 45.3	-0.1
WTAZ	**Waiatarua**	**3.72**	**269**	P	Pn	22 03 45.8	+0.3
WNVZ	**Wahianoa**	**3.72**	**229**	P	Pn	22 03 45.3	-0.6
RVAZ	**Riverhead Bore**	**3.72**	**271**	P	Pn	22 03 46.4	+0.9
HIZ	**Hauiti**	**3.80**	**244**	P	Pn	22 03 47.6	+1.0
PNHZ	**Pukenui**	**3.80**	**218**	P	Pn	22 03 44.8	-1.9
MTVZ	**Mangateitei**	**3.83**	**229**	P	Pn	22 03 46.2	-0.9
PKVZ	**Pokaka**	**3.85**	**231**	P	Pn	22 03 47.5	+0.1
TSZ	**Takapari Road**	**4.03**	**218**	P	Pn	22 03 48.0	-1.8
WCZ	**Waipu Caves**	**4.05**	**283**	P	Pn	22 03 49.8	-0.3
WAZ	**Wanganui**	**4.36**	**228**	P	Pn	22 03 54.0	-0.2
PRWZ	**Pori Road**	**4.42**	**214**	P	Pn	22 03 54.4	-0.7
NEZ	**North Egmont**	**4.66**	**238**	P	Pn	22 04 01.8	+3.2
KHEZ	**Kahui Hut**	**4.73**	**239**	P	Pn	22 04 01.8	+2.4
OUZ	**Omahuta**	**4.86**	**289**	P	Pn	22 04 01.7	+0.5
KHZ	**Kahutara**	**7.01**	**217**	P	Pn	22 04 29.3	-1.3
CTZ	**Chatham Island**	**7.50**	**156**	P	Pn	22 04 38.4	+1.1

*NNC **02** 22:05:13.9±6.8, 39°.16N×72°.50E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=51.1km s-min=36.7km az=0.0*
*KRNET **02** 22:05:16.4±0.1, 39°.21N×71°.54E, h12km, mb3.5*
*SOME **02** 22:05:16.8, 39°.45N×72°.12E, h15km*
*IDC **02** 22:05:16.3±6.2, 39°.04N×71°.41E, h0km, mb3.6/1, mbtmp3.5/3, ML2.7/2, Error ellipse: s-maj=242.6km s-min=24.9km az=145.0*

ISC 02 22:05:15.4±1.4, 39°.15N±0°.05×71°.70E±0°.04, h10km±9km, n31, σ2s34/39, 16C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.34**	**14**	⇑*iP*	**Pg**	**22 05 23.2**	**+0.8**
DRK	baz=37			⇑*iS*	**Sg**	**22 05 28.1**	**+1.1**
GAR	**Garm**	**1.08**	**263**	⇑*iP*	**Pg**	**22 05 35.2**	**-1.1**
GAR	baz=58			⇑*iS*	**Sb**	**22 05 48.7**	**-1.9**
BTK	**Batken**	**1.13**	**324**	⇑*iP*	**Pg**	**22 05 35.8**	**-1.4**
BTK	baz=27			⇑*iS*	**Sn**	**22 05 50.0**	**-3.1**
OHH	**Osh**	**1.61**	**31**	⇑*eP*	**Pg**	**22 05 47.0**	**+0.7**
OHH	baz=36			⇑*iS*	**Sg**	**22 06 09.2**	**+2.0**
CHGR	**Chuyangaron**	**2.04**	**257**	⇑*iP*	**Pb**	**22 05 52.5**	**-0.1**
CHGR	baz=54			⇑*iS*	**Sg**	**22 06 18.7**	**-2.3**
TRKS	**Terek-Say**	**2.42**	**350**	⇑*eP*	**Pb**	**22 05 57.3**	**-1.8**
TRKS	baz=53			⇑*iS*	**Sb**	**22 06 27.1**	**-1.9**
ARK	**Arkit**	**2.65**	**4**	⇑*iP*	**Pb**	**22 06 02.0**	**-1.1**
ARK	baz=7.0			⇑*iS*	**Sb**	**22 06 35.2**	**-0.6**
IUG	**Iuzhnay**	**3.25**	**338**	*eP*	**Pb**	**22 06 13.2**	**-0.1**
IUG	1μm,0.4s 196nm,0.5s			*eS*	**Sb**	**22 06 54.0**	**+1.1**
IUG	**Iuzhnay**	**3.25**	**338**	Pg	**Pb**	**22 06 13.2**	**-0.1**
IUG				Lg	Lg	22 06 54.0	
AML	**Almayashu**	**3.34**	**26**	P	**Pb**	**22 06 14.8**	**-0.3**
CHM	SNR=55 **Chimkent**	**3.54**	**334**	*eP*	**Pg**	**22 06 22.2**	**-1.2**
CHM	8.8nm,0.5s 180nm,0.4s			*eS*	**Sg**	**22 07 09.5**	**+0.3**
UCH	**Uchtor**	**3.75**	**34**	P	**Pb**	**22 06 20.3**	**-1.7**
DZA	SNR=29 **Taraz**	**3.75**	**356**	*eP*	**Pb**	**22 06 20.2**	**-1.6**
DZA	86nm,0.5s 73nm,0.4s			*eS*	**Sb**	**22 07 06.2**	**-1.1**
DZA	**Taraz**	**3.75**	**356**	Pg	**Pb**	**22 06 20.2**	**-1.6**
DZA	86nm,0.5s 73nm,0.4s			Lg	Lg	22 07 06.2	
MRKS	**Merke**	**3.77**	**17**	*eP*	**Pb**	**22 06 20.1**	**-2.1**
MRKS	18nm,0.3s 41nm,0.7s			*eS*	**Sb**	**22 07 05.8**	**-2.2**
MRKS	**Merke**	**3.77**	**17**	Pg	**Pb**	**22 06 20.1**	**-2.1**
MRKS	18nm,0.3s 41nm,0.7s			Lg	Lg	22 07 05.8	
EKS2	**Erkin-Say**	**3.85**	**24**	P	**Pb**	**22 06 22.0**	**-1.5**
KK31	SNR=23 **Karatay Array**	**4.05**	**348**	⇑Pn	**Pn**	**22 06 21.5**	**+4.0**
KK31	5.5nm,0.3s,baz=175,slow=13,SNR=97 16nm,0.4s,baz=171,slow=21,SNR=6.7			⇑Sn	**Sb**	**22 07 12.3**	**-3.6**
AAK	**Ala-Archa**	**4.08**	**30**	P	**Pb**	**22 06 25.0**	**-2.4**
KBK	SNR=18 **Karagaybulak**	**4.28**	**34**	P	**Pb**	**22 06 29.4**	**-1.5**
CHMS	SNR=16 **Chumysh**	**4.49**	**30**	P	Pb	22 06 30.4	-3.9
USP	SNR=27 **Ospenovka**	**4.63**	**26**	P	Pn	22 06 31.7	+6.3
TKM2	SNR=21 **Tokmak 2**	**4.79**	**37**	P	Pn	22 06 34.7	+6.9
SGDS	SNR=17 **Sogindy**	**4.83**	**26**	*eP*	Pb	22 06 36.0	-4.2
SGDS	9.1nm,0.6s 24nm,0.7s			*eS*	**Sb**	**22 07 32.8**	**-5.7**
SGDS	**Sogindy**	**4.83**	**26**	Pg	Pb	22 06 36.0	-4.2
SGDS				Lg	Lg	22 07 32.8	
KST	**Kastek**	**5.05**	**38**	*eP*	**Pb**	**22 06 40.5**	**-3.5**
KST	5.2nm,0.4s 13nm,0.6s			*eS*	**Sb**	**22 07 40.3**	**-4.5**
KST	**Kastek**	**5.05**	**38**	Pg	**Pb**	**22 06 40.5**	**-3.5**
KST				Lg	Lg	22 07 40.3	
MKAR	**Makanchi Array**	**10.88**	**42**	Pn	Pn	22 07 57.5	+6.3
	baz=231,slow=12,SNR=3.9 0.7nm,0.7s						
AB31	**Akbulak array**	**13.14**	**324**	P	**Pn**	**22 08 23.0**	**+1.0**
	0.7nm,0.6s,baz=129,slow=13,SNR=20						
ZALV	**Zalesovo Beam**	**17.29**	**27**	P	**P**	**22 09 21.5**	**+3.3**
	0.2nm,0.3s,baz=217,slow=11,SNR=5.6 1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.35**	**268**	P	**P**	**22 16 05.7**	**+1.1**
	0.4nm,0.6s,baz=49,slow=6.4,SNR=4.5 0.4nm,0.6s						

*IDC **02** 22:09:26.1±0.8, 27°.15N×140°.50E, h494km±12km, mb2.8/4, mbtmp3.6/4, Error ellipse: s-maj=44.2km s-min=23.6km az=80.0*
*JMA **02** 22:09:28.8±0.2, 27°N±2°×140°E±°, h471km, MV3.9/12, W OFF OGASAWARA*

ISC 02 22:09:26.6±0.9, 27°.1N±0°.1×140°.5E±0°.2, h500km, n11, σ1s09/13, mb3.0/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.50**	**91**	P	**P**	**22 10 30.2**	**+0.8**
CBIJ				S	**S**	**22 11 19.0**	**-1.5**
JCJ	**Chichijima**	**1.50**	**91**	P	**P**	**22 10 29.9**	**+0.5**
	43nm,0.3s,baz=281,slow=23,SNR=24						
JCJ				S	**S**	**22 11 19.0**	**-1.5**
	48nm,0.4s,baz=62,slow=23,SNR=6.9						
JHH2	**Haha-jima-NKT2**	**1.57**	**108**	P	**P**	**22 10 31.4**	**+1.7**
JHH2				*eS*	**S**	**22 11 20.3**	**-0.7**
BSO1	**Boso 1**	**7.50**	**3**	*eS*	**S**	**22 12 46.7**	**-1.1**
JAG	**Ashikaga**	**9.30**	**355**	*eP*	**P**	**22 11 36.6**	**+0.2**
JHO	**Hitachi**	**9.44**	**0**	P	**P**	**22 11 39.0**	**+1.2**
KSRS	**Korea Array**	**14.78**	**317**	P	P	22 12 38.8	+4.5
	1.1nm,0.4s,baz=142,slow=8.9,SNR=5.3						
WRA	**Warramunga Arr**	**47.19**	**188**	P	**P**	**22 17 13.3**	**-0.3**
	0.2nm,0.3s,baz=5.4,slow=7.5,SNR=5.9 0.2nm,0.3s						
MKAR	**Makanchi Array**	**49.29**	**310**	P	**P**	**22 17 28.6**	**-0.5**
	0.2nm,0.4s,baz=87,slow=9.1,SNR=4.6 0.2nm,0.4s						
FINES	**FINESS Array B**	**77.24**	**333**	P	**P**	**22 20 28.6**	**+0.2**
	0.7nm,0.3s,baz=62,slow=4.6,SNR=14 0.7nm,0.3s						
PDAR	**Pinedale Array**	**85.22**	**44**	P	**P**	**22 21 09.9**	**-0.3**
	0.1nm,0.3s,baz=290,slow=3.7,SNR=2.1 0.1nm,0.3s						

*IDC **02** 22:50:26.0±0.8, 17°.74N×65°.59W, h0km, mb3.7/8, mbtmp3.7/10, ML3.2/2, MS3.3/14, Error ellipse: s-maj=23.1km s-min=8.5km az=36.0*
*TRN **02** 22:50:27.3, 17°.65N×65°.77W, h42km*
*OSPL **02** 22:50:28.8±2.4, 17°.88N×65°.53W, h0km±107km, ML4.3*
*NEIC **02** 22:50:28.6±1.6, 17°.86N±0°.04×65°.61W±0°.02, h18km±4km, Error ellipse: s-maj=5.6km s-min=2.6km az=183.0*
*RSPR **02** 22:50:29.8, 17°.90N×65°.64W, h12km, MD3.6/23*

ISC 02 22:50:27.8±1.0, 17°.81N±0°.04×65°.61W±0°.02, h15km±7km, n167, σ1s41/171, mb3.6/8, MS3.2/13, 15C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.30**	**11**	⇑*eP*	**Pg**	**22 50 34.4**	**+0.3**
MTP	**Monte Pirata**	**0.30**	**11**	*eS*	**Sg**	**22 50 38.2**	**-0.1**
MTP	**Monte Pirata**	**0.30**	**11**	Pg	**Pg**	**22 50 34.3**	**+0.3**
MTP					**Sg**	**22 50 38.3**	**0.0**
HUMP	**Col San Antoni**	**0.40**	**326**	⇑*eP*	**Pg**	**22 50 35.9**	**0.0**
HUMP	**Col San Antoni**	**0.40**	**326**	*eS*	**Sg**	**22 50 41.4**	**-0.1**
HUMP	**Col San Antoni**	**0.40**	**326**		**Pg**	**22 50 35.9**	**0.0**
HUMP					**Sg**	**22 50 41.6**	**+0.1**
HUMP				IAML		22 50 42.0	
	comp=E,33μm,0.4s						
HUMP				IAML		22 50 42.2	
	comp=N,33μm,0.2s						
IGPR	**InterUniversit**	**0.50**	**289**	⇓*eP*	**Pg**	**22 50 37.9**	**+0.2**
IGPR	**InterUniversit**	**0.50**	**289**	*eS*	**Sg**	**22 50 40.5**	**+0.2**
CBYP	**Canovanas**	**0.52**	**334**	⇑*eP*	**Pg**	**22 50 37.8**	**-0.3**
CBYP	**Canovanas**	**0.52**	**334**	*eS*	**Sg**	**22 50 44.9**	**-0.2**
CBYP	**Canovanas**	**0.52**	**334**		**Pg**	**22 50 37.8**	**-0.3**
CBYP	**Canovanas**	**0.52**	**334**		**Sg**	**22 50 44.8**	**-0.2**
CBYP				IAML		22 50 46.2	
	comp=E,31μm,0.2s						
CBYP				IAML		22 50 49.3	
	comp=N,33μm,0.2s						
CUPR	**Culebra, Puert**	**0.59**	**32**	⇓*eP*	**Pg**	**22 50 39.4**	**0.0**
CUPR	**Culebra, Puert**	**0.59**	**32**	*eS*	**Sg**	**22 50 46.9**	**-0.4**
CUPR	**Culebra, Puert**	**0.59**	**32**	Pg	**Pg**	**22 50 39.4**	**0.0**
CUPR					**Sg**	**22 50 46.9**	**-0.4**
CUPR				IAML		22 50 48.1	
	comp=E,14μm,0.5s						
CUPR				IAML		22 50 48.3	
	comp=N,14μm,0.6s						
SJG	**San Juan**	**0.59**	**301**	Pg	**Pg**	**22 50 39.2**	**-0.3**
	comp=N,433nm,0.3s,baz=118,slow=17,SNR=229						
SJG				Lg	Lg	22 50 47.0	
	comp=N,2μm,0.3s,baz=292,slow=17,SNR=45						
SJG	**San Juan**	**0.59**	**301**	IAML		22 50 49.1	
	comp=N,16μm,0.2s						
SJG				IAML		22 50 50.2	
	comp=N,14μm,0.2s						
SJG	**San Juan**	**0.59**	**301**	*eP*	**Pg**	**22 50 39.4**	**-0.1**
GCPR	**Guaynabo City**	**0.67**	**318**	⇑*eP*	**Pg**	**22 50 40.4**	**-0.6**
GCPR	**Guaynabo City**	**0.67**	**318**	*eS*	**Sg**	**22 50 49.0**	**-0.9**
GCPR	**Guaynabo City**	**0.67**	**318**		**Pg**	**22 50 40.3**	**-0.6**
GCPR	**Guaynabo City**	**0.67**	**318**		**Sg**	**22 50 49.0**	**-0.9**
CDVI	**St. Croix**	**0.81**	**94**	⇓*eP*	**Pb**	**22 50 44.3**	**+0.8**
CDVI	**St. Croix**	**0.81**	**94**	*eS*	**Sn**	**22 50 56.3**	**-0.1**
CDVI	**St. Croix**	**0.81**	**94**		**Pb**	**22 50 44.3**	**+0.8**
CDVI					**Sn**	**22 50 56.3**	**-0.1**
CDVI	**St. Croix**	**0.81**	**94**	*eP*	**Pn**	**22 50 44.9**	**+0.3**
CDVI				*eS*	**Sn**	**22 50 59.0**	**+2.6**
STVI	**Saint Thomas**	**0.83**	**49**	⇓*eP*	**Pg**	**22 50 43.4**	**-0.6**
STVI	**Saint Thomas**	**0.83**	**49**	*eS*	**Sg**	**22 50 54.1**	**-0.7**
STVI	**Saint Thomas**	**0.83**	**49**		**Pg**	**22 50 43.4**	**-0.6**
STVI					**Sg**	**22 50 54.1**	**-0.7**
ICMP	**Isla Caja de M**	**0.87**	**275**	⇑*eP*	**Pg**	**22 50 44.9**	**+0.2**
ICMP	**Isla Caja de M**	**0.87**	**275**	*eS*	**Sb**	**22 50 55.9**	**-0.2**
ICMP	**Isla Caja de M**	**0.87**	**275**		**Pg**	**22 50 44.9**	**+0.2**
ICMP	**Isla Caja de M**	**0.87**	**275**		**Sg**	**22 50 56.9**	**+0.7**
ICMP				IAML		22 50 59.9	
	comp=N,14μm,0.8s						
SJVI	**Gifft Hill Sch**	**0.96**	**57**	⇓*eP*	**Pb**	**22 50 45.6**	**-0.5**
SJVI	**Gifft Hill Sch**	**0.96**	**57**	*eS*	**Sb**	**22 50 57.7**	**-0.9**
SJVI	**Gifft Hill Sch**	**0.96**	**57**		**Pb**	**22 50 45.6**	**-0.5**
SJVI					**Sb**	**22 50 57.7**	**-0.9**
CELP	**Cerrillos**	**0.96**	**286**	⇑*eP*	**Pb**	**22 50 45.7**	**-0.4**
CELP	**Cerrillos**	**0.96**	**286**	*eS*	**Sb**	**22 50 57.7**	**-0.9**
CELP	**Cerrillos**	**0.96**	**286**		**Pb**	**22 50 45.7**	**-0.4**
CELP					**Sb**	**22 50 58.7**	**+0.1**
CELP				IAML		22 51 01.6	
	comp=E,7μm,0.8s						
OBIP	**Obispado Ponce**	**0.97**	**284**	⇑*eP*	**Pb**	**22 50 45.1**	**-1.2**
OBIP	**Obispado Ponce**	**0.97**	**284**	*eS*	**Sb**	**22 50 57.8**	**-1.3**
OBIP	**Obispado Ponce**	**0.97**	**284**		**Pb**	**22 50 45.1**	**-1.2**
OBIP					**Sb**	**22 50 57.8**	**-1.3**
OBIP	**Obispado Ponce**	**0.97**	**284**	IAML		22 51 04.3	
	comp=E,5μm,0.8s						
EMPR	**Esperanza - Ma**	**1.10**	**308**	⇑*eP*	**Pb**	**22 50 48.1**	**-0.4**
EMPR	**Esperanza - Ma**	**1.10**	**308**	*eS*	**Sb**	**22 51 02.6**	**0.0**
EMPR	**Esperanza - Ma**	**1.10**	**308**		**Pb**	**22 50 48.0**	**-0.4**
EMPR	**Esperanza - Ma**	**1.10**	**308**		**Sb**	**22 51 02.6**	**0.0**
TBVI	**Tortola**	**1.13**	**57**	⇑*eP*	**Pb**	**22 50 48.4**	**-0.6**
TBVI	**Tortola**	**1.13**	**57**	*eS*	**Sb**	**22 51 02.4**	**-1.0**
TBVI	**Tortola**	**1.13**	**57**		**Pb**	**22 50 48.4**	**-0.6**
TBVI					**Sb**	**22 51 02.4**	**-1.0**
UUPR	**Utuado, UPR, P**	**1.14**	**293**	⇑*eP*	**Pb**	**22 50 48.8**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.14**	**293**		**Pb**	**22 50 48.8**	**-0.5**
AOPR	**Arecibo Observ**	**1.21**	**297**	⇓*eP*	**Pn**	**22 50 49.6**	**-0.6**
AOPR	**Arecibo Observ**	**1.21**	**297**	*eS*	**Sb**	**22 51 05.2**	**-0.7**
AOPR	**Arecibo Observ**	**1.21**	**297**		**Pn**	**22 50 49.6**	**-0.6**
AOPR	**Arecibo Observ**	**1.21**	**297**		**Sb**	**22 51 05.1**	**-0.8**
AOPR	**Arecibo Observ**	**1.21**	**297**	*eP*	**Pn**	**22 50 49.8**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.22**	**278**	⇑*eP*	**Pn**	**22 50 50.4**	**+0.2**
MLPR	**Magueyes Islan**	**1.37**	**277**	⇓*eP*	**Pn**	**22 50 52.5**	**+0.1**
MLPR	**Magueyes Islan**	**1.37**	**277**	*eS*	**Sn**	**22 51 09.6**	**-0.7**
MLPR	**Magueyes Islan**	**1.37**	**277**		**Pn**	**22 50 52.5**	**+0.1**
MLPR					**Sb**	**22 51 10.8**	**+0.3**
MLPR				IAML		22 51 16.5	
	comp=E,3μm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.44**	**278**	⇑*eP*	**Pn**	**22 50 53.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.44**	**278**	*eS*	**Sb**	**22 51 12.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.44**	**278**		**Pn**	**22 50 53.4**	**+0.1**
CRPR					**Sb**	**22 51 12.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.44**	**278**	*i* P	**Pn**	**22 50 53.5**	**+0.2**
CRPR				*eS*	**Sg**	**22 51 15.4**	**+1.2**
CRPR				IAML		22 51 20.7	
	comp=Z,4μm,0.8s						
LSP	**Las Mesas**	**1.45**	**285**	⇑*eP*	**Pn**	**22 50 54.0**	**+0.5**
PRSN	**Puerto Rico Se**	**1.51**	**286**		**Pn**	**22 50 54.9**	**+0.5**
PRSN				Sg	**Sg**	**22 51 16.5**	**-0.1**
AGPR	**Aguadilla, PR**	**1.57**	**295**	⇓*eP*	**Pn**	**22 50 55.6**	**+0.5**
AGPR	**Aguadilla, PR**	**1.57**	**295**		**Pn**	**22 50 55.5**	**+0.5**
AGPR	**Aguadilla, PR**	**1.57**	**295**	*i* P	**Pn**	**22 50 55.8**	**+0.6**
AGPR				*eS*	**Sb**	**22 51 16.1**	**-0.1**
AGPR				IAML		22 51 22.3	
	comp=Z,4μm,0.8s						
IDE	**Isla Desecheo**	**1.86**	**288**	⇑*eP*	**Pn**	**22 51 00.4**	**+1.2**
SMRT	**St. Maarten**	**2.43**	**84**	Pn	**Pn**	**22 51 07.8**	**+0.8**
SMRT				IAML		22 51 39.6	
	comp=N,2μm,0.3s						
SMRT				IAML		22 51 54.8	
	comp=E,2μm,0.4s						
SMRT	**St. Maarten**	**2.43**	**84**	*eP*	**Pn**	**22 51 08.9**	**+2.0**
PCDR	**Punta Cana, DR**	**2.72**	**285**	Pn	**Pn**	**22 51 12.9**	**+1.9**
PCDR	**Punta Cana, DR**	**2.72**	**285**	*i* P	**Pb**	**22 51 14.3**	**-1.9**
PCDR				IAML		22 51 55.2	
	comp=Z,808nm,0.5s						
SKI	**Saint Kitts**	**2.78**	**99**	*eP*	**Pn**	**22 51 13.2**	**+1.4**
SKI				*eS*	**Sn**	**22 51 47.3**	**+2.1**
MBFL	**Flemmings, Mon**	**3.42**	**107**	*eP*	**Pn**	**22 51 22.3**	**+1.8**
MBFL				*eS*	**Sn**	**22 52 00.7**	**-0.1**
MLYT	**Lee's Yard**	**3.44**	**108**	*eS*	**Sn**	**22 52 00.9**	**-0.7**
ANWB	**Willy Bob**	**3.65**	**92**		**Pn**	**22 51 24.6**	**+0.9**
ANWB	**Willy Bob**	**3.65**	**92**	*eP*	**Pn**	**22 51 24.7**	**+0.9**
ANWB				*eS*	**Sn**	**22 52 06.7**	**+0.1**
DR12	**Loma Pena Alta**	**3.71**	**286**	⇑*eP*	**Pn**	**22 51 26.1**	**+1.9**
DR12	**Loma Pena Alta**	**3.71**	**286**		**Pn**	**22 51 26.1**	**+1.5**
ANBD	**Bethesda, Anti**	**3.75**	**101**	*eP*	**Pn**	**22 51 26.6**	**+1.5**
GDHS	**Morne Mazeau,**	**3.98**	**112**		**Pn**	**22 51 29.5**	**+1.1**
SDD	**Santo Domingo**	**4.14**	**280**	Pn	**Pn**	**22 51 29.9**	**-0.6**
SDD				IAML		22 53 05.8	
	comp=N,464nm,1.4s						
ABD	**La Joyeuse, An**	**4.16**	**108**	Pn	**Pn**	**22 51 31.1**	**+0.3**
ABD				IAML		22 53 21.4	
	comp=N,218nm,1.8s						
ABD			

ROSC	**El Rosal**	**15.45 214**	LR	LR	23 00 52.0	
	comp=Z,147nm,18.6s,baz=300,slow=41					
BOAV	**Boa Vista**	**16.11 161**	Pn	**P**	**22 54 17.2**	**+0.1**
TKL	**Tuckaleechee C**	**24.00 321**	LR	LR	23 06 57.7	
	comp=Z,24nm,19.3s,baz=156,slow=41					
ATAH	**Atahualpa**	**27.81 208**	LR	LR	23 07 48.6	
	comp=Z,65nm,20.5s,baz=46,slow=38					
CMIG	**Matias Romero**	**27.92 273**	LR	LR	23 07 47.2	
	comp=Z,38nm,21.4s,baz=43,slow=37					
SADO	**Sadowa**	**29.18 340**	LR	LR	23 08 03.0	
	comp=Z,56nm,19.8s,baz=170,slow=36					
SIV	**San Ignacio**	**33.88 172**	P	**P**	**22 57 09.2**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=154,slow=16,SNR=1.8					
SIV			LR	LR	23 11 09.7	
	comp=Z,55nm,20.7s,baz=92,slow=37					
	comp=Z,0.5nm,0.6s					
LPAZ	**La Paz**	**33.97 184**	P	**P**	**22 57 11.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=267,slow=6.9,SNR=1.2					
	comp=Z,0.3nm,0.4s					
TXAR	**Lajitas Array**	**36.56 295**	P	**P**	**22 57 35.1**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=108,slow=11,SNR=12					
TXAR			LR	LR	23 16 25.8	
	comp=Z,35nm,18.6s,baz=96,slow=43					
	comp=Z,0.5nm,0.5s					
ANMO	**Albuquerque**	**40.06 303**	LR	LR	23 16 14.3	
	comp=Z,266nm,20.9s,baz=128,slow=39					
LVC	**Limon Verde**	**40.30 185**	LR	LR	23 16 29.7	
	comp=Z,38nm,18.4s,baz=340,slow=39					
CPUP	**Villa Florida**	**44.60 169**	LR	LR	23 18 45.2	
	comp=Z,28nm,18.0s,baz=50,slow=38					
PFO	**Pinyon Flats O**	**47.98 299**	LR	LR	23 23 16.7	
	comp=Z,45nm,18.5s,baz=178,slow=41					
NVAR	**Mina Array Bea**	**50.08 305**	P	**P**	**22 59 22.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=83,slow=9.4,SNR=1.7					
	comp=Z,0.4nm,0.6s					
ESDC	**Sonseca Array**	**57.15 54**	P	**P**	**23 00 15.8**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=273,slow=8.2,SNR=3.5					
	comp=Z,0.6nm,0.9s					
PLCA	**Paso Flores**	**58.42 184**	LR	LR	23 27 23.1	
	comp=Z,28nm,18.2s,baz=64,slow=38					
KOWA	**Kowa**	**59.03 84**	LR	LR	23 22 18.3	
	comp=Z,39nm,21.6s,baz=115,slow=32					
DBIC	**Dimbokro**	**60.17 92**	P	**P**	**23 00 35.5**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=282,slow=10.0,SNR=4.3					
	comp=Z,4.3nm,0.8s					
TORD	**Torodi Ar. Bea**	**64.74 84**	P	**P**	**23 01 06.7**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=289,slow=6.9,SNR=5.1					
	comp=Z,0.7nm,0.8s					
ILAR	**Eielson Array**	**70.33 333**	P	**P**	**23 01 41.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=98,slow=4.2,SNR=2.8					
ILAR			LR	LR	23 34 48.1	
	comp=Z,29nm,18.2s,baz=70,slow=38					
	comp=Z,0.3nm,0.8s					

*DJA **02** 22:51:17.5±0.6,8°S±4°×12°0E±°, h162km±9km, M3.6/9, mb3.7/1, MLv3.6/9*

ISC 02 22:51:17.1±1.1, 8°28S±0°08×119°77E±0°06, h150km, n15, σ1848/17, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.96**	**104**	P	**Pn**	**22 51 52.7**	**+0.9**
PLAI	**Plampang**	**2.04**	**254**	P	**Pn**	**22 51 54.2**	**+1.6**
PLAI				S	**Sn**	**22 52 21.7**	**+1.6**
PLAI	**Plampang**	**2.04**	**254**	P	**Pn**	**22 51 54.3**	**+1.6**
BASI	**Baing, Sumba**	**2.09**	**158**	P	**Pn**	**22 51 54.2**	**+1.0**
BASI				S	**Sn**	**22 52 22.0**	**+0.9**
BSSI	**Bau Bau, Buton**	**2.24**	**19**	P	**Pn**	**22 51 56.3**	**+1.2**
MMRI	**Maumere**	**2.47**	**98**	P	**Pn**	**22 51 59.8**	**+1.9**
MMRI	**Maumere**	**2.47**	**98**	P	**Pn**	**22 51 59.7**	**+1.9**
TWSI	**Taliwang, Sumb**	**2.89**	**261**	P	**Pn**	**22 52 04.0**	**+1.0**
BKSI	**Bulukumba**	**2.96**	**7**	P	**Pn**	**22 52 05.4**	**+1.5**
BATI	**Baumata**	**4.30**	**117**	P	**Pn**	**22 52 22.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**5.56**	**268**	P	**Pn**	**22 52 37.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**5.56**	**268**	P	**Pn**	**22 52 36.8**	**-1.1**
LUWI	**Luwuk**	**7.79**	**22**	P	**Pn**	**22 53 07.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.31**	**150**	P	**Pn**	**22 53 53.6**	**-0.8**
KNRA	**Kununurra**	**11.46**	**131**	P	**Pn**	**22 53 54.3**	**-2.1**

WEL 02 23:00:00.4±1.3, 37°S±4°×17°9E±°, h11km±7km, M3.7/42, mB4.7/1, ML4.0/49, MLv3.7/42, Mw(mB)3.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=84.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.94**	**236**	P	Pg	23 00 17.5	-0.8
MXZ				S	Sg	23 00 28.4	-0.2
WMGZ	**Waiomatatini S**	**1.04**	**221**	P	Pn	23 00 21.3	+0.4
WMGZ				S	Sn	23 00 35.4	-0.1
PKGZ	**Pakihiroa**	**1.28**	**228**	P	Pn	23 00 24.0	-0.3
PKGZ				S	Sb	23 00 41.0	0.0
PUZ	**Puketiti**	**1.31**	**218**	P	Pb	23 00 24.9	-0.2
PUZ				S	Sn	23 00 42.3	+0.1
HAZ	**Te Kaha**	**1.39**	**239**	P	Pg	23 00 26.8	-0.3
HAZ				S	Sg	23 00 44.8	-0.4
TWGZ	**Tauwhareparae**	**1.53**	**222**	P	Pb	23 00 28.3	-0.5
TWGZ				S	Sb	23 00 48.8	+0.4
RUGZ	**Raukumara Rang**	**1.57**	**234**	P	Pn	23 00 28.8	+0.4
RUGZ				S	Sn	23 00 48.8	-0.1
CNGZ	**Carnagh Statio**	**1.67**	**210**	P	Pb	23 00 30.7	-0.5
WIZ	**White Island**	**1.74**	**253**	P	Pn	23 00 29.1	-1.4
TKGZ	**Te Karaka**	**1.80**	**219**	P	Pn	23 00 31.7	+0.3
MWZ	**Matawai**	**1.90**	**227**	P	Pn	23 00 33.1	+0.4
WHRZ	**Whale Island**	**2.01**	**245**	P	Pn	23 00 35.0	+0.7
RIGZ	**Rimuhau**	**2.05**	**215**	P	Pn	23 00 35.0	+0.1
RAGZ	**Rawiri**	**2.07**	**225**	P	Pn	23 00 35.5	+0.3
PRGZ	**Paritu Road**	**2.18**	**210**	P	Pn	23 00 36.6	0.0
MARZ	**Manawahe**	**2.28**	**245**	P	Pn	23 00 38.9	+0.9
EDRZ	**Edgecumbe**	**2.28**	**242**	P	Pn	23 00 38.5	+0.4
OPRZ	**Ohinepanea**	**2.31**	**249**	P	Pn	23 00 38.3	-0.2
SNGZ	**Shannon Statio**	**2.32**	**221**	P	Pn	23 00 38.5	-0.1
KNZ	**Kokohu**	**2.35**	**212**	P	Pn	23 00 38.1	-0.8
MHGZ	**Mahia Peninsul**	**2.37**	**207**	P	Pn	23 00 39.3	+0.1
RTZ	**Ruatahuna**	**2.41**	**229**	P	Pn	23 00 40.0	+0.2
MYRZ	**Mayor Island**	**2.44**	**264**	P	Pn	23 00 40.4	+0.2
OMRZ	**Omania**	**2.54**	**244**	P	Pn	23 00 42.4	+0.7
RRRZ	**Republican Roa**	**2.55**	**239**	P	Pn	23 00 42.2	+0.5
RAHZ	**Arahi**	**2.55**	**222**	P	Pn	23 00 41.7	0.0
WHHZ	**Waihua**	**2.60**	**218**	P	Pn	23 00 42.2	-0.1
KARZ	**Kaharoa**	**2.60**	**247**	P	Pn	23 00 42.6	+0.1
MTHZ	**Maungataniwha**	**2.64**	**226**	P	Pn	23 00 43.2	+0.2
ALRZ	**Allen Road**	**2.78**	**236**	P	Pn	23 00 45.3	+0.4
ARHZ	**Aropaoanui**	**2.86**	**218**	P	Pn	23 00 45.6	-0.3
KUZ	**Kuaotunu**	**2.87**	**275**	P	Pn	23 00 44.8	-1.3
BKZ	**Black Stump Fm**	**3.06**	**225**	P	Pn	23 00 48.2	-0.5
TOZ	**Tahuroa Road**	**3.09**	**256**	P	Pn	23 00 48.2	-0.8
CKHZ	**Cape Kidnapper**	**3.13**	**213**	P	Pn	23 00 48.4	-1.4
GRZ	**Great Barrier**	**3.18**	**283**	P	Pn	23 00 50.3	0.0
KWHZ	**Kaweka Forest**	**3.27**	**223**	P	Pn	23 00 51.6	-0.1
MKAZ	**Moumakai**	**3.30**	**268**	P	Pn	23 00 50.9	-1.0
RITZ	**Rihia Road**	**3.32**	**233**	P	Pn	23 00 53.6	+1.3
KAHZ	**Kahuranaki**	**3.33**	**214**	P	Pn	23 00 51.0	-1.5
KRHZ	**Kereru**	**3.46**	**221**	P	Pn	23 00 53.1	-1.1
ETAZ	**East Tamaki Re**	**3.49**	**270**	P	Pn	23 00 55.1	+0.5
TMVZ	**Te Maari**	**3.50**	**233**	P	Pn	23 00 54.7	-0.2
BHHZ	**Black Hill Sta**	**3.52**	**225**	P	Pn	23 00 54.4	-0.7
OTVZ	**Oturere**	**3.55**	**232**	P	Pn	23 00 55.6	0.0
NNVZ	**North Ngauruho**	**3.57**	**233**	P	Pn	23 00 56.7	+0.8
NGZ	**Ngauruhoe**	**3.60**	**233**	P	Pn	23 00 54.6	-1.7
MOVZ	**Moawhango**	**3.65**	**229**	P	Pn	23 00 56.3	-0.6
TWVZ	**Taurewa**	**3.65**	**235**	P	Pn	23 00 58.0	+1.1
FWVZ	**Far West T-bar**	**3.68**	**232**	P	Pn	23 00 57.7	+0.3
WNVZ	**Wahianoa**	**3.69**	**231**	P	Pn	23 00 57.1	-0.4
AWAZ	**Awhitu Peninsu**	**3.71**	**268**	P	Pn	23 00 57.7	0.0
PNHZ	**Pukenui**	**3.75**	**219**	P	Pn	23 00 57.0	-1.2
RVAZ	**Riverhead Bore**	**3.78**	**273**	P	Pn	23 00 59.7	+1.1
HIZ	**Hauiti**	**3.80**	**246**	P	Pn	23 00 59.9	+1.0
PKVZ	**Pokaka**	**3.83**	**233**	P	Pn	23 00 59.9	+0.5
WCZ	**Waipu Caves**	**4.13**	**284**	P	Pn	23 01 03.5	+0.1
WAZ	**Wanganui**	**4.33**	**230**	P	Pn	23 01 06.5	+0.3
PRWZ	**Pori Road**	**4.36**	**215**	P	Pn	23 01 04.7	-1.9
KHEZ	**Kahui Hut**	**4.72**	**240**	P	Pn	23 01 14.6	+2.9
OGWZ	**Otaki Gorge**	**4.95**	**219**	P	Pn	23 01 12.8	-1.8
OUZ	**Omahuta**	**4.95**	**290**	P	Pn	23 01 14.5	-0.1
KIW	**Kapiti Island**	**5.11**	**220**	P	Pn	23 01 14.6	-2.3
QRZ	**Quartz Range**	**6.48**	**232**	P	Pn	23 01 33.4	-2.2
CTZ	**Chatham Island**	**7.38**	**156**	P	Pn	23 01 48.6	+0.6

*IDC **02** 23:08:37.3±2.9, 50°78N×97°80E, h0km, mbtmp2.7/1,*

ML2.7/1, Error ellipse: s-maj=59.5km s-min=17.7km az=17.0

*ASRS **02** 23:08:38.4±0.4, 51°N±2°×9°8E±°, h10km, MLh4.0/5, Error ellipse: s-maj=5.0km s-min=3.7km az=178.6, confirmed*

ISC 02 23:08:37.9±0.8, 50°95N±0°05×97°76E±0°03, h12km, n24, σ2251/36, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.38**	**204**	Pg	**Pb**	**23 08 46.9**	**+0.4**
KNGR				Sg	**Sb**	**23 08 51.4**	**-1.0**
ERNS	**Erzin**	**1.79**	**249**	Pg	**Pg**	**23 09 12.7**	**+0.5**
ERNS				Sg	**Sg**	**23 09 36.9**	**+1.4**
MOY	**Mondy**	**2.16**	**69**	Pg	**Pg**	**23 09 20.3**	**+1.1**
MOY				Sg	**Sg**	**23 09 48.7**	**+1.5**
KZLR	**Kyzyl**	**2.21**	**291**	Pg	**Pg**	**23 09 22.0**	**+1.9**
KZLR				Sg	**Sg**	**23 09 52.2**	**+3.4**
ZAK	**Zakamensk**	**3.56**	**97**	Pg	**Pb**	**23 09 43.1**	**+2.3**
ZAK				Sg	**Sg**	**23 10 28.8**	**-3.3**
IRK	**Irkutsk**	**4.26**	**70**	Sg	**Sg**	**23 10 52.0**	**-2.7**
DJOS	**Djoyskaya Sosn**	**4.35**	**298**	Sg	**Sg**	**23 11 00.3**	**+2.8**
CERR	**Cheremushki**	**4.37**	**298**	Pg	**Pg**	**23 10 01.3**	**-0.1**
CERR				Sg	**Sg**	**23 11 01.9**	**+4.0**
DJO	**Djoy, Khakassi**	**4.45**	**297**	Pg	**Pg**	**23 10 03.0**	**0.0**
DJO				Sg	**Sg**	**23 11 01.7**	**+1.1**
GZLN	**Zheleznogorsk**	**5.93**	**338**	Sg	**Sg**	**23 11 49.0**	**+0.8**
CUR	**Chagan-Uzun**	**6.06**	**266**	Pg	**Pg**	**23 10 31.1**	**-2.8**
CUR				Sg	**Sg**	**23 11 53.4**	**+1.2**
LUZB	**Luzhba, Kemero**	**6.07**	**300**	Pg	**Pg**	**23 10 31.5**	**-2.6**
LUZB				Sg	**Sg**	**23 11 51.0**	**-1.6**
ULGR	**Ulagan, Altay**	**6.22**	**271**	Pg	**Pg**	**23 10 34.3**	**-2.6**
ULGR				Sg	**Sg**	**23 11 57.3**	**-0.1**
TASR	**Tashtagol**	**6.38**	**290**	Pg	**Pg**	**23 10 40.5**	**+0.5**
TASR				Sg	**Sg**	**23 12 00.8**	**-1.8**
SONM	**Songino Array**	**6.44**	**116**	Pn	**Pn**	**23 10 12.4**	**-0.2**
	0.2nm,0.3s,baz=292,slow=14,SNR=1.7						
SONM				Pg	**Pb**	**23 10 33.4**	**+3.5**
	1.5nm,0.3s,baz=294,slow=17,SNR=13						
SONM				Lg	Lg	23 11 59.0	
	4.3nm,0.3s,baz=294,slow=28,SNR=15						
	0.2nm,0.3s						
CHBI	**Chibit, Altay**	**6.55**	**268**	Pg	**Pg**	**23 10 44.9**	**+1.6**
CHBI				Sg	**Sg**	**23 12 11.1**	**+3.0**
ARTR	**Artybash**	**6.61**	**281**	Pg	**Pg**	**23 10 46.1**	**+1.6**
ARTR				Sg	**Sg**	**23 12 07.5**	**-2.5**
DGZ	**Jazzator, Alta**	**6.73**	**263**	Pg	**Pg**	**23 10 46.9**	**+0.3**
DGZ				Sg	**Sg**	**23 12 13.4**	**-0.3**
ULN	**Ulaanbaatar**	**6.81**	**113**	Pg	Pb	23 10 41.5	+5.3
ULN				Sg	**Sg**	**23 12 11.1**	**-5.1**
GALT	**Gorno-Altaysk,**	**7.45**	**282**	Sg	**Sg**	**23 12 39.8**	**+3.1**
ELT	**Eltsovka**	**7.46**	**293**	Sg	**Sg**	**23 12 30.8**	**-6.3**
ZALV	**Zalesovo Beam**	**8.45**	**296**	Pg	Pg	23 11 13.0	-6.5
	0.2nm,0.3s,baz=111,slow=16,SNR=4.2						
ZALV				Lg	Lg	23 13 06.8	
	0.2nm,0.3s,baz=114,slow=25,SNR=8.2						
MKAR	**Makanchi Array**	**11.00**	**254**	Pg	Pn	23 11 58.7	+44
	baz=72,slow=12,SNR=1.7						
MKAR				Lg	Lg	23 14 27.6	
	0.1nm,0.3s,baz=59,slow=25,SNR=3.4						
KURBB	**Kurchatov Arra**	**12.17**	**276**	Lg	Lg	23 15 02.5	
	baz=81,slow=31,SNR=2.9						

WEL 02 23:12:27.7±1.0, 37°S±4°×17°9E±°, h17km±5km, M3.6/43, ML3.8/51, MLv3.6/43, Error ellipse: s-maj=0.0km s-min=0.0km az=82.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.55**	**247**	P	Pg	23 12 38.5	-0.1
MXZ				S	Sg	23 12 45.3	-0.6
WMGZ	**Waiomatatini S**	**0.63**	**221**	P	Pn	23 12 41.8	0.0
WMGZ				S	Sn	23 12 51.2	-0.3
PKGZ	**Pakihiroa**	**0.87**	**231**	P	Pn	23 12 45.1	-0.1
PKGZ				S	Sg	23 12 56.6	+0.4
PUZ	**Puketiti**	**0.90**	**216**	P	Pn	23 12 45.5	-0.1
PUZ				S	Sn	23 12 58.4	+0.1
HAZ	**Te Kaha**	**1.00**	**246**	P	Pb	23 12 45.9	-0.7
HAZ				S	Sb	23 12 59.5	-0.1
TWGZ	**Tauwhareparae**	**1.12**	**222**	P	Pg	23 12 49.1	-0.3
TWGZ				S	Sg	23 13 04.6	+0.5
RUGZ	**Raukumara Rang**	**1.17**	**238**	P	Pb	23 12 49.9	+0.3
RUGZ				S	Sn	23 13 04.9	-0.2
CNGZ	**Carnagh Statio**	**1.27**	**207**	P	Pb	23 12 51.4	+0.2
CNGZ				S	Sg	23 13 09.6	+0.7
TKGZ	**Te Karaka**	**1.39**	**218**	P	Pn	23 12 52.4	+0.1
TKGZ				S	Sn	23 13 09.6	-0.6
WIZ	**White Island**	**1.40**	**262**	P	Pb	23 12 53.0	-0.4
MWZ	**Matawai**	**1.49**	**228**	P	Pn	23 12 53.9	+0.2
MWZ				S	Sn	23 13 12.5	-0.3
WHRZ	**Whale Island**	**1.64**	**251**	P	Pn	23 12 56.5	+0.8
RIGZ	**Rimuhau**	**1.64**	**214**	P	Pn	23 12 55.5	-0.3
RAGZ	**Rawiri**	**1.66**	**226**	P	Pn	23 12 56.8	+0.6
URZ	**Urewera**	**1.71**	**237**	P	Pn	23 12 57.3	+0.6
PRGZ	**Paritu Road**	**1.78**	**208**	P	Pn	23 12 57.2	-0.5
EDRZ	**Edgecumbe**	**1.90**	**246**	P	Pn	23 12 59.9	+0.5
SNGZ	**Shannon Statio**	**1.91**	**221**	P	Pn	23 12 59.1	-0.3
KNZ	**Kokohu**	**1.94**	**210**	P	Pn	23 12 58.9	-1.0
OPRZ	**Ohinepanea**	**1.96**	**255**	P	Pn	23 12 59.9	-0.1
RTZ	**Ruatahuna**	**2.00**	**230**	P	Pn	23 13 01.5	+0.7
MUGZ	**Murupara**	**2.05**	**236**	P	Pn	23 13 01.6	+0.2
RAHZ	**Arahi**	**2.14**	**222**	P	Pn	23 13 03.3	+0.6
MYRZ	**Mayor Island**	**2.15**	**271**	P	Pn	23 13 03.3	+0.5
RRRZ	**Republican Roa**	**2.16**	**242**	P	Pn	23 13 03.5	+0.6
OMRZ	**Omania**	**2.17**	**249**	P	Pn	23 13 03.9	+0.8
WHHZ	**Waihua**	**2.19**	**217**	P	Pn	23 13 03.2	-0.1
MTHZ	**Maungataniwha**	**2.23**	**227**	P	Pn	23 13 04.4	+0.4
KARZ	**Kaharoa**	**2.24**	**252**	P	Pn	23 13 04.4	+0.4
ALRZ	**Allen Road**	**2.38**	**239**	P	Pn	23 13 06.7	+0.7
NMHZ	**Naumai**	**2.42**	**223**	P	Pn	23 13 06.9	+0.3
ARHZ	**Aropaoanui**	**2.45**	**218**	P	Pn	23 13 06.5	-0.3
KUZ	**Kuaotunu**	**2.64**	**282**	P	Pn	23 13 07.7	-1.8
BKZ	**Black Stump Fm**	**2.65**	**226**	P	Pn	23 13 09.5	-0.1
CKHZ	**Cape Kidnapper**	**2.73**	**212**	P	Pn	23 13 09.7	-1.1
TOZ	**Tahuroa Road**	**2.76**	**261**	P	Pn	23 13 11.1	0.0
KWHZ	**Kaweka Forest**	**2.86**	**223**	P	Pn	23 13 12.0	-0.6
RITZ	**Rihia Road**	**2.92**	**235**	P	Pn	23 13 14.2	+0.8
KAHZ	**Kahuranaki**	**2.93**	**213**	P	Pn	23 13 12.2	-1.3
GRZ	**Great Barrier**	**3.00**	**290**	P	Pn	23 13 13.3	-1.2
MKAZ	**Moumakai**	**3.02**	**273**	P	Pn	23 13 13.7	-1.1
KRHZ	**Kereru**	**3.05**	**221**	P	Pn	23 13 13.8	-1.3
TMVZ	**Te Maari**	**3.10**	**234**	P	Pn	23 13 16.0	+0.1
ETVZ	**East Tongariro**	**3.10**	**234**	P	Pn	23 13 15.9	-0.1
BHHZ	**Black Hill Sta**	**3.11**	**226**	P	Pn	23 13 15.6	-0.5
KRVZ	**Karewarewa**	**3.13**	**235**	P	Pn	23 13 14.2	-2.2
NNVZ	**North Ngauruho**	**3.16**	**235**	P	Pn	23 13 16.7	-0.2
SNVZ	**South Ngauruho**	**3.18**	**234**	P	Pn	23 13 17.2	+0.1
NGZ	**Ngauruhoe**	**3.20**	**234**	P	Pn	23 13 17.2	-0.1
ETAZ	**East Tamaki Re**	**3.23**	**276**	P	Pn	23 13 18.5	+0.9
TWVZ	**Taurewa**	**3.25**	**237**	P	Pn	23 13 18.7	+0.7
FWVZ	**Far West T-bar**	**3.27**	**233**	P	Pn	23 13 18.7	+0.3
MBAZ	**Motutapu North**	**3.28**	**279**	P	Pn	23 13 19.5	+1.2
WNVZ	**Wahianoa**	**3.29**	**232**	P	Pn	23 13 18.3	-0.2
PNHZ	**Pukenui**	**3.34**	**219**	P	Pn	23 13 17.1	-2.1
ABAZ	**Army Bay**	**3.37**	**282**	P	Pn	23 13 20.9	+1.3
PKVZ	**Pokaka**	**3.42**	**234**	P	Pn	23 13 20.7	+0.3
HIZ	**Hauiti**	**3.43**	**249**	P	Pn	23 13 21.5	+1.1
AWAZ	**Awhitu Peninsu**	**3.44**	**273**	P	Pn	23 13 21.6	+1.1
TSZ	**Takapari Road**	**3.57**	**220**	P	Pn	23 13 20.5	-1.8
DVHZ	**Dannevirke**	**3.66**	**215**	P	Pn	23 13 21.1	-2.4
WAZ	**Wanganui**	**3.92**	**231**	P	Pn	23 13 27.6	+0.5
PRWZ	**Pori Road**	**3.95**	**215**	P	Pn	23 13 26.0	-1.5
WCZ	**Waipu Caves**	**3.95**	**289**	P	Pn	23 13 27.1	-0.4
KHEZ	**Kahui Hut**	**4.33**	**242**	P	Pn	23 13 37.3	+4.5
OUZ	**Omahuta**	**4.81**	**295**	P	Pn	23 13 39.4	+0.1
KHZ	**Kahutara**	**6.54**	**218**	P	Pn	23 14 00.6	-2.6
CTZ	**Chatham Island**	**7.22**	**153**	P	Pn	23 14 13.1	+0.7

*TRN **02** 23:37:57.5, 17°92N×65°62W, h11km*

*NEIC **02** 23:37:59.5±1.3, 17°81N±0°03×65°63W±0°02, h21km±7km, Error ellipse: s-maj=4.7km s-min=2.1km az=180.0*

*RSPR **02** 23:38:01.1, 17°90N×65°63W, h7km±1km, MD3.3/17*

*OSPL **02** 23:38:01.7±1.7, 17°80N×65°59W, h13km±338km, ML2.8*

ISC 02 23:38:00.6±1.0, 17°89N±0°04×65°63W±0°02, h23km±8km, n87, σ0975/100, 14C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.22**	**20**	i eP	**Pb**	**23 38 06.0**	**-0.2**
MTP	**Monte Pirata**	**0.22**	**20**	eS	**Sb**	**23 38 10.2**	**0.0**
MTP	**Monte Pirata**	**0.22**	**20**		**Pb**	**23 38 06.0**	**-0.2**
MTP				IAML		23 38 10.3	
	comp=E,3µm,0.3s						
MTP				IAML		23 38 10.7	
	comp=N,4µm,0.1s						
MTP				Sg	**Sb**	**23 38 10.0**	**-0.1**
HUMP	**Col San Antoni**	**0.33**	**320**	i eP	**Pb**	**23 38 07.6**	**-0.3**
HUMP	**Col San Antoni**	**0.33**	**320**	eS	**Sb**	**23 38 12.7**	**0.0**
HUMP	**Col San Antoni**	**0.33**	**320**		**Pb**	**23 38 07.6**	**-0.3**
HUMP				Sg	**Sb**	**23 38 12.9**	**+0.2**
HUMP				IAML		23 38 13.5	
	comp=N,5µm,0.2s						
CBYP	**Canovanas**	**0.43**	**331**	i eP	**Pb**	**23 38 09.5**	**-0.2**
CBYP	**Canovanas**	**0.43**	**331**	eS	**Sb**	**23 38 16.4**	**+0.5**
CBYP	**Canovanas**	**0.43**	**331**	Pg	**Pb**	**23 38 09.5**	**-0.2**
CBYP				Sg	**Sb**	**23 38 16.4**	**+0.5**
CBYP				IAML		23 38 19.8	
	comp=E,3µm,0.2s						
IGPR	**InterUniversit**	**0.46**	**279**	i eP	**Pb**	**23 38 09.4**	**-0.6**
IGPR	**InterUniversit**	**0.46**	**279**	eS	**Sb**	**23 38 16.2**	**-0.2**
IGPR	**InterUniversit**	**0.46**	**279**		**Sb**	**23 38 16.2**	**-0.2**
CUPR	**Culebra, Puert**	**0.53**	**39**	i eP	**Pb**	**23 38 11.1**	**-0.2**
CUPR	**Culebra, Puert**	**0.53**	**39**	eS	**Sb**	**23 38 18.8**	**+0.3**
CUPR	**Culebra, Puert**	**0.53**	**39**		**Pb**	**23 38 11.1**	**-0.2**
CUPR					**Sb**	**23 38 18.7**	**+0.2**
CUPR				IAML		23 38 19.2	
	comp=E,1µm,0.4s						
CUPR				IAML		23 38 19.5	
	comp=N,877nm,0.2s						
SJG	**San Juan**	**0.54**	**294**		**Pb**	**23 38 10.9**	**-0.5**
SJG				Sg	**Sb**	**23 38 18.4**	**-0.4**
SJG				IAML		23 38 20.3	
	comp=N,955nm,0.2s						
GCPR	**Guaynabo City**	**0.60**	**314**	i eP	**Pb**	**23 38 12.0**	**-0.4**
GCPR	**Guaynabo City**	**0.60**	**314**	eS	**Sb**	**23 38 21.1**	**+0.6**
GCPR	**Guaynabo City**	**0.60**	**314**		**Sb**	**23 38 11.9**	**-0.4**
GCPR					**Pb**	**23 38 20.4**	**0.0**
STVI	**Saint Thomas**	**0.79**	**54**	i eP	**Pb**	**23 38 15.1**	**-0.6**
STVI	**Saint Thomas**	**0.79**	**54**	eS	**Sb**	**23 38 25.9**	**-0.1**
STVI	**Saint Thomas**	**0.79**	**54**		**Pb**	**23 38 15.0**	**-0.6**
STVI					**Sb**	**23 38 25.7**	**-0.3**
STVI				IAML		23 38 28.0	
	comp=N,570nm,0.2s						
CDVI	**St. Croix**	**0.84**	**99**	i eP	**Pb**	**23 38 16.0**	**-0.5**
CDVI	**St. Croix**	**0.84**	**99**	eS	**Sn**	**23 38 28.4**	**-0.2**
CDVI	**St. Croix**	**0.84**	**99**		**Pb**	**23 38 15.9**	**-0.5**
CDVI					**Sn**	**23 38 28.7**	**+0.1**
CDVI				IAML		23 38 35.2	
	comp=N,761nm,0.5s						
CDVI	**St. Croix**	**0.84**	**99**	eP	**Pb**	**23 38 16.2**	**-0.3**
ICMP	**Isla Caja de M**	**0.85**	**270**	i eP	**Pb**	**23 38 16.5**	**-0.2**
ICMP	**Isla Caja de M**	**0.85**	**270**	e

PUZ	**Puketiti**	**1.25 219**	P	Pn	23 39 55.7	0.0	
PUZ			S	Sg	23 40 13.1	-0.5	
HAZ	**Te Kaha**	**1.35 241**	P	Pb	23 39 57.8	+0.1	
HAZ			S	Sg	23 40 15.7	-0.9	
TWGZ	**Tauwhareparae**	**1.48 223**	P	Pb	23 39 59.7	-0.3	
TWGZ			S	Sb	23 40 19.2	+0.7	
RUGZ	**Raukumara Rang**	**1.52 235**	P	Pb	23 40 00.2	-0.6	
RUGZ			S	Sb	23 40 20.1	+0.1	
CNGZ	**Carnagh Statio**	**1.61 211**	P	Pb	23 40 01.6	-0.6	
TKGZ	**Te Karaka**	**1.74 220**	P	Pn	23 40 02.6	+0.2	
TKGZ			S	Sn	23 40 24.3	+0.2	
MWZ	**Matawai**	**1.84 228**	P	Pn	23 40 04.0	+0.2	
MWZ			S	Sn	23 40 26.1	-0.6	
WHRZ	**Whale Island**	**1.97 247**	P	Pn	23 40 06.2	+0.7	
RIGZ	**Rimuhau**	**1.99 216**	P	Pn	23 40 05.7	-0.1	
RIGZ			S	Sn	23 40 31.2	+0.8	
RAGZ	**Rawiri**	**2.02 226**	P	Pn	23 40 06.3	0.0	
RAGZ			S	Sn	23 40 30.6	-0.5	
URZ	**Urewera**	**2.06 235**	P	Pn	23 40 07.2	+0.5	
PRGZ	**Paritu Road**	**2.12 211**	P	Pn	23 40 07.3	-0.3	
PRGZ			S	Sn	23 40 34.4	+1.0	
SNGZ	**Shannon Statio**	**2.26 222**	P	Pn	23 40 09.2	-0.4	
OPRZ	**Ohinepanea**	**2.28 250**	P	Pn	23 40 09.6	-0.1	
KNZ	**Kokohu**	**2.29 213**	P	Pn	23 40 09.0	-0.9	
MHGZ	**Mahia Peninsul**	**2.31 207**	P	Pn	23 40 09.9	-0.3	
RTZ	**Ruatahuna**	**2.35 229**	P	Pn	23 40 11.5	+0.6	
MUGZ	**Murupara**	**2.40 234**	P	Pn	23 40 11.4	-0.1	
MYRZ	**Mayor Island**	**2.42 265**	P	Pn	23 40 11.6	-0.1	
RAHZ	**Arahi**	**2.50 223**	P	Pn	23 40 13.1	+0.4	
RRRZ	**Republican Roa**	**2.50 240**	P	Pn	23 40 13.8	+0.9	
WHHZ	**Waihua**	**2.54 218**	P	Pn	23 40 13.2	-0.2	
MTHZ	**Maungataniwha**	**2.59 227**	P	Pn	23 40 14.4	+0.3	
NMHZ	**Naumai**	**2.78 224**	P	Pn	23 40 16.5	-0.3	
ARHZ	**Aropaoanui**	**2.80 219**	P	Pn	23 40 16.6	-0.4	
KUZ	**Kuaotunu**	**2.86 276**	P	Pn	23 40 16.2	-1.5	
BKZ	**Black Stump Fm**	**3.00 226**	P	Pn	23 40 19.3	-0.4	
TOZ	**Tahuroa Road**	**3.06 257**	P	Pn	23 40 19.7	-0.8	
CKHZ	**Cape Kidnapper**	**3.07 213**	P	Pn	23 40 19.3	-1.4	
GRZ	**Great Barrier**	**3.18 284**	P	Pn	23 40 22.0	-0.1	
MKAZ	**Moumakai**	**3.28 269**	P	Pn	23 40 22.9	-0.7	
WIAZ	**Waiheke Island**	**3.32 274**	P	Pn	23 40 24.5	+0.3	
KRHZ	**Kereru**	**3.40 221**	P	Pn	23 40 24.0	-1.3	
TMVZ	**Te Maari**	**3.45 233**	P	Pn	23 40 25.7	-0.3	
MBAZ	**Motutapu North**	**3.51 274**	P	Pn	23 40 27.0	+0.3	
ABAZ	**Army Bay**	**3.59 277**	P	Pn	23 40 28.4	+0.6	
MOVZ	**Moawhango**	**3.59 229**	P	Pn	23 40 27.3	-0.7	
WNVZ	**Wahianoa**	**3.64 231**	P	Pn	23 40 27.9	-0.7	
PNHZ	**Pukenui**	**3.69 220**	P	Pn	23 40 27.4	-1.9	
AWAZ	**Awhitu Peninsu**	**3.69 269**	P	Pn	23 40 29.3	0.0	
HIZ	**Hauiti**	**3.76 247**	P	Pn	23 40 31.2	+1.1	
RVAZ	**Riverhead Bore**	**3.77 274**	P	Pn	23 40 31.3	+1.1	
WCZ	**Waipu Caves**	**4.13 285**	P	Pn	23 40 35.0	-0.2	
OUZ	**Omahuta**	**4.96 291**	P	Pn	23 40 46.8	+0.3	
CTZ	**Chatham Island**	**7.33 156**	P	Pn	23 41 19.5	+0.4	

*NOU **02** 23:53:59.7, 36°.93S×179°.74W, h93km, MLv4.8/5, East of North Island, N.Z.*
*IDC **02** 23:54:03.5±1.5, 36°.79S×179°.33E, h0km, mb4.3/2, mbtmp4.3/3, ML3.9/1, MS2.6/1, Error ellipse: s-maj=46.3km s-min=29.0km az=143.0*
*NEIC **02** 23:54:05.8±2.2, 37°.11S±0°.09×179°.27E±0°.07, h10km±2km, mb4.6/12, Error ellipse: s-maj=15.8km s-min=7.5km az=24.0*
*WEL **02** 23:54:07.5±1.7, 37°S±5°×17°9E±°, h22km±19km, M3.9/43, ML4.1/48, MLv3.9/43, Error ellipse: s-maj=0.0km s-min=0.0km az=79.1*

ISC 02 23:54:07.9±2.2, 37°.01S±0°.06×179°.38E±0°.09, h32km±13km, n101, σ1°33/108, mb4.4/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.02 237**			**Pn**	**23 54 24.4**	**-1.6**
MXZ	**Matakaoa Point**	**1.02 237**		P	**Pb**	**23 54 30.5**	**+3.4**
MXZ				S	**Sb**	**23 54 37.6**	**-2.5**
WMGZ	**Waiomatatini S**	**1.12 223**		P	**Pb**	**23 54 28.4**	**-0.3**
WMGZ				S	**Sn**	**23 54 42.8**	**+1.1**
PKGZ	**Pakihiroa**	**1.36 229**		P	**Pn**	**23 54 31.7**	**+0.9**
PKGZ				S	**Sn**	**23 54 48.2**	**+0.4**
PUZ	**Puketiti**	**1.39 220**		P	**Pn**	**23 54 32.4**	**+1.2**
PUZ				S	**Sb**	**23 54 50.1**	**-0.6**
HAZ	**Te Kaha**	**1.48 239**		P	**Pn**	**23 54 33.4**	**+1.1**
HAZ				S	**Sb**	**23 54 52.5**	**-0.6**
TWGZ	**Tauwhareparae**	**1.61 223**		P	**Pn**	**23 54 35.3**	**+1.0**
TWGZ				S	**Sb**	**23 54 56.5**	**-0.7**
RUGZ	**Raukumara Rang**	**1.66 234**		P	**Pn**	**23 54 36.2**	**+1.3**
RUGZ				S	**Sn**	**23 54 57.3**	**+2.0**
CNGZ	**Carnagh Statio**	**1.74 212**		P	**Pn**	**23 54 37.7**	**+1.7**
CNGZ				S	**Sb**	**23 55 01.1**	**+0.3**
WIZ	**White Island**	**1.82 253**		P	**Pn**	**23 54 37.6**	**+0.6**
MWZ	**Matawai**	**1.98 227**		P	**Pn**	**23 54 40.0**	**+0.7**
WHRZ	**Whale Island**	**2.09 245**		P	**Pn**	**23 54 41.7**	**+0.9**
RIGZ	**Rimuhau**	**2.12 217**		P	**Pn**	**23 54 41.7**	**+0.4**
RAGZ	**Rawiri**	**2.15 226**		P	**Pn**	**23 54 42.4**	**+0.7**
URZ	**Urewera**	**2.19 235**		Pn	**Pn**	**23 54 42.8**	**+0.7**
	30nm,0.3s,baz=355,slow=0.0,SNR=55						
URZ				Sn	**Sb**	**23 55 11.7**	**-2.0**
	80nm,0.3s,SNR=6.7						
URZ				LR	LR	23 55 38.5	
	comp=Z,119nm,20.0s,baz=167,slow=42 70nm,0.3s						
URZ	**Urewera**	**2.19 235**			**Pn**	**23 54 42.0**	**-0.1**
URZ	**Urewera**	**2.19 235**		P	**Pn**	**23 54 42.9**	**+0.7**
URZ	**Urewera**	**2.19 235**		P	**Pn**	**23 54 43.0**	**+0.8**
PRGZ	**Paritu Road**	**2.25 211**		P	**Pn**	**23 54 43.3**	**+0.3**
EDGZ	**Edgecumbe**	**2.37 242**		P	**Pn**	**23 54 45.4**	**+0.8**
SNGZ	**Shannon Statio**	**2.40 222**		P	**Pn**	**23 54 45.3**	**+0.2**
KNZ	**Kokohu**	**2.42 213**		P	**Pn**	**23 54 44.9**	**-0.4**
MHGZ	**Mahia Peninsul**	**2.44 208**		P	**Pn**	**23 54 45.9**	**+0.3**
RTZ	**Ruatahuna**	**2.49 229**		P	**Pn**	**23 54 46.2**	**-0.1**
MYRZ	**Mayor Island**	**2.52 263**		P	**Pn**	**23 54 47.1**	**+0.3**
MUGZ	**Murupara**	**2.54 234**		P	**Pn**	**23 54 47.5**	**+0.6**
TGRZ	**Tauranga**	**2.59 253**		P	**Pb**	**23 54 52.7**	**-1.0**
RAHZ	**Arahi**	**2.63 223**		P	**Pn**	**23 54 49.2**	**+1.0**
RRRZ	**Republican Roa**	**2.63 239**		P	**Pn**	**23 54 49.3**	**+1.0**
WHHZ	**Waihua**	**2.67 219**		P	**Pn**	**23 54 49.1**	**+0.3**
KARZ	**Kaharoa**	**2.69 247**		P	**Pn**	**23 54 49.8**	**+0.8**
MTHZ	**Maungataniwha**	**2.73 227**		P	**Pn**	**23 54 50.1**	**+0.5**
HRRZ	**Handcock Road**	**2.82 240**		P	**Pn**	**23 54 51.9**	**+1.1**
ALRZ	**Allen Road**	**2.86 236**		P	**Pn**	**23 54 52.1**	**+0.7**
NMHZ	**Naumai**	**2.91 223**		P	**Pn**	**23 54 52.9**	**+0.7**
ARHZ	**Aropaoanui**	**2.93 219**		P	**Pn**	**23 54 53.1**	**+0.7**
KUZ	**Kuaotunu**	**2.95 274**		P	**Pn**	**23 54 51.0**	**-1.5**
BKZ	**Black Stump Fm**	**3.14 226**			**Pn**	**23 54 55.2**	**-0.9**
BKZ	**Black Stump Fm**	**3.14 226**		P	**Pn**	**23 54 55.3**	**+0.1**
BKZ	**Black Stump Fm**	**3.14 226**		P	**Pn**	**23 54 55.1**	**-0.1**
TOZ	**Tahuroa Road**	**3.17 256**		P	**Pn**	**23 54 55.1**	**-0.5**
CKHZ	**Cape Kidnapper**	**3.21 214**		P	**Pn**	**23 54 55.3**	**-0.8**
GRZ	**Great Barrier**	**3.25 282**		P	**Pn**	**23 54 57.2**	**+0.5**
KWHZ	**Kaweka Forest**	**3.35 223**		P	**Pn**	**23 54 58.3**	**0.0**
MKAZ	**Moumakai**	**3.38 267**		P	**Pn**	**23 54 57.4**	**-1.1**
KAHZ	**Kahuranaki**	**3.41 214**		P	**Pn**	**23 54 58.1**	**-0.8**
KRHZ	**Kereru**	**3.54 221**		P	**Pn**	**23 54 59.9**	**-0.8**
ETAZ	**East Tamaki Re**	**3.57 270**		P	**Pn**	**23 55 02.3**	**+1.3**
TMVZ	**Te Maari**	**3.58 233**		P	**Pn**	**23 55 01.4**	**0.0**
ETVZ	**East Tongariro**	**3.59 233**		P	**Pn**	**23 55 03.1**	**+1.6**
BHHZ	**Black Hill Sta**	**3.60 225**		P	**Pn**	**23 55 01.9**	**+0.3**
MBAZ	**Motutapu North**	**3.60 272**		P	**Pn**	**23 55 02.1**	**+0.6**
SNVZ	**South Ngauruho**	**3.67 232**		P	**Pn**	**23 55 02.5**	**-0.1**
ABAZ	**Army Bay**	**3.67 275**		P	**Pn**	**23 55 02.7**	**+0.2**
NGZ	**Ngauruhoe**	**3.69 233**		P	**Pn**	**23 55 02.9**	**+0.1**
EPAZ	**Eden Park BICE**	**3.72 271**		P	**Pn**	**23 55 04.8**	**+1.7**
MOVZ	**Moawhango**	**3.73 229**		P	**Pn**	**23 55 02.9**	**-0.4**
WHVZ	**Whangaehu Hut**	**3.75 232**		P	**Pn**	**23 55 04.6**	**+0.7**
WNVZ	**Wahianoa**	**3.77 231**		P	**Pn**	**23 55 03.9**	**-0.2**
AWAZ	**Awhitu Peninsu**	**3.79 268**		P	**Pn**	**23 55 05.5**	**+1.4**
PNHZ	**Pukenui**	**3.83 220**		P	**Pn**	**23 55 03.9**	**-0.8**
RVAZ	**Riverhead Bore**	**3.86 272**		P	**Pn**	**23 55 06.7**	**+1.7**
HIZ	**Hauiti**	**3.89 246**			**Pn**	**23 55 06.2**	**+0.8**
HIZ	**Hauiti**	**3.89 246**		P	**Pn**	**23 55 06.8**	**+1.3**
HIZ	**Hauiti**	**3.89 246**		P	**Pn**	**23 55 06.5**	**+1.0**
WCZ	**Waipu Caves**	**4.20 283**		P	**Pn**	**23 55 09.5**	**-0.2**
BFZ	**Birch Farm**	**4.41 213**		Pn	**Pn**	**23 55 11.1**	**-1.6**
WAZ	**Wanganui**	**4.41 230**		P	**Pn**	**23 55 13.1**	**+0.5**
DREZ	**Durham Road**	**4.63 240**		P	**Pn**	**23 55 15.3**	**-0.3**
NEZ	**North Egmont**	**4.74 240**		P	**Pn**	**23 55 20.9**	**+3.6**
KHEZ	**Kahui Hut**	**4.81 240**		P	**Pn**	**23 55 21.3**	**+3.1**
OUZ	**Omahuta**	**5.01 289**			**Pn**	**23 55 20.8**	**-0.1**
OUZ	**Omahuta**	**5.01 289**		P	**Pn**	**23 55 21.2**	**+0.3**
OUZ	**Omahuta**	**5.01 289**		P	**Pn**	**23 55 21.3**	**+0.4**
MSWZ	**Moikau Station**	**5.45 215**		Pn	**Pn**	**23 55 26.0**	**-0.9**
PLWZ	**Palliser**	**5.57 214**		Pn	**Pn**	**23 55 25.4**	**-3.2**
SNZO	**South Karori**	**5.63 219**		Pn	**Pn**	**23 55 25.3**	**-4.0**
CTZ	**Chatham Island**	**7.38 157**		P	**Pn**	**23 55 55.1**	**+1.7**
MQZ	**McQueen's Vall**	**8.43 215**		Pn	Pn	23 56 03.6	-4.2
OXZ	**Oxford**	**8.45 219**		Pn	**Pn**	**23 56 06.3**	**-1.8**
RPZ	**Rata Peaks**	**9.23 221**		P	**Pn**	**23 56 17.1**	**-1.7**
	128nm,1.7s						
DZM	**Mont Dzumac**	**18.63 319**		P	**P**	**23 58 22.2**	**-0.9**
DZM				IAmb	IAmb	23 58 51.0	
	comp=Z,35nm,1.5s						
LIFNC	**LIFOU**	**19.32 324**		P	**Pn**	**23 58 33.1**	**+1.4**
AS31	**Alice Springs**	**41.07 276**		P	**P**	**00 01 48.6**	**-0.1**
ASAR	**Alice Springs**	**41.07 276**		P	**P**	**00 01 48.5**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=120,slow=8.2,SNR=58 comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**41.07 276**		P	**P**	**00 01 48.4**	**-0.4**
FORT	**Forrest**	**42.63 263**		P	**P**	**00 02 00.9**	**-0.5**
FORT				IAmb	IAmb	00 02 27.2	
	comp=Z,31nm,1.1s						
WB2	**Warramunga Arr**	**42.66 281**		P	**P**	**00 02 01.3**	**-0.4**
WB2				IAmb	IAmb	00 02 02.2	
	comp=Z,3.8nm,0.7s						
WRA	**Warramunga Arr**	**42.66 281**		P	**P**	**00 02 01.3**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=122,slow=7.7,SNR=37 comp=Z,2.8nm,0.6s						
WRA	**Warramunga Arr**	**42.66 281**		P	**P**	**00 02 01.4**	**-0.4**
WB0	**Warramunga Arr**	**42.72 281**		P	**P**	**00 02 01.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**50.30 255**		P	**P**	**00 02 58.1**	**-3.5**
FITZ	**Fitzroy Crossi**	**50.55 277**		P	**P**	**00 03 03.2**	**-0.4**
FITZ				IAmb	IAmb	00 03 09.4	
	comp=Z,12nm,1.5s						
MORW	**Morawa**	**52.83 259**		P	**P**	**00 03 19.7**	**-0.9**
MORW				IAmb	IAmb	00 04 03.1	
	comp=Z,16nm,1.1s						
QSPA	**South Pole Qui**	**53.12 180**		P	**P**	**00 03 26.8**	**+4.5**
QSPA				IAmb	IAmb	00 03 41.7	
	comp=Z,7.0nm,1.5s						
LUWI	**Luwuk**	**63.17 291**		P	**P**	**00 04 31.5**	**-1.6**
ZALV	**Zalesovo Beam**	**121.40 316**		PKP	**PKPdf**	**00 12 55.7**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=114,slow=4.2,SNR=2.1						
ARCES	**ARCESS Array B**	**144.47 345**		PKP	PKPbc	00 13 40.3	+1.7
	comp=Z,2.2nm,0.9s,baz=46,slow=3.5,SNR=6.0						
FINES	**FINESS Array B**	**150.37 334**		PKPbc	**PKPbc**	**00 13 55.9**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=30,slow=5.3,SNR=7.8						
BRTR	**Keskin Array B**	**153.10 286**		PKPbc	**PKPbc**	**00 14 02.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=103,slow=3.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**156.15 186**		PKPab	**PKPab**	**00 14 28.8**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=167,slow=5.4,SNR=2.3						

*NEIC **02** 23:55:50.5±0.9, 17°.82N±0°.03×65°.62W±0°.02, h20km±10km, Error ellipse: s-maj=4.8km s-min=2.3km az=176.0*
*RSPR **02** 23:55:52.7, 17°.92N×65°.64W, h12km±1km, MD3.0/16*

ISC 02 23:55:51.9±0.9, 17°.90N±0°.04×65°.63W±0°.02, h23km, n74, σ0°73/84, 19C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**0.21**	**21**	i eP	**Pb**	**23 55 57.0**	**-0.5**
MTP	**Monte Pirata**	**0.21**	**21**	eS	**Sb**	**23 56 01.1**	**-0.1**
MTP	**Monte Pirata**	**0.21**	**21**	Pg	**Pb**	**23 55 56.9**	**-0.5**
MTP				Sg	**Sb**	**23 56 01.1**	**-0.1**
HUMP	**Col San Antoni**	**0.32**	**319**	i eP	**Pb**	**23 55 58.5**	**-0.5**
HUMP	**Col San Antoni**	**0.32**	**319**	eS	**Sb**	**23 56 04.0**	**+0.1**
HUMP	**Col San Antoni**	**0.32**	**319**		**Pb**	**23 55 58.5**	**-0.5**
HUMP				Sg	**Sb**	**23 56 03.5**	**-0.3**
HUMP				IAML		23 56 04.5	
	comp=N,1μm,0.3s						
CBYP	**Canovanas**	**0.43**	**330**	i eP	**Pb**	**23 56 00.4**	**-0.4**
CBYP	**Canovanas**	**0.43**	**330**	eS	**Sb**	**23 56 06.5**	**-0.4**
CBYP	**Canovanas**	**0.43**	**330**		**Pb**	**23 56 00.4**	**-0.4**
CBYP				Sg	**Sb**	**23 56 07.5**	**+0.6**
CBYP				IAML		23 56 09.0	
	comp=N,2μm,0.2s						
CBYP				IAML		23 56 10.8	
	comp=E,1μm,0.2s						
IGPR	**InterUniversit**	**0.46**	**278**	i eP	**Pb**	**23 56 00.3**	**-1.0**
IGPR	**InterUniversit**	**0.46**	**278**	eS	**Sb**	**23 56 07.2**	**-0.5**
IGPR	**InterUniversit**	**0.46**	**278**		**Sb**	**23 56 07.2**	**-0.5**
CUPR	**Culebra, Puert**	**0.52**	**39**	i eP	**Pb**	**23 56 02.1**	**-0.4**
CUPR	**Culebra, Puert**	**0.52**	**39**	eS	**Sb**	**23 56 09.8**	**+0.3**
CUPR	**Culebra, Puert**	**0.52**	**39**		**Pb**	**23 56 02.0**	**-0.4**
CUPR				Sg	**Sb**	**23 56 09.8**	**+0.3**
SJG	**San Juan**	**0.54**	**293**		**Pb**	**23 56 01.6**	**-1.0**
SJG				Sg	**Sb**	**23 56 09.5**	**-0.5**
SJG				IAML		23 56 11.3	
	comp=E,660nm,0.2s						
SJG				IAML		23 56 12.4	
	comp=E,626nm,0.2s						
GCPR	**Guaynabo City**	**0.59**	**313**	i eP	**Pb**	**23 56 02.9**	**-0.7**
GCPR	**Guaynabo City**	**0.59**	**313**	eS	**Sb**	**23 56 11.9**	**+0.3**
GCPR	**Guaynabo City**	**0.59**	**313**		**Pb**	**23 56 02.9**	**-0.7**
GCPR					**Sb**	**23 56 11.6**	**0.0**
STVI	**Saint Thomas**	**0.78**	**55**	i eP	**Pb**	**23 56 06.2**	**-0.7**
STVI	**Saint Thomas**	**0.78**	**55**	eS	**Sb**	**23 56 16.9**	**-0.2**
STVI	**Saint Thomas**	**0.78**	**55**		**Pb**	**23 56 06.1**	**-0.7**
STVI					**Sb**	**23 56 16.9**	**-0.2**
STVI				IAML		23 56 21.4	
	comp=N,295nm,0.3s						
CDVI	**St. Croix**	**0.84**	**100**	i eP	**Pb**	**23 56 07.2**	**-0.5**
CDVI	**St. Croix**	**0.84**	**100**	eS	**Sn**	**23 56 20.6**	**+0.8**
CDVI	**St. Croix**	**0.84**	**100**		**Pb**	**23 56 07.2**	**-0.5**
CDVI				IAML		23 56 24.3	
	comp=N,653nm,0.4s						
CDVI	**St. Croix**	**0.84**	**100**		**Sn**	**23 56 20.6**	**+0.8**
CDVI	**St. Croix**	**0.84**	**100**	eP	**Pb**	**23 56 06.9**	**-0.9**
ICMP	**Isla Caja de M**	**0.85**	**269**	eP	**Pb**	**23 56 08.3**	**+0.3**
ICMP	**Isla Caja de M**	**0.85**	**269**	eS	**Sb**	**23 56 19.6**	**+0.6**
ICMP	**Isla Caja de M**	**0.85**	**269**	Pg	**Pb**	**23 56 07.3**	**-0.7**
ICMP				IAML		23 56 22.1	
	comp=N,403nm,0.5s						
ICMP				IAML		23 56 24.0	
	comp=E,670nm,0.4s						
ICMP	**Isla Caja de M**	**0.85**	**269**		**Sb**	**23 56 19.6**	**+0.6**
CELP	**Cerrillos**	**0.92**	**281**	i eP	**Pb**	**23 56 08.2**	**-1.0**
CELP	**Cerrillos**	**0.92**	**281**	eS	**Sb**	**23 56 20.9**	**0.0**
CELP	**Cerrillos**	**0.92**	**281**		**Pb**	**23 56 08.3**	**-0.8**
CELP	**Cerrillos**	**0.92**	**281**		**Sb**	**23 56 20.9**	**0.0**
SJVI	**Gifft Hill Sch**	**0.92**	**62**	i eP	**Pb**	**23 56 08.4**	**-0.8**
SJVI	**Gifft Hill Sch**	**0.92**	**62**	eS	**Sb**	**23 56 21.0**	**-0.1**
SJVI	**Gifft Hill Sch**	**0.92**	**62**		**Pb**	**23 56 08.1**	**-0.8**
SJVI					**Sb**	**23 56 21.0**	**-0.1**
OBIP	**Obispado Ponce**	**0.94**	**279**	i eP	**Pb**	**23 56 07.6**	**-1.8**
OBIP	**Obispado Ponce**	**0.94**	**279**	eS	**Sb**	**23 56 20.1**	**-1.4**
OBIP	**Obispado Ponce**	**0.94**	**279**		**Pb**	**23 56 08.3**	**-1.2**
OBIP				IAML		23 56 24.1	
	comp=N,224nm,0.3s						
OBIP	**Obispado Ponce**	**0.94**	**279**		**Sb**	**23 56 20.1**	**-1.4**
EMPR	**Esperanza - Ma**	**1.03**	**304**	i eP	**Pn**	**23 56 10.9**	**0.0**
EMPR	**Esperanza - Ma**	**1.03**	**304**	eS	**Sb**	**23 56 25.1**	**+1.1**
EMPR	**Esperanza - Ma**	**1.03**	**304**		**Sb**	**23 56 24.9**	**+0.8**
EMPR	**Esperanza - Ma**	**1.03**	**304**		**Pn**	**23 56 10.9**	**0.0**
TBVI	**Tortola**	**1.09**	**62**	i eP	**Pn**	**23 56 11.2**	**-0.5**
TBVI	**Tortola**	**1.09**	**62**	eS	**Sb**	**23 56 25.4**	**-0.5**
TBVI	**Tortola**	**1.09**	**62**		**Pn**	**23 56 11.2**	**-0.5**
TBVI					**Sb**	**23 56 25.4**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.09**	**289**	i eP	**Pn**	**23 56 11.3**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.09**	**289**	eS	**Sb**	**23 56 25.9**	**0.0**
UUPR	**Utuado, UPR, P**	**1.09**	**289**		**Pn**	**23 56 11.3**	**-0.4**
UUPR					**Sb**	**23 56 25.9**	**0.0**
AOPR	**Arecibo Observ**	**1.16**	**293**	i eP	**Pn**	**23 56 12.3**	**-0.4**
AOPR	**Arecibo Observ**	**1.16**	**293**	eS	**Sn**	**23 56 27.5**	**-0.3**
AOPR	**Arecibo Observ**	**1.16**	**293**		**Pn**	**23 56 12.7**	**0.0**
AOPR	**Arecibo Observ**	**1.16**	**293**		**Sn**	**23 56 27.5**	**-0.3**
AOPR	**Arecibo Observ**	**1.16**	**293**	eP	**Pn**	**23 56 12.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.35**	**273**	i eP	**Pn**	**23 56 15.0**	**-0.3**
MLPR	**Magueyes Islan**	**1.35**	**273**	eS	**Sb**	**23 56 33.7**	**+0.5**
MLPR	**Magueyes Islan**	**1.35**	**273**	Pn	**Pn**	**23 56 15.2**	**0.0**
MLPR	**Magueyes Islan**	**1.35**	**273**		**Sb**	**23 56 33.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.41**	**274**	i eP	**Pn**	**23 56 15.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.41**	**274**	eS	**Sn**	**23 56 34.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.41**	**274**	Pn	**Pn**	**23 56 16.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.41**	**274**		**Sn**	**23 56 34.0**	**-0.1**
LSP	**Las Mesas**	**1.41**	**281**	i eP	**Pn**	**23 56 16.6**	**+0.5**
PRSN	**Puerto Rico Se**	**1.47**	**283**		**Pn**	**23 56 17.9**	**+0.9**
AGPR	**Aguadilla, PR**	**1.52**	**292**	i eP	**Pn**	**23 56 18.7**	**+1.1**
AGPR	**Aguadilla, PR**	**1.52**	**292**	Pn	**Pn**	**23 56 18.6**	**+1.0**
AGPR				IAML		23 56 41.0	
	comp=E,249nm,0.5s						
AGPR				IAML		23 56 48.9	
	comp=N,265nm,0.7s						
PCDR	**Punta Cana, DR**	**2.68**	**284**	Pn	**Pn**	**23 56 36.9**	**+3.2**
PCDR				IAML		23 57 16.5	
	comp=E,81nm,2.2s						
MBFL	**Flemmings, Mon**	**3.46**	**109**	eP	**Pn**	**23 56 45.0**	**+0.7**
MLYT	**Lee's Yard**	**3.49**	**109**	eP	**Pn**	**23 56 45.4**	**+0.6**
DR12	**Loma Pena Alta**	**3.67**	**284**	Pn	**Pn**	**23 56 48.6**	**+1.4**
ANBD	**Bethesda, Anti**	**3.79**	**102**	eP	**Pn**	**23 56 49.3**	**+0.5**

*OSPL **03** 00:00:15.0±0.3, 17°.65N×65°.69W, h117km±9km, ML2.6*
*NEIC **03** 00:00:20.6±1.7, 17°.79N±0°.02×65°.63W±0°.01, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=8.0*
*RSPR **03** 00:00:22.2, 17°.89N×65°.65W, h6km±1km, MD2.9/11*

ISC 03 00:00:20.5±1.2, 17°.82N±0°.05×65°.64W±0°.02, h18km±5km, n62, σ1°23/67, 6C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**0.29**	**16**	i eP	**Pg**	**00 00 27.3**	**+0.4**
MTP	**Monte Pirata**	**0.29**	**16**	eS	**Sg**	**00 00 31.6**	**+0.5**
MTP	**Monte Pirata**	**0.29**	**16**		**Pg**	**00 00 27.2**	**+0.4**
MTP					**Sg**	**00 00 31.2**	**0.0**
MTP				IAML		00 00 32.2	
	comp=E,775nm,0.2s						
MTP				IAML		00 00 32.3	
	comp=N,1μm,0.1s						
HUMP	**Col San Antoni**	**0.38**	**327**	i eP	**Pg**	**00 00 27.5**	**-0.9**
HUMP	**Col San Antoni**	**0.38**	**327**	eS	**Sg**	**00 00 33.9**	**+0.1**
HUMP	**Col San Antoni**	**0.38**	**327**		**Pg**	**00 00 27.5**	**-0.9**
HUMP					**Sg**	**00 00 33.4**	**-0.4**
HUMP				IAML		00 00 34.7	
	comp=N,2μm,0.2s						
IGPR	**InterUniversit**	**0.47**	**288**	i eP	**Pb**	**00 00 30.5**	**+0.2**
IGPR	**InterUniversit**	**0.47**	**288**	eS	**Sg**	**00 00 36.8**	**+0.3**
CBYP	**Canovanas**	**0.50**	**335**	i eP	**Pg**	**00 00 30.8**	**+0.2**
CBYP	**Canovanas**	**0.50**	**335**	eS	**Sg**	**00 00 37.5**	**+0.2**
CBYP	**Can

SMA1					AML	AML		
	comp=E,2985µm,0.5s							
SMA1	**SAN MARTINO**	**0.06**	**68**	P	Pg		00 01 28.0	+0.4
SMA1				S	Sg		00 01 29.4	+0.2
SMA1				AML	AML			
	comp=E,2985µm,0.5s							
SMA1				AML	AML			
	comp=N,1115µm,0.3s							
T1204	**Amatrice, Fraz**	**0.08**	**32**	P	Pg		00 01 28.2	+0.4
T1204				S	Sg		00 01 29.9	+0.3
T1204	**Amatrice, Fraz**	**0.08**	**32**	S	Sg		00 01 29.9	+0.2
T1202	**Accumoli, Fraz**	**0.10**	**345**	P	Pg		00 01 28.7	+0.7
T1202	**Accumoli, Fraz**	**0.10**	**345**	P	Pg		00 01 28.6	+0.6
RM33	**Pellescritta (**	**0.10**	**198**	⇑P	Pg		00 01 28.5	+0.5
RM33				S	Sg		00 01 30.4	+0.4
RM33				AML	AML			
	comp=E,166µm,0.8s							
RM33				AML	AML			
	comp=N,196µm,0.3s							
RM33				AML	AML			
	comp=E,166µm,0.8s							
RM33				AML	AML			
	comp=N,196µm,0.3s							
RM33				AML	AML			
	comp=N,196µm,0.3s							
RM33				AML	AML			
	comp=E,166µm,0.8s							
RM33				AML	AML			
	comp=N,196µm,1.7s							
RM33				AML	AML			
	comp=E,166µm,1.2s							
RM33	**Pellescritta (**	**0.10**	**198**	S	Sg		00 01 30.4	+0.4
RM33				AML	AML			
	comp=N,196µm,0.3s							
RM33				AML	AML			
	comp=E,166µm,0.8s							
RM33				AML	AML			
	comp=N,196µm,1.7s							
RM33				AML	AML			
	comp=E,166µm,1.2s							
CAMP	**Campotosto**	**0.13**	**123**	P	Pg		00 01 28.9	+0.5
CAMP				S	Sg		00 01 31.3	+0.6
CAMP	**Campotosto**	**0.13**	**123**	P	Pg		00 01 28.9	+0.5
CAMP				S	Sg		00 01 31.3	+0.6
T1244	**Arquata del Tr**	**0.15**	**11**	P	Pg		00 01 29.3	+0.6
T1244				S	Sg		00 01 32.0	+0.8
T1244	**Arquata del Tr**	**0.15**	**11**	P	Pg		00 01 29.2	+0.5
T1244				S	Sg		00 01 32.0	+0.8
T1244				AML	AML			
	comp=E,256µm,0.6s							
T1244				AML	AML			
	comp=N,245µm,1.6s							
LNSS	**Leonessa**	**0.16**	**268**	P	Pg		00 01 29.4	+0.6
LNSS				S	Sg		00 01 32.2	+0.8
LNSS				AML	AML			
	comp=E,110µm,1.2s							
LNSS				AML	AML			
	comp=N,149µm,1.1s							
LNSS				AML	AML			
	comp=E,116µm,0.3s							
LNSS				AML	AML			
	comp=N,148µm,1.1s							
LNSS				AML	AML			
	comp=E,116µm,0.3s							
LNSS				AML	AML			
	comp=N,149µm,1.1s							
LNSS				AML	AML			
	comp=E,116µm,0.3s							
LNSS				AML	AML			
	comp=N,149µm,0.9s							
LNSS	**Leonessa**	**0.16**	**268**	S	Sg		00 01 32.1	+0.7
LNSS				AML	AML			
	comp=N,149µm,1.1s							
LNSS				AML	AML			
	comp=E,110µm,1.2s							
LNSS				AML	AML			
	comp=N,149µm,0.9s							
T1243	**Rocca Santa Ma**	**0.17**	**57**	P	Pg		00 01 29.4	+0.4
T1243	**Rocca Santa Ma**	**0.17**	**57**	P	Pg		00 01 29.4	+0.5
T1243				S	Sg		00 01 32.1	+0.6
T1242	**Castelluccio d**	**0.23**	**350**	S	Sg		00 01 31.0	-2.2
T1242	**Castelluccio d**	**0.23**	**350**	P	Pb		00 01 30.8	-0.7
T1242				AML	AML			
	comp=E,1038µm,0.5s							
T1242				AML	AML			
	comp=N,614µm,0.6s							
NRCA	**Norcia**	**0.25**	**335**	⇓P	Pg		00 01 29.4	-1.0
NRCA				AML	AML			
	comp=E,2090µm,0.7s							
NRCA				AML	AML			
	comp=N,1810µm,0.7s							
NRCA				AML	AML			
	comp=N,1810µm,0.7s							
NRCA				AML	AML			
	comp=E,2090µm,0.7s							
NRCA				AML	AML			
	comp=N,1810µm,0.7s							
NRCA				AML	AML			
	comp=E,2090µm,0.7s							
NRCA	**Norcia**	**0.25**	**335**	P	Pg		00 01 31.1	+0.7
NRCA				AML	AML			
	comp=E,1002µm,1.3s							
NRCA				AML	AML			
	comp=N,1235µm,0.1s							
NRCA				AML	AML			
	comp=E,1012µm,1.3s							
NRCA				AML	AML			
	comp=N,1425µm,0.1s							
TERO	**Teramo**	**0.26**	**86**	P	Pg		00 01 30.9	+0.4
TERO				S	Sg		00 01 35.0	+1.0
TERO	**Teramo**	**0.26**	**86**	P	Pg		00 01 30.8	+0.3
TERO				S	Sg		00 01 34.8	+0.9
GIGS	**Gran Sasso**	**0.28**	**124**	P	Pg		00 01 31.4	+0.5
GIGS				S	Sg		00 01 35.4	+0.7
GIGS	**Gran Sasso**	**0.28**	**124**	S	Sg		00 01 32.0	-2.7
T1241	**Roccafluvione,**	**0.28**	**27**	P	Pg		00 01 31.4	+0.5
T1241				S	Sg		00 01 35.9	+1.2
T1241	**Roccafluvione,**	**0.28**	**27**	AML	AML			
	comp=E,79µm,0.6s							
T1241				AML	AML			
	comp=N,52µm,0.8s							
T1215	**Vallo di Nera,**	**0.35**	**304**	P	Pg		00 01 32.5	+0.3
T1215				S	Sb		00 01 38.1	-1.0
FIAM	**Fiamignano**	**0.35**	**197**	P	Pg		00 01 32.5	+0.2
ARRO	**Arrone**	**0.36**	**266**	⇓P	Pg		00 01 33.0	+0.5
FAGN	**Fagnano**	**0.42**	**145**	P	Pb		00 01 34.6	0.0
FAGN	**Fagnano**	**0.42**	**145**	S	Sg		00 01 35.0	-4.0
FDMO	**Fiordimonte**	**0.45**	**344**	P	Pb		00 01 34.7	-0.5
FDMO				AML	AML			
	comp=E,53µm,0.2s							
FDMO				AML	AML			
	comp=N,58µm,0.3s							
FDMO				AML	AML			
	comp=E,53µm,0.2s							
FDMO				AML	AML			
	comp=N,58µm,0.3s							
FDMO				AML	AML			
	comp=E,53µm,0.2s							
FDMO				AML	AML			
	comp=N,58µm,0.3s							
FDMO	**Fiordimonte**	**0.45**	**344**	AML	AML			
	comp=N,31µm,0.2s							
FDMO				AML	AML			
	comp=E,32µm,0.2s							
OFFI	**Offida**	**0.45**	**44**	P	Pb		00 01 35.6	+0.3
VCEL	**Villa Celiera**	**0.48**	**116**	P	Pb		00 01 35.5	-0.3
T0110	**Collepietro**	**0.54**	**135**	P	Pb		00 01 36.6	-0.2
CAFR	**Castel Frentan**	**0.89**	**115**	⇓P	Pg		00 01 38.7	-3.7

*BGR **03** 00:03:09.0±0.2,50°.69N×12°.32E,h16km±1km,ML2.9/15, Error ellipse: s-maj=1.1km s-min=1.1km az=77.0*
*WBNET **03** 00:03:09.4,50°.68N×12°.33E,h22km,Ml3.0*
*CLL **03** 00:03:09.8±0.4,50°.7N±0°.3×12°.3E±0°.7,h14km±1km,ml2.9*
*PRU **03** 00:03:09.5±0.0,50°.67N×12°.37E,h5km,Zwickau*
*LDG **03** 00:03:09.1±0.1,50°.69N×12°.30E,h16km,Ml3.1/19, Error ellipse: s-maj=1.5km s-min=1.2km az=169.0*
*BUG **03** 00:03:15.4±0.0,51°.09N×12°.66E,h8km,MD4.3/6,ML3.6/6*
ISC 03 00:03:07.2±0.7,**50°.68N**±0°.01×**12°.30E**±0°.01,**h11km,n136,**
σ1§**84**/250,**9C-1D,Germany**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GRZ1	**Mausoleum Wald**	**0.05**	**279**	*i* Pg	**Pg**		**00 03 12.2**	**+2.7**
GRZ1					*i* Sg	**Sg**	**00 03 14.2**	**+3.1**
	4µm,0.3s							
GRZ1	**Mausoleum Wald**	**0.05**	**279**	*i* Pg	**Pg**		**00 03 12.2**	**+2.7**
GRZ1					*i* Sg	**Sg**	**00 03 14.2**	**+3.1**
GRZ1					AML	AML	00 03 14.4	
	comp=E,4µm,0.3s							
SCHF	**Schoenfels**	**0.06**	**96**	*i* Pg	**Pg**		**00 03 12.1**	**+2.5**
SCHF					*i* Sg	**Sg**	**00 03 14.1**	**+2.8**
	comp=E,7µm,0.2s							
SCHF	**Schoenfels**	**0.06**	**96**	*i* Pg	**Pg**		**00 03 12.1**	**+2.5**
SCHF					*i* Sg	**Sg**	**00 03 14.1**	**+2.8**
SCHF					AML	AML	00 03 14.4	
	comp=E,7µm,0.2s							
HKWD	**Heukewalde**	**0.15**	**351**	*i* Pg	**Pb**		**00 03 13.1**	**+1.0**
HKWD					*i* Sg	**Sg**	**00 03 15.7**	**+2.6**
	comp=E,2µm,0.1s							
HKWD	**Heukewalde**	**0.15**	**351**	*i* Pg	**Pb**		**00 03 13.1**	**+1.0**
HKWD					*i* Sg	**Sg**	**00 03 15.7**	**+2.6**
HKWD					AML	AML	00 03 15.9	
	comp=E,2µm,0.1s							
MLFH	**Mildenfurth**	**0.18**	**307**	*i* Pg	**Pb**		**00 03 13.5**	**+1.0**
MLFH					*i* Sg	**Sg**	**00 03 16.5**	**+2.7**
	comp=E,961nm,0.3s							
MLFH	**Mildenfurth**	**0.18**	**307**	*i* Pg	**Pb**		**00 03 13.5**	**+1.0**
MLFH					*i* Sg	**Sg**	**00 03 16.5**	**+2.7**
MLFH					AML	AML	00 03 16.9	
	comp=N,961nm,0.3s							
ZEU	**Talsperre Zeul**	**0.21**	**266**	*i* Pg	**Pb**		**00 03 14.4**	**+1.3**
ZEU					*i* Sg	**Sg**	**00 03 17.7**	**+3.0**
	comp=N,2µm,0.4s							
ZEU	**Talsperre Zeul**	**0.21**	**266**	*i* Pg	**Pb**		**00 03 14.4**	**+1.3**
ZEU					*i* Sg	**Sg**	**00 03 17.7**	**+3.0**
ZEU					AML	AML	00 03 18.2	
	comp=E,2µm,0.4s							
PLN	**Plauen**	**0.22**	**205**	*i* Pg	**Pb**		**00 03 14.3**	**+1.0**
PLN					*e*Sg	**Sg**	**00 03 17.8**	**+2.8**
	comp=E,536nm,0.2s							
PLN	**Plauen**	**0.22**	**205**	*i* Pg	**Pb**		**00 03 14.3**	**+1.0**
PLN					*e*Sg	**Sg**	**00 03 17.8**	**+2.8**
PLN					AML	AML	00 03 18.1	
	comp=E,536nm,0.2s							
WERD	**Werda**	**0.24**	**179**	*i* Pg	**Pb**		**00 03 14.5**	**+1.0**
WERD					*i* Sg	**Sg**	**00 03 18.3**	**+2.8**
	comp=E,2µm,0.2s							
WERD	**Werda**	**0.24**	**179**	*i* Pg	**Pb**		**00 03 14.5**	**+1.0**
WERD					*i* Sg	**Sg**	**00 03 18.3**	**+2.8**
WERD					AML	AML	00 03 18.6	
	comp=E,2µm,0.2s							
MULD	**Muldenberg**	**0.28**	**167**	*i* Pg	**Pb**		**00 03 15.2**	**+0.8**
MULD					*i* Sg	**Sb**	**00 03 19.2**	**+0.2**
	comp=E,1µm,0.1s							
MULD	**Muldenberg**	**0.28**	**167**	*i* Pg	**Pb**		**00 03 15.2**	**+0.8**
MULD					*i* Sg	**Sb**	**00 03 19.2**	**+0.2**
MULD					AML	AML	00 03 19.4	
	comp=E,1µm,0.1s							
TANN	**Tannenbergstha**	**0.29**	**159**	*e*Pg	**Pb**		**00 03 15.4**	**+0.9**
TANN					*i* Sg	**Sb**	**00 03 19.5**	**+0.2**
	comp=E,2µm,0.1s							
TANN	**Tannenbergstha**	**0.29**	**159**	*e*Pg	**Pb**		**00 03 15.4**	**+0.9**
TANN					*i* Sg	**Sb**	**00 03 19.5**	**+0.2**
TANN					AML	AML	00 03 19.8	
	comp=E,2µm,0.1s							
ANNA	**Wolkenburger B**	**0.29**	**47**	*i* Pg	**Pb**		**00 03 14.9**	**+0.4**
ANNA					*e*Sg	**Sg**	**00 03 18.8**	**+1.6**
	comp=E,6µm,0.2s							
ANNA	**Wolkenburger B**	**0.29**	**47**	*i* Pg	**Pb**		**00 03 14.9**	**+0.4**
ANNA					*e*Sg	**Sg**	**00 03 18.8**	**+1.6**
ANNA					AML	AML	00 03 19.4	
	comp=N,6µm,0.2s							
GUNZ	**Gunzen**	**0.32**	**177**	*i* Pg	**Pb**		**00 03 15.9**	**+0.9**
GUNZ					*e*Sg	**Sb**	**00 03 20.6**	**+0.3**
	comp=N,769nm,0.2s							
GUNZ	**Gunzen**	**0.32**	**177**	*i* Pg	**Pb**		**00 03 15.9**	**+0.9**
GUNZ					*e*Sg	**Sb**	**00 03 20.6**	**+0.3**
GUNZ					AML	AML	00 03 20.9	
	comp=E,769nm,0.2s							
ABG1	**Leinawald**	**0.33**	**31**	*i* Pg	**Pb**		**00 03 15.5**	**+0.4**
ABG1					*e*Sg	**Sg**	**00 03 19.9**	**+1.6**
	comp=E,2µm,0.3s							
ABG1	**Leinawald**	**0.33**	**31**	*i* Pg	**Pb**		**00 03 15.5**	**+0.4**
ABG1					*e*Sg	**Sg**	**00 03 19.9**	**+1.6**
ABG1					AML	AML	00 03 20.8	
	comp=N,2µm,0.3s							
TRIB	**Obertriebel**	**0.35**	**198**	*i* Pg	**Pb**		**00 03 16.3**	**+0.8**
TRIB					*e*Sg	**Sb**	**00 03 21.3**	**+0.3**
	comp=N,165nm,0.3s							
TRIB	**Obertriebel**	**0.35**	**198**	*i* Pg	**Pb**		**00 03 16.3**	**+0.8**
TRIB					*e*Sg	**Sb**	**00 03 21.3**	**+0.3**
TRIB					AML	AML	00 03 22.0	
	comp=E,165nm,0.3s							
POCW	**Potky**	**0.37**	**168**	⇑P	**Pb**		**00 03 16.9**	**+0.9**
POCW					S	**Sb**	**00 03 22.1**	**+0.3**
KRCW	**Kraslice**	**0.38**	**158**	⇓P	**Pb**		**00 03 16.9**	**+0.9**
KRCW					S	**Sb**	**00 03 22.3**	**+0.3**
ZEITZ	**Schloss Moritz**	**0.38**	**343**	*i* Pg	**Pb**		**00 03 16.9**	**+0.8**
ZEITZ					*i* Sg	**Sb**	**00 03 21.8**	**-0.2**
	comp=E,1µm,0.2s							
ZEITZ	**Schloss Moritz**	**0.38**	**343**	*i* Pg	**Pb**		**00 03 16.9**	**+0.8**
ZEITZ					*i* Sg	**Sb**	**00 03 21.8**	**-0.2**
ZEITZ					AML	AML	00 03 22.0	
	comp=E,1µm,0.2s							
TRCW	**Trojmez**	**0.40**	**195**	⇑P	**Pb**		**00 03 17.1**	**+0.9**
TRCW					S	**Sb**	**00 03 22.8**	**+0.5**
WERN	**Wernitzgruen**	**0.40**	**173**	*i* Pg	**Pb**		**00 03 17.3**	**+0.9**
WERN					*i* Sg	**Sb**	**00 03 22.8**	**+0.3**
	comp=E,812nm,0.1s							
WERN	**Wernitzgruen**	**0.40**	**173**	*i* Pg	**Pb**		**00 03 17.3**	**+0.9**
WERN					*i* Sg	**Sb**	**00 03 22.8**	**+0.3**
WERN					AML	AML	00 03 23.4	
	comp=N,812nm,0.1s							
KOCW	**Kopaniny**	**0.42**	**186**	⇑P	**Pb**		**00 03 17.6**	**+0.9**
KOCW					S	**Sb**	**00 03 23.5**	**+0.4**
LBCW	**Luby**	**0.42**	**171**	⇑P	**Pb**		**00 03 17.7**	**+0.9**
LBCW					S	**Sb**	**00 03 23.5**	**+0.3**
MOX	**Moxa**	**0.44**	**265**	*i* Pg	**Pb**		**00 03 17.9**	**+0.9**
MOX					*e*Sg	**Sb**	**00 03 23.9**	**+0.3**
	comp=N,773nm,0.4s							
MOX	**Moxa**	**0.44**	**265**	*i* Pg	**Pb**		**00 03 17.9**	**+0.9**
MOX					*e*Sg	**Sb**	**00 03 23.9**	**+0.3**
MOX					AML	AML	00 03 24.8	
	comp=N,773nm,0.4s							
STCW	**Studenec**	**0.45**	**162**	⇑P	**Pb**		**00 03 18.0**	**+0.8**
STCW					S	**Sg**	**00 03 24.0**	**+2.0**
ROHR	**Rohrbach**	**0.45**	**179**	*i* Pg	**Pb**		**00 03 18.1**	**+0.8**
ROHR					*i* Sg	**Sg**	**00 03 24.2**	**+2.1**
	comp=N,672nm,0.2s							
ROHR	**Rohrbach**	**0.45**	**179**	*i* Pg	**Pb**		**00 03 18.1**	**+0.8**
ROHR					*i* Sg	**Sg**	**00 03 24.2**	**+2.1**
ROHR					AML	AML	00 03 24.4	
	comp=E,672nm,0.2s							
VAC	**Vackov**	**0.45**	**174**	⇑P	**Pb**		**00 03 18.1**	**+0.9**
VAC					S	**Sg**	**00 03 24.1**	**+2.1**
NKC	**Novy Kostel**	**0.46**	**168**	*e*PG	**Pb**		**00 03 18.0**	**+0.6**
NKC					*e*SG	**Sg**	**00 03 24.3**	**+1.9**
	comp=E,896nm,0.4s							
NKC	**Novy Kostel**	**0.46**	**168**	*i* Pg	**Pb**		**00 03 18.2**	**+0.8**
NKC					*i* Sg	**Sg**	**00 03 24.3**	**+1.9**
	comp=E,1µm,0.3s							
NKC	**Novy Kostel**	**0.46**	**168**	*i* Pg	**Pb**		**00 03 18.2**	**+0.8**
NKC					*i* Sg	**Sg**	**00 03 24.3**	**+1.9**
NKC					AML	AML	00 03 25.5	
	comp=E,1µm,0.3s							
NKC	**Novy Kostel**	**0.46**	**168**	⇑P	**Pb**		**00 03 18.2**	**+0.8**
NKC					S	**Sg**	**00 03 24.3**	**+1.9**
TAUT	**Tautenburg**	**0.48**	**309**	*i* Pg	**Pb**		**00 03 18.8**	**+1.1**
TAUT					*e*Sg	**Sb**	**00 03 25.0**	**+0.2**
	comp=E,855nm,0.3s							
TAUT	**Tautenburg**	**0.48**	**309**	*i* Pg	**Pb**		**00 03 18.8**	**+1.1**
TAUT					*e*Sg	**Sb**	**00 03 25.0**	**+0.2**
TAUT					AML	AML	00 03 25.6	
	comp=E,855nm,0.3s							
VIEL	**Selb-Vielitz**	**0.52**	**194**	*i* Pg	**Pb**		**00 03 19.1**	**+0.8**
VIEL					*e*Sg	**Sb**	**00 03 26.3**	**+0.4**
VIEL	**Selb-Vielitz**	**0.52**	**194**	*i* Pg	**Pb**		**00 03 19.1**	**+0.8**
VIEL					*e*Sg	**Sb**	**00 03 26.3**	**+0.4**
SKC	**Skalna**	**0.52**	**176**	⇑P	**Pb**		**00 03 19.2**	**+0.9**
SKC					S	**Sb**	**00 03 26.2**	**+0.4**
HWTS	**Hohenwarte Tal**	**0.54**	**260**	*e*Pg	**Pb**		**00 03 19.6**	**+0.9**
HWTS					*e*Sg	**Sb**	**00 03 27.0**	**+0.5**
NEUB	**Neuenburg**	**0.62**	**328**	*i* Pg	**Pb**		**00 03 21.3**	**+1.1**
NEUB					*i* Sg	**Sb**	**00 03 29.5**	**+0.6**
	comp=E,629nm,0.6s							
NEUB	**Neuenburg**	**0.62**	**328**	*i* Pg	**Pb**		**00 03 21.3**	**+1.1**
NEUB					*i* Sg	**Sb**	**00 03 29.5**	**+0.6**
NEUB					AML	AML	00 03 30.1	
	comp=E,629nm,0.6s							
LACW	**Lazy**	**0.67**	**162**	⇑P	**Pb**		**00 03 22.0**	**+1.1**
LACW					S	**Sb**	**00 03 31.0**	**+0.8**
FBE	**Freiberg**	**0.71**	**70**	*i* Pg	**Pb**		**00 03 22.6**	**+1.0**
FBE					*e*Sg	**Sg**	**00 03 31.5**	**+1.3**
FBE	**Freiberg**	**0.71**	**70**	*i* Pg	**Pb**		**00 03 22.6**	**+1.0**
FBE					*e*Sg	**Sg**	**00 03 31.5**	**+1.3**
LEIB1	**TS Leibis**	**0.71**	**262**	*e*Pg	**Pb**		**00 03 22.8**	**+1.1**
LEIB1					*e*Sg	**Sb**	**00 03 32.2**	**+0.8**
CLL	**Collm**	**0.77**	**35**	*i* Pg	**Pb**		**00 03 23.4**	**+0.9**
CLL					*i* x	x	00 03 25.8	
CLL					*i* Sg	**Sg**	**00 03 32.8**	**+0.8**
	comp=Z,171nm,0.2s							
CLL	**Collm**	**0.77**	**35**	*i* Pg	**Pb**		**00 03 23.5**	**+0.9**
CLL					*e*Sg	**Sg**	**00 03 32.9**	**+0.8**
	comp=Z,483nm,0.2s							
CLL	**Collm**	**0.77**	**35**	*i* Pg	**Pb**		**00 03 23.5**	**+0.9**
CLL					*e*Sg	**Sg**	**00 03 32.9**	**+0.8**
CLL					AML	AML	00 03 35.1	
	comp=E,483nm,0.2s							
CRUX	**Bergwerk Schwa**	**0.96**	**266**	*e*Sg		**Sb**	**00 03 40.1**	**+1.3**
MUHB	**Muldenstein**	**0.97**	**1**	*e*Pg		**Pg**	**00 03 26.8**	**+0.8**
MUHB				*e*Sg		**Sb**	**00 03 39.7**	**+0.6**
	comp=E,457nm,0.3s							
MUHB	**Muldenstein**	**0.97**	**1**	*e*Pg		**Pg**	**00 03 26.8**	**+0.8**
MUHB				*e*Sg		**Sb**	**00 03 39.7**	**+0.6**
MUHB				AML		AML	00 03 41.1	
	comp=E,457nm,0.3s							
WIMM	**Wimmelburg**	**0.98**	**329**	*e*Pg		**Pg**	**00 03 26.6**	**+0.6**
WIMM				*e*Sg		**Sg**	**00 03 39.7**	**+0.9**
	comp=E,335nm,0.6s							
WIMM	**Wimmelburg**	**0.98**	**329**	*e*Pg		**Pg**	**00 03 26.6**	**+0.6**
WIMM				*e*Sg		**Sg**	**00 03 39.7**	**+0.9**
WIMM				AML		AML	00 03 41.0	
	comp=E,335nm,0.6s							
BRG	**Berggiesshubel**	**1.06**	**79**	Pg		**Pb**	**00 03 28.0**	**+0.4**
BRG				Sg		**Sg**	**00 03 41.4**	**0.0**
BRG				Amp			00 03 42.9	
	comp=Z,345nm,0.3s							
BRG	**Berggiesshubel**	**1.06**	**79**	*e*Pg		**Pb**	**00 03 28.0**	**+0.4**
BRG				*e*Sg		**Sg**	**00 03 41.7**	**+0.4**
	comp=Z,590nm,0.1s							
BRG	**Berggiesshubel**	**1.06**	**79**	*e*Pg		**Pb**	**00 03 28.0**	**+0.4**
BRG				*e*Sg		**Sg**	**00 03 41.7**	**+0.4**
BRG				AML		AML	00 03 42.8	
	comp=N,590nm,0.1s							
GRF	**Grafenberg Arr**	**1.21**	**215**	*e*Pn		**Pn**	**00 03 30.6**	**+0.4**
GRF				*e*Sg		**Sb**	**00 03 47.1**	**+1.2**
CHRS	**Christianenhau**	**1.32**	**315**	*e*Pn		**Pn**	**00 03 31.6**	**0.0**
VITZ	**Vitzeroda**	**1.42**	**279**	*e*Pn		**Pn**	**00 03 34.3**	**+1.3**
VITZ				*e*Sg		**Sg**	**00 03 54.8**	**+1.9**
PVCC	**Panska Ves**	**1.45**	**95**	*e*SG		**Sg**	**00 03 55.0**	**+1.1**
	comp=N,337nm,0.2s							
WET	**Wettzell**	**1.59**	**166**	*e*Pn		**Pn**	**00 03 36.1**	**+0.8**
WET				*e*Pg		**Pb**	**00 03 37.6**	**+1.0**
WET				*e*Sg		**Sg**	**00 03 58.7**	**+0.4**
PRU	**Pruhonice**	**1.59**	**115**	*e*PN		**Pb**	**00 03 38.0**	**+1.3**
PRU				*e*SG		**Sg**	**00 03 58.6**	**+0.1**
	comp=N,53nm,0.4s							
KHC	**Kasperske Hory**	**1.76**	**152**	*e*PG		**Pb**	**00 03 40.3**	**+0.7**
KHC				*e*SG		**Sb**	**00 04 03.6**	**+2.0**
	comp=N,92nm,0.3s							
CKRC	**Cesky Krumlov**	**2.27**	**144**	*e*SG		**Sb**	**00 04 19.1**	**+2.7**
	comp=N,64nm,0.3s							
UPC	**Upice**	**2.37**	**93**	*e*SG		**Sg**	**00 04 23.7**	**+0.3**
	comp=N,62nm,0.4s							
CHVC	**Chvalec**	**2.39**	**91**	*e*SG		**Sg**	**00 04 24.4**	**+0.4**
TREC	**Trest**	**2.48**	**123**	*e*SG		**Sb**	**00 04 25.3**	**+2.9**
	comp=N,31nm,0.3s							
KSP	**Ksiaz**	**2.54**	**85**	*e*Pg		**Pg**	**00 03 56.1**	**+0.2**
KSP				*e*Sg		**Sg**	**00 04 29.0**	**+0.2**
DPC	**Dobruska-Polom**	**2.59**	**96**	*e*SG		**Sg**	**00 04 29.3**	**-1.0**
	comp=N,39nm,0.4s							
VRAC	**Vranov**	**3.09**	**115**	*e*PN		**Pn**	**00 03 56.3**	**+0.3**
VRAC				*e*PG		**Pg**	**00 04 06.3**	**-0.2**
VRAC				*e*SN		**Sn**	**00 04 29.8**	**-3.1**
VRAC				*e*SB		**Sb**	**00 04 42.9**	**+3.0**
KRUC	**Moravsky**	**3.11**	**120**	*e*PN		**Pn**	**00 03 57.1**	**+0.9**
KRUC				*e*PG		**Pg**	**00 04 07.8**	**+1.1**
KRUC				*e*SN		**Sn**	**00 04 31.8**	**-1.4**
KRUC				*e*SB		**Sb**	**00 04 43.4**	**+3.1**
MOA	**Molln**	**3.12**	**155**	*i* Pn		**Pn**	**00 03 58.3**	**+2.0**
	comp=N,0.5nm,0.2s							
MOA				*e*Sg		**Sg**	**00 04 45.6**	**-1.6**
	comp=N,6.1nm,0.3s							
BIOA	**Bad Ischl, Aus**	**3.12**	**163**	*e*Pn		**Pb**	**00 04 05.1**	**+2.4**
	comp=N,2.1nm,0.3s							
BIOA				*e*Sg		**Sg**	**00 04 47.5**	**+0.1**
	comp=N,31nm,0.5s							
BTEZ	**Ruhr-Universit**	**3.26**	**286**	Sg		**Sg**	**00 04 56.9**	**+5.0**
BKLB	**Ruhr-Universit**	**3.26**	**285**	Pg		**Pb**	**00 04 08.2**	**+3.1**
BUG	**Bochum--Univer**	**3.27**	**285**	Pg		**Pg**	**00 04 08.5**	**-1.3**
BUG				Sg		**Sg**	**00 04 51.2**	**-0.8**
BULI	**Ruhr-Universit**	**3.27**	**286**	Pg		**Pg**	**00 04 09.2**	**-0.7**
BULI				Sg		**Sb**	**00 04 49.3**	**+4.2**
AHRW	**Bad Neuenahr-A**	**3.33**	**270**	Sg		**Sg**	**00 05 00.0**	**+5.8**
RETA	**Reutte**	**3.36**	**198**	*e*Pn		**Pn**	**00 04 00.8**	**+1.1**
	comp=N,0.1nm,0.1s							
RETA				*e*Pg		**Pg**	**00 04 14.5**	**+3.0**
	comp=N,3.9nm,0.4s							
RETA				*e*Sg		**Sg**	**

	comp=N,3.4nm,0.3s							
HINF				*e*Sg		**Sg**	**00 05 32.5**	**-1.7**
	comp=N,16nm,0.4s							
BSD	**Bornholm Skovb**	**4.71**	**19**	*i* P		**Pn**	**00 04 15.9**	**-2.3**
HAU	**Haudompre**	**4.73**	**238**	*e*Pn		**Pn**	**00 04 18.1**	**-0.3**
HAU	**Haudompre**	**4.73**	**238**	*e*Pg		**Pg**	**00 04 36.5**	**-1.2**
HAU				*e*Sn		**Sn**	**00 05 08.6**	**-4.6**
	comp=N,2.7nm,0.3s							
HAU				*e*Sg		**Sg**	**00 05 37.1**	**-1.8**
	comp=N,11nm,0.5s							
PAGF	**Fort de Pagny**	**4.78**	**246**	*e*P		**Pn**	**00 04 21.8**	**+2.7**
	baz=69							
PAGF	**Fort de Pagny**	**4.78**	**246**	*e*Pg		**Pg**	**00 04 37.4**	**-1.3**
PAGF				*e*Sg		**Sg**	**00 05 38.5**	**-2.0**
	comp=N,13nm,0.6s							
VYHS	**Vyhne**	**4.78**	**115**	*e*PN		**Pn**	**00 04 20.0**	**+0.8**
VYHS				*e*SG		**Sg**	**00 05 38.5**	**-2.2**
GIVF	**Givet**	**4.82**	**266**	*e*Pg		**Pg**	**00 04 38.0**	**-1.5**
GIVF				*e*Sg		**Sg**	**00 05 39.0**	**-2.9**
	comp=N,2.3nm,0.2s							
LANS	**Liptovska Anna**	**4.88**	**106**	*e*PN		Pn	00 04 26.1	+5.6
LANS				*e*SG		**Sg**	**00 05 42.0**	**-1.7**
LUNU	**Lund**	**5.00**	**7**	*i* P		**Pn**	**00 04 19.6**	**-2.6**
COP	**Copenhagen**	**5.01**	**1**	*i* P		**Pn**	**00 04 22.6**	**+0.3**
SAVF	**Savonnieres en**	**5.10**	**249**	*e*Pg		**Pg**	**00 04 43.8**	**-1.1**
SAVF				*e*Sg		**Sg**	**00 05 49.6**	**-1.4**
	comp=N,8.6nm,0.6s							
MEZF	**Maizieres J'vi**	**5.20**	**248**	*e*Pg		**Pg**	**00 04 44.7**	**-2.0**
MEZF				*e*Sg		**Sg**	**00 05 52.6**	**-1.4**
	comp=N,12nm,0.6s							
BAIF	**Baives**	**5.22**	**266**	*e*Pg		**Pg**	**00 04 45.4**	**-1.7**
BAIF				*e*Sg		**Sg**	**00 05 50.3**	**-4.4**
	comp=N,1.3nm,0.3s							
SFTF	**Sexfontaines**	**5.35**	**245**	*e*Pg		**Pg**	**00 04 47.7**	**-1.9**
SFTF				*e*Sg		**Sg**	**00 05 56.3**	**-2.6**
	comp=N,8.5nm,0.6s							
BJUU	**Bjuv**	**5.42**	**4**	*e*P		**Pn**	**00 04 25.9**	**-1.9**
CABF	**La Chapelle**	**5.79**	**228**	*e*Pg		**Pg**	**00 04 55.8**	**-2.3**
CABF				*e*Sg		**Sg**	**00 06 10.4**	**-2.7**
	comp=N,11nm,0.7s							
DEL	**Delary**	**5.87**	**9**	*i* P		**Pn**	**00 04 32.0**	**-2.1**
BLEU	**Blekinge**	**6.01**	**19**	*i* P		**Pn**	**00 04 34.2**	**-1.7**
LOR	**Lormes**	**6.52**	**242**	*e*P		**Pn**	**00 04 46.7**	**+3.6**
	baz=66							
LOR	**Lormes**	**6.52**	**242**	*e*Pg		**Pg**	**00 05 09.6**	**-2.5**
	baz=66							
LOR				*e*Sg		**Sg**	**00 06 32.9**	**-3.6**
	comp=N,2.0nm,0.3s,baz=53							
SSF	**Saint Saulge**	**6.84**	**241**	*e*P		**Pn**	**00 04 51.4**	**+4.0**
SSF				*e*Sg		**Sg**	**00 06 43.5**	**-3.2**
	comp=N,2.5nm,0.3s							
SMF	**Signal de Mont**	**6.91**	**237**	*e*Sg		**Sg**	**00 06 45.8**	**-3.0**
	comp=N,2.4nm,0.3s							
AVF	**Avril sur Loir**	**7.08**	**240**	*e*Sg		**Sg**	**00 06 50.8**	**-3.7**
	comp=N,2.6nm,0.5s							
BGF	**Bois d'Agland**	**7.50**	**240**	*e*Sg		**Sg**	**00 07 04.1**	**-3.8**
	comp=N,6.6nm,0.5s							

*BGR **03** 00:03:24.1±1.1,50.°69N×12.°32E,h17km±6km, ML2.0/7, Error ellipse: s-maj=7.8km s-min=2.2km az=68.0*

CLL 03 00:03:24.9±0.3,50.°7N±0.°4×12.°3E±0.°9,h14km±1km,ml2.2, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHF	**Schoenfels**	**0.05**	**104**	*i* Pg	Pg	00 03 27.3	-0.3
SCHF				*i* Sg	Sg	00 03 29.3	-0.1
	919nm,0.2s						
SCHF	**Schoenfels**	**0.05**	**104**	*i* Pg	Pg	00 03 27.3	-0.3
SCHF				*i* Sg	Sg	00 03 29.3	-0.1
SCHF				AML	AML	00 03 29.4	
	comp=N,919nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.07**	**272**	*i* Pg	Pg	00 03 27.4	-0.3
GRZ1				*i* Sg	Sg	00 03 29.4	-0.2
	comp=N,2µm,0.1s						
GRZ1	**Mausoleum Wald**	**0.07**	**272**	*j* Pg	Pg	00 03 27.4	-0.3
GRZ1				*j* Sg	Sg	00 03 29.4	-0.2
GRZ1				AML	AML	00 03 29.6	
	comp=E,2µm,0.1s						
HKWD	**Heukewalde**	**0.14**	**346**	*i* Pg	Pg	00 03 28.2	-0.4
HKWD				*i* Sg	Sg	00 03 30.9	-0.2
	comp=E,967nm,0.2s						
HKWD	**Heukewalde**	**0.14**	**346**	*j* Pg	Pg	00 03 28.2	-0.4
HKWD				*j* Sg	Sg	00 03 30.9	-0.2
HKWD				AML	AML	00 03 31.1	
	comp=E,967nm,0.2s						
MLFH	**Mildenfurth**	**0.18**	**303**	*j* Pg	Pg	00 03 28.7	-0.5
MLFH				*i* Sg	Sg	00 03 31.6	-0.5
	comp=E,781nm,0.1s						
MLFH	**Mildenfurth**	**0.18**	**303**	*j* Pg	Pg	00 03 28.7	-0.5
MLFH				*i* Sg	Sg	00 03 31.6	-0.5
MLFH				AML	AML	00 03 31.8	
	comp=E,781nm,0.1s						
ZEU	**Talsperre Zeul**	**0.22**	**265**	*j* Pg	Pg	00 03 29.6	-0.2
ZEU				*i* Sg	Sg	00 03 32.9	-0.2
	comp=E,116nm,0.2s						
ZEU	**Talsperre Zeul**	**0.22**	**265**	*j* Pg	Pg	00 03 29.6	-0.2
ZEU				*i* Sg	Sg	00 03 32.9	-0.2
ZEU				AML	AML	00 03 33.1	
	comp=E,116nm,0.2s						
PLN	**Plauen**	**0.23**	**208**	*e*Pg	Pg	00 03 29.5	-0.5
PLN				*i* Sg	Sg	00 03 33.0	-0.4
	comp=E,408nm,0.2s						
PLN	**Plauen**	**0.23**	**208**	*e*Pg	Pg	00 03 29.5	-0.5
PLN				*i* Sg	Sg	00 03 33.0	-0.4
PLN				AML	AML	00 03 33.3	
	comp=N,408nm,0.2s						
WERD	**Werda**	**0.24**	**183**	*i* Pg	Pg	00 03 29.7	-0.4
WERD				*i* Sg	Sg	00 03 33.5	-0.2
	comp=N,203nm,0.1s						
WERD	**Werda**	**0.24**	**183**	*j* Pg	Pg	00 03 29.7	-0.4
WERD				*i* Sg	Sg	00 03 33.5	-0.2
WERD				AML	AML	00 03 33.6	
	comp=N,203nm,0.1s						
ANNA	**Wolkenburger B**	**0.28**	**46**	*e*Sg	Sg	00 03 34.0	-0.8
	comp=N,642nm,0.2s						
ANNA	**Wolkenburger B**	**0.28**	**46**	*e*Sg	Sg	00 03 34.0	-0.8
ANNA				AML	AML	00 03 34.3	
	comp=E,642nm,0.2s						
MULD	**Muldenberg**	**0.28**	**170**	*j* Pg	Pg	00 03 30.4	-0.5
MULD				*i* Sg	Sg	00 03 34.5	-0.4
	comp=E,240nm,0.1s						
MULD	**Muldenberg**	**0.28**	**170**	*j* Pg	Pg	00 03 30.4	-0.5
MULD				*i* Sg	Sg	00 03 34.5	-0.4
MULD				AML	AML	00 03 34.9	
	comp=N,240nm,0.1s						
TANN	**Tannenbergstha**	**0.29**	**162**	*e*Pg	Pg	00 03 30.5	-0.4
TANN				*e*Sg	Sg	00 03 34.7	-0.3
	comp=N,201nm,0.2s						
TANN	**Tannenbergstha**	**0.29**	**162**	*e*Pg	Pg	00 03 30.5	-0.4
TANN				*e*Sg	Sg	00 03 34.7	-0.3
TANN				AML	AML	00 03 35.0	
	comp=E,201nm,0.2s						
GUNZ	**Gunzen**	**0.33**	**179**	*e*Pg	Pg	00 03 31.1	-0.5
GUNZ				*e*Sg	Sg	00 03 35.8	-0.4
	comp=E,187nm,0.2s						
GUNZ	**Gunzen**	**0.33**	**179**	*e*Pg	Pg	00 03 31.1	-0.5
GUNZ				*e*Sg	Sg	00 03 35.8	-0.4
GUNZ				AML	AML	00 03 36.0	
	comp=E,187nm,0.2s						
TRIB	**Obertriebel**	**0.36**	**200**	*e*Sg	Sg	00 03 36.6	-0.6
	comp=E,90nm,0.1s						
TRIB	**Obertriebel**	**0.36**	**200**	*e*Sg	Sg	00 03 36.6	-0.6
TRIB				AML	AML	00 03 37.1	
	comp=N,90nm,0.1s						
ZEITZ	**Schloss Moritz**	**0.38**	**341**	*j* Pg	Pg	00 03 32.0	-0.6
ZEITZ				*j* Sg	Sg	00 03 37.0	-0.8
	comp=N,338nm,0.1s						
ZEITZ	**Schloss Moritz**	**0.38**	**341**	*j* Pg	Pg	00 03 32.0	-0.6
ZEITZ				*j* Sg	Sg	00 03 37.0	-0.8
ZEITZ				AML	AML	00 03 37.2	
	comp=E,338nm,0.1s						
WERN	**Wernitzgruen**	**0.40**	**175**	*j* Pg	Pg	00 03 32.5	-0.5
WERN				*i* Sg	Sg	00 03 38.0	-0.5
	comp=E,138nm,0.1s						
WERN	**Wernitzgruen**	**0.40**	**175**	*j* Pg	Pg	00 03 32.5	-0.5
WERN				*i* Sg	Sg	00 03 38.0	-0.5
WERN				AML	AML	00 03 38.2	
	comp=E,138nm,0.1s						
MOX	**Moxa**	**0.45**	**265**	*j* Pg	Pg	00 03 33.2	-0.7
MOX				*i* Sg	Sg	00 03 39.5	-0.6
	comp=E,81nm,0.1s						
MOX	**Moxa**	**0.45**	**265**	*j* Pg	Pg	00 03 33.2	-0.7
MOX				*i* Sg	Sg	00 03 39.5	-0.6
MOX				AML	AML	00 03 39.7	
	comp=E,81nm,0.1s						
NKC	**Novy Kostel**	**0.46**	**170**	*i* Pg	Pg	00 03 33.5	-0.7
NKC				*e*Sg	Sg	00 03 39.7	-0.7
	comp=E,173nm,0.2s						
NKC	**Novy Kostel**	**0.46**	**170**	*i* Pg	Pg	00 03 33.5	-0.7
NKC				*e*Sg	Sg	00 03 39.7	-0.7
NKC				AML	AML	00 03 40.7	
	comp=N,173nm,0.2s						
TAUT	**Tautenburg**	**0.49**	**307**	*i* Pg	Pg	00 03 34.0	-0.6
TAUT				*e*Sg	Sg	00 03 40.1	-0.9
	comp=N,451nm,0.2s						
TAUT	**Tautenburg**	**0.49**	**307**	*i* Pg	Pg	00 03 34.0	-0.6
TAUT				*e*Sg	Sg	00 03 40.1	-0.9
TAUT				AML	AML	00 03 40.5	
	comp=E,451nm,0.2s						
VIEL	**Selb-Vielitz**	**0.53**	**196**	*e*Sg	Sg	00 03 41.4	-0.9
VIEL	**Selb-Vielitz**	**0.53**	**196**	*e*Sg	Sg	00 03 41.4	-0.9
NEUB	**Neuenburg**	**0.62**	**326**	*e*Sg	Sg	00 03 44.8	-0.6
	comp=E,43nm,0.1s						
NEUB	**Neuenburg**	**0.62**	**326**	*e*Sg	Sg	00 03 44.8	-0.6
NEUB				AML	AML	00 03 44.9	
	comp=N,43nm,0.1s						
CLL	**Collm**	**0.75**	**34**	*i* Sg	Sg	00 03 48.8	-0.6
CLL	**Collm**	**0.75**	**34**	*e*Sg	Sg	00 03 48.2	-1.2
	comp=N,115nm,0.1s						
CLL	**Collm**	**0.75**	**34**	*e*Sg	Sg	00 03 48.2	-1.2
CLL				AML	AML	00 03 49.3	
	comp=E,115nm,0.1s						

WBNET 03 00:03:55.9,50.°68N×12.°31E,h23km,MI1.9,5C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POCW	**Potky**	**0.37**	**168**	⇑P	Pb	00 04 03.4	-0.5
POCW				S	Sb	00 04 08.8	-0.4
KRCW	**Kraslice**	**0.38**	**158**	⇑P	Pb	00 04 03.5	-0.5
KRCW				S	Sb	00 04 08.8	-0.7
TRCW	**Trojmez**	**0.39**	**196**	⇑P	Pb	00 04 03.7	-0.5
TRCW				S	Sb	00 04 09.2	-0.7
KOCW	**Kopaniny**	**0.42**	**187**	⇓P	Pb	00 04 04.2	-0.4
KOCW				S	Sb	00 04 10.1	-0.5
LBCW	**Luby**	**0.42**	**171**	⇑P	Pb	00 04 04.2	-0.5
LBCW				S	Sb	00 04 10.3	-0.3
STCW	**Studenec**	**0.44**	**162**	⇑P	Pb	00 04 04.6	-0.4
STCW				S	Sb	00 04 10.8	-0.6
VAC	**Vackov**	**0.45**	**175**	⇓P	Pb	00 04 04.6	-0.5
VAC				S	Sb	00 04 10.7	-0.7
NKC	**Novy Kostel**	**0.46**	**169**	⇓P	Pb	00 04 04.8	-0.5
NKC				S	Sb	00 04 10.8	-0.9

*NEIC **03** 00:08:21.2±0.8, 18.°16N±0.°01×67.°230W±0.°008, h15km±2km, Error ellipse: s-maj=2.1km s-min=1.0km az=187.0*
*OSPL **03** 00:08:21.4±0.3, 18.°15N×67.°09W, h24km±3km, ML1.8*
*RSPR **03** 00:08:21.6, 18.°17N×67.°24W, h12km, MD2.6/15*

ISC 03 00:08:21.3±0.9,18.°17N±0.°03×67.°22W±0.°03,h15km±5km, n47,σ0.°44/60,6C-7D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRSN	**Puerto Rico Se**	**0.09**	**55**	⇑*e*P	**Pg**	**00 08 24.1**	**-0.3**
PRSN	**Puerto Rico Se**	**0.09**	**55**	*e*S	**Sg**	**00 08 26.7**	**+0.2**
PRSN	**Puerto Rico Se**	**0.09**	**55**		**Pg**	**00 08 24.1**	**-0.3**
PRSN					**Sg**	**00 08 26.2**	**-0.4**
LSP	**Las Mesas**	**0.13**	**85**	⇓*e*P	**Pg**	**00 08 25.0**	**0.0**
LSP	**Las Mesas**	**0.13**	**85**	*e*S	**Sb**	**00 08 28.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.19**	**146**	⇑*e*P	**Pg**	**00 08 25.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.19**	**146**		**Pg**	**00 08 25.9**	**+0.1**
CRPR					**Sg**	**00 08 28.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.19**	**146**	*i* P	**Pg**	**00 08 25.9**	**+0.1**
CRPR				*e*S	**Sg**	**00 08 29.3**	**+0.5**
CRPR				IAML		00 08 31.4	
	comp=Z,154nm,0.3s						
MLPR	**Magueyes Islan**	**0.26**	**139**	⇑*i*P	**Pg**	**00 08 27.1**	**+0.2**
MLPR	**Magueyes Islan**	**0.26**	**139**	*e*S	**Sg**	**00 08 31.4**	**+0.7**
MLPR	**Magueyes Islan**	**0.26**	**139**		**Pg**	**00 08 27.1**	**+0.2**
MLPR					**Sg**	**00 08 31.4**	**+0.7**
MLPR				IAML		00 08 31.8	
	comp=N,345nm,0.3s						
AGPR	**Aguadilla, PR**	**0.32**	**19**	⇑*i*P	**Pg**	**00 08 28.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.32**	**19**	*e*S	**Sg**	**00 08 33.1**	**+0.6**
AGPR	**Aguadilla, PR**	**0.32**	**19**		**Pg**	**00 08 28.0**	**+0.1**
AGPR					**Sg**	**00 08 32.9**	**+0.4**
AGPR				IAML		00 08 33.3	
	comp=E,302nm,0.4s						
AGPR				IAML		00 08 33.3	
	comp=N,120nm,0.2s						
AGPR	**Aguadilla, PR**	**0.32**	**19**	*i* P	**Pg**	**00 08 28.0**	**+0.1**
AGPR				*e*S	**Sg**	**00 08 32.9**	**+0.4**
AGPR				IAML		00 08 35.2	
	comp=Z,74nm,0.2s						
IDE	**Isla Desecheo**	**0.33**	**313**	⇓*e*P	**Pg**	**00 08 28.1**	**0.0**
IDE	**Isla Desecheo**	**0.33**	**313**	*e*S	**Sg**	**00 08 32.9**	**+0.2**
GBPR	**Guanica, Bosqu**	**0.38**	**120**	⇑*e*P	**Pg**	**00 08 29.4**	**+0.5**
GBPR	**Guanica, Bosqu**	**0.38**	**120**	*e*S	**Sb**	**00 08 35.5**	**+0.2**
AOPR	**Arecibo Observ**	**0.48**	**68**	⇓*i*P	**Pg**	**00 08 30.8**	**0.0**
AOPR	**Arecibo Observ**	**0.48**	**68**	*e*S	**Sg**	**00 08 37.8**	**+0.4**
AOPR	**Arecibo Observ**	**0.48**	**68**		**Pg**	**00 08 30.8**	**0.0**
AOPR					**Sg**	**00 08 37.5**	**+0.2**
AOPR				IAML		00 08 45.7	
	comp=N,109nm,0.3s						
UUPR	**Utuado, UPR, P**	**0.49**	**80**	⇓*e*P	**Pg**	**00 08 30.9**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.49**	**80**		**Pg**	**00 08 30.9**	**-0.1**
OBIP	**Obispado Ponce**	**0.60**	**102**	⇑*e*P	**Pg**	**00 08 32.3**	**-0.8**
OBIP	**Obispado Ponce**	**0.60**	**102**	*e*S	**Sg**	**00 08 40.9**	**-0.2**
OBIP	**Obispado Ponce**	**0.60**	**102**		**Pg**	**00 08 31.9**	**-1.2**
OBIP					**Sg**	**00 08 40.7**	**-0.4**
CELP	**Cerrillos**	**0.62**	**98**	⇓*i*P	**Pg**	**00 08 33.0**	**-0.4**
CELP	**Cerrillos**	**0.62**	**98**	*e*S	**Sg**	**00 08 41.9**	**+0.3**
CELP	**Cerrillos**	**0.62**	**98**		**Pg**	**00 08 33.1**	**-0.4**
CELP					**Sg**	**00 08 42.0**	**+0.3**
ICMP	**Isla Caja de M**	**0.72**	**113**	Pg	**Pg**	**00 08 35.0**	**-0.3**
ICMP				IAML		00 08 45.0	
	comp=E,37nm,3.1s						
ICMP				IAML		00 08 47.3	
	comp=N,43nm,1.3s						
EMPR	**Esperanza - Ma**	**0.73**	**65**	⇓*e*P	**Pg**	**00 08 35.6**	**+0.1**
EMPR	**Esperanza - Ma**	**0.73**	**65**	*e*S	**Sb**	**00 08 46.2**	**+0.8**
EMPR	**Esperanza - Ma**	**0.73**	**65**		**Pg**	**00 08 35.6**	**+0.1**
EMPR					**Sb**	**00 08 46.1**	**+0.6**
EMPR				IAML		00 09 00.5	
	comp=N,98nm,1.4s						
SJG	**San Juan**	**1.02**	**93**		**Pb**	**00 08 40.5**	**-0.1**
SJG				IAML		00 08 57.8	
	comp=N,22nm,0.3s						
SJG				IAML		00 09 00.7	
	comp=N,28nm,0.2s						
GCPR	**Guaynabo City**	**1.09**	**82**		**Pb**	**00 08 41.8**	**-0.1**
PCDR	**Punta Cana, DR**	**1.15**	**288**		**Pn**	**00 08 42.5**	**-0.3**
PCDR	**Punta Cana, DR**	**1.15**	**288**	*i* P	**Pn**	**00 08 42.3**	**-0.5**
PCDR				IAML		00 09 06.6	
	comp=Z,89nm,1.8s						
CBYP	**Canovanas**	**1.30**	**85**	⇓*e*P	**Pn**	**00 08 44.5**	**-0.4**
CBYP	**Canovanas**	**1.30**	**85**	*e*S	**Sb**	**00 09 01.3**	**-0.7**
CBYP	**Canovanas**	**1.30**	**85**		**Pn**	**00 08 44.9**	**-0.1**
CBYP					**Sg**	**00 09 03.6**	**+0.2**
HUMP	**Col San Antoni**	**1.31**	**91**	⇑*e*P	**Pn**	**00 08 45.4**	**+0.5**
HUMP	**Col San Antoni**	**1.31**	**91**	*e*S	**Sb**	**00 09 01.9**	**-0.1**
HUMP	**Col San Antoni**	**1.31**	**91**		**Pn**	**00 08 44.6**	**-0.3**
HUMP					**Sn**	**00 09 02.9**	**+0.8**
HUMP				IAML		00 09 05.6	
	comp=N,26nm,0.2s						
MTP	**Monte Pirata**	**1.59**	**92**	⇑*e*P	**Pn**	**00 08 49.6**	**+0.7**
MTP	**Monte Pirata**	**1.59**	**92**	*e*S	**Sn**	**00 09 09.5**	**+0.4**
MTP	**Monte Pirata**	**1.59**	**92**		**Pn**	**00 08 48.5**	**-0.4**
MTP					**Pb**	**00 08 49.2**	**-1.1**
MTP				IAML		00 09 16.4	
	comp=E,14nm,1.6s						

*MAN **03** 00:15:53.9,6.°21N×123.°59E,h32km, mb4.5,ML3.4,MS3.2*
*IDC **03** 00:15:53.4±1.1,6.°22N×123.°77E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=27.6km s-min=20.9km az=71.0*

ISC 03 00:15:54.6±2.1,6.°51N±0.°06×123.°76E±0.°08,h11km±12km, n12,σ1.°67/19,mb3.6/5,2C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.86**	**35**	⇓*i*P	**Pn**	**00 16 12.6**	**+0.1**
CTBH				*i* S	**Sn**	**00 16 25.4**	**+0.4**
GSPH	**General Santos**	**1.26**	**110**	⇑*i*P	**Pg**	**00 16 19.7**	**+0.9**
GSPH				*i* S	**Sn**	**00 16 37.6**	**+2.4**
KCP	**Kidapawan**	**1.41**	**70**	⇓*i*P	**Pb**	**00 16 19.8**	**-1.2**
KCP				*i* S	**Sg**	**00 16 41.2**	**+1.0**
BUKP	**Musuan**	**1.88**	**44**	⇑*e*P	**Pn**	**00 16 26.0**	**-0.6**
BUKP				*i* S	**Sg**	**00 16 55.8**	**+0.8**
DAV	**Davao City (W)**	**1.89**	**73**	Pn	**Pb**	**00 16 27.8**	**-1.3**
	96nm,0.3s,baz=277,slow=2.5,SNR=11						
DAV				Sn	**Sg**	**00 16 54.8**	**-0.7**
	95nm,0.3s,baz=58,slow=21,SNR=5.9						
DAV				LR	LR	00 17 21.9	
	comp=Z,620nm,18.2s,baz=240,slow=45						
CGP	**Cagayan de Oro**	**2.14**	**26**	⇓*e*P	**Pg**	**00 16 35.4**	**-0.3**
CGP				*e*S	**Sg**	**00 17 03.7**	**+0.2**
BIPH	**Bislig**	**3.07**	**57**	⇓*e*P	**Pn**	**00 16 44.7**	**+1.7**
BIPH				*i* S	**Sn**	**00 17 18.6**	**-1.1**
WRA	**Warramunga Arr**	**28.28**	**159**	P	**P**	**00 21 45.8**	**-2.4**
	0.7nm,0.7s,baz=334,slow=10.0,SNR=7.2						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**31.59**	**162**	P	**P**	**00 22 15.0**	**-2.5**
	0.3nm,0.6s,baz=339,slow=7.5,SNR=7.3						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**41.80**	**157**	P	**P**	**00 23 43.9**	**-0.4**
	2.0nm,0.7s,baz=304,slow=8.5,SNR=3.4						
	2.0nm,0.7s						
MKAR	**Makanchi Array**	**53.60**	**326**	P	**P**	**00 25 19.1**	**+3.3**
	0.5nm,0.7s,baz=111,slow=8.2,SNR=2.4						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**57.82**	**328**	P	**P**	**00 25 47.6**	**+1.7**
	0.5nm,0.8s,baz=136,slow=7.0,SNR=5.8						
	0.5nm,0.8s						

*IDC **03** 00:22:01.8±3.9,22.°45S×172.°74E,h58km±30km,mb3.8/6, mbtmp4.0/8,ML4.6/2,MS3.2/2,Error ellipse: s-maj=60.0km s-min=18.2km az=158.0*
*NEIC **03** 00:22:04.7±2.1,22.°4S±0.°1×172.°71E±0.°08,h81km±7km, mb4.6/23,Error ellipse: s-maj=16.1km s-min=10.4km az=173.0*
*NOU **03** 00:23:30.9,19.°03S×169.°22E,h0km,MLv3.8/9, Vanuatu Islands*

ISC 03 00:21:57.4±0.6,22.°3S±0.°1×173.°05E±0.°07,h32km,n60, σ1.°78/51,mb4.5/17,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**4.73**	**279**	Pn	**Pn**	**00 23 09.0**	**+2.5**
MARNC				Sn	**Sn**	**00 24 03.3**	**+2.9**
MARNC	**Mare, Loyalty**	**4.73**	**279**	P	Sn	00 24 15.1	+15
PINNC	**Pines Island,**	**5.20**	**265**	Pn	**Pn**	**00 23 13.2**	**+0.3**
PINNC					**Sn**	**00 24 10.8**	**-1.0**
LIFNC	**LIFOU**	**5.62**	**284**	Pn	**Pn**	**00 23 21.2**	**+2.4**
LIFNC				Sn	Sn	00 24 12.1	-10
LIFNC	**LIFOU**	**5.62**	**284**	P	Sn	00 24 12.4	-10
YATNC	**Mamie plateau,**	**5.72**	**271**	P	**Sn**	**00 24 28.9**	**+4.2**
OUENC	**Ouen Island, N**	**5.75**	**268**	Pn	**Pn**	**00 23 22.5**	**+1.9**
OUENC					**Sn**	**00 24 29.2**	**+3.7**
ONTNC	**Ouen Toro**	**6.11**	**269**	Pn	**Pn**	**00 23 27.3**	**+1.8**
ONTNC					**Sn**	**00 24 35.7**	**+1.3**
ONTNC	**Ouen Toro**	**6.11**	**269**	P	**Sn**	**00 24 36.4**	**+2.0**
DZM	**Mont Dzumac**	**6.13**	**271**	P	**Pn**	**00 23 25.5**	**-0.3**
	2.2nm,0.3s,baz=132,slow=12,SNR=22						
DZM				S	**Sn**	**00 24 32.3**	**-2.7**
	5.9nm,0.4s,baz=90,slow=17,SNR=3.2						
	11nm,0.6s						
DZM	**Mont Dzumac**	**6.13**	**271**		**Pn**	**00 23 27.5**	**+1.6**
DZM					**Sn**	**00 24 34.9**	**-0.1**
RTV	**Rentapao**	**6.24**	**315**	P	Pb	00 23 58.2	+13
NOUC	**Port Laguerre**	**6.26**	**270**	P	**Sn**	**00 24 35.4**	**-2.6**
DVP	**Devils Point**	**6.45**	**314**	P	Pb	00 24 00.1	+11
MSVF	**Nonsavu**	**6.53**	**47**	P	Pn	00 23 39.9	+8.6
	1.1nm,0.3s,baz=225,slow=3.9,SNR=6.1						
	13nm,0.7s						
MSVF	**Nonsavu**	**6.53**	**47**		Pb	00 23 41.8	-8.5
RAO	**Raoul Island**	**10.69**	**132**	LR	LR	00 27 21.3	
	comp=Z,66nm,18.3s,baz=101,slow=30						
HIZ	**Hauiti**	**16.25**	**175**	P	**P**	**00 25 49.6**	**+3.6**
URZ	**Urewera**	**16.30**	**169**	P	**P**	**00 25 50.1**	**+3.6**
URZ					IAmb	00 25 52.7	
	comp=Z,41nm,0.8s						
EIDS	**Eidsvold**	**20.33**	**257**	Pn	Pn	00 26 32.6	-0.6
EIDS					IAmb

comp=Z,0.2nm,0.6s,baz=231,slow=5.7,SNR=2.3
comp=Z,0.2nm,0.6s
EKA Eskdalemuir Ar 146.88 356 PKPbc **PKPab 00 41 37.0 -0.5**
comp=Z,0.8nm,0.5s,baz=357,slow=1.4,SNR=5.7
GERES GERESS Array B 148.83 333 PKPbc **PKiKP 00 41 42.6 -0.6**
comp=Z,0.1nm,0.3s,baz=29,slow=4.5,SNR=1.8
TORD Torodi Ar. Bea 167.74 224 PKPab **PKPab 00 43 06.9 -0.9**
comp=Z,0.7nm,0.8s,baz=107,slow=4.3,SNR=4.0

*MAN **03** 00:26:36.6,6.2°S×123.6°E,h2km,mb4.5,ML3.3,MS3.1*
*IDC **03** 00:26:42.1±0.8,6.35°N×124.02°E,h0km,mb3.9/11,*
mbtmp3.9/11,Error ellipse: s-maj=25.4km s-min=14.9km az=80.0
*NEIC **03** 00:26:45.5±2.7,6.5°N±0.1°×123.73°E±0.07,h42km±9km,*
mb4.3/17,Error ellipse: s-maj=16.2km s-min=9.3km az=168.0
ISC 03 00:26:45.9±0.8,6.40°N±0.05°×123.84°E±0.04,h38km±2km,
n46,σ2s45/52,mb4.1/18,5C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.91**	**26**	**↑iP**			**Pn**	00 26 57.1	-5.1
CTBH				*i*	S		**Sn**	**00 27 15.9**	**+1.8**
GSPH	**General Santos**	**1.15**	**106**	**↓iP**			**Pn**	**00 27 04.0**	**-1.6**
GSPH				*i*	S		**Sn**	**00 27 26.4**	**+6.3**
KCP	**Kidapawan**	**1.38**	**64**	**↑iP**			**Pn**	**00 27 04.5**	**-4.2**
KCP				*i*	S		**Sn**	**00 27 27.0**	**+1.1**
PAGZ	**Pagadian**	**1.51**	**343**	**↑eP**			**Pn**	**00 27 05.7**	**-4.7**
PAGZ				*i*	S		**Sn**	**00 27 29.9**	**+1.2**
ZCP	**Zamboanga City**	**1.83**	**287**	**↓iP**			**Pn**	**00 27 14.6**	**-0.2**
ZCP				*i*	S		**Sn**	**00 27 37.2**	**+0.5**
DAV	**Davao City (W)**	**1.85**	**69**	Pn			**Pn**	**00 27 13.3**	**-1.8**
	82nm,0.3s,baz=284,slow=8.3,SNR=1.5								
DAV							Sn	**00 27 37.0**	**-0.3**
	158nm,0.3s,baz=98,slow=22,SNR=1.8								
DAV	**Davao City (W)**	**1.85**	**69**	Pn			**Pn**	**00 27 15.5**	**+0.4**
BUKP	**Musuan**	**1.91**	**40**	**↓eP**			**Pn**	**00 27 13.3**	**-2.6**
CGP	**Cagayan de Oro**	**2.21**	**23**	**↑iP**			**Pn**	**00 27 18.5**	**-1.5**
CGP				*i*	S		**Sn**	**00 27 52.2**	**+6.0**
BIPH	**Bislig**	**3.07**	**55**	**↓eP**			**Pn**	**00 27 29.0**	**-2.8**
BIPH				*e*	S		**Sn**	**00 28 07.1**	**-0.2**
MYLDM	**Lahad Datu**	**5.45**	**257**				**Pn**	**00 28 02.9**	**-1.7**
KKM	**Kota Kinabalu**	**7.59**	**268**	Pn			**Pn**	**00 28 32.0**	**-2.1**
NACB	**Ninganchiao**	**17.80**	**353**				**Pn**	**00 30 47.5**	**-3.4**
NACB					IAmb	IAmb		00 30 49.5	
	comp=Z,12nm,0.8s								
MTN	**Manton Dam**	**20.45**	**159**	P			Pn	00 31 21.5	-1.1
MTN					IAmb	IAmb		00 31 27.5	
	comp=Z,19nm,1.4s								
KNRA	**Kununurra**	**22.47**	**168**	P			**P**	**00 31 43.5**	**+1.5**
KNRA					IAmb	IAmb		00 31 54.3	
	comp=Z,13nm,1.1s								
FITZ	**Fitzroy Crossi**	**24.41**	**176**	P			**P**	**00 32 02.2**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=349,slow=10,SNR=2.5								
	comp=Z,1.4nm,0.6s								
FITZ	**Fitzroy Crossi**	**24.41**	**176**	P			**P**	**00 32 02.1**	**+1.1**
COEN	**Coen**	**27.88**	**137**	P			**P**	**00 32 31.7**	**-0.7**
COEN					IAmb	IAmb		00 32 40.9	
	comp=Z,10nm,1.3s								
WB0	**Warramunga Arr**	**28.00**	**158**	P			**P**	**00 32 33.0**	**-0.5**
WB0					IAmb	IAmb		00 32 52.1	
	comp=Z,8.7nm,1.4s								
WRAB	**Tennant Creek**	**28.14**	**159**	P			**P**	**00 32 31.4**	**-3.3**
WRA	**Warramunga Arr**	**28.14**	**159**	P			**P**	**00 32 30.2**	**-4.5**
	comp=Z,1.3nm,0.7s,baz=339,slow=9.2,SNR=3.5								
	comp=Z,1.3nm,0.7s								
WRA	**Warramunga Arr**	**28.14**	**159**	P			**P**	**00 32 35.1**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=334,slow=9.9,SNR=14								
	comp=Z,1.4nm,0.7s								
WRA	**Warramunga Arr**	**28.14**	**159**	P			**P**	**00 32 34.6**	**-0.1**
WB2	**Warramunga Arr**	**28.15**	**159**	P			**P**	**00 32 34.3**	**-0.4**
WB2					IAmb	IAmb		00 32 45.2	
	comp=Z,6.4nm,1.2s								
WR0	**Warramunga Arr**	**28.23**	**158**	P			**P**	**00 32 34.3**	**-1.2**
WR0					IAmb	IAmb		00 33 11.3	
	comp=Z,9.7nm,1.5s								
KSRS	**Korea Array**	**31.13**	**6**	P			**P**	**00 33 03.4**	**+2.4**
	comp=Z,1.8nm,0.7s,baz=187,slow=10,SNR=5.2								
	comp=Z,1.8nm,0.7s								
AS31	**Alice Springs**	**31.46**	**162**	P			**P**	**00 33 04.5**	**+0.4**
ASAR	**Alice Springs**	**31.46**	**162**	P			**P**	**00 33 00.3**	**-3.8**
	comp=Z,0.9nm,0.5s,baz=338,slow=7.2,SNR=3.6								
	comp=Z,0.9nm,0.5s								
ASAR	**Alice Springs**	**31.46**	**162**	P			**P**	**00 33 05.0**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=339,slow=7.1,SNR=16								
	comp=Z,0.9nm,0.5s								
ASAR	**Alice Springs**	**31.46**	**162**	P			**P**	**00 33 02.8**	**-1.3**
NWAO	**Narrogin (SRO)**	**39.61**	**189**	P			**P**	**00 34 11.7**	**-2.2**
BBOO	**Buckleboo**	**40.69**	**164**	P			**P**	**00 34 23.4**	**+0.6**
STKA	**Stephens Creek**	**41.66**	**157**	P			**P**	**00 34 27.9**	**-2.9**
	comp=Z,6.6nm,1.0s,baz=350,slow=12,SNR=1.7								
	comp=Z,6.6nm,1.0s								
STKA	**Stephens Creek**	**41.66**	**157**	P			**P**	**00 34 31.9**	**+1.0**
	comp=Z,5.3nm,0.8s,baz=309,slow=11,SNR=4.9								
	comp=Z,5.3nm,0.8s								
STKA	**Stephens Creek**	**41.66**	**157**	P			**P**	**00 34 28.8**	**-2.1**
SONM	**Songino Array**	**43.89**	**343**	P			**P**	**00 34 52.0**	**+3.1**
	comp=Z,0.9nm,0.6s,baz=161,slow=10.0,SNR=5.2								
	comp=Z,0.9nm,0.6s								
TOO	**Toolangi**	**48.19**	**157**	P			**P**	**00 35 21.6**	**-1.1**
MKAR	**Makanchi Array**	**53.73**	**326**	P			**P**	**00 36 07.2**	**+2.8**
	comp=Z,0.5nm,0.6s,baz=129,slow=6.2,SNR=6.0								
	comp=Z,0.5nm,0.6s								
MKAR	**Makanchi Array**	**53.73**	**326**	P			**P**	**00 36 02.9**	**-1.4**
PETK	**Petropavlovsk-**	**54.13**	**24**	P			**P**	**00 36 08.5**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=275,slow=5.9,SNR=6.4								
	comp=Z,1.0nm,0.7s								
PETK	**Petropavlovsk-**	**54.13**	**24**	P			**P**	**00 36 06.3**	**-0.8**
ZALV	**Zalesovo Beam**	**56.92**	**334**	P			**P**	**00 36 30.9**	**+3.8**
	comp=Z,0.7nm,0.4s,baz=124,slow=7.7,SNR=1.6								
	comp=Z,0.7nm,0.4s								
SUA	**Susitna One**	**82.22**	**29**	P			**P**	**00 39 00.9**	**-2.2**
SUA					IAmb	IAmb		00 39 10.1	
	comp=Z,3.3nm,0.9s								
ILAR	**Eielson Array**	**83.95**	**26**	P			**P**	**00 39 12.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=232,slow=4.4,SNR=4.8								
	comp=Z,0.5nm,0.7s								
RIDG	**Independent Ri**	**84.89**	**27**	P			**P**	**00 39 16.4**	**-0.4**
RIDG					IAmb	IAmb		00 39 33.0	
	comp=Z,6.1nm,1.2s								
FINES	**FINESS Array B**	**88.13**	**332**	P			**P**	**00 39 33.4**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=70,slow=1.6,SNR=4.0								
	comp=Z,1.6nm,0.9s								

*MAN **03** 00:29:05.3,6.40°N×123.78°E,h23km,mb4.6,ML3.5,MS3.4*
*NEIC **03** 00:29:09.1±1.7,6.40°N±0.09°×123.97°E±0.07,h44km±7km,*
mb4.5/48,Error ellipse: s-maj=13.2km s-min=9.1km az=160.0
*IDC **03** 00:29:10.2±3.9,6.29°N×123.82E,h65km±37km,mb3.8/15,*
mbtmp4.1/15,MS3.3/6,Error ellipse: s-maj=31.0km s-min=12.2km az=81.0
ISC 03 00:29:05.6±1.2,6.51°N±0.04°×123.84°E±0.03,h48km±5km,
n86,σ1s49/88,mb4.4/38,MS3.2/5,6C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.81**	**30**	**↑iP**			**Pn**	**00 29 21.8**	**-0.3**
CTBH				*i*	S		**Sn**	**00 29 34.6**	**+0.9**
GSPH	**General Santos**	**1.19**	**111**	**↓iP**			**Pg**	**00 29 28.8**	**+0.3**
GSPH				*i*	S		**Sg**	**00 29 46.9**	**+2.8**
KCP	**Kidapawan**	**1.34**	**68**	**↑iP**			**Pn**	**00 29 29.4**	**0.0**
KCP				*i*	S		**Sb**	**00 29 47.6**	**+0.5**
PAGZ	**Pagadian**	**1.40**	**341**	**↑eP**			**Pn**	**00 29 30.6**	**+0.4**
PAGZ				*e*	S		**Sg**	**00 29 49.9**	**-1.0**
ZCP	**Zamboanga City**	**1.80**	**283**	**↑iP**			**Pn**	**00 29 34.9**	**-0.8**
ZCP				*i*	S		**Sn**	**00 29 56.9**	**-1.2**
DAV	**Davao City (W)**	**1.82**	**72**	P			**Pb**	**00 29 38.7**	**+0.4**
	2μm,0.6s,baz=236,slow=5.0,SNR=12								
DAV						S	**Sg**	**00 30 04.5**	**+0.3**
	1μm,0.4s,baz=20,slow=22,SNR=10								
DAV						LR	LR	00 30 31.0	
	comp=Z,2μm,18.4s,baz=210,slow=42								
BUKP	**Musuan**	**1.82**	**42**	**↑iP**			**Pb**	**00 29 38.1**	**-0.3**
CGP	**Cagayan de Oro**	**2.11**	**24**	**↓eP**			**Pg**	**00 29 44.8**	**-1.3**
CGP				*e*	S		**Sg**	**00 30 12.4**	**-1.1**
BIPH	**Bislig**	**3.00**	**56**	**↑eP**			**Pn**	**00 29 53.4**	**+1.1**
BIPH				*e*	S		**Sn**	**00 30 28.8**	**+1.0**
LLP	**Lapu-Lapu**	**3.78**	**2**	**eP**			**Pb**	**00 30 13.2**	**+1.4**
LLP				*e*	S		**Sb**	**00 30 56.0**	**-1.3**
MYLDM	**Lahad Datu**	**5.47**	**256**				**Pn**	**00 30 27.4**	**+1.2**
KKM	**Kota Kinabalu**	**7.59**	**267**	Pn			**Pn**	**00 30 57.3**	**+1.9**
KAPI	**Kappang**	**12.15**	**200**	LR			LR	00 37 22.9	
	comp=Z,152nm,18.2s,baz=36,slow=41								
YOJ	**Yonaguni jima**	**17.86**	**358**	P			**P**	**00 33 15.9**	**+2.1**
UGM	**Wanagama**	**19.54**	**223**				**Pn**	**00 33 34.6**	**+1.0**
UBPT	**Khong Chiam**	**20.01**	**297**	P			Pn	00 33 39.6	+0.3
MTN	**Manton Dam**	**20.55**	**159**	P			**P**	**00 33 42.4**	**-0.9**
MTN					IAmb	IAmb		00 34 09.3	
	comp=Z,18nm,1.2s								
LEM	**Lembang**	**20.91**	**231**	LR		LR		00 42 23.1	
	comp=Z,66nm,18.2s,baz=70,slow=38								
GUMO	**Guam**	**21.86**	**70**	LR		LR		00 40 39.8	
	comp=Z,48nm,21.6s,baz=242,slow=31								
KNRA	**Kununurra**	**22.58**	**168**	P			**P**	**00 34 04.6**	**-0.6**
KNRA					IAmb	IAmb		00 34 41.1	
	comp=Z,14nm,0.9s								
FITZ	**Fitzroy Crossi**	**24.52**	**176**	P			**P**	**00 34 22.2**	**-1.9**
	comp=Z,1.2nm,0.5s,baz=16,slow=5.2,SNR=5.3								
	comp=Z,1.2nm,0.5s								
FITZ	**Fitzroy Crossi**	**24.52**	**176**	P			**P**	**00 34 22.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**27.00**	**298**	LR		LR		00 45 53.1	
	comp=Z,62nm,18.2s,baz=255,slow=37								
COEN	**Coen**	**27.97**	**137**	P			**P**	**00 34 52.8**	**-2.6**
COEN					IAmb	IAmb		00 35 01.9	
	comp=Z,12nm,1.2s								
WB0	**Warramunga Arr**	**28.11**	**159**	P			**P**	**00 34 54.4**	**-2.1**
WRAB	**Tennant Creek**	**28.24**	**159**	P			**P**	**00 34 56.9**	**-0.9**
WRA	**Warramunga Arr**	**28.25**	**159**	P			**P**	**00 34 55.2**	**-2.6**
	comp=Z,2.4nm,0.7s,baz=335,slow=9.9,SNR=11								
	comp=Z,2.4nm,0.7s								
WRA	**Warramunga Arr**	**28.25**	**159**	P			**P**	**00 34 56.0**	**-1.9**
WB2	**Warramunga Arr**	**28.25**	**159**	P			**P**	**00 34 55.3**	**-2.5**
WB2					IAmb	IAmb		00 34 55.7	
	comp=Z,15nm,1.4s								
WR0	**Warramunga Arr**	**28.34**	**158**	P			**P**	**00 34 56.9**	**-1.7**
KSRS	**Korea Array**	**31.02**	**6**	P			**P**	**00 35 23.5**	**+1.3**
	comp=Z,2.9nm,0.7s,baz=187,slow=10,SNR=8.8								
	comp=Z,2.9nm,0.7s								
AS31	**Alice Springs**	**31.57**	**162**	P			**P**	**00 35 25.0**	**-2.2**
ASAR	**Alice Springs**	**31.57**	**162**	P			**P**	**00 35 25.2**	**-2.0**
	comp=Z,1.2nm,0.5s,baz=341,slow=7.2,SNR=12								
	comp=Z,1.2nm,0.5s								
ASAR	**Alice Springs**	**31.57**	**162**	P			**P**	**00 35 24.8**	**-2.5**
MJAR	**Matsushiro Arr**	**32.65**	**22**	LR		LR		00 47 23.6	
	comp=Z,70nm,19.9s,baz=195,slow=33								
BBOO	**Buckleboo**	**40.80**	**164**	P			**P**	**00 36 44.7**	**-1.3**
STKA	**Stephens Creek**	**41.77**	**157**	P			**P**	**00 36 52.0**	**-2.0**
	comp=Z,6.6nm,0.7s,baz=343,slow=8.9,SNR=7.7								
	comp=Z,6.6nm,0.7s								
STKA	**Stephens Creek**	**41.77**	**157**	P			**P**	**00 36 52.8**	**-1.2**
SONM	**Songino Array**	**43.78**	**343**	P			**P**	**00 37 11.9**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=165,slow=8.1,SNR=7.6								
	comp=Z,1.6nm,0.6s								
SONM	**Songino Array**	**43.78**	**343**	P			**P**	**00 37 12.3**	**+2.0**
TOO	**Toolangi**	**48.29**	**157**	P			**P**	**00 37 41.4**	**-4.4**
MK31	**Makanchi Array**	**53.64**	**326**	P			**P**	**00 38 27.8**	**+1.8**
MKAR	**Makanchi Array**	**53.64**	**326**	P			**P**	**00 38 27.0**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=116,slow=7.9,SNR=8.4								
	comp=Z,1.1nm,0.7s								
MKAR	**Makanchi Array**	**53.64**	**326**	P			**P**	**00 38 27.2**	**+1.1**
PETK	**Petropavlovsk-**	**54.03**	**25**	P			**P**	**00 38 29.4**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=195,slow=11,SNR=5.4								
PETK					LR	LR		01 00 26.7	
	comp=Z,32nm,20.0s,baz=221,slow=35								
	comp=Z,1.4nm,0.6s								
ZAA0	**Zalesovo Array**	**56.82**	**334**	P			**P**	**00 38 49.3**	**+0.6**
ZALV	**Zalesovo Beam**	**56.82**	**334**	P			**P**	**00 38 49.2**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=123,slow=5.3,SNR=4.9								
	comp=Z,0.9nm,0.5s								
KBL	**Kabul**	**57.55**	**307**	P			**P**	**00 38 55.3**	**+0.7**
KBL					IAmb	IAmb		00 39 18.9	
	comp=Z,4.4nm,1.2s								
KURK	**Kurchatov**	**57.86**	**328**	P			**P**	**00 38 57.0**	**+0.9**
KURK					IAmb	IAmb		00 39 00.1	
	comp=Z,5.5nm,1.0s								
GAR	**Garm**	**57.93**	**312**	P			**P**	**00 38 58.2**	**+1.2**
BVAR	**Borovoye Array**	**63.43**	**327**	P			**P**	**00 39 33.8**	**-0.4**
	comp=Z,2.2nm,1.1s,baz=134,slow=10,SNR=7.4								
	comp=Z,2.2nm,1.1s								
BRVK	**Borovoye**	**63.50**	**327**	P			**P**	**00 39 35.0**	**+0.4**
BRVK					IAmb	IAmb		00 39 40.5	
	comp=Z,5.4nm,0.9s								
MLZ	**Mavora Lakes**	**65.07**	**147**	P			**P**	**00 39 42.8**	**-2.2**
HIZ	**Hauiti**	**65.14**	**138**	P			**P**	**00 39 46.0**	**+0.4**
GSTR	**Great Sitkin T**	**66.78**	**36**	P			**P**	**00 39 53.7**	**-2.3**
NRIK	**Noril'sk**	**67.07**	**347**	P			**P**	**00 39 57.7**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=127,slow=7.1,SNR=4.8								
	comp=Z,2.2nm,0.7s								
ABKAR	**Akbulak array**	**68.18**	**321**	P			**P**	**00 40 05.7**	**+0.9**
SOCY	**Socotra**	**69.00**	**281**	P			**P**	**00 40 11.8**	**+1.1**
AKTO	**Aktyubinsk**	**69.70**	**322**	P			**P**	**00 40 14.7**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=64,slow=13,SNR=3.2								
	comp=Z,2.1nm,0.9s								
ARU	**Arti**	**71.06**	**328**	P			**P**	**00 40 22.5**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=109,slow=9.0,SNR=4.0								
	comp=Z,1.3nm,0.5s								
CHIR	**Chirikof Islan**	**79.33**	**35**				P	00 41 05.2	-4.9
O18K	**Koktuh Hills**	**79.86**	**30**	P			**P**	**00 41 12.9**	**0.0**
O18K					IAmb	IAmb		00 41 14.1	
	comp=Z,5.5nm,0.8s								
L19K	**White Mountain**	**80.22**	**28**	P			**P**	**00 41 14.9**	**0.0**
N19K	**Bonanza Creek**	**80.29**	**29**	P			**P**	**00 41 15.7**	**+0.4**
N19K					IAmb	IAmb		00 41 16.6	
	comp=Z,4.9nm,0.8s								
K20K	**Telida**	**80.67**	**27**	P			**P**	**00 41 18.2**	**+1.0**
J20K	**Nowinta River**	**80.69**	**26**	P			**P**	**00 41 18.0**	**+0.7**
J20K					IAmb	IAmb		00 41 24.5	
	comp=Z,5.5nm,1.4s								
P19K	**Oil Pt**	**80.84**	**31**	P			**P**	**00 41 15.9**	**-2.4**
FOMA	**Nahampoana Res**	**80.92**	**244**	P			**P**	**00 41 21.0**	**+1.7**
IMAR	**Indian Mountai**	**81.00**	**24**	P			**P**	**00 41 18.7**	**-0.2**
KDAK	**Kodiak Island**	**81.10**	**33**	P			**P**	**00 41 19.0**	**-0.7**
KDAK					IAmb	IAmb		00 41 43.7	
	comp=Z,12nm,1.3s								
H21K	**Melozitna Rive**	**81.36**	**25**	P			**P**	**00 41 23.3**	**+2.4**
H21K					IAmb	IAmb		00 41 44.7	
	comp=Z,5.3nm,1.4s								
SKT	**Skwentna**	**81.77**	**28**	P			**P**	**00 41 22.6**	**-0.5**
SKT					IAmb	IAmb		00 41 23.4	
	comp=Z,6.2nm,1.3s								
CNPM	**China Poot**	**81.85**	**31**	P			**P**	**00 41 23.2**	**-0.4**
CNPM					IAmb	IAmb		00 41 48.0	
	comp=Z,8.0nm,1.0s								
BPAW	**Bear Paw Mtn.**	**82.07**	**26**	P			**P**	**00 41 23.2**	**-1.4**
BPAW					IAmb	IAmb		00 41 25.3	
	comp=Z,2.9nm,0.8s								
SUA	**Susitna One**	**82.13**	**29**	P			**P**	**00 41 24.3**	**-0.8**
SUA					IAmb	IAmb		00 41 25.3	
	comp=Z,5.3nm,0.8s								
RC01	**Rabbit Creek A**	**82.61**	**29**	P			**P**	**00 41 26.7**	**-0.8**
RC01					IAmb	IAmb		00 41 33.6	
	comp=Z,3.7nm,1.0s								
H23K	**Yukon River**	**82.72**	**24**	P			**P**	**00 41 28.4**	**+0.4**
H23K					IAmb	IAmb		00 41 38.4	
	comp=Z,4.4nm,1.4s								
I23K	**Minto, Yukon-K**	**82.79**	**25**	P			**P**	**00 41 26.3**	**-2.0**
I23K					IAmb	IAmb		00 41 37.3	
	comp=Z,5.5nm,1.2s								
RND	**Reindeer**	**83.02**	**27**	P			**P**	**00 41 29.1**	**-0.6**
RND					IAmb	IAmb		00 41 30.1	
	comp=Z,6.9nm,1.2s								
PWL	**Port Wells**	**83.30**	**30**	P			**P**	**00 41 31.0**	**-0.1**
PWL					IAmb	IAmb		00 41 31.5	
	comp=Z,9.4nm,1.0s								
H24K	**Noodor Dome**	**83.40**	**24**	P			**P**	**00 41 32.0**	**+0.4**
CCB	**Clear Creek Bu**	**83.46**	**26**	P			**P**	**00 41 27.5**	**-4.3**
CCB					IAmb	IAmb		00 41 32.3	
	comp=Z,2.9nm,1.0s								
DHY	**Denali Highway**	**83.69**	**27**	P			**P**	**00 41 33.3**	**0.0**
DHY					IAmb	IAmb		00 41 33.8	
	comp=Z,2.2nm,0.8s								
IL31		**83.85**	**26**	P			**P**	**00 41 33.4**	**-0.4**
IL31					IAmb	IAmb		00 42 01.6	
	comp=Z,4.8nm,1.5s								
ILAR	**Eielson Array**	**83.85**	**26**	P			**P**	**00 41 32.8**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=231,slow=5.8,SNR=7.2								
	comp=Z,0.6nm,0.7s								
FINES	**FINESS Array B**	**88.03**	**332**	P			**P**	**00 41 53.7**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=90,slow=6.9,SNR=7.6								
	comp=Z,1.6nm,0.8s								

*NOU **03** 00:34:48.6,37.09°S×179.71°W,h135km,MLv5.0/10,East of North Island, N.Z.*
*IDC **03** 00:34:54.3±1.2,36.86°S×179.17E,h0km,mb4.3/5,*
mbtmp4.3/6,ML4.3/1,MS3.6/1,Error ellipse: s-maj=33.5km s-min=27.8km az=58.0

*NEIC **03** 00:34:56.2±1.5,37.42°S±0.09°×179.4°E±0.2,h22km±11km,*
mb4.4/13,Error ellipse: s-maj=20.1km s-min=12.6km az=82.0
*WEL **03** 00:34:56.6±1.6,37.5°S±7.1°×17.9°E±1.3°,h13km±9km,M4.3/33,*
ML4.5/33,MLv4.3/33,Error ellipse: s-maj=0.0km s-min=0.0km az=117.6
ISC 03 00:34:55.8±2.0,37.22°S±0.05°×179.37°E±0.07,h15km±10km,
n162,σ1s75/159,mb4.3/9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**247**				**Pg**	**00 35 12.9**	**-0.6**
MXZ	**Matakaoa Point**	**0.92**	**247**	P			**Pg**	**00 35 13.0**	**-0.6**
MXZ				S			**Sg**	**00 35 22.5**	**-3.1**
WMGZ	**Waiomatatini S**	**0.97**	**231**	P			**Pn**	**00 35 16.7**	**+1.8**
WMGZ				S			**Sg**	**00 35 30.3**	**+2.9**
PKGZ	**Pakihiroa**	**1.23**	**236**	P			**Pn**	**00 35 19.8**	**+1.4**
PKGZ				S			**Sb**	**00 35 36.0**	**+1.6**
PUZ	**Puketiti**	**1.23**	**226**	P			**Pn**	**00 35 20.3**	**+1.9**
PUZ				S			**Sb**	**00 35 37.4**	**+3.0**
HAZ	**Te Kaha**	**1.37**	**246**	P			**Pn**	**00 35 22.0**	**+1.6**
HAZ				S			**Sn**	**00 35 39.5**	**+1.2**
TWGZ	**Tauwhareparae**	**1.46**	**229**	P			**Pn**	**00 35 23.7**	**+2.0**
TWGZ				S			**Sb**	**00 35 44.2**	**+3.1**
RUGZ	**Raukumara Rang**	**1.54**	**240**	P			**Pn**	**00 35 24.8**	**+2.0**
CNGZ	**Carnagh Statio**	**1.57**	**216**	P			**Pn**	**00 35 26.0**	**+2.9**
TKGZ	**Te Karaka**	**1.72**	**224**	P			**Pn**	**00 35 27.0**	**+1.8**
WIZ	**White Island**	**1.77**	**259**	P			**Pn**	**00 35 26.2**	**+0.5**
MWZ	**Matawai**	**1.84**	**232**	P			**Pn**	**00 35 28.6**	**+1.8**
RIGZ	**Rimuhau**	**1.96**	**220**	P			**Pn**	**00 35 30.3**	**+1.8**
RAGZ	**Rawiri**	**2.01**	**230**	P			**Pn**	**00 35 31.0**	**+1.7**
WHRZ	**Whale Island**	**2.01**	**251**	P			**Pn**	**00 35 30.9**	**+1.7**
PRGZ	**Paritu Road**	**2.07**	**214**	P			**Pn**	**00 35 31.7**	**+1.7**
URZ	**Urewera**	**2.07**	**239**	Pn			**Pn**	**00 35 31.7**	**+1.7**
	100nm,0.3s,baz=209,slow=0.0,SNR=78								
URZ						Sn	**Sn**	**00 35 55.8**	**+0.3**
	129nm,0.3s,baz=40,slow=0.0,SNR=4.8								
	582nm,0.6s								
URZ	**Urewera**	**2.07**	**239**				**Pn**	**00 35 31.4**	**+1.4**
URZ	**Urewera**	**2.07**	**239**	P			**Pn**	**00 35 31.7**	**+1.7**
URZ	**Urewera**	**2.07**	**239**	P			**Pn**	**00 35 31.8**	**+1.8**
SNGZ	**Shannon Statio**	**2.24**	**225**	P			**Pn**	**00 35 33.2**	**+1.4**
KNZ	**Kokohu**	**2.25**	**216**	P			**Pn**	**00 35 33.4**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.25**	**210**	P			**Pn**	**00 35 34.4**	**+1.9**
EDRZ	**Edgecumbe**	**2.27**	**246**	P			**Pn**	**00 35 34.1**	**+1.3**
MARZ	**Manawahe**	**2.27**	**249**	P			**Pn**	**00 35 34.3**	**+1.5**
OPRZ	**Ohinepanea**	**2.33**	**253**	P			**Pn**	**00 35 34.3**	**+0.9**
RTZ	**Ruatahuna**	**2.35**	**233**	P			**Pn**	**00 35 35.7**	**+1.8**
MUGZ	**Murupara**	**2.41**	**238**	P			**Pn**	**00 35 35.9**	**+1.2**
RAHZ	**Arahi**

ODZ	**Otahua Downs**	**10.22**	**217**	Pn	Pn	00 37 18.7	-3.1	
ODZ	**Otahua Downs**	**10.22**	**217**	P	Pn	00 37 18.7	-3.1	
WKZ	**Wanaka**	**10.90**	**223**	Pn	**Pn**	**00 37 29.4**	**-1.8**	
OUENC	**Ouen Island, N**	**18.29**	**320**		**P**	**00 39 10.5**	**+1.4**	
OUENC				IAmb	IAmb	00 39 18.5		
	comp=Z,24nm,0.6s							
BBOO	**Buckleboo**	**35.52**	**264**	P	**P**	**00 41 49.9**	**-2.1**	
COEN	**Coen**	**39.66**	**296**	P	**P**	**00 42 26.8**	**-0.5**	
COEN				IAmb	IAmb	00 42 28.1		
	comp=Z,8.0nm,0.8s							
AS31	**Alice Springs**	**41.09**	**276**	P	P	00 42 34.6	-4.5	
ASAR	**Alice Springs**	**41.09**	**276**	P	**P**	**00 42 38.2**	**-0.8**	
	comp=Z,3.3nm,0.5s,baz=121,slow=8.1,SNR=33							
	comp=Z,3.3nm,0.5s							
ASAR	**Alice Springs**	**41.09**	**276**	P	**P**	**00 42 38.6**	**-0.5**	
SBA	**Scott Base**	**41.10**	**184**	P	P	00 42 33.3	-5.2	
WR0	**Warramunga Arr**	**42.53**	**281**	P	**P**	**00 42 49.8**	**-1.1**	
WR0				IAmb	IAmb	00 43 02.0		
	comp=Z,4.3nm,0.8s							
FORT	**Forrest**	**42.60**	**263**	P	**P**	**00 42 50.3**	**-1.0**	
WB2	**Warramunga Arr**	**42.69**	**281**	P	**P**	**00 42 51.2**	**-0.9**	
WB2				IAmb	IAmb	00 42 51.9		
	comp=Z,6.7nm,0.8s							
WRA	**Warramunga Arr**	**42.70**	**281**	P	**P**	**00 42 50.9**	**-1.3**	
	comp=Z,4.6nm,0.7s,baz=123,slow=7.5,SNR=52							
	comp=Z,4.6nm,0.7s							
WRA	**Warramunga Arr**	**42.70**	**281**	P	**P**	**00 42 51.3**	**-0.9**	
WB0	**Warramunga Arr**	**42.75**	**281**	P	**P**	**00 42 51.6**	**-1.0**	
WB0				IAmb	IAmb	00 42 52.4		
	comp=Z,4.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**50.57**	**277**	P	**P**	**00 43 53.5**	**-0.4**	
	comp=Z,4.6nm,0.7s,baz=106,slow=6.7,SNR=15							
	comp=Z,4.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**50.57**	**277**	P	**P**	**00 43 53.5**	**-0.4**	
FITZ				IAmb	IAmb	00 43 54.3		
	comp=Z,4.6nm,0.8s							
MORW	**Morawa**	**52.79**	**259**	P	**P**	**00 44 09.3**	**-1.2**	
QSPA	**South Pole Qui**	**52.91**	**180**	P	**P**	**00 44 14.7**	**+3.7**	
	comp=Z,2.4nm,0.9s,baz=347,slow=0.4,SNR=9.4							
QSPA				LR	LR	01 04 18.8		
	comp=Z,56nm,18.5s,baz=54,slow=33							
	comp=Z,2.4nm,0.9s							
QSPA	**South Pole Qui**	**52.91**	**180**	P	**P**	**00 44 15.6**	**+4.6**	
QSPA				IAmb	IAmb	00 44 36.9		
	comp=Z,6.2nm,1.1s							
TROLL	**Troll, Antarti**	**71.05**	**181**	P	P	00 46 22.1	+9.3	
SNAA	**Sanae**	**71.40**	**179**	P	P	00 46 26.5	+12	
VNA3	**Neumayer Olymp**	**71.65**	**177**	P	P	00 46 29.8	+14	
VNA2	**Neumayer--Watz**	**72.06**	**178**	P	P	00 46 30.3	+12	
	baz=174,slow=5.0							
H03N3	**Juan Fernandez**	**78.75**	**123**	T	T	02 13 50.2		
	baz=234,slow=72							
H03N2	**Juan Fernandez**	**78.76**	**123**	T	T	02 13 50.9		
	baz=234,slow=72							
H03N1	**Juan Fernandez**	**78.77**	**123**	T	T	02 13 51.2		
	baz=234,slow=72							
MJAR	**Matsushiro Arr**	**82.70**	**328**	P	**P**	**00 47 18.4**	**-0.2**	
	comp=Z,0.6nm,0.4s,baz=144,slow=10,SNR=1.7							
	comp=Z,0.6nm,0.4s							
ARCES	**ARCESS Array B**	**144.67**	**344**	PKP	**PKPab**	**00 54 30.2**	**+0.8**	
	comp=Z,1.8nm,0.9s,baz=46,slow=2.6,SNR=5.2							
FINES	**FINESS Array B**	**150.56**	**334**	PKPbc	**PKPbc**	**00 54 46.0**	**0.0**	
	comp=Z,1.3nm,0.6s,baz=67,slow=3.6,SNR=8.8							
BRTR	**Keskin Array B**	**153.15**	**286**	PKPbc	**PKPbc**	**00 54 52.1**	**-0.7**	
	comp=Z,0.3nm,0.6s,baz=126,slow=4.1,SNR=1.4							
TORD	**Torodi Ar. Bea**	**155.94**	**186**	PKPab	**PKPab**	**00 55 18.9**	**+2.3**	
	comp=Z,0.9nm,0.9s,baz=167,slow=3.8,SNR=3.6							

*VAO **03** 01:00:49.6±1.2,22.°00S×70.°25W,h10km,mb4.3*
*SJA **03** 01:00:56.3±0.8,22.°16S×69.°92W,h82km±4km,ML4.4, MW4.0*
*NEIC **03** 01:00:57.6±2.0,22.°12S±0.°04×70.°09W±0.°09,h76km±6km, Error ellipse: s-maj=11.9km s-min=6.4km az=93.0*
*NEIC **03** 01:00:58,22.°13S×69.°89W,h78km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.98; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$ 1.12; $M_{r\theta}$-0.21; $M_{\theta\phi}$-0.15; $M_{\phi r}$-0.57; Fault plane solution: $M_0$1.23000×10^{15} NP1:$\phi_1$158.19000°, δ33.17000°,λ-114.98000°. NP2:$\phi_2$7.29000°,δ60.27000°, λ-74.57000°. Principal axes: T 1.2694, Plg14.0000°, Azm86.0000°; N -0.0905, Plg13.0000°, Azm179.0000°; P -1.1788, Plg70.0000°, Azm312.0000°;*
*GUC **03** 01:00:58.3±0.8,22.°13S×69.°89W,h72km±4km,ML4.3*
*IDC **03** 01:01:01.1±2.3,22.°12S×69.°55W,h92km±11km,mb3.9/2, mbtmp4.0/5,MS3.2/2,Error ellipse: s-maj=43.0km s-min=28.1km az=80.0*

ISC 03 01:00:57.7±0.7,22.°13S±0.°02×69.°97W±0.°04,h79km±5km, n96,σ1°32/111,mb4.1/4,4C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.26**	**220**			**Pn**	**01 01 10.4**	**+0.5**
PB04	**IPOC Station P**	**0.26**	**220**	↓	*iP*	**Pn**	**01 01 10.3**	**+0.5**
PB04					*iS*	**Sn**	**01 01 19.4**	**+0.5**
PB04				IAML			01 01 20.1	
	comp=E,22μm,0.2s							
PB04	**IPOC Station P**	**0.26**	**220**		*eP*	**Pn**	**01 01 10.0**	**+0.1**
PB04				IAML			01 01 22.0	
	comp=Z,11μm,0.2s							
PB07	**IPOC Station P**	**0.41**	**11**	Pn		**Pn**	**01 01 11.1**	**+0.2**
PB07	**IPOC Station P**	**0.41**	**11**	↓	*iP*	**Pn**	**01 01 11.3**	**+0.4**
PB07					*iS*	**Sn**	**01 01 20.3**	**-0.3**
PB07				IAML			01 01 21.2	
	comp=N,18μm,0.2s							
PB07	**IPOC Station P**	**0.41**	**11**		*eP*	**Pn**	**01 01 10.9**	**0.0**
PB07					*eS*	**Sn**	**01 01 20.9**	**+0.3**
PB07				IAML			01 01 25.8	
	comp=Z,9μm,0.2s							
PB06	**IPOC Station P**	**0.68**	**147**			**Pn**	**01 01 13.0**	**-0.3**
PB06	**IPOC Station P**	**0.68**	**147**	↓	*iP*	**Pn**	**01 01 13.1**	**-0.3**
PB06					*iS*	**Sn**	**01 01 23.9**	**-0.9**
PB06				IAML			01 01 24.8	
	comp=E,21μm,0.2s							
PB06	**IPOC Station P**	**0.68**	**147**		*eP*	**Pn**	**01 01 13.0**	**-0.3**
PB06					*eS*	**Sn**	**01 01 24.4**	**-0.4**
PB06				IAML			01 01 26.0	
	comp=Z,7μm,0.4s							
PB09	**IPOC Station P**	**0.76**	**64**			**Pn**	**01 01 14.5**	**+0.4**
PB09	**IPOC Station P**	**0.76**	**64**	↓	*iP*	**Pn**	**01 01 14.5**	**+0.4**
PB09					*iS*	**Sn**	**01 01 25.4**	**-0.8**
PB09				IAML			01 01 26.6	
	comp=N,13μm,0.2s							
PB09	**IPOC Station P**	**0.76**	**64**		*eP*	**Pn**	**01 01 14.0**	**-0.1**
PB09					*eS*	**Sn**	**01 01 26.1**	**-0.1**
PB09				IAML			01 01 26.5	
	comp=Z,11μm,0.3s							
PB02	**IPOC Station P**	**0.81**	**5**			**Pn**	**01 01 15.1**	**+0.4**
PB02	**IPOC Station P**	**0.81**	**5**	↓	*iP*	**Pn**	**01 01 15.3**	**+0.6**
PB02					*iS*	**Sn**	**01 01 27.3**	**+0.1**
PB02				IAML			01 01 28.4	
	comp=E,26μm,0.2s							
PB02	**IPOC Station P**	**0.81**	**5**		*eP*	**Pn**	**01 01 15.0**	**+0.3**
PB02					*eS*	**Sn**	**01 01 28.2**	**+0.9**
PB02				IAML			01 01 29.1	
	comp=Z,20μm,0.3s							
LVC	**Limon Verde**	**1.09**	**116**	P		**Pn**	**01 01 18.8**	**+0.7**
	comp=Z,509nm,0.3s,baz=304,slow=7.8,SNR=1090							
LVC				S		**Sn**	**01 01 33.2**	**-0.2**
LVC				LR		LR	01 01 49.1	
	comp=Z,325nm,18.8s,baz=353,slow=63							
LVC	**Limon Verde**	**1.09**	**116**	↑	*iP*	**Pn**	**01 01 18.4**	**+0.2**
LVC					*iS*	**Sn**	**01 01 33.2**	**-0.2**
PB15	**IPOC Station P**	**1.17**	**157**		*eP*	**Pn**	**01 01 19.0**	**0.0**
PB15					*iS*	**Sn**	**01 01 33.8**	**-1.0**
PB15				IAML			01 01 41.9	
	comp=E,16μm,0.3s							
PB01	**IPOC Station P**	**1.18**	**23**			**Pn**	**01 01 19.2**	**+0.2**
PB01	**IPOC Station P**	**1.18**	**23**	↑	*iP*	**Pn**	**01 01 19.4**	**+0.5**
PB01					*iS*	**Sn**	**01 01 34.9**	**+0.1**
PB01				IAML			01 01 35.9	
	comp=E,15μm,0.4s							
PB01	**IPOC Station P**	**1.18**	**23**		*eP*	**Pn**	**01 01 19.0**	**+0.1**
PB01					*eS*	**Sn**	**01 01 35.5**	**+0.7**
PB01				IAML			01 01 36.1	
	comp=Z,5μm,0.2s							
PB10	**IPOC Station P**	**1.48**	**201**			**Pn**	**01 01 22.8**	**+0.1**
PB10	**IPOC Station P**	**1.48**	**201**	↑	*iP*	**Pn**	**01 01 22.9**	**+0.1**
PB10					*iS*	**Sn**	**01 01 39.7**	**-1.8**
PB10	**IPOC Station P**	**1.48**	**201**		*eP*	**Pn**	**01 01 22.8**	**+0.1**
PB10					*eS*	**Sn**	**01 01 41.7**	**+0.2**
TA01	**Diego Aracena**	**1.57**	**353**	Pn		**Pn**	**01 01 24.0**	**+0.1**
TA01	**Diego Aracena**	**1.57**	**353**	↑	*iP*	**Pn**	**01 01 24.0**	**+0.1**
TA01					*iS*	**Sn**	**01 01 43.4**	**-0.3**
TA01	**Diego Aracena**	**1.57**	**353**		*eP*	**Pn**	**01 01 24.0**	**+0.1**
AF01	**San Pedro de A**	**1.85**	**117**			**Pn**	**01 01 30.1**	**+2.3**
TA02	**Huaiquique**	**1.86**	**355**			**Pn**	**01 01 27.9**	**+0.2**
TA02	**Huaiquique**	**1.86**	**355**		*eP*	**Pn**	**01 01 28.6**	**+0.9**
TA02					*eS*	**Sn**	**01 01 52.1**	**+1.6**
PB14	**IPOC Station P**	**2.51**	**189**	Pn		**Pn**	**01 01 36.2**	**-0.6**
PB14	**IPOC Station P**	**2.51**	**189**		*eP*	**Pn**	**01 01 36.4**	**-0.4**
PB14					*iS*	**Sn**	**01 02 04.5**	**-2.1**
PB14	**IPOC Station P**	**2.51**	**189**		*eP*	**Pn**	**01 01 36.5**	**-0.2**
PB14					*eS*	**Sn**	**01 02 04.9**	**-1.7**
GO01	**Chusmiza**	**2.56**	**17**			**Pn**	**01 01 37.5**	**0.0**
GO01	**Chusmiza**	**2.56**	**17**		*eP*	**Pn**	**01 01 38.6**	**+1.1**
GO01				IAML			01 02 15.2	
	comp=N,909nm,0.1s							
GO01	**Chusmiza**	**2.56**	**17**		*eP*	**Pn**	**01 01 38.0**	**+0.5**
GO01					*eS*	**Sn**	**01 01 59.2**	**-8.7**
GO02	**Mina Guanaco**	**3.04**	**173**	Pn		**Pn**	**01 01 43.9**	**+0.1**
GO02	**Mina Guanaco**	**3.04**	**173**		*eP*	**Pn**	**01 01 45.0**	**+1.2**
GO02					*eS*	Sn	01 02 32.6	+13
PB12	**IPOC Station P**	**3.52**	**354**	Pn		**Pn**	**01 01 49.6**	**-0.6**
PB12	**IPOC Station P**	**3.52**	**354**		*eP*	**Pn**	**01 01 50.1**	**0.0**
PB12					*eS*	**Sn**	**01 02 28.6**	**-2.1**
PB12					*eS*	**Sn**	**01 02 30.4**	**-0.3**
PB16	**IPOC Station P**	**3.80**	**7**	Pn		**Pn**	**01 01 55.4**	**+0.9**
PB16	**IPOC Station P**	**3.80**	**7**		*eP*	**Pn**	**01 01 54.6**	**+0.1**
AC02	**Maricunga**	**4.74**	**171**	Pn		**Pn**	**01 02 07.2**	**0.0**
AC02	**Maricunga**	**4.74**	**171**	↓	*iP*	**Pn**	**01 02 08.2**	**+1.1**
AC02				IAML			01 02 41.0	
	comp=N,69nm,0.5s							
LPAZ	**La Paz**	**6.07**	**17**	P		**Pn**	**01 02 28.2**	**+2.8**
	comp=N,3.2nm,0.4s,baz=279,slow=3.3,SNR=32							
LPAZ				LR		LR	01 05 21.5	
	comp=N,72nm,19.8s,baz=228,slow=44							
LPAZ	**La Paz**	**6.07**	**17**	Pn		**Pn**	**01 02 26.4**	**+1.0**
AC05	**El Transito**	**6.68**	**182**	Pn		**Pn**	**01 02 34.1**	**+0.8**
SIV	**San Ignacio**	**10.39**	**56**	P		**Pn**	**01 03 21.5**	**-2.5**
	comp=N,4.8nm,0.6s,baz=244,slow=11,SNR=22							
PTLB	**Pontes e Lacer**	**12.22**	**59**	Pn		**Pn**	**01 03 46.4**	**-2.4**
PTLB	**Pontes e Lacer**	**12.22**	**59**		*eP*	**Pn**	**01 03 45.8**	**-3.0**
CPUP	**Villa Florida**	**12.27**	**112**	P		**Pn**	**01 03 47.1**	**-2.2**
	comp=N,0.7nm,0.4s,baz=308,slow=15,SNR=2.6							
CPUP	**Villa Florida**	**12.27**	**112**	Pn		**Pn**	**01 03 46.7**	**-2.7**
CPUP	**Villa Florida**	**12.27**	**112**		*eP*	**Pn**	**01 03 49.5**	**+0.2**
ETMB	**Extrema**	**12.77**	**17**		*eP*	Pn	01 03 50.8	-5.4
ANTJ	**Antonio Joao (**	**12.95**	**92**		*eP*	**Pn**	**01 03 56.9**	**-1.8**
VILB	**Vilhena**	**13.04**	**47**	Pn		**Pn**	**01 03 58.0**	**-1.9**
AQDB	**Aquidauana**	**13.40**	**86**	Pn		**Pn**	**01 04 03.4**	**-1.2**
AQDB	**Aquidauana**	**13.40**	**86**		*eP*	**Pn**	**01 04 04.2**	**-0.4**
RODS	**Rosario do Sul**	**15.56**	**125**		*eP*	**Pn**	**01 04 32.2**	**-0.3**
FRBT	**Francisco Belt**	**15.91**	**107**		*eP*	**P**	**01 04 39.1**	**0.0**
TRCB	**Terra Rica**	**16.04**	**96**		*eP*	**P**	**01 04 40.5**	**-0.1**
PDRB	**Porto dos Gac**	**16.42**	**53**		*eP*	**Pn**	**01 04 42.1**	**-1.3**
PTGB	**Pitanga**	**16.63**	**102**		*eP*	**Pn**	**01 04 45.8**	**-0.2**
ALGR	**Alto Alegre (B**	**16.67**	**117**		*eP*	**P**	**01 04 47.3**	**-0.2**
PCMB	**Pacaembu**	**17.38**	**92**		*eP*	**P**	**01 04 55.7**	**+0.4**
LR03	**Panguipulli**	**17.56**	**186**			**Pn**	**01 04 57.5**	**+0.3**
LR03				IAmb		IAmb	01 05 27.3	
	comp=Z,14nm,0.9s							
CLDB	**Colider**	**17.59**	**53**		*eP*	**P**	**01 04 57.1**	**-0.6**
ITRB	**Iturama**	**18.48**	**86**		*eP*	**P**	**01 05 07.9**	**+0.4**
TER01	**Tubaro-SC**	**19.87**	**113**		*eP*	**P**	**01 05 23.4**	**+0.7**
BB19B	**Bebedouro**	**19.97**	**91**		*eP*	**Pn**	**01 05 25.1**	**-1.0**
NPGB	**Novo Progresso**	**20.59**	**45**		*eP*	**P**	**01 05 30.1**	**-0.2**
IPMB	**Ipameri, GO**	**20.85**	**82**		*eP*	**P**	**01 05 33.5**	**+0.3**
VAO	**Valinhos**	**21.26**	**97**		*eP*	**P**	**01 05 38.0**	**+0.3**
BDFB	**Brasilia**	**21.74**	**77**	P		**P**	**01 05 41.8**	**-1.2**
	comp=Z,3.6nm,0.4s,baz=242,slow=11,SNR=7.2							
	comp=Z,3.6nm,0.4s							
BDFB	**Brasilia**	**21.74**	**77**	P		**P**	**01 05 41.7**	**-1.2**
BDFB	**Brasilia**	**21.74**	**77**		*eP*	**P**	**01 05 43.5**	**+0.6**
ITTB	**Itaituba**	**22.41**	**40**		*eP*	**P**	**01 05 49.2**	**-0.7**
SMTB	**Santa Maria do**	**25.23**	**62**		*eP*	**P**	**01 06 16.9**	**+0.4**
MALB	**Monte Alegre**	**25.29**	**39**		*eP*	**P**	**01 06 18.5**	**+1.6**
SDBA	**SAO DESIDERIO**	**25.78**	**72**		*eP*	**P**	**01 06 21.4**	**0.0**
GUA01	**Guaratinga, BA**	**28.96**	**84**		*eP*	**P**	**01 06 52.1**	**+2.2**
BELA	**Belgrano 2**	**58.26**	**172**	P		**P**	**01 10 43.5**	**0.0**
VNA3	**Neumayer Olymp**	**59.80**	**161**	P		**P**	**01 10 56.0**	**+1.8**
SNAA	**Sanae**	**62.01**	**161**	P		**P**	**01 11 10.5**	**+1.2**
SNAA	**Sanae**	**62.01**	**161**	P		**P**	**01 11 09.8**	**+0.6**
SNAA				IAmb		IAmb	01 11 11.3	
	comp=Z,2.4nm,0.9s							
TROLL	**Troll, Antarti**	**63.72**	**161**	P		**P**	**01 11 22.0**	**+1.3**
QSPA	**South Pole Qui**	**68.06**	**180**	P		**P**	**01 11 49.2**	**+0.6**
QSPA				IAmb		IAmb	01 12 11.9	
	comp=Z,3.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**78.50**	**71**	P		**P**	**01 12 50.7**	**0.0**
	comp=Z,1.7nm,0.6s,baz=251,slow=5.3,SNR=23							
	comp=Z,1.7nm,0.6s							
BORG	**Borgarnes**	**94.33**	**19**	LR		LR	01 53 01.8	
	comp=Z,34nm,20.5s,baz=134,slow=33							
H11S2	**WAKE ISLAND Hy**	**126.98**	**277**	T		T	03 39 49.1	
	baz=105,slow=75,SNR=56							
H11S1	**WAKE ISLAND Hy**	**126.99**	**277**	T		T	03 39 43.5	
	baz=105,slow=75,SNR=35							
H11S3	**WAKE ISLAND Hy**	**126.99**	**277**	T		T	03 39 43.6	
	baz=105,slow=75,SNR=43							
H11N3	**WAKE ISLAND Hy**	**127.08**	**279**	T		T	03 39 50.7	
	baz=104,slow=75,SNR=68							
H11N2	**WAKE ISLAND Hy**	**127.09**	**279**	T		T	03 39 51.6	
	baz=104,slow=75,SNR=59							
H11N1	**WAKE ISLAND Hy**	**127.09**	**279**	T		T	03 39 53.0	
	baz=104,slow=75,SNR=37							
MKAR	**Makanchi Array**	**146.72**	**36**	PKPbc		**PKPbc**	**01 20 30.8**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=308,slow=3.6,SNR=5.9							

WEL 03 01:04:43.0±0.9,37.°S±3.°×17.°9E±.°,h12km±6km,M3.8/45, ML4.0/48,MLv3.8/45,Error ellipse: s-maj=0.0km s-min=0.0km az=94.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.99**	**229**			P	Pg	01 05 00.3	-1.8
MXZ						S	Sg	01 05 13.2	-1.8
WMGZ	**Waiomatatini S**	**1.12**	**216**			P	Pg	01 05 05.1	+0.5
WMGZ						S	Sn	01 05 20.7	+0.8
PKGZ	**Pakihiroa**	**1.35**	**223**			P	Pb	01 05 08.1	-0.2
PKGZ						S	Sb	01 05 25.3	-0.2
PUZ	**Puketiti**	**1.40**	**214**			P	Pn	01 05 08.6	+0.2
PUZ						S	Sn	01 05 26.6	-0.3
HAZ	**Te Kaha**	**1.44**	**234**			P	Pn	01 05 07.4	-1.5
HAZ						S	Sb	01 05 28.3	+0.3
TWGZ	**Tauwhareparae**	**1.61**	**218**			P	Pn	01 05 11.8	+0.4
TWGZ						S	Sb	01 05 32.8	-0.3
RUGZ	**Raukumara Rang**	**1.63**	**230**			P	Pb	01 05 12.8	-0.4
RUGZ						S	Sb	01 05 34.1	+0.4
WIZ	**White Island**	**1.75**	**249**			P	Pn	01 05 12.1	-1.1
CNGZ	**Carnagh Statio**	**1.77**	**207**			P	Pn	01 05 14.3	+0.8
CNGZ						S	Sb	01 05 38.0	+0.3
TKGZ	**Te Karaka**	**1.89**	**216**			P	Pn	01 05 15.2	+0.2
TKGZ						S	Sn	01 05 38.5	-0.3
MWZ	**Matawai**	**1.97**	**223**			P	Pn	01 05 16.5	+0.3
MWZ						S	Sb	01 05 42.8	-0.6
WHRZ	**Whale Island**	**2.04**	**242**			P	Pn	01 05 18.6	+1.4
WHRZ						S	Sn	01 05 43.8	+1.1
RIGZ	**Rimuhau**	**2.14**	**213**			P	Pn	01 05 17.8	-0.8
RIGZ						S	Sn	01 05 45.3	+0.2
RAGZ	**Rawiri**	**2.15**	**222**			P	Pn	01 05 18.8	+0.1
RAGZ						S	Sn	01 05 44.7	-0.6
URZ	**Urewera**	**2.17**	**231**			P	Pn	01 05 19.1	+0.2
PRGZ	**Paritu Road**	**2.28**	**208**			P	Pn	01 05 20.0	-0.5
PRGZ						S	Sn	01 05 47.4	-1.1
OPRZ	**Ohinepanea**	**2.34**	**246**			P	Pn	01 05 21.3	0.0
SNGZ	**Shannon Statio**	**2.40**	**218**			P	Pn	01 05 21.9	-0.2
MYRZ	**Mayor Island**	**2.43**	**260**			P	Pn	01 05 22.1	-0.4
KNZ	**Kokohu**	**2.45**	**210**			P	Pn	01 05 21.8	-1.0
MHGZ	**Mahia Peninsul**	**2.47**	**205**			P	Pn	01 05 22.6	-0.6
RTZ	**Ruatahuna**	**2.47**	**226**			P	Pn	01 05 24.0	+0.8
MUGZ	**Murupara**	**2.51**	**231**			P	Pn	01 05 23.8	+0.2
TGRZ	**Tauranga**	**2.52**	**250**			P	Pn	01 05 24.5	+0.7
RRRZ	**Republican Roa**	**2.60**	**236**			P	Pn	01 05 25.4	+0.6
RAHZ	**Arahi**	**2.63**	**220**			P	Pn	01 05 25.5	+0.2
KARZ	**Kaharoa**	**2.63**	**244**			P	Pn	01 05 26.4	+1.1
WHHZ	**Waihua**	**2.68**	**216**			P	Pn	01 05 27.3	+1.3
MTHZ	**Maungataniwha**	**2.72**	**224**			P	Pn	01 05 26.7	+0.2
KMRZ	**Kaimai**	**2.79**	**250**			P	Pn	01 05 28.2	+0.6
ALRZ	**Allen Road**	**2.83**	**234**			P	Pn	01 05 27.6	-0.4
KUZ	**Kuaotunu**	**2.84**	**272**			P	Pn	01 05 26.1	-2.0
NMHZ	**Naumai**	**2.91**	**221**			P	Pn	01 05 29.4	+0.2
ARHZ	**Aropaoanui**	**2.94**	**216**			P	Pn	01 05 29.3	-0.3
TOZ	**Tahuroa Road**	**3.10**	**254**			P	Pn	01 05 30.4	-1.3
GRZ	**Great Barrier**	**3.12**	**281**			P	Pn	01 05 32.3	+0.3
BKZ	**Black Stump Fm**	**3.13**	**223**			P	Pn	01 05 32.1	-0.1
MKAZ	**Moumakai**	**3.28**	**265**			P	Pn	01 05 32.6	-1.6
WIAZ	**Waiheke Island**	**3.30**	**271**			P	Pn	01 05 32.0	-2.5
KAHZ	**Kahuranaki**	**3.43**	**212**			P	Pn	01 05 34.5	-1.8
ETAZ	**East Tamaki Re**	**3.46**	**268**			P	Pn	01 05 37.2	+0.5
MBAZ	**Motutapu North**	**3.49**	**271**			P	Pn	01 05 37.7	+0.6
KRHZ	**Kereru**	**3.54**	**219**			P	Pn	01 05 36.9	-1.0
TMVZ	**Te Maari**	**3.56**	**231**			P	Pn	01 05 38.0	-0.1
ETVZ	**East Tongariro**	**3.57**	**230**			P	Pn	01 05 38.2	-0.1
KRVZ	**Karewarewa**	**3.59**	**232**			P	Pn	01 05 39.7	+1.2
BHHZ	**Black Hill Sta**	**3.59**	**223**			P	Pn	01 05 38.4	-0.2
EPAZ	**Eden Park BICE**	**3.61**	**269**			P	Pn	01 05 40.3	+1.5
OTVZ	**Oturere**	**3.61**	**230**			P	Pn	01 05 39.3	+0.4
SNVZ	**South Ngauruho**	**3.64**	**230**			P	Pn	01 05 38.9	-0.4
TUVZ	**Tukino**	**3.68**	**229**			P	Pn	01 05 39.9	0.0
AWAZ	**Awhitu Peninsu**	**3.69**	**266**			P	Pn	01 05 40.3	+0.4
TWVZ	**Taurewa**	**3.70**	**233**			P	Pn	01 05 41.4	+1.3
MOVZ	**Moawhango**	**3.71**	**227**			P	Pn	01 05 39.5	-0.7
FWVZ	**Far West T-bar**	**3.74**	**230**			P	Pn	01 05 40.7	0.0
WTAZ	**Waiatarua**	**3.75**	**268**			P	Pn	01 05 41.3	+0.6
WNVZ	**Wahianoa**	**3.75**	**229**			P	Pn	01 05 41.5	+0.6
HIZ	**Hauiti**	**3.83**	**244**			P	Pn	01 05 41.4	-0.4
PNHZ	**Pukenui**	**3.83**	**218**			P	Pn	01 05 40.3	-1.5
PKVZ	**Pokaka**	**3.89**	**231**			P	Pn	01 05 43.4	+0.8
WCZ	**Waipu Caves**	**4.07**	**282**			P	Pn	01 05 44.7	-0.4
WAZ	**Wanganui**	**4.39**	**228**			P	Pn	01 05 49.6	+0.1
MRZ	**Mangatainoka R**	**4.71**	**216**			P	Pn	01 05 52.0	-1.9
OUZ	**Omahuta**	**4.88**	**289**			P	Pn	01 05 56.8	+0.6
QRZ	**Quartz Range**	**6.54**	**231**			P	Pn	01 06 16.5	-2.5
CTZ	**Chatham Island**	**7.51**	**156**			P	Pn	01 06 32.4	+0.1

*IDC **03** 01:07:23.0±2.8,4.°66S×153.°34E,h59km±21km,mb3.9/16, mbtmp4.2/17,ML1.7/1,MS3.1/4,Error ellipse: s-maj=23.4km s-min=15.1km az=85.0*

ISC 03 01:07:22.0±0.7,4.°69S±0.°09×153.°35E±0.°10,h50km,n32, σ0°86/29,mb4.2/16,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**

GUWA IAML 01 09 18.4
comp=E,444nm,0.2s

ZIRO ZIRO 3.09 351 *e*P **Pn** **01 08 44.0 +0.8**
ZIRO *e*S **Sn** **01 09 16.7 -2.5**

BRDH Bariadhala 3.11 236 P **Pn** **01 08 44.3 +1.2**
comp=E,79nm,0.3s,baz=269,slow=20,SNR=11
BRDH S **Sn** **01 09 22.0 +2.7**
comp=E,287nm,0.3s,baz=268,slow=22,SNR=26

TURI Tura 3.86 287 *e*P **Pn** **01 08 53.2 -0.2**
TURI *e*S **Sn** **01 09 36.5 -1.1**

GTK Tadong 5.96 300 *e*P **Pn** **01 09 24.3 +2.2**
GTK IAML 01 10 36.9
comp=E,150nm,0.4s

TAPN Taplejung 6.69 297 *e*Pn **Pn** **01 09 34.0 +1.9**
TAPN *e*Sn **Sn** **01 10 47.8 +0.8**
comp=E,34nm,0.3s

ODAN Odare 6.78 292 *e*Pn **Pn** **01 09 34.5 +1.3**
ODAN *e*Sn **Sn** **01 10 48.3 -0.7**
comp=E,106nm,0.4s

ODAN *e*Sn Sn 01 10 48.5 -0.5

CMAR Chiang Mai Arr 7.31 144 P Pn 01 09 37.9 -2.5
comp=E,1.2nm,0.3s,baz=319,slow=12,SNR=6.4
CMAR S **Sn** **01 10 59.5 -2.4**
comp=E,1.2nm,0.3s,baz=266,slow=20,SNR=1.2

RAMN Ramite 7.47 291 *e*Pn **Pn** **01 09 43.7 +0.9**
RAMN *e*Sn **Sn** **01 11 03.7 -2.4**
comp=E,22nm,0.2s

JIRN Jiri 8.05 295 *e*Pn **Pn** **01 09 52.5 +1.7**
JIRN *e*Sn **Sn** **01 11 19.6 -0.8**
comp=E,55nm,0.3s

GUN Gumba 8.40 296 *e*Pn **Pn** **01 09 56.8 +1.3**
GUN *e*Sn **Sn** **01 11 27.6 -1.3**
comp=E,57nm,0.3s

PKI Pulchoki 8.67 293 *e*Pn **Pn** **01 09 59.8 +0.6**
PKI *e*Sn **Sn** **01 11 34.1 -1.4**
comp=E,30nm,0.3s

PKIN Phulchoki 8.69 293 *e*Pn **Pn** **01 10 00.1 +0.8**
PKIN *e*Sn **Sn** **01 11 34.5 -1.2**
comp=E,31nm,0.2s

KKN Kakani 8.85 294 *e*Pn **Pn** **01 10 02.5 +0.9**
KKN *e*Sn **Sn** **01 11 38.7 -1.1**
KKN *e*Sn **Sn** **01 11 38.7 -1.1**

DMN Daman 8.94 292 *e*Sn **Sn** **01 11 40.0 -1.9**
comp=E,53nm,0.3s

GKN Gorkha 9.46 294 *e*Pn **Pn** **01 10 10.1 +0.3**
GKN *e*Sn **Sn** **01 11 51.7 -2.8**
comp=E,36nm,0.3s

KOLN Koldanda 10.26 291 *e*Pn **Pn** **01 10 20.8 0.0**
KOLN *e*Sn **Sn** **01 12 10.3 -3.8**
KOLN *e*Sn Sn 01 12 11.1 -3.0
comp=E,17nm,0.3s

DANN Dangsing 10.31 294 *e*Pn **Pn** **01 10 21.5 0.0**
DANN *e*Sn **Sn** **01 12 12.0 -3.3**
comp=E,12nm,0.3s

PYUN Piuthan 10.87 292 *e*Pn **Pn** **01 10 28.9 -0.2**
PYUN *e*Sn **Sn** **01 12 25.0 -4.0**
comp=E,29nm,0.6s

JBP Jabalpur 13.28 267 *e*P **P** **01 11 08.8 +1.1**
JBP *ex* x 01 11 08.8
baz=207,slow=28

JBP *e*S **Sn** **01 13 29.4 +2.3**

MKAR Makanchi Array 24.31 339 P **P** **01 13 07.5 +2.0**
comp=E,0.7nm,0.5s,baz=143,slow=9.6,SNR=10
comp=E,0.7nm,0.5s

SONM Songino Array 25.19 19 P **P** **01 13 10.9 -2.7**
comp=E,0.9nm,0.8s,baz=200,slow=11,SNR=4.5
comp=E,0.9nm,0.8s

KURBB Kurchatov Arra 28.87 339 P **P** **01 13 46.9 +0.5**
comp=E,0.3nm,0.7s,baz=146,slow=9.1,SNR=2.5
KURBB PcP **PcP** **01 16 53.5 -0.2**
comp=E,0.2nm,0.4s,baz=157,slow=1.9,SNR=4.2
comp=E,0.3nm,0.7s

MJAR Matsushiro Arr 39.30 62 LR LR 01 33 31.2
comp=E,32nm,18.9s,baz=144,slow=39

WRA Warramunga Arr 58.81 135 P P 01 17 42.9 -2.9
comp=E,1.6nm,0.7s,baz=325,slow=7.3,SNR=19
comp=E,1.6nm,0.7s

ASAR Alice Springs 61.28 138 P P 01 18 00.1 -2.5
comp=E,1.2nm,0.8s,baz=321,slow=6.7,SNR=9.5
comp=E,1.2nm,0.8s

BOSA Boshof 84.91 236 P **P** **01 20 22.2 +0.3**
comp=E,2.4nm,0.5s,baz=42,slow=0.4,SNR=8.8
comp=E,2.4nm,0.5s

TORD Torodi Ar. Bea 87.08 283 P **P** **01 20 33.7 +0.9**
comp=E,0.4nm,0.8s,baz=80,slow=4.9,SNR=2.0
comp=E,0.4nm,0.8s

---

*IDC **03** 01:13:02.6±1.1,22°.28S×172°.95E,h0km,mb4.2/8, mbtmp4.1/9,ML3.3/1,MS3.8/22,Error ellipse: s-maj=40.0km s-min=22.4km az=160.0*

ISC 03 01:13:06.6±0.7,22°.3S±0°.2×173°.02E±0°.10,h32km,n77, σ1s47/50,mb4.1/8,MS3.8/22,6C-8D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.10**	**271**	*e*LR	LR	01 16 01.5	
	comp=Z,1μm,23.5s						
DZM	**Mont Dzumac**	**6.10**	**271**	Pn	**Pn**	**01 14 33.8**	**-0.8**
	0.8nm,0.3s,baz=130,slow=13,SNR=28						
DZM				Sn	**Sn**	**01 15 44.1**	**+0.7**
	0.2nm,0.3s,baz=149,slow=23,SNR=1.9						
DZM				LR	LR	01 15 46.2	
	comp=Z,150nm,18.5s,baz=164,slow=27						
	4.0nm,0.5s						
MSVF	**Nonsavu**	**6.56**	**47**	LR	LR	01 16 40.2	
	comp=Z,686nm,19.3s,baz=178,slow=33						
RAO	**Raoul Island**	**10.71**	**132**	LR	LR	01 18 52.1	
	comp=Z,686nm,19.2s,baz=318,slow=32						
RPZ	**Rata Peaks**	**21.42**	**184**	LR	LR	01 24 55.6	
	comp=Z,294nm,21.3s,baz=19,slow=33						
CTA	**Charters Tower**	**25.04**	**270**	P	**P**	**01 18 28.5**	**+0.4**
	2.3nm,0.7s,baz=170,slow=14,SNR=2.1						
CTA				LR	LR	01 28 13.8	
	comp=Z,356nm,18.1s,baz=88,slow=36						
	2.3nm,0.7s						
RAR	**Rarotonga**	**25.29**	**93**	LR	LR	01 28 20.4	
	comp=Z,148nm,18.3s,baz=267,slow=36						
PMG	**Port Moresby**	**27.92**	**293**	LR	LR	01 27 30.9	
	comp=Z,244nm,21.2s,baz=82,slow=31						
STKA	**Stephens Creek**	**29.47**	**244**	LR	LR	01 29 18.9	
	comp=Z,165nm,20.0s,baz=58,slow=33						
TBI	**Tubuai**	**34.54**	**99**	*e*LR	LR	01 28 55.2	
	comp=Z,397nm,30.0s						
PPT2	**Papeete2**	**35.41**	**89**	*e*LR	LR	01 29 20.8	
	comp=Z,448nm,26.2s						
ASAR	**Alice Springs**	**35.96**	**260**	P	**P**	**01 20 04.2**	**-0.4**
	2.4nm,0.8s,baz=89,slow=9.2,SNR=11						
ASAR				LR	LR	01 34 18.3	
	comp=Z,151nm,20.1s,baz=94,slow=36						
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**36.09**	**266**	P	**P**	**01 20 04.0**	**-1.7**
	1.5nm,0.8s,baz=91,slow=8.2,SNR=6.3						
WRA				LR	LR	01 35 02.0	
	comp=Z,245nm,18.4s,baz=64,slow=37						
	1.5nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**41.00**	**351**	T	T	02 04 04.6	
	baz=171,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**41.01**	**351**	T	T	02 04 04.6	
	baz=171,slow=76,SNR=53						
H11S1	**WAKE ISLAND Hy**	**41.02**	**351**	T	T	02 04 06.9	
	baz=171,slow=76,SNR=51						
H11N1	**WAKE ISLAND Hy**	**42.18**	**351**	T	T	02 05 38.4	
	baz=172,slow=74						
H11N3	**WAKE ISLAND Hy**	**42.18**	**351**	T	T	02 05 35.1	
	baz=172,slow=74						
H11N2	**WAKE ISLAND Hy**	**42.20**	**351**	T	T	02 05 35.8	
	baz=172						
FITZ	**Fitzroy Crossi**	**44.52**	**266**	P	**P**	**01 21 15.6**	**0.0**
	6.5nm,0.9s,baz=140,slow=8.5,SNR=7.2						
	6.5nm,0.9s						
GUMO	**Guam**	**45.09**	**320**	LR	LR	01 38 16.2	
	comp=Z,61nm,20.3s,baz=127,slow=34						
SIJI	**Sorong**	**45.85**	**292**	LR	LR	01 40 30.4	
	comp=Z,110nm,18.9s,baz=80,slow=36						
TAOE	**Nuku Hiva Isla**	**46.86**	**81**	*e*LR	LR	01 34 39.2	
	comp=Z,326nm,23.8s						
BATI	**Baumata**	**48.68**	**276**	LR	LR	01 42 04.6	
	comp=Z,298nm,20.7s,baz=148,slow=36						
KAPI	**Kappang**	**54.23**	**280**	LR	LR	01 46 32.1	
	comp=Z,30nm,19.0s,baz=113,slow=37						
RPN	**Rapa Nui**	**69.66**	**112**	LR	LR	01 46 49.9	
	comp=Z,97nm,19.2s,baz=246,slow=29						
PETK	**Petropavlovsk-**	**76.26**	**351**	P	**P**	**01 24 53.9**	**+2.2**
	4.5nm,1.1s,baz=229,slow=5.5,SNR=4.5						
	4.5nm,1.1s						

PSI Prapat 76.40 279 LR LR 02 00 41.5
comp=Z,118nm,18.3s,baz=126,slow=38

MAW Mawson 76.93 202 P **P** **01 24 56.6 +1.1**
1.3nm,0.6s,baz=120,slow=4.2,SNR=4.0
1.3nm,0.6s

CMAR Chiang Mai Arr 82.96 293 P **P** **01 25 31.6 +2.6**
1.3nm,0.3s,baz=116,slow=4.1,SNR=6.2
1.3nm,0.3s

TROLL Troll, Antarti 85.72 183 P **P** **01 25 40.8 -1.4**

SNAA Sanae 86.24 181 P **P** **01 25 42.0 -2.7**

VNA3 Neumayer Olymp 86.69 179 P **P** **01 25 48.0 +1.1**

VNA2 Neumayer--Watz 87.03 180 P **P** **01 25 49.2 +0.7**
baz=173,slow=4.0

YBH Yreka Blue Hor 87.09 42 LR LR 01 57 16.8
comp=Z,28nm,19.4s,baz=247,slow=30

NVAR Mina Array Bea 88.22 47 P **P** **01 25 55.7 +0.7**
0.5nm,0.8s,baz=231,slow=5.3,SNR=4.4
0.5nm,0.8s

BBB Bella Bella 90.14 32 LR LR 01 56 59.5
comp=Z,39nm,21.0s,baz=186,slow=29

SONM Songino Array 91.78 322 LR LR 02 08 19.6
comp=Z,14nm,18.1s,baz=27,slow=36

NEW Newport 93.88 39 LR LR 02 04 50.9
comp=Z,44nm,18.4s,baz=203,slow=33

PLCA Paso Flores 93.90 137 LR LR 02 01 52.0
comp=Z,30nm,18.4s,baz=228,slow=31

PALK Pallekele 94.85 276 LR LR 02 11 36.8
comp=Z,48nm,18.9s,baz=287,slow=37

TESR Tescani 143.65 320 ⇓P **PKPdf** **01 32 37.7 -0.5**

BIZ Bicaz 143.75 321 ⇑P **PKPdf** **01 32 37.2 -1.2**

VRI Vrincioaia 143.92 319 ⇑P **PKPdf** **01 32 37.0 -1.7**

OZUR 144.37 320 ⇓P **PKPdf** **01 32 37.9 -1.7**

MLR Muntele Rosu 144.58 319 ⇓P **PKPdf** **01 32 39.7 -0.4**

MLR Muntele Rosu 144.58 319 PKP **PKPdf** **01 32 40.1 +0.1**
14nm,1.2s,baz=285,slow=2.4,SNR=12

DOPR Dopca 144.68 320 ⇑P **PKPdf** **01 32 40.5 +0.4**

ARCR ARCALIA 144.68 322 ⇑P **PKiKP** **01 32 42.4 -1.4**

ARR Arges 145.44 319 ⇓P **PKPbc** **01 32 40.1 -1.3**

DRGR 145.78 320 ⇓P **PKPab** **01 32 42.8 -0.1**

LOT Lotru 145.91 320 ⇓P **PKiKP** **01 32 46.4 -0.1**

VLAD Vladila 146.27 317 ⇓P **PKiKP** **01 32 45.7 -1.3**

MORC Moravsky Berou 146.45 331 *e*PKP **PKiKP** **01 32 47.0 -0.4**

SIRR Siria 146.67 323 ⇑P **PKPdf** **01 32 43.1 -0.3**

JAVC Velka Javorina 147.05 330 *e*PKP **PKPab** **01 32 46.3 -1.4**

VRAC Vranov 147.22 331 *e*PKP **PKPbc** **01 32 45.3 -1.3**

KRUC Moravsky 147.49 331 *e*PKP **PKPdf** **01 32 44.7 0.0**

BLKB Belogradchik 147.54 318 ⇑P **PKPbc** **01 32 47.1 -0.5**

MORH Mrgy, Hungar 148.35 325 ⇓P **PKPbc** **01 32 48.4 -1.2**

RONA Rosalia, Austr 148.52 329 *e*P **PKiKP** **01 32 51.0 -0.6**
4.8nm,1.0s

CONA Conrad Observa 148.56 330 *e*P **PKiKP** **01 32 51.3 -0.5**
8.5nm,1.3s

GERES GERESS Array B 148.82 333 PKPbc **PKPbc** **01 32 50.3 -0.6**
1.4nm,0.9s,baz=54,slow=2.3,SNR=9.9

ARSA Arzberg 149.21 329 *e*P **PKiKP** **01 32 52.6 -0.5**
2.4nm,1.2s

MOA Molln 149.34 331 *e*P **PKPab** **01 32 54.3 -2.6**
6.4nm,1.4s

BIOA Bad Ischl, Aus 149.74 332 *e*P **PKiKP** **01 32 54.7 +0.6**
9.4nm,1.5s

SOKA Soboth 149.85 329 *e*P **PKPbc** **01 32 51.6 -1.9**
10nm,1.8s

KBA Koelnbreinsper 150.33 331 *e*P **PKPbc** **01 32 54.1 -0.7**
6.1nm,1.4s

WATA Walderalm 150.89 334 *e*P **PKPbc** **01 32 54.9 -1.2**
6.1nm,1.4s

WTTA Wattenberg 150.92 333 *e*P **PKPbc** **01 32 54.2 -2.0**
14nm,1.6s

ABTA Abfaltersbach 150.95 332 *e*P **PKPbc** **01 32 54.6 -1.6**
5.2nm,1.1s

MOTA Moosalm 151.07 334 *e*P **PKPbc** **01 32 54.6 -2.0**
12nm,1.9s

RETA Reutte 151.10 335 P **PKiKP** **01 32 56.7 -0.3**
5.0nm,1.3s

FETA Feichten 151.49 334 *e*P **PKPbc** **01 32 54.1 -3.4**
4.1nm,1.2s

DAVA Damuels 151.60 335 *e*P **PKPbc** **01 32 55.1 -2.7**
5.6nm,1.6s

DAVOX Davos/Dischmat 152.02 335 PKPbc **PKiKP** **01 32 58.4 -0.7**
3.6nm,1.0s,baz=355,slow=7.1,SNR=4.1

TORD Torodi Ar. Bea 167.71 224 PKPab **PKPab** **01 34 19.9 +3.1**
0.6nm,0.8s,baz=145,slow=2.2,SNR=3.2

WEL 03 01:14:31.4±1.4,37°.5S±5°.1×17°.9E±°,h16km±7km,M3.9/89, ML4.0/67,MLv3.9/89,Error ellipse: s-maj=0.0km s-min=0.0km az=72.2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.64**	**256**	P	Pg	01 14 43.7	-0.3
MXZ				S	Sg	01 14 50.8	-1.7
WMGZ	**Waiomatatini S**	**0.67**	**232**	P	Pn	01 14 46.5	+0.2
WMGZ				S	Sn	01 14 56.5	-0.1
PUZ	**Puketiti**	**0.93**	**225**	P	Pn	01 14 50.3	+0.3
PUZ				S	Sn	01 15 02.9	-0.1
PKGZ	**Pakihiroa**	**0.94**	**239**	P	Pn	01 14 49.8	-0.2
PKGZ				S	Sg	01 15 01.8	0.0
HAZ	**Te Kaha**	**1.09**	**251**	P	Pb	01 14 51.2	-0.8
HAZ				S	Sb	01 15 05.5	-0.6
TWGZ	**Tauwhareparae**	**1.17**	**229**	P	Pg	01 14 53.7	-0.2
TWGZ				S	Sg	01 15 09.3	+0.1
RUGZ	**Raukumara Rang**	**1.25**	**243**	P	Pb	01 14 54.6	-0.1
RUGZ				S	Sb	01 15 10.3	-0.4
CNGZ	**Carnagh Statio**	**1.28**	**213**	P	Pg	01 14 56.2	+0.1
TKGZ	**Te Karaka**	**1.42**	**223**	P	Pn	01 14 56.9	+0.3
WIZ	**White Island**	**1.52**	**265**	P	Pn	01 14 58.9	+0.4
MWZ	**Matawai**	**1.54**	**233**	P	Pn	01 14 58.3	-0.1
RIGZ	**Rimuhau**	**1.67**	**219**	P	Pn	01 15 00.2	+0.2
RAGZ	**Rawiri**	**1.71**	**230**	P	Pn	01 15 00.9	+0.2
WHRZ	**Whale Island**	**1.74**	**254**	P	Pn	01 15 01.6	+0.7
URZ	**Urewera**	**1.78**	**241**	P	Pn	01 15 02.1	+0.6
PRGZ	**Paritu Road**	**1.79**	**212**	P	Pn	01 15 01.9	+0.2
SNGZ	**Shannon Statio**	**1.94**	**225**	P	Pn	01 15 03.7	-0.1
KNZ	**Kokohu**	**1.96**	**214**	P	Pn	01 15 03.6	-0.4
MHGZ	**Mahia Peninsul**	**1.97**	**208**	P	Pn	01 15 04.6	+0.3
EDRZ	**Edgecumbe**	**1.99**	**249**	P	Pn	01 15 05.0	+0.5
MARZ	**Manawahe**	**2.00**	**253**	P	Pn	01 15 04.4	-0.2
RTZ	**Ruatahuna**	**2.06**	**233**	P	Pn	01 15 05.9	+0.5
OPRZ	**Ohinepanea**	**2.06**	**257**	P	Pn	01 15 05.1	-0.3
MUGZ	**Murupara**	**2.12**	**239**	P	Pn	01 15 06.4	+0.1
RAHZ	**Arahi**	**2.18**	**226**	P	Pn	01 15 07.6	+0.5
TARZ	**Mount Tarawera**	**2.21**	**247**	P	Pn	01 15 08.2	+0.7
WHKZ	**Waihua**	**2.21**	**221**	P	Pn	01 15 07.5	0.0
RRRZ	**Republican Roa**	**2.24**	**245**	P	Pn	01 15 08.3	+0.4
OMRZ	**Omania**	**2.26**	**251**	P	Pb	01 15 12.4	+0.4
MYRZ	**Mayor Island**	**2.27**	**272**	P	Pn	01 15 08.0	-0.4
MTHZ	**Maungataniwha**	**2.28**	**230**	P	Pn	01 15 09.1	+0.5
HLRZ	**Highlands Stat**	**2.32**	**248**	P	Pn	01 15 09.7	+0.6
KARZ	**Kaharoa**	**2.34**	**254**	P	Pn	01 15 09.5	+0.3
NGRZ	**Ngongotaha**	**2.40**	**252**	P	Pn	01 15 11.0	+0.8
UTU	**Utuhina**	**2.42**	**251**	P	Pn	01 15 12.1	+1.7
ALRZ	**Allen Road**	**2.46**	**241**	P	Pn	01 15 11.0	+0.1
NMHZ	**Naumai**	**2.46**	**226**	P	Pn	01 15 11.2	+0.2
ARHZ	**Aropaoanui**	**2.48**	**221**	P	Pn	01 15 11.4	+0.3
MRHZ	**Matea Rd**	**2.54**	**235**	P	Pn	01 15 12.4	+0.3
WPRZ	**Whakapapatarin**	**2.56**	**244**	P	Pn	01 15 13.2	+0.8
BKZ	**Black Stump Fm**	**2.69**	**229**	P	Pn	01 15 14.2	+0.1
CKHZ	**Cape Kidnapper**	**2.74**	**214**	P	Pn	01 15 14.0	-0.8
KUZ	**Kuaotunu**	**2.77**	**283**	P	Pn	01 15 13.1	-2.1
KUTZ	**Kaahu Road**	**2.80**	**246**	P	Pn	01 15 15.7	+0.1
TOZ	**Tahuroa Road**	**2.87**	**262**	P	Pn	01 15 16.2	-0.3
KWHZ	**Kaweka Forest**	**2.90**	**225**	P	Pn	01 15 16.8	-0.3
KAHZ	**Kahuranaki**	**2.94**	**215**	P	Pn	01 15 16.5	-1.1
RITZ	**Rihia Road**	**2.99**	**237**	P	Pn	01 15 18.6	+0.3
RATZ	**Rangitukua**	**2.99**	**240**	P	Pn	01 15 18.8	+0.5
KRHZ	**Kereru**	**3.08**	**223**	P	Pn	01 15 18.4	-1.1
KATZ	**Kakaramea**	**3.10**	**239**	P	Pn	01 15 20.2	+0.4
GRZ	**Great Barrier**	**3.13**	**291**	P	Pn	01 15 18.7	-1.5
PXZ	**Pawanui**	**3.14**	**213**	P	Pn	01 15 19.0	-1.3
MKAZ	**Moumakai**	**3.15**	**274**	P	Pn	01 15 19.1	-1.3
TMVZ	**Te Maari**	**3.16**	**236**	P	Pn	01 15 20.3	-0.4
ETVZ	**East Tongariro**	**3.17**	**236**	P	Pn	01 15 20.6	-0.1
NTVZ	**North Tongarir**	**3.17**	**237**	P	Pn	01 15 20.8	-0.1
KRVZ	**Karewarewa**	**3.19**	**237**	P	Pn	01 15 21.1	0.0
OTVZ	**Oturere**	**3.21**	**236**	P	Pn	01 15 21.4	-0.1
NNVZ	**North Ngauruho**	**3.23**	**237**	P	Pn	01 15 21.9	+0.3
WTVZ	**West Tongariro**	**3.24**	**237**	P	Pn	01 15 21.9	+0.1
SNVZ	**South Ngauruho**	**3.24**	**236**	P	Pn	01 15 21.7	-0.1
NGZ	**Ngauruhoe**	**3.26**	**236**	P	Pn	01 15 22.0	-0.1
TUVZ	**Tukino**	**3.28**	**234**	P	Pn	01 15 22.2	-0.1
MOVZ	**Moawhango**	**3.29**	**232**	P	Pn	01 15 22.1	-0.3
TWVZ	**Taurewa**	**3.32**	**239**	P	Pn	01 15 22.8	0.0
WHVZ	**Whangaehu Hut**	**3.33**	**235**	P	Pn	01 15 22.6	-0.4
FWVZ	**Far West T-bar**	**3.33**	**235**	P	Pn	01 15 22.8	-0.3
WNVZ	**Wahianoa**	**3.34**	**234**	P	Pn	01 15 22.9	-0.4
ETAZ	**East Tamaki Re**	**3.35**	**277**	P	Pn	01 15 24.9	+1.7
WPHZ	**Waipukurau**	**3.36**	**217**	P	Pn	01 15 22.0	-1.3
PNHZ	**Pukenui**	**3.37**	**221**	P	Pn	01 15 21.8	-1.7
MBAZ	**Motutapu North**	**3.41**	**280**	P	Pn	01 15 24.6	+0.6
PRHZ	**Porangahau**	**3.44**	**213**	P	Pn	01 15 22.3	-2.0
MTVZ	**Mangateitei**	**3.46**	**234**	P	Pn	01 15 24.6	-0.2
PKVZ	**Pokaka**	**3.49**	**236**	P	Pn	01 15 25.2	0.0
HIZ	**Hauiti**	**3.52**	**250**	P	Pn	01 15 26.4	+0.9
AWAZ	**Awhitu Peninsu**	**3.56**	**274**	P	Pn	01 15 27.3	+1.2
TSZ	**Takapari Road**	**3.60**	**222**	P	Pn	01 15 25.0	-1.7
ANWZ	**Angora Road**	**3.67**	**213**	P	Pn	01 15 25.8	-1.6
DVHZ	**Dannevirke**	**3.68**	**217**	P	Pn	01 15 25.8	-1.9
POWZ	**Post Office Ro**	**3.95**	**220**	P	Pn	01 15 29.4	-1.9
PRWZ	**Pori Road**	**3.97**	**217**	P	Pn	01 15 30.1	-1.6
WAZ	**Wanganui**	**3.98**	**233**	P	Pn	01 15 32.3	+0.5
WCZ	**Waipu Caves**	**4.09**	**290**	P	Pn	01 15 32.7	-0.6
NEZ	**North Egmont**	**4.34**	**243**	P	Pn	01 15 38.7	+1.8
PKE	**Pukeiti**	**4.39**	**245**	P	Pn	01 15 36.6	-0.9
OUZ	**Omahuta**	**4.94**	**295**	P	Pn	01 15 44.9	-0.1

IDC 03 01:19:39.6±3.5,5°.93S×152°.08E,h0km,mb3.3/3, mbtmp3.4/3,Error ellipse: s-maj=98.9km s-min=20.0km az=107.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.62**	**358**	Pn	Pg	01 20 10.6	-0.1
	83nm,0.3s,baz=288,slow=1.5,SNR=35						
KRVT				Sn	Sg	01 20 32.4	+0.7
	89nm,0.3s,baz=221,slow=23,SNR=22						
WRA	**Warramunga Arr**	**22.16**	**229**	P	P	01 24 37.7	+0.3
	0.2nm,0.4s,baz=53,slow=10,SNR=3.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**24.84**	**223**	P	P	01 25 04.7	+0.9
	0.3nm,0.7s,baz=58,slow=8.8,SNR=2.6						
	0.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.50**	**243**	P	P	01 25 37.1	+0.2
	0.6nm,0.3s,baz=65,slow=10,SNR=6.0						
	0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**149.95**	**286**	PKPbc	PKPbc	01 39 30.7	-2.4
	0.8nm,0.9s,baz=63,slow=1.2,SNR=4.0						

---

*IDC **03** 01:32:51.3±0.8,77°.03N×18°.37E,h0km,mb3.6/2, mbtmp3.5/6,ML2.5/4,Error ellipse: s-maj=16.7km s-min=6.2km az=73.0*
*NAO **03** 01:32:51.1±0.9,76°.99N×18°.26E,h8km±7km,ML3.4*
*IEPN **03** 01:32:51.0,76°.92N×18°.22E,h10km*
*BER **03** 01:32:53.5±2.1,76°.97N×18°.10E,h17km±7km,ML3.1, MW3.6,ML3.4(NAO),Confirmed Earthquake*

ISC 03 01:32:50.3±1.1,76°.95N±0°.03×18°.44E±0°.03,h18km±5km, n39,σ2s22/64,mb3.7/3,2C-1D,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**0.66**	**276**	Pg	**Pb**	**01 33 03.1**	**-0.1**
HSPB				Lg	Lg	01 33 11.0	
HSPB	**Hornsund (broa**	**0.66**	**276**	*e*P	**Pb**	**01 33 03.1**	**-0.1**
HSPB				*e*S	**Sg**	**01 33 11.0**	**-1.1**
HSPB				*e*		01 33 15.6	
HSPB				IAML		01 33 16.3	
	comp=Z,457nm,0.1s						
HSPB	**Hornsund (broa**	**0.66**	**276**	⇓*i*P	**Pb**	**01 33 03.0**	**-0.1**
HSPB				*i* S	**Sg**	**01 33 11.3**	**-0.8**
SPA0	**Spitsbergen Ar**	**1.31**	**341**	Pn	**Pb**	**01 33 14.2**	**-0.1**
	baz=150,slow=18						
SPA0				Pg	**Pg**	**01 33 15.0**	**-0.6**
SPA0				Lg	Lg	01 33 31.0	
	baz=160,slow=37						
SPA0	**Spitsbergen Ar**	**1.31**	**341**	*e*P	**Pb**	**01 33 14.3**	**-0.1**
SPA0				Pg	**Pg**	**01 33 15.0**	**-0.6**
SPA0				*e*S	**Sb**	**01 33 30.8**	**0.0**
SPA0	**Spitsbergen Ar**	**1.31**	**341**	⇑*i*P	**Pb**	**01 33 14.2**	**-0.1**
SPA0				*i* S	**Sb**	**01 33 30.8**	**0.0**
SPITS	**Spitsbergen Ar**	**1.31**	**341**	Pg	**Pn**	**01 33 14.1**	**+0.5**
	baz=157,slow=19						
SPITS				Lg	Lg	01 33 30.8	
	baz=160,slow=40						
BRBA	**Barentsburg A**	**1.44**	**322**	Pn	**Pb**	**01 33 16.3**	**-0.2**
BRBA				Lg	Lg	01 33 35.7	
BRBA	**Barentsburg A**	**1.44**	**322**	*e*P	**Pg**	**01 33 17.2**	**-0.8**
BRBA				*e*Sg	**Sb**	**01 33 35.7**	**+1.2**
BRBA				IAML		01 33 36.4	
	comp=Z,1μm,0.3s						
BRBB	**Barentsburg B**	**1.47**	**323**	Pn	**Pb**	**01 33 16.9**	**-0.1**
BRBB				Pg	**Pg**	**01 33 18.1**	**-0.4**
BRBB				Lg	Lg	01 33 36.9	
BRBB	**Barentsburg B**	**1.47**	**323**	*e*P	**Pb**	**01 33 16.7**	**-0.3**
BRBB				*e*S	**Sn**	**01 33 35.2**	**+0.7**
HOPEN	**Hopen**	**1.58**	**103**	Pn	**Pb**	**01 33 19.3**	**+0.4**
HOPEN				Sn	**Sg**	**01 33 40.1**	**-1.1**
HOPEN				Lg	Lg	01 33 42.5	
HOPEN	**Hopen**	**1.58**	**103**	*e*P	**Pb**	**01 33 19.3**	**+0.4**
HOPEN				*e*S	**Sg**	**01 33 40.1**	**-1.1**
HOPEN				*e*Sg	**Sb**	**01 33 43.2**	**+4.7**
HOPEN				IAML		01 33 44.6	
	comp=Z,292nm,0.3s						
HOPEN	**Hopen**	**1.58**	**103**	*e*P	**Pb**	**01 33 19.1**	**+0.2**
HOPEN				*e*S	**Sg**	**01 33 39.8**	**-1.4**
KBS	**Kingsbay**	**2.41**	**329**	Pn	**Pn**	**01 33 28.9**	**+0.3**
KBS				Pg	**Pb**	**01 33 34.1**	**+1.2**
KBS				Lg	Lg	01 34 05.4	
KBS	**Kingsbay**	**2.41**	**329**	*i* P	**Pn**	**01 33 28.7**	**+0.1**
KBS	**Kingsbay**	**2.41**	**329**	*

baz=222
MKAR Makanchi Array 39.07 102 P P 01 40 18.5 +2.8
comp=Z,0.7nm,0.8s,baz=337,slow=6.7,SNR=4.8
comp=Z,0.7nm,0.8s
TORD Torodi Ar. Bea 64.40 198 P P 01 43 27.3 +2.4
comp=Z,0.4nm,0.7s,baz=10,slow=7.1,SNR=2.8
comp=Z,0.4nm,0.7s

PRU ***03*** *01:34:11.1±0.0,42.˚79N×13.˚08E,h0km,M4.3*
BGR ***03*** *01:34:11.1±0.7,42.˚55N×13.˚64E,h10km,ML4.8/15,Error ellipse: s-maj=18.9km s-min=12.2km az=82.0*
PDG ***03*** *01:34:12.8±0.6,42.˚80N×13.˚16E,h12km,ML4.2/13,Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
ROM ***03*** *01:34:12.2±0.0,42.˚770N±0.˚001×13.˚132E±0.˚003, h9km,ML4.3/156,Mw4.2,Error ellipse: s-maj=0.2km s-min=0.1km az=239.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-2.64; Mθθ0.25; Mφφ2.39; Mrθ0.20; Mθφ-0.53; Mφr-0.47; Fault plane solution: M₀2.62585×10¹⁵ NP1:φs169.00000°,δ39.00000°, λ-87.00000°. NP2:φs345.00000°,δ51.00000°, λ-92.00000°.*
MED_RC ***03*** *01:34:12.0±0.3,42.˚78N×13.˚13E,h10km,MW4.4/12, Moment Tensor Solution.Mantle waves: s12,c15; Duration: 1ŝ0 Moment tensor: Scale 10¹⁵Nm; Mrr-4.25±.20; Mθθ0.57±.23; Mφφ3.68±.16; Mrθ2.44±.67; Mθφ-0.72±.19; Mφr-3.09±.55; Best double couple: M₀5.62000×10¹⁵ NP1:φs331.00000°,δ67.00000°, λ-101.00000°. NP2:φs179.00000°,δ25.00000°, λ-65.00000°. Principal axes: T 5.2500, Plg22.0000°, Azm70.0000°; N 0.7400, Plg11.0000°, Azm335.0000°; P -5.9900, Plg66.0000°, Azm221.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
IDC ***03*** *01:34:13.1±0.8,42.˚87N×13.˚11E,h0km,mb4.1/19, mbtmp4.1/33,ML3.8/12,MS3.7/41 Error ellipse: s-maj=12.8km s-min=10.3km az=72.0*
BEO ***03*** *01:34:13.9±0.8,42.˚77N×13.˚20E,h0km,ML4.3/9*
NEIC ***03*** *01:34:13.1±1.9,42.˚83N±0.˚05×13.˚10E±0.˚06,h5km±5km, mb4.3/28,Mwr4.2/52,Mwr4.4(ROM),Mwr4.2(VIE),Error ellipse: s-maj=7.9km s-min=6.2km az=208.0*
NEIC ***03*** *01:34:13.4,42.˚82N×13.˚06E,h2km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-2.44; Mθθ0.19; Mφφ2.25; Mrθ-0.04; Mθφ-0.45; Mφr0.78; Fault plane solution: M₀2.52000×10¹⁵ NP1:φs170.77000°, δ54.04000°,λ-87.00000°. NP2:φs345.67000°,δ36.07000°, λ-94.12000°. Principal axes: T 2.4692, Plg9.0000°, Azm259.0000°; N 0.1028, Plg2.0000°, Azm349.0000°; P -2.5720, Plg81.0000°, Azm94.0000°;*
MOS ***03*** *01:34:14.1±1.2,42.˚94N×13.˚24E,h18km,mb4.7/21 Error ellipse: s-maj=6.7km s-min=3.7km az=72.1*
LDG ***03*** *01:34:14.1±0.1,42.˚64N×13.˚18E,h11km,Ml4.2/39,Error ellipse: s-maj=4.1km s-min=2.1km az=40.0*
STR ***03*** *01:34:17.1±1.7,43.˚N±8.˚×1.˚3E±1.˚5,h11km,MLv4.7/20, Error ellipse: s-maj=0.0km s-min=0.0km az=88.6, preliminary*
ISC 03 01:34:13.0±0.6,42.˚77N±0.˚01×13.˚13E±0.˚01,h9km±3km, n701,σ1ŝ81/826,mb4.4/43,MS3.8/37,124C-89D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1213	**Norcia, Frazio**	**0.04**	**182**	⇓	P		**Pg**	**01 34 14.2**	**-0.5**
T1213					S		**Sg**	**01 34 15.2**	**-0.9**
T1214	**Arquata del Tr**	**0.06**	**97**	⇑	P		**Pg**	**01 34 14.3**	**-0.7**
T1214					S		**Sg**	**01 34 15.4**	**-1.2**
T1212	**Cascia, Frazio**	**0.06**	**256**	⇓	P		**Pg**	**01 34 14.8**	**-0.2**
T1212					S		**Sg**	**01 34 16.2**	**-0.3**
NRCA	**Norcia**	**0.07**	**352**				**Pg**	**01 34 14.4**	**-0.7**
NRCA	**Norcia**	**0.07**	**352**	⇑	P		**Pg**	**01 34 14.5**	**-0.6**
NRCA					S		**Sg**	**01 34 15.6**	**-1.0**
NRCA					AML		AML		
NRCA					AML		AML		
NRCA					AML		AML		
NRCA					AML		AML		
NRCA					AML		AML		
T1242	**Castelluccio d**	**0.09**	**42**	⇑	P		**Pg**	**01 34 14.7**	**-0.7**
T1242					S		**Sg**	**01 34 15.9**	**-1.2**
T1242					AML		AML		
T1242					AML		AML		
T1242					AML		AML		
T1242					AML		AML		
T1202	**Accumoli, Fraz**	**0.10**	**131**	⇑	P		**Pg**	**01 34 15.2**	**-0.3**
T1202					S		**Sg**	**01 34 17.0**	**-0.2**
T1202					AML		AML		
T1202					AML		AML		
T1202					AML		AML		
T1218	**Civita (PG)**	**0.10**	**185**	⇓	P		**Pg**	**01 34 15.3**	**-0.2**
T1218					S		**Sg**	**01 34 17.3**	**+0.1**
T1244	**Arquata del Tr**	**0.13**	**94**	⇑	P		**Pg**	**01 34 15.7**	**-0.2**
T1244					AML		AML		
T1244					AML		AML		
T1244					AML		AML		
T1244					AML		AML		
T1244					AML		AML		
T1244					AML		AML		
T1201	**Domo (RI)**	**0.14**	**140**	⇑	P		**Pg**	**01 34 16.2**	**+0.1**
T1216	**Preci, Frazion**	**0.15**	**327**	⇓	P		**Pg**	**01 34 15.9**	**-0.3**
T1216					S		**Sg**	**01 34 18.4**	**0.0**
MC2	**Monte Cornacci**	**0.15**	**18**	⇑	P		**Pg**	**01 34 16.0**	**-0.4**
MC2					S		**Sg**	**01 34 19.0**	**+0.2**
T1217	**Poggiodomo (PG**	**0.15**	**249**	⇓	P		**Pg**	**01 34 16.4**	**+0.1**
T1217					S		**Sg**	**01 34 19.3**	**+0.7**
T1204	**Amatrice, Fraz**	**0.17**	**123**	⇑	P		**Pg**	**01 34 16.5**	**0.0**
T1204					S		**Sg**	**01 34 19.5**	**+0.5**
T1204					AML		AML		
T1204					AML		AML		
	comp=N,69450μm,1.0s								
T1204					AML		AML		
	comp=N,69600μm,1.0s								
LNSS	**Leonessa**	**0.18**	**201**	⇓	P		**Pg**	**01 34 16.7**	**+0.1**
LNSS					S		**Sg**	**01 34 20.2**	**+1.0**
LNSS					AML		AML		
LNSS					AML		AML		
T1215	**Vallo di Nera,**	**0.19**	**281**	⇓	P		**Pg**	**01 34 17.0**	**0.0**
T1215					S		**Sg**	**01 34 20.4**	**+0.7**
T1215					AML		AML		
T1215					AML		AML		
T1215					AML		AML		
T1215					AML		AML		
T1215					AML		AML		
T1215					AML		AML		
T1215					AML		AML		
FEMA	**Monte Fema**	**0.20**	**344**	⇑	P		**Pg**	**01 34 17.0**	**-0.2**
FEMA					S		**Sg**	**01 34 20.2**	**+0.1**
FEMA					AML		AML		
FEMA					AML		AML		
FEMA					AML		AML		
FEMA					AML		AML		
SMA1	**SAN MARTINO**	**0.20**	**131**	⇑	P		**Pg**	**01 34 17.1**	**-0.1**
SMA1					S		**Sg**	**01 34 20.7**	**+0.6**
SMA1					AML		AML		
SMA1					AML		AML		
SMA1					AML		AML		
SMA1					AML		AML		
T1241	**Roccafluvione,**	**0.24**	**68**	⇑	P		**Pg**	**01 34 17.5**	**-0.3**
T1241					S		**Sg**	**01 34 21.7**	**+0.6**
T1241					AML		AML		
T1241					AML		AML		
T1241					AML		AML		
	comp=N,88100μm,1.4s								
T1241					AML		AML		
	comp=N,91350μm,1.4s								
T1241					AML		AML		
	comp=E,97800μm,0.7s								
T1241					AML		AML		
T1243	**Rocca Santa Ma**	**0.25**	**106**	⇑	P		**Pg**	**01 34 17.6**	**-0.4**
T1243					S		**Sg**	**01 34 21.6**	**+0.3**
RM33	**Pellescritta (**	**0.27**	**166**	⇓	P		**Pg**	**01 34 18.3**	**0.0**
RM33					S		**Sg**	**01 34 22.6**	**+0.7**
RM33					AML		AML		
	comp=N,37550μm,1.5s								
RM33					AML		AML		
	comp=N,38100μm,1.5s								
RM33					AML		AML		
	comp=E,46150μm,1.5s								
RM33					AML		AML		
	comp=N,37600μm,1.5s								
RM33					AML		AML		
	comp=N,38150μm,1.5s								
RM33					AML		AML		
	comp=E,45450μm,1.5s								
FDMO	**Fiordimonte**	**0.27**	**354**				**Pg**	**01 34 18.2**	**-0.3**
FDMO	**Fiordimonte**	**0.27**	**354**	⇑	P		**Pg**	**01 34 18.1**	**-0.3**
FDMO					S		**Sg**	**01 34 22.4**	**+0.3**
FDMO					AML		AML		
FDMO					AML		AML		
CESI	**CESI - Serrava**	**0.29**	**326**	⇓	P		**Pg**	**01 34 18.6**	**-0.2**
CESI					S		**Sg**	**01 34 23.2**	**+0.5**
T1211	**Morro Reatino**	**0.31**	**221**	⇓	P		**Pg**	**01 34 19.1**	**0.0**
T1211					S		**Sg**	**01 34 24.2**	**+1.0**
CAMP	**Campotosto**	**0.31**	**138**				**Pg**	**01 34 18.9**	**-0.2**
CAMP	**Campotosto**	**0.31**	**138**	⇑	P		**Pg**	**01 34 18.9**	**-0.2**
CAMP					S		**Sg**	**01 34 24.1**	**+0.8**
CAMP					AML		AML		
	comp=E,27050μm,1.3s								
CAMP					AML		AML		
	comp=N,33800μm,0.6s								
ARRO	**Arrone**	**0.33**	**235**	⇓	P		**Pg**	**01 34 19.4**	**0.0**
T1246	**Crognaleto (TE**	**0.33**	**124**	⇑	P		**Pg**	**01 34 19.1**	**-0.3**
T1246					S		**Sg**	**01 34 24.4**	**+0.6**
CSP1	**Cessapalombo**	**0.33**	**10**	⇑	P		**Pg**	**01 34 19.1**	**-0.5**
CSP1					S		**Sg**	**01 34 24.4**	**+0.4**
CSP1					AML		AML		
CSP1					AML		AML		
CSP1					AML		AML		
GUMA	**Gualdo di Mace**	**0.33**	**27**	⇑	P		**Pg**	**01 34 19.5**	**-0.1**
GUMA					S		**Sg**	**01 34 24.8**	**+0.8**
GUMA					AML		AML		
GUMA					AML		AML		
GUMA					AML		AML		
GUMA					AML		AML		
GUMA					AML		AML		
GUMA					AML		AML		
T1247	**Pizzolo (AQ)**	**0.35**	**159**	⇓	P		**Pg**	**01 34 19.7**	**-0.1**
T1247					S		**Sg**	**01 34 25.1**	**+0.7**
TERO	**Teramo**	**0.38**	**112**	⇑	P		**Pg**	**01 34 19.9**	**-0.5**
TERO					S		**Sg**	**01 34 26.2**	**+0.8**
TERO					AML		AML		
	comp=E,28600μm,0.9s								
TERO					AML		AML		
	comp=N,28200μm,0.7s								
TERO					AML		AML		
	comp=E,29800μm,0.9s								
TERO					AML		AML		
	comp=N,29200μm,1.1s								
TERO					AML		AML		
	comp=E,28650μm,0.9s								
TERO					AML		AML		
	comp=N,28250μm,0.7s								
SEF1	**Sefro**	**0.40**	**341**	⇑	P		**Pg**	**01 34 20.5**	**-0.4**
SEF1					S		**Sg**	**01 34 26.8**	**+0.6**
SEF1					AML		AML		
SEF1					AML		AML		
PIO1	**Pioraco**	**0.42**	**346**	⇑	P		**Pg**	**01 34 20.8**	**-0.4**
PIO1					S		**Sg**	**01 34 27.4**	**+0.5**
PIO1					AML		AML		
	comp=E,93250μm,1.0s								
PIO1					AML		AML		
	comp=E,93600μm,1.0s								
PIO1					AML		AML		
MDAR	**Monte D'Aria**	**0.43**	**2**	⇑	P		**Pg**	**01 34 20.8**	**-0.5**
MDAR					S		**Sg**	**01 34 27.5**	**+0.5**
MDAR					AML		AML		
	comp=E,88900μm,0.5s								
MDAR					AML		AML		
	comp=N,95650μm,0.5s								
MDAR					AML		AML		
	comp=E,89400μm,0.5s								
MDAR					AML		AML		
	comp=N,95600μm,0.5s								
CESX	**Cesi**	**0.43**	**249**				**Pg**	**01 34 21.1**	**-0.3**
CESX	**Cesi**	**0.43**	**249**	⇓	P		**Pg**	**01 34 21.1**	**-0.3**
CESX					AML		AML		
	comp=E,53400μm,0.6s								
CESX					AML		AML		
	comp=N,54250μm,0.5s								
ASSB	**Assisi San Ben**	**0.44**	**309**	⇓	P		**Pg**	**01 34 21.2**	**-0.3**
ASSB					S		**Sg**	**01 34 28.1**	**+0.7**
OFFI	**Offida**	**0.44**	**67**	⇑	P		**Pg**	**01 34 22.0**	**+0.4**
OFFI					AML		AML		
	comp=N,79600μm,0.9s								
OFFI					AML		AML		
	comp=E,78800μm,0.6s								
FIU1	**Fiuminata**	**0.45**	**341**	⇓	P		**Pg**	**01 34 21.4**	**-0.3**
FIU1					S		**Sg**	**01 34 28.1**	**+0.6**
FIU1					AML		AML		
FIU1					AML		AML		
	comp=N,99250μm,0.2s								
FIU1					AML		AML		
	comp=N,99650μm,0.2s								
FIU1					AML		AML		
MNTP	**Montappone**	**0.45**	**34**	⇑	P		**Pg**	**01 34 21.8**	**+0.1**
MNTP					AML		AML		
MNTP					AML		AML		
GIGS	**Gran Sasso**	**0.45**	**134**	⇑	P		**Pg**	**01 34 21.1**	**-0.7**
GIGS					AML		AML		
	comp=N,5705μm,1.4s								
GIGS					AML		AML		
	comp=E,6400μm,1.2s								
SSM1	**San Severino M**	**0.46**	**4**	⇑	P		**Pg**	**01 34 21.5**	**-0.5**
SSM1					S		**Sg**	**01 34 28.8**	**+0.7**
GAG1	**Gagliole**	**0.47**	**355**	⇑	P		**Pg**	**01 34 21.8**	**-0.4**
GAG1					S		**Sg**	**01 34 29.3**	**+0.9**
GAG1					AML		AML		
GAG1					AML		AML		
GAG1					AML		AML		
FIAM	**Fiamignano**	**0.50**	**181**	⇓	P		**Pg**	**01 34 22.2**	**-0.4**
FIAM					AML		AML		
	comp=E,17400μm,0.7s								
FIAM					AML		AML		
	comp=N,16200μm,0.8s								
MTL1	**Matelica**	**0.50**	**350**	⇑	P		**Pg**	**01 34 22.3**	**-0.3**
MTL1					S		**Sg**	**01 34 30.1**	**+0.9**
MTL1					AML		AML		
MTL1					AML		AML		
MTL1					AML		AML		
SNTG	**Esanatoglia**	**0.51**	**344**	⇑	P		**Pg**	**01 34 22.3**	**-0.6**
SNTG					S		**Sg**	**01 34 30.2**	**+0.7**
SNTG					AML		AML		
	comp=E,8625μm,0.6s								
SNTG					AML		AML		
	comp=N,8955μm,0.1s								
SNTG					AML		AML		
	comp=N,8950μm,0.1s								
SNTG					AML		AML		
	comp=E,8630μm,0.6s								
SNTG					AML		AML		
	comp=E,71700μm,0.6s								
SNTG					AML		AML		
	comp=N,76350μm,0.1s								
ATCC	**AVT- Casa Cast**	**0.55**	**320**	⇓	P		**Pg**	**01 34 23.3**	**-0.4**
ATCC					S		**Sg**	**01 34 31.5**	**+0.6**
ATCC					AML		AML		
ATCC					AML		AML		
TRE1	**Treia**	**0.56**	**14**	⇑	P		**Pg**	**01 34 23.7**	**-0.2**
TRE1					S		**Sb**	**01 34 32.9**	**-0.3**
TRE1					AML		AML		
TRE1					AML		AML		
EL6	**Elcito**	**0.56**	**358**	⇑	P		**Pg**	**01 34 23.3**	**-0.6**
EL6					S		**Sg**	**01 34 32.1**	**+0.8**
EL6					AML		AML		
EL6					AML		AML		
EL6					AML		AML		
TRTR	**Tortoreto Alta**	**0.58**	**86**	⇑	P		**Pb**	**01 34 24.8**	**-0.5**
TRTR					AML		AML		
	comp=N,53000μm,1.6s								
TRTR					AML		AML		
	comp=E,71350μm,1.1s								
FOSV	**Fossato di Vic**	**0.59**	**333**	⇓	P		**Pg**	**01 34 23.9**	**-0.6**
FOSV					S		**Sg**	**01 34 33.1**	**+0.9**
FAGN	**Fagnano**	**0.60**	**146**	⇑	P		**Pg**	**01 34 23.8**	**-0.8**
FAGN					AML		AML		
	comp=E,26100μm,0.5s								
FAGN					AML		AML		
	comp=N,23100μm,1.5s								
CING	**Cingoli**	**0.61**	**5**	⇑	P		**Pg**	**01 34 24.1**	**-0.7**
CING					S		**Sb**	**01 34 33.8**	**-0.8**
CING					AML		AML		
	comp=E,49600μm,0.5s								
CING					AML		AML		
	comp=N,39800μm,0.7s								
CADA	**Capodarco di F**	**0.63**	**47**	⇑	P		**Pb**	**01 34 25.9**	**-0.3**
CADA					AML		AML		
	comp=N,78000μm,0.5s								
CADA					AML		AML		
	comp=E,82850μm,1.6s								
CADA					AML		AML		
	comp=N,78050μm,0.5s								
VCEL	**Villa Celiera**	**0.65**	**125**	⇑	P		**Pg**	**01 34 24.8**	**-0.6**
VCEL					AML		AML		
	comp=N,27000μm,1.6s								
VCEL					AML		AML		
	comp=E,20000μm,1.5s								
MURB	**Monte Urbino**	**0.67**	**319**				**Pg**	**01 34 25.4**	**-0.5**
MURB	**Monte Urbino**	**0.67**	**319**	⇓	P		**Pg**	**01 34 25.3**	**-0.5**
MURB					S		**Sb**	**01 34 35.6**	**-0.6**
MURB					AML		AML		
MURB					AML		AML		
MURB					AML		AML		
MURB					AML		AML		
MURB					AML		AML		
MURB					AML		AML		
CIMA	**Civitanova Mar**	**0.67**	**36**		P		**Pg**	**01 34 26.3**	**+0.4**
MMUR	**Monte Murano**	**0.68**	**352**	⇓	P		**Pg**	**01 34 25.5**	**-0.6**
MMUR					AML		AML		
	comp=N,84600μm,0.6s								
MMUR					AML		AML		
	comp=E,91150μm,0.9s								
MMUR					AML		AML		
	comp=N,84600μm,0.6s								
SRES	**S.Oreste - Sor**	**0.70**	**221**	⇓	P		**Pg**	**01 34 25.8**	**-0.7**
SRES					AML		AML		
	comp=N,9410μm,1.6s								
SRES					AML		AML		
	comp=E,10590μm,1.2s								
PP3	**Marolino**	**0.71**	**30**	⇑	P		**Pg**	**01 34 26.7**	**+0.1**
PP3					AML		AML		
PP3					AML		AML		
	comp=N,94450μm,0.6s								
PP3					AML		AML		
PP3					AML		AML		
	comp=N,88950μm,0.6s								
PP3					AML		AML		
	comp=N,94500μm,0.6s								
PP3					AML		AML		
ATTE	**AVT- Monte Tez**	**0.71**	**307**	⇓	P		**Pg**	**01 34 26.1**	**-0.7**
ATTE					AML		AML		
	comp=E,38650μm,1.0s								
ATTE					AML		AML		
	comp=N,27850μm,0.7s								
SSFR	**Montelago di S**	**0.72**	**339**	⇑	P		**Pg**	**01 34 26.0**	**-0.7**
SSFR					AML		AML		
SSFR					AML		AML		
	comp=N,83300μm,0.2s								
SSFR					AML		AML		
	comp=N,82750μm,0.7s								
SSFR					AML		AML		
SSFR					AML		AML		
SSFR					AML		AML		
	comp=N,83300μm,0.2s								
T0110	**Collepietro**	**0.72**	**138**	⇑	P		**Pg**	**01 34 25.8**	**-1.1**
T0110					AML		AML		
	comp=E,22900μm,0.6s								
T0110					AML		AML		
	comp=N,21200μm,0.5s								
ATFO	**Monte Foce - G**	**0.72**	**326**	⇓	P		**Pg**	**01 34 26.3**	**-0.7**
ATFO					AML		AML		
	comp=E,45750μm,0.7s								
ATFO					AML		AML		
	comp=N,45750μm,1.0s								
ATSC	**Scheggia e Pas**	**0.73**	**334**	⇓	P		**Pg**	**01 34 26.2**	**-0.9**
ARVD	**Arcevia**	**0.74**	**350**	⇑	P		**Pg**	**01 34 26.5**	**-0.8**
ARVD					S		**Sb**	**01 34 38.1**	**-0.3**
ARVD					AML		AML		
	comp=N,28350μm,0.7s								
ARVD					AML		AML		
	comp=E,38000μm,1.0s								
ATLO	**AVT- Montelove**	**0.76**	**316**	⇓	P		**Pg**	**01 34 26.8**	**-0.8**
MGAB	**Montegabbione**	**0.76**	**281**	⇓	P		**Pg**	**01 34 27.2**	**-0.4**
MGAB					AML		AML		
	comp=E,60550μm,0.5s								
MGAB					AML		AML		
	comp=N,61750μm,0.7s								
MGAB					AML		AML		
	comp=N,65400μm,0.5s								
MGAB					AML		AML		
	comp=E,66200μm,1.3s								
PTQR	**Pietraquaria**	**0.77**	**165**		P		**Pg**	**01 34 26.8**	**-1.0**
PTQR					AML		AML		
	comp=N,6005μm,0.8s								
PTQR					AML		AML		
	comp=E,7925μm,1.6s								
MTCE	**Montecelio**	**0.80**	**201**	⇓	P		**Pg**	**01 34 27.1**	**-1.2**
MTCE					AML		AML		
	comp=E,11365μm,1.5s								
MTCE					AML		AML		
	comp=N,8170μm,1.6s								
TB02	**Pietralunga**	**0.80**	**319**	⇓	P		**Pg**	**01 34 27.5**	**-0.9**
ATVA	**AVT- Monte Val**	**0.80**	**310**	⇓	P		**Pg**	**01 34 27.6**	**-0.8**
FRON	**Frontone**	**0.81**	**339**	⇓	P		**Pg**	**01 34 27.4**	**-1.1**
FRON					AML		AML		
	comp=E,23300μm,0.4s								
FRON					AML		AML		
	comp=N,32650μm,0.5s								
ATVO	**AVT- Monte Val**	**0.81**	**320**	⇓	P		**Pg**	**01 34 27.7**	**-0.9**
ATVO					AML		AML		
	comp=N,30600μm,1.4s								
ATVO					AML		AML		
	comp=E,29850μm,0.5s								
CERT	**Cerreto**	**0.82**	**188**	⇓	P		**Pg**	**01 34 27.5**	**-1.3**
CERT					AML		AML		
	comp=N,11460μm,1.3s								
CERT					AML		AML		
	comp=E,13550μm,0.5s								
TB03	**Pietralunga**	**0.82**	**321**	⇓	P		**Pg**	**01 34 27.9**	**-0.9**
ATBU	**Serra di Buran**	**0.83**	**329**	⇓	P		**Pg**	**01 34 28.1**	**-0.7**
ATMI	**Monte Miggiano**	**0.85**	**312**	⇑	P		**Pg**	**01 34 28.6**	**-0.7**
ATMI					AML		AML		
	comp=N,87550μm,0.4s								
ATMI					AML		AML		
	comp=E,72900μm,0.5s								
AOI	**Ancona**	**0.86**	**24**	⇑	P		**Pg**	**01 34 28.7**	**-0.7**
AOI					AML		AML		
	comp=E,22450μm,0.4s								
AOI					AML		AML		
	comp=N,30050μm,0.8s								
ATPC	**Poggio Castell**	**0.87**	**326**	⇓	P		**Pg**	**01 34 28.8**	**-0.9**
ATPI	**Pietralunga -**	**0.87**	**322**	⇓	P		**Pg**	**01 34 28.7**	**-0.9**
ATPI					AML		AML		
	comp=N,19300μm,0.5s								
ATPI					AML		AML		
	comp=E,29150μm,1.4s								
COR1	**Corinaldo**	**0.87**	**354**	⇑	P		**Pg**	**01 34 29.6**	**-0.1**
COR1					AML		AML		
	comp=N,58900μm,1.3s								
COR1					AML		AML		
	comp=N,57700μm,1.4s								
COR1					AML		AML		
	comp=E,75950μm,0.6s								
COR1					AML		AML		
	comp=E,40700μm,0.6s								
PIEI	**Pieia**	**0.88**	**331**		P		**Pg**	**01 34 28.8**	**-1.2**
SACS	**San Casciano d**	**0.90**	**276**	⇓	P		**Pg**	**01 34 29.8**	**-0.5**
SACS					AML		AML		
	comp=N,22750μm,0.8s								
SACS					AML		AML		
	comp=E,18600μm,0.9s								
SACS					AML		AML		
	comp=N,22600μm,0.7s								
SACS					AML		AML		
	comp=E,19900μm,1.3s								
MPAG	**Monte Paganucc**	**0.90**	**343**	⇑	P		**Pg**	**01 34 29.4**	**-0.9**
MPAG					AML		AML		
	comp=N,25850μm,0.8s								
MPAG					AML		AML		
	comp=E,32450μm,0.3s								
MPAG					AML		AML		
	comp=N,25850μm,0.8s								
MPAG					AML		AML		
	comp=N,26450μm,0.8s								
MPAG					AML		AML		
	comp=E,32400μm,0.3s								
RCAV	**Rocca di Cave**	**0.93**	**188**	⇑	P		**Pg**	**01 34 29.5**	**-1.3**
RCAV					AML		AML		
	comp=N,10330μm,1.6s								

RCAV AML AML
comp=E,10050µm,1.6s
NARO Abbazia di Nar 0.93 335 ⇓P Pg 01 34 29.6 -1.3
NARO AML AML
comp=N,22850µm,1.3s
NARO AML AML
comp=E,16000µm,0.6s
SENI Senigallia 0.94 5 P Pg 01 34 30.8 -0.3
SENI AML AML
comp=E,95250µm,0.3s
SENI AML AML
SENI AML AML
comp=E,39300µm,0.9s
SENI AML AML
comp=N,42200µm,0.8s
SENI AML AML
comp=N,42150µm,0.8s
SENI AML AML
comp=E,95100µm,0.3s
APEC Apecchio 0.95 327 ⇑P Pg 01 34 30.3 -0.9
APEC AML AML
comp=E,5700µm,0.4s
APEC AML AML
comp=N,7510µm,0.8s
APEC AML AML
comp=E,5695µm,0.4s
INTR Introdacqua 0.95 142 ⇑P Pg 01 34 29.5 -1.7
INTR AML AML
comp=E,7µm,0.6s
INTR AML AML
comp=N,11µm,0.8s
INTR AML AML
comp=N,16850µm,0.8s
INTR AML AML
comp=E,7225µm,0.6s
INTR AML AML
comp=N,11µm,0.8s
INTR AML AML
comp=E,7µm,0.6s
FSSB Fossombrone 0.96 345 ⇑P Pg 01 34 30.5 -1.0
FSSB AML AML
comp=N,88350µm,0.4s
FSSB AML AML
comp=E,86350µm,0.4s
ATMC Monte Cedrone 0.96 315 P Pg 01 34 30.6 -0.9
VVLD Villa Vallelon 0.97 158 P Pg 01 34 30.6 -0.9
VVLD AML AML
comp=N,5155µm,0.9s
VVLD AML AML
comp=E,7070µm,0.9s
GUAR Guarcino 0.98 172 P Pg 01 34 30.7 -1.1
GUAR AML AML
comp=E,9595µm,1.4s
GUAR AML AML
comp=N,7080µm,1.5s
BADI Badiali 0.98 319 ⇓P Pg 01 34 30.9 -1.0
BADI AML AML
comp=E,1060µm,0.7s
BADI AML AML
comp=N,23400µm,0.8s
LATE Laterza 0.99 262 Pg 01 34 31.7 -0.2
LATE Laterza 0.99 262 ⇓P Pg 01 34 31.4 -0.5
RMP Rome, Mte Porz 1.00 198 ⇓P Pg 01 34 30.8 -1.5
RMP AML AML
comp=N,13950µm,1.6s
RMP AML AML
comp=E,9550µm,1.0s
CAFI Castiglion Fio 1.02 304 ⇓P Pg 01 34 31.6 -0.9
CAFI AML AML
comp=E,17800µm,1.2s
CAFI AML AML
comp=N,20300µm,0.6s
CAFI AML AML
comp=N,21200µm,0.6s
CAFI AML AML
comp=E,18700µm,1.2s
PE3 Peglio 1.04 334 ⇓P Pg 01 34 31.9 -1.0
PE3 AML AML
comp=E,144µm,0.3s
PE3 AML AML
comp=N,43800µm,0.3s
VIVA Pratoni del Vi 1.05 195 P Pg 01 34 32.1 -1.0
VIVA AML AML
comp=N,16200µm,0.5s
VIVA AML AML
comp=E,19350µm,0.5s
CAFR Castel Frentan 1.05 120 ⇑P Pg 01 34 31.8 -1.4
CAFR AML AML
comp=N,6935µm,0.7s
CAFR AML AML
comp=E,32µm,0.5s
RDP Rocca di Papa 1.05 197 ⇑P Pg 01 34 31.6 -1.5
RDP AML AML
comp=N,18100µm,1.5s
RDP AML AML
comp=E,13450µm,0.6s
LPEL Lama dei Pelig 1.06 132 ⇑P Pg 01 34 31.4 -1.9
LPEL AML AML
comp=N,6285µm,1.5s
LPEL AML AML
comp=E,7420µm,0.6s
SF03 Valle Cupa 1.06 272 ⇓P Pg 01 34 33.0 -0.3
MCIV Monte Civitell 1.07 271 ⇑P Pg 01 34 33.2 -0.3
MCIV AML AML
comp=E,7480µm,0.6s
MCIV AML AML
comp=N,7415µm,0.8s
SF11 Podere del Sol 1.07 276 ⇑P Pg 01 34 33.0 -0.5
SF04 Casetta 1.08 274 ⇓P Pg 01 34 33.3 -0.5
SF04 AML AML
comp=E,12215µm,0.4s
SF04 AML AML
comp=N,9360µm,0.5s
SSP9 Sansepolcro 1.09 318 P Pg 01 34 33.2 -0.7
SSP9 AML AML
comp=N,16250µm,1.3s
SSP9 AML AML
comp=E,16450µm,1.5s
TOLF Tolfa 1.09 230 ⇓P Pg 01 34 32.8 -1.1
PARC Parchiule 1.09 324 ⇓P Pg 01 34 32.9 -1.1
PARC AML AML
comp=E,18300µm,1.3s
PARC AML AML
comp=N,25900µm,1.6s
SF13 Bagnolo 1.11 273 ⇑P Pg 01 34 33.6 -0.7
SF14 Selvena 1.11 270 ⇑P Pg 01 34 33.6 -0.7
LAV9 Lanuvio 1.13 196 P Pg 01 34 34.1 -0.6
LAV9 AML AML
comp=N,12300µm,1.5s
LAV9 AML AML
comp=E,14065µm,1.5s
LAV9 AML AML
comp=E,13815µm,1.5s
LAV9 AML AML
comp=N,13050µm,1.5s
POFI Posta Fibreno 1.14 157 P Pg 01 34 33.5 -1.3
POFI AML AML
comp=E,4605µm,0.9s
POFI AML AML
comp=E,4775µm,0.9s
POFI AML AML
comp=N,4070µm,1.2s
POFI AML AML
comp=N,4195µm,1.2s
SF01 Poggio Pratacc 1.15 273 ⇑P Pg 01 34 34.5 -0.6
SF01 AML AML
comp=E,18400µm,0.7s
SF01 AML AML
comp=N,12700µm,0.8s
LRP Arpino 1.17 163 P Pb 01 34 35.1 -0.2
LRP AML AML
comp=E,3280µm,1.2s
LRP AML AML
comp=N,5050µm,0.8s
CPGN Carpegna, Ital 1.19 331 P Pb 01 34 35.3 -0.5
CPGN AML AML
CPGN AML AML
PESA Pesaro 1.19 350 ⇑P Pb 01 34 35.0 -0.8
PESA AML AML
comp=N,36600µm,1.4s
PESA AML AML
comp=E,30750µm,0.8s
GIUL Giuliano Di Ro 1.21 175 ⇑P Pb 01 34 35.1 -1.0
GIUL AML AML
comp=N,3805µm,1.6s
GIUL AML AML
comp=E,3590µm,0.7s
CRE Caprese Michel 1.21 315 P Pb 01 34 35.1 -1.0
CRE AML AML
comp=E,13050µm,0.6s
CRE AML AML
comp=N,9295µm,0.3s
ARCI Arcidosso 1.22 275 ⇑P Pb 01 34 35.7 -0.6
ARCI AML AML
comp=N,3350µm,0.8s
ARCI AML AML
comp=E,5000µm,0.9s
RSM Repubblica di 1.26 337 ⇓P Pg 01 34 37.3 0.0
RSM AML AML
comp=E,21350µm,1.6s
RSM AML AML
comp=N,22450µm,0.8s
RNI2 Rionero Sannit 1.31 144 P Pn 01 34 36.9 -0.6
RNI2 AML AML
comp=N,8075µm,1.6s
RNI2 AML AML
comp=E,8435µm,1.6s
RNI2 AML AML
comp=E,8260µm,1.6s
RNI2 AML AML
comp=N,8445µm,1.6s
CERA Filignano 1.34 150 P Pn 01 34 37.4 -0.5
CERA AML AML
comp=N,6325µm,1.6s
CERA AML AML
comp=E,6320µm,1.6s
CERA AML AML
comp=N,6615µm,1.6s
CERA AML AML
comp=E,6110µm,1.6s
FRES Fresagrandinar 1.39 124 ⇑P Pg 01 34 39.5 -0.2
FRES AML AML
comp=E,4660µm,0.9s
FRES AML AML
comp=N,3895µm,1.6s
MIDA Miranda 1.40 143 ⇑P Pn 01 34 37.8 -1.0
MIDA AML AML
comp=N,3600µm,1.4s
MIDA AML AML
comp=E,4005µm,0.8s
MIDA AML AML
comp=N,3740µm,1.6s
MIDA AML AML
comp=E,4115µm,1.6s
ASQU Asqua 1.42 317 ⇑P Pn 01 34 37.9 -1.1
ASQU AML AML
comp=E,7570µm,0.6s
ASQU AML AML
comp=N,13300µm,0.8s
TRIV Trivento 1.45 133 ⇑P Pb 01 34 39.9 -0.3
TRIV AML AML
comp=E,4905µm,0.8s
TRIV AML AML
comp=N,4980µm,1.6s
TRIV AML AML
comp=E,4675µm,0.8s
TRIV AML AML
comp=N,4715µm,1.6s
BLLA Bellaria 1.46 341 P Pb 01 34 40.5 +0.2
BLLA AML AML
comp=E,26050µm,1.6s
BLLA AML AML
comp=N,20900µm,1.6s
SFI Santa Sofia 1.47 321 ⇓P Pn 01 34 39.1 -0.6
SFI AML AML
comp=N,10380µm,0.7s
SFI AML AML
comp=E,6980µm,0.9s
CSNT Castellina Chi 1.52 298 ⇓P Pn 01 34 39.8 -0.6
CSNT AML AML
comp=E,3575µm,1.6s
CSNT AML AML
comp=N,4885µm,1.2s
OSSC Osservatorio P 1.57 299 Pn 01 34 41.0 0.0
OSSC Osservatorio P 1.57 299 ⇓P Pn 01 34 40.7 -0.4
OSSC AML AML
comp=E,4950µm,0.8s
OSSC AML AML
comp=E,4945µm,0.9s
OSSC AML AML
comp=N,4900µm,0.8s
OSSC AML AML
comp=N,4850µm,0.9s
VAGA Valle Agricola 1.58 148 ⇑P Pb 01 34 42.6 +0.2
VAGA AML AML
comp=N,2620µm,1.1s
VAGA AML AML
comp=E,2520µm,1.0s
VAGA AML AML
comp=E,2430µm,1.0s
VAGA AML AML
comp=N,2525µm,1.1s
RUFI Rufina 1.59 313 P Pn 01 34 41.3 -0.1
RUFI AML AML
comp=E,5440µm,0.5s
RUFI AML AML
comp=N,5850µm,0.8s
BSSO Busso 1.64 138 ⇑P Pb 01 34 43.7 +0.4
BSSO AML AML
comp=E,3040µm,1.2s
BSSO AML AML
comp=E,1350µm,1.2s
BSSO AML AML
comp=N,2675µm,1.1s
BSSO AML AML
comp=N,1162µm,1.1s
CASP Castiglione de 1.67 272 Pn 01 34 41.9 -0.5
CASP Castiglione de 1.67 272 ⇓P Pn 01 34 41.8 -0.5
CASP AML AML
comp=E,1700µm,1.6s
CASP AML AML
comp=N,1445µm,1.0s
LMD Lutirano 1.67 322 P Pn 01 34 42.4 -0.1
LMD AML AML
comp=N,5755µm,0.7s
LMD AML AML
comp=E,7135µm,0.9s
TRIF Trifonti 1.67 283 ⇓P Pn 01 34 42.2 -0.2
TRIF AML AML
comp=N,2860µm,0.6s
TRIF AML AML
comp=E,4110µm,0.9s
MODR Mondragone 1.71 161 P Pn 01 34 43.4 +0.4
MODR AML AML
comp=N,1156µm,1.0s
MODR AML AML
comp=E,1315µm,1.6s
CIGN Sant'Elia a Pi 1.73 129 ⇑P Pb 01 34 44.4 -0.4
CIGN AML AML
comp=E,2315µm,1.6s
CIGN AML AML
comp=N,2300µm,1.2s
SACR S. Croce Del S 1.80 139 P Pb 01 34 45.5 -0.7
SACR AML AML
comp=E,2800µm,1.6s
SACR AML AML
comp=N,2295µm,1.6s
SEI Scarperia 1.82 316 P Pn 01 34 45.0 +0.5
SEI AML AML
comp=E,7070µm,0.5s
SEI AML AML
comp=N,9740µm,0.6s
MELA Melanico ??? S 1.82 125 ⇑P Pb 01 34 45.6 -0.9
MELA AML AML
comp=N,8645µm,0.7s
MELA AML AML
comp=E,5960µm,0.9s
MELA AML AML
comp=N,9030µm,0.7s
MELA AML AML
comp=E,6285µm,0.8s
TREM Isole Tremiti 1.88 109 ⇑P Pn 01 34 46.1 +0.9
TREM AML AML
comp=E,3465µm,0.7s
TREM AML AML
comp=N,3640µm,1.0s
MPPT Montemurlo 1.90 309 P Pn 01 34 45.3 -0.4
MPPT AML AML
comp=N,3895µm,1.2s
MPPT AML AML
comp=E,3485µm,0.9s
VITU Vitulano (BN) 1.94 144 P Pb 01 34 48.0 -0.5
VITU AML AML
comp=N,1655µm,0.8s
VITU AML AML
comp=N,1700µm,0.8s
VITU AML AML
comp=E,1425µm,0.8s
VITU AML AML
comp=E,882µm,1.3s
MTCR Monte La Croce 2.00 310 P Pn 01 34 46.5 -0.6
MTCR AML AML
comp=N,5915µm,0.6s
MTCR AML AML
comp=E,3730µm,0.8s
FNVD Fontana Vidola 2.02 315 P Pn 01 34 47.6 +0.3
FNVD AML AML
comp=E,6545µm,0.8s
FNVD AML AML
comp=N,4105µm,0.6s
PAOL Paolisi 2.04 148 Pb 01 34 49.1 -1.2
APRC Apricena 2.06 119 ⇑P Pn 01 34 48.2 +0.4
APRC AML AML
comp=N,2305µm,0.9s
APRC AML AML
comp=E,1645µm,0.6s
PII Pisa 2.13 298 P Pn 01 34 48.7 0.0
PII AML AML
comp=E,2275µm,0.4s
PII AML AML
comp=N,2305µm,0.5s
MRB1 Monte Rocchett 2.14 139 AML AML
comp=N,2705µm,1.3s
MRB1 AML AML
comp=N,2615µm,1.3s
MRB1 AML AML
comp=E,2325µm,0.8s
MRB1 AML AML
comp=E,2380µm,0.8s
CELB S.Piero in Cam 2.15 270 ⇓P Pn 01 34 48.5 -0.6
CELB AML AML
comp=N,779µm,1.1s
CELB AML AML
comp=E,630µm,0.6s
POPM Popiglio 2.15 307 P Pn 01 34 49.0 0.0
POPM AML AML
comp=N,2605µm,0.8s
POPM AML AML
comp=E,1705µm,0.9s
SGRT San Giovanni R 2.19 117 Pn 01 34 50.6 +0.9
SGRT San Giovanni R 2.19 117 ⇑P Pn 01 34 50.0 +0.4
SGRT AML AML
comp=N,2070µm,0.6s
SGRT AML AML
comp=E,2105µm,0.9s
ZCCA Zocca 2.23 316 Pb 01 34 52.0 -1.3
MAIM Mastiano 2.24 302 P Pn 01 34 49.8 -0.4
BDI Bagni Di Lucca 2.25 306 P Pn 01 34 49.9 -0.6
BDI AML AML
comp=N,2230µm,1.1s
BDI AML AML
comp=E,977µm,1.1s
BDI AML AML
comp=N,1033µm,1.1s
BDI AML AML
comp=E,2275µm,0.9s
MSAG Monte S. Angel 2.32 116 ⇑P Pn 01 34 52.0 +0.6
MSAG AML AML
comp=E,2350µm,1.1s
MSAG AML AML
comp=E,2535µm,1.1s
MSAG AML AML
comp=N,3990µm,0.5s
MSAG AML AML
comp=N,4160µm,0.5s
SGTA Sant Agata di 2.33 134 ⇑P Pn 01 34 53.1 +1.5
SGTA AML AML
comp=E,1300µm,1.6s
SGTA AML AML
comp=E,1350µm,1.6s
SGTA AML AML
comp=N,1405µm,1.6s
SGTA AML AML
comp=N,1445µm,1.6s
CAFE Carife 2.34 137 P Pb 01 34 53.8 -1.7
SNAL S. Angelo Dei 2.41 139 P Pb 01 34 54.8 -1.8
SNAL AML AML
comp=E,1775µm,1.6s
SNAL AML AML
comp=E,1805µm,1.6s
SNAL AML AML
comp=N,2395µm,1.6s
SNAL AML AML
comp=N,2500µm,1.6s
GSCL Gusciola 2.43 311 P Pn 01 34 53.0 +0.1
GSCL AML AML
comp=N,2620µm,0.6s
GSCL AML AML
comp=E,2825µm,1.0s
VLC Villacollemand 2.43 306 Pn 01 34 52.9 0.0
VLC Villacollemand 2.43 306 P Pn 01 34 52.5 -0.4
VLC AML AML
comp=N,1140µm,0.9s
VLC AML AML
comp=N,1220µm,1.5s
VLC AML AML
comp=E,1348µm,1.6s
VLC AML AML
comp=E,1371µm,1.6s
HVAR Hvar 2.47 79 P Pn 01 34 53.6 +0.2
CAPA Cerignola FG 2.57 128 P Pn 01 34 55.3 +0.5
CAPA AML AML
comp=E,2975µm,0.9s
CAPA AML AML
comp=N,2440µm,1.0s
EQUI Equi 2.58 304 P Pn 01 34 54.9 0.0
EQUI AML AML
comp=N,1194µm,0.7s
EQUI AML AML
comp=E,987µm,0.8s
VULT Monte Vulture 2.59 133 ⇑P Pn 01 34 56.7 +1.5
VULT AML AML
comp=E,1130µm,1.6s
VULT AML AML
comp=N,2015µm,1.6s
VULT AML AML
comp=E,1140µm,1.6s
VULT AML AML
comp=N,2095µm,1.6s
PLMA Palmaria, Port 2.71 299 P Pn 01 34 56.8 +0.1
PLMA AML AML
comp=N,870µm,0.6s
PLMA AML AML
comp=E,788µm,0.7s
PALZ Palazzo San Ge 2.79 130 ⇑P Pn 01 34 59.0 +1.2
PALZ AML AML
comp=E,3445µm,1.3s
PALZ AML AML
comp=N,2770µm,1.2s
TEOL Teolo 2.80 338 Pn Pn 01 34 58.4 +0.5
GRAM Graiana 2.81 309 ⇑P Pn 01 34 58.6 +0.4
GRAM AML AML
comp=E,2715µm,0.5s
GRAM AML AML
comp=N,2685µm,0.8s
SKDS Skadanscina 2.85 13 ⇑*i*Pn Pn 01 34 58.1 -0.6
SKDS Skadanscina 2.85 13 *i* Pn Pn 01 34 58.2 -0.6
SKDS *e*Sn **Sn 01 35 32.6 -0.6**
SKDS IAML 01 35 35.1
comp=Z,454nm,0.3s
PRMA PARMA 2.85 315 Pn Pn 01 35 00.6 +1.9
KNDS Knezji Dol 2.90 18 *i* Pn Pn 01 34 59.4 -0.1
KNDS *e*Sn **Sn 01 35 35.6 +1.0**
KNDS IAML 01 35 55.3
comp=Z,2µm,1.0s
SMPL Sampolo 2.92 258 P Pn 01 35 00.3 +0.7
SMPL AML AML
comp=E,258µm,0.8s
SMPL AML AML
comp=N,258µm,1.0s
A050A Klekovaca 3.01 54 ⇑*i*Pn Pn 01 35 02.0 +1.1
MSSA Maissana 3.05 302 Pn Pn 01 35 00.3 -1.1
MSSA Maissana 3.05 302 P Pn 01 35 01.2 -0.2
MSSA AML AML
comp=N,1070µm,0.7s
MSSA AML AML
comp=E,801µm,1.2s
PGF Pioggiola 3.05 267 *e*Pn Pn 01 35 02.1 +0.6
PGF *e*Sn **Sn 01 35 33.7 -4.5**

comp=E,125nm,0.5s
CEY Cerknica 3.12 17⇑ *i*Pn Pn 01 35 01.9 -0.4
BOJS Bojanci 3.13 28⇑ *i*Pn Pn 01 35 02.6 0.0
BOJS Bojanci 3.13 28 P Pn 01 35 02.9 +0.4
BOJS AML AML
comp=N,4890µm,1.1s
BOJS AML AML
comp=E,5890µm,0.9s
PTRP Pietrapertosa 3.14 135 AML AML
PTRP AML AML
comp=N,1135µm,1.6s
AMUR Altamura 3.19 124 P Pn 01 35 04.4 +1.0
AMUR AML AML
comp=E,600µm,1.2s
AMUR AML AML
comp=N,642µm,1.3s
SRKY Kupres RS 3.22 65⇑ *i*Pn Pn 01 35 05.1 +1.3
SABO M.te Sabotino 3.23 6 Pn 01 35 03.7 -0.2
SABO M.te Sabotino 3.23 6 ⇑P Pn 01 35 03.7 -0.2
SABO AML AML
comp=E,3430µm,0.9s
SABO AML AML
comp=E,15200µm,0.9s
SABO AML AML
comp=N,19050µm,0.7s
SABO AML AML
comp=N,4915µm,0.7s
CGRP Cima Grappa 3.25 343 P Pn 01 35 05.0 +0.7
CGRP AML AML
comp=E,4335µm,0.8s
CGRP AML AML
comp=N,4355µm,0.7s
CGRP AML AML
comp=N,4340µm,0.7s
CGRP AML AML
comp=E,4245µm,0.8s
VARN Col Varnada, M 3.31 348 P Pn 01 35 05.3 +0.3
VARN AML AML
comp=E,4045µm,0.6s
VARN AML AML
comp=E,4090µm,0.6s
VARN AML AML
comp=N,4010µm,0.6s
VARN AML AML
comp=N,3995µm,0.6s
VOJS Vojsko 3.31 9 *i*Pn Pn 01 35 04.5 -0.5
VOJS *e*Sn **Sn 01 35 44.0 -0.6**
VOJS IAML 01 36 19.3
comp=Z,1µm,1.3s
MGRS Mrkonjic Grad 3.31 59 *e*Pn Pn 01 35 06.2 +1.2
AJAC Base Areonaval 3.34 257 P Pn 01 35 06.2 +0.8
AJAC AML AML
comp=E,344µm,0.8s
AJAC AML AML
comp=N,364µm,0.9s
STON Ston 3.37 87⇑ *i*Pn Pn 01 35 04.9 -0.7
STON Ston 3.37 87 *e*Pn Pn 01 35 05.0 -0.7
STON *e*Sn **Sn 01 35 45.8 0.0**
STON Ston 3.37 87 AML AML
comp=E,403µm,0.9s
STON AML AML
comp=N,458µm,1.6s
PRIJ Prijedor 3.41 48 *e*Pn Pn 01 35 07.6 +1.3
DOSS Dosso del Somm 3.41 337 P Pn 01 35 07.5 +0.9
DOSS AML AML
comp=E,1860µm,0.7s
DOSS AML AML
comp=E,1840µm,0.7s
DOSS AML AML
comp=N,1900µm,0.7s
DOSS AML AML
comp=N,1830µm,0.7s
SALO Salr 3.41 328 P Pn 01 35 07.7 +1.4
SALO AML AML
comp=E,2255µm,1.1s
SALO AML AML
comp=N,2650µm,0.6s
SALO AML AML
comp=N,2715µm,0.6s
SALO AML AML
comp=E,2430µm,0.6s
MATE Matera 3.41 127 ⇓P Pn 01 35 07.6 +1.2
MATE ⇑S **Sn 01 35 50.6 +3.7**
LJU Ljubljana 3.43 17 P Pn 01 35 07.0 +0.5
LJU AML AML
comp=E,14850µm,1.2s
LJU AML AML
comp=N,13700µm,1.4s
CUC Castrocucco 3.43 143 Pn 01 35 09.5 +2.8
CTI Castel Tesino 3.45 343 Pn 01 35 07.5 +0.5
CTI Castel Tesino 3.45 343 P Pn 01 35 07.5 +0.5
CTI Castel Tesino 3.45 343 P Pn 01 35 07.8 +0.8
CTI AML AML
comp=E,1985µm,1.4s
CTI AML AML
comp=N,1975µm,0.6s
MPRI Monte Prat 3.48 358 P Pn 01 35 07.7 +0.4
MPRI AML AML
comp=E,2995µm,0.9s
MPRI AML AML
comp=N,2675µm,1.2s
MPRI AML AML
comp=E,2255µm,0.9s
MPRI AML AML
comp=N,3560µm,1.2s
CRES Cresnjev 3.49 28⇑ *i*Pn Pn 01 35 07.5 +0.1
MAGA Magasa 3.50 330 P Pn 01 35 08.5 +0.8
MAGA AML AML
comp=N,3440µm,0.4s
MAGA AML AML
comp=E,5495µm,0.6s
STAL STALIGIAL 3.51 355 Pn 01 35 07.7 0.0
STAL STALIGIAL 3.51 355 ⇑P Pn 01 35 07.7 0.0
STAL AML AML
comp=N,2160µm,0.5s
STAL AML AML
comp=E,2080µm,0.8s
STAL AML AML
comp=N,1985µm,1.6s
STAL AML AML
comp=E,2835µm,0.6s
LTRZ Laterza 3.51 127 P Pn 01 35 08.8 +1.1
A051A Mrakovica 3.54 49⇑ *i*Pn Pn 01 35 08.7 +0.6
BLY Banja Luka 3.54 55⇑ *i*Pn Pn 01 35 08.9 +0.7
BLY Banja Luka 3.54 55 P Pn 01 35 09.2 +1.0
BLY AML AML
comp=N,1220µm,1.1s
BLY AML AML
comp=E,1845µm,0.7s
BLY AML AML
comp=N,1225µm,1.1s
BLY AML AML
comp=E,1845µm,0.7s
NOCI Noci 3.55 123 P Pn 01 35 09.3 +1.0
NOCI AML AML
comp=N,522µm,1.2s
NOCI AML AML
comp=E,459µm,0.5s
LUSI Trento, Gardas 3.56 335 P Pn 01 35 09.4 +1.0
LUSI AML AML
comp=N,1710µm,0.4s
LUSI AML AML
comp=E,1445µm,0.7s
CIMO Cimolais 3.58 352 Pn Pn 01 35 08.6 -0.1
CIMO Cimolais 3.58 352 P Pn 01 35 08.5 -0.1
CIMO AML AML
comp=N,939µm,0.8s
CIMO AML AML
comp=N,926µm,0.8s
CIMO AML AML
comp=E,606µm,1.3s
CIMO AML AML
comp=E,588µm,1.3s
GAGG Gaggia 3.66 336 P Pn 01 35 10.7 +0.8
GAGG AML AML
comp=N,2230µm,0.8s
GAGG AML AML
comp=E,2145µm,0.8s
GAGG AML AML
comp=N,2055µm,0.9s
GAGG AML AML
comp=E,2115µm,0.9s
PRED Cave del Predi 3.69 5 Pn Pn 01 35 09.9 -0.3
CLUD Cludinico 3.69 357 Pn Pn 01 35 10.4 +0.1
CLUD Cludinico 3.69 357 P Pn 01 35 10.3 +0.1
CLUD AML AML
comp=E,1860µm,1.1s
CLUD AML AML
comp=N,2245µm,0.8s
CLUD AML AML
comp=N,2215µm,0.8s
CLUD AML AML
comp=E,1880µm,1.0s
ZONE Zone 3.69 325 P Pn 01 35 11.1 +0.8
ZONE AML AML
comp=N,1530µm,0.5s
ZONE AML AML
comp=N,480µm,1.1s
ZONE AML AML
comp=E,388µm,1.2s
ZONE AML AML
comp=E,1445µm,0.3s
MABI Malga Bissina 3.78 331 P Pn 01 35 12.4 +0.8
MABI AML AML
comp=E,624µm,0.5s
MABI AML AML
comp=N,770µm,0.6s
ACOM Acomizza, Ital 3.79 4 P Pn 01 35 11.7 -0.1
ACOM AML AML
comp=E,2525µm,0.9s
ACOM AML AML
comp=E,2500µm,0.9s
ACOM AML AML
comp=N,2180µm,0.6s
ACOM AML AML
comp=N,2100µm,0.6s
ZOU Zoufplan 3.79 358 P Pn 01 35 11.9 +0.1
ZOU AML AML
comp=N,1495µm,1.2s
ZOU AML AML
comp=E,1800µm,0.9s
ZOU AML AML
comp=E,1770µm,0.9s
ZOU AML AML
comp=N,1510µm,1.2s
TAR1 Taranto 3.84 124 AML AML
comp=E,418µm,0.9s
TAR1 AML AML
comp=N,480µm,0.8s
CANO Canova, Maglio 3.84 294 P Pn 01 35 11.9 -0.3
CANO AML AML
comp=E,1215µm,1.3s
CANO AML AML
comp=N,671µm,1.4s
TREB Trebinje 3.85 89 *e*Pn Pn 01 35 12.8 +0.5
OBKA Obir 3.88 15⇑ *i*Pn Pn 01 35 12.6 -0.2
OBKA Obir 3.88 15 *i*Pn Pn 01 35 13.0 +0.2
comp=N,13nm,0.2s,SNR=14
MYKA Terra Mystica 3.88 5 *i*Pn Pn 01 35 13.4 +0.6
comp=N,66nm,0.4s,SNR=58
MYKA *e*Sn **Sn 01 36 00.4 +1.8**
comp=N,191nm,0.5s
KOSI Kohlern 3.90 342 P Pn 01 35 14.4 +1.1
KOSI AML AML
comp=E,2245µm,1.0s
KOSI AML AML
comp=N,1520µm,0.7s
BOSI Bolzano 3.94 342 AML AML
comp=N,5615µm,0.9s
BOSI AML AML
comp=E,5085µm,1.6s
HCY Herceg Novi 3.97 93 *e*Pn Pn 01 35 14.4 +0.3
HCY Herceg Novi 3.97 93⇑ *i*Pn Pn 01 35 14.9 +0.8
HCY *i*Sn **Sn 01 36 01.9 +1.1**
BRY Bratogost 3.98 86⇑ *i*Pn Pn 01 35 14.9 +0.6
BRY Bratogost 3.98 86 *e*Pn Pn 01 35 15.0 +0.6
BRY *i*Sn **Sn 01 36 02.2 +1.0**
ABTA Abfaltersbach 4.00 354 *i*Pn Pn 01 35 15.6 +1.0
comp=E,147nm,0.6s,SNR=140
ABTA *e*Sn **Sn 01 36 05.9 +4.2**
comp=E,308nm,0.6s
DOB Doboj 4.10 60 *e*Pn Pn 01 35 10.1 -5.8
SOKA Soboth 4.14 18 *i*Pn Pn 01 35 16.9 +0.5
comp=E,13nm,0.3s,SNR=19
SOKA *e*Sn **Sn 01 36 05.3 +0.2**
comp=E,90nm,0.6s
RISI Rein 4.25 350 AML AML
comp=E,2420µm,0.5s
RISI AML AML
comp=N,2540µm,0.5s
UPM Unac-Piva 4.26 82 *e*Pn Pn 01 35 19.6 +1.4
UPM Unac-Piva 4.26 82⇓ *i*Pn Pn 01 35 18.7 +0.5
UPM *e*Sn **Sn 01 36 08.7 +0.5**
CEME Cevo 4.28 91⇓ *i*Pn Pn 01 35 19.0 +0.7
CEME *e*Sn **Sn 01 36 09.0 +0.6**
BUM Brajici-Budva 4.29 94⇑ *i*Pn Pn 01 35 19.5 +1.1
BUM *i*Sn **Sn 01 36 09.4 +0.8**
NKME Niksic 4.29 88⇓ *i*Pn Pn 01 35 19.1 +0.6
NKME *i*Sn **Sn 01 36 09.2 +0.5**
SBF Sospel 4.30 287 *e*Pn Pn 01 35 18.1 -0.5
SBF *e*Sn **Sn 01 36 06.8 -2.0**
comp=N,214nm,0.5s
KBA Koelnbreinsper 4.32 2 *i*Pn Pn 01 35 19.8 +0.9
comp=N,35nm,0.3s,SNR=98
KBA *e*Sn **Sn 01 36 10.2 +0.8**
comp=N,326nm,0.6s
NKY Niksic 4.32 87⇑ *i*Pn Pn 01 35 19.7 +0.8
NKY *e*Sn **Sn 01 36 11.0 +1.6**
VSL Villasalto 4.32 222 AML AML
VSL AML AML
ROSI Rosskopf 4.34 344 AML AML
comp=E,1450µm,1.2s
ROSI AML AML
comp=N,2255µm,1.3s
VARE Varese 4.40 316 AML AML
comp=E,746µm,0.3s
VARE AML AML
comp=N,758µm,0.6s
DRME Dracevica, Mon 4.52 95 *e*Pn Pn 01 35 22.8 +1.2
DRME Dracevica, Mon 4.52 95⇓ *i*Pn Pn 01 35 22.5 +0.9
DRME *i*Sn **Sn 01 36 15.0 +0.8**
PDG Podgorica 4.54 92 Pn Pn 01 35 22.4 +0.6
PDG Podgorica 4.54 92 AML AML
comp=E,264µm,1.1s
PDG AML AML
comp=N,442µm,1.6s
PDG AML AML
comp=N,583µm,1.4s
PDG AML AML
comp=E,313µm,1.6s
TTG Podgorica 4.54 92⇓ *i*Pn Pn 01 35 22.9 +1.1
TTG *i*Sn **Sn 01 36 15.2 +0.6**
FETA Feichten 4.58 339 *i*Pn Pn 01 35 24.6 +2.0
comp=E,11nm,0.7s,SNR=30
FETA *e*Sn **Sn 01 36 21.2 +5.1**
comp=E,52nm,0.4s
WTTA Wattenberg 4.62 347 *i*Pn Pn 01 35 25.8 +2.7
comp=E,33nm,0.4s,SNR=72
WTTA *e*Sn **Sn 01 36 22.1 +5.2**
comp=E,267nm,0.5s
PLE Pljevlja 4.62 81⇑ *i*Pn Pn 01 35 23.7 +0.6
PLE *i*Sn **Sn 01 36 17.5 +0.5**
DAVOX Davos/Dischmat 4.63 331 Pn Pn 01 35 25.3 +2.0
comp=E,28nm,0.3s,baz=140,slow=12,SNR=121
DAVOX Sn **Sn 01 36 19.4 +2.1**
comp=E,13nm,0.3s,baz=275,slow=18,SNR=9.3
DAVOX LR LR 01 37 44.1
comp=E,622nm,20.3s,baz=146,slow=46
comp=E,93nm,0.6s
RUDO Rudo 4.64 77 *e*Pn Pn 01 35 24.0 +0.7
ISO Isola 4.64 290 P Pn 01 35 24.8 +1.5
SQTA Sankt Quirin 4.66 344 Pn 01 35 25.5 +1.9
SQTA **Sn 01 36 19.7 +1.9**
SQTA Sankt Quirin 4.66 344 *i*Pn Pn 01 35 25.5 +1.9
comp=E,10.0nm,0.3s,SNR=82
SQTA *e*Sn **Sn 01 36 19.7 +1.9**
comp=E,55nm,0.3s
WATA Walderalm 4.70 347 Pn 01 35 26.4 +2.2
WATA **Sn 01 36 23.6 +4.7**
WATA Walderalm 4.70 347 *e*Pn Pn 01 35 26.4 +2.2
comp=E,15nm,0.4s,SNR=62
WATA *e*Sn **Sn 01 36 23.6 +4.7**
comp=E,79nm,0.3s
KOME Kolasin 4.70 87 *e*Pn Pn 01 35 25.7 +1.5
KOME *i*Sn **Sn 01 36 19.0 +0.1**
BBLS Lazići 4.71 74 *e*Pn Pn 01 35 25.4 +1.1
ARSA Arzberg 4.79 20 *i*Pn Pn 01 35 25.3 -0.1
comp=E,9.3nm,0.3s,SNR=18
ARSA *e*Sn **Sn 01 36 19.6 -1.4**
comp=E,61nm,0.6s
MOTA Moosalm 4.80 343 Pn 01 35 27.6 +2.0
MOTA **Sn 01 36 22.8 +1.5**
MOTA Moosalm 4.80 343 *i*Pn Pn 01 35 27.6 +2.0
comp=E,1.0nm,0.2s,SNR=68
MOTA *e*Sn **Sn 01 36 22.8 +1.5**
comp=E,151nm,0.7s
SCTE Santa Cesarea 4.83 122 Pn 01 35 27.3 +1.4
KOVH Kovagotottos 4.87 45 P Pn 01 35 26.4 0.0
KOVH S **Sn 01 36 21.2 -1.7**
BLJ Bijeljina 4.88 64 *e*Pn Pn 01 35 25.5 -1.0
LMR La Mourre 4.88 279 *e*Pn Pn 01 35 26.2 -0.4
LMR *e*Sn **Sn 01 36 19.6 -3.6**
comp=E,38nm,0.7s
BIOA Bad Ischl, Aus 4.94 4 Pn 01 35 28.1 +0.7
BIOA **Sn 01 36 26.7 +2.1**
BIOA Bad Ischl, Aus 4.94 4 *i*Pn Pn 01 35 28.1 +0.7
comp=E,66nm,0.3s,SNR=60
BIOA *e*Sn **Sn 01 36 26.7 +2.1**
comp=E,254nm,0.5s
RJOB Jochberg 4.98 357 *e*Pn Pn 01 35 29.0 +1.1
RJOB *e*Sn **Sn 01 36 27.3 +1.7**
IVA Berane 4.98 86⇑ *i*Pn Pn 01 35 28.9 +0.9
IVA *e*Sn **Sn 01 36 25.9 +0.2**
MBDF Montbardon 5.00 295 *e*Pn Pn 01 35 28.2 -0.2
MBDF *e*Sn **Sn 01 36 24.8 -1.6**
comp=E,112nm,0.7s
RETA Reutte 5.01 341 *i*Pn Pn 01 35 30.7 +2.3
comp=E,23nm,0.3s,SNR=40
RETA *e*Sn **Sn 01 36 30.2 +3.8**
comp=E,68nm,0.4s
PVY Plav 5.04 90⇓ *i*Pn Pn 01 35 29.6 +0.8
PVY *i*Sn **Sn 01 36 27.6 +0.3**
SJES Sjenica 5.04 82 *e*Pn Pn 01 35 30.5 +1.6
SJES *e*Sn **Sn 01 36 26.4 -1.0**
OGAG Argentiere 5.07 292 P Pn 01 35 32.2 +2.9
DAVA Damuels 5.07 334 *i*Pn Pn 01 35 31.7 +2.4
comp=E,11nm,0.3s,SNR=59
DAVA *e*Sn **Sn 01 36 31.9 +3.8**
comp=E,203nm,0.6s
EMBD Embd, Matterta 5.12 314 P Pn 01 35 32.3 +2.3
MOA Molln 5.15 9 *e*Pn Pn 01 35 30.7 +0.5
MOA *e*Sn **Sn 01 36 30.6 +0.9**
MOA Molln 5.15 9 *i*Pn Pn 01 35 30.7 +0.5
comp=E,35nm,0.5s,SNR=38
MOA *e*Sn **Sn 01 36 31.1 +1.3**
comp=E,150nm,0.4s
DIVS Divibare 5.17 73 Pn Pn 01 35 31.4 +0.7
DIVS Divibare 5.17 73⇑ *i*Pn Pn 01 35 30.9 +0.3
DIVS Divibare 5.17 73 *e*Pn Pn 01 35 31.7 +1.1
BNI Bardonecchia 5.19 298 Pn Pn 01 35 30.9 0.0
BNI Bardonecchia 5.19 298 P Pn 01 35 30.9 0.0
IVAS Ivanjica 5.20 79 *e*Pn Pn 01 35 31.6 +0.6
IVAS *e*Sn **Sn 01 36 29.6 -1.6**
TIR Tirane 5.21 104 P Pn 01 35 32.2 +1.1
TIR Tirane 5.21 104 Pn Pn 01 35 31.7 +0.6
TIR Tirane 5.21 104 P Pn 01 35 31.7 +0.6
MORH Mrgy, Hungar 5.24 47 P Pn 01 35 32.5 +1.1
OGMO Fort Saint-Gob 5.25 300 P Pn 01 35 33.4 +1.7
LPG La Plagne 5.34 303 *e*Pn Pn 01 35 34.1 +1.0
LPG *e*Sn **Sn 01 36 32.4 -2.5**
comp=E,125nm,0.8s
TIH Tihany 5.34 38 P Pn 01 35 34.5 +1.6
UBR Ueberruh 5.36 338 *e*Pn Pn 01 35 34.8 +1.7
UBR *e*Sn **Sn 01 36 36.6 +1.6**
LPL La Plagne 5.36 303 *e*Pn Pn 01 35 34.8 +1.5
LPL *e*Sn **Sn 01 36 35.4 +0.1**
comp=E,129nm,0.7s
VAE Valguarnera 5.37 169 Pn Pb 01 35 46.0 -1.0
comp=E,0.5nm,0.3s,baz=233,slow=3.8,SNR=5.7
FRGS Fruska Gora 5.38 61 *e*Pn Pn 01 35 30.3 -3.2
FRGS Fruska Gora 5.38 61 *e*Pn Pn 01 35 32.5 -1.0
MPLH Magyarpolny 5.40 34 P Pn 01 35 33.6 -0.1
RONA Rosalia, Austr 5.42 23 Pn 01 35 34.1 +0.2
RONA **Sn 01 36 36.9 +0.5**
RONA Rosalia, Austr 5.42 23 *i*Pn Pn 01 35 34.1 +0.2
comp=E,13nm,0.4s,SNR=28
RONA *e*Sn **Sn 01 36 36.9 +0.5**
comp=E,21nm,0.4s
SOP Sopron 5.48 25 P Pn 01 35 34.8 0.0
SOP S **Sn 01 36 39.6 +1.6**
TRUS Trudelj 5.49 72 *e*Pn Pn 01 35 35.6 +0.7
MLYF Mely 5.50 285 P Pn 01 35 37.0 +1.8
RSL Roselend 5.51 304 P Pn 01 35 37.4 +2.1
CONA Conrad Observa 5.51 20 *i*Pn Pn 01 35 35.3 0.0
comp=E,18nm,0.3s,SNR=32
CONA *e*Sn **Sn 01 36 37.0 -1.8**
comp=E,48nm,0.5s
EGYH Egyhazaskeszo 5.52 31 P Pn 01 35 38.0 +2.6
PHP Peshkopia 5.54 99 P Pn 01 35 37.3 +1.7
FUR Furstenfeldbru 5.55 347 *e*Pn Pn 01 35 37.6 +1.8
ZUR Degenried 5.62 327 P Pn 01 35 38.2 +1.5
ZUR Degenried 5.62 327 S Sn 01 36 42.3 +1.0
SMRF Simiane la Rot 5.64 285 *e*Pn Pn 01 35 37.8 +0.8
SMRF *e*Sn **Sn 01 36 38.6 -3.2**
comp=E,50nm,0.7s
GRUS Gruza 5.65 76 *e*Pn Pn 01 35 38.0 +0.9
ORIF Oris-en-Rattie 5.67 295 *e*Pn Pn 01 35 38.6 +1.2
ORIF *e*Sn **Sn 01 36 40.0 -2.6**
comp=E,137nm,0.7s
ORIF Oris-en-Rattie 5.67 295 P Pn 01 35 40.0 +2.6
GRN Grenoble 5.87 297 P Pn 01 35 43.0 +2.8
SELS Selova 5.88 83 *e*Pn Pn 01 35 41.5 +1.2
KEK Kerkira 5.88 119 P Pn 01 35 41.6 +1.3
SRN Sarande 5.92 117 P Pn 01 35 41.8 +1.0
SULZ Cheisacher 5.94 325 P Pn 01 35 41.6 +0.5
TORNY Torny/Romont 5.94 314 P Pn 01 35 42.3 +1.1
BALST Balsthal 5.97 322 P Pn 01 35 41.5 -0.1
SLE Schleitheim 5.97 328 P Pn 01 35 42.0 +0.4
OGSM Saint Maurice 6.05 301 P Pn 01 35 44.0 +1.4
SVIS Svilajnac 6.07 73 *e*Pn Pn 01 35 44.0 +1.2
GEC2 GERESS Array S 6.09 4 Pn Pn 01 35 42.8 -0.5
GEC2 GERESS Array S 6.09 4 *e*Pn Pn 01 35 42.7 -0.5
GEC2 *e*Sn **Sn 01 36 52.1 -1.0**
GERES GERESS Array B 6.09 4 Pn Pn 01 35 42.8 -0.5
comp=E,4.2nm,0.3s,baz=176,slow=13,SNR=101
GERES Sn **Sn 01 36 53.0 -0.2**
comp=E,24nm,0.3s,baz=172,slow=21,SNR=15
comp=E,5.3nm,0.3s
ZST Bratislava 6.11 26 *e*P Pn 01 35 43.0 -0.3
ZST *e* 01 36 50.2
ZST Bratislava 6.11 26 *e*PN Pn 01 35 43.0 -0.3
ZST *e*SN **Sn 01 36 50.2 -3.1**
CKRC Cesky Krumlov 6.11 7 *e*PN Pn 01 35 42.8 -0.6
CKRC *e*SN **Sn 01 36 51.3 -2.2**
KBN Korca 6.12 108 P Pn 01 35 44.9 +1.3
GIMEL St. Georges / 6.17 310 P Pn 01 35 45.4 +1.0
LSK Leskovik 6.19 112 P Pn 01 35 46.1 +1.5
SKO Skopje 6.21 95 *i*Pn Pn 01 35 46.1 +1.3
BOURR Bourrignon 6.23 320 P Pn 01 35 46.2 +1.1
BRANT Les Verrieres 6.30 314 P Pn 01 35 47.5 +1.3
MODS Modra-Piesok 6.32 26 *e*P Pn 01 35 45.4 -0.9
MODS *e* 01 36 53.9
MODS Modra-Piesok 6.32 26 *e*PN Pn 01 35 45.4 -0.9
MODS *e*SN **Sn 01 36 53.9 -4.7**
CABF La Chapelle 6.32 310 *e*Pn Pn 01 35 47.3 +0.9
CABF *e*Sn **Sn 01 36 55.8 -2.9**
comp=E,159nm,0.9s
IGT Igoumenitsa 6.33 118 P Pn 01 35 47.6 +1.2
OG35 Corcelles 6.33 304 P Pn 01 35 47.0 +0.6
BOVS Bovan 6.33 79 *e*Pn Pn 01 35 46.2 -0.2
KIZ Kirchzarten 6.36 327 P Pn 01 35 46.8 0.0
KIZ Kirchzarten 6.36 327 S Sn 01 36 57.7 -1.8
KHC Kasperske Hory 6.37 3 *e*P Pn 01 35 46.6 -0.5
KHC *e* 01 36 56.4
KHC Kasperske Hory 6.37 3 *e*PN Pn 01 35 46.6 -0.5
KHC *e*SN **Sn 01 36 56.4 -3.6**
WET Wettzell 6.38 359 *e*Pn Pn 01 35 46.6 -0.6
WET *e*Sn **Sn 01 36 56.4 -3.8**
NEST Nestorio 6.39 109 P Pn 01 35 48.9 +1.6
BARS Barje 6.39 87 *e*Pn Pn 01 35 48.0 +0.7
CHMF Charmoille 6.41 317 P Pn 01 35 48.0 +0.3
VIVF Saint-Julien-l 6.46 292 *e*Pn Pn 01 35 49.3 +1.0
VIVF *e*Sn **Sn 01 37 00.6 -1.6**
comp=E,40nm,1.0s
SMOL Smolenice 6.49 26 *e*P Pn 01 35 48.1 -0.5
SMOL *e* 01 37 00.0
BFO Black Forest 6.50 330 Pn Pn 01 35 48.8 0.0
BFO Black Forest 6.50 330 P Pn 01 35 48.8 0.0
BFO Black Forest 6.50 330 *e*Pn Pn 01 35 49.5 +0.7
BFO *e*Sn **Sn 01 37 02.0 -1.2**
MDVR Moldovita 6.53 69 ⇓P Pn 01 35 49.7 +0.4
JAN Janina 6.60 115 P Pn 01 35 51.2 +1.0
PRVS Prvonek 6.61 89 *e*Pn Pn 01 35 51.2 +0.9

PRVS eSn Sn 01 37 02.9 -2.8
MOF Molkenrain 6.61 322 P Pn 01 35 50.6 +0.2
BOUC Bouclans 6.62 315 P Pn 01 35 50.5 +0.1
SSB Saint Sauveur 6.68 295 Pn Pn 01 35 51.0 -0.2
SSB Saint Sauveur 6.68 295 P Pn 01 35 51.1 -0.2
KRUC Moravsky 6.70 19 ePN Pn 01 35 49.9 -1.5
KRUC eSN Sn 01 37 03.4 -4.4
HINF Hinteralfeld 6.71 321 ePn Pn 01 35 51.6 -0.1
HINF eSn Sn 01 37 05.3 -3.0
comp=E,184nm,0.5s
ZAGS Zajecar 6.73 78 ePn Pn 01 35 52.2 +0.3
TREC Trest 6.73 13 eP Pn 01 35 51.6 -0.4
TREC e 01 37 05.5
TREC MLR MLR
comp=Z,700nm,10.2s
TREC Trest 6.73 13 ePN Pn 01 35 51.6 -0.4
TREC eSN Sn 01 37 05.5 -3.3
TREC AMS AMS 01 38 40.0
comp=Z,700nm,10.2s
RONF Ronchamp 6.73 319 P Pn 01 35 51.8 -0.2
RONF S Sn 01 37 07.2 -1.6
BSZH Besenyszg 6.79 46 P Pn 01 35 58.6 +5.9
STIP Stip 6.81 96 *i* Pn Pn 01 35 55.9 +2.9
JAVC Velka Javorina 6.87 26 ePN Pn 01 35 53.8 -0.1
ECH Echery 6.88 324 P Pn 01 35 53.5 -0.5
LASF Ste Croix 6.88 284 ePn Pn 01 35 53.3 -0.7
LASF eSn Sn 01 37 07.4 -4.9
comp=Z,19nm,0.7s
BOSS Bosilegrad 6.90 89 ePn Pn 01 35 55.2 +0.9
TSLK Tsoukalades, L 6.94 122 P Pn 01 35 56.3 +1.5
WLS Welschbruch 6.95 326 P Pn 01 35 54.5 -0.4
WLS S Sn 01 37 12.0 -2.1
LKD2 Lefkada island 6.96 122 P Pn 01 35 56.8 +1.7
VRAC Vranov 6.97 19 ⇓P Pn 01 35 55.4 +0.1
VRAC Vranov 6.97 19 Pn Pn 01 35 55.1 -0.2
comp=Z,1.0nm,0.3s,baz=210,slow=14,SNR=5.7
VRAC Sn Sn 01 37 10.5 -4.2
comp=Z,0.7nm,0.3s,baz=73,slow=23,SNR=3.4
VRAC LR LR 01 39 22.3
comp=Z,346nm,18.1s,baz=208,slow=45
comp=Z,2.1nm,0.3s
VRAC Vranov 6.97 19 ePN Pn 01 35 53.8 -1.5
VRAC eSN Sn 01 37 11.1 -3.6
CDF Champ du Feu 6.98 326 ePn Pn 01 35 55.8 +0.4
CDF eSn Sn 01 37 11.7 -3.2
comp=Z,101nm,0.5s
VYHS Vyhne 6.99 33 eP Pn 01 35 56.0 +0.6
VYHS e 01 37 16.8
VYHS Vyhne 6.99 33 ePN Pn 01 35 56.0 +0.6
VYHS eSN Sn 01 37 16.8 +1.8
ZAPS Zavoj 6.99 83 ePn Pn 01 35 52.2 +0.7
ZAPS eSn Sn 01 37 12.9 -2.2
PSZ Piszkesteto 7.02 40 ⇑P Pn 01 35 56.2 +0.2
PSZ Piszkesteto 7.02 40 Pn Pn 01 35 57.0 +1.1
PSZ Piszkesteto 7.02 40 P Pn 01 35 57.0 +1.1
PSZ Piszkesteto 7.02 40 P Pn 01 35 57.9 +2.0
NYDR Nydri-Lefkada 7.03 123 P Pn 01 35 57.6 +1.6
BLKB Belogradchik 7.03 80 ⇑P Pn 01 35 57.1 +1.0
SIRR Siria 7.03 57 ⇑P Pn 01 35 56.2 +0.1
HERR Herculane 7.04 69 ⇑P Pn 01 35 56.8 +0.6
GRFO Grafenberg 7.05 350 Pn Pn 01 35 56.3 0.0
GRFO Grafenberg 7.05 350 P Pn 01 35 56.3 0.0
GRF Grafenberg Arr 7.05 350 ePn Pn 01 35 55.8 -0.5
GRF eSn Sn 01 37 15.2 -1.4
DJES Djerdap 7.07 71 ⇑P Pn 01 35 58.1 +1.5
HAU Haudompre 7.08 320 ePn Pn 01 35 56.4 -0.4
HAU eSn Sn 01 37 14.1 -3.4
comp=Z,267nm,0.4s
KEF3 Kipouria, Keph 7.14 127 P Pn 01 35 59.2 +1.6
VAY Valandovo 7.18 98 *i* Pn Pn 01 35 58.6 +0.5
PRU Pruhonice 7.29 7 eP Pn 01 35 58.6 -1.0
PRU e 01 37 19.2
PRU Pruhonice 7.29 7 ePN Pn 01 35 58.6 -1.0
PRU eSN Sn 01 37 19.2 -3.2
VLS Valsamata 7.30 126 P Pn 01 36 01.5 +1.7
PSDA Pessada-Kefalo 7.34 127 P Pn 01 36 02.1 +1.8
MAUC Maruska 7.36 25 ePN Pn 01 36 01.0 +0.3
GZR Gura Zlata 7.43 66 ⇑P Pn 01 36 02.5 +1.0
KKB Krupnik 7.43 94 *i* P Pn 01 36 04.1 +2.5
VTS Vitosha 7.45 88 ⇓P Pn 01 36 03.1 +1.2
VTS Vitosha 7.45 88 *i* P Pn 01 36 02.3 +0.3
NKC Novy Kostel 7.48 357 eP Pn 01 36 01.8 -0.5
NKC e 01 37 22.5
NKC Novy Kostel 7.48 357 ePN Pn 01 36 01.8 -0.5
NKC eSN Sn 01 37 22.5 -4.8
WERN Wernitzgruen 7.54 356 ePn Pn 01 36 02.9 -0.2
WERN eSn Sn 01 37 25.1 -3.6
PVO Paravola 7.61 120 P Pn 01 36 06.0 +2.0
KEST Kesra 7.61 204 Pn Pn 01 36 07.4 +3.3
comp=Z,0.8nm,0.3s,baz=268,slow=4.1,SNR=9.5
comp=Z,2.6nm,0.6s
KEST Kesra 7.61 204 Pn Pn 01 36 05.3 +1.1
GUNZ Gunzen 7.62 356 ePn Pn 01 36 04.6 +0.5
GUNZ eSn Sn 01 37 26.3 -4.3
EVR Evrytania 7.62 117 P Pn 01 36 06.3 +2.0
MORC Moravsky Berou 7.65 22 ⇑P Pn 01 36 05.1 +0.6
MORC Moravsky Berou 7.65 22 ePN Pn 01 36 02.5 -2.1
MORC eSN Sn 01 37 26.9 -4.4
TANN Tannenbergstha 7.67 357 ePn Pn 01 36 04.3 -0.5
TANN eSn Sn 01 37 28.9 -2.8
SMF Signal de Mont 7.67 304 ePn Pn 01 36 04.3 -0.5
SMF eSn Sn 01 37 27.8 -4.0
comp=Z,49nm,0.5s
WERD Werda 7.71 356 ePn Pn 01 36 05.8 +0.5
KRLC Kraliky 7.73 18 eP Pn 01 36 05.5 -0.2
KRLC Kraliky 7.73 18 ePN Pn 01 36 05.5 -0.2
PLN Plauen 7.75 355 ePn Pn 01 36 06.5 +0.6
PLN eSn Sn 01 37 26.6 -7.2
LANS Liptovska Anna 7.76 32 eP Pn 01 36 09.3 +3.2
LANS Liptovska Anna 7.76 32 ePN Pn 01 36 09.3 +3.2
PAGF Fort de Pagny 7.77 321 ePn Pn 01 36 06.4 +0.2
PAGF eSn Sn 01 37 29.7 -4.5
comp=Z,278nm,1.0s
MPEP Malo Peshtene 7.79 82 *i* P Pn 01 36 08.1 +1.5
SFTF Sexfontaines 7.86 317 ePn Pn 01 36 07.0 -0.5
baz=128
SFTF eSn Sn 01 37 33.4 -3.2
comp=Z,102nm,0.8s
ANX Ano Chora 7.87 119 P Pn 01 36 09.7 +2.0
DPC Dobruska-Polom 7.90 15 AMS AMS 01 39 20.0
comp=Z,600nm,12.2s
RLS Riolos of Patr 7.91 124 P Pn 01 36 10.2 +2.1
DRGR 7.92 56 ⇓P Pn 01 36 09.9 +1.6
MOX Moxa 7.95 353 ePn Pn 01 36 07.9 -1.1
LOR Lormes 7.96 308 ePn Pn 01 36 08.8 0.0
LOR eSn Sn 01 37 34.0 -5.0
comp=Z,36nm,0.5s
EFP Efpalio 7.96 120 P Pn 01 36 10.7 +1.9
MMB Musomiste 7.96 95 *i* P Pn 01 36 10.3 +1.4
UPC Upice 7.99 13 eP Pn 01 36 09.5 +0.2
UPC Upice 7.99 13 ePN Pn 01 36 09.5 +0.2
AVF Avril sur Loir 8.03 303 ePn Pn 01 36 10.2 +0.4
AVF eSn Sn 01 37 36.3 -4.4
comp=Z,16nm,0.6s
MEZF Maizieres J'vi 8.05 318 ePn Pn 01 36 11.3 +1.2
MEZF eSn Sn 01 37 37.2 -4.0
comp=Z,92nm,0.7s
SSF Saint Saulge 8.06 305 ePn Pn 01 36 09.9 -0.3
SSF eSn Sn 01 37 36.7 -4.8
comp=Z,30nm,0.6s
OSTC Ostas 8.08 14 ePN Pn 01 36 10.5 +0.1
CHVC Chvalec 8.08 13 ePN Pn 01 36 10.0 -0.4
SAVF Savonnieres en 8.10 319 ePn Pn 01 36 11.3 +0.6
SAVF eSn Sn 01 37 38.5 -3.8
comp=Z,52nm,0.5s
LOT Lotru 8.11 67 ⇓P Pn 01 36 13.9 +2.9
TNS Taunus Mts 8.12 338 ePn Pn 01 36 12.3 +1.2
TNS eSn Sn 01 37 42.4 -0.7
DRO Drossia 8.13 123 P Pn 01 36 13.3 +2.2
BRG Berggiesshubel 8.13 4 eP Pn 01 36 09.8 -1.3
BRG Amp 01 36 18.1
comp=Z,6.8nm,0.5s
BRG *ex* x 01 37 04.6
BRG *ex* x 01 37 39.6
BRG Amp 01 38 01.0
comp=Z,36nm,1.0s
BRG Amp 01 40 24.0
comp=Z,0.5nm,12.3s
BRG Amp 01 40 24.0
comp=E,0.6nm,12.7s
BRG Amp 01 40 27.0
comp=N,0.3nm,9.6s

BRG Berggiesshubel 8.13 4 eP Pn 01 36 09.8 -1.3
BRG *e* 01 37 39.6
BRG pmax pmax
comp=Z,7.0nm,0.5s
BRG MLR MLR
comp=Z,474nm,12.3s
BRG MLR MLR
comp=E,597nm,12.7s
BRG MLR MLR
comp=N,345nm,9.6s
PGB Panagyurishte 8.14 88 *i* P Pn 01 36 13.5 +2.1
FBE Freiberg 8.16 1 ePn Pn 01 36 10.8 -0.7
FBE eSn Sn 01 37 39.4 -4.4
MESR Meseseni 8.23 54 ⇑P Pn 01 36 14.5 +2.1
BGF Bois d'Agland 8.25 301 ePn Pn 01 36 13.3 +0.5
BGF eSn Sn 01 37 42.5 -3.6
comp=N,30nm,0.4s
CAF Calviac 8.28 289 ePn Pn 01 36 14.8 +1.5
CAF eSn Sn 01 37 40.9 -6.1
comp=N,9.9nm,0.8s
KLV Kalavryta, Ach 8.34 121 P Pn 01 36 15.8 +1.7
WLF Walferdange 8.42 327 dP Pn 01 36 13.4 -1.8
WLF dS Sn 01 37 50.1 -0.2
WLF Walferdange 8.42 327 eSn Sn 01 37 50.7 +0.5
CJR Cluj-Napoca 8.43 59 ⇑P Pn 01 36 18.2 +2.9
CRVS Cervenica-Dubn 8.45 41 eP Pn 01 36 17.9 +2.3
CRVS Cervenica-Dubn 8.45 41 ePN Pn 01 36 17.9 +2.3
NEUB Neuenburg 8.50 354 eSn Sn 01 37 49.0 -3.1
CLL Collm 8.55 359 eP Pn 01 36 16.0 -0.8
CLL Collm 8.55 359 ePn Pn 01 36 16.0 -0.8
CLL *ex* x 01 36 22.0
CLL eSn Sn 01 37 34.0 -19
CLL *ex* x 01 37 41.0
CLL *ex* x 01 37 50.0
CLL *ex* x 01 38 06.0
CLL *ex* x 01 38 18.0
CLL eSg **Sg** 01 38 45.0 -2.0
comp=Z,128nm,1.1s
CLL eLmax 01 39 22.0
CLL Collm 8.55 359 ePn Pn 01 36 16.1 -0.7
CLL eSn Sn 01 37 49.9 -3.4
TCF Toulx Ste Croi 8.56 298 ePn Pn 01 36 18.3 +1.3
TCF eSn Sn 01 37 48.9 -4.8
comp=Z,14nm,0.6s
RZN Rozhen 8.67 93 *i* P Pn 01 36 20.4 +1.7
ARR Arges 8.68 69 ⇑P Pn 01 36 20.9 +2.1
HYF Humbligny 8.68 305 ePn Pn 01 36 19.5 +0.8
HYF eSn Sn 01 37 51.4 -5.4
comp=Z,88nm,0.5s
UZH Uzhgorod 8.69 44 eP Pn 01 36 18.4 -0.3
UZH eS Sn 01 37 55.3 -1.5
UZH MLR MLR
comp=N,100nm,12.0s
UZH MLR MLR
comp=E,120nm,12.0s
UZH MLR MLR
comp=Z,60nm,12.0s
RJF Les Rejaudoux 8.74 291 ePn Pn 01 36 19.8 +0.3
RJF eSn Sn 01 37 53.4 -4.8
comp=Z,10nm,0.8s
HUMR Humele 8.77 74 ⇑P Pn 01 36 21.1 +1.2
AHRW Bad Neuenahr-A 8.82 334 ePn Pn 01 36 24.1 +3.6
KOLS Kolonicke sedl 8.87 43 eP Pn 01 36 22.1 +0.7
KOLS Kolonicke sedl 8.87 43 ePN Pn 01 36 22.0 +0.7
MTUR Matau 8.95 70 ⇑P Pn 01 36 25.4 +3.0
VOIR 8.98 69 ⇓P Pn 01 36 25.5 +2.5
BHOU Houvegnez 9.03 330 *dx* Pn 01 36 27.5 +4.0
GTTG Gottingen 9.04 347 ePn Pn 01 36 24.7 +1.1
ARCR ARCALIA 9.06 58 ⇑P Pn 01 36 26.1 +2.2
BTNL Ternell 9.18 331 *dP* Pn 01 36 25.5 0.0
RCHB Rochefort 9.18 326 *dx* Pn 01 36 27.5 +2.0
RCHB *dS* Sn 01 38 03.3 -5.5
LFF La Frestale 9.21 288 ePn Pn 01 36 25.7 -0.2
LFF eSn Sn 01 38 01.7 -8.0
comp=Z,6.0nm,0.6s
MEM Membach 9.24 331 *dx* Pn 01 36 28.9 +2.6
MEM *dS* Sn 01 38 04.1 -6.3
CLZ Clausthal 9.27 349 ePn Pn 01 36 32.3 +5.6
GIVF Givet 9.31 325 ePn Pn 01 36 28.8 +1.6
GIVF eSn Sn 01 38 07.4 -4.6
comp=Z,61nm,0.8s
DOPR Dopca 9.35 66 ⇓P Pn 01 36 30.6 +2.7
BCLA Clavier 9.36 328 *dx* Pn 01 36 29.2 +1.3
BCLA *dS* Sn 01 38 08.8 -4.4
BSTI Sart Tilman 9.38 329 *dx* Pn 01 36 31.8 +3.5
BSTI *dS* Sn 01 38 09.5 -4.3
EPF Esparros 9.39 276 ePn Pn 01 36 27.7 -0.8
EPF eSn Sn 01 38 09.3 -4.9
comp=Z,4.6nm,0.8s
DOU Dourbes 9.40 324 *dx* Pn 01 36 31.8 +3.2
DOU *dS* Sn 01 38 11.0 -3.3
SGRR Singureni 9.45 77 ⇑P Pn 01 36 31.4 +2.1
BMRD Maredsous 9.48 326 *dx* Pn 01 36 32.2 +2.6
BMRD *dS* Sn 01 38 14.3 -2.0
BAIF Baives 9.54 323 ePn Pn 01 36 30.2 -0.3
BAIF eSn Sn 01 38 13.0 -4.8
comp=Z,56nm,1.0s
MLR Muntele Rosu 9.61 69 ⇑P Pn 01 36 34.2 +2.7
MLR Muntele Rosu 9.61 69 Pn Pn 01 36 34.2 +2.7
comp=Z,0.2nm,0.3s,baz=157,slow=8.9,SNR=13
MLR LR LR 01 41 06.3
comp=Z,1µm,19.7s,baz=265,slow=43
comp=Z,7.4nm,0.8s
MLR Muntele Rosu 9.61 69 Pn Pn 01 36 32.2 +0.6
MLR Muntele Rosu 9.61 69 P Pn 01 36 32.2 +0.6
BURAR Bucovina Array 9.81 56 ⇓P Pn 01 36 36.9 +2.7
RAZG Razgrad 9.81 81 ⇓P Pn 01 36 34.9 +0.7
BUR08 Bucovina Ar. S 9.81 56 Pn Pn 01 36 34.3 0.0
ALN Alexandroupoli 9.82 97 Pn Pn 01 36 34.1 -0.2
ALN Alexandroupoli 9.82 97 P Pn 01 36 34.1 -0.2
COVR Voineasa-Covas 9.87 67 ⇑P Pn 01 36 37.8 +2.8
ETSF Etsaut 10.06 275 ePn Pn 01 36 40.0 +2.4
ETSF eSn Sn 01 38 23.3 -7.3
comp=Z,11nm,0.9s
BIZ Bicaz 10.11 61 ⇑P Pn 01 36 41.0 +2.7
PLOR Plostina 10.17 68 ⇑P Pn 01 36 41.1 +2.0
MFF Saint Martin d 10.20 297 ePn Pn 01 36 39.2 -0.3
MFF eSn Sn 01 38 28.6 -5.3
comp=Z,11nm,0.8s
LVV L'vov 10.32 43 eP Pn 01 36 45.2 +4.1
LVV eS Sn 01 38 42.2 +5.3
LVV MLR MLR
comp=Z,550nm,10.0s
TESR Tescani 10.34 64 ⇓P Pn 01 36 44.3 +2.9
SJPF Ste Jean 10.53 277 ePn Pn 01 36 44.5 +0.4
LDF La Druitiere 10.94 307 ePn Pn 01 36 47.2 -2.4
LDF eSn Sn 01 38 46.4 -5.7
comp=Z,11nm,0.7s
TLBR Topalu 10.96 76 ⇑P Pn 01 36 50.7 +0.9
FLN La Foliniere 11.23 307 ePn Pn 01 36 56.7 +3.1
FLN eSn Sn 01 38 51.5 -7.7
comp=Z,13nm,0.7s
TPGR Topolog 11.25 74 ⇑P Pn 01 36 54.6 +0.8
GRR Gorron 11.29 305 ePn Pn 01 36 55.9 +1.5
GRR eSn Sn 01 38 53.6 -7.1
comp=Z,90nm,1.6s
IDI Anoyia 11.80 125 Pn Pn 01 37 04.1 +2.6
comp=Z,0.7nm,0.3s,baz=284,slow=14,SNR=2.0
IDI Sn Sn 01 39 08.1 -5.2
comp=Z,0.3nm,0.3s,baz=99,slow=14,SNR=1.0
comp=Z,10nm,0.9s
SGMF Saint Gilles 12.29 302 ePn Pn 01 37 04.7 -3.3
QUIF Quistinic 12.56 300 eP Pn 01 37 16.3 +4.6
ROSF Rostrenen 12.77 301 ePn Pn 01 37 13.5 -1.1
ESDC Sonseca Array 13.23 262 Pn Pn 01 37 21.3 +0.2
baz=70,slow=13,SNR=18
ESDC LR LR 01 42 31.3
comp=Z,319nm,18.9s,baz=61,slow=38
comp=Z,1.7nm,0.8s
ESDC Sonseca Array 13.23 262 Pn Pn 01 37 19.8 -1.3
AKASG Malin Array Be 13.58 49 Pn Pn 01 37 24.6 -1.0
comp=Z,0.2nm,0.3s,baz=240,slow=14,SNR=5.2
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 13.58 49*c*eP Pn 01 37 27.6 +2.0
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 13.58 49 *i* P Pn 01 37 25.5 -0.1
ELL Elmali 14.23 109 Pn Pn 01 37 35.6 +0.8
ELL Elmali 14.23 109 P Pn 01 37 35.6 +0.8
PABE Paberze 14.56 25 eP P 01 37 44.1 -1.5
PABE IAmb IAmb 01 37 54.4
comp=Z,21nm,1.0s
MVO Moncorvo 15.08 271 eP P 01 37 54.2 +2.6

MVO eLR LR 01 41 55.0
comp=Z,253nm,20.0s
MNK Minsk 15.23 34 *i* P Pn 01 37 46.4 -1.5
MNK *i* S Sn 01 40 35.6 -1.0
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,2.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK MLR MLR
comp=N,32nm,17.0s
MNK MLR MLR
comp=Z,289nm,19.0s
MNK MLR MLR
comp=E,20nm,15.0s
MNK Minsk 15.23 34 *i* LRM MLR 01 44 53.0
comp=E,20nm,15.2s
MNK Minsk 15.23 34 *i* P Pn 01 37 46.5 -1.5
comp=E,1.0nm,0.8s
MNK Minsk 15.23 34 *i* P Pn 01 37 46.5 -1.5
comp=N,2.0nm,0.8s
MNK Minsk 15.23 34 *i* P Pn 01 37 46.5 -1.5
comp=Z,6.0nm,0.9s,baz=45
MNK Minsk 15.23 34 *i* PP P 01 37 54.6 +1.6
MNK Minsk 15.23 34 *i* PPP PPP 01 38 02.3
MNK Minsk 15.23 34 *i* S Sn 01 40 35.6 -1.0
MNK Minsk 15.23 34 *i* SS S 01 40 49.6 -4.0
MNK Minsk 15.23 34 *i* SSS SSS 01 41 02.2
MNK Minsk 15.23 34 *i* LQ LQ 01 42 19.4
MNK Minsk 15.23 34 *i* LR LR 01 43 23.4
MNK Minsk 15.23 34 *i* LRM MLR 01 44 11.4
comp=N,32nm,16.9s
MNK Minsk 15.23 34 *i* LRM MLR 01 44 41.1
comp=Z,289nm,18.6s
PVRL Vila Real 15.56 272 eP P 01 37 59.5 +2.6
POLO Lamas de Olo 15.60 272 eP P 01 38 01.9 +4.5
MTE Manteigas 15.65 268 eP P 01 38 00.1 +2.2
MTE eLR LR 01 42 19.8
comp=Z,341nm,18.0s
MTE Manteigas 15.65 268 Pn Pn 01 37 51.6 -2.1
PCAB Cabril 15.70 273 eP P 01 38 01.3 +2.8
BR131 Keskin Array S 15.72 94 Pn Pn 01 37 53.2 -1.5
BR131 Keskin Array S 15.72 94 P Pn 01 37 53.2 -1.5
BR131 pmax pmax
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 15.72 94 Pn P 01 37 56.9 -1.9
comp=Z,0.1nm,0.3s,baz=302,slow=12,SNR=3.5
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 15.72 94 Pn Pn 01 37 55.1 +0.4
BRTR Keskin Array B 15.72 94 P Pn 01 37 55.1 +0.4
PCBR Castelo Branco 15.76 266 eP P 01 38 00.3 +1.3
PMRV Marv??o 15.82 265 eP P 01 38 02.1 +2.4
PMRV eLR LR 01 42 22.9
comp=Z,284nm,18.0s
PVIS Viseu 15.82 270 eP P 01 38 01.9 +2.1
PGAV Gavieira, Arco 15.84 274 eP P 01 38 02.9 +2.9
PGAV eLR LR 01 42 38.1
comp=Z,258nm,20.0s
PBAR Barrancos 16.01 260 eP P 01 38 03.6 +1.8
EKA Eskdalemuir Ar 16.44 326 Pn P 01 38 05.2 -1.3
baz=138,slow=14
EKA LR LR 01 44 51.5
comp=Z,120nm,19.6s,baz=138,slow=39
comp=Z,1.1nm,0.4s
PCAS Casmilo, Conde 16.45 268 eP P 01 38 09.2 +2.5
EVO Evora 16.58 262 eP P 01 38 11.5 +3.3
PVAQ Vaqueiros 16.81 258 eLR LR 01 42 40.2
comp=Z,133nm,20.0s
MDT Midelt 17.15 240 Pn P 01 38 15.5 +0.9
comp=Z,0.1nm,0.3s,baz=64,slow=11,SNR=4.3
MDT LR LR 01 43 53.9
comp=Z,106nm,20.0s,baz=48,slow=34
comp=Z,1.3nm,0.9s
PMST Lisbon--Monsan 17.37 264 eP P 01 38 23.0 +6.2
HFS Hagfors 17.40 1 P P 01 38 17.6 +0.6
comp=Z,2.5nm,1.1s,baz=168,slow=15,SNR=2.4
HFS LR LR 01 45 04.9
comp=Z,134nm,20.0s,baz=190,slow=38
BNN Bunyan 17.62 95 P 01 38 19.8 -0.1
BNN IAmb IAmb 01 38 35.3
comp=Z,48nm,1.4s
ANN Anapa 17.66 75 eP Pn 01 38 13.5 -5.5
ANN eS Sn 01 41 30.5 -5.2
ANN pmax pmax
comp=Z,49nm,1.1s
ANN MLR MLR
comp=Z,156nm,10.0s
VSU Vasula 17.87 24 *i* P Pn 01 38 19.6 -2.0
VSU Vasula 17.87 24 eP Pn 01 38 20.4 -1.2
NB2 NORSAR Subarra 18.34 357 P Pn 01 38 26.7 -0.7
comp=Z,27nm,2.0s,baz=176,slow=11
NOA NORSAR Array B 18.34 357 P Pn 01 38 27.4 0.0
comp=Z,1.5nm,0.9s,baz=177,slow=10,SNR=6.6
NOA LR LR 01 46 55.3
comp=Z,113nm,18.7s,baz=180,slow=42
NC405 NORSAR Array S 18.39 358 Pn Pn 01 38 25.2 -2.9
NC405 IAmb IAmb 01 38 37.9
comp=Z,27nm,1.1s
NC204 NORSAR Array S 18.59 356 P P 01 38 29.7 -0.6
NC204 IAmb IAmb 01 38 36.3
comp=Z,33nm,1.2s
AVE Averroes 18.70 246 P P 01 38 30.1 -1.5
AVE IAmb IAmb 01 38 51.0
comp=Z,19nm,0.9s
VSR Storozhevoye 19.59 55 eP P 01 38 41.5 +0.3
VSR pmax pmax
comp=Z,10.0nm,1.2s
OBN Obninsk 19.62 43 P P 01 38 41.5 0.0
comp=Z,0.6nm,0.3s,baz=42,slow=10,SNR=5.3
comp=Z,2.3nm,0.5s
OBN Obninsk 19.62 43 P P 01 38 41.2 -0.3
OBN IAmb IAmb 01 38 54.1
comp=Z,14nm,0.7s
OBN Obninsk 19.62 43⇓eP P 01 38 41.2 -0.3
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,164nm,19.0s
VORR Voronezh 19.74 54 eP P 01 38 42.1 -0.7
VORR pmax pmax
comp=Z,30nm,0.4s
LPSR Galich'ya Gora 19.86 51 eP P 01 38 43.3 -0.8
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 20.05 112 P P 01 38 47.0 +0.6
comp=Z,3.7nm,0.7s,baz=324,slow=11,SNR=4.5
comp=Z,3.7nm,0.7s
FINES FINESS Array B 20.25 18 P P 01 38 48.6 +0.3
comp=Z,11nm,1.0s,baz=202,slow=8.5,SNR=18
comp=Z,11nm,1.0s
FINES FINESS Array B 20.25 18 P P 01 38 48.9 +0.6
FINES FINESS Array B 20.25 18 P P 01 38 48.9 +0.6
FIA1 FINESS Array S 20.25 18 P P 01 38 49.2 +0.8
FIA1 IAmb IAmb 01 38 51.4
comp=Z,13nm,1.0s
MOS Moscow 20.46 42 eP P 01 38 46.5 -4.1
MOS pmax pmax
comp=Z,37nm,0.9s
MOS MLR MLR
comp=Z,300nm,11.0s
KOPT Kop Dagi 20.68 88 P Pn 01 38 55.5 -0.3
TAM Tamanrasset 20.90 200 P P 01 38 56.1 +0.3
TAM Tamanrasset 20.90 200 P P 01 38 56.1 +0.3
TAM pmax pmax
comp=Z,9.0nm,1.2s
VRH Novokhopyorsk 21.15 57 eP P 01 38 57.7 -0.4
VRH pmax pmax
comp=Z,40nm,0.9s
KIV Kislovodsk 21.48 77 P P 01 39 01.6 -0.2
KIV Kislovodsk 21.48 77*c* iP P 01 39 02.6 +0.8
KIV *i* 01 39 10.0
KIV *i* 01 39 20.5
KIV *i* S S 01 42 44.4 -16
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,114nm,16.0s
KVAR Kislovodsk Ar 21.48 77 P P 01 39 04.0 +2.1
comp=Z,3.1nm,0.8s,baz=242,slow=22,SNR=2.7
KVAR LR LR 01 48 17.9
comp=Z,57nm,21.0s,baz=308,slow=39
comp=Z,3.1nm,0.8s
SHA1 Shidzhatmaz 21.48 77 *i* P P 01 39 03.1 +1.0
ASF Jabal al Asfar 21.56 112 P P 01 39 05.8 +3.0
comp=Z,1.3nm,0.5s,baz=276,slow=11,SNR=3.7

comp=Z,1.3nm,0.5s
KBZ Khabaz 21.66 77 P P 01 39 05.6 +2.0
comp=Z,9.6nm,0.9s,baz=313,slow=7.4,SNR=20
KBZ LR LR 01 49 32.8
comp=Z,114nm,18.3s,baz=284,slow=42
comp=Z,9.6nm,0.9s
KBZ Khabaz 21.66 77*ce*P P **01 39 04.2 +0.6**
KBZ pmax pmax
comp=Z,16nm,1.0s
MARD Mardin 21.81 95 P P 01 39 06.8 +1.3
MARD IAmb IAmb 01 39 14.4
comp=Z,11nm,1.0s
EIL Elat 21.85 120 LR LR 01 50 38.0
comp=Z,67nm,18.5s,baz=268,slow=45
NCK Nalchik 22.19 78 *i*P P **01 39 11.3 +1.9**
GURO Guroymak-BITLI 22.28 91 P P **01 39 12.0 +1.5**
GURO IAmb IAmb 01 39 22.4
comp=Z,22nm,1.5s
ZEI Tsey 22.53 79 *e*P P **01 39 15.5 +2.2**
ZEI pmax pmax
comp=Z,24nm,1.9s
GNI Garni 23.77 86 P P **01 39 27.7 +1.9**
comp=Z,3.3nm,0.7s,baz=28,slow=20,SNR=1.1
GNI LR LR 01 52 15.8
comp=Z,59nm,19.3s,baz=263,slow=46
comp=Z,3.3nm,0.7s
KLMR Klimovskoe 24.10 32 *e*P P **01 39 27.0 -1.6**
KLMR pmax pmax
comp=Z,57nm,1.5s
KLMR Klimovskoe 24.10 32 *e*P P **01 39 27.0 -1.6**
KLMR AMP 01 39 32.0
comp=Z,57nm,1.5s
KLMR LQ LQ 01 47 05.9
KLMR LQ LQ 01 47 05.9
KLMR LR LR 01 48 38.0
BELG Belogornoye 24.97 55 P P **01 39 37.8 +1.2**
comp=Z,41nm,1.0s,baz=100,slow=0.5,SNR=9.3
comp=Z,41nm,1.0s
BELG Belogornoye 24.97 55 *i*P P **01 39 37.6 +1.0**
BELG pmax pmax
comp=Z,9.0nm,1.0s
MAK Makhachkala 25.10 78 *e*P P **01 39 35.6 -2.3**
MAK *e*S S **01 43 58.8 -3.6**
MAK pmax pmax
comp=Z,251nm,1.2s
MAK MLR MLR
comp=Z,220nm,12.0s
PRGR Permogore 27.00 34 *e*P P **01 39 54.2 -0.7**
KIRV Kirov 27.47 42 LR LR 01 52 01.9
comp=Z,171nm,19.3s,baz=249,slow=39
ARCES ARCESS Array B 27.59 9 P P **01 40 01.8 +1.7**
comp=Z,2.6nm,0.8s,baz=185,slow=9.9,SNR=3.1
ARCES LR LR 01 51 56.4
comp=Z,94nm,18.1s,baz=334,slow=39
comp=Z,2.6nm,0.8s
TOA0 Torodi Ar. Sit 31.13 202 P P **01 40 32.6 +0.6**
TOA0 IAmb IAmb 01 40 42.2
comp=Z,6.3nm,1.2s
TORD Torodi Ar. Bea 31.13 202 P P **01 40 33.1 +1.2**
comp=Z,3.3nm,0.9s,baz=15,slow=8.8,SNR=15
TORD LR LR 01 54 14.7
comp=Z,153nm,18.0s,baz=202,slow=38
comp=Z,3.3nm,0.9s
AKTO Aktyubinsk 31.38 60 LR LR 01 54 53.2
comp=Z,126nm,18.8s,baz=277,slow=40
ARU Arti 31.83 49 P P **01 40 38.2 +0.3**
comp=Z,9.5nm,0.7s,baz=268,slow=5.1,SNR=20
ARU LR LR 01 54 03.3
comp=Z,112nm,20.6s,baz=275,slow=38
comp=Z,9.5nm,0.7s
ARU Arti 31.83 49*d i*P P **01 40 38.1 +0.3**
ARU 01 41 41.9
ARU 01 43 27.0
ARU S S **01 45 49.7 +1.6**
ARU SS SnSn **01 47 34.8 -0.5**
ARU pmax pmax
comp=Z,16nm,0.9s
ARU MLR MLR
comp=Z,183nm,14.0s
ABKAR Akbulak array 32.72 62 P P **01 40 46.0 +0.3**
GEYT Alibeck 34.31 83 P P **01 41 01.4 +1.7**
comp=Z,1.4nm,0.6s,baz=217,slow=36,SNR=2.5
GEYT LR LR 01 59 42.1
comp=Z,72nm,18.4s,baz=3.0,slow=45
comp=Z,1.4nm,0.6s
GEYT Alibeck 34.31 83 P P **01 41 01.7 +1.9**
GEYT IAmb IAmb 01 41 10.0
comp=Z,3.4nm,0.8s
GYA0B ALIBECK ARRAY 34.31 83 P P **01 41 01.7 +1.9**
GYA0B IAmb IAmb 01 41 07.6
comp=Z,3.5nm,0.8s
BBTS Babate 37.86 231 LR LR 01 56 04.9
comp=Z,91nm,20.2s,baz=50,slow=35
BRVK Borovoye 38.70 54 P P **01 41 38.3 +1.4**
BRVK Borovoye 38.70 54*ce*P P **01 41 37.7 +0.8**
BRVK pmax pmax
comp=Z,16nm,1.0s
HRA Herat 38.84 86 P P **01 41 39.2 +0.6**
DBIC Dimbokro 39.30 209 LR LR 01 58 53.4
comp=Z,91nm,20.0s,baz=22,slow=38
KK31 Karatay Array 41.29 69 P P **01 41 58.0 -0.7**
KK31 Karatay Array 41.29 69 P P **01 41 58.0 -0.7**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 41.29 69 P P **01 41 57.6 -1.1**
KKAR Karatay Array 41.29 69 P P **01 41 57.6 -1.1**
GAR Garm 42.70 75 P P **01 42 10.7 +0.4**
AAK Ala-Archa 44.19 68 P P **01 42 24.4 +2.1**
comp=Z,0.7nm,0.4s,baz=229,slow=9.8,SNR=1.3
AAK LR LR 02 03 57.6
comp=Z,118nm,18.3s,baz=300,slow=40
comp=Z,0.7nm,0.4s
AAK Ala-Archa 44.19 68 P P **01 42 21.9 -0.4**
AAK IAmb IAmb 01 42 32.8
comp=Z,3.9nm,1.0s
AAK Ala-Archa 44.19 68 *i*P P **01 42 24.6 +2.2**
AAK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 44.24 56 P P **01 42 21.5 -0.9**
KURK Kurchatov 44.24 56*ce*P P **01 42 22.6 +0.2**
KURK pmax pmax
comp=Z,12nm,1.7s
NRIK Noril'sk 45.36 29 LR LR 02 04 30.6
comp=Z,74nm,18.3s,baz=96,slow=40
KSH Kashi 46.47 72 P P **01 42 41.9 +1.5**
KSH sP sP 01 42 48.6 +3.9
KSH pmax pmax
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 46.97 50 P P **01 42 42.5 -1.4**
ZAA0 IAmb IAmb 01 43 01.2
comp=Z,3.7nm,1.0s
ZALV Zalesovo Beam 46.97 50 P P **01 42 44.9 +1.0**
comp=Z,0.8nm,0.4s,baz=281,slow=8.9,SNR=5.7
ZALV LR LR 02 05 12.8
comp=Z,91nm,18.9s,baz=220,slow=40
comp=Z,0.8nm,0.4s
MK31 Makanchi Array 47.81 60 P P **01 42 49.9 -0.8**
MK31 Makanchi Array 47.81 60 *i*P P **01 42 51.7 +1.0**
MKAR Makanchi Array 47.81 60 P P **01 42 51.7 +1.0**
comp=Z,2.6nm,0.7s,baz=286,slow=6.3,SNR=16
MKAR LR LR 02 06 53.1
comp=Z,138nm,19.1s,baz=273,slow=41
comp=Z,2.6nm,0.7s
MKAR Makanchi Array 47.81 60 P P **01 42 50.2 -0.5**
FRB Frobisher Bay 49.20 324 LR LR 02 04 45.9
comp=Z,83nm,18.2s,baz=149,slow=37
DGZ Jazzator, Alta 49.92 55 *i*P P **01 43 08.1 +1.1**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
WMQ Urumqi 52.51 62 *e*P P **01 43 30.2 +3.8**
TIXI Tiksi 57.29 20 P P **01 44 01.5 +1.1**
comp=Z,1.1nm,0.5s,baz=273,slow=22,SNR=4.4
TIXI LR LR 02 12 28.4
comp=Z,85nm,18.3s,baz=215,slow=40
comp=Z,1.1nm,0.5s
TIXI Tiksi 57.29 20 P P **01 44 01.0 +0.5**
TIXI IAmb IAmb 01 44 04.6
comp=Z,4.5nm,1.3s
TIXI Tiksi 57.29 20*ce*P P **01 44 01.6 +1.2**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 61.86 50 P P **01 44 34.0 +1.5**
comp=Z,5.3nm,0.9s,baz=296,slow=8.3,SNR=20
comp=Z,5.3nm,0.9s
SONM Songino Array 61.86 50 P P **01 44 32.4 -0.1**
SONM Songino Array 61.86 50 P P **01 44 32.4 -0.1**
SONM pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 62.21 49 P P **01 44 35.6 +0.7**
ULN Ulaanbaatar 62.21 49*ce*P P **01 44 36.7 +1.8**
ULN pmax pmax
comp=Z,6.0nm,1.3s
RCBR Riachuelo 65.66 236 LR LR 02 11 24.0
comp=Z,64nm,19.0s,baz=298,slow=34
YKA Yellowknife Ar 67.05 336 P P **01 45 06.8 +0.8**
comp=Z,1.2nm,0.7s,baz=57,slow=6.8,SNR=1.5
comp=Z,1.2nm,0.7s
BILL Bilibino 67.68 11 *e*P P **01 45 11.8 +1.8**
BILL pmax pmax
comp=Z,6.0nm,1.5s
LBTB Lobatse 68.42 168 LR LR 02 18 17.2
comp=Z,51nm,18.7s,baz=63,slow=39
ZEA Zeya 68.56 36 *e*P P 01 45 08.0 -7.7
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=Z,100nm,13.0s
HHC Hu-ho-hao-te 68.97 54 *e*P P **01 45 18.3 -0.3**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,250nm,5.0s
SEY Seymchan 69.73 19*ce*P P **01 45 24.6 +1.8**
SEY pmax pmax
comp=Z,5.0nm,1.3s
TKL Tuckaleechee C 71.30 301 LR LR 02 15 56.1
comp=Z,27nm,19.0s,baz=46,slow=35
PZH PanZhiHua 71.56 71 P P **01 45 35.0 +0.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,160nm,5.3s
XAN Xi'an 71.62 61 P P **01 45 36.8 +1.9**
XAN pP PcP 01 45 49.4 -4.8
XAN pmax pmax
comp=Z,11nm,1.0s
ILAR Eielson Array 71.66 351 P P **01 45 36.5 +2.0**
comp=Z,0.9nm,1.1s,baz=0.0,slow=4.7,SNR=3.6
comp=Z,0.9nm,1.1s
MA2 Magadan 72.22 21 LR LR 02 21 25.5
comp=Z,57nm,18.6s,baz=281,slow=39
MA2 Magadan 72.22 21*ce*P P **01 45 39.9 +1.9**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
KLR Kul'dur 73.76 37 LR LR 02 22 29.4
comp=Z,73nm,18.3s,baz=346,slow=39
KLR Kul'dur 73.76 37*ce*P P **01 45 48.2 +0.9**
KLR pmax pmax
comp=Z,4.0nm,1.3s
CMAR Chiang Mai Arr 74.70 79 P P **01 45 54.4 +1.2**
comp=Z,2.5nm,0.3s,baz=319,slow=7.2,SNR=5.7
CMAR LR LR 02 25 45.7
comp=Z,23nm,18.0s,baz=185,slow=41
comp=Z,2.5nm,0.3s
NJ2 Nanjing 79.17 56 *e*P P **01 46 16.5 -1.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SDV Santo Domingo 79.46 272 LR LR 02 18 25.4
comp=Z,33nm,18.4s,baz=94,slow=33
PETK Petropavlovsk- 79.75 21 LR LR 02 25 38.5
comp=Z,47nm,19.4s,baz=17,slow=39
YSS Yuzh-Sakhalins 80.15 32 *e*P P **01 46 25.5 +2.2**
YSS pmax pmax
comp=Z,20nm,1.1s
PDAR Pinedale Array 80.51 321 LR LR 02 20 36.4
comp=Z,37nm,20.9s,baz=36,slow=35
KSRS Korea Array 80.57 47 LR LR 02 25 58.2
comp=Z,40nm,18.4s,baz=235,slow=39
ANMO Albuquerque 85.00 314 LR LR 02 23 11.2
comp=Z,80nm,20.0s,baz=40,slow=35
MJAR Matsushiro Arr 86.55 41 LR LR 02 29 37.3
comp=Z,73nm,18.4s,baz=343,slow=38
TXAR Lajitas Array 87.71 309 LR LR 02 24 29.8
comp=Z,46nm,18.2s,baz=152,slow=34
PFO Pinyon Flats O 91.08 320 LR LR 02 27 15.3
comp=Z,48nm,19.1s,baz=174,slow=35
CPUP Villa Florida 94.44 238 LR LR 02 27 43.2
comp=Z,49nm,19.4s,baz=50,slow=34

*NEIC **03** 01:45:07.9±1.0, 36°.83N±0°.01×97°.70W±0°.02, h6km±7km, Error ellipse: s-maj=3.2km s-min=1.0km az=53.0*
*TUL **03** 01:45:07.6±1.1, 36°.85N±0°.02×97°.70W±0°.02, h7km±7km, ML3.4, mb_Lg3.2/80(NEIC), Error ellipse: s-maj=3.1km s-min=1.8km az=46.0*
*ANF **03** 01:45:08.1±0.4, 36°.83N×97°.70W, h5km, ML3.8/8, Error ellipse: s-maj=4.0km s-min=3.3km az=165.0*
ISC 03 01:45:08.3±0.9, 36°.84N±0°.02×97°.70W±0°.02, h7km±9km, n101, σ0°.72/97, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GC02	**Grant County #**	**0.13**	**276**	Pg		**Pg**	**01 45 10.8**	**-0.3**
GC02				Sg		**Sg**	**01 45 12.9**	**-0.2**
KAN17	**Caldwell West**	**0.21**	**345**	Pg		**Pg**	**01 45 12.2**	**-0.4**
KAN17				Sg		**Sg**	**01 45 15.3**	**-0.2**
KAN14	**Manchester OK**	**0.24**	**299**			**Pg**	**01 45 12.8**	**-0.3**
KAN14				Sg		**Sg**	**01 45 16.2**	**-0.2**
KAN13	**South Haven SW**	**0.25**	**45**	Pg		**Pg**	**01 45 12.8**	**-0.4**
KAN13				Sg		**Sg**	**01 45 16.3**	**-0.2**
KAN09	**Caldwell North**	**0.30**	**12**	Pg		**Pg**	**01 45 13.8**	**-0.5**
KAN05	**Bluff City Nor**	**0.30**	**332**			**Pg**	**01 45 13.9**	**-0.4**
KAN05				Sg		**Sg**	**01 45 18.1**	**-0.3**
KAN01	**Argonia South**	**0.32**	**351**	Pg		**Pg**	**01 45 14.1**	**-0.5**
KAN01				Sg		**Sg**	**01 45 18.6**	**-0.2**
BLOK	**Blackwell**	**0.39**	**101**	Pg		**Pg**	**01 45 15.5**	**-0.4**
CROK	**Carrier**	**0.41**	**215**	Pg		**Pg**	**01 45 15.9**	**-0.2**
CROK				Sg		**Sg**	**01 45 21.8**	**+0.3**
KS20	**Mayfield South**	**0.41**	**16**	Pg		**Pg**	**01 45 15.7**	**-0.5**
OK032	**Salt Plains WL**	**0.41**	**265**	Pg		**Pg**	**01 45 15.9**	**-0.4**
OK032				Sg		**Sg**	**01 45 21.8**	**0.0**
KAN10	**Anthony SW Sta**	**0.43**	**312**	Pg		**Pg**	**01 45 16.2**	**-0.4**
KAN10				Sg		**Sg**	**01 45 22.2**	**0.0**
KAN06	**Argonia West S**	**0.43**	**342**			**Pg**	**01 45 16.2**	**-0.5**
KAN06				Sg		**Sg**	**01 45 21.9**	**-0.4**
KAN08	**Anthony NE Sta**	**0.45**	**330**			**Pg**	**01 45 16.5**	**-0.4**
KAN08				Sg		**Sg**	**01 45 22.8**	**0.0**
KS21	**Milan North St**	**0.45**	**3**	Pg		**Pg**	**01 45 16.4**	**-0.6**
KAN16	**Harper SW Stat**	**0.49**	**323**	Pg		**Pg**	**01 45 17.3**	**-0.4**
KAN16				Sg		**Sg**	**01 45 24.0**	**-0.1**
KAN12	**Harper NE Stat**	**0.52**	**332**	Pg		**Pg**	**01 45 17.8**	**-0.5**
KAN12				Sg		**Sg**	**01 45 24.9**	**-0.2**
OK038	**West end E0370**	**0.92**	**247**	Sg		**Sg**	**01 45 36.5**	**-1.2**
T35A	**Sooner Cattle**	**0.95**	**85**			**Pg**	**01 45 25.6**	**-0.9**
T35B	**Sooner Cattle**	**0.95**	**85**	P		**Pg**	**01 45 25.5**	**-1.0**
	baz=265							
T35B				S		**Sg**	**01 45 38.3**	**-0.6**
	baz=265							
NOKA	**Waynoka**	**1.01**	**259**			**Pg**	**01 45 26.8**	**-1.0**
QUOK	**Quay**	**1.04**	**130**			**Pg**	**01 45 27.2**	**-1.0**
QUOK				Sg		**Sg**	**01 45 40.9**	**-0.8**
OK029	**Liberty Lake**	**1.06**	**169**			**Pg**	**01 45 27.8**	**-0.7**
OK031	**S. Brethren Rd**	**1.12**	**142**			**Pg**	**01 45 28.9**	**-0.9**
OK031				Sg		**Sg**	**01 45 43.7**	**-0.6**
OK034	**N. Norfolk Rd.**	**1.15**	**136**			**Pg**	**01 45 29.3**	**-0.9**
U32A	**Winter Ranch,**	**1.15**	**247**	P		**Pg**	**01 45 29.1**	**-1.1**
	baz=66							
U32A				S		**Sg**	**01 45 44.8**	**-0.3**
	baz=66							
OK030	**Cody Creek RV**	**1.17**	**141**	Pg		**Pg**	**01 45 29.8**	**-0.9**
BCOK	**Bluff Creek, N**	**1.18**	**177**			**Pg**	**01 45 30.0**	**-0.9**
CSTR	**Hydro, Custer**	**1.44**	**214**			**Pn**	**01 45 34.3**	**-0.4**
FNO	**Franklin**	**1.60**	**171**			**Pn**	**01 45 36.9**	**0.0**
R32A	**Long Quarter,**	**1.77**	**333**	P		**Pn**	**01 45 40.2**	**+0.8**
	baz=153							
R32A				S		**Sb**	**01 46 03.4**	**-0.2**
	baz=153							
TUL1	**Leonard**	**1.79**	**121**			**Pn**	**01 45 40.0**	**+0.4**
TUL1				IAmb_Lg			01 46 07.0	
	comp=Z,199nm,0.9s							
TUL1	**Leonard**	**1.79**	**121**	P		**Pn**	**01 45 39.7**	**+0.2**
	baz=302							
TUL1				S		**Sb**	**01 46 03.8**	**-0.3**
	baz=302							
X34A	**Smith Ranch, M**	**2.23**	**183**			**Pn**	**01 45 46.1**	**+0.5**
RLO	**Rose Lookout**	**2.26**	**107**			**Pn**	**01 45 46.3**	**+0.4**
WMOK	**Wichita Mounta**	**2.27**	**203**	Pn		**Pn**	**01 45 46.3**	**+0.1**
WMOK	**Wichita Mounta**	**2.27**	**203**	P		**Pn**	**01 45 46.2**	**0.0**
	baz=23							
WMOK				S		**Sb**	**01 46 17.7**	**-0.2**
	baz=23							
KSU1	**Kansas State U**	**2.42**	**20**			**Pn**	**01 45 48.9**	**+0.7**
KSU1	**Kansas State U**	**2.42**	**20**	P		**Pn**	**01 45 48.3**	**+0.1**
	baz=201							
KSU1				S		**Sb**	**01 46 21.7**	**-0.3**
	baz=201							
U38A	**Gravette**	**2.69**	**98**	Pn		**Pn**	**01 45 52.2**	**+0.3**
LOOK	**Love County**	**2.87**	**171**			**Pn**	**01 45 54.3**	**-0.1**
LOOK				IAmb_Lg			01 46 45.6	
	comp=Z,38nm,1.1s							
X37A	**Clayton**	**2.94**	**139**			**Pn**	**01 45 56.4**	**+1.1**
X37A				IAmb_Lg			01 46 48.0	
	comp=Z,70nm,0.8s							
X37A	**Clayton**	**2.94**	**139**	P		**Pn**	**01 45 56.2**	**+0.9**
	baz=321							
X37A				Sb		**Sb**	**01 46 38.9**	**+2.0**
	baz=321							
HHAR	**Hobbs**	**3.07**	**99**			**Pn**	**01 45 57.8**	**+0.6**
HHAR	**Hobbs**	**3.07**	**99**	P		**Pn**	**01 45 57.7**	**+0.5**
	baz=281							
S39A	**Bolivar**	**3.59**	**75**	Pn		**Pn**	**01 46 04.6**	**+0.3**
S39A				IAmb_Lg			01 47 01.4	
	comp=Z,64nm,0.9s							
AMTX	**Amarillo**	**3.78**	**240**	Pn		**Pn**	**01 46 06.7**	**-0.3**
AMTX				IAmb_Lg			01 47 11.9	
	comp=Z,77nm,0.8s							
MIAR	**Mount Ida**	**4.06**	**123**	Pn		**Pn**	**01 46 10.1**	**-0.6**
Z38A	**Mt. Pleasant**	**4.21**	**147**	Pn		**Pn**	**01 46 13.8**	**+1.0**
P38A	**Dawn**	**4.30**	**48**	Pn		**Pn**	**01 46 14.4**	**+0.4**
P38A				IAmb_Lg			01 47 22.9	
	comp=Z,63nm,0.7s							
N35A	**Tabor**	**4.33**	**21**	Pn		**Pn**	**01 46 12.9**	**-1.4**
N35A	**Tabor**	**4.33**	**21**	P		**Pn**	**01 46 14.4**	**0.0**
	baz=202							
MGMO	**Mountain Grove**	**4.36**	**84**			**Pn**	**01 46 14.6**	**-0.3**
KSCO	**Kaye Shedlock'**	**4.46**	**301**	IAmb_Lg			01 47 36.9	
	comp=Z,44nm,0.8s							
ABTX	**Abilene, Hawle**	**4.50**	**201**			**Pb**	**01 46 27.7**	**+0.1**
BGNE	**Belgrade**	**4.58**	**356**	Pn		**Pn**	**01 46 17.0**	**-0.9**
FCAR	**Ozark Folk Cen**	**4.59**	**100**	Pn		**Pn**	**01 46 18.3**	**+0.3**
WHAR	**Wooly Hollow**	**4.64**	**108**	Pn		**Pn**	**01 46 19.8**	**+1.0**
WHAR				IAmb_Lg			01 47 35.9	
	comp=Z,50nm,1.1s							
UALR	**University of**	**4.81**	**114**	Pn		**Pn**	**01 46 21.3**	**+0.2**
UALR				IAmb_Lg			01 47 47.2	
	comp=Z,32nm,0.8s							
WHTX	**Lake Whitney,**	**4.84**	**178**			**Pb**	**01 46 36.2**	**+2.9**
WLAR	**White Oak Lake**	**4.89**	**129**	IAmb_Lg			01 47 55.0	
	comp=Z,33nm,0.8s							
237A	**Washetta, Mont**	**5.07**	**162**	IAmb_Lg			01 48 02.6	
	comp=Z,30nm,1.0s							
P40A	**Paris**	**5.20**	**57**	Pn		**Pn**	**01 46 26.4**	**+0.1**
P40A				IAmb_Lg			01 47 52.4	
	comp=Z,38nm,0.8s							
L34A	**Svendsen Farm,**	**5.22**	**11**	IAmb_Lg			01 48 05.0	
	comp=Z,30nm,0.7s							
N38A	**Joes South For**	**5.26**	**40**	Pn		**Pn**	**01 46 26.6**	**-0.7**
CCM	**Cathedral Cave**	**5.28**	**75**	Pn		**Pn**	**01 46 26.7**	**-0.8**
CCM				IAmb_Lg			01 48 02.6	
	comp=Z,50nm,0.8s							
OGNE	**Ogallala**	**5.32**	**322**	Pn		**Pn**	**01 46 27.7**	**-0.4**
OGNE				IAmb_Lg			01 48 07.3	
	comp=Z,35nm,0.8s							
LCAR	**Lake Charles**	**5.33**	**96**	Pn		**Pn**	**01 46 28.4**	**+0.3**
T25A	**Trinidad**	**5.38**	**275**	Pn		**Pn**	**01 46 27.8**	**-1.4**
NATX	**Nacogdoches**	**5.65**	**153**	IAmb_Lg			01 48 21.4	
	comp=Z,37nm,0.9s							
PBMO	**Poplar Bluff**	**5.83**	**88**	IAmb_Lg			01 48 14.7	
	comp=Z,58nm,0.7s							
HBAR	**Harrisburg**	**5.83**	**101**	IAmb_Lg			01 48 17.5	
	comp=Z,48nm,0.8s							
FVM	**French Village**	**5.90**	**77**	Pn		**Pn**	**01 46 35.5**	**-0.5**
FVM				IAmb_Lg			01 48 12.9	
	comp=Z,37nm,0.8s							
435B	**Jarrell**	**6.04**	**179**	IAmb_Lg			01 48 26.5	
	comp=Z,33nm,0.8s							
SCIA	**State Center**	**6.14**	**33**	IAmb_Lg			01 48 31.5	
	comp=Z,52nm,0.8s							
GNAR	**Gosnell**	**6.25**	**96**	IAmb_Lg			01 48 33.7	
	comp=Z,48nm,0.7s							
Q24A	**Divide**	**6.26**	**292**	Pn		**Pn**	**01 46 40.4**	**-0.9**
SDCO	**Great Sand Dun**	**6.29**	**281**	Pn		**Pn**	**01 46 41.8**	**+0.2**
PEBM	**Pemiscott Bayo**	**6.35**	**94**	IAmb_Lg			01 48 44.1	
	comp=Z,50nm,0.8s							
CGM3	**Cape Girardeau**	**6.44**	**84**	Pn		**Pn**	**01 46 43.0**	**-0.5**
CGM3				IAmb_Lg			01 48 31.8	
	comp=Z,31nm,0.8s							
JCT	**Junction City**	**6.58**	**196**	Pn		**Pn**	**01 46 45.1**	**-0.3**
JCT				IAmb_Lg			01 48 40.2	
	comp=Z,49nm,1.1s							
N41A	**Harden Midland**	**6.59**	**52**	Pn		**Pn**	**01 46 45.6**	**+0.1**
143A	**Socs Landing,**	**6.62**	**127**	IAmb_Lg			01 48 42.4	
	comp=Z,26nm,0.8s							
S44A	**Carbondale**	**6.79**	**80**	Pn		**Pn**	**01 46 47.4**	**-0.8**
S44A				IAmb_Lg			01 48 43.5	
	comp=Z,36nm,0.8s							
SIUC	**Southern Illin**	**6.82**	**80**	IAmb_Lg			01 48 40.7	
	comp=Z,38nm,1.0s							
ISCO	**Idaho Springs**	**6.89**	**298**			**Pn**	**01 46 48.2**	**-1.7**
K38A	**Parkersburg**	**6.93**	**32**	IAmb_Lg			01 49 02.5	
	comp=Z,45nm,0.8s							
ECSD	**EROS Data Cent**	**6.94**	**7**	Pn		**Pn**	**01 46 49.4**	**-0.9**
P43A	**Skaggs, Pawnee**	**7.01**	**64**	Pn		**Pn**	**01 46 50.3**	**-1.0**
W45A	**Hickory Valley**	**7.10**	**101**	IAmb_Lg			01 48 51.6	
	comp=Z,33nm,0.8s							
Q44A	**Meyer Farm, Va**	**7.17**	**71**	IAmb_Lg			01 49 08.1	
	comp=Z,32nm,0.8s							
L40A	**Anamosa**	**7.23**	**42**	IAmb_Lg			01 49 00.8	
	comp=Z,38nm,0.8s							
T45A	**Paducah**	**7.25**	**86**	IAmb_Lg			01 48 56.1	
	comp=Z,34nm,1.1s							
PHWY	**Pilot Hill**	**7.50**	**309**	IAmb_Lg			01 49 19.9	
	comp=Z,16nm,0.7s							
N23A	**Red Feather La**	**7.60**	**305**	IAmb_Lg			01 49 26.7	
	comp=Z,23nm,0.8s							
SUSD	**Miller**	**7.66**	**353**	IAmb_Lg			01 49 20.4	
	comp=Z,25nm,0.8s							
OLIL	**Olney**	**7.83**	**73**	IAmb_Lg			01 49 22.9	
	comp=Z,29nm,0.9s							
L42A	**Oliver, Polo**	**8.07**	**48**	IAmb_Lg			01 49 22.5	
	comp=Z,36nm,0.8s							
RSSD	**Black Hills**	**8.73**	**328**	IAmb_Lg			01 50 05.7	
	comp=Z,13nm,0.8s							
I40A	**Norwalk**	**8.88**	**35**	IAmb_Lg			01 50 09.4	
	comp=Z,15nm,0.8s							
K22A	**Casper**	**8.94**	**313**	IAmb_Lg			01 50 10.5	
	comp=Z,21nm,0.9s							

*NOU **03** 01:50:12.1, 37°.04S×179°.41E, h168km, mb4.4/8, Off E. Coast of N. Island, N.Z.*
*WEL **03** 01:50:12.8±1.8, 37°.5S±6°.×17°.9E±°, h13km±10km, M4.0/41, ML4.2/42, MLv4.0/41, Error ellipse: s-maj=0.0km s-min=0.0km az=82.6*
*IDC **03** 01:50:13.3±2.1, 35°.51S×178°.88E, h0km, mb4.1/2, mbtmp4.1/2, MS3.3/3, Error ellipse: s-maj=82.5km s-min=46.4km az=18.0*
ISC 03 01:50:12.9±1.6, 37°.05S±0°.06×179°.4E±0°.1, h33km, n121, σ1.9/43/115, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**1.01**	**239**	P		**Pn**	**01 50 29.4**	**-1.3**
WMGZ	**Waiomatatini S**	**1.09**	**225**	P		**Pb**	**01 50 33.9**	**+0.5**
WMGZ				S		**Sb**	**01 50 47.7**	**+0.3**
PKGZ	**Pakihiroa**	**1.34**	**231**	P		**Pb**	**01 50 36.9**	**-0.7**
PKGZ				S		**Sb**	**01 50 53.7**	**-0.7**
PUZ	**Puketiti**	**1.36**	**221**	P		**Pb**	**01 50 37.5**	**-0.4**
PUZ				S		**Sb**	**01 50 55.3**	**+0.2**
HAZ	**Te Kaha**	**1.46**	**241**	P		**Pb**	**01 50 38.9**	**-0.7**
HAZ				S		**Sb**	**01 50 56.9**	**-1.0**
TWGZ	**Tauwhareparae**	**1.59**	**224**	P		**Pb**	**01 50 40.8**	**-1.0**
RUGZ	**Raukumara Rang**	**1.64**	**236**	P		**Pb**	**01 50 41.3**	**-1.3**
CNGZ	**Carnagh Statio**	**1.71**	**213**	P		**Pb**	**01 50 43.0**	**-0.8**
WIZ	**White Island**	**1.82**	**254**	P		**Pn**	**01 50 40.2**	**-1.7**
TKGZ	**Te Karaka**	**1.85**	**221**	P		**Pn**	**01 50 44.5**	**+2.2**
MWZ	**Matawai**	**1.96**	**228**	P		**Pn**	**01 50 45.4**	**+1.5**
WHRZ	**Whale Island**	**2.09**	**246**	P		**Pn**	**01 50 47.2**	**+1.5**
RIGZ	**Rimuhau**	**2.10**	**217**	P		**Pn**	**01 50 47.2**	**+1.4**
RAGZ	**Rawiri**	**2.13**	**227**	P		**Pn**	**01 50 47.8**	**+1.5**
URZ	**Urewera**	**2.18**	**236**	P		**Pn**	**01 50 48.2**	**+1.4**
URZ	**Urewera**	**2.18**	**236**	P		**Pn**	**01 50 52.0**	**+0.3**
PRGZ	**Paritu Road**	**2.22**	**212**	P		**Pn**	**01 50 48.9**	**+1.4**
**EDR

SNGZ	Shannon Statio	2.37 222	P		Pn	01 50 50.8	+1.2	
KNZ	Kokohu	2.39 214	P		Pn	01 50 50.6	+0.8	
OPRZ	Ohinepanea	2.39 250	P		Pn	01 50 50.2	+0.4	
MHGZ	Mahia Peninsul	2.41 209	P		Pn	01 50 51.5	+1.5	
RTZ	Ruatahuna	2.47 230	P		Pn	01 50 52.5	+1.6	
MUGZ	Murupara	2.52 235	P		Pn	01 50 52.9	+1.3	
MYRZ	Mayor Island	2.53 264	P		Pn	01 50 52.3	+0.6	
TARZ	Mount Tarawera	2.58 242	P		Pn	01 50 54.1	+1.6	
TGRZ	Tauranga	2.58 254	P		Pn	01 50 53.0	+0.5	
RAHZ	Arahi	2.61 224	P		Pn	01 50 54.6	+1.8	
OMRZ	Omania	2.62 245	P		Pn	01 50 54.5	+1.5	
RRRZ	Republican Roa	2.62 240	P		Pn	01 50 54.5	+1.5	
WHHZ	Waihua	2.65 219	P		Pn	01 50 55.4	+2.1	
KARZ	Kaharoa	2.68 248	P		Pn	01 50 54.7	+0.8	
HLRZ	Highlands Stat	2.70 243	P		Pn	01 50 55.5	+1.5	
MTHZ	Maungataniwha	2.71 227	P		Pn	01 50 55.5	+1.4	
PRRZ	Plateau Road	2.78 238	P		Pn	01 50 56.5	+1.4	
HSRZ	Hossack Road	2.80 242	P		Pn	01 50 57.4	+2.0	
HRRZ	Handcock Road	2.81 240	P		Pn	01 50 57.7	+2.2	
ALRZ	Allen Road	2.85 237	P		Pn	01 50 57.7	+1.6	
KMRZ	Kaimai	2.86 253	P		Pn	01 50 57.0	+0.8	
NMHZ	Naumai	2.89 224	P		Pn	01 50 58.2	+1.5	
ARHZ	Aropaoanui	2.91 220	P		Pn	01 50 58.3	+1.4	
GRRZ	Galatos Road	2.91 242	P		Pn	01 50 58.7	+1.7	
KUZ	Kuaotunu	2.96 275	P		Pn	01 50 56.0	-1.6	
BKZ	Black Stump Fm	3.12 226	P		Pn	01 51 00.5	+0.7	
BKZ	Black Stump Fm	3.12 226	P		Pn	01 51 00.3	+0.5	
TOZ	Tahuroa Road	3.17 256	P		Pn	01 50 59.5	-1.1	
CKHZ	Cape Kidnapper	3.18 214	P		Pn	01 51 00.8	+0.2	
GRZ	Great Barrier	3.26 283	P		Pn	01 51 02.5	+0.7	
TLZ	Tolley Road	3.31 246	P		Pn	01 51 04.9	+2.4	
KWHZ	Kaweka Forest	3.33 224	P		Pn	01 51 04.6	+1.8	
KAHZ	Kahuranaki	3.38 215	P		Pn	01 51 03.5	+0.0	
MKAZ	Moumakai	3.38 268	P		Pn	01 51 02.4	-1.0	
RATZ	Rangitukua	3.39 236	P		Pn	01 51 05.6	+2.0	
RITZ	Rihia Road	3.39 234	P		Pn	01 51 05.4	+1.9	
WIAZ	Waiheke Island	3.42 273	P		Pn	01 51 04.8	+0.9	
KATZ	Kakaramea	3.50 235	P		Pn	01 51 07.8	+2.7	
KRHZ	Kereru	3.52 222	P		Pn	01 51 06.3	+1.0	
TMVZ	Te Maari	3.57 234	P		Pn	01 51 07.0	+0.9	
ETAZ	East Tamaki Re	3.57 270	P		Pn	01 51 07.4	+1.3	
ETVZ	East Tongariro	3.58 233	P		Pn	01 51 07.1	+0.9	
BHHZ	Black Hill Sta	3.58 226	P		Pn	01 51 06.8	+0.6	
KRVZ	Karewarewa	3.60 234	P		Pn	01 51 08.0	+1.5	
MBAZ	Motutapu North	3.61 273	P		Pn	01 51 06.1	-0.4	
OTVZ	Oturere	3.62 233	P		Pn	01 51 07.8	+1.0	
NNVZ	North Ngauruho	3.63 234	P		Pn	01 51 09.5	+2.4	
WTVZ	West Tongariro	3.64 234	P		Pn	01 51 09.2	+2.1	
SNVZ	South Ngauruho	3.65 233	P		Pn	01 51 08.0	+0.7	
NGZ	Ngauruhoe	3.67 233	P		Pn	01 51 08.5	+1.0	
ABAZ	Army Bay	3.69 276	P		Pn	01 51 08.9	+1.3	
TUVZ	Tukino	3.69 232	P		Pn	01 51 08.7	+1.0	
MOVZ	Moawhango	3.71 229	P		Pn	01 51 08.5	+0.5	
TWVZ	Taurewa	3.72 236	P		Pn	01 51 09.2	+1.1	
EPAZ	Eden Park BICE	3.73 271	P		Pn	01 51 09.9	+1.8	
WHVZ	Whangaehu Hut	3.74 232	P		Pn	01 51 09.1	+0.6	
HBAZ	Herne Bay Bore	3.74 272	P		Pn	01 51 10.1	+1.9	
FWVZ	Far West T-bar	3.74 233	P		Pn	01 51 09.8	+1.2	
WNVZ	Wahianoa	3.76 232	P		Pn	01 51 09.4	+0.7	
AWAZ	Awhitu Peninsu	3.80 268	P		Pn	01 51 08.8	-0.3	
WPHZ	Waipukurau	3.80 217	P		Pn	01 51 10.0	+0.8	
PNHZ	Pukenui	3.80 220	P		Pn	01 51 09.4	+0.2	
WTAZ	Waiatarua	3.86 270	P		Pn	01 51 11.7	+1.7	
RVAZ	Riverhead Bore	3.87 273	P		Pn	01 51 10.3	+0.3	
MTVZ	Mangateitei	3.87 232	P		Pn	01 51 11.3	+1.1	
HIZ	Hauiti	3.88 246	P		Pn	01 51 12.1	+1.9	
HIZ	Hauiti	3.88 246	P		Pn	01 51 12.1	+1.9	
PKVZ	Pokaka	3.90 234	P		Pn	01 51 12.4	+1.9	
TSZ	Takapari Road	4.03 221	P		Pn	01 51 12.1	-0.3	
WCZ	Waipu Caves	4.21 284	P		Pn	01 51 15.0	+0.2	
BFZ	Birch Farm	4.38 213	P		Pn	01 51 16.5	-0.7	
BFZ	Birch Farm	4.38 213	P		Pn	01 51 17.6	+0.4	
WAZ	Wanganui	4.39 231	P		Pn	01 51 18.2	+0.9	
PRWZ	Pori Road	4.41 216	P		Pn	01 51 17.6	+0.1	
LREZ	Lake Rotokare	4.61 237	P		Pn	01 51 22.3	+2.0	
MRZ	Mangatainoka R	4.68 218	P		Pn	01 51 20.8	-0.4	
NEZ	North Egmont	4.73 240	P		Pn	01 51 25.5	+3.5	
PKE	Pukeiti	4.77 242	P		Pn	01 51 26.4	+3.9	
KHEZ	Kahui Hut	4.79 240	P		Pn	01 51 26.3	+3.4	
NBEZ	Newall Road No	4.89 241	P		Pn	01 51 27.5	+3.5	
OGWZ	Otaki Gorge	5.00 220	P		Pn	01 51 24.7	-0.9	
OUZ	Omahuta	5.03 290	P		Pn	01 51 26.2	+0.1	
OUZ	Omahuta	5.03 290	P		Pn	01 51 26.2	+0.1	
DUWZ	D'Urville Isla	5.68 227	P		Pn	01 51 34.2	-0.8	
TKNZ	Takaka Hill	6.39 224	P		Pn	01 51 44.0	-0.9	
QRZ	Quartz Range	6.54 233	P		Pn	01 51 45.6	-1.3	
QRZ	Quartz Range	6.54 233	P		Pn	01 51 45.6	-1.3	
KHZ	Kahutara	7.01 218	P		Pn	01 51 53.3	+0.2	
RPZ	Rata Peaks comp=Z,127nm,19.1s,baz=57,slow=40	9.21 221	LR		LR	01 56 56.4		
RPZ	Rata Peaks	9.21 221	P		Pn	01 52 22.0	-1.4	
ODZ	Otahua Downs	10.36 217	P		Pn	01 52 37.1	-2.1	
DZM	Mont Dzumac comp=Z,205nm,18.1s,baz=48,slow=34	18.67 320	LR		LR	02 00 09.0		
CTA	Charters Tower comp=Z,32nm,21.8s,baz=79,slow=32	33.43 291	LR		LR	02 07 18.5		
ASAR	Alice Springs 2.6nm,0.8s,baz=123,slow=8.3,SNR=20 2.6nm,0.8s	41.09 276	P		P	01 57 54.0	+0.2	
WRA	Warramunga Arr 2.1nm,0.8s,baz=121,slow=7.6,SNR=17 2.1nm,0.8s	42.68 281	P		P	01 58 06.7	-0.1	
H03S2	Juan Fernandez baz=242	78.60 124	T		T	03 30 16.1		
H03S1	Juan Fernandez baz=242	78.61 124	T		T	03 30 15.5		
H03S3	Juan Fernandez baz=242	78.62 124	T		T	03 30 13.9		
H03N3	Juan Fernandez baz=236,slow=73	78.83 123	T		T	03 30 24.9		
H03N2	Juan Fernandez baz=236,slow=73	78.83 123	T		T	03 30 20.2		
H03N1	Juan Fernandez baz=236,slow=73	78.85 123	T		T	03 30 23.3		
FINES	FINESS Array B 1.5nm,0.9s,baz=58,slow=3.4,SNR=5.1	150.41 334	PKPbc		PKiKP	02 10 01.6	+0.9	
TORD	Torodi Ar. Bea 0.5nm,0.8s,baz=171,slow=3.6,SNR=1.3	156.11 186	PKPab		PKPab	02 10 43.4	+12	

*NEIC **03** 01:53:46.6±1.3, 17°.78N±0°.05×65°.61W±0°.01, h17km±3km, Error ellipse: s-maj=6.9km s-min=1.9km az=180.0*
*RSPR **03** 01:53:48.6, 17°.88N×65°.64W, h5km, MD2.7/13*

ISC 03 01:53:48.2±0.9, 17°.88N±0°.04×65°.63W±0°.02, h23km, n66, σ0&48/74, 15C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MTP	Monte Pirata	0.23	20	iePⁿ	Pb	01 53 53.7	-0.3	
MTP	Monte Pirata	0.23	20	eS	Sb	01 53 58.0	0.0	
MTP	Monte Pirata	0.23	20		Pb	01 53 53.7	-0.3	
MTP					Sb	01 53 58.0	0.0	
MTP	Monte Pirata comp=N,847nm,0.2s	0.23	20	IAML		01 53 58.2		
HUMP	Col San Antoni	0.33	321	iePⁿ	Pb	01 53 55.1	-0.5	
HUMP	Col San Antoni	0.33	321	eS	Sb	01 54 00.7	+0.1	
HUMP	Col San Antoni	0.33	321		Pb	01 53 55.1	-0.5	
HUMP					Sb	01 54 00.7	+0.1	
HUMP	Col San Antoni comp=N,628nm,0.2s	0.33	321	IAML		01 54 01.0		
CBYP	Canovanas	0.44	331	iePⁿ	Pb	01 53 56.9	-0.5	
CBYP	Canovanas	0.44	331	eS	Sb	01 54 04.5	+0.8	
CBYP	Canovanas	0.44	331		Pb	01 53 56.9	-0.5	
CBYP					Sb	01 54 04.5	+0.8	
IGPR	InterUniversit	0.46	281	iePⁿ	Pb	01 53 57.0	-0.7	
IGPR	InterUniversit	0.46	281	eS	Sb	01 54 03.8	-0.3	
IGPR	InterUniversit	0.46	281		Sb	01 54 03.8	-0.3	
CUPR	Culebra, Puert	0.54	38	iePⁿ	Pb	01 53 58.8	-0.2	
CUPR	Culebra, Puert	0.54	38	eS	Sb	01 54 06.6	+0.2	
CUPR	Culebra, Puert	0.54	38		Pb	01 53 58.8	-0.2	
CUPR					Sb	01 54 06.6	+0.2	
CUPR	Culebra, Puert comp=E,317nm,0.5s	0.54	38	IAML		01 54 07.2		
CUPR				IAML		01 54 07.2		
	comp=N,258nm,0.2s							
SJG	San Juan	0.54	295		Pb	01 53 57.9	-1.2	
SJG				IAML		01 54 07.0		
	comp=N,245nm,0.4s							
SJG				IAML		01 54 07.2		
	comp=N,265nm,0.2s							
GCPR	Guaynabo City	0.60	315	iePⁿ	Pb	01 53 59.5	-0.6	
GCPR	Guaynabo City	0.60	315	eS	Sb	01 54 08.7	+0.5	
GCPR	Guaynabo City	0.60	315		Pb	01 53 59.5	-0.6	
GCPR					Sb	01 54 08.7	+0.5	
STVI	Saint Thomas	0.80	54	iePⁿ	Pb	01 54 03.4	0.0	
STVI	Saint Thomas	0.80	54	eS	Sb	01 54 14.4	+0.6	
STVI	Saint Thomas	0.80	54		Pb	01 54 03.4	0.0	
STVI					Sb	01 54 14.4	+0.6	
CDVI	St. Croix	0.83	99	iePⁿ	Pb	01 54 03.8	-0.2	
CDVI	St. Croix	0.83	99	eS	Sn	01 54 15.9	-0.2	
CDVI	St. Croix	0.83	99		Pb	01 54 03.8	-0.2	
CDVI					Sn	01 54 15.9	-0.2	
CDVI	St. Croix comp=N,218nm,0.5s	0.83	99	IAML		01 54 21.1		
CDVI	St. Croix	0.83	99	ePⁿ	Pb	01 54 03.9	-0.1	
ICMP	Isla Caja de M	0.85	270	Pg	Pb	01 54 04.4	+0.1	
ICMP				IAML		01 54 18.3		
	comp=N,136nm,0.6s							
ICMP				IAML		01 54 19.6		
	comp=E,158nm,0.3s							
CELP	Cerrillos	0.92	282	iePⁿ	Pb	01 54 04.9	-0.6	
CELP	Cerrillos	0.92	282	eS	Sb	01 54 17.4	+0.1	
CELP	Cerrillos	0.92	282		Pb	01 54 04.9	-0.6	
CELP					Sb	01 54 17.4	+0.1	
CELP	Cerrillos comp=E,73nm,0.4s	0.92	282	IAML		01 54 21.0		
SJVI	Gifft Hill Sch	0.93	61	iePⁿ	Pb	01 54 05.1	-0.6	
SJVI	Gifft Hill Sch	0.93	61	eS	Sb	01 54 17.6	-0.1	
SJVI	Gifft Hill Sch	0.93	61		Pb	01 54 05.1	-0.6	
SJVI					Sb	01 54 17.6	-0.1	
OBIP	Obispado Ponce	0.94	280	iePⁿ	Pb	01 54 05.0	-0.8	
OBIP	Obispado Ponce	0.94	280		Pb	01 54 05.0	-0.8	
EMPR	Esperanza - Ma	1.04	305	iePⁿ	Pn	01 54 07.4	+0.1	
EMPR	Esperanza - Ma	1.04	305	eS	Sb	01 54 20.9	+0.2	
EMPR	Esperanza - Ma	1.04	305		Pn	01 54 07.4	+0.1	
EMPR					Sb	01 54 20.9	+0.2	
UUPR	Utuado, UPR, P	1.10	290	iePⁿ	Pn	01 54 07.8	-0.4	
UUPR	Utuado, UPR, P	1.10	290	eS	Sb	01 54 22.5	0.0	
UUPR	Utuado, UPR, P	1.10	290		Pn	01 54 07.8	-0.4	
UUPR					Sb	01 54 22.5	0.0	
TBVI	Tortola	1.10	61	iePⁿ	Pb	01 54 08.2	0.0	
TBVI	Tortola	1.10	61	eS	Sb	01 54 22.2	-0.3	
TBVI	Tortola	1.10	61		Pn	01 54 08.2	0.0	
TBVI					Sb	01 54 22.2	-0.3	
AOPR	Arecibo Observ	1.16	294	iePⁿ	Pn	01 54 08.9	-0.2	
AOPR	Arecibo Observ	1.16	294	eS	Sn	01 54 24.3	0.0	
AOPR	Arecibo Observ	1.16	294		Pn	01 54 08.9	-0.2	
AOPR					Sn	01 54 24.3	0.0	
AOPR	Arecibo Observ	1.16	294	ePⁿ	Pn	01 54 08.8	-0.2	
MLPR	Magueyes Islan	1.35	274	iePⁿ	Pn	01 54 11.8	+0.2	
MLPR	Magueyes Islan	1.35	274	eS	Sb	01 54 30.4	+0.8	
MLPR	Magueyes Islan	1.35	274		Pn	01 54 11.8	+0.2	
MLPR					Sb	01 54 30.4	+0.8	
CRPR	Cabo Rojo, PR	1.41	275	iePⁿ	Pn	01 54 12.7	+0.2	
CRPR	Cabo Rojo, PR	1.41	275		Pn	01 54 12.7	+0.2	
LSP	Las Mesas	1.41	282	iePⁿ	Pn	01 54 13.5	+1.0	
PRSN	Puerto Rico Se	1.48	283	Pn	Pb	01 54 15.5	+0.5	
AGPR	Aguadilla, PR	1.52	293	iePⁿ	Pn	01 54 15.1	+1.1	
AGPR	Aguadilla, PR	1.52	293		Pn	01 54 15.1	+1.1	
AGPR	Aguadilla, PR comp=N,98nm,1.1s	1.52	293	IAML		01 54 47.0		
AGPR				IAML		01 55 02.0		
	comp=E,83nm,2.5s							
MBFL	Flemmings, Mon	3.46	109	ePⁿ	Pn	01 54 40.2	-0.4	
MLYT	Lee's Yard	3.48	109	ePⁿ	Pn	01 54 41.3	+0.2	
ANBD	Bethesda, Anti	3.78	102	ePⁿ	Pn	01 54 45.9	+0.8	

*IDC **03** 02:12:51.4±0.9, 37°.13S×178°.84E, h0km, mb4.4/9, mbtmp4.4/9, MS3.8/22, Error ellipse: s-maj=23.6km s-min=21.9km az=31.0*
*NEIC **03** 02:12:51.6±2.0, 37°.42S±0°.09×179°.13E±0°.07, h10km±1km, mb4.7/14, ML4.5(WEL), Error ellipse: s-maj=15.2km s-min=9.0km az=168.0*
*WEL **03** 02:12:54.1±0.9, 37°.5±4°×17°.9E±°, h12km, M4.6/22, ML4.8/22, MLv4.6/22, Error ellipse: s-maj=0.0km s-min=0.0km az=94.9*

ISC 03 02:12:53.3±1.3, 37°.36S±0°.04×178°.99E±0°.06, h15km±7km, n217, σ1§26/201, mb4.7/16, MS3.8/22, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MXZ	Matakaoa Point	0.58	250		Pb	02 13 05.0	-0.1	
MXZ	Matakaoa Point	0.58	250	P	Pb	02 13 05.0	-0.1	
MXZ				S	Sg	02 13 11.2	-1.3	
WMGZ	Waiomatatini S	0.65	225	P	Pn	02 13 08.2	+0.2	
WMGZ				S	Sb	02 13 17.2	+2.1	
PKGZ	Pakihiroa	0.90	234	P	Pb	02 13 11.6	+1.0	
PKGZ				S	Sb	02 13 23.2	+0.9	
PUZ	Puketiti	0.92	219	P	Pb	02 13 12.3	+1.4	
PUZ				S	Sb	02 13 24.4	+1.5	
HAZ	Te Kaha	1.04	247	P	Pg	02 13 13.0	-0.4	
TWGZ	Tauwhareparae	1.14	224	P	Pb	02 13 15.6	+0.8	
RUGZ	Raukumara Rang	1.20	240	P	Pg	02 13 16.5	0.0	
RUGZ				S	Sg	02 13 31.6	-0.6	
CNGZ	Carnagh Statio	1.28	209	P	Pn	02 13 17.9	+1.2	
CNGZ				S	Sg	02 13 35.5	+0.9	
TKGZ	Te Karaka	1.41	220	P	Pn	02 13 18.6	+0.3	
TKGZ				S	Sn	02 13 36.3	-0.3	
WIZ	White Island	1.44	263	P	Pb	02 13 19.6	-0.2	
WSRZ	White Island S	1.45	263	P	Pb	02 13 20.0	0.0	
MWZ	Matawai	1.51	130	P	Pn	02 13 20.4	+0.6	
RIGZ	Rimuhau	1.66	215	P	Pn	02 13 21.8	0.0	
WHRZ	Whale Island	1.68	252	P	Pn	02 13 23.0	+0.9	
RAGZ	Rawiri	1.68	227	P	Pn	02 13 22.7	+0.5	
URZ	Urewera	1.74	238	Pn	Pn	02 13 23.7	+0.8	
URZ	264nm,0.3s,baz=73,slow=20,SNR=165			Sn	Sb	02 13 46.5	0.0	
	485nm,0.3s,baz=253,slow=20,SNR=7.1							
URZ	Urewera	1.74	238	P	Pn	02 13 23.8	+0.9	
PRGZ	Paritu Road	1.79	209	P	Pn	02 13 23.5	-0.1	
SNGZ	Shannon Statio	1.93	222	P	Pn	02 13 25.6	+0.1	
EDRZ	Edgecumbe	1.93	247	P	Pn	02 13 26.4	+0.7	
MARZ	Manawahe	1.94	251	P	Pn	02 13 26.4	+0.7	
KNZ	Kokohu	1.96	212	P	Pn	02 13 25.4	-0.5	
MHGZ	Mahia Peninsul	1.98	205	P	Pn	02 13 26.3	0.0	
OPRZ	Ohinepanea	1.99	255	P	Pn	02 13 26.8	+0.3	
RTZ	Ruatahuna	2.02	231	P	Pn	02 13 27.7	+0.8	
MUGZ	Murupara	2.08	237	P	Pn	02 13 28.2	+0.6	
MKRZ	Makatiti	2.15	248	P	Pb	02 13 30.9	-1.0	
TARZ	Mount Tarawera	2.15	245	P	Pn	02 13 29.8	+1.0	
RAHZ	Arahi	2.16	223	P	Pn	02 13 29.2	+0.4	
LIRZ	Lichensteins R	2.17	252	P	Pn	02 13 29.8	+1.0	
RRRZ	Republican Roa	2.19	243	P	Pn	02 13 29.8	+0.7	
MYRZ	Mayor Island	2.19	271	P	Pn	02 13 28.8	-0.4	
TGRZ	Tauranga	2.20	260	P	Pn	02 13 29.5	+0.2	
WHHZ	Waihua	2.20	218	P	Pn	02 13 29.4	+0.1	
OMRZ	Omania	2.21	249	P	Pn	02 13 30.2	+0.8	
MTHZ	Maungataniwha	2.26	228	P	Pn	02 13 30.7	+0.6	
HLRZ	Highlands Stat	2.27	246	P	Pn	02 13 31.2	+0.9	
KARZ	Kaharoa	2.28	252	P	Pn	02 13 30.8	+0.5	
NGRZ	Ngongotaha	2.34	251	P	Pn	02 13 32.3	+1.0	
PRRZ	Plateau Road	2.35	240	P	Pn	02 13 32.0	+0.7	
UTU	Utuhina	2.36	249	P	Pn	02 13 33.1	+1.6	
HSRZ	Hossack Road	2.37	246	P	Pn	02 13 33.0	+1.4	
HRRZ	Handcock Road	2.38	244	P	Pn	02 13 32.6	+0.9	
ALRZ	Allen Road	2.41	239	P	Pn	02 13 32.6	+0.4	
NMHZ	Naumai	2.44	224	P	Pn	02 13 33.0	+0.3	
ARHZ	Aropaoanui	2.46	219	P	Pn	02 13 32.9	0.0	
KMRZ	Kaimai	2.47	258	P	Pn	02 13 33.4	+0.4	
GRRZ	Galatos Road	2.48	246	P	Pn	02 13 34.5	+1.2	
MRHZ	Matea Rd	2.51	233	P	Pn	02 13 34.0	+0.5	
WPRZ	Whakapapatarin	2.52	242	P	Pn	02 13 34.6	+0.9	
BKZ	Black Stump Fm	2.67	227	Pn	Pn	02 13 35.6	-0.1	
BKZ	Black Stump Fm	2.67	227	P	Pn	02 13 35.8	+0.1	
KUZ	Kuaotunu	2.69	282	P	Pn	02 13 34.2	-1.8	
CKHZ	Cape Kidnapper	2.74	213	P	Pn	02 13 35.5	-1.2	
KUTZ	Kaahu Road	2.75	245	P	Pn	02 13 37.6	+0.8	
HATZ	Hinemaiaia	2.75	235	P	Pn	02 13 37.1	+0.2	
TOZ	Tahuroa Road	2.80	261	P	Pn	02 13 37.5	+0.1	
KWHZ	Kaweka Forest	2.88	224	P	Pn	02 13 38.2	-0.6	
TLZ	Tolley Road	2.90	249	P	Pn	02 13 39.4	+0.5	
WATZ	Wairara	2.90	241	P	Pn	02 13 40.0	+1.0	
KAHZ	Kahuranaki	2.94	214	P	Pn	02 13 38.2	-1.3	
RITZ	Rihia Road	2.95	236	P	Pn	02 13 40.1	+0.5	
RATZ	Rangitukua	2.95	238	P	Pn	02 13 40.5	+0.8	
GRZ	Great Barrier	3.04	290	P	Pn	02 13 39.8	-1.0	
KATZ	Kakaramea	3.06	237	P	Pn	02 13 41.8	+0.6	
MKAZ	Moumakai	3.07	274	P	Pn	02 13 40.2	-0.9	
KRHZ	Kereru	3.07	221	P	Pn	02 13 40.0	-1.2	
TMVZ	Te Maari	3.12	235	P	Pn	02 13 42.2	+0.1	
BHHZ	Black Hill Sta	3.13	226	P	Pn	02 13 41.8	-0.4	
ETVZ	East Tongariro	3.13	235	P	Pn	02 13 42.2	0.0	
NTVZ	North Tongarir	3.13	235	P	Pn	02 13 42.4	+0.2	
WIAZ	Waiheke Island	3.14	279	P	Pn	02 13 41.4	-0.7	
PXZ	Pawanui	3.14	211	P	Pn	02 13 40.6	-1.7	
KRVZ	Karewarewa	3.15	236	P	Pn	02 13 42.7	+0.2	
OTVZ	Oturere	3.18	234	P	Pn	02 13 42.9	+0.1	
NNVZ	North Ngauruho	3.19	235	P	Pn	02 13 43.4	+0.4	
WTVZ	West Tongariro	3.20	236	P	Pn	02 13 43.5	+0.3	
SNVZ	South Ngauruho	3.21	234	P	Pn	02 13 43.2	0.0	
NGZ	Ngauruhoe	3.22	235	P	Pn	02 13 43.5	0.0	
TUVZ	Tukino	3.24	233	P	Pn	02 13 43.8	+0.1	
MOVZ	Moawhango	3.26	230	P	Pn	02 13 43.5	-0.5	
ETAZ	East Tamaki Re	3.27	276	P	Pn	02 13 43.6	-0.4	
TWVZ	Taurewa	3.28	238	P	Pn	02 13 44.5	+0.3	
WHVZ	Whangaehu Hut	3.29	233	P	Pn	02 13 44.3	-0.2	
FWVZ	Far West T-bar	3.30	234	P	Pn	02 13 44.6	0.0	
DRZ	Dome Shelter	3.30	234	P	Pn	02 13 45.2	+0.5	
WNVZ	Wahianoa	3.31	233	P	Pn	02 13 44.4	-0.3	
MBAZ	Motutapu North	3.33	279	P	Pn	02 13 44.7	-0.1	
WPHZ	Waipukurau	3.36	216	P	Pn	02 13 43.6	-1.6	
PNHZ	Pukenui	3.36	220	P	Pn	02 13 43.4	-1.8	
ABAZ	Army Bay	3.42	282	P	Pn	02 13 46.9	+1.0	
MTVZ	Mangateitei	3.42	233	P	Pn	02 13 46.1	-0.1	
EPAZ	Eden Park BICE	3.43	277	P	Pn	02 13 47.8	+1.6	
PRHZ	Porangahau	3.44	212	P	Pn	02 13 44.4	-1.9	
HBAZ	Herne Bay Bore	3.44	277	P	Pn	02 13 47.1	+0.8	
PKVZ	Pokaka	3.45	235	P	Pn	02 13 46.8	+0.2	
HIZ	Hauiti	3.46	249	Pn	Pn	02 13 47.4	+0.7	
HIZ	Hauiti	3.46	249	P	Pn	02 13 48.0	+1.4	
AWAZ	Awhitu Peninsu	3.48	274	P	Pn	02 13 47.3	+0.4	
WTAZ	Waiatarua	3.56	276	P	Pn	02 13 49.3	+1.4	
RVAZ	Riverhead Bore	3.58	278	P	Pn	02 13 48.1	-0.1	
TSZ	Takapari Road	3.59	220	P	Pn	02 13 46.2	-2.1	
ANWZ	Angora Road	3.66	212	P	Pn	02 13 47.2	-2.2	
DVHZ	Dannevirke	3.67	216	P	Pn	02 13 47.4	-2.1	
POWZ	Post Office Ro	3.94	219	P	Pn	02 13 50.9	-2.2	
BFZ	Birch Farm	3.94	212		Pn	02 13 52.2	-1.1	
WAZ	Wanganui	3.94	231	P	Pn	02 13 53.4	+0.2	
PRWZ	Pori Road	3.96	215	P	Pn	02 13 51.5	-2.0	
WCZ	Waipu Caves	4.00	289	P	Pn	02 13 53.7	-0.3	
OHWZ	Ohakea	4.04	224	P	Pn	02 13 54.0	-0.6	
MHEZ	Mangahewa	4.05	244	P	Pn	02 13 57.3	+2.5	
LREZ	Lake Rotokare	4.17	238	P	Pn	02 13 57.4	+1.0	
DREZ	Durham Road	4.19	243	P	Pn	02 13 59.3	+2.7	
PREZ	Palmer Road	4.28	241	P	Pn	02 14 01.2	+3.3	
NEZ	North Egmont	4.29	242	P	Pn	02 14 00.8	+2.6	
PKE	Pukeiti	4.34	244	P	Pn	02 14 01.7	+3.0	
KHEZ	Kahui Hut	4.36	242	P	Pn	02 14 00.9	+1.9	
NBEZ	Newall Road No

baz=52,SNR=3.4
QSPA South Pole Qui 52.77 180 P **P** 02 22 09.4 +2.0
comp=Z,1.4nm,0.8s,baz=360,slow=0.8,SNR=7.6
QSPA LR LR 02 41 24.8
comp=Z,93nm,19.7s,baz=44,slow=32
comp=Z,1.4nm,0.8s
QSPA South Pole Qui 52.77 180 P **P** 02 22 08.3 +0.8
QSPA IAmb IAmb 02 22 33.8
comp=Z,5.3nm,0.8s
BATI Baumata 56.45 284 LR LR 02 48 30.2
comp=Z,281nm,18.2s,baz=206,slow=38
GUMO Guam 59.98 321 LR LR 02 47 16.1
comp=Z,23nm,19.6s,baz=144,slow=35
RPN Rapa Nui 60.18 103 LR LR 02 43 32.5
comp=Z,52nm,18.8s,baz=273,slow=30
KAPI Kappang 62.71 286 LR LR 02 51 09.2
comp=Z,70nm,19.5s,baz=128,slow=37
BELA Belgrano 2 63.23 172 P **P** 02 23 20.2 -0.3
BELA IAmb IAmb 02 23 36.6
comp=Z,5.9nm,0.8s
MAW Mawson 64.93 202 P **P** 02 23 33.3 +1.6
comp=Z,1.6nm,0.8s,baz=156,slow=6.2,SNR=4.7
MAW LR LR 02 49 58.0
comp=Z,66nm,21.1s,baz=60,slow=34
comp=Z,1.6nm,0.8s
MAW Mawson 64.93 202 P **P** 02 23 30.5 -1.2
PMSA Palmer Station 66.97 155 LR LR 02 48 01.7
comp=Z,74nm,19.1s,baz=232,slow=31
TROLL Troll, Antarti 70.90 181 P **P** 02 24 10.3 +0.9
SNAA Sanae 71.26 179 P **P** 02 24 12.0 +0.5
SNAA Sanae 71.26 179 LR LR 02 52 57.0
comp=Z,63nm,18.2s,baz=146,slow=34
SNAA Sanae 71.26 179 P **P** 02 24 10.5 -1.0
SNAA IAmb IAmb 02 24 36.3
comp=Z,2.2nm,0.9s
VNA3 Neumayer Olymp 71.52 177 P **P** 02 24 13.4 +0.4
VNA2 Neumayer--Watz 71.92 178 P **P** 02 24 16.8 +1.4
baz=176,slow=6.0
VNA1 Neumayer--Stat 72.17 177 P **P** 02 24 15.1 -1.7
H03N3 Juan Fernandez 78.92 124 T T 03 51 35.3
baz=234,slow=72,SNR=26
H03N2 Juan Fernandez 78.93 124 T T 03 51 34.2
baz=234,slow=72,SNR=24
H03N1 Juan Fernandez 78.94 124 T T 03 51 34.4
baz=234,slow=72,SNR=22
PLCA Paso Flores 79.56 134 P **P** 02 25 02.5 +2.8
comp=Z,1.2nm,0.7s,baz=254,slow=7.4,SNR=4.0
comp=Z,1.2nm,0.7s
MJAR Matsushiro Arr 82.67 328 LR LR 02 55 13.7
comp=Z,22nm,21.7s,baz=157,slow=31
KSRS Korea Array 88.13 322 P **P** 02 25 43.4 +0.3
comp=Z,1.3nm,0.5s,baz=137,slow=4.9,SNR=4.8
comp=Z,1.3nm,0.5s
LVC Limon Verde 92.64 121 LR LR 02 58 59.2
comp=Z,37nm,19.6s,baz=212,slow=30
CMAR Chiang Mai Arr 93.41 291 P **P** 02 26 07.9 -0.3
comp=Z,1.3nm,0.3s,baz=162,slow=3.8,SNR=1.7
CMAR LR LR 03 11 08.9
comp=Z,24nm,18.6s,baz=125,slow=38
comp=Z,1.3nm,0.3s
PZH PanZhiHua 96.35 298 P **P** 02 26 22.6 +0.9
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,5.3s
CPUP Villa Florida 97.47 131 LR LR 03 03 49.8
comp=Z,81nm,18.0s,baz=214,slow=31
HHC Hu-ho-hao-te 99.30 315 *e*P **Pdif** 02 26 36.5 +1.9
HHC pmax pmax
comp=Z,44nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.2s
ARA0 ARCESS Array S 144.73 344 *e*PKPab **PKPab** 02 32 27.4 +0.3
ARA0 IAmb IAmb 02 32 35.9
comp=Z,593nm,3.3s
ARCES ARCESS Array B 144.73 344 PKP **PKPab** 02 32 27.2 0.0
comp=Z,2.5nm,0.7s,baz=20,slow=2.9,SNR=18
KTK1 Kautokeino 145.63 345 *e*PKPab **PKPdf** 02 32 30.7 +0.8
KTK1 IAmb IAmb 02 32 49.1
comp=Z,30nm,1.3s
JETT Jettan, Norway 145.73 347 *e*PKPdf **PKPdf** 02 32 30.4 +0.3
KARS Kars 145.84 289 **PKPdf** 02 32 29.2 -2.2
TRO Tromso 145.92 348 *e*PKPdf **PKPdf** 02 32 30.5 +0.2
TRO IAmb IAmb 02 32 37.4
comp=Z,134nm,2.3s
JMIC Jan Mayen 146.08 4 *e*PKPbc **PKPdf** 02 32 31.6 +1.0
GURO Guroymak-BITLI 146.27 285 PKPbc **PKPdf** 02 32 31.4 -0.7
KBZ Khabaz 146.34 295 PKPbc **PKPbc** 02 32 33.8 +0.7
comp=Z,3.3nm,1.0s,baz=126,slow=3.0,SNR=4.3
MARD Mardin 146.97 283 PKPbc **PKPdf** 02 32 33.1 -0.2
STEI Steigen 148.05 348 *e*PKPbc **PKPbc** 02 32 37.3 +0.2
STEI IAmb IAmb 02 32 43.3
comp=Z,44nm,1.4s
LOF Lofoten 148.12 350 *e*PKPbc **PKPbc** 02 32 37.6 +0.3
FAUS Fauske 148.54 348 *e*PKPbc **PKPbc** 02 32 38.4 0.0
FAUS IAmb IAmb 02 32 43.4
comp=Z,31nm,1.3s
KONS Konsvik 149.70 349 *ep*PKPdf **PKiKP** 02 32 43.8 +1.4
KONS IAmb IAmb 02 33 01.2
comp=Z,299nm,2.4s
FINES FINESS Array B 150.55 334 PKPbc **PKPbc** 02 32 42.5 -1.0
comp=Z,2.0nm,0.5s,baz=42,slow=6.4,SNR=25
NSS Namsos 151.71 348 *ep*PKPdf **pPKPdf** 02 32 45.8 +1.0
NSS IAmb IAmb 02 33 06.7
comp=Z,83nm,1.9s
BRTR Keskin Array B 152.90 286 PKPbc **PKPbc** 02 32 48.4 -1.4
comp=Z,1.6nm,0.8s,baz=142,slow=4.2,SNR=8.7
TORD Torodi Ar. Bea 155.77 186 PKPbc PKPbc 02 32 58.2
comp=Z,0.4nm,0.5s,baz=255,slow=1.1,SNR=2.6

*NORS **03** 02:56:47.3±0.0,4.3°×48N×43°×24E,h15km,MPVA3.9*
*MOS **03** 02:56:47.9±0.0,4.3°×53N×43°×32E,h8km,MPVA3.6*
ISC 03 02:56:47.6±0.9,43°51N±0′02×43°29E±0′02,h12km±8km,
n31,σ0°79/58,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NCK	**Nalchik**	**0.23**	**94**	*e*Pg	**Pg**	**02 56 52.2**	**-0.3**
NCK				*e*Sg	**Sg**	**02 56 55.3**	**-0.4**
KBTC	**Kuba-Taba**	**0.32**	**16**	*e*Pg	**Pg**	**02 56 53.9**	**-0.2**
KBTC				*i* Sg	**Sg**	**02 56 58.9**	**+0.4**
KBZ	**Khabaz**	**0.36**	**307**	*i* Pg	**Pg**	**02 56 55.1**	**+0.3**
KBZ				*e*Sg	**Sb**	**02 57 00.6**	**-0.9**
LSNR	**Lesken**	**0.46**	**121**	*e*Pg	**Pg**	**02 56 56.4**	**-0.3**
LSNR				*e*Sg	**Sg**	**02 57 03.3**	**+0.5**
NEY	**Neytrino**	**0.49**	**238**	*e*Pg	**Pb**	**02 56 58.6**	**+0.3**
NEY				*e*Sg	**Sb**	**02 57 06.0**	**+0.6**
SHA1	**Shidzhatmaz**	**0.51**	**296**	*e*Pg	**Pb**	**02 56 58.3**	**-0.4**
SHA1				*e*Sg	**Sb**	**02 57 05.9**	**-0.3**
STDR	**Stavd-Durt**	**0.58**	**104**	*e*Pg	**Pg**	**02 56 59.3**	**+0.3**
STDR				*e*Sg	**Sg**	**02 57 07.2**	**+0.5**
BEYR	**Belyy Ugol+**	**0.60**	**326**	*e*Pg	**Pg**	**02 56 59.3**	**-0.2**
BEYR				*i* Sg	**Sg**	**02 57 07.9**	**+0.4**
KIV	**Kislovodsk**	**0.62**	**316**	*e*Pg	**Pg**	**02 56 59.7**	**-0.1**
KIV				*e*Sg	**Sg**	**02 57 08.7**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.65**	**161**	*i* Pg	**Pg**	**02 57 00.1**	**-0.3**
DIGR				*e*Sg	**Sb**	**02 57 09.4**	**-0.7**
KORR	**Kora**	**0.71**	**127**	*i* Pg	**Pg**	**02 57 01.2**	**-0.2**
KORR				*e*Sg	**Sb**	**02 57 11.4**	**-0.3**
PRTR	**Priterechnaya**	**0.76**	**71**	*e*Pg	**Pg**	**02 57 02.1**	**-0.3**
PRTR				*e*Sg	**Sb**	**02 57 13.2**	**+0.1**
ARNR	**Ardon**	**0.80**	**114**	*i* Pg	**Pb**	**02 57 03.4**	**0.0**
ARNR				*e*Sg	**Sb**	**02 57 14.2**	**0.0**
ZEI	**Tsey**	**0.85**	**148**	*e*Pg	**Pg**	**02 57 03.4**	**-0.7**
ZEI				*e*Sg	**Sb**	**02 57 16.2**	**+0.2**
BTKR	**Batakoyurt**	**0.92**	**98**	*e*Pg	**Pb**	**02 57 05.8**	**+0.2**
BTKR				*e*Sg	**Sb**	**02 57 17.9**	**+0.1**
ONI	**Oni**	**0.93**	**172**	P	**Pb**	**02 57 06.0**	**+0.2**
ONI				S	**Sn**	**02 57 18.8**	**-1.0**
LACR	**Lac**	**1.01**	**133**	*e*Pg	**Pg**	**02 57 06.4**	**-0.6**
LACR				*e*Sg	**Sb**	**02 57 20.4**	**0.0**
TRKR	**Terskaya**	**1.07**	**78**	*e*Pg	**Pb**	**02 57 07.8**	**-0.3**
TRKR				*i* Sg	**Sn**	**02 57 23.0**	**-0.2**
TKB	**Tkibuli**	**1.18**	**191**	P	**Pg**	**02 57 13.2**	**+2.9**
KMGR	**Komgaron**	**1.24**	**111**	*e*Pg	**Pb**	**02 57 11.2**	**+0.2**
KMGR				*e*Sg	**Sn**	**02 57 28.6**	**+1.2**
ALER	**Alexandrovskoy**	**1.28**	**348**	*e*Pg	**Pb**	**02 57 11.9**	**+0.2**
ALER				*e*Sg	**Sg**	**02 57 29.5**	**+0.7**
PNSH	**Pansheti**	**1.31**	**132**	P	**Pn**	**02 57 11.6**	**-0.4**
PNSH				S	**Sb**	**02 57 28.2**	**-0.9**
GUDG	**Gudauri**	**1.36**	**140**	P	**Pn**	**02 57 11.0**	**-1.7**
GUDG				S	**Sb**	**02 57 28.6**	**-2.1**
ALIG	**Mtskhetisjvari**	**1.43**	**169**	P	**Pg**	**02 57 15.5**	**+0.4**
GOF	**Gofitskoye**	**1.56**	**354**	*e*Pg	**Pg**	**02 57 17.8**	**+0.3**
GOF				*e*Sg	**Sg**	**02 57 38.6**	**+1.0**
AHMR	**Akhmetovskaya**	**1.75**	**292**	*e*Pg	**Pg**	**02 57 20.9**	**-0.2**
AHMR				*e*Sg	**Sg**	**02 57 43.7**	**-0.1**
ABS	**Abastumani**	**1.79**	**191**	P	**Pg**	**02 57 21.2**	**-0.8**
ABS				S	**Sg**	**02 57 46.1**	**+0.9**
GROC	**Groznyy**	**1.86**	**99**	*e*Pg	**Pn**	**02 57 19.6**	**+0.3**
GROC				*e*Sg	**Sb**	**02 57 43.9**	**-0.7**
AZMN	**Azmana**	**2.19**	**180**	P	Pg	02 57 39.3	+10
GUZR	**Guzeripl'**	**2.35**	**283**	*e*Pn	**Pg**	**02 57 32.5**	**-0.1**
GUZR				*e*Sn	**Sg**	**02 58 01.2**	**-1.9**
GNBR	**Gunib**	**2.92**	**111**	*e*Pn	**Pn**	**02 57 35.2**	**+1.2**
GNBR				*e*Sn	**Sn**	**02 58 09.9**	**+0.9**

WEL 03 03:00:02.6±1.4,37°S±4°×17°9E±°,h16km±7km,M3.5/43,
ML3.7/50,MLv3.5/43,Error ellipse: s-maj=0.0km
s-min=0.0km az=80.6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.66**	**236**	P	Pb	03 00 15.6	-0.1
MXZ				S	Sg	03 00 23.2	-1.0
WMGZ	**Waiomatatini S**	**0.78**	**216**	P	Pn	03 00 19.3	+0.5
WMGZ				S	Sn	03 00 30.8	+0.7
PKGZ	**Pakihiroa**	**1.00**	**226**	P	Pn	03 00 21.9	-0.2
PKGZ				S	Sb	03 00 34.9	+0.3
PUZ	**Puketiti**	**1.05**	**213**	P	Pg	03 00 22.9	0.0
PUZ				S	Sg	03 00 36.5	-0.2
HAZ	**Te Kaha**	**1.11**	**239**	P	Pb	03 00 22.5	-0.9
HAZ				S	Sn	03 00 38.1	-0.3
TWGZ	**Tauwhareparae**	**1.27**	**219**	P	Pb	03 00 26.1	+0.1
TWGZ				S	Sn	03 00 42.7	+0.4
RUGZ	**Raukumara Rang**	**1.30**	**233**	P	Pb	03 00 26.7	0.0
RUGZ				S	Sn	03 00 43.6	+0.5
CNGZ	**Carnagh Statio**	**1.43**	**206**	P	Pb	03 00 28.8	0.0
WIZ	**White Island**	**1.47**	**256**	P	Pn	03 00 27.3	-1.1
TKGZ	**Te Karaka**	**1.54**	**216**	P	Pn	03 00 29.6	+0.3
MWZ	**Matawai**	**1.62**	**225**	P	Pn	03 00 30.6	+0.1
WHRZ	**Whale Island**	**1.73**	**247**	P	Pn	03 00 32.6	+0.6
RIGZ	**Rimuhau**	**1.79**	**212**	P	Pn	03 00 32.8	-0.1
RAGZ	**Rawiri**	**1.80**	**223**	P	Pn	03 00 33.4	+0.4
URZ	**Urewera**	**1.83**	**234**	P	Pn	03 00 33.5	+0.2
PRGZ	**Paritu Road**	**1.94**	**207**	P	Pn	03 00 34.9	+0.1
EDRZ	**Edgecumbe**	**2.01**	**242**	P	Pn	03 00 36.1	+0.4
OPRZ	**Ohinepanea**	**2.04**	**251**	P	Pn	03 00 35.8	-0.4
SNGZ	**Shannon Statio**	**2.05**	**219**	P	Pn	03 00 36.5	+0.1
KNZ	**Kokohu**	**2.10**	**209**	P	Pn	03 00 36.0	-0.9
RTZ	**Ruatahuna**	**2.13**	**228**	P	Pn	03 00 37.7	+0.1
MHGZ	**Mahia Peninsul**	**2.13**	**203**	P	Pn	03 00 37.5	0.0
MUGZ	**Murupara**	**2.18**	**233**	P	Pn	03 00 38.1	0.0
MYRZ	**Mayor Island**	**2.20**	**267**	P	Pn	03 00 39.3	+0.9
MKRZ	**Makatiti**	**2.21**	**244**	P	Pb	03 00 43.4	+1.2
TGRZ	**Tauranga**	**2.24**	**255**	P	Pn	03 00 38.8	-0.1
RRRZ	**Republican Roa**	**2.27**	**239**	P	Pn	03 00 39.9	+0.5
RAHZ	**Arahi**	**2.29**	**221**	P	Pn	03 00 39.5	0.0
KARZ	**Kaharoa**	**2.33**	**248**	P	Pn	03 00 40.3	+0.1
WHHZ	**Waihua**	**2.33**	**216**	P	Pn	03 00 40.0	-0.3
MTHZ	**Maungataniwha**	**2.37**	**225**	P	Pn	03 00 40.9	+0.1
ALRZ	**Allen Road**	**2.50**	**236**	P	Pn	03 00 42.7	+0.1
NMHZ	**Naumai**	**2.56**	**222**	P	Pn	03 00 43.7	+0.2
ARHZ	**Arpacaonui**	**2.60**	**217**	P	Pn	03 00 43.4	-0.4
KUZ	**Kuaotunu**	**2.66**	**279**	P	Pn	03 00 43.6	-1.0
BKZ	**Black Stump Fm**	**2.79**	**224**	P	Pn	03 00 46.1	-0.4
TOZ	**Tahuroa Road**	**2.83**	**258**	P	Pn	03 00 46.6	-0.4
CKHZ	**Cape Kidnapper**	**2.88**	**211**	P	Pn	03 00 46.5	-1.3
GRZ	**Great Barrier**	**2.99**	**287**	P	Pn	03 00 49.3	+0.1
MKAZ	**Moumakai**	**3.06**	**271**	P	Pn	03 00 49.7	-0.5
KAHZ	**Kahuranaki**	**3.08**	**212**	P	Pn	03 00 49.2	-1.4
WIAZ	**Waiheke Island**	**3.12**	**276**	P	Pn	03 00 50.6	-0.3
KRHZ	**Kereru**	**3.20**	**219**	P	Pn	03 00 50.7	-1.4
TMVZ	**Te Maari**	**3.22**	**232**	P	Pn	03 00 52.0	-0.6
ETVZ	**East Tongariro**	**3.23**	**232**	P	Pn	03 00 52.2	-0.5
KRVZ	**Karewarewa**	**3.25**	**233**	P	Pn	03 00 52.9	-0.1
ETAZ	**East Tamaki Re**	**3.26**	**273**	P	Pn	03 00 52.8	-0.1
OTVZ	**Oturere**	**3.28**	**232**	P	Pn	03 00 53.2	-0.2
NNVZ	**North Ngauruho**	**3.29**	**233**	P	Pn	03 00 53.4	-0.1
MBAZ	**Motutapu North**	**3.31**	**276**	P	Pn	03 00 53.5	0.0
SNVZ	**South Ngauruho**	**3.31**	**232**	P	Pn	03 00 53.4	-0.4
NGZ	**Ngauruhoe**	**3.32**	**232**	P	Pn	03 00 53.6	-0.3
TUVZ	**Tukino**	**3.35**	**231**	P	Pn	03 00 53.7	-0.5
TWVZ	**Taurewa**	**3.37**	**235**	P	Pn	03 00 54.8	+0.2
MOVZ	**Moawhango**	**3.37**	**228**	P	Pn	03 00 53.7	-0.9
WHVZ	**Whangaehu Hut**	**3.40**	**231**	P	Pn	03 00 54.2	-0.8
WNVZ	**Wahianoa**	**3.42**	**230**	P	Pn	03 00 54.4	-0.9
AWAZ	**Awhitu Peninsu**	**3.48**	**271**	P	Pn	03 00 56.1	+0.2
PNHZ	**Pukenui**	**3.49**	**218**	P	Pn	03 00 54.4	-1.7
WPHZ	**Waipukurau**	**3.49**	**214**	P	Pn	03 00 54.4	-1.8
MTVZ	**Mangateitei**	**3.53**	**231**	P	Pn	03 00 56.1	-0.6
RVAZ	**Riverhead Bore**	**3.56**	**276**	P	Pn	03 00 57.4	+0.4
WCZ	**Waipu Caves**	**3.94**	**287**	P	Pn	03 01 03.0	+0.6
WAZ	**Wanganui**	**4.05**	**230**	P	Pn	03 01 03.8	-0.1
NEZ	**North Egmont**	**4.38**	**240**	P	Pn	03 01 09.9	+1.5
PKE	**Pukeiti**	**4.42**	**242**	P	Pn	03 01 11.2	+2.3
KHEZ	**Kahui Hut**	**4.44**	**240**	P	Pn	03 01 11.1	+1.8
OUZ	**Omahuta**	**4.79**	**293**	P	Pn	03 01 15.2	+1.2
CTZ	**Chatham Island**	**7.34**	**154**	P	Pn	03 01 50.3	+1.3

IDC 03 03:11:45.2±6.8,3°33N×127°85E,h0km,mb3.8/3,
mbtmp3.8/3,Error ellipse: s-maj=150.2km
s-min=106.4km az=78.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.99**	**165**	P	P	03 17 01.6	-0.1
	0.5nm,0.3s,baz=345,slow=10,SNR=31						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**27.48**	**168**	P	P	03 17 33.0	-0.3
	0.2nm,0.6s,baz=349,slow=7.5,SNR=4.3						
	0.2nm,0.6s						
STKA	**Stephens Creek**	**37.38**	**161**	P	P	03 19 00.1	+0.3
	2.2nm,0.3s,baz=332,slow=5.9,SNR=3.9						
	2.2nm,0.3s						

*IDC **03** 03:12:15.9±2.0,11°72N×86°43W,h71km±12km,mb3.5/5,*
mbtmp3.8/6,MS2.8/2,Error ellipse: s-maj=49.7km
s-min=35.7km az=19.0
*INET **03** 03:12:18.4±0.6,11°84N×86°64W,h63km±2km,MW4.2*
*UCR **03** 03:12:18.4±1.4,11°90N×86°60W,h35km±9km,ML3.7,*
MW4.4
*SNET **03** 03:12:21.6±1.1,12°13N×86°85W,h14km±574km,ML3.8*
ISC 03 03:12:17.7±0.8,11°89N±0′05×86°62W±0′05,h71km±7km,
n71,σ1°13/86,mb3.7/5,1C-2D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.28**	**5**	*e*P	**Pn**	**03 12 29.0**	**0.0**
TISN	**Laguna Tiscapa**	**0.42**	**54**	*e*P	**Pn**	**03 12 30.3**	**+0.3**
APYN	**Apoyeque**	**0.43**	**38**	*e*P	**Pn**	**03 12 30.1**	**0.0**
MGAN	**Managua**	**0.44**	**55**	*e*P	**Pn**	**03 12 30.5**	**+0.3**
MGAN				*e*P	**Pn**	**03 12 30.5**	**+0.3**
MASN	**Masaya**	**0.47**	**79**	*e*P	**Pn**	**03 12 30.3**	**-0.1**
WILN	**Americas 2**	**0.50**	**58**	*e*P	**Pn**	**03 12 30.9**	**+0.3**
MOMN	**Momotombo**	**0.52**	**9**	*e*P	**Pn**	**03 12 31.1**	**+0.2**
CNGN	**Cerro Negro**	**0.61**	**353**	*e*P	**Pn**	**03 12 32.1**	**+0.3**
HUEN		**0.62**	**45**	*e*P	**Pn**	**03 12 32.5**	**+0.6**
TEL3	**Telica 3**	**0.71**	**342**	*e*P	**Pn**	**03 12 33.6**	**+0.7**
TELN	**Telica**	**0.74**	**344**	*e*P	**Pn**	**03 12 34.1**	**+0.8**
BRAN	**Las Pilas**	**0.86**	**18**	*e*P	**Pn**	**03 12 30.1**	**-4.6**
BOAB	**BOACO BROADBAN**	**.08**	**59**	*e*P	**Pn**	**03 12 38.0**	**+0.6**
BOAB				*e*S	**Sn**	**03 12 53.2**	**+1.2**
MATN	**Matagalpa**	**1.23**	**33**	*e*P	**Pn**	**03 12 40.4**	**+1.0**
CSGN	**Cosiguina Volc**	**1.41**	**320**	*e*P	**Pn**	**03 12 41.8**	**+0.1**
ACON	**Acoyapa**	**1.42**	**87**	*e*P	**Pn**	**03 12 41.9**	**+0.3**
ACON				*e*S	**Sn**	**03 13 00.4**	**+0.8**
HZTE	**Horizontes, Gu**	**1.54**	**139**	*e*P	**Pn**	**03 12 43.9**	**+0.6**
GBS3	**Finca Las Img**	**1.59**	**134**	*e*P	**Pn**	**03 12 43.1**	**-0.8**
GB1A	**Borinquen Arri**	**1.60**	**132**	*e*P	**Pn**	**03 12 44.1**	**-0.2**
BUEV	**Buena Vista**	**1.61**	**132**	*e*P	**Pn**	**03 12 43.9**	**-0.4**
LAPC	**Finca la Perla**	**1.61**	**134**	*e*P	**Pn**	**03 12 43.5**	**-0.8**
BUAI	**Buenos Aires**	**1.62**	**129**	*e*P	**Pn**	**03 12 44.2**	**-0.1**
BUAI				*e*S	**Sn**	**03 13 04.2**	**-0.2**
GPS3	**Bodega del ICE**	**1.67**	**133**	*e*P	**Pn**	**03 12 45.2**	**+0.1**
GPS2	**Hotel Rincn d**	**1.68**	**132**	*e*P	**Pn**	**03 12 45.3**	**0.0**
LIM1	**Limonal**	**1.79**	**131**	*e*P	**Pn**	**03 12 46.6**	**-0.1**
GUAB	**Guayabo de Bag**	**1.80**	**131**	*e*P	**Pn**	**03 12 47.1**	**+0.3**
CNCH	**Conchagua**	**1.81**	**319**	*e*P	**Pn**	**03 12 47.4**	**+0.3**
CNCH				*e*S	**Sn**	**03 13 08.9**	**-0.4**
CNCH				IAML		03 13 18.1	
	comp=Z,3μm,0.2s						
HORNC	**Hornillas**	**1.84**	**130↑**	*e*P	**Pn**	**03 12 47.5**	**+0.2**
HORNC				*e*S	**Sn**	**03 13 10.2**	**+0.4**
COLC	**Colonia**	**1.85**	**131**	*e*P	**Pn**	**03 12 47.9**	**+0.5**
COLC				*e*S	**Sn**	**03 13 10.8**	**+0.8**
CUI	**Cuipilapa**	**1.88**	**131↓**	*e*P	**Pn**	**03 12 47.9**	**0.0**
CUI				*e*S	**Sn**	**03 13 11.4**	**+0.6**
ORTG	**Ortega, Santa**	**1.90**	**143**	*e*P	**Pn**	**03 12 48.4**	**+0.2**
PTEN	**Parque Tenorio**	**1.98**	**126**	*e*P	**Pn**	**03 12 49.2**	**0.0**
ACAL	**Aguas Claras**	**2.00**	**129**	*e*P	**Pn**	**03 12 49.6**	**+0.2**
VERA	**Finca Concepci**	**2.00**	**121**	*e*P	**Pn**	**03 12 49.2**	**-0.2**
SAJU	**San Juanillo,**	**2.02**	**154**	*e*P	**Pn**	**03 12 48.9**	**-0.8**
RANC	**El Ranchito**	**2.24**	**313**	*e*P	**Pn**	**03 12 54.0**	**+1.2**
RANC	**El Ranchito**	**2.24**	**313**	*e*P	**Pn**	**03 12 54.0**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.24**	**344**	*e*P	**Pn**	**03 12 54.5**	**+1.6**
JTS	**Las Juntas de**	**2.28**	**134**	*e*P	**Pn**	**03 12 53.5**	**+0.2**
JTS	**Las Juntas de**	**2.28**	**134**	*e*P	**Pn**	**03 12 53.5**	**+0.2**
CEDE	**Laguna Cedeo**	**2.34**	**126**	*e*P	**Pn**	**03 12 55.0**	**+0.9**
CASO	**Castillo**	**2.35**	**128**	*e*P	**Pn**	**03 12 55.1**	**+0.9**
FORC	**Fortuna**	**2.38**	**126**	*e*P	**Pn**	**03 12 55.9**	**+1.3**
SCLA	**Alcaldia de Sa**	**2.73**	**311**	*e*P	**Pn**	**03 13 00.7**	**+1.3**
SCLA				IAML		03 13 46.0	
	comp=Z,129nm,0.3s						
SCLA	**Alcaldia de Sa**	**2.73**	**311**	*e*P	**Pn**	**03 13 00.7**	**+1.3**
SCLA				IAML		03 13 46.0	
	comp=Z,129nm,0.3s						
COEG	**Centro de Oper**	**2.79**	**308**	*e*P	**Pn**	**03 13 01.8**	**+1.5**
COEG				*e*S	**Sn**	**03 13 33.0**	**0.0**
COEG				IAML		03 13 44.2	
	comp=Z,591nm,0.3s						
COEG	**Centro de Oper**	**2.79**	**308**	*e*P	**Pn**	**03 13 01.8**	**+1.5**
COEG				*e*S	**Sn**	**03 13 33.0**	**0.0**
COEG				IAML		03 13 44.2	
	comp=Z,591nm,0.3s						
SJTE	**Alcalda de S**	**2.89**	**307**	*e*P	**Pn**	**03 13 02.7**	**+1.2**
SJTE				IAML		03 13 38.4	
	comp=Z,260nm,0.2s						
SJTE	**Alcalda de S**	**2.89**	**307**	*e*P	**Pn**	**03 13 02.7**	**+1.2**
SJTE				*e*S	**Sn**	**03 13 34.2**	**-1.0**
SJTE				IAML		03 13 38.4	
	comp=Z,260nm,0.2s						
PAVA	**Las Pavas**	**2.90**	**309**	*e*P	**Pn**	**03 13 03.4**	**+1.8**
PAVA	**Las Pavas**	**2.90**	**309**	*e*P	**Pn**	**03 13 03.4**	**+1.8**
LFRS	**El Faro**	**2.94**	**306**	*e*P	**Pn**	**03 13 03.4**	**+1.1**
LFRS	**El Faro**	**2.94**	**306**	*e*P	**Pn**	**03 13 03.4**	**+1.1**
JAYA	**Jayaque - finc**	**3.27**	**303**	*e*P	**Pn**	**03 13 07.7**	**+0.9**
JAYA				IAML		03 13 54.2	
	comp=Z,555nm,0.2s						
JAYA	**Jayaque - finc**	**3.27**	**303**	*e*P	**Pn**	**03 13 07.7**	**+0.9**
JAYA				*e*S	**Sn**	**03 13 43.6**	**-1.0**
JAYA				IAML		03 13 54.2	
	comp=Z,555nm,0.2s						
CEVE	**Cerro Verde**	**3.50**	**304**	*e*P	**Pn**	**03 13 12.6**	**+2.5**
CEVE	**Cerro Verde**	**3.50**	**304**	*e*P	**Pn**	**03 13 12.6**	**+2.5**
MTO3	**Montecristo**	**3.65**	**313**	*e*P	**Pn**	**03 13 13.3**	**+1.3**
MTO3	**Montecristo**	**3.65**	**313**	*e*P	**Pn**	**03 13 13.3**	**+1.3**
NUBE	**Las Nubes**	**3.67**	**303**	*e*P	**Pn**	**03 13 14.0**	**+1.7**
NUBE	**Las Nubes**	**3.67**	**303**	*e*P	**Pn**	**03 13 14.0**	**+1.7**
CMIG	**Matias Romero**	**9.53**	**304**	P	**Pn**	**03 14 32.8**	**+0.6**
	comp=Z,2.4nm,0.2s,baz=131,slow=11,SNR=31						
CMIG				S	**Sn**	**03 16 16.2**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=268,slow=4.1,SNR=1.2						
CMIG				LR	LR	03 18 22.6	
	comp=Z,53nm,19.7s,baz=130,slow=38						
SDV	**Santo Domingo**	**16.00**	**99**	LR	LR	03 22 38.0	
	comp=Z,36nm,20.6s,baz=279,slow=39						
TXAR	**Lajitas Array**	**23.52**	**320**	P	**P**	**03 17 22.1**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=137,slow=9.7,SNR=30						
TXAR				pP	**pP**	**03 17 38.8**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=138,slow=9.6,SNR=4.4						
	comp=Z,1.9nm,0.7s						
TKL	**Tuckaleechee C**	**23.80**	**6**	P	**P**	**03 17 25.3**	**+1.3**
	comp=Z,6.6nm,1.0s,baz=194,slow=12,SNR=3.3						
	comp=Z,6.6nm,1.0s				

ARHZ	Aropaoanui	3.00	218	P	Pn	03 17 44.9	0.0	
TOZ	Tahuroa Road	3.19	254	P	Pn	03 17 46.1	-1.3	
BKZ	Black Stump Fm	3.19	224	P	Pn	03 17 47.4	-0.1	
GRZ	Great Barrier	3.21	281	P	Pn	03 17 47.7	-0.1	
KUTZ	Kaahu Road	3.22	240	P	Pn	03 17 48.7	+0.8	
CKHZ	Cape Kidnapper	3.28	213	P	Pn	03 17 47.8	-0.9	
TLZ	Tolley Road	3.35	244	P	Pn	03 17 50.9	+1.2	
MKAZ	Moumakai	3.37	266	P	Pn	03 17 48.6	-1.4	
WIAZ	Waiheke Island	3.40	271	P	Pn	03 17 50.0	-0.3	
RITZ	Rihia Road	3.45	232	P	Pn	03 17 51.6	+0.5	
KAHZ	Kahuranaki	3.48	213	P	Pn	03 17 50.5	-0.9	
ETAZ	East Tamaki Re	3.56	268	P	Pn	03 17 52.6	+0.1	
KATZ	Kakaramea	3.56	234	P	Pn	03 17 54.0	+1.4	
MBAZ	Motutapu North	3.59	271	P	Pn	03 17 53.8	+0.9	
KRHZ	Kereru	3.60	220	P	Pn	03 17 52.5	-0.7	
TMVZ	Te Maari	3.63	232	P	Pn	03 17 53.8	+0.1	
ETVZ	East Tongariro	3.64	231	P	Pn	03 17 53.8	+0.1	
NTVZ	North Tongarir	3.64	232	P	Pn	03 17 54.1	+0.3	
ABAZ	Army Bay	3.65	274	P	Pn	03 17 55.2	+1.3	
KRVZ	Karewarewa	3.66	232	P	Pn	03 17 54.4	+0.4	
PXZ	Pawanui	3.68	212	P	Pn	03 17 52.5	-1.7	
OTVZ	Oturere	3.68	231	P	Pn	03 17 54.6	+0.2	
NNVZ	North Ngauruho	3.69	232	P	Pn	03 17 55.2	+0.6	
WTVZ	West Tongariro	3.70	232	P	Pn	03 17 55.2	+0.5	
SNVZ	South Ngauruho	3.71	231	P	Pn	03 17 54.9	0.0	
NGZ	Ngauruhoe	3.73	232	P	Pn	03 17 55.2	+0.2	
TUVZ	Tukino	3.75	230	P	Pn	03 17 55.3	0.0	
TWVZ	Taurewa	3.77	234	P	Pn	03 17 56.0	+0.4	
MOVZ	Moawhango	3.78	228	P	Pn	03 17 55.0	-0.7	
AWAZ	Awhitu Peninsu	3.78	266	P	Pn	03 17 55.7	+0.1	
WHVZ	Whangaehu Hut	3.80	230	P	Pn	03 17 55.9	-0.2	
FWVZ	Far West T-bar	3.81	231	P	Pn	03 17 56.3	+0.1	
WNVZ	Wahianoa	3.82	230	P	Pn	03 17 55.8	-0.5	
WTAZ	Waiatarua	3.84	268	P	Pn	03 17 56.8	+0.4	
RVAZ	Riverhead Bore	3.84	271	P	Pn	03 17 57.8	+1.4	
PNHZ	Pukenui	3.89	219	P	Pn	03 17 55.9	-1.2	
WPHZ	Waipukurau	3.89	215	P	Pn	03 17 55.7	-1.4	
MTVZ	Mangateitei	3.94	230	P	Pn	03 17 57.4	-0.4	
PKVZ	Pokaka	3.96	232	P	Pn	03 17 58.7	+0.6	
PRHZ	Porangahau	3.97	212	P	Pn	03 17 56.3	-1.9	
TSZ	Takapari Road	4.12	219	P	Pn	03 17 58.9	-1.4	
WCZ	Waipu Caves	4.16	282	P	Pn	03 18 00.6	-0.2	
ANWZ	Angora Road	4.20	212	P	Pn	03 17 60.0	-1.4	
DVHZ	Dannevirke	4.20	216	P	Pn	03 17 59.5	-1.9	
WAZ	Wanganui	4.46	229	P	Pn	03 18 05.2	+0.3	
PRWZ	Pori Road	4.50	215	P	Pn	03 18 03.8	-1.6	
NEZ	North Egmont	4.77	239	P	Pn	03 18 11.8	+2.4	
PKE	Pukeiti	4.81	240	P	Pn	03 18 12.8	+2.9	
KHEZ	Kahui Hut	4.84	239	P	Pn	03 18 12.6	+2.3	
NBEZ	Newall Road No	4.93	240	P	Pn	03 18 15.0	+3.5	
OUZ	Omahuta	4.97	288	P	Pn	03 18 12.7	+0.7	
CTZ	Chatham Island	7.47	157	P	Pn	03 18 48.6	+2.4	
RPZ	Rata Peaks	9.29	220	Pn	Pn	03 19 07.4	-3.8	
	1.0nm,0.3s,baz=28,slow=18,SNR=5.8							
RPZ				Sn	Sn	03 20 42.8	-13	
	1.7nm,0.3s,baz=354,slow=21,SNR=10							
ASAR	Alice Springs	41.05	276	P	P	03 24 39.9	-1.3	
	4.2nm,0.8s,baz=120,slow=8.0,SNR=50							
ASAR				PcP	PcP	03 26 40.6	-0.5	
	0.3nm,0.6s,baz=114,slow=4.1,SNR=1.9							
	4.2nm,0.8s							
WRA	Warramunga Arr	42.64	281	P	P	03 24 52.7	-1.5	
	1.6nm,0.5s,baz=121,slow=7.8,SNR=34							
	1.6nm,0.5s							
QSPA	South Pole Qui	53.21	180	P	P	03 26 18.9	+3.2	
	1.3nm,0.8s,baz=27,slow=4.5,SNR=6.6							
	1.3nm,0.8s							
H03N3	Juan Fernandez	78.92	123	T	T	04 55 44.8		
	baz=234,slow=72,SNR=3.7							
H03N2	Juan Fernandez	78.92	123	T	T	04 55 44.7		
	baz=234,slow=72,SNR=4.2							
H03N1	Juan Fernandez	78.94	123	T	T	04 55 43.6		
	baz=234,slow=72,SNR=3.2							
NNA	Nana	93.64	108	LR	LR	04 03 07.7		
	comp=Z,290nm,21.4s,baz=335,slow=30							
ARCES	ARCESS Array B	144.38	345	PKP	PKPdf	03 36 32.3	-0.5	
	1.1nm,0.7s,baz=35,slow=3.8,SNR=6.0							
FINES	FINESS Array B	150.28	334	PKPbc	PKPbc	03 36 47.5	-0.4	
	1.0nm,0.6s,baz=64,slow=4.4,SNR=6.6							
TORD	Torodi Ar. Bea	156.24	186	PKPab	PKPab	03 37 21.0	+0.5	
	0.9nm,0.8s,baz=167,slow=5.1,SNR=4.9							

*PRU **03** 03:19:12.5±0.0,42°.68N×13°.88E,h0km*
*ROM **03** 03:19:14.0±0.1,42°.812N±0°.003×13°.200E±0°.005,*
h8km,ML3.0/48,Error ellipse: s-maj=0.4km s-min=0.1km az=71.0

ISC 03 03:19:14.4±0.8,42°.78N±0°.02×13°.26E±0°.02,h9km±4km, n84,σ1°38/109,29C-23D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1244	Arquata del Tr	0.04	129	⇑P		Pg	03 19 16.7	+0.4
T1244				S		Sg	03 19 18.6	+1.0
T1244				AML		AML		
	comp=E,46350μm,0.7s							
T1244				AML		AML		
	comp=N,39250μm,1.0s							
T1244				AML		AML		
	comp=E,44800μm,0.7s							
T1244				AML		AML		
	comp=N,39850μm,1.0s							
T1244				AML		AML		
	comp=E,46400μm,0.7s							
T1244				AML		AML		
	comp=N,39300μm,0.9s							
T1244				AML		AML		
	comp=N,39300μm,1.0s							
T1244				AML		AML		
	comp=E,46400μm,0.7s							
T1242	Castelluccio d	0.06	321	⇑P		Pg	03 19 15.5	-1.1
T1242				S		Sg	03 19 16.1	-2.0
T1242				AML		AML		
T1242				AML		AML		
T1242				AML		AML		
T1242				AML		AML		
T1202	Accumoli, Fraz	0.08	197	⇑P		Pg	03 19 17.1	+0.3
T1202				S		Sg	03 19 19.5	+1.1
T1202				AML		AML		
	comp=E,28850μm,1.4s							
T1202				AML		AML		
	comp=N,53600μm,0.6s							
T1202				AML		AML		
	comp=N,53650μm,0.6s							
T1202				AML		AML		
	comp=E,28900μm,1.4s							
NRCA	Norcia	0.12	296	⇑P		Pg	03 19 16.4	-0.8
NRCA				S		Sg	03 19 17.9	-1.3
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
T1243	Rocca Santa Ma	0.17	121	P		Pg	03 19 18.7	+0.7
T1243				S		Sg	03 19 22.5	+2.0
FEMA	Monte Fema	0.24	320	P		Pg	03 19 18.6	-0.6
FEMA				AML		AML		
	comp=E,10840μm,0.6s							
FEMA				AML		AML		
	comp=N,9520μm,0.2s							
FEMA				AML		AML		
	comp=E,10880μm,0.6s							
FEMA				AML		AML		
	comp=N,9525μm,0.2s							
LNSS	Leonessa	0.24	222	P		Pg	03 19 19.4	+0.1
LNSS				S		Sg	03 19 23.9	+1.3
LNSS				AML		AML		
	comp=N,6305μm,1.1s							
LNSS				AML		AML		
	comp=E,7010μm,0.9s							
LNSS				AML		AML		
	comp=N,6305μm,0.9s							
RM33	Pellescritta (	0.28	187	P		Pg	03 19 20.5	+0.6
RM33				S		Sg	03 19 25.7	+2.0
RM33				AML		AML		
	comp=E,3550μm,0.7s							
RM33				AML		AML		
	comp=N,2930μm,0.8s							
RM33				AML		AML		
	comp=N,2925μm,0.8s							
RM33				AML		AML		
	comp=N,2925μm,1.2s							
FDMO	Fiordimonte	0.28	334	P		Pg	03 19 19.4	-0.7
FDMO				S		Sg	03 19 23.8	-0.2
GUMA	Gualdo di Mace	0.29	12	⇓P		Pg	03 19 20.3	+0.2
GUMA				S		Sg	03 19 25.3	+1.3
GUMA				AML		AML		
	comp=N,20550μm,0.4s							
GUMA				AML		AML		
	comp=N,20600μm,0.4s							
GUMA				AML		AML		
	comp=E,26550μm,0.4s							
GUMA				AML		AML		
	comp=E,18750μm,0.4s							
GUMA				AML		AML		
	comp=E,26550μm,1.6s							
GUMA				AML		AML		
	comp=N,17800μm,0.4s							
GUMA				AML		AML		
	comp=N,20600μm,1.6s							
T1215	Vallo di Nera,	0.29	274	P		Pg	03 19 19.6	-0.6
T1215				S		Sg	03 19 23.6	-0.4
T1215				AML		AML		
	comp=E,1870μm,0.4s							
T1215				AML		AML		
	comp=N,2480μm,0.7s							
T1215				AML		AML		
	comp=E,1840μm,0.4s							
T1215				AML		AML		
	comp=N,2375μm,0.7s							
T1215				AML		AML		
	comp=E,1875μm,0.4s							
T1215				AML		AML		
	comp=E,1839μm,0.4s							
T1215				AML		AML		
	comp=N,2485μm,0.7s							
T1215				AML		AML		
	comp=N,2374μm,0.7s							
T1215				AML		AML		
	comp=N,2374μm,1.3s							
T1215				AML		AML		
	comp=E,1840μm,0.4s							
T1215				AML		AML		
	comp=N,2485μm,1.3s							
CSP1	Cessapalombo	0.31	353	P		Pg	03 19 20.3	-0.4
CSP1				S		Sg	03 19 25.0	+0.1
CESI	CESI - Serrava	0.34	311	⇑P		Pg	03 19 20.5	-0.7
CESI				S		Sg	03 19 25.6	-0.1
CESI				AML		AML		
	comp=E,4875μm,0.5s							
CESI				AML		AML		
	comp=N,6480μm,0.5s							
CESI				AML		AML		
	comp=E,4880μm,0.5s							
OFFI	Offida	0.35	64	⇓P		Pg	03 19 22.7	+1.4
OFFI				AML		AML		
	comp=N,6835μm,0.6s							
OFFI				AML		AML		
	comp=E,4340μm,0.4s							
OFFI				AML		AML		
	comp=E,4340μm,1.6s							
MNTP	Montappone	0.39	24	P		Pb	03 19 22.6	-0.8
MNTP				AML		AML		
	comp=E,4510μm,0.2s							
MNTP				AML		AML		
	comp=N,4010μm,0.3s							
MNTP				AML		AML		
	comp=E,4515μm,0.2s							
MNTP				AML		AML		
	comp=N,4015μm,0.3s							
GIGS	Gran Sasso	0.40	145	P		Pn	03 19 23.2	-3.3
GIGS				AML		AML		
	comp=E,430μm,0.7s							
GIGS				AML		AML		
	comp=N,507μm,0.8s							
GIGS				AML		AML		
	comp=N,506μm,0.8s							
GIGS				AML		AML		
	comp=E,430μm,0.7s							
GIGS				AML		AML		
	comp=N,506μm,1.2s							
SEF1	Sefro	0.43	328	P		Pg	03 19 22.1	-0.7
SEF1				S		Sg	03 19 28.8	+0.3
SEF1				AML		AML		
	comp=E,4845μm,1.2s							
SEF1				AML		AML		
	comp=N,4185μm,0.3s							
SEF1				AML		AML		
	comp=N,4190μm,0.3s							
SEF1				AML		AML		
	comp=E,4845μm,1.1s							
SEF1				AML		AML		
	comp=E,4845μm,0.9s							
SSM1	San Severino M	0.45	353	⇑P		Pg	03 19 22.8	-0.4
GAG1	Gagliole	0.48	343	⇑P		Pg	03 19 23.4	-0.3
GAG1				AML		AML		
	comp=E,8085μm,0.3s							
GAG1				AML		AML		
	comp=N,8425μm,1.2s							
GAG1				AML		AML		
	comp=N,8430μm,1.2s							
TRTR	Tortoreto Alta	0.48	87	⇑P		Pn	03 19 25.8	-1.6
TRTR				AML		AML		
	comp=E,4575μm,0.5s							
TRTR				AML		AML		
	comp=N,4145μm,0.5s							
TRTR				AML		AML		
	comp=E,4575μm,1.5s							
ASSB	Assisi San Ben	0.51	301	⇑P		Pg	03 19 23.4	-0.9
ASSB				S		Sg	03 19 32.0	+0.9
ASSB				AML		AML		
	comp=E,3185μm,0.2s							
ASSB				AML		AML		
	comp=N,2530μm,0.1s							
ASSB				AML		AML		
	comp=N,2530μm,1.9s							
FIAM	Fiamignano	0.52	191	⇑P		Pg	03 19 24.7	+0.2
FIAM				S		Sb	03 19 34.0	+0.5
FIAM				AML		AML		
	comp=N,933μm,0.7s							
FIAM				AML		AML		
	comp=E,1070μm,0.7s							
SNTG	Esanatoglia	0.53	334	⇓P		Pg	03 19 23.8	-0.9
SNTG				S		Sg	03 19 33.0	+1.4
SNTG				AML		AML		
	comp=E,235μm,1.3s							
SNTG				AML		AML		
	comp=N,308μm,0.6s							
SNTG				AML		AML		
	comp=E,1660μm,0.2s							
SNTG				AML		AML		
	comp=E,235μm,1.3s							
SNTG				AML		AML		
	comp=N,1770μm,0.6s							
SNTG				AML		AML		
	comp=N,308μm,0.6s							
CESX	Cesi	0.53	251	⇑P		Pg	03 19 23.9	-0.8
CESX				AML		AML		
	comp=N,986μm,0.6s							
CESX				AML		AML		
	comp=E,1090μm,1.0s							
TRE1	Treia	0.53	4	P		Pg	03 19 25.2	+0.5
EL6	Elcito	0.56	348	⇓P		Pg	03 19 24.5	-0.8
EL6				S		Sg	03 19 34.0	+1.4
EL6				AML		AML		
	comp=N,3035μm,0.4s							
EL6				AML		AML		
	comp=E,3690μm,0.5s							
FAGN	Fagnano	0.57	155	⇑P		Pn	03 19 25.7	-3.0
FAGN				AML		AML		
	comp=N,1570μm,0.4s							
FAGN				AML		AML		
	comp=N,1570μm,1.6s							
FAGN				AML		AML		
	comp=E,2355μm,0.4s							
VCEL	Villa Celiera	0.58	132	P		Pn	03 19 26.4	-2.5
VCEL				AML		AML		
	comp=E,2010μm,0.4s							
VCEL				AML		AML		
	comp=N,1500μm,1.1s							
VCEL				AML		AML		
	comp=E,2010μm,1.6s							
CING	Cingoli	0.59	356	⇓P		Pg	03 19 25.2	-0.7
CING				AML		AML		
	comp=E,1895μm,1.4s							
CING				AML		AML		
	comp=E,1895μm,0.6s							
CING				AML		AML		
	comp=N,1575μm,0.1s							
ATCC	AVT- Casa Cast	0.61	312	⇑P		Pg	03 19 25.2	-0.9
ATCC				AML		AML		
	comp=N,1465μm,0.7s							
ATCC				AML		AML		
	comp=E,2060μm,0.8s							
FOSV	Fossato di Vic	0.63	325	⇓P		Pg	03 19 25.6	-1.0
FOSV				S		Sg	03 19 36.0	+1.2
PP3	Marolino	0.65	23	⇑P		Pb	03 19 27.6	-0.2
PP3				AML		AML		
	comp=E,3260μm,0.5s							
PP3				AML		AML		
	comp=N,2940μm,1.4s							
PP3				AML		AML		
	comp=E,3255μm,0.5s							
PP3				AML		AML		
	comp=N,3025μm,1.4s							
PP3				AML		AML		
	comp=N,2945μm,1.4s							
PP3				AML		AML		
	comp=N,3030μm,1.4s							
PP3				AML		AML		
	comp=E,3250μm,0.5s							
T0110	Collepietro	0.68	145	⇑P		Pn	03 19 27.7	-2.5
T0110				AML		AML		
	comp=E,1365μm,0.4s							
T0110				AML		AML		
	comp=N,1540μm,0.5s							
MURB	Monte Urbino	0.72	312	P		Pg	03 19 27.5	-0.8
MURB				S		Sg	03 19 39.0	+1.3
MURB				AML		AML		
	comp=E,2795μm,1.6s							
MURB				AML		AML		
	comp=N,2800μm,1.0s							
MURB				AML		AML		
	comp=E,3155μm,0.3s							
MURB				AML		AML		
	comp=E,2800μm,1.6s							
MURB				AML		AML		
	comp=N,2795μm,1.0s							
MURB				AML		AML		
	comp=N,2920μm,1.0s							
MURB				AML		AML		
	comp=E,2800μm,0.4s							
SSFR	Montelago di S	0.74	332	⇑P		Pg	03 19 27.7	-1.0
SSFR				S		Sg	03 19 40.0	+1.6
SSFR				AML		AML		
	comp=E,2980μm,0.2s							
SSFR				AML		AML		
	comp=N,2385μm,0.8s							
SSFR				AML		AML		
	comp=N,2500μm,1.1s							
SSFR				AML		AML		
	comp=N,2385μm,1.2s							
SSFR				AML		AML		
	comp=E,3010μm,0.2s							
SSFR				AML		AML		
	comp=N,2500μm,0.9s							
ARVD	Arcevia	0.75	342	⇓P		Pg	03 19 27.9	-1.0
ARVD				S		Sg	03 19 40.0	+1.3
ARVD				AML		AML		
	comp=E,864μm,0.2s							
ARVD				AML		AML		
	comp=N,473μm,0.7s							
ARVD				AML		AML		
	comp=E,864μm,0.2s							
ATFO	Monte Foce - G	0.77	320	⇑P		Pg	03 19 28.2	-1.0
ATFO				S		Sg	03 19 41.0	+1.7
ATFO				AML		AML		
	comp=E,666μm,1.3s							
ATFO				AML		AML		
	comp=N,936μm,0.6s							
ATFO				AML		AML		
	comp=E,666μm,0.7s							
ATTE	AVT- Monte Tez	0.78	302	⇓P		Pg	03 19 28.4	-1.1
ATTE				AML		AML		
	comp=N,504μm,0.5s							
ATTE				AML		AML		
	comp=E,574μm,0.4s							
ATTE				AML		AML		
	comp=N,504μm,0.5s							
AOI	Ancona	0.81	18	⇑P		Pb	03 19 30.0	-0.6
AOI				AML		AML		
	comp=N,521μm,1.5s							
AOI				AML		AML		
	comp=E,570μm,0.3s							
AOI				AML		AML		
	comp=N,521μm,0.5s							
FRON	Frontone	0.83	332	⇓P		Pg	03 19 29.1	-1.3
FRON				AML		AML		
	comp=N,1120μm,0.6s							
FRON				AML		AML		
	comp=N,1120μm,1.4s							
FRON				AML		AML		
	comp=E,708μm,1.0s							
MGAB	Montegabbione	0.85	279	P		Pg	03 19 29.7	-1.1
MGAB				AML		AML		
	comp=N,1340μm,0.5s							
MGAB				AML		AML		
	comp=E,835μm,0.6s							
CERT	Cerreto	0.86	194	⇓P		Pb	03 19 31.8	+0.4
CERT				AML		AML		
	comp=N,580μm,0.5s							
CERT				AML		AML		
	comp=E,749μm,0.5s							
ATVO	AVT- Monte Val	0.86	314	⇑P		Pg	03 19 29.7	-1.3
ATVO				S		Sg	03 19 44.0	+1.7
ATVO				AML		AML		
	comp=N,440μm,1.6s							
ATVO				AML		AML		
	comp=N,439μm,1.6s							
ATVO				AML		AML		
	comp=E,472μm,0.7s							
INTR	Introdacqua	0.91	148	⇓P		Pn	03 19 31.8	-1.5
INTR				AML		AML		
	comp=E,506nm,0.9s							
INTR				AML		AML		
	comp=N,650nm,0.8s							
INTR				AML		AML		
	comp=N,904μm,0.8s							
INTR				AML		AML		
	comp=E,500μm,0.9s							
INTR				AML		AML		
	comp=N,904μm,0.8s							
ATMI	Monte Miggiano	0.91	308	⇓P		Pg	03 19 31.2	-0.7
ATMI				AML		AML		
	comp=E,1865μm,0.7s							
ATMI				AML		AML		
	comp=E,1860μm,0.7s							
ATMI				AML		AML		
	comp=N,1400μm,0.9s							
ATMI				AML		AML		
	comp=N,1400μm,1.1s							
ATPI	Pietralunga -	0.92	317	⇓P		Pg	03 19 30.8	-1.2
MPAG	Monte Paganucc	0.92	337	⇓P		Pg	03 19 30.9	-1.2
MPAG				S		Sg	03 19 46.0	+1.8
MPAG				AML		AML		
	comp=E,683μm,0.4s							
MPAG				AML		AML		
	comp=N,640μm,0.4s							
MPAG				AML		AML		
	comp=N,641μm,0.4s							
MPAG				AML		AML		
	comp=E,683μm,1.6s							
NARO	Abbazia di Nar	0.96	329	⇑P		Pg	03 19 31.4	-1.5
NARO				S		Sg	03 19 47.0	+1.5
NARO				AML		AML		
	comp=E,404μm,1.2s							
NARO				AML		AML		
	comp=N,434μm,0.6s							
NARO				AML		AML		
	comp=N,434μm,1.4s							
NARO				AML		AML		
	comp=E,404μm,0.8s							
FSSB	Fossombrone	0.97	339	⇑P		Pg	03 19 32.1	-1.0
FSSB				S		Sg	03 19 48.0	+2.2
FSSB				AML		AML		
	comp=N,2160μm,0.6s							
FSSB				AML		AML		
	comp=E,1685μm,0.4s							
FSSB				AML		AML		
	comp=E,1685μm,1.6s							
APEC	Apecchio	0.99	322	P		Pg	03 19 32.4	-1.0
SACS	San Casciano d	0.99	274	⇑P		Pg	03 19 32.5	-1.0
BADI	Badiali	1.04	315	⇑P		Pg	03 19 33.3	-1.1
PE3	Peglio	1.07	329	⇓P		Pg	03 19 34.0	-0.9
LATE	Laterza	1.08	262	⇑P		Pg	03 19 35.2	0.0

CAFI	**Castiglion Fio**	**1.09**	**300**	⇑P		**Pg**	**03 19 34.1**	**-1.3**
CAFI				AML	AML				
	comp=N,379µm,1.1s								
CAFI				AML	AML				
	comp=E,348µm,0.7s								
CAFI				AML	AML				
	comp=N,379µm,0.9s								
PARC	**Parchiule**	**1.14**	**320**	⇓P		**Pg**	**03 19 35.1**	**-1.2**
PARC				AML	AML				
	comp=N,482µm,0.8s								
PARC				AML	AML				
	comp=E,584µm,0.8s								
SSP9	**Sansepolcro**	**1.14**	**314**	⇓P		**Pn**	**03 19 35.4**	**-1.2**
TOLF	**Tolfa**	**1.18**	**233**	⇓P		**Pn**	**03 19 35.8**	**-1.1**
TOLF				AML	AML				
	comp=E,173µm,0.8s								
TOLF				AML	AML				
	comp=N,176µm,0.8s								
TOLF				AML	AML				
	comp=N,176µm,1.2s								
SF04	**Casetta**	**1.18**	**273**	⇓P		**Pn**	**03 19 37.7**	**+0.7**
PESA	**Pesaro**	**1.20**	**345**	⇑P		**Pg**	**03 19 36.9**	**-0.5**
PESA				AML	AML				
	comp=E,954µm,0.7s								
PESA				AML	AML				
	comp=N,813µm,0.6s								
PESA				AML	AML				
	comp=N,813µm,1.4s								
GIUL	**Giuliano Di Ro**	**1.22**	**180**	⇓P		**Pn**	**03 19 38.4**	**+0.7**
GIUL				AML	AML				
	comp=E,214µm,0.6s								
GIUL				AML	AML				
	comp=N,230µm,0.6s								
GIUL				AML	AML				
	comp=E,214µm,1.4s								
CRE	**Caprese Michel**	**1.27**	**312**	⇓P		**Pn**	**03 19 39.4**	**+1.0**
MELA	**Melanico ??? S**	**1.76**	**127**	⇓P		Pg	03 19 49.0	+1.0
BRJN	**Brijuni**	**2.15**	**9**	⇑P		**Pn**	**03 19 50.5**	**+0.1**
SKDS	**Skadanscina**	**2.82**	**11**	*i* Pn		**Pn**	**03 19 59.5**	**-0.1**
SKDS				*e*Sn		**Sn**	**03 20 32.7**	**-1.0**
SKDS				IAML			03 20 50.4	
	comp=Z,13nm,0.3s								
BOJS	**Bojanci**	**3.08**	**27**	⇑P		**Pn**	**03 20 04.1**	**+1.0**
MTSN	**Montesano sull**	**3.13**	**142**	⇓P		Pg	03 20 09.0	-5.5
SABO	**M.te Sabotino**	**3.21**	**4**	⇑P		**Pn**	**03 20 05.0**	**+0.1**
SABO				AML	AML				
	comp=E,83µm,0.7s								
SABO				AML	AML				
	comp=N,91µm,1.1s								
SABO				AML	AML				
	comp=N,91µm,0.9s								
OBKA	**Obir**	**3.84**	**13**	*e*Pn		**Pn**	**03 20 14.7**	**+1.0**
	comp=N,0.6nm,0.2s								
MYKA	**Terra Mystica**	**3.86**	**4**	*e*Pn		**Pn**	**03 20 14.9**	**+1.0**
	comp=N,1.3nm,0.2s								
ABTA	**Abfaltersbach**	**4.00**	**353**	Pn		**Pn**	**03 20 17.0**	**+1.1**
	comp=N,6.5nm,0.4s,SNR=18								
KBA	**Koelnbreinsper**	**4.30**	**1**	*e*Pn		**Pn**	**03 20 21.2**	**+1.1**
	comp=N,1.4nm,0.2s								
FETA	**Feichten**	**4.60**	**338**	*e*Pn		**Pn**	**03 20 28.1**	**+3.8**
	comp=N,0.9nm,0.3s								
WTTA	**Wattenberg**	**4.63**	**346**	*e*Pn		**Pn**	**03 20 27.1**	**+2.5**
	comp=N,0.8nm,0.2s								
SQTA	**Sankt Quirin**	**4.67**	**343**	*e*Pn		**Pn**	**03 20 27.4**	**+2.2**
	comp=N,1.9nm,0.2s								
WATA	**Walderalm**	**4.71**	**346**	*e*Pn		**Pn**	**03 20 28.8**	**+3.2**
	comp=N,1.1nm,0.2s								
MOTA	**Moosalm**	**4.81**	**342**	*e*Pn		**Pn**	**03 20 30.0**	**+2.9**
	comp=N,0.7nm,0.2s								
BIOA	**Bad Ischl, Aus**	**4.92**	**3**	Pn		**Pn**	**03 20 29.3**	**+0.9**
	comp=N,1.9nm,0.2s,SNR=5.4								
RETA	**Reutte**	**5.03**	**340**	Pn		**Pn**	**03 20 32.3**	**+2.3**
	comp=N,1.5nm,0.3s,SNR=5.1								
DAVA	**Damuels**	**5.10**	**333**	*e*Pn		**Pn**	**03 20 34.6**	**+3.5**
	comp=N,3.3nm,0.5s								
MOA	**Molln**	**5.12**	**8**	*e*Pn		**Pn**	**03 20 32.8**	**+1.6**
	comp=N,0.5nm,0.2s								
CONA	**Conrad Observa**	**5.46**	**19**	*e*Pn		**Pn**	**03 20 36.9**	**+0.9**
	comp=N,0.8nm,0.2s								
CKRC	**Cesky Krumlov**	**6.08**	**7**	*e*SN		**Sn**	**03 21 53.1**	**-1.0**
KHC	**Kasperske Hory**	**6.35**	**2**	*e*PN		**Pn**	**03 20 47.4**	**-0.8**
KHC				*e*SN		**Sn**	**03 21 59.3**	**-1.5**

*BJI **03** 03:27:53.1±0.0,40˚.40N×125˚.50W,h5km,mb5.4/63, mB5.5/46,Ms5.3/58,Ms7 5.0/57*

*MOS **03** 03:27:56.9±0.9,40˚.50N×125˚.47W,h15km,mb5.8/83, MS5.2/41,Error ellipse: s-maj=6.2km s-min=4.2km az=95.0*

*IDC **03** 03:27:56.2±0.3,40˚.57N×125˚.46W,h0km,mb5.3/45, mbtmp5.2/52,ML4.6/7,MS5.0/82,Error ellipse: s-maj=8.3km s-min=6.2km az=27.0*

*NCEDC **03** 03:27:57.2±4.0,40˚.32N±0˚.05×125˚.69W±0˚.07,h29km±1km, Error ellipse: s-maj=9.5km s-min=6.7km az=233.0*

*NEIC **03** 03:27:57.3,40˚.32N×125˚.69W,h27km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.67; Mθθ-0.63; Mφφ 0.56; Mrθ 0.15; Mθφ-3.46; Mφr-0.44; Fault plane solution: M₀3.54000×10¹⁷ NP1:φ94.69000°, δ83.10000°,λ176.79000°. NP2:φ185.08000°,δ86.81000°, λ6.91000°. Principal axes: T 3.5310, Plg7.0000°, Azm50.0000°; N 0.0196, Plg82.0000°, Azm210.0000°; P -3.5506, Plg3.0000°, Azm320.0000°;*

*NEIC **03** 03:27:58.1±1.7,40˚.48N±0˚.05×125˚.44W±0˚.05,h10km±1km, mb5.7/675,ML5.1/92,Ms_20 5.1/315,Mww5.6, Mwr5.6/6(NCEDC) Error ellipse: s-maj=8.5km s-min=6.5km az=203.0*

*GCMT **03** 03:27:59.1±0.1,40˚.47N±0˚.01×125˚.65W±0˚.01,h23km, MW5.7/162,Moment Tensor Solution. s129,c247; s162,c369; Duration: 18s7 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.48±.04; Mθθ-0.31±.04; Mφφ 0.78±.04; Mrθ 0.01±.06; Mθφ-3.90±.04; Mφr-0.04±.06; Best double couple: M₀3.93800×10¹⁷ NP1:φ184.00000°,δ90.00000°, λ1.00000°. NP2:φ94.00000°,δ89.00000°,λ180.00000°. Principal axes: T 4.1770, Plg0.0000°, Azm49.0000°; N -0.4770, Plg89.0000°, Azm190.0000°; P -3.6990, Plg0.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **03** 03:28:03,40˚.21N×125˚.73W,h16km,Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.18; Mθθ-0.90; Mφφ 0.72; Mrθ 0.16; Mθφ-3.42; Mφr-0.29; Fault plane solution: M₀3.53000×10¹⁷ NP1:φ96.00000°, δ85.00000°,λ176.00000°. NP2:φ187.00000°,δ86.00000°, λ5.00000°. Principal axes: T 3.4547, Plg6.0000°, Azm52.0000°; N 0.1458, Plg84.0000°, Azm224.0000°; P -3.6005, Plg1.0000°, Azm322.0000°;*

ISC 03 03:27:58.0±0.4, 40˚.41N±0˚.03×125˚.61W±0˚.03, h15km±1km, h15km:pP-P,n1756,s1s50/1599,mb5.7/513,MS5.1/287, 47C-41D,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**0.97**	**86**		**Pb**	**03 28 15.0**	**-1.6**
KCTM					**Sb**	**03 28 28.9**	**-0.3**
KSMM	**Slide Mountain**	**1.12**	**101**		**Pb**	**03 28 16.2**	**-2.9**
KMPM	**Mount Pierce**	**1.14**	**89**	Pg	**Pb**	**03 28 17.1**	**-2.3**
JCC	**Jacoby Creek,**	**1.27**	**71**		**Pn**	**03 28 18.3**	**-2.9**
JCC	**Jacoby Creek,**	**1.27**	**71**	IAML		03 28 42.0	
	comp=N,28µm,1.4s						
KCRM	**Chalk Rock**	**1.37**	**89**		**Pn**	**03 28 20.5**	**-2.1**
KRPM	**Rodgers**	**1.42**	**58**		**Pn**	**03 28 20.1**	**-3.2**
KRPM				IAML		03 28 38.4	
	comp=E,28µm,0.7s						
KRPM				IAML		03 28 46.6	
	comp=N,46µm,1.3s						
KMRM	**Mail Ridge**	**1.46**	**97**		**Pn**	**03 28 22.4**	**-1.6**
KHMM	**Horse Mountain**	**1.50**	**71**		**Pn**	**03 28 22.0**	**-2.6**
KHMM				IAML		03 28 42.2	
	comp=N,40µm,0.8s						
KRMB	**Red Mountain**	**1.70**	**49**		**Pn**	**03 28 24.1**	**-3.3**
KCPM	**Cahto Peak**	**1.71**	**114**		**Pn**	**03 28 25.1**	**-2.4**
KPPM	**Pickett Peak**	**1.72**	**91**		**Pn**	**03 28 25.8**	**-1.8**
KIPM	**Iron Peak**	**1.74**	**110**		**Pn**	**03 28 25.6**	**-2.2**
KHBM	**Hayfork Bally**	**1.84**	**81**		**Pn**	**03 28 27.1**	**-2.2**
KFPM	**Farley Peak**	**1.84**	**114**		**Pn**	**03 28 26.9**	**-2.3**
KOMM	**Orleans Mounta**	**1.85**	**61**		**Pn**	**03 28 26.6**	**-2.8**
GTC	**Three Chop Rid**	**1.87**	**122**		**Pn**	**03 28 26.3**	**-3.3**
KBNM	**Bluenose Ridge**	**1.92**	**105**		**Pn**	**03 28 28.5**	**-1.8**
KSXB	**Camp Six Broad**	**1.93**	**42**	Pn	**Pn**	**03 28 27.3**	**-3.1**
GNAM	**Navarro Ridge**	**1.94**	**128**		**Pn**	**03 28 26.9**	**-3.6**
KRKM	**Rackout Spring**	**2.05**	**114**		**Pn**	**03 28 30.1**	**-1.9**
KBO	**Bosley Butte**	**2.08**	**30**	Pn	**Pn**	**03 28 29.5**	**-3.0**
KBO				IAML		03 28 55.9	
	comp=N,13µm,1.1s						
LBPM	**Beegum Peak**	**2.08**	**92**		**Pn**	**03 28 30.5**	**-2.0**
GHOM	**Hamilton Openi**	**2.10**	**130**		**Pn**	**03 28 29.0**	**-3.7**
GWRM	**Wonder Ranch**	**2.15**	**123**		**Pn**	**03 28 30.1**	**-3.3**
LGPM	**Granite Peak**	**2.17**	**76**		**Pn**	**03 28 31.3**	**-2.5**
GGUM	**Gualala**	**2.25**	**133**		**Pn**	**03 28 30.6**	**-4.1**
KTRM	**Thompson Ridge**	**2.25**	**48**		**Pn**	**03 28 32.2**	**-2.8**
L02F	**Cave Junction**	**2.30**	**41**	P	**Pn**	**03 28 32.7**	**-2.7**
	baz=222						
GROM	**Round Mountain**	**2.30**	**101**		**Pn**	**03 28 33.6**	**-2.0**
LBKM	**Bonanza King**	**2.33**	**72**		**Pn**	**03 28 33.5**	**-2.5**
GVV	**Valley View**	**2.34**	**105**		**Pn**	**03 28 34.1**	**-2.0**
HOPS	**Hopland Field**	**2.41**	**125**	Pn	**Pn**	**03 28 33.8**	**-3.2**
HOPS				IAML		03 29 23.7	
	comp=N,8µm,3.1s						
HOPS				IAML		03 29 54.8	
	comp=E,7µm,2.0s						
GHLM	**Highland Sprin**	**2.42**	**124**		**Pn**	**03 28 33.8**	**-3.3**
LAMM	**Antelope Mount**	**2.56**	**61**		**Pn**	**03 28 36.8**	**-2.3**
YBH	**Yreka Blue Hor**	**2.56**	**58**	Pn	**Pn**	**03 28 36.7**	**-2.3**
	comp=E,295nm,0.3s,baz=248,slow=13,SNR=560						
YBH				Sn	**Sn**	**03 29 05.7**	**-4.3**
	comp=E,190nm,0.3s,baz=156,slow=18,SNR=10						
YBH				LR	LR	03 29 16.7	
	comp=E,17µm,18.0s,baz=310,slow=34 comp=E,707nm,0.4s						
GTSM	**Trough Springs**	**2.56**	**114**		**Pn**	**03 28 37.2**	**-1.9**
GCK	**Clark Valley**	**2.58**	**109**		**Pn**	**03 28 38.3**	**-1.0**
GCVM	**Cloverdale**	**2.59**	**128**		**Pn**	**03 28 37.4**	**-2.0**
GSSM	**Skaggs Springs**	**2.63**	**130**		**Pn**	**03 28 36.8**	**-3.3**
LCSM	**College of the**	**2.64**	**67**		**Pn**	**03 28 38.1**	**-2.0**
KEBM	**Edson Butte**	**2.64**	**21**		**Pn**	**03 28 37.8**	**-2.4**
KEBM	**Edson Butte**	**2.64**	**21**	IAML		03 29 12.1	
	comp=N,8µm,1.0s						
KEBM				IAML		03 29 13.3	
	comp=E,8µm,1.8s						
LTCM	**Tuscan Springs**	**2.67**	**93**		**Pn**	**03 28 38.9**	**-1.7**
GDXM	**Geysers**	**2.70**	**125**		**Pn**	**03 28 39.0**	**-2.0**
K02D	**Willamette Mer**	**2.71**	**32**	P	**Pn**	**03 28 39.2**	**-1.9**
	baz=213,SNR=1000						
K02D				S	**Sn**	**03 29 09.4**	**-4.3**
	baz=213						
HUMO	**Hull Mountain**	**2.96**	**41**	Pn	**Pn**	**03 28 42.4**	**-2.2**
J01E	**Myrtle Point**	**3.02**	**24**		**Pn**	**03 28 43.1**	**-2.2**
J01E				IAML		03 29 20.5	
	comp=N,5µm,1.4s						
J01E				IAML		03 29 27.0	
	comp=E,5µm,1.0s						
J01E	**Myrtle Point**	**3.02**	**24**	P	**Pn**	**03 28 43.3**	**-2.0**
	baz=205,SNR=594						
J01E				S	**Sn**	**03 29 15.3**	**-5.9**
	baz=205						
L04D	**Klamath Falls**	**3.08**	**53**	Pn	**Pn**	**03 28 45.1**	**-1.0**
L04D				IAML		03 29 45.6	
	comp=N,5µm,1.4s						
L04D				IAML		03 29 53.5	
	comp=E,8µm,2.0s						
L04D	**Klamath Falls**	**3.08**	**53**	P	**Pn**	**03 28 45.2**	**-1.0**
	baz=234,SNR=1000						
MCCM	**Marconi Confer**	**3.10**	**136**	Pn	**Pn**	**03 28 43.3**	**-3.1**
MCCM				IAML		03 29 32.2	
	comp=E,4µm,2.1s						
MCCM				IAML		03 29 58.7	
	comp=N,5µm,2.2s						
DBO	**Dodson Butte**	**3.23**	**32**	Pn	**Pn**	**03 28 46.6**	**-1.7**
DBO				IAML		03 29 24.6	
	comp=E,7µm,1.2s						
DBO				IAML		03 29 25.1	
	comp=N,4µm,1.2s						
ORV	**Oroville**	**3.27**	**104**		**Pn**	**03 28 46.0**	**-2.8**
ORV	**Oroville**	**3.27**	**104**	P	**Pn**	**03 28 46.0**	**-2.8**
K04D	**Chiloquin, OR**	**3.64**	**51**	P	**Pn**	**03 28 52.9**	**-1.2**
	baz=233,SNR=715						
I03D	**Drain, OR**	**3.69**	**26**	P	**Pn**	**03 28 53.0**	**-1.6**
	baz=208,SNR=1000						
I03D				S	**Sn**	**03 29 33.6**	**-4.2**
	baz=208						
J04D	**Umpqua Nationa**	**3.85**	**42**		**Pn**	**03 28 55.8**	**-1.1**
J04D	**Umpqua Nationa**	**3.85**	**42**	P	**Pn**	**03 28 56.2**	**-0.8**
	baz=224,SNR=1000						
AFDM	**Forest Hills D**	**3.86**	**111**	Pn	**Pn**	**03 28 55.0**	**-1.9**
I02E	**Swisshome, OR**	**3.92**	**19**	IAML		03 29 45.5	
	comp=E,2µm,0.9s						
I02E	**Swisshome, OR**	**3.92**	**19**	P	**Pn**	**03 28 56.0**	**-1.7**
	baz=200,SNR=93						
BEKR	**Beckworth**	**4.06**	**96**		**Pn**	**03 28 58.6**	**-1.2**
BEKR				IAML		03 29 52.1	
	comp=E,3µm,1.0s						
I04A	**Tendick Farm,**	**4.13**	**34**	P	**Pn**	**03 28 59.8**	**-0.9**
	baz=216,SNR=1000						
I04A				S	**Sn**	**03 29 46.4**	**-2.5**
	baz=216						
K05A	**Summer Lake**	**4.23**	**55**	Pn	**Pn**	**03 29 00.6**	**-1.5**
K05A				IAML		03 30 12.4	
	comp=E,2µm,2.0s						
K05A				IAML		03 30 36.5	
	comp=N,2µm,3.7s						
MOD	**Modoc Plateau**	**4.27**	**68**		**Pn**	**03 29 00.4**	**-2.3**
MOD				IAML		03 30 12.7	
	comp=N,2µm,1.4s						
MOD				IAML		03 30 27.6	
	comp=E,2µm,2.4s						
J05D	**Fort Rock, OR**	**4.35**	**47**	P	**Pn**	**03 29 02.8**	**-1.0**
	baz=230,SNR=1000						
EMB	**Emerald Bay**	**4.48**	**107**	IAML		03 30 04.0	
	comp=N,2µm,1.6s						
EMB				IAML		03 30 04.1	
	comp=E,2µm,1.1s						
COR	**Corvallis**	**4.51**	**21**		**Pn**	**03 29 04.7**	**-1.1**
COR				IAML		03 30 05.8	
	comp=E,2µm,1.7s						
COR				IAML		03 30 21.1	
	comp=E,2µm,1.3s						
COR	**Corvallis**	**4.51**	**21**	P	**Pn**	**03 29 04.7**	**-1.1**
H04D	**Lebanon**	**4.63**	**26**	IAML		03 30 20.7	
	comp=N,2µm,1.4s						
H04D				IAML		03 30 24.4	
	comp=E,2µm,1.2s						
H04D	**Lebanon**	**4.63**	**26**	P	**Pn**	**03 29 06.6**	**-0.8**
	baz=208,SNR=682						
H04D				S	**Sn**	**03 29 59.3**	**-1.6**
	baz=208						
PLTX	**Planet X, Gerl**	**4.69**	**84**		**Pn**	**03 29 06.1**	**-2.2**
PLTX				IAML		03 30 19.8	
	comp=N,10µm,1.3s						
PLTX				IAML		03 30 27.8	
	comp=E,9µm,1.2s						
VCNR	**Virginia City**	**4.72**	**102**	IAML		03 30 09.9	
	comp=N,2µm,1.3s						
VCNR				IAML		03 30 12.0	
	comp=E,1µm,1.1s						
PAHR	**Pah Rah Range**	**4.83**	**96**	IAML		03 30 20.5	
	comp=E,1µm,1.7s						
H04A	**Detroit Lake**	**4.96**	**29**	Pn	**Pn**	**03 29 10.6**	**-1.5**
H04A				IAML		03 30 13.4	
	comp=N,1µm,0.9s						
H04A				IAML		03 30 25.9	
	comp=E,1µm,1.7s						
I05D	**Terrebonne, OR**	**5.04**	**37**	P	**Pn**	**03 29 12.3**	**-0.9**
	baz=220,SNR=924						
G03D	**McMinnville, O**	**5.10**	**19**	IAML		03 30 14.4	
	comp=E,1µm,1.1s						
G03D				IAML		03 30 15.2	
	comp=N,1µm,0.9s						
G03D	**McMinnville, O**	**5.10**	**19**	P	**Pn**	**03 29 12.7**	**-1.2**
	baz=201,SNR=72						
YERR	**Yerington**	**5.11**	**104**	IAML		03 30 27.9	
	comp=E,1µm,1.4s						
YERR				IAML		03 30 29.3	
	comp=N,1µm,1.1s						
BBGB	**Big Mountain B**	**5.24**	**135**	IAML		03 31 30.0	
	comp=N,2µm,1.7s						
PMPB	**Monarch Peak**	**5.64**	**136**	Pn	**Pn**	**03 29 19.9**	**-1.5**
G05D	**Wamic, OR**	**5.77**	**32**	P	**Pn**	**03 29 23.2**	**+0.1**
	baz=215,SNR=224						
MLAC	**Mammoth, Mammo**	**5.96**	**116**	P	**Pn**	**03 29 27.2**	**+1.3**
	baz=299						
F04D	**Rainier, OR**	**5.98**	**18**	P	**Pn**	**03 29 25.4**	**-0.6**
	baz=200						
NVAR	**Mina Array Bea**	**5.99**	**107**	Pn	**Pn**	**03 29 25.8**	**-0.6**
	comp=N,45nm,0.3s,baz=284,slow=14,SNR=784						
NVAR				Sn	**Sn**	**03 30 36.3**	**+1.4**
	baz=276,slow=15						
NVAR				LR	LR	03 31 21.2	
	comp=N,12µm,19.0s,baz=286,slow=34 comp=N,52nm,0.4s						
NV11	**Mina Array Sit**	**6.10**	**106**		**Pn**	**03 29 26.6**	**-1.2**
VOG	**Valley Oaks Go**	**6.37**	**128**	P	**Pn**	**03 29 29.8**	**-1.5**
	baz=311						
TIN	**Tinemaha, Big**	**6.67**	**118**	P	**Pn**	**03 29 34.7**	**-0.9**
	baz=302						
SMMC	**Simmler**	**6.75**	**137**	P	**Pn**	**03 29 35.7**	**-1.0**
	baz=320						
WISH	**Wishkah**	**6.84**	**11**		**Pn**	**03 29 36.6**	**-1.1**
VES	**Vestal, Richgr**	**6.87**	**130**	P	**Pn**	**03 29 35.5**	**-2.7**
	baz=313						
CWC	**Cottonwood Cre**	**7.11**	**121**	P	**Pn**	**03 29 41.5**	**-0.3**
	baz=305						
PKM	**Mcpherson Peak**	**7.17**	**138**	P	**Pn**	**03 29 40.0**	**-2.6**
	baz=321						
GRAC	**Grapevine Rang**	**7.29**	**115**	P	**Pn**	**03 29 43.2**	**-0.9**
	baz=300						
ISA	**Isabella, Lake**	**7.36**	**128**	P	**Pn**	**03 29 44.2**	**-0.8**
	baz=312						
ARVC	**Arvin**	**7.52**	**132**	P	**Pn**	**03 29 45.6**	**-1.6**
	baz=316						
BMO	**Blue Mountains**	**7.56**	**51**		**Pn**	**03 29 47.3**	**-0.5**
BMO	**Blue Mountains**	**7.56**	**51**	P	**Pn**	**03 29 47.3**	**-0.5**
SBC	**Santa Barbara**	**7.58**	**140**	P	**Pn**	**03 29 46.0**	**-2.0**
	baz=323						
MPMC	**Manual Prospec**	**7.72**	**122**	P	**Pn**	**03 29 48.3**	**-1.9**
	baz=306						
ELK	**Elko**	**7.90**	**84**	Pn	**Pn**	**03 29 51.7**	**-0.9**
	comp=N,1.9nm,0.3s,baz=274,slow=11,SNR=140						
ELK				LR	LR	03 32 55.3	
	comp=N,9µm,19.1s,baz=263,slow=38 comp=N,62nm,0.8s						
FURC	**Furnace Creek,**	**7.91**	**117**	P	**Pn**	**03 29 51.2**	**-1.2**
	baz=302						
OSI	**Osito Audit: C**	**7.96**	**134**	P	**Pn**	**03 29 52.5**	**-0.8**
	baz=318						
LRMC	**Laurel Mtn Rad**	**7.96**	**126**	P	**Pn**	**03 29 52.2**	**-1.1**
	baz=310						
SCZ2	**Santa Cruz Isl**	**7.98**	**141**	P	**Pn**	**03 29 51.7**	**-1.8**
	baz=324						
R11A	**Troy Canyon, C**	**8.03**	**102**	P	**Pn**	**03 29 53.2**	**-1.1**
	baz=287						
TPNV	**Topopah Spring**	**8.09**	**112**	P	**Pn**	**03 29 56.8**	**+1.6**
	baz=298						
S11A	**Rachel**	**8.16**	**107**		**Pn**	**03 29 55.4**	**-0.6**
EDW2	**Edwards Air Fo**	**8.18**	**130**	P	**Pn**	**03 29 53.0**	**-3.2**
	baz=314						
DECC	**Green Verdugo**	**8.44**	**134**	P	**Pn**	**03 29 57.1**	**-2.7**
	baz=318						
OZB	**Mount Ozzard**	**8.55**	**1**	Pn	**Pn**	**03 30 00.8**	**-0.5**
SHOC	**Shoshone, Teco**	**8.62**	**119**	P	**Pn**	**03 29 59.9**	**-2.4**
	baz=304						
GSC	**Goldstone, Bar**	**8.63**	**123**	P	**Pn**	**03 30 01.6**	**-0.9**
	baz=308						
SNCC	**San Nicolas Is**	**8.65**	**144**	P	**Pn**	**03 30 02.0**	**-0.7**
	baz=327						
RRX	**Edison Barstow**	**8.78**	**126**	P	**Pn**	**03 30 03.0**	**-1.4**
	baz=311						
BFSC	**Mount Baldy Ra**	**8.83**	**132**	P	**Pn**	**03 30 04.0**	**-1.3**
	baz=316						
FMP	**Fort Macarthur**	**8.88**	**137**	P	**Pn**	**03 30 05.3**	**-0.5**
	baz=320						
HLID	**Hailey**	**8.91**	**66**	P	**Pn**	**03 30 06.9**	**+0.5**
	baz=253						
CIS	**Catalina Islan**	**9.06**	**138**	P	**Pn**	**03 30 07.1**	**-1.2**
	baz=322						
TUQ	**Turquoise Moun**	**9.12**	**120**	P	**Pn**	**03 30 09.6**	**+0.4**
	baz=305						
HEC	**Hector,Ludlow**	**9.22**	**124**	P	**Pn**	**03 30 10.0**	**-0.6**
	baz=309						
BBRC	**Big Bear Solar**	**9.24**	**129**	P	**Pn**	**03 30 08.9**	**-2.1**
	baz=314						
SCI2	**San Clemente I**	**9.33**	**140**	P	**Pn**	**03 30 10.9**	**-1.1**
	baz=324						
MURC	**Murrieta**	**9.56**	**133**	P	**Pn**	**03 30 14.4**	**-0.8**
	baz=317						
GMRC	**Granite Mounta**	**9.68**	**122**	P	**Pn**	**03 30 16.0**	**-0.9**
	baz=308						
DUG	**Dugway, Tooele**	**9.78**	**87**	P	**Pn**	**03 30 18.8**	**+0.6**
	baz=275						
NEW	**Newport**	**9.92**	**35**	Pn	**Pn**	**03 30 18.7**	**-1.4**
	comp=N,1.8nm,0.3s,baz=214,slow=14,SNR=60						
NEW				LR	LR	03 34 11.0	
	comp=N,11µm,19.2s,baz=226,slow=38 comp=N,139nm,0.9s						
NEW	**Newport**	**9.92**	**35**	P	**Pn**	**03 30 18.5**	**-1.6**
	baz=221						
PFO	**Pinyon Flats O**	**9.97**	**130**	Pn	**Pn**	**03 30 21.2**	**+0.3**
	comp=N,2.7nm,0.3s,baz=321,slow=11,SNR=27						
PFO				LR	LR	03 34 17.6	
	comp=N,12µm,18.5s,baz=256,slow=38 comp=N,9.6nm,0.4s						
PFO	**Pinyon Flats O**	**9.97**	**130**	Pn	**Pn**	**03 30 19.4**	**-1.5**
PFO	**Pinyon Flats O**	**9.97**	**130**	⇓*i*P	**Pn**	**03 30 21.0**	**+0.1**
PFO	**Pinyon Flats O**	**9.97**	**130**	P	**Pn**	**03 30 19.4**	**-1.5**
	baz=315						
BELC	**Belle Mtn. Jos**	**9.98**	**127**	P	**Pn**	**03 30 18.8**	**-2.2**
	baz=312						
TPFO	**Pinon Flats**	**9.98**	**130**	P	**Pn**	**03 30 19.7**	**-1.3**
	baz=315						
PMD	**Palm Desert**	**9.99**	**130**		**Pn**	**03 30 19.4**	**-1.7**
109C	**Camp Elliot, M**	**10.14**	**135**	P	**Pn**	**03 30 20.7**	**-2.4**
	baz=320						
NEE2	**Needles Airpor**	**10.38**	**119**	P	**Pn**	**03 30 25.9**	**-0.4**
	baz=306						
IRM	**Iron Mountain**	**10.41**	**124**	P	**Pn**	**03 30 25.7**	**-1.0**
	baz=309						
MONP2	**Monument Peak**	**10.52**	**133**	P	**Pn**	**03 30 27.1**	**-1.3**
	baz=318						
LLLB	**Lillooet**	**10.53**	**13**	Pn	**Pn**	**03 30 28.0**	**-0.4**
BC3	**Big Chuckawall**	**10.54**	**127**	P	**Pn**	**03 30 27.2**	**-1.5**
	baz=312						
MSU	**Marysvale**	**10.56**	**96**	Pn	**Pn**	**03 30 28.7**	**-0.3**

baz=242
MVCO Mesa Verde 13.72 98 P Pn 03 31 13.5 +1.2
baz=288
GRNB Grenville Isla 13.76 349 Pn Pn 03 31 13.3 +0.9
TUC Tucson 14.41 119 Pn Pn 03 31 21.7 +0.2
TUC Tucson 14.41 119 P Pn 03 31 21.7 +0.2
TUC Tucson 14.41 119 P Pn 03 31 22.8 +1.2
baz=308
K22A Casper 14.47 75 P Pn 03 31 20.6 -1.9
baz=267,SNR=109
K22A S Sn 03 34 06.9 +4.3
baz=267
K22A Casper 14.47 75 P Pn 03 31 20.5 -1.9
baz=267
S22A 4UR Ranch, Cre 14.83 94 P Pn 03 31 28.4 +1.0
baz=286
N23A Red Feather La 14.94 82 P Pn 03 31 27.6 -1.3
baz=274
PHWY Pilot Hill 15.28 80 IAmb IAmb 03 31 34.3
comp=Z,322nm,1.2s
EDM Edmonton 15.29 29 Pn Pn 03 31 30.6 -2.7
EDM IAmb IAmb 03 31 36.1
comp=Z,470nm,1.1s
EDM Edmonton 15.29 29 P Pn 03 31 30.6 -2.7
EDM pmax pmax
comp=Z,470nm,1.1s
ISCO Idaho Springs 15.31 86 P Pn 03 31 33.6 -0.4
baz=278,SNR=142
ISCO S Sn 03 34 24.8 +1.4
baz=278
ISCO Idaho Springs 15.31 86 P Pn 03 31 32.9 -1.0
baz=278
LAO LASA Array 15.38 60 P Pn 03 31 31.7 -2.7
baz=253,SNR=15
LAO S S 03 34 48.2 +7.5
baz=253
LAO LASA Array 15.38 60 P Pn 03 31 31.8 -2.7
baz=253
V35K Ketchikan 15.45 347 P Pn 03 31 36.8 +1.5
baz=163
U35K Hyder 15.79 351 P Pn 03 31 40.8 +1.2
baz=168
U35K S Sn 03 34 38.2 +4.0
baz=168
Q24A Divide 15.82 89 P Pn 03 31 40.6 +0.1
baz=281
SDCO Great Sand Dun 15.84 93 P Pn 03 31 42.0 +1.2
baz=286,SNR=1000
SDCO S Sn 03 34 41.5 +5.4
baz=286
SDCO Great Sand Dun 15.84 93 P Pn 03 31 41.8 +1.0
baz=286
CRAG Craig 15.87 344 Pn Pn 03 31 41.1 +0.4
CRAG Craig 15.87 344 P Pn 03 31 42.3 +1.5
baz=159
319A Douglas 15.99 119 IAmb IAmb 03 31 47.2
comp=Z,606nm,1.5s
ANMO Albuquerque 16.10 104 Pn Pn 03 31 44.7 +0.6
comp=Z,0.5nm,0.3s,baz=304,slow=12,SNR=100
ANMO LR LR 03 38 01.2
comp=Z,5µm,19.0s,baz=294,slow=38
comp=Z,42nm,0.9s
ANMO Albuquerque 16.10 104 Pn Pn 03 31 42.9 -1.2
ANMO Albuquerque 16.10 104 *ce*P Pn 03 31 44.3 +0.2
ANMO pmax pmax
comp=Z,129nm,1.2s
ANMO Albuquerque 16.10 104 P Pn 03 31 44.9 +0.8
baz=295,SNR=120
ANMO S Sn 03 34 46.9 +4.4
baz=295
ANMO Albuquerque 16.10 104 P Pn 03 31 44.9 +0.8
baz=295
Y22D IRIS PASSCAL I 16.16 107 P P 03 31 46.9 -1.0
baz=298
Y22D IRIS PASSCAL I 16.16 107 P P 03 31 47.2 -0.7
baz=298
Y22A Socorro 16.19 108 P P 03 31 47.5 -0.8
baz=299,SNR=366
Y22A S S 03 34 57.2 -0.4
baz=299
121A Cookes Peak, D 16.33 113 IAmb IAmb 03 31 54.1
comp=Z,485nm,1.1s
121A Cookes Peak, D 16.33 113 P P 03 31 49.9 0.0
baz=304,SNR=298
121A S S 03 34 58.7 -1.9
baz=304
121A Cookes Peak, D 16.33 113 P P 03 31 49.7 -0.2
baz=304
BNM Barren Site 16.34 106 Pn Pn 03 31 47.1 0.0
RSSD Black Hills 16.39 70 Pn Pn 03 31 43.6 -4.0
RSSD Black Hills 16.39 70 P Pn 03 31 43.6 -4.0
RSSD pmax pmax
comp=Z,536nm,1.8s
RSSD Black Hills 16.39 70 P Pn 03 31 43.8 -3.9
baz=264,SNR=57
RSSD Black Hills 16.39 70 P Pn 03 31 44.0 -3.6
baz=264
HSIG 16.54 129 Pn Pn 03 31 48.5 -1.0
WRAK Wrangell Islan 16.62 347 Pn Pn 03 31 50.7 +0.4
WRAK Wrangell Islan 16.62 347 P Pn 03 31 51.4 +1.2
baz=162
T25A Trinidad 16.84 94 P Pn 03 31 54.4 +0.9
baz=287
T35M Bob Quinn 16.86 351 P P 03 31 55.6 +0.2
baz=168
T33K Petersburg 17.10 346 P P 03 31 57.5 -0.5
baz=161
DGMT Dagmar 17.24 55 Pn Pn 03 31 55.6 -2.7
DGMT IAmb IAmb 03 32 03.5
comp=Z,1µm,1.4s
DGMT Dagmar 17.24 55 P Pn 03 31 55.5 -2.8
baz=250,SNR=18
DGMT Dagmar 17.24 55 P Pn 03 31 55.6 -2.7
baz=250
KIDD KIDD Seismic O 17.66 113 P P 03 32 06.2 +1.8
baz=304,SNR=17
KIDD S S 03 35 31.0 +3.5
baz=304
KSCO Kaye Shedlock' 17.73 87 IAmb IAmb 03 32 08.7
comp=Z,1µm,1.3s
KSCO Kaye Shedlock' 17.73 87 P Pn 03 32 04.2 -0.3
baz=282
KSCO Kaye Shedlock' 17.73 87 P Pn 03 32 04.1 -0.4
baz=282
SIT Sitka 17.82 342 Pn Pn 03 32 04.1 -1.1
SIT Sitka 17.82 342 P Pn 03 32 04.1 -1.1
SIT pmax pmax
comp=Z,163nm,1.4s
SIT Sitka 17.82 342 P Pn 03 32 05.2 0.0
baz=155
S34M Telegraph Cree 17.88 350 P P 03 32 09.1 +2.6
baz=166
OGNE Ogallala 17.88 81 Pn Pn 03 32 03.2 -3.1
OGNE Ogallala 17.88 81 P Pn 03 32 04.8 -1.5
baz=276,SNR=67
OGNE Ogallala 17.88 81 P Pn 03 32 04.1 -2.2
baz=276
DLBC Dease Lake 18.27 353 P P 03 32 12.9 +1.9
comp=Z,77nm,1.0s,baz=182,slow=9.8,SNR=67
DLBC LR LR 03 37 40.5
comp=Z,4µm,20.9s,baz=170,slow=32
DLBC Dease Lake 18.27 353 P P 03 32 13.3 +2.3
baz=169
MNTX Cornudas Mount 18.49 112 P Pn 03 32 15.7 +1.9
baz=303,SNR=177
MNTX S S 03 35 50.6 +6.4
baz=303
MNTX Cornudas Mount 18.49 112 P Pn 03 32 15.6 +1.9
baz=303
R32K Eaglecrest 18.77 345 P Pn 03 32 19.0 +2.1
baz=159
E28A Huff 19.06 63 P P 03 32 17.8 -1.9
baz=260
BESE Bessie Mountai 19.12 345 Pn 03 32 21.0 -0.2
BESE IAmb IAmb 03 32 26.4
comp=Z,637nm,1.3s
MSTX Muleshoe 19.27 102 P Pn 03 32 23.2 0.0
baz=296,SNR=91
MSTX S S 03 36 09.1 +9.1
baz=296
MSTX Muleshoe 19.27 102 P Pn 03 32 23.4 +0.1
baz=296
R33M Jennings River 19.30 352 P Pn 03 32 24.9 +1.4
baz=168
AMTX Amarillo 19.71 99 IAmb IAmb 03 32 30.2
comp=Z,414nm,1.2s
AMTX Amarillo 19.71 99 P Pn 03 32 28.7 +0.3
baz=293,SNR=44
AMTX S Sn 03 36 16.3 +6.8
baz=293
AMTX Amarillo 19.71 99 P Pn 03 32 28.8 +0.3
baz=293
WTLY Watson Lake, Y 19.83 355 P Pn 03 32 30.0 +0.4
baz=173
P32M Atlin 19.87 348 P Pn 03 32 30.8 +0.7
baz=162
FLDN Fort Liard 19.90 3 P Pn 03 32 30.1 -0.3
baz=185
CBKS Cedar Bluff 19.98 86 P P 03 32 30.3 +0.4
baz=283,SNR=71
CBKS S Sn 03 36 18.4 +2.5
baz=283
CBKS Cedar Bluff 19.98 86 P P 03 32 30.2 +0.4
baz=283
MDND Maddock 20.03 60 P P 03 32 29.5 -0.8
baz=258
MDND Maddock 20.03 60 P P 03 32 28.7 -1.6
baz=258
SKAG Skagway 20.03 345 P Pn 03 32 31.7 -0.3
baz=158
SUSD Miller 20.05 70 P P 03 32 28.1 -2.4
SUSD Miller 20.05 70 P P 03 32 28.6 -1.9
baz=268
SUSD S Sn 03 36 17.4 -0.1
baz=268
SUSD Miller 20.05 70 P P 03 32 28.3 -2.3
baz=268
K31A O'Neill 20.20 75 P P 03 32 31.9 -0.3
baz=273,SNR=65
K31A S Sn 03 36 24.3 +3.1
baz=273
PLBC Pleasant Camp 20.24 344 P Pn 03 32 34.1 -0.3
baz=156
P33M Teslin, Yukon 20.33 350 P Pn 03 32 35.6 0.0
baz=164
P29M Windy Craggy 20.70 342 P P 03 32 37.8 +0.3
P29M Windy Craggy 20.70 342 P Pn 03 32 38.8 -1.0
baz=153
LPIG La Paz 20.73 137 P Pn 03 32 40.1 -0.3
comp=Z,74nm,0.8s,baz=317,slow=19,SNR=9.2
LPIG LR LR 03 39 41.0
comp=Z,6µm,19.5s,baz=326,slow=34
comp=Z,74nm,0.8s
BGNE Belgrade 20.75 78 P P 03 32 35.8 -2.3
baz=276,SNR=69
BGNE S Sn 03 36 34.0 -0.5
baz=276
BGNE Belgrade 20.75 78 P P 03 32 35.9 -2.3
baz=276
R32A Long Quarter, 20.85 87 P P 03 32 37.2 -2.0
baz=284
R32A S S 03 36 30.3 -1.1
baz=284
P30M Million Dollar 20.97 344 P Pn 03 32 42.0 -1.0
baz=155
ELIS Ellis County 20.99 94 IAmb IAmb 03 32 45.9
comp=Z,520nm,1.2s
TX31 Lajitas Ar. Si 21.07 115 IAmb IAmb 03 32 45.0
comp=Z,597nm,1.1s
TX31 Lajitas Ar. Si 21.07 115 P P 03 32 43.5 +1.8
baz=307,SNR=347
TXAR Lajitas Array 21.07 115 P P 03 32 43.3 +1.6
comp=Z,121nm,1.0s,baz=300,slow=7.0,SNR=669
TXAR S S 03 36 38.9 +3.0
comp=Z,1.1nm,0.9s,baz=343,slow=16,SNR=1.1
TXAR PcP PcP 03 36 48.4 +0.3
comp=Z,2.2nm,1.1s,baz=298,slow=1.9,SNR=1.0
TXAR LR LR 03 41 22.3
comp=Z,5µm,19.8s,baz=298,slow=38
comp=Z,121nm,1.0s
YKU2 Yakutat 21.07 340 P P 03 32 39.9 -1.5
YKU2 IAmb IAmb 03 32 57.6
comp=Z,538nm,1.0s
WHY Whitehorse 21.07 347 P P 03 32 42.9 +1.4
baz=160
PNL Peninsula 21.13 340 P P 03 32 42.4 +0.3
baz=150
NOKA Waynoka 21.18 92 P P 03 32 41.9 -0.9
NOKA IAmb IAmb 03 32 44.7
comp=Z,494nm,1.0s
U32A Winter Ranch, 21.21 92 IAmb IAmb 03 32 47.6
comp=Z,474nm,1.1s
U32A Winter Ranch, 21.21 92 P P 03 32 41.8 -1.4
baz=289,SNR=16
TGTN Hyland Airport 21.21 356 P P 03 32 44.7 +1.7
baz=175
SLBS Sierra La Lagu 21.26 137 P P 03 32 44.9 +1.0
SLBS IAmb IAmb 03 32 58.3
comp=Z,419nm,1.4s
SLBS Sierra La Lagu 21.26 137 IAMs_20 IAMs_20 03 39 55.2
comp=Z,6µm,20.0s
N32M Quiet Lake 21.27 350 P P 03 32 45.1 +1.5
baz=164
FFC Flin Flon 21.29 40 P P 03 32 42.6 -1.1
FFC Flin Flon 21.29 40 P P 03 32 42.7 -1.1
FFC pmax pmax
comp=Z,933nm,1.3s
FFC MLR MLR
comp=Z,2µm,18.0s
HPIG 21.29 123 P P 03 32 44.6 +0.3
N33B J Bar K, Exete 21.36 80 P P 03 32 42.5 -2.2
baz=278
N33B S Sn 03 36 45.7 -3.4
baz=278
O30N Mendenhall 21.39 346 P P 03 32 46.6 +1.6
baz=158
O29M Mount Kennedy 21.49 342 P P 03 32 47.4 +1.3
baz=152
D32A Dogwood Acres, 21.64 62 IAmb IAmb 03 32 48.5
comp=Z,524nm,1.2s
D32B Dogwood Acres, 21.64 62 P P 03 32 46.9 -0.7
baz=262,SNR=8.7
CSTR Hydro, Custer 21.69 94 IAmb IAmb 03 32 52.7
comp=Z,23nm,1.0s
HYT Haines Junctio 21.72 344 P P 03 32 49.2 +0.6
HYT Haines Junctio 21.72 344 P P 03 32 49.7 +1.1
baz=155
PINM Pinnacle 21.72 340 P P 03 32 49.9 +1.3
baz=149
PCA Pinnacle 21.73 340 IAmb IAmb 03 33 07.6
comp=Z,337nm,1.3s
ECSD EROS Data Cent 21.73 72 P P 03 32 46.0 -2.7
ECSD IAmb IAmb 03 32 52.4
comp=Z,549nm,1.2s
ECSD EROS Data Cent 21.73 72 IAMs_20 IAMs_20 03 41 29.4
comp=Z,6µm,22.0s
ECSD EROS Data Cent 21.73 72 P P 03 32 45.6 -3.1
baz=271
ECSD S S 03 36 51.3 +2.7
baz=271
ECSD EROS Data Cent 21.73 72 P P 03 32 45.7 -2.9
baz=271
KAN06 Argonia West S 21.81 89 IAmb IAmb 03 32 53.3
comp=Z,789nm,1.5s
KAN14 Manchester OK 21.82 90 IAmb IAmb 03 32 51.5
comp=Z,686nm,1.2s
KAN05 Bluff City Nor 21.84 90 IAmb IAmb 03 32 51.8
comp=Z,649nm,1.3s
KAN01 Argonia South 21.92 90 IAmb IAmb 03 32 54.5
comp=Z,686nm,1.3s
CROK Carrier 21.94 91 IAmb IAmb 03 32 54.9
comp=Z,383nm,1.1s
KAN17 Caldwell West 21.94 90 IAmb IAmb 03 32 54.8
comp=Z,844nm,1.4s
WMOK Wichita Mounta 21.96 96 P P 03 32 50.3 -0.9
WMOK Wichita Mounta 21.96 96 IAMs_20 IAMs_20 03 41 48.6
comp=Z,9µm,18.0s
WMOK Wichita Mounta 21.96 96 P P 03 32 50.3 -0.9
WMOK pmax pmax
comp=Z,204nm,1.1s
WMOK MLR MLR
comp=Z,9µm,18.0s
WMOK Wichita Mounta 21.96 96 P P 03 32 51.0 -0.2
baz=293,SNR=96
WMOK S S 03 36 54.8 +1.5
baz=293
WMOK Wichita Mounta 21.96 96 P P 03 32 51.5 +0.3
baz=293
N31M Braeburn, Yuko 22.00 347 IAmb IAmb 03 32 55.4
comp=Z,470nm,1.9s
N31M Braeburn, Yuko 22.00 347 P P 03 32 52.7 +1.2
baz=159
F33A 5 Mile Ranch, 22.00 66 IAmb IAmb 03 33 02.2
comp=Z,310nm,1.0s
F33A 5 Mile Ranch, 22.00 66 P P 03 32 49.3 -2.3
baz=266,SNR=140
F33A S S 03 36 53.9 0.0
baz=266
L34A Svendsen Farm, 22.01 76 P P 03 32 50.1 -1.6
baz=276
YUK6 Outpost Mounta 22.01 343 P P 03 32 53.0 +1.2
baz=154
KAN09 Caldwell North 22.03 89 IAmb IAmb 03 32 56.5
comp=Z,816nm,1.5s
KS20 Mayfield South 22.05 89 IAmb IAmb 03 32 57.4
comp=Z,585nm,1.3s
KAN13 South Haven SW 22.17 90 IAmb IAmb 03 32 55.0
comp=Z,446nm,1.2s
ABTX Abilene, Hawle 22.21 102 P P 03 32 53.8 -0.2
ABTX IAmb IAmb 03 32 56.8
comp=Z,489nm,1.3s
ABTX Abilene, Hawle 22.21 102 P P 03 32 54.7 +0.7
baz=298
ABTX S S 03 36 57.9 -0.2
baz=298
ABTX Abilene, Hawle 22.21 102 P P 03 32 55.0 +1.0
baz=298
N30M Aishikik Lake 22.22 345 P P 03 32 54.5 +0.7
baz=157
TABL Table Mountain 22.25 339 P P 03 32 55.1 +0.7
TABL IAmb IAmb 03 32 58.9
TABL comp=Z,306nm,1.4s IAMs_20 IAMs_20 03 39 28.2
comp=Z,7µm,18.0s
MESA MESA 22.26 338 IAmb IAmb 03 32 58.5
comp=Z,373nm,1.2s
MESA IAMs_20 IAMs_20 03 39 14.4
comp=Z,10µm,22.0s
MESA MESA 22.26 338 P P 03 32 55.9 +1.6
baz=146
O28M Mount Upton 22.29 341 P P 03 32 56.3 +1.5
baz=150
KSU1 Kansas State U 22.29 84 P P 03 32 54.8 0.0
baz=282
KSU1 S S 03 36 57.5 -2.0
baz=282
KSU1 Kansas State U 22.29 84 P P 03 32 55.2 +0.4
baz=282
FARO Faro, Yukon 22.35 350 P P 03 32 56.4 +1.2
baz=164
YAH Yahtse 22.35 339 IAmb IAmb 03 33 14.7
comp=Z,825nm,1.6s
YUK4 Talbot Arm 22.43 343 P P 03 32 58.5 +2.2
baz=154
BLOK Blackwell 22.45 90 IAmb IAmb 03 32 59.6
comp=Z,789nm,1.4s
M31M Drury Creek, Y 22.46 349 P P 03 32 57.8 +1.4
baz=162
MMPY Sheldon Lake, 22.50 353 P P 03 32 58.3 +1.4
baz=169
BCOK Bluff Creek, N 22.51 93 IAmb IAmb 03 33 00.5
comp=Z,689nm,1.2s
SNH Sunshine Point 22.51 337 P P 03 32 57.2 +0.2
SNH IAmb IAmb 03 33 06.3
SNH comp=Z,326nm,1.4s IAMs_20 IAMs_20 03 39 29.3
comp=Z,6µm,18.0s
LOGN Logan Glacier 22.54 340 IAmb IAmb 03 33 05.3
comp=Z,236nm,1.2s
LOGN IAMs_20 IAMs_20 03 39 37.8
comp=Z,5µm,20.0s
AGMN Agassiz Nation 22.58 60 P P 03 32 55.8 -2.0
baz=260,SNR=191
AGMN S S 03 37 10.1 +5.5
baz=260
AGMN Agassiz Nation 22.58 60 P P 03 32 56.1 -1.7
baz=260
BGLC Bering Glacier 22.60 337 P P 03 32 59.4 +1.6
baz=143
N35A Tabor 22.70 79 P P 03 32 57.1 -1.9
baz=279,SNR=152
N35A S S 03 37 09.5 +2.6
baz=279
SUCK Suckling Hills 22.71 336 P P 03 33 00.0 +1.0
SUCK IAmb IAmb 03 33 22.7
comp=Z,879nm,1.9s
SUCK IAMs_20 IAMs_20 03 39 29.7
comp=Z,6µm,18.0s
ISLE Juniper Island 22.72 338 IAmb IAmb 03 33 15.1
comp=Z,309nm,1.2s
ISLE IAMs_20 IAMs_20 03 39 38.6
comp=Z,7µm,19.0s
X34A Smith Ranch, M 22.73 96 IAmb IAmb 03 33 04.2
comp=Z,213nm,1.0s
WAX Waxell Ridge 22.74 338 IAmb IAmb 03 33 21.3
comp=Z,521nm,1.4s
WAX IAMs_20 IAMs_20 03 39 27.2
comp=Z,9µm,22.0s
CTGM Chitina Glacie 22.75 340 IAmb IAmb 03 33 19.2
comp=Z,237nm,1.2s
CTGM IAMs_20 IAMs_20 03 39 45.3
comp=Z,6µm,21.0s
CTG Chitna Glacier 22.75 340 P P 03 33 01.4 +1.8
baz=148
KAIM Kayak Island 22.80 335 P P 03 33 02.1 +2.2
baz=141
FNO Franklin 22.82 94 IAmb IAmb 03 33 03.4
comp=Z,288nm,1.1s
WRGLY Wrigley 22.89 3 P P 03 33 01.3 +0.5
baz=184
T35B Sooner Cattle 22.94 89 P P 03 32 59.6 -2.1
baz=288,SNR=114
T35B S S 03 37 11.3 +0.1
baz=288
BERG Berg Lake 22.94 337 IAmb IAmb 03 33 13.5
comp=Z,257nm,1.4s
BERG IAMs_20 IAMs_20 03 39 30.7
comp=Z,8µm,22.0s
ULM Lac du Bonnet 22.96 55 P P 03 33 00.4 -1.3
comp=Z,244nm,0.9s,baz=261,slow=10,SNR=128
ULM S S 03 37 11.1 -0.3
comp=Z,10nm,0.9s,baz=327,slow=4.7,SNR=1.8
ULM LR LR 03 42 25.3
comp=Z,8µm,20.0s,baz=258,slow=38
comp=Z,244nm,0.9s
ULM Lac du Bonnet 22.96 55 P P 03 33 00.6 -1.1
TGL Tana Glacier 22.98 338 IAmb IAmb 03 33 23.5
comp=Z,194nm,1.1s
TGL IAMs_20 IAMs_20 03 39 45.5
comp=Z,7µm,18.0s
OK031 S. Brethren Rd 23.00 92 P P 03 33 00.7 -1.6
QUOK Quay 23.02 91 IAmb IAmb 03 33 04.9
comp=Z,586nm,1.1s
OK030 Cody Creek RV 23.05 92 IAMs_20 IAMs_20 03 42 16.7
comp=Z,5µm,19.0s
OK034 N. Norfolk Rd. 23.07 92 IAMs_20 IAMs_20 03 42 25.4
comp=Z,5µm,18.0s
Q23K Middleton Isla 23.08 332 P P 03 33 03.9 +1.1
baz=137
YKA Yellowknife Ar 23.09 13 P P 03 33 02.3 -0.6
comp=Z,60nm,1.0s,baz=200,slow=10.0,SNR=38
YKA S S 03 37 10.9 -2.3
comp=Z,1.4nm,0.6s,baz=247,slow=28,SNR=1.2
YKA LR LR 03 41 57.2
comp=Z,2µm,18.0s,baz=203,slow=37
comp=Z,60nm,1.0s
YKA Yellowknife Ar 23.09 13 P P 03 33 01.6 -1.3
JCT Junction City 23.17 107 IAmb IAmb 03 33 07.2
comp=Z,463nm,1.3s
JCT IAMs_20 IAMs_20 03 42 36.4
comp=Z,11µm,20.0s
JCT Junction City 23.17 107 P P 03 33 04.4 +0.4
baz=302
JCT S S 03 37 16.9 +1.7
baz=302
JCT Junction City 23.17 107 P P 03 33 04.3 +0.3
baz=302
M30M Minto, Yukon 23.20 347 P P 03 33 05.1 +1.0
baz=158
YUK3 Moose Creek 23.23 342 P P 03 33 05.4 +0.8
baz=150
RAGM Ragged Mountai 23.24 336 IAMs_20 IAMs_20 03 39 37.7
comp=Z,7µm,22.0s
DEOK Depew 23.30 92 IAmb IAmb 03 33 07.5
comp=Z,581nm,1.2s
M29M Somme Creek 23.39 345 P P 03 33 07.7 +1.7
baz=155
LOOK Love County 23.47 97 IAmb IAmb 03 33 10.1
comp=Z,467nm,1.5s
MCARA McCarthy VSAT 23.55 339 IAmb IAmb 03 33 11.0
comp=Z,316nm,1.3s
MCARA McCarthy VSAT 23.55 339 P P 03 33 09.2 +1.6
baz=145
BMRM Bremner River 23.67 337 P P 03 33 09.6 +0.8

BMRM comp=Z,349nm,1.7s IAmb IAmb 03 33 12.3
BMRM Bremner River baz=142 **23.67 337** P **P** **03 33 09.9 +1.1**
Z35A Perchaven, San baz=295,SNR=113 **23.69 98** P **P** **03 33 08.8 -0.4**
Z35A baz=295 S **S** **03 37 23.5 -0.2**
EYAK Cordova Ski Ar baz=139 **23.70 335** P **P** **03 33 10.4 +1.4**
TUL1 Leonard comp=Z,603nm,1.4s **23.81 91** IAmb IAmb 03 33 13.3
TUL1 comp=Z,6µm,19.0s IAMs_20 IAMs_20 03 42 47.8
TUL1 Leonard baz=290,SNR=89 **23.81 91** P **P** **03 33 08.5 -1.9**
TUL1 baz=290 S **S** **03 37 26.2 +0.7**
TUL1 Leonard baz=290 **23.81 91** P **P** **03 33 10.1 -0.2**
GLB Gilahina Butte comp=Z,6µm,20.0s **23.82 338** IAMs_20 IAMs_20 03 40 12.7
HIN Hinchinbrook I comp=Z,350nm,1.5s **23.84 334** IAmb IAmb 03 33 15.4
HIN comp=Z,7µm,18.0s IAMs_20 IAMs_20 03 40 10.7
P23K Montague Islan baz=136 **23.86 333** P **P** **03 33 11.2 +0.6**
BVCY Beaver Creek baz=150 **23.88 342** P **P** **03 33 11.9 +1.1**
F36A Milaca baz=268,SNR=49 **23.94 66** P **P** **03 33 09.0 -2.4**
F36A baz=268 S **S** **03 37 26.9 -0.5**
B35A Bob, Littlefor baz=262 **24.00 60** P **P** **03 33 11.3 -0.7**
B35A baz=262 S **S** **03 37 25.4 -2.9**
MAYO Mayo, Yukon **24.01 349** P **P** **03 33 12.0 0.0**
MAYO Mayo, Yukon baz=161 **24.01 349** P **P** **03 33 13.8 +1.8**
I37B Waseca baz=272,SNR=150 **24.04 71** P **P** **03 33 09.7 -2.7**
I37B baz=272 S **S** **03 37 32.4 +3.4**
M27K Edge Creek, AK comp=Z,6µm,21.0s **24.07 341** IAMs_20 IAMs_20 03 40 41.1
M27K Edge Creek, AK baz=149 **24.07 341** P **P** **03 33 13.6 +0.9**
FID Port Fidalgo comp=Z,5µm,19.0s **24.09 335** IAMs_20 IAMs_20 03 40 21.0
WHTX Lake Whitney, baz=298 **24.14 101** P **P** **03 33 12.9 -0.6**
WHTX baz=298 S **S** **03 37 32.3 +1.4**
WHTX Lake Whitney, baz=298 **24.14 101** P **P** **03 33 14.2 +0.7**
N25K Chitina, Valde comp=Z,6µm,20.0s **24.18 338** IAMs_20 IAMs_20 03 40 23.2
N25K Chitina, Valde baz=143 **24.18 338** P **P** **03 33 15.4 +1.8**
RLO Rose Lookout comp=Z,585nm,1.3s **24.31 90** IAmb IAmb 03 33 16.7
SCIA State Center **24.36 76** P **P** **03 33 13.9 -1.5**
SCIA comp=Z,374nm,1.2s IAmb IAmb 03 33 17.6
SCIA comp=Z,5µm,19.0s IAMs_20 IAMs_20 03 44 05.2
SCIA State Center baz=277,SNR=24 **24.36 76** P **P** **03 33 14.2 -1.2**
SCIA baz=277 S **S** **03 37 35.1 +0.9**
SCIA State Center baz=277 **24.36 76** P **P** **03 33 13.6 -1.8**
M26K Nabesna, AK comp=Z,5µm,19.0s **24.39 340** IAMs_20 IAMs_20 03 40 47.6
M26K Nabesna, AK baz=147 **24.39 340** P **P** **03 33 16.1 +0.5**
GLI Glacier Island **24.39 334** P **P** **03 33 16.8 +1.3**
GLI comp=Z,116nm,0.9s IAmb IAmb 03 33 18.4
GLI Glacier Island baz=138 **24.39 334** P **P** **03 33 16.3 +0.8**
SPMN Marine on St. baz=270,SNR=104 **24.44 68** P **P** **03 33 15.2 -0.9**
SPMN baz=270 S **S** **03 37 39.1 +3.7**
SPMN Marine on St. baz=270 **24.44 68** P **P** **03 33 15.2 -0.9**
KLU Klutina comp=Z,134nm,1.0s **24.48 336** IAmb IAmb 03 33 20.0
KLU Klutina baz=140 **24.48 336** P **P** **03 33 18.0 +1.6**
K29M Barlow Dome baz=158 **24.50 347** P **P** **03 33 17.6 +1.0**
P38A Dawn baz=282,SNR=98 **24.51 81** P **P** **03 33 17.0 +0.2**
P38A baz=282 S **S** **03 37 38.5 +1.8**
N38A Joes South For baz=280,SNR=42 **24.51 78** P **P** **03 33 16.6 -0.2**
N38A baz=280 S **S** **03 37 39.0 +2.3**
KDAK Kodiak Island **24.52 324** P **P** **03 33 17.7 +1.0**
KDAK comp=Z,157nm,1.2s IAmb IAmb 03 33 29.1
KDAK Kodiak Island KDAK comp=Z,157nm,1.2s **24.52 324** P pmax **P** pmax **03 33 17.7 +1.0**
KDAK Kodiak Island baz=124 **24.52 324** P **P** **03 33 18.5 +1.8**
OHAK Old Harbor comp=Z,274nm,1.2s **24.54 323** IAmb IAmb 03 33 21.6
OHAK Old Harbor baz=122 **24.54 323** P **P** **03 33 18.6 +1.8**
K38A Parkersburg baz=276,SNR=113 **24.60 74** P **P** **03 33 16.6 -0.9**
K38A baz=276 S **S** **03 37 39.6 +1.5**
X37A Clayton comp=Z,424nm,1.4s **24.61 94** IAmb IAmb 03 33 19.9
X37A Clayton baz=292 **24.61 94** P **P** **03 33 18.1 +0.4**
X37A baz=292 S **S** **03 37 42.4 +4.1**
SII Sitkinak Islan comp=Z,235nm,1.0s **24.64 321** IAmb IAmb 03 33 21.7
SII Sitkinak Islan baz=119 **24.64 321** P **P** **03 33 18.8 +1.0**
435B Jarrell comp=Z,326nm,1.1s **24.64 104** IAmb IAmb 03 33 21.9
435B comp=Z,8µm,20.0s IAMs_20 IAMs_20 03 43 06.1
435B Jarrell baz=300,SNR=30 **24.64 104** P **P** **03 33 18.7 +0.6**
435B baz=300 S **S** **03 37 41.0 +2.1**
435B Jarrell baz=300 **24.64 104** P **P** **03 33 18.8 +0.8**
L27K Beaver Creek, baz=150 **24.66 342** P **P** **03 33 19.0 +1.0**
833A Chaparral WMA, comp=Z,155nm,1.0s **24.67 111** IAmb IAmb 03 33 21.6
833A Chaparral WMA, baz=306,SNR=54 **24.67 111** P **P** **03 33 19.1 +0.8**
833A baz=306 S S 03 37 52.8 +13
833A Chaparral WMA, baz=306 **24.67 111** P **P** **03 33 19.4 +1.0**
SEW Seward baz=133 **24.67 331** P **P** **03 33 18.3 +0.3**
U38A Gravette baz=289 **24.71 89** P **P** **03 33 18.5 -0.2**
U38A baz=289 S **S** **03 37 40.3 +0.3**
PWL Port Wells comp=Z,319nm,1.6s **24.80 333** IAmb IAmb 03 33 22.4
PWL comp=Z,5µm,18.0s IAMs_20 IAMs_20 03 40 49.1
PWL Port Wells baz=136 **24.80 333** P **P** **03 33 20.4 +1.2**
Q20K Shuyak Island baz=126 **24.91 326** P **P** **03 33 22.0 +1.8**
BRSE Bradley Lake S baz=130 **24.92 329** P **P** **03 33 21.9 +1.6**
HARP HAARP baz=143 **24.97 338** P **P** **03 33 22.4 +1.7**
CNPM China Poot **24.98 329** IAmb IAmb 03 33 25.4
CNPM comp=Z,139nm,1.0s IAMs_20 IAMs_20 03 40 43.5
BRLK Bradley Lake comp=Z,7µm,19.0s **24.99 329** P **P** **03 33 21.8 +0.8**
BRLK comp=Z,163nm,1.2s IAmb IAmb 03 33 24.7
BRLK comp=Z,7µm,19.0s IAMs_20 IAMs_20 03 40 51.8
L26K Log Cabin Wild comp=Z,6µm,20.0s **25.00 341** IAMs_20 IAMs_20 03 41 08.7
L26K Log Cabin Wild baz=147 **25.00 341** P **P** **03 33 22.5 +1.5**
CHIR Chirikof Islan comp=Z,188nm,1.1s **25.02 318** IAmb IAmb 03 33 23.8
CHIR Chirikof Islan baz=116 **25.02 318** P **P** **03 33 22.2 +1.0**
MENT Mentasta comp=Z,328nm,1.6s **25.02 340** IAmb IAmb 03 33 25.2
O22K Cooper Landing comp=Z,303nm,1.1s **25.03 331** IAmb IAmb 03 33 48.5
O22K comp=Z,6µm,19.0s IAMs_20 IAMs_20 03 40 44.4
O22K Cooper Landing baz=133 **25.03 331** P **P** **03 33 22.4 +1.2**
M24K Tolsona, Glenn comp=Z,274nm,1.4s **25.03 337** IAmb IAmb 03 33 25.9
M24K comp=Z,4µm,19.0s IAMs_20 IAMs_20 03 40 60.0
M24K Tolsona, Glenn baz=141 **25.03 337** P **P** **03 33 23.2 +1.8**
DAWY Dawson baz=155 **25.04 346** P **P** **03 33 22.7 +1.3**
HHAR Hobbs baz=289 **25.10 89** S **S** **03 37 48.1 +1.8**
S39A Bolivar S39A comp=Z,178nm,1.3s **25.15 86** P IAmb **P** IAmb **03 33 21.9 -0.7** 03 33 25.5
S39A Bolivar baz=286,SNR=36 **25.15 86** P **P** **03 33 22.2 -0.4**
S39A baz=286 S **S** **03 37 47.3 +0.4**
SCM Sheep Creek Mo comp=Z,209nm,0.9s **25.18 336** IAmb IAmb 03 33 25.8
SCM comp=Z,4µm,18.0s IAMs_20 IAMs_20 03 41 08.0
SCM Sheep Creek Mo baz=139 **25.18 336** P **P** **03 33 24.1 +1.4**
J29M Klondike Camp baz=157 **25.18 347** P **P** **03 33 24.2 +1.5**
HOM Homer comp=Z,6µm,21.0s **25.23 328** IAMs_20 IAMs_20 03 40 40.1
HOM Homer baz=128 **25.23 328** P **P** **03 33 24.5 +1.4**
KNK Knik Glacier comp=Z,218nm,1.1s **25.24 334** IAmb IAmb 03 33 27.9
KNK comp=Z,5µm,21.0s IAMs_20 IAMs_20 03 40 45.7
KNK Knik Glacier baz=136 **25.24 334** P **P** **03 33 24.6 +1.4**
M23K Glacier View baz=138 **25.27 335** P **P** **03 33 24.5 +1.0**
E38A The Farm, Brul baz=268,SNR=84 **25.33 64** P **P** **03 33 24.2 +0.1**
E38A baz=268 S **S** **03 37 51.9 +2.2**
237A Washetta, Mont baz=298,SNR=50 **25.38 100** P **P** **03 33 25.8 +1.2**
EYMN Ely **25.44 61** P **P** **03 33 24.2 -0.9**
EYMN Ely baz=265,SNR=129 **25.44 61** P **P** **03 33 25.3 +0.2**
EYMN baz=265 S **S** **03 37 55.8 +4.3**
EYMN Ely baz=265 **25.44 61** P **P** **03 33 25.1 0.0**
Z38A Mt. Pleasant baz=295,SNR=28 **25.44 97** P **P** **03 33 25.0 -0.3**
RC01 Rabbit Creek A comp=Z,5µm,21.0s **25.45 332** IAMs_20 IAMs_20 03 40 50.4
RC01 Rabbit Creek A baz=134 **25.45 332** P **P** **03 33 25.8 +0.8**
SML Sawmill comp=Z,151nm,0.9s **25.48 335** IAmb IAmb 03 33 28.1
SML comp=Z,5µm,19.0s IAMs_20 IAMs_20 03 41 16.0
SML Sawmill baz=137 **25.48 335** P **P** **03 33 26.8 +1.4**
735A Kenedy comp=Z,232nm,1.1s **25.51 108** IAmb IAmb 03 33 31.2
735A Kenedy baz=304,SNR=8.8 **25.51 108** P **P** **03 33 27.4 +1.6**
PAX Paxson baz=143 **25.51 339** P **P** **03 33 27.1 +1.4**
K27K Chicken comp=Z,192nm,1.7s **25.56 343** IAmb IAmb 03 33 53.0
K27K Chicken baz=150 **25.56 343** P **P** **03 33 27.5 +1.6**
PMR Palmer **25.59 334** P **P** **03 33 27.0 +0.7**
PMR comp=Z,170nm,1.1s IAmb IAmb 03 33 29.3
PMR Palmer PMR comp=Z,170nm,1.1s **25.59 334** P pmax **P** pmax **03 33 27.0 +0.7**
PMR Palmer baz=135 **25.59 334** P **P** **03 33 27.8 +1.5**
Q19K Cape Douglas, baz=124 **25.63 326** P **P** **03 33 27.4 +0.6**
GHO Glory Hole Cre comp=Z,135nm,0.9s **25.65 334** IAmb IAmb 03 33 29.8
P40A Paris baz=283,SNR=294 **25.65 81** P **P** **03 33 26.8 -0.3**
P40A baz=283 S **S** **03 37 51.4 -3.5**
FIS Fire Island comp=Z,256nm,1.1s **25.66 332** IAmb IAmb 03 33 47.9
FIS comp=Z,5µm,22.0s IAMs_20 IAMs_20 03 40 55.9
CAPN Captain Cook N baz=131 **25.75 331** P **P** **03 33 29.1 +1.4**
R40A Maddies Statio baz=285 **25.78 84** P **P** **03 33 28.0 -0.3**
R40A baz=285 S **S** **03 37 56.8 -0.2**
L40A Anamosa baz=278,SNR=57 **25.81 75** P **P** **03 33 27.5 -1.0**
L40A baz=278 S **S** **03 37 56.2 -1.2**
P19K Oil Pt comp=Z,147nm,1.1s **25.87 327** IAmb IAmb 03 33 41.9
P19K Oil Pt baz=126 **25.87 327** P **P** **03 33 30.4 +1.5**
WAT6 Susitna Watana baz=139 **25.87 336** P **P** **03 33 30.1 +1.0**
O20K Slope Mountain baz=128 **25.88 329** P **P** **03 33 30.1 +1.0**
SCRK Sand Creek comp=Z,6µm,20.0s **25.95 341** IAMs_20 IAMs_20 03 41 48.9
SCRK Sand Creek baz=147 **25.95 341** P **P** **03 33 29.4 -0.3**
RIDG Independent Ri comp=Z,7µm,19.0s **25.97 340** IAMs_20 IAMs_20 03 41 48.4
RIDG Independent Ri baz=145 **25.97 340** P **P** **03 33 30.0 +0.1**
MIAR Mount Ida MIAR comp=Z,412nm,1.4s **26.00 93** P IAmb **P** IAmb **03 33 29.8 -0.5** 03 33 34.2
MIAR comp=Z,6µm,18.0s IAMs_20 IAMs_20 03 44 19.3
MIAR Mount Ida MIAR comp=Z,412nm,1.4s **26.00 93** P pmax **P** pmax **03 33 29.8 -0.5**
MIAR comp=Z,6µm,18.0s MLR MLR
MIAR Mount Ida baz=292,SNR=68 **26.00 93** P **P** **03 33 31.1 +0.8**
MIAR baz=292 S **S** **03 38 03.2 +2.7**
MIAR Mount Ida baz=292 **26.00 93** P **P** **03 33 30.8 +0.6**
EGAK Eagle baz=152 **26.02 345** P **P** **03 33 30.4 +0.2**
ILSW Iliamna Southw comp=Z,218nm,1.1s **26.03 328** IAmb IAmb 03 33 35.6
I29M Ogilvie Camp, baz=158 **26.04 348** P **P** **03 33 31.1 +0.7**
M22K Willow baz=134 **26.04 333** P **P** **03 33 31.4 +1.0**
I40A Norwalk baz=274,SNR=68 **26.05 71** P **P** **03 33 31.5 +0.7**
I40A baz=274 S **S** **03 38 06.8 +5.6**
SUA Susitna One comp=Z,149nm,1.0s **26.06 332** IAmb IAmb 03 33 35.8
SUA comp=Z,4µm,18.0s IAMs_20 IAMs_20 03 41 19.6
SUA Susitna One baz=133 **26.06 332** P **P** **03 33 31.8 +1.0**
MGMO Mountain Grove comp=Z,354nm,1.2s **26.10 86** IAmb IAmb 03 33 33.8
DHY Denali Highway comp=Z,238nm,1.0s **26.14 337** IAmb IAmb 03 33 34.3
DHY comp=Z,4µm,20.0s IAMs_20 IAMs_20 03 41 35.1
DHY Denali Highway baz=140 **26.14 337** P **P** **03 33 32.7 +1.3**
KVTX Kingsville comp=Z,215nm,1.1s **26.20 111** IAmb IAmb 03 33 40.0
R17K Ugashik Creek baz=118 **26.21 321** P **P** **03 33 32.8 +0.8**
ZAIG Zacatecas **26.23 125** P **P** **03 33 32.8 0.0**
K24K Donnelly Dome baz=144 **26.27 340** P **P** **03 33 33.0 +0.6**
G40A Rib Lake baz=272,SNR=131 **26.27 68** P **P** **03 33 33.4 +0.7**
G40A baz=272 S **S** **03 38 08.8 +4.2**
J26L Joseph Creek baz=148 **26.30 342** P **P** **03 33 33.6 +0.7**
WAT1 Susitna Watana baz=138 **26.30 336** P **P** **03 33 34.1 +1.2**
N41A Harden Midland baz=281 **26.31 78** P **P** **03 33 32.6 -0.5**
NATX Nacogdoches comp=Z,7µm,18.0s **26.35 99** IAMs_20 IAMs_20 03 43 43.1
NATX Nacogdoches baz=298,SNR=46 **26.35 99** P **P** **03 33 35.0 +1.5**
NATX Nacogdoches baz=298 **26.35 99** P **P** **03 33 35.3 +1.8**
HKT Hockley **26.37 104** P **P** **03 33 33.7 +0.2**
HKT Hockley HKT comp=Z,552nm,1.5s **26.37 104***c i* P pmax **P** pmax **03 33 34.7 +1.1**
HKT comp=Z,4µm,12.0s MLR MLR
HKT Hockley baz=301 **26.37 104** P **P** **03 33 34.8 +1.3**
HKT baz=301 S **S** **03 38 11.1 +4.9**
JFWS Jewell Farm comp=Z,8µm,21.0s **26.42 73** IAMs_20 IAMs_20 03 44 23.6
JFWS Jewell Farm baz=277,SNR=41 **26.42 73** P **P** **03 33 34.2 +0.2**
JFWS baz=277 S **S** **03 38 08.5 +1.5**
JFWS Jewell Farm baz=277 **26.42 73** P **P** **03 33 34.5 +0.4**
N20K Mount Spurr baz=130 **26.42 331** P **P** **03 33 35.0 +1.1**
CUT Chulitna comp=Z,204nm,1.2s **26.55 334** IAmb IAmb 03 33 37.8
CUT comp=Z,4µm,20.0s IAMs_20 IAMs_20 03 41 49.2
CUT Chulitna baz=135 **26.55 334** P **P** **03 33 36.2 +1.2**
P18K Big Mountain, comp=Z,250nm,1.4s **26.56 326** IAmb IAmb 03 33 37.6
P18K Big Mountain, baz=123 **26.56 326** P **P** **03 33 35.6 +0.4**
FCAR Ozark Folk Cen comp=Z,443nm,1.5s **26.62 89** IAmb IAmb 03 33 40.2
CCM Cathedral Cave **26.62 84** P **P** **03 33 35.0 -0.9**
CCM Cathedral Cave CCM comp=Z,747nm,1.4s **26.62 84** P pmax **P** pmax **03 33 35.0 -0.9**
CCM comp=Z,4µm,20.0s MLR MLR
CCM Cathedral Cave baz=286,SNR=169 **26.62 84** P **P** **03 33 35.9 -0.1**
CCM baz=286 S **S** **03 38 09.6 -0.7**
CCM Cathedral Cave baz=286 **26.62 84** P **P** **03 33 35.8 -0.2**
O19K Port Alsworth comp=Z,250nm,1.0s **26.63 328** IAmb IAmb 03 33 41.5
O19K comp=Z,6µm,20.0s IAMs_20 IAMs_20 03 41 35.0
O19K Port Alsworth baz=125 **26.63 328** P **P** **03 33 36.4 +0.7**
CHGN Chignik comp=Z,204nm,0.9s **26.64 318** IAmb IAmb 03 33 40.5
CHGN Chignik baz=113 **26.64 318** P **P** **03 33 35.9 +0.1**
SKT Skwentna SKT comp=Z,5µm,19.0s **26.68 333** P IAMs_20 **P** IAMs_20 **03 33 36.7 +0.4** 03 41 50.1
SKT Skwentna baz=132 **26.68 333** P **P** **03 33 37.0 +0.7**
R16K Pilot Point baz=116 **26.75 321** P **P** **03 33 37.6 +0.8**
CHNA Chernabura Isl baz=109 **26.75 314** P **P** **03 33 37.1 +0.3**
EPYK Eagle Plains comp=Z,5µm,18.0s **26.75 350** IAMs_20 IAMs_20 03 46 00.1
EPYK Eagle Plains baz=161 **26.75 350** P **P** **03 33 37.7 +0.9**
O18K Koktuh Hills comp=Z,127nm,1.1s **26.81 326** IAmb IAmb 03 33 43.2
O18K Koktuh Hills baz=124 **26.81 326** P **P** **03 33 38.2 +0.9**
J25K Salcha River, comp=Z,6µm,20.0s **26.82 341** IAMs_20 IAMs_20 03 42 14.8
J25K Salcha River, baz=145 **26.82 341** P **P** **03 33 38.5 +1.0**
RND Reindeer comp=Z,185nm,1.6s **26.82 337** IAmb IAmb 03 33 43.7
RND comp=Z,6µm,19.0s IAMs_20 IAMs_20 03 42 04.4
Q16K King Salmon baz=120 **26.83 323** P **P** **03 33 39.3 +1.8**
I27K Kandik River baz=152 **26.84 345** P **P** **03 33 38.7 +1.0**
I26K Coal Creek Min baz=150 **26.90 344** P **P** **03 33 38.8 +0.6**
L42A Oliver, Polo baz=279,SNR=77 **26.97 75** P **P** **03 33 38.8 -0.2**
L42A baz=279 S **S** **03 38 14.3 -1.3**
P17K Kvichak River baz=121 **26.99 324** P **P** **03 33 40.3 +1.3**
COWI Conover comp=Z,194nm,1.1s **27.00 66** IAmb IAmb 03 33 43.3
COWI comp=Z,6µm,22.0s IAMs_20 IAMs_20 03 44 38.4
COWI Conover baz=271 **27.00 66** P **P** **03 33 39.8 +0.6**
COWI baz=271 S **S** **03 38 20.5 +4.4**
N19K Bonanza Creek comp=Z,147nm,1.2s **27.06 329** IAmb IAmb 03 33 45.7
N19K comp=Z,5µm,20.0s IAMs_20 IAMs_20 03 41 48.3
N19K Bonanza Creek baz=126 **27.06 329** P **P** **03 33 40.3 +0.6**
HDA Harding Lake baz=143 **27.06 340** P **P** **03 33 40.2 +0.6**
MCK McKinley comp=Z,5µm,19.0s **27.09 337** IAMs_20 IAMs_20 03 42 13.4
MCK McKinley baz=139 **27.09 337** P **P** **03 33 40.9 +1.0**
M20K Styx River comp=Z,5µm,20.0s **27.20 331** IAMs_20 IAMs_20 03 42 05.6
M20K Styx River baz=130 **27.20 331** P **P** **03 33 42.0 +1.0**
S14K Fog Glacier baz=112 **27.22 317** P **P** **03 33 41.2 0.0**
SLM Saint Louis **27.23 82** P **P** **03 33 40.7 -0.7**
SLM Saint Louis SLM comp=Z,450nm,1.0s **27.23 82** P pmax **P** pmax **03 33 40.7 -0.7**
SLM Saint Louis baz=285,SNR=25 **27.23 82** P **P** **03 33 41.2 -0.2**
FVM French Village comp=Z,204nm,1.2s **27.27 84** IAmb IAmb 03 33 42.8
FVM French Village baz=286,SNR=37 **27.27 84** P **P** **03 33 41.0 -0.7**
G30M tAoh Zraii Nji baz=162 **27.27 351** P **P** **03 33 40.2 -1.3**

I42A	**Draeger Farm,**	**27.28**	**70**	P	**P**	**03 33 42.1**	**+0.3**
	baz=275								
I42A				S	**S**	**03 38 21.6**	**+1.0**
	baz=275								
TRF	**Thorofare Moun**	**27.30**	**336**	P	**P**	**03 33 41.8**	**-0.1**
	baz=136								
LCAR	**Lake Charles**	**27.30**	**88**	IAmb	IAmb	03 33 43.5	
	comp=Z,202nm,1.4s								
LCAR	**Lake Charles**	**27.30**	**88**	P	**P**	**03 33 41.8**	**-0.2**
	baz=290,SNR=26								
LCAR				S	**S**	**03 38 22.2**	**+1.2**
	baz=290								
ILAR	**Eielson Array**	**27.33**	**340**	P	**P**	**03 33 42.7**	**+0.7**
	comp=Z,33nm,1.0s,baz=157,slow=7.8,SNR=175								
ILAR				PcP	**PcP**	**03 37 01.4**	**+0.5**
	comp=Z,4.5nm,0.8s,baz=149,slow=2.1,SNR=7.7								
ILAR				S	**S**	**03 38 24.5**	**+3.5**
	comp=Z,0.4nm,1.0s,baz=34,slow=41,SNR=0.8								
ILAR				LR	LR	03 42 40.2	
	comp=Z,5µm,21.3s,baz=138,slow=32								
	comp=Z,33nm,1.0s								
ILAR	**Eielson Array**	**27.33**	**340**	P	**P**	**03 33 42.4**	**+0.3**
D41A	**Chassel**	**27.39**	**64**	P	**P**	**03 33 43.5**	**+0.8**
	baz=270,SNR=50								
H27K	**Steamboat Moun**	**27.39**	**346**	P	**P**	**03 33 43.6**	**+1.0**
	baz=153								
SDPT	**Sand Point**	**27.40**	**315**	IAmb	IAmb	03 33 44.8	
	comp=Z,271nm,1.6s								
SDPT	**Sand Point**	**27.40**	**315**	P	**P**	**03 33 42.5**	**-0.1**
	baz=109								
WRH	**Wood River Hil**	**27.42**	**339**	IAmb	IAmb	03 33 45.2	
	comp=Z,206nm,1.9s								
WRH				IAMs_20	IAMs_20	03 42 18.8	
	comp=Z,5µm,21.0s								
F31M	**Tsiigehtchic**	**27.46**	**353**	P	**P**	**03 33 43.4**	**+0.3**
	baz=167								
CCB	**Clear Creek Bu**	**27.48**	**339**	IAMs_20	IAMs_20	03 42 22.3	
	comp=Z,5µm,22.0s								
HDIL	**Hopedale**	**27.50**	**78**	P	**P**	**03 33 43.4**	**-0.4**
	baz=282,SNR=19								
HDIL	**Hopedale**	**27.50**	**78**	P	**P**	**03 33 43.5**	**-0.2**
	baz=282								
P43A	**Skaggs, Pawnee**	**27.53**	**80**	P	**P**	**03 33 43.9**	**-0.1**
	baz=283,SNR=39								
PPLA	**Purkeypile**	**27.53**	**334**	IAmb	IAmb	03 33 46.8	
	comp=Z,197nm,1.1s								
PPLA	**Purkeypile**	**27.53**	**334**	P	**P**	**03 33 45.0**	**+1.0**
	baz=133								
N18K	**Kilae Creek**	**27.55**	**328**	IAmb	IAmb	03 33 47.8	
	comp=Z,315nm,1.8s								
N18K				IAMs_20	IAMs_20	03 42 14.4	
	comp=Z,5µm,20.0s								
N18K	**Kilae Creek**	**27.55**	**328**	P	**P**	**03 33 44.9**	**+0.8**
	baz=124								
O17K	**Koliganek Bris**	**27.57**	**325**	P	**P**	**03 33 45.5**	**+1.3**
	baz=121								
BWN	**Browne**	**27.58**	**338**	IAmb	IAmb	03 33 54.3	
	comp=Z,190nm,1.1s								
BWN				IAMs_20	IAMs_20	03 42 37.0	
	comp=Z,4µm,18.0s								
PRP	**Porcupine Dome**	**27.61**	**342**	IAMs_20	IAMs_20	03 42 52.5	
	comp=Z,6µm,21.0s								
PRP	**Porcupine Dome**	**27.61**	**342**	P	**P**	**03 33 44.9**	**+0.2**
	baz=146								
P16K	**Nushagak River**	**27.61**	**323**	P	**P**	**03 33 45.6**	**+1.1**
	baz=118								
CCAR	**Cane Creek**	**27.62**	**93**	P	**P**	**03 33 45.2**	**+0.3**
	baz=293,SNR=12								
PBMO	**Poplar Bluff**	**27.62**	**86**	IAmb	IAmb	03 33 46.2	
	comp=Z,254nm,1.2s								
COLA	**College**	**27.67**	**340**	P	**P**	**03 33 46.3**	**+1.4**
COLA	**College**	**27.67**	**340** *d i*	P	**P**	**03 33 45.6**	**+0.6**
COLA				pmax	pmax		
	comp=Z,28nm,1.5s								
COLA	**College**	**27.67**	**340**	P	**P**	**03 33 44.8**	**-0.2**
	baz=142								
TCOL	**CIGO, UAF Yank**	**27.67**	**340**	P	**P**	**03 33 45.0**	**-0.1**
	baz=142								
M19K	**Big River Lodg**	**27.68**	**331**	IAmb	IAmb	03 33 49.4	
	comp=Z,138nm,1.2s								
M19K				IAMs_20	IAMs_20	03 42 21.5	
	comp=Z,4µm,20.0s								
M19K	**Big River Lodg**	**27.68**	**331**	P	**P**	**03 33 46.2**	**+1.1**
	baz=128								
F42A	**Maple Grove Fa**	**27.71**	**66**	P	**P**	**03 33 45.4**	**-0.2**
F42A	**Maple Grove Fa**	**27.71**	**66**	P	**P**	**03 33 46.9**	**+1.4**
	baz=272								
POKR	**Poker Plat Res**	**27.75**	**340**	IAMs_20	IAMs_20	03 42 42.5	
	comp=Z,5µm,21.0s								
POKR	**Poker Plat Res**	**27.75**	**340**	P	**P**	**03 33 46.6**	**+0.8**
	baz=143								
NEA2	**Nenana**	**27.78**	**338**	P	**P**	**03 33 45.6**	**-0.4**
NEA2				IAmb	IAmb	03 33 48.5	
	comp=Z,130nm,1.1s								
NEA2	**Nenana**	**27.78**	**338**	P	**P**	**03 33 46.9**	**+0.8**
	baz=140								
K43A	**Burlington**	**27.84**	**73**	P	**P**	**03 33 47.2**	**+0.4**
	baz=278,SNR=12								
L20K	**Farewell, AK**	**27.85**	**332**	P	**P**	**03 33 47.3**	**+0.7**
	baz=130								
CAST	**Castle Rocks**	**27.85**	**335**	IAMs_20	IAMs_20	03 42 48.7	
	comp=Z,5µm,18.0s								
CAST	**Castle Rocks**	**27.85**	**335**	P	**P**	**03 33 47.4**	**+0.7**
	baz=134								
HBAR	**Harrisburg**	**27.86**	**89**	IAmb	IAmb	03 33 48.7	
	comp=Z,204nm,1.3s								
O16K	**Kokwok River B**	**27.92**	**324**	P	**P**	**03 33 48.2**	**+0.8**
	baz=119								
G27K	**Doyon Strip**	**27.93**	**346**	P	**P**	**03 33 48.2**	**+0.8**
	baz=153								
441A	**DeRidder**	**27.94**	**100**	IAmb	IAmb	03 33 51.3	
	comp=Z,256nm,1.1s								
441A	**DeRidder**	**27.94**	**100**	P	**P**	**03 33 49.7**	**+1.9**
	baz=299,SNR=13								
BPAW	**Bear Paw Mtn.**	**27.98**	**336**	IAMs_20	IAMs_20	03 42 49.0	
	comp=Z,4µm,19.0s								
BPAW	**Bear Paw Mtn.**	**27.98**	**336**	P	**P**	**03 33 48.3**	**+0.4**
	baz=136								
L19K	**White Mountain**	**28.02**	**331**	IAmb	IAmb	03 33 52.3	
	comp=Z,487nm,2.0s								
L19K				IAMs_20	IAMs_20	03 42 20.5	
	comp=Z,4µm,21.0s								
L19K	**White Mountain**	**28.02**	**331**	P	**P**	**03 33 49.3**	**+1.1**
	baz=128								
CGM3	**Cape Girardeau**	**28.05**	**85**	P	**P**	**03 33 48.0**	**-0.7**
CGM3				IAmb	IAmb	03 33 49.7	
	comp=Z,250nm,1.4s								
H43A	**Windswept, Lux**	**28.05**	**69**	P	**P**	**03 33 49.2**	**+0.6**
	baz=275,SNR=60								
H43A				S	**S**	**03 38 34.5**	**+1.9**
	baz=275								
Q44A	**Meyer Farm, Va**	**28.09**	**81**	IAmb	IAmb	03 33 51.0	
	comp=Z,115nm,1.1s								
Q44A	**Meyer Farm, Va**	**28.09**	**81**	P	**P**	**03 33 48.0**	**-1.0**
	baz=285,SNR=15								
O44A	**Mansfield**	**28.20**	**78**	P	**P**	**03 33 49.7**	**-0.4**
	baz=283,SNR=26								
L44A	**Lake County Fo**	**28.23**	**74**	IAMs_20	IAMs_20	03 45 31.2	
	comp=Z,8µm,20.0s								
L44A	**Lake County Fo**	**28.23**	**74**	P	**P**	**03 33 50.0**	**-0.2**
	baz=279,SNR=9.2								
L44A	**Lake County Fo**	**28.23**	**74**	P	**P**	**03 33 48.3**	**-2.0**
	baz=279								
S44A	**Carbondale**	**28.24**	**84**	IAmb	IAmb	03 33 51.5	
	comp=Z,329nm,1.4s								
S44A	**Carbondale**	**28.24**	**84**	P	**P**	**03 33 49.7**	**-0.7**
	baz=287,SNR=20								
CHUM	**Lake Minchumin**	**28.25**	**335**	P	**P**	**03 33 50.8**	**+0.6**
	baz=134								
M44A	**Midewin, Midew**	**28.27**	**76**	P	**P**	**03 33 50.3**	**-0.3**
	baz=280,SNR=13								
INK	**Inuvik**	**28.28**	**354**	P	**P**	**03 33 50.2**	**-0.2**
	comp=Z,14nm,0.9s,baz=158,slow=10,SNR=11								
INK				LR	LR	03 44 30.6	
	comp=Z,3µm,18.9s,baz=158,slow=35								
	comp=Z,14nm,0.9s								
INK	**Inuvik**	**28.28**	**354**	P	**P**	**03 33 50.9**	**+0.5**
INK	**Inuvik**	**28.28**	**354**	P	**P**	**03 33 50.9**	**+0.5**
INK				pmax	pmax		
	comp=Z,63nm,1.5s								
INK	**Inuvik**	**28.28**	**354**	P	**P**	**03 33 50.7**	**+0.3**
	baz=167								
I23K	**Minto, Yukon-K**	**28.29**	**339**	IAmb	IAmb	03 33 53.3	
	comp=Z,116nm,1.2s								
I23K	**Minto, Yukon-K**	**28.29**	**339**	P	**P**	**03 33 51.6**	**+1.0**
	baz=140								
H25K	**Birch Creek**	**28.30**	**343**	P	**P**	**03 33 51.9**	**+1.3**
	baz=146								
143A	**Socs Landing,**	**28.40**	**95**	IAmb	IAmb	03 33 57.8	
	comp=Z,176nm,1.4s								
FYU	**Fort Yukon**	**28.42**	**344**	IAmb	IAmb	03 33 54.7	
	comp=Z,154nm,1.4s								
H24K	**Noodor Dome**	**28.44**	**341**	IAMs_20	IAMs_20	03 43 14.6	
	comp=Z,5µm,19.0s								
H24K	**Noodor Dome**	**28.44**	**341**	P	**P**	**03 33 52.8**	**+0.8**
	baz=143								
G26K	**Porcupine Rive**	**28.45**	**345**	P	**P**	**03 33 52.9**	**+0.9**
	baz=150								
E43A	**Lone Tree Farm**	**28.48**	**65**	IAmb	IAmb	03 33 54.4	
	comp=Z,216nm,1.1s								
E43A	**Lone Tree Farm**	**28.48**	**65**	P	**P**	**03 33 52.7**	**+0.3**
	baz=272,SNR=21								
E43A				S	**S**	**03 38 38.4**	**-1.0**
	baz=272								
K20K	**Telida**	**28.48**	**333**	P	**P**	**03 33 52.4**	**+0.1**
K20K				IAmb	IAmb	03 33 54.9	
	comp=Z,310nm,1.9s								
K20K				IAMs_20	IAMs_20	03 43 09.4	
	comp=Z,4µm,18.0s								
K20K	**Telida**	**28.48**	**333**	P	**P**	**03 33 52.7**	**+0.5**
	baz=130								
LNXT	**Lenox**	**28.56**	**87**	IAmb	IAmb	03 33 56.2	
	comp=Z,201nm,1.1s								
MLY	**Manley**	**28.59**	**338**	IAmb	IAmb	03 33 55.8	
	comp=Z,106nm,1.0s								
MLY				IAMs_20	IAMs_20	03 43 19.9	
	comp=Z,4µm,18.0s								
MLY	**Manley**	**28.59**	**338**	P	**P**	**03 33 54.2**	**+0.9**
	baz=138								
N16K	**Nishlik Lake**	**28.65**	**326**	P	**P**	**03 33 54.7**	**+0.8**
	baz=120								
HALT	**Halls**	**28.74**	**87**	IAmb	IAmb	03 33 56.7	
	comp=Z,355nm,1.5s								
OLIL	**Olney**	**28.82**	**81**	IAmb	IAmb	03 33 56.9	
	comp=Z,417nm,1.6s								
OLIL	**Olney**	**28.82**	**81**	P	**P**	**03 33 55.4**	**-0.2**
	baz=285,SNR=17								
OLIL				S	**S**	**03 38 45.6**	**+0.7**
	baz=285								
H23K	**Yukon River**	**28.86**	**340**	IAMs_20	IAMs_20	03 43 14.7	
	comp=Z,4µm,22.0s								
H23K	**Yukon River**	**28.86**	**340**	P	**P**	**03 33 56.4**	**+0.7**
	baz=140								
TTA	**Tatalina**	**28.90**	**331**	P	**P**	**03 33 56.7**	**+0.6**
	baz=127								
T45B	**Paducah**	**28.90**	**85**	P	**P**	**03 33 56.3**	**0.0**
	baz=288,SNR=10								
C36M	**Paulatuk**	**29.01**	**1**	IAMs_20	IAMs_20	03 44 55.1	
	comp=Z,4µm,19.0s								
G24K	**Hadweenzic Riv**	**29.04**	**342**	P	**P**	**03 33 58.4**	**+1.2**
	baz=144								
J20K	**Nowinta River**	**29.04**	**334**	IAMs_20	IAMs_20	03 43 28.2	
	comp=Z,4µm,19.0s								
J20K	**Nowinta River**	**29.04**	**334**	P	**P**	**03 33 58.2**	**+0.9**
	baz=132								
I21K	**Tanana**	**29.06**	**337**	IAmb	IAmb	03 33 59.9	
	comp=Z,128nm,1.1s								
I21K				IAMs_20	IAMs_20	03 43 34.3	
	comp=Z,4µm,18.0s								
I21K	**Tanana**	**29.06**	**337**	P	**P**	**03 33 58.1**	**+0.8**
	baz=136								
W45A	**Hicora Valley**	**29.12**	**89**	P	**P**	**03 33 58.9**	**+0.7**
	baz=291,SNR=16								
E27K	**Coleen River**	**29.16**	**348**	P	**P**	**03 33 59.8**	**+1.5**
	baz=155								
F26K	**Sheenjek River**	**29.17**	**346**	P	**P**	**03 33 59.7**	**+1.2**
	baz=150								
SFIN	**Lafayette**	**29.18**	**77**	P	**P**	**03 33 58.0**	**-0.7**
SFIN				IAmb	IAmb	03 34 00.1	
	comp=Z,195nm,1.1s								
SFIN	**Lafayette**	**29.18**	**77**	P	**P**	**03 33 58.6**	**-0.1**
	baz=283								
SFIN				S	**S**	**03 38 49.0**	**-1.5**
	baz=283								
SFIN	**Lafayette**	**29.18**	**77**	P	**P**	**03 33 58.2**	**-0.5**
	baz=283								
OXF	**Oxford**	**29.19**	**90**	IAMs_20	IAMs_20	03 46 33.2	
	comp=Z,4µm,18.0s								
OXF	**Oxford**	**29.19**	**90**	P	**P**	**03 33 59.6**	**+0.7**
	baz=292								
OXF	**Oxford**	**29.19**	**90**	P	**P**	**03 33 59.1**	**+0.3**
	baz=292								
I45A	**Fountain**	**29.19**	**70**	P	**P**	**03 33 59.2**	**+0.4**
	baz=277,SNR=14								
I45A				P	**P**	**03 33 59.2**	**+0.4**
	baz=277,SNR=14								
P46A	**Rosedale**	**29.27**	**79**	IAmb	IAmb	03 34 00.7	
	comp=Z,170nm,1.0s								
P46A	**Rosedale**	**29.27**	**79**	P	**P**	**03 33 59.3**	**-0.3**
	baz=284,SNR=30								
P46A				S	**S**	**03 38 51.9**	**0.0**
	baz=284								
VBMS	**Vicksburg**	**29.28**	**95**	IAmb	IAmb	03 34 03.3	
	comp=Z,266nm,1.1s								
VBMS	**Vicksburg**	**29.28**	**95**	P	**P**	**03 34 01.2**	**+1.5**
	baz=296,SNR=13								
VBMS	**Vicksburg**	**29.28**	**95**	P	**P**	**03 34 00.1**	**+0.4**
	baz=296								
Y45A	**Yeager Farm, C**	**29.34**	**91**	IAmb	IAmb	03 34 02.5	
	comp=Z,167nm,1.4s								
USIN	**University of**	**29.36**	**82**	IAmb	IAmb	03 34 01.6	
	comp=Z,227nm,1.0s								
F25K	**Christian Rive**	**29.38**	**344**	P	**P**	**03 34 00.6**	**+0.3**
	baz=148								
MOIG	**Morelia**	**29.39**	**127**	IAmb	IAmb	03 34 04.3	
	comp=Z,100nm,1.1s								
H22K	**Ishtalitna Cre**	**29.41**	**339**	P	**P**	**03 34 01.7**	**+1.2**
	baz=138								
L46A	**Eur Claire**	**29.44**	**74**	P	**P**	**03 34 01.0**	**-0.1**
	baz=280,SNR=24								
L46A				P	**P**	**03 34 01.0**	**-0.1**
	baz=280,SNR=24								
344A	**Westbrook Farm**	**29.47**	**97**	IAmb	IAmb	03 34 04.6	
	comp=Z,170nm,1.1s								
344A	**Westbrook Farm**	**29.47**	**97**	P	**P**	**03 34 03.2**	**+1.8**
	baz=297,SNR=19								
G45A	**Suttons Bay**	**29.50**	**68**	IAmb	IAmb	03 34 03.5	
	comp=Z,277nm,1.2s								
G45A	**Suttons Bay**	**29.50**	**68**	P	**P**	**03 34 02.0**	**+0.5**
	baz=275,SNR=12								
G45A				P	**P**	**03 34 02.0**	**+0.5**
	baz=275,SNR=12								
H21K	**Melozitna Rive**	**29.64**	**337**	IAMs_20	IAMs_20	03 44 01.7	
	comp=Z,4µm,18.0s								
H21K	**Melozitna Rive**	**29.64**	**337**	P	**P**	**03 34 03.5**	**+0.9**
	baz=135								
G23K	**Bananza Creek**	**29.66**	**341**	P	**P**	**03 34 03.8**	**+0.9**
	baz=141								
F24K	**Squaw Lake**	**29.80**	**343**	P	**P**	**03 34 04.5**	**+0.5**
	baz=145								
E25K	**Arctic Village**	**29.81**	**345**	P	**P**	**03 34 05.1**	**+1.0**
	baz=149								
WVT	**Waverly**	**29.81**	**86**	P	**P**	**03 34 03.5**	**-0.9**
WVT				IAmb	IAmb	03 34 06.0	
	comp=Z,203nm,1.1s								
WVT	**Waverly**	**29.81**	**86**	IAMs_20	IAMs_20	03 46 37.5	
	comp=Z,5µm,20.0s								
WVT	**Waverly**	**29.81**	**86**	P	**P**	**03 34 03.5**	**-0.9**
WVT				pmax	pmax		
	comp=Z,203nm,1.2s								
WVT				MLR	MLR		
	comp=Z,5µm,20.0s								
WVT	**Waverly**	**29.81**	**86**	P	**P**	**03 34 04.6**	**+0.2**
	baz=290,SNR=56								
WVT	**Waverly**	**29.81**	**86**	P	**P**	**03 34 04.2**	**-0.2**
	baz=290								
BLO	**Bloomington**	**29.90**	**80**	IAmb	IAmb	03 34 06.3	
	comp=Z,183nm,0.9s								
T47A	**Sharon Grove**	**30.08**	**84**	IAmb	IAmb	03 34 08.2	
	comp=Z,102nm,1.0s								
T47A	**Sharon Grove**	**30.08**	**84**	P	**P**	**03 34 06.8**	**0.0**
	baz=288,SNR=25								
T47A				S	**S**	**03 39 06.8**	**+2.0**
	baz=288								
N47A	**Urbana**	**30.11**	**76**	IAmb	IAmb	03 34 07.6	
	comp=Z,97nm,1.1s								
N47A	**Urbana**	**30.11**	**76**	P	**P**	**03 34 06.5**	**-0.5**
	baz=282,SNR=11								
N47A				P	**P**	**03 34 06.5**	**-0.5**
	baz=282,SNR=11								
COLD	**Coldfoot**	**30.11**	**341**	P	**P**	**03 34 07.7**	**+1.0**
	baz=141								
IMAR	**Indian Mountai**	**30.15**	**337**	P	**P**	**03 34 08.0**	**+1.0**
G22K	**Bettles**	**30.21**	**340**	P	**P**	**03 34 08.7**	**+1.1**
	baz=139								
146A	**Union**	**30.21**	**93**	IAmb	IAmb	03 34 09.7	
	comp=Z,107nm,1.2s								
146A	**Union**	**30.21**	**93**	P	**P**	**03 34 08.8**	**+0.9**
	baz=295,SNR=5.9								
GLMI	**Grayling**	**30.25**	**68**	P	**P**	**03 34 09.3**	**+1.0**
	baz=276,SNR=41								
GLMI	**Grayling**	**30.25**	**68**	P	**P**	**03 34 09.2**	**+1.0**
	baz=276								
J47A	**Sunmer**	**30.31**	**71**	IAmb	IAmb	03 34 12.6	
	comp=Z,347nm,1.6s								
J47A	**Sunmer**	**30.31**	**71**	P	**P**	**03 34 09.1**	**+0.3**
	baz=279,SNR=15								
J47A				P	**P**	**03 34 09.1**	**+0.3**
	baz=279,SNR=15								
GCSA	**Galena City Sc**	**30.32**	**334**	P	**P**	**03 34 09.6**	**+1.1**
	baz=128								
WCI	**Wyandotte Cave**	**30.32**	**81**	P	**P**	**03 34 08.0**	**-0.9**
WCI				IAmb	IAmb	03 34 10.2	
	comp=Z,179nm,1.0s								
WCI	**Wyandotte Cave**	**30.32**	**81**	IAMs_20	IAMs_20	03 46 41.9	
	comp=Z,6µm,18.0s								
WCI	**Wyandotte Cave**	**30.32**	**81**	P	**P**	**03 34 08.0**	**-0.9**
WCI				pmax	pmax		
	comp=Z,179nm,1.0s								
WCI				MLR	MLR		
	comp=Z,6µm,18.0s								
WCI	**Wyandotte Cave**	**30.32**	**81**	P	**P**	**03 34 08.9**	**0.0**
	baz=286,SNR=34								
WCI	**Wyandotte Cave**	**30.32**	**81**	P	**P**	**03 34 08.2**	**-0.7**
	baz=286								
WCI	**Wyandotte Cave**	**30.32**	**81**	P	**P**	**03 34 06.9**	**-2.0**
WCI				pP	**pwP**	**03 34 18.8**	**+2.5**
E46A	**Sault Ste Mari**	**30.34**	**65**	P	**P**	**03 34 09.5**	**+0.6**
	baz=274,SNR=62								
E24K	**Your Creek**	**30.38**	**343**	P	**P**	**03 34 11.0**	**+1.8**
	baz=144								
UNV	**Unalaska Valle**	**30.44**	**310**	P	**P**	**03 34 10.6**	**+0.8**
	baz=100								
G21K	**Allakaket**	**30.45**	**338**	P	**P**	**03 34 10.7**	**+0.9**
	baz=135								
346A	**Big Creek Wild**	**30.46**	**96**	P	**P**	**03 34 11.4**	**+1.2**
	baz=297								
P48A	**Milroy**	**30.64**	**79**	IAmb	IAmb	03 34 12.4	
	comp=Z,166nm,1.1s								
P48A	**Milroy**	**30.64**	**79**	P	**P**	**03 34 11.3**	**-0.5**
	baz=285,SNR=32								
P48A				P	**P**	**03 34 11.3**	**-0.5**
	baz=285,SNR=32								
O48B	**Farmland**	**30.65**	**77**	P	**P**	**03 34 11.1**	**-0.7**
	baz=284,SNR=35								
O48B	**Farmland**	**30.65**	**77**	P	**P**	**03 34 11.0**	**-0.7**
	baz=284								
V48A	**Smith Brothers**	**30.71**	**86**	P	**P**	**03 34 12.3**	**-0.1**
	baz=290,SNR=18								
Z47A	**Carrollton**	**30.73**	**91**	P	**P**	**03 34 13.0**	**+0.4**
	baz=294								
C27K	**Jago River**	**30.80**	**348**	P	**P**	**03 34 14.2**	**+1.5**
	baz=153								
F22K	**John River**	**30.82**	**340**	P	**P**	**03 34 14.4**	**+1.4**
	baz=138								
L48A	**N Adams**	**30.82**	**73**	IAmb	IAmb	03 34 15.5	
	comp=Z,296nm,1.4s								
L48A	**N Adams**	**30.82**	**73**	P	**P**	**03 34 13.1**	**-0.2**
	baz=281,SNR=24								
L48A				P	**P**	**03 34 13.1**	**-0.2**
	baz=281,SNR=24								
F21K	**Alatna River**	**30.95**	**339**	P	**P**	**03 34 14.9**	**+0.7**
	baz=136								
CLTN	**Cedars of Leba**	**30.97**	**85**	P	**P**	**03 34 13.9**	**-0.7**
CLTN				IAmb	IAmb	03 34 16.4	
	comp=Z,186nm,1.3s								
D25K	**Kavik River**	**31.00**	**346**	P	**P**	**03 34 15.3**	**+0.7**
	baz=148								
X48A	**Hartselle**	**31.02**	**89**	P	**P**	**03 34 14.8**	**-0.2**
	baz=292,SNR=64								
TOLK	**Toolik Lake Re**	**31.08**	**343**	P	**P**	**03 34 16.6**	**+1.3**
TOLK				IAmb	IAmb	03 34 18.8	
	comp=Z,105nm,1.2s								
TOLK				IAMs_20	IAMs_20	03 45 05.2	
	comp=Z,4µm,19.0s								
TOLK	**Toolik Lake Re**	**31.08**	**343**	P	**P**	**03 34 16.9**	**+1.6**
	baz=143								
R49A	**Shelbyville**	**31.15**	**81**	P	**P**	**03 34 15.8**	**-0.5**
	baz=287								
R49A				P	**P**	**03 34 15.8**	**-0.5**
	baz=287								
P49A	**Miami Univ. Ec**	**31.16**	**78**	IAmb	IAmb	03 34 16.8	
	comp=Z,174nm,1.1s								
P49A				IAMs_20	IAMs_20	03 47 26.7	
	comp=Z,5µm,18.0s								
P49A	**Miami Univ. Ec**	**31.16**	**78**	P	**P**	**03 34 15.7**	**-0.5**
	baz=285,SNR=17								
P49A	**Miami Univ. Ec**	**31.16**	**78**	P	**P**	**03 34 15.2**	**-1.0**
	baz=285								
E22K	**Anaktuvuk Pass**	**31.20**	**341**	P	**P**	**03 34 17.1**	**+0.7**
	baz=140								
N49A	**Columbus Grove**	**31.22**	**75**	IAmb	IAmb	03 34 17.5	
	comp=Z,141nm,1.1s								
N49A	**Columbus Grove**	**31.22**	**75**	P	**P**	**03 34 16.5**	**-0.2**
	baz=283,SNR=18								
N49A				P	**P**	**03 34 16.5**	**-0.2**
	baz=283,SNR=18								
U49A	**Red Boiling Sp**	**31.25**	**84**	IAmb	IAmb	03 34 19.0	
	comp=Z,184nm,1.1s								
U49A	**Red Boiling Sp**	**31.25**	**84**	P	**P**	**03 34 17.8**	**+0.7**
	baz=289,SNR=28								
C26K	**Camden Bay**	**31.25**	**347**	P	**P**	**03 34 17.5**	**+0.8**
	baz=151								
O49A	**Covington**	**31.27**	**77**	IAmb	IAmb	03 34 17.8	
	comp=Z,125nm,1.0s								
O49A	**Covington**	**31.27**	**77**	P	**P**	**03 34 16.5**	**-0.8**
	baz=284,SNR=20								
O49A				P	**P**	**03 34 16.5**	**-0.8**
	baz=284,SNR=20								
AAM	**Ann Arbor**	**31.32**	**73**	IAmb	IAmb	03 35 16.4	
	comp=Z,137nm,1.1s								
AAM				IAMs_20	IAMs_20	03 47 23.9	
	comp=Z,6µm,21.0s								
AAM	**Ann Arbor**	**31.32**	**73**	P	**P**	**03 34 17.6**	**-0.1**
	baz=281,SNR=11								
AAM	**Ann Arbor**	**31.32**	**73**	P	**P**	**03 34 17.3**	**-0.3**
	baz=281			

baz=280,SNR=24
K50A P P 03 34 23.3 -0.1
baz=280,SNR=24
W50A Signal Mountai 32.06 86 P P 03 34 24.6 +0.3
baz=291,SNR=64
C23K Itkillik River 32.26 344 P P 03 34 26.8 +1.2
baz=143
ACSO Alum Creek Sta 32.27 76 IAmb IAmb 03 34 27.0
comp=Z,171nm,1.1s
ACSO IAMs_20 IAMs_20 03 48 09.2
comp=Z,4µm,20.0s
ACSO Alum Creek Sta 32.27 76 P P 03 34 25.6 -0.4
baz=284,SNR=31
ACSO Alum Creek Sta 32.27 76 P P 03 34 24.9 -1.1
baz=284
Q51A Peebles 32.32 78 IAmb IAmb 03 34 28.4
comp=Z,78nm,1.0s
Q51A Peebles 32.32 78 P P 03 34 26.3 -0.2
baz=286,SNR=16
Q51A P P 03 34 26.3 -0.2
baz=286,SNR=16
BRAL Brewton 32.39 94 P P 03 34 27.3 +0.1
baz=297
P51A Williamsport 32.41 78 P P 03 34 26.8 -0.4
baz=285,SNR=23
P51A P P 03 34 26.8 -0.4
baz=285,SNR=23
S51A Beattyville 32.54 81 IAmb IAmb 03 34 29.5
comp=Z,89nm,0.9s
S51A Beattyville 32.54 81 P P 03 34 28.5 +0.1
baz=288,SNR=16
S51A P P 03 34 28.5 +0.1
baz=288,SNR=16
N51A Ashland 32.55 75 IAmb IAmb 03 34 30.5
comp=Z,180nm,1.2s
N51A Ashland 32.55 75 P P 03 34 27.9 -0.7
baz=284,SNR=11
N51A P P 03 34 27.9 -0.7
baz=284,SNR=11
V51A Loudon 32.57 85 P P 03 34 29.0 +0.3
baz=291,SNR=27
TLIG Tlapa 32.60 126 P P 03 34 29.7 +0.5
250A Grady 32.63 92 P P 03 34 30.0 +0.8
baz=296,SNR=52
X51A Calhoun 32.64 87 P P 03 34 30.0 +0.7
baz=292,SNR=34
X51A P P 03 34 30.0 +0.7
baz=292,SNR=34
POHA Pohakuloa 32.83 240 IAMs_20 IAMs_20 03 43 27.7
comp=Z,5µm,22.0s
Z51A Franklin 32.89 89 P P 03 34 32.1 +0.5
baz=294,SNR=36
TZTN Tazewell 32.93 83 IAMs_20 IAMs_20 03 47 06.8
comp=Z,4µm,20.0s
TZTN Tazewell 32.93 83 P P 03 34 32.1 +0.3
baz=290,SNR=18
TZTN Tazewell 32.93 83 P P 03 34 30.6 -1.2
baz=290
P52A Corning 33.05 77 IAmb IAmb 03 34 35.4
comp=Z,83nm,1.2s
P52A IAMs_20 IAMs_20 03 48 27.0
comp=Z,4µm,22.0s
P52A Corning 33.05 77 P P 03 34 31.9 -1.1
baz=286
TKL Tuckaleechee C 33.06 85 P P 03 34 32.9 -0.1
comp=Z,114nm,1.0s,baz=305,slow=4.6,SNR=52
TKL LR LR 03 48 15.1
comp=Z,4µm,18.5s,baz=292,slow=37
comp=Z,114nm,1.0s
TKL Tuckaleechee C 33.06 85 P P 03 34 33.3 +0.2
baz=291,SNR=26
SPIA Saint Paul Isl 33.13 316 P P 03 34 34.1 +0.8
baz=101
V52A Sevierville 33.13 84 IAmb IAmb 03 34 35.1
comp=Z,125nm,1.1s
V52A Sevierville 33.13 84 P P 03 34 33.9 +0.2
baz=291,SNR=16
Q52A Bidwell 33.14 78 IAmb IAmb 03 34 34.4
comp=Z,144nm,1.1s
Q52A Bidwell 33.14 78 P P 03 34 33.6 -0.1
baz=286,SNR=18
Q52A P P 03 34 33.6 -0.1
baz=286,SNR=18
O52A Adamsville 33.15 76 IAmb IAmb 03 34 34.2
comp=Z,92nm,1.1s
O52A Adamsville 33.15 76 P P 03 34 33.0 -0.7
baz=285,SNR=12
O52A P P 03 34 33.0 -0.7
baz=285,SNR=12
W52A Murphy 33.15 86 P P 03 34 34.3 +0.4
baz=292,SNR=40
M52A Chesterland 33.16 73 P P 03 34 32.5 -1.3
M52A IAmb IAmb 03 34 34.4
comp=Z,74nm,1.1s
ANM Nome 33.29 330 IAMs_20 IAMs_20 03 46 25.1
comp=Z,4µm,18.0s
ANM Nome 33.29 330 P P 03 34 35.8 +1.1
baz=117
152A Waverly Hall 33.51 90 IAmb IAmb 03 34 38.5
comp=Z,154nm,1.1s
152A Waverly Hall 33.51 90 P P 03 34 37.4 +0.5
baz=295,SNR=32
Y52A Lilburn 33.52 88 P P 03 34 37.5 +0.4
baz=293
Y52A P P 03 34 37.5 +0.4
baz=293
R53A Hurricane 33.56 79 P P 03 34 36.0 -1.3
baz=288,SNR=7.5
R53A P P 03 34 36.0 -1.3
baz=288,SNR=7.5
O53A New Philadelph 33.58 76 IAmb IAmb 03 34 38.2
comp=Z,97nm,1.1s
O53A IAMs_20 IAMs_20 03 48 54.7
comp=Z,5µm,18.0s
O53A New Philadelph 33.58 76 P P 03 34 36.6 -0.9
baz=285
P53A Whipple 33.65 77 IAmb IAmb 03 34 38.8
comp=Z,104nm,1.2s
P53A Whipple 33.65 77 P P 03 34 38.0 -0.1
baz=286,SNR=13
P53A P P 03 34 38.0 -0.1
baz=286,SNR=13
M53A WI Miller and 33.68 73 IAmb IAmb 03 34 39.2
comp=Z,107nm,1.2s
M53A IAMs_20 IAMs_20 03 49 12.4
comp=Z,4µm,22.0s
M53A WI Miller and 33.68 73 P P 03 34 37.2 -1.1
baz=283
N53A Lisbon 33.71 74 P P 03 34 38.6 0.0
baz=284,SNR=18
N53A P P 03 34 38.6 0.0
baz=284,SNR=18
V53A Saluda 33.79 84 P P 03 34 40.1 +0.6
baz=291,SNR=46
V53A P P 03 34 40.1 +0.6
baz=291,SNR=46
V53A S S 03 40 04.5 +1.8
baz=291
V53A S S 03 40 04.5 +1.8
baz=291
352A Blakely 33.87 92 P P 03 34 39.5 -0.6
352A Blakely 33.87 92 P P 03 34 40.9 +0.8
baz=297,SNR=14
CASEE Lake Jocassee 33.95 85 P P 03 34 41.3 +0.6
baz=292,SNR=32
ALLY Alegheny Colle 34.02 73 P P 03 34 41.4 +0.1
baz=283,SNR=35
ERPA Erie 34.02 72 IAMs_20 IAMs_20 03 48 58.5
comp=Z,6µm,20.0s
ERPA Erie 34.02 72 P P 03 34 41.4 +0.1
baz=283,SNR=12
ERPA Erie 34.02 72 P P 03 34 41.1 -0.2
baz=283
SADO Sadowa 34.12 67 P P 03 34 41.4 -0.8
comp=Z,229nm,1.2s,baz=279,slow=9.1,SNR=52
SADO S S 03 40 09.2 +1.6
comp=Z,3.6nm,0.9s,baz=263,slow=20,SNR=1.3
SADO LR LR 03 49 33.0
comp=Z,5µm,20.8s,baz=328,slow=38
comp=Z,229nm,1.2s
GOGA Godfrey 34.16 88 P P 03 34 42.8 +0.3
baz=294,SNR=21
GOGA S S 03 40 10.1 +1.7
baz=294
GOGA Godfrey 34.16 88 P P 03 34 42.5 -0.1
baz=294
Q54A Coxs Mills 34.20 78 IAmb IAmb 03 34 44.0
comp=Z,210nm,1.4s
Q54A Coxs Mills 34.20 78 P P 03 34 42.7 -0.2
baz=287,SNR=17
Q54A P P 03 34 42.7 -0.2
baz=287,SNR=17
S54A Dingess, Beckl 34.20 80 P P 03 34 43.1 +0.1
baz=288
S54A P P 03 34 43.1 +0.1
baz=288
O54A Avella 34.21 75 IAmb IAmb 03 34 44.0
comp=Z,189nm,1.6s
O54A Avella 34.21 75 P P 03 34 42.3 -0.6
baz=285,SNR=10
O54A P P 03 34 42.3 -0.6
baz=285,SNR=10
U54A Nelsons Funny 34.24 82 P P 03 34 42.6 -0.7
U54A Nelsons Funny 34.24 82 P P 03 34 43.7 +0.3
baz=290,SNR=9.2
U54A P P 03 34 43.7 +0.3
baz=290,SNR=9.2
UPAO U. Pittsburgh 34.39 75 P P 03 34 44.7 +0.1
baz=285
A21K Barrow 34.70 343 P P 03 34 47.6 +0.8
A21K IAmb IAmb 03 34 49.6
comp=Z,209nm,1.1s
A21K IAMs_20 IAMs_20 03 47 41.8
comp=Z,3µm,20.0s
A21K Barrow 34.70 343 P P 03 34 48.1 +1.3
baz=136
TNA Tin City 34.71 331 P P 03 34 47.7 +0.8
baz=116
MCWV Mont Chateau 34.75 76 IAmb IAmb 03 34 48.8
comp=Z,206nm,1.2s
MCWV IAMs_20 IAMs_20 03 49 34.7
comp=Z,4µm,21.0s
MCWV Mont Chateau 34.75 76 P P 03 34 47.5 -0.1
baz=286,SNR=20
MCWV Mont Chateau 34.75 76 P P 03 34 47.1 -0.5
baz=286
J54A Appleton 34.75 69 P P 03 34 48.2 +0.6
baz=282,SNR=22
J54A P P 03 34 48.2 +0.6
baz=282,SNR=22
HODGE Hodges 34.75 86 IAmb IAmb 03 34 49.1
comp=Z,122nm,1.4s
HODGE Hodges 34.75 86 P P 03 34 47.9 +0.2
baz=293,SNR=8.5
154A Montrose 34.77 89 P P 03 34 47.8 0.0
baz=295,SNR=14
VLDQ Val d'Or 34.85 61 IAmb IAmb 03 34 48.1
comp=Z,288nm,1.5s
PAULI Pauline 34.86 85 P P 03 34 49.0 +0.3
baz=292,SNR=34
TIGA Tifton 34.91 91 P P 03 34 49.8 +0.7
baz=297
TIGA Tifton 34.91 91 P P 03 34 48.8 -0.3
baz=297
V55A Taylorsville 34.94 83 P P 03 34 49.7 +0.4
baz=291,SNR=20
V55A P P 03 34 49.7 +0.4
baz=291,SNR=20
R55A Marlinton 34.95 78 P P 03 34 49.8 +0.4
baz=288,SNR=25
R55A P P 03 34 49.8 +0.4
baz=288,SNR=25
WVNY West Valley, N 34.96 71 P P 03 34 50.0 +0.5
baz=283,SNR=61
M55A Ridgway 35.06 73 P P 03 34 50.3 -0.1
baz=284,SNR=31
M55A P P 03 34 50.3 -0.1
baz=284,SNR=31
BLA Blacksburg 35.07 80 P P 03 34 49.7 -0.7
BLA IAmb IAmb 03 34 52.2
comp=Z,176nm,0.9s
BLA Blacksburg 35.07 80 P P 03 34 49.7 -0.7
BLA pmax pmax
comp=Z,176nm,1.0s
BLA MLR MLR
comp=Z,2µm,19.0s
BLA Blacksburg 35.07 80 P P 03 34 50.9 +0.5
baz=289,SNR=20
BLA Blacksburg 35.07 80 P P 03 34 50.6 +0.2
baz=289
KMSC Kings Mountain 35.11 84 P P 03 34 51.0 +0.2
baz=292,SNR=37
KMSC Kings Mountain 35.11 84 P P 03 34 50.0 -0.7
baz=292
PSDB Penn State Uni 35.16 73 P P 03 34 51.4 +0.2
baz=285
DELO Deloro Mine 35.24 67 IAmb IAmb 03 35 01.6
comp=Z,102nm,1.0s
CMIG Matias Romero 35.27 122 P P 03 34 53.5 +1.2
comp=Z,96nm,0.9s,baz=322,slow=7.8,SNR=74
CMIG LR LR 03 49 14.9
comp=Z,2µm,19.2s,baz=284,slow=36
comp=Z,96nm,0.9s
J55A Hilton 35.34 69 P P 03 34 53.1 +0.4
baz=282,SNR=26
J55A P P 03 34 53.1 +0.4
baz=282,SNR=26
U56A King 35.39 82 IAmb IAmb 03 34 54.7
comp=Z,113nm,1.1s
U56A King 35.39 82 P P 03 34 53.6 +0.4
baz=291,SNR=11
U56A P P 03 34 53.6 +0.4
baz=291,SNR=11
JSC Jenkinsville 35.49 85 IAmb IAmb 03 34 55.3
comp=Z,221nm,1.2s
JSC Jenkinsville 35.49 85 P P 03 34 54.2 +0.1
baz=293,SNR=9.6
GAMB Gambell 35.54 327 P P 03 34 55.0 +0.9
baz=109
255A Hazlehurst 35.55 90 P P 03 34 54.8 +0.3
baz=296
HAW Hawthorne Fire 35.60 87 P P 03 34 54.8 -0.2
baz=294,SNR=20
L56A Greenwood 35.78 71 P P 03 34 57.0 +0.5
baz=284,SNR=84
L56A P P 03 34 57.0 +0.5
baz=284,SNR=84
PECO Prince Edward 35.79 68 IAmb IAmb 03 34 59.9
comp=Z,225nm,1.4s
SSPA Standing Stone 35.92 74 P P 03 34 57.4 -0.3
SSPA Standing Stone 35.92 74 P P 03 34 57.7 0.0
baz=286,SNR=34
SSPA Standing Stone 35.92 74 P P 03 34 57.2 -0.5
baz=286
SSPA Standing Stone 35.92 74 P P 03 34 55.7 -2.0
SSPA pP pwP 03 35 04.4 -0.8
BIRD Birdtown, Kers 35.96 84 IAmb IAmb 03 34 59.1
comp=Z,223nm,1.3s
BIRD Birdtown, Kers 35.96 84 P P 03 34 58.0 -0.1
baz=293
S57A Dark Hollow, R 35.99 79 P P 03 34 58.8 +0.5
baz=289,SNR=19
S57A P P 03 34 58.8 +0.5
baz=289,SNR=19
T57A Hurt 36.02 80 IAmb IAmb 03 34 59.9
comp=Z,202nm,1.6s
T57A Hurt 36.02 80 P P 03 34 58.6 0.0
baz=290,SNR=6.7
T57A P P 03 34 58.6 0.0
baz=290,SNR=6.7
J56A Wolcott 36.02 69 IAmb IAmb 03 35 01.7
comp=Z,210nm,1.1s
J56A Wolcott 36.02 69 P P 03 34 58.7 +0.2
baz=282,SNR=25
J56A P P 03 34 58.7 +0.2
baz=282,SNR=25
W57A Gilead 36.12 83 IAmb IAmb 03 35 00.6
comp=Z,207nm,1.2s
W57A Gilead 36.12 83 P P 03 34 59.6 +0.2
baz=292,SNR=13
W57A P P 03 34 59.6 +0.2
baz=292,SNR=13
P57A Homestead Farm 36.15 76 IAmb IAmb 03 35 01.3
comp=Z,227nm,1.2s
P57A Homestead Farm 36.15 76 P P 03 35 00.0 +0.3
baz=287,SNR=23
P57A P P 03 35 00.0 +0.3
baz=287,SNR=23
Y57A Sumter 36.26 85 IAmb IAmb 03 35 01.4
comp=Z,126nm,1.4s
Y57A Sumter 36.26 85 P P 03 35 00.3 -0.3
baz=294
Y57A P P 03 35 00.3 -0.3
baz=294
M57A Sunshine Farm, 36.29 72 P P 03 35 01.2 +0.4
baz=285,SNR=28
M57A P P 03 35 01.2 +0.4
baz=285,SNR=28
K57A Scipio Center 36.39 70 P P 03 35 01.7 0.0
baz=283,SNR=20
456A Hilliard 36.43 91 P P 03 35 01.8 -0.3
456A Hilliard 36.43 91 P P 03 35 03.1 +0.9
baz=298,SNR=8.5
ADK Adak 36.48 306 P P 03 35 02.1 -0.2
ADK Adak 36.48 306 P P 03 35 02.1 -0.2
ADK pmax pmax
comp=Z,70nm,0.9s
V58A Windy Hill, Pi 36.55 82 P P 03 35 03.1 0.0
baz=292,SNR=28
V58A P P 03 35 03.1 0.0
baz=292,SNR=28
J57A Williamstown 36.61 69 IAmb IAmb 03 35 08.2
comp=Z,113nm,1.1s
J57A Williamstown 36.61 69 P P 03 35 03.3 -0.2
baz=283,SNR=18
J57A P P 03 35 03.3 -0.2
baz=283,SNR=18
656A Willston 36.68 94 IAmb IAmb 03 35 06.2
comp=Z,269nm,1.2s
N58A Sunbury 36.72 73 IAmb IAmb 03 35 08.3
comp=Z,220nm,1.1s
N58A Sunbury 36.72 73 P P 03 35 04.7 +0.2
baz=286,SNR=44
N58A P P 03 35 04.7 +0.2
baz=286,SNR=44
R58B Mineral 36.73 78 IAmb IAmb 03 35 06.4
comp=Z,179nm,1.4s
R58B Mineral 36.73 78 P P 03 35 05.2 +0.6
baz=289,SNR=14
R58B P P 03 35 05.2 +0.6
baz=289,SNR=14
WCNY West Carthage 36.73 68 P P 03 35 04.7 +0.2
baz=282,SNR=23
NHSC New Hope 36.79 87 P P 03 35 05.7 +0.5
baz=295
NHSC New Hope 36.79 87 P P 03 35 04.8 -0.4
baz=295
X58A Rowland 36.85 84 IAmb IAmb 03 35 06.8
comp=Z,141nm,1.1s
X58A Rowland 36.85 84 P P 03 35 06.0 +0.3
baz=293
X58A P P 03 35 06.0 +0.3
baz=293
BINY Binghamton 36.90 71 IAmb IAmb 03 35 09.4
comp=Z,266nm,1.1s
BINY Binghamton 36.90 71 P P 03 35 06.4 +0.4
baz=284,SNR=44
BINY Binghamton 36.90 71 P P 03 35 05.9 -0.2
baz=284
CBN Corbin Frederi 37.02 77 IAMs_20 IAMs_20 03 50 50.0
comp=Z,5µm,22.0s
CBN Corbin Frederi 37.02 77 P P 03 35 07.8 +0.7
baz=289,SNR=18
CBN Corbin Frederi 37.02 77 P P 03 35 06.8 -0.3
baz=289
SDMD Soldier's Deli 37.04 75 IAmb IAmb 03 35 11.0
comp=Z,166nm,1.6s
SDMD Soldier's Deli 37.04 75 P P 03 35 07.7 +0.4
baz=288,SNR=14
J58A Remsen 37.12 68 P P 03 35 08.0 0.0
baz=283
J58A P P 03 35 08.0 0.0
baz=283
RES Resolute Bay 37.16 13 P P 03 35 05.7 -2.2
comp=Z,37nm,0.8s,baz=222,slow=9.4,SNR=5.8
RES LR LR 03 50 41.0
comp=Z,1µm,18.5s,baz=230,slow=37
comp=Z,37nm,0.8s
KSPA Keystone Colle 37.22 71 P P 03 35 08.2 -0.6
KSPA IAmb IAmb 03 35 12.2
comp=Z,273nm,1.6s
KSPA Keystone Colle 37.22 71 P P 03 35 09.1 +0.3
baz=285,SNR=15
MVL Millersville 37.23 74 IAmb IAmb 03 35 12.7
comp=Z,188nm,1.3s
T59A Double "B" Far 37.30 79 P P 03 35 10.1 +0.6
baz=290,SNR=35
T59A P P 03 35 10.1 +0.6
baz=290,SNR=35
U59A Littleton 37.34 80 IAmb IAmb 03 35 11.3
comp=Z,123nm,1.2s
U59A Littleton 37.34 80 P P 03 35 10.1 +0.3
baz=291,SNR=11
U59A P P 03 35 10.1 +0.3
baz=291,SNR=11
LONY Lake Ozonia 37.35 66 IAmb IAmb 03 35 11.3
comp=Z,253nm,1.8s
LONY IAMs_20 IAMs_20 03 49 56.2
comp=Z,4µm,20.0s
LONY Lake Ozonia 37.35 66 P P 03 35 09.4 -0.4
baz=282
BMNY Brushton-Moira 37.35 66 P P 03 35 10.0 +0.2
baz=282,SNR=47
Y59A Loris 37.42 85 P P 03 35 10.8 +0.3
baz=294
Y59A P P 03 35 10.8 +0.3
baz=294
L59A Walton 37.58 70 IAmb IAmb 03 35 15.4
comp=Z,243nm,1.0s
L59A Walton 37.58 70 P P 03 35 12.2 +0.4
baz=285,SNR=38
L59A P P 03 35 12.2 +0.4
baz=285,SNR=38
TEIG Tepich 37.62 111 P P 03 35 11.8 -0.5
TEIG Tepich 37.62 111 P P 03 35 10.8 -1.5
TEIG sP pwP 03 35 21.5 +2.0
J59A Piesco 37.65 68 IAmb IAmb 03 35 15.7
comp=Z,170nm,1.4s
J59A Piesco 37.65 68 P P 03 35 12.6 +0.2
baz=283,SNR=24
J59A P P 03 35 12.6 +0.2
baz=283,SNR=24
CCIG Comitan 37.66 120 IAmb IAmb 03 35 47.6
comp=Z,225nm,1.9s
CNNC Cliffs of the 37.68 82 IAmb IAmb 03 35 18.9
comp=Z,247nm,1.0s
NCB Newcomb 37.74 67 IAmb IAmb 03 35 16.8
comp=Z,315nm,1.9s
NCB Newcomb 37.74 67 P P 03 35 13.3 +0.1
baz=283
LUPA Lehigh Univers 37.77 73 IAmb IAmb 03 35 14.9
comp=Z,252nm,1.2s
GEDE Greenville 37.81 74 P P 03 35 14.0 +0.3
baz=287,SNR=14
MNTQ Montreal, Queb 37.84 65 IAmb IAmb 03 35 17.0
comp=Z,290nm,1.6s
PSUB Penn St. - Bra 37.91 74 P P 03 35 14.5 -0.1
baz=287
HCNY Howe Caverns 37.91 69 P P 03 35 14.7 +0.1
baz=284,SNR=18
TUPA Temple Univers 38.03 73 P P 03 35 15.6 0.0
baz=287,SNR=29
DWPF Disney Wildern 38.15 95 IAMs_20 IAMs_20 03 52 59.8
comp=Z,5µm,19.0s
DWPF Disney Wildern 38.15 95 P P 03 35 16.9 +0.2
baz=300
ODNJ Ogdensburg 38.19 72 IAmb IAmb 03 35 18.4
comp=Z,220nm,1.1s
ODNJ Ogdensburg 38.19 72 P P 03 35 17.1 +0.2
baz=286,SNR=45
ACCN Adirondack Com 38.27 68 P P 03 35 16.3 -1.2
ACCN IAmb IAmb 03 35 27.4
comp=Z,195nm,1.5s
ACCN Adirondack Com 38.27 68 P P 03 35 17.5 -0.1
baz=284,SNR=18
PANJ Princeton 38.32 73 P P 03 35 18.3 +0.3
baz=287,SNR=20
BRNJ Basking Ridge 38.33 72 IAmb IAmb 03 35 21.7
comp=Z,338nm,1.5s
BRNJ Basking Ridge 38.33 72 P P 03 35 18.5 +0.4
baz=287,SNR=14
NPNY Mohonk Preserv 38.34 71 P P 03 35 17.5 -0.7
baz=286
TRY Troy 38.43 69 IAmb IAmb 03 35 30.2
comp=Z,136nm,1.1s
TRNY Table Rock, Ra 38.45 72 IAmb IAmb 03 35 22.6
comp=Z,363nm,1.9s
P61A Hammonton 38.47 74 P P 03 35 19.8 +0.5
baz=288,SNR=12
P61A P P 03 35 19.8 +0.5
baz=288,SNR=12
BRNY Black Rk. Fore 38.53 71 P P 03 35 20.3 +0.5
baz=286,SNR=29
MCVT Middlebury Col 38.61 67 P P 03 35 20.9 +0.4

baz=284,SNR=22
VT1 Waterbury 38.69 66 IAmb IAmb 03 35 33.2
comp=Z,122nm,1.0s
VT1 IAMs_20 IAMs_20 03 50 46.8
comp=Z,4µm,21.0s
VT1 Waterbury 38.69 66 P **P** **03 35 21.6 +0.4**
baz=283,SNR=32
PAL Palisades 38.72 72 IAmb IAmb 03 35 23.9
comp=Z,196nm,1.4s
PAL Palisades 38.72 72 P **P** **03 35 21.6 +0.2**
baz=287,SNR=7.4
PAL Palisades 38.72 72 P **P** **03 35 20.8 -0.6**
baz=287
CPNY Central Park 38.74 72 IAmb IAmb 03 35 25.1
comp=Z,272nm,1.6s
FOR Fordham 38.78 72 P **P** **03 35 22.2 +0.3**
baz=287,SNR=9.6
HUEH Huehuetenango 38.78 120 P **P** **03 35 22.3 0.0**
KSCT Kent School, K 38.82 70 IAmb IAmb 03 35 23.8
comp=Z,350nm,1.7s
J61A Chester 39.06 68 P **P** **03 35 24.7 +0.4**
baz=284
J61A P **P** **03 35 24.7 +0.4**
baz=284
HNH Hanover 39.16 67 IAmb IAmb 03 35 29.2
comp=Z,136nm,1.1s
HNH IAMs_20 IAMs_20 03 51 02.3
comp=Z,4µm,22.0s
HNH Hanover 39.16 67 P **P** **03 35 25.9 +0.8**
baz=284,SNR=23
L61B Northampton 39.20 69 P **P** **03 35 26.3 +0.9**
baz=285
L61B Northampton 39.20 69 P **P** **03 35 25.7 +0.3**
baz=285
LBNH Lisbon 39.29 66 IAmb IAmb 03 35 38.3
comp=Z,146nm,1.0s
LBNH Lisbon 39.29 66 P **P** **03 35 27.1 +0.9**
baz=284,SNR=34
LBNH Lisbon 39.29 66 P **P** **03 35 25.5 -0.6**
baz=284
YLE Yale 39.33 71 IAmb IAmb 03 35 28.0
comp=Z,182nm,1.2s
K62A Royalston 39.46 69 P **P** **03 35 26.8 -0.9**
K62A IAmb IAmb 03 35 38.2
comp=Z,234nm,1.9s
K62A Royalston 39.46 69 P **P** **03 35 28.3 +0.7**
baz=285,SNR=8.1
K62A P **P** **03 35 28.3 +0.7**
baz=285,SNR=8.1
QUA2 Belchertown 39.48 69 IAmb IAmb 03 35 29.7
comp=Z,282nm,1.9s
060A Indiantown 39.51 95 P **P** **03 35 27.6 -0.6**
060A IAmb IAmb 03 35 30.3
comp=Z,253nm,1.1s
FFD Franklin Falls 39.67 67 IAmb IAmb 03 35 41.0
comp=Z,215nm,1.4s
FFD IAMs_20 IAMs_20 03 51 17.7
comp=Z,4µm,20.0s
FFD Franklin Falls 39.67 67 P **P** **03 35 30.2 +0.9**
baz=285,SNR=17
LMQ La Malbaie 39.68 61 IAmb IAmb 03 35 30.8
comp=Z,232nm,1.3s
UCCT U. Connecticut 39.71 70 IAmb IAmb 03 35 31.3
comp=Z,204nm,1.1s
061Z Ochoppi 39.72 97 IAmb IAmb 03 35 31.9
comp=Z,255nm,1.0s
H62A Milan 39.74 65 IAmb IAmb 03 35 41.6
comp=Z,144nm,1.1s
H62A Milan 39.74 65 P **P** **03 35 30.5 +0.5**
baz=284,SNR=24
H62A P **P** **03 35 30.5 +0.5**
baz=284,SNR=24
I62A Tamworth 39.79 67 P **P** **03 35 31.1 +0.7**
baz=284,SNR=19
I62A P **P** **03 35 31.1 +0.7**
baz=284,SNR=19
SOR Soroa 39.88 103 P **P** **03 35 31.1 -0.2**
SOR Soroa 39.88 103 P **P** **03 35 31.1 -0.2**
SOR pmax pmax
comp=Z,101nm,1.2s
M63A Gales Ferry 39.95 70 P **P** **03 35 32.0 +0.4**
baz=287
M63A P **P** **03 35 32.0 +0.4**
baz=287
HRV Adam Dziewonsk 39.99 69 P **P** **03 35 31.7 -0.3**
HRV Adam Dziewonsk 39.99 69 P **P** **03 35 31.7 -0.3**
HRV pmax pmax
comp=Z,92nm,1.4s
HRV MLR MLR
comp=Z,6µm,19.0s
HRV Adam Dziewonsk 39.99 69 P **P** **03 35 32.6 +0.6**
baz=286,SNR=7.5
HRV Adam Dziewonsk 39.99 69 P **P** **03 35 31.3 -0.6**
baz=286
G62A West of Eustis 40.02 64 P **P** **03 35 32.7 +0.4**
baz=283,SNR=16
G62A P **P** **03 35 32.7 +0.4**
baz=283,SNR=16
BRYW Bryant College 40.16 70 IAmb IAmb 03 35 35.3
comp=Z,161nm,1.2s
F62A Pittston Farm, 40.26 63 P **P** **03 35 34.6 +0.4**
baz=283,SNR=8.3
F62A P **P** **03 35 34.6 +0.4**
baz=283,SNR=8.3
FRB Frobisher Bay 40.27 35 LR LR 03 52 32.4
comp=Z,5µm,19.1s,baz=266,slow=37
I63A Otisfield 40.27 66 P **P** **03 35 35.0 +0.7**
baz=284,SNR=12
I63A P **P** **03 35 35.0 +0.7**
baz=284,SNR=12
UNH University of 40.32 68 P **P** **03 35 35.6 +0.9**
baz=286,SNR=13
E62A Clayton Lake 40.40 62 P **P** **03 35 35.7 +0.2**
baz=282,SNR=15
E62A P **P** **03 35 35.7 +0.2**
baz=282,SNR=15
D62A Allapoint, All 40.63 61 P **P** **03 35 37.2 0.0**
baz=282
D62A P **P** **03 35 37.2 0.0**
baz=282
L64A Middleborough 40.66 69 IAmb IAmb 03 35 39.5
comp=Z,165nm,1.2s
L64A Middleborough 40.66 69 P **P** **03 35 38.1 +0.6**
baz=287
L64A P **P** **03 35 38.1 +0.6**
baz=287
ESQI Esquipulas 40.76 119 P **P** **03 35 38.6 -0.2**
WVL Waterville 40.78 65 P **P** **03 35 39.0 +0.4**
baz=284,SNR=7.7
PKME Peaks-Kenny Pk 40.87 64 P **P** **03 35 39.5 +0.3**
baz=284,SNR=14
PKME Peaks-Kenny Pk 40.87 64 P **P** **03 35 39.2 0.0**
baz=284
F63A Nahmakanta, Br 40.89 63 P **P** **03 35 39.4 0.0**
baz=283,SNR=13
F63A P **P** **03 35 39.4 0.0**
baz=283,SNR=13
M65A Busby, Falmout 40.91 70 P **P** **03 35 39.6 +0.1**
baz=287
SCHQ Schefferville 40.91 49 P **P** **03 35 39.0 -0.5**
comp=Z,128nm,1.0s,baz=281,slow=8.0,SNR=64
SCHQ PP **PP** **03 37 10.2 -3.6**
comp=Z,31nm,1.1s,baz=290,slow=9.3,SNR=5.2
SCHQ LR LR 03 53 09.0
comp=Z,3µm,20.7s,baz=276,slow=37
comp=Z,128nm,1.0s
SCHQ Schefferville 40.91 49 P **P** **03 35 39.0 -0.5**
SCHQ IAmb IAmb 03 35 40.3
comp=Z,203nm,1.1s
E63A Oxbow 41.19 62 P **P** **03 35 41.5 -0.3**
baz=283,SNR=8.7
E63A P **P** **03 35 41.5 -0.3**
baz=283,SNR=8.7
F64A Sherman 41.37 63 P **P** **03 35 43.0 -0.3**
F64A Sherman 41.37 63 P **P** **03 35 43.7 +0.4**
baz=284,SNR=8.9
F64A P **P** **03 35 43.7 +0.4**
baz=284,SNR=8.9
SNET Serv Nac Est T 41.46 119 IAMs_20 IAMs_20 03 52 48.4
comp=Z,2µm,19.0s
SHEM Shemya Is, Ala 42.04 308 LR LR 03 52 25.9
comp=Z,419nm,18.1s,baz=98,slow=35
G65A Princeton 42.07 64 P **P** **03 35 49.5 +0.5**
baz=285,SNR=15
G65A P **P** **03 35 49.5 +0.5**
baz=285,SNR=15
TGUH Tegucigalpa,Un 42.52 117 IAmb IAmb 03 36 05.4
comp=Z,112nm,1.1s
TGUH IAMs_20 IAMs_20 03 55 54.0
comp=Z,3µm,19.0s
BATG Bathurst New B 42.57 60 P **P** **03 35 53.2 +0.1**
BATG IAmb IAmb 03 35 54.4
comp=Z,93nm,0.9s
TULEG Thule 43.47 17 IAMs_20 IAMs_20 03 51 38.0
comp=Z,3µm,19.0s
LMN Caledonia Moun 43.77 62 IAmb IAmb 03 36 15.7
comp=Z,134nm,1.1s
MATN Matagalpa 44.23 117 IAmb IAmb 03 36 09.3
comp=Z,129nm,1.4s
BOAB BOACO BROADBAN 44.75 117 IAmb IAmb 03 36 12.3
comp=Z,132nm,1.3s
BOAB IAMs_20 IAMs_20 03 55 49.3
comp=Z,3µm,21.0s
HAL Halifax 44.93 63 IAmb IAmb 03 36 25.8
comp=Z,169nm,1.4s
BILL Bilibino 45.14 331 P **P** **03 36 14.0 +0.4**
BILL IAmb IAmb 03 36 15.2
comp=Z,145nm,1.2s
BILL IAMs_20 IAMs_20 03 53 41.4
comp=Z,2µm,19.0s
BILL Bilibino 45.14 331 *c i* P **P** **03 36 13.7 +0.1**
BILL *e* 03 36 21.4
BILL *e* 03 37 58.6
BILL *e* S **S** **03 42 54.3 +2.1**
BILL *e* SS **SS** **03 46 13.1 -1.0**
BILL pmax pmax
comp=Z,151nm,1.3s
BILL MLR MLR
comp=Z,2µm,15.0s
BILL Bilibino 45.14 331 P **P** **03 36 13.2 -0.4**
BILL sP **pwP** **03 36 24.7 +3.7**
ACON Acoyapa 45.43 117 P **P** **03 36 15.3 -1.1**
GBN Guysborough 46.11 62 IAmb IAmb 03 36 23.1
comp=Z,163nm,1.2s
ORTG Ortega, Santa 46.40 119 IAmb IAmb 03 36 25.4
comp=Z,153nm,1.1s
JTS Las Juntas de 46.79 118 P **P** **03 36 26.5 -0.7**
JTS IAmb IAmb 03 36 28.2
comp=Z,52nm,1.1s
JTS Las Juntas de 46.79 118 *d i* P **P** **03 36 26.1 -1.1**
JTS pmax pmax
comp=Z,56nm,1.2s
JTS Las Juntas de 46.79 118 P **P** **03 36 24.9 -2.3**
JTS pP **pwP** **03 36 34.2 -0.2**
ILULI Ilulissat 47.47 28 *i* P **P** **03 36 29.0 -2.7**
NEEM North Greenlan 47.58 17 *i* P **P** **03 36 32.1 -0.8**
SFJD Kangerlussuaq 47.82 31 LR LR 03 55 35.7
comp=Z,3µm,18.2s,baz=277,slow=35
SFJD Kangerlussuaq 47.82 31 P **P** **03 36 34.3 -0.2**
SFJD Kangerlussuaq 47.82 31 IAMs_20 IAMs_20 03 54 18.3
comp=Z,1µm,18.0s
SFJD Kangerlussuaq 47.82 31 P **P** **03 36 34.3 -0.2**
SFJD pmax pmax
comp=Z,200nm,1.2s
SFJD Kangerlussuaq 47.82 31 *i* P **P** **03 36 33.5 -1.0**
SFJD IAmb IAmb 03 36 35.9
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 47.82 31 P **P** **03 36 32.8 -1.7**
SFJD pP **pwP** **03 36 42.9 +0.9**
XMAS Kiritimati 47.84 225 P **P** **03 36 37.2 +1.9**
XMAS IAmb IAmb 03 36 48.8
comp=Z,106nm,1.2s
DRK0 Durika 48.69 118 IAmb IAmb 03 36 45.9
comp=Z,84nm,1.2s
BBSR BB Station 48.84 79 P **P** **03 36 42.6 -0.2**
BBSR BB Station 48.84 79 P **P** **03 36 43.4 +0.6**
baz=298,SNR=7.0
BRU2 Volcan 49.40 118 IAmb IAmb 03 36 53.2
comp=Z,115nm,1.2s
DY2G Dye2 49.60 31 *i* P **P** **03 36 46.9 -1.7**
DY2G IAmb IAmb 03 36 49.1
comp=Z,40nm,0.9s
IVI Ivigtut 49.80 38 IAmb IAmb 03 36 51.4
comp=Z,152nm,1.3s
IVI Ivigtut 49.80 38 *i* P **P** **03 36 49.0 -0.8**
IVI IAmb IAmb 03 36 50.4
comp=Z,22nm,0.9s
TAOE Nuku Hiva Isla 50.83 199 *e*S **S** **03 44 14.8 +1.0**
comp=Z,439nm,24.7s
TAOE *e*LR LR 03 51 28.2
comp=Z,2µm,24.7s
TAOE Nuku Hiva Isla 50.83 199 *e*T T 04 31 24.8
comp=Z,325nm,0.2s
SDDR Presa de Saban 50.93 98 IAmb IAmb 03 37 00.8
comp=Z,74nm,1.1s
SDDR IAMs_20 IAMs_20 04 00 28.7
comp=Z,2µm,18.0s
PET Petropavlovsk 51.08 311 P **P** **03 37 00.3 +0.7**
PET IAmb IAmb 03 37 01.1
comp=Z,124nm,1.0s
PET Petropavlovsk 51.08 311 ⇑ *i* P **P** **03 37 00.4 +0.8**
PET *e*S **S** **03 44 13.6 -2.9**
PET pmax pmax
comp=Z,500nm,10.8s
PET pmax pmax
comp=Z,177nm,1.1s
PET pmax pmax
comp=Z,200nm,11.8s
BCIP Isla Barro Col 51.09 115 IAmb IAmb 03 37 00.7
comp=Z,83nm,1.2s
SUMG Summit 51.16 23 P **P** **03 36 59.7 -0.7**
SUMG IAmb IAmb 03 37 02.1
comp=Z,166nm,1.2s
SUMG Summit 51.16 23 P **P** **03 36 59.7 -0.7**
SUMG pmax pmax
comp=Z,166nm,1.2s
SUMG MLR MLR
comp=Z,4µm,20.0s
SUMG Summit 51.16 23 *i* P **P** **03 36 59.2 -1.3**
SUMG IAmb IAmb 03 37 01.1
comp=Z,38nm,0.8s
SEY Seymchan 51.48 325 P **P** **03 37 02.5 0.0**
comp=Z,105nm,1.0s,baz=85,slow=7.9,SNR=151
SEY LR LR 03 57 17.2
comp=Z,2µm,20.5s,baz=106,slow=34
comp=Z,105nm,1.0s
SEY Seymchan 51.48 325 *d i* P **P** **03 37 02.6 +0.1**
SEY pmax pmax
comp=Z,216nm,1.1s
ICESG Greenland Ices 51.54 27 *i* P **P** **03 37 01.8 -1.4**
ICESG IAmb IAmb 03 37 04.0
comp=Z,58nm,1.0s
PEA0B Petropavlovsk- 51.60 312 P **P** **03 37 03.9 +0.4**
PEA0B IAmb IAmb 03 37 05.1
comp=Z,159nm,1.2s
PEA0B Petropavlovsk- 51.60 312 P **P** **03 37 03.9 +0.4**
PEA0B pmax pmax
comp=Z,159nm,1.2s
PETK Petropavlovsk- 51.60 312 P **P** **03 37 02.8 -0.7**
comp=Z,44nm,0.9s,baz=81,slow=12,SNR=66
PETK PcP **PcP** **03 38 17.4 +0.2**
comp=Z,7.7nm,0.9s,baz=105,slow=4.6,SNR=1.5
PETK LR LR 03 55 43.1
comp=Z,659nm,21.1s,baz=81,slow=32
comp=Z,44nm,0.9s
PAYG Puerto Ayora 52.02 133 P **P** **03 37 07.7 +0.6**
PAYG IAmb IAmb 03 37 10.1
comp=Z,105nm,1.2s
MA2 Magadan 53.20 321 P **P** **03 37 15.9 +0.6**
comp=Z,71nm,0.9s,baz=75,slow=6.9,SNR=70
MA2 LR LR 03 58 01.0
comp=Z,626nm,20.0s,baz=66,slow=34
comp=Z,71nm,0.9s
MA2 Magadan 53.20 321 P **P** **03 37 16.1 +0.8**
MA2 IAmb IAmb 03 37 17.4
comp=Z,124nm,1.0s
MA2 Magadan 53.20 321 ⇓ *i* P **P** **03 37 16.0 +0.7**
MA2 pmax pmax
comp=Z,152nm,1.0s
ANGG Ammassalik, Gr 53.23 31 IAmb IAmb 03 37 17.1
comp=Z,289nm,1.7s
SKR Severo-Kuril's 53.35 309 *e*P **P** **03 37 15.8 -0.7**
SKR *e*S **S** **03 44 52.4 +4.8**
SKR pmax pmax
comp=Z,48nm,1.0s
SKR pmax pmax
comp=Z,100nm,6.8s
SKR MLR MLR
comp=Z,300nm,15.0s
PRSN Puerto Rico Se 54.53 96 IAmb IAmb 03 37 49.1
comp=Z,111nm,1.1s
CRPR Cabo Rojo, PR 54.68 96 IAmb IAmb 03 37 28.0
comp=Z,59nm,0.9s
AOPR Arecibo Observ 54.75 96 IAmb IAmb 03 37 28.2
comp=Z,101nm,0.9s
DAG Danmarks Havn 54.75 16 *i* P **P** **03 37 24.2 -2.2**
DAG IAmb IAmb 03 37 26.3
comp=Z,11nm,0.8s
MLPR Magueyes Islan 54.76 96 IAmb IAmb 03 37 28.6
comp=Z,58nm,0.8s
OBIP Obispado Ponce 55.04 96 P **P** **03 37 28.8 -0.5**
OBIP IAmb IAmb 03 37 29.6
comp=Z,168nm,1.4s
CELP Cerrillos 55.05 96 IAmb IAmb 03 37 30.6
comp=Z,92nm,1.1s
ICMP Isla Caja de M 55.20 96 IAmb IAmb 03 37 45.9
comp=Z,142nm,1.0s
GCPR Guaynabo City 55.28 95 IAmb IAmb 03 37 32.1
comp=Z,212nm,1.6s
SJG San Juan 55.35 95 P **P** **03 37 31.5 0.0**
comp=Z,72nm,1.0s,baz=303,slow=5.5,SNR=16
SJG LR LR 04 02 14.5
comp=Z,1µm,21.4s,baz=282,slow=37
comp=Z,72nm,1.0s
SJG San Juan 55.35 95 P **P** **03 37 31.4 -0.1**
SJG IAmb IAmb 03 37 32.7
comp=Z,118nm,1.1s
CBYP Canovanas 55.48 95 IAmb IAmb 03 37 33.4
comp=Z,88nm,1.2s
DBG Daneborg 55.52 19 *e*P **P** **03 37 27.6 -4.3**
DBG IAmb IAmb 03 37 38.5
comp=Z,10nm,0.9s
HUMP Col San Antoni 55.56 95 IAmb IAmb 03 37 47.8
comp=Z,105nm,0.9s
TIXI Tiksi 56.79 339 LR LR 04 02 17.5
comp=Z,1µm,21.2s,baz=2.0,slow=36
TIXI Tiksi 56.79 339 P **P** **03 37 40.3 -0.7**
TIXI IAMs_20 IAMs_20 04 02 07.1
comp=Z,1µm,21.0s
TIXI Tiksi 56.79 339 *d i* P **P** **03 37 40.7 -0.3**
TIXI pmax pmax
comp=Z,47nm,1.1s
SCO Scoresbysund 56.80 23 P **P** **03 37 41.2 +0.1**
SCO Scoresbysund 56.80 23 P **P** **03 37 41.2 +0.1**
SCO pmax pmax
comp=Z,236nm,1.5s
SCO MLR MLR
comp=Z,3µm,20.0s
HATO Hato, Curacao 56.92 103 IAMs_20 IAMs_20 04 05 03.6
comp=Z,2µm,18.0s
SMRT St. Maarten 57.73 93 IAmb IAmb 03 37 49.0
comp=Z,115nm,0.9s
SMRT IAMs_20 IAMs_20 04 05 27.2
comp=Z,1µm,21.0s
SDV Santo Domingo 57.85 107 P **P** **03 37 49.8 +0.3**
comp=Z,24nm,0.9s,baz=320,slow=3.3,SNR=30
SDV LR LR 04 06 19.9
comp=Z,589nm,19.8s,baz=332,slow=40
comp=Z,24nm,0.9s
SDV Santo Domingo 57.85 107 P **P** **03 37 49.6 +0.1**
SDV IAmb IAmb 03 37 51.2
comp=Z,77nm,1.2s
SDV Santo Domingo 57.85 107 *e*P **P** **03 37 49.3 -0.2**
ROSC El Rosal 57.99 114 P **P** **03 37 52.2 +1.4**
comp=Z,61nm,1.0s,baz=353,slow=7.8,SNR=41
ROSC LR LR 04 06 29.7
comp=Z,781nm,19.2s,baz=350,slow=40
comp=Z,61nm,1.0s
ROSC El Rosal 57.99 114 IAmb IAmb 03 37 53.6
comp=Z,137nm,1.1s
KBS Kingsbay 58.36 9 P **P** **03 37 53.0 +1.0**
KBS IAmb IAmb 03 37 54.6
comp=Z,64nm,1.1s
KBS Kingsbay 58.36 9 IAMs_20 IAMs_20 03 59 52.0
comp=Z,1µm,22.0s
KBS Kingsbay 58.36 9 *ce*P **P** **03 37 52.9 +0.9**
KBS pmax pmax
comp=Z,63nm,1.7s
OTAV Otavalo 58.54 121 P **P** **03 37 55.3 +0.6**
OTAV Otavalo 58.54 121 P **P** **03 37 55.3 +0.6**
OTAV pmax pmax
comp=Z,169nm,1.0s
OTAV MLR MLR
comp=Z,900nm,22.0s
OTAV Otavalo 58.54 121 *e*P **P** **03 37 55.6 +0.9**
OTAV Otavalo 58.54 121 P **P** **03 37 54.8 +0.1**
OTAV pP **pwP** **03 38 04.4 +2.4**
PMOR Pomariorio Ree 58.89 205 *e*T T 04 41 37.0
comp=Z,68nm,0.3s
ANWB Willy Bob 58.94 93 IAMs_20 IAMs_20 04 02 31.3
comp=Z,2µm,21.0s
SLOR San Lorenzo - 59.24 122 IAmb IAmb 03 38 03.9
comp=Z,58nm,1.0s
SPITS Spitsbergen Ar 59.48 8 P **P** **03 38 00.3 +0.4**
SPITS pmax pmax
comp=Z,82nm,1.1s
SPB2 Spitsbergen Ar 59.49 8 IAmb IAmb 03 38 04.8
comp=Z,63nm,1.1s
CHSH Refugio Sur-Vo 59.58 122 IAmb IAmb 03 38 05.1
comp=Z,107nm,0.9s
PORT Chimborazo Vol 59.61 122 P **P** **03 38 02.9 +0.7**
PORT IAmb IAmb 03 38 05.5
comp=Z,114nm,1.0s
BORG Borgarnes 59.84 29 LR LR 04 02 06.4
comp=Z,2µm,18.3s,baz=298,slow=34
BORG Borgarnes 59.84 29 P **P** **03 38 02.9 +0.5**
BORG IAmb IAmb 03 38 04.6
comp=Z,102nm,1.0s
BORG Borgarnes 59.84 29 P **P** **03 38 02.9 +0.5**
BORG pmax pmax
comp=Z,102nm,1.0s
ABD La Joyeuse, An 59.88 94 IAMs_20 IAMs_20 04 04 31.3
comp=Z,2µm,22.0s
BIRV Birongo 60.02 102 IAmb IAmb 03 38 06.1
comp=Z,127nm,1.6s
CBE Ff, Capester 60.04 94 IAMs_20 IAMs_20 04 01 24.6
comp=Z,2µm,20.0s
TDBA Terre de Bas, 60.15 94 IAMs_20 IAMs_20 04 05 01.6
comp=Z,2µm,19.0s
JMIC Jan Mayen 60.26 20 LR LR 04 03 26.1
comp=Z,1µm,20.3s,baz=313,slow=36
GDSD La Dsirade Is 60.30 94 P **P** **03 38 05.4 -0.9**
GDSD IAmb IAmb 03 38 06.6
comp=Z,120nm,1.1s
GDSD IAMs_20 IAMs_20 04 04 31.4
comp=Z,1µm,21.0s
MAGL Barre de l'ile 60.36 94 IAMs_20 IAMs_20 04 01 33.1
comp=Z,1µm,20.0s
ARNL Arenillas 60.39 125 IAmb IAmb 03 38 08.7
comp=Z,74nm,1.0s
H11N3 WAKE ISLAND Hy 60.52 272 T T 04 44 59.2
baz=53,slow=74,SNR=204
H11N2 WAKE ISLAND Hy 60.53 272 T T 04 44 59.8
baz=53,SNR=235
H11N1 WAKE ISLAND Hy 60.54 272 T T 04 44 58.6
baz=53,slow=74,SNR=167
KUR Kuril'sk 60.69 306 P **P** **03 38 11.2 +2.7**
KUR *e*S **S** **03 46 28.1 +3.6**
KUR pmax pmax
comp=Z,218nm,1.4s
KUR MLR MLR
comp=Z,282nm,15.0s
TYV Tymovskoe 61.00 314 *e*P **P** **03 38 11.1 +0.5**
TYV *e*S **S** **03 46 31.7 +3.3**
TYV pmax pmax
comp=Z,300nm,2.7s
TYV pmax pmax
comp=Z,66nm,1.3s
TYV smax smax
comp=N,100nm,5.1s
TYV smax smax
comp=E,100nm,5.1s
SVN Savane Anatole 61.12 95 IAMs_20 IAMs_20 04 07 37.4
comp=Z,1µm,20.0s
FDF Fort de France 61.20 95 IAMs_20 IAMs_20 04 02 37.6
comp=Z,2µm,22.0s
ILAM Ilet Lapin Mar 61.39 95 IAMs_20 IAMs_20 04 04 49.4
comp=Z,2µm,20.0s
BIM Bigot 61.39 95 IAMs_20 IAMs_20 04 01 41.8
comp=Z,1µm,20.0s
H11S1 WAKE ISLAND Hy 61.39 271 T T 04 46 05.0
baz=54,slow=75,SNR=241
H11S2 WAKE ISLAND Hy 61.40 271 T T 04 46 08.4
baz=54,slow=75,SNR=197
H11S3 WAKE ISLAND Hy 61.41 271 T T 04 46 06.7
baz=54,slow=75,SNR=139
PCRV Puerto La Cruz 61.44 101 P **P** **03 38 14.8 +0.7**
comp=Z,18nm,1.0s,baz=305,slow=4.7,SNR=5.1
PCRV LR LR 04 06 48.1
comp=Z,889nm,20.9s,slow=38
comp=Z,18nm,1.0s

YAK Yakutsk 61.44 329 LR LR 04 03 51.8
comp=Z,1µm,18.9s,baz=88,slow=35
YAK Yakutsk 61.44 329 P **P** **03 38 13.4 +0.1**
YAK IAMs_20 IAMs_20 04 02 58.2
comp=Z,2µm,22.0s
YAK Yakutsk 61.44 329*d iP* **P** **03 38 13.5 +0.1**
YAK *e**PP **pwP** **03 38 21.3 +0.3**
YAK *e* 03 40 28.2
YAK *e*S **S** **03 46 34.1 +0.4**
YAK *e**SS sS 03 46 50.7 +11
YAK pmax pmax
comp=Z,187nm,0.8s
YAK pmax pmax
comp=N,38nm,1.0s
YAK pmax pmax
comp=E,54nm,0.9s
YAK pmax pmax
comp=Z,68nm,1.5s
YAK smax smax
comp=E,278nm,3.5s
YAK smax smax
comp=N,91nm,3.3s
MPOM Morne Pois Mar 61.60 95 IAMs_20 IAMs_20 04 09 26.1
comp=Z,1µm,19.0s
MEH Mehetia 61.64 204 *e*T T 04 45 01.9
comp=Z,78nm,0.3s
TIAR Tiarei 61.76 206 *e*T T 04 45 04.1
comp=Z,8.2nm,0.3s
PPT Papeete 61.84 206 LR LR 03 58 16.3
comp=Z,782nm,21.5s,baz=2.5,slow=29
PPT2 Papeete2 61.86 206 *e*S **S** **03 46 40.0 0.0**
comp=Z,814nm,29.8s
PPT2 *e*SS **SS** **03 50 43.8 +1.1**
comp=Z,255nm,30.2s
PPT2 *e*LQ LQ 03 53 58.0
comp=Z,3µm,40.0s
PPT2 *e*LR LR 03 56 35.4
comp=Z,3µm,26.2s
PPT2 Papeete2 61.86 206 *e*T T 04 45 13.9
comp=Z,10nm,0.3s
GRGR Grenville 62.44 98 IAMs_20 IAMs_20 04 04 06.5
comp=Z,2µm,21.0s
YSS Yuzh-Sakhalins 62.91 310 P **P** **03 38 23.7 +0.3**
YSS IAmb IAmb 03 38 32.6
comp=Z,73nm,1.0s
YSS Yuzh-Sakhalins 62.91 310 *eP* **P** **03 38 23.4 -0.1**
YSS *e**SP **sP** **03 38 28.9 +0.1**
YSS *e*S **S** **03 46 51.4 -1.2**
YSS *e*PS **PnS** **03 47 12.9 +4.5**
YSS *e*SS **SS** **03 51 00.0 +2.8**
YSS pmax pmax
comp=Z,60nm,1.2s
YSS pmax pmax
comp=Z,300nm,4.8s
ATAH Atahualpa 64.21 126 P **P** **03 38 34.6 +1.6**
comp=Z,29nm,0.8s,baz=327,slow=4.9,SNR=18
comp=Z,29nm,0.8s
GRNR Gornyy 64.43 316⇓*iP* **P** **03 38 33.5 0.0**
GRNR pmax pmax
comp=Z,20nm,1.0s
TBI Tubuai 67.21 204 *e*LQ LQ 03 56 13.5
comp=Z,904nm,43.2s
TBI *e*LR LR 03 59 02.9
comp=Z,2µm,26.2s
ZEA Zeya 67.31 322 *eP* **P** **03 38 51.8 -0.2**
ZEA *e* 03 48 04.8
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA pmax pmax
comp=Z,100nm,7.6s
TBTG Tabatinga, AM 67.52 117 IAmb IAmb 03 38 54.2
comp=Z,257nm,1.1s
TBTG Tabatinga, AM 67.52 117 *eP* **P** **03 38 53.0 -0.8**
TEY Ternei 67.55 311⇑*eP* **P** **03 38 52.5 -1.1**
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=E,20nm,1.1s
TEY pmax pmax
comp=Z,40nm,1.1s
KLR Kul'dur 67.79 316 P **P** **03 38 54.8 -0.2**
comp=Z,14nm,1.0s,baz=53,slow=5.9,SNR=27
KLR LR LR 04 05 57.8
comp=Z,659nm,20.5s,baz=45,slow=34
comp=Z,14nm,1.0s
NRIK Noril'sk 67.86 348 P **P** **03 38 55.4 +0.2**
comp=Z,21nm,1.0s,baz=9.3,slow=3.7,SNR=15
NRIK LR LR 04 10 16.1
comp=Z,648nm,19.4s,baz=40,slow=38
comp=Z,21nm,1.0s
NRIK Noril'sk 67.86 348 P **P** **03 38 55.3 +0.1**
NRIK Noril'sk 67.86 348*ceP* **P** **03 38 54.2 -1.0**
NRIK pmax pmax
comp=Z,19nm,1.1s
CZSB Cruzeiro do Su 68.28 122 IAmb IAmb 03 38 59.6
comp=Z,104nm,1.1s
CZSB Cruzeiro do Su 68.28 122 *eP* **P** **03 38 58.6 +0.1**
KEV Kevo 68.33 10 P **P** **03 38 58.1 0.0**
KEV IAmb IAmb 03 38 59.0
comp=Z,50nm,1.1s
KEV IAMs_20 IAMs_20 04 10 35.1
comp=Z,2µm,18.0s
KEV Kevo 68.33 10 P **P** **03 38 58.1 0.0**
KEV pmax pmax
comp=Z,50nm,1.1s
KEV MLR MLR
comp=Z,2µm,18.0s
ARCES ARCESS Array B 68.33 11 P **P** **03 38 57.0 -1.1**
comp=Z,27nm,1.1s,baz=357,slow=6.1,SNR=17
ARCES LR LR 04 09 04.0
comp=Z,1µm,20.0s,baz=342,slow=36
comp=Z,27nm,1.1s
ARCES ARCESS Array B 68.33 11 P **P** **03 38 57.9 -0.2**
AFI Afiamalu 68.95 229 P **P** **03 39 03.1 +0.3**
comp=Z,38nm,0.8s,baz=41,slow=11,SNR=4.3
AFI LR LR 04 02 40.1
comp=Z,1µm,20.1s,baz=58,slow=30
comp=Z,38nm,0.8s
NNA Nana 68.95 128 P **P** **03 39 03.3 +0.5**
NNA IAmb IAmb 03 39 21.6
comp=Z,51nm,1.1s
NNA Nana 68.95 128*ceP* **P** **03 39 02.4 -0.4**
NNA pmax pmax
comp=Z,85nm,1.7s
RAR Rarotonga 69.07 214 LR LR 04 02 08.4
comp=Z,831nm,20.7s,baz=30,slow=30
JMM Marumori 69.10 302 IAmb IAmb 03 39 13.5
comp=Z,38nm,0.9s
LEWI Lewis, Hebride 69.35 30 *eP* **P** **03 39 03.1 -1.5**
LEWI IAmb IAmb 03 39 04.2
comp=Z,58nm,1.0s
BOAV Boa Vista 69.62 105 IAmb IAmb 03 39 08.2
comp=Z,91nm,1.1s
BOAV Boa Vista 69.62 105 *eP* **P** **03 39 07.3 +0.3**
BIGH Upper Bighouse 70.19 28 *eP* **P** **03 39 09.2 -0.6**
BIGH IAmb IAmb 03 39 10.6
comp=Z,72nm,1.1s
KPL Plockton 70.38 30 *eP* **P** **03 39 10.7 -0.2**
KPL IAmb IAmb 03 39 11.7
comp=Z,112nm,1.0s
KAC Achnashellach 70.40 30 *eP* **P** **03 39 10.4 -0.8**
MLA1 Latheron 70.53 28⇑*eP* **P** **03 39 11.4 -0.5**
JSD Sado 70.62 304 IAmb IAmb 03 39 21.6
comp=Z,52nm,0.9s
USA0B Ussuriysk Arra 70.69 312 P **P** **03 39 15.1 +1.9**
USA0B Ussuriysk Arra 70.69 312 P **P** **03 39 15.1 +1.9**
USA0B pmax pmax
comp=Z,20nm,1.2s
USRK Ussuriysk Ar. 70.69 312 P **P** **03 39 12.9 -0.2**
comp=Z,48nm,0.9s,baz=55,slow=4.7,SNR=55
comp=Z,48nm,0.9s
LVZ Lovozero 70.99 8 P **P** **03 39 14.7 0.0**
LVZ IAmb IAmb 03 39 15.9
comp=Z,123nm,1.1s
LVZ IAMs_20 IAMs_20 04 11 01.7
comp=Z,1µm,18.0s
LVZ Lovozero 70.99 8*ceP* **P** **03 39 14.6 0.0**
LVZ pmax pmax
comp=Z,132nm,1.1s
LVZ Lovozero 70.99 8 P **P** **03 39 13.7 -1.0**
LVZ pP **pwP** **03 39 21.9 -0.4**
MCD Coleburn Disti 71.10 29⇑*eP* **P** **03 39 15.3 -0.1**
APA Apatity 71.17 8⇑*iP* **P** **03 39 13.8 -1.9**
APA *i* 03 39 24.2
APA *i* S **S** **03 48 29.0 -2.7**
APA *i* SS **SS** **03 53 05.0 +0.9**
APA pmax pmax
comp=Z,15nm,1.0s
APA MLR MLR
comp=Z,2µm,15.0s
LAWE Loch Awe, Argy 71.25 31 *eP* **P** **03 39 15.4 -0.9**
LAWE IAmb IAmb 03 39 16.7
comp=Z,80nm,1.0s
VLA Vladivostok 71.42 311 *i P* P 03 39 12.2 -5.3
VLA pmax pmax
comp=Z,71nm,1.1s
MJAR Matsushiro Arr 71.55 302 P **P** **03 39 16.0 -2.5**
comp=Z,18nm,1.1s,baz=48,slow=4.6,SNR=27
MJAR LR LR 04 04 59.3
comp=Z,754nm,20.8s,baz=64,slow=31
MAJO Matsushiro 71.55 302 P **P** **03 39 18.2 -0.3**
MAJO IAmb IAmb 03 39 27.3
comp=Z,52nm,0.8s
MAJO Matsushiro 71.55 302 IAMs_20 IAMs_20 04 04 36.9
comp=Z,915nm,20.0s
MAJO Matsushiro 71.55 302*d iP* **P** **03 39 17.8 -0.7**
MAJO pmax pmax
comp=Z,66nm,1.0s
MAJO Matsushiro 71.55 302 P **P** **03 39 17.1 -1.4**
MAJO pP **pP** **03 39 22.5 +0.1**
MAJO sP **pwP** **03 39 26.6 +0.4**
IGLA Glengowla, Co 71.62 34 *eP* **P** **03 39 18.1 -0.4**
INVG Invergeldie, C 71.65 30⇑*eP* **P** **03 39 18.5 -0.2**
INVG IAmb IAmb 03 39 19.7
comp=Z,141nm,1.1s
MDJ Mudanjiang 71.78 313 P **P** **03 39 19.5 -0.2**
MDJ S **S** **03 48 42.2 +2.8**
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ pmax pmax
comp=Z,150nm,4.9s
MDJ LR LR
comp=Z,350nm,14.6s
MDJ LR LR
comp=Z,270nm,12.9s
CLGH Cloghs, Cushen 71.81 32 *eP* **P** **03 39 19.1 -0.6**
CLGH IAmb IAmb 03 39 20.3
comp=Z,111nm,1.2s
DRUM Mains of Drumt 71.88 29⇑*eP* **P** **03 39 19.6 -0.4**
DRUM IAmb IAmb 03 39 20.7
comp=Z,191nm,0.9s
PGBU Glenifferbraes 71.93 31⇑*eP* **P** **03 39 20.1 -0.3**
PGBU IAmb IAmb 03 39 21.1
comp=Z,181nm,1.0s
BNX BinXian 72.26 315 ⇑P **P** **03 39 22.0 -0.6**
BNX PcP **PcP** **03 39 40.8 +0.1**
BNX S **S** **03 48 44.5 -0.4**
BNX SS **SS** **03 53 20.8 -1.0**
BNX pmax pmax
comp=Z,72nm,0.9s
BNX pmax pmax
comp=Z,190nm,4.7s
BNX LR LR
comp=Z,350nm,16.0s
BNX LR LR
comp=Z,250nm,15.5s
BNX LR LR
comp=Z,380nm,18.0s
EDI Edinburgh 72.35 30⇑*eP* **P** **03 39 22.7 -0.2**
EDI IAmb IAmb 03 39 23.8
comp=Z,154nm,1.1s
ILTH Belurgan, Co L 72.48 33 *eP* **P** **03 39 22.7 -1.0**
GMM Mts of Mourne 72.48 32⇑*eP* **P** **03 39 23.4 -0.4**
EBL Broad Law 72.51 30⇑*eP* **P** **03 39 23.9 0.0**
NEWG New Galloway 72.53 31⇑*eP* **P** **03 39 23.6 -0.5**
NEWG IAmb IAmb 03 39 24.8
comp=Z,132nm,1.1s
JHJ Hachijo jima 2 72.56 299 LR LR 04 07 22.3
comp=Z,372nm,19.4s,baz=65,slow=33
ESY Stoneypath 72.57 30⇑*eP* **P** **03 39 23.8 -0.5**
ESK Eskdalemuir 72.79 30 *eP* **P** **03 39 24.7 -0.8**
ESK IAmb IAmb 03 39 26.1
comp=Z,59nm,1.1s
ESK Eskdalemuir 72.79 30 P **P** **03 39 24.8 -0.8**
ESK IAmb IAmb 03 39 26.4
comp=Z,55nm,1.1s
ESK Eskdalemuir 72.79 30 P **P** **03 39 24.8 -0.8**
ESK pmax pmax
comp=Z,55nm,1.1s
EKA Eskdalemuir Ar 72.79 30 LR LR 04 11 20.4
comp=Z,1µm,18.1s,baz=318,slow=36
NB2 NORSAR Subarra 72.96 20 P **P** **03 39 26.2 -0.3**
comp=Z,57nm,1.1s,baz=326,slow=6.2
NB2 NORSAR Subarra 72.96 20 P **P** **03 39 26.2 -0.3**
baz=326,slow=6.2
NOA NORSAR Array B 72.96 20 P **P** **03 39 26.3 -0.3**
comp=Z,15nm,0.8s,baz=328,slow=5.8,SNR=49
NOA LR LR 04 11 01.6
comp=Z,952nm,20.6s,baz=325,slow=36
comp=Z,15nm,0.8s
NAO01 NORSAR Array S 73.03 21 IAmb IAmb 03 39 27.6
comp=Z,129nm,1.1s
MACA Manacapuru-AM 73.28 109 IAmb IAmb 03 39 29.8
comp=Z,140nm,0.9s
MACA Manacapuru-AM 73.28 109 *eP* **P** **03 39 29.0 0.0**
NC602 NORSAR Array S 73.30 20 IAmb IAmb 03 40 16.1
comp=Z,88nm,1.4s
IWEX Carrickbyrne, 73.48 34 *eP* **P** **03 39 29.1 -0.5**
EDMD Edmundbyers 73.63 30⇑*eP* **P** **03 39 30.5 0.0**
EDMD IAmb IAmb 03 39 31.6
comp=Z,148nm,1.0s
KONO Kongsberg 73.67 22 P **P** **03 39 31.3 +0.6**
KONO IAmb IAmb 03 39 32.2
comp=Z,230nm,2.0s
KONO Kongsberg 73.67 22 IAMs_20 IAMs_20 04 09 26.0
comp=Z,2µm,20.0s
KONO Kongsberg 73.67 22*ceP* **P** **03 39 30.7 0.0**
KONO pmax pmax
comp=Z,86nm,1.7s
WPS Cemaes, Angles 73.69 32⇑*eP* **P** **03 39 30.6 -0.3**
WPS IAmb IAmb 03 39 31.7
comp=Z,157nm,1.3s
MDP Montagnes des 73.75 97 LR LR 04 15 36.1
comp=Z,738nm,19.9s,baz=316,slow=39
WME Myndd Eilian 73.77 32 *eP* **P** **03 39 29.5 -1.9**
HIA Hailar 73.78 322 P **P** **03 39 31.2 -0.4**
HIA Hailar 73.78 322 *i P* **P** **03 39 31.0 -0.6**
YLL Llanberis 74.01 32⇑*eP* **P** **03 39 32.4 -0.4**
ETMB Extrema 74.11 118 IAmb IAmb 03 39 33.9
comp=Z,95nm,1.0s
ETMB Extrema 74.11 118 *eP* **P** **03 39 32.5 -1.4**
GDLE Glaisdale, N Y 74.37 30 *eP* **P** **03 39 34.9 0.0**
HFS Hagfors 74.38 20 LR LR 04 11 25.5
comp=Z,2µm,19.9s,baz=328,slow=35
HPK Haverah Park 74.42 31⇑*eP* **P** **03 39 35.6 +0.4**
HPK IAmb IAmb 03 39 36.6
comp=Z,143nm,1.1s
JCJ Chichijima 74.56 292 LR LR 04 05 30.1
comp=Z,1µm,22.0s,baz=74,slow=30
CN2 Changchun 74.58 315 *eP* **P** **03 39 35.5 -0.8**
CN2 PP **PP** **03 42 22.7 +0.2**
CN2 S **S** **03 49 09.0 -2.2**
CN2 pmax pmax
comp=Z,30nm,1.5s
CN2 pmax pmax
comp=Z,150nm,3.5s
CN2 LR LR
comp=Z,480nm,24.0s
CN2 LR LR
comp=Z,500nm,24.0s
CN2 LR LR
comp=Z,800nm,26.0s
CIT Chita 74.59 327 *eP* **P** **03 39 36.3 0.0**
CIT *e* 03 39 44.4
CIT *e* 03 39 50.9
CIT pmax pmax
comp=Z,125nm,1.7s
FOEL Foel Wylfa 74.59 32⇑*eP* **P** **03 39 34.9 -1.4**
FOEL IAmb IAmb 03 39 36.1
comp=Z,134nm,1.3s
RSBS Rosebush, Pemb 74.65 33 *eP* **P** **03 39 36.0 -0.5**
RSBS IAmb IAmb 03 39 37.5
comp=Z,74nm,1.1s
LBWR Ladybower, Pea 74.80 31⇑*eP* **P** **03 39 37.4 0.0**
LBWR IAmb IAmb 03 39 38.6
comp=Z,192nm,1.0s
HLM1 Long Mynd 75.00 32 *eP* **P** **03 39 38.4 -0.2**
HLM1 IAmb IAmb 03 39 39.5
comp=Z,59nm,1.1s
MCH1 Michaelchurch 75.34 33 *eP* **P** **03 39 40.1 -0.4**
MCH1 IAmb IAmb 03 39 41.4
comp=Z,98nm,1.3s
CWF Charnwood Fore 75.46 31 *eP* **P** **03 39 40.4 -0.8**
CWF IAmb IAmb 03 39 41.4
comp=Z,94nm,1.2s
FIA1 FINESS Array S 75.92 14 IAmb IAmb 03 39 44.7
comp=Z,65nm,1.1s
FINES FINESS Array B 75.92 14 P **P** **03 39 43.4 -0.3**
comp=Z,24nm,0.9s,baz=1.1,slow=7.0,SNR=42
FINES LR LR 04 13 41.8
comp=Z,1µm,19.5s,baz=343,slow=36
comp=Z,24nm,0.9s
DYA Yadsworthy 76.11 34 *eP* **P** **03 39 44.3 -0.7**
DYA IAmb IAmb 03 39 45.9
comp=Z,90nm,1.2s
SEHB SEOHWA 76.63 309 IAmb IAmb 03 39 57.8
comp=Z,61nm,1.1s
MEF Metsahovi 76.74 15 *eP* **P** **03 39 48.7 +0.4**
SNY Shenyang 76.92 314⇑P **P** **03 39 49.4 -0.3**
SNY S **S** **03 49 36.9 -0.2**
SNY pmax pmax
comp=Z,43nm,1.1s
SNY pmax pmax
comp=Z,240nm,3.6s
SNY LR LR
comp=Z,450nm,22.4s
SNY LR LR
comp=Z,580nm,16.5s
SNY LR LR
comp=Z,820nm,22.9s
MALB Monte Alegre 77.09 104 *eP* **P** **03 39 51.0 0.0**
KSRS Korea Array 77.36 309 P **P** **03 39 52.7 +0.4**
comp=Z,14nm,0.9s,baz=53,slow=5.6,SNR=38
KSRS PP **PP** **03 42 45.2 -0.9**
comp=Z,0.5nm,0.4s,baz=33,slow=16,SNR=1.9
KSRS LR LR 04 09 19.5
comp=Z,430nm,21.1s,baz=65,slow=32
comp=Z,14nm,0.9s
KS19 Wonju Array Si 77.37 309 P **P** **03 39 52.8 +0.4**
KSAR Wonju Array Be 77.40 309 P **P** **03 39 51.9 -0.5**
KSAR Wonju Array Be 77.40 309 P **P** **03 39 51.9 -0.5**
LPAZ La Paz 77.63 124 P **P** **03 39 54.1 -0.5**
comp=Z,30nm,0.8s,baz=338,slow=5.4,SNR=100
comp=Z,30nm,0.8s
LPAZ La Paz 77.63 124 P **P** **03 39 54.2 -0.5**
LPAZ La Paz 77.63 124 P **P** **03 39 54.2 -0.5**
LPAZ pmax pmax
comp=Z,37nm,0.9s
LPAZ La Paz 77.63 124 *eP* **P** **03 39 54.1 -0.5**
ITTB Itaituba 77.69 107 *eP* **P** **03 39 54.2 -0.2**
MTSE Matsula 78.01 16 *eP* **P** **03 39 56.0 +0.5**
PB12 IPOC Station P 78.02 127 IAmb IAmb 03 39 57.5
comp=Z,79nm,1.0s
PRGR Permogore 78.06 4 *eP* **P** **03 39 56.0 +0.3**
IRK Irkutsk 78.07 331 *eP* **P** **03 39 56.2 +0.2**
IRK pmax pmax
comp=Z,121nm,1.6s
INCN Inchon 78.11 309 P **P** **03 39 57.3 +0.8**
INCN IAmb IAmb 03 40 05.5
comp=Z,64nm,1.2s
INCN Inchon 78.11 309 P **P** **03 39 57.3 +0.8**
INCN pmax pmax
comp=Z,64nm,1.2s
KLMR Klimovskoe 78.36 7 *eP* **P** **03 39 55.3 -2.1**
KLMR *e* 03 42 50.6
KLMR *e*S **S** **03 49 53.6 +1.6**
KLMR *e*SS **SS** **03 54 58.7 +5.5**
KLMR pmax pmax
comp=Z,104nm,1.3s
KLMR MLR MLR
comp=Z,876nm,16.0s
KLMR Klimovskoe 78.36 7 *eP* **P** **03 39 55.4 -2.0**
KLMR AMP 03 39 58.4
comp=Z,104nm,1.3s
KLMR *e*PP **PP** **03 42 50.6 -3.1**
KLMR *e*S **S** **03 49 53.6 +1.6**
KLMR *e*S **S** **03 49 53.6 +1.6**
KLMR *e*SS **SS** **03 54 58.8 +5.5**
KLMR *e*SS **SS** **03 54 58.8 +5.5**
KLMR LQ LQ 04 07 31.8
KLMR LQ LQ 04 07 31.8
KLMR LR LR 04 11 04.7
KLMR AMP 04 15 16.1
comp=Z,876nm,16.3s
TJN Taejon 78.41 308*ceP* **P** **03 39 58.0 -0.1**
SLIT Slitere, Latvi 78.68 17 *eP* **P** **03 39 59.4 +0.2**
VSU Vasula 78.82 14 *i P* **P** **03 39 59.3 -0.7**
VSU pmax pmax
comp=Z,112nm,1.1s
VSU Vasula 78.82 14 *eP* **P** **03 40 00.2 +0.2**
NAWB Namwon 79.03 307 IAmb IAmb 03 40 11.2
comp=Z,77nm,1.3s
XLT XiLinHaoTe 79.37 320⇓*iP* **P** **03 40 04.0 +0.6**
XLT PcP **PcP** **03 40 12.6 +1.1**
XLT S **S** **03 50 06.6 +2.9**
XLT SKS **SKSac** **03 50 13.2 -6.1**
XLT SS **SS** **03 55 16.4 +6.7**
XLT pmax pmax
comp=Z,64nm,1.2s
XLT pmax pmax
comp=Z,190nm,3.6s
XLT LR LR
comp=Z,670nm,20.4s
XLT LR LR
comp=Z,420nm,19.2s
TA02 Huaiquique 79.40 128 IAmb IAmb 03 40 05.5
comp=Z,79nm,1.1s
BEBN Eben Emael 79.67 29 *dP* **P** **03 40 05.4 +0.7**
BMRD Maredsous 79.73 30 *dP* **P** **03 40 05.3 +0.2**
comp=Z,24nm,1.2s
NPGB Novo Progresso 79.78 108 *eP* **P** **03 40 06.0 +0.1**
BSTI Sart Tilman 79.80 29 *dP* **P** **03 40 06.1 +0.6**
comp=Z,7.5nm,1.2s
DOU Dourbes 79.83 30 *dP* **P** **03 40 06.0 +0.3**
comp=Z,25nm,1.2s
BCLA Clavier 79.84 29 *dP* **P** **03 40 05.8 +0.2**
comp=Z,36nm,1.1s
ZAK Zakamensk 79.94 331 *eP* **P** **03 40 06.5 +0.1**
ZAK *e* 03 43 06.0
ZAK pmax pmax
comp=Z,29nm,1.4s
ZAK pmax pmax
comp=Z,10.0nm,1.6s
MEM Membach 79.95 29 *dP* **P** **03 40 06.4 +0.2**
comp=Z,16nm,1.2s
BTNL Ternell 80.01 29 *dP* **P** **03 40 07.3 +0.6**
DL2 Dalian 80.02 313 P **P** **03 40 07.0 +0.2**
DL2 S **S** **03 50 12.6 +2.2**
DL2 pmax pmax
comp=Z,41nm,1.0s
DL2 pmax pmax
comp=Z,120nm,3.8s
DL2 LR LR
comp=Z,480nm,18.6s
DL2 LR LR
comp=Z,370nm,18.2s
DL2 LR LR
comp=Z,570nm,20.0s
RCHB Rochefort 80.02 30 *dP* **P** **03 40 06.8 +0.1**
comp=Z,20nm,1.2s
BHOU Houwegnez 80.15 29 *dP* **P** **03 40 08.1 +0.7**
PGAV Gavieira, Arco 80.29 42 *eP* **P** **03 40 08.4 0.0**
comp=Z,50nm,1.7s
PGAV Gavieira, Arco 80.29 42 *eS* S 03 50 24.3 +11
PGAV Gavieira, Arco 80.29 42 *eLR* LR 04 06 17.3
comp=Z,926nm,20.0s
PB01 IPOC Station P 80.38 128 IAmb IAmb 03 40 10.5
comp=Z,69nm,1.0s
VILB Vilhena 80.45 116 IAmb IAmb 03 40 11.1
comp=Z,217nm,0.9s
VILB Vilhena 80.45 116 *eP* **P** **03 40 09.8 +0.4**
ULN Ulaanbaatar 80.47 327 P **P** **03 40 09.6 +0.3**
ULN Ulaanbaatar 80.47 327 IAMs_20 IAMs_20 04 15 04.5
comp=Z,1µm,21.0s
ULN Ulaanbaatar 80.47 327*d iP* **P** **03 40 09.5 +0.1**
ULN pmax pmax
comp=Z,29nm,1.2s
VSVD Vaisvydziai 80.55 17 *eP* **P** **03 40 09.1 -0.2**
CLF Chambon-Foret 80.56 32 IAmb IAmb 03 40 11.5
comp=Z,97nm,1.2s
PCAB Cabril 80.60 42 *eP* **P** **03 40 09.6 -0.4**
comp=Z,91nm,1.4s
PB07 IPOC Station P 80.66 129 IAmb IAmb 03 40 12.1
comp=Z,68nm,1.2s
SONM Songino Array 80.77 327 P **P** **03 40 11.3 +0.3**
comp=Z,20nm,1.1s,baz=43,slow=3.4,SNR=73
SONM PP **PP** **03 43 14.7 +0.4**
comp=Z,4.0nm,1.1s,baz=64,slow=6.8,SNR=3.9

SONM LR LR 04 15 16.6
comp=Z,1μm,21.1s,baz=34,slow=35
comp=Z,20nm,1.1s
SONM Songino Array 80.77 327 P **P** **03 40 11.2 +0.3**
SONM Songino Array 80.77 327 P **P** **03 40 11.2 +0.3**
SONM pmax pmax
comp=Z,65nm,1.4s
WLF Walferdange 80.77 29 P **P** **03 40 10.7 0.0**
WLF Walferdange 80.77 29 P **P** **03 40 10.7 0.0**
WLF pmax pmax
comp=Z,54nm,1.1s
WLF Walferdange 80.77 29 *d*P **P** **03 40 11.7 +1.0**
comp=Z,23nm,1.3s
POLO Lamas de Olo 80.97 42 *e*P **P** **03 40 11.5 -0.6**
comp=Z,65nm,1.6s
GUMO Guam 80.97 280 P **P** **03 40 13.7 +1.3**
comp=Z,26nm,0.7s,baz=78,slow=18,SNR=2.4
GUMO LR LR 04 08 13.8
comp=Z,776nm,21.7s,baz=64,slow=30
comp=Z,26nm,0.7s
PB04 IPOC Station P 80.97 129 IAmb IAmb 03 40 14.3
comp=Z,117nm,1.2s
PABE Paberze 81.00 17 IAmb IAmb 03 40 13.3
comp=Z,137nm,1.1s
PABE IAMs_20 IAMs_20 04 17 34.9
comp=Z,1μm,19.0s
PABE Paberze 81.00 17 *e*P **P** **03 40 12.1 +0.3**
RUE Ruedersdorf 81.00 24 *e*P **P** **03 40 11.8 0.0**
PVRL Vila Real 81.08 42 *e*P **P** **03 40 12.6 0.0**
comp=Z,112nm,1.5s
PB09 IPOC Station P 81.10 128 IAmb IAmb 03 40 15.5
comp=Z,73nm,1.2s
PBRG Braganca 81.19 41 *e*P **P** **03 40 12.8 -0.4**
comp=Z,60nm,1.5s
KIRV Kirov 81.28 3 LR LR 04 19 34.5
comp=Z,439nm,19.8s,baz=355,slow=38
KIRV Kirov 81.28 3 *ce*P **P** **03 40 12.5 -0.7**
GKP Gorka Klasztor 81.33 22 *e*P **P** **03 40 13.3 -0.3**
PVIS Viseu 81.39 43 *e*P **P** **03 40 14.0 -0.3**
comp=Z,94nm,1.4s
ISAL Salakas 81.40 16 *e*P **P** **03 40 14.7 +0.7**
MVO Moncorvo 81.51 42 *e*P **P** **03 40 14.9 0.0**
comp=Z,79nm,1.4s
MVO Moncorvo 81.51 42 *e*S **S** **03 50 33.7 +7.6**
MVO Moncorvo 81.51 42 *e*LQ LQ 04 01 47.6
MVO *e*LR LR 04 06 47.8
comp=Z,1μm,20.0s
PCAS Casmilo, Conde 81.56 44 *e*P **P** **03 40 14.8 -0.3**
comp=Z,91nm,1.3s
PB06 IPOC Station P 81.60 129 IAmb IAmb 03 40 17.6
comp=Z,96nm,1.1s
IIGN Ignalina 81.63 16 *e*P **P** **03 40 14.9 -0.3**
PMOZ Porto Moniz, M 81.65 54 *e*LR LR 04 06 15.3
comp=Z,780nm,18.0s
CLL Collm 81.77 25 IAmb IAmb 03 40 17.5
comp=Z,49nm,1.0s
CLL Collm 81.77 25⇑ *i*P **P** **03 40 16.3 +0.3**
CLL *e*S **S** **03 50 28.0 -0.3**
CLL pmax pmax
comp=Z,62nm,1.1s
CLL MLR MLR
comp=Z,2μm,19.1s
CLL Collm 81.77 25⇑ *i*P **P** **03 40 16.3 +0.3**
comp=Z,62nm,1.1s
CLL *e*PP **PP** **03 43 19.0 -3.2**
CLL *e*PPP PPP 03 45 18.0
CLL *e*S **S** **03 50 28.0 -0.3**
CLL *e*PS **PnS** **03 51 19.0 +2.8**
CLL *e*SS **SS** **03 55 50.0 +5.2**
CLL *e*SSS SSS 03 59 18.0
CLL Lm MLR 04 17 00.0
comp=N,1μm,18.1s
CLL Lm MLR 04 17 00.0
comp=E,900nm,19.5s
CLL Lm MLR 04 17 00.0
comp=Z,2μm,19.1s
PSBE So Bento 81.79 44 *e*P **P** **03 40 16.4 0.0**
comp=Z,97nm,1.3s
MTE Manteigas 81.81 43 *e*P **P** **03 40 15.3 -1.2**
comp=Z,68nm,1.2s
MTE Manteigas 81.81 43 *e*S **S** **03 50 21.6 -7.6**
MTE Manteigas 81.81 43 *e*LQ LQ 04 01 43.1
MTE *e*LR LR 04 06 52.9
comp=Z,1μm,20.0s
MTE Manteigas 81.81 43 IAMs_20 IAMs_20 04 12 23.3
comp=Z,2μm,22.0s
KNGR Kungurtug, Tuv 81.81 334 *i* P **P** **03 40 17.3 +0.9**
PMAR Madeira 81.89 54 *e*P **P** **03 40 17.8 +0.6**
comp=Z,199nm,1.2s
LVC Limon Verde 81.92 129 P **P** **03 40 17.9 +0.4**
LVC Limon Verde 81.92 129 P **P** **03 40 17.9 +0.4**
LVC pmax pmax
comp=Z,47nm,1.1s
LVC Limon Verde 81.92 129 *e*P **P** **03 40 17.2 -0.3**
PDRB Porto dos Gac 81.92 113 *e*P **P** **03 40 17.0 -0.3**
PMAFR Mafra 81.94 45 *e*P **P** **03 40 17.2 +0.1**
comp=Z,100nm,1.2s
PMPST Porto Santo, M 82.00 53 *e*P **P** **03 40 18.5 +0.9**
comp=Z,188nm,1.3s
SIV San Ignacio 82.01 119 LR LR 04 18 47.5
comp=Z,751nm,21.0s,baz=346,slow=37
TMAB Tom-Au,PA,Br 82.04 100 *e*P **P** **03 40 18.5 +0.5**
PB15 IPOC Station P 82.04 130 IAmb IAmb 03 40 20.0
comp=Z,86nm,1.2s
CLDB Colider 82.08 111 *e*P **P** **03 40 18.2 +0.1**
PMST Lisbon--Monsan 82.15 45 *e*P **P** **03 40 17.3 -0.9**
comp=Z,92nm,1.2s
BJI Beijing 82.15 317 P **P** **03 40 18.3 +0.1**
BJI S **S** **03 50 32.1 -0.4**
BJI pmax pmax
comp=Z,9.0nm,1.1s
BJI pmax pmax
comp=Z,120nm,4.5s
BJI LR LR
comp=Z,120nm,24.4s
BJI LR LR
comp=Z,350nm,25.9s
BJI LR LR
comp=Z,820nm,34.4s
NACGM Naroch 82.16 16⇑ *e*P **P** **03 40 18.6 +0.6**
baz=339
BJT Baijiatuau 82.17 317 P **P** **03 40 18.7 +0.4**
BJT Baijiatuau 82.17 317 P **P** **03 40 18.7 +0.4**
BJT pmax pmax
comp=Z,11nm,1.1s
BJT MLR MLR
comp=Z,400nm,21.0s
LIS Lisbon 82.18 45 *e*P **P** **03 40 18.0 -0.4**
LIS IAmb IAmb 03 40 20.3
comp=Z,42nm,0.7s
LIS Lisbon 82.18 45 *e*P **P** **03 40 18.0 -0.4**
PCBR Castelo Branco 82.25 43 *e*P **P** **03 40 18.3 -0.4**
comp=Z,58nm,1.0s
PACT Alcochete 82.31 45 *e*P **P** **03 40 18.8 -0.2**
ECH Echery 82.34 30 IAMs_20 IAMs_20 04 16 58.1
comp=Z,1μm,19.0s
PMTG Montargil 82.42 44 *e*P **P** **03 40 18.1 -1.5**
comp=Z,50nm,1.7s
ZAA0 Zalesovo Array 82.44 342 P **P** **03 40 19.7 +0.2**
ZAA0 IAmb IAmb 03 40 24.3
comp=Z,82nm,1.6s
ZALV Zalesovo Beam 82.44 342 P **P** **03 40 19.6 +0.2**
comp=Z,17nm,1.0s,baz=23,slow=5.0,SNR=41
ZALV LR LR 04 18 55.8
comp=Z,508nm,18.6s,baz=14,slow=37
comp=Z,17nm,1.0s
BRG Berggiesshubel 82.45 24⇑ *i*P **P** **03 40 20.1 +0.5**
BRG Amp 03 40 21.4
comp=Z,61nm,1.0s
BRG *ex* x 03 40 28.8
BRG Amp 03 40 29.5
comp=Z,21nm,0.9s
BRG Berggiesshubel 82.45 24 S **S** **03 50 43.0 +7.7**
BRG Amp 04 17 14.0
comp=E,0.8nm,17.8s
BRG Amp 04 17 18.0
comp=Z,1.5nm,19.2s
BRG Amp 04 17 31.0
comp=N,1.1nm,16.6s
BRG Berggiesshubel 82.45 24⇑ *i*P **P** **03 40 20.1 +0.5**
BRG *e* 03 40 28.8
BRG pmax pmax
comp=Z,61nm,1.0s
BRG pmax pmax
comp=Z,21nm,0.9s
BRG MLR MLR
comp=Z,1μm,19.2s
BRG MLR MLR
NKC Novy Kostel 82.52 26 *e*P **P** **03 40 20.3 +0.3**
NKC MLR MLR
comp=Z,2μm,18.0s
NKC Novy Kostel 82.52 26 *e*P **P** **03 40 20.3 +0.3**
NKC AMS AMS 04 17 30.0
comp=Z,2μm,18.0s
GRA1 Grafenberg Arr 82.57 27 IAmb IAmb 03 40 22.4
comp=Z,46nm,1.0s
GRFO Grafenberg 82.57 27 P **P** **03 40 20.8 +0.6**
GRFO IAmb IAmb 03 40 22.3
comp=Z,42nm,1.0s
GRFO Grafenberg 82.57 27 P **P** **03 40 20.8 +0.6**
GRFO pmax pmax
comp=Z,42nm,1.0s
GRFO MLR MLR
comp=Z,2μm,18.0s
PB14 IPOC Station P 82.59 131 IAmb IAmb 03 40 22.3
comp=Z,79nm,1.3s
PMRV Marv??o 82.60 43 *e*P **P** **03 40 20.4 -0.2**
comp=Z,100nm,2.0s
PMRV Marv??o 82.60 43 *e*LR LR 04 07 13.9
comp=Z,707nm,18.0s
AF01 San Pedro de A 82.61 128 IAmb IAmb 03 40 23.3
comp=Z,94nm,1.1s
STU Stuttgart 82.63 28 IAMs_20 IAMs_20 04 14 06.8
comp=Z,1μm,21.0s
BFO Black Forest 82.68 29 P **P** **03 40 20.9 0.0**
BFO Black Forest 82.68 29 P **P** **03 40 20.9 0.0**
BFO pmax pmax
comp=Z,34nm,1.1s
BFO MLR MLR
comp=Z,2μm,18.0s
MNK Minsk 82.76 15 *i* P **P** **03 40 21.4 +0.3**
MNK *i* 03 40 26.0
MNK *i* 03 43 31.2
MNK *i* PPP PPP 03 45 22.4
MNK *i* S **S** **03 50 40.4 +2.1**
MNK *i* SS **SS** **03 56 03.9 +4.7**
MNK *i* SSS SSS 03 59 32.5
MNK pmax pmax
comp=N,3.0nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,36nm,1.1s
MNK MLR MLR
comp=Z,856nm,17.0s
MNK MLR MLR
comp=E,63nm,14.0s
MNK MLR MLR
comp=N,18nm,16.0s
MNK Minsk 82.76 15 *i* P **P** **03 40 21.4 +0.3**
comp=E,2.0nm,0.9s
MNK *i* P **P** **03 40 21.4 +0.3**
comp=N,3.0nm,1.0s
MNK *i* P **P** **03 40 21.4 +0.3**
comp=Z,36nm,1.1s,baz=161
MNK *i* PcP **PcP** **03 40 26.0 0.0**
MNK *i* PP **PP** **03 43 31.3 +1.0**
MNK *i* PPP PPP 03 45 22.5
MNK *i* S **S** **03 50 40.5 +2.1**
MNK *i* SS **SS** **03 56 03.9 +4.7**
MNK *i* SSS SSS 03 59 32.5
MNK *i* LQ LQ 04 12 33.7
MNK *i* LR LR 04 17 11.8
MNK *i* LRM MLR 04 18 36.2
comp=Z,856nm,17.4s
MNK *i* LRM MLR 04 18 52.6
comp=E,63nm,14.2s
MNK *i* LRM MLR 04 18 52.6
comp=N,18nm,16.1s
PESTR Estremoz 82.90 44 *e*P **P** **03 40 21.5 -0.7**
comp=N,128nm,1.8s
PESTR Estremoz 82.90 44 IAmb IAmb 03 40 24.4
comp=Z,58nm,1.4s
PESTR Estremoz 82.90 44 P **P** **03 40 22.8 +0.6**
EVO Evora 82.92 44 *e*P **P** **03 40 22.1 -0.2**
comp=Z,95nm,1.7s
PTLB Pontes e Lacer 82.93 117 IAmb IAmb 03 40 23.6
comp=Z,49nm,1.1s
PTLB Pontes e Lacer 82.93 117 *e*P **P** **03 40 22.7 +0.2**
PVCC Panska Ves 82.95 24 AMS AMS 04 17 20.0
comp=Z,2μm,18.5s
PNCL Nicolau / Gran 82.95 45 *e*P **P** **03 40 22.6 +0.2**
comp=Z,88nm,1.7s
MOS Moscow 83.16 9 *e*P **P** **03 40 20.8 -2.3**
MOS *e*S **S** **03 50 39.3 -3.0**
MOS pmax pmax
comp=Z,30nm,0.7s
MOS MLR MLR
comp=Z,700nm,18.0s
KSP Ksiaz 83.20 23 *i* P **P** **03 40 24.2 +0.7**
KSP *e*L L 04 16 41.4
comp=Z,2μm,20.2s
PTEO Sao Teotonio 83.26 46 *e*P **P** **03 40 24.8 +0.8**
comp=Z,118nm,1.8s
PRPB Parauapebas 83.26 104 *e*P **P** **03 40 23.9 -0.4**
MESJ Messejana 83.32 45 *e*P **P** **03 40 24.0 -0.3**
MESJ IAmb IAmb 03 40 26.2
comp=Z,269nm,2.4s
MESJ *e*S **S** **03 50 45.0 +0.4**
MESJ Messejana 83.32 45 *e*P **P** **03 40 23.7 -0.6**
comp=Z,62nm,1.9s
MESJ Messejana 83.32 45 *e*P **P** **03 40 24.0 -0.3**
MESJ *e*S **S** **03 50 45.0 +0.4**
CHVC Chvalec 83.35 23 *e*P **P** **03 40 24.7 +0.4**
CHVC AMS AMS 04 16 20.0
comp=Z,2μm,19.4s
PBEJ Beja 83.37 45 *e*P **P** **03 40 24.6 0.0**
comp=Z,48nm,1.7s
PRU Pruhonice 83.41 25 *e*P **P** **03 40 25.0 +0.4**
PRU MLR MLR
comp=Z,2μm,21.7s
PRU Pruhonice 83.41 25 *e*P **P** **03 40 25.0 +0.4**
PRU AMS AMS 04 15 30.0
comp=Z,2μm,21.7s
UPC Upice 83.41 24 *e*P **P** **03 40 24.7 +0.1**
UPC *e* 03 50 45.8
UPC MLR MLR
comp=Z,2μm,19.4s
UPC Upice 83.41 24 *e*P **P** **03 40 24.7 +0.1**
UPC *e*SKS **S** **03 50 45.8 +0.7**
UPC AMS AMS 04 16 20.0
comp=Z,2μm,19.4s
OSTC Ostas 83.43 23 *e*P **P** **03 40 25.2 +0.5**
OSTC *e*SKS **S** **03 50 45.7 +0.4**
OSTC AMS AMS 04 16 30.0
comp=Z,2μm,18.5s
ARU Arti 83.46 358 LR LR 04 20 06.6
comp=Z,428nm,20.2s,baz=356,slow=38
ARU Arti 83.46 358 P **P** **03 40 24.2 -0.5**
ARU IAMs_20 IAMs_20 04 19 53.0
comp=Z,595nm,19.0s
ARU Arti 83.46 358 *d* *i*P **P** **03 40 24.6 -0.1**
ARU 03 43 39.8
ARU S **S** **03 50 47.7 +2.3**
ARU SS **SS** **03 56 12.2 +2.8**
ARU pmax pmax
comp=Z,12nm,1.0s
GO02 Mina Guanaco 83.47 131 IAmb IAmb 03 40 27.6
comp=Z,44nm,1.1s
MORF Marmelete 83.47 46 *e*P **P** **03 40 24.8 -0.4**
MORF IAmb IAmb 03 40 28.0
comp=Z,134nm,1.5s
MORF Marmelete 83.47 46 *e*P **P** **03 40 25.3 +0.1**
comp=Z,133nm,1.8s
MORF Marmelete 83.47 46 *e*P **P** **03 40 24.8 -0.4**
PFVI Vila Bisbo 83.50 46 *e*P **P** **03 40 25.0 -0.3**
comp=Z,171nm,1.8s
PCVE Castro Verde 83.57 45 *e*P **P** **03 40 25.6 0.0**
comp=Z,114nm,1.5s
BEL Belsk 83.58 20 *e*P **P** **03 40 25.8 +0.4**
BEL *e*L L 04 17 02.4
comp=Z,2μm,20.2s
OBN Obninsk 83.64 10 LR LR 04 17 33.9
comp=Z,183nm,19.6s,baz=348,slow=36
OBN Obninsk 83.64 10 P **P** **03 40 24.9 -0.7**
OBN IAmb IAmb 03 40 26.5
comp=Z,68nm,1.3s
OBN IAMs_20 IAMs_20 04 17 08.8
comp=Z,922nm,20.0s
OBN Obninsk 83.64 10 *c* *i*P **P** **03 40 25.3 -0.3**
OBN *e* 03 40 33.0
OBN *i* S **S** **03 50 46.7 -0.4**
OBN *e*SS **SS** **03 56 15.1 +3.1**
OBN pmax pmax
comp=Z,77nm,1.7s
DPC Dobruska-Polom 83.64 23 *e*P **P** **03 40 26.6 +0.8**
DPC MLR MLR
comp=Z,2μm,20.2s
DPC Dobruska-Polom 83.64 23 *e*P **P** **03 40 26.6 +0.8**
DPC AMS AMS 04 16 30.0
comp=Z,2μm,20.2s
PBAR Barrancos 83.70 44 *e*P **P** **03 40 26.3 0.0**
comp=Z,145nm,1.7s
KHC Kasperske Hory 83.84 26 IAmb IAmb 03 40 28.9
comp=Z,61nm,1.4s
KHC Kasperske Hory 83.84 26 *e*P **P** **03 40 27.2 +0.3**
KHC *e* 03 40 30.5
KHC *e* 03 50 53.6
KHC MLR MLR
comp=Z,2μm,18.0s
KHC Kasperske Hory 83.84 26 *e*P **P** **03 40 27.2 +0.3**
KHC *ex* x 03 40 30.5
KHC *e*S **S** **03 50 53.6 +4.0**
KHC AMS AMS 04 18 10.0
comp=Z,2μm,18.0s
HHC Hu-ho-hao-te 83.88 320 *e*P **P** **03 40 27.2 -0.1**
HHC pP sP 03 40 32.9 +0.2
HHC S **S** **03 50 50.7 +0.3**
HHC sS ScS 03 51 00.4 -2.7
HHC SS **SS** **03 56 19.6 +2.8**
HHC pmax pmax
comp=Z,79nm,1.1s
HHC pmax pmax
comp=Z,280nm,5.5s
HHC LR LR
comp=Z,740nm,15.3s
HHC LR LR
comp=Z,630nm,14.9s
HHC LR LR
comp=Z,1μm,17.5s
PVAQ Vaqueiros 83.91 45 *e*P **P** **03 40 26.3 -1.1**
comp=Z,135nm,1.7s
PVAQ Vaqueiros 83.91 45 *e*S **S** **03 50 48.6 -2.0**
PVAQ Vaqueiros 83.91 45 *e*LR LR 04 07 41.9
comp=Z,751nm,20.0s
PVAQ Vaqueiros 83.91 45 P **P** **03 40 28.0 +0.7**
SENIN Lac Senin/Sane 83.92 31 IAmb IAmb 03 40 30.0
comp=Z,109nm,1.8s
KRLC Kraliky 84.03 23 *e*P **P** **03 40 28.4 +0.6**
KRLC *e* 03 50 52.8
KRLC MLR MLR
comp=Z,2μm,19.7s
KRLC Kraliky 84.03 23 *e*P **P** **03 40 28.4 +0.6**
KRLC *e*S **S** **03 50 52.8 +1.4**
KRLC AMS AMS 04 16 50.0
comp=Z,2μm,19.7s
PAB San Pablo 84.08 42 P **P** **03 40 28.5 +0.2**
PAB San Pablo 84.08 42 IAMs_20 IAMs_20 04 20 14.5
comp=Z,865nm,20.0s
PAB San Pablo 84.08 42 P **P** **03 40 28.5 +0.2**
PAB pmax pmax
comp=Z,130nm,1.4s
PAB MLR MLR
comp=Z,900nm,20.0s
PAB San Pablo 84.08 42 P **P** **03 40 28.9 +0.5**
GEC2 GERESS Array S 84.13 26 IAmb IAmb 03 40 29.9
comp=Z,39nm,1.1s
GERES GERESS Array B 84.13 26 P **P** **03 40 28.3 -0.1**
comp=Z,12nm,0.9s,baz=319,slow=3.9,SNR=94
GERES PP **PP** **03 43 41.6 -0.1**
comp=Z,1.5nm,1.0s,baz=333,slow=7.8,SNR=5.0
GERES LR LR 04 18 51.9
comp=Z,1μm,18.5s,baz=332,slow=36
comp=Z,12nm,0.9s
GERES GERESS Array B 84.13 26 P **P** **03 40 27.7 -0.7**
GERES GERESS Array B 84.13 26 P **P** **03 40 27.7 -0.7**
DAVA Damuels 84.13 29 *i* P **P** **03 40 29.5 +1.0**
comp=Z,73nm,1.1s,SNR=31
ESBB Sonseca Array 84.18 41 IAmb IAmb 03 40 30.3
comp=Z,102nm,1.3s
ESDC Sonseca Array 84.18 41 P **P** **03 40 28.8 0.0**
comp=Z,37nm,1.0s,baz=310,slow=4.8,SNR=180
ESDC PP **PP** **03 43 39.6 -2.8**
comp=Z,2.9nm,1.1s,baz=318,slow=6.6,SNR=3.9
ESDC LR LR 04 15 03.9
comp=Z,612nm,19.4s,baz=311,slow=34
comp=Z,37nm,1.0s
ESDC Sonseca Array 84.18 41 IAmb IAmb 03 40 30.3
comp=Z,95nm,1.3s
RETA Reutte 84.28 28 *i* P **P** **03 40 30.0 +0.8**
comp=Z,38nm,1.2s,SNR=23
TREC Trest 84.31 24 *e*P **P** **03 40 29.5 +0.3**
TREC MLR MLR
comp=Z,2μm,21.0s
TREC Trest 84.31 24 *e*P **P** **03 40 29.5 +0.3**
TREC AMS AMS 04 15 50.0
comp=Z,2μm,21.0s
CKRC Cesky Krumlov 84.35 25 *e*P **P** **03 40 29.6 +0.2**
CKRC *e*SKS **S** **03 50 55.9 +1.2**
CKRC AMS AMS 04 18 30.0
comp=Z,1μm,17.0s
TIA Tai'an 84.44 314⇓ P **P** **03 40 29.6 -0.5**
TIA S **S** **03 50 56.4 +0.4**
TIA sS **pS** **03 51 01.3 +0.3**
TIA pmax pmax
comp=Z,22nm,0.8s
TIA pmax pmax
comp=Z,100nm,4.0s
TIA LR LR
comp=Z,270nm,15.2s
TIA LR LR
comp=Z,310nm,16.6s
TIA LR LR
comp=Z,490nm,14.2s
MORC Moravsky Berou 84.52 23⇑ P **P** **03 40 30.6 +0.3**
MORC Moravsky Berou 84.52 23 IAmb IAmb 03 40 32.0
comp=Z,65nm,1.4s
MORC Moravsky Berou 84.52 23 *e*P **P** **03 40 30.6 +0.3**
MOTA Moosalm 84.52 28 *i* P **P** **03 40 31.2 +0.7**
comp=Z,49nm,1.0s,SNR=33
DAVOX Davos/Dischmat 84.56 29 P **P** **03 40 31.7 +0.9**
comp=Z,29nm,0.9s,baz=321,slow=7.7,SNR=47
DAVOX LR LR 04 19 42.2
comp=Z,2μm,18.1s,baz=328,slow=37
comp=Z,29nm,0.9s
OKC Ostrava-Krasne 84.64 23 *e*P **P** **03 40 31.4 +0.5**
OKC MLR MLR
comp=Z,1μm,19.9s
OKC Ostrava-Krasne 84.64 23 *e*P **P** **03 40 31.4 +0.5**
OKC AMS AMS 04 17 40.0
comp=Z,1μm,19.9s
VRAC Vranov 84.65 24⇓ P **P** **03 40 31.4 +0.5**
VRAC Vranov 84.65 24 P **P** **03 40 31.3 +0.4**
comp=Z,50nm,0.9s,baz=333,slow=5.0,SNR=77
VRAC PP **PP** **03 43 42.8 -3.0**
comp=Z,2.1nm,0.6s,baz=318,slow=5.9,SNR=2.4
VRAC LR LR 04 18 59.2
comp=Z,1μm,18.4s,baz=329,slow=36
comp=Z,50nm,0.9s
VRAC Vranov 84.65 24 *e*P **P** **03 40 31.4 +0.5**
FETA Feichten 84.66 28 *i* P **P** **03 40 32.2 +1.0**
comp=Z,61nm,1.0s,SNR=39
SQTA Sankt Quirin 84.67 28 *i* P **P** **03 40 32.2 +1.0**
comp=Z,85nm,1.1s,SNR=43
WATA Walderalm 84.70 28 *i* P **P** **03 40 32.0 +0.6**
comp=Z,87nm,1.1s,SNR=32
BNI Bardonecchia 84.76 32 IAmb IAmb 03 40 34.3
comp=Z,97nm,1.1s
OJC Ojcow 84.77 21 *i* P **P** **03 40 30.9 -0.7**
OJC *e*L L 04 18 45.6
comp=Z,2μm,19.1s
OJC Ojcow 84.77 21 IAmb IAmb 03 40 32.0
comp=Z,80nm,1.1s
WTTA Wattenberg 84.78 28 *i* P **P** **03 40 32.8 +0.9**
comp=Z,66nm,1.0s,SNR=30
KRUC Moravsky 84.80 24 *e*P **P** **03 40 31.8 +0.1**
HNS HongShan 84.87 316⇓ P **P** **03 40 32.5 +0.3**
HNS S **S** **03 51 01.9 +1.8**
HNS pmax pmax
comp=Z,26nm,1.2s
HNS pmax pmax
comp=Z,180nm,4.7s
HNS LR LR
comp=Z,430nm,19.1s
HNS LR LR
comp=Z,530nm,18.6s
HNS LR LR

comp=Z,740nm,22.5s
MAUC Maruska 84.97 23 *e*P **P 03 40 33.3 +0.7**
AC02 Maricunga 85.02 132 P **P 03 40 34.1 +0.6**
AC02 IAmb IAmb 03 40 59.1
comp=Z,67nm,1.6s
BIOA Bad Ischl, Aus 85.11 26 *i* P **P 03 40 33.5 +0.2**
comp=Z,65nm,1.5s,SNR=34
MOA Molln 85.18 26 *i* P **P 03 40 33.8 +0.1**
comp=Z,47nm,1.3s,SNR=26
JAVC Velka Javorina 85.37 23 *e*P **P 03 40 36.0 +1.4**
ROSB Rosrio 85.38 98 *e*P **P 03 40 35.2 +0.1**
ABTA Abfaltersbach 85.53 27 *i* P **P 03 40 35.8 +0.3**
comp=Z,57nm,1.2s,SNR=35
KBA Koelnbreinsper 85.54 27 *i* P **P 03 40 36.1 +0.5**
comp=Z,56nm,1.3s,SNR=27
SMOL Smolenice 85.61 24 *e*P **P 03 40 36.5 +0.8**
SMOL pmax pmax
comp=Z,38nm,1.2s
SALV Santo Antonio 85.61 115 *e*P **P 03 40 36.0 -0.1**
CONA Conrad Observa 85.63 25 *i* P **P 03 40 36.7 +0.7**
comp=Z,29nm,0.9s,SNR=46
NIE Niedzica 85.64 22 *i* P **P 03 40 36.8 +0.9**
NIE *e*L L 04 19 24.3
comp=Z,864nm,19.7s
LANS Liptovska Anna 85.64 22 *e*P **P 03 40 37.8 +1.9**
LANS pmax pmax
comp=Z,26nm,1.2s
LANS Liptovska Anna 85.64 22 *e*P **P 03 40 37.8 +1.9**
DGZ Jazzator, Alta 85.67 339⇓*i*P **P 03 40 36.9 +0.7**
DGZ pmax pmax
comp=Z,58nm,1.0s
MODS Modra-Piesok 85.69 24 *e*P **P 03 40 37.4 +1.3**
MODS pmax pmax
comp=Z,257nm,1.2s
MODS Modra-Piesok 85.69 24 *e*P **P 03 40 37.4 +1.3**
SSE Sheshan 85.77 308 P **P 03 40 36.6 -0.2**
SSE S **S 03 51 09.8 +0.6**
SSE pmax pmax
comp=Z,33nm,0.8s
SSE pmax pmax
comp=Z,70nm,4.3s
SSE LR LR
comp=Z,330nm,21.8s
SSE LR LR
comp=Z,190nm,19.4s
ZST Bratislava 85.79 24 *e*P **P 03 40 37.9 +1.3**
ZST pmax pmax
comp=Z,158nm,1.1s
ZST Bratislava 85.79 24 *e*P **P 03 40 37.9 +1.3**
CTI Castel Tesino 85.83 28 IAmb IAmb 03 40 38.4
comp=Z,48nm,1.1s
CIMO Cimolais 85.88 28 IAmb IAmb 03 40 38.2
comp=Z,29nm,1.1s
BRVK Borovoye 85.90 350 P **P 03 40 38.0 +0.9**
BRVK IAmb IAmb 03 40 46.2
comp=Z,39nm,0.9s
BRVK Borovoye 85.90 350 IAMs_20 IAMs_20 04 20 02.0
comp=Z,1µm,22.0s
BRVK Borovoye 85.90 350 P **P 03 40 38.0 +0.9**
BRVK pmax pmax
comp=Z,39nm,1.0s
BRVK MLR MLR
comp=Z,1µm,22.0s
AC05 El Transito 85.92 134 IAmb IAmb 03 40 55.5
comp=Z,64nm,1.2s
BVA0 Borovoye Array 85.92 350 P **P 03 40 37.9 +0.7**
BVAR Borovoye Array 85.92 350 LR LR 04 20 27.6
comp=Z,876nm,21.8s,baz=11,slow=37
RONA Rosalia, Austr 85.97 25 *i* P **P 03 40 38.7 +1.1**
comp=Z,14nm,0.9s,SNR=42
MYKA Terra Mystica 86.03 27 *i* P **P 03 40 38.0 0.0**
comp=Z,32nm,1.2s,SNR=15
VYHS Vyhne 86.05 23 *e*P **P 03 40 38.1 +0.2**
VYHS pmax pmax
comp=Z,44nm,1.4s
VYHS Vyhne 86.05 23 *e*P **P 03 40 38.1 +0.2**
SNDB Serra Nova Dou 86.05 109 *e*P **P 03 40 38.2 -0.1**
SOP Sopron 86.07 25 P **P 03 40 38.7 +0.7**
KWP Kalwaria Pacla 86.10 20 *i* P **P 03 40 38.0 -0.2**
KWP *e*L L 04 19 59.1
comp=Z,2µm,19.9s
ARSA Arzberg 86.12 25 *i* P **P 03 40 39.2 +0.8**
comp=Z,35nm,1.1s,SNR=15
LVV L'vov 86.26 19 *e*P **P 03 40 38.4 -0.5**
LVV *e* 03 50 56.2
LVV *e*S **S 03 51 10.4 -3.0**
LVV *e*PS **PnS 03 52 12.9 +1.9**
LVV *e*SS **SS 03 56 55.6 +4.6**
LVV pmax pmax
comp=Z,60nm,1.4s
LVV MLR MLR
comp=N,1µm,19.0s
LVV MLR MLR
comp=E,600nm,19.0s
LVV MLR MLR
comp=Z,2µm,19.0s
LPSR Galich'ya Gora 86.40 9 *e*P **P 03 40 38.1 -1.4**
LPSR pmax pmax
comp=Z,60nm,1.0s
LPSR MLR MLR
comp=Z,440nm,15.0s
CADS Cadrg 86.41 27 *i* P **P 03 40 39.2 -0.6**
TEOL Teolo 86.42 29 P **P 03 40 39.6 -0.2**
TEOL IAmb IAmb 03 40 41.5
comp=Z,94nm,1.0s
CRVS Cervenica-Dubn 86.43 21 *e*P **P 03 40 39.9 +0.1**
CRVS pmax pmax
comp=Z,72nm,1.6s
CRVS Cervenica-Dubn 86.43 21 *e*P **P 03 40 39.9 +0.1**
OBKA Obir 86.44 26 *i* P **P 03 40 39.8 -0.2**
comp=Z,43nm,1.1s,SNR=18
SOKA Soboth 86.46 26 *i* P **P 03 40 39.9 -0.2**
comp=Z,54nm,1.4s,SNR=34
NJ2 Nanjing 86.47 310 *e*P **P 03 40 36.1 -4.2**
NJ2 pP **PcP 03 40 40.0 -2.7**
NJ2 sP **pwP 03 40 47.2 -0.9**
NJ2 Nanjing 86.47 310 S **S 03 51 11.0 -5.1**
MSSA Maissana 86.50 30 IAmb IAmb 03 40 41.2
comp=Z,73nm,1.2s
SRO Srobarova 86.50 23 *e*P **P 03 40 41.4 +1.3**
SRO pmax pmax
comp=Z,67nm,1.4s
SRO Srobarova 86.50 23 *e*P **P 03 40 41.4 +1.3**
KECS Kecovo 86.54 22 *e*P **P 03 40 42.0 +1.7**
KECS Kecovo 86.54 22 *e*P **P 03 40 42.0 +1.7**
EGYH Egyhazaskeszo 86.55 24 P **P 03 40 41.2 +0.8**
SABO M.te Sabotino 86.58 27 IAmb IAmb 03 40 42.0
comp=Z,101nm,1.2s
KOLS Kolonicke sedl 86.62 21 *e*P **P 03 40 40.7 0.0**
KOLS Kolonicke sedl 86.62 21 *e*P **P 03 40 40.7 0.0**
AKASG Malin Array Be 86.62 16 P **P 03 40 39.8 -0.9**
comp=Z,12nm,1.0s,baz=337,slow=4.0,SNR=54
AKASG LR LR 04 20 33.2
comp=Z,1µm,19.8s,baz=330,slow=36
comp=Z,12nm,1.0s
AKASG Malin Array Be 86.62 16 *i* P **P 03 40 39.9 -0.8**
AKASG pmax pmax
comp=Z,14nm,1.0s
AKBB Malin Array Si 86.62 16 IAmb IAmb 03 40 41.3
comp=Z,76nm,1.4s
AKBB Malin Array Si 86.62 16*ce*P **P 03 40 39.7 -1.0**
SMTB Santa Maria do 86.69 104 *e*P **P 03 40 41.6 +0.1**
SEM Semipalatinsk 86.76 344 *e*P **P 03 40 40.6 -1.0**
SEM Semipalatinsk 86.76 344 *e*P **P 03 40 40.6 -1.0**
baz=344
KURK Kurchatov 86.80 345 P **P 03 40 42.1 +0.5**
KURK Kurchatov 86.80 345*d*iP **P 03 40 41.4 -0.1**
KURK pmax pmax
comp=Z,35nm,1.0s
MPLH Magyarpolny 86.83 24 P **P 03 40 41.6 -0.2**
LJU Ljubljana 86.84 27 *i* P **P 03 40 41.5 -0.4**
TRI Trieste 86.87 27 IAmb IAmb 03 40 43.3
comp=Z,91nm,1.8s
PSZ Piszkesteto 86.88 22⇓P **P 03 40 42.8 +0.7**
PSZ Piszkesteto 86.88 22 P **P 03 40 42.7 +0.6**
CSKK Cskako 86.89 24 P **P 03 40 43.1 +1.1**
UZH Uzhgorod 86.90 21⇑*i*P **P 03 40 40.8 -1.3**
UZH *e* 03 40 44.0
UZH *i* 03 40 49.8
UZH *e* 03 44 10.2
UZH *i* 03 51 08.6
UZH *e*S **S 03 51 16.8 -2.9**
UZH *i* 03 52 15.6
UZH MLR MLR
comp=N,300nm,18.0s
UZH MLR MLR
comp=E,400nm,18.0s
UZH MLR MLR
comp=Z,100nm,18.0s
KURBB Kurchatov Arra 86.91 345 LR LR 04 23 36.2
comp=Z,430nm,18.2s,baz=339,slow=38
BUD Budapest 87.01 23 P **P 03 40 43.9 +1.2**
CEY Cerknica 87.07 27 *i* P **P 03 40 42.7 -0.4**
AVE Averroes 87.09 48 IAmb IAmb 03 40 44.5
comp=Z,96nm,1.4s
AVE IAMs_20 IAMs_20 04 19 52.4
comp=Z,1µm,19.0s
CART Cartagena 87.27 41 IAMs_20 IAMs_20 04 16 35.7
comp=Z,830nm,20.0s
VORR Voronezh 87.34 9⇓*i*P **P 03 40 44.1 -0.1**
VORR pmax pmax
comp=Z,50nm,1.4s
BELG Belogornoye 87.39 4 LR LR 04 25 05.3
comp=Z,476nm,18.3s,baz=344,slow=39
BELG Belogornoye 87.39 4*c i*P **P 03 40 43.9 -0.4**
BELG pmax pmax
comp=Z,10.0nm,1.0s
ZHG ZHG 87.42 47 P **P 03 40 46.0 +1.0**
SRHM Skhour des Reh 87.43 49 P **P 03 40 46.0 +0.9**
VSR Storozhevoye 87.79 10 *e*P **P 03 40 45.3 -1.0**
VSR pmax pmax
comp=Z,30nm,1.3s
OSSC Osservatorio P 87.83 30 IAmb IAmb 03 40 47.1
comp=Z,35nm,0.9s
KOVH Kovagotttos 87.97 24 P **P 03 40 46.9 -0.4**
MORH Mrgy, Hungar 88.03 24⇓P **P 03 40 47.2 -0.4**
MORH Mrgy, Hungar 88.03 24 P **P 03 40 46.9 -0.7**
VRH Novokhopyorsk 88.10 8 *e*P **P 03 40 46.7 -1.0**
VRH pmax pmax
comp=Z,20nm,1.1s
VRH MLR MLR
comp=Z,570nm,21.0s
AKLM AKL 88.14 45 P **P 03 40 48.0 -0.5**
LYN LuoYang 88.21 316⇓*i*P **P 03 40 48.1 -0.5**
LYN pP sP 03 40 53.0 -1.0
LYN sP pwP 03 40 55.1 -1.3
LYN PP **PP 03 44 19.8 +4.7**
LYN S **S 03 51 32.6 -0.1**
LYN pmax pmax
comp=Z,20nm,0.8s
LYN LR LR
comp=Z,500nm,17.5s
LYN LR LR
comp=Z,300nm,23.8s
LYN LR LR
comp=Z,720nm,32.6s
CASP Castiglione de 88.31 30 P **P 03 40 48.3 -0.7**
CASP IAmb IAmb 03 40 49.9
comp=Z,34nm,1.2s
OUK Oukaimeden 88.37 49 P **P 03 40 50.0 0.0**
ZSN Zaisan 88.42 340 *e*P **P 03 40 49.2 -0.2**
ZSN pmax pmax
comp=Z,21nm,1.6s
ZSN Zaisan 88.42 340 *e*P **P 03 40 49.2 -0.2**
comp=Z,21nm,1.6s,baz=340
TTIG Tnine Tigouga, 88.52 50 P **P 03 40 50.0 -0.3**
MURB Monte Urbino 88.53 29 IAmb IAmb 03 42 48.8
comp=Z,65nm,1.0s
BRZS Berezniki 88.56 348 *e*P **P 03 40 50.1 +0.1**
BRZS Berezniki 88.56 348 *e*P **P 03 40 50.1 +0.1**
baz=348
DZM Mont Dzumac 88.58 239 *e*S **S 03 51 35.5 -1.0**
comp=Z,384nm,29.4s
DZM Mont Dzumac 88.58 239 *e*LR LR 04 08 57.1
comp=Z,3µm,22.8s
DZM Mont Dzumac 88.58 239 P **P 03 40 51.7 +1.2**
comp=Z,17nm,1.1s,baz=90,slow=9.4,SNR=3.9
comp=Z,17nm,1.1s
DZM Mont Dzumac 88.58 239 P **P 03 40 51.5 +1.0**
DZM IAmb IAmb 03 41 03.2
comp=Z,108nm,1.6s
BURAR Bucovina Array 88.60 19⇑P **P 03 40 50.1 -0.2**
BURAR Bucovina Array 88.60 19 P **P 03 40 50.4 0.0**
CZD Col de Zad 88.62 46 P **P 03 40 52.1 +1.1**
DRGR 88.70 21⇓P **P 03 40 50.4 -0.5**
AQDB Aquidauana 88.77 118 *e*P **P 03 40 51.4 +0.1**
LATE Laterza 88.82 30 IAmb IAmb 03 40 52.6
comp=Z,62nm,1.2s
ZON Zonda 88.88 134 P **P 03 40 51.9 +0.2**
ZON IAmb IAmb 03 41 08.4
comp=Z,44nm,1.3s
ZON Zonda 88.88 134 P **P 03 40 51.9 +0.2**
ZON pmax pmax
comp=Z,44nm,1.3s
SIRR Siria 88.88 22⇓P **P 03 40 51.4 -0.2**
FDMO Fiordimonte 88.94 29 IAmb IAmb 03 42 06.1
comp=Z,44nm,0.7s
JBK JBK 88.97 44 P **P 03 40 53.0 +0.6**
MDT Midelt 89.02 46 P **P 03 40 52.6 0.0**
comp=Z,18nm,1.0s,baz=325,slow=5.1,SNR=36
MDT LR LR 04 18 21.0
comp=Z,694nm,19.0s,baz=330,slow=34
comp=Z,18nm,1.0s
MDT Midelt 89.02 46 P **P 03 40 52.7 +0.1**
FRGS Fruska Gora 89.34 24⇑P **P 03 40 53.8 0.0**
BIZ Bicaz 89.45 19⇑P **P 03 40 54.3 0.0**
BZS Buzias 89.46 22⇓P **P 03 40 53.9 -0.4**
AKTO Aktyubinsk 89.48 358 LR LR 04 22 33.5
comp=Z,592nm,20.8s,baz=5.2,slow=37
C2SB Chapadao do Su 89.55 115 *e*P **P 03 40 55.5 +0.4**
ANTJ Antonio Joao (89.63 120 *e*P **P 03 40 55.1 -0.2**
MK31 Makanchi Array 89.68 341 *i* P **P 03 40 55.2 -0.2**
MKAR Makanchi Array 89.68 341 P **P 03 40 55.2 -0.2**
comp=Z,3.1nm,0.8s,baz=28,slow=5.5,SNR=20
MKAR PP **PP 03 44 29.4 +3.0**
comp=Z,2.2nm,1.1s,baz=53,slow=7.4,SNR=1.8
MKAR LR LR 04 23 29.6
comp=Z,450nm,18.2s,baz=18,slow=37
comp=Z,3.1nm,0.8s
MAKZ Makanchi 89.75 341 P **P 03 40 55.8 +0.1**
MAKZ IAMs_20 IAMs_20 04 23 31.9
comp=Z,619nm,19.0s
MAKZ Makanchi 89.75 341 P **P 03 40 55.8 +0.1**
MAKZ pmax pmax
comp=Z,31nm,1.0s
MAKZ MLR MLR
comp=Z,600nm,19.0s
LMEL Las Melosas 89.84 137 P **P 03 40 57.5 +1.3**
LMEL IAmb IAmb 03 41 13.9
comp=Z,64nm,1.7s
MILM Milestii Mici 90.11 17⇑P **P 03 40 57.4 +0.1**
DOPR Dopca 90.17 20⇓P **P 03 40 57.5 -0.2**
WHN Wuhan 90.19 312⇓*i*P P 03 41 06.7 +8.7
WHN pmax pmax
comp=Z,130nm,1.0s
WHN Wuhan 90.19 312⇓P **P 03 40 57.9 -0.1**
WHN pmax pmax
comp=Z,80nm,1.0s
GTA Gaotai 90.39 327 *e*P **P 03 40 59.7 +0.7**
GTA pP sP 03 41 04.8 +0.4
GTA sP pwP 03 41 08.2 +1.4
GTA PP **PP 03 44 34.2 +1.8**
GTA SKS **SKSac 03 51 30.7 +0.7**
GTA S **S 03 51 53.2 -0.1**
GTA sS sS 03 52 04.8 +4.8
GTA pmax pmax
comp=Z,16nm,1.4s
GTA pmax pmax
comp=Z,70nm,5.2s
GTA LR LR
comp=Z,520nm,20.4s
GTA LR LR
comp=Z,830nm,21.1s
GTA LR LR
comp=Z,1µm,21.1s
XAN Xi'an 90.47 317 P **P 03 40 58.5 -0.8**
XAN pP sP 03 41 03.9 -0.8
XAN SKS **SKSac 03 51 29.8 -0.6**
XAN S **ScS 03 51 56.0 -1.7**
XAN pmax pmax
comp=Z,53nm,1.4s
XAN pmax pmax
comp=Z,290nm,5.4s
XAN LR LR
comp=Z,220nm,20.6s
XAN LR LR
comp=Z,650nm,19.7s
XAN LR LR
comp=Z,810nm,21.6s
AB31 Akbulak array 90.58 356 *i* P **P 03 40 59.8 +0.3**
ABKAR Akbulak array 90.58 356 P **P 03 40 59.9 +0.5**
MLR Muntele Rosu 90.76 20⇓P **P 03 41 00.2 -0.4**
MLR Muntele Rosu 90.76 20 P **P 03 41 00.4 -0.2**
comp=Z,3.8nm,0.9s,baz=322,slow=3.4,SNR=3.3
MLR LR LR 04 23 26.5
comp=Z,2µm,19.0s,baz=334,slow=37
comp=Z,3.8nm,0.9s
BDFB Brasilia 90.86 110 P **P 03 41 01.5 +0.2**
comp=Z,13nm,1.0s,baz=271,slow=3.1,SNR=11
BDFB LR LR 04 25 42.9
comp=Z,700nm,20.1s,baz=320,slow=38
comp=Z,13nm,1.0s
BDFB Brasilia 90.86 110 P **P 03 41 00.8 -0.6**
BDFB Brasilia 90.86 110 *e*P **P 03 41 00.9 -0.4**
WMQ Urumqi 90.94 337 *e*P **P 03 41 02.4 +1.0**
WMQ pP pP 03 41 05.1 -0.2
WMQ pmax pmax
comp=Z,36nm,1.1s
WMQ pmax pmax
comp=Z,150nm,4.3s
WMQ LR LR
comp=Z,840nm,24.7s
WMQ LR LR
comp=Z,660nm,20.5s
WMQ LR LR
comp=Z,790nm,27.7s
SDBA SAO DESIDERIO 91.00 105 *e*P **P 03 41 01.9 -0.1**
SSLB Suanglung 91.10 303 IAMs_20 IAMs_20 04 24 21.7
comp=Z,662nm,19.0s
LZH Lanzhou 91.34 322 *e*P **P 03 41 03.7 +0.2**
LZH SKS **SKSac 03 51 30.6 -5.0**
LZH S **SKKSac 03 51 50.0 -1.1**
LZH pmax pmax
comp=Z,14nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.5s
LZH LR LR
comp=Z,980nm,16.9s
LZH LR LR
comp=Z,690nm,17.7s
LZH LR LR
comp=Z,1µm,19.0s
FIGM Figuig 91.36 44 P **P 03 41 04.0 +0.4**
BLKB Belogradchik 91.59 22⇓P **P 03 41 03.2 -1.2**
CFR Carcaliu 91.60 18⇓P **P 03 41 03.9 -0.3**
PDG Podgorica 91.62 25⇑P **P 03 41 04.6 +0.1**
PDG Podgorica 91.62 25 P **P 03 41 04.0 -0.4**
PDG IAmb IAmb 03 41 05.2
comp=Z,45nm,1.2s
CPUP Villa Florida 91.79 123 P **P 03 41 04.6 -0.6**
comp=Z,11nm,1.0s,baz=328,slow=4.9,SNR=17
CPUP LR LR 04 24 25.3
comp=Z,236nm,21.0s,baz=338,slow=37
comp=Z,11nm,1.0s
CPUP Villa Florida 91.79 123 *e*P **P 03 41 05.2 0.0**
ITRB Iturama 91.91 114 *e*P **P 03 41 06.1 +0.1**
IPMB Ipameri, GO 92.27 112 *e*P **P 03 41 08.0 +0.2**
TDK Taldyqorghan 92.28 343 *e*P **P 03 41 07.6 +0.1**
TDK Taldyqorghan 92.28 343 *e*P **P 03 41 07.7 +0.1**
baz=343
TRCB Terra Rica 92.43 118 IAmb IAmb 03 41 09.2
comp=Z,23nm,0.8s
TRCB Terra Rica 92.43 118 *e*P **P 03 41 08.2 -0.2**
PCMB Pacaembu 92.56 116 *e*P **P 03 41 08.9 0.0**
MCR1 Marechal Candi 92.63 120 *e*P **P 03 41 09.3 0.0**
VTS Vitosha 92.68 22⇓P **P 03 41 08.9 -0.7**
ENH Enshi 93.10 315 P **P 03 41 10.9 -0.7**
ENH IAmb IAmb 03 41 20.7
comp=Z,26nm,0.8s
BTLS Baital 93.12 346 *e*P **P 03 41 10.5 -0.8**
BTLS Baital 93.12 346 *e*P **P 03 41 10.6 -0.8**
baz=346
JANB Januaria 93.16 107 *e*P **P 03 41 10.2 -1.7**
RCBR Riachuelo 93.51 95 LR LR 04 26 17.0
comp=Z,277nm,21.2s,baz=97,slow=38
RCBR Riachuelo 93.51 95 IAMs_20 IAMs_20 04 22 58.8
comp=Z,800nm,21.0s
RCBR Riachuelo 93.51 95 *e*P **P 03 41 13.8 +0.2**
PDGK Podgornoye 93.62 342 P **P 03 41 12.9 -0.9**
KEST Kesra 93.64 35 P **P 03 41 13.9 -0.1**
comp=Z,17nm,1.0s,baz=275,slow=3.3,SNR=4.1
KEST PP **PP 03 44 50.6 -7.4**
comp=Z,3.8nm,1.0s,baz=298,slow=10,SNR=2.7
KEST LR LR 04 21 13.0
comp=Z,822nm,20.3s,baz=274,slow=34
comp=Z,17nm,1.0s
KEST Kesra 93.64 35 IAmb IAmb 03 41 15.3
comp=Z,33nm,1.1s
TIP Timpagrande 93.65 28 IAmb IAmb 03 41 14.7
comp=Z,30nm,1.3s
TIP IAMs_20 IAMs_20 04 24 07.4
comp=Z,1µm,20.0s
KPKS Kokpek 93.67 343 *e*P **P 03 41 13.4 -0.6**
KPKS Kokpek 93.67 343 *e*P **P 03 41 13.4 -0.6**
baz=342
CHKK Chushkaly 93.68 344 *e*P **P 03 41 13.1 -0.8**
CHKK Chushkaly 93.68 344 *e*P **P 03 41 13.2 -0.8**
baz=344
KBN Korca 93.74 25 IAmb IAmb 03 41 16.6
comp=Z,29nm,1.3s
KUU Kurty 93.78 344 *e*P **P 03 41 13.6 -0.8**
KUU Kurty 93.78 344 *e*P **P 03 41 13.7 -0.8**
baz=344
SHLS Shalkode 93.79 342 *e*P **P 03 41 14.0 -0.6**
SHLS pmax pmax
comp=Z,5.0nm,0.7s
SHLS Shalkode 93.79 342 *e*P **P 03 41 14.1 -0.6**
comp=Z,5.5nm,0.7s,baz=342
ANN Anapa 93.81 12 *e*P **P 03 41 12.7 -1.8**
ANN *e* 03 44 56.0
ANN *e*S **SKSac 03 51 40.3 -8.3**
ANN pmax pmax
comp=Z,53nm,1.1s
ANN MLR MLR
comp=Z,853nm,18.0s
PMNB Patos De Minas 93.89 111 *e*P **P 03 41 15.2 -0.1**
UZB Uzynbulak 93.90 342 *e*P **P 03 41 15.4 +0.3**
UZB Uzynbulak 93.90 342 *e*P **P 03 41 15.5 +0.3**
baz=342
PTGB Pitanga 94.11 119 *e*P **P 03 41 16.5 +0.3**
SATY Saty 94.12 343 *e*P **P 03 41 15.6 -0.6**
SATY Saty 94.12 343 *e*P **P 03 41 15.6 -0.6**
baz=343
CEL Celeste 94.14 29 IAMs_20 IAMs_20 04 22 58.4
comp=Z,756nm,19.0s
VAE Valguarnera 94.26 31 LR LR 04 23 35.4
comp=Z,1µm,18.5s,baz=24,slow=36
FRBT Francisco Belt 94.31 121 *e*P **P 03 41 17.0 0.0**
MDOK Medeo 94.33 344 *e*P **P 03 41 16.2 -0.9**
MDOK Medeo 94.33 344 *e*P **P 03 41 16.3 -0.9**
baz=344
MC01 Montes Claros 94.50 108 *e*P **P 03 41 18.3 +0.2**
BBTS Babate 94.54 67 LR LR 04 21 32.1
comp=Z,3µm,19.3s,baz=281,slow=34
SGDS Sogindy 94.55 345 *e*P **P 03 41 17.1 -0.9**
SGDS Sogindy 94.55 345 *e*P **P 03 41 17.2 -0.8**
baz=345
ITQB Itaqui 94.57 125 *e*P **P 03 41 17.6 -0.4**
CRSM Crissiumal (Br 94.70 122 *e*P **P 03 41 19.4 +0.7**
TKM2 Tokmak 2 94.86 345 *i* P **P 03 41 20.1 +0.4**
TKM2 pmax pmax
comp=Z,21nm,1.5s
PLCA Paso Flores 95.01 141 P **P 03 41 21.0 +1.2**
comp=Z,1.7nm,0.9s,baz=280,slow=5.0,SNR=3.2
PLCA LR LR 04 17 22.6
comp=Z,415nm,18.3s,baz=344,slow=31
comp=Z,1.7nm,0.9s
PLCA Paso Flores 95.01 141 *e*P **P 03 41 19.9 0.0**
UNIS Unistalda (Bra 95.13 124 *e*P **P 03 41 20.0 -0.6**
GOMU GeErMu 95.19 328 P **P 03 41 19.6 -1.9**
GOMU pP PcP 03 41 23.0 +1.2
GOMU SKS **SKSac 03 51 55.3 -2.0**
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU LR LR
comp=Z,860nm,22.4s
GOMU LR LR
comp=Z,620nm,20.7s
GOMU LR LR
comp=Z,970nm,20.1s
SOC Sochi 95.35 11 *e*P **P 03 41 20.4 -1.1**
SOC *e*S **SKSac 03 51 55.8 -1.2**
SOC *e* 03 52 36.6
SOC *e*SSS SSS 04 02 53.3
SOC pmax pmax
comp=Z,23nm,1.3s

SOC MLR MLR
comp=Z,607nm,21.0s
AAK Ala-Arcba 95.36 345 LR LR 04 28 23.0
comp=Z,562nm,19.0s,baz=16,slow=38
AAK Ala-Arcba 95.36 345 P **P** **03 41 23.2 +1.4**
AAK Ala-Arcba 95.36 345 IAMs_20 IAMs_20 04 28 20.8
comp=Z,569nm,19.0s
AAK Ala-Arcba 95.36 345 P **P** **03 41 23.2 +1.4**
AAK pmax pmax
comp=Z,6.0nm,1.2s
KIV Kislovodsk 95.36 8 IAMs_20 IAMs_20 04 26 02.0
comp=Z,496nm,19.0s
KIV Kislovodsk 95.36 8 *i* P **P** **03 41 21.2 -0.5**
KIV *i* S **SKSac** **03 52 00.4 +3.1**
KIV *i* PS **PS** **03 53 57.6 +2.3**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,439nm,18.0s
KVAR Kislovodsk Arr 95.36 8 LR LR 04 26 21.0
comp=Z,533nm,18.6s,baz=264,slow=37
NBLA Lagarto - SE 95.38 100 *e*P **P** **03 41 22.4 +0.3**
CD2 Chengdu 95.59 319 P **P** **03 41 19.0 -4.0**
CD2 S **S** **03 52 34.7 -4.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,590nm,18.6s
CD2 LR LR
comp=Z,490nm,16.2s
CD2 LR LR
comp=Z,570nm,17.2s
KK31 Karatay Array 95.60 348 *i* P **P** **03 41 23.7 +0.9**
KKAR Karatay Array 95.60 348 P **P** **03 41 23.5 +0.7**
KKAR Karatay Array 95.60 348 P **P** **03 41 23.5 +0.7**
KBZ Khabaz 95.61 8 P **P** **03 41 22.3 -0.4**
comp=Z,6.1nm,1.0s,baz=316,slow=5.3,SNR=10
KBZ LR LR 04 26 33.6
comp=Z,510nm,18.6s,baz=340,slow=37
comp=Z,6.1nm,1.0s
KBZ Khabaz 95.61 8*c**e*P **P** **03 41 22.0 -0.7**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
NBAN Anadia - AL 95.68 98 *e*P **P** **03 41 23.4 -0.1**
DIAM Diamantina, MG 95.72 109 *e*P **P** **03 41 23.4 -0.3**
ITAB Concordia 95.77 121 *e*P **P** **03 41 23.7 +0.2**
GDU01 Guandu, BA 95.79 103 *e*P **P** **03 41 23.7 -0.2**
NBRF Rio Formoso - 95.92 96 *e*P **P** **03 41 24.5 0.0**
RODS Rosario do Sul 95.93 125 *e*P **P** **03 41 22.9 -1.3**
NRN Naryn 96.21 344 P **P** **03 41 26.9 +1.0**
NRN Naryn 96.21 344 P **P** **03 41 26.9 +1.0**
NRN pmax pmax
comp=Z,5.0nm,0.6s
ALGR Alto Alegre (B 96.25 123 *e*P **P** **03 41 26.1 +0.4**
VAO Valinhos 96.45 115 *e*P **P** **03 41 26.6 -0.2**
TIJ01 Guaruva-PR 96.58 118 *e*P **P** **03 41 27.3 -0.2**
IUG luznay 96.61 348 *e*P **P** **03 41 27.9 +0.5**
IUG luznay 96.61 348 *e*P **P** **03 41 28.0 +0.5**
baz=348
ZEI Tsey 96.64 8 *e*P P 03 41 13.5 -14
BSCB Bom Sucesso 96.68 112 *e*P **P** **03 41 27.6 -0.4**
MAK Makhachkala 96.78 5 *e*P P 03 41 22.4 -5.6
MAK *e* 03 51 56.7
MAK *e*SS SS 03 59 26.1 +3.9
MAK *e*SSS SSS 04 03 06.4
MAK pmax pmax
comp=Z,114nm,1.1s
MAK MLR MLR
comp=Z,728nm,17.0s
CPSB Cacapava Do Su 97.08 124 *e*P **P** **03 41 29.2 -0.2**
TRQA Tornquist 97.39 135 *e*P **P** **03 41 29.0 -1.7**
GUA01 Guaratinga, BA 97.44 105 *e*P **P** **03 41 30.5 -0.9**
ANTO Ankara 97.71 17 P Pdif 03 41 33.0 +0.5
ANTO Ankara 97.71 17 IAMs_20 IAMs_20 04 26 05.9
comp=Z,950nm,21.0s
ANTO Ankara 97.71 17 P Pdif 03 41 33.0 +0.5
ANTO pmax pmax
comp=Z,9.0nm,0.9s
ANTO MLR MLR
comp=Z,900nm,21.0s
SJMB Sao Joao De Ma 97.79 108 *e*P Pdif 03 41 33.1 +0.1
TGY Tagaytay City 97.96 296 LR LR 04 17 32.0
comp=Z,647nm,21.7s,baz=177,slow=30
CNLB Canela 98.00 122 *e*P **P** **03 41 33.4 -0.3**
NAN01 Guarapari, ES 98.01 106 *e*P Pdif 03 41 34.2 +0.2
BRTR Keskin Array B 98.03 16 P Pdif 03 41 34.4 +0.4
comp=Z,0.5nm,0.9s,baz=297,slow=13,SNR=1.5
BRTR PP **PP** **03 45 32.0 +0.3**
comp=Z,0.8nm,0.7s,baz=278,slow=8.0,SNR=2.4
BRTR PKKPbc **PKKPbc** **03 58 06.2 0.0**
comp=Z,0.7nm,0.8s,baz=175,slow=3.6,SNR=3.6
BRTR LR LR 04 26 31.6
comp=Z,849nm,21.0s,baz=350,slow=36
TER01 Tubaro-SC 98.61 120 *e*P **P** **03 41 35.6 -0.8**
SANT Santorini 99.10 23 IAMs_20 IAMs_20 04 27 29.6
comp=Z,1μm,21.0s
ISP Isparta 99.13 19 IAMs_20 IAMs_20 04 28 33.9
comp=Z,652nm,18.0s
GNI Garni 99.34 7 LR LR 04 28 43.5
comp=Z,403nm,20.1s,baz=350,slow=37
DAV Davao City (W) 99.52 288 LR LR 04 19 03.9
comp=Z,812nm,20.9s,baz=25,slow=31
GAR Garm 99.64 347 P **Pdif** **03 41 42.0 +0.8**
GAR IAmb IAmb 03 42 07.0
comp=Z,16nm,1.0s
IDI Anoyia 99.92 24 LR LR 04 30 17.2
comp=Z,367nm,18.1s,baz=307,slow=38
PZH PanZhiHua 100.19 318 P **Pdif** **03 41 43.0 -0.9**
PZH PP **PP** **03 45 47.7 -1.1**
PZH SKS **SKSac** **03 52 18.5 -4.1**
PZH S **Sdif** **03 53 18.5 -0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,4.6s
PZH LR LR
comp=Z,810nm,19.6s
PZH LR LR
comp=Z,1μm,20.6s
PZH LR LR
comp=Z,1μm,21.1s
KARP Karpathos 100.37 22 IAMs_20 IAMs_20 04 28 20.2
comp=Z,826nm,19.0s
FAKI Fak Fak 101.13 276 IAMs_20 IAMs_20 04 21 19.9
comp=Z,736nm,21.0s
QIZ Qiongzhong 101.56 307 P **Pdif** **03 41 47.5 -2.4**
QIZ PP **PP** **03 46 03.8 +4.5**
QIZ S **Sdif** **03 53 27.4 -3.0**
QIZ SS **SS** **04 00 37.1 +6.1**
QIZ LR LR
comp=Z,570nm,27.1s
QIZ LR LR
comp=Z,370nm,31.9s
QIZ LR LR
comp=Z,500nm,24.7s
TAM Tamanrasset 102.40 45 IAMs_20 IAMs_20 04 31 34.9
comp=Z,793nm,18.0s
TNTI Ternate 102.41 282 IAMs_20 IAMs_20 04 18 15.0
comp=Z,499nm,22.0s
KOWA Kowa 103.11 58 PP **PP** **03 46 09.0 -2.1**
comp=Z,4.7nm,1.2s,baz=320,slow=5.8,SNR=4.2
MYLDM Lahad Datu 105.91 291 IAMs_20 IAMs_20 04 23 08.0
comp=Z,706nm,20.0s
KKM Kota Kinabalu 106.92 294 IAMs_20 IAMs_20 04 23 07.3
comp=Z,866nm,22.0s
TORD Torodi Ar. Bea 107.75 54 Pdiff **Pdif** **03 42 16.7 -0.8**
comp=Z,1.2nm,1.1s,baz=298,slow=6.4,SNR=3.6
TORD PP **PP** **03 46 40.2 -5.2**
comp=Z,6.7nm,1.1s,baz=318,slow=11,SNR=11
CMAR Chiang Mai Arr 108.26 315 PKiKP **PKiKP** **03 46 30.2 +4.1**
comp=Z,1.5nm,0.3s,baz=93,slow=1.9,SNR=4.6
CMAR PP **PP** **03 46 49.7 +0.9**
comp=Z,1.5nm,0.3s,baz=14,slow=5.0,SNR=2.2
WRA Warramunga Arr 110.14 261 PKiKP **PKiKP** **03 46 28.5 -1.0**
comp=Z,0.7nm,1.0s,baz=35,slow=1.8,SNR=2.2
WRA PP **PP** **03 46 56.8 -6.7**
comp=Z,1.0nm,0.9s,baz=58,slow=5.9,SNR=3.8
KAPI Kappang 111.91 283 IAMs_20 IAMs_20 04 26 01.2
comp=Z,500nm,19.0s
SBUM Sibu 112.26 294 IAMs_20 IAMs_20 04 33 02.8
comp=Z,594nm,18.0s
ASAR Alice Springs 112.66 258 Pdiff **Pdif** **03 42 40.5 +1.4**
comp=Z,0.2nm,0.4s,baz=69,slow=3.2,SNR=1.4
ASAR PKiKP **PKiKP** **03 46 34.1 0.0**
comp=Z,1.1nm,1.0s,baz=57,slow=3.4,SNR=5.3
ASAR PP **PP** **03 47 16.3 -5.3**
comp=Z,1.7nm,1.1s,baz=54,slow=6.3,SNR=2.9
ASAR PKKPbc **PKKPbc** **03 57 21.9 +0.4**
comp=Z,1.2nm,0.8s,baz=225,slow=4.1,SNR=9.5
ASAR PKKPab **PKKPab** **03 57 28.6 -1.0**
comp=Z,3.0nm,1.1s,baz=216,slow=4.6,SNR=9.1
VNDA Vanda 125.48 195 PKP **PKiKP** **03 46 57.5 0.0**
comp=Z,1.2nm,0.9s,baz=13,slow=3.4,SNR=4.8
VNDA Vanda 125.48 195 PKiKP **PKiKP** **03 46 58.9 +1.4**
QSPA South Pole Qui 130.22 180 PKPdf **PKPdf** **03 47 05.9 -0.6**
VNA3 Neumayer Olymp 135.97 155 PKPdf **PKPdf** **03 47 16.7 -0.4**
VNA1 Neumayer--Stat 136.53 155 PKPdf **PKPdf** **03 47 17.0 -1.1**
VNA2 Neumayer--Watz 136.76 155 PKPdf **PKPdf** **03 47 18.4 -0.2**
baz=293,slow=3.0
KMBO Kilima Mbogo 137.91 26 PKP **PKiKP** **03 47 24.2 -0.6**
comp=Z,7.8nm,1.0s,baz=2.8,slow=3.9,SNR=9.3
KMBO Kilima Mbogo 137.91 26 PKPdf **PKiKP** **03 47 24.0 -0.8**
KMBO Kilima Mbogo 137.91 26 PKiKP **PKiKP** **03 47 24.0 -0.8**
SNAA Sanae 138.01 157 PKPdf **PKPdf** **03 47 20.0 -1.0**
SNAA Sanae 138.01 157 PKPdf **PKPdf** **03 47 21.1 +0.1**
SNAA Sanae 138.01 157 PKiKP **PKPdf** **03 47 21.1 +0.1**
TROLL Troll, Antarti 139.49 158 PKPdf **PKPdf** **03 47 21.8 -2.0**
TSUM Tsumeb 142.08 67 PKPdf **PKPdf** **03 47 29.1 -0.9**
LSZ Lusaka 146.13 50 PKPdf **PKPdf** **03 47 37.2 +0.1**
LSZ Lusaka 146.13 50 PKP2 **PKPdf** **03 47 37.3 +0.1**
LBTB Lobatse 151.48 66 **PKPbc** **03 47 50.5 -1.2**
LBTB Lobatse 151.48 66 PKIKP **PKPbc** **03 47 50.5 -1.2**
MAW Mawson 152.35 187 PKPbc **PKPbc** **03 47 52.1 0.0**
comp=Z,15nm,0.8s,baz=137,slow=5.8,SNR=14
BOSA Boshof 153.38 73 PKPbc **PKPbc** **03 47 55.4 -0.5**
comp=Z,8.1nm,0.8s,baz=287,slow=2.4,SNR=10

*CNRM **03** 03:47:46.4, 32.˚18N×14.˚24W, h203km*
INMG 03 03:47:36.1±1.2, 33.˚05N×15.˚29W, h10km, ML2.1, Error ellipse: s-maj=20.2km s-min=12.1km az=162.0, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPS	**Porto Santo**	**0.88**	**270**	*e*P	Pg	03 47 48.5	-4.5
PMPS				*e*S	Sg	03 47 58.2	-6.2
PMPS				A	A	03 47 59.0	
29nm,0.2s							
PMPST	**Porto Santo, M**	**0.88**	**272**	*e*P	Pg	03 47 48.5	-4.5
PMPST				*e*S	Sg	03 47 58.8	-5.7
PMPST				A	A	03 48 00.2	
32nm,0.7s							
PMAR	**Madeira**	**1.41**	**257**	*e*P	Pn	03 47 56.9	-5.1
PMAR				*e*S	Sb	03 48 11.2	-9.4
PMAR				A	A	03 48 15.4	
37nm,0.2s							
FUL	**Funchal**	**1.41**	**254**	*e*S	Sn	03 48 10.8	-10
FUL				A	A	03 48 15.0	
22nm,0.2s							
PMOZ	**Porto Moniz, M**	**1.62**	**262**	*e*S	Sn	03 48 16.4	-9.5
PMOZ				A	A	03 48 18.8	
28nm,0.5s							
TTIG	**Tnine Tigouga,**	**6.34**	**111**	P	Pn	03 49 03.5	-6.2
TTIG				S	Sn	03 50 05.1	-17
ZHG	**ZHG**	**7.25**	**85**	P	Pn	03 49 18.8	-3.4
ZHG				S	Sn	03 50 33.3	-11
LCRM	**LCR**	**8.75**	**83**	P	Pn	03 49 39.0	-3.8
LCRM				S	Sn	03 51 07.6	-14
MD31	**MD31**	**8.85**	**88**	P	Pn	03 49 40.0	-4.1
MD31				S	Sn	03 51 10.6	-13
MDT	**Midelt**	**8.98**	**89**	P	Pn	03 49 41.6	-4.4
MDT				S	Sn	03 51 15.2	-12

IDC 03 03:51:50.9±2.2, 3.˚66N×126.˚76E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=172.2km s-min=27.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.61**	**163**	P	P	03 57 11.8	-1.3
0.9nm,0.7s,baz=342,slow=10,SNR=10							
0.9nm,0.7s							
ASAR	**Alice Springs**	**28.04**	**166**	P	P	03 57 45.9	+1.8
0.1nm,0.3s,baz=346,slow=13,SNR=2.4							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	04 01 42.8	-0.1
0.4nm,0.6s,baz=113,slow=7.3,SNR=4.6							
0.4nm,0.6s							

*IDC **03** 04:04:33.2±1.4, 18.˚80S×177.˚75W, h579km±17km, mb3.0/6, mbtmp4.0/9, Error ellipse: s-maj=40.4km s-min=15.4km az=151.0*
ISC 03 04:04:32.8±0.8, 18.˚8S±0.˚2×177.˚7W±0.˚1, h570km, n10, σ1s20/10, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.18**	**284**	P	**P**	**04 05 59.9**	**+2.4**
5.0nm,0.3s,baz=277,slow=17,SNR=4.8							
AFI	**Afiamalu**	**7.46**	**50**	P	**P**	**04 06 25.4**	**-0.7**
21nm,0.4s,baz=199,slow=0.4,SNR=5.5							
RAO	**Raoul Island**	**10.43**	**181**	P	**P**	**04 06 55.8**	**+0.7**
110nm,0.3s,baz=269,slow=22,SNR=1.0							
DZM	**Mont Dzumac**	**15.23**	**255**	P	**P**	**04 07 43.7**	**-0.5**
4.0nm,0.7s,baz=97,slow=16,SNR=1.8							
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**04 11 08.8**	**-0.9**
2.0nm,0.5s,baz=77,slow=9.5,SNR=8.1							
2.0nm,0.5s							
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**04 11 58.6**	**-1.0**
1.1nm,0.4s,baz=98,slow=7.5,SNR=50							
1.1nm,0.4s							
ASAR	**Alice Springs**	**45.22**	**255**	P	**P**	**04 11 59.1**	**-1.0**
3.4nm,0.7s,baz=87,slow=8.2,SNR=41							
3.4nm,0.7s							
NVAR	**Mina Array Bea**	**79.58**	**43**	P	**P**	**04 15 41.9**	**+0.3**
0.3nm,0.7s,baz=220,slow=6.8,SNR=2.7							
0.3nm,0.7s							
TXAR	**Lajitas Array**	**85.89**	**57**	P	**P**	**04 16 13.8**	**+0.5**
0.5nm,0.8s,baz=216,slow=6.6,SNR=7.3							
0.5nm,0.8s							
ILAR	**Eielson Array**	**86.58**	**13**	P	**P**	**04 16 15.2**	**-0.5**
0.4nm,0.8s,baz=224,slow=5.0,SNR=2.5							
0.4nm,0.8s							

*SOME **03** 04:10:05.0, 40.˚80N×77.˚97E, h10km*
*KRNET **03** 04:10:09.7±0.1, 41.˚02N×77.˚85E, mb2.6*
*NNC **03** 04:10:09.3±1.6, 40.˚97N×77.˚98E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=11.2km s-min=8.5km az=3.0*
ISC 03 04:10:07.8±2.1, 40.˚93N±0.˚09×77.˚90E±0.˚04, h16km±16km, n45, σ1s40/71, 8C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.52**	**290**	⇑*e*P	**Pg**	**04 10 37.4**	**+0.3**
baz=87							
NRN				⇑*i*S	**Sg**	**04 10 57.9**	**+1.0**
baz=87							
ULHL	**Ulahol**	**1.81**	**317**	⇑*i*P	**Pb**	**04 10 42.0**	**+1.3**
baz=16							
ULHL				⇑*i*S	**Sg**	**04 11 05.7**	**-0.4**
baz=16							
SATY	**Saty**	**2.16**	**10**	*e*P	**Pb**	**04 10 48.1**	**+1.4**
11nm,0.1s							
SATY				*e*S	**Sg**	**04 11 18.4**	**+1.1**
20nm,0.5s							
SATY	**Saty**	**2.16**	**10**	Pg	**Pb**	**04 10 48.1**	**+1.4**
11nm,0.5s							
SATY				Lg	Lg	04 11 18.4	
20nm,0.5s							
IZV	**Izvestkoviy**	**2.31**	**336**	*e*P	**Pb**	**04 10 51.0**	**+1.7**
10nm,0.2s							
IZV				*e*S	**Sg**	**04 11 23.2**	**+1.0**
12nm,0.5s							
IZV	**Izvestkoviy**	**2.31**	**336**	Pg	**Pb**	**04 10 51.0**	**+1.7**
10nm,0.2s							
IZV				Lg	Lg	04 11 23.2	
12nm,0.5s							
MDOK	**Medeo**	**2.32**	**344**	*e*P	**Pb**	**04 10 50.5**	**+1.2**
5.3nm,0.4s							
MDOK				*e*S	**Sg**	**04 11 22.5**	**+0.1**
8.0nm,0.0s							
MDOK	**Medeo**	**2.32**	**344**	Pn	**Pb**	**04 10 49.9**	**+0.5**
5.4nm,0.4s							
MDOK				Pg	**Pb**	**04 10 50.5**	**+1.2**
5.3nm,0.4s							
MDOK				Sn	**Sg**	**04 11 21.6**	**-0.8**
9.5nm,0.5s							
MDOK				Lg	Lg	04 11 22.5	
8.0nm,0.5s							
UZB	**Uzynbulak**	**2.37**	**20**	*e*P	**Pb**	**04 10 51.0**	**+0.9**
2.1nm,0.4s							
UZB				*e*S	**Sg**	**04 11 23.4**	**-0.6**
8.3nm,0.1s							
UZB	**Uzynbulak**	**2.37**	**20**	Pg	**Pb**	**04 10 51.0**	**+0.9**
2.1nm,0.4s							
UZB				Lg	Lg	04 11 23.4	
8.6nm,0.7s							
KOTS	**Kotyrbulak**	**2.38**	**346**	*e*P	**Pb**	**04 10 51.8**	**+1.4**
12nm,0.1s							
KOTS				*e*S	**Sg**	**04 11 24.6**	**+0.4**
17nm,0.1s							
KOTS	**Kotyrbulak**	**2.38**	**346**	Pg	**Pb**	**04 10 51.8**	**+1.4**
12nm,0.4s							
KOTS				Lg	Lg	04 11 24.6	
16nm,0.6s							
MTBS	**Maitube**	**2.46**	**334**	*e*P	**Pb**	**04 10 52.8**	**+1.1**
3.9nm,0.2s							
MTBS				*e*S	**Sg**	**04 11 26.0**	**-0.8**
6.5nm,0.3s							
MTBS	**Maitube**	**2.46**	**334**	Pg	**Pb**	**04 10 52.8**	**+1.1**
3.9nm,0.2s							
MTBS				Lg	Lg	04 11 26.0	
6.5nm,0.3s							
SHLS	**Shalkode**	**2.51**	**27**	*e*P	**Pg**	**04 10 56.0**	**0.0**
5.3nm,0.1s							
SHLS				*e*S	**Sg**	**04 11 31.6**	**+3.1**
14nm,0.6s							
SHLS	**Shalkode**	**2.51**	**27**	Pg	**Pg**	**04 10 56.0**	**0.0**
5.3nm,0.3s							
SHLS				Lg	Lg	04 11 31.6	
14nm,0.6s							
KST	**Kastek**	**2.56**	**326**	*e*P	**Pb**	**04 10 54.4**	**+1.0**
3.7nm,0.1s							
KST				*e*S	**Sg**	**04 11 28.8**	**-1.3**
15nm,0.7s							
KST	**Kastek**	**2.56**	**326**	Pg	**Pb**	**04 10 54.4**	**+1.0**
3.7nm,0.2s							
KST				Lg	Lg	04 11 28.8	
15nm,0.7s							
KURS	**Kuram**	**2.56**	**4**	*e*P	**Pb**	**04 10 55.1**	**+1.6**
18nm,0.1s							
KURS				*e*S	**Sg**	**04 11 30.3**	**+0.1**
12nm,0.7s							
KURS	**Kuram**	**2.56**	**4**	Pg	**Pb**	**04 10 55.1**	**+1.6**
17nm,0.6s							
KURS				Lg	Lg	04 11 30.3	
12nm,0.7s							
KPKS	**Kokpek**	**2.60**	**13**	*e*P	**Pb**	**04 10 55.0**	**+0.9**
18nm,0.1s							
KPKS				*e*S	**Sg**	**04 11 30.2**	**-1.2**
21nm,0.1s							
KPKS	**Kokpek**	**2.60**	**13**	Pg	**Pb**	**04 10 55.0**	**+0.9**
18nm,0.4s							
KPKS				Lg	Lg	04 11 30.2	
21nm,0.6s							
TKM2	**Tokmak 2**	**2.63**	**320**	⇓Pn	**Pb**	**04 10 54.9**	**+0.3**
1.9nm,0.6s							
TKM2				⇑Lg	Lg	04 11 32.9	
2.8nm,0.5s							
TKM2	**Tokmak 2**	**2.63**	**320**	⇑⇓*e*P	**Pb**	**04 10 54.5**	**-0.2**
baz=19							
TKM2				⇑*i*S	**Sb**	**04 11 26.7**	**-0.1**
baz=19							
PDGK	**Podgornoye**	**2.67**	**26**	⇓Pn	**Pb**	**04 10 54.6**	**-0.8**
2.9nm,0.5s							
PDGK				⇑Lg	Lg	04 11 31.9	
8.9nm,0.5s							
DGS	**Degeres**	**2.80**	**326**	*e*P	**Pb**	**04 10 59.3**	**+1.8**
5.1nm,0.2s							
DGS				*e*S	**Sg**	**04 11 37.5**	**-0.3**
9.2nm,0.1s							
DGS	**Degeres**	**2.80**	**326**	Pg	**Pb**	**04 10 59.3**	**+1.8**
5.1nm,0.4s							
DGS				Lg	Lg	04 11 37.5	
9.3nm,0.7s							
KBK	**Karagaybulak**	**2.80**	**309**	⇓*e*P	**Pb**	**04 10 56.7**	**-0.9**
baz=8.0							
KBK				⇓*e*S	**Sb**	**04 11 31.2**	**-0.5**
baz=8.0							
UCH	**Uchtor**	**2.85**	**298**	⇓*e*P	**Pb**	**04 10 57.9**	**-0.7**
baz=97							
UCH				⇓*i*S	**Sb**	**04 11 33.1**	**-0.3**
baz=97							
KTBS	**Karatobe**	**2.92**	**342**	*e*P	**Pb**	**04 11 00.8**	**+1.2**
9.5nm,0.1s							
KTBS				*e*S	**Sg**	**04 11 40.2**	**-1.5**
17nm,0.1s							
KTBS	**Karatobe**	**2.92**	**342**	Pg	**Pb**	**04 11 00.8**	**+1.2**
9.5nm,0.5s							
KTBS				Lg	Lg	04 11 40.2	
16nm,0.3s							
CHKK	**Chushkaly**	**3.00**	**347**	*e*P	**Pb**	**04 11 02.3**	**+1.5**
5.6nm,0.8s							
CHKK				*e*S	**Sg**	**04 11 42.5**	**-1.7**
8.3nm,0.4s							
CHKK	**Chushkaly**	**3.00**	**347**	Pg	**Pb**	**04 11 02.3**	**+1.5**
5.6nm,0.8s							
CHKK				Lg	Lg	04 11 42.4	
8.3nm,0.4s							
KTMS	**Ketmen**	**3.10**	**35**	*e*P	**Pb**	**04 11 03.6**	**+0.9**
1.7nm,0.2s							
KTMS				*e*S	**Sg**	**04 11 44.9**	**-2.6**
5.6nm,0.1s							
KTMS	**Ketmen**	**3.10**	**35**	Pg	**Pb**	**04 11 03.7**	**+0.9**
1.7nm,0.5s							
KTMS				Lg	Lg	04 11 44.9	
5.6nm,0.9s							
KUU	**Kurty**	**3.18**	**339**	*e*P	**Pb**	**04 11 05.3**	**+1.4**
1.8nm,0.1s							
KUU				*e*S	**Sg**	**04 11 47.6**	**-2.3**
4.5nm,0.0s							
KUU	**Kurty**	**3.18**	**339**	Pg	**Pb**	**04 11 05.3**	**+1.4**
1.8nm,0.4s							
KUU				Lg	Lg	04 11 47.6	
4.5nm,0.6s							
BLB	**Baldybastay**	**3.19**	**8**	*e*P	**Pb**	**04 11 05.4**	**+1.2**
7.6nm,0.0s							
BLB				*e*S	**Sg**	**04 11 48.0**	**-2.5**
10nm,0.1s							
BLB	**Baldybastay**	**3.19**	**8**	Pg	**Pb**	**04 11 05.4**	**+1.2**
7.6nm,0.2s							
BLB				Lg	Lg	04 11 47.9	
10nm,0.6s							
KRBS	**Karabastau**	**3.22**	**330**	*e*P	**Pb**	**04 11 05.9**	**+1.2**
3.3nm,0.1s							
KRBS				*e*S	**Sg**	**04 11 48.8**	**-2.4**
2.2nm,0.0s							
KRBS	**Karabastau**	**3.22**	**330**	Pg	**Pb**	**04 11 05.9**	**+1.2**
3.8nm,1.3s							
KRBS				Lg	Lg	04 11 48.8	
2.2nm,0.3s							
ARXS	**Arharly**	**3.28**	**359**	*e*P	**Pb**	**04 11 07.1**	**+1.4**
3.7nm,0.0s							
ARXS				*e*S	**Sg**	**04 11 50.9**	**-2.3**
7.4nm,0.3s							
ARXS	**Arharly**	**3.28**	**359**	Pg	**Pb**	**04 11 07.1**	**+1.4**
3.7nm,0.5s							
ARXS				Lg	Lg	04 11 50.9	
7.5nm,1.1s							
DJR	**Jarkent**	**3.67**	**22**	*e*P	**Pb**	**04 11 13.8**	**+1.3**
1.5nm,0.1s							
DJR				*e*S	**Sg**	**04 12 02.1**	**-3.7**
5.3nm,0.1s							
DJR	**Jarkent**	**3.67**	**22**	Pg	**Pb**	**04 11 13.7**	**+1.3**
1.5nm,0.5s							
DJR				Lg	Lg	04 12 02.1	
5.4nm,0.5s							

*WEL **03** 04:30:00, 37.˚36S×179.˚11E, h8km, ML5.5, Mw5.5, Moment Tensor Solution. s4 Moment tensor: Scale 10^17 Nm; Mrr-0.84; Mθθ0.58; Mϕϕ0.26; Mrθ1.44; Mrϕ-0.34; Mθϕ2.01; Fault plane solution: M0 2.52000×10^17 NP1: ϕs51.00000°, δ5.00000°, λ-76.00000°. NP2: ϕs216.00000°, δ85.00000°, λ-91.00000°. Principal axes: T -29159.0800, Plg40.0000°, Azm307.0000°; N 7969.7000, Plg1.0000°, Azm216.0000°; P 21189.3800, Plg50.0000°, Azm125.0000°;*
*WEL **03** 04:30:10.2±1.5, 37˚S±4˚×17˚9E±˚, h12km±5km, M5.5/84, ML5.7/85, MLv5.5/84 Error ellipse: s-maj=0.0km s-min=0.0km az=79.9*
*NEIC **03** 04:30:14.6±1.8, 37.˚50S±0.˚07×178.˚73E±0.˚10, h22km±3km, mb5.4/95, Mww5.3, ML5.0(WEL), Error ellipse: s-maj=11.3km s-min=10.5km az=85.0*

*NEIC **03** 04:30:16.0, 37°.56S × 178°.71E, h30km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.67; M_{tt}=0.16; M_{pp}=0.83; M_{rt}=0.75; M_{rp}=0.40; M_{tp}=0.55; Fault plane solution: $M_0$1.27000×10^{17} NP1: ϕ_s351.00000°, δ30.00000°, λ-141.00000°. NP2: ϕ_s226.00000°, δ72.00000°, λ-65.00000°. Principal axes: T 1.3022, Plg23.0000°, Azm297.0000°; N -0.0671, Plg23.0000°, Azm38.0000°; P -1.2351, Plg56.0000°, Azm168.0000°;*

*NOU **03** 04:30:16.6, 37°.85S × 178°.80E, h45km, mb5.4/46, Off E. Coast of N. Island, N.Z.*

*GCMT **03** 04:30:16.6±0.2, 37°.43S±0°.01 × 178°.79E±0°.01, h25km, MW5.3/108, Moment Tensor Solution. s90,c143; s108,c186; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.48±.02; M_{tt}=0.25±.01; M_{pp}=0.72±.01; M_{rt}=0.93±.05; M_{tp}=0.22±.01; M_{rp}=0.70±.04; Best double couple: $M_0$1.34200×10^{17} NP1:ϕ_s227.00000°, δ79.00000°, λ-67.00000°. NP2:ϕ_s341.00000°, δ25.00000°, λ-153.00000°. Principal axes: T 1.3110, Plg30.0000°, Azm298.0000°; N 0.0630, Plg22.0000°, Azm42.0000°; P -1.3740, Plg51.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **03** 04:30:17.6±1.2, 37°.32S × 178°.51E, h57km, mb5.5/19 Error ellipse: s-maj=11.4km s-min=9.8km az=101.4*

*IDC **03** 04:30:19.6±1.3, 37°.32S × 178°.41E, h65km±10km, mb4.8/24, mbtmp5.0/26, MS4.9/51, Error ellipse: s-maj=11.9km s-min=9.8km az=179.0*

ISC 03 04:30:15.4±0.6, **37°.48S**±0°.03 × **178°.69E**±0°.04, **h32**km±4km, **n631**, σ1§83/568, **mb5.4**/125, **MS4.9**/59, **12C-2D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.32**	**255**		**Pb**	**04 30 22.8**	**-0.5**
MXZ	**Matakaoa Point**	**0.32**	**255**	P	**Pb**	**04 30 22.6**	**-0.7**
MXZ				S	**Sb**	**04 30 39.9**	**+0.2**
WMGZ	**Waiomatatini S**	**0.40**	**213**	P	**Pn**	**04 30 25.5**	**+0.5**
WMGZ				S	**Sn**	**04 30 34.5**	**+3.1**
PKGZ	**Pakihiroa**	**0.64**	**230**	P	**Pb**	**04 30 28.9**	**+0.7**
PKGZ				S	**Sn**	**04 30 40.5**	**+3.3**
PUZ	**Puketiti**	**0.68**	**210**	P	**Pb**	**04 30 29.2**	**+0.3**
PUZ				S	**Sn**	**04 30 42.1**	**+3.7**
HAZ	**Te Kaha**	**0.77**	**249**	P	**Pb**	**04 30 30.8**	**+0.4**
TWGZ	**Tauwhareparae**	**0.90**	**219**	P	**Pb**	**04 30 33.1**	**+0.6**
TWGZ				S	**Sb**	**04 30 48.4**	**+4.3**
RUGZ	**Raukumara Rang**	**0.94**	**239**	P	**Pb**	**04 30 34.6**	**+1.3**
CNGZ	**Carnagh Statio**	**1.07**	**201**	P	**Pb**	**04 30 35.7**	**+0.2**
CNGZ				S	**Sb**	**04 30 53.5**	**+4.4**
TKGZ	**Te Karaka**	**1.17**	**215**	P	**Pb**	**04 30 37.1**	**+0.1**
WIZ	**White Island**	**1.20**	**267**	P	**Pb**	**04 30 37.7**	**+0.2**
WSRZ	**White Island S**	**1.21**	**268**	P	**Pb**	**04 30 37.9**	**+0.3**
MWZ	**Matawai**	**1.26**	**227**	P	**Pb**	**04 30 37.8**	**-0.7**
WHRZ	**Whale Island**	**1.41**	**254**	P	**Pb**	**04 30 41.1**	**-0.1**
RIGZ	**Rimuhau**	**1.41**	**211**	P	**Pb**	**04 30 40.4**	**-1.0**
RAGZ	**Rawiri**	**1.43**	**225**	P	**Pb**	**04 30 40.7**	**-0.8**
URZ	**Urewera**	**1.47**	**238**	P	**Pb**	**04 30 41.5**	**-0.6**
	5μm,0.5s,baz=73,slow=20,SNR=440						
URZ				S	**Sb**	**04 31 00.4**	**-0.2**
	9μm,0.4s,baz=73,slow=19,SNR=6.0						
URZ				LR	LR	04 31 32.7	
	comp=Z,41μm,20.2s,baz=166,slow=52						
URZ	**Urewera**	**1.47**	**238**	P	**Pb**	**04 30 41.3**	**-0.8**
URZ	**Urewera**	**1.47**	**238**	P	**Pb**	**04 30 42.4**	**+0.2**
PRGZ	**Paritu Road**	**1.57**	**204**	P	**Pn**	**04 30 41.2**	**+0.1**
EDRZ	**Edgecumbe**	**1.67**	**247**	P	**Pb**	**04 30 44.1**	**-1.4**
MARZ	**Manawahe**	**1.68**	**242**	P	**Pb**	**04 30 44.2**	**-1.4**
SNGZ	**Shannon Statio**	**1.68**	**219**	P	**Pn**	**04 30 43.3**	**+0.6**
KNZ	**Kokohu**	**1.74**	**207**	P	**Pn**	**04 30 42.9**	**-0.4**
OPRZ	**Ohinepanea**	**1.74**	**257**	P	**Pn**	**04 30 44.4**	**+1.2**
RTZ	**Ruatahuna**	**1.76**	**230**	P	**Pb**	**04 30 45.5**	**-1.6**
MHGZ	**Mahia Peninsul**	**1.78**	**200**	P	**Pn**	**04 30 43.8**	**-0.1**
MUGZ	**Murupara**	**1.82**	**236**	P	**Pn**	**04 30 45.9**	**+1.5**
MKRZ	**Makatiti**	**1.88**	**249**	P	**Pb**	**04 30 48.1**	**-1.1**
TARZ	**Mount Tarawera**	**1.89**	**246**	P	**Pn**	**04 30 47.4**	**+2.0**
LIRZ	**Lichensteins R**	**1.90**	**253**	P	**Pb**	**04 30 48.0**	**-1.4**
RAHZ	**Arahi**	**1.91**	**221**	P	**Pn**	**04 30 46.8**	**+1.1**
RRRZ	**Republican Roa**	**1.93**	**243**	P	**Pn**	**04 30 47.6**	**+1.8**
OMRZ	**Omania**	**1.94**	**251**	P	**Pn**	**04 30 48.1**	**+1.9**
TGRZ	**Tauranga**	**1.95**	**262**	P	**Pn**	**04 30 47.6**	**+1.5**
MYRZ	**Mayor Island**	**1.96**	**275**	P	**Pn**	**04 30 47.6**	**+1.2**
WHHZ	**Waihua**	**1.96**	**215**	P	**Pn**	**04 30 47.0**	**+0.6**
MTHZ	**Maungataniwha**	**2.00**	**226**	P	**Pn**	**04 30 48.2**	**+1.3**
HLRZ	**Highlands Stat**	**2.01**	**247**	P	**Pn**	**04 30 49.0**	**+1.9**
KARZ	**Kaharoa**	**2.02**	**254**	P	**Pn**	**04 30 49.1**	**+1.5**
NGRZ	**Ngongotaha**	**2.08**	**252**	P	**Pb**	**04 30 50.4**	**-2.1**
PRRZ	**Plateau Road**	**2.08**	**240**	P	**Pn**	**04 30 49.8**	**+1.7**
UTU	**Utuhina**	**2.10**	**250**	P	**Pb**	**04 30 51.0**	**-1.7**
HSRZ	**Hossack Road**	**2.11**	**246**	P	**Pb**	**04 30 50.8**	**-2.1**
HRRZ	**Handcock Road**	**2.11**	**244**	P	**Pn**	**04 30 50.5**	**+2.0**
ALRZ	**Allen Road**	**2.15**	**239**	P	**Pn**	**04 30 50.5**	**+1.6**
NMHZ	**Naumai**	**2.19**	**222**	P	**Pn**	**04 30 50.7**	**+1.1**
KMRZ	**Kaimai**	**2.21**	**260**	P	**Pn**	**04 30 51.5**	**+1.7**
GRRZ	**Galatos Road**	**2.22**	**246**	P	**Pn**	**04 30 52.1**	**+2.2**
ARHZ	**Aropaoanui**	**2.23**	**216**	P	**Pn**	**04 30 50.5**	**+0.5**
MRHZ	**Matea Rd**	**2.25**	**232**	P	**Pn**	**04 30 51.6**	**+1.3**
WPRZ	**Whakapapatarin**	**2.25**	**242**	P	**Pn**	**04 30 52.6**	**+2.2**
BKZ	**Black Stump Fm**	**2.41**	**225**	Pn	**Pn**	**04 30 52.9**	**+0.2**
BKZ	**Black Stump Fm**	**2.41**	**225**	P	**Pn**	**04 30 53.4**	**+0.8**
BKZ	**Black Stump Fm**	**2.41**	**225**	P	**Pn**	**04 30 53.1**	**+0.5**
WHTZ	**Whakaora**	**2.46**	**240**	P	**Pn**	**04 30 56.1**	**+2.8**
KUTZ	**Kaahu Road**	**2.48**	**245**	P	**Pn**	**04 30 55.6**	**+2.0**
HATZ	**Hinemaiaia**	**2.49**	**235**	P	**Pn**	**04 30 54.9**	**+1.3**
KUZ	**Kuaotunu**	**2.49**	**286**	P	**Pn**	**04 30 52.6**	**-1.0**
CKHZ	**Cape Kidnapper**	**2.52**	**210**	P	**Pn**	**04 30 53.3**	**-0.7**
TOZ	**Tahuroa Road**	**2.55**	**263**	P	**Pn**	**04 30 55.4**	**+1.0**
KWHZ	**Kaweka Forest**	**2.63**	**222**	P	**Pn**	**04 30 55.8**	**+0.2**
TLZ	**Tolley Road**	**2.64**	**250**	P	**Pn**	**04 30 57.1**	**+1.5**
WATZ	**Wairara**	**2.64**	**241**	P	**Pn**	**04 30 58.1**	**+2.4**
RATZ	**Rangitukua**	**2.69**	**238**	P	**Pn**	**04 30 58.3**	**+1.9**
RITZ	**Rihia Road**	**2.69**	**235**	P	**Pn**	**04 30 57.8**	**+1.5**
KAHZ	**Kahuranaki**	**2.71**	**211**	P	**Pn**	**04 30 56.0**	**-0.7**
KATZ	**Kakaramea**	**2.79**	**237**	P	**Pn**	**04 30 59.5**	**+1.6**
KRHZ	**Kereru**	**2.83**	**219**	P	**Pn**	**04 30 57.7**	**-0.5**
MKAZ	**Moumakai**	**2.84**	**277**	P	**Pn**	**04 30 58.5**	**+0.1**
TMVZ	**Te Maari**	**2.86**	**234**	P	**Pn**	**04 30 59.8**	**+0.9**
ETVZ	**East Tongariro**	**2.87**	**234**	P	**Pn**	**04 30 59.9**	**+0.9**
GRZ	**Great Barrier**	**2.87**	**294**	P	**Pn**	**04 30 58.6**	**-0.2**
NTVZ	**North Tongariro**	**2.87**	**235**	P	**Pn**	**04 31 00.3**	**+1.3**
BHHZ	**Black Hill Sta**	**2.88**	**225**	P	**Pn**	**04 30 59.4**	**+0.4**
KRVZ	**Karewarewa**	**2.89**	**235**	P	**Pn**	**04 31 00.4**	**+1.2**
OTVZ	**Oturere**	**2.92**	**234**	P	**Pn**	**04 31 00.7**	**+1.1**
PXZ	**Pawanui**	**2.92**	**209**	P	**Pn**	**04 30 58.0**	**-1.5**
WIAZ	**Waiheke Island**	**2.93**	**282**	P	**Pn**	**04 30 59.6**	**0.0**
NNVZ	**North Ngauruho**	**2.93**	**235**	P	**Pn**	**04 31 01.1**	**+1.3**
WTVZ	**West Tongariro**	**2.94**	**235**	P	**Pn**	**04 31 01.3**	**+1.4**
SNVZ	**South Ngauruho**	**2.94**	**234**	P	**Pn**	**04 31 01.2**	**+1.1**
NGZ	**Ngauruhoe**	**2.96**	**234**	P	**Pn**	**04 31 01.3**	**+1.0**
TUVZ	**Tukino**	**2.98**	**232**	P	**Pn**	**04 31 01.8**	**+1.3**
MOVZ	**Moawhango**	**3.00**	**229**	P	**Pn**	**04 31 01.2**	**+0.5**
TWVZ	**Taurewa**	**3.01**	**237**	P	**Pn**	**04 31 02.2**	**+1.3**
WHVZ	**Whangaehu Hut**	**3.03**	**233**	P	**Pn**	**04 31 02.0**	**+0.8**
FWVZ	**Far West T-bar**	**3.04**	**233**	P	**Pn**	**04 31 02.2**	**+0.8**
DRZ	**Dome Shelter**	**3.04**	**233**	P	**Pn**	**04 31 02.9**	**+1.4**
ETAZ	**East Tamaki Re**	**3.05**	**279**	P	**Pn**	**04 31 01.9**	**+0.6**
WNVZ	**Wahianoa**	**3.05**	**232**	P	**Pn**	**04 31 02.1**	**+0.6**
TRVZ	**Turoa**	**3.07**	**233**	P	**Pn**	**04 31 03.1**	**+1.4**
MBAZ	**Motutapu North**	**3.12**	**282**	P	**Pn**	**04 31 03.1**	**+0.9**
PNHZ	**Pukenui**	**3.12**	**218**	P	**Pn**	**04 31 01.0**	**-1.2**
WPHZ	**Waipukurau**	**3.12**	**214**	P	**Pn**	**04 31 01.4**	**-0.9**
MTVZ	**Mangateitei**	**3.17**	**232**	P	**Pn**	**04 31 04.1**	**+1.2**
PKVZ	**Pokaka**	**3.19**	**234**	P	**Pn**	**04 31 04.7**	**+1.4**
HIZ	**Hauiti**	**3.20**	**250**	Pn	**Pn**	**04 31 05.3**	**+1.9**
HIZ	**Hauiti**	**3.20**	**250**	P	**Pn**	**04 31 05.7**	**+2.3**
HIZ	**Hauiti**	**3.20**	**250**	P	**Pn**	**04 31 05.7**	**+2.3**
ABAZ	**Army Bay**	**3.21**	**285**	P	**Pn**	**04 31 04.4**	**+0.9**
EPAZ	**Eden Park BICE**	**3.21**	**280**	P	**Pn**	**04 31 04.8**	**+1.3**
PRHZ	**Porangahau**	**3.21**	**209**	P	**Pn**	**04 31 01.7**	**-1.8**
HBAZ	**Herne Bay Bore**	**3.23**	**280**	P	**Pn**	**04 31 05.3**	**+1.6**
AWAZ	**Awhitu Peninsu**	**3.26**	**276**	P	**Pn**	**04 31 05.3**	**+1.2**
WTAZ	**Waiatarua**	**3.33**	**278**	P	**Pn**	**04 31 06.5**	**+1.3**
TSZ	**Takapari Road**	**3.34**	**219**	P	**Pn**	**04 31 04.0**	**-1.4**
RVAZ	**Riverhead Bore**	**3.36**	**281**	P	**Pn**	**04 31 06.4**	**+0.7**
DVHZ	**Dannevirke**	**3.44**	**214**	P	**Pn**	**04 31 05.0**	**-1.7**
ANWZ	**Angora Road**	**3.44**	**209**	P	**Pn**	**04 31 05.3**	**-1.3**
WAZ	**Wanganui**	**3.69**	**231**	P	**Pn**	**04 31 11.2**	**+1.1**
POWZ	**Post Office Ro**	**3.69**	**217**	P	**Pn**	**04 31 08.8**	**-1.4**
BFZ	**Birch Farm**	**3.72**	**210**	Pn	**Pn**	**04 31 08.3**	**-2.3**
BFZ	**Birch Farm**	**3.72**	**210**	P	**Pn**	**04 31 08.1**	**-2.4**
PRWZ	**Pori Road**	**3.73**	**214**	P	**Pn**	**04 31 09.4**	**-1.3**
MHEZ	**Mangahewa**	**3.79**	**244**	P	**Pn**	**04 31 15.3**	**+3.8**
OHWZ	**Ohakea**	**3.79**	**223**	P	**Pn**	**04 31 12.0**	**+0.5**
WCZ	**Waipu Caves**	**3.82**	**292**	P	**Pn**	**04 31 12.0**	**+0.2**
LREZ	**Lake Rotokare**	**3.91**	**238**	P	**Pn**	**04 31 15.4**	**+2.3**
DREZ	**Durham Road**	**3.92**	**243**	P	**Pn**	**04 31 16.9**	**+3.6**
CPWZ	**Castlepoint**	**3.93**	**209**	P	**Pn**	**04 31 11.4**	**-2.1**
TIWZ	**Tintock**	**3.95**	**213**	P	**Pn**	**04 31 11.7**	**-2.0**
PREZ	**Palmer Road**	**4.02**	**241**	P	**Pn**	**04 31 17.8**	**+3.2**
NEZ	**North Egmont**	**4.03**	**242**	P	**Pn**	**04 31 18.1**	**+3.2**
PKE	**Pukeiti**	**4.08**	**244**	P	**Pn**	**04 31 18.7**	**+3.2**
KHEZ	**Kahui Hut**	**4.10**	**242**	P	**Pn**	**04 31 18.5**	**+2.7**
NBEZ	**Newall Road No**	**4.19**	**243**	P	**Pn**	**04 31 20.9**	**+3.9**
NMEZ	**Namu Road**	**4.25**	**241**	P	**Pn**	**04 31 21.1**	**+3.4**
OUZ	**Omahuta**	**4.69**	**297**	Pn	**Pn**	**04 31 24.4**	**+0.6**
OUZ	**Omahuta**	**4.69**	**297**	P	**Pn**	**04 31 24.6**	**+0.7**
OUZ	**Omahuta**	**4.69**	**297**	P	**Pn**	**04 31 25.2**	**+1.3**
PLWZ	**Palliser**	**4.87**	**212**	Pn	**Pn**	**04 31 22.3**	**-4.1**
SNZO	**South Karori**	**4.92**	**218**	Pn	**Pn**	**04 31 24.4**	**-2.5**
SNZO	**South Karori**	**4.92**	**218**	P	**Pn**	**04 31 24.8**	**-2.1**
QRZ	**Quartz Range**	**5.84**	**233**	Pn	**Pn**	**04 31 38.0**	**-1.6**
QRZ	**Quartz Range**	**5.84**	**233**	P	**Pn**	**04 31 37.5**	**-2.1**
	341nm,1.1s						
KHZ	**Kahutara**	**6.32**	**217**	P	**Pn**	**04 31 42.9**	**-3.3**
	174nm,0.8s						
CTZ	**Chatham Island**	**7.19**	**152**	P	**Pn**	**04 31 56.7**	**-1.5**
I36NZ	**CHATHAM INFRAS**	**7.40**	**152**	*i*		05 17 20.0	
	baz=330,slow=317,SNR=2.2						
RPZ	**Rata Peaks**	**8.52**	**221**	P	**Pn**	**04 32 12.6**	**-3.7**
	41nm,0.3s,baz=67,slow=2.3,SNR=61						
RPZ				S	**Sn**	**04 33 43.8**	**-7.5**
	282nm,0.5s,baz=44,slow=22,SNR=23						
RPZ	**Rata Peaks**	**8.52**	**221**	P	**Pn**	**04 32 13.1**	**-3.3**
	368nm,0.5s						
RAO	**Raoul Island**	**8.68**	**20**	P	**Pn**	**04 32 20.9**	**+2.2**
	89nm,0.4s,baz=252,slow=19,SNR=1.9						
RAO				S	**Sn**	**04 33 50.0**	**-5.4**
	138nm,0.3s,baz=303,slow=20,SNR=2.8						
RAO	**Raoul Island**	**8.68**	**20**	P	Pn	04 32 24.4	+5.7
	317nm,0.9s						
FOZ	**Fox Glacier**	**9.07**	**225**	Pn	**Pn**	**04 32 21.9**	**-2.0**
ODZ	**Otahua Downs**	**9.68**	**216**	P	Pn	04 32 27.5	-4.8
	72nm,0.9s						
MSZ	**Milford Sound**	**10.84**	**225**	P	**Pn**	**04 32 47.9**	**-0.3**
PYZ	**Puysegur Point**	**12.46**	**222**	P	**Pn**	**04 33 08.6**	**-1.7**
ONTNC	**Ouen Toro**	**18.45**	**322**	P	**P**	**04 34 26.0**	**-2.2**
ONTNC				IAmb	IAmb	04 34 46.6	
	comp=Z,280nm,1.6s						
DZM	**Mont Dzumac**	**18.65**	**322**	*e*Pn	**Pn**	**04 34 31.5**	**+0.4**
	comp=Z,193nm,1.6s						
DZM				*e*LR	LR	04 38 55.4	
	comp=Z,14μm,24.0s						
DZM	**Mont Dzumac**	**18.65**	**322**	P	**P**	**04 34 28.9**	**-1.7**
	comp=Z,8.8nm,0.9s,baz=165,slow=12,SNR=3.1						
DZM				LR	LR	04 40 50.5	
	comp=Z,7μm,19.4s,baz=150,slow=34						
DZM	**Mont Dzumac**	**18.65**	**322**	P	**Pn**	**04 34 32.0**	**+0.9**
DZM	**Mont Dzumac**	**18.65**	**322**	P	**Pn**	**04 34 35.1**	**+4.0**
	comp=Z,91nm,1.9s						
LIFNC	**LIFOU**	**19.39**	**326**	P	**P**	**04 34 37.6**	**-0.9**
LIFNC				IAmb	IAmb	04 34 59.5	
	comp=Z,192nm,1.0s						
MSVF	**Nonsavu**	**19.68**	**358**	LR	LR	04 40 40.3	
	comp=Z,5μm,21.9s,baz=180,slow=32						
MSVF	**Nonsavu**	**19.68**	**358**	P	**P**	**04 34 41.7**	**-0.1**
MSVF	**Nonsavu**	**19.68**	**358**	P	**P**	**04 34 41.7**	**-0.1**
MSVF				pmax	pmax		
	comp=Z,72nm,0.9s						
MSVF	**Nonsavu**	**19.68**	**358**	P	**Pn**	**04 34 42.9**	**-0.5**
	comp=Z,89nm,1.0s						
TAVE	**Taveuni**	**20.73**	**4**	P	Pn	04 34 57.3	+1.6
	comp=Z,210nm,1.2s						
KOUNC	**Koumac, New Ca**	**21.01**	**319**	P	**P**	**04 34 56.9**	**+0.7**
KOUNC				IAmb	IAmb	04 35 19.1	
	comp=Z,289nm,1.8s						
MGCD	**Mangrove Creek**	**22.86**	**272**	P	**P**	**04 35 17.7**	**+1.7**
	comp=Z,55nm,1.0s						
ARMA	**Armidale**	**23.48**	**279**	P	**P**	**04 35 24.1**	**+1.7**
ARMA				IAmb	IAmb	04 35 38.5	
	comp=Z,140nm,1.5s						
CNB	**Canberra Magne**	**23.67**	**266**	P	**P**	**04 35 26.0**	**+2.0**
	comp=Z,126nm,1.0s						
CAN	**Canberra**	**23.95**	**266**	P	**P**	**04 35 27.7**	**+1.0**
CAN				IAmb	IAmb	04 35 30.5	
	comp=Z,102nm,1.1s						
CAN	**Canberra**	**23.95**	**266**	P	**P**	**04 35 27.7**	**+1.0**
CAN				pmax	pmax		
	comp=Z,102nm,1.1s						
TAU	**Tasmania Unive**	**24.48**	**247**	P	**P**	**04 35 32.1**	**+0.7**
TAU	**Tasmania Unive**	**24.48**	**247**	P	**P**	**04 35 32.1**	**+0.7**
TAU				pmax	pmax		
	comp=Z,385nm,1.8s						
TAU	**Tasmania Unive**	**24.48**	**247**	P	**P**	**04 35 32.9**	**+1.5**
	comp=Z,115nm,1.6s						
MOO	**Moorlands**	**24.57**	**248**	P	**P**	**04 35 33.6**	**+1.4**
	comp=Z,137nm,1.1s						
RAR	**Rarotonga**	**24.71**	**55**	LR	LR	04 43 09.5	
	comp=Z,2μm,21.5s,baz=226,slow=31						
AFI	**Afiamalu**	**24.96**	**22**	P	**P**	**04 35 36.2**	**+0.2**
	comp=Z,49nm,0.8s,baz=356,slow=11,SNR=4.8						
	comp=Z,49nm,0.8s						
AFI	**Afiamalu**	**24.96**	**22**	P	**P**	**04 35 35.8**	**-0.2**
AFI				IAmb	IAmb	04 35 49.1	
	comp=Z,100nm,0.9s						
AFI	**Afiamalu**	**24.96**	**22**	P	**P**	**04 35 35.8**	**-0.2**
AFI				pmax	pmax		
	comp=Z,100nm,1.0s						
AFI	**Afiamalu**	**24.96**	**22**	P	**P**	**04 35 41.2**	**+5.2**
	comp=Z,120nm,0.8s						
TOO	**Toolangi**	**26.26**	**260**	P	**P**	**04 35 48.7**	**+1.1**
TOO	**Toolangi**	**26.26**	**260**	P	**P**	**04 35 48.7**	**+1.1**
TOO				pmax	pmax		
	comp=Z,39nm,1.0s						
TOO	**Toolangi**	**26.26**	**260**	P	**P**	**04 35 48.7**	**+1.1**
	comp=Z,43nm,1.2s						
EIDS	**Eidsvold**	**26.38**	**289**	P	**P**	**04 35 49.7**	**+1.0**
	baz=26,SNR=6.7						
EIDS	**Eidsvold**	**26.38**	**289**	P	**P**	**04 35 50.0**	**+1.3**
CMSA	**Cobar Meteorol**	**27.74**	**272**	P	**P**	**04 36 02.3**	**+1.3**
	comp=Z,76nm,1.3s						
TBI	**Tubuai**	**30.70**	**72**	*e*LR	LR	04 44 28.9	
	comp=Z,3μm,22.8s						
TBI	**Tubuai**	**30.70**	**72**	*e*T	T	05 08 14.7	
	comp=Z,107nm,0.3s						
STKA	**Stephens Creek**	**30.88**	**269**	P	**P**	**04 36 29.6**	**+0.8**
	comp=Z,93nm,0.9s,baz=101,slow=10,SNR=92						
STKA				PcP	**PcP**	**04 39 23.7**	**-1.3**
	comp=Z,6.3nm,0.8s,baz=40,slow=4.5,SNR=3.3						
STKA				LR	LR	04 48 18.0	
	comp=Z,4μm,19.4s,baz=103,slow=35						
	comp=Z,93nm,0.9s						
STKA	**Stephens Creek**	**30.88**	**269**	P	**P**	**04 36 29.0**	**+0.2**
STKA	**Stephens Creek**	**30.88**	**269**	P	**P**	**04 36 30.0**	**+1.2**
	comp=Z,25nm,0.9s						
TWOA	**Tennyson Woods**	**32.27**	**262**	P	**P**	**04 36 42.2**	**+1.2**
	comp=Z,44nm,0.9s						
HTT	**Hallett**	**32.48**	**265**	P	**P**	**04 36 44.4**	**+1.5**
	comp=Z,55nm,1.1s						
HNR	**Honiara**	**32.66**	**324**	LR	LR	04 49 14.2	
	comp=Z,1μm,19.2s,baz=158,slow=35						
CTA	**Charters Tower**	**33.08**	**293**	LR	LR	04 49 49.5	
	comp=Z,3μm,19.6s,baz=129,slow=36						
CTA	**Charters Tower**	**33.08**	**293**	P	**P**	**04 36 49.4**	**+1.2**
	comp=Z,54nm,1.1s						
CTAO	**Charters Tower**	**33.08**	**293**	P	**P**	**04 36 49.1**	**+0.9**
CTAO				IAmb	IAmb	04 36 50.6	
	comp=Z,46nm,1.0s						
CTAO	**Charters Tower**	**33.08**	**293**	P	**P**	**04 36 49.1**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,46nm,1.0s						
CTAO	**Charters Tower**	**33.08**	**293**	P	**P**	**04 36 49.4**	**+1.2**
	comp=Z,46nm,1.0s						
WHYH	**Whyalla**	**33.68**	**265**	P	**P**	**04 36 54.5**	**+1.2**
	comp=Z,130nm,0.9s						
LCRK	**Leigh Creek**	**34.10**	**270**	P	**P**	**04 36 57.8**	**+0.8**
	comp=Z,220nm,0.9s						
PAE	**Pae**	**34.12**	**63**	*e*T	T	05 12 34.6	
	comp=Z,7.1nm,0.3s						
PPT2	**Papeete2**	**34.17**	**63**	*e*S	**S**	**04 42 23.5**	**+1.3**
	comp=Z,295nm,28.5s						
PPT2				*e*LR	LR	04 46 05.7	
	comp=Z,3μm,24.0s						
PPT2	**Papeete2**	**34.17**	**63**	*e*T	T	05 12 38.2	
	comp=Z,13nm,0.3s						
PPT	**Papeete**	**34.18**	**63**	LR	LR	04 47 35.6	
	comp=Z,1μm,21.9s,baz=240,slow=30						
TIAR	**Tiarei**	**34.35**	**63**	*e*T	T	05 12 50.7	
	comp=Z,3.7nm,0.3s						
BBOO	**Buckleboo**	**34.95**	**265**	IAmb	IAmb	04 37 17.3	
	comp=Z,68nm,1.2s						
BBOO	**Buckleboo**	**34.95**	**265**	P	**P**	**04 37 04.0**	**-0.4**
	comp=Z,51nm,0.9s						
MEH	**Mehetia**	**35.06**	**65**	*e*T	T	05 13 49.9	
	comp=Z,36nm,0.3s						
PMOR	**Pomariorio Ree**	**37.10**	**62**	*e*T	T	05 16 18.2	
	comp=Z,17nm,0.3s						
VAH	**Vaihoa**	**37.13**	**62**	*e*T	T	05 16 23.9	
	comp=Z,44nm,0.2s						
OOD	**Oodnadatta**	**37.21**	**272**	P	**P**	**04 37 24.2**	**+0.5**
	comp=Z,76nm,1.7s						
MULG	**Mulgathing**	**37.47**	**268**	P	**P**	**04 37 25.7**	**-0.2**
	comp=Z,92nm,1.0s						
QIS	**Mount Isa**	**37.80**	**285**	P	**P**	**04 37 30.9**	**+2.1**
	comp=Z,62nm,1.2s						
COEN	**Coen**	**39.30**	**297**	P	**P**	**04 37 41.8**	**+0.4**
	baz=40,SNR=63						
COEN	**Coen**	**39.30**	**297**	P	**P**	**04 37 41.6**	**+0.2**
	comp=Z,162nm,0.9s						
PMG	**Port Moresby**	**39.88**	**306**	LR	LR	04 53 58.2	
	comp=Z,3μm,18.2s,baz=136,slow=36						
PMG	**Port Moresby**	**39.88**	**306**	P	**P**	**04 37 45.8**	**-0.4**
PMG				IAmb	IAmb	04 37 47.9	
	comp=Z,59nm,0.9s						
PMG	**Port Moresby**	**39.88**	**306**	P	**P**	**04 37 45.8**	**-0.4**
PMG				pmax	pmax		
	comp=Z,59nm,0.9s						
AS31	**Alice Springs**	**40.58**	**277**	P	**P**	**04 37 51.4**	**-0.6**
ASAR	**Alice Springs**	**40.58**	**277**	P	**P**	**04 37 51.1**	**-0.9**
	comp=Z,104nm,0.9s,baz=117,slow=7.2,SNR=415						
ASAR				PcP	**PcP**	**04 39 52.0**	**-1.8**
	comp=Z,5.1nm,0.8s,baz=128,slow=4.3,SNR=4.4						
ASAR				S	**S**	**04 43 55.6**	**-3.9**
	comp=Z,9.8nm,1.2s,baz=122,slow=14,SNR=12						
ASAR				PKiKP	**PKiKP**	**04 47 01.7**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=123,slow=0.5,SNR=4.5						
ASAR				LR	LR	04 54 50.1	
	comp=Z,3μm,18.4s,baz=123,slow=36						
	comp=Z,104nm,0.9s						
VNDA	**Vanda**	**40.80**	**186**	P	**P**	**04 37 55.2**	**+2.1**
	comp=Z,2.2nm,1.1s,baz=304,slow=19,SNR=5.1						
VNDA				LR	LR	04 51 26.0	
	comp=Z,1μm,21.1s,baz=23,slow=31						
VNDA	**V

TWSI Taliwang, Sumb 62.42 281 P **P** **04 40 34.4 -1.1**
comp=Z,66nm,1.2s
KAPI Kappang 62.52 286 P **P** **04 40 36.1 0.0**
comp=Z,12nm,0.8s,baz=158,slow=8.7,SNR=5.7
KAPI LR LR 05 09 37.7
comp=Z,2µm,18.0s,baz=127,slow=38
comp=Z,12nm,0.8s
KAPI Kappang 62.52 286 P **P** **04 40 35.9 -0.2**
BELA Belgrano 2 63.15 173 P **P** **04 40 40.0 +0.6**
SPSI Sidrap Palu 63.17 287 P **P** **04 40 39.7 -0.8**
comp=Z,2µmcomp=Z,32nm,1.0s
TTSI Tana Toraja 63.73 288 P **P** **04 40 43.2 -0.9**
comp=Z,57nm,1.4s
APSI Ampana 63.75 291 P **P** **04 40 43.5 -0.8**
comp=Z,1µmcomp=Z,65nm,1.5s
SMAI San Martin Ant 63.92 158 IAmb IAmb 04 40 48.5
comp=Z,60nm,1.2s
SRBI Singaraja 64.13 280 P **P** **04 40 44.9 -1.9**
comp=Z,161nm,1.3s
JAGI Jajag, Banyuwa 64.73 279 P **P** **04 40 51.5 +0.8**
JAGI Jajag, Banyuwa 64.73 279 P **P** **04 40 50.3 -0.4**
comp=Z,76nm,1.6s
MAW Mawson 64.73 202 P **P** **04 40 51.2 +1.3**
comp=Z,16nm,1.0s,baz=112,slow=8.5,SNR=23
MAW LR LR 05 10 32.8
comp=Z,2µm,18.1s,baz=106,slow=37
comp=Z,16nm,1.0s
MAW Mawson 64.73 202 P **P** **04 40 51.1 +1.2**
GMJI Gumukmas 65.40 279 P **P** **04 40 53.9 -1.2**
comp=Z,109nm,1.2s
BLJI Banyuglugur 65.60 279 P **P** **04 40 54.7 -1.7**
comp=Z,72nm,1.2s
KMMI Kalianget 65.73 280 P **P** **04 40 56.1 -1.1**
comp=Z,123nm,1.2s
MPSI Mapaga 65.88 290 P **P** **04 40 55.7 -2.4**
comp=Z,584nmcomp=Z,31nm,1.8s
DAV Davao City (W) 66.43 300 P **P** **04 41 00.8 -0.8**
comp=Z,211nm,0.3s,baz=91,slow=2.8,SNR=6.1
DAV LR LR 05 09 51.2
comp=Z,349nm,21.5s,baz=157,slow=36
PWJI Pagerwojo 66.84 278 P **P** **04 41 03.0 -1.3**
comp=Z,2µmcomp=Z,76nm,0.7s
PMSA Palmer Station 66.96 156 P **P** **04 41 06.3 +2.0**
comp=Z,24nm,1.1s,baz=208,slow=7.5,SNR=4.4
PMSA LR LR 05 03 34.0
comp=Z,1µm,21.8s,baz=233,slow=30
comp=Z,24nm,1.1s
PMSA Palmer Station 66.96 156 P **P** **04 41 04.2 -0.1**
PMSA IAmb IAmb 04 41 07.2
comp=Z,48nm,1.1s
PCJI Pacitan 67.23 277 P **P** **04 41 06.6 -0.2**
comp=Z,188nm,1.4s
NGJI Ngawi 67.51 278 P **P** **04 41 07.0 -1.5**
comp=Z,100nm,0.9s
MYLDM Lahad Datu 70.15 293 P **P** **04 41 25.7 +0.7**
TROLL Troll, Antarti 70.78 181 P **P** **04 41 28.9 +0.8**
LEM Lembang 70.87 276 P **P** **04 41 28.9 -0.7**
comp=Z,49nm,0.6s,baz=40,slow=6.5,SNR=4.5
LEM LR LR 05 14 43.8
comp=Z,2µm,19.6s,baz=143,slow=38
comp=Z,49nm,0.6s
CNJI Cibinong 70.97 275 P **P** **04 41 28.4 -1.6**
comp=Z,2µmcomp=Z,138nm,1.0s
SNAA Sanae 71.14 179 P **P** **04 41 30.9 +0.6**
SNAA Sanae 71.14 179 LR LR 05 09 21.4
comp=Z,1µm,21.8s,baz=191,slow=33
SNAA Sanae 71.14 179 P **P** **04 41 30.5 +0.2**
SNAA IAmb IAmb 04 41 32.6
comp=Z,72nm,1.4s
SNAA Sanae 71.14 179 *ce*P **P** **04 41 30.4 +0.2**
SNAA pmax pmax
comp=Z,54nm,1.3s
VNA3 Neumayer Olymp 71.42 177 P **P** **04 41 32.3 +0.4**
USHA Ushuaia 71.62 146 LR LR 05 07 20.7
comp=Z,789nm,18.6s,baz=217,slow=31
NVL N'lazarevskaya 71.64 185 *e*P **P** **04 41 31.8 -1.4**
NVL *e*S **SKSac** **04 51 27.3 -6.5**
NVL pmax pmax
comp=Z,57nm,1.2s
MG05 Puerto Natales 71.67 142 P **P** **04 41 34.2 +0.6**
MG05 IAmb IAmb 04 41 36.5
comp=Z,39nm,0.8s
VNA2 Neumayer--Watz 71.81 178 P **P** **04 41 35.1 +0.9**
baz=176,slow=6.0
GO09 Cerro Castillo 72.00 141 IAmb IAmb 04 41 38.8
comp=Z,62nm,1.1s
VNA1 Neumayer--Stat 72.06 178 P **P** **04 41 36.5 +0.9**
KKM Kota Kinabalu 72.41 292 P **P** **04 41 38.8 0.0**
JCJ Chichijima 72.81 326 LR LR 05 07 28.9
comp=Z,175nm,21.7s,baz=124,slow=31
SBUM Sibu 73.05 287 P **P** **04 41 41.5 -0.9**
TPI Tanjungpandan 73.31 280 P **P** **04 41 42.6 -1.4**
TGY Tagaytay City 74.63 302 LR LR 05 17 28.6
comp=Z,142nm,18.7s,baz=181,slow=38
LWLI Liwa 74.77 275 P **P** **04 41 51.0 -1.7**
comp=Z,74nm,0.7s
PPBI Pangkal Pinang 74.87 279 P **P** **04 41 51.7 -1.4**
comp=Z,23µmcomp=Z,45nm,1.1s
COYC Coyhaique 75.68 137 IAmb IAmb 04 42 00.7
comp=Z,41nm,0.9s
AY01 Puyuhuapi 76.10 136 P **P** **04 42 00.8 +1.1**
AY01 IAmb IAmb 04 42 02.7
comp=Z,30nm,1.1s
DSRI Dabo 77.13 279 P **P** **04 42 04.5 -1.5**
comp=Z,3µmcomp=Z,11nm,0.8s
LL02 Futaleuf 77.33 135 IAmb IAmb 04 42 09.8
comp=Z,39nm,0.9s
LL04 Puerto Octay 78.46 133 IAmb IAmb 04 42 15.8
comp=Z,26nm,1.1s
JHJ Hachijo jima 2 79.05 328 LR LR 05 16 29.6
comp=Z,264nm,18.1s,baz=20,slow=35
H03N3 Juan Fernandez 79.06 124 T T 06 08 54.0
baz=234,slow=72,SNR=195
H03N2 Juan Fernandez 79.06 124 T T 06 08 55.2
baz=234,slow=72,SNR=237
H03N1 Juan Fernandez 79.07 124 T T 06 08 55.4
baz=234,slow=72,SNR=174
MYKOM Kota Tinggi 79.10 281 P **P** **04 42 14.8 -2.1**
MYKOM IAmb IAmb 04 42 26.8
comp=Z,42nm,1.3s
PLCA Paso Flores 79.65 134 P **P** **04 42 21.5 +1.8**
comp=Z,21nm,1.0s,baz=236,slow=5.5,SNR=40
PLCA LR LR 05 11 42.8
comp=Z,285nm,19.2s,baz=226,slow=31
comp=Z,21nm,1.0s
PLCA Paso Flores 79.65 134 P **P** **04 42 20.8 +1.1**
PLCA IAmb IAmb 04 42 23.0
comp=Z,35nm,0.9s
PLCA Paso Flores 79.65 134 P **P** **04 42 20.8 +1.1**
PLCA pmax pmax
comp=Z,35nm,1.0s
GO05 Huala 82.56 129 IAmb IAmb 04 42 51.2
comp=Z,68nm,1.4s
MJAR Matsushiro Arr 82.64 328 P **P** **04 42 33.8 -1.5**
comp=Z,2.6nm,0.8s,baz=152,slow=6.5,SNR=5.7
MJAR LR LR 05 19 11.2
comp=Z,165nm,18.8s,baz=156,slow=36
comp=Z,2.6nm,0.8s
MAJO Matsushiro 82.64 328 P **P** **04 42 35.6 +0.3**
MAJO Matsushiro 82.64 328 P **P** **04 42 35.6 +0.3**
MAJO pmax pmax
comp=Z,15nm,1.1s
IPM Ipoh 82.97 281 P **P** **04 42 35.1 -2.4**
RPSI Rantau Prapat 83.52 278 P **P** **04 42 38.5 -1.9**
PSI Prapat 83.59 278 P **P** **04 42 38.5 -2.4**
comp=Z,9.1nm,1.0s,baz=199,slow=2.9,SNR=8.4
PSI LR LR 05 21 23.0
comp=Z,1µm,20.3s,baz=138,slow=37
comp=Z,9.1nm,1.0s
GSI Gunungsitoli 83.74 276 P **P** **04 42 40.4 -1.1**
GSI Gunungsitoli 83.74 276 P **P** **04 42 40.5 -1.0**
comp=Z,104nm,0.9s
KULM Kulim 83.76 281 P **P** **04 42 40.0 -1.6**
KULM IAmb IAmb 04 42 51.1
comp=Z,18nm,1.0s
QIZ Qiongzhong 85.69 298 P **P** **04 42 55.0 +3.9**
QIZ S **S** **04 53 24.5 +3.0**
QIZ LR LR
comp=Z,290nm,27.1s
QIZ LR LR
comp=Z,380nm,22.3s
QIZ LR LR
comp=Z,490nm,27.9s
CO03 El Pedregal 86.09 126 IAmb IAmb 04 42 56.6
comp=Z,51nm,1.1s
TRQA Tornquist 86.31 136 P **P** **04 42 54.5 +0.4**
TRQA IAmb IAmb 04 42 56.7
comp=Z,37nm,1.2s
TRQA Tornquist 86.31 136 P **P** **04 42 54.5 +0.4**
TRQA pmax pmax
comp=Z,37nm,1.2s
ZON Zonda 86.90 128 IAmb IAmb 04 43 12.7
comp=Z,53nm,1.3s
KSRS Korea Array 88.08 322 P **P** **04 43 02.6 +0.3**
comp=Z,5.8nm,0.7s,baz=142,slow=5.5,SNR=14
KSRS LR LR 05 21 17.4
comp=Z,150nm,18.5s,baz=140,slow=35
comp=Z,5.8nm,0.7s
KSAR Wonju Array Be 88.09 322 P **P** **04 43 02.8 +0.4**
KSAR Wonju Array Be 88.09 322 P **P** **04 43 02.8 +0.4**
NJ2 Nanjing 88.89 313 jP P 04 43 16.1 +10
NJ2 pmax pmax
comp=Z,19nm,0.7s
NJ2 LR LR
comp=N,520nm,18.5s
NJ2 LR LR
comp=E,310nm,17.1s
NJ2 LR LR
comp=Z,940nm,21.8s
SHEM Shemya Is, Ala 89.93 357 LR LR 05 16 57.8
comp=Z,902nm,21.7s,baz=132,slow=31
YSS Yuzh-Sakhalins 90.01 336 *i*P **P** **04 43 09.4 -1.7**
YSS pmax pmax
comp=Z,18nm,1.1s
LPIG La Paz 90.54 60 LR LR 05 14 31.4
comp=Z,492nm,21.8s,baz=216,slow=29
SRIG Santa Rosalia 91.36 56 P **P** **04 43 18.2 +0.3**
SRIG IAmb IAmb 04 43 21.2
comp=Z,15nm,1.0s
USRK Ussuriysk Ar. 91.64 328 P **P** **04 43 18.7 -0.1**
comp=Z,2.1nm,0.8s,baz=186,slow=7.2,SNR=2.6
USRK LR LR 05 23 56.0
comp=Z,164nm,19.3s,baz=231,slow=35
comp=Z,2.1nm,0.8s
PKM Mcpherson Peak 91.88 46 P **P** **04 43 22.0 +1.6**
baz=224
PETK Petropavlovsk- 92.04 348 P **P** **04 43 19.6 -0.9**
comp=Z,1.5nm,0.7s,baz=190,slow=15,SNR=4.4
PETK LR LR 05 20 04.0
comp=Z,385nm,19.9s,baz=160,slow=32
comp=Z,1.5nm,0.7s
109C Camp Elliot, M 92.07 49 P **P** **04 43 23.5 +2.4**
baz=226
SMMC Simmler 92.08 46 P **P** **04 43 23.7 +2.6**
baz=224
ESJX Sierra Juarez 92.17 51 P **P** **04 43 23.3 +1.5**
BAR Barrett 92.19 50 IAmb IAmb 04 43 25.1
comp=Z,24nm,1.4s
DECC Green Verdugo 92.30 48 P **P** **04 43 24.6 +2.5**
baz=225
ELS Elsinore Mount 92.41 49 IAmb IAmb 04 43 39.5
comp=Z,16nm,1.2s
MONP2 Monument Peak 92.49 50 P **P** **04 43 25.8 +2.5**
baz=226,SNR=8.7
IKP In-Ko-Pah, Jac 92.51 50 P **P** **04 43 25.5 +2.2**
baz=226
MURC Murrieta 92.51 49 P **P** **04 43 25.4 +2.2**
baz=226,SNR=7.2
ARVC Arvin 92.62 47 P **P** **04 43 25.3 +1.7**
baz=225
YUH Yuha Desert 92.62 50 IAmb IAmb 04 43 27.3
comp=Z,10nm,1.1s
BFSC Mount Baldy Ra 92.68 48 P **P** **04 43 25.5 +1.4**
baz=225,SNR=7.1
LVC Limon Verde 92.78 121 LR LR 05 16 15.0
comp=Z,902nm,20.4s,baz=192,slow=30
LVC Limon Verde 92.78 121 P **P** **04 43 23.9 -1.3**
LVC Limon Verde 92.78 121 *e*P **P** **04 43 23.0 -2.3**
SWSC Sam W. Stewart 92.90 50 P **P** **04 43 27.1 +2.2**
baz=226
EDW2 Edwards Air Fo 92.94 47 P **P** **04 43 27.0 +1.9**
baz=225,SNR=5.8
TPFO Pinon Flats 92.96 49 P **P** **04 43 27.4 +2.1**
baz=226
PFO Pinyon Flats O 92.96 49 LR LR 05 16 24.4
comp=Z,473nm,21.0s,baz=235,slow=30
PFO Pinyon Flats O 92.96 49 P **P** **04 43 27.0 +1.6**
PFO IAmb IAmb 04 43 28.9
comp=Z,11nm,1.1s
PFO Pinyon Flats O 92.96 49 P **P** **04 43 27.0 +1.6**
PFO pmax pmax
comp=Z,11nm,1.1s
PFO Pinyon Flats O 92.96 49 P **P** **04 43 27.3 +2.0**
baz=226,SNR=5.3
VES Vestal, Richgr 92.98 46 P **P** **04 43 27.4 +2.2**
baz=225
PMD Palm Desert 93.04 49 IAmb IAmb 04 43 29.0
comp=Z,15nm,1.2s
ISA Isabella, Lake 93.20 47 P **P** **04 43 27.7 +1.3**
ISA Isabella, Lake 93.20 47 P **P** **04 43 27.7 +1.3**
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella, Lake 93.20 47 P **P** **04 43 28.1 +1.7**
baz=225,SNR=5.6
CMAR Chiang Mai Arr 93.23 291 P **P** **04 43 26.6 -0.2**
comp=Z,5.4nm,0.8s,baz=149,slow=3.1,SNR=18
CMAR PP **PP** **04 47 06.6 -4.4**
comp=Z,2.1nm,0.4s,baz=147,slow=7.1,SNR=7.1
CMAR LR LR 05 27 59.1
comp=Z,278nm,20.8s,baz=125,slow=37
comp=Z,5.4nm,0.8s
CMAR Chiang Mai Arr 93.23 291 P **P** **04 43 26.2 -0.6**
CMAR Chiang Mai Arr 93.23 291 P **P** **04 43 26.2 -0.6**
CM31 Chiang Mai Arr 93.23 291 P **P** **04 43 26.4 -0.4**
CM31 IAmb IAmb 04 43 41.8
comp=Z,15nm,1.1s
CHTO Chiang Mai 93.45 291 P **P** **04 43 26.9 -0.9**
CHTO Chiang Mai 93.45 291 P **P** **04 43 26.9 -0.9**
BELC Belle Mtn. Jos 93.51 49 P **P** **04 43 29.5 +1.6**
baz=226,SNR=8.1
LRMC Laurel Mtn Rad 93.53 47 P **P** **04 43 30.2 +2.3**
baz=225
GLA Glamis 93.57 50 P **P** **04 43 30.9 +2.8**
baz=227
BC3 Big Chuckawall 93.60 50 P **P** **04 43 30.5 +2.2**
baz=226,SNR=7.3
CMB Columbia Colle 93.81 44 IAmb IAmb 04 43 31.4
comp=Z,9.8nm,1.1s
HEC Hector,Ludlow 93.88 48 P **P** **04 43 31.8 +2.3**
baz=226
GSC Goldstone, Bar 93.92 48 P **P** **04 43 31.8 +2.0**
baz=226
NNA Nana 93.98 108 LR LR 05 17 34.4
comp=Z,853nm,19.8s,baz=228,slow=30
MPMC Manual Prospec 94.05 47 P **P** **04 43 32.5 +2.1**
baz=226
214A Organ Pipe Nat 94.08 52 P **P** **04 43 32.8 +2.4**
baz=228
IRM Iron Mountain 94.13 50 P **P** **04 43 33.1 +2.5**
baz=227
AFDM Forest Hills D 94.15 43 P **P** **04 43 31.7 +1.1**
CN2 Changchun 94.20 324 *e*P **P** **04 43 29.5 -1.1**
CN2 *es*P sP 04 43 44.0 -0.4
CN2 S **S** **04 54 36.7 -2.5**
CN2 LR LR
comp=Z,230nm,22.0s
CN2 LR LR
comp=Z,330nm,22.0s
CN2 LR LR
comp=Z,500nm,23.0s
BLYC Blythe 94.23 50 P **P** **04 43 31.8 +0.7**
BLYC IAmb IAmb 04 43 34.7
comp=Z,8.3nm,0.9s
GMRC Granite Mounta 94.25 49 P **P** **04 43 33.6 +2.3**
baz=226
TUQ Turquoise Moun 94.54 48 P **P** **04 43 34.9 +2.3**
baz=226
SHOC Shoshone, Teco 94.65 48 P **P** **04 43 35.2 +2.2**
baz=226
FURC Furnace Creek, 94.70 47 P **P** **04 43 35.6 +2.5**
baz=226
GRAC Grapevine Rang 94.78 46 P **P** **04 43 35.8 +2.3**
baz=226
PDMCI Parker Dam,Lak 94.84 50 P **P** **04 43 36.6 +2.8**
baz=227
PNTR Pine Nut 94.99 43 IAmb IAmb 04 43 37.5
comp=Z,8.0nm,0.9s
PB16 IPOC Station P 95.23 118 P **P** **04 43 36.8 0.0**
PB16 IAmb IAmb 04 43 40.3
comp=Z,10nm,0.9s
NVAR Mina Array Bea 95.25 45 P **P** **04 43 37.2 +1.3**
comp=Z,1.2nm,0.8s,baz=217,slow=8.4,SNR=9.3
NVAR PKKPbc **PKKPbc** **05 00 29.9 +0.3**
comp=Z,0.2nm,0.5s,baz=90,slow=1.5,SNR=4.0
NVAR LR LR 05 20 36.5
comp=Z,440nm,19.5s,baz=266,slow=32
comp=Z,1.2nm,0.8s
NVAR Mina Array Bea 95.25 45 P **P** **04 43 37.0 +1.1**
YBH Yreka Blue Hor 95.25 40 LR LR 05 18 38.5
comp=Z,360nm,21.7s,baz=226,slow=30
TPNV Topopah Spring 95.39 47 P **P** **04 43 38.6 +2.1**
baz=226
TUC Tucson 95.61 53 P **P** **04 43 37.8 +0.3**
TUC Tucson 95.61 53 P **P** **04 43 37.8 +0.3**
TUC pmax pmax
comp=Z,2.0nm,0.9s
TUC Tucson 95.61 53 P **P** **04 43 40.1 +2.6**
baz=229
KLR Kul'dur 95.83 331 LR LR 05 23 20.2
comp=Z,215nm,20.3s,baz=162,slow=33
ATAH Atahualpa 95.83 104 LR LR 05 16 58.0
comp=Z,1µm,21.7s,baz=245,slow=29
PZH PanZhiHua 96.20 299 P **P** **04 43 42.9 +2.5**
PZH S **S** **04 54 57.6 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,7.1s
PZH LR LR
comp=Z,850nm,25.5s
PZH LR LR
comp=Z,690nm,23.0s
PZH LR LR
comp=Z,2µm,29.4s
XAN Xi'an 96.27 308 *e*P **P** **04 43 37.3 -3.1**
XAN pP pP 04 43 47.7 -2.9
XAN pmax pmax
comp=Z,5.0nm,0.9s
K04D Chiloquin, OR 96.39 40 P **P** **04 43 43.5 +2.6**
baz=224
J04D Umpqua Nationa 96.66 39 P **P** **04 43 44.7 +2.5**
baz=223
K05A Summer Lake 96.90 40 IAmb IAmb 04 43 57.5
comp=Z,17nm,1.4s
I04A Tendick Farm, 96.91 39 P **P** **04 43 45.8 +2.7**
baz=223
J05D Fort Rock, OR 97.13 40 P Pdif 04 43 46.8 +2.5
baz=224
H04D Lebanon 97.28 38 P Pdif 04 43 47.5 +2.7
baz=223
WUAZ Wupatki 97.34 51 P Pdif 04 43 47.6 +2.1
baz=229
U15A North Rim 97.38 49 IAmb IAmb 04 44 06.8
comp=Z,16nm,1.6s
CMIG Matias Romero 97.44 74 LR LR 05 21 19.3
comp=Z,285nm,18.1s,baz=218,slow=31
CPUP Villa Florida 97.57 131 P Pdif 04 43 47.9 +1.2
comp=Z,2.7nm,1.0s,baz=243,slow=6.5,SNR=4.1
CPUP LR LR 05 20 55.8
comp=Z,1µm,19.8s,baz=227,slow=31
comp=Z,2.7nm,1.0s
CPUP Villa Florida 97.57 131 P **P** **04 43 46.3 -0.3**
CPUP IAmb IAmb 04 43 48.7
comp=Z,12nm,1.4s
CPUP Villa Florida 97.57 131 P **P** **04 43 46.3 -0.3**
CPUP pmax pmax
comp=Z,12nm,1.4s
LPAZ La Paz 97.57 117 P Pdif 04 43 49.6 +2.0
comp=Z,2.1nm,0.7s,baz=223,slow=3.6,SNR=11
LPAZ LR LR 05 18 23.3
comp=Z,389nm,21.9s,baz=208,slow=30
comp=Z,2.1nm,0.7s
LPAZ La Paz 97.57 117 P **P** **04 43 47.5 -0.1**
LPAZ La Paz 97.57 117 P **P** **04 43 47.5 -0.1**
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
CD2 Chengdu 97.58 303 *e*P Pdif 04 43 47.2 +0.7
PINE Pine Mountain 97.64 39 P Pdif 04 43 47.3 +0.7
PINE IAmb IAmb 04 44 07.5
comp=Z,9.4nm,1.2s
KDAK Kodiak Island 97.93 15 LR LR 05 21 18.5
comp=Z,432nm,21.4s,baz=227,slow=31
KDAK Kodiak Island 97.93 15 P Pdif 04 43 50.1 +2.9
baz=203
TXAR Lajitas Array 98.43 60 P Pdif 04 43 51.9 +1.5
comp=Z,0.4nm,0.9s,baz=179,slow=5.0,SNR=3.8
TXAR PKKPbc **PKKPbc** **05 00 19.9 -0.3**
comp=Z,0.4nm,0.7s,baz=108,slow=4.1,SNR=5.2
TXAR LR LR 05 20 50.6
comp=Z,447nm,19.7s,baz=222,slow=31
comp=Z,0.4nm,0.9s
P17K Kvichak River 98.51 13 P Pdif 04 43 53.0 +3.2
baz=200
ELK Elko 98.56 45 LR LR 05 22 39.8
comp=Z,450nm,19.7s,baz=236,slow=32
O16K Kokwok River B 98.61 12 P Pdif 04 43 53.3 +3.0
baz=198
MNTX Cornudas Mount 98.74 57 P Pdif 04 43 53.4 +1.8
baz=231
HHC Hu-ho-hao-te 99.22 315 *e*P **Pdif** **04 43 55.2 +1.6**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,250nm,5.8s
HHC LR LR
comp=Z,390nm,16.1s
HHC LR LR
comp=Z,390nm,19.6s
HHC LR LR
comp=Z,860nm,19.2s
MA2 Magadan 99.43 346 LR LR 05 22 35.3
comp=Z,559nm,21.3s,baz=158,slow=32
P19K Oil Pt 99.53 14 P **Pdif** **04 43 58.4 +3.9**
baz=202
ANMO Albuquerque 100.06 54 P **Pdif** **04 43 59.4 +1.7**
baz=231
LZH Lanzhou 100.77 307 *e*P **Pdif** **04 43 56.5 -4.2**
LZH sP pP 04 44 11.2 +0.2
LZH pmax pmax
comp=Z,19nm,1.0s
HLID Hailey 100.90 43 P **Pdif** **04 44 03.5 +2.3**
baz=228
PWL Port Wells 101.64 16 P **Pdif** **04 44 06.1 +2.3**
baz=206
SUA Susitna One 101.69 14 P **Pdif** **04 44 06.8 +2.7**
baz=204
PDAR Pinedale Array 103.09 46 PP **PP** **04 48 28.1 +1.6**
comp=Z,0.1nm,0.4s,baz=213,slow=4.3,SNR=2.0
PDAR PKKPbc **PKKPbc** **05 00 07.5 +0.1**
comp=Z,0.8nm,0.8s,baz=74,slow=5.3,SNR=6.5
N25K Chitina, Valde 103.14 17 P **Pdif** **04 44 13.4 +2.9**
baz=209
GTA Gaotai 105.32 308 *e*P **PP** **04 48 44.3 +1.3**
GTA sP PKiKP 04 49 06.5 +32
GTA pmax pmax
comp=Z,3.0nm,1.7s
ILAR Eielson Array 105.44 15 PKiKP **PKiKP** **04 48 33.7 -0.2**
comp=Z,0.9nm,1.0s,baz=237,slow=2.8,SNR=4.4
POKR Poker Flat Res 105.64 14 P **PKiKP** **04 48 35.7 +1.4**
baz=207
G22K Bettles 106.54 12 P **PKiKP** **04 48 38.1 +2.2**
baz=204
SONM Songino Array 106.55 318 PKKPbc PKKPbc 04 59 58.0 +1.1
comp=Z,0.6nm,0.4s,baz=292,slow=1.4,SNR=7.0
H27K Steamboat Moun 107.82 16 P **PKiKP** **04 48 40.3 +2.0**
baz=212
TIXI Tiksi 114.34 345 PKiKP PKPdf 04 48 49.4 -1.1
comp=Z,3.5nm,0.8s,baz=326,slow=3.6,SNR=8.5
TIXI Tiksi 114.34 345 *c*/PKiKP PKPdf 04 48 49.5 -0.9
TIXI pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 115.35 307 *e*PKP **PKiKP** **04 48 54.8 +1.4**
WMQ LR LR
comp=Z,200nm,19.1s
WCI Wyandotte Cave 115.35 60 P **PKiKP** **04 48 54.1 +0.6**
baz=241
MATP Matopo 115.92 211 PKP **PKiKP** **04 48 55.0 -0.4**
comp=Z,3.9nm,0.8s,baz=292,slow=2.1,SNR=7.9
MK31 Makanchi Array 120.08 308 PKPdf **PKPdf** **04 49 01.1 -1.1**
MK31 Makanchi Array 120.08 308 PKiKP **PKPdf** **04 49 01.2 -1.1**
MKAR Makanchi Array 120.08 308 PKP **PKPdf** **04 49 00.9 -1.3**
comp=Z,2.4nm,0.8s,baz=97,slow=1.1,SNR=14
MKAR PKKPbc **PKKPbc** **04 59 12.6 +1.8**
comp=Z,1.9nm,0.7s,baz=289,slow=3.5,SNR=14
MKAR Makanchi Array 120.08 308 PKiKP **PKPdf** **04 49 01.0 -1.3**
MAKZ Makanchi 120.28 308 **PKPdf** **04 49 01.5 -1.2**
MAKZ Makanchi 120.28 308 PKiKP **PKPdf** **04 49 01.5 -1.2**
LSZ Lusaka 120.64 214 PKP **PKiKP** **04 49 04.7 +0.1**
comp=Z,1.9nm,0.3s,baz=207,slow=2.5,SNR=7.2
LSZ Lusaka 120.64 214 **PKPdf** **04 49 03.4 -1.1**
ZALV Zalesovo Beam 121.37 316 PKP **PKPdf** **04 49 03.1 -1.4**

comp=Z,0.6nm,0.4s,baz=189,slow=0.4,SNR=2.6
CBN Corbin Frederi 121.61 64 P **PKiKP** 04 49 06.3 +0.7
baz=245
AAK Ala-Archa 123.57 301 PKPdf **PKPdf** 04 49 08.2 -1.1
AAK Ala-Archa 123.57 301 *c i* PKIKP **PKiKP** 04 49 10.0 +0.4
AAK pmax pmax
comp=Z,5.0nm,1.3s
KURK Kurchatov 123.79 311 PKPdf **PKPdf** 04 49 07.3 -1.9
KURK Kurchatov 123.79 311 *c i* PKIKP **PKPdf** 04 49 08.1 -1.1
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 123.81 311 PKP **PKPdf** 04 49 07.5 -1.7
comp=Z,4.2nm,0.7s,baz=116,slow=1.9,SNR=37
BINY Binghamton 124.17 60 P **PKiKP** 04 49 11.0 +0.4
baz=248
KBL Kabul 124.25 290 PKPdf **PKiKP** 04 49 11.1 -0.1
KBL Kabul 124.25 290 PKIKP **PKiKP** 04 49 11.1 -0.1
NRIK Noril'sk 124.89 334 PKP **PKPdf** 04 49 10.4 -0.4
comp=Z,5.5nm,0.8s,baz=75,slow=2.0,SNR=8.9
NRIK Noril'sk 124.89 334 PKPdf **PKPdf** 04 49 10.2 -0.6
NRIK Noril'sk 124.89 334 *c i* PKIKP **PKPdf** 04 49 10.9 +0.1
PAL Palisades 125.17 62 P **PKiKP** 04 49 12.9 +0.3
baz=248
VLDQ Val d'Or 125.27 53 PKPdf **PKPdf** 04 49 11.2 -1.0
LONY Lake Ozonia 125.99 58 PKPdf **PKPdf** 04 49 13.4 -0.3
LONY Lake Ozonia 125.99 58 P **PKiKP** 04 49 14.1 0.0
baz=250,SNR=5.2
KIBK Kibwezi 126.16 232 **PKPdf** 04 49 14.2 -1.0
KKAR Karatay Array 126.47 300 PKPdf **PKPdf** 04 49 14.1 -0.6
KKAR Karatay Array 126.47 300 PKIKP **PKPdf** 04 49 14.1 -0.6
L61B Northampton 126.55 61 P **PKiKP** 04 49 15.9 +0.6
baz=250
J61A Chester 126.94 60 **PKiKP** 04 49 15.8 -0.3
HRV Adam Dziewonsk 127.35 61 P **PKiKP** 04 49 17.6 +0.7
baz=250
KMBO Kilima Mbogo 127.60 232 PKP **PKiKP** 04 49 19.4 +0.7
comp=Z,12nm,0.9s,baz=56,slow=2.5,SNR=21
KMBO Kilima Mbogo 127.60 232 PKPdf **PKPdf** 04 49 18.0 -0.1
LBNH Lisbon 127.66 59 P **PKiKP** 04 49 18.0 +0.5
baz=251
HRA Herat 129.32 287 PKPdf **PKPdf** 04 49 19.8 -0.9
BVAR Borovoye Array 129.33 312 PKP **PKPdf** 04 49 19.6 -0.2
comp=Z,1.7nm,0.6s,baz=117,slow=0.7,SNR=11
BRVK Borovoye 129.40 312 PKPdf **PKPdf** 04 49 19.4 -0.6
BRVK Borovoye 129.40 312 *c i* PKIKP **PKPdf** 04 49 19.3 -0.6
BRVK pmax pmax
comp=Z,3.0nm,1.0s
PKME Peaks-Kenny Pk 129.76 58 P **PKiKP** 04 49 21.7 +0.1
baz=254
D62A Allapoint, All 130.41 56 PKPdf **PKPdf** 04 49 20.2 -1.8
GEYT Alibeck 133.70 290 PKP **PKPdf** 04 49 27.6 -1.0
comp=Z,3.3nm,0.8s,baz=106,slow=3.2,SNR=4.0
GEYT Alibeck 133.70 290 PKPdf **PKiKP** 04 49 29.4 -0.5
ABKAR Akbulak array 135.11 306 PKPdf **PKPdf** 04 49 31.0 +0.2
AKTO Aktyubinsk 136.50 307 PKP **PKPdf** 04 49 32.6 -0.8
comp=Z,2.1nm,0.7s,baz=93,slow=4.3,SNR=6.2
ARU Arti 136.52 316 PKP **PKPdf** 04 49 32.1 -1.1
comp=Z,4.9nm,0.4s,baz=358,slow=2.9,SNR=3.4
ARU Arti 136.52 316 *i* PKIKP **PKPdf** 04 49 30.1 -3.1
RAYN Ar Rayn 137.75 264 PKIKP **PKiKP** 04 49 36.2 -0.4
SPA0 Spitsbergen Ar 138.52 355 *e* PKPdf **PKiKP** 04 49 37.5 -1.0
SPA0 IAmb IAmb 04 49 40.3
comp=Z,37nm,1.2s
SPITS Spitsbergen Ar 138.52 355 PKIKP **PKPdf** 04 49 36.4 0.0
SUMG Summit 140.25 17 *i* P **PKiKP** 04 49 46.0 +3.4
PRGR Permogore 142.35 325 *e* PKIKP **PKPdf** 04 49 40.4 -3.2
MAK Makhachkala 142.75 294 *i* PKIKP **PKPdf** 04 49 40.5 -4.4
MAK *e* 04 56 51.6
MAK *e* SS SS 05 11 20.1 -10
MAK pmax pmax
comp=Z,171nm,1.3s
ARA0 ARCESS Array S 144.78 344 *e* PKPbc PKPbc 04 49 46.9 +0.1
ARA0 IAmb IAmb 04 49 48.3
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 144.78 344 PKP **PKPab** 04 49 46.1 -0.6
comp=Z,11nm,0.7s,baz=49,slow=1.8,SNR=46
ARCES ARCESS Array B 144.78 344 PKPdf **PKPab** 04 49 46.6 -0.1
ARCES ARCESS Array B 144.78 344 PKIKP **PKPab** 04 49 46.6 -0.1
GEVA Gevas 145.23 285 **PKPbc** 04 49 48.9 -0.6
ZEI Tsey 145.35 293 *i* PKP2 **PKPbc** 04 49 47.7 -2.0
ZEI pmax pmax
comp=Z,66nm,1.4s
KLMR Klimovskoe 145.39 326 *e* PKP2 **PKPbc** 04 49 46.1 -2.9
KLMR *e* 04 53 17.5
KLMR pmax pmax
comp=Z,126nm,1.5s
KLMR Klimovskoe 145.39 326 *e* PKPdf **PKPbc** 04 49 46.2 -2.8
KLMR AMP 04 50 00.9
comp=Z,126nm,1.5s
KLMR *e* SKP 04 53 17.6
KLMR LQ LQ 05 48 43.7
KLMR LQ LQ 05 48 43.7
KLMR LR LR 05 50 33.1
KARS Kars 145.66 289 **PKPdf** 04 49 50.2 -0.1
KARS Kars 145.66 289 PKIKP **PKPdf** 04 49 50.2 -0.1
KTK1 Kautokeino 145.68 345 *e* PKPdf **PKPdf** 04 49 48.9 -0.4
KTK1 IAmb IAmb 04 49 52.8
comp=Z,15nm,0.8s
JETT Jettan, Norway 145.79 347 *e* PKPdf **PKPdf** 04 49 49.5 -0.1
JETT IAmb IAmb 04 49 53.6
comp=Z,16nm,0.6s
TRO Tromso 145.99 347 *e* PKPdf **PKPdf** 04 49 49.4 -0.3
GURO Guroymak-BITLI 146.07 285 PKPbc **PKPdf** 04 49 51.2 +0.1
GOF Gofitskoye 146.16 297 ⇑ *e* PKP2 **PKPbc** 04 49 52.0 +0.1
GOF pmax pmax
comp=Z,53nm,1.2s
KBZ Khabaz 146.18 295 PKPbc **PKPdf** 04 49 50.8 -0.1
comp=Z,12nm,0.9s,baz=353,slow=1.4,SNR=14
KIV Kislovodsk 146.35 295 PKPbc **PKPbc** 04 49 52.0 -0.6
KIV Kislovodsk 146.35 295 *i* PKP2 **PKPdf** 04 49 51.9 +0.6
KIV pmax pmax
comp=Z,14nm,1.0s
MARD Mardin 146.77 283 PKPbc **PKPbc** 04 49 53.4 -0.7
VRH Novokhopyorsk 146.81 308 *e* PKIKP **PKPdf** 04 49 51.2 -0.5
VRH pmax pmax
comp=Z,40nm,0.8s
KOPT Kop Dagi 147.51 288 PKPbc **PKPbc** 04 49 56.0 -0.3
STEI Steigen 148.12 348 *e* PKPbc **PKPbc** 04 49 56.4 -0.3
STEI IAmb IAmb 04 50 06.0
comp=Z,107nm,1.4s
MOS Moscow 148.18 318 *e* PKIKP **PKPdf** 04 49 55.0 +1.2
MOS *e* 04 50 08.3
LOF Lofoten 148.20 350 *e* PKPbc **PKPbc** 04 49 56.7 -0.1
LOF IAmb IAmb 04 50 06.6
comp=Z,91nm,1.2s
LPSR Galich'ya Gora 148.28 311 *e* PKIKP **PKPdf** 04 49 55.2 +1.1
LPSR pmax pmax
comp=Z,40nm,1.0s
VORR Voronezh 148.29 310 PKHKP PKPpre 04 49 51.5
VORR pmax pmax
comp=Z,100nm,2.0s
VSR Storozhevoye 148.40 309 *e* PKIKP **PKPdf** 04 49 55.5 +1.2
VSR pmax pmax
comp=Z,20nm,0.8s
FAUS Fauske 148.61 348 *e* PKPbc **PKPbc** 04 49 57.3 -0.6
FAUS IAmb IAmb 04 50 06.0
comp=Z,38nm,1.1s
LIC Lamto 148.70 173 ⇑ *e* PKP1 **PKPdf** 04 49 57.0 +1.0
comp=Z,81nm,0.7s
KIC Kosan Boka 148.87 173 ⇑ *e* PKP1 **PKPdf** 04 49 56.8 +0.5
comp=Z,36nm,0.7s
OBN Obninsk 148.95 317 PKPbc **PKPbc** 04 49 58.4 -0.7
OBN Obninsk 148.95 317 ⇓ *e* PKIKP **PKPdf** 04 49 55.0 -0.1
OBN *i* 04 49 58.3
OBN *i* 04 50 08.7
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN pmax pmax
comp=Z,21nm,1.1s
TIC Toumodi 149.12 173 ⇑ *e* PKP1 **PKPdf** 04 49 57.7 +1.0
comp=Z,51nm,0.8s
DBIC Dimbokro 149.16 173 PKPbc **PKPbc** 04 50 01.1 +0.1
comp=Z,21nm,0.6s,baz=215,slow=1.5,SNR=5.6
DBIC Dimbokro 149.16 173 **PKPdf** 04 49 58.2 +1.5
DBIC Dimbokro 149.16 173 PKHKP PKPpre 04 49 58.2
KONS Konsvik 149.77 349 *e* PKPbc **PKPbc** 04 50 00.8 -0.1
KONS IAmb IAmb 04 50 00.8
comp=Z,42nm,1.1s
MOR8 Moi Rana 149.85 347 *e* PKPdf **PKPdf** 04 49 56.9 +0.6
MOR8 IAmb IAmb 04 50 10.4
comp=Z,32nm,1.0s
ANN Anapa 150.14 297 *e* PKIKP **PKPdf** 04 49 55.6 -1.7
ANN *e* 04 57 05.0
ANN pmax pmax
comp=Z,52nm,1.4s
ANN pmax pmax
comp=Z,48nm,1.0s
FINES FINESS Array B 150.55 333 PKPbc **PKPbc** 04 50 01.8 -1.0
comp=Z,18nm,0.7s,baz=121,slow=7.4,SNR=36
NSS Namsos 151.78 348 *e* pPKPdf **PKPbc** 04 50 05.0 -0.6
MEF Metsahovi 151.99 333 *e* P **PKPbc** 04 50 05.4 -0.8
CSS Mathiatis 152.03 275 **PKPbc** 04 50 06.1 -1.2
VSU Vasula 152.19 328 *e* P **PKPbc** 04 50 06.0 -0.7
RAF Rauma 152.33 336 *e* P **PKPbc** 04 50 06.2 -0.8
SIM Simferopol' 152.50 297 *i* PKIKP **PKPbc** 04 50 05.0 -2.9
SIM *e* PPP PPP 04 57 14.0
SIM pmax pmax
comp=Z,14nm,0.5s
BRTR Keskin Array B 152.70 286 PKPbc **PKPbc** 04 50 07.7 -1.1
comp=Z,7.2nm,0.8s,baz=136,slow=4.3,SNR=23
MNK Minsk 153.80 320 *i* PKIKP **PKPbc** 04 50 07.2 -3.2
MNK *i* 04 54 02.8
MNK *i* PPP PPP 04 57 30.9
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.6s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK Minsk 153.80 320 *i* PKP **PKPbc** 04 50 07.2 -3.2
comp=E,5.0nm,0.9s
MNK *i* PKP **PKPbc** 04 50 07.2 -3.2
comp=N,6.0nm,0.9s
MNK *i* PKP **PKPbc** 04 50 07.2 -3.2
comp=Z,29nm,0.6s,baz=60
MNK *i* PP **PP** 04 54 02.8 +4.6
MNK *i* SKS **SKSdf** 04 57 14.3 +7.7
MNK *i* PPP PPP 04 57 30.9
MNK *i* SKKS SKKSdf 05 06 02.3 +14
MNK *i* SS SS 05 13 49.6 +17
MNK *i* SSS SSS 05 19 31.4
MNK *i* LR LR 06 03 13.3
MNK *i* LRM MLR 06 04 45.1
comp=E,21nm,21.6s
MNK *i* LRM MLR 06 04 56.2
comp=N,21nm,20.3s
MNK *i* LRM MLR 06 04 56.2
comp=Z,210nm,19.7s
NACGM Naroch 154.16 321 *e* PKP **PKPdf** 04 50 05.2 +2.2
IIGN Ignalina 154.19 323 *e* P **PKiKP** 04 50 11.7 +0.4
DOMB Dombas 154.58 349 *e* pPKPdf **PKPbc** 04 50 10.1 -1.8
AKASG Malin Array Be 154.60 311 PKPbc **PKPbc** 04 50 10.8 -1.5
comp=Z,3.8nm,0.7s,baz=50,slow=2.3,SNR=4.3
AKBB Malin Array Si 154.60 311 *c i* PKIKP **PKiKP** 04 50 14.1 +1.8
AKN Aaknes 154.75 351 *e* pPKPdf **PKPbc** 04 50 12.0 -0.2
NB2 NORSAR Subarra 155.13 345 PKP **PKPdf** 04 50 02.6 -1.6
comp=Z,42nm,2.0s,baz=30,slow=2.2
NB2 NORSAR Subarra 155.13 345 PKP **PKPdf** 04 50 02.6 -1.6
baz=30,slow=2.2
NOA NORSAR Array B 155.13 345 PKPbc **PKPdf** 04 50 12.0 +7.7
comp=Z,3.6nm,0.8s,baz=32,slow=2.0,SNR=11
NOA NORSAR Array B 155.13 345 PKIKP **PKPdf** 04 50 12.0 +7.7
PABE Paberze 155.17 325 *e* P PKPdf 04 50 13.5 +9.2
NC602 NORSAR Array S 155.34 345 *e* pPKPdf pPKPdf 04 50 12.7 -2.2
TORD Torodi Ar. Bea 155.62 187 PKP **PKPdf** 04 50 06.6 +0.3
comp=Z,5.0nm,1.0s,baz=256,slow=0.3,SNR=15
TORD PKPbc **pPKPdf** 04 50 15.7 -1.2
comp=Z,5.2nm,0.9s,baz=120,slow=0.3,SNR=10
TORD PKPab **PKPab** 04 50 32.4 +0.2
comp=Z,9.0nm,0.8s,baz=156,slow=3.1,SNR=8.7
LVV L'vov 158.03 312 *e* PKP2 PKPab 04 50 53.3 +11
BUR08 Bucovina Ar. S 158.09 306 PKPdf **PKPdf** 04 50 07.2 -1.3
BUR08 **PKPab** 04 50 42.8 +0.5
UZH Uzhgorod 159.55 311 *e* PKIKP **PKPdf** 04 50 16.0 +5.9
UZH *i* 04 50 47.9
CRVS Cervenica-Dubn 159.94 312 *e* PKP2 **PKPab** 04 50 50.2 0.0
VYHS Vyhne 161.66 313 *e* PKIKP **PKPdf** 04 50 11.2 -1.3
VYHS *e* 04 50 57.5
VYHS Vyhne 161.66 313 *e* PKP **PKPdf** 04 50 11.2 -1.3
VYHS *e* 04 50 57.5
MORC Moravsky Berou 161.70 318 *e* PKP **PKPdf** 04 50 11.9 -0.6
MORC *e* 04 50 23.6
MORC *e* 04 51 06.7
DPC Dobruska-Polom 161.98 321 *e* PKP2 **PKPab** 04 50 59.7 +0.6
DPC Dobruska-Polom 161.98 321 *e* PKPAB **PKPab** 04 50 59.7 +0.6
DPC *e* pPKP **pPKPab** 04 51 06.6 -2.7
JAVC Velka Javorina 162.14 316 *e* PKP **PKPdf** 04 50 13.2 +0.2
JAVC *e* 04 50 24.9
VRAC Vranov 162.47 318 *e* PKP **PKPdf** 04 50 12.2 -1.1
VRAC *e* 04 50 24.1
VRAC *e* 04 51 09.2
MODS Modra-Piesok 162.62 315 *e* PKIKP **PKPdf** 04 50 12.9 -0.6
MODS *e* 04 51 01.3
MODS Modra-Piesok 162.62 315 *e* PKP **PKPdf** 04 50 12.9 -0.6
MODS *e* 04 51 01.2
PVCC Panska Ves 162.71 324 *e* PKP2 **PKPab** 04 51 05.3 +3.1
PVCC Panska Ves 162.71 324 *e* PKPAB **PKPab** 04 51 05.3 +3.1
KRUC Moravsky 162.72 318 *e* PKP **PKPdf** 04 50 12.5 -1.0
KRUC *e* 04 50 24.2
KRUC *e* 04 51 10.1
BRG Berggiesshubel 162.76 326 Amp 04 51 16.4
comp=Z,12nm,1.3s
BRG Berggiesshubel 162.76 326 *e* PKIKP **PKPdf** 04 50 12.4 -1.0
BRG *e* 04 50 24.0
BRG *e* 04 51 02.0
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG pmax pmax
comp=Z,28nm,1.9s
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,12nm,1.3s
BRG Berggiesshubel 162.76 326 *e* PKP **PKPdf** 04 50 12.5 -1.0
BRG Berggiesshubel 162.76 326 Amp 04 50 16.1
comp=Z,4.8nm,1.2s
BRG Berggiesshubel 162.76 326 *ex* x 04 50 24.0
BRG Berggiesshubel 162.76 326 Amp 04 50 25.6
comp=Z,28nm,1.9s
BRG Berggiesshubel 162.76 326 *ex* x 04 51 02.1
BRG Berggiesshubel 162.76 326 Amp 04 51 04.6
comp=Z,2.2nm,0.8s
BRG Berggiesshubel 162.76 326 *ex* x 04 51 13.6
CLL Collm 162.85 328 *e* PKIKP **PKPdf** 04 50 17.0 +3.5
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,400nm,21.0s
CLL Collm 162.85 328 Lm MLR 06 18 00.0
comp=Z,400nm,21.0s
CLL Collm 162.85 328 *e* PKPdf **PKPdf** 04 50 17.0 +3.5
CLL Collm 162.85 328 *ex* x 04 50 38.0
CLL Collm 162.85 328 *i x* x 04 51 01.4
CLL Collm 162.85 328 *e* PKPab **PKPab** 04 51 05.0 +2.2
comp=Z,9.0nm,1.1s
CLL Collm 162.85 328 *e* pPKPab pPKPab 04 51 12.0 -1.0
CLL Collm 162.85 328 *ex* x 04 51 30.0
CLL Collm 162.85 328 *e* PP PP 04 54 46.0 -1.5
CLL Collm 162.85 328 *e* SKSdf **SKSdf** 04 57 18.0 +2.5
CLL Collm 162.85 328 *e* PPPP 05 00 54.0
CLL Collm 162.85 328 *e* PSKS 05 05 30.0
CLL Collm 162.85 328 *e* PPS PPS 05 08 18.0
CLL Collm 162.85 328 *e*(SSS) 05 22 18.0
CLL Collm 162.85 328 Lm MLR 06 18 00.0
comp=E,200nm,21.5s
CLL Collm 162.85 328 Lm MLR 06 18 00.0
comp=N,400nm,20.4s
PRU Pruhonice 163.09 323 *e* PKP2 **PKPab** 04 51 11.2 +7.3
PRU Pruhonice 163.09 323 *e* pPKP **PKPab** 04 51 11.2 +7.3
CONA Conrad Observa 163.66 315 *e* P **PKPab** 04 51 06.2 -0.4
comp=N,7.5nm,0.9s
KHC Kasperske Hory 164.13 322 *e* PKP2 **PKPab** 04 51 07.9 -0.7
KHC Kasperske Hory 164.13 322 *e* PKPAB **PKPab** 04 51 07.9 -0.7
KHC *e* pPKP **pPKPab** 04 51 16.0 -2.8
GERES GERESS Array B 164.26 321 PKP **PKPdf** 04 50 15.2 +0.1
comp=N,0.8nm,0.8s,baz=325,slow=1.6,SNR=8.7
GERES PKPab **PKPab** 04 51 08.5 -0.7
comp=N,1.0nm,0.8s,baz=55,slow=5.6,SNR=4.0
ABTA Abfaltersbach 166.20 316 *e* P **PKPdf** 04 50 16.5 -0.3
comp=N,6.2nm,1.6s
ABTA *e* P **pPKPdf** 04 50 28.3 +1.1
comp=N,8.2nm,1.7s
WTTA Wattenberg 166.34 320 *e* P **PKPdf** 04 50 15.6 -1.4
comp=N,3.6nm,0.9s
MOTA Moosalm 166.56 321 *e* P **PKPdf** 04 50 15.9 -1.3
comp=N,9.8nm,1.6s
SQTA Sankt Quirin 166.59 320 *e* P **PKPdf** 04 50 17.0 -0.1
comp=N,6.0nm,1.2s
FETA Feichten 166.96 321 *e* P **PKPdf** 04 50 17.4 -0.1
comp=N,4.1nm,1.0s
BFO Black Forest 167.07 330 **PKPab** 04 51 20.4 -1.1
BFO Black Forest 167.07 330 PKP2 **PKPab** 04 51 20.4 -1.1
DAVA Damuels 167.19 323 *e* P **PKPdf** 04 50 17.3 -0.3
comp=N,2.0nm,0.7s
KEST Kesra 171.26 262 PKPab **PKPab** 04 51 39.7 -1.0
comp=N,5.5nm,1.0s,baz=275,slow=19,SNR=4.2
ESDC Sonseca Array 176.98 43 PKP **PKPdf** 04 50 23.0 +0.8
comp=N,2.2nm,1.0s,baz=323,slow=2.5,SNR=12
ESDC PKPab **PKPab** 04 52 05.8 +0.1
comp=N,2.3nm,1.0s,baz=300,slow=3.7,SNR=7.6
ESDC PP **PP** 04 55 58.1 -0.7
comp=N,0.2nm,0.7s,baz=316,slow=5.4,SNR=2.1
ESDC Sonseca Array 176.98 43 PKPdf **PKPdf** 04 50 22.4 +0.2
ESDC **PKPab** 04 52 04.9 -0.9

---

*ANF **03** 04:31:17.0±0.1,36.39N×117.87W,h9km±1km,ML3.5/34, Error ellipse: s-maj=0.8km s-min=0.7km az=147.0*
*NCEDC **03** 04:31:17.4,36.40N×117.88W,h8km*
*REN **03** 04:31:17.4±1.3,36.42N±0.01×117.86W±0.02,h4km±6km, Error ellipse: s-maj=1.8km s-min=1.6km az=76.0*
*PAS **03** 04:31:17.4±1.4,36.398N±0.006×117.87W±0.01, h2km±7km,ML3.5/102,ML3.2/124(NEIC),Mwr3.5(REN), Error ellipse: s-maj=1.7km s-min=0.5km az=116.0*
*NEIC **03** 04:31:17.4±1.3,36.41N±0.01×117.86W±0.02,h3km±6km, Error ellipse: s-maj=2.5km s-min=1.6km az=67.0*
*NEIC **03** 04:31:18,36.42N×117.86W,h8km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.01; $M_{\theta\theta}$-1.44; $M_{\phi\phi}$1.43; $M_{r\theta}$0.74; $M_{r\phi}$0.86; $M_{\theta\phi}$0.45; Fault plane solution: $M_0$1.88000×10^{14} NP1:ϕ_s61.00000°, δ89.00000°,λ27.00000°. NP2:ϕ_s330.00000°,δ63.00000°, λ179.00000°. Principal axes: T 1.8913, Plg19.0000°, Azm289.0000°; N -0.0150, Plg63.0000°, Azm62.0000°; P -1.8763, Plg18.0000°, Azm192.0000°;*
ISC 03 04:31:17.6±0.9,36.40N±0.01×117.87W±0.01,h9km±7km, n138,$_{\sigma}$0^{s}73/169,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGO	**Cerro Gordo**	**0.16**	**19**		**Pg**	**04 31 20.9**	**-0.3**
CGO					**Sg**	**04 31 23.6**	**-0.2**
CWC	**Cottonwood Cre**	**0.18**	**283**		**Pg**	**04 31 21.2**	**-0.2**
CWC					**Sg**	**04 31 24.0**	**0.0**
CWC	**Cottonwood Cre**	**0.18**	**283**	P	**Pg**	**04 31 21.2**	**-0.2**
CWC	baz=104			S	**Sg**	**04 31 24.0**	**0.0**
MFS	**McCloud Flat S**	**0.28**	**178**		**Pg**	**04 31 23.1**	**-0.2**
MFS					**Sg**	**04 31 26.9**	**-0.2**
WCSM	**Coso Springs S**	**0.38**	**168**		**Pg**	**04 31 25.0**	**-0.1**
WCSM					**Sg**	**04 31 30.4**	**+0.3**
WRVM	**Rose V. Centra**	**0.39**	**183**		**Pg**	**04 31 25.1**	**-0.3**
WRVM					**Sg**	**04 31 30.6**	**+0.2**
JRC2	**Joshua Ridge**	**0.42**	**174**		**Pg**	**04 31 25.6**	**-0.2**
JRC2					**Sg**	**04 31 31.6**	**+0.3**
WLHM	**Little Horse**	**0.44**	**236**		**Pg**	**04 31 25.8**	**-0.4**
WLHM					**Sg**	**04 31 32.1**	**+0.1**
WVPM	**Volcano Peak E**	**0.45**	**175**		**Pg**	**04 31 26.2**	**-0.2**
WVPM					**Sg**	**04 31 32.6**	**+0.3**
MPMC	**Manual Prospec**	**0.46**	**138**		**Pg**	**04 31 26.0**	**-0.5**
MPMC					**Sg**	**04 31 32.5**	**-0.1**
MPMC	**Manual Prospec**	**0.46**	**138**	P	**Pg**	**04 31 26.0**	**-0.5**
MPMC	baz=318,SNR=680			S	**Sg**	**04 31 32.2**	**-0.3**
WNMM	**Nine Mile Cany**	**0.56**	**183**		**Sg**	**04 31 36.0**	**+0.4**
TOW	**Tower One**	**0.59**	**172**		**Pg**	**04 31 29.3**	**+0.2**
TOW					**Sb**	**04 31 38.2**	**-0.6**
CLC	**China Lake**	**0.62**	**159**		**Pg**	**04 31 29.1**	**-0.5**
CLC					**Sg**	**04 31 37.5**	**-0.2**
SRTC	**Snort**	**0.71**	**172**		**Pg**	**04 31 31.5**	**+0.2**
SRTC					**Sb**	**04 31 42.2**	**0.0**
TIN	**Tinemaha, Big**	**0.72**	**336**		**Pg**	**04 31 31.0**	**-0.5**
TIN					**Sg**	**04 31 41.1**	**+0.3**
TIN	**Tinemaha, Big**	**0.72**	**336**	P	**Pg**	**04 31 30.9**	**-0.6**
TIN	baz=156,SNR=87			S	**Sg**	**04 31 41.3**	**+0.5**
GRAC	**Grapevine Rang**	**0.72**	**34**	Pg	**Pg**	**04 31 31.3**	**-0.2**
GRAC				Sg	**Sg**	**04 31 41.3**	**+0.4**
GRAC	**Grapevine Rang**	**0.72**	**34**	P	**Pg**	**04 31 31.3**	**-0.2**
GRAC	baz=214,SNR=610			S	**Sg**	**04 31 41.3**	**+0.4**
SPG2	**Springville 2**	**0.75**	**255**		**Pg**	**04 31 31.5**	**-0.7**
SPG2	baz=214				**Sg**	**04 31 41.4**	**-0.6**
WORM	**Onyx Ranch**	**0.77**	**204**		**Pg**	**04 31 31.6**	**-0.7**
WORM					**Sg**	**04 31 41.5**	**-0.8**
WHFM	**Hanning Flat**	**0.80**	**209**		**Pg**	**04 31 32.5**	**-0.6**
FURC	**Furnace Creek,**	**0.81**	**85**		**Pg**	**04 31 32.9**	**-0.4**
FURC					**Sg**	**04 31 44.4**	**+0.6**
FURC	**Furnace Creek,**	**0.81**	**85**	P	**Pg**	**04 31 32.9**	**-0.4**
FURC	baz=265,SNR=1000			S	**Sg**	**04 31 44.0**	**+0.2**
LCH	**Last Change Ra**	**0.85**	**12**		**Pg**	**04 31 33.0**	**-1.0**
LCH					**Sg**	**04 31 44.8**	**-0.3**
LCH	**Last Change Ra**	**0.85**	**12**	IAML		04 31 46.8	
LCH	comp=N,462nm,0.3s			IAML		04 31 48.8	
WASM	**Alta Sierra Ca**	**0.86**	**221**		**Pg**	**04 31 33.6**	**-0.6**
ISA	**Isabella, Lake**	**0.89**	**214**		**Pg**	**04 31 33.9**	**-0.7**
ISA	comp=N,731nm,0.3s			IAML		04 31 47.5	
ISA	**Isabella, Lake**	**0.89**	**214**		**Sg**	**04 31 45.7**	**-0.4**
ISA	**Isabella, Lake**	**0.89**	**214**	P	**Pg**	**04 31 33.9**	**-0.7**
ISA	comp=E,481nm,0.4s baz=33,SNR=288			S	**Sg**	**04 31 45.8**	**-0.4**
SGV	**South Grapevin**	**0.89**	**49**		**Pg**	**04 31 34.1**	**-0.5**
SGV	baz=33				**Sg**	**04 31 46.1**	**-0.2**
WBSM	**Bird Springs**	**0.89**	**195**		**Pg**	**04 31 34.1**	**-0.6**
WBSM					**Sg**	**04 31 46.0**	**-0.3**
QSM	**Queen of Sheba**	**0.92**	**118**		**Pg**	**04 31 34.7**	**-0.5**
QSM				IAML		04 31 50.9	
QSM	**Queen of Sheba**	**0.92**	**118**		**Sg**	**04 31 47.0**	**-0.1**
QSM	**Queen of Sheba**	**0.92**	**118**	IAML		04 31 37.8	
LRMC	**Laurel Mtn Rad**	**0.93**	**171**		**Pg**	**04 31 35.0**	**-0.4**
LRMC					**Sg**	**04 31 47.5**	**0.0**
LRMC	**Laurel Mtn Rad**	**0.93**	**171**	P	**Pg**	**04 31 35.1**	**-0.4**
LRMC	baz=350,SNR=63			S	**Sg**	**04 31 47.6**	**0.0**
HELL	**Mitchell Peak,**	**0.97**	**287**		**Pg**	**04 31 35.3**	**-1.0**
GWY	**Greenwater Val**	**0.99**	**102**		**Pg**	**04 31 36.0**	**-0.6**
GWY	**Greenwater Val**	**0.99**	**102**	IAML		04 31 55.8	
GWY	comp=E,892nm,0.4s			IAML		04 31 56.0	
POCCA	**Poleta Canyon**	**1.02**	**341**		**Pg**	**04 31 36.3**	**-0.9**
GMN	**Gold Mountain**	**1.02**	**28**		**Pg**	**04 31 36.6**	**-0.7**
GMN	**Gold Mountain**	**1.02**	**28**	IAML		04 31 51.4	
GMN	comp=N,422nm,0.4s			IAML		04 31 54.7	
WCT	**Wildcat Mounta**	**1.07**	**68**		**Pg**	**04 31 37.3**	**-0.9**
WCT	**Wildcat Mounta**	**1.07**	**68**	IAML		04 31 52.7	
VES	**Vestal, Richgr**	**1.13**	**241**		**Pg**	**04 31 38.8**	**-0.6**
VES	**Vestal, Richgr**	**1.13**	**241**	P	**Pg**	**04 31 38.8**	**-0.6**
VES	baz=60,SNR=143			S	**Sg**	**04 31 54.0**	**0.0**
SCHCA	**Scheelite**	**1.16**	**326**		**Pg**	**04 31 38.9**	**-1.1**
VOG	**Valley Oaks Go**	**1.23**	**267**		**Pg**	**04 31 40.3**	**-0.8**
VOG	**Valley Oaks Go**	**1.23**	**267**	P	**Pg**	**04 31 40.3**	**-0.8**
VOG	baz=86,SNR=16			S	**Sb**	**04 31 57.1**	**+0.2**
CCAC	**Calif City Air**	**1.25**	**186**		**Pg**	**04 31 40.6**	**-1.0**
MLNR	**Milner Canyon**	**1.25**	**342**		**Pg**	**04 31 40.4**	**-1.3**
SDH	**Striped Hills**	**1.25**	**78**		**Pg**	**04 31 40.7**	**-1.0**
AMDNV	**Amargosa**	**1.28**	**87**		**Pg**	**04 31 40.6**	**-1.5**
RCCR	**Rock Creek Can**	**1.28**	**328**		**Pg**	**04 31 41.0**	**-1.3**
MZP	**Montezuma Peak**	**1.35**	**16**		**Pn**	**04 31 43.0**	**0.0**
SHOC	**Shoshone, Teco**	**1.38**	**111**		**Pn**	**04 31 42.5**	**-0.6**

SHOC	**Shoshone, Teco**	**1.38 111**	P	**Pn**	**04 31 42.7**	**-0.4**
	baz=292,SNR=278					
SHOC			S	**Sg**	**04 32 02.0**	**0.0**
	baz=292					
ORC	**Owens River**	**1.39 333**		**Pn**	**04 31 42.2**	**-1.2**
GSC	**Goldstone, Bar**	**1.39 142**		**Pn**	**04 31 41.5**	**-1.9**
GSC	**Goldstone, Bar**	**1.39 142**	IAML		04 32 06.9	
	comp=E,683nm,0.9s					
GSC			IAML		04 32 07.5	
	comp=N,418nm,0.4s					
GSC	**Goldstone, Bar**	**1.39 142**	P	**Pn**	**04 31 42.5**	**-0.9**
	baz=322,SNR=370					
GSC			S	**Sg**	**04 32 01.9**	**-0.5**
	baz=322					
TPNV	**Topopah Spring**	**1.41 67**		**Pn**	**04 31 42.9**	**-0.8**
TPNV	**Topopah Spring**	**1.41 67**	IAML		04 32 08.9	
	comp=N,633nm,0.4s					
TPNV	**Topopah Spring**	**1.41 67**	P	**Pn**	**04 31 43.1**	**-0.6**
	baz=248,SNR=159					
TPNV			S	**Sg**	**04 32 02.5**	**-0.5**
	baz=248					
BENR	**Benton**	**1.43 337**		**Pn**	**04 31 43.6**	**-0.4**
MLAC	**Mammoth, Mammo**	**1.45 328**	Pb	**Pn**	**04 31 44.3**	**-0.1**
	baz=148,SNR=44					
MLAC			S	**Sb**	**04 32 04.1**	**+0.4**
	baz=148					
KCC	**Kaiser Creek**	**1.49 309**		**Pn**	**04 31 43.9**	**-0.8**
ARVC	**Arvin**	**1.49 212**	Pb	**Pn**	**04 31 45.0**	**+0.4**
	baz=31,SNR=78					
ARVC			S	**Sn**	**04 32 04.6**	**+0.3**
	baz=31					
OMMB	**Old Mammoth Mi**	**1.52 323**		**Pn**	**04 31 44.9**	**-0.3**
OMMB			IAML		04 32 08.2	
	comp=N,300nm,0.4s					
OMMB			IAML		04 32 10.2	
	comp=E,352nm,0.9s					
EDW2	**Edwards Air Fo**	**1.52 184**	P	**Pn**	**04 31 44.6**	**-0.4**
	baz=3.6,SNR=135					
EDW2			S	**Sn**	**04 32 04.8**	**-0.2**
	baz=3.6					
MDPB	**Devils Postpil**	**1.57 322**		**Pn**	**04 31 46.1**	**+0.2**
RRX	**Edison Barstow**	**1.68 155**	Pb	**Pb**	**04 31 48.2**	**-0.5**
	baz=335					
RRX			Sg	**Sg**	**04 32 12.5**	**+0.9**
	baz=335					
TPH	**Tonopah**	**1.75 17**		**Pn**	**04 31 49.2**	**+0.8**
TUQ	**Turquoise Moun**	**1.85 121**	P	**Pn**	**04 31 48.7**	**-0.9**
	baz=302,SNR=189					
TUQ			Sg	**Sg**	**04 32 17.7**	**+0.8**
	baz=302					
CRGC	**Crocker Grade**	**1.90 233**		**Pb**	**04 31 52.1**	**-0.5**
OSI	**Osito Audit: C**	**1.91 202**	Pb	**Pb**	**04 31 52.1**	**-0.6**
	baz=21,SNR=23					
OSI			Sg	**Sg**	**04 32 19.7**	**+0.6**
	baz=21					
LHV	**Little Huntoon**	**1.92 345**		**Pn**	**04 31 51.0**	**+0.5**
LHV			IAML		04 32 21.6	
	comp=E,248nm,1.1s					
LHV			IAML		04 32 22.1	
	comp=N,192nm,0.7s					
BCW	**Bitter Crk WRg**	**1.93 221**		**Pn**	**04 31 50.8**	**+0.1**
HEC	**Hector,Ludlow**	**2.00 141**	P	**Pn**	**04 31 50.8**	**-1.0**
	baz=322,SNR=56					
HEC			Sb	**Sb**	**04 32 20.3**	**+1.0**
	baz=322					
SMMC	**Simmler**	**2.04 239**	Pb	**Pb**	**04 31 53.8**	**-1.1**
	baz=57,SNR=17					
SMMC			Sb	**Sb**	**04 32 20.9**	**+0.5**
	baz=57					
NV11	**Mina Array Sit**	**2.04 354**		**Pn**	**04 31 52.5**	**+0.2**
PAGB	**Antelope Grade**	**2.04 252**		**Pn**	**04 31 52.4**	**+0.2**
PAGB			IAML		04 32 24.1	
	comp=N,291nm,0.6s					
PAGB			IAML		04 32 29.3	
	comp=E,330nm,0.7s					
S11A	**Rachel**	**2.10 53**		**Pn**	**04 31 53.8**	**+0.6**
MBUM	**Mount Bullion**	**2.12 304**		**Pb**	**04 31 55.1**	**-1.1**
BFSC	**Mount Baldy Ra**	**2.16 175**	Pg	**Pb**	**04 31 57.6**	**+0.6**
	baz=355,SNR=42					
BFSC			Sb	**Sb**	**04 32 24.8**	**+0.8**
	baz=355					
BCH	**Branch Mountai**	**2.17 237**		**Pn**	**04 31 55.7**	**+1.6**
DECC	**Green Verdugo**	**2.17 190**	Pb	**Pb**	**04 31 57.0**	**-0.2**
	baz=9.8,SNR=7.9					
DECC			Sb	**Sb**	**04 32 25.4**	**+1.2**
	baz=9.8					
SHPR	**Sheep Range**	**2.18 86**		**Pn**	**04 31 54.4**	**+0.1**
SHPR			IAML		04 32 39.5	
	comp=E,83nm,0.8s					
PKM	**Mcpherson Peak**	**2.19 227**	Pg	**Pb**	**04 31 58.4**	**+0.9**
	baz=46,SNR=18					
PKM			Sb	**Sb**	**04 32 25.1**	**+0.3**
	baz=46					
BBRC	**Big Bear Solar**	**2.27 160**	Pg	**Pg**	**04 32 00.6**	**-0.4**
	baz=340,SNR=14					
RYN	**Ryan**	**2.29 347**		**Pn**	**04 31 56.3**	**+0.6**
WTNK	**Soaring Height**	**2.32 94**		**Pn**	**04 31 56.7**	**+0.7**
WTNK			IAML		04 32 38.2	
	comp=E,15nm,0.8s					
WTNK			IAML		04 32 42.9	
	comp=N,14nm,1.4s					
PMPB	**Monarch Peak**	**2.38 266**	Pn	**Pn**	**04 31 57.5**	**+0.6**
PMPB			IAML		04 32 34.1	
	comp=E,210nm,0.5s					
PMPB			IAML		04 32 44.7	
	comp=N,248nm,0.8s					
GMRC	**Granite Mounta**	**2.41 131**	P	**Pn**	**04 31 56.0**	**-1.4**
	baz=312,SNR=65					
SBC	**Santa Barbara**	**2.47 218**	Pb	**Pb**	**04 32 01.9**	**-0.2**
	baz=37,SNR=6.9					
PRN	**Pahroc Range**	**2.47 65**		**Pn**	**04 31 58.8**	**+0.6**
Q09A	**Carvers**	**2.49 12**	Pn	**Pn**	**04 31 58.9**	**+0.3**
Q09A			IAML		04 32 51.6	
	comp=E,181nm,0.8s					
V12A	**Nelson**	**2.53 104**		**Pn**	**04 31 59.4**	**+0.3**
CMB	**Columbia Colle**	**2.59 310**		**Pn**	**04 32 02.1**	**+2.3**
KVN	**Kaiserville**	**2.65 356**	IAML		04 32 45.3	
	comp=N,53nm,1.0s					
R11A	**Troy Canyon, C**	**2.66 42**	IAML		04 32 45.0	
	comp=E,156nm,0.6s					
R11A			IAML		04 32 45.0	
	comp=N,120nm,0.6s					
R11A	**Troy Canyon, C**	**2.66 42**	Pb	**Pb**	**04 32 06.0**	**+0.4**
	baz=224					
FMP	**Fort Macarthur**	**2.70 188**	Pg	**Pg**	**04 32 08.7**	**-0.7**
	baz=7.2					
ELS	**Elsinore Mount**	**2.77 172**		**Pn**	**04 32 02.4**	**+0.1**
YERR	**Yerington**	**2.80 338**	IAML		04 33 11.2	
	comp=E,73nm,0.7s					
BELC	**Belle Mtn. Jos**	**2.84 147**	P	**Pn**	**04 32 02.6**	**-0.7**
	baz=328,SNR=8.3					
MURC	**Murrieta**	**2.85 169**	P	**Pn**	**04 32 03.2**	**-0.1**
	baz=349,SNR=6.5					
SAO	**San Andreas Ge**	**2.91 278**	Pn	**Pn**	**04 32 05.3**	**+1.2**
PMD	**Palm Desert**	**3.00 156**	Pn	**Pn**	**04 32 05.4**	**-0.1**
PMD			IAML		04 32 56.9	
	comp=N,31nm,1.1s					
PMD			IAML		04 33 00.2	
	comp=E,42nm,1.9s					
PFO	**Pinyon Flats O**	**3.01 157**	Pn	**Pn**	**04 32 06.3**	**+0.6**
PFO			IAML		04 32 57.3	
	comp=E,63nm,1.8s					
PFO			IAML		04 33 00.5	
	comp=E,38nm,1.8s					
PFO	**Pinyon Flats O**	**3.01 157**	P	**Pn**	**04 32 05.3**	**-0.3**
	baz=338,SNR=16					
PNTR	**Pine Nut**	**3.02 333**		**Pn**	**04 32 07.4**	**+1.5**
PNTR			IAML		04 33 03.1	
	comp=E,69nm,0.7s					
PNTR			IAML		04 33 08.9	
	comp=N,64nm,0.8s					
CIS	**Catalina Islan**	**3.02 189**	Pg	**Pg**	**04 32 13.8**	**-1.8**
	baz=8.2					
NEE2	**Needles Airpor**	**3.11 121**	P	**Pn**	**04 32 05.8**	**-1.0**
	baz=303					
IRM	**Iron Mountain**	**3.15 134**	P	**Pn**	**04 32 06.3**	**-1.3**
	baz=316,SNR=8.0					
VCNR	**Virginia City**	**3.22 335**	IAML		04 33 08.6	
	comp=N,44nm,0.6s					
MPK	**Martis Peak**	**3.36 330**	Pn	**Pn**	**04 32 10.5**	**-0.1**
W13A	**Hualapai Mount**	**3.49 111**	Pn	**Pn**	**04 32 11.8**	**-0.5**
AFDM	**Forest Hills D**	**3.54 317**	Pn	**Pn**	**04 32 13.5**	**+0.7**
MONP2	**Monument Peak**	**3.69 161**	Pb	**Pb**	**04 32 25.0**	**+1.7**
	baz=342					
LCMT	**Little Creek M**	**3.76 79**	Pn	**Pn**	**04 32 16.4**	**+0.4**
LCMT			IAML		04 33 18.6	
	comp=N,24nm,0.9s					

CCUT	**Cedar City**	**3.79 71**		**Pn**	**04 32 16.9**	**+0.5**
CCUT			IAML		04 33 25.1	
	comp=N,40nm,1.6s					
BLYC	**Blythe**	**3.81 133**	Pn	**Pn**	**04 32 15.5**	**-0.9**
BLYC			IAML		04 33 25.4	
	comp=N,29nm,0.7s					
BLYC			IAML		04 33 31.7	
	comp=E,26nm,1.0s					
SPR3	**Spring Creek 3**	**3.82 46**	IAML		04 33 19.3	
	comp=E,66nm,0.9s					
SPR3			IAML		04 33 22.0	
	comp=N,63nm,0.7s					
BAR	**Barrett**	**3.84 165**		**Pn**	**04 32 17.1**	**+0.2**
BAR			IAML		04 33 20.9	
	comp=N,21nm,0.5s					
BAR			IAML		04 33 24.9	
	comp=E,24nm,0.9s					
SZCU	**Shurtz Canyon**	**4.01 71**	Pn	**Pn**	**04 32 21.0**	**+1.6**
SZCU			IAML		04 33 36.8	
	comp=E,20nm,0.4s					
BMN	**Battle Mountai**	**4.06 7**	Pn	**Pn**	**04 32 20.9**	**+0.9**
YUH	**Yuha Desert**	**4.07 156**	Pn	**Pn**	**04 32 21.1**	**+1.0**
KNB	**Kanab**	**4.10 80**	IAML		04 33 33.2	
	comp=E,19nm,1.0s					
KNB			IAML		04 33 34.9	
	comp=N,20nm,1.4s					
CBX	**Cerro Bola**	**4.20 166**		**Pn**	**04 32 22.5**	**+0.6**
CBX			IAML		04 33 30.3	
	comp=E,37nm,0.7s					
CBX			IAML		04 33 41.4	
	comp=N,22nm,0.8s					
U15A	**North Rim**	**4.50 88**		**Pn**	**04 32 25.9**	**-0.3**
U15A			IAML		04 33 42.7	
	comp=E,17nm,1.4s					
U15A			IAML		04 33 52.3	
	comp=N,17nm,1.6s					
ESJX	**Sierra Juarez**	**4.66 160**	Pn	**Pn**	**04 32 29.2**	**+0.8**
ELK	**Elko**	**4.80 25**	Pn	**Pn**	**04 32 31.5**	**+1.1**
ELK			IAML		04 33 49.6	
	comp=N,11nm,0.6s					
MTPU	**Mount Pierson**	**4.82 68**	Pn	**Pn**	**04 32 30.1**	**-0.6**
MTPU			IAML		04 34 00.9	
	comp=N,14nm,1.1s					
MTPU			IAML		04 34 11.2	
	comp=E,12nm,1.8s					
MVU	**Marysvale**	**4.96 63**	Pn	**Pn**	**04 32 33.4**	**+0.8**
MSU	**Marysvale**	**4.99 63**	Pn	**Pn**	**04 32 32.5**	**-0.5**
MOD	**Modoc Plateau**	**5.81 342**	Pn	**Pn**	**04 32 46.1**	**+1.9**

IDC ***03*** *04:42:24.5±1.4, 37.°02S×179.°06E, h0km, mb4.3/5, mbtmp4.3/5, Error ellipse: s-maj=36.0km s-min=30.5km az=30.0*

NOU ***03*** *04:42:24.4, 37.°55S×179.°46E, h151km, MLv4.8/9, Off E. Coast of N. Island, N.Z.*

NEIC ***03*** *04:42:25.1±1.5, 37.°6S±0.°1×179.°25E±0.°02, h10km±2km, mb4.4/11, Error ellipse: s-maj=22.4km s-min=3.0km az=3.0*

WEL ***03*** *04:42:29.4±1.3, 37.°S±6.°×17.°9E±.°, h18km±6km, M4.1/43, ML4.4/43, MLv4.1/43, Error ellipse: s-maj=0.0km s-min=0.0km az=72.9*

ISC 03 04:42:24.0±2.2,**37.°44S**±0.°05×**179.°22E**±0.°07,**h2**km±12km, **n158,**σ1§**34**/163,**mb4.3**/10,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**260**		**Pg**	**04 42 39.0**	**+1.0**
MXZ	**Matakaoa Point**	**0.74**	**260**	P	**Pb**	**04 42 39.4**	**-0.1**
WMGZ	**Waiomatatini S**	**0.74**	**239**	P	**Pn**	**04 42 42.2**	**+0.8**
WMGZ				S	**Sb**	**04 42 50.5**	**+0.3**
PUZ	**Puketiti**	**0.99**	**230**	P	**Pn**	**04 42 46.2**	**+1.3**
PUZ				S	**Sb**	**04 42 57.8**	**+0.4**
PKGZ	**Pakihiroa**	**1.01**	**243**	P	**Pn**	**04 42 45.6**	**+0.4**
PKGZ				S	**Sg**	**04 42 56.6**	**+0.1**
HAZ	**Te Kaha**	**1.19**	**254**	P	**Pn**	**04 42 47.6**	**+0.1**
HAZ				S	**Sg**	**04 43 00.7**	**-1.3**
TWGZ	**Tauwhareparae**	**1.23**	**233**	P	**Pn**	**04 42 49.7**	**+1.5**
CNGZ	**Carnagh Statio**	**1.31**	**217**	P	**Pb**	**04 42 52.1**	**+2.7**
RUGZ	**Raukumara Rang**	**1.33**	**246**	P	**Pb**	**04 42 50.6**	**+0.9**
RUGZ				S	**Sg**	**04 43 05.3**	**-1.5**
TKGZ	**Te Karaka**	**1.47**	**227**	P	**Pg**	**04 42 52.7**	**+0.5**
TKGZ				S	**Sn**	**04 43 10.5**	**-0.9**
MWZ	**Matawai**	**1.61**	**236**	P	**Pn**	**04 42 54.3**	**-0.1**
WIZ	**White Island**	**1.62**	**266**	P	**Pn**	**04 42 54.0**	**+0.5**
RIGZ	**Rimuhau**	**1.71**	**222**	P	**Pb**	**04 42 56.0**	**-0.1**
RAGZ	**Rawiri**	**1.77**	**233**	P	**Pb**	**04 42 56.8**	**-0.4**
PRGZ	**Paritu Road**	**1.82**	**215**	P	**Pb**	**04 42 57.8**	**-0.2**
WHRZ	**Whale Island**	**1.83**	**256**	P	**Pb**	**04 42 58.0**	**-0.1**
URZ	**Urewera**	**1.86**	**243**	Pn	**Pb**	**04 42 58.3**	**-0.3**
	189nm,0.3s,baz=302,slow=24,SNR=330						
URZ				Sn	**Sn**	**04 43 19.4**	**-1.5**
	380nm,0.3s,baz=31,slow=17,SNR=15						
URZ	**Urewera**	**1.86**	**243**	Pn	**Pn**	**04 42 57.6**	**+0.8**
URZ	**Urewera**	**1.86**	**243**	P	**Pb**	**04 42 58.2**	**-0.5**
URZ	**Urewera**	**1.86**	**243**	P	**Pb**	**04 42 58.9**	**+0.2**
KNZ	**Kokohu**	**2.00**	**217**	P	**Pn**	**04 42 59.4**	**+0.7**
MHGZ	**Maia Peninsul**	**2.00**	**228**	P	**Pn**	**04 43 00.8**	**-0.2**
SNGZ	**Shannon Statio**	**2.00**	**227**	P	**Pn**	**04 42 59.6**	**+0.8**
EDRZ	**Edgecumbe**	**2.08**	**251**	P	**Pn**	**04 43 00.8**	**+0.9**
MARZ	**Manawahe**	**2.09**	**254**	P	**Pn**	**04 43 00.7**	**+0.6**
RTZ	**Ruatahuna**	**2.12**	**236**	P	**Pn**	**04 43 02.0**	**+1.4**
OPRZ	**Ohinepanea**	**2.15**	**258**	P	**Pn**	**04 43 01.3**	**+0.4**
MUGZ	**Murupara**	**2.20**	**241**	P	**Pn**	**04 43 02.4**	**+0.9**
RAHZ	**Arahi**	**2.24**	**228**	P	**Pn**	**04 43 03.2**	**+1.2**
WHHZ	**Waihua**	**2.26**	**223**	P	**Pn**	**04 43 03.6**	**+1.2**
TARZ	**Mount Tarawera**	**2.29**	**249**	P	**Pn**	**04 43 04.0**	**+1.1**
RRRZ	**Republican Roa**	**2.32**	**246**	P	**Pn**	**04 43 04.2**	**+0.9**
MTHZ	**Maungataniwha**	**2.35**	**232**	P	**Pn**	**04 43 04.9**	**+1.3**
OMRZ	**Omania**	**2.35**	**253**	P	**Pn**	**04 43 04.6**	**+1.0**
TGRZ	**Tauranga**	**2.37**	**262**	P	**Pn**	**04 43 04.2**	**+0.3**
MYRZ	**Mayor Island**	**2.38**	**273**	P	**Pn**	**04 43 04.1**	**+0.1**
HLRZ	**Highlands Stat**	**2.41**	**249**	P	**Pn**	**04 43 05.6**	**+1.1**
KARZ	**Kaharoa**	**2.43**	**255**	P	**Pn**	**04 43 05.3**	**+0.6**
PRRZ	**Plateau Road**	**2.47**	**244**	P	**Pn**	**04 43 06.5**	**+1.2**
NGRZ	**Ngongotaha**	**2.49**	**254**	P	**Pn**	**04 43 07.3**	**+1.7**
UTU	**Utuhina**	**2.51**	**252**	P	**Pb**	**04 43 08.0**	**-1.7**
HRRZ	**Handcock Road**	**2.51**	**247**	P	**Pn**	**04 43 06.7**	**+0.9**
HSRZ	**Hossack Road**	**2.51**	**249**	P	**Pn**	**04 43 07.4**	**+1.6**
ARHZ	**Aropaoanui**	**2.52**	**223**	P	**Pn**	**04 43 07.1**	**+1.1**
ALRZ	**Allen Road**	**2.53**	**243**	P	**Pn**	**04 43 06.9**	**+0.8**
MRHZ	**Matea Rd**	**2.61**	**237**	P	**Pn**	**04 43 08.2**	**+0.9**
GRRZ	**Galatos Road**	**2.62**	**249**	P	**Pn**	**04 43 08.8**	**+1.4**
KMRZ	**Kaimai**	**2.63**	**260**	P	**Pn**	**04 43 07.8**	**+0.3**
WPRZ	**Whakapapatarin**	**2.65**	**245**	P	**Pn**	**04 43 08.7**	**+1.0**
BKZ	**Black Stump Fm**	**2.75**	**230**		**Pn**	**04 43 09.3**	**+0.1**
BKZ	**Black Stump Fm**	**2.75**	**230**	P	**Pn**	**04 43 10.1**	**+0.9**
BKZ	**Black Stump Fm**	**2.75**	**230**	P	**Pn**	**04 43 10.0**	**+0.8**
CKHZ	**Cape Kidnapper**	**2.78**	**217**	P	**Pn**	**04 43 09.9**	**+0.4**
KUTZ	**Kaahu Road**	**2.88**	**248**	P	**Pn**	**04 43 11.9**	**+0.9**
KUZ	**Kuaotunu**	**2.88**	**283**	P	**Pn**	**04 43 09.3**	**-1.5**
KWHZ	**Kaweka Forest**	**2.96**	**227**	P	**Pn**	**04 43 12.5**	**+0.5**
TOZ	**Tahuroa Road**	**2.97**	**263**	P	**Pn**	**04 43 12.2**	**+0.2**
KAHZ	**Kahuranaki**	**2.98**	**217**	P	**Pn**	**04 43 12.6**	**+0.2**
WATZ	**Wairara**	**3.03**	**244**	P	**Pn**	**04 43 15.1**	**+2.1**
RITZ	**Rihia Road**	**3.06**	**239**	P	**Pn**	**04 43 14.4**	**+1.0**
RATZ	**Rangitukua**	**3.07**	**241**	P	**Pn**	**04 43 14.8**	**+1.3**
KRHZ	**Kereru**	**3.14**	**225**	P	**Pn**	**04 43 14.4**	**0.0**
KATZ	**Kakaramea**	**3.17**	**240**	P	**Pn**	**04 43 16.1**	**+1.1**
PXZ	**Pawanui**	**3.18**	**215**	P	**Pn**	**04 43 14.8**	**-0.1**
BHHZ	**Black Hill Sta**	**3.21**	**229**	P	**Pn**	**04 43 16.0**	**+0.4**
TMVZ	**Te Maari**	**3.23**	**238**	P	**Pn**	**04 43 16.4**	**+0.5**
ETVZ	**East Tongariro**	**3.24**	**237**	P	**Pn**	**04 43 16.4**	**+0.4**
GRZ	**Great Barrier**	**3.24**	**290**	P	**Pn**	**04 43 15.1**	**-0.8**
NTVZ	**North Tongarir**	**3.24**	**238**	P	**Pn**	**04 43 16.7**	**+0.6**
MKAZ	**Moumakai**	**3.25**	**275**	P	**Pn**	**04 43 15.3**	**-0.7**
KRVZ	**Karewarewa**	**3.27**	**239**	P	**Pn**	**04 43 16.9**	**+0.6**
OTVZ	**Oturere**	**3.28**	**237**	P	**Pn**	**04 43 17.2**	**+0.6**
NNVZ	**North Ngauruho**	**3.30**	**238**	P	**Pn**	**04 43 17.6**	**+0.8**
WTVZ	**West Tongariro**	**3.31**	**239**	P	**Pn**	**04 43 17.8**	**+0.9**
SNVZ	**South Ngauruho**	**3.31**	**237**	P	**Pn**	**04 43 17.5**	**+0.5**
WIAZ	**Waiheke Island**	**3.33**	**280**	P	**Pn**	**04 43 16.3**	**-0.7**
NGZ	**Ngauruhoe**	**3.33**	**238**	P	**Pn**	**04 43 17.8**	**+0.5**
TUVZ	**Tukino**	**3.34**	**236**	P	**Pn**	**04 43 18.2**	**+0.7**
MOVZ	**Moawhango**	**3.36**	**233**	P	**Pn**	**04 43 17.5**	**0.0**
TWVZ	**Taurewa**	**3.39**	**240**	P	**Pn**	**04 43 18.6**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.40**	**236**	P	**Pn**	**04 43 18.5**	**+0.3**
FWVZ	**Far West T-bar**	**3.41**	**237**	P	**Pn**	**04 43 18.9**	**+0.6**
WPHZ	**Waipukurau**	**3.41**	**219**	P	**Pn**	**04 43 18.2**	**+0.1**
WPHZ				P	Pb	04 43 18.2	-6.8

DRZ	**Dome Shelter**	**3.41 236**	P	**Pn**	**04 43 19.2**	**+0.7**
WNVZ	**Wahianoa**	**3.41 235**	P	**Pn**	**04 43 18.6**	**+0.2**
PNHZ	**Pukenui**	**3.42 223**	P	**Pn**	**04 43 17.7**	**-0.6**
TRVZ	**Turoa**	**3.43 236**	P	**Pn**	**04 43 18.9**	**+0.3**
ETAZ	**East Tamaki Re**	**3.46 277**	P	**Pn**	**04 43 18.6**	**-0.3**
PRHZ	**Porangahau**	**3.47 215**	P	**Pn**	**04 43 18.6**	**-0.4**
MBAZ	**Motutapu North**	**3.52 280**	P	**Pn**	**04 43 19.3**	**-0.4**
MTVZ	**Mangateitei**	**3.53 235**	P	**Pn**	**04 43 20.5**	**+0.6**
PKVZ	**Pokaka**	**3.56 238**	P	**Pn**	**04 43 20.9**	**+0.6**
ABAZ	**Army Bay**	**3.61 282**	P	**Pn**	**04 43 20.7**	**-0.2**
HIZ	**Hauiti**	**3.61 251**		**Pn**	**04 43 20.7**	**-0.2**
HIZ	**Hauiti**	**3.61 251**	P	**Pn**	**04 43 22.6**	**+1.6**
HIZ	**Hauiti**	**3.61 251**	P	**Pn**	**04 43 22.4**	**+1.5**
EPAZ	**Eden Park BICE**	**3.62 278**	P	**Pn**	**04 43 21.4**	**+0.4**
HBAZ	**Herne Bay Bore**	**3.63 278**	P	**Pn**	**04 43 22.3**	**+1.1**
TSZ	**Takapari Road**	**3.65 223**	P	**Pn**	**04 43 20.8**	**-0.7**
AWAZ	**Awhitu Peninsu**	**3.67 274**	P	**Pn**	**04 43 21.5**	**-0.2**
ANWZ	**Angora Road**	**3.70 215**	P	**Pn**	**04 43 21.2**	**-0.9**
DVHZ	**Dannevirke**	**3.72 219**	P	**Pn**	**04 43 21.7**	**-0.8**
WTAZ	**Waiatarua**	**3.75 276**	P	**Pn**	**04 43 23.9**	**+1.1**
RVAZ	**Riverhead Bore**	**3.77 279**	P	**Pn**	**04 43 23.1**	**+0.1**
BFZ	**Birch Farm**	**3.98 215**		**Pn**	**04 43 23.2**	**-2.8**
BFZ	**Birch Farm**	**3.98 215**	P	**Pn**	**04 43 24.8**	**-1.2**
BFZ	**Birch Farm**	**3.98 215**	P	**Pn**	**04 43 25.0**	**-1.0**
POWZ	**Post Office Ro**	**3.99 221**	P	**Pn**	**04 43 25.5**	**-0.6**
PRWZ	**Pori Road**	**4.01 218**	P	**Pn**	**04 43 26.1**	**-0.3**
WAZ	**Wanganui**	**4.04 234**	P	**Pn**	**04 43 27.7**	**+0.8**
CPWZ	**Castlepoint**	**4.18 213**	P	**Pn**	**04 43 28.1**	**-0.7**
MHEZ	**Mangahewa**	**4.19 246**	P	**Pn**	**04 43 31.9**	**+3.1**
WCZ	**Waipu Caves**	**4.19 289**	P	**Pn**	**04 43 28.8**	**-0.1**
TIWZ	**Tintock**	**4.22 217**	P	**Pn**	**04 43 28.3**	**-1.1**
LREZ	**Lake Rotokare**	**4.29 240**	P	**Pn**	**04 43 31.9**	**+1.7**
DREZ	**Durham Road**	**4.32 245**	P	**Pn**	**04 43 32.8**	**+2.2**
PREZ	**Palmer Road**	**4.41 243**	P	**Pn**	**04 43 34.3**	**+2.4**
NEZ	**North Egmont**	**4.42 244**	P	**Pn**	**04 43 34.4**	**+2.2**
PKE	**Pukeiti**	**4.47 245**	P	**Pn**	**04 43 35.6**	**+2.8**
KHEZ	**Kahui Hut**	**4.49 244**	P	**Pn**	**04 43 35.3**	**+2.2**
NBEZ	**Newall Road No**	**4.59 245**	P	**Pn**	**04 43 37.4**	**+3.1**
NMEZ	**Namu Road**	**4.63 243**	P	**Pn**	**04 43 38.4**	**+3.4**
MSWZ	**Moikau Station**	**5.02 217**		**Pn**	**04 43 37.0**	**-3.4**
OUZ	**Omahuta**	**5.05 294**	P	**Pn**	**04 43 41.3**	**+0.6**
OUZ	**Omahuta**	**5.05 294**	P	**Pn**	**04 43 41.3**	**+0.6**
PLWZ	**Palliser**	**5.14 215**	Pn	**Pn**	**04 43 37.8**	**-4.2**
SNZO	**South Karori**	**5.21 221**	P	**Pn**	**04 43 40.9**	**-2.0**
QRZ	**Quartz Range**	**6.20 235**	P	**Pn**	**04 43 53.7**	**-2.8**
GVZ	**Greta Valley S**	**7.27 219**	P	**Pn**	**04 44 10.4**	**-0.8**
RPZ	**Rata Peaks**	**8.82 222**	Pn	**Pn**	**04 44 30.1**	**-2.4**
	3.0nm,0.3s,baz=118,slow=6.0,SNR=9.3					
RPZ			Sn		04 45 58.9	-14
	4.3nm,0.3s,baz=335,slow=22,SNR=12					
RPZ	**Rata Peaks**	**8.82 222**	P	**Pn**	**04 44 30.4**	**-2.1**
ODZ	**Otahua Downs**	**9.97 218**	P	**Pn**	**04 44 43.6**	**-4.5**
STKA	**Stephens Creek**	**31.30 269**	P	**P**	**04 48 46.0**	**+0.5**
	6.2nm,0.9s,baz=74,slow=6.1,SNR=5.8					
	6.2nm,0.9s					
STKA	**Stephens Creek**	**31.30 269**	P	**P**	**04 48 44.9**	**-0.6**
BBOO	**Buckleboo**	**35.37 264**	P	**P**	**04 49 21.1**	**+0.1**
COEN	**Coen**	**39.65 296**	P	**P**	**04 49 58.1**	**+0.7**
COEN			IAmb	IAmb	04 50 03.2	
	comp=Z,9.5nm,1.3s					
AS31	**Alice Springs**	**40.99 276**	P	**P**	**04 50 08.0**	**-0.5**
AS31			IAmb	IAmb	04 50 08.9	
	comp=Z,1.9nm,0.6s					
ASAR	**Alice Springs**	**40.99 276**	P	**P**	**04 50 08.1**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=124,slow=8.3,SNR=59					
ASAR			PcP	**PcP**	**04 52 07.1**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=111,slow=5.1,SNR=1.2					
	comp=Z,4.5nm,0.7s					
ASAR	**Alice Springs**	**40.99 276**	P	**P**	**04 50 07.1**	**-1.4**
FORT	**Forrest**	**42.45 263**	P	**P**	**04 50 19.3**	**-1.0**
FORT			IAmb	IAmb	04 50 36.4	
	comp=Z,18nm,0.9s					
WB2	**

WHRZ	**Whale Island**	**1.55 255**	P		**Pb**	04 46 12.9	**-1.3**
URZ	**Urewera**	**1.60 240**	Pn		**Pn**	04 46 12.7	**+0.6**
	276nm,0.3s,baz=211,slow=1.9,SNR=31						
URZ			Sn		**Sn**	04 46 32.2	**+0.5**
	516nm,0.3s,baz=211,slow=22,SNR=6.0						
URZ	**Urewera**	**1.60 240**	Pn		**Pn**	04 46 12.5	**+0.4**
URZ	**Urewera**	**1.60 240**	P		**Pn**	04 46 12.7	**+0.6**
URZ	**Urewera**	**1.60 240**	P		**Pn**	04 46 12.9	**+0.8**
PRQZ	**Paritu Road**	**1.64 208**	P		**Pn**	04 46 12.6	**-0.2**
SNGZ	**Shannon Statio**	**1.78 222**	P		**Pn**	04 46 14.4	**-0.2**
EDRZ	**Edgecumbe**	**1.80 249**	P		**Pn**	04 46 15.6	**+0.6**
KNZ	**Kokohu**	**1.81 211**	P		**Pn**	04 46 14.1	**-0.9**
MARZ	**Manawahe**	**1.81 253**	P		**Pn**	04 46 15.6	**+0.4**
MHGZ	**Mahia Peninsul**	**1.84 204**	P		**Pn**	04 46 15.2	**-0.2**
OPRZ	**Ohinepanea**	**1.88 258**	P		**Pn**	04 46 16.1	**+0.2**
RTZ	**Ruatahuna**	**1.88 232**	P		**Pn**	04 46 16.8	**+0.7**
MUGZ	**Murupara**	**1.94 238**	P		**Pn**	04 46 17.2	**+0.4**
RAHZ	**Arahi**	**2.01 224**	P		**Pn**	04 46 18.2	**+0.4**
TARZ	**Mount Tarawera**	**2.02 247**	P		**Pn**	04 46 18.9	**+0.9**
LIRZ	**Lichensteins R**	**2.04 254**	P		**Pn**	04 46 19.2	**+1.0**
RRRZ	**Republican Roa**	**2.05 244**	P		**Pn**	04 46 19.0	**+0.5**
WHHZ	**Waihua**	**2.05 218**	P		**Pn**	04 46 18.2	**-0.2**
OMRZ	**Omania**	**2.08 252**	P		**Pn**	04 46 19.8	**+1.1**
TGRZ	**Tauranga**	**2.09 262**	P		**Pn**	04 46 19.0	**+0.2**
MYRZ	**Mayor Island**	**2.10 275**	P		**Pn**	04 46 19.1	**0.0**
MTHZ	**Maungataniwha**	**2.11 229**	P		**Pn**	04 46 19.7	**+0.5**
HLRZ	**Highlands Stat**	**2.14 248**	P		**Pn**	04 46 20.6	**+1.0**
KARZ	**Kaharoa**	**2.15 265**	P		**Pn**	04 46 20.3	**+0.5**
PRRZ	**Plateau Road**	**2.21 242**	P		**Pn**	04 46 21.2	**+0.7**
NGRZ	**Ngongotaha**	**2.22 253**	P		**Pn**	04 46 22.0	**+1.3**
UTU	**Utuhina**	**2.23 251**	P		**Pn**	04 46 22.6	**+1.8**
HSRZ	**Hossack Road**	**2.24 247**	P		**Pn**	04 46 22.4	**+1.4**
HRRZ	**Handcock Road**	**2.24 245**	P		**Pn**	04 46 21.5	**+0.5**
ALRZ	**Allen Road**	**2.27 241**	P		**Pn**	04 46 21.8	**+0.4**
ARHZ	**Aropaoanui**	**2.31 219**	P		**Pn**	04 46 22.0	**0.0**
GRRZ	**Galatos Road**	**2.35 247**	P		**Pn**	04 46 23.8	**+1.3**
KMRZ	**Kaimai**	**2.35 260**	P		**Pn**	04 46 22.8	**+0.2**
MRHZ	**Matea Rd**	**2.36 234**	P		**Pn**	04 46 23.0	**+0.3**
WPRZ	**Whakapapatarin**	**2.38 243**	P		**Pn**	04 46 24.1	**+1.2**
BKZ	**Black Stump Fm**	**2.52 227**	Pn		**Pn**	04 46 23.1	**-1.8**
BKZ	**Black Stump Fm**	**2.52 227**	P		**Pn**	04 46 24.9	**0.0**
BKZ	**Black Stump Fm**	**2.52 227**	P		**Pn**	04 46 25.0	**+0.2**
WHTZ	**Whakaora**	**2.59 242**	P		**Pn**	04 46 27.5	**+1.7**
CKHZ	**Cape Kidnapper**	**2.59 212**	P		**Pn**	04 46 24.5	**-1.3**
HATZ	**Hinemaiaia**	**2.61 236**	P		**Pn**	04 46 26.2	**+0.1**
KUTZ	**Kaahu Road**	**2.61 246**	P		**Pn**	04 46 26.7	**+0.6**
KUZ	**Kuaotunu**	**2.62 285**	P		**Pn**	04 46 24.3	**-1.9**
TOZ	**Tahuroa Road**	**2.69 264**	P		**Pn**	04 46 27.0	**0.0**
KWHZ	**Kaweka Forest**	**2.73 224**	P		**Pn**	04 46 27.2	**-0.6**
WATZ	**Wairara**	**2.77 243**	P		**Pn**	04 46 29.1	**+0.9**
TLZ	**Tolley Road**	**2.77 251**	P		**Pn**	04 46 28.8	**+0.5**
KAHZ	**Kahuranaki**	**2.79 213**	P		**Pn**	04 46 27.2	**-1.4**
RITZ	**Rihia Road**	**2.81 237**	P		**Pn**	04 46 29.2	**+0.4**
RATZ	**Rangitukua**	**2.81 239**	P		**Pn**	04 46 29.5	**+0.7**
KATZ	**Kakaramea**	**2.92 238**	P		**Pn**	04 46 30.8	**+0.4**
KRHZ	**Kereru**	**2.92 221**	P		**Pn**	04 46 29.1	**-1.2**
TMVZ	**Te Maari**	**2.98 236**	P		**Pn**	04 46 31.2	**-0.1**
MKAZ	**Moumakai**	**2.98 276**	P		**Pn**	04 46 30.2	**-1.0**
BHHZ	**Black Hill Sta**	**2.98 227**	P		**Pn**	04 46 30.8	**-0.5**
ETVZ	**East Tongariro**	**2.99 235**	P		**Pn**	04 46 31.2	**-0.2**
NTVZ	**North Tongarir**	**2.99 236**	P		**Pn**	04 46 31.4	**0.0**
PXZ	**Pawanui**	**3.00 211**	P		**Pn**	04 46 29.6	**-1.7**
GRZ	**Great Barrier**	**3.00 293**	P		**Pn**	04 46 29.9	**-1.4**
KRVZ	**Karewarewa**	**3.01 237**	P		**Pn**	04 46 31.2	**0.0**
OTVZ	**Oturere**	**3.03 235**	P		**Pn**	04 46 32.0	**0.0**
NNVZ	**North Ngauruho**	**3.05 236**	P		**Pn**	04 46 32.3	**+0.1**
WTVZ	**West Tongariro**	**3.06 237**	P		**Pn**	04 46 32.5	**+0.2**
SNVZ	**South Ngauruho**	**3.06 235**	P		**Pn**	04 46 32.3	**-0.1**
WIAZ	**Waiheke Island**	**3.06 282**	P		**Pn**	04 46 31.3	**-1.0**
NGZ	**Ngauruhoe**	**3.08 236**	P		**Pn**	04 46 32.6	**-0.1**
TUVZ	**Tukino**	**3.10 234**	P		**Pn**	04 46 32.6	**-0.2**
MOVZ	**Moawhango**	**3.12 231**	P		**Pn**	04 46 32.3	**-0.7**
TWVZ	**Taurewa**	**3.14 238**	P		**Pn**	04 46 33.4	**0.0**
WHVZ	**Whangaehu Hut**	**3.15 234**	P		**Pn**	04 46 33.2	**-0.5**
FWVZ	**Far West T-bar**	**3.16 235**	P		**Pn**	04 46 33.3	**-0.4**
DRZ	**Dome Shelter**	**3.16 234**	P		**Pn**	04 46 33.9	**0.0**
WNVZ	**Wahianoa**	**3.17 233**	P		**Pn**	04 46 33.5	**-0.4**
TRVZ	**Turoa**	**3.18 234**	P		**Pn**	04 46 33.8	**-0.4**
ETAZ	**East Tamaki Re**	**3.19 278**	P		**Pn**	04 46 33.7	**-0.3**
WPHZ	**Waipukurau**	**3.21 216**	P		**Pn**	04 46 32.7	**-1.5**
PNHZ	**Pukenui**	**3.21 229**	P		**Pn**	04 46 32.5	**-1.8**
MBAZ	**Motutapu North**	**3.25 281**	P		**Pn**	04 46 34.8	**+0.1**
MTVZ	**Mangateitei**	**3.28 233**	P		**Pn**	04 46 35.0	**-0.3**
PRHZ	**Porangahau**	**3.29 211**	P		**Pn**	04 46 33.4	**-2.0**
PKVZ	**Pokaka**	**3.31 236**	P		**Pn**	04 46 35.8	**+0.1**
HIZ	**Hauiti**	**3.34 251**			**Pn**	04 46 36.0	**0.0**
HIZ	**Hauiti**	**3.34 251**	P		**Pn**	04 46 37.5	**+1.5**
ABAZ	**Army Bay**	**3.35 284**	P		**Pn**	04 46 35.6	**-0.5**
EPAZ	**Eden Park BICE**	**3.35 279**	P		**Pn**	04 46 37.3	**+1.1**
HBAZ	**Herne Bay Bore**	**3.37 279**	P		**Pn**	04 46 37.6	**+1.2**
AWAZ	**Awhitu Peninsu**	**3.40 276**	P		**Pn**	04 46 37.4	**+0.5**
TSZ	**Takapari Road**	**3.44 221**	P		**Pn**	04 46 35.3	**-2.2**
WTAZ	**Waiatarua**	**3.47 278**	P		**Pn**	04 46 38.7	**+0.8**
RVAZ	**Riverhead Bore**	**3.50 280**	P		**Pn**	04 46 38.0	**-0.3**
ANWZ	**Angora Road**	**3.52 211**	P		**Pn**	04 46 36.3	**-2.2**
DVHZ	**Dannevirke**	**3.52 216**	P		**Pn**	04 46 36.6	**-2.0**
BFZ	**Birch Farm**	**3.80 212**			**Pn**	04 46 38.6	**-3.8**
BFZ	**Birch Farm**	**3.80 212**	P		**Pn**	04 46 39.6	**-2.8**
BFZ	**Birch Farm**	**3.80 212**	P		**Pn**	04 46 39.7	**-2.7**
WAZ	**Wanganui**	**3.80 232**	P		**Pn**	04 46 42.5	**+0.1**
PRWZ	**Pori Road**	**3.82 215**	P		**Pn**	04 46 41.0	**-1.6**
OUZ	**Omahuta**	**4.82 296**	P		**Pn**	04 46 56.2	**-0.2**
MSWZ	**Moikau Station**	**4.83 214**			**Pn**	04 46 52.2	**-4.4**
PLWZ	**Palliser**	**4.95 213**	Pn		**Pn**	04 46 54.0	**-4.3**
SNZO	**South Karori**	**5.01 219**	Pn		**Pn**	04 46 54.9	**-4.0**
SNZO	**South Karori**	**5.01 219**	P		**Pn**	04 46 55.4	**-3.5**
RPZ	**Rata Peaks**	**8.61 221**	Pn		**Pn**	04 47 45.1	**-3.4**
	4.4nm,0.3s,baz=241,slow=1.4,SNR=7.6						
RPZ			Sn		Sn	04 49 14.4	-10
	10nm,0.3s,baz=34,slow=23,SNR=11						
RPZ	**Rata Peaks**	**8.61 221**	P		**Pn**	04 47 45.3	**-3.1**
ODZ	**Otahua Downs**	**9.77 217**	P		Pn	04 47 59.6	-4.7
STKA	**Stephens Creek**	**31.02 289**	P		**P**	04 52 01.1	**+0.3**
	3.8nm,0.7s,baz=95,slow=8.7,SNR=6.1						
	3.8nm,0.7s						
CTA	**Charters Tower**	**33.21 292**	P		**P**	04 52 20.1	**0.0**
	2.8nm,0.9s,baz=129,slow=12,SNR=2.6						
	2.8nm,0.9s						
PMG	**Port Moresby**	**39.99 306**	P		**P**	04 53 17.8	**-0.1**
	3.4nm,0.3s,baz=155,slow=8.4,SNR=3.7						
	3.4nm,0.3s						
AS31	**Alice Springs**	**40.72 277**			**P**	04 53 22.0	**-2.0**
ASAR	**Alice Springs**	**40.72 277**	P		**P**	04 53 23.1	**-0.9**
	4.0nm,0.7s,baz=123,slow=8.2,SNR=48						
ASAR			PcP		**PcP**	04 55 25.9	**+0.8**
	0.3nm,0.5s,baz=112,slow=4.1,SNR=1.1						
ASAR			S		**S**	04 59 27.1	**-5.4**
	1.5nm,1.1s,baz=123,slow=14,SNR=4.9						
	4.0nm,0.7s						
ASAR	**Alice Springs**	**40.72 277**	P		**P**	04 53 22.4	**-1.6**
WB2	**Warramunga Arr**	**42.35 282**	P		**P**	04 53 36.2	**-1.1**
WB2			IAmb		IAmb	04 53 50.7	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**42.35 282**	P		**P**	04 53 36.8	**-0.6**
WRAB			IAmb		IAmb	04 53 45.1	
	comp=Z,5.2nm,0.8s						
WRA	**Warramunga Arr**	**42.36 282**	P		**P**	04 53 36.2	**-1.2**
	comp=Z,3.0nm,0.6s,baz=122,slow=7.1,SNR=38						
WRA			PcP		**PcP**	04 55 32.2	**+1.7**
	comp=Z,0.2nm,0.6s,baz=124,slow=2.8,SNR=1.5						
WRA			S		**S**	04 59 51.5	**-5.2**
	comp=Z,0.5nm,0.8s,baz=120,slow=14,SNR=3.5						
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**42.36 282**	P		**P**	04 53 35.4	**-2.0**
WB0	**Warramunga Arr**	**42.41 282**			**P**	04 53 36.2	**-1.7**
WB0			IAmb		IAmb	04 53 49.6	
	comp=Z,4.4nm,0.6s						
MTN	**Manton Dam**	**49.03 287**	P		**P**	04 54 27.8	**-2.4**
FITZ	**Fitzroy Crossi**	**50.21 277**	P		**P**	04 54 38.3	**-0.8**
	comp=Z,2.4nm,0.6s,baz=132,slow=7.6,SNR=12						
	comp=Z,2.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.21 277**	P		**P**	04 54 37.3	**-1.8**
FITZ			IAmb		IAmb	04 54 53.5	
	comp=Z,4.4nm,0.8s						
QSPA	**South Pole Qui**	**52.65 180**	P		**P**	04 54 59.7	**+2.7**
	comp=Z,3.0nm,1.0s,baz=37,slow=2.2,SNR=6.8						
	comp=Z,3.0nm,1.0s						
BELA	**Belgrano 2**	**63.13 172**	P		P	04 56 04.9	-5.2
TROLL	**Troll, Antarti**	**70.78 181**	P		**P**	04 57 00.1	**+1.2**
VNA3	**Neumayer Olymp**	**71.41 177**	P		**P**	04 57 03.8	**+1.1**
VNA2	**Neumayer--Watz**	**71.81 178**	P		**P**	04 57 06.2	**+1.2**
	baz=172,slow=6.0						
VNA1	**Neumayer--Stat**	**72.06 178**	P		**P**	04 57 08.0	**+1.6**
H03N3	**Juan Fernandez**	**78.94 124**	T		T	06 24 27.6	
	baz=234,slow=72,SNR=50						
H03N2	**Juan Fernandez**	**78.94 124**	T		T	06 24 26.4	
	baz=234,slow=72,SNR=35						
H03N1	**Juan Fernandez**	**78.96 124**	T		T	06 24 26.7	
	baz=234,slow=72,SNR=36						
PLCA	**Paso Flores**	**79.55 134**	P		**P**	04 57 52.8	**+2.8**
	comp=Z,1.0nm,0.7s,baz=248,slow=6.8,SNR=5.0						
	comp=Z,1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**82.71 328**	P		**P**	04 58 05.7	**-0.7**
	comp=Z,0.9nm,0.7s,baz=166,slow=6.3,SNR=2.1						
	comp=Z,0.9nm,0.7s						
ARCES	**ARCESS Array B**	**144.81 344**	PKP		**PKPdf**	05 05 18.9	**+0.3**
	comp=Z,3.5nm,0.8s,baz=34,slow=4.5,SNR=6.0						
DBIC	**Dimbokro**	**149.15 173**	PKPbc		**PKPbc**	05 05 32.1	**+0.4**
	comp=Z,1.3nm,0.5s,baz=176,slow=6.4,SNR=4.0						
FINES	**FINESS Array B**	**150.61 333**	PKPbc		**PKiKP**	05 05 34.9	**+0.4**
	comp=Z,3.1nm,0.9s,baz=18,slow=4.9,SNR=10						
BRTR	**Keskin Array B**	**152.84 286**	PKPbc		**PKPbc**	05 05 39.8	**0.0**
	comp=Z,0.5nm,0.6s,baz=151,slow=3.3,SNR=2.8						
BRTR			PKPab		**pPKPbc**	05 05 48.9	**-1.1**
	comp=Z,1.6nm,0.8s,baz=118,slow=4.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**155.64 187**	PKPab		**PKPab**	05 06 03.4	**+0.3**
	comp=Z,1.3nm,0.8s,baz=174,slow=3.1,SNR=5.8						

ROM 03 04:47:28.3±0.1, 42°.640N±0°.003×13°.261E±0°.004, h12km, ML1.7/11, 6C-5D, Error ellipse: s-maj=0.3km s-min=0.1km az=223.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.06**	**49**	P		P	Pg	04 47 31.1	+0.2
T1204				S		S	Sg	04 47 32.8	-0.1
SMA1	**SAN MARTINO**	**0.06**	**100**	P		S	Pg	04 47 31.2	+0.3
SMA1				S		S	Sg	04 47 33.0	+0.3
T1202	**Accumoli, Fraz**	**0.07**	**337**	P		P	Pg	04 47 31.4	+0.3
T1202				S		S	Sg	04 47 33.6	+0.5
T1244	**Arquata del Tr**	**0.12**	**13**	P		P	Pg	04 47 32.0	+0.4
T1244				S		S	Sg	04 47 34.4	+0.4
T1244				AML		AML			
	comp=E,786µm,0.4s								
T1244				AML		AML			
	comp=N,772µm,1.3s								
T1244				AML		AML			
	comp=N,691µm,0.3s								
T1244				AML		AML			
	comp=E,770µm,0.4s								
RM33	**Pellescritta (**	**0.14**	**195**	↑P		Pg		04 47 32.2	+0.4
RM33				S		Sg		04 47 34.7	+0.5
RM33				AML		AML			
	comp=E,736µm,0.6s								
RM33				AML		AML			
	comp=N,580µm,0.3s								
RM33				AML		AML			
	comp=E,672µm,0.6s								
RM33				AML		AML			
	comp=N,598µm,0.1s								
RM33				AML		AML			
	comp=N,580µm,0.3s								
RM33				AML		AML			
	comp=N,599µm,0.1s								
RM33				AML		AML			
	comp=E,736µm,0.6s								
RM33				AML		AML			
	comp=E,672µm,0.6s								
T1243	**Rocca Santa Ma**	**0.15**	**68**	↓P		Pg		04 47 32.4	+0.4
T1243				S		Sg		04 47 35.1	+0.4
CAMP	**Campotosto**	**0.15**	**133**	↑P		Pg		04 47 32.5	+0.4
CAMP				S		Sg		04 47 35.2	+0.5
CAMP				AML		AML			
	comp=E,146µm,0.6s								
CAMP				AML		AML			
	comp=N,107µm,0.6s								
LNSS	**Leonessa**	**0.17**	**257**	↑P		Pg		04 47 32.6	+0.4
LNSS				S		Sg		04 47 35.6	+0.5
LNSS				AML		AML			
	comp=E,596µm,0.3s								
LNSS				AML		AML			
	comp=E,597µm,0.3s								
LNSS				AML		AML			
	comp=N,614µm,0.1s								
T1242	**Castelluccio d**	**0.19**	**348**	P		Pg		04 47 33.3	+0.5
T1242				S		Sg		04 47 36.4	+0.6
T1242				AML		AML			
	comp=E,208µm,0.2s								
T1242				AML		AML			
	comp=N,282µm,0.8s								
T1242				AML		AML			
	comp=E,209µm,0.2s								
NRCA	**Norcia**	**0.22**	**331**	P		Pg		04 47 33.5	+0.3
NRCA				S		Sg		04 47 37.0	+0.5
NRCA				AML		AML			
	comp=E,618µm,0.2s								
NRCA				AML		AML			
	comp=N,476µm,0.2s								
T1241	**Roccafluvione,**	**0.25**	**30**	↑P		Pg		04 47 34.0	+0.4
T1241				S		Sg		04 47 38.0	+0.8
T1241				AML		AML			
	comp=E,142µm,1.0s								
T1241				AML		AML			
	comp=N,88µm,0.3s								
TERO	**Teramo**	**0.25**	**94**	↑P		Pg		04 47 34.0	+0.3
TERO				S		Sg		04 47 38.0	+0.7
TERO				AML		AML			
	comp=E,275µm,0.3s								
TERO				AML		AML			
	comp=N,284µm,0.1s								
GIGS	**Gran Sasso**	**0.30**	**130**	P		Pg		04 47 34.8	+0.3
GIGS				S		Sg		04 47 39.4	+0.8
GIGS				AML		AML			
	comp=N,46µm,0.1s								
GIGS				AML		AML			
	comp=N,46µm,0.1s								
GIGS				AML		AML			
	comp=E,53µm,0.4s								
T1215	**Vallo di Nera,**	**0.33**	**299**	P		Pg		04 47 35.2	+0.1
T1215				S		Sg		04 47 40.3	+0.7
FIAM	**Fiamignano**	**0.39**	**196**	↓P		Pg		04 47 36.4	+0.3
FAGN	**Fagnano**	**0.44**	**147**	↑P		Pn		04 47 39.8	-0.8
FAGN				AML		AML			
	comp=N,53µm,0.3s								
FAGN				AML		AML			
	comp=E,92µm,0.3s								
CSP1	**Cessapalombo**	**0.45**	**355**	P		Pb		04 47 38.0	-0.3
VCEL	**Villa Celiera**	**0.49**	**120**	↓P		Pb		04 47 38.7	-0.3
VCEL				S		Sb		04 47 46.8	+0.6
VCEL				AML		AML			
	comp=E,89µm,1.4s								
VCEL				AML		AML			
	comp=N,109µm,0.6s								
T0110	**Collepietro**	**0.56**	**137**	↓P		Pg		04 47 39.7	+0.4
FRON	**Frontone**	**0.96**	**336**	P		Pg		04 47 44.8	-2.1
APEC	**Apecchio**	**1.11**	**326**	↓P		Pg		04 47 51.9	+2.2

WEL 03 04:47:50.4±1.3, 37°S±5°×17°9E±°, h14km±5km, M4.0/23, ML4.1/49, MLv4.0/23, Error ellipse: s-maj=0.0km s-min=0.0km az=79.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.57**	**251**	P		P	Pg	04 48 01.8	+0.2
MXZ				S		S	Sg	04 48 08.6	-0.5
WMGZ	**Waiomatatini S**	**0.63**	**226**	P		P	Pn	04 48 04.4	-0.5
WMGZ				S		S	Sb	04 48 13.2	+1.4
PKGZ	**Pakihiroa**	**0.88**	**234**	P		P	Pb	04 48 07.8	+0.3
PKGZ				S		S	Sg	04 48 18.8	-0.2
PUZ	**Puketiti**	**0.90**	**220**	P		P	Pn	04 48 08.3	-0.4
PUZ				S		S	Sb	04 48 20.0	+0.4
HAZ	**Te Kaha**	**1.02**	**248**	P		P	Pg	04 48 10.0	-0.1
HAZ				S		S	Sg	04 48 23.7	+0.1
TWGZ	**Tauwhareparae**	**1.12**	**225**	P		P	Pn	04 48 11.9	+0.1
TWGZ				S		S	Sn	04 48 27.2	+0.1
RUGZ	**Raukumara Rang**	**1.19**	**240**	P		P	Pn	04 48 12.7	-0.1
RUGZ				S		S	Sb	04 48 28.4	+0.3
CNGZ	**Carnagh Statio**	**1.26**	**209**	P		P	Pb	04 48 14.2	+0.3
CNGZ				S		S	Sg	04 48 32.7	+1.6
TKGZ	**Te Karaka**	**1.39**	**220**	P		P	Pn	04 48 14.9	-0.4
MWZ	**Matawai**	**1.49**	**230**	P		P	Pn	04 48 16.7	-0.2
URZ	**Urewera**	**1.72**	**239**	P		P	Pn	04 48 20.3	+0.3
PRGZ	**Paritu Road**	**1.77**	**209**	P		P	Pn	04 48 20.4	-0.2
MARZ	**Manawahe**	**1.93**	**251**	P		P	Pn	04 48 22.9	+0.1
MHGZ	**Mahia Peninsul**	**1.96**	**205**	P		P	Pn	04 48 23.1	-0.2
OPRZ	**Ohinepanea**	**1.98**	**256**	P		P	Pn	04 48 23.6	+0.1
RTZ	**Ruatahuna**	**2.00**	**231**	P		P	Pn	04 48 24.1	+0.2
MUGZ	**Murupara**	**2.06**	**237**	P		P	Pn	04 48 24.5	-0.1
TARZ	**Mount Tarawera**	**2.14**	**246**	P		P	Pn	04 48 26.3	+0.5
RRRZ	**Republican Roa**	**2.17**	**243**	P		P	Pn	04 48 26.8	+0.6
MTHZ	**Maungataniwha**	**2.24**	**228**	P		P	Pn	04 48 27.2	+0.1
KARZ	**Kaharoa**	**2.26**	**253**	P		P	Pn	04 48 27.5	0.0
ALRZ	**Allen Road**	**2.40**	**240**	P		P	Pn	04 48 29.1	-0.1
ARHZ	**Aropaoanui**	**2.44**	**219**	P		P	Pn	04 48 29.4	-0.5
MRHZ	**Matea Rd**	**2.49**	**234**	P		P	Pn	04 48 30.3	-0.3
BKZ	**Black Stump Fm**	**2.65**	**227**	P		P	Pn	04 48 32.4	-0.4
KUZ	**Kuaotunu**	**2.68**	**283**	P		P	Pn	04 48 31.8	-1.4
CKHZ	**Cape Kidnapper**	**2.72**	**213**	P		P	Pn	04 48 32.3	-1.3
KWHZ	**Kaweka Forest**	**2.86**	**224**	P		P	Pn	04 48 34.6	-1.1
KAHZ	**Kahuranaki**	**2.92**	**214**	P		P	Pn	04 48 35.0	-1.5
RITZ	**Rihia Road**	**2.93**	**236**	P		P	Pn	04 48 36.8	+0.1
RATZ	**Rangitukua**	**2.93**	**239**	P		P	Pn	04 48 36.9	+0.3
KATZ	**Kakaramea**	**3.04**	**237**	P		P	Pn	04 48 38.0	-0.2
KRHZ	**Kereru**	**3.05**	**221**	P		P	Pn	04 48 36.7	-1.5
MKAZ	**Moumakai**	**3.06**	**274**	P		P	Pn	04 48 38.5	+0.2
TMVZ	**Te Maari**	**3.11**	**235**	P		P	Pn	04 48 38.5	-0.6
BHHZ	**Black Hill Sta**	**3.11**	**227**	P		P	Pn	04 48 38.1	-1.0
ETVZ	**East Tongariro**	**3.11**	**235**	P		P	Pn	04 48 38.6	-0.6
NTVZ	**North Tongarir**	**3.12**	**236**	P		P	Pn	04 48 38.7	-0.5
KRVZ	**Karewarewa**	**3.14**	**236**	P		P	Pn	04 48 39.1	-0.5
OTVZ	**Oturere**	**3.16**	**235**	P		P	Pn	04 48 39.4	-0.5
NNVZ	**North Ngauruho**	**3.17**	**236**	P		P	Pn	04 48 39.9	-0.2
WTVZ	**West Tongariro**	**3.18**	**236**	P		P	Pn	04 48 40.0	-0.2
SNVZ	**South Ngauruho**	**3.19**	**235**	P		P	Pn	04 48 39.7	-0.6
NGZ	**Ngauruhoe**	**3.21**	**235**	P		P	Pn	04 48 40.0	-0.6
TUVZ	**Tukino**	**3.22**	**233**	P		P	Pn	04 48 40.2	-0.5
MOVZ	**Moawhango**	**3.24**	**230**	P		P	Pn	04 48 40.1	-0.9
TWVZ	**Taurewa**	**3.26**	**238**	P		P	Pn	04 48 40.7	-0.5
ETAZ	**East Tamaki Re**	**3.27**	**276**	P		P	Pn	04 48 42.0	+0.9
WHVZ	**Whangaehu Hut**	**3.27**	**234**	P		P	Pn	04 48 40.9	-0.6
FWVZ	**Far West T-bar**	**3.28**	**234**	P		P	Pn	04 48 41.1	-0.5
WNVZ	**Wahianoa**	**3.29**	**233**	P		P	Pn	04 48 41.3	-0.4
TRVZ	**Turoa**	**3.31**	**234**	P		P	Pn	04 48 41.3	-0.7
WPHZ	**Waipukurau**	**3.34**	**216**	P		P	Pn	04 48 40.2	-2.0
MTVZ	**Mangateitei**	**3.41**	**233**	P		P	Pn	04 48 42.3	-0.9
HIZ	**Hauiti**	**3.45**	**250**	P		P	Pn	04 48 44.8	+1.1
AWAZ	**Awhitu Peninsu**	**3.48**	**274**	P		P	Pn	04 48 45.4	+1.3
RVAZ	**Riverhead Bore**	**3.57**	**278**	P		P	Pn	04 48 45.6	+0.2
WAZ	**Wanganui**	**3.93**	**232**	P		P	Pn	04 48 50.2	-0.1
WCZ	**Waipu Caves**	**4.00**	**290**	P		P	Pn	04 48 51.2	0.0
NEZ	**North Egmont**	**4.28**	**242**	P		P	Pn	04 48 56.8	+1.6
PKE	**Pukeiti**

KHEZ **Kahui Hut** 4.78 239 P Pn 04 53 34.5 +2.3
NBEZ **Newall Road No** 4.87 240 P Pn 04 53 36.1 +2.8
OUZ **Omahuta** 4.93 289 P Pn 04 53 35.4 +1.2
QRZ **Quartz Range** 6.55 232 P Pn 04 53 54.0 -2.4
RPZ **Rata Peaks** 9.23 220 Pn Pn 04 54 22.1 -11
0.5nm,0.3s,baz=320,slow=20,SNR=1.1
RPZ Sn Sn 04 56 04.8 -12
1.3nm,0.3s,baz=313,slow=24,SNR=6.1
ASAR **Alice Springs** 41.00 276 P P 05 00 01.8 -1.4
2.5nm,0.7s,baz=120,slow=8.0,SNR=24
2.5nm,0.7s
WRA **Warramunga Arr** 42.59 281 P P 05 00 14.6 -1.6
0.9nm,0.4s,baz=121,slow=7.7,SNR=28
0.9nm,0.4s
QSPA **South Pole Qui** 53.17 180 P P 05 01 40.4 +2.6
1.6nm,1.1s,baz=346,slow=4.2,SNR=1.9
1.6nm,1.1s
TORD **Torodi Ar. Bea** 156.20 186 PKPab PKPab 05 12 42.4 -0.2
0.4nm,0.8s,baz=170,slow=4.5,SNR=2.0

IDC ***03*** *04:57:43.3±1.6,51.°60N×173.°98W, h0km, mb3.9/10, mbtmp3.8/12, ML4.2/1, MS4.5/4, Error ellipse: s-maj=45.1km s-min=19.1km az=177.0*
AEIC ***03*** *04:57:47±2.8, 51.°36N±0.°06×173.°93W±0.°09, h11km±6km, Error ellipse: s-maj=8.8km s-min=7.8km az=194.0*
NEIC ***03*** *04:57:48.3±1.7, 51.°4N±0.°1×174.°0W±0.°1, h46km±19km, mb3.9/29, ML3.5(AEIC), Error ellipse: s-maj=15.7km s-min=9.3km az=169.0*
ISC 03 04:57:47.9±0.8, 51.°5N±0.°1×173.°95W±0.°06, h35km, n78, σ0.°94/74, mb3.9/12, MS4.5/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	0.79	354		Pn	04 58 03.8	+1.1
KOKL	**Mount Kliuchef**	0.85	350		Pn	04 58 04.6	+1.1
GSMY	**Great Sitkin M**	1.42	294		Pn	04 58 11.5	+0.2
GSTR	**Great Sitkin T**	1.44	296		Pn	04 58 12.4	+0.9
GSCK	**Great Sitkin C**	1.47	292		Pn	04 58 12.3	+0.4
GSTD	**Great Sitkin T**	1.48	294		Pn	04 58 12.4	+0.4
ADK	**Adak**	1.75	284		Pn	04 58 16.1	+0.4
KIWB	**Kanaga Island**	2.03	282		Pn	04 58 19.8	+0.3
KIKV	**Kanaga Island**	2.04	282		Pn	04 58 20.6	+0.8
KICM	**Kanaga Island**	2.06	283		Pn	04 58 21.2	+1.1
KIMD	**Kanaga Island**	2.06	279		Pn	04 58 20.5	+0.4
TAPA	**Tanaga Point A**	2.43	279		Pn	04 58 26.3	+1.2
TAFL	**Tanaga Flats**	2.48	278		Pn	04 58 26.6	+0.9
TAFP	**Tanaga Falls P**	2.54	281		Pn	04 58 27.8	+1.1
TASE	**Tanaga Southea**	2.57	279		Pn	04 58 28.4	+1.3
GAEA	**Gareloi East**	3.00	278		Pn	04 58 34.2	+1.2
GANE	**Gareloi Northe**	3.02	278		Pn	04 58 34.7	+1.4
NIKH	**Nikolski High**	3.47	63		Pn	04 58 40.0	+0.7
OKRE	**Okmok R'deer P**	4.08	58		Pn	04 58 48.9	+1.1
AMKA	**Amchitka**	4.22	271		Pn	04 58 50.1	+0.4
MAPS	**Pakushin South**	4.86	59		Pn	04 58 59.9	+1.4
MGOD	**Makushin Gods**	4.89	59		Pn	04 59 00.1	+1.1
MNAT	**Makushin Natse**	5.03	59		Pn	04 59 02.1	+1.3
UNV	**Unalaska Valle**	5.11	60		Pn	04 59 03.0	+1.1
SPIA	**Saint Paul Isl**	6.10	19	Pn	Pn	04 59 16.6	+1.2
CNBA	**Chernabura Isl**	9.25	63	Pn	Pn	04 59 58.5	-0.1
CHGN	**Chignik**	10.35	56	Pn	Pn	05 00 14.9	+1.2
OHAK	**Old Harbor**	13.32	56	Pn	Pn	05 00 53.5	-0.8
Q19K	**Cape Douglas,**	13.74	49	Pn	Pn	05 01 00.2	+0.2
KDAK	**Kodiak Island**	13.85	55	Pn	Pn	05 00 59.3	-2.2
	0.6nm,0.3s,baz=292,slow=8.0,SNR=17						
KDAK				Sn	Sn	05 03 31.5	-2.3
	baz=290,slow=22						
KDAK				LR	LR	05 06 08.6	
	comp=Z,99nm,18.4s,baz=260,slow=37						
KDAK	**Kodiak Island**	13.85	55	Pn	Pn	05 00 59.0	-2.5
CNPM	**China Poot**	15.11	49	Pn	Pn	05 01 18.3	-0.3
CNPM				IAmb	IAmb	05 01 41.8	
	comp=Z,8.6nm,1.1s						
BRLK	**Bradley Lake**	15.37	48	Pn	Pn	05 01 20.7	-1.2
GHO	**Glory Hole Cre**	17.07	43		Pn	05 01 44.2	+0.6
GHO				IAmb	IAmb	05 01 45.6	
	comp=Z,5.6nm,0.4s						
SML	**Sawmill**	17.34	44		Pn	05 01 47.2	+0.2
PETK	**Petropavlovsk-**	17.37	286	P	Pn	05 01 46.1	-1.2
	comp=Z,0.6nm,0.4s,baz=95,slow=12,SNR=1.1						
HIN	**Hinchinbrook I**	17.65	49	Pn	Pn	05 01 49.3	-1.5
HIN				IAmb	IAmb	05 01 51.2	
	comp=Z,12nm,1.4s						
FID	**Port Fidalgo**	17.77	48		Pn	05 01 50.5	-1.8
FID				IAmb	IAmb	05 02 05.7	
	comp=Z,11nm,1.3s						
SCM	**Sheep Creek Mo**	17.79	44		Pn	05 01 52.1	-0.4
SCM				IAmb	IAmb	05 01 55.4	
	comp=Z,12nm,1.2s						
RND	**Reindeer**	17.87	38		Pn	05 01 52.3	-1.2
MLY	**Manley**	18.09	33		P	05 01 56.6	+0.2
MLY				IAmb	IAmb	05 02 01.5	
	comp=Z,9.5nm,1.1s						
KLU	**Klutina**	18.28	46	P	P	05 01 57.4	-1.0
KLU				IAmb	IAmb	05 02 00.9	
	comp=Z,3.4nm,0.4s						
M24K	**Tolsona, Glenn**	18.39	44	P	P	05 01 59.7	0.0
KAIM	**Kayak Island**	18.52	51	P	Pn	05 02 02.0	+0.6
SUCK	**Suckling Hills**	18.87	51	P	P	05 02 05.0	+0.1
CCB	**Clear Creek Bu**	18.91	36	P	P	05 02 04.5	-0.7
N25K	**Chitina, Valde**	18.91	46	P	P	05 02 05.2	-0.2
HDA	**Harding Lake**	19.10	37	P	P	05 02 07.2	-0.2
HDA				IAmb	IAmb	05 02 09.3	
	comp=Z,5.3nm,0.8s						
IL31		19.31	36	P	P	05 02 09.7	+0.1
ILAR	**Eielson Array**	19.31	36	P	P	05 02 08.6	-1.0
	comp=Z,0.7nm,0.3s,baz=236,slow=8.8,SNR=23						
	comp=Z,1.3nm,0.5s						
H24K	**Noodor Dome**	19.54	33	P	Pn	05 02 13.2	-0.4
H24K				IAmb	IAmb	05 02 14.4	
	comp=Z,13nm,1.5s						
RIDG	**Independent Ri**	19.61	40	P	P	05 02 12.0	-1.0
RIDG				IAmb	IAmb	05 02 14.6	
	comp=Z,3.6nm,0.4s						
DOT	**Dot Lake**	19.89	41	P	P	05 02 15.5	-0.5
DOT				IAmb	IAmb	05 02 35.3	
	comp=Z,2.8nm,0.6s						
SCRK	**Sand Creek**	20.06	40	P	P	05 02 16.8	-1.1
J26L	**Joseph Creek**	20.45	39	P	P	05 02 21.0	-1.1
TOLK	**Toolik Lake Re**	20.80	25	P	P	05 02 26.5	+0.7
K27K	**Chicken**	20.85	41	P	P	05 02 26.4	0.0
I26K	**Coal Creek Min**	20.96	37	P	P	05 02 27.2	-0.3
I26K				IAmb	IAmb	05 02 30.7	
	comp=Z,9.2nm,1.4s						
EGAK	**Eagle**	21.51	39	P	P	05 02 33.8	+0.4
DAWY	**Dawson**	21.98	42	P	P	05 02 37.7	-0.8
DAWY				IAmb	IAmb	05 02 52.0	
	comp=Z,6.7nm,1.5s						
I29M	**Ogilvie Camp,**	22.85	39	P	P	05 02 47.7	0.0
I29M				IAmb	IAmb	05 02 49.6	
	comp=Z,3.9nm,0.9s						
INK	**Inuvik**	25.65	34	P	P	05 03 13.9	0.0
	comp=Z,2.3nm,0.7s,baz=257,slow=7.0,SNR=6.1						
	comp=Z,2.3nm,0.7s						
INK	**Inuvik**	25.65	34	P	P	05 03 13.4	-0.4
INK				IAmb	IAmb	05 03 42.1	
	comp=Z,4.9nm,1.1s						
H11N2	**WAKE ISLAND Hy**	35.09	213	T	T	05 42 35.6	
	baz=21,slow=76,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	35.09	212	T	T	05 42 37.9	
	baz=21,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	35.10	213	T	T	05 42 38.9	
	baz=21,slow=76,SNR=6.4						
USRK	**Ussuriysk Ar.**	36.28	280	P	P	05 04 47.8	+0.1
	comp=Z,4.0nm,0.5s,baz=53,slow=9.2,SNR=9.7						
	comp=Z,4.0nm,0.5s						
PDAR	**Pinedale Array**	43.37	75	P	P	05 05 47.2	+0.4
	comp=Z,0.2nm,0.4s,baz=319,slow=3.7,SNR=5.6						
PDAR				LR	LR	05 22 18.6	
	comp=Z,350nm,21.8s,baz=233,slow=34						
	comp=Z,0.2nm,0.4s						
SONM	**Songino Array**	49.28	299	P	P	05 06 33.3	+0.2
	comp=Z,1.0nm,0.7s,baz=42,slow=8.9,SNR=4.3						
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	55.63	85	P	P	05 07 20.7	+0.4
	comp=Z,0.5nm,1.0s,baz=312,slow=7.1,SNR=2.8						
	comp=Z,0.5nm,1.0s						
ARCES	**ARCESS Array B**	58.45	352	P	P	05 07 39.5	-0.1
	comp=Z,0.3nm,0.4s,baz=20,slow=6.7,SNR=8.0						
ARCES				PcP	PcP	05 08 30.6	+0.7
	comp=Z,0.8nm,0.6s,baz=28,slow=4.1,SNR=4.7						
	comp=Z,0.3nm,0.4s						
SADO	**Sadowa**	59.31	56	LR	LR	05 36 02.8	
	comp=Z,372nm,18.9s,baz=218,slow=39						

MKAR **Makanchi Array** 62.30 311 P P 05 08 06.3 +0.1
comp=Z,0.8nm,0.4s,baz=48,slow=5.7,SNR=14
comp=Z,0.8nm,0.4s
FINES **FINESS Array B** 66.29 350 P P 05 08 31.8 -0.3
comp=Z,1.0nm,0.7s,baz=20,slow=7.4,SNR=9.2
comp=Z,1.0nm,0.7s
AKASG **Malin Array Be** 76.30 345 P P 05 09 32.7 0.0
comp=Z,1.2nm,0.3s,baz=17,slow=5.9,SNR=7.9
comp=Z,1.2nm,0.3s
GERES **GERESS Array B** 79.83 355 P P 05 09 53.1 +0.6
comp=Z,0.4nm,0.5s,baz=298,slow=5.6,SNR=4.1
comp=Z,0.4nm,0.5s
GEYT **Alibeck** 79.99 321 LR LR 05 52 30.1
comp=Z,231nm,18.1s,baz=144,slow=41
PALK **Pallekele** 93.78 287 LR LR 05 57 43.2
comp=Z,388nm,18.7s,baz=230,slow=38

WEL ***03*** *04:58:00, 37.°26S×178.°99E, h14km, ML5.2, Mw5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr2.64; Mθθ-0.96; Mφφ-1.68; Mrθ0.89; Mrφ-0.04; Mθφ3.75; Fault plane solution: M0 4.42000×10^16 NP1: φs186.00000°, δ15.00000°, λ84.00000°. NP2: φs12.00000°, δ75.00000°, λ92.00000°. Principal axes: T 4908.0200, Plg60.0000°, Azm285.0000°; N -977.2500, Plg2.0000°, Azm191.0000°; P -3930.7700, Plg30.0000°, Azm101.0000°;*
WEL ***03*** *04:58:36.9±1.0, 37.°S±8.°×17.°9E±1.°2, h114km±7km, M5.2/26, mB5.5/5, ML5.8/9, MLv5.3/26, Mw(mB)4.9/5 Error ellipse: s-maj=0.0km s-min=0.0km az=111.7*
BJI ***03*** *04:58:38.4±0.0, 37.°10S×179.°09E, h25km, mb5.3/14, mB5.8/6, Ms5.2/3, Ms7 4.9/3*
NEIC ***03*** *04:58:38.5±2.4, 37.°21S±0.°06×178.°90E±0.°08, h18km±3km, mb5.3/47, Error ellipse: s-maj=11.3km s-min=6.5km az=137.0*
MOS ***03*** *04:58:40.6±1.2, 37.°18S×178.°69E, h42km, mb5.2/14, Error ellipse: s-maj=14.9km s-min=12.6km az=129.3*
IDC ***03*** *04:58:42.4±1.9, 37.°03S×178.°77E, h50km±15km, mb4.8/15, mbtmp5.0/16, ML3.3/1, MS4.4/44, Error ellipse: s-maj=14.3km s-min=12.4km az=26.0*
GCMT ***03*** *04:58:42.5±0.4, 37.°10S±0.°02×178.°85E±0.°03, h15km, MW5.2/74, Moment Tensor Solution. s28,c30; s74,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.14±.16; Mθθ0.70±.12; Mφφ-0.84±.10; Mrθ1.75±.44; Mrφ-1.31±.09; Mθφ7.77±.32; Best double couple: M08.04500×10^16 NP1:φs12.00000°, δ87.00000°, λ84.00000°. NP2: φs260.00000°, δ7.00000°, λ158.00000°. Principal axes: T 7.4600, Plg47.0000°, Azm275.0000°; N 1.1710, Plg6.0000°, Azm12.0000°; P -8.6310, Plg42.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***03*** *04:58:43.1, 37.°73S×178.°98E, h66km, mb5.4/69, Off E. Coast of N. Island, N.Z.*
ISC 03 04:58:39.7±1.0, 37.°27S±0.°04×178.°83E±0.°05, h29km±6km, n434, σ1.°83/400, mb5.5/78, MS4.5/45, 15C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	0.51	235		Pn	04 58 50.3	-0.6
MXZ	**Matakaoa Point**	0.51	235	P	Pn	04 58 50.4	-0.6
WMGZ	**Waiomatatini S**	0.64	211	P	Pn	04 58 54.4	+1.6
WMGZ				S	Sn	04 59 06.1	+4.1
PKGZ	**Pakihiroa**	0.86	224	P	Pn	04 58 57.6	+1.7
PKGZ				S	Sn	04 59 11.9	+4.4
PUZ	**Puketiti**	0.92	210	P	Pn	04 58 58.1	+1.5
TWGZ	**Tauwhareparae**	1.13	217	P	Pb	04 59 01.8	+1.2
RUGZ	**Raukumara Rang**	1.15	233	P	Pb	04 59 02.2	+1.2
RUGZ				S	Sb	04 59 19.2	+3.6
CNGZ	**Carnagh Statio**	1.31	202	P	Pb	04 59 03.9	+0.3
CNGZ				S	Sb	04 59 24.6	+4.6
WIZ	**White Island**	1.33	258	P	Pn	04 59 02.1	-0.2
WSRZ	**White Island S**	1.34	259	P	Pb	04 59 04.3	+0.2
TKGZ	**Te Karaka**	1.40	213	P	Pb	04 59 04.6	-0.6
MWZ	**Matawai**	1.48	224	P	Pb	04 59 06.5	-0.1
WHRZ	**Whale Island**	1.59	248	P	Pb	04 59 08.0	-0.3
RAGZ	**Rawiri**	1.66	222	P	Pb	04 59 09.1	-0.5
RAGZ				S	Sb	04 59 31.6	+1.4
RIGZ	**Rimuhau**	1.66	210	P	Pb	04 59 08.5	-1.2
URZ	**Urewera**	1.69	234	P	Pb	04 59 09.6	-0.3
	5μm,0.6s,baz=31,slow=2.8,SNR=801						
URZ				S	Sb	04 59 32.9	+2.1
	44μm,0.7s,baz=211,slow=24,SNR=200						
URZ				LR	LR	05 00 09.8	
	comp=Z,12μm,18.9s,baz=66,slow=49						
URZ	**Urewera**	1.69	234	Pn	Pb	04 59 09.1	-0.9
BKZ	**Black Stump Fm**	2.64	224		Pn	04 59 21.2	+0.9
BKZ	**Black Stump Fm**	2.64	224	P	Pn	04 59 21.3	+0.9
PXZ	**Pawanui**	3.16	209	P	Pn	04 59 26.2	-1.2
PXZ				S	Sn	05 00 03.9	-0.2
HIZ	**Hauiti**	3.38	247	Pn	Pn	04 59 32.5	+2.0
HIZ	**Hauiti**	3.38	247	P	Pn	04 59 32.9	+2.4
PRHZ	**Porangahau**	3.45	209	P	Pn	04 59 30.6	-0.8
PRHZ				S	Sn	05 00 10.1	-1.2
TSZ	**Takapari Road**	3.58	218	P	Pn	04 59 32.6	-0.6
DVHZ	**Dannevirke**	3.67	214	P	Pn	04 59 33.7	-0.8
DVHZ				S	Sn	05 00 16.0	-0.8
BFZ	**Birch Farm**	3.96	210		Pn	04 59 36.8	-1.6
BFZ	**Birch Farm**	3.96	210	P	Pn	04 59 36.8	-1.6
BFZ	**Birch Farm**	3.96	210	P	Pn	04 59 36.9	-1.5
CPWZ	**Castlepoint**	4.17	209	P	Pn	04 59 39.8	-1.5
TIWZ	**Tintock**	4.19	212	P	Pn	04 59 40.9	-0.6
MRZ	**Mangatainoka R**	4.23	216	P	Pn	04 59 40.8	-1.3
HOWZ	**Holdsworth Sta**	4.45	214	P	Pn	04 59 43.6	-1.6
TMWZ	**Te Maipa**	4.46	210	P	Pn	04 59 43.2	-2.1
OGWZ	**Otaki Gorge**	4.55	218	P	Pn	04 59 44.6	-1.8
MTW	**Mount Morrison**	4.67	213	P	Pn	04 59 45.7	-2.4
OUZ	**Omahuta**	4.70	294	Pn	Pn	04 59 49.0	+0.4
KIW	**Kapiti Island**	4.71	219	P	Pn	04 59 46.5	-2.2
TRWZ	**Traveller**	4.79	210	P	Pn	04 59 46.2	-3.6
CAW	**Cannon Point**	4.82	216	P	Pn	04 59 47.6	-2.6
PAWZ	**Paruwai Farm**	4.88	212	P	Pn	04 59 48.5	-2.6
MSWZ	**Moikau Station**	4.99	213		Pn	04 59 49.4	-3.2
MSWZ	**Moikau Station**	4.99	213	P	Pn	04 59 49.3	-3.2
WEL	**Wellington**	5.10	217	P	Pn	04 59 52.0	-2.0
PLWZ	**Palliser**	5.11	212	P	Pn	04 59 50.7	-3.5
SNZO	**South Karori**	5.15	217	P	Pn	04 59 52.9	-1.8
DUWZ	**D'Urville Isla**	5.20	226	P	Pn	04 59 54.1	-1.4
TCW	**Tory Channel**	5.29	221	P	Pn	04 59 54.1	-2.6
TUWZ	**Tuamarina**	5.62	221		Pn	05 00 00.2	-1.0
NNZ	**Nelson**	5.78	225	P	Pn	05 00 01.4	-2.0
TKNZ	**Takaka Hill**	5.91	229	P	Pn	05 00 04.1	-1.1
QRZ	**Quartz Range**	6.05	232	P	Pn	05 00 05.6	-1.6
QRZ	**Quartz Range**	6.05	232	P	Pn	05 00 05.9	-1.3
MRNZ	**Matariki Terra**	6.26	227	P	Pn	05 00 07.8	-2.2
THZ	**Tophouse**	6.41	224	P	Pn	05 00 09.6	-2.6
KHZ	**Kahutara**	6.56	217	Pn	Pn	05 00 13.1	-0.9
DSZ	**Denniston Nort**	7.03	228	P	Pn	05 00 17.7	-2.9
GVZ	**Greta Valley S**	7.22	216	P	Pn	05 00 21.2	-2.0
RAO	**Raoul Island**	8.45	20	LR	LR	05 03 30.4	
	comp=Z,699nm,19.9s,baz=199,slow=35						
RPZ	**Rata Peaks**	8.75	220	P	Pn	05 00 41.8	-2.3
	25nm,0.4s,baz=67,slow=1.8,SNR=33						
RPZ				S	Sn	05 02 14.1	-7.6
	164nm,0.4s,baz=106,slow=23,SNR=20						
RPZ				LR	LR	05 05 03.2	
	comp=Z,5μm,20.9s,baz=45,slow=43						
RPZ	**Rata Peaks**	8.75	220	P	Pn	05 00 42.6	-1.5
ODZ	**Otahua Downs**	9.92	216	P	Pn	05 00 57.4	-2.7
DZM	**Mont Dzumac**	18.55	321	*eP*	Pn	05 02 54.9	+0.3
	100nm,1.2s						
DZM				*e*LR	LR	05 07 14.5	
	comp=Z,5μm,24.0s						
DZM	**Mont Dzumac**	18.55	321	P	P	05 02 52.3	-1.9
	0.1nm,0.3s,baz=138,slow=15,SNR=2.3						
DZM				LR	LR	05 09 16.6	
	comp=Z,3μm,18.0s,baz=137,slow=35						
	9.0nm,0.9s						
DZM	**Mont Dzumac**	18.55	321	P	P	05 02 53.9	-0.3
DZM	**Mont Dzumac**	18.55	321	P	Pn	05 03 00.3	+5.7
NOUC	**Port Laguerre**	18.60	321	P	Pn	05 02 59.6	+4.6
MSVF	**Nonsavu**	19.48	358	LR	LR	05 09 30.1	
	comp=Z,1μm,18.1s,baz=185,slow=34						
MSVF	**Nonsavu**	19.48	358	P	P	05 03 03.9	-0.4
MSVF	**Nonsavu**	19.48	358	P	P	05 03 03.9	-0.4
MSVF				pmax	pmax		
	comp=Z,44nm,0.9s						
MSVF	**Nonsavu**	19.48	358	P	Pn	05 03 10.3	+4.7
TAVE	**Taveuni**	20.51	3	P	Pn	05 03 22.5	+4.7
DGTI	**Dogotuki**	20.90	2	P	Pn	05 03 25.2	+2.8
KOUNC	**Koumac, New Ca**	20.93	319	P	P	05 03 21.9	+1.9
KOUNC				IAmb	IAmb	05 03 30.4	
	comp=Z,76nm,1.2s						
KOUNC	**Koumac, New Ca**	20.93	319	P	P	05 03 24.7	+4.8
NTLH	**Newcastle Hard**	22.59	273	P	P	05 03 40.8	+3.0
MGCD	**Mangrove Creek**	22.97	272	P	P	05 03 40.6	-1.1
	baz=23,SNR=10.0						
MGCD	**Mangrove Creek**	22.97	272	P	P	05 03 42.7	+1.0
SYDH	**Sydney Hard Ro**	23.10	270	P	P	05 03 44.0	+1.0
ARMA	**Armidale**	23.56	279	P	P	05 03 47.6	-0.1
	baz=24,SNR=4.2						
ARMA	**Armidale**	23.56	279	P	P	05 03 48.9	+1.2
ARMA				IAmb	IAmb	05 03 55.6	
	comp=Z,183nm,1.7s						
ARMA	**Armidale**	23.56	279	P	P	05 03 51.2	+3.5
MILA	**Mila**	23.61	261	P	P	05 03 49.3	+1.1
	baz=24,SNR=6.4						
CNB	**Canberra Magne**	23.79	266	P	P	05 03 51.2	+1.3
	baz=24,SNR=28						
CNB	**Canberra Magne**	23.79	266	P	P	05 03 50.9	+1.0
CAN	**Canberra**	24.08	266	P	P	05 03 53.5	+1.0
CAN				IAmb	IAmb	05 03 55.4	
	comp=Z,86nm,0.9s						
CAN	**Canberra**	24.08	266	P	P	05 03 53.6	+1.0
CAN				pmax	pmax		
	comp=Z,86nm,0.9s						
CAN	**Canberra**	24.08	266	P	P	05 03 55.0	+2.4
RAR	**Rarotonga**	24.50	55	LR	LR	05 12 10.4	
	comp=Z,527nm,19.1s,baz=242,slow=33						
TAU	**Tasmania Unive**	24.67	247	P	P	05 03 57.3	-0.5
TAU				IAmb	IAmb	05 04 03.2	
	comp=Z,207nm,1.7s						
TAU	**Tasmania Unive**	24.67	247	P	P	05 03 57.3	-0.5
TAU				pmax	pmax		
	comp=Z,207nm,1.7s						
TAU	**Tasmania Unive**	24.67	247	P	P	05 03 59.2	+1.4
MOO	**Moorlands**	24.75	248	P	P	05 03 58.7	+0.2
	baz=25,SNR=8.7						
MOO	**Moorlands**	24.75	248	P	P	05 03 58.4	-0.2
CORO	**Coronation Par**	24.78	250	P	P	05 03 59.3	+0.5
TOO	**Toolangi**	26.41	259	P	P	05 04 14.5	+0.8
	baz=26,SNR=10						
TOO	**Toolangi**	26.41	259	P	P	05 04 14.1	+0.4
TOO				IAmb	IAmb	05 04 15.5	
	comp=Z,50nm,1.0s						
TOO	**Toolangi**	26.41	259	P	P	05 04 14.1	+0.4
TOO				pmax	pmax		
	comp=Z,50nm,1.0s						
TOO	**Toolangi**	26.41	259	P	P	05 04 14.3	+0.6
EIDS	**Eidsvold**	26.41	289	P	P	05 04 14.8	+1.1
	baz=26,SNR=5.2						
EIDS	**Eidsvold**	26.41	289	P	P	05 04 14.3	+0.5
EIDS				IAmb	IAmb	05 04 23.7	
	comp=Z,80nm,1.4s						
EIDS	**Eidsvold**	26.41	289	P	P	05 04 16.0	+2.2
	comp=Z,51nm,1.9s						
RMQ	**Roma**	27.60	284	P	P	05 04 26.1	+1.6
	baz=28,SNR=9.0						
RMQ	**Roma**	27.60	284	P	P	05 04 26.3	+1.8
BRAT	**Ballarat**	27.63	259	P	P	05 04 26.1	+1.5
CMSA	**Cobar Meteorol**	27.84	272	P	P	05 04 27.7	+1.1
	baz=28,SNR=93						
CMSA	**Cobar Meteorol**	27.84	272	P	P	05 04 28.4	+1.8
ARPS	**Mount Arapiles**	29.42	260	P	P	05 04 42.0	+1.4
	baz=29,SNR=7.6						
ARPS	**Mount Arapiles**	29.42	260	P	P	05 04 41.6	+1.0
TBI	**Tubuai**	30.53	72	*e*LR	LR	05 12 39.9	
	comp=Z,1μm,27.5s						
TBI	**Tubuai**	30.53	72	*e*T	T	05 36 32.7	
	comp=Z,41nm,0.3s						
STKA	**Stephens Creek**	30.99	269	P	P	05 04 55.6	+1.1
	baz=31,SNR=76						
STKA	**Stephens Creek**	30.99	269	P	P	05 04 55.7	+1.1
	comp=Z,101nm,0.9s,baz=104,slow=10.0,SNR=104						
STKA				LR	LR	05 16 22.0	
	comp=Z,1μm,20.4s,baz=99,slow=34						
	comp=Z,101nm,0.9s						
STKA	**Stephens Creek**	30.99	269	P	P	05 04 55.2	+0.7
STKA				IAmb	IAmb	05 04 56.5	
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	30.99	269	P	P	05 04 55.2	+0.7
STKA				pmax	pmax		
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	30.99	269	P	P	05 04 55.9	+1.4
QLP	**Quilpie**	31.08	280	P	P	05 04 56.2	+0.9
	baz=31,SNR=16						
QLP	**Quilpie**	31.08	280	P	P	05 04 57.7	+2.3
TWOA	**Tennyson Woods**	32.41	262	P	P	05 05 08.3	+1.3
HNR	**Honiara**	32.55	324	LR	LR	05 17 03.8	
	comp=Z,448nm,18.2s,baz=167,slow=34						
HTT	**Hallett**	32.61	265	P	P	05 05 09.5	+0.7
	baz=32,SNR=18						
HTT	**Hallett**	32.61	265	P	P	05 05 09.6	+0.8
CTA	**Charters Tower**	33.10	292	P	P	05 05 13.3	+0.2
	comp=Z,23nm,1.0s,baz=133,slow=8.0,SNR=17						
CTA				LR	LR	05 18 00.6	
	comp=Z,1μm,19.5s,baz=110,slow=35						
	comp=Z,23nm,1.0s

comp=Z,148nm,0.8s,baz=131,slow=1.6,SNR=12
KRVT LR LR 05 20 39.4
comp=Z,203nm,21.9s,baz=282,slow=32
comp=Z,148nm,0.8s
SBA Scott Base 41.01 184 P **P 05 06 21.8 +2.2**
SBA Scott Base 41.01 184 P **P 05 06 21.8 +2.2**
SBA pmax pmax
comp=Z,27nm,1.7s
VNDA Vanda 41.02 186 LR LR 05 19 47.1
comp=Z,412nm,21.1s,baz=20,slow=31
VNDA Vanda 41.02 186 P **P 05 06 20.2 +0.6**
VNDA Vanda 41.02 186 P **P 05 06 20.2 +0.6**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
WR0 Warramunga Arr 42.12 282 P **P 05 06 27.8 -1.6**
WR0 IAmb IAmb 05 06 29.7
comp=Z,100nm,0.8s
FORT Forrest 42.16 263 P **P 05 06 29.1 -0.6**
baz=42,SNR=12
FORT Forrest 42.16 263 P **P 05 06 30.2 +0.6**
WB2 Warramunga Arr 42.28 282 P **P 05 06 28.8 -1.9**
WRAB Tennant Creek 42.28 282 P **P 05 06 29.3 -1.4**
WRAB Tennant Creek 42.28 282*ce*P **P 05 06 29.8 -0.9**
WRAB pmax pmax
comp=Z,130nm,0.6s
WRAB Tennant Creek 42.28 282 P **P 05 06 30.3 -0.4**
WRA Warramunga Arr 42.29 282 P **P 05 06 29.7 -1.1**
comp=Z,112nm,0.7s,baz=123,slow=7.3,SNR=667
WRA PcP **PcP 05 08 22.9 -1.4**
comp=Z,8.8nm,0.9s,baz=116,slow=3.9,SNR=5.5
WRA S **S 05 12 41.7 -8.1**
comp=Z,5.2nm,1.1s,baz=126,slow=13,SNR=5.3
WRA LR LR 05 23 37.0
comp=Z,1µm,21.1s,baz=94,slow=35
WRKA Warakurna 44.46 271 P **P 05 06 46.2 -2.1**
baz=44,SNR=103
WRKA Warakurna 44.46 271 P **P 05 06 46.7 -1.6**
TAOE Nuku Hiva Isla 46.60 63 *e*LR LR 05 20 07.7
comp=Z,942nm,27.9s
CASY Casey 47.87 210 P **P 05 07 14.4 -0.1**
KDU Kakadu 48.02 288 P **P 05 07 14.7 -1.6**
baz=48,SNR=4.3
KDU Kakadu 48.02 288 P **P 05 07 15.5 -0.8**
MTN Manton Dam 48.94 287 P **P 05 07 21.8 -1.6**
baz=49,SNR=4.2
MTN Manton Dam 48.94 287 P **P 05 07 23.0 -0.4**
KNRA Kununurra 49.07 282 P **P 05 07 24.0 -0.4**
baz=49,SNR=33
KNRA Kununurra 49.07 282 P **P 05 07 23.7 -0.7**
KNRA Kununurra 49.07 282 P **P 05 07 24.4 0.0**
GENI Genyem 49.51 305 P **P 05 07 27.3 -0.4**
comp=Z,2µmcomp=Z,66nm,1.0s
GENI Genyem 49.51 305 P **P 05 07 28.1 +0.4**
NWAO Narrogin (SRO) 49.81 256 P **P 05 07 28.3 -1.6**
baz=50,SNR=8.6
NWAO P **P 05 07 28.3 -1.6**
baz=50,SNR=8.6
NWAO Narrogin (SRO) 49.81 256 P **P 05 07 28.4 -1.4**
comp=Z,16nm,0.7s,baz=348,slow=6.8,SNR=12
NWAO LR LR 05 29 00.5
comp=Z,357nm,18.1s,baz=332,slow=36
comp=Z,16nm,0.7s
KLBR Kellerberrin 49.94 257 P **P 05 07 29.5 -1.4**
baz=50,SNR=31
KLBR Kellerberrin 49.94 257 P **P 05 07 30.5 -0.4**
FITZ Fitzroy Crossi 50.15 277 P **P 05 07 31.7 -0.9**
baz=50,SNR=149
FITZ Fitzroy Crossi 50.15 277 P **P 05 07 31.9 -0.7**
comp=Z,106nm,0.6s,baz=140,slow=7.6,SNR=289
FITZ S **S 05 14 40.2 -2.4**
comp=Z,3.5nm,1.0s,baz=186,slow=23,SNR=8.4
FITZ LR LR 05 28 31.1
comp=Z,366nm,18.4s,baz=136,slow=36
comp=Z,106nm,0.6s
FITZ Fitzroy Crossi 50.15 277 P **P 05 07 31.7 -0.9**
FITZ Fitzroy Crossi 50.15 277 P **P 05 07 32.4 -0.2**
MUN Mundaring 50.98 256 P **P 05 07 37.6 -1.2**
baz=51,SNR=22
MUN Mundaring 50.98 256 P **P 05 07 38.8 0.0**
BLDU Ballidu 51.16 258 P **P 05 07 38.6 -1.6**
baz=51,SNR=54
BLDU Ballidu 51.16 258 P **P 05 07 39.1 -1.0**
comp=Z,79nm,0.9s
MEEK Meekatharra 51.42 264 P **P 05 07 41.4 -0.8**
MORW Morawa 52.36 260 P **P 05 07 47.7 -1.3**
baz=52,SNR=37
MORW Morawa 52.36 260 P **P 05 07 47.8 -1.3**
MORW IAmb IAmb 05 07 49.3
comp=Z,58nm,0.8s
MORW Morawa 52.36 260 P **P 05 07 48.1 -1.0**
QSPA South Pole Qui 52.85 180 P **P 05 07 54.8 +2.4**
comp=Z,27nm,0.9s,baz=29,slow=2.2,SNR=64
QSPA LR LR 05 26 41.4
comp=Z,688nm,21.5s,baz=30,slow=32
comp=Z,27nm,0.9s
QSPA South Pole Qui 52.85 180 P **P 05 07 54.1 +1.7**
QSPA IAmb IAmb 05 08 08.0
comp=Z,52nm,0.8s
PSA00 Pilbara Seismi 52.91 270 P **P 05 07 51.5 -1.8**
PSA00 IAmb IAmb 05 07 52.4
comp=Z,24nm,1.0s
PSA00 Pilbara Seismi 52.91 270 P **P 05 07 51.5 -1.8**
MBWA Marble Bar 53.22 270 P **P 05 07 54.3 -1.3**
MBWA IAmb IAmb 05 07 55.2
comp=Z,50nm,0.7s
MBWA Marble Bar 53.22 270 P **P 05 07 54.1 -1.4**
SOEI Soe 56.12 285 P **P 05 08 16.7 -0.1**
comp=Z,139nm,1.2s
SOEI Soe 56.12 285 P **P 05 08 17.5 +0.7**
BATI Baumata 56.31 284 LR LR 05 34 14.5
comp=Z,1µm,18.1s,baz=157,slow=38
BATI Baumata 56.31 284 P **P 05 08 18.0 0.0**
comp=Z,62nm,1.2s
SIJI Sorong 56.82 298 LR LR 05 33 18.5
comp=Z,364nm,20.4s,baz=294,slow=37
SWI Sorong 56.83 298 P **P 05 08 20.1 -1.5**
comp=Z,75nm,0.9s
GIRL Giralia 56.84 265 P **P 05 08 19.2 -2.5**
baz=57,SNR=10
MMRI Maumere 58.38 284 P **P 05 08 31.6 -1.0**
MMRI Maumere 58.38 284 P **P 05 08 31.5 -1.1**
comp=Z,172nm,1.1s
MMRI Maumere 58.38 284 P **P 05 08 33.2 +0.6**
BASI Baing, Sumba 58.71 282 P **P 05 08 33.8 -1.0**
comp=Z,174nm,1.2s
EDFI Ende, Flores 58.74 284 P **P 05 08 33.4 -1.8**
comp=Z,27nm,1.3s
SANI Sanana 59.81 293 P **P 05 08 40.6 -1.8**
comp=Z,71nm,1.1s
SANI Sanana 59.81 293 P **P 05 08 41.7 -0.7**
comp=Z,70nm,1.1s
GUMO Guam 59.83 321 LR LR 05 31 19.6
comp=Z,130nm,21.8s,baz=146,slow=33
RPN Rapa Nui 60.32 103 LR LR 05 28 54.9
comp=Z,326nm,19.9s,baz=231,slow=30
PLAI Plampang 61.74 281 P **P 05 08 54.2 -1.4**
comp=Z,101nm,1.1s
PLAI Plampang 61.74 281 P **P 05 08 56.1 +0.5**
comp=Z,101nm,1.1s
BKSI Bulukumba 62.09 286 P **P 05 08 56.8 -1.2**
comp=Z,18nm,0.8s
TWSI Taliwang, Sumb 62.49 280 P **P 05 08 59.9 -0.8**
comp=Z,69nm,1.2s
KAPI Kappang 62.57 286 LR LR 05 37 22.5
comp=Z,401nm,18.4s,baz=135,slow=37
KAPI Kappang 62.57 286 P **P 05 09 01.6 +0.4**
KAPI IAmb IAmb 05 09 10.0
comp=Z,29nm,1.0s
KAPI Kappang 62.57 286 P **P 05 09 01.6 +0.4**
KAPI pmax pmax
comp=Z,29nm,1.0s
KAPI Kappang 62.57 286 P **P 05 09 03.5 +2.3**
comp=Z,33nm,1.0s
SPSI Sidrap Palu 63.22 287 P **P 05 09 04.0 -1.5**
comp=Z,36nm,1.1s
BELA Belgrano 2 63.34 173 P **P 05 09 06.2 +0.8**
BELA IAmb IAmb 05 09 07.2
comp=Z,25nm,0.8s
TTSI Tana Toraja 63.77 287 P **P 05 09 07.2 -2.0**
comp=Z,25nm,1.2s
APSI Ampana 63.78 290 P **P 05 09 08.6 -0.6**
comp=Z,44nm,1.0s
SMAI San Martin Ant 64.07 158 P **P 05 09 11.8 +1.5**
SMAI IAmb IAmb 05 09 13.7
comp=Z,22nm,0.9s
SRBI Singaraja 64.20 280 P **P 05 09 10.2 -1.8**
comp=Z,149nm,1.0s

JAGI Jajag, Banyuwa 64.80 279 P **P 05 09 15.1 -0.9**
JAGI Jajag, Banyuwa 64.80 279 P **P 05 09 14.3 -1.7**
comp=Z,54nm,0.8s
JAGI Jajag, Banyuwa 64.80 279 P **P 05 09 15.9 -0.1**
comp=Z,54nm,0.9s
MAW Mawson 64.97 202 P **P 05 09 18.6 +2.4**
baz=65,SNR=5.9
MAW Mawson 64.97 202 P **P 05 09 19.2 +3.1**
comp=Z,10.0nm,0.8s,baz=126,slow=5.6,SNR=14
MAW LR LR 05 37 09.1
comp=Z,470nm,18.4s,baz=91,slow=35
comp=Z,10.0nm,0.8s
MAW Mawson 64.97 202 P **P 05 09 17.4 +1.2**
MAW Mawson 64.97 202 P **P 05 09 17.4 +1.2**
MAW pmax pmax
comp=Z,3.0nm,1.0s
ABJI Asem Bagus 65.14 279 P **P 05 09 16.7 -1.4**
comp=Z,83nm,0.9s
GMJI Gumukmas 65.48 279 P **P 05 09 18.9 -1.4**
comp=Z,134nm,1.0s
BLJI Banyuglugur 65.68 279 P **P 05 09 20.4 -1.2**
comp=Z,2µmcomp=Z,79nm,1.0s
TOLI2 Tolitoli 65.77 292 P **P 05 09 23.1 +0.9**
comp=Z,24nm,1.1s
KMMI Kalianget 65.81 280 P **P 05 09 20.9 -1.5**
comp=Z,105nm,1.1s
MPSI Mapaga 65.91 290 P **P 05 09 21.0 -2.1**
comp=Z,29nm,1.0s
DAV Davao City (W) 66.42 300 P **P 05 09 25.3 -1.1**
comp=Z,118nm,0.3s,baz=245,slow=12,SNR=1.6
DAV LR LR 05 38 11.5
comp=Z,119nm,21.2s,baz=160,slow=36
PWJI Pagerwojo 66.93 278 P **P 05 09 27.8 -1.8**
comp=Z,182nm,0.9s
PMSA Palmer Station 67.11 156 LR LR 05 35 28.3
comp=Z,440nm,18.3s,baz=214,slow=33
PCJI Pacitan 67.32 277 P **P 05 09 31.5 -0.6**
comp=Z,3µmcomp=Z,300nm,0.8s
BBKI Banjar Baru 67.33 284 P **P 05 09 31.1 -1.1**
comp=Z,4µmcomp=Z,67nm,1.1s
SMRI Semarang 68.59 278 P **P 05 09 39.7 -0.4**
SMRI Semarang 68.59 278 P **P 05 09 39.2 -0.9**
comp=Z,130nm,1.0s
SMRI Semarang 68.59 278 P **P 05 09 40.8 +0.7**
comp=Z,130nm,0.7s
LEM Lembang 70.96 276 LR LR 05 43 14.9
comp=Z,434nm,19.2s,baz=166,slow=38
TROLL Troll, Antarti 70.99 181 pP **P 05 09 55.1 +0.9**
CNJI Cibinong 71.06 275 P **P 05 09 53.3 -2.0**
comp=Z,208nm,0.8s
SNAA Sanae 71.35 179 pP **P 05 09 56.9 +0.6**
SNAA Sanae 71.35 179 LR LR 05 38 03.7
comp=Z,344nm,21.1s,baz=176,slow=33
SNAA Sanae 71.35 179 P **P 05 09 57.2 +0.9**
SNAA IAmb IAmb 05 10 08.1
comp=Z,37nm,1.3s
SNAA Sanae 71.35 179*ce*P **P 05 09 57.7 +1.4**
SNAA pmax pmax
comp=Z,23nm,1.7s
VNA3 Neumayer Olymp 71.62 177 pP **P 05 09 58.5 +0.6**
USHA Ushuaia 71.73 146 LR LR 05 36 09.3
comp=Z,344nm,18.1s,baz=234,slow=31
DBJI Dramaga 71.81 276 P **P 05 09 58.7 -1.2**
comp=Z,205nm,0.8s
NVL N'lazarevskaya 71.86 184 *e*P P 05 10 07.8 +8.6
NVL pmax pmax
comp=Z,16nm,0.7s
VNA2 Neumayer--Watz 72.02 178 pP **P 05 10 01.2 +1.0**
baz=177,slow=6.0
STKI Sintang 72.16 284 P **P 05 10 00.5 -1.4**
VNA1 Neumayer--Stat 72.26 178 pP **P 05 10 02.7 +1.0**
SBUM Sibu 73.10 287 P **P 05 10 06.4 -1.1**
TPI Tanjungpandan 73.39 279 P **P 05 10 08.1 -1.1**
comp=Z,16nm,1.3s
KASI Kota Agung 74.21 275 P **P 05 10 11.7 -2.4**
comp=Z,52nm,0.9s
PPBI Pangkal Pinang 74.95 279 P **P 05 10 16.5 -1.8**
comp=Z,15µmcomp=Z,28nm,1.3s
ORCD Orcadas 76.04 160 P **P 05 10 23.4 -0.4**
ORCD IAmb IAmb 05 10 24.5
comp=Z,24nm,1.1s
KSI Kapahiang 76.85 275 P **P 05 10 27.4 -1.9**
DSRI Dabo 77.20 279 P **P 05 10 30.4 -0.8**
comp=Z,7.6nm,0.5s
LL02 Futaleuf 77.39 135 P **P 05 10 32.5 +0.6**
LL02 IAmb IAmb 05 10 34.0
comp=Z,12nm,1.0s
H03N3 Juan Fernandez 79.08 124 T T 06 37 31.1
baz=234,slow=72,SNR=59
H03N2 Juan Fernandez 79.08 124 T T 06 37 26.7
baz=234,slow=72,SNR=74
H03N1 Juan Fernandez 79.10 124 T T 06 37 30.2
baz=234,slow=72,SNR=49
PLCA Paso Flores 79.72 134 P **P 05 10 46.5 +1.7**
comp=Z,5.4nm,0.8s,baz=248,slow=4.3,SNR=17
PLCA LR LR 05 37 41.1
comp=Z,190nm,21.8s,baz=195,slow=29
comp=Z,5.4nm,0.8s
PLCA Paso Flores 79.72 134 P **P 05 10 45.8 +1.0**
PLCA Paso Flores 79.72 134 P **P 05 10 45.8 +1.0**
PLCA pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 82.52 328 P **P 05 10 59.6 +0.3**
comp=Z,1.5nm,0.7s,baz=134,slow=5.2,SNR=4.3
comp=Z,1.5nm,0.7s
GSI Gunungsitoli 83.82 276 P **P 05 11 07.7 +1.0**
KSRS Korea Array 87.99 322 P **P 05 11 26.2 -0.4**
comp=Z,2.9nm,0.7s,baz=139,slow=5.1,SNR=9.7
KSRS LR LR 05 49 43.6
comp=Z,46nm,18.2s,baz=155,slow=35
comp=Z,2.9nm,0.7s
KSAR Wonju Array Be 88.00 322 P **P 05 11 27.5 +0.8**
KSAR Wonju Array Be 88.00 322 P **P 05 11 27.5 +0.8**
NJ2 Nanjing 88.83 313 *e*P **P 05 11 31.8 +1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzh-Sakhalins 89.86 336 *e*P **P 05 11 37.8 +2.6**
LPIG La Paz 90.33 60 LR LR 05 44 02.6
comp=Z,152nm,19.4s,baz=206,slow=30
PETK Petropavlovsk- 91.86 347 P **P 05 11 44.0 -0.4**
comp=Z,2.8nm,0.8s,baz=160,slow=9.3,SNR=8.7
PETK LR LR 05 48 11.1
comp=Z,94nm,20.0s,baz=170,slow=32
comp=Z,2.8nm,0.8s
PETK Petropavlovsk- 91.86 347 P **P 05 11 43.0 -1.4**
PETK Petropavlovsk- 91.86 347 P **P 05 11 43.0 -1.4**
PFO Pinyon Flats O 92.74 49 LR LR 05 45 05.8
comp=Z,158nm,20.6s,baz=233,slow=30
LVC Limon Verde 92.79 121 LR LR 05 44 41.3
comp=Z,336nm,20.5s,baz=198,slow=30
CM31 Chiang Mai Arr 93.26 291 P **P 05 11 51.0 -0.7**
CM31 IAmb IAmb 05 11 58.9
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 93.26 291 P **P 05 11 51.4 -0.3**
comp=Z,1.6nm,0.3s,baz=150,slow=3.4,SNR=11
CMAR PP **PP 05 15 31.0 -4.9**
comp=Z,1.2nm,0.5s,baz=134,slow=6.4,SNR=4.5
CMAR LR LR 05 55 29.0
comp=Z,94nm,21.7s,baz=185,slow=37
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 93.26 291 P **P 05 11 52.1 +0.4**
CMAR Chiang Mai Arr 93.26 291 P **P 05 11 52.1 +0.4**
CHTO Chiang Mai 93.48 291 P **P 05 11 53.4 +0.7**
CHTO Chiang Mai 93.48 291 P **P 05 11 53.4 +0.7**
NNA Nana 93.94 108 LR LR 05 46 09.6
comp=Z,309nm,19.4s,baz=206,slow=30
KMI Kunming 94.64 298 ⇑P P 05 12 03.4 +5.2
KMI sP sP 05 12 09.6 -0.6
KMI pmax pmax
comp=Z,9.0nm,0.9s
NVAR Mina Array Bea 95.02 45 P **P 05 11 59.1 -0.5**
comp=Z,0.4nm,0.8s,baz=230,slow=7.0,SNR=1.8
NVAR Mina Array Bea 95.02 45 P **P 05 11 59.8 +0.2**
KLR Kul'dur 95.70 331 LR LR 05 49 20.9
comp=Z,128nm,21.5s,baz=174,slow=32
ATAH Atahualpa 95.77 103 LR LR 05 45 33.6
comp=Z,374nm,21.6s,baz=235,slow=29
PZH PanZhiHua 96.20 299 P **P 05 12 08.0 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,6.1s
CMIG Matias Romero 97.28 74 LR LR 05 45 43.7
comp=Z,118nm,21.9s,baz=190,slow=29
CD2 Chengdu 97.56 303 P Pdif 05 12 11.5 +0.3
CD2 S **S 05 23 37.6 +3.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,380nm,14.7s
CD2 LR LR
comp=Z,450nm,17.2s
LPAZ La Paz 97.57 117 P Pdif 05 12 13.6 +1.2
comp=Z,1.3nm,0.7s,baz=289,slow=5.4,SNR=5.8
LPAZ LR LR 05 46 40.2
comp=Z,158nm,21.9s,baz=218,slow=29
comp=Z,1.3nm,0.7s
CPUP Villa Florida 97.62 131 LR LR 05 50 11.3
comp=Z,540nm,18.6s,baz=211,slow=32
TXAR Lajitas Array 98.23 59 LR LR 05 49 12.3
comp=Z,112nm,19.5s,baz=230,slow=31
XLT XiLinHaoTe 98.78 319 *e*P Pdif 05 12 19.3 +3.0
XLT pP pP 05 12 25.4 +0.1
XLT sP sP 05 12 28.2 -0.2
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,95nm,3.9s
HHC Hu-ho-hao-te 99.15 315 *e*P **Pdif 05 12 17.3 -0.8**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.2s
MA2 Magadan 99.25 346 LR LR 05 50 18.7
comp=Z,218nm,21.5s,baz=162,slow=31
ANMO Albuquerque 99.85 54 LR LR 05 52 57.0
comp=Z,112nm,18.4s,baz=258,slow=33
LZH Lanzhou 100.73 307 *e*P **Pdif 05 12 18.7 -6.6**
LZH pP pPdif 05 12 24.0 -10
LZH pmax pmax
comp=Z,21nm,0.9s
GTA Gaotai 105.28 308 *e*P **PP 05 17 09.4 +1.9**
GTA pP PKiKP 05 17 13.5 +14
GTA sP 05 17 16.8
GTA pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 114.17 345*c i*PKIKP PKPdf 05 17 13.7 -1.2
TIXI pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 115.31 307 *e*PKP **PKiKP 05 17 18.8 +0.7**
MKAR Makanchi Array 120.04 308 PKP **PKiKP 05 17 26.8 -0.3**
comp=Z,1.2nm,0.8s,baz=61,slow=2.6,SNR=3.9
MKAR Makanchi Array 120.04 308*c i*PKIKP **PKiKP 05 17 27.6 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
ZAA0 Zalesovo Array 121.29 316 PKPdf **PKiKP 05 17 31.2 +1.9**
NRN Naryn 122.06 300 PKPdf **PKPdf 05 17 30.3 -1.2**
NRN Naryn 122.06 300 PKIKP **PKPdf 05 17 30.3 -1.2**
AAK Ala-Archa 123.56 301 PKPdf **PKiKP 05 17 34.2 -0.2**
AAK Ala-Archa 123.56 301 PKIKP **PKiKP 05 17 34.2 -0.2**
KURBB Kurchatov Array 123.76 311 PKP **PKPdf 05 17 31.8 -2.2**
comp=Z,1.2nm,0.4s,baz=111,slow=2.0,SNR=12
NRIK Noril'sk 124.75 334 PKP **PKPdf 05 17 33.6 -1.7**
comp=Z,7.1nm,0.8s,baz=76,slow=3.6,SNR=10
NRIK Noril'sk 124.75 334 PKPdf 05 17 34.3 -1.0
NRIK Noril'sk 124.75 334 PKIKP **PKPdf 05 17 34.3 -1.0**
VLDQ Val d'Or 125.05 53 PKPdf **PKiKP 05 17 36.6 -0.2**
NCB Newcomb 125.81 58 PKPdf **PKPdf 05 17 36.3 -1.9**
KK31 Karatay Array 126.46 300 PKPdf **PKiKP 05 17 39.0 -0.9**
KK31 Karatay Array 126.46 300 PKIKP **PKiKP 05 17 39.0 -0.9**
KKAR Karatay Array 126.46 300 PKPdf 05 17 38.6 -0.8
KKAR Karatay Array 126.46 300 PKIKP **PKPdf 05 17 38.6 -0.8**
KMBO Kilima Mbogo 127.82 232 PKP **PKiKP 05 17 43.0 -0.9**
comp=Z,2.7nm,0.8s,baz=38,slow=4.3,SNR=5.4
KMBO Kilima Mbogo 127.82 232*c i*PKIKP **PKiKP 05 17 43.0 -0.9**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 136.45 316 PKPdf **PKPdf 05 17 55.5 -2.4**
ARU Arti 136.45 316 *i* PKIKP **PKPdf 05 17 54.8 -3.0**
ARU SS SS 05 38 31.2 -8.8
RAYN Ar Rayn 137.88 265 PKIKP **PKPdf 05 18 00.2 -1.4**
SPITS Spitsbergen Ar 138.32 355 PKIKP **PKPdf 05 18 01.1 +0.3**
PRGR Permogore 142.24 325 *e*PKHKP PKPpre 05 18 02.7
MAK Makhachkala 142.77 294 *i* PKIKP **PKPdf 05 18 05.9 -3.9**
MAK pmax pmax
comp=Z,169nm,1.5s
ARA0 ARCESS Array S 144.61 344 *e*PKPbc **PKPab 05 18 10.2 -0.6**
ARA0 IAmb IAmb 05 18 12.4
comp=Z,150nm,2.1s
ARCES ARCESS Array B 144.61 344 PKP **PKPab 05 18 09.9 -1.0**
comp=Z,6.1nm,0.7s,baz=40,slow=2.5,SNR=28
ARCES SKP 05 21 47.7
comp=Z,6.0nm,1.0s,baz=60,slow=4.9,SNR=4.4
ARCES ARCESS Array B 144.61 344 PKPbc 05 18 10.8 -0.3
ARCES ARCESS Array B 144.61 344 PKIKP PKPbc 05 18 10.8 -0.3
GUDG Gudauri 144.91 293 PKPdf **PKPdf 05 18 14.1 +0.2**
GUDG Gudauri 144.91 293 PKIKP **PKPdf 05 18 14.1 +0.2**
KLMR Klimovskoe 145.28 326 *e*PKHKP PKPpre 05 18 09.2
KLMR pmax pmax
comp=Z,46nm,1.2s
KLMR Klimovskoe 145.28 326 *e*PKPdf **PKPbc 05 18 09.3 -4.1**
KLMR AMP 05 18 18.4
comp=Z,46nm,1.2s
KLMR *e*SKP 05 21 47.2
GEVA Gevas 145.28 286 PKPbc 05 18 13.7 -0.7
ZEI Tsey 145.38 293 *i* PKP2 **PKPdf 05 18 11.4 -3.2**
ZEI pmax pmax
comp=Z,22nm,1.0s
KTK1 Kautokeino 145.51 345 *e*P **PKPdf 05 18 12.4 -1.3**
JETT Jettan, Norway 145.61 347 *e*PKPdf **PKPdf 05 18 12.8 -1.2**
KARS Kars 145.70 290 PKPbc **PKPab 05 18 16.8 +0.8**
KARS Kars 145.70 290 PKIKP **PKPab 05 18 16.8 +0.8**
TRO Tromso 145.81 348 *e*PKPdf **PKPdf 05 18 13.0 -1.2**
GOF Gofitskoye 146.17 297⇑ *e*PKP2 **PKPab 05 18 16.7 -0.7**
GOF pmax pmax
comp=Z,34nm,0.9s
KBZ Khabaz 146.19 295 PKPbc **PKPdf 05 18 15.4 -0.2**
comp=Z,7.3nm,0.9s,baz=45,slow=1.4,SNR=13
KBZ Khabaz 146.19 295*c i*PKP2 **PKPbc 05 18 15.8 -1.0**
KIV Kislovodsk 146.36 295 *i* PKIKP **PKPdf 05 18 13.6 -2.5**
KIV *i* 05 18 18.7
KIV *i* 05 18 23.9
KIV *i* 05 21 40.3
KIV pmax pmax
comp=Z,4.0nm,0.8s
KIV pmax pmax
comp=Z,19nm,1.7s
VRH Novokhopyorsk 146.77 309 *e*PKIKP **PKPdf 05 18 14.8 -1.6**
VRH pmax pmax
comp=Z,20nm,0.7s
MARD Mardin 146.83 283 PKPbc 05 18 18.1 -0.9
STEI Steigen 147.94 348 *e*PKPdf **PKPbc 05 18 18.8 -2.1**
LOF Lofoten 148.01 350 *e*PKPdf **PKPbc 05 18 19.3 -1.8**
MOS Moscow 148.10 318 *e*PKIKP **PKPdf 05 18 18.0 -0.5**
MOS *e* 05 18 26.5
MOS pmax pmax
comp=Z,35nm,0.8s
LPSR Galich'ya Gora 148.22 312 *e*PKIKP **PKPbc 05 18 20.0 -2.1**
LPSR pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 148.24 310 *e*PKIKP **PKPdf 05 18 19.7 +0.9**
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 148.35 309 *e*PKIKP **PKPdf 05 18 18.5 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s
FAUS Fauske 148.43 348 *e*PKPdf **PKPdf 05 18 19.6 +1.0**
OBN Obninsk 148.87 317 PKPbc **PKPbc 05 18 22.1 -1.6**
OBN Obninsk 148.87 317*ce*PKHKP PKPpre 05 18 18.5
OBN *i* 05 18 23.1
OBN *e* 05 21 53.6
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN pmax pmax
comp=Z,58nm,1.7s
LIC Lamto 148.90 173⇑ *e*PKP1 **PKiKP 05 18 25.0 -1.5**
comp=Z,51nm,0.8s
KIC Kosan Boka 149.06 173⇑ *e*PKP1 **PKiKP 05 18 25.7 -1.1**
comp=Z,27nm,0.8s
TIC Toumodi 149.31 172⇑ *e*PKP1 **PKiKP 05 18 26.2 -1.1**
comp=Z,38nm,0.9s
DBIC Dimbokro 149.35 173 PKPbc **PKiKP 05 18 26.6 -0.8**
comp=Z,5.8nm,0.7s,baz=219,slow=5.6,SNR=9.9
DBIC Dimbokro 149.35 173 PKPbc **PKPbc 05 18 25.6 -0.6**
DBIC Dimbokro 149.35 173 PKP2 **PKPbc 05 18 25.6 -0.6**
KONS Konsvik 149.59 349 *e*PKPdf **PKPdf 05 18 22.1 +1.5**
MORB Moi Rana 149.67 347 *e*PKPdf **PKPdf 05 18 21.0 +0.2**
FINES FINESS Array B 150.41 334 PKPbc **PKPbc 05 18 25.9 -1.4**
comp=Z,8.1nm,0.8s,baz=54,slow=3.6,SNR=22
FINES FINESS Array B 150.41 334 PKPbc **PKPbc 05 18 26.5 -0.8**
FINES FINESS Array B 150.41 334 PKIKP **PKPbc 05 18 26.5 -0.8**

BNN	Bunyan	150.94	285		PKiKP	05 18 29.7	-0.4
NSS	Namsos	151.60	348	*e*PKPbc	PKPbc	05 18 28.7	-1.3
MEF	Metsahovi	151.85	333	*e*P	PKPbc	05 18 29.5	-1.2
VSU	Vasula	152.07	328	*e*P	PKPbc	05 18 29.5	-1.8
CSS	Mathiatis	152.13	276		PKiKP	05 18 31.6	-0.9
RAF	Rauma	152.18	336	*e*P	PKPbc	05 18 30.5	-0.9
BRTR	Keskin Array B	152.75	286	PKPbc	PKPbc	05 18 32.2	-1.4
	comp=Z,6.9nm,0.9s,baz=144,slow=4.6,SNR=19						
BRTR	Keskin Array B	152.75	286*c*	*i*PKiKP	PKiKP	05 18 34.5	+0.7
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TBLU	Trondheim	153.07	349	*e*	PKPbc	05 18 31.2	-2.2
MNK	Minsk	153.71	320	*i* PKiKP	PKPbc	05 18 33.7	-1.3
MNK				*i*		05 22 28.7	
MNK				*i* PPP	PPP	05 25 56.6	
MNK				pmax	pmax		
	comp=E,1.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,20nm,1.0s						
MNK	Minsk	153.71	320	*i* PKP	PKPbc	05 18 33.8	-1.3
	comp=E,1.0nm,0.7s						
MNK				*i* PKP	PKPbc	05 18 33.8	-1.3
	comp=N,9.0nm,0.9s						
MNK				*i* PKP	PKPbc	05 18 33.8	-1.3
	comp=Z,20nm,1.0s,baz=60						
MNK				*i* PP	PP	05 22 28.8	+6.3
MNK				*i* SKS	SKSdf	05 25 40.9	+9.2
MNK				*i* PPP	PPP	05 25 56.7	
MNK				*i* SKKS	SKKSdf	05 34 22.4	+8.6
MNK				*i* SS	SS	05 42 13.7	+17
MNK				*i* SSS	SSS	05 47 56.3	
MNK				*i* LR	LR	06 22 22.9	
MNK				*i* LRM	MLR	06 26 16.7	
	comp=E,26nm,21.7s						
MNK				*i* LRM	MLR	06 26 16.7	
	comp=Z,172nm,20.4s						
MNK				*i* LRM	MLR	06 26 49.9	
	comp=N,22nm,20.4s						
NACGM	Naroch	154.06	322	*e*PKP	PKPdf	05 18 25.4	-2.3
	baz=64						
AKASG	Malin Array Be	154.55	312	PKP	PKPdf	05 18 28.1	-0.4
	comp=N,0.3nm,0.5s,baz=44,slow=0.7,SNR=5.8						
AKASG				PKPbc	pPKPdf	05 18 35.3	-2.4
	comp=N,1.4nm,0.5s,baz=58,slow=2.6,SNR=6.2						
AKASG	Malin Array Be	154.55	312*c*	*i*PKiKP	PKiKP	05 18 38.9	+1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKN	Aaknes	154.56	351	*e*PKPbc	PKiKP	05 18 36.4	-0.3
NB2	NORSAR Subarra	154.96	346	PKP	PKPdf	05 18 26.9	-1.9
	comp=Z,6.5nm,1.0s,baz=34,slow=2.4						
NB2	NORSAR Subarra	154.96	346	PKP	PKPdf	05 18 26.9	-1.9
	baz=34,slow=2.4						
NOA	NORSAR Array B	154.96	346	PKPbc	PKPdf	05 18 36.0	+7.2
	comp=Z,3.5nm,0.9s,baz=30,slow=2.0,SNR=4.5						
NC602	NORSAR Array S	155.17	345	*e*PKPbc	PKPdf	05 18 36.7	+7.7
TORD	Torodi Ar. Bea	155.84	187	PKP	PKPdf	05 18 32.1	+0.8
	comp=Z,2.2nm,0.9s,baz=331,slow=0.4,SNR=7.5						
TORD				PKPab	PKPab	05 18 58.1	+0.2
	comp=Z,5.6nm,0.7s,baz=142,slow=2.2,SNR=11						
BURAR	Bucovina Array	158.06	306	PKPdf	PKPdf	05 18 33.7	+0.3
BURAR					PKPab	05 19 06.3	-0.7
CRVS	Cervenica-Dubn	159.88	312	*e*PKP2	PKPab	05 19 13.9	-0.8
OKC	Ostrava-Krasne	161.26	318	AMS	AMS	06 04 50.0	
	comp=Z,400nm,22.6s						
VYHS	Vyhne	161.60	314	*e*PKP2	PKPab	05 19 21.3	-1.0
VYHS	Vyhne	161.60	314	*e*PKP	Pg	05 19 21.3	+8.0
OSTC	Ostas	161.81	322	AMS	AMS	06 06 30.0	
	comp=Z,400nm,22.4s						
KRLC	Kraliky	161.83	320	AMS	AMS	06 04 10.0	
	comp=Z,300nm,20.7s						
CHVC	Chvalec	161.87	323	*e*PKPAB	PKPab	05 19 23.6	+0.3
CHVC				AMS	AMS	06 06 30.0	
	comp=Z,400nm,21.1s						
DPC	Dobruska-Polom	161.89	322	*e*PKP2	PKPab	05 19 22.0	-1.5
DPC				MLR	MLR		
	comp=Z,400nm,21.5s						
DPC	Dobruska-Polom	161.89	322	*e*PKPAB	PKPab	05 19 22.0	-1.5
DPC				AMS	AMS	06 02 30.0	
	comp=Z,400nm,21.5s						
UPC	Upice	161.94	323	AMS	AMS	06 12 00.0	
	comp=Z,300nm,19.4s						
BRG	Berggiesshubel	162.65	326	Amp		05 19 31.1	
	comp=Z,3.7nm,1.0s						
BRG	Berggiesshubel	162.65	326	*e*PKP2	PKPab	05 19 25.8	-0.9
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRG	Berggiesshubel	162.65	326	*e*PKP	Pb	05 19 25.8	+4.6
CLL	Collm	162.73	329	*e*PKiKP	PKPdf	05 18 42.0	+3.8
CLL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CLL	Collm	162.73	329	*e*(PP)		05 23 13.0	
CLL	Collm	162.73	329	*e*PKPdf	Pb	05 18 42.0	+3.9
CLL	Collm	162.73	329	*e*PKPab		05 19 29.0	
	comp=Z,6.0nm,1.1s						
PRU	Pruhonice	162.99	323	AMS	AMS	06 05 30.0	
	comp=Z,400nm,19.8s						
NKC	Novy Kostel	163.77	327	AMS	AMS	06 14 30.0	
	comp=Z,400nm,19.3s						
CKRC	Cesky Krumlov	163.87	321	AMS	AMS	06 12 00.0	
	comp=Z,700nm,21.3s						
KHC	Kasperske Hory	164.03	323	PKPdf	PKPdf	05 18 38.7	-0.8
KHC					PKPab	05 19 30.8	-2.1
KHC	Kasperske Hory	164.03	323	*e*PKP2	PKPab	05 19 31.6	-1.3
KHC				MLR	MLR		
	comp=Z,600nm,20.7s						
KHC	Kasperske Hory	164.03	323	*e*PKPAB	PKPab	05 19 31.6	-1.3
KHC				AMS	AMS	06 06 40.0	
	comp=Z,600nm,20.7s						
GERES	GERESS Array B	164.16	322	PKP	PKPdf	05 18 40.1	+0.3
	comp=Z,0.2nm,0.3s,baz=231,slow=43,SNR=2.3						
GERES				PKPab	PKPab	05 19 32.0	-1.6
	comp=Z,0.9nm,0.8s,baz=151,slow=3.0,SNR=7.0						
KEST	Kesra	171.40	263	PKPab	PKPab	05 20 06.7	+0.7
	comp=Z,2.1nm,0.8s,baz=312,slow=3.9,SNR=3.6						
ESDC	Sonseca Array	176.75	42	PKP	PKPdf	05 18 47.1	+0.2
	comp=Z,0.5nm,1.0s,baz=261,slow=30,SNR=4.2						
ESDC				PKPab	PKPab	05 20 29.4	-0.1
	comp=Z,0.1nm,0.3s,baz=296,slow=28,SNR=2.0						

*MOS **03** 05:09:14.9±0.8, 43.°44N×145.°90E, h105km, mb4.7/2, Error ellipse: s-maj=15.7km s-min=9.2km az=72.7*
*IDC **03** 05:09:15.3±3.0, 43.°62N×145.°78E, h86km±28km, mb3.7/16, mbtmp4.0/19, Error ellipse: s-maj=16.6km s-min=13.0km az=135.0*
*SKHL **03** 05:09:15.3±0.0, 43.°40N×146.°00E, h107km±5km, mb5.1/3, msha6.2/2*
*JMA **03** 05:09:16.6±0.2, 43.°5N±0.°5×145.°9E±0.°8, h96km±1km, MV3.9/40, NEMURO REGION*
JMA Felt II J1 at NEMURO REGION .
*NEIC **03** 05:09:17.3±1.6, 43.°63N±0.°08×145.°7E±0.°1, h100km±8km, mb4.4/34, Error ellipse: s-maj=13.9km s-min=8.3km az=221.0*

ISC 03 05:09:16.5±0.6, 43.°45N±0.°05×145.°88E±0.°05, h96km±5km, n208, σ096/219, mb4.3/35, 1C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	0.13	229	⇓P	Pn	05 09 30.2	+0.2
NEM2				⇓*e*S	Sn	05 09 40.0	-0.1
NMR	Nemuro--Hokkai	0.14	234	*i*PN	Pn	05 09 30.2	+0.2
NMR				*e*S	Sn	05 09 40.1	0.0
NMR	Nemuro--Hokkai	0.14	234	*i* P	Pn	05 09 29.5	-0.5
NMR				*e*S	Sn	05 09 39.0	-1.1
YUK	Yuzh-Kuril'sk	0.58	359	*d i*PN	Pn	05 09 32.2	-0.3
YUK				*e*S	Sn	05 09 44.0	-0.5
YUK				pmax	pmax		
	comp=Z,8μm,0.3s						
YUK				pmax	pmax		
	comp=N,1μm,0.1s						
YUK				pmax	pmax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,7μm,0.4s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
YUK	Yuzh-Kuril'sk	0.58	359	*i* P	Pn	05 09 32.2	-0.3
YUK				AMB	AMB	05 09 32.6	
	comp=E,8μm,0.4s						
YUK				*e*S	Sn	05 09 44.9	+0.4
YUK				A	A	05 09 45.8	
	comp=E,9μm,0.5s						
YUK				A	A	05 09 45.8	
	comp=E,6μm,0.5s						
JKHN	Kushirohamanak	0.64	235	*i* P	Pn	05 09 33.4	+0.4
JKHN				*e*S	Sn	05 09 45.8	+0.5
JNSB	Nemuroshibetsu	0.71	297	*i* P	Pn	05 09 33.7	+0.1
JNSB				*e*S	Sn	05 09 46.5	0.0
JRA	Rausu	0.73	312	*e*P	Pn	05 09 33.6	-0.2
JRA				*e*S	Sn	05 09 46.6	-0.2
RUSJ	Misakicho	0.80	325	⇓*i*PN	Pn	05 09 34.3	-0.2
RUSJ				*e*S	Sn	05 09 50.1	+2.1
JNK	Nakash	0.85	279	*e*P	Pn	05 09 34.6	-0.4
JNK				*e*S	Sn	05 09 47.7	-1.3
AKK	Akkeshi	0.87	241	*e*P	Pn	05 09 35.3	+0.1
JAK	Akkeshi	0.98	243	P	Pn	05 09 36.4	+0.1
JAK				*e*S	Sn	05 09 51.4	+0.2
JTKR	Abashiri--Toko	1.52	291	*e*P	Pn	05 09 42.6	-0.1
JTKR				*e*S	Sn	05 10 02.0	-0.7
JAR	Ashorobuto	1.55	265	*e*P	Pn	05 09 43.4	+0.4
JAR				*e*S	Sn	05 10 03.6	+0.3
JOB	Onbets	1.59	251	*e*P	Pn	05 09 44.1	+0.5
JOB				*e*S	Sn	05 10 04.1	-0.1
JMP	Maruseppu	1.91	288	*e*P	Pn	05 09 47.7	-0.1
JMP				*e*S	Sn	05 10 11.2	-0.3
KUR	Kuril'sk	2.28	38	*d i*PN	Pn	05 09 53.3	+0.8
KUR				*i* S	Sn	05 10 20.6	+0.4
KUR	Kuril'sk	2.28	38	*i* P	Pn	05 09 53.0	+0.5
KUR				AMB	AMB	05 09 53.9	
	comp=E,150nm,0.4s						
KUR				*e*S	Sn	05 10 21.3	+1.1
KUR				A	A	05 10 23.2	
	comp=E,870nm,0.3s						
KUR				A	A	05 10 23.2	
	comp=E,1μm,0.3s						
JEW	Eniwo	3.30	261		Pn	05 10 07.1	+1.0
YSS	Yuzh-Sakhalins	4.14	329	*e*PN	Pn	05 10 20.8	+3.4
YSS				*e*S	Sn	05 11 06.9	+2.2
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS	Yuzh-Sakhalins	4.14	329	*e*P	Pn	05 10 19.4	+2.0
YSS				AMB	AMB	05 10 21.5	
	comp=N,20nm,0.5s						
JTM	Tenmabayashi	4.46	235	Pn	Pn	05 10 21.2	-0.5
JMM	Marumori	6.79	216	Pn	Pn	05 10 55.1	+1.7
JSD	Sado	7.92	229	Pn	Pn	05 11 08.4	-0.4
MJA0	Matsu Arr-Jizo	9.05	223	*e*PN	Pn	05 11 24.7	+0.5
MJAR	Matsushiro Arr	9.06	223	P	Pn	05 11 24.1	-0.4
	comp=N,2.9nm,0.7s,baz=27,slow=13,SNR=9.3						
USRK	Ussuriysk Ar.	10.07	279	Pn	Pn	05 11 37.3	-0.7
USRK	Ussuriysk Ar.	10.07	279	PN	Pn	05 11 37.3	-0.7
KLR	Kul'dur	11.34	306	*i* PN	Pn	05 12 00.7	+5.5
KLR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KLR	Kul'dur	11.34	306	*e*P	Pn	05 11 57.7	+2.5
PEA0B	Petropavlovsk-	12.45	35	*i* PN	Pn	05 12 08.8	-1.2
PETK	Petropavlovsk-	12.45	35	P	Pn	05 12 08.1	-1.9
	comp=Z,2.4nm,0.7s,baz=224,slow=12,SNR=8.0						
MA2	Magadan	16.42	9	*i* P	P	05 13 05.9	+4.0
MA2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SEY	Seymchan	19.88	9	P	P	05 13 36.3	-3.5
	comp=Z,2.3nm,0.7s,baz=176,slow=9.0,SNR=4.6						
SEY	Seymchan	19.88	9	*i* P	Pn	05 13 43.6	+1.4
SEY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SEY	Seymchan	19.88	9	*e*P	Pn	05 13 43.6	+1.4
ULN	Ulaanbaatar	27.29	293	*i* P	P	05 14 56.2	+4.3
SONM	Songino Array	27.74	293	P	P	05 14 55.0	-0.8
	comp=Z,0.6nm,0.4s,baz=91,slow=8.3,SNR=4.4						
	comp=Z,0.6nm,0.4s						
H11N2	WAKE ISLAND Hy	29.50	137	T	T	05 46 14.9	
	baz=328,slow=76,SNR=220						
H11N1	WAKE ISLAND Hy	29.51	137	T	T	05 46 15.4	
	baz=328,slow=76,SNR=210						
H11N3	WAKE ISLAND Hy	29.52	137	T	T	05 46 16.3	
	baz=328,slow=76,SNR=193						
H11S1	WAKE ISLAND Hy	30.44	138	T	T	05 47 29.2	
	baz=329,slow=76,SNR=377						
H11S3	WAKE ISLAND Hy	30.44	138	T	T	05 47 31.2	
	baz=329,slow=76,SNR=259						
H11S2	WAKE ISLAND Hy	30.46	138	T	T	05 47 25.1	
	baz=329,slow=76,SNR=244						
SDPT	Sand Point	35.99	52	P	P	05 16 11.0	+3.2
	baz=274						
N16K	Nishlik Lake	36.83	43	P	P	05 16 14.9	+0.1
	baz=268						
O16K	Kokwok River B	37.15	44	P	P	05 16 18.0	+0.4
	baz=270						
O17K	Koliganek Bris	37.66	44	P	P	05 16 22.0	+0.1
	baz=271						
P17K	Kvichak River	38.01	45	P	P	05 16 25.8	+1.1
	baz=272						
TTA	Tatalina	38.24	39	P	P	05 16 26.1	-0.7
	baz=268						
N18K	Kilae Creek	38.26	43	P	P	05 16 27.5	+0.7
	baz=271						
P18K	Big Mountain,	38.62	45	P	P	05 16 29.9	-0.1
	baz=273						
L19K	White Mountain	38.76	40	P	P	05 16 31.4	+0.3
	baz=270						
M19K	Big River Lodg	38.98	41	P	P	05 16 33.1	+0.3
	baz=270						
J20K	Nowinta River	39.13	37	P	P	05 16 33.8	-0.3
J20K				IAmb	IAmb	05 16 35.1	
	comp=Z,5.3nm,0.8s						
J20K	Nowinta River	39.13	37	P	P	05 16 34.2	+0.1
	baz=268,SNR=5.1						
K20K	Telida	39.14	38	P	P	05 16 34.4	+0.1
	baz=269						
IMAR	Indian Mountai	39.41	34	P	P	05 16 35.8	-0.6
G21K	Allakaket	39.55	33	P	P	05 16 37.5	-0.1
	baz=266,SNR=5.5						
M20K	Styx River	39.57	41	P	P	05 16 37.9	0.0
	baz=272						
F21K	Alatna River	39.62	32	P	P	05 16 38.2	-0.1
	baz=265						
H21K	Melozitna Rive	39.78	35	P	P	05 16 39.1	-0.4
H21K				IAmb	IAmb	05 16 40.1	
	comp=Z,4.1nm,0.9s						
H21K	Melozitna Rive	39.78	35	P	P	05 16 39.3	-0.1
	baz=267						
OHAK	Old Harbor	39.82	48	P	P	05 16 38.8	-1.1
OHAK				IAmb	IAmb	05 16 56.7	
	comp=Z,8.1nm,1.1s						
PPLA	Purkeypile	39.99	39	P	P	05 16 41.0	-0.4
	baz=271						
CAST	Castle Rocks	40.03	38	P	P	05 16 41.9	+0.2
CAST	Castle Rocks	40.03	38	P	P	05 16 42.0	+0.3
	baz=271,SNR=5.6						
KDAK	Kodiak Island	40.13	47	P	P	05 16 41.6	-0.8
	comp=Z,5.1nm,0.6s,baz=298,slow=4.6,SNR=20						
	comp=Z,5.1nm,0.6s						
KDAK	Kodiak Island	40.13	47	P	P	05 16 41.1	-1.3
KDAK	Kodiak Island	40.13	47	P	P	05 16 41.2	-1.3
KDAK				pmax	pmax		
	comp=Z,14nm,1.1s						
KDAK	Kodiak Island	40.13	47	P	P	05 16 41.5	-0.9
	baz=277						
Q20K	Shuyak Island	40.14	46	P	P	05 16 41.4	-1.1
	baz=276						
F22K	John River	40.15	32	P	P	05 16 42.4	-0.1
	baz=266						
SKT	Skwentna	40.33	40	P	P	05 16 43.8	-0.3
SKT	Skwentna	40.33	40	P	P	05 16 43.9	-0.3
	baz=273						
E22K	Anaktuvuk Pass	40.34	31	P	P	05 16 43.6	-0.6
	baz=265						
H22K	Ishtalitna Cre	40.38	34	P	P	05 16 44.5	+0.1
	baz=268						
ZALV	Zelesovo Beam	40.44	307	P	P	05 16 43.9	-1.2
	comp=Z,0.5nm,0.3s,baz=70,slow=7.2,SNR=2.4						
	comp=Z,0.5nm,0.3s						
KTH	Kantishna Hill	40.55	38	P	P	05 16 46.0	0.0
KTH				IAmb	IAmb	05 16 47.2	
	comp=Z,4.7nm,0.8s						
MLY	Manley	40.62	36	P	P	05 16 46.3	-0.3
MLY				IAmb	IAmb	05 16 47.5	
	comp=Z,4.5nm,1.1s						
MLY	Manley	40.62	36	P	P	05 16 46.2	-0.3
	baz=270						
TRF	Thorofare Moun	40.84	38	P	P	05 16 47.8	-0.7
TRF				IAmb	IAmb	05 16 55.0	
	comp=Z,6.5nm,1.4s						
TRF	Thorofare Moun	40.84	38	P	P	05 16 48.2	-0.3
	baz=272						
COLD	Coldfoot	40.90	32	P	P	05 16 48.6	-0.1
	baz=268						
C23K	Itkillik River	40.94	28	P	P	05 16 48.3	-0.6
	baz=264						
G23K	Bananza Creek	40.95	33	P	P	05 16 48.9	-0.3
	baz=269						
H23K	Yukon River	41.13	34	P	P	05 16 50.8	+0.1
	baz=270,SNR=6.3						
TOLK	Toolik Lake Re	41.21	30	P	P	05 16 50.6	-0.6
TOLK				IAmb	IAmb	05 17 16.1	
	comp=Z,9.7nm,1.3s						
TOLK	Toolik Lake Re	41.21	30	P	P	05 16 50.7	-0.6
	baz=267						
RC01	Rabbit Creek A	41.24	42	P	P	05 16 51.0	-0.5
RC01				IAmb	IAmb	05 17 31.2	
	comp=Z,7.3nm,1.4s						
RC01	Rabbit Creek A	41.24	42	P	P	05 16 51.6	0.0
	baz=275						
NEA2	Nenana	41.34	36	P	P	05 16 52.1	-0.3
	baz=272						
MCK	McKinley	41.44	38	P	P	05 16 52.6	-0.6
	baz=273						
D24K	Happy Valley	41.51	29	P	P	05 16 52.8	-0.9
	baz=267						
E24K	Your Creek	41.59	31	P	P	05 16 53.9	-0.5
	baz=268						
C24K	Franklin Bluff	41.59	29	P	P	05 16 53.4	-0.9
	baz=266						
WAT1	Susitna Watana	41.66	39	P	P	05 16 54.0	-1.0
	baz=274						
MDM	Murphy Dome	41.69	36	P	P	05 16 55.2	0.0
MDM				IAmb	IAmb	05 16 56.0	
	comp=Z,4.8nm,0.7s						
F24K	Squaw Lake	41.80	32	P	P	05 16 55.2	-0.9
	baz=270						
H24K	Noodor Dome	41.81	34	P	P	05 16 56.4	+0.2
H24K				IAmb	IAmb	05 16 57.4	
	comp=Z,7.9nm,1.1s						
H24K	Noodor Dome	41.81	34	P	P	05 16 56.7	+0.4
	baz=272,SNR=6.2						
KNK	Knik Glacier	41.83	41	P	P	05 16 56.3	-0.1
	baz=276						
SML	Sawmill	41.85	40	P	P	05 16 56.2	-0.3
SML				IAmb	IAmb	05 16 57.1	
	comp=Z,4.9nm,0.6s						
SML	Sawmill	41.85	40	P	P	05 16 56.9	+0.3
	baz=276						
TCOL	CIGO, UAF Yank	41.85	36	P	P	05 16 57.0	+0.5
	baz=273						
COLA	College	41.86	36	P	P	05 16 56.9	+0.4
	baz=273						
PWL	Port Wells	41.95	42	P	P	05 16 57.8	+0.4
	baz=277						
G24K	Hadweenzic Riv	41.96	33	P	P	05 16 57.8	+0.4
	baz=271						
POKR	Poker Plat Res	42.02	35	P	P	05 16 58.1	+0.1
	baz=273						
WAT6	Susitna Watana	42.05	39	P	P	05 16 57.6	-0.8
	baz=275						
DHY	Denali Highway	42.18	39	P	P	05 16 58.7	-0.7
DHY	Denali Highway	42.18	39	P	P	05 16 58.6	-0.7
	baz=275						
HDA	Harding Lake	42.27	37	P	P	05 16 58.9	-1.0
HDA				IAmb	IAmb	05 16 59.7	
	comp=Z,7.9nm,1.2s						
HDA	Harding Lake	42.27	37	P	P	05 16 59.1	-0.8
	baz=274						
ILAR	Eielson Array	42.27	36	P	P	05 16 59.5	-0.5
	comp=Z,3.3nm,0.8s,baz=256,slow=5.4,SNR=27						
	comp=Z,3.3nm,0.8s						
D25K	Kavik River	42.39	29	P	P	05 17 00.3	-0.6
	baz=269						
P23K	Montague Islan	42.51	43	P	P	05 17 02.6	+0.7
	baz=278						
GLI	Glacier Island	42.54	42	P	P	05 17 01.9	-0.2
	baz=278						
H25K	Birch Creek	42.64	34	P	P	05 17 03.0	+0.1
	baz=273						
PRP	Porcupine Dome	42.80	35	P	P	05 17 04.3	-0.1
PRP	Porcupine Dome	42.80	35	P	P	05 17 04.1	-0.3
	baz=274,SNR=6.3						
M24K	Tolsona, Glenn	42.83	40	P	P	05 17 04.6	+0.1
	baz=277						
FYU	Fort Yukon	42.86	33	P	P	05 17 05.2	+0.5
J25K	Salcha River,	42.94	36	P	P	05 17 04.7	-0.6
	baz=275						
KLU	Klutina	43.03	41	P	P	05 17 05.1	-1.1
KLU	Klutina	43.03	41	P	P	05 17 06.0	-0.2
	baz=278						
F26K	Sheenjek River	43.23	32	P	P	05 17 07.2	-0.5
	baz=273						
EYAK	Cordova Ski Ar	43.25	42	P	P	05 17 07.8	0.0
	baz=279						
RIDG	Independent Ri	43.25	37	P	P	05 17 07.2	-0.7
	baz=276						
HARP	HAARP	43.27	39	P	P	05 17 07.8	-0.2
	baz=278						
C27K	Jago River	43.33	29	P	P	05 17 07.5	-0.9
	baz=271						
G26K	Porcupine Rive	43.41	33	P	P	05 17 09.1	0.0
	baz=274						
SCRK	Sand Creek	43.60	37	P	P	05 17 09.8	-1.0
SCRK	Sand Creek	43.60	37	P	P	05 17 09.7	-1.1
	baz=277						
N25K	Chitina, Valde	43.64	40	P	P	05 17 11.6	+0.6
	baz=279						
I26K	Coal Creek Min	43.81	35	P	P	05 17 11.7	-0.5
	baz=276						
MKAR	Makanchi Array	43.91	297	P	P	05 17 12.3	-1.1
	comp=Z,0.8nm,0.5s,baz=81,slow=8.2,SNR=7.2						
	comp=Z,0.8nm,0.5s						
MKAR	Makanchi Array	43.91	297	P	P	05 17 11.9	-1.4
L26K	Log Cabin Wild	44.01	38	P	P	05 17 14.4	+0.4
	baz=278						
M26K	Nabesna, AK	44.26	39	P	P	05 17 16.3	+0.3
M26K	Nabesna, AK	44.26	39	P	P	05 17 16.6	+0.6
	baz=279						
H27K	Steamboat Moun	44.38	34	P	P	05 17 17.6	+0.7
	baz=277						
I27K	Kandik River	44.41	34	P	P	05 17 17.9	+0.7
	baz=277						
K27K	Chicken	44.43	37	P	P	05 17 17.0	-0.2
K27K				IAmb	IAmb	05 17 18.4	
	comp=Z,12nm,1.4s						
K27K	Chicken	44.43	37	P	P	05 17 17.3	+0.1
	baz=278						
L27K	Beaver Creek,	44.69	38	P	P	05 17 19.5	+0.2
L27K				IAmb	IAmb	05 17 20.6	
	comp=Z,4.9nm,0.7s						
L27K	Beaver Creek,	44.69	38	P	P	05 17 19.7	+0.4
	baz=280,SNR=8.9						
BCAR	Beaver Creek A	44.70	38	P	P	05 17 19.4	-0.1
EGAK	Eagle	44.72	36	P	P	05 17 18.9	-0.6
	baz=278						
M27K	Edge Creek, AK	44.78	39	P	P	05 17 20.8	+0.5

INK	Inuvik	47.12	30	P		P	05 17 37.5	-0.8	
	comp=Z,1.3nm,0.4s,baz=306,slow=13,SNR=8.2								
	comp=Z,1.3nm,0.4s								
INK	Inuvik	47.12	30	P		P	05 17 37.8	-0.5	
	baz=282								
HYT	Haines Junctio	47.16	41	P		P	05 17 39.7	+0.8	
	baz=285,SNR=8.4								
P29M	Windy Craggy	47.36	42	P		P	05 17 41.5	+1.1	
P29M	Windy Craggy	47.36	42	P		P	05 17 41.5	+1.1	
	baz=286,SNR=8.0								
N31M	Braeburn, Yuko	47.79	39	P		P	05 17 44.9	+1.2	
	baz=286								
KRVT	Keravat (AS076	47.86	172	P		P	05 17 46.9	+2.2	
	comp=Z,27nm,0.7s,baz=18,slow=6.4,SNR=1.8								
PLBC	Pleasant Camp	48.08	42	P		P	05 17 46.8	+1.0	
	baz=287								
M31M	Drury Creek, Y	48.23	38	P		P	05 17 47.8	+0.8	
	baz=286								
FARO	Faro, Yukon	48.69	38	P		P	05 17 50.7	+0.1	
FARO				IAmb		IAmb	05 17 51.6		
	comp=Z,3.3nm,0.7s								
FARO	Faro, Yukon	48.69	38	P		P	05 17 50.9	+0.4	
	baz=287								
N32M	Quiet Lake	49.13	39	P		P	05 17 54.2	+0.2	
	baz=288								
P32M	Atlin	49.33	41	P		P	05 17 56.1	+0.6	
	baz=289								
R32K	Eaglecrest	49.36	43	P		P	05 17 56.7	+1.0	
	baz=290								
MMPY	Sheldon Lake,	49.50	37	P		P	05 17 57.0	+0.2	
	baz=288								
P33M	Teslin, Yukon	49.55	40	P		P	05 17 57.5	+0.3	
P33M	Teslin, Yukon	49.55	40	P		P	05 17 57.9	+0.7	
	baz=289								
R33M	Jennings River	50.71	41	P		P	05 18 07.1	+1.1	
	baz=291								
S34M	Telegraph Cree	51.17	43	P		P	05 18 10.6	+1.3	
	baz=292								
DLBC	Dease Lake	51.52	42	P		P	05 18 13.0	+0.9	
	baz=293								
T35M	Bob Quinn	51.97	44	P		P	05 18 17.0	+1.6	
	baz=294								
ABKAR	Akbulak array	56.53	308	P		P	05 18 47.1	-1.3	
YKA	Yellowknife Ar	56.56	33	P		P	05 18 47.9	-0.6	
	comp=Z,2.0nm,0.9s,baz=312,slow=5.7,SNR=4.2								
	comp=Z,2.0nm,0.9s								
FITZ	Fitzroy Crossi	64.00	201	P		P	05 19 40.4	+0.7	
	comp=Z,1.2nm,0.8s,baz=26,slow=9.6,SNR=1.9								
	comp=Z,1.2nm,0.8s								
FITZ	Fitzroy Crossi	64.00	201	P		P	05 19 40.2	+0.6	
SUMG	Summit	64.24	1	P		P	05 19 40.0	-1.1	
SUMG				IAmb		IAmb	05 19 42.8		
	comp=Z,5.5nm,1.0s								
SUMG	Summit	64.24	1	P		P	05 19 40.0	-1.1	
SUMG				pmax		pmax			
	comp=Z,6.0nm,1.0s								
FIA1	FINESS Array S	64.72	333	P		P	05 19 41.6	-2.2	
FINES	FINESS Array B	64.72	333	P		P	05 19 42.3	-1.6	
	comp=Z,7.1nm,0.5s,baz=44,slow=7.4,SNR=8.8								
	comp=Z,7.1nm,0.5s								
FINES	FINESS Array B	64.72	333	P		P	05 19 41.9	-1.9	
ASAR	Alice Springs	67.69	192	P		P	05 20 03.7	+0.4	
	comp=Z,1.0nm,0.6s,baz=7.7,slow=5.6,SNR=10								
	comp=Z,1.0nm,0.6s								
BOZ	Bozeman (W)	67.83	48	P		P	05 20 04.3	+0.1	
	baz=310								
NVAR	Mina Array Bea	68.52	57	P		P	05 20 07.8	-0.9	
	comp=Z,0.9nm,0.7s,baz=287,slow=6.1,SNR=8.9								
	comp=Z,0.9nm,0.7s								
NVAR	Mina Array Bea	68.52	57	P		P	05 20 09.1	+0.4	
MBWA	Marble Bar	68.64	206	P		P	05 20 09.8	+0.6	
NC405	NORSAR Array S	69.35	338	P		P	05 20 11.6	-1.6	
NB2	NORSAR Subarra	69.54	338	P		P	05 20 12.9	-1.6	
	comp=Z,1.6nm,0.7s,baz=32,slow=6.5								
NOA	NORSAR Array B	69.54	338	P		P	05 20 12.9	-1.6	
	comp=Z,2.5nm,0.7s,baz=33,slow=6.2,SNR=10.0								
	comp=Z,2.5nm,0.7s								
PDAR	Pinedale Array	70.81	49	P		P	05 20 22.5	-0.2	
	comp=Z,0.6nm,0.6s,baz=243,slow=1.9,SNR=10								
	comp=Z,0.6nm,0.6s								
PDAR	Pinedale Array	70.81	49	P		P	05 20 22.1	-0.7	
AKASG	Malin Array Be	71.27	323	P		P	05 20 24.2	-0.9	
	comp=Z,0.4nm,0.4s,baz=40,slow=5.5,SNR=2.0								
	comp=Z,0.4nm,0.4s								
TXAR	Lajitas Array	83.58	55	P		P	05 21 34.1	0.0	
	comp=Z,0.5nm,0.7s,baz=294,slow=4.6,SNR=9.5								
	comp=Z,0.5nm,0.7s								

*NOU **03** 05:11:30.4, 37.41S×179.88E, h102km, MLv4.8/7, Off E. Coast of N. Island, N.Z.*
*NEIC **03** 05:11:34.4±1.4, 37.50S±0.09×179.21E±0.07, h10km±2km, mb4.3/8, Error ellipse: s-maj=15.7km s-min=9.5km az=357.0*
*IDC **03** 05:11:35.1±1.8, 37.11S×178.83E, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=47.3km s-min=34.5km az=160.0*
*WEL **03** 05:11:36.6±1.2, 37°S±4°×17°9E±°, h14km±4km, M4.1/85, ML4.3/85, MLv4.1/85, Error ellipse: s-maj=0.0km s-min=0.0km az=74.1*

ISC 03 05:11:37.1±1.8, 37.44S±0.05×179.08E±0.07, h24km±12km, n154, σ1§21/158, mb4.3/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.62	258		Pb	05 11 48.3	-1.1
MXZ	Matakaoa Point	0.62	258	P	Pb	05 11 48.3	-1.1
MXZ				S	Sb	05 11 54.8	-3.0
WMGZ	Waiomatatini S	0.65	234	P	Pn	05 11 51.1	+0.3
WMGZ				S	Sn	05 12 00.4	+0.1
PUZ	Puketiti	0.91	225	P	Pb	05 11 55.0	+0.7
PUZ				S	Sn	05 12 07.1	+0.3
PKGZ	Pakihiroa	0.91	240	P	Pn	05 11 54.4	-0.2
PKGZ				S	Sb	05 12 05.6	-0.5
HAZ	Te Kaha	1.08	252	P	Pn	05 11 56.3	-0.4
HAZ				S	Sn	05 12 10.0	-0.9
TWGZ	Tauwhareparae	1.14	229	P	Pb	05 11 58.7	+0.5
TWGZ				S	Sb	05 12 14.1	+1.4
RUGZ	Raukumara Rang	1.23	244	P	Pn	05 11 59.4	+0.5
RUGZ				S	Sn	05 12 14.9	+0.1
CNGZ	Carnagh Statio	1.25	213	P	Pb	05 12 00.9	+0.9
CNGZ				S	Sb	05 12 19.0	+3.2
TKGZ	Te Karaka	1.40	224	P	Pn	05 12 01.6	+0.5
TKGZ				S	Sn	05 12 19.3	+0.5
WIZ	White Island	1.50	266	P	Pn	05 12 03.7	+1.1
MWZ	Matawai	1.52	233	P	Pn	05 12 03.3	+0.4
RIGZ	Rimuhau	1.64	219	P	Pn	05 12 05.2	+0.7
RAGZ	Rawiri	1.69	231	P	Pn	05 12 05.8	+0.6
WHRZ	Whale Island	1.72	255	P	Pn	05 12 06.6	+1.0
PRGZ	Paritu Road	1.76	212	P	Pn	05 12 06.8	+0.7
URZ	Urewera	1.76	242	Pn	Pn	05 12 06.8	+0.7
	131nm,0.3s,baz=211,slow=2.1,SNR=142						
URZ				Sn	Sn	05 12 27.7	-0.1
	218nm,0.3s,baz=31,slow=21,SNR=20						
URZ	Urewera	1.76	242	P	Pn	05 12 06.9	+0.8
URZ	Urewera	1.76	242	P	Pn	05 12 06.9	+0.8
SNGZ	Shannon Statio	1.92	225	P	Pn	05 12 08.6	+0.2
KNZ	Kokohu	1.93	214	P	Pn	05 12 08.4	-0.1
MHGZ	Mahia Peninsul	1.95	208	P	Pn	05 12 09.4	+0.7
EDRZ	Edgecumbe	1.97	249	P	Pn	05 12 09.8	+0.7
MARZ	Manawahe	1.98	253	P	Pn	05 12 09.8	+0.6
RTZ	Ruatahuna	2.03	234	P	Pn	05 12 10.9	+1.0
OPRZ	Ohinepanea	2.04	258	P	Pn	05 12 10.1	+0.1
MUGZ	Murupara	2.10	240	P	Pn	05 12 11.2	+0.4
RAHZ	Arahi	2.15	226	P	Pn	05 12 12.3	+0.7
MKRZ	Makatiti	2.18	250	P	Pn	05 12 13.4	+1.4
TARZ	Mount Tarawera	2.19	248	P	Pn	05 12 12.8	+0.8
WHHZ	Waihua	2.19	221	P	Pn	05 12 12.8	+0.8
RRRZ	Republican Roa	2.22	245	P	Pn	05 12 13.2	+0.8
OMRZ	Omania	2.25	252	P	Pn	05 12 13.4	+0.6
TGRZ	Tauranga	2.26	262	P	Pn	05 12 13.2	+0.3
MTHZ	Maungataniwha	2.26	231	P	Pn	05 12 13.9	+0.9
MYRZ	Mayor Island	2.27	273	P	Pn	05 12 13.1	0.0
HLRZ	Highlands Stat	2.31	248	P	Pn	05 12 14.7	+1.1
KARZ	Kaharoa	2.32	255	P	Pn	05 12 14.3	+0.4
PRRZ	Plateau Road	2.37	243	P	Pn	05 12 15.1	+0.5
NGRZ	Ngongotaha	2.38	253	P	Pn	05 12 16.1	+1.3
UTU	Utuhina	2.40	251	P	Pn	05 12 16.4	+1.5
HSRZ	Hossack Road	2.41	248	P	Pn	05 12 16.4	+1.4
HRRZ	Handcock Road	2.41	246	P	Pn	05 12 15.8	+0.7
ALRZ	Allen Road	2.44	242	P	Pn	05 12 15.9	+0.5
NMHZ	Naumai	2.44	226	P	Pn	05 12 16.3	+0.7
ARHZ	Aropaoanui	2.45	221	P	Pn	05 12 16.1	+0.5
GRRZ	Galatos Road	2.52	248	P	Pn	05 12 17.8	+1.2
MRHZ	Matea Rd	2.52	236	P	Pn	05 12 17.2	+0.5
KMRZ	Kaimai	2.52	260	P	Pn	05 12 17.0	+0.4
WPRZ	Whakapapatarin	2.54	244	P	Pn	05 12 17.8	+0.9
BKZ	Black Stump Fm	2.67	229		Pn	05 12 18.8	+0.2
BKZ	Black Stump Fm	2.67	229	P	Pn	05 12 19.1	+0.4
BKZ	Black Stump Fm	2.67	229	P	Pn	05 12 19.3	+0.6
CKHZ	Cape Kidnapper	2.72	215	P	Pn	05 12 19.1	-0.2
KUZ	Kuaotunu	2.77	283	P	Pn	05 12 18.4	-1.6
KUTZ	Kaahu Road	2.78	247	P	Pn	05 12 20.8	+0.7
TOZ	Tahuroa Road	2.85	263	P	Pn	05 12 21.2	+0.1
KWHZ	Kaweka Forest	2.88	226	P	Pn	05 12 21.5	-0.1
KAHZ	Kahuranaki	2.92	216	P	Pn	05 12 21.6	-0.5
WATZ	Wairara	2.93	243	P	Pn	05 12 23.5	+1.3
TLZ	Tolley Road	2.94	251	P	Pn	05 12 22.8	+0.5
RITZ	Rihia Road	2.97	238	P	Pn	05 12 23.4	+0.6
RATZ	Rangitukua	2.97	240	P	Pn	05 12 23.8	+1.0
KRHZ	Kereru	3.06	223	P	Pn	05 12 23.5	-0.5
KATZ	Kakaramea	3.08	239	P	Pn	05 12 25.1	+0.7
PXZ	Pawanui	3.12	213	P	Pn	05 12 23.8	-0.9
BHHZ	Black Hill Sta	3.13	228	P	Pn	05 12 25.0	0.0
GRZ	Great Barrier	3.13	291	P	Pn	05 12 24.0	-1.0
TMVZ	Te Maari	3.14	237	P	Pn	05 12 25.3	+0.1
MKAZ	Moumakai	3.14	275	P	Pn	05 12 24.2	-0.9
ETVZ	East Tongariro	3.15	236	P	Pn	05 12 25.4	+0.1
NTVZ	North Tongarir	3.15	237	P	Pn	05 12 25.5	+0.2
KRVZ	Karewarewa	3.17	237	P	Pn	05 12 25.7	+0.1
OTVZ	Oturere	3.19	236	P	Pn	05 12 26.2	+0.2
NNVZ	North Ngauruho	3.21	237	P	Pn	05 12 26.6	+0.4
WIAZ	Waiheke Island	3.22	280	P	Pn	05 12 25.3	-0.9
WTVZ	West Tongariro	3.22	238	P	Pn	05 12 26.6	+0.4
SNVZ	South Ngauruho	3.22	236	P	Pn	05 12 26.5	+0.2
NGZ	Ngamuhoe	3.24	236	P	Pn	05 12 26.7	+0.1
MOVZ	Moawhango	3.27	232	P	Pn	05 12 26.7	-0.3
TWVZ	Taurewa	3.30	239	P	Pn	05 12 27.7	+0.3
WHVZ	Whangaehu Hut	3.30	235	P	Pn	05 12 27.5	-0.1
FWVZ	Far West T-bar	3.31	236	P	Pn	05 12 27.8	+0.2
DRZ	Dome Shelter	3.32	235	P	Pn	05 12 28.2	+0.4
WNVZ	Wahianoa	3.32	234	P	Pn	05 12 27.6	-0.2
WPHZ	Waipukurau	3.34	217	P	Pn	05 12 27.0	-0.8
TRVZ	Turoa	3.34	235	P	Pn	05 12 28.1	0.0
PNHZ	Pukenui	3.34	221	P	Pn	05 12 26.7	-1.3
ETAZ	East Tamaki Re	3.35	277	P	Pn	05 12 27.6	-0.3
MBAZ	Motutapu North	3.41	280	P	Pn	05 12 28.3	-0.5
PRHZ	Porangahau	3.41	213	P	Pn	05 12 27.5	-1.3
MTVZ	Mangateitei	3.44	234	P	Pn	05 12 29.2	0.0
PKVZ	Pokaka	3.47	237	P	Pn	05 12 29.9	+0.3
ABAZ	Army Bay	3.50	283	P	Pn	05 12 29.7	-0.3
HIZ	Hauiti	3.50	251		Pn	05 12 31.3	+1.2
HIZ	Hauiti	3.50	251	P	Pn	05 12 31.3	+1.2
HIZ	Hauiti	3.50	251	P	Pn	05 12 31.3	+1.2
EPAZ	Eden Park BICE	3.51	278	P	Pn	05 12 31.8	+1.6
HBAZ	Herne Bay Bore	3.52	278	P	Pn	05 12 32.0	+1.7
AWAZ	Awhitu Peninsu	3.56	275	P	Pn	05 12 31.9	+1.1
TSZ	Takapari Road	3.58	222	P	Pn	05 12 29.7	-1.4
WTAZ	Waiatarua	3.63	277	P	Pn	05 12 32.9	+1.0
ANWZ	Angora Road	3.64	213	P	Pn	05 12 31.1	-0.9
DVHZ	Dannevirke	3.65	218	P	Pn	05 12 30.5	-1.6
RVAZ	Riverhead Bore	3.66	279	P	Pn	05 12 32.1	-0.1
BFZ	Birch Farm	3.92	213		Pn	05 12 33.9	-1.9
BFZ	Birch Farm	3.92	213	P	Pn	05 12 33.9	-1.9
POWZ	Post Office Ro	3.92	220	P	Pn	05 12 34.2	-1.6
PRWZ	Pori Road	3.94	217	P	Pn	05 12 35.1	-1.1
WAZ	Wanganui	3.95	233	P	Pn	05 12 36.9	+0.6
MHEZ	Mangahewa	4.08	245	P	Pn	05 12 41.6	+3.5
WCZ	Waipu Caves	4.08	290	P	Pn	05 12 37.7	-0.3
TIWZ	Tintock	4.16	216	P	Pn	05 12 39.6	-1.6
LREZ	Lake Rotokare	4.19	240	P	Pn	05 12 40.7	+1.2
DREZ	Durham Road	4.21	244	P	Pn	05 12 42.0	+2.1
PREZ	Palmer Road	4.31	242	P	Pn	05 12 43.4	+2.2
NEZ	North Egmont	4.32	243	P	Pn	05 12 43.3	+1.9
PKE	Pukeiti	4.37	245	P	Pn	05 12 44.5	+2.5
KHEZ	Kahui Hut	4.39	243	P	Pn	05 12 44.3	+1.9
NBEZ	Newall Road No	4.49	244	P	Pn	05 12 46.5	+3.0
NMEZ	Namu Road	4.54	243	P	Pn	05 12 46.9	+2.7
OUZ	Omahuta	4.95	295		Pn	05 12 49.7	-0.2
OUZ	Omahuta	4.95	295	P	Pn	05 12 50.3	+0.3
OUZ	Omahuta	4.95	295	P	Pn	05 12 50.2	+0.3
NNZ	Nelson	5.81	228	Pn	Pn	05 12 59.2	-2.6
GVZ	Greta Valley S	7.20	218	P	Pn	05 13 19.5	-1.4
GLKZ	Green Lake	8.53	18	P	Pn	05 13 43.3	+4.2
RPZ	Rata Peaks	8.75	222	Pn	Pn	05 13 39.2	-2.9
	1.8nm,0.3s,baz=26,slow=17,SNR=14						
RPZ				Sn	Sn	05 15 08.9	-11
	3.8nm,0.3s,baz=331,slow=19,SNR=10						
RPZ	Rata Peaks	8.75	222	P	Pn	05 13 39.5	-2.6
ODZ	Otahua Downs	9.90	217	P	Pn	05 13 55.3	-2.6
PYZ	Puysegur Point	12.70	223	P	Pn	05 14 34.4	-1.8
MARNC	Mare, Loyalty	18.56	326	P	P	05 15 49.3	-2.9
STKA	Stephens Creek	31.18	269	P	P	05 17 55.3	+0.9
	5.5nm,0.9s,baz=90,slow=10,SNR=5.1						
	5.5nm,0.9s						
STKA	Stephens Creek	31.18	269	P	P	05 17 55.5	+1.1
COEN	Coen	39.55	297	P	P	05 19 07.4	+1.0
AS31	Alice Springs	40.88	276	P	P	05 19 17.3	-0.1
AS31				IAmb	IAmb	05 19 17.9	
	comp=Z,1.7nm,0.6s						
ASAR	Alice Springs	40.88	276	P	P	05 19 16.9	-0.6
	comp=Z,4.5nm,0.7s,baz=122,slow=8.2,SNR=46						
	comp=Z,4.5nm,0.7s						
ASAR	Alice Springs	40.88	276	P	P	05 19 16.4	-1.0
WB2	Warramunga Arr	42.50	281	P	P	05 19 30.2	-0.5
WB2				IAmb	IAmb	05 19 31.0	
	comp=Z,10nm,1.3s						
WRA	Warramunga Arr	42.51	281	P	P	05 19 30.3	-0.5
	comp=Z,2.2nm,0.6s,baz=121,slow=7.8,SNR=29						
	comp=Z,2.2nm,0.6s						
WRA	Warramunga Arr	42.51	281	P	P	05 19 29.9	-0.8
MTN	Manton Dam	49.18	287	P	P	05 20 22.9	-0.5
KNRA	Kununurra	49.29	282	P	P	05 20 24.0	-0.3
FITZ	Fitzroy Crossi	50.36	277	P	P	05 20 31.5	-0.9
	comp=Z,1.4nm,0.6s,baz=150,slow=6.5,SNR=6.5						
	comp=Z,1.4nm,0.6s						
FITZ	Fitzroy Crossi	50.36	277	P	P	05 20 31.4	-1.1
FITZ				IAmb	IAmb	05 20 45.8	
	comp=Z,7.0nm,1.3s						
H03S2	Juan Fernandez	78.59	124	T	T	06 49 57.9	
	baz=240						
H03S1	Juan Fernandez	78.60	124	T	T	06 49 43.6	
	baz=240						
H03S3	Juan Fernandez	78.61	124	T	T	06 49 55.8	
	baz=240						
H03N3	Juan Fernandez	78.83	124	T	T	06 50 23.4	
	baz=235,slow=72						
H03N2	Juan Fernandez	78.83	124	T	T	06 50 22.7	
	baz=235,slow=72						
H03N1	Juan Fernandez	78.84	124	T	T	06 50 20.2	
	baz=235,slow=72						
ARCES	ARCESS Array B	144.82	344	PKP	PKPdf	05 31 11.5	+0.6
	comp=Z,1.3nm,0.7s,baz=36,slow=3.9,SNR=3.9						
DBIC	Dimbokro	149.17	172	PKPbc	PKPab	05 31 26.7	-1.6
	comp=Z,2.4nm,0.8s,baz=194,slow=4.2,SNR=2.1						
FINES	FINESS Array B	150.65	334	PKPbc	PKiKP	05 31 26.8	-0.1
	comp=Z,1.3nm,0.8s,baz=45,slow=6.1,SNR=4.5						

*IDC **03** 05:13:28.5±1.5, 24.87S×179.67E, h512km±17km, mb3.5/14, mbtmp4.4/17, Error ellipse: s-maj=17.0km s-min=13.9km az=175.0*
*NEIC **03** 05:13:28.6±1.9, 25.0S±0.1×179.8E±0.1, h512km±7km, mb4.2/19, Error ellipse: s-maj=19.4km s-min=15.6km az=169.0*

ISC 03 05:13:27.8±0.5, 24.91S±0.09×179.70E±0.09, h507km, n55, σ0§80/54, mb4.1/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.82	154	P	P	05 14 54.4	+1.0
	187nm,0.3s,baz=60,slow=24,SNR=4.7						
RAO	Raoul Island	4.82	154	P	P	05 14 53.6	+0.2
MSVF	Nonsavu	7.30	348	P	P	05 15 17.6	+0.2
	4.3nm,0.4s,baz=163,slow=14,SNR=8.2						
MSVF	Nonsavu	7.30	348	P	P	05 15 17.4	-0.1
MARNC	Mare, Loyalty	11.26	285	P	P	05 15 59.4	+0.8
PINNC	Pines Island,	11.46	279	P	P	05 16 02.8	+2.2
DZM	Mont Dzumac	12.49	280	P	P	05 16 12.1	+0.5
	6.8nm,0.8s,baz=190,slow=19,SNR=5.9						
CTA	Charters Tower	31.23	272	P	P	05 19 06.4	+0.9
	13nm,0.5s,baz=96,slow=10,SNR=32						
	13nm,0.5s						
CTAO	Charters Tower	31.23	272	P	P	05 19 06.1	+0.6
KRVT	Keravat (AS076	33.58	303	P	P	05 19 26.1	+0.6
	19nm,0.5s,baz=133,slow=2.9,SNR=1.9						
	19nm,0.5s						
STKA	Stephens Creek	34.11	249	P	P	05 19 30.5	+0.7
	2.5nm,0.4s,baz=98,slow=10,SNR=12						
	2.5nm,0.4s						
STKA	Stephens Creek	34.11	249	P	P	05 19 30.0	+0.2
COEN	Coen	36.02	281	P	P	05 19 46.1	+0.2
COEN				IAmb	IAmb	05 19 47.6	
	comp=Z,10nm,0.9s						
BBOO	Buckleboo	38.81	248	P	P	05 20 08.0	-0.6
AS31	Alice Springs	41.61	262	P	P	05 20 31.0	-0.3
ASAR	Alice Springs	41.61	262	P	P	05 20 31.2	0.0
	comp=Z,2.0nm,0.4s,baz=94,slow=7.3,SNR=28						
	comp=Z,2.0nm,0.4s						
ASAR	Alice Springs	41.61	262	P	P	05 20 31.1	-0.2
WR0	Warramunga Arr	41.89	267	P	P	05 20 32.5	-1.0
WR0				IAmb	IAmb	05 20 33.7	
	comp=Z,9.1nm,1.2s						
WRA	Warramunga Arr	42.08	267	P	P	05 20 34.4	-0.6
	comp=Z,7.2nm,0.5s,baz=99,slow=7.2,SNR=94						
	comp=Z,7.2nm,0.5s						
WRA	Warramunga Arr	42.08	267	P	P	05 20 34.7	-0.3
FORT	Forrest	45.71	251	P	P	05 21 02.1	-0.9
WRKA	Warakurna	46.36	258	P	P	05 21 07.8	-0.3
KNRA	Kununurra	48.42	271	P	P	05 21 23.6	0.0
FITZ	Fitzroy Crossi	50.49	267	P	P	05 21 39.0	+0.1
	comp=Z,7.7nm,0.8s,baz=126,slow=8.5,SNR=13						
	comp=Z,7.7nm,0.8s						
FITZ	Fitzroy Crossi	50.49	267	P	P	05 21 38.6	-0.3
FITZ				IAmb	IAmb	05 21 40.4	
	comp=Z,6.7nm,0.8s						
KLBR	Kellerberrin	54.36	248	P	P	05 22 05.9	-0.6
PSA00	Pilbara Seismi	54.72	260	P	P	05 22 16.4	+7.2
BLDU	Ballidu	55.41	249	P	P	05 22 13.3	-0.6
MORW	Morawa	56.28	251	P	P	05 22 19.4	-0.5
MORW				IAmb	IAmb	05 22 44.7	
	comp=Z,24nm,1.4s						
MORW	Morawa	56.28	251	P	P	05 22 19.5	-0.5
QSPA	South Pole Qui	65.18	180	P	P	05 23 18.7	+0.5
	comp=Z,2.9nm,0.9s,baz=24,slow=10.0,SNR=7.8						
	comp=Z,2.9nm,0.9s						
QSPA	South Pole Qui	65.18	180	P	P	05 23 18.4	+0.2
QSPA				IAmb	IAmb	05 23 20.0	
	comp=Z,6.2nm,1.2s						
MJAR	Matsushiro Arr	72.58	326	P	P	05 24 02.0	-1.1
	comp=Z,1.2nm,0.6s,baz=147,slow=7.8,SNR=4.2						
	comp=Z,1.2nm,0.6s						
BELA	Belgrano 2	75.47	173	P	P	05 24 18.4	-0.6
PETK	Petropavlovsk-	80.01	347	P	P	05 24 43.4	-0.3
	comp=Z,1.4nm,0.9s,baz=107,slow=7.7,SNR=3.6						
	comp=Z,1.4nm,0.9s						
TROLL	Troll, Antarti	83.32	181	P	P	05 25 00.1	-0.7
SLBS	Sierra La Lagu	83.53	60	P	P	05 25 03.7	+1.2
SLBS				IAmb	IAmb	05 25 16.3	
	comp=Z,11nm,1.2s						
SNAA	Sanae	83.67	179	P	P	05 25 00.5	-1.9
SNAA	Sanae	83.67	179	P	P	05 25 01.3	-1.0
SNAA				IAmb	IAmb	05 25 37.4	
	comp=Z,4.9nm,1.3s						
VNA3	Neumayer Olymp	83.89	177	P	P	05 25 02.6	-0.8
VNA2	Neumayer--Watz	84.30	178	P	P	05 25 04.5	-0.9
	baz=179,slow=6.0						
VNA1	Neumayer--Stat	84.54	177	P	P	05 25 06.1	-0.5
NVAR	Mina Array Bea	85.66	44	P	P	05 25 12.8	0.0
	comp=Z,0.9nm,0.7s,baz=218,slow=6.8,SNR=8.4						
	comp=Z,0.9nm,0.7s						
O18K	Koktuh Hills	86.93	12	P	P	05 25 17.1	-0.9
CNPM	China Poot	87.47	14	P	P	05 25 20.2	-0.3
CNPM				IAmb	IAmb	05 26 02.6	
	comp=Z,5.9nm,1.2s						
PLCA	Paso Flores	87.76	134	P	P	05 25 23.7	+1.0
	comp=Z,1.4nm,1.0s,baz=198,slow=3.2,SNR=2.0						
	comp=Z,1.4nm,1.0s						
I07A	Izee	88.34	39	P	P	05 25 25.8	+0.6
I07A				IAmb	IAmb	05 25 26.8	
	comp=Z,2.1nm,0.8s						
CMAR	Chiang Mai Arr

NNVZ	**North Ngauruho**	**3.32 234**	P	Pn	05 16 41.1	+0.1
WTVZ	**West Tongariro**	**3.33 235**	P	Pn	05 16 41.2	+0.2
SNVZ	**South Ngauruho**	**3.34 233**	P	Pn	05 16 41.2	0.0
ETAZ	**East Tamaki Re**	**3.34 274**	P	Pn	05 16 40.4	-0.6
NGZ	**Ngauruhoe**	**3.36 234**	P	Pn	05 16 41.5	0.0
TUVZ	**Tukino**	**3.38 232**	P	Pn	05 16 41.6	-0.1
MBAZ	**Motutapu North**	**3.39 277**	P	Pn	05 16 41.1	-0.6
MOVZ	**Moawhango**	**3.40 230**	P	Pn	05 16 41.2	-0.7
TWVZ	**Taurewa**	**3.41 237**	P	Pn	05 16 42.5	+0.5
WHVZ	**Whangaehu Hut**	**3.42 232**	P	Pn	05 16 42.1	-0.3
FWVZ	**Far West T-bar**	**3.43 233**	P	Pn	05 16 42.6	+0.1
WNVZ	**Wahianoa**	**3.44 232**	P	Pn	05 16 42.3	-0.3
ABAZ	**Army Bay**	**3.47 279**	P	Pn	05 16 44.1	+1.3
PNHZ	**Pukenui**	**3.50 219**	P	Pn	05 16 41.9	-1.3
WPHZ	**Waipukurau**	**3.50 216**	P	Pn	05 16 42.0	-1.2
AWAZ	**Awhitu Peninsu**	**3.56 272**	P	Pn	05 16 44.0	-0.1
MTVZ	**Mangateitei**	**3.56 232**	P	Pn	05 16 44.1	-0.1
PRHZ	**Porangahau**	**3.58 212**	P	Pn	05 16 42.8	-1.5
HIZ	**Hauiti**	**3.58 248**	P	Pn	05 16 45.8	+1.4
PKVZ	**Pokaka**	**3.58 234**	P	Pn	05 16 44.8	+0.3
WTAZ	**Waiatarua**	**3.62 274**	P	Pn	05 16 46.4	+1.5
RVAZ	**Riverhead Bore**	**3.64 276**	P	Pn	05 16 44.8	-0.4
TSZ	**Takapari Road**	**3.73 220**	P	Pn	05 16 44.4	-2.0
DVHZ	**Dannevirke**	**3.81 216**	P	Pn	05 16 45.9	-1.7
WCZ	**Waipu Caves**	**4.03 287**	P	Pn	05 16 50.5	-0.1
WAZ	**Wanganui**	**4.08 231**	P	Pn	05 16 51.6	+0.3
BFZ	**Birch Farm**	**4.09 212**	P	Pn	05 16 48.7	-2.6
PRWZ	**Pori Road**	**4.11 215**	P	Pn	05 16 50.0	-1.6
TIWZ	**Tintock**	**4.32 214**	P	Pn	05 16 52.7	-1.9
PREZ	**Palmer Road**	**4.41 240**	P	Pn	05 16 56.6	+0.8
NEZ	**North Egmont**	**4.42 241**	P	Pn	05 16 58.0	+2.0
PKE	**Pukeiti**	**4.46 243**	P	Pn	05 16 59.4	+2.9
KHEZ	**Kahui Hut**	**4.49 241**	P	Pn	05 16 59.1	+2.2
OUZ	**Omahuta**	**4.88 293**	P	Pn	05 17 02.7	+0.5
CTZ	**Chatham Island**	**7.26 155**	P	Pn	05 17 39.1	+4.2

ROM 03 05:16:21.0±0.1,**42°941N**±0.006×**13°261E**±0.005,
h10km,**ML2.0**/15,**8C-7D,Error ellipse: s-maj=0.7km
s-min=0.4km az=8.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.06**	**242**	P	Pg	05 16 23.5	+0.3
MC2				S	Sg	05 16 24.8	-0.1
T1242	**Castelluccio d**	**0.12**	**201**	P	Pg	05 16 24.4	+0.5
T1242				S	Sg	05 16 26.4	+0.4
T1242				AML	AML		
	comp=E,4185μm,0.5s						
T1242				AML	AML		
	comp=E,4155μm,0.5s						
T1242				AML	AML		
	comp=N,2755μm,0.4s						
T1242				AML	AML		
	comp=N,2740μm,0.4s						
GUMA	**Gualdo di Mace**	**0.13**	**24** ⇑	P	Pg	05 16 25.6	+1.5
GUMA				AML	AML		
	comp=E,2790μm,1.1s						
GUMA				AML	AML		
	comp=N,3190μm,0.4s						
GUMA				AML	AML		
	comp=E,3810μm,0.2s						
GUMA				AML	AML		
	comp=N,3045μm,0.4s						
T1241	**Roccafluvione,**	**0.15**	**124** ⇓	P	Pg	05 16 25.1	+0.8
T1241				S	Sg	05 16 27.7	+1.1
T1241				AML	AML		
	comp=E,1455μm,0.7s						
T1241				AML	AML		
	comp=N,980μm,1.5s						
T1241				AML	AML		
	comp=N,934μm,1.5s						
T1241				AML	AML		
	comp=E,1410μm,0.7s						
NRCA	**Norcia**	**0.15**	**225** ⇓	P	Pg	05 16 24.9	+0.5
NRCA				AML	AML		
	comp=E,1900μm,0.1s						
NRCA				AML	AML		
	comp=N,1385μm,0.4s						
NRCA				AML	AML		
	comp=E,2075μm,0.1s						
NRCA				AML	AML		
	comp=N,1395μm,0.4s						
NRCA				AML	AML		
	comp=N,3195μm,0.7s						
NRCA				AML	AML		
	comp=E,4620μm,0.2s						
NRCA				AML	AML		
	comp=N,3060μm,0.7s						
NRCA				AML	AML		
	comp=E,4230μm,0.2s						
CSP1	**Cessapalombo**	**0.16**	**345** ⇓	P	Pg	05 16 25.6	+1.1
T1244	**Arquata del Tr**	**0.19**	**172**	P	Pg	05 16 25.8	+0.8
T1244				S	Sg	05 16 29.0	+1.4
T1244				AML	AML		
	comp=E,1945μm,0.2s						
T1244				AML	AML		
	comp=N,1480μm,0.6s						
T1244				AML	AML		
	comp=E,1905μm,0.2s						
T1244				AML	AML		
	comp=N,1550μm,0.6s						
T1202	**Accumoli, Fraz**	**0.24**	**186**	P	Pg	05 16 26.6	+0.7
T1202				S	Sg	05 16 31.0	+1.8
T1202				AML	AML		
	comp=E,390μm,0.7s						
T1202				AML	AML		
	comp=N,524μm,1.6s						
T1202				AML	AML		
	comp=N,1458μm,0.2s						
T1202				AML	AML		
	comp=E,1177μm,1.0s						
T1204	**Amatrice, Fraz**	**0.27**	**171**	P	Pg	05 16 27.1	+0.7
T1204				S	Sb	05 16 31.5	-1.2
CESI	**CESI - Serrava**	**0.27**	**284**	P	Pb	05 16 27.5	-0.5
CESI				AML	AML		
	comp=E,286μm,1.3s						
CESI				AML	AML		
	comp=N,516μm,0.3s						
CESI				AML	AML		
	comp=N,1570μm,0.3s						
CESI				AML	AML		
	comp=E,716μm,0.3s						
T1243	**Rocca Santa Ma**	**0.28**	**150** ⇓	P	Pg	05 16 27.2	+0.5
T1243				S	Sb	05 16 31.8	-1.2
OFFI	**Offida**	**0.31**	**91** ⇑	P	Pb	05 16 29.4	+0.7
OFFI				AML	AML		
	comp=E,465μm,1.3s						
OFFI				AML	AML		
	comp=N,640μm,0.6s						
SMA1	**SAN MARTINO**	**0.32**	**170**	P	Pg	05 16 27.9	+0.6
SMA1				AML	AML		
	comp=E,412μm,0.6s						
SMA1				AML	AML		
	comp=N,438μm,0.2s						
T1215	**Vallo di Nera,**	**0.32**	**244** ⇑	P	Pb	05 16 28.1	-0.7
LNSS	**Leonessa**	**0.38**	**206**	P	Pg	05 16 29.0	+0.6
LNSS				S	Sb	05 16 35.1	-0.6
LNSS				AML	AML		
	comp=E,214μm,0.3s						
LNSS				AML	AML		
	comp=N,251μm,0.1s						
LNSS				AML	AML		
	comp=E,638μm,0.4s						
LNSS				AML	AML		
	comp=N,661μm,0.4s						
SNTG	**Esanatoglia**	**0.39**	**323**	P	Pb	05 16 29.9	-0.2
SNTG				AML	AML		
	comp=E,188μm,0.6s						
SNTG				AML	AML		
	comp=N,224μm,0.1s						
TERO	**Teramo**	**0.41**	**141** ⇓	P	Pg	05 16 29.4	+0.4
TERO				AML	AML		
	comp=E,222μm,0.7s						
TERO				AML	AML		
	comp=N,208μm,0.5s						
CAMP	**Campotosto**	**0.42**	**165** ⇓	P	Pg	05 16 29.6	+0.4
CAMP				AML	AML		
	comp=E,281μm,0.3s						
CAMP				AML	AML		
	comp=N,134μm,0.7s						
RM33	**Pellescritta (**	**0.43**	**185** ⇓	P	Pb	05 16 30.3	-0.5
RM33				AML	AML		
	comp=E,101μm,0.7s						
RM33				AML	AML		
	comp=N,75μm,0.8s						
RM33				AML	AML		
	comp=E,226μm,1.6s						
RM33				AML	AML		
	comp=N,219μm,0.8s						
CING	**Cingoli**	**0.44**	**354**	P	Pb	05 16 31.1	+0.3
CING				AML	AML		
	comp=N,114μm,0.1s						
CING				AML	AML		
	comp=E,140μm,0.3s						
ASSB	**Assisi San Ben**	**0.45**	**283** ⇑	P	Pb	05 16 30.6	-0.5
ASSB				AML	AML		
	comp=E,328μm,1.6s						
ASSB				AML	AML		
	comp=N,375μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.52**	**298** ⇑	P	Pb	05 16 32.0	-0.2
GIGS	**Gran Sasso**	**0.54**	**155** ⇑	P	Pg	05 16 31.8	+0.3
GIGS				AML	AML		
	comp=E,23μm,0.1s						
GIGS				AML	AML		
	comp=N,37μm,0.2s						
GIGS				AML	AML		
	comp=E,94μm,0.2s						
GIGS				AML	AML		
	comp=N,108μm,0.2s						
VCEL	**Villa Celiera**	**0.69**	**142** ⇑	P	Pb	05 16 35.0	-0.2
VCEL				AML	AML		
	comp=E,92μm,0.5s						
VCEL				AML	AML		
	comp=N,117μm,0.8s						
T0110	**Collepietro**	**0.81**	**152**	P	Pg	05 16 36.6	+0.1
T0110				AML	AML		
	comp=E,109μm,0.4s						
T0110				AML	AML		
	comp=N,86μm,1.2s						
APEC	**Apecchio**	**0.87**	**315** ⇑	P	Pn	05 16 41.2	+1.8

*NEIC **03** 05:16:58.9±1.4,37°.50S±0°.10×179°.18E±0°.06,h10km±2km,
mb4.4/11,Error ellipse: s-maj=16.1km s-min=8.4km
az=354.0*
*IDC **03** 05:16:59.7±1.0,37°.26S×178°.80E,h0km,mb4.2/7,
mbtmp4.2/7,MS3.5/1,Error ellipse: s-maj=31.5km
s-min=21.5km az=25.0*

ISC 03 05:16:59.8±0.9,**37°49S**±0°.09×**179°04E**±0°.09,**h10**km,**n42,
σ1s48°/39,mb4.3**/12,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.59**	**262**		**Pg**	**05 17 12.3**	**+1.0**
URZ	**Urewera**	**1.71**	**243**	Pn	**Pb**	**05 17 31.2**	**-0.2**
	85nm,0.3s,baz=31,slow=9.4,SNR=14						
URZ				Sn	**Sn**	**05 17 51.3**	**-0.4**
	158nm,0.3s,baz=31,slow=19,SNR=18						
URZ	**Urewera**	**1.71**	**243**	Pn	**Pn**	**05 17 30.3**	**+0.5**
BKZ	**Black Stump Fm**	**2.62**	**229**	Pn	**Pn**	**05 17 42.9**	**+0.7**
HIZ	**Hauiti**	**3.46**	**252**		**Pn**	**05 17 55.0**	**+1.2**
BFZ	**Birch Farm**	**3.86**	**213**		**Pn**	**05 17 58.4**	**-0.9**
OUZ	**Omahuta**	**4.94**	**296**		**Pn**	**05 18 14.3**	**+0.1**
THZ	**Tophouse**	**6.38**	**226**		**Pn**	**05 18 31.4**	**-2.5**
KHZ	**Kahutara**	**6.49**	**219**		**Pn**	**05 18 32.4**	**-2.9**
RPZ	**Rata Peaks**	**8.69**	**222**	Pn	**Pn**	**05 19 03.2**	**-2.4**
	1.3nm,0.3s,baz=357,slow=19,SNR=6.6						
RPZ				Sn	Sn	05 20 32.0	-12
	2.0nm,0.3s,baz=75,slow=19,SNR=2.4						
WHZ	**Wether Hill Ro**	**11.79**	**221**	Pn	**Pn**	**05 19 49.1**	**+1.0**
RAR	**Rarotonga**	**24.49**	**54**	LR	LR	05 29 25.2	
	comp=Z,119nm,19.9s,baz=212,slow=30						
TAU	**Tasmania Unive**	**24.74**	**247**	P	**P**	**05 22 21.2**	**-0.1**
TAU				IAmb	IAmb	05 22 22.6	
	comp=Z,28nm,1.4s						
TOO	**Toolangi**	**26.53**	**259**	P	**P**	**05 22 38.1**	**+0.3**
TOO				IAmb	IAmb	05 23 07.0	
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**31.16**	**269**	P	**P**	**05 23 19.2**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=120,slow=11,SNR=4.4						
	comp=Z,3.8nm,0.8s						
STKA	**Stephens Creek**	**31.16**	**269**	P	**P**	**05 23 18.9**	**0.0**
CTA	**Charters Tower**	**33.34**	**292**	P	**P**	**05 23 38.8**	**+0.6**
	comp=Z,5.2nm,1.1s,baz=117,slow=6.8,SNR=1.8						
	comp=Z,5.2nm,1.1s						
CTAO	**Charters Tower**	**33.34**	**292**	P	**P**	**05 23 38.7**	**+0.6**
COEN	**Coen**	**39.55**	**297**	P	**P**	**05 24 30.7**	**-0.5**
COEN				IAmb	IAmb	05 24 38.8	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**40.86**	**277**	P	**P**	**05 24 40.7**	**-1.3**
AS31				IAmb	IAmb	05 24 41.9	
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**40.86**	**277**	P	**P**	**05 24 41.4**	**-0.6**
	comp=Z,4.6nm,0.7s,baz=123,slow=8.4,SNR=31						
	comp=Z,4.6nm,0.7s						
ASAR	**Alice Springs**	**40.86**	**277**	P	**P**	**05 24 40.8**	**-1.2**
WRAB	**Tennant Creek**	**42.49**	**282**	P	**P**	**05 24 54.1**	**-1.3**
WRAB				IAmb	IAmb	05 25 25.1	
	comp=Z,8.7nm,1.2s						
WRA	**Warramunga Arr**	**42.49**	**282**	P	**P**	**05 24 54.3**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=124,slow=7.6,SNR=12						
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**42.49**	**282**	P	**P**	**05 24 54.2**	**-1.2**
MTN	**Manton Dam**	**49.17**	**287**	P	**P**	**05 25 47.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**50.34**	**277**	P	**P**	**05 25 55.9**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=133,slow=9.5,SNR=4.1						
	comp=Z,2.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.34**	**277**	P	**P**	**05 25 56.1**	**-1.0**
FITZ				IAmb	IAmb	05 26 03.8	
	comp=Z,7.2nm,1.2s						
QSPA	**South Pole Qui**	**52.64**	**180**	P	**P**	**05 26 16.6**	**+2.7**
	comp=Z,1.6nm,0.9s,baz=356,slow=2.3,SNR=3.0						
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**52.64**	**180**	P	**P**	**05 26 13.3**	**-0.6**
QSPA				IAmb	IAmb	05 26 51.1	
	comp=Z,3.7nm,1.0s						
TROLL	**Troll, Antarti**	**70.78**	**181**	P	**P**	**05 28 18.5**	**+2.5**
VNA3	**Neumayer Olymp**	**71.39**	**177**	P	**P**	**05 28 21.9**	**+2.3**
VNA2	**Neumayer--Watz**	**71.79**	**178**	P	**P**	**05 28 24.9**	**+2.9**
	baz=180,slow=7.0						
H03N3	**Juan Fernandez**	**78.82**	**124**	T	T	06 55 40.4	
	baz=234						
H03N2	**Juan Fernandez**	**78.82**	**124**	T	T	06 55 42.6	
	baz=234						
H03N1	**Juan Fernandez**	**78.84**	**124**	T	T	06 55 35.9	
	baz=234						
PLCA	**Paso Flores**	**79.45**	**134**	P	P	05 29 10.5	+4.0
	comp=Z,1.2nm,0.8s,baz=231,slow=9.4,SNR=5.3						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**144.86**	**344**	PKP	**PKPdf**	**05 36 35.8**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=46,slow=2.6,SNR=4.8						
DBIC	**Dimbokro**	**149.12**	**172**	PKPbc	**PKPab**	**05 36 50.8**	**-2.3**
	comp=Z,2.2nm,0.6s,baz=180,slow=3.0,SNR=2.3						
FINES	**FINESS Array B**	**150.68**	**334**	PKPbc	**PKiKP**	**05 36 51.7**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=66,slow=3.4,SNR=5.1						
FINES				PKPab	**pPKPab**	**05 36 59.4**	**-1.9**
	comp=Z,4.7nm,1.0s,baz=106,slow=4.5,SNR=5.6						
BRTR	**Keskin Array B**	**152.97**	**286**	PKPab	**PKPab**	**05 37 07.5**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=123,slow=4.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**155.65**	**186**	PKPab	**PKPab**	**05 37 21.6**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=180,slow=4.7,SNR=5.6						

ROM 03 05:17:03.0±0.0,**42°918N**±0°.002×**13°249E**±0°.004,
h9km,**ML2.1**/25,**3C-1D,Error ellipse: s-maj=0.3km
s-min=0.1km az=246.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.04**	**263**	P	Pg	05 17 05.1	0.0
MC2				S	Sg	05 17 06.3	-0.4
T1242	**Castelluccio d**	**0.10**	**200** ⇑	P	Pg	05 17 06.0	+0.4
T1242				S	Sg	05 17 07.9	+0.5
T1242				AML	AML		
	comp=E,4155μm,0.5s						
T1242				AML	AML		
	comp=E,4185μm,0.5s						
T1242				AML	AML		
	comp=E,4150μm,0.5s						
T1242				AML	AML		
	comp=N,2740μm,0.4s						
T1242				AML	AML		
	comp=N,2755μm,0.4s						
NRCA	**Norcia**	**0.13**	**229**	P	Pg	05 17 06.6	+0.5
NRCA				S	Sg	05 17 09.1	+0.9
NRCA				AML	AML		
	comp=N,3055μm,0.7s						
NRCA				AML	AML		
	comp=E,4230μm,0.2s						
NRCA				AML	AML		
	comp=N,3055μm,0.7s						
NRCA				AML	AML		
	comp=E,4620μm,0.2s						
NRCA				AML	AML		
	comp=N,3190μm,0.7s						
NRCA				AML	AML		
	comp=E,4235μm,0.2s						
NRCA				AML	AML		
	comp=N,3060μm,0.7s						
NRCA				AML	AML		
	comp=N,3195μm,0.7s						
T1241	**Roccafluvione,**	**0.15**	**115**	P	Pg	05 17 06.7	+0.4
T1241				S	Sg	05 17 09.3	+0.7
T1241				AML	AML		
	comp=E,1455μm,0.7s						
T1241				AML	AML		
	comp=N,979μm,1.5s						
T1241				AML	AML		
	comp=N,934μm,1.5s						
T1241				AML	AML		
	comp=E,1455μm,0.7s						
T1241				AML	AML		
	comp=N,980μm,1.5s						
T1241				AML	AML		
	comp=N,934μm,1.5s						
T1241				AML	AML		
	comp=E,1410μm,0.7s						
FEMA	**Monte Fema**	**0.15**	**287**	P	Pg	05 17 07.0	+0.5
FEMA				S	Sg	05 17 09.8	+1.0
GUMA	**Gualdo di Mace**	**0.16**	**24** ⇑	P	Pg	05 17 07.2	+0.7
GUMA				S	Sg	05 17 10.2	+1.3
GUMA				AML	AML		
	comp=N,3190μm,0.4s						
GUMA				AML	AML		
	comp=E,3810μm,0.2s						
GUMA				AML	AML		
	comp=N,3045μm,0.4s						
GUMA				AML	AML		
	comp=E,2785μm,1.1s						
T1244	**Arquata del Tr**	**0.17**	**167**	P	Pg	05 17 07.3	+0.7
T1244				S	Sg	05 17 10.5	+1.4
FDMO	**Fiordimonte**	**0.17**	**315** ⇑	P	Pg	05 17 07.0	+0.4
FDMO				S	Sg	05 17 09.8	+0.6
FDMO				AML	AML		
	comp=N,1102μm,0.2s						
FDMO				AML	AML		
	comp=E,957μm,0.8s						
CSP1	**Cessapalombo**	**0.18**	**349**	P	Pg	05 17 07.2	+0.4
CSP1				S	Sg	05 17 10.4	+0.9
CSP1				AML	AML		
	comp=E,698μm,0.6s						
CSP1				AML	AML		
	comp=N,1109μm,0.4s						
CSP1				AML	AML		
	comp=N,1108μm,0.4s						
CSP1				AML	AML		
	comp=E,700μm,0.6s						
T1202	**Accumoli, Fraz**	**0.21**	**185**	P	Pg	05 17 08.3	+0.8
T1202				S	Sg	05 17 12.5	+1.9
T1204	**Amatrice, Fraz**	**0.25**	**168**	P	Pg	05 17 08.7	+0.6
T1204				S	Sg	05 17 13.1	+1.6
T1204				AML	AML		
	comp=E,872μm,0.2s						
T1204				AML	AML		
	comp=N,532μm,0.8s						
T1204				AML	AML		
	comp=N,532μm,0.8s						
T1204				AML	AML		
	comp=E,870μm,0.2s						
T1201	**Domo (RI)**	**0.26**	**180**	P	Pb	05 17 09.2	-0.8
T1243	**Rocca Santa Ma**	**0.27**	**146**	P	Pg	05 17 08.8	+0.4
T1243				S	Sb	05 17 13.4	-1.3
CESI	**CESI - Serrava**	**0.27**	**289**	P	Pg	05 17 09.0	+0.6
CESI				S	Sb	05 17 13.6	-1.1
CESI				AML	AML		
	comp=N,1570μm,0.3s						
CESI				AML	AML		
	comp=E,716μm,0.3s						
CESI				AML	AML		
	comp=E,716μm,0.3s						
MNTP	**Montappone**	**0.27**	**36**	P	Pb	05 17 09.6	-0.4
T1215	**Vallo di Nera,**	**0.30**	**248**	P	Pg	05 17 09.7	+0.6
T1215				S	Sb	05 17 14.8	-0.9
OFFI	**Offida**	**0.32**	**87**	P	Pb	05 17 10.9	0.0
OFFI				AML	AML		
	comp=E,465μm,1.3s						
OFFI				AML	AML		
	comp=N,640μm,0.6s						
LNSS	**Leonessa**	**0.35**	**206**	P	Pg	05 17 10.5	+0.5
LNSS				S	Sb	05 17 16.7	-0.4
LNSS				AML	AML		
	comp=E,638μm,0.4s						
LNSS				AML	AML		
	comp=N,661μm,0.4s						
LNSS				AML	AML		
	comp=E,638μm,0.4s						
TERO	**Teramo**	**0.40**	**138**	P	Pg	05 17 10.9	+0.1
TERO				S	Sb	05 17 17.4	-1.0
TERO				AML	AML		
	comp=E,222μm,0.7s						
TERO				AML	AML		
	comp=N,208μm,0.5s						
CAMP	**Campotosto**	**0.40**	**163**	P	Pg	05 17 11.1	+0.2
CAMP				S	Sb	05 17 17.6	-0.9
CAMP				AML	AML		
	comp=E,281μm,0.3s						
CAMP				AML	AML		
	comp=N,134μm,0.7s						
SNTG	**Esanatoglia**	**0.41**	**326**	P	Pg	05 17 11.2	+0.2
SNTG				S	Sb	05 17 18.1	-0.6
SNTG				AML	AML		
	comp=E,188μm,0.6s						
SNTG				AML	AML		
	comp=N,224μm,0.1s						
SNTG				AML	AML		
	comp=E,188μm,0.6s						
RM33	**Pellescritta (**	**0.41**	**184**	P	Pg	05 17 11.5	+0.4
RM33				S	Sb	05 17 18.3	-0.6
RM33				AML	AML		
	comp=E,226μm,1.6s						
RM33				AML	AML		
	comp=N,218μm,0.8s						
RM33				AML	AML		
	comp=N,219μm,0.8s						
RM33				AML	AML		
	comp=E,226μm,1.6s						
EL6	**Elcito**	**0.42**	**345**	P	Pg	05 17 11.7	+0.3
ASSB	**Assisi San Ben**	**0.45**	**286**	P	Pg	05 17 12.1	+0.3
ASSB				S	Sb	05 17 19.4	-0.6
ASSB				AML	AML		
	comp=N,375μm,0.4s						
ASSB				AML	AML		
	comp=E,328μm,1.6s						
CING	**Cingoli**	**0.46**	**355**	P	Pg	05 17 12.5	+0.5
CING				AML	AML		
	comp=E,140μm,0.3s						
CING				AML	AML		
	comp=N,114μm,0.1s						
CING				AML	AML		
	comp=E,140μm,0.3s						
ARRO	**Arrone**	**0.49**	**227**	P	Pg	05 17 12.9	+0.4
FOSV	**Fossato di Vic**	**0.52**	**317**	P	Pg	05 17 13.4	+0.3
FOSV				S	Sb	05 17 21.7	-0.2
FOSV				AML	AML		
	comp=N,273μm,0.3s						
FOSV				AML	AML		
	comp=E,156μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.52**	**301**	P	Pg	05 17 13.5	+0.4
ATCC				AML	AML		
	comp=E,262μm,0.2s						
ATCC				AML	AML		
	comp=E,262μm,0.2s						
ATCC				AML	AML		
	comp=N,302μm,0.4s						
GIGS	**Gran Sasso**	**0.52**	**153**	P	Pg	05 17 13.3	+0.1
GIGS				S	Sb	05 17 21.5	-0.6
GIGS				AML	AML		
	comp=E,94μm,0.2s						
GIGS				AML	AML		
	comp=N,109μm,0.2s						
GIGS				AML	AML		
	comp=E,94μm,0.2s						
GIGS				AML	AML		
	comp=N,108μm,0.2s						
PP3	**Marolino**	**0.53**	**30**	AML	AML		
	comp=N,810μm,0.2s						

PP3				AML	AML		
	comp=E,508μm,0.3s						
PP3				AML	AML		
	comp=N,824μm,0.2s						
PP3				AML	AML		
	comp=E,508μm,0.3s						
PP3				AML	AML		
	comp=E,482μm,0.3s						
CESX	**Cesi**	**0.58 238**	P	Pg		05 17 14.3	0.0
ARVD	**Arcevia**	**0.62 339**	P	Pg		05 17 15.3	+0.2
FIAM	**Fiamignano**	**0.66 189**	P	Pg		05 17 16.1	+0.3
ATFO	**Monte Foce - G**	**0.67 312**	P	Pg		05 17 16.2	+0.2
ATFO				AML	AML		
	comp=N,77μm,0.4s						
ATFO				AML	AML		
	comp=E,100μm,1.1s						
VCEL	**Villa Celiera**	**0.68 140**	P	Pg		05 17 16.4	+0.2
VCEL				AML	AML		
	comp=N,149μm,0.1s						
VCEL				AML	AML		
	comp=E,123μm,1.0s						
ATTE	**AVT- Monte Tez**	**0.71 293**	P	Pn		05 17 19.6	+0.3
ATTE				AML	AML		
	comp=N,44μm,1.6s						
ATTE				AML	AML		
	comp=E,48μm,0.3s						
ATVO	**AVT- Monte Val**	**0.77 307**	P	Pg		05 17 17.8	-0.1
ATVO				AML	AML		
	comp=E,59μm,1.2s						
ATVO				AML	AML		
	comp=N,58μm,0.6s						
ATVO				AML	AML		
	comp=E,59μm,1.2s						
ATVO				AML	AML		
	comp=N,58μm,0.6s						
MPAG	**Monte Paganucc**	**0.80 333**	P	Pb		05 17 18.7	-0.3
ATPI	**Pietralunga -**	**0.82 311**	P	Pg		05 17 18.7	-0.1
FSSB	**Fossombrone**	**0.85 336**	P	Pb		05 17 19.7	-0.2
NARO	**Abbazia di Nar**	**0.85 325**	P	Pg		05 17 19.1	-0.2
NARO				AML	AML		
	comp=N,42μm,1.6s						
NARO				AML	AML		
	comp=E,44μm,0.3s						
VAGA	**Valle Agricola**	**1.67 154**	S	Sg		05 17 58.0	+1.3
TRIF	**Trifonti**	**1.73 277**	⇓P	Pg		05 17 38.7	+2.4
CIGN	**Sant'Elia a Pi**	**1.76 135**	P	Pg		05 17 38.4	+1.6
PTRJ	**Pietraroja**	**1.82 148**	P	Pn		05 17 32.8	-1.8
CAFE	**Carife**	**2.40 141**	S	Sn		05 18 14.0	+1.9

*WEL **03** 05:18:00,37˚.44S×178˚.90E,h6km,ML4.6,Mw4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶ Nm; M_{rr}-0.08; $M_{\theta\theta}$0.10; $M_{\phi\phi}$-0.02; $M_{r\theta}$0.76; $M_{\theta\phi}$-0.14; $M_{\phi r}$0.94; Fault plane solution: $M_0$1.21000×10¹⁶ NP1: ϕ_s141.00000°,δ2.00000°,λ,12.00000°. NP2:ϕ_s39.00000°, δ90.00000°,λ,92.00000°. Principal axes: T -1306.4700, Plg45.0000°, Azm311.0000°; N 189.1200, Plg2.0000°, Azm219.0000°; P 1117.3500, Plg45.0000°, Azm127.0000°:*

*IDC **03** 05:18:00.2±0.8,37˚.14S×178˚.85E,h0km,mb4.5/10, mbtmp4.5/10,MS4.1/1 Error ellipse: s-maj=26.8km s-min=19.9km az=27.0*

*NEIC **03** 05:18:02.1±2.7,37˚.29S±0˚.10×178˚.88E±0˚.08,h10km±1km, mb4.7/21,Error ellipse: s-maj=18.3km s-min=7.4km az=329.0*

*WEL **03** 05:18:04.1±1.2,37˚.5S±6˚×17˚.9E±˚,h18km±5km,M4.6/37, ML4.8/37,MLv4.6/37,Error ellipse: s-maj=0.0km s-min=0.0km az=97.3*

ISC 03 05:18:02.4±1.2,37˚.42S±0˚.04×178˚.97E±0˚.05,h15km±6km, n175,σ1§13/182,mb4.7/17,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.55**	**255**	Pg	**Pg**	**05 18 13.1**	**-0.1**
MXZ	**Matakaoa Point**	**0.55**	**255**	P	**Pb**	**05 18 13.4**	**-0.3**
WMGZ	**Waiomatatini S**	**0.59**	**228**	P	**Pn**	**05 18 16.2**	**-0.2**
WMGZ				S	**Sb**	**05 18 24.5**	**+1.7**
PKGZ	**Pakihiroa**	**0.85**	**236**	P	**Pn**	**05 18 19.6**	**-0.3**
PKGZ				S	**Sg**	**05 18 30.2**	**+0.1**
PUZ	**Puketiti**	**0.86**	**221**	P	**Pn**	**05 18 20.1**	**0.0**
PUZ				S	**Sb**	**05 18 32.0**	**+1.4**
HAZ	**Te Kaha**	**1.00**	**250**	P	**Pg**	**05 18 21.6**	**-0.2**
TWGZ	**Tauwhareparae**	**1.09**	**226**	P	**Pg**	**05 18 23.7**	**+0.2**
TWGZ				S	**Sn**	**05 18 38.4**	**+0.3**
RUGZ	**Raukumara Rang**	**1.16**	**242**	P	**Pn**	**05 18 24.5**	**+0.2**
RUGZ				S	**Sb**	**05 18 39.2**	**0.0**
CNGZ	**Carnagh Statio**	**1.22**	**209**	P	**Pg**	**05 18 25.9**	**-0.1**
CNGZ				S	**Sg**	**05 18 43.3**	**+1.4**
TKGZ	**Te Karaka**	**1.35**	**221**	P	**Pn**	**05 18 26.7**	**0.0**
TKGZ				S	**Sn**	**05 18 44.1**	**-0.4**
WIZ	**White Island**	**1.42**	**265**	P	**Pb**	**05 18 28.6**	**0.0**
WSRZ	**White Island S**	**1.43**	**266**	P	**Pg**	**05 18 30.2**	**+0.3**
MWZ	**Matawai**	**1.46**	**231**	P	**Pn**	**05 18 28.5**	**+0.2**
MWZ				S	**Sn**	**05 18 46.5**	**-0.8**
RIGZ	**Rimuhau**	**1.60**	**216**	P	**Pn**	**05 18 30.4**	**+0.2**
RAGZ	**Rawiri**	**1.63**	**228**	P	**Pn**	**05 18 31.6**	**+0.9**
WHRZ	**Whale Island**	**1.64**	**254**	P	**Pb**	**05 18 32.5**	**0.0**
URZ	**Urewera**	**1.69**	**240**	Pn	**Pn**	**05 18 32.0**	**+0.5**
	566nm,0.3s,baz=31,slow=3.4,SNR=26						
URZ				Sn	**Sn**	**05 18 53.0**	**+0.1**
	1μm,0.3s,baz=31,slow=19,SNR=14						
URZ				LR	LR	05 19 25.6	
	comp=Z,2μm,19.1s,baz=34,slow=48						
URZ	**Urewera**	**1.69**	**240**	Pn	**Pn**	**05 18 31.7**	**+0.3**
URZ	**Urewera**	**1.69**	**240**	P	**Pn**	**05 18 32.1**	**+0.7**
PRGZ	**Paritu Road**	**1.73**	**209**	P	**Pn**	**05 18 32.3**	**+0.3**
SNGZ	**Shannon Statio**	**1.87**	**223**	P	**Pn**	**05 18 34.3**	**+0.3**
EDRZ	**Edgecumbe**	**1.90**	**248**	P	**Pn**	**05 18 34.9**	**+0.6**
KNZ	**Kokohu**	**1.90**	**212**	P	**Pn**	**05 18 33.8**	**-0.5**
MARZ	**Manawahe**	**1.91**	**252**	P	**Pn**	**05 18 34.7**	**+0.2**
MHGZ	**Mahia Peninsul**	**1.92**	**205**	P	**Pn**	**05 18 35.0**	**+0.3**
OPRZ	**Ohinepanea**	**1.96**	**257**	P	**Pn**	**05 18 35.3**	**+0.1**
RTZ	**Ruatahuna**	**1.97**	**232**	P	**Pn**	**05 18 36.1**	**+0.6**
MUGZ	**Murupara**	**2.03**	**238**	P	**Pn**	**05 18 36.4**	**+0.2**
RAHZ	**Arahi**	**2.11**	**224**	P	**Pn**	**05 18 38.7**	**+1.5**
MKRZ	**Makatiti**	**2.11**	**249**	P	**Pn**	**05 18 38.3**	**+1.0**
TARZ	**Mount Tarawera**	**2.11**	**247**	P	**Pn**	**05 18 37.9**	**+0.6**
LIRZ	**Lichensteins R**	**2.13**	**253**	P	**Pn**	**05 18 38.2**	**+0.7**
RRRZ	**Republican Roa**	**2.15**	**244**	P	**Pn**	**05 18 38.3**	**+0.5**
OMRZ	**Omania**	**2.17**	**251**	P	**Pn**	**05 18 38.5**	**+0.4**
TGRZ	**Tauranga**	**2.17**	**261**	P	**Pn**	**05 18 38.2**	**+0.1**
MYRZ	**Mayor Island**	**2.18**	**273**	P	**Pn**	**05 18 38.4**	**+0.2**
MTHZ	**Maungataniwha**	**2.21**	**229**	P	**Pn**	**05 18 39.2**	**+0.6**
HLRZ	**Highlands Stat**	**2.23**	**247**	P	**Pn**	**05 18 39.5**	**+0.5**
KARZ	**Kaharoa**	**2.24**	**254**	P	**Pn**	**05 18 39.2**	**+0.2**
PRRZ	**Plateau Road**	**2.30**	**241**	P	**Pn**	**05 18 40.0**	**+0.1**
NGRZ	**Ngongotaha**	**2.31**	**252**	P	**Pn**	**05 18 40.9**	**+0.9**
UTU	**Utuhina**	**2.33**	**250**	P	**Pn**	**05 18 41.3**	**+1.1**
HSRZ	**Hossack Road**	**2.33**	**247**	P	**Pn**	**05 18 41.0**	**+0.7**
HRRZ	**Handcock Road**	**2.33**	**245**	P	**Pn**	**05 18 40.7**	**+0.3**
ALRZ	**Allen Road**	**2.37**	**240**	P	**Pn**	**05 18 41.0**	**+0.2**
NMHZ	**Naumai**	**2.39**	**225**	P	**Pn**	**05 18 41.7**	**+0.6**
ARHZ	**Aropaoanui**	**2.41**	**220**	P	**Pn**	**05 18 41.2**	**-0.1**
KMRZ	**Kaimai**	**2.44**	**259**	P	**Pn**	**05 18 42.0**	**+0.2**
GRRZ	**Galatos Road**	**2.45**	**247**	P	**Pn**	**05 18 42.4**	**+0.5**
MRHZ	**Matea Rd**	**2.46**	**234**	P	**Pn**	**05 18 42.1**	**+0.1**
WPRZ	**Whakapapatarin**	**2.48**	**243**	P	**Pn**	**05 18 42.7**	**+0.5**
BKZ	**Black Stump Fm**	**2.62**	**227**	Pn	**Pn**	**05 18 43.9**	**-0.4**
BKZ	**Black Stump Fm**	**2.62**	**227**	P	**Pn**	**05 18 44.2**	**0.0**
CKHZ	**Cape Kidnapper**	**2.68**	**213**	P	**Pn**	**05 18 44.1**	**-1.0**
KUZ	**Kuaotunu**	**2.68**	**284**	P	**Pn**	**05 18 43.5**	**-1.6**
WHTZ	**Whakaora**	**2.68**	**241**	P	**Pn**	**05 18 46.2**	**+1.0**
HATZ	**Hinemaiaia**	**2.70**	**236**	P	**Pn**	**05 18 45.4**	**0.0**
KUTZ	**Kaahu Road**	**2.71**	**246**	P	**Pn**	**05 18 45.7**	**+0.3**
TOZ	**Tahuroa Road**	**2.77**	**263**	P	**Pn**	**05 18 46.4**	**0.0**
KWHZ	**Kaweka Forest**	**2.83**	**224**	P	**Pn**	**05 18 46.5**	**-0.7**
WATZ	**Wairara**	**2.86**	**242**	P	**Pn**	**05 18 48.3**	**+0.7**
TLZ	**Tolley Road**	**2.86**	**250**	P	**Pn**	**05 18 47.9**	**+0.2**
KAHZ	**Kahuranaki**	**2.88**	**214**	P	**Pn**	**05 18 46.9**	**-1.0**
RITZ	**Rihia Road**	**2.90**	**237**	P	**Pn**	**05 18 48.4**	**+0.2**
RATZ	**Rangitukua**	**2.91**	**239**	P	**Pn**	**05 18 48.9**	**+0.7**
KATZ	**Kakaramea**	**3.01**	**238**	P	**Pn**	**05 18 49.9**	**+0.2**
KRHZ	**Kereru**	**3.01**	**222**	P	**Pn**	**05 18 48.4**	**-1.3**
GRZ	**Great Barrier**	**3.05**	**291**	P	**Pn**	**05 18 51.3**	**+1.2**
MKAZ	**Moumakai**	**3.06**	**275**	P	**Pn**	**05 18 49.8**	**-0.4**
TMVZ	**Te Maari**	**3.08**	**236**	P	**Pn**	**05 18 50.4**	**-0.2**
BHHZ	**Black Hill Sta**	**3.08**	**227**	P	**Pn**	**05 18 50.0**	**-0.6**
ETVZ	**East Tongariro**	**3.08**	**235**	P	**Pn**	**05 18 50.5**	**-0.3**
PXZ	**Pawanui**	**3.08**	**212**	P	**Pn**	**05 18 48.9**	**-1.7**
NTVZ	**North Tongarir**	**3.09**	**236**	P	**Pn**	**05 18 50.6**	**-0.2**
KRVZ	**Karewarewa**	**3.11**	**236**	P	**Pn**	**05 18 50.9**	**-0.2**
OTVZ	**Oturere**	**3.13**	**235**	P	**Pn**	**05 18 51.2**	**-0.1**
WIAZ	**Waiheke Island**	**3.13**	**280**	P	**Pn**	**05 18 50.4**	**-0.9**
NNVZ	**North Ngauruho**	**3.15**	**236**	P	**Pn**	**05 18 51.6**	**0.0**
WTVZ	**West Tongariro**	**3.15**	**236**	P	**Pn**	**05 18 51.8**	**+0.1**
SNVZ	**South Ngauruho**	**3.16**	**235**	P	**Pn**	**05 18 51.5**	**-0.3**
NGZ	**Ngauruhoe**	**3.18**	**235**	P	**Pn**	**05 18 51.8**	**-0.3**
TUVZ	**Tukino**	**3.19**	**234**	P	**Pn**	**05 18 50.2**	**-2.1**
MOVZ	**Moawhango**	**3.21**	**231**	P	**Pn**	**05 18 51.9**	**-0.5**
TWVZ	**Taurewa**	**3.23**	**238**	P	**Pn**	**05 18 52.6**	**-0.2**
WHVZ	**Whangaehu Hut**	**3.24**	**234**	P	**Pn**	**05 18 52.6**	**-0.4**
FWVZ	**Far West T-bar**	**3.25**	**235**	P	**Pn**	**05 18 52.7**	**-0.4**
DRZ	**Dome Shelter**	**3.26**	**234**	P	**Pn**	**05 18 53.0**	**-0.3**
ETAZ	**East Tamaki Re**	**3.26**	**277**	P	**Pn**	**05 18 52.7**	**-0.3**
WNVZ	**Wahianoa**	**3.26**	**233**	P	**Pn**	**05 18 52.8**	**-0.5**
TRVZ	**Turoa**	**3.28**	**234**	P	**Pn**	**05 18 52.9**	**-0.6**
WPHZ	**Waipukurau**	**3.30**	**216**	P	**Pn**	**05 18 52.1**	**-1.5**
PNHZ	**Pukenui**	**3.30**	**220**	P	**Pn**	**05 18 51.8**	**-1.9**
MBAZ	**Motutapu North**	**3.32**	**280**	P	**Pn**	**05 18 54.0**	**+0.1**
MTVZ	**Mangateitei**	**3.38**	**233**	P	**Pn**	**05 18 54.4**	**-0.3**
PRHZ	**Porangahau**	**3.38**	**212**	P	**Pn**	**05 18 52.7**	**-2.0**
PKVZ	**Pokaka**	**3.41**	**236**	P	**Pn**	**05 18 55.1**	**0.0**
ABAZ	**Army Bay**	**3.41**	**283**	P	**Pn**	**05 18 54.7**	**-0.4**
EPAZ	**Eden Park BICE**	**3.42**	**278**	P	**Pn**	**05 18 56.4**	**+1.2**
HIZ	**Hauiti**	**3.43**	**250**	Pn	**Pn**	**05 18 56.3**	**+0.9**
HIZ	**Hauiti**	**3.43**	**250**	P	**Pn**	**05 18 56.5**	**+1.2**
HBAZ	**Herne Bay Bore**	**3.44**	**278**	P	**Pn**	**05 18 56.2**	**+0.8**
AWAZ	**Awhitu Peninsu**	**3.47**	**275**	P	**Pn**	**05 18 57.1**	**+1.2**
TSZ	**Takapari Road**	**3.53**	**221**	P	**Pn**	**05 18 54.8**	**-2.0**
WTAZ	**Waiatarua**	**3.54**	**277**	P	**Pn**	**05 18 58.0**	**+1.0**
RVAZ	**Riverhead Bore**	**3.57**	**279**	P	**Pn**	**05 18 57.2**	**-0.1**
DVHZ	**Dannevirke**	**3.61**	**216**	P	**Pn**	**05 18 55.9**	**-2.0**
POWZ	**Post Office Ro**	**3.88**	**219**	P	**Pn**	**05 19 00.5**	**-1.0**
WAZ	**Wanganui**	**3.90**	**232**	P	**Pn**	**05 19 01.8**	**0.0**
PRWZ	**Pori Road**	**3.91**	**216**	P	**Pn**	**05 19 00.1**	**-1.8**
OHWZ	**Ohakea**	**3.99**	**225**	P	**Pn**	**05 19 01.8**	**-1.2**
WCZ	**Waipu Caves**	**4.00**	**290**	P	**Pn**	**05 19 03.0**	**-0.2**
MHEZ	**Mangahewa**	**4.01**	**244**	P	**Pn**	**05 19 05.4**	**+2.0**
LREZ	**Lake Rotokare**	**4.12**	**239**	P	**Pn**	**05 19 05.8**	**+0.9**
DREZ	**Durham Road**	**4.15**	**243**	P	**Pn**	**05 19 06.8**	**+1.6**
MRZ	**Mangatainoka R**	**4.18**	**218**	P	**Pn**	**05 19 03.6**	**-2.0**
NEZ	**North Egmont**	**4.25**	**243**	P	**Pn**	**05 19 08.4**	**+1.6**
PKE	**Pukeiti**	**4.30**	**244**	P	**Pn**	**05 19 08.9**	**+1.5**
KHEZ	**Kahui Hut**	**4.32**	**243**	P	**Pn**	**05 19 09.1**	**+1.4**
NBEZ	**Newall Road No**	**4.42**	**244**	P	**Pn**	**05 19 10.4**	**+1.5**
NMEZ	**Namu Road**	**4.47**	**242**	P	**Pn**	**05 19 11.7**	**+2.1**
OUZ	**Omahuta**	**4.86**	**295**	P	**Pn**	**05 19 15.3**	**+0.2**
CMWZ	**Cape Campbell**	**5.67**	**219**	P	**Pn**	**05 19 24.7**	**-1.5**
KHZ	**Kahutara**	**6.50**	**218**	Pn	**Pn**	**05 19 35.5**	**-2.1**
KHZ	**Kahutara**	**6.50**	**218**	P	**Pn**	**05 19 35.5**	**-2.1**
CTZ	**Chatham Island**	**7.15**	**153**	P	**Pn**	**05 19 48.4**	**+2.0**
RPZ	**Rata Peaks**	**8.71**	**221**	Pn	**Pn**	**05 20 03.4**	**-4.4**
	8.8nm,0.3s,baz=45,slow=4.3,SNR=15						
RPZ				Sn	Sn	05 21 33.7	-12
	14nm,0.3s,baz=73,slow=19,SNR=13						
RPZ				LR	LR	05 24 27.4	
	comp=Z,1μm,19.6s,baz=34,slow=44						
ARMA	**Armidale**	**23.69**	**279**	P	**P**	**05 23 14.9**	**+1.2**
TAU	**Tasmania Unive**	**24.71**	**247**	P	**P**	**05 23 22.2**	**-0.8**
TAU				IAmb	IAmb	05 23 23.6	
	comp=Z,21nm,1.1s						
TOO	**Toolangi**	**26.49**	**259**	P	**P**	**05 23 39.0**	**-0.1**
TOO				IAmb	IAmb	05 23 47.7	
	comp=Z,21nm,1.3s						
STKA	**Stephens Creek**	**31.10**	**269**	P	**P**	**05 24 20.3**	**0.0**
	comp=Z,15nm,0.8s,baz=97,slow=11,SNR=15						
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**31.10**	**269**	P	**P**	**05 24 20.2**	**0.0**
CTA	**Charters Tower**	**33.26**	**292**	P	**P**	**05 24 39.5**	**+0.2**
	comp=Z,9nm,0.5s,baz=136,slow=8.4,SNR=9.0						
	comp=Z,2.9nm,0.5s						
CTAO	**Charters Tower**	**33.26**	**292**	P	**P**	**05 24 39.5**	**+0.2**
CTAO				IAmb	IAmb	05 24 43.4	
	comp=Z,30nm,1.5s						
BBOO	**Buckleboo**	**35.18**	**264**	P	**P**	**05 24 54.0**	**-1.8**
COEN	**Coen**	**39.47**	**297**	P	**P**	**05 25 32.3**	**-0.1**
COEN				IAmb	IAmb	05 25 32.9	
	comp=Z,16nm,0.8s						
AS31	**Alice Springs**	**40.79**	**277**	P	**P**	**05 25 42.2**	**-1.1**
AS31				IAmb	IAmb	05 25 42.9	
	comp=Z,6.8nm,0.6s						
ASAR	**Alice Springs**	**40.79**	**277**	P	**P**	**05 25 42.0**	**-1.3**
	comp=Z,17nm,0.8s,baz=119,slow=7.7,SNR=30						
ASAR				PcP	**PcP**	**05 27 42.1**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=122,slow=3.6,SNR=3.3						
ASAR				ScP	**ScP**	**05 31 34.9**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=121,slow=3.8,SNR=2.0						
	comp=Z,17nm,0.8s						
ASAR	**Alice Springs**	**40.79**	**277**	P	**P**	**05 25 41.4**	**-2.0**
FORT	**Forrest**	**42.26**	**263**	P	**P**	**05 25 53.5**	**-1.8**
WR0	**Warramunga Arr**	**42.26**	**282**	P	**P**	**05 25 53.8**	**-1.6**
WR0				IAmb	IAmb	05 25 54.8	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**42.42**	**282**	P	**P**	**05 25 55.2**	**-1.5**
	comp=Z,7.2nm,0.6s,baz=125,slow=7.5,SNR=16						
WRA				PcP	**PcP**	**05 27 47.9**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=122,slow=3.6,SNR=3.8						
	comp=Z,7.2nm,0.6s						
WRA	**Warramunga Arr**	**42.42**	**282**	P	**P**	**05 25 55.0**	**-1.7**
MTN	**Manton Dam**	**49.09**	**287**	P	**P**	**05 26 47.6**	**-1.8**
KNRA	**Kununurra**	**49.21**	**282**	P	**P**	**05 26 49.2**	**-1.1**
KNRA				IAmb	IAmb	05 27 01.6	
	comp=Z,20nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.28**	**277**	P	**P**	**05 26 57.2**	**-1.2**
	comp=Z,6.1nm,0.6s,baz=139,slow=5.9,SNR=12						
	comp=Z,6.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.28**	**277**	P	**P**	**05 26 56.9**	**-1.5**
FITZ				IAmb	IAmb	05 26 58.5	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**52.71**	**180**	P	**P**	**05 27 18.8**	**+2.5**
	comp=Z,2.6nm,0.9s,baz=35,slow=2.1,SNR=3.9						
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**52.71**	**180**	P	**P**	**05 27 18.7**	**+2.5**
QSPA				IAmb	IAmb	05 27 24.4	
	comp=Z,6.1nm,1.1s						
PSA00	**Pilbara Seismi**	**53.02**	**270**	P	**P**	**05 27 16.6**	**-2.4**
BELA	**Belgrano 2**	**63.18**	**172**	P	**P**	**05 28 30.3**	**+1.0**
BELA				IAmb	IAmb	05 28 31.7	
	comp=Z,4.3nm,0.8s						
TROLL	**Troll, Antarti**	**70.84**	**181**	P	**P**	**05 29 17.7**	**-0.6**
SNAA	**Sanae**	**71.20**	**179**	P	**P**	**05 29 20.0**	**-0.4**
SNAA	**Sanae**	**71.20**	**179**	P	**P**	**05 29 21.3**	**+0.9**
VNA3	**Neumayer Olymp**	**71.46**	**177**	P	**P**	**05 29 22.9**	**+1.0**
MG05	**Puerto Natales**	**71.58**	**142**	P	**P**	**05 29 25.8**	**+2.9**
VNA2	**Neumayer--Watz**	**71.86**	**178**	P	**P**	**05 29 24.7**	**+0.5**
	baz=177,slow=6.0						
VNA1	**Neumayer--Stat**	**72.11**	**177**	P	**P**	**05 29 26.7**	**+1.0**
H03S2	**Juan Fernandez**	**78.67**	**124**	T	T	06 56 30.4	
	baz=236						
H03S1	**Juan Fernandez**	**78.68**	**124**	T	T	06 56 31.1	
	baz=236						
H03S3	**Juan Fernandez**	**78.69**	**124**	T	T	06 56 29.6	
	baz=236						
H03N3	**Juan Fernandez**	**78.91**	**124**	T	T	06 56 47.4	
	baz=235,slow=71						
H03N2	**Juan Fernandez**	**78.91**	**124**	T	T	06 56 47.8	
	baz=235,slow=71						
H03N1	**Juan Fernandez**	**78.92**	**124**	T	T	06 56 43.6	
	baz=235,slow=71						
PLCA	**Paso Flores**	**79.54**	**134**	P	**P**	**05 30 11.5**	**+2.7**
	comp=Z,1.3nm,0.8s,baz=231,slow=8.7,SNR=6.8						
	comp=Z,1.3nm,0.8s						
PLCA	**Paso Flores**	**79.54**	**134**	P	**P**	**05 30 11.8**	**+2.9**
PLCA				IAmb	IAmb	05 30 41.7	
	comp=Z,9.6nm,1.5s						
KSRS	**Korea Array**	**88.17**	**322**	P	**P**	**05 30 52.1**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=142,slow=5.5,SNR=2.7						
	comp=Z,1.2nm,0.6s						
PETK	**Petropavlovsk-**	**92.03**	**347**	P	**P**	**05 31 09.9**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=138,slow=6.9,SNR=1.2						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.41**	**291**	P	**P**	**05 31 17.0**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=149,slow=2.1,SNR=5.4						
	comp=Z,2.2nm,0.3s						
MKAR	**Makanchi Array**	**120.22**	**308**	PKP	**PKPdf**	**05 36 52.3**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=106,slow=2.1,SNR=2.0						
ARCES	**ARCESS Array B**	**144.78**	**344**	PKP	PKPbc	05 37 36.8	+0.1
	comp=Z,2.6nm,0.7s,baz=30,slow=3.2,SNR=6.7						
DBIC	**Dimbokro**	**149.19**	**173**	PKPbc	**PKiKP**	**05 37 51.7**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=192,slow=2.9,SNR=6.9						
FINES	**FINESS Array B**	**150.60**	**334**	PKPbc	**PKPbc**	**05 37 51.9**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=26,slow=3.5,SNR=7.5						
FINES				PKPab	**pPKPbc**	**05 37 57.4**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=53,slow=4.0,SNR=4.6						
BRTR	**Keskin Array B**	**152.90**	**286**	PKPbc	**PKPbc**	**05 37 57.8**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=118,slow=4.3,SNR=4.5						
BRTR				PKPab	**PKPab**	**05 38 08.5**	**-1.8**
	comp=Z,2.8nm,0.9s,baz=67,slow=3.7,SNR=7.9						
TORD	**Torodi Ar. Bea**	**155.71**	**186**	PKPbc	PKPbc	05 38 07.2	
	comp=Z,0.3nm,0.4s,baz=155,slow=2.4,SNR=6.8						
TORD				PKPab	**PKPab**	**05 38 22.4**	**0.0**
	comp=Z,2.2nm,0.8s,baz=163,slow=3.3,SNR=7.2						
CLL	**Collm**	**162.91**	**329**	*e*PKPab	**PKPab**	**05 38 53.0**	**+0.2**

*IDC **03** 05:20:13.1±1.9,36˚.62S×178˚.94E,h0km,mb4.3/2, mbtmp4.3/3,ML3.9/1,Error ellipse: s-maj=46.0km s-min=42.1km az=135.0*

*WEL **03** 05:20:14.7±1.4,37˚.5S±5˚×17˚.9E±˚,h12km±8km,M4.0/21, ML4.1/32,MLv4.0/21,Error ellipse: s-maj=0.0km s-min=0.0km az=94.5*

ISC 03 05:20:14.7±2.4,37.09S±0.06×179.21E±0.10,h8km±12km, n54,σ0§96/58,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.86**	**237**	P	**Pg**	**05 20 31.4**	**+0.2**
MXZ				S	**Sg**	**05 20 42.3**	**-0.1**
WMGZ	**Waiomatatini S**	**0.96**	**221**	P	**Pn**	**05 20 34.9**	**+0.4**
WMGZ				S	**Sn**	**05 20 48.8**	**+0.4**
PKGZ	**Pakihiroa**	**1.20**	**228**	P	**Pn**	**05 20 37.9**	**+0.2**
PKGZ				S	**Sn**	**05 20 54.1**	**-0.3**
PUZ	**Puketiti**	**1.23**	**217**	P	**Pb**	**05 20 38.4**	**+0.1**
PUZ				S	**Sn**	**05 20 56.0**	**+0.8**
HAZ	**Te Kaha**	**1.31**	**239**	P	**Pg**	**05 20 40.4**	**+0.5**
HAZ				S	**Sn**	**05 20 57.7**	**+0.7**
TWGZ	**Tauwhareparae**	**1.46**	**222**	P	**Pn**	**05 20 41.8**	**+0.5**
TWGZ				S	**Sg**	**05 21 01.6**	**+0.1**
RUGZ	**Raukumara Rang**	**1.50**	**234**	P	**Pb**	**05 20 42.8**	**0.0**
RUGZ				S	**Sg**	**05 21 02.4**	**-0.4**
CNGZ	**Carnagh Statio**	**1.60**	**209**	P	**Pn**	**05 20 44.0**	**+0.7**
WIZ	**White Island**	**1.67**	**254**	P	**Pn**	**05 20 42.7**	**-1.5**
TKGZ	**Te Karaka**	**1.72**	**218**	P	**Pn**	**05 20 45.0**	**0.0**
MWZ	**Matawai**	**1.82**	**227**	P	**Pn**	**05 20 46.6**	**+0.2**
RAGZ	**Rawiri**	**1.99**	**225**	P	**Pn**	**05 20 48.8**	**0.0**
URZ	**Urewera**	**2.03**	**234**	Pn	**Pn**	**05 20 48.9**	**-0.3**
	35nm,0.3s,baz=31,slow=4.0,SNR=1.4						
URZ				Sn	**Sn**	**05 21 14.8**	**0.0**
	43nm,0.3s,baz=211,slow=19,SNR=3.4						
	94nm,0.3s						
URZ	**Urewera**	**2.03**	**234**	P	**Pn**	**05 20 49.6**	**+0.4**
OPRZ	**Ohinepanea**	**2.24**	**250**	P	**Pn**	**05 20 52.5**	**+

BRG	**Berggiesshubel**	**3.07 291**	Sg	Sg	05 22 26.9	-1.5
BRG			Amp		05 22 33.2	
	comp=Z,4.0nm,0.9s					
KHC	**Kasperske Hory**	**3.26 259**	*e*SG	Sb	05 22 31.5	+2.7
	comp=Z,5.6nm,0.7s					

WEL 03 05:29:43.7±1.1,37°S±4°×17°9E±°,h13km±4km,M3.7/88, ML3.8/66,MLv3.7/88,Error ellipse: s-maj=0.0km s-min=0.0km az=82.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.63 257**		P	Pg	05 29 55.9	-0.1
MXZ				S	Sg	05 30 01.9	-2.5
WMGZ	**Waiomatatini S**	**0.66 233**		P	Pn	05 29 58.6	-0.1
WMGZ				S	Sb	05 30 07.5	+1.3
PUZ	**Puketiti**	**0.92 225**		P	Pn	05 30 02.6	+0.3
PUZ				S	Sb	05 30 14.5	+0.9
PKGZ	**Pakihiroa**	**0.92 240**		P	Pb	05 30 02.0	+0.4
PKGZ				S	Sg	05 30 13.0	-0.6
HAZ	**Te Kaha**	**1.08 252**		P	Pb	05 30 04.2	-0.1
HAZ				S	Sb	05 30 17.1	-1.3
TWGZ	**Tauwhareparae**	**1.15 229**		P	Pg	05 30 05.9	+0.1
TWGZ				S	Sg	05 30 20.9	0.0
RUGZ	**Raukumara Rang**	**1.24 244**		P	Pn	05 30 06.9	+0.1
RUGZ				S	Sb	05 30 22.7	-0.2
CNGZ	**Carnagh Statio**	**1.26 213**		P	Pg	05 30 08.4	+0.5
CNGZ				S	Sg	05 30 26.4	+2.1
TKGZ	**Te Karaka**	**1.41 224**		P	Pn	05 30 09.1	+0.1
TKGZ				S	Sn	05 30 27.3	-0.1
WIZ	**White Island**	**1.51 266**		P	Pg	05 30 12.2	-0.5
MWZ	**Matawai**	**1.53 233**		P	Pn	05 30 10.9	+0.1
MWZ				S	Sg	05 30 32.3	-0.6
RIGZ	**Rimuhau**	**1.65 219**		P	Pn	05 30 12.5	+0.1
RAGZ	**Rawiri**	**1.70 231**		P	Pn	05 30 13.4	+0.3
WHRZ	**Whale Island**	**1.73 255**		P	Pb	05 30 14.6	-0.7
PRGZ	**Paritu Road**	**1.77 212**		P	Pn	05 30 14.3	+0.2
URZ	**Urewera**	**1.77 241**		P	Pn	05 30 14.5	+0.5
SNGZ	**Shannon Statio**	**1.93 225**		P	Pn	05 30 16.5	+0.2
KNZ	**Kokohu**	**1.94 214**		P	Pn	05 30 16.0	-0.3
MHGZ	**Mahia Peninsul**	**1.96 208**		P	Pn	05 30 17.2	+0.6
EDRZ	**Edgecumbe**	**1.98 249**		P	Pn	05 30 17.3	+0.3
RTZ	**Ruatahuna**	**2.04 234**		P	Pn	05 30 18.4	+0.5
OPRZ	**Ohinepanea**	**2.05 258**		P	Pn	05 30 17.9	0.0
MUGZ	**Murupara**	**2.11 239**		P	Pn	05 30 19.0	+0.3
RAHZ	**Arahi**	**2.17 226**		P	Pn	05 30 19.8	+0.3
TARZ	**Mount Tarawera**	**2.19 248**		P	Pn	05 30 21.5	+1.5
WHHZ	**Waihua**	**2.20 221**		P	Pn	05 30 20.0	+0.1
RRRZ	**Republican Roa**	**2.23 245**		P	Pn	05 30 20.5	+0.2
MTHZ	**Maungataniwha**	**2.27 231**		P	Pn	05 30 21.3	+0.4
KARZ	**Kaharoa**	**2.33 254**		P	Pn	05 30 21.8	+0.1
ALRZ	**Allen Road**	**2.44 242**		P	Pn	05 30 23.4	+0.1
NMHZ	**Naumai**	**2.45 226**		P	Pn	05 30 23.9	+0.5
ARHZ	**Aropaoanui**	**2.46 221**		P	Pn	05 30 23.4	-0.1
MRHZ	**Matea Rd**	**2.53 235**		P	Pn	05 30 24.5	0.0
BKZ	**Black Stump Fm**	**2.68 229**		P	Pn	05 30 26.4	-0.1
CKHZ	**Cape Kidnapper**	**2.73 215**		P	Pn	05 30 26.2	-1.0
TOZ	**Tahuroa Road**	**2.86 263**		P	Pn	05 30 29.5	+0.5
KWHZ	**Kaweka Forest**	**2.89 226**		P	Pn	05 30 28.9	-0.6
KAHZ	**Kahuranaki**	**2.93 216**		P	Pn	05 30 29.1	-0.9
RITZ	**Rihia Road**	**2.98 238**		P	Pn	05 30 30.9	+0.3
RATZ	**Rangitukua**	**2.98 240**		P	Pn	05 30 31.3	+0.6
KRHZ	**Kereru**	**3.07 223**		P	Pn	05 30 30.8	-1.1
KATZ	**Kakaramea**	**3.08 239**		P	Pn	05 30 32.8	+0.6
PXZ	**Pawanui**	**3.13 213**		P	Pn	05 30 31.2	-1.5
BHHZ	**Black Hill Sta**	**3.14 228**		P	Pn	05 30 32.3	-0.6
MKAZ	**Moumakai**	**3.15 275**		P	Pn	05 30 31.8	-1.2
TMVZ	**Te Maari**	**3.15 237**		P	Pn	05 30 32.8	-0.3
ETVZ	**East Tongariro**	**3.15 236**		P	Pn	05 30 32.9	-0.4
NTVZ	**North Tongarir**	**3.16 237**		P	Pn	05 30 33.0	-0.2
KRVZ	**Karewarewa**	**3.18 237**		P	Pn	05 30 33.2	-0.3
OTVZ	**Oturere**	**3.20 236**		P	Pn	05 30 33.6	-0.3
NNVZ	**North Ngauruho**	**3.22 237**		P	Pn	05 30 34.1	0.0
WIAZ	**Waiheke Island**	**3.22 280**		P	Pn	05 30 32.9	-1.1
WTVZ	**West Tongariro**	**3.23 237**		P	Pn	05 30 34.1	0.0
SNVZ	**South Ngauruho**	**3.23 236**		P	Pn	05 30 34.0	-0.3
NGZ	**Ngauruhoe**	**3.25 236**		P	Pn	05 30 34.1	-0.4
TUVZ	**Tukino**	**3.26 235**		P	Pn	05 30 34.5	-0.2
MOVZ	**Moawhango**	**3.28 232**		P	Pn	05 30 34.3	-0.6
TWVZ	**Taurewa**	**3.31 239**		P	Pn	05 30 35.1	-0.2
WHVZ	**Whangaehu Hut**	**3.31 235**		P	Pn	05 30 35.0	-0.5
FWVZ	**Far West T-bar**	**3.32 236**		P	Pn	05 30 35.2	-0.4
WNVZ	**Wahianoa**	**3.33 234**		P	Pn	05 30 35.0	-0.7
WPHZ	**Waipukurau**	**3.35 217**		P	Pn	05 30 34.6	-1.2
TRVZ	**Turoa**	**3.35 235**		P	Pn	05 30 35.4	-0.5
ETAZ	**East Tamaki Re**	**3.35 277**		P	Pn	05 30 36.7	+1.0
PNHZ	**Pukenui**	**3.35 221**		P	Pn	05 30 34.0	-1.9
MBAZ	**Motutapu North**	**3.41 280**		P	Pn	05 30 35.8	-0.8
PRHZ	**Porangahau**	**3.42 213**		P	Pn	05 30 34.8	-1.9
MTVZ	**Mangateitei**	**3.45 234**		P	Pn	05 30 36.7	-0.4
PKVZ	**Pokaka**	**3.48 237**		P	Pn	05 30 37.4	-0.2
HIZ	**Hauiti**	**3.51 251**		P	Pn	05 30 38.9	+0.9
AWAZ	**Awhitu Peninsu**	**3.56 275**		P	Pn	05 30 39.8	+1.1
TSZ	**Takapari Road**	**3.59 222**		P	Pn	05 30 37.1	-1.9
DVHZ	**Dannevirke**	**3.66 218**		P	Pn	05 30 38.2	-1.8
RVAZ	**Riverhead Bore**	**3.66 279**		P	Pn	05 30 39.7	-0.3
BFZ	**Birch Farm**	**3.93 213**		P	Pn	05 30 41.3	-2.5
POWZ	**Post Office Ro**	**3.93 220**		P	Pn	05 30 42.7	-1.1
PRWZ	**Pori Road**	**3.95 217**		P	Pn	05 30 42.3	-1.8
WAZ	**Wanganui**	**3.96 233**		P	Pn	05 30 44.1	-0.2
WCZ	**Waipu Caves**	**4.09 290**		P	Pn	05 30 45.4	-0.5
MHEZ	**Mangahewa**	**4.09 245**		P	Pb	05 30 51.7	-3.9
PREZ	**Palmer Road**	**4.32 242**		P	Pn	05 30 50.6	+1.5
NEZ	**North Egmont**	**4.33 243**		P	Pn	05 30 51.0	+1.7
PKE	**Pukeiti**	**4.38 245**		P	Pn	05 30 51.9	+1.9
KHEZ	**Kahui Hut**	**4.40 243**		P	Pn	05 30 51.7	+1.4
OUZ	**Omahuta**	**4.95 295**		P	Pn	05 30 57.8	+0.1
BSWZ	**Blackbirch Sta**	**5.88 222**		P	Pn	05 31 08.0	-2.4
CTZ	**Chatham Island**	**7.10 154**		P	Pn	05 31 30.1	+2.9

*IDC **03** 05:38:50.1±2.4, 16°11S×177°60W,h385km±34km, mb3.0/5, mbtmp3.8/6, Error ellipse: s-maj=121.6km s-min=16.7km az=154.0*

ISC 03 05:38:50.7±0.9,16°4S±0°3×177°4W±0°2,h400km,n10, σ0°66/10,mb3.3/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.99**	**67**	P	**Pn**	**05 40 22.7**	**-0.7**
	26nm,0.4s,baz=234,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**45.84**	**258**	P	**P**	**05 46 34.9**	**-0.2**
	0.3nm,0.5s,baz=94,slow=6.9,SNR=17						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**46.11**	**253**	P	**P**	**05 46 37.2**	**0.0**
	3.2nm,0.7s,baz=88,slow=8.0,SNR=32						
	3.2nm,0.7s						
NVAR	**Mina Array Bea**	**77.69**	**44**	P	**P**	**05 50 04.8**	**-0.1**
	0.4nm,0.6s,baz=234,slow=7.7,SNR=4.1						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**84.20**	**13**	P	**P**	**05 50 37.6**	**-0.3**
	0.3nm,0.7s,baz=221,slow=5.4,SNR=2.5						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**84.40**	**57**	P	**P**	**05 50 41.2**	**+1.4**
	0.5nm,0.8s,baz=213,slow=6.5,SNR=6.0						
	0.5nm,0.8s						
TROLL	**Troll, Antarti**	**91.83**	**180**	P	**P**	**05 51 13.8**	**-0.4**
SNAA	**Sanae**	**92.09**	**178**	P	**P**	**05 51 15.1**	**-0.2**
VNA3	**Neumayer Olymp**	**92.19**	**176**	P	**P**	**05 51 15.5**	**-0.2**
VNA2	**Neumayer--Watz**	**92.64**	**177**	P	**P**	**05 51 18.2**	**+0.4**
	baz=179,slow=6.0						

IDC 03 05:39:29.8±4.2,21°21S×178°74W,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=272.7km s-min=35.4km az=156.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.69**	**258**	P	P	05 47 36.6	-0.2
	0.4nm,0.4s,baz=94,slow=6.9,SNR=5.2						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**43.82**	**263**	P	P	05 47 37.9	-0.1
	0.3nm,0.3s,baz=100,slow=8.6,SNR=13						
	0.3nm,0.3s						
NVAR	**Mina Array Bea**	**82.02**	**44**	P	P	05 51 52.2	0.0
	0.4nm,0.7s,baz=242,slow=7.8,SNR=2.9						
	0.4nm,0.7s						

WEL 03 05:40:39.9±1.4,37°S±4°×17°9E±°,h17km±7km,M3.6/80,
ML3.7/59,MLv3.6/80,Error ellipse: s-maj=0.0km s-min=0.0km az=78.6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.67 249**		P	Pg	05 40 52.8	-0.2
MXZ				S	Sg	05 41 00.4	-1.6
WMGZ	**Waiomatatini S**	**0.73 227**		P	Pn	05 40 55.8	+0.4
WMGZ				S	Sn	05 41 06.4	+0.3
PKGZ	**Pakihiroa**	**0.98 235**		P	Pg	05 40 59.0	0.0
PKGZ				S	Sg	05 41 11.6	-0.3
PUZ	**Puketiti**	**1.00 221**		P	Pg	05 40 59.7	+0.4
PUZ				S	Sn	05 41 12.7	-0.1
HAZ	**Te Kaha**	**1.13 247**		P	Pn	05 41 00.7	-0.1
HAZ				S	Sb	05 41 15.1	-0.1
TWGZ	**Tauwhareparae**	**1.23 226**		P	Pb	05 41 02.9	+0.3
TWGZ				S	Sn	05 41 18.8	+0.4
RUGZ	**Raukumara Rang**	**1.29 240**		P	Pb	05 41 03.9	+0.1
RUGZ				S	Sb	05 41 20.1	0.0
CNGZ	**Carnagh Statio**	**1.35 211**		P	Pg	05 41 05.4	-0.6
CNGZ				S	Sg	05 41 24.8	+1.2
TKGZ	**Te Karaka**	**1.49 221**		P	Pn	05 41 06.1	+0.3
WIZ	**White Island**	**1.53 262**		P	Pn	05 41 06.7	+0.4
MWZ	**Matawai**	**1.60 230**		P	Pn	05 41 07.5	+0.2
RIGZ	**Rimuhau**	**1.73 217**		P	Pn	05 41 09.4	+0.2
WHRZ	**Whale Island**	**1.76 252**		P	Pb	05 41 10.7	-1.0
RAGZ	**Rawiri**	**1.77 228**		P	Pn	05 41 10.2	+0.5
URZ	**Urewera**	**1.83 239**		P	Pn	05 41 11.2	+0.7
PRGZ	**Paritu Road**	**1.86 211**		P	Pn	05 41 11.2	+0.3
SNGZ	**Shannon Statio**	**2.01 223**		P	Pn	05 41 13.0	+0.1
EDRZ	**Edgecumbe**	**2.02 247**		P	Pn	05 41 13.9	+0.7
KNZ	**Kokohu**	**2.03 213**		P	Pn	05 41 12.8	-0.5
MHGZ	**Mahia Peninsul**	**2.05 207**		P	Pn	05 41 13.8	+0.3
OPRZ	**Ohinepanea**	**2.08 255**		P	Pn	05 41 14.2	+0.3
RTZ	**Ruatahuna**	**2.11 232**		P	Pn	05 41 15.0	+0.6
MUGZ	**Murupara**	**2.17 237**		P	Pn	05 41 14.7	-0.4
RAHZ	**Arahi**	**2.24 224**		P	Pn	05 41 16.7	+0.5
TARZ	**Mount Tarawera**	**2.24 245**		P	Pn	05 41 17.3	+1.0
RRRZ	**Republican Roa**	**2.28 243**		P	Pn	05 41 17.5	+0.8
MTHZ	**Maungataniwha**	**2.34 229**		P	Pn	05 41 18.1	+0.5
ALRZ	**Allen Road**	**2.50 240**		P	Pn	05 41 19.7	0.0
NMHZ	**Naumai**	**2.52 225**		P	Pn	05 41 20.7	+0.5
ARHZ	**Aropaoanui**	**2.54 220**		P	Pn	05 41 20.3	0.0
MRHZ	**Matea Rd**	**2.59 234**		P	Pn	05 41 21.3	+0.3
BKZ	**Black Stump Fm**	**2.75 227**		P	Pn	05 41 23.3	+0.1
KUZ	**Kuaotunu**	**2.76 281**		P	Pn	05 41 21.8	-1.5
CKHZ	**Cape Kidnapper**	**2.82 214**		P	Pn	05 41 22.6	-1.4
TOZ	**Tahuroa Road**	**2.88 261**		P	Pn	05 41 25.3	+0.3
KWHZ	**Kaweka Forest**	**2.97 224**		P	Pn	05 41 25.6	-0.6
KAHZ	**Kahuranaki**	**3.02 214**		P	Pn	05 41 25.8	-1.1
RITZ	**Rihia Road**	**3.04 236**		P	Pn	05 41 27.6	+0.5
GRZ	**Great Barrier**	**3.11 289**		P	Pn	05 41 27.3	-0.7
MKAZ	**Moumakai**	**3.15 273**		P	Pn	05 41 27.7	-0.9
KRHZ	**Kereru**	**3.15 222**		P	Pn	05 41 27.7	-1.0
WIAZ	**Waiheke Island**	**3.21 278**		P	Pn	05 41 28.6	-0.9
TMVZ	**Te Maari**	**3.21 235**		P	Pn	05 41 29.4	-0.2
BHHZ	**Black Hill Sta**	**3.21 227**		P	Pn	05 41 29.3	-0.3
PXZ	**Pawanui**	**3.22 212**		P	Pn	05 41 27.9	-1.7
ETVZ	**East Tongariro**	**3.22 235**		P	Pn	05 41 29.5	-0.2
NTVZ	**North Tongarir**	**3.22 236**		P	Pn	05 41 29.7	0.0
KRVZ	**Karewarewa**	**3.24 236**		P	Pn	05 41 30.0	0.0
OTVZ	**Oturere**	**3.26 235**		P	Pn	05 41 30.2	-0.2
NNVZ	**North Ngauruho**	**3.28 236**		P	Pn	05 41 30.9	+0.3
WTVZ	**West Tongariro**	**3.29 236**		P	Pn	05 41 30.9	+0.3
SNVZ	**South Ngauruho**	**3.29 235**		P	Pn	05 41 30.5	-0.2
NGZ	**Ngauruhoe**	**3.31 235**		P	Pn	05 41 30.8	-0.3
ETAZ	**East Tamaki Re**	**3.35 275**		P	Pn	05 41 31.1	-0.3
MOVZ	**Moawhango**	**3.35 231**		P	Pn	05 41 31.0	-0.4
TWVZ	**Taurewa**	**3.37 238**		P	Pn	05 41 32.3	+0.6
WHVZ	**Whangaehu Hut**	**3.38 234**		P	Pn	05 41 31.8	-0.2
FWVZ	**Far West T-bar**	**3.39 234**		P	Pn	05 41 32.2	+0.1
WNVZ	**Wahianoa**	**3.40 233**		P	Pn	05 41 31.8	-0.5
MBAZ	**Motutapu North**	**3.40 278**		P	Pn	05 41 32.2	+0.1
TRVZ	**Turoa**	**3.42 234**		P	Pn	05 41 32.3	-0.2
WPHZ	**Waipukurau**	**3.43 216**		P	Pn	05 41 30.8	-1.7
PNHZ	**Pukenui**	**3.44 220**		P	Pn	05 41 30.9	-1.7
ABAZ	**Army Bay**	**3.49 281**		P	Pn	05 41 33.0	-0.3
PRHZ	**Porangahau**	**3.51 212**		P	Pn	05 41 31.8	-1.8
MTVZ	**Mangateitei**	**3.51 233**		P	Pn	05 41 33.5	-0.2
PKVZ	**Pokaka**	**3.54 235**		P	Pn	05 41 34.3	+0.2
HIZ	**Hauiti**	**3.56 249**		P	Pn	05 41 35.6	+1.4
AWAZ	**Awhitu Peninsu**	**3.56 273**		P	Pn	05 41 35.0	+0.7
RVAZ	**Riverhead Bore**	**3.65 277**		P	Pn	05 41 35.5	-0.1
TSZ	**Takapari Road**	**3.67 221**		P	Pn	05 41 33.8	-2.0
ANWZ	**Angora Road**	**3.74 212**		P	Pn	05 41 37.4	+0.7
DVHZ	**Dannevirke**	**3.75 217**		P	Pn	05 41 34.8	-2.1
WAZ	**Wanganui**	**4.03 232**		P	Pn	05 41 40.8	0.0
PRWZ	**Pori Road**	**4.04 216**		P	Pn	05 41 39.2	-1.6
WCZ	**Waipu Caves**	**4.06 288**		P	Pn	05 41 41.1	0.0
NEZ	**North Egmont**	**4.38 242**		P	Pn	05 41 47.8	+2.1
PKE	**Pukeiti**	**4.43 244**		P	Pn	05 41 49.3	+3.0
KHEZ	**Kahui Hut**	**4.45 242**		P	Pn	05 41 48.5	+1.8
OUZ	**Omahuta**	**4.91 294**		P	Pn	05 41 53.5	+0.6
CTZ	**Chatham Island**	**7.19 154**		P	Pn	05 42 26.2	+2.2

*JMA **03** 05:46:38.8±0.1,24°4N±0°6×121°9E±0°7,h34km±3km, MV2.4/9,TAIWAN REGION*
*TAP **03** 05:46:38.7,24°47N×121°92E,h15km,ML2.9,B*

ISC 03 05:46:37.7±0.9,24°49N±0°02×122°00E±0°02,h16km±6km, n68,σ0°62/134,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.18 310**		P	**Pb**	**05 46 43.6**	**+0.9**
	baz=337						
TWC				S	**Sb**	**05 46 46.2**	**+0.2**
	baz=337						
EWUT	**Wuta**	**0.21 256**		P	**Pg**	**05 46 42.4**	**-0.2**
	baz=261						
EWUT				S	**Sg**	**05 46 45.5**	**-0.3**
	baz=261						
ENA	**Nanau**	**0.24 254**		P	**Pb**	**05 46 43.8**	**0.0**
	baz=256						
ENA				S	**Sg**	**05 46 47.2**	**+0.4**
	baz=256						
NDS	**Dongshan**	**0.29 298**		P	**Pb**	**05 46 44.5**	**-0.2**
	baz=311						
NDS				*e*S	**Sg**	**05 46 48.6**	**+0.4**
	baz=311						
EHP	**Heping Village**	**0.30 232**		*e*P	**Pb**	**05 46 44.5**	**-0.3**
	baz=225						
EHP				*e*S	**Sb**	**05 46 49.0**	**-0.5**
	baz=225						
EGS		**0.35 350**		*e*P	**Pn**	**05 46 47.1**	**-1.1**
	baz=2.0						
EGS				*e*S	**Sn**	**05 46 53.1**	**-1.9**
	baz=2.0						
ILA	**Ilan**	**0.35 320**		*e*P	**Pn**	**05 46 47.2**	**-1.0**
	baz=332						
ILA				*e*S	**Sb**	**05 46 52.3**	**+1.2**
	baz=332						
TWE	**Neicheng**	**0.38 307**		P	**Pb**	**05 46 47.0**	**+0.9**
	baz=318						
TWE				S	**Sb**	**05 46 52.0**	**+0.3**
	baz=318						
NTC	**Toucheng**	**0.39 337**		*e*P	**Pn**	**05 46 47.6**	**-1.2**
	baz=347						
NTC				*e*S	**Sb**	**05 46 53.1**	**+1.0**
	baz=347						
ENTT	**Nioudou**	**0.42 290**		P	**Pb**	**05 46 46.6**	**-0.3**
	baz=298						
ENTT				S	**Sg**	**05 46 51.9**	**-0.1**
	baz=298						
LATG	**Datong**	**0.43 275**		P	**Pb**	**05 46 47.5**	**+0.4**
	baz=280						
LATG				S	**Sb**	**05 46 53.9**	**+0.5**
	baz=280						
NDT	**Datong Townshi**	**0.46 284**		*e*P	**Pb**	**05 46 48.3**	**+0.9**
	baz=290						
NDT				*e*S	**Sb**	**05 46 54.2**	**+0.2**
	baz=290						
FUSB	**Fushanzhiwuyua**	**0.46 305**		P	**Pn**	**05 46 48.6**	**-1.2**
	baz=313						
FUSB				S	**Sb**	**05 46 55.0**	**+0.8**
	baz=313						
ETL	**Fush Village**	**0.48 226**		*e*P	**Pb**	**05 46 47.6**	**-0.2**
	baz=222						
ETL				*e*S	**Sg**	**05 46 54.1**	**+0.4**
	baz=222						
NACB	**Ninganchiao**	**0.49 229**		P	**Pg**	**05 46 47.6**	**+0.2**
	baz=226						
NACB				S	**Sg**	**05 46 53.9**	**-0.2**
	baz=226						
TIPB	**Shuangxi**	**0.50 342**		P	**Pn**	**05 46 49.8**	**-0.6**
	baz=349						
TIPB				*e*S	**Sb**	**05 46 56.3**	**+1.0**
	baz=349						
TWB1	**Santiao Chiao**	**0.51 359**		*e*P	**Pn**	**05 46 49.9**	**-0.5**
	baz=6.0						
TWB1				*e*S	**Sn**	**05 46 57.4**	**-1.5**
	baz=6.0						
ETLH	**Xiulin Townshi**	**0.55 239**		P	**Pg**	**05 46 48.8**	**+0.1**
	baz=237						
ETLH				S	**Sg**	**05 46 55.8**	**-0.3**
	baz=237						
TWD	**Chiawan**	**0.55 222**		*e*P	**Pb**	**05 46 49.0**	**-0.1**
	baz=217						
TWD				*e*S	**Sg**	**05 46 55.7**	**-0.3**
	baz=217						
NNSB	**Datong**	**0.57 263**		P	**Pb**	**05 46 49.7**	**+0.3**
	baz=265						
NNSB				S	**Sg**	**05 46 56.8**	**+0.3**
	baz=265						
NNS	**Nan Shan**	**0.57 265**		P	**Pg**	**05 46 48.9**	**-0.2**
	baz=266						
NNS				S	**Sg**	**05 46 55.7**	**-1.1**
	baz=266						
YHNB	**Yeheng**	**0.59 287**		P	**Pn**	**05 46 50.8**	**-0.8**
	baz=292						
YHNB				*e*S	**Sb**	**05 46 58.4**	**+0.4**
	baz=292						
NWF	**Wu-fen Shan**	**0.61 341**		*e*P	**Pn**	**05 46 52.1**	**+0.3**
	baz=347						
NWF				*e*S	**Sn**	**05 47 00.2**	**-1.2**
	baz=347						
NSK	**Sanguang**	**0.61 287**		P	**Pb**	**05 46 50.1**	**0.0**
	baz=292						
NSK				S	**Sg**	**05 46 57.8**	**-0.2**
	baz=292						
NHDH	**Xindian Distri**	**0.64 317**		*e*P	**Pn**	**05 46 51.4**	**-0.7**
	baz=323						
NHDH				*e*S	**Sn**	**05 47 00.3**	**-1.6**
	baz=323						
TAP	**Taipei**	**0.70 320**		*e*P	**Pn**	**05 46 52.3**	**-0.7**
	baz=326						
TAP				*e*S	**Sn**	**05 47 02.5**	**-1.2**
	baz=326						
FUSS	**Fushou**	**0.73 251**		*e*P	**Pb**	**05 46 52.4**	**+0.1**
	baz=250						
FUSS				*e*S	**Sg**	**05 47 01.8**	**0.0**
	baz=250						
WHF	**Hehuan Shan**	**0.76 243**		*e*P	**Pg**	**05 46 52.6**	**+0.1**
	baz=241						
WHF				*e*S	**Sg**	**05 47 02.4**	**-0.2**
	baz=241						
YM01	**YM01**	**0.76 329**		*e*P	**Pn**	**05 46 54.0**	**+0.2**
	baz=334						
YM01				*e*S	**Sn**	**05 47 04.9**	**-0.1**
	baz=334						
TWT	**Tachien**	**0.79 252**		*e*P	**Pn**	**05 46 53.9**	**-0.5**
	baz=252						
TWT				*e*S	**Sb**	**05 47 03.9**	**+0.1**
	baz=252						
TWS1	**Kuangyinshan**	**0.80 319**		*e*P	**Pn**	**05 46 55.6**	**+1.2**
	baz=324						
TDCB	**Techi**	**0.80 253**		*e*P	**Pg**	**05 46 53.9**	**+0.4**
	baz=253						
TDCB				*e*S	**Sg**	**05 47 04.1**	**0.0**
	baz=253						
NFF	**Wufeng Townshi**	**0.81 280**		*e*P	**Pg**	**05 46 53.8**	**+0.2**
	baz=282						
NFF				*e*S	**Sb**	**05 47 04.1**	**-0.3**
	baz=282						
NTST	**Danshui**	**0.83 323**		*e*P	**Pn**	**05 46 56.8**	**+1.9**
	baz=328						
NTST				*e*S	**Sn**	**05 47 08.5**	**+1.7**
	baz=328						
ESL	**Shilin**	**0.85 217**		*e*P	**Pg**	**05 46 54.3**	**0.0**
	baz=214						
TWY	**Chenhua**	**0.86 335**		*e*P	**Pn**	**05 46 55.4**	**+0.2**
	baz=340						
TWY				*e*S	**Sn**	**05 47 07.6**	**+0.1**
	baz=340						
CHGB	**Renai**	**0.87 240**		*e*P	**Pg**	**05 46 54.6**	**0.0**
	baz=239						
CHGB				*e*S	**Sb**	**05 47 05.8**	**-0.3**
	baz=239						
NCUH	**Zhongli**	**0.88 303**		*e*P	**Pn**	**05 46 55.6**	**+0.1**
	baz=306						
NCUH				*e*S	**Sn**	**05 47 07.7**	**-0.2**
	baz=306						
LIOB	**Emei**	**0.91 280**		*e*P	**Pn**	**05 46 56.2**	**+0.3**
	baz=282						
LIOB				*e*S	**Sn**	**05 47 09.0**	**+0.3**
	baz=282						
NSTT	**Nanjuang**	**0.92 279**		*e*P	**Pn**	**05 46 56.5**	**+0.5**
	baz=281						
NSTT				*e*S	**

	baz=200						
HATJ	**Hateruma jima**	**1.70**	**104**	*e*P	**Pb**	**05 47 08.9**	**+0.2**
HATJ				*e*S	**Sb**	**05 47 29.5**	**-0.4**
TPUB	**Ta-pu**	**1.73**	**227**	*e*P	**Pn**	**05 47 07.8**	**+0.6**
	baz=225						
TPUB				*e*S	**Sn**	**05 47 28.9**	**-0.1**
	baz=225						
STYH	**Taoyuan**	**1.73**	**221**	*e*P	**Pn**	**05 47 07.5**	**+0.3**
	baz=219						
STYH				*e*S	**Sn**	**05 47 28.1**	**-0.9**
	baz=219						
WTP	**Ta-pu**	**1.78**	**226**	*e*P	**Pb**	**05 47 08.9**	**-1.1**
	baz=224						
WTP				*e*S	**Sb**	**05 47 31.1**	**-0.9**
	baz=224						
TWK	**Hsinying**	**1.85**	**229**	*e*P	**Pn**	**05 47 09.1**	**+0.2**
	baz=227						
TWK				*e*S	**Sn**	**05 47 32.0**	**+0.1**
	baz=227						
JKRS	**Kuro-shima**	**1.85**	**98**	*e*P	**Pb**	**05 47 10.3**	**-0.9**
JKRS				*e*S	**Sn**	**05 47 32.5**	**+0.6**
CHN1	**Nanshi**	**1.88**	**226**	*e*P	**Pn**	**05 47 09.5**	**+0.3**
	baz=225						
CHN1				*e*S	**Sn**	**05 47 32.9**	**+0.3**
	baz=225						
JIJ	**Ishigaki jima**	**1.96**	**93**	*e*P	**Pb**	**05 47 11.7**	**-1.3**
JIJ				S	**Sn**	**05 47 34.3**	**-0.3**
MASBT	**Mashibuluo**	**2.25**	**214**	*e*P	**Pn**	**05 47 15.2**	**+0.8**
	baz=212						
MASBT				*e*S	**Sn**	**05 47 42.4**	**+0.4**
	baz=212						

EAF 03 05:57:49.3±4.9, 14°66S×25°90E, h9km±65km, MD4.6, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**2.29**	**106**	*i* P	Pn	05 58 25.8	-1.7
LSZ				*i* Sg	Sb	05 59 00.0	+0.5
LSZ	**Lusaka**	**2.29**	**106**	*i* P	Pn	05 58 25.8	-1.7
LSZ				*i* Sg	Sb	05 59 00.0	+0.5
BLWY	**Bulawayo**	**6.03**	**155**	*i* P	Pn	05 59 16.9	-2.0
BLWY				*i* S	Sn	06 00 24.0	-4.2
BLWY	**Bulawayo**	**6.03**	**155**	*i* P	Pn	05 59 16.9	-2.0
BLWY				*i* S	Sn	06 00 24.0	-4.2
MATP	**Matopo**	**6.25**	**157**	*i* P	Pn	05 59 20.2	-1.6
MATP				*i* S	Sn	06 00 30.2	-3.3
MATP	**Matopo**	**6.25**	**157**	*i* P	Pn	05 59 20.2	-1.6
MATP				*i* S	Sn	06 00 30.2	-3.3
MUSN	**Musina, Limpop**	**8.47**	**154**	*i* P	Pn	05 59 49.7	-2.6
MUSN	**Musina, Limpop**	**8.47**	**154**	*i* P	Pn	05 59 49.7	-2.6
MOPA	**Mopani**	**10.23**	**150**	*i* P	Pn	06 00 19.3	+3.0
MOPA	**Mopani**	**10.23**	**150**	*i* P	Pn	06 00 19.3	+3.0
LBTB	**Lobatse**	**10.31**	**182**	*i* P	Pn	06 00 16.5	-1.0
BOSA	**Boshof**	**13.90**	**182**	*i* P	Pn	06 01 06.8	+0.1
BOSA				*i* S	Sn	06 03 39.8	-1.5

*IDC **03** 06:03:11.4±0.8, 33°.69N×135°.20E, h0km, mb4.0/11, mbtmp4.0/14, ML3.2/3, MS3.2/6, Error ellipse: s-maj=18.8km s-min=16.1km az=107.0*

*NIED **03** 06:03:17.5, 33°.71N×135°.14E, h43km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-0.63; Mθθ-0.20; Mφφ0.83; Mrθ-0.79; Mθφ-0.87; Mφr-0.79; Fault plane solution: M0 1.57000×10^15^ NP1: φs117.00000°, δ51.00000°, λ-153.00000°. NP2:φ8.00000°, δ69.00000°, λ-43.00000°.*

*NEIC **03** 06:03:17.4±0.8, 33°.66N±0°.07×135°.11E±0°.06, h35km±9km, mb4.5/12 Error ellipse: s-maj=9.8km s-min=6.7km az=167.0*

*JMA **03** 06:03:17.5±0.1, 33°.7N±0°.2×135°.1E±0°.2, h43km, MD4.0/32, MV4.1/32, S PART OF KII CHANNEL*

JMA Felt II J1 at S PART OF KII CHANNEL .

ISC 03 06:03:16.9±0.9, 33°61N±0°.06×135°14E±0°.04, h41km±8km, n81, σ1s38/64, mb4.2/19, MS3.6/3, 1C-4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.30**	**37**	P	**Pn**	**06 03 25.2**	**0.0**
JWM				S	**Sn**	**06 03 30.5**	**-0.5**
JWM	**Minabe**	**0.30**	**37**	A	A	06 03 25.2	
	comp=E,84nm,0.3s,comp=E,161nm,0.5s						
JTNC	**Tanabenakahech**	**0.44**	**62**	P	**Pn**	**06 03 27.1**	**+0.2**
JTNC				S	**Sn**	**06 03 33.8**	**-0.2**
JTNC	**Tanabenakahech**	**0.44**	**62**	A	A	06 03 27.1	
	comp=E,109nm,0.7s,comp=E,114nm,0.4s						
JWKM	**Wakayamakushim**	**0.54**	**107**	A	A	06 03 29.3	
	comp=E,20nm,0.6s,comp=E,14nm,0.3s						
JAI	**Aioi**	**0.60**	**288**	⇓P	**Pn**	**06 03 29.4**	**+0.4**
JAI				⇓S	**Sn**	**06 03 37.7**	**+0.1**
JAI	**Aioi**	**0.60**	**288**	A	A	06 03 29.4	
	comp=E,10.0nm,0.6s,comp=E,39nm,0.8s						
JWY	**Kouya**	**0.71**	**32**	P	**Pn**	**06 03 30.0**	**-0.6**
JWY				S	**Sn**	**06 03 38.8**	**-1.7**
JWY	**Kouya**	**0.71**	**32**	A	A	06 03 30.0	
	comp=E,17nm,0.7s,comp=E,10.0nm,0.7s						
JMMH	**Miemihama**	**0.77**	**74**	A	A	06 03 31.6	
	comp=E,7.0nm,2.7s,comp=E,13nm,1.3s						
JAWN	**Awajishima-nag**	**0.89**	**347**	⇓P	**Pn**	**06 03 32.4**	**-0.6**
JAWN				⇓S	**Sn**	**06 03 43.2**	**-1.6**
JAWN	**Awajishima-nag**	**0.89**	**347**	A	A	06 03 32.4	
	comp=E,8.0nm,0.9s,comp=E,13nm,0.5s						
JNTK	**Naratenkawa**	**0.90**	**43**	A	A	06 03 32.9	
	comp=E,12nm,0.2s,comp=E,10.0nm,0.2s						
JMN	**Monobe**	**1.06**	**277**		**Pn**	**06 03 35.5**	**+0.2**
JMN	**Monobe**	**1.06**	**277**	P	**Pn**	**06 03 35.7**	**+0.4**
JMN				S	**Sn**	**06 03 48.7**	**-0.1**
JMN	**Monobe**	**1.06**	**277**	A	A	06 03 35.7	
	comp=E,5.0nm,1.1s,comp=E,4.0nm,0.9s						
JHE	**Heguri**	**1.13**	**23**	P	**Pn**	**06 03 35.6**	**-0.7**
JMIK	**Miki**	**1.19**	**357**	A	A	06 03 36.8	
	comp=E,6.0nm,1.4s,comp=E,7.0nm,0.8s						
JJS	**Sakaide**	**1.26**	**307**	A	A	06 03 38.4	
	comp=E,4.0nm,1.6s,comp=E,4.0nm,3.3s						
JIE	**Ise**	**1.52**	**59**	A	A	06 03 42.1	
	comp=E,2.0nm,1.4s,comp=E,3.0nm,0.8s						
JKY	**Yasaka**	**2.01**	**359**	A	A	06 03 48.6	
	comp=E,2.0nm,0.6s,comp=E,4.0nm,0.6s						
JFM	**Mihama**	**2.03**	**20**	A	A	06 03 49.0	
	comp=E,4.0nm,0.5s,comp=E,3.0nm,1.1s						
JHS	**Saijyo**	**2.17**	**310**	Pn	**Pn**	**06 03 50.2**	**-0.3**
JICN	**Ichinomiyachia**	**2.20**	**39**	A	A	06 03 51.5	
	comp=E,6.0nm,2.0s,comp=E,6.0nm,1.1s						
INU	**Inuyama**	**2.33**	**41**		**Pn**	**06 03 53.1**	**+0.5**
JGF	**Kuroka**	**2.70**	**42**	Pn	**Pn**	**06 03 58.0**	**+0.2**
JNU	**Nakatsue**	**3.60**	**263**	Pn	**Pn**	**06 04 09.3**	**-0.9**
MAJO	**Matsushiro**	**3.86**	**40**	Pn	**Pn**	**06 04 13.8**	**+0.1**
MJAR	**Matsushiro Arr**	**3.86**	**40**	Pn	**Pn**	**06 04 12.0**	**-1.7**
	0.7nm,0.3s,baz=186,slow=13,SNR=22						
MJAR				Pg		06 04 20.4	
	1.2nm,0.3s,baz=220,slow=16,SNR=14						
MJAR				Lg	Lg	06 05 10.3	
	0.3nm,0.3s,baz=115,slow=21,SNR=4.9 4.6nm,0.4s						
JHJ	**Hachijo jima 2**	**3.92**	**96**	Pn	**Pn**	**06 04 13.8**	**-0.8**
	14nm,0.3s,baz=40,slow=20,SNR=1.5						
JHJ				Sn	**Sn**	**06 04 54.5**	**-4.8**
	26nm,0.3s,baz=57,slow=18,SNR=1.7						
JHJ				LR	LR	06 05 09.3	
	comp=Z,42nm,18.6s,baz=302,slow=30 53nm,0.3s						
JTU	**Tsushima**	**4.85**	**282**	Pn	**Pn**	**06 04 26.9**	**-0.3**
JMM	**Marumori**	**6.26**	**46**	Pn	**Pn**	**06 04 46.5**	**-0.1**
NAWB	**Namwon**	**6.64**	**288**	Pn	**Pn**	**06 04 51.6**	**-0.3**
KSRS	**Korea Array**	**7.02**	**305**	Pn	**Pn**	**06 04 57.1**	**+0.1**
	0.4nm,0.3s,baz=116,slow=14,SNR=3.0						
KSRS				Sn	**Sn**	**06 06 12.4**	**-3.2**
	1.4nm,0.3s,baz=122,slow=24,SNR=7.7						
KSRS				LR	LR	06 08 00.5	
	comp=Z,130nm,18.1s,baz=140,slow=41 1.3nm,0.5s						
SEHB	**SEOHWA**	**7.26**	**312**	Pn	**Pn**	**06 04 59.7**	**-0.7**
JOW	**Kunigami**	**8.99**	**223**	Pn	**Pn**	**06 05 25.7**	**+1.5**
NJ2	**Nanjing**	**13.78**	**268**	*e*P	**Pn**	**06 06 26.6**	**-3.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KLR	**Kul'dur**	**15.81**	**352**	LR	LR	06 12 37.0	
	comp=Z,80nm,19.0s,baz=226,slow=36						
BJI	**Beijing**	**16.47**	**298**	P	**P**	**06 07 07.4**	**+0.3**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HNS	**HongShan**	**17.05**	**289**	⇑P	**P**	**06 07 16.6**	**+3.0**
HHC	**Hu-ho-hao-te**	**20.08**	**298**	*e*P	Pn	06 07 50.3	+1.3
HHC				pmax	pmax		
	comp=Z,33nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,4.4s						
GUMO	**Guam**	**21.81**	**154**	LR	LR	06 14 08.9	
	comp=Z,51nm,20.2s,baz=194,slow=30						
PEA0B	**Petropavlovsk-**	**25.28**	**33**	P	**P**	**06 08 40.0**	**+0.8**
PEA0B				IAmb	IAmb	06 08 43.7	
	comp=Z,18nm,1.4s						
PETK	**Petropavlovsk-**	**25.28**	**33**	P	**P**	**06 08 40.7**	**+1.5**
ULN	**Ulaanbaatar**	**25.43**	**312**	P	**P**	**06 08 40.9**	**+0.1**
LZH	**Lanzhou**	**25.75**	**284**	*e*P	**P**	**06 08 44.3**	**+0.5**
LZH				sP	sP	06 08 57.6	-2.1
LZH				S	**S**	**06 13 04.9**	**-5.3**
LZH				SS	SnSn	06 14 43.2	+36
LZH				pmax	pmax		
	comp=Z,24nm,0.8s						
LZH				pmax	pmax		
	comp=Z,250nm,6.0s						
SONM	**Songino Array**	**25.82**	**312**	P	**P**	**06 08 44.8**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=131,slow=9.6,SNR=7.4 comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**25.82**	**312**	P	**P**	**06 08 44.2**	**-0.1**
PZH	**PanZhiHua**	**29.67**	**265**	P	**P**	**06 09 19.1**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,6.0s						
H11N2	**WAKE ISLAND Hy**	**31.43**	**108**	T	T	06 42 14.9	
	baz=303,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hy**	**31.43**	**108**	T	T	06 42 16.0	
	baz=303,slow=74,SNR=15						
H11N3	**WAKE ISLAND Hy**	**31.44**	**108**	T	T	06 42 16.7	
	baz=303,slow=74,SNR=19						
H11S3	**WAKE ISLAND Hy**	**31.94**	**110**	T	T	06 42 52.1	
	baz=305,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**31.94**	**110**	T	T	06 42 55.2	
	baz=305,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**31.95**	**110**	T	T	06 42 53.5	
	baz=305,slow=75,SNR=16						
KKM	**Kota Kinabalu**	**32.57**	**217**	P	**P**	**06 09 43.9**	**-0.7**
WMQ	**Urumqi**	**37.94**	**300**	*e*P	**P**	**06 10 32.5**	**+2.1**
TIXI	**Tiksi**	**38.24**	**357**	P	**P**	**06 10 31.7**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=90,slow=22,SNR=5.6 comp=Z,1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**40.59**	**316**	P	**P**	**06 10 52.2**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=100,slow=7.9,SNR=2.7 comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**41.70**	**305**	P	**P**	**06 11 02.2**	**+0.6**
MKAR	**Makanchi Array**	**41.70**	**305**	P	**P**	**06 11 02.2**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=91,slow=10,SNR=18 comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**41.70**	**305**	P	**P**	**06 11 01.8**	**+0.1**
KURK	**Kurchatov**	**44.11**	**310**	P	**P**	**06 11 21.2**	**+0.2**
KURK				IAmb	IAmb	06 11 22.3	
	comp=Z,5.7nm,0.8s						
HNR	**Honiara**	**48.88**	**147**	LR	LR	06 31 34.6	
	comp=Z,64nm,18.6s,baz=138,slow=35						
BRVK	**Borovoye**	**49.21**	**314**	P	**P**	**06 12 01.0**	**+0.1**
BRVK				IAmb	IAmb	06 12 02.3	
	comp=Z,4.2nm,0.8s						
KK31	**Karatay Array**	**50.43**	**301**	P	**P**	**06 12 10.8**	**+0.4**
KKAR	**Karatay Array**	**50.43**	**301**	P	**P**	**06 12 10.4**	**0.0**
N18K	**Kilae Creek**	**51.17**	**36**	P	**P**	**06 12 17.4**	**+1.7**
N18K				IAmb	IAmb	06 12 25.4	
	comp=Z,8.5nm,1.4s						
K20K	**Telida**	**52.00**	**33**	P	**P**	**06 12 22.9**	**+1.1**
K20K				IAmb	IAmb	06 12 24.2	
	comp=Z,4.2nm,0.8s						
P19K	**Oil Pt**	**52.54**	**37**	P	**P**	**06 12 27.0**	**+1.1**
WRA	**Warramunga Arr**	**53.26**	**181**	P	**P**	**06 12 32.5**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=353,slow=7.8,SNR=11 comp=Z,0.9nm,0.8s						
WR0	**Warramunga Arr**	**53.27**	**181**	P	**P**	**06 12 32.2**	**+0.5**
WR0				IAmb	IAmb	06 12 59.9	
	comp=Z,6.2nm,1.1s						
ABKAR	**Akbulak array**	**56.22**	**310**	P	**P**	**06 12 52.8**	**+0.1**
ASAR	**Alice Springs**	**56.97**	**181**	P	**P**	**06 12 59.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=12,slow=13,SNR=7.3 comp=Z,0.7nm,0.8s						
DLBC	**Dease Lake**	**64.43**	**36**	LR	LR	06 43 34.2	
	comp=Z,130nm,21.4s,baz=82,slow=38						
ARCES	**ARCESS Array B**	**65.34**	**339**	P	**P**	**06 13 54.5**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=70,slow=8.7,SNR=3.8 comp=Z,1.3nm,0.7s						
KBZ	**Khabaz**	**69.15**	**309**	P	**P**	**06 14 19.6**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=77,slow=2.1,SNR=7.5 comp=Z,3.2nm,0.7s						
FINES	**FINESS Array B**	**69.37**	**331**	P	**P**	**06 14 19.5**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=51,slow=5.5,SNR=6.1 comp=Z,1.7nm,0.8s						
AKASG	**Malin Array Be**	**73.75**	**320**	P	**P**	**06 14 46.7**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=44,slow=5.8,SNR=4.4 comp=Z,0.5nm,0.4s						
BRTR	**Keskin Array B**	**77.15**	**309**	P	**P**	**06 15 07.1**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=123,slow=9.0,SNR=4.0 comp=Z,1.3nm,0.8s						
CLL	**Collm**	**81.36**	**327**	*i* P	**P**	**06 15 30.3**	**+1.2**

ROM 03 06:10:03.8±0.1, 42°.794N±0°.004×13°.211E±0°.007, h10km, Md0.7/5, 1D, Error ellipse: s-maj=0.6km s-min=0.2km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**352**	P	Pg	06 10 06.0	+0.1
T1242				S	Sg	06 10 07.2	-0.2
T1242				AML	AML		
	comp=E,454μm,0.2s						
T1242				AML	AML		
	comp=N,870μm,0.1s						
T1242				AML	AML		
	comp=E,37050μm,0.4s						
T1242				AML	AML		
	comp=N,18800μm,1.3s						
T1242				AML	AML		
	comp=E,36850μm,0.4s						
T1242				AML	AML		
	comp=N,18550μm,1.3s						
T1242				END			
T1244	**Arquata del Tr**	**0.07**	**120**	P	Pg	06 10 06.8	+0.6
T1244				S	Sg	06 10 07.5	-0.4
T1244				AML	AML		
	comp=E,10955μm,0.2s						
T1244				AML	AML		
	comp=N,10025μm,0.5s						
T1244				AML	AML		
	comp=E,10870μm,0.2s						
T1244				AML	AML		
	comp=N,9840μm,0.5s						
T1202	**Accumoli, Fraz**	**0.09**	**173**	P	Pg	06 10 06.9	+0.5
T1202				S	Sg	06 10 08.9	+0.6
T1202				END			
MC2	**Monte Cornacci**	**0.12**	**353**	P	Pg	06 10 07.3	+0.4
MC2				S	Sg	06 10 09.6	+0.5
T1204	**Amatrice, Fraz**	**0.14**	**146**	P	Pg	06 10 07.8	+0.6
T1204				S	Sg	06 10 10.5	+1.0
T1204				AML	AML		
	comp=E,4300μm,1.3s						
T1204				AML	AML		
	comp=N,2960μm,0.8s						
T1204				END			
T1241	**Roccafluvione,**	**0.17**	**69**	P	Pg	06 10 08.4	+0.7
T1241				S	Sg	06 10 11.6	+1.3
T1241				AML	AML		
	comp=E,126μm,0.3s						
T1241				AML	AML		
	comp=N,71μm,0.3s						
T1241				AML	AML		
	comp=E,8365μm,1.6s						
T1241				AML	AML		
	comp=N,7515μm,0.5s						
T1241				AML	AML		
	comp=E,8085μm,0.4s						
T1241				AML	AML		
	comp=N,7205μm,0.5s						
T1241				END			
SMA1	**SAN MARTINO**	**0.19**	**151**	P	Pg	06 10 08.5	+0.6
SMA1				S	Sg	06 10 11.7	+1.1
SMA1				AML	AML		
	comp=E,3505μm,0.5s						
SMA1				AML	AML		
	comp=N,3165μm,0.5s						
T1243	**Rocca Santa Ma**	**0.20**	**119**	P	Pg	06 10 08.7	+0.6
T1243				S	Sg	06 10 12.0	+1.0
T1243				END			
T1215	**Vallo di Nera,**	**0.25**	**272**	P	Pg	06 10 09.4	+0.4
T1215				AML	AML		
	comp=E,2210μm,0.3s						
T1215				AML	AML		
	comp=N,1202μm,0.8s						
T1215				AML	AML		
	comp=E,2295μm,0.4s						
T1215				AML	AML		
	comp=N,1126μm,0.9s						
FDMO	**Fiordimonte**	**0.26**	**340**	⇓P	Pg	06 10 09.7	+0.5
FDMO				AML	AML		
	comp=E,6525μm,0.3s						
FDMO				AML	AML		
	comp=N,5535μm,0.4s						
RM33	**Pellescritta (**	**0.28**	**179**	P	Pg	06 10 10.1	+0.5
RM33				S	Sb	06 10 14.9	-1.0
RM33				AML	AML		
	comp=E,1625μm,0.6s						
RM33				AML	AML		
	comp=N,1390μm,0.5s						
RM33				AML	AML		
	comp=E,1590μm,1.1s						
RM33				AML	AML		
	comp=N,1405μm,0.5s						
CSP1	**Cessapalombo**	**0.30**	**359**	P	Pg	06 10 10.4	+0.6
CSP1				S	Sb	06 10 15.3	-1.1
CSP1				AML	AML		
	comp=E,6210μm,1.2s						
CSP1				AML	AML		
	comp=N,11550μm,0.3s						
TERO	**Teramo**	**0.34**	**120**	P	Pg	06 10 10.9	+0.3
TERO				AML	AML		
	comp=E,1615μm,1.0s						
TERO				AML	AML		
	comp=N,1385μm,0.4s						
EL6	**Elcito**	**0.54**	**352**	S	Sb	06 10 24.0	+0.6
PP3	**Marolino**	**0.65**	**26**	S	Sg	06 10 24.0	-1.1

*LDG **03** 06:10:43.8±0.1, 42°.84N×13°.24E, h10km, Ml2.8/13, Error ellipse: s-maj=4.9km s-min=2.7km az=38.0*

ROM 03 06:10:43.6±0.1, 42°929N±0°.003×13°248E±0°.005, h10km, ML3.0/42, 21C-6D, Error ellipse: s-maj=0.3km s-min=0.3km az=280.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.04**	**249**	P	Pg	06 10 45.8	-0.1
T1242	**Castelluccio d**	**0.10**	**198**	⇑P	Pg	06 10 46.6	+0.3
T1242				S	Sg	06 10 48.7	+0.3
T1242				AML	AML		
	comp=N,18800μm,1.4s						
T1242				AML	AML		
	comp=N,18550μm,1.3s						
T1242				AML	AML		
	comp=E,37000μm,0.4s						
T1242				AML	AML		
	comp=N,18800μm,1.3s						
T1242				AML	AML		
	comp=E,36850μm,0.4s						
T1242				AML	AML		
	comp=E,37050μm,0.4s						
T1242				AML	AML		
	comp=N,18850μm,1.4s						
NRCA	**Norcia**	**0.14**	**226**	P	Pg	06 10 47.2	+0.5
NRCA				S	Sg	06 10 49.8	+0.7
NRCA				AML	AML		
	comp=E,13400μm,0.3s						
NRCA				AML	AML		
	comp=N,15300μm,0.1s						
NRCA				AML	AML		
	comp=N,16400μm,0.1s						
NRCA				AML	AML		
	comp=N,15250μm,0.1s						
NRCA				AML	AML		
	comp=E,12450μm,0.3s						
GUMA	**Gualdo di Mace**	**0.15**	**25**	P	Pg	06 10 47.7	+0.7
GUMA				S	Sg	06 10 50.6	+1.3
GUMA				AML	AML		
	comp=E,25000μm,0.3s						
GUMA				AML	AML		
	comp=N,36150μm,0.3s						
GUMA				AML	AML		
	comp=E,35950μm,0.6s						
GUMA				AML	AML		
	comp=N,34100μm,0.3s						
GUMA				AML	AML		
	comp=N,36200μm,0.3s						
FEMA	**Monte Fema**	**0.15**	**283**	P	Pg	06 10 47.6	+0.6
FEMA				S	Sg	06 10 50.4	+1.0
FEMA				AML	AML		
	comp=E,18300μm,1.0s						
FEMA				AML	AML		
	comp=N,12650μm,0.9s						
T1241	**Roccafluvione,**	**0.15**	**118**	P	Pg	06 10 47.4	+0.4
T1241				S	Sg	06 10 50.0	+0.6
T1241				AML	AML		
	comp=N,7510μm,0.5s						
T1241				AML	AML		
	comp=E,8085μm,0.4s						
T1241				AML	AML		
	comp=N,7210μm,0.5s						
T1241				AML	AML		
	comp=E,8365μm,1.6s						
T1241				AML	AML		
	comp=N,7515μm,0.5s						
T1241				AML	AML		
	comp=N,7205μm,0.5s						
FDMO	**Fiordimonte**	**0.16**	**312**	⇑P	Pg	06 10 47.5	+0.4
FDMO				S	Sg	06 10 50.3	+0.7
FDMO				AML	AML		
	comp=E,6525μm,0.3s						
FDMO				AML	AML		
	comp=N,5535μm,0.4s						
CSP1	**Cessapalombo**	**0.17**	**349**	P	Pg	06 10 47.8	+0.5
CSP1				S	Sg	06 10 50.7	+0.8
CSP1				AML	AML		
	comp=E,6205μm,1.2s						
CSP1				AML	AML		
	comp=E,6210μm,1.2s						
CSP1				AML	AML		
	comp=N,11550μm,0.3s						
CSP1				AML	AML		
	comp=N,11500μm,0.3s						
T1244	**Arquata del Tr**	**0.17**	**168**	P	Pg	06 10 48.0	+0.7
T1244				S	Sg	06 10 51.6	+1.6
T1244				AML	AML		
	comp=E,10975μm,0.2s						
T1244				AML	AML		
	comp=N,9990μm,0.5s						
T1244				AML	AML		
	comp=E,10830μm,0.2s						
T1244				AML	AML		
	comp=E,10970μm,0.3s						
T1244				AML	AML		
	comp=N,10025μm,0.5s						
T1244				AML	AML		
	comp=E,10870μm,0.2s						
T1244				AML	AML		
	comp=N,9840μm,0.5s						
T1202	**Accumoli, Fraz**	**0.23**	**184**	P	Pg	06 10 48.9	+0.7
T1202				S	Sg	06 10 53.3	+1.8
T1202				AML	AML		
	comp=E,7455μm,0.8s						
T1202				AML	AML		
	comp=N,11380μm,0.7s						
T1202				AML	AML		
	comp=N,11375μm,0.7s						
T1202				AML	AML		
	comp=E,7460μm,0.8s						
T1204	**Amatrice, Fraz**	**0.26**	**169**	P	Pg	06 10 49.5	+0.6
T1204				S	Sb	06 10 53.9	-1.0
T1204				AML	AML		
	comp=E,4300μm,1.3s						
T1204				AML	AML		
	comp=N,2960μm,0.8s						
T1204				AML	AML		
	comp=E,4290μm,1.3s						
CESI	**CESI - Serrava**	**0.26**	**287**	⇑P	Pg	06 10 49.6	+0.7
CESI				AML	AML		
	comp=N,14100μm,0.3s						
CESI				AML	AML		
	comp=E,6850μm,0.3s						
MNTP	**Montappone**	**0.26**	**38**	P	Pb	06 10 50.5	0.0

MNTP				AML	AML			
	comp=N,5440µm,0.3s							
MNTP				AML	AML			
	comp=E,6055µm,0.3s							
MNTP				AML	AML			
	comp=E,6055µm,0.3s							
T1243	**Rocca Santa Ma**	**0.28**	**148**	⇓P	Pg	06 10 49.4	+0.3	
T1243				S	Sb	06 10 54.2	-1.2	
SSM1	**San Severino M**	**0.30**	**350**	P	Pb	06 10 50.8	-0.4	
SMA1	**SAN MARTINO**	**0.30**	**168**	⇓P	Pg	06 10 50.1	+0.4	
SMA1				S	Sb	06 10 55.2	-1.1	
SMA1				AML	AML			
	comp=N,3160µm,0.5s							
SMA1				AML	AML			
	comp=E,3505µm,0.5s							
SMA1				AML	AML			
	comp=N,3165µm,0.5s							
T1215	**Vallo di Nera,**	**0.31**	**246**	P	Pg	06 10 50.3	+0.6	
T1215				AML	AML			
	comp=E,2210µm,0.3s							
T1215				AML	AML			
	comp=N,1205µm,0.9s							
T1215				AML	AML			
	comp=E,2295µm,0.4s							
T1215				AML	AML			
	comp=N,1125µm,0.9s							
T1215				AML	AML			
	comp=N,1202µm,0.8s							
T1215				AML	AML			
	comp=N,1126µm,0.9s							
SEF1	**Sefro**	**0.31**	**315**	⇑P	Pb	06 10 50.6	-0.6	
SEF1				AML	AML			
	comp=E,7690µm,0.4s							
SEF1				AML	AML			
	comp=N,7805µm,0.3s							
SEF1				AML	AML			
	comp=E,7690µm,0.4s							
SEF1				AML	AML			
	comp=N,7805µm,0.3s							
OFFI	**Offida**	**0.32**	**89**	⇑P	Pb	06 10 51.7	+0.3	
OFFI				AML	AML			
	comp=N,4360µm,0.5s							
OFFI				AML	AML			
	comp=E,3730µm,1.3s							
LNSS	**Leonessa**	**0.36**	**205**	⇑P	Pg	06 10 51.2	+0.5	
LNSS				AML	AML			
	comp=E,4330µm,0.3s							
LNSS				AML	AML			
	comp=N,7565µm,0.4s							
SNTG	**Esanatoglia**	**0.40**	**325**	⇑P	Pg	06 10 51.8	+0.4	
SNTG				AML	AML			
	comp=E,1305µm,0.2s							
SNTG				AML	AML			
	comp=N,1305µm,1.0s							
TERO	**Teramo**	**0.40**	**139**	P	Pg	06 10 51.6	+0.1	
TERO				AML	AML			
	comp=N,1385µm,0.4s							
TERO				AML	AML			
	comp=E,1615µm,1.0s							
CAMP	**Campotosto**	**0.41**	**163**	⇓P	Pg	06 10 51.9	+0.2	
CAMP				AML	AML			
	comp=N,1145µm,0.5s							
CAMP				AML	AML			
	comp=E,1265µm,0.3s							
EL6	**Elcito**	**0.41**	**345**	⇑P	Pg	06 10 52.3	+0.5	
EL6				AML	AML			
	comp=E,2250µm,0.3s							
EL6				AML	AML			
	comp=N,2854µm,0.3s							
EL6				AML	AML			
	comp=N,2855µm,0.3s							
RM33	**Pellescritta (**	**0.42**	**183**	⇑P	Pg	06 10 52.2	+0.4	
RM33				AML	AML			
	comp=N,1385µm,0.5s							
RM33				AML	AML			
	comp=N,1390µm,0.5s							
RM33				AML	AML			
	comp=N,1405µm,0.5s							
RM33				AML	AML			
	comp=E,1590µm,1.1s							
RM33				AML	AML			
	comp=E,1625µm,0.6s							
ASSB	**Assisi San Ben**	**0.45**	**285**	⇑P	Pg	06 10 52.8	+0.4	
ASSB				AML	AML			
	comp=E,2195µm,1.6s							
ASSB				AML	AML			
	comp=N,2390µm,0.4s							
TRTR	**Tortoreto Alta**	**0.50**	**104**	⇓P	Pb	06 10 55.1	+0.6	
TRTR				AML	AML			
	comp=E,5505µm,0.3s							
TRTR				AML	AML			
	comp=N,2915µm,0.3s							
FOSV	**Fossato di Vic**	**0.51**	**316**	⇑P	Pg	06 10 54.0	+0.5	
FOSV				AML	AML			
	comp=E,1315µm,0.8s							
FOSV				AML	AML			
	comp=N,3220µm,0.3s							
FOSV				AML	AML			
	comp=E,1320µm,0.8s							
ATCC	**AVT- Casa Cast**	**0.51**	**300**	⇑P	Pg	06 10 54.1	+0.5	
ATCC				AML	AML			
	comp=E,2720µm,0.3s							
ATCC				AML	AML			
	comp=N,2465µm,1.5s							
PP3	**Marolino**	**0.52**	**30**	⇑P	Pb	06 10 55.3	+0.5	
PP3				AML	AML			
	comp=E,3920µm,0.3s							
PP3				AML	AML			
	comp=N,7640µm,0.3s							
PP3				AML	AML			
	comp=N,7590µm,0.3s							
PP3				AML	AML			
	comp=E,4135µm,0.3s							
PP3				AML	AML			
	comp=N,7635µm,0.3s							
PP3				AML	AML			
	comp=E,4130µm,0.3s							
GIGS	**Gran Sasso**	**0.53**	**154**	P	Pg	06 10 54.0	0.0	
GIGS				AML	AML			
	comp=N,477µm,0.2s							
GIGS				AML	AML			
	comp=E,401µm,1.2s							
CESX	**Cesi**	**0.59**	**237**	⇑P	Pg	06 10 55.1	+0.1	
CESX				AML	AML			
	comp=E,618µm,0.4s							
CESX				AML	AML			
	comp=N,725µm,0.3s							
ARVD	**Arcevia**	**0.61**	**339**	⇑P	Pb	06 10 56.0	-0.4	
ARVD				AML	AML			
	comp=N,442µm,0.8s							
ARVD				AML	AML			
	comp=E,568µm,0.6s							
MURB	**Monte Urbino**	**0.63**	**302**	⇓P	Pb	06 10 56.5	-0.1	
MURB				AML	AML			
	comp=E,2800µm,0.2s							
MURB				AML	AML			
	comp=N,3050µm,0.3s							
MURB				AML	AML			
	comp=N,3295µm,0.3s							
MURB				AML	AML			
	comp=E,3095µm,0.2s							
MURB				AML	AML			
	comp=N,3055µm,0.3s							
ATFO	**Monte Foce - G**	**0.66**	**312**	⇑P	Pg	06 10 56.7	+0.3	
ATFO				AML	AML			
	comp=N,706µm,1.3s							
ATFO				AML	AML			
	comp=E,1034µm,1.0s							
FIAM	**Fiamignano**	**0.67**	**188**	⇑P	Pg	06 10 56.4	-0.1	
FIAM				AML	AML			
	comp=E,524µm,0.7s							
FIAM				AML	AML			
	comp=N,630µm,0.9s							
VCEL	**Villa Celiera**	**0.69**	**140**	⇓P	Pg	06 10 57.1	+0.2	
VCEL				AML	AML			
	comp=N,797µm,0.9s							
VCEL				AML	AML			
	comp=E,630µm,0.4s							
VCEL				AML	AML			
	comp=N,796µm,0.9s							
FRON	**Frontone**	**0.70**	**327**	P	Pg	06 10 55.4	-1.7	
FAGN	**Fagnano**	**0.71**	**159**	P	Pg	06 10 57.4	+0.2	
FAGN				AML	AML			
	comp=N,1190µm,0.5s							
FAGN				AML	AML			
	comp=E,1062µm,0.4s							
ATTE	**AVT- Monte Tez**	**0.71**	**293**	P	Pg	06 10 57.5	+0.2	
ATTE				AML	AML			
	comp=E,416µm,1.2s							
ATTE				AML	AML			
	comp=E,416µm,1.2s							
ATTE				AML	AML			
	comp=N,320µm,0.5s							
ATVO	**AVT- Monte Val**	**0.77**	**307**	⇑P	Pg	06 10 58.4	+0.1	
ATVO				AML	AML			
	comp=E,506µm,1.2s							
ATVO				AML	AML			
	comp=N,431µm,0.6s							
ATVO				AML	AML			
	comp=N,430µm,0.6s							
MPAG	**Monte Paganucc**	**0.79**	**333**	AML	AML			
	comp=N,492µm,1.5s							
MPAG				AML	AML			
	comp=E,614µm,0.5s							
T0110	**Collepietro**	**0.80**	**151**	⇑P	Pg	06 10 58.8	-0.3	
T0110				AML	AML			
	comp=E,747µm,0.4s							
T0110				AML	AML			
	comp=N,744µm,0.5s							
T0110				AML	AML			
	comp=N,744µm,0.5s							
MGAB	**Montegabbione**	**0.83**	**269**	AML	AML			
	comp=N,914µm,0.4s							
MGAB				AML	AML			
	comp=E,590µm,1.6s							
MGAB				AML	AML			
	comp=N,893µm,0.4s							
MGAB				AML	AML			
	comp=E,687µm,1.5s							
FSSB	**Fossombrone**	**0.84**	**336**	⇑P	Pb	06 11 00.2	0.0	
FSSB				AML	AML			
	comp=N,2540µm,0.3s							
FSSB				AML	AML			
	comp=E,2410µm,0.4s							
FSSB				AML	AML			
	comp=N,2545µm,0.3s							
NARO	**Abbazia di Nar**	**0.84**	**325**	⇑P	Pg	06 10 59.6	-0.1	
NARO				AML	AML			
	comp=E,296µm,0.2s							
NARO				AML	AML			
	comp=N,305µm,0.3s							
NARO				AML	AML			
	comp=N,304µm,0.3s							
SRES	**S.Oreste - Sor**	**0.88**	**219**	AML	AML			
	comp=N,244µm,0.4s							
SRES				AML	AML			
	comp=E,226µm,0.3s							
SACS	**San Casciano d**	**0.99**	**266**	P	Pb	06 11 02.7	-0.1	
SACS				AML	AML			
	comp=N,204µm,1.2s							
SACS				AML	AML			
	comp=E,190µm,1.1s							
CAFI	**Castiglion Fio**	**1.02**	**294**	AML	AML			
	comp=E,202µm,1.6s							
CAFI				AML	AML			
	comp=N,196µm,0.4s							
PARC	**Parchiule**	**1.03**	**315**	AML	AML			
	comp=N,347µm,0.5s							
PARC				AML	AML			
	comp=E,310µm,1.3s							
INTR	**Introdacqua**	**1.04**	**152**	AML	AML			
	comp=E,262µm,0.8s							
INTR				AML	AML			
	comp=N,492µm,0.7s							
TOLF	**Tolfa**	**1.26**	**227**	AML	AML			
	comp=N,222µm,0.4s							
TOLF				AML	AML			
	comp=E,134µm,0.3s							
PGF	**Pioggiola**	**3.15**	**265**	*e*P	Pn	06 11 34.6	+1.3	
PGF				*e*Sn	Sn	06 12 07.2	-3.9	
	comp=E,1.2nm,0.3s							
ABTA	**Abfaltersbach**	**3.85**	**352**	*e*Pn	Pn	06 11 44.9	+1.9	
	comp=E,3.0nm,0.5s							
ABTA				*e*Sn	Sn	06 12 30.0	+1.7	
	comp=E,1.6nm,0.4s							
KBA	**Koelnbreinsper**	**4.15**	**1**	*e*Pn	Pb	06 11 53.4	-3.3	
	comp=E,1.4nm,0.3s							
FETA	**Feichten**	**4.46**	**337**	*e*Pn	Pn	06 11 55.6	+4.2	
	comp=E,2.0nm,0.5s							
BIOA	**Bad Ischl, Aus**	**4.77**	**3**	*e*Pn	Pn	06 11 58.7	+3.2	
	comp=E,1.7nm,0.2s							
RETA	**Reutte**	**4.88**	**340**	*e*Pn	Pn	06 12 00.7	+3.6	
	comp=E,1.3nm,0.4s							
LMR	**La Mourre**	**4.95**	**277**	*e*P	Pn	06 11 59.8	+1.9	
LMR				*e*Sn	Sn	06 12 51.2	-4.0	
	comp=E,0.3nm,0.2s							
DAVA	**Damuels**	**4.97**	**332**	*e*Pn	Pn	06 12 03.4	+5.1	
	comp=E,1.9nm,0.5s							
MBDF	**Montbardon**	**5.02**	**293**	*e*Pn	Pn	06 11 57.7	-1.3	
MBDF				*e*Sn	Sn	06 12 54.6	-2.5	
	comp=E,2.4nm,0.6s							
LPG	**La Plagne**	**5.33**	**301**	*e*Pn	Pn	06 12 02.6	-0.8	
LPG				*e*Sn	Sn	06 13 00.7	-4.3	
	comp=E,1.6nm,0.3s							
LPL	**La Plagne**	**5.35**	**301**	*e*P	Pn	06 12 07.2	+3.6	
LPL				*e*Sn	Sn	06 13 02.3	-3.1	
	comp=E,2.9nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.68**	**293**	*e*Pn	Pn	06 12 07.3	-0.8	
ORIF				*e*Sn	Sn	06 13 07.6	-5.8	
	comp=E,1.1nm,0.4s							
SMRF	**Simiane la Rot**	**5.68**	**283**	*e*P	Pn	06 12 10.6	+2.6	
SMRF				*e*Sn	Sn	06 13 07.9	-5.4	
	comp=E,0.5nm,0.4s							
CABF	**La Chapelle**	**6.29**	**308**	*e*Pn	Pn	06 12 15.6	-0.8	
HINF	**Hinteralfeld**	**6.64**	**320**	*e*Pn	Pn	06 12 21.0	-0.2	
HINF				*e*Sn	Sn	06 13 34.5	-2.5	
	comp=E,7.8nm,0.6s							
CDF	**Champ du Feu**	**6.90**	**325**	*e*Pn	Pn	06 12 23.9	-0.8	
CDF				*e*Sn	Sn	06 13 38.7	-4.5	
	comp=E,1.6nm,0.3s							
HAU	**Haudompre**	**7.02**	**319**	*e*Pn	Pn	06 12 25.5	-0.9	
HAU				*e*Sn	Sn	06 13 44.6	-1.6	
	comp=E,7.5nm,0.4s							
PAGF	**Fort de Pagny**	**7.70**	**320**	*e*Pn	Pn	06 12 33.8	-1.9	
PAGF				*e*Sn	Sn	06 13 57.9	-5.0	
	comp=E,3.7nm,0.5s							
LOR	**Lormes**	**7.93**	**306**	*e*Pn	Pn	06 12 36.6	-2.3	
	baz=126							
LOR				*e*Sn	Sn	06 14 02.8	-5.8	
	comp=E,2.6nm,0.5s							
AVF	**Avril sur Loir**	**8.02**	**302**	*e*P	Pn	06 12 44.2	+4.2	
SAVF	**Savonnieres en**	**8.03**	**318**	*e*Pn	Pn	06 12 38.3	-1.9	
SAVF	**Savonnieres en**	**8.03**	**318**	*e*P	Pn	06 12 44.4	+4.2	
	baz=10							
SSF	**Saint Saulge**	**8.04**	**304**	*e*P	Pn	06 12 43.8	+3.4	
BAIF	**Baives**	**9.47**	**322**	*e*Pn	Pn	06 12 59.4	-0.5	

DJA ***03*** *06:21:27.9±0.5, 7°S×4°×12°9E±°, h239km±14km, M4.2/7, mb4.1/6, mB4.7/1, MLv4.3/7, Mw(mB)4.0/1*
IDC ***03*** *06:21:29.6±10.0, 7°.25S×129°.21E, h172km±100km, mb3.5/2, mbtmp4.1/6, Error ellipse: s-maj=119.0km s-min=23.1km az=51.0*
NEIC ***03*** *06:21:31.0±2.0, 7°.22S±0°.08×129°.15E±0°.09, h180km±10km, mb4.4/11, Error ellipse: s-maj=12.8km s-min=12.2km az=71.0*

ISC 03 06:21:31.2±0.6, 7°.23S±0°.07×129°.11E±0°.07, h200km, n45, σ2s15/47, mb4.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.30**	**109**	Pn	**Pn**	**06 22 10.8**	**-2.0**
SAUI	**Saumlaki**	**2.30**	**109**	P	**Pn**	**06 22 10.7**	**-2.1**
MSAI	**Masohi**	**3.87**	**357**	P	**Pn**	**06 22 29.9**	**-1.4**
FAKI	**Fak Fak**	**5.30**	**36**	Pn	**Pn**	**06 22 47.8**	**-1.7**
FAKI	**Fak Fak**	**5.30**	**36**	P	**Pn**	**06 22 45.1**	**-4.4**
	0.3nm1µm20nm,1.0s						
SOEI	**Soe**	**5.41**	**242**		**Pn**	**06 22 50.4**	**-0.5**
SOEI	**Soe**	**5.41**	**242**	P	**Pn**	**06 22 50.8**	**-0.1**
	0.7nm67nm,0.6s						
SOEI	**Soe**	**5.41**	**242**	P	**Pn**	**06 22 51.2**	**+0.3**
MTN	**Manton Dam**	**5.92**	**160**		**Pn**	**06 22 55.7**	**-1.7**
MTN	**Manton Dam**	**5.92**	**160**	P	**Pn**	**06 22 55.7**	**-1.7**
BATI	**Baumata**	**6.14**	**241**	P	**Pn**	**06 23 00.6**	**+0.2**
	54nm,0.3s,baz=90,slow=3.2,SNR=7.0						
BATI				S	**Sn**	**06 24 07.0**	**-3.9**
	94nm,0.5s,baz=5.4,slow=23,SNR=12						
BATI	**Baumata**	**6.14**	**241**	P	**Pn**	**06 23 00.8**	**+0.5**
	0.3nm50nm,0.6s						
KDU	**Kakadu**	**6.35**	**149**	P	**Pn**	**06 23 01.0**	**-2.0**
SWI	**Sorong**	**6.68**	**19**	P	**Pn**	**06 23 03.3**	**-4.0**
	0.1nm26nm,0.8s						
EDFI	**Ende, Flores**	**7.50**	**258**	P	**Pn**	**06 23 17.8**	**-0.3**
	0.0nm7.4nm,0.8s						
KNRA	**Kununurra**	**8.40**	**182**		**Pn**	**06 23 27.9**	**-1.7**
KNRA	**Kununurra**	**8.40**	**182**	P	**Pn**	**06 23 28.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**11.32**	**197**	P	**Pn**	**06 24 05.5**	**-1.9**
	0.9nm,0.4s,baz=24,slow=11,SNR=6.7						
FITZ				S	Sn	06 26 02.1	-12
	2.0nm,0.3s,baz=257,slow=22,SNR=5.9						
FITZ	**Fitzroy Crossi**	**11.32**	**197**	Pn	**Pn**	**06 24 06.3**	**-1.1**
PLAI	**Plampang**	**11.33**	**261**	P	**Pn**	**06 24 04.5**	**-3.2**
PLAI	**Plampang**	**11.33**	**261**	P	**Pn**	**06 24 06.8**	**-0.9**
WRAB	**Tennant Creek**	**13.61**	**159**	Pn	**Pn**	**06 24 35.8**	**-0.6**
WRAB	**Tennant Creek**	**13.61**	**159**	P	**Pn**	**06 24 35.7**	**-0.6**
WRA	**Warramunga Arr**	**13.62**	**159**	P	**Pn**	**06 24 33.4**	**-3.0**
	0.8nm,0.5s,baz=328,slow=14,SNR=23						
WRA				S	S	06 26 56.0	-12
	3.9nm,0.8s,baz=328,slow=24,SNR=9.4						
WRA	**Warramunga Arr**	**13.62**	**159**		**Pn**	**06 24 35.5**	**-0.9**
COEN	**Coen**	**15.35**	**117**		**P**	**06 24 58.6**	**+0.5**
COEN				IAmb	IAmb	06 25 11.8	
	comp=Z,9.5nm,1.2s						
COEN	**Coen**	**15.35**	**117**	P	**P**	**06 24 59.5**	**+1.4**
MYLDM	**Lahad Datu**	**16.25**	**319**	P	**Pn**	**06 25 11.3**	**+2.7**
MYLDM				IAmb	IAmb	06 25 30.7	
	comp=Z,12nm,0.8s						
QIS	**Mount Isa**	**16.70**	**144**	P	**Pn**	**06 25 14.4**	**+0.4**
AS31	**Alice Springs**	**16.98**	**165**	P	**Pn**	**06 25 17.1**	**-0.2**
ASAR	**Alice Springs**	**16.98**	**165**	P	**Pn**	**06 25 17.7**	**+0.4**
	comp=Z,6.5nm,0.5s,baz=342,slow=9.7,SNR=105						
ASAR				S	**S**	**06 28 15.5**	**-7.2**
	comp=Z,0.4nm,0.7s,baz=337,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**16.98**	**165**	P	**Pn**	**06 25 17.2**	**0.0**
WRKA	**Warakurna**	**17.72**	**182**	P	**Pn**	**06 25 26.2**	**+0.2**
PMG	**Port Moresby**	**17.99**	**98**	P	**Pn**	**06 25 28.9**	**-0.4**
PMG				IAmb	IAmb	06 25 45.7	
	comp=Z,14nm,1.1s						
OOD	**Oodnadatta**	**21.38**	**164**	P	**P**	**06 26 04.2**	**+1.0**
FORT	**Forrest**	**23.45**	**182**	P	**P**	**06 26 25.0**	**+2.5**
FORT	**Forrest**	**23.45**	**182**	P	**P**	**06 26 25.6**	**+3.0**
	comp=Z,24nm,0.9s						
BBOO	**Buckleboo**	**26.26**	**167**	P	**P**	**06 26 49.2**	**+1.2**
STKA	**Stephens Creek**	**27.14**	**156**	P	**P**	**06 26 56.6**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=341,slow=13,SNR=3.2						
	comp=Z,1.7nm,0.4s						
JOW	**Kunigami**	**33.87**	**359**	P	**P**	**06 27 54.6**	**-0.4**
JOW				IAmb	IAmb	06 28 12.5	
	comp=Z,19nm,1.3s						
WHZ	**Wether Hill Ro**	**51.01**	**146**	P	**P**	**06 30 14.0**	**+1.3**
WHZ				IAmb	IAmb	06 30 17.8	
	comp=Z,24nm,1.2s						
RPZ	**Rata Peaks**	**51.59**	**142**	P	**P**	**06 30 19.6**	**+2.5**
RPZ				IAmb	IAmb	06 30 54.9	
	comp=Z,31nm,1.5s						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**06 32 10.1**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=123,slow=7.1,SNR=5.8						
	comp=Z,0.3nm,0.4s						
VNDA	**Vanda**	**72.33**	**173**	P	**P**	**06 32 36.1**	**+1.6**
QSPA	**South Pole Qui**	**82.75**	**180**	P	**P**	**06 33 34.1**	**+1.6**
QSPA				IAmb	IAmb	06 33 37.9	
	comp=Z,5.6nm,1.4s						

ROM 03 06:22:29.9±0.2, 42°.625N±0°.007×13°.306E±0°.007, h6km±1km, Md0.7/3, 3C, Error ellipse: s-maj=0.8km s-min=0.3km az=156.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.02**	**76**	⇑P	Pg	06 22 31.6	+0.4
SMA1				S	Sg	06 22 32.7	+0.6
SMA1				AML	AML		
	comp=E,2055µm,0.4s						
SMA1				AML	AML		
	comp=N,1170µm,0.4s						
SMA1				END			
T1204	**Amatrice, Fraz**	**0.05**	**9**	P	Pg	06 22 31.8	+0.2
T1204				S	Sg	06 22 32.9	+0.2
T1204				END			
T1202	**Accumoli, Fraz**	**0.10**	**323**	P	Pg	06 22 32.8	+0.6
T1202				S	Sg	06 22 34.9	+1.1
T1202				AML	AML		
	comp=E,2825µm,0.2s						
T1202				AML	AML		
	comp=N,3855µm,0.8s						
T1202				AML	AML		
	comp=E,2835µm,0.2s						
T1202				AML	AML		
	comp=N,3845µm,0.8s						
T1243	**Rocca Santa Ma**	**0.13**	**56**	P	Pg	06 22 32.8	+0.2
T1243				S	Sg	06 22 35.2	+0.8
T1244	**Arquata del Tr**	**0.13**	**357**	⇑P	Pg	06 22 32.6	-0.1
T1244				S	Sg	06 22 35.4	+0.8
T1244				AML	AML		
	comp=E,3520µm,0.2s						
T1244				AML	AML		
	comp=N,2615µm,1.5s						
T1244				AML	AML		
	comp=E,3485µm,0.2s						
T1244				AML	AML		
	comp=N,2635µm,1.6s						
T1244				AML	AML		
	comp=E,3490µm,0.2s						
T1244				AML	AML		
	comp=N,2605µm,1.6s						
RM33	**Pellescritta (**	**0.13**	**210**	⇑P	Pg	06 22 33.2	+0.5
RM33				S	Sg	06 22 35.7	+1.1
RM33				AML	AML		
	comp=N,378µm,0.2s						
RM33				AML	AML		
	comp=E,494µm,1.2s						
LNSS	**Leonessa**	**0.20**	**264**	P	Pg	06 22 34.5	+0.7
LNSS				S	Sg	06 22 37.2	+0.7
LNSS				AML	AML		
	comp=E,1092µm,0.9s						
LNSS				AML	AML		
	comp=E,1094µm,0.9s						
LNSS				AML	AML		
	comp=N,1585µm,0.4s						
T1242	**Castelluccio d**	**0.22**	**340**	P	Pg	06 22 34.1	-0.1
T1242				AML	AML		
	comp=E,129µm,1.2s						
T1242				AML	AML		
	comp=N,244µm,0.5s						
T1242				AML	AML		
	comp=E,11060µm,0.4s						
T1242				AML	AML		
	comp=N,6140µm,0.2s						
T1242				AML	AML		
	comp=E,11040µm,0.4s						
T1242				AML	AML		
	comp=E,11085µm,0.4s						
T1242				AML	AML		
	comp=N,6135µm,0.2s						
T1242				AML	AML		
	comp=N,6090µm,0.2s						
TERO	**Teramo**	**0.22**	**90**	P	Pg	06 22 34.5	+0.3
TERO				S	Sg	06 22 38.2	+1.1
TERO				AML	AML		
	comp=E,284µm,1.3s						
TERO				AML	AML		
	comp=N,348µm,0.1s						
TERO				AML	AML		
	comp=E,453µm,1.0s						
TERO				AML	AML		
	comp=N,392µm,1.4s						
T1241	**Roccafluvione,**	**0.25**	**22**	AML	AML		
	comp=E,2340µm,1.5s						
T1241				AML	AML		
	comp=N,2050µm,0.1s						
T1241				AML	AML		
	comp=E,2285µm,1.5s						
T1241				AML	AML		
	comp=N,1910µm,0.2s						
GIGS	**Gran Sasso**	**0.26**	**132**	P	Pg	06 22 35.3	+0.3
GIGS				AML	AML		
	comp=E,75µm,0.2s						
GIGS				AML	AML		
	comp=N,124µm,0.3s						
GIGS				AML	AML		
	comp=E,105µm,0.2s						
GIGS				AML	AML		
	comp=N,125µm,0.3s						

ROM 03 06:23:26.9±0.1, 42°.925N±0°.004×13°.246E±0°.005,

h8km, ML2.3/29, 18C-7D, Error ellipse: s-maj=0.4km s-min=0.2km az=55.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**253**	P	Pg	06 23 28.8	0.0
MC2				S	Sg	06 23 30.1	-0.1
T1242	**Castelluccio d**	**0.10**	**198**	↑P	Pg	06 23 29.8	+0.4
T1242				S	Sg	06 23 31.8	+0.6
T1242				AML	AML		
	comp=E,11080μm,0.4s						
T1242				AML	AML		
	comp=N,6140μm,0.2s						
T1242				AML	AML		
	comp=E,11040μm,0.4s						
T1242				AML	AML		
	comp=E,11060μm,0.4s						
T1242				AML	AML		
	comp=E,11085μm,0.4s						
T1242				AML	AML		
	comp=N,6135μm,0.2s						
T1242				AML	AML		
	comp=N,6090μm,0.2s						
T1242				AML	AML		
	comp=E,11080μm,0.4s						
NRCA	**Norcia**	**0.13**	**227**	↓P	Pg	06 23 30.4	+0.6
NRCA				S	Sg	06 23 33.1	+1.2
NRCA				AML	AML		
	comp=E,7050μm,0.4s						
NRCA				AML	AML		
	comp=N,5525μm,0.4s						
NRCA				AML	AML		
	comp=E,6330μm,0.4s						
NRCA				AML	AML		
	comp=N,6005μm,0.4s						
NRCA				AML	AML		
	comp=N,5530μm,0.4s						
GUMA	**Gualdo di Mace**	**0.15**	**25**	↓P	Pg	06 23 30.8	+0.6
GUMA				S	Sg	06 23 33.9	+1.4
GUMA				AML	AML		
	comp=E,4735μm,0.3s						
GUMA				AML	AML		
	comp=N,7060μm,0.3s						
GUMA				AML	AML		
	comp=E,6635μm,0.6s						
GUMA				AML	AML		
	comp=N,6410μm,0.3s						
GUMA				AML	AML		
	comp=N,7055μm,0.3s						
T1241	**Roccafluvione,**	**0.15**	**117**	↑P	Pg	06 23 30.5	+0.4
T1241				S	Sg	06 23 33.2	+0.8
T1241				AML	AML		
	comp=E,2340μm,1.6s						
T1241				AML	AML		
	comp=E,2285μm,1.5s						
T1241				AML	AML		
	comp=E,2340μm,1.5s						
T1241				AML	AML		
	comp=N,1910μm,0.2s						
T1241				AML	AML		
	comp=N,2050μm,0.1s						
FDMO	**Fiordimonte**	**0.16**	**314**	↑P	Pg	06 23 30.7	+0.4
FDMO				S	Sg	06 23 33.7	+1.0
FDMO				AML	AML		
	comp=E,1020μm,1.5s						
FDMO				AML	AML		
	comp=N,866μm,0.3s						
CSP1	**Cessapalombo**	**0.17**	**350**	P	Pg	06 23 30.8	+0.3
CSP1				S	Sg	06 23 33.7	+0.7
CSP1				AML	AML		
	comp=E,1070μm,1.2s						
CSP1				AML	AML		
	comp=N,1910μm,0.3s						
CSP1				AML	AML		
	comp=E,1072μm,1.2s						
CSP1				AML	AML		
	comp=N,1908μm,0.3s						
CSP1				AML	AML		
	comp=N,1906μm,0.3s						
CSP1				AML	AML		
	comp=E,1080μm,1.2s						
T1244	**Arquata del Tr**	**0.17**	**167**	P	Pg	06 23 31.2	+0.7
T1244				S	Sg	06 23 34.6	+1.6
T1244				AML	AML		
	comp=N,2620μm,1.5s						
T1244				AML	AML		
	comp=E,3490μm,0.2s						
T1244				AML	AML		
	comp=N,2625μm,1.6s						
T1244				AML	AML		
	comp=E,3520μm,0.2s						
T1244				AML	AML		
	comp=N,2620μm,1.6s						
T1244				AML	AML		
	comp=N,2605μm,1.6s						
T1244				AML	AML		
	comp=E,3485μm,0.2s						
T1244				AML	AML		
	comp=N,2615μm,1.6s						
T1204	**Amatrice, Fraz**	**0.25**	**168**	↑P	Pg	06 23 32.6	+0.6
T1204				S	Sb	06 23 37.2	-1.1
T1204				AML	AML		
	comp=E,1348μm,0.2s						
T1204				AML	AML		
	comp=N,810μm,0.2s						
CESI	**CESI - Serrava**	**0.26**	**288**	↑P	Pg	06 23 32.8	+0.6
CESI				S	Sb	06 23 37.5	-1.1
CESI				AML	AML		
	comp=E,1082μm,0.5s						
CESI				AML	AML		
	comp=N,2245μm,0.3s						
T1243	**Rocca Santa Ma**	**0.27**	**147**	P	Pg	06 23 32.7	+0.4
T1243				S	Sb	06 23 37.4	-1.4
SMA1	**SAN MARTINO**	**0.30**	**167**	↓P	Pg	06 23 33.4	+0.5
SMA1				S	Sb	06 23 38.8	-0.9
SMA1				AML	AML		
	comp=E,800μm,0.4s						
SMA1				AML	AML		
	comp=N,860μm,0.5s						
T1215	**Vallo di Nera,**	**0.30**	**246**	↑P	Pg	06 23 33.5	+0.6
T1215				S	Sb	06 23 38.8	-0.8
T1215				AML	AML		
	comp=E,605μm,0.4s						
T1215				AML	AML		
	comp=N,314μm,0.3s						
OFFI	**Offida**	**0.32**	**88**	↑P	Pb	06 23 34.8	0.0
OFFI				S	Sb	06 23 41.5	+1.3
OFFI				AML	AML		
	comp=E,762μm,1.3s						
OFFI				AML	AML		
	comp=N,777μm,0.5s						
LNSS	**Leonessa**	**0.35**	**205**	↑P	Pg	06 23 34.4	+0.5
LNSS				S	Sb	06 23 40.7	-0.5
LNSS				AML	AML		
	comp=E,1092μm,0.9s						
LNSS				AML	AML		
	comp=N,1585μm,0.4s						
LNSS				AML	AML		
	comp=E,1094μm,0.9s						
MTL1	**Matelica**	**0.37**	**333**	S	Sb	06 23 43.0	+1.3
SNTG	**Esanatoglia**	**0.40**	**326**	P	Pg	06 23 35.0	+0.4
SNTG				AML	AML		
	comp=E,219μm,0.7s						
SNTG				AML	AML		
	comp=N,286μm,0.6s						
TERO	**Teramo**	**0.40**	**139**	↑P	Pg	06 23 34.9	+0.2
TERO				S	Sb	06 23 41.5	-0.9
TERO				AML	AML		
	comp=E,453μm,1.0s						
TERO				AML	AML		
	comp=N,392μm,1.4s						
CAMP	**Campotosto**	**0.41**	**163**	↑P	Pg	06 23 35.1	+0.3
CAMP				S	Sb	06 23 41.6	-1.1
CAMP				AML	AML		
	comp=N,248μm,0.8s						
CAMP				AML	AML		
	comp=E,281μm,0.9s						
RM33	**Pellescritta (**	**0.42**	**183**	P	Pg	06 23 35.3	+0.3
RM33				S	Sb	06 23 42.4	-0.6
RM33				AML	AML		
	comp=E,494μm,1.2s						
RM33				AML	AML		
	comp=N,378μm,0.2s						
RM33				AML	AML		
	comp=E,494μm,1.2s						
EL6	**Elcito**	**0.42**	**345**	↑P	Pg	06 23 35.4	+0.3
ASSB	**Assisi San Ben**	**0.45**	**285**	↑P	Pg	06 23 35.9	+0.3
ASSB				S	Sb	06 23 43.5	-0.3
ASSB				AML	AML		
	comp=E,326μm,0.3s						
ASSB				AML	AML		
	comp=N,375μm,0.4s						
FOSV	**Fossato di Vic**	**0.51**	**316**	↓P	Pg	06 23 37.2	+0.4
FOSV				AML	AML		
	comp=N,541μm,0.3s						
FOSV				AML	AML		
	comp=N,540μm,0.3s						
FOSV				AML	AML		
	comp=E,224μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.52**	**301**	↑P	Pg	06 23 37.3	+0.4
ATCC				S	Sb	06 23 46.0	+0.2
ATCC				AML	AML		
	comp=E,503μm,0.3s						
ATCC				AML	AML		
	comp=N,400μm,0.3s						
GIGS	**Gran Sasso**	**0.53**	**153**	↑P	Pg	06 23 37.3	+0.1
GIGS				S	Sb	06 23 46.0	-0.3
GIGS				AML	AML		
	comp=E,75μm,0.2s						
GIGS				AML	AML		
	comp=N,124μm,0.3s						
GIGS				AML	AML		
	comp=E,105μm,0.2s						
GIGS				AML	AML		
	comp=N,125μm,0.3s						
GIGS				AML	AML		
	comp=E,105μm,0.2s						
CESX	**Cesi**	**0.58**	**238**	P	Pg	06 23 38.1	0.0
CESX				S	Sb	06 23 48.0	+0.3
ARVD	**Arcevia**	**0.61**	**339**	↓P	Pb	06 23 39.7	-0.2
ARVD				S	Sb	06 23 50.0	+1.4
ARVD				AML	AML		
	comp=N,70μm,0.8s						
ARVD				AML	AML		
	comp=E,104μm,0.6s						
ATFO	**Monte Foce - G**	**0.66**	**312**	↓P	Pg	06 23 40.0	+0.3
ATFO				AML	AML		
	comp=E,160μm,1.0s						
ATFO				AML	AML		
	comp=N,120μm,0.8s						
FIAM	**Fiamignano**	**0.66**	**188**	S	Sb	06 23 50.0	-0.1
VCEL	**Villa Celiera**	**0.69**	**140**	↓P	Pb	06 23 40.9	-0.2
VCEL				S	Sn	06 23 53.0	-0.8
VCEL				AML	AML		
	comp=E,154μm,0.4s						
VCEL				AML	AML		
	comp=N,168μm,1.6s						
VCEL				AML	AML		
	comp=E,154μm,0.4s						
VCEL				AML	AML		
	comp=N,167μm,1.6s						
FAGN	**Fagnano**	**0.70**	**159**	S	Sb	06 23 52.0	+0.8
FRON	**Frontone**	**0.70**	**328**	↑P	Pg	06 23 40.8	+0.4
FRON				AML	AML		
	comp=E,148μm,0.8s						
FRON				AML	AML		
	comp=N,220μm,0.8s						
ATTE	**AVT- Monte Tez**	**0.71**	**293**	↑P	Pn	06 23 43.2	0.0
ATVC	**AVT- Monte Val**	**0.77**	**307**	↑P	Pg	06 23 41.5	-0.1
ATVO				AML	AML		
	comp=E,86μm,1.2s						
ATVO				AML	AML		
	comp=N,81μm,0.5s						
ATVO				AML	AML		
	comp=E,86μm,1.2s						
ATVO				AML	AML		
	comp=N,81μm,0.5s						
T0110	**Collepietro**	**0.80**	**150**	P	Pg	06 23 42.0	-0.3
T0110				AML	AML		
	comp=E,186μm,0.4s						
T0110				AML	AML		
	comp=E,185μm,0.4s						
T0110				AML	AML		
	comp=N,184μm,0.4s						
FSSB	**Fossombrone**	**0.84**	**336**	P	Pb	06 23 44.0	+0.3
FSSB				AML	AML		
	comp=E,394μm,0.4s						
FSSB				AML	AML		
	comp=N,469μm,0.3s						
NARO	**Abbazia di Nar**	**0.84**	**325**	↑P	Pg	06 23 43.3	+0.3
NARO				S	Sn	06 23 57.0	-0.5
NARO				AML	AML		
	comp=E,53μm,0.3s						
NARO				AML	AML		
	comp=N,56μm,0.4s						
NARO				AML	AML		
	comp=E,53μm,0.3s						
NARO				AML	AML		
	comp=N,56μm,0.4s						

*IDC **03** 06:35:30.6±3.4, 36°.61S×179°.16E, h0km, mb4.1/2, mbtmp4.1/3, ML4.0/1, Error ellipse: s-maj=75.0km s-min=43.6km az=122.0*

*WEL **03** 06:35:33.4±1.1, 37°.5±4°.×17°.9E±°, h12km±7km, M3.9/56, ML4.1/60, MLv3.9/56, Error ellipse: s-maj=0.0km s-min=0.0km az=87.4*

ISC 03 06:35:30.7±2.5, 36°.92S±0°.07×179°.39E±0°.09, h7km±12km, n89, σ1°.26/94, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.08**	**233**	P	**Pg**	**06 35 51.0**	**-0.5**
MXZ				S	**Sg**	**06 36 03.8**	**-1.7**
WMGZ	**Waiomatatini S**	**1.19**	**221**	P	**Pb**	**06 35 55.4**	**+1.8**
WMGZ				S	**Sg**	**06 36 10.4**	**+1.4**
PKGZ	**Pakihiroa**	**1.43**	**227**	P	**Pb**	**06 35 58.0**	**+0.9**
PKGZ				S	**Sb**	**06 36 16.1**	**0.0**
PUZ	**Puketiti**	**1.47**	**218**	P	**Pn**	**06 35 58.8**	**+1.3**
PUZ				S	**Sn**	**06 36 17.2**	**+0.2**
HAZ	**Te Kaha**	**1.53**	**236**	P	**Pn**	**06 35 59.3**	**+0.8**
HAZ				S	**Sn**	**06 36 18.8**	**+0.2**
TWGZ	**Tauwhareparae**	**1.69**	**221**	P	**Pn**	**06 36 02.1**	**+1.5**
RUGZ	**Raukumara Rang**	**1.72**	**232**	P	**Pn**	**06 36 01.9**	**+0.8**
RUGZ				S	**Sn**	**06 36 24.1**	**+0.7**
CNGZ	**Carnagh Statio**	**1.83**	**211**	P	**Pn**	**06 36 04.4**	**+1.9**
WIZ	**White Island**	**1.86**	**250**	P	**Pn**	**06 36 02.2**	**-0.7**
TKGZ	**Te Karaka**	**1.95**	**218**	P	**Pn**	**06 36 05.4**	**+1.2**
TKGZ				S	**Sn**	**06 36 28.9**	**0.0**
MWZ	**Matawai**	**2.05**	**226**	P	**Pn**	**06 36 06.8**	**+1.2**
MWZ				S	**Sn**	**06 36 30.9**	**-0.5**
WHRZ	**Whale Island**	**2.14**	**243**	P	**Pn**	**06 36 08.2**	**+1.3**
RIGZ	**Rimuhau**	**2.21**	**215**	P	**Pn**	**06 36 08.7**	**+1.0**
RAGZ	**Rawiri**	**2.23**	**224**	P	**Pn**	**06 36 09.3**	**+1.3**
URZ	**Urewera**	**2.26**	**233**	Pn	**Pn**	**06 36 09.3**	**+1.0**
	38nm,0.3s,baz=31,slow=3.6,SNR=61						
URZ				Sn	**Sn**	**06 36 35.0**	**-1.4**
	33nm,0.3s,baz=211,slow=17,SNR=6.8						
	134nm,0.4s						
URZ	**Urewera**	**2.26**	**233**	P	**Pn**	**06 36 09.5**	**+1.2**
PRGZ	**Paritu Road**	**2.33**	**210**	P	**Pn**	**06 36 10.3**	**+0.9**
EDRZ	**Edgecumbe**	**2.42**	**240**	P	**Pn**	**06 36 12.1**	**+1.3**
OPRZ	**Ohinepanea**	**2.44**	**247**	P	**Pn**	**06 36 11.8**	**+0.8**
SNGZ	**Shannon Statio**	**2.47**	**220**	P	**Pn**	**06 36 12.2**	**+0.8**
KNZ	**Kokohu**	**2.50**	**212**	P	**Pn**	**06 36 11.9**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.52**	**207**	P	**Pn**	**06 36 13.1**	**+1.0**
MYRZ	**Mayor Island**	**2.55**	**261**	P	**Pn**	**06 36 13.2**	**+0.8**
RTZ	**Ruatahuna**	**2.56**	**228**	P	**Pn**	**06 36 14.1**	**+1.5**
MUGZ	**Murupara**	**2.60**	**232**	P	**Pn**	**06 36 14.2**	**+1.0**
TGRZ	**Tauranga**	**2.63**	**251**	P	**Pn**	**06 36 14.3**	**+0.9**
OMRZ	**Omania**	**2.68**	**243**	P	**Pn**	**06 36 16.8**	**+2.5**
RRRZ	**Republican Roa**	**2.69**	**237**	P	**Pn**	**06 36 16.2**	**+1.8**
KARZ	**Kaharoa**	**2.74**	**245**	P	**Pn**	**06 36 16.8**	**+1.8**
WHHZ	**Waihua**	**2.75**	**218**	P	**Pn**	**06 36 17.1**	**+1.9**
MTHZ	**Maungataniwha**	**2.80**	**225**	P	**Pn**	**06 36 17.2**	**+1.3**
PRRZ	**Plateau Road**	**2.86**	**235**	P	**Pn**	**06 36 17.4**	**+0.7**
HRRZ	**Handcock Road**	**2.87**	**238**	P	**Pb**	**06 36 21.1**	**-1.2**
KMRZ	**Kaimai**	**2.90**	**250**	P	**Pn**	**06 36 18.2**	**+0.9**
ALRZ	**Allen Road**	**2.92**	**235**	P	**Pn**	**06 36 18.4**	**+0.8**
KUZ	**Kuaotunu**	**2.95**	**272**	P	**Pn**	**06 36 16.9**	**-1.1**
NMHZ	**Naumai**	**2.99**	**222**	P	**Pn**	**06 36 19.5**	**+1.0**
ARHZ	**Aropaoanui**	**3.01**	**218**	P	**Pn**	**06 36 19.4**	**+0.7**
TOZ	**Tahuroa Road**	**3.21**	**254**	P	**Pn**	**06 36 21.3**	**-0.1**
BKZ	**Black Stump Fm**	**3.21**	**225**	P	**Pn**	**06 36 21.9**	**+0.4**
GRZ	**Great Barrier**	**3.24**	**281**	P	**Pn**	**06 36 22.6**	**+0.8**
KUTZ	**Kaahu Road**	**3.24**	**240**	P	**Pn**	**06 36 23.3**	**+1.4**
CKHZ	**Cape Kidnapper**	**3.29**	**213**	P	**Pn**	**06 36 22.4**	**-0.2**
MKAZ	**Moumakai**	**3.39**	**266**	P	**Pn**	**06 36 23.5**	**-0.5**
WIAZ	**Waiheke Island**	**3.42**	**271**	P	**Pn**	**06 36 24.7**	**+0.4**
KWHZ	**Kaweka Forest**	**3.43**	**222**	P	**Pn**	**06 36 24.9**	**+0.4**
KAHZ	**Kahuranaki**	**3.49**	**214**	P	**Pn**	**06 36 24.9**	**-0.5**
ETAZ	**East Tamaki Re**	**3.58**	**268**	P	**Pn**	**06 36 27.9**	**+1.3**
MBAZ	**Motutapu North**	**3.61**	**271**	P	**Pn**	**06 36 28.6**	**+1.7**
KRHZ	**Kereru**	**3.62**	**220**	P	**Pn**	**06 36 27.4**	**+0.2**
TMVZ	**Te Maari**	**3.65**	**232**	P	**Pn**	**06 36 28.2**	**+0.5**
ETVZ	**East Tongariro**	**3.66**	**232**	P	**Pn**	**06 36 28.2**	**+0.4**
BHHZ	**Black Hill Sta**	**3.67**	**225**	P	**Pn**	**06 36 28.0**	**+0.1**
ABAZ	**Army Bay**	**3.68**	**274**	P	**Pn**	**06 36 29.6**	**+1.7**
KRVZ	**Karewarewa**	**3.68**	**233**	P	**Pn**	**06 36 28.9**	**+0.9**
OTVZ	**Oturere**	**3.70**	**232**	P	**Pn**	**06 36 29.7**	**+1.2**
NNVZ	**North Ngauruho**	**3.71**	**232**	P	**Pn**	**06 36 30.5**	**+1.9**
WTVZ	**West Tongariro**	**3.72**	**233**	P	**Pn**	**06 36 30.3**	**+1.7**
EPAZ	**Eden Park BICE**	**3.73**	**269**	P	**Pn**	**06 36 30.7**	**+2.2**
SNVZ	**South Ngauruho**	**3.73**	**231**	P	**Pn**	**06 36 29.6**	**+0.8**
NGZ	**Ngauruhoe**	**3.75**	**232**	P	**Pn**	**06 36 29.8**	**+0.8**
TUVZ	**Tukino**	**3.77**	**230**	P	**Pn**	**06 36 30.2**	**+0.8**
TWVZ	**Taurewa**	**3.79**	**234**	P	**Pn**	**06 36 31.3**	**+1.6**
MOVZ	**Moawhango**	**3.80**	**228**	P	**Pn**	**06 36 29.8**	**+0.1**
AWAZ	**Awhitu Peninsu**	**3.81**	**266**	P	**Pn**	**06 36 30.5**	**+0.8**
FWVZ	**Far West T-bar**	**3.83**	**231**	P	**Pn**	**06 36 31.8**	**+1.6**
WNVZ	**Wahianoa**	**3.84**	**230**	P	**Pn**	**06 36 30.6**	**+0.2**
WTAZ	**Waiatarua**	**3.86**	**268**	P	**Pn**	**06 36 31.7**	**+1.2**
RVAZ	**Riverhead Bore**	**3.86**	**271**	P	**Pn**	**06 36 31.7**	**+1.2**
PNHZ	**Pukenui**	**3.91**	**219**	P	**Pn**	**06 36 30.4**	**-0.7**
MTVZ	**Mangateitei**	**3.96**	**230**	P	**Pn**	**06 36 32.6**	**+0.8**
PKVZ	**Pokaka**	**3.98**	**232**	P	**Pn**	**06 36 33.4**	**+1.3**
PRHZ	**Porangahau**	**3.98**	**212**	P	**Pn**	**06 36 31.4**	**-0.8**
TSZ	**Takapari Road**	**4.13**	**220**	P	**Pn**	**06 36 33.2**	**-1.0**
WCZ	**Waipu Caves**	**4.19**	**282**	P	**Pn**	**06 36 35.5**	**+0.6**
WAZ	**Wanganui**	**4.48**	**229**	P	**Pn**	**06 36 39.7**	**+0.8**
PRWZ	**Pori Road**	**4.51**	**215**	P	**Pn**	**06 36 39.4**	**0.0**
NEZ	**North Egmont**	**4.79**	**239**	P	**Pn**	**06 36 47.0**	**+3.6**
KHEZ	**Kahui Hut**	**4.86**	**239**	P	**Pn**	**06 36 47.4**	**+3.1**
OUZ	**Omahuta**	**4.99**	**288**	P	**Pn**	**06 36 47.9**	**+2.0**
KHZ	**Kahutara**	**7.11**	**218**	P	**Pn**	**06 37 14.0**	**-1.0**
CTZ	**Chatham Island**	**7.46**	**157**	P	**Pn**	**06 37 22.5**	**+2.6**
RPZ	**Rata Peaks**	**9.31**	**221**	Pn	Pn	06 37 41.7	-3.5
	0.4nm,0.3s,baz=72,slow=19,SNR=2.5						
RPZ				Sn	Sn	06 39 15.6	-14
	0.8nm,0.3s,baz=137,slow=18,SNR=2.1						
ASAR	**Alice Springs**	**41.07**	**276**	P	**P**	**06 43 14.3**	**-0.8**
	2.7nm,0.7s,baz=120,slow=8.2,SNR=30						
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**42.66**	**281**	P	**P**	**06 43 27.0**	**-1.1**
	1.3nm,0.7s,baz=121,slow=7.7,SNR=19						
	1.3nm,0.7s						
H03S2	**Juan Fernandez**	**78.67**	**124**	T	T	08 13 40.1	
	baz=238						
H03S1	**Juan Fernandez**	**78.68**	**124**	T	T	08 13 33.7	
	baz=238						
H03S3	**Juan Fernandez**	**78.69**	**124**	T	T	08 13 29.7	
	baz=238						
FINES	**FINESS Array B**	**150.29**	**334**	PKPbc	**PKPbc**	**06 55 21.5**	**-0.1**
	0.9nm,0.8s,baz=25,slow=3.7,SNR=1.1						

IDC 03 06:38:34.2±4.7, 54°.92S×32°.25W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=160.7km s-min=57.8km az=178.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**47.41**	**310**	P	P	06 47 10.8	-0.1
	0.7nm,0.6s,baz=158,slow=5.4,SNR=2.1						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.62**	**35**	P	P	06 50 09.3	0.0
	0.3nm,0.6s,baz=208,slow=6.2,SNR=1.4						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**147.23**	**314**	PKPbc	PKPbc	06 58 17.2	-0.8
	0.3nm,0.6s,baz=126,slow=1.6,SNR=4.3						

WEL 03 06:53:23.4±1.0, 37°S±5°×17°.9E±°, h26km±12km, M3.4/21, ML3.7/28, MLv3.4/21, Error ellipse: s-maj=0.0km s-min=0.0km az=87.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.92**	**243**	P	Pn	06 53 39.0	-1.6
MXZ				S	Sb	06 53 49.9	-2.5
WMGZ	**Waiomatatini S**	**0.99**	**228**	P	Pb	06 53 42.7	+0.8
WMGZ				S	Sn	06 53 56.3	+1.6
PKGZ	**Pakihiroa**	**1.24**	**234**	P	Pb	06 53 45.7	-0.5
PKGZ				S	Sb	06 54 02.1	+0.3
PUZ	**Puketiti**	**1.25**	**223**	P	Pb	06 53 46.0	-0.4
HAZ	**Te Kaha**	**1.38**	**244**	P	Pb	06 53 48.3	-0.2
HAZ				S	Sb	06 54 05.8	+0.3
TWGZ	**Tauwhareparae**	**1.48**	**226**	P	Pb	06 53 50.1	-0.2
TWGZ				S	Sb	06 54 09.3	+0.6
RUGZ	**Raukumara Rang**	**1.55**	**238**	P	Pb	06 53 50.8	-0.6
RUGZ				S	Sb	06 54 10.0	-0.7
MWZ	**Matawai**	**1.86**	**230**	P	Pn	06 53 54.5	+1.0
MWZ				S	Sn	06 54 16.7	+0.5
RAGZ	**Rawiri**	**2.03**	**228**	P	Pn	06 53 56.3	+0.4
RAGZ				S	Sn	06 54 21.3	+0.8
URZ	**Urewera**	**2.08**	**237**	P	Pn	06 53 57.7	+1.1
URZ				S	Sn	06 54 21.8	+0.2
RTZ	**Ruatahuna**	**2.37**	**231**	P	Pn	06 54 01.5	+0.9
RTZ				S	Sn	06 54 30.2	+1.4
MUGZ	**Murupara**	**2.42**	**236**	P	Pn	06 54 01.9	+0.6
MUGZ				S	Sn	06 54 29.5	-0.6
NMHZ	**Naumai**	**2.78**	**225**	P	Pn	06 54 06.7	+0.4
NMHZ				S	Sn	06 54 39.7	+0.6
ARHZ	**Aropaoanui**	**2.80**	**221**	P	Pn	06 54 06.9	+0.5
ARHZ				S	Sn	06 54 40.4	+1.0
KUZ	**Kuaotunu**	**2.93**	**277**	P	Pn	06 54 06.8	-1.4
CKHZ	**Cape Kidnapper**	**3.07**	**215**	P	Pn	06 54 09.7	-0.4
CKHZ				S	Sn	06 54 45.2	-0.7
GRZ	**Great Barrier**	**3.25**	**285**	P	Pn	06 54 12.6	0.0
KAHZ	**Kahuranaki**	**3.27**	**216**	P	Pn	06 54 12.5	-0.4
MKAZ	**Moumakai**	**3.34**	**270**	P	Pn	06 54 13.0	-0.9
WIAZ	**Waiheke Island**	**3.39**	**275**	P	Pn	06 54 13.7	-0.9
TMVZ	**Te Maari**	**3.47**	**235**	P	Pn	06 54 16.1	+0.3
TMVZ				S	Sn	06 54 53.9	-2.2
BHHZ	**Black Hill Sta**	**3.47**	**227**	P	Pn	06 54 15.9	+0.1
KRVZ	**Karewarewa**	**3.50**	**235**	P	Pn	06 54 16.9	+0.7
ETAZ	**East Tamaki Re**	**3.53**	**272**	P	Pn	06 54 17.0	+0.5
SNVZ	**South Ngauruho**	**3.55**	**234**	P	Pn	06 54 17.2	+0.2
NGZ	**Ngauruhoe**	**3.57**	**234**	P	Pn	06 54 15.0	-2.2
MBAZ	**Motutapu North**	**3.58**	**275**	P	Pn	06 54 17.7	+0.5
ABAZ	**Army Bay**	**3.66**	**277**	P	Pn	06 54 18.7	+0.5
PNHZ	**Pukenui**	**3.69**	**221**	P	Pn	06 54 17.4	-1.3
HIZ	**Hauiti**	**3.80**	**248**	P	Pn	06 54 21.5	+1.3
RVAZ	**Riverhead Bore**	**3.83**	**274**	P	Pn	06 54 20.9	+0.2
TSZ	**Takapari Road**	**3.92**	**221**	P	Pn	06 54 20.5	-1.4
WCZ	**Waipu Caves**	**4.20**	**285**	P	Pn	06 54 25.3	-0.5
BFZ	**Birch Farm**	**4.27**	**213**	P	Pn	06 54 24.6	-2.1
MRZ	**Mangatainoka R**	**4.57**	**219**	P	Pn	06 54 28.7	-2.1
LTZ	**Lake Taylor**	**7.81**	**222**	P	Pn	06 55 13.2	-2.2

*IDC **03** 06:55:35.0±0.3, 70°.99N×8°.43W, h0km, mb4.5/28, mbtmp4.5/30, ML4.8/3, MS4.4/83, Error ellipse: s-maj=10.6km s-min=3.8km az=167.0*

*DNK **03** 06:55:34.2±5.4, 71°.16N×7°.30W, h0km±282km, ML3.5*

*BJI **03** 06:55:34.5±0.0, 71°.10N×7°.70W, h5km, mb4.8/51, mB5.1/35, Ms5.0/42, Ms7 4.7/41*

*MOS **03** 06:55:35.6±1.0, 71°.05N×7°.73W, h10km, mb5.1/72, MS4.4/

IEPN ***03*** *06:55:39.0, 71°07′N, 7°41W, h10km*
ISC 03 06:55:37.4±0.2, **71°03′N**±0′03, **7°49W**±0′03, **h10**km, **n955**, σ2**s15**/996, **mb5.0**/206, **MS4.5**/135, **64C-43D, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.27**	**263**	*i* P		**Pg**	**Pg**	**06 55 42.0**	**-0.8**
JMIC	**Jan Mayen**	**0.33**	**264**	P		Pn	**Pg**	**06 55 42.8**	**-1.2**
	4μm,0.3s,baz=81,slow=3.8,SNR=5451								
JMIC				S		Sn	**Sg**	**06 55 47.4**	**-1.0**
	baz=198,slow=20								
JMIC	**Jan Mayen**	**0.33**	**264**	Pg		**Pg**	**Pg**	**06 55 42.8**	**-1.2**
JMIC				Lg		Lg		06 55 47.4	
JMIC	**Jan Mayen**	**0.33**	**264**	*i* P		**Pg**	**Pg**	**06 55 42.8**	**-1.2**
JMIC				*e*S		**Sg**	**Sg**	**06 55 47.2**	**-1.2**
JMIC				IAML				06 55 49.5	
	comp=Z,27μm,0.3s								
JMI	**Jan Mayen**	**0.42**	**257**	*i* P		**Pg**	**Pg**	**06 55 44.5**	**-1.0**
JMI				*e*S		**Sg**	**Sg**	**06 55 50.3**	**-0.8**
JMI				IAML				06 55 53.4	
	comp=Z,10μm,0.4s								
SCO	**Scoresbysund**	**4.81**	**270**	Pn		**Pn**	**Pn**	**06 56 49.3**	**-0.4**
SCO	**Scoresbysund**	**4.81**	**270**	P		**Pn**	**Pn**	**06 56 49.3**	**-0.4**
SCO	**Scoresbysund**	**4.81**	**270**	*i* P		**Pn**	**Pn**	**06 56 50.3**	**+0.5**
SCO				IAML				06 58 03.8	
	comp=Z,13nm,0.8s								
DBG	**Daneborg**	**5.03**	**317**	Pn		Pn	Pn	06 56 47.9	-4.8
DBG				Sn		Sn	Sn	06 57 41.1	-10
DBG	**Daneborg**	**5.03**	**317**	*i* P		Pn	Pn	06 56 47.5	-5.2
DBG				IAML				06 58 05.4	
	comp=Z,73nm,0.8s								
DBG	**Daneborg**	**5.03**	**317**	*e*P		**Pn**	**Pn**	**06 56 48.4**	**-4.3**
DBG				*e*S		**Sn**	**Sn**	**06 57 41.7**	**-9.0**
ILEI	**Leirhofn**	**5.67**	**220**	P		**Pn**	**Pn**	**06 56 57.8**	**-3.8**
	baz=215								
ILEI				S		**Sn**	**Sn**	**06 58 01.1**	**-5.6**
	baz=215								
IGRI	**Grimsey**	**5.90**	**225**	P		**Pn**	**Pn**	**06 57 01.0**	**-3.6**
	baz=222								
IGRI				S		**Sn**	**Sn**	**06 58 06.0**	**-6.1**
	baz=222								
IGIL	**Gilhagi**	**5.93**	**217**	P		**Pn**	**Pn**	**06 57 02.1**	**-3.0**
	baz=213								
IGIL				S		**Sn**	**Sn**	**06 58 08.6**	**-4.4**
	baz=213								
IHED	**Heoinshofoi**	**6.13**	**221**	P		**Pn**	**Pn**	**06 57 04.0**	**-3.8**
	baz=216								
IHED				S		**Sn**	**Sn**	**06 58 12.8**	**-5.0**
	baz=216								
IDIM	**Dimmadalss**	**6.15**	**219**	P		**Pn**	**Pn**	**06 57 05.1**	**-3.0**
	baz=215								
IDIM				S		**Sn**	**Sn**	**06 58 12.9**	**-5.6**
	baz=215								
IGHA	**Grjothals**	**6.20**	**217**	P		**Pn**	**Pn**	**06 57 06.0**	**-2.8**
	baz=213								
IGHA				S		**Sn**	**Sn**	**06 58 16.0**	**-3.6**
	baz=213								
IBRE	**Brettingsstaoi**	**6.22**	**223**	P		**Pn**	**Pn**	**06 57 05.7**	**-3.4**
	baz=219								
IBRE				S		**Sn**	**Sn**	**06 58 15.2**	**-4.9**
	baz=219								
ISKI	**Skildingahlsh**	**6.25**	**219**	P		**Pn**	**Pn**	**06 57 06.8**	**-2.7**
	baz=214								
ISKI				S		**Sn**	**Sn**	**06 58 16.6**	**-4.3**
	baz=214								
IGRS	**Grimsstaoir**	**6.28**	**215**	P		**Pn**	**Pn**	**06 57 07.4**	**-2.5**
	baz=210								
IGRS				S		**Sn**	**Sn**	**06 58 18.5**	**-3.1**
	baz=210								
IGRA	**Granastaoir**	**6.32**	**221**	P		**Pn**	**Pn**	**06 57 07.6**	**-2.9**
	baz=217								
IKVO	**Krokottuvotn**	**6.36**	**218**	P		**Pn**	**Pn**	**06 57 08.6**	**-2.4**
	baz=213								
IREN	**Reynihlio**	**6.42**	**217**	P		**Pn**	**Pn**	**06 57 09.0**	**-2.8**
	baz=213								
IMEL	**Melhnausar**	**6.44**	**216**	P		**Pn**	**Pn**	**06 57 09.5**	**-2.7**
	baz=212								
IMEL				S		**Sn**	**Sn**	**06 58 21.5**	**-4.1**
	baz=212								
IHLA	**Hella**	**6.48**	**223**	P		**Pn**	**Pn**	**06 57 09.3**	**-3.3**
	baz=220								
IHLA				S		**Sn**	**Sn**	**06 58 21.6**	**-4.9**
	baz=220								
DAG	**Danmarks Havn**	**6.54**	**337**	*i* P		**Pn**	**Pn**	**06 57 09.4**	**-4.0**
DAG				IAML				06 59 04.6	
	comp=Z,43nm,0.9s								
DAG	**Danmarks Havn**	**6.54**	**337**	⇑*i* P		**Pn**	**Pn**	**06 57 09.7**	**-3.8**
DAG				*e*S		**Sn**	**Sn**	**06 58 19.6**	**-8.3**
IADA	**Aoalbol**	**6.75**	**211**	P		**Pn**	**Pn**	**06 57 14.1**	**-2.3**
	baz=206								
IHRN	**Hraun**	**6.75**	**229**	P		**Pn**	**Pn**	**06 57 14.1**	**-2.3**
	baz=226								
IHRN				S		**Sn**	**Sn**	**06 58 28.2**	**-5.0**
	baz=226								
ISVA	**Svartarkot**	**6.76**	**217**	P		**Pn**	**Pn**	**06 57 13.9**	**-2.6**
	baz=213								
IASK	**Askja**	**6.90**	**214**	P		**Pn**	**Pn**	**06 57 16.6**	**-2.0**
	baz=210								
IMKO	**Mokollar**	**6.92**	**213**	P		**Pn**	**Pn**	**06 57 16.9**	**-1.7**
	baz=209								
IVSH	**V-Sauoahnukur**	**6.97**	**210**	P		**Pn**	**Pn**	**06 57 16.9**	**-2.5**
	baz=206								
LOF	**Lofoten**	**7.88**	**101**	*e*P		**Pn**	**Pn**	**06 57 29.1**	**-2.8**
LOF				*e*S		**Sn**	**Sn**	**06 58 54.3**	**-6.7**
LOF				IAML				06 59 06.8	
	comp=Z,108nm,0.7s								
LOF				*e*T		T	T	07 04 17.7	
BORG	**Borgarnes**	**8.16**	**226**	Pn		**Pn**	**Pn**	**06 57 35.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=273,slow=20,SNR=1.9								
BORG				Sn		**Sn**	**Sn**	**06 59 03.4**	**-4.4**
	comp=Z,0.8nm,0.3s,baz=83,slow=12,SNR=0.9								
BORG				LR		LR	LR	07 00 01.7	
	comp=Z,4μm,20.2s,baz=19,slow=34								
BORG	**Borgarnes**	**8.16**	**226**	Pn		**Pn**	**Pn**	**06 57 37.0**	**+1.3**
BORG	**Borgarnes**	**8.16**	**226**	P		**Pn**	**Pn**	**06 57 37.0**	**+1.3**
STEI	**Steigen**	**8.54**	**100**	*e*P		**Pn**	**Pn**	**06 57 38.7**	**-2.1**
STEI				*e*S		**Sn**	**Sn**	**06 59 11.0**	**-6.0**
STEI				IAML				06 59 15.4	
	comp=Z,124nm,0.5s								
STEI				*e*T		T	T	07 04 56.1	
BJO1	**Bjornoya**	**8.54**	**54**	Pn		**Pn**	**Pn**	**06 57 41.5**	**+0.7**
BJO1	**Bjornoya**	**8.54**	**54**	*e*P		**Pn**	**Pn**	**06 57 41.5**	**+0.7**
BJO1	**Bjornoya**	**8.54**	**54**	*e*P		**Pn**	**Pn**	**06 57 41.9**	**+1.1**
HSPB	**Hornsund (broa**	**8.66**	**36**	Pn		**Pn**	**Pn**	**06 57 41.4**	**-1.1**
HSPB	**Hornsund (broa**	**8.66**	**36**	*i* P		**Pn**	**Pn**	**06 57 41.6**	**-0.8**
HSPB	**Hornsund (broa**	**8.66**	**36**	*e*P		**Pn**	**Pn**	**06 57 41.6**	**-0.8**
HSPB	**Hornsund (broa**	**8.66**	**36**	⇑*i* P		**Pn**	**Pn**	**06 57 41.3**	**-1.1**
HSPB				*i* S		**Sn**	**Sn**	**06 59 13.3**	**-6.6**
KONS	**Konsvik**	**8.71**	**111**	Pn		**Pn**	**Pn**	**06 57 41.1**	**-2.2**
KONS				Sn		**Sn**	**Sn**	**06 59 15.4**	**-6.0**
KONS	**Konsvik**	**8.71**	**111**	*e*P		**Pn**	**Pn**	**06 57 41.0**	**-2.2**
KONS				*e*S		**Sn**	**Sn**	**06 59 12.9**	**-8.5**
KONS				IAML				06 59 22.5	
	comp=Z,221nm,0.2s								
KONS				*e*T		T	T	07 04 51.9	
SOEG	**Soedalen**	**8.77**	**263**	*i* P		**Pn**	**Pn**	**06 57 46.3**	**+2.3**
STOK	**Stokkvaagen**	**8.79**	**112**	Pn		**Pn**	**Pn**	**06 57 42.4**	**-2.0**
STOK				Sn		**Sn**	**Sn**	**06 59 16.1**	**-7.2**
STOK	**Stokkvaagen**	**8.79**	**112**	*e*P		**Pn**	**Pn**	**06 57 43.4**	**-0.9**
STOK				*e*S		**Sn**	**Sn**	**06 59 16.4**	**-6.9**
FAUS	**Fauske**	**8.85**	**103**	*e*P		**Pn**	**Pn**	**06 57 43.1**	**-2.0**
FAUS				*e*S		**Sn**	**Sn**	**06 59 17.0**	**-7.7**
FAUS				IAML				06 59 30.4	
	comp=Z,167nm,0.7s								
FAUS				*e*T		T	T	07 05 06.4	
TRO	**Tromso**	**8.98**	**86**	*e*P		**Pn**	**Pn**	**06 57 44.0**	**-2.9**
TRO				*e*S		**Sn**	**Sn**	**06 59 20.1**	**-7.8**
TRO				IAML				06 59 28.6	
	comp=Z,97nm,0.7s								
TRO				*e*T		T	T	07 05 39.6	
SOFL	**Sornfelli, Far**	**9.00**	**178**	*e*P		**Pn**	**Pn**	**06 57 47.4**	**+0.2**
SOFL				IAML				06 59 38.3	
	comp=Z,52nm,0.6s								
BRBA	**Barentsburg A**	**9.05**	**29**	Pn		**Pn**	**Pn**	**06 57 47.4**	**-0.4**
BRBB	**Barentsburg B**	**9.07**	**29**	Pn		**Pn**	**Pn**	**06 57 47.2**	**-0.9**
KBS	**Kingsbay**	**9.32**	**23**	Pn		**Pn**	**Pn**	**06 57 50.0**	**-1.5**
KBS	**Kingsbay**	**9.32**	**23**			**Pn**	**Pn**	**06 57 49.9**	**-1.5**
KBS	**Kingsbay**	**9.32**	**23**	*ce*P		**Pn**	**Pn**	**06 57 50.3**	**-1.2**
KBS				pmax		pmax	pmax		
	comp=Z,436nm,1.0s								
KBS	**Kingsbay**	**9.32**	**23**	*i* P		**Pn**	**Pn**	**06 57 50.2**	**-1.3**
KBS	**Kingsbay**	**9.32**	**23**	*e*P		**Pn**	**Pn**	**06 57 49.9**	**-1.6**
KBS				*e*S		Sn	Sn	06 59 27.4	-8.8
KBS				IAML				06 59 37.3	
	comp=Z,16nm,0.8s								
KBS	**Kingsbay**	**9.32**	**23**	*e*P		**Pn**	**Pn**	**06 57 49.5**	**-2.0**
KBS				*e*S		Sn	Sn	06 59 26.8	-9.3
MOR8	**Moi Rana**	**9.33**	**111**	*e*P		**Pn**	**Pn**	**06 57 50.4**	**-1.4**
MOR8				*e*S		**Sn**	**Sn**	**06 59 31.6**	**-5.1**
MOR8				IAML				06 59 39.9	
	comp=Z,490nm,0.4s								
SPA0	**Spitsbergen Ar**	**9.47**	**30**	Pn		**Pn**	**Pn**	**06 57 54.0**	**+0.4**
	baz=226,slow=14								
SPA0	**Spitsbergen Ar**	**9.47**	**30**	*e*P		**Pn**	**Pn**	**06 57 53.8**	**+0.2**
SPA0	**Spitsbergen Ar**	**9.47**	**30**	P		**Pn**	**Pn**	**06 57 53.8**	**+0.2**
SPA0				*i* S		**Sn**	**Sn**	**06 59 33.9**	**-6.1**
SPB2	**Spitsbergen Ar**	**9.47**	**30**			**Pn**	**Pn**	**06 57 53.8**	**+0.2**
SPITS	**Spitsbergen Ar**	**9.47**	**30**	Pn		**Pn**	**Pn**	**06 57 53.5**	**-0.1**
	baz=220,slow=15								
SPITS				Sn		**Sn**	**Sn**	**06 59 35.4**	**-4.5**
	baz=153,slow=9.3								
JETT	**Jettan, Norway**	**9.49**	**86**	*e*P		**Pn**	**Pn**	**06 57 51.8**	**-2.2**
JETT				*e*S		**Sn**	**Sn**	**06 59 35.5**	**-5.0**
JETT				IAML				06 59 54.0	
	comp=Z,123nm,0.4s								
SUMG	**Summit**	**9.74**	**294**	Pn		**Pn**	**Pn**	**06 57 57.0**	**-0.6**
SUMG	**Summit**	**9.74**	**294**	P		**Pn**	**Pn**	**06 57 57.0**	**-0.6**
SUMG	**Summit**	**9.74**	**294**	*i* P		**Pn**	**Pn**	**06 57 55.3**	**-2.4**
NSS	**Namsos**	**9.79**	**122**	*e*P		**Pn**	**Pn**	**06 57 55.8**	**-2.1**
NSS				*e*S		Sn	Sn	06 59 37.0	-11
NSS				IAML				06 59 43.4	
	comp=Z,596nm,0.4s								
KIF	**Kilpisjarvi**	**9.84**	**88**	Pn		**Pn**	**Pn**	**06 57 56.6**	**-2.1**
KIF				Sn		**Sn**	**Sn**	**06 59 44.6**	**-4.4**
KIF	**Kilpisjarvi**	**9.84**	**88**	*e*P		**Pn**	**Pn**	**06 57 56.6**	**-2.1**
KIF				*e*S		**Sn**	**Sn**	**06 59 44.4**	**-4.5**
KIF				*e*T		T	T	07 05 26.4	
SALU	**Saltoluokta**	**9.89**	**99**	*e*P		**Pn**	**Pn**	**06 57 57.9**	**-1.4**
SALU				*e*S		**Sn**	**Sn**	**06 59 46.3**	**-3.9**
SALU				*e*T		T	T	07 05 17.6	
HAMF	**Hammerfest**	**10.19**	**77**	Pn		**Pn**	**Pn**	**06 58 00.5**	**-2.9**
HAMF	**Hammerfest**	**10.19**	**77**	*e*P		**Pn**	**Pn**	**06 58 00.5**	**-2.9**
HAMF				*e*S		**Sn**	**Sn**	**06 59 55.0**	**-2.6**
HAMF				IAML				07 00 09.0	
	comp=Z,22nm,0.4s								
MOL	**Molde**	**10.31**	**138**	*e*P		Pn	Pn	06 58 00.0	-5.1
MOL				*e*S		Sn	Sn	06 59 50.8	-10
MOL				IAML				06 59 56.7	
	comp=Z,155nm,0.6s								
TBLU	**Trondheim**	**10.37**	**130**	*e*P		Pn	Pn	06 58 01.1	-4.8
TBLU				*e*S		Sn	Sn	06 59 49.0	-13
TBLU				IAML				06 59 52.1	
	comp=Z,184nm,0.5s								
HOPEN	**Hopen**	**10.47**	**44**	Pn		**Pn**	**Pn**	**06 58 07.2**	**0.0**
HOPEN	**Hopen**	**10.47**	**44**	*e*P		**Pn**	**Pn**	**06 58 07.3**	**0.0**
HOPEN	**Hopen**	**10.47**	**44**	*e*P		**Pn**	**Pn**	**06 58 07.2**	**0.0**
AKN	**Aaknes**	**10.54**	**140**	*e*P		**Pn**	**Pn**	**06 58 04.4**	**-4.0**
AKN				*e*S		Sn	Sn	06 59 55.7	-11
AKN				IAML				07 00 01.2	
	comp=Z,367nm,0.5s								
KTK1	**Kautokeino**	**10.63**	**86**	*e*P		**Pn**	**Pn**	**06 58 08.0**	**-1.5**
KTK1				IAML				07 00 33.5	
	comp=Z,24nm,0.4s								
FOO	**Floro**	**10.69**	**146**	*e*P		**Pn**	**Pn**	**06 58 06.8**	**-3.5**
FOO				*e*S		Sn	Sn	06 59 58.2	-12
FOO				IAML				07 00 05.9	
	comp=Z,455nm,0.3s								
NOR	**Nord**	**10.83**	**353**	Pn		**Pn**	**Pn**	**06 58 09.8**	**-2.3**
NOR				Sn		Sn	Sn	07 00 02.8	-10
NOR	**Nord**	**10.83**	**353**	*i* P		**Pn**	**Pn**	**06 58 10.2**	**-1.9**
NOR	**Nord**	**10.83**	**353**	*e*P		**Pn**	**Pn**	**06 58 08.9**	**-3.1**
NOR				*e*S		Sn	Sn	07 00 02.4	-11
HEF	**Hetta**	**11.04**	**89**	*e*P		**Pn**	**Pn**	**06 58 13.0**	**-2.1**
HEF				*e*S		**Sn**	**Sn**	**07 00 14.3**	**-4.1**
ICESG	**Greenland Ices**	**11.07**	**275**	*i* P		**Pn**	**Pn**	**06 58 15.2**	**-0.5**
DOMB	**Dombas**	**11.12**	**136**	*e*P		**Pn**	**Pn**	**06 58 12.1**	**-4.1**
DOMB				*e*S		Sn	Sn	07 00 11.3	-9.1
DOMB				IAML				07 00 26.4	
	comp=Z,98nm,0.5s								
SUE	**Sulen**	**11.14**	**148**	*e*P		**Pn**	**Pn**	**06 58 13.0**	**-3.4**
SUE				*e*S		Sn	Sn	07 00 09.4	-12
SUE				IAML				07 00 14.9	
	comp=Z,186nm,0.4s								
ARA0	**ARCESS Array S**	**11.16**	**82**	Pn		**Pn**	**Pn**	**06 58 15.1**	**-1.6**
	baz=290,slow=11								
ARA0	**ARCESS Array S**	**11.16**	**82**	*e*P		**Pn**	**Pn**	**06 58 15.2**	**-1.4**
ARA0				IAML				07 00 47.1	
	comp=Z,18nm,0.5s								
ARCES	**ARCESS Array B**	**11.16**	**82**	Pn		**Pn**	**Pn**	**06 58 15.0**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=289,slow=12,SNR=69								
ARCES				Sn		**Sn**	**Sn**	**07 00 16.9**	**-4.3**
	comp=Z,2.2nm,0.3s,baz=280,slow=21,SNR=2.0								
ARCES				LR		LR	LR	07 01 58.4	
	comp=Z,2μm,20.3s,baz=294,slow=33								
ARCES	**ARCESS Array B**	**11.16**	**82**	Pn		**Pn**	**Pn**	**06 58 15.2**	**-1.5**
ARCES	**ARCESS Array B**	**11.16**	**82**	P		**Pn**	**Pn**	**06 58 15.2**	**-1.5**
LRW	**Lerwick**	**11.23**	**164**	*e*P		**Pn**	**Pn**	**06 58 17.2**	**-0.5**
LRW				*e*S		Sn	Sn	07 00 10.6	-12
LRW				IAML				07 00 21.1	
	comp=Z,112nm,0.7s								
HYA	**Hoyanger**	**11.30**	**144**	*e*P		**Pn**	**Pn**	**06 58 15.9**	**-2.8**
HYA				*e*S		Sn	Sn	07 00 14.7	-10
HYA				IAML				07 00 27.9	
	comp=Z,266nm,0.5s								
NOD	**Norderasen**	**11.44**	**120**	*e*P		**Pn**	**Pn**	**06 58 18.8**	**-1.8**
NOD				*e*S		**Sn**	**Sn**	**07 00 20.2**	**-8.0**
KEV	**Kevo**	**11.56**	**80**	Pn		**Pn**	**Pn**	**06 58 20.0**	**-2.1**
KEV	**Kevo**	**11.56**	**80**	P		**Pn**	**Pn**	**06 58 20.0**	**-2.1**
KEV	**Kevo**	**11.56**	**80**	*e*P		**Pn**	**Pn**	**06 58 20.6**	**-1.4**
ASK	**Askoy**	**11.76**	**148**	*e*P		**Pn**	**Pn**	**06 58 21.2**	**-3.7**
ASK				*e*S		Sn	Sn	07 00 25.6	-10
ASK				IAML				07 00 40.8	
	comp=Z,194nm,0.6s								
BER	**Bergen**	**11.88**	**148**	*e*P		**Pn**	**Pn**	**06 58 22.8**	**-3.7**
BER				*e*S		Sn	Sn	07 00 26.2	-13
BER				IAML				07 00 35.2	
	comp=Z,103nm,0.4s								
NC204	**NORSAR Array S**	**12.18**	**134**	Pn		**Pn**	**Pn**	**06 58 27.7**	**-3.1**
NC204	**NORSAR Array S**	**12.18**	**134**	*e*P		**Pn**	**Pn**	**06 58 27.0**	**-3.8**
NB2	**NORSAR Subarra**	**12.50**	**134**	Pn		**Pn**	**Pn**	**06 58 31.8**	**-3.2**
	comp=Z,25nm,0.9s,baz=331,slow=14								
NB2	**NORSAR Subarra**	**12.50**	**134**	Pn		**Pn**	**Pn**	**06 58 31.8**	**-3.2**
	baz=319,slow=16								
NOA	**NORSAR Array B**	**12.50**	**134**	Pn		**Pn**	**Pn**	**06 58 31.6**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=327,slow=12,SNR=18								
NOA				Sn		Sn	Sn	07 00 41.9	-12
	comp=Z,1.0nm,0.3s,baz=310,slow=7.0,SNR=9.2								
NOA				LR		LR	LR	07 03 03.9	
	comp=Z,2μm,21.7s,baz=330,slow=35								
ODD1	**Odda**	**12.55**	**146**	*e*P		**Pn**	**Pn**	**06 58 33.0**	**-2.8**
ODD1				*e*S		Sn	Sn	07 00 44.5	-11
ODD1				IAML				07 01 04.8	
	comp=Z,118nm,0.6s								
NC405	**NORSAR Array S**	**12.55**	**133**			**Pn**	**Pn**	**06 58 33.7**	**-2.1**
BIGH	**Upper Bighouse**	**12.67**	**171**	*e*P		**Pn**	**Pn**	**06 58 35.6**	**-1.8**
BIGH				*e*S		Sn	Sn	07 00 47.9	-10
NRA0	**NORESS Array S**	**12.84**	**134**	Pn		**Pn**	**Pn**	**06 58 36.5**	**-3.2**
	baz=326,slow=16								
NRA0				Sn		**Sn**	**Sn**	**07 00 53.6**	**-8.9**
	baz=332,slow=22								
KMY	**Karmoy**	**12.97**	**150**	*e*P		**Pn**	**Pn**	**06 58 37.4**	**-4.0**
KMY				*e*S		Sn	Sn	07 00 52.5	-13
KMY				IAML				07 00 59.2	
	comp=Z,119nm,0.4s								
BLS5	**Blasjo**	**12.98**	**147**	*e*P		**Pn**	**Pn**	**06 58 37.9**	**-3.7**
BLS5				*e*S		Sn	Sn	07 00 51.9	-14
BLS5				IAML				07 00 57.3	
	comp=Z,70nm,0.6s								
NEEM	**North Greenlan**	**13.11**	**318**	*i* P		Pn	Pn	06 58 38.0	-5.5
OSL	**Oslo**	**13.37**	**137**	*e*P		**Pn**	**Pn**	**06 58 43.7**	**-3.1**
KONO	**Kongsberg**	**13.38**	**140**	Pn		**Pn**	**Pn**	**06 58 43.0**	**-4.0**
KONO	**Kongsberg**	**13.38**	**140**	*ce*P		**Pn**	**Pn**	**06 58 47.1**	**0.0**
KONO				pmax		pmax	pmax		
	comp=Z,79nm,1.0s								
KONO	**Kongsberg**	**13.38**	**140**	*e*P		**Pn**	**Pn**	**06 58 43.5**	**-3.5**
KONO				*e*S		Sn	Sn	07 01 05.0	-11
KONO				IAML				07 01 48.4	
	comp=Z,40nm,0.6s								
KPL	**Plockton**	**13.77**	**176**	*e*P		**Pn**	**Pn**	**06 58 51.8**	**-0.5**
KPL				*e*S		Sn	Sn	07 01 14.4	-11
HFS	**Hagfors**	**13.89**	**131**	Pn		**Pn**	**Pn**	**06 58 51.6**	**-2.3**
	comp=Z,4.0nm,0.3s,baz=330,slow=10,SNR=111								
HFS				Sn		Sn	Sn	07 01 15.0	-13
	comp=Z,2.9nm,0.3s,baz=356,slow=19,SNR=1.6								
HFS				LR		LR	LR	07 03 47.0	
	comp=Z,3μm,21.6s,baz=330,slow=35								
HFS	**Hagfors**	**13.89**	**131**	Pn		**Pn**	**Pn**	**06 58 50.8**	**-3.2**
	baz=324,slow=12								
HFS				Sn		Sn	Sn	07 01 18.0	-10
	baz=342,slow=22								
SNART	**Snartemo**	**14.13**	**147**	*i* P		**Pn**	**Pn**	**06 58 54.6**	**-2.7**
SNART	**Snartemo**	**14.13**	**147**	*e*P		**Pn**	**Pn**	**06 58 54.7**	**-2.7**
SNART				*e*S		Sn	Sn	07 01 22.4	-12
SNART				IAML				07 01 42.4	
	comp=Z,63nm,0.6s								
STRU	**Stroemstad**	**14.28**	**138**	*e*P		**Pn**	**Pn**	**06 58 55.0**	**-4.3**
DRUM	**Mains of Drumt**	**14.33**	**169**	*e*P		**Pn**	**Pn**	**06 59 00.1**	**+0.1**
DRUM				*e*S		Sn	Sn	07 01 26.6	-12
HOMB	**Homborsund**	**14.44**	**144**	*i* P		**Pn**	**Pn**	**06 58 58.2**	**-3.2**
HOMB	**Homborsund**	**14.44**	**144**	*e*P		**Pn**	**Pn**	**06 58 59.2**	**-2.2**
HOMB				*e*S		Sn	Sn	07 01 29.5	-12
HOMB				IAML				07 01 45.0	
	comp=Z,27nm,0.5s								
APA0	**Apatity Array**	**14.49**	**84**	Pn		**Pn**	**Pn**	**06 58 59.3**	**-2.8**
	baz=306,slow=9.3								
APA0				Sn		**Sn**	**Sn**	**07 01 34.6**	**-7.9**
	baz=296,slow=28								
DY2G	**Dye2**	**14.56**	**271**	*i* P		**Pn**	**Pn**	**06 59 00.1**	**-3.3**
APA	**Apatity**	**14.64**	**84**	⇑*i* P		Pn	Pn	06 58 58.6	-5.6
APA				pmax		pmax			
	comp=Z,54nm,1.0s								
APA				MLR		MLR			
	comp=Z,2μm,18.0s								
LVZ	**Lovozero**	**14.87**	**82**			**Pn**	**Pn**	**06 59 04.4**	**-3.0**
LVZ	**Lovozero**	**14.87**	**82**	*ce*P		**Pn**	**Pn**	**06 59 05.3**	**-2.1**
LVZ				pmax		pmax			
	comp=Z,170nm,1.7s								
EDI	**Edinburgh**	**15.28**	**171**	*e*P		**Pn**	**Pn**	**06 59 12.5**	**-0.2**
RAF	**Rauma**	**15.35**	**116**	*e*P		**Pn**	**Pn**	**06 59 12.9**	**-0.7**
SFJD	**Kangerlussuaq**	**15.68**	**276**	Pn		**Pn**	**Pn**	**06 59 13.1**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=26,slow=9.2,SNR=2.1								
	comp=Z,4.9nm,0.7s								
SFJD	**Kangerlussuaq**	**15.68**	**276**	Pn		**Pn**	**Pn**	**06 59 16.2**	**-1.8**
SFJD	**Kangerlussuaq**	**15.68**	**276**	P		**Pn**	**Pn**	**06 59 16.2**	**-1.8**
SFJD				pmax		pmax			
	comp=Z,47nm,1.1s								
SFJD	**Kangerlussuaq**	**15.68**	**276**	*i* P		**P**	**P**	**06 59 20.0**	**-2.1**
ZFI2	**Zemlya Franca-**	**15.69**	**29**	*e*P		**Pn**	**Pn**	**06 59 18.9**	**+0.9**
ZFI	**Zemlya Franca-**	**15.69**	**29**	*e*P		**Pn**	**Pn**	**06 59 18.9**	**+0.9**
EKA	**Eskdalemuir Ar**	**15.87**	**171**	Pn		**Pn**	**Pn**	**06 59 19.2**	**-1.3**
	baz=357,slow=13								
EKA				Sn		Sn	Sn	07 02 01.8	-14
	baz=0.2,slow=24								
EKA				LR		LR	LR	07 04 35.5	
	comp=Z,2μm,21.4s,baz=343,

CLL *e*PPP PPP 07 01 00.0
CLL *ex* x 07 01 05.0
CLL *eS* **S** **07 04 29.0 -2.4**
comp=N,400nm,20.6s
CLL *eS* **S** **07 04 29.0 -2.4**
comp=E,1μm,22.6s
CLL *eS* **S** **07 04 29.0 -2.4**
comp=Z,300nm,21.5s
CLL *e*SSS SSS 07 05 21.0
CLL Lmax 07 11 00.0
NACGM Naroch 21.94 119⇓ *e*P **P** **07 00 30.2 -0.4**
WLF Walferdange 22.35 156 P **P** **07 00 34.9 -0.2**
WLF lAmb lAmb 07 00 53.9
comp=Z,114nm,1.5s
WLF Walferdange 22.35 156 P **P** **07 00 34.9 -0.2**
WLF pmax pmax
comp=Z,114nm,1.5s
WLF Walferdange 22.35 156 *d*P **P** **07 00 35.8 +0.6**
comp=Z,24nm,1.2s
PRGR Permogore 22.48 88 *e*P **P** **07 00 35.4 -0.9**
PRGR Permogore 22.48 88 *e*P **P** **07 00 35.4 -0.9**
comp=Z,2μm,1.8s
BRG Berggiesshubel 22.48 143 *i* P **P** **07 00 36.9 +0.5**
BRG Amp 07 00 44.5
comp=Z,84nm,1.2s
BRG *ex* x 07 00 58.4
BRG Amp 07 00 59.9
comp=Z,49nm,1.4s
BRG *ex* x 07 01 20.2
BRG Amp 07 01 23.1
comp=Z,30nm,1.2s
BRG Berggiesshubel 22.48 143 S **S** **07 04 43.0 +0.2**
BRG Amp 07 11 22.0
comp=N,0.8nm,12.1s
BRG Amp 07 11 26.0
comp=E,0.5nm,15.5s
BRG Amp 07 11 32.0
comp=Z,1.4nm,13.9s
BRG Berggiesshubel 22.48 143 *i* P **P** **07 00 36.9 +0.5**
BRG *e* 07 00 58.3
BRG *e* 07 01 20.2
BRG S **S** **07 04 43.0 +0.2**
BRG pmax pmax
comp=Z,84nm,1.3s
BRG pmax pmax
comp=Z,49nm,1.4s
BRG pmax pmax
comp=Z,30nm,1.2s
BRG smax smax
comp=N,832nm,12.1s
BRG MLR MLR
comp=E,466nm,15.5s
BRG MLR MLR
comp=Z,1μm,13.9s
MNK Minsk 22.61 119 *i* P **P** **07 00 37.2 -0.5**
MNK *i* PPP PPP 07 01 08.5
MNK *i* S **S** **07 04 45.7 +0.7**
MNK *i* SSS SSS 07 05 29.5
MNK pmax pmax
comp=Z,259nm,0.9s
MNK pmax pmax
comp=E,20nm,1.1s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK MLR MLR
comp=E,84nm,15.0s
MNK MLR MLR
comp=Z,525nm,16.0s
MNK MLR MLR
comp=N,19nm,17.0s
MNK Minsk 22.61 119 *i* P **P** **07 00 37.3 -0.5**
comp=E,20nm,1.1s
MNK *i* P **P** **07 00 37.3 -0.5**
comp=N,8.0nm,0.8s
MNK *i* P **P** **07 00 37.3 -0.5**
comp=Z,259nm,0.9s,baz=151
MNK *i* PP **PnPn** **07 01 00.7 -0.3**
MNK *i* PPP PPP 07 01 08.6
MNK *i* S **S** **07 04 45.8 +0.7**
MNK *i* SS **SnSn** **07 05 16.2 +2.3**
MNK *i* SSS SSS 07 05 29.5
MNK *i* LQ LQ 07 07 16.3
MNK *i* LR LR 07 09 37.0
MNK *i* LRM MLR 07 10 22.9
comp=E,84nm,14.8s
MNK *i* LRM MLR 07 10 35.6
comp=Z,525nm,15.7s
MNK *i* LRM MLR 07 10 42.8
comp=N,19nm,16.6s
NKC Novy Kostel 22.80 146 *e*P **P** **07 00 40.6 +0.7**
NKC MLR MLR
comp=Z,2μm,13.2s
NKC Novy Kostel 22.80 146 *e*P **P** **07 00 40.6 +0.7**
NKC AMS AMS 07 11 40.0
comp=Z,2μm,13.2s
PVCC Panska Ves 22.93 142 AMS AMS 07 11 30.0
comp=Z,1μm,12.6s
KSP Ksiaz 22.99 139 *e*P **P** **07 00 42.7 +0.9**
KSP *e*L L 07 11 46.9
comp=Z,2μm,13.8s
BEL Belsk 23.10 131 *e*P **P** **07 00 44.7 +1.8**
GRA1 Grafenberg Arr 23.10 148 P **P** **07 00 43.0 0.0**
GRF Grafenberg Arr 23.10 148 P **P** **07 00 43.0 0.0**
GRF pmax pmax
comp=Z,167nm,1.1s
GRFO Grafenberg 23.11 148 P **P** **07 00 42.7 -0.3**
GRFO Grafenberg 23.11 148 P **P** **07 00 42.7 -0.3**
GRFO pmax pmax
comp=Z,152nm,1.1s
CHVC Chvalec 23.18 140 *e*P **P** **07 00 45.4 +1.6**
CHVC AMS AMS 07 12 20.0
comp=Z,1μm,13.6s
OSTC Ostas 23.25 139 *e*P **P** **07 00 46.0 +1.5**
OSTC *ex* x 07 00 48.2
OSTC AMS AMS 07 12 20.0
comp=Z,1μm,13.3s
UPC Upice 23.25 140 *e*P **P** **07 00 46.1 +1.6**
UPC Upice 23.25 140 *e*P **P** **07 00 46.1 +1.6**
PRU Pruhonice 23.44 143 *e*P **P** **07 00 47.9 +1.5**
PRU *e* 07 00 50.0
PRU *eS* **S** **07 05 01.5 +2.1**
PRU MLR MLR
comp=Z,1μm,12.9s
PRU Pruhonice 23.44 143 *e*P **P** **07 00 47.9 +1.5**
PRU *ep*P **sP** **07 00 50.0 -0.4**
PRU *eS* **S** **07 05 01.5 +2.1**
PRU AMS AMS 07 11 50.0
comp=Z,1μm,12.9s
DPC Dobruska-Polom 23.46 139 *e*P **P** **07 00 48.0 +1.3**
DPC MLR MLR
comp=Z,1μm,13.1s
DPC Dobruska-Polom 23.46 139 *e*P **P** **07 00 48.0 +1.3**
DPC AMS AMS 07 12 40.0
comp=Z,1μm,13.1s
CLF Chambon-Foret 23.53 163 P **P** **07 00 47.5 +0.2**
FRB Frobisher Bay 23.54 283 LR LR 07 09 28.2
comp=Z,2μm,18.3s,baz=43,slow=36
STU Stuttgart 23.66 152 P **P** **07 00 48.9 +0.3**
STU lAmb lAmb 07 00 55.0
comp=Z,45nm,0.9s
STU Stuttgart 23.66 152 P **P** **07 00 48.9 +0.3**
STU pmax pmax
comp=Z,45nm,0.9s
RES Resolute Bay 23.80 319 P **P** **07 00 48.1 -1.6**
comp=Z,21nm,0.9s,baz=31,slow=5.9,SNR=2.8
RES LR LR 07 09 44.1
comp=Z,2μm,19.3s,baz=48,slow=36
comp=Z,21nm,0.9s
KRLC Kraliky 23.82 139 *e*P **P** **07 00 51.2 +1.0**
KRLC *eS* **S** **07 05 11.3 +5.7**
KRLC MLR MLR
comp=Z,1μm,12.9s
KRLC Kraliky 23.82 139 *e*P **P** **07 00 51.2 +1.0**
KRLC *eS* **S** **07 05 11.3 +5.7**
KRLC AMS AMS 07 12 00.0
comp=Z,1μm,12.9s
ECH Echery 23.91 155 P **P** **07 00 51.1 +0.2**
ECH lAmb lAmb 07 00 59.4
comp=Z,60nm,1.2s
ECH Echery 23.91 155 P **P** **07 00 51.2 +0.2**
ECH pmax pmax
comp=Z,60nm,1.2s
BFO Black Forest 23.96 153 P **P** **07 00 50.8 -0.7**
BFO lAmb lAmb 07 00 59.3
comp=Z,34nm,0.8s
BFO Black Forest 23.96 153 P **P** **07 00 50.8 -0.7**
BFO pmax pmax
comp=Z,34nm,0.8s
KHC Kasperske Hory 24.07 145 P **P** **07 00 52.8 +0.3**
KHC lAmb lAmb 07 00 58.4
comp=Z,142nm,1.5s
KHC Kasperske Hory 24.07 145 *e*P **P** **07 00 53.9 +1.4**
KHC *e* 07 00 56.6
KHC *eS* **S** **07 05 11.6 +2.0**
KHC MLR MLR
comp=Z,2μm,14.3s
KHC Kasperske Hory 24.07 145 *e*P **P** **07 00 53.9 +1.4**
KHC *ep*P **sP** **07 00 56.6 0.0**
KHC *eS* **S** **07 05 11.6 +2.0**
KHC AMS AMS 07 13 10.0
comp=Z,2μm,14.3s
MORC Moravsky Berou 24.27 138⇑ P **P** **07 00 55.9 +1.6**
MORC Moravsky Berou 24.27 138 P **P** **07 00 54.5 +0.2**
MORC Moravsky Berou 24.27 138 *e*P **P** **07 00 55.2 +0.9**
MORC Moravsky Berou 24.27 138 P **P** **07 00 54.5 +0.2**
MORC pmax pmax
comp=Z,20nm,0.8s
TREC Trest 24.29 142 AMS AMS 07 11 30.0
comp=Z,1μm,12.7s
OKC Ostrava-Krasne 24.34 137 AMS AMS 07 12 20.0
comp=Z,2μm,13.1s
OJC Ojcow 24.36 134 *e*P **P** **07 00 55.0 -0.2**
OJC *eS* S 07 05 26.9 +13
OJC *eL* L 07 12 10.5
comp=Z,2μm,14.7s
OJC Ojcow 24.36 134 P **P** **07 00 54.2 -1.0**
OJC lAmb lAmb 07 01 05.7
comp=Z,74nm,1.0s
OJC Ojcow 24.36 134 P **P** **07 00 54.2 -1.0**
OJC pmax pmax
comp=Z,74nm,1.0s
GEC2 GERESS Array S 24.37 145 P **P** **07 00 56.0 +0.6**
GERES GERESS Array B 24.37 145 P **P** **07 00 56.4 +1.0**
comp=Z,33nm,0.9s,baz=352,slow=8.1,SNR=30
comp=Z,33nm,0.9s
GERES GERESS Array B 24.37 145 P **P** **07 00 55.6 +0.3**
VRAC Vranov 24.51 140⇑ P **P** **07 00 58.1 +1.6**
VRAC Vranov 24.51 140 P **P** **07 00 57.8 +1.3**
comp=Z,26nm,0.9s,baz=345,slow=10,SNR=20
VRAC LR LR 07 10 29.7
comp=Z,485nm,18.9s,baz=336,slow=36
comp=Z,26nm,0.9s
VRAC Vranov 24.51 140 *e*P **P** **07 00 57.3 +0.8**
CKRC Cesky Krumlov 24.51 144 *e*P **P** **07 00 57.8 +1.3**
CKRC *eS* S 07 05 27.7 +11
CKRC AMS AMS 07 12 30.0
comp=Z,1μm,14.8s
MOS Moscow 24.51 105 *e*P **P** **07 00 54.1 -2.3**
MOS *e* 07 01 40.2
MOS *eS* **S** **07 05 14.2 -2.2**
MOS pmax pmax
comp=Z,106nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.4s
MOS MLR MLR
comp=Z,1μm,13.0s
KRUC Moravsky 24.70 140 *e*P **P** **07 00 58.7 +0.5**
OBN Obninsk 24.70 107⇑ P **P** **07 00 58.4 +0.3**
OBN Obninsk 24.70 107 P **P** **07 00 58.1 -0.1**
comp=Z,12nm,0.5s,baz=297,slow=6.9,SNR=15
OBN LR LR 07 09 56.4
comp=Z,78nm,21.4s,baz=324,slow=34
comp=Z,12nm,0.5s
OBN Obninsk 24.70 107 P **P** **07 00 57.5 -0.6**
OBN Obninsk 24.70 107 *d* P **P** **07 00 58.0 -0.1**
OBN *eS* **S** **07 05 23.1 +3.7**
OBN pmax pmax
comp=Z,150nm,1.3s
OBN MLR MLR
comp=Z,525nm,15.0s
MAUC Maruska 24.72 138 *e*P **P** **07 01 00.1 +1.7**
MAUC AMS AMS 07 12 40.0
comp=Z,3μm,13.3s
JAVC Velka Javorina 25.16 139 *e*P **P** **07 01 04.6 +2.2**
RETA Reutte 25.16 150 P **P** **07 01 03.9 +1.4**
comp=Z,42nm,1.0s,SNR=14
DAVA Damuels 25.21 152 *i* P **P** **07 01 04.3 +1.3**
comp=Z,90nm,1.1s,SNR=36
NIE Niedzica 25.23 134 *i* P **P** **07 01 04.6 +1.6**
NIE *e*L L 07 12 35.8
comp=Z,982nm,14.4s
LANS Liptovska Anna 25.29 136 *e*P **P** **07 01 05.3 +1.8**
LANS pmax pmax
comp=Z,34nm,1.2s
LANS Liptovska Anna 25.29 136 *e*P **P** **07 01 05.3 +1.8**
MOTA Moosalm 25.36 150 *i* P **P** **07 01 05.9 +1.6**
comp=Z,100nm,1.3s,SNR=43
MOA Molln 25.43 144 *i* P **P** **07 01 06.1 +1.3**
comp=Z,78nm,1.6s,SNR=39
SMOL Smolenice 25.44 139 *e*P **P** **07 01 06.9 +2.0**
SMOL pmax pmax
comp=Z,46nm,1.4s
WATA Walderalm 25.44 149 P **P** **07 01 06.7 +1.6**
comp=Z,94nm,1.0s,SNR=12
BIOA Bad Ischl, Aus 25.47 146 *i* P **P** **07 01 06.6 +1.5**
comp=Z,47nm,1.3s,SNR=22
SQTA Sankt Quirin 25.49 149 *i* P **P** **07 01 07.4 +1.8**
comp=Z,110nm,1.5s,SNR=41
WTTA Wattenberg 25.52 149 P **P** **07 01 07.7 +1.8**
comp=Z,157nm,1.2s,SNR=12
MODS Modra-Piesok 25.54 140 *e*P **P** **07 01 07.7 +1.9**
MODS pmax pmax
comp=Z,203nm,1.4s
MODS Modra-Piesok 25.54 140 *e*P **P** **07 01 07.6 +1.8**
FETA Feichten 25.61 150 *i* P **P** **07 01 08.1 +1.5**
comp=Z,47nm,1.3s,SNR=32
CONA Conrad Observa 25.67 142 *i* P **P** **07 01 08.4 +1.4**
comp=Z,66nm,1.1s,SNR=46
ZST Bratislava 25.67 140 *e*P **P** **07 01 10.7 +3.7**
ZST pmax pmax
comp=Z,250nm,1.7s
ZST Bratislava 25.67 140 *e*P **P** **07 01 10.7 +3.7**
DAVOX Davos/Dischmat 25.71 152 P **P** **07 01 08.3 +0.7**
comp=Z,11nm,0.8s,baz=340,slow=11,SNR=16
DAVOX LR LR 07 12 24.3
comp=Z,721nm,18.3s,baz=341,slow=39
comp=Z,11nm,0.8s
SENIN Lac Senin/Sane 25.75 156 P **P** **07 01 07.7 -0.2**
SENIN lAmb lAmb 07 01 18.6
comp=Z,36nm,1.0s
VYHS Vyhne 25.76 137 *e*P **P** **07 01 08.9 +1.1**
VYHS pmax pmax
comp=Z,32nm,1.3s
VYHS Vyhne 25.76 137 *e*P **P** **07 01 08.9 +1.1**
LVV L'vov 25.77 129 *e*P **P** **07 01 08.7 +0.8**
LVV *e*PPP PPP 07 01 59.7
LVV *eS* **S** **07 05 35.9 -0.7**
LVV *e*SSS SSS 07 06 53.5
LVV pmax pmax
comp=Z,100nm,1.3s
LVV MLR MLR
comp=E,1μm,13.0s
LVV MLR MLR
comp=N,2μm,15.0s
LVV MLR MLR
comp=Z,3μm,16.0s
FUORN Ofenpass-Fuorn 25.92 151 P **P** **07 01 08.3 -1.3**
FUORN lAmb lAmb 07 01 20.8
comp=Z,30nm,1.1s
RONA Rosalia, Austr 25.98 142 *i* P **P** **07 01 11.5 +1.6**
comp=Z,48nm,1.2s,SNR=24
CRVS Cervenica-Dubn 25.98 133 *e*P **P** **07 01 13.6 +3.8**
CRVS pmax pmax
comp=Z,50nm,1.3s
CRVS Cervenica-Dubn 25.98 133 *e*P **P** **07 01 13.6 +3.8**
KBA Koelnbreinsper 26.00 146 *i* P **P** **07 01 12.4 +2.1**
comp=Z,64nm,1.1s,SNR=38
KIRV Kirov 26.03 89 P **P** **07 01 11.8 +1.6**
comp=Z,39nm,0.8s,baz=304,slow=10,SNR=11
KIRV LR LR 07 10 45.7
comp=Z,746nm,19.6s,baz=325,slow=35
comp=Z,39nm,0.8s
KIRV Kirov 26.03 89 *ce*P **P** **07 01 10.0 -0.2**
SOP Sopron 26.04 141 P **P** **07 01 13.2 +2.8**
KECS Kecovo 26.15 135 *e*P **P** **07 01 12.6 +1.3**
KECS pmax pmax
comp=Z,62nm,0.9s
KECS Kecovo 26.15 135 *e*P **P** **07 01 12.6 +1.3**
KOLS Kolonicke sedl 26.15 132 *e*P **P** **07 01 12.5 +1.1**
KOLS pmax pmax
comp=Z,41nm,1.0s
KOLS Kolonicke sedl 26.15 132 *e*P **P** **07 01 12.5 +1.1**
ABTA Abfaltersbach 26.17 148 *i* P **P** **07 01 13.7 +2.0**
comp=Z,32nm,1.5s,SNR=10
ARSA Arzberg 26.25 143 *i* P **P** **07 01 14.2 +1.9**
comp=Z,53nm,1.4s,SNR=18
SRO Srobarova 26.29 139 *e*P **P** **07 01 15.0 +2.4**
SRO Srobarova 26.29 139 *e*P **P** **07 01 15.0 +2.4**
AKASG Malin Array Be 26.36 121 P **P** **07 01 12.8 -0.4**
comp=Z,41nm,0.9s,baz=333,slow=9.5,SNR=36
AKASG LR LR 07 11 04.1
comp=Z,1μm,18.0s,baz=334,slow=35
comp=Z,41nm,0.9s
AKASG Malin Array Be 26.36 121 P **P** **07 01 12.3 -0.9**
AKASG Malin Array Be 26.36 121 P **P** **07 01 12.3 -0.9**
AKASG pmax pmax
comp=Z,116nm,0.9s
AKBB Malin Array Si 26.36 121 P **P** **07 01 12.2 -1.0**
AKBB Malin Array Si 26.36 121 P **P** **07 01 12.2 -1.0**
AKBB pmax pmax
comp=Z,115nm,0.9s
UZH Uzhgorod 26.44 132⇑ *i* P **P** **07 01 15.4 +1.5**
UZH *i* 07 01 17.1
UZH *i* 07 01 19.5
UZH *e* 07 02 03.1
UZH *eS* **S** **07 05 46.4 -0.7**
UZH *i* 07 06 54.9
UZH MLR MLR
comp=N,500nm,14.0s
UZH MLR MLR
comp=E,700nm,14.0s
UZH MLR MLR
comp=Z,200nm,14.0s
EGYH Egyhazaskeszo 26.46 140 P **P** **07 01 17.9 +3.7**
SSB Saint Sauveur 26.48 161 P **P** **07 01 15.0 +0.6**
SSB lAmb lAmb 07 01 21.9
comp=Z,25nm,0.9s
SSB Saint Sauveur 26.48 161 P **P** **07 01 15.0 +0.6**
SSB pmax pmax
comp=Z,25nm,0.9s
MYKA Terra Mystica 26.49 146 *i* P **P** **07 01 17.4 +2.9**
comp=Z,33nm,1.3s,SNR=8.7
PSZ Piszkesteto 26.54 136⇑ P **P** **07 01 16.1 +1.1**
PSZ Piszkesteto 26.54 136 P **P** **07 01 15.0 0.0**
PSZ lAmb lAmb 07 01 23.2
comp=Z,62nm,1.2s
PSZ Piszkesteto 26.54 136 P **P** **07 01 15.0 0.0**
PSZ pmax pmax
comp=Z,62nm,1.2s
PSZ Piszkesteto 26.54 136 P **P** **07 01 16.4 +1.4**
CIMO Cimolais 26.59 148 P **P** **07 01 14.8 -0.5**
CIMO lAmb lAmb 07 01 26.3
comp=Z,30nm,1.1s
STAL STALIGIAL 26.68 148 P **P** **07 01 15.7 -0.5**
STAL lAmb lAmb 07 01 21.2
comp=Z,27nm,1.1s
SOKA Soboth 26.70 144 *i* P **P** **07 01 18.1 +1.6**
comp=Z,39nm,1.2s,SNR=26
CTI Castel Tesino 26.70 149 P **P** **07 01 16.5 0.0**
CTI Castel Tesino 26.70 149 P **P** **07 01 16.5 0.0**
CTI pmax pmax
comp=Z,136nm,1.0s
MPLH Magyarpolny 26.74 140 P **P** **07 01 20.1 +3.5**
BUD Budapest 26.76 138 P **P** **07 01 20.0 +3.2**
OBKA Obir 26.77 145 *i* P **P** **07 01 18.8 +1.7**
comp=Z,34nm,1.3s,SNR=17
BNI Bardonecchia 26.95 157 P **P** **07 01 19.4 +0.6**
BNI lAmb lAmb 07 01 31.3
comp=Z,91nm,1.5s
BNI Bardonecchia 26.95 157 P **P** **07 01 19.4 +0.6**
BNI pmax pmax
comp=Z,91nm,1.5s
SABO M.te Sabotino 27.11 147 P **P** **07 01 19.5 -0.5**
SABO lAmb lAmb 07 01 25.3
comp=Z,94nm,1.8s
LJU Ljubljana 27.22 145 *i* P **P** **07 01 24.5 +3.5**
TEOL Teolo 27.38 150 P **P** **07 01 22.9 +0.5**
CEY Cerknica 27.49 146 *i* P **P** **07 01 26.6 +3.2**
LPSR Galich'ya Gora 27.58 107 *e*P **P** **07 01 24.2 +0.1**
LPSR pmax pmax
comp=Z,110nm,0.9s
LPSR MLR MLR
comp=Z,570nm,14.0s
BOJS Bojanci 27.87 144 *i* P **P** **07 01 29.7 +2.9**
MORH Mrgy, Hungar 27.88 139⇑ P **P** **07 01 28.8 +1.9**
MORH Mrgy, Hungar 27.88 139 P **P** **07 01 28.7 +1.8**
KOVH Kovagotottos 27.89 140 P **P** **07 01 29.3 +2.3**
BUR08 Bucovina Ar. S 28.07 129 P **P** **07 01 29.5 +0.7**
BUR08 lAmb lAmb 07 01 42.0
comp=Z,31nm,1.0s
BURAR Bucovina Array 28.11 129⇓ P **P** **07 01 30.3 +1.3**
BURAR Bucovina Array 28.11 129 P **P** **07 01 29.5 +0.4**
BURAR lAmb lAmb 07 01 36.9
comp=Z,25nm,0.8s
DRGR 28.26 133⇑ P **P** **07 01 31.6 +1.2**
VLC Villacollemand 28.34 152 P **P** **07 01 32.2 +1.1**
ARCR ARCALIA 28.38 131⇑ P **P** **07 01 32.4 +1.1**
VORR Voronezh 28.47 108 *e*P **P** **07 01 31.6 -0.5**
VORR pmax pmax
comp=Z,120nm,0.6s
SIRR Siria 28.50 135⇑ P **P** **07 01 35.0 +2.5**
VSR Storozhevoye 28.85 109 *e*P **P** **07 01 35.4 -0.1**
VSR pmax pmax
comp=Z,100nm,0.8s
VSR MLR MLR
comp=Z,740nm,12.0s
BZS Buzias 29.11 135⇓ P **P** **07 01 39.9 +2.1**
PGAV Gavieira, Arco 29.14 181 *e*S **S** **07 06 36.5 +6.5**
PGAV *e*LR LR 07 09 47.6
comp=Z,2μm,22.0s
FRGS Fruska Gora 29.14 138⇑ P **P** **07 01 40.9 +2.8**
NRIK Noril'sk 29.16 47 P **P** **07 01 38.8 +0.7**
comp=Z,6.0nm,0.9s,baz=314,slow=6.3,SNR=8.1
comp=Z,6.0nm,0.9s
NRIK Noril'sk 29.16 47 *ce*P **P** **07 01 36.2 -1.9**
NRIK pmax pmax
comp=Z,29nm,1.3s
PBRG Braganca 29.30 179 *e*P **P** **07 01 44.0 +4.4**
TESR Tescani 29.50 128⇑ P **P** **07 01 42.4 +1.1**
MURB Monte Urbino 29.56 150 P **P** **07 01 41.7 -0.3**
GZR Gura Zlata 29.59 134⇑ P **P** **07 01 45.2 +3.0**
VRH Novokhopyorsk 29.66 106 *e*P **P** **07 01 42.5 -0.1**
VRH pmax pmax
comp=Z,60nm,0.8s
VRH MLR MLR
comp=Z,2μm,15.0s
OZUR 29.66 130⇑ P **P** **07 01 44.6 +1.8**
DOPR Dopca 29.68 130⇑ P **P** **07 01 44.1 +1.2**
MILM Milestii Mici 29.69 125 *e*P **P** **07 01 42.0 -0.9**
MILM LQM 07 11 19.4
comp=Z,900nm,17.0s
MILM LRM MLR 07 13 00.8
comp=Z,1μm,19.5s
MILM Milestii Mici 29.69 125⇑ P **P** **07 01 44.4 +1.5**
MILM Milestii Mici 29.69 125 *e*P **P** **07 01 42.0 -0.9**
MILM MLR MLR
comp=Z,1μm,19.5s
MILM MLR MLR
comp=N,700nm,24.0s
POLO Lamas de Olo 29.73 180 *e*P **P** **07 01 46.5 +3.1**
comp=N,13nm,1.5s
LOT Lotru 29.77 133⇓ P **P** **07 01 45.2 +1.4**
SCHQ Schefferville 29.86 269 LR LR 07 12 48.3
comp=N,1μm,20.0s,baz=46,slow=35
FDMO Fiordimonte 29.87 149 P **P** **07 01 43.4 -1.2**
MDVR Moldovita 29.92 136⇑ P **P** **07 01 47.0 +1.9**
MVO Moncorvo 29.93 179 *e*P **P** **07 01 46.8 +1.5**
comp=N,42nm,1.3s
MVO *eS* **S** **07 06 48.4 +5.9**
MVO *e*LR LR 07 09 50.5
comp=N,2μm,20.0s
HERR Herculane 29.99 135⇑ P **P** **07 01 47.5 +1.9**
COVR Voineasa-Covas 30.00 129⇑ P **P** **07 01 47.6 +1.8**
ARR Arges 30.06 132⇑ P **P** **07 01 48.3 +2.0**
LATE Laterza 30.07 151 P **P** **07 01 46.0 -0.4**
VOIR 30.09 131⇑ P **P** **07 01 48.1 +1.4**
PLOR Plostina 30.11 129⇑ P **P** **07 01 48.4 +1.7**
VRI Vrincioaia 30.12 128⇑ P **P** **07 01 47.7 +1.0**
MLR Muntele Rosu 30.27 130⇑ P **P** **07 01 49.9 +1.6**
MLR Muntele Rosu 30.27 130 LR LR 07 14 53.0
comp=N,4μm,18.3s,baz=344,slow=38
MLR Muntele Rosu 30.27 130 P **P** **07 01 48.3 +0.1**
MLR lAmb lAmb 07 01 58.6
comp=Z,26nm,1.0s
MLR Muntele Rosu 30.27 130 P **P** **07 01 48.3 +0.1**

MLR pmax pmax
comp=Z,26nm,1.0s
PURM Purcari 30.33 124 ⇑P P 07 01 48.6 0.0
PVIS Viseu 30.38 181 *e*P **P 07 01 52.7 +3.5**
comp=Z,26nm,1.2s
NEHR Nehoiu 30.41 129 ⇑P P 07 01 51.2 +1.8
BELG Belogornoye 30.53 98 LR LR 07 13 20.5
comp=Z,648nm,19.3s,baz=331,slow=35
BELG Belogornoye 30.53 98 *i* P **P 07 01 49.1 -1.2**
BELG pmax pmax
comp=Z,12nm,0.9s
SCTR Scanteiesti 30.62 127 ⇑P P 07 01 52.9 +1.7
MTE Manteigas 30.70 180 *e*P **P 07 01 55.9 +3.9**
comp=Z,27nm,1.2s
MTE *e*S S 07 07 09.1 +15
MTE *e*LR LR 07 10 24.7
comp=Z,2µm,22.0s
MTE Manteigas 30.70 180 P **P 07 01 52.2 +0.2**
MTE IAmb IAmb 07 01 57.6
comp=Z,21nm,1.0s
ARU Arti 30.74 83 LR LR 07 13 55.6
comp=Z,1µm,18.5s,baz=322,slow=35
ARU Arti 30.74 83 *d* P **P 07 01 52.1 -0.1**
ARU Arti 30.74 83 *d* P **P 07 01 52.6 +0.5**
ARU 07 02 49.8
ARU S **S 07 06 57.2 +2.5**
ARU SS **SnSn 07 08 35.9 +3.6**
ARU pmax pmax
comp=Z,28nm,1.0s
ARU MLR MLR
comp=Z,1µm,18.0s
ISR Istrita 30.77 129 ⇑P P 07 01 55.2 +2.7
BOVS Bovan 31.00 137 ⇑P P 07 01 56.5 +1.9
PCAS Casmilo, Conde 31.05 181 *e*P **P 07 01 58.4 +3.4**
comp=Z,40nm,1.5s
CFR Carcaliu 31.12 127 ⇑P P 07 01 56.3 +0.7
BLKB Belogradchik 31.24 135 ⇑P P 07 01 57.7 +1.0
PCBR Castelo Branco 31.26 180 *e*P **P 07 02 00.5 +3.7**
comp=Z,25nm,1.5s
ESBB Sonseca Array 31.47 175 P **P 07 01 58.4 -0.4**
ESBB IAmb IAmb 07 02 05.5
comp=Z,23nm,1.3s
ESDC Sonseca Array 31.48 175 P **P 07 01 59.1 +0.2**
comp=Z,13nm,1.2s,baz=357,slow=9.0,SNR=19
ESDC LR LR 07 14 42.0
comp=Z,930nm,18.4s,baz=348,slow=36
comp=Z,13nm,1.2s
ESDC Sonseca Array 31.48 175 P **P 07 01 59.5 +0.7**
TPGR Topolog 31.49 127 ⇑P P 07 02 00.1 +1.1
HARR Harsova 31.52 128 ⇑P P 07 01 59.7 +0.6
PSBE So Bento 31.59 182 *e*P **P 07 02 03.4 +3.6**
comp=Z,62nm,1.0s
PAB San Pablo 31.59 175 P **P 07 02 00.6 +0.7**
PAB IAmb IAmb 07 02 06.8
comp=Z,22nm,1.1s
PAB San Pablo 31.59 175 P **P 07 02 00.6 +0.7**
PAB pmax pmax
comp=Z,22nm,1.1s
PDG Podgorica 31.62 141 ⇑P P 07 02 01.9 +1.8
PMRV Marv??o 31.67 180 *e*P **P 07 02 01.9 +1.4**
comp=Z,75nm,1.0s
PMRV *e*LR LR 07 10 45.7
comp=Z,2µm,22.0s
TLBR Topalu 31.69 128 ⇑P P 07 02 01.7 +1.1
MPEP Malo Peshtene 31.74 134 P **P 07 02 03.9 +2.8**
TIRR Tirgusor 31.86 127 ⇑P P 07 02 03.8 +1.7
TIRR Tirgusor 31.86 127 P **P 07 02 02.3 +0.2**
TIRR Tirgusor 31.86 127 P **P 07 02 02.3 +0.2**
TIRR pmax pmax
comp=Z,112nm,0.8s
PMTG Montargil 32.03 181 *e*P **P 07 02 04.7 +1.1**
comp=Z,37nm,1.1s
PMAFR Mafra 32.15 183 *e*P **P 07 02 08.9 +4.1**
RAZG Razgrad 32.21 130 ⇑P P 07 02 06.5 +1.3
PESTR Estremoz 32.23 180 *e*P **P 07 02 07.4 +2.0**
comp=Z,44nm,1.1s
PESTR Estremoz 32.23 180 P **P 07 02 05.4 -0.1**
PESTR IAmb IAmb 07 02 10.7
comp=Z,19nm,0.9s
VTS Vitosha 32.32 135 ⇑P P 07 02 07.9 +1.5
VTS Vitosha 32.32 135 P **P 07 02 05.4 -0.9**
VTS IAmb IAmb 07 02 12.9
comp=Z,38nm,1.3s
VTS Vitosha 32.32 135 P **P 07 02 05.4 -0.9**
VTS pmax pmax
comp=Z,38nm,1.3s
VTS Vitosha 32.32 135 P **P 07 02 08.2 +1.8**
PSN Preselentsi 32.53 128 P P 07 02 15.4 +7.4
MATE Matera 32.84 145 ⇑P P 07 02 13.7 +3.0
PBAR Barrancos 32.92 179 *e*P **P 07 02 12.8 +1.3**
PNCL Nicolau / Gran 32.99 182 *e*P P 07 02 16.7 +4.7
comp=Z,28nm,1.2s
KKB Krupnik 33.00 136 P P 07 02 06.0 -6.2
PBEJ Beja 33.07 181 *e*P **P 07 02 14.5 +1.7**
comp=Z,43nm,1.3s
MESJ Messejana 33.26 181 *e*P **P 07 02 15.2 +0.9**
MESJ *e*S **S 07 07 36.0 +1.8**
MESJ IAMs_20 IAMs_20 07 13 30.4
comp=E,3µm,16.2s
MESJ Messejana 33.26 181 *e*P **P 07 02 16.0 +1.6**
comp=E,37nm,1.2s
MESJ Messejana 33.26 181 *e*P **P 07 02 15.3 +0.9**
MESJ *e*S **S 07 07 36.0 +1.8**
MMB Musomiste 33.41 135 P **P 07 02 18.0 +2.2**
PCVE Castro Verde 33.46 181 *e*P **P 07 02 16.6 +0.4**
PTEO Sao Teotonio 33.55 182 *e*P **P 07 02 20.7 +3.7**
PVAQ Vaqueiros 33.69 180 *e*P **P 07 02 22.0 +3.8**
PVAQ *e*S **S 07 07 48.1 +7.2**
PVAQ *e*LR LR 07 12 05.0
comp=E,1µm,18.0s
C36M Paulatuk 33.74 325 P **P 07 02 17.8 -0.4**
baz=32
MORF Marmelete 33.79 182 *e*P **P 07 02 19.8 +0.7**
MORF *e*S **S 07 07 44.2 +1.6**
MORF IAMs_20 IAMs_20 07 14 43.6
comp=E,2µm,18.1s
MORF Marmelete 33.79 182 *e*P **P 07 02 22.0 +2.9**
MORF Marmelete 33.79 182 *e*P **P 07 02 19.8 +0.7**
MORF *e*S **S 07 07 44.2 +1.6**
PFVI Vila Bisbo 33.97 182 *e*P **P 07 02 25.1 +4.5**
ANN Anapa 34.05 116 *e*P **P 07 02 21.2 -0.1**
ANN *e* 07 03 30.6
ANN *e*S **S 07 07 46.3 -0.1**
ANN pmax pmax
comp=Z,67nm,0.9s
ANN MLR MLR
comp=Z,1µm,14.0s
RDO Rodhopi 34.26 133 P **P 07 02 23.6 +0.6**
TIP Timpagrande 34.27 145 ⇑P P 07 02 25.9 +2.6
TIP Timpagrande 34.27 145 P **P 07 02 22.9 -0.4**
TIXI Tiksi 34.78 23 LR LR 07 16 49.0
comp=Z,221nm,19.4s,baz=359,slow=36
TIXI Tiksi 34.78 23 P **P 07 02 28.1 +0.9**
TIXI IAmb IAmb 07 02 36.8
comp=Z,33nm,1.3s
TIXI Tiksi 34.78 23 *ce*P **P 07 02 28.9 +1.6**
TIXI pmax pmax
comp=Z,16nm,1.3s
GOF Gofitskoye 35.51 110 ⇑ *e*P **P 07 02 35.5 +1.6**
GOF pmax pmax
comp=Z,86nm,1.1s
VAE Valguarnera 35.51 149 LR LR 07 18 25.6
comp=Z,438nm,18.6s,baz=16,slow=38
AKTO Aktyubinsk 35.59 90 LR LR 07 16 48.6
comp=Z,828nm,18.2s,baz=336,slow=36
RAFF Raffo Rosso 35.75 149 P **P 07 02 35.5 -0.5**
SOC Sochi 35.84 114 *e*P **P 07 02 38.5 +1.8**
SOC *e*S **S 07 08 17.1 +3.2**
SOC *e*SS **SnSn 07 10 42.4 +6.1**
SOC pmax pmax
comp=Z,15nm,0.8s
SOC MLR MLR
comp=Z,931nm,21.0s
INK Inuvik 36.32 329 LR LR 07 18 28.7
comp=Z,880nm,18.8s,baz=23,slow=38
INK Inuvik 36.32 329 P **P 07 02 39.8 -0.7**
INK IAmb IAmb 07 02 46.2
comp=Z,27nm,1.3s
INK Inuvik 36.32 329 P **P 07 02 39.8 -0.7**
INK pmax pmax
comp=Z,27nm,1.3s
INK Inuvik 36.32 329 P **P 07 02 40.0 -0.6**
baz=26
KIV Kislovodsk 36.40 111 P **P 07 02 41.0 -0.6**
KIV IAmb IAmb 07 02 50.0
comp=Z,53nm,1.1s
KIV Kislovodsk 36.40 111 *i* P **P 07 02 41.6 0.0**
KIV *i* 07 04 03.8
KIV pmax pmax
comp=Z,60nm,1.3s
KIV MLR MLR
comp=Z,417nm,17.0s
A21K Barrow 36.47 344 P **P 07 02 41.1 -0.7**
baz=16
KEST Kesra 36.47 157 P **P 07 02 42.3 0.0**
comp=Z,2.1nm,0.6s,baz=334,slow=11,SNR=1.9
KEST LR LR 07 17 20.5
comp=Z,658nm,21.4s,baz=332,slow=36
comp=Z,2.1nm,0.6s
C26K Camden Bay 36.52 337 P **P 07 02 41.7 -0.6**
baz=22
SHA1 Shidzhatmaz 36.59 111 *e*P **P 07 02 44.5 +1.1**
C27K Jago River 36.64 336 P **P 07 02 42.7 -0.5**
baz=22
KBZ Khabaz 36.67 111 P **P 07 02 45.6 +1.9**
comp=Z,22nm,1.2s,baz=316,slow=10,SNR=15
KBZ LR LR 07 16 02.3
comp=Z,464nm,19.3s,baz=326,slow=33
comp=Z,22nm,1.2s
KBZ Khabaz 36.67 111 *de*P **P 07 02 45.2 +1.5**
KBZ pmax pmax
comp=Z,27nm,1.0s
BORA Eskisehir 36.68 128 P **P 07 02 43.0 -1.0**
BORA IAmb IAmb 07 02 50.8
comp=Z,15nm,0.7s
F31M Tsiigehtchic 37.14 329 P **P 07 02 46.8 -0.7**
baz=26,SNR=6.4
C24K Franklin Bluff 37.17 339 P **P 07 02 47.8 0.0**
baz=20
AB31 Akbulak array 37.24 89 *i* P **P 07 02 48.3 -0.2**
ABKAR Akbulak array 37.24 89 P **P 07 02 48.1 -0.5**
D25K Kavik River 37.27 337 P **P 07 02 48.4 -0.3**
baz=21
C23K Itkillik River 37.28 340 P **P 07 02 48.9 +0.2**
baz=19
BRVK Borovoye 37.32 77 P **P 07 02 49.9 +0.7**
BRVK IAmb IAmb 07 02 56.1
comp=Z,50nm,1.1s
BRVK Borovoye 37.32 77 *ce*P **P 07 02 50.2 +1.0**
BRVK pmax pmax
comp=Z,44nm,1.7s
BVAR Borovoye Array 37.38 77 LR LR 07 18 36.3
comp=Z,449nm,18.8s,baz=325,slow=37
YKA Yellowknife Ar 37.60 313 P **P 07 02 48.8 -2.7**
comp=Z,4.2nm,1.0s,baz=30,slow=8.6,SNR=2.5
YKA LR LR 07 17 45.3
comp=Z,1µm,19.6s,baz=18,slow=36
comp=Z,4.2nm,1.0s
BR131 Keskin Array S 37.67 124 *i* P **P 07 02 53.2 +0.7**
BRTR Keskin Array B 37.67 124 P **P 07 02 54.0 +1.5**
comp=Z,8.5nm,0.9s,baz=333,slow=5.4,SNR=15
BRTR LR LR 07 20 08.3
comp=Z,722nm,18.8s,baz=333,slow=39
comp=Z,8.5nm,0.9s
BRTR Keskin Array B 37.67 124 P **P 07 02 52.8 +0.3**
BRTR Keskin Array B 37.67 124 P **P 07 02 54.0 +1.5**
E27K Coleen River 37.68 334 P **P 07 02 51.8 -0.4**
baz=23
D24K Happy Valley 37.73 339 P **P 07 02 52.6 +0.1**
baz=20
ZEI Tsey 37.83 110 *e*P **P 07 02 55.6 +1.7**
ZEI pmax pmax
comp=Z,20nm,1.3s
G30M tAoh Zraii Nji 37.97 330 P **P 07 02 53.4 -1.2**
baz=24
GROC Groznyy 38.04 108 *e*P **P 07 02 55.4 0.0**
GROC *e* 07 04 23.4
GROC pmax pmax
comp=Z,426nm,1.3s
D23K Nanushuk River 38.12 339 P **P 07 02 56.0 +0.1**
baz=18
E25K Arctic Village 38.29 336 P **P 07 02 56.6 -0.7**
baz=21
MDT Midelt 38.30 176 LR LR 07 17 42.2
TOLK Toolik Lake Re 38.30 339 P **P 07 02 57.6 +0.2**
baz=19
F26K Sheenjek River 38.50 335 P **P 07 02 59.0 0.0**
baz=21
EPYK Eagle Plains 38.61 330 P **P 07 02 59.2 -0.8**
baz=24
PMOZ Porto Moniz, M 38.62 193 *e*LR LR 07 13 50.5
comp=Z,301nm,20.0s
E24K Your Creek 38.71 338 P **P 07 03 00.3 -0.5**
baz=19
MAK Makhachkala 38.79 106 *e*P **P 07 02 58.3 -3.4**
MAK *e* 07 04 30.6
MAK *e*S **S 07 08 55.3 -3.4**
MAK pmax pmax
comp=Z,108nm,1.0s
MAK MLR MLR
comp=Z,456nm,14.0s
F25K Christian River 38.80 336 P **P 07 03 01.4 -0.2**
baz=20
BMAR Burnt Mountain 38.81 335 P **P 07 03 01.2 -0.5**
PKME Peaks-Kenny Pk 38.90 262 P **P 07 03 02.9 +0.3**
baz=27
WRGLY Wrigley 38.95 320 P **P 07 03 02.7 -0.2**
baz=28
G27K Doyon Strip 38.97 333 P **P 07 03 02.9 -0.2**
baz=22
E22K Anaktuvuk Pass 39.04 340 P **P 07 03 03.3 -0.3**
baz=18
BNN Bunyan 39.09 122 P **P 07 03 04.6 +0.1**
BNN IAmb IAmb 07 03 12.7
comp=Z,57nm,1.2s
G26K Porcupine Rive 39.15 334 P **P 07 03 05.0 +0.6**
baz=21,SNR=6.1
F24K Squaw Lake 39.16 337 P **P 07 03 04.6 0.0**
baz=19
H27K Steamboat Moun 39.49 333 P **P 07 03 07.4 0.0**
baz=22
F22K John River 39.69 340 P **P 07 03 08.6 -0.4**
baz=17
IDI Anoyia 39.70 137 LR LR 07 21 13.6
comp=Z,398nm,19.6s,baz=285,slow=39
FYU Fort Yukon 39.71 335 P **P 07 03 10.0 +0.9**
FYU IAmb IAmb 07 03 23.6
comp=Z,42nm,1.2s
COLD Coldfoot 39.72 338 P **P 07 03 08.9 -0.4**
baz=18
I29M Ogilvie Camp, 39.80 330 P **P 07 03 08.9 -1.0**
I29M Ogilvie Camp, 39.80 330 P **P 07 03 08.5 -1.4**
baz=23,SNR=7.0
G24K Hadweenzic Riv 39.88 336 P **P 07 03 11.1 +0.5**
baz=19,SNR=7.1
H25K Birch Creek 40.07 335 P **P 07 03 11.8 -0.3**
baz=20
I27K Kandik River 40.09 332 P **P 07 03 12.4 0.0**
baz=21,SNR=7.8
F21K Alatna River 40.11 340 P **P 07 03 12.1 -0.4**
baz=16
G22K Bettles 40.17 339 P **P 07 03 12.5 -0.5**
baz=17
RDOG Red Dog Mine 40.19 346 P **P 07 03 12.1 -1.1**
baz=12
G23K Bananza Creek 40.20 338 P **P 07 03 13.1 -0.1**
baz=18
GNI Garni 40.49 111 LR LR 07 20 22.0
comp=Z,476nm,20.1s,baz=337,slow=36
GNI Garni 40.49 111 P **P 07 03 16.7 +0.6**
GNI IAmb IAmb 07 03 39.9
comp=Z,109nm,1.6s
GNI Garni 40.49 111 *ce*P **P 07 03 18.6 +2.5**
GNI pmax pmax
comp=Z,38nm,1.3s
I26K Coal Creek Min 40.60 333 P **P 07 03 16.2 -0.3**
I26K Coal Creek Min 40.60 333 P **P 07 03 16.8 +0.3**
baz=21
J29M Klondike Camp 40.62 330 P **P 07 03 16.5 -0.4**
baz=22
LBNH Lisbon 40.67 264 P **P 07 03 17.7 +0.3**
baz=27
BRZS Berezniki 40.73 77 *d* P **P 07 03 18.4 +0.6**
BRZS *i* 07 04 50.6
BRZS pmax pmax
comp=Z,17nm,1.3s
BRZS Berezniki 40.73 77 *i* P **P 07 03 18.5 +0.6**
comp=Z,17nm,1.3s,baz=77
BRZS *i* PP **PP 07 04 50.7 -0.7**
baz=77
PRP Porcupine Dome 40.74 335 P **P 07 03 18.3 +0.4**
PRP Porcupine Dome 40.74 335 P **P 07 03 18.8 +1.0**
baz=20,SNR=11
H24K Noodor Dome 40.76 336 P **P 07 03 18.7 +0.8**
baz=19
G21K Allakaket 40.79 340 P **P 07 03 18.0 -0.1**
baz=16
EGAK Eagle 40.79 332 P **P 07 03 17.3 -0.8**
EGAK Eagle 40.79 332 P **P 07 03 17.4 -0.8**
baz=21,SNR=7.7
H23K Yukon River 40.98 337 P **P 07 03 20.4 +0.7**
H23K Yukon River 40.98 337 P **P 07 03 20.6 +0.9**
baz=18
MAYO Mayo, Yukon 41.02 328 P **P 07 03 19.7 -0.4**
baz=23
ZAA0 Zalesovo Array 41.02 64 P **P 07 03 20.5 +0.3**
ZALV Zalesovo Beam 41.02 64 P **P 07 03 20.3 +0.2**
comp=Z,3.0nm,0.9s,baz=334,slow=9.9,SNR=11
ZALV PP **PP 07 04 57.5 +3.1**
comp=Z,5.1nm,0.9s,baz=321,slow=13,SNR=5.6
ZALV LR LR 07 22 52.5
comp=Z,697nm,21.6s,baz=323,slow=40
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 41.02 64 P **P 07 03 20.6 +0.5**
ZALV Zalesovo Beam 41.02 64 *i* P **P 07 03 23.8 +3.7**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
K29M Barlow Dome 41.07 329 P **P 07 03 20.4 -0.2**
baz=22,SNR=11
MMPY Sheldon Lake, 41.07 324 P **P 07 03 21.2 +0.7**
baz=24,SNR=12
BILL Bilibino 41.12 4 ⇓ *e*P **P 07 03 21.7 +0.9**
BILL *i* 07 03 26.8
BILL *e* 07 04 54.9
BILL *e*S **S 07 09 38.6 +5.4**
BILL *e*SS **SS 07 12 36.8 +1.7**
BILL pmax pmax
comp=Z,9.0nm,1.1s
BILL MLR MLR
comp=Z,277nm,17.0s
H22K Ishtalitna Cre 41.14 338 P **P 07 03 21.7 +0.7**
baz=17,SNR=9.2
DAWY Dawson 41.18 330 P **P 07 03 20.3 -1.0**
DAWY Dawson 41.18 330 P **P 07 03 20.9 -0.5**
baz=22
LONY Lake Ozonia 41.20 267 P **P 07 03 24.2 +2.4**
baz=27
IMAR Indian Mountai 41.33 340 P **P 07 03 22.6 0.0**
POKR Poker Plat Res 41.38 336 P **P 07 03 23.9 +0.9**
baz=19
J26L Joseph Creek 41.42 333 P **P 07 03 23.6 +0.2**
J26L IAmb IAmb 07 03 34.8
comp=Z,34nm,1.6s
J26L Joseph Creek 41.42 333 P **P 07 03 23.3 -0.1**
baz=20,SNR=8.1
TGTN Hyland Airport 41.48 322 P **P 07 03 24.2 +0.3**
baz=25
H21K Melozitna Rive 41.54 339 P **P 07 03 24.3 0.0**
baz=16,SNR=6.0
J25K Salcha River, 41.58 334 P **P 07 03 24.9 +0.2**
J25K Salcha River, 41.58 334 P **P 07 03 25.0 +0.4**
baz=19,SNR=7.0
IL31 41.64 335 P **P 07 03 25.2 +0.2**
ILAR Eielson Array 41.64 335 P **P 07 03 24.6 -0.5**
comp=Z,9.8nm,1.2s,baz=9.0,slow=7.4,SNR=29
ILAR PcP **PcP 07 05 20.5 -1.1**
comp=Z,0.4nm,0.9s,baz=1.4,slow=3.6,SNR=1.0
ILAR LR LR 07 21 56.3
comp=Z,730nm,20.7s,baz=18,slow=38
comp=Z,9.8nm,1.2s
ILAR Eielson Array 41.64 335 P **P 07 03 25.1 0.0**
K27K Chicken 41.64 332 P **P 07 03 24.5 -0.5**
K27K IAmb IAmb 07 03 36.6
comp=Z,41nm,1.6s
K27K Chicken 41.64 332 P **P 07 03 25.3 +0.3**
baz=20
MDM Murphy Dome 41.64 336 P **P 07 03 25.1 0.0**
COLA College 41.67 336 P **P 07 03 25.5 +0.2**
COLA College 41.67 336 P **P 07 03 25.5 +0.2**
COLA pmax pmax
comp=Z,24nm,1.3s
COLA College 41.67 336 P **P 07 03 25.7 +0.4**
baz=18
TCOL CIGO, UAF Yank 41.67 336 P **P 07 03 25.6 +0.4**
TCOL CIGO, UAF Yank 41.67 336 P **P 07 03 25.7 +0.4**
baz=18
FARO Faro, Yukon 41.83 325 P **P 07 03 26.6 0.0**
FARO Faro, Yukon 41.83 325 P **P 07 03 26.9 +0.2**
baz=23
CCB Clear Creek Bu 41.88 336 P **P 07 03 26.9 -0.1**
MLY Manley 41.89 338 P **P 07 03 27.7 +0.5**
MLY Manley 41.89 338 P **P 07 03 27.5 +0.3**
baz=17
I21K Tanana 41.90 338 P **P 07 03 27.1 -0.1**
baz=16
KURK Kurchatov 41.96 72 P **P 07 03 28.2 +0.3**
KURK IAmb IAmb 07 03 34.9
comp=Z,47nm,1.0s
KURK Kurchatov 41.96 72 *ce*P **P 07 03 29.0 +1.1**
KURK pmax pmax
comp=Z,52nm,1.7s
SCRK Sand Creek 41.98 333 P **P 07 03 28.1 +0.1**
baz=20
HDA Harding Lake 41.99 335 P **P 07 03 27.6 -0.4**
HDA Harding Lake 41.99 335 P **P 07 03 27.8 -0.2**
baz=18
KURBB Kurchatov Arra 42.02 72 LR LR 07 24 28.9
comp=Z,751nm,18.0s,baz=307,slow=41
M31M Drury Creek, Y 42.04 326 P **P 07 03 28.5 0.0**
baz=23
NEA2 Nenana 42.10 336 P **P 07 03 29.0 +0.1**
baz=18
HRV Adam Dziewonsk 42.10 263 P **P 07 03 29.2 +0.1**
baz=26
M30M Minto, Yukon 42.13 328 P **P 07 03 28.9 -0.2**
baz=22,SNR=12
RIDG Independent Ri 42.33 333 P **P 07 03 30.5 -0.3**
baz=19
K24K Donnelly Dome 42.40 334 P **P 07 03 31.1 -0.3**
baz=19
BCAR Beaver Creek A 42.50 331 P **P 07 03 32.1 -0.1**
L27K Beaver Creek, 42.51 331 P **P 07 03 32.1 -0.1**
baz=20,SNR=10.0
L61B Northampton 42.52 264 P **P 07 03 32.5 0.0**
baz=26
M29M Somme Creek 42.54 329 P **P 07 03 33.3 +0.7**
baz=21
SADO Sadowa 42.56 271 LR LR 07 20 33.3
comp=Z,1µm,18.3s,baz=12,slow=36
SEM Semipalatinsk 42.74 70 *e*P **P 07 03 34.6 +0.2**
SEM Semipalatinsk 42.74 70 *e*P **P 07 03 34.7 +0.2**
baz=70
N32M Quiet Lake 42.77 324 P **P 07 03 34.1 -0.3**
baz=23
L26K Log Cabin Wild 42.78 332 P **P 07 03 34.7 +0.3**
baz=20
BPAW Bear Paw Mtn. 42.82 337 P **P 07 03 34.1 -0.6**
baz=17
GCSA Galena City Sc 42.87 341 P **P 07 03 35.2 +0.2**
baz=14
WTLY Watson Lake, Y 42.88 321 P **P 07 03 35.4 +0.1**
baz=24
MCK McKinley 42.91 336 P **P 07 03 35.6 +0.1**
MCK IAmb IAmb 07 03 42.0
comp=Z,38nm,1.4s
MCK McKinley 42.91 336 P **P 07 03 35.6 +0.1**
MCK pmax pmax
comp=Z,38nm,1.4s
MCK McKinley 42.91 336 P **P 07 03 35.2 -0.2**
baz=17,SNR=8.2
N31M Braeburn, Yuko 42.96 326 P **P 07 03 35.6 -0.4**
baz=22
BVCY Beaver Creek 42.96 330 P **P 07 03 36.7 +0.8**
baz=20
TNA Tin City 43.02 348 P **P 07 03 36.4 +0.2**
baz=9.3
ULM Lac du Bonnet 43.07 290 LR LR 07 22 04.2
comp=Z,190nm,19.8s,baz=7.5,slow=37
J20K Nowinta River 43.12 339 P **P 07 03 37.2 0.0**
baz=15
PAX Paxson 43.15 333 P **P 07 03 37.3 -0.2**
PAX Paxson 43.15 333 P **P 07 03 37.3 -0.2**
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 43.15 333 P **P 07 03 37.3 -0.2**
baz=19
M27K Edge Creek, AK 43.18 331 P **P 07 03 37.9 +0.1**

baz=20
CHUM Lake Minchumin 43.19 338 P P 07 03 37.8 +0.1
baz=16
N30M Aishikik Lake 43.22 327 P P 07 03 38.2 +0.2
baz=22
M26K Nabesna, AK 43.31 332 P P 07 03 39.4 +0.6
baz=20
DHY Denali Highway 43.32 335 P P 07 03 39.1 +0.1
DHY Denali Highway 43.32 335 P P 07 03 38.7 -0.3
baz=18
TRF Thorofare Moun 43.35 337 P P 07 03 38.8 -0.4
baz=17
YUK3 Moose Creek 43.50 330 P P 07 03 39.9 -0.6
baz=20
WHY Whitehorse 43.56 325 P P 07 03 40.4 -0.5
baz=22
P33M Teslin, Yukon 43.59 324 P P 07 03 41.0 -0.1
P33M Teslin, Yukon 43.59 324 P P 07 03 40.8 -0.3
baz=23
YUK4 Talbot Arm 43.60 328 P P 07 03 40.6 -0.7
baz=21
CAST Castle Rocks 43.61 338 P P 07 03 40.5 -0.6
baz=16,SNR=8.5
HARP HAARP 43.65 333 P P 07 03 41.1 -0.4
baz=19
O30N Mendenhall 43.68 326 P P 07 03 41.8 +0.1
baz=22
WAT1 Susitna Watana 43.72 335 P P 07 03 41.4 -0.6
baz=17
WAT6 Susitna Watana 43.84 335 P P 07 03 42.6 -0.5
baz=18,SNR=12
HYT Haines Junctio 43.88 327 P P 07 03 43.3 -0.1
baz=21
K20K Telida 43.91 339 P P 07 03 43.4 -0.2
baz=15
YAK Yakutsk 43.92 28 *ce* P P 07 03 46.1 +2.5
YAK pmax pmax
comp=Z,52nm,1.3s
YUK6 Outpost Mounta 43.92 328 P P 07 03 43.4 -0.5
baz=21
R33M Jennings River 43.98 322 P P 07 03 44.4 +0.1
baz=23
M24K Tolsona, Glenn 44.08 333 P P 07 03 44.7 -0.2
baz=18
PPLA Purkeypile 44.13 338 P P 07 03 44.8 -0.6
baz=16
PAL Palisades 44.22 264 P P 07 03 46.5 +0.3
baz=25
MCARA McCarthy VSAT 44.28 331 P P 07 03 46.2 -0.3
baz=19
GLMI Grayling 44.29 277 P P 07 03 46.8 0.0
baz=27
N25K Chitina, Valde 44.32 332 P P 07 03 46.8 -0.1
baz=19
P32M Atlin 44.34 324 P P 07 03 47.2 +0.2
baz=22
CUT Chulitna 44.36 336 P P 07 03 46.4 -0.7
baz=16
O28M Mount Upton 44.40 329 P P 07 03 47.5 -0.3
baz=20
CTG Chitna Glacier 44.41 330 P P 07 03 47.9 +0.2
baz=20
SCM Sheep Creek Mo 44.50 334 P P 07 03 49.1 +0.7
baz=18
TTA Tatalina 44.55 340 P P 07 03 49.1 +0.4
baz=14
O29M Mount Kennedy 44.56 328 P P 07 03 48.8 -0.1
baz=21
M23K Glacier View 44.60 334 P P 07 03 48.4 -0.6
baz=17
KLU Klutina 44.62 333 P P 07 03 49.1 -0.2
baz=18
DLBC Dease Lake 44.67 321 LR LR 07 24 12.5
comp=Z,746nm,18.1s,baz=22,slow=39
DLBC Dease Lake 44.67 321 P P 07 03 49.7 0.0
baz=23
SML Sawmill 44.67 335 P P 07 03 49.2 -0.5
SML IAmb IAmb 07 03 55.9
comp=Z,20nm,1.1s
SML Sawmill 44.67 335 P P 07 03 49.4 -0.3
baz=17,SNR=11
L20K Farewell, AK 44.74 339 P P 07 03 49.7 -0.5
baz=15
SKAG Skagway 44.76 325 P P 07 03 50.3 0.0
baz=22
AGMN Agassiz Nation 44.79 289 P P 07 03 50.9 +0.2
baz=28
BMRM Bremner River 44.92 332 P P 07 03 50.9 -0.8
baz=18
SKT Skwentna 44.93 337 P P 07 03 50.4 -1.3
baz=16,SNR=7.7
PLBC Pleasant Camp 44.96 326 P P 07 03 51.4 -0.5
baz=21
PMR Palmer 44.99 335 P P 07 03 51.4 -0.7
PMR Palmer 44.99 335 P P 07 03 51.4 -0.7
PMR pmax pmax
comp=Z,17nm,1.3s
PMR Palmer 44.99 335 P P 07 03 51.7 -0.4
baz=17
BOD Bodaibo 45.02 40 *eP* P 07 03 51.1 -1.3
BOD pmax pmax
comp=Z,38nm,1.5s
P29M Windy Craggy 45.05 327 P P 07 03 51.9 -0.8
baz=21
KNK Knik Glacier 45.06 335 P P 07 03 52.9 +0.1
KNK IAmb IAmb 07 04 06.5
comp=Z,16nm,1.0s
KNK Knik Glacier 45.06 335 P P 07 03 52.0 -0.8
baz=17
L19K White Mountain 45.14 339 P P 07 03 52.7 -0.7
L19K White Mountain 45.14 339 P P 07 03 52.8 -0.7
baz=14
ERPA Erie 45.20 271 P P 07 03 53.8 -0.2
baz=26
M20K Styx River 45.23 338 P P 07 03 52.7 -1.5
baz=15
MESA MESA 45.25 330 P P 07 03 53.4 -1.1
baz=19
SUA Susitna One 45.33 336 P P 07 03 54.9 -0.1
SUA IAmb IAmb 07 04 08.0
comp=Z,31nm,1.2s
SUA Susitna One 45.33 336 P P 07 03 53.9 -1.1
baz=16,SNR=17
M19K Big River Lodg 45.36 339 P P 07 03 54.9 -0.2
baz=15
S34M Telegraph Cree 45.38 321 P P 07 03 55.4 +0.1
baz=22
GLI Glacier Island 45.38 334 P P 07 03 55.0 -0.3
baz=17
EDM Edmonton 45.47 306 P P 07 03 55.6 -0.5
EDM IAmb IAmb 07 04 02.3
comp=Z,19nm,1.1s
EDM Edmonton 45.47 306 P P 07 03 55.6 -0.5
EDM pmax pmax
comp=Z,19nm,1.1s
RAGM Ragged Mountai 45.49 332 P P 07 03 56.0 -0.2
EYAK Cordova Ski Ar 45.50 333 P P 07 03 56.5 +0.4
baz=18
BTLS Baital 45.53 79 *d* iP P 07 03 57.8 +1.2
BTLS *e* 07 05 42.1
BTLS pmax pmax
comp=Z,14nm,1.0s
BTLS Baital 45.53 79 ⇓ *i* P P 07 03 57.8 +1.2
comp=Z,14nm,1.0s,baz=79
BTLS *e* PP PP 07 05 42.1 -0.7
baz=79
DGZ Jazzator, Alta 45.54 65 *d* iP P 07 03 57.6 +0.8
DGZ pmax pmax
comp=Z,15nm,1.7s
RC01 Rabbit Creek A 45.55 335 P P 07 03 56.4 -0.3
RC01 IAmb IAmb 07 04 14.4
comp=Z,13nm,0.9s
RC01 Rabbit Creek A 45.55 335 P P 07 03 56.7 0.0
baz=16
PWL Port Wells 45.58 334 P P 07 03 56.7 -0.2
baz=17,SNR=10
SEY Seymchan 45.59 13 *ce* P P 07 03 58.4 +1.6
SEY pmax pmax
comp=Z,10.0nm,1.3s
ASF Jabal al Asfar 45.65 124 LR LR 07 24 22.6
comp=Z,413nm,19.1s,baz=323,slow=38
R32K Eaglecrest 45.72 324 P P 07 03 56.5 -1.5
baz=21
N20K Mount Spurr 45.77 337 P P 07 03 57.4 -1.0
baz=15
M53A WI Miller and 46.04 271 P P 07 03 57.1 -3.6
baz=26

KK31 Karatay Array 46.12 84 P P 07 04 01.8 +0.5
KK31 Karatay Array 46.12 84 P P 07 04 01.8 +0.5
KK31 pmax pmax
comp=Z,80nm,1.6s
KKAR Karatay Array 46.12 84 P P 07 04 01.6 +0.3
KKAR Karatay Array 46.12 84 P P 07 04 01.6 +0.3
AAM Ann Arbor 46.24 274 P P 07 03 58.9 -3.3
baz=26
P23K Montague Islan 46.27 333 P P 07 03 59.9 -2.4
baz=17
SVW2 Sparrevohn 46.28 339 P P 07 04 02.8 +0.4
SVW2 IAmb IAmb 07 05 44.1
comp=Z,16nm,1.4s
N19K Bonanza Creek 46.43 338 P P 07 04 02.7 -1.0
N19K IAmb IAmb 07 04 13.5
comp=Z,16nm,1.4s
N19K Bonanza Creek 46.43 338 P P 07 04 00.3 -3.4
baz=14
MAKZ Makanchi 46.46 71 P P 07 04 04.2 +0.2
MAKZ IAmb IAmb 07 04 12.2
comp=Z,14nm,0.8s
MAKZ Makanchi 46.46 71 P P 07 04 04.2 +0.2
MAKZ pmax pmax
comp=Z,14nm,0.9s
SEW Seward 46.46 335 P P 07 04 01.4 -2.3
baz=16
MK31 Makanchi Array 46.57 71 P P 07 04 04.8 -0.1
MK31 IAmb IAmb 07 04 12.1
comp=Z,26nm,1.1s
MK31 Makanchi Array 46.57 71 P P 07 04 04.8 -0.1
MK31 pmax pmax
comp=Z,26nm,1.1s
MKAR Makanchi Array 46.57 71 P P 07 04 05.4 +0.6
comp=Z,5.2nm,0.9s,baz=350,slow=6.2,SNR=37
MKAR PP PP 07 05 56.5 +2.6
comp=Z,7.4nm,0.9s,baz=345,slow=7.8,SNR=5.2
MKAR LR LR 07 27 13.3
comp=Z,954nm,18.3s,baz=328,slow=40
comp=Z,5.2nm,0.9s
MKAR Makanchi Array 46.57 71 P P 07 04 04.8 -0.1
MKAR Makanchi Array 46.57 71 P P 07 04 04.8 -0.1
DZA Taraz 46.57 83 *eP* P 07 04 06.1 +1.2
DZA Taraz 46.57 83 *eP* P 07 04 06.2 +1.3
baz=83
N18K Kilae Creek 46.73 339 P P 07 04 03.5 -2.4
baz=14
GEYT Alibeck 46.74 99 P P 07 04 07.2 +0.9
comp=Z,10nm,0.9s,baz=321,slow=11,SNR=6.8
GEYT PP PP 07 05 57.9 +2.0
comp=Z,10nm,0.8s,baz=287,slow=12,SNR=5.4
GEYT LR LR 07 23 17.4
comp=Z,668nm,18.3s,baz=348,slow=35
comp=Z,10nm,0.9s
GEYT Alibeck 46.74 99 P P 07 04 06.8 +0.5
GEYT IAmb IAmb 07 04 13.2
comp=Z,21nm,0.8s
GYA0B ALIBECK ARRAY 46.74 99 P P 07 04 06.9 +0.6
GYA0B IAmb IAmb 07 04 13.1
comp=Z,22nm,0.8s
ZSN Zaisan 46.77 69 *d* iP P 07 04 07.1 +0.7
ZSN *e* 07 05 57.3
ZSN pmax pmax
comp=Z,22nm,2.1s
ZSN Zaisan 46.77 69 ⇓ *i* P P 07 04 07.2 +0.8
comp=Z,22nm,2.1s,baz=69
ZSN *e* PP PP 07 05 57.3 +1.3
baz=69
IUG luzhnay 46.82 85 *i* P P 07 04 08.6 +1.7
IUG luzhnay 46.82 85 *i* P P 07 04 08.6 +1.7
baz=85
TDK Taldyqorghan 46.95 76 *eP* P 07 04 09.2 +1.4
TDK Taldyqorghan 46.95 76 *eP* P 07 04 09.3 +1.4
baz=76
SIT Sitka 47.01 324 P P 07 04 05.8 -2.3
baz=21
SGDS Sogindy 47.14 80 *d* iP P 07 04 10.5 +1.2
SGDS pmax pmax
comp=Z,13nm,1.3s
SGDS Sogindy 47.14 80 ⇓ *i* P P 07 04 10.6 +1.2
comp=Z,13nm,1.3s,baz=80
DGMT Dagmar 47.16 296 P P 07 04 06.7 -2.8
baz=26
N16K Nishlik Lake 47.25 341 P P 07 04 06.7 -3.3
baz=12
USP Ospenovka 47.26 80 P P 07 04 11.7 +1.4
SNR=8.6
KUU Kurty 47.29 78 *d* iP P 07 04 11.4 +1.0
KUU *e* 07 06 01.1
KUU pmax pmax
comp=Z,18nm,1.0s
KUU Kurty 47.29 78 ⇓ *i* P P 07 04 11.5 +1.0
comp=Z,18nm,1.0s,baz=78
KUU *e* PP PP 07 06 01.1 -0.1
baz=78
ARXS Arharly 47.48 77 *eP* P 07 04 13.0 +1.0
EIL Elat 47.51 127 LR LR 07 26 11.4
comp=Z,411nm,20.3s,baz=306,slow=38
CHKK Chushkaly 47.53 77 *eP* P 07 04 12.9 +0.6
CHKK Chushkaly 47.53 77 *eP* P 07 04 13.0 +0.6
baz=78
EKS2 Erkin-Say 47.57 81 P P 07 04 14.7 +1.9
SNR=8.4
O17K Koligan ek Bris 47.75 340 P P 07 04 10.0 -3.8
baz=13
AAK Ala-Archa 47.82 80 P P 07 04 17.1 +2.3
SNR=7.3
AAK Ala-Archa 47.82 80 LR LR 07 24 26.6
comp=Z,410nm,19.0s,baz=335,slow=36
AAK Ala-Archa 47.82 80 P P 07 04 15.8 +1.0
AAK Ala-Archa 47.82 80 *ce* P 07 04 16.4 +1.6
AAK pmax pmax
comp=Z,35nm,1.7s
ACSO Alum Creek Sta 47.88 272 P P 07 04 12.9 -2.1
baz=25
IRK Irkutsk 47.88 50 *eP* P 07 04 14.9 -0.1
IRK pmax pmax
comp=Z,68nm,2.0s
V35K Ketchikan 47.88 320 P P 07 04 11.2 -3.7
baz=21
P18K Big Mountain, 47.90 338 P P 07 04 11.5 -3.6
baz=14
TKM2 Tokmak 2 47.92 79 P P 07 04 17.4 +1.8
SNR=14
TKM2 Tokmak 2 47.92 79 *i* P P 07 04 16.5 +0.8
TKM2 pmax pmax
comp=Z,21nm,0.8s
KBK Karagaybulak 47.95 80 P P 07 04 17.9 +2.1
SNR=9.3
AML Almayashu 48.02 81 P P 07 04 18.9 +2.3
SNR=22
AAA Alma-Ata 48.09 78 *eP* P 07 04 18.2 +1.5
AAA Alma-Ata 48.09 78 *eP* P 07 04 18.2 +1.5
baz=78
P52A Corning 48.14 271 P P 07 04 17.6 +0.5
baz=25
MDOK Medeo 48.17 78 *i* P P 07 04 18.8 +1.3
MDOK *e* 07 06 10.9
MDOK Medeo 48.17 78 *i* P P 07 04 18.8 +1.3
baz=78
MDOK *e* PP PP 07 06 11.0 +1.6
baz=78
UCH Uchtor 48.20 81 P P 07 04 20.5 +2.4
SNR=15
P17K Kvichak River 48.24 339 P P 07 04 16.4 -1.2
baz=13
KPKS Kokpek 48.42 76 *d* iP P 07 04 20.7 +1.4
KPKS *e* 07 06 12.5
KPKS pmax pmax
comp=Z,15nm,1.0s
KPKS Kokpek 48.42 76 ⇓ *i* P P 07 04 20.8 +1.4
comp=Z,15nm,1.0s,baz=76
KPKS *e* PP PP 07 06 12.6 +1.0
baz=76
O48B Farmland 48.57 274 P P 07 04 19.4 -1.0
baz=25
ZHN Zhinishke 48.61 77 *eP* P 07 04 21.7 +0.9
ZHN Zhinishke 48.61 77 *eP* P 07 04 21.8 +0.9
baz=77
SATY Saty 48.70 77 *d* iP P 07 04 22.7 +1.2
SATY pmax pmax
comp=Z,15nm,1.1s
SATY Saty 48.70 77 ⇓ *i* P P 07 04 22.7 +1.2
comp=Z,15nm,1.1s,baz=77
MA2 Magadan 48.79 15 LR LR 07 25 00.7
comp=Z,216nm,18.4s,baz=352,slow=36
MA2 Magadan 48.79 15 *i* P P 07 04 24.7 +2.9
MA2 pmax pmax
comp=Z,29nm,1.6s
PDGK Podgornoye 48.80 76 P P 07 04 22.2 -0.1
UZB Uzynbulak 48.81 76 *eP* P 07 04 23.6 +1.2
UZB Uzynbulak 48.81 76 *eP* P 07 04 23.6 +1.2
baz=76
TAM Tamanrasset 48.85 164 P P 07 04 20.5 -2.4
TAM IAmb IAmb 07 04 22.5
comp=Z,15nm,1.1s
TAM Tamanrasset 48.85 164 P P 07 04 20.5 -2.4
TAM pmax pmax
comp=Z,15nm,1.1s
SHLS Shalkode 48.95 76 *d* iP P 07 04 26.3 +2.9
SHLS pmax pmax
comp=Z,22nm,1.1s
SHLS Shalkode 48.95 76 ⇓ *i* P P 07 04 26.3 +2.9
comp=Z,22nm,1.1s,baz=75
BTK Batken 48.96 85 P P 07 04 24.1 +0.6
BTK IAmb IAmb 07 04 31.3
comp=Z,27nm,0.8s
BTK Batken 48.96 85 P P 07 04 24.1 +0.6
BTK pmax pmax
comp=Z,27nm,0.8s
KDAK Kodiak Island 49.14 336 LR LR 07 26 42.5
comp=Z,573nm,19.2s,baz=50,slow=38
KDAK Kodiak Island 49.14 336 P P 07 04 22.4 -2.1
baz=14
EGMT Eagleton 49.17 300 P P 07 04 24.5 -0.6
EGMT IAmb IAmb 07 04 32.1
comp=Z,37nm,1.3s
EGMT Eagleton 49.17 300 P P 07 04 23.6 -1.4
baz=25
ZAK Zakamensk 49.33 52 *eP* P 07 04 26.3 0.0
ZAK pmax pmax
comp=Z,13nm,2.0s
CHGR Chuyangaron 49.68 88 P P 07 04 29.3 +0.2
CHGR Chuyangaron 49.68 88 P P 07 04 29.3 +0.2
CHGR pmax pmax
comp=Z,75nm,0.8s
GAR Garm 49.75 86 P P 07 04 30.4 +0.7
OHAK Old Harbor 49.77 336 P P 07 04 29.0 -0.3
baz=14
BBB Bella Bella 50.05 316 LR LR 07 26 29.9
comp=Z,532nm,18.5s,baz=22,slow=37
WCI Wyandotte Cave 50.77 274 P P 07 04 38.0 +0.8
baz=24
WMQ Urumqi 50.90 68 *eP* P 07 04 40.1 +1.9
WMQ pP pwP 07 04 45.1 +2.1
WMQ sP sP 07 04 50.7 +8.8
WMQ pmax pmax
comp=Z,54nm,0.9s
WMQ LR LR
comp=Z,620nm,13.5s
WMQ LR LR
comp=Z,390nm,12.7s
WMQ LR LR
comp=Z,560nm,21.5s
NEW Newport 50.98 306 LR LR 07 25 20.8
comp=Z,418nm,18.8s,baz=23,slow=35
KSH Kashi 51.12 81 P P 07 04 43.3 +3.3
KSH pP pwP 07 04 48.4 +3.6
KSH PP PP 07 06 40.3 +4.0
KSH pmax pmax
comp=Z,21nm,1.1s
KSH LR LR
comp=Z,470nm,15.1s
KSH LR LR
comp=Z,770nm,16.5s
KSH LR LR
comp=Z,540nm,14.8s
GCMT Greycliff 51.18 299 P P 07 04 40.0 -0.4
HRA Herat 51.32 96 P P 07 04 42.4 +0.8
MSO Missoula 51.43 303 P P 07 04 41.5 -0.8
MSO IAmb IAmb 07 04 48.9
comp=Z,15nm,1.1s
MSO Missoula 51.43 303 P P 07 04 41.9 -0.3
baz=24
ZEA Zeya 51.44 33 *eP* P 07 04 43.2 +1.2
ZEA pmax pmax
comp=Z,20nm,1.6s
ZEA pmax pmax
comp=Z,100nm,5.4s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
BOZ Bozeman (W) 51.92 300 P P 07 04 45.8 -0.1
baz=24
LRM Limekiln Ridge 51.94 301 P P 07 04 45.4 -0.8
TKL Tuckaleechee C 52.30 271 LR LR 07 25 37.5
comp=Z,586nm,20.7s,baz=28,slow=35
YHL Hebgen Lake 52.47 299 P P 07 04 49.8 -0.4
SONM Songino Array 52.48 51 P P 07 04 50.5 +0.5
comp=Z,1.4nm,0.9s,baz=22,slow=4.8,SNR=4.6
SONM LR LR 07 32 04.9
comp=Z,415nm,18.0s,baz=348,slow=42
comp=Z,1.4nm,0.9s
SONM Songino Array 52.48 51 P P 07 04 50.1 +0.1
SONM Songino Array 52.48 51 P P 07 04 50.1 +0.1
SONM pmax pmax
comp=Z,16nm,1.4s
CCM Cathedral Cave 52.54 279 P P 07 04 49.7 -0.7
baz=24
ULN Ulaanbaatar 52.62 50 P P 07 04 51.7 +0.6
ULN IAmb IAmb 07 05 00.3
comp=Z,33nm,1.6s
ULN Ulaanbaatar 52.62 50 *ce* P P 07 04 51.2 +0.2
ULN pmax pmax
comp=Z,24nm,2.5s
MCMT McKenzie Canyo 52.97 301 P P 07 04 53.6 -0.2
K22A Casper 53.13 294 P P 07 04 54.3 -0.6
baz=24
OGNE Ogallala 53.32 290 P P 07 04 56.2 -0.1
baz=24
PD31 Pinedale Array 53.91 297 P P 07 04 59.7 -1.1
PDAR Pinedale Array 53.91 297 P P 07 04 58.7 -2.1
comp=Z,1.8nm,0.9s,baz=20,slow=4.9,SNR=5.3
PDAR LR LR 07 27 49.3
comp=Z,385nm,18.6s,baz=24,slow=36
BMO Blue Mountains 54.17 304 P P 07 05 01.4 -1.0
BMO Blue Mountains 54.17 304 P P 07 05 01.4 -1.0
BMO pmax pmax
comp=Z,6.0nm,1.0s
G08A Pilot Rock 54.21 306 P P 07 05 02.5 -0.2
G08A IAmb IAmb 07 05 09.9
comp=Z,16nm,1.3s
GOGA Godfrey 54.25 269 P P 07 05 04.0 +0.9
baz=23
N23A Red Feather La 54.56 293 P P 07 05 04.6 -0.9
baz=23
HLID Hailey 54.57 301 P P 07 05 04.3 -1.1
HLID Hailey 54.57 301 P P 07 05 03.9 -1.5
baz=22
G03D McMinnville, O 55.40 309 P P 07 05 08.7 -2.5
baz=21
PETK Petropavlovsk- 55.72 11 P P 07 05 12.7 -0.7
comp=Z,1.6nm,1.0s,baz=81,slow=4.5,SNR=2.1
PETK LR LR 07 27 25.9
comp=Z,201nm,20.2s,baz=354,slow=34
comp=Z,1.6nm,1.0s
GRNR Gornyy 55.79 27 ⇓ *i* P P 07 05 15.2 +1.2
GRNR pmax pmax
comp=Z,3.0nm,1.3s
PET Petropavlovsk 55.86 10 *eP* P 07 05 17.8 +3.5
PET *eS* S 07 12 59.2 -1.9
PET pmax pmax
comp=Z,43nm,1.3s
RDMU Red Mountain 55.94 296 P P 07 05 14.3 -1.1
RDMU IAmb IAmb 07 05 28.6
comp=Z,13nm,1.1s
O20A White River Ci 55.95 295 P P 07 05 14.7 -0.8
O20A IAmb IAmb 07 05 22.4
comp=Z,17nm,1.0s
O20A White River Ci 55.95 295 P P 07 05 15.8 +0.3
baz=23
RAYN Ar Rayn 56.24 118 P P 07 05 18.3 +0.8
RAYN pmax pmax
comp=Z,20nm,1.0s
I04A Tendick Farm, 56.50 308 P P 07 05 17.5 -1.7
baz=21
MIAR Mount Ida 56.51 279 P P 07 05 20.1 +0.8
baz=23
SHEM Shemya Is, Ala 56.54 359 LR LR 07 29 55.8
comp=Z,164nm,19.4s,baz=344,slow=36
TYV Tymovskoe 56.55 22 *eP* P 07 05 35.0 +16
TYV pmax pmax

comp=Z,10.0nm,1.4s
TYV pmax pmax
comp=Z,100nm,4.9s
BBTS Babate 56.61 190 LR LR 07 28 31.1
comp=Z,425nm,18.3s,baz=30,slow=35
J05D Fort Rock, OR 56.67 307 P **P** **07 05 19.6 -0.9**
baz=21
I03D Drain, OR 56.83 309 P **P** **07 05 21.0 -0.4**
baz=20
P18A Preston Nutter 57.01 296 P **P** **07 05 22.5 -0.6**
P18A IAmb IAmb 07 05 40.7
comp=Z,11nm,1.1s
DUG Dugway, Tooele 57.23 299 P **P** **07 05 24.5 0.0**
DUG IAmb IAmb 07 05 38.5
comp=Z,13nm,1.1s
DUG Dugway, Tooele 57.23 299 P **P** **07 05 24.5 0.0**
DUG pmax pmax
comp=Z,13nm,1.1s
DUG Dugway, Tooele 57.23 299 P **P** **07 05 23.7 -0.8**
baz=22
ELK Elko 57.41 301 LR LR 07 28 11.3
comp=Z,266nm,21.6s,baz=22,slow=34
TOA0 Torodi Ar. Sit 58.12 169 P **P** **07 05 30.2 -0.6**
TORD Torodi Ar. Bea 58.12 169 P **P** **07 05 30.6 -0.1**
comp=Z,40nm,0.9s,baz=350,slow=7.0,SNR=71
TORD LR LR 07 30 37.6
comp=Z,567nm,19.8s,baz=15,slow=36
comp=Z,40nm,0.9s
DWPF Disney Wildern 58.48 265 P **P** **07 05 34.6 +1.4**
baz=22
YBH Yreka Blue Hor 58.51 307 LR LR 07 31 06.5
comp=Z,659nm,18.8s,baz=6.0,slow=37
XLT XiLinHaoTe 58.52 45⇑*iP* **P** **07 05 34.7 +1.3**
XLT pP sP 07 05 39.6 +2.3
XLT sP pP 07 05 40.9 +4.7
XLT S **S** **07 13 42.8 +6.2**
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,140nm,4.7s
XLT LR LR
comp=Z,55nm,15.1s
XLT LR LR
comp=Z,520nm,16.9s
XLT LR LR
comp=Z,660nm,19.0s
GTA Gaotai 58.52 60⇓P **P** **07 05 34.1 +0.5**
GTA pP pwP 07 05 39.6 +1.3
GTA sP sP 07 05 43.0 +5.7
GTA S **S** **07 13 38.7 +1.8**
GTA sS sS 07 13 45.9 +4.4
GTA pmax pmax
comp=Z,8.0nm,1.5s
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=Z,300nm,21.1s
GTA LR LR
comp=Z,550nm,21.4s
GTA LR LR
comp=Z,570nm,20.4s
MSU Marysvale 58.60 297 P **P** **07 05 34.2 -0.1**
MSU Marysvale 58.60 297 P **P** **07 05 34.2 -0.1**
MVCO Mesa Verde 58.72 294 P **P** **07 05 35.2 +0.1**
baz=22
PSUT Pine Spring 59.07 299 P **P** **07 05 37.0 -0.5**
PSUT IAmb IAmb 07 05 44.9
comp=Z,16nm,1.2s
BNX BinXian 59.14 35⇓P **P** **07 05 40.2 +2.6**
BNX pmax pmax
comp=Z,10.0nm,1.0s
BNX pmax pmax
comp=Z,74nm,5.2s
R11A Troy Canyon, C 59.73 300 P **P** **07 05 42.4 +0.3**
baz=21
GOMU GeErMu 60.05 66 P **P** **07 05 41.6 -2.9**
GOMU S **S** **07 13 52.9 -4.3**
GOMU pmax pmax
comp=Z,11nm,1.0s
GOMU pmax pmax
comp=Z,99nm,4.5s
GOMU LR LR
comp=Z,260nm,17.9s
GOMU LR LR
comp=Z,170nm,15.0s
GOMU LR LR
comp=Z,290nm,19.0s
ANMO Albuquerque 60.20 291 LR LR 07 31 55.2
comp=Z,348nm,19.5s,baz=31,slow=36
ANMO Albuquerque 60.20 291*eP* **P** **07 05 44.5 -0.8**
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO Albuquerque 60.20 291 P **P** **07 05 45.2 -0.1**
baz=22
HHC Hu-ho-hao-te 60.32 50 *eP* **P** **07 05 45.4 -0.5**
HHC pmax pmax
comp=Z,42nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.4s
HHC LR LR
comp=Z,780nm,16.9s
HHC LR LR
comp=Z,890nm,13.5s
HHC LR LR
comp=Z,930nm,17.7s
YSS Yuzh-Sakhalins 60.40 23 *eP* **P** **07 05 48.6 +2.4**
YSS *eS* **S** **07 14 03.3 +2.7**
YSS *eSS* **SS** **07 18 01.0 +3.7**
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=Z,300nm,19.0s
NVAR Mina Array Bea 60.42 302 P **P** **07 05 44.5 -2.3**
comp=Z,0.2nm,0.7s,baz=38,slow=4.6,SNR=2.3
NVAR LR LR 07 30 42.9
comp=Z,470nm,19.2s,baz=2.0,slow=35
NVAR Mina Array Bea 60.42 302 P **P** **07 05 45.4 -1.4**
PRN Pahroc Range 60.46 299 P **P** **07 05 46.7 -0.2**
PRN IAmb IAmb 07 05 55.1
comp=Z,16nm,1.4s
WSAR Wadi Sarin 60.49 105 LR LR 07 33 01.5
comp=Z,214nm,20.6s,baz=345,slow=37
CN2 Changchun 60.63 37 *eP* **P** **07 05 46.4 -1.4**
CN2 PP **PP** **07 08 01.1 +0.2**
CN2 S **S** **07 14 00.6 -3.0**
CN2 SS **SS** **07 17 57.5 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,220nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,350nm,19.0s
WUAZ Wupatki 61.15 295 P **P** **07 05 50.5 -1.3**
baz=21
TPNV Topopah Spring 61.23 300 P **P** **07 05 50.9 -1.3**
baz=21
MDPB Devils Postpil 61.38 303 P **P** **07 05 53.4 0.0**
MDPB IAmb IAmb 07 06 07.2
comp=Z,16nm,1.2s
USRK Ussuriysk Ar. 61.47 32 P **P** **07 05 54.2 +0.7**
comp=Z,0.9nm,0.6s,baz=285,slow=3.7,SNR=4.2
USRK LR LR 07 33 28.0
comp=Z,138nm,18.3s,baz=58,slow=37
comp=Z,0.9nm,0.6s
GWY Greenwater Val 62.06 300 P **P** **07 05 57.4 -0.4**
GWY IAmb IAmb 07 06 11.2
comp=Z,14nm,1.1s
BJI Beijing 62.20 46 P **P** **07 05 56.7 -1.8**
BJI S **S** **07 14 19.6 -4.1**
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI LR LR
comp=Z,79nm,18.5s
BJI LR LR
comp=Z,510nm,19.0s
BJI LR LR
comp=Z,660nm,17.3s
CWC Cottonwood Cre 62.22 301 P **P** **07 05 59.3 +0.4**
baz=20
JCT Junction City 62.25 283 P **P** **07 05 57.3 -1.7**
baz=22
QSM Queen of Sheba 62.32 300 P **P** **07 05 59.5 +0.1**
MPMC Manual Prospec 62.41 301 P **P** **07 05 59.2 -1.1**
baz=20
LZH Lanzhou 62.76 58⇑P **P** **07 06 04.2 +1.7**
LZH pP pwP 07 06 08.2 +0.9
LZH S **S** **07 14 32.5 +1.4**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,180nm,5.5s
LZH LR LR
comp=Z,820nm,16.8s
LZH LR LR
comp=Z,740nm,16.1s
LZH LR LR
comp=Z,950nm,19.2s
MNTX Cornudas Mount 62.88 288 P **P** **07 06 02.9 -0.3**
baz=21
SJG San Juan 63.01 246 LR LR 07 28 48.9
comp=Z,316nm,21.9s,baz=40,slow=32
ISA Isabella, Lake 63.06 301 P **P** **07 06 04.4 0.0**
baz=20
GMRC Granite Mounta 63.08 299 P **P** **07 06 04.9 +0.2**
baz=20
EDW2 Edwards Air Fo 63.65 301 P **P** **07 06 08.1 -0.3**
baz=20
PYUN Piuthan 63.87 80 *eP* **P** **07 06 10.5 +0.4**
comp=Z,424nm,1.1s
DANN Dangsing 63.89 79 *eP* **P** **07 06 10.8 +0.5**
comp=Z,186nm,1.1s
BELC Belle Mtn. Jos 63.91 299 P **P** **07 06 09.8 -0.3**
baz=20
TUC Tucson 63.96 293 P **P** **07 06 10.5 +0.1**
baz=21
DBIC Dimbokro 64.30 177 P **P** **07 06 12.4 -0.3**
comp=Z,12nm,0.9s,baz=312,slow=2.1,SNR=6.6
DBIC LR LR 07 33 01.9
comp=Z,538nm,21.6s,baz=7.5,slow=35
comp=Z,12nm,0.9s
TIC Toumodi 64.33 177⇑*iP* **P** **07 06 16.6 +3.7**
comp=Z,35nm,1.0s
HNS HongShan 64.36 48⇑P **P** **07 06 16.0 +3.2**
HNS S **S** **07 14 58.7 +8.0**
HNS LR LR
comp=Z,400nm,17.2s
HNS LR LR
comp=Z,270nm,16.2s
HNS LR LR
comp=Z,400nm,17.7s
KOLN Koldanda 64.38 79 *eP* **P** **07 06 12.9 -0.5**
GKN Gorkha 64.49 78 *eP* **P** **07 06 14.3 +0.2**
TXAR Lajitas Array 64.54 286 P **P** **07 06 12.9 -1.4**
comp=Z,1.0nm,0.9s,baz=40,slow=4.7,SNR=5.1
TXAR LR LR 07 33 55.8
comp=Z,316nm,18.3s,baz=22,slow=36
comp=Z,1.0nm,0.9s
KIC Kosan Boka 64.61 177⇓*eP* **P** **07 06 18.5 +3.8**
comp=Z,33nm,0.9s
LIC Lamto 64.74 177⇑*eP* **P** **07 06 18.6 +3.0**
comp=Z,72nm,0.9s
KKN Kakani 64.90 78 *eP* **P** **07 06 17.4 +0.6**
GUN Gumba 64.97 77 *eP* **P** **07 06 18.0 +0.6**
comp=Z,213nm,1.1s
DMN Daman 65.01 78 *eP* **P** **07 06 17.7 +0.2**
PKIN Phulchoki 65.13 78 *eP* **P** **07 06 18.3 -0.1**
PKI Pulchoki 65.14 78 *eP* **P** **07 06 18.3 -0.2**
JIRN Jiri 65.31 77 *eP* **P** **07 06 20.4 +0.8**
comp=Z,158nm,1.0s
XAN Xi'an 66.06 54 P **P** **07 06 24.2 +0.2**
XAN pP pwP 07 06 28.5 -0.4
XAN S **S** **07 15 15.6 +3.8**
XAN pmax pmax
comp=Z,16nm,1.4s
XAN LR LR
comp=Z,780nm,15.6s
XAN LR LR
comp=Z,330nm,13.2s
XAN LR LR
comp=Z,980nm,17.8s
TIA Tai'an 66.07 47 *eP* **P** **07 06 22.2 -1.8**
TIA pmax pmax
comp=Z,3.0nm,0.6s
TIA pmax pmax
comp=Z,92nm,3.8s
TIA LR LR
comp=Z,540nm,19.6s
TIA LR LR
comp=Z,190nm,14.7s
TAPN Taplejung 66.08 76 *eP* **P** **07 06 24.9 +0.4**
RAMN Ramite 66.10 77 *eP* **P** **07 06 24.6 0.0**
comp=Z,136nm,1.1s
ODAN Odare 66.43 76 *eP* **P** **07 06 26.6 -0.1**
ATD Arta Tunnel 66.90 125 LR LR 07 36 37.9
comp=Z,131nm,18.2s,baz=314,slow=37
KSRS Korea Array 67.24 37 P **P** **07 06 31.8 +0.4**
comp=Z,1.3nm,0.7s,baz=351,slow=6.3,SNR=4.2
KSRS LR LR 07 38 02.6
comp=Z,206nm,19.6s,baz=335,slow=38
comp=Z,1.3nm,0.7s
CD2 Chengdu 67.59 60 *eP* **P** **07 06 33.0 -0.8**
CD2 S **S** **07 15 29.4 -1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,480nm,18.6s
CD2 LR LR
comp=Z,350nm,14.7s
CD2 LR LR
comp=Z,540nm,21.6s
MJAR Matsushiro Arr 69.96 29 P **P** **07 06 49.4 +0.9**
comp=Z,1.5nm,0.6s,baz=352,slow=4.9,SNR=2.1
MJAR LR LR 07 39 24.8
comp=Z,194nm,18.1s,baz=355,slow=38
comp=Z,1.5nm,0.6s
PCRV Puerto La Cruz 70.09 242 LR LR 07 31 36.3
comp=Z,291nm,21.9s,slow=31
NJ2 Nanjing 70.46 47 *eP* **P** **07 06 48.3 -3.2**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 LR LR
comp=Z,240nm,15.6s
NJ2 LR LR
comp=Z,520nm,16.6s
NJ2 LR LR
comp=Z,440nm,19.4s
PZH PanZhiHua 71.16 63 P **P** **07 06 55.5 -0.5**
PZH S **S** **07 16 15.3 +2.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,3.5s
PZH LR LR
comp=Z,490nm,19.6s
PZH LR LR
comp=Z,290nm,20.6s
PZH LR LR
comp=Z,600nm,25.5s
LPIG La Paz 71.49 290 LR LR 07 38 52.4
comp=Z,190nm,20.4s,baz=14,slow=36
BRDH Bariadhala 71.68 74 LR LR 07 43 31.1
comp=Z,635nm,19.9s,baz=346,slow=40
MDP Montagnes des 71.75 228 LR LR 07 32 08.2
comp=Z,130nm,20.0s,baz=350,slow=31
HYBB Hyderabad (bro 72.38 88 *eP* **P** **07 07 03.3 0.0**
KMI Kunming 72.75 63⇑P **P** **07 07 10.5 +4.8**
KMI pmax pmax
comp=Z,14nm,1.5s
KMI LR LR
comp=Z,220nm,29.8s
KMI LR LR
comp=Z,310nm,17.6s
KMI LR LR
comp=Z,380nm,29.5s
SDV Santo Domingo 73.08 247 LR LR 07 34 27.1
comp=Z,315nm,21.9s,baz=52,slow=32
CMIG Matias Romero 73.13 273 LR LR 07 41 03.4
comp=Z,237nm,19.7s,baz=30,slow=38
JHJ Hachijo jima 2 73.56 28 P **P** **07 07 11.4 +1.3**
comp=Z,221nm,0.8s,baz=5.2,slow=11,SNR=2.1
MBAR Mbarara 75.70 140 LR LR 07 43 22.9
comp=Z,173nm,19.9s,baz=105,slow=38
BOAV Boa Vista 76.36 235 *eP* **P** **07 07 29.4 +2.9**
CHTO Chiang Mai 77.57 68 P **P** **07 07 32.7 -0.6**
CHTO Chiang Mai 77.57 68 P **P** **07 07 32.7 -0.6**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
ROSB Rosrio 77.60 218 *eP* **P** **07 07 37.1 +3.8**
KMBO Kilima Mbogo 77.65 134 P **P** **07 07 34.6 +0.6**
comp=Z,0.6nm,0.4s,baz=68,slow=5.4,SNR=1.4
KMBO LR LR 07 46 28.4
comp=Z,116nm,18.4s,baz=294,slow=39
comp=Z,0.6nm,0.4s
CMAR Chiang Mai Arr 77.90 69 P **P** **07 07 36.1 +0.9**
comp=Z,4.3nm,0.5s,baz=327,slow=6.3,SNR=6.6
CMAR PP **PP** **07 10 35.0 +4.4**
comp=Z,1.6nm,0.3s,baz=329,slow=8.2,SNR=4.2
CMAR LR LR 07 48 47.0
comp=Z,105nm,18.9s,baz=345,slow=41
comp=Z,4.3nm,0.5s
CMAR Chiang Mai Arr 77.90 69 P **P** **07 07 34.7 -0.4**
CMAR Chiang Mai Arr 77.90 69*ceP* **P** **07 07 35.9 +0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
ROSC El Rosal 78.03 249 P **P** **07 07 34.6 -1.7**
comp=Z,2.4nm,0.4s,baz=45,slow=19,SNR=1.5
ROSC LR LR 07 38 09.5
comp=Z,223nm,21.2s,baz=21,slow=33
comp=Z,2.4nm,0.4s
MALB Monte Alegre 78.84 228 *eP* **P** **07 07 43.9 +3.7**
RCBR Riachuelo 78.99 209 LR LR 07 34 33.3
comp=Z,218nm,18.3s,baz=154,slow=30
RCBR Riachuelo 78.99 209 *eP* **P** **07 07 44.7 +3.6**
QIZ Qiongzhong 80.55 58 P **P** **07 07 47.2 -2.4**
QIZ S **S** **07 17 53.8 -2.4**
QIZ LR LR
comp=Z,390nm,20.7s
QIZ LR LR
comp=Z,380nm,17.5s
QIZ LR LR
comp=Z,400nm,23.9s
ITTB Itaituba 81.62 229 *eP* **P** **07 07 59.0 +3.8**
PRPB Parauapebas 81.98 223 *eP* **P** **07 08 00.5 +3.4**
NBAN Anadia - AL 82.82 209 *eP* **P** **07 08 05.3 +3.8**
OTAV Otavalo 83.65 252 *eP* P 07 08 11.1 +4.7
NPGB Novo Progresso 84.11 228 *eP* **P** **07 08 11.6 +3.4**
SMTB Santa Maria do 84.11 220 *eP* P 07 08 12.7 +4.6
NBLA Lagarto - SE 84.36 210 *eP* **P** **07 08 13.1 +3.7**
TBTG Tabatinga, AM 85.27 243 *eP* **P** **07 08 17.3 +3.4**
GDU01 Guandu, BA 87.33 211 *eP* **P** **07 08 26.4 +2.4**
CLDB Colider 87.90 227 *eP* **P** **07 08 30.8 +4.0**
SNDB Serra Nova Dou 87.93 223 *eP* **P** **07 08 30.5 +3.6**
PDRB Porto dos Gac 88.84 228 *eP* **P** **07 08 34.6 +3.4**
CMC01 Camacan, BA 88.92 211 *eP* **P** **07 08 34.6 +3.1**
CZSB Cruzeiro do Su 89.45 244 *eP* **P** **07 08 37.4 +3.3**
JANB Januaria 89.48 215 *eP* **P** **07 08 37.4 +3.1**
LSZ Lusaka 89.48 146 LR LR 07 52 17.7
comp=Z,241nm,19.8s,baz=336,slow=38
ETMB Extrema 89.58 237 *eP* **P** **07 08 38.4 +3.7**
ATAH Atahualpa 90.60 250 LR LR 07 46 58.9
comp=Z,76nm,21.9s,baz=10,slow=34
BDFB Brasilia 90.78 219 LR LR 07 42 53.6
comp=Z,267nm,19.5s,baz=354,slow=31
VILB Vilhena 90.99 231 *eP* **P** **07 08 44.5 +3.2**
TSUM Tsumeb 91.66 156 LR LR 07 51 43.8
comp=Z,214nm,21.1s,baz=328,slow=37
SJMB Sao Joao De Ma 92.48 212 *eP* **P** **07 08 51.1 +3.0**
DIAM Diamantina, MG 92.52 214 *eP* **P** **07 08 51.6 +3.1**
PSI Prapat 92.66 74 LR LR 07 55 09.7
comp=Z,332nm,21.6s,baz=322,slow=38
SIV San Ignacio 94.13 231 LR LR 07 46 54.6
comp=Z,242nm,19.0s,baz=249,slow=33
NNA Nana 94.71 247 LR LR 07 49 27.8
comp=Z,76nm,21.1s,baz=348,slow=34
DAV Davao City (W) 96.09 47 LR LR 07 56 28.0
comp=Z,110nm,20.2s,baz=345,slow=38
LPAZ La Paz 96.28 237 LR LR 07 50 39.5
comp=Z,115nm,18.8s,baz=10,slow=34
LBTB Lobatse 98.55 150 LR LR 07 58 22.1
comp=Z,199nm,18.8s,baz=344,slow=38
TAOE Nuku Hiva Isla 111.32 309 *e*LR LR 07 47 10.8
comp=Z,201nm,22.0s
PPT2 Papeete2 122.00 316 *e*LR LR 07 52 09.4
comp=Z,248nm,24.8s
WRA Warramunga Arr 124.22 45 PKP **PKPdf** **07 14 35.4 -0.3**
comp=Z,1.6nm,1.2s,baz=356,slow=1.9,SNR=2.6
TBI Tubuai 127.53 314 *e*LR LR 07 54 41.6
comp=Z,161nm,27.2s
ASAR Alice Springs 127.70 46 PKP **PKPdf** **07 14 40.5 -1.8**
comp=Z,1.9nm,0.9s,baz=351,slow=2.7,SNR=12
DZM Mont Dzumac 130.90 7 *e*LR LR 07 56 15.3
comp=Z,289nm,28.9s
VNA1 Neumayer--Stat 141.44 180 PKPdf **PKPdf** **07 15 05.0 -1.3**
VNA2 Neumayer--Watz 141.71 180 PKPdf **PKPdf** **07 15 05.3 -1.6**
baz=356,slow=4.0
VNA3 Neumayer Olymp 142.04 181 PKPdf **PKPdf** **07 15 07.7 +0.2**
SNAA Sanae 142.50 178 PKPdf **PKPdf** **07 15 07.0 -1.4**
TROLL Troll, Antarti 142.95 175 PKPdf **PKPdf** **07 15 08.4 -0.8**
MAW Mawson 146.17 140 PKPbc **PKPbc** **07 15 15.8 0.0**
comp=Z,4.1nm,0.9s,baz=330,slow=5.7,SNR=6.2

ROM 03 06:58:47.1±0.1,**42°823N**±0°003×**13°167E**±0°005,
h11km,**Md1.3**/9,**ML0.9**/3,**2C-2D,Error ellipse:**
s-maj=0.4km s-min=0.3km az=77.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**77**	⇑P	Pg	06 58 49.4	0.0
T1242				S	Sg	06 58 50.8	-0.2
T1242				AML	AML		
	comp=N,190μm,0.2s						
T1242				AML	AML		
	comp=E,112μm,0.3s						
T1242				END			
T1244	**Arquata del Tr**	**0.12**	**124**	P	Pg	06 58 50.7	+0.5
T1244				S	Sg	06 58 53.2	+0.8
T1244				END			
T1202	**Accumoli, Fraz**	**0.13**	**160**	P	Pg	06 58 50.8	+0.4
T1202				S	Sg	06 58 53.7	+1.1
T1202				END			
T1204	**Amatrice, Fraz**	**0.18**	**143**	P	Pg	06 58 51.6	+0.4
T1204				S	Sg	06 58 55.0	+0.9
T1204				END			
T1241	**Roccafluvione,**	**0.20**	**80**	P	Pg	06 58 51.9	+0.5
T1241				S	Sg	06 58 55.5	+1.1
T1241				END			
FDMO	**Fiordimonte**	**0.22**	**345**	⇓P	Pg	06 58 52.3	+0.4
FDMO				S	Sg	06 58 56.1	+1.1
FDMO				AML	AML		
	comp=E,19μm,1.4s						
FDMO				AML	AML		
	comp=N,22μm,1.0s						
FDMO				END			
T1215	**Vallo di Nera,**	**0.22**	**265**	⇑P	Pg	06 58 52.2	+0.4
LNSS	**Leonessa**	**0.24**	**203**	P	Pg	06 58 52.5	+0.3
LNSS				S	Sg	06 58 56.8	+1.2
LNSS				AML	AML		
	comp=N,88μm,0.1s						
LNSS				AML	AML		
	comp=E,63μm,1.5s						
LNSS				END			
T1243	**Rocca Santa Ma**	**0.24**	**121**	P	Pg	06 58 52.6	+0.4
T1243				S	Sg	06 58 56.5	+0.8
T1243				END			
CSP1	**Cessapalombo**	**0.27**	**6**	⇓P	Pg	06 58 53.2	+0.5
CSP1				S	Sb	06 58 57.8	-0.9
CSP1				END			
TERO	**Teramo**	**0.38**	**122**	P	Pg	06 58 54.9	+0.2
PP3	**Marolino**	**0.64**	**30**	S	Sb	06 59 09.0	-0.3
APEC	**Apecchio**	**0.92**	**324**	S	Sg	06 59 16.0	-0.8

*GUC **03** 07:01:01.9±0.6,24°.12S×67°.20W,h230km±11km,ML4.1*
*IDC **03** 07:01:07.2±10.0,23°.68S×67°.40W,h236km±75km, mb2.7/1, mbtmp3.3/2,Error ellipse: s-maj=112.1km s-min=70.1km az=37.0*

ISC 03 07:01:01.2±1.8,**24°07S**±0°07×**67°2W**±0°2,**h226**km±13km,
n17,σ1s30/30,8C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**1.46**	**319**⇑*iP*		**Pn**		**07 01 37.6**	**+0.3**
LVC	**Limon Verde**	**2.17**	**312**⇑*iP*		**Pn**		**07 01 44.6**	**+0.8**
LVC				*i* S	**S**		**07 02 17.2**	**+0.2**
PB15	**IPOC Station P**	**2.29**	**291**⇑*iP*		**Pn**		**07 01 46.1**	**+1.2**
PB15				*i* S	**S**		**07 02 18.8**	**-0.1**
GO02	**Mina Guanaco**	**2.47**	**243**⇑*iP*		**Pn**		**07 01 47.5**	**+0.7**
GO02				*i* S	**S**		**07 02 22.2**	**-0.2**
PB06	**IPOC Station P**	**2.60**	**301**⇑*iP*		**Pn**		**07 01 49.3**	**+1.2**
PB06				*i* S	**S**		**07 02 24.5**	**-0.2**
PB06				IAML			07 02 27.4	
	comp=E,235nm,0.2s							
PB09	**IPOC Station P**	**2.97**	**319**⇓*iP*		**Pn**		**07 01 53.8**	**+1.6**
PB09				*i* S	**S**		**07 02 33.2**	**+1.2**
PB14	**IPOC Station P**	**3.02**	**259**⇑*iP*		**Pn**		**07 01 53.7**	**+0.9**

PB14				*e*S	**S**	**07 02 32.0**	**-1.1**
PB14				IAML		07 02 35.3	
	comp=E,83nm,0.3s						
PB04	**IPOC Station P**	**3.25**	**301**	*e*P	**Pn**	**07 01 56.5**	**+1.1**
PB04				*e*S	**S**	**07 02 36.9**	**-0.9**
PB04				IAML		07 02 40.4	
	comp=N,133nm,0.2s						
PB07	**IPOC Station P**	**3.43**	**312**⇑	*i*P	**Pn**	**07 01 58.4**	**+0.9**
PB07				*i*S	**S**	**07 02 41.1**	**-0.4**
PB01	**IPOC Station P**	**3.71**	**324**⇓	*i*P	**Pn**	**07 02 01.2**	**+0.6**
PB01				*i*S	**S**	**07 02 46.5**	**-0.7**
PB02	**IPOC Station P**	**3.73**	**317**⇑	*i*P	**Pn**	**07 02 01.5**	**+0.5**
PB02				*i*S	**S**	**07 02 46.5**	**-1.2**
AC01	**Pan de Azucar**	**3.75**	**236**⇓	*i*P	**Pn**	**07 02 00.9**	**-0.1**
AC01				*i*S	**S**	**07 02 46.3**	**-1.7**
GO01	**Chusmiza**	**4.77**	**336**	*e*P	**Pn**	**07 02 15.2**	**+1.2**
GO01				*e*S	**S**	**07 03 11.8**	**+0.4**
GO01				IAML		07 03 15.5	
	comp=N,130nm,0.1s						
LPAZ	**La Paz**	**7.79**	**353**	P	**Pn**	**07 02 53.3**	**+0.8**
	comp=N,1.1nm,0.3s,baz=170,slow=5.3,SNR=19						
LPAZ				S	**S**	**07 04 18.8**	**-2.7**
	comp=N,0.8nm,0.5s,baz=116,slow=5.2,SNR=1.7						
SDV	**Santo Domingo**	**32.93**	**354**	*e*P	**P**	**07 07 11.6**	**-3.3**
TXAR	**Lajitas Array**	**63.65**	**325**	P	**P**	**07 11 10.6**	**+2.0**
	comp=N,0.3nm,0.9s,baz=146,slow=6.6,SNR=1.9						
	comp=N,0.3nm,0.9s						
MKAR	**Makanchi Array**	**146.66**	**39**	PKPbc	**PKiKP**	**07 20 19.8**	**+1.0**
	comp=N,0.3nm,0.6s,baz=291,slow=4.5,SNR=3.1						

ROM 03 07:01:35.1±0.1, 42˚744N±0˚003×13˚236E±0˚004, h13km, ML2.5/31, 19C-15D, Error ellipse: s-maj=0.3km s-min=0.1km az=231.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.04**	**191**	P	Pg	07 01 38.0	+0.3
T1202				S	Sg	07 01 39.8	+0.3
T1244	**Arquata del Tr**	**0.05**	**74**	⇓P	Pg	07 01 38.0	+0.3
T1244				S	Sg	07 01 39.7	+0.3
T1244				AML	AML		
	comp=E,32500μm,0.2s						
T1244				AML	AML		
	comp=E,32500μm,0.2s						
T1244				AML	AML		
	comp=N,17900μm,0.2s						
T1244				AML	AML		
	comp=N,18200μm,0.2s						
T1244				AML	AML		
	comp=E,32550μm,0.2s						
T1244				AML	AML		
	comp=N,18150μm,0.2s						
T1244				AML	AML		
	comp=E,32500μm,0.2s						
T1242	**Castelluccio d**	**0.09**	**345**	⇓P	Pg	07 01 38.3	+0.1
T1242				S	Sg	07 01 40.3	0.0
T1242				AML	AML		
	comp=E,13750μm,0.1s						
T1242				AML	AML		
	comp=N,21000μm,0.1s						
T1242				AML	AML		
	comp=E,13700μm,0.1s						
T1242				AML	AML		
	comp=N,21300μm,0.1s						
T1242				AML	AML		
	comp=E,13350μm,0.1s						
T1204	**Amatrice, Fraz**	**0.09**	**139**	P	Pg	07 01 38.3	+0.2
T1204				S	Sg	07 01 40.5	+0.3
T1204				AML	AML		
	comp=E,9470μm,0.2s						
T1204				AML	AML		
	comp=E,9460μm,0.2s						
T1204				AML	AML		
	comp=E,9490μm,0.2s						
T1204				AML	AML		
	comp=N,6465μm,0.3s						
T1204				AML	AML		
	comp=E,9450μm,0.2s						
NRCA	**Norcia**	**0.13**	**315**	⇓P	Pg	07 01 38.7	+0.2
NRCA				S	Sg	07 01 40.9	0.0
NRCA				AML	AML		
	comp=E,39800μm,0.7s						
NRCA				AML	AML		
	comp=N,51850μm,0.1s						
NRCA				AML	AML		
	comp=N,47100μm,0.1s						
NRCA				AML	AML		
	comp=E,42750μm,1.0s						
NRCA				AML	AML		
	comp=N,47150μm,0.1s						
T1243	**Rocca Santa Ma**	**0.16**	**107**	⇑P	Pg	07 01 39.4	+0.3
T1243				S	Sg	07 01 42.2	+0.4
T1241	**Roccafluvione,**	**0.18**	**52**	⇑P	Pg	07 01 39.6	+0.3
T1241				S	Sg	07 01 42.8	+0.6
T1241				AML	AML		
	comp=E,8945μm,0.3s						
T1241				AML	AML		
	comp=N,3515μm,0.4s						
T1241				AML	AML		
	comp=N,3760μm,0.4s						
T1241				AML	AML		
	comp=E,8840μm,0.3s						
T1241				AML	AML		
	comp=E,8940μm,0.2s						
LNSS	**Leonessa**	**0.20**	**226**	⇑P	Pg	07 01 40.0	+0.4
LNSS				S	Sb	07 01 43.8	-0.7
LNSS				AML	AML		
	comp=N,5710μm,0.4s						
LNSS				AML	AML		
	comp=E,5710μm,0.5s						
RM33	**Pellescritta (**	**0.23**	**184**	⇑P	Pg	07 01 40.6	+0.4
RM33				S	Sb	07 01 44.8	-0.6
RM33				AML	AML		
	comp=E,2225μm,0.4s						
RM33				AML	AML		
	comp=N,2330μm,0.2s						
RM33				AML	AML		
	comp=N,2245μm,0.2s						
RM33				AML	AML		
	comp=E,2220μm,0.4s						
RM33				AML	AML		
	comp=E,2160μm,1.6s						
RM33				AML	AML		
	comp=E,2155μm,1.6s						
RM33				AML	AML		
	comp=E,2225μm,0.4s						
CAMP	**Campotosto**	**0.24**	**148**	P	Pg	07 01 40.7	+0.3
CAMP				S	Sg	07 01 44.7	+0.8
CAMP				AML	AML		
	comp=E,1088μm,0.3s						
CAMP				AML	AML		
	comp=N,670μm,0.2s						
CAMP				AML	AML		
	comp=N,670μm,0.2s						
FEMA	**Monte Fema**	**0.26**	**328**	P	Pg	07 01 40.9	+0.3
FEMA				S	Sg	07 01 45.0	+0.7
T1215	**Vallo di Nera,**	**0.28**	**282**	⇑P	Pg	07 01 41.1	+0.2
T1215				S	Sg	07 01 45.4	+0.7
T1215				AML	AML		
	comp=E,1110μm,0.1s						
T1215				AML	AML		
	comp=E,1156μm,0.1s						
T1215				AML	AML		
	comp=N,1118μm,1.0s						
T1215				AML	AML		
	comp=E,1108μm,0.2s						
T1215				AML	AML		
	comp=N,1096μm,1.0s						
T1215				AML	AML		
	comp=E,1106μm,0.2s						
T1215				AML	AML		
	comp=N,1098μm,1.0s						
TERO	**Teramo**	**0.30**	**114**	P	Pg	07 01 41.5	+0.2
TERO				S	Sg	07 01 46.1	+0.7
FDMO	**Fiordimonte**	**0.31**	**340**	⇓P	Pg	07 01 41.7	+0.1
FDMO				S	Sg	07 01 46.6	+0.8
FDMO				AML	AML		
	comp=E,1460μm,0.2s						
FDMO				AML	AML		
	comp=N,2190μm,0.3s						
GUMA	**Gualdo di Mace**	**0.33**	**13**	⇑P	Pb	07 01 42.5	-0.4
GUMA				S	Sb	07 01 47.9	-0.1
GUMA				AML	AML		
	comp=E,6435μm,0.3s						
GUMA				AML	AML		
	comp=E,5110μm,0.3s						
GUMA				AML	AML		
	comp=E,6440μm,0.3s						
GUMA				AML	AML		
	comp=N,4955μm,1.1s						
GUMA				AML	AML		
	comp=N,6725μm,0.3s						
CSP1	**Cessapalombo**	**0.35**	**356**	⇓P	Pg	07 01 42.3	+0.1
CESI	**CESI - Serrava**	**0.36**	**317**	⇑P	Pg	07 01 42.5	+0.2
CESI				S	Sb	07 01 48.1	-0.9
CESI				AML	AML		
	comp=E,1495μm,0.4s						
CESI				AML	AML		
	comp=N,2545μm,0.3s						
CESI				AML	AML		
	comp=E,1490μm,0.4s						
OFFI	**Offida**	**0.38**	**60**	⇑P	Pb	07 01 44.0	+0.2
OFFI				AML	AML		
	comp=N,2910μm,0.6s						
OFFI				AML	AML		
	comp=E,3010μm,1.6s						
GIGS	**Gran Sasso**	**0.38**	**140**	⇑P	Pg	07 01 42.8	0.0
GIGS				S	Sg	07 01 48.5	+0.5
GIGS				AML	AML		
	comp=E,267μm,0.5s						
GIGS				AML	AML		
	comp=N,224μm,0.3s						
GIGS				AML	AML		
	comp=N,223μm,0.3s						
ARRO	**Arrone**	**0.38**	**245**	P	Pg	07 01 43.2	+0.4
ARRO				S	Sb	07 01 49.2	-0.4
ARRO				AML	AML		
	comp=E,1070μm,0.2s						
ARRO				AML	AML		
	comp=N,910μm,0.2s						
ARRO				AML	AML		
	comp=N,909μm,0.2s						
ARRO				AML	AML		
	comp=E,1073μm,0.2s						
MNTP	**Montappone**	**0.43**	**23**	⇑P	Pg	07 01 43.6	0.0
MNTP				AML	AML		
	comp=N,1955μm,0.4s						
MNTP				AML	AML		
	comp=E,2170μm,0.5s						
SEF1	**Sefro**	**0.46**	**332**	S	Sb	07 01 52.0	+0.2
FIAM	**Fiamignano**	**0.48**	**190**	⇓P	Pg	07 01 44.6	-0.1
FIAM				AML	AML		
	comp=E,298μm,0.8s						
FIAM				AML	AML		
	comp=N,418μm,1.1s						
SSM1	**San Severino M**	**0.49**	**355**	P	Pb	07 01 45.2	-0.4
CESX	**Cesi**	**0.50**	**255**	⇓P	Pg	07 01 45.1	+0.2
CESX				S	Sb	07 01 52.4	-0.6
CESX				AML	AML		
	comp=N,500μm,0.4s						
CESX				AML	AML		
	comp=E,597μm,0.4s						
CESX	**Cesi**	**0.50**	**255**	P	Pg	07 01 45.0	0.0
TRTR	**Tortoreto Alta**	**0.50**	**82**	⇓P	Pb	07 01 46.5	+0.7
TRTR				AML	AML		
	comp=E,1670μm,0.5s						
TRTR				AML	AML		
	comp=N,1260μm,1.5s						
ASSB	**Assisi San Ben**	**0.52**	**305**	⇑P	Pg	07 01 45.1	-0.2
ASSB				S	Sb	07 01 53.0	-0.5
ASSB				AML	AML		
	comp=N,568μm,0.9s						
ASSB				AML	AML		
	comp=E,613μm,0.5s						
FAGN	**Fagnano**	**0.54**	**152**	P	Pg	07 01 45.8	+0.1
FAGN				AML	AML		
	comp=N,696μm,0.3s						
FAGN				AML	AML		
	comp=E,748μm,0.3s						
SNTG	**Esanatoglia**	**0.56**	**337**	⇑P	Pg	07 01 46.0	0.0
SNTG				S	Sb	07 01 55.0	+0.4
SNTG				AML	AML		
	comp=E,312μm,0.2s						
SNTG				AML	AML		
	comp=N,309μm,0.8s						
SNTG				AML	AML		
	comp=E,312μm,0.2s						
SNTG				AML	AML		
	comp=N,308μm,0.8s						
VCEL	**Villa Celiera**	**0.57**	**128**	⇑P	Pg	07 01 46.5	+0.3
VCEL				AML	AML		
	comp=E,650μm,0.2s						
VCEL				AML	AML		
	comp=N,798μm,1.5s						
EL6	**Elcito**	**0.59**	**351**	⇑P	Pg	07 01 46.7	0.0
ATCC	**AVT- Casa Cast**	**0.62**	**315**	⇑P	Pg	07 01 47.1	-0.2
ATCC				AML	AML		
	comp=E,478μm,0.4s						
ATCC				AML	AML		
	comp=N,406μm,0.4s						
FOSV	**Fossato di Vic**	**0.65**	**328**	⇓P	Pg	07 01 47.7	-0.1
FOSV				AML	AML		
	comp=E,240μm,0.2s						
FOSV				AML	AML		
	comp=N,319μm,0.3s						
T0110	**Collepietro**	**0.66**	**142**	⇓P	Pg	07 01 47.7	-0.2
T0110				AML	AML		
	comp=E,572μm,0.4s						
T0110				AML	AML		
	comp=N,490μm,1.0s						
SRES	**S.Oreste - Sor**	**0.74**	**227**	⇑P	Pg	07 01 47.2	-2.2
SRES				S	Sn	07 02 02.0	-0.4
ARVD	**Arcevia**	**0.78**	**344**	P	Pb	07 01 50.6	0.0
ARVD				AML	AML		
	comp=N,109μm,0.1s						
ARVD				AML	AML		
	comp=E,124μm,0.6s						
ATFO	**Monte Foce - G**	**0.79**	**322**	⇓P	Pg	07 01 50.5	+0.1
ATFO				AML	AML		
	comp=E,182μm,0.5s						
ATFO				AML	AML		
	comp=N,180μm,0.7s						
CERT	**Cerreto**	**0.82**	**193**	⇑P	Pg	07 01 50.4	-0.5
CERT				AML	AML		
	comp=E,298μm,0.3s						
CERT				AML	AML		
	comp=N,197μm,0.3s						
MGAB	**Montegabbione**	**0.84**	**282**	⇓P	Pg	07 01 51.2	-0.2
MGAB				AML	AML		
	comp=E,316μm,0.4s						
MGAB				AML	AML		
	comp=E,370μm,0.4s						
MGAB				AML	AML		
	comp=N,311μm,1.0s						
MGAB				AML	AML		
	comp=N,370μm,0.4s						
FRON	**Frontone**	**0.86**	**334**	⇓P	Pg	07 01 51.8	+0.1
FRON				AML	AML		
	comp=N,258μm,0.3s						
FRON				AML	AML		
	comp=E,116μm,0.7s						
INTR	**Introdacqua**	**0.88**	**146**	⇑P	Pg	07 01 51.4	-0.8
INTR				AML	AML		
	comp=E,130μm,0.6s						
INTR				AML	AML		
	comp=E,129μm,0.6s						
INTR				AML	AML		
	comp=N,280μm,1.0s						
VVLD	**Villa Vallelon**	**0.92**	**162**	P	Pb	07 01 53.2	+0.3
VVLD				AML	AML		
	comp=E,93μm,1.6s						
VVLD				AML	AML		
	comp=N,146μm,0.8s						
MPAG	**Monte Paganucc**	**0.95**	**339**	⇓P	Pg	07 01 53.3	-0.2
SACS	**San Casciano d**	**0.98**	**277**	⇑P	Pb	07 01 53.9	-0.1
SACS				AML	AML		
	comp=N,125μm,1.2s						
SACS				AML	AML		
	comp=E,118μm,0.9s						
LPEL	**Lama dei Pelig**	**0.99**	**134**	S	Sn	07 02 09.0	+0.4
NARO	**Abbazia di Nar**	**0.99**	**331**	P	Pb	07 01 51.3	-2.9
OVO	**Vesuviano**	**2.10**	**155**	⇓P	Pb	07 02 11.6	-1.5

WEL 03 07:21:20.4±1.8, 37˚S±4˚×17˚9E±˚, h16km±15km, M3.7/48, ML3.9/55, MLv3.7/48, Error ellipse: s-maj=0.0km s-min=0.0km az=88.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.95**	**240**	P	Pb	07 21 37.3	-1.2
MXZ				S	Sb	07 21 48.7	-2.0
WMGZ	**Waiomatatini S**	**1.03**	**225**	P	Pg	07 21 40.9	+0.5
WMGZ				S	Sn	07 21 54.9	+0.6
PKGZ	**Pakihiroa**	**1.28**	**231**	P	Pb	07 21 44.0	-0.2
PKGZ				S	Sb	07 22 00.1	-0.3
PUZ	**Puketiti**	**1.30**	**221**	P	Pb	07 21 44.8	+0.2
PUZ				S	Sg	07 22 02.0	-0.5
HAZ	**Te Kaha**	**1.41**	**241**	P	Pb	07 21 46.1	-0.2
HAZ				S	Sb	07 22 03.7	-0.2
TWGZ	**Tauwhareparae**	**1.53**	**225**	P	Pb	07 21 48.0	-0.4
TWGZ				S	Sb	07 22 07.5	-0.1
RUGZ	**Raukumara Rang**	**1.58**	**236**	P	Pb	07 21 48.9	-0.5
RUGZ				S	Sn	07 22 08.3	+0.2
CNGZ	**Carnagh Statio**	**1.65**	**213**	P	Pb	07 21 50.2	-0.3
WIZ	**White Island**	**1.77**	**255**	P	Pn	07 21 49.2	-1.1
TKGZ	**Te Karaka**	**1.79**	**221**	P	Pn	07 21 51.4	+0.8
MWZ	**Matawai**	**1.90**	**229**	P	Pn	07 21 52.6	+0.5
WHRZ	**Whale Island**	**2.03**	**247**	P	Pn	07 21 55.3	+1.3
RIGZ	**Rimuhau**	**2.04**	**217**	P	Pn	07 21 54.4	+0.4
RAGZ	**Rawiri**	**2.07**	**227**	P	Pn	07 21 54.9	+0.4
URZ	**Urewera**	**2.12**	**236**	P	Pn	07 21 55.5	+0.4
PRGZ	**Paritu Road**	**2.16**	**212**	P	Pn	07 21 56.0	+0.2
SNGZ	**Shannon Statio**	**2.31**	**223**	P	Pn	07 21 58.0	+0.1
KNZ	**Kokohu**	**2.33**	**214**	P	Pn	07 21 57.5	-0.6
OPRZ	**Ohinepanea**	**2.34**	**250**	P	Pn	07 21 57.8	-0.3
MHGZ	**Mahia Peninsul**	**2.35**	**208**	P	Pn	07 21 58.5	+0.2
RTZ	**Ruatahuna**	**2.41**	**230**	P	Pn	07 21 59.6	+0.4
MUGZ	**Murupara**	**2.46**	**235**	P	Pn	07 21 59.9	0.0
MYRZ	**Mayor Island**	**2.48**	**265**	P	Pn	07 21 59.9	-0.3
TGRZ	**Tauranga**	**2.53**	**255**	P	Pn	07 22 00.4	-0.5
RAHZ	**Arahi**	**2.55**	**224**	P	Pn	07 22 01.8	+0.7
RRRZ	**Republican Roa**	**2.56**	**240**	P	Pn	07 22 02.3	+1.0
OMRZ	**Omania**	**2.57**	**246**	P	Pn	07 21 56.0	-5.3
WHHZ	**Waihua**	**2.59**	**219**	P	Pn	07 22 01.8	+0.2
KARZ	**Kaharoa**	**2.63**	**248**	P	Pn	07 22 02.9	+0.7
MTHZ	**Maungataniwha**	**2.64**	**228**	P	Pn	07 22 02.8	+0.4
ALRZ	**Allen Road**	**2.79**	**237**	P	Pn	07 22 04.5	+0.1
NMHZ	**Naumai**	**2.83**	**224**	P	Pn	07 22 05.4	+0.4
ARHZ	**Aropaoanui**	**2.85**	**220**	P	Pn	07 22 05.3	+0.2
KUZ	**Kuaotunu**	**2.92**	**276**	P	Pn	07 22 04.4	-1.7
BKZ	**Black Stump Fm**	**3.05**	**226**	P	Pn	07 22 07.6	-0.4
CKHZ	**Cape Kidnapper**	**3.12**	**214**	P	Pn	07 22 07.8	-1.1
GRZ	**Great Barrier**	**3.23**	**284**	P	Pn	07 22 10.0	-0.4
TLZ	**Tolley Road**	**3.26**	**247**	P	Pn	07 22 11.9	+1.0
KWHZ	**Kaweka Forest**	**3.27**	**224**	P	Pn	07 22 10.3	-0.7
KAHZ	**Kahuranaki**	**3.32**	**215**	P	Pn	07 22 10.5	-1.2
WIAZ	**Waiheke Island**	**3.38**	**274**	P	Pn	07 22 11.9	-0.7
KRHZ	**Kereru**	**3.46**	**222**	P	Pn	07 22 12.3	-1.2
TMVZ	**Te Maari**	**3.51**	**234**	P	Pn	07 22 13.8	-0.5
ETVZ	**East Tongariro**	**3.52**	**233**	P	Pn	07 22 14.0	-0.5
BHHZ	**Black Hill Sta**	**3.52**	**226**	P	Pn	07 22 13.9	-0.6
PXZ	**Pawanui**	**3.52**	**213**	P	Pn	07 22 12.7	-1.7
ETAZ	**East Tamaki Re**	**3.53**	**271**	P	Pn	07 22 15.0	+0.4
KRVZ	**Karewarewa**	**3.54**	**234**	P	Pn	07 22 14.6	-0.2
MBAZ	**Motutapu North**	**3.57**	**274**	P	Pn	07 22 14.7	-0.5
NNVZ	**North Ngauruho**	**3.57**	**234**	P	Pn	07 22 15.2	-0.1
SNVZ	**South Ngauruho**	**3.59**	**233**	P	Pn	07 22 14.9	-0.6
NGZ	**Ngauruhoe**	**3.61**	**234**	P	Pn	07 22 15.1	-0.7
MOVZ	**Moawhango**	**3.65**	**230**	P	Pn	07 22 15.3	-0.9
ABAZ	**Army Bay**	**3.65**	**276**	P	Pn	07 22 16.5	+0.3
TWVZ	**Taurewa**	**3.66**	**236**	P	Pn	07 22 16.0	-0.4
WNVZ	**Wahianoa**	**3.70**	**232**	P	Pn	07 22 16.2	-0.8
PNHZ	**Pukenui**	**3.74**	**220**	P	Pn	07 22 16.2	-1.3
AWAZ	**Awhitu Peninsu**	**3.76**	**269**	P	Pn	07 22 17.2	-0.4
MTVZ	**Mangateitei**	**3.81**	**232**	P	Pn	07 22 18.0	-0.5
PRHZ	**Porangahau**	**3.81**	**213**	P	Pn	07 22 16.7	-1.7
WTAZ	**Waiatarua**	**3.82**	**271**	P	Pn	07 22 19.2	+0.6
HIZ	**Hauiti**	**3.83**	**247**	P	Pn	07 22 20.0	+1.4
RVAZ	**Riverhead Bore**	**3.83**	**273**	P	Pn	07 22 18.4	-0.3
PKVZ	**Pokaka**	**3.84**	**234**	P	Pn	07 22 19.4	+0.6
TSZ	**Takapari Road**	**3.97**	**221**	P	Pn	07 22 18.6	-2.0
WCZ	**Waipu Caves**	**4.19**	**284**	P	Pn	07 22 23.0	-0.5
POWZ	**Post Office Ro**	**4.32**	**219**	P	Pn	07 22 23.1	-2.3
WAZ	**Wanganui**	**4.33**	**231**	P	Pn	07 22 24.8	-0.7
TIWZ	**Tintock**	**4.56**	**215**	P	Pn	07 22 26.9	-1.8
NEZ	**North Egmont**	**4.67**	**241**	P	Pn	07 22 32.3	+2.0
PKE	**Pukeiti**	**4.71**	**242**	P	Pn	07 22 33.9	+3.1
KHEZ	**Kahui Hut**	**4.74**	**241**	P	Pn	07 22 33.1	+1.9
OUZ	**Omahuta**	**5.01**	**290**	P	Pn	07 22 34.9	0.0
CTZ	**Chatham Island**	**7.32**	**156**	P	Pn	07 23 08.3	+1.8

*IDC **03** 08:04:49.0±1.0, 35˚46N×143˚09E, h0km, mb3.8/8, mbtmp3.9/12, ML3.6/3, MS4.5/1, Error ellipse: s-maj=29.8km s-min=19.9km az=166.0*
*NIED **03** 08:04:52.4, 35˚67N×142˚91E, h50km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.61; $M_{\theta\theta}$=0.01; $M_{\phi\phi}$=4.61; $M_{r\theta}$=-2.45; $M_{\theta\phi}$=2.20; $M_{r\phi}$=0.98; Fault plane solution: M_0=5.73000×10^{14} NP1:ϕ_s=46.00000°, δ51.00000°, λ-54.00000°. NP2:ϕ_s=177.00000°, δ51.00000°, λ-126.00000°.*
*JMA **03** 08:04:52.4±0.3, 36˚N±1˚×14˚3E±˚, h50km, MV4.1/26, FAR E OFF CENTRAL HONSHU*

ISC 03 08:04:57.0±0.8, 35˚64N±0˚06×142˚77E±0˚07, h59km, n33, σ2s22/34, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.56**	**273**	P	**Pn**	**08 05 19.9**	**-2.5**
CHOJ				S	**Sn**	**08 05 40.3**	**-1.2**
BSO1	**Boso 1**	**1.77**	**237**	P	**Pn**	**08 05 22.4**	**-2.4**
JIHU	**Itakohorinouch**	**1.85**	**281**	P	**Pn**	**08 05 25.2**	**-1.2**
JIHU				*e*S	**Sn**	**08 05 48.3**	**-0.4**
JHYU	**Hitachinakayam**	**1.90**	**292**	P	**Pn**	**08 05 24.8**	**-2.3**
JHYU				S	**Sn**	**08 05 47.9**	**-2.1**
JHO	**Hitachi**	**2.03**	**299**	P	**Pn**	**08 05 25.8**	**-3.0**
JHO				S	**Sn**	**08 05 50.2**	**-2.9**
JFT	**Otama**	**2.71**	**314**	P	**Pn**	**08 05 35.7**	**-2.5**
JFT				*e*S	**Sn**	**08 06 07.6**	**-2.2**
JAG	**Ashikaga**	**2.80**	**287**	*i*P	**Pn**	**08 05 37.1**	**-2.2**
JAG				S	**Sn**	**08 06 10.2**	**-1.7**
JOD2	**Odawara 2**	**3.03**	**264**	P	**Pn**	**08 05 40.8**	**-1.7**
JOD2				S	**Sn**	**08 06 16.4**	**-1.2**
JRY	**Ryogami san**	**3.17**	**278**	P	**Pn**	**08 05 43.1**	**-1.3**
JYN	**Shimob**	**3.45**	**269**	P	**Pn**	**08 05 46.9**	**-1.4**
JHJ	**Hachijo jima 2**	**3.52**	**225**	Pn	**Pn**	**08 05 46.1**	**-3.1**
	14nm,0.3s,baz=2.5,slow=22,SNR=6.8						
JHJ				Sn	**Sn**	**08 06 25.4**	**-4.2**
	89nm,0.3s,baz=77,slow=21,SNR=11						
	126nm,0.6s						
JMK	**Ichinoseki**	**3.53**	**340**	P	**Pn**	**08 05 45.2**	**-4.1**
JYK	**Kaneyama**	**3.80**	**330**	P	**Pn**	**08 05 49.5**	**-3.4**
MJAR	**Matsushiro Arr**	**3.80**	**285**	Pn	**Pn**	**08 05 51.2**	**-1.8**
	1.1nm,0.3s,baz=24,slow=9.6,SNR=29						
MJAR				Sn	**Sn**	**08 06 37.1**	**+0.6**
	0.5nm,0.3s,baz=92,slow=20,SNR=5.7						
MJAR				LR	LR	08 07 14.7	
	comp=Z,85nm,20.1s,baz=150,slow=36						
	6.7nm,0.4s						
JSD	**Sado**	**4.34**	**305**	P	**Pn**	**08 05 58.8**	**-1.6**
JCJ	**Chichijima**	**8.53**	**184**	Pn	Pn	08 06 50.5	-7.4
	2.6nm,0.3s,baz=267,slow=21,SNR=1.4						
JCJ				Sn	Sn	08 08 19.1	-13
	4.9nm,0.3s,baz=283,slow=17,SNR=1.4						
	36nm,0.8s						
KSRS	**Korea Array**	**12.08**	**283**	Pn	**Pn**	**08 07 46.7**	**+0.5**
	1.3nm,0.8s,baz=181,slow=20,SNR=2.7						
KSRS				LR	LR	08 12 41.8	
	comp=Z,28nm,19.8s,baz=320,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.50**	**120**	T	T	08 38 02.9	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**26.50**	**120**	T	T	08 38 02.2	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**26.51**	**120**	T	T	08 38 23.1	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**27.18**	**123**	T	T	08 39 12.4	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**27.18**	**123**	T	T	08 39 10.1	
	baz=309						
H11S2	**WAKE ISLAND Hy**	**27.20**	**123**	T	T	08 38 58.2	
	baz=309	

3.0nm,1.0s,baz=281,slow=6.5,SNR=2.6
3.0nm,1.0s
FINES FINESS Array B 70.55 333 P **P** **08 16 07.4 +2.1**
4.1nm,1.2s,baz=22,slow=9.3,SNR=2.7
4.1nm,1.2s
NVAR Mina Array Bea 74.94 53 P **P** **08 16 32.6 +0.5**
0.3nm,0.6s,baz=302,slow=5.2,SNR=3.7
0.3nm,0.6s
PDAR Pinedale Array 77.86 46 P **P** **08 16 48.2 -0.3**
0.5nm,0.6s,baz=279,slow=2.5,SNR=8.0
0.5nm,0.6s
MMAI Mount Meron Ar 83.67 306 LR LR 08 57 06.0
comp=Z,227nm,18.1s,baz=318,slow=37
TXAR Lajitas Array 90.09 53 P **P** **08 17 51.2 +0.4**
0.2nm,0.5s,baz=302,slow=3.5,SNR=9.8
0.2nm,0.5s
LPAZ La Paz 146.40 63 PKPbc **PKPdf** **08 24 31.7 +0.5**
0.8nm,0.7s,baz=323,slow=5.1,SNR=3.7

*IDC **03** 08:09:10.8±2.3,6°.33S×130°.60E,h98km±22km,mb3.8/4,*
mbtmp4.4/9,Error ellipse: s-maj=35.7km s-min=16.6km
az=86.0
*DJA **03** 08:09:12.1±0.2,6°.5S×13°.1E±°,h168km±7km,M4.5/13,*
mb4.3/8,mB5.3/6,MLv4.4/13,Mw(mB)4.7/6,MwMwp5.0/1,
Mwp5.2/1
*NEIC **03** 08:09:12.5±2.8,6°.22S×0°.06×130°.44E±0°.09,h115km±8km,*
mb4.2/9,Error ellipse: s-maj=13.3km s-min=8.7km
az=86.0

ISC 03 08:09:10.0±0.6,6°.39S±0°.05×130°.60E±0°.07,h100km,n48,
σ2s85/46,mb4.0/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.73**	**156**	Pn	Pn	08 09 46.5	+7.3
SAUI	**Saumlaki**	**1.73**	**156**	P	Pn	08 09 46.9	+7.7
SAUI	**Saumlaki**	**1.73**	**156**	P	Pn	08 09 47.5	+8.3
BNDI	**Bandanaira**	**1.98**	**340**	P	Pn	08 09 46.6	+4.2
BNDI	**Bandanaira**	**1.98**	**340**	P	Pn	08 09 47.2	+4.8
MSAI	**Masohi**	**3.45**	**331**	P	**Pn**	**08 10 05.5**	**+3.7**
AAI	**Ambon**	**3.60**	**318**	P	**Pn**	**08 10 07.5**	**+3.7**
FAKI	**Fak Fak**	**3.82**	**26**		**Pn**	**08 10 08.4**	**+1.8**
FAKI	**Fak Fak**	**3.82**	**26**	P	**Pn**	**08 10 08.4**	**+1.6**
FAKI	**Fak Fak**	**3.82**	**26**	P	**Pn**	**08 10 08.8**	**+2.0**
NLAI	**Namlea**	**4.68**	**312**	P	**Pn**	**08 10 21.3**	**+2.8**
SIJI	**Sorong**	**5.52**	**7**	P	**Pn**	**08 10 30.2**	**+0.3**
	116nm,0.2s,baz=218,slow=11,SNR=34						
SIJI				S	**Sn**	**08 11 25.4**	**-6.7**
	93nm,0.2s,baz=187,slow=23,SNR=12						
SWI	**Sorong**	**5.53**	**7**	P	**Pn**	**08 10 30.9**	**+0.9**
	1.2nm6µm109nm,0.5s						
SANI	**Sanana**	**6.30**	**313**	P	**Pn**	**08 10 42.6**	**+2.1**
	0.1nm6µm24nm,0.8s						
MTN	**Manton Dam**	**6.44**	**175**		**Pn**	**08 10 46.2**	**+3.9**
MTN	**Manton Dam**	**6.44**	**175**	P	Pn	08 10 46.9	+4.6
LBMI	**Labuha**	**6.49**	**331**	P	**Pn**	**08 10 44.3**	**+1.2**
	0.3nm64nm,0.6s						
KDU	**Kakadu**	**6.53**	**164**	P	Pn	08 10 47.8	+4.3
SOEI	**Soe**	**7.11**	**241**	Pn	**Pn**	**08 10 54.2**	**+2.7**
SOEI	**Soe**	**7.11**	**241**	P	**Pn**	**08 10 55.6**	**+4.1**
	0.3nm44nm,0.8s						
TNTI	**Ternate**	**7.81**	**335**	Pn	**Pn**	**08 10 59.4**	**-1.6**
BATI	**Baumata**	**7.84**	**241**	P	**Pn**	**08 11 04.2**	**+2.7**
	46nm,0.5s,baz=50,slow=20,SNR=2.6						
BATI				S	**Sn**	**08 12 27.9**	**-0.8**
	42nm,0.5s,baz=131,slow=19,SNR=1.4						
KNRA	**Kununurra**	**9.41**	**191**	Pn	**Pn**	**08 11 25.3**	**+2.6**
KNRA	**Kununurra**	**9.41**	**191**	P	**Pn**	**08 11 25.6**	**+2.9**
FITZ	**Fitzroy Crossi**	**12.61**	**202**	P	**Pn**	**08 12 05.9**	**+0.1**
	9.2nm,0.3s,baz=36,slow=10,SNR=56						
FITZ				S	**Sn**	**08 14 17.6**	**-6.8**
	9.5nm,0.3s,baz=79,slow=18,SNR=6.9						
FITZ	**Fitzroy Crossi**	**12.61**	**202**		**Pn**	**08 12 07.1**	**+1.3**
PLAI	**Plampang**	**12.94**	**258**	P	**Pn**	**08 12 11.5**	**+1.3**
WRAB	**Tennant Creek**	**13.95**	**165**	Pn	**P**	**08 12 26.5**	**-1.7**
WRA	**Warramunga Arr**	**13.96**	**165**	P	**Pn**	**08 12 23.2**	**-0.3**
	4.2nm,0.4s,baz=336,slow=13,SNR=52						
WRA				S	**Sn**	**08 14 51.1**	**-6.1**
	4.4nm,0.3s,baz=346,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**13.96**	**165**		**P**	**08 12 25.8**	**-2.5**
COEN	**Coen**	**14.48**	**122**		**P**	**08 12 34.3**	**+0.2**
AS31	**Alice Springs**	**17.47**	**170**		**Pn**	**08 13 09.8**	**+2.3**
ASAR	**Alice Springs**	**17.47**	**170**	P	**Pn**	**08 13 08.9**	**+1.4**
	4.8nm,0.8s,baz=350,slow=9.9,SNR=80						
ASAR				S	**Sn**	**08 16 14.7**	**-7.4**
	1.3nm,0.4s,baz=352,slow=27,SNR=6.2						
ASAR	**Alice Springs**	**17.47**	**170**		**Pn**	**08 13 10.7**	**+3.2**
MBWA	**Marble Bar**	**18.07**	**215**	P	**Pn**	**08 13 16.0**	**+1.4**
MBWA				IAmb	IAmb	08 13 22.2	
	comp=Z,19nm,1.2s						
PSA00	**Pilbara Seismi**	**18.33**	**214**	P	**Pn**	**08 13 19.5**	**+1.6**
PSA00				IAmb	IAmb	08 13 23.3	
	comp=Z,19nm,1.3s						
STKA	**Stephens Creek**	**27.36**	**159**	P	**P**	**08 14 48.1**	**+2.2**
	comp=Z,0.9nm,0.4s,baz=344,slow=11,SNR=2.9						
	comp=Z,0.9nm,0.4s						
CHTO	**Chiang Mai**	**40.01**	**309**	P	**P**	**08 16 33.0**	**-2.4**
PEA0B	**Petropavlovsk-**	**63.56**	**18**	P	**P**	**08 19 30.7**	**+0.9**
PETK	**Petropavlovsk-**	**63.56**	**18**	P	**P**	**08 19 30.3**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=187,slow=6.0,SNR=3.5						
	comp=Z,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**63.56**	**18**	P	**P**	**08 19 30.0**	**+0.1**
MK31	**Makanchi Array**	**68.05**	**326**	P	**P**	**08 19 58.7**	**-0.1**
MK31				IAmb	IAmb	08 19 59.9	
	comp=Z,1.8nm,0.7s						
MKAR	**Makanchi Array**	**68.05**	**326**	P	**P**	**08 19 59.3**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=119,slow=8.0,SNR=34						
	comp=Z,2.4nm,0.5s						
MKAR	**Makanchi Array**	**68.05**	**326**	P	**P**	**08 19 58.8**	**0.0**
MAW	**Mawson**	**75.73**	**201**	P	**P**	**08 20 44.8**	**+0.4**
MAW				IAmb	IAmb	08 21 19.4	
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**08 21 28.1**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=252,slow=0.8,SNR=6.7						
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**08 21 28.1**	**+1.0**
QSPA				IAmb	IAmb	08 21 28.4	
	comp=Z,8.7nm,1.5s						
LPAZ	**La Paz**	**150.82**	**141**	PKPbc	**PKiKP**	**08 28 54.1**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=198,slow=3.2,SNR=7.2						

ROM 03 08:15:49.2±0.1,42°.857N±0°.004×13°.224E±0°.005,
h10km,Md1.4/10,2C-2D,Error ellipse: s-maj=0.4km
s-min=0.3km az=57.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**207**	P	Pg	08 15 51.2	0.0
T1242				S	Sg	08 15 52.3	-0.3
T1242				AML	AML		
	comp=E,800µm,0.1s						
T1242				AML	AML		
	comp=N,1425µm,0.1s						
T1242				AML	AML		
	comp=E,7260µm,1.3s						
T1242				AML	AML		
	comp=N,10185µm,0.6s						
T1242				AML	AML		
	comp=E,7165µm,1.3s						
T1242				AML	AML		
	comp=N,10195µm,0.6s						
T1242				END			
MC2	**Monte Cornacci**	**0.06**	**336**	⇓P	Pg	08 15 51.7	+0.2
MC2				S	Sg	08 15 53.2	0.0
MC2				END			
NRCA	**Norcia**	**0.08**	**254**	⇑P	Pg	08 15 52.0	+0.4
NRCA				S	Sg	08 15 53.7	+0.3
NRCA				AML	AML		
	comp=E,11300µm,0.1s						
NRCA				AML	AML		
	comp=N,7975µm,0.2s						
NRCA				AML	AML		
	comp=E,12000µm,0.1s						
NRCA				AML	AML		
	comp=N,8960µm,1.0s						
NRCA				END			
T1244	**Arquata del Tr**	**0.11**	**151**	P	Pg	08 15 52.7	+0.7
T1244				S	Sg	08 15 55.1	+1.0
T1244				AML	AML		
	comp=E,10480µm,0.8s						
T1244				AML	AML		
	comp=N,7930µm,0.4s						
T1244				AML	AML		
	comp=E,10235µm,0.8s						
T1244				AML	AML		
	comp=N,7820µm,0.5s						
T1244				END			
T1241	**Roccafluvione,**	**0.15**	**90**	⇑P	Pg	08 15 53.2	+0.6
T1241				S	Sg	08 15 56.0	+1.0
T1241				AML	AML		
	comp=E,149µm,0.9s						
T1241				AML	AML		
	comp=N,199µm,0.7s						
T1241				AML	AML		
	comp=E,6565µm,0.1s						
T1241				AML	AML		
	comp=N,3590µm,1.5s						
T1241				AML	AML		
	comp=E,6375µm,0.1s						
T1241				AML	AML		
	comp=N,3460µm,1.5s						
T1241				END			
T1202	**Accumoli, Fraz**	**0.15**	**180**	AML	AML		
	comp=E,56350µm,0.2s						
T1202				AML	AML		
	comp=N,61600µm,0.8s						
CSP1	**Cessapalombo**	**0.23**	**357**	P	Pg	08 15 54.8	+0.7
CSP1				S	Sg	08 15 58.7	+1.4
CSP1				END			
SMA1	**SAN MARTINO**	**0.24**	**160**	P	Pg	08 15 54.7	+0.5
SMA1				S	Sg	08 15 58.6	+1.1
SMA1				AML	AML		
	comp=E,4310µm,0.6s						
SMA1				AML	AML		
	comp=N,4450µm,1.6s						
SMA1				END			
T1215	**Vallo di Nera,**	**0.27**	**258**	P	Pg	08 15 55.2	+0.6
T1215				S	Sb	08 15 59.8	-1.0
T1215				AML	AML		
	comp=E,1052µm,0.2s						
T1215				AML	AML		
	comp=N,1115µm,1.0s						
T1215				AML	AML		
	comp=E,1008µm,0.2s						
T1215				AML	AML		
	comp=N,1180µm,0.9s						
T1215				END			
CESI	**CESI - Serrava**	**0.28**	**302**	P	Pg	08 15 55.4	+0.6
CESI				S	Sb	08 16 00.3	-0.8
CESI				AML	AML		
	comp=E,60µm,0.2s						
CESI				AML	AML		
	comp=N,132µm,0.2s						
CESI				AML	AML		
	comp=E,1450µm,0.5s						
CESI				AML	AML		
	comp=N,1760µm,0.2s						
CESI				END			
LNSS	**Leonessa**	**0.29**	**208**	⇓P	Pg	08 15 55.7	+0.7
LNSS				S	Sb	08 16 00.7	-0.7
LNSS				AML	AML		
	comp=E,8670µm,0.5s						
LNSS				AML	AML		
	comp=N,5905µm,0.6s						
LNSS				END			

ROM 03 08:16:48.2±0.1,42°.735N±0°.003×13°.188E±0°.004,
h10km,ML2.5/42,31C-11D,Error ellipse: s-maj=0.3km
s-min=0.2km az=75.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.04**	**139**	P	Pg	08 16 50.3	0.0
T1202				S	Sg	08 16 51.5	-0.3
T1202				AML	AML		
	comp=E,56350µm,0.2s						
T1202				AML	AML		
	comp=N,61600µm,0.8s						
T1244	**Arquata del Tr**	**0.08**	**75**	⇑P	Pg	08 16 51.1	+0.5
T1244				S	Sg	08 16 53.0	+0.5
T1244				AML	AML		
	comp=E,10465µm,0.8s						
T1244				AML	AML		
	comp=E,10245µm,0.8s						
T1244				AML	AML		
	comp=E,10460µm,0.8s						
T1244				AML	AML		
	comp=E,10240µm,0.8s						
T1244				AML	AML		
	comp=N,7825µm,0.5s						
T1244				AML	AML		
	comp=E,10495µm,0.8s						
T1244				AML	AML		
	comp=N,7930µm,0.4s						
T1244				AML	AML		
	comp=E,10235µm,0.8s						
T1244				AML	AML		
	comp=N,7820µm,0.5s						
T1244				AML	AML		
	comp=E,10265µm,0.8s						
T1201	**Domo (RI)**	**0.09**	**149**	⇑P	Pg	08 16 51.3	+0.6
T1201				S	Sg	08 16 53.4	+0.9
T1201				AML	AML		
	comp=N,10880µm,0.3s						
T1201				AML	AML		
	comp=E,7050µm,0.8s						
T1201				AML	AML		
	comp=N,10895µm,0.3s						
T1242	**Castelluccio d**	**0.10**	**7**	⇑P	Pg	08 16 51.2	+0.3
T1242				S	Sg	08 16 53.1	+0.3
T1242				AML	AML		
	comp=E,7265µm,1.3s						
T1242				AML	AML		
	comp=E,7260µm,1.3s						
T1242				AML	AML		
	comp=N,10165µm,0.6s						
T1242				AML	AML		
	comp=N,10195µm,0.6s						
T1242				AML	AML		
	comp=N,10185µm,0.6s						
T1242				AML	AML		
	comp=E,7165µm,1.3s						
T1242				AML	AML		
	comp=N,10140µm,0.6s						
T1204	**Amatrice, Fraz**	**0.11**	**122**	⇑P	Pg	08 16 51.5	+0.5
T1204				S	Sg	08 16 53.8	+0.7
T1204				AML	AML		
	comp=E,5365µm,0.6s						
T1204				AML	AML		
	comp=N,4620µm,0.6s						
T1204				AML	AML		
	comp=E,5360µm,0.6s						
T1204				AML	AML		
	comp=E,5355µm,0.6s						
T1204				AML	AML		
	comp=N,4610µm,0.6s						
NRCA	**Norcia**	**0.11**	**331**	⇑P	Pg	08 16 51.4	+0.3
NRCA				S	Sg	08 16 53.3	+0.2
NRCA				AML	AML		
	comp=E,11300µm,0.1s						
NRCA				AML	AML		
	comp=N,7975µm,0.2s						
NRCA				AML	AML		
	comp=E,12000µm,0.1s						
NRCA				AML	AML		
	comp=N,8960µm,1.0s						
NRCA				AML	AML		
	comp=N,7980µm,0.1s						
SMA1	**SAN MARTINO**	**0.15**	**134**	⇑P	Pg	08 16 52.1	+0.5
SMA1				S	Sg	08 16 54.9	+0.9
SMA1				AML	AML		
	comp=E,4315µm,0.6s						
SMA1				AML	AML		
	comp=N,4450µm,1.6s						
SMA1				AML	AML		
	comp=E,4310µm,0.6s						
SMA1				AML	AML		
	comp=N,4445µm,1.6s						
LNSS	**Leonessa**	**0.17**	**220**	⇑P	Pg	08 16 52.6	+0.6
LNSS				S	Sg	08 16 55.7	+1.2
LNSS				AML	AML		
	comp=E,8675µm,0.5s						
LNSS				AML	AML		
	comp=E,8670µm,0.5s						
LNSS				AML	AML		
	comp=N,5905µm,0.6s						
MC2	**Monte Cornacci**	**0.18**	**1**	⇑P	Pg	08 16 52.6	+0.5
MC2				S	Sg	08 16 56.3	+1.4
T1243	**Rocca Santa Ma**	**0.20**	**101**	⇑P	Pg	08 16 52.8	+0.4
T1243				S	Sg	08 16 56.1	+0.9
T1241	**Roccafluvione,**	**0.22**	**56**	⇑P	Pg	08 16 53.2	+0.5
T1241				S	Sg	08 16 56.9	+1.2
T1241				AML	AML		
	comp=N,3590µm,1.5s						
T1241				AML	AML		
	comp=N,3460µm,1.5s						
T1241				AML	AML		
	comp=E,6565µm,0.1s						
T1241				AML	AML		
	comp=E,6375µm,0.1s						
RM33	**Pellescritta (**	**0.23**	**175**	⇑P	Pg	08 16 53.4	+0.5
RM33				S	Sg	08 16 57.5	+1.4
RM33				AML	AML		
	comp=E,2285µm,0.2s						
RM33				AML	AML		
	comp=E,2205µm,0.2s						
RM33				AML	AML		
	comp=N,2105µm,0.2s						
RM33				AML	AML		
	comp=N,2065µm,0.2s						
RM33				AML	AML		
	comp=E,2290µm,0.2s						
T1215	**Vallo di Nera,**	**0.24**	**286**	⇑P	Pg	08 16 53.7	+0.5
T1215				S	Sg	08 16 58.0	+1.4
T1215				AML	AML		
	comp=E,1054µm,0.2s						
T1215				AML	AML		
	comp=N,1114µm,1.0s						
T1215				AML	AML		
	comp=E,1007µm,0.2s						
T1215				AML	AML		
	comp=N,1174µm,0.9s						
T1215				AML	AML		
	comp=E,1054µm,0.2s						
T1215				AML	AML		
	comp=N,1115µm,1.0s						
T1215				AML	AML		
	comp=E,1008µm,0.2s						
T1215				AML	AML		
	comp=N,1175µm,0.9s						
CAMP	**Campotosto**	**0.26**	**141**	⇑P	Pg	08 16 54.0	+0.5
CAMP				S	Sg	08 16 58.1	+1.1
CAMP				AML	AML		
	comp=N,972µm,0.5s						
CAMP				AML	AML		
	comp=E,983µm,0.2s						
FDMO	**Fiordimonte**	**0.31**	**346**	P	Pg	08 16 55.0	+0.5
FDMO				S	Sb	08 17 00.2	-0.9
FDMO				AML	AML		
	comp=N,640µm,0.9s						
FDMO				AML	AML		
	comp=E,850µm,0.5s						
TERO	**Teramo**	**0.33**	**110**	⇑P	Pg	08 16 55.0	+0.3
TERO				AML	AML		
	comp=E,3115µm,0.1s						
TERO				AML	AML		
	comp=E,3640µm,0.1s						
TERO				AML	AML		
	comp=N,4230µm,0.5s						
TERO				AML	AML		
	comp=N,4905µm,0.1s						
TERO				AML	AML		
	comp=E,3645µm,0.1s						
CESI	**CESI - Serrava**	**0.34**	**322**	⇑P	Pg	08 16 55.5	+0.5
CESI				S	Sb	08 17 01.2	-0.7
CESI				AML	AML		
	comp=E,1450µm,0.5s						
CESI				AML	AML		
	comp=N,1760µm,0.2s						
GUMA	**Gualdo di Mace**	**0.34**	**18**	⇓P	Pb	08 16 56.0	-0.5
GUMA				S	Sb	08 17 02.3	+0.3
GUMA				AML	AML		
	comp=E,5270µm,0.3s						
GUMA				AML	AML		
	comp=N,3665µm,0.5s						
ARRO	**Arrone**	**0.35**	**244**	⇑P	Pg	08 16 55.6	+0.5
ARRO				AML	AML		
	comp=E,542µm,0.2s						
ARRO				AML	AML		
	comp=N,586µm,0.2s						
CSP1	**Cessapalombo**	**0.36**	**2**	⇑P	Pg	08 16 55.8	+0.4
GIGS	**Gran Sasso**	**0.40**	**135**	⇓P	Pg	08 16 56.2	+0.1
GIGS				S	Sb	08 17 03.0	-0.6
GIGS				AML	AML		
	comp=E,224µm,0.6s						
GIGS				AML	AML		
	comp=N,189µm,0.6s						
GIGS				AML	AML		
	comp=N,188µm,0.6s						
OFFI	**Offida**	**0.42**	**61**	⇑P	Pb	08 16 57.7	0.0
OFFI				AML	AML		
	comp=E,1653µm,0.7s						
OFFI				AML	AML		
	comp=N,1725µm,0.3s						
OFFI				AML	AML		
	comp=E,1652µm,0.7s						
CESX	**Cesi**	**0.47**	**255**	⇑P	Pg	08 16 57.5	+0.2
CESX				AML	AML		
	comp=E,364µm,1.4s						
CESX				AML	AML		
	comp=N,390µm,0.5s						
FIAM	**Fiamignano**	**0.47**	**186**	⇓P	Pg	08 16 57.6	+0.3
FIAM				AML	AML		
	comp=N,265µm,0.9s						
FIAM				AML	AML		
	comp=E,322µm,0.6s						
ASSB	**Assisi San Ben**	**0.50**	**309**	⇑P	Pg	08 16 58.1	+0.2
ASSB				AML	AML		
	comp=E,910µm,0.2s						
ASSB				AML	AML		
	comp=N,790µm,0.2s						
TRTR	**Tortoreto Alta**	**0.54**	**82**	⇑P	Pb	08 17 00.6	+0.9
TRTR				AML	AML		
	comp=N,1102µm,0.5s						
TRTR				AML	AML		
	comp=E,1360µm,0.5s						
SNTG	**Esanatoglia**	**0.55**	**341**	⇓P	Pg	08 16 59.2	+0.3
SNTG				S	Sb	08 17 09.0	+1.0
SNTG				AML	AML		
	comp=E,210µm,1.1s						
SNTG				AML	AML		
	comp=N,290µm,0.3s						
SNTG				AML	AML		
	comp=N,291µm,0.3s						
SNTG				AML	AML		
	comp=E,210µm,1.1s						
FAGN	**Fagnano**	**0.55**	**148**	⇑P	Pg	08 16 59.0	+0.1
FAGN				AML	AML		
	comp=E,832µm,0.4s						
FAGN				AML	AML		
	comp=N,704µm,0.4s						
VCEL	**Villa Celiera**	**0.59**	**125**	⇓P	Pg	08 17 00.1	+0.4
VCEL				S	Sn	08 17 11.0	-1.5
VCEL				AML	AML		
	comp=E,610µm,0.5s						
VCEL				AML	AML		
	comp=N,703µm,0.9s						
EL6	**Elcito**	**0.60**	**354**	P	Pg	08 16 59.9	+0.1
EL6				S	Sb	08 17 11.0	+1.6
ATCC	**AVT- Casa Cast**	**0.60**	**318**	⇓P	Pg	08 17 00.2	+0.3
ATCC				AML	AML		
	comp=E,657µm,0.2s						
ATCC				AML	AML		
	comp=N,388µm,1.2s						
CING	**Cingoli**	**0.64**	**0**	P	Pb	08 17 01.2	-0.3
CING				AML	AML		
	comp=E,256µm,0.2s						
CING				AML	AML		
	comp=N,298µm,0.2s						
FOSV	**Fossato di Vic**	**0.64**	**331**	⇑P	Pg	08 17 00.9	+0.2
FOSV				AML	AML		
	comp=N,262µm,0.3s						
FOSV				AML	AML		
	comp=E,364µm,0.2s						
T0110	**Collepietro**	**0.67**	**139**	⇑P	Pg	08 17 01.1	-0.1
T0110				S	Sb	08 17 12.0	+0.6
T0110				AML	AML		
	comp=E,528µm,0.5s						
T0110				AML	AML		
	comp=E,528µm,0.5s						
T0110				AML	AML		
	comp=N,514µm,0.4s						
SSFR	**Montelago di S**	**0.76**	**337**	⇑P	Pg	08 17 03.0	+0.1
SSFR				AML	AML		
	comp=E,569µm,0.2s						

SSFR				AML	AML			
	comp=N,584μm,0.2s							
SSFR				AML	AML			
	comp=E,552μm,0.2s							
SSFR				AML	AML			
	comp=N,583μm,0.2s							
ATTE	**AVT- Monte Tez**	**0.77 307**	⇓	P	Pg	08 17 03.3	+0.3	
ATTE				AML	AML			
	comp=N,98μm,0.4s							
ATTE				AML	AML			
	comp=E,124μm,0.2s							
ATTE				AML	AML			
	comp=N,98μm,0.4s							
ATFO	**Monte Foce - G**	**0.78 325**	⇑	P	Pg	08 17 03.3	+0.1	
ATFO				S	Sn	08 17 16.0	-1.1	
ATFO				AML	AML			
	comp=N,157μm,0.3s							
ATFO				AML	AML			
	comp=E,158μm,0.5s							
ARVD	**Arcevia**	**0.78 347**	⇑	P	Pb	08 17 03.7	-0.3	
ARVD				S	Sn	08 17 16.0	-1.2	
ARVD				AML	AML			
	comp=N,107μm,0.5s							
ARVD				AML	AML			
	comp=E,138μm,0.1s							
MGAB	**Montegabbione**	**0.81 283**	⇑	P	Pb	08 17 04.3	-0.1	
MGAB				AML	AML			
	comp=N,280μm,0.4s							
MGAB				AML	AML			
	comp=N,246μm,0.3s							
MGAB				AML	AML			
	comp=E,332μm,0.3s							
MGAB				AML	AML			
	comp=E,392μm,0.6s							
ATVO	**AVT- Monte Val**	**0.86 319**	⇓	P	Pg	08 17 04.8	0.0	
ATVO				S	Sn	08 17 19.0	-0.2	
ATVO				AML	AML			
	comp=N,130μm,1.3s							
ATVO				AML	AML			
	comp=E,132μm,0.5s							
INTR	**Introdacqua**	**0.90 143**	⇑	P	Pg	08 17 05.5	+0.1	
INTR				AML	AML			
	comp=E,151μm,0.7s							
INTR				AML	AML			
	comp=N,211μm,0.9s							
INTR				AML	AML			
	comp=N,210μm,0.9s							
ATPI	**Pietralunga -**	**0.92 321**	⇑	P	Pg	08 17 06.0	+0.1	
ATPI				AML	AML			
	comp=N,73μm,0.4s							
ATPI				AML	AML			
	comp=E,113μm,0.5s							
VVLD	**Villa Vallelon**	**0.92 159**	⇓	P	Pg	08 17 04.6	-1.3	
MPAG	**Monte Paganucc**	**0.95 341**		P	Pb	08 17 06.7	-0.1	
SACS	**San Casciano d**	**0.95 277**	⇓	P	Pb	08 17 06.7	-0.1	
SACS				AML	AML			
	comp=E,84μm,0.5s							
SACS				AML	AML			
	comp=N,94μm,0.8s							
NARO	**Abbazia di Nar**	**0.98 333**	⇑	P	Pg	08 17 06.8	-0.2	
NARO				AML	AML			
	comp=E,59μm,1.2s							
NARO				AML	AML			
	comp=N,66μm,1.3s							
FSSB	**Fossombrone**	**1.00 343**		P	Pg	08 17 06.5	-1.0	
FSSB				AML	AML			
	comp=E,284μm,0.3s							
FSSB				AML	AML			
	comp=N,430μm,0.4s							
CAFI	**Castiglion Fio**	**1.07 304**	⇓	P	Pn	08 17 09.2	-0.2	
CAFI				S	Sn	08 17 26.0	+1.6	
CAFI				AML	AML			
	comp=E,108μm,1.5s							
CAFI				AML	AML			
	comp=N,84μm,0.4s							
PTRJ	**Pietraroja**	**1.69 143**		P	Pg	08 17 21.7	+1.0	

WEL 03 08:17:30.8±1.1,37°S±7′×17°9E±°,h20km±7km,M3.2/13, ML3.2/14,MLv3.2/13,Error ellipse: s-maj=0.0km s-min=0.0km az=121.8,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.77**	**227**	P	Pb	08 17 44.3	-1.1
MXZ				S	Sb	08 17 54.6	-0.8
WMGZ	**Waiomatatini S**	**0.91**	**212**	P	Pn	08 17 48.5	0.0
WMGZ				S	Sn	08 18 02.3	+1.3
PKGZ	**Pakihiroa**	**1.12**	**221**	P	Pb	08 17 51.6	-0.1
PKGZ				S	Sg	08 18 07.3	-0.1
PUZ	**Puketiti**	**1.19**	**210**	P	Pn	08 17 52.0	-0.4
PUZ				S	Sn	08 18 08.4	+0.4
HAZ	**Te Kaha**	**1.21**	**234**	P	Pg	08 17 53.8	-0.4
HAZ				S	Sg	08 18 10.5	+0.3
TWGZ	**Tauwhareparae**	**1.40**	**216**	P	Pn	08 17 55.6	+0.3
TWGZ				S	Sb	08 18 14.7	+1.0
RUGZ	**Raukumara Rang**	**1.41**	**229**	P	Pb	08 17 56.2	-0.2
CNGZ	**Carnagh Statio**	**1.57**	**204**	P	Pn	08 17 57.8	+0.2
TKGZ	**Te Karaka**	**1.67**	**213**	P	Pn	08 17 58.7	-0.2
MWZ	**Matawai**	**1.75**	**222**	P	Pn	08 18 00.1	+0.1
MWZ				S	Sn	08 18 21.0	-0.7
RAGZ	**Rawiri**	**1.92**	**221**	P	Pn	08 18 02.5	0.0
RIGZ	**Rimuhau**	**1.93**	**210**	P	Pn	08 18 02.0	-0.6
RIGZ				S	Sn	08 18 26.4	0.0
URZ	**Urewera**	**1.94**	**231**	P	Pn	08 18 03.1	+0.5
URZ				S	Sn	08 18 27.2	+0.9
PRGZ	**Paritu Road**	**2.08**	**205**	P	Pn	08 18 03.6	-1.0
SNGZ	**Shannon Statio**	**2.18**	**217**	P	Pn	08 18 05.0	-1.0
SNGZ				S	Sn	08 18 32.2	-0.2
RTZ	**Ruatahuna**	**2.25**	**225**	P	Pn	08 18 07.1	+0.2
MTHZ	**Maungataniwha**	**2.49**	**223**	P	Pn	08 18 10.5	+0.2
MTHZ				S	Sn	08 18 39.8	-0.3
KUZ	**Kuaotunu**	**2.66**	**275**	P	Pn	08 18 12.0	-0.5
NMHZ	**Naumai**	**2.69**	**220**	P	Pn	08 18 12.6	-0.4
NMHZ				S	Sn	08 18 45.0	-0.1
TOZ	**Tahuroa Road**	**2.88**	**255**	P	Pn	08 18 15.9	+0.3
BKZ	**Black Stump Fm**	**2.91**	**222**	P	Pn	08 18 15.2	-0.8
BKZ				S	Sn	08 18 49.1	-1.2
BKZ	**Black Stump Fm**	**2.91**	**222**	P	Pn	08 18 15.4	-0.6
MKAZ	**Moumakai**	**3.08**	**268**	P	Pn	08 18 19.3	+0.9
TUVZ	**Tukino**	**3.46**	**229**	P	Pn	08 18 22.1	-1.5

ROM 03 08:17:43.3±0.1,42°929N±0′003×13°242E±0′005, h9km,ML1.9/6,1C-1D,Error ellipse: s-maj=0.4km s-min=0.2km az=72.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.04**	**247**	P	Pg	08 17 45.4	0.0
MC2				S	Sg	08 17 46.7	-0.1
T1242	**Castelluccio d**	**0.10**	**195**	⇑P	Pg	08 17 46.4	+0.5
T1242				S	Sg	08 17 48.5	+0.6
GUMA	**Gualdo di Mace**	**0.15**	**27**	P	Pg	08 17 47.4	+0.8
GUMA				S	Sg	08 17 50.2	+1.3
GUMA				AML	AML		
	comp=E,1505μm,0.2s						
GUMA				AML	AML		
	comp=N,1345μm,0.3s						
FDMO	**Fiordimonte**	**0.16**	**314**	P	Pg	08 17 47.1	+0.4
FDMO				S	Sg	08 17 49.8	+0.8
T1241	**Roccafluvione,**	**0.16**	**117**	P	Pg	08 17 47.2	+0.5
T1241				S	Sg	08 17 49.8	+0.7
T1241				AML	AML		
	comp=E,581μm,1.6s						
T1241				AML	AML		
	comp=N,448μm,0.7s						
T1241				AML	AML		
	comp=E,548μm,1.6s						
T1241				AML	AML		
	comp=N,369μm,0.7s						
T1241				AML	AML		
	comp=N,370μm,0.7s						
CSP1	**Cessapalombo**	**0.17**	**351**	P	Pg	08 17 47.4	+0.4
CSP1				S	Sg	08 17 50.2	+0.8
T1244	**Arquata del Tr**	**0.18**	**166**	P	Pg	08 17 47.9	+0.8
T1244				S	Sg	08 17 51.1	+1.5
T1244				AML	AML		
	comp=E,817μm,0.2s						
T1244				AML	AML		
	comp=N,506μm,1.5s						
T1244				AML	AML		
	comp=E,817μm,0.3s						
T1202	**Accumoli, Fraz**	**0.23**	**183**	P	Pg	08 17 49.0	+1.1
T1202				S	Sg	08 17 53.1	+2.0
CESI	**CESI - Serrava**	**0.26**	**287**	P	Pg	08 17 49.2	+0.7
CESI				S	Sb	08 17 53.5	-1.3
CESI				AML	AML		
	comp=E,394μm,0.9s						
CESI				AML	AML		
	comp=N,840μm,0.3s						
T1204	**Amatrice, Fraz**	**0.26**	**168**	P	Pg	08 17 49.2	+0.6
T1204				S	Sb	08 17 53.6	-1.2
T1243	**Rocca Santa Ma**	**0.28**	**147**	⇓P	Pg	08 17 49.5	+0.6
T1215	**Vallo di Nera,**	**0.30**	**245**	P	Pg	08 17 50.0	+0.7
T1215				S	Sb	08 17 55.2	-0.8
LNSS	**Leonessa**	**0.36**	**205**	P	Pg	08 17 51.0	+0.6
LNSS				S	Sb	08 17 56.8	-0.9
MTL1	**Matelica**	**0.37**	**333**	S	Sb	08 17 58.0	+0.1
SNTG	**Esanatoglia**	**0.39**	**326**	P	Pg	08 17 51.5	+0.4
SNTG				S	Sb	08 17 58.0	-0.7
SNTG				AML	AML		
	comp=E,116μm,0.2s						
SNTG				AML	AML		
	comp=N,132μm,0.3s						
CAMP	**Campotosto**	**0.41**	**163**	P	Pg	08 17 51.5	+0.1
CAMP				S	Sg	08 17 58.0	+1.2
EL6	**Elcito**	**0.41**	**346**	P	Pg	08 17 51.6	+0.2
EL6				S	Sb	08 17 59.4	+0.1
ASSB	**Assisi San Ben**	**0.44**	**285**	P	Pg	08 17 52.4	+0.4
ASSB				S	Sb	08 17 59.7	-0.4
ASSB				AML	AML		
	comp=E,160μm,0.3s						
ASSB				AML	AML		
	comp=N,139μm,0.5s						
ATFO	**Monte Foce - G**	**0.66**	**312**	P	Pg	08 17 55.9	-0.2
ATFO				S	Sb	08 18 06.5	+0.2
VAGA	**Valle Agricola**	**1.68**	**154**	S	Sn	08 18 33.0	-1.7
CASP	**Castiglione de**	**1.75**	**266**	S	Sg	08 18 44.0	+4.4

WEL 03 08:18:39.5±1.0,37°S±5′×18°0E±°,h7km±7km,M3.5/32, ML3.8/39,MLv3.5/32,Error ellipse: s-maj=0.0km s-min=0.0km az=115.3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.15**	**247**	P	Pg	08 18 57.9	-3.6
MXZ				S	Sg	08 19 14.3	-2.1
WMGZ	**Waiomatatini S**	**1.19**	**234**	P	Pn	08 19 02.7	0.0
WMGZ				S	Sn	08 19 20.6	+1.4
PUZ	**Puketiti**	**1.45**	**229**	P	Pn	08 19 06.3	+0.1
PUZ				S	Sg	08 19 27.7	+1.6
PKGZ	**Pakihiroa**	**1.46**	**238**	P	Pn	08 19 05.7	-0.7
PKGZ				S	Sn	08 19 25.6	-0.1
HAZ	**Te Kaha**	**1.60**	**246**	P	Pn	08 19 08.2	-0.1
HAZ				S	Sb	08 19 29.6	-0.3
TWGZ	**Tauwhareparae**	**1.68**	**231**	P	Pn	08 19 09.7	+0.3
TWGZ				S	Sb	08 19 32.0	-0.3
CNGZ	**Carnagh Statio**	**1.77**	**219**	P	Pb	08 19 11.9	-0.4
RUGZ	**Raukumara Rang**	**1.77**	**241**	P	Pn	08 19 10.5	-0.2
RUGZ				S	Sn	08 19 32.5	-1.0
TKGZ	**Te Karaka**	**1.93**	**227**	P	Pn	08 19 12.8	0.0
TKGZ				S	Sb	08 19 39.5	+0.1
MWZ	**Matawai**	**2.06**	**233**	P	Pn	08 19 14.4	-0.3
MWZ				S	Sn	08 19 39.9	-0.8
RIGZ	**Rimuhau**	**2.17**	**223**	P	Pn	08 19 16.2	0.0
RAGZ	**Rawiri**	**2.23**	**231**	P	Pn	08 19 16.6	-0.4
RAGZ				S	Sn	08 19 44.7	-0.2
PRGZ	**Paritu Road**	**2.27**	**217**	P	Pn	08 19 17.9	+0.4
URZ	**Urewera**	**2.30**	**240**	P	Pn	08 19 17.1	-0.8
MHGZ	**Mahia Peninsul**	**2.44**	**213**	P	Pn	08 19 20.3	+0.4
KNZ	**Kokohu**	**2.45**	**219**	P	Pn	08 19 20.2	+0.3
SNGZ	**Shannon Statio**	**2.46**	**227**	P	Pn	08 19 19.9	-0.2
EDRZ	**Edgecumbe**	**2.50**	**246**	P	Pn	08 19 20.7	0.0
OPRZ	**Ohinepanea**	**2.55**	**253**	P	Pn	08 19 20.4	-0.9
RTZ	**Ruatahuna**	**2.58**	**234**	P	Pn	08 19 21.7	-0.1
MUGZ	**Murupara**	**2.64**	**238**	P	Pb	08 19 26.1	-1.1
RAHZ	**Arahi**	**2.69**	**228**	P	Pn	08 19 23.6	+0.3
MTHZ	**Maungataniwha**	**2.80**	**231**	P	Pn	08 19 24.9	0.0
ALRZ	**Allen Road**	**2.98**	**240**	P	Pn	08 19 26.1	-1.1
NMHZ	**Naumai**	**2.98**	**228**	P	Pn	08 19 27.3	0.0
ARHZ	**Aropaoanui**	**2.98**	**223**	P	Pn	08 19 27.1	-0.2
MRHZ	**Matea Rd**	**3.06**	**235**	P	Pn	08 19 27.9	-0.6
KUZ	**Kuaotunu**	**3.16**	**276**	P	Pn	08 19 26.7	-3.0
BKZ	**Black Stump Fm**	**3.21**	**230**	P	Pn	08 19 29.8	-0.7
TOZ	**Tahuroa Road**	**3.34**	**258**	P	Pn	08 19 30.2	-2.0
KWHZ	**Kaweka Forest**	**3.42**	**227**	P	Pn	08 19 32.8	-0.6
KAHZ	**Kahuranaki**	**3.44**	**218**	P	Pn	08 19 32.3	-1.3
GRZ	**Great Barrier**	**3.47**	**283**	P	Pn	08 19 36.3	+2.3
MKAZ	**Moumakai**	**3.57**	**269**	P	Pn	08 19 33.4	-2.0
WIAZ	**Waiheke Island**	**3.62**	**274**	P	Pn	08 19 37.5	+1.4
BHHZ	**Black Hill Sta**	**3.67**	**229**	P	Pn	08 19 36.1	-0.7
TMVZ	**Te Maari**	**3.68**	**236**	P	Pn	08 19 35.8	-1.2
ETVZ	**East Tongariro**	**3.69**	**236**	P	Pn	08 19 36.0	-1.1
KRVZ	**Karewarewa**	**3.71**	**237**	P	Pn	08 19 36.3	-1.2
NNVZ	**North Ngauruho**	**3.75**	**236**	P	Pn	08 19 37.6	-0.5
SNVZ	**South Ngauruho**	**3.76**	**236**	P	Pn	08 19 37.2	-0.9
ETAZ	**East Tamaki Re**	**3.77**	**271**	P	Pn	08 19 37.1	-1.0
MBAZ	**Motutapu North**	**3.81**	**274**	P	Pn	08 19 40.7	+2.1
ABAZ	**Army Bay**	**3.88**	**276**	P	Pn	08 19 42.7	+3.0
PRHZ	**Porangahau**	**3.92**	**216**	P	Pn	08 19 39.1	-1.0
AWAZ	**Awhitu Peninsu**	**3.99**	**269**	P	Pn	08 19 40.1	-1.0
HIZ	**Hauiti**	**4.03**	**248**	P	Pn	08 19 41.6	-0.1
RVAZ	**Riverhead Bore**	**4.06**	**273**	P	Pn	08 19 41.1	-1.1
WCZ	**Waipu Caves**	**4.42**	**284**	P	Pn	08 19 47.8	+0.7
KHEZ	**Kahui Hut**	**4.93**	**242**	P	Pn	08 19 55.6	+1.4
OUZ	**Omahuta**	**5.24**	**289**	P	Pn	08 20 01.0	+2.7

*BJI **03** 08:18:37.0±0.0,29°.30S×61°.00E,h5km,mb4.9/40, mB5.0/20,Ms5.0/22,Ms7 4.6/23*
*IDC **03** 08:18:38.1±0.4,29°.23S×61°.05E,h0km,mb4.8/27, mbtmp4.8/28,ML5.4/1,MS4.4/63,Error ellipse: s-maj=15.3km s-min=11.8km az=15.0*
*MOS **03** 08:18:38.2±0.8,29°.21S×61°.05E,h10km,mb5.2/59, MS4.4/4,Error ellipse: s-maj=12.3km s-min=5.5km az=92.0*
*NEIC **03** 08:18:40.5±1.6,29°.17S±0°.09×61°.0E±0°.1,h10km±1km, mb5.1/78,Error ellipse: s-maj=16.6km s-min=14.2km az=240.0*
*GCMT **03** 08:18:41.5±0.2,29°.22S±0°.01×60°.86E±0°.02,h12km, MW5.2/117,Moment Tension Solution. s77,c95; s117,c184; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.47±.14; Mθθ6.94±.11; Mϕϕ-1.46±.14; Mrθ 1.80±.33; Mθϕ1.86±.12; Mϕr2.87±.45; Best double couple: M₀7.39000×10¹⁶ NP1₍ϕs235.00000°,δ60.00000°, λ-118.00000°. NP2₍ϕs102.00000°,δ40.00000°, λ-51.00000°. Principal axes: T 7.7730, Plg11.0000°, Azm345.0000°; N -0.7550, Plg24.0000°, Azm251.0000°; P -7.0070, Plg63.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 08:18:40.3±0.3,29°16S±0°05×60°97E±0°.06,h10km,n498, σ1°14/470,mb5.1/137,MS4.5/75,50C-4D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.26**	**328**		**Pn**	**08 20 51.6**	**-2.6**
FOMA	**Nahampooana Res**	**13.14**	**285**	Pn	**Pn**	**08 21 44.8**	**-2.3**
VOI	**Vohitsoka**	**14.68**	**296**	Pn	**Pn**	**08 22 08.2**	**-0.1**
VOI	**Vohitsoka**	**14.68**	**296**	P	**Pn**	**08 22 08.8**	**+0.4**
OPO	**Ambohidratompo** 1.3nm,0.3s,baz=118,slow=14,SNR=36	**16.41**	**307**	Pn	**Pn**	**08 22 30.8**	**-0.3**
OPO	1.5nm,0.3s,baz=107,slow=17,SNR=10.0			Sn	Sn	08 25 20.3	-13
OPO	comp=Z,804nm,19.1s,baz=14,slow=34 30nm,0.4s			LR	LR	08 27 50.6	
H08S1	**Diego Garcia H** baz=255,slow=7.4,SNR=19	**23.99**	**29**	P	**P**	**08 23 55.6**	**+0.6**
H08S1	baz=204,slow=76,SNR=176			T	T	08 48 38.2	
H08S2	**Diego Garcia H** baz=255,slow=7.4,SNR=31	**24.00**	**29**	P	**P**	**08 23 55.7**	**+0.6**
H08S2	baz=204,slow=76,SNR=47			T	T	08 48 38.9	
H08S3	**Diego Garcia H** baz=255,slow=7.4,SNR=20	**24.01**	**29**	P	**P**	**08 23 56.0**	**+0.8**
H08S3	baz=204,slow=76,SNR=88			T	T	08 48 39.7	
H08S3	**Diego Garcia H**	**24.01**	**29**	P	**P**	**08 23 56.0**	**+0.8**

MSEY	**Mahe Island**	**24.91**	**347**	P	**P**	**08 24 02.9**	**-0.8**	
MSEY	**Mahe Island**	**24.91**	**347**	P	**P**	**08 24 02.9**	**-0.8**	
MSEY				pmax	pmax			
	comp=Z,121nm,1.4s							
POGA	**Pongola**	**25.81**	**267**	P	**P**	**08 24 11.6**	**-0.2**	
POGA				IAmb	IAmb	08 24 38.7		
	comp=Z,24nm,0.8s							
SOE	**Somerset East**	**30.49**	**254**	P	**P**	**08 24 53.8**	**+0.2**	
SOE				IAmb	IAmb	08 25 04.8		
	comp=Z,38nm,1.1s							
MATP	**Matopo**	**30.65**	**279**	P	**P**	**08 24 54.7**	**-0.6**	
	comp=Z,5.9nm,0.6s,baz=122,slow=8.1,SNR=21							
	comp=Z,5.9nm,0.6s							
BOSA	**Boshof**	**31.20**	**262**	P	**P**	**08 25 00.2**	**+0.1**	
	comp=Z,17nm,0.8s,baz=106,slow=8.3,SNR=27							
BOSA				LR	LR	08 35 43.9		
	comp=Z,1μm,19.3s,baz=102,slow=33 comp=Z,17nm,0.8s							
BOSA	**Boshof**	**31.20**	**262**	P	**P**	**08 25 00.2**	**+0.1**	
BOSA				IAmb	IAmb	08 25 03.4		
	comp=Z,20nm,0.8s							
BOSA	**Boshof**	**31.20**	**262**	P	**P**	**08 25 00.2**	**+0.1**	
BOSA				pmax	pmax			
	comp=Z,19nm,0.8s							
LBTB	**Lobatse**	**31.68**	**269**	P	**P**	**08 25 03.7**	**-0.6**	
	comp=Z,11nm,0.7s,baz=112,slow=10,SNR=15							
LBTB				LR	LR	08 35 54.9		
	comp=Z,414nm,20.6s,baz=108,slow=33 comp=Z,11nm,0.7s							
LBTB	**Lobatse**	**31.68**	**269**	P	**P**	**08 25 03.4**	**-0.9**	
LBTB				IAmb	IAmb	08 25 08.2		
	comp=Z,14nm,0.8s							
LBTB	**Lobatse**	**31.68**	**269**	P	**P**	**08 25 03.4**	**-0.9**	
LBTB				pmax	pmax			
	comp=Z,14nm,0.8s							
LSZ	**Lusaka**	**33.21**	**287**	P	**P**	**08 25 17.9**	**+0.1**	
	comp=Z,28nm,0.9s,baz=130,slow=8.8,SNR=31							
LSZ				LR	LR	08 37 58.9		
	comp=Z,489nm,18.1s,baz=129,slow=35 comp=Z,28nm,0.9s							
LSZ	**Lusaka**	**33.21**	**287**	P	**P**	**08 25 17.6**	**-0.2**	
LSZ				IAmb	IAmb	08 25 22.7		
	comp=Z,34nm,0.9s							
KIBK	**Kibwezi**	**34.45**	**317**	P	**P**	**08 25 29.1**	**+0.5**	
KIBK				IAmb	IAmb	08 25 35.2		
	comp=Z,21nm,0.7s							
SUR	**Sutherland**	**34.51**	**254**	P	**P**	**08 25 28.6**	**-0.5**	
	comp=Z,9.3nm,1.1s,baz=95,slow=11,SNR=6.6							
SUR				LR	LR	08 37 16.2		
	comp=Z,783nm,18.9s,baz=106,slow=32 comp=Z,9.3nm,1.1s							
KMBO	**Kilima Mbogo**	**35.90**	**317**	P	**P**	**08 25 41.0**	**-0.1**	
	comp=Z,9.7nm,0.3s,baz=131,slow=20,SNR=11							
KMBO				LR	LR	08 37 49.0		
	comp=Z,1μm,19.5s,baz=114,slow=32 comp=Z,9.7nm,0.3s							
KMBO	**Kilima Mbogo**	**35.90**	**317**	P	**P**	**08 25 40.7**	**-0.4**	
KMBO	**Kilima Mbogo**	**35.90**	**317**	P	**P**	**08 25 40.7**	**-0.4**	
KMBO				pmax	pmax			
	comp=Z,11nm,0.8s							
MAW	**Mawson**	**38.48**	**179**	P	**P**	**08 26 01.3**	**-0.9**	
	comp=Z,10nm,1.0s,baz=0.5,slow=11,SNR=12							
MAW				LR	LR	08 38 40.6		
	comp=Z,852nm,18.7s,baz=6.0,slow=31 comp=Z,10nm,1.0s							
MAW	**Mawson**	**38.48**	**179**	P	**P**	**08 26 02.1**	**-0.1**	
MAW	**Mawson**	**38.48**	**179**	P	**P**	**08 26 02.1**	**-0.1**	
MAW				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MBAR	**Mbarara**	**40.47**	**309**	LR	LR	08 41 36.1		
	comp=Z,797nm,19.6s,baz=118,slow=34							
TSUM	**Tsumeb**	**40.60**	**274**	P	**P**	**08 26 21.0**	**+0.3**	
	comp=Z,13nm,0.9s,baz=122,slow=5.6,SNR=13							
TSUM				LR	LR	08 41 21.0		
	comp=Z,779nm,20.6s,baz=146,slow=34 comp=Z,13nm,0.9s							
TSUM	**Tsumeb**	**40.60**	**274**	P	**P**	**08 26 20.8**	**+0.1**	
TSUM				IAmb	IAmb	08 26 32.5		
	comp=Z,37nm,1.2s							
LODK	**Lodwar**	**40.66**	**319**	P	**P**	**08 26 22.2**	**+1.1**	
PCHI	**Peechi**	**42.16**	**23**	*e*P	P	08 26 40.3	+7.0	
PCHI				*e*S	S	08 32 39.6	-14	
ATD	**Arta Tunnel**	**44.08**	**334**	LR	LR	08 42 33.3		
	comp=Z,954nm,19.9s,baz=162,slow=32							
H01W2	**Cape Leeuwin H** baz=261,slow=75,SNR=139	**45.00**	**112**	T	T	09 14 38.1		
H01W3	**Cape Leeuwin H** baz=261,slow=75,SNR=120	**45.01**	**111**	T	T	09 14 31.8		
H01W1	**Cape Leeuwin H** baz=261,slow=75,SNR=122	**45.02**	**112**	T	T	09 14 32.7		
XMIS	**Christmas Isla**	**45.64**	**75**	P	**P**	**08 27 00.4**	**-1.0**	
SHAO	**Shalim**	**47.19**	**353**	P	**P**	**08 27 12.1**	**-1.3**	
NWAO	**Narrogin (SRO)**	**47.88**	**109**	LR	LR	08 44 13.8		
	comp=Z,386nm,18.2s,baz=108,slow=32							
PSI	**Prapat**	**48.30**	**55**	LR	LR	08 43 42.0		
	comp=Z,231nm,20.0s,baz=222,slow=31							
DBJI	**Dramaga**	**48.63**	**72**	P	**P**	**08 27 24.7**	**0.0**	
	comp=Z,109μmcomp=Z,96nm,0.9s							
CBJI	**Citeko**	**48.78**	**72**	P	**P**	**08 27 25.6**	**-0.3**	
	comp=Z,8μmcomp=Z,100nm,0.4s							
LEM	**Lembang**	**49.20**	**73**	LR	LR	08 44 00.2		
	comp=Z,145nm,20.7s,baz=194,slow=31							
HYBB	**Hyderabad (bro**	**49.33**	**22**	*e*P	**P**	**08 27 30.0**	**+0.1**	
NVL	**N'lazarevskaya**	**49.68**	**199**	*e*P	**P**	**08 27 34.0**	**+2.0**	
NVL				*e*S	**S**	**08 34 35.7**	**-4.6**	
NVL				pmax	pmax			
	comp=Z,11nm,0.8s							
WSAR	**Wadi Sarin**	**52.15**	**357**	LR	LR	08 44 26.7		
	comp=Z,295nm,21.9s,baz=202,slow=30							
MZR	**Muzera** SNR=21	**52.36**	**351**	*i* P	**P**	**08 27 52.8**	**+0.2**	
TROLL	**Troll, Antarti**	**52.91**	**199**	P	**P**	**08 27 55.6**	**-0.8**	
SOHO	**SOHO**	**53.16**	**355**	P	**P**	**08 27 58.3**	**-0.2**	
ASHO	**Ashiyiah**	**53.74**	**354**	P	**P**	**08 28 02.7**	**-0.2**	
ASUD	**Al Ashush, Dub**	**53.75**	**354**	P	**P**	**08 28 03.5**	**+0.7**	
HATD	**Hatta, Dubai** SNR=9.3	**53.88**	**355**	*i* P	**P**	**08 28 03.8**	**0.0**	
UOSS	**Minazif**	**53.99**	**355**	P	**P**	**08 28 04.4**	**-0.3**	
UOSS	**Minazif**	**53.99**	**355**	P	**P**	**08 28 04.1**	**-0.5**	
NAZ	**Nazwa, Dubai** SNR=6.3	**54.08**	**354**	*i* P	**P**	**08 28 05.2**	**-0.1**	
SNAA	**Sanae**	**54.41**	**200**	P	**P**	**08 28 06.5**	**-0.7**	
SNAA	**Sanae**	**54.41**	**200**	LR	LR	08 46 06.4		
	comp=Z,525nm,21.9s,baz=96,slow=30							
SNAA	**Sanae**	**54.41**	**200**	P	**P**	**08 28 06.

RAMN Ramite 60.97 26 *e*P P 08 28 54.0 -0.1
comp=Z,78nm,0.7s
QSPA **South Pole Qui** 60.99 180 LR LR 08 51 41.2
comp=Z,641nm,21.0s,baz=274,slow=32
QSPA South Pole Qui 60.99 180 P P 08 28 52.8 -1.0
QSPA IAmb IAmb 08 28 59.9
comp=Z,22nm,0.9s
DMN Daman 61.00 25 *e*P P 08 28 54.4 0.0
PKI Pulchoki 61.08 25 *e*P P 08 28 54.3 -0.7
PKIN Phulchoki 61.08 25 *e*P P 08 28 54.3 -0.6
GKN Gorkha 61.19 24 *e*P P 08 28 54.7 -0.8
comp=Z,108nm,0.7s
ODAN Odare 61.20 27 *e*P P 08 28 55.8 +0.2
comp=Z,6.5nm,0.9s
DANN Dangsing 61.21 23 *e*P P 08 28 55.4 -0.4
comp=Z,158nm,0.7s
KKN Kakani 61.23 25 *e*P P 08 28 55.9 +0.1
comp=Z,7.7nm,0.9s
JIRN Jiri 61.45 25 *e*P P 08 28 57.2 -0.3
comp=Z,45nm,0.7s
GUN Gumba 61.56 25 *e*P P 08 28 58.1 -0.1
comp=Z,72nm,0.9s
TAPN Taplejung 61.76 27 *e*P P 08 29 00.0 +0.5
comp=Z,50nm,0.8s
SHL Shillong 61.99 32 P P 08 29 01.5 +0.5
SHL Shillong 61.99 32 P P 08 29 01.5 +0.5
SHL pmax pmax
comp=Z,27nm,0.6s
BELA Belgrano 2 62.88 194 P P 08 29 06.9 +0.7
BBOO Buckleboo 63.20 114 P P 08 29 07.9 -1.0
HRA Herat 63.22 1 P P 08 29 09.0 -0.1
HRA IAmb IAmb 08 29 10.2
comp=Z,7.0nm,0.8s
KNRA Kununurra 63.35 94 P P 08 29 08.8 -1.4
NIL Nilore 63.55 11 P P 08 29 10.1 -0.9
NIL Nilore 63.55 11 P P 08 29 10.1 -0.9
NIL pmax pmax
comp=Z,30nm,1.0s
EIL Elat 63.56 335 LR LR 08 53 38.5
comp=Z,488nm,19.6s,baz=102,slow=33
KBL Kabul 63.82 7 P P 08 29 13.3 +0.3
KBL IAmb IAmb 08 29 15.0
comp=Z,16nm,0.9s
KBL Kabul 63.82 7 P P 08 29 13.3 +0.3
KBL pmax pmax
comp=Z,16nm,1.0s
VNDA Vanda 64.07 166 P P 08 29 13.2 -0.8
comp=Z,4.9nm,0.7s,baz=270,slow=6.8,SNR=27
VNDA LR LR 08 55 17.3
comp=Z,818nm,18.2s,baz=252,slow=34
comp=Z,4.9nm,0.7s
VNDA Vanda 64.07 166 P P 08 29 12.9 -1.1
VNDA IAmb IAmb 08 29 24.0
comp=Z,11nm,0.9s
ASAR Alice Springs 64.61 104 P P 08 29 16.8 -1.7
comp=Z,16nm,0.8s,baz=244,slow=6.2,SNR=139
ASAR LR LR 08 54 02.3
comp=Z,223nm,19.2s,baz=266,slow=33
comp=Z,16nm,0.8s
ASAR Alice Springs 64.61 104 P P 08 29 16.9 -1.5
ASAR Alice Springs 64.61 104 P P 08 29 16.9 -1.5
AS31 Alice Springs 64.61 104 P P 08 29 16.8 -1.6
SBA Scott Base 64.95 167 P P 08 29 19.6 0.0
SBA IAmb IAmb 08 29 30.9
comp=Z,9.8nm,0.8s
SBA Scott Base 64.95 167 P P 08 29 19.7 0.0
SBA pmax pmax
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 66.43 100 P P 08 29 28.9 -1.4
comp=Z,14nm,0.9s,baz=247,slow=5.5,SNR=56
WRA LR LR 08 54 01.2
comp=Z,567nm,20.8s,baz=230,slow=32
comp=Z,14nm,0.9s
WRA Warramunga Arr 66.43 100 P P 08 29 28.8 -1.4
WRAB Tennant Creek 66.45 100 *ce*P P 08 29 29.8 -0.5
WRAB pmax pmax
comp=Z,25nm,1.0s
WR0 Warramunga Arr 66.60 101 P P 08 29 29.6 -1.7
WR0 IAmb IAmb 08 29 31.7
comp=Z,14nm,0.9s
GEYT Alibeck 66.80 358 P P 08 29 32.2 +0.2
comp=Z,5.3nm,0.7s,baz=197,slow=9.0,SNR=8.6
GEYT LR LR 08 57 22.2
comp=Z,187nm,18.7s,baz=180,slow=35
comp=Z,5.3nm,0.7s
GEYT Alibeck 66.80 358 P P 08 29 31.7 -0.3
QIZ Qiongzhong 67.23 51 P P 08 29 37.5 +2.4
QIZ S S 08 38 31.4 +1.2
QIZ LR LR
comp=Z,280nm,22.3s
QIZ LR LR
comp=Z,220nm,15.9s
QIZ LR LR
comp=Z,180nm,28.7s
KMI Kunming 67.26 41 ⇑P P 08 29 36.6 +1.1
KMI pmax pmax
comp=Z,11nm,0.8s
KMI LR LR
comp=Z,220nm,18.3s
KMI LR LR
comp=Z,140nm,15.0s
KMI LR LR
comp=Z,240nm,16.3s
PZH PanZhiHua 67.77 39 P P 08 29 38.8 +0.2
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.5s
CHGR Chuyangaron 67.90 7 P P 08 29 39.5 +0.5
CHGR IAmb IAmb 08 29 41.4
comp=Z,17nm,0.8s
CHGR Chuyangaron 67.90 7 P P 08 29 39.6 +0.5
CHGR pmax pmax
comp=Z,17nm,0.8s
STKA Stephens Creek 67.92 115 P P 08 29 37.7 -1.8
comp=Z,6.6nm,0.8s,baz=239,slow=6.1,SNR=7.5
STKA LR LR 08 54 07.1
comp=Z,228nm,20.5s,baz=231,slow=31
comp=Z,6.6nm,0.8s
GAR Garm 68.37 8 P P 08 29 41.6 -0.4
GAR IAmb IAmb 08 29 42.9
comp=Z,17nm,1.0s
MARD Mardin 68.79 343 P P 08 29 44.7 0.0
MARD IAmb IAmb 08 29 48.9
comp=Z,15nm,0.9s
CSS Mathiatis 68.91 336 P P 08 29 45.3 0.0
BTK Batken 69.47 8 P P 08 29 49.4 +0.5
BTK Batken 69.47 8 P P 08 29 49.4 +0.5
BTK pmax pmax
comp=Z,11nm,1.2s
GURO Guroymak-BITLI 69.65 344 P P 08 29 50.5 +0.4
GURO IAmb IAmb 08 29 54.4
comp=Z,18nm,0.8s
KSH Kashi 69.74 12 P P 08 29 47.8 -2.8
KSH pmax pmax
comp=Z,50nm,0.8s
KSH LR LR
comp=Z,570nm,18.9s
KSH LR LR
comp=Z,300nm,17.9s
KSH LR LR
comp=Z,680nm,20.3s
GYA Guiyang 70.56 43 *e*P P 08 29 59.6 +3.7
GYA pmax pmax
comp=Z,11nm,1.0s
GNI Garni 70.59 347 LR LR 08 59 15.9
comp=Z,508nm,19.9s,baz=178,slow=34
GNI Garni 70.59 347 P P 08 29 57.0 +1.3
GNI Garni 70.59 347 P P 08 29 57.1 +1.3
GNI pmax pmax
comp=Z,49nm,1.3s
GNI Garni 70.59 347 P P 08 29 57.3 +1.5
TOA0 Torodi Ar. Sit 70.99 298 P P 08 29 58.5 -0.1
TOA0 IAmb IAmb 08 30 00.5
comp=Z,23nm,0.8s
TORD Torodi Ar. Bea 70.99 298 P P 08 29 58.4 -0.2
comp=Z,21nm,0.8s,baz=115,slow=5.0,SNR=99
TORD PP PP 08 32 25.6 -11
comp=Z,0.6nm,0.8s,baz=132,slow=8.8,SNR=1.7
TORD LR LR 09 00 55.3
comp=Z,1μm,19.4s,baz=177,slow=36
comp=Z,21nm,0.8s
KOPT Kop Dagi 71.41 344 P P 08 30 01.9 +1.0
KOPT IAmb IAmb 08 30 03.8
comp=Z,16nm,1.0s
IUG Iuzhnay 71.45 7 *e*P P 08 30 00.8 -0.1
baz=7.0
NRN Naryn 71.61 12 P P 08 30 01.8 -0.4
NRN Naryn 71.61 12 P P 08 30 01.8 -0.4
NRN pmax pmax
comp=Z,6.0nm,0.9s
BNN Bunyan 71.61 340 P P 08 30 01.9 -0.1
AML Almayashu 71.91 10 P P 08 30 04.7 +0.7
SNR=11
UCH Uchtor 72.13 11 P P 08 30 06.8 +1.3
SNR=6.6
KIC Kosan Boka 72.28 288 ⇓*e*P P 08 30 07.6 +1.1
comp=Z,14nm,0.7s
CD2 Chengdu 72.31 38 *e*P P 08 30 08.0 +1.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
DZA Taraz 72.33 8 *e*P P 08 30 06.2 +0.1
DZA pmax pmax
comp=Z,11nm,0.6s
DZA Taraz 72.33 8 *e*P P 08 30 06.3 +0.1
comp=Z,11nm,0.6s,baz=7.9
GOMU GeErMu 72.39 28 P P 08 30 08.1 +1.0
GOMU sP pwP 08 30 12.6 -2.0
GOMU S S 08 39 32.4 +1.4
GOMU pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 72.44 10 P P 08 30 07.5 +0.7
SNR=24
KK31 Karatay Array 72.44 7 P P 08 30 06.8 +0.1
KK31 IAmb IAmb 08 30 08.8
comp=Z,16nm,0.9s
KK31 Karatay Array 72.44 7 *i* P P 08 30 07.2 +0.4
KKAR Karatay Array 72.44 7 P P 08 30 07.0 +0.2
KKAR Karatay Array 72.44 7 P P 08 30 07.0 +0.2
LIC Lamto 72.45 288 ⇑*i*P P 08 30 08.8 +1.4
comp=Z,45nm,0.8s
AAK Ala-Archa 72.52 10 P P 08 30 08.1 +0.7
SNR=7.8
AAK Ala-Archa 72.52 10 LR LR 08 58 32.5
comp=Z,193nm,19.8s,baz=198,slow=33
AAK Ala-Archa 72.52 10 P P 08 30 07.7 +0.3
AAK IAmb IAmb 08 30 09.8
comp=Z,15nm,1.0s
AAK Ala-Archa 72.52 10 *ce*P P 08 30 08.2 +0.8
AAK pmax pmax
comp=Z,20nm,1.3s
AAK Ala-Archa 72.52 10 *i* P P 08 30 08.3 +0.9
SNR=8.6
DBIC Dimbokro 72.55 288 P P 08 30 07.8 -0.2
comp=Z,12nm,0.8s,baz=133,slow=6.9,SNR=8.9
DBIC LR LR 09 01 41.0
comp=Z,284nm,18.8s,baz=138,slow=36
comp=Z,12nm,0.8s
DBIC Dimbokro 72.55 288 P P 08 30 08.7 +0.7
DBIC IAmb IAmb 08 30 21.6
comp=Z,28nm,1.1s
DBIC Dimbokro 72.55 288 P P 08 30 08.7 +0.7
DBIC pmax pmax
comp=Z,28nm,1.2s
TIC Toumodi 72.67 288 ⇓*e*P P 08 30 09.1 +0.3
comp=Z,26nm,0.8s
MAK Makhachkala 72.83 350 *e*P P 08 30 04.4 -4.6
MAK *e* 08 32 47.6
MAK *e*S S 08 39 30.8 -4.1
MAK *e*SS SS 08 44 15.4 -0.3
MAK *e*SSS SSS 08 47 25.7
MAK pmax pmax
comp=Z,99nm,1.1s
MAK MLR MLR
comp=Z,242nm,18.0s
TKM2 Tokmak 2 72.98 11 P P 08 30 10.3 +0.1
SNR=15
TKM2 Tokmak 2 72.98 11 *i* P P 08 30 10.0 -0.2
TKM2 pmax pmax
comp=Z,14nm,0.8s
BR131 Keskin Array S 73.10 338 P P 08 30 10.2 -0.7
BR131 IAmb IAmb 08 30 12.2
comp=Z,18nm,0.8s
BR131 Keskin Array S 73.10 338 *i* P P 08 30 10.3 -0.6
BRTR Keskin Array B 73.10 338 P P 08 30 10.4 -0.6
comp=Z,9.5nm,0.7s,baz=161,slow=8.3,SNR=36
BRTR PP PP 08 32 52.0 -2.2
comp=Z,0.5nm,0.4s,baz=147,slow=3.4,SNR=1.8
BRTR LR LR 08 59 39.6
comp=Z,240nm,20.1s,baz=150,slow=34
comp=Z,9.5nm,0.7s
BRTR Keskin Array B 73.10 338 *ce*P P 08 30 10.8 -0.1
BRTR pmax pmax
comp=Z,10.0nm,0.7s
USP Ospenovka 73.14 10 P P 08 30 11.3 +0.3
SNR=13
ZEI Tsey 73.30 347 *e*P P 08 30 12.8 +0.7
ZEI pmax pmax
comp=Z,18nm,1.3s
SGDS Sogindy 73.34 10 *e*P P 08 30 11.7 -0.4
SGDS Sogindy 73.34 10 *e*P P 08 30 11.7 -0.4
baz=10
GROC Groznyy 73.35 348 *e*P P 08 30 12.7 +0.6
GROC *e* 08 32 56.3
GROC pmax pmax
comp=Z,111nm,1.0s
MDOK Medeo 73.47 12 P P 08 30 12.8 -0.2
MDOK Medeo 73.47 12 *e*P P 08 30 12.8 -0.2
baz=12
AAA Alma-Ata 73.49 12 *e*P P 08 30 13.0 0.0
AAA pmax pmax
comp=Z,17nm,0.6s
AAA Alma-Ata 73.49 12 *e*P P 08 30 13.0 0.0
comp=Z,17nm,0.6s,baz=12
SATY Saty 73.64 13 *e*P P 08 30 13.9 0.0
SATY pmax pmax
comp=Z,9.0nm,0.9s
SATY Saty 73.64 13 *e*P P 08 30 14.0 0.0
comp=Z,9.1nm,0.9s,baz=13
UZB Uzynbulak 73.84 14 *e*P P 08 30 14.9 -0.3
UZB Uzynbulak 73.84 14 *e*P P 08 30 14.9 -0.3
baz=14
SHLS Shalkode 73.95 14 *e*P P 08 30 16.5 +0.8
SHLS pmax pmax
comp=Z,9.0nm,0.7s
SHLS Shalkode 73.95 14 *e*P P 08 30 16.6 +0.8
comp=Z,9.2nm,0.7s,baz=14
KUU Kurty 74.05 11 *e*P P 08 30 15.6 -0.6
KUU pmax pmax
comp=Z,13nm,0.8s
KUU Kurty 74.05 11 *e*P P 08 30 15.7 -0.6
comp=Z,14nm,0.8s,baz=12
KPKS Kokpek 74.08 13 *e*P P 08 30 16.2 -0.3
KPKS Kokpek 74.08 13 *e*P P 08 30 16.3 -0.3
baz=13
PDGK Podgornoye 74.12 14 P P 08 30 16.5 -0.3
CHKK Chushkaly 74.13 12 *e*P P 08 30 15.9 -0.8
CHKK Chushkaly 74.13 12 *e*P P 08 30 15.9 -0.8
baz=12
BORA Eskisehir 74.32 336 P P 08 30 18.2 +0.2
BORA IAmb IAmb 08 30 19.6
comp=Z,12nm,0.8s
DIKM Dikmen 74.36 340 ⇑P P 08 30 18.2 +0.1
KBZ Khabaz 74.41 347 P P 08 30 18.4 +0.1
comp=Z,6.9nm,0.7s,baz=179,slow=4.8,SNR=10
KBZ LR LR 09 01 16.0
comp=Z,535nm,21.5s,baz=152,slow=34
comp=Z,6.9nm,0.7s
KBZ Khabaz 74.41 347 *ce*P P 08 30 17.4 -0.8
KBZ pmax pmax
comp=Z,10.0nm,1.0s
SHA1 Shidzhatmaz 74.46 346 *i* P P 08 30 19.7 +0.8
MDUB Mudurnu 74.59 337 P P 08 30 18.6 -0.9
KVAR Kislovodsk Arr 74.66 346 LR LR 09 02 11.8
comp=Z,268nm,20.2s,slow=35
KIV Kislovodsk 74.67 346 ⇑P P 08 30 20.1 +0.2
KIV Kislovodsk 74.67 346 *i* P P 08 30 19.6 -0.3
KIV *i* 08 30 27.7
KIV *i* 08 30 32.9
KIV *i* 08 33 07.7
KIV pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 74.67 346 P P 08 30 20.6 +0.7
BTLS Baital 74.81 10 *e*P P 08 30 20.2 -0.3
BTLS pmax pmax
comp=Z,7.0nm,0.9s
BTLS Baital 74.81 10 *e*P P 08 30 20.3 -0.3
comp=Z,7.3nm,0.9s,baz=9.5
SOC Sochi 74.97 344 *e*P P 08 30 19.9 -1.6
SOC *e**PP pP 08 30 23.0 -0.4
SOC *e*S S 08 39 54.1 -4.9
SOC pmax pmax
comp=Z,18nm,1.2s
SOC MLR MLR
comp=Z,164nm,18.0s
TDK Taldyqorghan 75.50 13 *e*P P 08 30 24.4 -0.2
TDK pmax pmax
comp=Z,12nm,0.6s
TDK Taldyqorghan 75.50 13 *e*P P 08 30 24.4 -0.2
comp=Z,12nm,0.6s,baz=13
GOF Gofitskoye 75.65 347 ⇑*e*P P 08 30 31.2 +5.8
SMAI San Martin Ant 75.67 198 P P 08 30 25.4 0.0
SMAI IAmb IAmb 08 30 41.4
comp=Z,10nm,0.8s
KOWA Kowa 76.25 295 LR LR 09 04 08.4
comp=Z,323nm,19.7s,baz=120,slow=36
KOWA Kowa 76.25 295 P P 08 30 30.3 +0.8
LZH Lanzhou 76.42 35 *e*P P 08 30 32.0 +1.8
LZH pP pwP 08 30 38.1 +0.3
LZH S S 08 40 11.5 -4.2
LZH SS SS 08 45 11.0 +0.1
LZH pmax pmax
comp=Z,16nm,1.4s
LZH LR LR
comp=Z,190nm,16.5s
LZH LR LR
comp=Z,220nm,16.8s
LZH LR LR
comp=Z,280nm,18.9s
CTA Charters Tower 76.52 106 LR LR 09 01 49.9
comp=Z,156nm,18.1s,baz=238,slow=34
WMQ Urumqi 76.65 20 *e*P P 08 30 35.1 +3.9
WMQ LR LR
comp=Z,610nm,26.9s
WMQ LR LR
comp=Z,690nm,26.3s
WMQ LR LR
comp=Z,240nm,20.7s
PMSA Palmer Station 77.12 201 LR LR 08 57 11.3
comp=Z,152nm,20.6s,baz=142,slow=30
GTA Gaotai 77.22 30 *e*P P 08 30 35.8 +1.1
GTA pP pwP 08 30 42.7 +0.5
GTA sP PcP 08 30 47.2 +1.9
GTA S S 08 40 23.8 -0.5
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,80nm,7.2s
GTA LR LR
comp=Z,190nm,21.4s
GTA LR LR
comp=Z,130nm,21.4s
GTA LR LR
comp=Z,180nm,19.6s
OTUK Ortayu 77.73 8 P P 08 30 36.8 -0.3
MAKZ Makanchi 77.97 15 P P 08 30 38.1 -0.4
MAKZ Makanchi 77.97 15 P P 08 30 38.1 -0.4
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 78.02 15 P P 08 30 38.0 -0.8
MK31 Makanchi Array 78.02 15 *i* P P 08 30 38.1 -0.7
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 78.02 15 P P 08 30 38.6 -0.2
comp=Z,6.8nm,0.8s,baz=197,slow=3.8,SNR=54
MKAR LR LR 09 02 46.2
comp=Z,219nm,19.9s,baz=228,slow=34
comp=Z,6.8nm,0.8s
MKAR Makanchi Array 78.02 15 P P 08 30 37.7 -1.1
AB31 Akbulak array 78.07 359 *i* P P 08 30 38.6 -0.4
ABKAR Akbulak array 78.07 359 P P 08 30 38.6 -0.3
KEK Kerkira 78.50 329 P P 08 30 41.6 0.0
TIRR Tirgusor 79.07 337 ⇑P P 08 30 44.5 -0.1
TIRR Tirgusor 79.07 337 P P 08 30 44.3 -0.3
TIRR Tirgusor 79.07 337 P P 08 30 44.3 -0.3
TIRR pmax pmax
comp=Z,81nm,0.9s
RAFF Raffo Rosso 79.18 324 P P 08 30 46.2 +0.7
JURR Jurilovca 79.19 337 ⇑P P 08 30 45.0 -0.2
ZSN Zaisan 79.24 16 *e*P P 08 30 45.5 0.0
ZSN Zaisan 79.24 16 *e*P P 08 30 45.6 0.0
baz=16
AKTO Aktyubinsk 79.29 358 P P 08 30 45.1 -0.6
TPGR Topolog 79.42 337 ⇑P P 08 30 46.8 +0.3
VTS Vitosha 79.42 333 ⇑P P 08 30 46.8 0.0
VTS Vitosha 79.42 333 P P 08 30 46.5 -0.3
VTS Vitosha 79.42 333 P P 08 30 46.5 -0.3
VTS pmax pmax
comp=Z,8.0nm,0.9s
HARR Harsova 79.44 337 ⇑P P 08 30 47.0 +0.4
BRZS Berezniki 79.48 8 *e*P P 08 30 46.5 -0.2
BRZS Berezniki 79.48 8 *e*P P 08 30 46.5 -0.2
baz=7.6
TIP Timpagrande 79.50 327 ⇑P P 08 30 47.7 +0.5
CFR Carcaliu 79.80 337 ⇑P P 08 30 48.6 +0.1
LYN LuoYang 79.88 41 *e*P P 08 30 53.0 +3.7
ISR Istrita 80.30 336 ⇑P P 08 30 52.1 +0.8
BLKB Belogradchik 80.49 333 ⇑P P 08 30 51.8 -0.6
KEST Kesra 80.80 320 P P 08 30 55.8 +1.5
comp=Z,3.3nm,0.6s,baz=198,slow=4.4,SNR=4.6
KEST LR LR 09 06 22.4
comp=Z,531nm,20.7s,baz=62,slow=35
comp=Z,3.3nm,0.6s
MLR Muntele Rosu 80.84 336 ⇑P P 08 30 54.7 +0.4
MLR Muntele Rosu 80.84 336 LR LR 09 06 58.5
comp=Z,177nm,18.2s,baz=176,slow=36
MLR Muntele Rosu 80.84 336 P P 08 30 54.4 +0.1
MLR IAmb IAmb 08 30 55.7
comp=Z,16nm,0.8s
MLR Muntele Rosu 80.84 336 P P 08 30 54.4 +0.1
MLR pmax pmax
comp=Z,16nm,0.8s
VRI Vrincioaia 80.89 337 ⇑P P 08 30 53.7 -0.7
BOVS Bovan 80.89 332 ⇑P P 08 30 54.1 -0.4
PLOR Plostina 80.90 336 ⇑P P 08 30 55.1 +0.6
PDG Podgorica 80.94 330 ⇑P P 08 30 55.4 +0.7
KURBB Kurchatov Arra 80.94 11 LR LR 09 03 24.2
comp=Z,152nm,20.3s,baz=182,slow=33
KURBB Kurchatov Arra 80.94 11 P P 08 30 54.6 0.0
SEM Semipalatinsk 81.05 12 *e*P P 08 30 55.0 -0.4
SEM Semipalatinsk 81.05 12 *e*P P 08 30 55.1 -0.4
baz=12
KURK Kurchatov 81.05 11 P P 08 30 55.3 +0.2
KURK IAmb IAmb 08 30 56.8
comp=Z,3nm,0.9s
KURK Kurchatov 81.05 11 *ce*P P 08 30 56.2 +1.1
KURK pmax pmax
comp=Z,14nm,0.8s
COVR Voineasa-Covas 81.05 336 ⇑P P 08 30 55.0 -0.3
ARR Arges 81.21 335 ⇑P P 08 30 55.9 -0.3
DJES Djerdap 81.42 333 ⇑P P 08 30 57.4 +0.1
DOPR Dopca 81.45 336 ⇑P P 08 30 57.0 -0.4
TESR Tescani 81.47 337 ⇑P P 08 30 57.2 -0.3
LOT Lotru 81.60 335 ⇑P P 08 30 58.2 -0.1
HERR Herculane 81.64 333 ⇑P P 08 30 58.9 +0.5
VRH Novokhopyorsk 81.80 348 *e*P P 08 30 58.2 -0.9
VRH pmax pmax
comp=Z,10.0nm,0.6s
MDVR Moldovita 81.84 333 ⇑P P 08 30 60.0 +0.4
DGZ Jazzator, Alta 81.97 17 *c*P P 08 31 01.4 +1.1
DGZ pmax pmax
comp=Z,10.0nm,0.8s
DIVS Divibare 81.98 332 P P 08 31 00.2 -0.2
DIVS IAmb IAmb 08 31 03.8
comp=Z,46nm,1.7s
NJ2 Nanjing 82.02 47 *e*P P 08 31 03.0 +2.3
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BIZ Bicaz 82.03 337 ⇑P P 08 31 00.4 0.0
BELG Belogornoye 82.05 352 *d*P P 08 30 59.9 -0.4
BELG pmax pmax
comp=Z,9.0nm,0.9s
PMG Port Moresby 82.18 96 LR LR 09 05 57.2
comp=Z,212nm,18.2s,baz=191,slow=35
BVA0 Borovoye Array 82.25 6 *i* P P 08 31 00.8 -0.7
BVAR Borovoye Array 82.25 6 LR LR 09 05 12.7
comp=Z,355nm,21.4s,baz=205,slow=34
BRVK Borovoye 82.28 6 P P 08 31 01.1 -0.4
BRVK Borovoye 82.28 6 *ce*P P 08 31 01.8 +0.2
BRVK pmax pmax
comp=Z,10.0nm,1.3s
VSR Storozhevoye 82.31 346 *e*P P 08 31 00.3 -1.5
VSR pmax pmax
comp=Z,20nm,1.1s
BZS Buzias 82.57 333 ⇑P P 08 31 02.9 -0.4

VORR Voronezh 82.73 347 *e*P P 08 31 05.7 +1.8
VORR pmax pmax
comp=Z,30nm,1.5s
BURAR Bucovina Array 82.92 337 ⇑P P 08 31 05.2 0.0
BURAR Bucovina Array 82.92 337 P P 08 31 04.9 -0.3
SIRR Siria 83.09 334 ⇑P P 08 31 06.6 +0.6
DRGR 83.13 335 ⇑P P 08 31 06.6 +0.4
HNS HongShan 83.18 40 ⇓P P 08 31 07.4 +0.8
HNS pmax pmax
comp=Z,15nm,0.9s
RPZ Rata Peaks 83.34 137 LR LR 08 59 31.3
comp=Z,561nm,21.1s,baz=238,slow=30
LPSR Galich'ya Gora 83.67 347 *e*P P 08 31 08.4 -0.4
LPSR pmax pmax
comp=Z,10.0nm,0.7s
HHC Hu-ho-hao-te 83.96 36 *e*P P 08 31 12.2 +1.5
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,180nm,6.0s
NRCA Norcia 84.07 327 P P 08 31 10.6 -0.6
MORH Mrgy, Hungar 84.25 332 ⇑P P 08 31 12.0 0.0
AKASG Malin Array Be 84.33 340 P P 08 31 11.4 -0.8
comp=Z,6.1nm,0.7s,baz=158,slow=4.2,SNR=26
AKASG LR LR 09 09 23.6
comp=Z,101nm,18.9s,baz=82,slow=36
comp=Z,6.1nm,0.7s
AKASG Malin Array Be 84.33 340 P P 08 31 10.9 -1.3
AKASG IAmb IAmb 08 31 13.1
comp=Z,11nm,1.3s
AKASG Malin Array Be 84.33 340 *c*eP P 08 31 11.8 -0.4
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 84.33 340 P P 08 31 11.7 -0.4
AKBB IAmb IAmb 08 31 13.2
comp=Z,19nm,1.0s
AKBB Malin Array Si 84.33 340 *c*eP P 08 31 11.8 -0.4
UZH Uzhgorod 84.82 335 ⇑*i*P P 08 31 14.7 0.0
KOLS Kolonicke sedl 85.08 336 *e*P P 08 31 16.5 +0.4
KOLS pmax pmax
comp=Z,10.0nm,1.3s
KOLS Kolonicke sedl 85.08 336 *e*P P 08 31 16.5 +0.4
ARU Arti 85.28 359 P P 08 31 16.7 -0.2
ARU IAmb IAmb 08 31 18.7
comp=Z,20nm,1.0s
ARU Arti 85.28 359 *d*iP P 08 31 17.1 +0.3
ARU 08 34 33.2
ARU S S 08 41 41.7 -5.2
ARU SS SS 08 47 20.5 -1.7
ARU pmax pmax
comp=Z,24nm,1.1s
ZAA0 Zalesovo Array 85.31 14 P P 08 31 16.9 -0.2
ZAA0 IAmb IAmb 08 31 20.8
comp=Z,14nm,0.9s
ZALV Zalesovo Beam 85.31 14 P P 08 31 17.1 0.0
comp=Z,13nm,0.8s,baz=209,slow=4.3,SNR=19
ZALV LR LR 09 05 44.5
comp=Z,196nm,21.3s,baz=179,slow=33
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 85.31 14 *i*P P 08 31 17.6 +0.5
ZALV pmax pmax
comp=Z,13nm,0.8s
CRVS Cervenica-Dubn 85.35 335 *e*P P 08 31 17.7 +0.3
CRVS pmax pmax
comp=Z,14nm,1.1s
CRVS Cervenica-Dubn 85.35 335 *e*P P 08 31 17.7 +0.3
SKDS Skadanscina 85.72 329 *i*P P 08 31 19.1 -0.3
JAVS Javornik 85.96 329 *i*P P 08 31 20.3 -0.4
VYHS Vyhne 86.02 333 *e*P P 08 31 20.6 -0.2
VYHS pmax pmax
comp=Z,12nm,1.6s
VYHS Vyhne 86.02 333 *e*P P 08 31 20.5 -0.2
SOKA Soboth 86.14 330 *e*P P 08 31 21.6 0.0
comp=Z,5.6nm,1.2s
OBKA Obir 86.22 330 *e*P P 08 31 22.8 +0.9
comp=Z,8.3nm,1.1s
LANS Liptovska Anna 86.31 334 *e*P P 08 31 23.0 +0.8
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 86.31 334 *e*P P 08 31 23.0 +0.8
ARSA Arzberg 86.38 331 *e*P P 08 31 23.1 +0.5
comp=Z,6.0nm,1.1s
RONA Rosalia, Austr 86.41 332 *e*P P 08 31 22.7 -0.1
comp=Z,8.7nm,1.0s
BBTS Babate 86.49 289 LR LR 09 10 08.0
comp=Z,531nm,18.0s,baz=100,slow=36
OBN Obninsk 86.51 346 *c*eP P 08 31 24.2 +1.2
OBN *e* 08 34 44.8
OBN *e*S S 08 42 00.8 +1.8
OBN *e*SS SS 08 47 40.6 +0.3
OBN pmax pmax
comp=Z,41nm,1.3s
OBN MLR MLR
comp=Z,213nm,18.0s
MODS Modra-Piesok 86.54 333 *e*P P 08 31 23.5 +0.2
MODS pmax pmax
comp=Z,25nm,1.2s
MODS Modra-Piesok 86.54 333 *e*P P 08 31 23.5 +0.2
TEOL Teolo 86.66 328 P P 08 31 23.9 -0.1
CONA Conrad Observa 86.77 331 *i*P P 08 31 25.2 +0.6
comp=Z,13nm,1.3s,SNR=8.8
JAVC Velka Javorina 86.77 333 *e*P P 08 31 24.9 +0.4
SONM Songino Array 86.83 29 P P 08 31 23.9 -1.1
comp=Z,2.4nm,0.9s,baz=198,slow=4.2,SNR=6.6
SONM LR LR 09 07 51.2
comp=Z,261nm,21.5s,baz=228,slow=34
comp=Z,2.4nm,0.9s
SONM Songino Array 86.83 29 P P 08 31 25.2 +0.2
SONM Songino Array 86.83 29 P P 08 31 25.2 +0.2
SONM pmax pmax
comp=Z,5.0nm,1.0s
MOS Moscow 86.89 347 *e*P P 08 31 23.3 -1.5
MOS pmax pmax
comp=Z,76nm,1.4s
MOS pmax pmax
comp=Z,100nm,1.8s
CIMO Cimolais 87.01 329 P P 08 31 25.5 -0.2
CIMO IAmb IAmb 08 31 26.7
comp=Z,5.0nm,0.8s
MAUC Maruska 87.11 333 *e*P P 08 31 26.5 +0.4
ULN Ulaanbaatar 87.13 29 *c*eP P 08 31 27.1 +0.7
ULN pmax pmax
comp=Z,4.0nm,1.0s
KBA Koelnbreinsper 87.19 330 *e*P P 08 31 26.3 -0.4
comp=Z,5.7nm,1.0s
ABTA Abfaltersbach 87.31 329 *e*P P 08 31 27.7 +0.5
comp=Z,8.9nm,0.9s
MOA Molln 87.38 331 *e*P P 08 31 28.4 +1.0
comp=Z,13nm,1.1s
KRUC Moravsky 87.44 332 *e*P P 08 31 27.7 0.0
MDT Mideit 87.53 310 LR LR 09 10 18.8
comp=Z,494nm,19.4s,baz=132,slow=35
BIOA Bad Ischl, Aus 87.53 330 *e*P P 08 31 28.4 +0.2
comp=Z,6.6nm,0.9s
MORC Moravsky Berou 87.55 334 *e*P P 08 31 28.5 +0.2
VRAC Vranov 87.56 333 LR LR 09 09 17.9
comp=Z,87nm,21.5s,baz=162,slow=35
VRAC Vranov 87.56 333 *e*P P 08 31 28.7 +0.4
KIRV Kirov 87.94 354 LR LR 09 10 58.2
comp=Z,151nm,19.4s,baz=158,slow=36
KIRV Kirov 87.94 354 *c*eP P 08 31 29.9 +0.1
TREC Trest 87.99 332 *e*P P 08 31 29.2 -1.2
TREC Trest 87.99 332 *e*P P 08 31 29.2 -1.2
MNK Minsk 88.07 341 *i*P P 08 31 30.9 +0.4
MNK *i* 08 34 57.5
MNK *i* PPP PPP 08 36 52.8
MNK *i* S SKSac 08 41 58.9 +0.2
MNK *i* 08 42 21.1
MNK *i* PS PS 08 43 18.1 -0.1
MNK *i* SS SS 08 48 05.1 +1.9
MNK *i* SSS SSS 08 51 39.0
MNK pmax pmax
comp=Z,53nm,0.9s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK MLR MLR
comp=Z,113nm,19.0s
MNK MLR MLR
comp=N,31nm,19.0s
MNK MLR MLR
comp=E,22nm,21.0s
MNK Minsk 88.07 341 *i*P P 08 31 31.0 +0.4
comp=E,3.0nm,0.7s
MNK *i*P P 08 31 31.0 +0.4
comp=N,8.0nm,0.9s
MNK *i*P P 08 31 31.0 +0.4
comp=Z,53nm,0.9s,baz=151
MNK *i* PP PP 08 34 57.5 -0.2
MNK *i* PPP PPP 08 36 52.9
MNK *i* S SKSac 08 41 59.0 +0.2
MNK *i* PS PS 08 43 18.1 -0.1
MNK *i* SS SS 08 48 05.1 +1.9
MNK *i* SSS SSS 08 51 39.0
MNK *i* LQ LQ 09 04 49.4
MNK *i* LR LR 09 10 31.3
MNK *i* LRM MLR 09 11 48.6
comp=Z,113nm,19.4s
MNK *i* LRM MLR 09 12 04.1
comp=N,31nm,19.4s
MNK *i* LRM MLR 09 12 09.3
comp=E,22nm,21.3s
WTTA Wattenberg 88.09 329 *i*P P 08 31 30.7 -0.5
comp=E,7.9nm,0.6s,SNR=6.3
WATA Walderalm 88.18 329 *i*P P 08 31 31.4 0.0
comp=Z,18nm,1.2s,SNR=6.1
SQTA Sankt Quirin 88.26 329 *e*P P 08 31 31.8 0.0
comp=E,15nm,0.8s
FETA Feichten 88.33 328 *i*P P 08 31 32.1 -0.1
comp=E,15nm,0.8s,SNR=13
GERES GERESS Array B 88.39 331 P P 08 31 30.8 -1.5
comp=E,1.3nm,0.8s,baz=153,slow=4.5,SNR=9.1
comp=Z,1.3nm,0.8s
MOTA Moosalm 88.40 329 *i*P P 08 31 32.0 -0.5
comp=E,12nm,0.8s,SNR=8.2
DPC Dobruska-Polom 88.49 333 *e*P P 08 31 32.7 0.0
DPC Dobruska-Polom 88.49 333 *e*P P 08 31 32.7 0.0
DAVOX Davos/Dischmat 88.55 328 LR LR 09 14 01.4
comp=E,74nm,18.2s,baz=88,slow=38
RETA Reutte 88.66 329 *i*P P 08 31 33.5 -0.1
comp=E,12nm,0.6s,SNR=11
KHC Kasperske Hory 88.66 331 *e*P P 08 31 33.0 -0.5
KHC Kasperske Hory 88.66 331 *e*P P 08 31 33.0 -0.5
OSTC Ostas 88.69 333 *e*P P 08 31 33.8 +0.2
NACGM Naroch 88.73 341 ⇑*e*P P 08 31 34.9 +1.2
baz=150
CHVC Chvalec 88.78 333 *e*P P 08 31 34.2 +0.1
DAVA Damuels 88.92 328 *i*P P 08 31 35.0 +0.1
comp=E,16nm,0.7s,SNR=8.2
BRG Berggiesshubel 89.85 332 *e*P P 08 31 39.8 +0.7
BRG Amp 08 31 42.5
comp=Z,18nm,1.5s
BRG Berggiesshubel 89.85 332 *e*P P 08 31 39.7 +0.7
BRG pmax pmax
comp=Z,18nm,1.5s
TJN Taejon 90.21 48 *c*eP P 08 31 39.5 -1.6
URZ Urewera 90.25 135 LR LR 09 05 50.6
comp=Z,417nm,18.2s,baz=223,slow=31
CLL Collm 90.56 332 P P 08 31 42.8 +0.5
CLL IAmb IAmb 08 31 44.3
comp=Z,21nm,1.6s
CLL Collm 90.56 332 *i*P P 08 31 42.8 +0.5
CLL *e*S S 08 42 40.0 +2.5
CLL pmax pmax
comp=Z,34nm,1.9s
CLL Collm 90.56 332 *i*P P 08 31 42.8 +0.5
comp=Z,34nm,1.9s
CLL *e*S S 08 42 40.0 +2.5
CLL *e*PS PS 08 43 46.0 -0.1
CLL *e*PPS PPS 08 44 18.0
CLL *e*SS SS 08 49 00.0 +20
KSAR Wonju Array Be 91.18 47 P P 08 31 45.1 -0.4
KSAR Wonju Array Be 91.18 47 P P 08 31 45.2 -0.4
KSRS Korea Array 91.21 47 P P 08 31 45.1 -0.6
comp=Z,1.6nm,0.8s,baz=260,slow=3.9,SNR=3.6
KSRS LR LR 09 12 31.9
comp=Z,38nm,19.4s,baz=205,slow=36
comp=Z,1.6nm,0.8s
ESDC Sonseca Array 91.27 316 P P 08 31 47.5 +1.5
comp=Z,6.2nm,0.8s,baz=103,slow=3.0,SNR=51
ESDC LR LR 09 11 55.7
comp=Z,186nm,21.4s,baz=122,slow=35
comp=Z,6.2nm,0.8s
ESDC Sonseca Array 91.27 316 P P 08 31 46.3 +0.3
ESDC IAmb IAmb 08 31 48.8
comp=Z,8.6nm,0.9s
GUMO Guam 91.31 75 LR LR 09 10 50.7
comp=Z,25nm,20.0s,baz=218,slow=34
PRGR Permogore 91.33 353 *e*P P 08 31 44.8 -0.8
KLMR Klimovskoe 91.39 350 *e*P P 08 31 45.1 -0.8
KLMR *e* 08 35 19.9
KLMR pmax pmax
comp=Z,13nm,1.1s
KLMR Klimovskoe 91.39 350 *e*P P 08 31 45.1 -0.8
KLMR AMP 08 31 47.0
comp=Z,13nm,1.1s
KLMR *e*PP PP 08 35 19.9 -4.1
PAB San Pablo 91.43 315 P P 08 31 47.9 +1.1
PAB IAmb IAmb 08 31 49.6
comp=Z,11nm,1.1s
PAB San Pablo 91.43 315 P P 08 31 47.9 +1.1
PAB pmax pmax
comp=Z,11nm,1.1s
DZM Mont Dzumac 92.03 117 *e*LR LR 09 01 16.2
comp=Z,782nm,31.0s
DZM Mont Dzumac 92.03 117 LR LR 09 10 21.7
comp=Z,184nm,18.1s,baz=226,slow=34
PVAQ Vaqueiros 92.29 312 *e*LR LR 09 10 27.3
comp=Z,155nm,18.0s
PBAR Barrancos 92.31 313 *e*P P 08 31 51.7 +0.9
comp=Z,14nm,1.8s
PCVE Castro Verde 92.64 312 *e*P P 08 31 54.0 +1.7
comp=Z,37nm,1.7s
PESTR Estremoz 93.06 313 *e*P P 08 31 56.3 +2.0
comp=Z,17nm,1.2s
EVO Evora 93.14 313 *e*P P 08 31 56.5 +1.9
comp=Z,21nm,2.1s
RCBR Riachuelo 93.16 262 LR LR 09 07 12.8
comp=Z,208nm,20.2s,baz=304,slow=31
PMRV Marv??o 93.26 314 *e*P P 08 31 56.9 +1.7
PMRV Marv??o 93.26 314 *e*LR LR 09 08 26.8
comp=Z,218nm,22.0s
PMTG Montargil 93.58 313 *e*P P 08 31 58.7 +2.1
comp=Z,27nm,1.5s
MTE Manteigas 93.92 315 *e*LR LR 09 08 19.6
comp=Z,362nm,20.0s
MVO Moncorvo 94.04 315 *e*P P 08 32 00.8 +2.0
comp=Z,13nm,1.7s
FINES FINESS Array B 94.61 344 P P 08 32 00.8 0.0
comp=Z,2.1nm,1.0s,baz=161,slow=8.8,SNR=2.3
FINES PP PP 08 35 46.6 -2.8
comp=Z,2.1nm,0.8s,baz=141,slow=5.0,SNR=3.4
FINES LR LR 09 14 48.0
comp=Z,146nm,20.7s,baz=154,slow=36
comp=Z,2.1nm,1.0s
PMOZ Porto Moniz, M 96.34 304 *e*LR LR 09 14 28.9
comp=Z,454nm,20.0s
HFS Hanfors 97.05 338 LR LR 09 15 42.6
comp=Z,104nm,19.7s,baz=140,slow=35
PLCA Paso Flores 97.20 215 LR LR 09 11 39.9
comp=Z,80nm,18.6s,baz=148,slow=33
MJAR Matsushiro Arr 97.58 52 LR LR 09 16 58.5
comp=Z,42nm,18.5s,baz=233,slow=36
BDFB Brasilia 98.29 247 LR LR 09 08 21.4
comp=Z,185nm,21.5s,baz=139,slow=30
NOA NORSAR Array B 98.54 338 LR LR 09 16 48.6
comp=Z,109nm,19.9s,baz=130,slow=35
TBI Tubuai 120.14 147 *e*SS SS 08 55 23.0 +0.7
comp=Z,126nm,27.8s
TBI Tubuai 120.14 147 *e*LR LR 09 14 17.4
comp=Z,255nm,23.2s
PPT2 Papeete2 124.95 144 *e*SS SS 08 56 25.6 +1.6
comp=Z,172nm,25.5s
PPT2 Papeete2 124.95 144 *e*LR LR 09 16 30.0
comp=Z,206nm,22.5s
TOLK Toolik Lake Re 136.64 16 P PKiKP 08 38 07.5 +3.7
baz=320
F21K Alatna River 136.67 19 P PKiKP 08 38 06.3 +2.4
baz=314
TAOE Nuku Hiva Isla 137.07 148 *e*LR LR 09 22 08.5
comp=Z,172nm,23.0s
COLD Coldfoot 137.55 17 P PKiKP 08 38 08.7 +3.1
baz=318
J20K Nowinta River 138.52 22 P PKiKP 08 38 08.9 +1.2
baz=311
ILAR Eielson Array 140.30 18 PKP PKPdf 08 38 06.6 -2.1
comp=Z,1.4nm,0.9s,baz=281,slow=2.6,SNR=9.3
EPYK Eagle Plains 141.22 11 P PKPdf 08 38 10.7 +0.2
baz=335
SEW Seward 142.88 25 P PKPdf 08 38 12.4 -1.1
baz=313
K29M Barlow Dome 143.34 14 P PKPbc 08 38 11.8 +0.3
baz=332
N25K Chitina, Valde 143.42 20 P PKPdf 08 38 13.2 -1.4
baz=321
L29M L29M 143.86 15 P PKPbc 08 38 14.0 +1.0
baz=331
MCARA McCarthy VSAT 144.06 19 P PKPdf 08 38 15.7 +0.1
baz=323
L56A Greenwood 144.24 303 PKPdf PKPbc 08 38 15.1 +0.3
M29M Somme Creek 144.37 15 P PKPdf 08 38 15.7 -0.5
baz=330
M30M Minto, Yukon 144.62 14 P PKPbc 08 38 15.5 +0.2
baz=333
SSPA Standing Stone 144.66 300 P PKPbc 08 38 16.0 -0.1
baz=84
CTG Chitna Glacier 144.88 19 P PKPdf 08 38 17.3 +0.1
baz=325
WVNY West Valley, N 144.97 303 PKPab 08 38 16.3 -0.7
YUK4 Talbot Arm 145.28 16 P PKPdf 08 38 18.3 +0.4
baz=329
O28M Mount Upton 145.36 18 P PKPab 08 38 19.2 +0.9
baz=326
M31M Drury Creek, Y 145.45 13 P PKPab 08 38 18.2 0.0
baz=336
N30M Aishikik Lake 145.55 15 P PKPab 08 38 19.0 +0.4
baz=331
MMPY Sheldon Lake, 145.60 10 P PKPab 08 38 19.1 +0.3
baz=341
FARO Faro, Yukon 145.62 12 P PKPdf 08 38 18.4 +0.1
baz=338
N31M Braeburn, Yuko 145.82 14 P PKPbc 08 38 19.2 0.0
baz=333
HYT Haines Junctio 146.01 16 P PKPab 08 38 20.6 +0.2
baz=330
ERPA Erie 146.03 303 P PKPdf 08 38 19.9 +0.3
baz=80
O30N Mendenhall 146.39 15 P PKPab 08 38 21.6 -0.2
baz=332
YKA Yellowknife Ar 146.54 356 PKPbc PKPdf 08 38 20.5 +0.7
comp=Z,8.5nm,0.8s,baz=355,slow=3.4,SNR=9.8
M53A WI Miller and 146.65 302 P PKPbc 08 38 22.4 +0.1
baz=81
N32M Quiet Lake 146.66 12 P PKPbc 08 38 21.6 -0.2
baz=337
TGTN Hyland Airport 147.06 8 P PKPbc 08 38 22.2 -0.6
baz=345
O53A New Philadelph 147.22 300 P PKPab 08 38 25.1 -0.6
baz=82
KMSC Kings Mountain 147.66 290 P PKPdf 08 38 23.7 +1.2
baz=90
P52A Corning 148.01 299 P PKPdf 08 38 23.9 +0.9
baz=82
ACSO Alum Creek Sta 148.57 300 P PKPdf 08 38 24.8 +0.9
baz=81
GLMI Grayling 148.66 309 P PKPdf 08 38 25.5 +1.7
baz=72
P49A Miami Univ. Ec 150.00 299 P PKPbc 08 38 31.0 -0.1
baz=80
WCI Wyandotte Cave 151.42 297 P PKPbc 08 38 34.2 -0.4
baz=81
SFIN Lafayette 151.62 302 P PKPbc 08 38 35.0 +0.1
baz=77
EYMN Ely 151.68 319 P PKiKP 08 38 35.3 0.0
baz=58
LRAL Lakeview Retre 152.36 286 P PKiKP 08 38 37.7 +0.6
baz=91
ULM Lac du Bonnet 152.62 327 PKPbc PKPbc 08 38 35.0 -1.9
comp=Z,29nm,0.7s,baz=28,slow=2.8,SNR=29
ULM Lac du Bonnet 152.62 327 PKIKP PKPbc 08 38 35.0 -1.9
WVT Waverly 152.90 293 P PKPbc 08 38 37.8 -0.2
baz=84
JFWS Jewell Farm 153.13 308 P PKiKP 08 38 38.5 +0.1
baz=69
HDIL Hopedale 153.20 303 P PKiKP 08 38 39.1 +0.5
baz=74
SPMN Marine on St. 153.82 315 P PKPbc 08 38 39.6 -0.1
baz=61
AGMN Agassiz Nation 153.87 323 P PKiKP 08 38 39.8 0.0
baz=51
OXF Oxford 154.32 290 P PKiKP 08 38 41.3 +0.1
baz=86
CCM Cathedral Cave 155.29 298 P PKPdf 08 38 43.6 +10
baz=77
NEW Newport 160.87 356 P PKPdf 08 38 40.3 -0.3
baz=5.1
RSSD Black Hills 160.87 325 P PKPdf 08 38 40.9 0.0
baz=44
MSO Missoula 161.92 349 P PKPdf 08 38 42.0 +0.2
baz=14
WMOK Wichita Mounta 161.94 293 P PKPdf 08 38 42.9 +0.8
baz=78
BOZ Bozeman (W) 162.59 342 P PKPdf 08 38 43.1 +0.6
baz=22
JCT Junction City 163.25 279 P PKPdf 08 38 44.2 +0.6
baz=90
PDAR Pinedale Array 164.42 333 PKP PKPdf 08 38 43.9 -0.6
comp=Z,4.4nm,0.8s,baz=116,slow=2.1,SNR=36
BW06 Boulder Array 164.42 333 P PKPdf 08 38 44.4 -0.1
baz=32
ISCO Idaho Springs 164.69 317 P PKPdf 08 38 45.9 +0.9
baz=50
HLID Hailey 165.16 347 P PKPdf 08 38 46.2 +1.2
baz=16
T25A Trinidad 165.41 307 P PKPdf 08 38 46.8 +1.3
baz=61
J04D Umpqua Nationa 165.74 9 P PKPdf 08 38 46.7 +1.1
baz=349
J05D Fort Rock, OR 165.80 7 P PKPdf 08 38 46.7 +1.2
baz=352
SDCO Great Sand Dun 165.84 311 P PKPdf 08 38 47.0 +1.1
baz=57
TXAR Lajitas Array 166.58 274 PKP PKPdf 08 38 47.1 +0.6
comp=Z,1.7nm,0.8s,baz=138,slow=2.2,SNR=23
S22A 4UR Ranch, Cre 166.70 313 P PKPdf 08 38 48.5 +1.9
baz=53
DUG Dugway, Tooele 167.87 337 P PKPdf 08 38 48.3 +1.1
baz=27
ANMO Albuquerque 167.88 302 P PKPdf 08 38 49.2 +1.7
baz=65
MNTX Cornudas Mount 167.95 285 P PKPdf 08 38 48.5 +1.2
baz=81
MVCO Mesa Verde 168.08 315 P PKPdf 08 38 49.2 +1.7
baz=51
121A Cookes Peak, D 169.76 292 P PKPdf 08 38 50.7 +2.0
baz=74
NVAR Mina Array Bea 170.74 356 PKP PKPdf 08 38 49.7 +0.6
comp=Z,1.7nm,0.8s,baz=208,slow=1.9,SNR=10
NVAR PKPab **pPKPab** 08 40 08.0 -0.7
comp=Z,0.3nm,0.8s,baz=38,slow=4.6,SNR=2.7
WUAZ Wupatki 170.94 316 P PKPdf 08 38 50.8 +1.5
baz=48
TUC Tucson 172.24 296 P PKPdf 08 38 51.8 +1.9
baz=68
FURC Furnace Creek, 172.49 346 P PKPdf 08 38 52.0 +2.3
baz=15
SHOC Shoshone, Teco 172.89 342 P PKPdf 08 38 52.8 +2.9
baz=20
PDMCI Parker Dam,Lak 173.40 322 P PKPdf 08 38 52.2 +2.1
baz=40
GSC Goldstone, Bar 173.59 343 P PKPdf 08 38 52.7 +2.4
baz=18
GMRC Granite Mounta 173.71 334 P PKPdf 08 38 53.4 +2.9
baz=28
SMMC Simmler 173.81 7 P PKPdf 08 38 53.6 +3.3
baz=352
HEC Hector,Ludlow 173.90 339 P PKPdf 08 38 53.4 +2.9
baz=23
214A Organ Pipe Nat 173.96 299 P PKPdf 08 38 51.3 +0.8
baz=64
IRM Iron Mountain 174.02 327 P PKPdf 08 38 53.0 +2.5
baz=35
BELC Belle Mtn. Jos 174.53 333 P PKPdf 08 38 53.2 +2.4
baz=29
BC3 Big Chuckawall 174.58 327 P PKPdf 08 38 53.0 +2.3
baz=35
SWSC Sam W. Stewart 175.32 324 P PKPdf 08 38 52.2 +1.4
baz=37
MONP2 Monument Peak 175.66 330 P PKPdf 08 38 53.5 +2.3
baz=32
IKP In-Ko-Pah, Jac 175.71 325 P PKPdf 08 38 53.6 +2.6
baz=36

ROM 03 08:28:52.2±0.1, 42°.788N±0°.004×13°.118E±0°.009, h10km, ML1.6/8, 4C-5D, Error ellipse: s-maj=0.7km s-min=0.5km az=280.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**357**	⇓P	Pg	08 28 54.5	+0.2
NRCA				S	Sg	08 28 55.5	-0.3
NRCA				AML	AML		
	comp=N,3870μm,1.0s						
NRCA				AML	AML		
	comp=E,5170μm,0.1s						
NRCA				AML	AML		
	comp=E,5610μm,0.1s						
NRCA				AML	AML		
	comp=N,4195μm,1.0s						
NRCA				AML	AML		
	comp=N,3875μm,1.0s						
T1242	**Castelluccio d**	**0.08**	**57**	⇑P	Pg	08 28 54.8	+0.2
T1242				S	Sg	08 28 56.2	-0.3
T1242				AML	AML		
	comp=E,2305μm,0.6s						
T1242				AML	AML		
	comp=N,2560μm,1.1s						
T1242				AML	AML		
	comp=E,2330μm,0.6s						
T1242				AML	AML		
	comp=N,2545μm,1.1s						
T1202	**Accumoli, Fraz**	**0.12**	**137**	⇑P	Pg	08 28 55.5	+0.4
T1202				S	Sg	08 28 57.8	+0.5
MC2	**Monte Cornacci**	**0.14**	**23**	⇑P	Pg	08 28 56.2	+0.7
T1244	**Arquata del Tr**	**0.14**	**103**	⇑P	Pg	08 28 56.1	+0.7
T1244				AML	AML		
	comp=E,628μm,1.3s						
T1244				AML	AML		
	comp=E,572μm,1.3s						
T1244				AML	AML		
	comp=N,596μm,0.4s						
T1244				AML	AML		
	comp=N,648μm,1.1s						
T1244				AML	AML		
	comp=N,594μm,0.4s						
T1244				AML	AML		
	comp=E,628μm,1.3s						
T1244				AML	AML		
	comp=E,570μm,0.2s						
T1215	**Vallo di Nera,**	**0.18**	**274**	S	Sg	08 28 58.0	-0.9
T1204	**Amatrice, Fraz**	**0.18**	**127**	P	Pg	08 28 56.9	+0.7
T1204				S	Sg	08 29 00.1	+1.1
LNSS	**Leonessa**	**0.19**	**197**	P	Pg	08 28 57.0	+0.7
LNSS				AML	AML		
	comp=E,194μm,1.4s						
LNSS				AML	AML		
	comp=N,238μm,0.3s						
SMA1	**SAN MARTINO**	**0.23**	**134**	⇓P	Pb	08 28 57.7	-0.7
SMA1				AML	AML		
	comp=E,279μm,0.7s						
SMA1				AML	AML		
	comp=N,291μm,1.6s						
T1241	**Roccafluvione,**	**0.24**	**73**	P	Pg	08 28 57.8	+0.7
T1241				S	Sg	08 29 02.0	+1.5
T1241				AML	AML		
	comp=E,148μm,0.9s						
T1241				AML	AML		
	comp=N,123μm,0.8s						
T1243	**Rocca Santa Ma**	**0.26**	**111**	P	Pg	08 28 58.0	+0.5
CESI	**CESI - Serrava**	**0.27**	**324**	S	Sg	08 28 59.0	-2.3
RM33	**Pellescritta (**	**0.29**	**166**	P	Pg	08 28 58.5	+0.5
RM33				S	Sg	08 29 03.1	+1.1
RM33				AML	AML		
	comp=N,129μm,1.5s						
RM33				AML	AML		
	comp=E,104μm,1.2s						
CSP1	**Cessapalombo**	**0.31**	**12**	S	Sg	08 28 60.0	-2.7
CAMP	**Campotosto**	**0.33**	**139**	P	Pg	08 28 59.4	+0.6
CAMP				S	Sb	08 29 04.5	-1.2
CAMP				AML	AML		
	comp=N,48μm,0.5s						
CAMP				AML	AML		
	comp=E,43μm,0.3s						
ARRO	**Arrone**	**0.33**	**231**	S	Sb	08 29 06.0	+0.4
TERO	**Teramo**	**0.40**	**115**	⇓P	Pg	08 29 00.4	+0.4
TERO				AML	AML		
	comp=N,65μm,0.5s						
TERO				AML	AML		
	comp=E,72μm,0.5s						
FIAM	**Fiamignano**	**0.52**	**180**	⇓P	Pg	08 29 02.0	-0.3
TRTR	**Tortoreto Alta**	**0.59**	**88**	⇓P	Pg	08 29 03.2	-0.3
VIVA	**Pratoni del Vi**	**1.07**	**194**	P	Pg	08 29 11.4	-1.3
VIVA				AML	AML		
	comp=N,1040μm,0.1s						
VIVA				AML	AML		
	comp=E,2305μm,0.1s						

PRU 03 08:51:07.2±0.0, 50°21N×19°07E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**89**	*e*Pg	Pg	08 51 15.6	-0.5
OJC				*e*Sg	Sg	08 51 22.7	+0.4
MORC	**Moravsky Berou**	**1.08**	**247**	*e*PG	Pg	08 51 27.3	-0.5
MORC				*e*SG	Sg	08 51 40.6	-1.2
LANS	**Liptovska Anna**	**1.09**	**166**	*e*PG	Pb	08 51 29.1	+0.1
LANS				*e*SG	Sb	08 51 43.6	-0.2
LANS				*e*LG	Lg	08 51 47.6	
MAUC	**Maruska**	**1.17**	**224**	*e*PG	Pg	08 51 29.9	+0.4
MAUC				*e*SG	Sb	08 51 46.5	+0.6
	comp=Z,7.0nm,0.4s						
KRLC	**Kraliky**	**1.48**	**266**	*e*PG	Pn	08 51 33.8	-1.3
KRLC				*e*SG	Sg	08 51 54.1	-0.6
	comp=Z,2.2nm,0.3s						
VYHS	**Vyhne**	**1.73**	**185**	*e*PN	Pn	08 51 38.2	-0.3
VYHS				*e*SN	Sn	08 52 01.3	+0.1
DPC	**Dobruska-Polom**	**1.77**	**276**	*e*PG	Pn	08 51 38.6	-0.5
DPC				*e*SG	Sb	08 52 03.5	+0.2
DPC	**Dobruska-Polom**	**1.77**	**276**	*e*	Pn	08 51 38.6	-0.5
VRAC	**Vranov**	**1.84**	**242**	*e*SG	Sn	08 52 04.2	+0.1
CHVC	**Chvalec**	**1.97**	**282**	*e*PG	Pb	08 51 43.1	-0.8
CHVC				*e*SG	Sg	08 52 10.7	+0.4

*IDC **03** 09:07:07.9±5.4, 36°25N×70°65E, h197km±40km, mb3.1/5, mbtmp3.8/10, Error ellipse: s-maj=52.7km s-min=31.2km az=157.0*

*NEIC **03** 09:07:10.4±0.6, 36°52N±0°02×70°2E±0°1, h204km±13km, mb4.1/4, Error ellipse: s-maj=12.2km s-min=2.6km az=78.0*

*NNC **03** 09:07:38.2±6.4, 38°92N×71°39E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=61.2km s-min=54.1km az=0.0*

ISC 03 09:07:10.3±0.9, 36°52N±0°08×70°29E±0°09, h204km, n31, σ0s95/31, mb3.3/4, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.22**	**208**	Pn	**Pn**	**09 07 51.4**	**-0.2**
CHGR	**Chuyangaron**	**2.31**	**337**		**Pn**	**09 07 52.4**	**0.0**
GAR	**Garm**	**2.48**	**0**		**Pn**	**09 07 54.2**	**0.0**
DRK	**Karamyk**	**3.19**	**22**		**Pn**	**09 08 02.8**	**+0.3**
BTK	**Batken**	**3.56**	**7**	Pn	**Pn**	**09 08 07.5**	**+0.7**
NIL	**Nilore**	**3.75**	**139**		**Pn**	**09 08 09.7**	**+0.4**
KK31	**Karatay Array**	**6.58**	**1**		**Pn**	**09 08 44.9**	**0.0**
KK31	**Karatay Array**	**6.58**	**1**	⇓Pn	**Pn**	**09 08 44.4**	**-0.6**
	4.0nm,0.6s,baz=182,slow=13,SNR=39						
KK31				⇑Lg	Lg	09 09 52.1	
	3.9nm,0.3s,baz=188,slow=15,SNR=13						
KKAR	**Karatay Array**	**6.58**	**1**		**Pn**	**09 08 44.9**	**0.0**
AAK	**Ala-Archa**	**6.92**	**27**	P	**Pn**	**09 08 49.7**	**+0.3**
	3.8nm,0.3s,baz=190,slow=9.3,SNR=6.4						
AAK				S	**S**	**09 10 05.2**	**-2.9**
	38nm,0.7s,baz=1.1,slow=20,SNR=10.0						
AAK	**Ala-Archa**	**6.92**	**27**	Pn	**Pn**	**09 08 49.9**	**+0.4**
CHMS	**Chumysh**	**7.32**	**27**	⇓Pn	Pn	09 08 49.6	-5.1
	2.6nm,0.8s						
CHMS				⇓Lg	Lg	09 10 11.6	
	40nm,1.1s						
TKM2	**Tokmak 2**	**7.58**	**31**	⇑Pn	**Pn**	**09 08 57.9**	**-0.3**
	2.7nm,0.4s						
TKM2				⇑Lg	Lg	09 10 20.8	
	11nm,0.7s						
MAKZ	**Makanchi**	**13.47**	**37**		**Pn**	**09 10 13.7**	**+0.4**
MK31	**Makanchi Array**	**13.61**	**37**	Pn	**Pn**	**09 10 15.6**	**+0.4**
MKAR	**Makanchi Array**	**13.61**	**37**	P	**Pn**	**09 10 15.1**	**0.0**
	2.9nm,0.7s,baz=218,slow=7.6,SNR=24						
MKAR	**Makanchi Array**	**13.61**	**37**	Pn	**Pn**	**09 10 15.3**	**+0.2**
ABKAR	**Akbulak array**	**14.80**	**333**		**Pn**	**09 10 29.1**	**-0.5**
KURBB	**Kurchatov Arra**	**15.29**	**20**	P	**Pn**	**09 10 34.6**	**-1.0**
	0.4nm,0.4s,baz=208,slow=10,SNR=7.2						
KURK	**Kurchatov**	**15.40**	**20**		**Pn**	**09 10 36.7**	**-0.3**
AKTO	**Aktyubinsk**	**16.48**	**331**	P	**Pn**	**09 10 51.4**	**+1.4**
	4.8nm,0.7s,baz=147,slow=11,SNR=16						
BVAR	**Borovoye Array**	**16.50**	**0**	P	**Pn**	**09 10 50.9**	**+0.7**
	0.5nm,0.3s,baz=195,slow=11,SNR=5.7						
BRVK	**Borovoye**	**16.54**	**360**	P	**Pn**	**09 10 51.2**	**+0.6**
BRVK				IAmb	IAmb	09 10 54.0	
	comp=Z,3.3nm,0.5s						
LSA	**Lhasa**	**18.73**	**105**	P	**P**	**09 11 13.7**	**-0.6**
ZAA0	**Zalesovo Array**	**20.14**	**26**	P	**P**	**09 11 29.4**	**+0.9**
ZAA0				IAmb	IAmb	09 11 32.7	
	comp=Z,4.2nm,0.5s						
ZALV	**Zalesovo Beam**	**20.14**	**26**	P	**P**	**09 11 29.3**	**+0.7**
	comp=Z,3.7nm,0.4s,baz=222,slow=11,SNR=8.2						
	comp=Z,3.7nm,0.4s						
ZALV	**Zalesovo Beam**	**20.14**	**26**	P	**P**	**09 11 29.4**	**+0.9**
FINES	**FINESS Array B**	**37.15**	**326**	P	**P**	**09 14 02.8**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=108,slow=13,SNR=2.2						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**40.91**	**338**	P	**P**	**09 14 33.6**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=118,slow=7.7,SNR=5.0						
	comp=Z,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.15**	**268**	P	**P**	**09 17 29.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=42,slow=6.6,SNR=1.5						
	comp=Z,0.1nm,0.3s						
ILAR	**Eielson Array**	**74.91**	**16**	P	**P**	**09 18 26.6**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=332,slow=8.4,SNR=4.7						
	comp=Z,0.2nm,0.5s						

*ROM **03** 09:18:37.4±0.1, 38°365N±0°008×15°74E±0°01, h82km±1km, ML3.6/64, Error ellipse: s-maj=1.0km s-min=0.7km az=305.0*

*IDC **03** 09:18:38.3±5.7, 38°56N×15°63E, h80km±100km, mb3.3/2, mbtmp3.6/3, ML3.1/1, MS2.6/1, Error ellipse: s-maj=81.4km s-min=61.3km az=60.0*

*PDG **03** 09:18:39.0±0.2, 38°80N×16°22E, h6km±3km, ML4.3/11, Error ellipse: s-maj=3.9km s-min=3.1km az=90.0*

ISC 03 09:18:37.0±1.0, 38°41N±0°04×15°82E±0°03, h96km±6km, n142, σ1s99/184, 41C-23D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEL	**Celeste**	**0.16**	**159**	⇓P	**Pn**	**09 18 49.6**	**-1.1**
CEL				S	**Sn**	**09 18 58.1**	**-2.7**
CEL				AML	AML		
	comp=E,4790μm,0.3s						
CEL				AML	AML		
	comp=N,5125μm,0.2s						
CEL				AML	AML		
	comp=N,6305μm,0.3s						
CEL				AML	AML		
	comp=E,4785μm,0.3s						
CEL				AML	AML		
	comp=N,5130μm,0.2s						
CEL				AML	AML		
	comp=E,5845μm,0.3s						
CEL				AML	AML		
	comp=E,4785μm,1.7s						
MSCL	**Scilla**	**0.18**	**187**	AML	AML		
	comp=N,16900μm,1.2s						
MSCL				AML	AML		
	comp=E,34250μm,0.2s						
JOPP	**Joppolo**	**0.20**	**15**	⇓P	**Pn**	**09 18 49.8**	**-1.0**
JOPP				S	**Sn**	**09 18 58.8**	**-2.3**
JOPP				AML	AML		
	comp=N,10375μm,0.6s						
JOPP				AML	AML		
	comp=E,6330μm,1.0s						
JOPP				AML	AML		
	comp=N,10375μm,1.4s						
GMB	**Gambarie**	**0.24**	**178**	AML	AML		
	comp=E,41900μm,0.2s						
GMB				AML	AML		
	comp=N,43650μm,0.3s						
MSRU	**Castanea**	**0.28**	**239**	⇓P	**Pn**	**09 18 49.4**	**-1.6**
MSRU				S	**Sn**	**09 18 58.0**	**-3.6**
MSRU				AML	AML		
	comp=N,19250μm,0.3s						
MSRU				AML	AML		
	comp=E,16650μm,0.3s						
SOI	**Samo**	**0.39**	**151**	⇓P	**Pn**	**09 18 50.9**	**-0.7**
SOI				S	**Sn**	**09 19 00.2**	**-2.3**
SOI				AML	AML		
	comp=E,1795μm,0.4s						
SOI				AML	AML		
	comp=N,2210μm,0.6s						
SOI				AML	AML		
	comp=E,1800μm,0.4s						
SOI				AML	AML		
	comp=N,2205μm,0.6s						
MTTG	**Motta San Giov**	**0.42**	**194**	⇓P	**Pn**	**09 18 51.1**	**-0.7**
MTTG				S	**Sn**	**09 19 00.8**	**-2.1**
MTTG				AML	AML		
	comp=N,9635μm,0.8s						
MTTG				AML	AML		
	comp=E,4200μm,0.5s						
MTTG				AML	AML		
	comp=N,9635μm,1.2s						
MPNC	**Port Mandanici**	**0.45**	**234**	⇓P	**Pn**	**09 18 50.5**	**-1.5**
MPNC				S	**Sn**	**09 18 59.7**	**-3.6**
MPNC				AML	AML		
	comp=N,24200μm,0.6s						
MPNC				AML	AML		
	comp=E,27000μm,0.7s						
MILZ	**Milazzo**	**0.48**	**253**	P	**Pn**	**09 18 50.8**	**-1.4**
MILZ				S	**Sn**	**09 18 59.8**	**-3.8**
MILZ				AML	AML		
	comp=N,10905μm,1.4s						
MILZ				AML	AML		
	comp=N,10900μm,1.4s						
MILZ				AML	AML		
	comp=E,13300μm,0.4s						
MILZ				AML	AML		
	comp=N,10900μm,0.6s						
PLAC	**Placanica**	**0.49**	**85**	⇑P	**Pn**	**09 18 52.5**	**+0.2**
PLAC				S	**Sn**	**09 19 03.2**	**-0.6**
PLAC				AML	AML		
	comp=N,9270μm,0.5s						
PLAC				AML	AML		
	comp=E,9725μm,0.5s						
PLAC				AML	AML		
	comp=N,7400μm,0.5s						
PLAC				AML	AML		
	comp=N,9260μm,0.5s						
PLAC				AML	AML		
	comp=E,7170μm,0.6s						
PLAC				AML	AML		
	comp=N,9260μm,1.5s						
PLAC				AML	AML		
	comp=E,9725μm,1.5s						
IST3	**Stromboli F**	**0.60**	**310**	P	**Pn**	**09 18 52.5**	**-0.7**
IST3				AML	AML		
	comp=E,10945μm,0.1s						
IST3				AML	AML		
	comp=N,7905μm,0.4s						
IST3				AML	AML		
	comp=N,7905μm,1.6s						
ISTR	**Stromboli Gino**	**0.62**	**308**	P	**Pn**	**09 18 52.4**	**-0.9**
ISTR				S	**Sn**	**09 19 03.2**	**-2.3**
ISTR				AML	AML		
	comp=E,3190μm,0.1s						
ISTR				AML	AML		
	comp=N,3705μm,0.3s						
GRI	**Girifalco**	**0.62**	**49**	P	**Pn**	**09 18 53.8**	**+0.4**
GRI				S	**Sn**	**09 19 06.2**	**+0.5**
GRI				AML	AML		
	comp=E,6720μm,0.3s						
GRI				AML	AML		
	comp=N,4030μm,0.2s						
AIO	**Antillo**	**0.64**	**227**	AML	AML		
	comp=N,5955μm,1.4s						
AIO				AML	AML		
	comp=E,6430μm,0.7s						
AIO				AML	AML		
	comp=N,5955μm,0.6s						
VPL	**Vulcano Piano**	**0.66**	**267**	⇑P	**Pn**	**09 18 52.6**	**-1.1**
VPL				S	**Sn**	**09 19 02.9**	**-3.3**
VPL				AML	AML		
	comp=E,17800μm,1.5s						
VPL				AML	AML		
	comp=N,19250μm,0.2s						
VPL				AML	AML		
	comp=E,17800μm,0.5s						
LLI	**Lipari**	**0.69**	**273**	⇑P	**Pn**	**09 18 53.3**	**-0.5**
LLI				S	**Sn**	**09 19 04.2**	**-2.3**
LLI				AML	AML		
	comp=N,75050μm,0.2s						
LLI				AML	AML		
	comp=E,57400μm,0.2s						
LLI				AML	AML		
	comp=E,57400μm,1.8s						
CAR1	**CAROLEI**	**0.90**	**20**	⇑P	**Pn**	**09 18 56.2**	**+0.2**
CAR1				S	**Sn**	**09 19 09.7**	**-0.6**
CAR1				AML	AML		
	comp=E,3145μm,0.4s						
CAR1				AML	AML		
	comp=N,2855μm,0.3s						
CAR1				AML	AML		
	comp=E,3495μm,0.5s						
CAR1				AML	AML		
	comp=N,2265μm,0.3s						
CAR1				AML	AML		
	comp=N,2855μm,0.3s						
CAR1				AML	AML		
	comp=E,3145μm,0.3s						
EMSG	**Monte Spagnolo**	**0.90**	**230**	P	**Pn**	**09 18 56.2**	**-0.1**
EMSG				AML	AML		
	comp=E,10375μm,1.5s						
EMSG				AML	AML		
	comp=N,8975μm,0.6s						
EMSG				AML	AML		
	comp=N,8975μm,1.4s						
EMSG				AML	AML		
	comp=E,10375μm,0.5s						
SERS	**Sersale**	**0.92**	**47**	⇑P	**Pn**	**09 18 57.5**	**+1.1**
SERS				S	**Sn**	**09 19 13.2**	**+2.2**
SERS				AML	AML		
	comp=N,1025μm,0.5s						
SERS				AML	AML		
	comp=E,1090μm,0.4s						
SERS				AML	AML		
	comp=N,1025μm,1.5s						
EPZF	**Pizzo Felice**	**0.96**	**233**	P	**Pn**	**09 18 56.7**	**-0.1**
EPZF				AML	AML		
	comp=E,38100μm,0.4s						
EPZF				AML	AML		
	comp=N,26050μm,0.4s						
IFIL	**Filicudi I Eol**	**0.99**	**279**	⇑P	**Pn**	**09 18 56.1**	**-0.9**
IFIL				S	**Sn**	**09 19 09.5**	**-2.7**
IFIL				AML	AML		
	comp=E,8340μm,0.3s						
IFIL				AML	AML		
	comp=N,3050μm,0.4s						
IFIL				AML	AML		
	comp=N,3050μm,1.6s						
MNO	**Monte Soro**	**1.01**	**242**	P	**Pn**	**09 18 57.3**	**-0.1**
MNO				S	**Sn**	**09 19 11.8**	**-1.0**
MNO				AML	AML		
	comp=N,4480μm,1.5s						
MNO				AML	AML		
	comp=N,4480μm,0.5s						
MNO				AML	AML		
	comp=E,5520μm,0.4s						
MSFR	**San Fratello**	**1.04**	**249**	⇑P	**Pn**	**09 18 56.9**	**-0.7**
MSFR				AML	AML		
	comp=N,921μm,1.2s						
MSFR				AML	AML		
	comp=E,1037μm,0.7s						
MSFR				AML	AML		
	comp=E,1037μm,1.3s						
TIP	**Timpagrande**	**1.06**	**43**	⇑P	**Pn**	**09 18 58.9**	**+1.1**
TIP				⇑S	**Sn**	**09 19 14.2**	**+0.6**
TIP	**Timpagrande**	**1.06**	**43**	⇑P	**Pn**	**09 18 59.0**	**+1.1**
TIP				S	**Sn**	**09 19 15.0**	**+1.4**
EPOZ	**Pozzillo**	**1.07**	**213**	P	**Pn**	**09 18 55.3**	**-2.6**
EPOZ				AML	AML		
	comp=N,3550μm,0.9s						
EPOZ				AML	AML		
	comp=E,3405μm,0.8s						
ESML	**S. M. di Licod**	**1.09**	**224**	AML	AML		
	comp=N,2665μm,0.6s						
ESML				AML	AML		
	comp=E,3345μm,0.6s						
CELI	**Celico**	**1.13**	**28**	⇑P	**Pn**	**09 18 59.7**	**+1.0**
CELI				S	**Sn**	**09 19 16.1**	**+1.1**
CELI				AML	AML		
	comp=N,1395μm,0.2s						
CELI				AML	AML		
	comp=E,981μm,0.5s						
IACL	**Alicudi**	**1.15**	**277**	⇑P	**Pn**	**09 18 58.0**	**-0.8**
IACL				AML	AML		
	comp=E,1415μm,0.7s						
IACL				AML	AML		
	comp=N,1330μm,0.2s						
GALF	**Gagliano Caste**	**1.21**	**235**	P	**Pn**	**09 18 59.6**	**0.0**
GALF				AML	AML		
	comp=N,1840μm,0.4s						
GALF				AML	AML		
	comp=E,1224μm,0.6s						
HAGA	**Augusta**	**1.24**	**205**	⇓P	**Pn**	**09 18 58.1**	**-1.7**
HAGA				S	**Sn**	**09 19 13.3**	**-3.8**
HAGA				AML	AML		
	comp=E,3770μm,1.3s						
HAGA				AML	AML		
	comp=N,4410μm,0.5s						
HAGA				AML	AML		
	comp=E,3770μm,0.7s						
HAGA				AML	AML		
	comp=N,4410μm,1.5s						
HLNI	**Lentini**	**1.30**	**216**	⇑P	**Pn**	**09 18 59.0**	**-1.6**
HLNI				S	**Sn**	**09 19 14.7**	**-3.7**
HLNI				AML	AML		
	comp=E,2615μm,0.2s						
HLNI				AML	AML		
	comp=N,2690μm,0.5s						
CAGR	**Agira**	**1.31**	**233**	⇑P	**Pn**	**09 19 01.2**	**+0.6**
CAGR				AML	AML		
	comp=E,1470μm,0.5s						
CAGR				AML	AML		
	comp=N,1625μm,0.7s						
TDS	**Terranova Siba**	**1.31**	**18**	P	**Pn**	**09 19 01.2**	**+0.6**
TDS				S	**Sn**	**09 19 18.8**	**+0.2**
TDS				AML	AML		
	comp=E,534μm,0.4s						
TDS				AML	AML		
	comp=N,508μm,1.5s						
PIPA	**Pietrapaola**	**1.32**	**36**	P	**Pn**	**09 19 02.3**	**+1.4**
PIPA				AML	AML		
	comp=N,514μm,1.4s						
PIPA				AML	AML		
	comp=N,558μm,0.5s						
PIPA				AML	AML		
	comp=E,796μm,1.4s						
PIPA				AML	AML		
	comp=E,806μm,1.4s						
PIPA				AML	AML		
	comp=N,514μm,0.6s						
PIPA				AML	AML		
	comp=E,796μm,0.6s						
PIPA				AML	AML		
	comp=E,806μm,0.6s						
PLLN	**Pollina**	**1.39**	**253**	⇑P	**Pn**	**09 19 00.8**	**-0.9**
PLLN				AML	AML		
	comp=E,1052μm,0.8s						
PLLN				AML	AML		
	comp=N,1310μm,0.6s						
SSY	**Sortino**	**1.39**	**205**	⇓P	**Pn**	**09 18 60.0**	**-1.7**
SSY				S	**Sn**	**09 19 16.4**	**-4.0**
SSY				AML	AML		
	comp=N,3300μm,0.3s						
SSY				AML	AML		
	comp=E,1750μm,0.7s						
VAE	**Valguarnera**	**1.45**	**230**	P	**Pn**	**09 19 03.5**	**+1.0**
	comp=E,38nm,0.6s,baz=209,slow=1.3,SNR=14						
VAE				S	**Sn**	**09 19 22.2**	**+0.4**
	comp=E,83nm,0.5s,baz=9.6,slow=6.2,SNR=7.5						
PETRA	**Petralia Sopra**	**1.46**	**247**	⇑P	**Pn**	**09 19 02.5**	**-0.2**
PETRA				AML	AML		
	comp=E,490μm,0.4s						
PETRA				AML	AML		
	comp=N,799μm,1.1s						
GIB	**Gibilmanna**	**1.47**	**254**	P	**Pn**	**09 19 01.8**	**-1.0**
GIB				AML	AML		
	comp=E,618μm,0.5s						
GIB				AML	AML		
	comp=N,823μm,0.5s						
GIB				AML	AML		
	comp=N,823μm,1.5s						
MEU	**Monte Lauro**	**1.48**	**209**	P	**Pn**	**09 19 01.7**	**-1.3**
MEU				S	**Sn**	**09 19 19.4**	**-3.1**
MEU				AML	AML		

	comp=E,2385µm,0.9s								
MEU					AML	AML			
	comp=N,2510µm,1.2s								
MEU					AML	AML			
	comp=E,2385µm,1.1s								
MEU					AML	AML			
	comp=N,2510µm,0.8s								
SALB	**San Lorenzo Be**	**1.52**	**15**	P		**Pn**	**09 19 04.6**	**+1.2**	
SALB				AML		AML			
	comp=E,804µm,1.0s								
SALB				AML		AML			
	comp=N,471µm,0.3s								
CUC	**Castrocucco**	**1.58**	**360**	P		**Pn**	**09 19 04.3**	**+0.3**	
CUC				S		**Sn**	**09 19 23.8**	**-0.8**	
CUC				AML		AML			
	comp=E,1056µm,0.2s								
CUC				AML		AML			
	comp=N,800µm,1.3s								
CUC				AML		AML			
	comp=E,1320µm,0.2s								
CUC				AML		AML			
	comp=N,997µm,1.3s								
CUC				AML		AML			
	comp=N,997µm,0.7s								
CUC				AML		AML			
	comp=N,800µm,0.7s								
RESU	**Resuttano**	**1.59**	**242**	AML		AML			
	comp=N,406µm,1.4s								
RESU				AML		AML			
	comp=N,406µm,0.6s								
RESU				AML		AML			
	comp=E,366µm,0.6s								
RAFF	**Raffo Rosso**	**1.66**	**225**	⇑P		**Pn**	**09 19 04.6**	**-0.4**	
RAFF				S		**Sn**	**09 19 25.1**	**-1.1**	
RAFF				AML		AML			
	comp=E,998µm,0.7s								
RAFF				AML		AML			
	comp=N,1000µm,0.4s								
RAFF				AML		AML			
	comp=E,998µm,1.3s								
BULG	**Bulgheria - Ca**	**1.70**	**349**	⇓P		**Pn**	**09 19 06.4**	**+0.8**	
BULG				S		**Sn**	**09 19 27.4**	**+0.1**	
MGR	**Morigerati**	**1.74**	**353**	⇓P		**Pn**	**09 19 06.8**	**+0.8**	
MGR				S		**Sn**	**09 19 28.0**	**0.0**	
MGR				AML		AML			
	comp=N,870µm,1.2s								
MGR				AML		AML			
	comp=E,872µm,0.9s								
ALJA	**Alia**	**1.76**	**249**	P		**Pn**	**09 19 06.7**	**+0.4**	
ALJA				AML		AML			
	comp=E,272µm,1.0s								
ALJA				AML		AML			
	comp=N,251µm,0.4s								
SIRI	**Monte Sirino -**	**1.77**	**1**	P		**Pn**	**09 19 07.0**	**+0.5**	
SIRI				AML		AML			
	comp=E,1585µm,0.3s								
SIRI				AML		AML			
	comp=N,983µm,0.2s								
SIRI				AML		AML			
	comp=E,1520µm,0.3s								
SIRI				AML		AML			
	comp=E,1520µm,1.7s								
SIRI				AML		AML			
	comp=N,948µm,0.2s								
SIRI				AML		AML			
	comp=E,1585µm,1.7s								
HPAC	**Pachino**	**1.80**	**198**	P		**Pn**	**09 19 06.0**	**-0.8**	
HPAC				S		**Sn**	**09 19 26.7**	**-2.8**	
HPAC				AML		AML			
	comp=E,3105µm,0.6s								
HPAC				AML		AML			
	comp=N,2770µm,0.6s								
SOLUN	**Solunto**	**1.83**	**261**	⇑P		**Pn**	**09 19 06.5**	**-0.6**	
SOLUN				AML		AML			
	comp=E,156µm,0.4s								
SOLUN				AML		AML			
	comp=N,110µm,0.8s								
SOLUN				AML		AML			
	comp=E,156µm,1.6s								
MTSN	**Montesano sull**	**1.85**	**358**	P		**Pn**	**09 19 08.2**	**+0.6**	
MTSN				AML		AML			
	comp=E,548µm,1.2s								
MTSN				AML		AML			
	comp=N,515µm,0.5s								
MTSN				AML		AML			
	comp=E,548µm,0.8s								
MCEL	**Monticello**	**1.91**	**360**	P		**Pn**	**09 19 09.3**	**+1.0**	
MCEL				AML		AML			
	comp=N,408µm,0.9s								
MCEL				AML		AML			
	comp=E,408µm,1.0s								
MCEL				AML		AML			
	comp=N,408µm,1.1s								
CLTA	**Licata**	**1.93**	**230**	⇑P		**Pn**	**09 19 09.3**	**+0.8**	
CLTA				AML		AML			
	comp=E,935µm,1.6s								
CLTA				AML		AML			
	comp=N,996µm,0.9s								
CMPR	**Campora**	**1.95**	**348**	P		**Pn**	**09 19 09.6**	**+0.8**	
CMPR				S		**Sn**	**09 19 34.0**	**+1.0**	
CMPR				AML		AML			
	comp=E,746µm,0.3s								
CMPR				AML		AML			
	comp=N,355µm,0.4s								
CMPR				AML		AML			
	comp=N,355µm,1.6s								
MPG	**Monte Pellegri**	**1.95**	**263**	P		**Pn**	**09 19 08.1**	**-0.7**	
MPG				AML		AML			
	comp=E,186µm,1.0s								
MPG				AML		AML			
	comp=N,170µm,0.2s								
CORL	**Corleone**	**2.05**	**256**	P		**Pn**	**09 19 10.0**	**-0.1**	
CORL				AML		AML			
	comp=N,170µm,0.8s								
CORL				AML		AML			
	comp=E,188µm,0.3s								
FAVR	**Favara**	**2.05**	**237**	P		**Pn**	**09 19 11.6**	**+1.6**	
FAVR				AML		AML			
	comp=E,291µm,0.3s								
FAVR				AML		AML			
	comp=N,280µm,0.4s								
USI	**Ustica**	**2.09**	**279**	P		**Pn**	**09 19 09.9**	**-0.6**	
USI				AML		AML			
	comp=N,605µm,0.6s								
USI				AML		AML			
	comp=E,178µm,0.2s								
MIGL	**Miglionico**	**2.24**	**12**	P		**Pn**	**09 19 13.3**	**+0.7**	
MIGL				AML		AML			
	comp=E,786µm,0.7s								
MIGL				AML		AML			
	comp=N,1011µm,0.6s								
MIGL				AML		AML			
	comp=E,786µm,1.3s								
MIGL				AML		AML			
	comp=N,1011µm,1.4s								
LTRZ	**Laterza**	**2.32**	**19**	⇑P		**Pn**	**09 19 13.5**	**-0.1**	
LTRZ				S		**Sn**	**09 19 40.7**	**-0.9**	
MATE	**Matera**	**2.34**	**17**	⇑P		**Pn**	**09 19 14.0**	**+0.3**	
MATE				⇑S		**Sn**	**09 19 41.2**	**-0.7**	
MATE	**Matera**	**2.34**	**17**	P		**Pn**	**09 19 13.8**	**0.0**	
MATE				AML		AML			
	comp=N,616µm,0.1s								
MATE				AML		AML			
	comp=E,410µm,0.3s								
TAR1	**Taranto**	**2.40**	**28**	AML		AML			
	comp=N,1060µm,0.7s								
TAR1				AML		AML			
	comp=E,1270µm,0.7s								
PALZ	**Palazzo San Ge**	**2.53**	**2**	AML		AML			
	comp=N,266µm,1.2s								
PALZ				AML		AML			
	comp=E,329µm,1.3s								
PALZ				AML		AML			
	comp=E,329µm,0.7s								
SNAL	**S. Angelo Dei**	**2.56**	**350**	P		**Pn**	**09 19 19.2**	**+2.5**	
SNAL				AML		AML			
	comp=N,250µm,1.0s								
SNAL				AML		AML			
	comp=E,218µm,0.7s								
NOCI	**Noci**	**2.56**	**22**	P		**Pn**	**09 19 16.2**	**-0.5**	
NOCI				AML		AML			
	comp=E,1075µm,0.5s								
NOCI				AML		AML			
	comp=N,1310µm,0.3s								
AMUR	**Altamura**	**2.56**	**13**	P		**Pn**	**09 19 16.4**	**-0.4**	
AMUR				AML		AML			
	comp=N,762µm,0.5s								
AMUR				AML		AML			
	comp=E,627µm,0.1s								
SCTE	**Santa Cesarea**	**2.64**	**50**	P		**Pn**	**09 19 17.2**	**-0.6**	
SCTE				AML		AML			
	comp=E,349µm,0.9s								
SCTE				AML		AML			
	comp=N,342µm,1.3s								
SCTE				AML		AML			
	comp=E,349µm,1.1s								
MRVN	**Minervino Murg**	**2.66**	**6**	P		**Pn**	**09 19 18.1**	**0.0**	
MRVN				AML		AML			
	comp=E,278µm,1.5s								
MRVN				AML		AML			
	comp=N,245µm,1.1s								
MRVN				AML		AML			
	comp=E,278µm,0.5s								
MESG	**Mesagne**	**2.68**	**35**	P		**Pn**	**09 19 17.9**	**-0.5**	
MESG				AML		AML			
	comp=N,1985µm,0.4s								
MESG				AML		AML			
	comp=E,1445µm,0.1s								
MESG				AML		AML			
	comp=N,1985µm,1.6s								
MSAG	**Monte S. Angel**	**3.30**	**1**	P		**Pn**	**09 19 26.9**	**+0.2**	
APRC	**Apricena**	**3.35**	**356**	P		**Pn**	**09 19 28.6**	**+1.2**	
APRC				AML		AML			
	comp=N,188µm,0.8s								
APRC				AML		AML			
	comp=E,169µm,0.4s								
APRC				AML		AML			
	comp=N,188µm,1.2s								
KEK	**Kerkira**	**3.36**	**66**	P		**Pn**	**09 19 27.1**	**-0.3**	
KEK				S		**Sn**	**09 20 05.0**	**-1.4**	
SRN	**Sarande**	**3.57**	**64**	P		**Pn**	**09 19 29.8**	**-0.4**	
SRN	**Sarande**	**3.57**	**64**	AML		AML			
	comp=E,38µm,0.5s								
SRN				AML		AML			
	comp=N,41µm,0.4s								
SRN				AML		AML			
	comp=E,38µm,1.5s								
KEF3	**Kipouria, Keph**	**3.57**	**92**	P		**Pn**	**09 19 31.1**	**+0.9**	
DMLN	**Damoulianata-K**	**3.59**	**91**	P		**Pn**	**09 19 30.9**	**+0.4**	
IGT	**Igoumenitsa**	**3.69**	**71**	P		**Pn**	**09 19 31.7**	**-0.2**	
FSK	**Fiskardo**	**3.73**	**88**	P		**Pn**	**09 19 33.6**	**+1.3**	
DRAG	**Dragano-Lefkad**	**3.74**	**84**	P		**Pn**	**09 19 33.5**	**+1.0**	
VLS	**Valsamata**	**3.76**	**92**	P		**Pn**	**09 19 33.1**	**+0.3**	
PSDA	**Pessada-Kefalo**	**3.76**	**93**	P		**Pn**	**09 19 33.0**	**+0.2**	
EVGI	**Lefkada island**	**3.80**	**85**	P		**Pn**	**09 19 34.0**	**+0.7**	
LKD2	**Lefkada island**	**3.81**	**83**	P		**Pn**	**09 19 34.0**	**+0.5**	
TSLK	**Tsoukalades, L**	**3.81**	**82**	P		**Pn**	**09 19 34.2**	**+0.7**	
NYDR	**Nydri-Lefkada**	**3.84**	**84**	P		**Pn**	**09 19 34.8**	**+1.0**	
JAN	**Janina**	**4.11**	**71**	P		**Pn**	**09 19 36.9**	**-0.7**	
RLS	**Riolos of Patr**	**4.46**	**93**	P		**Pn**	**09 19 44.0**	**+1.7**	
PVO	**Paravola**	**4.48**	**86**	P		**Pn**	**09 19 44.7**	**+2.2**	
NEST	**Nestorio**	**4.52**	**62**	P		**Pn**	**09 19 44.8**	**+1.7**	
BUM	**Brajici-Budva**	**4.54**	**30**	⇓*i*Pn		**Pn**	**09 19 42.4**	**-1.0**	
BUM				*i* Sn		**Sn**	**09 20 31.3**	**-3.7**	
DRME	**Dracevica, Mon**	**4.56**	**33**	⇓*i*Pn		**Pn**	**09 19 42.9**	**-0.8**	
DRME				*i* Sn		**Sn**	**09 20 31.7**	**-3.8**	
DRO	**Drossia**	**4.67**	**94**	P		**Pn**	**09 19 46.6**	**+1.5**	
EVR	**Evrytania**	**4.71**	**82**	P		**Pn**	**09 19 48.1**	**+2.3**	
CEME	**Cevo**	**4.76**	**29**	⇓*i*Pn		**Pn**	**09 19 45.5**	**-0.9**	
CEME				*i* Sn		**Sn**	**09 20 36.8**	**-3.5**	
EFP	**Efpalio**	**4.78**	**88**	P		**Pn**	**09 19 48.6**	**+2.0**	
ANX	**Ano Chora**	**4.79**	**86**	P		**Pn**	**09 19 49.4**	**+2.6**	
PDG	**Podgorica**	**4.79**	**32**	⇑P		**Pn**	**09 19 46.1**	**-0.7**	
PDG				⇑S		**Sn**	**09 20 35.9**	**-5.1**	
TTG	**Podgorica**	**4.79**	**32**	⇓*i*Pn		**Pn**	**09 19 46.0**	**-0.8**	
TTG				*i* Sn		**Sn**	**09 20 37.6**	**-3.5**	
LAKA	**Lakka**	**4.85**	**90**	P		**Pn**	**09 19 49.4**	**+1.9**	
SERG	**Sergoula**	**4.90**	**88**	P		**Pn**	**09 19 50.3**	**+2.0**	
PYL	**PYLOS**	**4.94**	**106**	P		**Pn**	**09 19 49.3**	**+0.5**	
BRY	**Bratogost**	**4.94**	**24**	⇓*i*Pn		**Pn**	**09 19 48.4**	**-0.5**	
BRY				*i* Sn		**Sn**	**09 20 41.5**	**-3.3**	
NKME	**Niksic**	**4.96**	**28**	⇑*i*Pn		**Pn**	**09 19 48.8**	**-0.3**	
NKME				*e*Sn		**Sn**	**09 20 41.5**	**-3.7**	
THL	**Klokotos Trika**	**4.96**	**75**	P		**Pn**	**09 19 50.8**	**+1.7**	
MAKR	**Makrakomi, Fth**	**4.97**	**81**	P		**Pn**	**09 19 51.9**	**+2.6**	
ITM	**Ithomi**	**4.99**	**102**	P		**Pn**	**09 19 50.0**	**+0.5**	
ITM	**Ithomi**	**4.99**	**102**	P		**Pn**	**09 19 50.6**	**+1.1**	
KLV	**Kalavryta, Ach**	**5.00**	**92**	P		**Pn**	**09 19 51.1**	**+1.5**	
VSL	**Villasalto**	**5.14**	**284**	P		**Pn**	**09 19 51.0**	**-0.4**	
PVY	**Plav**	**5.24**	**36**	⇓*i*Pn		**Pn**	**09 19 52.6**	**-0.3**	
PVY				*i* Sn		**Sn**	**09 20 48.1**	**-3.9**	
KOME	**Kolasin**	**5.25**	**31**	⇓*i*Pn		**Pn**	**09 19 53.3**	**+0.2**	
KOME				*i* Sn		**Sn**	**09 20 48.3**	**-4.0**	
UPM	**Unac-Piva**	**5.33**	**25**	⇑*i*Pn		**Pn**	**09 19 53.8**	**-0.4**	
UPM				*i* Sn		**Sn**	**09 20 50.8**	**-3.6**	
AXAR	**Agios Charalam**	**5.37**	**84**	P		**Pn**	**09 19 56.8**	**+2.2**	
IVA	**Berane**	**5.43**	**34**	⇓*i*Pn		**Pn**	**09 19 55.4**	**-0.1**	
IVA				*i* Sn		**Sn**	**09 20 53.1**	**-3.5**	
LIT	**Litokhoron**	**5.45**	**70**	P		**Pn**	**09 19 56.9**	**+1.2**	
PLE	**Pljevlja**	**5.61**	**28**	⇓*i*Pn		**Pn**	**09 19 59.1**	**+1.1**	
PLE				*e*Sn		**Sn**	**09 20 57.7**	**-3.4**	
LTK	**Loutraki**	**5.64**	**92**	P		**Pn**	**09 19 59.6**	**+1.3**	
ATAL	**Atalanti**	**5.65**	**85**	P		**Pn**	**09 20 00.1**	**+1.6**	
GRG	**Griva**	**5.68**	**61**	P		**Pn**	**09 19 59.2**	**+0.4**	
KEST	**Kesra**	**5.83**	**245**	P		**Pn**	**09 20 02.2**	**+1.3**	
	comp=E,0.5nm,0.3s,baz=42,slow=15,SNR=3.9								
	comp=E,3.2nm,0.5s								
XOR	**Xorichti**	**5.83**	**78**	P		**Pn**	**09 20 01.9**	**+1.0**	
VLI	**Veliai**	**5.90**	**104**	P		**Pn**	**09 20 03.9**	**+2.1**	
HORT	**Hortiatis**	**6.04**	**67**	P		**Pn**	**09 20 03.9**	**+0.1**	
KTHR	**Kythira**	**6.11**	**108**	P		**Pn**	**09 20 06.0**	**+1.2**	
ATHU	**Athens Univers**	**6.29**	**92**	P		**Pn**	**09 20 08.0**	**+0.9**	
PAIG	**Paliouri**	**6.29**	**74**	P		**Pn**	**09 20 07.5**	**+0.4**	
DION	**Dionisos Attik**	**6.40**	**90**	P		**Pn**	**09 20 09.9**	**+1.3**	
BOVS	**Bovan**	**6.86**	**39**	⇑P		**Pn**	**09 20 14.6**	**-0.2**	
BOVS				⇑S		**Sn**	**09 21 24.0**	**-7.3**	
VTS	**Vitosha**	**7.04**	**51**	⇑P		**Pn**	**09 20 17.3**	**-0.1**	
VTS				⇑S		Sn	09 21 26.5	-10	
BLKB	**Belogradchik**	**7.34**	**43**	⇑P		**Pn**	**09 20 20.5**	**-1.0**	
BLKB				⇓S		Sn	09 21 26.6	-17	
FRGS	**Fruska Gora**	**7.37**	**23**	⇑P		**Pn**	**09 20 22.3**	**+0.5**	
FRGS				⇑S		**Sn**	**09 21 39.0**	**-4.8**	
MDVR	**Moldovita**	**7.75**	**33**	⇑P		**Pn**	**09 20 26.6**	**-0.3**	
MDVR				⇓S		**Sn**	**09 21 47.3**	**-5.7**	
HERR	**Herculane**	**8.13**	**35**	⇑P		**Pn**	**09 20 32.6**	**+0.4**	
HERR				⇓S		Sn	09 21 52.2	-10	
BZS	**Buzias**	**8.39**	**29**	⇑P		**Pn**	**09 20 35.4**	**-0.2**	
BZS				⇑S		**Sn**	**09 22 02.2**	**-6.4**	
GZR	**Gura Zlata**	**8.69**	**34**	⇓P		**Pn**	**09 20 40.3**	**+0.5**	
GZR				⇓S		**Sn**	**09 22 10.8**	**-5.2**	
DRGR		**9.79**	**29**	⇑S		**Sn**	**09 22 37.1**	**-5.7**	
VOIR		**9.82**	**41**	⇑P		**Pn**	**09 20 57.1**	**+1.9**	
VOIR				⇑S		Sn	09 22 17.3	-26	
OBN	**Obninsk**	**21.80**	**33**	LR		LR	09 33 34.2		
	comp=E,16nm,20.5s,baz=156,slow=41								
FINES	**FINESS Array B**	**23.93**	**12**	P		**P**	**09 23 43.3**	**+1.7**	
	comp=E,0.7nm,0.5s,baz=203,slow=9.0,SNR=9.8								
	comp=E,0.7nm,0.5s								
MKAR	**Makanchi Array**	**48.31**	**58**	P		**P**	**09 27 11.8**	**+3.3**	
	comp=E,0.4nm,0.4s,baz=286,slow=7.0,SNR=7.4								
	comp=E,0.4nm,0.4s								
	baz=274,slow=75,SNR=4.6								
H11N1	**WAKE ISLAND Hy**	**20.21**	**83**	T		T	09 54 19.0		
	baz=266,slow=74,SNR=5.0								
H11N2	**WAKE ISLAND Hy**	**20.21**	**83**	T		T	09 54 23.4		
	baz=266,slow=74,SNR=4.8								
H11N3	**WAKE ISLAND Hy**	**20.22**	**83**	T		T	09 54 30.0		
	baz=266,slow=74,SNR=3.3								
KSRS	**Korea Array**	**24.34**	**324**	P		**P**	**09 33 44.3**	**+1.6**	
	1.0nm,0.6s,baz=144,slow=9.0,SNR=5.7								
	1.0nm,0.6s								
COEN	**Coen**	**32.40**	**184**	P		**P**	**09 34 54.2**	**-0.2**	
COEN				IAmb		IAmb	09 35 07.7		
	comp=Z,8.5nm,1.2s								
MTN	**Manton Dam**	**34.29**	**206**	P		**P**	**09 35 11.4**	**+0.6**	
KNRA	**Kununurra**	**37.82**	**207**	P		**P**	**09 35 41.7**	**+1.0**	
KNRA				IAmb		IAmb	09 35 42.3		
	comp=Z,12nm,0.7s								
CTA	**Charters Tower**	**38.42**	**179**	P		**P**	**09 35 45.5**	**-0.2**	
	comp=Z,1.3nm,0.6s,baz=351,slow=11,SNR=1.8								
	comp=Z,1.3nm,0.6s								
CTAO	**Charters Tower**	**38.42**	**179**	P		**P**	**09 35 45.8**	**+0.1**	
CTAO				IAmb		IAmb	09 36 02.1		
	comp=Z,14nm,1.4s								
WB0	**Warramunga Arr**	**39.63**	**197**	P		**P**	**09 35 56.5**	**+0.7**	
WB0				IAmb		IAmb	09 35 57.0		
	comp=Z,3.9nm,0.6s								
WR0	**Warramunga Arr**	**39.78**	**196**	P		**P**	**09 35 57.3**	**+0.3**	
WR0				IAmb		IAmb	09 35 58.1		
	comp=Z,9.0nm,1.2s								
WRAB	**Tennant Creek**	**39.80**	**197**	P		**P**	**09 35 57.5**	**+0.3**	
WRAB				IAmb		IAmb	09 36 15.7		
	comp=Z,6.0nm,0.7s								
WB2	**Warramunga Arr**	**39.81**	**197**	P		**P**	**09 35 57.6**	**+0.3**	
WB2				IAmb		IAmb	09 35 60.0		
	comp=Z,14nm,1.4s								
WRA	**Warramunga Arr**	**39.81**	**197**	P		**P**	**09 35 57.0**	**-0.3**	
	comp=Z,2.1nm,0.4s,baz=17,slow=8.9,SNR=67								
WRA				PcP		**PcP**	**09 37 59.0**	**-0.4**	
	comp=Z,1.0nm,0.6s,baz=15,slow=3.6,SNR=8.1								
	comp=Z,2.1nm,0.4s								
WRA	**Warramunga Arr**	**39.81**	**197**	P		**P**	**09 35 56.5**	**-0.8**	
FITZ	**Fitzroy Crossi**	**41.35**	**209**	P		**P**	**09 36 10.5**	**+0.7**	
	comp=Z,2.0nm,0.3s,baz=11,slow=5.3,SNR=20								
	comp=Z,2.0nm,0.3s								
FITZ	**Fitzroy Crossi**	**41.35**	**209**	P		**P**	**09 36 10.8**	**+0.9**	
FITZ				IAmb		IAmb	09 36 11.7		
	comp=Z,3.6nm,1.0s								
SONM	**Songino Array**	**43.15**	**322**	P		**P**	**09 36 25.1**	**+0.8**	
	comp=Z,0.9nm,0.5s,baz=153,slow=6.7,SNR=3.7								
	comp=Z,0.9nm,0.5s								
SONM	**Songino Array**	**43.15**	**322**	P		**P**	**09 36 23.6**	**-0.7**	
AS31	**Alice Springs**	**43.48**	**196**	P		**P**	**09 36 27.2**	**+0.2**	
ASAR	**Alice Springs**	**43.48**	**196**	P		**P**	**09 36 26.8**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=12,slow=6.4,SNR=31								
ASAR				PcP		**PcP**	**09 38 11.2**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=26,slow=3.0,SNR=5.5								
	comp=Z,0.6nm,0.3s								
ASAR	**Alice Springs**	**43.48**	**196**	P		**P**	**09 36 28.1**	**+1.1**	
EIDS	**Eidsvold**	**44.00**	**173**	P		**P**	**09 36 30.2**	**-0.9**	
EIDS				IAmb		IAmb	09 36 30.7		
	comp=Z,13nm,1.4s								
DZM	**Mont Dzumac**	**45.27**	**152**	P		**P**	**09 36 40.9**	**-0.4**	
	comp=Z,5.1nm,0.7s,baz=344,slow=18,SNR=8.7								
	comp=Z,5.1nm,0.7s								
DZM	**Mont Dzumac**	**45.27**	**152**	P		**P**	**09 36 41.0**	**-0.2**	
DZM				IAmb		IAmb	09 37 00.6		
	comp=Z,23nm,1.1s								
MBWA	**Marble Bar**	**46.88**	**214**	P		**P**	**09 36 54.5**	**+0.8**	
MBWA				IAmb		IAmb	09 36 56.0		
	comp=Z,27nm,1.4s								
PSA00	**Pilbara Seismi**	**47.16**	**213**	P		**P**	**09 36 56.7**	**+0.8**	
PSA00				IAmb		IAmb	09 37 10.8		
	comp=Z,22nm,1.2s								
STKA	**Stephens Creek**	**50.30**	**184**	P		**P**	**09 37 18.1**	**-1.4**	
	comp=Z,1.5nm,0.7s,baz=1.0,slow=10.0,SNR=7.4								
	comp=Z,1.5nm,0.7s								
STKA	**Stephens Creek**	**50.30**	**184**	P		**P**	**09 37 18.5**	**-1.0**	
FORT	**Forrest**	**51.86**	**199**	P		**P**	**09 37 32.3**	**+1.1**	
MORW	**Morawa**	**55.26**	**212**	P		**P**	**09 37 56.9**	**+0.8**	
MORW				IAmb		IAmb	09 37 57.2		
	comp=Z,8.0nm,0.7s								
NWAO	**Narrogin (SRO)**	**57.91**	**208**	P		**P**	**09 38 15.6**	**+1.0**	
ZALV	**Zalesovo Beam**	**58.03**	**323**	P		**P**	**09 38 15.6**	**+0.4**	
	comp=Z,0.7nm,0.4s,baz=107,slow=4.8,SNR=1.8								
	comp=Z,0.7nm,0.4s								
MK31	**Makanchi Array**	**58.45**	**314**	P		**P**	**09 38 20.5**	**+2.3**	
MKAR	**Makanchi Array**	**58.45**	**314**	P		**P**	**09 38 19.8**	**+1.5**	
	comp=Z,0.6nm,0.5s,baz=90,slow=7.7,SNR=7.8								
MKAR				PcP		**PcP**	**09 39 07.1**	**+0.4**	
	comp=Z,0.3nm,0.4s,baz=82,slow=6.2,SNR=4.2								
	comp=Z,0.6nm,0.5s								
MKAR	**Makanchi Array**	**58.45**	**314**	P		**P**	**09 38 20.4**	**+2.1**	
ILAR	**Eielson Array**	**63.83**	**26**	P		**P**	**09 38 53.7**	**-0.3**	
	comp=Z,0.7nm,0.8s,baz=245,slow=4.3,SNR=4.6								
	comp=Z,0.7nm,0.8s								
BKZ	**Black Stump Fm**	**64.32**	**154**	P		**P**	**09 38 56.7**	**-0.9**	
NNZ	**Nelson**	**64.84**	**157**	P		**P**	**09 39 00.0**	**-0.8**	
BMAR	**Burnt Mountain**	**65.30**	**24**	P		**P**	**09 39 06.0**	**+2.4**	
BCAR	**Beaver Creek A**	**65.77**	**28**	P		**P**	**09 39 08.2**	**+1.5**	
INK	**Inuvik**	**69.55**	**23**	P		**P**	**09 39 30.4**	**+0.3**	
	comp=Z,4.0nm,1.1s,baz=246,slow=4.5,SNR=2.6								
	comp=Z,4.0nm,1.1s								
ABKAR	**Akbulak array**	**73.33**	**317**	P		**P**	**09 39 53.5**	**+0.4**	
ARCES	**ARCESS Array B**	**82.57**	**342**	P		**P**	**09 40 44.1**	**+0.5**	
	comp=Z,1.7nm,0.9s,baz=64,slow=4.1,SNR=11								
	comp=Z,1.7nm,0.9s								
NVAR	**Mina Array Bea**	**83.34**	**52**	P		**P**	**09 40 49.7**	**+1.3**	
	comp=Z,0.8nm,0.6s,baz=266,slow=5.5,SNR=9.3								
	comp=Z,0.8nm,0.6s								
FINES	**FINESS Array B**	**86.94**	**335**	P		**P**	**09 41 04.2**	**-1.3**	
	comp=Z,1.0nm,0.3s,baz=67,slow=4.5,SNR=29								
	comp=Z,1.0nm,0.3s								
PDAR	**Pinedale Array**	**88.03**	**45**	P		**P**	**09 41 11.6**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=188,slow=0.9,SNR=4.4								
	comp=Z,0.2nm,0.5s								
BRTR	**Keskin Array B**	**94.10**	**314**	P		**P**	**09 41 39.5**	**0.0**	
	comp=Z,0.8nm,0.8s,baz=61,slow=5.0,SNR=2.7								
	comp=Z,0.8nm,0.8s								

*NEIC **03** 09:28:43.0±1.4, 18°.52N±0°.06×145°.7E±0°.2, h185km±5km, mb4.4/23, Error ellipse: s-maj=23.3km s-min=8.7km az=90.0*

*IDC **03** 09:28:45.2±2.5, 18°.48N×145°.62E, h216km±24km, mb3.5/17, mbtmp4.0/19, Error ellipse: s-maj=21.1km s-min=9.4km az=84.0*

ISC 03 09:28:43.3±0.5, 18°.56N±0°.05×145°.5E±0°.1, h200km, n56, σ1°11/54, mb4.1/27, Mariana Islands

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

MTHZ	Maungataniwha	2.30 231	P	Pn	09 31 22.4	+0.6
TGRZ	Tauranga	2.30 262	P	Pn	09 31 22.0	+0.3
KARZ	Kaharoa	2.36 255	P	Pn	09 31 22.9	+0.3
PRRZ	Plateau Road	2.41 243	P	Pn	09 31 23.6	+0.3
NMHZ	Naumai	2.48 227	P	Pn	09 31 24.8	+0.6
ALRZ	Allen Road	2.48 242	P	Pn	09 31 24.5	+0.3
ARHZ	Aropaoanui	2.49 222	P	Pn	09 31 24.6	+0.4
MRHZ	Matea Rd	2.56 236	P	Pn	09 31 25.5	+0.2
BKZ	Black Stump Fm	2.71 229	P	Pn	09 31 27.5	+0.1
BKZ	Black Stump Fm	2.71 229	P	Pn	09 31 27.5	+0.1
CKHZ	Cape Kidnapper	2.75 215	P	Pn	09 31 27.4	-0.5
KUZ	Kuaotunu	2.81 283	P	Pn	09 31 27.0	-1.7
KUTZ	Kaahu Road	2.82 247	P	Pn	09 31 29.2	+0.3
TOZ	Tahuroa Road	2.90 263	P	Pn	09 31 30.7	+0.8
KWHZ	Kaweka Forest	2.92 226	P	Pn	09 31 29.9	-0.3
KAHZ	Kahuranaki	2.95 216	P	Pn	09 31 30.1	-0.6
RATZ	Rangitukua	3.01 240	P	Pn	09 31 32.3	+0.7
KRHZ	Kereru	3.10 223	P	Pn	09 31 31.9	-0.8
PXZ	Pawanui	3.15 214	P	Pn	09 31 32.2	-1.2
BHHZ	Black Hill Sta	3.17 228	P	Pn	09 31 33.3	-0.4
GRZ	Great Barrier	3.17 291	P	Pn	09 31 32.9	-0.7
MKAZ	Moumakai	3.18 275	P	Pn	09 31 33.2	-0.6
TMVZ	Te Maari	3.18 237	P	Pn	09 31 33.8	-0.1
ETVZ	East Tongariro	3.19 237	P	Pn	09 31 33.9	-0.2
NTVZ	North Tongarir	3.19 237	P	Pn	09 31 34.1	0.0
KRVZ	Karewarewa	3.21 238	P	Pn	09 31 34.3	-0.1
NNVZ	North Ngauruho	3.25 237	P	Pn	09 31 35.0	+0.1
WIAZ	Waiheke Island	3.25 280	P	Pn	09 31 33.9	-0.9
WTVZ	West Tongariro	3.26 238	P	Pn	09 31 35.2	+0.2
SNVZ	South Ngauruho	3.26 236	P	Pn	09 31 35.0	-0.1
NGZ	Ngauruhoe	3.28 237	P	Pn	09 31 35.2	-0.1
TUVZ	Tukino	3.29 235	P	Pn	09 31 35.5	0.0
MOVZ	Moawhango	3.31 232	P	Pn	09 31 35.3	-0.3
TWVZ	Taurewa	3.34 239	P	Pn	09 31 36.0	-0.1
WHVZ	Whangaehu Hut	3.34 235	P	Pn	09 31 36.1	-0.2
FWVZ	Far West T-bar	3.35 236	P	Pn	09 31 36.3	-0.1
WNVZ	Wahianoa	3.36 235	P	Pn	09 31 36.1	-0.4
WPHZ	Waipukurau	3.37 218	P	Pn	09 31 35.4	-1.0
TRVZ	Turoa	3.38 235	P	Pn	09 31 36.5	-0.3
PNHZ	Pukenui	3.38 222	P	Pn	09 31 35.1	-1.5
ETAZ	East Tamaki Re	3.39 277	P	Pn	09 31 38.2	+1.6
PRHZ	Porangahau	3.44 214	P	Pn	09 31 35.8	-1.6
MBAZ	Motutapu North	3.44 280	P	Pn	09 31 37.5	+0.1
PKVZ	Pokaka	3.51 237	P	Pn	09 31 38.7	+0.4
HIZ	Hauiti	3.55 251	P	Pn	09 31 40.0	+1.1
HIZ	Hauiti	3.55 251	P	Pn	09 31 40.1	+1.2
AWAZ	Awhitu Peninsu	3.60 274	P	Pn	09 31 40.7	+1.2
TSZ	Takapari Road	3.61 222	P	Pn	09 31 38.1	-1.7
ANWZ	Angora Road	3.67 213	P	Pn	09 31 39.4	-1.2
DVHZ	Dannevirke	3.69 218	P	Pn	09 31 39.3	-1.5
RVAZ	Riverhead Bore	3.69 279	P	Pn	09 31 41.0	+0.1
BFZ	Birch Farm	3.95 214	P	Pn	09 31 42.5	-1.9
POWZ	Post Office Ro	3.96 220	P	Pn	09 31 43.8	-0.7
PRWZ	Pori Road	3.98 217	P	Pn	09 31 43.5	-1.3
WAZ	Wanganui	3.99 233	P	Pn	09 31 45.1	+0.1
WCZ	Waipu Caves	4.12 290	P	Pn	09 31 46.4	-0.3
MHEZ	Mangahewa	4.13 245	P	Pn	09 31 49.7	+2.9
TIWZ	Tintock	4.19 216	P	Pn	09 31 45.7	-2.1
NEZ	North Egmont	4.36 243	P	Pn	09 31 51.8	+1.6
PKE	Pukeiti	4.41 245	P	Pn	09 31 53.0	+2.2
KHEZ	Kahui Hut	4.43 244	P	Pn	09 31 52.8	+1.7
NBEZ	Newall Road No	4.53 244	P	Pn	09 31 54.9	+2.5
OUZ	Omahuta	4.98 295	P	Pn	09 31 58.9	+0.4
SNZO	South Karori	5.18 220	P	Pn	09 31 58.0	-3.2
QRZ	Quartz Range	6.15 234	P	Pn	09 32 11.8	-2.8
KHZ	Kahutara	6.58 219	P	Pn	09 32 19.0	-1.5
CTZ	Chatham Island	7.09 154	P	Pn	09 32 31.0	+3.5
ODZ	Otahua Downs	9.93 217	P	Pn	09 33 03.0	-3.5
	25nm,2.4s					
MSZ	Milford Sound	11.13 226	P	Pn	09 33 27.4	+4.6

*IDC **03** 09:31:33.2±1.3, 16°.06S×173°.53W, h0km, mb3.9/8, mbtmp3.9/9, ML3.8/1, MS3.6/14, Error ellipse: s-maj=68.6km s-min=18.5km az=146.0*

ISC 03 09:31:34.5±1.3, 15°.85S×173°.53W±0°.3, h10km, n37, σ1§62/12, mb4.0/8, MS3.6/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.56**	**42**	Pn	**Pn**	**09 32 16.3**	**+0.2**
	18nm,0.3s,baz=278,slow=3.3,SNR=17						
AFI				Sn	**Sn**	**09 32 44.4**	**-3.0**
	189nm,0.3s,baz=100,slow=19,SNR=11						
AFI				LR	LR	09 33 07.9	
	comp=Z,278nm,20.9s,baz=218,slow=35						
	38nm,0.3s						
MSVF	**Nonsavu**	**8.27**	**256**	LR	LR	09 36 23.0	
	comp=Z,387nm,20.9s,baz=124,slow=35						
DZM	**Mont Dzumac**	**19.91**	**249**	eLR	LR	09 41 22.2	
	comp=Z,283nm,26.4s						
DZM	**Mont Dzumac**	**19.91**	**249**	LR	LR	09 42 43.1	
	comp=Z,160nm,19.7s,baz=36,slow=34						
PPT	**Papeete**	**23.02**	**98**	LR	LR	09 43 16.7	
	comp=Z,190nm,19.0s,baz=351,slow=31						
PPT2	**Papeete2**	**23.02**	**98**	eLR	LR	09 41 46.8	
	comp=Z,160nm,22.5s						
TBI	**Tubuai**	**23.86**	**112**	eLR	LR	09 42 07.2	
	comp=Z,276nm,26.8s						
HNR	**Honiara**	**26.62**	**281**	LR	LR	09 46 24.0	
	comp=Z,354nm,20.3s,baz=156,slow=33						
CTA	**Charters Tower**	**38.41**	**258**	LR	LR	09 51 58.6	
	comp=Z,81nm,20.1s,baz=96,slow=32						
H11S2	**WAKE ISLAND Hy**	**39.26**	**330**	T	T	10 21 19.8	
	baz=149,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**39.27**	**330**	T	T	10 21 15.4	
	baz=149,slow=76,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**39.28**	**330**	T	T	10 21 36.8	
	baz=149,slow=76,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**40.22**	**331**	T	T	10 22 40.4	
	baz=150,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**40.22**	**331**	T	T	10 22 35.3	
	baz=150,slow=76,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**40.23**	**331**	T	T	10 22 46.3	
	baz=150,slow=76,SNR=3.1						
STKA	**Stephens Creek**	**43.70**	**240**	P	**P**	**09 39 39.0**	**-1.0**
	3.2nm,1.0s,baz=56,slow=7.3,SNR=1.3						
	3.2nm,1.0s						
WRA	**Warramunga Arr**	**49.61**	**257**	P	**P**	**09 40 25.8**	**-0.7**
	0.7nm,0.9s,baz=92,slow=6.7,SNR=6.2						
WRA				LR	LR	10 02 00.1	
	comp=Z,62nm,18.2s,baz=57,slow=37						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**49.85**	**252**	P	**P**	**09 40 27.4**	**-0.9**
	1.3nm,0.6s,baz=90,slow=7.9,SNR=21						
ASAR				LR	LR	10 00 08.6	
	comp=Z,80nm,18.1s,baz=110,slow=34						
	1.3nm,0.6s						
GUMO	**Guam**	**50.45**	**303**	LR	LR	09 59 29.6	
	comp=Z,19nm,19.4s,baz=132,slow=33						
SIJI	**Sorong**	**56.39**	**280**	LR	LR	10 05 19.5	
	comp=Z,49nm,19.6s,baz=240,slow=36						
FITZ	**Fitzroy Crossi**	**57.39**	**255**	LR		10 07 26.3	
	comp=Z,57nm,18.0s,baz=66,slow=37						
MJAR	**Matsushiro Arr**	**69.18**	**320**	LR	LR	10 06 31.8	
	comp=Z,47nm,22.0s,baz=138,slow=30						
PETK	**Petropavlovsk-**	**73.00**	**342**	P	**P**	**09 43 05.6**	**+1.4**
	1.8nm,0.8s,baz=134,slow=4.3,SNR=4.0						
	1.8nm,0.8s						
NVAR	**Mina Array Bea**	**74.74**	**42**	P	**P**	**09 43 16.6**	**+1.6**
	1.4nm,0.8s,baz=224,slow=10,SNR=9.1						
	1.4nm,0.8s						
KSRS	**Korea Array**	**76.37**	**316**	LR	LR	10 15 13.4	
	comp=Z,16nm,18.5s,baz=220,slow=34						
TXAR	**Lajitas Array**	**80.96**	**56**	P	**P**	**09 43 50.6**	**+0.9**
	0.4nm,0.9s,baz=226,slow=5.0,SNR=3.9						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**82.67**	**42**	P	**P**	**09 43 59.4**	**+0.7**
	1.3nm,0.8s,baz=223,slow=2.7,SNR=12						
	1.3nm,0.8s						
ILAR	**Eielson Array**	**82.89**	**11**	P	**P**	**09 44 00.4**	**+1.5**
	0.7nm,0.7s,baz=221,slow=6.1,SNR=5.8						
	0.7nm,0.7s						
H03S2	**Juan Fernandez**	**85.08**	**124**	T	T	11 17 57.4	
	baz=242						
H03S1	**Juan Fernandez**	**85.09**	**124**	T	T	11 17 55.4	
	baz=242						
H03S3	**Juan Fernandez**	**85.10**	**124**	T	T	11 17 57.3	
	baz=242						
H03N2	**Juan Fernandez**	**85.18**	**123**	T	T	11 17 51.4	
	baz=240,slow=72						
H03N3	**Juan Fernandez**	**85.18**	**123**	T	T	11 17 56.4	
	baz=240,slow=72						
H03N1	**Juan Fernandez**	**85.20**	**123**	T	T	11 18 05.4	
	baz=240,slow=72						

LVC	**Limon Verde**	**96.95**	**116**	LR	LR	10 18 53.2
	comp=Z,36nm,19.8s,baz=216,slow=29					
BRTR	**Keskin Array B**	**146.40**	**320**	PKPbc	**PKiKP**	**09 51 18.0**	**-1.3**
	2.2nm,0.8s,baz=97,slow=1.8,SNR=8.9					
GERES	**GERESS Array B**	**146.54**	**351**	PKPbc	**PKiKP**	**09 51 17.6**	**-1.6**
	0.6nm,0.7s,baz=222,slow=1.8,SNR=6.8					

*IDC **03** 09:50:23.2±1.2, 3°.44N×71°.17W, h0km, mb3.3/2, mbtmp3.5/5, ML2.4/2, Error ellipse: s-maj=20.3km s-min=16.6km az=6.0*

*RSNC **03** 09:50:28.7±0.8, 3°.82N×71°.40W, h4km±6km, ML3.4, Mw3.6*

ISC 03 09:50:26.4±1.5, 3°.86N±0°.03×71°.33W±0°.05, h3km±10km, n39, σ1§90/71, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTGC	**Puerto Gaitan,**	**0.88**	**293**	*i*P	**Pg**	**09 50 42.6**	**-0.6**
PTGC				*e*S	**Sg**	**09 50 54.4**	**-0.2**
PTGC				IAML		09 51 02.2	
	comp=Z,538nm,0.2s						
GUVC	**San Jose del G**	**1.84**	**225**	*e*P	**Pn**	**09 50 58.2**	**-0.6**
GUVC				*e*S	**Sn**	**09 51 21.9**	**-0.7**
GUVC				IAML		09 51 28.3	
	comp=Z,472nm,0.2s						
VILC	**Villavicencio,**	**2.38**	**276**	*e*P	**Pn**	**09 51 07.6**	**+1.2**
VILC				*e*S	**Sn**	**09 51 36.8**	**+0.7**
VILC				IAML		09 51 51.6	
	comp=Z,703nm,0.4s						
CHIC	**Chingaza**	**2.52**	**288**	*e*P	**Pn**	**09 51 09.3**	**+0.7**
CHIC				*e*S	**Sn**	**09 51 40.0**	**0.0**
CHIC				IAML		09 51 45.7	
	comp=Z,215nm,0.4s						
TAMC	**Tame, Arauca**	**2.61**	**350**	*e*P	**Pn**	**09 51 11.1**	**+1.6**
TAMC				*e*S	**Sb**	**09 51 47.6**	**+1.4**
TAMC				IAML		09 51 49.1	
	comp=Z,293nm,0.4s						
RUSC	**La Rusia**	**2.68**	**319**	*e*P	**Pn**	**09 51 19.1**	**+1.1**
RUSC				*e*S	**Sn**	**09 51 45.3**	**+1.3**
RUSC				IAML		09 52 04.4	
	comp=Z,77nm,0.4s						
MACC	**Macarena, Meta**	**3.04**	**236**	*e*P	**Pn**	**09 51 17.7**	**+2.4**
MACC				*e*S	**Sb**	**09 51 57.0**	**-1.7**
MACC				IAML		09 52 05.7	
	comp=Z,239nm,0.8s						
ROSC	**El Rosal**	**3.14**	**288**	Pn	**Pn**	**09 51 19.0**	**+1.9**
	comp=Z,3.8nm,0.3s,baz=91,slow=22,SNR=3.1						
ROSC				Pg	**Pg**	**09 51 26.0**	**-0.7**
	comp=Z,17nm,0.3s,baz=126,slow=19,SNR=17						
ROSC				Sn	**Sb**	**09 52 00.1**	**-1.9**
	comp=Z,17nm,0.3s,baz=54,slow=19,SNR=7.5						
ROSC				Lg	Lg	09 52 13.7	
	comp=Z,17nm,0.3s,baz=127,slow=20,SNR=6.0						
	comp=Z,11nm,0.4s						
ROSC	**El Rosal**	**3.14**	**288**	*e*P	**Pn**	**09 51 21.0**	**+3.9**
ROSC				*e*S	**Sn**	**09 51 57.6**	**+2.2**
ROSC				IAML		09 52 03.1	
	comp=Z,66nm,0.5s						
SPBC	**San Pablo de B**	**3.27**	**303**	*e*P	**Pn**	**09 51 18.8**	**+0.2**
SPBC				*e*S	**Sn**	**09 51 56.9**	**-1.2**
SPBC				IAML		09 52 12.8	
	comp=Z,63nm,0.4s						
BARC	**Barichara**	**3.29**	**326**	*e*P	**Pn**	**09 51 19.4**	**+0.4**
BARC				*e*S	**Sn**	**09 51 58.1**	**-0.7**
BARC				IAML		09 52 21.0	
	comp=Z,149nm,0.4s						
PAMC	**Pamplona, Colo**	**3.72**	**338**	*e*P	**Pb**	**09 51 35.6**	**+2.5**
PAMC				*e*S	**Sn**	**09 52 08.0**	**-1.8**
PAMC				IAML		09 52 38.1	
	comp=Z,82nm,0.5s						
NORC	**Norcasia**	**3.92**	**296**	*e*P	**Pn**	**09 51 28.6**	**+1.1**
NORC				*e*S	**Sn**	**09 52 13.8**	**-0.3**
NORC				IAML		09 52 32.0	
	comp=Z,28nm,0.4s						
BRRC	**Barranca, Sant**	**4.01**	**324**	*e*P	**Pn**	**09 51 28.8**	**+0.1**
BRRC				*e*S	**Sn**	**09 52 15.6**	**-0.6**
BRRC				IAML		09 52 49.3	
	comp=Z,36nm,0.3s						
PTBC	**PUERTO BERRIO,**	**4.10**	**311**	*e*P	**Pn**	**09 51 32.1**	**+2.1**
PTBC				*e*S	**Sn**	**09 52 13.1**	**-5.5**
PTBC				IAML		09 52 40.8	
	comp=Z,29nm,0.5s						
ANIL	**Santa Ana**	**4.12**	**279**	*e*P	**Pg**	**09 51 44.7**	**-0.6**
ANIL				*e*S	**Sb**	**09 52 29.8**	**-0.1**
ANIL				IAML		09 52 48.1	
	comp=Z,189nm,0.4s						
GUY2C	**Guyana, Caldas**	**4.25**	**289**	*e*P	**Pn**	**09 51 33.5**	**+1.1**
GUY2C				*e*S	**Sn**	**09 52 22.4**	**-0.5**
GUY2C				IAML		09 52 51.9	
	comp=Z,38nm,0.6s						
BETC	**Betania**	**4.27**	**254**	*e*P	**Pb**	**09 51 42.1**	**-0.1**
BETC				*e*S	**Sb**	**09 52 37.8**	**+3.6**
BETC				IAML		09 52 45.1	
	comp=Z,60nm,0.6s						
SOCV	**Socops**	**4.42**	**6**	*e*P	**Pn**	**09 51 34.9**	**+0.4**
SOCV				*e*S	**Sn**	**09 52 25.7**	**-0.8**
GARC	**Garzon, Huila**	**4.48**	**248**	*e*P	**Pn**	**09 51 36.8**	**+1.4**
GARC				*e*S	**Sb**	**09 52 38.6**	**-1.8**
OCAC	**Ocana**	**4.79**	**336**	*e*P	**Pn**	**09 51 40.9**	**+1.3**
OCAC				*e*S	**Sn**	**09 52 34.4**	**-1.2**
HELC	**Santa Helena**	**4.79**	**299**	*e*P	**Pn**	**09 51 42.0**	**+2.3**
HELC				*e*S	**Sn**	**09 52 36.3**	**+0.3**
HELC				IAML		09 53 07.0	
	comp=Z,13nm,0.5s						
FLOC	**Florencia**	**4.88**	**243**	*e*P	**Pn**	**09 51 42.9**	**+2.3**
FLOC				*e*S	**Sb**	**09 52 49.7**	**-2.0**
FLOC				IAML		09 53 02.0	
	comp=Z,63nm,0.5s						
YOTC	**Yotoco, Valle**	**5.01**	**272**	*e*P	**Pn**	**09 51 42.9**	**+0.3**
YOTC				*e*S	**Sn**	**09 52 38.4**	**-2.7**
YOTC				IAML		09 53 10.1	
	comp=Z,14nm,0.5s						
ZARC	**Zaragoza, Cauc**	**5.04**	**316**	*e*P	**Pn**	**09 51 44.7**	**+1.8**
ZARC				*e*S	**Sn**	**09 52 41.0**	**-0.7**
ZARC				IAML		09 52 48.8	
	comp=Z,22nm,0.4s						
PTLC	**Puerto Leguiza**	**5.04**	**224**	*e*P	**Pn**	**09 51 47.6**	**+4.7**
PTLC				*e*S	**Sg**	**09 53 07.7**	**-0.8**
PTLC				IAML		09 53 13.9	
	comp=Z,85nm,0.5s						
SDV	**Santo Domingo**	**5.05**	**8**	Pn	**Pn**	**09 51 45.4**	**+2.3**
	comp=Z,3.0nm,0.3s,baz=196,slow=7.4,SNR=3.5						
SDV				Pg	**Pg**	**09 52 03.5**	**+0.3**
	comp=Z,17nm,0.3s,baz=335,slow=6.6,SNR=15						
SDV				Sn	**Sb**	**09 52 55.3**	**-1.3**
	comp=Z,10.0nm,0.3s,baz=33,slow=19,SNR=2.4						
SDV				Lg	Lg	09 53 16.7	
	comp=Z,21nm,0.3s,baz=50,slow=18,SNR=7.2						
	comp=Z,3.8nm,0.3s						
PLMC	**San Jos del P**	**5.05**	**282**	*e*P	**Pn**	**09 51 45.9**	**+2.8**
PLMC				*e*S	**Sn**	**09 52 46.0**	**+4.0**
CBOC	**Ciudad Bolivar**	**5.08**	**293**	*e*P	**Pn**	**09 51 44.3**	**+0.7**
CBOC				*e*S	**Sn**	**09 52 44.3**	**+1.4**
UREC	**San Jos de Ur**	**5.70**	**313**	*e*P	**Pn**	**09 51 50.0**	**-2.0**
UREC				*e*S	**Sn**	**09 52 54.9**	**-3.1**
UREC				IAML		09 53 00.8	
	comp=Z,8.9nm,0.7s						
CRUC	**La Cruz**	**6.06**	**248**	*e*P	**Pb**	**09 52 11.9**	**-1.0**
CRUC				*e*S	**Sb**	**09 53 23.3**	**-2.7**
SJCC	**San Jacinto, C**	**7.12**	**328**	*e*P	**Pn**	**09 52 11.9**	**+0.3**
SJCC				*e*S	**Sn**	**09 53 30.8**	**-2.2**
SJCC				IAML		09 53 38.9	
	comp=Z,7.1nm,0.6s						
PCRV	**Puerto La Cruz**	**9.14**	**46**	Pn	**Pn**	**09 52 38.8**	**-0.4**
	comp=Z,7.5nm,0.9s,baz=217,slow=20,SNR=8.9						
PCRV				Sn	**Sn**	**09 54 20.0**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=180,slow=20,SNR=1.9						
PCRV				Lg	Lg	09 55 22.3	
	comp=Z,0.8nm,0.3s,baz=94,slow=23,SNR=1.4						
MDP	**Montagnes des**	**18.67**	**85**	Lg	Lg	10 00 08.7	
	comp=Z,0.2nm,0.3s,baz=17,slow=23,SNR=4.1						
SIV	**San Ignacio**	**22.18**	**153**	Lg	Lg	10 02 00.2	
	baz=76,slow=21,SNR=2.4						
TXAR	**Lajitas Array**	**39.77**	**313**	P	**P**	**09 57 59.9**	**-0.9**
	comp=Z,0.1nm,0.7s,baz=119,slow=10,SNR=1.5						
	comp=Z,0.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.61**	**78**	P	P	10 01 52.5	-3.3
	comp=Z,0.4nm,0.6s,baz=289,slow=6.2,SNR=4.7						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**148.68**	**229**	PKPbc	**PKPdf**	**10 10 13.1**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=136,slow=3.3,SNR=4.8						
WRA	**Warramunga Arr**	**150.31**	**235**	PKPbc	**PKPdf**	**10 10 17.2**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=109,slow=2.8,SNR=11						

DDA 03 09:53:48.5±0.0, 41°.31N×28°.84E, h7km±5km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAND	**Kocaeli-Kandir**	**1.05**	**101**	P	Pb	09 54 09.0	+0.1
KAND				S	Sn	09 54 23.8	-0.6
KAND				*i* AML	AML	09 54 28.0	
	comp=N,33nm,1.1s						
KAND				*i* AML	AML	09 54 40.0	
	comp=E,31nm,1.1s						
KAND				*i* AML	AML	09 54 44.0	
	comp=Z,48nm,2.0s						
KAYN	**Sakarya, Kayna**	**1.19**	**106**	P	Pg	09 54 10.4	-0.9
KAYN				S	Sb	09 54 26.9	+0.1
KAYN				*i* AML	AML	09 54 31.0	
	comp=Z,24nm,0.9s						
KAYN				*i* AML	AML	09 54 32.0	
	comp=E,25nm,0.9s						
GEYV	**SAKARYA_Geyve**	**1.38**	**126**	P	Pb	09 54 14.6	0.0
GEYV				S	Sg	09 54 34.8	+2.0
GEYV				*i* AML	AML	09 54 37.0	
	comp=E,41nm,0.9s						
GEYV				*i* AML	AML	09 54 39.0	
	comp=Z,26nm,0.8s						
GEYV				*i* AML	AML	09 54 39.0	
	comp=N,42nm,0.9s						

*IDC **03** 09:54:33.8±2.4, 22°.86N×93°.48E, h74km±28km, mb3.5/5, mbtmp3.7/6, MS3.4/2, Error ellipse: s-maj=27.7km s-min=17.2km az=47.0*

ISC 03 09:54:32.4±0.9, 23°.0N±0°.1×93°.48E±0°.08, h53km, n9, σ1§05/8, mb3.7/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**1.72**	**260**	P	**Pn**	**09 55 00.4**	**+0.5**
	236nm,0.5s,baz=73,slow=11,SNR=11						
BRDH				S	**Sn**	**09 55 21.0**	**+0.3**
	657nm,0.5s,baz=343,slow=19,SNR=26						
CMAR	**Chiang Mai Arr**	**6.81**	**130**	P	**Pn**	**09 56 10.8**	**+1.1**
	0.8nm,0.3s,baz=306,slow=13,SNR=7.0						
MKAR	**Makanchi Array**	**25.42**	**342**	P	**P**	**09 59 55.6**	**+0.6**
	0.6nm,0.7s,baz=156,slow=10.0,SNR=7.5						
	0.6nm,0.7s						
SONM	**Songino Array**	**26.87**	**19**	P	**P**	**10 00 09.0**	**+0.8**
	1.2nm,0.6s,baz=194,slow=11,SNR=3.8						
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**34.77**	**335**	LR	LR	10 16 23.8	
	comp=Z,18nm,18.6s,baz=355,slow=38						
WRA	**Warramunga Arr**	**58.39**	**134**	P	**P**	**10 04 21.4**	**-1.3**
	0.6nm,0.4s,baz=322,slow=7.3,SNR=38						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**60.77**	**137**	P	**P**	**10 04 38.4**	**-0.7**
	1.3nm,0.5s,baz=316,slow=6.7,SNR=30						
	1.3nm,0.5s						
ARCES	**ARCESS Array B**	**60.99**	**338**	LR	LR	10 34 46.6	
	comp=Z,99nm,18.3s,baz=172,slow=40						
ILAR	**Eielson Array**	**81.06**	**22**	P	**P**	**10 06 40.6**	**-0.9**
	0.2nm,0.6s,baz=289,slow=5.6,SNR=2.6						
	0.2nm,0.6s						

ISK 03 09:54:37.9, 41°.25N×28°.68E, h0km, ML1.9/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BGKT	**Bogazkoy**	**0.10**	**133**	PG	Pg	09 54 41.5	+1.8
BGKT				SG	Sg	09 54 44.4	+3.4
CTKS	**Kestanelik-??a**	**0.13**	**265**	PG	Pg	09 54 42.1	+1.7
KLYT	**Kilyos**	**0.27**	**89**	PG	Pg	09 54 44.3	+1.1
KLYT				SG	Sb	09 54 48.9	-2.0
ISK	**Istanbul-Kandi**	**0.34**	**122**	PG	Pg	09 54 45.5	+1.1
ISK				SG	Sb	09 54 51.0	-1.8
KAVV	**Kandilli-Istan**	**0.34**	**122**	PG	Pg	09 54 45.5	+1.1
KAVV				SG	Sb	09 54 50.9	-1.9
HRT	**Hereke**	**0.86**	**119**	PG	Pb	09 54 55.2	-0.5

*ISK **03** 09:57:22.1, 37°.72N×27°.11E, h12km, ML3.1/18*

*THE **03** 09:57:22.3, 37°.73N×27°.15E, h1km±1km, ML2.7/3, Error ellipse: s-maj=1.4km s-min=0.4km az=53.0*

*DDA **03** 09:57:22.7±0.0, 37°.75N×27°.13E, h12km±1km, ML3.1*

ISC 03 09:57:22.7±0.8, 37°.73N±0°.02×27°.11E±0°.02, h14km±5km, n53, σ0§51/84, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.10**	**106**	PG	**Pg**	**09 57 25.8**	**0.0**
GCAM				SG	**Sg**	**09 57 27.7**	**-0.2**
GCAM	**G?zelcaml?**	**0.10**	**106**	P	**Pg**	**09 57 25.8**	**0.0**
GCAM				S	**Sg**	**09 57 27.8**	**-0.1**
GCAM				*i* AML	AML	09 57 28.0	
	comp=N,7µm,0.2s						
GCAM				*i* AML	AML	09 57 28.0	
	comp=E,8µm,0.2s						
SMG	**Samos**	**0.22**	**265**	P	**Pg**	**09 57

APE	**Apeiranthos**	**1.42**	**243**	PN		**Pn**	**09 57 48.4**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.45**	**100**	P		**Pn**	**09 57 48.9**	**+0.2**
TAVA				S		**Sg**	**09 58 10.8**	**+1.2**
DALY	**Dalyan (Mula)**	**1.53**	**126**	PN		**Pn**	**09 57 49.7**	**+0.1**
AYVA	**Ayvalik**	**1.61**	**348**	P		**Pb**	**09 57 52.2**	**-0.1**
AYVA				S		**Sg**	**09 58 15.1**	**+0.4**
PRK	**Paraskevi**	**1.65**	**337**	P		**Pn**	**09 57 51.5**	**+0.2**
ARG	**Arkhangelos**	**1.71**	**151**	PN		**Pn**	**09 57 52.4**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.71**	**16**	P		**Pb**	**09 57 54.5**	**+0.5**
STEP				S		**Sg**	**09 58 17.9**	**0.0**
APMY	**Acipayam-Deniz**	**1.76**	**98**	PN		**Pn**	**09 57 53.1**	**+0.3**
BUHA	**Balikesir, Bur**	**1.77**	**359**	P		**Pb**	**09 57 55.5**	**+0.6**
BUHA				S		**Sg**	**09 58 19.7**	**0.0**
SIGR	**SIGRI**	**1.78**	**327**	P		**Pn**	**09 57 52.9**	**-0.2**
SIGR	**SIGRI**	**1.78**	**327**	PN		**Pn**	**09 57 53.7**	**+0.6**
USAK	**Uak-Merkez**	**1.79**	**56**	P		**Pg**	**09 57 57.5**	**+0.3**
USAK				S		**Sb**	**09 58 18.0**	**+0.2**
DEMI	**Demirci**	**1.82**	**43**	P		**Pg**	**09 57 58.0**	**+0.4**
DEMI				S		**Sn**	**09 58 14.8**	**-1.8**
CAME	**Cameli-Denizli**	**1.91**	**113**	PN		**Pn**	**09 57 55.3**	**+0.3**
FETY	**Fethiye**	**1.91**	**124**	PN		**Pn**	**09 57 55.4**	**+0.5**
KOCA	**Canakkale, Ayv**	**1.93**	**337**	P		**Pg**	**09 57 58.9**	**-0.9**
KOCA				S		**Sg**	**09 58 25.6**	**+0.8**
PASA	**Karahalli, USA**	**1.97**	**71**	P		**Pn**	**09 57 56.2**	**+0.4**
PASA				S		**Sg**	**09 58 25.1**	**-1.1**
GOLH	**Golhisar**	**2.01**	**103**	P		**Pn**	**09 57 56.6**	**+0.3**
GOLH				S		**Sg**	**09 58 28.7**	**+1.4**
BALY	**Balya**	**2.05**	**11**	P		**Pb**	**09 57 58.5**	**-1.3**
BALY				S		**Sb**	**09 58 26.2**	**+1.1**
EZN	**Ezine**	**2.18**	**344**	PN		**Pn**	**09 57 58.9**	**+0.3**
SMTH	**Samothraki Isl**	**3.00**	**336**	P		**Pn**	**09 58 10.0**	**+0.1**

*IDC **03** 10:05:54.3±0.6,50˚.40N×176˚.87W, h0km, mb4.0/26, mbtmp4.0/28, ML4.0/2, MS3.3/2, Error ellipse: s-maj=17.6km s-min=13.0km az=168.0*

*NEIC **03** 10:05:57.7±1.0,50˚.48N±0˚.02×176˚.83W±0˚.06, h10km±2km, mb4.1/50, ML4.0/43(AEIC), Error ellipse: s-maj=7.4km s-min=3.5km az=241.0*

*AEIC **03** 10:05:58±3.2, 50˚.33N±0˚.08×176˚.77W±0˚.08, h24km±6km, Error ellipse: s-maj=11.0km s-min=6.8km az=167.0*

ISC 03 10:05:56.4±0.5, 50˚41N±0˚.06×176˚86W±0˚.04, h10km, n134, σ1§50/130, mb4.1/36, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KIMD	**Kanaga Island**	**1.37**	**350**			**Pb**	**10 06 21.4**	**-0.6**
KIWB	**Kanaga Island**	**1.45**	**353**			**Pb**	**10 06 22.8**	**-0.7**
ADK	**Adak**	**1.48**	**4**			**Pn**	**10 06 22.4**	**-0.6**
ADK	**Adak**	**1.48**	**4**			**Sn**	**10 06 41.4**	**-0.9**
KIKV	**Kanaga Island**	**1.48**	**353**			**Pb**	**10 06 23.3**	**-0.7**
TAFL	**Tanaga Flats**	**1.50**	**334**			**Pg**	**10 06 23.8**	**-1.2**
KICM	**Kanaga Island**	**1.52**	**352**			**Pb**	**10 06 23.9**	**-0.7**
TAPA	**Tanaga Point A**	**1.53**	**337**			**Pb**	**10 06 24.1**	**-0.7**
TASE	**Tanaga Southea**	**1.60**	**333**			**Pb**	**10 06 25.4**	**-0.7**
TAFP	**Tanaga Falls P**	**1.65**	**335**			**Pb**	**10 06 25.6**	**-1.2**
TAFP						**Sb**	**10 06 47.4**	**-0.3**
GSCK	**Great Sitkin C**	**1.66**	**15**			**Pb**	**10 06 25.3**	**-1.7**
GSTD	**Great Sitkin T**	**1.71**	**15**			**Pb**	**10 06 26.0**	**-1.8**
GSTD						**Sn**	**10 06 47.6**	**-0.5**
GSMY	**Great Sitkin M**	**1.71**	**17**			**Pb**	**10 06 26.0**	**-1.8**
GSSP	**Great Sitkin S**	**1.74**	**14**			**Pb**	**10 06 26.5**	**-1.8**
GSTR	**Great Sitkin T**	**1.76**	**16**	Pn		**Pb**	**10 06 27.0**	**-1.7**
GALAA	**Gareloi Lava P**	**1.81**	**319**			**Pb**	**10 06 28.5**	**-1.1**
GAEA	**Gareloi East**	**1.82**	**320**			**Pb**	**10 06 28.5**	**-1.2**
GANE	**Gareloi Northe**	**1.85**	**320**			**Pb**	**10 06 28.9**	**-1.4**
GANE						**Sn**	**10 06 52.0**	**+0.3**
GASW	**Gareloi Southw**	**1.86**	**318**			**Pb**	**10 06 28.9**	**-1.5**
GASW						**Sb**	**10 06 52.4**	**-1.3**
GANO	**Gareloi North**	**1.87**	**320**			**Pb**	**10 06 28.9**	**-1.7**
KOFP	**Korovin Flat P**	**2.55**	**42**			**Pn**	**10 06 37.8**	**+0.1**
AMKA	**Amchitka**	**2.62**	**293**	Pn		**Pn**	**10 06 38.0**	**-0.6**
AMKA						**Sn**	**10 07 08.6**	**-1.8**
CERAA	**Semis' Rag'd T**	**2.64**	**306**			**Pn**	**10 06 40.2**	**+1.2**
CEPE	**Semis' Perret**	**2.69**	**307**			**Pn**	**10 06 40.3**	**+0.7**
CESW	**Semis' Southwe**	**2.70**	**305**			**Pn**	**10 06 40.4**	**+0.6**
CESW						**Sn**	**10 07 13.9**	**+1.4**
CETU	**Semis' Tuman**	**2.77**	**306**			**Pn**	**10 06 41.9**	**+1.1**
LSPA	**Little Sitkin**	**3.26**	**300**			**Pn**	**10 06 48.8**	**+1.2**
LSPA						**Sn**	**10 07 28.1**	**+1.8**
LSSA	**Little Sitkin**	**3.29**	**300**			**Pn**	**10 06 48.8**	**+0.9**
LSNW	**Little Sitkin**	**3.30**	**300**			**Pn**	**10 06 48.6**	**+0.6**
NIKH	**Nikolski High**	**5.60**	**60**	Pn		**Pn**	**10 07 20.1**	**+0.5**
SHEM	**Shemya Is, Ala**	**6.09**	**296**	Pn		**Pn**	**10 07 26.6**	**+0.2**
	14nm,0.3s,baz=128,slow=3.3,SNR=8.8							
SHEM						Sn	**Sn**	**10 08 34.1**	**-2.0**
	3.1nm,0.3s,baz=279,slow=19,SNR=1.9							
	32nm,0.3s							
SMY	**Shemya**	**6.09**	**296**	Pn		**Pn**	**10 07 29.6**	**+3.2**
MAPS	**Pakushin South**	**6.99**	**57**			**Pn**	**10 07 39.3**	**+0.6**
MGOD	**Makushin Gods**	**7.02**	**57**			**Pn**	**10 07 39.8**	**+0.6**
MNAT	**Makushin Natee**	**7.16**	**57**			**Pn**	**10 07 41.7**	**+0.6**
UNV	**Unalaska Valle**	**7.24**	**58**	Pn		**Pn**	**10 07 43.3**	**+1.1**
AKGG	**Akutan Green G**	**7.66**	**56**			**Pn**	**10 07 48.3**	**+0.4**
SPIA	**Saint Paul Isl**	**7.82**	**27**	Pn		**Pn**	**10 07 52.5**	**+2.5**
CNBA	**Chernabura Isl**	**11.38**	**61**	Pn		**Pn**	**10 08 37.2**	**-1.6**
CHGN	**Chignik**	**12.48**	**55**	Pn		**Pn**	**10 08 55.0**	**+1.2**
N18K	**Kilae Creek**	**15.62**	**41**	Pn		**P**	**10 09 37.6**	**-3.0**
PETK	**Petropavlovsk-**	**15.95**	**290**	Pn		**Pn**	**10 09 40.9**	**+0.2**
	0.8nm,0.3s,baz=105,slow=19,SNR=5.2							
	1.6nm,0.5s							
KDAK	**Kodiak Island**	**15.97**	**53**	Pn		**Pn**	**10 09 36.9**	**-3.9**
	0.3nm,0.3s,baz=242,slow=4.0,SNR=32							
KDAK						Sn	**Sn**	**10 12 39.6**	**+1.8**
	0.2nm,0.3s,baz=343,slow=19,SNR=1.8							
KDAK						LR	LR	10 17 14.7	
	comp=Z,98nm,18.5s,baz=210,slow=43							
KDAK	**Kodiak Island**	**15.97**	**53**	Pn		**Pn**	**10 09 36.2**	**-4.7**
KDAK						IAmb	IAmb	10 09 56.1	
	comp=Z,8.5nm,0.5s							
SVW2	**Sparrevohn**	**15.97**	**40**			**Pn**	**10 09 37.6**	**-3.3**
N19K	**Bonanza Creek**	**16.29**	**42**			**P**	**10 09 46.8**	**-1.2**
N19K						IAmb	IAmb	10 09 57.5	
	comp=Z,8.5nm,0.8s							
L19K	**White Mountain**	**16.86**	**37**			**P**	**10 09 56.2**	**+1.9**
L19K						IAmb	IAmb	10 10 20.9	
	comp=Z,13nm,1.1s							
TTA	**Tatalina**	**16.88**	**34**			**Pn**	**10 09 52.0**	**-0.4**
K20K	**Telida**	**17.84**	**35**	P		**P**	**10 10 05.5**	**+0.4**
SKT	**Skwentna**	**18.09**	**41**	P		**P**	**10 10 09.2**	**+1.3**
SUA	**Susitna One**	**18.19**	**43**	P		**P**	**10 10 09.6**	**+0.4**
SEW	**Seward**	**18.25**	**47**			**Pn**	**10 10 06.7**	**-2.8**
O22K	**Cooper Landing**	**18.26**	**46**	P		**P**	**10 10 10.5**	**+0.8**
O22K						IAmb	IAmb	10 10 33.0	
	comp=Z,18nm,0.9s							
PPLA	**Purkeypile**	**18.29**	**38**	P		**P**	**10 10 13.9**	**+3.7**
PPLA						IAmb	IAmb	10 10 35.8	
	comp=Z,15nm,1.2s							
CAST	**Castle Rocks**	**18.61**	**36**	P		**Pn**	**10 10 15.2**	**+1.3**
CAST						IAmb	IAmb	10 10 33.0	
	comp=Z,11nm,1.1s							
GHO	**Glory Hole Cre**	**19.11**	**43**	P		**Pn**	**10 10 20.0**	**-0.1**
KTH	**Kantishna Hill**	**19.12**	**37**	P		**Pn**	**10 10 20.9**	**+0.8**
TRF	**Thorofare Moun**	**19.32**	**37**	P		**Pn**	**10 10 21.9**	**-0.7**
IMAR	**Indian Mountai**	**19.60**	**29**	P		**Pn**	**10 10 26.4**	**+0.7**
H21K	**Melozitna Rive**	**19.68**	**30**	P		**Pn**	**10 10 25.3**	**-1.5**
H21K						IAmb	IAmb	10 10 41.7	
	comp=Z,14nm,1.4s							
HIN	**Hinchinbrook I**	**19.74**	**48**	P		**Pn**	**10 10 26.5**	**-1.0**
HIN						IAmb	IAmb	10 10 45.0	
	comp=Z,7.9nm,0.9s							
SCM	**Sheep Creek Mo**	**19.84**	**44**	P		**Pn**	**10 10 27.8**	**-0.9**
SCM						IAmb	IAmb	10 10 39.9	
	comp=Z,5.2nm,0.7s							
FID	**Port Fidalgo**	**19.86**	**47**	P		**P**	**10 10 25.4**	**-1.8**
FID						IAmb	IAmb	10 10 40.0	
	comp=Z,8.1nm,1.0s							
RND	**Reindeer**	**19.86**	**38**	P		**Pn**	**10 10 27.4**	**-1.5**
MCK	**McKinley**	**19.98**	**38**			**Pn**	**10 10 29.2**	**-1.1**
MCK						IAmb	IAmb	10 10 41.2	
	comp=Z,7.1nm,0.6s							
MLY	**Manley**	**20.00**	**33**	P		Pn	10 10 29.2	-1.3
MLY						IAmb	IAmb	10 10 46.7	
	comp=Z,6.7nm,0.7s							
DHY	**Denali Highway**	**20.31**	**40**	P		Pn	10 10 33.8	-0.5
KLU	**Klutina**	**20.35**	**45**	P		Pn	10 10 33.8	-0.9
KLU						IAmb	IAmb	10 10 55.4	
	comp=Z,9.2nm,1.5s							
MA2	**Magadan**	**20.52**	**309**	P		Pn	10 10 35.2	-1.3
	comp=Z,5.4nm,0.6s,baz=110,slow=8.1,SNR=7.7							
	comp=Z,5.4nm,0.6s							
MA2	**Magadan**	**20.52**	**309**			Pn	10 10 36.7	+0.2
MA2						IAmb	IAmb	10 10 36.8	
	comp=Z,7.4nm,0.9s							
SEY	**Seymchan**	**20.78**	**319**	P		Pn	10 10 38.0	-1.7
	comp=Z,3.7nm,0.7s,baz=96,slow=12,SNR=10							
	comp=Z,3.7nm,0.7s							
HMT	**Hamilton**	**20.80**	**49**	P		Pn	10 10 38.0	-1.9
HMT						IAmb	IAmb	10 11 00.1	
	comp=Z,12nm,1.3s							
MDM	**Murphy Dome**	**20.86**	**35**	P		Pn	10 10 39.4	-1.1
CCB	**Clear Creek Bu**	**20.86**	**36**	P		Pn	10 10 39.2	-1.3
CCB						IAmb	IAmb	10 10 51.2	
	comp=Z,6.1nm,0.6s							
H23K	**Yukon River**	**20.86**	**32**	P		Pn	10 10 39.1	-1.5
H23K						IAmb	IAmb	10 10 56.7	
	comp=Z,8.2nm,0.8s							
N25K	**Chitina, Valde**	**20.99**	**45**	P		Pn	10 10 39.9	-2.3
N25K						IAmb	IAmb	10 10 53.0	
	comp=Z,4.6nm,0.7s							
HDA	**Harding Lake**	**21.07**	**37**	P		**P**	**10 10 41.9**	**+1.6**
IL31		**21.27**	**36**	P		**P**	**10 10 44.8**	**+2.4**
ILAR	**Eielson Array**	**21.27**	**36**	P		**P**	**10 10 41.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=229,slow=8.2,SNR=14							
	comp=Z,0.4nm,0.4s							
GLB	**Gilahina Butte**	**21.30**	**46**	P		**P**	**10 10 44.6**	**+1.7**
H24K	**Noodor Dome**	**21.44**	**33**	P		**P**	**10 10 45.0**	**+0.6**
H24K						IAmb	IAmb	10 11 03.9	
	comp=Z,5.0nm,0.7s							
J25K	**Salcha River,**	**21.77**	**37**	P		**P**	**10 10 48.2**	**+0.3**
DOT	**Dot Lake**	**21.91**	**40**	P		**P**	**10 10 49.3**	**-0.1**
DOT						IAmb	IAmb	10 11 04.5	
	comp=Z,7.1nm,0.6s							
L26K	**Log Cabin Wild**	**21.99**	**42**	P		**P**	**10 10 51.2**	**+0.9**
L26K						IAmb	IAmb	10 11 08.2	
	comp=Z,4.2nm,0.6s							
SCRK	**Sand Creek**	**22.07**	**40**	P		**P**	**10 10 51.9**	**+0.7**
J26L	**Joseph Creek**	**22.44**	**39**	P		**P**	**10 10 55.5**	**+0.4**
TOLK	**Toolik Lake Re**	**22.57**	**26**	P		**P**	**10 10 57.1**	**+0.6**
TOLK						IAmb	IAmb	10 11 12.3	
	comp=Z,12nm,1.4s							
L27K	**Beaver Creek,**	**22.66**	**43**	P		**P**	**10 10 57.6**	**+0.2**
BCAR	**Beaver Creek A**	**22.68**	**43**	P		**P**	**10 10 58.1**	**+0.4**
K27K	**Chicken**	**22.87**	**40**	P		**P**	**10 11 01.4**	**+1.9**
I26K	**Coal Creek Min**	**22.92**	**37**	P		**P**	**10 11 00.6**	**+0.5**
I26K						IAmb	IAmb	10 11 29.3	
	comp=Z,4.5nm,0.9s							
EGAK	**Eagle**	**23.50**	**39**	P		**P**	**10 11 06.0**	**0.0**
DAWY	**Dawson**	**24.00**	**41**	P		**P**	**10 11 13.3**	**+2.4**
DAWY						IAmb	IAmb	10 11 25.8	
	comp=Z,3.1nm,0.6s							
I29M	**Ogilvie Camp,**	**24.84**	**38**	P		**P**	**10 11 19.5**	**+1.0**
I29M						IAmb	IAmb	10 11 31.3	
	comp=Z,2.9nm,0.6s							
P33M	**Teslin, Yukon**	**26.43**	**51**	P		**P**	**10 11 33.9**	**+1.0**
P33M						IAmb	IAmb	10 11 47.1	
	comp=Z,4.0nm,0.9s							
INK	**Inuvik**	**27.57**	**33**	P		**P**	**10 11 43.0**	**0.0**
	comp=Z,0.6nm,0.4s,baz=247,slow=5.8,SNR=4.6							
	comp=Z,0.6nm,0.4s							
DLBC	**Dease Lake**	**27.89**	**55**	P		**P**	**10 11 45.7**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=255,slow=12,SNR=1.7							
	comp=Z,0.6nm,0.5s							
TIXI	**Tiksi**	**32.08**	**331**	LR		LR	10 26 29.1	
	comp=Z,46nm,19.3s,baz=1.0,slow=38							
H11N2	**WAKE ISLAND Hy**	**33.22**	**209**	T		T	10 49 24.1	
	baz=18							
H11N3	**WAKE ISLAND Hy**	**33.23**	**209**	T		T	10 49 29.5	
	baz=18							
H11N1	**WAKE ISLAND Hy**	**33.24**	**209**	T		T	10 49 19.2	
	baz=18							
H11S1	**WAKE ISLAND Hy**	**34.43**	**208**	T		T	10 50 50.3	
	baz=18							
H11S2	**WAKE ISLAND Hy**	**34.45**	**208**	T		T	10 50 43.8	
	baz=18							
H11S3	**WAKE ISLAND Hy**	**34.45**	**208**	T		T	10 50 26.1	
	baz=18							
USRK	**Ussuriysk Ar.**	**34.65**	**280**	P		**P**	**10 12 45.2**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=58,slow=11,SNR=3.6							
	comp=Z,1.5nm,0.6s							
YKA	**Yellowknife Ar**	**35.02**	**46**	P		**P**	**10 12 49.1**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=278,slow=6.9,SNR=2.7							
	comp=Z,1.7nm,0.7s							
EDM	**Edmonton**	**38.22**	**60**	P		**P**	**10 13 16.9**	**+0.8**
KSRS	**Korea Array**	**40.90**	**273**	P		**P**	**10 13 38.7**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=59,slow=10,SNR=4.4							
	comp=Z,1.5nm,0.8s							
NVAR	**Mina Array Bea**	**42.45**	**83**	P		**P**	**10 13 51.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=274,slow=8.8,SNR=4.1							
NVAR					PcP	**PcP**	**10 15 44.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=294,slow=2.9,SNR=4.3							
	comp=Z,0.4nm,0.8s							
PDAR	**Pinedale Array**	**45.43**	**72**	P		**P**	**10 14 15.3**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=308,slow=3.5,SNR=6.8							
	comp=Z,0.7nm,0.8s							
NRIK	**Noril'sk**	**45.86**	**331**	P		**P**	**10 14 18.2**	**0.0**
	comp=Z,2.9nm,0.7s,baz=76,slow=8.3,SNR=1.6							
	comp=Z,2.9nm,0.7s							
SONM	**Songino Array**	**48.18**	**298**	P		**P**	**10 14 36.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=38,slow=9.7,SNR=3.0							
	comp=Z,0.6nm,0.3s							
HHC	**Hu-ho-hao-te**	**49.15**	**288**	*e*P		**P**	**10 14 46.7**	**+2.5**
HHC					pmax	pmax		
	comp=Z,14nm,0.8s							
HHC					pmax	pmax		
	comp=Z,110nm,6.0s							
NJ2	**Nanjing**	**50.09**	**274**	*e*P		**P**	**10 14 51.5**	**+0.2**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.5s							
ZALV	**Zalesovo Beam**	**55.59**	**315**	P		**P**	**10 15 30.3**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=50,slow=7.7,SNR=2.0							
	comp=Z,0.6nm,0.3s							
TXAR	**Lajitas Array**	**57.58**	**82**	P		**P**	**10 15 45.4**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=307,slow=4.4,SNR=6.4							
	comp=Z,0.6nm,0.8s							
ARCES	**ARCESS Array B**	**59.25**	**351**	P		**P**	**10 15 56.7**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=33,slow=7.5,SNR=6.1							
	comp=Z,1.8nm,0.7s							
WMQ	**Urumqi**	**60.90**	**304**	*e*P		P	10 16 14.6	+5.5
MKAR	**Makanchi Array**	**61.60**	**310**	P		**P**	**10 16 13.1**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=52,slow=7.9,SNR=12							
	comp=Z,1.2nm,0.7s							
PZH	**PanZhiHua**	**64.73**	**282**	P		P	10 16 38.7	+3.8
PZH					pmax	pmax		
	comp=Z,10.0nm,0.8s							
PZH					pmax	pmax		
	comp=Z,100nm,5.0s							
FINES	**FINESS Array B**	**66.99**	**348**	P		**P**	**10 16 46.9**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=46,slow=8.2,SNR=7.2							
	comp=Z,1.0nm,0.6s							
NB2	**NORSAR Subarra**	**68.71**	**356**	P		**P**	**10 17 00.6**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=7.9,slow=6.9							
NOA	**NORSAR Array B**	**68.71**	**356**	P		**P**	**10 16 59.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=5.7,slow=6.4,SNR=5.3							
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**72.35**	**278**	P		**P**	**10 17 22.4**	**0.0**
	comp=Z,0.9nm,0.4s,baz=30,slow=6.4,SNR=4.5							
	comp=Z,0.9nm,0.4s							
MNK	**Minsk**	**73.42**	**345**	*i* P		**P**	**10 17 30.4**	**+2.2**
	comp=E,2.0nm,0.8s							
MNK				*i* P		**P**	**10 17 30.4**	**+2.2**
	comp=N,6.0nm,0.8s							
MNK				*i* P		**P**	**10 17 30.4**	**+2.2**
	comp=Z,6.0nm,0.6s,baz=16							
MNK				*i* PcP		**PcP**	**10 17 46.4**	**+2.0**
MNK				*i* PP		**PP**	**10 20 13.7**	**+2.7**
MNK				*i* PPP		PPP	10 21 58.4	
MNK				*i* S		**SKiKP**	**10 27 00.4**	**+1.7**
MNK				*i* SS		**SS**	**10 31 43.4**	**+5.4**
MNK				*i* SSS		SSS	10 35 04.4	
MNK				*i* LQ		LQ	10 44 49.9	
MNK				*i* LR		LR	10 50 09.6	
MNK				*i* LRM		MLR	10 51 51.5	
	comp=N,16nm,18.7s							
MNK				*i* LRM		MLR	10 52 11.7	
	comp=E,16nm,22.6s							
MNK				*i* LRM		MLR	10 52 11.7	
	comp=Z,27nm,16.8s							
AKASG	**Malin Array Be**	**76.84**	**343**	P		**P**	**10 17 47.4**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=21,slow=6.1,SNR=10							
	comp=Z,2.0nm,0.5s							
GERES	**GERESS Array B**	**80.71**	**353**	P		**P**	**10 18 08.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=20,slow=4.3,SNR=4.3							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**82.19**	**226**	P		**P**	**10 18 16.1**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=32,slow=5.7,SNR=20							
	comp=Z,1.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**84.86**	**234**	P		**P**	**10 18 31.0**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=48,slow=3.8,SNR=5.1							
	comp=Z,2.2nm,0.6s							
ASAR	**Alice Springs**	**85.63**	**224**	P		**P**	**10 18 34.2**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=28,slow=5.4,SNR=19							
	comp=Z,1.8nm,0.8s							
BRTR	**Keskin Array B**	**86.33**	**337**	P		**P**	**10 18 38.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=38,slow=2.2,SNR=3.9							
	comp=Z,0.8nm,0.7s							
STKA	**Stephens Creek**	**89.80**	**214**	P		**P**	**10 18 54.2**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=328,slow=5.9,SNR=4.3							
	comp=Z,3.8nm,0.8s							
MAW	**Mawson**	**146.46**	**217**	PKPbc		**PKPab**	**10 25 35.8**	**-1.3**
	comp=Z,1.7nm,0.5s,baz=123,slow=8.3,SNR=4.5							
BOSA	**Boshof**	**152.53**	**314**	PKPbc		**PKiKP**	**10 25 52.2**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=98,slow=2.4,SNR=6.2							

*DJA **03** 10:14:52.2±0.3,5˚S±3˚×12˚6E±˚, h425km±6km, M3.9/15, mb3.9/12, mB4.2/2, MLv3.9/15, Mw(mB)3.2/2*

*IDC **03** 10:14:52.4±2.4,4˚.68S×125˚.56E, h458km±28km, mb3.3/5, mbtmp4.2/8, Error ellipse: s-maj=52.9km s-min=14.1km az=60.0*

ISC 03 10:14:51.7±0.8, 4˚.63S±0˚.08×125˚.86E±0˚.09, h450km, n25, σ1§28/28, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NLAI	**Namlea**	**1.86**	**42**	P		**P**	**10 15 48.6**	**-2.9**
AAI	**Ambon**	**2.51**	**68**	P		**P**	**10 15 53.5**	**-1.9**
SANI	**Sanana**	**2.56**	**3**	P		**P**	**10 15 54.1**	**-1.7**
MSAI	**Masohi**	**3.32**	**68**	P		**P**	**10 16 00.2**	**-1.1**
BBSI	**Bau Bau**	**3.38**	**255**	P		**P**	**10 16 00.3**	**-1.5**
BNDI	**Bandanaira**	**4.04**	**89**	P		**P**	**10 16 07.1**	**-0.2**
LBMI	**Labuha**	**4.29**	**23**	P		**P**	**10 16 09.1**	**-0.5**
LUWI	**Luwuk**	**4.71**	**319**	P		**P**	**10 16 12.6**	**-0.8**
MMRI	**Maumere**	**5.36**	**222**	P		**P**	**10 16 19.4**	**-0.3**
	0.2nm27nm,0.6s							
KMSI	**Cibinong**	**5.50**	**340**	P		**P**	**10 16 21.3**	**+0.3**
	0.6nm107nm,0.7s							
APSI	**Ampana**	**5.59**	**311**	P		**P**	**10 16 21.3**	**-0.7**
	0.1nm21nm,0.8s							
EDFI	**Ende, Flores**	**5.82**	**225**	P		**P**	**10 16 23.7**	**-0.7**
	0.0nm7.1nm,1.1s							
GTOI	**Gorontalo**	**5.95**	**331**	P		**P**	**10 16 26.9**	**+1.3**
	0.1nm257nm23nm,0.7s							
BATI	**Baumata**	**5.95**	**201**	P		**P**	**10 16 24.8**	**-0.9**
	32nm,0.4s,baz=114,slow=20,SNR=2.0							
BATI				S		**S**	**10 17 40.8**	**-1.5**
	26nm,0.4s,baz=288,slow=19,SNR=1.5							
BATI	**Baumata**	**5.95**	**201**	P		**P**	**10 16 25.2**	**-0.5**
	0.1nm26nm,1.1s							
SPSI	**Sidrap Palu**	**6.11**	**276**	P		**P**	**10 16 26.1**	**-1.1**
	0.1nm7.4nm,1.4s							
FAKI	**Fak Fak**	**6.60**	**75**	P		**P**	**10 16 33.1**	**+0.7**
	0.1nm22nm,0.5s							
FITZ	**Fitzroy Crossi**	**13.39**	**181**	P		**P**	**10 17 45.6**	**0.0**
	2.2nm,0.3s,baz=15,slow=8.7,

T1244 AML AML
T1244 AML AML
T1244 AML AML
T1213 **Norcia, Frazio** 0.13 203 ⇑P Pg 10 18 54.8 -0.4
T1213 S Sg 10 18 58.2 +1.0
T1216 **Preci, Frazion** 0.14 290 P Pg 10 18 54.9 -0.5
T1216 S Sg 10 18 58.0 +0.6
T1202 **Accumoli, Fraz** 0.14 171 ⇑P Pg 10 18 55.1 -0.3
T1212 **Cascia, Frazio** 0.14 230 ⇑P Pg 10 18 55.2 -0.2
T1212 S Sg 10 18 58.9 +1.2
FEMA **Monte Fema** 0.16 318 ⇓P Pg 10 18 55.1 -0.7
FEMA S Sg 10 18 58.3 +0.2
FEMA AML AML
FEMA AML AML
T1241 **Roccafluvione,** 0.17 86 ⇑P Pg 10 18 55.0 -0.9
T1241 S Sg 10 18 58.3 -0.2
T1241 AML AML
T1241 AML AML
T1241 AML AML
T1241 AML AML
T1241 AML AML
T1241 AML AML
T1218 **Civita (PG)** 0.18 199 ⇑P Pg 10 18 55.8 -0.3
T1218 S Sg 10 19 00.2 +1.5
T1201 **Domo (RI)** 0.19 167 P Pg 10 18 56.2 0.0
T1201 AML AML
T1201 AML AML
T1201 AML AML
T1204 **Amatrice, Fraz** 0.19 152 ⇓P Pg 10 18 55.9 -0.4
T1204 S Sg 10 18 59.9 +1.0
T1204 AML AML
T1204 AML AML
T1204 AML AML
FDMO **Fiordimonte** 0.21 338 Pg 10 18 55.3 -1.3
FDMO **Fiordimonte** 0.21 338 ⇓P Pg 10 18 55.7 -0.9
FDMO S Sg 10 18 59.3 -0.1
T1217 **Poggiodomo (PG** 0.23 236 ⇑P Pg 10 18 56.8 -0.2
T1217 S Sg 10 19 01.6 +1.4
SMA1 **SAN MARTINO** 0.24 154 ⇓P Pg 10 18 56.6 -0.5
SMA1 S Sg 10 19 01.4 +1.0
SMA1 AML AML
SMA1 AML AML
T1243 **Rocca Santa Ma** 0.24 128 ⇓P Pg 10 18 56.2 -0.9
T1243 S Sg 10 19 00.8 +0.5
GUMA **Gualdo di Mace** 0.24 25 ⇑P Pg 10 18 56.5 -0.7
GUMA S Sg 10 19 00.6 +0.1
GUMA AML AML
GUMA AML AML
T1215 **Vallo di Nera,** 0.24 260 ⇑P Pg 10 18 57.0 -0.2
T1215 S Sg 10 19 02.1 +1.6
T1215 AML AML
comp=E,76750μm,0.7s
T1215 AML AML
T1215 AML AML
comp=E,81000μm,0.7s
T1215 AML AML
T1215 AML AML
comp=E,76700μm,0.7s
T1215 AML AML
T1215 AML AML
comp=E,80950μm,0.7s
T1215 AML AML
CSP1 **Cessapalombo** 0.25 2 ⇓P Pg 10 18 56.3 -1.0
CSP1 S Sg 10 19 00.3 -0.4
CSP1 AML AML
CSP1 AML AML
LNSS **Leonessa** 0.27 205 P Pg 10 18 57.5 -0.2
LNSS S Sb 10 19 03.1 -1.0
CESI **CESI - Serrava** 0.27 307 P Pg 10 18 57.1 -0.5
CESI S Sg 10 19 02.1 +0.9
CESI AML AML
CESI AML AML
RM33 **Pellescritta (** 0.34 177 P Pg 10 18 58.9 -0.1
RM33 S Sb 10 19 05.0 -1.0
RM33 AML AML
RM33 AML AML
RM33 AML AML
RM33 AML AML
RM33 AML AML
T1246 **Crognaleto (TE** 0.34 140 ⇓P Pg 10 18 58.2 -0.8
T1246 S Sg 10 19 04.4 +0.9
CAMP **Campotosto** 0.35 153 Pg 10 18 58.3 -0.8
CAMP **Campotosto** 0.35 153 ⇓P Pg 10 18 58.4 -0.8
CAMP S Sg 10 19 04.2 +0.5
CAMP AML AML
CAMP AML AML
comp=N,91950μm,0.3s
MDAR **Monte D'Aria** 0.35 354 P Pg 10 18 58.2 -1.0
MDAR S Sg 10 19 04.0 +0.1
MDAR AML AML
MDAR AML AML
SEF1 **Sefro** 0.35 329 P Pg 10 18 58.4 -0.8
SEF1 S Sg 10 19 04.8 +0.9
SEF1 AML AML
SEF1 AML AML
MNTP **Montappone** 0.36 34 ⇑P Pg 10 18 58.8 -0.5
MNTP S Sg 10 19 04.9 +0.9
MNTP AML AML
MNTP AML AML
PIO1 **Pioraco** 0.37 335 ⇓P Pg 10 18 58.6 -1.0
PIO1 S Sg 10 19 04.9 +0.5
PIO1 AML AML
PIO1 AML AML
comp=E,87700μm,0.4s
OFFI **Offida** 0.37 76 ⇑P Pg 10 18 59.4 -0.2
OFFI AML AML
OFFI AML AML
TERO **Teramo** 0.37 126 ⇓P Pg 10 18 58.6 -1.0
TERO S Sg 10 19 04.9 +0.3
TERO AML AML
TERO AML AML
TERO AML AML
TERO AML AML
TERO AML AML
SSM1 **San Severino M** 0.39 358 P Pg 10 18 58.9 -1.0
SSM1 S Sg 10 19 04.9 0.0
FIU1 **Fiuminata** 0.40 331 P Pg 10 18 59.3 -0.8
FIU1 S Sg 10 19 05.5 +0.3
FIU1 AML AML
comp=E,45450μm,0.6s
FIU1 AML AML
comp=N,52550μm,1.2s
T1211 **Morro Reatino** 0.40 219 P Pg 10 18 59.7 -0.4
T1211 S Sb 10 19 06.8 -1.1
GAG1 **Gagliole** 0.41 347 P Pg 10 18 59.3 -0.9
GAG1 S Sg 10 19 06.1 +0.5
GAG1 AML AML
GAG1 AML AML
T1247 **Pizzolo (AQ)** 0.41 169 P Pg 10 18 59.7 -0.6
T1247 S Sb 10 19 07.1 -1.1
ARRO **Arrone** 0.41 230 ⇑P Pg 10 18 60.0 -0.4
ARRO S Sg 10 19 07.0 +1.2
ARRO AML AML
comp=E,42650μm,1.4s
ARRO AML AML
comp=N,41100μm,1.0s
ARRO AML AML
comp=E,43800μm,1.4s
MTL1 **Matelica** 0.43 342 P Pg 10 18 59.9 -0.8
MTL1 S Sg 10 19 06.8 +0.3
MTL1 AML AML
MTL1 AML AML
ASSB **Assisi San Ben** 0.44 297 P Pg 10 19 00.3 -0.6
ASSB S Sg 10 19 07.6 +0.9
ASSB AML AML
comp=N,87350μm,1.6s
ASSB AML AML
comp=E,80650μm,0.3s
SNTG **Esanatoglia** 0.45 336 ⇓P Pg 10 19 00.0 -1.1
SNTG S Sg 10 19 07.5 +0.5
SNTG AML AML
comp=E,5265μm,0.3s
SNTG AML AML
comp=N,7395μm,0.5s
SNTG AML AML
comp=N,61150μm,0.5s
SNTG AML AML
comp=E,43100μm,0.3s
TRE1 **Treia** 0.47 10 P Pg 10 19 01.1 -0.4
TRE1 AML AML
TRE1 AML AML

GIGS **Gran Sasso** 0.48 145 P Pg 10 19 00.6 -1.0
GIGS S Sg 10 19 08.5 +0.6
GIGS AML AML
comp=N,15850μm,0.2s
GIGS AML AML
comp=E,20550μm,0.4s
EL6 **Elcito** 0.49 352 P Pg 10 19 00.7 -1.1
EL6 S Sg 10 19 08.6 +0.3
EL6 AML AML
EL6 AML AML
CESX **Cesi** 0.51 243 Pg 10 19 01.6 -0.6
CESX **Cesi** 0.51 243 ⇑P Pg 10 19 01.5 -0.6
CESX AML AML
comp=E,45800μm,0.4s
CESX AML AML
comp=N,45850μm,0.6s
ATCC **AVT- Casa Cast** 0.53 310 P Pg 10 19 01.8 -0.8
ATCC S Sb 10 19 10.9 -0.7
ATCC AML AML
comp=N,73150μm,1.1s
ATCC AML AML
comp=E,86600μm,0.6s
CING **Cingoli** 0.53 0 P Pg 10 19 01.4 -1.2
CING S Sg 10 19 09.9 +0.3
CING AML AML
comp=N,48850μm,0.7s
CING AML AML
TRTR **Tortoreto Alta** 0.53 94 P Pg 10 19 02.7 +0.2
TRTR AML AML
TRTR AML AML
CADA **Capodarco di F** 0.54 50 P Pg 10 19 02.9 +0.1
CADA AML AML
CADA AML AML
FOSV **Fossato di Vic** 0.55 325 ⇓P Pg 10 19 02.0 -1.0
FOSV S Sg 10 19 10.7 +0.5
FOSV AML AML
comp=E,87450μm,0.3s
FOSV AML AML
FIAM **Fiamignano** 0.58 186 P Pg 10 19 02.9 -0.6
FIAM S Sb 10 19 12.2 -0.8
FIAM AML AML
comp=E,57700μm,1.5s
FIAM AML AML
comp=N,48700μm,0.6s
CIMA **Civitanova Mar** 0.58 37 P Pg 10 19 03.4 -0.1
PP3 **Marolino** 0.61 30 P Pg 10 19 03.5 -0.6
PP3 AML AML
PP3 AML AML
PP3 AML AML
PP3 AML AML
MMUR **Monte Murano** 0.61 347 P Pg 10 19 03.0 -1.2
MMUR AML AML
MMUR AML AML
comp=N,81300μm,0.5s
FAGN **Fagnano** 0.65 153 P Pg 10 19 03.6 -1.1
FAGN AML AML
comp=E,91300μm,0.4s
FAGN AML AML
MURB **Monte Urbino** 0.65 311 Pg 10 19 03.9 -0.9
MURB **Monte Urbino** 0.65 311 P Pg 10 19 04.0 -0.7
MURB AML AML
MURB AML AML
comp=N,96100μm,0.3s
MURB AML AML
MURB AML AML
comp=N,91400μm,0.3s
VCEL **Villa Celiera** 0.66 133 ⇓P Pg 10 19 03.9 -1.1
VCEL AML AML
comp=N,81850μm,0.6s
VCEL AML AML
comp=E,69650μm,0.7s
SSFR **Montelago di S** 0.66 333 P Pg 10 19 03.8 -1.3
SSFR AML AML
comp=N,77650μm,0.3s
SSFR AML AML
comp=E,81500μm,0.2s
SSFR AML AML
comp=E,79650μm,1.1s
SSFR AML AML
comp=N,64450μm,1.6s
ARVD **Arcevia** 0.68 344 ⇓P Pg 10 19 04.1 -1.3
ARVD AML AML
comp=N,25550μm,0.7s
ARVD AML AML
comp=E,51750μm,0.7s
ATFO **Monte Foce - G** 0.69 319 ⇓P Pg 10 19 04.6 -1.1
ATFO AML AML
comp=N,34550μm,0.4s
ATFO AML AML
comp=E,29300μm,0.5s
ATTE **AVT- Monte Tez** 0.71 300 P Pg 10 19 05.1 -0.9
ATTE AML AML
comp=E,28800μm,0.7s
ATTE AML AML
comp=N,22100μm,1.6s
T0110 **Collepietro** 0.75 145 P Pg 10 19 05.3 -1.5
T0110 AML AML
comp=N,52050μm,0.6s
T0110 AML AML
comp=E,64300μm,0.6s
FRON **Frontone** 0.76 333 ⇓P Pg 10 19 05.4 -1.4
FRON AML AML
comp=N,40350μm,0.5s
FRON AML AML
comp=E,23400μm,0.6s
AOI **Ancona** 0.77 23 ⇑P Pg 10 19 05.8 -1.2
AOI AML AML
comp=N,49850μm,0.5s
AOI AML AML
comp=E,43050μm,0.7s
ATVO **AVT- Monte Val** 0.79 313 ⇓P Pg 10 19 06.2 -1.3
SRES **S.Oreste - Sor** 0.79 220 P Pg 10 19 06.5 -1.0
SRES AML AML
comp=E,14850μm,1.1s
SRES AML AML
comp=N,15550μm,1.6s
MGAB **Montegabbione** 0.80 275 P Pg 10 19 07.1 -0.6
MGAB AML AML
comp=N,78900μm,0.5s
MGAB AML AML
comp=E,38400μm,1.5s
MGAB AML AML
comp=N,78950μm,0.5s
MGAB AML AML
comp=E,47450μm,0.5s
MGAB AML AML
comp=N,78050μm,0.5s
COR1 **Corinaldo** 0.80 350 P Pg 10 19 06.9 -0.8
COR1 AML AML
comp=N,73250μm,0.5s
COR1 AML AML
comp=E,85050μm,0.5s
COR1 AML AML
comp=N,76550μm,0.5s
COR1 AML AML
comp=E,42650μm,0.5s
PTQR **Pietraquaria** 0.84 169 ⇓P Pg 10 19 06.7 -1.7
PTQR AML AML
comp=N,10845μm,1.2s
PTQR AML AML
comp=E,15550μm,1.6s
ATMI **Monte Miggiano** 0.84 306 P Pg 10 19 07.7 -0.7
ATMI AML AML
comp=E,64000μm,0.4s
ATMI AML AML
comp=N,50100μm,1.6s
ATPI **Pietralunga -** 0.84 317 P Pg 10 19 07.2 -1.3
ATPI AML AML
comp=N,22900μm,0.5s
ATPI AML AML
comp=E,23850μm,0.5s
MPAG **Monte Paganucc** 0.85 338 ⇓P Pg 10 19 07.2 -1.4
MPAG S Sg 10 19 19.8 +0.2
SENI **Senigallia** 0.86 2 P Pg 10 19 08.2 -0.7
SENI AML AML
SENI AML AML
SENI AML AML
SENI AML AML
SENI AML AML
comp=N,39100μm,0.9s
SENI AML AML
comp=E,51600μm,0.7s
MTCE **Montecelio** 0.89 202 P Pg 10 19 08.3 -1.0
MTCE AML AML
comp=E,21950μm,1.2s

MTCE AML AML
comp=N,16150μm,1.3s
NARO **Abbazia di Nar** 0.89 330 ⇓P Pg 10 19 07.7 -1.6
NARO AML AML
comp=E,16400μm,0.4s
NARO AML AML
comp=N,14050μm,0.3s
FSSB **Fossombrone** 0.90 340 P Pg 10 19 08.4 -1.2
FSSB AML AML
FSSB AML AML
comp=E,99250μm,0.4s
CERT **Cerreto** 0.91 190 P Pg 10 19 08.4 -1.3
CERT AML AML
comp=N,25050μm,1.3s
CERT AML AML
comp=E,29100μm,0.5s
APEC **Apecchio** 0.91 322 P Pg 10 19 09.1 -0.7
APEC AML AML
comp=N,6585μm,0.6s
APEC AML AML
comp=E,5420μm,0.8s
SACS **San Casciano d** 0.94 271 P Pg 10 19 09.6 -0.8
SACS AML AML
comp=N,17570μm,1.6s
SACS AML AML
comp=E,18100μm,1.5s
SACS AML AML
comp=E,16750μm,1.5s
SACS AML AML
comp=N,17500μm,1.2s
BADI **Badiali** 0.96 314 P Pg 10 19 09.4 -1.3
INTR **Introdacqua** 0.98 147 P Pg 10 19 09.3 -1.9
INTR AML AML
comp=E,21μm,1.0s
INTR AML AML
comp=N,50800μm,0.9s
INTR AML AML
comp=N,34μm,0.9s
INTR AML AML
comp=E,21450μm,1.0s
PE3 **Peglio** 0.99 329 P Pg 10 19 10.1 -1.2
PE3 AML AML
comp=N,22900μm,0.3s
PE3 AML AML
comp=E,108μm,1.1s
RCAV **Rocca di Cave** 1.01 191 P Pg 10 19 10.4 -1.4
RCAV AML AML
comp=N,32500μm,0.9s
RCAV AML AML
comp=E,46000μm,1.1s
CAFI **Castiglion Fio** 1.02 299 P Pg 10 19 11.0 -0.9
VVLD **Villa Vallelon** 1.02 162 P Pg 10 19 10.1 -1.9
VVLD AML AML
comp=E,19850μm,0.7s
VVLD AML AML
comp=N,20350μm,0.8s
LATE **Laterza** 1.05 258 Pg 10 19 11.4 -1.0
LATE **Laterza** 1.05 258 ⇑P Pg 10 19 11.5 -1.0
GUAR **Guarcino** 1.05 175 P Pg 10 19 11.6 -0.9
GUAR AML AML
comp=E,21650μm,0.6s
GUAR AML AML
comp=N,32500μm,0.8s
PARC **Parchiule** 1.06 319 ⇓P Pg 10 19 11.2 -1.5
PARC AML AML
comp=E,21100μm,0.6s
PARC AML AML
comp=N,15900μm,1.0s
SSP9 **Sansepolcro** 1.07 314 P Pg 10 19 11.8 -1.0
SSP9 AML AML
comp=N,19800μm,1.6s
SSP9 AML AML
comp=E,14130μm,1.6s
LPEL **Lama dei Pelig** 1.08 137 P Pg 10 19 11.0 -2.1
LPEL AML AML
comp=N,12750μm,0.7s
LPEL AML AML
comp=E,20300μm,0.5s
RMP **Rome, Mte Porz** 1.09 200 P Pg 10 19 12.9 -0.4
RMP AML AML
comp=N,29500μm,1.0s
RMP AML AML
comp=E,25950μm,1.0s
SF03 **Valle Cupa** 1.11 268 P Pg 10 19 12.9 -0.7
SF11 **Podere del Sol** 1.11 272 P Pg 10 19 12.5 -1.2
MCIV **Monte Civitell** 1.12 267 P Pg 10 19 12.6 -1.1
MCIV AML AML
comp=E,5755μm,1.6s
MCIV AML AML
comp=N,7480μm,0.6s
PESA **Pesaro** 1.13 347 P Pg 10 19 12.4 -1.5
PESA AML AML
comp=N,46050μm,0.3s
PESA AML AML
comp=E,62950μm,0.4s
SF04 **Casetta** 1.13 270 P Pg 10 19 12.9 -1.1
SF04 AML AML
comp=E,8405μm,0.6s
SF04 AML AML
comp=N,9055μm,0.4s
VIVA **Pratoni del Vi** 1.14 196 P Pg 10 19 12.9 -1.2
VIVA AML AML
comp=N,37800μm,0.3s
VIVA AML AML
comp=E,36800μm,0.3s
RDP **Rocca di Papa** 1.14 198 P Pg 10 19 13.8 -0.4
RDP AML AML
comp=E,40850μm,0.5s
RDP AML AML
comp=N,40700μm,1.1s
MA9 **Marino** 1.14 200 P Pg 10 19 13.5 -0.7
CPGN **Carpegna, Ital** 1.15 327 P Pg 10 19 13.2 -1.2
CPGN AML AML
CPGN AML AML
SF14 **Selvena** 1.17 266 P Pg 10 19 13.8 -0.9
TOLF **Tolfa** 1.18 229 P Pb 10 19 13.8 -1.1
TOLF AML AML
comp=N,7480μm,1.0s
TOLF AML AML
comp=E,6050μm,0.9s
POFI **Posta Fibreno** 1.19 161 P Pb 10 19 12.8 -2.3
POFI AML AML
comp=E,13350μm,1.5s
POFI AML AML
comp=N,9780μm,1.0s
POFI AML AML
comp=N,10015μm,1.0s
POFI AML AML
comp=E,12550μm,1.5s
CRE **Caprese Michel** 1.20 311 P Pg 10 19 14.3 -0.9
CRE AML AML
comp=E,8415μm,0.5s
CRE AML AML
comp=N,11050μm,0.4s
SF01 **Poggio Pratacc** 1.20 269 P Pb 10 19 14.9 -0.4
SF01 AML AML
comp=E,9080μm,0.6s
SF01 AML AML
comp=N,12600μm,0.4s
RSM **Repubblica di** 1.21 334 P Pb 10 19 14.4 -1.1
RSM AML AML
comp=N,25300μm,0.7s
RSM AML AML
comp=E,23900μm,0.8s
LAV9 **Lanuvio** 1.22 198 P Pb 10 19 14.0 -1.6
LRP **Arpino** 1.23 166 P Pn 10 19 14.4 -1.3
LRP AML AML
comp=N,12400μm,1.6s
LRP AML AML
comp=E,7235μm,0.9s
ARCI **Arcidosso** 1.26 271 P Pn 10 19 15.3 -0.9
ARCI AML AML
comp=E,2670μm,1.3s
ARCI AML AML
comp=N,2520μm,0.8s
GIUL **Giuliano Di Ro** 1.29 178 P Pn 10 19 15.8 -0.7
GIUL AML AML
comp=N,10475μm,1.3s
GIUL AML AML
comp=E,9135μm,1.6s
RNI2 **Rionero Sannit** 1.34 148 P Pn 10 19 16.1 -1.2
RNI2 AML AML
comp=E,22150μm,1.1s
RNI2 AML AML
comp=N,16450μm,1.0s
RNI2 AML AML

	comp=N,16350µm,1.0s							
RNI2				AML	AML			
	comp=E,21800µm,1.1s							
CERA	**Filignano**	**1.39**	**154**	P	**Pn**	**10**	**19**	**16.4 -1.6**
CERA				AML	AML			
	comp=E,13950µm,1.4s							
CERA				AML	AML			
	comp=E,14200µm,1.4s							
CERA				AML	AML			
	comp=N,18050µm,1.6s							
CERA				AML	AML			
	comp=N,17350µm,1.6s							
ASQU	**Asqua**	**1.40**	**313**	P	**Pn**	**10**	**19**	**16.6 -1.5**
ASQU				AML	AML			
	comp=E,7280µm,0.5s							
ASQU				AML	AML			
	comp=N,8275µm,0.7s							
BLLA	**Bellaria**	**1.40**	**338**	P	**Pn**	**10**	**19**	**18.1 0.0**
BLLA				AML	AML			
	comp=E,20250µm,1.5s							
BLLA				AML	AML			
	comp=N,25750µm,1.6s							
MIDA	**Miranda**	**1.44**	**146**	P	**Pn**	**10**	**19**	**16.8 -1.9**
MIDA				AML	AML			
	comp=E,10335µm,0.5s							
MIDA				AML	AML			
	comp=N,13150µm,1.3s							
MIDA				AML	AML			
	comp=E,10120µm,0.5s							
MIDA				AML	AML			
	comp=N,13150µm,1.2s							
SFI	**Santa Sofia**	**1.45**	**318**	P	**Pn**	**10**	**19**	**18.3 -0.4**
SFI				AML	AML			
	comp=N,6725µm,0.8s							
SFI				AML	AML			
	comp=E,6075µm,0.7s							
SFI				AML	AML			
	comp=E,5950µm,0.7s							
SFI				AML	AML			
	comp=N,6590µm,0.8s							
TRIV	**Trivento**	**1.47**	**136**	P	**Pn**	**10**	**19**	**19.1 -0.1**
TRIV				AML	AML			
	comp=N,15250µm,0.8s							
TRIV				AML	AML			
	comp=E,20450µm,0.7s							
TRIV				AML	AML			
	comp=N,14000µm,1.0s							
TRIV				AML	AML			
	comp=E,22800µm,0.7s							
CSNT	**Castellina Chi**	**1.53**	**295**	P	**Pn**	**10**	**19**	**19.4 -0.5**
CSNT				AML	AML			
	comp=N,3620µm,1.2s							
CSNT				AML	AML			
	comp=E,4270µm,0.6s							
FROS	**Frosini**	**1.54**	**284**	P	**Pn**	**10**	**19**	**19.6 -0.4**
OSSC	**Osservatorio P**	**1.58**	**296**		**Pn**	**10**	**19**	**20.2 -0.4**
OSSC	**Osservatorio P**	**1.58**	**296**	P	**Pn**	**10**	**19**	**20.2 -0.4**
OSSC				AML	AML			
	comp=N,3490µm,1.0s							
OSSC				AML	AML			
	comp=N,3940µm,1.6s							
OSSC				AML	AML			
	comp=E,3480µm,1.0s							
OSSC				AML	AML			
	comp=E,4030µm,1.6s							
RUFI	**Rufina**	**1.58**	**310**	P	**Pn**	**10**	**19**	**20.3 -0.2**
RUFI				AML	AML			
	comp=N,6930µm,0.7s							
RUFI				AML	AML			
	comp=E,5490µm,0.6s							
VAGA	**Valle Agricola**	**1.62**	**151**	P	**Pn**	**10**	**19**	**20.9 -0.3**
VAGA				AML	AML			
	comp=E,5745µm,1.4s							
VAGA				AML	AML			
	comp=N,5730µm,0.7s							
BSSO	**Busso**	**1.66**	**141**	P	**Pn**	**10**	**19**	**21.7 -0.1**
BSSO				AML	AML			
	comp=N,9080µm,1.6s							
BSSO				AML	AML			
	comp=E,3575µm,1.0s							
BSSO				AML	AML			
	comp=E,8660µm,1.0s							
BSSO				AML	AML			
	comp=N,3845µm,1.6s							
TRIF	**Trifonti**	**1.70**	**280**	P	**Pn**	**10**	**19**	**21.4 -0.8**
TRIF				AML	AML			
	comp=E,2875µm,0.7s							
TRIF				AML	AML			
	comp=N,3015µm,0.9s							
CASP	**Castiglione de**	**1.71**	**269**		**Pn**	**10**	**19**	**21.5 -0.9**
CASP	**Castiglione de**	**1.71**	**269**	P	**Pn**	**10**	**19**	**21.9 -0.5**
CASP				AML	AML			
	comp=N,1325µm,1.5s							
CASP				AML	AML			
	comp=E,956µm,1.2s							
CIGN	**Sant'Elia a Pi**	**1.74**	**133**	P	**Pn**	**10**	**19**	**22.2 -0.5**
MSC	**Monte Massico**	**1.75**	**160**	P	**Pn**	**10**	**19**	**23.5 +0.7**
MODR	**Mondragone**	**1.77**	**163**	P	**Pn**	**10**	**19**	**23.1 -0.1**
PIGN	**Pignataro Magg**	**1.80**	**156**	P	**Pn**	**10**	**19**	**23.7 +0.1**
PIGN				AML	AML			
	comp=E,2800µm,0.9s							
PIGN				AML	AML			
	comp=N,3170µm,1.3s							
PIGN				AML	AML			
	comp=N,3520µm,1.2s							
PIGN				AML	AML			
	comp=E,2950µm,1.0s							
SEI	**Scarperia**	**1.80**	**313**	P	**Pn**	**10**	**19**	**23.6 -0.1**
SEI				AML	AML			
	comp=N,10265µm,0.5s							
SEI				AML	AML			
	comp=E,7280µm,0.5s							
SACR	**S. Croce Del S**	**1.83**	**142**	P	**Pn**	**10**	**19**	**23.3 -0.8**
SACR				AML	AML			
	comp=E,4080µm,1.6s							
SACR				AML	AML			
	comp=N,4900µm,0.9s							
GATE	**Gambatesa**	**1.84**	**136**	P	**Pn**	**10**	**19**	**23.5 -0.7**
GATE				AML	AML			
	comp=E,5680µm,1.0s							
GATE				AML	AML			
	comp=N,3760µm,1.4s							
GATE				AML	AML			
	comp=E,3345µm,1.5s							
GATE				AML	AML			
	comp=N,3885µm,1.4s							
IMOL	**Imola, Italy**	**1.85**	**326**	P	**Pb**	**10**	**19**	**25.9 -0.3**
TREM	**Isole Tremiti**	**1.86**	**112**	P	**Pn**	**10**	**19**	**24.6 +0.3**
TREM				AML	AML			
	comp=E,14600µm,0.7s							
TREM				AML	AML			
	comp=N,16250µm,0.7s							
MPPT	**Montemurlo**	**1.90**	**307**	P	**Pn**	**10**	**19**	**24.4 -0.5**
VITU	**Vitulano (BN)**	**1.98**	**147**	P	**Pn**	**10**	**19**	**26.8 +0.7**
VITU				AML	AML			
	comp=E,1645µm,1.4s							
VITU				AML	AML			
	comp=E,4375µm,0.7s							
VITU				AML	AML			
	comp=N,5290µm,1.2s							
VITU				AML	AML			
	comp=N,5595µm,1.2s							
MTCR	**Monte La Croce**	**1.99**	**307**	P	**Pn**	**10**	**19**	**25.8 -0.5**
MTCR				AML	AML			
	comp=N,3905µm,0.9s							
MTCR				AML	AML			
	comp=E,2915µm,0.9s							
FNVD	**Fontana Vidola**	**2.01**	**312**	P	**Pn**	**10**	**19**	**25.8 -0.7**
FNVD				AML	AML			
	comp=E,4670µm,0.7s							
FNVD				AML	AML			
	comp=N,5340µm,0.7s							
PSB1	**Pescosannita**	**2.02**	**143**	P	**Pn**	**10**	**19**	**27.9 +1.3**
PSB1				AML	AML			
	comp=N,4190µm,1.3s							
PSB1				AML	AML			
	comp=N,4020µm,1.0s							
PSB1				AML	AML			
	comp=E,6940µm,1.3s							
PSB1				AML	AML			
	comp=E,6745µm,1.3s							
MOCO	**Biccari - m.te**	**2.08**	**135**	⇓P	**Pn**	**10**	**19**	**28.4 +1.0**
MOCO				AML	AML			
	comp=N,2075µm,1.2s							
MOCO				AML	AML			
	comp=E,3450µm,1.6s							
PAOL	**Paolisi**	**2.08**	**150**		**Pn**	**10**	**19**	**28.1 +0.5**
PAOL	**Paolisi**	**2.08**	**150**	P	**Pn**	**10**	**19**	**28.0 +0.5**
PAOL				AML	AML			
	comp=N,1840µm,1.0s							
PAOL				AML	AML			
	comp=E,2460µm,1.6s							
PAOL				AML	AML			
	comp=E,2340µm,1.6s							
PAOL				AML	AML			
	comp=N,1715µm,0.6s							
BRJN	**Brijuni**	**2.10**	**11**	P	**Pn**	**10**	**19**	**26.6 -1.0**
PII	**Pisa**	**2.14**	**295**	P	**Pn**	**10**	**19**	**28.1 -0.1**
PII				AML	AML			
	comp=N,3555µm,0.8s							
PII				AML	AML			
	comp=E,3440µm,0.9s							
POPM	**Popiglio**	**2.14**	**305**	P	**Pn**	**10**	**19**	**27.6 -0.7**
POPM				AML	AML			
	comp=E,1880µm,1.6s							
POPM				AML	AML			
	comp=N,1990µm,0.8s							
SGRT	**San Giovanni R**	**2.18**	**119**		**Pn**	**10**	**19**	**28.7 -0.2**
SGRT	**San Giovanni R**	**2.18**	**119**	P	**Pn**	**10**	**19**	**29.2 +0.3**
	baz=122							
SGRT				S	**Sn**	**10**	**19**	**55.9 -0.3**
	baz=122							
SGRT				AMP				
	comp=N,20nm,0.4s,baz=122							
SGRT	**San Giovanni R**	**2.18**	**119**	P	**Pn**	**10**	**19**	**28.5 -0.4**
CELB	**S.Piero in Cam**	**2.20**	**268**	P	**Pn**	**10**	**19**	**28.5 -0.6**
CELB				AML	AML			
	comp=N,478µm,1.2s							
CELB				AML	AML			
	comp=E,529µm,1.6s							
ZCCA	**Zocca**	**2.21**	**314**		**Pb**	**10**	**19**	**31.1 -1.4**
MAIM	**Mastiano**	**2.24**	**299**	P	**Pn**	**10**	**19**	**29.4 -0.2**
MAIM				AML	AML			
	comp=N,1755µm,1.6s							
MAIM				AML	AML			
	comp=E,1980µm,0.7s							
CARD	**Cardoso**	**2.30**	**302**	P	**Pn**	**10**	**19**	**29.7 -0.8**
CARD				AML	AML			
	comp=E,1740µm,0.5s							
CARD				AML	AML			
	comp=N,1870µm,1.0s							
MSAG	**Monte S. Angel**	**2.31**	**118**	P	**Pn**	**10**	**19**	**30.5 -0.2**
MSAG				AML	AML			
	comp=N,12350µm,0.6s							
MSAG				AML	AML			
	comp=E,10650µm,0.5s							
MSAG				AML	AML			
	comp=N,12700µm,0.6s							
MSAG				AML	AML			
	comp=E,9935µm,0.5s							
SGTA	**Sant Agata di**	**2.35**	**136**	P	**Pn**	**10**	**19**	**31.5 +0.3**
SGTA				AML	AML			
	comp=N,4290µm,0.9s							
SGTA				AML	AML			
	comp=N,4240µm,0.9s							
SGTA				AML	AML			
	comp=E,5215µm,1.1s							
SGTA				AML	AML			
	comp=E,5385µm,1.1s							
CAFE	**Carife**	**2.37**	**139**	P	**Pn**	**10**	**19**	**31.8 +0.3**
CAFE				AML	AML			
	comp=E,3675µm,0.8s							
CAFE				AML	AML			
	comp=N,3460µm,0.9s							
CAFE				AML	AML			
	comp=E,3780µm,0.8s							
CAFE				AML	AML			
	comp=N,3640µm,0.9s							
HVAR	**Hvar**	**2.41**	**81**	P	**Pn**	**10**	**19**	**31.5 -0.5**
GSCL	**Gusciola**	**2.42**	**309**	P	**Pn**	**10**	**19**	**32.7 +0.5**
GSCL				AML	AML			
	comp=E,2960µm,1.6s							
GSCL				AML	AML			
	comp=N,2645µm,0.7s							
VLC	**Villacollemand**	**2.43**	**304**		**Pn**	**10**	**19**	**30.6 -1.6**
VLC	**Villacollemand**	**2.43**	**304**	P	**Pn**	**10**	**19**	**31.4 -0.9**
VLC				AML	AML			
	comp=E,1305µm,1.3s							
VLC				AML	AML			
	comp=N,1305µm,1.1s							
VLC				AML	AML			
	comp=E,1249µm,1.5s							
VLC				AML	AML			
	comp=N,1355µm,1.6s							
SNAL	**S. Angelo Dei**	**2.44**	**141**	P	**Pn**	**10**	**19**	**33.8 +1.4**
SNAL				AML	AML			
	comp=E,6200µm,0.8s							
SNAL				AML	AML			
	comp=N,4485µm,1.1s							
SNAL				AML	AML			
	comp=N,4335µm,1.4s							
SNAL				AML	AML			
	comp=E,6495µm,1.1s							
EQUI	**Equi**	**2.58**	**302**	P	**Pn**	**10**	**19**	**33.8 -0.4**
EQUI				AML	AML			
	comp=N,1030µm,1.6s							
EQUI				AML	AML			
	comp=E,1044µm,0.7s							
CAPA	**Cerignola FG**	**2.58**	**130**	P	**Pn**	**10**	**19**	**34.9 +0.7**
CAPA				AML	AML			
	comp=E,9295µm,1.3s							
CAPA				AML	AML			
	comp=N,8190µm,1.0s							
VULT	**Monte Vulture**	**2.61**	**135**	P	**Pn**	**10**	**19**	**35.7 +0.9**
VULT				AML	AML			
	comp=N,5200µm,0.8s							
VULT				AML	AML			
	comp=N,5040µm,0.8s							
VULT				AML	AML			
	comp=E,4225µm,0.9s							
VULT				AML	AML			
	comp=E,4030µm,0.9s							
NDIM	**Novi di Modena**	**2.63**	**322**	AML	AML			
	comp=E,3770µm,1.6s							
NDIM				AML	AML			
	comp=N,6275µm,1.5s							
TEOL	**Teolo**	**2.75**	**337**		**Pn**	**10**	**19**	**36.2 -0.4**
SKDS	**Skadanscina**	**2.77**	**12**	⇑*i*Pn	**Pn**	**10**	**19**	**35.5 -1.4**
SKDS	**Skadanscina**	**2.77**	**12**	*i* Pn	**Pn**	**10**	**19**	**35.5 -1.4**
SKDS				*e*Sn	**Sn**	**10**	**20**	**09.0 -1.4**
SKDS				IAML		10	20	33.0
	comp=Z,2µm,0.7s							
GRAM	**Graiana**	**2.80**	**307**	P	**Pn**	**10**	**19**	**38.2 +0.7**
GRAM				AML	AML			
	comp=N,2165µm,0.5s							
GRAM				AML	AML			
	comp=E,2820µm,0.5s							
PALZ	**Palazzo San Ge**	**2.81**	**132**	AML	AML			
	comp=N,8225µm,1.2s							
PALZ				AML	AML			
	comp=E,8180µm,1.1s							
KNDS	**Knezji Dol**	**2.82**	**17**	*i* Pn	**Pn**	**10**	**19**	**36.6 -1.0**
KNDS				*e*Sn	**Sn**	**10**	**20**	**12.3 +0.5**
KNDS				IAML		10	20	38.9
	comp=Z,2µm,0.6s							
CDRU	**Civita di Ruta**	**2.83**	**145**	P	**Pn**	**10**	**19**	**38.8 +0.9**
PRMA	**PARMA**	**2.83**	**314**		**Pn**	**10**	**19**	**37.9 +0.1**
MRVN	**Minervino Murg**	**2.86**	**128**	P	**Pn**	**10**	**19**	**38.4 +0.2**
	baz=130							
MRVN				S	**Sn**	**10**	**20**	**13.8 +1.0**
	baz=130							
MRVN				AMP				
	comp=E,4.7nm,0.8s,baz=130							
MRVN	**Minervino Murg**	**2.86**	**128**	P	**Pn**	**10**	**19**	**38.6 +0.4**
MRVN				AML	AML			
	comp=N,1870µm,0.7s							
MRVN				AML	AML			
	comp=E,1540µm,1.6s							
TRI	**Trieste**	**2.89**	**8**		**Pn**	**10**	**19**	**37.1 -1.5**
TRI	**Trieste**	**2.89**	**8**	P	**Pn**	**10**	**19**	**37.1 -1.5**
A050A	**Klekovaca**	**2.92**	**55**	⇑*i*Pn	**Pn**	**10**	**19**	**39.2 +0.1**
CMPR	**Campora**	**2.98**	**147**	P	**Pn**	**10**	**19**	**40.6 +0.8**
SMPL	**Sampolo**	**2.99**	**257**	P	**Pn**	**10**	**19**	**39.9 0.0**
SMPL				AML	AML			
	comp=E,141µm,1.6s							
SMPL				AML	AML			
	comp=N,160µm,1.6s							
CEY	**Cerknica**	**3.03**	**17**	⇑*i*Pn	**Pn**	**10**	**19**	**39.2 -1.3**
BOJS	**Bojanci**	**3.04**	**28**	*e*Pn	**Pn**	**10**	**19**	**39.9 -0.8**
BOJS	**Bojanci**	**3.04**	**28**	P	**Pn**	**10**	**19**	**40.5 -0.2**
BOJS				AML	AML			
	comp=E,6200µm,1.5s							
BOJS				AML	AML			
	comp=N,5435µm,0.6s							
MSSA	**Maissana**	**3.05**	**300**		**Pn**	**10**	**19**	**40.9 +0.1**
MSSA	**Maissana**	**3.05**	**300**	P	**Pn**	**10**	**19**	**40.7 -0.1**
MSSA				AML	AML			
	comp=E,748µm,1.1s							
MSSA				AML	AML			
	comp=N,1080µm,0.8s							
PGF	**Pioggiola**	**3.11**	**266**	*e*Pn	**Pn**	**10**	**19**	**42.3 +0.7**
PGF				*e*Sn	**Sn**	**10**	**20**	**16.0 -3.0**
SRKY	**Kupres RS**	**3.14**	**66**	*e*Pn	**Pn**	**10**	**19**	**43.0 +0.9**
SABO	**M.te Sabotino**	**3.15**	**5**		**Pn**	**10**	**19**	**41.2 -0.9**
SABO	**M.te Sabotino**	**3.15**	**5**	⇑P	**Pn**	**10**	**19**	**41.1 -1.0**
SABO				AML	AML			
	comp=N,36100µm,0.6s							
SABO				AML	AML			
	comp=E,4685µm,0.6s							
SABO				AML	AML			
	comp=E,17850µm,0.7s							
SABO				AML	AML			
	comp=N,9245µm,0.6s							
PTRP	**Pietrapertosa**	**3.16**	**136**	AML	AML			
	comp=N,2525µm,0.7s							
PTRP				AML	AML			
	comp=E,3240µm,0.8s							
MCEL	**Monticello**	**3.19**	**141**	P	**Pn**	**10**	**19**	**44.1 +1.4**
MCEL				AML	AML			
	comp=E,1188µm,1.6s							
MCEL				AML	AML			
	comp=E,1197µm,1.6s							
MCEL				AML	AML			
	comp=N,1220µm,1.0s							
MCEL				AML	AML			
	comp=N,1190µm,1.0s							
ROVR	**Rover Verones**	**3.19**	**332**	P	**Pn**	**10**	**19**	**43.0 +0.2**
ROVR				AML	AML			
	comp=N,1160µm,0.7s							
ROVR				AML	AML			
	comp=E,1135µm,0.5s							
CGRP	**Cima Grappa**	**3.20**	**342**	P	**Pn**	**10**	**19**	**42.7 -0.2**
CGRP				AML	AML			
	comp=E,4330µm,0.5s							
CGRP				AML	AML			
	comp=N,4140µm,0.5s							
CGRP				AML	AML			
	comp=E,4325µm,0.4s							
CGRP				AML	AML			
	comp=N,4015µm,0.5s							
AMUR	**Altamura**	**3.20**	**126**	P	**Pn**	**10**	**19**	**43.2 +0.4**
AMUR				AML	AML			
	comp=N,2330µm,1.2s							
AMUR				AML	AML			
	comp=E,2505µm,1.5s							
MTSN	**Montesano sull**	**3.21**	**142**	P	**Pn**	**10**	**19**	**44.6 +1.5**
MTSN				AML	AML			
	comp=N,890µm,1.3s							
MTSN				AML	AML			
	comp=E,744µm,0.8s							
BULG	**Bulgheria - Ca**	**3.21**	**149**	P	**Pn**	**10**	**19**	**44.8 +1.8**
VOJS	**Vojsko**	**3.23**	**9**	*i* Pn	**Pn**	**10**	**19**	**41.9 -1.4**
VOJS				*e*Sn	**Sn**	**10**	**20**	**19.0 -2.9**
VOJS				IAML		10	20	48.9
	comp=Z,1µm,0.6s							
MGRS	**Mrkonjic Grad**	**3.23**	**60**	*e*Pn	**Pn**	**10**	**19**	**44.1 +0.8**
VARN	**Col Varnada, M**	**3.24**	**346**	P	**Pn**	**10**	**19**	**43.0 -0.5**
VARN				AML	AML			
	comp=E,6025µm,0.6s							
VARN				AML	AML			
	comp=E,6070µm,0.6s							
VARN				AML	AML			
	comp=N,3690µm,0.6s							
VARN				AML	AML			
	comp=N,3675µm,0.6s							
MIGL	**Miglionico**	**3.30**	**132**	P	**Pn**	**10**	**19**	**45.3 +1.1**
MIGL				AML	AML			
	comp=N,7470µm,0.8s							
MIGL				AML	AML			
	comp=E,7000µm,1.0s							
STON	**Ston**	**3.31**	**88**	*e*Pn	**Pn**	**10**	**19**	**42.9 -1.4**
STON	**Ston**	**3.31**	**88**	*e*Pn	**Pn**	**10**	**19**	**43.1 -1.2**
STON				*e*Sn	**Sn**	**10**	**20**	**22.2 -1.6**
STON	**Ston**	**3.31**	**88**	AML	AML			
	comp=E,722µm,0.8s							
STON				AML	AML			
	comp=N,822µm,0.6s							
PRIJ	**Prijedor**	**3.32**	**49**	*e*Pn	**Pb**	**10**	**19**	**51.4 +0.1**
SIRI	**Monte Sirino -**	**3.33**	**142**	P	**Pn**	**10**	**19**	**46.1 +1.4**
LJU	**Ljubljana**	**3.34**	**16**	P	**Pn**	**10**	**19**	**44.3 -0.4**
LJU				AML	AML			
	comp=E,16950µm,0.5s							
LJU				AML	AML			
	comp=N,27250µm,0.6s							
DOSS	**Dosso del Somm**	**3.36**	**335**	P	**Pn**	**10**	**19**	**45.2 0.0**
DOSS				AML	AML			
	comp=E,2445µm,0.5s							
DOSS				AML	AML			
	comp=E,2600µm,0.6s							
DOSS				AML	AML			
	comp=N,2540µm,0.6s							
DOSS				AML	AML			
	comp=N,2480µm,0.5s							
SALO	**Salr**	**3.37**	**326**		**Pn**	**10**	**19**	**46.1 +0.8**
SALO	**Salr**	**3.37**	**326**	P	**Pn**	**10**	**19**	**46.0 +0.8**
SALO				AML	AML			
	comp=E,2125µm,0.8s							
SALO				AML	AML			
	comp=N,2900µm,0.7s							
SALO				AML	AML			
	comp=E,2045µm,1.0s							
SALO				AML	AML			
	comp=N,3015µm,0.7s							
CTI	**Castel Tesino**	**3.39**	**341**		**Pn**	**10**	**19**	**45.6 +0.1**
CTI	**Castel Tesino**	**3.39**	**341**	P	**Pn**	**10**	**19**	**45.6 +0.1**
CTI	**Castel Tesino**	**3.39**	**341**	P	**Pn**	**10**	**19**	**45.5 0.0**
CTI				AML	AML			
	comp=E,2620µm,0.8s							
CTI				AML	AML			
	comp=N,3165µm,0.8s							
CRES	**Cresnjev**	**3.40**	**28**	⇑*i*Pn	**Pn**	**10**	**19**	**44.7 -0.8**
MPRI	**Monte Prat**	**3.40**	**358**	⇑P	**Pn**	**10**	**19**	**45.2 -0.4**
MPRI				AML	AML			
	comp=E,3225µm,0.6s							
MPRI				AML	AML			
	comp=E,2470µm,0.6s							
MPRI				AML	AML			
	comp=N,6040µm,0.4s							
MPRI				AML	AML			
	comp=N,4600µm,0.4s							
AJAC	**Base Areonaval**	**3.41**	**256**	P	**Pn**	**10**	**19**	**46.4 +0.7**
AJAC				AML	AML			
	comp=E,358µm,1.6s							
AJAC				AML	AML			
	comp=N,296µm,0.5s							
SCHR	**S. Chirico Rap**	**3.42**	**140**	P	**Pn**	**10**	**19**	**47.2 +1.3**
SCHR				AML	AML			
	comp=N,592µm,1.2s							
SCHR				AML	AML			
	comp=E,692µm,0.7s							
MATE	**Matera**	**3.42**	**129**	⇑P	**Pn**	**10**	**19**	**46.7 +0.9**
LEOD	**Capriano del C**	**3.42**	**321**	AML	AML			
	comp=N,3275µm,1.6s							
LEOD				AML	AML			
	comp=E,3730µm,0.7s							
STAL	**STALIGIAL**	**3.43**	**354**		**Pn**	**10**	**19**	**45.5 -0.5**
STAL	**STALIGIAL**	**3.43**	**354**	⇑P	**Pn**	**10**	**19**	**45.4 -0.7**
STAL				AML	AML			
	comp=E,3495µm,0.4s							
STAL				AML	AML			
	comp=N,3210µm,0.7s							
STAL				AML	AML			
	comp=E,2625µm,0.8s							
STAL				AML	AML			
	comp=N,2840µm,0.7s							
A051A	**Mrakovica**	**3.45**	**50**	⇑*i*Pn	**Pn**	**10**	**19**	**46.2 -0.1**
BLY	**Banja Luka**	**3.46**	**55**	*e*Pn	**Pn**	**10**	**19**	**46.4 0.0**
BLY	**Banja Luka**	**3.46**	**55**	P	**Pn**	**10**	**19**	**46.9 +0.5**
BLY				AML	AML			
	comp=N,1590µm,0.6s							
BLY				AML	AML			
	comp=E,1735µm,0.7s							
BLY				AML	AML			
	comp=N,1530µm,0.6s							
BLY				AML	AML			
	comp=E,1740µm,0.7s							
MAGA	**Magasa**	**3.46**	**329**	AML	AML			
	comp=E,5925µm,0.9s							
MAGA				AML	AML			

comp=N,3830µm,0.5s
CUC Castrocucco 3.46 144 Pn 10 19 48.6 +2.1
CIMO Cimolais 3.51 351 Pn 10 19 46.5 -0.6
CIMO Cimolais 3.51 351 ⇑P Pn 10 19 46.4 -0.6
CIMO AML AML
comp=N,846µm,0.5s
CIMO AML AML
comp=E,788µm,0.7s
CIMO AML AML
comp=N,862µm,0.5s
CIMO AML AML
comp=E,777µm,0.7s
LUSI Trento, Gardas 3.51 333 P Pn 10 19 47.0 -0.1
LUSI AML AML
comp=E,2120µm,0.6s
LUSI AML AML
comp=N,2125µm,0.7s
LTRZ Laterza 3.52 128 P Pn 10 19 48.0 +0.8
LTRZ AML AML
comp=N,825µm,1.6s
LTRZ AML AML
comp=E,1690µm,0.6s
AGOR Agordo 3.54 347 ⇑P Pn 10 19 47.2 -0.3
AGOR AML AML
comp=E,1445µm,0.7s
AGOR AML AML
comp=E,1211µm,0.7s
AGOR AML AML
comp=N,1215µm,0.7s
AGOR AML AML
comp=N,1600µm,0.7s
NOCI Noci 3.55 124 P Pn 10 19 47.9 +0.3
baz=126
NOCI S Sn 10 20 29.2 -0.5
baz=126
NOCI AMP
comp=E,4.5nm,0.5s,baz=126
NOCI Noci 3.55 124 P Pn 10 19 48.1 +0.5
NOCI AML AML
comp=E,1610µm,0.8s
NOCI AML AML
comp=N,1955µm,1.2s
PTCC Patocco-Chiusa 3.56 2 ⇑P Pn 10 19 46.7 -1.2
PTCC AML AML
comp=E,1310µm,1.2s
PTCC AML AML
comp=N,974µm,0.4s
PRED Cave del Predi 3.61 4 Pn 10 19 47.9 -0.6
GAGG Gaggia 3.61 334 P Pn 10 19 48.9 +0.2
GAGG AML AML
comp=E,2610µm,1.0s
GAGG AML AML
comp=N,1725µm,0.7s
GAGG AML AML
comp=E,1675µm,0.7s
GAGG AML AML
comp=N,2485µm,1.0s
CLUD Cludinico 3.62 357 Pn 10 19 48.1 -0.5
CLUD Cludinico 3.62 357 P Pn 10 19 47.8 -0.8
CLUD AML AML
comp=N,1920µm,0.7s
CLUD AML AML
comp=E,1700µm,0.6s
CLUD AML AML
comp=E,1690µm,0.6s
CLUD AML AML
comp=N,1915µm,0.7s
ZONE Zone 3.66 324 P Pn 10 19 49.9 +0.7
ZONE AML AML
comp=E,1136µm,0.3s
ZONE AML AML
comp=N,326µm,0.3s
ZONE AML AML
comp=N,1155µm,0.3s
ZONE AML AML
comp=E,288µm,0.3s
SARZ Sarezzano 3.70 305 AML AML
comp=N,2335µm,1.4s
SARZ AML AML
comp=N,2355µm,1.4s
SARZ AML AML
comp=E,2030µm,1.6s
SARZ AML AML
comp=E,2085µm,1.6s
ACOM Acomizza, Ital 3.71 3 P Pn 10 19 49.4 -0.6
ACOM AML AML
comp=E,3180µm,0.7s
ACOM AML AML
comp=N,3350µm,0.7s
ACOM AML AML
comp=E,3190µm,0.7s
ACOM AML AML
comp=N,3510µm,0.7s
MABI Malga Bissina 3.74 330 P Pn 10 19 50.8 +0.4
MABI AML AML
comp=N,572µm,0.8s
MABI AML AML
comp=E,613µm,0.8s
OBKA Obir 3.79 14 ePn Pn 10 19 49.8 -1.2
OBKA Obir 3.79 14 i Pn Pn 10 19 50.3 -0.7
comp=E,11nm,0.2s,SNR=19
OBKA eSg Sg 10 20 57.3 +3.3
comp=E,2µm,0.8s
TREB Trebinje 3.80 90 ePn Pn 10 19 51.0 0.0
MYKA Terra Mystica 3.80 5 i Pn Pn 10 19 50.8 -0.3
comp=E,49nm,0.2s,SNR=88
MYKA eSn Sn 10 20 37.6 +1.6
comp=E,512nm,0.8s
TAR1 Taranto 3.84 126 AML AML
comp=E,1595µm,0.9s
TAR1 AML AML
comp=N,1780µm,0.7s
KOSI Kohlern 3.84 341 AML AML
comp=E,2590µm,0.7s
KOSI AML AML
comp=N,2400µm,0.7s
A052A Srbac 3.85 53 ePn Pn 10 19 47.6 -4.1
APPI Appiano 3.90 340 AML AML
comp=E,1775µm,0.4s
APPI AML AML
comp=N,1680µm,0.5s
BRY Bratogost 3.93 87 ⇑i Pn Pn 10 19 53.0 +0.1
BRY Bratogost 3.93 87 ⇑i Pn Pn 10 19 53.1 +0.1
BRY eSn Sn 10 20 39.7 +0.4
HCY Herceg Novi 3.93 94 ePn Pn 10 19 52.9 +0.1
HCY Herceg Novi 3.93 94 ePn Pn 10 19 52.7 -0.1
HCY eSn Sn 10 20 39.0 -0.1
ABTA Abfaltersbach 3.93 353 i Pn Pn 10 19 53.2 +0.3
comp=N,103nm,0.3s,SNR=250
ABTA eSn Sn 10 20 39.7 +0.4
comp=N,677nm,0.7s
BRES Bressanone 3.99 345 AML AML
comp=E,1485µm,0.4s
BRES AML AML
comp=N,1685µm,0.4s
DOB Doboj 4.02 60 ePn Pn 10 19 53.4 -0.7
SOKA Soboth 4.05 18 i Pn Pn 10 19 53.9 -0.7
comp=N,1.2nm,0.2s,SNR=20
SOKA eSg Sg 10 21 05.7 +3.4
comp=N,258nm,0.6s
BRMO Bormio 4.15 332 AML AML
comp=N,546µm,0.7s
BRMO AML AML
comp=E,528µm,0.7s
RISI Rein 4.18 349 AML AML
comp=E,5595µm,0.7s
RISI AML AML
comp=N,6000µm,0.5s
UPM Unac-Piva 4.20 83 ePn Pn 10 19 58.0 +1.3
UPM Unac-Piva 4.20 83 ⇓i Pn Pn 10 19 58.1 +1.3
UPM eSn Sn 10 20 46.1 0.0
MOSI Grossmontoni 4.22 334 AML AML
comp=E,2200µm,0.7s
MOSI AML AML
comp=N,3865µm,0.8s
BERNI Berninapass 4.23 329 AML AML
comp=N,548µm,0.8s
BERNI AML AML
comp=E,461µm,0.5s
CEME Cevo 4.23 92 ⇑i Pn Pn 10 19 57.4 +0.4
CEME eSn Sn 10 20 46.9 +0.3
KBA Koelnbreinsper 4.24 1 i Pn Pn 10 19 57.2 0.0
comp=E,48nm,0.2s,SNR=120
KBA eSn Sn 10 20 48.4 +1.5
comp=E,123nm,0.2s
NKME Niksic 4.24 89 ⇑i Pn Pn 10 19 57.5 +0.4
NKME eSn Sn 10 20 47.1 +0.3

BUM Brajici-Budva 4.24 95 ⇑i Pn Pn 10 19 57.6 +0.4
BUM eSn Sn 10 20 47.2 +0.2
NKY Niksic 4.26 88 ePn Pn 10 19 57.6 0.0
NKY eSn Sn 10 20 47.4 -0.1
ROSI Rosskopf 4.28 343 AML AML
comp=E,2455µm,1.1s
ROSI AML AML
comp=N,2490µm,0.6s
MUGIO Muggio 4.28 317 AML AML
comp=N,382µm,0.6s
MUGIO AML AML
comp=E,430µm,1.0s
FUORN Ofenpass-Fuorn 4.31 332 Pn 10 20 00.1 +1.7
SBF Sospel 4.32 286 ePn Pn 10 19 58.7 +0.4
SBF eSn Sn 10 20 45.6 -3.3
VARE Varese 4.38 315 AML AML
comp=N,770µm,0.6s
VARE AML AML
comp=E,705µm,0.8s
DRME Dracevica, Mon 4.48 96 ePn Pn 10 20 01.0 +0.6
DRME Dracevica, Mon 4.48 96 ⇓i Pn Pn 10 20 00.9 +0.6
DRME eSn Sn 10 20 53.0 +0.4
PDG Podgorica 4.49 93 ⇑P Pn 10 20 01.1 +0.6
PDG Podgorica 4.49 93 Pn 10 20 01.3 +0.7
PDG Podgorica 4.49 93 AML AML
comp=E,1052µm,0.4s
PDG AML AML
comp=N,1300µm,0.4s
PDG AML AML
comp=N,1028µm,0.4s
PDG AML AML
comp=E,840µm,0.4s
TTG Podgorica 4.49 93 ⇑i Pn Pn 10 20 01.1 +0.6
TTG eSn Sn 10 20 53.2 +0.3
FETA Feichten 4.53 338 i Pn Pn 10 20 02.6 +1.3
comp=E,32nm,0.5s,SNR=138
TIP Timpagrande 4.55 142 Pn 10 20 04.2 +2.8
WTTA Wattenberg 4.55 347 i Pn Pn 10 20 02.7 +1.1
comp=E,96nm,0.5s,SNR=71
WTTA eSn Sn 10 20 58.0 +3.3
comp=E,459nm,0.7s
PLE Pljevlja 4.56 82 ⇑i Pn Pn 10 20 02.5 +0.8
PLE eSn Sn 10 20 54.9 0.0
RUDO Rudo 4.58 78 ePn Pn 10 20 02.2 +0.4
DAVOX Davos/Dischmat 4.59 330 Pn Pn 10 20 04.4 +2.4
comp=E,31nm,0.3s,baz=124,slow=8.2,SNR=273
DAVOX Sn Sn 10 20 58.2 +2.6
comp=E,24nm,0.3s,baz=332,slow=20,SNR=4.9
DAVOX Lg Lg 10 21 16.2
comp=E,8.1nm,0.3s,baz=249,slow=18,SNR=3.6
SQTA Sankt Quirin 4.60 343 Pn 10 20 03.6 +1.5
SQTA Sn 10 20 58.5 +2.8
SQTA Sankt Quirin 4.60 343 P Pn 10 20 03.6 +1.5
SQTA 10 20 58.5
SQTA Sankt Quirin 4.60 343 i Pn Pn 10 20 03.6 +1.5
comp=E,196nm,0.4s,SNR=114
SQTA eSn Sn 10 20 58.5 +2.8
comp=E,362nm,0.9s
WATA Walderalm 4.63 346 Pn 10 20 04.2 +1.5
WATA Sn 10 21 00.5 +3.8
WATA Walderalm 4.63 346 P Pn 10 20 04.2 +1.5
WATA 10 21 00.5
WATA Walderalm 4.63 346 i Pn Pn 10 20 04.2 +1.5
comp=E,132nm,0.5s,SNR=68
WATA eSn Sn 10 21 00.5 +3.8
comp=E,347nm,0.5s
BBLS Lazići 4.64 75 ePn Pn 10 20 03.7 +1.0
KOME Kolasin 4.65 88 ⇓i Pn Pn 10 20 04.0 +1.2
KOME eSn Sn 10 20 57.4 +0.5
ARSA Arzberg 4.71 20 i Pn Pn 10 20 02.6 -0.9
comp=E,4.7nm,0.2s,SNR=22
ARSA eSn Sn 10 20 55.7 -2.5
comp=E,73nm,0.3s
MOTA Moosalm 4.74 343 Pn 10 20 05.7 +1.6
MOTA Sn 10 21 02.0 +2.8
MOTA Moosalm 4.74 343 i Pn Pn 10 20 05.7 +1.6
comp=E,55nm,0.4s,SNR=82
MOTA eSn Sn 10 21 02.0 +2.8
comp=E,0.9nm,0.1s
KOVH Kovagotottos 4.78 46 P Pn 10 20 02.8 -1.7
KOVH S Sn 10 20 57.1 -2.9
SCTE Santa Cesarea 4.83 123 Pn 10 20 06.5 +1.3
SCTE Santa Cesarea 4.83 123 P Pn 10 20 06.0 +0.8
baz=124
SCTE S Sn 10 21 04.7 +3.3
baz=124
SCTE AMP
comp=E,1.3nm,1.1s,baz=124
BIOA Bad Ischl, Aus 4.86 4 Pn 10 20 05.5 -0.1
BIOA Bad Ischl, Aus 4.86 4 i Pn Pn 10 20 05.6 -0.1
comp=E,85nm,0.4s,SNR=118
RJOB Jochberg 4.90 357 ePn Pn 10 20 06.5 +0.2
RJOB eSn Sn 10 21 06.0 +2.9
LMR La Mourre 4.92 278 ePn Pn 10 20 06.2 -0.2
LMR eSn Sn 10 21 00.1 -3.4
IVA Berane 4.92 87 ⇑i Pn Pn 10 20 07.4 +0.8
IVA eSn Sn 10 21 03.9 +0.1
RETA Reutte 4.95 341 i Pn Pn 10 20 08.7 +1.7
comp=E,51nm,0.3s,SNR=33
RETA eSn Sn 10 21 07.3 +3.0
comp=E,168nm,0.6s
SJES Sjenica 4.99 83 ePn Pn 10 20 08.7 +1.2
SJES eSn Sn 10 21 04.5 -0.8
PVY Plav 4.99 91 ⇑i Pn Pn 10 20 09.3 +1.8
MBDF Montbardon 5.02 294 ePn Pn 10 20 08.7 +0.8
MBDF eSn Sn 10 21 03.9 -2.2
comp=E,110nm,0.6s
CEL Celeste 5.02 155 Pn Pn 10 20 09.0 +1.1
DAVA Damuels 5.02 333 i Pn Pn 10 20 10.1 +2.1
comp=E,38nm,0.5s,SNR=72
DAVA eSn Sn 10 21 10.7 +4.4
comp=E,297nm,0.5s
MOA Molln 5.06 8 ePn Pn 10 20 08.2 -0.2
MOA eSn Sn 10 21 05.9 -1.2
MOA Molln 5.06 8 i Pn Pn 10 20 08.3 -0.2
comp=E,18nm,0.3s,SNR=34
MOA eSn Sn 10 21 07.7 +0.7
comp=E,218nm,0.6s
BCI Bajram Curri 5.09 93 P Pn 10 20 10.3 +1.4
baz=94
BCI AMP
comp=E,2.6nm,0.7s,baz=94
DIVS Divibare 5.10 73 Pn 10 20 09.8 +0.8
DIVS Divibare 5.10 73 ePn Pn 10 20 09.4 +0.3
DIVS Divibare 5.10 73 ePn Pn 10 20 09.3 +0.2
EMBD Embd, Matterta 5.11 313 P Pn 10 20 10.3 +1.2
IVAS Ivanjica 5.14 79 ePn Pn 10 20 09.6 +0.1
IVAS eSn Sn 10 21 07.7 -1.3
MORH Mrgy, Hungar 5.15 47 ⇑P Pn 10 20 10.0 +0.5
MORH Mrgy, Hungar 5.15 47 P Pn 10 20 09.5 -0.1
TIR Tirane 5.18 105 P Pn 10 20 11.0 +0.9
TIR Tirane 5.18 105 Pn Pn 10 20 10.9 +0.9
TIR Tirane 5.18 105 P Pn 10 20 10.9 +0.9
TIR Tirane 5.18 105 P Pn 10 20 10.4 +0.4
baz=105
TIR AMP
comp=E,2.2nm,0.5s,baz=105
BNI Bardonecchia 5.20 297 Pn 10 20 12.0 +1.6
BNI Bardonecchia 5.20 297 P Pn 10 20 12.0 +1.6
TIH Tihany 5.25 38 P Pn 10 20 13.5 +2.5
VLO Vlora 5.28 115 Pn 10 20 13.3 +1.9
VLO Vlora 5.28 115 P Pn 10 20 13.3 +1.9
FRGS Fruska Gora 5.30 62 ⇑P Pn 10 20 12.9 +1.1
FRGS Fruska Gora 5.30 62 ePn Pn 10 20 10.3 -1.4
FRGS Fruska Gora 5.30 62 ePn Pn 10 20 10.7 -1.0
UBR Ueberruh 5.30 337 ePn Pn 10 20 13.0 +1.2
UBR eSn Sn 10 21 13.6 +0.6
MPLH Magyarpolny 5.31 34 P Pn 10 20 10.0 -1.8
RONA Rosalia, Austr 5.33 23 Pn 10 20 11.4 -0.6
RONA Rosalia, Austr 5.33 23 i Pn Pn 10 20 11.4 -0.6
comp=E,4.8nm,0.2s,SNR=20
LPG La Plagne 5.34 302 ePn Pn 10 20 14.1 +1.6
LPG eSn Sn 10 21 10.0 -4.3
comp=E,122nm,0.6s
LPL La Plagne 5.36 302 ePn Pn 10 20 13.9 +1.2
LPL eSn Sn 10 21 13.0 -1.7
comp=E,83nm,0.6s
SOP Sopron 5.39 25 P Pn 10 20 12.2 -0.7
SOP S Sn 10 21 12.1 -2.9
CONA Conrad Observa 5.42 19 i Pn Pn 10 20 12.7 -0.7
comp=E,11nm,0.2s,SNR=31
CONA eSn Sn 10 21 13.7 -2.3
comp=E,116nm,0.5s
TRUS Trudelj 5.42 73 ePn Pn 10 20 13.5 +0.2

VAE Valguarnera 5.44 170 Pn Pn 10 20 19.3 +5.6
comp=E,0.7nm,0.3s,baz=288,slow=3.2,SNR=3.2
FUR Furstenfeldbru 5.49 346 eSn Sn 10 21 18.0 +0.4
PHP Peshkopia 5.50 100 P Pn 10 20 15.7 +1.2
baz=100
PHP AMP
comp=N,2.7nm,0.5s,baz=100
RSL Roselend 5.51 303 P Pn 10 20 16.0 +1.3
GRUS Gruza 5.58 77 ePn Pn 10 20 15.9 +0.4
GDM Grand'Maison 5.62 297 P Pn 10 20 19.8 +3.5
SMRF Simiane la Rot 5.66 284 ePn Pn 10 20 18.1 +1.4
SMRF eSn Sn 10 21 19.3 -2.6
comp=N,75nm,0.9s
ORIF Oris-en-Rattie 5.68 294 ePn Pn 10 20 19.2 +2.2
ORIF eSn Sn 10 21 20.9 -1.4
comp=N,120nm,0.8s
SELS Selova 5.82 84 ePn Pn 10 20 18.8 -0.1
KEK Kerkira 5.88 120 P Pn 10 20 20.3 +0.7
KEK Kerkira 5.88 120 Pn Pn 10 20 20.9 +1.3
GRN Grenoble 5.88 297 P Pn 10 20 22.4 +2.7
SULZ Cheisacher 5.90 324 P Pn 10 20 20.6 +0.7
SRN Sarande 5.92 118 P Pn 10 20 20.8 +0.7
baz=119
BALST Balsthal 5.94 321 P Pn 10 20 21.2 +0.7
GEC2 GERESS Array S 6.01 3 Pn 10 20 21.1 -0.5
GEC2 GERESS Array S 6.01 3 ePn Pn 10 20 20.3 -1.3
GEC2 eSn Sn 10 21 27.3 -3.2
GERES GERESS Array B 6.01 3 Pn Pn 10 20 20.2 -1.3
comp=N,4.9nm,0.3s,baz=171,slow=13,SNR=108
GERES Sn Sn 10 21 28.1 -2.5
comp=N,14nm,0.3s,baz=166,slow=18,SNR=4.0
comp=N,17nm,0.6s
GERES GERESS Array B 6.01 3 Pn 10 20 20.8 -0.7
ZST Bratislava 6.01 26 eP Pn 10 20 21.0 -0.5
ZST e 10 21 26.7
ZST Bratislava 6.01 26 ePN Pn 10 20 21.0 -0.5
ZST eSN Sn 10 21 26.7 -3.7
CKRC Cesky Krumlov 6.03 7 ePN Pn 10 20 20.2 -1.5
CKRC eSN Sn 10 21 27.5 -3.3
OGSM Saint Maurice 6.05 300 P Pn 10 20 23.2 +1.2
KBN Korca 6.10 109 Pn Pn 10 20 23.8 +1.1
KBN Korca 6.10 109 P Pn 10 20 23.8 +1.1
KBN Korca 6.10 109 P Pn 10 20 23.5 +0.8
baz=109
KBN AMP
comp=N,3.7nm,0.5s,baz=109
SRO Srobarova 6.14 34 eP Pn 10 20 24.6 +1.4
SRO Srobarova 6.14 34 ePN Pn 10 20 24.6 +1.4
LSK Leskovik 6.18 113 P Pn 10 20 25.2 +1.4
baz=114
BOURR Bourrignon 6.20 319 P Pn 10 20 23.0 -1.1
MODS Modra-Piesok 6.23 26 eP Pn 10 20 23.8 -0.6
MODS e 10 21 31.9
MODS Modra-Piesok 6.23 26 ePN Pn 10 20 23.8 -0.6
MODS eSN Sn 10 21 31.9 -3.8
BOVS Bovan 6.27 80 ⇑P Pn 10 20 25.0 +0.1
BOVS Bovan 6.27 80 ePn Pn 10 20 24.4 -0.5
KHC Kasperske Hory 6.29 2 Pn 10 20 24.8 -0.6
KHC Kasperske Hory 6.29 2 eP Pn 10 20 24.1 -1.2
KHC e 10 21 34.5
KHC Kasperske Hory 6.29 2 ePN Pn 10 20 24.1 -1.2
KHC eSN Sn 10 21 34.5 -2.9
WET Wettzell 6.30 358 ePn Pn 10 20 24.0 -1.5
WET eSn Sn 10 21 34.4 -3.3
CABF La Chapelle 6.31 309 ePn Pn 10 20 26.0 +0.4
CABF eSn Sn 10 21 37.4 -0.4
comp=N,132nm,0.8s
KIZ Kirchzarten 6.32 326 P Pn 10 20 25.8 +0.1
IGT Igoumenitsa 6.32 119 P Pn 10 20 26.3 +0.6
IGT Igoumenitsa 6.32 119 P Pn 10 20 27.2 +1.5
baz=120
OG35 Corcelles 6.33 303 P Pn 10 20 26.2 +0.4
BARS Barje 6.34 87 ePn Pn 10 20 26.2 +0.2
NEST Nestorio 6.37 110 P Pn 10 20 27.9 +1.5
CHMF Charmoille 6.39 316 P Pn 10 20 27.4 +0.6
CHMF S Sn 10 21 38.6 -1.2
SMOL Smolenice 6.40 26 eP Pn 10 20 22.9 -3.8
SMOL e 10 21 40.3
BFO Black Forest 6.46 330 Pn 10 20 28.1 +0.5
BFO Black Forest 6.46 330 P Pn 10 20 28.1 +0.5
BFO Black Forest 6.46 330 ePn Pn 10 20 27.9 +0.3
MDVR Moldovita 6.46 70 ⇑P Pn 10 20 28.2 +0.6
VIVF Saint-Julien-l 6.48 291 ePn Pn 10 20 28.7 +0.8
VIVF eSn Sn 10 21 37.7 -4.3
comp=N,18nm,0.6s
STU Stuttgart 6.55 336 ePn Pn 10 20 29.7 +0.8
STU eSn Sn 10 21 41.9 -1.8
PRVS Prvonek 6.55 90 ePn Pn 10 20 29.2 +0.2
MOF Molkenrain 6.58 322 P Pn 10 20 29.5 +0.2
JAN Janina 6.59 116 P Pn 10 20 29.9 +0.5
BOUC Bouclans 6.60 314 P Pn 10 20 29.8 +0.3
KRUC Moravsky 6.61 19 ePN Pn 10 20 28.0 -1.6
KRUC eSN Sn 10 21 41.2 -3.8
TREC Trest 6.65 13 eP Pn 10 20 29.2 -1.0
TREC e 10 21 42.7
TREC Trest 6.65 13 ePN Pn 10 20 29.2 -1.0
TREC eSN Sn 10 21 42.7 -3.3
BZS Buzias 6.66 63 ⇑P Pn 10 20 30.7 +0.4
ZAGS Zajecar 6.66 79 ePn Pn 10 20 29.8 -0.6
HINF Hinteralfeld 6.68 320 ePn Pn 10 20 30.6 -0.1
HINF eSn Sn 10 21 44.4 -2.6
comp=N,117nm,0.5s
SSB Saint Sauveur 6.69 294 Pn 10 20 32.1 +1.3
SSB Saint Sauveur 6.69 294 P Pn 10 20 32.1 +1.3
JAVC Velka Javorina 6.78 26 ePN Pn 10 20 31.4 -0.6
JAVC eSN Sn 10 21 46.6 -2.7
ECH Echery 6.84 324 Pn 10 20 33.4 +0.5
ECH Echery 6.84 324 P Pn 10 20 33.3 +0.5
ECH Echery 6.84 324 P Pn 10 20 32.8 0.0
ECH S Sn 10 21 48.9 -2.0
BOSS Bosilegrad 6.85 90 ePn Pn 10 20 33.7 +0.7
VRAC Vranov 6.88 19 ⇑P Pn 10 20 32.3 -1.1
VRAC Vranov 6.88 19 Pn Pn 10 20 32.2 -1.1
comp=N,1.0nm,0.3s,baz=202,slow=14,SNR=7.4
VRAC Sn Sn 10 21 48.0 -3.8
comp=N,3.6nm,0.3s,baz=274,slow=21,SNR=6.1
VRAC Lg Lg 10 22 27.4
comp=N,1.1nm,0.3s,baz=271,slow=9.6,SNR=3.5
VRAC LR LR 10 23 49.9
comp=N,311nm,18.5s,baz=209,slow=44
comp=N,4.4nm,0.5s
VRAC Vranov 6.88 19 ePN Pn 10 20 33.0 -0.4
VRAC eSN Sn 10 21 48.0 -3.8
VYHS Vyhne 6.89 33 eP Pn 10 20 32.7 -0.9
VYHS e 10 21 54.9
VYHS Vyhne 6.89 33 ePN Pn 10 20 32.7 -0.9
VYHS eSN Sn 10 21 54.9 +2.8
LASF Ste Croix 6.91 283 ePn Pn 10 20 34.8 +1.1
LASF eSn Sn 10 21 49.0 -3.5
comp=N,5.8nm,0.6s
WLS Welschbruch 6.91 326 P Pn 10 20 34.0 +0.1
WLS S Sn 10 21 51.6 -1.0
PSZ Piszkesteto 6.93 41 ⇑P Pn 10 20 34.0 0.0
PSZ Piszkesteto 6.93 41 Pn Pn 10 20 34.2 +0.2
PSZ Piszkesteto 6.93 41 P Pn 10 20 34.2 +0.2
PSZ Piszkesteto 6.93 41 P Pn 10 20 33.7 -0.3
ZAPS Zavoj 6.93 83 ePn Pn 10 20 34.5 +0.4
CDF Champ du Feu 6.94 325 ePn Pn 10 20 34.0 -0.3
CDF eSn Sn 10 21 51.0 -2.4
comp=N,74nm,0.4s
SIRR Siria 6.95 58 ⇑P Pn 10 20 34.3 0.0
LKD2 Lefkada island 6.96 123 P Pn 10 20 35.6 +1.1
BLKB Belogradchik 6.97 80 ⇑P Pn 10 20 35.2 +0.6
HERR Herculane 6.97 70 ⇑P Pn 10 20 35.1 +0.5
GRA1 Grafenberg Arr 6.98 349 Pn 10 20 33.4 -1.4
GRF Grafenberg Arr 6.98 349 P Pn 10 20 33.4 -1.4
GRF Grafenberg Arr 6.98 349 ePn Pn 10 20 36.8 +2.1
GRF eSn Sn 10 21 50.0 -4.4
GRFO Grafenberg 6.98 349 Pn 10 20 33.1 -1.7
GRFO Grafenberg 6.98 349 P Pn 10 20 33.1 -1.7
DJES Djerdap 6.99 72 ⇑P Pn 10 20 35.9 +1.0
HAU Haudompre 7.06 319 ePn Pn 10 20 35.8 0.0
HAU eSn Sn 10 21 54.3 -1.9
comp=N,161nm,0.4s
PRU Pruhonice 7.21 7 eP Pn 10 20 36.2 -1.6
PRU e 10 21 56.4
PRU Pruhonice 7.21 7 ePN Pn 10 20 36.2 -1.6
PRU eSN Sn 10 21 56.4 -3.4
VLS Valsamata 7.31 127 P Pn 10 20 40.1 +0.8
GZR Gura Zlata 7.35 66 ⇑P Pn 10 20 40.5 +0.6
KKB Krupnik 7.39 94 i P Pn 10 20 42.0 +1.6
VTS Vitosha 7.40 88 ⇑P Pn 10 20 41.2 +0.7

VTS **Vitosha** 7.40 88 Pn 10 20 41.7 +1.1
VTS **Vitosha** 7.40 88 P Pn 10 20 41.7 +1.1
VTS **Vitosha** 7.40 88 *i* P Pn 10 20 41.3 +0.7
NKC **Novy Kostel** 7.41 356 *e*P Pn 10 20 39.0 -1.6
NKC *e* 10 22 02.4
NKC **Novy Kostel** 7.41 356 *e*PN Pn 10 20 39.0 -1.6
NKC *e*SN Sn 10 22 02.4 -2.4
THL **Klokotos Trika** 7.41 113 P Pn 10 20 41.4 +0.7
WERN **Wernitzgruen** 7.47 356 *e*Pn Pn 10 20 40.7 -0.8
WERN *e*Sn Sn 10 22 02.9 -3.3
SRE **Strehaia** 7.47 73 ⇑P Pn 10 20 42.9 +1.4
LIT **Litokhoron** 7.50 108 P Pn 10 20 41.6 -0.3
GUNZ **Gunzen** 7.54 356 *e*Pn Pn 10 20 41.6 -0.9
GUNZ *e*Sn Sn 10 22 04.1 -4.1
MORC **Moravsky Berou** 7.56 22 ⇑P Pn 10 20 41.7 -1.0
MORC **Moravsky Berou** 7.56 22 *e*P Pn 10 20 42.2 -0.5
MORC **Moravsky Berou** 7.56 22 *e*PN Pn 10 20 41.1 -1.6
MORC *e*SN Sn 10 22 05.8 -2.7
MORC **Moravsky Berou** 7.56 22 P Pn 10 20 42.2 -0.5
TANN **Tannenbergstha** 7.59 356 *e*Pn Pn 10 20 43.1 -0.1
TANN *e*Sn Sn 10 22 03.7 -5.6
DEV **Deva** 7.59 63 ⇑P Pn 10 20 44.1 +1.0
EVR **Evrytania** 7.61 118 P Pn 10 20 45.5 +2.0
KRLC **Kraliky** 7.64 18 *e*P Pn 10 20 42.6 -1.3
KRLC **Kraliky** 7.64 18 *e*PN Pn 10 20 42.6 -1.3
SMF **Signal de Mont** 7.67 303 *e*Pn Pn 10 20 44.4 +0.3
SMF *e*Sn Sn 10 22 09.6 -1.5
comp=N,94nm,0.7s
LANS **Liptovska Anna** 7.67 33 *e*P Pn 10 20 48.9 +4.7
LANS **Liptovska Anna** 7.67 33 *e*PN Pn 10 20 48.9 +4.7
PLN **Plauen** 7.68 355 *e*Pn Pn 10 20 44.0 -0.3
KEST **Kesra** 7.70 204 Pn Pn 10 20 48.1 +3.3
comp=N,1.9nm,0.3s,baz=335,slow=7.5,SNR=17
KEST LR LR 10 23 35.9
comp=N,614nm,20.9s,baz=26,slow=36
comp=N,7.9nm,0.5s
MPEP **Malo Peshtene** 7.74 83 *i* P Pn 10 20 46.7 +1.6
PAGF **Fort de Pagny** 7.74 320 *e*Pn Pn 10 20 46.0 +0.8
baz=126
PAGF *e*Sn Sn 10 22 11.3 -1.6
comp=N,170nm,0.9s
HORT **Hortiatis** 7.74 104 P Pn 10 20 44.6 -0.7
OKC **Ostrava-Krasne** 7.79 24 *e*SN Sn 10 22 09.6 -4.5
DPC **Dobruska-Polom** 7.81 15 *e*P Pn 10 20 44.4 -1.8
DPC **Dobruska-Polom** 7.81 15 *e*PN Pn 10 20 44.4 -1.8
DRGR 7.83 56 ⇑P Pn 10 20 47.0 +0.5
SFTF **Sexfontaines** 7.84 316 *e*Pn Pn 10 20 46.0 -0.6
baz=135
SFTF *e*Sn Sn 10 22 12.1 -3.3
comp=N,58nm,0.6s
MOX **Moxa** 7.88 353 *e*Pn Pn 10 20 46.2 -0.9
MOX *e*Sn Sn 10 22 11.5 -4.9
UPC **Upice** 7.91 13 *e*P Pn 10 20 47.1 -0.3
UPC **Upice** 7.91 13 *e*PN Pn 10 20 47.1 -0.3
RLS **Riolos of Patr** 7.91 124 P Pn 10 20 49.2 +1.7
MMB **Musomiste** 7.92 96 *i* P Pn 10 20 48.9 +1.2
SRS **Serrai** 7.94 99 P Pn 10 20 48.3 +0.4
LOR **Lormes** 7.95 307 *e*Pn Pn 10 20 48.2 +0.1
baz=124
LOR *e*Sn Sn 10 22 14.8 -3.4
comp=N,53nm,0.4s
OSTC **Ostas** 7.99 14 *e*PN Pn 10 20 48.1 -0.5
MEZF **Maizieres J'vi** 8.03 318 *e*Pn Pn 10 20 50.2 +1.1
baz=141
MEZF *e*Sn Sn 10 22 18.6 -1.4
comp=N,74nm,0.6s
AVF **Avril sur Loir** 8.03 303 *e*Pn Pn 10 20 49.6 +0.5
AVF *e*Sn Sn 10 22 15.8 -4.3
comp=N,18nm,0.5s
BRG **Berggiesshubel** 8.05 3 *e*P Pn 10 20 47.1 -2.3
BRG Amp 10 20 52.6
comp=Z,5.1nm,0.4s
BRG *ex* x 10 22 15.1
BRG *ex* x 10 23 16.6
BRG Amp 10 23 31.3
comp=Z,37nm,0.8s
BRG Amp 10 24 14.0
comp=E,0.4nm,13.3s
BRG Amp 10 24 18.0
comp=Z,0.5nm,9.5s
BRG Amp 10 24 21.0
comp=N,0.4nm,9.9s
BRG **Berggiesshubel** 8.05 3 *e*P Pn 10 20 47.1 -2.3
BRG *e* 10 22 15.1
BRG pmax pmax
comp=Z,5.0nm,0.4s
BRG MLR MLR
comp=E,358nm,13.3s
BRG MLR MLR
comp=Z,513nm,9.5s
BRG MLR MLR
comp=N,439nm,9.9s
SSF **Saint Saulge** 8.06 305 *e*Pn Pn 10 20 49.4 -0.1
SSF *e*Sn Sn 10 22 17.1 -3.7
comp=N,29nm,0.4s
SAVF **Savonnieres en** 8.07 318 *e*Pn Pn 10 20 50.8 +1.1
baz=140
SAVF *e*Sn Sn 10 22 14.2 -6.8
comp=N,44nm,0.5s
TNS **Taunus Mts** 8.07 338 *e*Pn Pn 10 20 50.5 +0.7
TNS *e*Sn Sn 10 22 17.9 -3.3
NVR **Nevrokopi** 8.07 97 P Pn 10 20 50.6 +0.8
BGF **Bois d'Agland** 8.25 300 *e*Pn Pn 10 20 53.1 +0.9
BGF *e*Sn Sn 10 22 24.0 -1.5
comp=N,36nm,0.5s
UBBA **Unterbreizbach** 8.27 346 *e*Pn Pn 10 20 52.6 +0.3
CAF **Calviac** 8.30 288 *e*Pn Pn 10 20 53.8 +0.9
CAF *e*Sn Sn 10 22 23.2 -3.7
comp=N,2.6nm,0.4s
KLV **Kalavryta, Ach** 8.34 122 P Pn 10 20 55.2 +1.7
CRVS **Cervenica-Dubn** 8.36 41 *e*P Pn 10 20 53.5 -0.2
CRVS **Cervenica-Dubn** 8.36 41 *e*PN Pn 10 20 53.5 -0.2
WLF **Walferdange** 8.38 327 *d*P Pn 10 20 55.5 +1.5
WLF *d*S Sn 10 22 27.1 -1.6
WLF **Walferdange** 8.38 327 *e*Pn Pn 10 20 56.7 +2.7
WLF *e*Sn Sn 10 22 24.6 -4.1
CLL **Collm** 8.47 359 Pn Pn 10 20 54.5 -0.6
CLL **Collm** 8.47 359 *e*P Pn 10 20 54.0 -1.1
CLL **Collm** 8.47 359 *e*Pn Pn 10 20 54.0 -1.1
CLL *ex* x 10 21 09.0
CLL *e*(Sn) Sn 10 22 14.0 -17
CLL *ex* x 10 22 20.0
CLL *ex* x 10 22 29.0
CLL *e*Sg **Sg** 10 23 26.0 +2.1
comp=Z,72nm,1.1s
CLL *e*Lmax 10 24 05.0
CLL **Collm** 8.47 359 *e*Pn Pn 10 20 54.2 -0.9
CLL *e*Sn Sn 10 22 25.7 -5.1
TCF **Toulx Ste Croi** 8.56 297 *e*Pn Pn 10 20 56.2 -0.3
TCF *e*Sn Sn 10 22 30.6 -2.6
comp=Z,18nm,0.7s
UZH **Uzhgorod** 8.60 45 ⇓*i*P Pn 10 20 58.1 +1.2
UZH *e*S Sn 10 22 37.3 +3.3
UZH MLR MLR
comp=N,200nm,13.0s
UZH MLR MLR
comp=E,300nm,13.0s
UZH MLR MLR
comp=Z,100nm,13.0s
ARR **Arges** 8.61 69 ⇑P Pn 10 20 58.0 +0.9
RZN **Rozhen** 8.62 94 *i* P Pn 10 20 59.4 +1.9
HYF **Humbligny** 8.68 304 *e*Pn Pn 10 20 59.6 +1.5
HYF *e*Sn Sn 10 22 34.3 -1.8
comp=N,116nm,0.5s
RJF **Les Rejaudoux** 8.76 290 *e*Pn Pn 10 21 03.1 +3.9
RJF *e*Sn Sn 10 22 33.1 -4.9
comp=Z,3.7nm,0.5s
ITM **Ithomi** 8.77 127 Pn 10 21 01.0 +1.7
AHRW **Bad Neuenahr-A** 8.77 334 *e*Pn Pn 10 21 00.8 +1.5
KOLS **Kolonicke sedl** 8.78 43 *e*P Pn 10 21 01.5 +2.1
KOLS **Kolonicke sedl** 8.78 43 *e*PN Pn 10 21 01.5 +2.1
VOIR 8.91 69 ⇑P Pn 10 21 02.4 +1.1
KASTN **Kahler Asten** 8.97 340 *e*Pn Pn 10 21 02.6 +0.5
BHOU **Houvegnez** 8.99 329 *d*P Pn 10 21 06.6 +4.3
BHOU *d*S Sn 10 22 42.2 -1.5
BTNL **Ternell** 9.13 330 *d*P Pn 10 21 07.4 +3.1
BTNL *d*PP **PbPb** 10 21 32.1 -1.5
BTNL *d*S Sn 10 22 44.3 -2.9
RCHB **Rochefort** 9.14 326 *d*P Pn 10 21 05.4 +1.1
RCHB *d*S Sn 10 22 43.8 -3.5
KDZ **Kurdzhali** 9.14 93 *i* P Pn 10 21 05.5 +1.1
LFF **La Frestale** 9.23 287 *e*Pn Pn 10 21 06.5 +0.9
LFF *e*Sn Sn 10 22 43.9 -5.7
comp=Z,4.3nm,0.5s
DOPR **Dopca** 9.27 66 ⇑P Pn 10 21 06.3 +0.2
GIVF **Givet** 9.27 324 *e*Pn Pn 10 21 07.6 +1.5
GIVF *e*Sn Sn 10 22 45.7 -4.8
comp=Z,52nm,0.8s
BCLA **Clavier** 9.32 327 *d*P Pn 10 21 07.7 +1.0
BCLA *d*S Sn 10 22 50.3 -1.3
RDO **Rodhopi** 9.35 96 Pn 10 21 08.5 +1.3
DOU **Dourbes** 9.37 324 *d*P Pn 10 21 08.0 +0.5
DOU *d*S Sn 10 22 47.4 -5.4
EPF **Esparros** 9.43 276 *e*Pn Pn 10 21 15.0 +6.6
EPF *e*Sn Sn 10 22 49.5 -5.1
comp=Z,3.1nm,0.6s
BMRD **Maredsous** 9.45 325 *d*P Pn 10 21 10.3 +1.8
BMRD *d*S Sn 10 22 53.0 -1.8
BAIF **Baives** 9.51 322 *e*Pn Pn 10 21 10.7 +1.3
BAIF *e*Sn Sn 10 22 51.1 -5.3
comp=Z,47nm,0.9s
MLR **Muntele Rosu** 9.54 70 ⇑P Pn 10 21 11.4 +1.5
MLR **Muntele Rosu** 9.54 70 Pn Pn 10 21 11.9 +1.9
comp=Z,1.1nm,0.3s,baz=166,slow=8.3,SNR=9.3
MLR Lg Lg 10 23 53.7
comp=Z,0.1nm,0.3s,baz=186,slow=15,SNR=1.6
MLR LR LR 10 25 42.2
comp=Z,1μm,19.8s,baz=253,slow=43
comp=Z,11nm,0.8s
MLR **Muntele Rosu** 9.54 70 Pn Pn 10 21 11.3 +1.4
BURAR **Bucovina Array** 9.73 57 ⇑P Pn 10 21 12.6 +0.1
RAZG **Razgrad** 9.75 81 ⇑P Pn 10 21 13.6 +0.9
ALN **Alexandroupoli** 9.78 97 Pn 10 21 15.4 +2.2
ALN **Alexandroupoli** 9.78 97 P Pn 10 21 15.4 +2.2
COVR **Voineasa-Covas** 9.79 68 ⇑P Pn 10 21 14.5 +1.2
ISR **Istrita** 9.89 72 ⇑P Pn 10 21 15.8 +1.2
BIZ **Bicaz** 10.03 61 ⇑P Pn 10 21 17.2 +0.6
PLOR **Plostina** 10.10 68 ⇑P Pn 10 21 18.9 +1.4
ETSF **Etsaut** 10.10 275 *e*Pn Pn 10 21 25.0 +7.4
ETSF *e*Sn Sn 10 23 09.0 -2.0
comp=Z,3.6nm,0.7s
VRI **Vrincioaia** 10.15 68 ⇑P Pn 10 21 18.7 +0.4
MFF **Saint Martin d** 10.21 296 *e*Pn Pn 10 21 21.1 +2.1
MFF *e*Sn Sn 10 23 05.4 -8.2
comp=Z,7.8nm,0.6s
LVV **L'vov** 10.23 43 *e*P Pn 10 21 18.9 -0.4
LVV *e*S Sn 10 23 16.0 +1.9
LVV pmax pmax
comp=Z,80nm,1.4s
LVV MLR MLR
comp=N,1μm,9.0s
LVV MLR MLR
comp=E,700nm,9.0s
LVV MLR MLR
comp=Z,500nm,8.0s
SJPF **Ste Jean** 10.57 276 *e*Pn Pn 10 21 27.3 +3.3
SJPF *e*Sn Sn 10 23 16.3 -6.2
comp=Z,0.8nm,0.3s
LDF **La Druitiere** 10.94 306 *e*Pn Pn 10 21 29.6 +0.7
LDF *e*Sn Sn 10 23 24.6 -6.8
comp=Z,12nm,0.6s
CFR **Carcaliu** 11.01 73 ⇓P Pn 10 21 31.4 +1.4
TPGR **Topolog** 11.18 74 ⇑P Pn 10 21 33.7 +1.4
FLN **La Foliniere** 11.22 307 *e*Pn Pn 10 21 30.6 -2.3
baz=128
FLN *e*Sn Sn 10 23 29.7 -8.7
comp=Z,17nm,0.8s
GRR **Gorron** 11.29 304 *e*Pn Pn 10 21 34.0 +0.2
GRR *e*Sn Sn 10 23 32.9 -7.1
comp=Z,8.6nm,0.5s
IDI **Anoyia** 11.80 126 Pn Pn 10 21 41.8 +0.9
comp=Z,0.9nm,0.3s,baz=309,slow=17,SNR=1.6
IDI Sn Sn 10 23 45.4 -7.5
comp=Z,2.2nm,0.3s,baz=294,slow=22,SNR=7.3
IDI LR LR 10 27 35.8
comp=Z,203nm,18.3s,baz=280,slow=44
comp=Z,7.9nm,0.7s
SGMF **Saint Gilles** 12.29 302 *e*Pn Pn 10 21 46.9 -0.5
QUIF **Quistinic** 12.56 299 *e*Pn Pn 10 21 51.3 +0.1
KLNR **Kaliningrad** 12.64 19 *i* P Pn 10 21 53.4 +1.3
KLNR pmax pmax
comp=Z,35nm,0.2s
ROSF **Rostrenen** 12.77 301 *e*Pn Pn 10 21 53.1 -0.8
ESDC **Sonseca Array** 13.29 262 Pn Pn 10 22 00.0 -1.2
comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=14
ESDC LR LR 10 27 03.2
comp=Z,394nm,20.4s,baz=74,slow=37
comp=Z,1.8nm,1.0s
ESDC **Sonseca Array** 13.29 262 Pn 10 21 58.6 -2.6
AKASG **Malin Array Be** 13.49 49 Pn Pn 10 22 03.0 -0.8
comp=Z,0.3nm,0.3s,baz=240,slow=12,SNR=5.4
AKASG LR LR 10 27 48.7
comp=Z,367nm,19.2s,baz=242,slow=40
comp=Z,0.2nm,0.3s
AKASG **Malin Array Be** 13.49 49 *i* P Pn 10 22 03.7 -0.1
MDUB **Mudurnu** 13.67 94 Pn 10 22 09.7 +3.3
ELL **Elmali** 14.21 110 P 10 22 23.3 +1.9
ELL **Elmali** 14.21 110 P P 10 22 23.3 +1.9
PBRG **Braganca** 14.79 273 *e*P P 10 22 33.3 +5.6
comp=Z,14nm,1.2s
NACGM **Naroch** 14.98 32 *e*P Pn 10 22 21.3 -2.8
baz=220
MVO **Moncorvo** 15.13 270 *e*P P 10 22 40.2 +8.7
comp=Z,26nm,1.7s
MVO eLR LR 10 27 45.6
comp=Z,301nm,20.0s
MNK **Minsk** 15.13 35 *i* P Pn 10 22 24.5 -1.6
MNK *i* S Sn 10 25 13.0 -0.8
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=N,19nm,16.0s
MNK MLR MLR
comp=E,25nm,15.0s
MNK MLR MLR
comp=Z,436nm,17.0s
MNK **Minsk** 15.13 35 *i* P Pn 10 22 24.5 -1.6
comp=E,3.0nm,0.8s
MNK *i* P Pn 10 22 24.5 -1.6
comp=N,8.0nm,0.9s
MNK *i* P Pn 10 22 24.5 -1.6
comp=Z,6.0nm,0.6s,baz=47
MNK *i* PP P 10 22 32.6 +1.2
MNK *i* PPP PPP 10 22 40.3
MNK *i* S Sn 10 25 13.0 -0.8
MNK *i* SS SnSn 10 25 27.0 +0.7
MNK *i* SSS SSS 10 25 39.6
MNK *i* LQ LQ 10 26 51.1
MNK *i* LR LR 10 28 00.2
MNK *i* LRM MLR 10 28 56.1
comp=N,19nm,16.0s
MNK *i* LRM MLR 10 29 06.2
comp=E,25nm,15.3s
MNK *i* LRM MLR 10 29 17.4
comp=Z,436nm,17.2s
POLO **Lamas de Olo** 15.65 272 *e*P P 10 22 41.2 +3.9
BR131 **Keskin Array S** 15.68 95 *i* P Pn 10 22 35.4 +1.9
BRTR **Keskin Array B** 15.68 95 Pn Pn 10 22 34.2 +0.7
comp=Z,0.2nm,0.3s,baz=275,slow=12,SNR=5.2
BRTR LR LR 10 29 40.6
comp=Z,869nm,18.6s,baz=294,slow=41
comp=Z,0.6nm,0.3s
BRTR **Keskin Array B** 15.68 95 *i* P P 10 22 35.7 -2.0
BRTR pmax pmax
comp=Z,2.0nm,0.7s
MTE **Manteigas** 15.70 268 *e*LR LR 10 26 58.7
comp=Z,360nm,16.0s
PCBR **Castelo Branco** 15.81 266 *e*P P 10 22 42.7 +3.7
comp=Z,15nm,2.0s
PMRV **Marv??o** 15.88 265 *e*LR LR 10 27 02.9
comp=Z,349nm,18.0s
PGAV **Gavieira, Arco** 15.88 274 *e*LR LR 10 27 58.7
comp=Z,291nm,20.0s
PBAR **Barrancos** 16.07 260 *e*P P 10 22 45.2 +3.3
comp=Z,22nm,1.7s
EKA **Eskdalemuir Ar** 16.41 325 Pn Pn 10 22 42.3 -0.3
baz=140,slow=14
EKA LR LR 10 30 13.5
comp=Z,278nm,18.7s,baz=131,slow=42
comp=Z,1.0nm,0.4s
ESK **Eskdalemuir** 16.41 325 Pn Pn 10 22 41.1 -1.6
ESK **Eskdalemuir** 16.41 325 P Pn 10 22 41.1 -1.6
ESK pmax pmax
comp=Z,18nm,1.2s
PMTG **Montargil** 16.61 264 *e*P P 10 22 51.7 +3.9
EVO **Evora** 16.64 262 *e*P P 10 22 53.2 +5.0
PBEJ **Beja** 16.73 260 *e*P P 10 22 52.4 +3.2
PVAQ **Vaqueiros** 16.88 258 *e*P P 10 22 54.3 +3.5
comp=Z,32nm,1.8s
PVAQ *e*LR LR 10 27 41.5
comp=Z,263nm,20.0s
MDT **Midelt** 17.23 240 P P 10 22 55.0 +0.2
comp=Z,0.1nm,0.3s,baz=56,slow=10,SNR=4.7
MDT LR LR 10 28 36.4
comp=Z,140nm,21.6s,baz=62,slow=34
comp=Z,0.6nm,0.6s
HFS **Hagfors** 17.32 1 P Pn 10 22 53.2 -0.9
comp=Z,2.0nm,0.7s,baz=200,slow=17,SNR=2.3
HFS LR LR 10 29 42.4
comp=Z,125nm,21.4s,baz=185,slow=38
VSU **Vasula** 17.78 24 *i* P P 10 23 00.4 -0.2
VSU pmax pmax
comp=Z,34nm,0.9s
NC602 **NORSAR Array S** 17.95 357 P Pn 10 23 01.3 -0.6
NB2 **NORSAR Subarra** 18.26 357 P Pn 10 23 05.7 -0.1
comp=Z,3.7nm,0.8s,baz=175,slow=11
NOA **NORSAR Array B** 18.26 357 P Pn 10 23 05.5 -0.4
baz=176,slow=11,SNR=8.4
NOA LR LR 10 29 59.1
comp=Z,117nm,21.8s,baz=175,slow=37
comp=Z,1.3nm,0.7s
NB201 **NORSAR Array S** 18.27 357 P P 10 23 06.4 +0.3
NB201 IAmb IAmb 10 23 33.2
comp=Z,71nm,1.4s
NC405 **NORSAR Array S** 18.32 358 P Pn 10 23 05.3 -1.2
NC405 IAmb IAmb 10 23 11.3
comp=Z,27nm,1.1s
NC204 **NORSAR Array S** 18.52 356 P P 10 23 08.3 -0.6
SOC **Sochi** 19.32 79 *e*P Pn 10 23 22.5 +3.7
SOC *e*S S 10 27 00.1 +3.7
SOC pmax pmax
comp=Z,19nm,0.9s
SOC MLR MLR
comp=Z,226nm,18.0s
VSR **Storozhevoye** 19.50 56 *e*P P 10 23 18.7 -0.9
VSR pmax pmax
comp=Z,40nm,1.1s
OBN **Obninsk** 19.54 43 P P 10 23 19.7 -0.2
comp=Z,0.7nm,0.3s,baz=304,slow=15,SNR=5.5
OBN LR LR 10 31 41.7
comp=Z,99nm,19.5s,baz=194,slow=40
comp=Z,4.4nm,0.4s
OBN **Obninsk** 19.54 43 *ce*P Pn 10 23 20.6 -0.6
OBN *e*S Sn 10 26 58.6 -1.7
OBN pmax pmax
comp=Z,24nm,1.0s
VORR **Voronezh** 19.65 54 *e*P P 10 23 20.8 -0.5
VORR pmax pmax
comp=Z,35nm,1.5s
LPSR **Galich'ya Gora** 19.77 52 *e*P P 10 23 20.2 -2.4
LPSR pmax pmax
comp=Z,10.0nm,0.5s
MMAI **Mount Meron Ar** 20.03 112 P Pn 10 23 27.1 -0.2
comp=Z,14nm,0.7s,baz=324,slow=8.4,SNR=12
MMAI LR LR 10 33 02.3
comp=Z,174nm,18.8s,baz=123,slow=42
comp=Z,14nm,0.7s
FINES **FINESS Array B** 20.16 18 P P 10 23 25.7 -1.0
comp=Z,2.5nm,0.5s,baz=204,slow=9.2,SNR=25
FINES LR LR 10 31 26.6
comp=Z,159nm,19.5s,baz=202,slow=38
comp=Z,2.5nm,0.5s
FINES **FINESS Array B** 20.16 18 P P 10 23 25.9 -0.8
FINES **FINESS Array B** 20.16 18 P P 10 23 25.9 -0.8
FIA1 **FINESS Array S** 20.17 18 P P 10 23 26.7 0.0
MOS **Moscow** 20.37 42 *e*P P 10 23 27.0 -2.0
MOS *e* 10 23 44.4
MOS pmax pmax
comp=Z,63nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.1s
MOS MLR MLR
comp=Z,500nm,12.0s
KOPT **Kop Dagi** 20.63 89 P Pn 10 23 33.6 -1.0
KOPT IAmb IAmb 10 23 38.4
comp=Z,15nm,0.7s
TAM **Tamanrasset** 20.99 200 P P 10 23 34.2 -2.0
TAM **Tamanrasset** 20.99 200 P P 10 23 34.2 -2.0
TAM pmax pmax
comp=Z,13nm,1.3s
VRH **Novokhopyorsk** 21.06 57 *e*P P 10 23 35.5 -1.0
VRH pmax pmax
comp=Z,60nm,1.4s
KIV **Kislovodsk** 21.41 77 P P 10 23 41.1 +0.7
KIV **Kislovodsk** 21.41 77 *d i*P P 10 23 41.6 +1.1
KIV *i* 10 23 58.9
KIV *i* 10 27 43.8
KIV pmax pmax
comp=Z,51nm,1.0s
KIV MLR MLR
comp=Z,214nm,16.0s
SHA1 **Shidzhatmaz** 21.42 77 *d i*P P 10 23 41.8 +1.1
ASF **Jabal al Asfar** 21.54 112 P P 10 23 44.4 +2.4
comp=Z,17nm,0.9s,baz=312,slow=3.7,SNR=13
comp=Z,17nm,0.9s
KBZ **Khabaz** 21.59 77 P P 10 23 43.4 +1.1
comp=Z,20nm,1.0s,baz=286,slow=8.0,SNR=18
comp=Z,20nm,1.0s
KBZ **Khabaz** 21.59 77 *ce*P P 10 23 43.3 +1.0
KBZ pmax pmax
comp=Z,18nm,1.0s
EIL **Elat** 21.85 120 P P 10 23 46.8 +1.6
comp=Z,5.1nm,1.0s,baz=32,slow=9.5,SNR=2.4
comp=Z,5.1nm,1.0s
GURO **Guroymak-BITLI** 22.23 91 P P 10 23 51.4 +2.1
GURO IAmb IAmb 10 23 58.7
comp=Z,29nm,1.2s
ZEI **Tsey** 22.47 80 *e*P P 10 23 52.7 +0.7
ZEI pmax pmax
comp=Z,11nm,1.0s
GNI **Garni** 23.71 86 P P 10 24 05.6 +0.9
comp=Z,9.8nm,0.7s,baz=215,slow=7.5,SNR=3.8
GNI LR LR 10 36 20.6
comp=Z,99nm,19.0s,baz=286,slow=44
comp=Z,9.8nm,0.7s
GNI **Garni** 23.71 86 P P 10 24 06.0 +1.4
GNI **Garni** 23.71 86 *ce*P P 10 24 06.1 +1.4
GNI pmax pmax
comp=Z,30nm,1.7s
KLMR **Klimovskoe** 24.00 32 *e*P P 10 24 04.0 -3.0
KLMR pmax pmax
comp=Z,40nm,1.5s
KLMR **Klimovskoe** 24.00 32 *e*P P 10 24 04.1 -3.0
KLMR AMP 10 24 08.2
comp=Z,40nm,1.5s
KLMR LQ LQ 10 30 38.8
KLMR LQ LQ 10 30 38.8
KLMR LR LR 10 32 51.2
BELG **Belogornoye** 24.88 55 P P 10 24 15.5 +0.4
comp=Z,21nm,0.7s,baz=57,slow=3.7,SNR=11
BELG LR LR 10 34 55.2
comp=Z,275nm,20.3s,baz=258,slow=39
comp=Z,21nm,0.7s
MAK **Makhachkala** 25.04 78 *e*P P 10 24 12.1 -4.5
MAK *e*S S 10 28 35.4 -5.4
MAK pmax pmax
comp=Z,105nm,0.5s
MAK MLR MLR
comp=Z,382nm,13.0s
PRGR **Permogore** 26.91 34 *e*P P 10 24 31.9 -1.5
KIRV **Kirov** 27.38 42 LR LR 10 36 17.1
comp=Z,304nm,19.1s,baz=246,slow=38
KIRV **Kirov** 27.38 42 *ce*P P 10 24 39.4 +1.7
ARCES **ARCESS Array B** 27.50 9 P P 10 24 38.3 -0.4
comp=Z,1.3nm,0.7s,baz=198,slow=8.4,SNR=6.1
comp=Z,1.3nm,0.7s
BORG **Borgarnes** 29.31 330 LR LR 10 37 22.5
comp=Z,112nm,18.4s,baz=130,slow=38
TORD **Torodi Ar. Bea** 31.22 202 P P 10 25 12.4 +0.3
comp=Z,3.2nm,0.8s,baz=15,slow=8.8,SNR=17
TORD LR LR 10 39 05.2
comp=Z,321nm,18.2s,baz=199,slow=39
comp=Z,3.2nm,0.8s
AKTO **Aktyubinsk** 31.30 60 LR LR 10 39 28.8
comp=Z,180nm,18.6s,baz=282,slow=40
ARU **Arti** 31.74 49 LR LR 10 38 47.5
comp=Z,182nm,18.0s,baz=306,slow=38
ARU **Arti** 31.74 49 P P 10 25 15.7 -0.7
ARU **Arti** 31.74 49 *c i*P P 10 25 15.9 -0.5
ARU 10 26 19.8
ARU S S 10 30 27.5 +1.4

ARU					SS	**SnSn**	**10 32 08.9**	**-3.6**
ARU					pmax	pmax			
	comp=Z,28nm,0.9s								
ARU					MLR	MLR			
	comp=Z,323nm,15.0s								
KOWA	**Kowa**	**31.90**	**213**		LR	LR	10 40 33.3		
	comp=Z,88nm,19.9s,baz=79,slow=41								
ABKAR	**Akbulak array**	**32.64**	**62**		P	**P**	**10 25 24.5**	**+0.1**	
GEYT	**Alibeck**	**34.26**	**83**		P	**P**	**10 25 38.8**	**+0.2**	
	comp=Z,3.4nm,0.6s,baz=249,slow=12,SNR=2.2								
GEYT					LR	LR	10 43 02.2		
	comp=Z,107nm,19.6s,baz=319,slow=42								
	comp=Z,3.4nm,0.6s								
GEYT	**Alibeck**	**34.26**	**83**	*P*	P	**P**	**10 25 39.0**	**+0.4**	
GEYT					IAmb	IAmb	10 25 43.8		
	comp=Z,3.9nm,0.8s								
GYA0B	**ALIBECK ARRAY**	**34.26**	**83**		P	**P**	**10 25 38.8**	**+0.2**	
GYA0B					IAmb	IAmb	10 25 43.7		
	comp=Z,5.4nm,0.8s								
BBTS	**Babate**	**37.95**	**231**		LR	LR	10 42 29.9		
	comp=Z,190nm,18.8s,baz=73,slow=37								
BRVK	**Borovoye**	**38.61**	**54**		P	**P**	**10 26 16.9**	**+1.3**	
BRVK	**Borovoye**	**38.61**	**54**	*ceP*		**P**	**10 26 17.3**	**+1.7**	
BRVK					pmax	pmax			
	comp=Z,18nm,1.0s								
DBIC	**Dimbokro**	**39.40**	**209**		LR	LR	10 43 27.4		
	comp=Z,142nm,20.7s,baz=36,slow=37								
KK31	**Karatay Array**	**41.22**	**69**		P	**P**	**10 26 38.8**	**+1.4**	
KK31					IAmb	IAmb	10 26 42.2		
	comp=Z,7.0nm,0.8s								
KK31	**Karatay Array**	**41.22**	**69**		P	**P**	**10 26 38.8**	**+1.4**	
KK31					pmax	pmax			
	comp=Z,7.0nm,0.9s								
KKAR	**Karatay Array**	**41.22**	**69**		P	**P**	**10 26 38.4**	**+1.0**	
KKAR	**Karatay Array**	**41.22**	**69**		P	**P**	**10 26 38.4**	**+1.0**	
SFJD	**Kangerlussuaq**	**41.36**	**328**		LR	LR	10 43 31.2		
	comp=Z,106nm,18.1s,baz=77,slow=36								
WSAR	**Wadi Sarin**	**42.22**	**103**		LR	LR	10 50 02.2		
	comp=Z,75nm,20.2s,baz=313,slow=44								
GAR	**Garm**	**42.63**	**75**		P	**P**	**10 26 50.2**	**+1.1**	
AAK	**Ala-Archa**	**44.12**	**68**		P	**P**	**10 27 01.7**	**+0.6**	
AAK	**Ala-Archa**	**44.12**	**68**		P	**P**	**10 27 01.7**	**+0.6**	
AAK					pmax	pmax			
	comp=Z,5.0nm,1.1s								
KURBB	**Kurchatov Arra**	**44.13**	**56**		P	**P**	**10 26 59.7**	**-1.2**	
	comp=Z,5.4nm,1.1s,baz=293,slow=9.7,SNR=16								
KURBB					LR	LR	10 46 44.4		
	comp=Z,181nm,21.4s,baz=282,slow=38								
	comp=Z,5.4nm,1.1s								
KURK	**Kurchatov**	**44.16**	**56**		P	**P**	**10 27 01.4**	**+0.3**	
KURK					IAmb	IAmb	10 27 04.1		
	comp=Z,5.9nm,0.9s								
KURK	**Kurchatov**	**44.16**	**56**	*ceP*		**P**	**10 27 02.5**	**+1.4**	
KURK					pmax	pmax			
	comp=Z,8.0nm,1.0s								
NRIK	**Noril'sk**	**45.27**	**29**		LR	LR	10 48 03.4		
	comp=Z,132nm,18.5s,baz=308,slow=39								
NRIK	**Noril'sk**	**45.27**	**29**	*i P*		**P**	**10 27 10.5**	**+0.8**	
NRIK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ZAA0	**Zalesovo Array**	**46.88**	**50**		P	**P**	**10 27 22.7**	**+0.1**	
ZAA0					IAmb	IAmb	10 27 25.3		
	comp=Z,4.9nm,1.1s								
ZALV	**Zalesovo Beam**	**46.88**	**50**		P	**P**	**10 27 21.5**	**-1.1**	
	comp=Z,1.8nm,0.5s,baz=282,slow=7.4,SNR=8.3								
ZALV					PP	**PP**	**10 29 10.4**	**-2.1**	
	comp=Z,1.8nm,0.7s,baz=281,slow=10.0,SNR=4.5								
ZALV					LR	LR	10 48 47.4		
	comp=Z,152nm,18.2s,baz=302,slow=38								
	comp=Z,1.8nm,0.5s								
ZALV	**Zalesovo Beam**	**46.88**	**50**	*i P*		**P**	**10 27 24.5**	**+1.9**	
ZALV					pmax	pmax			
	comp=Z,2.0nm,0.5s								
MAKZ	**Makanchi**	**47.53**	**60**		P	**P**	**10 27 27.4**	**-0.4**	
MAKZ					IAmb	IAmb	10 27 31.8		
	comp=Z,3.0nm,0.8s								
MAKZ	**Makanchi**	**47.53**	**60**		P	**P**	**10 27 27.5**	**-0.4**	
MAKZ					pmax	pmax			
	comp=Z,3.0nm,0.9s								
MK31	**Makanchi Array**	**47.73**	**60**		P	**P**	**10 27 29.5**	**0.0**	
MK31					IAmb	IAmb	10 27 33.7		
	comp=Z,4.4nm,0.9s								
MK31	**Makanchi Array**	**47.73**	**60**		P	**P**	**10 27 29.5**	**0.0**	
MK31					pmax	pmax			
	comp=Z,4.0nm,0.9s								
MKAR	**Makanchi Array**	**47.73**	**60**		P	**P**	**10 27 29.4**	**-0.1**	
	comp=Z,6.4nm,0.9s,baz=285,slow=6.8,SNR=27								
MKAR					LR	LR	10 51 38.6		
	comp=Z,216nm,19.3s,baz=278,slow=41								
	comp=Z,6.4nm,0.9s								
MKAR	**Makanchi Array**	**47.73**	**60**		P	**P**	**10 27 29.6**	**+0.2**	
MKAR	**Makanchi Array**	**47.73**	**60**	*i P*		**P**	**10 27 30.0**	**+0.6**	
MKAR					pmax	pmax			
	comp=Z,6.0nm,0.9s								
FRB	**Frobisher Bay**	**49.17**	**324**		LR	LR	10 48 05.8		
	comp=Z,62nm,18.6s,baz=201,slow=36								
DGZ	**Jazzator, Alta**	**49.83**	**55**	*i P*		**P**	**10 27 47.3**	**+1.6**	
DGZ					pmax	pmax			
	comp=Z,5.0nm,0.9s								
SCHQ	**Schefferville**	**51.22**	**313**		P	**P**	**10 27 55.4**	**-0.5**	
	comp=Z,4.0nm,0.7s,baz=62,slow=5.7,SNR=5.5								
SCHQ					LR	LR	10 48 34.0		
	comp=Z,125nm,18.1s,baz=68,slow=35								
	comp=Z,4.0nm,0.7s								
WMQ	**Urumqi**	**52.43**	**62**	*eP*		**P**	**10 28 08.4**	**+3.2**	
WMQ					LR	LR			
	comp=N,240nm,13.5s								
WMQ					LR	LR			
	comp=Z,150nm,14.1s								
TIXI	**Tiksi**	**57.20**	**20**		P	**P**	**10 28 38.4**	**-0.8**	
	comp=Z,1.1nm,0.4s,baz=304,slow=7.8,SNR=2.1								
TIXI					LR	LR	10 57 04.2		
	comp=Z,102nm,18.3s,baz=350,slow=40								
	comp=Z,1.1nm,0.4s								
TIXI	**Tiksi**	**57.20**	**20**	*ceP*		**P**	**10 28 39.6**	**+0.4**	
TIXI					pmax	pmax			
	comp=Z,2.0nm,1.3s								
SONM	**Songino Array**	**61.77**	**50**		P	**P**	**10 29 11.2**	**-0.1**	
	comp=Z,3.8nm,0.8s,baz=282,slow=6.2,SNR=9.7								
SONM					LR	LR	10 57 58.7		
	comp=Z,155nm,19.4s,baz=34,slow=38								
	comp=Z,3.8nm,0.8s								
SONM	**Songino Array**	**61.77**	**50**		P	**P**	**10 29 11.1**	**-0.2**	
SONM					IAmb	IAmb	10 29 15.4		
	comp=Z,2.6nm,0.9s								
ULN	**Ulaanbaatar**	**62.12**	**49**	*ceP*		**P**	**10 29 14.8**	**+1.1**	
ULN					pmax	pmax			
	comp=Z,3.0nm,1.0s								
SADO	**Sadowa**	**62.99**	**307**		LR	LR	10 54 23.6		
	comp=Z,66nm,19.5s,baz=22,slow=34								
YAK	**Yakutsk**	**63.71**	**28**		LR	LR	11 00 47.9		
	comp=Z,62nm,18.7s,baz=268,slow=40								
YAK	**Yakutsk**	**63.71**	**28**	*i P*		**P**	**10 29 24.7**	**+0.9**	
YAK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
RCBR	**Riachuelo**	**65.75**	**236**		LR	LR	10 56 53.1		
	comp=Z,40nm,18.4s,baz=160,slow=35								
YKA	**Yellowknife Ar**	**67.00**	**337**		LR	LR	10 59 24.3		
	comp=Z,49nm,18.7s,baz=34,slow=36								
LZH	**Lanzhou**	**67.01**	**62**	*eP*		**P**	**10 29 46.2**	**+0.4**	
LZH					pP	sP	10 29 49.7	-0.5	
LZH					pmax	pmax			
	comp=Z,15nm,1.2s								
BILL	**Bilibino**	**67.60**	**11**	*eP*		**P**	**10 29 50.5**	**+1.7**	
BILL					pmax	pmax			
	comp=Z,3.0nm,0.8s								
LBTB	**Lobatse**	**68.48**	**168**		LR	LR	11 02 42.9		
	comp=Z,86nm,18.8s,baz=330,slow=38								
HHC	**Hu-ho-hao-te**	**68.89**	**54**	*eP*		**P**	**10 29 56.0**	**-1.5**	
HHC					S	**S**	**10 39 00.4**	**-1.4**	
HHC					pmax	pmax			
	comp=Z,26nm,1.0s								
HHC					pmax	pmax			
	comp=Z,93nm,5.4s								
HHC					LR	LR			
	comp=N,360nm,14.9s								
HHC					LR	LR			
	comp=E,240nm,15.3s								
HHC					LR	LR			
	comp=Z,460nm,14.3s								
MDP	**Montagnes des**	**68.92**	**257**		LR	LR	10 58 09.4		
	comp=Z,53nm,18.1s,baz=350,slow=34								
SEY	**Seymchan**	**69.64**	**19**		P	**P**	**10 30 02.2**	**+0.5**	
	comp=Z,1.2nm,0.6s,baz=30,slow=6.6,SNR=3.8								
	comp=Z,1.2nm,0.6s								
SEY	**Seymchan**	**69.64**	**19**	*i P*		**P**	**10 30 03.5**	**+1.9**	
SEY					pmax	pmax			
	comp=Z,3.0nm,1.0s								
TKL	**Tuckaleechee C**	**71.30**	**301**		LR	LR	11 00 39.3		
	comp=Z,47nm,19.0s,baz=60,slow=35								
PZH	**PanZhiHua**	**71.49**	**71**		P	**P**	**10 30 14.9**	**+1.2**	
PZH					pmax	pmax			
	comp=Z,10.0nm,0.5s								
PZH					pmax	pmax			
	comp=Z,90nm,7.0s								
ILAR	**Eielson Array**	**71.59**	**351**		P	**P**	**10 30 14.2**	**+0.6**	
	comp=Z,0.8nm,0.7s,baz=5.9,slow=7.0,SNR=8.4								
	comp=Z,0.8nm,0.7s								
BOSA	**Boshof**	**71.97**	**169**		LR	LR	11 04 27.0		
	comp=Z,72nm,18.2s,baz=4.5,slow=38								
MA2	**Magadan**	**72.12**	**21**		P	**P**	**10 30 17.8**	**+1.0**	
	comp=Z,2.8nm,0.7s,baz=349,slow=12,SNR=4.4								
MA2					LR	LR	11 05 28.5		
	comp=Z,80nm,18.8s,baz=326,slow=39								
	comp=Z,2.8nm,0.7s								
MA2	**Magadan**	**72.12**	**21**	*ceP*		**P**	**10 30 16.0**	**-0.8**	
MA2					pmax	pmax			
	comp=Z,6.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**74.64**	**79**		P	**P**	**10 30 32.2**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=308,slow=7.0,SNR=9.4								
CMAR					LR	LR	11 10 11.5		
	comp=Z,40nm,19.9s,baz=220,slow=41								
	comp=Z,1.5nm,0.7s								
SUR	**Sutherland**	**75.18**	**173**		LR	LR	11 07 40.6		
	comp=Z,74nm,19.5s,baz=321,slow=39								
USRK	**Ussuriysk Ar.**	**77.53**	**40**		P	**P**	**10 30 48.9**	**+0.6**	
	comp=Z,2.0nm,0.8s,baz=32,slow=9.6,SNR=2.5								
USRK					LR	LR	11 07 16.6		
	comp=Z,70nm,18.3s,baz=37,slow=38								
	comp=Z,2.0nm,0.8s								
NEW	**Newport**	**79.27**	**329**		LR	LR	11 06 23.4		
	comp=Z,78nm,19.3s,baz=46,slow=36								
BBB	**Bella Bella**	**79.60**	**337**		LR	LR	11 08 20.8		
	comp=Z,34nm,18.5s,baz=345,slow=37								
PETK	**Petropavlovsk-**	**79.66**	**21**		P	**P**	**10 30 59.8**	**-0.1**	
	comp=Z,1.5nm,0.8s,baz=218,slow=7.0,SNR=4.8								
PETK					LR	LR	11 10 10.8		
	comp=Z,49nm,19.2s,baz=327,slow=39								
	comp=Z,1.5nm,0.8s								
YSS	**Yuzh-Sakhalins**	**80.05**	**32**	*eP*		**P**	**10 31 03.1**	**+0.9**	
YSS					pmax	pmax			
	comp=Z,20nm,0.9s								
KSRS	**Korea Array**	**80.48**	**47**		P	**P**	**10 31 03.9**	**-0.7**	
	comp=Z,1.5nm,0.9s,baz=307,slow=3.1,SNR=2.0								
KSRS					LR	LR	11 10 33.6		
	comp=Z,55nm,20.7s,baz=330,slow=39								
	comp=Z,1.5nm,0.9s								
PDAR	**Pinedale Array**	**80.48**	**321**		P	**P**	**10 31 05.0**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=61,slow=4.2,SNR=5.9								
PDAR					LR	LR	11 09 41.9		
	comp=Z,28nm,18.2s,baz=29,slow=38								
	comp=Z,0.6nm,0.7s								
BDFB	**Brasilia**	**80.81**	**239**		P	**P**	**10 31 08.3**	**+1.6**	
	comp=Z,2.8nm,0.6s,baz=102,slow=6.1,SNR=4.1								
	comp=Z,2.8nm,0.6s								
ELK	**Elko**	**84.65**	**323**		LR	LR	11 10 03.5		
	comp=Z,96nm,18.1s,baz=27,slow=36								
PSI	**Prapat**	**84.97**	**91**		LR	LR	11 13 05.6		
	comp=Z,82nm,18.1s,baz=242,slow=38								
ANMO	**Albuquerque**	**84.98**	**314**		LR	LR	11 09 09.9		
	comp=Z,94nm,18.1s,baz=56,slow=36								
MJAR	**Matsushiro Arr**	**86.46**	**41**		P	**P**	**10 31 35.0**	**-0.4**	
	comp=Z,0.5nm,0.6s,baz=352,slow=2.7,SNR=2.3								
MJAR					LR	LR	11 14 03.3		
	comp=Z,129nm,18.4s,baz=326,slow=38								
	comp=Z,0.5nm,0.6s								
TXAR	**Lajitas Array**	**87.70**	**309**		P	**P**	**10 31 42.2**	**+0.5**	
	comp=Z,0.6nm,0.8s,baz=69,slow=5.3,SNR=6.8								
	comp=Z,0.6nm,0.8s								
NVAR	**Mina Array Bea**	**87.90**	**324**		P	**P**	**10 31 43.6**	**+1.0**	
	comp=Z,0.4nm,0.8s,baz=56,slow=4.9,SNR=3.0								
	comp=Z,0.4nm,0.8s								
JHJ	**Hachijo jima 2**	**89.97**	**42**		LR	LR	11 14 51.9		
	comp=Z,80nm,19.1s,baz=47,slow=37								
PFO	**Pinyon Flats O**	**91.05**	**320**		LR	LR	11 15 02.3		
	comp=Z,68nm,18.3s,baz=192,slow=37								
CPUP	**Villa Florida**	**94.52**	**238**		LR	LR	11 12 04.3		
	comp=Z,49nm,21.9s,baz=66,slow=34								
LEM	**Lembang**	**97.84**	**92**		LR	LR	11 21 32.8		
	comp=Z,63nm,18.9s,baz=269,slow=38								
ASAR	**Alice Springs**	**127.94**	**88**		PKP	**PKPdf**	**10 37 57.9**	**-0.9**	
	comp=Z,0.3nm,0.8s,baz=312,slow=1.7,SNR=4.8								

*ISK **03** 10:19:00.1,40.°17N×25.°24E,h7km,ML2.2/12*
*ATH **03** 10:19:00.8,40.°22N×25.°22E,h14km±2km,ML1.7/4, Error ellipse: s-maj=2.3km s-min=1.0km az=100.0*
*DDA **03** 10:19:02.0±0.0,40.°13N×25.°28E,h7km±2km,ML2.1*
THE 03 10:19:00.8,40.°22N×25.°23E,h13km±1km,ML2.0/6, Error ellipse: s-maj=1.0km s-min=0.5km az=19.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.32**	**186**			P	Pg	10 19 07.6	+0.3
LIA						S	Sg	10 19 12.1	+0.5
	142nm,0.1s								
LIA	**Limnos Island**	**0.32**	**186**			P	Pg	10 19 07.5	+0.2
LIA						S	Sg	10 19 11.5	-0.2
LIA						AML	AML	10 19 12.4	
	comp=N,279μm,0.1s								
LIA						AML	AML	10 19 12.6	
	comp=E,274μm,0.2s								
SMTH	**Samothraki lsl**	**0.34**	**42**			P	Pg	10 19 07.7	-0.1
SMTH						S	Sg	10 19 12.7	+0.2
	comp=E,100nm,0.1s								
SMTH	**Samothraki lsl**	**0.34**	**42**			P	Pg	10 19 07.7	-0.1
SMTH						S	Sg	10 19 11.7	-0.8
SMTH						AML	AML	10 19 14.2	
	comp=E,175μm,0.1s								
SMTH						AML	AML	10 19 16.2	
	comp=N,208μm,0.1s								
GADA	**Gvkgeada**	**0.51**	**93**			PG	Pg	10 19 10.4	-0.5
GADA						SG	Sg	10 19 18.0	+0.3
GOKA	**anakkale-Gk**	**0.52**	**93**			P	Pb	10 19 11.6	-0.2
GOKA						S	Sg	10 19 18.6	+0.6
GOKA					*i*	AML	AML	10 19 21.0	
	comp=N,202nm,0.2s								
GOKA					*i*	AML	AML	10 19 23.0	
	comp=N,111nm,0.3s								
THAS	**Thassos island**	**0.55**	**315**			P	Pg	10 19 11.6	0.0
THAS						S	Sg	10 19 19.4	+0.5
	comp=N,182nm,0.1s								
THAS	**Thassos island**	**0.55**	**315**			P	Pg	10 19 11.6	0.0
THAS						S	Sg	10 19 18.8	-0.1
THAS						AML	AML	10 19 21.7	
	comp=N,386μm,0.1s								
THAS						AML	AML	10 19 21.8	
	comp=E,335μm,0.2s								
BOZC	**Bozcaada**	**0.73**	**120**			PG	Pg	10 19 14.2	-0.8
BOZC						SG	Sg	10 19 24.5	-0.2
BOZC	**Bozcaada**	**0.73**	**120**			P	Pg	10 19 14.9	-0.1
BOZC						S	Sg	10 19 24.4	-0.3
ECEA	**Canakkale, Ece**	**0.74**	**103**			P	Pb	10 19 15.5	-0.1
ECEA						S	Sb	10 19 25.8	+0.1
ECEA					*i*	AML	AML	10 19 35.0	
	comp=E,135nm,1.5s								
ECEA					*i*	AML	AML	10 19 39.0	
	comp=E,146nm,1.2s								
ECEA					*i*	AML	AML	10 19 42.0	
	comp=E,176nm,1.0s								
ENEZ	**Enez**	**0.88**	**53**			P	Pg	10 19 17.6	-0.1
ENEZ						S	Sb	10 19 29.7	+0.2
	comp=E,235nm,0.2s								
ENEZ	**Enez**	**0.88**	**53**			PG	Pb	10 19 17.9	0.0
ENEZ						SG	Sn	10 19 30.7	-0.8
ALN	**Alexandroupoli**	**0.92**	**42**			PG	Pb	10 19 18.9	+0.2
EZN	**Ezine**	**0.93**	**114**			P	Pg	10 19 18.2	-0.5
EZN	**Ezine**	**0.93**	**114**			PG	Pg	10 19 17.9	-0.8
EZN						SG	Sg	10 19 30.6	-0.2
KAVA	**Kavala**	**0.95**	**325**			P	Pg	10 19 18.8	-0.4
KAVA						S	Sg	10 19 31.6	0.0
	comp=E,162nm,0.1s								
KAVA	**Kavala**	**0.95**	**325**			P	Pg	10 19 19.2	0.0
KAVA						S	Sg	10 19 30.7	-0.9
RDO	**Rodhopi**	**0.96**	**14**			P	Pb	10 19 18.6	-0.7
RDO	**Rodhopi**	**0.96**	**14**			PG	Pb	10 19 18.9	-0.4
RDO	**Rodhopi**	**0.96**	**14**			P	Pb	10 19 18.4	-0.9
OUR	**Ouranopolis**	**0.96**	**277**			P	Pb	10 19 18.5	-0.9
KVLA	**Kavala**	**0.96**	**319**			P	Pb	10 19 18.3	-1.1
KVLA						S	Sg	10 19 31.5	-0.6
GELI	**Tayfur-Gelibol**	**0.97**	**79**			PG	Pb	10 19 19.2	-0.3
KOCA	**Canakkale, Ayv**	**1.00**	**135**			P	Pb	10 19 18.1	-1.9
KOCA						S	Sb	10 19 32.8	-0.2
KOCA					*i*	AML	AML	10 19 38.0	
	comp=E,49nm,1.1s								
SIGR	**SIGRI**	**1.11**	**154**			P	Pb	10 19 21.4	-0.5
SIGR						S	Sg	10 19 36.9	+0.2
	comp=E,110nm,0.7s								
SIGR	**SIGRI**	**1.11**	**154**			PG	Pb	10 19 20.9	-1.0
SIGR						SG	Sb	10 19 36.2	-0.1
SIGR	**SIGRI**	**1.11**	**154**			P	Pb	10 19 21.3	-0.7
KOKK	**Kokkinochori,**	**1.11**	**303**			P	Pb	10 19 20.9	-1.0
KOKK	**Kokkinochori,**	**1.11**	**303**			P	Pb	10 19 20.7	-1.3
KOKK						S	Sb	10 19 35.0	-1.4
KOKK						AML	AML	10 19 37.4	
	comp=E,102μm,0.5s								
KOKK						AML	AML	10 19 38.9	
	comp=N,88μm,0.2s								
BAYC	**CANAKKALE_Bayr**	**1.12**	**115**			P	Pb	10 19 21.6	-0.4
BAYC						S	Sb	10 19 36.2	-0.3
PRK	**Paraskevi**	**1.26**	**140**			P	Pn	10 19 24.0	-0.1
PRK						S	Sb	10 19 40.3	-0.2
KESN	**Edirne-Kesan**	**1.26**	**61**			P	Pg	10 19 28.7	+3.6
KESN						S	Sg	10 19 41.7	+0.1
KESN					*i*	AML	AML	10 19 48.0	
	comp=N,28nm,0.3s								
KESN					*i*	AML	AML	10 19 49.0	
	comp=N,37nm,0.4s								
KDZ	**Kurdzhali**	**1.44**	**6**			PN	Pb	10 19 27.2	-0.3
RKY	**Sarkoy-Tekirda**	**1.56**	**72**			PN	Pn	10 19 28.9	+0.6
PLD	**Plovdiv**	**1.93**	**348**			PN	Pb	10 19 34.6	-1.2
EDRB	**Edirne**	**1.99**	**35**			PN	Pb	10 19 35.7	-1.2

*JMA **03** 10:20:43.1±0.6,42.°1N×13.°8E±.°,h279km±4km,MV3.2/29, EASTERN SEA OF JAPAN*
*IDC **03** 10:20:44.1±1.6,42.°29N×137.°46E,h281km±22km,mb3.3/6, mbtmp3.7/10,Error ellipse: s-maj=26.4km s-min=20.3km az=168.0*
ISC 03 10:20:43.4±0.8,42.°02N±0.°07×137.°93E±0.°07,h300km,n26, σ2.°44/31,mb3.5/6,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.15**	**86**	*eP*		**P**	**Pn**	**10 21 22.1**	**-2.4**
JHST	**Hiyamasetana**	**1.50**	**74**			P	**Pn**	**10 21 24.9**	**-1.6**
JOMM	**Oshimamatsumae**	**1.63**	**107**			P	**Pn**	**10 21 25.7**	**-1.7**
JSH	**Shimam**	**1.69**	**68**	*eP*		**P**	**Pn**	**10 21 26.3**	**-1.5**
JOT	**Ohata**	**2.42**	**104**	*eP*		**P**	**Pn**	**10 21 32.5**	**-1.2**
JEW	**Eniwo**	**2.73**	**71**	*eP*		**P**	**Pn**	**10 21 36.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**3.59**	**84**	*eP*		**P**	**Pn**	**10 21 44.2**	**-1.0**
JNBK				*eS*		**S**	**S**	**10 22 31.5**	**-3.1**
JOM	**Ohasama**	**3.60**	**134**	*eP*		**P**	**Pn**	**10 21 44.0**	**-1.4**
JYK	**Kaneyama**	**3.61**	**148**	*eP*		**P**	**Pn**	**10 21 43.9**	**-1.6**
JSS	**Shosan**	**3.73**	**49**	*eP*		**P**	**Pn**	**10 21 46.7**	**+0.1**
JMK	**Ichinoseki**	**3.96**	**140**	*eP*		**P**	**Pn**	**10 21 47.2**	**-2.0**
JSD	**Sado**	**3.98**	**176**		P	**P**	**Pn**	**10 21 48.0**	**-1.5**
JKK2	**Kamakawa 2**	**3.99**	**61**	*eP*		**P**	**Pn**	**10 21 49.2**	**-0.3**
JKK2				*eS*		**S**	**S**	**10 22 40.9**	**-1.5**
JCH	**Churui**	**4.07**	**80**	*eP*		**P**	**Pn**	**10 21 49.4**	**-0.9**
JCH				*eS*		**S**	**S**	**10 22 40.7**	**-3.3**
JTKR	**Abashiri--Toko**	**4.80**	**64**	*eP*		**P**	**Pn**	**10 21 58.4**	**-0.1**
JTKR				*eS*		**S**	**S**	**10 22 57.5**	**-1.3**
USRK	**Ussuriysk Ar.**	**4.87**	**299**		P	**P**	**Pn**	**10 21 54.6**	**-4.7**
	1.3nm,0.5s,baz=100,slow=13,SNR=7.6								
MJAR	**Matsushiro Arr**	**5.47**	**178**		P	**P**	**Pn**	**10 22 11.0**	**+4.4**
	0.4nm,0.3s,baz=0.8,slow=13,SNR=3.0								
NEM2	**Nemuro 2**	**5.91**	**74**	*eP*		**P**	**Pn**	**10 22 09.8**	**-1.8**
NEM2				*eS*		**S**	**S**	**10 23 16.3**	**-6.3**
KSRS	**Korea Array**	**8.96**	**243**		P	**P**	**Pn**	**10 22 46.3**	**-2.4**
	0.7nm,0.6s,baz=51,slow=14,SNR=1.7								
MA2	**Magadan**	**19.30**	**20**		P	**P**	**10 24 46.5**	**-0.1**	
	1.2nm,0.3s,baz=194,slow=17,SNR=4.6								
KURBB	**Kurchatov Arra**	**40.91**	**303**		P	**P**	**10 27 55.5**	**-1.4**	
	1.7nm,0.6s,baz=80,slow=9.0,SNR=7.1								
	1.7nm,0.6s								
KDAK	**Kodiak Island**	**45.33**	**45**		P	**P**	**10 28 34.1**	**+2.3**	
	6.5nm,1.0s,baz=297,slow=2.3,SNR=4.0								
	6.5nm,1.0s								
ILAR	**Eielson Array**	**46.83**	**35**		P	**P**	**10 28 45.9**	**+2.5**	
	0.5nm,0.6s,baz=278,slow=9.2,

comp=N,15150µm,0.8s
T1241 AML AML
comp=E,26550µm,0.3s
T1241 AML AML
comp=N,15200µm,0.8s
T1241 AML AML
comp=N,15100µm,0.8s
FDMO Fiordimonte 0.21 341 ⇓P **Pg** **10 31 15.6 -0.1**
FDMO S **Sg** **10 31 18.9 +0.1**
FDMO AML AML
comp=N,8365µm,0.9s
FDMO AML AML
comp=E,8050µm,0.5s
SMA1 SAN MARTINO 0.23 151 ⇓P **Pg** **10 31 16.6 +0.6**
SMA1 S **Sg** **10 31 20.8 +1.6**
SMA1 AML AML
comp=E,6305µm,0.5s
SMA1 AML AML
comp=N,5935µm,1.1s
SMA1 AML AML
comp=E,6300µm,0.5s
SMA1 AML AML
comp=N,5930µm,1.1s
T1215 Vallo di Nera, 0.23 263 ⇑P **Pg** **10 31 17.1 +1.1**
T1215 AML AML
comp=E,4220µm,0.5s
T1215 AML AML
comp=E,4595µm,0.5s
T1215 AML AML
comp=N,4125µm,1.5s
T1215 AML AML
comp=E,4220µm,0.4s
T1215 AML AML
comp=N,4155µm,1.5s
T1215 AML AML
comp=E,4600µm,0.4s
T1215 AML AML
comp=N,4150µm,1.5s
T1215 AML AML
comp=N,4130µm,1.5s
T1215 AML AML
comp=E,4595µm,0.4s
T1215 AML AML
comp=E,4225µm,0.4s
T1215 AML AML
comp=N,4150µm,1.6s
T1243 Rocca Santa Ma 0.24 124 ⇓P **Pg** **10 31 16.4 +0.3**
T1243 S **Sg** **10 31 20.5 +1.0**
LNSS Leonessa 0.25 204 P **Pb** **10 31 17.5 -0.5**
LNSS S **Sb** **10 31 22.7 +0.1**
LNSS AML AML
comp=E,10540µm,0.3s
LNSS AML AML
comp=N,9590µm,0.3s
LNSS AML AML
comp=N,9595µm,0.3s
GUMA Gualdo di Mace 0.26 26 ⇑P **Pg** **10 31 16.4 0.0**
GUMA S **Sg** **10 31 20.2 +0.3**
GUMA AML AML
comp=E,41250µm,0.5s
GUMA AML AML
comp=E,58650µm,0.6s
GUMA AML AML
comp=N,43100µm,0.5s
GUMA AML AML
comp=N,48350µm,0.4s
CSP1 Cessapalombo 0.26 4 ⇓P **Pg** **10 31 16.2 -0.3**
CSP1 AML AML
comp=E,5870µm,1.2s
CSP1 AML AML
comp=N,7745µm,0.5s
CSP1 AML AML
comp=N,7750µm,0.5s
CSP1 AML AML
comp=E,5875µm,1.2s
CESI CESI - Serrava 0.27 310 ⇓P **Pg** **10 31 17.1 +0.5**
CESI AML AML
comp=N,13350µm,0.2s
CESI AML AML
comp=E,6670µm,1.0s
RM33 Pellescritta (0.32 176 ⇓P **Pb** **10 31 18.6 -0.6**
RM33 AML AML
comp=E,2280µm,0.7s
RM33 AML AML
comp=E,2305µm,0.3s
RM33 AML AML
comp=N,2715µm,0.9s
RM33 AML AML
comp=E,2300µm,0.3s
RM33 AML AML
comp=N,2720µm,0.9s
RM33 AML AML
comp=N,2610µm,0.9s
CAMP Campotosto 0.34 150 ⇓P **Pb** **10 31 18.5 -1.1**
CAMP S **Sb** **10 31 24.2 -0.9**
CAMP AML AML
comp=E,1330µm,0.6s
CAMP AML AML
comp=N,1815µm,1.2s
MNTP Montappone 0.37 35 P **Pb** **10 31 19.0 -1.0**
MNTP AML AML
comp=E,6725µm,0.8s
MNTP AML AML
comp=N,7800µm,0.3s
MNTP AML AML
comp=N,7795µm,0.3s
TERO Teramo 0.38 124 ⇓P **Pb** **10 31 18.8 -1.4**
TERO AML AML
comp=N,3735µm,0.6s
TERO AML AML
comp=E,3155µm,0.6s
TERO AML AML
comp=E,3000µm,0.6s
TERO AML AML
comp=N,3940µm,0.6s
TERO AML AML
comp=N,3740µm,0.6s
TERO AML AML
comp=E,2995µm,0.6s
ARRO Arrone 0.40 231 ⇑P **Pg** **10 31 20.1 +1.1**
ARRO AML AML
comp=N,1182µm,1.0s
ARRO AML AML
comp=E,1410µm,0.7s
ARRO AML AML
comp=N,1182µm,1.0s
GAG1 Gagliole 0.41 348 P **Pg** **10 31 19.7 +0.3**
GAG1 AML AML
comp=N,8740µm,0.3s
GAG1 AML AML
comp=E,12655µm,0.3s
GAG1 AML AML
comp=N,8735µm,0.3s
ASSB Assisi San Ben 0.44 299 ⇓P **Pg** **10 31 20.2 +0.3**
ASSB S **Sb** **10 31 29.0 +1.1**
ASSB AML AML
comp=N,3035µm,0.4s
ASSB AML AML
comp=E,3100µm,0.2s
SNTG Esanatoglia 0.46 337 ⇓P **Pg** **10 31 20.0 -0.2**
SNTG AML AML
comp=N,1650µm,1.0s
SNTG AML AML
comp=E,1645µm,0.6s
GIGS Gran Sasso 0.48 143 ⇓P **Pb** **10 31 20.9 -1.0**
GIGS S **Sb** **10 31 30.0 +0.9**
GIGS AML AML
comp=E,342µm,1.2s
GIGS AML AML
comp=E,341µm,1.2s
GIGS AML AML
comp=N,432µm,1.0s
CESX Cesi 0.49 244 ⇓P **Pb** **10 31 22.5 +0.3**
CESX AML AML
comp=E,1515µm,1.4s
CESX AML AML
comp=N,1290µm,1.3s
EL6 Elcito 0.50 353 ⇓P **Pg** **10 31 20.6 -0.4**
EL6 S **Sb** **10 31 30.0 +0.3**
EL6 AML AML
comp=E,5195µm,0.2s
EL6 AML AML
comp=N,6210µm,0.3s
EL6 AML AML
comp=E,5200µm,0.2s
ATCC AVT- Casa Cast 0.53 312 ⇓P **Pg** **10 31 21.8 +0.2**
ATCC AML AML
comp=E,2820µm,0.9s
ATCC AML AML
comp=N,1930µm,1.4s
TRTR Tortoreto Alta 0.54 92 ⇑P **Pb** **10 31 22.9 0.0**
TRTR AML AML
comp=E,5415µm,0.6s
TRTR AML AML
comp=N,4470µm,0.7s
CING Cingoli 0.54 1 ⇑P **Pg** **10 31 21.4 -0.4**
CING AML AML
comp=N,1770µm,0.9s
CING AML AML
comp=E,1605µm,0.5s
FOSV Fossato di Vic 0.56 326 ⇓P **Pg** **10 31 22.0 -0.1**
FOSV S **Sb** **10 31 32.0 +0.7**
FOSV AML AML
comp=E,1885µm,0.4s
FOSV AML AML
comp=N,14865µm,0.5s
FOSV AML AML
comp=N,14840µm,0.5s
FOSV AML AML
comp=E,1880µm,0.4s
FIAM Fiamignano 0.57 185 ⇓P **Pg** **10 31 22.8 +0.5**
FIAM AML AML
comp=N,844µm,0.7s
FIAM AML AML
comp=E,1142µm,0.6s
PP3 Marolino 0.63 30 ⇓P **Pb** **10 31 24.1 -0.3**
PP3 S **Sn** **10 31 34.0 -2.5**
PP3 AML AML
comp=E,5330µm,0.4s
PP3 AML AML
comp=N,6575µm,0.4s
PP3 AML AML
comp=N,6560µm,0.3s
PP3 AML AML
comp=E,5330µm,0.5s
FAGN Fagnano 0.64 152 ⇓P **Pb** **10 31 24.0 -0.6**
FAGN AML AML
comp=E,2580µm,0.4s
FAGN AML AML
comp=N,1885µm,0.4s
MURB Monte Urbino 0.65 312 ⇓P **Pg** **10 31 24.2 +0.5**
MURB AML AML
comp=E,2370µm,0.9s
MURB AML AML
comp=N,2565µm,0.3s
MURB AML AML
comp=E,2675µm,0.2s
MURB AML AML
comp=N,2745µm,0.3s
VCEL Villa Celiera 0.66 132 ⇓P **Pb** **10 31 24.1 -0.8**
VCEL S **Sn** **10 31 36.0 -1.3**
VCEL AML AML
comp=N,1192µm,1.5s
VCEL AML AML
comp=E,1140µm,0.6s
VCEL AML AML
comp=N,1191µm,1.5s
SSFR Montelago di S 0.67 334 ⇑P **Pg** **10 31 23.9 -0.3**
SSFR S **Sb** **10 31 36.0 +1.4**
SSFR AML AML
comp=E,3545µm,0.2s
SSFR AML AML
comp=N,2930µm,0.2s
SSFR AML AML
comp=E,3470µm,0.2s
SSFR AML AML
comp=N,2425µm,0.2s
ARVD Arcevia 0.69 345 P **Pg** **10 31 24.0 -0.6**
ARVD S **Sb** **10 31 36.0 +0.9**
ARVD AML AML
comp=E,1165µm,0.2s
ARVD AML AML
comp=N,590µm,0.6s
ATFO Monte Foce - G 0.70 320 P **Pg** **10 31 24.6 -0.1**
ATFO AML AML
comp=N,683µm,1.2s
ATFO AML AML
comp=E,1015µm,1.2s
ATTE AVT- Monte Tez 0.71 301 P **Pg** **10 31 25.2 +0.3**
ATTE AML AML
comp=N,562µm,0.4s
ATTE AML AML
comp=E,508µm,0.7s
T0110 Collepietro 0.75 144 ⇓P **Pb** **10 31 25.5 -1.0**
T0110 AML AML
comp=N,1725µm,0.6s
T0110 AML AML
comp=E,1200µm,0.3s
T0110 AML AML
comp=N,1730µm,0.6s
FRON Frontone 0.76 334 ⇑P **Pg** **10 31 25.5 -0.5**
FRON AML AML
comp=E,756µm,0.8s
FRON AML AML
comp=N,1145µm,0.3s
ATVO AVT- Monte Val 0.79 314 ⇓P **Pg** **10 31 26.2 -0.2**
ATVO AML AML
comp=N,664µm,0.4s
ATVO AML AML
comp=E,602µm,0.4s
MGAB Montegabbione 0.79 276 ⇓P **Pb** **10 31 27.5 +0.4**
MGAB AML AML
comp=E,1163µm,0.4s
MGAB AML AML
comp=E,1162µm,0.4s
MGAB AML AML
comp=N,1425µm,0.5s
MGAB AML AML
comp=E,1300µm,0.4s
MGAB AML AML
comp=N,1595µm,0.5s
ATPI Pietralunga - 0.84 318 ⇓P **Pg** **10 31 27.9 +0.4**
ATPI AML AML
comp=E,598µm,0.5s
ATPI AML AML
comp=N,484µm,0.4s
MPAG Monte Paganucc 0.85 339 ⇓P **Pg** **10 31 27.3 -0.4**
MPAG S **Sn** **10 31 42.0 -0.2**
MPAG AML AML
comp=E,634µm,0.7s
MPAG AML AML
comp=N,590µm,1.0s
NARO Abbazia di Nar 0.89 331 ⇑P **Pg** **10 31 27.9 -0.6**
NARO S **Sn** **10 31 43.0 -0.1**
NARO AML AML
comp=N,432µm,0.4s
NARO AML AML
comp=E,359µm,1.5s
CERT Cerreto 0.90 190 ⇓P **Pb** **10 31 29.5 +0.5**
CERT AML AML
comp=E,674µm,0.6s
CERT AML AML
comp=N,620µm,0.6s
FSSB Fossombrone 0.91 341 ⇓P **Pg** **10 31 28.3 -0.4**
FSSB S **Sn** **10 31 44.0 +0.5**
FSSB AML AML
comp=E,2845µm,0.3s
FSSB AML AML
comp=N,2285µm,0.4s
BADI Badiali 0.96 315 P **Pg** **10 31 28.4 -1.4**
INTR Introdacqua 0.98 147 ⇑P **Pg** **10 31 29.2 -0.9**
INTR AML AML
comp=E,504µm,0.7s
INTR AML AML
comp=E,503µm,0.7s
INTR AML AML
comp=N,940µm,0.6s
CAFI Castiglion Fio 1.02 300 P **Pg** **10 31 30.8 0.0**
CAFI AML AML
comp=N,360µm,0.4s
CAFI AML AML
comp=E,378µm,0.6s
PARC Parchiule 1.07 320 ⇓P **Pg** **10 31 31.9 +0.2**
PARC AML AML
comp=E,436µm,0.6s
PARC AML AML
comp=N,364µm,1.6s
PESA Pesaro 1.14 347 P **Pn** **10 31 33.4 +0.1**
PESA AML AML
comp=E,1025µm,0.6s
PESA AML AML
comp=N,1170µm,1.4s
CRE Caprese Michel 1.20 312 ⇑P **Pg** **10 31 36.2 +2.0**
CERA Filignano 1.38 153 P **Pg** **10 31 39.2 +1.4**
ASQU Asqua 1.40 314 ⇓P **Pg** **10 31 39.2 +1.1**
RUFI Rufina 1.58 310 ⇓P **Pb** **10 31 41.3 +0.7**
PGF Pioggiola 3.10 266 *e*Pn **Pn** **10 32 00.6 +0.2**
PGF *e*Sn **Sn** **10 32 34.9 -2.6**
comp=N,7.2nm,0.7s
MYKA Terra Mystica 3.81 5 *e*Pn **Pn** **10 32 11.4 +1.2**
comp=N,1.1nm,0.2s
ABTA Abfaltersbach 3.94 353 Pn **Pn** **10 32 13.3 +1.3**
comp=N,8.2nm,0.3s,SNR=17
ABTA *e*Sn **Sn** **10 32 60.0 +1.6**
comp=N,11nm,0.5s
SOKA Soboth 4.07 18 *e*Pn **Pn** **10 32 17.0 +3.4**
comp=N,0.8nm,0.2s
KBA Koelnbreinsper 4.25 2 *e*Pn **Pn** **10 32 17.8 +1.5**
comp=N,5.0nm,0.4s
SBF Sospel 4.32 286 *e*Pn **Pn** **10 32 17.4 +0.3**
SBF *e*Sn **Sn** **10 33 05.4 -2.1**
comp=N,1.6nm,0.2s
FETA Feichten 4.54 338 *e*Pn **Pn** **10 32 22.2 +2.0**
comp=N,1.8nm,0.3s
FETA *e*Sn **Sn** **10 33 16.8 +3.7**
comp=N,1.8nm,0.4s
WTTA Wattenberg 4.56 347 *e*Pn **Pn** **10 32 23.1 +2.5**
comp=N,1.0nm,0.2s
SQTA Sankt Quirin 4.61 343 Pn **Pn** **10 32 23.8 +2.7**
comp=N,3.3nm,0.2s,SNR=7.2
MOTA Moosalm 4.75 343 *e*Pn **Pn** **10 32 26.2 +3.1**
comp=N,1.6nm,0.4s
BIOA Bad Ischl, Aus 4.87 4 *e*Pn **Pn** **10 32 26.5 +1.8**
comp=N,3.0nm,0.2s
LMR La Mourre 4.91 278 *e*Pn **Pn** **10 32 23.4 -1.8**
RETA Reutte 4.96 341 *e*Pn **Pn** **10 32 28.7 +2.7**
comp=N,2.3nm,0.4s
MBDF Montbardon 5.01 294 *e*Pn **Pn** **10 32 29.8 +3.1**
MBDF *e*Sn **Sn** **10 33 20.1 -4.7**
comp=N,0.6nm,0.2s
DAVA Damuels 5.03 333 *e*Pn **Pn** **10 32 30.9 +3.9**
comp=N,3.8nm,0.4s
DAVA *e*Sn **Sn** **10 33 29.0 +3.7**
comp=N,3.1nm,0.5s
MOA Molln 5.08 8 *e*Pn **Pn** **10 32 28.5 +1.0**
comp=N,0.4nm,0.2s
LPG La Plagne 5.34 302 *e*Pn **Pn** **10 32 31.3 0.0**
LPG *e*Sn **Sn** **10 33 28.7 -4.3**
comp=N,2.1nm,0.5s
CONA Conrad Observa 5.43 19 *e*Pn **Pn** **10 32 33.4 +0.9**
comp=N,0.9nm,0.3s
SMRF Simiane la Rot 5.66 284 *e*Pn **Pn** **10 32 34.0 -1.5**
ORIF Oris-en-Rattie 5.67 294 *e*Pn **Pn** **10 32 35.2 -0.6**
ORIF *e*Sn **Sn** **10 33 36.2 -4.9**
comp=N,1.2nm,0.5s
CABF La Chapelle 6.31 309 *e*Pn **Pn** **10 32 45.7 +1.2**
VIVF Saint-Julien-l 6.48 291 *e*P Pn 10 32 51.8 +5.1
HINF Hinteralfeld 6.69 320 *e*Pn **Pn** **10 32 49.7 +0.1**
HINF *e*Sn **Sn** **10 34 04.5 -1.4**
comp=N,2.3nm,0.4s
CDF Champ du Feu 6.95 325 *e*Pn **Pn** **10 32 53.0 -0.2**
CDF *e*Sn **Sn** **10 34 06.9 -5.5**
comp=N,2.1nm,0.4s
HAU Haudompre 7.06 319 *e*Pn **Pn** **10 32 54.9 +0.2**
HAU *e*Sn **Sn** **10 34 11.6 -3.5**
comp=N,5.9nm,0.5s
PAGF Fort de Pagny 7.74 320 *e*Pn **Pn** **10 33 04.5 +0.4**
LOR Lormes 7.95 307 *e*P **Pn** **10 33 10.4 +3.5**
baz=123
LOR *e*Sn **Sn** **10 34 33.3 -3.7**
comp=N,1.0nm,0.3s
MEZF Maizieres J'vi 8.03 318 *e*Pn **Pn** **10 33 04.1 -3.9**
baz=136

ROM 03 10:32:09.1±0.0, **42.°759N**±0.°002×**13.°167E**±0.°004, **h11**km, **ML2.6**/13, **13C-8D, Error ellipse: s-maj=0.3km s-min=0.2km az=57.0, Central Italy**

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

T1202 Accumoli, Fraz 0.07 143 P Pg 10 32 11.9 +0.4
T1202 S Sg 10 32 13.8 +0.4
T1202 AML AML
comp=N,27850µm,0.8s
T1202 AML AML
comp=E,22500µm,0.6s
T1202 AML AML
comp=N,27900µm,0.8s
T1242 Castelluccio d 0.07 21 ⇑P Pg 10 32 11.9 +0.2
T1242 S Sg 10 32 13.6 +0.1
T1242 AML AML
comp=E,9815µm,0.4s
T1242 AML AML
comp=N,10965µm,0.2s
T1242 AML AML
comp=E,9630µm,0.4s
T1242 AML AML
comp=N,10850µm,0.2s
T1242 AML AML
comp=E,23400µm,0.2s
T1242 AML AML
comp=E,23450µm,0.2s
T1242 AML AML
comp=N,27950µm,0.1s
T1242 AML AML
comp=E,23850µm,0.2s
T1242 AML AML
comp=N,27600µm,0.1s
NRCA Norcia 0.08 332 ⇑P Pg 10 32 11.9 +0.2
NRCA S Sg 10 32 13.6 0.0
NRCA AML AML
comp=E,21600µm,1.3s
NRCA AML AML
comp=N,26200µm,0.1s
NRCA AML AML
comp=E,23700µm,1.3s
NRCA AML AML
comp=N,26250µm,0.1s
NRCA AML AML
comp=E,21650µm,1.3s
NRCA AML AML
comp=E,26250µm,0.1s
NRCA AML AML
comp=N,28650µm,0.1s
T1244 Arquata del Tr 0.10 91 P Pg 10 32 12.3 +0.5
T1244 S Sg 10 32 14.4 +0.6
T1244 AML AML
comp=E,9500µm,0.2s
T1244 AML AML
comp=N,7195µm,0.2s
T1244 AML AML
comp=E,9400µm,0.2s
T1244 AML AML
comp=N,7155µm,0.2s
T1244 AML AML
comp=N,7195µm,0.2s
T1244 AML AML
comp=E,9380µm,0.2s
T1244 AML AML
comp=N,7150µm,0.2s
T1244 AML AML
comp=E,9495µm,0.2s
T1204 Amatrice, Fraz 0.14 127 P Pg 10 32 12.9 +0.5
T1204 S Sg 10 32 15.6 +0.7
T1204 AML AML
comp=E,3325µm,0.2s
T1204 AML AML
comp=N,1760µm,0.7s
T1204 AML AML
comp=N,1754µm,0.7s
T1204 AML AML
comp=E,3330µm,0.2s
T1204 AML AML
comp=N,1754µm,0.7s
MC2 Monte Cornacci 0.15 6 ⇑P Pg 10 32 13.2 +0.4
MC2 S Sg 10 32 16.1 +0.8
SMA1 SAN MARTINO 0.18 136 ⇑P Pg 10 32 13.5 +0.5
LNSS Leonessa 0.18 211 P Pg 10 32 13.6 +0.5
LNSS S Sg 10 32 17.0 +1.1
LNSS AML AML
comp=E,2755µm,0.6s
LNSS AML AML
comp=N,4500µm,0.3s
LNSS AML AML
comp=E,2750µm,0.6s
LNSS AML AML
comp=E,4000µm,0.2s
LNSS AML AML
comp=N,4495µm,0.3s

T1243	**Rocca Santa Ma**	**0.22**	**107**	⇑P	Pg	10 32 14.0	+0.3
T1243				S	Sg	10 32 17.9	+1.1
T1241	**Roccafluvione,**	**0.22**	**63**	P	Pg	10 32 14.2	+0.5
T1241				S	Sg	10 32 17.8	+0.9
T1241				AML	AML		
	comp=E,2115μm,0.2s						
T1241				AML	AML		
	comp=N,974μm,0.4s						
T1241				AML	AML		
	comp=E,2030μm,0.2s						
T1241				AML	AML		
	comp=N,914μm,0.8s						
T1241				AML	AML		
	comp=E,2110μm,0.2s						
T1241				AML	AML		
	comp=N,954μm,0.3s						
T1241				AML	AML		
	comp=N,892μm,0.8s						
T1241				AML	AML		
	comp=E,2115μm,0.2s						
T1241				AML	AML		
	comp=N,910μm,1.5s						
T1241				AML	AML		
	comp=N,888μm,0.5s						
T1215	**Vallo di Nera,**	**0.22**	**281**	⇓P	Pg	10 32 14.3	+0.5
T1215				S	Sg	10 32 18.0	+1.0
T1215				AML	AML		
	comp=E,799μm,0.5s						
T1215				AML	AML		
	comp=N,598μm,0.3s						
T1215				AML	AML		
	comp=E,796μm,0.5s						
T1215				AML	AML		
	comp=N,651μm,1.4s						
RM33	**Pellescritta (**	**0.25**	**172**	⇑P	Pg	10 32 14.8	+0.5
RM33				AML	AML		
	comp=E,791μm,0.8s						
RM33				AML	AML		
	comp=N,986μm,0.1s						
RM33				AML	AML		
	comp=N,984μm,0.1s						
RM33				AML	AML		
	comp=E,792μm,0.8s						
RM33				AML	AML		
	comp=N,986μm,0.1s						
FDMO	**Fiordimonte**	**0.28**	**348**	⇑P	Pg	10 32 14.8	0.0
FDMO				S	Sb	10 32 19.9	-1.1
FDMO				AML	AML		
	comp=N,1095μm,0.2s						
FDMO				AML	AML		
	comp=E,866μm,0.8s						
CAMP	**Campotosto**	**0.29**	**141**	⇑P	Pg	10 32 15.3	+0.3
CAMP				S	Sg	10 32 20.0	+1.1
CESI	**CESI - Serrava**	**0.31**	**322**	⇑P	Pg	10 32 15.9	+0.4
CESI				S	Sb	10 32 20.9	-0.9
CESI				AML	AML		
	comp=N,1745μm,0.4s						
CESI				AML	AML		
	comp=E,1137μm,0.7s						
GUMA	**Gualdo di Mace**	**0.33**	**22**	P	Pb	10 32 16.6	-0.4
GUMA				S	Sb	10 32 22.6	+0.3
GUMA				AML	AML		
	comp=E,4695μm,0.3s						
GUMA				AML	AML		
	comp=N,4230μm,0.7s						
GUMA				AML	AML		
	comp=E,5885μm,0.4s						
GUMA				AML	AML		
	comp=E,4700μm,0.3s						
GUMA				AML	AML		
	comp=N,4230μm,0.6s						
GUMA				AML	AML		
	comp=N,4865μm,0.6s						
CSP1	**Cessapalombo**	**0.33**	**5**	⇑P	Pg	10 32 16.2	+0.3
CSP1				S	Sb	10 32 21.9	-0.6
ARRO	**Arrone**	**0.35**	**239**	⇓P	Pg	10 32 16.6	+0.6
ARRO				AML	AML		
	comp=E,436μm,0.9s						
ARRO				AML	AML		
	comp=N,504μm,0.2s						
TERO	**Teramo**	**0.35**	**113**	⇑P	Pg	10 32 16.2	+0.1
TERO				S	Sg	10 32 21.7	+1.0
TERO				AML	AML		
	comp=E,1084μm,0.2s						
TERO				AML	AML		
	comp=N,1330μm,0.5s						
TERO				AML	AML		
	comp=E,1135μm,0.2s						
TERO				AML	AML		
	comp=N,1420μm,0.5s						
OFFI	**Offida**	**0.42**	**65**	⇑P	Pb	10 32 18.5	0.0
GIGS	**Gran Sasso**	**0.43**	**136**	⇓P	Pg	10 32 17.5	-0.1
CESX	**Cesi**	**0.46**	**251**	⇓P	Pg	10 32 18.4	+0.4
ASSB	**Assisi San Ben**	**0.47**	**307**	⇓P	Pg	10 32 18.5	+0.2
ASSB				AML	AML		
	comp=E,778μm,0.1s						
ASSB				AML	AML		
	comp=N,1445μm,0.2s						
ASSB				AML	AML		
	comp=E,842μm,0.9s						
SNTG	**Esanatoglia**	**0.52**	**342**	P	Pg	10 32 19.3	0.0
SNTG				S	Sb	10 32 28.0	+0.1
ELE	**Elcito**	**0.57**	**355**	⇓P	Pg	10 32 20.2	-0.1
ATCC	**AVT- Casa Cast**	**0.57**	**318**	P	Pg	10 32 20.5	+0.2
FOSV	**Fossato di Vic**	**0.61**	**331**	⇑P	Pg	10 32 21.2	+0.2
FOSV				AML	AML		
	comp=N,796μm,0.2s						
FOSV				AML	AML		
	comp=E,572μm,0.2s						
SRES	**S.Oreste - Sor**	**0.71**	**223**	S	Sn	10 32 36.0	-0.1
ARVD	**Arcevia**	**0.76**	**347**	⇓P	Pg	10 32 23.8	+0.1
ARVD				S	Sn	10 32 36.0	-1.2
NARO	**Abbazia di Nar**	**0.95**	**333**	⇓P	Pg	10 32 27.4	-0.1

ROM 03 10:32:53.9±0.1, 42°.856N±0°.003×13°.231E±0°.006, h10km, ML2.4/19, 13C-19D, Error ellipse: s-maj=0.5km s-min=0.1km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**217**	P	Pg	10 32 55.8	-0.2
T1242				S	Sg	10 32 56.5	-0.9
T1242				AML	AML		
	comp=E,23450μm,0.2s						
T1242				AML	AML		
	comp=N,27950μm,0.1s						
T1242				AML	AML		
	comp=E,23850μm,0.2s						
T1242				AML	AML		
	comp=N,27600μm,0.1s						
MC2	**Monte Cornacci**	**0.06**	**332**	P	Pg	10 32 56.7	+0.4
MC2				S	Sg	10 32 57.7	-0.3
NRCA	**Norcia**	**0.09**	**256**	⇑P	Pg	10 32 56.7	+0.3
NRCA				S	Sg	10 32 58.4	+0.2
NRCA				AML	AML		
	comp=N,16450μm,0.1s						
NRCA				AML	AML		
	comp=E,20400μm,0.2s						
NRCA				AML	AML		
	comp=E,20400μm,0.2s						
NRCA				AML	AML		
	comp=N,14800μm,0.1s						
NRCA				AML	AML		
	comp=E,22200μm,0.2s						
T1244	**Arquata del Tr**	**0.11**	**154**	⇓P	Pg	10 32 57.2	+0.5
T1244				S	Sg	10 32 59.5	+0.9
T1244				AML	AML		
	comp=N,7195μm,0.2s						
T1244				AML	AML		
	comp=E,6510μm,0.2s						
T1244				AML	AML		
	comp=N,7155μm,0.2s						
T1244				AML	AML		
	comp=E,6480μm,0.2s						
T1244				AML	AML		
	comp=N,7195μm,0.2s						
T1244				AML	AML		
	comp=N,7150μm,0.2s						
T1202	**Accumoli, Fraz**	**0.15**	**182**	⇓P	Pg	10 32 57.9	+0.6
T1202				S	Sg	10 33 01.6	+1.8
T1202				AML	AML		
	comp=N,4775μm,0.3s						
T1202				AML	AML		
	comp=E,3765μm,1.1s						
T1202				AML	AML		
	comp=N,4770μm,0.3s						
T1202				AML	AML		
	comp=E,3780μm,1.1s						
FEMA	**Monte Fema**	**0.17**	**309**	⇓P	Pg	10 32 58.5	+0.8
FEMA				S	Sg	10 33 01.3	+1.0
T1204	**Amatrice, Fraz**	**0.19**	**161**	⇓P	Pg	10 32 58.6	+0.6
T1204				S	Sg	10 33 02.3	+1.5
T1204				AML	AML		
	comp=E,1277μm,0.6s						
T1204				AML	AML		
	comp=N,977μm,0.5s						
T1204				AML	AML		
	comp=E,1272μm,0.6s						
T1204				AML	AML		
	comp=N,980μm,0.5s						
FDMO	**Fiordimonte**	**0.21**	**330**	⇓P	Pg	10 32 58.9	+0.6
FDMO				S	Sg	10 33 02.3	+1.0
FDMO				AML	AML		
	comp=E,866μm,0.8s						
FDMO				AML	AML		
	comp=N,1095μm,0.2s						
GUMA	**Gualdo di Mace**	**0.22**	**20**	⇑P	Pg	10 32 59.5	+1.0
GUMA				S	Sg	10 33 03.5	+1.9
GUMA				AML	AML		
	comp=N,4230μm,0.7s						
GUMA				AML	AML		
	comp=E,5885μm,0.4s						
GUMA				AML	AML		
	comp=E,4700μm,0.3s						
GUMA				AML	AML		
	comp=N,4865μm,0.6s						
GUMA				AML	AML		
	comp=N,4230μm,0.6s						
T1243	**Rocca Santa Ma**	**0.23**	**135**	⇓P	Pg	10 32 59.1	+0.5
T1243				S	Sg	10 33 02.8	+1.0
CSP1	**Cessapalombo**	**0.24**	**355**	⇑P	Pg	10 32 59.4	+0.6
CSP1				S	Sg	10 33 03.7	+1.5
CSP1				AML	AML		
	comp=E,1710μm,1.0s						
CSP1				AML	AML		
	comp=N,1330μm,1.5s						
SMA1	**SAN MARTINO**	**0.24**	**161**	⇓P	Pg	10 32 59.3	+0.5
SMA1				S	Sg	10 33 03.4	+1.3
SMA1				AML	AML		
	comp=E,1050μm,0.3s						
SMA1				AML	AML		
	comp=N,1180μm,0.4s						
T1215	**Vallo di Nera,**	**0.27**	**259**	⇑P	Pg	10 33 00.1	+0.6
T1215				S	Sb	10 33 04.7	-1.0
T1215				AML	AML		
	comp=E,799μm,0.5s						
T1215				AML	AML		
	comp=N,651μm,1.4s						
T1215				AML	AML		
	comp=E,796μm,0.5s						
CESI	**CESI - Serrava**	**0.28**	**302**	⇑P	Pg	10 33 00.3	+0.7
CESI				S	Sb	10 33 05.2	-0.8
CESI				AML	AML		
	comp=N,1745μm,0.4s						
CESI				AML	AML		
	comp=E,1137μm,0.7s						
LNSS	**Leonessa**	**0.29**	**209**	⇑P	Pg	10 33 00.3	+0.6
LNSS				S	Sb	10 33 05.5	-0.7
LNSS				AML	AML		
	comp=E,4000μm,0.2s						
LNSS				AML	AML		
	comp=N,4025μm,0.2s						
CAMP	**Campotosto**	**0.35**	**158**	⇓P	Pg	10 33 01.2	+0.4
CAMP				S	Sg	10 33 06.5	+1.1
CAMP				AML	AML		
	comp=N,523μm,0.6s						
CAMP				AML	AML		
	comp=E,379μm,0.2s						
RM33	**Pellescritta (**	**0.35**	**182**	⇓P	Pg	10 33 01.5	+0.6
RM33				S	Sb	10 33 07.2	-0.6
RM33				AML	AML		
	comp=E,587μm,0.4s						
RM33				AML	AML		
	comp=N,774μm,1.0s						
TERO	**Teramo**	**0.36**	**130**	⇓P	Pg	10 33 01.4	+0.3
TERO				S	Sb	10 33 07.2	-1.0
TERO				AML	AML		
	comp=E,1135μm,0.2s						
TERO				AML	AML		
	comp=N,1420μm,0.5s						
ARRO	**Arrone**	**0.44**	**231**	⇑P	Pg	10 33 03.1	+0.6
ARRO				AML	AML		
	comp=E,416μm,0.7s						
ARRO				AML	AML		
	comp=E,416μm,0.7s						
ARRO				AML	AML		
	comp=N,504μm,0.2s						
SNTG	**Esanatoglia**	**0.45**	**332**	P	Pg	10 33 03.0	+0.2
SNTG				AML	AML		
	comp=N,244μm,1.5s						
SNTG				AML	AML		
	comp=E,230μm,0.6s						
ASSB	**Assisi San Ben**	**0.46**	**294**	⇑P	Pg	10 33 03.4	+0.4
ASSB				AML	AML		
	comp=E,842μm,0.9s						
ASSB				AML	AML		
	comp=N,1445μm,0.2s						
GIGS	**Gran Sasso**	**0.48**	**148**	⇓P	Pg	10 33 03.5	+0.3
ELE	**Elcito**	**0.48**	**349**	⇑P	Pg	10 33 03.6	+0.2
ELE				S	Sb	10 33 14.0	+2.2
CING	**Cingoli**	**0.52**	**357**	P	Pb	10 33 04.8	-0.4
CING				AML	AML		
	comp=E,273μm,0.5s						
CING				AML	AML		
	comp=N,265μm,0.4s						
CESX	**Cesi**	**0.54**	**243**	⇓P	Pg	10 33 04.6	+0.3
CESX				S	Sb	10 33 15.0	+1.7
CESX				AML	AML		
	comp=E,266μm,0.4s						
CESX				AML	AML		
	comp=N,278μm,0.6s						
ATCC	**AVT- Casa Cast**	**0.54**	**307**	⇓P	Pb	10 33 05.1	-0.5
ATCC				S	Sb	10 33 15.0	+1.5
ATCC				AML	AML		
	comp=E,589μm,1.1s						
ATCC				AML	AML		
	comp=E,590μm,1.1s						
ATCC				AML	AML		
	comp=N,394μm,0.3s						
FOSV	**Fossato di Vic**	**0.56**	**322**	P	Pg	10 33 05.3	+0.5
FOSV				S	Sb	10 33 15.0	+1.1
FOSV				AML	AML		
	comp=E,572μm,0.2s						
FOSV				AML	AML		
	comp=N,796μm,0.2s						
FIAM	**Fiamignano**	**0.59**	**188**	⇑P	Pg	10 33 05.6	+0.2
FIAM				S	Sb	10 33 16.0	+1.1
FIAM				AML	AML		
	comp=E,170μm,0.8s						
FIAM				AML	AML		
	comp=N,192μm,0.8s						
FAGN	**Fagnano**	**0.64**	**156**	S	Sn	10 33 19.0	-0.5
VCEL	**Villa Celiera**	**0.64**	**135**	⇓P	Pb	10 33 07.3	0.0
SSFR	**Montelago di S**	**0.67**	**331**	⇓P	Pb	10 33 07.3	-0.4
SSFR				AML	AML		
	comp=E,542μm,0.3s						
SSFR				AML	AML		
	comp=N,517μm,0.2s						
ARVD	**Arcevia**	**0.68**	**342**	⇓P	Pb	10 33 07.8	0.0
ARVD				S	Sn	10 33 19.0	-1.3
ARVD				AML	AML		
	comp=E,138μm,0.9s						
ARVD				AML	AML		
	comp=N,82μm,1.4s						
T0110	**Collepietro**	**0.75**	**147**	⇑P	Pg	10 33 08.3	-0.1
T0110				AML	AML		
	comp=N,237μm,0.4s						
T0110				AML	AML		
	comp=E,238μm,0.5s						
FRON	**Frontone**	**0.76**	**331**	⇓P	Pg	10 33 08.8	+0.3
ATVO	**AVT- Monte Val**	**0.80**	**311**	⇑P	Pg	10 33 09.6	+0.2
ATVO				S	Sn	10 33 23.0	-0.4
MPAG	**Monte Paganucc**	**0.85**	**336**	S	Sn	10 33 25.0	+0.5
NARO	**Abbazia di Nar**	**0.89**	**328**	⇓P	Pb	10 33 11.3	-0.2
NARO				S	Sn	10 33 26.0	+0.5
FSSB	**Fossombrone**	**0.90**	**339**	⇑P	Pb	10 33 12.1	+0.4
FSSB				AML	AML		
	comp=E,282μm,0.4s						
FSSB				AML	AML		
	comp=N,330μm,0.4s						
FSSB				AML	AML		
	comp=N,330μm,0.4s						
OSSC	**Osservatorio P**	**1.60**	**295**	S	Sg	10 33 45.0	-0.3
MRB1	**Monte Rocchett**	**2.16**	**142**	⇓P	Pg	10 33 35.2	-0.1

ROM 03 10:33:19.9±0.1, 42°.880N±0°.003×13°.218E±0°.009, h7km, Md1.4/8, 3C-1D, Error ellipse: s-maj=0.5km s-min=0.5km az=75.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**329**	P	Pg	10 33 21.5	0.0
MC2				S	Sg	10 33 22.7	0.0
MC2				END			
T1242	**Castelluccio d**	**0.05**	**191**	⇑P	Pg	10 33 21.5	-0.1
T1242				S	Sg	10 33 22.7	-0.1
T1242				AML	AML		
	comp=E,6570μm,0.5s						
T1242				AML	AML		
	comp=N,7710μm,0.5s						
T1242				END			
NRCA	**Norcia**	**0.09**	**239**	⇑P	Pg	10 33 22.3	+0.3
NRCA				S	Sg	10 33 23.9	+0.4
NRCA				END			
T1244	**Arquata del Tr**	**0.14**	**154**	P	Pg	10 33 23.2	+0.4
T1244				S	Sg	10 33 25.8	+1.1
T1244				END			
T1202	**Accumoli, Fraz**	**0.18**	**178**	P	Pg	10 33 24.4	+0.9
T1202				S	Sg	10 33 27.3	+1.4
T1202				END			
FDMO	**Fiordimonte**	**0.18**	**329**	P	Pg	10 33 24.2	+0.5
FDMO				S	Sg	10 33 27.4	+1.3
FDMO				END			
CSP1	**Cessapalombo**	**0.21**	**357**	⇑P	Pg	10 33 24.5	+0.4
CSP1				S	Sg	10 33 28.5	+1.4
CSP1				END			
T1204	**Amatrice, Fraz**	**0.22**	**160**	⇓P	Pg	10 33 24.5	+0.3
T1204				S	Sg	10 33 28.5	+1.3
T1204				END			
T1243	**Rocca Santa Ma**	**0.25**	**137**	P	Pg	10 33 25.0	+0.1
GAG1	**Gagliole**	**0.38**	**343**	P	Pg	10 33 26.8	-0.4
EL6	**Elcito**	**0.46**	**349**	S	Sb	10 33 38.0	+0.5
ARVD	**Arcevia**	**0.65**	**342**	S	Sb	10 33 43.0	+0.1

IDC 03 10:38:07.8±5.9, 8°.39S×127°.51E, h148km±66km, mb3.6/1, mbtmp3.9/5, Error ellipse: s-maj=59.3km s-min=38.1km az=38.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.20**	**244**	P	Pn	10 39 09.7	-1.0
	47nm,0.4s,baz=52,slow=19,SNR=3.0						
BATI				S	Sn	10 40 00.6	+1.0
	80nm,0.4s,baz=32,slow=19,SNR=12						
FITZ	**Fitzroy Crossi**	**9.82**	**190**	P	Pn	10 40 25.6	+0.2
	2.7nm,0.3s,baz=17,slow=11,SNR=17						
FITZ				S	Sn	10 42 14.1	-0.1
	2.1nm,0.3s,baz=136,slow=14,SNR=5.6						
WRA	**Warramunga Arr**	**13.25**	**151**	P	Pn	10 41 08.4	-1.9
	0.4nm,0.3s,baz=322,slow=13,SNR=7.7						
WRA				S	Sn	10 43 30.9	-6.1
	2.3nm,0.6s,baz=320,slow=26,SNR=13						
ASAR	**Alice Springs**	**16.38**	**159**	P	P	10 41 49.9	+0.4
	0.9nm,0.7s,baz=334,slow=10,SNR=14						
ASAR				S	S	10 44 47.5	-4.1
	0.3nm,0.4s,baz=342,slow=26,SNR=4.4						
STKA	**Stephens Creek**	**26.79**	**153**	P	P	10 43 34.4	+0.4
	2.2nm,0.9s,baz=321,slow=14,SNR=1.7						
	2.2nm,0.9s						

*IDC **03** 10:42:46.4±1.7, 4°.22S×129°.33E, h0km, mb3.5/1, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=58.8km s-min=28.0km az=83.0*
*DJA **03** 10:42:48.6±0.3, 4°.5S×4°×12°.9E±°, h10km, M3.6/8, mb4.1/2, mB5.0/1, MLv3.4/8, Mw(mB)4.3/1*
ISC 03 10:42:48.0±0.9, 4°.17S±0°.06×129°.41E±0°.06, h10km, n11, σ1s28/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.60**	**126**	P	**Pg**	**10 43 00.6**	**+0.9**
MSAI	**Masohi**	**0.95**	**329**	P	**Pg**	**10 43 06.8**	**+0.6**
AAI	**Ambon**	**1.30**	**291**	P	**Pn**	**10 43 12.3**	**0.0**
FAKI	**Fak Fak**	**3.09**	**66**	P	**Pn**	**10 43 37.4**	**+0.6**
SIJI	**Sorong**	**3.76**	**30**	Pn	**Pn**	**10 43 47.0**	**+0.9**
	4.0nm,0.3s,baz=156,slow=22,SNR=7.4						
SIJI				Sn	**Sn**	**10 44 28.1**	**-2.3**
	2.2nm,0.3s,baz=221,slow=19,SNR=1.6						
	7.0nm,0.3s						
SWI	**Sorong**	**3.76**	**29**	P	**Pn**	**10 43 46.8**	**+0.7**
SAUI	**Saumlaki**	**4.23**	**154**	P	**Pn**	**10 43 53.0**	**+0.4**
MPSI	**Mapaga**	**10.51**	**295**	P	**Pn**	**10 45 19.6**	**+0.8**
WRA	**Warramunga Arr**	**16.40**	**163**	Pn	**Pn**	**10 46 36.0**	**-2.4**
	0.1nm,0.3s,baz=346,slow=13,SNR=1.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**19.87**	**168**	P	**P**	**10 47 19.8**	**+0.4**
	0.1nm,0.3s,baz=350,slow=10,SNR=6.1						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**65.55**	**326**	P	**P**	**10 53 31.9**	**0.0**
	0.2nm,0.3s,baz=120,slow=7.3,SNR=3.7						
	0.2nm,0.3s						

NNC 03 10:52:51.7±3.1, 36°.72N×69°.70E, h0km, mb4.0, mpv3.7, 3C-3D, Error ellipse: s-maj=27.3km s-min=23.6km az=111.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.41**	**5**	⇓P	Pn	10 54 28.1	+0.7
	2.6nm,0.3s,baz=189,slow=14,SNR=50						
KK31				⇑S	Sn	10 55 42.2	+1.0
	3.9nm,0.7s,baz=184,slow=17,SNR=5.4						
CHMS	**Chumysh**	**7.38**	**30**	⇓P	Pn	10 54 40.4	-0.2
	3.6nm,0.5s						
CHMS				⇑S	Sn	10 56 05.4	+0.3
	5.8nm,0.8s						
TKM2	**Tokmak 2**	**7.67**	**34**	⇓P	Pn	10 54 44.3	-0.7
	1.8nm,0.7s						
TKM2				⇑S	Sn	10 56 15.2	+2.5
	2.8nm,0.8s						

*IDC **03** 10:59:19.9±0.7, 27°.86S×112°.18W, h0km, mb4.5/11, mbtmp4.5/12, ML3.6/1, MS3.9/23, Error ellipse: s-maj=22.9km s-min=18.9km az=35.0*
*NEIC **03** 10:59:22.9±1.4, 27°.91S±0°.06×112°.1W±0°.1, h10km±1km, mb5.1/249, Error ellipse: s-maj=17.1km s-min=8.7km az=118.0*
ISC 03 10:59:21.4±0.4, 27°.94S±0°.08×112°.19W±0°.07, h10km, n436, σ0s75/315, mb5.1/128, MS4.0/25, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**2.56**	**73**	Pn	**Pn**	**11 00 02.1**	**-0.9**
RPN	**Rapa Nui**	**2.66**	**73**	Pn	**Pn**	**11 00 02.9**	**-1.4**
	10nm,0.3s,baz=151,slow=18,SNR=6.8						
RPN				Sn	**Sn**	**11 00 35.0**	**-1.6**
	15nm,0.3s,baz=0.0,slow=20,SNR=2.0						
	98nm,0.6s						
RPN	**Rapa Nui**	**2.66**	**73**	Pn	**Pn**	**11 00 04.2**	**-0.1**
H03N2	**Juan Fernandez**	**29.04**	**109**	T	T	11 36 02.5	
	baz=276,slow=74						
H03N3	**Juan Fernandez**	**29.05**	**109**	T	T	11 35 56.1	
	baz=276,slow=74						
H03N1	**Juan Fernandez**	**29.06**	**109**	T	T	11 35 55.9	
	baz=276,slow=74						
TBI	**Tubuai**	**33.83**	**269**	eLR	LR	11 15 05.4	
	comp=Z,161nm,22.8s						
GO06	**Curarrehue**	**35.51**	**120**	P	**P**	**11 06 20.8**	**+2.2**
MT02	**Curacav**	**35.56**	**109**	P	**P**	**11 06 21.4**	**+2.5**
MT02				IAmb	IAmb	11 06 22.7	
	comp=Z,35nm,1.3s						
PPT2	**Papeete2**	**35.86**	**279**	eLR	LR	11 16 01.6	
	comp=Z,130nm,21.0s						
PPT	**Papeete**	**35.87**	**279**	P	**P**	**11 06 22.0**	**+0.3**
	comp=Z,32nm,0.7s,baz=94,slow=19,SNR=2.1						
PPT				LR	LR	11 17 30.5	
	comp=Z,184nm,18.9s,baz=106,slow=30						
	comp=Z,32nm,0.7s						
VA03	**San Esteban**	**36.08**	**108**	P	**P**	**11 06 25.8**	**+2.2**

VA03 IAmb IAmb 11 06 39.6
comp=Z,27nm,1.2s
LMEL Las Melosas 36.32 110 P **P 11 06 26.2 +0.6**
LMEL IAmb IAmb 11 06 29.6
comp=Z,26nm,1.1s
PLCA Paso Flores 36.34 122 P **P 11 06 27.2 +1.6**
comp=Z,6.4nm,1.1s,baz=284,slow=10,SNR=8.0
comp=Z,6.4nm,1.1s
PLCA Paso Flores 36.34 122 P **P 11 06 27.2 +1.6**
NNA Nana 36.65 71 LR LR 11 17 27.8
comp=Z,262nm,20.0s,baz=230,slow=30
ATAH Atahualpa 38.08 63 LR LR 11 18 26.4
comp=Z,298nm,18.8s,baz=243,slow=30
ARNL Arenillas 39.05 57 P **P 11 06 50.2 +1.4**
LVC Limon Verde 39.34 92 LR LR 11 16 58.4
comp=Z,48nm,21.6s,baz=249,slow=27
BOSC San Juan Bosco 40.49 59 P **P 11 07 00.9 0.0**
CHSH Refugio Sur-Vo 41.31 56 P **P 11 07 09.0 +0.9**
CHSH IAmb IAmb 11 07 17.4
comp=Z,16nm,1.0s
PORT Chimborazo Vol 41.40 56 P **P 11 07 10.1 +1.3**
SLOR San Lorenzo - 42.10 56 P **P 11 07 15.6 +1.2**
LPAZ La Paz 42.22 84 P **P 11 07 14.8 -0.9**
comp=Z,4.5nm,1.1s,baz=270,slow=6.6,SNR=7.3
LPAZ LR LR 11 20 54.8
comp=Z,222nm,20.0s,baz=233,slow=31
comp=Z,4.5nm,1.1s
LPAZ La Paz 42.22 84 P **P 11 07 15.8 +0.1**
CZSB Cruzeiro do Su 42.35 69 P **P 11 07 16.7 +0.7**
CZSB IAmb IAmb 11 07 19.2
comp=Z,19nm,1.0s
OTAV Otavalo 42.79 55 P **P 11 07 20.6 +0.5**
TRQA Tornquist 42.85 117 P **P 11 07 19.4 -0.4**
RAR Rarotonga 43.58 268 LR LR 11 21 51.1
comp=Z,172nm,19.0s,baz=216,slow=31
ETMB Extrema 46.77 77 P **P 11 07 50.9 -0.4**
ETMB IAmb IAmb 11 07 52.7
comp=Z,6.9nm,1.2s
TLIG Tlapa 47.12 18 P **P 11 07 54.6 +0.6**
HUEH Huehuetenango 47.45 28 P **P 11 07 57.0 +0.3**
ACON Acoyapa 47.53 37 P **P 11 07 57.8 +0.7**
ACON IAmb IAmb 11 08 00.3
comp=Z,15nm,1.2s
MTO3 Montecristo 47.55 31 P **P 11 07 58.2 +0.7**
PMSA Palmer Station 47.61 154 LR LR 11 22 09.6
comp=Z,143nm,21.9s,baz=191,slow=29
PMSA Palmer Station 47.61 154 P **P 11 07 57.1 0.0**
PMSA IAmb IAmb 11 08 02.2
comp=Z,17nm,0.9s
CMIG Matias Romero 47.80 23 LR LR 11 23 19.2
comp=Z,64nm,20.7s,baz=198,slow=30
MATN Matagalpa 47.94 36 P **P 11 08 01.0 +0.6**
TGUH Tegucigalpa,Un 48.23 33 P **P 11 08 03.1 +0.4**
CPUP Villa Florida 48.50 102 P **P 11 08 04.6 0.0**
comp=Z,4.0nm,1.0s,baz=268,slow=7.1,SNR=4.7
CPUP LR LR 11 24 38.2
comp=Z,55nm,20.4s,baz=225,slow=31
comp=Z,4.0nm,1.0s
CPUP Villa Florida 48.50 102 P **P 11 08 04.8 +0.2**
SIV San Ignacio 48.56 87 LR LR 11 24 55.5
comp=Z,186nm,21.8s,baz=231,slow=32
ROSC El Rosal 48.94 54 LR LR 11 24 34.3
comp=Z,219nm,21.1s,baz=231,slow=31
PETF Flores 49.56 29 P **P 11 08 13.0 +0.3**
SAML Samuel 49.80 77 P **P 11 08 14.1 -0.6**
PTLB Pontes e Lacer 50.49 87 P **P 11 08 20.9 +1.0**
PTLB IAmb IAmb 11 08 22.3
comp=Z,5.8nm,1.1s
VILB Vilhena 50.58 84 P **P 11 08 20.6 -0.1**
VILB IAmb IAmb 11 08 28.6
comp=Z,16nm,1.3s
AQDB Aquidauana 51.68 95 P **P 11 08 28.7 -0.2**
SDV Santo Domingo 54.36 54 LR LR 11 27 34.2
comp=Z,136nm,21.7s,baz=256,slow=31
SDV Santo Domingo 54.36 54 P **P 11 08 48.1 -0.8**
HPIG 54.92 7 P **P 11 08 53.5 +0.9**
BAUV El Baul 56.27 56 P **P 11 09 02.0 -0.4**
BAUV IAmb IAmb 11 09 02.9
comp=Z,34nm,1.4s
HSIG 56.65 1 P **P 11 09 05.2 +0.4**
RAO Raoul Island 57.02 252 LR LR 11 31 50.3
comp=Z,46nm,18.3s,baz=104,slow=34
833A Chaparral WMA, 57.27 13 P **P 11 09 09.8 +0.5**
833A IAmb IAmb 11 09 12.0
comp=Z,22nm,1.0s
833A Chaparral WMA, 57.27 13 P **P 11 09 10.5 +1.3**
baz=193,SNR=11
833A Chaparral WMA, 57.27 13 P **P 11 09 09.7 +0.5**
baz=193,SNR=11
TX31 Lajitas Ar. Si 57.53 9 P **P 11 09 11.5 +0.3**
TX31 IAmb IAmb 11 09 13.3
comp=Z,23nm,1.3s
TX31 Lajitas Ar. Si 57.53 9 P **P 11 09 11.7 +0.5**
baz=189,SNR=6.1
TX32 Lajitas Array 57.53 9 P **P 11 09 11.9 +0.7**
TXAR Lajitas Array 57.53 9 P **P 11 09 11.1 -0.1**
comp=Z,2.9nm,1.1s,baz=186,slow=10,SNR=15
comp=Z,2.9nm,1.1s
TXAR Lajitas Array 57.53 9 P **P 11 09 11.5 +0.3**
BOAV Boa Vista 58.06 67 P **P 11 09 15.2 0.0**
BOAV IAmb IAmb 11 09 16.8
comp=Z,10nm,1.0s
319A Douglas 59.05 3 P **P 11 09 22.8 +1.0**
319A IAmb IAmb 11 09 24.0
comp=Z,18nm,1.1s
JCT Junction City 59.29 12 P **P 11 09 24.0 +0.7**
JCT Junction City 59.29 12 P **P 11 09 24.4 +1.1**
baz=193,SNR=21
JCT Junction City 59.29 12 P **P 11 09 24.0 +0.7**
baz=193,SNR=21
214A Organ Pipe Nat 59.57 359 P **P 11 09 26.2 +0.9**
214A IAmb IAmb 11 09 27.5
comp=Z,12nm,1.1s
214A Organ Pipe Nat 59.57 359 P **P 11 09 25.8 +0.5**
baz=179
PCRV Puerto La Cruz 59.60 57 LR LR 11 32 17.1
comp=Z,150nm,20.4s,slow=33
HKT Hockley 59.65 16 P **P 11 09 26.3 +0.6**
MNTX Cornudas Mount 59.66 7 P **P 11 09 26.2 +0.4**
MNTX Cornudas Mount 59.66 7 P **P 11 09 26.3 +0.4**
baz=187,SNR=8.8
MNTX Cornudas Mount 59.66 7 P **P 11 09 25.7 -0.2**
baz=187,SNR=8.8
TUC Tucson 59.93 1 P **P 11 09 28.7 +0.9**
TUC Tucson 59.93 1 P **P 11 09 28.5 +0.7**
baz=181
435B Jarrell 60.04 15 P **P 11 09 28.9 +0.5**
baz=195
BELA Belgrano 2 60.27 166 P **P 11 09 30.0 +0.4**
BELA IAmb IAmb 11 09 32.3
comp=Z,16nm,1.3s
121A Cookes Peak, D 60.29 4 IAmb IAmb 11 09 32.5
comp=Z,12nm,1.1s
121A Cookes Peak, D 60.29 4 P **P 11 09 31.1 +0.8**
baz=184,SNR=6.1
121A Cookes Peak, D 60.29 4 P **P 11 09 31.3 +1.0**
baz=184,SNR=6.1
YUH Yuha Desert 60.36 356 IAmb IAmb 11 09 32.8
comp=Z,18nm,1.4s
IKP In-Ko-Pah, Jac 60.37 356 P **P 11 09 31.4 +0.6**
baz=176
CLN7 Carlsbad 7 60.55 8 P **P 11 09 32.1 +0.1**
MONP2 Monument Peak 60.63 356 P **P 11 09 33.4 +0.7**
baz=176
SWSC Sam W. Stewart 60.65 357 P **P 11 09 33.2 +0.6**
baz=176
109C Camp Elliot, M 60.68 355 P **P 11 09 33.3 +0.5**
baz=175
GLA Glamis 60.71 357 P **P 11 09 34.2 +1.1**
GLA Glamis 60.71 357 P **P 11 09 33.7 +0.7**
baz=177
SBA Scott Base 61.01 194 P **P 11 09 35.3 +0.8**
WHTX Lake Whitney, 61.23 14 P **P 11 09 37.5 +0.9**
WHTX Lake Whitney, 61.23 14 P **P 11 09 37.3 +0.8**
baz=195
WHTX Lake Whitney, 61.23 14 P **P 11 09 36.7 +0.1**
baz=195
CIS Catalina Islan 61.29 354 P **P 11 09 37.5 +0.5**
baz=174
BC3 Big Chuckawall 61.34 357 P **P 11 09 38.5 +1.1**
baz=177,SNR=9.3
TPFO Pinon Flats 61.34 356 P **P 11 09 37.4 -0.1**
baz=176
PFO Pinyon Flats O 61.35 356 P **P 11 09 38.1 +0.6**
baz=176
BLYC Blythe 61.40 358 IAmb IAmb 11 09 39.9
comp=Z,14nm,1.2s
ABTX Abilene, Hawle 61.40 12 P **P 11 09 37.8 +0.1**
ABTX Abilene, Hawle 61.40 12 P **P 11 09 37.9 +0.1**
baz=192
NATX Nacogdoches 61.67 17 P **P 11 09 40.4 +0.9**
baz=198
BELC Belle Mtn. Jos 61.71 356 P **P 11 09 41.1 +1.1**
baz=176,SNR=8.9
Y22A Socorro 61.74 5 P **P 11 09 41.3 +1.1**
baz=185,SNR=12
SBM South Baldy 61.76 5 P **P 11 09 40.5 -0.1**
IRM Iron Mountain 61.83 357 P **P 11 09 41.5 +0.9**
baz=177,SNR=6.9
Y22D IRIS PASSCAL I 61.88 5 P **P 11 09 42.5 +1.4**
Y22D IRIS PASSCAL I 61.88 5 P **P 11 09 43.2 +2.1**
baz=185
Y22D IRIS PASSCAL I 61.88 5 P **P 11 09 42.1 +1.0**
baz=185
PDMCI Parker Dam,Lak 61.94 358 P **P 11 09 41.4 +0.2**
baz=178
BBRC Big Bear Solar 62.03 356 P **P 11 09 42.9 +0.7**
baz=175
PASC Pasadena Art C 62.04 354 P **P 11 09 42.9 +0.9**
PASC IAmb IAmb 11 09 44.0
comp=Z,21nm,1.6s
BFSC Mount Baldy Ra 62.06 355 P **P 11 09 42.8 +0.6**
baz=174
VNDA Vanda 62.06 194 P **P 11 09 42.5 +0.8**
comp=Z,2.0nm,1.1s,baz=85,slow=6.2,SNR=4.3
VNDA LR LR 11 31 01.5
comp=Z,42nm,19.8s,baz=110,slow=31
comp=Z,2.0nm,1.1s
VNDA Vanda 62.06 194 P **P 11 09 42.2 +0.5**
RPZ Rata Peaks 62.10 233 LR LR 11 30 50.0
comp=Z,118nm,19.9s,baz=108,slow=30
X18A Snowflake 62.17 2 P **P 11 09 43.5 +0.5**
X18A IAmb IAmb 11 09 45.4
comp=Z,18nm,1.2s
MSTX Muleshoe 62.22 9 P **P 11 09 43.5 +0.2**
MSTX Muleshoe 62.22 9 P **P 11 09 43.5 +0.2**
baz=189,SNR=16
MSTX Muleshoe 62.22 9 P **P 11 09 43.2 -0.1**
baz=189,SNR=16
QSPA South Pole Qui 62.23 180 P **P 11 09 42.5 -0.7**
QSPA IAmb IAmb 11 09 46.2
comp=Z,21nm,1.2s
NEE2 Needles Airpor 62.41 358 P **P 11 09 45.1 +0.6**
baz=178
GMRC Granite Mounta 62.47 357 P **P 11 09 46.3 +1.3**
baz=176,SNR=8.0
Z35A Perchaven, San 62.56 14 IAmb IAmb 11 09 46.8
comp=Z,24nm,1.2s
W13A Hualapai Mount 62.72 358 IAmb IAmb 11 09 49.1
comp=Z,12nm,1.5s
EDW2 Edwards Air Fo 62.72 355 P **P 11 09 47.2 +0.5**
baz=174
ANMO Albuquerque 62.78 5 P **P 11 09 47.7 +0.6**
ANMO Albuquerque 62.78 5 P **P 11 09 47.8 +0.6**
baz=186,SNR=6.1
ANMO Albuquerque 62.78 5 P **P 11 09 48.0 +0.8**
baz=186
PKM Mcpherson Peak 62.91 353 P **P 11 09 49.8 +1.8**
baz=172
Z38A Mt. Pleasant 63.02 16 P **P 11 09 49.6 +1.1**
baz=197
DWPF Disney Wildern 63.05 30 P **P 11 09 50.2 +1.3**
baz=210
GSC Goldstone, Bar 63.05 356 P **P 11 09 49.8 +0.9**
GSC IAmb IAmb 11 09 51.1
comp=Z,20nm,1.4s
GSC Goldstone, Bar 63.05 356 P **P 11 09 49.7 +0.9**
baz=175,SNR=9.1
WUAZ Wupatki 63.12 1 P **P 11 09 50.0 +0.6**
baz=181
TUQ Turquoise Moun 63.14 357 P **P 11 09 50.0 +0.6**
baz=176
AMTX Amarillo 63.27 10 P **P 11 09 50.1 -0.2**
baz=190
SMMC Simmler 63.35 353 P **P 11 09 51.4 +0.7**
baz=172
ISA Isabella, Lake 63.54 354 IAmb IAmb 11 09 54.3
comp=Z,13nm,1.5s
ISA Isabella, Lake 63.54 354 P **P 11 09 52.8 +0.8**
baz=174
SHOC Shoshone, Teco 63.62 356 P **P 11 09 53.6 +1.1**
baz=176,SNR=6.3
WMOK Wichita Mounta 63.62 12 P **P 11 09 52.7 +0.2**
baz=193
VES Vestal, Richgr 63.77 354 P **P 11 09 54.4 +0.9**
baz=173
WTNK Soaring Height 63.85 357 P **P 11 09 55.1 +1.1**
WTNK IAmb IAmb 11 09 55.5
comp=Z,1.2nm,0.9s
MPMC Manual Prospec 63.85 355 P **P 11 09 55.2 +0.9**
baz=175,SNR=15
SJG San Juan 63.89 50 LR LR 11 32 56.2
comp=Z,39nm,19.9s,baz=222,slow=32
GWY Greenwater Val 63.92 356 IAmb IAmb 11 09 56.8
comp=Z,18nm,1.4s
U15A North Rim 64.03 360 IAmb IAmb 11 09 57.8
comp=Z,15nm,1.2s
SHPR Sheep Range 64.17 357 IAmb IAmb 11 09 58.9
comp=Z,22nm,1.3s
FURC Furnace Creek, 64.22 356 P **P 11 09 57.5 +1.1**
baz=175
CWC Cottonwood Cre 64.28 355 P **P 11 09 57.3 +0.3**
baz=174
WCT Wildcat Mounta 64.53 356 IAmb IAmb 11 10 01.3
comp=Z,23nm,1.4s
MIAR Mount Ida 64.60 17 P **P 11 09 59.4 +0.5**
baz=198
MIAR Mount Ida 64.60 17 P **P 11 09 59.0 +0.1**
baz=198
KNB Kanab 64.62 359 IAmb IAmb 11 10 01.5
comp=Z,16nm,1.4s
TPNV Topopah Spring 64.66 356 IAmb IAmb 11 10 02.3
comp=Z,9.9nm,1.0s
TPNV Topopah Spring 64.66 356 P **P 11 10 00.9 +1.4**
baz=176
OK025 Westminster Rd 64.72 13 IAmb IAmb 11 10 01.3
comp=Z,14nm,1.0s
BCOK Bluff Creek, N 64.74 13 IAmb IAmb 11 10 02.1
comp=Z,18nm,1.1s
GRAC Grapevine Rang 64.78 355 IAmb IAmb 11 10 02.7
comp=Z,27nm,1.4s
GRAC Grapevine Rang 64.78 355 P **P 11 10 01.2 +1.1**
baz=175,SNR=7.0
ELIS Ellis County 64.79 11 IAmb IAmb 11 10 02.9
comp=Z,21nm,1.1s
MVCO Mesa Verde 64.90 3 IAmb IAmb 11 10 03.6
comp=Z,22nm,1.1s
MVCO Mesa Verde 64.90 3 P **P 11 10 01.6 +0.4**
baz=184,SNR=14
PRN Pahroc Range 65.06 357 IAmb IAmb 11 10 04.8
comp=Z,14nm,1.3s
GMN Gold Mountain 65.07 356 IAmb IAmb 11 10 04.6
comp=Z,14nm,1.4s
T25A Trinidad 65.15 7 P **P 11 10 03.3 +0.6**
baz=188
CCUT Cedar City 65.16 359 IAmb IAmb 11 10 05.4
comp=Z,22nm,1.4s
LRAL Lakeview Retre 65.19 23 P **P 11 10 03.0 +0.2**
baz=204
DSP Deep Springs 65.19 355 IAmb IAmb 11 10 05.4
comp=Z,19nm,1.3s
SZCU Shurtz Canyon 65.20 359 IAmb IAmb 11 10 05.5
comp=Z,22nm,1.7s
OK038 West end E0370 65.31 12 IAmb IAmb 11 10 04.1
comp=Z,16nm,0.9s
S11A Rachel 65.33 357 IAmb IAmb 11 10 06.7
comp=Z,24nm,1.2s
TUL1 Leonard 65.36 15 IAmb IAmb 11 10 05.0
comp=Z,21nm,1.1s
TUL1 Leonard 65.36 15 P **P 11 10 04.6 +0.7**
baz=196
TUL1 Leonard 65.36 15 P **P 11 10 03.8 -0.1**
baz=196,SNR=5.4
MZP Montezuma Peak 65.48 355 IAmb IAmb 11 10 07.3
comp=Z,17nm,1.3s
S22A 4UR Ranch, Cre 65.54 5 IAmb IAmb 11 10 07.2
comp=Z,10nm,1.1s
S22A 4UR Ranch, Cre 65.54 5 P **P 11 10 05.9 +0.5**
baz=185,SNR=9.4
SDCO Great Sand Dun 65.64 6 IAmb IAmb 11 10 07.7
comp=Z,12nm,1.2s
SDCO Great Sand Dun 65.64 6 P **P 11 10 06.8 +0.8**
baz=186,SNR=7.9
SDCO Great Sand Dun 65.64 6 P **P 11 10 06.4 +0.4**
baz=186,SNR=7.9
OXF Oxford 65.75 21 P **P 11 10 06.8 +0.4**
baz=202
R11A Troy Canyon, C 66.02 357 P **P 11 10 09.1 +0.7**
baz=177,SNR=5.5
MDP Montagnes des 66.08 70 LR LR 11 35 32.2
comp=Z,115nm,20.4s,baz=212,slow=33
CMB Columbia Colle 66.08 353 IAmb IAmb 11 10 10.6
comp=Z,18nm,1.4s
PV23 Carpenter Ridg 66.11 3 IAmb IAmb 11 10 10.6
comp=Z,20nm,1.1s
PV07 Paradox Valley 66.12 3 IAmb IAmb 11 10 10.3
comp=Z,8.9nm,1.1s
HHAR Hobbs 66.15 16 IAmb IAmb 11 10 10.2
comp=Z,18nm,1.3s
HHAR Hobbs 66.15 16 P **P 11 10 09.3 +0.3**
baz=198
T35A Sooner Cattle 66.18 14 IAmb IAmb 11 10 11.0
comp=Z,10nm,1.0s
T35B Sooner Cattle 66.18 14 P **P 11 10 10.1 +1.0**
baz=195
U38A Gravette 66.20 16 P **P 11 10 09.3 0.0**
baz=197
NVAR Mina Array Bea 66.27 355 P **P 11 10 10.8 +0.8**
comp=Z,15nm,1.1s,baz=180,slow=8.7,SNR=63
comp=Z,15nm,1.1s
RYN Ryan 66.49 355 IAmb IAmb 11 10 13.8
comp=Z,18nm,1.4s
Q16A Castle Valley 66.52 1 IAmb IAmb 11 10 13.3
comp=Z,29nm,1.5s
SPR3 Spring Creek 3 66.62 358 IAmb IAmb 11 10 13.9
comp=Z,17nm,1.4s
SRU San Rafael Swe 66.72 1 IAmb IAmb 11 10 14.1
comp=Z,18nm,1.0s
GOGA Godfrey 66.83 26 P **P 11 10 13.5 +0.2**
baz=207
TMUT Trail Mountain 66.90 1 IAmb IAmb 11 10 15.9
comp=Z,22nm,1.5s
YERR Yerington 66.91 354 IAmb IAmb 11 10 16.4
comp=Z,20nm,1.2s
SMCO Snowmass 66.95 4 IAmb IAmb 11 10 16.2
comp=Z,10.0nm,1.1s
PNTR Pine Nut 67.04 354 P **P 11 10 15.5 +0.6**
PNTR IAmb IAmb 11 10 17.2
comp=Z,16nm,1.1s
AFDM Forest Hills D 67.05 353 P **P 11 10 14.4 -0.2**
AFDM IAmb IAmb 11 10 16.7
comp=Z,14nm,1.2s
P17A Butcher Ranch, 67.08 1 IAmb IAmb 11 10 17.2
comp=Z,21nm,1.1s
KSCO Kaye Shedlock' 67.20 8 P **P 11 10 16.8 +1.1**
baz=189
KSCO Kaye Shedlock' 67.20 8 P **P 11 10 16.5 +0.8**
baz=189
R32A Long Quarter, 67.21 11 IAmb IAmb 11 10 19.0
comp=Z,14nm,1.0s
R32A Long Quarter, 67.21 11 P **P 11 10 16.6 +0.9**
baz=193
MGMO Mountain Grove 67.40 17 IAmb IAmb 11 10 19.2
comp=Z,22nm,1.4s
CBKS Cedar Bluff 67.42 11 P **P 11 10 17.2 +0.1**
baz=192
NLU North Lily Min 67.55 0 IAmb IAmb 11 10 20.1
comp=Z,14nm,1.2s
MPU Maple Canyon 67.61 0 IAmb IAmb 11 10 20.3
comp=Z,14nm,1.3s
PAHR Pah Rah Range 67.63 354 IAmb IAmb 11 10 20.8
comp=Z,11nm,1.2s
ISCO Idaho Springs 67.67 5 P **P 11 10 19.2 +0.3**
ISCO Idaho Springs 67.67 5 P **P 11 10 19.2 +0.3**
baz=186
V48A Smith Brothers 67.71 22 P **P 11 10 18.6 -0.3**
VNA3 Neumayer Olymp 67.73 160 P **P 11 10 18.3 -0.4**
DUG Dugway, Tooele 67.79 359 IAmb IAmb 11 10 21.6
comp=Z,15nm,1.4s
DUG Dugway, Tooele 67.79 359 P **P 11 10 19.7 +0.2**
baz=179
O20A White River Ci 67.83 3 IAmb IAmb 11 10 20.9
comp=Z,21nm,1.6s
O20A White River Ci 67.83 3 P **P 11 10 20.2 +0.4**
baz=184
NHSC New Hope 67.90 29 P **P 11 10 19.4 -0.7**
baz=210
KSU1 Kansas State U 68.26 13 IAmb IAmb 11 10 23.8
comp=Z,16nm,0.9s
KSU1 Kansas State U 68.26 13 P **P 11 10 23.2 +0.9**
baz=195
KSU1 Kansas State U 68.26 13 P **P 11 10 22.5 +0.2**
baz=195
CTU Camp Tracy 68.29 0 IAmb IAmb 11 10 24.3
comp=Z,15nm,1.1s
VNA1 Neumayer--Stat 68.38 160 P **P 11 10 22.6 -0.1**
R40A daddies Statio 68.47 17 IAmb IAmb 11 10 25.5
comp=Z,20nm,1.4s
CCM Cathedral Cave 68.52 18 P **P 11 10 23.7 -0.2**
CCM Cathedral Cave 68.52 18 P **P 11 10 24.4 +0.5**
baz=200
CCM Cathedral Cave 68.52 18 P **P 11 10 23.7 -0.2**
baz=200
VNA2 Neumayer--Watz 68.53 160 P **P 11 10 23.6 -0.2**
baz=284,slow=5.0
PLTX Planet X, Gerl 68.63 354 P **P 11 10 25.5 +0.8**
PLTX IAmb IAmb 11 10 31.8
comp=Z,14nm,0.6s
TKL Tuckaleechee C 68.70 25 LR LR 11 37 00.5
comp=Z,56nm,19.5s,baz=184,slow=33
TCUT Toone Canyon 68.71 1 P **P 11 10 26.2 +0.8**
TCUT IAmb IAmb 11 10 27.6
comp=Z,18nm,1.2s
N23A Red Feather La 68.73 5 IAmb IAmb 11 10 27.4
comp=Z,14nm,1.1s
N23A Red Feather La 68.73 5 P **P 11 10 26.1 +0.5**
baz=186,SNR=6.2
S44A Carbondale 68.74 19 IAmb IAmb 11 10 27.5
comp=Z,15nm,0.9s
KMSC Kings Mountain 69.18 27 P **P 11 10 27.7 -0.4**
baz=209
HWUT Hardware Ranch 69.20 0 P **P 11 10 28.7 +0.4**
SNAA Sanae 69.55 161 P **P 11 10 29.7 -0.4**
SNAA Sanae 69.55 161 P **P 11 10 29.9 -0.2**
SNAA IAmb IAmb 11 10 31.1
comp=Z,14nm,1.3s
V55A Taylorsville 69.85 26 P **P 11 10 32.8 +0.6**
baz=209
V55A P **P 11 10 32.8 +0.6**
baz=209
MOD Modoc Plateau 69.90 354 IAmb IAmb 11 10 35.3
comp=Z,25nm,1.1s
Q44A Meyer Farm, Va 69.93 19 P **P 11 10 33.6 +0.9**
baz=202
YBH Yreka Blue Hor 70.00 352 LR LR 11 36 38.3
comp=Z,83nm,18.6s,baz=235,slow=32
YBH Yreka Blue Hor 70.00 352 IAmb IAmb 11 10 33.9
comp=Z,12nm,1.2s
WVOR Wild Horse Val 70.28 355 IAmb IAmb 11 10 37.3
comp=Z,25nm,1.1s
AHID Auburn Hatcher 70.36 1 IAmb IAmb 11 10 36.1
comp=Z,23nm,1.4s
BW06 Boulder Array 70.40 2 IAmb IAmb 11 10 37.1
comp=Z,21nm,1.4s
BW06 Boulder Array 70.40 2 P **P 11 10 35.1 -0.6**
baz=182,SNR=11
PD31 Pinedale Array 70.40 2 IAmb IAmb 11 10 37.1
comp=Z,20nm,1.4s
PDAR Pinedale Array 70.40 2 P **P 11 10 35.1 -0.7**
comp=Z,2.7nm,0.6s,baz=165,slow=6.2,SNR=29
comp=Z,2.7nm,0.6s
L04D Klamath Falls 70.43 352 IAmb IAmb 11 10 37.4
comp=Z,23nm,1.0s
L04D Klamath Falls 70.43 352 P **P 11 10 35.8 0.0**
baz=170
K22A Casper 70.44 4 P **P 11 10 36.5 +0.6**
baz=185,SNR=9.1
K22A Casper 70.44 4 P **P 11 10 36.0 +0.1**
baz=185,SNR=9.1
L02F Cave Junction 70.50 351 P **P 11 10 36.5 +0.4**
baz=169
CNNC Cliffs of the 70.70 29 P **P 11 10 37.2 -0.2**
baz=212
TROLL Troll, Antarti 70.85 163 P **P 11 10 38.4 +0.2**
HUMO Hull Mountain 70.90 352 IAmb IAmb 11 10 41.0
comp=Z,21nm,1.2s
REDW Red Top Meadow 70.96 1 IAmb IAmb 11 10 40.2
comp=Z,20nm,1.4s
SNOW Snow King Moun 71.06 1 IAmb IAmb 11 10 40.9
comp=Z,28nm,1.6s
K02D Willamette Mer 71.08 351 P **P 11 10 40.3 +0.6**
baz=169,SNR=5.4

MFID	**Camas Ranch** comp=Z,14nm,1.1s	71.08	357	IAmb	IAmb	11 10 42.1		
TPAW	**Teton Pass** comp=Z,13nm,0.9s	71.09	1	IAmb	IAmb	11 10 40.1		
HLID	**Hailey** baz=178,SNR=36	71.18	358	P	P	**11 10 41.1**	**+0.6**	
LOHW	**Long Hollow** comp=Z,17nm,1.3s	71.22	1	IAmb	IAmb	11 10 41.7		
FXWY	**Fox Creek** comp=Z,17nm,1.2s	71.24	1	IAmb	IAmb	11 10 42.7		
BLA	**Blacksburg** baz=209	71.35	26	P	P	**11 10 41.1**	**-0.4**	
J05D	**Fort Rock, OR** baz=172,SNR=18	71.36	353	P	P	**11 10 42.0**	**+0.5**	
HDIL	**Hopedale** baz=201	71.39	18	P	P	**11 10 42.3**	**+0.7**	
DBO	**Dodson Butte** comp=Z,24nm,1.4s	71.44	351	IAmb	IAmb	11 10 44.0		
IMW	**Indian Meadow** comp=Z,22nm,1.4s	71.50	1	IAmb	IAmb	11 10 43.5		
J01E	**Myrtle Point** baz=169	71.57	351	P	P	**11 10 43.6**	**+1.1**	
P49A	**Miami Univ. Ec** baz=205	71.85	22	P	P	**11 10 44.3**	**0.0**	
I04A	**Tendick Farm,** baz=170,SNR=5.9	72.00	352	P	P	**11 10 45.5**	**+0.3**	
H17A	**Grant Village** baz=181	72.00	1	P	P	**11 10 45.7**	**+0.2**	
I03D	**Drain, OR** baz=170	72.02	352	P	P	**11 10 46.0**	**+0.8**	
RSSD	**Black Hills**	72.10	6	P	P	**11 10 45.9**	**0.0**	
RSSD	comp=Z,17nm,1.3s			IAmb	IAmb	11 10 47.2		
RSSD	**Black Hills** baz=188	72.10	6	P	P	**11 10 46.4**	**+0.4**	
RSSD	**Black Hills** baz=188	72.10	6	P	P	**11 10 46.0**	**0.0**	
Q52A	**Bidwell**	72.19	24	P	P	**11 10 47.3**	**+0.9**	
YMR	**Madison River** comp=Z,19nm,1.1s	72.27	1	IAmb	IAmb	11 10 48.8		
L40A	**Anamosa** baz=199	72.30	16	P	P	**11 10 48.1**	**+1.2**	
I05D	**Terrebonne, OR** baz=172,SNR=15	72.42	353	P	P	**11 10 48.6**	**+0.9**	
YHL	**Hebgen Lake** comp=Z,16nm,1.1s	72.45	1	IAmb	IAmb	11 10 50.1		
I02E	**Swisshome, OR** baz=169	72.49	351	P	P	**11 10 48.5**	**+0.5**	
BMO	**Blue Mountains** comp=Z,18nm,1.1s	72.59	356	IAmb	IAmb	11 10 50.6		
DZM	**Mont Dzumac** comp=Z,202nm,23.9s	72.71	254	*e*LR	LR	11 33 04.5		
DZM	**Mont Dzumac** comp=Z,96nm,19.8s,baz=46,slow=32	72.71	254	LR	LR	11 38 13.7		
ECSD	**EROS Data Cent** comp=Z,20nm,1.5s	72.74	12	IAmb	IAmb	11 10 51.0		
ECSD	**EROS Data Cent** baz=194	72.74	12	P	P	**11 10 49.5**	**-0.1**	
H04D	**Lebanon** baz=170	72.76	352	P	P	**11 10 50.1**	**+0.5**	
PLID	**Pearl Lake** comp=Z,15nm,1.1s	72.76	357	IAmb	IAmb	11 10 51.3		
RLMT	**Red Lodge** comp=Z,15nm,1.4s	72.76	2	IAmb	IAmb	11 10 51.0		
RLMT	**Red Lodge** baz=183,SNR=6.2	72.76	2	P	P	**11 10 49.9**	**0.0**	
P52A	**Corning** baz=208	72.83	24	P	P	**11 10 49.9**	**-0.3**	
H04A	**Detroit Lake** comp=Z,20nm,1.1s	72.85	353	IAmb	IAmb	11 10 51.5		
COR	**Corvallis**	72.89	352	P	P	**11 10 51.8**	**+1.5**	
SUSD	**Miller** baz=192	73.04	10	P	P	**11 10 51.4**	**0.0**	
ACSO	**Alum Creek Sta** baz=207	73.06	23	P	P	**11 10 51.2**	**-0.4**	
BOZ	**Bozeman (W)** baz=180,SNR=9.0	73.19	0	P	P	**11 10 52.6**	**+0.2**	
G05D	**Wamic, OR** baz=172,SNR=6.7	73.31	353	P	P	**11 10 53.1**	**+0.2**	
O52A	**Adamsville** baz=208,SNR=5.2	73.36	24	P	P	**11 10 53.9**	**+0.6**	
O52A	baz=208,SNR=5.2			P	P	**11 10 53.9**	**+0.6**	
HOOD	**Mount Hood Mea** comp=Z,26nm,1.1s	73.42	353	IAmb	IAmb	11 10 55.3		
I37A	**Lemond, Waseca** comp=Z,33nm,1.3s	73.65	14	IAmb	IAmb	11 10 57.5		
O53A	**New Philadelph** baz=208	73.70	24	P	P	**11 10 55.5**	**+0.1**	
F07A	**Phinny Hill Vi** comp=Z,29nm,1.2s	73.82	354	IAmb	IAmb	11 10 58.8		
HAWA	**Hanford** comp=Z,21nm,1.3s	74.28	355	IAmb	IAmb	11 11 00.7		
MSO	**Missoula** baz=178,SNR=14	74.44	359	P	P	**11 11 00.0**	**+0.4**	
LAO	**LASA Array** baz=185	74.47	4	P	P	**11 10 59.6**	**-0.2**	
E03A	**Lebam** comp=Z,23nm,0.9s	74.85	352	IAmb	IAmb	11 11 04.8		
SPMN	**Marine on St.** baz=198	74.93	14	P	P	**11 11 02.6**	**+0.3**	
M53A	**Wl Miller and** baz=208	74.94	24	P	P	**11 11 02.7**	**+0.1**	
RCBR	**Riachuelo** comp=Z,94nm,18.3s,baz=322,slow=33	75.18	89	LR	LR	11 41 03.1		
F36A	**Milaca** comp=Z,14nm,1.1s	75.39	13	IAmb	IAmb	11 11 06.7		
F36A	**Milaca** baz=197,SNR=5.4	75.39	13	P	P	**11 11 05.2**	**+0.2**	
G40A	**Rib Lake** comp=Z,34nm,1.3s	75.56	16	IAmb	IAmb	11 11 08.6		
G40A	**Rib Lake** baz=200,SNR=6.6	75.56	16	P	P	**11 11 06.7**	**+0.7**	
C09A	**Chrisman Ranch** comp=Z,30nm,1.1s	75.59	356	IAmb	IAmb	11 11 08.8		
EGMT	**Eagleton** baz=182,SNR=8.1	75.65	2	P	P	**11 11 07.4**	**+0.8**	
ERPA	**Erie** baz=209	75.78	24	P	P	**11 11 07.2**	**-0.1**	
NEW	**Newport** baz=175,SNR=25	75.98	357	P	P	**11 11 09.1**	**+0.6**	
B08A	**Colville Reser** comp=Z,14nm,1.2s	76.22	355	IAmb	IAmb	11 11 10.9		
DGMT	**Dagmar** baz=187,SNR=10	76.40	5	P	P	**11 11 11.6**	**+0.9**	
DGMT	**Dagmar** baz=187,SNR=10	76.40	5	P	P	**11 11 11.3**	**+0.6**	
WALA	**Waterton Lakes**	76.67	359	P	P	**11 11 13.3**	**+0.9**	
WALA	comp=Z,11nm,1.1s			IAmb	IAmb	11 11 14.8		
PGC	**Sidney**	76.91	352	P	P	**11 11 14.3**	**+0.8**	
PAL	**Palisades** baz=214	77.23	29	P	P	**11 11 15.3**	**-0.3**	
AGMN	**Agassiz Nation** comp=Z,15nm,1.3s	77.29	11	IAmb	IAmb	11 11 17.5		
AGMN	**Agassiz Nation** baz=195	77.29	11	P	P	**11 11 15.7**	**0.0**	
B35A	**Bob, Littlefor** baz=197	77.74	12	P	P	**11 11 18.6**	**+0.4**	
E46A	**Sault Ste Mari** comp=Z,18nm,1.1s	78.16	19	IAmb	IAmb	11 11 23.3		
DELO	**Deloro Mine** comp=Z,18nm,1.3s	78.73	24	IAmb	IAmb	11 11 29.8		
ULM	**Lac du Bonnet** comp=Z,11nm,1.1s,baz=170,slow=6.8,SNR=4.8 comp=Z,11nm,1.1s	79.18	11	P	P	**11 11 26.0**	**-0.2**	
LONY	**Lake Ozonia** baz=213	79.96	26	P	P	**11 11 30.6**	**+0.1**	
TRQ	**Mont Tremblant**	81.31	25	P	P	**11 11 38.0**	**+0.1**	
TRQ	comp=Z,18nm,1.1s			IAmb	IAmb	11 11 40.0		
E62A	**Clayton Lake** comp=Z,24nm,1.4s	83.64	28	IAmb	IAmb	11 11 51.5		
V35K	**Ketchikan** baz=163,SNR=7.9	84.59	349	P	P	**11 11 54.8**	**+0.3**	
WRAK	**Wrangell Islan** baz=162	85.76	349	P	P	**11 12 00.4**	**+0.1**	
T35M	**Bob Quinn** baz=164	85.96	350	P	P	**11 12 01.7**	**+0.3**	
SIT	**Sitka** baz=160	86.90	348	P	P	**11 12 06.5**	**+0.6**	
S34M	**Telegraph Cree** baz=163,SNR=8.8	86.99	350	P	P	**11 12 06.8**	**+0.4**	
DLBC	**Dease Lake** baz=164,SNR=23	87.33	351	P	P	**11 12 08.2**	**+0.1**	
R32K	**Eaglecrest** baz=160	87.90	348	P	P	**11 12 11.1**	**+0.4**	
R33M	**Jennings River**	88.39	351	P	P	**11 12 13.4**	**+0.2**	
P32M	**Atlin** baz=161	89.00	349	P	P	**11 12 15.8**	**-0.2**	
P33M	**Teslin, Yukon** comp=Z,13nm,1.3s	89.45	350	IAmb	IAmb	11 12 19.1		
P33M	**Teslin, Yukon** baz=162,SNR=7.3	89.45	350	P	P	**11 12 18.0**	**-0.1**	
P30M	**Million Dollar** baz=158	90.07	348	P	P	**11 12 20.7**	**-0.3**	
YKA	**Yellowknife Ar** comp=Z,6.6nm,1.0s,baz=166,slow=5.7,SNR=5.5 comp=Z,6.6nm,1.0s	90.14	359	P	P	**11 12 20.8**	**-0.4**	
WHY	**Whitehorse** baz=160	90.21	349	P	P	**11 12 21.3**	**-0.4**	
N32M	**Quiet Lake** baz=162	90.39	350	P	P	**11 12 22.4**	**-0.1**	
O30N	**Mendenhall** baz=159	90.52	349	P	P	**11 12 22.7**	**-0.4**	
HYT	**Haines Junctio** baz=158	90.83	348	P	P	**11 12 23.8**	**-0.8**	
H11S2	**WAKE ISLAND Hy** baz=119,slow=75,SNR=16	90.98	290	T	T	12 52 52.9		
H11S1	**WAKE ISLAND Hy** baz=119,slow=75,SNR=18	91.00	290	T	T	12 53 03.1		
H11S3	**WAKE ISLAND Hy** baz=119,slow=75,SNR=18	91.00	290	T	T	12 53 04.8		
O28M	**Mount Upton** baz=155,SNR=5.5	91.30	347	P	P	**11 12 26.5**	**-0.5**	
H11N3	**WAKE ISLAND Hy** baz=115,slow=78,SNR=5.7	91.41	291	T	T	12 53 30.3		
H11N1	**WAKE ISLAND Hy** baz=115,slow=78,SNR=12	91.42	291	T	T	12 53 29.5		
H11N2	**WAKE ISLAND Hy** baz=115,slow=78,SNR=9.1	91.42	291	T	T	12 53 33.5		
FARO	**Faro, Yukon** baz=161	91.45	350	P	P	**11 12 27.4**	**0.0**	
MMPY	**Sheldon Lake,** baz=163	91.53	351	P	P	**11 12 27.3**	**-0.5**	
CTG	**Chitna Glacier** baz=154	91.72	346	P	P	**11 12 28.0**	**-0.7**	
M30M	**Minto, Yukon** baz=158	92.33	349	P	P	**11 12 31.0**	**-0.5**	
M27K	**Edge Creek, AK** baz=154	93.09	347	P	P	**11 12 34.1**	**-1.0**	
KLU	**Klutina** baz=150	93.21	345	P	P	**11 12 34.3**	**-1.3**	
K29M	**Barlow Dome** baz=158	93.64	349	P	P	**11 12 37.2**	**-0.4**	
SCM	**Sheep Creek Mo** baz=149	93.84	344	P	P	**11 12 37.8**	**-0.7**	
L26K	**Log Cabin Wild** baz=153	93.99	346	P	P	**11 12 39.0**	**-0.1**	
PMR	**Palmer** comp=Z,9.4nm,1.3s	94.08	343	IAmb	IAmb	11 12 40.0		
PMR	**Palmer** baz=148,SNR=6.0	94.08	343	P	P	**11 12 39.3**	**-0.1**	
P17K	**Kvichak River** baz=142	94.22	339	P	P	**11 12 40.1**	**0.0**	
SUA	**Susitna One** baz=146	94.40	343	P	P	**11 12 40.6**	**-0.5**	
PAX	**Paxson** baz=151	94.40	345	P	P	**11 12 40.1**	**-1.0**	
NIKH	**Nikolski High** baz=132	94.43	330	P	P	**11 12 40.3**	**-0.9**	
M22K	**Willow** baz=147	94.47	343	P	P	**11 12 40.9**	**-0.4**	
WAT6	**Susitna Watana** baz=149	94.59	344	P	P	**11 12 41.4**	**-0.6**	
K27K	**Chicken** baz=154	94.63	347	P	P	**11 12 41.8**	**-0.1**	
O17K	**Koliganek Bris** baz=141	94.88	339	P	P	**11 12 42.9**	**-0.2**	
N19K	**Bonanza Creek** baz=143	94.91	341	P	P	**11 12 42.9**	**-0.5**	
DHY	**Denali Highway** baz=149	94.93	345	P	P	**11 12 42.6**	**-1.0**	
RIDG	**Independent Ri** baz=151	94.94	346	P	P	**11 12 43.3**	**-0.1**	
SCRK	**Sand Creek** baz=152	94.97	347	P	P	**11 12 42.9**	**-0.8**	
SKT	**Skwentna** comp=Z,13nm,1.4s	95.03	343	IAmb	IAmb	11 12 44.2		
SKT	**Skwentna** baz=146,SNR=5.3	95.03	343	P	P	**11 12 42.8**	**-1.0**	
CUT	**Chulitna** baz=147	95.06	343	P	P	**11 12 44.0**	**+0.1**	
N18K	**Kilae Creek** baz=142	95.22	340	P	P	**11 12 44.9**	**+0.2**	
J26L	**Joseph Creek** baz=152	95.35	347	P	P	**11 12 44.7**	**-0.6**	
M20K	**Styx River** baz=144	95.39	342	P	P	**11 12 44.9**	**-0.7**	
RND	**Reindeer** comp=Z,7.0nm,1.3s	95.56	344	IAmb	IAmb	11 12 47.3		
J25K	**Salcha River,** comp=Z,8.9nm,1.3s	95.82	346	IAmb	IAmb	11 12 48.6		
J25K	**Salcha River,** baz=151	95.82	346	P	P	**11 12 46.9**	**-0.5**	
MCK	**McKinley** baz=148	95.86	344	P	P	**11 12 46.6**	**-0.9**	
EPYK	**Eagle Plains** baz=158	95.86	350	P	P	**11 12 46.4**	**-1.1**	
TRF	**Thorofare Moun** baz=147	95.94	344	P	P	**11 12 47.4**	**-0.8**	
N16K	**Nishlik Lake** baz=140	95.95	339	P	P	**11 12 47.1**	**-1.0**	
PPLA	**Purkeypile** baz=145	95.97	343	P	P	**11 12 47.2**	**-1.0**	
I27K	**Kandik River** baz=154	95.97	348	P	P	**11 12 47.4**	**-0.7**	
HDA	**Harding Lake** baz=150	95.98	346	P	P	**11 12 47.2**	**-0.9**	
I26K	**Coal Creek Min** baz=153	95.99	347	P	P	**11 12 46.8**	**-1.3**	
L20K	**Farewell, AK** baz=144	96.08	342	P	P	**11 12 48.1**	**-0.5**	
ILAR	**Eielson Array** comp=Z,0.6nm,0.9s,baz=172,slow=4.0,SNR=5.2 comp=Z,0.6nm,0.9s	96.28	346	P	P	**11 12 49.5**	**+0.1**	
CAST	**Castle Rocks** baz=145	96.37	343	P	P	**11 12 49.3**	**-0.6**	
CCB	**Clear Creek Bu** comp=Z,12nm,1.4s	96.38	345	IAmb	IAmb	11 12 49.8		
F31M	**Tsiigehtchic** baz=161	96.46	352	P	P	**11 12 48.8**	**-1.4**	
H27K	**Steamboat Moun** baz=154	96.52	348	P	P	**11 12 49.5**	**-1.1**	
PRP	**Porcupine Dome** baz=151	96.64	347	P	P	**11 12 51.2**	**-0.1**	
MDM	**Murphy Dome** comp=Z,9.0nm,1.2s	96.74	345	IAmb	IAmb	11 12 52.5		
INK	**Inuvik** baz=161	97.26	352	P	P	**11 12 53.1**	**-0.6**	
H25K	**Birch Creek** baz=150	97.36	347	P	Pdif	11 12 54.4	0.0	
MLY	**Manley** baz=146	97.38	345	P	P	**11 12 53.6**	**-0.8**	
ASAR	**Alice Springs** comp=Z,70nm,21.3s,baz=91,slow=31	98.20	238	LR	LR	11 49 57.4		
G23K	**Bananza Creek** baz=147	98.62	346	P	P	**11 12 58.9**	**-1.2**	
TORD	**Torodi Ar. Bea**	117.02	89			**PKiKP**	**11 18 08.0**	**+0.7**
KWP	**Kalwaria Pacla**	139.48	45			**PKiKP**	**11 18 50.6**	**-0.6**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.6s,baz=295,slow=4.1,SNR=4.8	143.08	41	PKhKP	PKPpre	11 18 50.9		
SONM	**Songino Array** comp=Z,2.8nm,0.8s,baz=126,slow=2.0,SNR=12	144.14	314	PKP		**PKPab**	**11 18 54.7**	**-0.3**
TIRR	**Tirgusor**	144.58	52		PKPbc		11 18 57.0	+0.2
LZH	**Lanzhou**	148.53	294	*e*PKPbc		**PKPdf**	**11 19 01.4**	**-3.9**
LZH				pPKP	PKPab		11 19 13.1	+0.8
LZH				sPKP			11 19 18.7	
CD2	**Chengdu**	148.64	284	PKPbc		**PKPdf**	**11 19 05.0**	**-0.4**
BRTR	**Keskin Array B** comp=Z,2.8nm,0.9s,baz=229,slow=1.3,SNR=12	149.45	58	PKPbc		**PKPbc**	**11 19 11.0**	**-0.1**
BRTR	**Keskin Array B**	149.45	58			**PKiKP**	**11 19 11.7**	**-0.5**
BRTR				PKPab		**pPKPab**	**11 19 17.8**	**-0.6**
PZH	**PanZhiHua**	149.85	275	PKPbc		**PKPdf**	**11 19 07.8**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,8.2nm,1.1s,baz=167,slow=0.7,SNR=27	149.94	258	PKPbc		**PKPbc**	**11 19 12.3**	**-0.4**
CMAR	**Chiang Mai Arr**	149.94	258			**PKPbc**	**11 19 13.1**	**+0.4**
CHTO	**Chiang Mai**	150.09	259			**PKPbc**	**11 19 13.1**	**0.0**
ARU	**Arti**	150.77	11	PKPdf		**PKPdf**	**11 19 08.1**	**+0.1**
ARU						**PKiKP**	**11 19 13.8**	**-0.3**
GTA	**Gaotai**	151.16	302	*e*PKPbc		**PKPbc**	**11 19 15.2**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,3.6nm,0.6s,baz=49,slow=4.0,SNR=9.6	151.17	339	PKPbc		**PKPbc**	**11 19 13.5**	**-1.0**
ZALV	**Zalesovo Beam**	151.17	339			**PKPdf**	**11 19 08.2**	**-0.5**
ZALV				PKPbc		**PKPbc**	**11 19 14.0**	**-0.5**
BRVK	**Borovoye**	154.84	356	PKPdf		**PKPdf**	**11 19 14.4**	**+0.4**
BRVK				PKPab		**PKPab**	**11 19 37.9**	**+0.2**
ABKAR	**Akbulak array**	157.87	14	PKPdf		**PKPdf**	**11 19 17.1**	**-1.0**
ABKAR						**PKPab**	**11 19 51.4**	**+0.6**
MKAR	**Makanchi Array** comp=Z,0.9nm,1.0s,baz=43,slow=2.1,SNR=5.8	158.01	333	PKP		**PKPdf**	**11 19 17.4**	**-1.0**
MKAR				PKPab		**PKPab**	**11 19 50.0**	**-1.6**

comp=Z,0.6nm,0.9s,baz=34,slow=3.6,SNR=4.6

*KRNET **03** 11:18:54.8±0.1, 41.°53N×74.°36E, h18km, mb2.7*
*SOME **03** 11:18:55.2, 41.°58N×74.°38E, h10km*
ISC 03 11:18:55.0±2.0, 41.°56N±0.°09×74.°38E±0.°06, h15km±13km, n10, σ1°09/20, 8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral** baz=56	0.31	352	⇓*e*P	Pg	**11 19 01.6**	**0.0**
ARLS	baz=56			⇓*e*S	Sg	**11 19 06.3**	**+0.2**
UCH	**Uchtor** baz=9.0	0.68	8	⇓*e*P	Pg	**11 19 08.5**	**0.0**
UCH	baz=9.0			⇓*e*S	Sb	**11 19 18.4**	**+0.2**
AAK	**Ala-Archa** baz=5.0	1.08	4	⇓*e*P	Pb	**11 19 15.4**	**-0.2**
AAK	baz=5.0			⇓*e*S	Sg	**11 19 30.4**	**+0.2**
NRN	**Naryn** baz=94	1.22	95	⇓*e*P	Pn	**11 19 17.2**	**-0.6**
NRN	baz=94			⇓*e*S	Sb	**11 19 33.6**	**-0.1**
MRKS	**Merke** 1.9nm,0.2s	1.47	325	*e*P	Pb	**11 19 22.4**	**+0.4**
MRKS	3.0nm,0.3s			*e*S	Sg	**11 19 41.7**	**-0.6**
SGDS	**Sogindy** 4.6nm,0.1s	1.90	5	*e*P	Pb	**11 19 30.6**	**+1.1**
SGDS	2.2nm,0.9s			*e*S	Sg	**11 19 55.6**	**-0.7**
DGS	**Degeres** 0.8nm,0.1s	1.98	31	*e*P	Pb	**11 19 31.9**	**+1.2**
DGS	3.3nm,0.3s			*e*S	Sg	**11 19 58.1**	**-0.5**
KRBS	**Karabastau** 2.8nm,0.2s	2.34	24	*e*P	Pb	**11 19 38.4**	**+1.5**
KRBS	1.5nm,0.1s			*e*S	Sg	**11 20 09.5**	**-0.8**
KTBS	**Karatobe** 0.5nm,0.2s	2.74	37	*e*P	Pb	**11 19 45.4**	**+1.6**
KTBS	7.8nm,0.1s			*e*S	Sg	**11 20 21.1**	**-2.0**
KUU	**Kurty** 0.6nm,0.0s	2.75	31	*e*P	Pb	**11 19 45.5**	**+1.7**
KUU	5.8nm,0.5s			*e*S	Sg	**11 20 21.6**	**-1.6**

*IDC **03** 11:21:46.9±10.0, 20.°80N×144.°69E, h166km±98km, mb3.3/7, mbtmp3.8/7, MS3.6/1, Error ellipse: s-maj=44.9km s-min=17.3km az=85.0*
*NEIC **03** 11:21:49.9±2.1, 20.°9N±0.°1×144.°6E±0.°2, h185km±9km, mb4.3/5, Error ellipse: s-maj=31.4km s-min=19.6km az=87.0*
ISC 03 11:21:45.7±0.8, 20.°9N±0.°1×144.°7E±0.°2, h150km, n19, σ0°94/18, mb3.8/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 0.8nm,0.5s,baz=142,slow=9.3,SNR=5.2 0.8nm,0.5s	22.01	322	P	P	**11 26 28.5**	**+0.6**
KLR	**Kul'dur** 1.9nm,0.4s,baz=154,slow=9.3,SNR=5.3 1.9nm,0.4s	30.13	343	P	P	**11 27 41.3**	**+0.1**
MTN	**Manton Dam**	36.02	203	P	P	**11 28 33.3**	**+0.6**
MTN	comp=Z,9.1nm,1.1s			IAmb	IAmb	11 28 47.8	
KNRA	**Kununurra**	39.51	204	P	P	**11 29 01.9**	**-0.1**
KNRA	comp=Z,5.8nm,1.1s			IAmb	IAmb	11 29 20.4	
CTA	**Charters Tower** comp=Z,81nm,18.4s,baz=98,slow=39	40.72	178	LR	LR	11 48 26.0	
WB2	**Warramunga Arr**	41.78	195	P	P	**11 29 19.7**	**-0.9**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.7s,baz=13,slow=8.7,SNR=9.6 comp=Z,0.3nm,0.7s	41.78	195	P	P	**11 29 20.0**	**-0.5**
FITZ	**Fitzroy Crossi**	42.96	207	P	P	**11 29 29.6**	**-0.5**
ASAR	**Alice Springs** comp=Z,0.5nm,1.1s,baz=19,slow=6.8,SNR=2.8 comp=Z,0.5nm,1.1s	45.47	194	P	P	**11 29 48.5**	**-1.5**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.6s,baz=88,slow=8.8,SNR=8.4 comp=Z,0.6nm,0.6s	56.27	313	P	P	**11 31 11.0**	**+0.4**
BMAR	**Burnt Mountain**	63.55	24	P	P	**11 32 00.7**	**+0.8**
BCAR	**Beaver Creek A**	64.18	29	P	P	**11 32 03.5**	**-0.6**
KKAR	**Karatay Array**	64.65	309	P	P	**11 32 07.6**	**+0.1**
HIZ	**Hauiti**	65.50	154	P	P	**11 32 14.3**	**+1.5**
ABKAR	**Akbulak array**	71.10	316	P	P	**11 32 48.0**	**+0.3**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.7s,baz=283,slow=5.1,SNR=6.3 comp=Z,0.6nm,0.7s	82.59	52	P	P	**11 33 52.2**	**-0.3**
FIA1	**FINESS Array S**	84.52	335	P	P	**11 34 01.2**	**-0.4**
FIA1	comp=Z,12nm,1.2s			IAmb	IAmb	11 34 11.8	
FINES	**FINESS Array B** comp=Z,1.0nm,0.5s,baz=62,slow=3.8,SNR=2.8 comp=Z,1.0nm,0.5s	84.52	335	P	P	**11 34 00.1**	**-1.5**
FINES	**FINESS Array B**	84.52	335	P	P	**11 33 59.9**	**-1.7**

*JMA **03** 11:26:39.4±0.1, 25.°N±1.°×122.°5E±0.°6, h35km, MV3.3/7, NW OFF ISHIGAKIJIMA IS*
*TAP **03** 11:26:39.6, 24.°93N×122.°41E, h24km, ML4.0, C*
*IDC **03** 11:26:44.9±1.2, 24.°40N×120.°79E, h0km, mb3.7/4, mbtmp3.7/5, ML3.5/1, MS3.1/2, Error ellipse: s-maj=68.3km s-min=21.3km az=69.0*
ISC 03 11:26:39.4±1.0, 24.°94N±0.°02×122.°45E±0.°02, h20km±11km, n122, σ0°78/226, mb3.7/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=281	0.43	279	P	Pg	**11 26 48.1**	**-0.1**
TWB1	baz=281			S	Sg	**11 26 54.0**	**-0.3**
EGS	baz=258	0.48	259	P	Pb	**11 26 49.3**	**+0.1**
EGS	baz=258			S	Sb	**11 26 56.5**	**+0.6**
SXI1	**Grass Mountain** baz=288	0.55	286	P	Pg	**11 26 51.0**	**+0.7**
SXI1	baz=288			S	Sg	**11 26 58.8**	**+1.0**
TIPB	**Shuangxi** baz=274	0.57	273	P	Pg	**11 26 51.3**	**+0.6**
TIPB	baz=274			S	Sg	**11 26 58.9**	**+0.4**
NTC	**Toucheng** baz=262	0.57	262	*e*P	Pg	**11 26 51.2**	**+0.5**
NTC	baz=262			*e*S	Sg	**11 26 59.1**	**+0.6**
NWF	**Wu-fen Shan** baz=284	0.62	282	P	Pg	**11 26 52.1**	**+0.5**
NWF	baz=284			S	Sg	**11 27 00.4**	**+0.3**
TWC	**Suao** baz=237	0.64	239	P	Pb	**11 26 51.3**	**-0.6**
TWC	baz=237			*e*S	Sg	**11 27 00.7**	**+0.3**
JYNG	**Yonagunijimaku**	0.66	137	P	Pb	**11 26 52.0**	**-0.2**
JYNG				S	Sg	**11 27 01.3**	**+0.3**
ILA	**Ilan** baz=254	0.66	255	*e*P	Pb	**11 26 52.5**	**+0.2**
ILA	baz=254			S	Sg	**11 27 01.9**	**+0.8**
YOJ	**Yonaguni jima** baz=130	0.69	133	*e*P	Pg	**11 26 53.2**	**+0.3**
YOJ	baz=130			*e*S	Sg	**11 27 02.4**	**+0.4**
YOJ	**Yonaguni jima**	0.69	133	*i* P	Pb	**11 26 52.5**	**-0.3**
YOJ				S	Sb	**11 27 01.9**	**-0.1**
NDS	**Dongshan** baz=245	0.74	246	*e*P	Pb	**11 26 52.7**	**-0.8**
NDS				*e*S	Sg	**11 27 03.8**	**+0.6**

	baz=245								
PCYT	**Pengchaiyu**	**0.77 333**	*eP*	**Pn**	**11 26 55.1**	**0.0**
	baz=336								
PCYT			*eS*	**Sg**	**11 27 05.0**	**+0.8**
	baz=336								
EWUT	**Wuta**	**0.79 231**	*eP*	**Pb**	**11 26 52.7**	**-1.7**
	baz=230								
EWUT			*eS*	**Sb**	**11 27 04.4**	**-0.2**
	baz=230								
TWA	**Mucha**	**0.79 273**	*eP*	**Pb**	**11 26 54.3**	**-0.1**
	baz=273								
TWA			*eS*	**Sb**	**11 27 05.1**	**+0.4**
	baz=273								
FUSB	**Fushanzhiwuyua**	**0.81 257**	*eP*	**Pb**	**11 26 54.5**	**-0.3**
	baz=257								
FUSB			*eS*	**Sg**	**11 27 05.8**	**+0.5**
	baz=257								
ENA	**Nanau**	**0.82 232**	P	**Pb**	**11 26 54.6**	**-0.4**
	baz=230								
ENA			*eS*	**Sg**	**11 27 06.5**	**+0.7**
	baz=230								
YM01	**YM01**	**0.83 285**	*eP*	**Pb**	**11 26 55.3**	**+0.2**
	baz=285								
YM01			*eS*	**Sb**	**11 27 05.9**	**+0.1**
	baz=285								
NHDH	**Xindian Distri**	**0.84 272**	*eP*	**Pb**	**11 26 54.9**	**-0.4**
	baz=272								
NHDH			*eS*	**Sb**	**11 27 06.1**	**-0.1**
	baz=272								
ENTT	**Nioudou**	**0.86 250**	*eP*	**Pb**	**11 26 55.1**	**-0.6**
	baz=249								
ENTT			*eS*	**Sb**	**11 27 07.1**	**+0.4**
	baz=249								
TAP	**Taipei**	**0.86 277**	*eP*	**Pb**	**11 26 55.1**	**-0.6**
	baz=277								
TAP			*eS*	**Sb**	**11 27 07.0**	**+0.1**
	baz=277								
ANP	**Anpu**	**0.88 286**	*eP*	**Pb**	**11 26 55.6**	**-0.5**
	baz=287								
ANP			*eS*	**Sb**	**11 27 06.9**	**-0.5**
	baz=287								
EHP	**Heping Village**	**0.90 226**	*eS*	**Sg**	**11 27 09.2**	**+1.2**
	baz=224								
NDT	**Datong Townshi**	**0.92 249**	P	**Pb**	**11 26 56.8**	**+0.1**
	baz=248								
NDT			*eS*	**Sb**	**11 27 08.1**	**-0.4**
	baz=248								
LATG	**Datong**	**0.93 245**	P	**Pb**	**11 26 56.7**	**-0.3**
	baz=244								
LATG			S	**Sb**	**11 27 08.2**	**-0.8**
	baz=244								
NTST	**Danshui**	**0.94 284**	*eP*	**Pg**	**11 26 57.8**	**+0.8**
	baz=285								
NTST			*eS*	**Sb**	**11 27 08.7**	**-0.3**
	baz=285								
TWS1	**Kuangyinshan**	**0.95 280**	*eP*	**Pb**	**11 26 57.2**	**-0.1**
	baz=280								
TWS1			*eS*	**Sb**	**11 27 10.0**	**+0.5**
	baz=280								
YHNB	**Yeheng**	**1.02 255**	*eP*	**Pb**	**11 26 58.5**	**+0.1**
	baz=254								
YHNB			*eS*	**Sb**	**11 27 10.2**	**-1.1**
	baz=254								
NSK	**Sanguang**	**1.03 255**	P	**Pb**	**11 26 57.9**	**-0.7**
	baz=255								
NSK			S	**Sb**	**11 27 09.8**	**-1.9**
	baz=255								
ETL	**Fush Village**	**1.08 224**	*eP*	**Pb**	**11 26 59.0**	**-0.5**
	baz=223								
ETL			*eS*	**Sb**	**11 27 13.0**	**-0.2**
	baz=223								
NACB	**Ninganchiao**	**1.09 226**	P	**Pb**	**11 26 59.0**	**-0.6**
	baz=224								
NACB			*eS*	**Sb**	**11 27 12.1**	**-1.3**
	baz=224								
NNSB	**Datong**	**1.10 243**	P	**Pb**	**11 26 59.7**	**-0.1**
	baz=241								
NNSB			S	**Sb**	**11 27 13.3**	**-0.4**
	baz=241								
NNS	**Nan Shan**	**1.10 243**	P	**Pb**	**11 26 58.8**	**-1.0**
	baz=242								
NNS			S	**Sb**	**11 27 12.4**	**-1.4**
	baz=242								
ETLH	**Xiulin Townshi**	**1.15 231**	*eP*	**Pn**	**11 27 00.2**	**-0.2**
	baz=229								
ETLH			*eS*	**Sb**	**11 27 14.2**	**-0.9**
	baz=229								
NCU	**National Centr**	**1.15 272**	*eP*	**Pn**	**11 27 00.1**	**-0.2**
	baz=272								
NCU			*eS*	**Sb**	**11 27 14.8**	**-0.3**
	baz=272								
NCUH	**Zhongli**	**1.15 272**	*eP*	**Pn**	**11 26 60.0**	**-0.4**
	baz=272								
NCUH			*eS*	**Sb**	**11 27 14.9**	**-0.2**
	baz=272								
TWD	**Chiawan**	**1.16 223**	*eP*	**Pn**	**11 27 00.0**	**-0.4**
	baz=221								
TWD			*eS*	**Sb**	**11 27 14.5**	**-0.8**
	baz=221								
HWA	**Hwalien**	**1.23 219**	*eP*	**Pn**	**11 27 01.7**	**+0.3**
	baz=217								
HWA			*eS*	**Sb**	**11 27 17.2**	**-0.2**
	baz=217								
NFF	**Wufeng Townshi**	**1.25 256**	*eP*	**Pn**	**11 27 00.3**	**-1.6**
	baz=255								
NFF			*eS*	**Sb**	**11 27 16.8**	**-1.3**
	baz=255								
FUSS	**Fushou**	**1.30 238**	*eP*	**Pn**	**11 27 02.4**	**-0.2**
	baz=237								
FUSS			*eS*	**Sb**	**11 27 19.0**	**-0.6**
	baz=237								
IRIF	**Iriomote-Funau**	**1.31 117**	P	**Pn**	**11 27 01.4**	**-1.1**
LIOB	**Emei**	**1.34 258**	*eP*	**Pn**	**11 27 02.4**	**-0.6**
	baz=257								
LIOB			*eS*	**Sn**	**11 27 18.9**	**-1.4**
	baz=257								
WHF	**Hehuan Shan**	**1.34 234**	*eP*	**Pn**	**11 27 03.4**	**0.0**
	baz=233								
WHF			*eS*	**Sn**	**11 27 19.4**	**-1.4**
	baz=233								
SBCB	**Hsinchu**	**1.34 264**	*eP*	**Pn**	**11 27 03.1**	**+0.1**
	baz=264								
SBCB			*eS*	**Sn**	**11 27 19.8**	**-0.5**
	baz=264								
TWT	**Tachien**	**1.35 240**	P	**Pb**	**11 27 04.4**	**+0.3**
	baz=239								
TWT			*eS*	**Sb**	**11 27 21.7**	**+0.7**
	baz=239								
HSN	**Hsinchu**	**1.35 265**	*eP*	**Pn**	**11 27 01.8**	**-1.3**
	baz=265								
HSN			*eS*	**Sn**	**11 27 18.0**	**-2.5**
	baz=265								
NSTT	**Nanjuang**	**1.35 257**	*eP*	**Pn**	**11 27 02.6**	**-0.6**
	baz=256								
NSTT			*eS*	**Sn**	**11 27 19.5**	**-1.1**
	baz=256								
TDCB	**Techi**	**1.36 240**	*eP*	**Pn**	**11 27 03.0**	**-0.5**
	baz=239								
TDCB			*eS*	**Sn**	**11 27 19.8**	**-1.2**
	baz=239								
ESL	**Shilin**	**1.46 220**	*eP*	**Pn**	**11 27 04.3**	**-0.3**
	baz=218								
ESL			*eS*	**Sn**	**11 27 21.8**	**-1.3**
	baz=218								
CHGB	**Renai**	**1.46 233**	*eP*	**Pb**	**11 27 06.2**	**+0.3**
	baz=232								
CHGB			*eS*	**Sb**	**11 27 24.1**	**-0.1**
	baz=232								
HATJ	**Hateruma jima**	**1.51 125**	P	**Pn**	**11 27 05.1**	**-0.3**
HATJ			*eS*	**Sn**	**11 27 23.3**	**-1.2**
OWD	**Renai**	**1.52 230**	*eP*	**Pn**	**11 27 06.0**	**+0.4**
	baz=229								
OWD			*eS*	**Sn**	**11 27 24.1**	**-0.8**
	baz=229								
WHP	**Taichung City**	**1.52 245**	*eP*	**Pn**	**11 27 05.4**	**-0.2**
	baz=244								
WHP			*eS*	**Sn**	**11 27 24.1**	**-0.8**
	baz=244								
WUSB	**Renai**	**1.54 232**	*eP*	**Pb**	**11 27 07.2**	**-0.1**
	baz=231								
WUSB			*eS*	**Sn**	**11 27 24.4**	**-0.9**
	baz=231								
NMLH	**Miaoli**	**1.56 255**	*eP*	**Pn**	**11 27 05.7**	**-0.4**
	baz=255								
NMLH			*eS*	**Sn**	**11 27 25.1**	**-0.7**
	baz=255								
EGFH	**Guangfu**	**1.57 217**	*eP*	**Pn**	**11 27 06.1**	**-0.1**
	baz=215								
EGFH			*eS*	**Sn**	**11 27 25.3**	**-0.7**
	baz=215								
JKRS	**Kuro-shima**	**1.58 116**	P	**Pn**	**11 27 05.7**	**-0.6**
JKRS			*eS*	**Sn**	**11 27 25.1**	**-1.0**
TWQ1	**Liyutan**	**1.64 249**	*eP*	**Pn**	**11 27 06.9**	**-0.2**
	baz=248								
TWQ1			*eS*	**Sn**	**11 27 26.8**	**-0.8**
	baz=248								
WCS	**Beigang Elemen**	**1.66 238**	*eP*	**Pb**	**11 27 08.6**	**-0.6**
	baz=237								
WCS			*eS*	**Sn**	**11 27 27.3**	**-0.7**
	baz=237								
VWDT	**VWDT**	**1.68 226**	*eP*	**Pn**	**11 27 07.7**	**0.0**
	baz=224								
VWDT			*eS*	**Sn**	**11 27 29.5**	**+0.9**
	baz=224								
HGSD	**Ruisui**	**1.72 213**	*eP*	**Pn**	**11 27 08.1**	**-0.1**
	baz=212								
HGSD			*eS*	**Sn**	**11 27 28.7**	**-0.9**
	baz=212								
WDJ	**Dajia District**	**1.75 251**	*eP*	**Pn**	**11 27 08.9**	**+0.2**
	baz=250								
WDJ			*eS*	**Sn**	**11 27 29.6**	**-0.7**
	baz=250								
EHY	**Hungye**	**1.76 216**	*eP*	**Pn**	**11 27 08.9**	**+0.1**
	baz=214								
EHY			*eS*	**Sn**	**11 27 29.9**	**-0.7**
	baz=214								
SMLT	**Sun Moon Lake**	**1.76 234**	*eP*	**Pb**	**11 27 10.5**	**-0.6**
	baz=232								
SMLT			*eS*	**Sn**	**11 27 31.0**	**+0.1**
	baz=232								
TYC	**Yuchr**	**1.78 235**	*eP*	**Pn**	**11 27 08.9**	**-0.2**
	baz=234								
TYC			*eS*	**Sn**	**11 27 30.3**	**-0.8**
	baz=234								
SSLB	**Suanglung**	**1.79 230**	*eP*	**Pn**	**11 27 09.7**	**+0.6**
	baz=229								
SSLB			*eS*	**Sn**	**11 27 31.2**	**0.0**
	baz=229								
TCU	**Taichung**	**1.80 244**	*eP*	**Pn**	**11 27 09.3**	**0.0**
	baz=243								
TCU			*eS*	**Sn**	**11 27 30.7**	**-0.9**
	baz=243								
YULB	**Yu-li**	**1.87 215**	*eP*	**Pn**	**11 27 10.4**	**+0.1**
	baz=213								
YULB			*eS*	**Sn**	**11 27 33.5**	**+0.3**
	baz=213								
EYUL	**Yuli**	**1.89 213**	*eP*	**Pn**	**11 27 09.8**	**-0.8**
	baz=212								
EYUL			*eS*	**Sn**	**11 27 33.8**	**-0.1**
	baz=212								
WHYT	**Xinyi Township**	**1.91 230**	*eP*	**Pb**	**11 27 12.5**	**-1.1**
	baz=229								
WHYT			*eS*	**Sn**	**11 27 35.0**	**+0.6**
	baz=229								
WJS	**Zhushan**	**1.93 235**	*eP*	**Pn**	**11 27 11.2**	**+0.1**
	baz=234								
WJS			*eS*	**Sn**	**11 27 34.0**	**-0.8**
	baz=234								
WNT	**Mingjian**	**1.93 237**	*eP*	**Pb**	**11 27 12.7**	**-1.2**
	baz=236								
WNT			*eS*	**Sn**	**11 27 34.5**	**-0.3**
	baz=236								
YUS	**Yu-Shan**	**1.99 224**	*eP*	**Pn**	**11 27 11.6**	**-0.8**
	baz=222								
YUS			*eS*	**Sn**	**11 27 36.4**	**-0.6**
	baz=222								
FULB	**Fuli**	**2.03 212**	*eP*	**Pn**	**11 27 11.4**	**-1.1**
	baz=210								
FULB			*eS*	**Sn**	**11 27 36.8**	**-0.6**
	baz=210								
ALS	**Alishan**	**2.07 227**	*eP*	**Pn**	**11 27 13.5**	**+0.2**
	baz=225								
ALS			*eS*	**Sn**	**11 27 38.7**	**0.0**
	baz=225								
CHN5	**Tsauling**	**2.10 231**	*eP*	**Pn**	**11 27 13.5**	**-0.1**
	baz=230								
CHN5			*eS*	**Sn**	**11 27 37.5**	**-1.7**
	baz=230								
WDLH	**Douliu**	**2.15 235**	*eP*	**Pn**	**11 27 13.7**	**-0.3**
	baz=234								
WDLH			*eS*	**Sn**	**11 27 40.3**	**+0.2**
	baz=234								
WRL	**Guolierlin Hig**	**2.16 242**	*eP*	**Pn**	**11 27 13.9**	**-0.3**
	baz=241								
WRL			*eS*	**Sn**	**11 27 38.9**	**-1.4**
	baz=241								
ELDTW	**Lidau**	**2.18 217**	*eP*	**Pn**	**11 27 14.3**	**-0.4**
	baz=216								
ELDTW			*eS*	**Sn**	**11 27 40.7**	**-0.5**
	baz=216								
EDH	**Donghe**	**2.22 208**	*eP*	**Pn**	**11 27 14.9**	**-0.2**
	baz=207								
EDH			*eS*	**Sn**	**11 27 42.0**	**0.0**
	baz=207								
WCKO	**Fanlu**	**2.25 229**	*eP*	**Pn**	**11 27 15.5**	**-0.1**
	baz=228								
WCKO			*eS*	**Sn**	**11 27 41.6**	**-1.2**
	baz=228								
CHN2	**Minshiung**	**2.29 233**	*eS*	**Sn**	**11 27 43.2**	**-0.3**
	baz=231								
TPUB	**Ta-pu**	**2.33 226**	*eP*	**Pn**	**11 27 17.9**	**+1.3**
	baz=225								
TPUB			*eS*	**Sn**	**11 27 45.3**	**+0.5**
	baz=225								
STYH	**Taoyuan**	**2.33 221**	*eP*	**Pn**	**11 27 16.6**	**-0.1**
	baz=220								
STYH			*eS*	**Sn**	**11 27 44.2**	**-0.6**
	baz=220								
CHY	**Chiayi**	**2.34 233**	*eP*	**Pn**	**11 27 18.7**	**+1.9**
	baz=231								
CHY			*eS*	**Sn**	**11 27 44.6**	**-0.4**
	baz=231								
LONT	**Longtian**	**2.36 211**	*eP*	**Pn**	**11 27 17.2**	**+0.2**
	baz=210								
LONT			*eS*	**Sn**	**11 27 45.8**	**+0.4**
	baz=210								
WTP	**Ta-pu**	**2.38 225**	*eP*	**Pn**	**11 27 18.6**	**+1.2**
	baz=224								
WTP			*eS*	**Sn**	**11 27 45.0**	**-1.0**
	baz=224								
LDUT	**Ludao**	**2.43 202**	*eP*	**Pn**	**11 27 18.2**	**+0.2**
	baz=201								
LDUT			*eS*	**Sn**	**11 27 46.3**	**-0.8**
	baz=201								
TWK	**Hsinying**	**2.45 228**	*eP*	**Pn**	**11 27 18.2**	**-0.1**
	baz=226								
TWK			*eS*	**Sn**	**11 27 47.7**	**0.0**
	baz=226								
TWGBT	**Beinan**	**2.46 211**	*eP*	**Pn**	**11 27 18.7**	**+0.3**
	baz=210								
TWGBT			*eS*	**Sn**	**11 27 47.3**	**-0.5**
	baz=210								
WSL	**Shuilin Townsh**	**2.47 236**	*eP*	**Pn**	**11 27 19.4**	**+0.8**
	baz=234								
WSL			*eS*	**Sn**	**11 27 47.6**	**-0.6**
	baz=234								
SNST	**Tainan City**	**2.48 227**	*eS*	**Sn**	**11 27 48.0**	**-0.3**
	baz=225								
CHN1	**Nanshi**	**2.48 226**	*eP*	**Pn**	**11 27 19.0**	**+0.3**
	baz=224								
CHN1			*eS*	**Sn**	**11 27 48.1**	**-0.3**
	baz=224								
SGST	**Jiashian**	**2.52 223**	*eP*	**Pn**	**11 27 19.1**	**-0.1**
	baz=222								
SGST			*eS*	**Sn**	**11 27 48.4**	**-1.0**
	baz=222								
ICHU	**Yijhu**	**2.53 232**	*eP*	**Pn**	**11 27 19.9**	**+0.6**
	baz=231								
ICHU			*eS*	**Sn**	**11 27 48.9**	**-0.8**
	baz=231								
MATB	**Ma-tsu**	**2.57 299**	*eP*	**Pn**	**11 27 19.5**	**-0.3**
	baz=298								
MATB			*eS*	**Sn**	**11 27 50.0**	**-0.5**
	baz=298								
ECL	**Taimali**	**2.71 211**	*eP*	**Pn**	**11 27 21.9**	**+0.2**
	baz=209								
ECL			*eS*	**Sn**	**11 27 52.5**	**-1.4**
	baz=209								
SCST	**Cishan**	**2.72 222**	*eP*	**Pn**	**11 27 22.4**	**+0.4**
	baz=220								
SCST			*eS*	**Sn**	**11 27 53.6**	**-0.7**
	baz=220								
VWUC	**VWUC**	**2.73 272**	*eP*	**Pn**	**11 27 20.9**	**-1.2**
	baz=271								
VWUC			*eS*	**Sn**	**11 27 52.0**	**-2.4**
	baz=271								
SSD	**Sandimen**	**2.75 218**	*eP*	**Pn**	**11 27 23.0**	**+0.7**
	baz=216								
SSD			*eS*	**Sn**	**11 27 53.9**	**-1.1**
	baz=216								
TSMG	**Majia**	**2.77 217**	*eP*	**Pn**	**11 27 23.0**	**+0.3**
	baz=216								
TSMG			*eS*	**Sn**	**11 27 55.2**	**-0.4**
	baz=216								
TSCK	**Chigu Township**	**2.81 231**	*eS*	**Sn**	**11 27 55.4**	**-1.0**
	baz=230								
XPSS	**Dashiqiu**	**2.84 315**	*eP*	**Pn**	**11 27 23.2**	**-0.5**
	baz=314								
XPSS			*eS*	**Sn**	**11 27 55.6**	**-1.7**
	baz=314								
MASBT	**Mashibuluo**	**2.85 216**	*eP*	**Pn**	**11 27 23.8**	**0.0**
	baz=215								
MASBT			*eS*	**Sn**	**11 27 56.9**	**-0.8**
	baz=215								
LYJJ	**Jianjiangzhen**	**2.91 304**	*eP*	**Pn**	**11 27 24.1**	**-0.5**
	baz=304								
LYJJ			*eS*	**Sn**	**11 27 58.3**	**-0.6**
	baz=304								
EAST	**Anshuo**	**2.94 210**	*eP*	**Pn**	**11 27 24.6**	**-0.4**
	baz=209								
EAST			*eS*	**Sn**	**11 27 59.4**	**-0.4**
	baz=209								
TAWH	**Dawu Township**	**2.96 209**	*eP*	**Pn**	**11 27 24.8**	**-0.5**
	baz=208								
TAWH			*eS*	**Sn**	**11 27 59.4**	**-0.8**
	baz=208								
PNG	**Penghu**	**2.98 243**	*eP*	**Pn**	**11 27 25.5**	**0.0**
	baz=242								
PNG			*eS*	**Sn**	**11 28 00.6**	**0.0**
	baz=242								
SSPT	**Xinbi**	**2.99 216**	*eP*	**Pn**	**11 27 25.9**	**+0.1**
	baz=214								
SSPT			*eS*	**Sn**	**11 27 59.8**	**-1.2**
	baz=214								
WDGT	**Dungji**	**3.05 237**	*eP*	**Pn**	**11 27 26.7**	**+0.2**
	baz=236								
WDGT			*eS*	**Sn**	**11 28 00.3**	**-2.1**
	baz=236								
SCZT	**Fangliau**	**3.06 214**	*eP*	**Pn**	**11 27 26.3**	**-0.4**
	baz=212								
SCZT			*eS*	**Sn**	**11 28 01.4**	**-1.2**
	baz=212								
VCHM	**Qimei**	**3.26 239**	*eP*	**Pn**	**11 27 30.0**	**+0.7**
	baz=237								
VCHM			*eS*	**Sn**	**11 28 06.0**	**-1.5**
	baz=237								
MHZQ	**Yeshan**	**3.30 291**	*eP*	**Pn**	**11 27 30.4**	**+0.5**
	baz=290								
MHZQ			*eS*	**Sn**	**11 28 07.8**	**-0.9**
	baz=290								
KNMB	**Chin-men Tao**	**3.73 264**	*eP*	**Pn**	**11 27 34.9**	**-0.9**
	baz=262								
KNMB			*eS*	**Sn**	**11 28 16.8**	**-2.4**
	baz=262								
AXDP	**Jialang**	**4.07 270**	*eP*	**Pn**	**11 27 39.7**	**-0.8**
	baz=269								
AXDP			*eS*	**Sn**	**11 28 25.8**	**-1.8**
	baz=269								
KSRS	**Korea Array**	**13.32 19**	Pn	P	11 30 08.6	+12
	0.2nm,0.3s,baz=197,slow=11,SNR=9.2								
	1.7nm,0.8s								
KLR	**Kul'dur**	**25.32 14**	LR	LR	11 41 41.2	
	comp=Z,32nm,20.2s,baz=188,slow=34								
SONM	**Songino Array**	**26.15 335**	P	P	11 32 21.0	+8.6
	0.6nm,0.4s,baz=144,slow=10.0,SNR=2.1								
	0.6nm,0.4s								
MKAR	**Makanchi Array**	**38.62 315**	P	**P**	**11 34 03.1**	**+1.8**
	0.6nm,0.8s,baz=104,slow=9.8,SNR=5.1								
	0.6nm,0.8s								
ZALV	**Zalesovo Beam**	**40.25 326**	LR	LR	11 52 34.6	
	comp=Z,37nm,20.9s,baz=124,slow=39								
WRA	**Warramunga Arr**	**46.09 164**	P	P	11 35 09.5	+7.3
	1.6nm,0.9s,baz=346,slow=8.9,SNR=9.1								
	1.6nm,0.9s								
ASAR	**Alice Springs**	**49.58 166**	P	P	11 35 37.5	+8.2
	0.8nm,0.7s,baz=344,slow=9.0,SNR=13								
	0.8nm,0.7s								

*IDC **03** 11:46:31.0±6.6,0.°11N×17.°75W,h0km,mb3.5/2, mbtmp3.8/4,ML3.9/2,Error ellipse: s-maj=248.5km s-min=36.3km az=163.0*

ISC 03 11:46:35.0±3.1,0.°7N±0.°7×17.°6W±0.°2,h10km,n7,σ3.966/5, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.99**	**160**	T	T	11 56 58.4	
	baz=332,slow=74						
H10N3	**ASCENSION HYDR**	**9.00**	**160**	T	T	11 56 59.5	
	baz=332,slow=74						
H10N1	**ASCENSION HYDR**	**9.01**	**160**	T	T	11 57 00.6	
	baz=332						
DBIC	**Dimbokro**	**14.05**	**65**	Pn	**Pn**	**11 49 55.9**	**+1.6**
	1.2nm,0.3s,baz=241,slow=12,SNR=11						
DBIC				Sn	**Sn**	**11 52 26.8**	**-3.6**
	0.2nm,0.3s,baz=302,slow=6.9,SNR=1.6						
	2.7nm,0.3s						
KOWA	**Kowa**	**19.22**	**44**	P	**Pn**	**11 51 02.5**	**+2.0**
	0.2nm,0.3s,baz=230,slow=11,SNR=3.8						
	2.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**22.79**	**56**	P	**P**	**11 51 40.2**	**+2.0**
	2.2nm,1.0s,baz=240,slow=10,SNR=5.2						
	2.2nm,1.0s						
TXAR	**Lajitas Array**	**86.24**	**299**	P	**P**	**11 59 15.9**	**-1.7**
	0.3nm,0.8s,baz=113,slow=6.9,SNR=3.0						
	0.3nm,0.8s						

*WEL **03** 11:53:24.6±0.6,37.°5S±3.°7×17.°9E±.°,h15km,M4.2/81, ML4.4/80,MLv4.2/81,Error ellipse: s-maj=0.0km s-min=0.0km az=103.8*

*IDC **03** 11:53:25.3±1.3,37.°08S×178.°87E,h0km,mb4.3/4, mbtmp4.3/4,MS3.6/2,Error ellipse: s-maj=28.5km s-min=27.9km az=42.0*

*NEIC **03** 11:53:30.6±1.9,37.°6S±0.°1×178.°7E±0.°1,h26km±9km, mb4.6/16,Error ellipse: s-maj=19.1km s-min=13.8km az=208.0*

ISC 03 11:53:24.8±2.1,37.°37S±0.°05×179.°21E±0.°07,h4km±11km, n150,σ1.928/160,mb4.5/11,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**254**		**Pg**	**11 53 37.6**	**-1.4**
MXZ	**Matakaoa Point**	**0.74**	**254**	P	**Pg**	**11 53 37.6**	**-1.4**
MXZ				S	**Sg**	**11 53 47.5**	**-1.2**
WMGZ	**Waiomatatini S**	**0.78**	**234**	P	**Pb**	**11 53 41.4**	**+0.5**
WMGZ				S	**Sn**	**11 53 54.5**	**-0.1**
PUZ	**Puketiti**	**1.03**	**227**	P	**Pb**	**11 53 45.7**	**+0.4**
PUZ				S	**Sn**	**11 54 01.3**	**+0.2**
PKGZ	**Pakihiroa**	**1.04**	**240**	P	**Pb**	**11 53 45.3**	**-0.1**
PKGZ				S	**Sn**	**11 54 00.4**	**-0.8**
HAZ	**Te Kaha**	**1.20**	**251**	P	**Pn**	**11 53 48.2**	**-0.2**
HAZ				S	**Sg**	**11 54 06.1**	**+2.8**
TWGZ	**Tauwhareparae**	**1.27**	**230**	P	**Pn**	**11 53 49.5**	**+0.1**
TWGZ				S	**Sg**	**11 54 08.5**	**+3.0**
RUGZ	**Raukumara Rang**	**1.35**	**243**	P	**Pn**	**11 53 49.8**	**-0.8**
RUGZ				S	**Sg**	**11 54 10.3**	**+1.9**
CNGZ	**Carnagh Statio**	**1.37**	**215**	P	**Pn**	**11 53 51.4**	**+0.7**
CNGZ				S	**Sg**	**11 54 12.8**	**+4.1**
TKGZ	**Te Karaka**	**1.52**	**225**	P	**Pn**	**11 53 52.6**	**-0.1**
TKGZ				S	**Sb**	**11 54 13.9**	**+0.8**
WIZ	**White Island**	**1.61**	**264**	P	**Pn**	**11 53 54.1**	**0.0**
WIZ				S	**Sg**	**11 54 17.2**	**+0.5**
MWZ	**Matawai**	**1.64**	**233**	P	**Pn**	**11 53 54.9**	**+0.3**
MWZ				S	**Sg**	**11 54 19.8**	**+2.1**
RIGZ	**Rimuhau**	**1.76**	**220**	P	**Pn**	**11 53 55.9**	**-0.2**
RIGZ				S	**Sb**	**11 54 21.0**	**+0.8**
RAGZ	**Rawiri**	**1.81**	**231**	P	**Pn**	**11 53 56.9**	**0.0**
WHRZ	**Whale Island**	**1.84**	**254**	P	**Pn**	**11 53 57.8**	**+0.6**
PRGZ	**Paritu Road**	**1.87**	**213**	P	**Pn**	**11 53 57.5**	**-0.2**
PRGZ				S	**Sb**	**11 54 23.3**	**-0.1**
URZ	**Urewera**	**1.89**	**241**	Pn	**Pn**	**11 53 57.6**	**-0.2**
	80nm,0.3s,baz=211,slow=2.6,SNR=26						
URZ				Sn	**Sn**	**11 54 22.1**	**0.0**
	103nm,0.3s,baz=211,slow=20,SNR=7.6						

SNGZ			S		Sb	11 54 27.4	-0.9	
KNZ	Kokohu	2.05 216	P		Pn	11 53 59.4	-0.6	
KNZ			S		Sn	11 54 26.3	+0.2	
MHGZ	Mahia Peninsul	2.06 209	P		Pn	11 54 00.2	-0.1	
MHGZ			S		Sb	11 54 28.7	0.0	
EDRZ	Edgecumbe	2.09 249	P		Pn	11 54 00.9	+0.2	
MARZ	Manawahe	2.10 252	P		Pn	11 54 00.8	-0.1	
RTZ	Ruatahuna	2.16 234	P		Pn	11 54 01.8	+0.1	
RTZ			S		Sb	11 54 30.5	-1.2	
OPRZ	Ohinepanea	2.16 256	P		Pn	11 54 01.0	-0.6	
MUGZ	Murupara	2.22 239	P		Pn	11 54 02.2	-0.3	
RAHZ	Arahi	2.28 227	P		Pn	11 54 03.5	+0.3	
MKRZ	Makatiti	2.31 250	P		Pb	11 54 05.6	-1.5	
TARZ	Mount Tarawera	2.31 247	P		Pn	11 54 04.1	+0.3	
LIRZ	Lichensteins R	2.33 253	P		Pn	11 54 04.7	+0.8	
RRRZ	Republican Roa	2.34 245	P		Pn	11 54 04.3	+0.1	
MYRZ	Mayor Island	2.37 271	P		Pn	11 54 05.5	+1.0	
OMRZ	Omania	2.37 251	P		Pn	11 54 05.2	+0.7	
TGRZ	Tauranga	2.37 260	P		Pn	11 54 04.2	-0.3	
MTHZ	Maungataniwha	2.38 231	P		Pn	11 54 04.9	+0.2	
HLRZ	Highlands Stat	2.43 248	P		Pn	11 54 05.9	+0.6	
KARZ	Kaharoa	2.44 254	P		Pn	11 54 05.2	-0.3	
PRRZ	Plateau Road	2.50 242	P		Pn	11 54 05.9	-0.3	
NGRZ	Ngongotaha	2.50 252	P		Pn	11 54 07.5	+1.1	
UTU	Utuhina	2.52 250	P		Pn	11 54 07.8	+1.2	
HSRZ	Hossack Road	2.53 247	P		Pn	11 54 07.1	+0.4	
HRRZ	Handcock Road	2.53 245	P		Pn	11 54 07.0	+0.3	
ALRZ	Allen Road	2.56 241	P		Pn	11 54 06.7	-0.4	
NMHZ	Naumai	2.56 227	P		Pn	11 54 07.7	+0.5	
ARHZ	Aropaoanui	2.57 222	P		Pn	11 54 07.2	-0.1	
KMRZ	Kaimai	2.64 259	P		Pn	11 54 08.7	+0.5	
GRRZ	Galatos Road	2.64 247	P		Pn	11 54 08.8	+0.5	
MRMZ	Matea Rd	2.64 235	P		Pn	11 54 07.8	-0.5	
WPRZ	Whakapapatarin	2.67 244	P		Pn	11 54 08.8	+0.1	
BKZ	Black Stump Fm	2.79 229	Pn		Pn	11 54 09.3	-1.0	
BKZ	Black Stump Fm	2.79 229	P		Pn	11 54 09.7	-0.7	
CKHZ	Cape Kidnapper	2.83 215	P		Pn	11 54 10.0	-0.9	
KUTZ	Kaahu Road	2.90 246	P		Pn	11 54 12.1	+0.2	
TOZ	Tahuroa Road	2.97 262	P		Pn	11 54 12.1	-0.6	
KWHZ	Kaweka Forest	3.00 226	P		Pn	11 54 12.5	-0.7	
KAHZ	Kahuranaki	3.04 216	P		Pn	11 54 12.5	-1.2	
WATZ	Wairara	3.05 243	P		Pn	11 54 14.7	+0.8	
TLZ	Tolley Road	3.06 251	P		Pn	11 54 14.1	0.0	
RITZ	Rihia Road	3.09 238	P		Pn	11 54 14.6	+0.1	
RATZ	Rangitukua	3.10 240	P		Pn	11 54 14.5	0.0	
KRHZ	Kereru	3.18 224	P		Pn	11 54 14.6	-1.1	
KATZ	Kakaramea	3.20 239	P		Pn	11 54 16.9	+0.9	
GRZ	Great Barrier	3.21 289	P		Pn	11 54 15.8	-0.3	
PXZ	Pawanui	3.23 214	P		Pn	11 54 14.8	-1.6	
BHHZ	Black Hill Sta	3.25 228	P		Pn	11 54 16.2	-0.5	
TMVZ	Te Maari	3.27 237	P		Pn	11 54 16.2	-0.8	
ETVZ	East Tongariro	3.27 236	P		Pn	11 54 16.2	-0.8	
NTVZ	North Tongarir	3.27 237	P		Pn	11 54 16.6	-0.5	
KRVZ	Karewarewa	3.30 237	P		Pn	11 54 16.9	-0.5	
WIAZ	Waiheke Island	3.31 279	P		Pn	11 54 17.8	+0.4	
OTVZ	Oturere	3.32 236	P		Pn	11 54 17.3	-0.4	
NNVZ	North Ngauruho	3.33 237	P		Pn	11 54 17.6	-0.3	
WTVZ	West Tongariro	3.34 237	P		Pn	11 54 17.7	-0.3	
SNVZ	South Ngauruho	3.34 236	P		Pn	11 54 17.6	-0.4	
NGZ	Ngauruhoe	3.36 236	P		Pn	11 54 17.9	-0.4	
TUVZ	Tukino	3.38 235	P		Pn	11 54 18.0	-0.5	
MOVZ	Moawhango	3.39 232	P		Pn	11 54 18.0	-0.7	
TWVZ	Taurewa	3.42 239	P		Pn	11 54 18.8	-0.3	
WHVZ	Whangaehu Hut	3.43 235	P		Pn	11 54 18.6	-0.7	
FWVZ	Far West T-bar	3.44 236	P		Pn	11 54 18.7	-0.7	
ETAZ	East Tamaki Re	3.44 276	P		Pn	11 54 20.1	+0.8	
WHNZ	Wahianoa	3.45 234	P		Pn	11 54 18.8	-0.6	
WPHZ	Waipukurau	3.46 218	P		Pn	11 54 17.8	-1.6	
TRVZ	Turoa	3.46 235	P		Pn	11 54 19.0	-0.8	
PNHZ	Pukenui	3.47 222	P		Pn	11 54 17.8	-1.8	
MBAZ	Motutapu North	3.50 279	P		Pn	11 54 21.7	+1.7	
PRHZ	Porangahau	3.52 214	P		Pn	11 54 18.5	-1.9	
ABAZ	Army Bay	3.58 281	P		Pn	11 54 21.9	+0.7	
PKVZ	Pokaka	3.59 237	P		Pn	11 54 21.3	-0.1	
EPAZ	Eden Park BICE	3.60 276	P		Pn	11 54 23.1	+1.7	
HBAZ	Herne Bay Bore	3.62 277	P		Pn	11 54 22.7	+1.1	
HIZ	Hauiti	3.63 250			Pn	11 54 22.1	+0.4	
HIZ	Hauiti	3.63 250	P		Pn	11 54 22.3	+0.5	
AWAZ	Awhitu Peninsu	3.66 273	P		Pn	11 54 22.4	+0.3	
TSZ	Takapari Road	3.70 222	P		Pn	11 54 20.7	-2.1	
WTAZ	Waiatarua	3.73 275	P		Pn	11 54 24.6	+1.5	
RVAZ	Riverhead Bore	3.75 278	P		Pn	11 54 24.4	+0.9	
ANWZ	Angora Road	3.75 214	P		Pn	11 54 21.6	-1.9	
DVHZ	Dannevirke	3.77 218	P		Pn	11 54 21.5	-2.3	
BFZ	Birch Farm	4.04 214	Pn		Pn	11 54 20.8	-3.0	
PRWZ	Pori Road	4.06 217	P		Pn	11 54 25.9	-1.9	
WAZ	Wanganui	4.08 233	P		Pn	11 54 28.1	+0.1	
MHEZ	Mangahewa	4.21 245	P		Pn	11 54 31.4	+1.7	
LREZ	Lake Rotokare	4.31 240	P		Pn	11 54 31.7	+0.5	
DREZ	Durham Road	4.34 244	P		Pn	11 54 32.9	+1.3	
PREZ	Palmer Road	4.43 242	P		Pn	11 54 34.2	+1.4	
NEZ	North Egmont	4.45 243	P		Pn	11 54 34.2	+1.1	
PKE	Pukeiti	4.50 244	P		Pn	11 54 35.3	+1.6	
KHEZ	Kahui Hut	4.51 243	P		Pn	11 54 35.3	+1.3	
NBEZ	Newall Road No	4.61 244	P		Pn	11 54 37.2	+1.9	
MSWZ	Moikau Station	5.08 216	Pn		Pn	11 54 36.5	-5.2	
RPZ	Rata Peaks	8.87 222			Pn	11 55 29.5	-4.3	
DZM	Mont Dzumac	18.82 321	LR		LR	12 03 17.8		
	comp=Z,159nm,19.5s,baz=50,slow=32							
TAU	Tasmania Unive	24.91 247	P		P	11 58 46.3	-2.5	
STKA	Stephens Creek	31.29 269	P		P	11 59 45.0	-0.9	
	5.1nm,0.9s,baz=106,slow=12,SNR=4.4							
	5.1nm,0.9s							
STKA	Stephens Creek	31.29 269	P		P	11 59 45.1	-0.9	
CTAO	Charters Tower	33.41 292	P		P	12 00 05.9	+1.1	
CTAO			IAmb		IAmb	12 00 26.5		
	comp=Z,13nm,1.3s							
BBOO	Buckleboo	35.37 264	P		P	12 00 20.4	-1.2	
COEN	Coen	39.61 296	P		P	12 00 57.5	-0.2	
COEN			IAmb		IAmb	12 00 60.0		
	comp=Z,17nm,1.2s							
VNDA	Vanda	40.95 186	LR		LR	12 14 48.4		
	comp=Z,90nm,19.9s,baz=24,slow=31							
AS31	Alice Springs	40.97 276	P		P	12 01 06.7	-2.2	
ASAR	Alice Springs	40.97 276	P		P	12 01 07.3	-1.6	
	comp=Z,2.6nm,0.7s,baz=124,slow=8.3,SNR=24							
	comp=Z,2.6nm,0.7s							
ASAR	Alice Springs	40.97 276	P		P	12 01 07.8	-1.1	
WR0	Warramunga Arr	42.43 281	P		P	12 01 19.8	-1.1	
FORT	Forrest	42.45 263	P		P	12 01 18.7	-2.2	
FORT			IAmb		IAmb	12 01 32.9		
	comp=Z,21nm,0.9s							
WB2	Warramunga Arr	42.59 281	P		P	12 01 20.6	-1.6	
WB2			IAmb		IAmb	12 01 22.8		
	comp=Z,9.4nm,1.3s							
WRA	Warramunga Arr	42.60 281	P		P	12 01 20.8	-1.5	
	comp=Z,1.6nm,0.4s,baz=122,slow=7.5,SNR=30							
	comp=Z,1.6nm,0.4s							
WRA	Warramunga Arr	42.60 281	P		P	12 01 20.3	-2.0	
WB0	Warramunga Arr	42.65 282	P		P	12 01 21.4	-1.3	
WB0			IAmb		IAmb	12 01 23.2		
	comp=Z,12nm,1.4s							
MTN	Manton Dam	49.26 287	P		P	12 02 13.6	-1.2	
KNRA	Kununurra	49.38 282	P		P	12 02 14.1	-1.6	
FITZ	Fitzroy Crossi	50.46 277	P		P	12 02 23.3	-0.6	
FITZ			IAmb		IAmb	12 02 36.9		
	comp=Z,5.8nm,1.1s							
QSPA	South Pole Qui	52.76 180	P		P	12 02 44.5	+3.8	
	comp=Z,4.1nm,0.9s,baz=20,slow=1.5,SNR=19							
	comp=Z,4.1nm,0.9s							
QSPA	South Pole Qui	52.76 180			P	12 02 44.3	+3.6	
QSPA			IAmb		IAmb	12 03 12.6		
	comp=Z,17nm,1.5s							
TROLL	Troll, Antarti	70.90 181	P		P	12 04 45.0	+2.2	
SNAA	Sanae	71.25 179	P		P	12 04 46.9	+2.0	
SNAA	Sanae	71.25 179	P		P	12 04 46.6	+1.7	
SNAA			IAmb		IAmb	12 04 54.6		
	comp=Z,7.9nm,1.4s							
VNA3	Neumayer Olymp	71.51 177	P		P	12 04 48.4	+2.1	
VNA2	Neumayer--Watz	71.91 178	P		P	12 04 50.9	+2.2	
	baz=186,slow=7.0							
VNA1	Neumayer--Stat	72.15 177	P		P	12 04 52.6	+2.5	
H03S2	Juan Fernandez	78.55 124	T		T	13 31 55.1		
	baz=231							
H03S1	Juan Fernandez	78.56 124	T		T	13 31 56.3		
	baz=231							
H03S3	Juan Fernandez	78.56 124	T		T	13 31 55.3		
	baz=231							
H03N3	Juan Fernandez	78.78 123	T		T	13 32 07.5		
	baz=234,slow=72,SNR=10							
H03N2	Juan Fernandez	78.78 123	T		T	13 32 07.2		
	baz=234,slow=72,SNR=18							
H03N1	Juan Fernandez	78.80 123	T		T	13 32 08.2		
	baz=234,slow=72,SNR=16							
ARCES	ARCESS Array B	144.78 344	PKP		PKPdf	12 13 01.6	-0.3	
	comp=Z,4.3nm,0.9s,baz=35,slow=3.3,SNR=7.6							
FINES	FINESS Array B	150.63 334	PKPbc		PKiKP	12 13 17.0	-0.9	
	comp=Z,1.4nm,0.5s,baz=46,slow=4.4,SNR=9.3							
TORD	Torodi Ar. Bea	155.78 186	PKPab		PKPab	12 13 47.7	+0.8	
	comp=Z,0.8nm,0.9s,baz=180,slow=3.2,SNR=5.1							

*IDC **03** 11:53:59.1±0.8,43.07N×41.05E,h0km,mb3.7/12,*
mbtmp3.7/17,ML3.3/4,MS2.9/6,Error ellipse:
s-maj=17.0km s-min=8.0km az=167.0
*MOS **03** 11:54:02.8±0.0,43.49N×40.98E,h2km,MPVA4.5*
*AZER **03** 11:54:09.3±4.3,43.39N×40.82E,h10km,Error ellipse:*
s-maj=48.5km s-min=32.1km az=50.0

ISC 03 11:54:00.6±1.0,**43.37N**±0.02×**40.97E**±0.02,**h6**km±7km,
n161,σ1s73/224,mb3.9/15,**10C-1D,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
ARXR	Arkhyz	0.29	50	*c* iPG	Pg	11 54 05.9	-0.4
ARXR				pmax	pmax		
	comp=Z,7μm,1.0s						
ARXR	Arkhyz	0.29	50	*i* Pg	Pb	11 54 07.2	-1.2
ARXR				*i* Sg	Sg	11 54 10.6	+0.3
VSLR	Vesyoloye	0.69	278	*c* iPG	Pg	11 54 12.9	-0.9
AHMR	Akhmetovskaya	0.79	4	*i* PG	Pg	11 54 14.9	-0.8
AHMR				*e*S	Sg	11 54 25.2	-0.7
AHMR	Akhmetovskaya	0.79	4	*i* Pg	Pg	11 54 14.9	-0.8
AHMR				*e*Sg	Sg	11 54 25.2	-0.7
GUZR	Guzeripl'	0.88	316	*e*PG	Pb	11 54 17.8	-0.5
GUZR				*e*S	Sg	11 54 29.2	+0.4
GUZR	Guzeripl'	0.88	316	*e*Pg	Pb	11 54 17.8	-0.5
GUZR				*e*Sg	Sg	11 54 29.2	+0.4
SOC	Sochi	0.94	283	*i* PG	Pg	11 54 16.6	-1.9
SOC				pmax	pmax		
	comp=Z,388nm,0.5s						
LABN	Labinsk	1.28	352	*i* PG	Pn	11 54 25.4	+0.3
LABN				*e*S	Sn	11 54 44.2	+1.7
LABN	Labinsk	1.28	352	*i* Pg	Pn	11 54 25.2	+0.2
LABN				*e*Sg	Sg	11 54 41.1	-0.6
SHA1	Shidzhatmaz	1.28	73	*c* iPG	Pg	11 54 23.1	-2.1
SHA1	Shidzhatmaz	1.28	73	*i* Pg	Pg	11 54 23.3	-1.8
SHA1				*e*Sg	Sg	11 54 40.4	-1.4
LZRR	Lazarevskoye	1.28	296	*c* iPG	Pg	11 54 24.4	-0.8
LZRR				pmax	pmax		
	comp=Z,691nm,0.4s						
LZRR	Lazarevskoye	1.28	296	*e*Pg	Pn	11 54 25.5	+0.5
LZRR				*e*Sg	Sn	11 54 44.4	+1.9
NEY	Neytrino	1.29	95	*i* PG	Pg	11 54 23.1	-2.2
NEY	Neytrino	1.29	95	*e*Pg	Pg	11 54 23.2	-2.1
NEY				*e*Sg	Sg	11 54 41.1	-0.8
KIV	Kislovodsk	1.38	64	*c* iPG	Pn	11 54 25.0	-1.4
KIV				*i* S	Sg	11 54 43.7	-1.1
KIV				pmax	pmax		
	comp=Z,767nm,1.0s						
KIV				smax	smax		
	comp=Z,604nm,0.4s						
KIV	Kislovodsk	1.38	64	*i* Pg	Pn	11 54 25.2	-1.3
KIV				*e*Sg	Sg	11 54 43.8	-1.1
NVNR	Nevinnomyssk	1.43	30	*e*PG	Pn	11 54 25.7	-1.5
NVNR				*e*S	Sb	11 54 45.3	-1.0
GOYR	Goytkh	1.45	308	*i* PG	Pn	11 54 27.3	0.0
GOYR				*e*S	Sn	11 54 48.8	+2.2
GOYR	Goytkh	1.45	308	*e*Pg	Pg	11 54 28.8	+0.5
GOYR				*e*Sg	Sn	11 54 47.9	+1.3
KBZ	Khabaz	1.45	75	Pg	Pn	11 54 26.7	-0.6
	comp=Z,37nm,0.3s,baz=268,slow=6.7,SNR=198						
KBZ				Lg	Lg	11 54 46.4	
	comp=Z,82nm,0.3s,baz=61,slow=19,SNR=17						
KBZ	Khabaz	1.45	75	*e*PG	Pn	11 54 25.7	-1.6
KBZ				pmax	pmax		
	comp=Z,37nm,0.3s						
KBZ	Khabaz	1.45	75	*e*Pg	Pn	11 54 26.4	-0.9
KBZ				*e*Sg	Sb	11 54 45.9	-0.7
BEYR	Belyy Ugol+	1.48	64	*e*PG	Pn	11 54 27.3	-0.6
BEYR				*e*S	Sb	11 54 46.5	-1.2
BEYR	Belyy Ugol+	1.48	64	*e*Pg	Pn	11 54 27.3	-0.6
BEYR				*e*Sg	Sb	11 54 46.5	-1.2
TKB	Tkibuli	1.81	124	P	Pn	11 54 33.0	+0.7
TKB				S	Sg	11 54 57.8	-0.9
TKB	Tkibuli	1.81	124	PN	Pn	11 54 33.0	+0.7
BATM	Batumi	1.85	163	P	Pn	11 54 33.5	+0.7
BATM				S	Sb	11 54 59.0	+0.8
BATM	Batumi	1.85	163	PN	Pn	11 54 33.5	+0.7
NCK	Nalchik	1.92	85	*i* PN	Pb	11 54 35.3	-0.7
NCK				pmax	pmax		
	comp=Z,362nm,1.1s						
NCK	Nalchik	1.92	85	*i* Pg	Pg	11 54 37.6	+0.3
NCK				*e*Sg	Sg	11 55 03.5	+1.3
DIGR	Digorskoe uzhe	1.97	103	*e*PN	Pg	11 54 38.3	0.0
DIGR				*e*S	Sg	11 55 05.9	+2.0
DIGR	Digorskoe uzhe	1.97	103	*e*Pg	Pg	11 54 38.3	0.0
DIGR				*e*Sg	Sg	11 55 05.9	+2.0
ONI	Oni	1.98	112	P	Pb	11 54 36.9	-0.3
ONI				S	Sg	11 55 05.0	+0.8
ONI	Oni	1.98	112	PN	Pb	11 54 36.9	-0.3
ONI				S	Sg	11 55 05.1	+0.8
LSNR	Lesken	2.09	92	*e*PN	Pg	11 54 39.8	-0.8
LSNR				*e*S	Sg	11 55 07.1	-0.5
LSNR	Lesken	2.09	92	*e*Pg	Pg	11 54 39.8	-0.8
LSNR				*e*Sg	Sg	11 55 07.1	-0.5
ABS	Abastumani	2.12	139	P	Pn	11 54 36.7	0.0
ABS				S	Sb	11 55 06.8	+0.8
ABS	Abastumani	2.12	139	PN	Pn	11 54 36.7	0.0
ABS				S	Sb	11 55 06.8	+0.8
ZEI	Tsey	2.23	104	*e*PN	Pb	11 54 41.4	0.0
ZEI				*e*S	Sg	11 55 15.5	+3.4
ZEI				pmax	pmax		
	comp=Z,180nm,0.4s						
ZEI				smax	smax		
	comp=N,273nm,0.7s						
ZEI				smax	smax		
	comp=E,258nm,1.0s						
ZEI	Tsey	2.23	104	*e*Pn	Pg	11 54 42.5	-0.8
ZEI				*e*Sn	Sg	11 55 11.9	-0.2
GOF	Gofitskoye	2.25	41	*e*PN	Pb	11 54 42.0	+0.4
GOF				*e*S	Sb	11 55 10.6	+0.9
GOF	Gofitskoye	2.25	41	*e*Pg	Pb	11 54 42.0	+0.4
GOF				*e*Sg	Sb	11 55 10.6	+0.9
STDR	Stavd-Durt	2.26	89	*e*PN	Pb	11 54 42.2	+0.4
STDR				*e*S	Sg	11 55 11.4	-1.6
STDR	Stavd-Durt	2.26	89	*e*Pn	Pb	11 54 42.2	+0.4
STDR				*e*Sn	Sg	11 55 11.4	-1.6
CHOM	Cayeli-Rize	2.28	184	P	Pn	11 54 37.4	-1.4
CHOM				S	Sn	11 55 08.3	+1.1
KORR	Kora	2.28	96	*e*PN	Pg	11 54 43.3	-1.0
KORR	Kora	2.28	96	*e*Pn	Pg	11 54 43.3	-1.0
ALIG	Mtskhetisjvari	2.35	122	P	Pn	11 54 40.4	+0.6
ALIG				S	Sn	11 55 10.4	+1.5
ERBR	Yeremizino-Bor	2.37	352	*e*PN	Pb	11 54 42.7	-0.9
ERBR				*e*S	Sb	11 55 11.4	-1.7
ERBR	Yeremizino-Bor	2.37	352	*e*Pn	Pb	11 54 42.7	-0.9
ERBR				*e*Sn	Sb	11 55 11.4	-1.7
ARNR	Ardon	2.43	93	*e*PN	Pb	11 54 45.1	+0.4
ARNR				*e*S	Sb	11 55 15.1	+0.2
ARNR	Ardon	2.43	93	*e*Pn	Pb	11 54 45.1	+0.4
ARNR				*e*Sn	Sb	11 55 15.1	+0.2
PRTR	Priterechnaya	2.44	80	*e*PN	Pb	11 54 44.3	-0.5
PRTR	Priterechnaya	2.44	80	*e*Pn	Pb	11 54 44.3	-0.5
SPGR	Shapsug	2.50	304	*i* PN	Pb	11 54 45.4	-0.4
SPGR				*e*S	Sb	11 55 15.6	-1.2
SPGR	Shapsug	2.50	304	*i* Pn	Pb	11 54 45.4	-0.4
SPGR				*e*Sn	Sb	11 55 15.6	-1.2
LACR	Lac	2.50	102	*e*PN	Pb	11 54 45.9	-0.1
LACR				*e*S	Sb	11 55 17.9	+0.9
LACR	Lac	2.50	102	*e*Pn	Pb	11 54 45.9	-0.1
LACR				*e*Sn	Sb	11 55 17.9	+0.9
KTUT	Trabzon	2.55	201	*e*P	Pn	11 54 40.5	-1.9
BTKR	Batakoyurt	2.60	89	*e*PN	Pb	11 54 47.5	-0.2
BTKR	Batakoyurt	2.60	89	*e*Pn	Pb	11 54 47.5	-0.2
AZMN	Azmana	2.68	139	P	Pn	11 54 43.4	-1.1
AKH	Akhalkalaki	2.71	136	P	Pn	11 54 46.2	+1.3
AKH				S	Sb	11 55 23.9	+0.7
AKH	Akhalkalaki	2.71	136	PN	Pn	11 54 46.2	+1.3
AKH				S	Sb	11 55 23.9	+0.7
KMGR	Komgaron	2.87	95	*e*PN	Pg	11 54 55.8	+0.3
KMGR				*e*S	Sg	11 55 30.6	-2.0
KMGR	Komgaron	2.87	95	*e*Pn	Pg	11 54 55.8	+0.3
KMGR				*e*Sn	Sg	11 55 30.6	-2.0
BGD	Bogdanovka	2.87	136	P	Pn	11 54 49.3	+2.2
BGD	Bogdanovka	2.87	136	PN	Pn	11 54 49.3	+2.2
ANN	Anapa	2.92	300	*e*PN	Pn	11 54 49.7	+2.1
ANN				*e*		11 55 27.4	
ANN				pmax	pmax		
	comp=E,8.0nm,0.3s						
ANN				pmax	pmax		
	comp=Z,72nm,0.6s						
ANN				pmax	pmax		
	comp=N,32nm,0.7s						
ANN				smax	smax		
	comp=N,135nm,0.6s						
ANN	Anapa	2.92	300	*e*Pn	Pb	11 54 52.0	-1.0
ANN				*e*Sn	Sb	11 55 28.1	-0.8
ESPY	Espiye-Giresun	2.97	215	P	Pn	11 54 46.5	-1.8
ESPY				S	Sn	11 55 23.1	-1.1
BAYT	Aydıntepe-Bayb	3.04	192	*e*P	Pn	11 54 47.9	-1.5
BAYT				S	Sn	11 55 26.8	+0.5
GROC	Groznyy	3.53	91	*e*PN	Pb	11 55 00.6	-2.8
GROC				*e*		11 55 56.4	
GROC				pmax	pmax		
	comp=Z,47nm,0.4s						
GROC				smax	smax		
	comp=N,105nm,0.7s						
GROC				smax	smax		
	comp=N,61nm,0.6s						
GROC				smax	smax		
	comp=E,67nm,0.6s						
GROC				MLR	MLR		
	comp=Z,152nm,1.0s						
GROC	Groznyy	3.53	91	*i* Pn	Pg	11 55 07.3	-0.9
GROC				*e*Sn	Sb	11 55 48.7	+2.2
DVE	Vedeno	3.80	95	*i* PN	Pn	11 55 00.6	+0.9
DVE	Vedeno	3.80	95	*e*Pn	Pg	11 55 18.0	+4.7
DVE				*e*Sn	Sg	11 56 03.2	+0.7
QZX	Qazax, Azerbai	4.01	124	P	Pb	11 55 11.6	0.0
QZX				S	Sb	11 56 00.9	+0.6
RSDY	Resadiye-TOKAT	4.03	224	*e*P	Pn	11 55 00.8	-2.1
GNI	Garni	4.28	138	Pg	Pb	11 55 18.9	+2.5
	comp=Z,2.6nm,0.3s,baz=24,slow=9.2,SNR=5.3						
GNI				Lg	Lg	11 56 11.0	
	comp=Z,0.9nm,0.3s,baz=122,slow=12,SNR=1.1						
GNI				LR	LR	11 57 05.2	
	comp=Z,182nm,18.1s,baz=306,slow=46						
GNI	Garni	4.28	138	*c*ePN	Pn	11 55 10.1	+3.6
GNI				pmax	pmax		
	comp=Z,22nm,1.3s						
KVT	Kavak	4.31	240	*e*P	Pn	11 55 03.9	-2.9
GDB	GEDABAY	4.44	125	P	Pb	11 55 17.8	-1.3
	SNR=7.1						
GDB				S	Sb	11 56 12.9	0.0
GNBR	Gunib	4.51	101	*e*PN	Pb	11 55 22.4	+2.1
GNBR	Gunib	4.51	101	*e*Pn	Pb	11 55 22.4	+2.1
GNBR				*e*Sn	Sb	11 56 14.6	-0.4
ZKTA	Zakatala	4.53	111	P	Pb	11 55 19.5	-0.9
	SNR=7.4						
ZKTA				S	Sb	11 56 15.0	-0.2
SUDU	Sudak	4.56	291	*e*PN	Pn	11 55 11.4	+1.3
SUDU	Sudak	4.56	291	*e*P	Pn	11 55 11.4	+1.3
SUDU				Pm		11 55 11.6	
	comp=Z,7.0nm,0.3s						
SUDU				*e*S	Sn	11 56 04.5	+1.2
SUDU				Sm		11 56 07.3	
	comp=N,44nm,0.6s						
SUDU				Sm		11 56 07.3	
	comp=E,34nm,0.7s						
SVSK	Karacayir	4.56	222	*e*P	Pn	11 55 08.4	-1.7
HYR	Heyderabad	4.67	140	P	Pb	11 55 21.6	-1.4
HYR				S	Sb	11 56 17.5	-2.0
ARPR	Arapgir-MALATY	4.71	206	*e*P	Pn	11 55 11.5	-0.9
GANJ	Ganja	4.83	123	P	Pb	11 55 24.2	-1.5
GANJ				S	Sb	11 56 21.9	-2.1
YAL	Yalta	5.05	285	*e*PN	Pn	11 55 18.6	+1.8
YAL	Yalta	5.05	285	*e*P	Pn	11 55 18.6	+1.8
YAL				Pm		11 55 18.9	
	comp=Z,20nm,0.3s						
SEKA	Sheki	5.10	113	P	Pb	11 55 28.1	-2.1
SEKA				S	Sb	11 56 29.7	-2.2
SIM	Simferopol'	5.18

comp=E,60nm,22.1s
MNK Minsk 14.04 327 *i* P **Pn 11 57 20.2 +0.3**
comp=Z,4.0nm,0.6s,baz=317
MNK Minsk 14.04 327 *i* P **Pn 11 57 20.2 +0.3**
comp=E,2.0nm,0.8s
MNK Minsk 14.04 327 *i* P **Pn 11 57 20.2 +0.3**
comp=N,2.0nm,1.0s
MNK Minsk 14.04 327 *i* PP **P 11 57 28.2 +0.2**
MNK Minsk 14.04 327 *i* PPP PPP 11 57 35.8
MNK Minsk 14.04 327 *i* S **Sn 11 59 57.3 +1.3**
MNK Minsk 14.04 327 *i* SS **S 12 00 10.9 -6.8**
MNK Minsk 14.04 327 *i* SSS SSS 12 00 23.4
MNK Minsk 14.04 327 *i* LR LR 12 02 31.6
MNK Minsk 14.04 327 *i* LRM MLR 12 03 19.0
comp=N,10.0nm,16.1s
MNK Minsk 14.04 327 *i* LRM MLR 12 03 29.1
comp=Z,25nm,14.4s
GEYT Alibeck 14.10 107 Pn **Pn 11 57 21.1 +0.2**
comp=Z,0.2nm,0.3s,baz=260,slow=18,SNR=4.0
KIRV Kirov 16.11 16 Pn **P 11 57 51.4 +0.6**
comp=Z,3.2nm,0.3s,baz=219,slow=7.7,SNR=8.3
KIRV Kirov 16.11 16*ce*P **Pn 11 57 45.9 -1.6**
ARU Arti 17.23 35 P **P 11 58 02.7 -0.5**
baz=218,slow=13,SNR=5.3
ARU LR LR 12 05 19.7
comp=Z,51nm,19.4s,baz=228,slow=39
comp=Z,2.6nm,0.3s
ARU Arti 17.23 35*d* P **P 11 58 03.5 +0.3**
ARU S **S 12 01 18.7 -4.0**
ARU pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 17.53 358 *e*P **Pn 11 58 04.4 -1.0**
KLMR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 17.53 358 *e*Pn **Pn 11 58 04.4 -1.0**
KLMR AMP 11 58 11.4
comp=Z,10.0nm,0.9s
GERES GERESS Array B 19.62 296 P **P 11 58 30.0 +0.2**
comp=Z,0.3nm,0.6s,baz=78,slow=13,SNR=3.9
GERES GERESS Array B 19.62 296 P **P 11 58 30.0 +0.2**
FINES FINESS Array B 20.16 339 P Pn 11 58 37.6 +0.4
comp=Z,2.0nm,0.6s,baz=156,slow=14,SNR=7.0
comp=Z,2.0nm,0.6s
BRVK Borovoye 21.66 53*ce*P **P 11 58 53.8 +2.1**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BVAR Borovoye Array 21.72 53 P **P 11 58 54.6 +2.4**
comp=Z,1.1nm,0.8s,baz=243,slow=9.6,SNR=5.9
comp=Z,1.1nm,0.8s
DAVOX Davos/Dischmat 22.14 290 P **P 11 58 59.6 +2.5**
comp=Z,2.4nm,0.8s,baz=124,slow=11,SNR=4.8
comp=Z,2.4nm,0.8s
HFS Hagfors 23.54 325 P **P 11 59 12.0 +0.7**
comp=Z,4.2nm,0.8s,baz=128,slow=9.6,SNR=7.2
comp=Z,4.2nm,0.8s
HFS Hagfors 23.54 325 P **P 11 59 12.0 +0.7**
AAK Ala-Archa 24.44 80*ce*P **P 11 59 20.3 +0.1**
AAK pmax pmax
comp=Z,4.0nm,1.7s
NB2 NORSAR Subarra 25.05 325 P **P 11 59 25.9 +0.5**
comp=Z,2.1nm,0.6s,baz=123,slow=9.3
NOA NORSAR Array B 25.05 325 P **P 11 59 26.0 +0.5**
comp=Z,1.6nm,0.7s,baz=125,slow=9.0,SNR=9.6
NOA LR LR 12 09 43.2
comp=Z,27nm,18.2s,baz=280,slow=37
comp=Z,1.6nm,0.7s
NOA NORSAR Array B 25.05 325 *e*P **P 11 59 26.6 +1.2**
NOA pmax pmax
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 26.40 61 P **P 11 59 38.9 +1.2**
comp=Z,0.5nm,0.7s,baz=274,slow=9.4,SNR=4.5
comp=Z,0.5nm,0.7s
KURK Kurchatov 26.46 61 P **P 11 59 38.9 +0.7**
ARCES ARCESS Array B 27.41 348 P **P 11 59 47.7 +1.1**
comp=Z,1.1nm,0.8s,baz=142,slow=7.5,SNR=3.9
comp=Z,1.1nm,0.8s
ARCES ARCESS Array B 27.41 348 *e*P **P 11 59 50.3 +3.7**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 29.13 69 P **P 12 00 03.4 +1.2**
comp=Z,0.2nm,0.6s,baz=293,slow=6.7,SNR=3.6
comp=Z,0.2nm,0.6s
MKAR Makanchi Array 29.13 69 *e*P **P 12 00 04.3 +2.1**
ESDC Sonseca Array 33.53 279 P **P 12 00 42.2 +1.1**
comp=Z,0.4nm,0.7s,baz=61,slow=10,SNR=4.6
comp=Z,0.4nm,0.7s
NRIK Noril'sk 35.15 27 *i* P **P 12 00 57.3 +2.6**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 45.21 240 P **P 12 02 18.3 -0.2**
comp=Z,1.1nm,0.8s,baz=37,slow=8.3,SNR=6.9
comp=Z,1.1nm,0.8s
TIXI Tiksi 48.89 25*ce*P **P 12 02 48.6 +2.0**
TIXI pmax pmax
comp=Z,5.0nm,2.5s
KLR Kul'dur 59.32 50 P **P 12 04 04.0 +0.9**
comp=Z,0.8nm,0.7s,baz=285,slow=9.6,SNR=3.9
comp=Z,0.8nm,0.7s
SEY Seymchan 60.87 29 P **P 12 04 15.4 +1.9**
comp=Z,1.9nm,0.6s,baz=275,slow=7.0,SNR=8.7
comp=Z,1.9nm,0.6s

---

*UPA **03** 12:02:38.9±3.0, 36.˚73N×98.˚06W, h10km±999km*
*IDC **03** 12:02:43.9±0.3, 36.˚46N×96.˚87W, h0km, mb5.3/37, mbtmp5.3/49, ML4.9/10, MS5.5/83, Error ellipse: s-maj=8.0km s-min=6.6km az=1.0*
*BJI **03** 12:02:43.0±0.0, 36.˚50N×96.˚90W, h5km, mb5.3/19, mB5.6/19, Ms6.1/28, Ms7 5.7/28*
*ANF **03** 12:02:44.0±1.0, 36.˚49N×96.˚90W, h8km±8km, ML6.9/28, Error ellipse: s-maj=2.8km s-min=2.6km az=163.0*
*MOS **03** 12:02:43.6±1.1, 36.˚40N×96.˚90W, h10km, mb5.7/70, MS5.6/44, Error ellipse: s-maj=5.4km s-min=4.3km az=88.6*
*TUL **03** 12:02:44.4±1.4, 36.˚425N±0.˚008×96.˚93W±0.˚02, h6km±6km, ML5.9, mb5.6/106(NEIC), mb_Lg6.1/144(NEIC), Ms_20 5.7/299(NEIC), Mwb5.6/32(NEIC), Mwr5.7/68(NEIC), Mww5.8(NEIC), Error ellipse: s-maj=2.3km s-min=1.0km az=74.0*
*NEIC **03** 12:02:44.6, 36.˚43N×96.˚93W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.47; $M_{\theta\theta}$=2.42; $M_{\phi\phi}$=-1.95; $M_{r\theta}$=-0.31; $M_{r\phi}$=3.18; $M_{\theta\phi}$=-0.02; Fault plane solution: $M_0$3.90000×10^{17} NP1:ϕ_s197.20000°, δ85.91000°, λ179.10000°. NP2:ϕ_s287.27000°, δ89.10000°, λ4.09000°. Principal axes: T 4.1173, Plg4.0000°, Azm152.0000°; N -0.4862, Plg86.0000°, Azm300.0000°; P -3.6311, Plg2.0000°, Azm62.0000°;*
*NEIC **03** 12:02:44.4, 36.˚43N×96.˚93W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.93; $M_{\theta\theta}$1.19; $M_{\phi\phi}$-2.11; $M_{r\theta}$-0.24; $M_{r\phi}$3.24; $M_{\theta\phi}$-0.10; Fault plane solution: $M_0$3.73000×10^{17} NP1:ϕ_s193.33000°, δ85.02000°, λ175.63000°. NP2:ϕ_s283.71000°, δ85.64000°, λ5.00000°. Principal axes: T 3.1994, Plg7.0000°, Azm149.0000°; N 0.8974, Plg83.0000°, Azm325.0000°; P -4.0969, Plg0.0000°, Azm58.0000°;*
*NEIC **03** 12:02:44.6±1.3, 36.˚43N±0.˚01×96.˚93W±0.˚02, h5km±1km Error ellipse: s-maj=2.2km s-min=1.5km az=61.0*
*GCMT **03** 12:02:46.4±0.1, 36.˚54N×96.˚86W, h18km, MW5.7/164, Moment Tensor Solution. s145,c280; s164,c479; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23±.04; $M_{\theta\theta}$3.05±.04; $M_{\phi\phi}$-2.82±.04; $M_{r\theta}$-0.15±.09; $M_{r\phi}$4.26±.04; $M_{\theta\phi}$-0.58±.09; Best double couple: $M_0$5.20800×10^{17} NP1:ϕ_s17.00000°, δ89.00000°, λ-173.00000°. NP2:ϕ_s287.00000°, δ83.00000°, λ-1.00000°. Principal axes: T 5.3170, Plg4.0000°, Azm152.0000°; N -0.2140, Plg83.0000°, Azm24.0000°; P -5.0990, Plg5.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 12:02:48, 36.˚53N×96.˚92W, h12km, Moment Tensor Solution. Duration: 7s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.28; $M_{\theta\theta}$2.83; $M_{\phi\phi}$-3.11; $M_{r\theta}$-2.43; $M_{r\phi}$4.67; $M_{\theta\phi}$-1.50; Fault plane solution: $M_0$6.24000×10^{17} NP1: ϕ_s289.00000°, δ72.00000°, λ16.00000°. NP2: ϕ_s194.00000°, δ74.00000°, λ161.00000°. Principal axes: T 6.6736, Plg24.0000°, Azm151.0000°; N -0.9890, Plg66.0000°, Azm335.0000°; P -5.6846, Plg2.0000°, Azm242.0000°;*

ISC 03 12:02:44.2±0.6, 36.˚43N±0.˚01×96.˚91W±0.˚02, h5km±3km, n1639, σ1.88/1833, mb5.6/204, MS5.7/265, 68C-21D, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.31**	**148**	Pg	**Pg**	**12 02 50.8**	**+0.6**
QUOK				Sg	**Sg**	**12 02 55.6**	**+1.4**
BLOK	**Blackwell**	**0.41**	**323**	Pg	**Pg**	**12 02 52.4**	**+0.3**
BLOK				Sg	**Sg**	**12 02 58.3**	**+0.8**
OK031	**S. Brethren Rd**	**0.48**	**173**		**Pg**	**12 02 53.8**	**+0.3**
OK031				Sg	**Sg**	**12 03 00.9**	**+1.2**
OK030	**Cody Creek RV**	**0.51**	**168**	Pg	**Pg**	**12 02 54.5**	**+0.4**
OK030				Sg	**Sg**	**12 03 01.6**	**+0.9**
T35A	**Sooner Cattle**	**0.58**	**33**	Pg	**Pg**	**12 02 55.8**	**+0.5**
T35A				Sg	**Sg**	**12 03 03.9**	**+1.0**
T35B	**Sooner Cattle** baz=214,SNR=1000	**0.58**	**33**	P	**Pg**	**12 02 55.7**	**+0.4**
T35B	baz=214			S	**Sg**	**12 03 04.0**	**+1.1**
DEOK	**Depew**	**0.68**	**150**	Pg	**Pg**	**12 02 57.5**	**+0.4**
DEOK	comp=Z,74μm,1.0s			IAmb_Lg		12 03 06.0	
DEOK				Sg	**Sg**	**12 03 07.0**	**+1.1**
KAN13	**South Haven SW**	**0.74**	**322**	Pg	**Pg**	**12 02 58.4**	**0.0**
KAN13				Sg	**Sg**	**12 03 08.2**	**+0.3**
OK029	**Liberty Lake**	**0.77**	**215**	Pg	**Pg**	**12 02 58.9**	**-0.1**
OK029				Sg	**Sg**	**12 03 09.6**	**+0.5**
OK005	**Luther M Schoo**	**0.81**	**196**		**Pg**	**12 02 59.7**	**0.0**
CROK	**Carrier**	**0.87**	**275**	Pg	**Pg**	**12 03 00.7**	**-0.2**
CROK				Sg	**Sg**	**12 03 12.5**	**+0.4**
GC02	**Grant County #**	**0.87**	**299**		**Pg**	**12 03 00.7**	**-0.2**
GC02				Sg	**Sg**	**12 03 12.0**	**-0.2**
KAN09	**Caldwell North**	**0.90**	**321**	Pg	**Pg**	**12 03 01.4**	**-0.2**
KAN09				Sg	**Sb**	**12 03 14.9**	**+0.1**
OK025	**Westminster Rd**	**0.92**	**202**	Pg	**Pg**	**12 03 01.5**	**-0.3**
OK025				Sg	**Sg**	**12 03 14.1**	**+0.4**
KAN17	**Caldwell West**	**0.92**	**312**	Pg	**Pg**	**12 03 01.6**	**-0.2**
KAN17				Sg	**Sg**	**12 03 13.5**	**-0.3**
OK009	**Oakdale Elemen**	**0.94**	**206**		**Pg**	**12 03 02.3**	**-0.1**
KS20	**Mayfield South**	**0.95**	**327**	Pg	**Pg**	**12 03 02.3**	**-0.2**
KS20				Sg	**Sb**	**12 03 15.9**	**-0.2**
BCOK	**Bluff Creek, N**	**0.96**	**216**	Pg	**Pg**	**12 03 02.3**	**-0.3**
BCOK				Sg	**Sg**	**12 03 15.6**	**+0.6**
OK011	**Prague**	**0.96**	**169**		**Pg**	**12 03 02.2**	**-0.4**
KAN01	**Argonia South**	**0.99**	**317**	Pg	**Pg**	**12 03 03.0**	**-0.2**
KAN01				Sg	**Sb**	**12 03 17.2**	**-0.1**
KAN14	**Manchester OK**	**1.00**	**302**		**Pg**	**12 03 03.0**	**-0.4**
KAN14				Sg	**Sb**	**12 03 17.4**	**0.0**
KAN05	**Bluff City Nor**	**1.03**	**311**		**Pg**	**12 03 03.6**	**-0.3**
KAN05				Sg	**Sg**	**12 03 17.7**	**+0.5**
TUL1	**Leonard**	**1.04**	**120**	Pg	**Pg**	**12 03 04.1**	**-0.1**
TUL1				Sg	**Sb**	**12 03 18.8**	**0.0**
TUL1	**Leonard** baz=300,SNR=1000	**1.04**	**120**	P	**Pg**	**12 03 04.2**	**-0.1**
TUL1	baz=300			S	**Sg**	**12 03 18.2**	**+0.4**
TUL1	**Leonard** baz=300,SNR=1000	**1.04**	**120**	P	**Pg**	**12 03 04.1**	**-0.1**
TUL1	baz=300			S	**Sg**	**12 03 18.1**	**+0.4**
KS21	**Milan North St**	**1.04**	**325**		**Pg**	**12 03 04.1**	**-0.2**
KS21				Sg	**Sb**	**12 03 19.0**	**+0.2**
OK032	**Salt Plains WL**	**1.11**	**290**		**Pg**	**12 03 05.0**	**-0.6**
OK032				Sg	**Sb**	**12 03 20.7**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.11**	**203**	Pg	**Pg**	**12 03 04.8**	**-0.6**
OKCSW				Sg	**Sb**	**12 03 20.6**	**-0.1**
KAN06	**Argonia West S**	**1.11**	**317**		**Pg**	**12 03 05.3**	**-0.3**
KAN06					**Sb**	**12 03 20.6**	**-0.2**
KAN08	**Anthony NE Sta**	**1.16**	**313**	Pg	**Pg**	**12 03 06.2**	**-0.4**
KAN08				Sg	**Sg**	**12 03 21.8**	**+0.2**
KAN10	**Anthony SW Sta**	**1.18**	**306**		**Pg**	**12 03 06.4**	**-0.4**
KAN10				Sg	**Sg**	**12 03 22.3**	**+0.3**
KAN16	**Harper SW Stat**	**1.22**	**311**	Pg	**Pg**	**12 03 07.2**	**-0.4**
KAN16				Sg	**Sb**	**12 03 24.0**	**+0.2**
KAN12	**Harper NE Stat**	**1.23**	**315**		**Pg**	**12 03 07.4**	**-0.4**
KAN12				Sg	**Sn**	**12 03 25.0**	**-0.1**
FNO	**Franklin**	**1.24**	**199**		**Pg**	**12 03 07.0**	**-0.9**
FNO	comp=Z,109μm,1.3s			IAmb_Lg		12 03 24.8	
FNO				Sg	**Sn**	**12 03 25.1**	**-0.3**
OK035	**E0210 Rd and N**	**1.48**	**281**	Pn	**Pn**	**12 03 11.6**	**0.0**
RLO	**Rose Lookout**	**1.55**	**99**		**Pb**	**12 03 13.0**	**-0.4**
CSTR	**Hydro, Custer**	**1.64**	**242**	Pn	**Pn**	**12 03 14.0**	**+0.2**
CSTR	comp=Z,2μm,0.8s			IAmb_Lg		12 03 36.2	
NOKA	**Waynoka**	**1.64**	**278**	Pn	**Pn**	**12 03 14.0**	**+0.2**
NOKA	comp=Z,40μm,1.1s			IAmb_Lg		12 03 34.6	
U32A	**Winter Ranch,**	**1.69**	**269**	Pn	**Pn**	**12 03 14.8**	**+0.3**
U32A	**Winter Ranch,** baz=88,SNR=1000	**1.69**	**269**	P	**Pn**	**12 03 14.9**	**+0.4**
U32A	baz=88			S	**Sb**	**12 03 37.9**	**+0.5**
X34A	**Smith Ranch, M**	**1.98**	**203**	Pn	**Pb**	**12 03 20.0**	**-0.7**
X34A	comp=Z,183μm,0.9s			IAmb_Lg		12 03 50.2	
U38A	**Gravette**	**2.04**	**89**		**Pb**	**12 03 20.6**	**-1.2**
U38A	**Gravette** baz=270,SNR=1000	**2.04**	**89**	P	**Pb**	**12 03 20.5**	**-1.2**
U38A	baz=270			S	**Sg**	**12 03 48.6**	**-1.0**
ELIS	**Ellis County**	**2.06**	**261**	Pn	**Pn**	**12 03 20.8**	**+1.2**
ELIS	comp=Z,44μm,1.0s			IAmb_Lg		12 03 51.5	
X37A	**Clayton**	**2.23**	**145**		**Pn**	**12 03 23.1**	**+1.3**
X37A	comp=Z,51μm,1.1s			IAmb_Lg		12 03 53.2	
X37A	**Clayton** baz=326,SNR=1000	**2.23**	**145**	P	**Pn**	**12 03 22.5**	**+0.7**
WMOK	**Wichita Mounta** comp=Z,71μm,0.8s	**2.28**	**223**	IAmb_Lg		12 03 55.6	
WMOK	**Wichita Mounta**	**2.28**	**223**	P	**Pn**	**12 03 23.2**	**+0.7**
WMOK	comp=Z,71μm,0.9s			pmax	pmax		
WMOK	**Wichita Mounta** baz=41,SNR=1000	**2.28**	**223**	P	**Pn**	**12 03 22.8**	**+0.3**
WMOK	**Wichita Mounta** baz=41,SNR=1000	**2.28**	**223**	P	**Pn**	**12 03 22.5**	**0.0**
WMOK	baz=41			S	**Sn**	**12 03 52.0**	**+1.0**
HHAR	**Hobbs**	**2.40**	**93**		**Pn**	**12 03 25.7**	**+1.5**
HHAR	comp=Z,65μm,0.8s			IAmb_Lg		12 04 01.7	
LOOK	**Love County**	**2.44**	**185**		**Pn**	**12 03 26.0**	**+1.2**
LOOK	comp=Z,59μm,0.7s			IAmb_Lg		12 04 07.9	
R32A	**Long Quarter,**	**2.45**	**325**		**Pn**	**12 03 25.5**	**+0.5**
R32A	comp=Z,49μm,0.9s			IAmb_Lg		12 04 01.1	
R32A	**Long Quarter,** baz=144,SNR=741	**2.45**	**325**	P	**Pn**	**12 03 25.3**	**+0.4**
KSU1	**Kansas State U**	**2.67**	**5**	Pn	**Pn**	**12 03 28.2**	**+0.2**
KSU1	**Kansas State U** comp=Z,96μm,1.1s	**2.67**	**5**	IAmb_Lg		12 04 14.6	
KSU1	**Kansas State U** baz=186,SNR=307	**2.67**	**5**	P	**Pn**	**12 03 28.2**	**+0.2**
KSU1	**Kansas State U** baz=186,SNR=1000	**2.67**	**5**	P	**Pn**	**12 03 28.1**	**+0.1**
KSU1	baz=186			Sb	**Sb**	**12 04 07.8**	**+2.0**
Z35A	**Perchaven, San**	**3.11**	**185**		**Pn**	**12 03 35.2**	**+1.3**
Z35A	comp=Z,43μm,1.1s			IAmb_Lg		12 04 25.5	
Z35A	**Perchaven, San** baz=4.8,SNR=655	**3.11**	**185**	P	**Pn**	**12 03 34.3**	**+0.3**
S39A	**Bolivar**	**3.13**	**65**		**Pn**	**12 03 35.5**	**+1.3**
S39A	comp=Z,46μm,1.0s			IAmb_Lg		12 04 32.4	
S39A	**Bolivar** baz=247,SNR=351	**3.13**	**65**	P	**Pn**	**12 03 35.1**	**+0.8**
CBKS	**Cedar Bluff**	**3.27**	**318**	Pn	**Pn**	**12 03 36.5**	**+0.3**
CBKS	comp=Z,32μm,0.8s			IAmb_Lg		12 04 31.0	
CBKS	**Cedar Bluff**	**3.27**	**318**	P	**Pn**	**12 03 36.5**	**+0.3**
CBKS	**Cedar Bluff** baz=136,SNR=354	**3.27**	**318**	P	**Pn**	**12 03 36.4**	**+0.2**
CBKS	**Cedar Bluff** baz=136,SNR=788	**3.27**	**318**	P	**Pn**	**12 03 36.4**	**+0.2**
CBKS	baz=136			Sb	**Sb**	**12 04 25.8**	**+2.8**
MIAR	**Mount Ida**	**3.31**	**124**		**Pn**	**12 03 37.6**	**+0.9**
MIAR	comp=Z,42μm,1.1s			IAmb_Lg		12 04 36.6	
MIAR	**Mount Ida**	**3.31**	**124**	P	**Pn**	**12 03 37.6**	**+0.9**
MIAR	comp=Z,42μm,1.1s			pmax	pmax		
MIAR	**Mount Ida** baz=306,SNR=1000	**3.31**	**124**	P	**Pn**	**12 03 37.4**	**+0.7**
MIAR	**Mount Ida** baz=306,SNR=1000	**3.31**	**124**	P	**Pn**	**12 03 37.2**	**+0.5**
MIAR	baz=306			S	**Sn**	**12 04 17.5**	**+1.2**
Z38A	**Mt. Pleasant**	**3.54**	**153**		**Pn**	**12 03 40.7**	**+0.9**
Z38A	comp=Z,46μm,0.8s			IAmb_Lg		12 04 42.7	
Z38A	**Mt. Pleasant** baz=334,SNR=237	**3.54**	**153**	P	**Pn**	**12 03 40.1**	**+0.3**
MGMO	**Mountain Grove**	**3.79**	**78**		**Pn**	**12 03 44.4**	**+1.0**
MGMO	comp=Z,40μm,0.9s			IAmb_Lg		12 04 52.0	
FCAR	**Ozark Folk Cen**	**3.91**	**97**		**Pn**	**12 03 45.0**	**0.0**
FCAR	comp=Z,46μm,1.0s			IAmb_Lg		12 04 51.7	
WHAR	**Wooly Hollow**	**3.92**	**106**	Pn	**Pn**	**12 03 45.4**	**+0.3**
WHAR	comp=Z,71μm,1.1s			IAmb_Lg		12 04 58.2	
UALR	**University of**	**4.07**	**113**	Pn	**Pn**	**12 03 48.1**	**+1.0**
UALR	comp=Z,42μm,1.2s			IAmb_Lg		12 04 54.1	
R40A	**Maddies Statio**	**4.14**	**62**		**Pn**	**12 03 49.1**	**+1.0**
R40A	**Maddies Statio** baz=245,SNR=1000	**4.14**	**62**	P	**Pn**	**12 03 48.7**	**+0.6**
WLAR	**White Oak Lake**	**4.15**	**130**	Pn	**Pn**	**12 03 48.5**	**+0.3**
WLAR	comp=Z,48μm,1.1s			IAmb_Lg		12 05 05.6	
P38A	**Dawn**	**4.16**	**39**		**Pn**	**12 03 48.8**	**+0.4**
P38A	**Dawn** baz=221,SNR=716	**4.16**	**39**	P	**Pn**	**12 03 48.1**	**-0.2**
AMTX	**Amarillo**	**4.18**	**250**		**Pn**	**12 03 49.9**	**+1.1**
AMTX	**Amarillo** baz=67,SNR=235	**4.18**	**250**	P	**Pn**	**12 03 49.1**	**+0.3**
AMTX	**Amarillo** baz=67	**4.18**	**250**	P	**Pn**	**12 03 49.0**	**+0.3**
N33B	**J Bar K, Exete** baz=174,SNR=306	**4.32**	**355**	P	**Pn**	**12 03 50.3**	**-0.3**
N33A	**J Bar K, Exete**	**4.32**	**355**		**Pn**	**12 03 51.1**	**+0.5**
ABTX	**Abilene, Hawle**	**4.42**	**211**		**Pn**	**12 03 52.8**	**+0.9**
ABTX	comp=Z,83μm,1.2s			IAmb_Lg		12 05 12.7	
ABTX	**Abilene, Hawle** baz=30,SNR=54	**4.42**	**211**	P	**Pn**	**12 03 51.5**	**-0.5**
ABTX	**Abilene, Hawle** baz=30,SNR=84	**4.42**	**211**	P	**Pn**	**12 03 51.3**	**-0.7**
ABTX	baz=30			Sb	**Sb**	**12 04 58.6**	**+2.7**
WHTX	**Lake Whitney,**	**4.45**	**186**		**Pn**	**12 03 52.9**	**+0.4**
WHTX	comp=Z,38μm,1.1s			IAmb_Lg		12 05 09.2	
WHTX	**Lake Whitney,** baz=5.5,SNR=542	**4.45**	**186**	P	**Pn**	**12 03 52.4**	**0.0**
WHTX	**Lake Whitney,** baz=5.5,SNR=866	**4.45**	**186**	P	**Pn**	**12 03 52.2**	**-0.2**
WHTX	baz=5.5			Sb	**Sb**	**12 05 00.2**	**+3.3**
237A	**Washetta, Mont**	**4.51**	**168**		**Pn**	**12 03 53.5**	**+0.3**
237A	comp=Z,22μm,0.8s			IAmb_Lg		12 05 16.4	
237A	**Washetta, Mont** baz=348,SNR=294	**4.51**	**168**	P	**Pn**	**12 03 53.1**	**-0.1**
N35A	**Tabor**	**4.53**	**12**		**Pn**	**12 03 53.6**	**+0.1**
N35A	**Tabor** baz=193,SNR=283	**4.53**	**12**	P	**Pn**	**12 03 53.8**	**+0.3**
LCAR	**Lake Charles**	**4.67**	**93**		**Pn**	**12 03 55.4**	**+0.1**
LCAR	comp=Z,30μm,0.7s			IAmb_Lg		12 05 11.7	
LCAR	**Lake Charles** baz=276,SNR=114	**4.67**	**93**	P	**Pn**	**12 03 55.3**	**0.0**
CCM	**Cathedral Cave**	**4.80**	**69**		**Pn**	**12 03 57.7**	**+0.5**
CCM	comp=Z,31μm,1.0s			IAmb_Lg		12 05 26.8	
CCM	**Cathedral Cave**	**4.80**	**69**	P	**Pn**	**12 03 57.7**	**+0.5**
CCM	comp=Z,31μm,1.0s			pmax	pmax		
CCM	**Cathedral Cave** baz=252,SNR=755	**4.80**	**69**	P	**Pn**	**12 03 57.3**	**+0.1**
CCM	**Cathedral Cave** baz=252	**4.80**	**69**	P	**Pn**	**12 03 57.3**	**+0.1**
CCM	baz=252			Sb	**Sb**	**12 05 11.5**	**+4.6**
CCAR	**Cane Creek**	**4.90**	**119**		**Pn**	**12 03 59.4**	**+0.9**
CCAR	comp=Z,39μm,0.8s			IAmb_Lg		12 05 27.5	
P40A	**Paris**	**4.93**	**50**		**Pn**	**12 03 59.6**	**+0.7**
P40A	**Paris** baz=233,SNR=136	**4.93**	**50**	P	**Pn**	**12 03 58.9**	**-0.1**
NATX	**Nacogdoches**	**5.02**	**158**	Pn	**Pn**	**12 03 59.5**	**-0.7**
NATX	comp=Z,26μm,1.1s			IAmb_Lg		12 05 23.6	
NATX	**Nacogdoches** baz=339,SNR=46	**5.02**	**158**	P	**Pn**	**12 03 59.6**	**-0.6**
NATX	**Nacogdoches** baz=339,SNR=217	**5.02**	**158**	P	**Pn**	**12 03 59.5**	**-0.7**
BGNE	**Belgrade**	**5.06**	**349**	Pn	**Pn**	**12 04 00.5**	**-0.3**
BGNE	**Belgrade** baz=169,SNR=368	**5.06**	**349**	P	**Pn**	**12 04 00.6**	**-0.3**
BGNE	**Belgrade** baz=169,SNR=499	**5.06**	**349**	P	**Pn**	**12 04 00.4**	**-0.5**
HBAR	**Harrisburg**	**5.14**	**98**		**Pn**	**12 04 02.4**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.21**	**301**	Pn	**Pn**	**12 04 02.7**	**-0.3**
KSCO	comp=Z,22μm,0.8s			IAmb_Lg		12 05 31.0	
KSCO	**Kaye Shedlock'** baz=118,SNR=264	**5.21**	**301**	P	**Pn**	**12 04 03.0**	**0.0**
KSCO	**Kaye Shedlock'** baz=118,SNR=416	**5.21**	**301**	P	**Pn**	**12 04 02.8**	**-0.3**
N38A	**Joes South For**	**5.22**	**32**		**Pn**	**12 04 02.8**	**-0.1**
N38A	**Joes South For** baz=215,SNR=284	**5.22**	**32**	P	**Pn**	**12 04 02.5**	**-0.4**
PBMO	**Poplar Bluff** comp=Z,49μm,0.7s	**5.22**	**84**	IAmb_Lg		12 05 36.5	
MSTX	**Muleshoe**	**5.39**	**245**	Pn	**Pn**	**12 04 05.8**	**+0.4**
MSTX	comp=Z,31μm,1.2s			IAmb_Lg		12 05 49.9	
MSTX	**Muleshoe** baz=61,SNR=552	**5.39**	**245**	P	**Pn**	**12 04 04.8**	**-0.6**
MSTX	**Muleshoe** baz=61,SNR=1000	**5.39**	**245**	P	**Pn**	**12 04 04.8**	**-0.6**
FVM	**French Village**	**5.40**	**71**		**Pn**	**12 04 05.6**	**+0.1**
FVM	comp=Z,26μm,0.8s			IAmb_Lg		12 05 41.0	
FVM	**French Village**	**5.40**	**71**	P	**Pn**	**12 04 05.6**	**+0.1**
FVM	comp=Z,26μm,0.8s			pmax	pmax		
FVM	**French Village** baz=255,SNR=454	**5.40**	**71**	P	**Pn**	**12 04 05.2**	**-0.3**
L34A	**Svendsen Farm,**	**5.54**	**4**		**Pn**	**12 04 06.8**	**-0.6**
L34A	**Svendsen Farm,** baz=185,SNR=150	**5.54**	**4**	P	**Pn**	**12 04 07.4**	**-0.1**
GNAR	**Gosnell**	**5.59**	**93**		**Pn**	**12 04 08.6**	**+0.5**
GNAR	comp=Z,62μm,0.8s			IAmb_Lg		12 05 46.9	
435B	**Jarrell**	**5.66**	**186**		**Pn**	**12 04 08.8**	**-0.3**
435B	**Jarrell** baz=5.3,SNR=107	**5.66**	**186**	P	**Pn**	**12 04 08.5**	**-0.6**
435B	**Jarrell** baz=5.3	**5.66**	**186**	P	**Pn**	**12 04 08.4**	**-0.6**
PEBM	**Pemiscott Bayo**	**5.70**	**91**		**Pn**	**12 04 09.2**	**-0.4**
SLM	**Saint Louis**	**5.74**	**65**		**Pn**	**12 04 10.1**	**0.0**
SLM	comp=Z,25μm,0.8s			IAmb_Lg		12 05 48.1	
SLM	**Saint Louis**	**5.74**	**65**	P	**Pn**	**12 04 10.1**	**0.0**
SLM	comp=Z,25μm,0.9s			pmax	pmax		
SLM	**Saint Louis** baz=249,SNR=52	**5.74**	**65**	P	**Pn**	**12 04 10.3**	**+0.2**
PARMO	**Parma**	**5.77**	**86**		**Pn**	**12 04 10.6**	**+0.1**
**

comp=Z,22µm,0.9s
LNXT Lenox 6.00 91 Pn 12 04 13.4 -0.3
LNXT IAmb_Lg 12 06 04.5
comp=Z,59µm,0.9s
LNXT Lenox 6.00 91 P Pn 12 04 13.6 -0.1
baz=275,SNR=43
OGNE Ogallala 6.03 320 Pn Pn 12 04 14.3 +0.2
OGNE IAmb_Lg 12 06 08.4
comp=Z,30µm,1.0s
OGNE Ogallala 6.03 320 P Pn 12 04 14.6 +0.4
baz=137,SNR=249
OGNE Ogallala 6.03 320 P Pn 12 04 14.2 0.0
baz=137,SNR=1000
T25A Trinidad 6.06 279 Pn Pn 12 04 14.4 -0.3
T25A Trinidad 6.06 279 P Pn 12 04 14.3 -0.4
baz=94,SNR=995
HALT Halls 6.15 93 Pn 12 04 15.8 +0.1
GLAT Glass 6.15 89 Pn 12 04 16.2 +0.4
GLAT IAmb_Lg 12 06 05.9
comp=Z,44µm,0.7s
SCIA State Center 6.17 27 Pn 12 04 16.6 +0.5
SCIA IAmb_Lg 12 06 04.8
comp=Z,55µm,0.7s
SCIA State Center 6.17 27 P Pn 12 04 16.4 +0.3
baz=209,SNR=54
HICK Hickman 6.19 87 Pn 12 04 16.6 +0.3
S44A Carbondale 6.25 76 Pn 12 04 16.6 -0.4
S44A IAmb_Lg 12 06 06.8
comp=Z,38µm,0.7s
S44A Carbondale 6.25 76 P Pn 12 04 16.8 -0.3
baz=261,SNR=430
SIUC Southern Illin 6.28 76 Pn 12 04 17.0 -0.6
342A Flagon Creek P 6.32 142 Pn 12 04 18.3 +0.2
342A IAmb_Lg 12 06 02.5
comp=Z,19µm,1.3s
342B Flagon Creek P 6.32 142 P Pn 12 04 17.9 -0.2
baz=324
K31A O'Neill 6.34 348 Pn Pn 12 04 18.4 0.0
K31A O'Neill 6.34 348 P Pn 12 04 18.5 0.0
baz=167,SNR=143
N41A Harden Midland 6.38 46 Pn Pn 12 04 17.9 -1.0
N41A Harden Midland 6.38 46 P Pn 12 04 18.1 -0.8
baz=230,SNR=474
W45A Hickory Valley 6.41 99 Pn 12 04 18.9 -0.4
W45A IAmb_Lg 12 06 18.3
comp=Z,57µm,1.1s
W45A Hickory Valley 6.41 99 P Pn 12 04 18.6 -0.7
baz=284,SNR=77
JCT Junction City 6.41 203 Pn Pn 12 04 18.2 -1.2
JCT Junction City 6.41 203 P Pn 12 04 18.2 -1.2
JCT Junction City 6.41 203 P Pn 12 04 18.5 -0.8
baz=21,SNR=218
JCT Junction City 6.41 203 P Pn 12 04 18.3 -1.0
baz=21,SNR=314
OXF Oxford 6.41 105 Pn Pn 12 04 18.3 -1.0
OXF IAmb_Lg 12 06 09.2
comp=Z,28µm,0.8s
OXF Oxford 6.41 105 P Pn 12 04 18.3 -1.0
OXF pmax pmax
comp=Z,28µm,0.8s
OXF Oxford 6.41 105 P Pn 12 04 18.6 -0.7
baz=290,SNR=436
OXF Oxford 6.41 105 P Pn 12 04 18.5 -0.9
baz=290,SNR=832
441A DeRidder 6.46 150 Pn 12 04 20.7 +0.7
441A DeRidder 6.46 150 P Pn 12 04 20.5 +0.5
baz=332,SNR=75
UTMT University of 6.49 88 Pn 12 04 20.5 +0.1
HKT Hockley 6.53 172 Pn 12 04 20.6 -0.2
HKT Hockley 6.53 172 *i* P Pn 12 04 23.2 +2.3
HKT Hockley 6.53 172 P Pn 12 04 20.2 -0.7
baz=352
Y45A Yeager Farm, C 6.55 111 Pn Pn 12 04 21.1 -0.1
Y45A IAmb_Lg 12 06 22.2
comp=Z,27µm,0.8s
Y45A Yeager Farm, C 6.55 111 P Pn 12 04 21.4 +0.2
baz=295,SNR=36
P43A Skaggs, Pawnee 6.65 59 Pn 12 04 22.6 0.0
P43A Skaggs, Pawnee 6.65 59 P Pn 12 04 22.7 0.0
baz=244,SNR=357
CPRX Cap Rock 6.66 241 Pn 12 04 23.3 +0.4
T45B Paducah 6.66 83 P Pn 12 04 22.2 -0.5
baz=267,SNR=106
T45A Paducah 6.66 82 Pn 12 04 22.6 -0.2
T45A IAmb_Lg 12 06 29.5
comp=Z,48µm,0.7s
Q44A Meyer Farm, Va 6.73 66 Pn Pn 12 04 23.8 +0.1
Q44A IAmb_Lg 12 06 25.8
comp=Z,39µm,1.1s
Q44A Meyer Farm, Va 6.73 66 P Pn 12 04 23.8 +0.1
baz=251,SNR=413
VBMS Vicksburg 6.75 127 Pn 12 04 23.4 -0.6
VBMS Vicksburg 6.75 127 P Pn 12 04 23.7 -0.4
baz=310,SNR=11
VBMS Vicksburg 6.75 127 P Pn 12 04 23.1 -0.9
baz=310,SNR=56
HTMS Hat Mesa 6.81 237 Pn 12 04 24.7 -0.3
CLN7 Carlsbad 7 6.97 237 Pn 12 04 26.6 -0.5
K38A Parkersburg 6.98 26 Pn 12 04 26.7 -0.4
K38A Parkersburg 6.98 26 P Pn 12 04 26.7 -0.4
baz=209,SNR=169
SDCO Great Sand Dun 6.99 283 Pn 12 04 28.3 +0.7
SDCO IAmb_Lg 12 06 27.3
comp=Z,50µm,1.2s
SDCO Great Sand Dun 6.99 283 P Pn 12 04 27.9 +0.3
baz=98,SNR=370
SDCO Great Sand Dun 6.99 283 P Pn 12 04 27.6 +0.1
baz=98,SNR=788
Q24A Divide 7.00 294 Pn 12 04 26.7 -1.1
Q24A IAmb_Lg 12 06 40.8
comp=Z,13µm,0.8s
Q24A Divide 7.00 294 P Pn 12 04 26.7 -1.1
baz=109,SNR=494
344A Westbrook Farm 7.14 132 Pn Pn 12 04 29.1 -0.3
344A Westbrook Farm 7.14 132 P Pn 12 04 28.8 -0.5
baz=316
L40A Anamosa 7.15 36 Pn Pn 12 04 28.3 -1.1
L40A IAmb_Lg 12 06 32.6
comp=Z,46µm,0.8s
L40A Anamosa 7.15 36 P Pn 12 04 28.6 -0.9
baz=220,SNR=128
HDIL Hopedale 7.25 53 Pn Pn 12 04 30.2 -0.6
HDIL Hopedale 7.25 53 P Pn 12 04 30.3 -0.6
baz=238,SNR=110
HDIL Hopedale 7.25 53 P Pn 12 04 30.0 -0.8
baz=238,SNR=741
HDIL S Sn 12 05 50.9 -2.7
baz=238
ECSD EROS Data Cent 7.30 2 Pn 12 04 30.7 -0.8
ECSD IAmb_Lg 12 06 38.9
comp=Z,23µm,0.9s
ECSD EROS Data Cent 7.30 2 P Pn 12 04 30.7 -0.8
baz=182,SNR=933
ECSD EROS Data Cent 7.30 2 P Pn 12 04 30.5 -1.0
baz=182,SNR=1000
PLAL Pickwick Lake 7.33 99 Pn Pn 12 04 30.8 -1.2
WVT Waverly 7.34 90 Pn Pn 12 04 31.4 -0.7
WVT Waverly 7.34 90 P Pn 12 04 31.4 -0.7
WVT pmax pmax
comp=Z,10µm,0.8s
WVT Waverly 7.34 90 P Pn 12 04 31.4 -0.7
baz=275,SNR=206
WVT Waverly 7.34 90 P Pn 12 04 31.3 -0.7
baz=275
OLIL Olney 7.36 69 Pn 12 04 32.6 +0.2
OLIL IAmb_Lg 12 06 54.7
comp=Z,26µm,1.0s
OLIL Olney 7.36 69 P Pn 12 04 32.8 +0.4
baz=254,SNR=58
GDL2 Guadalupe Moun 7.47 238 Pn 12 04 33.6 -0.4
146A Union 7.50 118 Pn 12 04 34.2 -0.1
146A Union 7.50 118 P Pn 12 04 34.9 +0.6
baz=302
USIN University of 7.54 76 Pn 12 04 34.1 -0.6
USIN IAmb_Lg 12 06 56.2
comp=Z,31µm,1.1s
735A Kenedy 7.59 186 Pn 12 04 35.8 +0.3
735A IAmb_Lg 12 06 58.1
comp=Z,42µm,1.1s
735A Kenedy 7.59 186 P Pn 12 04 35.9 +0.3
baz=5.3,SNR=140
O44A Mansfield 7.61 58 Pn 12 04 34.7 -1.0
O44A IAmb_Lg 12 06 56.2
comp=Z,24µm,1.0s
O44A Mansfield 7.61 58 P Pn 12 04 34.9 -0.8
baz=243,SNR=86

ISCO Idaho Springs 7.64 299 Pn 12 04 36.0 -0.5
ISCO IAmb_Lg 12 06 49.1
comp=Z,19µm,1.2s
ISCO Idaho Springs 7.64 299 P Pn 12 04 36.0 -0.5
ISCO pmax pmax
comp=Z,19µm,1.3s
ISCO Idaho Springs 7.64 299 P Pn 12 04 36.0 -0.5
baz=114,SNR=285
ISCO Idaho Springs 7.64 299 P Pn 12 04 35.9 -0.6
baz=114,SNR=1000
T47A Sharon Grove 7.89 83 Pn 12 04 39.1 -0.6
T47A Sharon Grove 7.89 83 P Pn 12 04 39.3 -0.4
baz=269,SNR=304
L42A Oliver, Polo 7.91 43 Pn Pn 12 04 38.5 -1.3
L42A Oliver, Polo 7.91 43 P Pn 12 04 38.8 -1.1
baz=228,SNR=301
ANMO Albuquerque 7.91 262 Pn Pn 12 04 40.3 +0.2
comp=Z,7.2nm,0.3s,baz=87,slow=14,SNR=184
ANMO Pg Pg 12 05 09.5 -6.1
comp=Z,123nm,0.3s,baz=85,slow=17,SNR=22
ANMO Lg Lg 12 06 53.5
comp=Z,301nm,0.3s,baz=3.5,slow=16,SNR=5.0
ANMO LR LR 12 08 01.7
comp=Z,45µm,18.3s,baz=74,slow=40
comp=Z,102nm,0.8s
ANMO Albuquerque 7.91 262 Pn 12 04 41.1 +1.0
ANMO Albuquerque 7.91 262 *ce* **P Pn 12 04 40.2 +0.1**
ANMO pmax pmax
comp=Z,110nm,0.8s
ANMO Albuquerque 7.91 262 P Pn 12 04 40.2 +0.1
baz=76,SNR=47
ANMO Albuquerque 7.91 262 P Pn 12 04 40.0 -0.1
baz=76
Z47A Carrollton 7.95 111 Pn 12 04 40.5 0.0
Z47A IAmb_Lg 12 07 08.7
comp=Z,16µm,1.1s
346A Big Creek Wild 7.97 127 Pn 12 04 40.5 -0.3
346A Big Creek Wild 7.97 127 P Pn 12 04 40.0 -0.8
baz=311,SNR=33
I37A Lemond, Waseca 8.04 18 Pn Pn 12 04 39.2 -2.4
I37B Waseca 8.04 18 P Pn 12 04 39.6 -2.0
baz=201,SNR=80
S22A 4UR Ranch, Cre 8.04 282 Pn Pn 12 04 42.5 +0.5
S22A IAmb_Lg 12 07 08.2
comp=Z,12µm,1.2s
S22A 4UR Ranch, Cre 8.04 282 P Pn 12 04 42.7 +0.8
baz=96,SNR=218
SUSD Miller 8.15 350 Pn 12 04 41.9 -1.3
SUSD Miller 8.15 350 P Pn 12 04 42.1 -1.1
baz=168,SNR=48
SUSD Miller 8.15 350 P Pn 12 04 41.8 -1.5
baz=168,SNR=57
V48A Smith Brothers 8.20 92 Pn 12 04 43.2 -0.6
PHWY Pilot Hill 8.25 309 Pn 12 04 43.7 -1.1
PHWY IAmb_Lg 12 07 23.5
comp=Z,14µm,0.9s
JFWS Jewell Farm 8.26 36 Pn 12 04 43.2 -1.5
JFWS Jewell Farm 8.26 36 IAmb_Lg 12 07 11.5
comp=Z,38µm,0.7s
JFWS Jewell Farm 8.26 36 P Pn 12 04 43.2 -1.5
JFWS Jewell Farm 8.26 36 P Pn 12 04 43.7 -1.0
baz=221,SNR=205
JFWS Jewell Farm 8.26 36 P Pn 12 04 43.5 -1.2
baz=221,SNR=536
BNM Barren Site 8.27 257 Pn Pn 12 04 44.2 -0.8
X48A Hartselle 8.29 101 Pn Pn 12 04 44.9 -0.2
X48A IAmb_Lg 12 07 20.6
comp=Z,11µm,1.0s
X48A Hartselle 8.29 101 P Pn 12 04 44.6 -0.5
baz=287,SNR=40
P46A Rosedale 8.29 65 Pn 12 04 44.5 -0.6
P46A IAmb_Lg 12 07 25.1
comp=Z,25µm,0.9s
833A Chaparral WMA, 8.35 195 Pn Pn 12 04 45.4 -0.6
833A IAmb_Lg 12 07 26.2
comp=Z,33µm,1.1s
833A Chaparral WMA, 8.35 195 P Pn 12 04 45.2 -0.8
baz=14,SNR=147
833A Chaparral WMA, 8.35 195 P Pn 12 04 45.8 -0.2
baz=14,SNR=262
N23A Red Feather La 8.35 305 Pn 12 04 46.5 +0.3
N23A Red Feather La 8.35 305 P Pn 12 04 46.0 -0.2
baz=120,SNR=806
CRNM Carthage 8.41 256 Pn 12 04 46.3 -0.7
SMCO Snowmass 8.42 292 Pn Pn 12 04 47.1 -0.2
MNTX Cornudas Mount 8.46 239 Pn Pn 12 04 46.5 -1.1
MNTX IAmb_Lg 12 07 15.0
comp=Z,10µm,1.0s
MNTX Cornudas Mount 8.46 239 P Pn 12 04 46.7 -0.9
baz=54,SNR=453
MNTX Cornudas Mount 8.46 239 P Pn 12 04 46.5 -1.1
baz=54,SNR=1000
M44A Midewin, Midew 8.50 52 Pn Pn 12 04 46.8 -1.1
M44A IAmb_Lg 12 07 21.8
comp=Z,29µm,1.0s
M44A Midewin, Midew 8.50 52 P Pn 12 04 47.3 -0.7
baz=237,SNR=195
Y22D IRIS PASSCAL I 8.52 257 Pn 12 04 48.1 -0.4
Y22D IAmb_Lg 12 07 25.2
comp=Z,29µm,1.1s
Y22D IRIS PASSCAL I 8.52 257 P Pn 12 04 47.9 -0.5
baz=32,SNR=32
CLTN Cedars of Leba 8.55 89 Pn Pn 12 04 48.3 -0.4
Y22A Socorro 8.60 256 P Pn 12 04 48.4 -1.1
baz=70
WCI Wyandotte Cave 8.64 75 Pn 12 04 50.7 +0.7
WCI Wyandotte Cave 8.64 75 P Pn 12 04 50.7 +0.7
WCI Wyandotte Cave 8.64 75 P Pn 12 04 49.2 -0.8
baz=261,SNR=268
WCI Wyandotte Cave 8.64 75 P Pn 12 04 49.5 -0.5
baz=261
SFIN Lafayette 8.65 60 Pn 12 04 48.7 -1.3
SFIN IAmb_Lg 12 07 23.2
comp=Z,23µm,1.2s
SFIN Lafayette 8.65 60 P Pn 12 04 48.7 -1.3
baz=246,SNR=82
SFIN Lafayette 8.65 60 P Pn 12 04 48.8 -1.3
baz=246,SNR=235
BLO Bloomington 8.66 68 Pn 12 04 49.0 -1.2
BLO Bloomington 8.66 68 P Pn 12 04 49.1 -1.2
SBM South Baldy 8.76 257 Pn 12 04 49.8 -2.1
LRAL Lakeview Retre 8.83 110 Pn Pn 12 04 51.5 -1.0
LRAL IAmb_Lg 12 07 27.4
comp=Z,12µm,1.2s
LRAL Lakeview Retre 8.83 110 P Pn 12 04 52.1 -0.4
baz=295,SNR=75
LRAL Lakeview Retre 8.83 110 P Pn 12 04 51.9 -0.6
baz=295,SNR=51
HQIL Hanson Quary C 8.85 50 Pn 12 04 51.6 -1.1
HQIL IAmb_Lg 12 07 24.3
comp=Z,66µm,1.2s
I40A Norwalk 8.87 31 Pn 12 04 51.4 -1.7
I40A IAmb_Lg 12 07 43.6
comp=Z,26µm,0.9s
KVTX Kingsville 8.90 186 Pn 12 04 53.9 +0.4
U49A Red Boiling Sp 8.97 86 Pn Pn 12 04 54.1 -0.3
U49A Red Boiling Sp 8.97 86 P Pn 12 04 54.2 -0.2
baz=273,SNR=158
Y49A Blount Mountai 8.97 104 Pn Pn 12 04 53.3 -1.2
Y49A Blount Mountai 8.97 104 P Pn 12 04 53.9 -0.6
baz=290,SNR=24
SWET Sewanee 9.00 95 Pn 12 04 55.4 +0.5
L44A Lake County Fo 9.03 48 Pn Pn 12 04 53.8 -1.5
L44A Lake County Fo 9.03 48 P Pn 12 04 53.7 -1.5
baz=233
L44A Lake County Fo 9.03 48 P Pn 12 04 53.7 -1.5
baz=233,SNR=248
TX31 Lajitas Ar. Si 9.07 221 Pn 12 04 54.5 -1.5
TX31 Lajitas Ar. Si 9.07 221 P Pn 12 04 54.4 -1.6
baz=37,SNR=301
TX32 Lajitas Array 9.07 221 Pn 12 04 53.9 -2.1
TXAR Lajitas Array 9.07 221 Pn Pn 12 04 54.5 -1.4
comp=Z,6.7nm,0.3s,baz=44,slow=12,SNR=382
TXAR Pg Pg 12 05 30.9
comp=Z,159nm,0.3s,baz=46,slow=14,SNR=14
TXAR Lg Lg 12 07 28.5
comp=Z,419nm,0.3s,baz=29,slow=26,SNR=10
comp=Z,116nm,0.6s
TXAR Lajitas Array 9.07 221 Pn Pn 12 04 54.1 -1.9
TXAR Lajitas Array 9.07 221 P Pn 12 04 54.1 -1.9
K43A Burlington 9.11 44 Pn 12 04 54.8 -1.6
K43A Burlington 9.11 44 P Pn 12 04 54.7 -1.6
baz=229,SNR=154
SPMN Marine on St. 9.32 18 Pn 12 04 56.6 -2.5
SPMN Marine on St. 9.32 18 P Pn 12 04 57.4 -1.8
baz=201,SNR=74

SPMN Marine on St. 9.32 18 P Pn 12 04 57.0 -2.2
baz=201,SNR=305
MVCO Mesa Verde 9.33 278 P Pn 12 05 01.6 +2.1
baz=91,SNR=143
PV15 Paradox Valley 9.40 285 Pn 12 05 00.7 +0.1
FPAL Fort Paine 9.41 98 Pn 12 05 00.8 +0.3
F33A 5 Mile Ranch, 9.41 3 Pn 12 04 58.4 -2.1
F33A IAmb_Lg 12 07 41.8
comp=Z,22µm,0.9s
F33A 5 Mile Ranch, 9.41 3 P Pn 12 04 58.6 -1.8
baz=183,SNR=75
RSSD Black Hills 9.41 327 Pn 12 05 00.3 -0.4
RSSD IAmb_Lg 12 08 02.4
comp=Z,10µm,0.9s
RSSD Black Hills 9.41 327 P Pn 12 05 00.3 -0.4
RSSD pmax pmax
comp=Z,10µm,0.9s
RSSD Black Hills 9.41 327 P Pn 12 05 00.0 -0.7
baz=142,SNR=366
RSSD Black Hills 9.41 327 P Pn 12 04 59.9 -0.8
baz=142
W50A Signal Mountai 9.50 94 Pn 12 05 02.7 +0.9
W50A Signal Mountai 9.50 94 P Pn 12 05 02.8 +1.1
baz=281,SNR=28
R49A Shelbyville 9.53 75 Pn 12 05 01.3 -0.8
R49A Shelbyville 9.53 75 P Pn 12 05 01.5 -0.6
baz=262,SNR=160
R49A P Pn 12 05 01.5 -0.6
baz=262,SNR=160
PV07 Paradox Valley 9.55 286 Pn 12 05 05.0 +2.4
P48A Milroy 9.56 68 Pn 12 05 00.8 -1.8
P48A Milroy 9.56 68 P Pn 12 05 00.9 -1.7
baz=255,SNR=131
P48A P Pn 12 05 00.9 -1.7
baz=255,SNR=131
RWWY Rawlins 9.57 306 Pn 12 05 02.9 -0.1
I42A Draeger Farm, 9.64 37 Pn Pn 12 05 01.8 -1.8
I42A Draeger Farm, 9.64 37 P Pn 12 05 02.0 -1.6
baz=222,SNR=366
O20A White River Ci 9.64 296 Pn 12 05 04.0 +0.1
O20A White River Ci 9.64 296 P Pn 12 05 04.0 +0.1
baz=109,SNR=45
PV13 Radium Mtn., P 9.65 284 Pn 12 05 05.0 +1.1
K22A Casper 9.68 313 Pn 12 05 03.2 -1.0
K22A Casper 9.68 313 P Pn 12 05 02.8 -1.5
baz=127,SNR=26
K22A Casper 9.68 313 P Pn 12 05 03.0 -1.3
baz=127,SNR=1000
T50A Nancy 9.71 83 Pn Pn 12 05 03.8 -0.8
T50A Nancy 9.71 83 P Pn 12 05 04.2 -0.4
baz=270
T50A P Pn 12 05 04.2 -0.4
baz=270
BRAL Brewton 9.74 120 Pn 12 05 04.0 -1.0
BRAL Brewton 9.74 120 P Pn 12 05 04.7 -0.2
baz=305,SNR=25
BRAL Brewton 9.74 120 P Pn 12 05 04.0 -1.0
baz=305,SNR=101
F36A Milaca 9.76 14 Pn Pn 12 05 02.7 -2.5
F36A IAmb_Lg 12 08 04.2
comp=Z,29µm,1.1s
F36A Milaca 9.76 14 P Pn 12 05 02.7 -2.5
baz=196,SNR=87
121A Cookes Peak, D 9.78 250 Pn Pn 12 05 04.8 -1.0
121A Cookes Peak, D 9.78 250 P Pn 12 05 04.4 -1.4
baz=64
121A Cookes Peak, D 9.78 250 P Pn 12 05 04.2 -1.5
baz=64,SNR=93
N47A Urbana 9.83 60 Pn Pn 12 05 03.6 -2.6
N47A Urbana 9.83 60 P Pn 12 05 04.0 -2.2
baz=247,SNR=33
N47A P Pn 12 05 04.0 -2.2
baz=247,SNR=33
PV23 Carpenter Ridg 9.83 285 Pn Pn 12 05 08.1 +1.6
250A Grady 9.87 114 Pn 12 05 05.8 -0.9
250A Grady 9.87 114 P Pn 12 05 05.3 -1.5
baz=300,SNR=50
L46A Eue Claire 9.94 53 Pn 12 05 06.0 -1.8
L46A Eue Claire 9.94 53 P Pn 12 05 06.5 -1.3
baz=239,SNR=71
L46A P Pn 12 05 06.5 -1.3
baz=239,SNR=71
O48B Farmland 9.99 64 P Pn 12 05 05.9 -2.5
baz=251,SNR=273
O48B Farmland 9.99 64 P Pn 12 05 05.4 -3.0
baz=251,SNR=502
X51A Calhoun 10.00 97 Pn 12 05 08.2 -0.4
CPCT Cooper Cave 10.09 92 Pn 12 05 10.3 +0.4
P49A Miami Univ. Ec 10.11 68 P Pn 12 05 07.8 -2.2
baz=256,SNR=49
P49A Miami Univ. Ec 10.11 68 P Pn 12 05 07.5 -2.6
baz=256,SNR=136
G40A Rib Lake 10.18 28 P Pn 12 05 09.6 -1.4
baz=212,SNR=130
V51A Loudon 10.18 90 P Pn 12 05 11.2 +0.2
baz=277,SNR=203
R50A Paris 10.19 76 P Pn 12 05 10.5 -0.6
baz=263,SNR=120
R50A P Pn 12 05 10.5 -0.6
baz=263,SNR=120
W18A Petrified Fore 10.50 267 P Pn 12 05 16.6 +0.9
baz=79,SNR=66
E28A Huff 10.52 346 P Pn 12 05 13.9 -1.8
baz=163,SNR=12
O49A Covington 10.57 65 P Pn 12 05 14.8 -1.5
baz=253,SNR=70
O49A P Pn 12 05 14.8 -1.5
baz=253,SNR=70
H43A Windswept, Lux 10.62 38 Pn 12 05 16.1 -0.9
H43A Windswept, Lux 10.62 38 P Pn 12 05 16.0 -1.1
baz=224,SNR=190
TKL Tuckaleechee C 10.66 90 Pn Pn 12 05 17.7 0.0
comp=Z,17nm,0.3s,baz=240,slow=8.7,SNR=105
TKL Pg Pg 12 05 57.6
comp=Z,76nm,0.3s,baz=306,slow=7.2,SNR=7.3
TKL Sn Sn 12 07 16.2 -1.3
comp=Z,120nm,0.3s,baz=23,slow=23,SNR=6.6
TKL Lg Lg 12 08 14.7
comp=Z,578nm,0.3s,baz=180,slow=24,SNR=12
TKL LR LR 12 09 18.6
comp=Z,25µm,19.8s,baz=279,slow=37
comp=Z,386nm,0.8s
TKL Tuckaleechee C 10.66 90 P Pn 12 05 17.2 -0.4
baz=278,SNR=109
S51A Beattyville 10.71 80 P Pn 12 05 17.9 -0.5
baz=268,SNR=164
S51A P Pn 12 05 17.9 -0.5
baz=268,SNR=164
TZTN Tazewell 10.76 85 Pn Pn 12 05 18.6 -0.4
TZTN Tazewell 10.76 85 P Pn 12 05 18.5 -0.5
baz=273,SNR=40
TZTN Tazewell 10.76 85 P Pn 12 05 18.0 -1.0
baz=273,SNR=235
V52A Sevierville 10.79 89 P Pn 12 05 19.0 -0.3
baz=277,SNR=132
N49A Columbus Grove 10.91 62 P Pn 12 05 17.8 -3.2
baz=250,SNR=258
N49A P Pn 12 05 17.8 -3.2
baz=250,SNR=258
E38A The Farm, Brul 10.93 20 P Pn 12 05 18.5 -2.7
baz=203,SNR=95
451A Vernon 10.97 119 P Pn 12 05 20.9 -0.9
baz=305,SNR=23
Q51A Peebles 11.05 72 P Pn 12 05 21.9 -1.1
baz=261,SNR=93
Q51A P Pn 12 05 21.9 -1.1
baz=261,SNR=93
352A Blakely 11.11 113 P Pn 12 05 22.4 -1.3
baz=300,SNR=16
L48A N Adams 11.13 57 P Pn 12 05 21.6 -2.4
baz=244,SNR=68
L48A P Pn 12 05 21.6 -2.4
baz=244,SNR=68
I45A Fountain 11.14 44 P Pn 12 05 23.3 -0.8
baz=231,SNR=9.7
I45A P Pn 12 05 23.3 -0.8
baz=231,SNR=9.7
P51A Williamsport 11.35 70 P Pn 12 05 26.2 -0.8
baz=259
P51A P Pn 12 05 26.2 -0.8
baz=259
F42A Maple Grove Fa 11.42 33 P Pn 12 05 26.2 -1.8
baz=218,SNR=64
GOGA Godfrey 11.44 101 Pn 12 05 29.1 +0.8
GOGA Godfrey 11.44 101 P Pn 12 05 29.1 +0.8
GOGA Godfrey 11.44 101 P Pn 12 05 27.9 -0.4
baz=289,SNR=15

GOGA **Godfrey** 11.44 101 P Pn 12 05 28.7 +0.4
baz=289,SNR=19
V53A **Saluda** 11.44 90 P Pn 12 05 28.2 -0.1
baz=278,SNR=49
V53A P Pn 12 05 28.2 -0.1
baz=278,SNR=49
J47A **Sunmer** 11.51 50 P Pn 12 05 26.8 -2.3
baz=238,SNR=63
J47A P Pn 12 05 26.8 -2.3
baz=238,SNR=63
ACSO **Alum Creek Sta** 11.58 67 P Pn 12 05 28.4 -1.8
baz=255,SNR=25
ACSO **Alum Creek Sta** 11.58 67 P Pn 12 05 27.9 -2.2
baz=255,SNR=504
MDND **Maddock** 11.58 351 P Pn 12 05 25.5 -4.7
baz=169,SNR=27
MDND **Maddock** 11.58 351 P Pn 12 05 25.5 -4.7
baz=169,SNR=64
BW06 **Boulder Array** 11.62 307 Pn 12 05 28.6 -2.4
BW06 **Boulder Array** 11.62 307 P Pn 12 05 28.8 -2.2
baz=119,SNR=479
PD31 **Pinedale Array** 11.62 307 Pn 12 05 28.8 -2.1
PDAR **Pinedale Array** 11.62 307 Pn Pn 12 05 30.6 -0.4
comp=Z,286nm,0.7s,baz=118,slow=11,SNR=395
PDAR Pg 12 06 14.7
comp=Z,41nm,0.3s,baz=121,slow=14,SNR=5.0
PDAR Lg Lg 12 08 49.6
comp=Z,207nm,0.3s,baz=95,slow=32,SNR=6.1
PDAR LR LR 12 10 43.8
comp=Z,10µm,22.0s,baz=120,slow=41
PDAR **Pinedale Array** 11.62 307 Pn Pn 12 05 29.6 -1.4
WUAZ **Wupatki** 11.76 270 P Pn 12 05 34.5 +1.7
baz=81,SNR=198
AAM **Ann Arbor** 11.81 56 Pn 12 05 31.3 -2.0
AAM **Ann Arbor** 11.81 56 P Pn 12 05 31.3 -2.0
AAM **Ann Arbor** 11.81 56 P Pn 12 05 31.6 -1.6
baz=245,SNR=26
AAM **Ann Arbor** 11.81 56 P Pn 12 05 30.9 -2.4
baz=245,SNR=322
Q52A **Bidwell** 11.87 73 P Pn 12 05 33.8 -0.4
baz=262,SNR=31
Q52A P Pn 12 05 33.8 -0.4
baz=262,SNR=31
AGMN **Agassiz Nation** 11.88 3 P Pn 12 05 31.4 -2.9
baz=184,SNR=54
AGMN **Agassiz Nation** 11.88 3 P Pn 12 05 30.4 -3.9
baz=184,SNR=533
M50A **Fremont** 11.88 61 P Pn 12 05 32.3 -2.0
baz=250,SNR=20
M50A P Pn 12 05 32.3 -2.0
baz=250,SNR=20
HPIG 12.04 221 Pn 12 05 35.9 -0.9
R53A **Hurricane** 12.05 76 P Pn 12 05 36.6 -0.1
baz=266,SNR=75
R53A P Pn 12 05 36.6 -0.1
baz=266,SNR=75
P52A **Corning** 12.08 70 P Pn 12 05 34.3 -2.8
baz=259,SNR=418
G45A **Suttons Bay** 12.11 41 P Pn 12 05 34.2 -3.2
baz=229,SNR=57
G45A P Pn 12 05 34.2 -3.2
baz=229,SNR=57
TIGA **Tifton** 12.13 110 P Pn 12 05 36.3 -1.4
baz=298
B35A **Bob, Littlefor** 12.15 10 P Pn 12 05 36.2 -1.7
baz=192,SNR=41
U54A **Nelsons Funny** 12.15 85 P Pn 12 05 37.4 -0.7
baz=274,SNR=133
U54A P Pn 12 05 37.4 -0.7
baz=274,SNR=133
TUC **Tucson** 12.18 254 Pn 12 05 39.4 +0.9
TUC **Tucson** 12.18 254 P Pn 12 05 39.4 +0.9
TUC **Tucson** 12.18 254 P Pn 12 05 37.5 -0.9
baz=66
EYMN **Ely** 12.18 17 Pn 12 05 35.4 -3.0
EYMN **Ely** 12.18 17 P Pn 12 05 35.1 -3.3
baz=201,SNR=205
EYMN **Ely** 12.18 17 P Pn 12 05 34.5 -3.8
baz=201,SNR=95
N51A **Ashland** 12.21 64 P Pn 12 05 37.1 -1.7
baz=253,SNR=85
N51A P Pn 12 05 37.1 -1.7
baz=253,SNR=85
D41A **Chassel** 12.30 28 P Pn 12 05 37.5 -2.5
baz=213,SNR=132
LAO **LASA Array** 12.38 329 Pn 12 05 38.5 -2.7
LAO **LASA Array** 12.38 329 P Pn 12 05 38.6 -2.7
baz=143,SNR=22
LAO **LASA Array** 12.38 329 P Pn 12 05 38.6 -2.6
baz=143,SNR=192
E43A **Lone Tree Farm** 12.40 34 Pn 12 05 38.2 -3.2
E43A **Lone Tree Farm** 12.40 34 P Pn 12 05 38.1 -3.3
baz=220,SNR=202
O52A **Adamsville** 12.40 68 P Pn 12 05 37.9 -3.5
baz=258,SNR=64
O52A P Pn 12 05 37.9 -3.5
baz=258,SNR=64
S54A **Dingess, Beckl** 12.53 79 P Pn 12 05 41.3 -1.9
baz=268,SNR=143
S54A P Pn 12 05 41.3 -1.9
baz=268,SNR=143
GLMI **Grayling** 12.54 44 P Pn 12 05 40.9 -2.4
baz=232,SNR=61
GLMI **Grayling** 12.54 44 P Pn 12 05 40.0 -3.2
baz=232,SNR=824
P53A **Whipple** 12.62 71 P Pn 12 05 42.4 -2.1
baz=261,SNR=178
P53A P Pn 12 05 42.4 -2.1
baz=261,SNR=178
K50A **Casco** 12.70 56 P Pn 12 05 43.0 -2.5
baz=245,SNR=21
K50A P Pn 12 05 43.0 -2.5
baz=245,SNR=21
V55A **Taylorsville** 12.70 88 P Pn 12 05 44.1 -1.4
baz=277,SNR=46
V55A P Pn 12 05 44.1 -1.4
baz=277,SNR=46
KMSC **Kings Mountain** 12.72 91 P Pn 12 05 45.5 -0.3
baz=280
KMSC **Kings Mountain** 12.72 91 P Pn 12 05 44.6 -1.2
baz=280,SNR=102
RLMT **Red Lodge** 12.76 317 P Pn 12 05 44.0 -2.5
baz=129,SNR=355
O53A **New Philadelph** 12.90 68 P Pn 12 05 44.7 -3.5
baz=258,SNR=104
Q54A **Coxs Mills** 12.98 74 P Pn 12 05 47.6 -1.8
baz=264,SNR=67
Q54A P Pn 12 05 47.6 -1.8
baz=264,SNR=67
DUG **Dugway, Tooele** 13.04 292 P Pn 12 05 50.2 -0.1
baz=102,SNR=24
H17A **Grant Village** 13.09 312 P Pn 12 05 49.2 -1.8
baz=123,SNR=74
I49A **Point Hope** 13.11 51 Pn 12 05 48.0 -3.0
I49A **Point Hope** 13.11 51 P Pn 12 05 47.8 -3.3
baz=240,SNR=105
I49A P Pn 12 05 47.8 -3.3
baz=240,SNR=105
M52A **Chesterland** 13.13 62 Pn Pn 12 05 48.1 -3.2
M52A **Chesterland** 13.13 62 P Pn 12 05 48.0 -3.3
baz=252,SNR=64
M52A P Pn 12 05 48.0 -3.3
baz=252,SNR=64
DGMT **Dagmar** 13.17 338 Pn 12 05 48.9 -3.0
DGMT **Dagmar** 13.17 338 P Pn 12 05 48.6 -3.2
baz=154,SNR=57
DGMT **Dagmar** 13.17 338 P Pn 12 05 48.7 -3.2
baz=154,SNR=196
BLA **Blacksburg** 13.24 82 P Pn 12 05 51.3 -1.6
baz=272,SNR=61
BLA **Blacksburg** 13.24 82 P Pn 12 05 50.6 -2.3
baz=272,SNR=161
N53A **Lisbon** 13.30 66 P Pn 12 05 50.3 -3.4
baz=256,SNR=88
N53A P Pn 12 05 50.3 -3.4
baz=256,SNR=88
GCMT **Greycliff** 13.40 318 Pn 12 05 53.0 -2.2
R55A **Marlinton** 13.49 77 P Pn 12 05 54.2 -2.1
baz=267,SNR=133
R55A P Pn 12 05 54.2 -2.1
baz=267,SNR=133
O54A **Avella** 13.51 69 P Pn 12 05 54.1 -2.5
baz=259,SNR=10.0
O54A P Pn 12 05 54.1 -2.5
baz=259,SNR=10.0
M53A **WI Miller and** 13.59 63 Pn 12 05 54.3 -3.3
M53A **WI Miller and** 13.59 63 P Pn 12 05 53.5 -4.0
baz=254,SNR=118

E46A **Sault Ste Mari** 13.69 40 Pn Pn 12 05 54.7 -4.3
E46A **Sault Ste Mari** 13.69 40 P Pn 12 05 55.2 -3.8
baz=228,SNR=92
W57A **Gilead** 13.79 90 P Pn 12 05 58.4 -2.1
baz=280,SNR=10
W57A P Pn 12 05 58.4 -2.1
baz=280,SNR=10
MCWV **Mont Chateau** 13.83 71 P Pn 12 05 58.0 -2.9
baz=262,SNR=44
ULM **Lac du Bonnet** 13.83 3 Pn Pn 12 05 55.6 -5.3
comp=Z,50nm,0.3s,baz=182,slow=13,SNR=230
ULM Sn Sn 12 08 21.4 -13
comp=Z,87nm,0.3s,baz=84,slow=20,SNR=6.3
ULM LR LR 12 11 25.4
comp=Z,30µm,18.2s,baz=188,slow=38
comp=Z,465nm,0.6s
ULM **Lac du Bonnet** 13.83 3 *i* P Pn 12 05 55.8 -5.1
214A **Organ Pipe Nat** 13.90 256 P Pn 12 06 02.8 +0.9
baz=67,SNR=40
ALLY **Alegheny Colle** 14.03 63 P Pn 12 06 01.1 -2.6
baz=254
NHSC **New Hope** 14.15 99 P Pn 12 06 04.7 -0.6
baz=288
T57A **Hurt** 14.18 82 Pn 12 06 04.4 -1.3
T57A **Hurt** 14.18 82 P Pn 12 06 04.1 -1.6
baz=273
T57A P Pn 12 06 04.1 -1.6
baz=273
PDMCI **Parker Dam,Lak** 14.22 266 P Pn 12 06 07.4 +1.1
baz=76,SNR=167
Q56A **Snyder Ridge,** 14.27 74 P Pn 12 06 03.6 -3.4
baz=265,SNR=35
Q56A P Pn 12 06 03.6 -3.4
baz=265,SNR=35
ERPA **Erie** 14.28 61 Pn 12 06 03.3 -3.7
ERPA **Erie** 14.28 61 P Pn 12 06 02.9 -4.1
baz=252,SNR=9.6
ERPA **Erie** 14.28 61 P Pn 12 06 02.1 -5.0
baz=252,SNR=57
Y58A **Scranton** 14.33 95 P Pn 12 06 05.7 -2.1
baz=285
Y58A P Pn 12 06 05.7 -2.1
baz=285
BOZ **Bozeman (W)** 14.38 314 Pn 12 06 06.5 -2.1
BOZ **Bozeman (W)** 14.38 314 P Pn 12 06 06.5 -2.1
BOZ **Bozeman (W)** 14.38 314 P Pn 12 06 05.8 -2.7
baz=124,SNR=122
S57A **Dark Hollow, R** 14.40 79 P Pn 12 06 07.2 -1.5
baz=270,SNR=33
S57A P Pn 12 06 07.2 -1.5
baz=270,SNR=33
V58A **Windy Hill, Pi** 14.40 87 P Pn 12 06 07.2 -1.6
baz=278
V58A P Pn 12 06 07.2 -1.6
baz=278
X58A **Rowland** 14.44 92 P Pn 12 06 08.2 -1.0
baz=282
X58A P Pn 12 06 08.2 -1.0
baz=282
NEE2 **Needles Airpor** 14.51 269 P Pn 12 06 10.9 +0.7
baz=78
ELK **Elko** 14.96 292 Pn Pn 12 06 17.2 +0.6
comp=Z,33nm,1.0s,baz=79,slow=8.2,SNR=34
ELK Lg Lg 12 10 33.6
comp=Z,0.9nm,0.3s,baz=168,slow=12,SNR=2.5
ELK LR LR 12 11 54.1
comp=Z,8µm,19.2s,baz=90,slow=37
EGMT **Eagleton** 14.97 325 Pn 12 06 13.8 -2.6
EGMT **Eagleton** 14.97 325 P Pn 12 06 13.5 -2.9
baz=136,SNR=712
R11A **Troy Canyon, C** 14.97 283 P Pn 12 06 17.9 +1.2
baz=92,SNR=114
M55A **Ridgway** 14.98 65 P Pn 12 06 12.8 -3.8
baz=256,SNR=63
M55A P Pn 12 06 12.8 -3.8
baz=256,SNR=63
LRM **Limekiln Ridge** 14.98 314 Pn 12 06 15.0 -1.8
IRM **Iron Mountain** 15.06 267 P Pn 12 06 17.9 +0.1
baz=76,SNR=119
GLA **Glamis** 15.11 262 P Pn 12 06 18.6 +0.2
baz=72,SNR=44
HRY **Holter Researc** 15.15 317 Pn 12 06 15.5 -3.4
HLID **Hailey** 15.17 303 P Pn 12 06 18.5 -0.9
baz=112,SNR=305
P57A **Homestead Farm** 15.21 73 P Pn 12 06 16.8 -3.0
baz=264
P57A P Pn 12 06 16.8 -3.0
baz=264
GMRC **Granite Mounta** 15.34 269 P Pn 12 06 22.2 +0.6
baz=78,SNR=185
WVNY **West Valley, N** 15.34 62 P Pn 12 06 16.4 -5.0
baz=253
TUQ **Turquoise Moun** 15.44 272 P Pn 12 06 24.2 +1.4
baz=81,SNR=47
BC3 **Big Chuckawall** 15.44 265 P Pn 12 06 23.4 +0.5
baz=74,SNR=62
SSPA **Standing Stone** 15.46 68 P Pn 12 06 19.2 -3.8
baz=260,SNR=106
SSPA **Standing Stone** 15.46 68 P Pn 12 06 17.0 -6.0
baz=260
DWPF **Disney Wildern** 15.48 118 Pn 12 06 20.8 -2.5
DWPF IAmb IAmb 12 06 24.8
comp=Z,284nm,1.1s
DWPF **Disney Wildern** 15.48 118 P Pn 12 06 22.9 -0.5
baz=306
T59A **Double "B" Far** 15.54 82 P Pn 12 06 20.4 -3.6
baz=274,SNR=16
T59A P Pn 12 06 20.4 -3.6
baz=274,SNR=16
CBN **Corbin Frederi** 15.65 78 P Pn 12 06 25.3 -0.1
baz=270
CBN **Corbin Frederi** 15.65 78 P Pn 12 06 22.4 -3.0
baz=270,SNR=11
SHOC **Shoshone, Teco** 15.65 274 P P 12 06 27.8 -1.9
baz=82,SNR=72
BELC **Belle Mtn. Jos** 15.79 267 P Pn 12 06 28.4 +0.9
baz=76,SNR=67
SADO **Sadowa** 15.84 53 Pn Pn 12 06 22.4 -5.4
comp=Z,10.0nm,0.3s,baz=267,slow=12,SNR=67
SADO Pg Pg 12 07 30.7
comp=Z,29nm,0.3s,baz=266,slow=15,SNR=5.0
SADO Sn Sn 12 09 15.9 -7.7
comp=Z,65nm,0.3s,baz=286,slow=5.6,SNR=2.3
SADO Lg Lg 12 10 52.9
comp=Z,53nm,0.3s,baz=271,slow=6.6,SNR=4.5
SADO LR LR 12 12 37.4
comp=Z,39µm,18.7s,baz=220,slow=38
comp=Z,72nm,0.5s
SRIG **Santa Rosalia** 15.86 239 Pn 12 06 27.6 -0.7
SRIG IAmb IAmb 12 06 35.9
comp=Z,790nm,1.3s
HEC **Hector,Ludlow** 15.88 270 P Pn 12 06 30.1 +1.6
baz=79,SNR=63
SWSC **Sam W. Stewart** 15.92 263 P Pn 12 06 30.1 +1.1
baz=72,SNR=68
L56A **Greenwood** 16.02 63 P Pn 12 06 26.7 -3.6
baz=256,SNR=59
L56A P Pn 12 06 26.7 -3.6
baz=256,SNR=59
FURC **Furnace Creek,** 16.06 276 P P 12 06 32.6 -1.6
baz=84,SNR=106
SDMD **Soldier's Deli** 16.11 73 Pn Pn 12 06 27.5 -3.9
M57A **Sunshine Farm,** 16.16 66 P Pn 12 06 27.5 -4.4
baz=259,SNR=63
M57A P Pn 12 06 27.5 -4.4
baz=259,SNR=63
GSC **Goldstone, Bar** 16.17 272 P P 12 06 34.4 -1.2
baz=80,SNR=99
TPFO **Pinon Flats** 16.26 266 P Pn 12 06 34.3 +0.8
baz=74,SNR=51
PFO **Pinyon Flats O** 16.26 266 Pn Pn 12 06 34.2 +0.8
comp=Z,0.3nm,0.3s,baz=73,slow=10,SNR=30
PFO Lg Lg 12 11 17.6
comp=Z,0.7nm,0.3s,baz=28,slow=16,SNR=12
PFO LR LR 12 13 00.3
comp=Z,16µm,21.6s,baz=80,slow=38
comp=Z,59nm,1.1s
PFO **Pinyon Flats O** 16.26 266 Pn 12 06 33.6 +0.1
PFO **Pinyon Flats O** 16.26 266 *i* P Pn 12 06 32.9 -0.6
PFO pmax pmax
comp=Z,151nm,1.1s
PFO **Pinyon Flats O** 16.26 266 P Pn 12 06 34.3 +0.8
baz=74,SNR=37
IKP **In-Ko-Pah, Jac** 16.26 262 P Pn 12 06 34.8 +1.4
baz=71,SNR=104
N58A **Sunbury** 16.38 68 P Pn 12 06 30.2 -4.6
baz=261,SNR=96
N58A P Pn 12 06 30.2 -4.6
baz=261,SNR=96
MSO **Missoula** 16.40 315 P Pn 12 06 33.1 -2.1
baz=123,SNR=161
RRX **Edison Barstow** 16.40 271 P P 12 06 37.0 -1.1
baz=79
MONP2 **Monument Peak** 16.44 263 P P 12 06 37.6 -1.0
baz=72,SNR=86
BBRC **Big Bear Solar** 16.47 268 P P 12 06 37.9 -1.2
baz=77,SNR=40
MPMC **Manual Prospec** 16.61 275 P P 12 06 39.9 -0.7
baz=83,SNR=213
LRMC **Laurel Mtn Rad** 16.85 273 P P 12 06 42.2 -1.0
baz=81,SNR=7.3
MURC **Murrieta** 16.86 266 P P 12 06 42.5 -0.6
baz=75,SNR=95
LPIG **La Paz** 16.86 227 Pn P 12 06 42.3 -0.8
comp=Z,3.5nm,0.3s,baz=120,slow=0.8,SNR=61
LPIG Sn S 12 09 55.9 -3.6
comp=Z,7.3nm,0.3s,baz=69,slow=15,SNR=1.4
LPIG Lg Lg 12 11 42.3
comp=Z,2.4nm,0.3s,baz=3.9,slow=18,SNR=1.1
LPIG LR LR 12 13 16.6
comp=Z,20µm,20.3s,baz=43,slow=37
comp=Z,471nm,1.1s
K57A **Scipio Center** 16.92 62 P Pn 12 06 38.2 -3.5
baz=255,SNR=12
SLBS **Sierra La Lagu** 16.97 225 P 12 06 44.0 -0.4
109C **Camp Elliot, M** 16.98 264 P P 12 06 44.7 +0.2
baz=72,SNR=50
CWC **Cottonwood Cre** 17.04 276 P P 12 06 45.3 0.0
baz=84
BFSC **Mount Baldy Ra** 17.07 269 P P 12 06 45.8 +0.2
baz=77,SNR=63
GEDE **Greenville** 17.07 72 P Pn 12 06 40.8 -2.8
baz=265
TIN **Tinemaha, Big** 17.10 278 P P 12 06 45.9 0.0
baz=86,SNR=14
NVAR **Mina Array Bea** 17.11 283 P P 12 06 46.9 +0.7
comp=Z,2.2nm,0.3s,baz=83,slow=11,SNR=311
NVAR S S 12 10 07.3 +2.4
comp=Z,5.3nm,0.6s,baz=281,slow=33,SNR=1.2
NVAR Lg Lg 12 11 41.2
comp=Z,0.2nm,0.3s,baz=80,slow=11,SNR=1.0
NVAR LR LR 12 13 55.0
comp=Z,11µm,21.2s,baz=88,slow=39
comp=Z,59nm,0.9s
MOIG **Morelia** 17.11 194 P P 12 06 47.5 +1.3
BINY **Binghamton** 17.17 64 P Pn 12 06 40.6 -4.3
baz=257,SNR=26
BINY **Binghamton** 17.17 64 P Pn 12 06 40.3 -4.6
baz=257,SNR=100
KSPA **Keystone Colle** 17.20 66 P Pn 12 06 40.6 -4.6
baz=260,SNR=18
EDW2 **Edwards Air Fo** 17.21 271 P P 12 06 47.3 +0.2
baz=79,SNR=88
061Z **Ochoppi** 17.25 123 P Pn 12 06 44.9 -1.1
061Z IAmb IAmb 12 06 50.3
comp=Z,424nm,0.9s
J57A **Williamstown** 17.47 60 P Pn 12 06 44.5 -4.0
baz=254,SNR=24
J57A P Pn 12 06 44.5 -4.0
baz=254,SNR=24
MLAC **Mammoth, Mammo** 17.55 280 P P 12 06 52.3 +1.3
baz=87,SNR=11
DECC **Green Verdugo** 17.61 269 P P 12 06 52.2 +0.7
baz=77,SNR=7.7
WALA **Waterton Lakes** 17.70 321 P Pn 12 06 50.2 -1.3
FMP **Fort Macarthur** 17.71 267 P P 12 06 53.3 +0.8
baz=75,SNR=8.2
TEIG **Tepich** 17.83 153 P Pn 12 06 52.2 -0.9
ARVC **Arvin** 17.83 272 P P 12 06 56.0 +2.1
baz=79,SNR=53
ARVC S Sn 12 10 15.1 +2.8
baz=79
PANJ **Princeton** 17.84 71 P Pn 12 06 49.7 -3.4
baz=264
OSI **Osito Audit: C** 17.85 271 P P 12 06 55.6 +1.5
baz=78
OSI S S 12 10 16.8 -2.8
baz=78
L59A **Walton** 17.85 65 P Pn 12 06 49.9 -3.5
baz=258,SNR=64
L59A P Pn 12 06 49.9 -3.5
baz=258,SNR=64
CIS **Catalina Islan** 17.89 267 P P 12 06 55.3 +0.7
baz=74,SNR=21
CIS S S 12 10 17.7 -2.8
baz=74
VES **Vestal, Richgr** 17.92 275 P P 12 06 56.5 +1.7
baz=82,SNR=42
J58A **Remsen** 17.95 61 P Pn 12 06 50.7 -3.9
baz=255,SNR=76
J58A P Pn 12 06 50.7 -3.9
baz=255,SNR=76
ODNJ **Ogdensburg** 17.99 68 P Pn 12 06 51.5 -3.6
baz=262
VOG **Valley Oaks Go** 18.09 276 P P 12 06 58.8 +2.0
baz=83
VOG S S 12 10 23.3 -1.2
baz=83
SCI2 **San Clemente I** 18.12 265 P P 12 06 58.2 +1.2
baz=73,SNR=19
SCI2 S S 12 10 23.4 -1.6
baz=73
PNTR **Pine Nut** 18.13 285 P P 12 06 58.4 +1.0
SOR **Soroa** 18.16 135 P Pn 12 06 55.8 -1.4
SOR IAmb IAmb 12 06 57.8
comp=Z,676nm,1.4s
SOR **Soroa** 18.16 135 P Pn 12 06 55.8 -1.4
SOR pmax pmax
comp=Z,676nm,1.4s
SOR **Soroa** 18.16 135 ⇑ *i* P Pn 12 06 56.0 -1.2
SOR *e* S Sn 12 10 21.1 +0.8
HCNY **Howe Caverns** 18.43 63 P Pn 12 06 57.3 -3.1
baz=258,SNR=19
CPNY **Central Park** 18.44 69 P P 12 06 58.9 -1.7
CPNY IAmb IAmb 12 07 02.8
comp=Z,443nm,1.1s
VLDQ **Val d'Or** 18.48 45 P 12 06 55.1 -5.8
BRNY **Black Rk. Fore** 18.48 67 P P 12 06 57.8 -3.1
baz=262
FOR **Fordham** 18.50 69 P P 12 06 58.9 -2.3
baz=264
PAL **Palisades** 18.50 69 P P 12 06 57.8 -3.4
baz=263,SNR=44
FFC **Flin Flon** 18.63 351 P P 12 07 00.4 -2.1
FFC IAmb IAmb 12 07 04.8
comp=Z,433nm,0.9s
FFC **Flin Flon** 18.63 351 P P 12 07 00.4 -2.1
FFC pmax pmax
comp=Z,433nm,1.0s
PKM **Mcpherson Peak** 18.67 272 P Pn 12 07 06.1 +2.5
baz=79,SNR=49
PKM S S 12 10 37.6 +1.0
baz=79
SBC **Santa Barbara** 18.68 271 P Pn 12 07 03.6 0.0
baz=77
SBC S S 12 10 36.5 0.0
baz=77
SCZ2 **Santa Cruz Isl** 18.72 269 P P 12 07 03.8 +0.1
baz=76
SCZ2 S S 12 10 36.6 -0.7
baz=76
SMMC **Simmler** 18.74 273 P Pn 12 07 06.0 +1.7
baz=80,SNR=26
SMMC S S 12 10 38.4 +0.7
baz=80
LONY **Lake Ozonia** 18.80 57 P P 12 07 02.0 -2.5
baz=252,SNR=91
SNCC **San Nicolas Is** 18.83 267 P Pn 12 07 06.6 +1.2
baz=74,SNR=16
SNCC S S 12 10 40.7 +1.3
baz=74
TLIG **Tlapa** 18.85 185 P P 12 07 05.2 -0.1
TLIG IAmb IAmb 12 07 10.3
comp=Z,409nm,1.2s
BMNY **Brushton-Moira** 18.92 57 P P 12 07 01.9 -3.8
baz=251,SNR=12
NEW **Newport** 18.99 315 P P 12 07 06.2 -0.3
comp=Z,4.5nm,0.3s,baz=118,slow=9.3,SNR=143
NEW S Sn 12 10 39.9 -0.1
comp=Z,45nm,0.8s,baz=157,slow=18,SNR=1.3
NEW Lg Lg 12 12 26.1
comp=Z,2.2nm,0.3s,baz=5.5,slow=21,SNR=3.4
NEW LR LR 12 14 55.6
comp=Z,20µm,18.2s,baz=118,slow=38
comp=Z,222nm,0.9s
NEW **Newport** 18.99 315 P P 12 07 06.3 -0.3

baz=121,SNR=255
NEW S **Sn** **12 10 39.4 -0.6**
baz=121
ACCN Adirondack Com 19.10 62 P **P** **12 07 05.3 -2.5**
baz=256
AFDM Forest Hills D 19.20 285 P **Pn** **12 07 10.7 +0.9**
PMPB Monarch Peak 19.25 276 P **Pn** **12 07 11.3 +0.8**
CMIG Matias Romero 19.35 174 P **P** **12 07 10.8 +0.2**
comp=Z,11nm,0.3s,baz=356,slow=9.5,SNR=105
CMIG S **Sn** **12 10 44.1 -4.9**
comp=Z,70nm,1.0s,baz=17,slow=4.6,SNR=1.7
CMIG LR LR 12 16 57.4
comp=Z,5µm,20.8s,baz=3.0,slow=44
comp=Z,383nm,1.0s
C09A Chrisman Ranch 19.43 312 P **P** **12 07 11.5 +0.1**
C09A IAmb IAmb 12 07 17.1
comp=Z,710nm,1.6s
L61B Northampton 19.62 65 P **P** **12 07 12.9 -0.6**
baz=260,SNR=42
L61B Northampton 19.62 65 P **P** **12 07 12.8 -0.6**
baz=260,SNR=162
L61B S **Sn** **12 10 56.0 +0.6**
baz=260
MCVT Middlebury Col 19.71 60 P **P** **12 07 12.5 -2.0**
baz=256,SNR=47
J05D Fort Rock, OR 19.85 298 P **P** **12 07 16.8 +0.6**
baz=102,SNR=94
J05D S **S** **12 11 00.2 0.0**
baz=102
J61A Chester 19.88 62 P **P** **12 07 15.5 -0.9**
J61A Chester 19.88 62 P **P** **12 07 16.0 -0.4**
baz=258
J61A P **P** **12 07 16.0 -0.4**
baz=258
M63A Gales Ferry 19.95 68 P **P** **12 07 16.7 -0.4**
baz=264,SNR=8.9
M63A P **P** **12 07 16.7 -0.4**
baz=264,SNR=8.9
K62A Royalston 19.98 64 P **P** **12 07 17.9 +0.4**
baz=260,SNR=9.7
K62A P **P** **12 07 17.9 +0.4**
baz=260,SNR=9.7
K04D Chiloquin, OR 20.10 296 P **P** **12 07 18.4 -0.4**
baz=100
K04D S **S** **12 11 04.5 -0.6**
baz=100
I05D Terrebonne, OR 20.16 301 P **P** **12 07 19.6 +0.1**
baz=105,SNR=72
I05D S **S** **12 11 07.4 +1.1**
baz=105
EDM Edmonton 20.36 331 P **P** **12 07 21.8 +0.3**
EDM Edmonton 20.36 331 P **P** **12 07 21.8 +0.3**
EDM pmax pmax
comp=Z,877nm,0.9s
G05D Wamic, OR 20.40 303 P Pn 12 07 23.0 -1.0
baz=107,SNR=41
G05D S **S** **12 11 10.9 +0.2**
baz=107
L04D Klamath Falls 20.44 294 P **P** **12 07 23.2 +0.6**
baz=98,SNR=20
L04D S **S** **12 11 13.2 +1.3**
baz=98
HRV Adam Dziewonsk 20.45 65 P **P** **12 07 22.5 0.0**
HRV Adam Dziewonsk 20.45 65 P **P** **12 07 22.5 0.0**
HRV pmax pmax
comp=Z,899nm,1.4s
HRV MLR MLR
comp=Z,14µm,22.0s
HRV Adam Dziewonsk 20.45 65 P **P** **12 07 22.2 -0.3**
baz=261
J04D Umpqua Nationa 20.47 297 P **P** **12 07 23.1 +0.2**
baz=101,SNR=36
J04D S **S** **12 11 10.3 -2.2**
baz=101
MGV Manicaragua 20.49 130 *eP* **P** **12 07 23.4 +0.4**
MGV *eS* **S** **12 11 08.8 -4.1**
CCIG Comitan 20.51 167 P **P** **12 07 23.9 +0.4**
LBNH Lisbon 20.53 60 P **P** **12 07 22.8 -0.6**
LBNH Lisbon 20.53 60 P **P** **12 07 22.8 -0.6**
LBNH pmax pmax
comp=Z,1µm,1.6s
LBNH MLR MLR
comp=Z,15µm,18.0s
LBNH Lisbon 20.53 60 P **P** **12 07 22.9 -0.4**
baz=256,SNR=8.4
LBNH Lisbon 20.53 60 P **P** **12 07 23.1 -0.3**
baz=256,SNR=68
YBH Yreka Blue Hor 20.68 293 P **P** **12 07 25.6 +0.5**
comp=Z,259nm,1.1s,baz=96,slow=5.4,SNR=31
YBH S Sn 12 11 19.9 -1.1
comp=Z,23nm,0.8s,baz=142,slow=10,SNR=1.5
YBH Lg Lg 12 13 40.6
comp=Z,0.4nm,0.3s,baz=94,slow=9.0,SNR=1.3
YBH LR LR 12 15 20.1
comp=Z,7µm,18.5s,baz=94,slow=36
comp=Z,259nm,1.1s
YBH Yreka Blue Hor 20.68 293 P **P** **12 07 25.2 +0.1**
YBH IAmb IAmb 12 07 30.9
comp=Z,246nm,1.0s
YBH Yreka Blue Hor 20.68 293 P **P** **12 07 25.6 +0.5**
YBH Yreka Blue Hor 20.68 293 P **P** **12 07 25.2 +0.1**
YBH pmax pmax
comp=Z,246nm,1.0s
YBH MLR MLR
comp=Z,10µm,18.0s
I04A Tendick Farm, 20.79 299 P **P** **12 07 25.9 -0.4**
baz=102,SNR=108
I04A S **S** **12 11 18.1 -0.6**
baz=102
H04A Detroit Lake 20.84 301 P **P** **12 07 26.6 -0.1**
H04A IAmb IAmb 12 07 35.8
comp=Z,694nm,1.8s
I62A Tamworth 20.86 61 P **P** **12 07 26.7 -0.2**
baz=258
I62A P **P** **12 07 26.7 -0.2**
baz=258
L64A Middleborough 20.90 67 P **P** **12 07 27.3 -0.1**
baz=263
L64A P **P** **12 07 27.3 -0.1**
baz=263
M65A Busby, Falmout 21.01 68 P **P** **12 07 28.8 +0.3**
baz=264
UNH University of 21.05 64 P **P** **12 07 28.6 -0.3**
baz=260
H62A Milan 21.14 59 P **P** **12 07 30.2 +0.2**
baz=256
H62A P **P** **12 07 30.2 +0.2**
baz=256
H04D Lebanon 21.18 300 P **P** **12 07 28.7 -1.8**
baz=104,SNR=15
H04D S **S** **12 11 24.5 -1.8**
baz=104
L02F Cave Junction 21.36 294 P **P** **12 07 31.7 -0.7**
baz=97
L02F S **S** **12 11 27.5 -2.5**
baz=97
I63A Otisfield 21.43 61 P **P** **12 07 33.4 +0.3**
baz=258
I63A P **P** **12 07 33.4 +0.3**
baz=258
I03D Drain, OR 21.44 298 P **P** **12 07 31.9 -1.3**
baz=101,SNR=18
K02D Willamette Mer 21.50 295 P **P** **12 07 31.4 -2.6**
baz=98
G03D McMinnville, O 21.71 302 P **P** **12 07 34.6 -1.5**
baz=105,SNR=7.6
G62A West of Eustis 21.73 58 P **P** **12 07 36.2 -0.1**
baz=255
G62A P **P** **12 07 36.2 -0.1**
baz=255
J01E Myrtle Point 21.77 296 P **P** **12 07 35.6 -1.0**
baz=99
F04D Rainier, OR 21.78 304 P **P** **12 07 36.2 -0.6**
baz=107,SNR=12
I02E Swisshome, OR 21.87 299 IAMs_20 IAMs_20 12 16 38.4
comp=Z,20µm,19.0s
I02E Swisshome, OR 21.87 299 P **P** **12 07 37.1 -0.7**
baz=101
I02E S **S** **12 11 36.1 -3.8**
baz=101
WVL Waterville 22.18 60 P **P** **12 07 41.6 +0.5**
WVL IAmb IAmb 12 07 50.0
comp=Z,372nm,1.1s
F62A Pittston Farm, 22.29 57 P **P** **12 07 41.9 -0.5**
baz=254
F62A P **P** **12 07 41.9 -0.5**
baz=254
CCCC Cccc 22.56 127 *eP* **P** **12 07 48.0 +2.7**
CCCC *eS* **S** **12 11 58.5 +5.3**
CCCC IVMs_BB IVMs_BB 12 16 20.7
comp=E,27µm,8.5s
CCCC IVMs_BB IVMs_BB 12 16 32.2
comp=N,13µm,7.8s
PKME Peaks-Kenny Pk 22.59 58 P **P** **12 07 45.1 -0.4**
baz=257,SNR=76
PKME S **S** **12 11 54.3 +0.8**
baz=257
NLWA Neilton Lookou 22.74 307 IAMs_20 IAMs_20 12 17 09.5
comp=Z,28µm,20.0s
E62A Clayton Lake 22.79 55 P **P** **12 07 47.0 -0.6**
baz=253
E62A P **P** **12 07 47.0 -0.6**
baz=253
ESQI Esquipulas 22.81 161 *eP* **P** **12 07 49.2 +1.1**
F63A Nahmakanta, Br 22.82 57 P **P** **12 07 47.3 -0.7**
baz=256,SNR=10
F63A P **P** **12 07 47.3 -0.7**
baz=256,SNR=10
LLLB Lillooet 22.85 316 P **P** **12 07 48.2 -0.1**
LLLB IAmb IAmb 12 07 50.3
comp=Z,212nm,1.0s
MTO3 Montecristo 22.96 161 *eP* **P** **12 07 49.6 -0.2**
MTO3 *eS* **S** **12 11 58.6 -2.2**
MTO3 Montecristo 22.96 161 *eP* **P** **12 07 49.6 -0.2**
MTO3 *eS* **S** **12 11 58.6 -2.2**
SLOZ Alcaldia de Sa 23.21 162 *eP* **P** **12 07 53.7 +1.5**
D62A Allapoint, All 23.23 54 P **P** **12 07 51.8 -0.3**
baz=253
D62A P **P** **12 07 51.8 -0.3**
baz=253
F64A Sherman 23.37 57 P **P** **12 07 53.1 -0.5**
baz=256,SNR=7.1
F64A P **P** **12 07 53.1 -0.5**
baz=256,SNR=7.1
CEVE Cerro Verde 23.44 162 *eP* **P** **12 07 56.0 +1.3**
CEVE IAML 12 13 32.1
comp=Z,53nm,0.5s
CEVE Cerro Verde 23.44 162 *eP* **P** **12 07 56.0 +1.3**
CEVE IAML 12 13 32.1
comp=Z,53nm,0.5s
E63A Oxbow 23.46 56 P **P** **12 07 54.1 -0.5**
baz=255,SNR=11
E63A P **P** **12 07 54.1 -0.5**
baz=255,SNR=11
P5NO Presa 5 de nov 23.52 160 *eP* **P** **12 07 56.0 +0.7**
JAYA Jayaque - finc 23.65 162 *eP* **P** **12 07 56.4 -0.3**
JAYA *eS* **S** **12 12 10.0 -2.1**
JAYA Jayaque - finc 23.65 162 *eP* **P** **12 07 56.4 -0.3**
JAYA *eS* **S** **12 12 10.0 -2.1**
PAVA Las Pavas 23.73 160 *eP* **P** **12 07 58.3 +0.8**
PAVA Las Pavas 23.73 160 *eP* **P** **12 07 58.3 +0.8**
G65A Princeton 23.77 59 P **P** **12 07 57.0 -0.5**
baz=259
G65A P **P** **12 07 57.0 -0.5**
baz=259
SCLA Alcaldia de Sa 23.79 160 *eP* **P** **12 07 59.4 +1.4**
SCLA Alcaldia de Sa 23.79 160 *eP* **P** **12 07 59.4 +1.4**
LMGC Las Mercedes 23.87 128 *eP* **P** **12 07 59.1 +0.4**
LMGC *eS* **S** **12 12 13.5 -1.7**
LMGC IVMs_BB IVMs_BB 12 17 06.2
comp=N,15µm,4.8s
LMGC IVMs_BB IVMs_BB 12 17 07.2
comp=E,18µm,10.8s
COEB Comit de Eme 24.04 160 *eP* **P** **12 08 01.8 +1.3**
COEB Comit de Eme 24.04 160 *eP* **P** **12 08 01.8 +1.3**
PACA Pacayal 24.13 159 *eP* **P** **12 08 02.9 +1.6**
PACA Pacayal 24.13 159 *eP* **P** **12 08 02.9 +1.6**
CNCH Conchagua 24.46 158 *eP* **P** **12 08 05.3 +1.0**
CNCH Conchagua 24.46 158 *eP* **P** **12 08 05.3 +1.0**
RCC Rio Carpintero 24.77 126 *eP* **P** **12 08 07.2 +0.3**
RCC *eS* **S** **12 12 28.6 -1.1**
MTDJ Mount Denham 24.92 132 *eP* **P** **12 08 09.0 +0.6**
MASC Masc 25.61 123 *eP* **P** **12 08 15.6 +1.0**
MASC *eS* **S** **12 12 45.1 +1.9**
MASC IVMs_BB IVMs_BB 12 17 23.5
comp=N,15µm,11.4s
MASC IVMs_BB IVMs_BB 12 17 42.4
comp=E,20µm,9.7s
BOAB BOACO BROADBA 26.94 154 P **P** **12 08 18.1 +0.6**
BOAB IAMs_20 IAMs_20 12 19 46.9
comp=Z,16µm,22.0s
HAL Halifax 26.47 62 P **P** **12 08 22.9 +0.7**
HAL Halifax 26.47 62 P **P** **12 08 22.9 +0.7**
HAL pmax pmax
comp=Z,321nm,1.2s
BBSR BB Station 26.82 89 P **P** **12 08 25.1 -0.3**
BBSR IAmb IAmb 12 08 31.8
comp=Z,134nm,0.9s
BBB Bella Bella 27.05 315 P **P** **12 08 29.7 +2.4**
comp=Z,97nm,1.0s,baz=111,slow=6.4,SNR=29
BBB S **S** **12 13 07.7 +2.2**
comp=Z,22nm,1.0s,baz=176,slow=3.4,SNR=1.3
BBB Lg Lg 12 16 57.3
comp=Z,0.1nm,0.3s,baz=234,slow=13,SNR=3.4
BBB LR LR 12 19 58.4
comp=Z,18µm,18.1s,baz=120,slow=38
comp=Z,97nm,1.0s
SCHQ Schefferville 27.62 39 P **P** **12 08 32.0 -0.5**
comp=Z,44nm,0.8s,baz=241,slow=8.5,SNR=32
SCHQ S **S** **12 13 09.0 -5.5**
comp=Z,66nm,0.8s,baz=236,slow=12,SNR=1.8
SCHQ LR LR 12 19 50.7
comp=Z,10µm,19.3s,baz=245,slow=37
comp=Z,44nm,0.8s
SCHQ Schefferville 27.62 39 P **P** **12 08 30.8 -1.7**
SCHQ IAmb IAmb 12 09 12.3
comp=Z,134nm,0.9s
JTS Las Juntas de 28.19 154 P **P** **12 08 37.1 -0.8**
JTS IAmb IAmb 12 09 36.5
comp=Z,210nm,1.2s
JTS Las Juntas de 28.19 154 P **P** **12 08 37.1 -0.8**
JTS pmax pmax
comp=Z,210nm,1.3s
JTS Las Juntas de 28.19 154 *eS* **S** **12 13 29.6 +5.6**
YKA Yellowknife Ar 28.31 343 P **P** **12 08 37.8 -0.7**
comp=Z,143nm,0.8s,baz=143,slow=8.8,SNR=123
YKA S **S** **12 13 27.8 +2.7**
comp=Z,24nm,0.9s,baz=112,slow=23,SNR=1.4
YKA Lg Lg 12 17 28.1
baz=140,slow=27
comp=Z,143nm,0.8s
SDDR Presa de Saban 28.44 121 *eP* **P** **12 08 38.0 -2.2**
GRNB Grenville Isla 28.73 318 P **P** **12 08 44.7 +2.2**
GRNB IAmb IAmb 12 08 46.4
comp=Z,123nm,1.0s
HDC Heredia 28.76 153 *eP* **P** **12 08 45.2 +2.1**
HDC *eS* **S** **12 13 38.6 +5.4**
BATAN Batan 28.95 152 *eP* **P** **12 08 45.5 +0.9**
RUBB Prince Rupert 29.09 319 P **P** **12 08 47.3 +1.8**
FLDN Fort Liard 29.27 333 P **P** **12 08 46.9 -0.2**
baz=133
DRK0 Durika 29.76 152 *eP* **P** **12 08 51.2 -0.8**
V35K Ketchikan 30.22 320 P **P** **12 08 57.4 +1.9**
baz=114,SNR=18
V35K S **S** **12 13 53.9 -1.3**
baz=114
T35M Bob Quinn 30.27 323 P **P** **12 08 58.2 +2.2**
baz=118,SNR=31
T35M S **S** **12 13 56.5 +0.4**
baz=118
BRU2 Volcan 30.40 151 *eS* **S** **12 13 52.2 -6.8**
CHGR2 Aguacate 30.49 150 *eP* **P** **12 08 57.8 -0.5**
CHGR2 *eS* **S** **12 13 53.5 -6.6**
DLBC Dease Lake 30.89 326 P **P** **12 09 03.6 +2.1**
comp=Z,132nm,1.0s,baz=115,slow=6.8,SNR=165
DLBC S **S** **12 14 11.4 +5.5**
comp=Z,22nm,0.9s,baz=46,slow=14,SNR=1.6
DLBC Lg Lg 12 18 60.0
comp=Z,0.2nm,0.3s,baz=62,slow=17,SNR=3.8
DLBC LR LR 12 22 07.6
comp=Z,14µm,18.0s,baz=118,slow=38
comp=Z,132nm,1.0s
DLBC Dease Lake 30.89 326 P **P** **12 09 03.1 +1.6**
baz=121,SNR=129
DLBC S **S** **12 14 05.5 -0.4**
baz=121
WRAK Wrangell Islan 31.05 321 P **P** **12 09 04.5 +1.7**
WRAK IAmb IAmb 12 09 12.0
comp=Z,76nm,1.2s
WRAK Wrangell Islan 31.05 321 P **P** **12 09 04.0 +1.2**
baz=115,SNR=17
CRAG Craig 31.07 319 P **P** **12 09 04.4 +1.4**
baz=113
CRAG S **S** **12 14 07.3 -1.1**
baz=113
S34M Telegraph Cree 31.14 325 P **P** **12 09 05.3 +1.7**
baz=119,SNR=65
S34M S **S** **12 14 09.9 +0.4**
baz=119
BCIP Isla Barro Col 31.26 146 P **P** **12 09 05.7 +0.6**
BCIP Isla Barro Col 31.26 146 P **P** **12 09 05.7 +0.6**
BCIP pmax pmax
comp=Z,147nm,1.0s
BCIP MLR MLR
comp=Z,5µm,22.0s
BCIP Isla Barro Col 31.26 146 *eP* **P** **12 09 05.2 +0.2**
WTLY Watson Lake, Y 31.27 329 P **P** **12 09 05.0 +0.2**
WTLY IAmb IAmb 12 10 02.6
comp=Z,131nm,1.1s
WTLY Watson Lake, Y 31.27 329 P **P** **12 09 05.4 +0.6**
baz=125,SNR=91
WTLY S **S** **12 14 11.5 -0.3**
baz=125
WRGLY Wrigley 31.36 337 P **P** **12 09 04.4 -1.1**
baz=136
T33K Petersburg 31.52 322 P **P** **12 09 07.9 +0.9**
baz=115
UPA Univ. de Panam 31.57 146 *eP* **P** **12 09 08.5 +0.8**
PNME Penonome 31.65 147 *eP* **P** **12 09 08.1 -0.4**
R33M Jennings River 31.80 327 P **P** **12 09 10.7 +1.1**
baz=121,SNR=56
R33M S **S** **12 14 20.9 +0.7**
baz=121
TGTN Hyland Airport 31.90 332 P **P** **12 09 11.5 +1.1**
baz=128,SNR=20
TGTN S **S** **12 14 19.1 -2.5**
baz=128
MLPR Magueyes Islan 32.12 117 P **P** **12 09 13.6 +1.0**
MLPR IAmb IAmb 12 10 20.6
comp=Z,122nm,1.6s
FRB Frobisher Bay 32.31 23 P **P** **12 09 13.2 -0.5**
comp=Z,48nm,0.8s,baz=213,slow=9.9,SNR=15
FRB S **S** **12 14 22.2 -5.5**
comp=Z,81nm,0.9s,baz=237,slow=16,SNR=2.0
FRB LR LR 12 22 20.4
comp=Z,7µm,20.1s,baz=226,slow=36
comp=Z,48nm,0.8s
UPD2 Meteti 32.65 144 *eP* **P** **12 09 18.2 +0.9**
SJG San Juan 32.67 116 LR LR 12 23 50.1
comp=Z,7µm,19.2s,baz=273,slow=39
SJG San Juan 32.67 116 P **P** **12 09 16.9 -0.5**
SJG San Juan 32.67 116 P **P** **12 09 16.9 -0.5**
SJG pmax pmax
comp=Z,41nm,0.9s
SJG MLR MLR
comp=Z,7µm,19.0s
SIT Sitka 32.81 321 P **P** **12 09 20.0 +1.7**
SIT IAmb IAmb 12 09 21.7
comp=Z,82nm,1.0s
SIT Sitka 32.81 321 P **P** **12 09 20.0 +1.7**
SIT pmax pmax
comp=Z,82nm,1.0s
SIT Sitka 32.81 321 P **P** **12 09 19.6 +1.4**
baz=112,SNR=11
SIT S **S** **12 14 31.8 -3.9**
baz=112
R32K Eaglecrest 32.90 324 P **P** **12 09 20.1 +1.0**
baz=115,SNR=31
P33M Teslin, Yukon 33.02 327 P **P** **12 09 21.0 +0.8**
baz=120,SNR=69
P33M S **S** **12 14 35.0 -4.1**
baz=120
P32M Atlin 33.12 326 P **P** **12 09 22.1 +1.1**
baz=118,SNR=110
P32M S **S** **12 14 35.2 -5.4**
baz=118
BESE Bessie Mountai 33.19 324 P **P** **12 09 23.3 +1.6**
LCBC Los crdobas, 33.20 141 *eP* **P** **12 09 24.6 +2.5**
N32M Quiet Lake 33.61 329 P **P** **12 09 26.1 +0.8**
baz=121
N32M S **S** **12 14 46.3 -1.8**
baz=121
MMPY Sheldon Lake, 33.68 332 P **P** **12 09 26.9 +1.0**
baz=125,SNR=50
SKAG Skagway 33.79 325 P **P** **12 09 28.0 +1.1**
baz=116,SNR=66
SKAG S **S** **12 14 46.5 -4.4**
baz=116
WHY Whitehorse 34.14 327 P **P** **12 09 30.8 +0.8**
baz=118,SNR=39
WHY S **S** **12 14 49.5 -7.0**
baz=118
PLBC Pleasant Camp 34.27 325 P **P** **12 09 32.4 +1.4**
baz=114,SNR=25
PLBC S **S** **12 14 58.9 +0.6**
baz=114
FARO Faro, Yukon 34.28 330 P **P** **12 09 31.5 +0.4**
FARO Faro, Yukon 34.28 330 P **P** **12 09 31.5 +0.4**
baz=122,SNR=58
FARO S **S** **12 14 56.3 -2.2**
baz=122
UREC San Jos de Ur 34.57 140 *eP* **P** **12 09 34.5 +0.5**
M31M Drury Creek, Y 34.68 330 P **P** **12 09 35.2 +0.6**
baz=120,SNR=40
M31M S **S** **12 15 02.5 -2.2**
baz=120
O30N Mendenhall 34.72 327 P **P** **12 09 36.2 +1.2**
baz=117,SNR=94
O30N S **S** **12 15 04.8 -0.5**
baz=117
P30M Million Dollar 34.82 326 P **P** **12 09 37.0 +1.1**
baz=115
N31M Braeburn, Yuko 34.91 328 IAMs_20 IAMs_20 12 24 27.5
comp=Z,16µm,21.0s
N31M Braeburn, Yuko 34.91 328 P **P** **12 09 37.6 +1.0**
baz=118,SNR=52
P29M Windy Craggy 34.98 325 P **P** **12 09 38.8 +1.6**
baz=113,SNR=45
P29M S **S** **12 15 09.9 +0.5**
baz=113
HYT Haines Junctio 35.36 327 P **P** **12 09 42.4 +1.8**
baz=115,SNR=52
HYT S **S** **12 15 17.3 +1.9**
baz=115
N30M Aishikik Lake 35.46 328 P **P** **12 09 42.4 +1.1**
baz=116,SNR=57
N30M S **S** **12 15 17.4 +0.7**
baz=116
O29M Mount Kennedy 35.63 325 P **P** **12 09 44.0 +1.1**
baz=113,SNR=20
O29M S **S** **12 15 18.9 -0.7**
baz=113
PNL Peninsula 35.78 324 P **P** **12 09 45.1 +1.1**
baz=111,SNR=6.9
PNL S **S** **12 15 22.2 +0.6**
baz=111
YUK6 Outpost Mounta 35.80 326 P **P** **12 09 46.4 +1.9**
baz=114,SNR=56
YUK6 S **S** **12 15 18.9 -3.3**
baz=114
M30M Minto, Yukon 35.84 330 P **P** **12 09 45.2 +0.6**
M30M IAmb IAmb 12 09 47.4
comp=Z,141nm,1.4s
M30M Minto, Yukon 35.84 330 P **P** **12 09 45.4 +0.8**
baz=118,SNR=60
M30M S **S** **12 15 19.3 -3.2**
baz=118
MAYO Mayo, Yukon 35.98 331 P **P** **12 09 47.0 +1.3**
baz=120,SNR=16
YUK4 Talbot Arm 36.09 327 P **P** **12 09 47.7 +0.8**
baz=115,SNR=60
YUK4 S **S** **12 15 25.5 -1.2**
baz=115
C36M Paulatuk 36.16 344 IAMs_20 IAMs_20 12 24 54.2
comp=Z,13µm,18.0s
C36M Paulatuk 36.16 344 P **P** **12 09 47.0 -0.1**
baz=141
PINM Pinnacle 36.33 325 P **P** **12 09 50.7 +1.9**
baz=111,SNR=7.9
SDV Santo Domingo 36.36 132 LR LR 12 25 39.5
comp=Z,3µm,20.9s,baz=327,slow=38
SDV Santo Domingo 36.36 132 P **P** **12 09 49.5 -0.1**
SDV IAmb IAmb 12 09 53.8
comp=Z,61nm,0.7s
SDV Santo Domingo 36.36 132 *eP* **P** **12 09 49.8 +0.2**
M29M Somme Creek 36.47 329 P **P** **12 09 50.8 +0.7**
baz=116,SNR=94
M29M S **S** **12 15 28.8 -3.5**
baz=116
O28M Mount Upton 36.55 326 P **P** **12 09 52.8 +1.8**
baz=112,SNR=15

O28M S **S** **12 15 32.9 -1.0**
baz=112
K29M **Barlow Dome** **36.74 331** P **P** **12 09 53.1 +0.8**
baz=119
K29M S **S** **12 15 35.9 -0.4**
baz=119
YUK3 **Moose Creek** **37.05 327** P **P** **12 09 56.4 +1.2**
baz=113,SNR=39
YUK3 S **S** **12 15 39.9 -1.5**
baz=113
CTG **Chitna Glacier** **37.15 326** P **P** **12 09 58.0 +2.1**
baz=111,SNR=20
CTG S **S** **12 15 42.8 +0.1**
baz=111
MESA **MESA** **37.16 324** P **P** **12 09 57.8 +1.8**
baz=109
MESA S **S** **12 15 45.0 +1.9**
baz=109
J29M **Klondike Camp** **37.30 332** P **P** **12 09 57.8 +0.8**
baz=119
CBE **Ff, Capester** **37.30 114** IAMs_20 IAMs_20 12 26 15.0
comp=Z,8µm,20.0s
F31M **Tsiigehtchic** **37.39 338** P **P** **12 09 58.1 +0.5**
baz=127,SNR=31
F31M S **S** **12 15 42.8 -3.0**
baz=127
TDBA **Terre de Bas,** **37.42 114** IAMs_20 IAMs_20 12 26 23.1
comp=Z,8µm,20.0s
BVCY **Beaver Creek** **37.48 328** P **P** **12 09 59.9 +1.4**
baz=113,SNR=36
DAWY **Dawson** **37.57 331** P **P** **12 09 59.6 +0.3**
DAWY **Dawson** **37.57 331** P **P** **12 09 59.6 +0.3**
baz=117,SNR=31
MAGL **Barre de l'ile** **37.62 113** IAMs_20 IAMs_20 12 26 22.4
comp=Z,7µm,19.0s
ROSC **El Rosal** **37.67 141** P **P** **12 10 00.5 -0.5**
comp=Z,17nm,0.4s,baz=5.5,slow=5.3,SNR=34
ROSC S **S** **12 15 47.7 -4.2**
comp=Z,3.8nm,0.3s,baz=312,slow=20,SNR=1.1
comp=Z,17nm,0.4s
EPYK **Eagle Plains** **37.74 335** IAMs_20 IAMs_20 12 25 45.1
comp=Z,11µm,21.0s
EPYK **Eagle Plains** **37.74 335** P **P** **12 10 00.9 +0.3**
baz=122,SNR=54
I29M **Ogilvie Camp,** **37.77 333** P **P** **12 10 01.0 0.0**
baz=120,SNR=58
I29M S **S** **12 15 49.5 -2.4**
baz=120
BGLC **Bering Glacier** **37.77 324** P **P** **12 10 03.5 +2.5**
baz=108
INK **Inuvik** **37.86 339** P **P** **12 10 01.6 0.0**
comp=Z,57nm,0.9s,baz=118,slow=9.4,SNR=43
INK S **S** **12 15 48.9 -4.0**
comp=Z,22nm,0.9s,baz=88,slow=28,SNR=1.6
INK LR LR 12 26 22.2
comp=Z,15µm,18.6s,baz=121,slow=38
comp=Z,57nm,0.9s
INK **Inuvik** **37.86 339** P **P** **12 10 01.4 -0.1**
baz=128,SNR=34
INK S **S** **12 15 48.2 -4.8**
baz=128
M27K **Edge Creek, AK** **37.89 328** IAMs_20 IAMs_20 12 26 24.4
comp=Z,15µm,20.0s
M27K **Edge Creek, AK** **37.89 328** P **P** **12 10 03.4 +1.3**
baz=112,SNR=73
M27K S **S** **12 15 53.9 -0.1**
baz=112
BAUV **El Baul** **37.90 129** P **P** **12 10 01.6 -0.9**
BAUV IAmb IAmb 12 10 33.6
comp=Z,160nm,0.9s
G30M **tAoh Zraii Nji** **37.91 336** P **P** **12 10 02.3 +0.3**
baz=124,SNR=21
G30M S **S** **12 15 51.3 -2.6**
baz=124
MCARA **McCarthy VSAT** **38.06 326** P **P** **12 10 05.4 +2.0**
MCARA IAmb IAmb 12 10 07.1
comp=Z,86nm,1.0s
MCARA **McCarthy VSAT** **38.06 326** P **P** **12 10 05.3 +1.9**
baz=110,SNR=27
MCARA S **S** **12 15 56.7 +0.4**
baz=110
BCAR **Beaver Creek A** **38.12 329** P **P** **12 10 04.9 +0.9**
L27K **Beaver Creek,** **38.14 329** P **P** **12 10 04.9 +0.8**
baz=113,SNR=92
L27K S **S** **12 15 55.3 -2.2**
baz=113
KAIM **Kayak Island** **38.26 323** IAMs_20 IAMs_20 12 24 33.3
comp=Z,12µm,18.0s
KAIM **Kayak Island** **38.26 323** P **P** **12 10 07.6 +2.5**
baz=106,SNR=7.9
KAIM S **S** **12 16 01.1 +1.8**
baz=106
HMT **Hamilton** **38.30 324** IAMs_20 IAMs_20 12 25 55.4
comp=Z,11µm,20.0s
RES **Resolute Bay** **38.35 1** P **P** **12 10 05.6 -0.1**
comp=Z,34nm,0.8s,baz=179,slow=8.9,SNR=8.8
RES S **S** **12 15 57.6 -2.7**
comp=Z,36nm,1.0s,baz=238,slow=2.3,SNR=2.2
RES LR LR 12 25 59.4
comp=Z,11µm,19.5s,baz=176,slow=36
comp=Z,34nm,0.8s
M26K **Nabesna, AK** **38.40 327** P **P** **12 10 07.7 +1.4**
M26K IAmb IAmb 12 10 09.3
comp=Z,113nm,0.9s
M26K **Nabesna, AK** **38.40 327** P **P** **12 10 07.4 +1.1**
baz=111,SNR=106
M26K S **S** **12 15 58.1 -3.3**
baz=111
A36M **Sachs Harbour** **38.48 346** P **P** **12 10 06.4 -0.4**
baz=142,SNR=5.8
EGAK **Eagle** **38.58 331** P **P** **12 10 07.4 -0.3**
EGAK IAmb IAmb 12 10 09.5
comp=Z,136nm,0.8s
EGAK **Eagle** **38.58 331** P **P** **12 10 07.5 -0.1**
baz=116,SNR=153
K27K **Chicken** **38.63 330** P **P** **12 10 08.6 +0.4**
K27K IAmb IAmb 12 10 10.6
comp=Z,108nm,0.9s
K27K IAMs_20 IAMs_20 12 25 55.8
comp=Z,10µm,22.0s
K27K **Chicken** **38.63 330** P **P** **12 10 08.7 +0.6**
baz=114
K27K S **S** **12 16 00.8 -4.0**
baz=114
BMRM **Bremner River** **38.65 325** P **P** **12 10 10.6 +2.2**
baz=107,SNR=39
BMRM S **S** **12 16 06.5 +1.1**
baz=107
ILAM **Ilet Lapin Mar** **38.67 114** IAMs_20 IAMs_20 12 26 53.3
comp=Z,7µm,19.0s
NUUK **Nuuk** **38.69 30** *i* P **P** **12 10 09.9 +1.3**
NUUK IAmb IAmb 12 10 12.8
comp=Z,37nm,0.8s
L26K **Log Cabin Wild** **38.77 328** P **P** **12 10 10.3 +1.0**
baz=111,SNR=86
L26K S **S** **12 16 02.0 -5.1**
baz=111
N25K **Chitina, Valde** **38.84 326** IAMs_20 IAMs_20 12 26 50.6
comp=Z,11µm,20.0s
N25K **Chitina, Valde** **38.84 326** P **P** **12 10 11.9 +1.8**
baz=108,SNR=55
N25K S **S** **12 16 08.8 +0.5**
baz=108
EYAK **Cordova Ski Ar** **39.07 324** P **P** **12 10 13.6 +1.7**
baz=106,SNR=16
EYAK S **S** **12 16 07.2 -4.3**
baz=106
Q23K **Middleton Isla** **39.08 322** P **P** **12 10 14.3 +2.3**
baz=104
Q23K S **S** **12 16 07.2 -4.4**
baz=104
I27K **Kandik River** **39.11 332** P **P** **12 10 12.4 +0.1**
baz=116,SNR=44
I27K S **S** **12 16 11.0 -1.1**
baz=116
PCRV **Puerto La Cruz** **39.19 124** LR LR 12 26 28.1
comp=Z,7µm,21.7s,slow=36
IVI **Ivigtut** **39.21 35** *i* P **P** **12 10 12.8 -0.2**
IVI IAmb IAmb 12 10 19.7
comp=Z,17nm,0.9s
HARP **HAARP** **39.34 327** P **P** **12 10 15.7 +1.5**
baz=108,SNR=23
HARP S **S** **12 16 16.4 +0.7**
baz=108
H27K **Steamboat Moun** **39.36 333** P **P** **12 10 14.8 +0.5**
baz=117,SNR=84
H27K S **S** **12 16 10.3 -5.5**
baz=117
SCRK **Sand Creek** **39.38 329** P **P** **12 10 15.1 +0.5**
baz=112,SNR=55
SCRK S **S** **12 16 09.8 -6.6**
baz=112
HIN **Hinchinbrook I** **39.39 323** IAMs_20 IAMs_20 12 26 02.2
comp=Z,9µm,19.0s
J26L **Joseph Creek** **39.41 330** P **P** **12 10 15.2 +0.4**
J26L IAmb IAmb 12 10 17.1
comp=Z,115nm,0.8s
J26L IAMs_20 IAMs_20 12 27 26.4
comp=Z,12µm,19.0s
J26L **Joseph Creek** **39.41 330** P **P** **12 10 15.2 +0.4**
baz=113,SNR=179
J26L S **S** **12 16 09.4 -7.4**
baz=113
KLU **Klutina** **39.42 325** P **P** **12 10 16.5 +1.6**
baz=107,SNR=57
KLU S **S** **12 16 12.8 -4.0**
baz=107
I26K **Coal Creek Min** **39.57 332** P **P** **12 10 15.7 -0.3**
baz=114
I26K S **S** **12 16 16.2 -2.7**
baz=114
RIDG **Independent Ri** **39.66 329** IAMs_20 IAMs_20 12 26 56.0
comp=Z,14µm,22.0s
RIDG **Independent Ri** **39.66 329** P **P** **12 10 17.6 +0.8**
baz=110,SNR=44
PAX **Paxson** **39.66 328** P **P** **12 10 17.2 +0.3**
baz=109,SNR=68
PAX S **S** **12 16 17.6 -2.9**
baz=109
G27K **Doyon Strip** **39.67 334** P **P** **12 10 17.2 +0.4**
baz=117,SNR=56
G27K S **S** **12 16 19.1 -1.3**
baz=117
M24K **Tolsona, Glenn** **39.71 326** IAMs_20 IAMs_20 12 29 16.4
comp=Z,7µm,19.0s
M24K **Tolsona, Glenn** **39.71 326** P **P** **12 10 18.9 +1.6**
baz=107,SNR=13
M24K S **S** **12 16 23.5 +2.3**
baz=107
P23K **Montague Islan** **39.73 323** P **P** **12 10 19.2 +1.8**
baz=103,SNR=10
P23K S **S** **12 16 23.7 +2.2**
baz=103
GLI **Glacier Island** **39.80 324** P **P** **12 10 18.4 +0.4**
baz=105,SNR=14
GLI S **S** **12 16 18.8 -3.7**
baz=105
OTAV **Otavalo** **39.88 150** P **P** **12 10 20.2 +0.6**
OTAV **Otavalo** **39.88 150** P **P** **12 10 20.2 +0.6**
OTAV pmax pmax
comp=Z,357nm,1.4s
OTAV MLR MLR
comp=Z,2µm,21.0s
OTAV **Otavalo** **39.88 150** *e* P **P** **12 10 19.6 0.0**
K24K **Donnelly Dome** **40.07 329** P **P** **12 10 21.5 +1.3**
baz=109,SNR=100
K24K S **S** **12 16 26.5 0.0**
baz=109
SCM **Sheep Creek Mo** **40.16 325** P **P** **12 10 22.1 +1.1**
baz=106,SNR=13
SCM S **S** **12 16 30.0 +2.1**
baz=106
J25K **Salcha River,** **40.18 330** P **P** **12 10 21.6 +0.5**
J25K IAmb IAmb 12 10 23.5
comp=Z,106nm,1.0s
J25K IAMs_20 IAMs_20 12 27 33.7
comp=Z,8µm,18.0s
J25K **Salcha River,** **40.18 330** P **P** **12 10 21.6 +0.5**
baz=111,SNR=116
J25K S **S** **12 16 21.9 -6.3**
baz=111
E27K **Coleen River** **40.29 336** P **P** **12 10 22.6 +0.6**
baz=119,SNR=29
E27K S **S** **12 16 24.3 -5.5**
baz=119
SFJD **Kangerlussuaq** **40.30 26** P **P** **12 10 21.7 -0.3**
comp=Z,56nm,0.8s,baz=233,slow=4.4,SNR=21
SFJD S **S** **12 16 30.9 +1.2**
comp=Z,8.8nm,0.8s,baz=248,slow=17,SNR=0.9
comp=Z,56nm,0.8s
SFJD **Kangerlussuaq** **40.30 26** P **P** **12 10 22.3 +0.3**
SFJD **Kangerlussuaq** **40.30 26** IAMs_20 IAMs_20 12 24 50.3
comp=Z,11µm,19.0s
SFJD **Kangerlussuaq** **40.30 26** P **P** **12 10 22.3 +0.3**
SFJD pmax pmax
comp=Z,82nm,0.9s
SFJD **Kangerlussuaq** **40.30 26** *i* P **P** **12 10 23.4 +1.5**
SFJD IAmb IAmb 12 10 25.6
comp=Z,45nm,0.8s
M23K **Glacier View** **40.33 325** P **P** **12 10 23.9 +1.5**
baz=105,SNR=22
M23K S **S** **12 16 29.3 -1.1**
baz=105
PWL **Port Wells** **40.38 324** IAMs_20 IAMs_20 12 28 29.3
comp=Z,13µm,19.0s
PWL **Port Wells** **40.38 324** P **P** **12 10 24.4 +1.5**
baz=103,SNR=28
PWL S **S** **12 16 28.4 -2.8**
baz=103
NRS **Narsarsuaq** **40.48 36** IAMs_20 IAMs_20 12 26 54.4
comp=Z,10µm,18.0s
G26K **Poupine Rive** **40.48 334** P **P** **12 10 24.4 +0.8**
baz=115,SNR=40
G26K S **S** **12 16 31.4 -1.1**
baz=115
DHY **Denali Highway** **40.52 327** P **P** **12 10 25.0 +0.8**
baz=107,SNR=18
DHY S **S** **12 16 28.2 -5.3**
baz=107
WAT6 **Susitna Watana** **40.54 326** P **P** **12 10 25.1 +0.8**
baz=106,SNR=44
WAT6 S **S** **12 16 31.8 -2.1**
baz=106
PRP **Porcupine Dome** **40.56 331** P **P** **12 10 24.9 +0.5**
PRP IAMs_20 IAMs_20 12 27 09.0
comp=Z,11µm,22.0s
PRP **Porcupine Dome** **40.56 331** P **P** **12 10 24.7 +0.3**
baz=112,SNR=87
PRP S **S** **12 16 29.3 -4.8**
baz=112
KNK **Knik Glacier** **40.57 325** P **P** **12 10 25.9 +1.5**
baz=104,SNR=26
KNK S **S** **12 16 30.6 -3.4**
baz=104
SML **Sawmill** **40.61 325** P **P** **12 10 25.9 +1.1**
baz=104,SNR=56
SML S **S** **12 16 32.3 -2.3**
baz=104
HDA **Harding Lake** **40.75 329** IAMs_20 IAMs_20 12 28 42.9
comp=Z,8µm,18.0s
HDA **Harding Lake** **40.75 329** P **P** **12 10 26.2 +0.4**
baz=109,SNR=62
HDA S **S** **12 16 34.2 -2.4**
baz=109
HDA S **S** **12 16 34.2 -2.4**
baz=109
SEW **Seward** **40.76 322** P **P** **12 10 26.2 +0.3**
baz=101,SNR=29
SEW S **S** **12 16 37.0 +0.3**
baz=101
IL31 **40.84 330** P **P** **12 10 27.1 +0.5**
ILAR **Eielson Array** **40.84 330** P **P** **12 10 26.9 +0.4**
comp=Z,249nm,0.9s,baz=108,slow=6.7,SNR=738
ILAR S **S** **12 16 37.1 -0.9**
comp=Z,2.6nm,0.9s,baz=122,slow=3.7,SNR=1.3
ILAR LR LR 12 28 32.4
comp=Z,12µm,18.4s,baz=106,slow=38
comp=Z,249nm,0.9s
ILAR **Eielson Array** **40.84 330** P **P** **12 10 27.1 +0.5**
ILAR **Eielson Array** **40.84 330** P **P** **12 10 27.1 +0.5**
PMR **Palmer** **40.93 325** P **P** **12 10 28.2 +1.0**
baz=103,SNR=30
PMR S **S** **12 16 34.9 -4.3**
baz=103
F26K **Sheenjek River** **40.93 335** P **P** **12 10 28.3 +1.0**
baz=115,SNR=42
F26K S **S** **12 16 34.3 -4.9**
baz=115
H25K **Birch Creek** **40.96 332** P **P** **12 10 28.4 +0.9**
baz=112,SNR=85
H25K S **S** **12 16 37.3 -2.2**
baz=112
BMAR **Burnt Mountain** **40.97 334** P **P** **12 10 28.4 +0.8**
O22K **Cooper Landing** **40.97 323** P **P** **12 10 28.4 +0.8**
baz=102
WAT1 **Susitna Watana** **40.97 327** P **P** **12 10 28.5 +0.8**
baz=105
WAT1 S **S** **12 16 35.3 -4.7**
baz=105
RC01 **Rabbit Creek A** **41.10 324** IAMs_20 IAMs_20 12 28 52.3
comp=Z,11µm,19.0s
RC01 **Rabbit Creek A** **41.10 324** P **P** **12 10 29.8 +1.0**
baz=102,SNR=29
RC01 S **S** **12 16 37.8 -4.1**
baz=102
ILULI **Ilulissat** **41.15 23** IAMs_20 IAMs_20 12 25 05.8
comp=Z,12µm,19.0s
POKR **Poker Plat Res** **41.18 330** IAMs_20 IAMs_20 12 30 17.1
comp=Z,9µm,19.0s
POKR **Poker Plat Res** **41.18 330** P **P** **12 10 29.9 +0.6**
baz=109,SNR=45
POKR S **S** **12 16 38.4 -4.5**
baz=109
WRH **Wood River Hil** **41.24 329** IAMs_20 IAMs_20 12 28 25.9
comp=Z,9µm,19.0s
RND **Reindeer** **41.26 327** IAMs_20 IAMs_20 12 29 32.5
comp=Z,10µm,20.0s
COLA **College** **41.27 330** P **P** **12 10 30.5 +0.5**
COLA **College** **41.27 330** *i* P **P** **12 10 30.6 +0.6**
COLA pmax pmax
comp=Z,238nm,1.0s
COLA **College** **41.27 330** P **P** **12 10 30.7 +0.7**
baz=108
COLA S **S** **12 16 39.9 -4.3**
baz=108
TCOL **CIGO, UAF Yank** **41.27 330** P **P** **12 10 30.6 +0.5**
TCOL **CIGO, UAF Yank** **41.27 330** P **P** **12 10 30.6 +0.5**
baz=108,SNR=56
TCOL S **S** **12 16 41.9 -2.3**
baz=108
BRSE **Bradley Lake S** **41.33 322** P **P** **12 10 31.7 +1.0**
baz=100,SNR=6.5
BRSE S **S** **12 16 40.3 -5.1**
baz=100
FIS **Fire Island** **41.34 324** IAMs_20 IAMs_20 12 27 13.6
comp=Z,10µm,21.0s
MCK **McKinley** **41.38 328** P **P** **12 10 32.1 +1.0**
MCK **McKinley** **41.38 328** P **P** **12 10 32.1 +1.0**
MCK pmax pmax
comp=Z,50nm,1.0s
MCK MLR MLR
comp=Z,14µm,18.0s
MCK **McKinley** **41.38 328** P **P** **12 10 32.3 +1.2**
baz=106,SNR=22
MCK S **S** **12 16 42.8 -3.2**
baz=106
F25K **Christian Rive** **41.41 334** P **P** **12 10 32.3 +1.1**
baz=114,SNR=66
F25K S **S** **12 16 43.1 -3.3**
baz=114
BRLK **Bradley Lake** **41.41 322** IAMs_20 IAMs_20 12 28 21.7
comp=Z,8µm,18.0s
M22K **Willow** **41.42 325** IAMs_20 IAMs_20 12 28 34.7
comp=Z,8µm,20.0s
M22K **Willow** **41.42 325** P **P** **12 10 32.2 +0.8**
baz=103,SNR=18
MDM **Murphy Dome** **41.45 330** IAMs_20 IAMs_20 12 26 10.4
comp=Z,7µm,18.0s
CNPM **China Poot** **41.55 321** IAMs_20 IAMs_20 12 28 01.1
comp=Z,8µm,20.0s
H24K **Noodor Dome** **41.59 331** IAMs_20 IAMs_20 12 28 40.0
comp=Z,10µm,20.0s
H24K **Noodor Dome** **41.59 331** P **P** **12 10 33.4 +0.7**
baz=109,SNR=136
H24K S **S** **12 16 44.5 -4.6**
baz=109
E25K **Arctic Village** **41.60 335** P **P** **12 10 33.8 +1.0**
baz=114,SNR=39
E25K S **S** **12 16 45.3 -3.8**
baz=114
CUT **Chulitna** **41.64 326** IAMs_20 IAMs_20 12 28 29.2
comp=Z,11µm,18.0s
CUT **Chulitna** **41.64 326** P **P** **12 10 33.9 +0.8**
baz=103,SNR=13
C27K **Jago River** **41.65 337** P **P** **12 10 34.2 +1.1**
baz=118,SNR=7.7
C27K S **S** **12 16 46.5 -3.4**
baz=118
SUA **Susitna One** **41.66 324** P **P** **12 10 34.3 +0.9**
baz=102,SNR=20
SUA S **S** **12 16 46.4 -3.9**
baz=102
NEA2 **Nenana** **41.68 329** IAMs_20 IAMs_20 12 28 06.4
comp=Z,10µm,20.0s
NEA2 **Nenana** **41.68 329** P **P** **12 10 33.9 +0.5**
baz=107,SNR=15
NEA2 S **S** **12 16 47.4 -3.1**
baz=107
DY2G **Dye2** **41.68 28** *i* P **P** **12 10 32.7 -1.0**
DY2G IAmb IAmb 12 10 36.7
comp=Z,50nm,0.8s
CAPN **Captain Cook N** **41.72 323** IAMs_20 IAMs_20 12 26 32.6
comp=Z,10µm,21.0s
CAPN **Captain Cook N** **41.72 323** P **P** **12 10 35.8 +2.0**
baz=100
G24K **Hadweenzic Riv** **41.73 333** P **P** **12 10 35.1 +1.2**
baz=111,SNR=54
G24K S **S** **12 16 47.8 -3.4**
baz=111
NUUG **Nuugaatsiaq** **41.74 19** *i* P **P** **12 10 36.0 +2.2**
HOM **Homer** **41.77 322** IAMs_20 IAMs_20 12 26 23.2
comp=Z,8µm,19.0s
HOM **Homer** **41.77 322** P **P** **12 10 35.1 +0.9**
baz=99
HOM S **S** **12 16 49.5 -2.3**
baz=99
TRF **Thorofare Moun** **41.89 327** IAMs_20 IAMs_20 12 28 56.2
comp=Z,12µm,22.0s
TRF **Thorofare Moun** **41.89 327** P **P** **12 10 36.6 +1.2**
baz=104,SNR=54
TRF S **S** **12 16 51.8 -2.1**
baz=104
Q20K **Shuyak Island** **42.01 320** P **P** **12 10 38.1 +1.8**
baz=97,SNR=7.3
Q20K S **S** **12 16 50.0 -5.4**
baz=97
KDAK **Kodiak Island** **42.02 319** P **P** **12 10 37.8 +1.5**
comp=Z,7.5nm,0.8s,baz=179,slow=2.0,SNR=13
KDAK LR LR 12 27 37.7
comp=Z,7µm,20.9s,baz=109,slow=36
comp=Z,7.5nm,0.8s
KDAK **Kodiak Island** **42.02 319** P **P** **12 10 36.9 +0.6**
KDAK **Kodiak Island** **42.02 319** IAMs_20 IAMs_20 12 27 26.7
comp=Z,7µm,19.0s
KDAK **Kodiak Island** **42.02 319** *i* P **P** **12 10 36.6 +0.3**
KDAK pmax pmax
comp=Z,71nm,1.8s
KDAK **Kodiak Island** **42.02 319** P **P** **12 10 38.2 +2.0**
baz=96
KDAK S **S** **12 16 54.2 -1.3**
baz=96
SKT **Skwentna** **42.12 325** P **P** **12 10 38.0 +0.9**
SKT **Skwentna** **42.12 325** P **P** **12 10 38.1 +0.9**
baz=101,SNR=27
SKT S **S** **12 16 50.9 -6.1**
baz=101
C26K **Camden Bay** **42.16 338** P **P** **12 10 38.7 +1.4**
baz=117
F24K **Squaw Lake** **42.18 334** P **P** **12 10 38.7 +1.2**
baz=111,SNR=40
F24K S **S** **12 16 55.5 -2.2**
baz=111
KTH **Kantishna Hill** **42.19 327** IAMs_20 IAMs_20 12 29 05.1
comp=Z,11µm,18.0s
H23K **Yukon River** **42.24 331** IAMs_20 IAMs_20 12 27 21.1
comp=Z,10µm,18.0s
H23K **Yukon River** **42.24 331** P **P** **12 10 38.5 +0.4**
baz=108,SNR=48
H23K S **S** **12 16 50.5 -8.2**
baz=108
N20K **Mount Spurr** **42.30 324** P **P** **12 10 39.4 +0.8**
baz=100,SNR=8.5
N20K S **S** **12 16 53.7 -6.0**
baz=100
O20K **Slope Mountain** **42.32 322** P **P** **12 10 40.0 +1.1**
baz=98,SNR=9.7
O20K S **S** **12 16 56.7 -3.5**
baz=98
OHAK **Old Harbor** **42.35 318** P **P** **12 10 40.2 +1.2**
baz=94
OHAK S **S** **12 16 56.9 -3.5**
baz=94
BPAW **Bear Paw Mtn.** **42.35 328** IAMs_20 IAMs_20 12 28 14.4
comp=Z,10µm,22.0s

BPAW Bear Paw Mtn. 42.35 328 P P 12 10 39.6 +0.6
baz=104,SNR=14
BPAW S S 12 16 55.6 -4.8
baz=104
D25K Kavik River 42.36 336 P P 12 10 39.5 +0.5
baz=115,SNR=17
D25K S S 12 16 55.0 -5.5
baz=115
MLY Manley 42.49 330 IAMs_20 IAMs_20 12 30 45.0
comp=Z,7µm,19.0s
MLY Manley 42.49 330 P P 12 10 40.7 +0.6
baz=106,SNR=140
MLY S S 12 16 56.0 -6.4
baz=106
P19K Oil Pt 42.57 321 IAMs_20 IAMs_20 12 28 50.2
comp=Z,7µm,18.0s
P19K Oil Pt 42.57 321 P P 12 10 42.1 +1.3
baz=97,SNR=7.7
P19K S S 12 16 58.7 -5.0
baz=97
E24K Your Creek 42.59 334 P P 12 10 41.8 +0.9
baz=111,SNR=46
E24K S S 12 17 01.0 -2.9
baz=111
PPLA Purkeypile 42.61 326 P P 12 10 42.0 +0.8
baz=102,SNR=66
PPLA S S 12 16 58.3 -6.1
baz=102
CAST Castle Rocks 42.67 327 P P 12 10 41.8 +0.2
baz=102,SNR=151
CAST S S 12 17 03.7 -1.4
baz=102
G23K Bananza Creek 42.69 332 P P 12 10 42.4 +0.7
baz=108,SNR=33
G23K S S 12 17 01.1 -4.3
baz=108
Q19K Cape Douglas, 42.70 320 IAMs_20 IAMs_20 12 28 44.5
comp=Z,8µm,18.0s
Q19K Cape Douglas, 42.70 320 P P 12 10 42.2 +0.4
baz=96
SII Sitkinak Islan 42.80 317 IAMs_20 IAMs_20 12 27 09.3
comp=Z,6µm,19.0s
SII Sitkinak Islan 42.80 317 P P 12 10 43.8 +1.1
baz=93
M20K Styx River 42.85 325 P P 12 10 43.6 +0.5
baz=100,SNR=55
M20K S S 12 17 05.8 -2.1
baz=100
CHUM Lake Minchumin 42.87 328 P P 12 10 44.1 +0.9
baz=103,SNR=6.7
CHUM S S 12 17 06.7 -1.3
baz=103
COLD Coldfoot 42.92 333 P P 12 10 44.4 +0.8
baz=108,SNR=26
COLD S S 12 17 06.4 -2.2
baz=108
H22K Ishtalitna Cre 42.98 331 P P 12 10 44.5 +0.4
baz=106,SNR=38
H22K S S 12 17 04.8 -4.8
baz=106
I21K Tanana 43.04 330 IAMs_20 IAMs_20 12 30 43.4
comp=Z,9µm,18.0s
I21K Tanana 43.04 330 P P 12 10 44.9 +0.4
baz=104,SNR=57
D24K Happy Valley 43.10 336 P P 12 10 45.2 +0.3
baz=112
D24K S S 12 17 05.8 -5.4
baz=112
TOLK Toolik Lake Re 43.17 335 IAMs_20 IAMs_20 12 29 27.8
comp=Z,7µm,20.0s
TOLK Toolik Lake Re 43.17 335 P P 12 10 46.1 +0.6
baz=110,SNR=31
TOLK S S 12 17 09.1 -3.2
baz=110
O19K Port Alsworth 43.18 322 P P 12 10 45.6 0.0
baz=97
C24K Franklin Bluff 43.27 336 P P 12 10 46.1 -0.2
baz=112
L20K Farewell, AK 43.30 325 P P 12 10 46.9 +0.2
baz=100,SNR=54
L20K S S 12 17 10.1 -4.3
baz=100
G22K Bettles 43.32 332 P P 12 10 47.0 +0.3
baz=107
N19K Bonanza Creek 43.34 323 IAMs_20 IAMs_20 12 30 06.4
comp=Z,5µm,18.0s
N19K Bonanza Creek 43.34 323 P P 12 10 47.5 +0.5
baz=97,SNR=42
N19K S S 12 17 09.7 -5.4
baz=97
M19K Big River Lodg 43.44 325 P P 12 10 48.3 +0.5
baz=99
H21K Melozitna Rive 43.49 330 IAMs_20 IAMs_20 12 29 02.2
comp=Z,7µm,18.0s
H21K Melozitna Rive 43.49 330 P P 12 10 48.3 +0.1
baz=104,SNR=128
H21K S S 12 17 10.2 -6.8
baz=104
K20K Telida 43.53 327 P P 12 10 48.7 +0.1
baz=100,SNR=28
K20K S S 12 17 13.4 -4.4
baz=100
P18K Big Mountain, 43.55 321 IAMs_20 IAMs_20 12 29 14.2
comp=Z,8µm,19.0s
P18K Big Mountain, 43.55 321 P P 12 10 49.3 +0.5
baz=95
P18K S S 12 17 12.8 -5.4
baz=95
CHIR Chirikof Islan 43.57 316 P P 12 10 49.9 +1.0
baz=91
CHIR S S 12 17 19.2 +0.7
baz=91
O18K Koktuh Hills 43.59 321 IAMs_20 IAMs_20 12 29 32.1
comp=Z,7µm,18.0s
O18K Koktuh Hills 43.59 321 P P 12 10 50.1 +1.1
baz=96,SNR=9.7
O18K S S 12 17 14.5 -4.1
baz=96
D23K Nanushuk River 43.66 335 P P 12 10 50.3 +0.8
baz=110,SNR=13
D23K S S 12 17 19.9 +0.5
baz=110
L19K White Mountain 43.70 325 P P 12 10 50.5 +0.6
baz=98,SNR=56
L19K S S 12 17 14.7 -5.5
baz=98
J20K Nowinta River 43.72 328 P P 12 10 50.7 +0.6
baz=101,SNR=60
J20K S S 12 17 16.3 -4.2
baz=101
F22K John River 43.73 333 P P 12 10 51.0 +0.9
baz=107,SNR=85
F22K S S 12 17 17.1 -3.5
baz=107
E22K Anaktuvuk Pass 43.79 334 P P 12 10 51.1 +0.6
baz=108
C23K Itkillik River 43.93 336 P P 12 10 52.2 +0.5
baz=110,SNR=9.4
C23K S S 12 17 20.8 -2.6
baz=110
EUNU Eureka 43.93 3 P P 12 10 52.0 +0.4
EUNU IAmb IAmb 12 10 53.5
comp=Z,121nm,1.5s
G21K Allakaket 43.97 331 P P 12 10 52.3 +0.3
baz=104
G21K S S 12 17 22.4 -1.7
baz=104
N18K Kilae Creek 44.01 323 IAMs_20 IAMs_20 12 32 08.2
comp=Z,5µm,19.0s
N18K Kilae Creek 44.01 323 P P 12 10 52.6 +0.2
baz=96,SNR=28
N18K S S 12 17 24.0 -0.7
baz=96
R17K Ugashik Creek 44.05 318 P P 12 10 54.0 +1.3
baz=92,SNR=6.0
R17K S S 12 17 25.0 -0.3
baz=92
F21K Alatna River 44.14 332 P P 12 10 54.1 +0.6
baz=105,SNR=61
F21K S S 12 17 26.5 0.0
baz=105
P17K Kvichak River 44.16 320 P P 12 10 53.9 +0.4
baz=94
Q16K King Salmon 44.24 320 P P 12 10 54.9 +0.7
baz=93
Q16K S S 12 17 25.2 -2.8
baz=93
TTA Tatalina 44.34 326 P P 12 10 55.6 +0.5
baz=98,SNR=28
TTA S S 12 17 22.6 -7.0
baz=98
O17K Koliganek Bris 44.53 321 P P 12 10 57.2 +0.7
baz=94,SNR=20
O17K S S 12 17 26.8 -5.4
baz=94
R16K Pilot Point 44.68 318 P P 12 10 59.4 +1.6
baz=91
ANGG Ammassalik, Gr 44.85 30 IAMs_20 IAMs_20 12 27 18.4
comp=Z,9µm,20.0s
ANGG Ammassalik, Gr 44.85 30 *i* P P 12 10 57.5 -1.4
ANGG IAmb IAmb 12 11 02.0
comp=Z,111nm,0.8s
ICESG Greenland Ices 44.89 25 *i* P P 12 10 58.9 -0.8
ICESG IAmb IAmb 12 11 04.8
comp=Z,94nm,0.8s
P16K Nushagak River 44.95 320 P P 12 11 01.0 +1.2
baz=92
GCSA Galena City Sc 44.99 328 P P 12 11 00.7 +0.6
baz=99,SNR=15
GCSA S S 12 17 38.1 -0.7
baz=99
O16K Kokwok River B 45.02 321 P P 12 11 01.2 +0.7
baz=93,SNR=12
O16K S S 12 17 36.3 -3.2
baz=93
CHGN Chignik 45.14 316 P P 12 11 02.6 +1.1
baz=89,SNR=8.0
N16K Nishlik Lake 45.41 322 P P 12 11 04.7 +1.1
baz=93,SNR=20
N16K S S 12 17 43.5 -1.6
baz=93
NEEM North Greenlan 45.58 13 *i* P P 12 11 04.9 -0.2
NEEM IAmb IAmb 12 11 09.5
comp=Z,46nm,0.7s
S14K Fog Glacier 45.78 316 P P 12 11 07.7 +1.1
baz=88
CHNA Chernabura Isl 45.86 314 P P 12 11 08.4 +1.2
baz=87
SUMG Summit 46.30 21 *i* P P 12 11 11.4 +0.5
SUMG IAmb IAmb 12 11 16.2
comp=Z,42nm,0.9s
A21K Barrow 46.31 337 IAMs_20 IAMs_20 12 32 15.7
comp=Z,8µm,20.0s
SDPT Sand Point 46.34 315 P P 12 11 11.7 +0.8
baz=87,SNR=5.1
SDPT S S 12 17 58.4 -0.1
baz=87
ATAH Atahualpa 46.69 154 LR LR 12 31 17.3
comp=Z,3µm,21.9s,baz=349,slow=37
SOEG Soedalen 47.68 27 *i* P P 12 11 23.5 +2.3
SOEG IAmb IAmb 12 11 25.7
comp=Z,41nm,0.9s
BOAV Boa Vista 47.69 127 P P 12 11 21.2 -0.7
BOAV IAmb IAmb 12 11 22.3
comp=Z,60nm,0.8s
BOAV Boa Vista 47.69 127 *e*P P 12 11 21.4 -0.5
RDOG Red Dog Mine 47.84 332 P P 12 11 23.5 +0.9
baz=96
ANM Nome 48.61 328 P P 12 11 29.8 +1.2
baz=91
CZSB Cruzeiro do Su 49.46 148 *e*P P 12 11 35.7 +0.1
TNA Tin City 49.70 329 P P 12 11 36.7 -0.1
baz=90
UNV Unalaska Valle 49.99 314 P P 12 11 40.5 +1.4
baz=81
UNV S S 12 18 47.9 -2.3
baz=81
MDP Montagnes des 51.14 117 LR LR 12 33 20.4
comp=Z,4µm,21.9s,baz=310,slow=36
SCO Scoresbysund 51.16 25 *i* P P 12 11 48.5 +0.8
SCO IAmb IAmb 12 11 53.2
comp=Z,36nm,0.7s
GAMB Gambell 51.41 327 P P 12 11 50.1 +0.4
baz=85
NIKH Nikolski High 51.53 313 P P 12 11 50.8 -0.1
baz=78
SPIA Saint Paul Isl 51.55 318 P P 12 11 52.2 +1.4
baz=81
BORG Borgarnes 51.67 32 LR LR 12 32 00.9
comp=Z,9µm,18.4s,baz=272,slow=34
BORG Borgarnes 51.67 32 IAMs_20 IAMs_20 12 31 40.2
comp=Z,9µm,19.0s
NNA Nana 51.74 155 LR LR 12 35 25.1
comp=Z,989nm,21.3s,baz=317,slow=38
NNA Nana 51.74 155 P P 12 11 53.1 +0.3
NNA IAmb IAmb 12 11 57.3
comp=Z,106nm,1.2s
NNA Nana 51.74 155 *ce*P P 12 11 52.9 +0.1
NNA pmax pmax
comp=Z,234nm,1.7s
MACA Manacapuru-AM 51.89 131 P P 12 11 53.7 -0.2
MACA IAmb IAmb 12 11 56.8
comp=Z,101nm,0.7s
MACA Manacapuru-AM 51.89 131 *e*P P 12 11 53.0 -0.9
DAG Danmarks Havn 52.18 17 *i* P P 12 11 53.8 -1.5
DAG IAmb IAmb 12 11 58.6
comp=Z,23nm,0.6s
NOR Nord 52.77 10 *i* P P 12 11 58.5 -1.2
ETMB Extrema 54.32 142 P P 12 12 09.3 -2.5
ETMB IAmb IAmb 12 12 10.1
comp=Z,38nm,0.7s
MALB Monte Alegre 54.98 124 *e*P P 12 12 16.1 -0.5
SAML Samuel 55.16 138 P P 12 12 15.4 -2.5
SAML IAMs_20 IAMs_20 12 37 49.0
comp=Z,5µm,18.0s
SAML Samuel 55.16 138 P P 12 12 15.4 -2.5
SAML pmax pmax
comp=Z,27nm,0.7s
SAML MLR MLR
comp=Z,5µm,18.0s
JMIC Jan Mayen 55.53 23 LR LR 12 33 20.4
comp=Z,5µm,20.6s,baz=282,slow=33
CMLA Cha da Macela 55.63 66 IAMs_20 IAMs_20 12 34 55.2
comp=Z,5µm,19.0s
ITTB Itaituba 55.91 128 *e*P P 12 12 22.3 -1.0
KBS Kingsbay 58.01 12 P P 12 12 38.1 +0.6
KBS IAmb IAmb 12 12 44.2
comp=Z,144nm,1.8s
KBS Kingsbay 58.01 12 *ce*P P 12 12 38.8 +1.4
KBS pmax pmax
comp=Z,53nm,1.3s
KBS Kingsbay 58.01 12 *e*P P 12 12 39.2 +1.7
NPGB Novo Progresso 58.20 129 *e*P P 12 12 37.6 -2.0
LPAZ La Paz 59.07 147 P P 12 12 45.9 -0.4
comp=Z,5.2nm,0.4s,baz=331,slow=5.6,SNR=28
LPAZ S S 12 20 46.9 -7.4
comp=Z,11nm,1.1s,baz=342,slow=6.8,SNR=2.7
LPAZ LR LR 12 41 58.9
comp=Z,2µm,18.3s,baz=310,slow=40
comp=Z,5.2nm,0.4s
LPAZ La Paz 59.07 147 P P 12 12 45.8 -0.4
LPAZ IAmb IAmb 12 13 00.1
comp=Z,113nm,1.7s
LPAZ La Paz 59.07 147 *e*P P 12 12 45.7 -0.6
SPA0 Spitsbergen Ar 59.15 13 *e*P P 12 12 46.2 +0.8
SPITS Spitsbergen Ar 59.15 13 P P 12 12 46.0 +0.6
SPITS pmax pmax
comp=Z,103nm,1.2s
SPB2 Spitsbergen Ar 59.15 13 P P 12 12 45.7 +0.3
SPB2 IAmb IAmb 12 12 52.5
comp=Z,71nm,0.9s
BILL Bilibino 59.21 334 P P 12 12 45.9 0.0
BILL IAmb IAmb 12 14 18.8
comp=Z,72nm,1.1s
BILL IAMs_20 IAMs_20 12 40 12.7
comp=Z,6µm,18.0s
BILL Bilibino 59.21 334 *ce*P P 12 12 45.3 -0.7
BILL *e*S S 12 20 43.9 -10
BILL *e*SS SS 12 24 50.3 +2.8
BILL pmax pmax
comp=Z,68nm,1.3s
BILL MLR MLR
comp=Z,7µm,16.0s
TMAB Tom-Au,PA,Br 59.58 119 *e*P P 12 12 48.6 -0.6
HSPB Hornsund (broa 59.59 14 *e*P P 12 12 49.9 +1.5
HSPB *i* Sc 12 20 58.2
HSPB *e*L L 12 35 30.9
comp=Z,5µm,21.6s
VILB Vilhena 60.09 138 *e*P P 12 12 52.0 -0.7
TAOE Nuku Hiva Isla 60.65 231 *e*SS SS 12 25 13.2 +0.7
comp=Z,1µm,30.7s
TAOE *e*LR LR 12 30 49.5
comp=Z,7µm,22.9s
CLDB Colider 60.92 132 *e*P P 12 12 57.2 -1.2
PDRB Porto dos Gac 60.96 134 *e*P P 12 12 57.5 -1.1
PRPB Parauapebas 61.14 124 *e*P P 12 12 58.6 -1.2
SHEM Shemya Is, Ala 61.45 316 LR LR 12 41 21.7
comp=Z,1µm,19.1s,baz=63,slow=38
HOPEN Hopen 61.66 13 *e*P P 12 13 03.2 +0.7
SIV San Ignacio 62.16 140 LR LR 12 42 25.0
comp=Z,3µm,18.1s,baz=352,slow=38
PTLB Pontes e Lacer 62.73 138 P P 12 13 09.6 -0.8
PTLB IAmb IAmb 12 13 11.2
comp=Z,58nm,0.9s
PTLB Pontes e Lacer 62.73 138 *e*P P 12 13 09.6 -0.8
ROSB Rosrio 62.78 117 *e*P P 12 13 10.7 -0.2
ESK Eskdalemuir 62.91 40 P P 12 13 10.2 -1.0
ESK Eskdalemuir 62.91 40 IAMs_20 IAMs_20 12 39 02.2
comp=Z,4µm,18.0s
ESK Eskdalemuir 62.91 40 P P 12 13 10.2 -1.0
ESK pmax pmax
comp=Z,106nm,0.9s
EKA Eskdalemuir Ar 62.93 40 P P 12 13 10.3 -1.0
comp=Z,59nm,0.8s,baz=292,slow=6.4,SNR=64
EKA LR LR 12 39 05.8
comp=Z,3µm,18.7s,baz=299,slow=35
comp=Z,59nm,0.8s
PMOZ Porto Moniz, M 63.88 67 *e*P P 12 13 22.7 +4.5
comp=Z,187nm,2.0s
PMOZ *e*S S 12 21 58.0 +3.6
PMOZ Porto Moniz, M 63.88 67 *e*LR LR 12 33 08.1
comp=Z,3µm,18.0s
PMAR Madeira 64.14 67 *e*P P 12 13 24.0 +4.0
comp=Z,461nm,1.4s
FUL Funchal 64.19 67 *e*P P 12 13 24.3 +4.2
comp=Z,189nm,1.7s
RPN Rapa Nui 64.29 192 LR LR 12 37 58.5
comp=Z,1µm,18.1s,baz=8.5,slow=33
STEI Steigen 64.37 23 *e*P P 12 13 21.4 +0.8
PMPST Porto Santo, M 64.40 67 *e*P P 12 13 24.5 +3.0
LVC Limon Verde 64.41 151 LR LR 12 44 48.3
comp=Z,866nm,20.1s,baz=335,slow=39
LVC Limon Verde 64.41 151 P P 12 13 22.0 +0.1
LVC Limon Verde 64.41 151 P P 12 13 22.0 +0.1
LVC pmax pmax
comp=Z,184nm,2.0s
LVC MLR MLR
comp=Z,2µm,22.0s
LVC Limon Verde 64.41 151 *e*P P 12 13 22.2 +0.4
PMPS Porto Santo 64.41 67 *e*P P 12 13 24.8 +3.3
comp=Z,150nm,1.6s
AKN Aaknes 64.45 30 *e*P P 12 13 21.1 -0.3
KONS Konsvik 64.48 25 *e*P P 12 13 22.2 +0.9
TRO Tromso 64.48 20 *e*P P 12 13 21.9 +0.6
SNDB Serra Nova Dou 64.53 129 *e*P P 12 13 22.0 -0.4
ASK Askoy 64.54 32 *e*P P 12 13 22.7 +0.9
SMTB Santa Maria do 64.60 124 *e*P P 12 13 22.2 -0.6
HYA Hoyanger 64.62 32 *e*P P 12 13 22.3 -0.1
BER Bergen 64.64 32 *e*P P 12 13 23.6 +1.1
FAUS Fauske 64.70 23 *e*P P 12 13 23.4 +0.6
JETT Jettan, Norway 64.94 20 *e*P P 12 13 24.8 +0.4
SALV Santo Antonio 64.99 136 *e*P P 12 13 24.7 -0.6
MOR8 Moi Rana 65.10 25 *e*P P 12 13 26.0 +0.5
HAMF Hammerfest 65.13 18 *e*P P 12 13 25.7 +0.1
NSS Namsos 65.14 27 *e*P P 12 13 25.5 -0.3
DOMB Dombas 65.36 30 *e*P P 12 13 27.4 +0.1
BLS5 Blasjo 65.61 33 *e*P P 12 13 30.1 +1.2
SKAR Skarslia 65.76 31 *e*P P 12 13 30.0 +0.1
PGAV Gavieira, Arco 65.91 55 *e*P P 12 13 31.7 +0.4
comp=Z,156nm,1.5s
PGAV *e*S S 12 22 21.3 +2.2
PGAV *e*SS SS 12 26 37.3 +4.0
PGAV *e*LR LR 12 35 18.3
comp=Z,8µm,18.0s
KTK1 Kautokeino 66.07 20 *e*P P 12 13 31.8 +0.1
PCAB Cabril 66.19 55 *e*P P 12 13 33.1 +0.1
comp=Z,258nm,1.6s
ARA0 ARCESS Array S 66.33 19 *e*P P 12 13 33.6 +0.2
ARCES ARCESS Array B 66.33 19 P P 12 13 33.8 +0.5
comp=Z,44nm,0.7s,baz=313,slow=5.6,SNR=99
ARCES S S 12 22 18.9 -4.3
comp=Z,3.6nm,1.0s,baz=1.9,slow=7.3,SNR=1.4
ARCES LR LR 12 39 35.1
comp=Z,4µm,21.8s,baz=308,slow=33
comp=Z,44nm,0.7s
ARCES ARCESS Array B 66.33 19 P P 12 13 33.3 -0.1
ARCES ARCESS Array B 66.33 19 P P 12 13 33.3 -0.1
ARCES pmax pmax
comp=Z,80nm,0.9s
POLO Lamas de Olo 66.50 55 *e*P P 12 13 35.5 +0.4
comp=Z,73nm,1.5s
SNART Snartemo 66.51 34 *e*P P 12 13 34.9 +0.2
KEV Kevo 66.57 18 P P 12 13 34.4 -0.4
KEV IAmb IAmb 12 13 38.0
comp=Z,50nm,0.8s
KEV IAMs_20 IAMs_20 12 41 24.6
comp=Z,4µm,21.0s
KEV Kevo 66.57 18 P P 12 13 34.4 -0.4
KEV pmax pmax
comp=Z,50nm,0.8s
PVRL Vila Real 66.60 55 *e*P P 12 13 35.8 +0.2
comp=Z,116nm,1.7s
COI Coimbra 66.65 57 IAMs_20 IAMs_20 12 40 54.2
comp=Z,5µm,18.0s
PMAFR Mafra 66.66 58 *e*P P 12 13 36.1 +0.1
comp=Z,246nm,1.3s
PCAS Casmilo, Conde 66.66 57 *e*P P 12 13 36.5 +0.5
comp=Z,326nm,1.5s
SEY Seymchan 66.71 332 LR LR 12 45 33.3
comp=Z,9µm,18.4s,baz=80,slow=38
SEY Seymchan 66.71 332 *ce*P P 12 13 36.3 +0.4
SEY pmax pmax
comp=Z,31nm,1.7s
SEY MLR MLR
comp=Z,8µm,18.0s
PSBE So Bento 66.72 57 *e*P P 12 13 37.0 +0.6
comp=Z,173nm,1.0s
PVIS Viseu 66.75 56 *e*P P 12 13 36.7 +0.1
comp=Z,160nm,1.4s
NB2 NORSAR Subarra 66.77 30 P P 12 13 36.1 -0.3
comp=Z,73nm,1.2s,baz=302,slow=6.9
NB2 NORSAR Subarra 66.77 30 P P 12 13 36.1 -0.3
baz=302,slow=6.9
NOA NORSAR Array B 66.77 30 P P 12 13 36.3 -0.1
comp=Z,13nm,0.9s,baz=303,slow=6.6,SNR=18
NOA LR LR 12 42 14.4
comp=Z,3µm,18.8s,baz=300,slow=36
comp=Z,13nm,0.9s
PP1B Ponte de Pedra 66.82 136 *e*P P 12 13 37.3 +0.2
PMST Lisbon--Monsan 66.83 58 *e*P P 12 13 37.9 +0.9
comp=Z,214nm,1.6s
KONO Kongsberg 66.86 32 IAMs_20 IAMs_20 12 39 51.8
comp=Z,4µm,20.0s
KONO Kongsberg 66.86 32 *i* P P 12 13 38.6 +1.7
KONO pmax pmax
comp=Z,16nm,1.0s
KONO MLR MLR
comp=Z,2µm,17.0s
LIS Lisbon 66.86 58 *e*S S 12 22 31.8 +1.3
LIS *e*SS SS 12 26 51.0 +3.1
LIS IAMs_20 IAMs_20 12 38 11.6
comp=Z,10µm,28.2s
LIS Lisbon 66.86 58 *e*P P 12 13 40.5 +3.3
comp=Z,254nm,1.8s
PBRG Braganca 66.99 54 *e*P P 12 13 38.4 +0.3
comp=Z,140nm,1.5s
PACT Alcochete 67.05 58 *e*P P 12 13 39.6 +1.1
comp=Z,485nm,1.5s
NC602 NORSAR Array S 67.07 30 *e*P P 12 13 39.1 +0.9
MVO Moncorvo 67.11 55 *e*P P 12 13 39.4 +0.5
comp=Z,291nm,1.5s
MVO *e*S S 12 22 33.6 0.0
MVO *e*SS SS 12 26 56.0 +4.1
MVO *e*LR LR 12 35 55.2
comp=Z,7µm,20.0s
MTE Manteigas 67.14 56 *e*P P 12 13 38.8 -0.3
comp=Z,148nm,1.7s
MTE *e*S S 12 22 36.5 +2.5
MTE *e*SS SS 12 26 55.2 +2.8
MTE *e*LR LR 12 34 35.9
comp=Z,4µm,20.0s
MTE Manteigas 67.14 56 P P 12 13 38.6 -0.5
MTE IAMs_20 IAMs_20 12 41 00.4
comp=Z,5µm,20.0s
OSL Oslo 67.18 31 *e*P P 12 13 39.2 +0.4
PMTG Montargil 67.32 58 *e*P P 12 13 40.4 +0.2
comp=Z,213nm,1.6s
PCBR Castelo Branco 67.45 56 *e*P P 12 13 41.1 +0.1
comp=Z,138nm,1.5s
TIXI Tiksi 67.50 346 P P 12 13 40.2 -0.5

comp=Z,30nm,1.0s,baz=282,slow=14,SNR=63
TIXI LR LR 12 44 44.0
comp=Z,4µm,20.1s,baz=1.0,slow=37
comp=Z,30nm,1.0s
TIXI Tiksi 67.50 346 P **P** **12 13 39.6 -1.1**
TIXI IAmb IAmb 12 13 51.9
comp=Z,33nm,0.9s
TIXI IAMs_20 IAMs_20 12 44 11.6
comp=Z,4µm,20.0s
TIXI Tiksi 67.50 346 *ce*P **P** **12 13 40.0 -0.7**
TIXI pmax pmax
comp=Z,51nm,1.3s
TIXI MLR MLR
comp=Z,4µm,20.0s
PNCL Nicolau / Gran 67.58 59 *e*P **P** **12 13 42.1 +0.3**
comp=Z,134nm,1.3s
PMRV Marv??o 67.71 57 *e*P **P** **12 13 43.2 +0.5**
comp=Z,176nm,1.5s
PMRV *e*S **S** **12 22 43.6 +2.8**
PMRV *e*SS **SS** **12 27 04.7 +3.5**
PMRV *e*LR LR 12 34 38.9
comp=Z,4µm,20.0s
PTEO Sao Teotonio 67.72 59 *e*P **P** **12 13 42.9 +0.2**
comp=Z,164nm,1.5s
EVO Evora 67.73 58 *e*P **P** **12 13 42.8 0.0**
comp=Z,98nm,1.6s
PESTR Estremoz 67.85 57 *e*P **P** **12 13 43.8 +0.2**
comp=Z,138nm,1.3s
PFVI Vila Bisbo 67.85 60 *e*P **P** **12 13 44.3 +0.7**
comp=Z,166nm,2.4s
MORF Marmelete 67.89 59 *e*P **P** **12 13 44.2 +0.3**
MORF *e*S **S** **12 22 44.3 +1.2**
MORF *e*SS **SS** **12 27 07.1 +2.9**
MORF IAMs_20 IAMs_20 12 40 31.0
comp=Z,8µm,23.2s
MORF Marmelete 67.89 59 *e*P **P** **12 13 44.7 +0.8**
comp=Z,249nm,1.6s
MORF Marmelete 67.89 59 *e*P **P** **12 13 44.2 +0.3**
MORF *e*S **S** **12 22 44.3 +1.2**
MORF *e*SS **SS** **12 27 07.1 +2.9**
MESJ Messejana 67.93 59 *e*P **P** **12 13 44.5 +0.5**
MESJ *e*PP **PP** **12 16 14.1 +0.6**
MESJ *e*S **S** **12 22 44.7 +1.3**
MESJ *e*SS **SS** **12 27 07.5 +2.9**
MESJ IAMs_20 IAMs_20 12 39 06.1
comp=Z,9µm,25.9s
MESJ Messejana 67.93 59 *e*P **P** **12 13 44.2 +0.2**
comp=Z,72nm,1.8s
MESJ Messejana 67.93 59 *e*P **P** **12 13 44.5 +0.5**
MESJ *e* 12 16 14.1
MESJ *e*S **S** **12 22 44.7 +1.3**
MESJ *e*SS **SS** **12 27 07.5 +2.9**
PBEJ Beja 68.08 58 *e*P **P** **12 13 45.5 +0.5**
comp=Z,97nm,1.8s
PCVE Castro Verde 68.15 59 *e*P **P** **12 13 46.4 +0.9**
comp=Z,159nm,1.7s
HFS Hagfors 68.29 30 LR LR 12 42 00.9
comp=Z,4µm,21.9s,baz=304,slow=34
MUD Monsted U'grnd 68.42 35 *i*P **P** **12 13 47.0 +0.2**
PVAQ Vaqueiros 68.49 59 *e*P **P** **12 13 48.6 +1.0**
comp=Z,238nm,1.6s
PVAQ *e*S **S** **12 22 51.8 +1.7**
PVAQ *e*SS **SS** **12 27 17.2 +3.9**
PVAQ *e*LR LR 12 35 34.2
comp=Z,6µm,20.0s
PBAR Barrancos 68.57 58 *e*P **P** **12 13 48.3 +0.2**
comp=Z,135nm,1.6s
AQDB Aquidauana 68.70 138 P **P** **12 13 48.7 -0.3**
AQDB Aquidauana 68.70 138 *e*P **P** **12 13 48.6 -0.3**
C2SB Chapadao do Su 68.91 135 *e*P **P** **12 13 50.7 +0.5**
SDBA SAO DESIDERIO 68.98 124 *e*P **P** **12 13 48.4 -2.5**
MA2 Magadan 69.32 330 P **P** **12 13 51.8 -0.6**
MA2 Magadan 69.32 330 *ce*P **P** **12 13 52.3 -0.1**
MA2 pmax pmax
comp=Z,30nm,1.3s
MA2 MLR MLR
comp=Z,5µm,18.0s
BDFB Brasilia 69.37 129 P **P** **12 13 53.5 +0.2**
comp=Z,27nm,1.0s,baz=317,slow=6.0,SNR=19
BDFB LR LR 12 45 02.1
comp=Z,3µm,21.6s,baz=320,slow=37
comp=Z,27nm,1.0s
BDFB Brasilia 69.37 129 P **P** **12 13 53.4 +0.1**
BDFB IAmb IAmb 12 13 54.7
comp=Z,52nm,1.2s
BDFB Brasilia 69.37 129 P **P** **12 13 53.4 +0.1**
BDFB pmax pmax
comp=Z,52nm,1.2s
BDFB Brasilia 69.37 129 *e*P **P** **12 13 53.5 +0.1**
PET Petropavlovsk 69.53 321 IAMs_20 IAMs_20 12 44 56.0
comp=Z,4µm,21.0s
PET Petropavlovsk 69.53 321 *e*P P 12 14 00.8 +7.1
PET *e* 12 16 36.3
PET *e*PPP PPP 12 18 12.6
PET *e*S **S** **12 23 03.3 +1.5**
PET *e*SS **SS** **12 27 30.7 +2.2**
PET pmax pmax
comp=Z,100nm,16.8s
PET MLR MLR
comp=Z,5µm,18.0s
PET MLR MLR
comp=Z,4µm,17.0s
BMRD Maredsous 69.57 42 *d*P **P** **12 13 53.4 -0.6**
comp=Z,34nm,1.0s
DOU Dourbes 69.59 42 *d*P **P** **12 13 54.8 +0.6**
comp=Z,23nm,1.5s
PAB San Pablo 69.69 55 P **P** **12 13 55.3 +0.2**
PAB San Pablo 69.69 55 P **P** **12 13 55.3 +0.2**
PAB pmax pmax
comp=Z,129nm,1.3s
APA Apatity 69.77 18⇑ *i*P **P** **12 13 54.8 -0.2**
APA *i*S **S** **12 23 02.0 -2.3**
APA pmax pmax
comp=Z,23nm,1.0s
APA MLR MLR
comp=Z,3µm,15.0s
ANTJ Antonio Joao (69.79 140 *e*P **P** **12 13 55.5 -0.2**
BCLA Clavier 69.80 42 *d*P **P** **12 13 55.9 +0.4**
comp=Z,36nm,1.3s
LVZ Lovozero 69.83 18 IAMs_20 IAMs_20 12 42 35.2
comp=Z,3µm,20.0s
LVZ Lovozero 69.83 18 *ce*P **P** **12 13 56.8 +1.4**
LVZ pmax pmax
comp=Z,85nm,1.3s
LVZ MLR MLR
comp=Z,3µm,17.0s
ESDC Sonseca Array 69.88 55 P **P** **12 13 56.4 +0.1**
comp=Z,34nm,0.9s,baz=303,slow=6.1,SNR=97
ESDC S **S** **12 23 05.2 -1.4**
comp=Z,0.3nm,0.6s,baz=220,slow=43,SNR=1.2
ESDC LR LR 12 43 15.7
comp=Z,6µm,18.7s,baz=297,slow=35
comp=Z,34nm,0.9s
ESDC Sonseca Array 69.88 55 P **P** **12 13 56.3 +0.1**
ESDC IAmb IAmb 12 14 00.2
comp=Z,61nm,1.1s
RCHB Rochefort 69.90 42 *d*P **P** **12 13 56.1 0.0**
comp=Z,66nm,1.3s
PEA0B Petropavlovsk- 69.96 322 P **P** **12 13 56.5 +0.1**
PEA0B IAmb IAmb 12 14 48.3
comp=Z,61nm,1.2s
PEA0B Petropavlovsk- 69.96 322 *ce*P **P** **12 13 55.4 -1.0**
PETK Petropavlovsk- 69.96 322 P **P** **12 13 56.2 -0.2**
comp=Z,10.0nm,0.9s,baz=90,slow=7.4,SNR=28
PETK S **S** **12 23 06.3 -0.7**
comp=Z,1.8nm,0.3s,baz=356,slow=28,SNR=2.6
PETK LR LR 12 46 25.1
comp=Z,3µm,19.2s,baz=47,slow=38
comp=Z,10.0nm,0.9s
PETK Petropavlovsk- 69.96 322 P **P** **12 13 56.0 -0.5**
MEM Membach 70.07 41 *d*P **P** **12 13 57.2 +0.1**
comp=Z,106nm,1.0s
BTNL Ternell 70.15 41 *d*P **P** **12 13 57.9 +0.2**
comp=Z,85nm,1.2s
BHOU Houvegnez 70.21 42 *d*P **P** **12 13 58.3 +0.3**
comp=Z,47nm,1.2s
COP Copenhagen 70.36 35 *i*P **P** **12 14 00.5 +1.7**
WLF Walferdange 70.67 42 IAMs_20 IAMs_20 12 47 04.8
comp=Z,4µm,18.0s
WLF Walferdange 70.67 42 *d*P **P** **12 14 01.4 +0.6**
comp=Z,51nm,1.4s
RCBR Riachuelo 70.78 113 LR LR 12 44 20.2
comp=Z,2µm,21.9s,baz=93,slow=35
RCBR Riachuelo 70.78 113 *e*P **P** **12 14 02.4 +0.4**
RAF Rauma 70.85 27 *e*P **P** **12 14 01.6 -0.1**
IPMB Ipameri, GO 71.02 131 *e*P **P** **12 14 02.6 -0.7**
ITRB Iturama 71.07 134 *e*P **P** **12 14 03.8 +0.2**
JANB Januaria 71.30 126 *e*P **P** **12 14 04.9 -0.2**
RGN Rugen 71.45 35 IAMs_20 IAMs_20 12 44 06.4
comp=Z,4µm,18.0s
BSD Bornholm Skovb 71.84 34 *e*P **P** **12 14 07.4 -0.3**
BSD Bornholm Skovb 71.84 34 *i*P **P** **12 14 10.8 +3.0**
PCMB Pacaembu 72.05 136 *e*P **P** **12 14 09.9 +0.5**
FIA1 FINESS Array S 72.09 25 P **P** **12 14 09.9 +0.8**
FIA1 IAmb IAmb 12 14 14.1
comp=Z,66nm,0.9s
FINES FINESS Array B 72.09 25 P **P** **12 14 10.1 +0.9**
comp=Z,44nm,0.7s,baz=323,slow=4.8,SNR=78
FINES S **S** **12 23 29.4 -1.9**
comp=Z,1.6nm,0.8s,baz=233,slow=19,SNR=1.1
FINES LR LR 12 44 46.6
comp=Z,4µm,18.9s,baz=314,slow=35
comp=Z,44nm,0.7s
FINES FINESS Array B 72.09 25 P **P** **12 14 09.5 +0.4**
TRCB Terra Rica 72.24 137 *e*P **P** **12 14 10.6 +0.1**
MEF Metsahovi 72.35 27 *e*P **P** **12 14 10.6 -0.1**
PMNB Patos De Minas 72.53 130 *e*P **P** **12 14 12.2 -0.2**
BFO Black Forest 72.61 42 IAMs_20 IAMs_20 12 43 43.8
comp=Z,4µm,21.0s
CPUP Villa Florida 72.72 143 P **P** **12 14 12.9 -0.4**
comp=Z,12nm,0.9s,baz=340,slow=6.9,SNR=21
CPUP S **S** **12 23 37.7 -1.6**
comp=Z,1.9nm,0.9s,baz=52,slow=5.0,SNR=1.7
CPUP LR LR 12 48 24.8
comp=Z,1µm,21.8s,baz=342,slow=38
comp=Z,12nm,0.9s
CPUP Villa Florida 72.72 143 *e*P **P** **12 14 12.7 -0.6**
CPUP Villa Florida 72.72 143 *e*P **P** **12 14 12.5 -0.8**
MC01 Montes Claros 72.75 127 *e*P **P** **12 14 13.6 -0.2**
STU Stuttgart 72.82 42 IAMs_20 IAMs_20 12 48 05.3
comp=Z,5µm,18.0s
MCR1 Marechal Candi 72.83 140 *e*P **P** **12 14 14.6 +0.5**
NBLA Lagarto - SE 72.88 118 *e*P **P** **12 14 13.6 -0.9**
RUE Ruedersdorf 72.93 37 *e*P **P** **12 14 13.9 -0.4**
CART Cartagena 72.95 56 IAMs_20 IAMs_20 12 45 07.0
comp=Z,3µm,19.0s
MDT Midelt 73.05 62 LR LR 12 42 37.1
comp=Z,5µm,20.9s,baz=320,slow=33
NBAN Anadia - AL 73.07 116 *e*P **P** **12 14 15.8 +0.1**
SENIN Lac Senin/Sane 73.17 45 P **P** **12 14 16.9 +0.7**
SENIN IAmb IAmb 12 14 21.6
comp=Z,86nm,1.2s
MTSE Matsula 73.18 28 *e*P **P** **12 14 17.2 +1.5**
PPT Papeete 73.19 232 LR LR 12 40 47.4
comp=Z,3µm,19.5s,baz=36,slow=31
BB19B Bebedouro 73.20 133 *e*P **P** **12 14 16.5 +0.1**
PPT2 Papeete2 73.21 232 *e*S **S** **12 23 45.4 +0.1**
comp=Z,852nm,40.0s
PPT2 *e*SS **SS** **12 28 27.6 +0.3**
comp=Z,1µm,42.0s
PPT2 *e*LR LR 12 36 38.5
comp=Z,5µm,21.8s
NBRF Rio Formoso - 73.24 115 *e*P **P** **12 14 16.5 -0.1**
CLL Collm 73.27 38 IAMs_20 IAMs_20 12 46 00.0
comp=Z,4µm,18.0s
CLL Collm 73.27 38 *i*P **P** **12 14 17.6 +1.2**
CLL *e*S **S** **12 23 40.0 -5.2**
CLL pmax pmax
comp=Z,107nm,1.3s
CLL MLR MLR
comp=Z,4µm,19.2s
CLL Collm 73.27 38 *i*P **P** **12 14 17.6 +1.2**
comp=Z,107nm,1.3s
CLL *e*Pmax 12 14 23.0
CLL *ex* x 12 17 14.0
CLL *e*PPP PPP 12 18 42.0
CLL *e*S **S** **12 23 40.0 -5.2**
comp=N,200nm,36.1s
CLL *e*S **S** **12 23 40.0 -5.2**
comp=E,900nm,21.7s
CLL *e*PS **PnS** **12 24 18.0 +2.3**
CLL *e*SS **SS** **12 28 24.0 -1.9**
CLL *e*SSS SSS 12 31 54.0
CLL *e*SSSS 12 33 30.0
CLL *e*PKPPKPd**P'P'df** **12 41 58.0 -3.7**
CLL LmH 12 45 00.0
comp=N,2µm,18.4s
CLL LmH 12 45 00.0
comp=E,4µm,18.7s
CLL LmV 12 46 00.0
comp=Z,4µm,19.2s
CLL Lmax 12 47 00.0
SLIT Slitere, Latvi 73.34 29 *e*P **P** **12 14 16.4 -0.2**
GRA1 Grafenberg Arr 73.34 40 IAMs_20 IAMs_20 12 49 10.1
comp=Z,4µm,20.0s
GRFO Grafenberg 73.34 40 IAMs_20 IAMs_20 12 49 10.1
comp=Z,4µm,20.0s
MT02 Curacav 73.40 158 P **P** **12 14 17.4 +0.3**
MT02 IAmb IAmb 12 14 18.9
comp=Z,73nm,1.2s
GDU01 Guandu, BA 73.52 121 *e*P **P** **12 14 18.3 0.0**
MBO M'Bour 73.60 84 IAMs_20 IAMs_20 12 45 20.1
comp=Z,4µm,19.0s
NKC Novy Kostel 73.65 39 *e*P **P** **12 14 20.8 +2.1**
NKC MLR MLR
comp=Z,5µm,16.0s
NKC Novy Kostel 73.65 39 *e*P **P** **12 14 20.8 +2.1**
NKC AMS AMS 12 46 50.0
comp=Z,5µm,16.0s
VALR Valaam 73.74 23 *i*P **P** **12 14 18.5 -0.4**
VALR pmax pmax
comp=Z,102nm,1.2s
VALR MLR MLR
comp=Z,2µm,15.0s
BBTS Babate 73.79 84 LR LR 12 40 56.2
comp=Z,3µm,20.8s,baz=271,slow=31
BRG Berggiesshubel 74.00 38 Amp 12 14 48.5
comp=Z,30nm,1.1s
BRG Berggiesshubel 74.00 38 *i*P **P** **12 14 22.4 +1.7**
BRG S **S** **12 23 56.0 +2.5**
BRG pmax pmax
comp=Z,82nm,1.3s
BRG pmax pmax
comp=Z,30nm,1.1s
BRG Berggiesshubel 74.00 38 *i*P **P** **12 14 22.4 +1.7**
BRG Berggiesshubel 74.00 38 Amp 12 14 26.1
comp=Z,82nm,1.3s
BRG Berggiesshubel 74.00 38 *ex* x 12 14 47.5
GKP Gorka Klasztor 74.06 35 *e*P **P** **12 14 20.8 -0.1**
DAVA Damuels 74.07 43 *i*P **P** **12 14 22.1 +0.8**
comp=Z,80nm,1.3s,SNR=24
PTGB Pitanga 74.09 138 *e*P **P** **12 14 21.6 +0.1**
DIAM Diamantina, MG 74.09 128 *e*P **P** **12 14 21.8 0.0**
PBUR Paburge 74.28 31 *e*P **P** **12 14 22.1 -0.1**
DAVOX Davos/Dischmat 74.37 43 LR LR 12 45 21.7
comp=Z,6µm,20.4s,baz=304,slow=34
RETA Reutte 74.43 42 *i*P **P** **12 14 24.5 +1.2**
comp=Z,51nm,1.6s,SNR=16
VSU Vasula 74.44 27 *i*P **P** **12 14 24.7 +1.6**
VSU pmax pmax
comp=Z,119nm,0.9s
VSU MLR MLR
comp=Z,6µm,16.0s
VSU Vasula 74.44 27 *e*P **P** **12 14 22.9 -0.2**
NRIK Noril'sk 74.49 358 P **P** **12 14 23.9 +0.7**
comp=Z,17nm,0.7s,baz=27,slow=4.4,SNR=22
NRIK LR LR 12 47 42.1
comp=Z,3µm,21.6s,baz=22,slow=36
comp=Z,17nm,0.7s
NRIK Noril'sk 74.49 358 P **P** **12 14 23.2 0.0**
NRIK Noril'sk 74.49 358 *ce*P **P** **12 14 22.2 -1.0**
NRIK pmax pmax
comp=Z,23nm,0.9s
NRIK MLR MLR
comp=Z,4µm,18.0s
PVCC Panska Ves 74.53 38 *e*P P 12 14 28.6 +4.8
PVCC MLR MLR
comp=Z,4µm,16.2s
PVCC Panska Ves 74.53 38 *e*P P 12 14 28.6 +4.8
PVCC AMS AMS 12 47 40.0
comp=Z,4µm,16.2s
FRBT Francisco Belt 74.58 140 *e*P **P** **12 14 24.6 +0.3**
FETA Feichten 74.69 43 *i*P **P** **12 14 26.6 +1.6**
comp=Z,83nm,1.4s,SNR=38
MOTA Moosalm 74.70 42 *i*P **P** **12 14 26.2 +1.1**
comp=Z,103nm,1.4s,SNR=40
CMC01 Camacan, BA 74.71 123 *e*P **P** **12 14 25.1 -0.1**
SQTA Sankt Quirin 74.83 42 *i*P **P** **12 14 27.3 +1.6**
comp=Z,114nm,1.5s,SNR=42
PRU Pruhonice 74.86 38 *e*P **P** **12 14 26.9 +1.2**
PRU *e*S **S** **12 24 04.3 +1.2**
PRU MLR MLR
comp=Z,5µm,16.2s
PRU Pruhonice 74.86 38 *e*P **P** **12 14 26.9 +1.2**
PRU *e*S **S** **12 24 04.3 +1.2**
PRU AMS AMS 12 47 30.0
comp=Z,5µm,16.2s
KHC Kasperske Hory 74.90 40 *e*P **P** **12 14 27.4 +1.4**
KHC *e*S **S** **12 24 04.3 +0.5**
KHC MLR MLR
comp=Z,4µm,16.2s
KHC Kasperske Hory 74.90 40 *e*P **P** **12 14 27.4 +1.4**
KHC *e*S **S** **12 24 04.3 +0.5**
KHC AMS AMS 12 48 10.0
comp=Z,4µm,16.2s
YAK Yakutsk 74.92 339 LR LR 12 51 42.1
comp=Z,2µm,19.0s,baz=20,slow=39
YAK Yakutsk 74.92 339 *e*P P 12 14 20.5 -5.3
YAK *e* 12 17 13.7
YAK *e*S **SKiKP** **12 23 54.0 +3.2**
YAK *e* 12 24 27.2
YAK pmax pmax
comp=Z,44nm,1.2s
YAK pmax pmax
comp=N,27nm,1.1s
YAK pmax pmax
comp=E,16nm,1.0s
YAK pmax pmax
comp=Z,116nm,1.4s
YAK pmax pmax
comp=N,53nm,1.5s
YAK pmax pmax
comp=E,31nm,1.4s
YAK smax smax
comp=N,172nm,2.3s
YAK smax smax
comp=E,215nm,2.2s
YAK MLR MLR
comp=Z,2µm,15.0s
YAK MLR MLR
comp=N,561nm,16.0s
YAK MLR MLR
comp=E,865nm,13.0s
BO02 Sierra Bellavi 74.93 158 P **P** **12 14 26.2 +0.1**
WATA Walderalm 74.96 42 *i*P **P** **12 14 27.7 +1.2**
comp=E,78nm,1.3s,SNR=17
WTTA Wattenberg 75.03 42 *i*P **P** **12 14 28.4 +1.4**
comp=E,101nm,1.5s,SNR=34
MAHO Mahon 75.08 51 IAMs_20 IAMs_20 12 44 39.1
comp=Z,3µm,21.0s
VSVD Vaisvydziai 75.13 30 *e*P **P** **12 14 27.3 +0.3**
GERES GERESS Array B 75.15 40 P **P** **12 14 28.3 +0.8**
comp=Z,7.2nm,0.7s,baz=332,slow=4.5,SNR=40
GERES LR LR 12 45 48.7
comp=Z,3µm,20.5s,baz=298,slow=34
comp=Z,7.2nm,0.7s
KSP Ksiaz 75.18 37 *i*P **P** **12 14 31.7 +4.2**
KSP *i*Sc 12 24 07.2
KSP *e*L L 12 46 38.6
comp=Z,3µm,19.6s
CHVC Chvalec 75.23 37 *e*P **P** **12 14 28.8 +0.9**
CHVC AMS AMS 12 46 40.0
comp=Z,4µm,20.5s
UPC Upice 75.26 37 *e*P **P** **12 14 29.6 +1.6**
UPC *e*S **S** **12 24 06.6 -1.0**
UPC MLR MLR
comp=Z,4µm,18.9s
UPC Upice 75.26 37 *e*P **P** **12 14 29.6 +1.6**
UPC *e*S **S** **12 24 06.6 -1.0**
UPC AMS AMS 12 46 50.0
comp=Z,4µm,18.9s
CRSM Crissiumal (Br 75.31 141 *e*P **P** **12 14 28.0 -0.5**
OSTC Ostas 75.33 37 *e*P **P** **12 14 29.3 +0.9**
OSTC *e*S **S** **12 24 07.4 -1.0**
OSTC AMS AMS 12 46 40.0
comp=Z,4µm,20.7s
GUA01 Guaratinga, BA 75.39 124 *e*P **P** **12 14 29.1 0.0**
BSCB Bom Sucesso 75.41 130 *e*P **P** **12 14 29.2 0.0**
CKRC Cesky Krumlov 75.47 40 *e*P **P** **12 14 30.6 +1.3**
CKRC AMS AMS 12 45 30.0
comp=Z,4µm,20.5s
PABE Paberze 75.47 30 IAMs_20 IAMs_20 12 45 60.0
comp=Z,2µm,19.0s
PABE Paberze 75.47 30 *e*P **P** **12 14 29.2 +0.1**
DPC Dobruska-Polom 75.51 37 *e*P **P** **12 14 30.7 +1.2**
DPC *e*S **S** **12 24 09.7 -0.8**
DPC MLR MLR
comp=Z,4µm,15.9s
DPC Dobruska-Polom 75.51 37 *e*P **P** **12 14 30.7 +1.2**
DPC *e*S **S** **12 24 09.7 -0.8**
DPC AMS AMS 12 49 00.0
comp=Z,4µm,15.9s
VAO Valinhos 75.61 133 *e*P **P** **12 14 30.9 +0.5**
TREC Trest 75.77 39 *e*P **P** **12 14 33.8 +2.8**
TREC MLR MLR
comp=Z,5µm,16.4s
TREC Trest 75.77 39 *e*P **P** **12 14 33.8 +2.8**
TREC AMS AMS 12 48 00.0
comp=Z,5µm,16.4s
ABTA Abfaltersbach 75.83 42 *i*P **P** **12 14 32.8 +1.4**
comp=Z,96nm,1.2s,SNR=31
BIOA Bad Ischl, Aus 75.84 41 *i*P **P** **12 14 32.6 +1.2**
comp=Z,74nm,1.6s,SNR=32
ITQB Itaqui 75.87 145 *e*P **P** **12 14 31.9 +0.4**
KRLC Kraliky 75.91 37 *e*P **P** **12 14 33.5 +1.7**
KRLC MLR MLR
comp=Z,4µm,18.5s
KRLC Kraliky 75.91 37 *e*P **P** **12 14 33.5 +1.7**
KRLC AMS AMS 12 47 10.0
comp=Z,4µm,18.5s
SJMB Sao Joao De Ma 75.99 126 *e*P **P** **12 14 32.9 +0.3**
KBA Koelnbreinsper 76.06 41 *i*P **P** **12 14 34.3 +1.4**
comp=Z,116nm,1.5s,SNR=47
MOA Molln 76.06 40 *i*P **P** **12 14 33.9 +1.2**
comp=Z,59nm,1.3s,SNR=27
NAN01 Guarapari, ES 76.07 125 *e*P **P** **12 14 32.8 -0.2**
ITAB Concordia 76.08 140 P **P** **12 14 32.9 0.0**
ITAB IAmb IAmb 12 15 40.2
comp=Z,99nm,1.2s
ITAB Concordia 76.08 140 *e*P **P** **12 14 33.5 +0.6**
UNIS Unistalda (Bra 76.10 143 *e*P **P** **12 14 33.4 +0.4**
VLC Villacollemand 76.24 45 IAMs_20 IAMs_20 12 46 57.0
comp=Z,3µm,18.0s
TIJ01 Guaruva-PR 76.25 136 *e*P **P** **12 14 34.4 +0.4**
ISAL Salakas 76.29 29 *e*P **P** **12 14 33.7 -0.1**
VRAC Vranov 76.32 38⇑ P **P** **12 14 35.6 +1.6**
VRAC Vranov 76.32 38 LR LR 12 46 22.5
comp=Z,1µm,21.2s,baz=310,slow=34
VRAC Vranov 76.32 38 *e*P **P** **12 14 35.7 +1.6**
KRUC Moravsky 76.38 38 *e*P **P** **12 14 35.7 +1.3**
PET01 Itanhaem-SP 76.42 134 *e*P **P** **12 14 35.7 +0.3**
MORC Moravsky Berou 76.48 37⇑ P **P** **12 14 36.7 +1.7**
MORC Moravsky Berou 76.48 37 *e*P **P** **12 14 36.7 +1.7**
MYKA Terra Mystica 76.50 42 *i*P **P** **12 14 36.0 +0.7**
comp=Z,30nm,1.2s,SNR=7.8
BEL Belsk 76.64 34 *e*P **P** **12 14 40.2 +4.4**
BEL *i*Sc 12 24 24.4
BEL *e*L L 12 46 15.8
comp=Z,3µm,20.4s
PARB Paraibuna 76.66 133 *e*P **P** **12 14 36.7 +0.4**
OKC Ostrava-Krasne 76.73 37 AMS AMS 12 49 00.0
comp=Z,2µm,15.9s
CADS Cadrg 76.81 42 *i*P **P** **12 14 37.6 +0.7**
CONA Conrad Observa 76.84 40 *i*P **P** **12 14 38.6 +1.4**
comp=Z,32nm,1.0s,SNR=23
ALGR Alto Alegre (B 76.89 141 *e*P **P** **12 14 38.0 +0.4**
MAUC Maruska 76.89 38 *e*P **P** **12 14 38.5 +1.1**
MAUC AMS AMS 12 49 10.0
comp=Z,8µm,16.1s
RIB01 Linhares ES 76.95 126 *e*P **P** **12 14 38.2 +0.3**
NACGM Naroch 77.04 30 *e*P **P** **12 14 38.8 +0.8**
OBKA Obir 77.07 41 *e*P **P** **12 14 38.6 +0.1**
OBKA Obir 77.07 41 *i*P **P** **12 14 38.7 +0.1**
comp=Z,80nm,0.9s,SNR=43
ARSA Arzberg 77.10 40 *i*P **P** **12 14 39.8 +1.2**
comp=Z,33nm,1.1s,SNR=14
RODS Rosario do Sul 77.11 144 *e*P **P** **12 14 41.3 +2.7**
JAVC Velka Javorina 77.15 38 *e*P **P** **12 14 41.4 +2.5**
VAS01 Vassouras-RJ 77.19 130 *e*P **P** **12 14 39.9 +0.6**
RONA Rosalia, Austr 77.21 40 *i*P **P** **12 14 40.9 +1.6**
comp=Z,70nm,1.4s,SNR=36
SOKA Soboth 77.21 41 *i*P **P** **12 14 39.5 +0.2**
comp=Z,135nm,1.4s,SNR=86
SMOL Smolenice 77.25 38 *e*P **P** **12 14 41.6 +2.2**
SMOL pmax pmax
comp=Z,46nm,1.7s

MODS	**Modra-Piesok**	**77.27**	**39**	*e*P	**P**		**12 14 41.7**	**+2.2**
MODS				pmax	pmax			
	comp=Z,211nm,1.6s							
MODS	**Modra-Piesok**	**77.27**	**39**	*e*P	**P**		**12 14 41.7**	**+2.2**
OJC	**Ojcow**	**77.27**	**36**	*e*P	**P**		**12 14 40.1**	**+0.6**
OJC				*i* Sc			12 24 29.7	
OJC				*e*L	L		12 48 52.7	
	comp=Z,3µm,17.7s							
PERS	**Pernice**	**77.29**	**41**	*i* P	**P**		**12 14 40.4**	**+0.7**
PERS				*e*			12 14 43.3	
ZST	**Bratislava**	**77.30**	**39**	*e*P	**P**		**12 14 42.2**	**+2.6**
ZST				pmax	pmax			
	comp=Z,235nm,1.5s							
ZST	**Bratislava**	**77.30**	**39**	*e*P	**P**		**12 14 42.2**	**+2.6**
MAN01	**Angra dos Reis**	**77.30**	**131**	*e*P	**P**		**12 14 40.4**	**+0.4**
LJU	**Ljubljana**	**77.35**	**42**	*i* P	**P**		**12 14 41.5**	**+1.5**
LJU				*e*S	**S**		**12 24 29.5**	**-1.2**
SOP	**Sopron**	**77.36**	**39**	P	**P**		**12 14 41.6**	**+1.6**
SKDS	**Skadanscina**	**77.39**	**42**	*e*P	**P**		**12 14 40.5**	**+0.2**
TBI	**Tubuai**	**77.43**	**228**	*e*S	**S**		**12 24 32.3**	**+0.5**
	comp=Z,422nm,41.2s							
TBI				*e*SS	**SS**		**12 29 31.5**	**+0.4**
	comp=Z,479nm,37.8s							
TBI				*e*LR	LR		12 38 35.5	
	comp=Z,4µm,24.0s							
CEY	**Cerknica**	**77.49**	**42**	*e*P	**P**		**12 14 39.6**	**-1.2**
PRGR	**Permogore**	**77.65**	**17**	*e*P	**P**		**12 14 41.8**	**+0.5**
ALF01	**Guarapari-ES**	**77.68**	**127**	*e*P	**P**		**12 14 42.5**	**+0.5**
DUB01	**Friburgo-RJ**	**77.70**	**129**	*e*P	**P**		**12 14 42.8**	**+0.6**
MNK	**Minsk**	**77.77**	**29**	*i* P	**P**		**12 14 43.7**	**+1.7**
MNK				*i*			12 14 53.4	
MNK				*i*			12 17 39.0	
MNK				*i* PPP	PPP		12 19 26.6	
MNK				*i* S	**S**		**12 24 37.2**	**+2.3**
MNK				*i*			12 25 02.7	
MNK				*i* SS	**SS**		**12 29 38.4**	**+4.7**
MNK				pmax	pmax			
	comp=N,8.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,79nm,1.0s							
MNK				pmax	pmax			
	comp=E,4.0nm,0.9s							
MNK				MLR	MLR			
	comp=E,2µm,16.0s							
MNK				MLR	MLR			
	comp=E,305nm,18.0s							
MNK				MLR	MLR			
	comp=N,18nm,19.0s							
MNK	**Minsk**	**77.77**	**29**	*i* P	**P**		**12 14 43.8**	**+1.7**
	comp=E,4.0nm,0.9s							
MNK				*i* P	**P**		**12 14 43.8**	**+1.7**
	comp=N,8.0nm,0.8s							
MNK				*i* P	**P**		**12 14 43.8**	**+1.7**
	comp=Z,79nm,1.0s,baz=138							
MNK				*i* PcP	**PcP**		**12 14 53.4**	**+1.3**
MNK				*i* PP	**PP**		**12 17 39.1**	**+2.3**
MNK				*i* PPP	PPP		12 19 26.6	
MNK				*i* S	**S**		**12 24 37.2**	**+2.3**
MNK				*i* SS	**SS**		**12 29 38.5**	**+4.7**
MNK				*i* SSS	SSS		12 33 02.8	
MNK				*i* LQ	LQ		12 42 49.5	
MNK				*i* LR	LR		12 49 03.5	
MNK				*i* LRM	MLR		12 50 11.3	
	comp=Z,2µm,16.1s							
MNK				*i* LRM	MLR		12 50 30.0	
	comp=E,305nm,17.8s							
MNK				*i* LRM	MLR		12 50 43.6	
	comp=N,18nm,18.6s							
LANS	**Liptovska Anna**	**77.84**	**37**	*e*P	**P**		**12 14 45.2**	**+2.5**
LANS				pmax	pmax			
	comp=Z,46nm,1.9s							
LANS	**Liptovska Anna**	**77.84**	**37**	*e*P	**P**		**12 14 45.1**	**+2.4**
CAM01	**Campos-RJ**	**77.96**	**129**	*e*P	**P**		**12 14 43.8**	**+0.2**
VYHS	**Vyhne**	**77.97**	**38**	*e*P	**P**		**12 14 44.9**	**+1.5**
VYHS				pmax	pmax			
	comp=Z,125nm,2.1s							
VYHS	**Vyhne**	**77.97**	**38**	*e*P	**P**		**12 14 44.9**	**+1.5**
CRES	**Cresnjev**	**77.99**	**41**	*e*P	**P**		**12 14 44.5**	**+0.9**
CPSB	**Cacapava Do Su**	**78.00**	**143**	*e*P	**P**		**12 14 43.9**	**+0.3**
NIE	**Niedzica**	**78.06**	**36**	*e*P	**P**		**12 14 46.2**	**+2.3**
NIE				*e*S	**S**		**12 24 36.9**	**-1.5**
NIE				*e*L	L		12 49 22.4	
	comp=Z,2µm,18.2s							
BOJS	**Bojanci**	**78.09**	**42**	*e*P	**P**		**12 14 45.2**	**+1.1**
SRO	**Srobarova**	**78.16**	**39**	*e*P	**P**		**12 14 47.0**	**+2.6**
SRO				pmax	pmax			
	comp=Z,120nm,1.6s							
SRO	**Srobarova**	**78.16**	**39**	*e*P	**P**		**12 14 47.0**	**+2.6**
MPLH	**Magyarpolny**	**78.20**	**39**	P	**P**		**12 14 46.4**	**+1.7**
CNLB	**Canela**	**78.42**	**140**	*e*P	**P**		**12 14 46.5**	**+0.4**
CSKK	**Cskako**	**78.44**	**39**	P	**P**		**12 14 47.5**	**+1.5**
TYV	**Tymovskoe**	**78.55**	**326**	*e*P	**P**		**12 14 47.4**	**+0.9**
TYV				*e*S	**S**		**12 24 46.6**	**+3.2**
TYV				pmax	pmax			
	comp=Z,39nm,1.5s							
TYV				pmax	pmax			
	comp=Z,500nm,4.4s							
TYV				smax	smax			
	comp=N,700nm,8.2s							
TYV				smax	smax			
	comp=E,400nm,8.2s							
TIH	**Tihany**	**78.56**	**39**	P	**P**		**12 14 49.5**	**+2.8**
TER01	**Tubaro-SC**	**78.70**	**138**	*e*P	**P**		**12 14 47.2**	**-0.3**
BUD	**Budapest**	**78.74**	**38**	P	**P**		**12 14 49.8**	**+2.1**
PSZ	**Piszkesteto**	**78.88**	**38**	⇑P	**P**		**12 14 49.9**	**+1.4**
PSZ	**Piszkesteto**	**78.88**	**38**	IAMs_20	IAMs_20		12 49 34.4	
	comp=Z,4µm,19.0s							
PSZ	**Piszkesteto**	**78.88**	**38**	P	**P**		**12 14 50.6**	**+2.0**
CRVS	**Cervenica-Dubn**	**78.96**	**36**	*e*P	**P**		**12 14 53.2**	**+4.3**
CRVS				pmax	pmax			
	comp=Z,155nm,2.3s							
CRVS	**Cervenica-Dubn**	**78.96**	**36**	*e*P	**P**		**12 14 53.2**	**+4.3**
PLTB	**Pedras Altas**	**79.04**	**143**	*e*P	**P**		**12 14 49.0**	**-0.3**
KOVH	**Kovagotottos**	**79.20**	**40**	P	**P**		**12 14 51.1**	**+0.9**
A051A	**Mrakovica**	**79.29**	**41**	*e*P	**P**		**12 14 51.7**	**+0.9**
KOLS	**Kolonicke sedl**	**79.33**	**36**	*e*P	**P**		**12 14 54.5**	**+3.6**
KOLS				pmax	pmax			
	comp=Z,15nm,0.9s							
KOLS	**Kolonicke sedl**	**79.33**	**36**	*e*P	**P**		**12 14 54.5**	**+3.6**
MORH	**Mrgy, Hungar**	**79.40**	**40**	⇑P	**P**		**12 14 51.5**	**+0.2**
MORH	**Mrgy, Hungar**	**79.40**	**40**	P	**P**		**12 14 51.8**	**+0.6**
A050A	**Klekovaca**	**79.44**	**42**	*e*P	**P**		**12 14 52.8**	**+1.1**
LVV	**L'vov**	**79.52**	**34**	*e*P	**P**		**12 14 53.6**	**+1.7**
LVV				*e*S	**S**		**12 24 49.3**	**-4.6**
LVV				*e*PS	PnS		12 25 51.1	+15
LVV				*e*SS	**SS**		**12 30 02.4**	**+2.1**
LVV				pmax	pmax			
	comp=Z,100nm,1.7s							
LVV				MLR	MLR			
	comp=N,2µm,18.0s							
LVV				MLR	MLR			
	comp=E,2µm,18.0s							
LVV				MLR	MLR			
	comp=Z,2µm,18.0s							
UZH	**Uzhgorod**	**79.55**	**36**	*e*P	**P**		**12 14 52.1**	**+0.1**
UZH				*i*			12 14 54.2	
UZH				*i*			12 14 56.9	
UZH				*i* S	**S**		**12 24 52.1**	**-2.1**
UZH				*e*			12 25 41.9	
UZH				MLR	MLR			
	comp=N,700nm,15.0s							
UZH				MLR	MLR			
	comp=E,600nm,15.0s							
UZH				MLR	MLR			
	comp=Z,400nm,15.0s							
A052A	**Srbac**	**79.56**	**41**	*e*P	**P**		**12 14 55.5**	**+3.4**
BLY	**Banja Luka**	**79.61**	**41**	*e*P	**P**		**12 14 52.9**	**+0.4**
LTVH	**Ltavrtes, Hu**	**80.23**	**37**	P	P		12 15 02.1	+6.4
MOS	**Moscow**	**80.34**	**24**	*e*P	**P**		**12 14 55.8**	**-0.4**
MOS				*e*			12 19 46.1	
MOS				*e*S	**S**		**12 24 59.4**	**-2.9**
MOS				pmax	pmax			
	comp=Z,47nm,0.9s							
MOS				smax	smax			
	comp=E,900nm,3.8s							
MOS				smax	smax			
	comp=N,500nm,3.8s							
MOS				MLR	MLR			
	comp=Z,4µm,18.0s							
OBN	**Obninsk**	**80.50**	**25**	⇑P	**P**		**12 14 58.8**	**+1.8**
OBN	**Obninsk**	**80.50**	**25**	LR	LR		12 48 16.7	
	comp=Z,633nm,18.2s,baz=322,slow=34							
OBN	**Obninsk**	**80.50**	**25**	IAMs_20	IAMs_20		12 48 03.2	
	comp=Z,3µm,19.0s							
OBN	**Obninsk**	**80.50**	**25**	*c*e*c*P	**P**		**12 14 57.9**	**+0.9**
OBN				*e*			12 18 00.5	
OBN				*i* S	**S**		**12 25 05.8**	**+1.9**
OBN				*e*SS	**SS**		**12 30 10.6**	**-3.9**
OBN				pmax	pmax			
	comp=Z,178nm,1.7s							
PLCA	**Paso Flores**	**80.52**	**160**	P	**P**		**12 14 57.6**	**+0.4**
	comp=Z,17nm,0.8s,baz=339,slow=6.4,SNR=42							
PLCA				S	**S**		**12 25 10.8**	**+6.5**
	comp=Z,1.1nm,0.5s,baz=340,slow=13,SNR=2.1							
	comp=Z,17nm,0.8s							
PLCA	**Paso Flores**	**80.52**	**160**	P	**P**		**12 14 57.4**	**+0.2**
PLCA	**Paso Flores**	**80.52**	**160**	*e*P	**P**		**12 14 57.6**	**+0.4**
FRGS	**Fruska Gora**	**80.72**	**40**	⇑P	**P**		**12 15 00.4**	**+1.9**
FRGS	**Fruska Gora**	**80.72**	**40**	*e*P	**P**		**12 14 59.0**	**+0.5**
KEST	**Kesra**	**80.79**	**52**	P	**P**		**12 14 59.6**	**+0.5**
	comp=Z,25nm,0.9s,baz=162,slow=4.3,SNR=17							
KEST				S	**S**		**12 25 07.7**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=170,slow=17,SNR=1.4							
KEST				LR	LR		12 49 57.9	
	comp=Z,5µm,19.1s,baz=266,slow=35							
	comp=Z,25nm,0.9s							
KEST	**Kesra**	**80.79**	**52**	P	**P**		**12 14 59.8**	**+0.7**
TRQA	**Tornquist**	**80.85**	**153**	P	**P**		**12 14 59.2**	**+0.2**
TRQA				IAmb	IAmb		12 15 01.4	
	comp=Z,70nm,1.4s							
TRQA	**Tornquist**	**80.85**	**153**	P	**P**		**12 14 59.2**	**+0.2**
TRQA				pmax	pmax			
	comp=Z,71nm,1.4s							
TRQA	**Tornquist**	**80.85**	**153**	*e*P	**P**		**12 14 59.9**	**+0.9**
SIRR	**Siria**	**80.89**	**38**	⇑P	**P**		**12 15 01.4**	**+2.0**
DRGR		**81.04**	**37**	⇑P	**P**		**12 15 01.8**	**+1.6**
STON	**Ston**	**81.14**	**43**	*e*P	**P**		**12 15 00.7**	**0.0**
AKASG	**Malin Array Be**	**81.15**	**31**	P	**P**		**12 15 01.4**	**+0.8**
	comp=Z,13nm,0.7s,baz=309,slow=4.1,SNR=55							
AKASG				S	**S**		**12 25 07.7**	**-3.2**
	comp=Z,0.2nm,0.4s,baz=207,slow=34,SNR=1.3							
AKASG				LR	LR		12 50 12.8	
	comp=Z,3µm,18.4s,baz=318,slow=35							
	comp=Z,13nm,0.7s							
AKASG	**Malin Array Be**	**81.15**	**31**	P	**P**		**12 15 00.5**	**-0.1**
AKBB	**Malin Array Si**	**81.15**	**31**	P	**P**		**12 15 00.7**	**+0.1**
AKBB				IAmb	IAmb		12 15 44.5	
	comp=Z,58nm,1.1s							
AKBB	**Malin Array Si**	**81.15**	**31**	*c*e*c*P	**P**		**12 15 00.9**	**+0.3**
KIRV	**Kirov**	**81.25**	**17**	LR	LR		12 51 11.0	
	comp=Z,3µm,18.4s,baz=336,slow=36							
KIRV	**Kirov**	**81.25**	**17**	*c*e*c*P	**P**		**12 15 01.8**	**+0.8**
YSS	**Yuzh-Sakhalins**	**81.27**	**323**	IAMs_20	IAMs_20		12 54 17.4	
	comp=Z,2µm,19.0s							
YSS	**Yuzh-Sakhalins**	**81.27**	**323**	*e*P	**P**		**12 15 02.4**	**+1.1**
YSS				*e*S	**S**		**12 25 10.6**	**-1.7**
YSS				*e*SS	**SS**		**12 30 23.9**	**-2.7**
YSS				pmax	pmax			
	comp=Z,60nm,0.8s							
YSS				pmax	pmax			
	comp=Z,400nm,2.3s							
YSS				MLR	MLR			
	comp=Z,2µm,18.0s							
GRNR	**Gornyy**	**81.32**	**329**	⇓*i*P	**P**		**12 15 01.5**	**-0.1**
GRNR				*e*			12 25 01.5	
GRNR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
GRNR				MLR	MLR			
	comp=N,2µm,16.0s							
GRNR				MLR	MLR			
	comp=E,500nm,16.0s							
GRNR				MLR	MLR			
	comp=Z,2µm,17.0s							
BZS	**Buzias**	**81.32**	**39**	⇑P	**P**		**12 15 03.5**	**+1.9**
DIVS	**Divibare**	**81.54**	**41**	*e*P	**P**		**12 15 04.5**	**+1.5**
RUDO	**Rudo**	**81.54**	**41**	*e*P	**P**		**12 15 04.4**	**+1.5**
UPM	**Unac-Piva**	**81.57**	**42**	*e*P	**P**		**12 15 03.8**	**+0.5**
UPM	**Unac-Piva**	**81.57**	**42**	⇑*i*P	**P**		**12 15 04.1**	**+0.8**
BRY	**Bratogost**	**81.58**	**42**	*e*P	**P**		**12 15 02.7**	**-0.6**
BRY	**Bratogost**	**81.58**	**42**	⇑*i*P	**P**		**12 15 04.8**	**+1.5**
TREB	**Trebinje**	**81.60**	**42**	*e*P	**P**		**12 15 04.4**	**+1.2**
ARCR	**ARCALIA**	**81.62**	**36**	⇑P	**P**		**12 15 04.7**	**+1.5**
BURAR	**Bucovina Array**	**81.65**	**35**	⇑P	**P**		**12 15 04.7**	**+1.2**
BURAR	**Bucovina Array**	**81.65**	**35**	P	**P**		**12 15 04.9**	**+1.4**
PLE	**Pljevlja**	**81.75**	**41**	⇑*i*P	**P**		**12 15 05.7**	**+1.6**
HCY	**Herceg Novi**	**81.86**	**42**	*e*P	**P**		**12 15 03.8**	**-0.8**
HCY	**Herceg Novi**	**81.86**	**42**	⇑*i*P	**P**		**12 15 06.4**	**+1.8**
NKME	**Niksic**	**81.90**	**42**	⇑*i*P	**P**		**12 15 06.6**	**+1.8**
MDVR	**Moldovita**	**81.95**	**39**	⇑P	**P**		**12 15 05.8**	**+0.7**
CEME	**Cevo**	**82.03**	**42**	⇑*i*P	**P**		**12 15 07.3**	**+1.8**
GZR	**Gura Zlata**	**82.06**	**38**	⇓P	**P**		**12 15 07.1**	**+1.4**
MATE	**Matera**	**82.08**	**45**	⇓P	**P**		**12 15 07.2**	**+1.5**
KOME	**Kolasin**	**82.14**	**42**	⇑*i*P	**P**		**12 15 08.2**	**+2.0**
BUM	**Brajici-Budva**	**82.18**	**42**	⇑*i*P	**P**		**12 15 08.0**	**+1.7**
HERR	**Herculane**	**82.24**	**39**	⇓P	**P**		**12 15 08.0**	**+1.5**
PDG	**Podgorica**	**82.29**	**42**	⇓P	**P**		**12 15 08.3**	**+1.5**
PDG	**Podgorica**	**82.29**	**42**	IAMs_20	IAMs_20		12 49 29.0	
	comp=Z,2µm,20.0s							
TTG	**Podgorica**	**82.29**	**42**	⇑*i*P	**P**		**12 15 08.9**	**+2.1**
IVA	**Berane**	**82.33**	**41**	⇑*i*P	**P**		**12 15 09.0**	**+1.9**
DRME	**Dracevica, Mon**	**82.42**	**42**	*e*P	**P**		**12 15 10.3**	**+2.8**
DRME	**Dracevica, Mon**	**82.42**	**42**	⇑*i*P	**P**		**12 15 09.9**	**+2.4**
ZEA	**Zeya**	**82.42**	**335**	*e*P	**P**		**12 15 07.8**	**+0.5**
ZEA				*e*S	**S**		**12 25 27.3**	**+3.4**
ZEA				*e*SS	**SS**		**12 30 48.6**	**+5.4**
ZEA				pmax	pmax			
	comp=Z,20nm,0.7s							
ZEA				pmax	pmax			
	comp=Z,200nm,8.2s							
ZEA				smax	smax			
	comp=E,500nm,20.1s							
ZEA				smax	smax			
	comp=N,500nm,15.4s							
ZEA				MLR	MLR			
	comp=N,2µm,16.0s							
ZEA				MLR	MLR			
	comp=Z,2µm,15.0s							
DJES	**Djerdap**	**82.44**	**39**	⇓P	**P**		**12 15 08.7**	**+1.1**
LL02	**Futaleuf**	**82.47**	**162**	P	**P**		**12 15 07.8**	**+0.4**
LL02				IAmb	IAmb		12 15 34.6	
	comp=Z,36nm,1.0s							
RAR	**Rarotonga**	**82.50**	**237**	LR	LR		12 44 38.7	
	comp=Z,2µm,21.9s,baz=75,slow=30							
PVY	**Plav**	**82.55**	**42**	⇑*i*P	**P**		**12 15 09.9**	**+1.5**
BIZ	**Bicaz**	**82.56**	**35**	⇑P	**P**		**12 15 10.0**	**+1.9**
BOD	**Bodaibo**	**82.58**	**344**	*e*P	**P**		**12 15 07.2**	**-0.8**
BOD				pmax	pmax			
	comp=Z,40nm,1.3s							
BOVS	**Bovan**	**82.75**	**40**	⇓P	**P**		**12 15 10.3**	**+1.1**
VAE	**Valguarnera**	**82.82**	**48**	LR	LR		12 51 12.4	
	comp=Z,3µm,18.2s,baz=184,slow=35							
DOPR	**Dopca**	**82.93**	**36**	⇓P	**P**		**12 15 11.3**	**+1.2**
ARR	**Arges**	**83.00**	**37**	⇓P	**P**		**12 15 12.1**	**+1.6**
OZUR		**83.02**	**36**	⇑P	**P**		**12 15 11.3**	**+0.7**
IAS	**Iasi**	**83.04**	**35**	⇑P	**P**		**12 15 11.7**	**+1.1**
TIP	**Timpagrande**	**83.08**	**46**	⇑P	**P**		**12 15 11.6**	**+0.5**
TIP	**Timpagrande**	**83.08**	**46**	IAMs_20	IAMs_20		12 50 43.3	
	comp=Z,4µm,20.0s							
TESR	**Tescani**	**83.12**	**35**	⇑P	**P**		**12 15 12.0**	**+0.9**
VOIR		**83.15**	**37**	⇑P	**P**		**12 15 13.0**	**+1.7**
CEL	**Celeste**	**83.19**	**47**	IAMs_20	IAMs_20		12 54 18.1	
	comp=Z,2µm,19.0s							
BLKB	**Belogradchik**	**83.26**	**39**	⇑P	**P**		**12 15 13.2**	**+1.3**
LPSR	**Galich'ya Gora**	**83.36**	**25**	*e*P	**P**		**12 15 13.0**	**+0.9**
LPSR				pmax	pmax			
	comp=Z,60nm,1.0s							
TIR	**Tirane**	**83.36**	**43**	IAMs_20	IAMs_20		12 53 04.3	
	comp=Z,3µm,21.0s							
COVR	**Voineasa-Covas**	**83.40**	**36**	⇑P	**P**		**12 15 14.6**	**+2.0**
PHP	**Peshkopia**	**83.44**	**42**	P	**P**		**12 15 15.3**	**+2.4**
STFAR	**Stefanesti-Arg**	**83.52**	**37**	⇑P	**P**		**12 15 14.3**	**+1.1**
MLR	**Muntele Rosu**	**83.54**	**36**	⇓P	**P**		**12 15 14.9**	**+1.5**
MLR	**Muntele Rosu**	**83.54**	**36**	LR	LR		12 51 44.5	
	comp=Z,3µm,18.5s,baz=327,slow=35							
MLR	**Muntele Rosu**	**83.54**	**36**	IAMs_20	IAMs_20		12 51 32.6	
	comp=Z,3µm,18.0s							
PLOR	**Plostina**	**83.61**	**36**	⇑P	**P**		**12 15 14.6**	**+0.9**
VRI	**Vrincioaia**	**83.64**	**36**	⇑P	**P**		**12 15 14.5**	**+0.8**
KIS	**Kishinev**	**83.76**	**34**	*e*P	**P**		**12 15 17.5**	**+3.2**
KIS				*e*S	**S**		**12 25 36.5**	**-1.3**
KIS				LQM			12 48 54.0	
	comp=Z,700nm,18.5s							
KIS				LRM	MLR		12 59 54.3	
	comp=Z,800nm,15.5s							
KIS	**Kishinev**	**83.76**	**34**	*e*P	**P**		**12 15 17.5**	**+3.2**
KIS				*e*S	**S**		**12 25 36.5**	**-1.3**
KIS				MLR	MLR			
	comp=N,800nm,16.5s							
KIS				MLR	MLR			
	comp=Z,800nm,15.5s							
SKO	**Skopje**	**83.78**	**41**	*i* P	**P**		**12 15 16.5**	**+1.9**
MILM	**Milestii Mici**	**83.81**	**34**	*e*P	**P**		**12 15 16.3**	**+1.7**
MILM				LQM			12 48 38.0	
	comp=Z,2µm,20.5s							
MILM				LRM	MLR		12 53 58.0	
	comp=Z,2µm,14.0s							
MILM	**Milestii Mici**	**83.81**	**34**	⇑P	**P**		**12 15 15.3**	**+0.7**
MILM	**Milestii Mici**	**83.81**	**34**	*e*P	**P**		**12 15 16.3**	**+1.7**
MILM				*e*			12 34 34.5	
MILM				MLR	MLR			
	comp=Z,2µm,14.0s							
KOWA	**Kowa**	**83.82**	**77**	LR	LR		12 51 32.4	
	comp=Z,2µm,18.1s,baz=300,slow=35							
KOWA	**Kowa**	**83.82**	**77**	P	**P**		**12 15 15.2**	**0.0**
KOWA				IAmb	IAmb		12 15 19.3	
	comp=Z,47nm,0.8s							
KOWA				IAMs_20	IAMs_20		12 54 01.0	
	comp=Z,3µm,19.0s							
MPEP	**Malo Peshtene**	**84.00**	**39**	P	**P**		**12 15 18.1**	**+2.5**
VORR	**Voronezh**	**84.22**	**26**	*e*P	**P**		**12 15 21.3**	**+4.7**
VORR				*e*S	**S**		**12 25 47.2**	**+5.0**
VORR				pmax	pmax			
	comp=Z,100nm,1.8s							
VTS	**Vitosha**	**84.26**	**40**	⇑P	**P**		**12 15 18.9**	**+1.7**
VTS	**Vitosha**	**84.26**	**40**	P	**P**		**12 15 19.9**	**+2.7**
KBN	**Korca**	**84.37**	**43**	P	**P**		**12 15 20.9**	**+3.2**
STIP	**Stip**	**84.37**	**41**	*i* P	**P**		**12 15 19.0**	**+1.4**
KLR	**Kul'dur**	**84.42**	**330**	LR	LR		12 57 09.5	
	comp=Z,3µm,18.6s,baz=28,slow=39							
KLR	**Kul'dur**	**84.42**	**330**	*c*e*c*P	**P**		**12 15 16.6**	**-1.0**
KLR				pmax	pmax			
	comp=Z,14nm,1.2s							
KLR				MLR	MLR			
	comp=Z,2µm,18.0s							
KEK	**Kerkira**	**84.45**	**44**	P	**P**		**12 15 19.5**	**+1.5**
VSR	**Storozhevoye**	**84.58**	**26**	*e*P	**P**		**12 15 18.8**	**+0.4**
VSR				pmax	pmax			
	comp=Z,80nm,1.1s							
NEST	**Nestorio**	**84.66**	**43**	P	**P**		**12 15 22.1**	**+2.9**
KKB	**Krupnik**	**84.72**	**41**	P	**P**		**12 15 23.9**	**+4.5**
CFR	**Carcaliu**	**84.81**	**36**	⇓P	**P**		**12 15 20.0**	**+0.3**
IGT	**Igoumenitsa**	**84.87**	**44**	P	**P**		**12 15 22.5**	**+2.3**
HARR	**Harsova**	**85.08**	**36**	⇓P	**P**		**12 15 21.9**	**+0.9**
TLCR		**85.12**	**35**	⇑P	**P**		**12 15 22.2**	**+1.0**
KNT	**Kendrikon**	**85.12**	**41**	P	**P**		**12 15 22.9**	**+1.5**
KZN	**Kozani**	**85.12**	**42**	P	**P**		**12 15 24.9**	**+3.4**
ARU	**Arti**	**85.18**	**13**	LR	LR		12 56 34.6	
	comp=Z,3µm,18.3s,baz=349,slow=38							
ARU	**Arti**	**85.18**	**13**	IAMs_20	IAMs_20		12 56 21.4	
	comp=Z,3µm,19.0s							
ARU	**Arti**	**85.18**	**13**	*d i*P	**P**		**12 15 21.4**	**+0.1**
ARU							12 18 34.5	
ARU				S	**S**		**12 25 45.8**	**-5.8**
ARU				SS	**SS**		**12 31 29.8**	**+6.1**
ARU				pmax	pmax			
	comp=Z,20nm,1.3s							
ARU				MLR	MLR			
	comp=Z,3µm,18.0s							
TPGR	**Topolog**	**85.19**	**36**	⇑P	**P**		**12 15 21.9**	**+0.3**
TLBR	**Topalu**	**85.24**	**36**	⇑P	**P**		**12 15 23.3**	**+1.4**
MMB	**Musomiste**	**85.25**	**40**	P	**P**		**12 15 26.0**	**+3.9**
VRH	**Novokhopyorsk**	**85.48**	**25**	*e*P	**P**		**12 15 23.3**	**+0.4**
VRH				pmax	pmax			
	comp=Z,30nm,1.0s							
TIRR	**Tirgusor**	**85.48**	**36**	⇑P	**P**		**12 15 23.0**	**0.0**
NVR	**Nevrokopi**	**85.50**	**40**	P	**P**		**12 15 24.8**	**+1.5**
SRS	**Serrai**	**85.52**	**41**	P	**P**		**12 15 25.4**	**+2.0**
LKD2	**Lefkada island**	**85.57**	**44**	P	**P**		**12 15 25.9**	**+2.2**
TEY	**Ternei**	**85.59**	**325**	⇑*e*P	**P**		**12 15 24.1**	**+0.5**
TEY				*e*			12 25 51.2	
TEY				pmax	pmax			
	comp=Z,40nm,0.8s							
LIT	**Litokhoron**	**85.66**	**42**	P	**P**		**12 15 25.5**	**+1.4**
THL	**Klokotos Trika**	**85.78**	**43**	P	**P**		**12 15 27.4**	**+2.8**
KDZ	**Kurdzhali**	**86.08**	**39**	P	**P**		**12 15 28.9**	**+2.7**
EVR	**Evrytania**	**86.12**	**43**	P	**P**		**12 15 29.3**	**+2.8**
TAM	**Tamanrasset**	**86.13**	**65**	IAMs_20	IAMs_20		12 49 45.8	
	comp=Z,3µm,20.0s							
PVO	**Paravola**	**86.18**	**44**	P	**P**		**12 15 29.6**	**+2.9**
BELG	**Belogornoye**	**86.29**	**21**	LR	LR		12 54 54.1	
	comp=Z,2µm,18.1s,baz=335,slow=36							
BELG	**

BRVK	**Borovoye**	**90.19**		**8***ce*P		**P**	**12 15 46.5**	**+1.0**
BRVK					pmax	pmax		
	comp=Z,14nm,0.8s							
BRVK					MLR	MLR		
	comp=Z,5μm,21.0s							
BVA0	**Borovoye Array**	**90.23**	**8**	*i* P		**P**	**12 15 46.5**	**+0.8**
BVAR	**Borovoye Array**	**90.23**	**8**	LR	LR	LR	12 57 32.9	
	comp=Z,5μm,20.7s,baz=335,slow=36							
IDI	**Anoyia**	**90.44**	**44**	LR		LR	12 57 38.3	
	comp=Z,1μm,18.1s,baz=301,slow=36							
AKTO	**Aktyubinsk**	**90.72**	**16**	LR		LR	12 59 59.9	
	comp=Z,3μm,19.1s,baz=345,slow=38							
AKTO	**Aktyubinsk**	**90.72**	**16**	P		**P**	**12 15 47.6**	**-0.4**
SOC	**Sochi**	**91.13**	**30**	*e*P		**P**	**12 15 49.7**	**-0.4**
SOC				*e*S		**SKSac**	**12 26 23.5**	**+0.5**
SOC				*e*SS		SS	12 33 01.9	+11
SOC					pmax	pmax		
	comp=Z,11nm,0.9s							
SOC					MLR	MLR		
	comp=Z,4μm,20.0s							
MAJO	**Matsushiro**	**91.20**	**319**		IAMs_20	IAMs_20	13 01 18.5	
	comp=Z,2μm,18.0s							
MJAR	**Matsushiro Arr**	**91.20**	**319**	P		**P**	**12 15 51.1**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=64,slow=6.0,SNR=4.7							
MJAR					LR	LR	13 01 37.4	
	comp=Z,844nm,18.1s,baz=36,slow=39							
	comp=Z,2.5nm,0.7s							
CN2	**Changchun**	**91.36**	**331**	*e*P		**P**	**12 15 55.0**	**+3.9**
CN2				PP		**PP**	**12 19 33.6**	**+6.0**
CN2				SKS		**SKSac**	**12 26 26.4**	**+2.2**
CN2				S		**S**	**12 26 51.1**	**+0.4**
CN2				SS		**SS**	**12 32 57.7**	**+3.5**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
CN2					LR	LR		
	comp=Z,880nm,11.0s							
CN2					LR	LR		
	comp=Z,670nm,11.0s							
CN2					LR	LR		
	comp=Z,650nm,13.0s							
KARP	**Karpathos**	**91.50**	**43**		IAMs_20	IAMs_20	12 58 44.8	
	comp=Z,2μm,18.0s							
ISP	**Isparta**	**91.55**	**39**		IAMs_20	IAMs_20	12 56 13.1	
	comp=Z,3μm,21.0s							
BRTR	**Keskin Array B**	**91.60**	**36**	P		**P**	**12 15 52.7**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=313,slow=3.7,SNR=7.6							
BRTR					LR	LR	12 58 03.3	
	comp=Z,2μm,19.2s,baz=320,slow=36							
	comp=Z,2.5nm,0.8s							
ZAK	**Zakamensk**	**91.74**	**347**	*e*P		**P**	**12 15 53.6**	**+0.7**
ZAK					pmax	pmax		
	comp=Z,10.0nm,1.3s							
KIV	**Kislovodsk**	**91.98**	**28**		IAMs_20	IAMs_20	12 57 28.9	
	comp=Z,3μm,18.0s							
KIV	**Kislovodsk**	**91.98**	**28**	*i* P		**P**	**12 15 55.4**	**+1.3**
KIV					pmax	pmax		
	comp=Z,13nm,1.1s							
KIV					MLR	MLR		
	comp=Z,2μm,17.0s							
KVAR	**Kislovodsk Arr**	**91.98**	**28**	LR		LR	12 55 55.4	
	comp=Z,2μm,21.2s,slow=35							
SHA1	**Shidzhatmaz**	**92.15**	**28**	*i* P		**P**	**12 15 55.8**	**+0.7**
ABKAR	**Akbulak array**	**92.25**	**15**	P		**P**	**12 15 55.1**	**0.0**
KBZ	**Khabaz**	**92.25**	**28**	P		**P**	**12 15 56.5**	**+1.3**
	comp=Z,10nm,0.9s,baz=328,slow=3.5,SNR=16							
KBZ					LR	LR	12 57 50.4	
	comp=Z,3μm,18.3s,baz=328,slow=36							
	comp=Z,10nm,0.9s							
KBZ	**Khabaz**	**92.25**	**28***ce*	P		**P**	**12 15 55.7**	**+0.5**
KBZ					pmax	pmax		
	comp=Z,11nm,0.9s							
KBZ					MLR	MLR		
	comp=Z,3μm,17.0s							
KURK	**Kurchatov**	**93.14**	**3***ce*	P		**P**	**12 15 59.6**	**+0.4**
KURK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
KURBB	**Kurchatov Arra**	**93.22**	**3**	LR		LR	13 01 53.5	
	comp=Z,5μm,18.5s,baz=325,slow=38							
ULN	**Ulaanbaatar**	**93.39**	**344**		IAMs_20	IAMs_20	13 01 30.7	
	comp=Z,3μm,18.0s							
ULN	**Ulaanbaatar**	**93.39**	**344***ce*	P		**P**	**12 16 01.2**	**+0.6**
ULN					pmax	pmax		
	comp=Z,7.0nm,1.0s							
ZEI	**Tsey**	**93.44**	**28**	*e*P		**P**	**12 16 02.0**	**+1.0**
ZEI					pmax	pmax		
	comp=Z,12nm,0.9s							
BRZS	**Berezniki**	**93.47**	**7**	*e*P		**P**	**12 16 00.1**	**-0.7**
BRZS	**Berezniki**	**93.47**	**7**	*e*P		**P**	**12 16 00.2**	**-0.7**
	baz=6.6							
SEM	**Semipalatinsk**	**93.50**	**2**	*e*P		**P**	**12 16 00.7**	**-0.4**
SEM	**Semipalatinsk**	**93.50**	**2**	*e*P		**P**	**12 16 00.8**	**-0.4**
	baz=1.7							
SEM					LR	LR	13 00 43.0	
	comp=Z,901nm,19.2s,baz=1.7							
SONM	**Songino Array**	**93.56**	**345**	P		**P**	**12 16 03.0**	**+1.6**
	comp=Z,6.7nm,0.7s,baz=12,slow=4.5,SNR=21							
SONM					PKPPKP	P'P'df	12 41 13.1	-11
	comp=Z,2.4nm,0.9s,baz=186,slow=3.0,SNR=6.1							
SONM					LR	LR	13 01 06.5	
	comp=Z,4μm,21.4s,baz=8.0,slow=37							
	comp=Z,6.7nm,0.7s							
SONM	**Songino Array**	**93.56**	**345**	P		**P**	**12 16 02.7**	**+1.3**
SONM	**Songino Array**	**93.56**	**345**	P		**P**	**12 16 02.7**	**+1.3**
SONM					pmax	pmax		
	comp=Z,31nm,1.7s							
SNY	**Shenyang**	**93.76**	**331**	⇑P		**P**	**12 16 03.9**	**+1.7**
SNY				S		**S**	**12 27 14.5**	**+2.3**
SNY					pmax	pmax		
	comp=Z,23nm,1.0s							
SNY					pmax	pmax		
	comp=Z,130nm,3.5s							
SNY					LR	LR		
	comp=Z,2μm,21.3s							
SNY					LR	LR		
	comp=Z,4μm,17.6s							
SNY					LR	LR		
	comp=Z,3μm,27.5s							
DGZ	**Jazzator, Alta**	**94.16**	**357**	*i* P		**P**	**12 16 04.6**	**+0.5**
DGZ					pmax	pmax		
	comp=Z,4.0nm,0.8s							
MAK	**Makhachkala**	**94.59**	**25**	*e*P		P	12 15 59.0	-7.0
MAK				*e*SS		SS	12 33 41.0	+0.6
MAK					pmax	pmax		
	comp=Z,149nm,1.1s							
XLT	**XiLinHaoTe**	**94.61**	**337**	*e*P		**P**	**12 16 07.2**	**+0.9**
XLT				pP		sP	12 16 11.7	+3.2
XLT				sP		pP	12 16 14.2	+6.3
XLT				S		**S**	**12 27 19.4**	**-0.5**
XLT					pmax	pmax		
	comp=Z,10.0nm,0.7s							
XLT					pmax	pmax		
	comp=Z,95nm,3.6s							
XLT					LR	LR		
	comp=Z,440nm,17.3s							
XLT					LR	LR		
	comp=Z,4μm,16.7s							
XLT					LR	LR		
	comp=Z,6μm,17.8s							
OTUK	**Ortayu**	**95.15**	**7**	P		**P**	**12 16 08.0**	**-0.6**
KSRS	**Korea Array**	**95.57**	**326**	P		**P**	**12 16 12.2**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=48,slow=4.1,SNR=5.5							
KSRS					LR	LR	13 03 48.7	
	comp=Z,2μm,18.0s,baz=40,slow=38							
	comp=Z,1.9nm,0.9s							
JCJ	**Chichijima**	**95.82**	**310**	LR		LR	12 53 14.4	
	comp=Z,419nm,21.7s,baz=42,slow=32							
GNI	**Garni**	**96.03**	**29**	LR		LR	13 00 11.4	
	comp=Z,2μm,18.1s,baz=335,slow=36							
GNI	**Garni**	**96.03**	**29**		IAMs_20	IAMs_20	12 58 54.1	
	comp=Z,2μm,19.0s							
INCN	**Inchon**	**96.13**	**327**		IAMs_20	IAMs_20	13 01 09.5	
	comp=Z,3μm,21.0s							
MSVF	**Nonsavu**	**96.46**	**253**	LR		LR	12 54 12.5	
	comp=Z,2μm,18.9s,baz=13,slow=32							
MSVF	**Nonsavu**	**96.46**	**253**		IAMs_20	IAMs_20	12 54 48.3	
	comp=Z,2μm,19.0s							
ZSN	**Zaisan**	**96.48**	**359**	*e*P		**P**	**12 16 14.0**	**-0.6**
ZSN	**Zaisan**	**96.48**	**359**	*e*P		**P**	**12 16 14.0**	**-0.6**
	baz=359							
MAKZ	**Makanchi**	**97.13**	**1**		IAMs_20	IAMs_20	13 00 57.3	
	comp=Z,3μm,20.0s							
MK31	**Makanchi Array**	**97.15**	**1**	P		**P**	**12 16 16.8**	**-0.9**
MK31	**Makanchi Array**	**97.15**	**1**	*i* P		**P**	**12 16 17.2**	**-0.5**
MK31					pmax	pmax		
	comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**97.15**	**1**	P		Pdif	12 16 17.8	+0.1
	comp=Z,3.4nm,0.8s,baz=3.3,slow=4.3,SNR=29							
MKAR					LR	LR	13 01 18.8	
	comp=Z,3μm,19.7s,baz=354,slow=36							
	comp=Z,3.4nm,0.8s							
MKAR	**Makanchi Array**	**97.15**	**1**	P		**P**	**12 16 17.2**	**-0.5**
MKAR	**Makanchi Array**	**97.15**	**1**	*i* P		**P**	**12 16 17.7**	**0.0**
MKAR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
BJT	**Baijiatuao**	**98.06**	**335**		IAMs_20	IAMs_20	13 04 35.4	
	comp=Z,3μm,21.0s							
BTLS	**Baital**	**98.49**	**6**	*e*P		**P**	**12 16 22.7**	**-1.0**
BTLS	**Baital**	**98.49**	**6**	*e*P		**P**	**12 16 22.7**	**-1.0**
	baz=6.4							
HHC	**Hu-ho-hao-te**	**98.77**	**339**	*e*P		Pdif	12 16 25.5	+0.3
HHC					S	**S**	**12 27 56.3**	**+0.5**
HHC					SS	**SS**	**12 34 42.3**	**+2.6**
HHC					pmax	pmax		
	comp=Z,22nm,0.9s							
HHC					pmax	pmax		
	comp=Z,100nm,4.9s							
HHC					LR	LR		
	comp=Z,5μm,16.5s							
HHC					LR	LR		
	comp=Z,3μm,16.7s							
HHC					LR	LR		
	comp=Z,8μm,17.2s							
TDK	**Taldyqorghan**	**98.83**	**3**	*e*P		**P**	**12 16 24.1**	**-1.1**
TDK	**Taldyqorghan**	**98.83**	**3**	*e*P		**P**	**12 16 24.2**	**-1.1**
	baz=3.3							
TDK					LR	LR	13 01 24.2	
	comp=Z,2μm,16.7s,baz=3.3							
ASF	**Jabal al Asfar**	**99.21**	**38**	LR		LR	13 04 09.7	
	comp=Z,1μm,18.2s,baz=329,slow=37							
KUU	**Kurty**	**99.82**	**5**	*e*P		**Pdif**	**12 16 28.7**	**-0.9**
KUU					MLR	MLR		
	comp=Z,2μm,19.0s							
KUU	**Kurty**	**99.82**	**5**	*e*P		**Pdif**	**12 16 28.8**	**-0.9**
	baz=4.8							
KUU					LR	LR	13 01 44.8	
	comp=Z,2μm,18.9s,baz=4.8							
WMQ	**Urumqi**	**100.01**	**357**	*e*P		**Pdif**	**12 16 31.7**	**+1.1**
WMQ					LR	LR		
	comp=Z,2μm,22.9s							
WMQ					LR	LR		
	comp=Z,4μm,20.1s							
WMQ					LR	LR		
	comp=Z,2μm,24.5s							
SGDS	**Sogindy**	**100.12**	**6**	*e*P		**Pdif**	**12 16 30.7**	**-0.4**
SGDS	**Sogindy**	**100.12**	**6**	*e*P		**Pdif**	**12 16 30.8**	**-0.4**
	baz=6.1							
MDOK	**Medeo**	**100.59**	**4**	*e*P		**Pdif**	**12 16 32.4**	**-0.9**
MDOK	**Medeo**	**100.59**	**4**	*e*P		**Pdif**	**12 16 32.5**	**-0.9**
	baz=4.4							
MDOK					LR	LR	13 02 48.0	
	comp=Z,3μm,17.0s,baz=4.4							
SHLS	**Shalkode**	**100.72**	**3**	*e*P		**Pdif**	**12 16 33.5**	**-0.3**
SHLS	**Shalkode**	**100.72**	**3**	*e*P		**Pdif**	**12 16 33.5**	**-0.3**
	baz=2.3							
HNS	**HongShan**	**100.91**	**335**	*e*P		**Pdif**	**12 16 35.0**	**+0.4**
HNS				PP		**PP**	**12 20 48.8**	**+7.3**
HNS				SKS			12 27 18.3	
HNS				S		SKKSac	12 28 16.0	+26
HNS				SS		**SS**	**12 35 12.1**	**+2.6**
HNS				LR		LR		
	comp=Z,2μm,20.4s							
HNS				LR		LR		
	comp=Z,2μm,19.4s							
HNS				LR		LR		
	comp=Z,3μm,19.9s							
HNR	**Honiara**	**106.09**	**270**		IAMs_20	IAMs_20	12 57 28.1	
	comp=Z,3μm,21.0s							
GOMU	**GeErMu**	**106.92**	**350**	Pdif		**Pdif**	**12 17 00.4**	**-1.5**
GOMU				AMB		AMB		
	comp=Z,59nm,6.3s							
GOMU					LR	LR		
	comp=Z,2μm,22.4s							
GOMU					LR	LR		
	comp=Z,1μm,19.5s							
GOMU					LR	LR		
	comp=Z,2μm,21.3s							
DZM	**Mont Dzumac**	**107.91**	**256**	*e*LR		LR	12 52 43.3	
	comp=Z,2μm,25.8s							
URZ	**Urewera**	**108.67**	**236**		IAMs_20	IAMs_20	12 57 21.6	
	comp=Z,2μm,22.0s							
KOUNC	**Koumac, New Ca**	**108.78**	**258**		IAMs_20	IAMs_20	13 04 35.6	
	comp=Z,1μm,18.0s							
TATO	**Taipei**	**108.99**	**323**		IAMs_20	IAMs_20	13 12 43.0	
	comp=Z,2μm,19.0s							
YHNB	**Yeheng**	**109.30**	**323**		IAMs_20	IAMs_20	13 12 53.3	
	comp=Z,2μm,18.0s							
BKZ	**Black Stump Fm**	**109.56**	**235**		IAMs_20	IAMs_20	12 58 20.0	
	comp=Z,2μm,22.0s							
NACB	**Ninganchiao**	**109.61**	**323**		IAMs_20	IAMs_20	13 09 50.8	
	comp=Z,2μm,20.0s							
NIL	**Nilore**	**109.68**	**9**		IAMs_20	IAMs_20	13 10 24.5	
	comp=Z,2μm,19.0s							
SSLB	**Suanglung**	**110.25**	**323**		IAMs_20	IAMs_20	13 10 10.5	
	comp=Z,2μm,18.0s							
CD2	**Chengdu**	**110.26**	**341**	Pdif		**Pdif**	**12 17 14.0**	**-2.4**
CD2					LR	LR		
	comp=Z,3μm,17.6s							
CD2					LR	LR		
	comp=Z,2μm,19.1s							
CD2					LR	LR		
	comp=Z,3μm,16.7s							
YULB	**Yu-li**	**110.41**	**323**		IAMs_20	IAMs_20	13 13 16.1	
	comp=Z,2μm,19.0s							
BFZ	**Birch Farm**	**110.50**	**234**		IAMs_20	IAMs_20	13 04 03.7	
	comp=Z,2μm,19.0s							
TPUB	**Ta-pu**	**110.82**	**323**		IAMs_20	IAMs_20	13 10 36.7	
	comp=Z,2μm,18.0s							
KNMB	**Chin-men Tao**	**110.87**	**326**		IAMs_20	IAMs_20	13 14 34.0	
	comp=Z,2μm,20.0s							
TWG	**Pinlang**	**111.01**	**323**		IAMs_20	IAMs_20	13 13 25.6	
	comp=Z,1μm,20.0s							
NNZ	**Nelson**	**112.65**	**235**		IAMs_20	IAMs_20	12 59 59.6	
	comp=Z,1μm,21.0s							
QRZ	**Quartz Range**	**113.02**	**236**		IAMs_20	IAMs_20	13 00 51.7	
	comp=Z,1μm,20.0s							
KHZ	**Kahutara**	**113.12**	**234**		IAMs_20	IAMs_20	13 01 11.2	
	comp=Z,2μm,20.0s							
THZ	**Tophouse**	**113.22**	**234**		IAMs_20	IAMs_20	13 00 41.8	
	comp=Z,2μm,22.0s							
LSA	**Lhasa**	**113.78**	**352**		IAMs_20	IAMs_20	13 16 49.0	
	comp=Z,2μm,18.0s							
UOSS	**Minazif**	**113.89**	**27**		IAMs_20	IAMs_20	13 13 49.4	
	comp=Z,1μm,21.0s							
LTZ	**Lake Taylor**	**114.12**	**234**		IAMs_20	IAMs_20	12 59 49.6	
	comp=Z,2μm,22.0s							
MQZ	**McQueen's Vall**	**114.30**	**233**		IAMs_20	IAMs_20	13 00 30.4	
	comp=Z,2μm,21.0s							
OXZ	**Oxford**	**114.52**	**233**		IAMs_20	IAMs_20	13 01 32.3	
	comp=Z,2μm,21.0s							
PZH	**PanZhiHua**	**114.98**	**342**	PKP		**PKiKP**	**12 21 25.8**	**-1.0**
PZH				PP		**PP**	**12 22 28.5**	**+4.1**
PZH				SKKS			12 29 23.4	
PZH				SS		**SS**	**12 38 20.1**	**+0.1**
PZH				AMB		AMB		
	comp=Z,140nm,5.5s							
PZH					LR	LR		
	comp=Z,2μm,19.4s							
PZH					LR	LR		
	comp=Z,1μm,19.0s							
PZH					LR	LR		
	comp=Z,3μm,25.0s							
RPZ	**Rata Peaks**	**115.34**	**233**		IAMs_20	IAMs_20	13 02 03.8	
	comp=Z,2μm,21.0s							
KMI	**Kunming**	**116.03**	**340**	⇑PKP		**PKPdf**	**12 21 31.2**	**+2.2**
KMI				SKKS			12 29 23.7	
KMI				SS		**SS**	**12 38 36.1**	**+2.1**
KMI				LR		LR		
	comp=Z,2μm,20.4s							
KMI				LR		LR		
	comp=Z,3μm,19.6s							
KMI				LR		LR		
	comp=Z,3μm,19.5s							
FOZ	**Fox Glacier**	**116.06**	**234**		IAMs_20	IAMs_20	13 05 38.9	
	comp=Z,2μm,18.0s							
ODZ	**Otahua Downs**	**116.19**	**232**		IAMs_20	IAMs_20	13 01 39.4	
	comp=Z,2μm,20.0s							
LBZ	**Lake Benmore**	**116.20**	**233**		IAMs_20	IAMs_20	13 02 10.6	
	comp=Z,2μm,20.0s							
QIZ	**Qiongzhong**	**119.32**	**331**		IAMs_20	IAMs_20	13 16 06.5	
	comp=Z,2μm,21.0s							
QIZ	**Qiongzhong**	**119.32**	**331**	PKP		**PKiKP**	**12 21 35.5**	**+0.3**
QIZ				PP		**PP**	**12 22 53.5**	**-1.3**
QIZ				SS		SS	12 39 20.3	+3.6
QIZ				LR		LR		
	comp=Z,1μm,20.7s							
QIZ					LR	LR		
	comp=Z,2μm,19.1s							
QIZ					LR	LR		
	comp=Z,2μm,19.9s							
LODK	**Lodwar**	**120.43**	**59**		IAMs_20	IAMs_20	13 14 31.6	
	comp=Z,1μm,20.0s							
TSUM	**Tsumeb**	**120.62**	**92**		IAMs_20	IAMs_20	13 18 48.9	
	comp=Z,2μm,19.0s							
VNA3	**Neumayer Olymp**	**123.16**	**157**	PKPdf		**PKPdf**	**12 21 39.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**123.39**	**342**	PKP		**PKiKP**	**12 21 43.4**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=325,slow=2.6,SNR=25							
CMAR	**Chiang Mai Arr**	**123.39**	**342**	PKPdf		**PKPdf**	**12 21 43.0**	**0.0**
VNA2	**Neumayer--Watz**	**123.79**	**157**	PKPdf		**PKPdf**	**12 21 41.7**	**-0.4**
	baz=291,slow=5.0							
KMBO	**Kilima Mbogo**	**124.98**	**61**		IAMs_20	IAMs_20	13 16 10.5	
	comp=Z,2μm,20.0s							
SNAA	**Sanae**	**125.38**	**157**	PKPdf		**PKiKP**	**12 21 45.8**	**+0.2**
SNAA	**Sanae**	**125.38**	**157**	PKPdf		**PKiKP**	**12 21 46.0**	**+0.4**
SNAA	**Sanae**	**125.38**	**157**	PKIKP		**PKiKP**	**12 21 46.0**	**+0.4**
KIBK	**Kibwezi**	**126.39**	**61**		IAMs_20	IAMs_20	13 24 23.3	
	comp=Z,1μm,18.0s							
MYLDM	**Lahad Datu**	**126.99**	**314**		IAMs_20	IAMs_20	13 29 30.2	
	comp=Z,1μm,20.0s							
LSZ	**Lusaka**	**127.04**	**82**		IAMs_20	IAMs_20	13 18 13.0	
	comp=Z,1μm,20.0s							
TROLL	**Troll, Antarti**	**127.09**	**157**	PKPdf		**PKPdf**	**12 21 48.0**	**-0.6**
VNDA	**Vanda**	**127.68**	**196**	PKP		**PKiKP**	**12 21 51.1**	**+1.2**
	comp=Z,5.0nm,0.9s,baz=306,slow=1.7,SNR=12							
BOSA	**Boshof**	**131.24**	**98**	PKP		**PKPdf**	**12 21 58.2**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=333,slow=2.3,SNR=1.3							
STKA	**Stephens Creek**	**132.00**	**257**	PKP		**PKiKP**	**12 22 01.0**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=79,slow=3.6,SNR=6.4							
WRA	**Warramunga Arr**	**132.48**	**276**	PKP		**PKPdf**	**12 21 58.9**	**-1.3**
	comp=Z,4.4nm,0.8s,baz=51,slow=1.7,SNR=13							
SBUM	**Sibu**	**132.74**	**319**		IAMs_20	IAMs_20	13 30 24.2	
	comp=Z,1μm,20.0s							
PCHI	**Peechi**	**132.86**	**9**	*e*P		**PKiKP**	**12 22 06.4**	**+4.1**
PCHI				*ex*		x	12 31 58.8	
ASAR	**Alice Springs**	**134.69**	**272**	PKhKP		PKPpre	12 21 52.3	
	comp=Z,0.6nm,0.8s,baz=63,slow=3.3,SNR=4.3							
ASAR					PKP	**PKiKP**	**12 22 05.7**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=63,slow=1.7,SNR=21							
KULM	**Kulim**	**135.36**	**335**		IAMs_20	IAMs_20	13 25 57.4	
	comp=Z,2μm,20.0s							
IPM	**Ipoh**	**135.98**	**334**		IAMs_20	IAMs_20	13 22 58.9	
	comp=Z,2μm,21.0s							
PALK	**Pallekele**	**136.47**	**3**		IAMs_20	IAMs_20	13 30 14.1	
	comp=Z,2μm,20.0s							
BKNI	**Bangkinang**	**139.81**	**331**		IAMs_20	IAMs_20	13 30 17.5	
	comp=Z,2μm,18.0s							
PMBI	**Palembang**	**141.12**	**324**		IAMs_20	IAMs_20	13 37 05.2	
	comp=Z,1μm,20.0s							
MBWA	**Marble Bar**	**144.70**	**285**	PKPdf		**PKPdf**	**12 22 22.1**	**-0.3**
PSA00	**Pilbara Seismi**	**144.84**	**285**	PKPdf		PKPbc	12 22 22.0	+0.2
PSA00	**Pilbara Seismi**	**144.84**	**285**			**PKPab**	**12 22 21.6**	**-0.1**
CASY	**Casey**	**146.13**	**200**			**PKPab**	**12 22 25.3**	**+0.2**
MAW	**Mawson**	**146.74**	**166**	PKPbc		**PKPbc**	**12 22 26.6**	**+0.4**
	comp=Z,20nm,1.0s,baz=238,slow=4.2,SNR=29							
MAW	**Mawson**	**146.74**	**166**			**PKPbc**	**12 22 26.8**	**+0.6**
MAW	**Mawson**	**146.74**	**166**	PKP2		**PKPbc**	**12 22 26.8**	**+0.6**

NEIC ***03*** *12:06:04.37˚09N×115˚27W,h8km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-1.97; Mθθ0.15; Mϕϕ1.82; Mrθ-0.29; Mrϕ0.72; Mθϕ0.57; Fault plane solution: M0 2.13000×10^14^ NP1:ϕs187.00000˚, δ52.00000˚, λ-106.00000˚. NP2:ϕs33.00000˚, δ41.00000˚, λ-70.00000˚. Principal axes: T 2.1344, Plg6.0000˚, Azm289.0000˚; N -0.0096, Plg13.0000˚, Azm198.0000˚; P -2.1248, Plg76.0000˚, Azm44.0000˚;*

REN ***03*** *12:06:05.7±1.1,37˚09N±0˚02×115˚27W±0˚01,h11km±5km, Mwr3.5,ML3.3/70(NEIC) Error ellipse: s-maj=2.4km s-min=1.5km az=158.0*

NEIC ***03*** *12:06:05.4±1.7,37˚09N±0˚02×115˚27W±0˚02,h13km±8km, Error ellipse: s-maj=2.4km s-min=2.1km az=184.0*

ISC 03 12:06:04.7±0.9,37˚07N±0˚03×115˚25W±0˚04,h10km,n41, σ1ş36/36,Southern Nevada

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PRN	**Pahroc Range**	**0.37**	**25**			**Pg**	**12 06 13.0**	**+1.0**
PRN						**Sg**	**12 06 18.1**	**+1.2**
PRN	**Pahroc Range**	**0.37**	**25**		IAML		12 06 21.4	
	comp=E,2μm,0.6s							
PRN					IAML		12 06 21.6	
	comp=N,2μm,0.5s							
SHPR	**Sheep Range**	**0.57**	**173**			**Sb**	**12 06 26.1**	**+1.0**
SHPR	**Sheep Range**	**0.57**	**173**		Pg	**Pg**	**12 06 15.5**	**-0.3**
SHPR	**Sheep Range**	**0.57**	**173**		IAML		12 06 30.4	
	comp=E,397nm,0.3s							
SHPR					IAML		12 06 31.5	
	comp=N,5.8nm,0.4s							
CPY	**CP-1**	**0.66**	**258**			**Pg**	**12 06 18.1**	**+0.6**
S11A	**Rachel**	**0.69**	**325**		Pg	**Pb**	**12 06 19.2**	**+0.3**
S11A					IAML		12 06 29.6	
	comp=E,3μm,0.7s							
S11A					IAML		12 06 33.0	
	comp=N,2μm,0.3s							
TPNV	**Topopah Spring**	**0.81**	**261**			**Pg**	**12 06 20.6**	**+0.3**
TPNV	**Topopah Spring**	**0.81**	**261**		IAML		12 06 35.9	
	comp=N,915nm,0.4s							
TPNV	**Topopah Spring**	**0.81**	**261**	P		**Pg**	**12 06 20.8**	**+0.5**
	baz=86,SNR=186							
WTNK	**Soaring Height**	**0.90**	**168**			**Pb**	**12 06 23.2**	**+0.8**
WTNK	**Soaring Height**	**0.90**	**168**		I

RYN	**Ryan**	**3.02**	**302**	Pn	**Pn**	**12 06 49.6**	**-3.1**
RYN				IAML		12 07 45.0	
	comp=N,106nm,1.0s						
RYN				IAML		12 07 55.9	
	comp=E,120nm,1.7s						
OMMB	**Old Mammoth Mi**	**3.04**	**281**		**Pn**	**12 06 52.5**	**-0.6**
OMMB				IAML		12 07 26.9	
	comp=E,80nm,1.6s						
OMMB				IAML		12 08 11.5	
	comp=N,58nm,1.8s						
MDPB	**Devils Postpil**	**3.10**	**281**		**Pn**	**12 06 54.4**	**+0.5**
MDPB				IAML		12 07 26.3	
	comp=E,87nm,2.2s						
MDPB				IAML		12 07 35.5	
	comp=N,59nm,1.4s						
YERR	**Yerington**	**3.68**	**302**	Pn	Pn	12 06 56.0	-5.9
YERR				IAML		12 08 08.7	
	comp=N,80nm,1.1s						
BCW	**Bitter Crk WRg**	**3.99**	**239**	Pn	**Pn**	**12 07 02.7**	**-3.3**
CMB	**Columbia Colle**	**4.19**	**285**	Pn	**Pn**	**12 07 07.0**	**-1.7**
CMB				IAML		12 09 01.8	
	comp=E,46nm,1.5s						
CMB				IAML		12 09 04.7	
	comp=N,48nm,1.9s						
EMB	**Emerald Bay**	**4.28**	**298**	Pn	Pn	12 07 04.7	-5.3
BBGB	**Big Mountain B**	**4.67**	**266**	Pn	**Pn**	**12 07 13.5**	**-1.9**

*TAP **03** 12:10:51.9,24.89N×122.39E,h16km,ML2.4,C*
*JMA **03** 12:10:52.4±0.2,24.8N±1.0×122.4E±0.3,h8km,MV2.5/5, TAIWAN REGION*
ISC 03 12:10:52.2±1.1,24.86N±0.03×122.39E±0.02,h13km±9km, n40,σ0.37/73,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.39**	**292**	*i* P	**Pg**	**12 11 00.2**	**+0.1**
	baz=287						
TWB1				S	**Sg**	**12 11 05.7**	**+0.4**
	baz=287						
EGS		**0.42**	**268**	*e*P	**Pb**	**12 11 01.2**	**-0.2**
	baz=253						
EGS				S	**Sb**	**12 11 07.2**	**-0.4**
	baz=253						
NTC	**Toucheng**	**0.51**	**269**	*i* P	**Pb**	**12 11 02.7**	**-0.3**
	baz=266						
SXI1	**Grass Mountain**	**0.52**	**296**	*i* P	**Pb**	**12 11 03.0**	**-0.2**
	baz=293						
SXI1				S	**Sb**	**12 11 10.4**	**-0.4**
	baz=293						
TIPB	**Shuangxi**	**0.53**	**282**	*e*P	**Pb**	**12 11 03.3**	**0.0**
	baz=278						
TIPB				*e*S	**Sb**	**12 11 10.7**	**-0.1**
	baz=278						
TWC	**Suao**	**0.55**	**243**	P	**Pg**	**12 11 03.2**	**+0.2**
	baz=239						
TWC				S	**Sg**	**12 11 10.7**	**+0.3**
	baz=239						
NWF	**Wu-fen Shan**	**0.59**	**291**	P	**Pb**	**12 11 04.4**	**-0.1**
	baz=287						
NWF				S	**Sb**	**12 11 12.8**	**+0.1**
	baz=287						
WFSB	**Wu-fen Shan**	**0.59**	**291**	P	**Pb**	**12 11 04.5**	**+0.1**
	baz=287						
WFSB				S	**Sb**	**12 11 12.9**	**+0.2**
	baz=287						
ILA	**Ilan**	**0.59**	**261**	*e*S	**Sb**	**12 11 12.7**	**0.0**
	baz=247						
JYNG	**Yonaguni jima**	**0.65**	**129**	P	**Pg**	**12 11 04.8**	**0.0**
JYNG				S	**Sg**	**12 11 13.1**	**-0.3**
NDS	**Dongshan**	**0.66**	**250**	*e*P	**Pg**	**12 11 04.4**	**-0.5**
	baz=240						
NDS				S	**Sb**	**12 11 14.5**	**0.0**
	baz=240						
YOJ	**Yonaguni jima**	**0.69**	**125**	*i* P	**Pg**	**12 11 05.4**	**-0.2**
	baz=117						
YOJ				*e*S	**Sb**	**12 11 15.6**	**+0.1**
	baz=117						
YOJ	**Yonaguni jima**	**0.69**	**125**	P	**Pg**	**12 11 05.4**	**-0.2**
YOJ				S	**Sg**	**12 11 14.5**	**-0.2**
EWUT	**Wuta**	**0.69**	**233**	*e*P	**Pg**	**12 11 04.7**	**-1.0**
	baz=231						
EWUT				*e*S	**Sg**	**12 11 14.9**	**+0.1**
	baz=231						
ENA	**Nanau**	**0.73**	**234**	P	**Pg**	**12 11 06.5**	**+0.1**
	baz=231						
ENA				S	**Sb**	**12 11 16.4**	**-0.4**
	baz=231						
FUSB	**Fushanzhiwuyua**	**0.74**	**262**	P	**Pb**	**12 11 06.9**	**0.0**
	baz=259						
FUSB				*e*S	**Sn**	**12 11 19.4**	**-0.2**
	baz=259						
TWA	**Mucha**	**0.74**	**279**	*e*S	**Sb**	**12 11 16.9**	**-0.1**
	baz=276						
ENTT	**Nioudou**	**0.78**	**254**	*e*P	**Pg**	**12 11 06.9**	**-0.4**
	baz=251						
ENTT				*e*S	**Sb**	**12 11 19.1**	**+0.9**
	baz=251						
NHDH	**Xindian Distri**	**0.79**	**277**	P	**Pb**	**12 11 07.8**	**-0.1**
	baz=274						
NHDH				S	**Sb**	**12 11 18.6**	**+0.2**
	baz=274						
YM08	**YM08**	**0.80**	**294**	P	**Pg**	**12 11 07.6**	**0.0**
	baz=277						
YM08				*e*S	**Sb**	**12 11 18.4**	**-0.3**
	baz=277						
YM01	**YM01**	**0.80**	**291**	*e*P	**Pb**	**12 11 08.3**	**+0.4**
	baz=288						
YM01				*e*S	**Sb**	**12 11 19.3**	**+0.6**
	baz=288						
PCYT	**Pengchaiyu**	**0.82**	**339**	*e*P	**Pb**	**12 11 08.3**	**0.0**
	baz=331						
TATO	**Taipei**	**0.83**	**278**	*e*S	**Sg**	**12 11 18.8**	**-0.3**
	baz=275						
TWY	**Chenhua**	**0.83**	**300**	*e*P	**Pb**	**12 11 08.8**	**+0.4**
	baz=283						
TWY				*e*S	**Sb**	**12 11 19.5**	**0.0**
	baz=283						
NDT	**Datong Townshi**	**0.84**	**252**	*e*P	**Pb**	**12 11 08.8**	**+0.1**
	baz=250						
NDT				*e*S	**Sn**	**12 11 21.6**	**-0.4**
	baz=250						
LATG	**Datong**	**0.85**	**248**	P	**Pb**	**12 11 09.2**	**+0.3**
	baz=245						
LATG				*e*S	**Sn**	**12 11 22.5**	**+0.1**
	baz=245						
TWS1	**Kuangyinshan**	**0.92**	**285**	*e*P	**Pg**	**12 11 09.6**	**-0.3**
	baz=283						
TWS1				S	**Sb**	**12 11 22.4**	**+0.4**
	baz=283						
YHNB	**Yeheng**	**0.94**	**258**	*e*P	**Pb**	**12 11 10.5**	**+0.1**
	baz=265						
YHNB				*e*S	**Sb**	**12 11 23.6**	**+0.7**
	baz=265						
NSK	**Sanguang**	**0.96**	**259**	*e*P	**Pg**	**12 11 09.7**	**-1.0**
	baz=266						
NSK				*e*S	**Sg**	**12 11 22.9**	**-0.3**
	baz=266						
NACB	**Ninganchiao**	**1.00**	**227**	*e*P	**Pg**	**12 11 11.1**	**-0.3**
	baz=225						
NACB				*e*S	**Sb**	**12 11 24.9**	**+0.5**
	baz=225						
NNSB	**Datong**	**1.01**	**245**	*e*P	**Pb**	**12 11 11.7**	**0.0**
	baz=231						
NNSB				*e*S	**Sn**	**12 11 26.5**	**+0.1**
	baz=231						
NNSH	**Datong**	**1.01**	**245**	*e*P	**Pg**	**12 11 11.4**	**-0.3**
	baz=231						
NNSH				*e*S	**Sb**	**12 11 25.2**	**+0.2**
	baz=231						
NNS	**Nan Shan**	**1.02**	**246**	*e*P	**Pg**	**12 11 11.1**	**-0.7**
	baz=232						
NNS				*e*S	**Sb**	**12 11 25.1**	**0.0**
	baz=232						
ETLH	**Xiulin Townshi**	**1.05**	**232**	*e*P	**Pb**	**12 11 12.1**	**-0.3**
	baz=230						
ETLH				*e*S	**Sg**	**12 11 26.7**	**+0.4**
	baz=230						
FUSS	**Fushou**	**1.21**	**240**	*e*P	**Pg**	**12 11 15.3**	**-0.2**
	baz=228						
FUSS				*e*S	**Sn**	**12 11 31.6**	**+0.2**
	baz=228						
WHF	**Hehuan Shan**	**1.25**	**235**	*e*P	**Pb**	**12 11 15.9**	**0.0**
	baz=234						
IRIF	**Iriomote-Funau**	**1.33**	**113**	*e*P	**Pb**	**12 11 17.1**	**+0.2**
CHGB	**Renai**	**1.37**	**235**	*e*P	**Pb**	**12 11 17.9**	**+0.2**
	baz=233						
CHGB				*e*S	**Sg**	**12 11 37.5**	**+1.2**
	baz=233						
OWD	**Renai**	**1.43**	**231**	*e*P	**Pb**	**12 11 18.7**	**-0.1**
	baz=229						
OWD				*e*S	**Sg**	**12 11 38.5**	**+0.2**
	baz=229						
WUSB	**Renai**	**1.45**	**234**	*e*P	**Pb**	**12 11 19.1**	**0.0**
	baz=232						
WUSB				*e*S	**Sg**	**12 11 39.5**	**+0.6**
	baz=232						

ROM 03 12:11:48.6±0.1,42.917N±0.003×13.255E±0.006, h8km,ML2.3/14,7C-1D,Error ellipse: s-maj=0.5km s-min=0.1km az=68.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.05**	**264**	P	Pg	12 11 50.8	+0.2
MC2				S	Sg	12 11 51.9	-0.1
T1242	**Castelluccio d**	**0.10**	**203**	P	Pg	12 11 51.6	+0.5
T1242				S	Sg	12 11 53.7	+0.8
T1242				AML	AML		
	comp=E,3640μm,0.3s						
T1242				AML	AML		
	comp=N,3770μm,0.5s						
T1242				AML	AML		
	comp=E,3645μm,0.3s						
T1242				AML	AML		
	comp=N,3765μm,0.5s						
T1242				AML	AML		
	comp=N,3825μm,0.5s						
T1242				AML	AML		
	comp=E,3645μm,0.3s						
T1242				AML	AML		
	comp=E,3635μm,0.3s						
NRCA	**Norcia**	**0.13**	**231**	P	Pg	12 11 52.2	+0.6
NRCA				AML	AML		
	comp=E,4580μm,0.2s						
NRCA				AML	AML		
	comp=E,4920μm,0.1s						
NRCA				AML	AML		
	comp=N,3670μm,0.7s						
NRCA				AML	AML		
	comp=N,3350μm,0.6s						
NRCA				AML	AML		
	comp=E,4925μm,0.1s						
NRCA				AML	AML		
	comp=N,3345μm,0.6s						
NRCA				AML	AML		
	comp=N,3665μm,0.7s						
NRCA				AML	AML		
	comp=E,4585μm,0.2s						
GUMA	**Gualdo di Mace**	**0.16**	**22**	⇑P	Pg	12 11 52.8	+0.8
GUMA				S	Sg	12 11 55.8	+1.5
GUMA				AML	AML		
	comp=N,3090μm,0.6s						
GUMA				AML	AML		
	comp=E,3825μm,0.2s						
GUMA				AML	AML		
	comp=N,2475μm,0.5s						
GUMA				AML	AML		
	comp=N,3085μm,0.6s						
GUMA				AML	AML		
	comp=E,2710μm,1.1s						
T1244	**Arquata del Tr**	**0.16**	**169**	P	Pg	12 11 53.0	+0.9
T1244				S	Sg	12 11 56.4	+1.9
T1244				AML	AML		
	comp=E,2370μm,0.2s						
T1244				AML	AML		
	comp=N,1935μm,0.6s						
T1244				AML	AML		
	comp=E,2325μm,0.2s						
T1244				AML	AML		
	comp=N,1930μm,0.6s						
T1244				AML	AML		
	comp=E,2370μm,0.2s						
T1244				AML	AML		
	comp=N,1935μm,0.6s						
T1244				AML	AML		
	comp=N,1935μm,0.6s						
T1244				AML	AML		
	comp=N,1936μm,0.6s						
T1244				AML	AML		
	comp=N,1930μm,0.6s						
FDMO	**Fiordimonte**	**0.17**	**314**	⇑P	Pg	12 11 52.7	+0.4
FDMO				S	Sg	12 11 55.5	+0.8
FDMO				AML	AML		
	comp=N,1315μm,0.2s						
FDMO				AML	AML		
	comp=E,1276μm,0.8s						
CSP1	**Cessapalombo**	**0.18**	**348**	⇑P	Pg	12 11 52.9	+0.4
CSP1				S	Sg	12 11 55.9	+0.8
T1202	**Accumoli, Fraz**	**0.21**	**186**	P	Pg	12 11 52.9	-0.1
T1202				AML	AML		
	comp=E,1135μm,0.6s						
T1202				AML	AML		
	comp=N,1418μm,0.6s						
T1202				AML	AML		
	comp=E,1140μm,0.6s						
T1202				AML	AML		
	comp=N,1414μm,0.6s						
T1202				AML	AML		
	comp=E,1136μm,0.6s						
T1202				AML	AML		
	comp=N,1419μm,0.6s						
T1204	**Amatrice, Fraz**	**0.24**	**169**	P	Pg	12 11 54.4	+0.8
T1204				S	Sg	12 11 58.8	+1.8
T1243	**Rocca Santa Ma**	**0.26**	**147**	P	Pg	12 11 54.5	+0.6
T1243				S	Sb	12 11 59.1	-1.2
CESI	**CESI - Serrava**	**0.27**	**289**	P	Pg	12 11 54.7	+0.6
CESI				S	Sb	12 11 59.3	-1.3
CESI				AML	AML		
	comp=E,863μm,1.3s						
CESI				AML	AML		
	comp=N,1695μm,0.3s						
SMA1	**SAN MARTINO**	**0.29**	**168**	P	Pg	12 11 55.1	+0.6
SMA1				S	Sb	12 12 00.1	-1.1
T1215	**Vallo di Nera,**	**0.31**	**248**	⇑P	Pg	12 11 55.4	+0.7
T1215				S	Sb	12 12 00.6	-0.9
OFFI	**Offida**	**0.32**	**87**	P	Pb	12 11 56.7	+0.1
LNSS	**Leonessa**	**0.35**	**207**	P	Pg	12 11 56.1	+0.5
LNSS				S	Sb	12 12 02.3	-0.6
TERO	**Teramo**	**0.39**	**139**	P	Pg	12 11 56.7	+0.4
TERO				S	Sb	12 12 03.2	-0.7
CAMP	**Campotosto**	**0.40**	**163**	P	Pg	12 11 56.8	+0.3
CAMP				S	Sb	12 12 03.4	-0.9
SNTG	**Esanatoglia**	**0.41**	**326**	P	Pg	12 11 57.0	+0.3
SNTG				S	Sb	12 12 03.6	-0.9
SNTG				AML	AML		
	comp=N,278μm,0.6s						
SNTG				AML	AML		
	comp=E,222μm,0.6s						
RM33	**Pellescritta (**	**0.41**	**184**	P	Pg	12 11 57.2	+0.5
RM33				S	Sb	12 12 04.2	-0.4
EL6	**Elcito**	**0.43**	**345**	P	Pg	12 11 57.4	+0.4
EL6				S	Sb	12 12 04.6	-0.5
ASSB	**Assisi San Ben**	**0.46**	**286**	⇑P	Pg	12 11 57.9	+0.3
ASSB				S	Sb	12 12 05.1	-0.7
ASSB				AML	AML		
	comp=E,430μm,1.6s						
ASSB				AML	AML		
	comp=N,624μm,0.2s						
ARRO	**Arrone**	**0.49**	**227**	⇑P	Pg	12 11 56.7	-1.5
ARRO				AML	AML		
	comp=E,119μm,0.8s						
ARRO				AML	AML		
	comp=N,91μm,1.6s						
ARRO				AML	AML		
	comp=E,120μm,0.8s						
ARRO				AML	AML		
	comp=N,90μm,1.6s						
FOSV	**Fossato di Vic**	**0.52**	**316**	P	Pg	12 11 59.2	+0.4
FOSV				S	Sb	12 12 07.3	-0.4
FOSV				AML	AML		
	comp=E,202μm,0.4s						
FOSV				AML	AML		
	comp=N,231μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.52**	**301**	P	Pg	12 11 59.3	+0.5
ATCC				S	Sb	12 12 07.8	-0.1
ATCC				AML	AML		
	comp=E,387μm,0.6s						
ATCC				AML	AML		
	comp=N,357μm,0.2s						
ATCC				AML	AML		
	comp=E,386μm,0.6s						
SSFR	**Montelago di S**	**0.62**	**326**	P	Pg	12 12 00.9	+0.2
SSFR				S	Sb	12 12 11.2	+0.5
SSFR				AML	AML		
	comp=E,450μm,0.2s						
SSFR				AML	AML		
	comp=N,348μm,0.2s						
ARVD	**Arcevia**	**0.62**	**339**	S	Sb	12 12 12.0	+1.3
ATFO	**Monte Foce - G**	**0.67**	**312**	P	Pg	12 12 01.9	+0.2
ATFO				S	Sb	12 12 12.7	+0.5
ATFO				AML	AML		
	comp=N,88μm,0.8s						
ATFO				AML	AML		
	comp=N,88μm,0.8s						
ATFO				AML	AML		
	comp=E,113μm,1.0s						
ATVO	**AVT- Monte Val**	**0.78**	**307**	P	Pg	12 12 03.5	0.0
ATVO				S	Sb	12 12 15.7	+0.6
ATVO				AML	AML		
	comp=N,51μm,0.4s						
ATVO				AML	AML		
	comp=E,65μm,1.6s						
MGAB	**Montegabbione**	**0.84**	**270**	⇑P	Pn	12 12 07.6	+0.9
NARO	**Abbazia di Nar**	**0.85**	**325**	S	Sn	12 12 19.0	-0.5
ASQU	**Asqua**	**1.38**	**310**	P	Pg	12 12 16.4	+1.2
MSAG	**Monte S. Angel**	**2.31**	**121**	⇓P	Pn	12 12 27.4	+0.5

*IDC **03** 12:13:46.6±1.9,2.43N×127.00E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=147.5km s-min=24.6km az=65.0*
*DJA **03** 12:13:52.7±1.3,2.N±4.×12.7E±.,h11km±13km,M3.9/12, mb4.3/3,MLv3.7/12*
*NEIC **03** 12:13:56.0±2.4,2.31N±0.09×127.1E±0.1,h62km±7km, mb4.0/12,Error ellipse: s-maj=23.1km s-min=9.7km az=65.0*
ISC 03 12:13:54.3±0.9,2.45N±0.09×127.1E±0.1,h53km,n29, σ1.9,35/29,mb3.9/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.68**	**172**		**Pn**	**12 14 21.6**	**+0.3**
TNTI	**Ternate**	**1.68**	**172**	P	**Pn**	**12 14 22.4**	**+1.0**
SGSI	**Sangihe**	**2.02**	**307**	P	**Pn**	**12 14 24.9**	**-1.1**
LBMI	**Labuha**	**3.09**	**173**	P	**Pn**	**12 14 42.4**	**+1.8**
KMSI	**Cibinong**	**3.67**	**240**	P	**Pn**	**12 14 48.7**	**+0.2**
GTOI	**Gorontalo**	**4.50**	**246**	P	**Pn**	**12 14 59.8**	**-0.2**
SANI	**Sanana**	**4.62**	**194**	P	**Pn**	**12 15 02.2**	**+0.6**
MRSI	**Marisa**	**5.55**	**249**	P	**Pn**	**12 15 15.1**	**+0.7**
	0.1nm24nm,1.0s						
LUWI	**Luwuk**	**5.58**	**232**	P	**Pn**	**12 15 14.6**	**-0.2**
	0.3nm88nm,0.9s						
APSI	**Ampana**	**6.42**	**239**	P	**Pn**	**12 15 26.6**	**+0.2**
FAKI	**Fak Fak**	**7.38**	**136**	Pn	**Pn**	**12 15 42.4**	**+2.8**
MYLDM	**Lahad Datu**	**9.04**	**288**	Pn	**Pn**	**12 16 04.6**	**+2.4**
SBUM	**Sibu**	**14.90**	**270**	P	**P**	**12 17 26.4**	**-0.2**
MTN	**Manton Dam**	**15.70**	**165**	Pn	**Pn**	**12 17 30.7**	**-1.5**
MTN				IAmb	IAmb	12 17 45.0	
	comp=Z,9.4nm,1.2s						
KNRA	**Kununurra**	**18.08**	**175**	P	**P**	**12 18 00.6**	**-1.1**
KNRA				IAmb	IAmb	12 18 11.1	
	comp=Z,4.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.47**	**184**	P	**P**	**12 18 28.3**	**+0.5**
WB0	**Warramunga Arr**	**23.20**	**162**	P	**P**	**12 18 55.2**	**-1.6**
WB0				IAmb	IAmb	12 19 01.9	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**23.35**	**163**	P	**P**	**12 18 56.8**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=342,slow=11,SNR=26						
	comp=Z,0.7nm,0.4s						
WRA	**Warramunga Arr**	**23.35**	**163**	P	**P**	**12 18 55.8**	**-2.4**
WB2	**Warramunga Arr**	**23.35**	**163**	P	**P**	**12 18 56.9**	**-1.3**
WR0	**Warramunga Arr**	**23.43**	**162**	P	**P**	**12 18 57.4**	**-1.5**
WR0				IAmb	IAmb	12 19 20.1	
	comp=Z,3.8nm,1.1s						
ASAR	**Alice Springs**	**26.78**	**166**	P	**P**	**12 19 28.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=341,slow=8.5,SNR=8.1						
	comp=Z,0.3nm,0.3s						
FORT	**Forrest**	**33.05**	**179**	P	**P**	**12 20 24.6**	**-0.3**
EIDS	**Eidsvold**	**36.10**	**141**	P	**P**	**12 20 52.5**	**+1.2**
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**12 20 56.4**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=333,slow=6.4,SNR=5.4						
	comp=Z,2.2nm,0.7s						
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**12 20 56.0**	**-1.1**
STKA				IAmb	IAmb	12 21 17.5	
	comp=Z,1.6nm,1.2s						
MKAR	**Makanchi Array**	**58.83**	**326**	P	**P**	**12 23 46.6**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=118,slow=7.3,SNR=5.0						
	comp=Z,0.7nm,0.4s						
MAKZ	**Makanchi**	**59.02**	**325**	P	**P**	**12 23 50.8**	**+2.1**
KURK	**Kurchatov**	**63.03**	**328**	P	**P**	**12 24 15.6**	**-0.2**
KURK				IAmb	IAmb	12 24 58.9	
	comp=Z,11nm,1.3s						

ROM 03 12:19:42.1±0.1,42.864N±0.003×13.214E±0.006, h8km,ML2.7/34,15C-17D,Error ellipse: s-maj=0.5km s-min=0.2km az=258.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**191**	P	Pg	12 19 43.8	-0.1
T1242				S	Sg	12 19 44.8	-0.3
T1242				AML	AML		
	comp=E,23200μm,0.7s						
T1242				AML	AML		
	comp=N,32500μm,0.2s						
T1242				AML	AML		
	comp=E,23350μm,0.7s						
T1242				AML	AML		
	comp=E,23150μm,0.7s						
T1242				AML	AML		
	comp=N,32500μm,0.2s						
T1242				AML	AML		
	comp=N,32500μm,0.2s						
T1242	**Castelluccio d**	**0.04**	**191**	⇑P	Pg	12 19 43.9	0.0
T1242				S	Sg	12 19 44.8	-0.3
T1242				AML	AML		
	comp=E,23200μm,0.7s						
T1242				AML	AML		
	comp=N,32500μm,0.2s						
T1242				AML	AML		
	comp=E,23200μm,0.7s						
T1242				AML	AML		
	comp=N,32500μm,0.2s						
T1242				AML	AML		
	comp=E,23350μm,0.7s						
T1242				AML	AML		
	comp=N,32500μm,0.2s						
MC2	**Monte Cornacci**	**0.05**	**340**	P	Pg	12 19 43.9	-0.2
NRCA	**Norcia**	**0.08**	**247**	P	Pg	12 19 44.6	+0.4
NRCA				S	Sg	12 19 46.5	+0.7
NRCA				AML	AML		
	comp=E,12850μm,0.5s						
NRCA				AML	AML		
	comp=N,7930μm,1.2s						
NRCA				AML	AML		
	comp=N,8745μm,1.2s						
NRCA				AML	AML		
	comp=E,12800μm,0.5s						
NRCA				AML	AML		
	comp=N,7930μm,1.2s						
NRCA				AML	AML		
	comp=N,7955μm,1.2s						
NRCA				AML	AML		
	comp=E,13600μm,0.5s						
NRCA	**Norcia**	**0.08**	**247**	⇓P	Pg	12 19 44.7	+0.4
NRCA				S	Sg	12 19 46.4	+0.5
NRCA				AML	AML		
	comp=E,12850μm,0.5s						
NRCA				AML	AML		
	comp=N,7930μm,1.2s						
NRCA				AML	AML		
	comp=N,8745μm,1.2s						
NRCA				AML	AML		
	comp=N,7910μm,1.2s						
NRCA				AML	AML		
	comp=N,7930μm,1.2s						
NRCA				AML	AML		
	comp=E,13600μm,0.5s						
NRCA				AML	AML		
	comp=E,12800μm,0.5s						
NRCA				AML	AML		
	comp=N,7955μm,1.2s						
T1244	**Arquata del Tr**	**0.12**	**150**	P	Pg	12 19 45.5	+0.6
T1244				AML	AML		
	comp=E,10520μm,1.1s						

T1244 AML AML
comp=N,15000µm,0.3s
T1244 AML AML
comp=E,10420µm,1.1s
T1244 AML AML
comp=E,10525µm,1.1s
T1244 AML AML
comp=E,10435µm,1.1s
T1244 AML AML
comp=N,14950µm,0.3s
T1244 AML AML
comp=E,13825µm,0.2s
T1244 AML AML
comp=E,14000µm,0.2s
T1244 AML AML
comp=E,13830µm,0.2s
T1244 AML AML
comp=N,14850µm,0.3s
FEMA Monte Fema 0.15 309 P Pg 12 19 46.1 +0.6
FEMA AML AML
comp=E,9295µm,0.5s
FEMA AML AML
comp=N,6660µm,0.6s
FEMA AML AML
comp=E,9295µm,0.5s
FEMA AML AML
comp=N,6660µm,0.6s
T1202 Accumoli, Fraz 0.16 177 ⇓P Pg 12 19 46.4 +0.8
T1202 S Sg 12 19 49.6 +1.7
T1202 AML AML
comp=E,16850µm,0.2s
T1202 AML AML
comp=N,36450µm,0.8s
T1202 AML AML
comp=E,16800µm,0.2s
T1202 AML AML
comp=N,36500µm,0.8s
FDMO Fiordimonte 0.20 332 P Pg 12 19 46.5 +0.4
FDMO S Sg 12 19 50.0 +1.1
FDMO AML AML
comp=E,3430µm,0.2s
FDMO AML AML
comp=N,4475µm,0.2s
FDMO Fiordimonte 0.20 332 ⇓P Pg 12 19 46.6 +0.4
FDMO S Sg 12 19 50.2 +1.3
FDMO AML AML
comp=E,3430µm,0.2s
FDMO AML AML
comp=N,4475µm,0.2s
T1204 Amatrice, Fraz 0.20 158 P Pg 12 19 46.9 +0.6
T1204 S Sg 12 19 50.7 +1.5
T1204 AML AML
comp=N,2500µm,0.3s
T1204 AML AML
comp=E,4120µm,0.2s
T1204 AML AML
comp=N,2498µm,0.3s
T1204 AML AML
comp=E,4125µm,0.2s
T1204 Amatrice, Fraz 0.20 158 ⇑P Pg 12 19 47.0 +0.7
T1204 AML AML
comp=E,4125µm,0.2s
T1204 AML AML
comp=N,2500µm,0.3s
T1204 AML AML
comp=E,4120µm,0.2s
T1204 AML AML
comp=N,2498µm,0.3s
T1201 Domo (RI) 0.21 173 P Pg 12 19 47.2 +0.9
GUMA Gualdo di Mace 0.22 24 P Pg 12 19 47.2 +0.7
GUMA S Sg 12 19 51.2 +1.7
GUMA AML AML
comp=E,45150µm,0.6s
GUMA AML AML
comp=E,40400µm,0.4s
GUMA AML AML
comp=N,32600µm,0.6s
GUMA AML AML
comp=N,46800µm,0.6s
CSP1 Cessapalombo 0.23 358 P Pg 12 19 47.0 +0.3
CSP1 S Sg 12 19 51.0 +1.1
CSP1 AML AML
comp=E,4055µm,0.7s
CSP1 AML AML
comp=N,4775µm,1.0s
CSP1 AML AML
comp=E,4060µm,0.7s
CSP1 Cessapalombo 0.23 358 ⇑P Pg 12 19 47.0 +0.3
CSP1 S Sg 12 19 51.2 +1.3
CSP1 AML AML
comp=N,4770µm,1.0s
CSP1 AML AML
comp=E,4055µm,0.7s
CSP1 AML AML
comp=N,4775µm,1.0s
CSP1 AML AML
comp=E,4060µm,0.7s
T1243 Rocca Santa Ma 0.24 134 P Pg 12 19 47.3 +0.3
T1243 Rocca Santa Ma 0.24 134 P Pg 12 19 47.4 +0.4
SMA1 SAN MARTINO 0.25 159 ⇓P Pg 12 19 47.6 +0.5
SMA1 S Sb 12 19 52.1 -1.4
SMA1 AML AML
comp=E,3285µm,0.6s
SMA1 AML AML
comp=N,1815µm,0.4s
SMA1 AML AML
comp=E,3290µm,0.6s
SMA1 AML AML
comp=N,2155µm,0.6s
SMA1 SAN MARTINO 0.25 159 AML AML
comp=E,3285µm,0.6s
SMA1 AML AML
comp=N,1810µm,0.4s
SMA1 AML AML
comp=E,3290µm,0.6s
T1215 Vallo di Nera, 0.26 256 P Pg 12 19 47.9 +0.6
T1215 AML AML
comp=E,1060µm,0.5s
T1215 AML AML
comp=N,1100µm,0.3s
T1215 AML AML
comp=N,1079µm,0.1s
T1215 AML AML
comp=E,1060µm,0.5s
T1215 AML AML
comp=N,1099µm,0.3s
T1215 AML AML
comp=E,1160µm,1.2s
T1215 Vallo di Nera, 0.26 256 ⇑P Pg 12 19 48.0 +0.7
T1215 S Sb 12 19 52.8 -1.0
T1215 AML AML
comp=E,1060µm,0.5s
T1215 AML AML
comp=N,1100µm,0.3s
T1215 AML AML
comp=E,1060µm,0.5s
T1215 AML AML
comp=N,1099µm,0.3s
CESI CESI - Serrava 0.27 302 P Pg 12 19 48.0 +0.5
CESI S Sb 12 19 53.0 -1.0
CESI AML AML
comp=E,3475µm,0.6s
CESI AML AML
comp=N,5560µm,0.2s
CESI CESI - Serrava 0.27 302 ⇑P Pg 12 19 48.1 +0.6
CESI AML AML
comp=E,3475µm,0.6s
CESI AML AML
comp=N,5560µm,0.2s
LNSS Leonessa 0.29 206 P Pg 12 19 48.7 +0.8
LNSS S Sb 12 19 53.9 -0.7
LNSS AML AML
comp=E,5900µm,0.8s
LNSS AML AML
comp=N,5240µm,0.7s
LNSS Leonessa 0.29 206 ⇓P Pg 12 19 48.7 +0.8
LNSS S Sb 12 19 53.9 -0.8
LNSS AML AML
comp=N,5240µm,0.7s
LNSS AML AML
comp=E,5900µm,0.8s
MNTP Montappone 0.33 34 ⇑P Pb 12 19 49.8 -0.5
MNTP S Sb 12 19 55.9 +0.2
MNTP AML AML
comp=N,4210µm,0.4s
MNTP AML AML
comp=E,5200µm,0.3s
MNTP AML AML
comp=N,4205µm,0.4s
OFFI Offida 0.35 78 P Pb 12 19 50.1 -0.5
OFFI S Sb 12 19 57.5 +1.1
OFFI Offida 0.35 78 ⇓P Pb 12 19 50.4 -0.2
OFFI AML AML
comp=N,4305µm,0.7s
OFFI AML AML
comp=E,3970µm,0.5s
RM33 Pellescritta (0.35 180 P Pg 12 19 49.7 +0.6
RM33 AML AML
comp=E,1635µm,1.4s
RM33 AML AML
comp=N,1294µm,1.0s
RM33 AML AML
comp=N,1295µm,1.0s
RM33 AML AML
comp=E,1565µm,1.4s
RM33 AML AML
comp=N,1200µm,1.0s
RM33 AML AML
comp=N,1195µm,1.0s
RM33 AML AML
comp=N,1295µm,1.0s
RM33 AML AML
comp=E,1570µm,1.4s
RM33 Pellescritta (0.35 180 ⇓P Pg 12 19 49.7 +0.6
RM33 S Sb 12 19 56.0 -0.5
RM33 AML AML
comp=E,1630µm,1.4s
RM33 AML AML
comp=N,1294µm,1.0s
RM33 AML AML
comp=N,1195µm,1.0s
RM33 AML AML
comp=E,1635µm,1.4s
RM33 AML AML
comp=N,1290µm,1.0s
RM33 AML AML
comp=E,1635µm,1.4s
RM33 AML AML
comp=N,1295µm,1.0s
RM33 AML AML
comp=E,1565µm,1.4s
RM33 AML AML
comp=N,1200µm,1.0s
RM33 AML AML
comp=E,1570µm,1.4s
RM33 AML AML
comp=N,1295µm,1.0s
CAMP Campotosto 0.36 156 P Pg 12 19 49.4 +0.2
CAMP S Sb 12 19 55.4 -1.2
CAMP AML AML
comp=N,852µm,0.8s
CAMP AML AML
comp=E,1008µm,0.2s
CAMP Campotosto 0.36 156 ⇓P Pg 12 19 49.4 +0.3
CAMP S Sb 12 19 55.4 -1.2
CAMP AML AML
comp=N,852µm,0.8s
CAMP AML AML
comp=E,1008µm,0.2s
TERO Teramo 0.38 130 P Pg 12 19 49.6 +0.1
TERO S Sb 12 19 55.9 -1.1
TERO Teramo 0.38 130 P Pg 12 19 49.7 +0.2
TERO S Sb 12 19 56.2 -0.8
TERO AML AML
comp=E,1460µm,0.2s
TERO AML AML
comp=N,2650µm,0.4s
TERO AML AML
comp=E,1595µm,0.2s
TERO AML AML
comp=N,2875µm,0.4s
ARRO Arrone 0.44 229 ⇓P Pg 12 19 51.2 +0.6
ARRO AML AML
comp=E,482µm,1.2s
ARRO AML AML
comp=N,518µm,0.8s
ARRO AML AML
comp=E,483µm,1.2s
ARRO AML AML
comp=N,518µm,0.8s
SNTG Esanatoglia 0.44 333 ⇓P Pg 12 19 51.0 +0.3
SNTG AML AML
comp=E,876µm,0.8s
SNTG AML AML
comp=N,1315µm,1.1s
ASSB Assisi San Ben 0.45 294 P Pg 12 19 51.1 +0.3
ASSB S Sb 12 19 58.6 -0.5
ASSB AML AML
comp=N,1350µm,1.6s
ASSB AML AML
comp=E,1215µm,0.8s
ASSB Assisi San Ben 0.45 294 ⇑P Pg 12 19 51.2 +0.4
ASSB AML AML
comp=N,1350µm,1.6s
ASSB AML AML
comp=E,1215µm,0.8s
EL6 Elcito 0.47 350 S Sg 12 19 49.0 -8.5
EL6 AML AML
comp=E,2690µm,0.7s
EL6 AML AML
comp=N,2440µm,0.2s
GIGS Gran Sasso 0.49 148 ⇓P Pg 12 19 51.8 +0.2
GIGS S Sb 12 19 59.7 -0.7
GIGS AML AML
comp=E,154µm,1.1s
GIGS AML AML
comp=N,144µm,1.4s
CING Cingoli 0.51 358 ⇓P Pg 12 19 50.8 -1.3
CING AML AML
comp=E,902µm,0.7s
CING AML AML
comp=N,850µm,0.2s
ATCC AVT- Casa Cast 0.53 307 ⇓P Pg 12 19 52.9 +0.5
ATCC AML AML
comp=E,1135µm,0.7s
ATCC AML AML
comp=N,1415µm,0.9s
ATCC AML AML
comp=E,1130µm,0.7s
CESX Cesi 0.53 242 ⇑P Pb 12 19 53.1 -0.5
CESX AML AML
comp=N,359µm,1.6s
CESX AML AML
comp=E,490µm,0.8s
FOSV Fossato di Vic 0.54 323 ⇑P Pg 12 19 53.1 +0.5
FOSV AML AML
comp=N,2070µm,0.4s
FOSV AML AML
comp=N,2075µm,0.4s
FOSV AML AML
comp=E,1570µm,0.5s
FIAM Fiamignano 0.60 187 P Pg 12 19 53.8 +0.1
FIAM S Sb 12 20 03.1 -0.4
FIAM AML AML
comp=N,392µm,1.5s
FIAM AML AML
comp=E,504µm,0.7s
FIAM Fiamignano 0.60 187 ⇑P Pg 12 19 53.8 +0.1
FIAM AML AML
comp=E,504µm,0.7s
FIAM AML AML
comp=N,392µm,1.5s
SSFR Montelago di S 0.65 331 ⇑P Pb 12 19 55.6 -0.2
SSFR AML AML
comp=E,1885µm,0.7s
SSFR AML AML
comp=N,1530µm,0.2s
SSFR AML AML
comp=E,1945µm,0.2s
SSFR AML AML
comp=N,1655µm,0.2s
FAGN Fagnano 0.66 155 S Sn 12 20 07.0 -1.3
VCEL Villa Celiera 0.66 135 ⇑P Pg 12 19 55.3 +0.5
VCEL AML AML
comp=N,630µm,1.1s
VCEL AML AML
comp=E,633µm,0.6s
ARVD Arcevia 0.66 343 ⇓P Pg 12 19 54.5 -0.4
ARVD S Sn 12 20 07.0 -1.5
ARVD AML AML
comp=N,344µm,0.7s
ARVD AML AML
comp=E,626µm,1.5s
ATFO Monte Foce - G 0.69 317 P Pg 12 19 55.6 +0.2
ATFO AML AML
comp=E,575µm,0.9s
ATFO AML AML
comp=N,526µm,0.5s
FRON Frontone 0.74 332 P Pg 12 19 56.4 -0.1
FRON AML AML
comp=E,626µm,0.4s
FRON AML AML
comp=E,626µm,0.4s
FRON AML AML
comp=N,930µm,0.3s
T0110 Collepietro 0.76 147 ⇓P Pg 12 19 56.5 -0.3
T0110 AML AML
comp=N,634µm,0.5s
T0110 AML AML
comp=E,464µm,0.7s
T0110 AML AML
comp=N,635µm,0.5s
ATVO AVT- Monte Val 0.79 311 ⇓P Pg 12 19 57.2 0.0
ATVO AML AML
comp=N,310µm,1.1s
ATVO AML AML
comp=E,317µm,1.4s
MGAB Montegabbione 0.81 274 ⇑P Pb 12 19 58.9 +0.5
MGAB AML AML
comp=E,463µm,0.8s
MGAB AML AML
comp=N,698µm,0.6s
FSSB Fossombrone 0.89 339 ⇑P Pg 12 19 59.2 0.0
FSSB AML AML
comp=E,1096µm,0.3s
FSSB AML AML
comp=N,1535µm,0.4s
SACS San Casciano d 0.96 270 ⇑P Pn 12 20 02.3 +0.4
SACS AML AML
comp=E,170µm,0.7s
SACS AML AML
comp=N,194µm,1.5s
BRSN Barisano 1.64 330 ⇓P Pg 12 20 15.2 +1.6
APRC Apricena 2.05 122 P Pg 12 20 22.4 +1.0

ROM 03 12:20:32.5±0.1, 42°.735N±0°.003×13°.189E±0°.005, h10km, ML2.6/16, 16C-10D, Error ellipse: s-maj=0.4km s-min=0.2km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.04**	**140**	P	Pg	12 20 34.7	0.0
T1202				S	Sg	12 20 35.9	-0.3
T1202				AML	AML		
	comp=N,36500µm,0.8s						
T1202				AML	AML		
	comp=E,16850µm,0.2s						
T1202				AML	AML		
	comp=N,36450µm,0.8s						
T1202				AML	AML		
	comp=E,16800µm,0.2s						
T1244	**Arquata del Tr**	**0.08**	**75**	⇑P	Pg	12 20 35.6	+0.5
T1244				S	Sg	12 20 37.4	+0.5
T1244				AML	AML		
	comp=N,9000µm,0.3s						
T1244				AML	AML		
	comp=E,13850µm,0.2s						
T1244				AML	AML		
	comp=N,9030µm,0.2s						
T1244				AML	AML		
	comp=E,13820µm,0.2s						
T1244				AML	AML		
	comp=E,14000µm,0.2s						
T1244				AML	AML		
	comp=E,13825µm,0.2s						
T1244				AML	AML		
	comp=N,9010µm,0.2s						
T1244				AML	AML		
	comp=N,9015µm,0.3s						
T1244				AML	AML		
	comp=E,13830µm,0.2s						
T1201	**Domo (RI)**	**0.09**	**150**	⇓P	Pg	12 20 35.7	+0.6
T1201				S	Sg	12 20 37.7	+0.7
T1242	**Castelluccio d**	**0.10**	**7**	P	Pg	12 20 35.6	+0.3
T1242				S	Sg	12 20 37.5	+0.2
T1242				AML	AML		
	comp=E,6355µm,1.4s						
T1242				AML	AML		
	comp=N,7620µm,0.3s						
T1242				AML	AML		
	comp=N,7615µm,0.3s						
T1242				AML	AML		
	comp=E,6385µm,1.4s						
T1242				AML	AML		
	comp=E,6360µm,1.4s						
T1242				AML	AML		
	comp=N,7705µm,0.3s						
T1204	**Amatrice, Fraz**	**0.11**	**122**	P	Pg	12 20 36.0	+0.5
T1204				S	Sg	12 20 38.3	+0.7
NRCA	**Norcia**	**0.11**	**331**	⇑P	Pg	12 20 35.7	+0.3
NRCA				S	Sg	12 20 37.6	0.0
NRCA				AML	AML		
	comp=E,6175µm,0.1s						
NRCA				AML	AML		
	comp=N,6675µm,0.1s						
NRCA				AML	AML		
	comp=E,6995µm,0.1s						
NRCA				AML	AML		
	comp=E,6170µm,0.1s						
NRCA				AML	AML		
	comp=N,7255µm,0.1s						
NRCA				AML	AML		
	comp=N,6670µm,0.1s						
SMA1	**SAN MARTINO**	**0.15**	**134**	⇑P	Pg	12 20 36.6	+0.6
SMA1				AML	AML		
	comp=N,2150µm,0.6s						
SMA1				AML	AML		
	comp=N,2155µm,0.6s						
SMA1				AML	AML		
	comp=E,2040µm,1.4s						
LNSS	**Leonessa**	**0.17**	**220**	⇑P	Pg	12 20 37.0	+0.6
LNSS				S	Sg	12 20 40.1	+1.1
LNSS				AML	AML		
	comp=E,5235µm,0.6s						
LNSS				AML	AML		
	comp=N,2915µm,0.6s						
LNSS				AML	AML		
	comp=E,5240µm,0.6s						
MC2	**Monte Cornacci**	**0.18**	**0**	P	Pg	12 20 37.0	+0.5
MC2				S	Sg	12 20 40.7	+1.4
T1243	**Rocca Santa Ma**	**0.20**	**101**	⇑P	Pg	12 20 37.2	+0.5
T1243				S	Sg	12 20 40.5	+0.9
T1241	**Roccafluvione,**	**0.21**	**56**	⇑P	Pg	12 20 37.7	+0.6
T1241				S	Sg	12 20 41.5	+1.3
T1241				AML	AML		
	comp=E,2925µm,0.2s						
T1241				AML	AML		
	comp=N,1935µm,1.6s						
T1241				AML	AML		
	comp=E,2840µm,0.2s						
T1241				AML	AML		
	comp=N,1925µm,1.6s						
RM33	**Pellescritta (**	**0.23**	**175**	⇑P	Pg	12 20 37.8	+0.5
RM33				S	Sg	12 20 41.7	+1.2
RM33				AML	AML		
	comp=E,1010µm,0.9s						
RM33				AML	AML		
	comp=N,933µm,1.0s						
RM33				AML	AML		
	comp=E,1009µm,0.9s						
RM33				AML	AML		
	comp=N,932µm,1.0s						
T1215	**Vallo di Nera,**	**0.24**	**286**	⇑P	Pg	12 20 38.1	+0.5
CAMP	**Campotosto**	**0.26**	**141**	P	Pg	12 20 38.5	+0.6
CAMP				S	Sg	12 20 42.5	+1.1
FDMO	**Fiordimonte**	**0.31**	**346**	P	Pg	12 20 39.4	+0.6
FDMO				S	Sb	12 20 44.4	-0.9
FDMO				AML	AML		
	comp=N,490µm,0.2s						
FDMO				AML	AML		
	comp=E,430µm,0.8s						
TERO	**Teramo**	**0.33**	**110**	⇑P	Pg	12 20 39.4	+0.3
TERO				AML	AML		
	comp=E,1130µm,0.1s						
TERO				AML	AML		
	comp=N,2060µm,0.5s						
CESI	**CESI - Serrava**	**0.34**	**322**	P	Pg	12 20 39.8	+0.5
CESI				S	Sb	12 20 45.3	-0.9

CESI				AML	AML			
	comp=E,688μm,0.5s							
CESI				AML	AML			
	comp=E,688μm,0.5s							
CESI				AML	AML			
	comp=N,815μm,0.2s							
GUMA	**Gualdo di Mace**	**0.34**	**18**	⇓P	Pb	12 20 40.4	-0.4	
GUMA				AML	AML			
	comp=E,4515μm,0.3s							
GUMA				AML	AML			
	comp=N,4225μm,0.2s							
GUMA				AML	AML			
	comp=E,4520μm,0.3s							
GUMA				AML	AML			
	comp=E,6525μm,0.2s							
GUMA				AML	AML			
	comp=N,4125μm,0.7s							
ARRO	**Arrone**	**0.35**	**244**	P	Pg	12 20 39.8	+0.3	
ARRO				AML	AML			
	comp=E,482μm,0.2s							
ARRO				AML	AML			
	comp=N,494μm,0.4s							
CSP1	**Cessapalombo**	**0.36**	**2**	⇑P	Pg	12 20 40.1	+0.5	
GIGS	**Gran Sasso**	**0.40**	**135**	⇑P	Pg	12 20 40.8	+0.4	
GIGS				S	Sb	12 20 46.9	-1.0	
OFFI	**Offida**	**0.42**	**61**	⇑P	Pb	12 20 42.1	+0.1	
MNTP	**Montappone**	**0.45**	**27**	⇓P	Pb	12 20 42.6	0.0	
CESX	**Cesi**	**0.47**	**255**	⇓P	Pg	12 20 42.0	+0.3	
CESX				AML	AML			
	comp=N,348μm,0.3s							
CESX				AML	AML			
	comp=E,402μm,0.6s							
FIAM	**Fiamignano**	**0.47**	**187**	⇓P	Pg	12 20 42.3	+0.6	
ASSB	**Assisi San Ben**	**0.50**	**308**	⇓P	Pg	12 20 42.5	+0.3	
ASSB				AML	AML			
	comp=E,733μm,0.2s							
ASSB				AML	AML			
	comp=N,504μm,0.4s							
VCEL	**Villa Celiera**	**0.59**	**125**	⇑P	Pb	12 20 44.7	-0.2	
ATCC	**AVT- Casa Cast**	**0.60**	**318**	⇓P	Pg	12 20 44.6	+0.3	
ATCC				S	Sb	12 20 55.0	+1.2	
CING	**Cingoli**	**0.64**	**0**	⇑P	Pg	12 20 45.3	+0.4	
T0110	**Collepietro**	**0.67**	**139**	⇓P	Pb	12 20 46.3	-0.1	
SSFR	**Montelago di S**	**0.76**	**337**	⇑P	Pb	12 20 48.1	+0.2	
ATTE	**AVT- Monte Tez**	**0.77**	**307**	S	Sn	12 20 60.0	-1.1	
ARVD	**Arcevia**	**0.78**	**347**	⇓P	Pb	12 20 48.0	-0.2	
ARVD				S	Sn	12 21 01.0	-0.4	
MGAB	**Montegabbione**	**0.81**	**283**	⇓P	Pn	12 20 51.0	+0.9	
FSSB	**Fossombrone**	**1.00**	**343**	⇑P	Pb	12 20 52.0	+0.1	
PTRJ	**Pietraroja**	**1.69**	**143**	S	Sb	12 21 25.0	-0.2	

*NOU **03** 12:24:48.2,37°.51S×179°.34E,h126km,mb3.9/8,Off E. Coast of N. Island, N.Z.*
*WEL **03** 12:24:49.5±1.3,37°.5S±5°×17°.9E±°,h15km±5km,M3.5/89, ML3.6/66,MLv3.5/89,Error ellipse: s-maj=0.0km s-min=0.0km az=72.2*

ISC 03 12:24:48.8±2.7,**37°.42S**±0°.08×**179°.1E**±0°.1,**h13**km±11km, **n96**,σ1°**02**/103,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.67**	**258**	P		**Pg**	**12 25 02.0**	**+0.1**
MXZ				S		**Sg**	**12 25 08.9**	**-1.9**
WMGZ	**Waiomatatini S**	**0.69**	**235**	P		**Pn**	**12 25 04.9**	**+0.6**
WMGZ				S		**Sn**	**12 25 14.6**	**-0.2**
PUZ	**Puketiti**	**0.95**	**227**	P		**Pn**	**12 25 08.6**	**+0.9**
PUZ				S		**Sn**	**12 25 21.3**	**+0.1**
PKGZ	**Pakihiroa**	**0.96**	**241**	P		**Pn**	**12 25 08.1**	**+0.1**
PKGZ				S		**Sb**	**12 25 19.8**	**0.0**
HAZ	**Te Kaha**	**1.12**	**252**	P		**Pn**	**12 25 10.3**	**+0.2**
HAZ				S		**Sb**	**12 25 23.9**	**-0.6**
TWGZ	**Tauwhareparae**	**1.18**	**230**	P		**Pg**	**12 25 12.0**	**+0.4**
TWGZ				S		**Sg**	**12 25 27.5**	**+0.5**
RUGZ	**Raukumara Rang**	**1.27**	**245**	P		**Pb**	**12 25 13.0**	**+0.3**
RUGZ				S		**Sn**	**12 25 29.5**	**+0.1**
CNGZ	**Carnagh Statio**	**1.29**	**214**	P		**Pg**	**12 25 14.4**	**+0.9**
TKGZ	**Te Karaka**	**1.44**	**225**	P		**Pn**	**12 25 15.1**	**+0.7**
MWZ	**Matawai**	**1.56**	**234**	P		**Pn**	**12 25 16.7**	**+0.5**
RAGZ	**Rawiri**	**1.73**	**231**	P		**Pn**	**12 25 19.2**	**+0.6**
WHRZ	**Whale Island**	**1.77**	**255**	P		**Pn**	**12 25 19.6**	**+0.6**
PRGZ	**Paritu Road**	**1.79**	**213**	P		**Pn**	**12 25 20.3**	**+0.9**
URZ	**Urewera**	**1.81**	**242**	P		**Pn**	**12 25 20.4**	**+0.9**
URZ	**Urewera**	**1.81**	**242**	P		**Pn**	**12 25 20.5**	**+1.0**
SNGZ	**Shannon Statio**	**1.96**	**226**	P		**Pn**	**12 25 22.0**	**+0.3**
KNZ	**Kokohu**	**1.97**	**215**	P		**Pn**	**12 25 21.8**	**+0.1**
MHGZ	**Mahia Peninsul**	**1.98**	**209**	P		**Pn**	**12 25 22.8**	**+0.9**
EDRZ	**Edgecumbe**	**2.02**	**250**	P		**Pn**	**12 25 22.9**	**+0.4**
MARZ	**Manawahe**	**2.03**	**253**	P		**Pn**	**12 25 22.6**	**0.0**
RTZ	**Ruatahuna**	**2.08**	**234**	P		**Pn**	**12 25 24.1**	**+0.8**
OPRZ	**Ohinepanea**	**2.09**	**258**	P		**Pn**	**12 25 23.1**	**-0.4**
MUGZ	**Murupara**	**2.14**	**240**	P		**Pn**	**12 25 24.5**	**+0.4**
RAHZ	**Arahi**	**2.20**	**227**	P		**Pn**	**12 25 25.6**	**+0.7**
WHTZ	**Waihua**	**2.23**	**228**	P		**Pn**	**12 25 28.8**	**+0.5**
TARZ	**Mount Tarawera**	**2.23**	**248**	P		**Pn**	**12 25 26.4**	**+0.9**
RRRZ	**Republican Roa**	**2.26**	**245**	P		**Pn**	**12 25 26.6**	**+0.7**
OMRZ	**Omania**	**2.29**	**252**	P		**Pn**	**12 25 27.0**	**+0.7**
MTHZ	**Maungataniwha**	**2.30**	**231**	P		**Pn**	**12 25 27.2**	**+0.8**
TGRZ	**Tauranga**	**2.30**	**262**	P		**Pn**	**12 25 26.1**	**-0.2**
HLRZ	**Highlands Stat**	**2.35**	**249**	P		**Pn**	**12 25 27.6**	**+0.5**
KARZ	**Kaharoa**	**2.37**	**255**	P		**Pn**	**12 25 27.3**	**+0.1**
PRRZ	**Plateau Road**	**2.42**	**243**	P		**Pn**	**12 25 28.3**	**+0.4**
NMHZ	**Naumai**	**2.48**	**227**	P		**Pn**	**12 25 30.0**	**+1.2**
ALRZ	**Allen Road**	**2.48**	**242**	P		**Pn**	**12 25 29.1**	**+0.3**
ARHZ	**Aropaoanui**	**2.49**	**222**	P		**Pn**	**12 25 29.6**	**+0.6**
MRHZ	**Matea Rd**	**2.56**	**236**	P		**Pn**	**12 25 30.3**	**+0.3**
BKZ	**Black Stump Fm**	**2.71**	**229**	P		**Pn**	**12 25 32.4**	**+0.4**
BKZ	**Black Stump Fm**	**2.71**	**229**	P		**Pn**	**12 25 32.4**	**+0.4**
CKHZ	**Cape Kidnapper**	**2.75**	**215**	P		**Pn**	**12 25 32.1**	**-0.5**
KUZ	**Kuaotunu**	**2.81**	**283**	P		**Pn**	**12 25 32.0**	**-1.4**
KUTZ	**Kaahu Road**	**2.82**	**247**	P		**Pn**	**12 25 33.9**	**+0.3**
TOZ	**Tahuroa Road**	**2.90**	**263**	P		**Pn**	**12 25 34.3**	**+0.3**
KWHZ	**Kaweka Forest**	**2.92**	**226**	P		**Pn**	**12 25 34.7**	**-0.2**
KAHZ	**Kahuranaki**	**2.95**	**216**	P		**Pn**	**12 25 34.9**	**-0.5**
TLZ	**Tolley Road**	**2.98**	**251**	P		**Pn**	**12 25 36.0**	**+0.2**
RITZ	**Rihia Road**	**3.01**	**238**	P		**Pn**	**12 25 36.6**	**+0.5**
RATZ	**Rangitukua**	**3.02**	**240**	P		**Pn**	**12 25 36.8**	**+0.6**
KRHZ	**Kereru**	**3.10**	**224**	P		**Pn**	**12 25 36.7**	**-0.7**
BHHZ	**Black Hill Sta**	**3.17**	**229**	P		**Pn**	**12 25 38.4**	**0.0**
GRZ	**Great Barrier**	**3.17**	**291**	P		**Pn**	**12 25 38.2**	**-0.1**
TMVZ	**Te Maari**	**3.18**	**237**	P		**Pn**	**12 25 38.6**	**0.0**
MKAZ	**Moumakai**	**3.19**	**275**	P		**Pn**	**12 25 38.3**	**-0.1**
ETVZ	**East Tongariro**	**3.19**	**237**	P		**Pn**	**12 25 38.6**	**0.0**
NTVZ	**North Tongarir**	**3.19**	**237**	P		**Pn**	**12 25 38.9**	**+0.1**
KRVZ	**Karewarewa**	**3.21**	**238**	P		**Pn**	**12 25 39.3**	**+0.3**
OTVZ	**Oturere**	**3.23**	**236**	P		**Pn**	**12 25 39.6**	**+0.3**
NNVZ	**North Ngauruho**	**3.25**	**237**	P		**Pn**	**12 25 39.9**	**+0.4**
WTVZ	**West Tongariro**	**3.26**	**238**	P		**Pn**	**12 25 40.0**	**+0.3**
SNVZ	**South Ngauruho**	**3.26**	**236**	P		**Pn**	**12 25 39.8**	**0.0**
NGZ	**Ngauruhoe**	**3.28**	**237**	P		**Pn**	**12 25 39.9**	**-0.1**
TUVZ	**Tukino**	**3.30**	**235**	P		**Pn**	**12 25 40.4**	**+0.2**
MOVZ	**Moawhango**	**3.31**	**232**	P		**Pn**	**12 25 40.3**	**0.0**
TWVZ	**Taurewa**	**3.34**	**239**	P		**Pn**	**12 25 41.2**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.35**	**235**	P		**Pn**	**12 25 40.7**	**-0.2**
FWVZ	**Far West T-bar**	**3.36**	**236**	P		**Pn**	**12 25 40.8**	**-0.3**
WNVZ	**Wahianoa**	**3.37**	**235**	P		**Pn**	**12 25 40.8**	**-0.3**
WPHZ	**Waipukurau**	**3.37**	**218**	P		**Pn**	**12 25 40.2**	**-0.9**
PNHZ	**Pukenui**	**3.38**	**222**	P		**Pn**	**12 25 40.1**	**-1.1**
ETAZ	**East Tamaki Re**	**3.39**	**277**	P		**Pn**	**12 25 41.5**	**+0.2**
PRHZ	**Porangahau**	**3.44**	**214**	P		**Pn**	**12 25 40.8**	**-1.2**
MBAZ	**Motutapu North**	**3.45**	**280**	P		**Pn**	**12 25 42.3**	**+0.2**
PKVZ	**Pokaka**	**3.51**	**237**	P		**Pn**	**12 25 43.2**	**+0.2**
HIZ	**Hauiti**	**3.55**	**251**	P		**Pn**	**12 25 44.7**	**+1.2**
HIZ	**Hauiti**	**3.55**	**251**	P		**Pn**	**12 25 44.7**	**+1.2**
AWAZ	**Awhitu Peninsu**	**3.60**	**274**	P		**Pn**	**12 25 44.8**	**+0.6**
TSZ	**Takapari Road**	**3.62**	**222**	P		**Pn**	**12 25 42.9**	**-1.5**
ANWZ	**Angora Road**	**3.67**	**214**	P		**Pn**	**12 25 43.9**	**-1.3**
DVHZ	**Dannevirke**	**3.69**	**218**	P		**Pn**	**12 25 43.7**	**-1.8**
RVAZ	**Riverhead Bore**	**3.70**	**279**	P		**Pn**	**12 25 45.3**	**-0.2**
BFZ	**Birch Farm**	**3.95**	**214**	P		**Pn**	**12 25 47.2**	**-1.9**
POWZ	**Post Office Ro**	**3.96**	**221**	P		**Pn**	**12 25 47.4**	**-1.7**
PRWZ	**Pori Road**	**3.98**	**217**	P		**Pn**	**12 25 48.4**	**-1.1**
WAZ	**Wanganui**	**4.00**	**233**	P		**Pn**	**12 25 50.3**	**+0.7**
WCZ	**Waipu Caves**	**4.12**	**290**	P		**Pn**	**12 25 50.7**	**-0.7**
LREZ	**Lake Rotokare**	**4.23**	**240**	P		**Pn**	**12 25 54.0**	**+1.1**
PREZ	**Palmer Road**	**4.35**	**242**	P		**Pn**	**12 25 56.8**	**+2.2**
NEZ	**North Egmont**	**4.37**	**244**	P		**Pn**	**12 25 56.7**	**+1.9**
PKE	**Pukeiti**	**4.42**	**245**	P		**Pn**	**12 25 58.0**	**+2.6**
KHEZ	**Kahui Hut**	**4.43**	**244**	P		**Pn**	**12 25 58.1**	**+2.3**
OUZ	**Omahuta**	**4.98**	**295**	P		**Pn**	**12 26 03.3**	**+0.2**
OUZ	**Omahuta**	**4.98**	**295**	P		**Pn**	**12 26 03.4**	**+0.2**
QRZ	**Quartz Range**	**6.16**	**234**	P		**Pn**	**12 26 16.3**	**-3.0**
KHZ	**Kahutara**	**6.58**	**219**	P		**Pn**	**12 26 23.7**	**-1.4**
CTZ	**Chatham Island**	**7.08**	**154**	P		**Pn**	**12 26 35.9**	**+3.9**
ODZ	**Otahua Downs**	**9.94**	**217**	P		**Pn**	**12 27 08.2**	**-2.9**

*BJI **03** 12:26:40.9±0.0,31°.53N×138°.41E,h325km,mb4.9/77, mB5.0/50*
*MOS **03** 12:26:41.1±0.8,31°.43N×138°.36E,h319km,mb5.1/56, Error ellipse: s-maj=7.6km s-min=3.6km az=115.8*
*NEIC **03** 12:26:43.5±1.4,31°.45N±0°.07×138°.49E±0°.09, h327km±5km,mb5.0/79,Error ellipse: s-maj=11.4km s-min=9.7km az=81.0*
*IDC **03** 12:26:43.1±0.6,31°.45N×138°.39E,h326km±5km,mb4.6/24, mbtmp5.3/29,Error ellipse: s-maj=9.8km s-min=5.7km az=74.0*
*NIED **03** 12:26:43.1,31°.53N×138°.67E,h347km,MW5.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr=1.78; Mθθ=1.45; Mφφ=3.23; Mrθ=-3.43; Mθφ=1.30; Mφr=6.23; Fault plane solution: M₀7.75000×10¹⁶ NP1: φs132.00000°,δ21.00000°,λ=162.00000°. NP2: φs25.00000°,δ83.00000°,λ=70.00000°.*
*JMA **03** 12:26:43.1±0.4,32°.N±2°×13°.9E±°,h347km±3km,MD4.9/39, MW5.2/39,NEAR TORISHIMA IS*
*GCMT **03** 12:26:45.5±0.6,31°.78N±0°.05×137°.96E±0°.06, h343km±3km,MW5.5/41,Moment Tensor Solution. s41,c55; Duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr=0.24±.09; Mθθ=0.30±.13; Mφφ0.53±.13; Mrθ=1.47±.14; Mθφ=0.04±.11; Mφr=1.37±.10; Best double couple: M₀2.05800×10¹⁷ NP1:φs45.00000°,δ88.00000°, λ=78.00000°. NP2:φs146.00000°,δ12.00000°, λ=169.00000°. Principal axes: T 1.9730, Plg42.0000°, Azm124.0000°; N 0.1690, Plg12.0000°, Azm225.0000°; P -2.1430, Plg46.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 03 12:26:43.5±0.3,**31°.48N**±0°.03×**138°.47E**±0°.03,**h334**km±2km, **h334**km:**pP-P**,**n963**,σ1°**33**/1046,**mb5.0**/182,**70C-68D**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAOM	**Aogashimamukai**	**1.48**	**48**	P		**Pn**	**12 27 30.5**	**+0.6**
JAOM				*e*S		**S**	**12 28 07.3**	**+0.3**
JAOM	**Aogashimamukai**	**1.48**	**48**	A		A	12 27 30.5	
	comp=E,35nm,2.7s,comp=E,20nm,4.6s							
JHCJ	**Hachijojimakas**	**1.95**	**35**	P		**Pn**	**12 27 33.2**	**+0.2**
JHCJ				*e*S		**S**	**12 28 10.7**	**-1.8**
JHCJ	**Hachijojimakas**	**1.95**	**35**	A		A	12 27 33.2	
	comp=E,16nm,3.7s,comp=E,8.0nm,4.2s							
JHJ	**Hachijo jima 2**	**1.98**	**34**	P		**Pn**	**12 27 33.5**	**+0.3**
	853nm,0.3s,baz=339,slow=18,SNR=130							
JHJ				S		**S**	**12 28 11.1**	**-1.8**
	1μm,0.3s,baz=62,slow=19,SNR=5.9							
JHJ2	**Mitsune**	**1.99**	**35**	Pn		**Pn**	**12 27 32.5**	**-0.7**
JHJ2	**Mitsune**	**1.99**	**35**	P		**Pn**	**12 27 33.5**	**+0.3**
JHJ2	**Mitsune**	**1.99**	**35**	P		**Pn**	**12 27 33.5**	**+0.3**
TK02	**Tokai 2**	**2.54**	**347**	P		**Pn**	**12 27 39.1**	**+1.9**
TTO2	**TONANKAI O.B.S**	**2.56**	**332**	P		**Pn**	**12 27 39.5**	**+2.2**
TTO1	**TONANKAI O.B.S**	**2.57**	**327**	P		**Pn**	**12 27 39.4**	**+2.0**
JMKN	**Mikurajimanish**	**2.59**	**21**	P		**Pn**	**12 27 37.8**	**-0.2**
JWKM	**Wakayamakushim**	**3.02**	**311**	A		A	12 27 43.6	
	comp=E,10.0nm,2.3s,comp=E,6.0nm,5.0s							
JMMH	**Miemihama**	**3.11**	**319**	A		A	12 27 44.2	
	comp=E,6.0nm,3.3s,comp=E,3.0nm,4.1s							
JSG	**Sagara**	**3.20**	**356**	A		A	12 27 44.0	
	comp=E,7.0nm,4.5s,comp=E,11nm,3.9s							
JIE	**Ise**	**3.26**	**333**	P		**Pn**	**12 27 45.8**	**+1.7**
JIE				S		**S**	**12 28 34.1**	**+1.4**
JIE	**Ise**	**3.26**	**333**	A		A	12 27 45.8	
	comp=E,11nm,2.5s,comp=E,7.0nm,4.3s							
JIM2	**Oshima 3**	**3.33**	**14**	A		A	12 27 44.7	
	comp=E,10.0nm,4.3s,comp=E,8.0nm,2.2s							
JTNC	**Tanabenakahech**	**3.35**	**315**	P		**Pn**	**12 27 46.3**	**+1.3**
JTNC				S		**S**	**12 28 35.9**	**+1.5**
HMMJ	**Hamamatsu 2**	**3.43**	**350**	A		A	12 27 46.4	
	comp=E,5.0nm,3.6s,comp=E,6.0nm,3.1s							
JHTM	**Izuhatsuma**	**3.50**	**7**	A		A	12 27 46.5	
	comp=E,16nm,2.6s,comp=E,9.0nm,2.3s							
SHZ3	**Shizuoka 3**	**3.59**	**357**	A		A	12 27 47.7	
	comp=E,4.0nm,2.2s,comp=E,6.0nm,3.3s							
JWY	**Kouya**	**3.65**	**319**	P		**Pn**	**12 27 49.8**	**+1.8**
JWY				*e*S		**S**	**12 28 41.4**	**+1.5**
JFNN	**Fujinakano**	**3.71**	**3**	*e*P		**Pn**	**12 27 49.6**	**+1.1**
BSO1	**Boso 1**	**3.81**	**33**	P		**Pn**	**12 27 47.4**	**-1.5**
JOD2	**Odawara 2**	**3.81**	**8**	P		**Pn**	**12 27 49.4**	**-0.2**
JOD2				*e*S		**S**	**12 28 42.5**	**-0.3**
JNY	**Yasuok**	**3.91**	**353**	A		A	12 27 51.0	
	comp=E,3.0nm,2.4s,comp=E,8.0nm,2.8s							
JAO	**Obara**	**3.91**	**345**	A		A	12 27 51.3	
	comp=E,6.0nm,3.4s,comp=E,8.0nm,3.9s							
JKUC	**kamogawauchiur**	**3.95**	**21**	A		A	12 27 50.6	
	comp=E,5.0nm,2.8s,comp=E,5.0nm,3.2s							
JEG	**Eigenji**	**4.04**	**335**	A		A	12 27 53.0	
	comp=E,8.0nm,2.8s,comp=E,6.0nm,3.7s							
INU	**Inuyama**	**4.05**	**343**	Pn		**Pn**	**12 27 53.2**	**+1.2**
INU	**Inuyama**	**4.05**	**343**	P		**Pn**	**12 27 53.4**	**+1.4**
JICN	**Ichinomiyachia**	**4.05**	**341**	A		A	12 27 52.9	
	comp=E,12nm,2.8s,comp=E,11nm,2.6s							
JGF	**Kuroka**	**4.22**	**348**	Pn		**Pn**	**12 27 54.6**	**+0.8**
JAWN	**Awajishima-nag**	**4.24**	**316**	A		A	12 27 55.6	
	comp=E,3.0nm,2.5s,comp=E,8.0nm,2.4s							
JYTA	**Yamagatataniai**	**4.35**	**341**	A		A	12 27 56.0	
	comp=E,4.0nm,3.7s,comp=E,6.0nm,4.0s							
JMIK	**Miki**	**4.38**	**320**	A		A	12 27 57.1	
	comp=E,6.0nm,2.5s,comp=E,8.0nm,3.0s							
JMN	**Monobe**	**4.48**	**301**	Pn		**Pn**	**12 27 58.2**	**+1.5**
JMN	**Monobe**	**4.48**	**301**	A		A	12 27 58.6	
	comp=E,4.0nm,3.9s,comp=E,6.0nm,4.4s							
JFM	**Mihama**	**4.54**	**333**	A		A	12 27 58.4	
	comp=E,6.0nm,2.4s,comp=E,8.0nm,2.7s							
JRY	**Ryogami san**	**4.54**	**4**	P		**Pn**	**12 27 57.4**	**+0.1**
JRY				S		**S**	**12 28 54.8**	**-2.0**
JWT	**Wachi**	**4.58**	**327**	A		A	12 27 59.0	
	comp=E,5.0nm,2.3s,comp=E,5.0nm,3.9s							
CHOJ	**Chosi**	**4.66**	**25**	A		A	12 27 58.0	
	comp=E,5.0nm,2.3s,comp=E,4.0nm,2.8s							
JJS	**Sakaide**	**4.79**	**308**	A		A	12 28 01.8	
	comp=E,6.0nm,3.1s,comp=E,5.0nm,3.4s							
JNG	**Nsakai**	**4.93**	**357**	A		A	12 28 01.8	
	comp=E,2.0nm,3.0s,comp=E,4.0nm,3.1s							
JYT	**Yasato**	**4.95**	**16**	Pn		**Pn**	**12 27 59.8**	**-2.0**
JYT	**Yasato**	**4.95**	**16**	A		A	12 28 01.4	
	comp=E,5.0nm,0.4s,comp=E,6.0nm,0.3s							
JTO	**Tosashimizu**	**5.00**	**288**	P		**Pn**	**12 28 04.1**	**+1.7**
JTO				S		**S**	**12 29 07.6**	**+1.6**
JKY	**Yasaka**	**5.00**	**327**	A		A	12 28 03.6	
	comp=E,6.0nm,2.2s,comp=E,9.0nm,4.8s							
MJAR	**Matsushiro Arr**	**5.06**	**358**	P		**Pn**	**12 28 00.5**	**-2.5**
	97nm,0.3s,baz=169,slow=10,SNR=413							
MJAR				S		**S**	**12 29 04.1**	**-3.1**
	95nm,0.8s,baz=169,slow=18,SNR=6.3							
MJAR				ScP		**ScP**	**12 37 34.5**	**+0.8**
	2.9nm,1.1s,baz=133,slow=2.4,SNR=4.5							
MAJO	**Matsushiro**	**5.06**	**358**	Pn		**Pn**	**12 28 02.9**	**-0.1**
MAJO	**Matsushiro**	**5.06**	**358**	*c* P		**Pn**	**12 28 02.6**	**-0.4**
MAJO	**Matsushiro**	**5.06**	**358**	P		**Pn**	**12 28 03.2**	**+0.2**
JET	**Tanbara**	**5.12**	**298**	A		A	12 28 05.7	
	comp=E,5.0nm,2.9s,comp=E,5.0nm,4.2s							
JKSM	**Kasumi**	**5.19**	**323**	A		A	12 28 05.8	
	comp=E,3.0nm,2.3s,comp=E,9.0nm,3.9s							
JKT	**Katashina**	**5.32**	**7**	A		A	12 28 05.7	
	comp=E,4.0nm,0.3s,comp=E,5.0nm,0.3s							
CBIJ	**Chichi jima**	**5.44**	**142**	P		**Pn**	**12 28 03.5**	**-4.0**
CBIJ	**Chichi jima**	**5.44**	**142**	A		A	12 28 03.5	
	comp=E,11nm,2.4s,comp=E,9.0nm,1.4s							
JCJ	**Chichijima**	**5.44**	**142**	P		**Pn**	**12 28 04.5**	**-2.9**
	1μm,0.4s,baz=350,slow=1.9,SNR=160							
JCJ				S		**S**	**12 29 07.6**	**-7.7**
	2μm,0.3s,baz=291,slow=22,SNR=21							
JCJ	**Chichijima**	**5.44**	**142**	Pn		**Pn**	**12 28 03.8**	**-3.7**
JKR	**Kurayoshi**	**5.50**	**316**	A		A	12 28 09.5	
	comp=E,6.0nm,4.0s,comp=E,6.0nm,3.6s							
JSB	**Shiboa**	**5.61**	**12**	A		A	12 28 08.8	
	comp=E,7.0nm,2.6s,comp=E,7.0nm,3.5s							
JHM	**Kurahashi**	**5.66**	**300**	A		A	12 28 11.9	
	comp=E,3.0nm,2.4s,comp=E,4.0nm,4.0s							
JHS	**Saijyo**	**5.70**	**310**	Pn		**Pn**	**12 28 11.9**	**+1.6**
JHS	**Saijyo**	**5.70**	**310**	P		**Pn**	**12 28 12.1**	**+1.9**
JHS				S		**S**	**12 29 21.5**	**+1.1**
JISK	**Izumosakaura**	**6.17**	**312**	A		A	12 28 17.4	
	comp=E,3.0nm,3.5s,comp=E,4.0nm,4.9s							
JFK	**Kawauchi**	**6.20**	**18**	A		A	12 28 15.4	
	comp=E,4.0nm,2.0s,comp=E,3.0nm,1.5s							
JOI	**OKI**	**6.47**	**319**	P		**Pn**	**12 28 20.6**	**+1.3**
JOI				*e*S		**S**	**12 29 37.8**	**+1.0**
JMST	**Minamisoumatoc**	**6.54**	**17**	A		A	12 28 19.4	
	comp=E,3.0nm,3.5s,comp=E,4.0nm,1.9s							
JSD	**Sado**	**6.55**	**359**	Pn		**Pn**	**12 28 19.0**	**-1.0**
JMM	**Marumori**	**6.66**	**16**			**Pn**	**12 28 19.2**	**-2.1**
JSU	**Suzuyama**	**6.84**	**272**	Pn		**Pn**	**12 28 25.1**	**+1.4**
JHGM	**Hagimishima**	**6.97**	**300**	A		A	12 28 27.1	
	comp=E,5.0nm,4.4s,comp=E,4.0nm,4.6s							
JFI	**Itaya**	**7.10**	**288**	A		A	12 28 28.9	
	comp=E,5.0nm,2.7s,comp=E,2.0nm,3.7s							
JOU	**Okura**	**7.11**	**14**	A		A	12 28 26.1	
	comp=E,2.0nm,2.3s,comp=E,3.0nm,2.3s							
JHD	**Hondo**	**7.15**	**280**	A		A	12 28 29.6	
	comp=E,6.0nm,3.3s,comp=E,2.0nm,5.6s							
JOFO	**Osakifurukawao**	**7.39**	**15**	A		A	12 28 29.4	
	comp=E,8.0nm,3.5s,comp=E,8.0nm,2.6s							
JSJ	**Shimokoshiki**	**7.47**	**274**	P		**Pn**	**12 28 32.8**	**+1.7**
JMK	**Ichinoseki**	**7.79**	**16**	P		**Pn**	**12 28 33.1**	**-1.7**
JTU	**Tsushima**	**8.20**	**294**	Pn		**P**	**12 28 42.0**	**-1.5**
JTU	**Tsushima**	**8.20**	**294**	P		**P**	**12 28 41.8**	**-1.6**
JTU				*e*S		**S**	**12 30 15.5**	**+1.0**
JMZ	**Minamidaito 2**	**8.50**	**230**	*e*P		**Pn**	**12 28 45.1**	**+1.6**
KSBUS	**Busan**	**8.68**	**298**	Pn		**P**	**12 28 47.4**	**-1.5**
JAMN	**Amaminishikomi**	**8.69**	**251**	P		**Pn**	**12 28 46.4**	**+0.7**
JAMN				*e*S		**S**	**12 30 25.9**	**+0.5**
JTM	**Tenmabayashi**	**9.53**	**12**	Pn		**Pn**	**12 28 55.0**	**-0.6**
JOW	**Kunigami**	**10.04**	**245**	P		**Pn**	**12 29 03.0**	**+0.9**
JOW	**Kunigami**	**10.04**	**245**	P		**P**	**12 29 03.9**	**-0.2**
NAWB	**Namwon**	**10.05**	**296**	P		**P**	**12 29 04.0**	**-0.1**
KSCHJ	**Chungju**	**10.22**	**305**	P		**P**	**12 29 05.9**	**-0.1**
TJN	**Taejon**	**10.44**	**301**	P		**P**	**12 29 09.0**	**+0.6**
TJN	**Taejon**	**10.44**	**301**	*d* P		**P**	**12 29 08.3**	**-0.1**
TJN	**Taejon**	**10.44**	**301**	P		**P**	**12 29 09.2**	**+0.8**
KSRS	**Korea Array**	**10.55**	**307**	P		**P**	**12 29 09.0**	**-0.6**
	94nm,0.7s,baz=115,slow=12,SNR=305							
KSRS				S		**S**	**12 31 08.8**	**+2.3**
	30nm,1.2s,baz=118,slow=20,SNR=6.

BNX pmax pmax
comp=N,460nm,3.5s
BNX LR LR
comp=N,570nm,14.1s
BNX LR LR
comp=N,300nm,11.7s
BNX LR LR
comp=N,450nm,13.7s
NJ2 Nanjing 16.69 277 ⇓*i*P **P 12 30 17.1 -0.2**
NJ2 S **S 12 33 15.9 +1.3**
NJ2 pmax pmax
comp=N,78nm,1.1s
NJ2 pmax pmax
comp=N,530nm,3.5s
NJ2 LR LR
comp=N,670nm,9.0s
NJ2 LR LR
comp=N,420nm,10.4s
NJ2 LR LR
comp=N,440nm,14.2s
YULB Yu-li 17.22 246 P **P 12 30 22.3 -0.8**
SSLB Suanglung 17.29 248 P **P 12 30 24.0 +0.2**
SSLB Suanglung 17.29 248 P **P 12 30 24.3 +0.4**
TWG Pinlang 17.70 245 P **P 12 30 28.1 -0.2**
UGL Uglegorsk 17.79 8 *e*P **P 12 30 30.5 +1.7**
UGL *e*S **S 12 33 34.7 -1.0**
UGL pmax pmax
comp=Z,100nm,0.6s
UGL smax smax
comp=E,1μm,4.0s
UGL smax smax
comp=N,1μm,5.3s
TPUB Ta-pu 17.80 247 P **P 12 30 29.8 +0.6**
TPUB Ta-pu 17.80 247 P **P 12 30 29.9 +0.6**
TIA Tai'an 18.34 291 PKP **P 12 30 34.0 -0.9**
TIA PP 12 33 44.5
KLR Kul'dur 18.44 346 P **P 12 30 34.8 -1.0**
comp=N,103nm,0.7s,baz=170,slow=8.7,SNR=174
KLR S **S 12 33 51.0 +2.4**
comp=N,1.6nm,0.6s,baz=59,slow=20,SNR=6.0
KLR Kul'dur 18.44 346 *ce*P **P 12 30 35.1 -0.7**
KLR pmax pmax
comp=Z,86nm,0.7s
QZH Quanzhou 18.67 255 ⇓*i*P **P 12 30 37.8 -0.7**
QZH S **S 12 33 52.8 -0.8**
QZH pmax pmax
comp=Z,300nm,4.1s
GUMO Guam 18.75 160 P **P 12 30 39.9 +0.5**
comp=Z,949nm,0.9s,baz=231,slow=1.2,SNR=56
GUMO S **S 12 33 58.6 +3.4**
comp=Z,19nm,0.5s,baz=31,slow=22,SNR=2.1
GUMO Guam 18.75 160 P **P 12 30 40.0 +0.6**
GUMO Guam 18.75 160 P **P 12 30 40.1 +0.7**
GRNR Gornyy 19.34 356 ⇓*i*P **P 12 30 45.6 +0.3**
GRNR *e*S **S 12 34 02.5 -2.7**
GRNR pmax pmax
comp=E,3.0nm,0.6s
GRNR pmax pmax
comp=N,20nm,0.8s
GRNR pmax pmax
comp=Z,40nm,0.7s
GRNR smax smax
comp=E,7.0nm,0.6s
GRNR MLR MLR
comp=E,570nm,19.0s
GRNR MLR MLR
comp=N,290nm,16.0s
GRNR MLR MLR
comp=Z,250nm,18.0s
TYV Tymovskoe 19.62 8 *e*P **P 12 30 49.1 +0.8**
TYV *e*S **S 12 34 08.2 -1.8**
TYV pmax pmax
comp=Z,22nm,0.6s
TYV pmax pmax
comp=Z,500nm,3.7s
TYV smax smax
comp=N,1μm,6.2s
TYV smax smax
comp=E,900nm,6.2s
BJT Baijiatuan 19.97 301 P **P 12 30 50.5 -1.5**
BJT Baijiatuan 19.97 301 P **P 12 30 50.5 -1.5**
BJI Beijing 19.97 301 P **P 12 30 49.9 -2.1**
BJI sP **sP 12 32 20.4 -4.5**
BJI S **S 12 34 14.1 -2.0**
BJI pmax pmax
comp=E,14nm,1.1s
BJI pmax pmax
comp=E,350nm,3.5s
BJI LR LR
comp=E,98nm,12.0s
BJI LR LR
comp=E,420nm,14.9s
HNS HongShan 20.44 293 ⇓P **P 12 30 54.5 -2.1**
HNS sP **sP 12 32 28.7 -1.1**
HNS S **S 12 34 23.6 -0.3**
HNS ScP **ScP 12 37 58.4 +0.9**
HNS pmax pmax
comp=E,47nm,1.0s
WHN Wuhan 20.69 274 ⇓*i*P **P 12 30 58.4 -0.6**
WHN sP **sP 12 32 33.1 +1.7**
WHN S **S 12 34 31.1 +3.1**
WHN ScP **ScP 12 37 59.2 +1.0**
WHN pmax pmax
comp=E,330nm,1.2s
WHN pmax pmax
comp=E,1μm,3.4s
XLT XiLinHaoTe 21.55 311 ⇑P **P 12 31 06.9 +0.1**
XLT sP sP 12 32 40.3 -1.8
XLT S **S 12 34 45.6 +3.7**
XLT ScP **ScP 12 38 00.9 +0.6**
XLT ScS **ScS 12 41 44.5 -0.4**
XLT pmax pmax
comp=E,250nm,0.8s
XLT pmax pmax
comp=E,290nm,5.6s
LYN LuoYang 22.00 285 ⇓*i*P **P 12 31 08.9 -2.0**
LYN sP sP 12 32 42.5 -4.0
LYN S **S 12 34 39.7 -9.5**
LYN ScP **ScP 12 38 01.7 +0.2**
LYN ScS **ScS 12 41 40.6 -6.0**
LYN pmax pmax
comp=E,40nm,1.2s
LYN pmax pmax
comp=E,450nm,7.9s
TIY Taiyuan 22.28 293 ⇓P **P 12 31 13.2 -0.3**
TIY sP **sP 12 32 48.9 -0.9**
TIY PcP **PcP 12 35 00.1 +3.0**
TIY pmax pmax
comp=E,47nm,0.5s
CNSH ChangSha 22.38 268 ⇓P **P 12 31 14.1 -0.3**
CNSH S **S 12 34 56.1 +0.7**
CNSH pmax pmax
comp=E,90nm,1.2s
CNSH LR LR
comp=E,2μm,17.8s
CNSH LR LR
comp=E,2μm,17.0s
CNSH LR LR
comp=E,2μm,27.1s
HIA Hailar 22.68 327 P **P 12 31 17.0 0.0**
HIA Hailar 22.68 327 P **P 12 31 17.0 0.0**
HHC Hu-ho-hao-te 23.57 301 *e*P **P 12 31 25.0 -0.2**
HHC pmax pmax
comp=E,100nm,1.1s
HHC pmax pmax
comp=E,440nm,5.9s
HHC LR LR
comp=E,910nm,16.9s
HHC LR LR
comp=E,860nm,12.9s
HHC LR LR
comp=E,1μm,14.7s
ZEA Zeya 23.67 343 *e*P **P 12 31 26.6 +0.8**
ZEA *e*S **S 12 35 13.8 -1.5**
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,50nm,0.7s
ZEA pmax pmax
comp=Z,80nm,0.8s
ZEA pmax pmax
comp=Z,200nm,1.8s
ZEA smax smax
comp=E,200nm,2.3s
ZEA smax smax

comp=N,300nm,5.1s
BTO Baotou 24.65 300 *e*P **P 12 31 36.0 +1.0**
ENH Enshi 24.87 275 P **P 12 31 36.2 -0.8**
ENH IAmb IAmb 12 31 37.3
comp=Z,88nm,1.1s
PETK Petropavlovsk- 25.72 27 P **P**
comp=Z,1.9nm,0.7s,baz=180,slow=3.0,SNR=5.9
PETK ScP **ScP 12 38 10.8 -0.5**
comp=Z,1.4nm,0.7s,baz=122,slow=1.9,SNR=5.1
CIT Chita 27.46 326 *e*P **P 12 32 00.6 +0.9**
CIT *e* 12 33 04.7
CIT *e* 12 42 09.6
CIT pmax pmax
comp=Z,152nm,2.0s
GYA Guiyang 28.21 268 ⇑*i*P **P 12 32 06.2 -0.6**
GYA pmax pmax
comp=Z,27nm,0.8s
ULN Ulaanbaatar 28.94 314 P **P 12 32 13.9 +1.0**
ULN Ulaanbaatar 28.94 314 *ce*P **P 12 32 13.6 +0.7**
ULN pmax pmax
comp=Z,192nm,1.3s
ULN Ulaanbaatar 28.94 314 P **P 12 32 13.5 +0.5**
LZH Lanzhou 29.05 289 ⇓P **P 12 32 13.4 -0.7**
LZH ScP **ScP 12 38 23.3 +1.2**
LZH pmax pmax
comp=Z,70nm,1.2s
LZH pmax pmax
comp=Z,240nm,5.3s
LZH LR LR
comp=Z,750nm,15.8s
LZH LR LR
comp=Z,520nm,16.1s
LZH LR LR
comp=Z,370nm,18.5s
MA2 Magadan 29.29 13 P **P 12 32 16.6 +0.9**
comp=Z,29nm,0.9s,baz=197,slow=7.8,SNR=38
comp=Z,29nm,0.9s
MA2 Magadan 29.29 13 P **P 12 32 16.4 +0.7**
MA2 IAmb IAmb 12 32 17.2
comp=Z,29nm,0.8s
MA2 Magadan 29.29 13 *ce*P **P 12 32 16.7 +1.0**
MA2 pmax pmax
comp=Z,104nm,1.7s
MA2 Magadan 29.29 13 P **P 12 32 16.4 +0.7**
SONM Songino Array 29.34 313 P **P 12 32 17.1 +0.6**
comp=Z,41nm,0.4s,baz=121,slow=8.4,SNR=184
SONM PcP **PcP 12 35 13.9 +0.5**
comp=Z,1.3nm,0.3s,baz=132,slow=1.9,SNR=6.4
SONM ScP **ScP 12 38 22.6 -0.2**
comp=Z,15nm,1.1s,baz=137,slow=2.8,SNR=25
comp=Z,41nm,0.4s
SONM Songino Array 29.34 313 P **P 12 32 17.0 +0.6**
SONM IAmb IAmb 12 32 18.2
comp=Z,65nm,0.7s
SONM Songino Array 29.34 313 P **P 12 32 17.0 +0.6**
SONM pmax pmax
comp=Z,65nm,0.7s
YAK Yakutsk 31.09 352 *e*P **P 12 32 30.7 -0.7**
YAK *e* 12 33 50.9
YAK *e* 12 35 13.1
YAK *e*S **S 12 37 07.0 -4.4**
YAK *e**SS sS 12 38 55.5 -10
YAK *e* 12 42 19.7
YAK pmax pmax
comp=Z,44nm,1.0s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,43nm,1.4s
YAK pmax pmax
comp=N,52nm,1.6s
YAK pmax pmax
comp=E,16nm,1.5s
YAK smax smax
comp=E,71nm,2.5s
YAK smax smax
comp=N,76nm,2.5s
BOD Bodaibo 31.23 335 *e*P **P 12 32 32.1 -0.5**
BOD pmax pmax
comp=Z,44nm,1.6s
KMI Kunming 31.99 268 ⇑P **P 12 32 39.6 -0.3**
KMI S **S 12 37 26.2 -0.5**
KMI ScP **ScP 12 38 33.2 +1.1**
KMI pmax pmax
comp=Z,11nm,1.7s
KMI LR LR
comp=Z,410nm,20.4s
KMI LR LR
comp=Z,350nm,16.4s
KMI LR LR
comp=Z,310nm,12.0s
ZAK Zakamensk 32.20 316 *e*P **P 12 32 41.2 -0.1**
ZAK pmax pmax
comp=Z,66nm,1.3s
GTA Gaotai 32.28 295 ⇓P **P 12 32 41.5 -0.7**
GTA pP pP 12 33 46.3 +2.0
GTA PcP **PcP 12 35 22.6 +1.2**
GTA ScP **ScP 12 38 33.5 +0.8**
GTA PcS **PcS 12 39 06.7 -0.2**
GTA ScS **ScS 12 42 30.3 -2.4**
GTA pmax pmax
comp=Z,28nm,1.4s
PZH PanZhiHua 32.40 271 P **P 12 32 42.0 -1.4**
PZH pP **pP 12 33 45.8 +0.1**
PZH S **S 12 37 33.1 +0.3**
PZH SS **SS 12 39 59.9 -8.8**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,190nm,3.5s
BAKI Biak 32.57 184 P **P 12 32 44.8 +0.1**
comp=Z,76nm,1.1s
SEY Seymchan 32.71 12 *ce*P **P 12 32 46.6 +1.2**
SEY pmax pmax
comp=Z,29nm,1.7s
SWI Sorong 32.88 193 P **P 12 32 47.7 +0.3**
comp=Z,80nm,0.7s
SIJI Sorong 32.89 193 ScP **ScP 12 38 35.0 0.0**
comp=Z,13nm,0.7s,baz=64,slow=10,SNR=4.7
SMPI Sarmi 33.28 180 P **P 12 32 50.9 +0.1**
comp=Z,1μmcomp=Z,64nm,1.0s
DLV T Lat 33.79 242 P **P 12 32 56.6 +1.2**
GENI Genyem 33.92 177 P **P 12 32 57.0 +0.7**
comp=Z,6μmcomp=Z,206nm,1.0s
GENI Genyem 33.92 177 P **P 12 32 57.5 +1.2**
comp=Z,207nm,1.1s
GTOI Gorontalo 33.98 208 P **P 12 32 56.2 -0.7**
comp=Z,9.1nm,0.9s
UBPT Khong Chiam 34.14 249 P **P 12 32 58.7 +0.5**
UBPT IAmb IAmb 12 33 00.0
comp=Z,55nm,1.1s
MRSI Marisa 34.58 210 P **P 12 33 02.6 +0.7**
comp=Z,37nm,1.0s
FAKI Fak Fak 34.71 191 P **P 12 33 03.1 0.0**
FAKI IAmb IAmb 12 33 04.8
comp=Z,92nm,1.2s
FAKI Fak Fak 34.71 191 P **P 12 33 03.0 -0.1**
comp=Z,1μmcomp=Z,69nm,0.9s
FAKI Fak Fak 34.71 191 P **P 12 33 03.3 +0.2**
SANI Sanana 35.39 202 P **P 12 33 07.7 -1.1**
comp=Z,847nmcomp=Z,45nm,0.6s
SANI Sanana 35.39 202 P **P 12 33 08.2 -0.6**
LUWI Luwuk 35.61 208 P **P 12 33 10.8 +0.2**
comp=Z,38nm,0.4s
MSAI Masohi 35.80 196 P **P 12 33 12.3 0.0**
comp=Z,396nmcomp=Z,9.9nm,1.2s
AMKA Amchitka 35.90 44 P **P 12 33 13.8 +1.1**
APSI Ampana 35.95 210 P **P 12 33 12.8 -0.7**
comp=Z,453nmcomp=Z,28nm,0.5s
AAI Ambon 36.31 197 P **P 12 33 15.5 -1.1**
comp=Z,3μmcomp=Z,109nm,0.8s
GOMU GeErMu 36.34 290 P **P 12 33 16.9 -0.1**
GOMU PcP **PcP 12 35 34.5 +0.9**
GOMU pmax pmax
comp=Z,110nm,1.0s
GOMU pmax pmax
comp=Z,430nm,4.3s
BNDI Bandanaira 36.72 194 P **P 12 33 19.7 -0.2**
comp=Z,210nm,1.0s
CHTO Chiang Mai 37.73 260 P **P 12 33 28.5 0.0**
CHTO Chiang Mai 37.73 260 P **P 12 33 28.5 0.0**
CHTO pmax pmax
comp=Z,3.0nm,1.0s
CHTO Chiang Mai 37.73 260 P **P 12 33 28.3 -0.2**

CHTO Chiang Mai 37.73 260 P **P 12 33 28.8 +0.3**
CHTO Chiang Mai 37.73 260 P **P 12 33 27.2 -1.3**
CHTO x x 12 33 41.9
CHTO pP **pP 12 34 32.7 +0.3**
CM31 Chiang Mai Arr 37.90 260 P **P 12 33 30.3 +0.4**
CM31 IAmb IAmb 12 33 32.4
comp=Z,41nm,0.9s
CMAR Chiang Mai Arr 37.90 260 P **P 12 33 30.1 +0.1**
comp=Z,22nm,0.8s,baz=48,slow=7.5,SNR=112
CMAR PcP **PcP 12 35 38.7 +0.5**
comp=Z,6.7nm,0.8s,baz=35,slow=1.0,SNR=8.4
CMAR ScP **ScP 12 38 54.5 +1.2**
comp=Z,14nm,0.9s,baz=33,slow=3.1,SNR=32
comp=Z,22nm,0.8s
CMAR Chiang Mai Arr 37.90 260 P **P 12 33 30.0 +0.1**
KIWB Kanaga Island 38.16 45 P **P 12 33 31.8 +0.3**
ADK Adak 38.45 45 P **P 12 33 34.4 +0.5**
ADK IAmb IAmb 12 33 35.9
comp=Z,220nm,2.0s
ADK Adak 38.45 45 P **P 12 33 34.4 +0.5**
ADK pmax pmax
comp=Z,220nm,2.0s
BILL Bilibino 40.03 16 ⇓*i*P **P 12 33 48.0 +1.3**
BILL pmax pmax
comp=Z,105nm,1.7s
KAPI Kappang 40.44 210 P **P 12 33 48.8 -1.8**
TIXI Tiksi 40.56 355 P **P 12 33 50.8 -0.2**
TIXI Tiksi 40.56 355 *ce*P **P 12 33 50.4 -0.5**
TIXI pmax pmax
comp=Z,30nm,1.7s
TIXI Tiksi 40.56 355 P **P 12 33 49.8 -1.1**
SHL Shillong 41.11 274 P **P 12 33 55.4 -0.9**
SHL Shillong 41.11 274 P **P 12 33 55.4 -0.9**
SHL pmax pmax
comp=Z,34nm,0.8s
BBKI Banjar Baru 41.39 217 P **P 12 33 58.2 -0.2**
comp=Z,26nm,1.2s
WMQ Urumqi 41.44 302 ⇑P **P 12 33 59.4 +0.8**
WMQ PcP **PcP 12 35 50.2 +0.9**
WMQ pmax pmax
comp=Z,110nm,1.7s
WMQ pmax pmax
comp=Z,680nm,4.7s
WMQ LR LR
comp=Z,530nm,12.5s
WMQ LR LR
comp=Z,780nm,16.5s
WMQ LR LR
comp=Z,460nm,21.3s
PMG Port Moresby 41.49 167 PcP **PcP 12 35 50.3 +0.6**
baz=0.0,slow=4.0
PMG Port Moresby 41.49 167 P **P 12 33 58.4 -0.7**
PMG Port Moresby 41.49 167 P **P 12 33 58.4 -0.7**
PMG pmax pmax
comp=Z,41nm,1.5s
EDFI Ende, Flores 43.10 205 P **P 12 34 11.1 -1.0**
comp=Z,10nm,1.2s
NIKH Nikolski High 43.36 44 P **P 12 34 13.1 -0.5**
NIKH IAmb IAmb 12 34 18.5
comp=Z,190nm,1.3s
NIKH Nikolski High 43.36 44 P **P 12 34 13.9 +0.3**
baz=262
ZSN Zaisan 43.47 307 *d*⇓*i*P **P 12 34 15.3 +0.7**
ZSN pmax pmax
comp=Z,68nm,1.4s
ZSN Zaisan 43.47 307 ⇓*i*P **P 12 34 15.4 +0.7**
comp=Z,68nm,1.4s,baz=308
ZSN *i*S **S 12 40 18.9 +1.5**
baz=308
BATI Baumata 43.81 201 P **P 12 34 16.9 -0.7**
comp=Z,16nm,0.4s
KULM Kulim 43.97 242 P **P 12 34 18.8 -0.2**
MYKOM Kota Tinggi 44.03 235 P **P 12 34 20.2 +0.8**
ZAA0 Zalesovo Array 44.07 317 P **P 12 34 18.8 -0.4**
ZAA0 IAmb IAmb 12 34 20.0
comp=Z,120nm,1.6s
ZALV Zalesovo Beam 44.07 317 P **P 12 34 18.7 -0.5**
comp=Z,15nm,0.4s,baz=85,slow=7.5,SNR=47
ZALV PcP **PcP 12 35 57.9 0.0**
comp=Z,9.3nm,0.5s,baz=111,slow=3.3,SNR=11
ZALV ScP **ScP 12 39 17.1 -0.1**
comp=Z,7.5nm,0.8s,baz=97,slow=3.4,SNR=12
ZALV ScS **ScS 12 43 37.3 -3.0**
comp=Z,0.6nm,0.4s,baz=76,slow=6.1,SNR=6.4
comp=Z,15nm,0.4s
TAPN Taplejung 44.09 278 *e*P **P 12 34 19.7 -0.5**
comp=Z,53nm,0.4s
IPM Ipoh 44.22 240 P **P 12 34 20.8 -0.2**
IPM IAmb IAmb 12 34 21.8
comp=Z,40nm,0.8s
IPM Ipoh 44.22 240 P **P 12 34 20.7 -0.2**
KDU Kakadu 44.28 188 P **P 12 34 21.3 0.0**
ODAN Odare 44.52 278 *e*P **P 12 34 22.0 -1.4**
MTN Manton Dam 44.62 190 P **P 12 34 23.9 -0.1**
MTN IAmb IAmb 12 34 24.4
comp=Z,136nm,1.6s
MTN Manton Dam 44.62 190 P **P 12 34 23.5 -0.5**
TPI Tanjungpandan 44.91 226 P **P 12 34 26.4 +0.1**
comp=Z,36nm,1.1s
RAMN Ramite 45.16 278 *e*P **P 12 34 28.0 -0.4**
comp=Z,201nm,0.7s
RAMN Ramite 45.16 278 *e*P **ScP 12 39 20.7 -1.8**
comp=Z,80nm,0.9s
DSRI Dabo 45.18 232 P **P 12 34 28.6 +0.2**
comp=Z,635nmcomp=Z,8.7nm,1.1s
SRBI Singaraja 45.19 213 P **P 12 34 28.4 0.0**
comp=Z,30nm,0.9s
MK31 Makanchi Array 45.23 306 P **P 12 34 28.5 +0.1**
MK31 IAmb IAmb 12 34 29.6
comp=Z,64nm,0.9s
MK31 Makanchi Array 45.23 306 *i*P **P 12 34 28.3 -0.1**
MK31 pmax pmax
comp=Z,58nm,0.7s
MKAR Makanchi Array 45.23 306 P **P 12 34 28.5 0.0**
comp=Z,48nm,0.8s,baz=91,slow=9.6,SNR=172
MKAR PcP **PcP 12 36 02.6 +0.5**
comp=Z,16nm,0.9s,baz=77,slow=6.4,SNR=8.7
MKAR ScP **ScP 12 39 21.8 -0.4**
comp=Z,8.1nm,0.6s,baz=80,slow=5.7,SNR=19
MKAR ScS **ScS 12 43 39.3 -8.8**
comp=Z,1.1nm,0.9s,baz=87,slow=8.8,SNR=4.0
comp=Z,48nm,0.8s
MKAR Makanchi Array 45.23 306 P **P 12 34 28.8 +0.3**
JIRN Jiri 45.28 279 *e*P **P 12 34 29.8 +0.3**
comp=Z,273nm,0.6s
JIRN Jiri 45.28 279 *e*P **ScP 12 39 23.6 +0.4**
comp=Z,32nm,0.8s
COEN Coen 45.40 174 P **P 12 34 30.5 +0.5**
COEN Coen 45.40 174 P **P 12 34 30.5 +0.5**
ABJI Asem Bagus 45.41 215 P **P 12 34 29.6 -0.5**
comp=Z,45nm,1.2s
PPBI Pangkal Pinang 45.41 229 P **P 12 34 30.1 -0.1**
comp=Z,18μmcomp=Z,47nm,0.7s
MAKZ Makanchi 45.44 307 P **P 12 34 30.4 +0.3**
MAKZ IAmb IAmb 12 34 31.5
comp=Z,130nm,1.4s
MAKZ Makanchi 45.44 307 P **P 12 34 30.4 +0.3**
MAKZ pmax pmax
comp=Z,130nm,1.4s
GUN Gumba 45.47 280 *e*P **P 12 34 31.2 +0.2**
PKI Pulchoki 45.97 279 *e*P **P 12 34 34.1 -0.7**
comp=Z,101nm,1.0s
PKI Pulchoki 45.97 279 *e*P **ScP 12 39 25.3 -0.7**
PKIN Phulchoki 45.98 279 *e*P **P 12 34 34.1 -0.7**
comp=Z,26nm,0.4s
PKIN Phulchoki 45.98 279 *e*P **ScP 12 39 25.3 -0.7**
KKN Kakani 46.01 280 *e*P **P 12 34 35.1 +0.1**
DMN Daman 46.21 279 *e*P **P 12 34 36.3 -0.3**
comp=Z,16nm,0.3s
GKN Gorkha 46.48 280 *e*P **P 12 34 38.3 -0.3**
comp=Z,192nm,1.0s
GKN Gorkha 46.48 280 *e*P **ScP 12 39 27.6 -0.3**
SEM Semipalatinsk 46.59 312 *d*⇓*i*P **P 12 34 38.3 -0.8**
SEM pmax pmax
comp=Z,23nm,0.6s
SEM Semipalatinsk 46.59 312 ⇓*i*P **P 12 34 38.4 -0.8**
comp=Z,23nm,0.6s,baz=312
PWJI Pagerwojo 46.83 218 P **P 12 34 39.6 -1.5**
comp=Z,53nm,0.8s
BKNI Bangkinang 47.04 236 P **P 12 34 42.7 -0.1**
comp=Z,151nm,1.1s
BKNI Bangkinang 47.04 236 P **P 12 34 44.4 +1.6**
DANN Dangsing 47.11 281 *e*P **P 12 34 43.7 +0.1**
comp=Z,134nm,0.5s
DANN Dangsing 47.11 281 *e*P **ScP 12 39 30.9 +0.1**
NRIK Noril'sk 47.39 338 P **P 12 34 45.0 +0.3**

comp=Z,27nm,0.4s,baz=110,slow=8.4,SNR=37
NRIK PcP **PcP** **12 36 09.7 +0.4**
comp=Z,7.8nm,0.6s,baz=96,slow=2.4,SNR=3.6
NRIK ScP **ScP** **12 39 30.6 -0.1**
comp=Z,16nm,1.2s,baz=127,slow=7.7,SNR=6.7
comp=Z,27nm,0.4s
NRIK Noril'sk 47.39 338 P **P** **12 34 45.0 +0.3**
NRIK IAmb IAmb 12 34 46.2
comp=Z,240nm,1.8s
NRIK Noril'sk 47.39 338 P **P** **12 34 45.0 +0.3**
NRIK pmax pmax
comp=Z,240nm,1.8s
PDGK Podgornoye 47.42 302 P **P** **12 34 45.0 -0.5**
KOLN Koldanda 47.43 280 *eP* **P** **12 34 45.1 -0.8**
SHLS Shalkode 47.46 302 *d iP* **P** **12 34 43.3 -2.5**
SHLS Shalkode 47.46 302 ⇓ *iP* **P** **12 34 43.4 -2.5**
baz=302
KURK Kurchatov 47.63 312 P **P** **12 34 46.4 -0.4**
KURK IAmb IAmb 12 34 47.6
comp=Z,86nm,0.8s
KURK Kurchatov 47.63 312 *ceP* **P** **12 34 46.3 -0.5**
KURK pmax pmax
comp=Z,151nm,1.3s
KURK Kurchatov 47.63 312 P **P** **12 34 46.4 -0.5**
KURK Kurchatov 47.63 312 P **P** **12 34 44.1 -2.7**
KURBB Kurchatov Arra 47.69 312 ScP **ScP** **12 39 31.3 -1.1**
comp=Z,4.7nm,0.9s,baz=98,slow=3.5,SNR=14
KURBB Kurchatov Arra 47.69 312 P **P** **12 34 46.9 -0.3**
UZB Uzynbulak 47.78 302 *i P* **P** **12 34 48.0 -0.3**
UZB Uzynbulak 47.78 302 *i P* **P** **12 34 48.1 -0.3**
baz=302
KNRA Kununurra 47.80 193 P **P** **12 34 48.5 +0.1**
KNRA Kununurra 47.80 193 P **P** **12 34 48.8 +0.4**
PYUN Piuthan 47.84 281 *eP* **P** **12 34 49.2 +0.2**
PYUN Piuthan 47.84 281 *eP* **ScP** **12 39 32.1 -1.6**
comp=Z,16nm,0.7s
KPKS Kokpek 47.99 302 *d iP* **P** **12 34 49.7 -0.1**
KPKS Kokpek 47.99 302 ⇓ *iP* **P** **12 34 49.7 -0.1**
baz=302
TDK Taldyqorghan 48.03 304 *eP* **P** **12 34 50.1 +0.1**
TDK Taldyqorghan 48.03 304 *eP* **P** **12 34 50.1 +0.1**
baz=304
LEM Lembang 48.16 223 P **P** **12 34 51.1 -0.4**
comp=Z,95nm,0.9s
ZHN Zhinishke 48.20 302 *eP* **P** **12 34 51.2 -0.3**
ZHN Zhinishke 48.20 302 *eP* **P** **12 34 51.3 -0.3**
baz=302
SATY Saty 48.24 302 *d iP* **P** **12 34 51.8 +0.1**
SATY Saty 48.24 302 ⇓ *iP* **P** **12 34 51.9 +0.1**
baz=302
DBJI Dramaga 48.45 224 P **P** **12 34 52.8 -0.7**
comp=Z,12μmcomp=Z,57nm,0.4s
SDPT Sand Point 48.50 42 P **P** **12 34 53.0 -0.3**
baz=267
MASI Maura Aman, Be 48.70 232 P **P** **12 34 54.4 -1.1**
comp=Z,345nm,0.9s
KSI Kapahiang 48.85 231 P **P** **12 34 56.2 -0.4**
GSI Gunungsitoli 48.89 240 P **P** **12 34 56.4 -0.5**
GSI Gunungsitoli 48.89 240 P **P** **12 34 56.3 -0.6**
comp=Z,262nm,1.1s
GSI Gunungsitoli 48.89 240 P **P** **12 34 56.8 -0.1**
LWLI Liwa 48.92 228 P **P** **12 34 56.4 -0.8**
comp=Z,6μmcomp=Z,90nm,0.7s
CHNA Chernabura Isl 48.98 43 P **P** **12 34 57.3 +0.4**
baz=268
CNBA Chernabura Isl 48.98 43 P **P** **12 34 56.9 0.0**
KASI Kota Agung 49.03 227 P **P** **12 34 56.0 -1.8**
comp=Z,40nm,0.7s
CHKK Chushkaly 49.17 303 ⇓ *iP* **P** **12 34 58.6 0.0**
CHKK Chushkaly 49.17 303 ⇓ *iP* **P** **12 34 58.6 0.0**
baz=303
MDOK Medeo 49.21 302 *i P* **P** **12 34 59.7 +0.6**
MDOK Medeo 49.21 302 *i P* **P** **12 34 59.7 +0.6**
baz=302
AAA Alma-Ata 49.30 302 *eP* **P** **12 35 00.3 +0.6**
AAA pmax pmax
comp=Z,66nm,0.5s
AAA Alma-Ata 49.30 302 *eP* **P** **12 35 00.4 +0.6**
comp=Z,66nm,0.5s,baz=302
KUU Kurty 49.63 303 *d iP* **P** **12 35 02.0 0.0**
KUU pmax pmax
comp=Z,53nm,0.6s
KUU Kurty 49.63 303 ⇓ *iP* **P** **12 35 02.0 0.0**
comp=Z,54nm,0.6s,baz=303
MTSU Mount Surprise 49.65 173 P **P** **12 35 03.0 +0.6**
CHGN Chignik 49.70 41 P **P** **12 35 02.0 -0.3**
baz=268,SNR=5.5
N16K Nishlik Lake 49.83 35 P **P** **12 35 04.7 +1.4**
baz=264,SNR=7.5
ULHL Ulahol 49.93 301 P **P** **12 35 05.2 +0.6**
SNR=11
PPSI Pulau Pagai 49.95 234 P **P** **12 35 03.9 -0.9**
comp=Z,171nm,1.2s
O16K Kokwok River B 50.08 36 P **P** **12 35 06.2 +1.1**
baz=265
NRN Naryn 50.24 300 P **P** **12 35 07.5 +0.4**
NRN IAmb IAmb 12 35 07.8
comp=Z,42nm,1.1s
NRN Naryn 50.24 300 P **P** **12 35 07.5 +0.4**
NRN pmax pmax
comp=Z,42nm,1.1s
TKM2 Tokmak 2 50.30 302 P **P** **12 35 08.0 +0.7**
SNR=36
TKM2 Tokmak 2 50.30 302 *i P* **P** **12 35 07.1 -0.2**
TKM2 pmax pmax
comp=Z,96nm,1.5s
O17K Koliganek Bris 50.60 36 P **P** **12 35 10.0 +1.0**
baz=266
KSH Kashi 50.61 297 P **P** **12 35 13.2 +3.6**
KSH pmax pmax
comp=Z,52nm,1.0s
KSH LR LR
comp=Z,3μm,23.7s
KSH LR LR
comp=Z,3μm,23.4s
KSH LR LR
comp=Z,3μm,19.9s
Q16K King Salmon 50.76 38 P **P** **12 35 11.5 +1.3**
baz=267
FITZ Fitzroy Crossi 50.81 196 ScP **ScP** **12 39 45.9 -0.1**
comp=Z,4.5nm,1.0s,baz=105,slow=4.4,SNR=3.7
FITZ Fitzroy Crossi 50.81 196 P **P** **12 35 11.4 +0.5**
FITZ IAmb IAmb 12 35 12.6
comp=Z,80nm,1.9s
FITZ Fitzroy Crossi 50.81 196 P **P** **12 35 11.5 +0.5**
KBK Karagaybulak 50.81 302 P **P** **12 35 11.3 +0.2**
SNR=24
R17K Ugashik Creek 50.86 39 P **P** **12 35 11.1 +0.1**
baz=268
P17K Kvichak River 50.90 37 P **P** **12 35 12.4 +1.2**
baz=267
CHMS Chumysh 50.90 302 P **P** **12 35 11.8 +0.2**
SNR=8.5
CHMS Chumysh 50.90 302 *i P* **P** **12 35 11.3 -0.2**
CHMS pmax pmax
comp=Z,67nm,1.2s
SGDS Sogindy 50.92 303 *d iP* **P** **12 35 11.7 0.0**
SGDS Sogindy 50.92 303 ⇓ *iP* **P** **12 35 11.7 0.0**
baz=303
USP Ospenovka 51.04 302 P **P** **12 35 12.7 +0.1**
SNR=22
BTLS Baital 51.10 305 *d iP* **P** **12 35 12.8 -0.1**
BTLS pmax pmax
comp=Z,32nm,0.6s
BTLS Baital 51.10 305 ⇓ *iP* **P** **12 35 12.9 -0.1**
comp=Z,32nm,0.6s,baz=305
WB0 Warramunga Arr 51.10 185 P **P** **12 35 13.0 -0.2**
AAK Ala-Archa 51.15 302 P **P** **12 35 13.8 +0.2**
SNR=18
AAK Ala-Archa 51.15 302 P **P** **12 35 13.7 +0.2**
AAK IAmb IAmb 12 35 14.2
comp=Z,26nm,0.7s
AAK Ala-Archa 51.15 302 *ceP* **P** **12 35 13.5 -0.1**
AAK pmax pmax
comp=Z,50nm,1.3s
AAK Ala-Archa 51.15 302 P **P** **12 35 13.4 -0.1**
AAK Ala-Archa 51.15 302 *i P* **P** **12 35 13.6 +0.1**
SNR=20
AAK Ala-Archa 51.15 302 P **P** **12 35 11.8 -1.8**
AAK pP **PcP** **12 36 23.4 -0.5**
AAK sP **sP** **12 36 57.5 -0.7**
UCH Uchtor 51.20 301 P **P** **12 35 15.2 +0.9**
SNR=33
GCSA Galena City Sc 51.23 30 P **P** **12 35 14.0 +0.6**
baz=262
CHIR Chirikof Islan 51.26 41 P **P** **12 35 14.8 +0.9**
baz=270
N18K Kilae Creek 51.26 35 P **P** **12 35 15.2 +1.3**
baz=266
WRAB Tennant Creek 51.27 185 P **P** **12 35 14.1 -0.3**
WRAB IAmb IAmb 12 35 15.0
comp=Z,93nm,0.9s
WRAB Tennant Creek 51.27 185 *ceP* **P** **12 35 14.0 -0.3**
WRAB pmax pmax
comp=Z,124nm,1.3s
WRAB Tennant Creek 51.27 185 P **P** **12 35 14.3 -0.1**
WB2 Warramunga Arr 51.28 185 P **P** **12 35 14.3 -0.1**
WB2 IAmb IAmb 12 35 15.1
comp=Z,89nm,0.9s
WRA Warramunga Arr 51.28 185 P **P** **12 35 14.2 -0.2**
comp=Z,71nm,0.5s,baz=0.7,slow=7.7,SNR=392
WRA PcP **PcP** **12 36 24.9 +0.7**
comp=Z,12nm,1.0s,baz=358,slow=4.1,SNR=5.8
WRA ScP **ScP** **12 39 48.0 -0.1**
comp=Z,4.1nm,0.9s,baz=0.3,slow=4.5,SNR=6.4
WRA S **S** **12 42 03.8 -3.3**
comp=Z,6.6nm,1.1s,baz=3.5,slow=13,SNR=10
comp=Z,71nm,0.5s
WRA Warramunga Arr 51.28 185 P **P** **12 35 13.4 -1.1**
WRA Warramunga Arr 51.28 185 *i* P **P** **12 35 13.5 -0.9**
WRA pmax pmax
comp=Z,76nm,0.4s
WR0 Warramunga Arr 51.28 185 P **P** **12 35 14.4 -0.1**
TTA Tatalina 51.39 32 P **P** **12 35 15.8 +0.9**
baz=264
BRZS Berezniki 51.46 311 *d iP* **P** **12 35 15.4 -0.1**
BRZS Berezniki 51.46 311 ⇓ *iP* **P** **12 35 15.4 -0.1**
baz=311
P18K Big Mountain, 51.53 37 P **P** **12 35 17.0 +1.1**
P18K Big Mountain, 51.53 37 P **P** **12 35 16.8 +0.9**
baz=268
O18K Koktuh Hills 51.56 36 P **P** **12 35 18.3 +2.2**
O18K Koktuh Hills 51.56 36 P **P** **12 35 17.1 +1.0**
baz=268
EKS2 Erin-Say 51.66 302 P **P** **12 35 17.5 +0.2**
SNR=9.0
QIS Mount Isa 51.75 179 P **P** **12 35 17.9 0.0**
CTA Charters Tower 51.81 171 P **P** **12 35 18.7 +0.3**
CTAO Charters Tower 51.81 171 P **P** **12 35 18.8 +0.5**
CTAO IAmb IAmb 12 35 19.6
comp=Z,51nm,1.1s
CTAO Charters Tower 51.81 171 P **P** **12 35 18.8 +0.5**
CTAO pmax pmax
comp=Z,51nm,1.2s
CTAO Charters Tower 51.81 171 P **P** **12 35 18.4 0.0**
CTAO Charters Tower 51.81 171 P **P** **12 35 17.1 -1.2**
CTAO pP **pwP** **12 36 30.3 -0.1**
AML Almayashu 51.82 301 P **P** **12 35 19.6 +0.9**
SNR=19
OTUK Ortayu 51.86 309 P **P** **12 35 18.4 -0.1**
L19K White Mountain 51.86 33 P **P** **12 35 19.5 +1.2**
baz=266
N19K Bonanza Creek 51.96 35 P **P** **12 35 20.7 +1.6**
N19K Bonanza Creek 51.96 35 P **P** **12 35 20.4 +1.3**
baz=267
SII Sitkinak Islan 52.06 40 P **P** **12 35 20.3 +0.5**
baz=271
M19K Big River Lodg 52.06 34 P **P** **12 35 20.6 +0.9**
baz=267
K20K Telida 52.31 32 P **P** **12 35 21.7 +0.2**
baz=266
Q19K Cape Douglas, 52.34 37 P **P** **12 35 21.9 +0.1**
baz=270
L20K Farewell, AK 52.34 33 P **P** **12 35 22.8 +1.1**
baz=267
J20K Nowinta River 52.34 31 P **P** **12 35 23.0 +1.3**
baz=265,SNR=8.8
OHAK Old Harbor 52.54 40 P **P** **12 35 23.4 +0.2**
baz=271
P19K Oil Pt 52.55 36 P **P** **12 35 24.1 +0.8**
baz=269
BVA0 Borovoye Array 52.64 315 *i* P **P** **12 35 23.6 -0.5**
BVAR Borovoye Array 52.64 315 ScP **ScP** **12 39 53.6 -0.1**
comp=Z,7.5nm,0.8s,baz=99,slow=5.5,SNR=8.9
M20K Styx River 52.66 34 P **P** **12 35 25.6 +1.4**
baz=268
BRVK Borovoye 52.70 315 P **P** **12 35 24.6 +0.1**
BRVK IAmb IAmb 12 35 25.9
comp=Z,59nm,0.8s
BRVK Borovoye 52.70 315 *ceP* **P** **12 35 24.4 -0.1**
BRVK pmax pmax
comp=Z,81nm,1.0s
BRVK Borovoye 52.70 315 P **P** **12 35 24.4 -0.1**
BRVK Borovoye 52.70 315 P **P** **12 35 22.0 -2.5**
BRVK pP **PcP** **12 36 29.1 -0.2**
G21K Allakaket 52.83 28 P **P** **12 35 26.4 +1.2**
baz=264
O20K Slope Mountain 52.86 36 P **P** **12 35 26.3 +0.6**
baz=270,SNR=6.1
KDAK Kodiak Island 52.90 39 P **P** **12 35 26.4 +0.6**
KDAK IAmb IAmb 12 35 27.1
comp=Z,24nm,0.6s
KDAK Kodiak Island 52.90 39 P **P** **12 35 26.4 +0.6**
KDAK pmax pmax
comp=Z,24nm,0.6s
KDAK Kodiak Island 52.90 39 P **P** **12 35 26.4 +0.6**
baz=271
KDAK Kodiak Island 52.90 39 P **P** **12 35 25.6 -0.3**
F21K Alatna River 52.92 27 P **P** **12 35 26.6 +0.7**
baz=263
Q20K Shuyak Island 52.99 38 P **P** **12 35 26.5 0.0**
baz=271
H21K Melozitna Rive 53.03 29 P **P** **12 35 27.6 +0.8**
baz=265
N20K Mount Spurr 53.08 35 P **P** **12 35 28.3 +1.1**
baz=269
PPLA Purkeypile 53.13 32 P **P** **12 35 28.6 +0.9**
baz=268
CAST Castle Rocks 53.20 32 P **P** **12 35 29.4 +1.4**
baz=268,SNR=5.0
HOM Homer 53.36 36 P **P** **12 35 30.2 +1.0**
baz=271
DZA Taraz 53.39 302 *eP* **P** **12 35 29.8 +0.1**
DZA Taraz 53.39 302 *eP* **P** **12 35 29.8 +0.1**
baz=302
SKT Skwentna 53.42 34 P **P** **12 35 30.3 +0.7**
baz=269
F22K John River 53.45 27 P **P** **12 35 31.1 +1.4**
baz=264
H22K Ishtalitna Cre 53.64 29 P **P** **12 35 32.5 +1.4**
baz=266
E22K Anaktuvuk Pass 53.65 26 P **P** **12 35 32.5 +1.3**
baz=264
G22K Bettles 53.66 27 P **P** **12 35 32.5 +1.3**
baz=265
BPAW Bear Paw Mtn. 53.72 31 P **P** **12 35 32.7 +1.0**
baz=268
BRLK Bradley Lake 53.74 36 P **P** **12 35 32.8 +0.8**
SUA Susitna One 53.79 34 P **P** **12 35 32.8 +0.5**
baz=270
BRSE Bradley Lake S 53.81 36 P **P** **12 35 34.3 +1.8**
baz=271
MLY Manley 53.86 30 P **P** **12 35 33.8 +1.1**
baz=268
KK31 Karatay Array 53.94 303 P **P** **12 35 33.8 +0.2**
KK31 IAmb IAmb 12 35 34.9
comp=Z,194nm,1.4s
KK31 Karatay Array 53.94 303 P **P** **12 35 33.8 +0.2**
KK31 pmax pmax
comp=Z,194nm,1.4s
KKAR Karatay Array 53.94 303 P **P** **12 35 33.4 -0.3**
KKAR Karatay Array 53.94 303 P **P** **12 35 33.4 -0.3**
CUT Chulitna 54.01 33 P **P** **12 35 33.8 0.0**
baz=270
M22K Willow 54.09 34 P **P** **12 35 34.5 +0.2**
baz=270
D23K Nanushuk River 54.15 25 P **P** **12 35 36.5 +1.8**
baz=265
NIL Nilore 54.17 291 P **P** **12 35 36.0 +0.5**
NIL IAmb IAmb 12 35 36.5
comp=Z,86nm,1.0s
NIL Nilore 54.17 291 P **P** **12 35 36.0 +0.5**
NIL pmax pmax
comp=Z,86nm,1.0s
NIL Nilore 54.17 291 P **P** **12 35 35.9 +0.5**
COLD Coldfoot 54.19 27 P **P** **12 35 36.9 +1.9**
baz=266
G23K Bananza Creek 54.23 28 P **P** **12 35 36.6 +1.2**
baz=267
C23K Itkillik River 54.25 24 P **P** **12 35 36.8 +1.4**
baz=264
RC01 Rabbit Creek A 54.28 35 P **P** **12 35 36.6 +0.8**
baz=271
O22K Cooper Landing 54.30 35 P **P** **12 35 36.5 +0.6**
baz=272
BTK Batken 54.38 299 P **P** **12 35 36.8 -0.1**
BTK IAmb IAmb 12 35 38.0
comp=Z,46nm,0.9s
BTK Batken 54.38 299 P **P** **12 35 36.8 -0.1**
BTK pmax pmax
comp=Z,46nm,1.0s
H23K Yukon River 54.39 29 P **P** **12 35 37.8 +1.3**
baz=268
SEW Seward 54.45 36 P **P** **12 35 37.4 +0.5**
baz=272,SNR=7.2
IUG Iuzhnay 54.48 302 *d iP* **P** **12 35 38.1 +0.5**
IUG Iuzhnay 54.48 302 ⇓ *iP* **P** **12 35 38.2 +0.5**
baz=302
TOLK Toolik Lake Re 54.52 25 P **P** **12 35 38.4 +1.0**
baz=266
PMR Palmer 54.56 34 P **P** **12 35 38.4 +0.8**
baz=272
NEA2 Nenana 54.56 30 P **P** **12 35 38.7 +1.0**
baz=269
MCK McKinley 54.62 31 P **P** **12 35 38.8 +0.6**
baz=270
WAT1 Susitna Watana 54.80 32 P **P** **12 35 40.4 +0.9**
baz=271
D24K Happy Valley 54.83 25 P **P** **12 35 41.1 +1.6**
baz=266
KNK Knik Glacier 54.89 34 P **P** **12 35 40.4 +0.3**
baz=272,SNR=5.5
E24K Your Creek 54.89 26 P **P** **12 35 41.4 +1.4**
baz=268
C24K Franklin Bluff 54.91 24 P **P** **12 35 41.3 +1.3**
baz=266
SML Sawmill 54.93 34 P **P** **12 35 41.0 +0.5**
baz=272
PWL Port Wells 54.97 35 P **P** **12 35 41.2 +0.5**
baz=273,SNR=6.0
AS31 Alice Springs 55.00 185 P **P** **12 35 41.4 0.0**
AS31 IAmb IAmb 12 35 43.1
comp=Z,27nm,0.5s
ASAR Alice Springs 55.00 185 P **P** **12 35 41.3 -0.1**
comp=Z,26nm,0.4s,baz=23,slow=11,SNR=1363
ASAR PcP **PcP** **12 36 39.4 +0.9**
comp=Z,1.4nm,0.5s,baz=357,slow=4.6,SNR=1.0
ASAR ScP **ScP** **12 40 05.0 +0.7**
comp=Z,2.4nm,1.1s,baz=2.2,slow=3.4,SNR=4.2
ASAR S **S** **12 42 55.2 -1.8**
comp=Z,3.3nm,0.9s,baz=358,slow=9.3,SNR=12
comp=Z,26nm,0.4s
GAR Garm 55.01 298 P **P** **12 35 41.6 +0.2**
H24K Noodor Dome 55.08 29 P **P** **12 35 42.8 +1.4**
baz=270
TCOL CIGO, UAF Yank 55.08 30 P **P** **12 35 42.8 +1.5**
baz=270
COLA College 55.09 30 P **P** **12 35 42.8 +1.5**
baz=270
F24K Squaw Lake 55.10 27 P **P** **12 35 43.2 +1.7**
baz=268
WAT6 Susitna Watana 55.18 33 P **P** **12 35 43.0 +0.6**
baz=272
M23K Glacier View 55.22 34 P **P** **12 35 43.1 +0.7**
baz=273
G24K Hadweenzic Riv 55.24 28 P **P** **12 35 44.1 +1.6**
baz=269
POKR Poker Flat Res 55.26 30 P **P** **12 35 43.7 +1.0**
baz=270
DHY Denali Highway 55.33 32 P **P** **12 35 44.0 +0.7**
baz=272
MBWA Marble Bar 55.33 201 P **P** **12 35 44.1 +0.4**
SCM Sheep Creek Mo 55.41 34 P **P** **12 35 44.6 +0.7**
baz=273
P23K Montague Islan 55.48 36 P **P** **12 35 45.2 +0.9**
baz=274
ILAR Eielson Array 55.50 30 P **P** **12 35 44.4 0.0**
comp=Z,2.6nm,0.8s,baz=268,slow=5.9,SNR=15
GLI Glacier Island 55.58 35 P **P** **12 35 45.4 +0.5**
baz=274
PSA00 Pilbara Seismi 55.69 201 P **P** **12 35 46.5 +0.4**
PSA00 Pilbara Seismi 55.69 201 P **P** **12 35 46.1 -0.1**
PSA00 IAmb IAmb 12 35 47.0
comp=Z,6.2nm,0.8s
HYBB Hyderabad (bro 55.70 270 *eP* **P** **12 35 46.3 -0.2**
D25K Kavik River 55.70 25 P **P** **12 35 46.6 +0.8**
baz=269
RK1H Rockhampton Ha 55.76 167 P **P** **12 35 46.6 0.0**
M24K Tolsona, Glenn 55.94 33 P **P** **12 35 48.2 +0.6**
baz=274
F25K Christian Rive 55.96 27 P **P** **12 35 49.5 +1.9**
baz=270
CHGR Chuyangaron 55.97 298 P **P** **12 35 48.5 +0.3**
CHGR Chuyangaron 55.97 298 P **P** **12 35 48.5 +0.3**
CHGR pmax pmax
comp=Z,628nm,1.1s
E25K Arctic Village 55.99 26 P **P** **12 35 48.1 +0.3**
baz=270
PRP Porcupine Dome 56.05 29 P **P** **12 35 49.0 +0.6**
baz=272
KLU Klutina 56.10 34 P **P** **12 35 49.3 +0.6**
baz=274
PAX Paxson 56.21 32 P **P** **12 35 50.3 +0.8**
baz=274
EYAK Cordova Ski Ar 56.26 35 P **P** **12 35 50.4 +0.7**
baz=275
BMAR Burnt Mountain 56.37 27 P **P** **12 35 52.3 +1.8**
HARP HAARP 56.39 33 P **P** **12 35 51.7 +1.0**
baz=274
RIDG Independent Ri 56.44 31 P **P** **12 35 51.8 +0.8**
baz=274
F26K Sheenjek River 56.53 27 P **P** **12 35 53.2 +1.6**
baz=272
C27K Jago River 56.65 24 P **P** **12 35 52.7 +0.4**
baz=271
N25K Chitina, Valde 56.72 34 P **P** **12 35 52.6 -0.4**
baz=275
BMRM Bremner River 56.78 35 P **P** **12 35 54.4 +1.0**
baz=276,SNR=8.2
SCRK Sand Creek 56.80 31 P **P** **12 35 54.4 +0.8**
baz=274
J26L Joseph Creek 56.94 30 P **P** **12 35 55.2 +0.6**
baz=274
KAIM Kayak Island 56.99 36 P **P** **12 35 55.9 +1.1**
baz=277
WRKA Warakurna 57.03 191 P **P** **12 35 55.7 +0.1**
KBL Kabul 57.24 293 P **P** **12 35 57.0 -0.3**
KBL IAmb IAmb 12 35 58.1
comp=Z,60nm,0.9s
KBL Kabul 57.24 293 P **P** **12 35 57.0 -0.3**
KBL pmax pmax
comp=Z,60nm,1.0s
KBL Kabul 57.24 293 P **P** **12 35 57.3 0.0**
SNR=17
MCARA McCarthy VSAT 57.50 34 P **P** **12 35 58.8 +0.4**
baz=277
EIDS Eidsvold 57.80 166 P **P** **12 36 01.3 +0.5**
EIDS IAmb IAmb 12 36 02.4
comp=Z,52nm,1.3s
EIDS Eidsvold 57.80 166 P **P** **12 36 01.3 +0.5**
QLP Quilpie 58.00 174 P **P** **12 36 01.9 -0.2**
MESA MESA 58.18 35 P **P** **12 36 04.3 +1.0**
baz=278
CTG Chitna Glacier 58.36 34 P **P** **12 36 05.4 +0.9**
baz=278
RMQ Roma 58.47 169 P **P** **12 36 06.2 +0.8**
YUK3 Moose Creek 58.66 33 P **P** **12 36 07.1 +0.5**
baz=279
PALK Pallekele 58.84 259 P **P** **12 36 08.3 0.0**
PALK IAmb IAmb 12 36 09.1
comp=Z,31nm,1.0s
PALK Pallekele 58.84 259 P **P** **12 36 08.3 0.0**
PALK pmax pmax
comp=Z,31nm,1.0s
PALK Pallekele 58.84 259 P **P** **12 36 08.2 0.0**
INKA Innaminka 58.93 178 P **P** **12 36 08.9 +0.4**
O28M Mount Upton 58.95 34 P **P** **12 36 08.8 +0.2**
baz=280
ARU Arti 58.99 320 P **P** **12 36 08.6 0.0**
ARU Arti 58.99 320 *d iP* **P** **12 36 08.3 -0.3**
ARU 12 36 51.6
ARU *PP **pwP** **12 37 21.9 -2.8**
ARU 12 38 21.1
ARU PPP PPP 12 39 51.2
ARU S **S** **12 43 50.1 +2.1**
ARU SS **SS** **12 47 50.9 +3.4**
ARU pmax pmax
comp=Z,216nm,1.4s
ARU Arti 58.99 320 P **P** **12 36 06.5 -2.1**

ARU pP **pwP** **12 37 25.0 +0.3**
OOD Oodnadatta 59.00 183 P **P** **12 36 09.3 +0.3**
PINM Pinnacle 59.03 35 P **P** **12 36 09.9 +0.9**
baz=280
M29M Somme Creek 59.48 32 P **P** **12 36 13.7 +1.7**
baz=280
PNL Peninsula 59.53 36 P **P** **12 36 13.5 +1.1**
baz=281
EPYK Eagle Plains 59.56 28 P **P** **12 36 13.1 +0.7**
baz=279
NOUC Port Laguerre 59.58 150 P **P** **12 36 14.6 +1.6**
DZM Mont Dzumac 59.62 150 P **P** **12 36 15.0 +1.6**
comp=Z,21nm,0.6s,baz=287,slow=3.8,SNR=41
comp=Z,21nm,0.6s
DZM Mont Dzumac 59.62 150 P **P** **12 36 15.5 +2.1**
ABKAR Akbulak array 59.74 312 P **P** **12 36 14.2 +0.3**
O29M Mount Kennedy 59.82 35 P **P** **12 36 16.0 +1.6**
baz=281
M30M Minto, Yukon 60.21 32 P **P** **12 36 18.6 +1.7**
baz=281
P29M Windy Craggy 60.37 36 P **P** **12 36 19.5 +1.5**
baz=282
P30M Million Dollar 60.64 35 P **P** **12 36 21.7 +1.9**
baz=283
AKTO Aktyubinsk 60.65 314 P **P** **12 36 19.0 -1.0**
N31M Braeburn, Yuko 60.91 33 P **P** **12 36 22.4 +0.9**
baz=283
O30N Mendenhall 60.92 34 P **P** **12 36 23.4 +1.7**
baz=283
PLBC Pleasant Camp 61.09 36 P **P** **12 36 24.5 +1.8**
baz=283
WHY Whitehorse 61.52 34 P **P** **12 36 27.2 +1.4**
baz=284
MULG Mulgathing 61.56 184 P **P** **12 36 26.5 +0.3**
LCRK Leigh Creek 61.59 180 P **P** **12 36 27.2 +0.9**
SKAG Skagway 61.60 35 P **P** **12 36 27.5 +1.3**
baz=284
FARO Faro, Yukon 61.85 32 P **P** **12 36 28.3 +0.4**
baz=284
R32K Eaglecrest 62.31 37 P **P** **12 36 31.9 +1.1**
baz=286
HRA Herat 62.59 295 P **P** **12 36 33.9 +0.5**
HRA IAmb IAmb 12 36 34.4
comp=Z,46nm,0.9s
FORT Forrest 62.70 190 P **P** **12 36 34.0 +0.4**
FORT Forrest 62.70 190 P **P** **12 36 34.1 +0.4**
CMSA Cobar Meteorol 63.04 173 P **P** **12 36 36.8 +0.9**
STKA Stephens Creek 63.08 177 P **P** **12 36 36.5 +0.4**
comp=Z,18nm,0.7s,baz=7.8,slow=6.9,SNR=50
comp=Z,18nm,0.7s
STKA Stephens Creek 63.08 177 P **P** **12 36 36.6 +0.4**
STKA Stephens Creek 63.08 177 P **P** **12 36 36.6 +0.5**
STKA pmax pmax
comp=Z,11nm,1.4s
STKA Stephens Creek 63.08 177 P **P** **12 36 36.6 +0.5**
KIRV Kirov 63.25 324 *ce*P **P** **12 36 37.2 +0.2**
PRGR Permogore 64.13 328 *e*P **P** **12 36 41.1 -1.5**
GEYT Alibeck 64.45 300 P **P** **12 36 45.5 +0.4**
comp=Z,40nm,0.9s,baz=82,slow=2.1,SNR=47
comp=Z,40nm,0.9s
GEYT Alibeck 64.45 300 P **P** **12 36 45.3 +0.1**
GEYT IAmb IAmb 12 36 46.8
comp=Z,57nm,1.0s
V35K Ketchikan 64.72 39 P **P** **12 36 48.4 +1.9**
baz=289
HOPEN Hopen 64.83 346 *e*P **P** **12 36 48.0 +1.1**
HOPEN IAmb IAmb 12 36 49.8
comp=Z,67nm,1.1s
SPB2 Spitsbergen Ar 65.49 349 P **P** **12 36 52.0 +0.9**
SPITS Spitsbergen Ar 65.49 349 P **P** **12 36 51.6 +0.5**
SPITS pmax pmax
comp=Z,124nm,1.6s
KBS Kingsbay 65.70 350 *ce*P **P** **12 36 54.8 +2.4**
KBS pmax pmax
comp=Z,48nm,1.3s
KBS Kingsbay 65.70 350 *e*P **P** **12 36 53.9 +1.5**
GHSS Government Hou 66.04 180 P **P** **12 36 54.8 -0.2**
LVZ Lovozero 66.19 336 *ce*P **P** **12 36 57.7 +2.0**
LVZ pmax pmax
comp=Z,48nm,1.7s
KLMR Klimovskoe 67.17 328 *e*P **P** **12 37 00.0 -1.9**
KLMR *e* 12 37 24.6
KLMR pmax pmax
comp=Z,34nm,0.6s
KLMR Klimovskoe 67.17 328 *e*P **P** **12 37 00.0 -1.9**
KLMR AMP 12 37 03.1
comp=Z,34nm,0.6s
KLMR *e*PcP **PcP** **12 37 24.6 -2.6**
KEV Kevo 67.77 340 P **P** **12 37 06.2 +0.7**
KEV Kevo 67.77 340 P **P** **12 37 06.2 +0.7**
KEV pmax pmax
comp=Z,136nm,1.5s
HAMF Hammerfest 68.26 341 *e*P **P** **12 37 08.8 +0.4**
HAMF IAmb IAmb 12 37 09.3
comp=Z,25nm,0.7s
ARA0 ARCESS Array S 68.33 340 *e*P **P** **12 37 09.8 +0.8**
ARA0 IAmb IAmb 12 37 09.9
comp=Z,36nm,0.6s
ARCES ARCESS Array B 68.33 340 P **P** **12 37 09.6 +0.6**
comp=Z,18nm,0.5s,baz=65,slow=8.6,SNR=280
comp=Z,18nm,0.5s
ARCES ARCESS Array B 68.33 340 P **P** **12 37 09.6 +0.6**
ARCES IAmb IAmb 12 37 10.1
comp=Z,30nm,0.7s
ARCES ARCESS Array B 68.33 340 P **P** **12 37 09.6 +0.6**
ARCES pmax pmax
comp=Z,30nm,0.7s
TOO Toolangi 69.00 174 P **P** **12 37 14.6 +1.1**
TOO IAmb IAmb 12 37 15.8
comp=Z,36nm,1.2s
TOO Toolangi 69.00 174 P **P** **12 37 14.6 +1.1**
TOO pmax pmax
comp=Z,36nm,1.3s
KTK1 Kautokeino 69.30 340 *e*P **P** **12 37 15.4 +0.6**
KTK1 IAmb IAmb 12 37 16.3
comp=Z,46nm,1.2s
JASK Jask - Hormozg 69.44 288 P **P** **12 37 17.4 +0.9**
JETT Jettan, Norway 69.80 341 *e*P **P** **12 37 18.8 +0.8**
JETT IAmb IAmb 12 37 19.7
comp=Z,25nm,0.5s
YKA Yellowknife Ar 69.84 28 P **P** **12 37 19.0 +0.7**
comp=Z,11nm,0.9s,baz=303,slow=6.0,SNR=7.0
comp=Z,11nm,0.9s
YKA Yellowknife Ar 69.84 28 P **P** **12 37 19.0 +0.7**
WBK Wadi Bani Khal 69.97 285 P **P** **12 37 20.2 +0.4**
VRH Novokhopyorsk 70.08 318 *e*P **P** **12 37 19.3 -0.6**
VRH pmax pmax
comp=Z,80nm,0.6s
TRO Tromso 70.17 341 *e*P **P** **12 37 19.5 -0.6**
TRO IAmb IAmb 12 37 21.1
comp=Z,100nm,1.6s
BIDO Bidbid 70.26 286 P **P** **12 37 22.2 +0.7**
SNR=6.9
MOS Moscow 70.27 324 *e*P **P** **12 37 18.6 -2.3**
MOS *e* 12 40 00.1
MOS *e*S **S** **12 46 01.7 -3.2**
MOS pmax pmax
comp=Z,176nm,1.2s
MOS pmax pmax
comp=Z,300nm,1.6s
SMDO Samad 70.53 286 P **P** **12 37 23.4 +0.2**
SHME Shamm 70.76 289 P **P** **12 37 25.2 +0.7**
SNR=7.0
SHME Shamm 70.76 289 *i* P **P** **12 37 24.9 +0.5**
SNR=33
JMDO Jabal Madar 70.79 285 P **P** **12 37 24.6 -0.2**
HOQ Hoqain 70.90 286 P **P** **12 37 25.6 +0.2**
SNR=13
TULEG Thule 70.90 7 *i* P **P** **12 37 24.4 +0.1**
TULEG IAmb IAmb 12 37 28.2
comp=Z,20nm,0.9s
MDH Madha 70.96 288 P **P** **12 37 25.4 -0.3**
LPSR Galich'ya Gora 71.01 320 *e*P **P** **12 37 25.0 -0.5**
LPSR pmax pmax
comp=Z,130nm,1.1s
GROC Groznyy 71.02 309 *e*P **P** **12 37 25.7 0.0**
GROC *e* 12 37 43.7
GROC *e**PP **pwP** **12 38 42.3 -2.3**
MASF Masafi 71.04 289 P **P** **12 37 26.4 +0.1**
MSFE Esma-Masafi 71.05 289 P **P** **12 37 26.4 +0.2**
DAG Danmarks Havn 71.08 355 *i* P **P** **12 37 25.1 -0.3**
DAG IAmb IAmb 12 37 26.4
comp=Z,5.6nm,0.7s
OBN Obninsk 71.09 324⇑ *i*P **P** **12 37 26.1 +0.2**
OBN *e* 12 40 07.2
OBN pmax pmax
comp=Z,230nm,1.7s
NEEM North Greenlan 71.18 2 *i* P **P** **12 37 25.4 -1.0**
NEEM IAmb IAmb 12 37 27.7
comp=Z,17nm,0.5s
UOSS Minazif 71.19 288 P **P** **12 37 27.4 +0.2**
UOSS IAmb IAmb 12 37 28.1
comp=Z,59nm,1.1s
UOSS Minazif 71.19 288 P **P** **12 37 27.3 +0.2**
UOSS Minazif 71.19 288 *i* P **P** **12 37 26.8 -0.3**
SNR=7.3
VORR Voronezh 71.28 320 *e*P **P** **12 37 27.2 +0.1**
VORR pmax pmax
comp=Z,80nm,0.4s
SOHO SOHO 71.29 287 P **P** **12 37 28.0 +0.4**
SOHO SOHO 71.29 287 *i* P **P** **12 37 27.6 0.0**
SNR=30
HATD Hatta, Dubai 71.31 288 P **P** **12 37 28.3 +0.5**
SNR=6.8
HATD Hatta, Dubai 71.31 288 *i* P **P** **12 37 27.8 +0.1**
SNR=16
BSY Bisya 71.37 286 P **P** **12 37 28.5 +0.4**
SNR=6.0
ASHO Ashiyiah 71.43 288 P **P** **12 37 28.6 +0.1**
SNR=7.5
ASHO Ashiyiah 71.43 288 *i* P **P** **12 37 28.7 +0.1**
SNR=9.4
VSR Storozhevoye 71.51 319 *e*P **P** **12 37 28.2 -0.3**
VSR pmax pmax
comp=Z,250nm,1.4s
NAZ Nazwa, Dubai 71.61 288 P **P** **12 37 29.7 +0.2**
NAZ Nazwa, Dubai 71.61 288 P **P** **12 37 29.6 0.0**
ARQ Araqi 71.66 287 P **P** **12 37 30.3 +0.5**
SNR=9.5
FAQ Al Faqa, Dubai 71.78 288 P **P** **12 37 30.5 0.0**
FAQ Al Faqa, Dubai 71.78 288 *i* P **P** **12 37 30.5 0.0**
SNR=13
ALNE Al Ain 71.96 288 P **P** **12 37 31.9 +0.2**
SNR=11
ALNE Al Ain 71.96 288 *i* P **P** **12 37 31.9 +0.2**
SNR=10
GOF Gofitskoye 71.98 312⇑ *e*P **P** **12 37 31.9 +0.5**
GOF pmax pmax
comp=Z,197nm,0.9s
ASUD Al Ashush, Dub 72.05 288 P **P** **12 37 32.7 +0.6**
ASUD Al Ashush, Dub 72.05 288 *i* P **P** **12 37 32.5 +0.4**
SNR=10
STEI Steigen 72.29 341 *e*P **P** **12 37 33.0 +0.2**
STEI IAmb IAmb 12 37 33.8
comp=Z,33nm,0.5s
AJN Ajban 72.35 288 P **P** **12 37 33.9 0.0**
SNR=5.7
AJN Ajban 72.35 288 *i* P **P** **12 37 33.9 0.0**
SNR=5.2
ZEI Tsey 72.44 310 *e*P **P** **12 37 32.2 -2.2**
ZEI pmax pmax
comp=Z,52nm,1.1s
FIA1 FINESS Array S 72.58 332 P **P** **12 37 34.6 +0.1**
FINES FINESS Array B 72.58 332 P **P** **12 37 34.6 0.0**
comp=Z,20nm,0.4s,baz=69,slow=5.3,SNR=506
comp=Z,20nm,0.4s
LOF Lofoten 72.63 341 *e*P **P** **12 37 35.4 +0.7**
FAUS Fauske 72.64 340 *e*P **P** **12 37 35.3 +0.5**
FAUS IAmb IAmb 12 37 36.0
comp=Z,136nm,1.5s
KBZ Khabaz 72.67 311 P **P** **12 37 36.1 +0.6**
comp=Z,92nm,0.8s,baz=81,slow=4.1,SNR=135
comp=Z,92nm,0.8s
KBZ Khabaz 72.67 311 *ce*P **P** **12 37 35.9 +0.5**
KIV Kislovodsk 72.71 311 *di*P **P** **12 37 36.3 +0.5**
KIV *e* 12 37 49.8
KIV pmax pmax
comp=Z,183nm,1.3s
KIV Kislovodsk 72.71 311 *i* P **P** **12 37 36.6 +0.8**
SNR=14
GNI Garni 73.07 307 *ce*P **P** **12 37 39.5 +1.4**
GNI pmax pmax
comp=Z,147nm,1.7s
GNI Garni 73.07 307 P **P** **12 37 38.5 +0.4**
GNI Garni 73.07 307 P **P** **12 37 39.3 +1.2**
G03D McMinnville, O 73.70 47 P **P** **12 37 42.7 +1.3**
baz=298
MOR8 Moi Rana 73.71 339 *e*P **P** **12 37 40.4 -0.7**
MOR8 IAmb IAmb 12 37 40.8
comp=Z,40nm,0.7s
KONS Konsvik 73.87 340 *e*P **P** **12 37 42.8 +0.8**
MEF Metsahovi 73.96 332 *e*P **P** **12 37 42.9 +0.3**
VSU Vasula 73.99 329 *e*P **P** **12 37 42.8 0.0**
J01E Myrtle Point 74.25 49 P **P** **12 37 46.1 +1.5**
baz=298
MZR Muzera 74.30 288 P **P** **12 37 44.8 -0.4**
SNR=11
MZR Muzera 74.30 288 *i* P **P** **12 37 44.9 -0.4**
SNR=19
H04D Lebanon 74.36 47 P **P** **12 37 46.5 +1.3**
baz=299
I03D Drain, OR 74.37 48 P **P** **12 37 47.0 +1.7**
baz=299,SNR=5.2
RAF Rauma 74.52 333 *e*P **P** **12 37 46.1 +0.4**
K02D Willamette Mer 74.64 49 P **P** **12 37 48.6 +1.6**
baz=299
SOC Sochi 74.78 312 *e*P **P** **12 37 47.5 -0.1**
SOC *e*PPP PPP 12 42 22.9
SOC *e*S **S** **12 46 53.7 -2.4**
SOC *e*SSS SSS 12 55 09.5
SOC pmax pmax
comp=Z,103nm,1.2s
I04A Tendick Farm, 74.92 48 P **P** **12 37 49.0 +0.6**
baz=299
SHMA Al-Shehemyia 74.99 291 P **P** **12 37 48.5 -0.6**
MTSE Matsula 75.09 331 *e*P **P** **12 37 49.4 +0.4**
I05D Terrebonne, OR 75.32 47 P **P** **12 37 52.0 +1.2**
baz=300
J04D Umpqua Nationa 75.38 48 P **P** **12 37 52.6 +1.4**
baz=300,SNR=6.7
NSS Namsos 75.60 339 *e*P **P** **12 37 51.8 0.0**
ANN Anapa 75.61 314 *e*P **P** **12 37 51.9 -0.4**
ANN pmax pmax
comp=Z,335nm,1.2s
MNK Minsk 75.71 326 *i* P **P** **12 37 53.5 +0.9**
MNK *i* *PP **pP** **12 39 08.5 +1.4**
MNK *i* 12 40 48.7
MNK *i* PPP PPP 12 42 37.0
MNK *i* S **S** **12 47 08.9 +3.1**
MNK *i* SS **SS** **12 52 10.1 +5.7**
MNK pmax pmax
comp=Z,76nm,1.1s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=E,13nm,1.3s
MNK MLR MLR
comp=N,14nm,17.0s
MNK MLR MLR
comp=Z,309nm,19.0s
MNK MLR MLR
comp=E,43nm,16.0s
MNK Minsk 75.71 326 *i* P **P** **12 37 53.6 +0.9**
comp=E,13nm,1.3s
MNK *i* P **P** **12 37 53.6 +0.9**
comp=N,7.0nm,0.8s
MNK *i* P **P** **12 37 53.6 +0.9**
comp=Z,76nm,1.1s,baz=235
MNK *i* pP **pP** **12 39 08.5 +1.4**
MNK *i* PP **PP** **12 40 48.7 +1.7**
MNK *i* PPP PPP 12 42 37.0
MNK *i* S **S** **12 47 08.9 +3.1**
MNK *i* sS **sS** **12 49 22.2 +2.2**
MNK *i* SS **SS** **12 52 10.2 +5.7**
MNK *i* SSS SSS 12 55 35.4
MNK *i* LRM MLR 13 14 01.7
comp=N,14nm,16.6s
MNK *i* LRM MLR 13 14 15.8
comp=Z,309nm,18.6s
MNK *i* LRM MLR 13 14 24.7
comp=E,43nm,16.0s
L04D Klamath Falls 75.75 49 P **P** **12 37 54.4 +1.1**
baz=300
J05D Fort Rock, OR 75.91 48 P **P** **12 37 55.3 +1.1**
baz=300
ISAL Salakas 75.92 327 *e*P **P** **12 37 54.6 +0.8**
SUMG Summit 76.21 359 *i* P **P** **12 37 56.5 +0.8**
SUMG IAmb IAmb 12 37 58.4
comp=Z,16nm,0.7s
KUZ Kuaotunu 76.31 150 P **P** **12 37 57.9 +1.8**
MKAZ Moumakai 76.37 151 P **P** **12 37 58.4 +2.0**
SLIT Slitere, Latvi 76.39 330 *e*P **P** **12 37 56.0 -0.3**
VSVD Vaisvydziai 76.68 328 *e*P **P** **12 37 58.2 +0.2**
PABE Paberze 76.95 328 *e*P **P** **12 37 60.0 +0.4**
TBLU Trondheim 77.04 339 *e*P **P** **12 37 58.2 -1.7**
TOZ Tahuroa Road 77.05 151 P **P** **12 38 01.1 +0.9**
AKASG Malin Array Be 77.18 322 P **P** **12 38 00.8 0.0**
comp=Z,21nm,0.4s,baz=52,slow=5.5,SNR=188
comp=Z,21nm,0.4s
AKASG Malin Array Be 77.18 322 P **P** **12 38 00.7 -0.2**
AKASG Malin Array Be 77.18 322 P **P** **12 38 00.7 -0.2**
AKASG pmax pmax
comp=Z,175nm,1.5s
AKBB Malin Array Si 77.18 322 P **P** **12 38 00.8 -0.1**
AKBB Malin Array Si 77.18 322 *ce*P **P** **12 38 00.6 -0.3**
TGRZ Tauranga 77.37 150 P **P** **12 38 03.8 +1.8**
HIZ Hauiti 77.44 152 P **P** **12 38 04.5 +2.2**
SIM Simferopol' 77.56 315 *e*P **P** **12 38 01.9 -1.2**
SIM pmax pmax
comp=Z,57nm,0.8s
OMRZ Omania 77.73 150 P **P** **12 38 05.4 +1.4**
LREZ Lake Rotokare 78.07 152 P **P** **12 38 09.0 +3.2**
NC405 NORSAR Array S 78.11 337 P **P** **12 38 05.8 0.0**
RATZ Rangitukua 78.12 151 P **P** **12 38 07.8 +1.7**
TWVZ Taurewa 78.16 151 P **P** **12 38 07.9 +1.4**
URZ Urewera 78.17 150 P **P** **12 38 05.9 -0.5**
WTVZ West Tongariro 78.26 151 P **P** **12 38 07.9 +0.9**
NNVZ North Ngauruho 78.28 151 P **P** **12 38 08.8 +1.7**
TMVZ Te Maari 78.31 151 P **P** **12 38 08.2 +1.0**
DOMB Dombas 78.31 338 *e*P **P** **12 38 07.3 +0.3**
DOMB IAmb IAmb 12 38 07.7
comp=Z,19nm,0.8s
PKVZ Pokaka 78.31 152 P **P** **12 38 08.3 +1.2**
NGZ Ngauruhoe 78.31 151 P **P** **12 38 08.8 +1.5**
ETVZ East Tongariro 78.33 151 P **P** **12 38 08.6 +1.3**
NB2 NORSAR Subarra 78.33 337 P **P** **12 38 06.7 -0.4**
comp=Z,71nm,1.2s,baz=43,slow=5.3
NB2 NORSAR Subarra 78.33 337 P **P** **12 38 06.7 -0.4**
baz=43,slow=5.3
NOA NORSAR Array B 78.33 337 P **P** **12 38 06.9 -0.2**
comp=Z,11nm,0.7s,baz=44,slow=5.4,SNR=47
comp=Z,11nm,0.7s
MRHZ Matea Rd 78.36 151 P **P** **12 38 08.1 +0.6**
MOL Molde 78.38 339 *e*P **P** **12 38 07.0 -0.2**
MWZ Matawai 78.42 150 P **P** 12 38 02.8 -4.9
RAGZ Rawiri 78.50 150 P **P** **12 38 05.1 -3.2**
PUZ Puketiti 78.52 149 P **P** **12 38 11.2 +2.9**
MTHZ Maungataniwha 78.56 150 P **P** **12 38 08.9 +0.4**
MOVZ Moawhango 78.57 151 P **P** **12 38 09.1 +0.5**
BKZ Black Stump Fm 78.67 151 P **P** **12 38 09.3 +0.2**
BKZ IAmb IAmb 12 38 11.4
comp=Z,61nm,1.5s
BKZ Black Stump Fm 78.67 151 P **P** **12 38 09.3 +0.2**
SNGZ Shannon Statio 78.71 150 P **P** **12 38 08.9 -0.3**
RAHZ Arahi 78.71 150 P **P** **12 38 10.1 +0.8**
NMHZ Naumai 78.75 151 P **P** **12 38 10.8 +1.3**
BHHZ Black Hill Sta 78.77 151 P **P** **12 38 10.1 +0.4**
RIGZ Rimuhau 78.83 150 P **P** 12 38 04.6 -5.4
CNGZ Carnagh Statio 78.84 149 P **P** 12 38 00.6 -9.4
AKN Aaknes 78.85 339 *e*P **P** **12 38 10.2 +0.3**
KWHZ Kaweka Forest 78.86 151 P **P** **12 38 10.7 +0.6**
ARHZ Aropaoanui 78.97 150 P **P** **12 38 11.3 +0.7**
KRHZ Kereru 79.03 151 P **P** **12 38 11.4 +0.4**
KNZ Kokohu 79.05 150 P **P** **12 38 08.2 -2.8**
PRGZ Paritu Road 79.06 150 P **P** 12 38 06.3 -4.9
PNTR Pine Nut 79.12 51 P **P** **12 38 13.3 +1.3**
PURM Purcari 79.18 318⇑ P **P** **12 38 11.8 -0.2**
PNHZ Pukenui 79.18 151 P **P** **12 38 12.4 +0.5**
TSZ Takapari Road 79.21 152 P **P** **12 38 12.1 +0.2**
OSL Oslo 79.30 336 *e*P **P** **12 38 12.3 +0.1**
KAHZ Kahuranaki 79.36 151 P **P** **12 38 13.9 +1.1**
PXZ Pawanui 79.56 151 P **P** **12 38 14.0 +0.3**
MRZ Mangatainoka R 79.57 152 P **P** **12 38 13.9 +0.1**
SKAR Skarslia 79.57 338 *e*P **P** **12 38 14.5 +0.7**
PRHZ Porangahau 79.66 151 P **P** **12 38 14.3 0.0**
ICESG Greenland Ices 79.72 359 *i* P **P** **12 38 15.4 +0.6**
ICESG IAmb IAmb 12 38 18.8
comp=Z,8.7nm,0.7s
ANWZ Angora Road 79.76 151 P **P** **12 38 12.7 -2.1**
BFZ Birch Farm 79.85 152 P **P** **12 38 15.8 +0.5**
HYA Hoyanger 79.87 339 *e*P **P** **12 38 15.9 +0.7**
HYA IAmb IAmb 12 38 17.2
comp=Z,112nm,1.7s
FOO Floro 79.89 339 *e*P **P** **12 38 15.5 +0.1**
KONO Kongsberg 79.90 336 *ce*P **P** **12 38 16.4 +0.9**
KONO pmax pmax
comp=Z,18nm,1.7s
VASR Vaslui 80.29 319⇑ P **P** **12 38 17.9 +0.1**
NVAR Mina Array Bea 80.33 51 P **P** **12 38 19.7 +1.3**
comp=Z,2.3nm,0.6s,baz=285,slow=5.3,SNR=24
comp=Z,2.3nm,0.6s
NVAR Mina Array Bea 80.33 51 P **P** **12 38 19.4 +0.9**
LVV L'vov 80.39 323 *e*P **P** **12 38 19.0 +0.7**
RAYN Ar Rayn 80.46 292⇑ P **P** **12 38 20.0 +0.8**
RAYN Ar Rayn 80.46 292 P **P** **12 38 19.8 +0.6**
RAYN Ar Rayn 80.46 292 *i* P **P** **12 38 19.6 +0.4**
SNR=98
RPZ Rata Peaks 80.55 157 P **P** **12 38 18.9 -0.1**
comp=Z,5.5nm,0.4s,baz=317,slow=14,SNR=7.8
comp=Z,5.5nm,0.4s
TLCR 80.55 318⇑ P **P** **12 38 19.8 +0.6**
TLCR 80.55 318⇑ P **P** **12 38 19.8 +0.6**
BIR Birlad 80.60 319⇑ P **P** **12 38 20.7 +1.3**
BIR Birlad 80.60 319⇑ P **P** **12 38 20.7 +1.3**
BR131 Keskin Array S 80.67 311 P **P** **12 38 20.2 +0.1**
BR131 Keskin Array S 80.67 311 P **P** **12 38 20.2 +0.1**
BR131 pmax pmax
comp=Z,83nm,1.0s
BRTR Keskin Array B 80.67 311 P **P** **12 38 20.4 +0.3**
comp=Z,39nm,0.9s,baz=103,slow=4.0,SNR=116
comp=Z,39nm,0.9s
BRTR Keskin Array B 80.67 311 P **P** **12 38 20.2 +0.1**
BRTR Keskin Array B 80.67 311 P **P** **12 38 20.2 +0.1**
ASK Askoy 80.71 339 *e*P **P** **12 38 20.5 +0.8**
BEL Belsk 80.72 326 *i* P **P** **12 38 20.8 +0.8**
BEL *e*L L 12 46 14.8
comp=Z,3µm,20.4s
SCTR Scanteiesti 80.74 318⇑ P **P** **12 38 20.9 +0.7**
JURR Jurilovca 80.76 317⇑ P **P** **12 38 21.1 +0.8**
GHRR 80.84 319⇑ P **P** **12 38 22.2 +1.5**
CFR Carcaliu 80.95 318⇑ P **P** **12 38 21.1 -0.2**
CFR Carcaliu 80.95 318⇑ P **P** **12 38 21.1 -0.2**
TPGR Topolog 80.97 317⇑ P **P** **12 38 21.5 0.0**
TESR Tescani 81.00 320⇑ P **P** **12 38 20.9 -0.7**
BIZ Bicaz 81.04 320⇓ P **P** **12 38 22.4 +0.6**
PANC Panciu 81.10 319⇓ P **P** **12 38 23.5 +1.4**
BUR08 Bucovina Ar. S 81.11 321 P **P** **12 38 22.8 +0.6**
BUR08 IAmb IAmb 12 38 24.1
comp=Z,42nm,1.1s
BURAR Bucovina Array 81.12 321⇓ P **P** **12 38 22.9 +0.6**
BURAR Bucovina Array 81.12 321 P **P** **12 38 22.8 +0.5**
BURAR IAmb IAmb 12 38 24.5
comp=Z,27nm,0.8s
BURAR Bucovina Array 81.12 321⇓ P **P** **12 38 22.9 +0.6**
BLS5 Blasjo 81.13 337 *e*P **P** **12 38 22.7 +0.7**
ANTO Ankara 81.14 311⇓ P **P** **12 38 23.2 +0.7**
ANTO Ankara 81.14 311⇓ P **P** **12 38 23.2 +0.7**
ANTO Ankara 81.14 311 P **P** **12 38 22.9 +0.4**
BSD Bornholm Skovb 81.14 331 *e*P **P** **12 38 21.9 -0.2**
KWP Kalwaria Pacla 81.18 324 *e*P **P** **12 38 23.3 +0.8**
KWP *e*L L 12 52 03.8
comp=Z,3µm,17.9s
VES Vestal, Richgr 81.19 53 P **P** **12 38 22.9 +0.2**
baz=302
PKM Mcpherson Peak 81.19 55 P **P** **12 38 24.0 +1.0**
baz=302
TIRR Tirgusor 81.21 317⇑ P **P** **12 38 23.3 +0.7**
TIRR Tirgusor 81.21 317⇑ P **P** **12 38 23.3 +0.7**
HOMB Homborsund 81.31 336 *e*P **P** **12 38 22.7 -0.1**
VRI Vrincioaia 81.34 319⇑ P **P** **12 38 24.6 +1.2**
VRI Vrincioaia 81.34 319⇑ P **P** **12 38 24.6 +1.2**
HARR Harsova 81.35 317⇓ P **P** **12 38 24.2 +0.8**
HARR Harsova 81.35 317⇓ P **P** **12 38 24.2 +0.8**
TLBR Topalu 81.37 317⇑ P **P** **12 38 23.8 +0.3**
PLOR Plostina 81.39 319⇑ P **P** **12 38 24.5 +0.8**
PLOR Plostina 81.39 319⇑ P **P** **12 38 24.5 +0.8**
GKP Gorka Klasztor 81.41 329 *e*P **P** **12 38 23.6 0.0**
CWC Cottonwood Cre 81.55 52 P **P** **12 38 25.2 +0.3**
baz=303
SFJD Kangerlussuaq 81.59 4 *i* P **P** **12 38 23.2 -1.0**
COVR Voineasa-Covas 81.64 319⇓ P **P** **12 38 25.8 +0.8**
ISA Isabella, Lake 81.70 53 P **P** **12 38 25.5 0.0**
baz=303

SNART	**Snartemo**		81.71	336	*eP*		**P**	12 38 25.3	+0.3
GRAC	**Grapevine Rang**		81.73	52	P		**P**	12 38 26.5	+0.9
	baz=303								
OZUR			81.73	320	⇓P		**P**	12 38 26.7	+1.3
H17A	**Grant Village**		81.77	43	P		**P**	12 38 27.5	+1.5
	baz=306								
KOLS	**Kolonicke sedl**		81.84	323	*eP*		**P**	12 38 26.5	+0.6
KOLS					pmax	pmax			
	comp=Z,28nm,1.1s								
KOLS	**Kolonicke sedl**		81.84	323	*eP*		**P**	12 38 26.5	+0.6
ISR	**Istrita**		81.89	318	⇑P		**P**	12 38 27.8	+1.5
ISR	**Istrita**		81.89	318	⇑P		**P**	12 38 27.8	+1.5
ARCR	**ARCALIA**		81.91	321	⇓P		**P**	12 38 27.6	+1.4
BMR	**Baia Mare**		82.00	322	⇓P		**P**	12 38 27.3	+0.6
BMR	**Baia Mare**		82.00	322	⇓P		**P**	12 38 27.3	+0.6
MLR	**Muntele Rosu**		82.00	319	⇓P		**P**	12 38 27.6	+0.6
MLR	**Muntele Rosu**		82.00	319	⇓P		**P**	12 38 27.6	+0.6
UZH	**Uzhgorod**		82.02	323	⇓*i*P		**P**	12 38 25.6	-1.2
DOPR	**Dopca**		82.03	320	⇓P		**P**	12 38 28.1	+1.2
RLMT	**Red Lodge**		82.08	41	P		**P**	12 38 28.9	+1.4
	baz=307								
MPMC	**Manual Prospec**		82.16	53	P		**P**	12 38 28.5	+0.5
	baz=303								
R11A	**Troy Canyon, C**		82.16	50	P		**P**	12 38 28.7	+0.7
	baz=304								
OJC	**Ojcow**		82.25	325	*i* P		**P**	12 38 27.3	-0.7
OJC					*e*L		L	12 48 43.9	
	comp=Z,3µm,17.7s								
CRVS	**Cervenica-Dubn**		82.28	324	*eP*		**P**	12 38 29.0	+0.9
CRVS					pmax	pmax			
	comp=Z,155nm,1.5s								
CRVS	**Cervenica-Dubn**		82.28	324	*eP*		**P**	12 38 29.0	+0.9
DY2G	**Dye2**		82.30	2	*i* P		**P**	12 38 28.5	+0.3
DY2G					IAmb	IAmb		12 38 31.8	
	comp=Z,8.0nm,0.8s								
FURC	**Furnace Creek,**		82.35	52	P		**P**	12 38 30.0	+1.2
	baz=304								
MUD	**Monsted U'grnd**		82.43	334	*i* P		**P**	12 38 26.2	-2.5
EDW2	**Edwards Air Fo**		82.45	54	P		**P**	12 38 30.3	+0.9
	baz=303								
TPNV	**Topopah Spring**		82.50	51	P		**P**	12 38 30.5	+0.8
	baz=304								
NIE	**Niedzica**		82.52	325	*i* P		**P**	12 38 30.3	+0.9
NIE					*e*L		L	12 49 21.8	
	comp=Z,2µm,18.2s								
CBBR	**Cluj-Babes-Bol**		82.53	321	⇓P		**P**	12 38 31.0	+1.5
VOIR			82.54	319	⇑P		**P**	12 38 30.2	+0.6
VOIR			82.54	319	⇑P		**P**	12 38 30.2	+0.6
CJR	**Cluj-Napoca**		82.54	321	⇑P		**P**	12 38 30.3	+0.7
CJR	**Cluj-Napoca**		82.54	321	⇑P		**P**	12 38 30.3	+0.7
MESR	**Meseseni**		82.61	322	⇑P		**P**	12 38 31.2	+1.3
ARR	**Arges**		82.81	319	⇓P		**P**	12 38 32.3	+1.3
RAZG	**Razgrad**		82.84	317	⇑P		**P**	12 38 32.1	+1.0
DUG	**Dugway, Tooele**		82.88	47	P		**P**	12 38 32.8	+1.2
	baz=305								
FMP	**Fort Macarthur**		82.88	55	P		**P**	12 38 29.5	-2.0
	baz=303								
DRGR			82.97	321	⇓P		**P**	12 38 32.1	+0.3
DRGR			82.97	321	⇓P		**P**	12 38 32.1	+0.3
BFSC	**Mount Baldy Ra**		83.03	54	P		**P**	12 38 33.3	+0.8
	baz=303								
GSC	**Goldstone, Bar**		83.04	53	P		**P**	12 38 33.2	+0.8
	baz=304,SNR=5.1								
LANS	**Liptovska Anna**		83.11	325	*eP*		**P**	12 38 33.8	+1.4
LANS					pmax	pmax			
	comp=Z,37nm,1.7s								
LANS	**Liptovska Anna**		83.11	325	*eP*		**P**	12 38 33.8	+1.4
COPA	**Copaceanca**		83.24	318	⇑P		**P**	12 38 33.5	+0.4
OKC	**Ostrava-Krasne**		83.30	326	*eP*		**P**	12 38 33.5	+0.2
OKC	**Ostrava-Krasne**		83.30	326	*eP*		**P**	12 38 33.5	+0.2
PDAR	**Pinedale Array**		83.33	43	P		**P**	12 38 35.0	+1.0
	comp=Z,2.1nm,0.6s,baz=120,slow=1.2,SNR=13								
	comp=Z,2.1nm,0.6s								
PDAR	**Pinedale Array**		83.33	43	P		**P**	12 38 34.4	+0.4
DEV	**Deva**		83.44	321	⇑P		**P**	12 38 34.8	+0.7
DEV	**Deva**		83.44	321	⇑P		**P**	12 38 34.8	+0.7
RUE	**Ruedersdorf**		83.47	330	*eP*		**P**	12 38 34.4	+0.3
KSP	**Ksiaz**		83.49	327	*i* P		**P**	12 38 34.7	+0.5
CSS	**Mathiatis**		83.50	307	P		**P**	12 38 34.7	0.0
BBRC	**Big Bear Solar**		83.53	54	P		**P**	12 38 35.8	+0.7
	baz=304								
TUQ	**Turquoise Moun**		83.56	52	P		**P**	12 38 35.7	+0.6
	baz=304								
HEC	**Hector,Ludlow**		83.62	53	P		**P**	12 38 36.5	+1.1
	baz=304,SNR=9.1								
MORC	**Moravsky Berou**		83.63	326	⇓P		**P**	12 38 35.4	+0.4
MORC	**Moravsky Berou**		83.63	326	P		**P**	12 38 35.3	+0.2
MORC					IAmb	IAmb		12 38 36.6	
	comp=Z,33nm,1.2s								
MORC	**Moravsky Berou**		83.63	326	*eP*		**P**	12 38 35.2	+0.2
MORC	**Moravsky Berou**		83.63	326	⇓P		**P**	12 38 35.4	+0.4
MURC	**Murrieta**		83.71	54	P		**P**	12 38 36.0	+0.3
	baz=304								
PSZ	**Piszkesteto**		83.71	324	⇑P		**P**	12 38 35.6	+0.1
PSZ	**Piszkesteto**		83.71	324	⇑P		**P**	12 38 35.6	+0.1
PSZ	**Piszkesteto**		83.71	324	P		**P**	12 38 35.8	+0.3
OSTC	**Ostas**		83.72	327	*eP*		**P**	12 38 35.8	+0.3
MAUC	**Maruska**		83.77	326	*eP*		**P**	12 38 37.0	+1.2
CHVC	**Chvalec**		83.78	327	*eP*		**P**	12 38 36.2	+0.5
KRLC	**Kraliky**		83.79	327	*eP*		**P**	12 38 36.1	+0.3
KRLC	**Kraliky**		83.79	327	*eP*		**P**	12 38 36.1	+0.3
DPC	**Dobruska-Polom**		83.81	327	*eP*		**P**	12 38 36.4	+0.4
DPC	**Dobruska-Polom**		83.81	327	*eP*		**P**	12 38 36.4	+0.4
GZR	**Gura Zlata**		83.82	320	⇑P		**P**	12 38 36.3	+0.2
GZR	**Gura Zlata**		83.82	320	⇑P		**P**	12 38 36.3	+0.2
UPC	**Upice**		83.85	327	*eP*		**P**	12 38 36.5	+0.4
UPC	**Upice**		83.85	327	*eP*		**P**	12 38 36.5	+0.4
VYHS	**Vyhne**		83.86	324	*eP*		**P**	12 38 36.9	+0.7
VYHS					pmax	pmax			
	comp=Z,50nm,1.3s								
VYHS	**Vyhne**		83.86	324	*eP*		**P**	12 38 36.9	+0.7
SIRR	**Siria**		83.86	321	⇓P		**P**	12 38 36.8	+0.5
GMRC	**Granite Mounta**		84.10	53	P		**P**	12 38 38.2	+0.4
	baz=304								
109C	**Camp Elliot, M**		84.16	55	P		**P**	12 38 38.1	+0.1
	baz=304								
JAVC	**Velka Javorina**		84.19	325	*eP*		**P**	12 38 39.0	+1.1
PFO	**Pinyon Flats O**		84.21	54	P		**P**	12 38 39.6	+1.2
	baz=304,SNR=11								
TPFO	**Pinon Flats**		84.22	54	P		**P**	12 38 39.1	+0.7
	baz=304,SNR=10.0								
BZS	**Buzias**		84.30	321	⇑P		**P**	12 38 38.2	-0.2
BZS	**Buzias**		84.30	321	⇑P		**P**	12 38 38.2	-0.2
BELC	**Belle Mtn. Jos**		84.31	54	P		**P**	12 38 38.9	0.0
	baz=304,SNR=7.0								
VRAC	**Vranov**		84.40	326	⇑P		**P**	12 38 38.7	-0.2
VRAC	**Vranov**		84.40	326	*eP*		**P**	12 38 39.2	+0.3
VRAC	**Vranov**		84.40	326	⇑P		**P**	12 38 38.7	-0.2
BRG	**Berggiesshubel**		84.54	328	*i* P		**P**	12 38 39.6	0.0
BRG					Amp			12 38 40.9	
	comp=Z,27nm,1.1s								
BRG					*ex*		x	12 39 04.4	
BRG					Amp			12 39 05.7	
	comp=Z,7.5nm,1.1s								
BRG					pP		**pwP**	12 40 02.9	+1.7
BRG					Amp			12 40 04.8	
	comp=Z,7.3nm,1.1s								
BRG					PP		**PP**	12 41 55.2	-4.3
BRG					Amp			12 41 59.2	
	comp=Z,6.2nm,1.3s								
BRG					Amp			12 47 44.0	
	comp=E,2.1nm,17.5s								
BRG					Amp			12 47 47.0	
	comp=Z,3.9nm,16.0s								
BRG					Amp			12 47 50.0	
	comp=N,1.3nm,16.0s								
BRG	**Berggiesshubel**		84.54	328	*i* P		**P**	12 38 39.5	0.0
BRG								12 41 55.2	
BRG					pmax	pmax			
	comp=Z,27nm,1.1s								
BRG					pmax	pmax			
	comp=Z,8.0nm,1.1s								
BRG					pmax	pmax			
	comp=Z,7.0nm,1.1s								
BRG					pmax	pmax			
	comp=Z,6.0nm,1.3s								
SMOL	**Smolenice**		84.54	325	*eP*		**P**	12 38 40.7	+1.1
SMOL					pmax	pmax			
	comp=Z,18nm,1.1s								
MONP2	**Monument Peak**		84.64	55	P		**P**	12 38 41.1	+0.4
	baz=304,SNR=6.2								
CLL	**Collm**		84.64	329	⇓*i*P		**P**	12 38 39.7	-0.3
CLL					pmax	pmax			
	comp=Z,48nm,1.3s								
CLL	**Collm**		84.64	329	⇓*i*P		**P**	12 38 39.7	-0.3
	comp=Z,48nm,1.3s								
CLL					*e*PP		**PP**	12 41 59.0	-1.4
KRUC	**Moravsky**		84.67	326	*eP*		**P**	12 38 40.3	+0.1
MODS	**Modra-Piesok**		84.71	325	*eP*		**P**	12 38 41.5	+1.1
MODS					pmax	pmax			
	comp=Z,91nm,1.4s								
MODS	**Modra-Piesok**		84.71	325	*eP*		**P**	12 38 41.5	+1.1
MDVR	**Moldovita**		84.79	320	⇓P		**P**	12 38 40.6	-0.4
IRM	**Iron Mountain**		84.81	53	P		**P**	12 38 41.1	-0.2
	baz=305								
BC3	**Big Chuckawall**		84.88	54	P		**P**	12 38 42.5	+0.8
	baz=305								
PRU	**Pruhonice**		84.89	327	*eP*		**P**	12 38 41.4	+0.1
PRU	**Pruhonice**		84.89	327	*eP*		**P**	12 38 41.4	+0.1
ZST	**Bratislava**		84.92	325	*eP*		**P**	12 38 42.0	+0.6
ZST					pmax	pmax			
	comp=Z,79nm,1.6s								
ZST	**Bratislava**		84.92	325	*eP*		**P**	12 38 42.0	+0.6
IKP	**In-Ko-Pah, Jac**		84.99	55	P		**P**	12 38 42.9	+0.6
	baz=304								
BLKB	**Belogradchik**		85.00	319	⇓P		**P**	12 38 41.9	-0.1
VTS	**Vitosha**		85.31	318	⇑P		**P**	12 38 43.8	+0.1
VTS	**Vitosha**		85.31	318	⇑P		**P**	12 38 43.8	+0.1
MPLH	**Magyarpolny**		85.40	324	P		**P**	12 38 43.9	+0.1
PDMCI	**Parker Dam,Lak**		85.41	52	P		**P**	12 38 44.9	+0.8
	baz=305								
BOVS	**Bovan**		85.53	319	⇑P		**P**	12 38 43.1	-1.4
RONA	**Rosalia, Austr**		85.65	325	*i* P		**P**	12 38 45.2	+0.1
	comp=Z,22nm,1.3s,SNR=11								
RONA					*e*P		**PP**	12 42 08.2	-0.4
	comp=Z,4.7nm,1.3s								
GLA	**Glamis**		85.66	54	P		**P**	12 38 46.8	+1.3
	baz=305								
CONA	**Conrad Observa**		85.70	325	*i* P		**P**	12 38 45.7	+0.2
	comp=Z,27nm,1.4s,SNR=15								
CONA					*e*P		**PP**	12 42 07.4	-1.7
	comp=Z,10nm,1.5s								
O20A	**White River Ci**		85.72	45	P		**P**	12 38 46.1	+0.3
	baz=308								
CKRC	**Cesky Krumlov**		85.82	327	*eP*		**P**	12 38 45.6	-0.3
KOVH	**Kovagotottos**		85.84	323	P		**P**	12 38 45.1	-0.9
KHC	**Kasperske Hory**		85.94	327	*eP*		**P**	12 38 46.0	-0.5
KHC	**Kasperske Hory**		85.94	327	*eP*		**P**	12 38 46.0	-0.5
GEC2	**GERESS Array S**		86.09	327	P		**P**	12 38 46.8	-0.5
GEC2					IAmb	IAmb		12 38 48.0	
	comp=Z,18nm,1.3s								
GERES	**GERESS Array B**		86.09	327	P		**P**	12 38 46.6	-0.6
	comp=Z,1.9nm,0.4s,baz=54,slow=3.4,SNR=25								
GERES					PP		**PP**	12 42 09.1	-3.1
	comp=Z,0.5nm,0.6s,baz=35,slow=3.3,SNR=4.1								
	comp=Z,1.9nm,0.4s								
ARSA	**Arzberg**		86.34	325	*i* P		**P**	12 38 48.2	-0.3
	comp=Z,15nm,1.4s								
MOA	**Molln**		86.53	326	*i* P		**P**	12 38 49.3	-0.1
	comp=Z,6.6nm,0.8s								
BIOA	**Bad Ischl, Aus**		86.94	326	*i* P		**P**	12 38 51.0	-0.3
	comp=Z,12nm,0.9s,SNR=9.0								
SOKA	**Soboth**		86.98	325	*i* P		**P**	12 38 51.1	-0.5
	comp=Z,20nm,1.0s,SNR=20								
SOKA					*i* P		**PP**	12 42 20.1	+0.8
	comp=Z,9.6nm,1.3s								
OBKA	**Obir**		87.34	325	*eP*		**PP**	12 42 20.8	-1.4
	comp=Z,9.6nm,1.1s								
KBA	**Koelnbreinsper**		87.52	326	*i* P		**P**	12 38 53.3	-0.9
	comp=Z,6.7nm,1.2s								
KBA					*e*P		**PP**	12 42 20.4	-3.3
	comp=Z,11nm,1.5s								
LJU	**Ljubljana**		87.67	325	*i* P		**P**	12 38 54.0	-0.8
MYKA	**Terra Mystica**		87.69	326	*i* P		**P**	12 38 53.8	-1.2
	comp=Z,7.8nm,0.7s								
MYKA					*e*P		**PP**	12 42 26.1	+1.1
	comp=Z,29nm,1.7s								
CEY	**Cerknica**		87.94	324	*i* P		**P**	12 38 55.2	-0.9
ABTA	**Abfaltersbach**		88.15	326	*i* P		**P**	12 38 55.6	-1.5
	comp=Z,22nm,1.1s,SNR=14								
WATA	**Walderalm**		88.16	327	*i* P		**P**	12 38 56.5	-0.8
	comp=Z,6.3nm,0.8s								
WATA					*i* P		**PP**	12 42 28.9	+0.1
	comp=Z,9.5nm,0.9s								
WTTA	**Wattenberg**		88.19	327	*eP*		**P**	12 38 56.8	-0.6
	comp=Z,17nm,1.1s,SNR=6.1								
WTTA					*i* P		**PP**	12 42 29.2	+0.2
	comp=Z,6.2nm,1.2s								
MOTA	**Moosalm**		88.38	327	*i* P		**P**	12 38 57.6	-0.6
	comp=Z,18nm,1.2s,SNR=6.6								
MOTA					*e*P		**PP**	12 42 27.3	-3.2
	comp=Z,17nm,1.6s								
SQTA	**Sankt Quirin**		88.42	327	*i* P		**P**	12 38 57.8	-0.6
	comp=Z,17nm,1.4s,SNR=5.2								
SQTA					*e*P		**PP**	12 42 27.7	-3.0
	comp=Z,9.5nm,1.0s								
RETA	**Reutte**		88.43	328	*i* P		**P**	12 38 58.0	-0.4
	comp=Z,11nm,0.7s,SNR=8.7								
RETA					*e*P		**PP**	12 42 31.7	+0.9
	comp=Z,8.7nm,1.4s								
FETA	**Feichten**		88.79	327	*i* P		**P**	12 38 59.7	-0.5
	comp=Z,23nm,1.3s,SNR=9.4								
DAVA	**Damuels**		88.98	328	*i* P		**P**	12 39 00.7	-0.4
	comp=Z,48nm,1.6s,SNR=12								
DAVA					*e*P		**PP**	12 42 34.2	-1.0
	comp=Z,6.4nm,1.1s								
KSU1	**Kansas State U**		93.11	40	P		**P**	12 39 20.7	+0.6
	baz=316								
TXAR	**Lajitas Array**		95.48	51	P		**P**	12 39 32.5	+1.2
	comp=Z,3.1nm,0.5s,baz=300,slow=2.4,SNR=32								
	comp=Z,3.1nm,0.5s								
KEST	**Kesra**		97.85	320	P		**P**	12 39 41.3	-0.5
	comp=Z,2.1nm,0.4s,baz=230,slow=2.8,SNR=4.2								
	comp=Z,2.1nm,0.4s								
MCWV	**Mont Chateau**		100.79	29	P		**Pdif**	12 39 53.5	-1.2
	baz=327								
ESDC	**Sonseca Array**		101.08	331	P		**Pdif**	12 39 55.4	-0.7
	comp=Z,0.3nm,0.8s,baz=25,slow=4.4,SNR=4.4								
ESDC					PP		**PP**	12 44 02.5	-5.8
	comp=Z,1.6nm,0.9s,baz=30,slow=6.6,SNR=7.3								
KMSC	**Kings Mountain**		103.90	33	P		**Pdif**	12 40 07.6	-1.0
	baz=326								
BRAL	**Brewton**		104.22	39	P		**Pdif**	12 40 09.3	-0.8
	baz=321								
TORD	**Torodi Ar. Bea**		119.28	310	PKP		**PKPdf**	12 44 53.5	-0.5
	comp=Z,1.9nm,0.4s,baz=73,slow=1.0,SNR=37								
TORD					PP		**PP**	12 46 17.5	-1.7
	comp=Z,5.2nm,1.1s,baz=29,slow=5.9,SNR=9.1								
TORD					SKP			12 47 56.5	
	comp=Z,2.8nm,0.9s,baz=28,slow=1.5,SNR=4.9								
QSPA	**South Pole Qui**		121.23	180	PKP		**PKiKP**	12 44 56.3	-0.1
	comp=Z,3.4nm,0.6s,baz=292,slow=0.8,SNR=53								
QSPA	**South Pole Qui**		121.23	180			**PKiKP**	12 44 56.4	+0.1
KOWA	**Kowa**		121.81	316	PKPdf		**PKiKP**	12 44 59.2	+0.2
BOSA	**Boshof**		122.93	254	PKP		**PKiKP**	12 45 01.3	+0.3
	comp=Z,3.1nm,0.9s,baz=256,slow=1.4,SNR=4.7								
DBIC	**Dimbokro**		128.37	311	PKP		**PKiKP**	12 45 12.1	0.0
	comp=Z,3.5nm,0.5s,baz=26,slow=2.9,SNR=9.1								
TIC	**Toumodi**		128.49	311	⇑*i*PKIKP		**PKPdf**	12 45 11.9	+0.2
	comp=Z,4.3nm,0.3s								
KIC	**Ian Boka**		128.53	310	⇑*i*PKIKP		**PKiKP**	12 45 12.1	-0.3
	comp=Z,4.8nm,0.4s								
LIC	**Lamto**		128.82	311	⇑*e*PKIKP		**PKPdf**	12 45 12.6	+0.3
	comp=Z,6.4nm,0.4s								
SDV	**Santo Domingo**		131.15	40	PKP		**PKiKP**	12 45 18.6	+0.7
	comp=Z,2.6nm,0.3s,baz=0.0,slow=3.0,SNR=3.2								
TROLL	**Troll, Antarti**		133.21	197	PKPdf		**PKiKP**	12 45 20.0	-0.2
TROLL	**Troll, Antarti**		133.21	197	SKPbc		**SKPbc**	12 48 15.0	0.0
SNAA	**Sanae**		134.74	196	PKPdf		**PKPdf**	12 45 20.9	-0.9
SNAA	**Sanae**		134.74	196	SKPbc		**SKPbc**	12 48 18.8	-1.1
VNA2	**Neumayer--Watz**		136.32	195	PKPdf		**PKPdf**	12 45 25.5	+0.9
	baz=122,slow=2.0								
VNA2	**Neumayer--Watz**		136.32	195	SKPbc		**SKPbc**	12 48 24.3	-0.4
VNA3	**Neumayer Olymp**		136.59	194	PKPdf		**PKiKP**	12 45 26.9	-0.1
VNA1	**Neumayer--Stat**		136.72	195	PKPdf		**PKPdf**	12 45 25.6	+0.2
VNA1	**Neumayer--Stat**		136.72	195	SKPbc		**SKPbc**	12 48 24.6	-1.3
ETMB	**Extrema**		148.56	52	*eP*		**PKPdf**	12 45 48.5	+0.6
SAML	**Samuel**		149.87	47			**PKPbc**	12 45 55.4	+0.2
SAML	**Samuel**		149.87	47	PKHKP		PKPpre	12 45 55.4	
ITTB	**Itaituba**		149.91	29	*eP*		**PKPbc**	12 45 52.7	-2.6
LPAZ	**La Paz**		151.47	64	PKPbc		**PKiKP**	12 46 00.8	+0.9
	comp=Z,6.2nm,0.7s,baz=20,slow=3.5,SNR=17								
LPAZ	**La Paz**		151.47	64			**PKiKP**	12 46 00.5	+0.6
LPAZ	**La Paz**		151.47	64	PKIKP		**PKiKP**	12 46 00.5	+0.6
LPAZ	**La Paz**		151.47	64	*eP*		**PKPbc**	12 45 57.0	-2.6
NPGB	**Novo Progresso**		152.47	31	*eP*		**PKPdf**	12 45 57.4	+3.4
RCBR	**Riachuelo**		153.94	347	PKPab		**PKPab**	12 46 19.6	+0.6
	comp=Z,11nm,0.9s,baz=304,slow=10,SNR=1.9								
LVC	**Limon Verde**		154.12	77	PKPab		**PKPab**	12 46 22.1	+1.9
	comp=Z,6.2nm,0.8s,baz=316,slow=8.3,SNR=4.0								
PLCA	**Paso Flores**		154.89	120	PKPbc		**PKiKP**	12 46 06.8	+1.2
	comp=Z,1.3nm,0.8s,baz=71,slow=5.6,SNR=2.9								
PLCA					PKPab		**PKPab**	12 46 22.8	+0.1
	comp=Z,2.8nm,0.8s,baz=263,slow=1.8,SNR=6.5								
SIV	**San Ignacio**		156.45	54	PKPab		**PKPab**	12 46 29.4	-0.3
	comp=Z,2.8nm,0.5s,baz=286,slow=4.1,SNR=9.8								

WEL 03 12:29:00.5±0.7, 37°S±4°×18°0E±°, h15km, M4.2/73, mB4.7/1, ML4.5/73, MLv4.2/73, Mw(mB)3.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=90.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.35**	**239**	P	Pn	12 29 22.9	-1.9
MXZ				S	Sn	12 29 34.4	-8.1
WMGZ	**Waiomatatini S**	**1.43**	**228**	P	Pb	12 29 26.9	0.0
WMGZ				S	Sn	12 29 41.7	-2.8
PKGZ	**Pakihiroa**	**1.68**	**232**	P	Pn	12 29 29.7	+0.3
PKGZ				S	Sb	12 29 52.8	+0.6
PUZ	**Puketiti**	**1.70**	**224**	P	Pn	12 29 30.3	+0.7
PUZ				S	Sn	12 29 49.4	-1.7
HAZ	**Te Kaha**	**1.81**	**240**	P	Pn	12 29 30.2	-0.9
TWGZ	**Tauwhareparae**	**1.93**	**227**	P	Pn	12 29 33.7	+0.9
TWGZ				S	Sg	12 30 01.8	-0.6
RUGZ	**Raukumara Rang**	**1.99**	**236**	P	Pn	12 29 34.2	+0.5
RUGZ				S	Sb	12 30 00.8	-0.2
CNGZ	**Carnagh Statio**	**2.03**	**217**	P	Pb	12 29 36.0	-1.1
WIZ	**White Island**	**2.16**	**251**	P	Pn	12 29 36.8	+0.9
TKGZ	**Te Karaka**	**2.18**	**223**	P	Pn	12 29 36.7	+0.5
MWZ	**Matawai**	**2.30**	**230**	P	Pn	12 29 38.3	+0.4
MWZ				S	Sb	12 30 11.8	+1.8
RIGZ	**Rimuhau**	**2.42**	**220**	P	Pn	12 29 40.1	+0.5
WHRZ	**Whale Island**	**2.43**	**245**	P	Pn	12 29 39.7	+0.1
RAGZ	**Rawiri**	**2.47**	**228**	P	Pn	12 29 40.7	+0.4
URZ	**Urewera**	**2.52**	**236**	P	Pn	12 29 41.0	+0.1
URZ				S	Sn	12 30 12.6	+1.2
PRGZ	**Paritu Road**	**2.53**	**215**	P	Pn	12 29 41.8	+0.7
MARZ	**Manawahe**	**2.70**	**245**	P	Pn	12 29 43.1	-0.3
EDRZ	**Edgecumbe**	**2.70**	**242**	P	Pn	12 29 43.4	-0.1
SNGZ	**Shannon Statio**	**2.71**	**224**	P	Pn	12 29 43.6	+0.2
KNZ	**Kokohu**	**2.71**	**217**	P	Pn	12 29 43.4	0.0
MHGZ	**Mahia Peninsul**	**2.71**	**212**	P	Pn	12 29 44.4	+0.9
OPRZ	**Ohinepanea**	**2.73**	**248**	P	Pn	12 29 43.1	-0.7
RTZ	**Ruatahuna**	**2.81**	**231**	P	Pn	12 29 45.2	+0.2
MYRZ	**Mayor Island**	**2.84**	**261**	P	Pn	12 29 44.9	-0.5
MUGZ	**Murupara**	**2.87**	**235**	P	Pn	12 29 45.3	-0.3
TGRZ	**Tauranga**	**2.92**	**252**	P	Pn	12 29 45.9	-0.5
TARZ	**Mount Tarawera**	**2.92**	**241**	P	Pn	12 29 46.7	+0.1
RAHZ	**Arahi**	**2.94**	**225**	P	Pn	12 29 46.9

MHGZ	**Mahia Peninsul**	**2.32**	**207**	P		**Pn**	**12 35 18.1 +0.6**
RTZ	**Ruatahuna**	**2.36**	**229**	P		**Pn**	**12 35 18.7 +0.5**
MUGZ	**Murupara**	**2.41**	**234**	P		**Pn**	**12 35 19.0 +0.2**
TARZ	**Mount Tarawera**	**2.47**	**242**	P		**Pn**	**12 35 21.1 +1.5**
RAHZ	**Arahi**	**2.50**	**223**	P		**Pn**	**12 35 20.6 +0.6**
RRRZ	**Republican Roa**	**2.51**	**239**	P		**Pn**	**12 35 21.0 +0.8**
MTHZ	**Maungataniwha**	**2.60**	**227**	P		**Pn**	**12 35 22.3 +0.9**
PRRZ	**Plateau Road**	**2.67**	**237**	P		**Pn**	**12 35 22.8 +0.5**
NMHZ	**Naumai**	**2.79**	**223**	P		**Pn**	**12 35 24.7 +0.7**
ARHZ	**Aropaoanui**	**2.81**	**219**	P		**Pn**	**12 35 24.5 +0.2**
MRHZ	**Matea Rd**	**2.84**	**231**	P		**Pn**	**12 35 25.2 +0.5**
BKZ	**Black Stump Fm**	**3.01**	**226**	P		**Pn**	**12 35 27.2 +0.2**
KWHZ	**Kaweka Forest**	**3.23**	**223**	P		**Pn**	**12 35 29.5 -0.5**
KAHZ	**Kahuranaki**	**3.28**	**214**	P		**Pn**	**12 35 30.0 -0.8**
KRHZ	**Kereru**	**3.41**	**221**	P		**Pn**	**12 35 32.1 -0.5**
TMVZ	**Te Maari**	**3.46**	**233**	P		**Pn**	**12 35 33.4 +0.2**
ETVZ	**East Tongariro**	**3.46**	**233**	P		**Pn**	**12 35 33.5 +0.1**
BHHZ	**Black Hill Sta**	**3.47**	**225**	P		**Pn**	**12 35 33.8 +0.4**
NNVZ	**North Ngauruho**	**3.52**	**234**	P		**Pn**	**12 35 34.9 +0.7**
SNVZ	**South Ngauruho**	**3.54**	**233**	P		**Pn**	**12 35 34.7 +0.3**
NGZ	**Ngauruhoe**	**3.56**	**233**	P		**Pn**	**12 35 34.7 0.0**
PNHZ	**Pukenui**	**3.70**	**219**	P		**Pn**	**12 35 35.8 -0.8**
HIZ	**Hauiti**	**3.77**	**247**	P		**Pn**	**12 35 39.2 +1.8**
TSZ	**Takapari Road**	**3.93**	**220**	P		**Pn**	**12 35 38.3 -1.4**
WAZ	**Wanganui**	**4.28**	**230**	P		**Pn**	**12 35 45.1 +0.6**
NEZ	**North Egmont**	**4.61**	**240**	P		**Pn**	**12 35 51.8 +2.7**
RIZ	**Raoul Island**	**8.17**	**18**	P		**Pb**	**12 36 59.6 -0.8**
FITZ	**Fitzroy Crossi**	**50.47**	**277**	P		**P**	**12 43 38.6 +0.8**

*NEIC **03** 12:35:45.8±2.8,20°.54S±0°.05×68°.8W±0°.1,h116km±8km, mb4.1/7,ML4.1(GUC),Error ellipse: s-maj=14.0km s-min=7.0km az=84.0*
*IDC **03** 12:35:46.3±1.0,20°.63S×68°.46W,h112km±10km,mb3.7/4, mbtmp4.1/8,Error ellipse: s-maj=27.0km s-min=8.5km az=104.0*
*VAO **03** 12:35:46.9±0.3,20°.57S×68°.55W,h94km,mb4.0*
*GUC **03** 12:35:46.1±0.8,20°.59S×68°.80W,h111km±5km,ML4.1*
ISC 03 12:35:45.1±0.6,**20°.56S**±0°.03×**68°.76W**±0°.06,**h109**km±7km, **n67**,σ1**°17**/80,**mb4.1**/5,**9C-1D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.83**	**235**			**Pn**	**12 36 04.8**	**0.0**
PB01	**IPOC Station P**	**0.83**	**235**	⇑*i*	P	**Pn**	**12 36 04.6**	**-0.1**
PB01				*i*	S	**Sn**	**12 36 19.0**	**-0.5**
PB01				IAML			12 36 20.1	
	comp=N,8μm,0.2s							
GO01	**Chusmiza**	**0.98**	**335**			**Pn**	**12 36 07.4**	**+0.8**
GO01	**Chusmiza**	**0.98**	**335**	⇑*i*	P	**Pn**	**12 36 07.3**	**+0.8**
GO01				*i*	S	**Sn**	**12 36 23.9**	**+1.3**
GO01				IAML			12 36 28.1	
	comp=N,11μm,0.1s							
PB02	**IPOC Station P**	**1.31**	**234**	⇑*i*	P	**Pn**	**12 36 09.5**	**-0.2**
PB02				*i*	S	**Sn**	**12 36 28.0**	**-0.4**
PB02				IAML			12 36 30.5	
	comp=N,5μm,0.3s							
PB09	**IPOC Station P**	**1.31**	**200**	⇑*i*	P	**Pn**	**12 36 10.3**	**+0.5**
PB09				*i*	S	**Sn**	**12 36 29.1**	**+0.6**
PB09				IAML			12 36 32.5	
	comp=E,2μm,0.8s							
TA02	**Huaiquique**	**1.32**	**282**			**Pn**	**12 36 09.6**	**-0.2**
TA02	**Huaiquique**	**1.32**	**282**	*eP*		**Pn**	**12 36 09.7**	**-0.1**
TA02				*i*	S	**Sn**	**12 36 28.1**	**-0.3**
TA01	**Diego Aracena**	**1.33**	**270**	⇑*i*	P	**Pn**	**12 36 09.5**	**-0.4**
PB07	**IPOC Station P**	**1.57**	**222**	⇑*i*	P	**Pn**	**12 36 12.8**	**-0.1**
PB07				*i*	S	**Sn**	**12 36 33.3**	**-0.7**
PB07				IAML			12 36 39.6	
	comp=E,4μm,0.4s							
LVC	**Limon Verde**	**2.04**	**184**	*eP*		**Pn**	**12 36 20.3**	**+1.3**
	comp=E,32nm,0.3s,baz=18,slow=12,SNR=96							
LVC				S		**Sn**	**12 36 45.7**	**+0.9**
	comp=E,152nm,0.3s,baz=276,slow=19,SNR=22							
LVC	**Limon Verde**	**2.04**	**184**	⇑*i*	P	**Pn**	**12 36 20.1**	**+1.1**
LVC				*i*	S	**Sn**	**12 36 46.0**	**+1.1**
LVC	**Limon Verde**	**2.04**	**184**	*eP*		**Pn**	**12 36 20.3**	**+1.3**
PB04	**IPOC Station P**	**2.19**	**216**	⇑*i*	P	**Pn**	**12 36 20.6**	**0.0**
PB04				*i*	S	**Sn**	**12 36 47.8**	**-0.1**
PB04				IAML			12 36 53.9	
	comp=E,1μm,0.7s							
PB06	**IPOC Station P**	**2.27**	**199**	*eP*		**Pn**	**12 36 21.3**	**-0.3**
PB06				*i*	S	**Sn**	**12 36 49.0**	**-0.6**
PB06				IAML			12 36 55.7	
	comp=N,718nm,0.5s							
PB16	**IPOC Station P**	**2.32**	**342**	⇑*i*	P	**Pn**	**12 36 24.7**	**+1.9**
PB16				*i*	S	**Sn**	**12 36 53.9**	**+2.3**
PB16				IAML			12 37 02.5	
	comp=E,572nm,0.3s							
PB12	**IPOC Station P**	**2.44**	**322**	⇓*i*	P	**Pn**	**12 36 23.7**	**-0.1**
PB12				*i*	S	**Sn**	**12 36 53.5**	**+0.1**
PB12				IAML			12 37 03.9	
	comp=E,2μm,0.7s							
PB15	**IPOC Station P**	**2.72**	**194**	*eP*		**Pn**	**12 36 27.0**	**-0.5**
PB10	**IPOC Station P**	**3.38**	**209**	*eP*		**Pn**	**12 36 35.7**	**-0.5**
PB10				IAML			12 37 30.2	
	comp=E,230nm,0.4s							
LPAZ	**La Paz**	**4.29**	**8**	P		**Pn**	**12 36 52.3**	**+3.4**
	comp=E,13nm,0.3s,baz=192,slow=4.9,SNR=83							
LPAZ				S		**Sn**	**12 37 40.7**	**+2.3**
	comp=E,8.9nm,0.6s,baz=119,slow=9.4,SNR=4.2							
SIV	**San Ignacio**	**8.60**	**59**	P		**Pn**	**12 37 45.1**	**-1.7**
	comp=E,9.1nm,0.4s,baz=250,slow=9.9,SNR=54							
SIV				S		**Sn**	**12 39 18.4**	**-3.7**
	comp=E,0.6nm,0.4s,baz=307,slow=20,SNR=0.8							
PTLB	**Pontes e Lacer**	**10.47**	**63**	Pn		**Pn**	**12 38 10.1**	**-2.0**
PTLB	**Pontes e Lacer**	**10.47**	**63**	*eP*		**Pn**	**12 38 11.5**	**-0.6**
ETMB	**Extrema**	**10.96**	**13**	*eP*		**Pn**	**12 38 20.5**	**+1.7**
VILB	**Vilhena**	**11.15**	**49**	Pn		**Pn**	**12 38 21.7**	**+0.4**
VILB	**Vilhena**	**11.15**	**49**	*eP*		**Pn**	**12 38 21.8**	**+0.4**
CPUP	**Villa Florida**	**11.96**	**121**	P		**Pn**	**12 38 30.9**	**-1.0**
	comp=E,1.9nm,0.6s,baz=307,slow=14,SNR=5.4							
CPUP	**Villa Florida**	**11.96**	**121**	Pn		**Pn**	**12 38 30.8**	**-1.2**
CPUP	**Villa Florida**	**11.96**	**121**	*eP*		**Pn**	**12 38 31.5**	**-0.5**
ANTJ	**Antonio Joao (**	**11.98**	**99**	*eP*		**Pn**	**12 38 32.2**	**-0.1**
AQDB	**Aquidauana**	**12.24**	**92**	*eP*		**Pn**	**12 38 36.7**	**+0.9**
SALV	**Santo Antonio**	**13.25**	**72**	*eP*		**Pn**	**12 38 48.3**	**-0.7**
PP1B	**Ponte de Pedra**	**13.45**	**80**	*eP*		**Pn**	**12 38 52.0**	**+0.4**
MCR1	**Marechal Candi**	**14.14**	**109**	*eP*		**Pn**	**12 39 00.2**	**-0.4**
ITQB	**Itaqui**	**14.24**	**132**	*eP*		**Pn**	**12 39 00.7**	**-1.0**
CRSM	**Crissiumal (Br**	**15.10**	**120**	*eP*		**P**	**12 39 13.1**	**-2.2**
CLDB	**Colider**	**15.75**	**54**	*eP*		**P**	**12 39 23.0**	**+0.4**
PCMB	**Pacaembu**	**16.36**	**97**	*eP*		**P**	**12 39 30.3**	**+0.9**
ALGR	**Alto Alegre (B**	**16.47**	**123**	*eP*		**P**	**12 39 31.0**	**+0.4**
ITAB	**Concordia**	**16.58**	**117**			**P**	**12 39 32.5**	**+0.8**
ITAB				IAmb		IAmb	12 39 33.5	
	comp=Z,10nm,0.7s							
ITAB	**Concordia**	**16.58**	**117**	*eP*		**P**	**12 39 31.8**	**+0.1**
PLTB	**Pedras Altas**	**17.57**	**132**	*eP*		**Pn**	**12 39 43.8**	**+0.7**
TRQA	**Tornquist**	**18.40**	**163**	P		**Pn**	**12 39 53.5**	**+0.5**
TRQA				IAmb		IAmb	12 40 36.0	
	comp=Z,6.0nm,1.4s							
CNLB	**Canela**	**18.41**	**122**	*eP*		**Pn**	**12 39 52.3**	**-0.9**
SNDB	**Serra Nova Dou**	**18.80**	**66**	*eP*		**P**	**12 39 56.1**	**0.0**
BB19B	**Bebedouro**	**18.92**	**95**	*eP*		**P**	**12 39 57.2**	**-0.3**
MACA	**Manacapuru-AM**	**19.00**	**26**	*eP*		**Pn**	**12 39 59.7**	**-0.5**
IPMB	**Ipameri, GO**	**19.56**	**86**	*eP*		**P**	**12 40 04.7**	**+0.2**
PLCA	**Paso Flores**	**20.17**	**184**	P		**P**	**12 40 11.7**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=0.7,slow=10,SNR=3.3							
	comp=Z,1.8nm,0.8s							
PLCA	**Paso Flores**	**20.17**	**184**	P		**P**	**12 40 10.9**	**0.0**
PLCA	**Paso Flores**	**20.17**	**184**	*eP*		Pn	12 40 13.7	-0.1
PMNB	**Patos De Minas**	**21.13**	**88**	*eP*		**P**	**12 40 21.1**	**-0.3**
PARB	**Paraibuna**	**21.63**	**102**	*eP*		**P**	**12 40 26.3**	**-0.5**
DIAM	**Diamantina, MG**	**23.76**	**89**	*eP*		**P**	**12 40 49.2**	**+1.4**
JANB	**Januaria**	**23.90**	**81**	*eP*		**P**	**12 40 49.4**	**+0.5**
BOAV	**Boa Vista**	**24.20**	**20**	P		**P**	**12 40 52.2**	**+0.6**
BOAV				IAmb		IAmb	12 41 22.4	
	comp=Z,5.2nm,1.3s							
BOAV	**Boa Vista**	**24.20**	**20**	*eP*		**P**	**12 40 54.4**	**+2.8**
SDBA	**SAO DESIDERIO**	**24.24**	**74**	*eP*		**P**	**12 40 52.9**	**+0.8**
BATG	**Bathurst New B**	**67.56**	**2**	P		**P**	**12 46 26.5**	**-3.1**
DBIC	**Dimbokro**	**68.33**	**74**	P		**P**	**12 46 34.0**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=229,slow=9.0,SNR=1.9							
	comp=Z,3.1nm,0.8s							
QSPA	**South Pole Qui**	**69.63**	**180**	P		**P**	**12 46 43.5**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=148,slow=6.5,SNR=2.6							
	comp=Z,1.6nm,0.8s							
QSPA	**South Pole Qui**	**69.63**	**180**	P		**P**	**12 46 43.7**	**+1.2**
QSPA				IAmb		IAmb	12 46 56.7	
	comp=Z,5.5nm,1.2s							
GCMT	**Greycliff**	**75.75**	**332**	P		**P**	**12 47 20.2**	**+1.3**

TOA0	**Torodi Ar. Sit**	**76.91**	**70**	P		**P**	**12 47 24.9**	**-1.0**
TOA0				IAmb		IAmb	12 47 26.5	
	comp=Z,7.4nm,1.4s							
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P		**P**	**12 47 25.3**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=247,slow=5.0,SNR=7.3							
	comp=Z,2.9nm,0.9s							
WRA	**Warramunga Arr**	**133.83**	**211**	PKP		**PKPdf**	**12 54 50.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=166,slow=1.5,SNR=2.0							
MKAR	**Makanchi Array**	**144.79**	**35**	PKP		**PKPab**	**12 55 08.6**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=310,slow=3.4,SNR=2.4							

ROM 03 12:36:03.7±0.1,**42°.991N**±0°.003×**12°.906E**±0°.004, **h9km**,**ML1.9**/17,**15C-6D**,**Error ellipse: s-maj=0.3km s-min=0.3km az=251.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CESI	**CESI - Serrava**	**0.01**	**355**	P		Pg	12 36 05.6	+0.2
CESI				S		Sg	12 36 06.6	0.0
CESI				AML		AML		
	comp=E,3190μm,0.2s							
CESI				AML		AML		
	comp=N,2950μm,0.4s							
FEMA	**Monte Fema**	**0.11**	**105**	P		Pg	12 36 07.0	+0.6
FEMA				S		Sg	12 36 08.9	+0.6
SEF1	**Sefro**	**0.16**	**11**	P		Pg	12 36 07.6	+0.5
SEF1				S		Sg	12 36 10.5	+1.0
SEF1				AML		AML		
	comp=E,2110μm,1.6s							
SEF1				AML		AML		
	comp=N,2510μm,1.5s							
ASSB	**Assisi San Ben**	**0.19**	**286**	⇑P		Pg	12 36 08.4	+0.7
ASSB				S		Sg	12 36 11.5	+1.1
ASSB				AML		AML		
	comp=N,477μm,0.4s							
ASSB				AML		AML		
	comp=E,455μm,0.3s							
T1215	**Vallo di Nera,**	**0.19**	**188**	⇑P		Pg	12 36 08.5	+0.8
T1215				S		Sg	12 36 11.8	+1.5
T1215				AML		AML		
	comp=E,1012μm,0.1s							
T1215				AML		AML		
	comp=N,814μm,0.3s							
T1215				AML		AML		
	comp=E,1012μm,0.1s							
T1215				AML		AML		
	comp=N,816μm,0.3s							
FIU1	**Fiuminata**	**0.20**	**5**	⇓P		Pg	12 36 08.4	+0.6
MC2	**Monte Cornacci**	**0.22**	**110**	P		Pg	12 36 09.4	+1.0
MC2				S		Sg	12 36 12.9	+1.4
SNTG	**Esanatoglia**	**0.27**	**5**	⇑P		Pg	12 36 09.5	+0.4
SNTG				AML		AML		
	comp=E,1065μm,0.1s							
SNTG				AML		AML		
	comp=N,710μm,0.1s							
T1242	**Castelluccio d**	**0.27**	**126**	P		Pg	12 36 09.8	+0.6
T1242				S		Sg	12 36 14.1	+1.2
ATCC	**AVT- Casa Cast**	**0.28**	**315**	⇑P		Pg	12 36 10.0	+0.7
ATCC				AML		AML		
	comp=E,237μm,0.8s							
ATCC				AML		AML		
	comp=N,183μm,0.3s							
ATCC				AML		AML		
	comp=N,184μm,0.3s							
ATCC				AML		AML		
	comp=E,236μm,0.8s							
FOSV	**Fossato di Vic**	**0.32**	**341**	⇑P		Pg	12 36 10.6	+0.5
FOSV				AML		AML		
	comp=E,270μm,0.1s							
FOSV				AML		AML		
	comp=N,172μm,0.1s							
GUMA	**Gualdo di Mace**	**0.32**	**77**	P		Pb	12 36 10.9	-0.7
GUMA				S		Sb	12 36 16.4	-0.7
GUMA				AML		AML		
	comp=E,586μm,0.3s							
GUMA				AML		AML		
	comp=N,358μm,0.4s							
GUMA				AML		AML		
	comp=E,586μm,0.3s							
EL6	**Elcito**	**0.37**	**23**	⇑P		Pg	12 36 11.5	+0.5
EL6				AML		AML		
	comp=E,793μm,0.8s							
EL6				AML		AML		
	comp=N,558μm,1.5s							
EL6				AML		AML		
	comp=E,792μm,0.8s							
EL6				AML		AML		
	comp=N,561μm,1.5s							
T1202	**Accumoli, Fraz**	**0.37**	**141**	⇓P		Pg	12 36 11.6	+0.6
T1202				S		Sb	12 36 17.5	-1.0
T1244	**Arquata del Tr**	**0.37**	**129**	⇓P		Pb	12 36 11.8	-0.7
T1244				S		Sb	12 36 17.8	-0.6
T1244				AML		AML		
	comp=E,330μm,0.2s							
T1244				AML		AML		
	comp=N,294μm,0.3s							
LNSS	**Leonessa**	**0.40**	**166**	⇑P		Pg	12 36 12.0	+0.5
LNSS				S		Sb	12 36 18.3	-1.0
ARRO	**Arrone**	**0.42**	**194**	⇑P		Pg	12 36 12.6	+0.7
ARRO				AML		AML		
	comp=E,178μm,1.3s							
ARRO				AML		AML		
	comp=N,180μm,0.2s							
CING	**Cingoli**	**0.44**	**29**	⇑P		Pg	12 36 12.7	+0.4
CING				AML		AML		
	comp=E,139μm,1.1s							
CING				AML		AML		
	comp=N,380μm,0.4s							
ATFO	**Monte Foce - G**	**0.45**	**327**	⇓P		Pg	12 36 13.1	+0.6
ATFO				AML		AML		
	comp=E,82μm,0.2s							
ATFO				AML		AML		
	comp=N,63μm,0.4s							
ATFO				AML		AML		
	comp=E,82μm,0.2s							
CESX	**Cesi**	**0.45**	**212**	⇓P		Pg	12 36 12.8	+0.4
CESX				S		Sb	12 36 20.1	-0.5
CESX				AML		AML		
	comp=E,173μm,0.2s							
CESX				AML		AML		
	comp=N,145μm,0.2s							
SSFR	**Montelago di S**	**0.46**	**349**	⇑P		Pg	12 36 12.9	+0.3
SSFR				AML		AML		
	comp=E,394μm,0.1s							
SSFR				AML		AML		
	comp=N,442μm,0.2s							
SSFR				AML		AML		
	comp=E,347μm,0.2s							
SSFR				AML		AML		
	comp=N,319μm,0.2s							
ARVD	**Arcevia**	**0.51**	**3**	⇑P		Pg	12 36 13.8	+0.2
ARVD				AML		AML		
	comp=E,136μm,0.6s							
ARVD				AML		AML		
	comp=N,90μm,1.0s							
ARVD				AML		AML		
	comp=N,90μm,1.0s							
RM33	**Pellescritta (**	**0.53**	**155**	S		Sb	12 36 23.0	-0.1
FRON	**Frontone**	**0.54**	**346**	⇑P		Pg	12 36 14.6	+0.3
FRON				AML		AML		
	comp=E,62μm,0.1s							
FRON				AML		AML		
	comp=N,120μm,0.3s							
FRON				AML		AML		
	comp=E,62μm,0.1s							
FRON				AML		AML		
	comp=N,119μm,0.3s							
MPAG	**Monte Paganucc**	**0.65**	**351**	⇑P		Pg	12 36 16.5	+0.2
NARO	**Abbazia di Nar**	**0.66**	**339**	⇓P		Pg	12 36 16.6	+0.1
NARO				S		Sb	12 36 28.0	+1.1
NARO				AML		AML		
	comp=E,32μm,0.2s							
NARO				AML		AML		
	comp=N,29μm,1.2s							
NARO				AML		AML		
	comp=E,32μm,0.2s							
NARO				AML		AML		
	comp=N,29μm,1.2s							
FSSB	**Fossombrone**	**0.71**	**352**	⇑P		Pg	12 36 17.5	+0.1
FSSB				S		Sn	12 36 30.0	-1.0
FSSB				AML		AML		
	comp=E,108μm,0.5s							
FSSB				AML		AML		
	comp=N,139μm,0.5s							
FSSB				AML		AML		
	comp=E,108μm,0.5s							
FIAM	**Fiamignano**	**0.74**	**168**	S		Sb	12 36 30.0	+0.9
VIVA	**Pratoni del Vi**	**1.24**	**185**	P		Pn	12 36 24.5	-2.8
BRSN	**Barisano**	**1.43**	**335**	⇑P		Pn	12 36 29.4	-0.4

*DJA **03** 12:41:22.9±1.1,11°.S±9°.×11°.8E±°,h10km,MM3.6/5, MLv3.6/5*
ISC 03 12:41:21.1±0.9,**11°.48S**±0°.07×**118°.15E**±0°.09,**h36**km,**n15**, σ1**°04**/16,**South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.66**	**352**	P		**Pn**	**12 42 01.8**	**+0.4**
PLAI				S		**Sn**	**12 42 31.2**	**-1.2**
PLAI	**Plampang**	**2.66**	**352**	P		**Pn**	**12 42 02.0**	**+0.6**
TWSI	**Taliwang, Sumb**	**2.99**	**335**	P		**Pn**	**12 42 06.3**	**+0.3**
EDFI	**Ende, Flores**	**4.41**	**52**	P		**Pn**	**12 42 26.3**	**+0.7**
SRBI	**Singaraja**	**4.44**	**319**	P		**Pn**	**12 42 27.8**	**+1.9**
JAGI	**Jajag, Banyuwa**	**4.94**	**307**	P		**Pn**	**12 42 31.8**	**-1.1**
UGM	**Wanagama**	**8.31**	**295**	P		**Pn**	**12 43 19.3**	**+0.1**
MBWA	**Marble Bar**	**9.75**	**171**	P		**Pn**	**12 43 37.6**	**-1.2**
PSA00	**Pilbara Seismi**	**10.17**	**171**	P		**Pn**	**12 43 43.4**	**-1.2**
KNRA	**Kununurra**	**11.13**	**113**	P		**Pn**	**12 43 57.4**	**-0.3**
GIRL	**Giralia**	**11.72**	**198**	P		**Pn**	**12 44 07.2**	**+1.4**
MEEK	**Meekatharra**	**15.09**	**178**	P		**Pn**	**12 44 50.7**	**-1.0**
WRKA	**Warakurna**	**16.56**	**146**	P		**Pn**	**12 45 10.1**	**-0.6**
MORW	**Morawa**	**17.61**	**186**	P		**P**	**12 45 25.0**	**+0.5**
BLDU	**Ballidu**	**19.09**	**184**	P		**Pn**	**12 45 42.4**	**+0.7**

*NEIC **03** 12:55:49.0±0.6,51°.82N±0°.10×178°.35E±0°.09, h120km±6km,ML3.1(AEIC),Error ellipse: s-maj=14.3km s-min=7.6km az=170.0*
*AEIC **03** 12:55:49±0.7,51°.9N±0°.1×178°.32E±0°.06,h121km±5km, Error ellipse: s-maj=16.6km s-min=4.9km az=173.0*
*IDC **03** 12:55:50.9±1.6,50°.72N×172°.09E,h0km,mb3.4/4, mbtmp3.4/5,ML3.7/1,Error ellipse: s-maj=51.0km s-min=28.9km az=110.0*
ISC 03 12:55:48.8±0.8,**51°.9N**±0°.1×**178°.33E**±0°.05,**h122**km±7km, **n33**,σ0**°52**/38,**mb3.3**/4,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.12**	**65**			**Pn**	**12 56 05.6**	**0.0**
LSNW	**Little Sitkin**	**0.14**	**57**			**Pn**	**12 56 05.4**	**-0.1**
LSSE	**Little Sitkin**	**0.15**	**76**			**Pn**	**12 56 05.4**	**-0.1**
LSPA	**Little Sitkin**	**0.16**	**68**			**Pn**	**12 56 05.7**	**+0.1**
CETU	**Semis' Tuman**	**0.72**	**84**			**Sn**	**12 56 23.6**	**+0.1**
CESW	**Semis' Southwe**	**0.76**	**89**			**Pn**	**12 56 08.6**	**-0.2**
AMKA	**Amchitka**	**0.80**	**130**			**Pn**	**12 56 09.1**	**0.0**
AMKA						**Sn**	**12 56 23.6**	**-0.8**
CEPE	**Semis' Perret**	**0.82**	**85**			**Pn**	**12 56 09.3**	**0.0**
CERAA	**Semis' Rag'd T**	**0.84**	**89**			**Pn**	**12 56 09.4**	**-0.1**
GASW	**Gareloi Southw**	**1.75**	**93**			**Pn**	**12 56 19.2**	**-0.1**
GASW						**Sn**	**12 56 42.8**	**+0.2**
GANO	**Gareloi North**	**1.78**	**91**			**Pn**	**12 56 19.4**	**-0.2**
GANE	**Gareloi Northe**	**1.80**	**91**			**Pn**	**12 56 19.4**	**-0.5**
GANE						**Sn**	**12 56 43.3**	**-0.2**
TASE	**Tanaga Southea**	**2.25**	**90**			**Pn**	**12 56 25.3**	**-0.2**
TAFP	**Tanaga Falls P**	**2.28**	**88**			**Pn**	**12 56 25.4**	**-0.5**
TAFP						**Sn**	**12 56 53.8**	**-0.6**
TAPA	**Tanaga Point A**	**2.39**	**90**			**Pn**	**12 56 27.0**	**-0.3**
SHEM	**Shemya Is, Ala**	**2.73**	**289**	Pn		**Pn**	**12 56 31.2**	**-0.3**
	18nm,0.3s,baz=132,slow=3.1,SNR=13							
SHEM						**Sn**	**12 57 03.4**	**-1.0**
	12nm,0.3s,baz=262,slow=20,SNR=6.2							
	34nm,0.3s							
SMY	**Shemya**	**2.73**	**289**			**Pn**	**12 56 31.5**	**0.0**
KIMD	**Kanaga Island**	**2.76**	**91**			**Pn**	**12 56 31.5**	**-0.4**
KICM	**Kanaga Island**	**2.77**	**88**			**Pn**	**12 56 32.3**	**+0.2**
KIKV	**Kanaga Island**	**2.79**	**89**			**Pn**	**12 56 32.4**	**+0.1**
KIWB	**Kanaga Island**	**2.80**	**89**			**Pn**	**12 56 32.5**	**0.0**
ADK	**Adak**	**3.09**	**88**			**Pn**	**12 56 35.7**	**-0.6**
GSCK	**Great Sitkin C**	**3.41**	**86**			**Pn**	**12 56 39.8**	**-0.7**
GSTR	**Great Sitkin T**	**3.47**	**85**	Pn		**Pn**	**12 56 40.5**	**-0.8**
KOFP	**Korovin Flat P**	**4.69**	**82**			**Pn**	**12 56 57.3**	**-0.3**
NIKL	**Nikolski High**	**7.91**	**77**			**Pn**	**12 57 40.9**	**0.0**
UNV	**Unalaska Valle**	**9.38**	**72**	Pn		**Pn**	**12 58 01.7**	**+1.1**
PEA0B	**Petropavlovsk-**	**12.63**	**284**	Pn		**Pn**	**12 58 45.5**	**+1.6**
PETK	**Petropavlovsk-**	**12.63**	**284**	Pn		**Pn**	**12 58 44.2**	**+0.3**
KURBB	**Kurchatov Area**	**57.46**	**312**	P		**P**	**13 05 24.7**	**+0.2**
	0.2nm,0.5s,baz=42,slow=6.6,SNR=5.9							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**58.30**	**307**	P		**P**	**13 05 30.1**	**-0.4**
	0.2nm,0.4s,baz=39,slow=6.7,SNR=2.6							
	0.2nm,0.4s							
WRA

KAN06	**Argonia West S**	**1.11**	**318**			**Pg**	**12 58 59.2**	**-0.4**
KAN06				Sg		**Sg**	**12 59 14.4**	**+0.3**
KAN08	**Anthony NE Sta**	**1.16**	**314**			**Pg**	**12 58 59.6**	**-0.9**
KAN08				Sg		**Sb**	**12 59 17.1**	**+0.6**
KAN10	**Anthony SW Sta**	**1.17**	**307**	Pg		**Pg**	**12 59 00.3**	**-0.5**
KAN16	**Harper SW Stat**	**1.22**	**312**	Pg		**Pg**	**12 59 01.1**	**-0.5**
KAN16				Sg		**Sb**	**12 59 18.1**	**0.0**
FNO	**Franklin**	**1.22**	**199**	Pg		**Pg**	**12 59 00.6**	**-1.1**
FNO				Sg		**Sg**	**12 59 17.7**	**+0.2**
KAN12	**Harper NE Stat**	**1.23**	**316**	Pg		**Pg**	**12 59 00.9**	**-0.9**
KAN12				Sg		**Sn**	**12 59 19.7**	**+0.1**
OK035	**E0210 Rd and N**	**1.47**	**282**			**Pn**	**12 59 05.3**	**-0.4**
OK038	**West end E0370**	**1.47**	**273**			**Pn**	**12 59 04.5**	**-1.1**
RLO	**Rose Lookout**	**1.56**	**99**			**Pn**	**12 59 06.5**	**-0.4**
CSTR	**Hydro, Custer**	**1.63**	**242**			**Pn**	**12 59 07.7**	**-0.1**
NOKA	**Waynoka**	**1.63**	**278**			**Pn**	**12 59 08.0**	**+0.1**
U32A	**Winter Ranch,**	**1.68**	**269**			**Pn**	**12 59 08.5**	**0.0**
U32A	**Winter Ranch,** baz=88	**1.68**	**269**	P		**Pn**	**12 59 08.6**	**0.0**
U32A				S		**Sb**	**12 59 31.6**	**+0.3**
X34A	**Smith Ranch, M**	**1.96**	**202**			**Pn**	**12 59 13.3**	**+0.8**
X34A	comp=Z,276nm,1.1s			IAmb_Lg			12 59 41.4	
ELIS	**Ellis County**	**2.05**	**261**			**Pn**	**12 59 14.5**	**+0.8**
ELIS	comp=Z,255nm,0.9s			IAmb_Lg			12 59 47.2	
U38A	**Gravette**	**2.05**	**89**	Pn		**Pn**	**12 59 14.4**	**+0.9**
U38A	comp=Z,376nm,0.9s			IAmb_Lg			12 59 45.9	
U38A	**Gravette** baz=270	**2.05**	**89**	P		**Pn**	**12 59 14.5**	**+0.9**
X37A	**Clayton**	**2.22**	**145**	Pn		**Pn**	**12 59 16.2**	**+0.2**
X37A	**Clayton** baz=326	**2.22**	**145**	P		**Pn**	**12 59 16.3**	**+0.3**
WMOK	**Wichita Mounta**	**2.26**	**223**	Pn		**Pn**	**12 59 16.7**	**+0.2**
WMOK	**Wichita Mounta** baz=42	**2.26**	**223**	P		**Pn**	**12 59 16.8**	**+0.2**
HHAR	**Hobbs**	**2.41**	**92**			**Pn**	**12 59 19.2**	**+0.6**
LOOK	**Love County**	**2.43**	**185**			**Pn**	**12 59 19.4**	**+0.5**
LOOK	comp=Z,293nm,0.9s			IAmb_Lg			13 00 00.7	
R32A	**Long Quarter,**	**2.45**	**325**			**Pn**	**12 59 20.4**	**+1.1**
KSU1	**Kansas State U** comp=Z,153nm,1.0s	**2.69**	**5**	IAmb_Lg			13 00 05.9	
Z35A	**Perchaven, San**	**3.10**	**185**			**Pn**	**12 59 28.4**	**+0.3**
Z35A	**Perchaven, San** baz=5.1	**3.10**	**185**	P		**Pn**	**12 59 28.5**	**+0.5**
S39A	**Bolivar**	**3.15**	**65**			**Pn**	**12 59 29.5**	**+0.8**
S39A	comp=Z,160nm,0.9s			IAmb_Lg			13 00 25.0	
CBKS	**Cedar Bluff**	**3.27**	**318**			**Pn**	**12 59 30.6**	**0.0**
CBKS	**Cedar Bluff** baz=136	**3.27**	**318**	P		**Pn**	**12 59 30.5**	**0.0**
MIAR	**Mount Ida** comp=Z,121nm,0.9s	**3.31**	**123**	IAmb_Lg			13 00 30.1	
Z38A	**Mt. Pleasant**	**3.53**	**153**			**Pn**	**12 59 32.8**	**-1.2**
Z38A	comp=Z,118nm,0.8s			IAmb_Lg			13 00 37.0	
MGMO	**Mountain Grove** comp=Z,174nm,0.7s	**3.81**	**78**	IAmb_Lg			13 00 42.9	
FCAR	**Ozark Folk Cen** comp=Z,201nm,1.0s	**3.92**	**96**	IAmb_Lg			13 00 42.6	
WHAR	**Wooly Hollow**	**3.93**	**105**			**Pn**	**12 59 38.1**	**-1.4**
UALR	**University of** comp=Z,162nm,0.9s	**4.08**	**112**	IAmb_Lg			13 00 52.5	
WLAR	**White Oak Lake**	**4.15**	**130**			**Pn**	**12 59 42.8**	**+0.3**
R40A	**Maddies Statio**	**4.15**	**62**			**Pn**	**12 59 42.5**	**0.0**
R40A	comp=Z,120nm,0.9s			IAmb_Lg			13 00 48.8	
AMTX	**Amarillo** comp=Z,206nm,1.2s	**4.17**	**250**	IAmb_Lg			13 00 53.9	
P38A	**Dawn** comp=Z,147nm,1.1s	**4.17**	**39**	IAmb_Lg			13 00 48.6	
N33A	**J Bar K, Exete** comp=Z,154nm,0.8s	**4.33**	**355**	IAmb_Lg			13 00 58.6	
ABTX	**Abilene, Hawle** comp=Z,115nm,1.3s	**4.40**	**211**	IAmb_Lg			13 01 02.4	
LCAR	**Lake Charles** comp=Z,116nm,0.8s	**4.68**	**93**	IAmb_Lg			13 01 10.7	
CCM	**Cathedral Cave** comp=Z,130nm,0.7s	**4.82**	**69**	IAmb_Lg			13 01 20.1	
CCAR	**Cane Creek** comp=Z,106nm,0.9s	**4.90**	**119**	IAmb_Lg			13 01 18.2	
P40A	**Paris** comp=Z,136nm,0.9s	**4.95**	**50**	IAmb_Lg			13 01 23.0	
BGNE	**Belgrade** comp=Z,119nm,0.7s	**5.07**	**350**	IAmb_Lg			13 01 29.3	
N38A	**Joes South For** comp=Z,113nm,0.8s	**5.23**	**32**	IAmb_Lg			13 01 32.9	
FVM	**French Village** comp=Z,133nm,0.9s	**5.42**	**71**	IAmb_Lg			13 01 35.5	
435B	**Jarrell** comp=Z,87nm,0.8s	**5.65**	**186**	IAmb_Lg			13 01 42.9	
SLM	**Saint Louis** comp=Z,145nm,0.9s	**5.76**	**65**	IAmb_Lg			13 01 42.4	
CGM3	**Cape Girardeau** comp=Z,78nm,0.7s	**5.89**	**79**	IAmb_Lg			13 01 50.4	
OGNE	**Ogallala** comp=Z,58nm,0.8s	**6.03**	**320**	IAmb_Lg			13 02 02.7	
JCT	**Junction City** comp=Z,64nm,0.8s	**6.39**	**203**	IAmb_Lg			13 02 16.9	
OXF	**Oxford** comp=Z,122nm,0.7s	**6.42**	**105**	IAmb_Lg			13 02 06.6	
Y45A	**Yeager Farm, C** comp=Z,96nm,0.8s	**6.56**	**111**	IAmb_Lg			13 02 20.4	
P43A	**Skaggs, Pawnee** comp=Z,91nm,0.8s	**6.67**	**59**	IAmb_Lg			13 02 13.3	
SDCO	**Great Sand Dun** comp=Z,76nm,1.2s	**6.98**	**283**	IAmb_Lg			13 02 18.7	
K38A	**Parkersburg** comp=Z,114nm,1.0s	**7.00**	**26**	IAmb_Lg			13 02 35.9	
Q24A	**Divide** comp=Z,53nm,0.9s	**7.00**	**294**	IAmb_Lg			13 02 30.6	
L40A	**Anamosa** comp=Z,61nm,0.8s	**7.16**	**36**	IAmb_Lg			13 02 25.0	
HDIL	**Hopedale** comp=Z,69nm,0.7s	**7.27**	**53**	IAmb_Lg			13 02 39.1	
ECSD	**EROS Data Cent** comp=Z,47nm,0.8s	**7.31**	**2**	IAmb_Lg			13 02 32.2	
PLAL	**Pickwick Lake** comp=Z,58nm,1.0s	**7.34**	**99**	IAmb_Lg			13 02 31.4	
WVT	**Waverly** comp=Z,66nm,1.0s	**7.35**	**90**	IAmb_Lg			13 02 39.1	
146A	**Union** comp=Z,62nm,0.9s	**7.51**	**118**	IAmb_Lg			13 02 55.2	
O44A	**Mansfield** comp=Z,75nm,0.7s	**7.62**	**58**	IAmb_Lg			13 02 45.7	
L42A	**Oliver, Polo** comp=Z,49nm,0.7s	**7.92**	**43**	IAmb_Lg			13 02 57.8	
Z47A	**Carrollton** comp=Z,37nm,0.8s	**7.96**	**111**	IAmb_Lg			13 03 04.8	
I37A	**Lemond, Waseca** comp=Z,86nm,1.1s	**8.05**	**18**	IAmb_Lg			13 03 01.0	
SUSD	**Miller** comp=Z,38nm,0.8s	**8.16**	**350**	IAmb_Lg			13 03 12.2	
JFWS	**Jewell Farm** comp=Z,46nm,0.8s	**8.28**	**36**	IAmb_Lg			13 03 02.0	
X48A	**Hartselle** comp=Z,41nm,0.8s	**8.30**	**101**	IAmb_Lg			13 03 06.1	
P46A	**Rosedale** comp=Z,82nm,0.8s	**8.31**	**64**	IAmb_Lg			13 03 04.1	
833A	**Chaparral WMA,** comp=Z,37nm,1.1s	**8.34**	**195**	IAmb_Lg			13 03 20.6	
N23A	**Red Feather La** comp=Z,41nm,0.9s	**8.35**	**305**	IAmb_Lg			13 03 07.5	
M44A	**Midewin, Midew** comp=Z,75nm,1.1s	**8.51**	**52**	IAmb_Lg			13 03 06.6	
SFIN	**Lafayette** comp=Z,56nm,0.7s	**8.67**	**60**	IAmb_Lg			13 03 16.6	
K43A	**Burlington** comp=Z,56nm,0.8s	**9.13**	**44**	IAmb_Lg			13 03 26.2	
SPMN	**Marine on St.** comp=Z,30nm,0.9s	**9.33**	**18**	IAmb_Lg			13 03 44.9	
F33A	**5 Mile Ranch,** comp=Z,33nm,1.0s	**9.42**	**3**	IAmb_Lg			13 03 41.6	
I42A	**Draeger Farm,** comp=Z,36nm,1.1s	**9.65**	**37**	IAmb_Lg			13 03 44.8	
K22A	**Casper** comp=Z,50nm,1.1s	**9.68**	**313**	IAmb_Lg			13 04 04.1	

*IDC **03** 13:12:07.6±1.8,5°.07S×133°.91E,h0km,mb3.7/1, mbtmp3.8/5,ML3.7/4,Error ellipse: s-maj=65.5km s-min=26.2km az=71.0*
ISC 03 13:12:08.6±1.3,**5°.21S**±0°.08×**133°.7E**±0°.2,**h10**km,**n6,**
σ2s92/9,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.93**	**331**	Sn		**Sn**	**13 14 17.2**	**-2.8**
	2.0nm,0.3s,baz=346,slow=21,SNR=3.5							
WRA	**Warramunga Arr**	**14.66**	**178**	Pn		**Pn**	**13 15 37.1**	**+0.8**
	0.2nm,0.3s,baz=356,slow=13,SNR=6.4							
WRA				Sn		**Sn**	**13 18 15.5**	**-3.5**
	0.1nm,0.3s,baz=0.6,slow=25,SNR=1.6							
	0.5nm,0.7s							
FITZ	**Fitzroy Crossi**	**15.03**	**211**	Pn		**Pn**	**13 15 44.2**	**+3.0**
	0.4nm,0.3s,baz=41,slow=11,SNR=12							
FITZ				Sn		**Sn**	**13 18 26.8**	**-1.1**
	0.4nm,0.3s,baz=156,slow=13,SNR=5.5							
	1.0nm,0.4s							
ASAR	**Alice Springs**	**18.36**	**179**	P		**P**	**13 16 26.1**	**+2.5**
	0.4nm,0.3s,baz=4.2,slow=11,SNR=58							
ASAR				S		**Sn**	**13 19 45.0**	**-3.7**
	0.5nm,0.6s,baz=360,slow=29,SNR=2.8							
	8.2nm,0.8s							
CTA	**Charters Tower**	**19.20**	**142**	P		**P**	**13 16 32.7**	**-0.1**
	0.2nm,0.3s,baz=325,slow=9.9,SNR=5.8							
	2.7nm,0.7s							
MKAR	**Makanchi Array**	**68.80**	**325**	P		**P**	**13 23 13.9**	**+0.8**
	0.5nm,0.6s,baz=107,slow=8.1,SNR=7.0							
	0.5nm,0.6s							

*UCR **03** 13:17:54.3±1.2,13°.19N×89°.99W,h30km±4km,ML3.6*
*SNET **03** 13:17:54.1±1.2,13°.18N×89°.99W,h30km±4km,ML3.6*
*GCG **03** 13:17:57.1±0.6,13°.34N×90°.20W,h76km±27km,MD3.7*
ISC 03 13:17:52.9±1.8,**13°.12N**±0°.08×**90°.02W**±0°.04,**h27**km±13km, **n33,σ0s44/54,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.76**	**46**	*eP*		**Pb**	**13 18 07.8**	**+0.1**
JAYA				*eS*		**Sn**	**13 18 18.2**	**-0.6**
JAYA				IAML			13 18 21.5	
	comp=Z,4μm,0.2s							
JAYA	**Jayaque - finc**	**0.76**	**46**	*eP*		**Pb**	**13 18 07.8**	**+0.1**
JAYA				*eS*		**Sn**	**13 18 18.2**	**-0.6**
JAYA				IAML			13 18 21.5	
	comp=Z,4μm,0.2s							
CEVE	**Cerro Verde**	**0.80**	**28**	*eP*		**Pb**	**13 18 08.5**	**+0.1**
CEVE				*eS*		**Sn**	**13 18 19.9**	**+0.1**
CEVE				IAML			13 18 22.3	
	comp=Z,4μm,0.3s							
CEVE	**Cerro Verde**	**0.80**	**28**	*eP*		**Pb**	**13 18 08.5**	**+0.1**
CEVE				*eS*		**Sn**	**13 18 19.9**	**+0.1**
CEVE				IAML			13 18 22.3	
	comp=Z,4μm,0.3s							
NUBE	**Las Nubes**	**0.81**	**16**	*eP*		**Pb**	**13 18 08.5**	**0.0**
NUBE				*eS*		**Sn**	**13 18 19.2**	**-0.6**
NUBE	**Las Nubes**	**0.81**	**16**	*eP*		**Pb**	**13 18 08.5**	**0.0**
NUBE				*eS*		**Sn**	**13 18 19.2**	**-0.6**
SNJE	**San Jose**	**0.84**	**28**	*eP*		**Pn**	**13 18 09.0**	**-0.2**
SNJE	**San Jose**	**0.84**	**28**	*eP*		**Pn**	**13 18 09.0**	**-0.2**
RTR	**El Retiro**	**0.85**	**25**	*eP*		**Pn**	**13 18 09.3**	**0.0**
RTR	**El Retiro**	**0.85**	**25**	*eP*		**Pn**	**13 18 09.3**	**0.0**
CEDA	**San Andres**	**0.91**	**42**	*eP*		**Pn**	**13 18 10.0**	**0.0**
CEDA				*eS*		**Sn**	**13 18 22.6**	**+0.4**
CEDA				IAML			13 18 41.3	
	comp=Z,2μm,0.4s							
CEDA	**San Andres**	**0.91**	**42**	*eP*		**Pn**	**13 18 10.0**	**0.0**
CEDA				*eS*		**Sn**	**13 18 22.6**	**+0.4**
CEDA				IAML			13 18 41.3	
	comp=Z,2μm,0.4s							
SLOZ	**Alcaldia de Sa**	**0.93**	**14**	*eP*		**Pn**	**13 18 10.5**	**+0.3**
SLOZ				*eS*		**Sn**	**13 18 22.9**	**+0.3**
BOQS	**Boqueron**	**0.94**	**50**	*eP*		**Pn**	**13 18 10.7**	**+0.2**
BOQS	**Boqueron**	**0.94**	**50**	*eP*		**Pn**	**13 18 10.7**	**+0.2**
LFRS	**El Faro**	**1.05**	**62**	*eP*		**Pn**	**13 18 11.9**	**-0.1**
LFRS	**El Faro**	**1.05**	**62**	*eP*		**Pn**	**13 18 11.9**	**-0.1**
SJTE	**Alcalda de S**	**1.10**	**63**	*eP*		**Pn**	**13 18 12.6**	**+0.1**
SJTE				*eS*		**Sb**	**13 18 27.4**	**+0.2**
SJTE				IAML			13 18 31.9	
	comp=Z,420nm,0.3s							
SJTE	**Alcalda de S**	**1.10**	**63**	*eP*		**Pn**	**13 18 12.6**	**+0.1**
SJTE				*eS*		**Sb**	**13 18 27.4**	**+0.2**
SJTE				IAML			13 18 31.9	
	comp=Z,420nm,0.3s							
COEG	**Centro de Oper**	**1.21**	**66**	*eP*		**Pn**	**13 18 14.4**	**+0.3**
COEG				*eS*		**Sb**	**13 18 30.2**	**-0.3**
COEG	**Centro de Oper**	**1.21**	**66**	*eP*		**Pn**	**13 18 14.4**	**+0.3**
COEG				*eS*		**Sb**	**13 18 30.2**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.38**	**65**	*eP*		**Pn**	**13 18 17.2**	**+0.8**
SCLA				*eS*		**Sb**	**13 18 35.5**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.38**	**65**	*eP*		**Pn**	**13 18 17.2**	**+0.8**
SCLA				*eS*		**Sb**	**13 18 35.5**	**+0.1**
PCG	**Pacaya**	**1.39**	**336**	*eP*		**Pb**	**13 18 18.2**	**-0.1**
PCG				*eS*		**Sb**	**13 18 35.1**	**-0.6**
MTO3	**Montecristo**	**1.42**	**27**	*eP*		**Pn**	**13 18 17.9**	**+0.7**
MTO3				*eS*		**Sb**	**13 18 36.6**	**0.0**
MTO3	**Montecristo**	**1.42**	**27**	*eP*		**Pn**	**13 18 17.9**	**+0.7**
MTO3				*eS*		**Sb**	**13 18 36.6**	**0.0**
NBG	**Las Nubes**	**1.49**	**348**	*eP*		**Pb**	**13 18 20.4**	**+0.3**
NBG				*eS*		**Sb**	**13 18 37.7**	**-1.0**
COEB	**Comit de Eme**	**1.49**	**75**	*eP*		**Pn**	**13 18 18.3**	**+0.2**
COEB				IAML			13 18 42.1	
	comp=Z,414nm,0.3s							
COEB	**Comit de Eme**	**1.49**	**75**	*eP*		**Pn**	**13 18 18.3**	**+0.2**
COEB				IAML			13 18 42.1	
	comp=Z,414nm,0.3s							
FUG	**Fuego 3**	**1.54**	**329**	*eP*		**Pn**	**13 18 19.9**	**+1.1**
FUG				*eS*		**Sn**	**13 18 37.5**	**-0.6**
PACA	**Pacayal**	**1.68**	**78**	*eP*		**Pb**	**13 18 22.9**	**-0.4**
PACA				IAML			13 18 50.8	
	comp=Z,2μm,0.3s							
PACA	**Pacayal**	**1.68**	**78**	*eP*		**Pb**	**13 18 22.9**	**-0.4**
PACA				IAML			13 18 50.8	
	comp=Z,2μm,0.3s							
STG3	**Santiaguito 3,**	**2.19**	**316**	*eP*		**Pn**	**13 18 28.3**	**+0.7**
STG3				*eS*		**Sn**	**13 18 53.1**	**-0.8**

*TAP **03** 13:19:02.2,24°.70N×122°.07E,h18km,ML2.5,C*
*JMA **03** 13:19:03.3±0.1,24°.7N±0°.3×122°.0E±0°.5,h40km±4km, MV2.2/9,TAIWAN REGION*
ISC 03 13:19:02.0±0.9,**24°.70N**±0°.02×**122°.12E**±0°.02,**h13**km±7km, **n75,σ0s48/130,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGS		**0.23**	**310**	P		**Pg**	**13 19 07.2**	**+0.3**
EGS	baz=320			*eS*		**Sb**	**13 19 11.0**	**-1.0**
	baz=320							
TWC	**Suao**	**0.26**	**251**	*eP*		**Pg**	**13 19 07.2**	**-0.3**
TWC	baz=244			*eS*		**Sg**	**13 19 10.8**	**-0.4**
	baz=244							
NTC	**Toucheng**	**0.31**	**301**	*eP*		**Pg**	**13 19 08.6**	**+0.2**
NTC	baz=305			*eS*		**Sg**	**13 19 12.9**	**+0.3**
	baz=305							
TWB1	**Santiao Chiao**	**0.33**	**339**	P		**Pb**	**13 19 09.5**	**-0.4**
	baz=341							
ILA	**Ilan**	**0.35**	**281**	*eP*		**Pb**	**13 19 09.8**	**-0.3**
ILA	baz=282			*eS*		**Sb**	**13 19 15.1**	**-0.4**
	baz=282							
NDS	**Dongshan**	**0.38**	**260**	*eP*		**Pg**	**13 19 09.3**	**-0.2**
NDS	baz=253			S		**Sg**	**13 19 14.5**	**-0.1**
	baz=253							
TIPB	**Shuangxi**	**0.38**	**315**	P		**Pb**	**13 19 10.2**	**-0.5**
TIPB	baz=316			*eS*		**Sg**	**13 19 14.6**	**-0.3**
	baz=316							
EWUT	**Wuta**	**0.40**	**231**	*eP*		**Pg**	**13 19 09.9**	**-0.1**
EWUT	baz=222			*eS*		**Sg**	**13 19 15.2**	**-0.1**
	baz=222							
TWE	**Neicheng**	**0.41**	**273**	*eP*		**Pg**	**13 19 10.1**	**-0.1**
TWE	baz=272			*eS*		**Sg**	**13 19 15.9**	**+0.1**
	baz=272							
ENA	**Nanau**	**0.44**	**232**	*eP*		**Pg**	**13 19 11.2**	**+0.5**
ENA	baz=223			*eS*		**Sg**	**13 19 16.5**	**-0.1**
	baz=223							
SXI1	**Grass Mountain**	**0.46**	**330**	P		**Pb**	**13 19 11.9**	**0.0**
SXI1	baz=335			*eS*		**Sb**	**13 19 19.3**	**+0.6**
	baz=335							
NWF	**Wu-fen Shan**	**0.48**	**320**	*eP*		**Pb**	**13 19 12.7**	**+0.3**
NWF	baz=321			*eS*		**Sb**	**13 19 19.2**	**-0.3**
	baz=321							
FUSB	**Fushanzhiwuyua**	**0.49**	**277**	*eP*		**Pg**	**13 19 11.7**	**0.0**
FUSB	baz=277			S		**Sg**	**13 19 18.1**	**-0.1**
	baz=277							
ENTT	**Nioudou**	**0.51**	**264**	*eP*		**Pg**	**13 19 11.2**	**-0.8**
ENTT	baz=261			*eS*		**Sg**	**13 19 18.2**	**-0.6**
	baz=261							
NDT	**Datong Townshi**	**0.56**	**260**	*eP*		**Pg**	**13 19 13.4**	**+0.4**
NDT	baz=258			*eS*		**Sg**	**13 19 20.4**	**0.0**
	baz=258							
TWA	**Mucha**	**0.56**	**300**	*eP*		**Pb**	**13 19 13.7**	**-0.1**
TWA	baz=294			*eS*		**Sg**	**13 19 20.8**	**+0.2**
	baz=294							
LATG	**Datong**	**0.57**	**254**	*eP*		**Pg**	**13 19 13.2**	**+0.1**
LATG	baz=250			*eS*		**Sg**	**13 19 20.7**	**0.0**
	baz=250							
NHDH	**Xindian Distri**	**0.60**	**296**	*eP*		**Pb**	**13 19 14.7**	**+0.2**
NHDH	baz=292			S		**Sg**	**13 19 22.1**	**+0.3**
	baz=292							
YM01	**YM01**	**0.67**	**312**	*eP*		**Pb**	**13 19 15.9**	**+0.3**
YM01	baz=313			S		**Sb**	**13 19 24.1**	**-0.8**
	baz=313							
YHNB	**Yeheng**	**0.68**	**268**	*eP*		**Pg**	**13 19 15.3**	**+0.1**
YHNB	baz=267			*eS*		**Sg**	**13 19 24.0**	**-0.2**
	baz=267							
NSK	**Sanguang**	**0.70**	**268**	*eP*		**Pg**	**13 19 14.6**	**-0.9**
NSK	baz=265			*eS*		**Sg**	**13 19 23.1**	**-1.6**
	baz=265							
ETL	**Fush Village**	**0.70**	**220**	*eP*		**Pg**	**13 19 15.6**	**-0.1**
ETL	baz=216			*eS*		**Sg**	**13 19 24.9**	**-0.1**
	baz=216							
NACB	**Ninganchiao**	**0.71**	**223**	*eP*		**Pg**	**13 19 15.8**	**+0.1**
NACB	baz=211			*eS*		**Sg**	**13 19 24.1**	**-1.0**
	baz=211							
NNSB	**Datong**	**0.72**	**248**	*eP*		**Pg**	**13 19 16.2**	**+0.1**
NNSB	baz=237			*eS*		**Sg**	**13 19 25.2**	**-0.4**
	baz=237							
NNS	**Nan Shan**	**0.73**	**250**	*eP*		**Pg**	**13 19 16.0**	**-0.2**
NNS	baz=238			*eS*		**Sg**	**13 19 24.5**	**-1.2**
	baz=238							
ANP	**Anpu**	**0.73**	**312**	*eP*		**Pb**	**13 19 16.8**	**+0.1**
	baz=315							
TWY	**Chenhua**	**0.75**	**321**	*eP*		**Pb**	**13 19 17.2**	**+0.4**
TWY	baz=323			*eS*		**Sb**	**13 19 26.7**	**-0.2**
	baz=323							
TWS1	**Kuangyinshan**	**0.76**	**302**	*eP*		**Pn**	**13 19 18.1**	**-0.3**
TWS1	baz=297			*eS*		**Sb**	**13 19 27.7**	**+0.5**
	baz=297							
ETLH	**Xiulin Townshi**	**0.76**	**230**	*eP*		**Pb**	**13 19 17.3**	**+0.1**
ETLH	baz=219			*eS*		**Sg**	**13 19 27.0**	**+0.2**
	baz=219							
NTST	**Danshui**	**0.77**	**307**	*eP*		**Pn**	**13 19 17.8**	**-0.8**
NTST	baz=320			*eS*		**Sb**	**13 19 28.2**	**+0.6**
	baz=320							
JYNG	**Yonagunijimaku**	**0.79**	**108**	P		**Pn**	**13 19 19.0**	**+0.2**
JYNG				S		**Sn**	**13 19 30.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.84**	**106**	*eP*		**Pn**	**13 19 19.8**	**+0.2**
	baz=104							
YOJ	**Yonaguni jima**	**0.84**	**106**	P		**Pn**	**13 19 19.8**	**+0.2**
YOJ				S		**Sn**	**13 19 32.1**	**+0.3**
NCU	**National Centr**	**0.89**	**288**	*eS*		**Sn**	**13 19 32.2**	**-0.8**
	baz=299							
NCUH	**Zhongli**	**0.89**	**288**	*eP*		**Pn**	**13 19 20.5**	**+0.2**
NCUH	baz=299			*eS*		**Sn**	**13 19 32.8**	**-0.4**
	baz=299							
NFF	**Wufeng Townshi**	**0.92**	**266**	*eP*		**Pg**	**13 19 20.1**	**+0.4**
NFF	baz=257			*eS*		**Sb**	**13 19 31.5**	**-0.4**
	baz=257							
FUSS	**Fushou**	**0.92**	**241**	*eP*		**Pb**	**13 19 20.2**	**+0.2**
FUSS	baz=238			*eS*		**Sg**	**13 19 31.2**	**-0.6**
	baz=238							
PCYT	**Pengchaiyu**	**0.93**	**357**	*eP*		**Pn**	**13 19 21.0**	**+0.2**
PCYT	baz=6.0			*eS*		**Sn**	**13 19 34.2**	**+0.2**
	baz=6.0							
WHF	**Hehuan Shan**	**0.96**	**235**	*eP*		**Pg**	**13 19 20.6**	**+0.1**
WHF	baz=231			*eS*		**Sg**	**13 19 32.5**	**-0.5**
	baz=231							
TWT	**Tachien**	**0.97**	**243**	*eP*		**Pb**	**13 19 21.0**	**+0.2**
TWT	baz=231			*eS*		**Sb**	**13 19 33.7**	**+0.2**
	baz=231							
LIOB	**Emei**	**1.01**	**267**	*eP*		**Pn**	**13 19 22.8**	**+0.9**
LIOB	baz=256			*eS*		**Sn**	**13 19 35.9**	**-0.1**
	baz=256							
NSTT	**Nanjuang**	**1.02**	**267**	*eP*		**Pn**	**13 19 22.4**	**+0.4**
NSTT	baz=255			*eS*		**Sg**	**13 19 35.4**	**+0.4**
	baz=255							
SBCB	**Hsinchu**	**1.04**	**275**	*eS*		**Sn**	**13 19 36.9**	**+0.2**
	baz=292							
CHGB	**Renai**	**1.07**	**234**	*eP*		**Pn**	**13 19 22.9**	**-0.1**
CHGB	baz=231			*eS*		**Sb**	**13 19 36.8**	**+0.2**
	baz=231							
ESL	**Shilin**	**1.08**	**216**	*eP*		**Pb**	**13 19 22.9**	**+0.3**
ESL	baz=218			*eS*		**Sb**	**13 19 36.4**	**-0.2**
	baz=218							
OWD	**Renai**	**1.14**	**230**	*eP*		**Pb**	**13 19 23.8**	**+0.2**
OWD	baz=234			*eS*		**Sb**	**13 19 37.4**	**-1.0**
	baz=234							
WHP	**Taichung City**	**1.15**	**249**	*eP*		**Pb**	**13 19 23.9**	**+0.1**
WHP	baz=246			*eS*		**Sb**	**13 19 38.6**	**-0.1**
	baz=246							
WUSB	**Renai**	**1.16**	**233**	*eP*		**Pb**	**13 19 24.2**	**+0.3**
WUSB	baz=229			*eS*		**Sb**	**13 19 37.9**	**-0.9**
	baz=229							
EGFH	**Guangfu**	**1.21**	**212**	*eP*		**Pn**	**13 19 24.4**	**-0.1**
EGFH	baz=224			*eS*		**Sb**	**13 19 40.5**	**+0.3**
	baz=224							
NMLH	**Miaoli**	**1.22**	**263**	*eP*		**Pg**	**13 19

	baz=222							
SSLB	**Suanglung**	**1.40**	**230**	*e*P	**Pb**	**13**	**19**	**28.4 +0.4**
	baz=233							
SSLB				*e*S	**Sn**	**13**	**19**	**45.2 -0.4**
	baz=233							
TYC	**Yuchr**	**1.40**	**236**	*e*P	**Pg**	**13**	**19**	**28.7 -0.1**
	baz=234							
YULB	**Yu-li**	**1.50**	**210**	*e*P	**Pn**	**13**	**19**	**28.6 -0.1**
	baz=207							
YULB				*e*S	**Sn**	**13**	**19**	**47.7 -0.4**
	baz=207							
IRIF	**Iriomote-Funau**	**1.51**	**104**	P	**Pb**	**13**	**19**	**29.2 -0.6**
IRIF				*e*S	**Sn**	**13**	**19**	**48.2 -0.1**
WHYT	**Xinyi Township**	**1.53**	**230**	*e*P	**Pg**	**13**	**19**	**31.1 -0.2**
	baz=216							
EYUL	**Yuli**	**1.53**	**209**	*e*P	**Pn**	**13**	**19**	**29.8 +0.7**
	baz=219							
WJS	**Zhushan**	**1.54**	**236**	*e*P	**Pg**	**13**	**19**	**32.2 +0.6**
	baz=222							
WNT	**Mingjian**	**1.54**	**238**	*e*P	**Pg**	**13**	**19**	**32.0 +0.3**
	baz=236							
ALS	**Alishan**	**1.69**	**226**	*e*P	**Pb**	**13**	**19**	**32.9 -0.2**
	baz=209							
JKRS	**Kuro-shima**	**1.78**	**105**	P	**Pb**	**13**	**19**	**33.5 -0.9**
JKRS				*e*S	**Sn**	**13**	**19**	**55.2 +0.2**
WCKO	**Fanlu**	**1.87**	**228**	*e*P	**Pb**	**13**	**19**	**35.9 -0.1**
	baz=224							
JIJ	**Ishigaki jima**	**1.87**	**100**	*e*P	**Pn**	**13**	**19**	**34.3 +0.6**
JIJ				*e*S	**Sn**	**13**	**19**	**56.5 -0.7**
EDH	**Donghe**	**1.87**	**204**	*e*P	**Pn**	**13**	**19**	**34.0 +0.2**
	baz=187							
TPUB	**Ta-pu**	**1.95**	**225**	*e*P	**Pb**	**13**	**19**	**37.3 -0.1**
	baz=219							
STYH	**Taoyuan**	**1.96**	**219**	*e*P	**Pb**	**13**	**19**	**36.5 -1.0**
	baz=215							
JISG	**Ishigakijimahi**	**1.99**	**93**	P	**Pn**	**13**	**19**	**36.4 +1.0**
WTP	**Ta-pu**	**2.00**	**224**	*e*P	**Pb**	**13**	**19**	**37.9 -0.4**
	baz=218							
TWK	**Hsinying**	**2.06**	**227**	*e*P	**Pn**	**13**	**19**	**37.9 +1.4**
	baz=220							

ROM 03 13:26:20.5±0.1, 43°.379N±0°.003×12°.543E±0°.003, h7km, ML1.8/1, Error ellipse: s-maj=0.2km s-min=0.2km az=183.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.03**	**121**	P	Pg	13 26 21.9	0.0
ATFO				S	Sg	13 26 22.9	-0.1
ATVO	**AVT- Monte Val**	**0.10**	**272**	P	Pg	13 26 23.0	+0.2
ATVO				S	Sg	13 26 24.9	+0.4
MURB	**Monte Urbino**	**0.12**	**186**	P	Pg	13 26 23.5	+0.4
MURB				S	Sg	13 26 25.8	+0.9
ATPI	**Pietralunga -**	**0.12**	**305**	P	Pg	13 26 23.7	+0.5
ATPI				S	Sg	13 26 26.1	+1.0
FOSV	**Fossato di Vic**	**0.18**	**118**	P	Pg	13 26 24.8	+0.7
FOSV				S	Sg	13 26 28.1	+1.5
FRON	**Frontone**	**0.19**	**44**	P	Pg	13 26 25.2	+0.8
FRON				S	Sg	13 26 28.6	+1.5
NARO	**Abbazia di Nar**	**0.23**	**7**	P	Pg	13 26 25.6	+0.5
NARO				S	Sg	13 26 29.8	+1.5
BADI	**Badiali**	**0.25**	**301**	P	Pg	13 26 26.2	+0.7
BADI				S	Sb	13 26 30.7	-1.3
ARVD	**Arcevia**	**0.31**	**68**	P	Pg	13 26 27.3	+0.6
ARVD				S	Sb	13 26 32.9	-0.9
PARC	**Parchiule**	**0.35**	**321**	P	Pb	13 26 28.6	-0.4
FSSB	**Fossombrone**	**0.36**	**29**	P	Pg	13 26 28.2	+0.7
FSSB				S	Sb	13 26 34.3	-0.7
CRE	**Caprese Michel**	**0.49**	**299**	P	Pg	13 26 30.7	+0.7
CRE				S	Sb	13 26 38.3	-0.7

ROM 03 13:27:04.6±0.0, 42°.791N±0°.003×13°.198E±0°.005, h10km, ML2.5/3, Error ellipse: s-maj=0.4km s-min=0.2km az=66.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**7**	P	Pg	13 27 06.8	+0.1
T1242				S	Sg	13 27 08.0	-0.2
T1242				AML	AML		
	comp=E,1665μm,0.1s						
T1242				AML	AML		
	comp=N,2775μm,0.5s						
NRCA	**Norcia**	**0.07**	**305**	P	Pg	13 27 07.2	+0.3
NRCA				S	Sg	13 27 08.8	0.0
T1244	**Arquata del Tr**	**0.08**	**114**	P	Pg	13 27 07.6	+0.5
T1244				S	Sg	13 27 09.5	+0.7
T1202	**Accumoli, Fraz**	**0.09**	**167**	P	Pg	13 27 07.7	+0.6
T1202				S	Sg	13 27 09.7	+0.7
MC2	**Monte Cornacci**	**0.12**	**358**	P	Pg	13 27 08.1	+0.4
MC2				S	Sg	13 27 10.5	+0.6
T1204	**Amatrice, Fraz**	**0.14**	**143**	P	Pg	13 27 08.6	+0.6
T1204				S	Sg	13 27 11.2	+0.9
T1241	**Roccafluvione,**	**0.18**	**69**	P	Pg	13 27 09.1	+0.6
T1241				S	Sg	13 27 12.3	+1.0
SMA1	**SAN MARTINO**	**0.19**	**148**	P	Pg	13 27 09.2	+0.6
SMA1				S	Sg	13 27 12.5	+1.0
T1243	**Rocca Santa Ma**	**0.21**	**117**	P	Pg	13 27 09.4	+0.5
T1243				S	Sg	13 27 12.9	+0.9
LNSS	**Leonessa**	**0.22**	**212**	P	Pg	13 27 09.9	+0.7
LNSS				S	Sg	13 27 13.8	+1.4
FDMO	**Fiordimonte**	**0.26**	**342**	P	Pg	13 27 10.6	+0.7
FDMO				S	Sg	13 27 14.6	+1.1
RM33	**Pellescritta (**	**0.28**	**177**	P	Pg	13 27 11.0	+0.6
RM33				S	Sb	13 27 15.5	-1.1
GUMA	**Gualdo di Mace**	**0.29**	**20**	P	Pb	13 27 11.4	-0.5
GUMA				S	Sb	13 27 16.7	-0.1
GUMA				AML	AML		
	comp=N,1018μm,0.2s						
GUMA				AML	AML		
	comp=E,520μm,0.2s						
CAMP	**Campotosto**	**0.30**	**148**	P	Pg	13 27 11.0	+0.4
CAMP				S	Sg	13 27 15.8	+1.1
CSP1	**Cessapalombo**	**0.30**	**1**	P	Pg	13 27 11.3	+0.6
CSP1				S	Sb	13 27 16.2	-1.0
CESI	**CESI - Serrava**	**0.30**	**315**	P	Pg	13 27 11.3	+0.5
CESI				S	Sb	13 27 16.2	-1.1
TERO	**Teramo**	**0.34**	**119**	P	Pg	13 27 11.8	+0.4
TERO				S	Sb	13 27 17.3	-1.0
GIGS	**Gran Sasso**	**0.44**	**141**	P	Pg	13 27 13.5	+0.3

*WEL **03** 13:30:00, 37°.395S×179°.03E, h7km, ML5.5, Mw5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.46; $M_{\theta\theta}$0.26; $M_{\phi\phi}$0.21; $M_{r\theta}$0.41; $M_{\theta\phi}$-0.14; $M_{\phi r}$1.23; Fault plane solution: $M_0$1.33000×10^{17} NP1: ϕ_s338.00000°, δ8.00000°, λ-127.00000°. NP2: ϕ_s196.00000°, δ83.00000°, λ-85.00000°. Principal axes: T -14975.1600, Plg38.0000°, Azm282.0000°; N 3320.1400, Plg5.0000°, Azm15.0000°; P 11655.0300, Plg51.0000°, Azm112.0000°;*

*BJI **03** 13:30:22.0±0.0, 37°.50S×179°.30E, h10km, mb5.1/13, mB5.5/2, Ms5.4/5, Ms7 5.2/5*

*NEIC **03** 13:30:25.4±2.1, 37°.25S±0°.09×179°.04E±0°.06, h10km±1km, mb5.4/55, Mww5.0, Error ellipse: s-maj=16.8km s-min=3.2km az=331.0*

*WEL **03** 13:30:26.9±1.6, 37°.5S±5°×17°.9E±°, h18km±7km, M5.5/76, ML5.8/75, MLv5.5/76, Error ellipse: s-maj=0.0km s-min=0.0km az=74.0*

*NEIC **03** 13:30:28, 37°.54S×179°.24E, h14km, Moment Tensor Solution. Duration: 10±0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.69; $M_{\theta\theta}$-0.29; $M_{\phi\phi}$3.99; $M_{r\theta}$1.10; $M_{\theta\phi}$1.42; $M_{\phi r}$1.70; Fault plane solution: $M_0$4.58000×10^{16} NP1:ϕ_s7.00000°, δ33.00000°, λ-105.00000°. NP2:ϕ_s205.00000°, δ58.00000°, λ-80.00000°. Principal axes: T 4.8620, Plg13.0000°, Azm288.0000°; N -0.6412, Plg8.0000°, Azm20.0000°; P -4.2209, Plg75.0000°, Azm142.0000°;*

*MOS **03** 13:30:28.3±1.3, 37°.41S×178°.60E, h28km, mb5.3/17 Error ellipse: s-maj=12.4km s-min=10.5km az=120.4*

*GCMT **03** 13:30:31.1±0.3, 37°.44S±0°.02×178°.87E±0°.02, h22km, MW5.1/88, Moment Tensor Solution. s48,c59; s88,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.12±.30; $M_{\theta\theta}$0.39±.18; $M_{\phi\phi}$4.74±.18; $M_{r\theta}$1.60±.32; $M_{\theta\phi}$0.97±.10; $M_{\phi r}$3.91±.27; Best double couple: $M_0$6.56900×10^{16} NP1:ϕ_s198.00000°, δ65.00000°, λ-85.00000°. NP2: ϕ_s6.00000°, δ25.00000°, λ-101.00000°. Principal axes: T*

6.4510, Plg20.0000°, Azm284.0000°; N 0.2420, Plg5.0000°, Azm16.0000°; P -6.6880, Plg70.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*IDC **03** 13:30:34.3±1.2, 37°.32S×178°.60E, h65km±10km, mb4.7/22, mbtmp5.0/23, MS4.8/20 Error ellipse: s-maj=12.4km s-min=9.3km az=173.0*

ISC 03 13:30:28.4±0.8, 37°.42S±0°.04×178°.87E±0°.04, h27km±5km, n500, σ1°48/473, mb5.4/81, MS4.8/25, 17C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.47**	**252**	Pg	**Pb**	**13**	**30**	**38.2 +0.2**
MXZ				Sg	**Sn**	**13**	**30**	**47.1 +0.4**
MXZ	**Matakaoa Point**	**0.47**	**252**	P	**Pb**	**13**	**30**	**38.3 +0.2**
WMGZ	**Waiomatatini S**	**0.53**	**222**	P	**Pn**	**13**	**30**	**40.9 +0.7**
WMGZ				S	**Sn**	**13**	**30**	**50.1 +1.7**
PKGZ	**Pakihiroa**	**0.78**	**233**	P	**Pn**	**13**	**30**	**44.3 +0.6**
PKGZ				S	**Sn**	**13**	**30**	**55.7 +1.2**
PUZ	**Puketiti**	**0.81**	**216**	P	**Pn**	**13**	**30**	**44.8 +0.7**
PUZ				S	**Sn**	**13**	**30**	**57.1 +2.0**
HAZ	**Te Kaha**	**0.92**	**248**	P	**Pb**	**13**	**30**	**46.0 +0.3**
HAZ				S	**Sn**	**13**	**31**	**00.3 +2.4**
TWGZ	**Tauwhareparae**	**1.03**	**223**	P	**Pb**	**13**	**30**	**48.3 +0.7**
RUGZ	**Raukumara Rang**	**1.09**	**240**	P	**Pb**	**13**	**30**	**49.3 +0.6**
CNGZ	**Carnagh Statio**	**1.18**	**206**	P	**Pb**	**13**	**30**	**50.7 +0.6**
CNGZ				S	**Sb**	**13**	**31**	**08.9 +3.9**
TKGZ	**Te Karaka**	**1.29**	**218**	P	**Pb**	**13**	**30**	**51.4 -0.7**
WIZ	**White Island**	**1.34**	**265**	P	**Pb**	**13**	**30**	**52.2 -0.6**
WSRZ	**White Island S**	**1.35**	**265**	P	**Pb**	**13**	**30**	**53.0 +0.1**
MWZ	**Matawai**	**1.40**	**229**	P	**Pb**	**13**	**30**	**53.1 -0.7**
RIGZ	**Rimuhau**	**1.55**	**214**	P	**Pn**	**13**	**30**	**54.9 +0.7**
WHRZ	**Whale Island**	**1.56**	**253**	P	**Pb**	**13**	**30**	**56.0 -0.6**
RAGZ	**Rawiri**	**1.57**	**226**	P	**Pn**	**13**	**30**	**55.5 +0.9**
URZ	**Urewera**	**1.62**	**238**	P	**Pb**	**13**	**30**	**57.0 -0.6**
	4μm,0.3s,baz=211,slow=0.7,SNR=518							
URZ				S	**Sb**	**13**	**31**	**18.0 +0.4**
	15μm,0.3s,baz=31,slow=18,SNR=10							
URZ				LR	LR	13 31 48.2		
	comp=Z,17μm,21.7s,baz=21,slow=49							
URZ	**Urewera**	**1.62**	**238**		**Pb**	**13**	**30**	**56.8 -0.8**
URZ	**Urewera**	**1.62**	**238**	P	**Pb**	**13**	**30**	**56.7 -0.8**
PRGZ	**Paritu Road**	**1.69**	**207**	P	**Pn**	**13**	**30**	**56.4 +0.2**
SNGZ	**Shannon Statio**	**1.81**	**221**	P	**Pn**	**13**	**30**	**58.6 +0.7**
EDRZ	**Edgecumbe**	**1.82**	**247**	P	**Pb**	**13**	**30**	**59.5 -1.5**
MARZ	**Manawahe**	**1.83**	**251**	P	**Pn**	**13**	**30**	**59.2 +1.2**
KNZ	**Kokohu**	**1.85**	**210**	P	**Pn**	**13**	**30**	**58.0 +0.3**
OPRZ	**Ohinepanea**	**1.88**	**256**	P	**Pn**	**13**	**30**	**59.6 +0.8**
MHGZ	**Mahia Peninsul**	**1.89**	**203**	P	**Pn**	**13**	**30**	**58.9 0.0**
RTZ	**Ruatahuna**	**1.91**	**231**	P	**Pn**	**13**	**31**	**00.6 +1.4**
MUGZ	**Murupara**	**1.96**	**237**	P	**Pn**	**13**	**31**	**01.1 +1.2**
MKRZ	**Makatiti**	**2.03**	**249**	P	**Pb**	**13**	**31**	**03.0 -1.7**
TARZ	**Mount Tarawera**	**2.04**	**246**	P	**Pn**	**13**	**31**	**02.6 +1.5**
RAHZ	**Arahi**	**2.05**	**223**	P	**Pn**	**13**	**31**	**02.0 +0.9**
LIRZ	**Lichensteins R**	**2.05**	**253**	P	**Pb**	**13**	**31**	**03.1 -1.8**
RRRZ	**Republican Roa**	**2.07**	**243**	P	**Pn**	**13**	**31**	**02.9 +1.5**
OMRZ	**Omania**	**2.09**	**250**	P	**Pn**	**13**	**31**	**03.2 +1.5**
TGRZ	**Tauranga**	**2.09**	**261**	P	**Pn**	**13**	**31**	**02.8 +1.1**
WHHZ	**Waihua**	**2.09**	**217**	P	**Pn**	**13**	**31**	**02.3 +0.7**
MYRZ	**Mayor Island**	**2.10**	**273**	P	**Pn**	**13**	**31**	**02.8 +1.1**
MTHZ	**Maungataniwha**	**2.14**	**228**	P	**Pn**	**13**	**31**	**03.7 +1.3**
HLRZ	**Highlands Stat**	**2.16**	**247**	P	**Pn**	**13**	**31**	**04.3 +1.7**
KARZ	**Kaharoa**	**2.18**	**253**	P	**Pn**	**13**	**31**	**03.9 +1.2**
NGRZ	**Ngongotaha**	**2.23**	**251**	P	**Pn**	**13**	**31**	**05.5 +1.9**
PRRZ	**Plateau Road**	**2.23**	**240**	P	**Pn**	**13**	**31**	**04.9 +1.3**
UTU	**Utuhina**	**2.25**	**250**	P	**Pn**	**13**	**31**	**05.9 +2.1**
HSRZ	**Hossack Road**	**2.26**	**246**	P	**Pn**	**13**	**31**	**06.0 +2.0**
HRRZ	**Handcock Road**	**2.26**	**244**	P	**Pn**	**13**	**31**	**05.6 +1.6**
ALRZ	**Allen Road**	**2.29**	**240**	P	**Pn**	**13**	**31**	**05.8 +1.3**
NMHZ	**Naumai**	**2.33**	**223**	P	**Pn**	**13**	**31**	**05.9 +0.9**
ARHZ	**Aropaoanui**	**2.35**	**218**	P	**Pn**	**13**	**31**	**05.7 +0.4**
KMRZ	**Kaimai**	**2.36**	**259**	P	**Pn**	**13**	**31**	**06.5 +1.2**
GRRZ	**Galatos Road**	**2.37**	**246**	P	**Pn**	**13**	**31**	**07.4 +1.9**
MRHZ	**Matea Rd**	**2.39**	**233**	P	**Pn**	**13**	**31**	**06.8 +0.9**
WPRZ	**Whakapapatarin**	**2.40**	**242**	P	**Pn**	**13**	**31**	**07.4 +1.5**
BKZ	**Black Stump Fm**	**2.55**	**226**	Pn	**Pn**	**13**	**31**	**08.7 +0.6**
BKZ	**Black Stump Fm**	**2.55**	**226**	P	**Pn**	**13**	**31**	**08.7 +0.6**
KUZ	**Kuaotunu**	**2.60**	**284**	P	**Pn**	**13**	**31**	**08.0 -0.7**
WHTZ	**Whakaora**	**2.61**	**241**	P	**Pn**	**13**	**31**	**10.8 +1.9**
KUTZ	**Kaahu Road**	**2.63**	**245**	P	**Pn**	**13**	**31**	**10.4 +1.3**
HATZ	**Hinemaiaia**	**2.63**	**235**	P	**Pn**	**13**	**31**	**10.1 +1.0**
CKHZ	**Cancha Kidnapper**	**2.64**	**212**	P	**Pn**	**13**	**31**	**08.6 -0.6**
TOZ	**Tahuroa Road**	**2.69**	**262**	P	**Pn**	**13**	**31**	**10.9 +1.0**
KWHZ	**Kaweka Forest**	**2.77**	**223**	P	**Pn**	**13**	**31**	**11.1 +0.1**
TLZ	**Tolley Road**	**2.79**	**250**	P	**Pn**	**13**	**31**	**12.6 +1.3**
WATZ	**Wairara**	**2.79**	**242**	P	**Pn**	**13**	**31**	**12.8 +1.6**
RITZ	**Rihia Road**	**2.83**	**236**	P	**Pn**	**13**	**31**	**13.1 +1.2**
RATZ	**Rangitukua**	**2.83**	**238**	P	**Pn**	**13**	**31**	**13.2 +1.3**
KAHZ	**Kahuranaki**	**2.83**	**213**	P	**Pn**	**13**	**31**	**11.2 -0.7**
KATZ	**Kakaramea**	**2.94**	**237**	P	**Pn**	**13**	**31**	**14.7 +1.2**
KRHZ	**Kereru**	**2.96**	**221**	P	**Pn**	**13**	**31**	**12.9 -0.7**
MKAZ	**Moumakai**	**2.97**	**275**	P	**Pn**	**13**	**31**	**14.0 +0.2**
GRZ	**Great Barrier**	**2.97**	**292**	P	**Pn**	**13**	**31**	**13.7 -0.1**
TMVZ	**Te Maari**	**3.01**	**235**	P	**Pn**	**13**	**31**	**15.2 +0.8**
ETVZ	**East Tongariro**	**3.02**	**234**	P	**Pn**	**13**	**31**	**15.1 +0.7**
BHHZ	**Black Hill Sta**	**3.02**	**226**	P	**Pn**	**13**	**31**	**14.6 +0.1**
NTVZ	**North Tongarir**	**3.02**	**235**	P	**Pn**	**13**	**31**	**15.3 +0.8**
KRVZ	**Karewarewa**	**3.04**	**236**	P	**Pn**	**13**	**31**	**15.7 +0.9**
PXZ	**Pawanui**	**3.04**	**218**	P	**Pn**	**13**	**31**	**15.2 -1.5**
WIAZ	**Waiheke Island**	**3.05**	**281**	P	**Pn**	**13**	**31**	**15.0 +0.1**
OTVZ	**Oturere**	**3.06**	**234**	P	**Pn**	**13**	**31**	**16.1 +0.9**
NNVZ	**North Ngauruho**	**3.08**	**235**	P	**Pn**	**13**	**31**	**16.2 +0.8**
WTVZ	**West Tongariro**	**3.08**	**236**	P	**Pn**	**13**	**31**	**16.5 +1.1**
SNVZ	**South Ngauruho**	**3.09**	**234**	P	**Pn**	**13**	**31**	**16.2 +0.7**
NGZ	**Ngauruhoe**	**3.11**	**235**	P	**Pn**	**13**	**31**	**16.5 +0.7**
TUVZ	**Tukino**	**3.13**	**233**	P	**Pn**	**13**	**31**	**16.8 +0.8**
MOVZ	**Moawhango**	**3.15**	**230**	P	**Pn**	**13**	**31**	**16.3 +0.1**
TWVZ	**Taurewa**	**3.16**	**238**	P	**Pn**	**13**	**31**	**17.4 +0.9**
WHVZ	**Whangaehu Hut**	**3.18**	**233**	P	**Pn**	**13**	**31**	**17.4 +0.7**
ETAZ	**East Tamaki Re**	**3.18**	**277**	P	**Pn**	**13**	**31**	**17.2 +0.5**
FWVZ	**Far West T-bar**	**3.18**	**234**	P	**Pn**	**13**	**31**	**17.4 +0.5**
DRZ	**Dome Shelter**	**3.19**	**234**	P	**Pn**	**13**	**31**	**18.1 +1.0**
WNVZ	**Wahianoa**	**3.20**	**232**	P	**Pn**	**13**	**31**	**17.5 +0.5**
TRVZ	**Turoa**	**3.21**	**233**	P	**Pn**	**13**	**31**	**17.9 +0.6**
MBAZ	**Motutapu North**	**3.24**	**280**	P	**Pn**	**13**	**31**	**18.0 +0.6**
PNHZ	**Pukenui**	**3.25**	**219**	P	**Pn**	**13**	**31**	**16.3 -1.2**
WPHZ	**Waipukurau**	**3.25**	**215**	P	**Pn**	**13**	**31**	**18.6 +1.0**
MTVZ	**Maigateitei**	**3.31**	**233**	P	**Pn**	**13**	**31**	**19.3 +0.8**
ABAZ	**Army Bay**	**3.33**	**283**	P	**Pn**	**13**	**31**	**20.4 +1.7**
PKVZ	**Pokaka**	**3.34**	**235**	P	**Pn**	**13**	**31**	**19.7 +0.9**
EPAZ	**Eden Park BICE**	**3.34**	**278**	P	**Pn**	**13**	**31**	**20.1 +1.3**
HIZ	**Hauiti**	**3.35**	**250**	Pn	**Pn**	**13**	**31**	**21.0 +2.0**
HIZ	**Hauiti**	**3.35**	**250**	P	**Pn**	**13**	**31**	**21.1 +2.1**
HBAZ	**Herne Bay Bore**	**3.35**	**279**	P	**Pn**	**13**	**31**	**21.0 +2.0**
AWAZ	**Awhitu Peninsu**	**3.39**	**275**	P	**Pn**	**13**	**31**	**20.4 +0.9**
WTAZ	**Waiatarua**	**3.46**	**277**	P	**Pn**	**13**	**31**	**21.7 +1.1**
TSZ	**Takapari Road**	**3.48**	**220**	P	**Pn**	**13**	**31**	**19.4 -1.4**
RVAZ	**Riverhead Bore**	**3.49**	**279**	P	**Pn**	**13**	**31**	**21.7 +0.9**
DVHZ	**Dannevirke**	**3.56**	**215**	P	**Pn**	**13**	**31**	**20.3 -1.6**
POWZ	**Post Office Ro**	**3.83**	**218**	P	**Pn**	**13**	**31**	**24.1 -1.4**
WAZ	**Wanganui**	**3.83**	**231**	P	**Pn**	**13**	**31**	**26.5 +0.9**
PRWZ	**Pori Road**	**3.86**	**215**	P	**Pn**	**13**	**31**	**24.4 -1.5**
WCZ	**Waipu Caves**	**3.92**	**291**	P	**Pn**	**13**	**31**	**27.4 +0.5**
OHWZ	**Ohakea**	**3.93**	**224**	P	**Pn**	**13**	**31**	**26.7 -0.2**
MHEZ	**Mangahewa**	**3.94**	**244**	P	**Pn**	**13**	**31**	**30.2 +3.1**
LREZ	**Lake Rotokare**	**4.05**	**238**	P	**Pn**	**13**	**31**	**30.1 +1.5**
DREZ	**Durham Road**	**4.07**	**243**	P	**Pn**	**13**	**31**	**31.7 +2.8**
PREZ	**Palmer Road**	**4.17**	**241**	P	**Pn**	**13**	**31**	**33.0 +2.8**
NEZ	**North Egmont**	**4.18**	**242**	P	**Pn**	**13**	**31**	**33.1 +2.6**
PKE	**Pukeiti**	**4.23**	**244**	P	**Pn**	**13**	**31**	**33.5 +2.5**
KHEZ	**Kahui Hut**	**4.25**	**242**	P	**Pn**	**13**	**31**	**33.7 +2.4**
NBEZ	**Newall Road No**	**4.34**	**243**	P	**Pn**	**13**	**31**	**35.2 +2.6**
NMEZ	**Namu Road**	**4.39**	**242**	P	**Pn**	**13**	**31**	**35.9 +2.6**
OUZ	**Omahuta**	**4.79**	**296**	Pn	**Pn**	**13**	**31**	**39.8 +1.1**
OUZ	**Omahuta**	**4.79**	**296**	P	**Pn**	**13**	**31**	**39.7 +1.0**
MSWZ	**Moikau Station**	**4.87**	**214**		**Pn**	**13**	**31**	**35.8 -4.1**
PLWZ	**Palliser**	**5.00**	**213**	Pn	**Pn**	**13**	**31**	**37.0 -4.6**
SNZO	**South Karori**	**5.05**	**218**	Pn	**Pn**	**13**	**31**	**38.6 -3.6**
TUWZ	**Tuamarina**	**5.53**	**222**		**Pn**	**13**	**31**	**45.6 -3.3**
CMWZ	**Cape Campbell**	**5.62**	**218**		**Pn**	**13**	**31**	**47.5 -2.6**
NNZ	**Nelson**	**5.70**	**227**		**Pn**	**13**	**31**	**48.5 -2.6**
BSWZ	**Blackbirch Sta**	**5.76**	**220**		**Pn**	**13**	**31**	**48.8 -3.4**
QRZ	**Quartz Range**	**5.98**	**233**	Pn	**Pn**	**13**	**31**	**52.6 -2.5**
THZ	**Tophouse**	**6.32**	**225**	Pn	**Pn**	**13**	**31**	**56.6 -3.2**
KHZ	**Kahutara**	**6.45**	**218**	Pn	**Pn**	13 31 56.5		-5.0
CTZ	**Chatham Island**	**7.18**	**153**	P	**Pn**	**13**	**32**	**11.5 -0.1**
LTZ	**Lake Taylor**	**7.36**	**221**	Pn	**Pn**	13 32 09.0		-5.1
MQZ	**McQueen's Vall**	**7.86**	**215**	Pn	**Pn**	13 32 15.8		-5.0
OXZ	**Oxford**	**7.87**	**219**	Pn	**Pn**	**13**	**32**	**16.6 -4.4**
RAO	**Raoul Island**	**8.58**	**19**	S	**Sn**	**13**	**34**	**03.6 -3.1**
	170nm,0.3s,baz=174,slow=20,SNR=5.3							
RPZ	**Rata Peaks**	**8.65**	**221**	P	**Pn**	**13**	**32**	**28.2 -3.5**
	68nm,0.5s,baz=306,slow=2.7,SNR=82							
RPZ				S	Sn	13 33 57.9		-10
	491nm,0.5s,baz=62,slow=24,SNR=22							
RPZ				LR	LR	13 36 39.5		
	comp=Z,12μm,21.4s,baz=46,slow=42							
RPZ	**Rata Peaks**	**8.65**	**221**	Pn	**Pn**	**13**	**32**	**27.6 -4.1**
FOZ	**Fox Glacier**	**9.21**	**226**	Pn	**Pn**	**13**	**32**	**36.5 -2.8**
DZM	**Mont Dzumac**	**18.69**	**321**	*e*P	Pn	13 34 55.9		+11
	117nm,1.4s							
DZM				*e*LR	LR	13 39 32.6		
	comp=Z,5μm,24.2s							
DZM	**Mont Dzumac**	**18.69**	**321**	LR	LR	13 41 06.1		
	comp=Z,3μm,19.2s,baz=152,slow=34							
MSVF	**Nonsavu**	**19.63**	**358**	P	**Pn**	**13**	**34**	**56.5 0.0**
	25nm,0.8s,baz=135,slow=17,SNR=7.5							
MSVF				LR	LR	13 41 38.4		
	comp=Z,1μm,18.7s,baz=175,slow=34							
MSVF	**Nonsavu**	**19.63**	**358**	P	**P**	**13**	**34**	**55.1 +0.1**
MSVF	**Nonsavu**	**19.63**	**358**	*i* P	**P**	**13**	**34**	**55.0 +0.1**
MSVF				pmax	pmax			
	comp=Z,54nm,0.9s							
ARMA	**Armidale**	**23.61**	**279**	P	**P**	**13**	**35**	**39.4 +2.2**
	baz=23,SNR=7.1							
ARMA	**Armidale**	**23.61**	**279**	P	**P**	**13**	**35**	**38.2 +1.0**
ARMA				lAmb	lAmb	13 35 46.0		
	comp=Z,129nm,1.5s							
MILA	**Mila**	**23.62**	**262**	P	**P**	**13**	**35**	**36.9 -0.4**
	baz=23,SNR=7.2							
CNB	**Canberra Magne**	**23.81**	**266**	P	**P**	**13**	**35**	**40.6 +1.5**
	baz=24,SNR=18							
CAN	**Canberra**	**24.10**	**266**	P	**P**	**13**	**35**	**43.2 +1.4**
CAN	**Canberra**	**24.10**	**266**	P	**P**	**13**	**35**	**43.2 +1.4**
CAN				pmax	pmax			
	comp=Z,39nm,0.8s							
TAU	**Tasmania Unive**	**24.63**	**247**	P	**P**	**13**	**35**	**44.4 -2.1**
TAU				lAmb	lAmb	13 35 49.6		
	comp=Z,57nm,0.9s							
TAU	**Tasmania Unive**	**24.63**	**247**	P	**P**	**13**	**35**	**44.4 -2.1**
TAU				pmax	pmax			
	comp=Z,57nm,1.0s							
MOO	**Moorlands**	**24.72**	**248**	P	**P**	**13**	**35**	**47.0 -0.3**
	baz=24,SNR=6.8							
AFI	**Afiamalu**	**24.86**	**22**	P	**P**	**13**	**35**	**50.4 +1.6**
	comp=Z,56nm,0.8s,baz=218,slow=19,SNR=3.6							
	comp=E,56nm,0.8s				

WRA LR LR 13 56 10.0
comp=Z,2µm,18.7s,baz=118,slow=36
comp=Z,28nm,0.6s
WRA Warramunga Arr 42.34 282 P **P** **13 38 19.1 -1.1**
WB0 Warramunga Arr 42.40 282 P **P** **13 38 20.2 -0.5**
WB0 IAmb IAmb 13 38 21.2
comp=Z,126nm,1.4s
WRKA Warakurna 44.49 271 P **P** **13 38 35.7 -1.9**
baz=44,SNR=31
TAOE Nuku Hiva Isla 46.65 63 *e*LR LR 13 51 24.2
comp=Z,1µm,23.0s
CASY Casey 47.75 211 P **P** **13 39 03.5 +0.9**
CASY IAmb IAmb 13 39 11.9
comp=Z,45nm,0.9s
KDU Kakadu 48.09 288 P **P** **13 39 04.8 -1.1**
baz=48,SNR=19
MTN Manton Dam 49.01 287 P **P** **13 39 12.3 -0.7**
baz=49,SNR=38
MTN Manton Dam 49.01 287 P **P** **13 39 12.4 -0.7**
KNRA Kununurra 49.13 282 P **P** **13 39 13.5 -0.4**
baz=49,SNR=55
KNRA Kununurra 49.13 282 P **P** **13 39 13.6 -0.3**
KNRA IAmb IAmb 13 39 14.7
comp=Z,50nm,0.8s
NWAO Narrogin (SRO) 49.80 256 P **P** **13 39 18.2 -0.6**
baz=49,SNR=7.6
NWAO P **P** **13 39 18.2 -0.6**
baz=49,SNR=7.6
NWAO Narrogin (SRO) 49.80 256 LR LR 14 00 19.2
comp=Z,999nm,18.3s,baz=280,slow=36
NWAO Narrogin (SRO) 49.80 256 P **P** **13 39 17.8 -1.0**
NWAO IAmb IAmb 13 39 34.8
comp=Z,70nm,1.4s
NWAO Narrogin (SRO) 49.80 256 P **P** **13 39 17.8 -1.0**
NWAO pmax pmax
comp=Z,70nm,1.4s
KLBR Kellerberrin 49.93 258 P **P** **13 39 18.6 -1.3**
baz=50,SNR=25
FITZ Fitzroy Crossi 50.20 277 P **P** **13 39 21.3 -0.7**
baz=50,SNR=52
FITZ Fitzroy Crossi 50.20 277 S **S** **13 46 28.9 -3.7**
comp=Z,3.3nm,1.1s,baz=132,slow=18,SNR=3.0
FITZ Fitzroy Crossi 50.20 277 P **P** **13 39 21.5 -0.5**
FITZ IAmb IAmb 13 39 22.8
comp=Z,43nm,0.8s
MUN Mundaring 50.97 256 P **P** **13 39 26.6 -1.1**
baz=51,SNR=14
BLDU Balliduu 51.16 258 P **P** **13 39 27.8 -1.3**
baz=51,SNR=22
MEEK Meekatharra 51.43 264 P **P** **13 39 29.6 -1.7**
baz=51,SNR=60
MORW Morawa 52.35 260 P **P** **13 39 36.8 -1.3**
baz=52,SNR=9.5
MORW Morawa 52.35 260 P **P** **13 39 37.1 -1.0**
QSPA South Pole Qui 52.70 180 P **P** **13 39 43.2 +2.8**
comp=Z,24nm,0.9s,baz=25,slow=1.9,SNR=96
QSPA LR LR 13 59 04.4
comp=Z,728nm,19.5s,baz=359,slow=32
comp=Z,24nm,0.9s
QSPA South Pole Qui 52.70 180 P **P** **13 39 41.8 +1.5**
QSPA IAmb IAmb 13 39 44.5
comp=Z,90nm,1.4s
PSA00 Pilbara Seismi 52.94 270 P **P** **13 39 40.2 -2.3**
MBWA Marble Bar 53.25 270 P **P** **13 39 43.1 -1.7**
MBWA IAmb IAmb 13 39 44.7
comp=Z,19nm,0.7s
BAKI Biak 53.35 302 P P 13 39 54.1 +8.5
FAKI Fak Fak 54.78 297 P **P** **13 39 52.7 -3.3**
FAKI IAmb IAmb 13 40 04.4
comp=Z,26nm,0.9s
BATI Baumata 56.37 284 P **P** **13 40 08.9 +1.4**
comp=Z,47nm,0.7s,baz=74,slow=5.2,SNR=12
BATI LR LR 14 04 35.3
comp=Z,2µm,20.7s,baz=228,slow=36
comp=Z,47nm,0.7s
BATI Baumata 56.37 284 P **P** **13 40 07.5 0.0**
comp=Z,44nm,0.8s
GIRL Giralia 56.86 266 P **P** **13 40 10.9 +0.1**
baz=56,SNR=4.7
GIRL Giralia 56.86 266 P **P** **13 40 10.2 -0.6**
SIJI Sorong 56.91 298 P **P** **13 40 11.2 -0.2**
comp=Z,25nm,0.3s,baz=97,slow=5.2,SNR=10
comp=Z,25nm,0.3s
SWI Sorong 56.92 298 P **P** **13 40 10.5 -0.8**
comp=Z,940nmcomp=Z,88nm,0.9s
MMRI Maumere 58.45 284 P **P** **13 40 21.4 -0.7**
MMRI Maumere 58.45 284 P **P** **13 40 22.1 0.0**
comp=Z,2µmcomp=Z,125nm,1.2s
BASI Baing, Sumba 58.76 282 P **P** **13 40 23.6 -0.7**
comp=Z,2µmcomp=Z,115nm,1.4s
EDFI Ende, Flores 58.80 284 P **P** **13 40 24.1 -0.6**
comp=Z,584nmcomp=Z,36nm,1.4s
LBMI Labuha 59.75 295 P **P** **13 40 31.5 +0.4**
comp=Z,594nmcomp=Z,42nm,1.3s
SANI Sanana 59.89 293 P **P** **13 40 31.4 -0.7**
comp=Z,37nm,0.8s
WBSI Waikabubak, Su 60.04 281 P **P** **13 40 33.2 0.0**
comp=Z,1µmcomp=Z,60nm,1.0s
PLAI Plampang 61.79 281 P **P** **13 40 44.6 -0.5**
comp=Z,43nm,0.9s
BKSI Bulukumba 62.15 286 P **P** **13 40 47.4 -0.1**
comp=Z,459nmcomp=Z,29nm,1.2s
TWSI Taliwang, Sumb 62.55 280 P **P** **13 40 50.0 -0.1**
comp=Z,727nmcomp=Z,45nm,1.6s
KAPI Kappang 62.63 286 P **P** **13 40 51.5 +0.8**
comp=Z,20nm,0.9s,baz=158,slow=5.4,SNR=3.6
comp=Z,20nm,0.9s
BELA Belgrano 2 63.19 172 P **P** **13 40 53.2 -0.3**
SPSI Sidrap Palu 63.29 287 P **P** **13 40 54.3 -0.7**
comp=Z,30nm,0.9s
TTSI Tana Toraja 63.84 287 P **P** **13 40 58.2 -0.5**
comp=Z,922nmcomp=Z,21nm,0.9s
APSI Ampana 63.86 291 P **P** **13 40 58.8 0.0**
comp=Z,485nmcomp=Z,42nm,1.4s
SMAI San Martin Ant 63.92 158 P **P** **13 41 01.1 +2.7**
SRBI Singaraja 64.25 280 P **P** **13 41 00.8 -0.6**
comp=Z,68nm,1.4s
MRSI Marisa 64.57 292 P **P** **13 41 04.0 +0.6**
comp=Z,15nm,0.8s
MAW Mawson 64.84 202 P **P** **13 41 06.3 +1.9**
baz=64,SNR=18
MAW Mawson 64.84 202 P **P** **13 41 06.5 +2.2**
comp=Z,25nm,1.2s,baz=111,slow=8.9,SNR=17
MAW LR LR 14 10 47.6
comp=Z,941nm,18.2s,baz=78,slow=37
comp=Z,25nm,1.2s
MAW Mawson 64.84 202 P **P** **13 41 06.0 +1.6**
GMJI Gumukmas 65.53 279 P **P** **13 41 08.8 -0.9**
comp=Z,63nm,1.4s
KMMI Kalianget 65.86 280 P **P** **13 41 07.7 -4.1**
comp=Z,56nm,1.3s
MPSI Mapaga 65.99 290 P **P** **13 41 11.9 -0.8**
comp=Z,1µmcomp=Z,19nm,1.6s
PMSA Palmer Station 66.96 156 P **P** **13 41 17.9 -0.2**
PMSA IAmb IAmb 13 41 20.9
comp=Z,35nm,1.0s
PWJI Pagerwojo 66.97 278 P **P** **13 41 18.3 -0.7**
comp=Z,47nm,0.6s
PCJI Pacitan 67.36 277 P **P** **13 41 21.8 +0.4**
BBKI Banjar Baru 67.39 284 P **P** **13 41 21.0 -0.7**
comp=Z,101nm,0.9s
UGM Wanagama 68.05 277 P **P** **13 41 24.3 -1.6**
MTKI Muara Teweh, K 68.95 286 P **P** **13 41 30.8 -0.6**
LEM Lembang 71.00 276 P **P** **13 41 44.0 -0.1**
comp=Z,25nm,0.6s,baz=172,slow=22,SNR=6.3
LEM LR LR 14 14 59.4
comp=Z,750nm,19.8s,baz=121,slow=38
comp=Z,25nm,0.6s
SNAA Sanae 71.20 179 LR LR 14 10 28.9
comp=Z,522nm,21.0s,baz=138,slow=34
SNAA Sanae 71.20 179 P **P** **13 41 45.0 +0.6**
SNAA IAmb IAmb 13 41 47.1
comp=Z,34nm,1.1s
SNAA Sanae 71.20 179 *ce*P **P** **13 41 43.8 -0.6**
SNAA pmax pmax
comp=Z,56nm,1.7s
MG05 Puerto Natales 71.63 142 P **P** **13 41 46.2 -1.0**
MG05 IAmb IAmb 13 41 50.6
comp=Z,37nm,0.8s
NVL N'lazarevskaya 71.71 184 *e*P **P** **13 41 47.8 +0.4**
NVL *e*S **S** **13 51 07.5 +2.4**
NVL pmax pmax
comp=Z,52nm,1.3s
DBJI Dramaga 71.85 276 P **P** **13 41 47.8 -1.4**
comp=Z,59nm,0.8s
MG01 Puerto William 71.89 146 P **P** **13 41 48.8 +0.1**
GO09 Cerro Castillo 71.96 141 P **P** **13 41 49.8 +0.5**
GO09 IAmb IAmb 13 41 52.9
comp=Z,45nm,1.0s
STKI Sintang 72.22 284 P **P** **13 41 50.0 -1.3**
comp=Z,18nm,0.5s
KKM Kota Kinabalu 72.52 292 P **P** **13 41 51.1 -2.1**
KKM IAmb IAmb 13 42 05.9
comp=Z,55nm,1.5s
SBUM Sibu 73.17 287 P **P** **13 41 55.6 -1.3**
SBUM IAmb IAmb 13 42 05.5
comp=Z,38nm,1.5s
TPI Tanjungpandan 73.44 279 P **P** **13 41 56.8 -1.8**
comp=Z,13nm,0.9s
TGY Tagaytay City 74.71 302 P **P** **13 42 06.2 +0.3**
baz=90,slow=10
PPBI Pangkal Pinang 75.00 279 P **P** **13 42 06.5 -1.2**
comp=Z,32nm,1.5s
COYC Coyhaique 75.63 137 P **P** **13 42 13.5 +2.6**
COYC IAmb IAmb 13 42 15.0
comp=Z,42nm,0.8s
ORCD Orcadas 75.89 160 P **P** **13 42 12.2 +0.2**
ORCD IAmb IAmb 13 42 13.7
comp=Z,54nm,1.1s
AY01 Puyuhuapi 76.04 136 P **P** **13 42 14.3 +1.1**
DSRI Dabo 77.25 279 P **P** **13 42 19.5 -1.0**
comp=Z,703nmcomp=Z,12nm,0.8s
LL02 Futaleuf 77.27 135 P **P** **13 42 18.4 -1.8**
LL02 IAmb IAmb 13 42 23.9
comp=Z,42nm,0.9s
EFI East Falkland 78.29 148 P **P** **13 42 25.6 -0.1**
EFI East Falkland 78.29 148 *ce*P **P** **13 42 24.1 -1.6**
EFI pmax pmax
comp=Z,110nm,1.3s
LL04 Puerto Octay 78.40 133 P **P** **13 42 27.6 +1.1**
LL04 IAmb IAmb 13 42 30.0
comp=Z,25nm,0.9s
H03S2 Juan Fernandez 78.74 124 T T 15 08 59.2
baz=232
H03S1 Juan Fernandez 78.75 124 T T 15 08 54.7
baz=232
H03S3 Juan Fernandez 78.76 124 T T 15 08 43.2
baz=232
H03N3 Juan Fernandez 78.97 124 T T 15 09 00.3
baz=234,slow=72,SNR=224
H03N2 Juan Fernandez 78.98 124 T T 15 08 59.1
baz=234,slow=72,SNR=173
H03N1 Juan Fernandez 78.99 124 T T 15 08 59.3
baz=234,slow=72,SNR=187
PLCA Paso Flores 79.59 134 P **P** **13 42 35.9 +2.7**
comp=Z,18nm,0.8s,baz=222,slow=5.7,SNR=57
comp=Z,18nm,0.8s
PLCA Paso Flores 79.59 134 P **P** **13 42 33.0 -0.2**
PLCA IAmb IAmb 13 42 37.2
comp=Z,31nm,0.9s
PLCA Paso Flores 79.59 134 P **P** **13 42 33.0 -0.2**
PLCA pmax pmax
comp=Z,31nm,0.9s
MNSI Mandailing Nat 81.97 277 P P 13 42 54.1 +7.9
MJAR Matsushiro Arr 82.67 328 P **P** **13 42 49.8 +0.6**
comp=Z,1.4nm,0.9s,baz=150,slow=5.1,SNR=3.6
comp=Z,1.4nm,0.9s
BO02 Sierra Bellavi 83.35 129 P **P** **13 42 52.6 -0.5**
MT01 Popeta 83.67 128 P **P** **13 42 54.7 -0.1**
PSI Prapat 83.71 278 P **P** **13 42 56.0 +0.6**
comp=Z,3.6nm,0.4s,baz=165,slow=6.6,SNR=8.2
comp=Z,3.6nm,0.4s
PSI Prapat 83.71 278 P **P** **13 42 56.0 +0.6**
GSI Gunungsitoli 83.87 276 P **P** **13 42 54.4 -1.6**
GSI Gunungsitoli 83.87 276 P **P** **13 42 54.8 -1.2**
MT09 Talagante 83.89 128 P **P** **13 42 55.1 -0.9**
MT09 IAmb IAmb 13 42 59.1
comp=Z,48nm,1.3s
KSRS Korea Array 88.12 322 P **P** **13 43 17.6 +1.2**
comp=Z,3.4nm,0.6s,baz=145,slow=5.0,SNR=11
comp=Z,3.4nm,0.6s
NJ2 Nanjing 88.95 313 *e*P **P** **13 43 22.4 +2.0**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 LR LR
comp=Z,770nm,14.2s
NJ2 LR LR
comp=Z,980nm,18.5s
YSS Yuzh-Sakhalins 90.01 336 *e*P **P** **13 43 23.7 -1.3**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,300nm,18.0s
NIKH Nikolski High 90.66 7 P **P** **13 43 30.4 +2.5**
baz=189
SCI2 San Clemente I 91.13 48 P **P** **13 43 31.0 +0.4**
baz=225
CIS Catalina Islan 91.51 48 P **P** **13 43 32.2 -0.2**
baz=225
USRK Ussuriysk Ar. 91.66 328 P **P** **13 43 33.4 +0.6**
comp=Z,2.5nm,0.7s,baz=150,slow=2.1,SNR=3.0
comp=Z,2.5nm,0.7s
PKM Mcpherson Peak 91.75 46 P **P** **13 43 33.7 +0.1**
baz=224
FMP Fort Macarthur 91.80 48 P **P** **13 43 33.7 +0.1**
baz=225
PEA0B Petropavlovsk- 92.02 347 *i* P **P** **13 43 34.8 +0.6**
PETK Petropavlovsk- 92.02 347 P **P** **13 43 34.4 +0.2**
comp=Z,1.7nm,0.7s,baz=133,slow=8.5,SNR=9.4
comp=Z,1.7nm,0.7s
UGL Uglegorsk 92.10 337 *e*P **P** **13 43 37.5 +2.9**
MONP2 Monument Peak 92.34 50 P **P** **13 43 36.2 -0.3**
baz=226,SNR=8.1
IKP In-Ko-Pah, Jac 92.37 50 P **P** **13 43 36.2 -0.3**
baz=226
MURC Murrieta 92.37 49 P **P** **13 43 36.4 0.0**
baz=225,SNR=5.6
ARVC Arvin 92.48 47 P **P** **13 43 36.7 -0.1**
baz=224
BFSC Mount Baldy Ra 92.54 48 P **P** **13 43 37.7 +0.5**
baz=225,SNR=11
LVC Limon Verde 92.69 121 P **P** **13 43 41.5 +2.8**
comp=Z,4.3nm,0.8s,baz=245,slow=4.8,SNR=3.6
LVC LR LR 14 16 18.4
comp=Z,465nm,20.7s,baz=198,slow=30
comp=Z,4.3nm,0.8s
SWSC Sam W. Stewart 92.76 50 P **P** **13 43 38.4 +0.3**
baz=226
EDW2 Edwards Air Fo 92.80 47 P **P** **13 43 38.3 -0.1**
baz=225,SNR=6.8
PFO Pinyon Flats O 92.82 49 P **P** **13 43 37.8 -0.7**
baz=226
TPFO Pinon Flats 92.82 49 P **P** **13 43 37.5 -1.1**
baz=226
VES Vestal, Richgr 92.84 46 P **P** **13 43 38.3 -0.1**
baz=224
ISA Isabella, Lake 93.06 46 P **P** **13 43 39.8 +0.2**
baz=225,SNR=6.1
CMAR Chiang Mai Arr 93.34 291 P **P** **13 43 41.0 -0.1**
comp=Z,2.8nm,0.8s,baz=147,slow=4.3,SNR=15
CMAR PP **PP** **13 47 23.1 -2.5**
comp=Z,2.2nm,0.9s,baz=141,slow=7.1,SNR=9.9
comp=Z,2.8nm,0.8s
CMAR Chiang Mai Arr 93.34 291 P **P** **13 43 39.3 -1.8**
CMAR Chiang Mai Arr 93.34 291 P **P** **13 43 39.3 -1.8**
BELC Belle Mtn. Jos 93.37 49 P **P** **13 43 40.6 -0.5**
baz=226,SNR=5.8
GLA Glamis 93.43 50 P **P** **13 43 40.9 -0.4**
baz=226
BC3 Big Chuckawall 93.46 50 P **P** **13 43 40.7 -0.7**
baz=226,SNR=8.1
CHNA Chernabura Isl 93.73 12 P **P** **13 43 43.4 +1.4**
baz=197
HEC Hector,Ludlow 93.74 48 P **P** **13 43 43.3 +0.6**
baz=226
GSC Goldstone, Bar 93.78 48 P **P** **13 43 43.5 +0.5**
baz=226
CWC Cottonwood Cre 93.84 46 P **P** **13 43 43.9 +0.6**
baz=225
NNA Nana 93.87 108 LR LR 14 17 38.6
comp=Z,435nm,19.7s,baz=203,slow=30
MPMC Manual Prospec 93.91 47 P **P** **13 43 43.9 +0.2**
baz=225
214A Organ Pipe Nat 93.94 52 P **P** **13 43 44.0 +0.3**
baz=228
IRM Iron Mountain 93.99 49 P **P** **13 43 43.7 -0.1**
baz=226,SNR=8.0
GMRC Granite Mounta 94.11 49 P **P** **13 43 43.1 -1.4**
baz=226
CN2 Changchun 94.23 324 *e*P P 13 43 39.8 -4.8
TUQ Turquoise Moun 94.40 48 P **P** **13 43 44.5 -1.3**
baz=226
GRAC Grapevine Rang 94.64 46 P **P** **13 43 46.3 -0.5**
baz=225
PDMCI Parker Dam,Lak 94.70 50 P **P** **13 43 46.4 -0.6**
baz=227
NVAR Mina Array Bea 95.11 45 P **P** **13 43 51.2 +2.1**
comp=Z,1.8nm,1.0s,baz=216,slow=5.6,SNR=9.9
comp=Z,1.8nm,1.0s
ATAH Atahualpa 95.71 103 LR LR 14 17 01.4
comp=Z,610nm,21.8s,baz=218,slow=29
PZH PanZhiHua 96.29 298 P **P** **13 43 55.6 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
I04A Tendick Farm, 96.78 39 P **P** **13 43 56.0 -0.3**
baz=223
J05D Fort Rock, OR 97.00 40 P **P** **13 43 56.4 -1.1**
baz=224
WUAZ Wupatki 97.20 50 P **P** **13 43 57.1 -1.5**
baz=228
LPAZ La Paz 97.48 117 P Pdif 13 44 03.2 +2.2
comp=Z,2.0nm,0.7s,baz=173,slow=4.2,SNR=9.9
LPAZ LR LR 14 19 49.9
comp=Z,193nm,20.8s,baz=156,slow=30
comp=Z,2.0nm,0.7s
CPUP Villa Florida 97.50 131 P Pdif 13 44 01.6 +1.4
comp=Z,3.2nm,1.1s,baz=268,slow=3.9,SNR=3.9
CPUP LR LR 14 21 09.5
comp=Z,712nm,19.8s,baz=206,slow=31
comp=Z,3.2nm,1.1s
CD2 Chengdu 97.67 303 *e*P **P** **13 44 00.0 -0.7**
KDAK Kodiak Island 97.84 15 *i* P Pdif 13 44 01.2 +0.5
KDAK pmax pmax
comp=Z,7.0nm,1.0s
TXAR Lajitas Array 98.28 59 P Pdif 13 44 06.2 +2.6
comp=Z,0.4nm,0.9s,baz=210,slow=5.2,SNR=3.6
comp=Z,0.4nm,0.9s
Q20K Shuyak Island 98.64 15 P **P** **13 44 03.9 -0.3**
baz=202
HHC Hu-ho-hao-te 99.28 315 *e*P **Pdif** **13 44 07.8 +0.1**
HHC pmax pmax
comp=Z,28nm,1.0s
HHC LR LR
comp=Z,770nm,15.9s
HHC LR LR
comp=Z,950nm,16.4s
N18K Kilae Creek 99.92 12 P **Pdif** **13 44 10.6 +0.6**
baz=200
O20K Slope Mountain 99.96 14 P **Pdif** **13 44 10.3 +0.1**
baz=202
BRSE Bradley Lake S 100.02 15 P **Pdif** **13 44 10.9 +0.5**
baz=204
LZH Lanzhou 100.85 307 *e*P **Pdif** **13 44 14.1 -0.8**
LZH sP pP 13 44 23.2 -0.2
LZH pmax pmax
comp=Z,11nm,1.2s
KAIM Kayak Island 101.62 18 P **Pdif** **13 44 18.0 +0.5**
baz=209
SIT Sitka 101.75 24 P **Pdif** **13 44 18.1 0.0**
baz=215
HDA Harding Lake 105.01 15 P **PKiKP** **13 48 46.7 -0.3**
baz=207
ILAR Eielson Array 105.35 14 PKiKP **PKiKP** **13 48 47.9 +0.2**
comp=Z,0.6nm,0.6s,baz=254,slow=2.8,SNR=5.0
GTA Gaotai 105.40 308 *e*P **PP** **13 48 57.6 +0.2**
GTA pP PKiKP 13 49 03.7 +15
GTA sP 13 49 06.8
GTA pmax pmax
comp=Z,2.0nm,1.2s
M30M Minto, Yukon 105.83 20 P **PKiKP** **13 48 47.6 -1.0**
baz=215
DAWY Dawson 106.39 18 P **PKiKP** **13 48 48.9 -0.7**
baz=213
F21K Alatna River 106.42 11 P **PKiKP** **13 48 48.3 -1.2**
baz=202
FARO Faro, Yukon 106.50 21 P **PKiKP** **13 48 48.9 -0.9**
baz=218
G23K Bananza Creek 106.51 12 P **PKiKP** **13 48 48.3 -1.5**
baz=205
SONM Songino Array 106.59 318 PKKPbc PKKPbc 14 00 12.9 +2.3
comp=Z,1.3nm,0.8s,baz=339,slow=3.8,SNR=6.3
H25K Birch Creek 106.88 14 P **PKiKP** **13 48 49.4 -1.0**
baz=208
D24K Happy Valley 108.91 12 P **PKiKP** **13 48 54.1 0.0**
baz=206
EPYK Eagle Plains 108.94 17 P **PKiKP** **13 48 54.0 -0.3**
baz=216
C23K Itkillik River 109.25 11 P **PKiKP** **13 48 54.2 -0.5**
baz=205
F31M Tsiigehtchic 110.51 18 P **PKiKP** **13 48 56.4 -0.7**
baz=218
TIXI Tiksi 114.32 345 PKiKP PKPdf 13 49 03.5 -0.8
comp=Z,1.6nm,0.6s,baz=92,slow=22,SNR=6.7
TIXI Tiksi 114.32 345 *c i* PKIKP PKPdf 13 49 03.8 -0.5
TIXI pmax pmax
comp=Z,3.0nm,1.0s
C36M Paulatuk 114.34 19 P PKPdf 13 49 04.2 -0.2
baz=227
WMQ Urumqi 115.42 307 *e*PKP **PKPdf** **13 49 06.8 -0.6**
WMQ LR LR
comp=Z,360nm,14.7s
WMQ LR LR
comp=Z,330nm,17.1s
P52A Corning 118.73 60 P **PKPdf** **13 49 11.2 -2.6**
baz=243
MKAR Makanchi Array 120.15 308 PKP **PKPdf** **13 49 15.0 -1.3**
comp=Z,1.0nm,0.6s,baz=122,slow=0.5,SNR=11
MKAR PKKPbc **PKKPbc** **13 59 26.8 +2.4**
comp=Z,2.2nm,0.7s,baz=303,slow=3.8,SNR=24
MKAR Makanchi Array 120.15 308 PKPdf **PKPdf** **13 49 15.8 -0.5**
MKAR Makanchi Array 120.15 308 PKIKP **PKPdf** **13 49 15.8 -0.5**
ZALV Zalesovo Beam 121.42 316 PKP **PKPdf** **13 49 17.2 -1.3**
comp=Z,1.1nm,0.3s,baz=138,slow=38,SNR=1.6
SSPA Standing Stone 122.10 61 P **PKPdf** **13 49 18.1 -2.2**
baz=246
AAK Ala-Archa 123.66 301 *i* PKIKP **PKPdf** **13 49 23.1 -0.3**
KURK Kurchatov 123.86 311 *c i* PKIKP **PKPdf** **13 49 22.9 -0.3**
KURK pmax pmax
comp=Z,6.0nm,1.7s
KURBB Kurchatov Arra 123.88 311 PKP **PKPdf** **13 49 22.1 -1.1**
comp=Z,2.8nm,0.6s,baz=119,slow=1.8,SNR=24
BINY Binghamton 124.02 60 P **PKPdf** **13 49 22.9 -1.0**
baz=248
NRIK Noril'sk 124.90 334 PKP **PKPdf** **13 49 24.8 +0.1**
comp=Z,5.4nm,0.7s,baz=114,slow=4.2,SNR=6.4
NRIK Noril'sk 124.90 334 *c i* PKIKP **PKPdf** **13 49 23.4 -1.3**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
PAL Palisades 125.03 62 P **PKPdf** **13 49 24.5 -1.3**
baz=248
LONY Lake Ozonia 125.84 58 P **PKPdf** **13 49 25.9 -1.4**
baz=250
L61B Northampton 126.40 61 P **PKPdf** **13 49 27.3 -1.1**
baz=249
KKAR Karatay Array 126.56 300 PKPdf **PKPdf** **13 49 28.0 -0.7**
KKAR Karatay Array 126.56 300 PKIKP **PKPdf** **13 49 28.0 -0.7**
SHEL Horse Pasture 126.73 174 *i* PKIKP **PKiKP** **13 49 31.1 +0.7**
LBNH Lisbon 127.52 59 P **PKPdf** **13 49 29.3 -1.2**
baz=251
KMBO Kilima Mbogo 127.74 232 PKP **PKiKP** **13 49 33.7 +0.9**
comp=Z,7.4nm,0.8s,baz=43,slow=2.7,SNR=14
KMBO Kilima Mbogo 127.74 232 *i* PKIKP **PKPdf** **13 49 32.1 -0.1**
BVAR Borovoye Array 129.39 312 PKP **PKPdf** **13 49 34.1 +0.3**
comp=Z,1.5nm,0.5s,baz=98,slow=2.1,SNR=10
PKME Peaks-Kenny Pk 129.61 58 P **PKPdf** **13 49 33.1 -1.3**
baz=253
GEYT Alibeck 133.81 290 PKP **PKiKP** **13 49 44.4 +0.5**
comp=Z,1.0nm,0.5s,baz=103,slow=4.6,SNR=3.6
ARU Arti 136.58 316 *i* PKIKP **PKPdf** **13 49 47.0 -0.2**
ARU 13 52 26.0
ARU SS SS 14 10 26.0 -4.8
PRGR Permogore 142.38 325 *e*PKHKP PKPpre 13 49 53.6
GROC Groznyy 144.13 294 *e*PKIKP **PKPdf** **13 50 01.2 -0.1**
GROC *e* 13 53 11.9
GROC pmax pmax
comp=Z,88nm,1.0s
ARA0 ARCESS Array S 144.76 344 *e*PKPdf **PKPab** **13 50 00.3 -0.2**
ARA0 IAmb IAmb 13 50 02.2
comp=Z,15nm,0.7s
ARCES ARCESS Array B 144.76 344 PKP PKPbc 13 50 00.6 0.0
comp=Z,12nm,0.7s,baz=36,slow=2.7,SNR=49
ARCES ARCESS Array B 144.76 344 PKPdf PKPbc 13 50 00.7 +0.1
ARCES ARCESS Array B 144.76 344 PKIKP PKPbc 13 50 00.7 +0.1
KLMR Klimovskoe 145.42 326 *e*PKP2 **PKPdf** **13 50 00.4 -2.5**
KLMR pmax pmax
comp=Z,36nm,1.1s
KLMR Klimovskoe 145.42 326 *e*PKPdf **PKPdf** **13 50 00.4 -2.5**
KLMR AMP 13 50 06.0
comp=Z,36nm,1.1s
KLMR *e*SKP 13 53 38.6
ZEI Tsey 145.46 293 *i* PKIKP **PKPab** **13 50 04.1 -0.1**

ZEI pmax pmax
comp=Z,43nm,1.4s
KTK1 Kautokeino 145.66 345 *e*PKPab **PKPdf 13 50 02.6 -0.6**
KTK1 IAmb IAmb 13 50 05.9
comp=Z,16nm,1.0s
JETT Jettan, Norway 145.76 347 *e*PKPab **PKPdf 13 50 03.2 -0.1**
JETT IAmb IAmb 13 50 09.5
comp=Z,16nm,0.7s
TRO Tromso 145.96 348 *e*PKPab **PKPdf 13 50 03.5 0.0**
TRO IAmb IAmb 13 50 08.9
comp=Z,15nm,0.8s
GOF Gofitskoye 146.26 297⇑ *e*PKP2 **PKPab 13 50 08.0 +1.2**
KBZ Khabaz 146.28 295 PKPbc **PKPdf 13 50 05.3 +0.4**
comp=Z,11nm,1.0s,baz=113,slow=1.4,SNR=12
KBZ Khabaz 146.28 295*c* *i* PKP2 **PKPdf 13 50 05.1 +0.2**
KIV Kislovodsk 146.45 295 *i* PKP2 **PKPbc 13 50 06.7 -0.1**
KIV pmax pmax
comp=Z,13nm,1.2s
VRH Novokhopyorsk 146.88 308 *e*PKP2 **PKPbc 13 50 07.4 -0.2**
VRH pmax pmax
comp=Z,20nm,0.7s
STEI Steigen 148.09 348 *ep*PKPdf **PKPbc 13 50 09.3 -1.1**
STEI IAmb IAmb 13 50 14.7
comp=Z,22nm,0.8s
MOS Moscow 148.23 318 *e*PKIKP **PKPdf 13 50 09.1 +1.3**
MOS *e* 13 50 18.6
MOS *e* 13 53 39.9
LPSR Galich'ya Gora 148.34 312 *e*PKP2 **PKPbc 13 50 10.5 -1.0**
LPSR pmax pmax
comp=Z,30nm,1.2s
VORR Voronezh 148.36 310 *e*PKIKP **PKPbc 13 50 09.9 -1.7**
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 148.47 309 *e*PKIKP **PKPbc 13 50 10.5 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
FAUS Fauske 148.58 348 *e*PKPbc **PKPbc 13 50 10.6 -1.1**
FAUS IAmb IAmb 13 50 20.1
comp=Z,22nm,1.0s
LIC Lamto 148.74 173⇑ *e*PKIKP **PKPbc 13 50 13.8 0.0**
comp=Z,58nm,0.6s
KIC Kosan Boka 148.91 173⇑ *e*PKIKP **PKPbc 13 50 14.2 0.0**
comp=Z,25nm,0.6s
OBN Obninsk 149.00 317*c* *i* PKIKP **PKPdf 13 50 09.5 +0.5**
OBN *e* 13 53 42.9
OBN pmax pmax
comp=Z,32nm,1.6s
TIC Toumodi 149.16 172⇑ *e*PKIKP **PKPbc 13 50 14.5 -0.4**
comp=Z,73nm,0.8s
DBIC Dimbokro 149.20 173 PKP **PKPdf 13 50 11.5 +0.8**
comp=Z,18nm,0.7s,baz=142,slow=2.1,SNR=4.8
DBIC PKPbc **PKiKP 13 50 15.9 -0.3**
comp=Z,18nm,0.7s,baz=191,slow=2.4,SNR=15
DBIC Dimbokro 149.20 173 **PKPdf 13 50 12.4 +1.7**
KONS Konsvik 149.74 349 *e*PKPbc **PKPbc 13 50 13.4 -1.2**
MOR8 Moi Rana 149.82 347 *e*PKPbc **PKPbc 13 50 13.8 -1.1**
MOR8 IAmb IAmb 13 50 18.6
comp=Z,86nm,2.0s
FINES FINESS Array B 150.56 333 PKPbc **PKPbc 13 50 16.4 -0.4**
comp=Z,9.2nm,0.6s,baz=40,slow=4.1,SNR=29
FINES FINESS Array B 150.56 333*c* *i* PKIKP **PKPbc 13 50 16.3 -0.5**
FINES pmax pmax
comp=Z,9.0nm,0.6s
NSS Namsos 151.75 348 *e*PKPbc **PKPbc 13 50 18.8 -0.6**
NSS IAmb IAmb 13 50 23.0
comp=Z,21nm,0.9s
MEF Metsahovi 152.00 333 *e*P **PKPbc 13 50 19.4 -0.7**
VSU Vasula 152.22 328 *e*P **PKPbc 13 50 19.4 -1.2**
RAF Rauma 152.33 336 *e*P **PKPbc 13 50 20.7 -0.2**
SIM Simferopol' 152.59 297 *i* PKIKP **PKPab 13 50 31.1 -1.5**
SIM pmax pmax
comp=Z,15nm,0.8s
BRTR Keskin Array B 152.82 286 PKPbc **PKPbc 13 50 22.2 -0.7**
comp=Z,4.4nm,0.8s,baz=140,slow=4.1,SNR=15
BRTR PKPab **PKPab 13 50 33.6 -0.4**
comp=Z,9.1nm,0.7s,baz=130,slow=4.5,SNR=15
BRTR Keskin Array B 152.82 286*c* *i* PKIKP **PKPbc 13 50 21.7 -1.2**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
TBLU Trondheim 153.22 349 *e*PKPbc **PKPbc 13 50 21.5 -1.3**
MTSE Matsula 153.24 331 *e*P **PKPbc 13 50 22.6 -0.2**
MNK Minsk 153.84 320 *i* PKIKP **PKPdf 13 50 14.8 -1.6**
MNK *i* 13 54 11.7
MNK *i* 13 57 21.9
MNK *i* PPP PPP 13 57 40.4
MNK *i* SS SS 14 13 51.3 +3.7
MNK *i* SSS SSS 14 19 42.9
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK Minsk 153.84 320 *i* LRM MLR 15 02 59.1
comp=E,33nm,15.3s
MNK Minsk 153.84 320 *i* PKP **PKPdf 13 50 14.9 -1.6**
comp=N,9.0nm,0.9s
MNK Minsk 153.84 320 *i* PKP **PKPdf 13 50 14.9 -1.6**
comp=E,2.0nm,0.7s
MNK Minsk 153.84 320 *i* PKP **PKPdf 13 50 14.9 -1.6**
comp=Z,9.0nm,0.7s,baz=240
MNK Minsk 153.84 320 *i* PP PP 13 54 11.8 -0.5
MNK Minsk 153.84 320 *i* SKS **SKSdf 13 57 21.9 +0.8**
MNK Minsk 153.84 320 *i* PPP PPP 13 57 40.5
MNK Minsk 153.84 320 *i* SKKS 14 06 02.0
MNK Minsk 153.84 320 *i* SS SS 14 13 51.4 +3.8
MNK Minsk 153.84 320 *i* SSS SSS 14 19 42.9
MNK Minsk 153.84 320 *i* LR LR 14 57 27.8
MNK Minsk 153.84 320 *i* LRM MLR 15 02 54.0
comp=N,20nm,18.5s
MNK Minsk 153.84 320 *i* LRM MLR 15 02 54.0
comp=Z,163nm,13.4s
NACGM Naroch 154.19 322 *e*PKP **PKiKP 13 50 28.4 +3.3**
comp=Z,11nm,0.4s,baz=62
DOMB Dombas 154.55 349 *e*PKPbc **PKPbc 13 50 24.4 -1.4**
AKASG Malin Array Be 154.67 311 PKP **PKPdf 13 50 18.7 +1.0**
comp=Z,0.2nm,0.3s,baz=53,slow=0.8,SNR=1.7
AKASG PKPbc **pPKPdf 13 50 25.7 -0.8**
comp=Z,2.2nm,0.6s,baz=60,slow=2.5,SNR=12
AKASG PKPab **PKPab 13 50 42.1 +0.9**
comp=Z,2.2nm,0.6s,baz=58,slow=3.4,SNR=4.9
AKBB Malin Array Si 154.67 311*c* *i* PKIKP **PKiKP 13 50 28.3 +2.0**
NB2 NORSAR Subarra155.11 346 PKP PKPdf 13 50 26.4 +8.3
comp=Z,8.5nm,1.1s,baz=27,slow=2.1
NOA NORSAR Array B155.11 346 PKP **PKPdf 13 50 17.2 -0.9**
comp=Z,0.3nm,0.7s,baz=30,slow=1.7,SNR=3.8
NOA PKPbc **pPKPdf 13 50 26.7 -0.1**
comp=Z,2.8nm,0.9s,baz=32,slow=2.0,SNR=7.7
NC602 NORSAR Array S 155.32 345 *e* **PKPdf 13 50 25.1 +6.8**
TORD Torodi Ar. Bea 155.69 187 PKP **PKPdf 13 50 20.9 +0.7**
comp=Z,3.6nm,1.0s,baz=158,slow=0.6,SNR=9.9
TORD PKPab **PKPab 13 50 46.9 +0.5**
comp=Z,11nm,0.8s,baz=178,slow=2.7,SNR=17
KONO Kongsberg 156.71 346 *e*PKPdf **PKPdf 13 50 18.4 -1.8**
UZH Uzhgorod 159.62 311⇑ *i*PKIKP **PKPdf 13 50 20.8 -3.3**
UZH *i* 13 50 26.5
CRVS Cervenica-Dubn 160.00 312 *e*PKIKP **PKPdf 13 50 24.9 +0.4**
CRVS Cervenica-Dubn 160.00 312 *e*PKP **PKPdf 13 50 24.9 +0.4**
CRVS *e* 13 51 05.6
VYHS Vyhne 161.72 314 *e*PKIKP **PKPdf 13 50 29.9 +3.5**
VYHS *e* 13 51 12.8
VYHS Vyhne 161.72 314 *e*PKP **PKPdf 13 50 29.9 +3.5**
VYHS *e* 13 51 12.8
BRG Berggiesshubel 162.79 326 *e*PKP2 **PKPab 13 51 16.3 -0.1**
BRG pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 162.87 329 *e*PKIKP **PKPdf 13 50 26.0 -1.4**
CLL *i* 13 51 15.0
CLL pmax pmax
comp=Z,13nm,1.8s
CLL pmax pmax
comp=Z,12nm,1.5s
CLL MLR MLR
comp=Z,300nm,20.0s
CLL Collm 162.87 329 *e*PKPdf **PKPdf 13 50 26.0 -1.4**
comp=Z,13nm,1.8s
CLL *i* PKPab **PKPab 13 51 15.0 -1.7**
comp=Z,12nm,1.5s
CLL *ep*PKPab **pPKPab 13 51 19.0 -6.1**
CLL *ex* x 13 51 23.0
CLL LmH 15 01 00.0
comp=N,400nm,18.6s
CLL LmH 15 01 00.0
comp=E,400nm,18.9s
CLL LmV 15 14 00.0
comp=Z,300nm,20.0s
RONA Rosalia, Austr 163.59 314 *i* P **PKPab 13 51 22.9 +2.7**
comp=Z,3.2nm,1.4s
CONA Conrad Observa 163.71 315 *e*P **PKPab 13 51 22.2 +1.5**
comp=Z,4.9nm,0.9s
ARSA Arzberg 164.28 314 *i* P **PKPab 13 51 24.3 +1.2**
comp=Z,2.6nm,0.8s
GERES GERESS Array B 164.30 321 PKP **PKPdf 13 50 29.8 +0.8**
comp=Z,0.7nm,0.8s,baz=8.5,slow=2.0,SNR=5.6
GERES PKPab **PKPab 13 51 23.6 +0.4**
comp=Z,0.6nm,0.7s,baz=75,slow=5.2,SNR=4.8
SOKA Soboth 164.87 313 *i* P **PKPab 13 51 25.3 -0.5**
comp=Z,7.0nm,1.8s
POLO Lamas de Olo 173.51 51 *e*PKPab **PKPab 13 52 05.5 +1.3**
PVIS Viseu 173.80 56 *e*PKPab **PKPab 13 52 07.0 +1.5**
PBRG Braganca 173.84 43 *e*PKPab **PKPab 13 52 08.9 +3.3**
MVO Moncorvo 174.10 49 *e*PKPab **PKPab 13 52 08.3 +1.5**
MTE Manteigas 174.18 57 *e*PKPab **PKPab 13 52 08.3 +1.0**
PCBR Castelo Branco 174.48 62 *e*PKPab **PKPab 13 52 10.1 +1.6**
ESDC Sonseca Array 176.84 44 PKP **PKPdf 13 50 37.2 +1.2**
comp=Z,2.8nm,1.2s,baz=334,slow=0.9,SNR=9.9
ESDC PKPab **PKPab 13 52 20.0 +1.0**
comp=Z,2.2nm,1.0s,baz=322,slow=4.6,SNR=9.4

MAN 03 13:40:03.7, 9.51N×123.86E, h5km, mb4.5, ML3.3, MS3.1, 2C-5D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.64**	**255**	⇓*i*	P	13 40 16.9	-0.4
SNPH				*i*	S	13 40 26.9	+0.3
LLP	**Lapu-Lapu**	**0.81**	**8**	⇑*i*	P	13 40 19.3	+0.1
LLP				*i*	S	13 40 31.2	-0.2
MSLP	**Maasin**	**1.16**	**58**	*i*	P	13 40 25.9	-0.1
CGP	**Cagayan de Oro**	**1.34**	**142**	⇓*e*	P	13 40 27.6	-1.4
CGP				*e*	S	13 40 56.9	+10
PAGZ	**Pagadian**	**1.72**	**196**	⇑*i*	P	13 40 33.8	-0.5
RCP	**Roxas**	**2.31**	**332**	⇓*e*	P	13 40 43.6	+1.1
RCP				*e*	S	13 41 12.8	+1.5
KCP	**Kidapawan**	**2.77**	**154**	⇓*e*	P	13 40 57.1	+0.2
KCP				*i*	S	13 41 17.6	-5.1
BIPH	**Bislig**	**2.80**	**118**	⇓*e*	P	13 40 50.0	+0.8
BIPH				*e*	S	13 41 26.1	+2.6

*JMA **03** 13:44:46.4±0.1, 38.81N±0.3×141.60E±0.5, h96km, MV3.7/40, NORTHERN MIYAGI PREF*
JMA Felt II J1 at NORTHERN MIYAGI PREF .
*IDC **03** 13:44:50.0±1.3, 41.46N×140.99E, h0km, mb3.9/7, mbtmp3.8/8, ML2.9/1, Error ellipse: s-maj=30.1km s-min=24.7km az=78.0*

ISC 03 13:44:46.1±1.0, 38.81N±0.04×141.60E±0.07, h100km±6km, n27, σ1s54/38, mb3.7/7, 27D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.10**	**270**	⇓P		**Pn**	**13 45 00.0**	**0.0**
JKMT				⇓S		**Sn**	**13 45 10.0**	**-0.4**
OFUJ	**Ofunato**	**0.27**	**12**	P		**Pn**	**13 45 00.5**	**-0.1**
OFUJ				S		**Sn**	**13 45 10.7**	**-0.8**
JMK	**Ichinoseki**	**0.33**	**296**	⇓P		**Pn**	**13 45 10.4**	**-0.3**
JMK				⇓S		**Sn**	**13 45 10.8**	**-1.0**
JIO	**Ouri**	**0.41**	**209**	⇓*i*P		**Pn**	**13 45 01.2**	**0.0**
JIO				⇓S		**Sn**	**13 45 11.9**	**-0.6**
JOM	**Ohasama**	**0.70**	**340**	⇓*i*P		**Pn**	**13 45 03.2**	**-0.3**
JOM				⇓S		**Sn**	**13 45 15.9**	**-0.7**
JOU	**Okura**	**0.86**	**239**	⇓*i*P		**Pn**	**13 45 05.2**	**+0.1**
JOU				⇓S		**Sn**	**13 45 19.3**	**0.0**
JRG	**Rokugo**	**0.95**	**308**	*i* P		**Pn**	**13 45 05.9**	**-0.1**
JRG				S		**Sn**	**13 45 21.1**	**+0.1**
JYK	**Kaneyama**	**0.97**	**277**	⇓*i*P		**Pn**	**13 45 06.1**	**-0.1**
JYK				⇓S		**Sn**	**13 45 21.1**	**-0.3**
JMM	**Marumori**	**1.14**	**214**	⇓*i*P		**Pn**	**13 45 07.8**	**-0.2**
JMM				⇓S		**Sn**	**13 45 24.0**	**-0.5**
JYS	**Shirataka**	**1.34**	**244**	⇓*i*P		**Pn**	**13 45 10.6**	**+0.2**
JYS				⇓S		**Sn**	**13 45 29.2**	**+0.4**
JYA	**Atsumi**	**1.49**	**262**	⇓*i*P		**Pn**	**13 45 12.3**	**+0.1**
JYA				⇓S		**Sn**	**13 45 31.9**	**-0.1**
JFK	**Kawauchi**	**1.55**	**202**	⇓*i*P		**Pn**	**13 45 13.1**	**0.0**
JFK				⇓*e*S		**Sn**	**13 45 33.0**	**-0.4**
JANG	**Nango**	**1.56**	**358**	⇓*i*P		**Pn**	**13 45 12.0**	**-1.1**
JANG				⇓S		**Sn**	**13 45 31.6**	**-2.0**
JAH	**Hinai**	**1.56**	**332**	⇓*i*P		**Pn**	**13 45 13.2**	**+0.1**
JAH				⇓*e*S		**Sn**	**13 45 33.5**	**-0.1**
JFT	**Otama**	**1.63**	**218**	⇓*i*P		**Pn**	**13 45 14.6**	**+0.6**
JFT				⇓*e*S		**Sn**	**13 45 36.1**	**+1.0**
JAW	**Awa shima**	**1.87**	**260**	⇓P		**Pn**	**13 45 17.4**	**+0.4**
MJAR	**Matsushiro Arr**	**3.52**	**231**	Pn		**Sn**	**13 46 11.3**	**-8.2**
	0.4nm,0.3s,baz=28,slow=17,SNR=4.1							
	2.5nm,0.4s							
SONM	**Songino Array**	**26.95**	**301**	P		**P**	**13 50 18.5**	**+0.3**
	0.9nm,0.5s,baz=110,slow=9.5,SNR=3.5							
	0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**40.84**	**311**	P		**P**	**13 52 17.3**	**-0.4**
	1.2nm,0.5s,baz=81,slow=9.2,SNR=3.6							
	1.2nm,0.5s							
MKAR	**Makanchi Array**	**43.32**	**301**	P		**P**	**13 52 38.0**	**0.0**
	0.6nm,0.4s,baz=87,slow=11,SNR=12							
	0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**45.04**	**307**	P		**P**	**13 52 51.3**	**-0.2**
	4.4nm,0.6s,baz=81,slow=8.1,SNR=28							
	4.4nm,0.6s							
ILAR	**Eielson Array**	**47.92**	**33**	P		**P**	**13 53 14.2**	**+0.4**
	0.8nm,0.6s,baz=269,slow=6.1,SNR=10							
	0.8nm,0.6s							
BVAR	**Borovoye Array**	**49.50**	**311**	P		**P**	**13 53 27.5**	**+1.4**
	0.4nm,0.5s,baz=71,slow=9.4,SNR=2.0							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**58.84**	**188**	P		P	13 55 08.0	+34
	0.4nm,0.6s,baz=3.9,slow=7.2,SNR=5.3							
	0.4nm,0.6s							
H03N2	**Juan Fernandez**	**147.02**	**93**	T		T	16 49 05.4	
	baz=291,slow=76							
H03N3	**Juan Fernandez**	**147.03**	**93**	T		T	16 49 10.2	
	baz=291,slow=76							
H03N1	**Juan Fernandez**	**147.04**	**93**	T		T	16 49 07.1	
	baz=291,slow=76							

HEL 03 13:47:36.3±0.4, 62.49N×32.62E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOF	**Joensuu**	**0.74**	**306**	PB	Pg	13 47 50.3	-0.2
JOF				SB	Sg	13 48 00.1	0.0
RUFX	**Ruokolahti**	**2.03**	**240**	PG	Pn	13 48 12.6	+0.9
	baz=55						
RUFX				SG	Sb	13 48 39.8	0.0
RMF	**Romuvaara**	**2.12**	**326**	PG	Pb	13 48 14.3	-1.3
KAF	**Kangasniemi**	**2.97**	**266**	PB	Pn	13 48 27.0	+2.3
	baz=81						
KAF				MSG		13 49 03.6	
	comp=Z,2.6nm,0.2s						
KAF				SB	Sb	13 49 04.9	-1.9
VJF	**Virojoki**	**3.12**	**233**	MSG		13 49 07.8	
	comp=Z,1.6nm,0.2s						
VJF				SG	Sb	13 49 10.4	-0.6
FIA0	**FINESS Array S**	**3.26**	**254**	PB	Pb	13 48 31.8	-3.2
FIA0				SB	Sb	13 49 12.9	-2.3
KEF	**Keuruu**	**3.63**	**268**	PB	Pb	13 48 37.8	-3.4
KEF				SB	Sb	13 49 24.0	-1.7
KU6	**Riekki**	**3.75**	**343**	PN	Pn	13 48 34.2	-1.1
	baz=163						
KU6				SN	Sn	13 49 19.1	-1.0
MSF	**Maaselka**	**3.78**	**337**	SN	Sn	13 49 18.4	-2.5
OUF	**Merijarvi**	**4.02**	**302**	PN	Pn	13 48 40.7	+1.7
	baz=115						
OUF				SG	Sg	13 49 41.3	-3.8
OBF4	**Vikkela, Lumij**	**4.08**	**308**	PG	Pb	13 48 47.1	-1.8
OLKF	**Oulanka, Finla**	**4.10**	**341**	SN	Sn	13 49 27.5	-1.2
OBF8	**Ulkokalla**	**4.52**	**298**	SG	Sb	13 49 52.3	+1.0
VAF	**Ylistaro**	**4.61**	**281**	SG	Sb	13 49 58.5	+4.7

*JMA **03** 14:01:43.7±0.2, 26.73N±0.9×127.73E±0.7, h44km±2km, MV3.6/9, NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
*IDC **03** 14:01:43.2±1.9, 27.03N×126.65E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=60.6km s-min=28.2km az=72.0*

ISC 03 14:01:43.3±1.0, 26.33N±0.08×127.33E±0.05, h50km±8km, n13, σ0s64/19, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.27**	**343**	*i* P		**Pn**	**14 01 52.5**	**+0.3**
JAGN				S		**Sn**	**14 01 59.0**	**+0.4**
JJT3	**Tamagusuku3**	**0.45**	**114**	*i* P		**Pn**	**14 01 54.1**	**+0.2**
JJT3				S		**Sn**	**14 02 01.2**	**-0.4**
JKE	**Kume jima 2**	**0.49**	**270**	*i* P		**Pn**	**14 01 54.4**	**-0.1**
JKE				S		**Sn**	**14 02 02.2**	**-0.3**
JNTH	**Nagotoyohara**	**0.65**	**73**	*i* P		**Pn**	**14 01 56.4**	**0.0**
JNTH				S		**Sn**	**14 02 05.3**	**-0.6**
JIH	**Iheya**	**0.91**	**39**	*i* P		**Pn**	**14 02 00.0**	**+0.2**
JIH				*e*S		**Sn**	**14 02 11.0**	**-0.9**
JOW	**Kunigami**	**0.98**	**59**	*i* P		**Pn**	**14 02 01.2**	**+0.4**
JOW				*e*S		**Sn**	**14 02 14.1**	**+0.4**
JYRO	**Yoronjima**	**1.22**	**55**	P		**Pn**	**14 02 04.4**	**+0.4**
JYRO				S		**Sn**	**14 02 19.4**	**0.0**
SONM	**Songino Array**	**27.04**	**328**	P		**P**	**14 07 19.9**	**-1.0**
	0.5nm,0.4s,baz=134,slow=8.2,SNR=2.4							
	0.5nm,0.4s							
CMAR	**Chiang Mai Arr**	**27.35**	**259**	P		**P**	**14 07 25.4**	**+1.6**
	0.5nm,0.5s,baz=58,slow=7.5,SNR=2.5							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**40.87**	**312**	P		**P**	**14 09 19.7**	**-0.7**
	0.4nm,0.3s,baz=99,slow=8.9,SNR=9.8							
	0.4nm,0.3s							
ZALV	**Zalesovo Beam**	**41.68**	**323**	P		**P**	**14 09 26.9**	**0.0**
	0.6nm,0.4s,baz=101,slow=7.5,SNR=2.7							
	0.6nm,0.4s							
WRA	**Warramunga Arr**	**46.49**	**171**	P		P	14 10 19.1	+13
	0.5nm,0.9s,baz=350,slow=8.6,SNR=2.8							
	0.5nm,0.9s							
FINES	**FINESS Array B**	**72.38**	**330**	P		**P**	**14 13 03.7**	**0.0**
	2.7nm,1.0s,baz=67,slow=3.6,SNR=6.2							
	2.7nm,1.0s							

*IDC **03** 14:04:45.4±0.4, 20.23N×147.41E, h0km, mb4.9/41, mbtmp4.9/45, ML4.3/3, MS4.3/20, Error ellipse: s-maj=15.2km s-min=10.0km az=83.0*
*MOS **03** 14:04:47.6±0.9, 20.21N×147.37E, h25km, mb5.5/69, MS4.5/12, Error ellipse: s-maj=8.5km s-min=4.3km az=113.7*
*NEIC **03** 14:04:47.9±1.4, 20.28N±0.05×147.4E±0.1, h10km±1km, mb5.5/231, Ms_20 4.8/141, Error ellipse: s-maj=16.2km s-min=9.0km az=96.0*
*BJI **03** 14:04:50.1±0.0, 20.55N×147.07E, h20km, mb5.0/76, mB5.3/66, Ms4.9/78, Ms7 4.6/73*
*GCMT **03** 14:04:50.9±0.1, 20.33N±0.01×147.57E±0.01, h12km, MW5.2/140, Moment Tensor Solution. s54,c74; s140,c232; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.77±.01; Mθθ0.23±.01; Mφφ0.53±.01; Mrθ-0.01±.04; Mθφ-0.31±.01; Mφr-0.15±.03; Best double couple: M0.76000×10^17 NP1:φs334.00000°,δ50.00000°, λ-82.00000°. NP2:φs142.00000°,δ41.00000°, λ-99.00000°. Principal axes: T 0.7360, Plg5.0000°, Azm59.0000°; N 0.0480, Plg6.0000°, Azm149.0000°; P -0.7850, Plg82.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 14:04:48.9±0.4, 20.23N±0.03×147.41E±0.04, h20km±1km, h20km:pP-P, n971, σ1s24/971, mb5.4/262, MS4.8/123, 25C-35D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.04**	**201**	Pn		**Pn**	**14 06 31.5**	**+0.6**
	18nm,0.3s,baz=103,slow=2.1,SNR=29							
GUMO				Sn		**Sn**	**14 07 50.1**	**-0.3**
	22nm,0.3s,baz=332,slow=20,SNR=1.6							
GUMO				LR		LR	14 09 05.2	
	comp=Z,7μm,19.7s,baz=30,slow=37							
	346nm,0.9s							
GUMO	**Guam**	**7.04**	**201**	Pn		**Pn**	**14 06 31.9**	**+1.0**
GUMO	**Guam**	**7.04**	**201**	P		**Pn**	**14 06 31.9**	**+1.0**
GUMO	**Guam**	**7.04**	**201**	P		**Pn**	**14 06 33.2**	**+2.3**
JCJ	**Chichijima**	**8.34**	**326**	Pn		**Pn**	**14 06 47.1**	**-1.6**
	162nm,0.3s,baz=100,slow=19,SNR=61							
JCJ				Sn		**Sn**	**14 08 14.7**	**-7.8**
	51nm,0.3s,baz=304,slow=23,SNR=9.0							
JCJ	**Chichijima**	**8.34**	**326**	Pn		**Pn**	**14 06 47.4**	**-1.3**
JCJ	**Chichijima**	**8.34**	**326**	P		**Pn**	**14 06 50.4**	**+1.7**
JHJ	**Hachijo jima 2**	**14.53**	**334**	Pn		**Pn**	**14 08 11.8**	**-1.6**
	5.1nm,0.3s,baz=131,slow=19,SNR=1.0							
JHJ				Sn		Sn	14 10 40.1	-14
	4.8nm,0.3s,baz=30,slow=7.3,SNR=2.1							
JHJ				LR		LR	14 14 37.3	
	comp=Z,514nm,19.4s,baz=145,slow=41							
	162nm,1.1s							
INU	**Inuyama**	**17.62**	**331**			**Pn**	**14 08 52.4**	**-0.9**
INU	**Inuyama**	**17.62**	**331**	P		**P**	**14 08 54.8**	**+0.6**
JGF	**Kuroka**	**17.68**	**332**	P		**Pn**	**14 08 54.4**	**+0.3**
JMN	**Monobe**	**18.03**	**321**	P		**P**	**14 08 58.7**	**0.0**
MJAR	**Matsushiro Arr**	**18.14**	**336**	P		**Pn**	**14 08 58.1**	**-1.5**
	0.2nm,0.3s,baz=164,slow=11,SNR=29							
MJAR				S		Sn	14 12 04.5	-17
	0.8nm,0.6s,baz=132,slow=24,SNR=0.9							
	12nm,0.9s							
MAJO	**Matsushiro**	**18.14**	**336**			**P**	**14 09 00.1**	**+0.2**
MAJO	**Matsushiro**	**18.14**	**336**	P		**P**	**14 09 00.1**	**+0.2**
MAJO				pmax	pmax			
	comp=Z,38nm,1.1s							
MAJO	**Matsushiro**	**18.14**	**336**	P		**P**	**14 09 00.6**	**+0.7**
WAKE	**Wake Island**	**18.14**	**90**			**Pn**	**14 08 58.5**	**-1.3**
WAKE	**Wake Island**	**18.14**	**90**	P		**Pn**	**14 08 59.6**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**18.27**	**92**	P		**P**	**14 09 02.2**	**+1.0**
	baz=69,slow=14,SNR=8.4							
H11S3				T		T	14 27 46.3	
	baz=280,slow=74,SNR=9.7							
H11S1	**WAKE ISLAND Hy**	**18.28**	**92**	P		**P**	**14 09 02.3**	**+1.0**
	baz=69,slow=14,SNR=12							
H11S1				T		T	14 27 42.2	
	baz=280,slow=74,SNR=13							
H11S2	**WAKE ISLAND Hy**	**18.29**	**92**	P		**P**	**14 09 01.9**	**+0.5**
	baz=69,slow=14,SNR=11							
H11S2				T		T	14 27 52.2	
	baz=280,slow=74,SNR=9.8							
H11N1	**WAKE ISLAND Hy**	**18.32**	**88**	P		**Pn**	**14 09 00.6**	**-1.1**
	baz=263,slow=12,SNR=17							
H11N1				T		T	14 27 55.4	
	baz=275,slow=75,SNR=7.8							
H11N2	**WAKE ISLAND Hy**	**18.32**	**88**	P		**P**	**14 09 00.7**	**-1.1**
	baz=263,slow=12,SNR=14							
H11N2				T		T	14 27 52.9	
	baz=275,slow=75,SNR=9.2							
H11N3	**WAKE ISLAND Hy**	**18.34**	**88**	P		**P**	**14 09 00.8**	**-1.1**
	baz=263,slow=12,SNR=11							
H11N3				T		T	14 27 56.1	
	baz=275,slow=75,SNR=6.8							
JMM	**Marumori**	**18.49**	**343**	P		**P**	**14 09 02.9**	**-0.8**
JOW	**Kunigami**	**18.73**	**294**			**P**	**14 09 06.0**	**-0.4**
JOW	**Kunigami**	**18.73**	**294**	P		**Pn**	**14 09 07.3**	**+0.4**
JSU	**Suzuyama**	**18.91**	**310**	P		**P**	**14 09 08.4**	**0.0**
JSU				IAmb	IAmb		14 09 13.3	
	comp=Z,432nm,1.8s							
JHS	**Saijyo**	**19.38**	**322**			**Pn**	**14 09 14.1**	**-0.6**
JHS				IAmb	IAmb		14 09 16.2	
	comp=Z,386nm,1.7s							
JSD	**Sado**	**19.44**

comp=Z,14nm,0.8s,baz=142,slow=6.8,SNR=32
KSRS LR LR 14 19 37.9
comp=Z,410nm,19.1s,baz=125,slow=37
comp=Z,14nm,0.8s
KSAR Wonju Array Be 24.14 319 P **P** **14 10 03.4 -0.2**
KSAR Wonju Array Be 24.14 319 P **P** **14 10 03.4 -0.2**
KS19 Wonju Array Si 24.19 320 P **P** **14 10 03.7 -0.4**
KS19 IAmb IAmb 14 10 06.1
comp=Z,182nm,1.7s
JCNP Jose Panganiba 24.31 260⇓ *i*P **P** **14 10 04.4 -1.0**
YULB Yu-li 24.44 282 P **P** **14 10 06.0 -0.5**
YHNB Yeheng 24.45 285 P **P** **14 10 05.0 -1.6**
YHNB IAmb IAmb 14 10 07.9
comp=Z,243nm,1.9s
YHNB Yeheng 24.45 285 P **P** **14 10 06.7 0.0**
SEHB SEOHWA 24.46 321 P **P** **14 10 05.8 -0.7**
RABL Rabaul 24.72 169 P **P** **14 10 09.1 0.0**
SSLB Suanglung 24.77 283 P **P** **14 10 09.2 -0.4**
SSLB Suanglung 24.77 283 P **P** **14 10 09.1 -0.4**
KRVT Keravat (AS076 24.80 169 P **P** **14 10 09.7 -0.1**
comp=Z,103nm,0.9s,baz=296,slow=3.9,SNR=17
KRVT LR LR 14 18 55.4
comp=Z,694nm,19.9s,baz=97,slow=34
comp=Z,103nm,0.9s
APYP Conner 24.84 269 *e*P **P** **14 10 05.6 -4.6**
BUKP Musuan 24.87 244 *i* P **P** **14 10 11.8 +1.2**
DAV Davao City (W) 24.88 241 LR LR 14 18 16.7
comp=Z,1μm,20.9s,baz=44,slow=33
CGP Cagayan de Oro 24.89 245⇓ *e*P **P** **14 10 12.5 +1.9**
KUR Kuril'sk 24.94 1 *e*P **P** **14 10 12.4 +1.7**
KUR pmax pmax
comp=Z,1μm,5.0s
KUR pmax pmax
comp=Z,186nm,1.3s
INCN Inchon 24.94 318 P **P** **14 10 10.6 -0.3**
INCN IAmb IAmb 14 10 11.7
comp=Z,212nm,1.7s
INCN Inchon 24.94 318 P **P** **14 10 10.6 -0.3**
INCN pmax pmax
comp=Z,212nm,1.7s
INCN Inchon 24.94 318 P **P** **14 10 11.0 +0.1**
TPUB Ta-pu 25.05 282 P **P** **14 10 09.6 -2.4**
TPUB IAmb IAmb 14 10 28.4
comp=Z,102nm,1.5s
LQP Lukban 25.44 260⇓ *e*P **P** **14 10 13.5 -2.3**
HJU Haeju 25.85 318 P **P** **14 10 18.2 -0.9**
HJU pP **sP** **14 10 24.7 -0.3**
HJU S **S** **14 14 52.6 +4.8**
HJU AmB
comp=Z,1μm,4.4s
HJU AMS AMS
comp=N,356nm,3.6s
HJU AMS AMS
comp=E,344nm,3.5s
HJU AMS AMS
comp=Z,616nm,6.3s
SSE Sheshan 25.93 300 P **P** **14 10 18.8 -1.1**
SSE S **S** **14 14 48.8 -0.5**
SSE pmax pmax
comp=Z,59nm,1.5s
SSE pmax pmax
comp=Z,610nm,4.4s
SSE LR LR
comp=Z,320nm,13.2s
SSE LR LR
comp=Z,430nm,16.8s
HHU Hamhung 25.99 323 P **P** **14 10 20.9 +0.5**
HHU sP **pwP** **14 10 29.7 -2.8**
HHU S **S** **14 14 59.3 +9.3**
HHU AmB
comp=Z,942nm,3.0s
HHU AMS AMS
comp=N,191nm,2.6s
HHU AMS AMS
comp=E,294nm,3.9s
HHU AMS AMS
comp=Z,143nm,1.9s
CNOP Candoni, Negro 26.03 250⇑ *i*P **P** **14 10 17.7 -3.3**
MSHR Mys Shultsa 26.15 332 *i* P **P** **14 10 21.6 -0.2**
MSHR pmax pmax
comp=Z,65nm,1.4s
PGP Puerto Galera 26.17 259⇓ *e*P **P** **14 10 22.6 +0.4**
SWI Sorong 26.27 219 P **P** **14 10 22.7 -0.4**
comp=Z,63nm,1.0s
SIJI Sorong 26.27 219 P **P** **14 10 21.9 -1.2**
comp=Z,53nm,0.9s,baz=14,slow=11,SNR=13
SIJI LR LR 14 18 42.6
comp=Z,1μm,20.0s,baz=38,slow=32
comp=Z,53nm,0.9s
VLA Vladivostok 26.28 334 *i* P **P** **14 10 21.1 -1.8**
VLA pmax pmax
comp=Z,190nm,1.6s
TEY Ternei 26.31 343 *e*P **P** **14 10 18.8 -4.3**
PYAG Pyongyang 26.45 320 P **P** **14 10 24.6 +0.1**
LUBP Lubang 26.75 260⇓ *e*P **P** **14 10 28.5 +1.0**
YSS Yuzh-Sakhalins 26.92 353 P **P** **14 10 28.5 -0.2**
YSS Yuzh-Sakhalins 26.92 353 *e*P **P** **14 10 29.4 +0.7**
YSS *e*S **S** **14 14 58.3 -6.3**
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS Yuzh-Sakhalins 26.92 353 P **P** **14 10 30.8 +2.1**
QZH Quanzhou 26.99 285⇑ *i*P **P** **14 10 30.3 +0.7**
QZH pmax pmax
comp=Z,730nm,5.7s
QZH LR LR
comp=Z,540nm,11.8s
QZH LR LR
comp=Z,730nm,12.8s
QZH LR LR
comp=Z,830nm,16.6s
USA0B Ussuriysk Arra 27.13 335 P **P** **14 10 30.2 -0.4**
USA0B Ussuriysk Arra 27.13 335 P **P** **14 10 30.3 -0.4**
USA0B pmax pmax
comp=Z,105nm,2.0s
USRK Ussuriysk Ar. 27.13 335 P **P** **14 10 30.8 +0.1**
comp=Z,6.8nm,0.7s,baz=126,slow=9.8,SNR=9.8
comp=Z,6.8nm,0.7s
USRK Ussuriysk Ar. 27.13 335 P **P** **14 10 30.5 -0.1**
USRK Ussuriysk Ar. 27.13 335 P **P** **14 10 30.5 -0.1**
FAKI Fak Fak 27.40 215 P **P** **14 10 33.3 0.0**
FAKI IAMs_20 IAMs_20 14 19 12.3
comp=Z,3μm,22.0s
FAKI Fak Fak 27.40 215 P **P** **14 10 34.4 +1.1**
comp=Z,52nm,0.9s
FAKI Fak Fak 27.40 215 P **P** **14 10 35.2 +1.9**
SUJ Sinuiju 27.87 320 P **P** **14 10 36.5 -0.8**
SUJ pP **pP** **14 10 40.2 -1.3**
SUJ S **S** **14 15 28.1 +8.4**
SUJ AmB
comp=Z,390nm,2.6s
SUJ AMS AMS
comp=N,686nm,4.6s
SUJ AMS AMS
comp=E,586nm,4.0s
SUJ AMS AMS
comp=Z,817nm,5.5s
NJ2 Nanjing 28.12 301⇓ P **P** **14 10 38.8 -0.8**
NJ2 sS **sS** **14 15 32.0 +1.1**
NJ2 pmax pmax
comp=Z,41nm,1.4s
NJ2 pmax pmax
comp=Z,740nm,6.2s
NJ2 LR LR
comp=Z,1μm,15.6s
NJ2 LR LR
comp=Z,760nm,12.8s
NJ2 LR LR
comp=Z,1μm,18.5s
MDJ Mudanjiang 28.46 333 P **P** **14 10 43.9 +1.4**
MDJ pP pwP 14 10 51.8 -2.9
MDJ sP sP 14 10 55.3 +6.8
MDJ S **S** **14 15 31.2 +2.2**
MDJ pmax pmax
comp=Z,26nm,1.8s
MDJ pmax pmax
comp=Z,390nm,4.8s
MDJ LR LR
comp=Z,610nm,20.5s
MDJ LR LR
comp=Z,710nm,14.1s
MDJ LR LR
comp=Z,830nm,19.1s
MDJ Mudanjiang 28.46 333 P **P** **14 10 43.9 +1.4**

LBMI Labuha 28.47 226 P **P** **14 10 43.8 +0.9**
comp=Z,579nmcomp=Z,38nm,1.0s
PMG Port Moresby 29.45 181 P **P** **14 10 50.7 -0.8**
comp=Z,84nm,1.0s,baz=342,slow=6.3,SNR=19
PMG LR LR 14 23 18.7
comp=Z,598nm,18.9s,baz=328,slow=38
comp=Z,84nm,1.0s
PMG Port Moresby 29.45 181 P **P** **14 10 50.7 -0.8**
PMG IAmb IAmb 14 10 55.2
comp=Z,96nm,1.0s
PMG Port Moresby 29.45 181 *de*P **P** **14 10 50.2 -1.3**
PMG pmax pmax
comp=Z,136nm,1.3s
PMG Port Moresby 29.45 181 P **P** **14 10 51.4 -0.1**
PMG Port Moresby 29.45 181 P **P** **14 10 51.6 +0.1**
CN2 Changchun 29.81 327 *e*P **P** **14 10 52.3 -2.2**
CN2 PP **PnPn** **14 11 49.4 -1.0**
CN2 S **S** **14 15 47.2 -2.9**
CN2 sS pS 14 15 54.4 -0.9
CN2 pmax pmax
comp=Z,20nm,1.8s
CN2 pmax pmax
comp=Z,270nm,5.0s
CN2 LR LR
comp=Z,760nm,15.0s
CN2 LR LR
comp=Z,620nm,15.0s
CN2 LR LR
comp=Z,540nm,16.0s
BNX BinXian 30.30 332⇓ P **P** **14 10 59.2 +0.4**
BNX pP **pP** **14 11 01.5 -1.6**
BNX S **S** **14 16 00.5 +2.7**
BNX sS **sS** **14 16 09.1 +4.2**
BNX pmax pmax
comp=Z,10.0nm,1.5s
BNX pmax pmax
comp=Z,200nm,6.2s
BNX LR LR
comp=Z,770nm,16.0s
BNX LR LR
comp=Z,470nm,11.5s
BNX LR LR
comp=Z,600nm,19.8s
TYV Tymovskoe 30.80 354 *e*P **P** **14 11 03.7 +0.6**
TYV *e*S **S** **14 16 08.5 +3.1**
TYV pmax pmax
comp=Z,15nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.1s
TYV smax smax
comp=N,300nm,5.5s
TYV smax smax
comp=E,400nm,5.5s
TIA Tai'an 30.91 307 P **P** **14 11 04.3 0.0**
TIA S **S** **14 16 10.4 +2.8**
TIA pmax pmax
comp=E,9.0nm,0.9s
TIA pmax pmax
comp=E,210nm,3.7s
TIA LR LR
comp=E,840nm,14.2s
TIA LR LR
comp=E,820nm,12.3s
TIA LR LR
comp=E,380nm,10.9s
WHN Wuhan 31.48 296⇑ P **P** **14 11 09.5 +0.1**
WHN sP **sP** **14 11 15.3 0.0**
WHN S **S** **14 16 19.2 +2.6**
WHN pmax pmax
comp=E,260nm,1.8s
WHN LR LR
comp=E,4μm,16.5s
WHN LR LR
comp=E,2μm,13.6s
WHN LR LR
comp=E,2μm,19.5s
KLR Kul'dur 31.53 340 LR LR 14 23 58.5
comp=E,304nm,21.9s,baz=152,slow=37
KLR Kul'dur 31.53 340 *ce*P **P** **14 11 08.5 -1.1**
KLR pmax pmax
comp=Z,22nm,1.7s
GRNR Gornyy 31.69 347⇓ *i*P **P** **14 11 12.3 +1.3**
GRNR *e*S **S** **14 16 24.2 +4.8**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=N,1.0nm,0.6s
GRNR MLR MLR
comp=E,330nm,16.0s
GRNR MLR MLR
comp=N,230nm,18.0s
GRNR MLR MLR
comp=Z,520nm,16.0s
MRSI Marisa 31.72 235 P **P** **14 11 10.8 -0.9**
comp=Z,592nmcomp=Z,43nm,0.9s
APSI Ampana 32.84 233 P **P** **14 11 19.6 -1.9**
comp=Z,37nm,1.3s
HNS HongShan 33.15 308⇑ P **P** **14 11 24.3 +0.3**
HNS PP **PnPn** **14 12 33.9 -0.1**
HNS S **S** **14 16 42.7 +0.2**
HNS pmax pmax
comp=Z,42nm,1.6s
HNS pmax pmax
comp=Z,370nm,6.5s
HNS LR LR
comp=Z,410nm,12.2s
HNS LR LR
comp=Z,920nm,14.7s
HNS LR LR
comp=Z,750nm,14.3s
BJI Beijing 33.20 313 P **P** **14 11 24.1 -0.3**
BJI pP **sP** **14 11 31.4 +1.0**
BJI sP **pwP** **14 11 35.1 -1.3**
BJI S **S** **14 16 43.4 +0.1**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,240nm,7.9s
BJI LR LR
comp=Z,92nm,15.5s
BJI LR LR
comp=Z,650nm,15.0s
BJI LR LR
comp=Z,650nm,15.5s
MPSI Mapaga 33.40 237 P **P** **14 11 26.9 +0.5**
comp=Z,1μmcomp=Z,21nm,0.9s
KKM Kota Kinabalu 33.40 249 P **P** **14 11 27.3 +0.8**
PEA0B Petropavlovsk- 33.77 11 P **P** **14 11 29.3 +0.2**
PEA0B Petropavlovsk- 33.77 11 P **P** **14 11 29.3 +0.2**
PEA0B pmax pmax
comp=Z,28nm,1.3s
PETK Petropavlovsk- 33.77 11 P **P** **14 11 29.8 +0.6**
comp=Z,2.1nm,0.9s,baz=217,slow=12,SNR=6.0
comp=Z,2.1nm,0.9s
PETK Petropavlovsk- 33.77 11 P **P** **14 11 29.1 -0.1**
PETK Petropavlovsk- 33.77 11 P **P** **14 11 29.1 -0.1**
SPMM Sapulut 33.83 247 P **P** **14 11 29.0 -1.2**
PET Petropavlovsk 33.87 12 *e*P **P** **14 11 29.1 -0.9**
PET *e*S **S** **14 16 51.5 -1.7**
LYN LuoYang 33.96 302⇓ P **P** **14 11 29.7 -1.4**
LYN PP **PnPn** **14 12 38.9 -5.3**
LYN S **S** **14 16 53.2 -1.9**
LYN pmax pmax
comp=Z,40nm,1.8s
LYN pmax pmax
comp=Z,420nm,3.4s
LYN LR LR
comp=Z,660nm,16.0s
LYN LR LR
comp=Z,690nm,18.2s
LYN LR LR
comp=Z,910nm,13.6s
COEN Coen 34.23 187 P **P** **14 11 33.3 -0.2**
COEN IAmb IAmb 14 11 34.8
comp=Z,98nm,1.4s
COEN Coen 34.23 187 P **P** **14 11 33.7 +0.2**
TIY Taiyuan 34.95 307⇑ P **P** **14 11 41.1 +1.4**
TIY S **S** **14 17 15.2 +4.7**
TIY pmax pmax
comp=Z,390nm,5.7s
TIY LR LR
comp=Z,570nm,15.8s
TIY LR LR
comp=Z,520nm,12.0s
TIY LR LR
comp=Z,500nm,11.8s

XLT XiLinHaoTe 35.18 319⇑ *i*P **P** **14 11 42.2 +0.6**
XLT pP sP 14 11 50.1 +2.5
XLT sP pwP 14 11 53.2 -0.5
XLT PcP **PcP** **14 14 13.8 +1.2**
XLT S **S** **14 17 16.4 +2.5**
XLT ScP **ScP** **14 17 56.0 -1.3**
XLT ScS **ScS** **14 22 03.3 +2.0**
XLT pmax pmax
comp=Z,62nm,1.9s
XLT pmax pmax
comp=Z,300nm,5.8s
XLT LR LR
comp=Z,880nm,14.0s
XLT LR LR
comp=Z,680nm,14.7s
QIZ Qiongzhong 35.36 275 P **P** **14 11 40.7 -2.6**
QIZ PP **PnPn** **14 13 02.2 +0.3**
QIZ S **S** **14 17 18.6 +1.6**
QIZ pmax pmax
comp=Z,410nm,8.8s
QIZ LR LR
comp=Z,680nm,14.3s
QIZ LR LR
comp=Z,550nm,22.3s
QIZ LR LR
comp=Z,860nm,24.7s
ENH Enshi 35.58 294 P **P** **14 11 44.4 -0.8**
ENH IAmb IAmb 14 11 47.1
comp=Z,163nm,1.9s
TTSI Tana Toraja 35.62 233 P **P** **14 11 45.6 +0.1**
comp=Z,1μmcomp=Z,86nm,1.5s
KDU Kakadu 35.86 205 P **P** **14 11 46.2 -1.4**
SPSI Sidrap Palu 36.27 231 P **P** **14 11 50.5 -0.6**
comp=Z,45nm,1.1s
HIA Hailar 36.43 329 P **P** **14 11 51.5 -0.7**
HIA Hailar 36.43 329 P **P** **14 11 51.5 -0.7**
HIA pmax pmax
comp=Z,42nm,1.4s
HIA MLR MLR
comp=Z,500nm,20.0s
MTN Manton Dam 36.56 207 P **P** **14 11 53.2 -0.3**
MTN IAmb IAmb 14 11 53.5
comp=Z,54nm,1.1s
MTN Manton Dam 36.56 207 P **P** **14 11 52.5 -1.1**
HHC Hu-ho-hao-te 36.73 312 *e*P **P** **14 11 55.7 +0.7**
HHC S **S** **14 17 39.4 +1.6**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,620nm,6.3s
HHC LR LR
comp=Z,1μm,14.5s
HHC LR LR
comp=Z,760nm,14.7s
HHC LR LR
comp=Z,950nm,16.7s
ZEA Zeya 36.85 340 *e*P **P** **14 11 55.7 0.0**
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=N,500nm,12.0s
ZEA MLR MLR
comp=E,300nm,12.0s
ZEA MLR MLR
comp=Z,500nm,12.0s
BKSI Bulukumba 36.94 229 P **P** **14 11 57.1 +0.3**
comp=Z,29nm,1.1s
KAPI Kappang 36.99 230 P **P** **14 11 55.5 -1.8**
KAPI Kappang 36.99 230 P **P** **14 11 55.5 -1.8**
KAPI pmax pmax
comp=Z,32nm,1.1s
BSSI Bau Bau, Buton 37.25 228 P **P** **14 11 59.3 -0.2**
comp=Z,488nmcomp=Z,43nm,1.4s
GYA Guiyang 37.80 287⇑ P **P** **14 12 05.2 +0.9**
GYA pP sP 14 12 09.8 -0.5
GYA S **S** **14 17 57.0 +2.5**
GYA pmax pmax
comp=Z,27nm,1.1s
GYA LR LR
comp=Z,630nm,11.2s
GYA LR LR
comp=Z,400nm,15.9s
GYA LR LR
comp=Z,710nm,23.0s
MMRI Maumere 37.90 223 P **P** **14 12 04.5 -0.5**
comp=Z,2μmcomp=Z,60nm,1.1s
MMRI Maumere 37.90 223 P **P** **14 12 05.1 +0.1**
MTKI Muara Teweh, K 38.17 240 P **P** **14 12 07.2 -0.2**
comp=Z,30nm,0.7s
BATI Baumata 38.23 220 LR LR 14 25 33.4
comp=Z,989nm,21.9s,baz=70,slow=33
BATI Baumata 38.23 220 P **P** **14 12 07.2 -0.6**
MTSU Mount Surprise 38.25 185 P **P** **14 12 08.5 +0.6**
EDFI Ende, Flores 38.34 224 P **P** **14 12 08.5 -0.3**
comp=Z,9.5nm,2.4s
SHEM Shemya Is, Ala 38.45 26 LR LR 14 25 29.5
comp=Z,598nm,20.7s,baz=233,slow=32
SBUM Sibu 38.62 247 P **P** **14 12 10.8 -0.3**
SBUM IAmb IAmb 14 12 12.6
comp=Z,72nm,1.1s
SBUM Sibu 38.62 247 P **P** **14 12 11.0 -0.1**
MA2 Magadan 39.37 3 LR LR 14 25 25.4
comp=Z,544nm,21.6s,baz=184,slow=32
MA2 Magadan 39.37 3 P **P** **14 12 17.5 +0.6**
MA2 Magadan 39.37 3 *ce*P **P** **14 12 18.5 +1.6**
MA2 pmax pmax
comp=Z,51nm,1.7s
MA2 Magadan 39.37 3 P **P** **14 12 18.1 +1.2**
AMKA Amchitka 39.86 31 P **P** **14 12 19.8 -1.2**
CTA Charters Tower 40.09 182 P **P** **14 12 23.6 +0.4**
CTAO Charters Tower 40.09 182 P **P** **14 12 22.5 -0.7**
CTAO Charters Tower 40.09 182 P **P** **14 12 22.5 -0.7**
CTAO pmax pmax
comp=Z,69nm,1.2s
CTAO Charters Tower 40.09 182 P **P** **14 12 23.6 +0.4**
KNRA Kununurra 40.12 209 P **P** **14 12 22.8 -0.6**
KNRA Kununurra 40.12 209 P **P** **14 12 23.0 -0.5**
STKI Sintang 40.47 245 P **P** **14 12 26.2 -0.4**
comp=Z,7μmcomp=Z,24nm,1.8s
WBSI Waikabubak, Su 40.52 225 P P 14 12 39.3 +12
CD2 Chengdu 40.56 294 P **P** **14 12 27.3 +0.1**
CD2 pP sP 14 12 36.0 +2.8
CD2 S **S** **14 18 37.2 +1.4**
CD2 pmax pmax
comp=Z,40nm,0.4s
CD2 pmax pmax
comp=Z,430nm,6.0s
CD2 LR LR
comp=Z,1μm,13.3s
CD2 LR LR
comp=Z,830nm,17.3s
CD2 LR LR
comp=Z,820nm,15.7s
PLAI Plampang 41.04 228 P **P** **14 12 30.5 -0.7**
comp=Z,56nm,0.9s
PLAI Plampang 41.04 228 P **P** **14 12 31.7 +0.5**
LZH Lanzhou 41.17 302⇓ P **P** **14 12 32.8 +0.5**
LZH pP sP 14 12 39.4 +1.1
LZH sP pwP 14 12 43.1 -1.1
LZH S **S** **14 18 46.8 +1.9**
LZH sS sS 14 18 56.4 +4.4
LZH pmax pmax
comp=Z,67nm,1.6s
LZH pmax pmax
comp=Z,590nm,5.7s
LZH LR LR
comp=Z,730nm,15.8s
LZH LR LR
comp=Z,700nm,16.1s
LZH LR LR
comp=Z,960nm,17.9s
CIT Chita 41.22 329 *e*P **P** **14 12 33.3 +0.9**
CIT *e* 14 12 43.0
CIT *e* 14 14 32.7
CIT *e* 14 14 38.4
CIT pmax pmax
comp=Z,140nm,2.1s
QIS Mount Isa 41.25 191 P **P** **14 12 32.6 -0.3**
KMI Kunming 41.36 285⇓ P **P** **14 12 34.9 +0.8**
KMI pP sP 14 12 42.3 +2.2
KMI S **S** **14 18 48.1 -0.1**
KMI pmax pmax
comp=Z,54nm,1.7s
KMI pmax pmax
comp=Z,530nm,4.0s

KMI LR LR
comp=Z,650nm,15.1s
KMI LR LR
comp=Z,370nm,21.1s
KMI LR LR
comp=Z,530nm,24.9s
TWSI Taliwang, Sumb 41.61 229 P **P** **14 12 35.6 -0.3**
comp=Z,702nmcomp=Z,34nm,0.8s
WB0 Warramunga Arr 41.75 199 P **P** **14 12 36.1 -0.9**
WB0 IAmb IAmb 14 12 37.7
comp=Z,102nm,1.4s
WR0 Warramunga Arr 41.89 198 P **P** **14 12 38.2 +0.2**
WR0 IAmb IAmb 14 12 39.0
comp=Z,126nm,1.5s
WRAB Tennant Creek 41.92 199 P **P** **14 12 37.5 -0.8**
WRAB IAmb IAmb 14 12 39.2
comp=Z,207nm,1.6s
WRAB Tennant Creek 41.92 199 *ce*P **P** **14 12 38.1 -0.2**
WRAB pmax pmax
comp=Z,102nm,1.3s
WRAB Tennant Creek 41.92 199 P **P** **14 12 37.9 -0.4**
WB2 Warramunga Arr 41.93 199 P **P** **14 12 37.8 -0.5**
WB2 IAmb IAmb 14 12 39.4
comp=Z,137nm,1.4s
WRA Warramunga Arr 41.93 199 P **P** **14 12 37.6 -0.8**
comp=Z,30nm,1.1s,baz=19,slow=8.5,SNR=69
comp=Z,30nm,1.1s
WRA Warramunga Arr 41.93 199 P **P** **14 12 37.0 -1.5**
WRA Warramunga Arr 41.93 199 *i*P **P** **14 12 37.9 -0.5**
WRA pmax pmax
comp=Z,30nm,1.1s
ADK Adak 42.16 33 P **P** **14 12 39.7 -0.3**
ADK Adak 42.16 33 IAMs_20 IAMs_20 14 27 01.1
comp=Z,1μm,21.0s
ADK Adak 42.16 33 P **P** **14 12 39.7 -0.3**
ADK pmax pmax
comp=Z,216nm,1.5s
ADK Adak 42.16 33 P **P** **14 12 40.7 +0.7**
PZH PanZhiHua 42.22 287 P **P** **14 12 41.9 +1.0**
PZH pP **pwP** **14 12 51.7 -1.7**
PZH sP sP 14 12 56.0 +9.1
PZH S **S** **14 18 58.4 -2.1**
PZH pmax pmax
comp=Z,80nm,1.5s
PZH pmax pmax
comp=Z,460nm,5.4s
PZH LR LR
comp=Z,1μm,16.7s
PZH LR LR
comp=Z,1μm,19.1s
PZH LR LR
comp=Z,2μm,20.2s
SRBI Singaraja 42.37 232 P **P** **14 12 42.0 -0.1**
comp=Z,53nm,1.3s
ULN Ulaanbaatar 42.61 320 P **P** **14 12 43.9 0.0**
ULN Ulaanbaatar 42.61 320 *ce*P **P** **14 12 44.4 +0.5**
ULN pmax pmax
comp=Z,67nm,1.7s
ULN Ulaanbaatar 42.61 320 P **P** **14 12 43.5 -0.4**
ULN P **P** **14 12 43.5 -0.4**
SEY Seymchan 42.80 3 *ce*P **P** **14 12 46.5 +1.5**
SEY pmax pmax
comp=Z,34nm,1.7s
SONM Songino Array 42.99 320 P **P** **14 12 47.2 +0.2**
comp=Z,11nm,0.6s,baz=134,slow=8.3,SNR=40
comp=Z,11nm,0.6s
SONM Songino Array 42.99 320 P **P** **14 12 47.1 +0.2**
SONM Songino Array 42.99 320 P **P** **14 12 47.2 +0.2**
SONM pmax pmax
comp=Z,104nm,1.8s
RK1H Rockhampton Ha 43.46 176 P **P** **14 12 51.0 +0.3**
YAK Yakutsk 43.54 348 LR LR 14 30 59.8
comp=Z,233nm,19.9s,baz=88,slow=36
YAK Yakutsk 43.54 348 *eP* **P** **14 12 51.0 0.0**
YAK *e**PP **pwP** **14 13 06.1 +2.8**
YAK *eS* **S** **14 19 19.5 +0.7**
YAK *eSS* **SS** **14 22 32.1 -1.4**
YAK *e* 14 22 49.8
YAK pmax pmax
comp=Z,46nm,0.9s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=E,56nm,3.2s
FITZ Fitzroy Crossi 43.67 211 P **P** **14 12 52.0 -0.5**
FITZ Fitzroy Crossi 43.67 211 P **P** **14 12 52.6 +0.1**
KOUNC Koumac, New Ca 43.77 157 P **P** **14 12 53.6 +0.3**
BOD Bodaibo 44.77 335 *eP* **P** **14 13 00.7 -0.2**
BOD pmax pmax
comp=Z,18nm,1.4s
PWJI Pagerwojo 44.89 235 P **P** **14 13 00.5 -1.9**
comp=Z,39nm,1.0s
GTA Gaotai 44.93 306 ⇓P **P** **14 13 02.8 +0.1**
GTA pP sP 14 13 10.4 +1.7
GTA sP pwP 14 13 13.1 -1.6
GTA PP **PP** **14 14 51.2 +3.5**
GTA S **S** **14 19 40.2 +0.2**
GTA pmax pmax
comp=Z,22nm,1.8s
GTA pmax pmax
comp=Z,330nm,7.1s
GTA LR LR
comp=Z,680nm,17.4s
GTA LR LR
comp=Z,290nm,14.2s
GTA LR LR
comp=Z,310nm,12.7s
TPI Tanjungpandan 45.20 244 P **P** **14 13 03.9 -1.0**
comp=Z,5μmcomp=Z,14nm,1.8s
CHTO Chiang Mai 45.57 277 P **P** **14 13 07.1 -0.8**
CHTO Chiang Mai 45.57 277 P **P** **14 13 07.1 -0.8**
CHTO pmax pmax
comp=Z,1.0nm,1.2s
CHTO Chiang Mai 45.57 277 P **P** **14 13 06.9 -1.0**
CHTO P **P** **14 13 06.9 -1.0**
CHTO Chiang Mai 45.57 277 P **P** **14 13 08.8 +0.9**
AS31 Alice Springs 45.58 197 P **P** **14 13 07.6 -0.2**
ASAR Alice Springs 45.58 197 P **P** **14 13 07.1 -0.6**
comp=Z,11nm,0.8s,baz=13,slow=6.0,SNR=74
comp=Z,11nm,0.8s
ASAR Alice Springs 45.58 197 **P** **14 13 07.5 -0.2**
CM31 Chiang Mai Arr 45.64 276 P **P** **14 13 08.0 -0.4**
CM31 IAmb IAmb 14 13 22.8
comp=Z,98nm,2.0s
CMAR Chiang Mai Arr 45.64 276 P **P** **14 13 08.4 0.0**
comp=Z,6.5nm,0.9s,baz=68,slow=5.9,SNR=18
comp=Z,6.5nm,0.9s
ZAK Zakamensk 45.92 322 *eP* **P** **14 13 10.1 -0.2**
ZAK pmax pmax
comp=Z,35nm,1.8s
NOUC Port Laguerre 45.95 155 P **P** **14 13 11.9 +1.3**
DZM Mont Dzumac 45.97 155 *eP* **P** **14 13 09.7 -1.3**
comp=Z,150nm,1.4s
DZM Mont Dzumac 45.97 155 *e*LR LR 14 26 09.7
comp=Z,1μm,26.1s
DZM Mont Dzumac 45.97 155 P **P** **14 13 11.9 +0.9**
IRK Irkutsk 46.18 324 *eP* **P** **14 13 12.4 +0.2**
IRK *e* 14 20 04.0
IRK pmax pmax
comp=Z,111nm,2.0s
MYKOM Kota Tinggi 46.31 252 P **P** **14 13 14.7 +1.1**
MYKOM IAmb IAmb 14 13 16.0
comp=Z,58nm,1.1s
RMQ Roma 46.46 178 P **P** **14 13 14.7 +0.1**
QLP Quilpie 46.64 184 P **P** **14 13 15.0 -1.0**
DSRI Dabo 46.70 249 P **P** **14 13 15.6 -1.2**
NIKH Nikolski High 46.83 35 P **P** **14 13 16.7 -0.6**
baz=243
LEM Lembang 47.48 240 LR LR 14 33 27.7
comp=Z,263nm,21.0s,baz=66,slow=36
IPM Ipoh 47.74 257 P **P** **14 13 24.8 -0.2**
IPM IAmb IAmb 14 13 26.6
comp=Z,54nm,1.2s
IPM Ipoh 47.74 257 P **P** **14 13 25.3 +0.4**
KULM Kulim 47.77 258 P **P** **14 13 24.2 -0.9**
KULM IAmb IAmb 14 13 27.1
comp=Z,52nm,1.2s
INKA Innaminka 48.12 188 P **P** **14 13 27.0 -0.5**
SPIA Saint Paul Isl 48.21 29 P **P** **14 13 28.4 +0.5**
baz=238
MSVF Nonsavu 48.24 139 LR LR 14 28 15.3
comp=Z,273nm,21.3s,baz=65,slow=29
MSVF Nonsavu 48.24 139 *i*P **P** **14 13 31.0 +2.3**
MSVF pmax pmax
comp=Z,29nm,1.0s
GOMU GeErMu 48.43 301 P **P** **14 13 31.5 +1.1**
GOMU PcP **PcP** **14 14 55.2 -1.5**
GOMU pmax pmax
comp=Z,42nm,1.4s
GOMU pmax pmax
comp=Z,450nm,6.1s
UNV Unalaska Valle 48.48 35 P **P** **14 13 29.7 -0.3**
baz=245
UNV Unalaska Valle 48.48 35 P **P** **14 13 31.3 +1.3**
BLSI Bandar Lampung 48.62 243 P **P** **14 13 30.9 -0.8**
comp=Z,84nm,0.4s
WRKA Warakurna 48.69 203 P **P** **14 13 31.6 -0.4**
OOD Oodnadatta 49.07 194 P **P** **14 13 34.5 -0.3**
MBWA Marble Bar 49.24 215 P **P** **14 13 35.8 -0.5**
MBWA IAmb IAmb 14 13 37.2
comp=Z,40nm,1.1s
MBWA Marble Bar 49.24 215 P P 14 13 49.2 +13
MBWA Marble Bar 49.24 215 P **P** **14 13 35.8 -0.5**
BILL Bilibino 49.25 9 ⇑*i*P **P** **14 13 36.8 +1.1**
BILL *i* 14 15 28.9
BILL pmax pmax
comp=Z,38nm,1.0s
KASI Kota Agung 49.33 243 P **P** **14 13 34.7 -2.4**
comp=Z,58nm,1.1s
PSA00 Pilbara Seismi 49.52 214 P **P** **14 13 37.3 -1.1**
PSA00 Pilbara Seismi 49.52 214 P **P** **14 13 38.4 0.0**
PSI Prapat 50.33 256 LR LR 14 34 49.6
comp=Z,353nm,20.0s,baz=96,slow=36
MNSI Mandailing Nat 50.57 254 P **P** **14 13 46.6 0.0**
comp=Z,40nm,1.2s
MNSI pP **pP** **14 13 50.0 -1.0**
comp=Z,40nm,1.2s
KCSI Kotacane, Aceh 51.10 258 P **P** **14 13 49.7 -0.9**
comp=Z,28nm,1.4s
SHL Shillong 51.12 287 P **P** **14 13 51.0 +0.1**
SHL Shillong 51.12 287 P **P** **14 13 51.0 +0.1**
SHL pmax pmax
comp=Z,328nm,1.7s
SHL Shillong 51.12 287 P **P** **14 13 51.3 +0.5**
SNR=26
SHL Shillong 51.12 287 *eP* **P** **14 13 50.9 +0.1**
SHL IAmb IAmb 14 13 53.2
comp=Z,55nm,0.9s
LCRK Leigh Creek 51.16 190 P **P** **14 13 50.6 0.0**
GAMB Gambell 51.44 22 P **P** **14 13 51.1 -1.2**
baz=232
LSA Lhasa 51.45 292 P **P** **14 13 53.8 +0.2**
LSA Lhasa 51.45 292 P **P** **14 13 55.4 +1.8**
LSA pmax pmax
comp=Z,95nm,1.2s
LSA Lhasa 51.45 292 P **P** **14 13 53.8 +0.2**
LSA pmax pmax
comp=Z,199nm,1.5s
LSA MLR MLR
comp=Z,400nm,18.0s
LSA Lhasa 51.45 292 P **P** **14 13 54.6 +1.0**
LSA P **P** **14 13 54.6 +1.0**
LSA Lhasa 51.45 292 *i*P **P** **14 13 55.3 +1.8**
SNR=19
CMSA Cobar Meteorol 51.50 182 P **P** **14 13 53.3 +0.1**
MULG Mulgathing 51.84 195 P **P** **14 13 55.7 0.0**
STKA Stephens Creek 52.11 186 P **P** **14 13 56.9 -0.8**
comp=Z,14nm,1.1s,baz=352,slow=9.3,SNR=8.0
comp=Z,14nm,1.1s
STKA Stephens Creek 52.11 186 P **P** **14 13 57.6 -0.1**
STKA Stephens Creek 52.11 186 *i*P **P** **14 13 57.8 +0.1**
STKA Stephens Creek 52.11 186 P **P** **14 13 58.1 +0.4**
GSI Gunungsitoli 52.17 255 P **P** **14 13 58.1 -0.5**
GSI Gunungsitoli 52.17 255 P **P** **14 13 58.5 -0.1**
comp=Z,59nm,1.0s
GSI Gunungsitoli 52.17 255 P **P** **14 13 58.9 +0.3**
SDPT Sand Point 52.30 35 P **P** **14 13 58.4 -0.5**
SDPT Sand Point 52.30 35 P **P** **14 13 57.7 -1.2**
baz=250
TIXI Tiksi 52.55 353 P **P** **14 14 00.8 +0.2**
TIXI Tiksi 52.55 353 *ce*P **P** **14 14 00.7 +0.2**
TIXI pmax pmax
comp=Z,15nm,1.0s
CHNA Chernabura Isl 52.60 36 P **P** **14 14 00.5 -0.7**
baz=251
S14K Fog Glacier 53.11 34 P **P** **14 14 05.1 0.0**
baz=250
CHGN Chignik 53.72 34 P **P** **14 14 08.8 -0.5**
CHGN IAmb IAmb 14 14 13.3
comp=Z,70nm,1.3s
WHYH Whyalla 53.79 190 P **P** **14 14 10.6 +0.5**
TNA Tin City 53.81 21 P **P** **14 14 09.3 -0.6**
baz=235
BBOO Buckleboo 53.85 192 P **P** **14 14 10.1 -0.4**
BBOO IAmb IAmb 14 14 11.6
comp=Z,88nm,1.3s
BBOO Buckleboo 53.85 192 P **P** **14 14 10.7 +0.1**
PTPS Port Pirie 53.86 190 P **P** **14 14 10.8 +0.2**
HTT Hallett 53.97 189 P **P** **14 14 12.1 +0.6**
FORT Forrest 54.02 201 P **P** **14 14 10.7 -1.2**
FORT Forrest 54.02 201 P **P** **14 14 12.8 +1.0**
ANM Nome 54.16 23 P **P** **14 14 12.1 -0.4**
baz=238
MEEK Meekatharra 54.32 212 P **P** **14 14 13.5 -0.7**
WMQ Urumqi 54.55 310 ⇓*i*P **P** **14 14 16.4 +0.6**
WMQ pP pwP 14 14 26.7 -1.2
WMQ S **S** **14 21 53.3 -0.9**
WMQ pmax pmax
comp=Z,65nm,1.9s
WMQ pmax pmax
comp=Z,340nm,3.6s
WMQ LR LR
comp=Z,520nm,15.3s
WMQ LR LR
comp=Z,370nm,13.7s
WMQ LR LR
comp=Z,320nm,17.7s
R16K Pilot Point 54.57 33 P **P** **14 14 15.2 -0.3**
baz=251
TAPN Taplejung 54.65 290 *eP* **P** **14 14 18.0 +0.9**
P16K Nushagak River 54.86 31 P **P** **14 14 15.4 -2.2**
baz=249
ODAN Odare 54.99 289 *eP* **P** **14 14 19.1 -0.4**
O16K Kokok River B 55.01 30 P **P** **14 14 17.8 -0.9**
baz=249,SNR=9.8
N16K Nishlik Lake 55.02 29 P **P** **14 14 18.4 -0.5**
baz=248,SNR=20
CHIR Chirikof Islan 55.06 35 P **P** **14 14 17.9 -1.3**
baz=254
R17K Ugashik Creek 55.20 33 P **P** **14 14 19.5 -0.6**
baz=252
DGZ Jazzator, Alta 55.49 317 *di*P **P** **14 14 23.3 +0.7**
DGZ pmax pmax
comp=Z,78nm,1.4s
O17K Koliganek Bris 55.55 30 P **P** **14 14 21.9 -0.7**
baz=250,SNR=14
P17K Kvichak River 55.67 31 P **P** **14 14 22.6 -0.9**
baz=251
RAMN Ramite 55.68 289 *eP* **P** **14 14 24.8 +0.4**
JIRN Jiri 55.96 290 *eP* **P** **14 14 27.4 +0.8**
comp=Z,84nm,0.7s
SII Sitkinak Islan 56.04 35 P **P** **14 14 26.3 +0.1**
SII Sitkinak Islan 56.04 35 P **P** **14 14 25.3 -0.9**
baz=255
GUN Gumba 56.20 291 *eP* **P** **14 14 29.1 +0.8**
P18K Big Mountain, 56.32 31 P **P** **14 14 27.1 -1.1**
P18K Big Mountain, 56.32 31 P **P** **14 14 27.5 -0.7**
baz=252
N18K Kilae Creek 56.42 30 P **P** **14 14 29.2 +0.3**
N18K IAmb IAmb 14 14 34.4
comp=Z,45nm,1.2s
N18K IAMs_20 IAMs_20 14 35 13.2
comp=Z,700nm,19.0s
N18K Kilae Creek 56.42 30 P **P** **14 14 28.2 -0.7**
baz=250,SNR=16
O18K Koktuh Hills 56.48 31 P **P** **14 14 28.3 -1.0**
O18K IAmb IAmb 14 14 34.4
comp=Z,67nm,1.1s
O18K Koktuh Hills 56.48 31 P **P** **14 14 28.8 -0.5**
baz=252,SNR=5.5
PKI Pulchoki 56.66 290 *eP* **P** **14 14 31.6 +0.1**
comp=Z,16nm,0.4s
PKIN Phulchoki 56.67 290 *eP* **P** **14 14 31.6 +0.1**
comp=Z,17nm,0.4s
OHAK Old Harbor 56.68 34 P **P** **14 14 29.2 -1.6**
OHAK Old Harbor 56.68 34 P **P** **14 14 30.5 -0.2**
baz=255,SNR=5.4
SVW2 Sparrevohn 56.71 29 P **P** **14 14 30.7 -0.2**
KKN Kakani 56.75 291 *eP* **P** **14 14 32.9 +0.9**
BOK Bokaro 56.77 286 *eP* **P** **14 14 33.0 +1.0**
BOK IAmb IAmb 14 14 33.5
comp=Z,141nm,1.0s
RDOG Red Dog Mine 56.84 20 P **P** **14 14 29.3 -2.4**
baz=239
ZSN Zaisan 56.88 314 *di*P **P** **14 14 33.2 +0.8**
ZSN *eS* **S** **14 22 25.9 +0.8**
ZSN pmax pmax
comp=Z,41nm,1.8s
ZSN Zaisan 56.88 314 ⇓*i*P **P** **14 14 33.2 +0.8**
comp=Z,41nm,1.8s,baz=314
ZSN *eS* **S** **14 22 26.0 +0.8**
baz=314
DMN Daman 56.92 290 *eP* **P** **14 14 33.7 +0.4**
Q19K Cape Douglas, 56.96 32 IAMs_20 IAMs_20 14 34 44.5
comp=Z,847nm,21.0s
Q19K Cape Douglas, 56.96 32 P **P** **14 14 31.1 -1.7**
baz=254
N19K Bonanza Creek 57.12 30 P **P** **14 14 34.6 +0.6**
N19K IAmb IAmb 14 14 39.3
comp=Z,33nm,0.9s
N19K IAMs_20 IAMs_20 14 35 55.6
comp=Z,677nm,20.0s
N19K Bonanza Creek 57.12 30 P **P** **14 14 33.4 -0.6**
baz=252,SNR=22
TTA Tatalina 57.16 27 P **P** **14 14 33.3 -0.8**
TTA Tatalina 57.16 27 P **P** **14 14 33.3 -0.8**
TTA pmax pmax
comp=Z,32nm,1.4s
TTA Tatalina 57.16 27 P **P** **14 14 32.1 -2.1**
baz=249,SNR=11
KDAK Kodiak Island 57.20 34 LR LR 14 36 43.0
comp=Z,246nm,21.9s,baz=257,slow=34
KDAK Kodiak Island 57.20 34 IAMs_20 IAMs_20 14 34 51.7
comp=Z,803nm,21.0s
KDAK Kodiak Island 57.20 34 P **P** **14 14 33.3 -1.0**
baz=255
GKN Gorkha 57.29 291 *eP* **P** **14 14 36.2 +0.5**
P19K Oil Pt 57.37 31 P **P** **14 14 34.6 -1.1**
baz=254
L19K White Mountain 57.40 28 P **P** **14 14 35.7 -0.1**
L19K IAMs_20 IAMs_20 14 35 21.9
comp=Z,860nm,20.0s
L19K White Mountain 57.40 28 P **P** **14 14 34.8 -1.0**
baz=250,SNR=10.0
GCSA Galena City Sc 57.49 25 P **P** **14 14 35.0 -1.2**
baz=247
Q20K Shuyak Island 57.50 33 P **P** **14 14 34.9 -1.6**
baz=255
M19K Big River Lodg 57.51 28 P **P** **14 14 33.8 -2.8**
baz=251
MORW Morawa 57.61 213 IAmb IAmb 14 14 38.1
comp=Z,58nm,1.1s
MORW Morawa 57.61 213 P **P** **14 14 37.2 -0.4**
O20K Slope Mountain 57.78 31 P **P** **14 14 37.0 -1.6**
baz=254,SNR=5.3
ZAA0 Zalesovo Array 57.80 322 P **P** **14 14 38.0 -0.7**
ZAA0 IAmb IAmb 14 14 40.0
comp=Z,60nm,1.6s
ZALV Zalesovo Beam 57.80 322 P **P** **14 14 38.4 -0.4**
comp=Z,12nm,0.6s,baz=106,slow=7.9,SNR=49
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 57.80 322 P **P** **14 14 37.9 -0.8**
ZALV Zalesovo Beam 57.80 322 *i*P **P** **14 14 38.5 -0.2**
ZALV pmax pmax
comp=Z,12nm,0.5s
RSO Redoubt South 57.83 30 P **P** **14 14 39.0 -0.1**
L20K Farewell, AK 57.93 28 P **P** **14 14 38.2 -1.3**
baz=251,SNR=5.9
DANN Dangsing 58.01 291 *eP* **P** **14 14 41.9 +0.9**
comp=Z,104nm,0.5s
M20K Styx River 58.07 29 P **P** **14 14 40.6 0.0**
baz=252,SNR=15
K20K Telida 58.13 27 IAmb IAmb 14 14 46.5
comp=Z,39nm,1.1s
K20K IAMs_20 IAMs_20 14 35 14.2
comp=Z,817nm,20.0s
K20K Telida 58.13 27 P **P** **14 14 40.9 0.0**
baz=251,SNR=10
HOM Homer 58.15 31 P **P** **14 14 41.4 +0.3**
HOM IAMs_20 IAMs_20 14 36 42.7
comp=Z,708nm,21.0s
HOM Homer 58.15 31 P **P** **14 14 40.5 -0.5**
baz=255
KOLN Koldanda 58.23 291 *eP* **P** **14 14 43.2 +0.8**
N20K Mount Spurr 58.30 30 P **P** **14 14 41.6 -0.6**
baz=254
SPCR Spurr Chakacha 58.30 30 P **P** **14 14 40.6 -1.6**
baz=254
CNPM China Poot 58.32 32 P **P** **14 14 42.4 +0.2**
CNPM IAmb IAmb 14 14 46.2
comp=Z,63nm,1.1s
CNPM IAMs_20 IAMs_20 14 36 05.2
comp=Z,893nm,21.0s
J20K Nowinta River 58.38 26 P **P** **14 14 43.0 +0.4**
J20K IAmb IAmb 14 14 48.3
comp=Z,63nm,1.2s
J20K Nowinta River 58.38 26 P **P** **14 14 42.6 0.0**
baz=250,SNR=21
BLDU Ballidu 58.54 211 P **P** **14 14 43.9 -0.2**
BRLK Bradley Lake 58.55 31 P **P** **14 14 43.7 -0.2**
BRLK IAmb IAmb 14 14 47.4
comp=Z,43nm,1.0s
BRLK IAMs_20 IAMs_20 14 36 12.0
comp=Z,788nm,22.0s
MK31 Makanchi Array 58.59 313 P **P** **14 14 44.6 +0.2**
MK31 Makanchi Array 58.59 313 *i*P **P** **14 14 44.5 +0.2**
MK31 pmax pmax
comp=Z,56nm,1.5s
MKAR Makanchi Array 58.59 313 P **P** **14 14 44.7 +0.3**
comp=Z,7.5nm,0.7s,baz=89,slow=8.7,SNR=54
MKAR PKP2bc 14 44 32.9
comp=Z,1.6nm,1.0s,baz=291,slow=3.5,SNR=8.1
comp=Z,7.5nm,0.7s
MKAR Makanchi Array 58.59 313 P **P** **14 14 44.5 +0.1**
BRSE Bradley Lake S 58.61 32 P **P** **14 14 43.5 -0.8**
baz=256
CAPN Captain Cook N 58.67 30 P **P** **14 14 43.4 -1.2**
baz=255
PYUN Piuthan 58.72 291 *eP* **P** **14 14 45.8 -0.1**
comp=Z,125nm,1.0s
PPLA Purkeypile 58.80 28 P **P** **14 14 45.3 -0.4**
baz=253,SNR=7.5
MAKZ Makanchi 58.80 313 P **P** **14 14 45.8 -0.1**
MAKZ IAmb IAmb 14 15 05.5
comp=Z,29nm,1.0s
MAKZ Makanchi 58.80 313 P **P** **14 14 45.8 -0.1**
MAKZ pmax pmax
comp=Z,29nm,1.0s
MAKZ MLR MLR
comp=Z,300nm,19.0s
SKT Skwentna 58.83 29 P **P** **14 14 45.7 -0.1**
SKT IAMs_20 IAMs_20 14 36 17.6
comp=Z,1μm,21.0s
SKT Skwentna 58.83 29 P **P** **14 14 45.6 -0.1**
baz=254,SNR=16
KLBR Kellerberrin 58.86 210 P **P** **14 14 45.9 -0.4**
CAST Castle Rocks 59.00 27 P **P** **14 14 48.0 +1.0**
CAST IAmb IAmb 14 14 52.0
comp=Z,32nm,1.2s
CAST IAMs_20 IAMs_20 14 36 23.2
comp=Z,727nm,19.0s
CAST Castle Rocks 59.00 27 P **P** **14 14 47.2 +0.2**
baz=252,SNR=23
CHUM Lake Minchumin 59.05 27 P **P** **14 14 46.3 -1.0**
baz=252
SUA Susitna One 59.05 30 P **P** **14 14 48.0 +0.6**
SUA Susitna One 59.05 30 P **P** **14 14 45.8 -1.7**
baz=255,SNR=5.3
IMAR Indian Mountai 59.17 24 P **P** **14 14 48.6 +0.5**
O22K Cooper Landing 59.28 31 P **P** **14 14 48.8 -0.2**
O22K Cooper Landing 59.28 31 P **P** **14 14 47.1 -1.8**
baz=256
SEW Seward 59.33 31 P **P** **14 14 48.9 -0.3**
SEW IAmb IAmb 14 14 53.5
comp=Z,60nm,1.2s
SEW Seward 59.33 31 P **P** **14 14 49.2 0.0**
baz=257,SNR=18
M22K Willow 59.41 29 P **P** **14 14 49.2 -0.5**
M22K Willow 59.41 29 P **P** **14 14 49.3 -0.5**
baz=255,SNR=12
H21K Melozitna Rive 59.42 25 P **P** **14 14 49.4 -0.5**
baz=250,SNR=22
RC01 Rabbit Creek A 59.42 30 P **P** **14 14 49.9 -0.1**
RC01 IAmb IAmb 14 14 53.9
comp=Z,42nm,1.1s

RC01	**Rabbit Creek A**	59.42	30	P		P		14 14 49.4	-0.5
	baz=256,SNR=10								
G21K	**Allakaket**	59.45	24	P		P		14 14 48.8	-1.2
	baz=249								
CUT	**Chulitna**	59.51	29	P		P		14 14 50.6	+0.1
CUT				IAMs_20		IAMs_20		14 36 39.7	
	comp=Z,923nm,22.0s								
KTH	**Kantishna Hill**	59.54	27	P		P		14 14 50.6	-0.1
KTH				IAmb		IAmb		14 14 55.3	
	comp=Z,52nm,1.2s								
KTH				IAMs_20		IAMs_20		14 35 56.4	
	comp=Z,827nm,20.0s								
I21K	**Tanana**	59.59	25	P		P		14 14 51.8	+0.8
I21K				IAmb		IAmb		14 14 56.3	
	comp=Z,39nm,1.1s								
I21K	**Tanana**	59.59	25	P		P		14 14 50.3	-0.7
	baz=252								
BPAW	**Bear Paw Mtn.**	59.67	27	P		P		14 14 51.9	+0.3
BPAW				IAmb		IAmb		14 14 56.4	
	comp=Z,45nm,1.1s								
BPAW	**Bear Paw Mtn.**	59.67	27	P		P		14 14 51.1	-0.5
	baz=253								
F21K	**Alatna River**	59.71	23	P		P		14 14 51.9	+0.1
	baz=249								
TRF	**Thorofare Moun**	59.78	27	P		P		14 14 52.6	0.0
TRF				IAmb		IAmb		14 14 56.7	
	comp=Z,42nm,1.0s								
TRF	**Thorofare Moun**	59.78	27	P		P		14 14 52.3	-0.2
	baz=254,SNR=23								
PMR	**Palmer**	59.83	30	P		P		14 14 52.1	-0.5
PMR				IAmb		IAmb		14 14 56.5	
	comp=Z,34nm,1.2s								
PMR	**Palmer**	59.83	30	P		P		14 14 52.1	-0.5
PMR				pmax		pmax			
	comp=Z,34nm,1.2s								
PMR	**Palmer**	59.83	30	P		P		14 14 52.3	-0.3
	baz=256,SNR=11								
MUN	**Mundaring**	59.91	211	P		P		14 14 53.6	0.0
GHO	**Glory Hole Cre**	59.97	29	IAMs_20		IAMs_20		14 39 03.7	
	comp=Z,622nm,19.0s								
PWL	**Port Wells**	60.04	31	P		P		14 14 54.1	-0.1
PWL				IAMs_20		IAMs_20		14 38 39.6	
	comp=Z,629nm,18.0s								
PWL	**Port Wells**	60.04	31	P		P		14 14 53.7	-0.4
	baz=258,SNR=23								
MLY	**Manley**	60.04	26	P		P		14 14 54.0	-0.2
	baz=253,SNR=22								
H22K	**Ishtalitna Cre**	60.05	25	P		P		14 14 53.7	-0.5
	baz=252,SNR=5.4								
KNK	**Knik Glacier**	60.10	30	P		P		14 14 54.5	-0.1
KNK				IAmb		IAmb		14 14 58.9	
	comp=Z,36nm,1.1s								
KNK	**Knik Glacier**	60.10	30	P		P		14 14 53.5	-1.1
	baz=257,SNR=9.7								
SEM	**Semipalatinsk**	60.17	317	*e*P		P		14 14 54.9	-0.6
SEM				*e*S		S		14 23 07.9	-0.3
SEM	**Semipalatinsk**	60.17	317	*e*P		P		14 14 54.9	-0.6
	baz=317								
SEM				*e*S		S		14 23 08.0	-0.3
	baz=317								
NWAO	**Narrogin (SRO)**	60.22	209	P		P		14 14 54.8	-0.8
NWAO				IAmb		IAmb		14 14 56.5	
	comp=Z,55nm,1.1s								
NWAO	**Narrogin (SRO)**	60.22	209	P		P		14 14 54.8	-0.8
NWAO				pmax		pmax			
	comp=Z,55nm,1.2s								
NWAO	**Narrogin (SRO)**	60.22	209	P		P		14 14 55.7	0.0
SML	**Sawmill**	60.25	30	P		P		14 14 55.5	-0.1
SML	**Sawmill**	60.25	30	P		P		14 14 55.5	-0.1
	baz=257,SNR=25								
F22K	**John River**	60.28	23	P		P		14 14 55.8	0.0
	baz=250,SNR=11								
P23K	**Montague Islan**	60.31	32	P		P		14 14 55.8	-0.2
	baz=259,SNR=12								
BWN	**Browne**	60.33	27	P		P		14 14 56.5	+0.5
WAT1	**Susitna Watana**	60.39	28	P		P		14 14 55.2	-1.3
	baz=256								
RND	**Reindeer**	60.40	28	P		P		14 14 56.2	-0.4
RND				IAMs_20		IAMs_20		14 37 09.9	
	comp=Z,872nm,22.0s								
RND	**Reindeer**	60.40	28	P		P		14 14 56.2	-0.4
RND				pmax		pmax			
	comp=Z,25nm,1.2s								
MCK	**McKinley**	60.44	27	P		P		14 14 57.0	+0.1
MCK				IAmb		IAmb		14 15 02.1	
	comp=Z,60nm,1.6s								
MCK				IAMs_20		IAMs_20		14 36 36.1	
	comp=Z,665nm,22.0s								
MCK	**McKinley**	60.44	27	P		P		14 14 57.0	+0.1
MCK				pmax		pmax			
	comp=Z,60nm,1.6s								
MCK	**McKinley**	60.44	27	P		P		14 14 56.6	-0.3
	baz=255								
BLSP	**Bilaspur**	60.47	285	*e*P		P		14 14 57.3	-0.4
PDGK	**Podgornoye**	60.49	309	P		P		14 14 57.8	+0.1
SHLS	**Shalkode**	60.51	309	*e*P		P		14 14 56.3	-1.5
SHLS				*e*S		S		14 23 09.4	-3.2
SHLS				pmax		pmax			
	comp=Z,33nm,1.7s								
SHLS	**Shalkode**	60.51	309	*e*P		P		14 14 56.4	-1.5
	comp=Z,33nm,1.7s,baz=309								
SHLS				*e*S		S		14 23 09.4	-3.2
	baz=309								
M23K	**Glacier View**	60.53	30	P		P		14 14 57.3	-0.2
	baz=258,SNR=15								
NEA2	**Nenana**	60.61	26	P		P		14 14 57.4	-0.6
NEA2				IAmb		IAmb		14 15 02.7	
	comp=Z,23nm,1.0s								
NEA2	**Nenana**	60.61	26	P		P		14 14 57.0	-1.0
	baz=255								
E22K	**Anaktuvuk Pass**	60.63	22	P		P		14 14 56.6	-1.5
	baz=250								
GLI	**Glacier Island**	60.63	31	P		P		14 14 58.9	+0.6
GLI				IAmb		IAmb		14 15 02.8	
	comp=Z,58nm,1.2s								
GLI	**Glacier Island**	60.63	31	P		P		14 14 58.5	+0.3
	baz=259,SNR=9.3								
WAT6	**Susitna Watana**	60.69	29	P		P		14 14 59.0	+0.2
	baz=257,SNR=29								
SCM	**Sheep Creek Mo**	60.72	30	P		P		14 14 59.0	+0.1
SCM				IAMs_20		IAMs_20		14 38 02.6	
	comp=Z,598nm,21.0s								
SCM	**Sheep Creek Mo**	60.72	30	P		P		14 14 59.0	+0.1
SCM				pmax		pmax			
	comp=Z,86nm,1.0s								
SCM	**Sheep Creek Mo**	60.72	30	P		P		14 14 59.2	+0.3
	baz=258,SNR=40								
Q23K	**Middleton Isla**	60.73	32	P		P		14 14 59.4	+0.5
	baz=260								
NRIK	**Noril'sk**	60.74	339	P		P		14 14 58.0	-0.8
	comp=Z,19nm,1.0s,baz=125,slow=7.8,SNR=14								
	comp=Z,19nm,1.0s								
NRIK	**Noril'sk**	60.74	339	P		P		14 14 58.7	-0.1
NRIK				IAmb		IAmb		14 15 02.5	
	comp=Z,31nm,1.1s								
NRIK	**Noril'sk**	60.74	339	*ce*P		P		14 14 58.4	-0.4
NRIK				pmax		pmax			
	comp=Z,17nm,1.0s								
H23K	**Yukon River**	60.75	25	P		P		14 15 00.0	+1.0
H23K				IAmb		IAmb		14 15 04.3	
	comp=Z,50nm,1.6s								
H23K				IAMs_20		IAMs_20		14 37 01.4	
	comp=Z,720nm,20.0s								
H23K	**Yukon River**	60.75	25	P		P		14 14 59.8	+0.8
	baz=254,SNR=12								
G23K	**Bananza Creek**	60.83	24	P		P		14 15 00.1	+0.6
	baz=253,SNR=13								
HIN	**Hinchinbrook I**	60.83	31	P		P		14 15 00.5	+0.8
HIN				IAmb		IAmb		14 15 04.6	
	comp=Z,65nm,1.2s								
HIN				IAMs_20		IAMs_20		14 37 54.7	
	comp=Z,955nm,21.0s								
UZB	**Uzynbulak**	60.83	309	*e*P		P		14 15 00.5	+0.4
UZB				*e*S		S		14 23 16.6	-0.2
UZB	**Uzynbulak**	60.83	309	*e*P		P		14 15 00.6	+0.4
	baz=309								
UZB				*e*S		S		14 23 16.6	-0.2
	baz=309								
FID	**Port Fidalgo**	60.91	31	P		P		14 14 59.9	-0.2
FID				IAMs_20		IAMs_20		14 39 04.1	
	comp=Z,710nm,20.0s								
COLD	**Coldfoot**	60.91	23	P		P		14 15 00.3	+0.3
	baz=252								
LGTI	**Lohaghat**	60.92	293	*e*P		P		14 15 01.5	+0.8
PTH	**Pithoragarh**	60.93	293	*e*P		P		14 15 00.9	-0.2
DHY	**Denali Highway**	60.97	28	IAMs_20		IAMs_20		14 37 47.2	
	comp=Z,728nm,20.0s								
DHY	**Denali Highway**	60.97	28	P		P		14 15 00.4	-0.2
	baz=257,SNR=18								
WRH	**Wood River Hil**	60.99	27	P		P		14 15 00.1	-0.4
WRH				IAMs_20		IAMs_20		14 37 34.5	
	comp=Z,670nm,22.0s								
MDM	**Murphy Dome**	61.05	26	P		P		14 15 01.5	+0.5
KPKS	**Kokpek**	61.07	309	*d* iP		P		14 15 02.1	+0.5
KPKS				*e*S		S		14 23 20.2	+0.5
KPKS				pmax		pmax			
	comp=Z,33nm,1.8s								
KPKS	**Kokpek**	61.07	309	⇓ *i*P		P		14 15 02.1	+0.5
	comp=Z,33nm,1.8s,baz=309								
KPKS				*e*S		S		14 23 20.3	+0.5
	baz=309								
CCB	**Clear Creek Bu**	61.15	26	IAMs_20		IAMs_20		14 36 27.9	
	comp=Z,632nm,20.0s								
TCOL	**CIGO, UAF Yank**	61.18	26	IAMs_20		IAMs_20		14 37 17.8	
	comp=Z,766nm,20.0s								
TCOL	**CIGO, UAF Yank**	61.18	26	P		P		14 15 01.4	-0.5
	baz=256								
COLA	**College**	61.19	26	IAMs_20		IAMs_20		14 37 16.8	
	comp=Z,734nm,20.0s								
COLA	**College**	61.19	26	P		P		14 15 00.9	-1.0
	baz=256								
EYAK	**Cordova Ski Ar**	61.22	31	P		P		14 15 02.0	-0.2
EYAK				IAmb		IAmb		14 15 07.2	
	comp=Z,42nm,1.1s								
EYAK	**Cordova Ski Ar**	61.22	31	P		P		14 15 02.0	-0.2
	baz=260,SNR=13								
KURK	**Kurchatov**	61.23	317	P		P		14 15 02.0	-0.4
KURK	**Kurchatov**	61.23	317	*ce*P		P		14 15 02.3	-0.1
KURK				pmax		pmax			
	comp=Z,79nm,1.7s								
KURK	**Kurchatov**	61.23	317	P		P		14 15 01.7	-0.7
KURK				P		P		14 15 01.7	-0.7
TDK	**Taldyqorghan**	61.25	311	*e*P		P		14 15 03.6	+0.9
TDK	**Taldyqorghan**	61.25	311	*e*P		P		14 15 03.6	+0.9
	baz=311								
KURBB	**Kurchatov Arra**	61.28	317	P		P		14 15 02.8	+0.1
	comp=Z,12nm,0.5s,baz=91,slow=7.5,SNR=136								
KURBB				LR		LR		14 43 06.4	
	comp=Z,166nm,18.4s,baz=70,slow=38								
KURBB				PKP2bc				14 44 27.4	
	comp=Z,1.1nm,0.9s,baz=274,slow=3.6,SNR=11								
	comp=Z,12nm,0.5s								
KURBB	**Kurchatov Arra**	61.28	317	P		P		14 15 02.5	-0.3
SATY	**Saty**	61.28	309	*d* iP		P		14 15 04.0	+0.9
SATY				*e*S		S		14 23 23.4	+0.9
SATY	**Saty**	61.28	309	⇓ *i*P		P		14 15 04.1	+0.9
	baz=309								
SATY				*e*S		S		14 23 23.4	+0.9
	baz=309								
D23K	**Nanushuk River**	61.30	21	P		P		14 15 01.7	-1.0
	baz=251								
M24K	**Tolsona, Glenn**	61.31	29	IAMs_20		IAMs_20		14 38 43.3	
	comp=Z,715nm,20.0s								
M24K	**Tolsona, Glenn**	61.31	29	P		P		14 15 01.2	-1.7
	baz=259								
KLU	**Klutina**	61.31	30	IAMs_20		IAMs_20		14 39 53.2	
	comp=Z,663nm,21.0s								
KLU	**Klutina**	61.31	30	P		P		14 15 02.7	-0.2
	baz=259,SNR=19								
H24K	**Noodor Dome**	61.42	25	P		P		14 15 03.9	+0.4
	baz=255,SNR=11								
POKR	**Poker Plat Res**	61.42	26	IAMs_20		IAMs_20		14 37 35.0	
	comp=Z,646nm,21.0s								
POKR	**Poker Plat Res**	61.42	26	P		P		14 15 04.5	+1.0
	baz=256								
HDA	**Harding Lake**	61.45	27	P		P		14 15 02.8	-1.0
HDA	**Harding Lake**	61.45	27	P		P		14 15 03.2	-0.5
	baz=257								
IL31		61.56	26	P		P		14 15 03.4	-1.0
IL31				IAmb		IAmb		14 15 07.8	
	comp=Z,24nm,1.0s								
ILAR	**Eielson Array**	61.56	26	P		P		14 15 03.5	-0.9
	comp=Z,8.2nm,0.8s,baz=258,slow=5.9,SNR=50								
	comp=Z,8.2nm,0.8s								
ILAR	**Eielson Array**	61.56	26	P		P		14 15 03.2	-1.2
ILAR	**Eielson Array**	61.56	26	P		P		14 15 03.2	-1.2
TOLK	**Toolik Lake Re**	61.58	22	P		P		14 15 05.5	+0.9
TOLK				IAmb		IAmb		14 15 10.0	
	comp=Z,77nm,1.6s								
TOLK	**Toolik Lake Re**	61.58	22	P		P		14 15 04.9	+0.3
	baz=252,SNR=5.2								
C23K	**Itkillik River**	61.61	20	P		P		14 15 04.5	-0.2
	baz=250,SNR=5.4								
RAGM	**Ragged Mountai**	61.72	32	P		P		14 15 05.8	+0.2
RAGM				IAmb		IAmb		14 15 10.8	
	comp=Z,57nm,1.2s								
RAGM				IAMs_20		IAMs_20		14 40 28.2	
	comp=Z,618nm,18.0s								
KAIM	**Kayak Island**	61.78	32	P		P		14 15 05.1	-0.9
	baz=262,SNR=17								
E24K	**Your Creek**	61.79	23	P		P		14 15 06.3	+0.2
	baz=254								
PAX	**Paxson**	61.80	29	P		P		14 15 05.9	-0.3
	baz=259,SNR=25								
G24K	**Hadweenzic Riv**	61.80	24	P		P		14 15 05.9	-0.1
	baz=255,SNR=5.0								
K24K	**Donnelly Dome**	61.82	28	P		P		14 15 06.0	-0.3
	baz=258								
HARP	**HAARP**	61.83	29	P		P		14 15 06.1	-0.2
	baz=260,SNR=9.5								
BMRM	**Bremner River**	61.85	31	P		P		14 15 07.3	+0.8
BMRM	**Bremner River**	61.85	31	P		P		14 15 06.1	-0.4
	baz=261,SNR=21								
F24K	**Squaw Lake**	61.86	23	P		P		14 15 06.2	-0.3
	baz=254								
N25K	**Chitina, Valde**	61.95	30	P		P		14 15 07.6	+0.4
	baz=261,SNR=16								
D24K	**Happy Valley**	61.99	21	P		P		14 15 07.9	+0.6
	baz=253								
J25K	**Salcha River,**	62.16	27	P		P		14 15 08.2	-0.4
J25K				IAmb		IAmb		14 15 52.9	
	comp=Z,32nm,1.5s								
J25K				IAMs_20		IAMs_20		14 36 47.8	
	comp=Z,595nm,22.0s								
J25K	**Salcha River,**	62.16	27	P		P		14 15 08.0	-0.6
	baz=258,SNR=6.4								
BERG	**Berg Lake**	62.20	32	P		P		14 15 08.9	+0.1
RIDG	**Independent Ri**	62.22	28	P		P		14 15 09.0	0.0
RIDG				IAMs_20		IAMs_20		14 38 37.1	
	comp=Z,881nm,21.0s								
RIDG	**Independent Ri**	62.22	28	P		P		14 15 08.9	0.0
	baz=259,SNR=11								
MDOK	**Medeo**	62.27	309	*i* P		P		14 15 10.4	+0.6
MDOK				*e*S		S		14 23 35.8	+0.7
MDOK	**Medeo**	62.27	309	*i* P		P		14 15 10.4	+0.6
	baz=309								
MDOK				*e*S		S		14 23 35.9	+0.7
	baz=309								
CHKK	**Chushkaly**	62.29	310	*e*P		P		14 15 10.0	+0.3
CHKK	**Chushkaly**	62.29	310	*e*P		P		14 15 10.1	+0.3
	baz=310								
GLB	**Gilahina Butte**	62.30	30	P		P		14 15 10.4	+0.8
GLB				IAMs_20		IAMs_20		14 38 25.5	
	comp=Z,629nm,21.0s								
H25K	**Birch Creek**	62.34	25	P		P		14 15 09.8	+0.2
	baz=257,SNR=9.0								
AAA	**Alma-Ata**	62.37	309	*e*P		P		14 15 11.1	+0.8
AAA				*e*S		S		14 23 37.8	+1.7
AAA				pmax		pmax			
	comp=Z,68nm,1.7s								
AAA	**Alma-Ata**	62.37	309	*e*P		P		14 15 11.2	+0.8
	comp=Z,68nm,1.7s,baz=309								
AAA				*e*S		S		14 23 37.8	+1.7
	baz=309								
BGLC	**Bering Glacier**	62.37	32	P		P		14 15 11.4	+1.5
	baz=263								
DOT	**Dot Lake**	62.54	28	P		P		14 15 11.6	+0.5
WAX	**Waxell Ridge**	62.63	32	IAMs_20		IAMs_20		14 37 56.1	
	comp=Z,804nm,22.0s								
FYU	**Fort Yukon**	62.63	25	IAMs_20		IAMs_20		14 38 17.1	
	comp=Z,591nm,21.0s								
SCRK	**Sand Creek**	62.63	28	IAmb		IAmb		14 15 16.1	
	comp=Z,42nm,1.2s								
SCRK				IAMs_20		IAMs_20		14 37 31.2	
	comp=Z,794nm,22.0s								
SCRK	**Sand Creek**	62.63	28	P		P		14 15 11.7	-0.1
	baz=260,SNR=33								
MCARA	**McCarthy VSAT**	62.67	31	P		P		14 15 11.7	-0.2
	baz=262,SNR=12								
TGL	**Tana Glacier**	62.68	31	IAMs_20		IAMs_20		14 38 23.5	
	comp=Z,736nm,19.0s								
F25K	**Christian Rive**	62.71	23	P		P		14 15 12.6	+0.4
	baz=256,SNR=9.9								
KUU	**Kurty**	62.76	310	*d* iP		P		14 15 13.2	+0.3
KUU				*e*S		S		14 23 41.4	+0.5
KUU				pmax		pmax			
	comp=Z,60nm,1.9s								
KUU	**Kurty**	62.76	310	⇓ *i*P		P		14 15 13.3	+0.3
	comp=Z,60nm,1.9s,baz=310								
KUU				*e*S		S		14 23 41.5	+0.5
	baz=310								
L26K	**Log Cabin Wild**	62.76	29	IAMs_20		IAMs_20		14 41 16.6	
	comp=Z,534nm,20.0s								
L26K	**Log Cabin Wild**	62.76	29	P		P		14 15 12.1	-0.5
	baz=261,SNR=6.1								
M26K	**Nabesna, AK**	62.82	29	P		P		14 15 13.2	+0.2
	baz=262,SNR=6.9								
E25K	**Arctic Village**	62.86	23	P		P		14 15 12.9	-0.3
	baz=256								
D25K	**Kavik River**	62.88	21	P		P		14 15 13.9	+0.6
	baz=255,SNR=5.1								
ISLE	**Juniper Island**	62.90	31	IAMs_20		IAMs_20		14 38 05.3	
	comp=Z,790nm,21.0s								
J26L	**Joseph Creek**	62.91	27	P		P		14 15 13.8	+0.2
	baz=260,SNR=37								
ULHL	**Ulahol**	62.91	308	P		P		14 15 15.2	+1.0
	SNR=8.9								
MESA	**MESA**	63.04	32	P		P		14 15 14.6	-0.1
	baz=264								
JHNI	**Jhansi**	63.06	289	*e*P		P		14 15 13.8	-1.4
YAH	**Yahtse**	63.16	32	IAMs_20		IAMs_20		14 38 56.2	
	comp=Z,948nm,22.0s								
I26K	**Coal Creek Min**	63.22	26	P		P		14 15 14.8	-0.8
	baz=260								
G26K	**Porcupine Rive**	63.27	24	P		P		14 15 16.3	+0.5
	baz=259,SNR=16								
F26K	**Sheenjek River**	63.29	23	P		P		14 15 16.9	+0.8
	baz=258,SNR=5.8								
KSH	**Kashi**	63.31	305	P		P		14 15 20.4	+3.6
KSH				pP		pwP		14 15 28.6	-0.4
KSH				S		S		14 23 57.7	+9.5
KSH				pmax		pmax			
	comp=Z,20nm,1.9s								
KSH				pmax		pmax			
	comp=Z,350nm,6.6s								
SMLA	**Simla**	63.32	295	*e*P		P		14 15 16.8	0.0
M27K	**Edge Creek, AK**	63.33	30	IAMs_20		IAMs_20		14 40 57.8	
	comp=Z,804nm,20.0s								
M27K	**Edge Creek, AK**	63.33	30	P		P		14 15 16.8	+0.3
	baz=263,SNR=12								
TKM2	**Tokmak 2**	63.35	309	P		P		14 15 18.1	+1.0
	SNR=12								
TKM2	**Tokmak 2**	63.35	309	*i* P		P		14 15 17.5	+0.4
TKM2				pmax		pmax			
	comp=Z,37nm,1.9s								
CTG	**Chitna Glacier**	63.42	31	P		P		14 15 16.2	-1.0
	baz=264,SNR=16								
CTGM	**Chitina Glacie**	63.43	31	IAMs_20		IAMs_20		14 38 46.2	
	comp=Z,658nm,20.0s								
L27K	**Beaver Creek,**	63.45	29	IAMs_20		IAMs_20		14 38 33.8	
	comp=Z,658nm,22.0s								
L27K	**Beaver Creek,**	63.45	29	P		P		14 15 16.7	-0.5
	baz=262,SNR=15								
TABL	**Table Mountain**	63.47	32	IAMs_20		IAMs_20		14 39 16.3	
	comp=Z,847nm,20.0s								
K27K	**Chicken**	63.47	28	IAMs_20		IAMs_20		14 39 06.4	
	comp=Z,844nm,21.0s								
K27K	**Chicken**	63.47	28	P		P		14 15 17.7	+0.5
	baz=262								
NGP	**Nagpur**	63.48	284	*e*P		P		14 15 17.2	-0.8
LOGN	**Logan Glacier**	63.57	31	IAMs_20		IAMs_20		14 39 56.2	
	comp=Z,795nm,22.0s								
NDI	**New Delhi**	63.66	293	*e*P		P		14 15 20.0	+0.9
BVCY	**Beaver Creek**	63.81	30	P		P		14 15 19.7	+0.1
	baz=264								
PINM	**Pinnacle**	63.88	32	P		P		14 15 20.1	+0.1
	baz=265								
I27K	**Kandik River**	63.90	26	P		P		14 15 18.7	-1.4
	baz=261,SNR=5.4								
YUK3	**Moose Creek**	63.93	30	P		P		14 15 20.6	+0.1
	baz=264,SNR=20								
O28M	**Mount Upton**	63.97	31	P		P		14 15 20.7	-0.2
	baz=265,SNR=22								
EGAK	**Eagle**	63.98	27	P		P		14 15 20.5	-0.1
	baz=262,SNR=7.0								
SGDS	**Sogindy**	64.02	309	*d* iP		P		14 15 21.5	+0.2
SGDS				pmax		pmax			
	comp=Z,28nm,2.1s								
SGDS	**Sogindy**	64.02	309	⇓ *i*P		P		14 15 21.6	+0.2
	comp=Z,28nm,2.1s,baz=309								
H27K	**Steamboat Moun**	64.04	25	P		P		14 15 21.1	+0.1
	baz=261,SNR=18								
G27K	**Doyon Strip**	64.08	25	P		P		14 15 21.7	+0.4
	baz=261								
USP	**Ospenovka**	64.13	309	P		P		14 15 22.5	+0.5
	SNR=6.0								
AAK	**Ala-Archa**	64.18	308	P		P		14 15 22.4	0.0
	comp=Z,1.3nm,0.3s,baz=109,slow=8.1,SNR=14								
AAK				PKP2bc				14 44 19.7	
	comp=Z,1.2nm,0.4s,baz=230,slow=5.4,SNR=8.4								
	comp=Z,1.3nm,0.3s								
AAK	**Ala-Archa**	64.18	308	P		P		14 15 22.0	-0.5
AAK				IAmb		IAmb		14 15 24.7	
	comp=Z,38nm,1.8s								
AAK	**Ala-Archa**	64.18	308	*ce*P		P		14 15 23.2	+0.7
AAK				pmax		pmax			
	comp=Z,20nm,1.7s								
AAK	**Ala-Archa**	64.18	308	P		P		14 15 21.5	-1.0
AAK	**Ala-Archa**	64.18	308	*i* P		P		14 15 23.1	+0.6
	SNR=6.4								
UCH	**Uchtor**	64.19	308	P		P		14 15 24.3	+1.3
	SNR=16								
PNL	**Peninsula**	64.28	33	P		P		14

baz=268
M30M Minto, Yukon 65.71 30 IAmb IAmb 14 15 37.3
comp=Z,49nm,1.5s
M30M IAMs_20 IAMs_20 14 40 15.5
comp=Z,622nm,22.0s
M30M Minto, Yukon 65.71 30 P **P** **14 15 30.8 -1.1**
baz=267,SNR=22
PLBC Pleasant Camp 65.81 33 P **P** **14 15 32.5 -0.1**
baz=269,SNR=14
O30N Mendenhall 65.97 32 P **P** **14 15 34.0 +0.3**
baz=269,SNR=6.5
EPYK Eagle Plains 65.98 25 IAMs_20 IAMs_20 14 39 38.6
comp=Z,588nm,20.0s
EPYK Eagle Plains 65.98 25 P **P** **14 15 32.2 -1.4**
baz=266
NIL Nilore 66.21 299 P **P** **14 15 36.3 +0.7**
NIL Nilore 66.21 299 P **P** **14 15 36.3 +0.7**
NIL pmax pmax
comp=Z,291nm,1.8s
NIL Nilore 66.21 299 P **P** **14 15 35.5 -0.2**
G30M tAoh Zraii Nji 66.23 25 P **P** **14 15 34.1 -1.1**
baz=266,SNR=5.6
AJM Ajmer 66.31 291 *e*P **P** **14 15 37.4 +1.0**
BVA0 Borovoye Array 66.34 320 *i* P **P** **14 15 36.0 -0.1**
BVAR Borovoye Array 66.34 320 P **P** **14 15 36.4 +0.3**
comp=Z,16nm,0.5s,baz=87,slow=7.5,SNR=102
comp=Z,16nm,0.5s
SKAG Skagway 66.34 33 P **P** **14 15 34.5 -1.4**
baz=270
SIT Sitka 66.36 36 P **P** **14 15 34.9 -1.2**
baz=271
BRVK Borovoye 66.40 320 P **P** **14 15 36.8 +0.4**
BRVK Borovoye 66.40 320*ce*P **P** **14 15 36.7 +0.2**
BRVK pmax pmax
comp=Z,73nm,1.7s
BRVK Borovoye 66.40 320 P **P** **14 15 36.0 -0.5**
BRVK P **P** **14 15 36.0 -0.5**
DZA Taraz 66.47 309 *e*P **P** **14 15 37.5 +0.3**
DZA Taraz 66.47 309 *e*P **P** **14 15 37.5 +0.3**
baz=309
WHY Whitehorse 66.57 32 P **P** **14 15 36.5 -1.0**
baz=270,SNR=5.3
R32K Eaglecrest 66.77 34 P **P** **14 15 37.3 -1.5**
baz=271
M31M Drury Creek, Y 66.81 30 IAMs_20 IAMs_20 14 40 45.9
comp=Z,642nm,21.0s
M31M Drury Creek, Y 66.81 30 P **P** **14 15 38.2 -0.8**
baz=270,SNR=17
KK31 Karatay Array 67.05 309 *i* P **P** **14 15 40.9 +0.1**
P32M Atlin 67.16 33 P **P** **14 15 40.0 -1.3**
baz=271
F31M Tsiigehtchic 67.22 24 P **P** **14 15 39.3 -2.1**
baz=268
FARO Faro, Yukon 67.30 30 P **P** **14 15 39.6 -2.5**
baz=270,SNR=14
INK Inuvik 67.33 23 P **P** **14 15 39.3 -2.8**
baz=268
N32M Quiet Lake 67.44 31 P **P** **14 15 40.2 -2.8**
baz=271
IUG luzhnay 67.52 308*d i*P **P** **14 15 44.8 +0.9**
IUG luzhnay 67.52 308⇓ *i*P **P** **14 15 44.9 +0.9**
baz=308
P33M Teslin, Yukon 67.60 32 IAmb IAmb 14 15 49.3
comp=Z,37nm,1.4s
P33M IAMs_20 IAMs_20 14 41 51.6
comp=Z,512nm,20.0s
P33M Teslin, Yukon 67.60 32 P **P** **14 15 43.1 -1.0**
baz=272,SNR=20
CRAG Craig 67.64 37 P **P** **14 15 41.5 -2.8**
baz=273
WRAK Wrangell Islan 68.02 36 P **P** **14 15 44.4 -2.2**
baz=274
MMPY Sheldon Lake, 68.27 29 P **P** **14 15 46.9 -1.3**
baz=272,SNR=7.1
V35K Ketchikan 68.51 37 P **P** **14 15 47.5 -2.3**
baz=275
R33M Jennings River 68.57 33 P **P** **14 15 48.6 -1.7**
baz=274,SNR=11
S34M Telegraph Cree 68.58 35 P **P** **14 15 48.8 -1.4**
baz=274,SNR=9.7
POO Poona 68.86 283 *e*P **P** **14 15 51.4 -1.2**
POO IAmb IAmb 14 15 55.5
comp=Z,29nm,0.7s
KAD Karad 68.87 281 *e*P **P** **14 15 52.4 -0.3**
DLBC Dease Lake 69.12 34 LR LR 14 42 47.4
comp=Z,259nm,21.4s,baz=296,slow=33
DLBC Dease Lake 69.12 34 P **P** **14 15 52.6 -1.0**
baz=275,SNR=27
T35M Bob Quinn 69.13 36 P **P** **14 15 53.6 -0.1**
baz=275,SNR=5.7
KBL Kabul 69.49 300 P **P** **14 15 55.9 -0.7**
KBL Kabul 69.49 300 P **P** **14 15 55.9 -0.7**
KBL pmax pmax
comp=Z,58nm,1.1s
KBL Kabul 69.49 300 P **P** **14 15 57.1 +0.5**
SNR=33
KBL P **P** **14 15 57.1 +0.5**
SNR=33
WTLY Watson Lake, Y 69.61 32 IAmb IAmb 14 16 01.9
comp=Z,46nm,1.2s
WTLY Watson Lake, Y 69.61 32 P **P** **14 15 57.1 +0.5**
baz=275,SNR=18
TGTN Hyland Airport 69.74 31 P **P** **14 15 58.1 +0.7**
baz=275
A36M Sachs Harbour 70.11 19 IAMs_20 IAMs_20 14 44 32.3
comp=Z,528nm,22.0s
C36M Paulatuk 70.73 22 P **P** **14 16 01.8 -1.4**
baz=276
PPT2 Papeete2 72.35 117 *e*LR LR 14 38 22.5
comp=Z,647nm,28.5s
ARU Arti 72.76 324 P **P** **14 16 15.4 -0.3**
comp=Z,5.9nm,0.3s,baz=96,slow=4.2,SNR=24
comp=Z,5.9nm,0.3s
ARU Arti 72.76 324 P **P** **14 16 15.0 -0.7**
ARU IAmb IAmb 14 16 19.0
comp=Z,63nm,1.3s
ARU Arti 72.76 324*c i*P **P** **14 16 15.5 -0.2**
ARU 14 16 33.5
ARU 14 18 56.4
ARU PPP PPP 14 20 44.7
ARU S **S** **14 25 40.8 +0.6**
ARU SS **SS** **14 30 18.0 -1.6**
ARU pmax pmax
comp=Z,59nm,1.3s
AB31 Akbulak array 73.33 317 *i* P **P** **14 16 18.6 -0.6**
CLRS Cowichan Lake 74.06 43 IAmb IAmb 14 16 28.9
comp=Z,58nm,1.6s
AKTO Aktyubinsk 74.30 318 P **P** **14 16 24.2 -0.7**
comp=Z,5.4nm,0.6s,baz=82,slow=7.0,SNR=20
comp=Z,5.4nm,0.6s
AKTO Aktyubinsk 74.30 318 P **P** **14 16 23.8 -1.0**
E03A Lebam 74.94 46 IAmb IAmb 14 16 34.2
comp=Z,56nm,1.1s
LLLB Lillooet 75.07 41 IAmb IAmb 14 16 34.8
comp=Z,102nm,1.8s
I02E Swisshome, OR 75.33 48 P **P** **14 16 31.8 +0.9**
baz=284
G03D McMinnville, O 75.46 47 P **P** **14 16 31.5 -0.2**
baz=284
J01E Myrtle Point 75.50 49 P **P** **14 16 31.5 -0.4**
baz=284
I03D Drain, OR 75.78 48 P **P** **14 16 31.2 -2.2**
baz=284
K02D Willamette Mer 75.80 49 P **P** **14 16 31.4 -2.4**
baz=284
D05A Enumclaw 75.83 45 IAmb IAmb 14 16 39.5
comp=Z,54nm,1.2s
YKA Yellowknife Ar 75.88 28 P **P** **14 16 32.4 -1.3**
comp=Z,22nm,0.9s,baz=289,slow=5.8,SNR=12
comp=Z,22nm,0.9s
H04D Lebanon 76.00 47 P **P** **14 16 34.8 +0.1**
baz=285,SNR=6.1
L02F Cave Junction 76.01 50 P **P** **14 16 34.9 0.0**
baz=285
KMPM Mount Pierce 76.04 52 IAmb IAmb 14 16 40.9
comp=Z,60nm,1.0s
HUMO Hull Mountain 76.33 49 IAMs_20 IAMs_20 14 46 58.7
comp=Z,473nm,19.0s
H04A Detroit Lake 76.34 47 IAmb IAmb 14 16 41.6
comp=Z,71nm,1.3s
I04A Tendick Farm, 76.41 48 P **P** **14 16 37.2 0.0**
baz=285,SNR=15
YBH Yreka Blue Hor 76.73 50 IAmb IAmb 14 16 44.6
comp=Z,34nm,1.1s
J04D Umpqua Nationa 76.77 49 IAMs_20 IAMs_20 14 43 49.2
comp=Z,539nm,20.0s
J04D Umpqua Nationa 76.77 49 P **P** **14 16 38.4 -1.0**
baz=285
G05D Wamic, OR 76.79 47 P **P** **14 16 39.5 +0.3**
baz=285
TAOE Nuku Hiva Isla 76.86 105 *e*LR LR 14 40 26.8
comp=Z,348nm,25.7s
L04D Klamath Falls 76.90 50 IAmb IAmb 14 16 45.1
comp=Z,40nm,1.1s
L04D Klamath Falls 76.90 50 P **P** **14 16 40.2 +0.1**
baz=286
I05D Terrebonne, OR 77.01 47 P **P** **14 16 40.4 -0.1**
baz=286,SNR=5.4
KIRV Kirov 77.03 328 P **P** **14 16 40.3 0.0**
comp=Z,11nm,0.5s,baz=75,slow=5.4,SNR=12
KIRV LR LR 14 52 18.7
comp=Z,207nm,21.6s,baz=76,slow=37
comp=Z,11nm,0.5s
KIRV Kirov 77.03 328*ce*P **P** **14 16 41.1 +0.8**
K04D Chiloquin, OR 77.18 49 P **P** **14 16 42.8 +1.1**
baz=286
B08A Colville Reser 77.26 43 IAmb IAmb 14 16 46.6
comp=Z,34nm,1.0s
GEYT Alibeck 77.31 306 P **P** **14 16 42.8 +0.4**
comp=Z,7.0nm,0.8s,baz=124,slow=2.1,SNR=19
comp=Z,7.0nm,0.8s
GEYT Alibeck 77.31 306 IAmb IAmb 14 16 44.6
comp=Z,59nm,1.6s
GYA0B ALIBECK ARRAY 77.31 306 IAmb IAmb 14 16 44.5
comp=Z,60nm,1.6s
J05D Fort Rock, OR 77.37 48 P **P** **14 16 42.7 0.0**
baz=286,SNR=28
HAWA Hanford 77.67 45 IAmb IAmb 14 16 49.3
comp=Z,49nm,1.4s
PRGR Permogore 77.85 331 *e*P **P** **14 16 44.1 -0.7**
D08A Wollman Farm, 77.89 44 IAmb IAmb 14 16 50.4
comp=Z,77nm,1.5s
SPITS Spitsbergen Ar 77.92 351 P **P** **14 16 46.3 +1.3**
comp=Z,21nm,1.1s,baz=86,slow=7.4,SNR=2.5
comp=Z,21nm,1.1s
ORV Oroville 78.21 52 IAMs_20 IAMs_20 14 43 02.8
comp=Z,520nm,20.0s
NGCH Negor - Chabah 78.37 293 P **P** **14 16 49.8 +1.4**
G08A Pilot Rock 78.37 46 IAmb IAmb 14 16 53.2
comp=Z,38nm,1.3s
MOD Modoc Plateau 78.42 50 P **P** **14 16 48.8 +0.2**
MOD IAmb IAmb 14 16 53.5
comp=Z,41nm,1.2s
E09A Wood Farm, Sta 78.56 45 P **P** **14 16 49.9 +0.9**
E09A IAmb IAmb 14 16 54.1
comp=Z,48nm,1.1s
NEW Newport 78.70 43 IAmb IAmb 14 16 54.7
comp=Z,66nm,1.4s
NEW Newport 78.70 43 P **P** **14 16 49.7 -0.1**
baz=288,SNR=27
BEKR Beckworth 78.97 52 P **P** **14 16 51.9 +0.2**
BEKR IAmb IAmb 14 16 56.4
comp=Z,36nm,1.1s
WVOR Wild Horse Val 79.44 49 IAMs_20 IAMs_20 14 45 08.1
comp=Z,519nm,20.0s
CMB Columbia Colle 79.49 53 IAMs_20 IAMs_20 14 44 25.6
comp=Z,593nm,22.0s
BELG Belogornoye 79.99 322 P **P** **14 16 57.0 +0.3**
comp=Z,73nm,0.9s,baz=338,slow=0.2,SNR=29
comp=Z,73nm,0.9s
BELG Belogornoye 79.99 322*d i*P **P** **14 16 57.4 +0.7**
BELG pmax pmax
comp=Z,36nm,1.5s
APA Apatity 80.16 339⇓ *i*P **P** **14 16 56.5 -0.9**
APA *i* 14 17 06.5
APA *i*S **S** **14 26 58.0 -2.9**
APA *i*SS **SS** **14 32 11.0 +0.2**
APA MLR MLR
comp=Z,400nm,18.0s
WALA Waterton Lakes 80.46 41 IAmb IAmb 14 17 04.9
comp=Z,63nm,1.2s
JTMT Jette 80.67 43 IAmb IAmb 14 17 05.5
comp=Z,64nm,1.3s
KLMR Klimovskoe 80.88 332 *e*P **P** **14 16 59.5 -1.8**
KLMR *e*S **S** **14 27 08.7 +0.1**
KLMR pmax pmax
comp=Z,46nm,1.4s
KLMR Klimovskoe 80.88 332 *e*P **P** **14 16 59.6 -1.8**
KLMR AMP 14 17 13.6
comp=Z,46nm,1.4s
KLMR *e*S **S** **14 27 08.7 +0.1**
KLMR *e*S **S** **14 27 08.7 +0.1**
PKM Mcpherson Peak 80.89 56 P **P** **14 17 01.4 -0.8**
baz=288
NVAR Mina Array Bea 80.93 52 P **P** **14 17 03.4 +1.0**
comp=Z,21nm,0.9s,baz=264,slow=5.8,SNR=66
comp=Z,21nm,0.9s
WBK Wadi Bani Khal 81.08 291 P **P** **14 17 03.4 +0.2**
MFID Camas Ranch 81.09 47 IAmb IAmb 14 17 08.0
comp=Z,78nm,1.4s
VES Vestal, Richgr 81.15 55 P **P** **14 17 04.1 +0.7**
baz=289
WSAR Wadi Sarin 81.18 291 P **P** **14 17 05.0 +1.3**
comp=Z,12nm,0.9s,baz=108,slow=7.2,SNR=5.3
comp=Z,12nm,0.9s
MSO Missoula 81.20 43 P **P** **14 17 03.9 +0.3**
baz=290
SCZ2 Santa Cruz Isl 81.31 57 P **P** **14 17 04.7 +0.4**
baz=289
TIN Tinemaha, Big 81.42 54 P **P** **14 17 05.5 +0.6**
baz=289
DSP Deep Springs 81.52 53 P **P** **14 17 05.5 +0.3**
DSP IAmb IAmb 14 17 10.7
comp=Z,56nm,1.5s
ARCES ARCESS Array B 81.53 342 P **P** **14 17 04.9 +0.2**
comp=Z,4.8nm,0.6s,baz=56,slow=7.4,SNR=20
comp=Z,4.8nm,0.6s
BIDO Bidbid 81.53 292 P **P** **14 17 05.4 -0.2**
SNR=7.2
ARVC Arvin 81.58 56 P **P** **14 17 05.8 +0.2**
baz=289
ISA Isabella, Lake 81.68 55 P **P** **14 17 05.6 -0.7**
baz=289
CWC Cottonwood Cre 81.73 54 P **P** **14 17 06.9 +0.2**
baz=289
SMDO Samad 81.75 291 P **P** **14 17 06.9 +0.1**
SMDO P **P** **14 17 06.9 +0.1**
LCH Last Change Ra 81.81 53 P **P** **14 17 07.2 +0.2**
LCH IAmb IAmb 14 17 11.9
comp=Z,55nm,1.6s
OSI Osito Audit: C 81.83 56 P **P** **14 17 06.6 -0.4**
baz=289
TPH Tonopah 81.85 53 P **P** **14 17 07.7 +0.4**
TPH Tonopah 81.85 53 P **P** **14 17 07.7 +0.4**
NEEM North Greenlan 81.92 4 *i*P **P** **14 17 07.3 +0.3**
NEEM IAmb IAmb 14 17 11.3
comp=Z,17nm,0.8s
JMDO Jabal Madar 81.92 291 P **P** **14 17 08.2 +0.6**
HLID Hailey 82.01 47 P **P** **14 17 07.8 -0.2**
baz=290,SNR=20
GRAC Grapevine Rang 82.09 54 P **P** **14 17 07.5 -0.9**
baz=289
HOQ Hoqain 82.23 292 P **P** **14 17 09.1 -0.2**
SNR=6.7
EDW2 Edwards Air Fo 82.31 56 P **P** **14 17 09.4 -0.1**
baz=289,SNR=16
MPMC Manual Prospec 82.31 55 P **P** **14 17 09.6 -0.1**
baz=289,SNR=24
ELK Elko 82.40 49 IAmb IAmb 14 17 15.0
comp=Z,42nm,1.1s
SHME Shamm 82.45 295 P **P** **14 17 10.5 +0.1**
SHME P **P** **14 17 10.5 +0.1**
SHME Shamm 82.45 295 P **P** **14 17 11.1 +0.8**
CIS Catalina Islan 82.46 57 P **P** **14 17 09.7 -0.6**
baz=289
SCI2 San Clemente I 82.50 58 P **P** **14 17 10.2 -0.3**
baz=289
MDH Madha 82.55 294 P **P** **14 17 10.3 -0.7**
MDH Madha 82.55 294 P **P** **14 17 09.9 -1.0**
BSY Bisya 82.59 291 P **P** **14 17 10.2 -1.0**
BSY P **P** **14 17 10.2 -1.0**
MASF Masafi 82.65 294 P **P** **14 17 12.6 +1.2**
FURC Furnace Creek, 82.65 54 P **P** **14 17 11.6 +0.4**
baz=290,SNR=6.2
MSFE Esma-Masafi 82.65 294 P **P** **14 17 10.8 -0.7**
WCT Wildcat Mounta 82.72 54 P **P** **14 17 11.7 0.0**
WCT IAmb IAmb 14 17 16.4
comp=Z,29nm,1.1s
SOHO SOHO 82.72 293 P **P** **14 17 12.5 +0.7**
SOHO SOHO 82.72 293 *i*P **P** **14 17 12.2 +0.4**
SNR=13
UOSS Minazif 82.75 294 P **P** **14 17 12.8 +0.9**
UOSS IAmb IAmb 14 17 18.5
comp=Z,34nm,1.1s
UOSS Minazif 82.75 294 P **P** **14 17 09.5 -2.4**
BFSC Mount Baldy Ra 82.78 56 P **P** **14 17 12.1 0.0**
baz=290
DAG Danmarks Havn 82.84 357 *i*P **P** **14 17 11.2 -0.2**
DAG IAmb IAmb 14 17 13.9
comp=Z,3.0nm,1.0s
HATD Hatta, Dubai 82.85 294 P **P** **14 17 13.4 +0.9**
HATD Hatta, Dubai 82.85 294 P **P** **14 17 12.7 +0.3**
GWY Greenwater Val 82.89 54 IAmb IAmb 14 17 17.3
comp=Z,37nm,1.2s
TPNV Topopah Spring 82.95 53 IAMs_20 IAMs_20 14 46 38.3
comp=Z,534nm,22.0s
TPNV Topopah Spring 82.95 53 P **P** **14 17 13.1 +0.1**
baz=290,SNR=24
ASHO Ashiyiah 82.96 294 P **P** **14 17 14.9 +1.8**
ASHO Ashiyiah 82.96 294 P **P** **14 17 13.3 +0.2**
R11A Troy Canyon, C 82.97 52 P **P** **14 17 13.8 +0.7**
R11A IAmb IAmb 14 17 18.1
comp=Z,58nm,1.5s
R11A Troy Canyon, C 82.97 52 P **P** **14 17 13.1 0.0**
baz=290,SNR=33
ARQ Araqi 82.99 292 P **P** **14 17 14.4 +1.1**
SNR=7.4
ARQ P **P** **14 17 14.4 +1.1**
SNR=7.4
GSC Goldstone, Bar 83.09 55 P **P** **14 17 13.2 -0.4**
GSC IAmb IAmb 14 17 18.4
comp=Z,38nm,1.3s
GSC Goldstone, Bar 83.09 55 P **P** **14 17 13.2 -0.4**
GSC pmax pmax
comp=Z,38nm,1.3s
GSC Goldstone, Bar 83.09 55 P **P** **14 17 13.7 0.0**
baz=290,SNR=15
BOZ Bozeman (W) 83.14 44 IAMs_20 IAMs_20 14 45 26.5
comp=Z,573nm,22.0s
BOZ Bozeman (W) 83.14 44 P **P** **14 17 13.4 -0.4**
baz=292,SNR=18
SHOC Shoshone, Teco 83.29 54 P **P** **14 17 12.9 -1.7**
baz=290
FAQ Al Faqa, Dubai 83.34 294 P **P** **14 17 15.1 +0.1**
BBRC Big Bear Solar 83.35 56 P **P** **14 17 12.5 -2.7**
baz=290
MURC Murrieta 83.36 57 P **P** **14 17 13.1 -1.9**
baz=290
MAK Makhachkala 83.40 313 *e*P P 14 17 07.8 -7.2
MAK *e* 14 20 21.0
MAK *e*S SKSac 14 27 22.6 -14
MAK *e*SS **SS** **14 32 57.7 -2.5**
MAK *e*SSS SSS 14 36 19.4
MAK pmax pmax
comp=Z,261nm,1.3s
EGMT Eagleton 83.41 41 P **P** **14 17 13.3 -1.7**
baz=293
ALNE Al Ain 83.43 293 P **P** **14 17 17.2 +1.7**
SNR=7.5
ALNE P **P** **14 17 17.2 +1.7**
SNR=7.5
ALNE Al Ain 83.43 293 *i* P **P** **14 17 16.1 +0.6**
SNR=5.9
ASUD Al Ashush, Dub 83.60 294 P **P** **14 17 18.1 +1.7**
HEC Hector,Ludlow 83.61 55 P **P** **14 17 15.1 -1.2**
baz=290
SPR3 Spring Creek 3 83.66 51 IAmb IAmb 14 17 22.0
comp=Z,56nm,1.4s
109C Camp Elliot, M 83.67 57 P **P** **14 17 15.4 -1.1**
baz=290
PRN Pahroc Range 83.69 53 IAmb IAmb 14 17 21.8
comp=Z,34nm,1.1s
TUQ Turquoise Moun 83.72 55 P **P** **14 17 15.9 -1.1**
baz=290,SNR=6.0
VRH Novokhopyorsk 83.83 322 *e*P **P** **14 17 16.0 -1.0**
VRH pmax pmax
comp=Z,70nm,1.8s
AJN Ajban 83.92 294 P **P** **14 17 19.2 +1.3**
SNR=6.1
AJN Ajban 83.92 294 *i* P **P** **14 17 18.2 +0.3**
SNR=5.7
SHPR Sheep Range 83.93 53 IAmb IAmb 14 17 23.2
comp=Z,30nm,1.3s
PFO Pinyon Flats O 83.93 57 P **P** **14 17 18.4 +0.4**
PFO IAmb IAmb 14 17 22.5
comp=Z,34nm,1.2s
PFO Pinyon Flats O 83.93 57 P **P** **14 17 18.4 +0.4**
PFO pmax pmax
comp=Z,34nm,1.3s
PFO Pinyon Flats O 83.93 57 P **P** **14 17 16.5 -1.6**
baz=290
TPFO Pinon Flats 83.94 57 P **P** **14 17 16.5 -1.6**
baz=290,SNR=11
MOS Moscow 84.05 328 *e*P **P** **14 17 14.9 -3.1**
MOS *e* 14 17 26.9
MOS *e*S **S** **14 27 32.5 -8.7**
MOS pmax pmax
comp=Z,98nm,1.5s
MOS pmax pmax
comp=Z,300nm,1.8s
MOS MLR MLR
comp=Z,600nm,21.0s
GMRC Granite Mounta 84.15 55 P **P** **14 17 18.0 -1.2**
baz=291,SNR=13
BELC Belle Mtn. Jos 84.16 56 P **P** **14 17 18.2 -1.1**
baz=290
MONP2 Monument Peak 84.21 57 P **P** **14 17 18.9 -0.7**
baz=290,SNR=11
FXWY Fox Creek 84.27 46 IAMs_20 IAMs_20 14 45 08.7
comp=Z,458nm,22.0s
H17A Grant Village 84.28 45 P **P** **14 17 19.2 -0.7**
baz=293,SNR=15
VALR Valaam 84.31 334*d i*P **P** **14 17 18.6 -0.6**
VALR pmax pmax
comp=Z,102nm,1.5s
DUG Dugway, Tooele 84.33 49 P **P** **14 17 19.8 -0.2**
baz=292,SNR=16
MOOW Moose Ponds 84.42 45 IAmb IAmb 14 17 25.7
comp=Z,65nm,1.9s
GROC Groznyy 84.48 314 *e*P **P** **14 17 21.2 +0.8**
GROC *e* 14 20 37.2
GROC pmax pmax
comp=Z,159nm,1.2s
IKP In-Ko-Pah, Jac 84.54 57 P **P** **14 17 21.9 +0.8**
baz=290
HWUT Hardware Ranch 84.68 48 IAmb IAmb 14 17 26.5
comp=Z,47nm,1.1s
SWSC Sam W. Stewart 84.68 57 P **P** **14 17 21.3 -0.4**
baz=291
BC3 Big Chuckawall 84.70 56 P **P** **14 17 21.8 -0.1**
baz=291,SNR=11
IRM Iron Mountain 84.76 56 P **P** **14 17 22.1 0.0**
baz=291,SNR=5.3
LPSR Galich'ya Gora 84.79 324 *e*P **P** **14 17 20.9 -0.9**
LPSR pmax pmax
comp=Z,50nm,1.4s
RLMT Red Lodge 84.86 44 P **P** **14 17 22.5 -0.1**
baz=294,SNR=30
OBN Obninsk 84.87 327 P **P** **14 17 21.4 -0.7**
comp=Z,7.2nm,0.3s,baz=29,slow=4.7,SNR=13
comp=Z,7.2nm,0.3s
OBN Obninsk 84.87 327 IAMs_20 IAMs_20 14 58 43.1
comp=Z,368nm,22.0s
OBN Obninsk 84.87 327⇓ *e*P **P** **14 17 21.8 -0.3**
OBN *e* 14 17 32.3
OBN *e* 14 20 37.3
OBN *e*S **S** **14 27 49.1 -0.4**
OBN pmax pmax
comp=Z,115nm,1.7s
OBN MLR MLR
comp=Z,274nm,16.0s
FFC Flin Flon 84.94 33 P **P** **14 17 22.2 -0.3**
FFC Flin Flon 84.94 33 P **P** **14 17 22.2 -0.3**
FFC pmax pmax
comp=Z,91nm,1.2s
VORR Voronezh 85.05 324 *e*P **P** **14 17 23.6 +0.5**
VORR pmax pmax
comp=Z,66nm,1.7s
VSR Storozhevoye 85.27 323 *e*P **P** **14 17 23.3 -1.0**
VSR pmax pmax
comp=Z,60nm,1.7s
W13A Hualapai Mount 85.40 54 IAmb IAmb 14 17 30.3
comp=Z,45nm,1.9s
GLA Glamis 85.41 57 P **P** **14 17 26.0 +0.6**
baz=291
PDMCI Parker Dam,Lak 85.49 55 P **P** **14 17 26.4 +0.7**
baz=291
GOF Gofitskoye 85.56 316⇑ *e*P **P** **14 17 25.7 -0.2**
BW06 Boulder Array 85.60 46 P **P** **14 17 26.3 -0.2**

baz=294
PDAR Pinedale Array 85.60 46 P **P** **14 17 25.6 -0.9**
comp=Z,2.2nm,0.8s,baz=258,slow=1.4,SNR=12
comp=Z,2.2nm,0.8s
MZR Muzera 85.74 293 P **P** **14 17 27.8 +0.6**
SNR=8.3
MZR P **P** **14 17 27.8 +0.6**
SNR=8.3
MZR Muzera 85.74 293 *i* P **P** **14 17 28.1 +0.9**
SNR=18
ZEI Tsey 85.92 314 *e*P **P** **14 17 26.0 -2.0**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
LAO LASA Array 86.15 41 P **P** **14 17 30.0 +1.2**
baz=296
LAO LASA Array 86.15 41 P **P** **14 17 28.8 -0.1**
baz=296,SNR=20
FINES FINESS Array B 86.17 336 P **P** **14 17 27.6 -0.9**
comp=Z,7.9nm,0.9s,baz=68,slow=4.7,SNR=27
comp=Z,7.9nm,0.9s
FINES FINESS Array B 86.17 336 *i* P **P** **14 17 27.8 -0.7**
FINES pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 86.20 315 P **P** **14 17 28.7 -0.4**
comp=Z,8.6nm,1.0s,baz=57,slow=3.2,SNR=7.4
comp=Z,8.6nm,1.0s
KBZ Khabaz 86.20 315 *i* P **P** **14 17 27.9 -1.1**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 86.25 316 *i* P **P** **14 17 28.8 -0.6**
KIV *i* S **SKSac** **14 27 52.9 -2.0**
KIV pmax pmax
comp=Z,9.0nm,0.9s
KIV MLR MLR
comp=Z,199nm,19.0s
KIV Kislovodsk 86.25 316 P **P** **14 17 30.4 +0.9**
GNI Garni 86.39 311 P **P** **14 17 31.1 +0.8**
comp=Z,4.7nm,0.5s,baz=0.0,slow=5.1,SNR=5.2
comp=Z,4.7nm,0.5s
GNI Garni 86.39 311 P **P** **14 17 31.4 +1.1**
GNI P **P** **14 17 31.4 +1.1**
DGMT Dagmar 86.59 39 P **P** **14 17 30.0 -0.9**
baz=297
SHMA Al-Shehemyia 86.90 296 P **P** **14 17 33.4 +0.6**
WUAZ Wupatki 87.14 53 IAmb IAmb 14 17 39.2
comp=Z,42nm,1.1s
WUAZ Wupatki 87.14 53 P **P** **14 17 33.9 -0.1**
baz=293,SNR=22
SUMG Summit 87.34 2 *i* P **P** **14 17 35.4 +0.8**
SUMG IAmb IAmb 14 17 39.9
comp=Z,5.7nm,0.9s
214A Organ Pipe Nat 87.39 57 IAmb IAmb 14 17 40.2
comp=Z,33nm,1.2s
214A Organ Pipe Nat 87.39 57 P **P** **14 17 35.1 -0.1**
baz=292,SNR=6.8
O20A White River Ci 87.57 48 P **P** **14 17 37.0 +0.8**
baz=295
K22A Casper 87.69 45 P **P** **14 17 36.8 +0.3**
baz=296
K22A Casper 87.69 45 P **P** **14 17 36.0 -0.6**
baz=296,SNR=13
W18A Petrified Fore 88.53 53 P **P** **14 17 40.8 +0.1**
baz=294
MVCO Mesa Verde 88.60 51 IAmb IAmb 14 17 46.0
comp=Z,51nm,1.4s
MVCO Mesa Verde 88.60 51 P **P** **14 17 40.2 -0.9**
baz=294,SNR=11
RSSD Black Hills 88.66 43 P **P** **14 17 41.3 +0.1**
RSSD Black Hills 88.66 43 P **P** **14 17 41.3 +0.1**
RSSD pmax pmax
comp=Z,51nm,1.4s
RSSD Black Hills 88.66 43 P **P** **14 17 42.5 +1.3**
baz=297
RSSD Black Hills 88.66 43 P **P** **14 17 41.0 -0.2**
baz=297
N23A Red Feather La 88.84 47 P **P** **14 17 42.1 -0.1**
baz=296,SNR=35
TUC Tucson 88.84 56 P **P** **14 17 43.0 +0.9**
TUC IAmb IAmb 14 17 47.5
comp=Z,28nm,1.4s
TUC Tucson 88.84 56 P **P** **14 17 43.0 +0.9**
TUC pmax pmax
comp=Z,28nm,1.4s
TUC Tucson 88.84 56 P **P** **14 17 42.3 +0.2**
baz=293
ANN Anapa 89.25 318 *e*P **P** **14 17 41.4 -2.2**
ANN *e*S **SKSac** **14 28 10.1 -2.7**
ANN pmax pmax
comp=Z,125nm,1.9s
ANN MLR MLR
comp=Z,606nm,23.0s
MNK Minsk 89.47 330 *i* P **P** **14 17 45.3 +0.9**
MNK *i* 14 21 16.2
MNK *i* PPP PPP 14 23 12.7
MNK *i* S **SKSac** **14 28 13.8 +0.1**
MNK *i* 14 28 38.9
MNK *i* PS PS 14 29 42.1 +1.2
MNK *i* SS **SS** **14 34 31.2 +3.0**
MNK *i* SSS SSS 14 38 06.5
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,39nm,1.1s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=E,112nm,22.0s
MNK MLR MLR
comp=N,20nm,17.0s
MNK MLR MLR
comp=Z,226nm,20.0s
MNK Minsk 89.47 330 *i* P **P** **14 17 45.4 +0.9**
comp=E,5.0nm,0.9s
MNK *i* P **P** **14 17 45.4 +0.9**
comp=N,8.0nm,0.9s
MNK *i* P **P** **14 17 45.4 +0.9**
comp=Z,39nm,1.1s,baz=55
MNK *i* PP **PP** **14 21 16.3 +1.1**
MNK *i* PPP PPP 14 23 12.7
MNK *i* S **SKSac** **14 28 13.8 +0.1**
MNK *i* PS PS 14 29 42.1 +1.2
MNK *i* SS **SS** **14 34 31.2 +3.0**
MNK *i* SSS SSS 14 38 06.6
MNK *i* LR LR 14 52 10.9
MNK *i* LRM MLR 14 58 47.6
comp=E,112nm,21.7s
MNK *i* LRM MLR 14 59 46.4
comp=N,20nm,16.6s
MNK *i* LRM MLR 15 00 04.3
comp=Z,226nm,20.4s
ISCO Idaho Springs 89.54 47 IAmb IAmb 14 17 50.8
comp=Z,32nm,1.5s
ISCO IAMs_20 IAMs_20 14 56 45.3
comp=Z,473nm,20.0s
ISCO Idaho Springs 89.54 47 P **P** **14 17 46.6 +1.0**
baz=296
ISCO Idaho Springs 89.54 47 P **P** **14 17 46.1 +0.5**
baz=296,SNR=13
S22A 4UR Ranch, Cre 89.58 50 IAmb IAmb 14 17 51.8
comp=Z,43nm,1.5s
S22A 4UR Ranch, Cre 89.58 50 P **P** **14 17 44.6 -1.2**
baz=296,SNR=20
MDND Maddock 89.59 38 P **P** **14 17 45.3 0.0**
baz=300
NACGM Naroch 89.75 330 ⇓ *i* P **P** **14 17 45.2 -0.6**
baz=54
HSIG 90.00 59 IAmb IAmb 14 17 52.5
comp=Z,32nm,1.2s
Q24A Divide 90.23 48 P **P** **14 17 48.7 -0.1**
baz=296
319A Douglas 90.39 56 IAmb IAmb 14 17 54.9
comp=Z,31nm,1.2s
ULM Lac du Bonnet 90.42 35 P **P** **14 17 48.3 -0.7**
comp=Z,18nm,1.2s,baz=307,slow=8.1,SNR=5.0
comp=Z,18nm,1.2s
SDCO Great Sand Dun 90.53 49 P **P** **14 17 51.0 +0.8**
baz=296
SDCO Great Sand Dun 90.53 49 P **P** **14 17 49.2 -0.9**
baz=296,SNR=13
AKASG Malin Array Be 90.96 326 P **P** **14 17 49.6 -1.9**
comp=Z,0.5nm,0.4s,baz=45,slow=5.8,SNR=18
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 90.96 326 *i* P **P** **14 17 50.5 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 91.05 52 P **P** **14 17 53.3 +0.8**
ANMO IAmb IAmb 14 17 57.8
comp=Z,32nm,1.5s
ANMO Albuquerque 91.05 52 P **P** **14 17 53.3 +0.8**
ANMO pmax pmax
comp=Z,32nm,1.5s
ANMO Albuquerque 91.05 52 P **P** **14 17 54.0 +1.4**
baz=296
ANMO Albuquerque 91.05 52 P **P** **14 17 52.0 -0.5**
baz=296
121A Cookes Peak, D 91.07 55 IAmb IAmb 14 17 58.5
comp=Z,43nm,1.3s
121A Cookes Peak, D 91.07 55 P **P** **14 17 54.9 +2.2**
baz=295
121A Cookes Peak, D 91.07 55 P **P** **14 17 52.9 +0.2**
baz=295,SNR=6.7
Y22D IRIS PASSCAL I 91.08 53 P **P** **14 17 53.0 +0.3**
baz=295
OGNE Ogallala 91.45 45 P **P** **14 17 55.1 +0.9**
baz=299
HFS Hagfors 91.56 339 P **P** **14 17 53.3 -0.8**
comp=Z,5.1nm,1.0s,baz=75,slow=1.7,SNR=4.9
comp=Z,5.1nm,1.0s
T25A Trinidad 91.57 49 IAmb IAmb 14 17 60.0
comp=Z,31nm,1.4s
T25A Trinidad 91.57 49 P **P** **14 17 53.4 -1.6**
baz=297
NB2 NORSAR Subarra 91.69 340 P **P** **14 17 54.6 -0.2**
comp=Z,3.9nm,1.2s,baz=42,slow=4.6
NOA NORSAR Array B 91.69 340 P **P** **14 17 53.8 -1.0**
comp=Z,1.6nm,1.0s,baz=39,slow=5.1,SNR=3.0
comp=Z,1.6nm,1.0s
KSCO Kaye Shedlock' 91.96 47 P **P** **14 17 57.6 +1.0**
baz=298
KSCO Kaye Shedlock' 91.96 47 P **P** **14 17 57.7 +1.1**
baz=298
RAYN Ar Rayn 92.37 296 P **P** **14 17 57.0 -1.7**
RAYN IAmb IAmb 14 17 59.3
comp=Z,29nm,1.5s
RAYN Ar Rayn 92.37 296 P **P** **14 17 57.0 -1.7**
RAYN pmax pmax
comp=Z,29nm,1.5s
RAYN Ar Rayn 92.37 296 *i* P **P** **14 17 57.3 -1.4**
SNR=6.9
B35A Bob, Littlefor 92.64 36 P **P** **14 17 58.6 -0.8**
baz=305
MNTX Cornudas Mount 93.27 55 IAmb IAmb 14 18 07.7
comp=Z,24nm,1.2s
MNTX Cornudas Mount 93.27 55 P **P** **14 18 03.7 +1.0**
baz=296
MNTX Cornudas Mount 93.27 55 P **P** **14 18 03.1 +0.5**
baz=296,SNR=18
ECSD EROS Data Cent 93.51 41 P **P** **14 18 03.2 -0.3**
baz=302
ECSD EROS Data Cent 93.51 41 P **P** **14 18 04.2 +0.7**
baz=302
EYMN Ely 94.10 35 P **P** **14 18 07.3 +1.2**
baz=306
F36A Milaca 94.18 38 P **P** **14 18 06.4 -0.1**
baz=305
BRTR Keskin Array B 94.19 315 P **P** **14 18 05.2 -1.7**
comp=Z,1.6nm,0.9s,baz=15,slow=1.6,SNR=5.3
comp=Z,1.6nm,0.9s
BRTR Keskin Array B 94.19 315 *i* P **P** **14 18 05.5 -1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
MSTX Muleshoe 94.21 52 P **P** **14 18 08.1 +1.1**
baz=298
AMTX Amarillo 94.58 50 IAmb IAmb 14 18 13.5
comp=Z,38nm,1.3s
AMTX Amarillo 94.58 50 P **P** **14 18 09.9 +1.3**
baz=298
AMTX Amarillo 94.58 50 P **P** **14 18 09.5 +0.8**
baz=298
SPMN Mayne on St. 94.96 38 P **P** **14 18 10.5 +0.4**
baz=305
TXAR Lajitas Array 95.64 56 P **P** **14 18 14.4 +0.8**
comp=Z,1.8nm,1.0s,baz=294,slow=4.0,SNR=11
comp=Z,1.8nm,1.0s
KSU1 Kansas State U 95.98 45 P **P** **14 18 15.0 +0.1**
baz=302
MMAI Mount Meron Ar 96.27 308 P **P** **14 18 15.5 -0.9**
comp=Z,2.6nm,0.7s,baz=46,slow=4.2,SNR=3.2
comp=Z,2.6nm,0.7s
COWI Conover 96.50 36 IAMs_20 IAMs_20 14 55 52.3
comp=Z,404nm,21.0s
WMOK Wichita Mounta 96.73 49 P **P** **14 18 19.5 +1.1**
baz=300
WMOK Wichita Mounta 96.73 49 P **P** **14 18 18.5 +0.1**
baz=300,SNR=8.0
CSS Mathiatis 96.81 311 IAMs_20 IAMs_20 14 54 35.5
comp=Z,392nm,20.0s
ISP Isparta 97.26 315 IAMs_20 IAMs_20 14 56 52.0
comp=Z,325nm,21.0s
PSZ Piszkesteto 97.49 327 IAMs_20 IAMs_20 15 06 47.8
comp=Z,384nm,21.0s
VYHS Vyhne 97.63 328 *e*P **P** **14 18 21.8 -0.4**
VYHS Vyhne 97.63 328 *e*PDIFF **P** **14 18 21.8 -0.4**
JFWS Jewell Farm 97.81 39 P Pdif 14 18 24.4 +1.2
baz=307
JCT Junction City 98.08 54 IAMs_20 IAMs_20 14 58 34.8
comp=Z,377nm,20.0s
JCT Junction City 98.08 54 P Pdif 14 18 25.6 +1.0
baz=299
VRAC Vranov 98.15 330 P **P** **14 18 23.6 -0.9**
comp=Z,0.7nm,0.2s,baz=87,slow=6.6,SNR=5.0
VRAC PP **PP** **14 22 23.6 +0.5**
comp=Z,0.8nm,0.3s,baz=54,slow=9.9,SNR=5.1
comp=Z,0.7nm,0.2s
VRAC Vranov 98.15 330 *e*PP **PP** **14 22 23.8 +0.7**
BRG Berggiesshubel 98.24 332 Amp 14 22 31.6
comp=Z,4.2nm,1.2s
BRG Berggiesshubel 98.24 332 *e*P **P** **14 18 23.8 -1.0**
BRG 14 22 24.9
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG Berggiesshubel 98.24 332 *e*P **P** **14 18 23.8 -1.0**
BRG Berggiesshubel 98.24 332 Amp 14 18 28.0
comp=Z,7.9nm,1.3s
BRG Berggiesshubel 98.24 332 PP **PP** **14 22 25.0 +1.3**
CLL Collm 98.33 333 *i* P **P** **14 18 24.3 -0.9**
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL Collm 98.33 333 *e*SS SS 14 36 42.0 +7.4
CLL Collm 98.33 333 *i* Pdif **P** **14 18 24.3 -0.9**
comp=Z,9.0nm,1.4s
CLL Collm 98.33 333 *e*PP **PP** **14 22 23.0 -1.3**
KRUC Moravsky 98.42 330 *e*PP **PP** **14 22 26.0 +0.9**
ATD Arta Tunnel 99.39 286 LR LR 15 03 25.6
comp=Z,101nm,18.9s,baz=82,slow=35
RONA Rosalia, Austr 99.42 329 *e*P **PP** **14 22 32.9 +0.1**
comp=Z,12nm,2.1s
CONA Conrad Observa 99.47 329 *e*P **PP** **14 22 35.4 +2.2**
comp=Z,12nm,1.6s
L44A Lake County Fo 99.62 38 P **Pdif** **14 18 30.9 -0.3**
baz=309
GERES GERESS Array B 99.82 331 PP **PP** **14 22 39.8 +3.9**
comp=Z,0.3nm,0.6s,baz=32,slow=5.8,SNR=4.5
MOA Molln 100.28 330 *e*P **PKiKP** **14 22 58.7 -2.4**
comp=Z,3.5nm,1.4s
OBKA Obir 101.10 329 *e*P **PP** **14 22 47.0 +1.3**
comp=Z,11nm,1.6s
KBA Koelnbreinsper 101.27 330 *e*P **PP** **14 22 44.5 -2.5**
comp=Z,14nm,1.7s
PDG Podgorica 101.44 324 IAMs_20 IAMs_20 15 02 53.8
comp=Z,279nm,22.0s
MYKA Terra Mystica 101.45 329 *i* P **PP** **14 22 48.3 0.0**
comp=Z,17nm,1.7s
WATA Walderalm 101.90 331 *e*P **PP** **14 22 53.2 +1.5**
comp=Z,12nm,1.7s
ABTA Abfaltersbach 101.90 330 *e*P **PP** **14 22 49.5 -2.2**
comp=Z,5.5nm,1.5s
WTTA Wattenberg 101.92 331 *i* P **PP** **14 22 53.9 +2.0**
comp=Z,12nm,1.5s
MOTA Moosalm 102.10 331 *e*P **PP** **14 22 55.1 +1.8**
comp=Z,11nm,1.6s
SQTA Sankt Quirin 102.15 331 *e*P **PP** **14 22 56.2 +2.6**
comp=Z,3.9nm,1.0s
VLC Villacollemand 104.82 330 IAMs_20 IAMs_20 15 10 14.7
comp=Z,367nm,20.0s
MAW Mawson 106.46 203 PP **PP** **14 23 26.2 +0.4**
comp=Z,2.2nm,0.8s,baz=60,slow=7.4,SNR=5.9
ESDC Sonseca Array 114.68 336 PP **PP** **14 24 25.9 +1.2**
comp=Z,1.9nm,1.1s,baz=24,slow=7.0,SNR=9.2
ESDC PKKPbc **PKKPbc** **14 34 06.7 -0.1**
comp=Z,1.1nm,1.1s,baz=204,slow=2.2,SNR=5.0
MDT Midelt 120.86 333 PP **PP** **14 25 09.5 +1.7**
comp=Z,1.9nm,0.8s,baz=338,slow=8.9,SNR=4.3
TROLL Troll, Antarti 124.44 193 PKPdf **PKiKP** **14 23 46.2 -0.1**
SNAA Sanae 125.74 191 PKPdf **PKPdf** **14 23 48.6 +0.1**
VNA2 Neumayer--Watz 127.16 190 PKPdf **PKiKP** **14 23 51.7 +0.1**
baz=105,slow=1.0
VNA3 Neumayer Olymp 127.24 189 PKPdf **PKiKP** **14 23 51.6 -0.2**
VNA1 Neumayer--Stat 127.54 190 PKPdf **PKiKP** **14 23 52.4 +0.1**
SJG San Juan 129.64 43 IAMs_20 IAMs_20 15 20 22.7
comp=Z,260nm,20.0s
TORD Torodi Ar. Bea 132.70 312 PKP **PKPdf** **14 24 00.5 -2.7**
comp=Z,1.1nm,0.9s,baz=95,slow=1.9,SNR=4.5
TORD PP **PP** **14 26 32.4 +5.5**
comp=Z,1.2nm,0.9s,baz=58,slow=6.3,SNR=3.6
PLCA Paso Flores 141.82 131 PKP **PKPdf** **14 24 20.1 +0.6**
comp=Z,7.4nm,1.0s,baz=230,slow=3.6,SNR=8.1
BOAV Boa Vista 144.55 54 **PKPab** **14 24 23.2 -0.2**
AC05 El Transito 144.78 112 **PKPdf** **14 24 26.2 +1.1**
PB16 IPOC Station P 145.15 93 **PKPdf** **14 24 27.6 +1.1**
ETMB Extrema 145.98 77 **PKPbc** **14 24 28.1 -0.1**
LPAZ La Paz 146.06 89 PKPbc **PKPab** **14 24 29.8 +0.1**
comp=Z,13nm,1.0s,baz=330,slow=3.7,SNR=28
CPUP Villa Florida 156.50 110 PKPab **PKPab** **14 25 11.8 +0.1**
comp=Z,1.5nm,0.8s,baz=264,slow=5.0,SNR=3.8

*IDC **03** 14:06:16.5±0.9, 20°.22N×147°.47E, h0km, mb4.4/17, mbtmp4.4/17, MS4.2/2, Error ellipse: s-maj=25.3km s-min=22.0km az=78.0*
ISC 03 14:06:21.5±0.7, 20°.19N±0°.10×147°.4E±0°.2, h34km, n22, σ0.65/19, mb4.3/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.01**	**201**	Sn	**Sn**	**14 09 20.2**	**-0.1**
	9.3nm,0.3s,baz=86,slow=24,SNR=1.0						
JCJ	**Chichijima**	**8.39**	**326**	Sn	Sn	14 09 45.1	-9.1
	14nm,0.3s,baz=121,slow=23,SNR=0.9						
KSRS	**Korea Array**	**24.17**	**320**	P	**P**	**14 11 35.9**	**+1.3**
	6.5nm,0.7s,baz=145,slow=8.8,SNR=1.6						
	6.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**27.18**	**335**	P	**P**	**14 12 02.6**	**+0.7**
	5.5nm,0.9s,baz=171,slow=9.9,SNR=1.4						
	5.5nm,0.9s						
WRA	**Warramunga Arr**	**41.90**	**199**	P	**P**	**14 14 08.9**	**+0.1**
	3.5nm,0.8s,baz=7.3,slow=8.5,SNR=0.7						
	3.5nm,0.8s						
SONM	**Songino Array**	**43.04**	**320**	P	**P**	**14 14 17.7**	**-0.4**
	3.3nm,0.7s,baz=126,slow=6.7,SNR=1.5						
	3.3nm,0.7s						
ASAR	**Alice Springs**	**45.54**	**197**	P	**P**	**14 14 38.3**	**+0.2**
	2.4nm,1.0s,baz=22,slow=10.0,SNR=1.0						
	2.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.66**	**276**	P	**P**	**14 14 39.3**	**0.0**
	2.7nm,0.9s,baz=70,slow=8.2,SNR=1.4						
	2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**57.85**	**322**	P	**P**	**14 16 09.7**	**0.0**
	7.4nm,0.8s,baz=111,slow=7.2,SNR=2.5						
	7.4nm,0.8s						
MKAR	**Makanchi Array**	**58.63**	**313**	P	**P**	**14 16 15.8**	**+0.5**
	6.3nm,0.9s,baz=103,slow=6.4,SNR=1.7						
	6.3nm,0.9s						
RAO	**Raoul Island**	**59.44**	**145**	LR	LR	14 38 36.2	
	comp=Z,156nm,20.0s,baz=291,slow=33						
KURBB	**Kurchatov Arra**	**61.32**	**317**	P	**P**	**14 16 33.8**	**+0.1**
	12nm,0.9s,baz=90,slow=7.3,SNR=2.2						
	12nm,0.9s						
ILAR	**Eielson Array**	**61.59**	**26**	P	**P**	**14 16 34.6**	**-0.7**
	1.8nm,0.7s,baz=263,slow=5.7,SNR=1.4						
	1.8nm,0.7s						
BVAR	**Borovoye Array**	**66.38**	**320**	P	**P**	**14 17 07.5**	**+0.5**
	3.0nm,0.4s,baz=88,slow=7.2,SNR=4.2						
	3.0nm,0.4s						
AKTO	**Aktyubinsk**	**74.34**	**318**	LR	LR	14 52 58.0	
	comp=Z,186nm,18.8s,baz=87,slow=38						
YKA	**Yellowknife Ar**	**75.91**	**28**	P	**P**	**14 18 03.9**	**-0.6**
	3.9nm,0.7s,baz=286,slow=5.8,SNR=4.4						
	3.9nm,0.7s						
NVAR	**Mina Array Bea**	**80.94**	**52**	P	**P**	**14 18 33.9**	**+0.8**
	3.3nm,0.8s,baz=263,slow=5.4,SNR=2.3						
	3.3nm,0.8s						
ARCES	**ARCESS Array B**	**81.58**	**342**	P	**P**	**14 18 36.1**	**+0.6**
	4.9nm,0.9s,baz=60,slow=5.4,SNR=2.4						
	4.9nm,0.9s						
FINES	**FINESS Array B**	**86.21**	**336**	P	**P**	**14 18 58.2**	**-1.1**
	5.1nm,1.0s,baz=59,slow=4.6,SNR=2.0						
	5.1nm,1.0s						
BRTR	**Keskin Array B**	**94.23**	**315**	P	**P**	**14 19 36.8**	**-0.8**
	0.5nm,0.5s,baz=72,slow=11,SNR=1.9						
	0.5nm,0.5s						
TXAR	**Lajitas Array**	**95.65**	**56**	P	**P**	**14 19 44.6**	**+0.3**
	0.3nm,0.7s,baz=289,slow=2.8,SNR=1.2						
	0.3nm,0.7s						
LPAZ	**La Paz**	**146.04**	**89**	PKPbc	**PKPab**	**14 26 00.3**	**+0.2**
	3.7nm,0.7s,baz=229,slow=5.1,SNR=1.5						

*THE **03** 14:11:31.8, 34°.36N×24°.36E, h11km±1km, ML3.3/7, Error ellipse: s-maj=2.1km s-min=1.3km az=4.0*
*IDC **03** 14:11:34.6±2.0, 34°.52N×24°.27E, h60km±13km, mb3.4/8, mbtmp3.6/10, MS3.7/1, Error ellipse: s-maj=29.7km s-min=18.6km az=150.0*
*ATH **03** 14:11:34.8, 34°.56N×24°.32E, h26km±5km, ML3.0/7, Error ellipse: s-maj=5.1km s-min=1.1km az=322.0*
ISC 03 14:11:30.5±1.6, 34°.37N±0°.06×24°.28E±0°.04, h17km±9km, n30, σ1.60/42, mb3.6/8, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.49**	**342**	P	**Pb**	**14 11 42.4**	**+1.7**
GVD				S	**Sb**	**14 11 50.4**	**+2.8**
	8μm,0.4s						
GVD	**Gavdhos**	**0.49**	**342**	P	**Pb**	**14 11 42.1**	**+1.4**
GVD				S	**Sb**	**14 11 47.8**	**+0.2**
GVD				AML	AML	14 11 53.8	
	comp=E,18687μm,0.4s						
GVD				AML	AML	14 11 54.6	
	comp=N,13953μm,0.4s						
GVDS	**Gavdos**	**0.50**	**342**	P	**Pb**	**14 11 42.4**	**+1.6**
GVDS				S	**Sb**	**14 11 50.3**	**+2.6**
	comp=N,4μm,0.4s						
SIVA	**Sivas**	**0.78**	**34**	P	**Pb**	**14 11 46.5**	**+0.9**
SIVA				S	**Sb**	**14 11 56.8**	**+0.9**
	comp=N,5μm,0.6s						
SIVA	**Sivas**	**0.78**	**34**	P	**Pb**	**14 11 46.7**	**+1.1**
TMBK	**Timbaki Herakl**	**0.81**	**30**	P	**Pb**	**14 11 47.2**	**+1.2**
TMBK				S	**Sb**	**14 11 56.0**	**-0.6**
TMBK				AML	AML	14 12 03.0	
	comp=E,5786μm,0.7s						
TMBK				AML	AML	14 12 03.5	
	comp=N,6972μm,1.0s						
PRNS	**Prines Rethymn**	**1.01**	**11**	P	**Pg**	**14 11 49.8**	**-0.3**
IDI	**Anoyia**	**1.04**	**29**	P	**Pg**	**14 11 50.3**	**-0.5**
	comp=N,67nm,0.4s,baz=216,slow=15,SNR=42						
IDI				S	**Sn**	**14 12 05.5**	**+0.8**
	comp=N,154nm,0.6s,baz=310,slow=20,SNR=7.9						
IDI	**Anoyia**	**1.04**	**29**	P	**Pb**	**14 11 50.7**	**+0.6**
IDI				S	**Sn**	**14 12 06.3**	**+1.7**
	comp=N,570nm,0.7s						
IDI	**Anoyia**	**1.04**	**29**	P	**Pb**	**14 11 50.8**	**+0.6**
IDI				S	**Sg**	**14 12 02.4**	**-2.1**
IDI				AML	AML	14 12 08.2	
	comp=E,1180μm,1.0s						
IDI				AML	AML	14 12 08.8	
	comp=N,1097μm,0.5s						
IMMV	**Iera Moni Meta**	**1.11**	**348**	P	**Pg**	**14 11 51.9**	**-0.2**
IMMV				S	**Sn**	**14 12 08.7**	**+2.5**
	comp=N,2μm,0.6s						
IMMV	**Iera Moni Meta**	**1.11**	**348**	P	**Pg**	**14 11 52.1**	**0.0**
IMMV				S	**Sg**	**14 12 04.4**	**-2.3**
IMMV				AML	AML	14 12 12.7	
	comp=N,3255μm,0.6s						
IMMV				AML	AML	14 12 14.4	
	comp=E,4290μm,0.6s						
FRMA	**Ierapetra Chan**	**1.36**	**61**	P	**Pg**	**14 11 58.7**	**+1.9**
FRMA				S	**Sg**	**14 12 16.6**	**+2.0**
FRMA				AML	AML	14 12 35.4	
	comp=N,633μm,0.7s						
FRMA				AML	AML	14 12 35.8	
	comp=E,847μm,0.7s						
ANKY	**Antikythira Is**	**1.69**	**332**	P	**Pn**	**14 12 00.9**	**+1.6**
ANKY	**Antikythira Is**	**1.69**	**332**	P	**Pb**	**14 12 02.7**	**+1.6**
ANKY				S	**Sn**	**14 12 22.1**	**+1.6**
ANKY				AML	AML	14 12 37.9	
	comp=E,716μm,1.1s						
ANKY				AML	AML	14 12 44.3	
	comp=N,477μm,0.7s						
ZKR	**Zakros**	**1.76**	**65**	P	**Pb**	**14 12 04.1**	**+1.8**

ZKR S **Sb** **14 12 25.3 +1.2**
ZKR AML AML 14 12 50.6
comp=N,216µm,0.7s
ZKR AML AML 14 12 55.5
comp=E,385µm,1.0s
VLI **Veliai** **2.58 335** P **Pn** **14 12 12.4 +0.9**
VLI S **Sn** **14 12 44.3 +1.8**
comp=E,210nm,2.3s
MMAI **Mount Meron Ar** **9.37 95** P **Pn** **14 13 43.5 -1.3**
comp=E,0.6nm,0.4s,baz=264,slow=13,SNR=1.4
MMAI S Sn 14 15 23.3 -6.5
comp=E,1.1nm,0.5s,baz=274,slow=25,SNR=1.2
EIL **Elat** **10.20 114** P Pn 14 13 52.3 -3.8
comp=E,2.8nm,0.7s,baz=28,slow=17,SNR=1.7
EIL S Sn 14 15 42.6 -7.4
comp=E,3.9nm,0.7s,baz=188,slow=22,SNR=2.3
GERES **GERESS Array B** **16.46 335** P **Pn** **14 15 19.5 -1.1**
comp=E,0.2nm,0.5s,baz=134,slow=15,SNR=2.1
AKASG **Malin Array Be** **16.72 11** P **Pn** **14 15 23.0 -0.7**
comp=E,0.2nm,0.3s,baz=199,slow=10,SNR=3.6
ESDC **Sonseca Array** **23.11 292** P **P** **14 16 35.2 -0.4**
comp=E,0.5nm,0.6s,baz=77,slow=9.4,SNR=7.2
comp=E,0.5nm,0.6s
HFS **Hagfors** **26.69 348** P **P** **14 17 06.2 -2.2**
comp=E,1.8nm,0.7s,baz=148,slow=14,SNR=2.2
comp=E,1.8nm,0.7s
FINES **FINESS Array B** **27.11 2** P **P** **14 17 10.4 -1.8**
comp=E,1.2nm,0.7s,baz=187,slow=9.8,SNR=2.0
FINES LR LR 14 28 15.2
comp=E,132nm,18.3s,baz=142,slow=37
comp=E,1.2nm,0.7s
NB2 **NORSAR Subarra** **27.98 346** P **P** **14 17 17.8 -2.3**
comp=Z,0.3nm,0.4s,baz=156,slow=9.3
NOA **NORSAR Array B** **27.98 346** P **P** **14 17 17.8 -2.3**
comp=Z,0.5nm,0.7s,baz=153,slow=8.5,SNR=6.5
comp=Z,0.5nm,0.7s
TORD **Torodi Ar. Bea** **29.43 230** P **P** **14 17 34.0 +0.8**
comp=Z,0.3nm,0.4s,baz=35,slow=8.8,SNR=5.5
comp=Z,0.3nm,0.4s
KURBB **Kurchatov Arra** **42.18 50** P **P** **14 19 20.6 -1.5**
comp=Z,0.3nm,0.3s,baz=272,slow=8.9,SNR=1.9
comp=Z,0.3nm,0.3s
MKAR **Makanchi Array** **44.82 56** P **P** **14 19 42.1 -1.4**
comp=Z,0.7nm,0.5s,baz=259,slow=7.3,SNR=10.0
comp=Z,0.7nm,0.5s
ZALV **Zalesovo Beam** **46.07 46** P P 14 19 50.7 -2.5
comp=Z,0.5nm,0.3s,baz=268,slow=8.4,SNR=1.9
comp=Z,0.5nm,0.3s

IDC 03 14:12:42.1±36.0, 29°25S×61°67E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=1221.0km s-min=51.3km az=54.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**23.78**	**27**	T		T	T	14 42 39.8	
	baz=204,slow=76,SNR=4.4								
H08S2	**Diego Garcia H**	**23.78**	**27**	T		T	T	14 42 40.0	
	baz=204,slow=76,SNR=3.3								
H08S3	**Diego Garcia H**	**23.80**	**27**	T		T	T	14 42 40.6	
	baz=204,slow=76,SNR=4.8								
H01W2	**Cape Leeuwin H**	**44.40**	**111**	T		T	T	15 08 35.1	
	baz=261,slow=75,SNR=13								
H01W3	**Cape Leeuwin H**	**44.40**	**111**	T		T	T	15 08 35.4	
	baz=261,slow=75,SNR=13								
H01W1	**Cape Leeuwin H**	**44.42**	**111**	T		T	T	15 08 36.4	
	baz=261,slow=75,SNR=16								
ASAR	**Alice Springs**	**63.99**	**104**	P		P	P	14 23 18.1	+0.4
	0.6nm,0.7s,baz=243,slow=5.8,SNR=7.5								
	0.6nm,0.7s								
WRA	**Warramunga Arr**	**65.81**	**100**	P		P	P	14 23 29.1	-0.6
	0.5nm,0.8s,baz=245,slow=5.9,SNR=2.7								
	0.5nm,0.8s								
MKAR	**Makanchi Array**	**77.95**	**14**	P		P	P	14 24 41.9	+0.1
	0.3nm,0.7s,baz=185,slow=3.8,SNR=2.3								
	0.3nm,0.7s								

IDC 03 14:13:42.2±7.7, 20°17N×147°39E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=286.4km s-min=32.4km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**24.16**	**320**	P		P	P	14 19 01.4	+1.2
	0.6nm,0.8s,baz=148,slow=8.9,SNR=2.2								
	0.6nm,0.8s								
WRA	**Warramunga Arr**	**41.86**	**199**	P		P	P	14 21 34.3	0.0
	0.3nm,0.8s,baz=19,slow=8.6,SNR=2.2								
	0.3nm,0.8s								
ZALV	**Zalesovo Beam**	**57.84**	**322**	P		P	P	14 23 35.0	-0.6
	0.7nm,0.4s,baz=114,slow=6.5,SNR=3.1								
	0.7nm,0.4s								
MKAR	**Makanchi Array**	**58.62**	**313**	P		P	P	14 23 41.0	-0.2
	0.4nm,0.8s,baz=90,slow=8.9,SNR=2.3								
	0.4nm,0.8s								
KURBB	**Kurchatov Arra**	**61.31**	**317**	P		P	P	14 23 59.4	-0.2
	0.8nm,0.6s,baz=90,slow=7.5,SNR=13								
	0.8nm,0.6s								

*MDD **03** 14:14:17.0±1.1, 32°.40N×7°.94W, h6km±21km, Mb3.8/5, M_mb3.1/5, Error ellipse: s-maj=27.9km s-min=8.0km az=27.0*
*CNRM **03** 14:14:16.4, 32°.26N×8°.17W, h14km, ml2.8*
*SFS **03** 14:14:16.0, 32°.39N×7°.94W, h6km, ML3.0, BENGUERIR (MARRUECOS)*
*INMG **03** 14:14:18.1±1.2, 32°.27N×7°.52W, h24km±15km, MD2.5, ML2.4, Error ellipse: s-maj=8.0km s-min=4.1km az=130.0*
*IGIL **03** 14:14:18.6, 32°.29N×7°.55W, h23km*
ISC 03 14:14:15.8±1.0, 32°31N±0°.04×7°79W±0°.04, h15km±7km, n36, σ1§67/59, 5C, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRHM	**Skhour des Reh**	**0.18**	**330**	P		**Pg**	**Pg**	**14 14 19.6**	**-0.6**
SRHM	**Skhour des Reh**	**0.18**	**330**	P		**Pg**	**Pg**	**14 14 19.7**	**-0.6**
SRHM				S		**Sg**	**Sg**	**14 14 23.4**	**+0.2**
AVE	**Averroes**	**1.03**	**18**	P		**Pn**	**Pn**	**14 14 36.5**	**+0.8**
AVE				S		**Sn**	**Sn**	**14 14 51.9**	**+1.9**
AVE	**Averroes**	**1.03**	**18**	P		**Pn**	**Pn**	**14 14 36.8**	**+1.1**
AVE				S		**Sg**	**Sg**	**14 14 49.9**	**+0.6**
OUK	**Oukaimeden**	**1.10**	**183**	P		**Pb**	**Pb**	**14 14 37.0**	**+0.1**
OUK	**Oukaimeden**	**1.10**	**183**	P		**Pb**	**Pb**	**14 14 37.0**	**+0.1**
ZHG	**ZHG**	**1.49**	**40**	P		**Pg**	**Pg**	**14 14 44.5**	**+0.1**
ZHG	**ZHG**	**1.49**	**40**	P		**Pg**	**Pg**	**14 14 44.6**	**+0.1**
ZHG				S		**Sn**	**Sn**	**14 15 00.1**	**-1.1**
EAH	**EAH**	**1.66**	**247**	P		**Pg**	**Pg**	**14 14 46.2**	**+0.1**
EAH				S		**Sg**	**Sg**	**14 15 10.2**	**+0.8**
TTIG	**Tnine Tigouga,**	**1.85**	**198**	P		**Pn**	**Pn**	**14 14 46.0**	**-1.1**
TTIG	**Tnine Tigouga,**	**1.85**	**198**	P		**Pn**	**Pn**	**14 14 46.0**	**-1.1**
TTIG				S		**Sb**	**Sb**	**14 15 12.2**	**-0.1**
CZD	**Col de Zad**	**2.43**	**72**	P		**Pb**	**Pb**	**14 14 59.3**	**0.0**
CZD				S		**Sb**	**Sb**	**14 15 29.7**	**+0.5**
CGR	**Cap Guir**	**2.45**	**227**	P		**Pb**	**Pb**	**14 14 58.1**	**-1.4**
CGR				S		**Sn**	**Sn**	**14 15 25.5**	**+0.6**
IFR	**Ifrane**	**2.54**	**61**	P		**Pn**	**Pn**	**14 14 56.6**	**-0.1**
IFR				S		**Sb**	**Sb**	**14 15 34.6**	**+2.2**
MD31	**MD31**	**2.62**	**77**	P		**Pn**	**Pn**	**14 14 59.5**	**+1.9**
MD31				S		**Sb**	**Sb**	**14 15 34.1**	**-0.3**
MDT	**Midelt**	**2.73**	**79**	P		**Pn**	**Pn**	**14 15 01.5**	**+2.2**
MDT				S		**Sb**	**Sb**	**14 15 36.5**	**-1.3**
PFVI	**Vila Bisbo**	**4.88**	**350**	*e*Pn		**Pn**	**Pn**	**14 15 30.7**	**+2.0**
PFVI				*e*Sn		**Sn**	**Sn**	**14 16 25.2**	**+0.2**
MORF	**Marmelete**	**5.03**	**352**	*e*P		**Pn**	**Pn**	**14 15 31.8**	**+1.1**
MORF	**Marmelete**	**5.03**	**352**	*e*Pn		**Pn**	**Pn**	**14 15 31.9**	**+1.1**
MORF				*e*Sn		**Sn**	**Sn**	**14 16 28.5**	**-0.1**
MORF				A		A	A	14 16 30.8	
	1.9nm,0.6s								
PVAQ	**Vaqueiros**	**5.08**	**1**	*e*Pn		**Pn**	**Pn**	**14 15 32.6**	**+1.2**
PVAQ				*e*Sn		**Sn**	**Sn**	**14 16 28.7**	**-1.1**
PVAQ				A		A	A	14 16 30.0	
	3.9nm,0.6s								
PVAQ	**Vaqueiros**	**5.08**	**1**	P		**Pn**	**Pn**	**14 15 32.9**	**+1.6**
PVAQ	**Vaqueiros**	**5.08**	**1**	P		**Pn**	**Pn**	**14 15 33.0**	**+1.6**
PVAQ				S		**Sn**	**Sn**	**14 16 34.1**	**+4.3**
EGRO	**El Granado**	**5.21**	**3**	Pn		**Pn**	**Pn**	**14 15 32.0**	**-1.3**
EGRO				⇑*i*Vmb_V				14 15 35.0	
	70nm,SNR=0.9								
EGRO				Sn		**Sn**	**Sn**	**14 16 29.4**	**-3.7**
PTEO	**Sao Teotonio**	**5.28**	**352**	*e*Pn		**Pn**	**Pn**	**14 15 35.7**	**+1.6**
PCVE	**Castro Verde**	**5.31**	**358**	*e*Pn		**Pn**	**Pn**	**14 15 36.1**	**+1.5**
PCVE				*e*Sn		**Sn**	**Sn**	**14 16 34.7**	**-0.8**
PCVE				A		A	A	14 16 36.5	
	3.1nm,0.6s								
EMIN	**Mina Concepcio**	**5.52**	**9**	Pn		**Pn**	**Pn**	**14 15 36.9**	**-0.6**
EMIN				⇑*i*Vmb_V				14 15 39.1	
	59nm,SNR=1.3								
EMIN				Sn		**Sn**	**Sn**	**14 16 37.7**	**-3.0**
MESJ	**Messejana**	**5.53**	**356**	*e*Pn		**Pn**	**Pn**	**14 15 39.4**	**+1.9**
MESJ				*e*Sn		**Sn**	**Sn**	**14 16 40.1**	**-0.7**
MESJ				A		A	A	14 16 45.7	
	2.0nm,0.5s								
PBAR	**Barrancos**	**5.88**	**6**	*e*Pn		**Pn**	**Pn**	**14 15 43.9**	**+1.5**
PBAR				*e*Sn		**Sn**	**Sn**	**14 16 47.8**	**-1.7**
PBAR				A		A	A	14 16 51.3	
	2.1nm,0.5s								
ECAB	**El Cabril**	**6.07**	**18**	Pn		**Pn**	**Pn**	**14 15 45.0**	**0.0**
ECAB				⇑*i*Vmb_V				14 15 46.7	
	45nm,SNR=1.4								
ECAB				Sn		**Sn**	**Sn**	**14 16 50.4**	**-3.8**
EVO	**Evora**	**6.21**	**358**	*e*Pn		**Pn**	**Pn**	**14 15 47.9**	**+1.0**
EADA	**Adamuz**	**6.40**	**23**	Pn		**Pn**	**Pn**	**14 15 50.3**	**+0.7**
EADA				⇑*i*Vmb_V				14 15 51.4	
	36nm,SNR=1.2								
EADA				Sn		**Sn**	**Sn**	**14 16 58.8**	**-3.7**
EBAD	**Badajoz**	**6.46**	**5**	Pn		**Pn**	**Pn**	**14 15 50.3**	**0.0**
EBAD				⇑*i*Vmb_V				14 15 52.7	
	56nm,SNR=1.3								
EBAD				Sn		**Sn**	**Sn**	**14 17 00.2**	**-3.6**
PESTR	**Estremoz**	**6.54**	**1**	*e*Pn		**Pn**	**Pn**	**14 15 53.5**	**+2.0**
PMTG	**Montargil**	**6.75**	**357**	*e*Pn		**Pn**	**Pn**	**14 15 56.2**	**+1.9**
PMRV	**Marv??o**	**7.11**	**2**	*e*Pn		**Pn**	**Pn**	**14 16 00.4**	**+1.1**
PCBR	**Castelo Branco**	**7.52**	**2**	*e*Pn		**Pn**	**Pn**	**14 16 06.2**	**+1.4**

*IDC **03** 14:16:11.8±0.9, 20°.22N×147°.42E, h0km, mb3.8/13, mbtmp3.9/16, ML4.2/2, Error ellipse: s-maj=29.1km s-min=15.2km az=89.0*
ISC 03 14:16:18.4±0.9, 20°28N±0°.07×147°2E±0°2, h44km, n22, σ1§40/18, mb3.7/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.01**	**199**	Pn		**Pn**	**Pn**	**14 17 57.3**	**-1.3**
	2.0nm,0.3s,baz=30,slow=20,SNR=1.9								
GUMO				Sn		**Sn**	**Sn**	**14 19 16.8**	**-0.2**
	1.2nm,0.3s,baz=245,slow=21,SNR=1.2								
	22nm,0.7s								
JCJ	**Chichijima**	**8.17**	**327**	Pn		**Pn**	**Pn**	**14 18 14.6**	**+0.1**
	6.4nm,0.3s,baz=53,slow=20,SNR=2.2								
JCJ				Sn		**Sn**	**Sn**	**14 19 41.8**	**-3.9**
	2.2nm,0.3s,baz=115,slow=23,SNR=0.9								
	21nm,0.3s								
MJAR	**Matsushiro Arr**	**18.00**	**336**	P		**Pn**	**Pn**	**14 20 24.3**	**-1.0**
	1.0nm,0.8s,baz=145,slow=12,SNR=2.2								
H11S3	**WAKE ISLAND Hy**	**18.50**	**92**	T		T	T	14 39 02.8	
	baz=279								
H11S1	**WAKE ISLAND Hy**	**18.51**	**92**	T		T	T	14 39 05.2	
	baz=279								
H11S2	**WAKE ISLAND Hy**	**18.52**	**92**	T		T	T	14 38 55.9	
	baz=279								
H11N1	**WAKE ISLAND Hy**	**18.55**	**88**	T		T	T	14 39 16.5	
	baz=274								
H11N2	**WAKE ISLAND Hy**	**18.55**	**88**	T		T	T	14 39 17.3	
	baz=274								
H11N3	**WAKE ISLAND Hy**	**18.56**	**88**	T		T	T	14 39 18.3	
	baz=274								
KSRS	**Korea Array**	**23.94**	**320**	P		**P**	**P**	**14 21 29.9**	**+1.5**
	1.8nm,0.8s,baz=138,slow=7.4,SNR=7.1								
	1.8nm,0.8s								
WRA	**Warramunga Arr**	**41.90**	**198**	P		**P**	**P**	**14 24 04.0**	**-0.8**
	0.4nm,0.4s,baz=20,slow=8.5,SNR=7.6								
	0.4nm,0.4s								
SONM	**Songino Array**	**42.81**	**320**	P		**P**	**P**	**14 24 13.6**	**+1.5**
	0.8nm,0.5s,baz=140,slow=7.6,SNR=5.5								
	0.8nm,0.5s								
FITZ	**Fitzroy Crossi**	**43.60**	**210**	P		**P**	**P**	**14 24 18.3**	**-0.2**
	0.9nm,0.6s,baz=14,slow=11								
	0.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**45.41**	**276**	P		**P**	**P**	**14 24 34.5**	**+1.4**
	0.6nm,0.6s,baz=68,slow=7.3,SNR=1.6								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**45.56**	**197**	P		**P**	**P**	**14 24 33.5**	**-0.6**
	0.5nm,0.8s,baz=12,slow=5.9,SNR=6.2								
	0.5nm,0.8s								
ZALV	**Zalesovo Beam**	**57.62**	**322**	P		**P**	**P**	**14 26 04.1**	**+0.1**
	1.5nm,0.6s,baz=109,slow=6.9,SNR=5.9								
	1.5nm,0.6s								
MKAR	**Makanchi Array**	**58.38**	**313**	P		**P**	**P**	**14 26 10.9**	**+1.4**
	1.0nm,0.8s,baz=90,slow=8.8,SNR=8.2								
	1.0nm,0.8s								
KURBB	**Kurchatov Arra**	**61.09**	**317**	P		**P**	**P**	**14 26 29.0**	**+1.1**
	1.9nm,0.5s,baz=91,slow=7.5,SNR=20								
	1.9nm,0.5s								
ILAR	**Eielson Array**	**61.62**	**26**	P		**P**	**P**	**14 26 30.8**	**-0.5**
	0.5nm,0.9s,baz=260,slow=5.4,SNR=3.1								
	0.5nm,0.9s								
AKTO	**Aktyubinsk**	**74.11**	**318**	P		**P**	**P**	**14 27 50.9**	**+0.8**
	1.1nm,0.7s,baz=89,slow=8.0,SNR=4.7								
	1.1nm,0.7s								
NVAR	**Mina Array Bea**	**81.08**	**52**	P		**P**	**P**	**14 28 28.9**	**-0.6**
	0.9nm,0.9s,baz=251,slow=4.5,SNR=5.0								
	0.9nm,0.9s								
FINES	**FINESS Array B**	**86.03**	**336**	P		**P**	**P**	**14 28 54.2**	**+0.1**
	1.6nm,0.8s,baz=58,slow=4.7,SNR=5.5								
	1.6nm,0.8s								

ROM 03 14:16:22.8±0.0, 42°.783N±0°.003×13°.137E±0°.004, h9km, ML2.6/32, 12C-7D, Error ellipse: s-maj=0.4km s-min=0.1km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**342**	⇓P		Pg	Pg	14 16 24.8	+0.1
NRCA				S		Sg	Sg	14 16 25.8	-0.3
NRCA					AML	AML			
	comp=N,31000µm,1.3s								
NRCA					AML	AML			
	comp=E,71500µm,0.1s								
NRCA					AML	AML			
	comp=N,31050µm,1.3s								
NRCA					AML	AML			
	comp=N,31050µm,1.3s								
NRCA					AML	AML			
	comp=N,31050µm,1.3s								
NRCA					AML	AML			
	comp=N,34250µm,1.3s								
NRCA					AML	AML			
	comp=E,64850µm,0.1s								
T1242	**Castelluccio d**	**0.07**	**47**	⇑P		Pg	Pg	14 16 25.1	+0.2
T1242				S		Sg	Sg	14 16 26.3	-0.2
T1242					AML	AML			
	comp=N,29450µm,0.4s								
T1242					AML	AML			
	comp=N,29400µm,0.4s								
T1242					AML	AML			
	comp=E,34050µm,0.5s								
T1242					AML	AML			
	comp=E,34250µm,0.5s								
T1242					AML	AML			
	comp=N,29500µm,0.4s								
T1202	**Accumoli, Fraz**	**0.10**	**141**	P		Pg	Pg	14 16 25.9	+0.6
T1202				S		Sg	Sg	14 16 28.0	+0.8
T1244	**Arquata del Tr**	**0.12**	**102**	P		Pg	Pg	14 16 26.3	+0.7
T1244				S		Sg	Sg	14 16 29.0	+1.5
T1244					AML	AML			
	comp=E,16700µm,0.3s								
T1244					AML	AML			
	comp=N,9165µm,0.8s								
T1244					AML	AML			
	comp=E,16200µm,0.3s								
T1244					AML	AML			
	comp=N,9035µm,0.8s								
T1244					AML	AML			
	comp=N,9045µm,0.8s								
T1244					AML	AML			
	comp=E,16750µm,0.3s								
T1244					AML	AML			
	comp=N,9170µm,0.8s								
MC2	**Monte Cornacci**	**0.14**	**17**	P		Pg	Pg	14 16 26.4	+0.5
T1204	**Amatrice, Fraz**	**0.17**	**129**	⇑P		Pg	Pg	14 16 27.2	+0.8
T1204				S		Sg	Sg	14 16 30.4	+1.5
T1204					AML	AML			
	comp=N,4595µm,1.0s								
T1204					AML	AML			
	comp=E,6105µm,0.6s								
T1204					AML	AML			
	comp=E,6100µm,0.6s								
T1204					AML	AML			
	comp=N,4585µm,1.0s								
LNSS	**Leonessa**	**0.19**	**202**	⇓P		Pg	Pg	14 16 27.5	+0.7
LNSS					AML	AML			
	comp=E,7300µm,0.5s								
LNSS					AML	AML			
	comp=N,7040µm,0.4s								
LNSS					AML	AML			
	comp=E,7295µm,0.5s								
LNSS					AML	AML			
	comp=N,7035µm,0.4s								
T1215	**Vallo di Nera,**	**0.20**	**276**	P		Pg	Pg	14 16 27.6	+0.8
T1215				S		Sg	Sg	14 16 31.2	+1.5
T1215					AML	AML			
	comp=E,1830µm,0.5s								
T1215					AML	AML			
	comp=N,1540µm,0.5s								
T1215					AML	AML			
	comp=E,1930µm,0.5s								
T1215					AML	AML			
	comp=N,1430µm,0.5s								
T1215					AML	AML			
	comp=E,1926µm,0.5s								
T1215					AML	AML			
	comp=N,1434µm,0.5s								
T1215					AML	AML			
	comp=E,1930µm,0.5s								
T1215					AML	AML			
	comp=N,1432µm,0.5s								
SMA1	**SAN MARTINO**	**0.21**	**136**	⇑P		Pg	Pg	14 16 27.9	+0.8
SMA1				S		Sg	Sg	14 16 31.8	+1.7
SMA1					AML	AML			
	comp=N,4645µm,0.5s								
SMA1					AML	AML			
	comp=E,4860µm,1.1s								
SMA1					AML	AML			
	comp=N,4640µm,0.5s								
T1243	**Rocca Santa Ma**	**0.24**	**110**	P		Pg	Pg	14 16 28.2	+0.5
T1243				S		Sg	Sg	14 16 32.3	+1.2
FDMO	**Fiordimonte**	**0.26**	**352**	⇓P		Pg	Pg	14 16 28.5	+0.6
FDMO				S		Sg	Sg	14 16 32.7	+1.3
FDMO					AML	AML			
	comp=N,1270µm,0.3s								
FDMO					AML	AML			
	comp=E,1355µm,1.0s								
CESI	**CESI - Serrava**	**0.28**	**322**	⇑P		Pg	Pg	14 16 29.1	+0.7
CESI				S		Sb	Sb	14 16 33.7	-1.3
CESI					AML	AML			
	comp=E,2120µm,0.6s								
CESI					AML	AML			
	comp=N,3335µm,0.4s								
RM33	**Pellescritta (**	**0.28**	**168**	⇓P		Pg	Pg	14 16 29.1	+0.7
RM33				S		Sb	Sb	14 16 33.7	-1.2
RM33					AML	AML			
	comp=E,3485µm,1.0s								
RM33					AML	AML			
	comp=N,4835µm,0.3s								
RM33					AML	AML			
	comp=E,3560µm,1.5s								
RM33					AML	AML			
	comp=E,3480µm,1.0s								
RM33					AML	AML			
	comp=E,3565µm,1.5s								
RM33					AML	AML			
	comp=N,4840µm,0.3s								
RM33					AML	AML			
	comp=N,4795µm,0.3s								
CSP1	**Cessapalombo**	**0.31**	**9**	⇑P		Pg	Pg	14 16 29.6	+0.5
CSP1				S		Sb	Sb	14 16 34.9	-1.1
CSP1					AML	AML			
	comp=E,1695µm,1.3s								
CSP1					AML	AML			
	comp=N,2190µm,1.2s								
CSP1					AML	AML			
	comp=N,2195µm,1.2s								
GUMA	**Gualdo di Mace**	**0.32**	**27**	⇑P		Pb	Pb	14 16 29.9	-0.7
GUMA				S		Sb	Sb	14 16 35.3	-0.6
GUMA					AML	AML			
	comp=N,3730µm,0.7s								
GUMA					AML	AML			
	comp=E,3340µm,0.3s								
GUMA					AML	AML			
	comp=N,3625µm,0.7s								
GUMA					AML	AML			
	comp=E,3350µm,1.1s								
CAMP	**Campotosto**	**0.32**	**141**	⇑P		Pg	Pg	14 16 29.6	+0.5
CAMP				S		Sb	Sb	14 16 34.8	-1.2
CAMP					AML	AML			
	comp=E,915µm,0.4s								
CAMP					AML	AML			
	comp=N,989µm,0.5s								
ARRO	**Arrone**	**0.34**	**234**	⇓P		Pb	Pb	14 16 30.4	-0.7
ARRO				S		Sb	Sb	14 16 35.9	-0.7
ARRO					AML	AML			
	comp=E,827µm,0.6s								
ARRO					AML	AML			
	comp=N,861µm,0.2s								
ARRO					AML	AML			
	comp=N,860µm,0.2s								
ARRO					AML	AML			
	comp=E,828µm,0.6s								
TERO	**Teramo**	**0.38**	**115**	⇑P		Pg	Pg	14 16 30.5	+0.3
TERO				S		Sb	Sb	14 16 36.6	-1.1
TERO					AML	AML			
	comp=N,1285µm,1.1s								
TERO					AML	AML			
	comp=N,1375µm,1.1s								
TERO					AML	AML			
	comp=E,1310µm,0.2s								
TERO					AML	AML			
	comp=N,1280µm,1.1s								
TERO					AML	AML			
	comp=E,1175µm,0.3s								
ASSB	**Assisi San Ben**	**0.44**	**307**	⇑P		Pg	Pg	14 16 31.8	+0.5
ASSB				S		Sb	Sb	14 16 38.6	-0.8
ASSB					AML	AML			
	comp=N,1134µm,0.2s								
ASSB					AML	AML			
	comp=E,888µm,1.0s								
CESX	**Cesi**	**0.45**	**247**	P		Pg	Pg	14 16 32.1	+0.6
CESX					AML	AML			
	comp=E,808µm,0.5s								
CESX					AML	AML			
	comp=E,809µm,0.5s								
CESX					AML	AML			
	comp=N,866µm,0.9s								
GIGS	**Gran Sasso**	**0.46**	**136**	P		Pg	Pg	14 16 31.9	+0.2
GIGS				S		Sb	Sb	14 16 39.1	-1.1
GIGS					AML	AML			
	comp=N,226µm,0.4s								
GIGS					AML	AML			
	comp=E,536µm,0.2s								
SNTG	**Esanatoglia**	**0.49**	**343**	⇑P		Pg	Pg	14 16 32.8	+0.4
SNTG				S		Sb	Sb	14 16 40.7	-0.4
SNTG					AML	AML			
	comp=E,409µm,0.9s								
SNTG					AML	AML			
	comp=N,388µm,0.6s								
FIAM	**Fiamignano**	**0.52**	**182**	⇓P		Pg	Pg	14 16 33.1	+0.3
FIAM				S		Sb	Sb	14 16 41.0	-0.6
FIAM					AML	AML			
	comp=E,436µm,1.5s								

comp=N,284μm,0.5s
FAGN Fagnano 0.61 147 P Pb 14 16 35.4 -0.3
FAGN S Sb 14 16 44.5 +0.1
FAGN AML AML
comp=E,1122μm,0.3s
FAGN AML AML
comp=E,1122μm,0.3s
FAGN AML AML
comp=N,1500μm,0.3s
VCEL Villa Celiera 0.65 127 ⇑P Pg 14 16 35.8 +0.5
VCEL S Sb 14 16 46.6 +1.0
VCEL AML AML
comp=E,960μm,0.3s
VCEL AML AML
comp=N,908μm,0.3s
SSFR Montelago di S 0.70 338 AML AML
comp=E,528μm,0.2s
SSFR AML AML
comp=N,491μm,0.2s
ATFO Monte Foce - G 0.72 325 ⇑P Pb 14 16 37.1 -0.4
ARVD Arcevia 0.73 349 AML AML
comp=E,186μm,0.5s
ARVD AML AML
comp=N,172μm,0.5s
T0110 Collepietro 0.73 139 ⇓P Pg 14 16 36.9 0.0
T0110 S Sb 14 16 48.7 +0.8
T0110 AML AML
comp=E,989μm,0.6s
T0110 AML AML
comp=N,914μm,1.4s
MGAB Montegabbione 0.77 280 AML AML
comp=E,465μm,0.3s
MGAB AML AML
comp=N,574μm,1.0s
CERT Cerreto 0.84 188 AML AML
comp=E,460μm,0.5s
CERT AML AML
comp=N,233μm,1.0s
MPAG Monte Paganucc 0.89 342 AML AML
comp=N,192μm,0.6s
MPAG AML AML
comp=E,204μm,1.0s
FSSB Fossombrone 0.95 344 AML AML
comp=N,599μm,0.4s
FSSB AML AML
comp=E,596μm,0.4s
CAFI Castiglion Fio 1.02 303 AML AML
comp=N,126μm,0.6s
CAFI AML AML
comp=E,106μm,1.4s
LPEL Lama dei Pelig 1.07 133 AML AML
comp=N,167μm,0.4s
LPEL AML AML
comp=E,203μm,0.5s

*IDC **03** 14:21:51.8±1.1,20°.18N×147°.27E,h0km,mb3.5/8, mbtmp3.6/9,ML4.3/1,Error ellipse: s-maj=37.4km s-min=21.0km az=92.0*
ISC 03 14:21:57.2±1.0,20°.2N±0°.1×147°.1E±0°.2,h35km,n12, σ1§07/9,mb3.5/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**8.20**	**327**	Pn	**Pn**	**14 23 52.2**	**-1.5**
	3.7nm,0.3s,baz=265,slow=19,SNR=1.6						
	18nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**18.58**	**88**	T	T	14 45 09.9	
	baz=275						
H11N2	**WAKE ISLAND Hy**	**18.58**	**88**	T	T	14 45 14.7	
	baz=275						
H11N3	**WAKE ISLAND Hy**	**18.59**	**88**	T	T	14 45 16.2	
	baz=275						
WRA	**Warramunga Arr**	**41.85**	**198**	P	**P**	**14 29 43.1**	**-0.8**
	0.1nm,0.3s,baz=12,slow=8.5,SNR=4.6						
	0.1nm,0.3s						
SONM	**Songino Array**	**42.83**	**320**	P	**P**	**14 29 53.1**	**+1.2**
	0.7nm,0.7s,baz=134,slow=6.2,SNR=2.8						
	0.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.54**	**210**	P	**P**	**14 29 57.7**	**0.0**
	0.7nm,0.5s,baz=36,slow=10,SNR=1.7						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**45.50**	**197**	P	**P**	**14 30 13.1**	**-0.3**
	0.3nm,0.8s,baz=14,slow=6.7,SNR=1.4						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**57.64**	**322**	P	**P**	**14 31 44.4**	**+0.7**
	0.8nm,0.6s,baz=89,slow=6.3,SNR=2.9						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**58.40**	**313**	P	**P**	**14 31 50.4**	**+1.2**
	0.3nm,0.7s,baz=103,slow=5.7,SNR=3.1						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**61.67**	**26**	P	**P**	**14 32 10.8**	**-0.6**
	0.2nm,0.6s,baz=262,slow=6.3,SNR=1.9						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**81.13**	**52**	P	**P**	**14 34 09.9**	**+0.3**
	0.2nm,0.5s,baz=252,slow=7.5,SNR=2.7						
	0.2nm,0.5s						

IDC 03 14:22:42.6±1.4,20°.35N×147°.45E,h0km,mb3.6/4, mbtmp3.8/5,ML4.3/1,Error ellipse: s-maj=44.6km s-min=31.9km az=96.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**8.27**	**325**	Pn	Pn	14 24 44.5	+0.6
	3.7nm,0.3s,baz=285,slow=18,SNR=1.7						
	23nm,0.5s						
WRA	**Warramunga Arr**	**42.05**	**199**	P	P	14 30 35.9	-0.2
	0.7nm,0.8s,baz=20,slow=8.8,SNR=2.5						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**57.74**	**322**	P	P	14 32 35.1	-0.1
	0.3nm,0.3s,baz=104,slow=6.1,SNR=2.3						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**61.45**	**26**	P	P	14 32 59.9	-0.7
	0.4nm,0.7s,baz=263,slow=7.2,SNR=4.1						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**80.83**	**53**	P	P	14 34 59.6	+0.7
	0.4nm,0.7s,baz=279,slow=5.9,SNR=3.2						
	0.4nm,0.7s						

*IDC **03** 14:24:18.1±0.9,9°.87N×126°.37E,h0km,mb3.9/9, mbtmp3.9/9,Error ellipse: s-maj=37.0km s-min=13.7km az=94.0*
*MAN **03** 14:24:22.1,9°.92N×126°.37E,h9km,mb4.5,ML3.4,MS3.2*
ISC 03 14:24:19.9±0.8,9°.88N±0°.06×126°.47E±0°.07,h10km,n17, σ1§73/21,mb3.8/9,2C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.97**	**265**	⇓*eP*	**Pg**	**14 24 38.2**	**-0.5**
SCPH				*eS*	**Sb**	14 24 49.6	-2.2
BIPH	**Bislig**	**1.68**	**184**	⇑*eP*	**Pn**	14 24 49.3	-0.1
CGP	**Cagayan de Oro**	**2.25**	**231**	⇓*eP*	**Pn**	14 24 58.0	+0.7
CGP				*eS*	**Sn**	14 25 24.9	-0.2
LLP	**Lapu-Lapu**	**2.51**	**280**	⇑*iP*	**Pn**	14 25 02.6	+1.9
LLP				*i* S	**Sn**	14 25 32.0	+0.6
DAV	**Davao City (W)**	**2.92**	**198**	Pg	**Pb**	14 25 12.2	0.0
	52nm,0.3s,baz=53,slow=3.9,SNR=1.6						
DAV				Lg	Lg	14 25 51.6	
	84nm,0.3s,baz=105,slow=3.2,SNR=2.0						
KCP	**Kidapawan**	**3.16**	**206**	⇓*iP*	**Pn**	**14 25 12.8**	**+3.0**
KCP				*i* S	**Sn**	14 25 51.0	+3.4
CTBH	**Cotabato--PC H**	**3.44**	**220**	⇓*iP*	**Pn**	14 25 16.0	+2.5
RCP	**Roxas**	**4.03**	**295**	⇓*eP*	**Pn**	14 25 24.1	+2.4
KSRS	**Korea Array**	**27.49**	**3**	P	**P**	**14 30 07.4**	**+1.0**
	0.5nm,0.6s,baz=188,slow=9.3,SNR=2.4						
	0.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.81**	**182**	P	**P**	**14 30 09.1**	**-0.4**
	1.6nm,0.7s,baz=21,slow=10,SNR=1.7						
	1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.99**	**291**	P	**P**	**14 30 10.6**	**-0.5**
	0.3nm,0.4s,baz=102,slow=8.4,SNR=1.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**34.12**	**168**	P	**P**	**14 31 03.6**	**-1.5**
	0.2nm,0.4s,baz=348,slow=7.5,SNR=8.8						
	0.2nm,0.4s						
PETK	**Petropavlovsk-**	**49.91**	**24**	P	**P**	**14 33 15.6**	**+1.9**
	0.6nm,0.7s,baz=202,slow=7.3,SNR=2.0						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**52.46**	**323**	P	**P**	**14 33 31.8**	**-1.2**
	0.8nm,0.7s,baz=119,slow=8.1,SNR=7.5						
	0.8nm,0.7s						
TIXI	**Tiksi**	**61.74**	**1**	P	**P**	**14 34 38.1**	**0.0**
	0.5nm,0.3s,baz=270,slow=20,SNR=3.9						
	0.5nm,0.3s						
ARCES	**ARCESS Array B**	**84.63**	**340**	P	**P**	**14 36 52.2**	**-1.2**
	6.3nm,1.1s,baz=93,slow=6.3,SNR=5.9						
	6.3nm,1.1s						
FINES	**FINESS Array B**	**86.33**	**332**	P	**P**	**14 37 00.6**	**-1.4**
	0.6nm,0.5s,baz=92,slow=4.2,SNR=8.7						
	0.6nm,0.5s						

*NOU **03** 14:26:25.6,37°.55S×179°.54E,h141km,MLv4.6/9, Off E. Coast of N. Island, N.Z.*
*NEIC **03** 14:26:26.7±1.7,37°.66S±0°.09×179°.26E±0°.07,h10km±2km, mb4.3/8,Error ellipse: s-maj=16.1km s-min=8.7km az=8.0*
*IDC **03** 14:26:27.4±1.8,37°.07S×178°.89E,h0km,mb3.9/5, mbtmp3.9/5,MS4.4/2,Error ellipse: s-maj=37.2km s-min=34.2km az=48.0*
*WEL **03** 14:26:28.5±0.6,37°.5±4°×17°.9E±°,h15km,M4.1/83, ML4.3/85,MLv4.1/83,Error ellipse: s-maj=0.0km s-min=0.0km az=85.1*
ISC 03 14:26:26.4±2.0,37°.44S±0°.05×179°.28E±0°.07,h10km±10km, n160,σ1§30/161,mb4.0/9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.78**	**241**	P	**Pn**	**14 26 43.9**	**+0.5**
WMGZ				S	**Sb**	14 26 53.3	+0.6
MXZ	**Matakaoa Point**	**0.78**	**261**		**Pg**	14 26 41.3	-0.1
MXZ	**Matakaoa Point**	**0.78**	**261**	P	**Pg**	14 26 41.4	0.0
MXZ				S	**Sg**	14 26 48.4	-3.2
PUZ	**Puketiti**	**1.02**	**232**	P	**Pn**	14 26 48.1	+1.3
PUZ				S	**Sb**	14 27 00.1	+0.4
PKGZ	**Pakihiroa**	**1.05**	**245**	P	**Pb**	14 26 47.2	+0.6
PKGZ				S	**Sb**	14 26 59.1	-1.4
HAZ	**Te Kaha**	**1.23**	**255**	P	**Pn**	14 26 49.3	-0.2
HAZ				S	**Sb**	14 27 03.4	-2.1
TWGZ	**Tauwhareparae**	**1.26**	**234**	P	**Pg**	14 26 51.3	+0.7
TWGZ				S	**Sn**	14 27 07.4	+0.3
CNGZ	**Carnagh Statio**	**1.34**	**219**	P	**Pg**	14 26 53.3	+1.3
CNGZ				S	**Sg**	14 27 11.8	+2.4
RUGZ	**Raukumara Rang**	**1.37**	**247**	P	**Pn**	14 26 52.1	+0.5
RUGZ				S	**Sn**	14 27 08.2	-1.7
TKGZ	**Te Karaka**	**1.50**	**228**	P	**Pn**	14 26 54.4	+1.0
TKGZ				S	**Sn**	14 27 12.8	-0.2
MWZ	**Matawai**	**1.64**	**237**	P	**Pn**	14 26 56.0	+0.6
MWZ				S	**Sb**	14 27 19.0	+1.4
WIZ	**White Island**	**1.66**	**267**	P	**Pn**	14 26 56.4	+0.9
WIZ				S	**Sb**	14 27 18.0	0.0
RIGZ	**Rimuhau**	**1.74**	**223**	P	**Pn**	14 26 57.8	+1.2
RAGZ	**Rawiri**	**1.81**	**234**	P	**Pn**	14 26 58.5	+0.8
PRGZ	**Paritu Road**	**1.84**	**216**	P	**Pn**	14 26 59.2	+1.2
WHRZ	**Whale Island**	**1.87**	**257**	P	**Pn**	14 26 59.1	+0.6
URZ	**Urewera**	**1.90**	**244**	Pn	**Pn**	14 26 59.6	+0.8
	124nm,0.3s,baz=31,slow=4.6,SNR=108						
URZ				Sn	**Sn**	14 27 20.6	-2.1
	113nm,0.3s,baz=211,slow=9.7,SNR=7.1						
URZ				LR	LR	14 27 51.2	
	comp=Z,324nm,20.1s,baz=30,slow=46						
URZ	**Urewera**	**1.90**	**244**	P	**Pn**	**14 26 59.8**	**+1.1**
URZ	**Urewera**	**1.90**	**244**	P	**Pn**	14 26 59.9	+1.1
MHGZ	**Mahia Peninsul**	**2.02**	**212**	P	**Pn**	14 27 01.8	+1.4
KNZ	**Kokohu**	**2.02**	**218**	P	**Pn**	14 27 01.0	+0.6
SNGZ	**Shannon Statio**	**2.03**	**228**	P	**Pn**	14 27 01.0	+0.4
EDRZ	**Edgecumbe**	**2.12**	**251**	P	**Pn**	14 27 02.5	+0.6
MARZ	**Manawahe**	**2.13**	**255**	P	**Pn**	14 27 02.3	+0.3
RTZ	**Ruatahuna**	**2.16**	**236**	P	**Pn**	14 27 03.5	+1.0
OPRZ	**Ohinepanea**	**2.20**	**259**	P	**Pn**	14 27 02.8	-0.1
MUGZ	**Murupara**	**2.23**	**242**	P	**Pn**	14 27 04.0	+0.6
RAHZ	**Arahi**	**2.27**	**229**	P	**Pn**	14 27 03.5	-0.4
WHHZ	**Waihua**	**2.29**	**224**	P	**Pn**	14 27 05.1	+0.9
MKRZ	**Makatiti**	**2.33**	**252**	P	**Pn**	14 27 06.1	+1.2
TARZ	**Mount Tarawera**	**2.33**	**249**	P	**Pn**	14 27 05.8	+1.0
RRRZ	**Republican Roa**	**2.36**	**247**	P	**Pn**	14 27 06.0	+0.8
MTHZ	**Maungataniwha**	**2.38**	**233**	P	**Pn**	14 27 06.6	+1.1
OMRZ	**Omania**	**2.39**	**253**	P	**Pn**	14 27 06.2	+0.5
TGRZ	**Tauranga**	**2.41**	**262**	P	**Pn**	14 27 05.7	-0.1
MYRZ	**Mayor Island**	**2.42**	**273**	P	**Pn**	14 27 05.7	-0.4
HLRZ	**Highlands Stat**	**2.45**	**250**	P	**Pn**	14 27 07.3	+0.9
KARZ	**Kaharoa**	**2.47**	**256**	P	**Pn**	14 27 06.9	+0.3
PRRZ	**Plateau Road**	**2.51**	**244**	P	**Pn**	14 27 07.7	+0.5
NGRZ	**Ngongotaha**	**2.53**	**254**	P	**Pn**	14 27 08.5	+0.9
HRRZ	**Handcock Road**	**2.55**	**247**	P	**Pn**	14 27 08.4	+0.7
UTU	**Utuhina**	**2.55**	**252**	P	**Pn**	14 27 09.0	+1.3
NMHZ	**Naumai**	**2.55**	**229**	P	**Pn**	14 27 09.0	+1.2
HSRZ	**Hossack Road**	**2.55**	**249**	P	**Pn**	14 27 08.9	+1.2
ARHZ	**Aropaoanui**	**2.55**	**224**	P	**Pn**	14 27 08.6	+0.8
ALRZ	**Allen Road**	**2.57**	**243**	P	**Pn**	14 27 08.7	+0.6
MRHZ	**Matea Rd**	**2.65**	**238**	P	**Pn**	14 27 09.7	+0.5
GRRZ	**Galatos Road**	**2.66**	**249**	P	**Pn**	14 27 10.6	+1.2
KMRZ	**Kaimai**	**2.68**	**260**	P	**Pn**	14 27 09.4	-0.1
WPRZ	**Whakapapatarin**	**2.68**	**245**	P	**Pn**	14 27 12.4	+2.8
BKZ	**Black Stump Fm**	**2.78**	**231**		**Pn**	14 27 11.4	+0.4
BKZ	**Black Stump Fm**	**2.78**	**231**	P	**Pn**	14 27 11.6	+0.6
BKZ	**Black Stump Fm**	**2.78**	**231**	P	**Pn**	14 27 11.8	+0.8
CKHZ	**Cape Kidnapper**	**2.80**	**217**	P	**Pn**	14 27 11.4	+0.2
WHTZ	**Whakaora**	**2.89**	**244**	P	**Pn**	14 27 15.2	+2.7
KUTZ	**Kaahu Road**	**2.92**	**248**	P	**Pn**	14 27 13.7	+0.8
KUZ	**Kuaotunu**	**2.93**	**283**	P	**Pn**	14 27 11.2	-1.7
KWHZ	**Kaweka Forest**	**2.99**	**228**	P	**Pn**	14 27 13.8	-0.1
KAHZ	**Kahuranaki**	**3.01**	**218**	P	**Pn**	14 27 14.1	0.0
TOZ	**Tahuroa Road**	**3.01**	**263**	P	**Pn**	14 27 13.9	-0.2
WAZ	**Wairara**	**3.07**	**245**	P	**Pn**	14 27 15.5	+1.6
TLZ	**Tolley Road**	**3.09**	**252**	P	**Pn**	14 27 15.6	+0.5
RATZ	**Rangitukua**	**3.10**	**242**	P	**Pn**	14 27 16.3	+0.9
KRHZ	**Kereru**	**3.16**	**225**	P	**Pn**	14 27 15.9	-0.3
PXZ	**Pawanui**	**3.20**	**215**	P	**Pn**	14 27 16.0	-0.7
KATZ	**Kakaramea**	**3.21**	**240**	P	**Pn**	14 27 17.8	+0.9
BHHZ	**Black Hill Sta**	**3.25**	**230**	P	**Pn**	14 27 17.5	+0.2
TMVZ	**Te Maari**	**3.27**	**238**	P	**Pn**	14 27 18.2	+0.4
ETVZ	**East Tongariro**	**3.27**	**238**	P	**Pn**	14 27 18.2	+0.4
NTVZ	**North Tongarir**	**3.28**	**239**	P	**Pn**	14 27 18.4	+0.5
GRZ	**Great Barrier**	**3.29**	**290**	P	**Pn**	14 27 16.9	-0.9
MKAZ	**Moumakai**	**3.30**	**275**	P	**Pn**	14 27 17.2	-0.8
KRVZ	**Karewarewa**	**3.30**	**239**	P	**Pn**	14 27 18.6	+0.4
OTVZ	**Oturere**	**3.32**	**238**	P	**Pn**	14 27 19.0	+0.6
NNVZ	**North Ngauruho**	**3.34**	**239**	P	**Pn**	14 27 19.4	+0.7
WTVZ	**West Tongariro**	**3.35**	**239**	P	**Pn**	14 27 19.5	+0.7
SNVZ	**South Ngauruho**	**3.35**	**238**	P	**Pn**	14 27 19.2	+0.3
NGZ	**Ngauruhoe**	**3.37**	**238**	P	**Pn**	14 27 19.5	+0.3
WIAZ	**Waiheke Island**	**3.37**	**280**	P	**Pn**	14 27 19.2	+0.2
TUVZ	**Tukino**	**3.38**	**236**	P	**Pn**	14 27 19.6	+0.3
MOVZ	**Moawhango**	**3.39**	**234**	P	**Pn**	14 27 19.4	0.0
WPHZ	**Waipukurau**	**3.43**	**219**	P	**Pn**	14 27 19.4	-0.5
TWVZ	**Taurewa**	**3.43**	**241**	P	**Pn**	14 27 20.6	+0.6
WHVZ	**Whangaehu Hut**	**3.43**	**237**	P	**Pn**	14 27 20.4	+0.3
FWVZ	**Far West T-bar**	**3.44**	**237**	P	**Pn**	14 27 20.5	+0.3
PNHZ	**Pukenui**	**3.45**	**223**	P	**Pn**	14 27 19.3	-0.8
WNVZ	**Wahianoa**	**3.45**	**236**	P	**Pn**	14 27 20.5	+0.2
TRVZ	**Turoa**	**3.47**	**237**	P	**Pn**	14 27 21.7	+1.1
PRHZ	**Porangahau**	**3.49**	**215**	P	**Pn**	14 27 19.9	-0.8
ETAZ	**East Tamaki Re**	**3.51**	**277**	P	**Pn**	14 27 20.3	-0.5
MTVZ	**Mangateitei**	**3.56**	**236**	P	**Pn**	14 27 22.7	+1.0
MBAZ	**Motutapu North**	**3.56**	**280**	P	**Pn**	14 27 21.2	-0.5
PKVZ	**Pokaka**	**3.60**	**238**	P	**Pn**	14 27 23.0	+0.8
HIZ	**Hauiti**	**3.65**	**252**		**Pn**	14 27 24.0	+1.2
HIZ	**Hauiti**	**3.65**	**252**	P	**Pn**	14 27 24.1	+1.2
HIZ	**Hauiti**	**3.65**	**252**	P	**Pn**	14 27 24.2	+1.3
ABAZ	**Army Bay**	**3.65**	**282**	P	**Pn**	14 27 22.5	-0.4
EPAZ	**Eden Park BICE**	**3.66**	**278**	P	**Pn**	14 27 24.1	+1.1
TSZ	**Takapari Road**	**3.68**	**224**	P	**Pn**	14 27 22.1	-1.2
HBAZ	**Herne Bay Bore**	**3.68**	**278**	P	**Pn**	14 27 24.3	+1.1
AWAZ	**Awhitu Peninsu**	**3.71**	**274**	P	**Pn**	14 27 24.3	+0.5
ANWZ	**Angora Road**	**3.72**	**215**	P	**Pn**	14 27 22.8	-1.0
DVHZ	**Dannevirke**	**3.74**	**219**	P	**Pn**	14 27 23.2	-1.0
WTAZ	**Waiatarua**	**3.79**	**276**	P	**Pn**	14 27 25.8	+1.0
RVAZ	**Riverhead Bore**	**3.81**	**279**	P	**Pn**	14 27 24.9	-0.2
BFZ	**Birch Farm**	**4.00**	**215**		**Pn**	14 27 26.2	-1.5
BFZ	**Birch Farm**	**4.00**	**215**	P	**Pn**	14 27 26.7	-1.0
POWZ	**Post Office Ro**	**4.02**	**222**	P	**Pn**	14 27 26.8	-1.2
PRWZ	**Pori Road**	**4.03**	**219**	P	**Pn**	14 27 27.2	-0.9
WAZ	**Wanganui**	**4.08**	**234**	P	**Pn**	14 27 29.7	+0.9
MHEZ	**Mangahewa**	**4.22**	**246**	P	**Pn**	14 27 34.6	+3.8
WCZ	**Waipu Caves**	**4.24**	**289**	P	**Pn**	14 27 30.7	-0.3
TIWZ	**Tintock**	**4.25**	**217**	P	**Pn**	14 27 29.9	-1.2
LREZ	**Lake Rotokare**	**4.32**	**241**	P	**Pn**	14 27 33.5	+1.4
PREZ	**Palmer Road**	**4.44**	**243**	P	**Pn**	14 27 36.1	+2.3
NEZ	**North Egmont**	**4.46**	**244**	P	**Pn**	14 27 36.1	+2.0
PKE	**Pukeiti**	**4.51**	**246**	P	**Pn**	14 27 37.2	+2.5
KHEZ	**Kahui Hut**	**4.53**	**244**	P	**Pn**	14 27 37.3	+2.3
NBEZ	**Newall Road No**	**4.62**	**245**	P	**Pn**	14 27 39.1	+2.8
MSWZ	**Moikau Station**	**5.04**	**217**		**Pn**	14 27 39.1	-3.0
OUZ	**Omahuta**	**5.09**	**294**		**Pn**	14 27 43.0	+0.4
OUZ	**Omahuta**	**5.09**	**294**	P	**Pn**	**14 27 43.1**	**+0.4**
OUZ	**Omahuta**	**5.09**	**294**	P	**Pn**	14 27 43.1	+0.4
PLWZ	**Palliser**	**5.16**	**216**	Pn	**Pn**	14 27 40.8	-2.9
SNZO	**South Karori**	**5.24**	**221**	P	**Pn**	14 27 42.2	-2.5
TUWZ	**Tuamarina**	**5.73**	**224**	Pn	**Pn**	14 27 48.9	-2.5
CMWZ	**Cape Campbell**	**5.81**	**221**	Pn	**Pn**	14 27 50.4	-2.1
QRZ	**Quartz Range**	**6.24**	**235**	P	**Pn**	14 27 55.9	-2.5
THZ	**Tophouse**	**6.54**	**227**	Pn	**Pn**	14 28 00.2	-2.5
KHZ	**Kahutara**	**6.64**	**220**	P	**Pn**	14 28 00.8	-3.1
CTZ	**Chatham Island**	**7.02**	**155**	P	Pn	14 28 14.4	+5.3
LTZ	**Lake Taylor**	**7.56**	**223**	Pn	**Pn**	14 28 13.9	-2.8
RIZ	**Raoul Island**	**8.50**	**17**	P	Pn	14 28 38.8	+9.2
RPZ	**Rata Peaks**	**8.85**	**222**	Pn	**Pn**	**14 28 31.0**	**-3.3**
	1.4nm,0.3s,baz=125,slow=2.1,SNR=10						
RPZ				Sn	Sn	14 30 00.5	-13
	3.2nm,0.3s,baz=240,slow=21,SNR=14						
RPZ	**Rata Peaks**	**8.85**	**222**	P	**Pn**	**14 28 31.7**	**-2.6**
ODZ	**Otahua Downs**	**9.99**	**218**	Pn	**Pn**	**14 28 46.2**	**-3.6**
CAN	**Canberra**	**24.42**	**266**	P	**P**	**14 31 44.1**	**-1.1**
STKA	**Stephens Creek**	**31.34**	**269**	P	**P**	**14 32 47.1**	**+0.1**
	1.2nm,0.7s,baz=90,slow=10,SNR=5.5						
	1.2nm,0.7s						
COEN	**Coen**	**39.70**	**296**	P	**P**	**14 34 00.1**	**+1.1**
COEN				IAmb	IAmb	14 34 32.3	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**41.03**	**276**	P	**P**	**14 34 10.0**	**0.0**
ASAR	**Alice Springs**	**41.03**	**276**	P	**P**	**14 34 09.2**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=125,slow=8.2,SNR=15						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**41.03**	**276**	P	**P**	**14 34 09.9**	**0.0**
WR0	**Warramunga Arr**	**42.50**	**281**	P	**P**	**14 34 22.7**	**+0.7**
WR0				IAmb	IAmb	14 34 37.3	
	comp=Z,6.8nm,1.4s						
WB2	**Warramunga Arr**	**42.66**	**281**	P	**P**	**14 34 22.5**	**-0.8**
WB2				IAmb	IAmb	14 34 41.1	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**42.67**	**281**	P	**P**	**14 34 22.9**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=123,slow=7.0,SNR=15						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**42.67**	**281**	P	**P**	**14 34 23.8**	**+0.5**
WB0	**Warramunga Arr**	**42.72**	**282**	P	**P**	**14 34 23.0**	**-0.8**
WB0				IAmb	IAmb	14 34 29.0	
	comp=Z,11nm,1.5s						
MTN	**Manton Dam**	**49.33**	**287**	P	**P**	**14 35 15.9**	**0.0**
FITZ	**Fitzroy Crossi**	**50.52**	**277**	P	**P**	**14 35 25.2**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=141,slow=6.2,SNR=2.8						
	comp=Z,1.6nm,0.8s						
QSPA	**South Pole Qui**	**52.68**	**180**	P	P	14 35 46.4	+5.7
	comp=Z,1.7nm,1.0s,baz=24,slow=2.1,SNR=3.4						
	comp=Z,1.7nm,1.0s						
MAW	**Mawson**	**64.94**	**202**	LR	LR	15 03 34.2	
	comp=Z,190nm,21.1s,baz=68,slow=34						
H03S2	**Juan Fernandez**	**78.46**	**124**	T	T	16 04 54.8	
	baz=233						
H03S1	**Juan Fernandez**	**78.47**	**124**	T	T	16 04 55.3	
	baz=233						
H03S3	**Juan Fernandez**	**78.47**	**124**	T	T	16 04 58.4	
	baz=233						
H03N3	**Juan Fernandez**	**78.69**	**123**	T	T	16 05 07.2	
	baz=234,slow=72,SNR=50						
H03N2	**Juan Fernandez**	**78.69**	**123**	T	T	16 05 06.1	
	baz=234,slow=72,SNR=34						
H03N1	**Juan Fernandez**	**78.71**	**123**	T	T	16 05 06.3	
	baz=234,slow=72,SNR=40						
NNA	**Nana**	**93.55**	**108**	LR	LR	15 15 29.9	
	comp=Z,247nm,18.8s,baz=272,slow=31						
ARCES	**ARCESS Array B**	**144.87**	**344**	PKP	**PKPdf**	**14 46 03.8**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=48,slow=1.3,SNR=5.4						
FINES	**FINESS Array B**	**150.73**	**334**	PKPbc	**PKiKP**	**14 46 19.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=20,slow=4.4,SNR=4.5						

*IDC **03** 14:32:52.3±1.3,5°.50S×153°.01E,h0km,mb3.7/8, mbtmp3.8/8,Error ellipse: s-maj=31.7km s-min=20.5km az=104.0*
ISC 03 14:32:57.8±1.1,5°.54S±0°.09×152°.9E±0°.1,h37km,n11, σ0§67/12,mb3.8/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.51**	**324**	Pn	**Pn**	**14 33 21.6**	**-0.7**
	179nm,0.3s,baz=199,slow=1.1,SNR=180						
KRVT				Sn	**Sn**	14 33 41.1	+0.3
	186nm,0.3s,baz=295,slow=21,SNR=14						
PMG	**Port Moresby**	**6.88**	**236**	Sn	**Sn**	**14 35 52.7**	**-0.6**
	1.4nm,0.3s,baz=59,sl

CTA	**Charters Tower**	**40.08**	**181**	P	**P**	**14 45 03.8**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=23,slow=7.7,SNR=2.1						
	comp=Z,2.6nm,0.8s						
WB0	**Warramunga Arr**	**41.67**	**198**	P	**P**	**14 45 15.5**	**-0.9**
WB0				IAmb	IAmb	14 45 28.1	
	comp=Z,6.1nm,1.1s						
WR0	**Warramunga Arr**	**41.81**	**198**	P	**P**	**14 45 16.1**	**-1.5**
WR0				IAmb	IAmb	14 45 22.2	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**41.85**	**198**	P	**P**	**14 45 16.1**	**-1.8**
WB2				IAmb	IAmb	14 45 48.2	
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**41.85**	**198**	P	**P**	**14 45 17.3**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=26,slow=9.2,SNR=16						
WRA				PcP	**PcP**	**14 47 13.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=18,slow=3.5,SNR=5.2						
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**41.85**	**198**	P	**P**	**14 45 17.3**	**-0.6**
SONM	**Songino Array**	**42.83**	**320**	P	**P**	**14 45 27.2**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=133,slow=8.5,SNR=9.0						
	comp=Z,1.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.55**	**210**	P	**P**	**14 45 31.5**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=34,slow=11,SNR=10						
	comp=Z,2.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.55**	**210**	P	**P**	**14 45 31.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**45.39**	**276**	P	**P**	**14 45 45.8**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=73,slow=6.1,SNR=1.6						
CMAR				LR	LR	15 02 23.8	
	comp=Z,24nm,21.9s,baz=90,slow=33						
	comp=Z,0.6nm,0.3s						
AS31	**Alice Springs**	**45.50**	**197**	P	**P**	**14 45 45.4**	**-1.8**
ASAR	**Alice Springs**	**45.50**	**197**	P	**P**	**14 45 46.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=13,slow=7.2,SNR=10						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**45.50**	**197**	P	**P**	**14 45 46.2**	**-1.0**
TIXI	**Tiksi**	**52.52**	**353**	P	**P**	**14 46 41.7**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=90,slow=20,SNR=4.1						
	comp=Z,0.8nm,0.4s						
RAMN	**Ramite**	**55.45**	**289**	*eP*	**P**	**14 47 04.5**	**+1.7**
JIRN	**Jiri**	**55.73**	**290**	*eP*	**P**	**14 47 06.9**	**+2.0**
GUN	**Gumba**	**55.97**	**291**	*eP*	**P**	**14 47 08.0**	**+1.3**
	comp=Z,12nm,0.4s						
PKI	**Pulchoki**	**56.42**	**290**	*eP*	**P**	**14 47 11.2**	**+1.3**
PKIN	**Phulchoki**	**56.44**	**290**	*eP*	**P**	**14 47 11.1**	**+1.2**
	comp=Z,5.5nm,0.4s						
GKN	**Gorkha**	**57.05**	**291**	*eP*	**P**	**14 47 16.0**	**+1.9**
ZALV	**Zalesovo Beam**	**57.65**	**322**	P	**P**	**14 47 18.2**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=102,slow=7.1,SNR=9.8						
	comp=Z,2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**57.65**	**322**	P	**P**	**14 47 17.6**	**-0.1**
DANN	**Dangsing**	**57.78**	**291**	*eP*	**P**	**14 47 20.6**	**+1.2**
	comp=Z,37nm,0.5s						
MKAR	**Makanchi Array**	**58.40**	**313**	P	**P**	**14 47 24.4**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=93,slow=8.6,SNR=9.5						
	comp=Z,1.6nm,0.8s						
PYUN	**Piuthan**	**58.48**	**291**	*eP*	**P**	**14 47 25.6**	**+1.3**
KURK	**Kurchatov**	**61.06**	**317**	P	**P**	**14 47 41.2**	**-0.1**
KURBB	**Kurchatov Arra**	**61.11**	**317**	P	**P**	**14 47 42.3**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=91,slow=7.6,SNR=14						
	comp=Z,1.6nm,0.3s						
ILAR	**Eielson Array**	**61.67**	**26**	P	**P**	**14 47 44.2**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=267,slow=5.7,SNR=5.9						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**66.17**	**320**	P	**P**	**14 48 16.1**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=83,slow=7.9,SNR=14						
	comp=Z,3.1nm,0.6s						
KKAR	**Karatay Array**	**66.85**	**309**	P	**P**	**14 48 19.8**	**+0.2**
ABKAR	**Akbulak array**	**73.16**	**317**	P	**P**	**14 48 57.9**	**-0.2**
NVAR	**Mina Array Bea**	**81.12**	**52**	P	**P**	**14 49 43.5**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=265,slow=5.9,SNR=7.2						
	comp=Z,0.9nm,0.8s						
ARCES	**ARCESS Array B**	**81.45**	**342**	P	**P**	**14 49 44.5**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=53,slow=6.0,SNR=3.8						
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**86.06**	**336**	P	**P**	**14 50 08.3**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=73,slow=4.7,SNR=3.9						
	comp=Z,1.1nm,0.8s						
LPAZ	**La Paz**	**146.31**	**89**	PKPbc	**PKPbc**	**14 57 08.9**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=248,slow=4.7,SNR=2.9						

*JMA **03** 14:38:38.3±0.2, 41.9N±0.6×142.1E±0.7, h85km±2km, MV3.7/37, S OFF URAKAWA*
JMA Felt I J1 at S OFF URAKAWA .
*IDC **03** 14:38:40.7±2.5, 41.54N×142.72E, h139km±47km, mb3.4/7, mbtmp3.9/12, Error ellipse: s-maj=57.1km s-min=19.1km az=137.0*
ISC 03 14:38:39.2±0.8, 41.89N±0.04×142.07E±0.04, h78km±7km, n37, σ2.502/48, mb3.7/7,18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.60**	**29**	*eP*	**Pn**	**14 38 53.3**	**-0.4**
JSHD				*eS*	**Sn**	**14 39 04.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.64**	**52**	⇓*iP*	**Pn**	**14 38 53.1**	**-0.9**
JNBK				⇓*eS*	**Sn**	**14 39 04.5**	**-0.6**
JIAM	**Iburiatsuma**	**0.74**	**351**	*iP*	**Pn**	**14 38 54.9**	**-0.3**
JIAM				*eS*	**Sn**	**14 39 07.2**	**+0.2**
JKB	**Kayabe**	**0.78**	**270**	⇓P	**Pn**	**14 38 54.9**	**-0.6**
JKB				⇓*eS*	**Sn**	**14 39 06.8**	**-0.9**
JEM	**Erimo**	**0.82**	**81**	⇓P	**Pn**	**14 38 56.0**	**0.0**
JEM				⇓*eS*	**Sn**	**14 39 09.2**	**+0.7**
JBT2	**Biratori 2**	**0.92**	**13**	*eS*	**Sn**	**14 39 10.2**	**-0.3**
JOT	**Ohata**	**0.92**	**237**	⇓*iP*	**Pn**	**14 38 57.2**	**0.0**
JOT				⇓*eS*	**Sn**	**14 39 10.4**	**-0.1**
JNB	**Noboribetsu**	**0.96**	**307**	⇓P	**Pn**	**14 38 56.4**	**-1.3**
JNB				⇓*eS*	**Sn**	**14 39 09.7**	**-1.8**
JEW	**Eniwo**	**1.06**	**334**	*eP*	**Pn**	**14 38 58.1**	**-0.7**
JEW				*eS*	**Sn**	**14 39 12.7**	**-0.9**
JCH	**Churui**	**1.20**	**52**	⇓P	**Pn**	**14 39 00.5**	**-0.1**
JCH				⇓*eS*	**Sn**	**14 39 17.1**	**+0.4**
JSR	**Shiriuchi**	**1.29**	**255**	*eP*	**Pn**	**14 39 01.6**	**-0.1**
JSR				*eS*	**Sn**	**14 39 19.3**	**+0.7**
JYM2	**Yakumo 2**	**1.29**	**281**	⇓P	**Pn**	**14 39 01.1**	**-0.6**
JFR	**Furan**	**1.33**	**17**	*eP*	**Pn**	**14 39 01.5**	**-0.8**
JANG	**Nango**	**1.57**	**196**	*eP*	**Pn**	**14 39 05.7**	**+0.3**
JANG				*eS*	**Sn**	**14 39 26.2**	**+1.1**
JOMM	**Oshimamatsumae**	**1.59**	**258**	⇓P	**Pn**	**14 39 05.7**	**+0.1**
JOMM				⇓*eS*	**Sn**	**14 39 25.6**	**0.0**
JHR	**Hokuryu**	**1.87**	**352**	*eP*	**Pn**	**14 39 09.4**	**+0.1**
JHR				*eS*	**Sn**	**14 39 32.4**	**+0.2**
JAR	**Ashorobuto**	**1.89**	**41**	⇓P	**Pn**	**14 39 08.9**	**-0.6**
JAR				⇓*eS*	**Sn**	**14 39 32.0**	**-0.6**
JOSM	**Okushiri--Mats**	**1.95**	**277**	⇓*eP*	**Pn**	**14 39 10.0**	**-0.3**
JKK2	**Kamakawa 2**	**2.05**	**14**	P	**Pn**	**14 39 11.4**	**-0.3**
JKK2				*eS*	**Sn**	**14 39 36.4**	**0.0**
MJAR	**Matsushiro Arr**	**6.12**	**211**	P	**Pn**	**14 40 08.8**	**+1.7**
	1.4nm,0.4s,baz=26,slow=14,SNR=17						
MJAR				S	**Sn**	**14 41 19.0**	**+3.3**
	0.7nm,0.6s,baz=36,slow=13,SNR=1.0						
JHJ	**Hachijo jima 2**	**8.94**	**192**	P	**Pn**	**14 40 42.1**	**-3.3**
	110nm,0.9s,baz=325,slow=23,SNR=10						
JHJ				S	**Sn**	**14 42 16.8**	**-7.7**
	25nm,0.4s,baz=73,slow=19,SNR=1.0						
KSRS	**Korea Array**	**11.77**	**253**	P	Pn	14 41 31.1	+7.2
	1.5nm,0.5s,baz=63,slow=15,SNR=7.4						
KSRS				S	**Sn**	**14 43 42.2**	**+8.8**
	0.6nm,0.5s,baz=73,slow=24,SNR=5.9						
PETK	**Petropavlovsk-**	**15.37**	**38**	P	**Pn**	**14 42 10.5**	**-0.9**
	0.6nm,0.6s,baz=219,slow=10,SNR=11						
MA2	**Magadan**	**18.52**	**14**	P	**P**	**14 42 49.4**	**+0.3**
	1.5nm,0.5s,baz=188,slow=15,SNR=2.2						
SEY	**Seymchan**	**21.94**	**13**	P	**P**	**14 43 24.2**	**-1.8**
	0.7nm,0.3s,baz=166,slow=8.3,SNR=5.4						
	0.7nm,0.3s						
SONM	**Songino Array**	**25.82**	**296**	P	**P**	**14 44 02.5**	**-0.6**
	0.5nm,0.5s,baz=98,slow=8.9,SNR=2.0						
	0.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.50**	**129**	T	T	15 16 31.2	
	baz=323						
H11N1	**WAKE ISLAND Hy**	**30.51**	**129**	T	T	15 16 36.8	
	baz=323						
H11N3	**WAKE ISLAND Hy**	**30.52**	**129**	T	T	15 16 19.1	
	baz=323						
H11S1	**WAKE ISLAND Hy**	**31.35**	**131**	T	T	15 17 29.6	
	baz=326,slow=74						
H11S3	**WAKE ISLAND Hy**	**31.36**	**131**	T	T	15 17 50.2	
	baz=326						
H11S2	**WAKE ISLAND Hy**	**31.37**	**131**	T	T	15 17 40.3	
	baz=326,slow=74						
ZALV	**Zalesovo Beam**	**39.17**	**308**	P	**P**	**14 45 59.2**	**+0.1**
	0.9nm,0.6s,baz=77,slow=6.2,SNR=2.8						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**42.14**	**298**	P	**P**	**14 46 23.4**	**-0.3**
	0.3nm,0.5s,baz=84,slow=9.2,SNR=2.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**43.56**	**304**	P	**P**	**14 46 34.6**	**-0.5**
	2.0nm,0.2s,baz=76,slow=8.8,SNR=5.2						
	2.0nm,0.2s						
BVAR	**Borovoye Array**	**47.79**	**309**	P	**P**	**14 47 08.5**	**+0.1**
	0.3nm,0.3s,baz=72,slow=9.3,SNR=2.6						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**64.78**	**331**	P	**P**	**14 49 08.3**	**-0.7**
	3.2nm,1.1s,baz=40,slow=7.2,SNR=7.7						
	3.2nm,1.1s						

*IDC **03** 14:42:33.2±1.3,5.45S×153.07E, h0km, mb3.7/6, mbtmp3.7/7, ML1.5/1, MS4.1/1, Error ellipse: s-maj=30.8km s-min=20.0km az=111.0*
ISC 03 14:42:38.9±1.2,5.47S±0.08×153.0E±0.1, h37km, n10, σ1♀12/11, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.48**	**322**	Pn	**Pn**	**14 43 02.4**	**-0.6**
	207nm,0.3s,baz=186,slow=1.4,SNR=330						
KRVT				Sn	**Sn**	**14 43 21.9**	**+0.9**
	139nm,0.3s,baz=127,slow=20,SNR=8.1						
KRVT				LR	LR	14 43 31.5	
	comp=Z,322nm,18.1s,baz=69,slow=38						
PMG	**Port Moresby**	**6.94**	**235**	Pn	**Pn**	**14 44 19.3**	**+1.2**
	0.5nm,0.3s,baz=39,slow=13,SNR=1.5						
PMG				Sn	**Sn**	**14 45 34.2**	**-1.7**
	4.6nm,0.3s,baz=184,slow=19,SNR=14						
	3.6nm,0.5s						
WRA	**Warramunga Arr**	**23.12**	**230**	P	**P**	**14 47 42.3**	**+0.4**
	0.7nm,0.7s,baz=52,slow=9.8,SNR=3.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**25.76**	**224**	P	**P**	**14 48 07.2**	**+0.8**
	0.9nm,0.9s,baz=56,slow=9.1,SNR=3.9						
	0.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**29.47**	**242**	P	**P**	**14 48 38.6**	**-1.1**
	1.3nm,0.7s,baz=58,slow=9.5,SNR=2.3						
	1.3nm,0.7s						
PETK	**Petropavlovsk-**	**58.50**	**3**	P	**P**	**14 52 31.0**	**-0.2**
	0.8nm,0.5s,baz=170,slow=8.0,SNR=11						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**80.93**	**319**	P	**P**	**14 54 51.0**	**+1.4**
	0.3nm,0.7s,baz=100,slow=6.7,SNR=6.0						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**82.72**	**22**	P	**P**	**14 54 57.9**	**-0.6**
	0.6nm,0.8s,baz=230,slow=5.6,SNR=6.4						
	0.6nm,0.8s						
WSAR	**Wadi Sarin**	**96.09**	**293**	LR	LR	15 43 38.5	
	comp=Z,80nm,18.3s,baz=276,slow=38						
TORD	**Torodi Ar. Bea**	**150.65**	**287**	PKPbc	**PKPbc**	**15 02 27.7**	**-0.4**
	0.3nm,0.6s,baz=85,slow=2.2,SNR=1.9						

WEL 03 14:43:12.8±0.9, 37°S±3°×17°9E±°, h17km±5km, M3.4/61, ML3.7/61, MLv3.4/61, Error ellipse: s-maj=0.0km s-min=0.0km az=92.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.58**	**256**	P	Pg	14 43 24.1	-0.3
MXZ				S	Sg	14 43 30.7	-1.5
WMGZ	**Waiomatatini S**	**0.62**	**231**	P	Pn	14 43 26.8	0.0
WMGZ				S	Sn	14 43 36.0	-0.4
PKGZ	**Pakihiroa**	**0.88**	**238**	P	Pg	14 43 30.2	+0.2
PKGZ				S	Sg	14 43 41.7	+0.2
PUZ	**Puketiti**	**0.88**	**223**	P	Pn	14 43 30.6	+0.1
PUZ				S	Sn	14 43 42.9	-0.1
HAZ	**Te Kaha**	**1.04**	**251**	P	Pn	14 43 32.6	0.0
HAZ				S	Sb	14 43 45.7	+0.1
TWGZ	**Tauwhareparae**	**1.11**	**227**	P	Pg	14 43 34.1	-0.2
TWGZ				S	Sg	14 43 49.6	+0.7
RUGZ	**Raukumara Rang**	**1.19**	**243**	P	Pb	14 43 35.1	0.0
RUGZ				S	Sb	14 43 50.1	-0.2
CNGZ	**Carnagh Statio**	**1.23**	**211**	P	Pg	14 43 36.5	-0.2
CNGZ				S	Sg	14 43 54.6	+1.8
TKGZ	**Te Karaka**	**1.37**	**222**	P	Pn	14 43 37.2	+0.1
TKGZ				S	Sb	14 43 55.7	+0.5
MWZ	**Matawai**	**1.49**	**232**	P	Pn	14 43 38.8	-0.1
MWZ				S	Sn	14 43 57.8	-0.1
RIGZ	**Rimuhau**	**1.62**	**218**	P	Pn	14 43 40.6	0.0
RIGZ				S	Sn	14 44 00.8	-0.3
RAGZ	**Rawiri**	**1.66**	**229**	P	Pn	14 43 41.3	+0.1
RAGZ				S	Sn	14 44 01.3	-0.9
WHRZ	**Whale Island**	**1.68**	**255**	P	Pb	14 43 42.5	-0.8
WHRZ				S	Sn	14 44 03.1	+0.5
URZ	**Urewera**	**1.73**	**241**	P	Pn	14 43 42.7	+0.6
URZ				S	Sn	14 44 03.5	-0.2
PRGZ	**Paritu Road**	**1.74**	**211**	P	Pn	14 43 42.3	0.0
SNGZ	**Shannon Statio**	**1.89**	**224**	P	Pn	14 43 44.5	+0.1
KNZ	**Kokohu**	**1.91**	**213**	P	Pn	14 43 44.1	-0.5
EDRZ	**Edgecumbe**	**1.93**	**249**	P	Pn	14 43 45.2	+0.2
MHGZ	**Mahia Peninsul**	**1.93**	**207**	P	Pn	14 43 45.0	+0.1
OPRZ	**Ohinepanea**	**2.00**	**257**	P	Pn	14 43 45.5	-0.3
RTZ	**Ruatahuna**	**2.00**	**233**	P	Pn	14 43 46.4	+0.5
MURZ	**Murupara**	**2.02**	**239**	P	Pn	14 43 46.9	+0.1
RAHZ	**Arahi**	**2.13**	**225**	P	Pn	14 43 47.7	+0.1
TARZ	**Mount Tarawera**	**2.15**	**247**	P	Pn	14 43 48.8	+0.8
WHHZ	**Waihua**	**2.17**	**220**	P	Pn	14 43 48.1	0.0
RRRZ	**Republican Roa**	**2.18**	**245**	P	Pn	14 43 49.0	+0.6
TGRZ	**Tauranga**	**2.21**	**261**	P	Pn	14 43 48.5	-0.3
MYRZ	**Mayor Island**	**2.22**	**273**	P	Pn	14 43 49.7	+0.9
MTHZ	**Maungataniwha**	**2.23**	**230**	P	Pn	14 43 49.5	+0.4
HLRZ	**Highlands Stat**	**2.27**	**248**	P	Pn	14 43 50.0	+0.4
KARZ	**Kaharoa**	**2.28**	**254**	P	Pn	14 43 50.0	+0.3
PRRZ	**Plateau Road**	**2.34**	**242**	P	Pn	14 43 50.7	+0.2
ALRZ	**Allen Road**	**2.40**	**241**	P	Pn	14 43 51.9	+0.6
NMHZ	**Naumai**	**2.41**	**226**	P	Pn	14 43 51.8	+0.2
ARHZ	**Aropaoanui**	**2.43**	**220**	P	Pn	14 43 51.6	-0.1
MRHZ	**Matea Rd**	**2.49**	**235**	P	Pn	14 43 52.7	+0.1
BKZ	**Black Stump Fm**	**2.64**	**228**	P	Pn	14 43 54.6	-0.1
CKHZ	**Cape Kidnapper**	**2.70**	**214**	P	Pn	14 43 54.5	-0.9
KUZ	**Kuaotunu**	**2.73**	**263**	P	Pn	14 43 53.8	-2.0
TOZ	**Tahuroa Road**	**2.81**	**263**	P	Pn	14 43 56.8	-0.2
KWHZ	**Kaweka Forest**	**2.85**	**225**	P	Pn	14 43 57.0	-0.7
KAHZ	**Kahuranaki**	**2.90**	**215**	P	Pn	14 43 57.2	-1.0
RITZ	**Rihia Road**	**2.93**	**237**	P	Pn	14 43 59.0	+0.3
RATZ	**Rangitukua**	**2.94**	**240**	P	Pn	14 43 59.3	+0.5
KRHZ	**Kereru**	**3.04**	**222**	P	Pn	14 43 58.9	-1.2
GRZ	**Great Barrier**	**3.09**	**291**	P	Pn	14 44 00.4	-0.4
MKAZ	**Moumakai**	**3.10**	**275**	P	Pn	14 43 59.8	-1.1
PXZ	**Pawanui**	**3.10**	**212**	P	Pn	14 43 59.2	-1.8
BHHZ	**Black Hill Sta**	**3.10**	**228**	P	Pn	14 44 00.6	-0.4
TMVZ	**Te Maari**	**3.11**	**236**	P	Pn	14 44 00.9	-0.2
ETVZ	**East Tongariro**	**3.11**	**236**	P	Pn	14 44 01.0	-0.3
NTVZ	**North Tongarir**	**3.12**	**237**	P	Pn	14 44 01.2	-0.1
KRVZ	**Karewarewa**	**3.14**	**237**	P	Pn	14 44 01.4	-0.2
WIAZ	**Waiheke Island**	**3.17**	**280**	P	Pn	14 44 02.3	+0.4
NNVZ	**North Ngauruho**	**3.17**	**237**	P	Pn	14 44 02.3	+0.2
WTVZ	**West Tongariro**	**3.18**	**237**	P	Pn	14 44 02.5	+0.3
SNVZ	**South Ngauruho**	**3.19**	**236**	P	Pn	14 44 02.1	-0.2
NGZ	**Ngauruhoe**	**3.21**	**236**	P	Pn	14 44 02.4	-0.2
TUVZ	**Tukino**	**3.22**	**234**	P	Pn	14 44 02.6	-0.1
MOVZ	**Moawhango**	**3.24**	**231**	P	Pn	14 44 02.6	-0.4
TWVZ	**Taurewa**	**3.26**	**239**	P	Pn	14 44 04.1	+0.8
WHVZ	**Whangaehu Hut**	**3.27**	**234**	P	Pn	14 44 03.4	-0.2
WNVZ	**Wahianoa**	**3.29**	**234**	P	Pn	14 44 03.5	-0.3
ETAZ	**East Tamaki Re**	**3.30**	**277**	P	Pn	14 44 03.3	-0.5
WPHZ	**Waipukurau**	**3.32**	**217**	P	Pn	14 44 02.5	-1.5
PNHZ	**Pukenui**	**3.32**	**221**	P	Pn	14 44 02.3	-1.8
MBAZ	**Motutapu North**	**3.36**	**280**	P	Pn	14 44 05.4	+0.9
PRHZ	**Porangahau**	**3.39**	**213**	P	Pn	14 44 03.1	-1.9
ABAZ	**Army Bay**	**3.45**	**283**	P	Pn	14 44 06.6	+0.8
HIZ	**Hauiti**	**3.46**	**251**	P	Pn	14 44 07.0	+1.1
AWAZ	**Awhitu Peninsu**	**3.51**	**275**	P	Pn	14 44 07.4	+0.8
TSZ	**Takapari Road**	**3.55**	**221**	P	Pn	14 44 05.1	-2.2
RVAZ	**Riverhead Bore**	**3.61**	**279**	P	Pn	14 44 07.5	-0.4
ANWZ	**Angora Road**	**3.62**	**212**	P	Pn	14 44 05.8	-2.3
DVHZ	**Dannevirke**	**3.63**	**217**	P	Pn	14 44 06.3	-1.9
WAZ	**Wanganui**	**3.92**	**232**	P	Pn	14 44 12.6	+0.3
PRWZ	**Pori Road**	**3.92**	**216**	P	Pn	14 44 10.8	-1.5
WCZ	**Waipu Caves**	**4.04**	**290**	P	Pn	14 44 13.3	-0.6
NEZ	**North Egmont**	**4.29**	**243**	P	Pn	14 44 19.2	+1.9
PKE	**Pukeiti**	**4.33**	**244**	P	Pn	14 44 20.5	+2.5
KHEZ	**Kahui Hut**	**4.35**	**243**	P	Pn	14 44 20.3	+2.0
OUZ	**Omahuta**	**4.90**	**295**	P	Pn	14 44 25.9	+0.1
CTZ	**Chatham Island**	**7.12**	**154**	P	Pn	14 44 58.7	+2.5

*ANF **03** 14:47:04.7±0.4, 36.42N×96.85W, h8km, ML3.6/9, Error ellipse: s-maj=4.1km s-min=3.6km az=168.0*
*NEIC **03** 14:47:04.1±0.5, 36.42N±0.01×96.88W±0.02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.3km az=81.0*
*TUL **03** 14:47:04.2±0.6, 36.41N±0.01×96.86W±0.01, h8km±5km, ML3.3, mb_Lg3.2/81(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=189.0*
ISC 03 14:47:04.1±1.1, 36.42N±0.02×96.88W±0.02, h6km±12km, n86, σ0.953/56, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.28**	**150**	Pg	**Pg**	**14 47 09.9**	**+0.2**
QUOK				Sg	**Sg**	**14 47 13.5**	**+0.1**
OK034	**N. Norfolk Rd.**	**0.43**	**162**	Pg	**Pg**	**14 47 12.6**	**+0.2**
OK034				Sg	**Sg**	**14 47 18.3**	**+0.3**
BLOK	**Blackwell**	**0.44**	**322**	Pg	**Pg**	**14 47 12.9**	**+0.4**
OK031	**S. Brethren Rd**	**0.46**	**176**	Pg	**Pg**	**14 47 13.3**	**+0.3**
OK031				Sg	**Sg**	**14 47 19.5**	**+0.4**
OK030	**Cody Creek RV**	**0.49**	**171**		**Pg**	**14 47 13.9**	**+0.2**
T35A	**Sooner Cattle**	**0.58**	**31**	Pg	**Pg**	**14 47 15.2**	**-0.1**
T35A				Sg	**Sg**	**14 47 22.8**	**-0.1**
T35B	**Sooner Cattle**	**0.58**	**31**	P	**Pg**	**14 47 15.2**	**-0.1**
	baz=209						
T35B				S	**Sg**	**14 47 23.0**	**+0.1**
	baz=209						
DEOK	**Depew**	**0.65**	**152**	Pg	**Pg**	**14 47 16.7**	**+0.1**
KAN13	**South Haven SW**	**0.76**	**321**	Pg	**Pg**	**14 47 19.0**	**+0.2**
OK029	**Liberty Lake**	**0.78**	**217**	Pg	**Pg**	**14 47 19.1**	**+0.1**
OK005	**Luther M Schoo**	**0.80**	**198**	Pg	**Pg**	**14 47 19.6**	**+0.1**
CROK	**Carrier**	**0.89**	**276**		**Pg**	**14 47 21.4**	**+0.1**
GC02	**Grant County #**	**0.90**	**299**		**Pg**	**14 47 21.4**	**0.0**
OK025	**Westminster Rd**	**0.91**	**204**		**Pg**	**14 47 21.4**	**-0.3**
KAN17	**Caldwell West**	**0.95**	**312**		**Pg**	**14 47 22.3**	**0.0**
BCOK	**Bluff Creek, N**	**0.96**	**218**		**Pg**	**14 47 22.4**	**-0.1**
KS20	**Mayfield South**	**0.97**	**326**		**Pg**	**14 47 22.8**	**0.0**
TUL1	**Leonard**	**1.01**	**120**	Pg	**Pg**	**14 47 23.0**	**-0.6**
TUL1	**Leonard**	**1.01**	**120**	P	**Pg**	**14 47 23.1**	**-0.6**
	baz=301						
TUL1				S	**Sg**	**14 47 36.3**	**-0.5**
	baz=301						
KAN01	**Argonia South**	**1.02**	**316**		**Pg**	**14 47 23.6**	**-0.1**
KAN14	**Manchester OK**	**1.02**	**302**		**Pg**	**14 47 23.6**	**-0.2**
KAN05	**Bluff City Nor**	**1.05**	**311**		**Pg**	**14 47 24.2**	**-0.1**
KS21	**Milan North St**	**1.07**	**324**		**Pg**	**14 47 24.6**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.11**	**204**		**Pg**	**14 47 24.6**	**-0.7**
OK032	**Salt Plains WL**	**1.14**	**290**		**Pg**	**14 47 25.6**	**-0.3**
KAN06	**Argonia West S**	**1.14**	**317**		**Pg**	**14 47 25.8**	**-0.2**
KAN08	**Anthony NE Sta**	**1.19**	**313**		**Pb**	**14 47 26.7**	**-0.4**
KAN10	**Anthony SW Sta**	**1.20**	**306**		**Pb**	**14 47 27.0**	**-0.4**
FNO	**Franklin**	**1.23**	**200**	Pn	**Pn**	**14 47 26.6**	**-1.2**
KAN16	**Harper SW Stat**	**1.25**	**311**		**Pn**	**14 47 27.8**	**-0.3**
KAN12	**Harper NE Stat**	**1.25**	**315**		**Pn**	**14 47 27.9**	**-0.3**
OK035	**E0210 Rd and N**	**1.50**	**282**		**Pn**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.57**	**271**	P	**Pn**	**14 49 13.1**	**+0.9**
	882nm,0.4s,baz=1.2,slow=2.3,SNR=231						
KRVT				S	**Sn**	**14 49 24.6**	**+0.1**
	561nm,0.4s,baz=148,slow=21,SNR=24						
PMG	**Port Moresby**	**7.40**	**227**	P	**Pn**	**14 50 43.6**	**+2.3**
	4.4nm,0.5s,baz=27,slow=14,SNR=2.0						
PMG				S	**Sn**	**14 52 02.3**	**-1.3**
	3.2nm,0.4s,baz=163,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**23.62**	**227**	P	**P**	**14 53 57.7**	**-0.4**
	1.5nm,0.4s,baz=52,slow=9.8,SNR=47						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**26.37**	**221**	P	**P**	**14 54 22.6**	**-0.4**
	0.3nm,0.4s,baz=52,slow=9.2,SNR=31						
ASAR				pP	**pP**	**14 54 44.5**	**-0.9**
	0.4nm,0.6s,baz=59,slow=8.9,SNR=2.8						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**29.72**	**240**	P	**P**	**14 54 52.0**	**-0.9**
	0.7nm,0.5s,baz=59,slow=9.6,SNR=9.5						
	0.7nm,0.5s						
RAO	**Raoul Island**	**37.35**	**135**	LR	LR	15 10 30.9	
	comp=Z,87nm,18.0s,baz=132,slow=34						
ILAR	**Eielson Array**	**81.79**	**22**	P	**P**	**15 01 03.5**	**0.0**
	0.4nm,0.8s,baz=248,slow=4.8,SNR=4.4						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.97**	**289**	PKPbc	**PKPbc**	**15 08 35.9**	**+0.1**
	0.2nm,0.3s,baz=60,slow=2.8,SNR=1.9						

*NEIC **03** 15:01:58.1±1.4,37.°14S±0.°09×179.°31E±0.°07, h10km±2km, mb4.5/15, Error ellipse: s-maj=17.6km s-min=3.0km az=149.0*
*NOU **03** 15:01:59.0±1.2,36.°95S×178.°95E, h0km, mb4.3/5, mbtmp4.3/5, MS3.7/3, Error ellipse: s-maj=34.1km s-min=23.4km az=28.0*
*WEL **03** 15:02:01.8±1.0,37.°3S×17.°9E, h22km±7km, M4.3/89, ML4.5/90, MLv4.3/89, Error ellipse: s-maj=0.0km s-min=0.0km az=85.9*
ISC 03 15:01:60.0±2.0, 37°26S±0.°05×179°09E±0.°06, h11km±11km, n178, σ1°972/185, mb4.4/13, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.69**	**244**		**Pn**	**15 02 15.6**	**-0.1**
MXZ	**Matakaoa Point**	**0.69**	**244**	P	**Pn**	**15 02 15.8**	**0.0**
MXZ				S	**Sb**	**15 02 23.8**	**+0.2**
WMGZ	**Waiomatatini S**	**0.77**	**224**	P	**Pn**	**15 02 18.8**	**+1.9**
WMGZ				S	**Sn**	**15 02 29.5**	**+1.1**
PKGZ	**Pakihiroa**	**1.02**	**232**	P	**Pn**	**15 02 21.7**	**+1.4**
PKGZ				S	**Sb**	**15 02 34.3**	**+1.2**
PUZ	**Puketiti**	**1.04**	**219**	P	**Pn**	**15 02 22.3**	**+1.7**
PUZ				S	**Sn**	**15 02 36.3**	**+1.0**
HAZ	**Te Kaha**	**1.15**	**244**	P	**Pn**	**15 02 23.9**	**+1.8**
HAZ				S	**Sn**	**15 02 38.2**	**+0.4**
TWGZ	**Tauwhareparae**	**1.27**	**223**	P	**Pb**	**15 02 25.5**	**+1.6**
TWGZ				S	**Sn**	**15 02 42.5**	**+1.7**
RUGZ	**Raukumara Rang**	**1.32**	**237**	P	**Pb**	**15 02 26.3**	**+1.4**
RUGZ				S	**Sn**	**15 02 42.5**	**+0.2**
CNGZ	**Carnagh Statio**	**1.41**	**209**	P	**Pg**	**15 02 27.8**	**+0.9**
CNGZ				S	**Sg**	**15 02 47.5**	**+2.3**
TKGZ	**Te Karaka**	**1.53**	**219**	P	**Pg**	**15 02 28.6**	**-0.8**
TKGZ				S	**Sb**	**15 02 48.6**	**+0.8**
WIZ	**White Island**	**1.54**	**259**	P	**Pb**	**15 02 27.6**	**-0.9**
MWZ	**Matawai**	**1.64**	**229**	P	**Pb**	**15 02 30.1**	**-0.1**
MWZ				S	**Sn**	**15 02 49.3**	**-0.6**
WHRZ	**Whale Island**	**1.78**	**250**	P	**Pb**	**15 02 32.1**	**-0.6**
RIGZ	**Rimuhau**	**1.78**	**216**	P	**Pb**	**15 02 31.9**	**-0.8**
RAGZ	**Rawiri**	**1.81**	**227**	P	**Pb**	**15 02 32.6**	**-0.6**
RAGZ				S	**Sn**	**15 02 53.3**	**-0.9**
URZ	**Urewera**	**1.86**	**237**	Pn	**Pb**	**15 02 33.0**	**-0.9**
	208nm,0.3s,baz=211,slow=1.7,SNR=403						
URZ				Sn	**Sn**	**15 02 53.6**	**-1.7**
	260nm,0.3s,baz=211,slow=19,SNR=21						
URZ				LR	LR	15 03 27.5	
	comp=Z,524nm,18.9s,baz=30,slow=45						
URZ	**Urewera**	**1.86**	**237**	Pn	**Pb**	**15 02 33.0**	**-0.9**
URZ	**Urewera**	**1.86**	**237**	P	**Pb**	**15 02 33.1**	**-0.9**
URZ	**Urewera**	**1.86**	**237**	S	**Pb**	**15 02 33.4**	**-0.5**
PRGZ	**Paritu Road**	**1.91**	**209**	P	**Pn**	**15 02 33.6**	**+1.0**
EDRZ	**Edgecumbe**	**2.05**	**245**	P	**Pb**	**15 02 35.8**	**-1.4**
MARZ	**Manawahe**	**2.05**	**249**	P	**Pb**	**15 02 35.4**	**-1.8**
SNGZ	**Shannon Statio**	**2.05**	**222**	P	**Pn**	**15 02 35.5**	**+1.0**
KNZ	**Kokohu**	**2.08**	**212**	P	**Pn**	**15 02 35.3**	**+0.5**
OPRZ	**Ohinepanea**	**2.10**	**253**	P	**Pn**	**15 02 35.7**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.11**	**206**	P	**Pn**	**15 02 36.3**	**+1.1**
RTZ	**Ruatahuna**	**2.15**	**230**	P	**Pn**	**15 02 37.1**	**+1.2**
MUGZ	**Murupara**	**2.20**	**236**	P	**Pn**	**15 02 37.6**	**+1.1**
MKRZ	**Makatiti**	**2.26**	**246**	P	**Pb**	**15 02 39.3**	**-1.4**
TARZ	**Mount Tarawera**	**2.27**	**244**	P	**Pb**	**15 02 39.0**	**-2.0**
MYRZ	**Mayor Island**	**2.27**	**269**	P	**Pb**	**15 02 38.4**	**-2.6**
RAHZ	**Arahi**	**2.29**	**223**	P	**Pn**	**15 02 38.9**	**+1.2**
TGRZ	**Tauranga**	**2.30**	**257**	P	**Pn**	**15 02 38.7**	**+0.9**
RRRZ	**Republican Roa**	**2.31**	**241**	P	**Pn**	**15 02 39.1**	**+1.1**
OMRZ	**Omania**	**2.31**	**248**	P	**Pb**	**15 02 39.6**	**-2.2**
WHHZ	**Waihua**	**2.33**	**218**	P	**Pn**	**15 02 39.2**	**+0.9**
KARZ	**Kaharoa**	**2.38**	**251**	P	**Pn**	**15 02 40.1**	**+1.1**
MTHZ	**Maungatapiwha**	**2.38**	**227**	P	**Pn**	**15 02 40.4**	**+1.4**
HLRZ	**Highlands Stat**	**2.38**	**245**	P	**Pn**	**15 02 39.5**	**+0.4**
NGRZ	**Ngongotaha**	**2.45**	**249**	P	**Pb**	**15 02 41.6**	**-2.5**
PRRZ	**Plateau Road**	**2.46**	**239**	P	**Pn**	**15 02 41.1**	**+1.0**
UTU	**Utuhina**	**2.47**	**247**	P	**Pb**	**15 02 42.3**	**-2.1**
HSRZ	**Hossack Road**	**2.48**	**244**	P	**Pb**	**15 02 42.4**	**-2.3**
HRRZ	**Handcock Road**	**2.49**	**242**	P	**Pn**	**15 02 42.0**	**+1.4**
ALRZ	**Allen Road**	**2.53**	**238**	P	**Pn**	**15 02 42.0**	**+0.9**
KMRZ	**Kaimai**	**2.57**	**256**	P	**Pn**	**15 02 42.4**	**+0.9**
NMHZ	**Naumai**	**2.57**	**224**	P	**Pn**	**15 02 42.9**	**+1.3**
ARHZ	**Aropaoanui**	**2.59**	**219**	P	**Pn**	**15 02 42.8**	**+1.0**
GRRZ	**Galatos Road**	**2.60**	**244**	P	**Pn**	**15 02 43.5**	**+1.5**
MRHZ	**Matea Rd**	**2.63**	**232**	P	**Pn**	**15 02 43.3**	**+0.8**
WPRZ	**Whakapapataria**	**2.63**	**241**	P	**Pn**	**15 02 43.6**	**+1.1**
KUZ	**Kuaotunu**	**2.74**	**280**	P	**Pn**	**15 02 44.1**	**+0.1**
BKZ	**Black Stump Fm**	**2.79**	**226**	Pn	**Pn**	**15 02 45.3**	**+0.6**
BKZ	**Black Stump Fm**	**2.79**	**226**	P	**Pn**	**15 02 45.4**	**+0.8**
BKZ	**Black Stump Fm**	**2.79**	**226**	S	**Pn**	**15 02 45.7**	**+1.0**
WHTZ	**Whakaora**	**2.84**	**239**	P	**Pb**	**15 02 48.0**	**-2.8**
KUTZ	**Kaahu Road**	**2.86**	**244**	P	**Pn**	**15 02 46.8**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.87**	**213**	P	**Pn**	**15 02 45.5**	**-0.2**
HATZ	**Hinemaiaia**	**2.87**	**235**	P	**Pn**	**15 02 46.8**	**+1.1**
TOZ	**Tahuroa Road**	**2.89**	**260**	P	**Pn**	**15 02 46.8**	**+0.9**
TLZ	**Tolley Road**	**3.01**	**248**	P	**Pn**	**15 02 48.8**	**+1.1**
KWHZ	**Kaweka Forest**	**3.01**	**223**	P	**Pn**	**15 02 48.0**	**+0.3**
WATZ	**Wairara**	**3.02**	**240**	P	**Pn**	**15 02 49.7**	**+1.9**
KAHZ	**Kahuranaki**	**3.07**	**214**	P	**Pn**	**15 02 48.2**	**-0.2**
RATZ	**Rangitukua**	**3.07**	**237**	P	**Pn**	**15 02 50.0**	**+1.5**
RITZ	**Rihia Road**	**3.07**	**235**	P	**Pn**	**15 02 49.5**	**+1.1**
GRZ	**Great Barrier**	**3.08**	**288**	P	**Pn**	**15 02 49.5**	**+0.8**
MKAZ	**Moumakai**	**3.14**	**272**	P	**Pn**	**15 02 50.2**	**+0.8**
KATZ	**Kakaramea**	**3.18**	**236**	P	**Pn**	**15 02 51.4**	**+1.3**
KRHZ	**Kereru**	**3.20**	**221**	P	**Pn**	**15 02 50.0**	**-0.2**
WIAZ	**Waiheke Island**	**3.20**	**277**	P	**Pn**	**15 02 51.1**	**+0.9**
TMVZ	**Te Maari**	**3.25**	**234**	P	**Pn**	**15 02 51.6**	**+0.6**
ETVZ	**East Tongariro**	**3.25**	**234**	P	**Pn**	**15 02 51.6**	**+0.5**
NTVZ	**North Tongarir**	**3.25**	**235**	P	**Pn**	**15 02 51.8**	**+0.7**
BHHZ	**Black Hill Sta**	**3.26**	**226**	P	**Pn**	**15 02 51.4**	**+0.3**
PXZ	**Pawanui**	**3.27**	**212**	P	**Pn**	**15 02 50.2**	**-1.0**
KRVZ	**Karewarewa**	**3.27**	**235**	P	**Pn**	**15 02 52.1**	**+0.7**
OTVZ	**Oturere**	**3.30**	**234**	P	**Pn**	**15 02 52.6**	**+0.9**
NNVZ	**North Ngauruho**	**3.31**	**235**	P	**Pn**	**15 02 52.7**	**+0.7**
WTVZ	**West Tongariro**	**3.32**	**235**	P	**Pn**	**15 02 53.2**	**+1.2**
SNVZ	**South Ngauruho**	**3.33**	**234**	P	**Pn**	**15 02 52.7**	**+0.6**
ETAZ	**East Tamaki Re**	**3.34**	**274**	P	**Pn**	**15 02 53.3**	**+1.2**
NGZ	**Ngauruhoe**	**3.35**	**234**	P	**Pn**	**15 02 52.9**	**+0.6**
TUVZ	**Tukino**	**3.36**	**232**	P	**Pn**	**15 02 53.1**	**+0.4**
MOVZ	**Moawhango**	**3.39**	**230**	P	**Pn**	**15 02 52.9**	**0.0**
MBAZ	**Motutapu North**	**3.39**	**277**	P	**Pn**	**15 02 53.9**	**+1.1**
TWVZ	**Taurewa**	**3.40**	**237**	P	**Pn**	**15 02 53.9**	**+0.8**
WHVZ	**Whangaehu Hut**	**3.42**	**233**	P	**Pn**	**15 02 53.7**	**+0.3**
FWVZ	**Far West T-bar**	**3.42**	**233**	P	**Pn**	**15 02 54.1**	**+0.6**
WNVZ	**Wahianoa**	**3.43**	**232**	P	**Pn**	**15 02 53.9**	**+0.3**
ABAZ	**Army Bay**	**3.47**	**280**	P	**Pn**	**15 02 55.4**	**+1.4**
WPHZ	**Waipukurau**	**3.48**	**216**	P	**Pn**	**15 02 53.7**	**-0.4**
PNHZ	**Pukenui**	**3.48**	**220**	P	**Pn**	**15 02 53.3**	**-0.8**
EPAZ	**Eden Park BICE**	**3.50**	**275**	P	**Pn**	**15 02 55.9**	**+1.7**
HBAZ	**Herne Bay Bore**	**3.51**	**275**	P	**Pn**	**15 02 56.3**	**+1.9**
MTVZ	**Mangateitei**	**3.55**	**232**	P	**Pn**	**15 02 55.6**	**+0.5**
AWAZ	**Awhitu Peninsu**	**3.56**	**272**	P	**Pn**	**15 02 56.7**	**+1.6**
PRHZ	**Porangahau**	**3.56**	**212**	P	**Pn**	**15 02 54.0**	**-1.2**
HIZ	**Hauiti**	**3.57**	**248**		**Pn**	**15 02 54.5**	**-0.8**
HIZ	**Hauiti**	**3.57**	**248**	P	**Pn**	**15 02 57.3**	**+2.0**
HIZ	**Hauiti**	**3.57**	**248**	P	**Pn**	**15 02 57.4**	**+2.0**
PKVZ	**Pokaka**	**3.57**	**234**	P	**Pn**	**15 02 56.2**	**+0.8**
WTAZ	**Waiatarua**	**3.62**	**274**	P	**Pn**	**15 02 57.7**	**+1.6**
RVAZ	**Riverhead Bore**	**3.64**	**276**	P	**Pn**	**15 02 57.8**	**+1.5**
TSZ	**Takapari Road**	**3.71**	**220**	P	**Pn**	**15 02 56.2**	**-1.2**
ANWZ	**Angora Road**	**3.79**	**212**	P	**Pn**	**15 02 57.0**	**-1.3**
DVHZ	**Dannevirke**	**3.80**	**216**	P	**Pn**	**15 02 57.3**	**-1.2**
WCZ	**Waipu Caves**	**4.04**	**288**	P	**Pn**	**15 03 03.3**	**+1.6**
POWZ	**Post Office Ro**	**4.06**	**219**	P	**Pn**	**15 03 00.6**	**-1.4**
WAZ	**Wanganui**	**4.07**	**231**	P	**Pn**	**15 03 02.7**	**+0.5**
BFZ	**Birch Farm**	**4.07**	**212**	Pn	**Pn**	**15 03 00.3**	**-1.9**
BFZ	**Birch Farm**	**4.07**	**212**	P	**Pn**	**15 03 00.4**	**-1.8**
BFZ	**Birch Farm**	**4.07**	**212**	P	**Pn**	**15 03 00.3**	**-1.9**
PRWZ	**Pori Road**	**4.09**	**216**	P	**Pn**	**15 03 01.6**	**-0.9**
OHWZ	**Ohakea**	**4.17**	**224**	P	**Pn**	**15 03 03.8**	**+0.3**
MHEZ	**Mangahewa**	**4.17**	**243**	P	**Pn**	**15 03 06.7**	**+3.2**
CPWZ	**Castlepoint**	**4.28**	**211**	P	**Pn**	**15 03 03.4**	**-1.6**
LREZ	**Lake Rotokare**	**4.29**	**238**	P	**Pn**	**15 03 06.8**	**+1.6**
DREZ	**Durham Road**	**4.30**	**242**	P	**Pn**	**15 03 08.0**	**+2.6**
TIWZ	**Tintock**	**4.31**	**214**	P	**Pn**	**15 03 04.2**	**-1.3**
PREZ	**Palmer Road**	**4.40**	**240**	P	**Pn**	**15 03 09.4**	**+2.7**
NEZ	**North Egmont**	**4.41**	**241**	P	**Pn**	**15 03 09.2**	**+2.2**
PKE	**Pukeiti**	**4.46**	**243**	P	**Pn**	**15 03 10.7**	**+3.1**
KHEZ	**Kahui Hut**	**4.48**	**241**	P	**Pn**	**15 03 10.2**	**+2.3**
NBEZ	**Newall Road No**	**4.57**	**242**	P	**Pn**	**15 03 12.0**	**+3.0**
NMEZ	**Namu Road**	**4.63**	**241**	P	**Pn**	**15 03 13.1**	**+3.3**
OUZ	**Omahuta**	**4.88**	**293**	Pn	**Pn**	**15 03 15.4**	**+2.1**
OUZ	**Omahuta**	**4.88**	**293**	P	**Pn**	**15 03 15.6**	**+2.2**
OUZ	**Omahuta**	**4.88**	**293**	P	**Pn**	**15 03 15.5**	**+2.1**
MSWZ	**Moikau Station**	**5.11**	**214**		**Pn**	**15 03 12.3**	**-4.1**
PLWZ	**Palliser**	**5.23**	**213**		**Pn**	**15 03 14.5**	**-3.6**
SNZO	**South Karori**	**5.28**	**219**	Pn	**Pn**	**15 03 15.4**	**-3.4**
SNZO	**South Karori**	**5.28**	**219**	P	**Pn**	**15 03 15.4**	**-3.4**
TUWZ	**Tuamarina**	**5.76**	**222**		**Pn**	**15 03 22.0**	**-3.5**
CMWZ	**Cape Campbell**	**5.86**	**219**	P	**Pn**	**15 03 25.1**	**-1.6**
NNZ	**Nelson**	**5.94**	**227**	Pn	**Pn**	**15 03 25.6**	**-2.2**
QRZ	**Quartz Range**	**6.22**	**233**	P	**Pn**	**15 03 28.9**	**-2.9**
THZ	**Tophouse**	**6.56**	**225**	Pn	**Pn**	**15 03 33.4**	**-3.0**
KHZ	**Kahutara**	**6.69**	**218**	Pn	**Pn**	**15 03 34.3**	**-3.8**
KHZ	**Kahutara**	**6.69**	**218**	P	**Pn**	**15 03 34.6**	**-3.5**
CTZ	**Chatham Island**	**7.25**	**155**	P	**Pn**	**15 03 48.7**	**+2.9**
GVZ	**Greta Valley S**	**7.35**	**217**	P	**Pn**	**15 03 45.5**	**-1.7**
OXZ	**Oxford**	**8.10**	**219**	Pn	**Pn**	**15 03 53.0**	**-4.6**
RPZ	**Rata Peaks**	**8.89**	**221**	Pn	**Pn**	**15 04 05.1**	**-3.2**
	4.5nm,0.3s,baz=66,slow=0.9,SNR=36						
RPZ				Sn	Sn	15 05 34.1	-14
	2.4nm,0.3s,baz=50,slow=2.4,SNR=13						
RPZ				LR	LR	15 08 22.4	
	comp=Z,320nm,19.3s,baz=17,slow=42						
RPZ	**Rata Peaks**	**8.89**	**221**	P	**Pn**	**15 04 04.9**	**-3.4**
ODZ	**Otahua Downs**	**10.04**	**217**	P	**Pn**	**15 04 20.2**	**-4.0**
DZM	**Mont Dzumac**	**18.67**	**321**	LR	LR	15 11 50.1	
	comp=Z,167nm,20.6s,baz=200,slow=32						
STKA	**Stephens Creek**	**31.20**	**269**	P	**P**	**15 08 20.0**	**+0.7**
	1.8nm,0.4s,baz=110,slow=12,SNR=11						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**31.20**	**269**	P	**P**	**15 08 18.6**	**-0.7**
CTAO	**Charters Tower**	**33.29**	**292**	P	**P**	**15 08 35.7**	**-2.0**
CTAO				lAmb	lAmb	15 08 48.4	
	comp=Z,5.5nm,1.1s						
BBOO	**Buckleboo**	**35.29**	**264**	P	**P**	**15 08 51.8**	**-3.2**
COEN	**Coen**	**39.48**	**296**	P	**P**	**15 09 28.6**	**-2.0**
COEN				lAmb	lAmb	15 09 36.1	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**40.87**	**276**	P	**P**	**15 09 41.1**	**-1.0**
ASAR	**Alice Springs**	**40.87**	**276**	P	**P**	**15 09 41.0**	**-1.1**
	comp=Z,4.0nm,0.9s,baz=119,slow=7.3,SNR=48						
	comp=Z,4.0nm,0.9s						
ASAR	**Alice Springs**	**40.87**	**276**	P	**P**	**15 09 40.2**	**-2.0**
WR0	**Warramunga Arr**	**42.32**	**281**	P	**P**	**15 09 51.9**	**-2.1**
WR0				lAmb	lAmb	15 09 54.5	
	comp=Z,6.0nm,1.1s						
FORT	**Forrest**	**42.37**	**263**	P	**P**	**15 09 53.5**	**-0.8**
WB2	**Warramunga Arr**	**42.47**	**281**	P	**P**	**15 09 54.3**	**-1.0**
WB2				lAmb	lAmb	15 09 55.2	
	comp=Z,5.3nm,0.5s						
WRAB	**Tennant Creek**	**42.48**	**281**	P	**P**	**15 09 53.3**	**-2.1**
WRA	**Warramunga Arr**	**42.48**	**281**	P	**P**	**15 09 54.7**	**-0.7**
	comp=Z,3.4nm,0.5s,baz=122,slow=7.8,SNR=70						
	comp=Z,3.4nm,0.5s						
WRA	**Warramunga Arr**	**42.48**	**281**	P	**P**	**15 09 54.1**	**-1.3**
WB0	**Warramunga Arr**	**42.54**	**282**	P	**P**	**15 09 54.3**	**-1.6**
WB0				lAmb	lAmb	15 09 55.6	
	comp=Z,6.4nm,0.5s						
MTN	**Manton Dam**	**49.13**	**287**	P	**P**	**15 10 47.3**	**-0.6**
MTN				lAmb	lAmb	15 11 19.9	
	comp=Z,13nm,1.3s						
KNRA	**Kununurra**	**49.27**	**282**	P	**P**	**15 10 48.0**	**-0.9**
KNRA				lAmb	lAmb	15 11 02.7	
	comp=Z,8.6nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.35**	**277**	P	**P**	**15 10 55.7**	**-1.5**
FITZ				lAmb	lAmb	15 11 34.9	
	comp=Z,6.8nm,1.3s						
QSPA	**South Pole Qui**	**52.87**	**180**	P	**P**	**15 11 19.2**	**+3.7**
	comp=Z,3.1nm,0.7s,baz=62,slow=7.0,SNR=19						
	comp=Z,3.1nm,0.7s						
QSPA	**South Pole Qui**	**52.87**	**180**	P	**P**	**15 11 16.2**	**+0.6**
QSPA				lAmb	lAmb	15 11 37.8	
	comp=Z,8.4nm,1.4s						
TROLL	**Troll, Antarti**	**71.00**	**181**	P	**P**	**15 13 18.7**	**+1.3**
VNA3	**Neumayer Olymp**	**71.62**	**177**	P	**P**	**15 13 22.6**	**+1.6**
VNA2	**Neumayer--Watz**	**72.02**	**178**	P	**P**	**15 13 25.0**	**+1.6**
	baz=179,slow=6.0						
H03N3	**Juan Fernandez**	**78.92**	**124**	T	T	16 40 40.1	
	baz=234,slow=72,SNR=15						
H03N2	**Juan Fernandez**	**78.92**	**124**	T	T	16 40 34.9	
	baz=234,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**78.93**	**124**	T	T	16 40 35.5	
	baz=234,slow=72,SNR=18						
PLCA	**Paso Flores**	**79.58**	**134**	P	**P**	**15 14 09.9**	**+2.7**
	comp=Z,1.0nm,0.8s,baz=240,slow=8.1,SNR=4.4						
	comp=Z,1.0nm,0.8s						
PSI	**Prapat**	**83.86**	**278**	LR	LR	15 52 30.0	
	comp=Z,97nm,19.9s,baz=206,slow=36						
ARCES	**ARCESS Array B**	**144.65**	**344**	PKP	**PKPdf**	**15 21 35.3**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=48,slow=2.8,SNR=8.5						
FINES	**FINESS Array B**	**150.50**	**334**	PKPbc	**PKiKP**	**15 21 50.6**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=29,slow=3.2,SNR=13						
TORD	**Torodi Ar. Bea**	**155.88**	**186**	PKPab	**PKPab**	**15 22 21.3**	**0.0**
	comp=Z,0.5nm,0.7s,baz=166,slow=2.8,SNR=4.6						

*MOS **03** 15:09:55.5±0.0,43.°34N×41.°00E, h10km, MPVA3.4*
ISC 03 15:09:56.2±1.0, 43°36N±0.°03×40°97E±0.°02, h13km±9km, n17, σ0°974/34, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXR	**Arkhyz**	**0.30**	**48**	*i* Pg	**Pg**	**15 10 02.1**	**-0.5**
ARXR				*i* Sg	**Sg**	**15 10 06.5**	**-0.3**
VSLR	**Vesyoloye**	**0.69**	**278**	*e*Pg	**Pg**	**15 10 08.7**	**-0.9**
VSLR				*e*Sg	**Sb**	**15 10 19.1**	**-0.3**
AHMR	**Akhmetovskaya**	**0.80**	**4**	*e*Pg	**Pg**	**15 10 11.2**	**-0.5**
AHMR				*e*Sg	**Sb**	**15 10 22.2**	**-0.4**
GUZR	**Guzeripl'**	**0.88**	**316**	*e*Pg	**Pg**	**15 10 12.6**	**-0.7**
GUZR				*e*Sg	**Sn**	**15 10 25.9**	**-1.2**
SHA1	**Shidzhatmaz**	**1.28**	**72**	*e*Pg	**Pn**	**15 10 19.7**	**-0.3**
SHA1				*e*Sg	**Sb**	**15 10 37.2**	**+0.3**
LZRR	**Lazarevskoye**	**1.29**	**297**	*e*Pg	**Pg**	**15 10 20.6**	**-0.4**
LZRR				*e*Sg	**Sg**	**15 10 39.5**	**+1.8**
NEY	**Neytrino**	**1.29**	**95**	*e*Pg	**Pn**	**15 10 19.8**	**-0.3**
NEY				*e*Sg	**Sb**	**15 10 36.7**	**-0.2**
LABN	**Labinsk**	**1.29**	**352**	*e*Pg	**Pg**	**15 10 21.0**	**0.0**
LABN				*i* Sg	**Sg**	**15 10 39.4**	**+1.5**
KIV	**Kislovodsk**	**1.38**	**64**	*e*Pg	**Pn**	**15 10 21.7**	**+0.4**
KIV				*e*Sg	**Sg**	**15 10 40.6**	**-0.1**
KBZ	**Khabaz**	**1.45**	**75**	*i* Pg	**Pn**	**15 10 22.6**	**+0.5**
KBZ				*e*Sg	**Sb**	**15 10 42.2**	**+0.9**
GOYR	**Goytkh**	**1.45**	**308**	*e*Pg	**Pg**	**15 10 23.9**	**-0.2**
GOYR				*e*Sg	**Sg**	**15 10 43.8**	**+0.8**
BEYR	**Belyy Ugol+**	**1.49**	**64**	*e*Pg	**Pb**	**15 10 23.5**	**-0.3**
BEYR				*e*Sg	**Sg**	**15 10 43.9**	**-0.4**
TKB	**Tkibuli**	**1.80**	**123**	P	**Pb**	**15 10 29.7**	**+0.6**
TKB				S	**Sg**	**15 10 54.8**	**+0.6**
BATM	**Batumi**	**1.84**	**163**	P	**Pb**	**15 10 29.9**	**+0.2**
BATM				S	**Sg**	**15 10 54.8**	**-0.5**
ONI	**Oni**	**1.98**	**112**	P	**Pg**	**15 10 33.6**	**-0.6**
ONI				S	**Sg**	**15 11 01.4**	**+1.4**
ALER	**Alexandrovskoy**	**1.98**	**44**	*e*Pg	**Pg**	**15 10 34.4**	**+0.1**
ALER				*i* Sg	**Sg**	**15 10 59.6**	**-0.3**
ABS	**Abastumani**	**2.11**	**139**	P	**Pb**	**15 10 35.2**	**+0.8**
ABS				S	**Sg**	**15 11 04.3**	**+0.3**

*IDC **03** 15:13:34.0±3.5,9.°26S×112.°86E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=202.6km s-min=29.2km az=47.0*
*DJA **03** 15:13:38.5±0.7,10.°5S±8.°×11.°3E±.°, h10km, M3.6/12, MLv3.6/12*
ISC 03 15:13:37.9±1.4,9.°6S±0.°1×112.°91E±0.°06, h10km, n16, σ0°69/16, mb2.9/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.43**	**22**	P	**Pn**	**15 14 02.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**1.67**	**47**	P	**Pn**	**15 14 06.1**	**-1.1**
PWJI	**Pagerwojo**	**1.92**	**325**	P	**Pn**	**15 14 10.6**	**0.0**
BLJI	**Banyuglugur**	**1.97**	**20**	P	**Pn**	**15 14 12.1**	**+0.7**
PCJI	**Pacitan**	**2.22**	**309**	P	**Pn**	**15 14 14.4**	**-0.3**
ABJI	**Asem Bagus**	**2.23**	**36**	P	**Pn**	**15 14 15.0**	**+0.1**
DNP	**Denpasar**	**2.45**	**68**	P	**Pn**	**15 14 18.4**	**+0.4**
NGJI	**Ngawi**	**2.65**	**327**	P	**Pn**	**15 14 21.2**	**+0.5**
SRBI	**Singaraja**	**2.73**	**57**	P	**Pn**	**15 14 22.8**	**+1.0**
SRBI				S	**Sn**	**15 14 55.2**	**+0.2**
KMMI	**Kalianget**	**2.75**	**22**	P	**Pn**	**15 14 22.5**	**+0.4**
UGM	**Wanagama**	**2.90**	**305**	P	**Pn**	**15 14 24.5**	**+0.3**
TWSI	**Taliwang, Sumb**	**4.02**	**78**	P	**Pn**	**15 14 39.7**	**+0.2**
PLAI	**Plampang**	**4.87**	**81**	P	**Pn**	**15 14 51.3**	**+0.1**
WRA	**Warramunga Arr**	**23.10**	**119**	P	**P**	**15 18 44.4**	**+0.3**
	0.3nm,0.8s,baz=296,slow=10,SNR=1.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**	**15 18 56.2**	**-0.9**
	0.2nm,0.7s,baz=306,slow=8.3,SNR=4.5						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**62.45**	**337**	P	P	15 23

USP	baz=3.0			⇓*i*S	Sn	15 27 07.0	-1.0		
DGS	**Degeres**	**3.77**	**17**	*e*P	**Pb**	**15 26 34.7**	**+0.3**		
DGS	comp=E,77nm,0.2s			*e*S	**Sb**	**15 27 21.8**	**+1.1**		
DGS	**Degeres**	**3.77**	**17**	Pg	**Pb**	**15 26 34.7**	**+0.3**		
DGS	comp=E,77nm,0.7s			Lg	Lg	15 27 21.8			
SGDS	**Sogindy**	**3.83**	**4**	*e*P	**Pb**	**15 26 35.4**	**+0.2**		
SGDS	comp=E,19nm,0.2s			*e*S	**Sb**	**15 27 23.1**	**+1.0**		
SGDS	**Sogindy**	**3.83**	**4**	Pg	**Pb**	**15 26 35.4**	**+0.2**		
SGDS	comp=E,19nm,0.6s			Lg	Lg	15 27 23.1			
MTBS	**Maitube**	**3.85**	**24**	*e*P	**Pb**	**15 26 36.1**	**+0.6**		
MTBS	comp=E,37nm,1.7s			*e*S	**Sb**	**15 27 24.6**	**+1.8**		
MTBS	**Maitube**	**3.85**	**24**	Pg	**Pb**	**15 26 36.1**	**+0.6**		
MTBS	comp=E,37nm,1.7s			Lg	Lg	15 27 24.6			
MDOK	**Medeo**	**4.09**	**30**	*e*P	**Pb**	**15 26 40.6**	**+0.8**		
MDOK	comp=E,53nm,0.1s			*e*S	**Sb**	**15 27 32.0**	**+2.1**		
MDOK	**Medeo**	**4.09**	**30**	⇑Pn	**Pn**	**15 26 33.0**	**+2.2**		
MDOK	comp=E,8.8nm,0.6s			⇓Pg	**Pb**	**15 26 39.9**	**0.0**		
MDOK	comp=E,54nm,0.7s			Pg	Pg	15 26 40.6	-4.6		
MDOK	comp=E,53nm,0.5s			⇑Lg	Lg	15 27 31.8			
MDOK	comp=E,103nm,0.7s			Lg	Lg	15 27 32.0			
IUG	**luzhnay**	**4.09**	**309**	*e*P	**Pg**	**15 26 44.6**	**-0.7**		
IUG	comp=E,727nm,0.1s			*e*S	**Sg**	**15 27 38.4**	**+0.1**		
IUG	**luzhnay**	**4.09**	**309**	Pg	**Pg**	**15 26 44.6**	**-0.7**		
KNDC	**Almaty**	**4.11**	**28**	⇑Pn	**Pn**	**15 26 34.0**	**+3.2**		
KNDC	comp=E,27nm,0.3s			⇑Pg	**Pb**	**15 26 41.1**	**+1.1**		
KNDC	comp=E,139nm,0.6s			⇓Lg	Lg	15 27 33.4			
CHGR	**Chuyangaron**	**4.11**	**258**	⇓*i*P	Pn	15 26 36.6	+5.7		
CHGR	baz=54			⇓*i*S	**Sn**	**15 27 25.1**	**+5.4**		
KRBS	**Karabastau**	**4.19**	**14**	*e*P	**Pb**	**15 26 42.0**	**+0.5**		
KRBS	comp=E,37nm,0.1s			*e*S	**Sb**	**15 27 34.4**	**+1.8**		
KRBS	**Karabastau**	**4.19**	**14**	Pg	**Pb**	**15 26 42.0**	**+0.5**		
KRBS	comp=E,37nm,0.7s			Lg	Lg	15 27 34.4			
KTBS	**Karatobe**	**4.45**	**23**	*e*P	**Pb**	**15 26 46.7**	**+0.8**		
KTBS	comp=E,19nm,0.3s			*e*S	**Sb**	**15 27 42.9**	**+2.8**		
KTBS	**Karatobe**	**4.45**	**23**	Pg	**Pb**	**15 26 46.7**	**+0.8**		
KTBS	comp=E,19nm,0.3s			Lg	Lg	15 27 42.9			
KK31	**Karatay Array**	**4.49**	**322**	⇑Pn	**Pn**	**15 26 37.3**	**+1.3**		
KK31	comp=E,1.6nm,0.2s,baz=125,slow=12,SNR=134			Pg	**Pb**	**15 26 47.9**	**+1.5**		
KK31	comp=E,5.7nm,0.4s,baz=134,slow=17,SNR=17			⇑Sn	**Sn**	**15 27 29.4**	**+0.5**		
KK31	comp=E,18nm,0.5s			⇑Lg	Lg	15 27 47.6			
KUU	**Kurty**	**4.53**	**19**	*e*P	**Pb**	**15 26 47.7**	**+0.6**		
KUU	comp=E,18nm,0.4s,baz=148,slow=28,SNR=6.0 comp=E,10nm,0.1s			*e*S	**Sb**	**15 27 44.2**	**+2.0**		
KUU	**Kurty**	**4.53**	**19**	Pg	**Pb**	**15 26 47.7**	**+0.6**		
KUU	comp=E,9.0nm,0.5s			Lg	Lg	15 27 44.2			
SATY	**Saty**	**4.62**	**41**	*e*P	**Pb**	**15 26 49.9**	**+1.2**		
SATY	comp=E,24nm,0.1s			*e*S	**Sb**	**15 27 48.2**	**+3.3**		
SATY	**Saty**	**4.62**	**41**	Pg	**Pb**	**15 26 49.9**	**+1.2**		
SATY	comp=E,23nm,0.9s			Lg	Lg	15 27 48.2			
CHKK	**Chushkaly**	**4.68**	**25**	*e*P	**Pb**	**15 26 50.6**	**+0.9**		
CHKK	comp=E,24nm,0.4s			*e*S	**Sb**	**15 27 49.3**	**+2.8**		
CHKK	**Chushkaly**	**4.68**	**25**	Pg	**Pb**	**15 26 50.6**	**+0.9**		
CHKK	comp=E,23nm,0.6s			Lg	Lg	15 27 49.3			
ZHN	**Zhinishke**	**4.71**	**40**	*e*P	**Pb**	**15 26 51.5**	**+1.1**		
ZHN	comp=E,19nm,0.2s			*e*S	**Sb**	**15 27 50.8**	**+3.2**		
ZHN	**Zhinishke**	**4.71**	**40**	Pg	**Pb**	**15 26 51.4**	**+1.1**		
ZHN	comp=E,19nm,0.5s			Lg	Lg	15 27 50.8			
KURS	**Kuram**	**4.83**	**36**	*e*P	**Pb**	**15 26 52.8**	**+0.5**		
KURS	comp=E,14nm,0.1s			*e*S	**Sb**	**15 27 52.9**	**+2.0**		
KURS	**Kuram**	**4.83**	**36**	Pg	**Pb**	**15 26 52.8**	**+0.5**		
KURS	comp=E,14nm,0.8s			Lg	Lg	15 27 52.9			
UZB	**Uzynbulak**	**5.00**	**44**	*e*P	**Pb**	**15 26 57.8**	**+2.5**		
UZB	comp=E,19nm,1.0s comp=E,12nm,0.0s			*e*S	**Sb**	**15 28 01.3**	**+5.4**		
UZB	**Uzynbulak**	**5.00**	**44**	Pg	**Pb**	**15 26 57.7**	**+2.5**		
UZB	comp=E,27nm,0.1s comp=E,12nm,0.5s			Lg	Lg	15 28 01.3			
KPKS	**Kokpek**	**5.05**	**39**	*e*P	**Pb**	**15 26 57.8**	**+1.6**		
KPKS	comp=E,21nm,0.9s comp=E,18nm,3.4s			*e*S	**Sb**	**15 28 01.7**	**+4.3**		
KPKS	**Kokpek**	**5.05**	**39**	Pg	**Pb**	**15 26 57.8**	**+1.6**		
KPKS	comp=E,39nm,0.2s comp=E,18nm,0.9s			Lg	Lg	15 28 01.7			
SHLS	**Shalkode**	**5.25**	**46**	*e*P	**Pg**	**15 27 07.6**	**+0.2**		
SHLS	comp=E,40nm,0.5s comp=E,14nm,0.1s			*e*S	**Sg**	**15 28 17.8**	**+2.5**		
SHLS	**Shalkode**	**5.25**	**46**	Pg	**Pg**	**15 27 07.6**	**+0.2**		
ARXS	comp=E,14nm,0.6s			*e*P	**Pb**	**15 27 00.3**	**+0.3**		
ARXS	**Arharly**	**5.28**	**29**	*e*S	**Sb**	**15 28 05.8**	**+1.8**		
ARXS	comp=E,43nm,0.2s comp=E,30nm,0.1s			Pg	**Pb**	**15 27 00.3**	**+0.3**		
ARXS	**Arharly**	**5.28**	**29**	Lg	Lg	15 28 05.8			
PDGK	**Podgornoye**	**5.37**	**45**	⇓Pn	**Pn**	**15 26 49.4**	**+1.1**		
PDGK	comp=E,43nm,0.9s comp=E,30nm,1.1s			⇑Pg	**Pb**	**15 27 03.3**	**+1.7**		
PDGK	comp=E,10.0nm,0.6s			⇓Lg	Lg	15 28 12.5			
BTLS	**Baital**	**5.41**	**358**	*e*P	**Pb**	**15 27 03.9**	**+1.8**		
BTLS	comp=E,21nm,0.7s comp=E,62nm,1.1s			*e*S	**Sb**	**15 28 11.8**	**+4.2**		
BTLS	**Baital**	**5.41**	**358**	Pg	**Pb**	**15 27 03.9**	**+1.8**		
BTLS	comp=E,10nm,0.1s comp=E,2.2nm,0.1s			Lg	Lg	15 28 11.8			
DJR	**Jarkent**	**6.23**	**39**	*e*P	**Pb**	**15 27 20.6**	**+4.4**		
DJR	comp=E,9.2nm,0.9s comp=E,6.6nm,0.1s			*e*S	**Sg**	**15 28 40.6**	**-6.3**		
DJR	**Jarkent**	**6.23**	**39**	Pg	**Pb**	**15 27 20.6**	**+4.4**		
DJR	comp=E,10nm,0.8s comp=E,6.2nm,0.6s			Lg	Lg	15 28 40.6			
OTUK	**Ortayu**	**8.72**	**351**	⇑Lg	Lg	15 29 55.9			
MAKZ	**Makanchi**	**9.10**	**35**	⇓Pn	**Pn**	**15 27 40.7**	**+1.3**		
MAKZ	comp=E,2.8nm,1.2s			⇓Pg		15 27 56.0			
MAKZ	comp=E,1.8nm,1.0s			⇓Lg	Lg	15 30 08.5			
MK31	**Makanchi Array**	**9.23**	**37**	⇓Pn	**Pn**	**15 27 41.7**	**+0.6**		
MK31	comp=E,0.8nm,0.7s,baz=225,slow=16,SNR=4.0 comp=E,0.8nm,0.5s,baz=220,slow=14,SNR=11			⇓Pg		15 27 55.5			
MK31	comp=E,2.3nm,0.7s,baz=219,slow=14,SNR=2.8			⇑Lg	Lg	15 30 13.8			
MKAR	**Makanchi Array**	**9.23**	**37**	Pn	**Pn**	**15 27 42.8**	**+1.6**		
MKAR	comp=E,0.1nm,0.3s,baz=229,slow=15,SNR=4.1 comp=E,0.1nm,0.3s,baz=232,slow=23,SNR=2.1 comp=E,0.3nm,0.5s			Lg	Lg	15 30 02.9			
KURBB	**Kurchatov Arra**	**11.39**	**14**	Lg	Lg	15 31 15.7			
KURBB	**Kurchatov Arra**	**11.39**	**14**	⇑Lg	Lg	15 31 25.1			
KURK	**Kurchatov**	**11.49**	**14**	⇓Lg	Lg	15 31 23.8			
GEYT	**Alibeck**	**12.74**	**267**	Pn	Pn	15 28 25.2	-4.0		
BVAR	**Borovoye Array**	**13.66**	**350**	Pn	**Pn**	**15 28 39.2**	**-2.4**		
BVAR	comp=E,0.2nm,0.3s,baz=107,slow=5.0,SNR=1.6 comp=E,0.1nm,0.3s,baz=161,slow=14,SNR=4.2			Lg	Lg	15 32 30.9			
AKTO	**Aktyubinsk**	**15.74**	**319**	Pn	**Pn**	**15 29 08.6**	**-1.1**		
AKTO	baz=158,slow=28,SNR=1.5 comp=E,0.2nm,0.3s,baz=135,slow=14,SNR=3.4			Sn	**Sn**	**15 31 56.4**	**-8.4**		
ZALV	**Zalesovo Beam**	**16.00**	**23**	Pn	**Pn**	**15 29 10.6**	**-2.5**		
ARU	**Arti**	**19.75**	**334**	P	**P**	**15 29 58.1**	**+0.2**		
BRTR	**Keskin Array B**	**31.10**	**283**	P	**P**	**15 31 48.5**	**+1.5**		
FINES	**FINESS Array B**	**36.45**	**323**	P	**P**	**15 32 33.5**	**+0.6**		
ARCES	**ARCESS Array B**	**39.32**	**335**	P	**P**	**15 32 57.6**	**+0.5**		
USRK	**Ussuriysk Ar.**	**42.42**	**64**	LR	LR	15 51 01.7			
GERES	**GERESS Array B**	**43.33**	**303**	P	**P**	**15 33 30.9**	**+0.4**		
NOA	**NORSAR Array B**	**43.52**	**321**	P	**P**	**15 33 32.0**	**+0.3**		
MJAR	**Matsushiro Arr**	**49.45**	**72**	P	**P**	**15 34 16.2**	**-2.5**		
ESDC	**Sonseca Array**	**58.31**	**297**	P	**P**	**15 35 23.7**	**+0.2**		
TORD	**Torodi Ar. Bea**	**68.37**	**269**	P	**P**	**15 36 30.6**	**+0.2**		
WRA	**Warramunga Arr**	**81.53**	**125**	P	**P**	**15 37 46.6**	**+0.4**		
PMG	**Port Moresby**	**83.03**	**108**	LR	LR	16 20 00.5			
ASAR	**Alice Springs**	**84.00**	**127**	P	**P**	**15 37 57.7**	**-1.4**		

*TUL **03** 15:31:40.9±1.2,36.419N±0.006×96.88W±0.02,h6km±7km, ML3.4,mb_Lg3.2/95(NEIC),Error ellipse: s-maj=2.6km s-min=0.5km az=71.0*
*NEIC **03** 15:31:40.9±0.9,36.42N±0.02×96.90W±0.02,h5km±2km, Error ellipse: s-maj=3.4km s-min=3.0km az=207.0*
*ANF **03** 15:31:41.9±0.7,36.42N×96.82W,h12km±4km, ML3.9/18, Error ellipse: s-maj=3.5km s-min=2.7km az=80.0*

ISC 03 15:31:40.7±1.0,36.43N±0.02×96.89W±0.02,h7km±9km, n108,σ0s83/78,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.29**	**150**	Pg	**Pg**	**15 31 46.8**	**+0.4**
QUOK				Sg	**Sg**	**15 31 50.6**	**+0.2**
BLOK	**Blackwell**	**0.42**	**322**	Pg	**Pg**	**15 31 49.4**	**+0.5**
OK034	**N. Norfolk Rd.**	**0.44**	**161**	Pg	**Pg**	**15 31 49.5**	**+0.3**
OK034				Sg	**Sg**	**15 31 55.4**	**+0.4**
OK031	**S. Brethren Rd**	**0.47**	**175**	Pg	**Pg**	**15 31 50.2**	**+0.3**
OK030	**Cody Creek RV**	**0.51**	**170**		**Pg**	**15 31 50.6**	**+0.2**
T35A	**Sooner Cattle**	**0.57**	**32**		**Pg**	**15 31 52.0**	**+0.2**
T35B	**Sooner Cattle**	**0.57**	**32**	P	**Pg**	**15 31 52.1**	**+0.3**
T35B	baz=211			S	**Sg**	**15 31 59.9**	**+0.6**
DEOK	**Depew**	**0.66**	**151**	Pg	**Pg**	**15 31 53.7**	**+0.2**
DEOK				Sg	**Sg**	**15 32 02.5**	**+0.3**
KAN13	**South Haven SW**	**0.75**	**321**	Pg	**Pg**	**15 31 55.4**	**+0.2**
OK029	**Liberty Lake**	**0.78**	**216**		**Pg**	**15 31 55.8**	**+0.1**
CROK	**Carrier**	**0.89**	**275**	Pg	**Pg**	**15 31 57.8**	**0.0**
GC02	**Grant County #**	**0.89**	**299**	Pg	**Pg**	**15 31 57.8**	**0.0**
KAN09	**Caldwell North**	**0.92**	**321**	Pg	**Pg**	**15 31 58.2**	**-0.1**
OK025	**Westminster Rd**	**0.92**	**203**	Pg	**Pg**	**15 31 58.0**	**-0.3**
KAN17	**Caldwell West**	**0.94**	**311**	Pg	**Pg**	**15 31 58.6**	**0.0**
KS20	**Mayfield South**	**0.96**	**327**	Pg	**Pg**	**15 31 59.3**	**+0.1**
BCOK	**Bluff Creek, N**	**0.96**	**217**		**Pg**	**15 31 59.1**	**-0.1**
KAN01	**Argonia South**	**1.01**	**316**	Pg	**Pg**	**15 31 60.0**	**-0.1**
KAN14	**Manchester OK**	**1.01**	**302**	Pg	**Pg**	**15 32 00.0**	**-0.1**
TUL1	**Leonard**	**1.03**	**120**		**Pg**	**15 32 00.1**	**-0.3**
TUL1	**Leonard**	**1.03**	**120**	P	**Pg**	**15 32 00.2**	**-0.3**
TUL1	baz=300,SNR=279			S	**Sg**	**15 32 13.7**	**-0.1**
	baz=300						
KAN05	**Bluff City Nor**	**1.04**	**311**		**Pg**	**15 32 00.6**	**-0.1**
KS21	**Milan North St**	**1.06**	**324**	Pg	**Pg**	**15 32 01.0**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.11**	**204**	Pg	**Pg**	**15 32 01.3**	**-0.7**
OK032	**Salt Plains WL**	**1.13**	**290**	Pg	**Pg**	**15 32 02.0**	**-0.3**
KAN08	**Anthony NE Sta**	**1.18**	**313**		**Pg**	**15 32 03.1**	**-0.2**
KAN10	**Anthony SW Sta**	**1.19**	**306**		**Pg**	**15 32 03.3**	**-0.3**
KAN16	**Harper SW Stat**	**1.23**	**311**	Pn	**Pg**	**15 32 04.1**	**-0.3**
FNO	**Franklin**	**1.24**	**200**	Pg	**Pg**	**15 32 03.4**	**-1.1**
KAN12	**Harper NE Stat**	**1.24**	**315**	Pn	**Pb**	**15 32 04.3**	**-0.3**
OK035	**E0211 Rd and N**	**1.49**	**281**		**Pn**	**15 32 08.6**	**+0.5**
OK038	**West end E0370**	**1.50**	**272**		**Pn**	**15 32 07.6**	**-0.5**
RLO	**Rose Lookout**	**1.53**	**99**	Pn	**Pn**	**15 32 08.9**	**+0.4**
CSTR	**Hydro, Custer**	**1.65**	**242**	Pn	**Pn**	**15 32 10.9**	**+0.7**
U32A	**Winter Ranch,**	**1.70**	**269**		**Pn**	**15 32 11.8**	**+0.9**
U32A	**Winter Ranch,**	**1.70**	**269**	P	**Pn**	**15 32 12.0**	**+1.0**
U32A	baz=88,SNR=7.1			S	**Sb**	**15 32 34.8**	**+0.7**
	baz=88						
X34A	**Smith Ranch, M**	**1.98**	**203**		**Pb**	**15 32 16.1**	**-1.0**
X34A	comp=Z,120nm,0.8s			IAmb_Lg		15 32 46.9	
U38A	**Gravette**	**2.02**	**89**	Pn	**Pn**	**15 32 16.4**	**+1.2**
ELIS	**Ellis County**	**2.08**	**261**	IAmb_Lg		15 32 50.2	
	comp=Z,98nm,0.8s						
X37A	**Clayton**	**2.21**	**146**		**Pn**	**15 32 18.9**	**+1.0**
X37A	**Clayton**	**2.21**	**146**	P	**Pn**	**15 32 18.8**	**+0.9**
X37A	baz=326,SNR=59			Sb	**Sg**	**15 32 50.6**	**-1.2**
	baz=326						
WMOK	**Wichita Mounta**	**2.28**	**223**		**Pn**	**15 32 19.7**	**+0.8**
WMOK	comp=Z,71nm,0.7s			IAmb_Lg		15 32 54.5	
WMOK	**Wichita Mounta**	**2.28**	**223**	P	**Pn**	**15 32 19.8**	**+0.8**
WMOK	baz=42,SNR=28			S	**Sb**	**15 32 50.2**	**-0.6**
	baz=42						
HHAR	**Hobbs**	**2.38**	**93**	P	**Pn**	**15 32 22.1**	**+1.8**
	baz=274						
LOOK	**Love County**	**2.44**	**186**	IAmb_Lg		15 33 03.0	
	comp=Z,121nm,0.9s						
R32A	**Long Quarter,**	**2.46**	**324**		**Pn**	**15 32 22.2**	**+0.8**
R32A	**Long Quarter,**	**2.46**	**324**	P	**Pn**	**15 32 23.2**	**+1.8**
R32A	baz=144			Sb	**Sg**	**15 32 58.5**	**-1.3**
KSU1	**Kansas State U**	**2.68**	**5**	Sb	**Sg**	**15 33 05.0**	**-1.8**
Z35A	**Perchaven, San**	**3.10**	**186**	IAmb_Lg		15 33 25.9	
Z35A	**Perchaven, San**	**3.10**	**186**	S	**Sn**	**15 33 10.2**	**+2.7**
S39A	**Bolivar**	**3.12**	**65**		**Pn**	**15 32 31.5**	**+1.1**
S39A				IAmb_Lg		15 33 27.4	
S39A	**Bolivar**	**3.12**	**65**	P	**Pn**	**15 32 31.6**	**+1.1**
CBKS	**Cedar Bluff**	**3.29**	**317**	P	**Pn**	**15 32 33.9**	**+1.2**
MIAR	**Mount Ida**	**3.29**	**124**		**Pn**	**15 32 33.1**	**+0.4**
MIAR				IAmb_Lg		15 33 32.5	
MIAR	**Mount Ida**	**3.29**	**124**	P	**Pn**	**15 32 33.8**	**+1.1**
Z38A	**Mt. Pleasant**	**3.53**	**153**		**Pn**	**15 32 35.6**	**-0.3**
Z38A				IAmb_Lg		15 33 41.3	
FCAR	**Ozark Folk Cen**	**3.89**	**97**	IAmb_Lg		15 33 51.2	
WHAR	**Wooly Hollow**	**3.91**	**106**	Pn	**Pn**	**15 32 42.1**	**+0.9**
WHAR				IAmb_Lg		15 33 53.0	
UALR	**University of**	**4.05**	**113**	IAmb_Lg		15 33 50.1	
R40A	**Maddies Statio**	**4.12**	**62**	IAmb_Lg		15 33 50.7	
R40A	**Maddies Statio**	**4.12**	**62**	P	**Pn**	**15 32 45.0**	**+0.9**
WLAR	**White Oak Lake**	**4.13**	**130**	IAmb_Lg		15 33 57.6	
P38A	**Dawn**	**4.15**	**39**		**Pn**	**15 32 44.9**	**+0.4**
P38A	**Dawn**	**4.15**	**39**	Sn	**Sn**	**15 33 33.9**	**+0.5**
AMTX	**Amarillo**	**4.19**	**250**	IAmb_Lg		15 33 60.0	
N33B	**J Bar K, Exete**	**4.33**	**354**	Sn	**Sn**	**15 33 39.0**	**+1.3**
WHTX	**Lake Whitney,**	**4.45**	**186**	Sn	**Sn**	**15 33 40.0**	**-0.8**
237A	**Washetta, Mont**	**4.50**	**168**	Sn	**Sn**	**15 33 41.8**	**-0.3**
N35A	**Tabor**	**4.53**	**12**	Sn	**Sn**	**15 33 43.9**	**+1.1**
LCAR	**Lake Charles**	**4.65**	**93**	IAmb_Lg		15 34 06.1	
CCM	**Cathedral Cave**	**4.79**	**68**	IAmb_Lg		15 34 10.9	
CCAR	**Cane Creek**	**4.88**	**119**	IAmb_Lg		15 34 21.0	
P40A	**Paris**	**4.92**	**50**	IAmb_Lg		15 34 25.2	
BGNE	**Belgrade**	**5.07**	**349**		**Pn**	**15 32 57.1**	**-0.1**
BGNE				IAmb_Lg		15 34 26.3	
N38A	**Joes South For**	**5.21**	**32**	IAmb_Lg		15 34 29.7	
KSCO	**Kaye Shedlock'**	**5.23**	**301**	Pn	**Pn**	**15 32 59.8**	**+0.3**
KSCO				IAmb_Lg		15 34 34.0	
FVM	**French Village**	**5.39**	**71**		**Pn**	**15 33 01.9**	**+0.4**
FVM				IAmb_Lg		15 34 30.5	
FVM	**French Village**	**5.39**	**71**	Sn	**Sn**	**15 34 01.9**	**-2.0**
435B	**Jarrell**	**5.66**	**186**	IAmb_Lg		15 34 54.6	
SLM	**Saint Louis**	**5.73**	**65**	IAmb_Lg		15 34 42.3	
CGM3	**Cape Girardeau**	**5.86**	**79**	IAmb_Lg		15 34 46.2	
OGNE	**Ogallala**	**6.04**	**320**	IAmb_Lg		15 35 05.8	
S44A	**Carbondale**	**6.24**	**76**	Sn	**Sn**	**15 34 23.6**	**-1.1**
N41A	**Harden Midland**	**6.37**	**46**	IAmb_Lg		15 35 03.0	
OXF	**Oxford**	**6.40**	**105**	IAmb_Lg		15 35 09.3	
OXF	**Oxford**	**6.40**	**105**	P	**Pn**	**15 33 14.9**	**-0.5**
JCT	**Junction City**	**6.41**	**203**	IAmb_Lg		15 35 13.4	
P43A	**Skaggs, Pawnee**	**6.64**	**59**	IAmb_Lg		15 35 16.6	
K38A	**Parkersburg**	**6.98**	**26**	IAmb_Lg		15 35 41.0	
SDCO	**Great Sand Dun**	**7.01**	**283**	IAmb_Lg		15 35 30.9	
Q24A	**Divide**	**7.02**	**294**	IAmb_Lg		15 35 35.5	
L40A	**Anamosa**	**7.14**	**36**	Pn	**Pn**	**15 33 25.0**	**-0.6**
L40A				IAmb_Lg		15 35 29.1	
HDIL	**Hopedale**	**7.24**	**53**	IAmb_Lg		15 35 44.4	
WVT	**Waverly**	**7.32**	**90**	IAmb_Lg		15 35 33.6	
OLIL	**Olney**	**7.35**	**69**	IAmb_Lg		15 35 42.1	
O44A	**Mansfield**	**7.59**	**58**	IAmb_Lg		15 35 47.5	
L42A	**Oliver, Polo**	**7.90**	**43**	IAmb_Lg		15 35 59.4	
Z47A	**Carrollton**	**7.94**	**111**	IAmb_Lg		15 36 07.1	
I37A	**Lemond, Waseca**	**8.03**	**18**	IAmb_Lg		15 36 13.3	
JFWS	**Jewell Farm**	**8.26**	**36**	IAmb_Lg		15 36 10.3	
X48A	**Hartselle**	**8.27**	**101**	IAmb_Lg		15 36 11.0	
P46A	**Rosedale**	**8.28**	**64**	IAmb_Lg		15 36 13.1	
N23A	**Red Feather La**	**8.37**	**305**	IAmb_Lg		15 36 10.9	
SFIN	**Lafayette**	**8.64**	**60**	IAmb_Lg		15 36 16.1	
I40A	**Norwalk**	**8.87**	**31**	IAmb_Lg		15 36 32.1	
I40A	**Norwalk**	**8.87**	**31**	P	**Pn**	**15 33 49.2**	**0.0**
F33A	**5 Mile Ranch,**	**9.41**	**3**	IAmb_Lg		15 36 44.6	
K22A	**Casper**	**9.69**	**313**	IAmb_Lg		15 37 08.3	

WEL 03 15:35:19.9±1.0,35°S±8°×17°9E±1°0,h149km±19km, M3.6/23,ML3.8/29,MLv3.6/23,Error ellipse: s-maj=0.0km s-min=0.0km az=70.6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.29**	**202**	P	Pn	15 35 57.9	-0.4
MXZ				S	Sn	15 36 28.9	+1.0
WMGZ	**Waiomatatini S**	**2.50**	**198**	P	Pn	15 36 01.4	+0.5
HAZ	**Te Kaha**	**2.65**	**208**	P	Pn	15 36 03.4	+0.7
PKGZ	**Pakihiroa**	**2.66**	**203**	P	Pn	15 36 03.2	+0.3
PKGZ				S	Sn	15 36 35.1	-1.1
PUZ	**Puketiti**	**2.78**	**198**	P	Pn	15 36 04.3	0.0
RUGZ	**Raukumara Rang**	**2.87**	**208**	P	Pn	15 36 06.2	+0.6
RUGZ				S	Sn	15 36 41.1	+0.2
TWGZ	**Tauwhareparae**	**2.96**	**202**	P	Pn	15 36 07.2	+0.5
CNGZ	**Carnagh Statio**	**3.18**	**197**	P	Pn	15 36 09.9	+0.5
KUZ	**Kuaotunu**	**3.23**	**245**	P	Pn	15 36 10.9	+0.9
TKGZ	**Te Karaka**	**3.24**	**202**	P	Pn	15 36 06.9	-3.3
TKGZ				S	Sn	15 36 48.7	-0.4
MWZ	**Matawai**	**3.25**	**206**	P	Pn	15 36 10.5	+0.2
MWZ				S	Sn	15 36 50.2	+0.7
OPRZ	**Ohinepanea**	**3.30**	**222**	P	Pn	15 36 10.8	-0.2
URZ	**Urewera**	**3.35**	**212**	P	Pn	15 36 11.7	+0.2
TGRZ	**Tauranga**	**3.39**	**227**	P	Pn	15 36 13.5	+1.4
RAGZ	**Rawiri**	**3.43**	**207**	P	Pn	15 36 12.8	0.0
RIGZ	**Rimuhau**	**3.51**	**201**	P	Pn	15 36 13.5	-0.2
RIGZ				S	Sn	15 36 54.5	-1.0
KARZ	**Kaharoa**	**3.60**	**223**	P	Pn	15 36 16.3	+1.4
PRGZ	**Paritu Road**	**3.68**	**198**	P	Pn	15 36 15.1	-0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIAZ	Waiheke Island	3.69	247	P	Pn	15 36 17.4	+1.5
RTZ	Ruatahuna	3.71	210	P	Pn	15 36 16.3	0.0
SNGZ	Shannon Statio	3.71	205	P	Pn	15 36 16.5	+0.2
SNGZ				S	Sn	15 36 59.7	-0.5
MKAZ	Moumakai	3.79	243	P	Pn	15 36 18.3	+1.1
TOZ	Tahuroa Road	3.87	232	P	Pn	15 36 20.4	+2.2
PRRZ	Plateau Road	3.88	217	P	Pn	15 36 19.0	+0.6
RAHZ	Arahi	3.92	207	P	Pn	15 36 19.8	+0.8
RAHZ				S	Sn	15 37 05.8	+0.7
ALRZ	Allen Road	3.95	217	P	Pn	15 36 20.0	+0.6
MTHZ	Maungataniwha	3.96	210	P	Pn	15 36 20.0	+0.4
MTHZ				S	Sn	15 37 07.1	+1.0
MRHZ	Matea Rd	4.13	214	P	Pn	15 36 21.8	-0.1
NMHZ	Naumai	4.19	208	P	Pn	15 36 23.5	+0.9
TLZ	Tolley Road	4.22	226	P	Pn	15 36 25.3	+2.4
ARHZ	Aropaoanui	4.26	206	P	Pn	15 36 23.6	+0.1
ARHZ				S	Sn	15 37 14.1	+1.1
BKZ	Black Stump Fm	4.37	211	P	Pn	15 36 24.2	-0.8
RATZ	Rangitukua	4.47	219	P	Pn	15 36 27.1	+0.9
RITZ	Rihia Road	4.51	217	P	Pn	15 36 27.6	+0.8
KWHZ	Kaweka Forest	4.62	210	P	Pn	15 36 27.7	-0.5
TMVZ	Te Maari	4.70	217	P	Pn	15 36 29.6	+0.3
ETVZ	East Tongariro	4.71	217	P	Pn	15 36 29.8	+0.4
HIZ	Hauiti	4.74	228	P	Pn	15 36 32.0	+2.2
KAHZ	Kahuranaki	4.78	204	P	Pn	15 36 29.6	-0.7
BHHZ	Black Hill Sta	4.83	212	P	Pn	15 36 30.5	-0.4
KRHZ	Kereru	4.83	209	P	Pn	15 36 29.9	-1.1
TUVZ	Tukino	4.84	217	P	Pn	15 36 27.1	-4.1
PXZ	Pawanui	5.00	203	P	Pn	15 36 31.7	-1.5

IDC ***03*** *15:43:40.7±1.4, 7°.59S×105°.46E, h0km, mb3.6/7, mbtmp3.7/9, ML4.0/2, Error ellipse: s-maj=43.4km s-min=19.1km az=49.0*

DJA ***03*** *15:43:47.1±0.7, 7°.5±6°×107°.6E±°, h10km, M3.6/8, MLv3.6/8*

ISC 03 15:43:47.4±0.9, 7°.48S±0°.09×105°.90E±0°.06, h32km, n24, σ1§20/21, mb3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.80	54	P	Pn	15 44 02.6	+0.1
CNJI	Cibinong	1.23	82	P	Pn	15 44 08.7	+0.3
DBJI	Dramaga	1.25	42	P	Pn	15 44 10.2	+1.5
DBJI				S	Sb	15 44 27.1	+0.9
SBJI	Serang	1.37	9	P	Pn	15 44 10.5	+0.1
CBJI	Citeko	1.41	42	P	Pn	15 44 10.3	-0.6
TNG	Tangerang	1.50	30	P	Pn	15 44 13.5	+1.4
LEM	Lembang	1.82	69	Pn	Pb	15 44 20.8	+0.6
	26nm,0.3s,baz=330,slow=7.6,SNR=28						
LEM				Sn	Sb	15 44 43.1	+0.3
	25nm,0.3s,baz=227,slow=20,SNR=9.9						
	73nm,0.4s						
LEM	Lembang	1.82	69	P	Pb	15 44 20.1	-0.2
KASI	Kota Agung	2.40	324	P	Pn	15 44 26.0	+1.5
LWLI	Liwa	3.06	323	P	Pn	15 44 34.8	+1.1
BATI	Baumata	17.76	100	P	P	15 47 55.1	+2.1
	1.0nm,0.3s,baz=277,slow=17,SNR=2.3						
	9.2nm,0.4s						
FITZ	Fitzroy Crossi	21.92	121	P	P	15 48 39.9	+1.6
	1.3nm,0.9s,baz=288,slow=6.4,SNR=1.9						
	1.3nm,0.9s						
H01W3	Cape Leeuwin H	28.30	166	T	T	16 19 21.8	
	baz=345						
H01W1	Cape Leeuwin H	28.32	166	T	T	16 19 23.7	
	baz=345						
H01W2	Cape Leeuwin H	28.32	166	T	T	16 19 23.5	
	baz=345						
WRA	Warramunga Arr	30.21	117	P	P	15 49 55.2	-0.2
	0.5nm,0.9s,baz=290,slow=10,SNR=2.6						
	0.5nm,0.9s						
ASAR	Alice Springs	31.31	124	P	P	15 50 04.9	-0.1
	0.2nm,0.8s,baz=297,slow=8.0,SNR=7.8						
ASAR				PcP	PcP	15 52 59.4	+0.5
	0.4nm,1.0s,baz=308,slow=2.5,SNR=1.7						
	0.2nm,0.8s						
H08S2	Diego Garcia H	33.12	267	T	T	16 25 44.6	
	baz=92,slow=76						
H08S3	Diego Garcia H	33.12	268	T	T	16 25 44.7	
	baz=92,slow=76						
H08S1	Diego Carcia H	33.13	267	T	T	16 25 47.6	
	baz=92,slow=76						
STKA	Stephens Creek	41.14	131	P	P	15 51 28.9	+0.1
	1.1nm,0.7s,baz=297,slow=11,SNR=4.5						
	1.1nm,0.7s						
KSRS	Korea Array	49.22	23	P	P	15 52 31.5	-1.3
	0.4nm,0.6s,baz=210,slow=6.7,SNR=1.8						
	0.4nm,0.6s						
MKAR	Makanchi Array	57.98	341	P	P	15 53 35.1	-1.9
	0.5nm,0.5s,baz=150,slow=7.2,SNR=8.6						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	63.73	346	P	P	15 54 13.9	-2.0
	0.7nm,0.3s,baz=166,slow=6.3,SNR=4.4						
	0.7nm,0.3s						

NOU ***03*** *15:49:06.6, 37°.00S×179°.52W, h112km, MLv4.8/8, East of North Island, N.Z.*

IDC ***03*** *15:49:14.4±1.7, 36°.71S×179°.15E, h0km, mb3.9/4, mbtmp3.9/5, ML4.2/1, MS2.7/1, Error ellipse: s-maj=40.5km s-min=31.6km az=49.0*

WEL ***03*** *15:49:16.6±1.0, 37°.5±4°×17°.9E±°, h12km±6km, M3.9/78, ML4.2/81, MLv3.9/78, Error ellipse: s-maj=0.0km s-min=0.0km az=93.2*

ISC 03 15:49:14.7±2.4, 37°.03S±0°.06×179°.28E±0°.08, h3km±12km, n130, σ1§37/138, mb3.9/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.94	235	P	Pb	15 49 33.6	-0.1
MXZ				S	Sg	15 49 43.9	-1.1
WMGZ	Waiomatatini S	1.05	221	P	Pn	15 49 37.5	+1.2
WMGZ				S	Sn	15 49 51.6	+0.2
PKGZ	Pakihiroa	1.29	228	P	Pb	15 49 40.8	+1.3
PKGZ				S	Sg	15 49 56.7	+0.6
PUZ	Puketiti	1.32	218	P	Pn	15 49 41.0	+0.9
PUZ				S	Sb	15 49 58.4	+0.9
HAZ	Te Kaha	1.40	238	P	Pg	15 49 43.0	+1.5
HAZ				S	Sn	15 50 00.1	+0.1
TWGZ	Tauwhareparae	1.54	222	P	Pn	15 49 44.2	+1.1
TWGZ				S	Sn	15 50 04.1	+0.4
RUGZ	Raukumara Rang	1.58	233	P	Pb	15 49 44.7	0.0
RUGZ				S	Sb	15 50 04.9	-0.2
CNGZ	Carnagh Statio	1.68	210	P	Pn	15 49 46.5	+1.5
CNGZ				S	Sb	15 50 09.0	+1.2
WIZ	White Island	1.74	253	P	Pn	15 49 44.8	-1.0
WIZ				S	Sg	15 50 08.8	-1.9
TKGZ	Te Karaka	1.81	219	P	Pn	15 49 47.2	+0.5
TKGZ				S	Sn	15 50 09.9	-0.2
MWZ	Matawai	1.91	226	P	Pn	15 49 48.7	+0.6
MWZ				S	Sn	15 50 12.0	-0.6
WHRZ	Whale Island	2.01	245	P	Pb	15 49 50.8	-1.1
RIGZ	Rimuhau	2.06	215	P	Pn	15 49 50.9	+0.6
RAGZ	Rawiri	2.08	225	P	Pn	15 49 51.3	+0.8
URZ	Urewera	2.12	234	Pn	Pn	15 49 51.9	+0.9
	73nm,0.3s,baz=211,slow=2.8,SNR=307						
URZ				Sn	Sn	15 50 16.9	-0.9
	68nm,0.3s,baz=211,slow=21,SNR=5.6						
URZ				LR	LR	15 50 58.9	
	comp=Z,173nm,21.8s,baz=29,slow=47						
	167nm,0.3s						
URZ	Urewera	2.12	234	P	Pn	15 49 51.7	+0.8
URZ	Urewera	2.12	234	P	Pn	15 49 52.0	+1.1
PRGZ	Paritu Road	2.19	210	P	Pn	15 49 52.5	+0.5
MARZ	Manawahe	2.28	245	P	Pn	15 49 53.9	+0.6
EDRZ	Edgecumbe	2.29	241	P	Pn	15 49 54.5	+1.1
OPRZ	Ohinepanea	2.32	249	P	Pn	15 49 47.3	-6.5
OPRZ				P	Pb	15 49 54.1	-3.0
SNGZ	Shannon Statio	2.33	221	P	Pn	15 49 54.4	+0.5
KNZ	Kokohu	2.36	212	P	Pn	15 49 54.0	-0.3
MHGZ	Mahia Peninsul	2.38	207	P	Pn	15 49 55.0	+0.4
RTZ	Ruatahuna	2.42	228	P	Pn	15 49 55.8	+0.7
MYRZ	Mayor Island	2.44	263	P	Pn	15 49 54.8	-0.7
MUGZ	Murupara	2.46	233	P	Pn	15 49 56.2	+0.5
LIRZ	Lichensteins R	2.50	246	P	Pn	15 49 57.7	+1.4
TGRZ	Tauranga	2.51	253	P	Pn	15 49 56.5	+0.2
TARZ	Mount Tarawera	2.51	241	P	Pn	15 49 57.8	+1.3
OMRZ	Omania	2.55	244	P	Pn	15 49 58.2	+1.2
RRRZ	Republican Roa	2.56	238	P	Pn	15 49 58.1	+1.1
RAHZ	Arahi	2.56	222	P	Pn	15 49 57.8	+0.7
WHHZ	Waihua	2.61	218	P	Pn	15 49 58.1	+0.4
KARZ	Kaharoa	2.61	247	P	Pn	15 49 58.6	+0.9
HLRZ	Highlands Stat	2.63	241	P	Pn	15 49 59.3	+1.3
MTHZ	Maungataniwha	2.65	226	P	Pn	15 49 59.2	+0.8
NGRZ	Ngongotaha	2.68	246	P	Pn	15 50 00.5	+1.7
UTU	Utuhina	2.71	244	P	Pb	15 50 01.6	-2.1
PRRZ	Plateau Road	2.72	236	P	Pn	15 49 59.7	+0.5
HSRZ	Hossack Road	2.73	241	P	Pn	15 50 00.9	+1.5
HRRZ	Handcock Road	2.74	239	P	Pn	15 50 00.2	+0.7
KMRZ	Kaimai	2.78	252	P	Pn	15 50 00.1	-0.1
ALRZ	Allen Road	2.79	236	P	Pn	15 50 00.8	+0.6
GRRZ	Galatos Road	2.84	241	P	Pn	15 50 02.4	+1.5
NMHZ	Naumai	2.84	223	P	Pn	15 50 01.6	+0.6
ARHZ	Aropaoanui	2.87	218	P	Pn	15 50 01.6	+0.3
KUZ	Kuaotunu	2.87	275	P	Pn	15 50 00.4	-0.9
WPRZ	Whakapapatarin	2.89	238	P	Pn	15 50 02.9	+1.4
MRHZ	Matea Rd	2.90	231	P	Pn	15 50 02.1	+0.4
BKZ	Black Stump Fm	3.06	225	P	Pn	15 50 04.1	0.0
TOZ	Tahuroa Road	3.09	256	P	Pn	15 50 03.9	-0.5
WHTZ	Whakaora	3.10	237	P	Pn	15 50 05.7	+1.2
KUTZ	Kaahu Road	3.10	241	P	Pn	15 50 05.7	+1.1
CKHZ	Cape Kidnapper	3.15	213	P	Pn	15 50 04.5	-0.6
GRZ	Great Barrier	3.17	283	P	Pn	15 50 05.6	+0.1
TLZ	Tolley Road	3.24	245	P	Pn	15 50 07.7	+1.2
KWHZ	Kaweka Forest	3.29	222	P	Pn	15 50 05.3	-1.8
MKAZ	Moumakai	3.30	267	P	Pn	15 50 06.9	-0.3
RATZ	Rangitukua	3.33	235	P	Pn	15 50 08.8	+1.2
RITZ	Rihia Road	3.33	233	P	Pn	15 50 08.6	+0.9
WIAZ	Waiheke Island	3.33	273	P	Pn	15 50 07.7	0.0
KAHZ	Kahuranaki	3.34	214	P	Pn	15 50 07.1	-0.8
KATZ	Kakaramea	3.44	234	P	Pn	15 50 11.0	+1.8
KRHZ	Kereru	3.47	220	P	Pn	15 50 08.7	-1.0
ETAZ	East Tamaki Re	3.49	270	P	Pn	15 50 10.2	+0.4
TMVZ	Te Maari	3.51	233	P	Pn	15 50 10.4	+0.1
ETVZ	East Tongariro	3.52	232	P	Pn	15 50 10.4	+0.1
NTVZ	North Tongariro	3.52	233	P	Pn	15 50 10.8	+0.5
MBAZ	Motutapu North	3.52	273	P	Pn	15 50 10.7	+0.4
BHHZ	Black Hill Sta	3.53	225	P	Pn	15 50 10.3	-0.2
KRVZ	Karewarewa	3.54	233	P	Pn	15 50 11.0	+0.4
PXZ	Pawanui	3.55	212	P	Pn	15 50 09.1	-1.5
OTVZ	Oturere	3.56	232	P	Pn	15 50 11.4	+0.4
NNVZ	North Ngauruho	3.58	233	P	Pn	15 50 11.7	+0.6
WTVZ	West Tongariro	3.58	233	P	Pn	15 50 11.9	+0.7
SNVZ	South Ngauruho	3.59	232	P	Pn	15 50 11.6	+0.2
ABAZ	Army Bay	3.60	276	P	Pn	15 50 12.0	+0.7
NGZ	Ngauruhoe	3.61	232	P	Pn	15 50 11.7	+0.1
TUVZ	Tukino	3.63	231	P	Pn	15 50 12.3	+0.4
EPAZ	Eden Park BICE	3.64	271	P	Pn	15 50 12.8	+0.9
HBAZ	Herne Bay Bore	3.65	271	P	Pn	15 50 13.0	+1.0
MOVZ	Moawhango	3.66	228	P	Pn	15 50 12.0	-0.2
TWVZ	Taurewa	3.66	235	P	Pn	15 50 12.8	+0.6
WHVZ	Whangaehu Hut	3.68	231	P	Pn	15 50 12.9	+0.2
FWVZ	Far West T-bar	3.69	232	P	Pn	15 50 13.4	+0.7
WNVZ	Wahianoa	3.70	231	P	Pn	15 50 12.9	0.0
AWAZ	Awhitu Peninsu	3.71	268	P	Pn	15 50 13.5	+0.6
PNHZ	Pukenui	3.76	219	P	Pn	15 50 12.3	-1.3
WPHZ	Waipukurau	3.76	215	P	Pn	15 50 12.3	-1.2
WTAZ	Waiatarua	3.77	270	P	Pn	15 50 14.4	+0.6
RVAZ	Riverhead Bore	3.78	273	P	Pn	15 50 14.5	+0.7
HIZ	Hauiti	3.81	246	P	Pn	15 50 16.1	+1.9
HIZ	Hauiti	3.81	246	P	Pn	15 50 16.2	+1.9
MTVZ	Mangateitei	3.81	231	P	Pn	15 50 14.7	+0.3
PKVZ	Pokaka	3.84	233	P	Pn	15 50 15.1	+0.4
DVHZ	Dannevirke	4.08	216	P	Pn	15 50 16.5	-1.4
WAZ	Wanganui	4.34	230	P	Pn	15 50 21.6	+0.1
POWZ	Post Office Ro	4.34	218	P	Pn	15 50 20.2	-1.3
PRWZ	Pori Road	4.37	215	P	Pn	15 50 20.4	-1.5
MHEZ	Mangahewa	4.42	241	P	Pn	15 50 25.6	+3.0
OHWZ	Ohakea	4.44	223	P	Pn	15 50 22.9	0.0
LRRZ	Lake Rotokare	4.54	236	P	Pn	15 50 25.7	+1.4
DREZ	Durham Road	4.55	240	P	Pn	15 50 27.3	+2.9
PREZ	Palmer Road	4.65	239	P	Pn	15 50 28.5	+2.7
NEZ	North Egmont	4.66	240	P	Pn	15 50 28.4	+2.4
PKE	Pukeiti	4.70	241	P	Pn	15 50 28.9	+2.4
KHEZ	Kahui Hut	4.73	240	P	Pn	15 50 29.5	+2.6
NBEZ	Newall Road No	4.82	241	P	Pn	15 50 31.3	+3.2
NMEZ	Namu Road	4.88	239	P	Pn	15 50 32.4	+3.6
OUZ	Omahuta	4.95	290	P	Pn	15 50 30.9	+1.0
OUZ	Omahuta	4.95	290	P	Pn	15 50 30.8	+1.0
SNZO	South Karori	5.56	218	P	Pn	15 50 35.5	-2.8
TKNZ	Takaka Hill	6.34	229	P	Pn	15 50 47.2	-1.8
QRZ	Quartz Range	6.49	232	P	Pn	15 50 49.4	-1.6
KHZ	Kahutara	6.97	218	P	Pn	15 50 55.0	-2.5
CTZ	Chatham Island	7.39	156	P	Pn	15 51 05.4	+2.0
RPZ	Rata Peaks	9.16	221	Pn	Pn	15 51 23.9	-3.8
	0.5nm,0.3s,baz=230,slow=3.5,SNR=10						
RPZ				Sn	Sn	15 52 57.4	-14
	2.8nm,0.3s,baz=61,slow=20,SNR=20						
RPZ	Rata Peaks	9.16	221	P	Pn	15 51 24.6	-3.1
ODZ	Otahua Downs	10.32	216	P	Pn	15 51 39.9	-3.7
ASAR	Alice Springs	41.00	276	P	P	15 56 58.0	-1.1
	1.0nm,0.6s,baz=119,slow=7.6,SNR=40						
	1.0nm,0.6s						
WRA	Warramunga Arr	42.59	281	P	P	15 57 10.9	-1.3
	1.5nm,0.6s,baz=121,slow=7.7,SNR=17						
	1.5nm,0.6s						
FITZ	Fitzroy Crossi	50.48	277	P	P	15 58 13.5	-0.6
	1.3nm,0.8s,baz=131,slow=8.0,SNR=6.0						
	1.3nm,0.8s						
QSPA	South Pole Qui	53.09	180	P	P	15 58 36.4	+3.3
	1.3nm,0.9s,baz=64,slow=7.0,SNR=2.4						
	1.3nm,0.9s						
H03N3	Juan Fernandez	78.91	123	T	T	17 28 08.7	
	baz=234						
H03N2	Juan Fernandez	78.92	123	T	T	17 28 02.7	
	baz=234						
H03N1	Juan Fernandez	78.93	123	T	T	17 28 02.2	
	baz=234						
ARCES	ARCESS Array B	144.47	344	PKP	PKPbc	16 08 50.0	+0.1
	2.6nm,1.1s,baz=64,slow=2.1,SNR=4.9						
FINES	FINESS Array B	150.36	334	PKPbc	PKPbc	16 09 05.6	-0.9
	0.8nm,0.8s,baz=35,slow=5.1,SNR=1.3						
TORD	Torodi Ar. Bea	156.12	186	PKPab	PKPab	16 09 38.5	+0.2
	0.3nm,0.6s,baz=146,slow=3.1,SNR=1.8						

FUNV 03 15:55:31.0, 8°.52N×70°.67W, h3km, MW3.7, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	Socops	0.30	219	eP	Pg	15 55 36.1	-0.7
SOCV				eS	Sg	15 55 40.7	-0.1
CURV	Curarigua	1.64	25	eP	Pb	15 56 01.5	-0.4
CURV				eS	Sn	15 56 21.9	-0.6
CAPV	Capacho	1.76	248	eP	Pn	15 56 01.6	-1.0
CAPV				eS	Sn	15 56 25.2	-0.5
SIQV	Siquisique	2.27	22	eP	Pn	15 56 09.9	+0.3
SIQV				eS	Sn	15 56 36.2	-2.0
DABV	Dabajuro	2.38	1	eP	Pn	15 56 10.0	-1.1
DABV				eS	Sn	15 56 39.4	-1.5
MAPV	Macapo	2.54	59	eP	Pn	15 56 12.8	-0.4
MAPV				eS	Sn	15 56 42.5	-2.2
BAUV	El Baul	2.63	81	eP	Pn	15 56 13.1	-1.3
BAUV				eS	Sn	15 56 44.9	-1.9
JACV	Jacura	3.12	35	eP	Pn	15 56 20.5	-0.8
JACV				eS	Sn	15 56 56.8	-2.4
BENV	Beln	3.35	64	eP	Pn	15 56 23.5	-0.9
BENV				eS	Sn	15 57 01.4	-3.4
TURV	Turiamo	3.38	55	eP	Pn	15 56 24.5	-0.3
TURV				eS	Sn	15 57 03.4	-2.1
TACV	Tcata	3.93	66	eP	Pn	15 56 31.5	-0.9
TACV				eS	Sn	15 57 14.8	-4.3
CACV	CAICARA DEL OR	4.19	103	eP	Pb	15 56 42.4	-3.2
CACV				eS	Sb	15 57 33.8	-2.9
PAYV	Puerto Ayacuch	4.29	136	eP	Pn	15 56 36.2	-1.1
PAYV				eS	Sn	15 57 24.3	-3.7
BIRV	Birongo	4.75	66	eP	Pn	15 56 42.0	-1.7
BIRV				eS	Sn	15 57 34.8	-4.5
PCRV	Puerto La Cruz	6.17	74	eP	Pn	15 57 01.9	-1.3
PCRV				eS	Sn	15 58 09.2	-5.3

NOU ***03*** *16:24:04.2, 37°.42S×179°.55E, h79km, ML4.2/7, Off E. Coast of N. Island, N.Z.*

WEL ***03*** *16:24:05.7±1.1, 37°.5±3°×17°.9E±°, h20km±7km, M3.7/72, ML4.0/76, MLv3.7/72, Error ellipse: s-maj=0.0km s-min=0.0km az=88.2*

IDC ***03*** *16:24:07.1±2.4, 36°.90S×178°.24E, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=47.2km s-min=27.1km az=103.0*

ISC 03 16:24:04.6±2.2, 37°.26S±0°.06×179°.15E±0°.08, h16km±10km, n115, σ0§98/126, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.74	245	P	Pg	16 24 19.4	+0.3
MXZ				S	Sg	16 24 27.6	-1.2
WMGZ	Waiomatatini S	0.81	226	P	Pn	16 24 22.6	+1.2
WMGZ				S	Sn	16 24 34.3	+1.1
PKGZ	Pakihiroa	1.06	233	P	Pg	16 24 25.7	+0.6
PKGZ				S	Sg	16 24 38.6	-0.4
PUZ	Puketiti	1.08	221	P	Pg	16 24 26.2	+0.7
PUZ				S	Sb	16 24 40.2	+1.4
HAZ	Te Kaha	1.20	245	P	Pb	16 24 26.5	-0.5
HAZ				S	Sb	16 24 42.3	+0.1
TWGZ	Tauwhareparae	1.31	225	P	Pn	16 24 29.3	+1.0
TWGZ				S	Sb	16 24 46.8	+1.4
RUGZ	Raukumara Rang	1.37	238	P	Pn	16 24 30.3	+1.1
RUGZ				S	Sb	16 24 46.8	-0.5
CNGZ	Carnagh Statio	1.43	211	P	Pn	16 24 31.9	+1.9
CNGZ				S	Sg	16 24 51.1	+0.2
TKGZ	Te Karaka	1.57	221	P	Pn	16 24 32.5	+0.6
TKGZ				S	Sn	16 24 52.3	+0.5
WIZ	White Island	1.59	260	P	Pn	16 24 32.3	+0.2
MWZ	Matawai	1.68	230	P	Pn	16 24 34.0	+0.6
MWZ				S	Sn	16 24 53.7	-0.9
RIGZ	Rimuhau	1.82	217	P	Pn	16 24 36.1	+0.8
WHRZ	Whale Island	1.83	250	P	Pn	16 24 36.0	+0.5
RAGZ	Rawiri	1.85	228	P	Pn	16 24 36.5	+0.7
RAGZ				S	Sn	16 24 58.5	-0.4
URZ	Urewera	1.90	238	Pn	Pn	16 24 37.1	+0.7
	26nm,0.3s,baz=31,slow=3.3,SNR=100						
URZ				Sn	Sn	16 24 58.6	-1.5
	57nm,0.3s,baz=31,slow=23,SNR=24						
URZ	Urewera	1.90	238	P	Pn	16 24 37.1	+0.7
URZ	Urewera	1.90	238	P	Pn	16 24 37.5	+1.1
PRGZ	Paritu Road	1.94	211	P	Pn	16 24 37.6	+0.6
SNGZ	Shannon Statio	2.09	223	P	Pn	16 24 39.5	+0.4
EDRZ	Edgecumbe	2.09	245	P	Pn	16 24 39.7	+0.5
MARZ	Manawahe	2.10	249	P	Pn	16 24 39.2	0.0
KNZ	Kokohu	2.11	213	P	Pn	16 24 39.4	+0.1
MHGZ	Mahia Peninsul	2.13	207	P	Pn	16 24 40.3	+0.7
OPRZ	Ohinepanea	2.15	253	P	Pn	16 24 39.6	-0.2
RTZ	Ruatahuna	2.19	231	P	Pn	16 24 41.2	+0.7
MUGZ	Murupara	2.24	236	P	Pn	16 24 41.7	+0.5
TARZ	Mount Tarawera	2.31	244	P	Pn	16 24 43.4	+1.2
MYRZ	Mayor Island	2.32	269	P	Pn	16 24 42.0	-0.2
RAHZ	Arahi	2.32	224	P	Pn	16 24 43.1	+0.8
TGRZ	Tauranga	2.35	258	P	Pn	16 24 42.4	-0.1
RRRZ	Republican Roa	2.35	242	P	Pn	16 24 43.3	+0.7
OMRZ	Omania	2.36	248	P	Pn	16 24 43.7	+0.8
WHHZ	Waihua	2.36	219	P	Pn	16 24 43.2	+0.4
MTHZ	Maungataniwha	2.42	228	P	Pn	16 24 44.4	+0.7
KARZ	Kaharoa	2.43	251	P	Pn	16 24 44.0	+0.2
NGRZ	Ngongotaha	2.50	249	P	Pn	16 24 45.6	+0.9
PRRZ	Plateau Road	2.51	240	P	Pn	16 24 45.3	+0.4
UTU	Utuhina	2.52	248	P	Pn	16 24 46.6	+1.7
HRRZ	Handcock Road	2.54	243	P	Pn	16 24 46.5	+1.3
ALRZ	Allen Road	2.58	239	P	Pn	16 24 46.3	+0.6
NMHZ	Naumai	2.61	224	P	Pn	16 24 46.9	+0.7
KMRZ	Kaimai	2.62	256	P	Pn	16 24 46.2	-0.2
ARHZ	Aropaoanui	2.62	220	P	Pn	16 24 46.7	+0.3
GRRZ	Galatos Road	2.65	245	P	Pn	16 24 47.7	+1.0
MRHZ	Matea Rd	2.67	233	P	Pn	16 24 47.4	+0.3
WPRZ	Whakapapatarin	2.68	241	P	Pn	16 24 48.0	+0.9
KUZ	Kuaotunu	2.79	280	P	Pn	16 24 47.6	-1.1
BKZ	Black Stump Fm	2.83	227	P	Pn	16 24 49.4	+0.1
BKZ	Black Stump Fm	2.83	227	P	Pn	16 24 49.4	+0.1
CKHZ	Cape Kidnapper	2.90	214	P	Pn	16 24 49.7	-0.5
KUTZ	Kaahu Road	2.91	244	P	Pn	16 24 51.2	+0.9
TOZ	Tahuroa Road	2.94	260	P	Pn	16 24 50.5	-0.2
KWHZ	Kaweka Forest	3.05	224	P	Pn	16 24 51.9	-0.3
TLZ	Tolley Road	3.06	248	P	Pn	16 24 52.6	+0.2
KAHZ	Kahuranaki	3.10	214	P	Pn	16 24 52.4	-0.6
RATZ	Rangitukua	3.11	238	P	Pn	16 24 54.0	+0.8
RITZ	Rihia Road	3.11	236	P	Pn	16 24 53.9	+0.8

ISC 03 16:24:36.7±0.6, 40°51N±0'03"×140°97E±0'06, h115km±5km, n100, σ1834/107, mb4.2/38, 12D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTM	**Tenmabayashi**	**0.29**	**15**		**Pn**	**16 24 52.8**	**-0.2**
JTM	**Tenmabayashi**	**0.29**	**15**	*i* P	**Pn**	**16 24 52.9**	**-0.1**
JTM				S	**Sn**	**16 25 04.5**	**-0.8**
JAH	**Hinai**	**0.41**	**219**	*i* P	**Pn**	**16 24 53.4**	**-0.2**
JAH				S	**Sn**	**16 25 05.5**	**-0.7**
JANG	**Nango**	**0.44**	**108**	⇓*i* P	**Pn**	**16 24 53.7**	**-0.1**
JANG				⇓S	**Sn**	**16 25 06.0**	**-0.5**
JIW	**Iwasaki**	**0.74**	**277**	*i* P	**Pn**	**16 24 55.8**	**-0.1**
JOT	**Ohata**	**0.88**	**4**	*i* P	**Pn**	**16 24 57.3**	**+0.3**
JOM	**Ohasama**	**1.06**	**166**	⇓*i* P	**Pn**	**16 24 59.0**	**+0.1**
JOM				⇓S	**Sn**	**16 25 15.9**	**+0.2**
JSR	**Shiriuchi**	**1.10**	**338**	⇓*i* P	**Pn**	**16 24 59.2**	**-0.1**
JSR				⇓*e*S	**Sn**	**16 25 15.6**	**-0.9**
JRG	**Rokugo**	**1.14**	**193**	*i* P	**Pn**	**16 25 00.4**	**+0.6**
JRG				S	**Sn**	**16 25 17.8**	**+0.6**
JOMM	**Oshimamatsumae**	**1.25**	**325**	⇓*i* P	**Pn**	**16 25 00.7**	**-0.2**
JOMM				⇓S	**Sn**	**16 25 18.0**	**-1.3**
JMK	**Ichinoseki**	**1.56**	**173**	⇓*i* P	**Pn**	**16 25 04.7**	**+0.2**
JMK				⇓*e*S	**Sn**	**16 25 25.6**	**-0.1**
JYK	**Kaneyama**	**1.66**	**197**	*i* P	**Pn**	**16 25 06.0**	**+0.3**
JYK				S	**Sn**	**16 25 27.4**	**-0.3**
JOSM	**Okushiri--Mats**	**1.94**	**325**	⇓*i* P	**Pn**	**16 25 08.4**	**-0.6**
JOSM				⇓*e*S	**Sn**	**16 25 31.9**	**-1.9**
JEW	**Eniwo**	**2.36**	**9**		**Pn**	**16 25 15.3**	**+0.8**
JMM	**Marumori**	**2.64**	**183**		**Pn**	**16 25 18.0**	**-0.1**
JSD	**Sado**	**3.24**	**221**		**Pn**	**16 25 26.5**	**+0.4**
JYT	**Yasato**	**4.32**	**188**	Pn	**Pn**	**16 25 39.5**	**-0.9**
MAJO	**Matsushiro**	**4.51**	**210**	Pn	**Pn**	**16 25 44.5**	**+1.5**
MJAR	**Matsushiro Arr**	**4.51**	**210**	P	**Pn**	**16 25 43.0**	**0.0**
	2.7nm,0.5s,baz=324,slow=15,SNR=20						
INU	**Inuyama**	**6.02**	**212**	Pn	**Pn**	**16 26 05.4**	**+2.0**
YSS	**Yuzh-Sakhalins**	**6.57**	**11**	Pn	**Pn**	**16 26 11.2**	**+0.5**
JHJ	**Hachijo jima 2**	**7.43**	**188**	P	**Pn**	**16 26 20.3**	**-2.2**
	56nm,0.7s,baz=99,slow=22,SNR=1.2						
JHJ				S	**Sn**	**16 27 38.1**	**-7.2**
	80nm,0.7s,baz=75,slow=20,SNR=1.4						
USA0B	**Ussuriysk Arra**	**7.61**	**302**		**Pn**	**16 26 25.9**	**+1.2**
USRK	**Ussuriysk Ar.**	**7.61**	**302**	P	**Pn**	**16 26 25.8**	**+1.1**
	20nm,0.8s,baz=107,slow=14,SNR=51						
MDJ	**Mudanjiang**	**9.35**	**300**	P	**Pn**	**16 26 49.2**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,27nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,88nm,3.6s						
KSRS	**Korea Array**	**10.61**	**257**	P	**Pn**	**16 27 09.2**	**+3.8**
	0.7nm,0.6s,baz=68,slow=14,SNR=2.1						
KLR	**Kul'dur**	**10.89**	**326**	P	**Pn**	**16 27 11.6**	**+2.4**
	1.6nm,0.6s,baz=134,slow=13,SNR=9.9						
PEA0B	**Petropavlovsk-**	**16.97**	**36**	Pn	**Pn**	**16 28 24.1**	**-2.8**
PEA0B				IAmb	IAmb	16 28 31.7	
	comp=Z,20nm,1.4s						
PETK	**Petropavlovsk-**	**16.97**	**36**	P	**Pn**	**16 28 24.4**	**-2.5**
	comp=Z,1.4nm,0.9s,baz=211,slow=11,SNR=5.7						
BJI	**Beijing**	**18.92**	**277**	P	**P**	**16 28 46.9**	**-1.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TIA	**Tai'an**	**19.17**	**265**	P	**P**	**16 28 50.7**	**-0.5**
TIA				pmax	pmax		
	comp=Z,11nm,1.0s						
NJ2	**Nanjing**	**19.69**	**252**	*e*P	**Pn**	**16 28 59.4**	**0.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MA2	**Magadan**	**20.06**	**15**	P	**P**	**16 29 01.0**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=211,slow=10,SNR=7.3						
	comp=Z,2.6nm,0.6s						
MA2	**Magadan**	**20.06**	**15**	P	**P**	**16 28 58.9**	**-1.7**
HHC	**Hu-ho-hao-te**	**22.26**	**281**	*e*P	**P**	**16 29 23.2**	**-1.1**
HHC				pmax	pmax		
	comp=Z,32nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.3s						
YAK	**Yakutsk**	**22.61**	**346**	P	**P**	**16 29 25.1**	**-2.4**
	comp=Z,4.4nm,0.4s,baz=138,slow=3.5,SNR=8.3						
YAK	**Yakutsk**	**22.61**	**346**	P	**P**	**16 29 24.4**	**-3.1**
YAK				IAmb	IAmb	16 29 25.5	
	comp=Z,10nm,0.5s						
SEY	**Seymchan**	**23.47**	**13**	P	**P**	**16 29 36.5**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=242,slow=22,SNR=4.9						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**25.70**	**298**	P	**P**	**16 29 55.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=97,slow=8.7,SNR=6.1						
	comp=Z,0.8nm,0.5s						
LZH	**Lanzhou**	**29.33**	**273**	*e*P	**P**	**16 30 32.0**	**+3.4**
LZH				pP	pP	16 30 55.2	+1.2
LZH				sP	sP	16 31 05.5	-1.8
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**30.33**	**125**	T	T	17 01 37.3	
	baz=317,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**30.34**	**125**	T	T	17 01 41.9	
	baz=317,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**30.35**	**125**	T	T	17 01 38.7	
	baz=317,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**31.14**	**127**	T	T	17 03 28.0	
	baz=321						
H11S3	**WAKE ISLAND Hy**	**31.14**	**127**	T	T	17 03 30.4	
	baz=321						
H11S2	**WAKE ISLAND Hy**	**31.15**	**127**	T	T	17 03 36.6	
	baz=321						
GTA	**Gaotai**	**31.37**	**282**	*e*P	**P**	**16 30 46.3**	**-0.3**
GTA				pP	pP	16 31 12.2	+0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PZH	**PanZhiHua**	**35.27**	**259**	P	**P**	**16 31 21.1**	**+0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,170nm,4.3s						
WMQ	**Urumqi**	**39.06**	**293**	*e*P	**P**	**16 31 54.2**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,34nm,0.7s						
ZAA0	**Zalesovo Array**	**39.38**	**309**	P	**P**	**16 31 54.1**	**-0.6**
ZAA0				IAmb	IAmb	16 31 55.3	
	comp=Z,5.4nm,0.6s						
ZALV	**Zalesovo Beam**	**39.38**	**309**	P	**P**	**16 31 54.6**	**-0.2**
	comp=Z,7.1nm,0.5s,baz=94,slow=8.0,SNR=33						
ZALV				PcP	**PcP**	**16 34 01.1**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=113,slow=3.1,SNR=2.6						
	comp=Z,7.1nm,0.5s						
MK31	**Makanchi Array**	**42.06**	**299**	P	**P**	**16 32 16.8**	**-0.1**
MK31				IAmb	IAmb	16 32 17.5	
	comp=Z,4.2nm,1.1s						
MKAR	**Makanchi Array**	**42.06**	**299**	P	**P**	**16 32 16.6**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=84,slow=10,SNR=34						
	comp=Z,2.1nm,0.7s						
MKAR	**Makanchi Array**	**42.06**	**299**	P	**P**	**16 32 16.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**42.17**	**251**	P	**P**	**16 32 18.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=43,slow=8.0,SNR=4.6						
	comp=Z,0.7nm,0.6s						
KURK	**Kurchatov**	**43.58**	**305**	P	**P**	**16 32 28.8**	**-0.3**
KURBB	**Kurchatov Arra**	**43.66**	**305**	P	**P**	**16 32 29.2**	**-0.4**
	comp=Z,15nm,0.4s,baz=79,slow=8.5,SNR=20						
J20K	**Nowinta River**	**43.66**	**35**	P	**P**	**16 32 31.7**	**+2.2**
J20K				IAmb	IAmb	16 32 33.3	
	comp=Z,5.2nm,1.2s						
IMAR	**Indian Mountai**	**43.88**	**32**	P	**P**	**16 32 33.0**	**+1.8**
H21K	**Melozitna Rive**	**44.26**	**33**	P	**P**	**16 32 35.4**	**+1.2**
OHAK	**Old Harbor**	**44.49**	**45**	P	**P**	**16 32 37.2**	**+1.0**
OHAK				IAmb	IAmb	16 33 17.4	
	comp=Z,12nm,1.3s						
KDAK	**Kodiak Island**	**44.80**	**44**	P	**P**	**16 32 39.5**	**+0.9**
	comp=Z,5.4nm,0.8s,baz=275,slow=5.9,SNR=9.5						
	comp=Z,5.4nm,0.8s						
KDAK	**Kodiak Island**	**44.80**	**44**	P	**P**	**16 32 39.4**	**+0.7**
KDAK				IAmb	IAmb	16 32 55.8	
	comp=Z,9.2nm,1.1s						
TOLK	**Toolik Lake Re**	**45.57**	**29**	P	**P**	**16 32 45.2**	**+0.6**
TOLK				IAmb	IAmb	16 33 20.8	
	comp=Z,11nm,1.1s						
H23K	**Yukon River**	**45.60**	**33**	P	**P**	**16 32 45.9**	**+1.0**
H23K				IAmb	IAmb	16 32 48.4	
	comp=Z,6.0nm,0.8s						
JIRN	**Jiri**	**46.47**	**272**	*e*P	**P**	**16 32 52.4**	**-0.2**
	comp=Z,4.4nm,0.3s						
RAMN	**Ramite**	**46.52**	**271**	*e*P	**P**	**16 32 52.7**	**-0.2**
	comp=Z,7.0nm,0.3s						
GUN	**Gumba**	**46.57**	**272**	*e*P	**P**	**16 32 53.9**	**+0.4**
	comp=Z,19nm,0.4s						
ILAR	**Eielson Array**	**46.78**	**34**	P	**P**	**16 32 55.5**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=269,slow=6.0,SNR=13						
	comp=Z,1.2nm,0.6s						
PRP	**Porcupine Dome**	**47.28**	**33**	P	**P**	**16 32 59.8**	**+1.6**
GKN	**Gorkha**	**47.47**	**273**	*e*P	**P**	**16 33 00.3**	**+0.1**
	comp=Z,3.7nm,0.2s						
BMAR	**Burnt Mountain**	**47.48**	**30**	P	**P**	**16 33 00.6**	**+0.9**
DANN	**Dangsing**	**47.97**	**274**	*e*P	**P**	**16 33 04.5**	**+0.3**
	comp=Z,37nm,0.5s						
BVAR	**Borovoye Array**	**48.03**	**310**	P	**P**	**16 33 03.8**	**-0.2**
	comp=Z,2.7nm,0.3s						
	comp=Z,2.7nm,0.3s						
SCRK	**Sand Creek**	**48.13**	**35**	P	**P**	**16 33 05.3**	**+0.6**
AAK	**Ala-Archa**	**48.61**	**296**	P	**P**	**16 33 08.5**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=342,slow=6.3,SNR=2.6						
	comp=Z,1.3nm,0.3s						
PYUN	**Piuthan**	**48.68**	**274**	*e*P	**P**	**16 33 09.7**	**+0.2**
	comp=Z,11nm,0.4s						
BCAR	**Beaver Creek A**	**49.25**	**36**	P	**P**	**16 33 13.7**	**+0.4**
KKAR	**Karatay Array**	**51.15**	**298**	P	**P**	**16 33 26.4**	**-1.4**
HYT	**Haines Junctio**	**51.75**	**38**	P	**P**	**16 33 33.2**	**+1.1**
HYT				IAmb	IAmb	16 33 36.0	
	comp=Z,4.1nm,0.9s						
ARU	**Arti**	**53.56**	**317**	P	**P**	**16 33 45.1**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=34,slow=3.6,SNR=5.2						
	comp=Z,2.0nm,0.4s						
CHGR	**Chuyangaron**	**53.93**	**293**	P	**P**	**16 33 47.8**	**-0.6**
ABKAR	**Akbulak array**	**55.48**	**308**	P	**P**	**16 33 58.9**	**-0.4**
AKTO	**Aktyubinsk**	**56.14**	**310**	P	**P**	**16 34 04.3**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=70,slow=12,SNR=2.4						
	comp=Z,0.9nm,0.4s						
WB0	**Warramunga Arr**	**60.27**	**187**	P	**P**	**16 34 32.0**	**-1.0**
WR0	**Warramunga Arr**	**60.45**	**187**	P	**P**	**16 34 33.2**	**-1.0**
WR0				IAmb	IAmb	16 34 58.8	
	comp=Z,6.4nm,1.4s						
WRA	**Warramunga Arr**	**60.45**	**187**	P	**P**	**16 34 33.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=14,slow=7.0,SNR=1.5						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**60.63**	**339**	P	**P**	**16 34 34.7**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=45,slow=7.8,SNR=14						
	comp=Z,1.5nm,0.7s						
ARCES	**ARCESS Array B**	**60.63**	**339**	P	**P**	**16 34 33.9**	**-1.0**
GEYT	**Alibeck**	**61.90**	**297**	P	**P**	**16 34 43.8**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=39,slow=4.8,SNR=3.0						
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**64.18**	**187**	P	**P**	**16 34 59.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=359,slow=6.5,SNR=5.0						
ASAR				pP	**pP**	**16 35 28.1**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=0.0,slow=6.5,SNR=4.5						
	comp=Z,0.1nm,0.3s						
ASAR	**Alice Springs**	**64.18**	**187**	P	**P**	**16 34 59.2**	**+0.2**
FINES	**FINESS Array B**	**65.59**	**331**	P	**P**	**16 35 07.7**	**0.0**
	comp=Z,2.7nm,0.5s,baz=44,slow=8.6,SNR=37						
	comp=Z,2.7nm,0.5s						
KBZ	**Khabaz**	**68.41**	**309**	P	**P**	**16 35 26.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=45,slow=5.7,SNR=2.3						
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**70.79**	**335**	P	**P**	**16 35 40.3**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=39,slow=6.3,SNR=26						
	comp=Z,1.4nm,0.3s						
NOA	**NORSAR Array B**	**70.86**	**337**	P	**P**	**16 35 40.7**	**0.0**
	comp=Z,0.4nm,0.5s,baz=30,slow=8.2,SNR=1.7						
	comp=Z,0.4nm,0.5s						
AKASG	**Malin Array Be**	**71.36**	**321**	P	**P**	**16 35 43.5**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=44,slow=6.7,SNR=16						
	comp=Z,1.6nm,0.4s						
NVAR	**Mina Array Bea**	**73.20**	**54**	P	**P**	**16 35 57.1**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=307,slow=6.6,SNR=5.0						
	comp=Z,0.8nm,0.9s						
PDAR	**Pinedale Array**	**75.49**	**46**	P	**P**	**16 36 09.9**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=20,slow=2.9,SNR=4.2						
	comp=Z,0.5nm,0.3s						
TXAR	**Lajitas Array**	**88.27**	**52**	P	**P**	**16 37 16.6**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=319,slow=4.3,SNR=3.8						
	comp=Z,0.2nm,0.5s						

WEL 03 16:31:18.4±0.8, 37°S±4'×17°9E±', h23km±9km, M3.6/60, ML3.8/67, MLv3.6/60, Error ellipse: s-maj=0.0km s-min=0.0km az=80.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.87**	**238**	P	Pb	16 31 33.5	-1.3
MXZ				S	Sb	16 31 44.2	-1.8
WMGZ	**Waiomatatini S**	**0.97**	**222**	P	Pn	16 31 37.2	+0.6
WMGZ				S	Sn	16 31 50.6	+1.0
PKGZ	**Pakihiroa**	**1.21**	**229**	P	Pn	16 31 40.2	+0.3
PKGZ				S	Sb	16 31 56.1	+0.3
PUZ	**Puketiti**	**1.24**	**218**	P	Pn	16 31 40.7	+0.3
PUZ				S	Sb	16 31 57.8	+1.1
HAZ	**Te Kaha**	**1.33**	**240**	P	Pn	16 31 41.0	-0.5
HAZ				S	Sb	16 31 59.8	+0.7
TWGZ	**Tauwhareparae**	**1.46**	**222**	P	Pn	16 31 44.1	+0.6
TWGZ				S	Sb	16 32 04.4	+1.3
RUGZ	**Raukumara Rang**	**1.51**	**235**	P	Pb	16 31 45.1	-0.6
RUGZ				S	Sb	16 32 04.5	+0.1
CNGZ	**Carnagh Statio**	**1.60**	**210**	P	Pb	16 31 46.4	-0.8
WIZ	**White Island**	**1.68**	**255**	P	Pn	16 31 46.4	0.0
TKGZ	**Te Karaka**	**1.73**	**219**	P	Pn	16 31 47.4	+0.3
TKGZ				S	Sb	16 32 10.1	-0.6
MWZ	**Matawai**	**1.83**	**227**	P	Pn	16 31 49.0	+0.5
MWZ				S	Sn	16 32 10.6	-0.3
WHRZ	**Whale Island**	**1.95**	**247**	P	Pn	16 31 50.5	+0.4
WHRZ				S	Sn	16 32 14.1	+0.2
RIGZ	**Rimuhau**	**1.98**	**215**	P	Pn	16 31 50.7	+0.2
RIGZ				S	Sn	16 32 15.3	+0.6
RAGZ	**Rawiri**	**2.00**	**225**	P	Pn	16 31 51.2	+0.4
RAGZ				S	Sn	16 32 15.4	+0.1
URZ	**Urewera**	**2.04**	**235**	P	Pn	16 31 51.9	+0.6
URZ				S	Sn	16 32 16.4	+0.3
PRGZ	**Paritu Road**	**2.11**	**210**	P	Pn	16 31 52.3	+0.1
PRGZ				S	Sn	16 32 18.7	+0.9
MARZ	**Manawahe**	**2.22**	**246**	P	Pn	16 31 53.8	+0.1
MARZ				S	Sn	16 32 18.7	-1.7
EDRZ	**Edgecumbe**	**2.22**	**242**	P	Pn	16 31 54.2	+0.4
EDRZ				S	Sn	16 32 20.6	-0.1
SNGZ	**Shannon Statio**	**2.25**	**221**	P	Pn	16 31 54.1	-0.1
SNGZ				S	Sn	16 32 22.0	+0.7
OPRZ	**Ohinepanea**	**2.26**	**250**	P	Pn	16 31 54.0	-0.3
OPRZ				S	Sn	16 32 19.8	-1.6
KNZ	**Kokohu**	**2.28**	**212**	P	Pn	16 31 53.8	-0.8
MHGZ	**Mahia Peninsul**	**2.30**	**207**	P	Pn	16 31 55.1	+0.1
RTZ	**Ruatahuna**	**2.34**	**229**	P	Pn	16 31 55.9	+0.4
RTZ				S	Sn	16 32 25.4	+1.9
MUGZ	**Murupara**	**2.39**	**234**	P	Pn	16 31 56.2	+0.2
MYRZ	**Mayor Island**	**2.40**	**265**	P	Pn	16 31 56.2	0.0
TARZ	**Mount Tarawera**	**2.44**	**242**	P	Pn	16 31 58.0	+1.1
TGRZ	**Tauranga**	**2.45**	**254**	P	Pn	16 31 56.9	0.0
RAHZ	**Arahi**	**2.48**	**222**	P	Pn	16 31 58.2	+0.8
OMRZ	**Omania**	**2.48**	**245**	P	Pn	16 31 58.0	+0.6
RRRZ	**Republican Roa**	**2.48**	**239**	P	Pn	16 31 58.5	+1.0
WHHZ	**Waihua**	**2.53**	**218**	P	Pn	16 31 57.9	-0.1
KARZ	**Kaharoa**	**2.55**	**248**	P	Pn	16 31 58.4	+0.2
MTHZ	**Maungataniwha**	**2.58**	**226**	P	Pn	16 31 59.1	+0.4
PRRZ	**Plateau Road**	**2.65**	**237**	P	Pn	16 31 59.9	+0.2
ALRZ	**Allen Road**	**2.71**	**237**	P	Pn	16 32 01.0	+0.4
KMRZ	**Kaimai**	**2.72**	**253**	P	Pn	16 32 00.3	-0.4
NMHZ	**Naumai**	**2.76**	**223**	P	Pn	16 32 01.4	+0.1
GRRZ	**Galatos Road**	**2.77**	**242**	P	Pn	16 32 02.4	+0.9
ARHZ	**Aropaoanui**	**2.79**	**219**	P	Pn	16 32 01.3	-0.3
MRHZ	**Matea Rd**	**2.82**	**231**	P	Pn	16 32 02.1	0.0
KUZ	**Kuaotunu**	**2.84**	**276**	P	Pn	16 32 00.8	-1.5
BKZ	**Black Stump Fm**	**2.99**	**225**	P	Pn	16 32 04.1	-0.2
KUTZ	**Kaahu Road**	**3.04**	**242**	P	Pn	16 32 05.9	+0.8
TOZ	**Tahuroa Road**	**3.04**	**257**	P	Pn	16 32 04.1	-0.8
CKHZ	**Cape Kidnapper**	**3.06**	**213**	P	Pn	16 32 04.2	-1.2
GRZ	**Great Barrier**	**3.15**	**284**	P	Pn	16 32 06.4	-0.2
TLZ	**Tolley Road**	**3.18**	**246**	P	Pn	16 32 07.3	+0.3
KWHZ	**Kaweka Forest**	**3.21**	**223**	P	Pn	16 32 06.7	-0.7
RATZ	**Rangitukua**	**3.25**	**236**	P	Pn	16 32 08.6	+0.6
MKAZ	**Moumakai**	**3.25**	**269**	P	Pn	16 32 07.0	-1.0
RITZ	**Rihia Road**	**3.26**	**234**	P	Pn	16 32 08.9	+0.8
KAHZ	**Kahuranaki**	**3.27**	**214**	P	Pn	16 32 06.9	-1.3
WIAZ	**Waiheke Island**	**3.30**	**274**	P	Pn	16 32 08.3	-0.2
KRHZ	**Kereru**	**3.39**	**221**	P	Pn	16 32 09.2	-0.8
TMVZ	**Te Maari**	**3.43**	**233**	P	Pn	16 32 10.5	-0.1
ETVZ	**East Tongariro**	**3.44**	**233**	P	Pn	16 32 10.5	-0.2
NTVZ	**North Tongarir**	**3.44**	**233**	P	Pn	16 32 10.5	-0.2
ETAZ	**East Tamaki Re**	**3.45**	**271**	P	Pn	16 32 10.4	-0.2
BHHZ	**Black Hill Sta**	**3.45**	**225**	P	Pn	16 32 10.2	-0.5
KRVZ	**Karewarewa**	**3.46**	**234**	P	Pn	16 32 11.2	+0.2
PXZ	**Pawanui**	**3.47**	**212**	P	Pn	16 32 08.9	-2.0
OTVZ	**Oturere**	**3.49**	**233**	P	Pn	16 32 11.2	-0.1
MBAZ	**Motutapu North**	**3.49**	**274**	P	Pn	16 32 11.2	0.0
NNVZ	**North Ngauruho**	**3.50**	**233**	P	Pn	16 32 12.0	+0.4
WTVZ	**West Tongariro**	**3.51**	**234**	P	Pn	16 32 12.2	+0.6
NGZ	**Ngauruhoe**	**3.53**	**233**	P	Pn	16 32 11.9	-0.1
ABAZ	**Army Bay**	**3.56**	**277**	P	Pn	16 32 12.3	+0.1
MOVZ	**Moawhango**	**3.58**	**229**	P	Pn	16 32 12.0	-0.5
TWVZ	**Taurewa**	**3.58**	**236**	P	Pn	16 32 12.8	+0.2
EPAZ	**Eden Park BICE**	**3.60**	**272**	P	Pn	16 32 13.8	+1.0
HBAZ	**Herne Bay Bore**	**3.61**	**273**	P	Pn	16 32 14.1	+1.2
WNVZ	**Wahianoa**	**3.62**	**231**	P	Pn	16 32 12.9	-0.3
AWAZ	**Awhitu Peninsu**	**3.67**	**269**	P	Pn	16 32 13.5	-0.2
PNHZ	**Pukenui**	**3.68**	**219**	P	Pn	16 32 12.4	-1.5
WPHZ	**Waipukurau**	**3.68**	**216**	P	Pn	16 32 12.0	-1.8
WTAZ	**Waiatarua**	**3.73**	**271**	P	Pn	16 32 14.9	+0.4
HIZ	**Hauiti**	**3.74**	**247**	P	Pn	16 32 15.7	+1.0
RVAZ	**Riverhead Bore**	**3.74**	**274**	P	Pn	16 32 14.6	-0.1
PRHZ	**Porangahau**	**3.76**	**212**	P	Pn	16 32 12.8	-2.1
TSZ	**Takapari Road**	**3.91**	**220**	P	Pn	16 32 15.1	-2.0
ANWZ	**Angora Road**	**3.99**	**212**	P	Pn	16 32 16.8	-1.3
WCZ	**Waipu Caves**	**4.10**	**285**	P	Pn	16 32 19.5	-0.2
WAZ	**Wanganui**	**4.26**	**230**	P	Pn	16 32 22.1	+0.2
PRWZ	**Pori Road**	**4.29**	**215**	P	Pn	16 32 20.7	-1.5
NEZ	**North Egmont**	**4.59**	**240**	P	Pn	16 32 28.7	+2.2
PKE	**Pukeiti**	**4.63**	**242**	P	Pn	16 32 29.3	+2.3
KHEZ	**Kahui Hut**	**4.66**	**240**	P	Pn	16 32 30.2	+2.8
OGWZ	**Otaki Gorge**	**4.88**	**219**	P	Pn	16 32 28.5	-1.8
OUZ	**Omahuta**	**4.93**	**291**	P	Pn	16 32 31.2	+0.2
TKNZ	**Takaka Hill**	**6.26**	**229**	P	Pn	16 32 47.6	-1.8
CTZ	**Chatham Island**	**7.34**	**156**	P	Pn	16 33 05.1	+1.0

IDC 03 16:35:32.6±19.0, 55°S±32'×126°28W, h0km, mb3.7/2, mbtmp3.7/2, MS3.7/2, Error ellipse: s-maj=978.9km s-min=330.5km az=135.0

ISC 03 16:35:30.1±9.6, 56°S±2'×12°4W±', h10km, n25, σ0845/8, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**38.14**	**74**	T	T	17 23 04.8	
	baz=219						
H03S1	**Juan Fernandez**	**38.14**	**74**	T	T	17 23 09.6	
	baz=219						
H03S3	**Juan Fernandez**	**38.15**	**74**	T	T	17 23 08.3	
	baz=219						
H03N3	**Juan Fernandez**	**38.43**	**74**	T	T	17 23 26.8	
	baz=221,slow=72,SNR=80						
H03N2	**Juan Fernandez**	**38.43**	**74**	T	T	17 23 26.2	
	baz=221,slow=72,SNR=179						
H03N1	**Juan Fernandez**	**38.44**	**74**	T	T	17 23 26.7	
	baz=221,slow=72,SNR=69						
PPT	**Papeete**	**42.67**	**323**	LR	LR	16 57 04.9	
	comp=Z,60nm,18.3s,baz=68,slow=31						
VNA3	**Neumayer Olymp**	**45.21**	**156**	P	**P**	**16 43 47.3**	**+0.6**
VNA1	**Neumayer--Stat**	**45.96**	**155**	P	**P**	**16 43 52.1**	**-0.5**
VNA2	**Neumayer--Watz**	**45.96**	**156**	P	**P**	**16 43 52.6**	**0.0**
	baz=219,slow=11						
SNAA	**Sanae**	**46.42**	**158**	P	**P**	**16 43 55.8**	**-0.5**
TROLL	**Troll, Antarti**	**47.23**	**160**	P	**P**	**16 44 03.0

WNVZ	**Wahianoa**	**3.39 233**	P		Pn	16 37 56.8	-0.4
WPHZ	**Waipukurau**	**3.43 216**	P		Pn	16 37 56.4	-1.3
PNHZ	**Pukenui**	**3.43 220**	P		Pn	16 37 55.9	-1.8
ABAZ	**Army Bay**	**3.48 281**	P		Pn	16 37 59.3	+1.0
PRHZ	**Porangahau**	**3.51 212**	P		Pn	16 37 56.6	-2.1
HIZ	**Hauiti**	**3.54 249**	P		Pn	16 38 00.1	+0.9
AWAZ	**Awhitu Peninsu**	**3.55 273**	P		Pn	16 38 00.4	+1.1
RVAZ	**Riverhead Bore**	**3.64 277**	P		Pn	16 37 59.8	-0.7
TSZ	**Takapari Road**	**3.66 221**	P		Pn	16 37 58.7	-2.2
ANWZ	**Angora Road**	**3.73 212**	P		Pn	16 38 01.2	-0.7
WAZ	**Wanganui**	**4.03 232**	P		Pn	16 38 05.9	+0.1
WCZ	**Waipu Caves**	**4.05 288**	P		Pn	16 38 05.6	-0.6
TIWZ	**Tintock**	**4.25 215**	P		Pn	16 38 08.8	-0.2
MRZ	**Mangatainoka R**	**4.31 218**	P		Pn	16 38 07.1	-2.6
NEZ	**North Egmont**	**4.38 242**	P		Pn	16 38 12.3	+1.6
PKE	**Pukeiti**	**4.42 243**	P		Pn	16 38 13.9	+2.5
KHEZ	**Kahui Hut**	**4.44 242**	P		Pn	16 38 15.2	+3.5
OUZ	**Omahuta**	**4.90 294**	P		Pn	16 38 18.1	+0.2
KHZ	**Kahutara**	**6.63 218**	P		Pn	16 38 39.6	-2.0
CTZ	**Chatham Island**	**7.20 154**	P		Pn	16 38 50.8	+1.4

*MOS **03** 16:44:45.0±0.0,43°.33N×40°.99E,h12km,MPVA3.0*
ISC 03 16:44:46.0±1.1,43°.37N±0°.03×40°.99E±0°.02,h6km±10km, n15,σ0ˢ75/30,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARXR	**Arkhyz**	**0.29**	**47**	*i* Pg	**Pg**	**16 44 51.6**	**0.0**
ARXR				*i* Sg	**Sg**	**16 44 56.0**	**+0.5**
VSLR	**Vesyoloye**	**0.70**	**278**	*i* Pg	**Pg**	**16 44 58.4**	**-1.1**
VSLR				*e*Sg	**Sg**	**16 45 08.5**	**-0.1**
AHMR	**Akhmetovskaya**	**0.79**	**3**	*e*Pg	**Pg**	**16 45 01.1**	**-0.1**
AHMR				*e*Sg	**Sg**	**16 45 12.7**	**+1.1**
GUZR	**Guzeripl'**	**0.89**	**315**	*e*Pg	**Pg**	**16 45 02.0**	**-1.1**
GUZR				*e*Sg	**Sg**	**16 45 15.4**	**+0.7**
SHA1	**Shidzhatmaz**	**1.27**	**72**	*e*Pg	**Pn**	**16 45 09.7**	**-0.8**
SHA1				*e*Sg	**Sg**	**16 45 26.7**	**-0.2**
NEY	**Neytrino**	**1.27**	**95**	*e*Pg	**Pb**	**16 45 09.3**	**-1.2**
NEY				*e*Sg	**Sg**	**16 45 27.0**	**+0.2**
LZRR	**Lazarevskoye**	**1.30**	**297**	*e*Pg	**Pn**	**16 45 10.8**	**+0.2**
LZRR				*e*Sg	**Sb**	**16 45 28.8**	**+1.1**
KIV	**Kislovodsk**	**1.37**	**64**	*e*Pg	**Pb**	**16 45 11.4**	**-0.3**
KIV				*e*Sg	**Sb**	**16 45 30.1**	**+0.2**
KBZ	**Khabaz**	**1.44**	**75**	*e*Pg	**Pn**	**16 45 12.4**	**-0.1**
KBZ				*e*Sg	**Sn**	**16 45 31.1**	**-0.6**
GOYR	**Goytkh**	**1.46**	**308**	*i* Pg	**Pn**	**16 45 13.0**	**+0.1**
GOYR				*e*Sg	**Sn**	**16 45 33.3**	**+1.0**
BEYR	**Belyy Ugol+**	**1.48**	**63**	*i* Pg	**Pn**	**16 45 13.2**	**0.0**
BEYR				*e*Sg	**Sn**	**16 45 32.4**	**-0.4**
TKB	**Tkibuli**	**1.79**	**124**	P	**Pb**	**16 45 19.3**	**+0.1**
TKB				S	**Sg**	**16 45 44.7**	**+1.2**
BATM	**Batumi**	**1.84**	**163**	P	**Pb**	**16 45 20.0**	**0.0**
BATM				S	**Sg**	**16 45 45.3**	**+0.3**
ONI	**Oni**	**1.97**	**112**	P	**Pg**	**16 45 23.5**	**-0.2**
ONI				S	**Sg**	**16 45 51.1**	**+1.9**
ABS	**Abastumani**	**2.10**	**139**	P	**Pb**	**16 45 24.5**	**0.0**
ABS				S	**Sg**	**16 45 53.5**	**+0.1**

WEL 03 16:51:25.4±1.2,37°S±5°×17°9E±°,h21km±6km,M3.1/31, mB4.9/1,ML3.4/42,MLv3.1/31,Mw(mB)4.2/1,Error ellipse: s-maj=0.0km s-min=0.0km az=86.3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.56**	**251**	P	Pb	16 51 36.4	-0.3
MXZ				S	Sb	16 51 43.7	-0.6
WMGZ	**Waiomatatini S**	**0.62**	**226**	P	Pn	16 51 39.4	+0.3
WMGZ				S	Sn	16 51 48.7	+0.2
PKGZ	**Pakihiroa**	**0.88**	**235**	P	Pn	16 51 42.5	-0.1
PKGZ				S	Sn	16 51 54.7	-0.1
PUZ	**Puketiti**	**0.90**	**220**	P	Pn	16 51 43.3	+0.5
PUZ				S	Sn	16 51 55.5	+0.3
HAZ	**Te Kaha**	**1.02**	**248**	P	Pb	16 51 44.0	-0.3
TWGZ	**Tauwhareparae**	**1.12**	**225**	P	Pb	16 51 46.5	+0.4
TWGZ				S	Sn	16 52 02.1	+1.3
RUGZ	**Raukumara Rang**	**1.19**	**240**	P	Pb	16 51 47.5	+0.2
RUGZ				S	Sn	16 52 02.7	+0.2
CNGZ	**Carnagh Statio**	**1.26**	**209**	P	Pb	16 51 48.9	+0.5
TKGZ	**Te Karaka**	**1.38**	**220**	P	Pn	16 51 49.6	+0.1
TKGZ				S	Sn	16 52 07.0	-0.1
MWZ	**Matawai**	**1.49**	**230**	P	Pn	16 51 51.3	+0.2
MWZ				S	Sn	16 52 09.6	-0.3
RIGZ	**Rimuhau**	**1.63**	**216**	P	Pn	16 51 53.3	+0.3
WHRZ	**Whale Island**	**1.66**	**253**	P	Pn	16 51 53.0	-0.4
RAGZ	**Rawiri**	**1.66**	**228**	P	Pn	16 51 51.4	-2.0
URZ	**Urewera**	**1.72**	**239**	P	Pn	16 51 51.6	-2.5
PRGZ	**Paritu Road**	**1.76**	**209**	P	Pn	16 51 55.2	+0.4
SNGZ	**Shannon Statio**	**1.90**	**222**	P	Pn	16 51 56.8	+0.1
EDRZ	**Edgecumbe**	**1.92**	**247**	P	Pn	16 51 57.5	+0.6
MHGZ	**Mahia Peninsul**	**1.96**	**205**	P	Pn	16 51 57.6	+0.2
RTZ	**Ruatahuna**	**2.00**	**231**	P	Pn	16 51 58.7	+0.6
MUGZ	**Murupara**	**2.06**	**237**	P	Pn	16 51 59.2	+0.3
TARZ	**Mount Tarawera**	**2.14**	**246**	P	Pn	16 52 00.8	+0.9
RAHZ	**Arahi**	**2.14**	**224**	P	Pn	16 52 00.2	+0.3
RRRZ	**Republican Roa**	**2.17**	**243**	P	Pn	16 52 01.0	+0.6
MTHZ	**Maungataniwha**	**2.23**	**228**	P	Pn	16 52 01.7	+0.5
KARZ	**Kaharoa**	**2.26**	**253**	P	Pn	16 52 02.6	+1.0
NMHZ	**Naumai**	**2.42**	**224**	P	Pn	16 52 04.4	+0.6
ARHZ	**Aropaoanui**	**2.44**	**219**	P	Pn	16 52 04.1	0.0
MRHZ	**Matea Rd**	**2.49**	**234**	P	Pn	16 52 04.9	+0.2
BKZ	**Black Stump Fm**	**2.65**	**227**	P	Pn	16 52 06.9	-0.1
KUZ	**Kuaotunu**	**2.68**	**283**	P	Pn	16 52 05.8	-1.6
TOZ	**Tahuroa Road**	**2.79**	**262**	P	Pn	16 52 08.9	+0.1
KWHZ	**Kaweka Forest**	**2.86**	**224**	P	Pn	16 52 09.3	-0.6
KAHZ	**Kahuranaki**	**2.92**	**214**	P	Pn	16 52 09.6	-1.0
RITZ	**Rihia Road**	**2.93**	**236**	P	Pn	16 52 11.1	+0.3
RATZ	**Rangitukua**	**2.93**	**239**	P	Pn	16 52 11.8	+0.9
GRZ	**Great Barrier**	**3.04**	**291**	P	Pn	16 52 12.8	+0.5
KRHZ	**Kereru**	**3.05**	**221**	P	Pn	16 52 11.5	-0.9
MKAZ	**Moumakai**	**3.06**	**274**	P	Pn	16 52 12.1	-0.5
TMVZ	**Te Maari**	**3.10**	**235**	P	Pn	16 52 13.3	0.0
BHHZ	**Black Hill Sta**	**3.11**	**227**	P	Pn	16 52 12.9	-0.4
ETVZ	**East Tongariro**	**3.11**	**235**	P	Pn	16 52 13.3	-0.1
NTVZ	**North Tongarir**	**3.11**	**236**	P	Pn	16 52 13.5	+0.1
OTVZ	**Oturere**	**3.16**	**235**	P	Pn	16 52 11.7	-2.4
NNVZ	**North Ngauruho**	**3.17**	**236**	P	Pn	16 52 14.6	+0.3
NGZ	**Ngauruhoe**	**3.21**	**235**	P	Pn	16 52 14.9	+0.2
ETAZ	**East Tamaki Re**	**3.27**	**276**	P	Pn	16 52 16.2	+0.8
WPHZ	**Waipukurau**	**3.33**	**216**	P	Pn	16 52 15.1	-1.3
PRHZ	**Porangahau**	**3.41**	**212**	P	Pn	16 52 15.5	-1.9
HIZ	**Hauiti**	**3.45**	**250**	P	Pn	16 52 19.3	+1.4
TSZ	**Takapari Road**	**3.56**	**221**	P	Pn	16 52 17.8	-1.8
RVAZ	**Riverhead Bore**	**3.57**	**279**	P	Pn	16 52 19.4	-0.2
BFZ	**Birch Farm**	**3.92**	**212**	P	Pn	16 52 21.7	-2.7
WAZ	**Wanganui**	**3.92**	**232**	P	Pn	16 52 25.1	+0.6
WCZ	**Waipu Caves**	**4.00**	**290**	P	Pn	16 52 25.4	0.0
MRZ	**Mangatainoka R**	**4.21**	**218**	P	Pn	16 52 26.2	-2.2
NEZ	**North Egmont**	**4.28**	**242**	P	Pn	16 52 32.3	+2.9
OUZ	**Omahuta**	**4.85**	**295**	P	Pn	16 52 37.7	+0.5
PLWZ	**Palliser**	**5.08**	**213**	P	Pn	16 52 42.9	+2.5
PYZ	**Puysegur Point**	**12.69**	**222**	P	P	16 54 30.4	-5.3

*IDC **03** 17:00:48.4±1.3,5°.93S×153°.45E,h0km,mb3.8/8, mbtmp3.8/10,ML2.7/2,MS3.8/2,Error ellipse: s-maj=36.9km s-min=19.3km az=111.0*
*NEIC **03** 17:00:50.2±2.7,5°.86S±0°.08×153°.4E±0°.1,h10km±2km, mb4.2/8,Error ellipse: s-maj=20.5km s-min=13.4km az=74.0*
ISC 03 17:00:50.0±1.0,5°.85S±0°.07×153°.4E±0°.1,h10km,n24, σ1ˢ15/24,mb4.0/10,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.06**	**318**	Pn	**Pn**	**17 01 24.9**	**+0.2**
	22nm,0.3s,baz=266,slow=1.7,SNR=73						
KRVT				Sn	**Sn**	**17 01 49.5**	**-0.9**
	92nm,0.3s,baz=194,slow=20,SNR=8.9 53nm,0.3s						
RABL	**Rabaul**	**2.06**	**323**		**Pn**	**17 01 24.3**	**-0.5**
PMG	**Port Moresby**	**7.13**	**240**	Pn	**Pn**	**17 02 36.2**	**+1.8**
	2.0nm,0.3s,baz=56,slow=14,SNR=9.1						
PMG				Sn	**Sn**	**17 03 56.0**	**+0.4**
	1.0nm,0.3s,baz=17,slow=18,SNR=2.2 4.8nm,0.3s						
PMG	**Port Moresby**	**7.13**	**240**	Pn	**Pn**	**17 02 33.0**	**-1.4**
MTN	**Manton Dam**	**23.04**	**251**	P	**P**	**17 05 56.4**	**+0.7**
WR0	**Warramunga Arr**	**23.09**	**231**	P	**P**	**17 05 56.2**	**0.0**
WR0				IAmb	IAmb	17 06 36.7	
	comp=Z,6.4nm,1.2s						
WB2	**Warramunga Arr**	**23.23**	**231**	P	**P**	**17 05 57.7**	**+0.1**
WRA	**Warramunga Arr**	**23.23**	**231**	P	**P**	**17 05 57.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=56,slow=11,SNR=4.8 comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**25.81**	**225**	P	**P**	**17 06 20.0**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=58,slow=8.5,SNR=10 comp=Z,0.9nm,0.8s						
KNRA	**Kununurra**	**26.07**	**246**	P	**P**	**17 06 24.3**	**+0.3**
KNRA				IAmb	IAmb	17 06 45.2	
	comp=Z,5.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**29.71**	**243**	P	**P**	**17 06 55.8**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=57,slow=7.6,SNR=6.3 comp=Z,1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.71**	**243**	P	**P**	**17 06 55.5**	**-1.1**
FITZ				IAmb	IAmb	17 07 19.7	
	comp=Z,4.2nm,1.2s						
FORT	**Forrest**	**34.38**	**221**	P	**P**	**17 07 35.8**	**-1.7**
RAO	**Raoul Island**	**35.71**	**134**	LR	LR	17 19 27.6	
	comp=Z,143nm,20.0s,baz=218,slow=31						
PPT	**Papeete**	**56.84**	**107**	LR	LR	17 32 39.8	
	comp=Z,95nm,18.1s,baz=33,slow=34						
PEA0B	**Petropavlovsk-**	**58.84**	**3**	P	**P**	**17 10 47.6**	**-1.1**
PETK	**Petropavlovsk-**	**58.84**	**3**	P	**P**	**17 10 47.7**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=174,slow=8.9,SNR=5.3 comp=Z,0.8nm,0.6s						
PETK	**Petropavlovsk-**	**58.84**	**3**	P	**P**	**17 10 48.5**	**-0.2**
SONM	**Songino Array**	**67.53**	**328**	P	**P**	**17 11 48.2**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=139,slow=5.4,SNR=4.8 comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**67.53**	**328**	P	**P**	**17 11 49.0**	**+2.3**
SONM				IAmb	IAmb	17 12 10.3	
	comp=Z,2.4nm,1.4s						
MKAR	**Makanchi Array**	**81.50**	**319**	P	**P**	**17 13 09.4**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=92,slow=6.7,SNR=5.8 comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**82.35**	**326**	P	**P**	**17 13 11.8**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=99,slow=7.7,SNR=3.9 comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**84.12**	**180**	P	**P**	**17 13 21.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=357,slow=3.6,SNR=3.5 comp=Z,1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.19**	**287**	PKPbc	**PKiKP**	**17 20 46.3**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=62,slow=2.1,SNR=5.6						

WEL 03 17:02:39.9±1.1,37°S±4°×17°9E±°,h14km±6km,M3.6/69, ML3.8/62,MLv3.6/69,Error ellipse: s-maj=0.0km s-min=0.0km az=100.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.93**	**244**	P	Pb	17 02 56.2	-1.6
MXZ				S	Sb	17 03 06.3	-3.6
WMGZ	**Waiomatatini S**	**1.00**	**228**	P	Pn	17 02 59.9	+0.4
WMGZ				S	Sn	17 03 14.4	+1.0
PKGZ	**Pakihiroa**	**1.25**	**234**	P	Pb	17 03 03.3	0.0
PKGZ				S	Sn	17 03 19.6	-0.1
PUZ	**Puketiti**	**1.26**	**223**	P	Pb	17 03 03.6	+0.1
PUZ				S	Sg	17 03 21.2	+0.6
HAZ	**Te Kaha**	**1.39**	**244**	P	Pn	17 03 05.2	+0.3
HAZ				S	Sn	17 03 22.8	-0.1
TWGZ	**Tauwhareparae**	**1.49**	**226**	P	Pn	17 03 06.9	+0.5
TWGZ				S	Sg	17 03 27.6	-0.4
RUGZ	**Raukumara Rang**	**1.56**	**238**	P	Pn	17 03 07.9	+0.6
RUGZ				S	Sb	17 03 28.1	-0.2
CNGZ	**Carnagh Statio**	**1.61**	**214**	P	Pb	17 03 09.2	-0.2
TKGZ	**Te Karaka**	**1.75**	**222**	P	Pn	17 03 10.1	+0.2
WIZ	**White Island**	**1.76**	**257**	P	Pn	17 03 10.2	+0.1
MWZ	**Matawai**	**1.86**	**230**	P	Pn	17 03 11.7	+0.2
RIGZ	**Rimuhau**	**1.99**	**219**	P	Pn	17 03 13.5	+0.2
WHRZ	**Whale Island**	**2.02**	**249**	P	Pn	17 03 14.9	+1.4
RAGZ	**Rawiri**	**2.04**	**228**	P	Pn	17 03 14.2	+0.3
RAGZ				S	Sn	17 03 38.7	-0.4
URZ	**Urewera**	**2.09**	**238**	P	Pn	17 03 14.9	+0.4
URZ				S	Sn	17 03 39.7	-0.7
PRGZ	**Paritu Road**	**2.11**	**213**	P	Pn	17 03 15.1	+0.2
SNGZ	**Shannon Statio**	**2.27**	**224**	P	Pn	17 03 17.0	0.0
EDRZ	**Edgecumbe**	**2.28**	**245**	P	Pn	17 03 17.6	+0.4
MARZ	**Manawahe**	**2.28**	**248**	P	Pn	17 03 17.1	-0.1
KNZ	**Kokohu**	**2.29**	**215**	P	Pn	17 03 16.7	-0.5
MHGZ	**Mahia Peninsul**	**2.30**	**209**	P	Pn	17 03 17.7	+0.3
OPRZ	**Ohinepanea**	**2.33**	**252**	P	Pn	17 03 17.9	+0.1
RTZ	**Ruatahuna**	**2.38**	**231**	P	Pn	17 03 18.8	+0.2
MUGZ	**Murupara**	**2.43**	**236**	P	Pn	17 03 19.1	-0.1
MYRZ	**Mayor Island**	**2.49**	**266**	P	Pn	17 03 19.6	-0.4
TARZ	**Mount Tarawera**	**2.50**	**244**	P	Pn	17 03 21.0	+0.7
RAHZ	**Arahi**	**2.51**	**225**	P	Pn	17 03 20.3	0.0
TGRZ	**Tauranga**	**2.53**	**256**	P	Pn	17 03 20.3	-0.2
RRRZ	**Republican Roa**	**2.54**	**241**	P	Pn	17 03 21.2	+0.4
WHHZ	**Waihua**	**2.54**	**220**	P	Pn	17 03 20.7	-0.1
OMRZ	**Omania**	**2.55**	**247**	P	Pn	17 03 22.1	+1.2
MTHZ	**Maungataniwha**	**2.61**	**229**	P	Pn	17 03 22.0	+0.3
KARZ	**Kaharoa**	**2.62**	**250**	P	Pn	17 03 22.0	+0.2
HLRZ	**Highlands Stat**	**2.62**	**244**	P	Pn	17 03 22.5	+0.7
NGRZ	**Ngongotaha**	**2.68**	**248**	P	Pn	17 03 21.6	-1.2
PRRZ	**Plateau Road**	**2.70**	**239**	P	Pn	17 03 22.8	-0.1
HSRZ	**Hossack Road**	**2.72**	**244**	P	Pb	17 03 27.6	-0.8
NMHZ	**Naumai**	**2.79**	**225**	P	Pn	17 03 24.3	+0.1
KMRZ	**Kaimai**	**2.80**	**255**	P	Pn	17 03 24.5	+0.1
ARHZ	**Aropaoanui**	**2.81**	**221**	P	Pn	17 03 24.2	-0.2
MRHZ	**Matea Rd**	**2.86**	**233**	P	Pn	17 03 25.2	0.0
BKZ	**Black Stump Fm**	**3.02**	**227**	P	Pn	17 03 27.0	-0.4
CKHZ	**Cape Kidnapper**	**3.07**	**215**	P	Pn	17 03 27.1	-0.9
TOZ	**Tahuroa Road**	**3.12**	**258**	P	Pn	17 03 27.1	-1.6
KWHZ	**Kaweka Forest**	**3.23**	**225**	P	Pn	17 03 29.4	-0.9
TLZ	**Tolley Road**	**3.24**	**248**	P	Pn	17 03 30.8	+0.4
KAHZ	**Kahuranaki**	**3.27**	**216**	P	Pn	17 03 29.8	-1.1
RATZ	**Rangitukua**	**3.30**	**238**	P	Pn	17 03 31.7	+0.4
WIAZ	**Waiheke Island**	**3.40**	**275**	P	Pn	17 03 32.1	-0.4
KRHZ	**Kereru**	**3.41**	**222**	P	Pn	17 03 31.7	-1.1
PXZ	**Pawanui**	**3.47**	**213**	P	Pn	17 03 31.8	-1.7
TMVZ	**Te Maari**	**3.48**	**235**	P	Pn	17 03 33.5	-0.3
BHHZ	**Black Hill Sta**	**3.48**	**227**	P	Pn	17 03 33.2	-0.5
ETVZ	**East Tongariro**	**3.48**	**234**	P	Pn	17 03 33.4	-0.4
NTVZ	**North Tongarir**	**3.49**	**235**	P	Pn	17 03 33.8	-0.1
KRVZ	**Karewarewa**	**3.51**	**235**	P	Pn	17 03 34.2	0.0
OTVZ	**Oturere**	**3.53**	**234**	P	Pn	17 03 34.2	-0.3
ETAZ	**East Tamaki Re**	**3.54**	**272**	P	Pn	17 03 33.6	-0.9
NNVZ	**North Ngauruho**	**3.54**	**235**	P	Pn	17 03 34.8	+0.1
WTVZ	**West Tongariro**	**3.55**	**235**	P	Pn	17 03 34.9	+0.1
NGZ	**Ngauruhoe**	**3.58**	**235**	P	Pn	17 03 34.9	-0.3
MBAZ	**Motutapu North**	**3.59**	**275**	P	Pn	17 03 34.3	-0.9
MOVZ	**Moawhango**	**3.62**	**230**	P	Pn	17 03 34.9	-0.6
TWVZ	**Taurewa**	**3.63**	**237**	P	Pn	17 03 36.5	+0.7
WNVZ	**Wahianoa**	**3.67**	**233**	P	Pn	17 03 35.7	-0.7
ABAZ	**Army Bay**	**3.67**	**277**	P	Pn	17 03 35.9	-0.3
WPHZ	**Waipukurau**	**3.69**	**217**	P	Pn	17 03 35.0	-1.6
EPAZ	**Eden Park BICE**	**3.70**	**273**	P	Pn	17 03 37.3	+0.7
PNHZ	**Pukenui**	**3.70**	**221**	P	Pn	17 03 35.0	-1.7
HBAZ	**Herne Bay Bore**	**3.71**	**273**	P	Pn	17 03 36.6	-0.3
AWAZ	**Awhitu Peninsu**	**3.77**	**270**	P	Pn	17 03 37.0	-0.5
PKVZ	**Pokaka**	**3.81**	**235**	P	Pn	17 03 38.6	+0.4
HIZ	**Hauiti**	**3.81**	**248**	P	Pn	17 03 39.3	+1.2
WTAZ	**Waiatarua**	**3.83**	**272**	P	Pn	17 03 39.1	+0.6
RVAZ	**Riverhead Bore**	**3.84**	**274**	P	Pn	17 03 37.7	-0.9
TSZ	**Takapari Road**	**3.93**	**221**	P	Pn	17 03 37.7	-2.2
ANWZ	**Angora Road**	**3.99**	**213**	P	Pn	17 03 39.1	-1.6
DVHZ	**Dannevirke**	**4.01**	**217**	P	Pn	17 03 39.8	-2.2
WAZ	**Wanganui**	**4.30**	**232**	P	Pn	17 03 45.1	+0.2
PRWZ	**Pori Road**	**4.30**	**217**	P	Pn	17 03 43.7	-1.2
LREZ	**Lake Rotokare**	**4.52**	**238**	P	Pn	17 03 48.7	+0.7
NEZ	**North Egmont**	**4.65**	**241**	P	Pn	17 03 52.1	+2.3
PKE	**Pukeiti**	**4.69**	**243**	P	Pn	17 03 52.4	+2.1
KHEZ	**Kahui Hut**	**4.71**	**241**	P	Pn	17 03 52.4	+1.7
TKNZ	**Takaka Hill**	**6.30**	**230**	P	Pn	17 04 12.5	+0.1

IDC 03 17:04:11.7±2.1,2°.65S×141°.05E,h0km,mb3.2/2, mbtmp3.4/3,ML3.7/1,Error ellipse: s-maj=283.6km s-min=33.2km az=111.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.39**	**200**	P	Pn	17 08 27.5	-0.9
	0.2nm,0.3s,baz=23,slow=12,SNR=7.7 0.8nm,0.4s						
ASAR	**Alice Springs**	**22.00**	**198**	P	P	17 09 08.3	+0.6
	0.3nm,0.6s,baz=26,slow=12,SNR=3.1 0.3nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**32.84**	**49**	T	T	17 44 55.8	
	baz=231,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**32.85**	**49**	T	T	17 44 57.9	
	baz=231,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**32.86**	**49**	T	T	17 44 52.4	
	baz=231,slow=75,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**33.74**	**48**	T	T	17 46 03.7	
	baz=230,slow=76,SNR=27						
H11N2	**WAKE ISLAND Hy**	**33.75**	**48**	T	T	17 46 02.1	
	baz=230,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**33.75**	**48**	T	T	17 46 00.2	
	baz=230,slow=76,SNR=25						
ILAR	**Eielson Array**	**84.82**	**24**	P	P	17 16 47.8	-0.1
	0.3nm,0.6s,baz=264,slow=4.5,SNR=2.6 0.3nm,0.6s						

*NEIC **03** 17:07:18.0±1.0,18°.50S±0°.07×174°.51W±0°.09,h77km±5km, mb4.6/56,Error ellipse: s-maj=13.2km s-min=9.1km az=58.0*
*IDC **03** 17:07:18.0±2.9,18°.44S×174°.67W,h71km±26km,mb3.9/14, mbtmp4.3/16,MS3.4/3,Error ellipse: s-maj=21.2km s-min=12.5km az=137.0*
ISC 03 17:07:17.9±0.4,18°.44S±0°.06×174°.48W±0°.06,h77km, n140,σ1ˢ45/138,mb4.6/42,1C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.36**	**99**	Pn	**Pn**	**17 08 22.4**	**+0.7**
NIUE				Sn	**Sn**	**17 09 07.2**	**-4.1**
AFI	**Afiamalu**	**5.19**	**30**	P	**Pn**	**17 08 35.1**	**+1.9**
	71nm,0.4s,baz=290,slow=1.2,SNR=19						
AFI				S	**Sn**	**17 09 29.9**	**-2.0**
	232nm,0.3s,baz=98,slow=12,SNR=9.6						
AFI				LR	LR	17 10 11.2	
	comp=Z,189nm,20.6s,baz=188,slow=33						
AFI	**Afiamalu**	**5.19**	**30**		**Pn**	**17 08 34.1**	**+0.9**
AFI				Sn	**Sn**	**17 09 25.3**	**-6.6**
MSVF	**Nonsavu**	**7.14**	**274**	P	Pn	17 09 07.4	+7.5
	17nm,0.9s,baz=112,slow=16,SNR=5.3						
MSVF				LR	LR	17 10 51.9	
	comp=Z,97nm,20.7s,baz=157,slow=31						
MSVF	**Nonsavu**	**7.14**	**274**		Pn	17 09 05.6	+5.7
RAR	**Rarotonga**	**14.11**	**104**	P	**Pn**	**17 10 35.1**	**+0.9**
	31nm,0.7s,baz=266,slow=5.3,SNR=4.2						
PINNC	**Pines Island,**	**17.43**	**253**		**P**	**17 11 16.0**	**-0.3**
PINNC				IAmb	IAmb	17 11 29.9	
	comp=Z,71nm,1.1s						
DZM	**Mont Dzumac**	**18.26**	**255**	P	**Pn**	**17 11 30.0**	**+3.6**
	comp=Z,6.2nm,0.8s,baz=31,slow=21,SNR=11						
DZM	**Mont Dzumac**	**18.26**	**255**	P	**Pn**	**17 11 27.4**	**+1.1**
MXZ	**Matakaoa Point**	**20.08**	**197**	P	Pn	17 12 00.7	+13
PKGZ	**Pakihiroa**	**20.45**	**197**	P	Pn	17 12 07.1	+15
URZ	**Urewera**	**21.07**	**199**	P	**P**	**17 11 55.5**	**-0.4**
	comp=Z,15nm,0.4s,baz=25,slow=0.1,SNR=18 comp=

PSA00	**Pilbara Seismi**	**61.39**	**255**	P	**P**	**17 17 25.5**	**-0.9**
PSA00				IAmb	IAmb	17 17 46.3	
	comp=Z,12nm,1.1s						
MJAR	**Matsushiro Arr**	**70.61**	**321**	P	**P**	**17 18 23.6**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=113,slow=8.8,SNR=4.4						
	comp=Z,0.9nm,0.8s						
QSPA	**South Pole Qui**	**71.62**	**180**	P	**P**	**17 18 31.7**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=275,slow=1.2,SNR=8.8						
	comp=Z,1.2nm,0.8s						
QSPA	**South Pole Qui**	**71.62**	**180**	P	**P**	**17 18 31.3**	**+0.2**
PEA0B	**Petropavlovsk-**	**75.20**	**343**	P	**P**	**17 18 52.5**	**+0.5**
PEA0B				IAmb	IAmb	17 18 55.0	
	comp=Z,17nm,1.4s						
PETK	**Petropavlovsk-**	**75.20**	**343**	P	**P**	**17 18 52.2**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=124,slow=7.9,SNR=7.6						
	comp=Z,1.3nm,0.8s						
PETK	**Petropavlovsk-**	**75.20**	**343**	P	**P**	**17 18 52.3**	**+0.4**
KRMB	**Red Mountain**	**75.81**	**37**	P	**P**	**17 18 58.0**	**+2.2**
NVAR	**Mina Array Bea**	**77.26**	**42**	P	**P**	**17 19 05.9**	**+1.6**
	comp=Z,1.7nm,0.9s,baz=230,slow=8.6,SNR=11						
	comp=Z,1.7nm,0.9s						
KDAK	**Kodiak Island**	**78.08**	**12**	P	**P**	**17 19 09.5**	**+1.4**
KDAK				IAmb	IAmb	17 19 45.5	
	comp=Z,16nm,1.2s						
MNTX	**Cornudas Mount**	**82.86**	**53**	P	**P**	**17 19 36.4**	**+2.1**
TX31	**Lajitas Ar. Si**	**83.15**	**56**	P	**P**	**17 19 37.3**	**+1.3**
TX31				IAmb	IAmb	17 19 39.3	
	comp=Z,6.5nm,0.9s						
TX32	**Lajitas Array**	**83.15**	**56**	P	**P**	**17 19 36.8**	**+0.9**
TXAR	**Lajitas Array**	**83.15**	**56**	P	**P**	**17 19 38.2**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=216,slow=8.8,SNR=13						
	comp=Z,1.1nm,0.7s						
N25K	**Chitina, Valde**	**83.26**	**14**	P	**P**	**17 19 35.2**	**-0.5**
TRF	**Thorofare Moun**	**83.78**	**11**	P	**P**	**17 19 38.9**	**+0.4**
TRF				IAmb	IAmb	17 19 40.0	
	comp=Z,4.3nm,0.8s						
GDL2	**Guadalupe Moun**	**83.85**	**53**	P	**P**	**17 19 41.9**	**+2.4**
RND	**Reindeer**	**84.00**	**11**	P	**P**	**17 19 40.1**	**+0.6**
RND				IAmb	IAmb	17 19 41.4	
	comp=Z,3.4nm,0.7s						
MCK	**McKinley**	**84.28**	**11**	P	**P**	**17 19 40.7**	**-0.2**
MCK				IAmb	IAmb	17 19 43.0	
	comp=Z,5.6nm,0.8s						
M26K	**Nabesna, AK**	**84.32**	**14**	P	**P**	**17 19 41.6**	**+0.5**
M27K	**Edge Creek, AK**	**84.55**	**15**	P	**P**	**17 19 43.5**	**+1.1**
M27K				IAmb	IAmb	17 19 45.0	
	comp=Z,6.7nm,1.1s						
MLY	**Manley**	**85.17**	**10**	P	**P**	**17 19 45.5**	**+0.2**
MLY				IAmb	IAmb	17 19 46.5	
	comp=Z,3.8nm,0.8s						
PDAR	**Pinedale Array**	**85.20**	**42**	P	**P**	**17 19 47.2**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=163,slow=1.5,SNR=4.9						
	comp=Z,0.5nm,0.7s						
HDA	**Harding Lake**	**85.27**	**12**	P	**P**	**17 19 46.2**	**+0.5**
CCB	**Clear Creek Bu**	**85.32**	**11**	P	**P**	**17 19 46.5**	**+0.5**
H21K	**Melozitna Rive**	**85.43**	**9**	P	**P**	**17 19 47.7**	**+1.1**
H21K				IAmb	IAmb	17 19 49.0	
	comp=Z,11nm,1.4s						
SCRK	**Sand Creek**	**85.48**	**13**	P	**P**	**17 19 47.4**	**+0.4**
TCOL	**CIGO, UAF Yank**	**85.52**	**11**	P	**P**	**17 19 47.2**	**+0.3**
COLA	**College**	**85.52**	**11**	P	**P**	**17 19 47.2**	**+0.3**
MDM	**Murphy Dome**	**85.53**	**11**	P	**P**	**17 19 47.4**	**+0.4**
MDM				IAmb	IAmb	17 19 48.5	
	comp=Z,6.4nm,1.0s						
IL31		**85.61**	**11**	P	**P**	**17 19 47.8**	**+0.5**
IL31				IAmb	IAmb	17 19 48.8	
	comp=Z,2.7nm,0.6s						
ILAR	**Eielson Array**	**85.61**	**11**	P	**P**	**17 19 48.0**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=228,slow=6.2,SNR=30						
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**85.61**	**11**	P	**P**	**17 19 47.7**	**+0.3**
IMAR	**Indian Mountai**	**85.61**	**8**	P	**P**	**17 19 47.8**	**+0.4**
J25K	**Salcha River,**	**85.76**	**12**	P	**P**	**17 19 49.0**	**+0.8**
J25K				IAmb	IAmb	17 19 50.1	
	comp=Z,5.4nm,0.7s						
M30M	**Minto, Yukon**	**86.03**	**16**	P	**P**	**17 19 50.1**	**+0.5**
PRP	**Porcupine Dome**	**86.53**	**12**	P	**P**	**17 19 52.7**	**+0.6**
PRP				IAmb	IAmb	17 19 54.1	
	comp=Z,5.5nm,1.1s						
VNA3	**Neumayer Olymp**	**89.94**	**175**	PcP	**P**	**17 20 08.2**	**-0.1**
HHC	**Hu-ho-hao-te**	**90.33**	**313**	*e*P	**P**	**17 20 13.9**	**+3.2**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,4.1s						
VNA2	**Neumayer--Watz**	**90.42**	**176**	PcP	**P**	**17 20 10.8**	**+0.3**
	baz=182,slow=4.0						
VNA1	**Neumayer--Stat**	**90.63**	**175**	PcP	**PcP**	**17 20 11.9**	**-0.6**
PZH	**PanZhiHua**	**92.72**	**297**	P	**P**	**17 20 21.8**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,80nm,4.9s						
ULM	**Lac du Bonnet**	**96.92**	**39**	LR	LR	17 56 07.8	
	comp=Z,93nm,19.8s,baz=304,slow=30						
MKAR	**Makanchi Array**	**112.19**	**314**	PKiKP	**PKiKP**	**17 25 43.6**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=128,slow=1.6,SNR=1.8						
ARCES	**ARCESS Array B**	**127.45**	**351**	PKP	**PKPdf**	**17 26 13.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=31,slow=2.8,SNR=7.3						
FINES	**FINESS Array B**	**134.65**	**346**	PKP	**PKiKP**	**17 26 28.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=5.7,slow=1.9,SNR=6.6						
NACGM	**Naroch**	**140.13**	**341**	*e*PKP	**PKPdf**	**17 26 35.0**	**-2.4**
	baz=32						
BRTR	**Keskin Array B**	**147.76**	**317**	PKPbc	**PKPbc**	**17 26 54.7**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=115,slow=6.8,SNR=4.4						
GERES	**GERESS Array B**	**148.95**	**350**	PKPbc	**PKPbc**	**17 26 57.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=31,slow=3.1,SNR=8.0						
CONA	**Conrad Observa**	**149.40**	**346**	*i* P	**PKiKP**	**17 26 59.5**	**+0.2**
	comp=Z,6.7nm,1.9s						
ARSA	**Arzberg**	**150.11**	**346**	*i* P	**PKPbc**	**17 27 00.5**	**+0.6**
	comp=Z,2.6nm,0.9s						
RETA	**Reutte**	**150.71**	**353**	*i* P	**PKiKP**	**17 27 02.0**	**0.0**
	comp=Z,1.9nm,0.6s						
WATA	**Walderalm**	**150.75**	**352**	*i* P	**PKiKP**	**17 27 02.2**	**-0.1**
	comp=Z,2.0nm,0.4s						
WTTA	**Wattenberg**	**150.81**	**351**	*i* P	**PKiKP**	**17 27 02.6**	**+0.2**
	comp=Z,4.5nm,0.4s						
SQTA	**Sankt Quirin**	**150.91**	**352**	*e*P	**PKiKP**	**17 27 02.7**	**+0.2**
	comp=Z,1.4nm,0.5s						
DAVA	**Damuels**	**151.00**	**354**	*i* P	**PKiKP**	**17 27 03.4**	**+0.6**
	comp=Z,4.5nm,1.1s						
MYKA	**Terra Mystica**	**151.09**	**348**	*e*P	**PKPbc**	**17 27 02.4**	**+0.1**
	comp=Z,1.3nm,0.4s						
FETA	**Feichten**	**151.17**	**353**	*i* P	**PKiKP**	**17 27 03.6**	**+0.5**
	comp=Z,6.2nm,1.5s						
ABTA	**Abfaltersbach**	**151.18**	**350**	*i* P	**PKPbc**	**17 27 02.8**	**+0.3**
	comp=Z,3.3nm,0.5s						
ESDC	**Sonseca Array**	**157.30**	**19**	PKPab	**PKPab**	**17 27 37.9**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=319,slow=4.3,SNR=7.6						

DJA ***03*** *17:14:52.2±0.4,3°N±4°×12°4E±°, h397km±5km, M4.1/18, mB4.5/5, mb4.1/18, MLv4.3/18, Mw(mB)3.7/5*
NEIC ***03*** *17:14:53.1±2.0,2°41N±0°.08×123°.69E±0°.09, h395km±7km, mb4.3/45, Error ellipse: s-maj=13.5km s-min=10.8km az=58.0*
IDC ***03*** *17:14:53.5±1.5,2°.44N×123°.55E, h404km±16km, mb3.6/14, mbtmp4.4/17, Error ellipse: s-maj=18.6km s-min=8.2km az=72.0*
ISC 03 17:14:52.7±0.6,2°.44N±0°.05×123°.66E±0°.06, h396km±7km, n124,σ0$98/134, mb4.2/33, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.88**	**170**	P	**Pn**	**17 15 47.9**	**+0.3**
GTOI	**Gorontalo**	**1.90**	**200**	P	**Pn**	**17 15 47.2**	**-0.5**
SGSI	**Sangihe**	**2.24**	**56**	P	**Pn**	**17 15 49.7**	**-0.2**
MRSI	**Marisa**	**2.60**	**221**	P	**Pn**	**17 15 52.6**	**+0.2**
LUWI	**Luwuk**	**3.57**	**194**		**Pn**	**17 15 59.9**	**-0.7**
LUWI	**Luwuk**	**3.57**	**194**	P	**Pn**	**17 16 00.4**	**-0.2**
APSI	**Ampana**	**3.89**	**211**	P	**Pn**	**17 16 02.4**	**-1.1**
TNTI	**Ternate**	**4.06**	**114**	Pn	**Pn**	**17 16 04.1**	**-1.0**
TNTI	**Ternate**	**4.06**	**114**	P	**Pn**	**17 16 05.0**	**-0.1**
TNTI	**Ternate**	**4.06**	**114**	P	**Pn**	**17 16 05.7**	**+0.6**
MPSI	**Mapaga**	**4.30**	**241**	P	**Pn**	**17 16 08.1**	**+0.6**
LBMI	**Labuha**	**4.91**	**128**	P	**Pn**	**17 16 13.6**	**0.0**
DAV	**Davao City (W)**	**4.98**	**22**	S	**S**	**17 17 21.0**	**+0.2**
	144nm,0.4s,baz=19,slow=16,SNR=1.8						
SANI	**Sanana**	**5.03**	**152**	P	**Pn**	**17 16 13.2**	**-1.7**
	2.6nm3µm59nm,0.6s						
SANI	**Sanana**	**5.03**	**152**	P	**Pn**	**17 16 13.7**	**-1.2**
MYLDM	**Lahad Datu**	**5.83**	**298**	Pn	**Pn**	**17 16 24.2**	**+0.9**
BIPH	**Bislig**	**6.31**	**25**	∥*i*P	**Pn**	**17 16 28.9**	**+0.3**
BIPH				*e*S	**S**	**17 17 44.0**	**-2.9**
NLAI	**Namlea**	**6.60**	**149**	P	**P**	**17 16 33.0**	**+0.4**
	0.4nm1µm24nm,0.7s						
TTSI	**Tana Toraja**	**6.66**	**215**	P	**P**	**17 16 33.5**	**+0.3**
	0.1nm23nm,0.7s						
SPSI	**Sidrap Palu**	**7.45**	**211**	P	**Pn**	**17 16 41.6**	**+0.1**
AAI	**Ambon**	**7.58**	**143**	P	**Pn**	**17 16 42.3**	**-0.7**
	0.2nm54nm,0.5s						
MSAI	**Masohi**	**7.79**	**137**	P	**P**	**17 16 47.6**	**+1.7**
	0.1nm226nm9.8nm,0.5s						
BBSI	**Bau Bau**	**7.95**	**188**	P	**Pn**	**17 16 47.0**	**-0.1**
	4.0nm,0.8s						
KKM	**Kota Kinabalu**	**8.24**	**296**	P	**Pn**	**17 16 49.3**	**-1.3**
SWI	**Sorong**	**8.27**	**113**	P	**Pn**	**17 16 48.6**	**-2.2**
	18nm,0.7s						
KAPI	**Kappang**	**8.37**	**208**	P	**P**	**17 16 52.7**	**+0.4**
	32nm,0.7s,baz=26,slow=5.5,SNR=13						
KAPI	**Kappang**	**8.37**	**208**		**Pn**	**17 16 51.2**	**-0.7**
KAPI	**Kappang**	**8.37**	**208**	P	**P**	**17 16 52.7**	**+0.4**
BKSI	**Bulukumba**	**8.48**	**205**	P	**Pn**	**17 16 53.0**	**-0.2**
	35nm,0.7s						
BSSI	**Bau Bau, Buton**	**9.09**	**200**	P	**Pn**	**17 17 00.2**	**-0.1**
	16nm,1.1s						
BNDI	**Bandanaira**	**9.31**	**138**	P	**P**	**17 17 03.2**	**+0.4**
	112nm,0.9s						
FAKI	**Fak Fak**	**10.10**	**122**	P	**Pn**	**17 17 12.5**	**+0.5**
FAKI	**Fak Fak**	**10.10**	**122**	P	**P**	**17 17 10.8**	**-0.8**
	29nm,0.8s						
MMRI	**Maumere**	**11.09**	**187**	P	**P**	**17 17 23.0**	**+0.4**
MMRI	**Maumere**	**11.09**	**187**	P	**P**	**17 17 22.5**	**-0.1**
	34nm,0.8s						
EDFI	**Ende, Flores**	**11.28**	**190**	P	**P**	**17 17 24.9**	**+0.1**
	8.1nm,0.8s						
SBUM	**Sibu**	**11.43**	**270**	P	**Pn**	**17 17 27.6**	**+0.2**
BATI	**Baumata**	**12.56**	**180**	P	**Pn**	**17 17 40.6**	**+0.1**
	70nm,0.4s,baz=21,slow=0.7,SNR=16						
MTN	**Manton Dam**	**16.90**	**154**	P	**P**	**17 18 25.3**	**-0.6**
MTN	**Manton Dam**	**16.90**	**154**	P	**P**	**17 18 26.7**	**+0.9**
KDU	**Kakadu**	**17.39**	**150**	P	**P**	**17 18 31.6**	**+0.6**
LEM	**Lembang**	**18.47**	**240**	P	**P**	**17 18 42.8**	**+0.1**
	15nm,0.6s,baz=137,slow=20,SNR=5.6						
KNRA	**Kununurra**	**18.69**	**164**	P	**P**	**17 18 43.6**	**-1.2**
KNRA				IAmb	IAmb	17 18 47.3	
	comp=Z,12nm,0.6s						
KNRA	**Kununurra**	**18.69**	**164**	P	**P**	**17 18 44.4**	**-0.5**
MYKOM	**Kota Tinggi**	**19.81**	**269**	P	**P**	**17 18 55.1**	**-0.7**
MYKOM				IAmb	IAmb	17 18 59.0	
	comp=Z,11nm,0.8s						
TWG	**Pinlang**	**20.42**	**353**	P	**P**	**17 19 01.8**	**+0.4**
TWG				IAmb	IAmb	17 19 02.6	
	comp=Z,14nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.50**	**175**	P	**P**	**17 19 02.0**	**-0.1**
	comp=Z,17nm,0.3s,baz=20,slow=8.1,SNR=110						
	comp=Z,17nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.50**	**175**	P	**P**	**17 19 02.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.50**	**175**	P	**P**	**17 19 02.1**	**-0.1**
TPUB	**Ta-pu**	**20.95**	**352**	P	**P**	**17 19 06.6**	**+0.5**
YULB	**Yu-li**	**20.96**	**354**	P	**P**	**17 19 06.0**	**-0.2**
YULB				IAmb	IAmb	17 19 13.5	
	comp=Z,23nm,1.2s						
SSLB	**Suanglung**	**21.39**	**353**	P	**P**	**17 19 11.6**	**+1.4**
SSLB				IAmb	IAmb	17 19 14.8	
	comp=Z,14nm,0.7s						
NACB	**Ninganchiao**	**21.70**	**355**	P	**P**	**17 19 14.8**	**+1.8**
NACB				IAmb	IAmb	17 19 45.4	
	comp=Z,17nm,0.9s						
UBPT	**Khong Chiam**	**22.01**	**307**	P	**P**	**17 19 16.0**	**+0.1**
UBPT				IAmb	IAmb	17 19 18.8	
	comp=Z,18nm,1.4s						
YHNB	**Yeheng**	**22.21**	**354**	P	**P**	**17 19 19.0**	**+1.3**
IPM	**Ipoh**	**22.68**	**276**	P	**P**	**17 19 22.6**	**+0.5**
KULM	**Kulim**	**23.13**	**278**	P	**P**	**17 19 25.4**	**-0.7**
KULM				IAmb	IAmb	17 19 56.0	
	comp=Z,10nm,1.2s						
MBWA	**Marble Bar**	**23.76**	**189**	P	**P**	**17 19 31.4**	**-0.2**
MBWA				IAmb	IAmb	17 19 33.0	
	comp=Z,16nm,1.3s						
PSA00	**Pilbara Seismi**	**24.15**	**189**	P	**P**	**17 19 34.4**	**-0.8**
PSA00				IAmb	IAmb	17 19 48.4	
	comp=Z,20nm,1.4s						
PSA00	**Pilbara Seismi**	**24.15**	**189**	P	**P**	**17 19 34.7**	**-0.5**
PSA00				IAmb	IAmb	17 20 16.1	
	comp=Z,6.3nm,1.4s						
WB0	**Warramunga Arr**	**24.45**	**155**	P	**P**	**17 19 37.7**	**-0.2**
WB0				IAmb	IAmb	17 19 38.6	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**24.58**	**155**	P	**P**	**17 19 39.0**	**-0.1**
WRA	**Warramunga Arr**	**24.59**	**155**	P	**P**	**17 19 39.0**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=336,slow=9.7,SNR=54						
WRA				S	**S**	**17 23 27.2**	**-3.6**
	comp=Z,1.6nm,0.7s,baz=334,slow=16,SNR=4.3						
WRA				ScP	**ScP**	**17 26 05.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=336,slow=2.9,SNR=4.2						
	comp=Z,3.0nm,0.4s						
WRA	**Warramunga Arr**	**24.59**	**155**	P	**P**	**17 19 37.5**	**-1.6**
WB2	**Warramunga Arr**	**24.59**	**155**	P	**P**	**17 19 38.7**	**-0.5**
WB2				IAmb	IAmb	17 19 39.8	
	comp=Z,12nm,1.0s						
WR0	**Warramunga Arr**	**24.69**	**155**	P	**P**	**17 19 39.6**	**-0.4**
WR0				IAmb	IAmb	17 19 41.1	
	comp=Z,12nm,1.3s						
PSI	**Prapat**	**24.71**	**271**	P	**P**	**17 19 39.5**	**-1.0**
	comp=Z,3.2nm,0.4s,baz=91,slow=1.2,SNR=4.3						
	comp=Z,3.2nm,0.4s						
GSI	**Gunungsitoli**	**26.09**	**268**	P	**P**	**17 19 51.5**	**-1.1**
GIRL	**Giralia**	**26.57**	**200**	P	**P**	**17 19 56.7**	**+0.1**
QIS	**Mount Isa**	**27.69**	**146**	P	**P**	**17 20 07.6**	**+1.0**
AS31	**Alice Springs**	**27.80**	**160**	P	**P**	**17 20 07.7**	**+0.1**
ASAR	**Alice Springs**	**27.80**	**160**	P	**P**	**17 20 08.1**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=339,slow=8.4,SNR=52						
ASAR				S	**S**	**17 24 21.1**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=347,slow=20,SNR=7.0						
ASAR				ScP	**ScP**	**17 26 14.7**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=337,slow=2.1,SNR=5.1						
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**27.80**	**160**	P	**P**	**17 20 07.4**	**-0.2**
MORW	**Morawa**	**32.17**	**193**	P	**P**	**17 20 45.5**	**-0.1**
MORW				IAmb	IAmb	17 21 19.8	
	comp=Z,15nm,1.2s						
FORT	**Forrest**	**33.30**	**173**	P	**P**	**17 20 55.6**	**+0.3**
MJAR	**Matsushiro Arr**	**36.50**	**20**	P	**P**	**17 21 22.0**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=194,slow=8.0,SNR=4.7						
	comp=Z,0.7nm,0.6s						
BBOO	**Buckleboo**	**36.97**	**163**	P	**P**	**17 21 26.8**	**+0.6**
BBOO				IAmb	IAmb	17 21 38.2	
	comp=Z,33nm,1.4s						
STKA	**Stephens Creek**	**38.14**	**155**	P	**P**	**17 21 37.4**	**+1.5**
	comp=Z,7.0nm,0.3s,baz=327,slow=9.5,SNR=72						
	comp=Z,7.0nm,0.3s						
STKA	**Stephens Creek**	**38.14**	**155**	P	**P**	**17 21 36.9**	**+1.0**
HHC	**Hu-ho-hao-te**	**39.77**	**346**	*e*P	**P**	**17 21 51.2**	**+1.9**
HHC				pmax	pmax		
	comp=Z,35nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,5.5s						
LSA	**Lhasa**	**41.07**	**315**	P	**P**	**17 22 01.4**	**+1.0**
LSA				IAmb	IAmb	17 22 03.2	
	comp=Z,6.4nm,0.6s						
ARMA	**Armidale**	**42.19**	**143**	P	**P**	**17 22 09.9**	**+1.0**
ARMA				IAmb	IAmb	17 22 32.8	
	comp=Z,24nm,1.4s						
TAPN	**Taplejung**	**42.38**	**309**	*e*P	**P**	**17 22 11.1**	**+0.4**
	comp=Z,13nm,0.4s						
GTA	**Gaotai**	**42.72**	**333**	*e*P	**P**	**17 22 14.6**	**+1.6**
RAMN	**Ramite**	**43.05**	**308**	*e*P	**P**	**17 22 16.7**	**+0.7**
	comp=Z,17nm,0.6s						
JIRN	**Jiri**	**43.71**	**309**	*e*P	**P**	**17 22 21.7**	**+0.4**
	comp=Z,11nm,0.4s						
GUN	**Gumba**	**44.07**	**309**	*e*P	**P**	**17 22 24.7**	**+0.6**
	comp=Z,24nm,0.5s						
PKI	**Pulchoki**	**44.28**	**308**	*e*P	**P**	**17 22 25.8**	**+0.1**
	comp=Z,4.3nm,0.4s						
PKIN	**Phulchoki**	**44.29**	**308**	*e*P	**P**	**17 22 25.5**	**-0.3**
	comp=Z,5.8nm,0.4s						
TOO	**Toolangi**	**44.66**	**155**	P	**P**	**17 22 30.0**	**+1.8**
TOO				IAmb	IAmb	17 22 30.3	
	comp=Z,22nm,1.4s						
DANN	**Dangsing**	**45.93**	**308**	*e*P	**P**	**17 22 38.9**	**+0.4**
	comp=Z,26nm,0.6s						
PYUN	**Piuthan**	**46.43**	**307**	*e*P	**P**	**17 22 42.7**	**+0.5**
	comp=Z,22nm,0.6s						
SONM	**Songino Array**	**47.62**	**344**	P	**P**	**17 22 51.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=161,slow=8.6,SNR=6.4						
SONM				PcP	**PcP**	**17 24 12.5**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=131,slow=4.0,SNR=2.1						
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**47.62**	**344**	P	**P**	**17 22 52.0**	**+1.1**
WMQ	**Urumqi**	**52.09**	**327**	*e*P	**P**	**17 23 26.4**	**+2.3**
MK31	**Makanchi Array**	**56.92**	**327**	P	**P**	**17 23 58.1**	**-0.1**
MK31					**PcP**	**17 24 48.0**	**-0.4**
MKAR	**Makanchi Array**	**56.92**	**327**	P	**P**	**17 23 58.2**	**0.0**
	comp=Z,2.8nm,0.4s,baz=126,slow=7.8,SNR=55						
MKAR				PcP	**PcP**	**17 24 47.8**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=126,slow=4.0,SNR=10						
	comp=Z,2.8nm,0.4s						
MAKZ	**Makanchi**	**57.10**	**327**	P	**P**	**17 23 59.2**	**-0.3**
MAKZ				PcP	**PcP**	**17 24 48.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**57.80**	**24**	P	**P**	**17 24 05.6**	**+1.4**
PEA0B				IAmb	IAmb	17 24 28.8	
	comp=Z,17nm,1.4s						
PETK	**Petropavlovsk-**	**57.80**	**24**	P	**P**	**17 24 05.1**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=210,slow=5.1,SNR=8.4						
	comp=Z,0.7nm,0.6s						
PETK	**Petropavlovsk-**	**57.80**	**24**	P	**P**	**17 24 05.2**	**+1.1**
YAK	**Yakutsk**	**59.62**	**3**	P	**P**	**17 24 16.6**	**+0.3**
OUZ	**Omahuta**	**59.85**	**134**	P	**P**	**17 24 18.4**	**-0.1**
OUZ				PcP	**PcP**	**17 25 01.0**	**+0.7**
OUZ	**Omahuta**	**59.85**	**134**	P	**P**	**17 24 18.3**	**-0.1**
ZALV	**Zalesovo Beam**	**60.39**	**335**	P	**P**	**17 24 20.7**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=108,slow=4.8,SNR=5.8						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**60.39**	**335**	P	**P**	**17 24 21.4**	**-0.3**
MA2	**Magadan**	**60.73**	**15**	P	**P**	**17 24 24.1**	**+0.3**
MA2				IAmb	IAmb	17 24 26.0	
	comp=Z,6.1nm,0.7s						
KURK	**Kurchatov**	**61.22**	**329**	P	**P**	**17 24 26.7**	**-0.6**
KURK				IAmb	IAmb	17 24 28.4	
	comp=Z,5.9nm,0.6s						
PYZ	**Puysegur Point**	**61.49**	**147**	P	**P**	**17 24 30.2**	**+1.1**
QRZ	**Quartz Range**	**61.89**	**140**	P	**P**	**17 24 36.1**	**+4.3**
KK31	**Karatay Array**	**62.12**	**318**	P	**P**	**17 24 33.4**	**0.0**
KKAR	**Karatay Array**	**62.12**	**318**	P	**P**	**17 24 33.4**	**0.0**
SNZO	**South Karori**	**63.55**	**139**	P	**P**	**17 24 40.6**	**-2.1**
TIXI	**Tiksi**	**69.19**	**2**	P	**P**	**17 25 16.8**	**-0.7**
TIXI				IAmb	IAmb	17 25 17.5	
	comp=Z,3.0nm,0.4s						
CASY	**Casey**	**69.21**	**186**	P	**P**	**17 25 17.2**	**-0.4**
CASY				IAmb	IAmb	17 25 39.5	
	comp=Z,13nm,1.4s						
GEYT	**Alibeck**	**69.33**	**310**	P	**P**	**17 25 18.6**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=131,slow=6.8,SNR=3.0						
	comp=Z,1.5nm,0.6s						
NRIK	**Noril'sk**	**70.98**	**347**	P	**P**	**17 25 27.4**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=119,slow=7.9,SNR=3.8						
	comp=Z,1.4nm,0.5s						
ABKAR	**Akbulak array**	**71.23**	**322**	P	**P**	**17 25 29.2**	**-0.9**
RAYN	**Ar Rayn**	**78.17**	**293**	P	**P**	**17 26 09.3**	**-0.8**
VOI	**Vohitsoka**	**78.75**	**247**	P	**P**	**17 26 13.0**	**-0.4**
ARCES	**ARCESS Array B**	**90.59**	**340**	P	**P**	**17 27 09.4**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=85,slow=4.1,SNR=5.6						
	comp=Z,1.9nm,0.7s						
FINES	**FINESS Array B**	**91.51**	**332**	P	**P**	**17 27 13.7**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=15,slow=2.2,SNR=5.7						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**120.38**	**287**	PKP	**PKPdf**	**17 32 58.2**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=95,slow=1.4,SNR=3.7						
TXAR	**Lajitas Array**	**124.80**	**51**	PKP	**PKiKP**	**17 33 07.8**	**+0.3**
	comp=Z,0.6nm,1.1s,baz=222,slow=1.2,SNR=2.0						

NOU ***03*** *17:14:50.5,37°.27S×179°.35E, h156km, MLv4.9/6, Off

KRHZ Kereru 3.27 220 P Pn 17 15 42.0 +0.1
TMVZ Te Maari 3.31 233 P Pn 17 15 43.4 +1.0
ETVZ East Tongariro 3.31 232 P Pn 17 15 43.5 +0.9
NTVZ North Tongarir 3.31 233 P Pn 17 15 43.6 +1.0
BHHZ Black Hill Sta 3.33 225 P Pn 17 15 43.1 +0.5
KRVZ Karewarewa 3.33 234 P Pn 17 15 44.0 +1.2
ETAZ East Tamaki Re 3.34 272 P Pn 17 15 43.5 +0.8
PXZ Pawanui 3.36 211 P Pn 17 15 41.8 -1.2
OTVZ Oturere 3.36 232 P Pn 17 15 44.1 +0.9
NNVZ North Ngauruho 3.37 233 P Pn 17 15 44.8 +1.4
MBAZ Motutapu North 3.38 275 P Pn 17 15 44.2 +0.9
WTVZ West Tongariro 3.38 234 P Pn 17 15 44.8 +1.4
SNVZ South Ngauruho 3.39 232 P Pn 17 15 44.4 +0.9
NGZ Ngauruhoe 3.41 231 P Pn 17 15 44.8 +0.9
TUVZ Tukino 3.43 231 P Pn 17 15 45.5 +1.4
MOVZ Moawhango 3.45 228 P Pn 17 15 44.7 +0.4
TWVZ Taurewa 3.46 235 P Pn 17 15 46.1 +1.6
ABAZ Army Bay 3.46 278 P Pn 17 15 45.3 +0.9
WHVZ Whangaehu Hut 3.48 231 P Pn 17 15 45.8 +0.9
FWVZ Far West T-bar 3.48 232 P Pn 17 15 46.0 +1.1
EPAZ Eden Park BICE 3.49 273 P Pn 17 15 46.7 +1.9
WNVZ Wahianoa 3.50 231 P Pn 17 15 45.7 +0.6
HBAZ Herne Bay Bore 3.50 274 P Pn 17 15 46.3 +1.4
TRVZ Turoa 3.51 231 P Pn 17 15 46.1 +0.7
AWAZ Awhitu Peninsu 3.56 270 P Pn 17 15 46.9 +1.2
PNHZ Pukenui 3.56 219 P Pn 17 15 45.3 -0.5
WPHZ Waipukurau 3.56 215 P Pn 17 15 45.3 -0.5
MTVZ Mangateitei 3.61 231 P Pn 17 15 47.8 +1.2
HIZ Hauiti 3.61 247 Pn Pn 17 15 48.5 +2.0
HIZ Hauiti 3.61 247 P Pn 17 15 48.9 +2.4
WTAZ Waiatarua 3.62 272 P Pn 17 15 47.9 +1.3
RVAZ Riverhead Bore 3.63 275 P Pn 17 15 47.9 +1.2
PKVZ Pokaka 3.63 233 P Pn 17 15 48.3 +1.4
PRHZ Porangahau 3.65 211 P Pn 17 15 45.7 -1.3
TSZ Takapari Road 3.79 219 P Pn 17 15 48.0 -1.1
ANWZ Angora Road 3.88 211 P Pn 17 15 48.7 -1.4
DVHZ Dannevirke 3.88 215 P Pn 17 15 49.0 -1.2
WCZ Waipu Caves 4.01 286 P Pn 17 15 52.8 +0.9
WAZ Wanganui 4.13 230 P Pn 17 15 54.4 +0.7
POWZ Post Office Ro 4.14 218 P Pn 17 15 52.6 -1.2
BFZ Birch Farm 4.16 211 Pn Pn 17 15 52.0 -2.0
BFZ Birch Farm 4.16 211 P Pn 17 15 53.1 -0.9
PRWZ Pori Road 4.17 215 P Pn 17 15 53.3 -0.9
MHEZ Mangahewa 4.22 242 P Pn 17 15 59.2 +4.4
OHWZ Ohakea 4.24 223 P Pn 17 15 55.9 +0.8
LREZ Lake Rotokare 4.34 237 P Pn 17 15 58.7 +2.2
DREZ Durham Road 4.35 241 P Pn 17 16 00.6 +3.9
CPWZ Castlepoint 4.37 210 P Pn 17 15 55.9 -1.0
TIWZ Tintock 4.39 214 P Pn 17 15 55.7 -1.5
PREZ Palmer Road 4.45 239 P Pn 17 16 01.4 +3.4
NEZ North Egmont 4.46 240 P Pn 17 16 01.5 +3.3
PKE Pukeiti 4.50 242 P Pn 17 16 01.8 +3.0
KHEZ Kahui Hut 4.53 240 P Pn 17 16 01.9 +2.7
NBEZ Newall Road No 4.62 241 P Pn 17 16 04.5 +4.2
NMEZ Namu Road 4.68 240 P Pn 17 16 05.5 +4.4
OUZ Omahuta 4.85 292 P Pn 17 16 04.6 +1.2
OUZ Omahuta 4.85 292 P Pn 17 16 05.0 +1.5
MSWZ Moikau Station 5.19 214 Pn 17 16 05.3 -2.9
PLWZ Palliser 5.31 213 Pn Pn 17 16 06.0 -3.9
PLWZ Sn 17 17 06.1 -3.9
SNZO South Karori 5.36 218 Pn Pn 17 16 07.1 -3.4
SNZO Sn 17 17 07.7 -3.3
TUWZ Tuamarina 5.84 222 Pn 17 16 13.7 -3.4
CMWZ Cape Campbell 5.94 218 Pn Pn 17 16 15.4 -3.0
CMWZ Cape Campbell 5.94 218 P Pn 17 16 21.0 +2.6
NNZ Nelson 6.01 226 Pn Pn 17 16 14.2 -5.2
BSWZ Blackbirch Sta 6.08 220 Pn Pn 17 16 16.2 -4.2
BSWZ Sn 17 17 25.1 -3.8
QRZ Quartz Range 6.29 232 Pn Pn 17 16 20.1 -3.1
THZ Tophouse 6.63 224 Pn Pn 17 16 23.9 -4.1
KHZ Kahutara 6.77 217 Pn Pn 17 16 25.2 -4.6
KHZ Kahutara 6.77 217 P Pn 17 16 27.3 -2.5
CTZ Chatham Island 7.34 155 P Pn 17 16 38.4 +0.8
LTZ Lake Taylor 7.67 221 Pn Pn 17 16 38.2 -4.1
MQZ McQueen's Vall 8.17 215 Pn Pn 17 16 44.3 -4.8
OXZ Oxford 8.18 219 Pn Pn 17 16 44.5 -4.7
RPZ Rata Peaks 8.96 221 Pn Pn 17 16 56.3 -3.7
1.9nm,0.3s,baz=263,slow=1.7,SNR=18
RPZ Sn 17 18 29.8 -10
13nm,0.3s,baz=47,slow=18,SNR=19
RPZ Rata Peaks 8.98 221 Pn Pn 17 16 55.7 -4.3
RPZ Rata Peaks 8.96 221 P Pn 17 16 57.3 -2.7
FOZ Fox Glacier 9.52 225 Pn Pn 17 17 03.6 -3.9
LBZ Lake Benmore 9.88 220 Pn Pn 17 17 08.3 -4.2
ODZ Otahua Downs 10.13 216 Pn Pn 17 17 11.4 -4.5
ODZ Otahua Downs 10.13 216 P Pn 17 17 12.6 -3.3
WKZ Wanaka 10.79 222 Pn Pn 17 17 20.3 -4.7
MLZ Mavora Lakes 11.63 222 Pn Pn 17 17 30.5 -5.9
WHZ Wether Hill Ro 12.06 220 Pn Pn 17 17 35.2 -7.2
WHZ Wether Hill Ro 12.06 220 P Pn 17 17 42.0 -0.4
DZM Mont Dzumac 18.60 320 eP P 17 19 07.5 0.0
85nm,28.9s
DZM eLR LR 17 23 25.1
comp=Z,608nm,24.6s
DZM Mont Dzumac 18.60 320 LR LR 17 25 19.4
comp=Z,535nm,18.1s,baz=183,slow=34
MSVF Nonsavu 19.38 357 P P 17 19 15.0 -1.0
0.5nm,0.3s,baz=116,slow=23,SNR=1.9
3.6nm,0.6s
TAU Tasmania Unive 24.90 247 P P 17 20 11.9 -0.7
TOO Toolangi 26.63 259 P P 17 20 27.7 -0.7
TOO IAmb IAmb 17 20 59.8
comp=Z,63nm,1.9s
TBI Tubuai 30.30 72 eLR LR 17 28 53.0
comp=Z,135nm,25.2s
TBI Tubuai 30.30 72 eT T 17 52 28.0
comp=Z,10.0nm,0.3s
STKA Stephens Creek 31.20 268 P P 17 21 10.0 +0.9
comp=Z,3.6nm,0.8s,baz=110,slow=10,SNR=4.9
STKA LR LR 17 32 04.7
comp=Z,115nm,21.6s,baz=173,slow=33
comp=Z,3.6nm,0.8s
HNR Honiara 32.59 323 LR LR 17 32 11.9
comp=Z,53nm,21.7s,baz=208,slow=32
CTA Charters Tower 33.25 292 LR LR 17 34 25.6
comp=Z,91nm,18.4s,baz=84,slow=36
CTAO Charters Tower 33.25 292 P P 17 21 27.0 -0.2
CTAO IAmb IAmb 17 22 09.0
comp=Z,13nm,1.4s
PPT2 Papeete2 33.74 63 eLR LR 17 30 27.8
comp=Z,134nm,24.8s
BBOO Buckleboo 35.30 264 P P 17 21 44.1 -0.7
COEN Coen 39.44 296 P P 17 22 20.3 +0.3
COEN IAmb IAmb 17 22 21.1
comp=Z,14nm,0.8s
AS31 Alice Springs 40.86 276 P P 17 22 31.3 -0.4
ASAR Alice Springs 40.86 276 P P 17 22 31.1 -0.6
comp=Z,8.7nm,0.5s,baz=119,slow=8.0,SNR=94
ASAR PcP PcP 17 24 30.8 -1.4
comp=Z,0.4nm,0.4s,baz=130,slow=3.5,SNR=2.0
ASAR ScP ScP 17 28 20.6 +1.3
comp=Z,0.1nm,0.5s,baz=105,slow=4.2,SNR=4.2
ASAR S S 17 28 37.0 -4.0
comp=Z,0.7nm,0.9s,baz=124,slow=15,SNR=4.8
ASAR LR LR 17 38 50.6
comp=Z,80nm,19.0s,baz=80,slow=35
comp=Z,8.7nm,0.5s
ASAR Alice Springs 40.86 276 P P 17 22 30.6 -1.1
KRVT Keravat (AS076 41.04 316 P P 17 22 33.6 +0.4
comp=Z,24nm,0.5s,baz=126,slow=6.8,SNR=2.6
comp=Z,24nm,0.5s
RABL Rabaul 41.06 317 P P 17 22 33.3 -0.1
VNDA Vanda 41.15 186 P P 17 22 35.4 +1.9
WR0 Warramunga Arr 42.30 281 P P 17 22 42.9 -0.7
FORT Forrest 42.38 263 P P 17 22 43.3 -0.8
FORT IAmb IAmb 17 22 44.7
comp=Z,28nm,0.9s
WB2 Warramunga Arr 42.46 281 P P 17 22 43.8 -1.1
WB2 IAmb IAmb 17 22 45.0
comp=Z,17nm,0.7s
WRA Warramunga Arr 42.47 281 P P 17 22 44.3 -0.7
comp=Z,12nm,0.6s,baz=122,slow=7.6,SNR=62
WRA PcP PcP 17 24 38.2 +0.7
comp=Z,1.1nm,0.7s,baz=104,slow=3.5,SNR=4.4
comp=Z,12nm,0.6s
WRA Warramunga Arr 42.47 281 P P 17 22 44.0 -1.0
WB0 Warramunga Arr 42.52 281 P P 17 22 44.8 -0.6
WB0 IAmb IAmb 17 22 45.4
comp=Z,15nm,0.7s
CASY Casey 48.07 210 P P 17 23 30.2 +1.5
MTN Manton Dam 49.11 287 P P 17 23 36.3 -1.1
KNRA Kununurra 49.25 282 P P 17 23 37.5 -1.0
KNRA IAmb IAmb 17 23 52.4
comp=Z,6.6nm,0.8s
NWAO Narrogin (SRO) 50.03 255 P P 17 23 42.5 -1.8
FITZ Fitzroy Crossi 50.34 277 P P 17 23 46.6 -0.1
comp=Z,9.6nm,0.6s,baz=146,slow=6.9,SNR=25
FITZ LR LR 17 44 37.4
comp=Z,73nm,18.1s,baz=101,slow=36
comp=Z,9.6nm,0.6s
FITZ Fitzroy Crossi 50.34 277 P P 17 23 45.9 -0.9
FITZ IAmb IAmb 17 23 47.2
comp=Z,10nm,0.7s
MORW Morawa 52.58 259 P P 17 24 02.1 -1.3
QSPA South Pole Qui 52.97 180 P P 17 24 09.3 +3.4
comp=Z,5.3nm,1.1s,baz=0.4,slow=1.2,SNR=16
QSPA LR LR 17 44 13.9
comp=Z,116nm,18.3s,baz=101,slow=33
comp=Z,5.3nm,1.1s
QSPA South Pole Qui 52.97 180 P P 17 24 09.3 +3.4
PSA00 Pilbara Seismi 53.12 270 P P 17 24 06.6 -0.9
MBWA Marble Bar 53.42 270 P P 17 24 08.1 -1.6
MBWA IAmb IAmb 17 25 03.2
comp=Z,14nm,1.1s
FAKI Fak Fak 54.82 297 P P 17 24 17.7 -2.2
SIJI Sorong 56.95 298 LR LR 17 51 11.6
comp=Z,38nm,18.1s,baz=44,slow=38
GIRL Giralia 57.05 265 P P 17 24 37.2 +1.3
GUMO Guam 59.87 321 LR LR 17 46 58.3
comp=Z,28nm,21.9s,baz=138,slow=32
BELA Belgrano 2 63.42 172 P P 17 25 20.2 +1.6
BELA IAmb IAmb 17 25 45.1
comp=Z,9.7nm,1.6s
TROLL Troll, Antarti 71.10 181 P P 17 26 18.2 +11
SNAA Sanae 71.46 179 P P 17 26 18.1 +8.5
SNAA Sanae 71.46 179 P P 17 26 11.0 +1.4
SNAA IAmb IAmb 17 26 28.5
comp=Z,11nm,1.6s
VNA3 Neumayer Olymp 71.72 177 P P 17 26 22.3 +11
VNA2 Neumayer--Watz 72.12 178 P P 17 26 24.2 +11
baz=169,slow=7.0
VNA1 Neumayer--Stat 72.36 177 P P 17 26 26.4 +11
KKM Kota Kinabalu 72.58 292 P P 17 26 15.1 -2.1
H03N3 Juan Fernandez 78.97 124 T T 18 53 35.4
baz=234,slow=72,SNR=9.3
H03N2 Juan Fernandez 78.97 124 T T 18 53 42.5
baz=234,slow=72,SNR=23
H03N1 Juan Fernandez 78.99 124 T T 18 53 35.6
baz=234,slow=72,SNR=8.0
PLCA Paso Flores 79.64 134 P P 17 27 00.1 +3.0
comp=Z,1.5nm,1.1s,baz=152,slow=5.0,SNR=3.6
comp=Z,1.5nm,1.1s
PETK Petropavlovsk- 91.80 347 P P 17 27 57.8 +1.0
comp=Z,1.1nm,0.8s,baz=124,slow=5.2,SNR=5.8
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 93.41 290 P P 17 28 05.6 +0.5
comp=Z,1.1nm,0.6s,baz=137,slow=3.2,SNR=6.9
CMAR LR LR 18 12 28.2
comp=Z,14nm,19.6s,baz=185,slow=37
comp=Z,1.1nm,0.6s
PZH PanZhiHua 96.32 298 P P 17 28 18.9 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,70nm,4.4s
CPUP Villa Florida 97.54 131 LR LR 18 05 39.8
comp=Z,60nm,19.2s,baz=204,slow=31
MA2 Magadan 99.20 346 LR LR 18 07 03.7
comp=Z,35nm,20.8s,baz=178,slow=32
HHC Hu-ho-hao-te 99.22 315 eP Pdif 17 28 31.7 +0.6
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,130nm,4.8s
WMQ Urumqi 115.41 307 eP PKPdf 17 33 30.4 -0.5
MKAR Makanchi Array 120.13 308 PKP PKPdf 17 33 39.3 -0.5
comp=Z,0.2nm,0.5s,baz=96,slow=2.9,SNR=2.4
NRIK Noril'sk 124.74 334 PKP PKPdf 17 33 48.0 0.0
comp=Z,1.1nm,0.4s,baz=67,slow=4.9,SNR=3.5
SPA0 Spitsbergen Ar 138.23 355 ePKPdf PKPdf 17 34 14.2 +1.0
ARA0 ARCESS Array S 144.56 344 ePKPdf PKPbc 17 34 23.7 +0.2
ARCES ARCESS Array B 144.56 344 PKP PKPab 17 34 23.5 +0.2
comp=Z,1.1nm,0.5s,baz=39,slow=2.7,SNR=18
KLMR Klimovskoe 145.30 326 e PKPbc 17 34 22.0 -4.1
KLMR AMP 17 34 26.8
comp=Z,11nm,1.2s
KTK1 Kautokeino 145.46 345 ePKPab PKPdf 17 34 25.1 -1.2
TRO Tromso 145.74 348 ePKPab PKPdf 17 34 26.0 -0.8
KBZ Khabaz 146.33 295 PKPbc PKPbc 17 34 29.5 -0.3
comp=Z,1.0nm,0.7s,baz=80,slow=6.0,SNR=2.5
STEI Steigen 147.87 349 ePKPbc PKPbc 17 34 32.2 -1.2
LOF Lofoten 147.94 350 ePKPab PKPbc 17 34 34.5 +0.9
FAUS Fauske 148.36 348 ePKPab PKiKP 17 34 36.0 -0.3
KONS Konsvik 149.52 349 ePKPbc PKPbc 17 34 36.3 -1.4
FINES FINESS Array B 150.41 344 PKPbc PKPbc 17 34 39.5 -0.5
comp=Z,3.4nm,0.6s,baz=39,slow=6.8,SNR=24
NSS Namsos 151.53 348 ePKPbc PKPbc 17 34 42.7 +0.2
BRTR Keskin Array B 152.92 286 PKPbc PKPbc 17 34 46.1 -0.6
comp=Z,0.5nm,0.6s,baz=45,slow=1.9,SNR=3.6
NB2 NORSAR Subarra 154.90 346 PKP PKPbc 17 34 49.5 -0.6
comp=Z,0.5nm,0.6s,baz=26,slow=2.1
NOA NORSAR Array B 154.90 346 PKPbc PKPbc 17 34 50.0 0.0
comp=Z,0.4nm,0.5s,baz=34,slow=2.3,SNR=2.0
TORD Torodi Ar. Bea 155.97 186 PKPab PKPab 17 35 14.2 +3.0
comp=Z,1.3nm,0.9s,baz=151,slow=3.6,SNR=6.8

WEL 03 17:23:02.8±0.7, 37°S±4', 177°9E±°, h15km, M3.6/59, ML3.8/63, MLv3.6/59, Error ellipse: s-maj=0.0km s-min=0.0km az=86.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.98	242	P	Pb	17 23 20.3	-1.2
MXZ				S	Sb	17 23 31.8	-2.5
WMGZ	Waiomatatini S	1.06	227	P	Pg	17 23 24.0	+0.7
WMGZ				S	Sn	17 23 37.7	+0.1
PKGZ	Pakihiroa	1.31	233	P	Pb	17 23 27.1	-0.1
PKGZ				S	Sb	17 23 43.2	-0.6
PUZ	Puketiti	1.32	223	P	Pn	17 23 24.8	-2.0
PUZ				S	Sn	17 23 44.8	+0.6
HAZ	Te Kaha	1.44	243	P	Pn	17 23 28.3	-0.1
HAZ				S	Sn	17 23 46.7	-0.3
TWGZ	Tauwhareparae	1.55	226	P	Pb	17 23 30.9	-0.4
TWGZ				S	Sb	17 23 51.6	+0.8
RUGZ	Raukumara Rang	1.61	237	P	Pb	17 23 31.9	-0.5
RUGZ				S	Sb	17 23 52.5	-0.2
CNGZ	Carnagh Statio	1.67	214	P	Pb	17 23 33.2	0.0
WIZ	White Island	1.81	256	P	Pn	17 23 33.4	0.0
TKGZ	Te Karaka	1.81	222	P	Pn	17 23 33.8	+0.3
MWZ	Matawai	1.93	230	P	Pn	17 23 35.6	+0.6
RIGZ	Rimuhau	2.06	218	P	Pn	17 23 37.4	+0.5
WHRZ	Whale Island	2.07	248	P	Pn	17 23 37.9	+0.9
RAGZ	Rawiri	2.10	228	P	Pn	17 23 38.0	+0.5
URZ	Urewera	2.15	237	P	Pn	17 23 38.5	+0.4
PRGZ	Paritu Road	2.17	213	P	Pn	17 23 38.9	+0.5
SNGZ	Shannon Statio	2.33	224	P	Pn	17 23 40.9	+0.2
EDRZ	Edgecumbe	2.34	244	P	Pn	17 23 41.3	+0.5
MARZ	Manawahe	2.34	247	P	Pn	17 23 41.5	+0.8
KNZ	Kokohu	2.35	215	P	Pn	17 23 40.6	-0.2
MHGZ	Mahia Peninsul	2.36	209	P	Pn	17 23 41.7	+0.7
RTZ	Ruatahuna	2.44	231	P	Pn	17 23 42.7	+0.5
MUGZ	Murupara	2.49	236	P	Pn	17 23 42.9	+0.1
MYRZ	Mayor Island	2.53	265	P	Pn	17 23 43.1	-0.3
TARZ	Mount Tarawera	2.56	243	P	Pn	17 23 44.5	+0.7
RAHZ	Arahi	2.57	225	P	Pn	17 23 44.1	+0.2
TGRZ	Tauranga	2.57	255	P	Pn	17 23 43.6	-0.4
WHHZ	Waihua	2.61	220	P	Pn	17 23 44.6	+0.2
KARZ	Kaharoa	2.67	249	P	Pn	17 23 45.4	+0.1
MTHZ	Maungataniwha	2.67	228	P	Pn	17 23 45.9	+0.6
HLRZ	Highlands Stat	2.67	244	P	Pn	17 23 46.1	+0.7
KMRZ	Kaimai	2.85	254	P	Pn	17 23 47.8	+0.1
NMHZ	Naumai	2.85	225	P	Pn	17 23 48.1	+0.3
ARHZ	Aropaoanui	2.87	221	P	Pn	17 23 48.0	0.0
MRHZ	Matea Rd	2.92	233	P	Pn	17 23 48.8	0.0
KUZ	Kuaotunu	2.97	276	P	Pn	17 23 47.5	-1.9
BKZ	Black Stump Fm	3.08	227	P	Pn	17 23 50.8	-0.2
CKHZ	Cape Kidnapper	3.13	215	P	Pn	17 23 51.0	-0.7
KUTZ	Kaahu Road	3.15	243	P	Pn	17 23 52.3	+0.4
TOZ	Tahuroa Road	3.16	257	P	Pn	17 23 50.9	-1.2
GRZ	Great Barrier	3.28	284	P	Pn	17 23 53.4	-0.3
KWHZ	Kaweka Forest	3.29	224	P	Pn	17 23 53.2	-0.7
TLZ	Tolley Road	3.30	247	P	Pn	17 23 54.3	+0.4
KAHZ	Kahuranaki	3.34	216	P	Pn	17 23 53.7	-0.8
RATZ	Rangitukua	3.36	237	P	Pn	17 23 55.2	+0.4
MKAZ	Moumakai	3.39	269	P	Pn	17 23 53.6	-1.5
WIAZ	Waiheke Island	3.43	274	P	Pn	17 23 55.0	-0.7
KRHZ	Kereru	3.48	222	P	Pn	17 23 55.5	-0.9
PXZ	Pawanui	3.53	213	P	Pn	17 23 55.4	-1.7
TMVZ	Te Maari	3.54	234	P	Pn	17 23 56.9	-0.4
BHHZ	Black Hill Sta	3.54	227	P	Pn	17 23 56.8	-0.5
ETVZ	East Tongariro	3.54	234	P	Pn	17 23 56.9	-0.5
NTVZ	North Tongarir	3.55	235	P	Pn	17 23 57.2	-0.3
KRVZ	Karewarewa	3.57	235	P	Pn	17 23 57.7	-0.1
ETAZ	East Tamaki Re	3.58	271	P	Pn	17 23 57.3	-0.5
OTVZ	Oturere	3.59	234	P	Pn	17 23 58.3	+0.2
NNVZ	North Ngauruho	3.60	235	P	Pn	17 23 58.4	+0.1
WTVZ	West Tongariro	3.61	235	P	Pn	17 23 58.7	+0.3
MBAZ	Motutapu North	3.62	274	P	Pn	17 23 58.6	+0.3
NGZ	Ngauruhoe	3.64	234	P	Pn	17 23 58.5	-0.2
MOVZ	Moawhango	3.68	230	P	Pn	17 23 58.6	-0.5
TWVZ	Taurewa	3.69	237	P	Pn	17 23 59.6	+0.3
ABAZ	Army Bay	3.70	276	P	Pn	17 23 59.2	-0.2
WNVZ	Wahianoa	3.73	232	P	Pn	17 23 59.4	-0.5
EPAZ	Eden Park BICE	3.73	272	P	Pn	17 24 00.8	+0.9
HBAZ	Herne Bay Bore	3.75	272	P	Pn	17 24 00.7	+0.7
WPHZ	Waipukurau	3.75	217	P	Pn	17 23 58.8	-1.4
PNHZ	Pukenui	3.76	221	P	Pn	17 23 58.7	-1.6
AWAZ	Awhitu Peninsu	3.80	269	P	Pn	17 24 01.4	+0.6
PRHZ	Porangahau	3.83	214	P	Pn	17 23 59.2	-1.9
HIZ	Hauiti	3.86	247	P	Pn	17 24 02.6	+1.0
PKVZ	Pokaka	3.87	234	P	Pn	17 24 01.9	+0.2
WTAZ	Waiatarua	3.87	271	P	Pn	17 24 01.4	-0.3
RVAZ	Riverhead Bore	3.88	273	P	Pn	17 24 01.3	-0.5
TSZ	Takapari Road	3.99	221	P	Pn	17 24 01.7	-1.8
DVHZ	Dannevirke	4.07	217	P	Pn	17 24 02.8	-1.7
WCZ	Waipu Caves	4.23	284	P	Pn	17 24 06.3	-0.5
POWZ	Post Office Ro	4.34	220	P	Pn	17 24 06.4	-1.8
WAZ	Wanganui	4.36	231	P	Pn	17 24 08.7	+0.2
PRWZ	Pori Road	4.36	217	P	Pn	17 24 07.0	-1.5
NEZ	North Egmont	4.70	241	P	Pn	17 24 15.4	+2.1
PKE	Pukeiti	4.75	242	P	Pn	17 24 16.6	+2.7
KHEZ	Kahui Hut	4.77	241	P	Pn	17 24 16.2	+1.9

IDC 03 17:35:59.8±5.6, 12°92N×143°16E, h153km±87km, mb3.2/3, mbtmp3.6/3, Error ellipse: s-maj=119.3km s-min=26.4km az=84.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	1.79	68	P	Pn	17 36 33.9	+1.1
	27nm,0.3s,baz=143,slow=15,SNR=32						
GUMO				S	Sn	17 36 58.0	-0.1
	79nm,0.4s,baz=192,slow=22,SNR=6.1						
WRA	Warramunga Arr	33.79	195	P	P	17 42 27.1	-0.1
	1.5nm,0.7s,baz=16,slow=9.3,SNR=12						
	1.5nm,0.7s						
ASAR	Alice Springs	37.47	194	P	P	17 42 58.4	-0.2
	0.4nm,0.4s,baz=18,slow=12,SNR=24						
	0.4nm,0.4s						
MKAR	Makanchi Array	60.83	317	P	P	17 45 55.8	-0.1
	0.2nm,0.6s,baz=92,slow=7.6,SNR=2.9						
	0.2nm,0.6s						

*TUL **03** 17:36:24.8±0.5, 36°.45N±0°.01×96°.880W±0°.008, h8km±8km, ML2.6, mb_Lg2.3/7(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=171.0*

NEIC 03 17:36:24.2±0.7, 36°.446N±0°.010×96°.88W±0°.02, h14km±6km, Error ellipse: s-maj=2.0km s-min=1.4km az=94.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	Quay	0.31	153	Pg	Pg	17 36 30.6	0.0
QUOK				Sg	Sg	17 36 34.9	0.0
BLOK	Blackwell	0.41	320	Pg	Pg	17 36 32.4	-0.1
BLOK				Sg	Sg	17 36 38.0	-0.2
OK034	N. Norfolk Rd.	0.46	163	Pg	Pg	17 36 33.3	+0.1
OK034				Sg	Sg	17 36 39.6	+0.2
OK031	S. Brethren Rd	0.49	176	Pg	Pg	17 36 34.0	0.0
OK031				Sg	Sg	17 36 40.8	+0.2
OK030	Cody Creek RV	0.52	171		Pg	17 36 34.5	0.0
OK030				Sg	Sg	17 36 41.6	+0.1
T35A	Sooner Cattle	0.56	32	Pg	Pg	17 36 35.1	0.0
T35A				Sg	Sg	17 36 42.5	-0.1
DEOK	Depew	0.68	153	Pg	Pg	17 36 37.4	0.0
DEOK				Sg	Sg	17 36 46.6	+0.3
KAN13	South Haven SW	0.74	320	Pg	Pg	17 36 38.1	-0.6
OK029	Liberty Lake	0.80	216		Pg	17 36 39.5	-0.2
GC02	Grant County #	0.89	298	Pg	Pg	17 36 41.0	-0.4
CROK	Carrier	0.89	274	Pg	Pg	17 36 41.0	-0.4
KAN09	Caldwell North	0.91	320	Pg	Pg	17 36 42.0	+0.1
KAN17	Caldwell West	0.93	310	Pg	Pb	17 36 41.6	-0.5
OK025	Westminster Rd	0.94	203		Pb	17 36 42.2	-0.1
BCOK	Bluff Creek, N	0.98	217	Pg	Pb	17 36 42.9	-0.2
KAN14	Manchester OK	1.01	301	Pg	Pb	17 36 43.5	0.0
TUL1	Leonard	1.03	121		Pb	17 36 43.8	0.0
KS21	Milan North St	1.05	323	Pg	Pb	17 36 44.0	-0.1
OK032	Salt Plains WL	1.13	289	Pg	Pb	17 36 45.4	-0.1
FNO	Franklin	1.26	200		Pn	17 36 47.0	-0.5
OK035	E0210 Rd and N	1.50	281		Pn	17 36 51.0	+0.3
OK038	West end E0370	1.50	272		Pn	17 36 51.0	+0.2
RLO	Rose Lookout	1.53	100		Pb	17 36 52.1	-0.2
U32A	Winter Ranch,	1.71	268	Pn	Pb	17 36 55.5	0.0
U38A	Gravette	2.01	89	Pn	Pb	17 37 00.0	-0.6
ELIS	Ellis County	2.08	260	Pn	Pb	17 37 01.8	-0.1
X37A	Clayton	2.22	146	Pn	Pb	17 37 02.5	-1.7
X37A				IAmb_Lg		17 37 38.3	
	comp=Z,9.4nm,0.8s						
WMOK	Wichita Mounta	2.30	223	Pn	Pb	17 37 04.0	-1.5
HHAR	Hobbs	2.38	93	Pn	Pn	17 37 04.7	+1.8
LOOK	Love County	2.46	186	Pn	Pn	17 37 05.9	+2.0
S39A	Bolivar	3.11	65	IAmb_Lg		17 38 10.3	
	comp=Z,7.6nm,0.8s						
MGMO	Mountain Grove	3.77	78	Pn	Pn	17 37 21.8	-0.1
FCAR	Ozark Folk Cen	3.89	97	Pn	Pn	17 37 26.2	+2.6
WHAR	Wooly Hollow	3.90	106	Pn	Pn	17 37 25.7	+1.9
UALR	University of	4.06	113	IAmb_Lg		17 38 42.4	
	comp=Z,7.8nm,1.1s						
R40A	Maddies Statio	4.11	62	Pn	Pn	17 37 28.0	+1.4
R40A				IAmb_Lg		17 38 34.2	
	comp=Z,9.7nm,1.1s						
P38A	Dawn	4.13	39	Pn	Pn	17 37 27.7	+0.8
CCM	Cathedral Cave	4.78	69	Pn	Pn	17 37 37.6	+1.9
KSCO	Kaye Shedlock'	5.22	301	IAmb_Lg		17 39 16.8	
	comp=Z,5.2nm,0.8s						

*IDC **03** 17:37:47.2±1.1, 20°.25N×147°.32E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=35.4km s-min=24.1km az=85.0*

ISC 03 17:37:52.3±1.1, 20°.2N±0°.2×147°.3E±0°.2, h34km, n14, σ0°44/8, mb3.6/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	WAKE ISLAND Hy	18.38	92	T	T	18 00 47.6	
	baz=282						
H11S1	WAKE ISLAND Hy	18.39	92	T	T	18 00 49.7	
	baz=282						
H11S2	WAKE ISLAND Hy	18.40	92	T	T	18 00 48.8	
	baz=282						
H11N1	WAKE ISLAND Hy	18.43	88	T	T

NVAR Mina Array Bea 81.02 52 P P 17 50 04.7 +0.5
0.7nm,0.8s,baz=281,slow=3.9,SNR=4.2
0.7nm,0.8s

IDC 03 17:43:30.1±6.4, 0.°34S×17.°87W, h0km, mb3.4/3, mbtmp3.6/4, ML4.2/1, MS3.7/1, Error ellipse: s-maj=219.0km s-min=38.7km az=165.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.17**	**156**	T	T	17 54 38.5	
	baz=335,slow=74						
H10N3	**ASCENSION HYDR**	**8.18**	**156**	T	T	17 54 07.3	
	baz=335						
H10N1	**ASCENSION HYDR**	**8.19**	**156**	T	T	17 54 36.7	
	baz=335,slow=74						
H10S3	**ASCENSION HYDR**	**9.14**	**160**	T	T	17 55 40.1	
	baz=330,slow=74,SNR=51						
H10S2	**ASCENSION HYDR**	**9.15**	**160**	T	T	17 55 51.8	
	baz=250,slow=74,SNR=18						
DBIC	**Dimbokro**	**14.73**	**62**	Pn	Pn	17 47 00.5	+0.6
	1.0nm,0.3s,baz=254,slow=16,SNR=7.8						
DBIC				Sn	Sn	17 49 34.8	-9.3
	0.3nm,0.3s,baz=94,slow=9.9,SNR=2.0						
	2.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**23.57**	**55**	P	P	17 48 42.4	-0.2
	2.8nm,1.0s,baz=242,slow=11,SNR=7.6						
	2.8nm,1.0s						
ESDC	**Sonseca Array**	**41.80**	**16**	LR	LR	18 08 04.8	
	comp=Z,79nm,18.2s,baz=164,slow=35						
GERES	**GERESS Array B**	**56.05**	**25**	P	P	17 53 11.0	0.0
	0.2nm,0.5s,baz=202,slow=7.4,SNR=1.9						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**86.49**	**299**	P	P	17 56 15.5	0.0
	0.2nm,0.6s,baz=93,slow=6.5,SNR=1.7						
	0.2nm,0.6s						

*IDC **03** 17:49:56.1±1.2, 6.°51S×128.°02E, h306km±18km, mb2.5/1, mbtmp3.7/5, Error ellipse: s-maj=25.6km s-min=12.9km az=117.0*
ISC 03 17:49:56.5±0.8, **6.°57S**±0.°07×**128.°10E**±0.°08, **h353**km, **n15**, σ2°**13**/19, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**4.96**	**335**	P	**Pn**	**17 51 17.5**	**+1.6**
FAKI	**Fak Fak**	**5.50**	**49**	P	**Pn**	**17 51 21.7**	**-0.2**
BATI	**Baumata**	**5.68**	**230**	P	**Pn**	**17 51 23.3**	**-0.6**
	98nm,0.4s,baz=90,slow=2.6,SNR=23						
BATI				S	**S**	**17 52 30.2**	**-4.5**
	26nm,0.3s,baz=73,slow=22,SNR=10.0						
MMRI	**Maumere**	**6.16**	**250**	P	**Pn**	**17 51 31.2**	**+1.9**
SIJI	**Sorong**	**6.49**	**29**	P	**Pn**	**17 51 33.1**	**0.0**
	2.4nm,0.4s,baz=256,slow=23,SNR=8.6						
SIJI				S	**S**	**17 52 46.7**	**-4.9**
	6.0nm,0.2s,baz=276,slow=23,SNR=11						
MTN	**Manton Dam**	**6.91**	**155**	P	**Pn**	**17 51 37.8**	**-0.2**
KDU	**Kakadu**	**7.45**	**145**	P	**Pn**	**17 51 44.7**	**+0.4**
KNRA	**Kununurra**	**9.07**	**176**	P	**Pn**	**17 52 03.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.71**	**192**	P	**Pn**	**17 52 34.0**	**-0.8**
	1.9nm,0.4s,baz=15,slow=10,SNR=17						
FITZ				S	S	17 54 35.1	-10
	0.5nm,0.3s,baz=141,slow=12,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.71**	**192**	P	**P**	**17 52 34.6**	**-0.2**
WRA	**Warramunga Ar**	**14.61**	**156**	P	**Pn**	**17 53 09.6**	**+0.7**
	1.7nm,0.5s,baz=333,slow=13,SNR=22						
WRA				S	**S**	**17 55 45.1**	**+0.5**
	0.6nm,0.5s,baz=338,slow=22,SNR=4.6						
COEN	**Coen**	**16.55**	**118**	P	**Pn**	**17 53 31.6**	**+0.2**
PSA00	**Pilbara Seismi**	**16.91**	**207**	P	**Pn**	**17 53 34.2**	**-1.4**
ASAR	**Alice Springs**	**17.89**	**162**	P	**Pn**	**17 53 45.6**	**-1.0**
	0.9nm,0.5s,baz=345,slow=12,SNR=22						
ASAR				S	**S**	**17 56 51.9**	**+2.4**
	0.2nm,0.5s,baz=343,slow=21,SNR=6.0						
MKAR	**Makanchi Array**	**66.84**	**328**	P	**P**	**18 00 14.8**	**+3.4**
	0.1nm,0.4s,baz=112,slow=6.6,SNR=2.4						
	0.1nm,0.4s						

*NEIC **03** 17:53:50.3±1.3, 29.°1S×0.°2×61.°0E±0.°2, h10km±1km, mb4.5/3, Error ellipse: s-maj=33.0km s-min=18.3km az=229.0*
*IDC **03** 17:53:50.1±1.0, 29.°15S×61.°15E, h0km, mb3.9/9, mbtmp3.9/10, ML4.6/1, MS3.5/6, Error ellipse: s-maj=38.3km s-min=20.9km az=17.0*
ISC 03 17:53:51.2±0.7, **29.°1S**±0.°1×**61.°1E**±0.°1, **h10**km, **n30**, σ1°**36**/19, **mb4.2**/12, **MS3.5**/6, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.29**	**328**		**Pn**	**17 56 02.6**	**-2.8**
FOMA	**Nahampoana Res**	**13.21**	**285**	Pn	**Pn**	**17 56 56.0**	**-2.9**
VOI	**Vohitsoka**	**14.75**	**296**		**Pn**	**17 57 19.9**	**-0.1**
OPO	**Ambohidratompo**	**16.47**	**307**	Pn	**Pn**	**17 57 42.8**	**+0.2**
	0.2nm,0.3s,baz=125,slow=14,SNR=13						
OPO				Sn	Sn	18 00 31.2	-14
	0.1nm,0.3s,baz=108,slow=22,SNR=2.3						
	3.2nm,0.3s						
H08S1	**Diego Carcia H**	**23.94**	**29**	T	T	18 23 49.3	
	baz=207,slow=75						
H08S2	**Diego Garcia H**	**23.95**	**29**	T	T	18 24 14.5	
	baz=207						
H08S3	**Diego Garcia H**	**23.96**	**29**	T	T	18 23 51.9	
	baz=207,slow=75						
BOSA	**Boshof**	**31.28**	**262**	P	**P**	**18 00 13.1**	**+1.5**
	3.1nm,0.9s,baz=176,slow=17,SNR=3.2						
	3.1nm,0.9s						
KMBO	**Kilima Mbogo**	**35.94**	**317**	LR	LR	18 12 16.6	
	comp=Z,92nm,20.8s,baz=93,slow=31						
MAW	**Mawson**	**38.50**	**179**	LR	LR	18 14 10.6	
	comp=Z,54nm,18.5s,baz=313,slow=32						
MBAR	**Mbarara**	**40.52**	**309**	LR	LR	18 15 05.7	
	comp=Z,58nm,21.5s,baz=178,slow=31						
H01W2	**Cape Leeuwin H**	**44.93**	**112**	T	T	18 49 40.8	
	baz=261,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**44.94**	**111**	T	T	18 49 45.2	
	baz=261,slow=75,SNR=23						
H01W1	**Cape Leeuwin H**	**44.95**	**112**	T	T	18 49 42.0	
	baz=261,slow=75,SNR=21						
CMAR	**Chiang Mai Air**	**59.81**	**42**	P	**P**	**18 03 56.6**	**-0.3**
	0.3nm,0.4s,baz=236,slow=6.4,SNR=2.9						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**61.01**	**180**	P	**P**	**18 04 03.5**	**-1.3**
QSPA				IAmb	IAmb	18 04 12.3	
	comp=Z,4.4nm,1.1s						
VNDA	**Vanda**	**64.07**	**166**	P	**P**	**18 04 24.6**	**-0.2**
VNDA				IAmb	IAmb	18 04 44.5	
	comp=Z,4.4nm,1.4s						
ASAR	**Alice Springs**	**64.53**	**104**	P	**P**	**18 04 28.5**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=243,slow=5.8,SNR=18						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**64.53**	**104**	P	**P**	**18 04 27.6**	**-1.2**
WRA	**Warramunga Arr**	**66.36**	**100**	P	**P**	**18 04 40.4**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=248,slow=5.6,SNR=6.1						
	comp=Z,1.3nm,0.9s						
WB2	**Warramunga Arr**	**66.37**	**100**	P	**P**	**18 04 39.8**	**-0.9**
WB2				IAmb	IAmb	18 04 56.7	
	comp=Z,7.4nm,1.2s						
GNI	**Garni**	**70.59**	**347**	LR	LR	18 36 10.4	
	comp=Z,21nm,18.0s,baz=202,slow=36						
TORD	**Torodi Ar. Bea**	**71.05**	**298**	P	**P**	**18 05 10.4**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=111,slow=5.4,SNR=7.1						
TORD				LR	LR	18 38 02.1	
	comp=Z,88nm,18.4s,baz=194,slow=37						
	comp=Z,1.6nm,0.8s						
BRTR	**Keskin Array B**	**73.12**	**338**	P	**P**	**18 05 21.8**	**0.0**
	comp=Z,0.5nm,0.8s,baz=165,slow=10,SNR=3.6						
	comp=Z,0.5nm,0.8s						
KBZ	**Khabaz**	**74.41**	**346**	LR	LR	18 38 57.7	
	comp=Z,20nm,18.1s,baz=163,slow=36						
MKAR	**Makanchi Array**	**77.98**	**15**	P	**P**	**18 05 50.7**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=180,slow=3.5,SNR=5.9						
	comp=Z,0.6nm,0.8s						
AKASG	**Malin Array Be**	**84.34**	**340**	P	**P**	**18 06 24.0**	**+0.9**
	comp=Z,0.2nm,0.2s,baz=166,slow=3.8,SNR=1.8						
	comp=Z,0.2nm,0.2s						
ZALV	**Zalesovo Beam**	**85.27**	**14**	P	**P**	**18 06 28.6**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=197,slow=4.2,SNR=3.9						
	comp=Z,0.4nm,0.3s						
PDAR	**Pinedale Array**	**164.44**	**333**	PKP	**PKPdf**	**18 13 54.8**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=90,slow=3.0,SNR=4.7						
TXAR	**Lajitas Array**	**166.66**	**275**	PKP	**PKPdf**	**18 13 59.3**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=94,slow=2.7,SNR=2.1						

IDC 03 18:01:19.9±2.8, **20.°46S×168.°46E, h0**km, **mb3.7**/4, **mbtmp3.7**/4, **Error ellipse: s-maj=164.6km s-min=33.6km az=158.0, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.00**	**265**	P	P	18 07 48.4	+0.3
	0.5nm,0.8s,baz=96,slow=8.8,SNR=2.3						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**32.14**	**258**	P	P	18 07 49.1	-0.3
	1.0nm,1.0s,baz=78,slow=9.6,SNR=6.4						
	1.0nm,1.0s						
ILAR	**Eielson Array**	**91.61**	**18**	P	P	18 14 28.2	0.0
	0.2nm,0.5s,baz=218,slow=6.5,SNR=2.0						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**97.98**	**62**	P	P	18 14 58.2	-0.3
	0.3nm,0.8s,baz=236,slow=6.1,SNR=2.6						
	0.3nm,0.8s						

*CRAAG **03** 18:02:42.8, 36.°91N×2.°90E, Ml2.5*
*MDD **03** 18:02:44.7±1.3, 36.°92N×2.°84E, h35km, Mb3.6/3, M_mb2.8/3, Error ellipse: s-maj=14.0km s-min=6.1km az=108.0*
ISC 03 18:02:40.5±1.1, **36.°96N**±0.°07×**2.°72E**±0.°08, **h12**km, **n6**, σ0°**93**/9, **3C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.30**	**122**	P	**Pg**	**18 02 46.8**	**+0.2**
EMHD	**Djebel Mahouad**	**0.78**	**166**	P	**Pn**	**18 02 57.3**	**-0.1**
ADJB	**Djebel Djouab**	**0.99**	**144**	P	**Pn**	**18 03 00.6**	**+0.4**
EIBI	**Ibiza**	**2.33**	**333**	Pg	**Pb**	**18 03 21.7**	**-0.7**
EIBI				⇑*i* Vmb_V		18 03 22.9	
	175nm,SNR=1.2						
EIBI				Sn	**Sn**	**18 03 47.9**	**+0.6**
ETOS	**Mallorca**	**2.81**	**1**	Pg	**Pn**	**18 03 26.2**	**+1.0**
ETOS				⇑*i* Vmb_V		18 03 28.4	
	96nm,SNR=0.9						
ETOS				Sn	**Sn**	**18 03 57.4**	**-1.5**
ETOB	**Tobarra**	**3.77**	**298**	Pg	**Pn**	**18 03 38.4**	**-0.1**
ETOB				⇑*i* Vmb_V		18 03 39.9	
	31nm,SNR=0.6						
ETOB				Sg	**Sn**	**18 04 23.8**	**+0.8**

*SNET **03** 18:03:24.2±0.7, 13.°66N×90.°68W, h27km±8km, ML1.9*
*GCG **03** 18:03:25.1±0.7, 13.°61N×90.°70W, h28km±4km, MD3.4*
ISC 03 18:03:22.8±1.7, **13.°52N**±0.°09×**90.°73W**±0.°06, **h22**km±6km, **n21**, σ0°**61**/34, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.88**	**8**	*e*P	**Pn**	**18 03 40.4**	**+0.2**
PCG				*e*S	**Sn**	**18 03 52.1**	**-0.4**
FUG	**Fuego 3**	**0.93**	**353**	*e*P	**Pn**	**18 03 41.5**	**+0.7**
FUG				*e*S	**Sn**	**18 03 54.1**	**+0.4**
NUBE	**Las Nubes**	**1.00**	**67**	*e*P	**Pb**	**18 03 41.6**	**+0.1**
NUBE				*e*S	**Sb**	**18 03 54.1**	**-0.3**
LOAL	**Lomas de Alarc**	**1.04**	**63**	*e*S	**Sb**	**18 03 55.7**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.05**	**61**	*i* P	**Pn**	**18 03 42.4**	**0.0**
SLOZ				*e*S	**Sb**	**18 03 55.7**	**0.0**
CEVE	**Cerro Verde**	**1.12**	**74**	*e*P	**Pn**	**18 03 43.4**	**-0.1**
CEVE				*e*S	**Sn**	**18 03 58.8**	**+0.4**
CEVE				IAML		18 04 02.7	
	comp=Z,908nm,0.3s						
RTR	**El Retiro**	**1.12**	**70**	*e*P	**Pb**	**18 03 43.6**	**0.0**
RTR				*e*S	**Sn**	**18 03 58.6**	**+0.3**
RTR	**El Retiro**	**1.12**	**70**	*e*P	**Pb**	**18 03 43.7**	**0.0**
RTR				*e*S	**Sn**	**18 03 58.3**	**0.0**
SBLS	**San Blas**	**1.12**	**73**	*e*P	**Pn**	**18 03 43.2**	**-0.3**
SBLS	**San Blas**	**1.12**	**73**	*e*P	**Pn**	**18 03 43.4**	**-0.2**
NBG	**Las Nubes**	**1.13**	**19**	*e*P	**Pb**	**18 03 44.6**	**+0.8**
NBG				*e*S	**Sn**	**18 03 59.7**	**+1.1**
SNJE	**San Jose**	**1.15**	**72**	*e*P	**Pn**	**18 03 43.8**	**0.0**
JAYA	**Jayaque - finc**	**1.26**	**84**	*e*P	**Pn**	**18 03 45.0**	**-0.3**
JAYA				*e*S	**Sn**	**18 04 00.4**	**-1.2**
JAYA				IAML		18 04 04.1	
	comp=Z,648nm,0.3s						
RTAL	**Retalhuleu**	**1.37**	**317**	*e*S	**Sn**	**18 04 03.9**	**-0.3**
STG3	**Santiaguito 3,**	**1.44**	**326**	*e*P	**Pb**	**18 03 48.9**	**-0.2**
STG3				*e*S	**Sn**	**18 04 05.1**	**-1.0**
MTO3	**Montecristo**	**1.59**	**56**	*e*P	**Pn**	**18 03 49.2**	**-0.8**
MTO3				*e*S	**Sn**	**18 04 09.4**	**-0.7**
MTO3				IAML		18 04 11.5	
	comp=Z,15nm,0.3s						
MTO3	**Montecristo**	**1.59**	**56**	*e*P	**Pn**	**18 03 49.2**	**-0.8**
MTO3				*e*S	**Sn**	**18 04 08.8**	**-1.3**
LFRS	**El Faro**	**1.63**	**86**	*e*P	**Pn**	**18 03 50.6**	**+0.2**
LFRS				*e*S	**Sn**	**18 04 11.2**	**+0.4**
LFRS	**El Faro**	**1.63**	**86**	*e*P	**Pn**	**18 03 50.5**	**+0.2**
PACA	**Pacayal**	**2.34**	**91**	*e*P	**Pn**	**18 04 01.1**	**+0.9**
CNCH	**Conchagua**	**2.83**	**94**	*e*S	**Sn**	**18 04 41.4**	**+0.9**

IDC 03 18:08:06.6±10.0, **27.°57N×141.°27E, h0**km, **mb3.3**/3, **mbtmp3.3**/3, **Error ellipse: s-maj=389.5km s-min=35.4km az=69.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.71**	**189**	P	P	18 16 44.6	-0.6
	0.3nm,0.3s,baz=12,slow=7.9,SNR=5.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**49.54**	**309**	P	P	18 16 59.1	-0.1
	0.2nm,0.7s,baz=90,slow=7.2,SNR=2.3						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**51.44**	**189**	P	P	18 17 14.0	+0.3
	0.1nm,0.6s,baz=8.3,slow=6.2,SNR=6.3						
	0.1nm,0.6s						

*IDC **03** 18:10:51.7±2.3, 40.°93N×141.°32E, h128km±21km, mb3.4/13, mbtmp3.7/19, MS3.3/2, Error ellipse: s-maj=18.3km s-min=14.6km az=120.0*
*NIED **03** 18:10:52.0, 40.°93N×141.°40E, h124km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.12; $M_{\theta\theta}$=3.86; $M_{\phi\phi}$=0.26; $M_{r\theta}$=-3.01; $M_{\theta\phi}$=3.33; $M_{r\phi}$=1.38; Fault plane solution: M_0=6.16000×10^{14} NP1: ϕ_s=211.00000°, δ=43.00000°, λ=-138.00000°. NP2: ϕ_s=87.00000°, δ=63.00000°, λ=-56.00000°.*
*JMA **03** 18:10:52.0±0.1, 40.°9N±0.°3×141.°4E±0.°8, h124km, MV3.6/38, SHIMOKITA PENINSULA REG*
JMA Felt I J1 at SHIMOKITA PENINSULA REG .
ISC 03 18:10:51.4±0.7, **40.°91N**±0.°04×**141.°38E**±0.°06, **h127**km±5km, **n43**, σ0°**72**/50, **mb3.6**/13, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.10**	**353**	P	**Pn**	**18 11 09.1**	**+0.3**
JARK				S	**Sn**	**18 11 21.7**	**-0.2**
JTM	**Tenmabayashi**	**0.27**	**242**	P	**Pn**	**18 11 09.4**	**+0.3**
JTM				S	**Sn**	**18 11 22.7**	**+0.2**
JAHD	**Aomorihigashid**	**0.35**	**355**	P	**Pn**	**18 11 09.8**	**+0.4**
JAHD				S	**Sn**	**18 11 22.9**	**-0.3**
JOT	**Ohata**	**0.53**	**332**	*i* P	**Pn**	**18 11 10.7**	**+0.3**
JOT				S	**Sn**	**18 11 24.9**	**+0.2**
JANG	**Nango**	**0.55**	**169**	*i* P	**Pn**	**18 11 10.7**	**+0.2**
JANG				S	**Sn**	**18 11 24.5**	**-0.5**
JAH	**Hinai**	**0.92**	**218**	*i* P	**Pn**	**18 11 14.2**	**+0.8**
JAH				S	**Sn**	**18 11 30.9**	**+0.9**
JSR	**Shiriuchi**	**0.95**	**311**	P	**Pn**	**18 11 14.1**	**+0.5**
JSR				S	**Sn**	**18 11 29.8**	**-0.7**
JKB	**Kayabe**	**1.01**	**345**	P	**Pn**	**18 11 14.8**	**+0.6**
JIW	**Iwasaki**	**1.09**	**253**	*i* P	**Pn**	**18 11 15.9**	**+0.9**
JOMM	**Oshimamatsumae**	**1.20**	**301**	*i* P	**Pn**	**18 11 16.6**	**+0.5**
JOMM				S	**Sn**	**18 11 34.4**	**-0.5**
JYM2	**Yakumo 2**	**1.42**	**328**	P	**Pn**	**18 11 19.2**	**+0.7**
JYM2				S	**Sn**	**18 11 39.8**	**+0.7**
JOM	**Ohasama**	**1.44**	**183**	*i* P	**Pn**	**18 11 19.3**	**+0.6**
JOM				S	**Sn**	**18 11 39.5**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.71**	**37**	P	**Pn**	**18 11 22.3**	**+0.6**
JNBK				*e*S	**Sn**	**18 11 45.3**	**+0.4**
JOSM	**Okushiri--Mats**	**1.85**	**310**	P	**Pn**	**18 11 23.3**	**-0.1**
JOSM				S	**Sn**	**18 11 47.3**	**-0.5**
JEW	**Eniwo**	**1.93**	**2**	*i* P	**Pn**	**18 11 25.1**	**+0.8**
JEW				S	**Sn**	**18 11 49.5**	**0.0**
JMK	**Ichinoseki**	**1.96**	**184**	*i* P	**Pn**	**18 11 25.1**	**+0.3**
JMK				S	**Sn**	**18 11 49.4**	**-0.9**
MJAR	**Matsushiro Arr**	**5.02**	**211**	P	**Pn**	**18 12 05.0**	**+0.2**
	0.9nm,0.5s,baz=21,slow=13,SNR=4.1						
USRK	**Ussuriysk Ar.**	**7.67**	**298**	P	**Pn**	**18 12 41.2**	**+0.8**
	6.2nm,0.6s,baz=94,slow=14,SNR=17						
KLR	**Kul'dur**	**10.74**	**324**	P	**Pn**	**18 13 20.6**	**-0.9**
	0.4nm,0.3s,baz=186,slow=9.6,SNR=2.7						
KSRS	**Korea Array**	**11.00**	**256**	P	**Pn**	**18 13 26.6**	**+1.4**
	0.6nm,0.8s,baz=72,slow=16,SNR=1.5						
PETK	**Petropavlovsk-**	**16.46**	**37**	P	**Pn**	**18 14 34.1**	**-0.6**
	0.3nm,0.6s,baz=242,slow=3.2,SNR=4.6						
MA2	**Magadan**	**19.59**	**14**	P	**P**	**18 15 08.3**	**-0.9**
	3.7nm,0.6s,baz=198,slow=11,SNR=13						
YAK	**Yakutsk**	**22.30**	**345**	P	**P**	**18 15 36.1**	**-1.9**
	1.3nm,0.3s,baz=90,slow=5.1,SNR=4.6						
	1.3nm,0.3s						
SEY	**Seymchan**	**23.01**	**13**	P	**P**	**18 15 43.9**	**-1.0**
	2.1nm,0.6s,baz=176,slow=9.4,SNR=5.8						
	2.1nm,0.6s						
SONM	**Songino Array**	**25.78**	**297**	P	**P**	**18 16 10.2**	**-0.2**
	0.4nm,0.4s,baz=96,slow=8.3,SNR=5.3						
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**30.32**	**127**	T	T	18 48 53.9	
	baz=322,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.33**	**127**	T	T	18 49 07.7	
	baz=322,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.34**	**126**	T	T	18 48 02.6	
	baz=322						
H11S1	**WAKE ISLAND Hy**	**31.14**	**128**	T	T	18 50 23.4	
	baz=323,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**31.14**	**128**	T	T	18 50 24.4	
	baz=323,slow=76,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**31.16**	**128**	T	T	18 50 27.9	
	baz=323,slow=76,SNR=11						
ZALV	**Zalesovo Beam**	**39.37**	**309**	P	**P**	**18 18 08.2**	**+0.1**
	1.1nm,0.5s,baz=90,slow=7.9,SNR=4.2						
ZALV				PcP	**PcP**	**18 20 13.0**	**-0.9**
	0.5nm,0.3s,baz=90,slow=3.8,SNR=1.8						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**42.14**	**299**	P	**P**	**18 18 31.1**	**+0.1**
	0.7nm,0.5s,baz=86,slow=11,SNR=12						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**46.27**	**34**	P	**P**	**18 19 05.0**	**+1.4**
	0.7nm,0.5s,baz=267,slow=6.0,SNR=10						
	0.7nm,0.5s						
INK	**Inuvik**	**50.97**	**28**	P	**P**	**18 19 40.7**	**+1.3**
	3.3nm,0.8s,baz=343,slow=4.8,SNR=2.3						
	3.3nm,0.8s						
HNR	**Honiara**	**52.94**	**157**	LR	LR	18 39 53.3	
	comp=Z,22nm,21.4s,baz=205,slow=33						
RES	**Resolute Bay**	**58.86**	**15**	LR	LR	18 49 52.6	
	comp=Z,30nm,18.0s,baz=26,slow=40						
WRA	**Warramunga Arr**	**60.90**	**188**	P	**P**	**18 20 50.2**	**-0.4**
	0.2nm,0.4s,baz=4.4,slow=7.0,SNR=2.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**64.62**	**188**	P	**P**	**18 21 14.8**	**-0.5**
	0.3nm,0.8s,baz=2.5,slow=5.6,SNR=2.1						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**65.39**	**331**	P	**P**	**18 21 19.5**	**-0.2**
	1.2nm,0.7s,baz=39,slow=12,SNR=4.9						
	1.2nm,0.7s						
NVAR	**Mina Array Bea**	**72.71**	**54**	P	**P**	**18 22 06.6**	**+0.9**
	0.5nm,0.7s,baz=278,slow=5.6,SNR=5.0						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**74.98**	**46**	P	**P**	**18 22 19.2**	**+0.3**
	0.4nm,0.5s,baz=308,slow=1.1,SNR=4.4						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**87.78**	**52**	P	**P**	**18 23 27.0**	**+0.7**
	0.2nm,0.7s,baz=335,slow=4.0,SNR=3.0						
	0.2nm,0.7s						

*IDC **03** 18:28:36.9±1.6, 22.°62S×173.°13E, h0km, mb4.1/4, mbtmp4.0/5, ML3.4/1, MS3.3/5, Error ellipse: s-maj=72.4km s-min=28.4km az=160.0*
*NOU **03** 18:28:36.1, 22.°87S×173.°66E, h170km, MLv4.3/8, Southeast of Loyalty Islands*
*NEIC **03** 18:28:39.8±1.9, 22.°9S±0.°1×173.°1E±0.°1, h10km±1km, mb4.5/11, Error ellipse: s-maj=21.9km s-min=14.7km az=160.0*
ISC 03 18:28:43.9±0.6, **22.°8S**±0.°1×**173.°04E**±0.°08, **h49**km, **n51**, σ0°**87**/43, **mb4.4**/9, **MS3.2**/3, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**4.82**	**285**	Pn	**Pn**	**18 29 54.0**	**+0.1**
MARNC	**Mare, Loyalty**	**4.82**	**285**	P	**Pn**	**18 29 55.3**	**+1.4**
PINNC	**Pines Island,**	**5.17**	**271**	Pn	**Pn**	**18 29 59.0**	**+0.3**
PINNC	**Pines Island,**	**5.17**	**271**	P	**Pn**	**18 29 59.5**	**+0.8**
YATNC	**Mamie plateau,**	**5.74**	**276**	P	**Pn**	**18 30 07.1**	**+0.6**
OUENC	**Ouen Island, N**	**5.74**	**272**	Pn	**Pn**	**18 30 06.7**	**+0.1**
OUENC	**Ouen Island, N**	**5.74**	**272**	P	**Pn**	**18 30 06.8**	**+0.2**
LIFNC	**LIFOU**	**5.75**	**289**	Pn	**Pn**	**18 30 06.6**	**-0.1**
LIFNC	**LIFOU**	**5.75**	**289**	P	**Pn**	**18 30 07.1**	**+0.4**
ONTNC	**Ouen Toro**	**6.11**	**273**	Pn	**Pn**	**18 30 11.5**	**-0.1**
ONTNC	**Ouen Toro**	**6.11**	**273**	P	**Pn**	**18 30 12.6**	**+1.0**
DZM	**Mont Dzumac**	**6.15**	**275**	Pn	**Pn**	**18 30 10.7**	**-1.5**
	0.9nm,0.3s,baz=78,slow=20,SNR=34						
DZM				Sn

VNA2	**Neumayer--Watz**	**86.55**	**180**	P		**P**	**18 41 20.3**	**-1.1**
	baz=158,slow=5.0							
ILAR	**Eielson Array**	**92.58**	**16**	P		**P**	**18 41 48.9**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=232,slow=5.2,SNR=2.5							
	comp=Z,0.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**147.36**	**356**	PKPbc		**PKPbc**	**18 48 21.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=10,slow=2.8,SNR=11							
CLL	**Colln**	**147.59**	**336**	*i* PKPbc		**PKPbc**	**18 48 22.9**	**+0.4**
GERES	**GERESS Array B**	**149.26**	**333**	PKPbc		**PKiKP**	**18 48 27.5**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=58,slow=4.1,SNR=4.2							
TORD	**Torodi Ar. Bea**	**167.38**	**222**	PKPab		**PKPab**	**18 49 50.3**	**-0.1**
	comp=Z,1.0nm,1.1s,baz=133,slow=5.9,SNR=3.1							

*KRNET **03** 18:35:01.4±0.1, 42.°55N×72.°53E, h19km, mb3.5*
*NNC **03** 18:35:02.5±0.5, 42.°78N×72.°52E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.8km s-min=2.4km az=2.0*
*SOME **03** 18:35:02.0, 42.°87N×72.°52E, h5km*
*KNET **03** 18:35:02.8±0.4, 42.°51N×72.°65E, h18km±4km, ml2.9, Error ellipse: s-maj=4.3km s-min=3.2km az=71.0*
*ISU **03** 18:35:03, 42.°54N×72.°40E, h8km*

ISC 03 18:35:01.4±1.0, 42.°58N±0.°02×72.°53E±0.°02, h17km±9km, n85, σ2≥14/141, 37C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.54**	**72**	*eP*		**Pg**		**18 35 12.5**	**+0.3**
	138nm,0.2s								
MRKS				*eS*		**Sg**		**18 35 20.5**	**+1.1**
	396nm,0.2s								
MRKS	**Merke**	**0.54**	**72**	P		**Pg**		**18 35 12.5**	**+0.3**
	138nm,0.2s								
MRKS				S		**Sg**		**18 35 20.5**	**+1.1**
	396nm,0.2s								
EKS2	**Erkin-Say**	**0.92**	**85**	P		**Pb**		**18 35 19.1**	**+0.1**
	22nm,0.1s,SNR=154								
EKS2				⇓S		**Sb**		**18 35 31.3**	**+0.3**
	40nm,0.1s								
EKS2	**Erkin-Say**	**0.92**	**85**	⇑*i*P		**Pb**		**18 35 18.6**	**-0.4**
	baz=83								
EKS2				⇑*i*S		**Sg**		**18 35 31.6**	**+0.1**
	baz=83								
DZA	**Taraz**	**0.94**	**290**	*eP*		**Pg**		**18 35 19.8**	**+0.1**
	195nm,0.1s								
DZA				*eS*		**Sn**		**18 35 32.5**	**-0.4**
	1um,0.2s								
AML	**Almayashu**	**0.97**	**117**	⇓P		**Pb**		**18 35 19.4**	**-0.6**
	41nm,0.1s,SNR=43								
AML				⇓S		**Sb**		**18 35 32.4**	**-0.3**
	266nm,0.2s								
AAK	**Ala-Archa**	**1.45**	**87**	⇑P		**Pb**		**18 35 28.6**	**+0.6**
	45nm,0.2s,SNR=47								
AAK				⇓S		**Sg**		**18 35 47.7**	**-0.6**
	33nm,0.2s								
AAK	**Ala-Archa**	**1.45**	**87**	⇑*i*P		**Pb**		**18 35 28.3**	**+0.3**
	baz=86								
AAK				⇑*i*S		**Sg**		**18 35 47.8**	**-0.4**
	baz=86								
TRKS	**Terek-Say**	**1.48**	**225**	⇓*i*P		**Pg**		**18 35 28.7**	**-1.2**
	baz=23								
TRKS				⇓*i*S		**Sg**		**18 35 48.4**	**-0.8**
	baz=23								
UCH	**Uchtor**	**1.51**	**103**	⇑P		**Pb**		**18 35 29.3**	**+0.1**
	18nm,0.1s,SNR=101								
UCH				⇑S		**Sg**		**18 35 49.3**	**-0.9**
	141nm,0.2s								
UCH	**Uchtor**	**1.51**	**103**	⇓*i*P		**Pb**		**18 35 29.1**	**-0.1**
	baz=2.0								
UCH				⇓*i*S		**Sg**		**18 35 49.2**	**-1.0**
	baz=2.0								
ARLS	**Aral**	**1.51**	**118**	⇓*i*P		**Pb**		**18 35 29.2**	**+0.1**
	baz=17								
ARLS				⇓*i*S		**Sg**		**18 35 49.4**	**-0.9**
	baz=17								
FRU1	**Bishkek**	**1.56**	**81**	⇓*i*P		**Pb**		**18 35 30.2**	**+0.3**
	baz=80								
FRU1				⇓*i*S		**Sg**		**18 35 51.0**	**-0.8**
	baz=80								
KK31	**Karatay Array**	**1.58**	**290**	⇑Pn		**Pg**		**18 35 31.2**	**-0.5**
	5.0nm,0.3s,baz=111,slow=15,SNR=441								
KK31				Sn		**Sg**		**18 35 51.8**	**-0.5**
	66nm,0.4s,baz=112,slow=30,SNR=25								
USP	**Ospenovka**	**1.60**	**64**	⇑P		**Pb**		**18 35 31.0**	**+0.5**
	26nm,0.1s,SNR=198								
USP				⇑S		**Sg**		**18 35 52.7**	**-0.2**
	189nm,0.3s								
USP	**Ospenovka**	**1.60**	**64**	⇓*i*P		**Pb**		**18 35 30.9**	**+0.4**
	baz=63								
USP				⇓*i*S		**Sg**		**18 35 52.4**	**-0.6**
	baz=63								
CHMS	**Chumysh**	**1.68**	**75**	⇑P		**Pb**		**18 35 32.4**	**+0.4**
	82nm,0.2s,SNR=101								
CHMS				⇑S		**Sg**		**18 35 55.2**	**-0.6**
	115nm,0.3s								
CHMS	**Chumysh**	**1.68**	**75**	⇓Pn		**Pb**		**18 35 32.3**	**+0.4**
	64nm,0.3s								
CHMS				⇑Sn		**Sg**		**18 35 55.0**	**-0.8**
	50nm,0.4s								
CHMS	**Chumysh**	**1.68**	**75**	⇓*i*P		**Pb**		**18 35 32.4**	**+0.4**
	baz=74								
CHMS				⇓*i*S		**Sg**		**18 35 54.8**	**-0.9**
	baz=74								
SGDS	**Sogindy**	**1.77**	**60**	*eP*		**Pb**		**18 35 34.0**	**+0.6**
	110nm,0.2s								
SGDS				*eS*		**Sg**		**18 35 57.6**	**-0.7**
	129nm,0.4s								
KBK	**Karagaybulak**	**1.78**	**87**	⇑P		**Pb**		**18 35 34.6**	**+0.8**
	23nm,0.1s,SNR=48								
KBK				⇑S		**Sg**		**18 35 58.7**	**-0.2**
	65nm,0.2s								
KBK	**Karagaybulak**	**1.78**	**87**	⇑*i*P		**Pb**		**18 35 34.0**	**+0.3**
	baz=86								
KBK				⇑*i*S		**Sg**		**18 35 57.9**	**-1.0**
	baz=86								
ANR	**Andizhan**	**1.83**	**184**	P		**Pg**		**18 35 36.6**	**0.0**
ANR				S		**Sg**		**18 36 01.7**	**+1.3**
IUG	**Iuzhnay**	**1.91**	**258**	*eP*		**Pg**		**18 35 38.0**	**0.0**
	634nm,0.4s								
IUG				*eS*		**Sg**		**18 36 03.9**	**+1.0**
	240nm,0.2s								
TSTA	**Tashata**	**2.00**	**181**	P		**Pg**		**18 35 39.6**	**-0.3**
TSTA				S		**Sg**		**18 36 06.2**	**+0.3**
OHH	**Osh**	**2.06**	**175**	⇑*i*P		**Pb**		**18 35 37.6**	**-0.9**
	baz=74								
OHH				⇑*i*S		**Sb**		**18 36 03.6**	**-0.3**
	baz=74								
CHRV	**Charvak**	**2.14**	**245**	P		**Pg**		**18 35 41.8**	**-0.7**
CHRV				S		**Sg**		**18 36 10.1**	**-0.2**
CHM	**Chimkent**	**2.19**	**264**	*eP*		**Pg**		**18 35 43.1**	**-0.3**
	3.4nm,0.5s								
CHM				*eS*		**Sg**		**18 36 12.1**	**+0.4**
	123nm,0.5s								
FRG	**Fergana**	**2.28**	**195**	P		**Pg**		**18 35 44.2**	**-0.9**
FRG				S		**Sg**		**18 36 15.2**	**+0.6**
TKM2	**Tokmak 2**	**2.28**	**80**	⇑P		**Pb**		**18 35 41.5**	**-0.7**
	18nm,0.2s,SNR=46								
TKM2				⇑S		**Sb**		**18 36 12.4**	**+2.2**
	74nm,0.2s								
TKM2	**Tokmak 2**	**2.28**	**80**	⇑Pn		**Pb**		**18 35 41.6**	**-0.7**
	12nm,0.4s								
TKM2				⇑Sn		**Sg**		**18 36 13.3**	**-1.5**
	16nm,0.2s								
TKM2	**Tokmak 2**	**2.28**	**80**	⇓*i*P		**Pb**		**18 35 41.1**	**-1.2**
	baz=80								
TKM2				⇓*i*S		**Sb**		**18 36 10.2**	**0.0**
	baz=80								
MINT	**Mingtut**	**2.42**	**209**	P		**Pb**		**18 35 44.7**	**+0.3**
MINT				S		**Sg**		**18 36 16.6**	**-2.5**
SUKO	**Sukok**	**2.43**	**238**	P		**Pb**		**18 35 44.0**	**-0.7**
SUKO				S		**Sb**		**18 36 16.1**	**+1.8**
CHMI	**Chimion**	**2.43**	**199**	S		**Sb**		**18 36 15.9**	**+1.5**
DGS	**Degeres**	**2.47**	**73**	*eP*		**Pb**		**18 35 46.8**	**+1.4**
	31nm,0.4s								
DGS				*eS*		**Sg**		**18 36 19.0**	**-1.8**
	72nm,0.3s								
DGS	**Degeres**	**2.47**	**73**	Pg		**Pb**		**18 35 46.8**	**+1.4**
	31nm,0.4s								
DGS				Lg		Lg		18 36 19.0	
	72nm,0.3s								
YBZ	**Yangibazar**	**2.54**	**241**	P		**Pg**		**18 35 48.7**	**-1.5**
YBZ				S		**Sg**		**18 36 22.3**	**-0.9**
KRBS	**Karabastau**	**2.55**	**63**	*eP*		**Pb**		**18 35 48.4**	**+1.6**
	11nm,0.2s								
KRBS				*eS*		**Sg**		**18 36 21.6**	**-1.9**
	53nm,0.3s								
KRBS	**Karabastau**	**2.55**	**63**	Pg		**Pb**		**18 35 48.4**	**+1.6**
	11nm,0.2s								
KRBS				Lg		Lg		18 36 21.6	
	53nm,0.3s								
KST	**Kastek**	**2.56**	**78**	*eP*		**Pb**		**18 35 48.2**	**+1.2**
	19nm,0.4s								
KST				*eS*		**Sg**		**18 36 21.8**	**-2.1**
	97nm,0.6s								
KST	**Kastek**	**2.56**	**78**	Pg		**Pb**		**18 35 48.2**	**+1.2**
	19nm,0.4s								
KST				Lg		Lg		18 36 21.8	
	97nm,0.6s								
BTLS	**Baital**	**2.69**	**23**	*eP*		**Pb**		**18 35 47.6**	**-1.5**
	4.1nm,0.2s								
BTLS				*eS*		**Sb**		**18 36 20.6**	**-1.2**
	12nm,0.3s								
BTLS	**Baital**	**2.69**	**23**	Pg		**Pb**		**18 35 47.6**	**-1.5**
	4.1nm,0.2s								
BTLS				Lg		Lg		18 36 20.6	
	12nm,0.3s								
ULHL	**Ulahol**	**2.77**	**96**	⇑*i*P		**Pb**		**18 35 47.9**	**-2.6**
	baz=95								
ULHL				⇑*i*S		**Sb**		**18 36 21.8**	**-2.4**
	baz=95								
BTK	**Batken**	**2.83**	**208**	⇑*i*P		**Pb**		**18 35 48.4**	**-3.2**
	baz=8.0								
BTK				⇑*i*S		**Sb**		**18 36 22.5**	**-3.5**
	baz=8.0								
NZBK	**Nazarbek**	**2.89**	**243**	P		**Pg**		**18 35 55.5**	**-1.3**
NZBK				S		**Sg**		**18 36 34.2**	**-0.1**
MTBS	**Maitube**	**2.92**	**78**	*eP*		**Pb**		**18 35 55.2**	**+2.2**
	7.9nm,0.3s								
MTBS				*eS*		**Sg**		**18 36 32.9**	**-2.3**
	30nm,0.5s								
MTBS	**Maitube**	**2.92**	**78**	Pg		**Pb**		**18 35 54.5**	**+1.5**
	7.9nm,0.3s								
MTBS				Lg		Lg		18 36 32.0	
	30nm,0.5s								
KUU	**Kurty**	**3.07**	**63**	*eP*		**Pb**		**18 35 57.8**	**+2.2**
	12nm,0.4s								
KUU				*eS*		**Sg**		**18 36 37.2**	**-2.9**
	45nm,0.5s								
KUU	**Kurty**	**3.07**	**63**	Pg		**Pb**		**18 35 57.8**	**+2.2**
	12nm,0.4s								
KUU				Lg		Lg		18 36 37.2	
	45nm,0.5s								
KTBS	**Karatobe**	**3.24**	**68**	*eP*		**Pb**		**18 36 00.2**	**+1.7**
	14nm,0.3s								
KTBS				*eS*		**Sb**		**18 36 41.8**	**+4.1**
	63nm,0.5s								
KTBS	**Karatobe**	**3.24**	**68**	Pg		**Pb**		**18 36 00.2**	**+1.7**
	14nm,0.3s								
KTBS				Lg		Lg		18 36 41.8	
	63nm,0.5s								
AAA	**Alma-Ata**	**3.28**	**77**	*eP*		**Pb**		**18 36 01.3**	**+2.1**
	19nm,0.3s								
AAA				*eS*		**Sg**		**18 36 43.4**	**-3.3**
	30nm,0.2s								
AAA	**Alma-Ata**	**3.28**	**77**	Pg		**Pb**		**18 36 01.3**	**+2.1**
	19nm,0.3s								
AAA				Lg		Lg		18 36 43.4	
	30nm,0.2s								
TNSS	**Tian-Shan**	**3.28**	**81**	Pg		**Pb**		**18 36 01.6**	**+2.2**
	14nm,0.3s								
TNSS				Lg		Lg		18 36 44.0	
	36nm,0.4s								
KNDC	**Almaty**	**3.32**	**77**	⇑Pn		**Pb**		**18 35 58.4**	**-1.4**
	9.7nm,0.2s								
KNDC				⇑Lg		Lg		18 36 45.8	
	58nm,0.7s								
MDOK	**Medeo**	**3.37**	**79**	*eP*		**Pb**		**18 36 03.1**	**+2.3**
	10nm,0.4s								
MDOK				*eS*		**Sg**		**18 36 46.7**	**-3.0**
	19nm,0.3s								
MDOK	**Medeo**	**3.37**	**79**	Pn		**Pn**		**18 35 56.1**	**+2.8**
	1.6nm,0.6s								
MDOK				Pg		**Pb**		**18 36 02.3**	**+1.5**
	4.9nm,0.4s								
MDOK				Pg		**Pb**		**18 36 03.1**	**+2.3**
	10nm,0.4s								
MDOK				⇑Lg		Lg		18 36 46.3	
	14nm,0.5s								
MDOK				Lg		Lg		18 36 46.7	
	19nm,0.3s								
CHKK	**Chushkaly**	**3.50**	**67**	*eP*		**Pb**		**18 36 04.9**	**+2.1**
	8.2nm,0.4s								
CHKK				*eS*		**Sg**		**18 36 50.1**	**-3.6**
	37nm,0.3s								
CHKK	**Chushkaly**	**3.50**	**67**	Pg		**Pb**		**18 36 04.9**	**+2.1**
	8.2nm,0.4s								
CHKK				Lg		Lg		18 36 50.1	
	37nm,0.3s								
KURS	**Kuram**	**4.23**	**76**	*eP*		**Pg**		**18 36 20.0**	**-2.5**
	3.4nm,0.7s								
KURS				*eS*		**Sg**		**18 37 15.7**	**-1.5**
	6.8nm,0.6s								
KURS	**Kuram**	**4.23**	**76**	Pg		**Pg**		**18 36 20.0**	**-2.5**
	3.4nm,0.7s								
KURS				Lg		Lg		18 37 15.7	
	6.8nm,0.6s								
SATY	**Saty**	**4.35**	**82**	*eP*		**Pb**		**18 36 20.9**	**+3.6**
	10.0nm,0.5s								
SATY				*eS*		**Sg**		**18 37 17.2**	**-3.7**
	18nm,0.3s								
SATY	**Saty**	**4.35**	**82**	Pg		**Pb**		**18 36 21.0**	**+3.6**
	10.0nm,0.5s								
SATY				Lg		Lg		18 37 17.2	
	18nm,0.3s								
ZHN	**Zhinishke**	**4.38**	**80**	*eP*		**Pg**		**18 36 22.3**	**-2.9**
	12nm,0.2s								
ZHN				*eS*		**Sg**		**18 37 19.5**	**-2.4**
	15nm,0.3s								
ZHN	**Zhinishke**	**4.38**	**80**	Pg		**Pg**		**18 36 22.3**	**-2.9**
	12nm,0.2s								
ZHN				Lg		Lg		18 37 19.5	
	15nm,0.3s								
KPKS	**Kokpek**	**4.59**	**77**	*eP*		**Pg**		**18 36 25.6**	**-3.8**
	4.0nm,0.4s								
KPKS				*eS*		**Sg**		**18 37 25.1**	**-3.8**
	24nm,0.6s								
KPKS	**Kokpek**	**4.59**	**77**	Pg		**Pg**		**18 36 25.6**	**-3.8**
	4.0nm,0.4s								
KPKS				Lg		Lg		18 37 25.1	
	24nm,0.6s								
UZB	**Uzynbulak**	**4.80**	**81**	*eP*		**Pb**		**18 36 29.1**	**+3.9**
	5.0nm,0.4s								
UZB				*eS*		**Sg**		**18 37 31.2**	**-4.4**
	5.9nm,0.5s								
UZB	**Uzynbulak**	**4.80**	**81**	Pg		**Pb**		**18 36 29.1**	**+3.9**
	5.0nm,0.4s								
UZB				Lg		Lg		18 37 31.2	
	5.9nm,0.5s								
TDK	**Taldyqorghan**	**4.89**	**58**	*eP*		**Pg**		**18 36 31.1**	**-4.0**
	23nm,0.3s								
TDK				*eS*		**Sg**		**18 37 35.0**	**-3.4**
	32nm,0.6s								
TDK	**Taldyqorghan**	**4.89**	**58**	Pg		**Pg**		**18 36 31.1**	**-4.0**
	23nm,0.3s								
TDK				Lg		Lg		18 37 35.0	
	32nm,0.6s								
SHLS	**Shalkode**	**5.12**	**81**	*eP*		**Pg**		**18 36 42.8**	**+3.2**
	2.3nm,0.5s								
SHLS				*eS*		**Sg**		**18 37 54.6**	**+8.7**
	9.2nm,0.5s								
SHLS	**Shalkode**	**5.12**	**81**	Pg		**Pg**		**18 36 42.8**	**+3.2**
	2.3nm,0.5s								
SHLS				Lg		Lg		18 37 54.6	
	9.2nm,0.5s								
PDGK	**Podgornoye**	**5.16**	**79**	⇑Pg		**Pb**		**18 36 34.5**	**+3.2**
	4.3nm,0.6s								
PDGK				⇑Lg		Lg		18 37 40.2	
	10nm,0.8s								
DJR	**Jarkent**	**5.56**	**69**	*eP*		**Pg**		**18 36 43.9**	**-4.0**
	2.0nm,0.3s								
DJR				*eS*		**Sg**		**18 37 56.3**	**-3.6**
	3.9nm,0.5s								
DJR	**Jarkent**	**5.56**	**69**	Pg		**Pb**		**18 36 42.0**	**+3.9**
	2.0nm,0.3s								
DJR				Lg		Lg		18 37 53.2	
	3.9nm,0.5s								
OTUK	**Ortayu**	**5.67**	**359**	⇑Pn		**Pn**		**18 36 27.2**	**+2.4**
	0.3nm,0.4s								
OTUK				⇓Lg		Lg		18 37 58.5	
	8.7nm,0.5s								
KTMS	**Ketmen**	**5.80**	**79**	*eP*		**Pg**		**18 36 49.9**	**-2.5**
	1.4nm,0.5s								
KTMS				*eS*		**Sg**		**18 38 06.6**	**-0.8**
	2.6nm,0.1s								
KTMS	**Ketmen**	**5.80**	**79**	Pg		Pg		18 36 47.5	-4.9
	1.4nm,0.5s								
KTMS				Lg		Lg		18 38 02.6	
	3.1nm,0.5s								
MAKZ	**Makanchi**	**7.94**	**55**	⇑Pn		**Pn**		**18 36 57.2**	**+1.1**
	0.3nm,0.5s								
MAKZ				⇑Lg		Lg		18 39 12.3	
	4.0nm,1.1s								
MK31	**Makanchi Array**	**8.13**	**55**	Pn		**Pn**		**18 37 01.1**	**+2.6**
	0.3nm,0.3s,baz=237,slow=12,SNR=18								
MK31				Pg		Pb		18 37 09.0	-13
	0.3nm,0.3s,baz=229,slow=12,SNR=13								
MK31				⇓Lg		Lg		18 39 17.1	
	1.0nm,0.5s,baz=269,slow=30,SNR=4.6								
KURBB	**Kurchatov Arra**	**9.04**	**25**	⇑Lg		Lg		18 39 45.2	
	11nm,0.8s								
KURK	**Kurchatov**	**9.15**	**25**	⇑Lg		Lg		18 39 46.3	
	8.6nm,0.7s								

IDC 03 18:39:06.7±2.5, 21.°32S×177.°15W, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=211.8km s-min=27.8km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.11**	**257**	P		P		18 47 25.6	+0.5
	0.2nm,0.4s,baz=94,slow=7.6,SNR=8.4								
ASAR				PcP		PcP		18 49 03.7	-2.2
	0.2nm,0.9s,baz=101,slow=4.5,SNR=1.1								
	0.2nm,0.4s								
WRA	**Warramunga Arr**	**45.28**	**263**	P		P		18 47 26.5	0.0
	0.3nm,0.7s,baz=95,slow=7.9,SNR=8.3								
	0.3nm,0.7s								
NVAR	**Mina Array Bea**	**81.07**	**43**	P		P		18 51 25.8	+1.7
	0.3nm,0.6s,baz=225,slow=7.5,SNR=3.1								
	0.3nm,0.6s								
TXAR	**Lajitas Array**	**86.83**	**57**	P		P		18 51 52.4	-1.1
	0.3nm,0.7s,baz=211,slow=6.7,SNR=4.5								
	0.3nm,0.7s								

*ASRS **03** 18:57:00.4±0.2, 50.°N±1.°×91.°2E±0.°9, h5km, MLh3.0/21, Error ellipse: s-maj=3.2km s-min=1.7km az=159.4, confirmed*
*NNC **03** 18:57:46.6±5.0, 50.°13N×88.°86E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=50.9km s-min=35.8km az=10.0*

ISC 03 18:57:02.2±1.0, 50.°46N±0.°04×91.°16E±0.°02, h17km, n25, σ1≥40/36, 4C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**1.84**	**260**		Pg	**Pg**		**18 57 37.8**	**+0.2**
CUR					Sg	**Sg**		**18 58 02.5**	**+0.9**
SLNR	**Muhor-Tarhata,**	**1.87**	**250**		Sg	**Sg**		**18 58 05.0**	**+2.7**
ULGR	**Ulagan, Altay**	**2.05**	**276**		Pg	**Pg**		**18 57 41.8**	**+0.2**
ULGR					Sg	**Sg**		**18 58 10.5**	**+2.4**
AKAR	**Aktash**	**2.27**	**268**		Pg	**Pb**		**18 57 44.1**	**+1.2**
AKAR					Sg	**Sg**		**18 58 15.7**	**+0.4**
DJO	**Djoy, Khakassi**	**2.33**	**1**		Pg	**Pg**		**18 57 48.1**	**+1.3**
DJO					Sg	**Sg**		**18 58 17.9**	**+1.0**
DJOS	**Djoyskaya Sosn**	**2.34**	**3**		Sg	**Sg**		**18 58 19.0**	**+1.5**
CHBI	**Chibit, Altay**	**2.35**	**268**		Pg	**Pg**		**18 57 46.3**	**-1.0**
CHBI					Sg	**Sg**		**18 58 18.5**	**+0.8**
CERR	**Cheremushki**	**2.40**	**4**		Sg	**Sg**		**18 58 20.9**	**+1.5**
KZLR	**Kyzyl**	**2.42**	**58**		Pg	**Pg**		**18 57 48.4**	**-0.2**
KZLR					Sg	**Sg**		**18 58 19.1**	**-0.9**
DGZ	**Jazzator, Alta**	**2.52**	**254**		Pg	**Pb**		**18 57 47.2**	**+0.1**
DGZ					Sg	**Sg**		**18 58 22.6**	**-0.7**
ARDR	**Aradan**	**2.55**	**33**		Pg	**Pg**		**18 57 50.1**	**-1.0**
ARDR					Sg	**Sg**		**18 58 23.1**	**-1.1**
ERNS	**Erzin**	**2.56**	**93**		Pg	**Pb**		**18 57 47.5**	**-0.3**
ERNS					Sg	**Sb**		**18 58 20.2**	**+1.2**
ARTR	**Artybash**	**2.79**	**300**		Pg	**Pb**		**18 57 51.8**	**+0.3**
ARTR					Sg	**Sg**		**18 58 31.8**	**0.0**
TASR	**Tashtagol**	**3.08**	**320**		Sg	**Sg**		**18 58 40.3**	**-0.9**
LUZB	**Luzhba, Kemero**	**3.50**	**337**		Pg	**Pg**		**18 58 09.1**	**-0.1**
LUZB					Sg	**Sg**		**18 58 54.3**	**-0.1**
GALT	**Gorno-Altaysk,**	**3.61**	**297**		Sg	**Sg**		**18 58 58.7**	**+0.7**
KNGR	**Kungurtug, Tuv**	**4.06**	**86**		Pg	**Pg**		**18 58 17.6**	**-2.3**
KNGR					Sg	**Sg**		**18 59 12.3**	**0.0**
UKR	**Ust'-Kan**	**4.09**	**279**		Pg	**Pg**		**18 58 20.1**	**-0.5**
UKR					Sg	**Sg**		**18 59 13.4**	**-0.1**
ELT	**Eltsovka**	**4.14**	**314**		Pg	**Pg**		**18 58 20.0**	**-1.6**
ELT					Sg	**Sg**		**18 59 13.3**	**-1.9**
GZLN	**Zheleznogorsk**	**6.13**	**14**		Sg	**Sg**		**19 00 19.3**	**+0.5**
MOY	**Mondy**	**6.31**	**75**		Sg	**Sg**		**19 00 25.7**	**+1.0**
MK31	**Makanchi Array**	**6.93**	**241**	⇓Pn		**Pg**		**18 59 10.3**	**-4.5**
	0.4nm,0.5s,baz=66,slow=18,SNR=4.2								
MK31				⇑Lg		Lg		19 00 42.1	
	1.1nm,0.6s,baz=60,slow=28,SNR=4.3								
MAKZ	**Makanchi**	**7.10**	**243**	⇓Pn		Pb		18 59 11.3	+6.3
	1.3nm,1.2s								
MAKZ				⇑Lg		Lg		19 00 45.9	
	2.8nm,0.8s								
KURK	**Kurchatov**	**7.99**	**277**	⇑Lg		Lg		19 01 12.9	
	2.9nm,0.9s								
KURBB	**Kurchatov Arra**	**8.05**	**276**	⇑Lg		Lg		19 01 18.3	
	3.3nm,0.8s								

IDC 03 18:58:15.6±9.3, 34.°39S×179.°21E, h173km±64km, mb2.8/2, mbtmp3.3/3, Error ellipse: s-maj=94.0km s-min=41.0km az=47.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.22**	**203**	P		P	Pn	18 59 20.2

CROK				IAML		19 02 55.3		
	comp=N,49nm,0.3s							
GC02	**Grant County #**	**0.85**	**300**	Pg	Pg	19 02 39.9	-0.8	
KAN09	**Caldwell North**	**0.89**	**322**	Pg	Pg	19 02 40.6	-0.8	
OK025	**Westminster Rd**	**0.91**	**201**	Pg	Pg	19 02 40.0	-1.8	
OK025				IAML		19 02 53.9		
	comp=N,43nm,0.2s							
BCOK	**Bluff Creek, N**	**0.95**	**215**	Pg	Pg	19 02 41.2	-1.3	
BCOK				IAML		19 02 54.5		
	comp=E,41nm,0.1s							
BCOK				IAML		19 02 54.5		
	comp=N,44nm,0.3s							
TUL1	**Leonard**	**1.06**	**119**	Pg	Pg	19 02 43.2	-1.5	
TUL1				IAML		19 03 00.9		
	comp=N,48nm,0.3s							
TUL1				IAML		19 03 01.0		
	comp=E,34nm,0.2s							
KAN12	**Harper NE Stat**	**1.21**	**316**	Pg	Pg	19 02 45.7	-1.9	
FNO	**Franklin**	**1.23**	**198**		Pg	19 02 45.8	-2.2	
FNO				IAML		19 03 03.3		
	comp=E,33nm,0.3s							
FNO				IAML		19 03 09.8		
	comp=N,42nm,3.1s							
U38A	**Gravette**	**2.06**	**89**	Pn	Pn	19 02 59.1	-0.5	

*IDC **03** 19:05:11.9±6.8,36˚02N×71˚36E,h33^{km}±51^{km},mb3.5/9, mbtmp3.6/13,ML3.3/4,Error ellipse: s-maj=32.3km s-min=21.1km az=12.0*

*NEIC **03** 19:05:19.1±1.5,36˚39N±0˚04×71˚2E±0˚1,h83^{km}±11^{km}, mb4.2/5,Error ellipse: s-maj=11.7km s-min=6.2km az=91.0*

*NNC **03** 19:05:45.7±4.0,38˚75N×71˚91E,h0^{km},mb3.5,mpv3.1, Error ellipse: s-maj=37.7km s-min=32.8km az=168.0*

ISC 03 19:05:17.1±0.6,36˚22N±0˚06×71˚2E±0˚06,h100^{km},n48, σ2^{s}81/54,mb3.6/8,4C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.44**	**227**			**Pn**		**19 05 59.4**	**+3.7**
GAR	**Garm**	**2.87**	**346**			**Pn**		**19 06 01.2**	**0.0**
CHGR	**Chuyangaron**	**2.94**	**327**	Pn		**Pn**		**19 06 01.2**	**-0.9**
NIL	**Nilore**	**3.06**	**146**			**Pn**		**19 06 07.5**	**+3.8**
DRK	**Karamyk**	**3.29**	**8**			**Pn**		**19 06 07.4**	**+0.4**
BTK	**Batken**	**3.85**	**355**	Pn		**Pn**		**19 06 15.3**	**+1.0**
JMU	**Jammu**	**4.63**	**138**	*e*S		**Sn**		**19 07 18.4**	**+1.0**
THN	**Thein Dam**	**5.30**	**134**	*e*P		**Pn**		**19 06 37.1**	**+3.3**
THN				*e*S		**Sn**		**19 07 35.3**	**+1.7**
NRN	**Naryn**	**6.40**	**34**	Pn		**Pn**		**19 06 48.9**	**-0.2**
BHK	**Bhakra**	**6.45**	**136**	*e*S		**Sn**		**19 08 01.3**	**-0.5**
AAK	**Ala-Archa**	**6.89**	**21**	Pn		**Pn**		**19 06 55.6**	**0.0**
	1.2nm,0.3s,baz=202,slow=3.2,SNR=6.1								
AAK				Sn		**Sn**		**19 08 09.4**	**-3.1**
	1.0nm,0.3s,baz=345,slow=22,SNR=9.5 2.0nm,0.3s								
AAK	**Ala-Archa**	**6.89**	**21**	Pn		**Pn**		**19 06 55.5**	**-0.1**
KK31	**Karatay Array**	**6.90**	**356**	Pn		**Pn**		**19 06 54.8**	**-0.8**
KK31	**Karatay Array**	**6.90**	**356**	Pn		**Pn**		**19 06 54.8**	**-0.8**
	0.4nm,0.2s,baz=175,slow=12,SNR=96								
KK31				⇑Lg		Lg		19 08 08.8	
	2.6nm,0.3s,baz=184,slow=24,SNR=5.1								
KKAR	**Karatay Array**	**6.90**	**356**			**Pn**		**19 06 54.6**	**-0.9**
SMLA	**Simla**	**7.09**	**134**	*e*P		**Pn**		**19 06 59.7**	**+1.5**
SMLA				*e*S		**Sn**		**19 08 14.3**	**-3.0**
SMLA				IAML				19 08 22.5	
	comp=N,73nm,0.2s								
CHMS	**Chumysh**	**7.30**	**21**	⇑Pn		**Pn**		**19 06 58.8**	**-2.2**
	comp=N,2.1nm,0.5s								
CHMS				⇑Lg		Lg		19 08 16.2	
	comp=N,8.8nm,0.8s								
TKM2	**Tokmak 2**	**7.50**	**25**	⇓Pn		**Pn**		**19 07 02.5**	**-1.4**
	comp=N,2.6nm,0.9s								
TKM2				⇑Lg		Lg		19 08 24.3	
	comp=N,1.8nm,0.5s								
KUDL	**Kundal**	**9.20**	**150**	*e*S		**Sn**		**19 09 03.8**	**-4.9**
KUDL				*i* S		**Sn**		**19 09 03.8**	**-4.9**
PTH	**Pithoragarh**	**10.06**	**129**	*e*P		**Pn**		**19 07 39.0**	**+0.1**
LGTI	**Lohaghat**	**10.15**	**129**	*e*P		**Pn**		**19 07 38.6**	**-1.2**
LGTI				*e*S		**Sn**		**19 09 24.0**	**-7.8**
GEYT	**Alibeck**	**10.61**	**283**	Pn		**Pn**		**19 07 43.9**	**-2.2**
	comp=N,0.8nm,0.3s,baz=106,slow=11,SNR=12								
GEYT				Sn		**Sn**		**19 09 35.3**	**-7.7**
	comp=N,0.7nm,0.3s,baz=115,slow=15,SNR=2.6 comp=N,1.5nm,0.4s								
GYA0B	**ALIBECK ARRAY**	**10.61**	**283**	Pn		**Pn**		**19 07 43.6**	**-2.5**
PYUN	**Piuthan**	**12.83**	**126**	*e*P		**Pn**		**19 08 14.8**	**-1.2**
	comp=N,7.9nm,0.3s								
MKAR	**Makanchi Array**	**13.42**	**35**	Pn		**Pn**		**19 08 23.9**	**+0.5**
	baz=218,slow=11,SNR=1.7 comp=N,0.3nm,0.8s								
MKAR	**Makanchi Array**	**13.42**	**35**	Pn		**Pn**		**19 08 24.8**	**+1.4**
GKN	**Gorkha**	**14.00**	**122**	*e*P		**Pn**		**19 08 30.6**	**-0.6**
	comp=N,4.3nm,0.2s								
PKIN	**Phulchoki**	**14.79**	**122**	*e*P		**Pn**		**19 08 37.5**	**-4.0**
PKI	**Pulchoki**	**14.80**	**122**	*e*P		**Pn**		**19 08 37.7**	**-4.0**
	comp=N,1.6nm,0.2s								
JIRN	**Jiri**	**15.29**	**120**	*e*P		**Pn**		**19 08 47.5**	**-0.4**
	comp=N,8.1nm,0.3s								
ABKAR	**Akbulak array**	**15.42**	**331**	Pn		**P**		**19 08 50.1**	**-1.2**
BVAR	**Borovoye Array**	**16.82**	**358**	Pn		**Pn**		**19 09 04.2**	**-2.0**
	baz=170,slow=13,SNR=2.6 comp=N,0.2nm,0.4s								
BRVK	**Borovoye**	**16.85**	**358**	Pn		**Pn**		**19 09 06.5**	**-0.1**
AKTO	**Aktyubinsk**	**17.11**	**330**	Pn		**P**		**19 09 14.9**	**+4.9**
	comp=N,0.4nm,0.3s,baz=141,slow=9.8,SNR=8.9								
ZAA0	**Zalesovo Array**	**20.10**	**24**	P		**P**		**19 09 42.9**	**+0.3**
ZAA0				IAmb		IAmb		19 09 44.2	
	comp=Z,3.1nm,0.5s								
ZALV	**Zalesovo Beam**	**20.10**	**24**	P		**P**		**19 09 43.5**	**+0.9**
	comp=Z,2.7nm,0.3s,baz=211,slow=9.8,SNR=16 comp=Z,2.7nm,0.3s								
ZALV	**Zalesovo Beam**	**20.10**	**24**	P		**P**		**19 09 42.2**	**-0.3**
SONM	**Songino Array**	**28.35**	**55**	P		**P**		**19 11 01.5**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=242,slow=8.5,SNR=2.3 comp=Z,0.1nm,0.4s								
FINES	**FINESS Array B**	**37.82**	**326**	P		**P**		**19 12 27.4**	**+3.9**
	comp=Z,2.3nm,0.9s,baz=110,slow=12,SNR=4.2 comp=Z,2.3nm,0.9s								
ARCES	**ARCESS Array B**	**41.47**	**338**	P		**P**		**19 12 56.9**	**+3.2**
	comp=Z,1.2nm,0.6s,baz=111,slow=6.6,SNR=7.9 comp=Z,1.2nm,0.6s								
ARCES	**ARCESS Array B**	**41.47**	**338**	P		**P**		**19 12 55.8**	**+2.1**
ARCES				IAmb		IAmb		19 12 58.2	
	comp=Z,12nm,1.4s								
HFS	**Hagfors**	**43.40**	**322**	P		**P**		**19 13 13.1**	**+3.7**
	comp=Z,0.7nm,0.4s,baz=95,slow=10,SNR=1.4 comp=Z,0.7nm,0.4s								
NB201	**NORSAR Array S**	**44.68**	**323**	P		**P**		**19 13 22.0**	**+2.4**
NB2	**NORSAR Subarra**	**44.71**	**323**	P		**P**		**19 13 23.1**	**+3.1**
	comp=Z,0.4nm,0.4s,baz=97,slow=8.6								
NOA	**NORSAR Array B**	**44.71**	**323**	P		**P**		**19 13 23.2**	**+3.2**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.7,SNR=4.8 comp=Z,0.4nm,0.5s								
TORD	**Torodi Ar. Bea**	**65.89**	**269**	P		**P**		**19 15 54.1**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=41,slow=4.8,SNR=3.1 comp=Z,0.4nm,0.5s								
WRA	**Warramunga Arr**	**81.69**	**122**	P		**P**		**19 17 26.6**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=325,slow=4.8,SNR=2.3 comp=Z,0.3nm,0.7s								
ASAR	**Alice Springs**	**83.94**	**125**	P		**P**		**19 17 38.6**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=303,slow=5.2,SNR=4.1 comp=Z,0.2nm,0.7s								

*IDC **03** 19:14:14.8±1.1,58˚99N×142˚71W,h0^{km},mb3.4/3, mbtmp3.6/7,ML3.6/4,MS2.9/5,Error ellipse: s-maj=19.3km s-min=9.8km az=35.0*

*NEIC **03** 19:14:16.1±1.1,58˚88N±0˚04×142˚94W±0˚07,h10^{km}±2^{km}, Error ellipse: s-maj=7.0km s-min=5.9km az=168.0*

*AEIC **03** 19:14:19±1.1,58˚85N±0˚04×142˚96W±0˚09,h1^{km}±7^{km}, ML3.3,ML3.5/114(NEIC),Error ellipse: s-maj=6.8km s-min=5.5km az=74.0*

ISC 03 19:14:16.1±1.5,58˚91N±0˚05×142˚98W±0˚04, h12^{km}±10^{km},n373,σ1^{s}00/312,mb3.3/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CYK	**Cape Yakataga**	**1.20**	**12**			**Pg**		**19 14 39.1**	**-0.1**
CYK						**Sg**		**19 14 54.4**	**-0.5**
BGLC	**Bering Glacier**	**1.22**	**353**			**Pg**		**19 14 39.8**	**+0.2**
BGLC	**Bering Glacier**	**1.22**	**353**	P		**Pg**		**19 14 39.8**	**+0.2**
	baz=172,SNR=8.8								
SUCK	**Suckling Hills**	**1.23**	**341**			**Pg**		**19 14 40.0**	**+0.2**
SUCK						**Sg**		**19 14 56.5**	**+0.7**
SUCK	**Suckling Hills**	**1.23**	**341**	IAML				19 14 57.5	
	comp=E,1μm,0.5s								
SUCK				IAML				19 14 57.7	
	comp=N,1μm,0.5s								
KAIM	**Kayak Island**	**1.26**	**325**			**Pg**		**19 14 40.1**	**-0.1**
KAIM	**Kayak Island**	**1.26**	**325**	IAML				19 14 59.2	
	comp=N,747nm,0.6s								
KAIM	**Kayak Island**	**1.26**	**325**	P		**Pg**		**19 14 40.2**	**-0.1**
	baz=145,SNR=71								
SNH	**Sunshine Point**	**1.27**	**3**			**Pg**		**19 14 40.2**	**-0.4**
SNH						**Sg**		**19 14 56.4**	**-0.8**
MESA	**MESA**	**1.38**	**22**			**Pn**		**19 14 41.5**	**+0.3**
MESA	**MESA**	**1.38**	**22**	P		**Pn**		**19 14 41.6**	**+0.3**
	baz=202,SNR=197								
GRIN	**Grindle Hills**	**1.39**	**353**			**Pn**		**19 14 42.0**	**+0.8**
GRIN						**Sg**		**19 15 00.3**	**-0.4**
NICHA	**Nichawak Mount**	**1.42**	**340**			**Pn**		**19 14 42.3**	**+0.6**
NICHA						**Sg**		**19 15 00.1**	**-1.7**
BARK	**Barkley Ridge**	**1.52**	**9**			Pn		19 14 43.3	+0.2
BARK						**Sn**		**19 15 01.5**	**-1.2**
BERG	**Berg Lake**	**1.53**	**346**			**Pn**		**19 14 43.6**	**+0.4**
BERG	**Berg Lake**	**1.53**	**346**	IAML				19 15 03.5	
	comp=N,824nm,0.5s								
BERG				IAML				19 15 03.6	
	comp=E,919nm,0.6s								
KHIT	**Khitrov Hills**	**1.54**	**355**			**Pn**		**19 14 43.8**	**+0.3**
KHIT						**Sn**		**19 15 02.6**	**-0.8**
WAX	**Waxell Ridge**	**1.55**	**2**			**Pn**		**19 14 43.8**	**+0.3**
WAX						**Sn**		**19 15 02.8**	**-0.7**
WAX	**Waxell Ridge**	**1.55**	**2**	IAML				19 15 03.9	
	comp=E,886nm,0.3s								
HMT	**Hamilton**	**1.57**	**336**			**Pn**		**19 14 44.1**	**+0.4**
HMT	**Hamilton**	**1.57**	**336**	IAML				19 15 10.6	
	comp=N,866nm,0.5s								
YAH	**Yahtse**	**1.59**	**23**			**Pn**		**19 14 44.5**	**+0.3**
YAH	**Yahtse**	**1.59**	**23**	IAML				19 15 16.2	
	comp=N,437nm,0.7s								
BAGL	**Bagley Icefiel**	**1.65**	**15**			**Pn**		**19 14 45.0**	**+0.3**
SAMH	**Samovar Hills**	**1.66**	**42**			**Pn**		**19 14 45.7**	**+0.7**
SAMH						**Sn**		**19 15 05.0**	**-1.3**
RAGM	**Ragged Mountai**	**1.71**	**331**			**Pn**		**19 14 46.4**	**+0.7**
ISLE	**Juniper Island**	**1.73**	**10**			**Pn**		**19 14 46.5**	**+0.5**
ISLE	**Juniper Island**	**1.73**	**10**	IAML				19 15 24.6	
	comp=N,550nm,1.0s								
ISLE				IAML				19 15 27.5	
	comp=E,328nm,1.0s								
TABL	**Table Mountain**	**1.79**	**30**			**Pn**		**19 14 47.5**	**+0.5**
TABL	**Table Mountain**	**1.79**	**30**	IAML				19 15 11.0	
	comp=N,647nm,0.3s								
YKU2	**Yakutat**	**1.80**	**69**			**Pn**		**19 14 47.7**	**+0.8**
MID	**Middleton Isla**	**1.81**	**288**			**Pn**		**19 14 46.8**	**-0.1**
Q23K	**Middleton Isla**	**1.81**	**288**			**Pn**		**19 14 46.9**	**-0.1**
Q23K						**Sn**		**19 15 08.5**	**-1.4**
Q23K	**Middleton Isla**	**1.81**	**288**	P		**Pn**		**19 14 46.9**	**-0.1**
	baz=107								
PCA	**Pinnacle**	**1.83**	**48**			**Pn**		**19 14 47.5**	**+0.2**
PINM	**Pinnacle**	**1.83**	**48**	P		**Pn**		**19 14 47.6**	**+0.3**
	baz=229,SNR=38								
TGL	**Tana Glacier**	**1.85**	**2**			Pn		19 14 47.8	+0.1
TGL						**Sn**		**19 15 09.7**	**-1.4**
TGL	**Tana Glacier**	**1.85**	**2**	IAML				19 15 13.4	
	comp=N,262nm,0.6s								
GOAT	**Goat Mountain**	**1.90**	**333**			**Pn**		**19 14 48.5**	**+0.3**
PNL	**Peninsula**	**1.99**	**66**			Pn		19 14 49.1	-0.3
PNL	**Peninsula**	**1.99**	**66**	P		**Pn**		**19 14 49.2**	**-0.2**
	baz=248,SNR=64								
BCPM	**Bancas Point**	**2.00**	**57**			**Pn**		**19 14 49.6**	**0.0**
EYAK	**Cordova Ski Ar**	**2.16**	**321**	Pn		**Pn**		**19 14 52.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**2.16**	**321**	P		Pn		19 14 51.9	+0.1
	baz=139								
LOGN	**Logan Glacier**	**2.16**	**27**			**Pn**		**19 14 52.5**	**+0.5**
LOGN	**Logan Glacier**	**2.16**	**27**	IAML				19 15 18.4	
	comp=N,486nm,0.8s								
LOGN				IAML				19 15 18.9	
	comp=E,447nm,0.7s								
CTG	**Chitna Glacier**	**2.22**	**21**	P		**Pn**		**19 14 53.1**	**+0.4**
	baz=202,SNR=55								
BMRM	**Bremner River**	**2.22**	**339**			Pn		19 14 52.8	+0.1
BMRM	**Bremner River**	**2.22**	**339**	P		Pn		19 14 52.8	+0.2
	baz=158,SNR=27								
CTGM	**Chitina Glacie**	**2.22**	**21**			**Pn**		**19 14 53.1**	**+0.4**
CTGM	**Chitina Glacie**	**2.22**	**21**	IAML				19 15 20.2	
	comp=E,252nm,0.4s								
CTGM				IAML				19 15 35.1	
	comp=N,242nm,1.1s								
PTPK	**Patty Peak**	**2.30**	**6**			**Pn**		**19 14 54.7**	**+0.8**
HIN	**Hinchinbrook I**	**2.33**	**311**	Pn		**Pn**		**19 14 54.7**	**+0.5**
O28M	**Mount Upton**	**2.34**	**36**			**Pn**		**19 14 55.1**	**+0.6**
O28M	**Mount Upton**	**2.34**	**36**	P		**Pn**		**19 14 55.1**	**+0.6**
	baz=217,SNR=138								
MCARA	**McCarthy VSAT**	**2.48**	**359**			**Pn**		**19 14 56.8**	**+0.5**
MCARA	**McCarthy VSAT**	**2.48**	**359**	IAML				19 15 29.6	
	comp=E,358nm,0.5s								
MCARA	**McCarthy VSAT**	**2.48**	**359**	P		**Pn**		**19 14 56.7**	**+0.5**
	baz=179,SNR=36								
P23K	**Montague Islan**	**2.51**	**298**			**Pn**		**19 14 56.8**	**+0.2**
P23K	**Montague Islan**	**2.51**	**298**	P		**Pn**		**19 14 56.6**	**0.0**
	baz=115								
FID	**Port Fidalgo**	**2.56**	**318**			**Pn**		**19 14 58.1**	**+0.8**
GLB	**Gilahina Butte**	**2.57**	**351**			**Pn**		**19 14 57.8**	**+0.3**
GLB	**Gilahina Butte**	**2.57**	**351**	IAML				19 15 28.6	
	comp=E,146nm,0.7s								
DIV	**Divide**	**2.63**	**329**			**Pn**		**19 14 58.8**	**+0.4**
O29M	**Mount Kennedy**	**2.64**	**56**			**Pn**		**19 14 59.2**	**+0.8**
O29M	**Mount Kennedy**	**2.64**	**56**	P		**Pn**		**19 14 59.3**	**+0.8**
	baz=239,SNR=176								
P29M	**Windy Craggy**	**2.79**	**73**			**Pn**		**19 15 00.3**	**-0.1**
P29M	**Windy Craggy**	**2.79**	**73**	P		**Pn**		**19 15 00.3**	**-0.1**
	baz=256,SNR=38								
PS12	**TAPS Pump St12**	**2.79**	**338**			**Pn**		**19 15 01.1**	**+0.6**
JPK	**Jack Peak**	**2.82**	**321**			Pn		19 15 01.0	+0.1
N25K	**Chitina, Valde**	**2.82**	**344**			**Pn**		**19 15 01.4**	**+0.3**
N25K	**Chitina, Valde**	**2.82**	**344**	P		**Pn**		**19 15 01.3**	**+0.3**
	163,SNR=14								
GLI	**Glacier Island**	**2.87**	**315**			Pn		19 15 01.5	0.0
GLI	**Glacier Island**	**2.87**	**315**	P		Pn		19 15 01.5	0.0
	baz=132								
YUK7	**Dusty Glacier**	**2.94**	**54**			**Pn**		**19 15 03.7**	**+1.0**
KLU	**Klutina**	**2.98**	**332**			**Pn**		**19 15 03.8**	**+0.7**
KLU	**Klutina**	**2.98**	**332**	IAML				19 15 40.8	
	comp=E,104nm,0.5s								
KLU				IAML				19 15 41.2	
	comp=N,103nm,0.6s								
KLU	**Klutina**	**2.98**	**332**	P		**Pn**		**19 15 03.8**	**+0.7**
	baz=150,SNR=26								
YUK2	**White River**	**3.07**	**19**			**Pn**		**19 15 05.9**	**+1.5**
WASW	**Wrangell South**	**3.08**	**349**			**Pn**		**19 15 05.7**	**+1.0**
YUK6	**Outpost Mounta**	**3.09**	**47**			**Pn**		**19 15 06.2**	**+1.5**
YUK6	**Outpost Mounta**	**3.09**	**47**	P		**Pn**		**19 15 06.3**	**+1.5**
	baz=230,SNR=128								
YUK3	**Moose Creek**	**3.13**	**22**			**Pn**		**19 15 07.0**	**+1.5**
YUK3	**Moose Creek**	**3.13**	**22**	P		**Pn**		**19 15 06.9**	**+1.5**
	baz=204,SNR=32								
WACK	**Wrangell Chich**	**3.16**	**348**			**Pn**		**19 15 06.5**	**+0.8**
YUK4	**Talbot Arm**	**3.26**	**40**	P		**Pn**		**19 15 10.5**	**+3.4**
	baz=222,SNR=217								
P30M	**Million Dollar**	**3.30**	**66**			**Pn**		**19 15 08.3**	**+0.8**
P30M	**Million Dollar**	**3.30**	**66**	P		**Pn**		**19 15 08.0**	**+0.5**
	baz=250,SNR=16								
PWL	**Port Wells**	**3.33**	**308**			**Pn**		**19 15 08.1**	**+0.2**
PWL	**Port Wells**	**3.33**	**308**	IAML				19 15 47.6	
	comp=E,100nm,0.2s								
PWL				IAML				19 15 47.7	
	comp=N,89nm,0.2s								
PWL	**Port Wells**	**3.33**	**308**	P		**Pn**		**19 15 08.2**	**+0.2**
	baz=124,SNR=23								
HYT	**Haines Junctio**	**3.36**	**53**			**Pn**		**19 15 09.0**	**+0.6**
HYT	**Haines Junctio**	**3.36**	**53**	IAML				19 16 06.0	
	comp=E,82nm,0.7s								
HYT				IAML				19 16 10.5	
	comp=N,103nm,0.9s								
HYT	**Haines Junctio**	**3.36**	**53**	P		**Pn**		**19 15 09.0**	**+0.6**
	baz=237,SNR=33								
PS11	**TAPS Pump St11**	**3.41**	**340**			**Pn**		**19 15 10.2**	**+1.2**
PLBC	**Pleasant Camp**	**3.45**	**78**			**Pn**		**19 15 09.8**	**+0.3**
PLBC	**Pleasant Camp**	**3.45**	**78**	P		**Pn**		**19 15 09.7**	**+0.3**
	baz=263,SNR=20								
M27K	**Edge Creek, AK**	**3.50**	**8**			**Pn**		**19 15 11.7**	**+1.3**
M27K	**Edge Creek, AK**	**3.50**	**8**	IAML				19 16 13.6	
	comp=N,68nm,1.0s								
M27K				IAML				19 16 15.0	
	comp=E,70nm,1.1s								
M27K	**Edge Creek, AK**	**3.50**	**8**	P		**Pn**		**19 15 11.6**	**+1.3**
	baz=189,SNR=38								
M26K	**Nabesna, AK**	**3.50**	**360**			**Pn**		**19 15 11.4**	**+1.1**
M26K	**Nabesna, AK**	**3.50**	**360**	P		**Pn**		**19 15 11.2**	**+0.9**
	baz=180,SNR=26								
SEW	**Seward**	**3.51**	**293**			**Pn**		**19 15 10.5**	**+0.2**
SEW	**Seward**	**3.51**	**293**	P		**Pn**		**19 15 10.5**	**+0.2**
	baz=108								
M24K	**Tolsona, Glenn**	**3.58**	**335**			**Pn**		**19 15 12.4**	**+1.1**
M24K	**Tolsona, Glenn**	**3.58**	**335**	IAML				19 16 02.8	
	comp=N,62nm,0.9s								
M24K				IAML				19 16 24.1	
	comp=E,63nm,1.7s								
M24K	**Tolsona, Glenn**	**3.58**	**335**	P		**Pn**		**19 15 12.5**	**+1.2**
	baz=153								
SCM	**Sheep Creek Mo**	**3.64**	**325**			**Pn**		**19 15 13.0**	**+0.8**
SCM	**Sheep Creek Mo**	**3.64**	**325**	P		**Pn**		**19 15 13.2**	**+1.0**
	baz=142								
HARP	**HAARP**	**3.66**	**344**			**Pn**		**19 15 13.3**	**+0.8**
HARP	**HAARP**	**3.66**	**344**	P		**Pn**		**19 15 13.5**	**+1.1**
	baz=162								
BVCY	**Beaver Creek**	**3.67**	**16**	P		**Pn**		**19 15 13.8**	**+1.3**
	baz=197								
KNK	**Knik Glacier**	**3.71**	**315**			**Pn**		**19 15 14.1**	**+0.9**
KNK	**Knik Glacier**	**3.71**	**315**	IAML				19 16 00.3	
	comp=N,104nm,0.8s								
KNK				IAML				19 16 00.5	
	comp=E,100nm,0.8s								
KNK	**Knik Glacier**	**3.71**	**315**	P		**Pn**		**19 15 14.1**	**+0.9**
	baz=131,SNR=16								
M23K	**Glacier View**	**3.73**	**323**			**Pn**		**19 15 14.5**	**+1.1**
M23K	**Glacier View**	**3.73**	**323**	P		**Pn**		**19 15 14.3**	**+0.9**
	baz=139,SNR=8.6								
O22K	**Cooper Landing**	**3.77**	**298**			**Pn**		**19 15 14.5**	**+0.6**
N30M	**Aishikik Lake**	**3.90**	**46**			**Pn**		**19 15 16.6**	**+0.8**
N30M	**Aishikik Lake**	**3.90**	**46**	P		**Pn**		**19 15 16.5**	**+0.8**
	baz=231,SNR=36								
SML	**Sawmill**	**3.94**	**320**			**Pn**		**19 15 17.1**	**+0.8**
SML	**Sawmill**	**3.94**	**320**	IAML				19 16 03.7	
	comp=N,50nm,0.8s								
SML				IAML				19 16 04.1	
	comp=E,70nm,0.6s								
SML	**Sawmill**	**3.94**	**320**	P		**Pn**		**19 15 17.0**	**+0.7**
	baz=136								
O30N	**Mendenhall**	**3.94**	**59**			**Pn**		**19 15 16.9**	**+0.5**
O30N	**Mendenhall**	**3.94**	**59**	P		**Pn**		**19 15 16.7**	**+0.4**
	baz=244,SNR=20								
SKAG	**Skagway**	**3.97**	**79**			**Pn**		**19 15 17.7**	**+1.0**
SKAG	**Skagway**	**3.97**	**79**	IAML				19 16 31.1	
	comp=E,59nm,0.9s								
SKAG	**Skagway**	**3.97**	**79**	P		**Pn**		**19 15 17.8**	**+1.2**
	baz=264,SNR=20								
SLKM	**Skilak Lake**	**4.00**	**297**			**Pn**		**19 15 17.2**	**+0.1**
RC01	**Rabbit Creek A**	**4.04**	**306**			**Pn**		**19 15 18.3**	**+0.7**
RC01	**Rabbit Creek A**	**4.04**	**306**	IAML				19 16 06.9	
	comp=N,77nm,0.7s								
RC01				IAML				19 16 09.2	
	comp=E,69nm,0.6s								
RC01	**Rabbit Creek A**	**4.04**	**306**	P		**Pn**		**19 15 18.3**	**+0.7**
	baz=120,SNR=7.6								
BRSE	**Bradley Lake S**	**4.07**	**285**			**Pn**		**19 15 18.6**	**+0.7**
BRSE	**Bradley Lake S**	**4.07**	**285**	P		**Pn**		**19 15 18.7**	**+0.7**
	baz=99								
PMR	**Palmer**	**4.08**	**314**			**Pn**		**19 15 20.6**	**+2.4**
PMR				IAML				19 18 00.3	
	comp=E,56nm,0.1s								
PMR	**Palmer**	**4.08**	**314**	P		**Pn**		**19 15 20.3**	**+2.2**
	baz=129								
GHO	**Glory Hole Cre**

baz=174,SNR=8.4
STLK Strandline Lak 5.12 304 Pn 19 15 34.6 +2.0
K27K Chicken 5.16 4 Pn 19 15 33.8 +0.8
K27K Chicken 5.16 4 P Pn 19 15 33.7 +0.8
baz=185
N20K Mount Spurr 5.16 300 P Pn 19 15 33.3 +0.2
baz=113
SPCP Crater Peak Br 5.16 301 Pn 19 15 34.9 +1.6
SPCR Spurr Chakacha 5.16 300 Pn 19 15 33.8 +0.7
SPCR Spurr Chakacha 5.16 300 P Pn 19 15 33.4 +0.3
baz=113
KDAK Kodiak Island 5.19 262 Pn Pn 19 15 34.1 +0.7
comp=E,4.3nm,0.3s,baz=95,slow=11,SNR=58
KDAK Sn Sn 19 16 28.8 -4.2
comp=E,11nm,0.3s,baz=303,slow=22,SNR=28
KDAK LR LR 19 17 47.5
comp=E,125nm,21.6s,baz=87,slow=40
comp=E,8.0nm,0.3s
KDAK Kodiak Island 5.19 262 Pn 19 15 33.6 +0.2
KDAK Kodiak Island 5.19 262 P Pn 19 15 34.0 +0.7
baz=74
DFR Drift River 5.19 293 Pn 19 15 34.0 +0.5
RED Redoubt Volcan 5.19 291 Pn 19 15 33.6 +0.1
RSO Redoubt South 5.19 292 Pn 19 15 35.3 +1.7
CKL Chakachamna La 5.22 300 Pn 19 15 34.7 +0.8
SKT Skwentna 5.24 310 Pn 19 15 35.6 +1.6
SKT Skwentna 5.24 310 IAML 19 16 35.5
comp=N,31nm,0.8s
SKT Skwentna 5.24 310 P Pn 19 15 35.4 +1.3
baz=123,SNR=9.4
IVE Iliamna Volcan 5.24 287 Pn 19 15 34.5 +0.3
RDWB Redoubt West 5.24 292 Pn 19 15 33.7 -0.5
ILSW Iliamna Southw 5.30 286 Pn 19 15 36.5 +1.5
ILSW Iliamna Southw 5.30 286 IAML 19 16 37.8
comp=N,27nm,0.8s
ILSW IAML 19 16 40.9
comp=E,18nm,0.6s
NCT North Crescent 5.30 292 Pn 19 15 36.3 +1.2
P19K Oil Pt 5.31 282 Pn 19 15 36.0 +0.9
P19K Oil Pt 5.31 282 P Pn 19 15 36.3 +1.2
baz=94
P33M Teslin, Yukon 5.33 72 Pn 19 15 35.5 +0.1
P33M Teslin, Yukon 5.33 72 IAML 19 17 05.8
comp=N,28nm,1.1s
P33M IAML 19 17 15.2
comp=E,16nm,1.1s
P33M Teslin, Yukon 5.33 72 P Pn 19 15 35.6 +0.2
baz=260,SNR=5.5
RND Reindeer 5.33 330 Pn 19 15 36.7 +1.3
RND Reindeer 5.33 330 IAML 19 16 38.8
comp=E,16nm,0.8s
M31M Drury Creek, Y 5.37 48 Pn 19 15 37.1 +1.2
M31M Drury Creek, Y 5.37 48 P Pn 19 15 37.1 +1.2
baz=235,SNR=12
AUQ Augustine Qik' 5.39 279 Pn 19 15 36.6 +0.4
N32M Quiet Lake 5.45 61 Pn 19 15 37.3 +0.3
N32M Quiet Lake 5.45 61 P Pn 19 15 37.2 +0.2
baz=249
SPNN North Nagishla 5.45 301 Pn 19 15 38.4 +1.3
DAWY Dawson 5.45 17 Pn 19 15 38.4 +1.4
DAWY Dawson 5.45 17 P Pn 19 15 38.3 +1.2
baz=200,SNR=10
Q19K Cape Douglas, 5.53 275 Pn 19 15 40.2 +2.1
Q19K Cape Douglas, 5.53 275 P Pn 19 15 40.2 +2.1
baz=86
K29M Barlow Dome 5.60 26 Pn 19 15 40.8 +1.6
K29M Barlow Dome 5.60 26 P Pn 19 15 41.0 +1.8
baz=210,SNR=52
J26L Joseph Creek 5.62 357 Pn 19 15 40.8 +1.4
J26L Joseph Creek 5.62 357 P Pn 19 15 40.5 +1.1
baz=177,SNR=14
MCK McKinley 5.62 332 Pn Pn 19 15 43.0 +3.7
OHAK Old Harbor 5.73 257 Pn 19 15 41.0 +0.2
OHAK Old Harbor 5.73 257 P Pn 19 15 41.0 +0.2
baz=69
TRF Thorofare Moun 5.76 325 Pn 19 15 42.8 +1.4
TRF Thorofare Moun 5.76 325 P Pn 19 15 42.5 +1.1
baz=139,SNR=14
FARO Faro, Yukon 5.80 51 Pn 19 15 43.2 +1.5
FARO Faro, Yukon 5.80 51 P Pn 19 15 43.3 +1.5
baz=239,SNR=13
MAYO Mayo, Yukon 5.81 33 P Pn 19 15 43.2 +1.3
baz=219
HDA Harding Lake 5.83 343 P Pn 19 15 42.9 +0.7
baz=159
J25K Salcha River, 5.83 350 Pn 19 15 42.9 +0.6
J25K Salcha River, 5.83 350 P Pn 19 15 42.6 +0.3
baz=168,SNR=7.5
M20K Styx River 5.85 305 Pn 19 15 43.5 +0.9
M20K Styx River 5.85 305 P Pn 19 15 43.9 +1.4
baz=117,SNR=8.3
EGAK Eagle 5.95 8 Pn 19 15 44.7 +0.9
EGAK Eagle 5.95 8 P Pn 19 15 45.1 +1.3
baz=189,SNR=6.4
J29M Klondike Camp 6.00 20 Pn 19 15 46.7 +2.1
J29M Klondike Camp 6.00 20 P Pn 19 15 46.4 +1.8
baz=204
PPLA Purkeypile 6.01 316 Pn 19 15 46.8 +1.9
PPLA Purkeypile 6.01 316 P Pn 19 15 46.4 +1.6
baz=128,SNR=6.7
KTH Kantishna Hill 6.03 324 Pn 19 15 45.8 +0.8
N19K Bonanza Creek 6.10 293 Pn 19 15 46.6 +0.6
N19K Bonanza Creek 6.10 293 P Pn 19 15 47.1 +1.1
baz=104
IL31 6.17 344 Pn 19 15 47.2 +0.5
ILAR Eielson Array 6.17 344 Pn Pn 19 15 47.0 +0.2
comp=E,0.8nm,0.3s,baz=164,slow=13,SNR=28
ILAR Sn Sn 19 16 53.5 -3.6
comp=E,0.3nm,0.3s,baz=161,slow=14,SNR=7.6
comp=E,2.0nm,0.4s
CCB Clear Creek Bu 6.19 340 Pn 19 15 47.6 +0.5
R33M Jennings River 6.20 80 Pn 19 15 47.5 +0.1
R33M Jennings River 6.20 80 P Pn 19 15 47.3 0.0
baz=270
WRAK Wrangell Islan 6.23 109 P Pn 19 15 47.6 0.0
baz=298
S34M Telegraph Cree 6.31 94 P Pn 19 15 48.9 +0.2
baz=284
CAST Castle Rocks 6.31 320 Pn 19 15 49.6 +0.8
CAST Castle Rocks 6.31 320 P Pn 19 15 50.5 +1.8
baz=132,SNR=9.0
O18K Koktuh Hills 6.32 284 P Pn 19 15 50.2 +1.3
baz=94
P18K Big Mountain, 6.32 280 Pn 19 15 49.3 +0.3
P18K Big Mountain, 6.32 280 P Pn 19 15 49.6 +0.6
baz=90
CRAG Craig 6.37 119 Pn 19 15 48.1 -1.5
CRAG Craig 6.37 119 P Pn 19 15 48.3 -1.3
baz=306
NEA2 Nenana 6.39 336 Pn Pn 19 15 50.5 +0.7
NEA2 Nenana 6.39 336 P Pn 19 15 50.4 +0.5
baz=150
M19K Big River Lodg 6.40 303 Pn 19 15 49.9 -0.1
M19K Big River Lodg 6.40 303 P Pn 19 15 51.1 +1.1
baz=113
I26K Coal Creek Min 6.42 359 Pn 19 15 51.4 +1.1
I26K Coal Creek Min 6.42 359 P Pn 19 15 51.2 +1.0
baz=179
L20K Farewell, AK 6.44 308 Pn 19 15 50.8 +0.3
L20K Farewell, AK 6.44 308 P Pn 19 15 51.6 +1.0
baz=119,SNR=6.8
SII Sitkinak Islan 6.45 253 Pn Pn 19 15 51.2 +0.5
SII Sitkinak Islan 6.45 253 P Pn 19 15 51.8 +1.1
baz=64
BPAW Bear Paw Mtn. 6.46 327 Pn 19 15 51.5 +0.6
BPAW Bear Paw Mtn. 6.46 327 P Pn 19 15 51.4 +0.6
baz=140,SNR=7.0
MDM Murphy Dome 6.55 340 Pn 19 15 52.2 0.0
POKR Poker Plat Res 6.57 343 P Pn 19 15 52.7 +0.3
baz=160
SVW2 Sparrevohn 6.69 294 Pn 19 15 54.8 +0.8
CHUM Lake Minchumin 6.70 322 Pn 19 15 54.2 +0.1
CHUM Lake Minchumin 6.70 322 P Pn 19 15 55.9 +1.8
baz=134,SNR=5.2
L19K White Mountain 6.71 304 Pn 19 15 55.1 +0.8
L19K White Mountain 6.71 304 P Pn 19 15 55.5 +1.2
baz=114,SNR=13
PRP Porcupine Dome 6.74 351 Pn 19 15 55.6 +0.8
PRP Porcupine Dome 6.74 351 P Pn 19 15 55.6 +0.8
baz=169,SNR=6.2
I27K Kandik River 6.75 5 Pn 19 15 55.8 +0.9
I27K Kandik River 6.75 5 P Pn 19 15 55.5 +0.7
baz=186,SNR=8.6
N18K Kilae Creek 6.75 291 Pn 19 15 55.0 +0.2
N18K Kilae Creek 6.75 291 P Pn 19 15 55.9 +1.0
baz=100
DLBC Dease Lake 6.77 88 Pn Pn 19 15 55.8 +0.6
comp=E,0.7nm,0.3s,baz=279,slow=6.9,SNR=18
DLBC Sn Sn 19 17 06.8 -5.3
comp=E,1.6nm,0.3s,baz=112,slow=26,SNR=9.9
DLBC LR LR 19 18 37.3
comp=E,78nm,19.7s,baz=273,slow=40
comp=E,2.0nm,0.4s
DLBC Dease Lake 6.77 88 Pn 19 15 54.0 -1.2
DLBC Dease Lake 6.77 88 P Pn 19 15 54.9 -0.3
baz=279
I29M Ogilvie Camp, 6.83 17 Pn 19 15 57.2 +1.3
I29M Ogilvie Camp, 6.83 17 P Pn 19 15 57.5 +1.5
baz=201,SNR=5.1
MMPY Sheldon Lake, 6.83 52 P Pn 19 15 57.0 +1.0
baz=242,SNR=8.1
I23K Minto, Yukon-K 6.94 337 Pn 19 15 58.1 +0.8
P17K Kvichak River 6.95 278 Pn 19 15 58.1 +0.6
P17K Kvichak River 6.95 278 P Pn 19 15 59.0 +1.4
baz=87
K20K Telida 6.98 314 Pn 19 15 58.8 +0.9
K20K Telida 6.98 314 P Pn 19 15 59.4 +1.5
baz=125,SNR=20
R17K Ugashik Creek 7.19 266 P Pn 19 16 02.5 +1.7
baz=75
O17K Koliganek Bris 7.27 283 Pn 19 16 02.4 +0.4
O17K Koliganek Bris 7.27 283 P Pn 19 16 02.5 +0.6
baz=91
H24K Noodor Dome 7.31 344 Pn 19 16 03.0 +0.5
H24K Noodor Dome 7.31 344 P Pn 19 16 03.0 +0.5
baz=160
H27K Steamboat Moun 7.38 5 Pn 19 16 04.3 +0.9
H27K Steamboat Moun 7.38 5 P Pn 19 16 04.4 +0.9
baz=186
H25K Birch Creek 7.50 351 Pn 19 16 05.7 +0.7
H25K Birch Creek 7.50 351 P Pn 19 16 05.9 +0.9
baz=169
J20K Nowinta River 7.50 319 Pn 19 16 05.9 +0.8
J20K Nowinta River 7.50 319 P Pn 19 16 06.6 +1.5
baz=130,SNR=9.1
CHIR Chirikof Islan 7.50 251 Pn 19 16 04.3 -0.8
CHIR Chirikof Islan 7.50 251 P Pn 19 16 05.9 +0.7
baz=61
TT01 Tatalina 7.51 308 Pn 19 16 06.0 +0.7
TTA Tatalina 7.52 308 Pn Pn 19 16 05.9 +0.6
TTA Tatalina 7.52 308 P Pn 19 16 06.3 +1.0
baz=117,SNR=10
H23K Yukon River 7.58 339 Pn 19 16 06.7 +0.5
P16K Nushagak River 7.76 277 P Pn 19 16 09.5 +0.8
baz=85
O16K Kokwok River B 7.78 282 Pn 19 16 09.2 +0.3
O16K Kokwok River B 7.78 282 P Pn 19 16 09.8 +0.9
baz=89
R16K Pilot Point 7.82 266 P Pn 19 16 10.0 +0.5
baz=74
G27K Doyon Strip 7.95 4 Pn 19 16 11.5 +0.2
G27K Doyon Strip 7.95 4 P Pn 19 16 11.9 +0.6
baz=185
H22K Ishtalitna Cre 8.01 335 P Pn 19 16 12.7 +0.6
baz=147
G26K Porcupine Rive 8.08 358 P Pn 19 16 13.8 +0.8
baz=177
G24K Hadweenzic Riv 8.08 347 P Pn 19 16 13.6 +0.6
baz=163
N16K Nishlik Lake 8.14 288 Pn 19 16 13.9 0.0
N16K Nishlik Lake 8.14 288 P Pn 19 16 14.4 +0.5
baz=95
H21K Melozitna Rive 8.16 330 Pn 19 16 14.4 +0.3
H21K Melozitna Rive 8.16 330 P Pn 19 16 14.8 +0.6
baz=142
DIB Dawson Inlet, 8.20 130 Pn 19 16 13.3 -1.3
H02S1 DAWSON INLET T 8.20 130 Pn Pn 19 16 13.0 -1.6
H02S1 Sn Sn 19 17 37.9 -9.1
G23K Bananza Creek 8.46 341 P Pn 19 16 19.1 +0.8
baz=154
BM03 Burnt Mountain 8.57 356 Pn 19 16 19.9 +0.1
BMAR Burnt Mountain 8.58 356 Pn Pn 19 16 21.4 +1.5
G30M tAoh Zraii Nji 8.66 18 P Pn 19 16 20.9 -0.1
baz=204
IM03 8.66 329 Pn 19 16 21.0 0.0
IMAR Indian Mountai 8.66 329 Pn Pn 19 16 21.4 +0.4
CHGN Chignik 8.69 259 Pn Pn 19 16 21.8 +0.5
CHGN Chignik 8.69 259 P Pn 19 16 22.7 +1.3
baz=66
GCSA Galena City Sc 8.79 318 P Pn 19 16 24.1 +1.4
baz=126
GRNB Grenville Isla 8.82 119 Pn Pn 19 16 21.9 -1.3
F26K Sheenjek River 8.83 357 P Pn 19 16 24.3 +0.9
baz=176
F24K Squaw Lake 8.92 348 Pn 19 16 24.6 +0.1
F24K Squaw Lake 8.92 348 P Pn 19 16 24.9 +0.3
baz=163
G21K Allakaket 9.02 332 P Pn 19 16 27.4 +1.5
baz=143
E27K Coleen River 9.33 3 P Pn 19 16 30.3 +0.1
baz=184
HG4B Hotspring 9.39 130 Pn Pn 19 16 31.2 +0.2
F31M Tsiigehtchic 9.51 22 P Pn 19 16 33.2 +0.6
baz=210
E24K Your Creek 9.52 347 P Pn 19 16 34.0 +1.2
baz=162
CNBA Chernabura Isl 9.97 253 Pn 19 16 39.4 +0.5
SDPT Sand Point 10.15 257 Pn Pn 19 16 42.6 +1.2
INK Inuvik 10.31 20 LR LR 19 21 24.3
comp=E,56nm,20.7s,baz=54,slow=42
BBB Bella Bella 10.77 122 Pn Pn 19 16 49.0 -0.8
comp=E,0.2nm,0.3s,baz=294,slow=10.0,SNR=2.1
BBB Sn Sn 19 18 42.6 -7.5
comp=E,0.2nm,0.3s,baz=300,slow=6.9,SNR=2.3
comp=E,3.8nm,0.9s
BBB Bella Bella 10.77 122 Pn 19 16 48.8 -1.1
YKA Yellowknife Ar 14.28 63 LR LR 19 23 34.8
comp=E,54nm,18.1s,baz=302,slow=40
RES Resolute Bay 23.62 30 LR LR 19 29 31.7
comp=E,56nm,18.4s,baz=31,slow=39
NVAR Mina Array Bea 25.91 131 P P 19 19 46.4 -1.5
comp=E,0.1nm,0.5s,baz=338,slow=11,SNR=2.1
comp=E,0.1nm,0.5s
PETK Petropavlovsk- 32.69 286 P P 19 20 49.0 +1.2
comp=E,0.2nm,0.5s,baz=75,slow=13,SNR=4.1
comp=E,0.2nm,0.5s
H11N2 WAKE ISLAND Hy 53.11 245 T T 20 22 33.8
baz=30,slow=76,SNR=20
H11N3 WAKE ISLAND Hy 53.12 245 T T 20 22 27.8
baz=30,slow=76,SNR=18
H11N1 WAKE ISLAND Hy 53.13 245 T T 20 22 28.9
baz=30,slow=76,SNR=6.4
H11S1 WAKE ISLAND Hy 54.26 244 T T 20 23 41.3
baz=30,slow=76,SNR=3.5
H11S2 WAKE ISLAND Hy 54.27 244 T T 20 23 40.0
baz=30,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 54.28 244 T T 20 23 43.6
baz=30,slow=76,SNR=3.8
FINES FINESS Array B 59.68 6 P P 19 24 19.1 -0.4
comp=E,1.1nm,0.9s,baz=353,slow=9.8,SNR=1.3
comp=E,1.1nm,0.9s

*BGR **03** 19:14:51.9±0.9, 43°.77N×6°.97E, h10km, ML3.8/6, Error ellipse: s-maj=23.3km s-min=16.7km az=126.0*
*ROM **03** 19:14:53.6±0.1, 43°.949N±0°.007×7°.50E±0°.01, h14km±1km, ML3.3/46, Error ellipse: s-maj=0.8km s-min=0.4km az=227.0*
*IDC **03** 19:14:53.3±1.3, 44°.01N×7°.56E, h0km, mb3.3/3, mbtmp3.6/9, ML3.9/6, Error ellipse: s-maj=31.9km s-min=13.8km az=118.0*
*PRU **03** 19:14:54.7±0.0, 44°.07N×7°.32E, h10km*
*GEN **03** 19:14:54.1, 43°.98N×7°.54E, h8km±1km, Ml3.4*
*STR **03** 19:14:54.4±0.7, 44°.N±2″×±″, h9km±3km, MLv3.7/40, Error ellipse: s-maj=0.0km s-min=0.0km az=99.3, preliminary*
*LDG **03** 19:14:55.1±0.1, 43°.96N×7°.55E, h4km, Md3.4/3, Ml3.7/60, Error ellipse: s-maj=1.5km s-min=1.1km az=4.0*

ISC 03 19:14:54.0±0.7, 43°.99N±0°.01×7°.51E±0°.01, h15km±4km, n264, σ1.9 s 76/400, 21C-24D, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURF	col de Turini	0.09	260	P	Pg	19 14 57.0	-0.3
TURF				S	Sg	19 14 58.9	-0.6
TURF	col de Turini	0.09	260	⇑Pg	Pg	19 14 56.8	-0.5
TURF				Sg	Sg	19 14 58.9	-0.6
SBF	Sospel	0.14	203	*e*Pg	Pg	19 14 57.5	-0.3
SBF				*e*Sg	Sg	19 14 59.6	-0.7
	132μm,0.4s						
ESCA	l'Escarene	0.19	212	P	Pg	19 14 58.9	+0.4
ESCA				S	Sg	19 15 01.6	+0.2
ESCA	l'Escarene	0.19	212	⇓Pg	Pg	19 14 58.3	-0.2
ESCA				Sg	Sg	19 15 01.0	-0.4
MENA	Menton	0.21	184	P	Pg	19 14 59.2	+0.5
MENA				S	Sg	19 15 02.4	+0.5
SPIF	crte de Spivo	0.21	289	⇑Pg	Pg	19 14 59.2	+0.3
SPIF				Sg	Sg	19 15 02.6	+0.4
BURY	Giardini Botan	0.21	170	P	Pg	19 14 58.5	-0.2
BURY				S	Sg	19 15 01.6	-0.4
BURY	Giardini Botan	0.21	170	⇓P	Pg	19 14 58.5	-0.2
BURY				S	Sg	19 15 01.6	-0.4
MGRO	Montegrosso	0.22	76	P	Pg	19 14 59.1	0.0
MGRO				S	Sg	19 15 02.6	0.0
MGRO	Montegrosso	0.22	76	⇑P	Pg	19 14 59.2	0.0
MGRO				S	Sg	19 15 02.5	0.0
ENR	Entracque	0.24	345	P	Sg	19 15 00.0	+0.6
ENR				S	Sg	19 15 03.7	+0.5
ENR	Entracque	0.24	345	⇓P	Sg	19 15 00.0	+0.6
ENR				S	Sg	19 15 03.6	+0.5
MVIF	Mont Vial	0.27	250	P	Pg	19 15 00.7	+0.7
MVIF				S	Sb	19 15 05.1	-0.1
MVIF	Mont Vial	0.27	250	⇑Pg	Pg	19 15 00.1	+0.2
MVIF				Sg	Sg	19 15 04.5	+0.5
STV	Sant Anna di V	0.29	333	P	Sg	19 15 00.7	+0.5
STV				S	Sg	19 15 04.8	+0.4
STV	Sant Anna di V	0.29	333	⇓P	Sg	19 15 00.7	+0.5
STV				S	Sg	19 15 04.7	+0.4
IMI	Imperia	0.29	106	P	Pg	19 14 60.0	-0.2
IMI				S	Sg	19 15 03.9	-0.5
IMI	Imperia	0.29	106	⇑P	Pg	19 14 60.0	-0.2
IMI				S	Sg	19 15 04.0	-0.3
ISO	Isola	0.38	300	P	Pg	19 15 02.4	+0.5
ISO				S	Sg	19 15 07.5	+0.3
ISO	Isola	0.38	300	⇑Pg	Pg	19 15 02.4	+0.5
ISO				Sg	Sg	19 15 07.5	+0.3
RORO	Rocca Rossa	0.42	73	P	Pg	19 15 02.5	0.0
RORO				S	Sg	19 15 08.2	0.0
RORO	Rocca Rossa	0.42	73	⇓P	Pg	19 15 02.5	0.0
RORO				S	Sg	19 15 08.2	0.0
RORO				AML	AML		
	comp=E,12370μm,0.2s						
RORO				AML	AML		
	comp=N,14500μm,0.1s						
RORO				AML	AML		
	comp=E,12375μm,0.2s						
EILF	Villa Eilenroc	0.52	212	P	Pb	19 15 04.9	+0.1
EILF				S	Sg	19 15 11.9	+0.6
EILF	Villa Eilenroc	0.52	212	Pg	Pg	19 15 04.2	-0.1
EILF				Sg	Sg	19 15 11.4	+0.1
CANO	Canova, Maglio	0.57	67	P	Pg	19 15 05.2	0.0
CANO				S	Sg	19 15 12.8	0.0
CANO	Canova, Maglio	0.57	67	⇑P	Pg	19 15 05.2	0.0
CANO				S	Sg	19 15 12.7	-0.1
CANO				AML	AML		
	comp=E,7255μm,1.3s						
CANO				AML	AML		
	comp=N,10920μm,1.3s						
CANO				AML	AML		
	comp=E,7255μm,0.7s						
PZZ	Stroppo	0.59	331	P	Pg	19 15 06.0	+0.4
PZZ				S	Sg	19 15 14.1	+0.6
PZZ	Stroppo	0.59	331	⇓P	Pg	19 15 06.0	+0.4
PZZ				S	Sg	19 15 14.1	+0.6
PZZ				AML	AML		
	comp=E,7530μm,1.2s						
PZZ				AML	AML		
	comp=N,9555μm,0.3s						
PZZ				AML	AML		
	comp=E,7530μm,0.8s						
QLNO	Quiliano	0.69	61	P	Pg	19 15 07.5	+0.1
QLNO				S	Sg	19 15 16.4	-0.2
QLNO	Quiliano	0.69	61	⇑P	Pg	19 15 07.5	+0.1
QLNO				S	Sg	19 15 16.3	-0.3
QLNO				AML	AML		
	comp=E,6620μm,0.4s						
QLNO				AML	AML		
	comp=N,6465μm,0.4s						
SURF	Saint Ours	0.70	315	P	Pb	19 15 08.4	+0.3
SURF				S	Sb	19 15 17.9	+0.3
SURF	Saint Ours	0.70	315	⇓Pg	Pb	19 15 08.4	+0.3
SURF				Sg	Sb	19 15 17.9	+0.3
TRIGF	Trigance	0.83	253	⇑Pg	Pg	19 15 10.5	+0.3
OGAG	Argentiere	0.84	304	P	Pn	19 15 14.6	+3.2
OGAG				S	Sn	19 15 29.1	+5.6
OGAG	Argentiere	0.84	304	⇓Pg	Pn	19 15 14.6	+3.2
OGAG				Sg	Sn	19 15 29.4	+5.9
BHB	Bricherasio	0.87	348	P	Pb	19 15 09.8	-1.0
BHB				S	Sg	19 15 21.3	-1.0
BHB	Bricherasio	0.87	348	⇓P	Pb	19 15 09.8	-1.0
BHB				S	Sg	19 15 21.9	-0.4
OGDI	Digne	0.88	278	P	Pn	19 15 13.2	+1.3
OGDI				S	Sn	19 15 26.4	+1.9
OGDI	Digne	0.88	278	⇑Pg	Pn	19 15 13.2	+1.3
MBDF	Montbardon	0.91	325	*e*Pg	Pb	19 15 11.8	+0.3
MBDF				*e*Sg	Sg	19 15 24.5	+0.9
	comp=N,686nm,0.2s						
PCP	Piancastagn	0.93	53	P	Pb	19 15 11.8	0.0
PCP				S	Sg	19 15 24.4	+0.3
PCP	Piancastagn	0.93	53	⇑P	Pb	19 15 11.8	0.0
PCP				S	Sg	19 15 25.1	+1.0
PCP				AML	AML		
	comp=E,5045μm,1.5s						
PCP				AML	AML		
	comp=N,5375μm,0.6s						
PCP				AML	AML		
	comp=E,5045μm,0.5s						
PCP				AML	AML		
	comp=N,5375μm,1.4s						
LMR	La Mourre	0.98	228	*e*Pg	Pb	19 15 12.7	+0.1
LMR				*e*Sg	Sb	19 15 25.3	0.0
	comp=N,4μm,0.3s						
ROTM	Rocchetta Tana	1.05	35	P	Pg	19 15 13.5	+0.9
ROTM				S	Sn	19 15 29.7	+1.1
ROTM	Rocchetta Tana	1.05	35	⇑P	Pg	19 15 15.2	+0.9
ROTM				S	Sn	19 15 30.2	+1.6
ROTM				AML	AML		
	comp=E,14850μm,0.6s						
ROTM				AML	AML		
	comp=N,20650μm,0.4s						
ROTM				AML	AML		
	comp=E,14850μm,1.4s						
ROTM				AML	AML		
	comp=N,20650μm,1.6s						
BLAF	les Blancs	1.06	268	Pg	Pg	19 15 14.9	+0.5
RRL	Rocca Remolon	1.06	331	P	Pb	19 15 14.1	-0.2
RRL				S	Sn	19 15 29.7	+0.4
RRL	Rocca Remolon	1.06	331	P	Pb	19 15 14.0	-0.2
RRL				S	Sn	19 15 29.5	+0.3
RRL				AML	AML		
	comp=E,2455μm,1.0s						
RRL				AML	AML		
	comp=N,1200μm,0.7s						
RRL				AML	AML		
	comp=N,1200μm,1.3s						
FLAF	Flassans-sur-I	1.09	237	⇑Pg	Pb	19 15 15.0	+0.4
FLAF				Sg	Sg	19 15 29.8	+0.4
MONC	Moncucco Torin	1.12	15	P	Pg	19 15 16.3	+0.6
MONC	Moncucco Torin	1.12	15	P	Pg	19 15 16.5	+0.7
MONC				AML	AML		
	comp=E,6825μm,0.3s						
MONC				AML	AML		
	comp=N,6745μm,0.2s						
MONC				AML	AML		
	comp=N,6745μm,1.8s						
RSP	Reno Superiore	1.17	352	P	Pn	19 15 14.6	-1.4
RSP	Reno Superiore	1.17	352	⇓P	Pn	19 15 14.6	-1.4
RSP				AML	AML		
	comp=E,942μm,1.3s						
RSP				AML	AML		
	comp=N,1365μm,0.2s						
RSP				AML	AML		
	comp=N,1445μm,0.2s						
RSP				AML	AML		
	comp=E,938μm,1.3s						
RSP				AML	AML		
	comp=E,991μm,1.3s						
RSP				AML	AML		
	comp=E,938μm,0.7s						
RSP				AML	AML		
	comp=E,991μm,0.7s						
RSP				AML	AML		
	comp=N,1370μm,0.2s						

BNI Bardonecchia 1.22 331 P **Pn** 19 15 16.8 +0.1
BNI Bardonecchia 1.22 331 ⇓P **Pn** 19 15 16.8 +0.1
BNI AML AML
comp=E,496µm,1.6s
BNI AML AML
comp=E,650µm,1.6s
BNI AML AML
comp=E,496µm,1.6s
BNI AML AML
comp=E,496µm,0.4s
BNI AML AML
comp=N,446µm,0.8s
BNI AML AML
comp=N,530µm,0.7s
BNI AML AML
comp=E,650µm,0.4s
ARTF Artigues 1.30 253 ⇑Pn **Pb** 19 15 18.4 +0.3
ARTF Sg **Sg** 19 15 36.6 +0.7
BSTF la Bastide-des 1.35 266 ⇑Pn **Pb** 19 15 19.6 +0.6
BSTF Sg **Sg** 19 15 38.6 +1.1
OGMO Fort Saint-Gob 1.35 335 P **Pb** 19 15 19.2 0.0
OGMO Fort Saint-Gob 1.35 335 Pn **Pb** 19 15 19.1 0.0
SMRF Simiane la Rot 1.40 270 *e*Pn **Pb** 19 15 20.5 +0.7
SMRF Simiane la Rot 1.40 270 *e*Pg **Pg** 19 15 21.8 +0.9
SMRF *e*Sg **Sg** 19 15 40.0 +1.0
comp=E,3µm,0.3s
GORR Gorreto 1.42 64 P **Pn** 19 15 19.5 +0.2
GORR Gorreto 1.42 64 ⇑P **Pn** 19 15 19.5 +0.2
GORR AML AML
comp=E,1150µm,0.5s
GORR AML AML
comp=N,1345µm,0.6s
GORR AML AML
comp=E,1150µm,1.5s
RUSF Rustrel 1.46 269 Pn **Pb** 19 15 21.3 +0.4
RUSF Sg **Sg** 19 15 42.8 +1.7
MSSA Maissana 1.48 77 P **Pn** 19 15 19.9 -0.3
MSSA Maissana 1.48 77 P **Pn** 19 15 20.3 +0.1
MSSA AML AML
comp=N,454µm,1.0s
MSSA AML AML
comp=E,466µm,0.8s
ORIF Oris-en-Rattie 1.49 309 *e*Pn **Pb** 19 15 22.2 +0.7
ORIF *e*Sn **Sb** 19 15 40.7 +0.5
comp=E,2µm,0.7s
ORIF *e*Sg **Sg** 19 15 43.7 +1.6
comp=E,862nm,0.3s
ORIF Oris-en-Rattie 1.49 309 ⇓Pn **Pg** 19 15 22.5 -0.2
LSD Lago del Serru 1.49 350 ⇓P **Pn** 19 15 20.0 -0.5
LSD AML AML
comp=E,1385µm,0.8s
LSD AML AML
comp=N,846µm,0.5s
TRAV Traversella 1.53 6 P **Pn** 19 15 20.0 -0.9
TRAV AML AML
comp=E,585µm,0.4s
TRAV AML AML
comp=N,534µm,0.3s
TRAV AML AML
comp=E,585µm,1.6s
GDM Grand'Maison 1.57 321 ⇓Pn **Pg** 19 15 23.9 -0.2
BOB Bobbio (Coli) 1.59 60 P **Pb** 19 15 23.1 -0.1
LPG La Plagne 1.60 341 *e*Pn **Pn** 19 15 22.7 +0.6
LPG *e*Sn **Sb** 19 15 43.7 +0.1
LPG *e*Sg **Sg** 19 15 47.3 +1.6
comp=E,411nm,0.4s
CIRO Champorcher 1.61 1 ⇓P **Pn** 19 15 21.3 -0.9
CIRO AML AML
comp=N,392µm,0.7s
CIRO AML AML
comp=E,507µm,1.2s
LPL La Plagne 1.62 340 *e*Pn **Pn** 19 15 23.2 +0.9
LPL La Plagne 1.62 340 *e*Pg **Pg** 19 15 26.2 +1.0
LPL *e*Sg **Sg** 19 15 47.7 +1.3
comp=E,246nm,0.4s
ARBF Arbois 1.65 253 Pn **Pn** 19 15 23.4 +0.9
PLMA Palmaria, Port 1.69 87 P **Pn** 19 15 22.9 -0.1
PLMA AML AML
comp=E,340µm,0.8s
PLMA AML AML
comp=N,405µm,0.5s
PLMA AML AML
comp=E,340µm,0.8s
PLMA AML AML
comp=N,405µm,1.5s
SAUF chteau de Sau 1.73 269 ⇑Pn **Pn** 19 15 24.8 +1.2
GRN Grenoble 1.78 315 ⇑Pn **Pg** 19 15 27.6 -0.5
PGF Pioggiola 1.81 142 *e*Pn **Pn** 19 15 22.8 -1.9
PGF *e*Sn **Sn** 19 15 43.4 -4.0
comp=N,109nm,0.2s
PGF Pioggiola 1.81 142 Pn **Pn** 19 15 23.0 -1.7
MRGE Morge 1.81 350 P **Pn** 19 15 25.4 +0.7
RSL Roselend 1.81 340 Pn **Pb** 19 15 26.6 -0.4
GROG Isola di Gorgo 1.82 107 P **Pn** 19 15 24.0 -0.8
GROG AML AML
comp=N,221µm,1.5s
GROG AML AML
comp=E,270µm,0.3s
REMY Saint-Rhmy-en 1.86 352 P **Pn** 19 15 26.6 +1.0
REMY AML AML
comp=N,460µm,0.4s
REMY AML AML
comp=E,758µm,1.0s
REMY AML AML
comp=N,460µm,1.6s
REMY AML AML
comp=E,758µm,1.0s
SATI Passo dei Sala 1.90 8 P **Pn** 19 15 26.0 -0.2
SATI AML AML
comp=E,174µm,1.0s
SATI AML AML
comp=N,206µm,0.7s
GRAM Graiana 1.91 74 P **Pn** 19 15 26.6 +0.6
GRAM AML AML
comp=N,847µm,0.4s
GRAM AML AML
comp=E,987µm,0.3s
EQUI Equi 1.91 84 P **Pn** 19 15 26.0 -0.1
EQUI AML AML
comp=E,184µm,0.3s
EQUI AML AML
comp=N,284µm,0.4s
OGSM Saint Maurice 2.07 322 Pn **Pb** 19 15 31.1 -0.2
VARE Varese 2.08 25 P **Pn** 19 15 30.0 +1.5
VARE AML AML
comp=N,567µm,0.9s
VARE AML AML
comp=E,720µm,0.8s
VARE AML AML
comp=N,567µm,1.1s
VLC Villacollemand 2.08 84 P **Pn** 19 15 28.3 -0.1
VLC AML AML
comp=N,201µm,1.2s
VLC AML AML
comp=N,178µm,0.9s
VLC AML AML
comp=E,182µm,0.3s
VLC AML AML
comp=E,174µm,0.3s
VLC AML AML
comp=E,182µm,1.7s
VLC AML AML
comp=E,174µm,1.7s
VLC AML AML
comp=N,201µm,0.8s
VLC AML AML
comp=N,178µm,1.1s
MMK Mattmark 2.09 9 P **Pn** 19 15 29.2 +0.5
MMK AML AML
comp=E,238µm,0.4s
MMK AML AML
comp=N,250µm,0.3s
DIX Grande Dixence 2.09 358 P **Pn** 19 15 29.5 +0.7
DIX AML AML
comp=E,206µm,0.4s
DIX AML AML
comp=N,238µm,0.4s
DIX Grande Dixence 2.09 358 Pn **Pn** 19 15 29.4 +0.6
OGSI Sixt 2.14 346 ⇑Pn **Pb** 19 15 31.9 -0.7
CARD Cardoso 2.15 88 P **Pn** 19 15 29.0 -0.2
CARD AML AML
comp=N,378µm,1.4s
CARD AML AML
comp=E,349µm,1.0s
CARD AML AML
comp=N,378µm,0.6s
CARD AML AML
comp=E,349µm,1.0s
MAIM Mastiano 2.15 91 P **Pn** 19 15 29.0 -0.4
PII Pisa 2.20 96 P **Pn** 19 15 29.6 -0.3
PII AML AML
comp=E,230µm,0.3s
PII AML AML
comp=N,213µm,0.8s
PII AML AML
comp=N,213µm,1.2s
VIVF Saint-Julien-l 2.21 294 *e*Pn **Pn** 19 15 31.3 +1.1
VIVF Saint-Julien-l 2.21 294 *e*P **Pb** 19 15 33.9 +0.2
VIVF Saint-Julien-l 2.21 294 *e*Pg **Pg** 19 15 36.9 +0.5
VIVF *e*Sn **Sn** 19 15 57.8 +0.6
comp=N,125nm,0.2s
VIVF *e*Sg **Sg** 19 16 05.5 +0.5
comp=N,210nm,0.2s
MUGIO Muggio 2.22 29 P **Pn** 19 15 31.5 +1.2
MUGIO AML AML
comp=E,360µm,0.7s
MUGIO AML AML
comp=N,318µm,0.8s
MUGIO AML AML
comp=E,360µm,1.3s
BDI Bagni Di Lucca 2.23 87 P **Pn** 19 15 30.4 0.0
BDI AML AML
comp=E,97µm,0.4s
BDI AML AML
comp=N,87µm,0.6s
BDI AML AML
comp=E,97µm,1.6s
EMBD Embd, Matterta 2.24 6 Pn **Pn** 19 15 32.1 +1.5
GSCL Gusciola 2.25 80 AML AML
comp=E,300µm,1.2s
GSCL AML AML
comp=N,272µm,1.3s
GSCL AML AML
comp=N,272µm,0.7s
GSCL AML AML
comp=E,300µm,0.8s
AJAC Base Areonaval 2.26 155 P **Pn** 19 15 29.8 -0.9
AJAC AML AML
comp=N,526µm,0.3s
AJAC AML AML
comp=E,921µm,0.3s
AJAC Base Areonaval 2.26 155 Pn **Pn** 19 15 29.9 -0.9
AJAC Sn **Sn** 19 15 55.6 -2.7
SMPL Sampolo 2.30 145 P **Pn** 19 15 30.5 -0.9
SMPL AML AML
comp=E,162µm,0.3s
SMPL AML AML
comp=N,146µm,0.3s
SMPL AML AML
comp=E,162µm,1.7s
SMPL Sampolo 2.30 145 Pn **Pn** 19 15 30.6 -0.7
SMPL Sn **Sn** 19 15 56.6 -2.8
POPM Popiglio 2.34 88 P **Pn** 19 15 32.2 +0.2
POPM AML AML
comp=N,235µm,0.8s
POPM AML AML
comp=E,354µm,1.2s
AIGLE Aigle 2.38 351 Pn **Pb** 19 15 35.6 -1.1
OG35 Corcelles 2.47 327 Pn **Pb** 19 15 36.4 -1.8
ZCCA Zocca 2.52 81 P **Pb** 19 15 37.2 -1.7
ZCCA AML AML
comp=E,231µm,0.5s
ZCCA AML AML
comp=E,242µm,0.6s
ZCCA AML AML
comp=N,356µm,0.7s
ZCCA AML AML
comp=N,262µm,0.7s
ZONE Zone 2.57 45 AML AML
comp=E,273µm,0.4s
ZONE AML AML
comp=N,280µm,0.2s
MPPT Montemurlo 2.59 89 P **Pn** 19 15 35.5 +0.1
FUSIO Fusio 2.60 18 P **Pn** 19 15 36.1 +0.6
FUSIO AML AML
comp=N,127µm,0.6s
FUSIO AML AML
comp=E,114µm,1.0s
LASF Ste Croix 2.63 273 *e*Pn **Pn** 19 15 36.3 +0.3
LASF Ste Croix 2.63 273 *e*Pg **Pg** 19 15 44.2 -0.3
LASF *e*Sn **Sn** 19 16 07.9 +0.2
comp=E,126nm,0.2s
LASF *e*Sg **Sg** 19 16 18.6 -0.1
comp=E,58nm,0.2s
GIMEL St. Georges / 2.69 341 Pn **Pn** 19 15 39.1 +2.3
SALO Salr 2.69 52 P **Pn** 19 15 39.0 +2.1
SALO AML AML
comp=E,422µm,0.5s
SALO AML AML
comp=E,432µm,0.6s
SALO AML AML
comp=N,526µm,1.5s
SALO AML AML
comp=N,546µm,1.6s
SALO AML AML
comp=N,546µm,0.4s
SALO AML AML
comp=N,526µm,0.5s
CASP Castiglione de 2.72 115 P **Pn** 19 15 36.4 -0.8
CASP AML AML
comp=N,216µm,1.1s
CASP AML AML
comp=E,186µm,1.4s
SEI Scarperia 2.78 87 P **Pn** 19 15 39.4 +1.4
SEI AML AML
comp=E,188µm,0.5s
SEI AML AML
comp=N,229µm,0.6s
SEI AML AML
comp=N,229µm,1.4s
SEI AML AML
comp=E,188µm,1.5s
CABF La Chapelle 2.81 340 *e*Pn **Pn** 19 15 40.2 +1.8
CABF La Chapelle 2.81 340 *e*Pg **Pg** 19 15 47.7 -0.1
CABF *e*Sn **Sn** 19 16 11.8 -0.3
comp=E,32nm,0.3s
CABF *e*Sg **Sg** 19 16 24.4 +0.2
comp=E,19nm,0.2s
TORNY Torny/Romont 2.81 352 Pn **Pn** 19 15 40.7 +2.3
MAGA Magasa 2.85 50 P **Pn** 19 15 40.7 +1.7
MAGA AML AML
comp=N,670µm,0.4s
MAGA AML AML
comp=E,1030µm,0.5s
RUFI Rufina 2.90 92 P **Pn** 19 15 39.7 +0.1
MABI Malga Bissina 2.97 45 P **Pn** 19 15 42.1 +1.4
MABI AML AML
comp=E,104µm,0.9s
MABI AML AML
comp=N,116µm,1.4s
MABI AML AML
comp=E,104µm,1.1s
MABI AML AML
comp=N,116µm,0.6s
RIVEL MONT RIVEL 2.99 339 Pn **Pn** 19 15 43.3 +2.4
ROVR Rover Verones 3.03 56 P **Pn** 19 15 42.6 +1.1
ROVR AML AML
comp=E,106µm,0.4s
ROVR AML AML
comp=N,200µm,1.4s
BRANT Les Verrieres 3.04 346 ⇓Pn **Pn** 19 15 43.6 +2.0
ASQU Asqua 3.10 92 P **Pn** 19 15 42.5 +0.1
ASQU AML AML
comp=E,86µm,0.7s
ASQU AML AML
comp=N,68µm,0.6s
ASQU AML AML
comp=E,86µm,1.3s
LUSI Trento, Gardas 3.13 50 P **Pn** 19 15 44.6 +1.7
LUSI AML AML
comp=N,362µm,0.9s
LUSI AML AML
comp=E,234µm,0.3s
LUSI AML AML
comp=N,362µm,1.1s
SFI Santa Sofia 3.13 90 P **Pn** 19 15 42.9 0.0
GAGG Gaggia 3.22 48 P **Pn** 19 15 46.0 +1.8
GAGG AML AML
comp=N,166µm,0.6s
GAGG AML AML
comp=E,190µm,1.1s
GAGG AML AML
comp=N,166µm,1.4s
GAGG AML AML
comp=E,190µm,0.9s
DOSS Dosso del Somm 3.23 53 P **Pn** 19 15 45.5 +1.2
DOSS AML AML
comp=E,450µm,0.8s
DOSS AML AML
comp=N,454µm,0.8s
DOSS AML AML
comp=E,362µm,0.5s
DOSS AML AML
comp=N,362µm,1.6s
DOSS AML AML
comp=E,450µm,1.2s
DOSS AML AML
comp=E,362µm,1.5s
DOSS AML AML
comp=N,362µm,0.4s
DOSS AML AML
comp=N,454µm,1.2s
CRE Caprese Michel 3.24 95 P **Pn** 19 15 45.2 +0.8
CRE AML AML
comp=E,97µm,0.4s
CRE AML AML
comp=N,103µm,0.5s
DAVOX Davos/Dischmat 3.25 30 Pn **Pn** 19 15 47.2 +2.6
comp=N,7.4nm,0.3s,baz=215,slow=8.4,SNR=89
DAVOX Sn **Sn** 19 16 25.7 +2.5
comp=N,8.0nm,0.3s,baz=0.8,slow=22,SNR=7.1
comp=N,20nm,0.3s
LBL Lubilhac 3.29 294 ⇑Pn **Pn** 19 15 45.9 +0.9
PLONS Plons/SG 3.33 23 P **Pn** 19 15 48.0 +2.4
PARC Parchiule 3.44 94 P **Pn** 19 15 47.9 +0.8
PARC AML AML
comp=N,39µm,0.5s
PARC AML AML
comp=E,48µm,1.1s
CGRP Cima Grappa 3.59 57 P **Pn** 19 15 50.2 +1.0
CTI Castel Tesino 3.59 54 P **Pn** 19 15 50.6 +1.4
CTI AML AML
comp=E,203µm,1.4s
CTI AML AML
comp=N,259µm,0.7s
CTI AML AML
comp=N,259µm,1.3s
ATVO AVT- Monte Val 3.60 98 AML AML
comp=E,50µm,1.2s
ATVO AML AML
comp=N,36µm,0.6s
ATVO AML AML
comp=E,50µm,0.8s
KOSI Kohlern 3.69 47 AML AML
comp=E,130µm,1.0s
KOSI AML AML
comp=N,166µm,0.4s
DAVA Damuels 3.69 26 *i* Pn **Pn** 19 15 53.4 +2.8
comp=N,11nm,0.2s,SNR=17
DAVA *i* Sn **Sn** 19 16 37.4 +3.4
comp=N,43nm,0.3s
SMF Signal de Mont 3.71 317 *e*Pn **Pn** 19 15 52.4 +1.7
SMF Signal de Mont 3.71 317 *e*Pg **Pg** 19 16 04.4 -0.6
SMF *e*Sn **Sn** 19 16 33.6 -0.5
comp=N,57nm,0.3s
SMF *e*Sg **Sg** 19 16 52.3 -0.7
comp=N,44nm,0.4s
ATFO Monte Foce - G 3.73 98 AML AML
comp=N,37µm,0.7s
ATFO AML AML
comp=E,39µm,0.9s
AGO Saint Agoulin 3.73 305 Pn **Pn** 19 15 53.0 +2.0
FETA Feichten 3.78 36 *e*Pn **Pn** 19 15 56.0 +4.1
comp=E,5.0nm,0.3s,SNR=25
FETA *i* Sn **Sn** 19 16 40.0 +3.8
comp=E,11nm,0.3s
HINF Hinteralfeld 3.85 353 *e*Pn **Pn** 19 15 53.9 +1.1
HINF *e*Sn **Sn** 19 16 36.9 -0.9
comp=E,20nm,0.3s
ASSB Assisi San Ben 3.86 102 AML AML
comp=E,28µm,1.3s
ASSB AML AML
comp=N,27µm,1.0s
ASSB AML AML
comp=E,28µm,0.7s
AGOR Agordo 3.95 53 AML AML
comp=E,102µm,0.6s
AGOR AML AML
comp=N,85µm,0.6s
CAF Calviac 4.01 285 *e*Pn **Pn** 19 15 56.2 +1.3
CAF Calviac 4.01 285 *e*P **Pn** 19 15 59.3 +4.4
CAF *e*Sn **Sn** 19 16 40.9 -0.7
comp=N,63nm,0.3s
CAF *e*Sg **Sg** 19 17 01.6 -1.1
comp=N,43nm,0.3s
AVF Avril sur Loir 4.05 315 *e*Pn **Pn** 19 15 57.4 +2.0
AVF *e*Sn **Sn** 19 16 41.7 -0.9
comp=N,33nm,0.3s
AVF *e*Sg **Sg** 19 17 02.3 -1.7
comp=N,40nm,0.5s
SRES S.Oreste - Sor 4.06 114 AML AML
comp=E,33µm,0.3s
SRES AML AML
comp=N,29µm,0.5s
FNEB Nbias 4.08 256 Pn **Pn** 19 15 56.9 +1.0
HAU Haudompre 4.10 349 *e*Pn **Pn** 19 15 57.2 +1.1
HAU *e*Sn **Sn** 19 16 43.0 -0.8
comp=N,76nm,0.3s
UBR Ueberruh 4.11 25 *e*Pn **Pn** 19 15 58.5 +2.1
UBR *e*Sn **Sn** 19 16 47.4 +3.1
SQTA Sankt Quirin 4.14 37 *i* Pn **Pn** 19 16 01.0 +4.2
comp=N,7.9nm,0.2s,SNR=22
SQTA *i* Sn **Sn** 19 16 49.2 +4.1
comp=N,20nm,0.3s
LOR Lormes 4.16 323 *e*Pn **Pn** 19 15 58.4 +1.4
baz=146
LOR *e*Sn **Sn** 19 16 44.4 -0.9
comp=N,22nm,0.2s,baz=146
LOR Lormes 4.16 323 Pn **Pn** 19 15 59.3 +2.3
SSF Saint Saulge 4.17 319 *e*Pn **Pn** 19 15 58.4 +1.4
SSF *e*Sn **Sn** 19 16 44.8 -0.6
comp=N,65nm,0.4s
SSF *e*Sg **Sg** 19 17 07.9 +0.2
comp=N,40nm,0.4s
BGF Bois d'Agland 4.17 310 *e*Pn **Pn** 19 15 59.2 +2.1
BGF Bois d'Agland 4.17 310 *e*Pg **Pg** 19 16 13.4 -0.5
BGF *e*Sn **Sn** 19 16 44.4 -1.2
comp=N,54nm,0.3s
BGF *e*Sg **Sg** 19 17 07.2 -0.8
comp=N,93nm,0.5s
RETA Reutte 4.17 32 *i* Pn **Pn** 19 15 60.0 +2.8
comp=N,5.8nm,0.3s,SNR=7.8
RETA *i* Sn **Sn** 19 16 49.0 +3.3
comp=N,15nm,0.4s
CIMO Cimolais 4.19 55 AML AML
comp=N,46µm,0.7s
CIMO AML AML
comp=N,49µm,1.0s
CIMO AML AML
comp=E,40µm,1.4s
CIMO AML AML
comp=E,45µm,1.3s
CIMO AML AML
comp=N,46µm,1.3s
MOTA Moosalm 4.20 36 *i* Pn **Pn** 19 16 00.9 +3.3
comp=N,5.4nm,0.2s,SNR=23
MOTA *i* Sn **Sn** 19 16 48.6 +2.2
comp=N,16nm,0.3s
STAL STALIGIAL 4.33 57 AML AML
comp=N,172µm,0.9s
STAL AML AML
comp=N,172µm,1.1s
STAL AML AML
comp=E,219µm,0.3s
WTTA Wattenberg 4.37 40 *e*Pn **Pn** 19 16 03.7 +3.7
comp=E,7.1nm,0.2s,SNR=27
WTTA *e*Sn **Sn** 19 16 53.8 +3.1
comp=E,25nm,0.5s
BFO Black Forest 4.38 7 *e*Pn **Pn** 19 16 00.1 +0.1
BFO *e*Sn **Sn** 19 16 51.6 +0.9
WATA Walderalm 4.40 39 *i* Pn **Pn** 19 16 04.0 +3.7
comp=E,3.4nm,0.2s,SNR=16
WATA *i* Sn **Sn** 19 16 54.7 +3.4
comp=E,12nm,0.3s
TCF Toulx Ste Croi 4.40 303 *e*Pn **Pn** 19 16 01.6 +1.4
TCF *e*Sn **Sn** 19 16 50.3 -0.9
comp=E,18nm,0.2s
TCF *e*Sg **Sg** 19 17 13.9 -1.2
comp=E,16nm,0.4s

CDF	**Champ du Feu**	**4.43**	**358**	*e*Pn	**Pn**	**19 16 01.1**	**+0.4**
CDF				*e*Sn	**Sn**	**19 16 50.7**	**-1.3**
	comp=E,13nm,0.3s						
RJF	**Les Rejaudoux**	**4.47**	**289**	*e*Pn	**Pn**	**19 16 02.4**	**+1.1**
RJF	**Les Rejaudoux**	**4.47**	**289**	*e*P	**Pn**	**19 16 05.8**	**+4.5**
RJF	**Les Rejaudoux**	**4.47**	**289**	*e*Pg	**Pg**	**19 16 18.7**	**-0.9**
RJF				*e*Sn	**Sn**	**19 16 51.9**	**-1.1**
	comp=E,42nm,0.3s						
RJF				*e*Sg	**Sg**	**19 17 16.2**	**-1.4**
	comp=E,21nm,0.3s						
ABTA	**Abfaltersbach**	**4.48**	**50**	*e*Pn	**Pn**	**19 16 04.3**	**+3.0**
	comp=E,6.3nm,0.3s,SNR=21						
ABTA				*i* Sn	**Sn**	**19 16 56.3**	**+3.1**
	comp=E,11nm,0.3s						
CLUD	**Cludinico**	**4.53**	**55**	AML	AML		
	comp=N,55µm,1.2s						
CLUD				AML	AML		
	comp=E,57µm,1.1s						
CLUD				AML	AML		
	comp=E,57µm,0.9s						
SFTF	**Sexfontaines**	**4.55**	**339**	*e*Pn	**Pn**	**19 16 04.2**	**+1.9**
	baz=158						
SFTF				*e*Sn	**Sn**	**19 16 53.7**	**-1.3**
	comp=E,10nm,0.1s,baz=156						
MONQ	**Montcuq**	**4.56**	**277**	⇑Pn	**Pn**	**19 16 03.3**	**+1.0**
PAND	**Andorre**	**4.59**	**253**	Pn	**Pn**	**19 16 04.5**	**+1.4**
PAGF	**Fort de Pagny**	**4.73**	**345**	*e*Pn	**Pn**	**19 16 06.6**	**+1.8**
	baz=166						
PAGF				*e*Sn	**Sn**	**19 16 58.3**	**-1.0**
	comp=E,11nm,0.2s						
HYF	**Humbligny**	**4.73**	**316**	*e*Pn	**Pn**	**19 16 06.3**	**+1.5**
HYF				*e*Sn	**Sn**	**19 16 58.6**	**-0.8**
HYF				*e*Sg	**Sg**	**19 17 24.1**	**-1.8**
MEZF	**Maizieres J'vi**	**4.82**	**340**	*e*Pn	**Pn**	**19 16 07.7**	**+1.7**
	baz=161						
MEZF				*e*Sn	**Sn**	**19 17 00.1**	**-1.5**
	comp=E,15nm,0.3s,baz=163						
SKDS	**Skadanscina**	**4.89**	**69**	*i* Pn	**Pn**	**19 16 06.6**	**-0.4**
SKDS				*e*Sn	**Sn**	**19 16 58.8**	**-4.5**
SKDS				IAML		19 17 03.8	
	comp=Z,8.4nm,0.2s						
SAVF	**Savonnieres en**	**4.91**	**341**	*e*Pn	**Pn**	**19 16 09.5**	**+2.2**
	baz=164						
SAVF				*e*Sn	**Sn**	**19 17 02.4**	**-1.4**
	comp=Z,12nm,0.2s						
FUR	**Furstenfeldbru**	**4.93**	**31**	*e*Pn	**Pn**	**19 16 09.0**	**+1.5**
LFF	**La Frestale**	**4.94**	**283**	*e*Pn	**Pn**	**19 16 08.8**	**+1.2**
LFF	**La Frestale**	**4.94**	**283**	*e*Pg	**Pg**	**19 16 27.1**	**-1.4**
LFF				*e*Sn	**Sn**	**19 17 02.7**	**-1.7**
	comp=Z,39nm,0.3s						
LFF				*e*Sg	**Sg**	**19 17 31.0**	**-1.4**
	comp=Z,49nm,0.4s						
MYKA	**Terra Mystica**	**5.07**	**56**	*i* Pn	**Pn**	**19 16 10.3**	**+0.8**
	comp=Z,1.2nm,0.2s						
MYKA				*e*Sn	**Sn**	**19 17 08.6**	**+0.8**
	comp=Z,6.7nm,0.3s						
KBA	**Koelnbreinsper**	**5.13**	**51**	*e*Pn	**Pn**	**19 16 13.6**	**+3.1**
	comp=Z,2.1nm,0.2s,SNR=12						
KBA				*e*Sn	**Sn**	**19 17 12.4**	**+2.9**
	comp=Z,7.2nm,0.5s						
RJOB	**Jochberg**	**5.26**	**43**	*e*Pn	**Pn**	**19 16 14.7**	**+2.6**
RJOB				*e*Sn	**Sn**	**19 17 18.0**	**+5.5**
EPF	**Esparros**	**5.30**	**262**	*e*Pn	**Pn**	**19 16 12.8**	**+0.1**
EPF	**Esparros**	**5.30**	**262**	*e*Pg	**Pg**	**19 16 33.5**	**-2.0**
EPF				*e*Sn	**Sn**	**19 17 11.1**	**-2.4**
	comp=Z,19nm,0.3s						
EPF				*e*Sg	**Sg**	**19 17 41.8**	**-2.3**
	comp=Z,18nm,0.3s						
VIEF	**Viey**	**5.56**	**261**	Pn	**Pn**	**19 16 19.4**	**+3.1**
OBKA	**Obir**	**5.57**	**61**	*e*Pn	**Pn**	**19 16 19.0**	**+2.6**
	comp=Z,1.3nm,0.2s,SNR=4.4						
OBKA				*i* Sn	**Sn**	**19 17 21.3**	**+1.1**
	comp=Z,6.9nm,0.3s						
BIOA	**Bad Ischl, Aus**	**5.66**	**47**	*i* Pn	**Pn**	**19 16 19.8**	**+2.3**
	comp=Z,1.6nm,0.3s						
BIOA				*i* Sn	**Sn**	**19 17 24.9**	**+2.6**
	comp=Z,5.8nm,0.3s						
LRVF	**chteau la Riv**	**5.68**	**282**	Pn	**Pn**	**19 16 20.9**	**+3.1**
SOKA	**Soboth**	**5.95**	**61**	*i* Pn	**Pn**	**19 16 23.8**	**+2.3**
	comp=Z,0.8nm,0.2s						
SOKA				*i* Sn	**Sn**	**19 17 30.0**	**+0.6**
	comp=Z,4.7nm,0.4s						
ETSF	**Etsaut**	**5.97**	**262**	*e*Pn	**Pn**	**19 16 22.6**	**+0.7**
ETSF	**Etsaut**	**5.97**	**262**	*e*P	Pn	19 16 27.3	+5.4
ETSF				*e*Sn	**Sn**	**19 17 27.5**	**-2.6**
	comp=Z,23nm,0.2s						
ETSF				*e*Sg	**Sg**	**19 18 02.9**	**-2.8**
	comp=Z,11nm,0.4s						
CANF	**Canfranc**	**5.98**	**261**	Pn	**Pn**	**19 16 24.1**	**+2.1**
MFF	**Saint Martin d**	**6.00**	**298**	*e*Pn	**Pn**	**19 16 23.5**	**+1.3**
MFF	**Saint Martin d**	**6.00**	**298**	*e*Pg	**Pg**	**19 16 46.6**	**-2.2**
MFF				*e*Sn	**Sn**	**19 17 28.5**	**-2.0**
	comp=Z,4.3nm,0.3s						
MFF				*e*Sg	**Sg**	**19 18 03.9**	**-2.5**
	comp=Z,16nm,0.5s						
CHIF	**Chize**	**6.00**	**294**	Pn	**Pn**	**19 16 25.1**	**+2.9**
ATE	**Arette**	**6.04**	**264**	Pn	**Pn**	**19 16 23.3**	**+0.6**
MOA	**Molln**	**6.09**	**48**	*i* Pn	**Pn**	**19 16 26.4**	**+2.9**
	comp=Z,1.2nm,0.3s,SNR=10						
MOA				*e*Sn	**Sn**	**19 17 35.0**	**+2.1**
	comp=Z,3.5nm,0.4s						
GRF	**Grafenberg Arr**	**6.25**	**23**	*e*Sn	**Sn**	**19 17 33.6**	**-3.0**
TNS	**Taunus Mts**	**6.27**	**6**	*e*Pn	**Pn**	**19 16 26.7**	**+0.7**
WET	**Wettzell**	**6.34**	**34**	*e*Pn	**Pn**	**19 16 27.9**	**+0.9**
RCHB	**Rochefort**	**6.36**	**347**	*d*P	**Pn**	**19 16 29.2**	**+2.0**
RCHB				*d*S	**Sn**	**19 17 38.1**	**-1.4**
GIVF	**Givet**	**6.38**	**344**	*e*Pn	**Pn**	**19 16 28.9**	**+1.4**
GIVF				*e*Sn	**Sn**	**19 17 37.4**	**-2.6**
	comp=Z,6.1nm,0.3s						
SJPF	**Ste Jean**	**6.41**	**265**	*e*Pn	**Pn**	**19 16 27.7**	**-0.1**
SJPF				*e*Sn	**Sn**	**19 17 37.8**	**-2.9**
	comp=Z,11nm,0.3s						
OSSF	**Osses**	**6.41**	**266**	Pn	**Pn**	**19 16 27.8**	**0.0**
OSSF				Sn	**Sn**	**19 17 39.0**	**-1.7**
DOU	**Dourbes**	**6.42**	**343**	*d*P	**Pn**	**19 16 26.8**	**-1.2**
DOU				*dp*P	**Pn**	**19 16 29.7**	**+1.7**
DOU				*d*S	**Sn**	**19 17 40.1**	**-0.9**
DOU	**Dourbes**	**6.42**	**343**	Pn	**Pn**	**19 16 30.0**	**+2.0**
GEC2	**GERESS Array S**	**6.47**	**39**	*e*Pn	**Pn**	**19 16 29.8**	**+1.1**
GEC2				*e*Sn	**Sn**	**19 17 41.0**	**-1.4**
GERES	**GERESS Array B**	**6.47**	**39**	Pn	**Pn**	**19 16 29.9**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=220,slow=13,SNR=96						
GERES				Sn	**Sn**	**19 17 40.4**	**-2.0**
	comp=Z,2.8nm,0.3s,baz=232,slow=24,SNR=17 comp=Z,6.6nm,0.4s						
BAIF	**Baives**	**6.48**	**341**	*e*Pn	**Pn**	**19 16 30.2**	**+1.5**
BAIF				*e*Sn	**Sn**	**19 17 39.6**	**-2.7**
	comp=Z,4.5nm,0.3s						
ARSA	**Arzberg**	**6.50**	**57**	*i* Pn	**Pn**	**19 16 30.3**	**+1.2**
	comp=Z,2.0nm,0.3s						
BMRD	**Maredsous**	**6.59**	**344**	*d*P	**Pn**	**19 16 32.7**	**+2.5**
EALK	**Alkurruntz**	**6.59**	**266**	Pn	**Pn**	**19 16 31.0**	**+0.6**
KHC	**Kasperske Hory**	**6.63**	**37**	*e*PN	**Pn**	**19 16 32.1**	**+1.2**
KHC				*e*SN	**Sn**	**19 17 45.2**	**-0.9**
MEM	**Membach**	**6.70**	**352**	*d*P	**Pn**	**19 16 33.4**	**+1.6**
MEM				*d*S	**Sn**	**19 17 45.2**	**-2.6**
CKRC	**Cesky Krumlov**	**6.74**	**42**	*e*PN	**Pn**	**19 16 33.6**	**+1.2**
CKRC				*e*SN	**Sn**	**19 17 48.1**	**-0.7**
LDF	**La Druitiere**	**7.01**	**314**	*e*Pn	**Pn**	**19 16 38.5**	**+2.5**
LDF				*e*Sn	**Sn**	**19 17 52.4**	**-3.0**
	comp=Z,8.9nm,0.4s						
LDF				*e*Sg	**Sg**	**19 18 35.8**	**-3.0**
	comp=Z,2.6nm,0.3s						
CONA	**Conrad Observa**	**7.03**	**53**	*i* Pn	**Pn**	**19 16 38.3**	**+2.0**
	comp=Z,0.8nm,0.2s						
CONA				*i* Sn	**Sn**	**19 17 56.2**	**+0.1**
	comp=Z,2.0nm,0.3s						
NKC	**Novy Kostel**	**7.09**	**27**	*e*SN	**Sn**	**19 17 54.5**	**-3.1**
RONA	**Rosalia, Austr**	**7.17**	**56**	*i* Pn	**Pn**	**19 16 39.8**	**+1.5**
	comp=Z,2.4nm,0.2s,SNR=5.5						
GUNZ	**Gunzen**	**7.17**	**26**	*e*Sn	**Sn**	**19 17 57.0**	**-2.5**
MOX	**Moxa**	**7.22**	**21**	*e*Sn	**Sn**	**19 17 57.6**	**-3.0**
KASTN	**Kahler Asten**	**7.24**	**5**	*e*Pn	**Pn**	**19 16 40.3**	**+1.0**
TANN	**Tannenbergstha**	**7.26**	**26**	*e*Pn	**Pn**	**19 16 40.1**	**+0.6**
GRR	**Gorron**	**7.28**	**310**	*e*Pn	**Pn**	**19 16 42.0**	**+2.2**
GRR				*e*Sn	**Sn**	**19 17 59.0**	**-3.2**
	comp=Z,6.1nm,0.3s						
GRR				*e*Sg	**Sg**	**19 18 44.2**	**-3.4**
	comp=Z,2.1nm,0.3s						
FLN	**La Foliniere**	**7.30**	**314**	*e*Pn	**Pn**	**19 16 42.3**	**+2.3**
	baz=132						
FLN	**La Foliniere**	**7.30**	**314**	*e*Pg	**Pg**	**19 17 10.5**	**-3.2**
FLN				*e*Sn	**Sn**	**19 17 59.5**	**-3.1**
	comp=Z,17nm,0.4s						
FLN				*e*Sg	**Sg**	**19 18 44.8**	**-3.3**
	comp=Z,4.3nm,0.5s						
PRU	**Pruhonice**	**7.69**	**36**	*e*PN	**Pn**	**19 16 46.2**	**+0.9**
PRU				*e*SN	**Sn**	**19 18 09.3**	**-2.8**
KRUC	**Moravsky**	**7.95**	**47**	*e*PN	**Pn**	**19 16 49.6**	**+0.6**
KRUC				*e*SN	**Sn**	**19 18 14.7**	**-3.9**
BRG	**Berggiesshubel**	**8.15**	**30**	*ex*	x	19 18 22.6	
BRG				Amp		19 18 33.1	
	comp=Z,2.2nm,0.6s						
BRG				*ex*	x	19 19 21.8	
BRG				Amp		19 19 34.0	
	comp=Z,6.0nm,1.1s						
SGMF	**Saint Gilles**	**8.19**	**305**	*e*Pn	**Pn**	**19 16 53.5**	**+1.3**
SGMF				*e*Sn	**Sn**	**19 18 21.1**	**-3.3**
SGMF				*e*Sg	**Sg**	**19 19 12.5**	**-4.0**
	comp=Z,1.6nm,0.3s						
VRAC	**Vranov**	**8.20**	**46**	Sn	**Sn**	**19 18 21.2**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=297,slow=18,SNR=1.9						
VRAC	**Vranov**	**8.20**	**46**	*e*PN	**Pn**	**19 16 55.1**	**+2.6**
VRAC				*e*SN	**Sn**	**19 18 21.3**	**-3.5**
CLL	**Collm**	**8.21**	**25**	*e*Pn	**Pn**	**19 16 51.0**	**-1.4**
CLL				*ex*	x	19 16 55.0	
CLL				*e*Sn	Sn	19 18 06.0	-19
CLL				*ex*	x	19 18 23.0	
CLL				*ex*	x	19 18 47.0	
CLL				*e*Sg	**Sg**	**19 19 19.0**	**+1.9**
	comp=Z,7.0nm,1.0s						
VAE	**Valguarnera**	**8.35**	**139**	Pn	**Pn**	**19 16 54.8**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=8.7,slow=13,SNR=2.6 comp=Z,7.4nm,0.9s						
KEST	**Kesra**	**8.37**	**170**	Pn	**Pn**	**19 16 55.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=337,slow=6.0,SNR=6.3 comp=Z,1.3nm,0.5s						
QUIF	**Quistinic**	**8.41**	**302**	*e*Pn	**Pn**	**19 16 56.4**	**+1.2**
QUIF				*e*Sn	**Sn**	**19 18 25.9**	**-3.9**
QUIF				*e*Sg	**Sg**	**19 19 19.6**	**-4.0**
	comp=Z,0.8nm,0.1s						
ROSF	**Rostrenen**	**8.65**	**304**	*e*Pn	**Pn**	**19 16 58.9**	**+0.3**
ROSF				*e*Sn	**Sn**	**19 18 31.9**	**-3.9**
	comp=Z,3.0nm,0.3s						
ROSF				*e*Sg	**Sg**	**19 19 27.0**	**-4.4**
	comp=Z,0.8nm,0.3s						
DPC	**Dobruska-Polom**	**8.74**	**40**	*e*PN	**Pn**	**19 16 59.6**	**-0.3**
DPC				*e*SN	**Sn**	**19 18 35.3**	**-2.8**
KRLC	**Kraliky**	**8.78**	**43**	*e*PN	**Pn**	**19 17 01.5**	**+1.1**
CHVC	**Chvalec**	**8.79**	**38**	*e*PN	**Pn**	**19 17 00.8**	**+0.3**
OSTC	**Ostas**	**8.84**	**39**	*e*PN	**Pn**	**19 17 00.7**	**-0.4**
OSTC				*e*SN	**Sn**	**19 18 38.1**	**-2.3**
MAUC	**Maruska**	**8.90**	**49**	*e*PN	**Pn**	**19 17 02.2**	**+0.2**
MORC	**Moravsky Berou**	**8.98**	**46**	*e*PN	**Pn**	**19 17 03.0**	**-0.1**
MORC				*e*SN	**Sn**	**19 18 37.8**	**-6.2**
VYHS	**Vyhne**	**9.05**	**56**	*e*PN	**Pn**	**19 17 04.0**	**0.0**
VYHS				*e*SN	**Sn**	**19 18 42.7**	**-2.9**
ESDC	**Sonseca Array**	**9.59**	**247**	Pn	**Pn**	**19 17 11.9**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=58,slow=14,SNR=22 comp=Z,1.1nm,0.4s						
EKA	**Eskdalemuir Ar**	**13.27**	**333**	Pn	**Pn**	**19 18 02.3**	**+0.6**
	baz=140,slow=14 comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**20.65**	**26**	P	**P**	**19 19 33.2**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=230,slow=12,SNR=4.0 comp=Z,1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.14**	**191**	P	**P**	**19 21 14.6**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=359,slow=9.2,SNR=2.1 comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**50.72**	**59**	P	**P**	**19 23 53.4**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=311,slow=5.6,SNR=4.1 comp=Z,0.3nm,0.8s						

WEL 03 19:15:25.9±1.3, 37°S±6°×17°9E±°, h24km±7km, M3.4/43, ML3.6/49, MLv3.4/43, Error ellipse: s-maj=0.0km s-min=0.0km az=71.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.65**	**250**	P	Pb	19 15 38.6	0.0
MXZ				S	Sb	19 15 46.4	-0.8
WMGZ	**Waiomatatini S**	**0.70**	**227**	P	Pn	19 15 41.5	+1.1
WMGZ				S	Sn	19 15 51.5	+1.1
PKGZ	**Pakihiroa**	**0.96**	**235**	P	Pn	19 15 44.4	+0.5
PKGZ				S	Sn	19 15 56.6	-0.2
PUZ	**Puketiti**	**0.97**	**221**	P	Pb	19 15 45.0	+0.8
PUZ				S	Sn	19 15 58.3	+1.2
HAZ	**Te Kaha**	**1.10**	**248**	P	Pb	19 15 46.8	+0.4
HAZ				S	Sb	19 16 00.0	-0.3
TWGZ	**Tauwhareparae**	**1.20**	**226**	P	Pb	19 15 48.2	+0.1
TWGZ				S	Sb	19 16 04.2	+1.1
RUGZ	**Raukumara Rang**	**1.27**	**240**	P	Pb	19 15 49.1	-0.1
RUGZ				S	Sn	19 16 04.5	-0.1
CNGZ	**Carnagh Statio**	**1.33**	**211**	P	Pb	19 15 50.8	+0.6
TKGZ	**Te Karaka**	**1.46**	**221**	P	Pn	19 15 51.2	+0.5
MWZ	**Matawai**	**1.57**	**230**	P	Pn	19 15 52.9	+0.5
RIGZ	**Rimuhau**	**1.71**	**217**	P	Pn	19 15 54.6	+0.4
WHRZ	**Whale Island**	**1.74**	**252**	P	Pn	19 15 55.3	+0.6
RAGZ	**Rawiri**	**1.74**	**228**	P	Pn	19 15 55.1	+0.4
URZ	**Urewera**	**1.80**	**239**	P	Pn	19 15 54.7	-0.7
PRGZ	**Paritu Road**	**1.83**	**210**	P	Pn	19 15 56.4	+0.5
SNGZ	**Shannon Statio**	**1.98**	**223**	P	Pn	19 15 58.4	+0.5
EDRZ	**Edgecumbe**	**2.00**	**247**	P	Pn	19 15 58.6	+0.4
KNZ	**Kokohu**	**2.00**	**213**	P	Pn	19 15 58.0	-0.2
MHGZ	**Mahia Peninsul**	**2.03**	**207**	P	Pn	19 15 59.3	+0.7
OPRZ	**Ohinepanea**	**2.06**	**255**	P	Pn	19 15 58.5	-0.5
RTZ	**Ruatahuna**	**2.08**	**232**	P	Pn	19 15 59.2	-0.2
MUGZ	**Murupara**	**2.14**	**237**	P	Pn	19 16 00.4	+0.2
RAHZ	**Arahi**	**2.22**	**224**	P	Pn	19 16 01.6	+0.4
TARZ	**Mount Tarawera**	**2.22**	**246**	P	Pn	19 16 01.9	+0.6
WHHZ	**Waihua**	**2.25**	**219**	P	Pn	19 16 01.9	+0.2
MTHZ	**Maungataniwha**	**2.32**	**229**	P	Pn	19 16 01.9	-0.6
NMHZ	**Naumai**	**2.50**	**225**	P	Pn	19 16 05.8	+0.7
ARHZ	**Aropaoanui**	**2.52**	**220**	P	Pn	19 16 05.4	+0.1
MRHZ	**Matea Rd**	**2.57**	**234**	P	Pn	19 16 06.3	+0.2
BKZ	**Black Stump Fm**	**2.73**	**227**	P	Pn	19 16 08.1	-0.1
KUZ	**Kuaotunu**	**2.75**	**282**	P	Pn	19 16 05.8	-2.6
CKHZ	**Cape Kidnapper**	**2.79**	**213**	P	Pn	19 16 08.4	-0.6
KWHZ	**Kaweka Forest**	**2.94**	**224**	P	Pn	19 16 10.7	-0.5
KAHZ	**Kahuranaki**	**2.99**	**214**	P	Pn	19 16 11.2	-0.7
RATZ	**Rangitukua**	**3.01**	**239**	P	Pn	19 16 12.8	+0.6
GRZ	**Great Barrier**	**3.10**	**290**	P	Pn	19 16 11.0	-2.3
KATZ	**Kakaramea**	**3.12**	**237**	P	Pn	19 16 14.2	+0.5
KRHZ	**Kereru**	**3.12**	**222**	P	Pn	19 16 12.7	-1.0
MKAZ	**Moumakai**	**3.13**	**273**	P	Pn	19 16 12.2	-1.5
TMVZ	**Te Maari**	**3.19**	**235**	P	Pn	19 16 14.3	-0.3
BHHZ	**Black Hill Sta**	**3.19**	**227**	P	Pn	19 16 14.2	-0.4
PXZ	**Pawanui**	**3.19**	**212**	P	Pn	19 16 13.2	-1.4
ETVZ	**East Tongariro**	**3.19**	**235**	P	Pn	19 16 14.3	-0.4
NTVZ	**North Tongarir**	**3.20**	**236**	P	Pn	19 16 14.5	-0.3
OTVZ	**Oturere**	**3.24**	**235**	P	Pn	19 16 15.3	-0.1
NNVZ	**North Ngauruho**	**3.25**	**236**	P	Pn	19 16 15.7	+0.1
WTVZ	**West Tongariro**	**3.26**	**236**	P	Pn	19 16 15.9	+0.2
SNVZ	**South Ngauruho**	**3.27**	**235**	P	Pn	19 16 15.4	-0.4
NGZ	**Ngauruhoe**	**3.29**	**235**	P	Pn	19 16 15.7	-0.4
TUVZ	**Tukino**	**3.30**	**233**	P	Pn	19 16 16.2	-0.1
MOVZ	**Moawhango**	**3.32**	**231**	P	Pn	19 16 15.6	-0.9
ETAZ	**East Tamaki Re**	**3.33**	**275**	P	Pn	19 16 17.1	+0.6
TWVZ	**Taurewa**	**3.34**	**238**	P	Pn	19 16 16.7	-0.1
WHVZ	**Whangaehu Hut**	**3.35**	**234**	P	Pn	19 16 16.8	-0.3
FWVZ	**Far West T-bar**	**3.36**	**234**	P	Pn	19 16 17.0	-0.1
WNVZ	**Wahianoa**	**3.37**	**233**	P	Pn	19 16 16.8	-0.4
PNHZ	**Pukenui**	**3.41**	**220**	P	Pn	19 16 16.2	-1.4
PRHZ	**Porangahau**	**3.48**	**212**	P	Pn	19 16 16.8	-1.9
MTVZ	**Mangateitei**	**3.49**	**233**	P	Pn	19 16 18.4	-0.3
PKVZ	**Pokaka**	**3.51**	**235**	P	Pn	19 16 19.1	0.0
TSZ	**Takapari Road**	**3.64**	**221**	P	Pn	19 16 18.9	-1.9
DVHZ	**Dannevirke**	**3.72**	**217**	P	Pn	19 16 20.0	-1.9
POWZ	**Post Office Ro**	**3.99**	**219**	P	Pn	19 16 23.8	-1.8
WAZ	**Wanganui**	**4.01**	**232**	P	Pn	19 16 25.4	-0.4
PRWZ	**Pori Road**	**4.01**	**216**	P	Pn	19 16 24.4	-1.5
WCZ	**Waipu Caves**	**4.05**	**289**	P	Pn	19 16 26.9	+0.6
PKE	**Pukeiti**	**4.41**	**244**	P	Pn	19 16 33.6	+2.3
OUZ	**Omahuta**	**4.90**	**294**	P	Pn	19 16 39.2	+1.1
CTZ	**Chatham Island**	**7.18**	**154**	P	Pn	19 17 12.2	+2.9

*NOU **03** 19:20:13.1, 37°10S×179°82W, h135km, mb4.4/9, East of North Island, N.Z.*
*NEIC **03** 19:20:20.1±1.4, 37°0S±0°1×179°1E±0°1, h10km±1km, mb4.7/18, Error ellipse: s-maj=24.2km s-min=6.9km az=136.0*
*WEL **03** 19:20:21.0±0.8, 37°S±5°×17°9E±°, h12km, M4.1/43, ML4.4/43, MLv4.1/43, Error ellipse: s-maj=0.0km s-min=0.0km az=98.2*

*IDC **03** 19:20:24.9±3.6, 36°87S×178°87E, h39km±28km, mb4.0/5, mbtmp4.2/5, MS3.4/3, Error ellipse: s-maj=33.1km s-min=22.3km az=14.0*

ISC 03 19:20:22.2±1.2, 37°16S±0°05×179°13E±0°07, h28km±6km, n140, σ1°81/158, mb4.5/14, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.77**	**238**		**Pb**	**19 20 36.8**	**-0.2**
MXZ					**Sb**	**19 20 47.8**	**+0.7**
MXZ	**Matakaoa Point**	**0.77**	**238**	P	**Pb**	**19 20 36.3**	**-0.7**
MXZ				S	**Sb**	**19 20 47.8**	**+0.7**
WMGZ	**Waiomatatini S**	**0.87**	**220**	P	**Pn**	**19 20 40.3**	**+1.7**
WMGZ				S	**Sn**	**19 20 54.0**	**+3.7**
PKGZ	**Pakihiroa**	**1.11**	**229**	P	**Pb**	**19 20 44.0**	**+1.3**
PKGZ				S	**Sb**	**19 20 59.2**	**+2.3**
PUZ	**Puketiti**	**1.14**	**217**	P	**Pb**	**19 20 44.7**	**+1.3**
PUZ				S	**Sb**	**19 21 00.3**	**+2.4**
HAZ	**Te Kaha**	**1.23**	**240**	P	**Pb**	**19 20 45.8**	**+1.1**
HAZ				S	**Sb**	**19 21 03.4**	**+3.3**
TWGZ	**Tauwhareparae**	**1.36**	**222**	P	**Pb**	**19 20 47.4**	**+0.3**
RUGZ	**Raukumara Rang**	**1.41**	**235**	P	**Pb**	**19 20 48.3**	**+0.4**
CNGZ	**Carnagh Statio**	**1.51**	**209**	P	**Pb**	**19 20 50.0**	**+0.5**
WIZ	**White Island**	**1.59**	**256**	P	**Pn**	**19 20 47.6**	**-0.8**
WSRZ	**White Island S**	**1.59**	**256**	P	**Pn**	**19 20 48.9**	**+0.4**
TKGZ	**Te Karaka**	**1.63**	**218**	P	**Pn**	**19 20 51.2**	**-0.5**
MWZ	**Matawai**	**1.73**	**227**	P	**Pn**	**19 20 52.3**	**-1.0**
WHRZ	**Whale Island**	**1.85**	**247**	P	**Pn**	**19 20 53.8**	**+1.8**
RIGZ	**Rimuhau**	**1.88**	**215**	P	**Pn**	**19 20 54.3**	**+1.7**
RAGZ	**Rawiri**	**1.90**	**225**	P	**Pb**	**19 20 55.2**	**-1.1**
URZ	**Urewera**	**1.94**	**235**	Pn	**Pn**	**19 20 55.1**	**+1.9**
	87nm,0.3s,baz=211,slow=2.5,SNR=686						
URZ				Sn	**Sn**	**19 21 18.9**	**+2.2**
	117nm,0.3s,baz=211,slow=21,SNR=23						
URZ				LR	LR	19 22 03.0	
	comp=Z,305nm,20.1s,baz=31,slow=50						
URZ	**Urewera**	**1.94**	**235**		**Pn**	**19 20 54.7**	**+1.4**
URZ	**Urewera**	**1.94**	**235**	P	**Pn**	**19 20 55.2**	**+1.9**
URZ	**Urewera**	**1.94**	**235**	P	**Pb**	**19 20 55.3**	**-1.6**
PRGZ	**Paritu Road**	**2.02**	**209**	P	**Pn**	**19 20 55.8**	**+1.4**
EDRZ	**Edgecumbe**	**2.12**	**243**	P	**Pn**	**19 20 57.6**	**+1.8**
SNGZ	**Shannon Statio**	**2.15**	**221**	P	**Pn**	**19 20 57.8**	**+1.6**
OPRZ	**Ohinepanea**	**2.16**	**251**	P	**Pn**	**19 20 57.4**	**+1.2**
KNZ	**Kokohu**	**2.19**	**211**	P	**Pn**	**19 20 57.2**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.21**	**205**	P	**Pn**	**19 20 58.5**	**+1.5**
RTZ	**Ruatahuna**	**2.24**	**229**	P	**Pn**	**19 20 59.7**	**+2.3**
MUGZ	**Murupara**	**2.28**	**234**	P	**Pn**	**19 20 59.9**	**+1.9**
MYRZ	**Mayor Island**	**2.31**	**266**	P	**Pn**	**19 20 59.1**	**+0.7**
MKRZ	**Makatiti**	**2.33**	**244**	P	**Pn**	**19 21 00.9**	**+2.2**
LIRZ	**Lichensteins R**	**2.34**	**248**	P	**Pn**	**19 21 01.1**	**+2.3**
TARZ	**Mount Tarawera**	**2.34**	**242**	P	**Pn**	**19 21 00.9**	**+2.0**
TGRZ	**Tauran

ASAR			PcP	**PcP**	**19 30 00.5**	**-1.9**	
	comp=Z,0.2nm,0.4s,baz=121,slow=3.8,SNR=2.1						
ASAR			S	**S**	**19 34 09.1**	**-2.8**	
	comp=Z,0.3nm,0.7s,baz=121,slow=14,SNR=2.1						
	comp=Z,5.1nm,0.5s						
ASAR	**Alice Springs**	**40.89 276**	P	**P**	**19 28 01.3**	**-0.7**	
WR0	**Warramunga Arr**	**42.33 281**	P	**P**	**19 28 13.2**	**-0.6**	
FORT	**Forrest**	**42.41 263**	P	**P**	**19 28 13.5**	**-0.8**	
WRA	**Warramunga Arr**	**42.49 281**	P	**P**	**19 28 14.6**	**-0.6**	
	comp=Z,8.9nm,0.6s,baz=121,slow=7.7,SNR=114						
WRA			PcP	**PcP**	**19 30 08.7**	**+1.0**	
	comp=Z,0.4nm,0.8s,baz=135,slow=3.3,SNR=2.1						
	comp=Z,8.9nm,0.6s						
WRA	**Warramunga Arr**	**42.49 281**	P	**P**	**19 28 14.0**	**-1.2**	
WB0	**Warramunga Arr**	**42.55 281**	P	**P**	**19 28 15.0**	**-0.6**	
WB0			IAmb	IAmb	19 28 15.7		
	comp=Z,12nm,0.6s						
CASY	**Casey**	**48.09 210**	P	**P**	**19 28 59.7**	**+0.8**	
CASY			IAmb	IAmb	19 29 07.8		
	comp=Z,4.0nm,0.9s						
MTN	**Manton Dam**	**49.13 287**	P	**P**	**19 29 06.8**	**-0.8**	
KNRA	**Kununurra**	**49.28 282**	P	**P**	**19 29 07.8**	**-0.8**	
KNRA			IAmb	IAmb	19 29 11.3		
	comp=Z,13nm,1.2s						
NWAO	**Narrogin (SRO)**	**50.06 255**	P	**P**	**19 29 13.4**	**-1.2**	
FITZ	**Fitzroy Crossi**	**50.37 277**	P	**P**	**19 29 16.5**	**-0.5**	
FITZ			IAmb	IAmb	19 29 17.5		
	comp=Z,4.2nm,0.6s						
MORW	**Morawa**	**52.61 259**	P	**P**	**19 29 32.1**	**-1.6**	
MORW			IAmb	IAmb	19 29 51.7		
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**52.97 180**	P	**P**	**19 29 40.1**	**+4.1**	
	comp=Z,1.1nm,0.7s,baz=72,slow=3.4,SNR=8.2						
	comp=Z,1.1nm,0.7s						
QSPA	**South Pole Qui**	**52.97 180**	P	**P**	**19 29 39.8**	**+3.8**	
QSPA			IAmb	IAmb	19 30 00.1		
	comp=Z,9.9nm,1.5s						
MBWA	**Marble Bar**	**53.45 270**	P	**P**	**19 29 38.2**	**-1.8**	
MBWA			IAmb	IAmb	19 30 01.9		
	comp=Z,16nm,1.3s						
GUMO	**Guam**	**59.89 321**	LR	LR	19 56 20.2		
	comp=Z,17nm,18.1s,baz=155,slow=36						
SNAA	**Sanae**	**71.46 179**	P	**P**	**19 31 41.8**	**+2.1**	
SNAA			IAmb	IAmb	19 31 55.0		
	comp=Z,5.8nm,1.4s						
H03S2	**Juan Fernandez**	**78.71 124**	T	T	20 59 00.3		
	baz=232						
H03S1	**Juan Fernandez**	**78.72 124**	T	T	20 58 58.8		
	baz=232						
H03S3	**Juan Fernandez**	**78.73 124**	T	T	20 59 00.5		
	baz=232						
H03N3	**Juan Fernandez**	**78.94 124**	T	T	20 59 13.4		
	baz=234,slow=72,SNR=20						
H03N2	**Juan Fernandez**	**78.95 124**	T	T	20 59 12.5		
	baz=234,slow=72,SNR=21						
H03N1	**Juan Fernandez**	**78.96 124**	T	T	20 59 12.3		
	baz=234,slow=72,SNR=16						
CMAR	**Chiang Mai Arr**	**93.44 290**	P	**P**	**19 33 35.4**	**+0.1**	
	comp=Z,0.4nm,0.6s,baz=140,slow=3.2,SNR=4.1						
	comp=Z,0.4nm,0.6s						
ATAH	**Atahualpa**	**95.57 103**	LR	LR	20 06 57.9		
	comp=Z,34nm,21.5s,baz=79,slow=29						
ARCES	**ARCESS Array B**	**144.56 344**	PKP	PKPbc	19 39 53.9	+0.2	
	comp=Z,0.7nm,0.4s,baz=41,slow=2.6,SNR=13						
FINES	**FINESS Array B**	**150.42 334**	PKPbc	**PKPbc**	**19 40 09.7**	**-0.3**	
	comp=Z,1.4nm,0.5s,baz=40,slow=3.4,SNR=21						
TORD	**Torodi Ar. Bea**	**155.98 186**	PKP	**PKPdf**	**19 40 15.4**	**+1.1**	
	comp=Z,0.2nm,0.8s,baz=138,slow=2.9,SNR=1.2						
TORD			PKPbc	**sPKPdf**	**19 40 23.7**	**-2.4**	
	comp=Z,0.5nm,0.9s,baz=138,slow=3.1,SNR=2.4						
TORD			PKPab	**PKPab**	**19 40 41.9**	**+0.7**	
	comp=Z,0.6nm,0.7s,baz=193,slow=4.8,SNR=3.7						

*IDC **03** 19:30:45.7±2.0,20.˚16N×147.˚30E,h0km,mb3.6/7, mbtmp3.6/7,MS2.6/3,Error ellipse: s-maj=72.7km s-min=23.2km az=85.0*

ISC 03 19:30:50.6±1.8,20.˚2N±0.˚2×147.˚3E±0.˚4,h34km,n15, σ0$40/7,mb3.6/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**6.94**	**200**	LR		LR	19 34 41.8	
	comp=Z,25nm,19.0s,baz=44,slow=34							
H11S3	**WAKE ISLAND Hy**	**18.35**	**92**	T		T	19 53 13.3	
	baz=277							
H11S1	**WAKE ISLAND Hy**	**18.36**	**92**	T		T	19 53 13.9	
	baz=277							
H11S2	**WAKE ISLAND Hy**	**18.37**	**92**	T		T	19 53 11.2	
	baz=277							
H11N1	**WAKE ISLAND Hy**	**18.40**	**88**	T		T	19 53 14.4	
	baz=274							
H11N2	**WAKE ISLAND Hy**	**18.41**	**88**	T		T	19 53 12.5	
	baz=274							
H11N3	**WAKE ISLAND Hy**	**18.42**	**88**	T		T	19 53 11.6	
	baz=274							
KSRS	**Korea Array**	**24.12**	**320**	P		**P**	**19 36 03.5**	**+0.3**
	0.7nm,0.7s,baz=137,slow=8.8,SNR=4.2							
KSRS				LR		LR	19 45 42.0	
	comp=Z,15nm,18.4s,baz=220,slow=37							
	0.7nm,0.7s							
DAV	**Davao City (W)**	**24.77**	**241**	LR		LR	19 47 46.5	
	comp=Z,19nm,18.4s,baz=300,slow=41							
MA2	**Magadan**	**39.45**	**3**	P		**P**	**19 38 17.3**	**+0.1**
	2.3nm,1.0s,baz=186,slow=10,SNR=3.7							
	2.3nm,1.0s							
WRA	**Warramunga Arr**	**41.84**	**198**	P		**P**	**19 38 37.1**	**-0.3**
	0.2nm,0.6s,baz=32,slow=9.5,SNR=2.0							
	0.2nm,0.6s							
SONM	**Songino Array**	**43.00**	**320**	P		**P**	**19 38 46.4**	**-0.4**
	0.5nm,0.4s,baz=133,slow=7.1,SNR=4.4							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**45.48**	**197**	P		**P**	**19 39 07.0**	**+0.2**
	0.2nm,0.7s,baz=8.8,slow=8.4,SNR=2.1							
	0.2nm,0.7s							
ZALV	**Zalesovo Beam**	**57.81**	**322**	P		**P**	**19 40 38.2**	**-0.2**
	0.9nm,0.6s,baz=107,slow=6.7,SNR=4.0							
	0.9nm,0.6s							
MKAR	**Makanchi Array**	**58.58**	**313**	P		**P**	**19 40 44.5**	**+0.5**
	0.6nm,0.8s,baz=103,slow=7.4,SNR=4.0							
	0.6nm,0.8s							

IDC 03 19:32:38.6±7.4,50.˚33N×114.˚81W,h0km,mb2.8/1, mbtmp2.8/2,ML3.5/1,Error ellipse: s-maj=159.1km s-min=54.9km az=39.0,Alberta

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**2.56**	**217**	*i*			19 48 00.0	
	0.1nm,0.9s,baz=37,slow=325,SNR=10.0							
PDAR	**Pinedale Array**	**8.38**	**152**	Pn		Pn	19 34 43.1	+1.7
	0.1nm,0.3s,baz=346,slow=13,SNR=3.7							
	0.3nm,0.7s							
TXAR	**Lajitas Array**	**22.60**	**154**	P		P	19 37 39.5	-1.2
	0.4nm,0.9s,baz=321,slow=9.7,SNR=3.4							
	0.4nm,0.9s							

ROM 03 19:39:17.1±0.0,42.˚853N±0.˚003×13.˚229E±0.˚004, h10km,ML1.4/9,3C-2D,Error ellipse: s-maj=0.3km s-min=0.2km az=64.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**218**	P		Pg	19 39 19.0	-0.1
T1242				S		Sg	19 39 19.9	-0.6
T1242				AML		AML		
	comp=E,1970μm,0.5s							
T1242				AML		AML		
	comp=N,3070μm,0.6s							
T1242				AML		AML		
	comp=E,1940μm,0.5s							
T1242				AML		AML		
	comp=N,3060μm,0.6s							
MC2	**Monte Cornacci**	**0.07**	**335**	⇓P		Pg	19 39 19.6	+0.1
MC2				S		Sg	19 39 21.2	0.0
MC2	**Monte Cornacci**	**0.07**	**335**	P		Pg	19 39 19.6	+0.1
MC2				S		Sg	19 39 21.1	-0.1
NRCA	**Norcia**	**0.09**	**257**	⇑P		Pg	19 39 19.9	+0.3
NRCA				S		Sg	19 39 21.7	+0.3
NRCA				AML		AML		
	comp=E,1280μm,0.1s							
NRCA				AML		AML		
	comp=N,2290μm,0.1s							
NRCA				AML		AML		
	comp=E,1380μm,0.1s							
NRCA				AML		AML		
	comp=N,2520μm,0.1s							
NRCA				AML		AML		
	comp=E,1380μm,0.1s							
NRCA				AML		AML		
	comp=E,1280μm,0.1s							
NRCA				AML		AML		
	comp=N,2520μm,0.1s							
NRCA				AML		AML		
	comp=N,2290μm,0.1s							
NRCA	**Norcia**	**0.09**	**257**	P		Pg	19 39 19.9	+0.3
NRCA				S		Sg	19 39 21.6	+0.3
T1244	**Arquata del Tr**	**0.11**	**152**	P		Pg	19 39 20.3	+0.5
T1244				S		Sg	19 39 22.5	+0.7
T1244				AML		AML		
	comp=E,998μm,0.1s							
T1244				AML		AML		
	comp=N,846μm,0.3s							
T1244				AML		AML		
	comp=E,980μm,0.1s							
T1244				AML		AML		
	comp=N,782μm,0.3s							
T1244				AML		AML		
	comp=E,1000μm,0.1s							
T1244				AML		AML		
	comp=N,850μm,0.3s							
T1244				AML		AML		
	comp=E,978μm,0.1s							
T1244				AML		AML		
	comp=N,782μm,0.3s							
T1244				AML		AML		
	comp=E,978μm,0.1s							
T1244				AML		AML		
	comp=E,1000μm,0.1s							
T1244				AML		AML		
	comp=N,782μm,0.3s							
T1244				AML		AML		
	comp=N,850μm,0.3s							
T1244	**Arquata del Tr**	**0.11**	**152**	P		Pg	19 39 20.3	+0.5
T1244				S		Sg	19 39 22.4	+0.6
T1244				AML		AML		
	comp=E,998μm,0.1s							
T1244				AML		AML		
	comp=N,846μm,0.3s							
T1244				AML		AML		
	comp=N,850μm,0.3s							
T1244				AML		AML		
	comp=E,978μm,0.1s							
T1244				AML		AML		
	comp=N,782μm,0.3s							
T1244				AML		AML		
	comp=E,1000μm,0.1s							
T1202	**Accumoli, Fraz**	**0.15**	**181**	P		Pg	19 39 21.1	+0.6
T1202				S		Sg	19 39 24.0	+1.1
T1202				AML		AML		
	comp=E,291μm,0.3s							
T1202				AML		AML		
	comp=N,650μm,0.3s							
T1241	**Roccafluvione,**	**0.15**	**89**	P		Pg	19 39 20.9	+0.4
T1241				S		Sg	19 39 23.5	+0.7
T1241	**Roccafluvione,**	**0.15**	**89**	P		Pg	19 39 20.9	+0.4
T1241				S		Sg	19 39 23.4	+0.6
FDMO	**Fiordimonte**	**0.21**	**330**	⇑P		Pg	19 39 22.1	+0.6
FDMO				S		Sg	19 39 25.8	+1.3
FDMO				AML		AML		
	comp=E,152μm,1.0s							
FDMO				AML		AML		
	comp=N,154μm,0.6s							
FDMO				AML		AML		
	comp=N,154μm,0.6s							
FDMO				AML		AML		
	comp=E,152μm,1.0s							
FDMO	**Fiordimonte**	**0.21**	**330**	P		Pg	19 39 22.1	+0.6
FDMO				S		Sg	19 39 25.7	+1.2
GUMA	**Gualdo di Mace**	**0.22**	**20**	P		Pg	19 39 22.6	+0.9
GUMA				AML		AML		
	comp=E,208μm,0.4s							
GUMA				AML		AML		
	comp=N,180μm,0.4s							
GUMA				AML		AML		
	comp=N,180μm,0.4s							
GUMA				AML		AML		
	comp=E,208μm,0.4s							
T1243	**Rocca Santa Ma**	**0.22**	**134**	P		Pg	19 39 22.1	+0.4
T1243	**Rocca Santa Ma**	**0.22**	**134**	P		Pg	19 39 22.1	+0.3
T1243				S		Sg	19 39 25.7	+0.8
CSP1	**Cessapalombo**	**0.24**	**356**	⇑P		Pg	19 39 22.6	+0.5
CSP1				S		Sg	19 39 26.8	+1.4
CSP1	**Cessapalombo**	**0.24**	**356**	P		Pg	19 39 22.6	+0.5
CSP1				S		Sg	19 39 26.8	+1.3
T1215	**Vallo di Nera,**	**0.27**	**259**	P		Pg	19 39 23.1	+0.6
T1215				S		Sb	19 39 27.7	-1.0
CESI	**CESI - Serrava**	**0.28**	**303**	P		Pb	19 39 23.6	-0.7
CESI				AML		AML		
	comp=E,46μm,0.9s							
CESI				AML		AML		
	comp=N,84μm,0.2s							
CESI				AML		AML		
	comp=N,84μm,0.2s							
CESI				AML		AML		
	comp=E,46μm,0.9s							
LNSS	**Leonessa**	**0.29**	**209**	S		Sg	19 39 24.0	-2.7
LNSS	**Leonessa**	**0.29**	**209**	P		Pg	19 39 23.4	+0.6
LNSS				S		Sb	19 39 28.5	-0.8
SNTG	**Esanatoglia**	**0.45**	**332**	⇓P		Pg	19 39 26.4	+0.4
SNTG				AML		AML		
	comp=E,21μm,0.9s							
SNTG				AML		AML		
	comp=N,24μm,1.2s							
SNTG				AML		AML		
	comp=E,21μm,0.9s							
SNTG				AML		AML		
	comp=N,24μm,1.2s							
ASSB	**Assisi San Ben**	**0.46**	**295**	P		Pg	19 39 26.6	+0.6
ASSB				AML		AML		
	comp=E,38μm,0.7s							
ASSB				AML		AML		
	comp=N,30μm,0.2s							
ASSB				AML		AML		
	comp=E,38μm,0.7s							
ASSB				AML		AML		
	comp=N,30μm,0.2s							
CING	**Cingoli**	**0.52**	**357**	P		Pb	19 39 27.9	-0.5
CING				AML		AML		
	comp=E,31μm,1.3s							
CING				AML		AML		
	comp=N,34μm,0.6s							
CING				AML		AML		
	comp=N,34μm,0.6s							
CING				AML		AML		
	comp=E,31μm,1.3s							
ATCC	**AVT- Casa Cast**	**0.55**	**308**	P		Pb	19 39 28.3	-0.4
ARVD	**Arcevia**	**0.68**	**342**	S		Sn	19 39 42.0	-1.5
SACS	**San Casciano d**	**0.97**	**270**	S		Sg	19 39 48.0	-0.4

WEL 03 19:41:30.0±1.5,37.˚5S±4.˚×17.˚9E±.˚,h14km±7km,M3.5/54, ML3.7/60,MLv3.5/54,Error ellipse: s-maj=0.0km s-min=0.0km az=75.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.78**	**241**	P		Pg	19 41 44.5	-0.6
MXZ				S		Sg	19 41 53.3	-2.1
WMGZ	**Waiomatatini S**	**0.86**	**223**	P		Pn	19 41 48.2	+0.4
WMGZ				S		Sn	19 41 59.8	-0.3
PKGZ	**Pakihiroa**	**1.11**	**231**	P		Pg	19 41 51.3	-0.1
PKGZ				S		Sg	19 42 05.7	-0.2
PUZ	**Puketiti**	**1.14**	**219**	P		Pg	19 41 51.9	0.0
PUZ				S		Sn	19 42 06.8	-0.1
HAZ	**Te Kaha**	**1.24**	**242**	P		Pg	19 41 53.5	-0.3
HAZ				S		Sg	19 42 09.8	-0.1
TWGZ	**Tauwhareparae**	**1.36**	**223**	P		Pb	19 41 55.3	+0.1
TWGZ				S		Sg	19 42 13.4	-0.4
RUGZ	**Raukumara Rang**	**1.41**	**236**	P		Pb	19 41 55.8	-0.4
CNGZ	**Carnagh Statio**	**1.50**	**210**	P		Pb	19 41 57.6	+0.1
WIZ	**White Island**	**1.61**	**257**	P		Pn	19 41 57.8	-0.2
TKGZ	**Te Karaka**	**1.62**	**220**	P		Pn	19 41 58.3	+0.1
MWZ	**Matawai**	**1.73**	**228**	P		Pn	19 41 59.9	+0.3
WHRZ	**Whale Island**	**1.86**	**249**	P		Pn	19 42 01.8	+0.3
RIGZ	**Rimuhau**	**1.88**	**216**	P		Pn	19 42 01.9	+0.2
RAGZ	**Rawiri**	**1.90**	**226**	P		Pn	19 42 02.3	+0.2
URZ	**Urewera**	**1.95**	**236**	P		Pn	19 42 03.1	+0.5
PRGZ	**Paritu Road**	**2.00**	**210**	P		Pn	19 42 03.3	-0.1
EDRZ	**Edgecumbe**	**2.13**	**244**	P		Pn	19 42 05.6	+0.4
SNGZ	**Shannon Statio**	**2.14**	**222**	P		Pn	19 42 05.6	+0.2
KNZ	**Kokohu**	**2.17**	**212**	P		Pn	19 42 05.1	-0.6
OPRZ	**Ohinepanea**	**2.17**	**252**	P		Pn	19 42 05.5	-0.2
MHGZ	**Mahia Peninsul**	**2.19**	**206**	P		Pn	19 42 06.1	+0.1
RTZ	**Ruatahuna**	**2.24**	**230**	P		Pn	19 42 07.0	+0.4
MUGZ	**Murupara**	**2.29**	**235**	P		Pn	19 42 06.5	-0.8
MYRZ	**Mayor Island**	**2.34**	**267**	P		Pn	19 42 08.2	+0.3
TARZ	**Mount Tarawera**	**2.35**	**243**	P		Pn	19 42 08.8	+0.6
TGRZ	**Tauranga**	**2.37**	**256**	P		Pn	19 42 08.3	-0.1
RAHZ	**Arahi**	**2.38**	**223**	P		Pn	19 42 08.9	+0.3
RRRZ	**Republican Roa**	**2.39**	**241**	P		Pn	19 42 09.4	+0.7
OMRZ	**Omania**	**2.40**	**247**	P		Pn	19 42 07.0	-1.8
WHHZ	**Waihua**	**2.42**	**218**	P		Pn	19 42 08.9	-0.2
KARZ	**Kaharoa**	**2.46**	**250**	P		Pn	19 42 09.8	+0.1
HLRZ	**Highlands Stat**	**2.47**	**244**	P		Pn	19 42 10.6	+0.8
MTHZ	**Maungataniwha**	**2.47**	**227**	P		Pn	19 42 10.3	+0.4
KMRZ	**Kaimai**	**2.65**	**255**	P		Pn	19 42 12.1	-0.1
NMHZ	**Naumai**	**2.66**	**224**	P		Pn	19 42 13.0	+0.5
ARHZ	**Aropaoanui**	**2.68**	**219**	P		Pn	19 42 12.5	-0.2
MRHZ	**Matea Rd**	**2.72**	**232**	P		Pn	19 42 13.4	+0.1
KUZ	**Kuaotunu**	**2.79**	**278**	P		Pn	19 42 12.6	-1.6
BKZ	**Black Stump Fm**	**2.88**	**226**	P		Pn	19 42 15.4	-0.1
CKHZ	**Cape Kidnapper**	**2.96**	**213**	P		Pn	19 42 15.5	-1.0
TOZ	**Tahuroa Road**	**2.96**	**258**	P		Pn	19 42 15.9	-0.7
KWHZ	**Kaweka Forest**	**3.10**	**223**	P		Pn	19 42 17.8	-0.7
GRZ	**Great Barrier**	**3.12**	**286**	P		Pn	19 42 18.8	0.0
KAHZ	**Kahuranaki**	**3.16**	**214**	P		Pn	19 42 18.0	-1.3
RATZ	**Rangitukua**	**3.16**	**237**	P		Pn	19 42 19.7	+0.4
RITZ	**Rihia Road**	**3.16**	**235**	P		Pn	19 42 20.0	+0.7
MKAZ	**Moumakai**	**3.20**	**270**	P		Pn	19 42 18.7	-1.1
WIAZ	**Waiheke Island**	**3.25**	**276**	P		Pn	19 42 19.9	-0.7
KRHZ	**Kereru**	**3.29**	**221**	P		Pn	19 42 19.9	-1.2
TMVZ	**Te Maari**	**3.34**	**234**	P		Pn	19 42 21.4	-0.4
ETVZ	**East Tongariro**	**3.34**	**233**	P		Pn	19 42 21.5	-0.4
NTVZ	**North Tongarir**	**3.34**	**234**	P		Pn	19 42 21.7	-0.3
BHHZ	**Black Hill Sta**	**3.35**	**226**	P		Pn	19 42 21.3	-0.7
PXZ	**Pawanui**	**3.36**	**212**	P		Pn	19 42 20.3	-1.7
KRVZ	**Karewarewa**	**3.37**	**235**	P		Pn	19 42 22.2	-0.1
OTVZ	**Oturere**	**3.39**	**233**	P		Pn	19 42 22.2	-0.3
ETAZ	**East Tamaki Re**	**3.40**	**273**	P		Pn	19 42 22.1	-0.5
NNVZ	**North Ngauruho**	**3.40**	**234**	P		Pn	19 42 22.8	0.0
WTVZ	**West Tongariro**	**3.41**	**235**	P		Pn	19 42 23.0	+0.1
SNVZ	**South Ngauruho**	**3.42**	**233**	P		Pn	19 42 22.8	-0.2
NGZ	**Ngauruhoe**	**3.44**	**234**	P		Pn	19 42 23.1	-0.1
MBAZ	**Motutapu North**	**3.44**	**276**	P		Pn	19 42 23.8	+0.6
TUVZ	**Tukino**	**3.46**	**232**	P		Pn	19 42 23.2	-0.3
MOVZ	**Moawhango**	**3.48**	**229**	P		Pn	19 42 23.1	-0.6
TWVZ	**Taurewa**	**3.49**	**236**	P		Pn	19 42 24.3	+0.4
WHVZ	**Whangaehu Hut**	**3.50**	**232**	P		Pn	19 42 24.0	-0.2
FWVZ	**Far West T-bar**	**3.51**	**233**	P		Pn	19 42 24.1	-0.2
ABAZ	**Army Bay**	**3.52**	**278**	P		Pn	19 42 25.5	+1.2
WNVZ	**Wahianoa**	**3.52**	**232**	P		Pn	19 42 23.9	-0.6
PNHZ	**Pukenui**	**3.58**	**220**	P		Pn	19 42 23.6	-1.4
AWAZ	**Awhitu Peninsu**	**3.62**	**271**	P		Pn	19 42 25.8	+0.3
PRHZ	**Porangahau**	**3.65**	**212**	P		Pn	19 42 23.8	-2.2
HIZ	**Hauiti**	**3.66**	**248**	P		Pn	19 42 27.2	+1.1
RVAZ	**Riverhead Bore**	**3.70**	**275**	P		Pn	19 42 26.6	0.0
TSZ	**Takapari Road**	**3.81**	**220**	P		Pn	19 42 26.5	-1.7
WCZ	**Waipu Caves**	**4.08**	**286**	P		Pn	19 42 31.9	0.0
WAZ	**Wanganui**	**4.16**	**231**	P		Pn	19 42 33.3	+0.3
NEZ	**North Egmont**	**4.50**	**241**	P		Pn	19 42 39.9	+2.1
PKE	**Pukeiti**	**4.54**	**242**	P		Pn	19 42 41.6	+3.3
KHEZ	**Kahui Hut**	**4.57**	**241**	P		Pn	19 42 41.1	+2.4
OUZ	**Omahuta**	**4.92**	**292**	P		Pn	19 42 44.0	+0.6
CTZ	**Chatham Island**	**7.28**	**155**	P		Pn	19 43 17.7	+1.8

*IDC **03** 19:51:13.1±42.0,23.˚45N×129.˚63E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=812.1km s-min=216.0km az=121.0*
*JMA **03** 19:52:18.8±0.3,28.˚N±2.˚×12.˚6E±.˚,h205km,MV3.7/26,NW OFF OKINAWAJIMA IS*

ISC 03 19:52:17.5±0.9,27.71N±0.˚09×126.˚32E±0.˚07, h213km±11km,n27,σ1$57/47,mb3.4/4,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAGN	**Aguni-jima**	**1.38**	**143**	P		**Pn**	**19 52 52.4**	**+1.0**
JAGN				S		**S**	**19 53 17.6**	**+0.1**
JKE	**Kume jima 2**	**1.44**	**163**	P		**Pn**	**19 52 52.6**	**+0.8**
JKE				S		**S**	**19 53 19.0**	**+0.7**
JIH	**Iheya**	**1.61**	**114**	*i* P		**Pn**	**19 52 53.9**	**+0.6**
JIH				S		**S**	**19 53 19.7**	**-1.1**
JNTH	**Nagotoyohara**	**1.92**	**128**	P		**Pn**	**19 52 57.0**	**+0.8**
JNTH				S		**S**	**19 53 25.1**	**-0.9**
JOW	**Kunigami**	**1.94**	**116**	*i* P		**Pn**	**19 52 57.0**	**+0.6**
JYRO	**Yoronjima**	**2.01**	**109**	P		**Pn**	**19 52 57.5**	**+0.5**
JYRO				S		**S**	**19 53 25.5**	**-2.1**
JOKE	**Okinoerabujima**	**2.03**	**99**	P		**Pn**	**19 52 57.6**	**+0.4**
JOKE				S		**S**	**19 53 26.1**	**-1.8**
JJT3	**Tamagusuku3**	**2.03**	**140**	P		**Pn**	**19 52 58.9**	**+1.6**
JJT3				S		**S**	**19 53 28.4**	**+0.4**
JTK	**Tokunoshima**	**2.33**	**87**	P		**Pn**	**19 53 00.5**	**+0.1**
JTK				S		**S**	**19 53 31.0**	**-2.4**
JAMN	**Amaminishikomi**	**2.58**	**77**	*e*P		**Pn**	**19 53 03.2**	**+0.1**
JAMN				*e*S		**S**	**19 53 36.9**	**-1.9**
JIKM	**Ikemajima**	**2.93**	**199**	P		**Pn**	**19 53 08.0**	**+0.9**
JIKM				S		**S**	**19 53 44.9**	**-0.6**
JAM	**Amami Oshima**	**2.99**	**76**	P		**Pn**	**19 53 08.0**	**+0.4**
JAM				S		**S**	**19 53 44.2**	**-2.3**
JIRB	**Irabujima**	**3.04**	**200**	P		**Pn**	**19 53 09.0**	**+0.7**
JIRB				S		**S**	**19 53 46.8**	**-1.0**
JOGS	**Gusukube**	**3.04**	**196**	P		**Pn**	**19 53 08.7**	**+0.3**
JOGS				S		**S**	**19 53 47.6**	**-0.3**
JMJ2	**Miyako jima3**	**3.08**	**197**	P		**Pn**	**19 53 09.9**	**+1.1**
JMJ2				S		**S**	**19 53 48.8**	**+0.2**
JZK	**Kikaishima**	**3.29**	**78**	P		**Pn**	**19 53 12.0**	**+0.9**
JZK				*e*S		**S**	**19 53 51.6**	**-1.1**
**

*NEIC **03** 20:01:11.5±1.8, 20°.8S±0°.1×178°.4W±0°.1, h545km±7km, mb4.3/58, Error ellipse: s-maj=17.7km s-min=15.5km az=128.0*
*NOU **03** 20:01:11.5, 20°.72S×178°.10W, h570km, mb4.1/32, Fiji Islands Region*
*IDC **03** 20:01:12.8±1.5, 20°.87S×178°.40W, h564km±16km, mb3.4/14, mbtmp4.3/16, Error ellipse: s-maj=15.7km s-min=10.8km az=143.0*
ISC 03 20:01:12.0±0.4,**20°.83S**±0°.07×**178°.43W**±0°.08,**h550**km, **n205**,σ2°**18**/214,**mb4.2**/43,**20C-7D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.60**	**352**	P		**P**	**20 02 26.2**	**+1.4**
TAVE	**Taveuni**	**4.33**	**341**	P		P	**20 02 38.1**	**+1.6**
MSVF	**Nonsavu**	**4.53**	**312**	P		**P**	**20 02 39.7**	**+1.6**
	13nm,0.5s,baz=285,slow=22,SNR=10							
MSVF	**Nonsavu**	**4.53**	**312**	P		**P**	**20 02 39.5**	**+1.4**
MSVF	**Nonsavu**	**4.53**	**312**	P		**P**	**20 02 39.8**	**+1.6**
AFI	**Afiamalu**	**9.36**	**44**	P		P	20 03 20.4	-3.2
	38nm,0.3s,baz=71,slow=8.4,SNR=7.9							
AFI				S		S	20 05 02.5	-9.1
	26nm,0.5s,baz=171,slow=16,SNR=1.7							
AFI	**Afiamalu**	**9.36**	**44**	P		P	20 03 20.1	-3.5
AFI	**Afiamalu**	**9.36**	**44**	P		P	20 03 20.6	-3.0
MARNC	**Mare, Loyalty**	**12.65**	**265**	P		**P**	**20 03 57.0**	**-0.2**
PINNC	**Pines Island,**	**13.25**	**260**	P		**P**	**20 04 04.0**	**+0.5**
DZM	**Mont Dzumac**	**14.14**	**262**	P		**P**	**20 04 12.8**	**+0.1**
ONTNC	**Ouen Toro**	**14.14**	**261**	P		**P**	**20 04 12.8**	**+0.2**
NOUC	**Port Laguerre**	**14.27**	**262**	P		**P**	**20 04 15.9**	**+1.9**
OUZ	**Omahuta**	**15.96**	**204**	P		**P**	**20 04 32.5**	**+1.5**
MXZ	**Matakaoa Point**	**16.92**	**189**	P		**P**	**20 04 39.7**	**-0.1**
URZ	**Urewera**	**17.80**	**192**	P		**P**	**20 04 46.1**	**-1.7**
	6.7nm,0.3s,baz=300,slow=0.1,SNR=6.9							
URZ	**Urewera**	**17.80**	**192**	P		**P**	**20 04 46.4**	**-1.4**
QRZ	**Quartz Range**	**21.37**	**199**	P		**P**	**20 05 20.9**	**+0.7**
KHZ	**Kahutara**	**22.56**	**196**	P		**P**	**20 05 30.1**	**-0.8**
RPZ	**Rata Peaks**	**24.45**	**199**	P		**P**	**20 05 48.7**	**+1.0**
ARMA	**Armidale**	**28.56**	**244**	P		**P**	**20 06 23.9**	**-0.3**
ARMA				IAmb		IAmb	20 06 31.7	
	comp=Z,22nm,1.4s							
CTA	**Charters Tower**	**33.06**	**265**	P		**P**	**20 07 03.3**	**+0.6**
CTAO	**Charters Tower**	**33.06**	**265**	P		**P**	**20 07 03.0**	**+0.3**
CTAO				IAmb		IAmb	20 07 03.5	
	comp=Z,6.6nm,0.6s							
CTAO	**Charters Tower**	**33.06**	**265**	P		**P**	**20 07 03.3**	**+0.6**
CMSA	**Cobar Meteorol**	**33.78**	**244**	P		**P**	**20 07 08.8**	**+0.2**
MTSU	**Mount Surprise**	**35.17**	**268**	P		**P**	**20 07 21.1**	**+0.6**
TOO	**Toolangi**	**35.38**	**234**	P		**P**	**20 07 22.6**	**+0.6**
COEN	**Coen**	**37.20**	**274**	P		**P**	**20 07 37.4**	**+0.1**
COEN				IAmb		IAmb	20 07 46.6	
	comp=Z,11nm,1.1s							
COEN	**Coen**	**37.20**	**274**	P		**P**	**20 07 38.3**	**+1.1**
STKA	**Stephens Creek**	**37.28**	**244**	P		**P**	**20 07 37.6**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=80,slow=11,SNR=4.4							
	comp=Z,2.8nm,0.9s							
STKA	**Stephens Creek**	**37.28**	**244**	P		**P**	**20 07 37.7**	**+0.1**
LCRK	**Leigh Creek**	**40.04**	**247**	P		**P**	**20 08 00.3**	**+0.3**
BBOO	**Buckleboo**	**42.04**	**244**	P		**P**	**20 08 15.4**	**-0.4**
BBOO	**Buckleboo**	**42.04**	**244**	P		**P**	**20 08 15.7**	**-0.1**
OOD	**Oodnadatta**	**42.19**	**251**	P		**P**	**20 08 18.1**	**+1.0**
WR0	**Warramunga Arr**	**43.97**	**262**	P		**P**	**20 08 30.4**	**-0.7**
WR0				IAmb		IAmb	20 08 32.9	
	comp=Z,9.6nm,1.4s							
AS31	**Alice Springs**	**44.05**	**257**	P		**P**	**20 08 31.7**	**0.0**
ASAR	**Alice Springs**	**44.05**	**257**	P		**P**	**20 08 31.8**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=87,slow=8.5,SNR=34							
ASAR				PcP		**PcP**	**20 10 04.5**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=99,slow=4.1,SNR=13							
ASAR				S		**S**	**20 14 22.6**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=92,slow=14,SNR=6.3							
	comp=Z,4.5nm,0.8s							
ASAR	**Alice Springs**	**44.05**	**257**	P		**P**	**20 08 31.1**	**-0.6**
WB0	**Warramunga Arr**	**44.14**	**263**	P		**P**	**20 08 31.6**	**-0.7**
WB0				IAmb		IAmb	20 08 32.3	
	comp=Z,3.3nm,0.6s							
WRAB	**Tennant Creek**	**44.15**	**262**	P		**P**	**20 08 32.9**	**+0.5**
WRA	**Warramunga Arr**	**44.16**	**262**	P		**P**	**20 08 32.0**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=96,slow=5.0,SNR=31							
WRA				PcP		**PcP**	**20 10 04.2**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=97,slow=3.1,SNR=3.5							
WRA				S		**S**	**20 14 27.6**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=101,slow=15,SNR=4.8							
	comp=Z,1.7nm,0.5s							
WRA	**Warramunga Arr**	**44.16**	**262**	P		**P**	**20 08 31.9**	**-0.6**
KDU	**Kakadu**	**47.55**	**272**	P		**P**	**20 08 58.4**	**0.0**
MTN	**Manton Dam**	**48.76**	**271**	P		**P**	**20 09 06.6**	**-0.8**
MTN				IAmb		IAmb	20 09 07.4	
	comp=Z,7.8nm,0.8s							
MTN	**Manton Dam**	**48.76**	**271**	P		**P**	**20 09 07.6**	**+0.2**
FORT	**Forrest**	**48.80**	**247**	P		**P**	**20 09 06.8**	**-0.6**
FORT	**Forrest**	**48.80**	**247**	P		**P**	**20 09 08.1**	**+0.7**
WRKA	**Warakurna**	**48.99**	**254**	P		**P**	**20 09 08.8**	**-0.2**
KNRA	**Kununurra**	**50.23**	**267**	P		**P**	**20 09 17.0**	**-1.2**
KNRA				IAmb		IAmb	20 09 21.7	
	comp=Z,15nm,1.4s							
KNRA	**Kununurra**	**50.23**	**267**	P		**P**	**20 09 19.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**52.59**	**263**	P		**P**	**20 09 34.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.59**	**263**	P		**P**	**20 09 36.0**	**+0.9**
PSA00	**Pilbara Seismi**	**57.20**	**257**	P		**P**	**20 10 06.2**	**-1.1**
PSA00	**Pilbara Seismi**	**57.20**	**257**	P		**P**	**20 10 06.4**	**-1.0**
PSA00				IAmb		IAmb	20 10 21.0	
	comp=Z,19nm,1.4s							
MBWA	**Marble Bar**	**57.39**	**258**	P		**P**	**20 10 07.9**	**-0.7**
MBWA	**Marble Bar**	**57.39**	**258**	P		**P**	**20 10 08.1**	**-0.5**
MEEK	**Meekatharra**	**57.43**	**251**	P		**P**	**20 10 08.6**	**-0.3**
SBA	**Scott Base**	**57.52**	**184**	P		**P**	**20 10 10.7**	**+2.2**
VNDA	**Vanda**	**57.55**	**185**	P		**P**	**20 10 09.6**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=1.1,slow=6.1,SNR=5.5							
	comp=Z,1.0nm,0.7s							
VNDA	**Vanda**	**57.55**	**185**	P		**P**	**20 10 09.6**	**+0.8**
MMRI	**Maumere**	**58.36**	**273**	P		**P**	**20 10 14.0**	**-1.3**
MMRI				IAmb		IAmb	20 10 28.9	
	comp=Z,17nm,0.9s							
BLDU	**Ballidu**	**58.55**	**246**	P		**P**	**20 10 16.2**	**-0.2**
MUN	**Mundaring**	**58.82**	**245**	P		**P**	**20 10 18.5**	**+0.3**
MORW	**Morawa**	**59.33**	**248**	P		**P**	**20 10 21.0**	**-0.7**
MORW				IAmb		IAmb	20 10 43.8	
	comp=Z,25nm,1.4s							
CASY	**Casey**	**63.50**	**205**	P		**P**	**20 10 48.2**	**+0.1**
MYLDM	**Lahad Datu**	**67.03**	**285**	P		**P**	**20 11 09.7**	**-1.5**
MYLDM				IAmb		IAmb	20 11 18.1	
	comp=Z,21nm,1.2s							
QSPA	**South Pole Qui**	**69.24**	**180**	P		**P**	**20 11 24.4**	**+0.5**
KKM	**Kota Kinabalu**	**69.45**	**285**	P		**P**	**20 11 26.0**	**0.0**
MJAR	**Matsushiro Ar**	**70.23**	**324**	P		**P**	**20 11 29.5**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=105,slow=11,SNR=9.2							
	comp=Z,1.1nm,0.5s							
JHS	**Saijyo**	**72.09**	**320**	P		**P**	**20 11 41.1**	**+0.2**
JHS				IAmb		IAmb	20 11 58.5	
	comp=Z,24nm,1.3s							
ADK	**Adak**	**72.41**	**1**	P		**P**	**20 11 41.4**	**-1.0**
TPUB	**Ta-pu**	**73.81**	**303**	P		**P**	**20 11 49.7**	**-1.4**
SSLB	**Suanglung**	**73.82**	**304**	P		**P**	**20 11 49.6**	**-1.5**
PEA0B	**Petropavlovsk-**	**76.48**	**345**	P		**P**	**20 12 04.4**	**-0.9**
PEA0B				IAmb		IAmb	20 12 06.1	
	comp=Z,20nm,1.4s							
PETK	**Petropavlovsk-**	**76.48**	**345**	P		**P**	**20 12 04.8**	**-0.5**
	comp=Z,4.6nm,0.7s,baz=145,slow=8.5,SNR=15							
	comp=Z,4.6nm,0.7s							
PETK	**Petropavlovsk-**	**76.48**	**345**	P		**P**	**20 12 04.7**	**-0.6**
KSRS	**Korea Array**	**76.86**	**319**	P		**P**	**20 12 08.4**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=122,slow=6.2,SNR=8.1							
	comp=Z,1.0nm,0.6s							
SEHB	**SEOHWA**	**77.18**	**320**	P		**P**	**20 12 08.8**	**-0.7**
SMAI	**San Martin Ant**	**78.45**	**159**	P		**P**	**20 12 16.6**	**+0.8**
SMAI				IAmb		IAmb	20 12 17.8	
	comp=Z,5.2nm,0.6s							
USRK	**Ussuriysk Ar.**	**79.01**	**326**	P		**P**	**20 12 20.0**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=98,slow=2.8,SNR=6.3							
	comp=Z,2.9nm,0.6s							
USRK	**Ussuriysk Ar.**	**79.01**	**326**	P		**P**	**20 12 19.4**	**+0.3**
BELA	**Belgrano 2**	**79.29**	**173**	P		**P**	**20 12 19.5**	**-0.7**
PNTR	**Pine Nut**	**81.09**	**42**	P		**P**	**20 12 30.4**	**0.0**
PNTR				IAmb		IAmb	20 12 31.8	
	comp=Z,7.1nm,0.8s							
MAW	**Mawson**	**81.12**	**200**	P		**P**	**20 12 29.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=166,slow=3.4,SNR=1.9							
	comp=Z,0.8nm,0.5s							
NVAR	**Mina Array Bea**	**81.54**	**44**	P		**P**	**20 12 33.1**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=223,slow=9.0,SNR=8.1							
	comp=Z,1.9nm,0.7s							
NVAR	**Mina Array Bea**	**81.54**	**44**	P		**P**	**20 12 32.4**	**-0.3**
KVN	**Kaiserville**	**82.02**	**43**	P		**P**	**20 12 35.4**	**+0.3**
MOD	**Modoc Plateau**	**82.33**	**40**	P		**P**	**20 12 36.7**	**+0.1**
MOD				IAmb		IAmb	20 12 37.7	
	comp=Z,5.1nm,0.8s							
K05A	**Summer Lake**	**82.47**	**39**	P		**P**	**20 12 37.9**	**+0.6**
K05A				IAmb		IAmb	20 12 41.6	
	comp=Z,13nm,1.2s							
IPM	**Ipoh**	**82.77**	**278**	P		**P**	**20 12 39.5**	**+0.2**
IPM				IAmb		IAmb	20 12 40.4	
	comp=Z,7.1nm,0.7s							
CNPM	**China Poot**	**83.11**	**14**	P		**P**	**20 12 39.3**	**-0.6**
KULM	**Kulim**	**83.42**	**278**	P		**P**	**20 12 42.4**	**-0.1**
KULM				IAmb		IAmb	20 12 51.5	
	comp=Z,8.0nm,1.1s							
SVW2	**Sparrevohn**	**83.69**	**11**	P		**P**	**20 12 41.8**	**-0.9**
SVW2				IAmb		IAmb	20 13 07.3	
	comp=Z,12nm,1.5s							
U15A	**North Rim**	**84.48**	**48**	P		**P**	**20 12 48.2**	**+0.6**
U15A				IAmb		IAmb	20 12 49.0	
	comp=Z,3.4nm,0.7s							
L19K	**White Mountain**	**84.83**	**11**	P		**P**	**20 12 48.4**	**0.0**
GSI	**Gunungsitoli**	**84.84**	**273**	P		**P**	**20 12 50.0**	**+0.5**
G08A	**Pilot Rock**	**85.12**	**38**	P		**P**	**20 12 50.4**	**+0.1**
GHO	**Glory Hole Cre**	**85.63**	**14**	P		**P**	**20 12 51.3**	**-1.0**
GHO				IAmb		IAmb	20 12 52.2	
	comp=Z,7.1nm,0.7s							
N25K	**Chitina, Valde**	**86.50**	**15**	P		**P**	**20 12 56.1**	**-0.4**
N25K				IAmb		IAmb	20 12 56.8	
	comp=Z,18nm,1.5s							
GLB	**Gilahina Butte**	**86.56**	**16**	P		**P**	**20 12 56.0**	**-0.6**
GLB				IAmb		IAmb	20 12 56.4	
	comp=Z,2.8nm,0.7s							
TRF	**Thorofare Moun**	**86.85**	**12**	P		**P**	**20 12 57.0**	**-1.1**
TRF				IAmb		IAmb	20 12 57.5	
	comp=Z,8.4nm,0.8s							
RND	**Reindeer**	**87.10**	**13**	P		**P**	**20 12 58.6**	**-0.6**
TROLL	**Troll, Antarti**	**87.40**	**180**	P		**P**	**20 12 59.8**	**-0.9**
TXAR	**Lajitas Array**	**87.57**	**57**	P		**P**	**20 13 02.2**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=215,slow=5.4,SNR=13							
	comp=Z,1.9nm,0.9s							
TXAR	**Lajitas Array**	**87.57**	**57**	P		**P**	**20 13 02.0**	**-0.2**
SNAA	**Sanae**	**87.70**	**179**	P		**P**	**20 13 00.6**	**-1.4**
SNAA	**Sanae**	**87.70**	**179**	P		**P**	**20 13 00.2**	**-1.8**
M27K	**Edge Creek, AK**	**87.83**	**16**	P		**P**	**20 13 02.3**	**-0.4**
M27K				IAmb		IAmb	20 13 04.2	
	comp=Z,5.9nm,1.1s							
VNA3	**Neumayer Olymp**	**87.84**	**176**	P		**P**	**20 13 01.6**	**-1.0**
VNA2	**Neumayer--Watz**	**88.28**	**177**	P		**P**	**20 13 03.9**	**-0.8**
	baz=186,slow=4.0							
CCB	**Clear Creek Bu**	**88.42**	**13**	P		**P**	**20 13 03.3**	**-1.9**
CCB				IAmb		IAmb	20 13 04.5	
	comp=Z,6.0nm,0.7s							
BCAR	**Beaver Creek A**	**88.45**	**16**	P		**P**	**20 13 05.1**	**-0.4**
VNA1	**Neumayer--Stat**	**88.51**	**177**	P		**P**	**20 13 04.8**	**-0.9**
IMAR	**Indian Mountai**	**88.55**	**10**	P		**P**	**20 13 05.1**	**-0.6**
ILAR	**Eielson Array**	**88.72**	**13**	P		**P**	**20 13 05.4**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=228,slow=5.6,SNR=11							
	comp=Z,1.3nm,0.5s							
J26L	**Joseph Creek**	**89.22**	**14**	P		**P**	**20 13 09.0**	**-0.1**
J26L				IAmb		IAmb	20 13 09.8	
	comp=Z,5.4nm,0.8s							
M30M	**Minto, Yukon**	**89.40**	**18**	P		**P**	**20 13 09.4**	**-0.5**
M30M				IAmb		IAmb	20 13 10.3	
	comp=Z,5.0nm,1.0s							
PD31	**Pinedale Array**	**89.47**	**43**	P		**P**	**20 13 10.6**	**-0.4**
PD31				IAmb		IAmb	20 13 12.4	
	comp=Z,4.6nm,1.3s							
PDAR	**Pinedale Array**	**89.47**	**43**	P		**P**	**20 13 10.7**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=204,slow=3.6,SNR=19							
	comp=Z,1.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P		**P**	**20 13 14.0**	**+1.1**
	comp=Z,3.3nm,0.9s,baz=124,slow=3.6,SNR=14							
	comp=Z,3.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**89.84**	**290**			**P**	**20 13 13.8**	**+0.9**
ZALV	**Zalesovo Beam**	**110.49**	**321**	PKiKP		**PKiKP**	**20 18 39.6**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=118,slow=2.2,SNR=4.5							
MKAR	**Makanchi Array**	**111.13**	**313**	PKiKP		**PKiKP**	**20 18 41.6**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=166,slow=0.6,SNR=11							
KURBB	**Kurchatov Arra**	**114.01**	**317**	PKiKP		**PKiKP**	**20 18 46.5**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=90,slow=1.8,SNR=9.0							
BVAR	**Borovoye Array**	**119.07**	**320**	PKP		**PKPdf**	**20 18 57.0**	**-1.3**
	comp=Z,1.9nm,0.4s,baz=122,slow=2.1,SNR=25							
AKTO	**Aktyubinsk**	**127.04**	**318**	PKP		**PKPdf**	**20 19 12.5**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=72,slow=3.2,SNR=4.3							
ARCES	**ARCESS Array B**	**129.17**	**349**	PKP		**PKPdf**	**20 19 16.1**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=2.2,slow=1.0,SNR=17							
FINES	**FINESS Array B**	**135.97**	**343**	PKP		**PKPdf**	**20 19 31.0**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=42,slow=2.3,SNR=7.6							
NB2	**NORSAR Subarra**	**139.25**	**353**	PKP		PKPdf	20 19 28.6	-7.7
	comp=Z,1.0nm,0.8s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**139.25**	**353**	PKhKP		PKPpre	20 19 27.2	
	comp=Z,0.8nm,0.7s,baz=15,slow=2.3,SNR=4.1							
NOA				PKP		**PKPdf**	**20 19 36.7**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=14,slow=3.7,SNR=2.7							
AKASG	**Malin Array Be**	**143.10**	**331**	PKP		PKPab	20 19 39.9	-1.2
	comp=Z,8.2nm,0.4s,baz=42,slow=4.4,SNR=43							
AKBB	**Malin Array Si**	**143.10**	**331**			PKPab	20 19 39.7	-1.4
EKA	**Eskdalemuir Ar**	**145.36**	**5**	PKPbc		**PKPdf**	**20 19 47.4**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=330,slow=2.2,SNR=8.2							
BNN	**Bunyan**	**145.53**	**309**			**PKPdf**	**20 19 48.2**	**0.0**
MILM	**Milestii Mici**	**145.84**	**326**	↓P		**PKPdf**	**20 19 47.9**	**-0.2**
BRTR	**Keskin Array B**	**146.76**	**312**	PKPbc		**PKPdf**	**20 19 52.0**	**+1.8**
	comp=Z,3.1nm,0.7s,baz=137,slow=4.5,SNR=17							
BRTR	**Keskin Array B**	**146.76**	**312**			**PKPdf**	**20 19 51.2**	**+1.0**
TLCR		**146.93**	**324**	↑P		**PKPdf**	**20 19 52.0**	**+1.9**
BURO8	**Bucovina Ar. S**	**147.13**	**330**			**PKPdf**	**20 19 52.7**	**+2.2**
GHRR		**147.13**	**326**	↓P		**PKPdf**	**20 19 54.0**	**+3.6**
BURAR	**Bucovina Array**	**147.14**	**330**	↑P		**PKPdf**	**20 19 53.6**	**+3.1**
BIZ	**Bicaz**	**147.20**	**328**	↑P		**PKPdf**	**20 19 54.1**	**+3.6**
TESR	**Tescani**	**147.22**	**327**	↑P		**PKPdf**	**20 19 52.0**	**+1.4**
CFR	**Carcaliu**	**147.31**	**324**	↑P		**PKPdf**	**20 19 53.7**	**+3.0**
TPGR	**Topolog**	**147.36**	**323**	↑P		**PKPdf**	**20 19 52.6**	**+1.8**
KOLS	**Kolonicke sedl**	**147.43**	**334**	*e*PKP		**PKPdf**	**20 19 54.3**	**+3.5**
VRI	**Vrincioaia**	**147.62**	**326**	↓P		**PKPdf**	**20 19 53.5**	**+2.3**
HARR	**Harsova**	**147.73**	**324**	↑P		**PKPdf**	**20 19 55.0**	**+3.6**
CRVS	**Cervenica-Dubn**	**147.78**	**335**	*e*PKP		**PKPdf**	**20 19 55.1**	**+3.7**
CRVS				*e*			20 19 59.6	
OSTC	**Ostas**	**148.16**	**342**	*e*PKP		**PKPdf**	**20 19 55.3**	**+3.3**
CHVC	**Chvalec**	**148.18**	**342**	*e*PKP		**PKPdf**	**20 19 55.6**	**+3.6**
DOPR	**Dopca**	**148.23**	**328**	↑P		**PKPbc**	**20 19 56.7**	**+0.3**
UPC	**Upice**	**148.26**	**342**	*e*PKP		**PKPdf**	**20 19 56.1**	**+4.0**
UPC				*e*PKP		PKPab	20 20 01.4	0.0
MLR	**Muntele Rosu**	**148.28**	**326**	↑P		**PKPdf**	**20 19 56.0**	**+3.5**
MLR	**Muntele Rosu**	**148.28**	**326**	PKPbc		**PKPdf**	**20 19 55.8**	**+3.3**
	comp=Z,3.6nm,0.6s,baz=323,slow=8.9,SNR=10							
MLR	**Muntele Rosu**	**148.28**	**326**			**PKPdf**	**20 19 55.5**	**+3.1**
CLL	**Collm**	**148.28**	**346**	↓*i* PKPbc		**PKPdf**	**20 19 55.6**	**+3.5**
	comp=Z,11nm,0.7s							
CLL				*i* PKPab		**PKiKP**	**20 20 00.1**	**+2.6**
	comp=Z,6.0nm,0.7s							
DPC	**Dobruska-Polom**	**148.31**	**342**	*e*PKP		**PKPdf**	**20 19 55.8**	**+3.5**
DPC				*ex*		**PKPab**	**20 20 01.9**	**+0.2**
KRLC	**Kraliky**	**148.42**	**341**	*e*PKP		**PKPdf**	**20 19 55.7**	**+3.2**
KRLC				*ex*		**PKPab**	**20 20 01.9**	**-0.3**
MORC	**Moravsky Berou**	**148.45**	**340**	*e*PKP		**PKPdf**	**20 19 56.2**	**+3.7**
PVCC	**Panska Ves**	**148.63**	**344**	*e*PKP		**PKPdf**	**20 19 56.6**	**+3.9**
MAUC	**Maruska**	**148.71**	**339**	*e*PKP		**PKPdf**	**20 19 57.3**	**+4.4**
VOIR		**148.77**	**327**	↑P		**PKPdf**	**20 19 56.7**	**+3.5**
DRGR		**148.90**	**331**	↓P		**PKPdf**	**20 19 57.4**	**+4.1**
ARR	**Arges**	**149.03**	**328**	↑P		**PKPbc**	**20 19 58.8**	**+0.4**
VYHS	**Vyhne**	**149.11**	**337**	*e*PKP		**PKPdf**	**20 19 58.0**	**+4.4**
VYHS				*e*			20 20 04.4	
PRU	**Pruhonice**	**149.13**	**344**	*e*PKP		**PKPdf**	**20 19 57.9**	**+4.4**
PRU				*ex*		**PKPab**	**20 20 04.7**	**-0.3**
VRAC	**Vranov**	**149.16**	**341**	*e*PKP		**PKPdf**	**20 19 58.0**	**+4.4**
JAVC	**Velka Javorina**	**149.20**	**339**	*e*PKP		**PKPbc**	**20 19 59.2**	**+0.5**
LOT	**Lotru**	**149.40**	**328**	↑P		**PKPdf**	**20 19 56.8**	**+2.5**
NKC	**Novy Kostel**	**149.42**	**346**	*e*PKP		**PKPdf**	**20 19 58.8**	**+4.8**
NKC				*ex*		**PKPab**	**20 20 05.4**	**-0.8**
KRUC	**Moravsky**	**149.43**	**341**	*e*PKP		**PKPdf**	**20 19 58.5**	**+4.5**
SIRR	**Siria**	**149.77**	**332**	↓P		**PKPdf**	**20 19 59.7**	**+5.0**
GZR	**Gura Zlata**	**149.92**	**329**	↑P		**PKPdf**	**20 19 58.9**	**+3.9**
KHC	**Kasperske Hory**	**150.17**	**344**	*e*PKP		**PKPdf**	**20 20 00.2**	**+5.0**
KHC				*ex*		**PKPab**	**20 20 09.2**	**-0.2**
CKRC	**Cesky Krumlov**	**150.26**	**343**	*e*PKP		**PKPdf**	**20 20 00.6**	**+5.2**
CKRC				*ex*		**PKPab**	**20 20 09.2**	**-0.6**
BZS	**Buzias**	**150.29**	**331**	↓P		**PKPdf**	**20 20 00.7**	**+5.3**
GERES	**GERESS Array B**	**150.40**	**344**	PKPbc		**PKPdf**	**20 20 00.8**	**+5.1**
	comp=Z,2.7nm,0.7s,baz=29,slow=3.0,SNR=29							
GERES				PKPab		**PKPab**	**20 20 09.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=20,slow=4.3,SNR=5.7							
HERR	**Herculane**	**150.47**	**329**	↑P		**PKPbc**	**20 20 01.2**	**-0.5**
CONA	**Conrad Observa**	**150.60**	**340**	*i* P		**PKPbc**	**20 20 01.6**	**-0.5**
	comp=Z,4.2nm,0.6s,SNR=7.8							
RONA	**Rosalia, Austr**	**150.66**	**339**	*e*P		**PKPbc**	**20 20 01.6**	**-0.5**
	comp=Z,6.2nm,0.5s							
MDVR	**Moldovita**	**150.88**	**330**	↑P		**PKPdf**	**20 19 56.3**	**-0.2**
MORH	**Mrgy, Hungar**	**151.08**	**335**	↑P		**PKPbc**	**20 20 02.4**	**-0.7**
MOA	**Molln**	**151.15**	**342**	*e*P		**PKPdf**	**20 20 02.2**	**+5.4**
	comp=Z,1.9nm,0.6s							
BLKB	**Belogradchik**	**151.25**	**327**	↑P		**PKPdf**	**20 20 02.6**	**+5.6**
ARSA	**Arzberg**	**151.31**	**340**	*e*P		**PKPdf**	**20 20 02.4**	**+5.4**
	comp=Z,0.6nm,0.5s							
FRGS	**Fruska Gora**	**151.45**	**332**	↑P		**PKPdf**	**20 20 02.9**	**+5.6**
BIOA	**Bad Ischl, Aus**	**151.47**	**343**	*e*P		**PKPdf**	**20 20 02.8**	**+5.5**
	comp=Z,1.1nm,0.5s							
VTS	**Vitosha**	**151.66**	**325**	↑P		**PKPbc**	**20 20 04.4**	**-0.3**
BOVS	**Bovan**	**151.73**	**328**	↑P		**PKPdf**	**20 20 03.3**	**+5.6**
SOKA	**Soboth**	**151.97**	**340**	*e*P		**PKPdf**	**20 20 03.7**	**+5.6**
	comp=Z,1.4nm,0.6s							
KBA	**Koelnbreinsper**	**152.12**	**343**	*e*P		**PKPdf**	**20 20 03.9**	**+5.4**
	comp=Z,2.8nm,0.9s							
WATA	**Walderalm**	**152.34**	**345**	*e*P		**PKPbc**	**20 20 04.8**	**-1.3**
	comp=Z,1.7nm,0.5s							
RETA	**Reutte**	**152.38**	**346**	*e*P		**PKPbc**	**20 20 04.9**	**-1.2**
	comp=Z,1.2nm,0.7s							
WTTA	**Wattenberg**	**152.39**	**345**	*e*P		**PKPbc**	**20 20 05.1**	**-1.1**
	comp=Z,2.6nm,0.5s							
MOTA	**Moosalm**	**152.44**	**346**	*e*P		**PK

PB16	**IPOC Station P**	**18.57**	**154**			**P**		**20 06 58.2 +1.4**
PB16					IAmb	IAmb		20 07 00.1
	comp=Z,10nm,0.8s							
MTDJ	**Mount Denham**	**19.68**	**1**	P		**Pn**		**20 07 09.9 -1.9**
GO01	**Chusmiza**	**19.89**	**155**	P		**P**		**20 07 12.6 +1.6**
GO01					IAmb	IAmb		20 07 19.5
	comp=Z,9.0nm,0.7s							
TOSP	**Speyside**	**21.47**	**53**	P		**P**		**20 07 25.6 -1.8**
SIV	**San Ignacio**	**21.89**	**132**	P		**P**		**20 07 33.5 +1.7**
	comp=Z,2.0nm,0.7s,baz=294,slow=8.5,SNR=9.0							
	comp=Z,2.0nm,0.7s							
ITTB	**Itaituba**	**22.28**	**98**	*e*P		**P**		**20 07 35.1 -0.5**
AOPR	**Arecibo Observ**	**22.62**	**28**	P		**P**		**20 07 38.1 -0.6**
PTLB	**Pontes e Lacer**	**23.06**	**128**	*e*P		**P**		**20 07 44.4 +1.7**
NPGB	**Novo Progresso**	**23.09**	**104**	*e*P		**P**		**20 07 42.9 -0.2**
PDRB	**Porto dos Gac**	**23.23**	**116**	*e*P		**P**		**20 07 45.3 +1.0**
MALB	**Monte Alegre**	**23.60**	**91**	*e*P		**P**		**20 07 48.1 +0.4**
CLDB	**Colider**	**23.79**	**114**	*e*P		**P**		**20 07 49.4 0.0**
CMIG	**Matias Romero**	**25.01**	**319**	P		**P**		**20 08 00.8 +0.4**
	comp=Z,4.0nm,0.7s,baz=122,slow=7.6,SNR=4.0							
	comp=Z,4.0nm,0.7s							
MDP	**Montagnes des**	**26.06**	**75**	P		**P**		**20 08 08.6 -1.4**
	comp=Z,4.9nm,0.8s,baz=248,slow=9.3,SNR=2.7							
	comp=Z,4.9nm,0.8s							
SNDB	**Serra Nova Dou**	**28.31**	**113**	*e*P		**P**		**20 08 30.8 +0.8**
PRPB	**Parauapebas**	**28.36**	**100**	*e*P		**P**		**20 08 29.9 -0.5**
CPUP	**Villa Florida**	**31.56**	**143**	P		**P**		**20 08 58.4 -0.1**
	comp=Z,1.9nm,0.8s,baz=344,slow=19,SNR=3.8							
	comp=Z,1.9nm,0.8s							
BDFB	**Brasilia**	**32.59**	**117**	P		**P**		**20 09 08.4 +0.6**
	comp=Z,2.5nm,0.5s,baz=287,slow=11,SNR=4.8							
	comp=Z,2.5nm,0.5s							
BDFB	**Brasilia**	**32.59**	**117**	P		**P**		**20 09 08.0 +0.2**
BDFB					IAmb	IAmb		20 09 09.1
	comp=Z,3.7nm,0.6s							
MT09	**Talagante**	**32.68**	**169**	P		**P**		**20 09 09.5 +1.2**
MT09					IAmb	IAmb		20 09 37.7
	comp=Z,18nm,1.5s							
LMEL	**Las Melosas**	**32.90**	**168**	P		**P**		**20 09 12.7 +2.4**
LMEL					IAmb	IAmb		20 09 14.2
	comp=Z,10nm,0.9s							
ROSB	**Rosrio**	**33.75**	**93**	*e*P		**P**		**20 09 17.2 -0.5**
GOGA	**Godfrey**	**35.20**	**352**	P		**P**		**20 09 30.3 +0.4**
GOGA					IAmb	IAmb		20 09 53.5
	comp=Z,16nm,1.5s							
LRAL	**Lakeview Retre**	**35.49**	**347**	P		**P**		**20 09 32.2 -0.2**
JANB	**Januaria**	**35.73**	**114**	*e*P		**P**		**20 09 34.9 +0.1**
HODGE	**Hodges**	**35.86**	**354**	P		**P**		**20 09 35.3 -0.2**
W57A	**Gilead**	**36.59**	**357**	P		**P**		**20 09 41.9 +0.2**
CPCT	**Cooper Cave**	**37.35**	**351**	P		**P**		**20 09 48.0 -0.1**
V52A	**Sevierville**	**37.61**	**352**	P		**P**		**20 09 50.3 0.0**
V48A	**Smith Brothers**	**38.05**	**348**	P		**P**		**20 09 53.7 -0.3**
V48A					IAmb	IAmb		20 09 54.4
	comp=Z,9.0nm,0.7s							
TZTN	**Tazewell**	**38.29**	**353**	P		**P**		**20 09 55.8 -0.3**
TZTN					IAmb	IAmb		20 10 00.6
	comp=Z,19nm,1.4s							
S57A	**Dark Hollow, R**	**39.15**	**359**	P		**P**		**20 10 03.5 +0.3**
S57A					IAmb	IAmb		20 10 26.1
	comp=Z,21nm,1.4s							
S51A	**Beattyville**	**39.38**	**353**	P		**P**		**20 10 04.2 -0.8**
S51A					IAmb	IAmb		20 10 05.1
	comp=Z,8.7nm,0.9s							
TX31	**Lajitas Ar. Si**	**39.41**	**323**	P		**P**		**20 10 06.8 +1.2**
TX31					IAmb	IAmb		20 10 09.6
	comp=Z,12nm,1.5s							
TXAR	**Lajitas Array**	**39.41**	**323**	P		**P**		**20 10 07.2 +1.6**
	comp=Z,0.3nm,0.5s,baz=150,slow=9.1,SNR=9.9							
TXAR					PcP	**PcP**		**20 12 11.3 +1.1**
	comp=Z,0.3nm,0.7s,baz=145,slow=4.6,SNR=4.2							
	comp=Z,0.3nm,0.5s							
TXAR	**Lajitas Array**	**39.41**	**323**	P		**P**		**20 10 07.0 +1.4**
PLCA	**Paso Flores**	**39.54**	**171**	P		**P**		**20 10 07.9 +1.4**
	comp=Z,3.6nm,0.9s,baz=337,slow=9.1,SNR=8.0							
PLCA					PcP	**PcP**		**20 12 11.3 +0.9**
	comp=Z,1.5nm,0.7s,baz=344,slow=2.8,SNR=5.5							
	comp=Z,3.6nm,0.9s							
PLCA	**Paso Flores**	**39.54**	**171**	P		**P**		**20 10 07.8 +1.4**
PLCA					IAmb	IAmb		20 10 08.8
	comp=Z,5.5nm,1.1s							
PLCA	**Paso Flores**	**39.54**	**171**	*e*P		**P**		**20 10 07.8 +1.4**
R55A	**Marlinton**	**39.72**	**357**	P		**P**		**20 10 08.3 +0.4**
R55A					IAmb	IAmb		20 10 25.9
	comp=Z,22nm,1.5s							
MGMO	**Mountain Grove**	**40.79**	**342**	P		**P**		**20 10 15.7 -1.0**
MGMO					IAmb	IAmb		20 10 16.2
	comp=Z,16nm,1.4s							
NBLA	**Lagarto - SE**	**40.88**	**105**	*e*P		**P**		**20 10 17.6 -0.1**
SSPA	**Standing Stone**	**42.01**	**360**	P		**P**		**20 10 26.8 +0.3**
SSPA					IAmb	IAmb		20 10 27.9
	comp=Z,7.9nm,0.8s							
M57A	**Sunshine Farm,**	**42.72**	**1**	P		**P**		**20 10 32.9 +0.7**
M57A					IAmb	IAmb		20 10 41.3
	comp=Z,18nm,1.2s							
M63A	**Gales Ferry**	**43.11**	**6**	P		**P**		**20 10 36.4 +1.1**
ANMO	**Albuquerque**	**45.13**	**326**	P		**P**		**20 10 53.5 +1.7**
ANMO					IAmb	IAmb		20 10 54.2
	comp=Z,5.2nm,0.6s							
TUC	**Tucson**	**45.89**	**320**	P		**P**		**20 10 58.7 +1.1**
I63A	**Otisfield**	**45.89**	**7**	P		**P**		**20 10 58.0 +0.7**
I63A					IAmb	IAmb		20 10 58.2
	comp=Z,17nm,1.2s							
SDCO	**Great Sand Dun**	**46.73**	**330**	P		**P**		**20 11 05.9 +1.5**
EMMW	**East Machias**	**47.01**	**10**	P		**P**		**20 11 06.1 +0.1**
EMMW					IAmb	IAmb		20 11 27.0
	comp=Z,9.9nm,1.1s							
PKME	**Peaks-Kenny Pk**	**47.26**	**8**	P		**P**		**20 11 08.1 +0.2**
PKME					IAmb	IAmb		20 11 09.5
	comp=Z,9.9nm,0.8s							
E62A	**Clayton Lake**	**48.55**	**8**	P		**P**		**20 11 19.0 +1.1**
PV13	**Radium Mtn., P**	**48.77**	**327**	P		**P**		**20 11 21.0 +1.0**
PV13					IAmb	IAmb		20 11 22.2
	comp=Z,6.7nm,1.0s							
ESJX	**Sierra Juarez**	**49.15**	**316**	P		**P**		**20 11 24.4 +1.5**
BATG	**Bathurst New B**	**49.74**	**11**	P		**P**		**20 11 27.3 +0.4**
BATG					IAmb	IAmb		20 11 28.4
	comp=Z,11nm,0.8s							
DUG	**Dugway, Tooele**	**52.40**	**326**	P		**P**		**20 11 48.5 +1.4**
PDAR	**Pinedale Array**	**52.56**	**331**	P		**P**		**20 11 49.1 +0.8**
	comp=Z,0.3nm,0.5s,baz=124,slow=9.7,SNR=4.8							
	comp=Z,0.3nm,0.5s							
PDAR	**Pinedale Array**	**52.56**	**331**	P		**P**		**20 11 49.0 +0.7**
ULM	**Lac du Bonnet**	**53.89**	**346**	P		**P**		**20 11 56.5 -1.1**
	comp=Z,2.8nm,0.5s,baz=158,slow=9.5,SNR=2.4							
	comp=Z,2.8nm,0.5s							
NVAR	**Mina Array Bea**	**54.50**	**321**	P		**P**		**20 12 04.2 +1.7**
	comp=Z,1.0nm,0.6s,baz=125,slow=7.7,SNR=4.3							
	comp=Z,1.0nm,0.6s							
SCHQ	**Schefferville**	**56.95**	**8**	P		**P**		**20 12 18.9 -0.5**
	comp=Z,3.9nm,0.6s,baz=254,slow=9.2,SNR=5.9							
	comp=Z,3.9nm,0.6s							
I07A	**Izee**	**58.70**	**326**	P		**P**		**20 12 33.1 +1.2**
DBIC	**Dimbokro**	**73.33**	**83**	P		**P**		**20 14 05.4 -0.3**
	comp=Z,5.3nm,0.5s,baz=278,slow=4.1,SNR=12							
	comp=Z,5.3nm,0.5s							
DBIC	**Dimbokro**	**73.33**	**83**	P		**P**		**20 14 04.9 -0.7**
KOWA	**Kowa**	**74.79**	**75**	P		**P**		**20 14 13.8 -0.3**
	comp=Z,11nm,0.6s,baz=264,slow=6.3,SNR=17							
	comp=Z,11nm,0.6s							
KOWA	**Kowa**	**74.79**	**75**	P		**P**		**20 14 13.6 -0.5**
SUMG	**Summit**	**78.08**	**11**	P		**P**		**20 14 32.3 +0.4**
ESDC	**Sonseca Array**	**78.67**	**49**	P		**P**		**20 14 34.8 -0.7**
	comp=Z,0.5nm,0.6s,baz=262,slow=6.2,SNR=4.3							
	comp=Z,0.5nm,0.6s							
BCAR	**Beaver Creek A**	**79.87**	**335**	P		**P**		**20 14 42.2 +0.8**
TOA0	**Torodi Ar. Sit**	**80.20**	**76**	P		**P**		**20 14 43.0 -1.2**
TOA0					IAmb	IAmb		20 14 43.6
	comp=Z,3.9nm,0.5s							
TORD	**Torodi Ar. Bea**	**80.20**	**76**	P		**P**		**20 14 43.2 -1.0**
	comp=Z,2.4nm,0.4s,baz=280,slow=5.7,SNR=82							
	comp=Z,2.4nm,0.4s							
J26L	**Joseph Creek**	**81.17**	**336**	P		**P**		**20 14 49.4 +1.0**
VNA3	**Neumayer Olymp**	**81.61**	**162**	P		**P**		**20 14 51.6 +1.1**
VNA1	**Neumayer--Stat**	**81.84**	**162**	P		**P**		**20 14 52.7 +1.0**
VNA2	**Neumayer--Watz**	**82.21**	**162**	P		**P**		**20 14 54.4 +0.8**
	baz=294,slow=5.0							
GHO	**Glory Hole Cre**	**82.51**	**333**	P		**P**		**20 14 55.8 +0.3**
ILAR	**Eielson Array**	**82.60**	**336**	P		**P**		**20 14 56.0 +0.3**
	comp=Z,0.7nm,0.6s,baz=153,slow=4.3,SNR=6.5							
	comp=Z,0.7nm,0.6s							
EKA	**Eskdalemuir Ar**	**82.64**	**34**	P		**P**		**20 14 55.2 -0.9**
	comp=Z,1.8nm,0.8s,baz=263,slow=4.1,SNR=5.8							
	comp=Z,1.8nm,0.8s							
BMAR	**Burnt Mountain**	**82.68**	**339**	P		**P**		**20 14 56.9 +0.7**
SUA	**Susitna One**	**83.26**	**332**	P		**P**		**20 14 59.5 +0.1**
SUA					IAmb	IAmb		20 15 00.6
	comp=Z,2.9nm,0.7s							
SKT	**Skwentna**	**83.76**	**333**	P		**P**		**20 15 01.8 0.0**
SKT					IAmb	IAmb		20 15 02.9
	comp=Z,3.5nm,0.8s							
SNAA	**Sanae**	**83.82**	**162**	P		**P**		**20 15 02.3 +0.3**
SNAA	**Sanae**	**83.82**	**162**	P		**P**		**20 15 02.3 +0.3**
TROLL	**Troll, Antarti**	**85.54**	**162**	P		**P**		**20 15 11.2 +0.6**
IMAR	**Indian Mountai**	**85.70**	**337**	P		**P**		**20 15 11.3 0.0**
ECH	**Echery**	**87.85**	**42**	P		**P**		**20 15 22.0 -0.1**
ECH					IAmb	IAmb		20 15 26.1
	comp=Z,8.8nm,1.5s							
QSPA	**South Pole Qui**	**88.49**	**180**	P		**P**		**20 15 26.3 +1.4**
KEST	**Kesra**	**88.65**	**54**	P		**P**		**20 15 26.4 +0.1**
	comp=Z,2.1nm,0.7s,baz=180,slow=5.1,SNR=2.8							
	comp=Z,2.1nm,0.7s							
DAVOX	**Davos/Dischmat**	**89.59**	**43**	P		**P**		**20 15 30.8 +0.2**
	comp=Z,2.9nm,0.8s,baz=248,slow=3.1,SNR=7.8							
	comp=Z,2.9nm,0.8s							
FETA	**Feichten**	**90.19**	**43**	*i* P		**P**		**20 15 34.1 +0.8**
	comp=Z,3.4nm,1.1s							
MOTA	**Moosalm**	**90.45**	**43**	*i* P		**P**		**20 15 35.0 +0.4**
	comp=Z,2.9nm,1.0s							
SQTA	**Sankt Quirin**	**90.52**	**43**	*i* P		**P**		**20 15 35.5 +0.6**
	comp=Z,2.7nm,0.7s							
WTTA	**Wattenberg**	**90.81**	**43**	*i* P		**P**		**20 15 36.9 +0.6**
	comp=Z,2.5nm,0.8s							
NOA	**NORSAR Array B**	**90.92**	**29**	P		**P**		**20 15 36.3 0.0**
	comp=Z,0.4nm,0.8s,baz=258,slow=5.9,SNR=1.4							
	comp=Z,0.4nm,0.8s							
GERES	**GERESS Array B**	**92.22**	**41**	P		**P**		**20 15 42.6 0.0**
	comp=Z,0.2nm,0.5s,baz=276,slow=3.8,SNR=2.5							
	comp=Z,0.2nm,0.5s							
MOA	**Molln**	**92.60**	**42**	*e*P		**P**		**20 15 44.8 +0.5**
	comp=Z,2.2nm,1.1s							
CONA	**Conrad Observa**	**93.67**	**42**	*i* P		**P**		**20 15 50.2 +0.8**
	comp=Z,1.7nm,0.9s							
RONA	**Rosalia, Austr**	**93.97**	**42**	*i* P		**P**		**20 15 50.5 -0.2**
	comp=Z,1.3nm,0.7s							
VRAC	**Vranov**	**94.11**	**41**	P		**P**		**20 15 50.1 -1.1**
	comp=Z,0.8nm,0.3s,baz=257,slow=6.0,SNR=3.0							
	comp=Z,0.8nm,0.3s							
MJAR	**Matsushiro Arr**	**131.82**	**320**	PKP		**PKPdf**		**20 21 45.2 -0.2**
	comp=Z,0.4nm,0.5s,baz=58,slow=2.0,SNR=2.2							
ASAR	**Alice Springs**	**140.20**	**229**	PKhKP	PKPpre			20 21 54.5
	comp=Z,0.8nm,0.7s,baz=125,slow=3.7,SNR=13							
ASAR				PKP		**PKPdf**		**20 22 01.6 +0.2**
	comp=Z,1.3nm,0.7s,baz=115,slow=2.2,SNR=9.8							
WRA	**Warramunga Arr**	**141.85**	**234**	PKhKP	PKPpre			20 21 59.0
	comp=Z,1.1nm,0.7s,baz=120,slow=2.7,SNR=12							
WRA				PKP		**PKPdf**		**20 22 04.3 -0.1**
	comp=Z,1.0nm,0.5s,baz=113,slow=2.2,SNR=12							

KRSC 03 20:33:32.1±2.3, 49°36N×157°24E, h39km±36km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.51**	**332**	*e*P		Pn	20 33 55.5	-1.1
SKR				*e*S		Sn	20 34 12.4	-2.6
PAU	**Pauzhetka**	**2.13**	**353**	*e*P		Pn	20 34 06.9	+1.8
PAU				*e*S		Sn	20 34 32.0	+1.7
KDTR	**Khodutka, Kamc**	**2.51**	**12**	*e*P		Pn	20 34 14.0	+3.7
KDTR				*e*S		Sn	20 34 43.7	+4.0
ASAK	**Asacha**	**3.06**	**8**	*e*P		Pn	20 34 21.8	+3.9
ASAK				*e*S		Sn	20 34 57.5	+4.2
RUS	**Russkaya**	**3.18**	**14**	*e*P		Pn	20 34 23.1	+3.5
RUS				*e*S		Sn	20 35 00.3	+4.1
MTVR	**Mutnovka**	**3.19**	**10**	*e*P		Pn	20 34 23.8	+4.0
MTVR				*e*S		Sn	20 35 01.0	+4.5
GRL	**Gorelyy**	**3.24**	**9**	*e*P		Pn	20 34 24.7	+4.2
GRL				*e*S		Sn	20 35 02.8	+4.9
KRMR	**Karymshinskiy**	**3.52**	**9**	*e*P		Pn	20 34 28.9	+4.7
KRMR				*e*S		Sn	20 35 09.4	+4.8
PET	**Petropavlovsk**	**3.78**	**13**	*e*P		Pn	20 34 31.9	+4.2
PET				*e*S		Sn	20 35 16.8	+5.9
UGLR	**Uglovaya**	**3.98**	**14**	*e*P		Pn	20 34 35.5	+4.8
UGLR				*e*S		Sn	20 35 22.9	+6.8
AVH	**Avacha**	**4.03**	**13**	*e*P		Pn	20 34 36.7	+5.5
AVH				*e*S		Sn	20 35 22.9	+5.8
KOK	**Koryaka**	**4.04**	**12**	*e*P		Pn	20 34 36.7	+5.3
KRER	**Koryakskii**	**4.07**	**13**	*e*P		Pn	20 34 36.9	+5.0
KRER				*e*S		Sn	20 35 24.6	+6.4
KRX	**Arik**	**4.10**	**12**	*e*P		Pn	20 34 37.2	+4.9
SPN	**Mys Shipunski**	**4.13**	**24**	*e*P		Pn	20 34 37.3	+4.7
SPN				*e*S		Sn	20 35 24.5	+4.8
GNL	**Ganaly**	**4.37**	**6**	*e*P		Pn	20 34 39.6	+3.7
MKZ	**Mys Kozlova**	**5.90**	**26**	*e*P		Pn	20 35 00.4	+3.6
MKZ				*e*S		Sn	20 36 06.3	+3.2
KBTR	**Krutoberegovo**	**7.65**	**24**	*e*P		Pn	20 35 24.9	+4.1

*IDC **03** 20:33:47.1±1.1, 34°.97N×27°.02E, h0km, mb3.6/4, mbtmp3.4/8, ML3.1/4, Error ellipse: s-maj=29.2km s-min=16.6km az=168.0*
*NIC **03** 20:33:48.2±0.0, 34°.97N×26°.90E, h14km±3km, Ml4.0/5*
*ISK **03** 20:33:48.4, 34°.98N×26°.91E, h11km, ML3.3/20*
*DDA **03** 20:33:49.0±0.0, 35°.06N×26°.79E, h7km±2km, ML3.0*
*ATH **03** 20:33:49.7, 35°.06N×26°.85E, h35km±3km, ML3.3/4, Error ellipse: s-maj=5.3km s-min=1.4km az=329.0*
*THE **03** 20:33:51.0, 35°.19N×26°.75E, h1km±1km, ML3.0/3, Error ellipse: s-maj=6.6km s-min=0.5km az=153.0*
*GII **03** 20:33:55.3±0.0, 34°.59N×27°.46E, h5km*

ISC 03 20:33:47.9±1.2, 34°92N±0°.04×26°95E±0°.03, h8km±8km, n86, σ1s25/120, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.63**	**288**	P		**Pg**		**20 34 00.0 0.0**
ZKR				S		**Sg**		**20 34 07.0 -1.3**
	2μm,0.4s							
ZKR	**Zakros**	**0.63**	**288**	PG		**Pg**		**20 34 00.1 0.0**
ZKR				SG		**Sb**		**20 34 08.9 -1.2**
ZKR	**Zakros**	**0.63**	**288**	P		**Pg**		**20 33 59.8 -0.2**
ZKR				S		**Sg**		**20 34 08.3 +0.1**
ZKR	**Zakros**	**0.63**	**288**	P		**Pg**		**20 34 00.0 0.0**
ZKR				S		**Sg**		**20 34 08.2 -0.1**
ZKR				AML	AML		20 34 09.3	
	comp=E,5058μm,0.4s							
ZKR				AML	AML		20 34 09.6	
	comp=N,3489μm,0.6s							
KARP	**Karpathos**	**0.65**	**16**	P		**Pg**		**20 34 00.8 +0.3**
KARP				S		**Sg**		**20 34 09.0 0.0**
	comp=N,7μm,0.2s							
KARP	**Karpathos**	**0.65**	**16**	PG		**Pg**		**20 34 00.7 +0.3**
KARP				SG		**Sg**		**20 34 09.5 +0.5**
KARP	**Karpathos**	**0.65**	**16**	P		**Pg**		**20 34 00.5 +0.1**
KARP				S		**Sg**		**20 34 09.2 +0.3**
KARP				AML	AML		20 34 10.0	
	comp=N,12nm,0.4s							
KARP				AML	AML		20 34 10.0	
	comp=N,12nm,0.4s							
KARP				AML	AML		20 34 10.0	
	comp=N,16nm,0.2s							
KARP				AML	AML		20 34 10.0	
	comp=N,16nm,0.2s							
KARP	**Karpathos**	**0.65**	**16**	P		**Pg**		**20 34 00.6 +0.1**
KARP				S		**Sb**		**20 34 09.8 -0.9**
KARP				AML	AML		20 34 10.5	
	comp=N,16298μm,0.3s							
KARP				AML	AML		20 34 10.6	
	comp=E,11590μm,0.3s							
STIA	**Sitia Lasithi**	**0.76**	**292**	P		**Pg**		**20 34 02.1 -0.4**
STIA				S		**Sg**		**20 34 12.3 0.0**
STIA	**Sitia Lasithi**	**0.76**	**292**	P		**Pg**		**20 34 01.9 -0.5**
STIA				S		**Sg**		**20 34 12.3 0.0**
STIA				AML	AML		20 34 13.8	
	comp=N,6246μm,0.6s							
STIA				AML	AML		20 34 14.4	
	comp=E,5599μm,0.5s							
FRMA	**Ierapetra Chan**	**1.00**	**276**	P		**Pg**		**20 34 05.2 -1.9**
FRMA				S		**Sg**		**20 34 17.3 -2.8**
FRMA				AML	AML		20 34 23.7	
	comp=N,3160μm,0.5s							
FRMA				AML	AML		20 34 23.7	
	comp=E,2837μm,0.5s							
HRKL	**Herakleio**	**1.56**	**285**	PN		**Pn**		**20 34 16.7 +0.8**
HRKL				SN		**Sn**		**20 34 36.5 +0.2**
ARG	**Arkhangelos**	**1.61**	**36**	P		**Pb**		**20 34 18.1 +0.2**
ARG	**Arkhangelos**	**1.61**	**36**	PN		**Pn**		**20 34 17.4 +0.8**
ARG	**Arkhangelos**	**1.61**	**36**	P		**Pb**		**20 34 18.1 +0.2**
NIS1	**Nisyros Isl.**	**1.69**	**6**	PN		**Pn**		**20 34 18.0 +0.3**
NIS1	**Nisyros Isl.**	**1.69**	**6**	P		**Pn**		**20 34 17.8 +0.1**
NISR	**Nisiros**	**1.69**	**5**	P		**Pn**		**20 34 17.3 -0.4**
IDI	**Anoyia**	**1.73**	**283**	Pn		**Pb**		**20 34 20.6 +0.7**
	comp=E,7.4nm,0.3s,baz=33,slow=3.0,SNR=49							
IDI				Sn		**Sn**		**20 34 41.0 +0.6**
	comp=E,26nm,0.3s,baz=332,slow=17,SNR=8.9							
IDI	**Anoyia**	**1.73**	**283**	P		**Pn**		**20 34 18.3 +0.1**
IDI				S		**Sn**		**20 34 39.1 -1.4**
	comp=E,242nm,0.5s							
IDI	**Anoyia**	**1.73**	**283**	PN		**Pn**		**20 34 19.1 +0.9**
IDI	**Anoyia**	**1.73**	**283**	P		**Pn**		**20 34 19.4 +1.2**
KOSK	**Kos Island**	**1.83**	**1**	PN		**Pn**		**20 34 19.9 +0.3**
KOSK	**Kos Island**	**1.83**	**1**	P		**Pn**		**20 34 19.7 +0.1**
DAT	**Datca**	**1.88**	**16**	PN		**Pn**		**20 34 20.6 +0.2**
DAT	**Datca**	**1.88**	**16**	P		**Pn**		**20 34 20.4 +0.1**
DAT				S		**Sn**		**20 34 43.3 -1.0**
SANT	**Santorini**	**1.89**	**320**	PN		**Pn**		**20 34 20.4 0.0**
SANT				SN		**Sn**		**20 34 43.8 -0.6**
THR8	**Santorini-Mono**	**1.90**	**322**	P		**Pn**		**20 34 20.4 -0.2**
THR6	**Thira Island,**	**1.91**	**319**	P		**Pn**		**20 34 20.6 0.0**
THR3	**Thira Island,**	**1.95**	**320**	P		**Pn**		**20 34 20.9 -0.3**
THR3	**Thira Island,**	**1.95**	**320**	P		**Pn**		**20 34 20.9 -0.3**
TURN	**Turunc**	**2.13**	**29**	PN		**Pn**		**20 34 24.4 +0.7**
TURN	**Turunc**	**2.13**	**29**	P		**Pn**		**20 34 24.8 +1.1**
TURN				S		**Sb**		**20 34 52.7 -0.6**
BODT	**Bodrum**	**2.16**	**8**	PN		**Pn**		**20 34 23.9 -0.2**
DORM	**Kayabasi**	**2.18**	**11**	P		**Pn**		**20 34 24.1 -0.3**
DALY	**Dalyan (Mula)**	**2.35**	**36**	PN		**Pn**		**20 34 28.1 +1.4**
GVDS	**Gavdos**	**2.35**	**269**	PN		**Pn**		**20 34 28.6 +1.8**
GVD	**Gavdhos**	**2.35**	**269**	PN		**Pn**		**20 34 27.7 +0.9**
APE	**Apeiranthos**	**2.43**	**332**	PN		**Pn**		**20 34 27.4 -0.5**
FETY	**Fethiye**	**2.44**	**45**	PN		**Pn**		**20 34 28.1 +0.1**
FETY	**Fethiye**	**2.44**	**45**	P		**Pn**		**20 34 28.5 +0.5**
FETY				S		**Sn**		**20 34 56.8 -1.3**
YER	**Yerkesik**	**2.46**	**26**	P		**Pn**		**20 34 28.9 +0.5**
IMMV	**Iera Moni Meta**	**2.49**	**283**	PN		**Pn**		**20 34 29.7 +1.0**
AKAS	**Kas**	**2.53**	**58**	PN		**Pn**		**20 34 29.9 +0.5**
AKAS	**Kas**	**2.53**	**58**	P		**Pn**		**20 34 29.8 +0.4**
AKAS				S		**Sn**		**20 34 59.9 -0.6**
AKAS				*i* AML	AML		20 35 01.0	
	comp=E,72nm,0.4s							
AKAS				*i* AML	AML		20 35 03.0	
	comp=E,69nm,0.3s							
MULA	**Mugla, Merkez-**	**2.58**	**25**	P		**Pn**		**20 34 31.7 +1.7**
MULA				S		**Sb**		**20 35 04.7 -1.8**
GCAM	**G?zelcaml?**	**2.78**	**5**	P		**Pn**		**20 34 32.0 -0.7**
AYDN	**Tasoluk**	**2.84**	**15**	P		**Pn**		**20 34 33.6 +0.1**
CAEL	**Denizli, Camel**	**2.92**	**41**	P		**Pn**		**20 34 36.0 +1.3**
CAEL				S		**Sn**		**20 35 09.2 -0.9**
CAEL				*i* AML	AML		20 35 42.0	
	comp=E,70nm,0.8s							
CAEL				*i* AML	AML		20 35 43.0	
	comp=E,78nm,0.9s							
TAVA	**DENIZLI_Tavas**	**3.00**	**32**	P		**Pn**		**20 34 35.8 0.0**
TAVA				S		**Sn**		**20 35 10.9 -1.0**
ELL	**Elmali**	**3.02**	**52**	PN		**Pn**		**20 34 37.5 +1.4**
AYDB	**Zeytinkoy-Aydi**	**3.11**	**14**	PN		**Pn**		**20 34 38.1 +0.7**
DGB	**zmir**	**3.12**	**359**	P		**Pn**		**20 34 36.7 -0.7**
GOLH	**Golhisar**	**3.13**	**42**	P		**Pn**		**20 34 39.1 +1.4**
GOLH				S		**Sn**		**20 35 17.4 +2.0**
GOLH				*i* AML	AML

*IDC **03** 20:37:29.1±10.0, 36°.85S×178°.48E, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=180.3km s-min=31.3km az=100.0*

ISC 03 20:37:26.4±2.2, **37°.10S**±0°.06×**179°.18E**±0°.09, **h12**km±10km, **n96**, σ1§**19**/104, **mb4.0**/7, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MXZ	**Matakaoa Point**	**0.83**	**236**	Pg		**Pg**	**20 37 42.5**	**0.0**
MXZ				Sg		**Sg**	**20 37 51.5**	**-1.9**
MXZ	**Matakaoa Point**	**0.83**	**236**	P		**Pg**	**20 37 42.7**	**+0.2**
WMGZ	**Waiomatatini S**	**0.94**	**220**	P		**Pn**	**20 37 47.1**	**+1.6**
WMGZ				S		**Sn**	**20 37 59.3**	**+0.4**
PKGZ	**Pakihiroa**	**1.18**	**228**	P		**Pb**	**20 37 49.1**	**+0.4**
PKGZ				S		**Sb**	**20 38 04.3**	**+0.2**
PUZ	**Puketiti**	**1.22**	**217**	P		**Pg**	**20 37 50.6**	**+0.9**
PUZ				S		**Sb**	**20 38 04.4**	**-0.7**
HAZ	**Te Kaha**	**1.29**	**239**	P		**Pn**	**20 37 49.6**	**-0.7**
HAZ				S		**Sb**	**20 38 07.3**	**+0.2**
TWGZ	**Tauwhareparae**	**1.44**	**221**	P		**Pb**	**20 37 54.1**	**+1.0**
TWGZ				S		**Sn**	**20 38 11.6**	**+0.4**
RUGZ	**Raukumara Rang**	**1.47**	**233**	P		**Pb**	**20 37 54.0**	**+0.2**
CNGZ	**Carnagh Statio**	**1.58**	**209**	P		**Pb**	**20 37 56.5**	**+0.8**
WIZ	**White Island**	**1.64**	**254**	P		**Pn**	**20 37 54.0**	**-1.1**
TKGZ	**Te Karaka**	**1.71**	**218**	P		**Pn**	**20 37 57.5**	**+1.6**
MWZ	**Matawai**	**1.80**	**226**	P		**Pn**	**20 37 58.9**	**+1.6**
WHRZ	**Whale Island**	**1.91**	**246**	P		**Pn**	**20 37 60.0**	**+1.2**
RIGZ	**Rimuhau**	**1.96**	**214**	P		**Pn**	**20 38 01.0**	**+1.5**
RIGZ				S		**Sn**	**20 38 22.8**	**-1.2**
RAGZ	**Rawiri**	**1.98**	**224**	P		**Pn**	**20 38 01.4**	**+1.6**
URZ	**Urewera**	**2.01**	**234**	Pn		**Pn**	**20 38 01.4**	**+1.3**
	31nm,0.3s,baz=211,slow=2.0,SNR=23							
URZ				Sn		**Sn**	**20 38 24.4**	**-0.8**
	48nm,0.3s,baz=211,slow=19,SNR=13							
URZ	**Urewera**	**2.01**	**234**	Pn		**Pn**	**20 38 01.2**	**+1.0**
URZ	**Urewera**	**2.01**	**234**	P		**Pn**	**20 38 01.5**	**+1.4**
PRGZ	**Paritu Road**	**2.09**	**209**	P		**Pn**	**20 38 02.4**	**+1.1**
MARZ	**Manawahe**	**2.18**	**245**	P		**Pn**	**20 38 03.6**	**+1.1**
EDRZ	**Edgecumbe**	**2.18**	**242**	P		**Pn**	**20 38 03.9**	**+1.2**
SNGZ	**Shannon Statio**	**2.22**	**220**	P		**Pn**	**20 38 04.4**	**+1.2**
KNZ	**Kokohu**	**2.26**	**211**	P		**Pn**	**20 38 03.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.29**	**206**	P		**Pn**	**20 38 05.1**	**+1.1**
RTZ	**Ruatahuna**	**2.31**	**228**	P		**Pn**	**20 38 05.5**	**+1.2**
MYRZ	**Mayor Island**	**2.35**	**265**	P		**Pn**	**20 38 04.3**	**-0.6**
TARZ	**Mount Tarawera**	**2.41**	**241**	P		**Pn**	**20 38 07.5**	**+1.8**
TGRZ	**Tauranga**	**2.41**	**254**	P		**Pn**	**20 38 05.8**	**+0.2**
RRRZ	**Republican Roa**	**2.45**	**239**	P		**Pn**	**20 38 07.7**	**+1.5**
RAHZ	**Arahi**	**2.46**	**222**	P		**Pn**	**20 38 07.0**	**+0.7**
WHHZ	**Waihua**	**2.50**	**217**	P		**Pn**	**20 38 07.8**	**+0.8**
KARZ	**Kaharoa**	**2.51**	**248**	P		**Pn**	**20 38 08.0**	**+1.0**
KMRZ	**Kaimai**	**2.68**	**253**	P		**Pn**	**20 38 08.4**	**-1.0**
NMHZ	**Naumai**	**2.74**	**222**	P		**Pn**	**20 38 11.4**	**+1.1**
ARHZ	**Aropaoanui**	**2.76**	**218**	P		**Pn**	**20 38 11.2**	**+0.7**
MRHZ	**Matea Rd**	**2.79**	**231**	P		**Pn**	**20 38 12.1**	**+1.2**
KUZ	**Kuaotunu**	**2.79**	**276**	P		**Pn**	**20 38 10.2**	**-0.7**
BKZ	**Black Stump Fm**	**2.96**	**224**	Pn		**Pn**	**20 38 13.6**	**+0.3**
BKZ	**Black Stump Fm**	**2.96**	**225**	P		**Pn**	**20 38 14.2**	**+1.0**
TOZ	**Tahuroa Road**	**2.99**	**257**	P		**Pn**	**20 38 13.3**	**-0.3**
CKHZ	**Cape Kidnapper**	**3.04**	**212**	P		**Pn**	**20 38 14.1**	**-0.3**
GRZ	**Great Barrier**	**3.11**	**285**	P		**Pn**	**20 38 15.7**	**+0.5**
KWHZ	**Kaweka Forest**	**3.18**	**222**	P		**Pn**	**20 38 16.6**	**+0.3**
MKAZ	**Moumakai**	**3.21**	**269**	P		**Pn**	**20 38 16.5**	**-0.2**
RATZ	**Rangitukua**	**3.22**	**236**	P		**Pn**	**20 38 18.3**	**+1.4**
KAHZ	**Kahuranaki**	**3.24**	**213**	P		**Pn**	**20 38 16.9**	**-0.3**
WIAZ	**Waiheke Island**	**3.25**	**274**	P		**Pn**	**20 38 17.3**	**+0.1**
KRHZ	**Kereru**	**3.37**	**220**	P		**Pn**	**20 38 18.7**	**-0.2**
TMVZ	**Te Maari**	**3.40**	**233**	P		**Pn**	**20 38 20.0**	**+0.6**
ETAZ	**East Tamaki Re**	**3.40**	**271**	P		**Pn**	**20 38 19.6**	**+0.3**
ETVZ	**East Tongariro**	**3.41**	**232**	P		**Pn**	**20 38 20.0**	**+0.5**
NTVZ	**North Tongarir**	**3.41**	**233**	P		**Pn**	**20 38 20.4**	**+0.8**
BHHZ	**Black Hill Sta**	**3.42**	**225**	P		**Pn**	**20 38 20.3**	**+0.7**
KRVZ	**Karewarewa**	**3.43**	**233**	P		**Pn**	**20 38 20.8**	**+1.0**
MBAZ	**Motutapu North**	**3.44**	**274**	P		**Pn**	**20 38 20.5**	**+0.6**
OTVZ	**Oturere**	**3.45**	**232**	P		**Pn**	**20 38 21.3**	**+1.2**
NNVZ	**North Ngauruho**	**3.47**	**233**	P		**Pn**	**20 38 21.5**	**+1.2**
WTVZ	**West Tongariro**	**3.47**	**233**	P		**Pn**	**20 38 21.9**	**+1.5**
SNVZ	**South Ngauruho**	**3.48**	**232**	P		**Pn**	**20 38 21.7**	**+1.1**
NGZ	**Ngauruhoe**	**3.50**	**233**	P		**Pn**	**20 38 21.4**	**+0.6**
ABAZ	**Army Bay**	**3.52**	**277**	P		**Pn**	**20 38 21.8**	**+0.9**
TUVZ	**Tukino**	**3.52**	**231**	P		**Pn**	**20 38 22.4**	**+1.3**
MOVZ	**Moawhango**	**3.55**	**228**	P		**Pn**	**20 38 21.4**	**+0.1**
TWVZ	**Taurewa**	**3.55**	**235**	P		**Pn**	**20 38 22.8**	**+1.4**
EPAZ	**Eden Park BICE**	**3.56**	**272**	P		**Pn**	**20 38 22.8**	**+1.4**
HBAZ	**Herne Bay Bore**	**3.57**	**273**	P		**Pn**	**20 38 22.9**	**+1.3**
WNVZ	**Wahianoa**	**3.59**	**231**	P		**Pn**	**20 38 22.3**	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.62**	**269**	P		**Pn**	**20 38 22.9**	**+0.5**
PNHZ	**Pukenui**	**3.66**	**219**	P		**Pn**	**20 38 22.1**	**-0.8**
WTAZ	**Waiatarua**	**3.69**	**271**	P		**Pn**	**20 38 24.7**	**+1.5**
RVAZ	**Riverhead Bore**	**3.70**	**274**	P		**Pn**	**20 38 24.2**	**+0.8**
HIZ	**Hauiti**	**3.70**	**246**	Pn		**Pn**	**20 38 24.6**	**+1.1**
HIZ	**Hauiti**	**3.70**	**246**	P		**Pn**	**20 38 25.6**	**+2.1**
WCZ	**Waipu Caves**	**4.06**	**285**	P		**Pn**	**20 38 29.2**	**+0.9**
WAZ	**Wanganui**	**4.23**	**230**	P		**Pn**	**20 38 31.7**	**+1.0**
BFZ	**Birch Farm**	**4.25**	**212**	Pn		**Pn**	**20 38 28.8**	**-2.1**
NEZ	**North Egmont**	**4.55**	**240**	P		**Pn**	**20 38 37.9**	**+2.7**
PKE	**Pukeiti**	**4.60**	**241**	P		**Pn**	**20 38 39.0**	**+3.2**
KHEZ	**Kahui Hut**	**4.62**	**240**	P		**Pn**	**20 38 39.0**	**+2.8**
OUZ	**Omahuta**	**4.89**	**291**	Pn		**Pn**	**20 38 41.4**	**+1.6**
OUZ	**Omahuta**	**4.89**	**291**	P		**Pn**	**20 38 41.2**	**+1.5**
MSWZ	**Moikau Station**	**5.28**	**214**	Pn		**Pn**	**20 38 42.7**	**-2.5**
TUWZ	**Tuamarina**	**5.93**	**222**	Pn		**Pn**	**20 38 52.1**	**-2.0**
CTZ	**Chatham Island**	**7.37**	**156**	P		**Pn**	**20 39 16.6**	**+2.9**
STKA	**Stephens Creek**	**31.27**	**268**	P		**P**	**20 43 46.6**	**+0.4**
	2.7nm,1.1s,baz=98,slow=11,SNR=3.5							
	2.7nm,1.1s							
STKA	**Stephens Creek**	**31.27**	**268**	P		**P**	**20 43 47.0**	**+0.8**
STKA				IAmb		IAmb	20 43 54.5	
	comp=Z,0.8nm,1.0s							
BBOO	**Buckleboo**	**35.37**	**264**	P		**P**	**20 44 21.5**	**-0.5**
AS31	**Alice Springs**	**40.92**	**276**	P		**P**	**20 45 08.8**	**-0.1**
AS31				IAmb		IAmb	20 45 09.4	
	comp=Z,0.8nm,0.7s							
ASAR	**Alice Springs**	**40.92**	**276**	P		**P**	**20 45 08.6**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=119,slow=7.6,SNR=24							
	comp=Z,1.6nm,0.6s							
ASAR	**Alice Springs**	**40.92**	**276**	P		**P**	**20 45 07.8**	**-1.0**
FORT	**Forrest**	**42.46**	**263**	P		**P**	**20 45 20.5**	**-0.8**
FORT				IAmb		IAmb	20 45 48.4	
	comp=Z,19nm,1.1s							
WRA	**Warramunga Arr**	**42.52**	**281**	P		**P**	**20 45 21.6**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=121,slow=8.1,SNR=20							
	comp=Z,2.1nm,0.7s							
WRA	**Warramunga Arr**	**42.52**	**281**	P		**P**	**20 45 21.6**	**-0.4**
WB0	**Warramunga Arr**	**42.58**	**281**	P		**P**	**20 45 21.8**	**-0.6**
WB0				IAmb		IAmb	20 45 23.4	
	comp=Z,8.8nm,1.3s							
FITZ	**Fitzroy Crossi**	**50.40**	**277**	P		**P**	**20 46 23.1**	**-0.7**
	comp=Z,3.4nm,0.9s,baz=125,slow=5.9,SNR=6.3							
	comp=Z,3.4nm,0.9s							
FITZ	**Fitzroy Crossi**	**50.40**	**277**	P		**P**	**20 46 23.6**	**-0.2**
FITZ				IAmb		IAmb	20 46 24.5	
	comp=Z,4.2nm,0.9s							

*IDC **03** 20:43:01.4±2.6, 6°.02S×146°.90E, h81km±29km, mb3.5/9, mbtmp3.9/14, MS3.3/6, Error ellipse: s-maj=27.9km s-min=17.2km az=114.0*

ISC 03 20:43:01.0±0.7, **6°.01S**±0°.07×**146°.9E**±0°.1, **h78**km, **n28**, σ0§**83**/26, **mb3.7**/9, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMG	**Port Moresby**	**3.39**	**175**	P		**Pn**	**20 43 50.8**	**-0.9**
	27nm,0.4s,baz=3.8,slow=5.8,SNR=18							
PMG				S		**Sn**	**20 44 31.7**	**+0.9**
	70nm,0.5s,baz=3.6,slow=14,SNR=4.5							
PMG				LR		LR	20 45 32.0	
	comp=Z,359nm,19.6s,baz=316,slow=45							
PMG	**Port Moresby**	**3.39**	**175**	P		**Pn**	**20 43 51.2**	**-0.5**
KRVT	**Keravat (AS076**	**5.41**	**72**	P		**Pn**	**20 44 18.1**	**-1.1**
	13nm,0.7s,baz=8.3,slow=16,SNR=1.8							
COEN	**Coen**	**8.70**	**204**	P		**Pn**	**20 45 02.9**	**-1.2**
CTA	**Charters Tower**	**14.01**	**182**	P		**Pn**	**20 46 16.8**	**+0.8**
	1.5nm,0.4s,baz=7.0,slow=16,SNR=2.2							
CTA				LR		LR	20 51 20.5	
	comp=Z,107nm,19.0s,baz=28,slow=36							
CTAO	**Charters Tower**	**14.01**	**182**	P		**Pn**	**20 46 15.7**	**-0.3**
SIJI	**Sorong**	**16.38**	**288**	P		**Pn**	**20 46 46.6**	**+0.3**
	10nm,0.5s,baz=70,slow=9.3,SNR=6.2							
WRAB	**Tennant Creek**	**18.43**	**220**	P		**P**	**20 47 09.8**	**-0.6**
WRA	**Warramunga Arr**	**18.44**	**220**	P		**P**	**20 47 09.8**	**-0.7**
	2.2nm,0.7s,baz=43,slow=12,SNR=13							

GUMO	**Guam**	**19.57**	**354**	LR		LR	20 54 12.9	
	comp=Z,32nm,20.9s,baz=178,slow=34							
KNRA	**Kununurra**	**20.19**	**240**	P		**P**	**20 47 27.8**	**-1.8**
ASAR	**Alice Springs**	**21.54**	**214**	P		**P**	**20 47 44.5**	**+0.5**
	3.2nm,0.9s,baz=52,slow=8.5,SNR=20							
	3.2nm,0.9s							
INKA	**Innaminka**	**22.38**	**194**	P		**P**	**20 47 53.6**	**+0.6**
BATI	**Baumata**	**23.34**	**258**	P		**P**	**20 48 02.5**	**-0.3**
	7.1nm,0.8s,baz=10,slow=12,SNR=1.6							
	7.1nm,0.8s							
FITZ	**Fitzroy Crossi**	**23.95**	**238**	P		**P**	**20 48 07.7**	**-0.5**
	2.6nm,0.7s,baz=78,slow=11,SNR=7.5							
	2.6nm,0.7s							
OOD	**Oodnadatta**	**24.13**	**205**	P		**P**	**20 48 10.4**	**+0.7**
LCRK	**Leigh Creek**	**25.64**	**197**	P		**P**	**20 48 24.5**	**+1.1**
WRKA	**Warakurna**	**25.97**	**221**	P		**P**	**20 48 26.2**	**-0.4**
STKA	**Stephens Creek**	**26.20**	**190**	P		**P**	**20 48 29.4**	**+0.8**
	0.6nm,0.3s,baz=357,slow=11,SNR=1.8							
STKA				LR		LR	21 00 00.4	
	comp=Z,67nm,19.1s,baz=275,slow=39							
	0.6nm,0.3s							
CMAR	**Chiang Mai Arr**	**53.13**	**298**	P		**P**	**20 52 12.4**	**+1.2**
	0.6nm,0.5s,baz=111,slow=5.7,SNR=5.0							
	0.6nm,0.5s							
RAR	**Rarotonga**	**53.76**	**112**	LR		LR	21 12 28.2	
	comp=Z,175nm,18.1s,baz=286,slow=33							
SHEM	**Shemya Is, Ala**	**62.92**	**18**	LR		LR	21 20 10.0	
	comp=Z,13nm,19.0s,baz=356,slow=35							
SONM	**Songino Array**	**64.34**	**331**	P		**P**	**20 53 28.5**	**-0.2**
	0.5nm,0.6s,baz=134,slow=6.1,SNR=4.4							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**77.42**	**321**	P		**P**	**20 54 47.0**	**-0.8**
	0.4nm,0.8s,baz=102,slow=4.8,SNR=3.5							
	0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**78.95**	**328**	P		**P**	**20 54 55.6**	**-0.4**
	0.5nm,0.4s,baz=122,slow=7.6,SNR=2.4							
	0.5nm,0.4s							
ILAR	**Eielson Array**	**85.54**	**23**	P		**P**	**20 55 30.6**	**+0.3**
	0.5nm,0.8s,baz=240,slow=7.4,SNR=4.1							
	0.5nm,0.8s							
ARCES	**ARCESS Array B**	**106.22**	**342**	Pdiff		**Pdif**	**20 57 04.0**	**-0.8**
	2.4nm,0.9s,baz=49,slow=4.1,SNR=4.1							
TORD	**Tordi Ar. Bea**	**144.96**	**284**	PKPbc		**PKPdf**	**21 02 30.9**	**+0.6**
	1.4nm,0.7s,baz=63,slow=3.5,SNR=7.2							

*AZER **03** 20:44:04.5±0.1, 37°.94N×47°.14E, h3km, Error ellipse: s-maj=1.9km s-min=0.6km az=359.0*
*TEH **03** 20:44:05.8, 37°.86N×47°.11E, h6km, ML4.1*
*IDC **03** 20:44:06.0±1.0, 37°.94N×47°.09E, h0km, mb3.7/10, mbtmp3.7/17, ML2.7/6, MS3.2/10, Error ellipse: s-maj=18.9km s-min=10.8km az=14.0*
*NEIC **03** 20:44:06.0±1.8, 37°.77N±0°.05×47°.19E±0°.06, h4km±6km, mb4.0/18, mb_Lg4.1(TEH), Error ellipse: s-maj=7.6km s-min=5.9km az=135.0*

ISC 03 20:44:05.6±1.1, **37°.86N**±0°.02×**47°.11E**±0°.02, **h2**km±8km, **n219**, σ1§**64**/243, **mb4.0**/27, **MS3.3**/5, **Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IBST	**Bostanabad**	**0.23**	**228**	*e*Pg		**Pg**	**20 44 10.5**	**+0.4**
IBST				*e*Sg		**Sg**	**20 44 14.2**	**+1.1**
ISRB	**Sarab**	**0.45**	**94**	*e*Pg		**Pg**	**20 44 14.4**	**+0.2**
IHRS	**Heris**	**0.47**	**354**	Pg		**Pg**	**20 44 14.4**	**-0.1**
IHRS	**Heris**	**0.47**	**354**	*e*Pg		**Pg**	**20 44 14.5**	**-0.1**
IHSH	**Hashtrud**	**0.56**	**167**	Pg		**Pg**	**20 44 16.4**	**0.0**
IHSH	**Hashtrud**	**0.56**	**167**	*e*Pg		**Pg**	**20 44 16.4**	**0.0**
TAB1	**Tabriz**	**0.64**	**288**	*e*Pg		**Pg**	**20 44 18.2**	**+0.3**
TVRZ	**Varzaqan**	**0.73**	**332**	*e*Pg		**Pg**	**20 44 19.8**	**+0.1**
ITBZ	**Tabriz**	**0.85**	**297**	*e*Pg		**Pg**	**20 44 21.2**	**-0.6**
IAZR	**Azarshahr**	**0.91**	**259**	Pg		**Pg**	**20 44 23.2**	**+0.1**
IAZR	**Azarshahr**	**0.91**	**259**	*e*Pg		**Pg**	**20 44 23.2**	**+0.1**
GRMI	**Germi**	**1.14**	**33**	Pg		**Pg**	**20 44 26.4**	**-1.0**
GRMI	**Germi**	**1.14**	**33**	*e*Pg		**Pg**	**20 44 26.4**	**-1.0**
GRMI				*e*			20 44 43.0	
	comp=Z,99nm,0.4s							
ISHB	**Shabestar**	**1.25**	**290**	*e*Pg		**Pg**	**20 44 28.8**	**-0.8**
LRK	**Lerik**	**1.25**	**51**	Pg		**Pg**	**20 44 29.0**	**-0.6**
LRK	**Lerik**	**1.25**	**51**	*e*Pg		**Pg**	**20 44 29.0**	**-0.6**
LRK	**Lerik**	**1.25**	**51**	P		**Pg**	**20 44 29.1**	**-0.6**
	SNR=202							
LRK				S		**Sn**	**20 44 47.5**	**-0.3**
ORD	**Ordubad**	**1.38**	**321**	*e*Pg		**Pg**	**20 44 31.7**	**-0.4**
ORD	**Ordubad**	**1.38**	**321**	P		**Pg**	**20 44 31.7**	**-0.4**
	SNR=29							
ORD				S		**Sn**	**20 44 52.8**	**+1.8**
YRD	**Yardimli**	**1.39**	**40**	*e*Pn		**Pg**	**20 44 31.5**	**-0.7**
YRD	**Yardimli**	**1.39**	**40**	P		**Pg**	**20 44 31.6**	**-0.7**
	SNR=326							
YRD				S		**Sn**	**20 44 51.4**	**+0.3**
IMRD	**Marand**	**1.40**	**308**	*e*Pg		**Pn**	**20 44 32.2**	**-0.1**
IMRD				*e*			20 45 03.1	
	comp=Z,99µm,0.8s							
GAS1	**Astara - Iran**	**1.47**	**68**			**Pn**	**20 44 32.6**	**-0.5**
GAS1	**Astara - Iran**	**1.47**	**68**	*e*Pg		**Pn**	**20 44 32.6**	**-0.5**
GAS1				*e*			20 44 54.6	
	comp=Z,43µm,0.3s							
ASTR	**Astara**	**1.50**	**62**	Pn		**Pn**	**20 44 33.7**	**+0.1**
ASTR	**Astara**	**1.50**	**62**	*e*Pn		**Pn**	**20 44 33.7**	**+0.1**
ASTR	**Astara**	**1.50**	**62**	P		**Pn**	**20 44 33.7**	**+0.1**
	SNR=260							
ASTR				S		**Sn**	**20 44 54.8**	**+1.0**
MAHB	**Mahabad**	**1.56**	**226**			**Pn**	**20 44 34.1**	**-0.4**
MAHB	**Mahabad**	**1.56**	**226**	*e*Pg		**Pn**	**20 44 34.1**	**-0.4**
MAHB				*e*			20 45 02.6	
	comp=Z,22µm,0.6s							
LKRN	**Lenkeran, Azer**	**1.57**	**57**	Pn		**Pn**	**20 44 34.8**	**+0.3**
LKRN	**Lenkeran, Azer**	**1.57**	**57**	*e*Pn		**Pn**	**20 44 34.8**	**+0.3**
LKRN	**Lenkeran, Azer**	**1.57**	**57**	P		**Pn**	**20 44 34.8**	**+0.3**
	SNR=107							
LKRN				S		**Sg**	**20 44 57.7**	**+1.7**
CSN1	**Caspian**	**1.60**	**100**	Pn		**Pn**	**20 44 35.2**	**+0.2**
CSN1	**Caspian**	**1.60**	**100**	*e*Pn		**Pn**	**20 44 35.2**	**+0.2**
QRD	**Qoradiz**	**1.61**	**6**	*e*Pn		**Pb**	**20 44 35.6**	**-0.5**
QRD	**Qoradiz**	**1.61**	**6**	P		**Pb**	**20 44 35.6**	**-0.5**
	SNR=138							
QRD				S		**Sg**	**20 44 59.2**	**+1.7**
GLBA	**Clilabad**	**1.71**	**36**	Pn		**Pb**	**20 44 37.8**	**0.0**
GLBA	**Clilabad**	**1.71**	**36**	*e*Pn		**Pb**	**20 44 37.8**	**0.0**
GLBA	**Clilabad**	**1.71**	**36**	P		**Pb**	**20 44 37.9**	**0.0**
	SNR=399							
GLBA				S		**Sg**	**20 45 03.2**	**+2.5**
NAX	**Nakhchivan**	**1.82**	**317**	*e*Pn		**Pb**	**20 44 39.8**	**0.0**
NAX	**Nakhchivan**	**1.82**	**317**	P		**Pb**	**20 44 39.8**	**0.0**
	SNR=26							
NAX				S		**Sg**	**20 45 05.9**	**+1.6**
BLQ	**Beylaqan**	**1.90**	**11**	Pn		**Pb**	**20 44 40.3**	**-0.7**
BLQ	**Beylaqan**	**1.90**	**11**	*e*Pn		**Pb**	**20 44 40.3**	**-0.7**
BLQ	**Beylaqan**	**1.90**	**11**	P		**Pb**	**20 44 40.3**	**-0.7**
	SNR=459							
BLQ				S		**Sg**	**20 45 07.5**	**+0.9**
SBZ	**Shahbuz**	**1.96**	**322**	*e*Pn		**Pb**	**20 44 41.6**	**-0.5**
SBZ	**Shahbuz**	**1.96**	**322**	P		**Pb**	**20 44 41.7**	**-0.5**
	SNR=136							
SBZ				S		**Sg**	**20 45 10.2**	**+1.6**
QSDN	**Sirdan**	**2.13**	**129**	*e*Pn		**Pn**	**20 44 43.6**	**+1.1**
YOVA	**Hakkari_Yksek**	**2.25**	**264**	*e*Pn		**Pb**	**20 44 46.7**	**-0.4**
AGDM	**Agdam**	**2.25**	**0**	P		**Pb**	**20 44 45.4**	**-1.6**
	SNR=255							
AGDM				S		**Sb**	**20 45 16.0**	**+0.7**
SAAT	**Saatly**	**2.25**	**27**	*e*Pn		**Pb**	**20 44 45.3**	**-1.7**
SAAT	**Saatly**	**2.25**	**27**	P		**Pb**	**20 44 45.3**	**-1.7**
	SNR=19							
SAAT				S		**Sb**	**20 45 16.2**	**+0.9**
BRDA	**Brd**	**2.41**	**1**	*e*Pn		**Pb**	**20 44 48.0**	**-1.6**
BRDA	**Brd**	**2.41**	**1**	P		**Pb**	**20 44 48.0**	**-1.6**
	SNR=110							
BRDA				S		**Sg**	**20 45 21.2**	**-1.7**
MAKU	**Maku**	**2.42**	**309**	*e*Pn		**Pn**	**20 44 47.6**	**+1.2**
JIR1	**Jirandeh**	**2.44**	**117**	*e*Pn		**Pn**	**20 44 48.4**	**+1.8**
JIR1				*e*			20 45 26.7	
	comp=Z,23µm,0.3s							
LHJ2	**Lahijan - Gila**	**2.45**	**105**	*e*Pn		**Pn**	**20 44 47.5**	**+0.9**
LHJ2				*e*			20 45 29.4	
	comp=Z,25µm,0.3s							
ZRD	**Zardab**	**2.46**	**10**	*e*Pn		**Pn**	**20 44 48.2**	**+1.5**
ZRD	**Zardab**	**2.46**	**10**	P		**Pn**	**20 44 48.3**	**+1.5**
	SNR=52							
ZRD				S		**Sb**	**20 45 22.4**	**+1.0**
HYR	**Heyderabad**	**2.56**	**317**	*e*Pn		**Pb**	**20 44 50.4**	**-1.9**
HYR	**Heyderabad**	**2.56**	**317**	P		**Pb**	**20 44 50.4**	**-1.9**
	SNR=46							
HYR				S		**Sb**	**20 45 24.9**	**+0.6**
ALIB	**Äli-Bayra**	**2.57**	**35**	Pn		**Pn**	**20 44 50.0**	**+1.8**
ALIB	**Äli-Bayra**	**2.57**	**35**	*e*Pn		**Pn**	**20 44 50.0**	**+1.8**
ALIB	**Äli-Bayra**	**2.57**	**35**	P		**Pn**	**20 44 50.1**	**+1.8**
	SNR=23							
ALIB				S		**Sb**	**20 45 24.4**	**0.0**
KDMR	**Kurdemir**	**2.65**	**18**	P		**Pn**	**20 44 51.0**	**+1.6**
	SNR=10							
KDMR				S		**Sb**	**20 45 26.4**	**-0.4**
HAKT	**HAKKARI**	**2.71**	**265**	*e*Pn		**Pb**	**20 44 53.3**	**-1.7**
QCNT	**Qazvin**	**2.80**	**123**	*e*Pn		**Pg**	**20 45 00.0**	**+0.7**
CLDR	**Caldiran**	**2.81**	**298**	*e*Pn		**Pn**	**20 44 52.8**	**+1.0**
CUKT	**Cukurca**	**2.84**	**259**	*e*Pn		**Pn**	**20 44 53.3**	**+1.1**
GANJ	**Ganja**	**2.85**	**348**	*e*Pn		**Pn**	**20 44 53.8**	**+1.6**
GANJ	**Ganja**	**2.85**	**348**	P		**Pn**	**20 44 53.9**	**+1.6**
	SNR=41							
GANJ				S		**Sb**	**20 45 32.3**	**-0.3**
IGZV	**Ghazvin**	**2.89**	**120**	*e*Pn		**Pn**	**20 44 54.5**	**+1.6**
MNGR	**Mingechevir, A**	**2.91**	**360**	*e*Pn		**Pn**	**20 44 54.2**	**+1.2**
MNGR	**Mingechevir, A**	**2.91**	**360**	P		**Pn**	**20 44 54.2**	**+1.2**
	SNR=21							
MNGR				S		**Sb**	**20 45 33.1**	**-1.3**
ILIN	**Lien**	**2.93**	**182**	*e*Pn		**Pb**	**20 44 56.5**	**-2.3**
GNI	**Garni**	**2.94**	**322**	Pn		**Pb**	**20 44 56.6**	**-2.2**
	comp=Z,10nm,0.3s,baz=160,slow=3.9,SNR=42							
GNI				Lg		Lg	20 45 37.5	
	comp=Z,18nm,0.3s,baz=103,slow=18,SNR=3.4							
	comp=Z,196nm,0.7s							
GNI	**Garni**	**2.94**	**322**	Pn		**Pn**	**20 44 55.3**	**+1.8**
GBS	**Qobustan**	**3.03**	**27**	*e*Pn		**Pn**	**20 44 55.8**	**+1.1**
GBS	**Qobustan**	**3.03**	**27**	P		**Pn**	**20 44 55.9**	**+1.1**
	SNR=23							
GBS				S		**Sb**	**20 45 36.7**	**-1.1**
GDB	**GEDABAY**	**3.05**	**340**	*e*Pn		**Pn**	**20 44 55.3**	**+0.3**
GDB	**

BRTR LR LR 20 51 32.4
comp=Z,154nm,18.3s,baz=121,slow=42
comp=Z,1.7nm,1.0s
BRTR Keskin Array B 10.68 284 Pn **Pn 20 46 42.7 +3.0**
JRKH Jarkhoshk 10.79 96 *e*Pn **Pn 20 46 42.0 +0.8**
TBJM Torbat-e-JAM 10.95 100 *e*Pn **Pn 20 46 45.5 +2.1**
EIL Elat 12.99 235 LR LR 20 52 59.5
comp=Z,124nm,18.5s,baz=83,slow=41
RAYN Ar Rayn 14.35 186 Pn **Pn 20 47 28.1 -1.9**
BELG Belogormoye 14.54 1 LR LR 20 55 04.0
comp=Z,120nm,18.3s,baz=144,slow=46
ABKAR Akbulak array 14.69 35 Pn **Pn 20 47 33.1 -1.2**
AKTO Aktyubinsk 14.79 28 Pn **Pn 20 47 33.2 -2.5**
comp=Z,0.3nm,0.3s,baz=212,slow=14,SNR=7.5
AKTO Sn Sn 20 50 09.4 -11
comp=Z,0.2nm,0.3s,baz=333,slow=18,SNR=4.3
comp=Z,2.4nm,0.7s
KBL Kabul 18.01 94 Pn 20 48 17.1 -0.2
AKASG Malin Array Be 18.07 321 P **Pn 20 48 16.4 -1.3**
comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=4.5
comp=Z,0.4nm,0.2s
GAR Garm 18.22 79 P **Pn 20 48 18.6 -1.2**
GAR IAmb IAmb 20 48 28.2
comp=Z,20nm,1.5s
KK31 Karatay Array 18.54 66 P **P 20 48 22.5 -0.9**
KKAR Karatay Array 18.54 66 P **P 20 48 22.3 -1.2**
BTK Batken 18.56 76 P 20 48 23.2 -0.6
BTK IAmb IAmb 20 48 44.5
comp=Z,9.1nm,1.1s
BURAR Bucovina Array 18.75 308 P **Pn 20 48 26.1 -0.1**
ARU Arti 20.10 19 P **P 20 48 39.4 -1.0**
comp=Z,6.2nm,0.6s,baz=201,slow=6.8,SNR=16
ARU S S 20 52 13.6 -13
comp=Z,0.4nm,0.3s,baz=327,slow=22,SNR=1.2
comp=Z,6.2nm,0.6s
ARU Arti 20.10 19 P **P 20 48 40.6 +0.2**
ARU IAmb IAmb 20 48 43.5
comp=Z,7.3nm,0.7s
KOLS Kolonicke sedl 21.07 310 *e*P **P 20 48 53.1 +2.1**
KWP Kalwaria Pacla 21.09 312 P **P 20 48 52.0 +0.8**
DIVS Divibare 21.34 296 P **P 20 48 55.4 +1.3**
DIVS IAmb IAmb 20 49 01.4
comp=Z,4.4nm,0.9s
AAK Ala-Archa 21.40 68 P **P 20 48 54.8 0.0**
comp=Z,1.2nm,0.4s,baz=237,slow=9.1,SNR=1.9
AAK LR LR 20 59 18.7
comp=Z,104nm,19.9s,baz=288,slow=43
comp=Z,1.2nm,0.4s
AAK Ala-Archa 21.40 68 P 20 48 53.2 -1.6
NIL Nilore 21.60 93 P **P 20 48 55.3 -1.6**
BRVK Borovoye 22.11 39 P **P 20 49 01.8 -0.4**
BRVK IAmb IAmb 20 49 22.0
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 22.15 39 P **P 20 49 03.2 +0.7**
comp=Z,2.2nm,0.6s,baz=241,slow=8.3,SNR=14
comp=Z,2.2nm,0.6s
NRN Naryn 22.49 72 P **P 20 49 07.4 +0.8**
NRN IAmb IAmb 20 49 10.6
comp=Z,6.3nm,1.2s
KSH Kashi 22.56 77 P **P 20 49 06.1 -1.1**
KSH pmax pmax
comp=Z,3.0nm,0.9s
MORH Mrgy, Hungar 22.64 301 P **P 20 49 12.9 +5.1**
OJC Ojcow 23.05 311 P **P 20 49 11.8 -0.3**
OJC IAmb IAmb 20 49 13.1
comp=Z,6.3nm,1.0s
VYHS Vyhne 23.07 306 *e*P **P 20 49 13.8 +1.4**
KLMR Klimovskoe 23.51 351 *e* **P 20 49 15.8 -0.9**
KLMR AMP 20 49 31.7
comp=Z,9.0nm,1.0s
RONA Rosalia, Austr 24.52 304 *e*P **P 20 49 27.0 +0.6**
comp=Z,3.7nm,1.0s
CONA Conrad Observa 24.85 304 *e*P **P 20 49 30.7 +1.3**
comp=Z,2.5nm,1.2s
ARSA Arzberg 24.94 302 *e*P **P 20 49 31.0 +0.8**
comp=Z,3.4nm,0.8s
SOKA Soboth 25.18 301 *e*P **P 20 49 34.2 +1.8**
comp=Z,5.1nm,1.3s
DPC Dobruska-Polom 25.19 310 *e*P **P 20 49 32.6 +0.1**
OBKA Obir 25.48 300 *e*P **P 20 49 38.3 +3.1**
comp=Z,5.3nm,1.7s
KURBB Kurchatov Arra 25.67 50 P **P 20 49 38.4 +1.8**
comp=Z,0.9nm,0.2s,baz=260,slow=10.0,SNR=6.0
comp=Z,0.9nm,0.2s
KURK Kurchatov 25.75 50 P **P 20 49 38.6 +1.2**
CKRC Cesky Krumlov 26.05 305 *e*P **P 20 49 40.8 +0.5**
KBA Koelnbreinsper 26.38 301 *e*P **P 20 49 46.2 +2.7**
comp=Z,3.8nm,1.4s
GEC2 GERESS Array S 26.45 305 P **P 20 49 44.1 0.0**
GEC2 IAmb IAmb 20 49 44.5
comp=Z,2.3nm,0.8s
GERES GERESS Array B 26.45 305 P **P 20 49 44.0 0.0**
comp=Z,1.2nm,0.7s,baz=103,slow=9.7,SNR=16
comp=Z,1.2nm,0.7s
GERES GERESS Array B 26.45 305 P **P 20 49 44.0 0.0**
KHC Kasperske Hory 26.59 306 *e*P **P 20 49 44.2 -1.0**
ABTA Abfaltersbach 26.90 300 *e*P **P 20 49 48.0 0.0**
comp=Z,2.9nm,1.2s
MAKZ Makanchi 27.10 60 P **P 20 49 49.9 +0.2**
MAKZ IAmb IAmb 20 50 07.6
comp=Z,3.2nm,1.1s
MKAR Makanchi Array 27.31 60 P **P 20 49 53.2 +1.6**
comp=Z,0.5nm,0.6s,baz=250,slow=7.4,SNR=1.9
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 27.31 60 P **P 20 49 52.2 +0.6**
WTTA Wattenberg 27.56 301 *e*P **P 20 49 52.3 -1.8**
comp=Z,4.8nm,1.3s
WATA Walderalm 27.61 301 *e*P **P 20 49 54.1 -0.4**
comp=Z,3.1nm,1.0s
SQTA Sankt Quirin 27.84 301 *e*P **P 20 49 54.5 -2.1**
comp=Z,1.2nm,0.5s
MOTA Moosalm 27.93 301 *e*P **P 20 49 56.6 -0.8**
comp=Z,4.5nm,1.2s
FETA Feichten 28.15 301 *e*P **P 20 49 58.9 -0.4**
comp=Z,4.5nm,1.2s
NOA NORSAR Array B 32.23 328 LR LR 21 04 32.3
comp=Z,60nm,18.1s,baz=115,slow=38
ARCES ARCESS Array B 33.81 347 LR LR 21 06 50.8
comp=Z,55nm,18.3s,baz=176,slow=40
EKA Eskdalemuir Ar 37.76 314 P **P 20 51 21.1 -1.7**
comp=Z,0.9nm,0.7s,baz=95,slow=8.6,SNR=1.7
comp=Z,0.9nm,0.7s
ESDC Sonseca Array 39.42 289 P **P 20 51 35.8 -1.3**
comp=Z,0.6nm,1.0s,baz=60,slow=8.8,SNR=5.0
comp=Z,0.6nm,1.0s
TORD Torodi Ar. Bea 47.20 251 P **P 20 52 40.4 +0.4**
comp=Z,0.2nm,0.6s,baz=66,slow=7.9,SNR=2.0
comp=Z,0.2nm,0.6s
BORG Borgarnes 47.40 327 LR LR 21 12 22.6
comp=Z,36nm,18.1s,baz=227,slow=36
CMAR Chiang Mai Arr 48.96 98 P **P 20 52 54.5 +0.9**
comp=Z,1.5nm,0.7s,baz=293,slow=7.9,SNR=9.7
comp=Z,1.5nm,0.7s
SFJD Kangerlussuaq 58.66 333 LR LR 21 19 32.0
comp=Z,46nm,19.7s,baz=98,slow=36

*NEIC **03** 20:52:22.7±1.5,53.70N±0.02×163.61W±0.07, h15km±9km, ML3.4/10,ML3.1(AEIC), Error ellipse: s-maj=6.4km s-min=2.8km az=111.0*

AEIC 03 20:52:24±1.5,**53.73N**±0.05×**163.65W**±0.09,**h30**km±8km, **Error ellipse: s-maj=10.1km s-min=4.4km az=134.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRPK	**Brown Peak**	**0.92**	**357**		Pn	20 52 40.9	0.0
WESE	**West Dahl East**	**0.93**	**324**		Pn	20 52 41.3	+0.2
WESP	**Westdahl Peak**	**0.99**	**321**		Pn	20 52 42.0	+0.1
ISLZ	**Isanotski Laza**	**1.00**	**358**		Pn	20 52 41.9	-0.1
WESN	**West Dahl Nort**	**1.01**	**327**		Pb	20 52 42.5	-0.3
SSLS	**Shishaldin Sou**	**1.01**	**349**		Pn	20 52 42.5	+0.4
WECS	**Westdahl Cape**	**1.04**	**321**		Pn	20 52 42.9	+0.3
SSBA	**Shishaldin**	**1.09**	**345**		Pn	20 52 43.5	+0.3
SSLN	**Shishaldin Nor**	**1.11**	**350**		Pb	20 52 44.6	0.0
ISNN	**Isanotski Nort**	**1.11**	**356**		Pb	20 52 44.5	-0.2
FALS	**False Pass**	**1.14**	**7**		Pn	20 52 44.2	+0.3
FALS	**False Pass**	**1.14**	**7**	Sn	Sb	20 52 59.6	0.0
AKSA	**Akutan Strait**	**1.28**	**290**		Pn	20 52 46.1	+0.4
AKSA	**Akutan Strait**	**1.28**	**290**		Pn	20 52 46.3	+0.6
AKUT	**Akutan**	**1.32**	**289**		Pn	20 52 46.9	+0.6
AKUT	**Akutan**	**1.32**	**289**	Sn	Sb	20 53 04.6	-0.1
AKUT				IAML		20 53 05.1	
	comp=N,303nm,0.4s						
AKUT				IAML		20 53 08.3	
	comp=E,327nm,0.4s						
AKBBA	**Akutan Broad B**	**1.40**	**286**		Pn	20 52 48.0	+0.6
AKLV	**Akutan Long Va**	**1.43**	**289**		Pn	20 52 48.4	+0.5
AKMO	**Akutan Morgan**	**1.44**	**286**		Pn	20 52 48.6	+0.6
AKGG	**Akutan Green G**	**1.46**	**290**		Pn	20 52 48.1	-0.2
AKRB	**Akutan Reef Bi**	**1.49**	**287**		Pn	20 52 49.2	+0.6
DT1	**Dutton Round H**	**1.60**	**29**		Pn	20 52 50.6	+0.4
UNV	**Unalaska Valle**	**1.70**	**275**		Pn	20 52 51.7	+0.2
MNAT	**Makushin Natee**	**1.81**	**276**		Pn	20 52 53.8	+0.8
HAG	**Hague Volcano**	**1.89**	**32**		Pn	20 52 55.6	+1.4
MGOD	**Makushin Gods**	**1.91**	**273**		Pn	20 52 55.4	+0.9
PS4A	**Pavlof South-4**	**1.93**	**32**		Pn	20 52 56.3	+1.5
MAPS	**Pakushin South**	**1.95**	**274**		Pn	20 52 56.0	+1.0
PN7A	**Pavlof North-7**	**1.96**	**29**		Pn	20 52 56.5	+1.3
SDPT	**Sand Point**	**2.46**	**47**		Pn	20 53 02.6	+0.6
SDPT	**Sand Point**	**2.46**	**47**	Sn	Sn	20 53 31.2	+0.2
SDPT				IAML		20 53 44.3	
	comp=E,144nm,0.5s						
SDPT				IAML		20 53 44.3	
	comp=N,164nm,0.8s						
CNBA	**Chernabura Isl**	**2.62**	**64**		Pn	20 53 03.4	-0.8
NIKH	**Nikolski High**	**3.21**	**259**	Pn	Pn	20 53 12.3	0.0
CHGN	**Chignik**	**3.97**	**47**	Pn	Pn	20 53 23.5	+0.8
CHGN				IAML		20 54 20.7	
	comp=N,108nm,0.1s						
CHIR	**Chirikof Islan**	**5.10**	**62**	Pn	Pn	20 53 37.7	-0.5
CHIR				IAML		20 54 41.2	
	comp=E,43nm,1.4s						
SPIA	**Saint Paul Isl**	**5.10**	**315**	Pn	Pn	20 53 39.8	+1.5
OHAK	**Old Harbor**	**6.85**	**55**	Pn	Pn	20 54 01.1	-1.2
O18K	**Koktuh Hills**	**7.69**	**34**	Pn	Pn	20 54 15.4	+1.6
ADK	**Adak**	**8.11**	**262**	Pn	Pn	20 54 21.2	+1.7
N19K	**Bonanza Creek**	**8.66**	**31**	Pn	Pn	20 54 29.4	+2.2
M19K	**Big River Lodg**	**9.56**	**27**	Pn	Pn	20 54 40.6	+1.2
M20K	**Styx River**	**9.91**	**30**	Pn	Pn	20 54 46.7	+2.5
SUA	**Susitna One**	**10.38**	**37**	Pn	Pn	20 54 52.0	+1.3
K20K	**Telida**	**10.86**	**23**	Pn	Pn	20 54 58.7	+1.5
HIN	**Hinchinbrook I**	**11.46**	**47**	Pn	Pn	20 55 06.0	+0.7
J20K	**Nowinta River**	**11.56**	**21**	Pn	Pn	20 55 08.8	+2.2
SCM	**Sheep Creek Mo**	**11.88**	**40**	Pn	Pn	20 55 10.6	-0.6
KLU	**Klutina**	**12.25**	**44**	Pn	Pn	20 55 14.8	-1.4

WEL 03 20:59:18.2±1.1,**37°S**±4°×**17°9E**±°,**h15**km±6km,**M3.5**/51, **ML3.8**/59,**MLv3.5**/51,**Error ellipse: s-maj=0.0km s-min=0.0km az=86.2,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.60**	**257**	P	Pg	20 59 29.8	-0.2
MXZ				S	Sg	20 59 36.7	-1.3
WMGZ	**Waiomatatini S**	**0.63**	**232**	P	Pn	20 59 32.4	-0.2
WMGZ				S	Sn	20 59 41.3	-1.1
PKGZ	**Pakihiroa**	**0.89**	**239**	P	Pg	20 59 35.8	+0.2
PKGZ				S	Sg	20 59 47.4	+0.1
PUZ	**Puketiti**	**0.89**	**224**	P	Pn	20 59 36.2	0.0
PUZ				S	Sn	20 59 48.7	-0.2
HAZ	**Te Kaha**	**1.05**	**252**	P	Pb	20 59 37.7	-0.4
HAZ				S	Sb	20 59 51.3	-0.3
TWGZ	**Tauwhareparae**	**1.12**	**228**	P	Pg	20 59 39.8	-0.1
TWGZ				S	Sg	20 59 55.5	+0.9
RUGZ	**Raukumara Rang**	**1.21**	**243**	P	Pb	20 59 40.7	-0.1
RUGZ				S	Sn	20 59 56.5	-0.2
CNGZ	**Carnagh Statio**	**1.24**	**212**	P	Pg	20 59 42.3	+0.1
CNGZ				S	Sg	21 00 00.1	+1.7
TKGZ	**Te Karaka**	**1.38**	**223**	P	Pn	20 59 42.8	-0.1
TKGZ				S	Sn	21 00 00.6	-0.2
WIZ	**White Island**	**1.48**	**266**	P	Pb	20 59 44.9	-0.4
MWZ	**Matawai**	**1.50**	**233**	P	Pn	20 59 44.4	-0.2
MWZ				S	Sn	21 00 02.5	-1.3
RIGZ	**Rimuhau**	**1.62**	**218**	P	Pn	20 59 46.3	0.0
RAGZ	**Rawiri**	**1.67**	**230**	P	Pn	20 59 47.1	+0.1
WHRZ	**Whale Island**	**1.69**	**255**	P	Pb	20 59 48.3	-0.8
URZ	**Urewera**	**1.74**	**241**	P	Pn	20 59 48.4	+0.6
PRGZ	**Paritu Road**	**1.75**	**211**	P	Pn	20 59 48.1	+0.1
SNGZ	**Shannon Statio**	**1.90**	**224**	P	Pn	20 59 50.2	+0.1
KNZ	**Kokohu**	**1.92**	**214**	P	Pn	20 59 49.8	-0.5
MHGZ	**Mahia Peninsul**	**1.94**	**207**	P	Pn	20 59 50.7	+0.1
EDRZ	**Edgecumbe**	**1.95**	**249**	P	Pn	20 59 51.3	+0.5
RTZ	**Ruatahuna**	**2.01**	**233**	P	Pn	20 59 52.1	+0.5
MUGZ	**Murupara**	**2.08**	**239**	P	Pn	20 59 51.9	-0.6
RAHZ	**Arahi**	**2.14**	**226**	P	Pn	20 59 53.6	+0.2
TARZ	**Mount Tarawera**	**2.16**	**247**	P	Pn	20 59 54.7	+0.9
WHHZ	**Waihua**	**2.17**	**220**	P	Pn	20 59 53.9	+0.1
RRRZ	**Republican Roa**	**2.20**	**245**	P	Pb	20 59 56.3	-1.4
MYRZ	**Mayor Island**	**2.24**	**273**	P	Pn	20 59 54.6	-0.1
MTHZ	**Maungataniwha**	**2.24**	**230**	P	Pn	20 59 55.2	+0.4
KARZ	**Kaharoa**	**2.29**	**254**	P	Pn	20 59 55.8	+0.3
NMHZ	**Naumai**	**2.42**	**226**	P	Pn	20 59 57.4	+0.1
ARHZ	**Aropaoanui**	**2.44**	**221**	P	Pn	20 59 57.4	0.0
MRHZ	**Matea Rd**	**2.50**	**235**	P	Pn	20 59 58.6	+0.3
BKZ	**Black Stump Fm**	**2.65**	**228**	P	Pn	21 00 00.2	-0.2
CKHZ	**Cape Kidnapper**	**2.71**	**214**	P	Pn	21 00 00.1	-1.0
KUZ	**Kuaotunu**	**2.74**	**283**	P	Pn	20 59 59.8	-1.8
TOZ	**Tahuroa Road**	**2.83**	**263**	P	Pn	21 00 02.7	-0.1
KWHZ	**Kaweka Forest**	**2.86**	**225**	P	Pn	21 00 02.7	-0.7
KAHZ	**Kahuranaki**	**2.91**	**215**	P	Pn	21 00 02.8	-1.2
RATZ	**Rangitukua**	**2.95**	**240**	P	Pn	21 00 05.1	+0.6
KRHZ	**Kereru**	**3.04**	**223**	P	Pn	21 00 04.5	-1.4
KATZ	**Kakaramea**	**3.05**	**239**	P	Pn	21 00 06.9	+0.9
PXZ	**Pawanui**	**3.10**	**213**	P	Pn	21 00 04.9	-1.7
GRZ	**Great Barrier**	**3.11**	**291**	P	Pn	21 00 07.3	+0.6
BHHZ	**Black Hill Sta**	**3.11**	**228**	P	Pn	21 00 06.1	-0.7
MKAZ	**Moumakai**	**3.11**	**275**	P	Pn	21 00 05.8	-1.0
TMVZ	**Te Maari**	**3.12**	**236**	P	Pn	21 00 06.6	-0.3
ETVZ	**East Tongariro**	**3.13**	**236**	P	Pn	21 00 06.7	-0.4
NTVZ	**North Tongarir**	**3.13**	**237**	P	Pn	21 00 06.8	-0.3
KRVZ	**Karewarewa**	**3.15**	**237**	P	Pn	21 00 07.1	-0.2
OTVZ	**Oturere**	**3.17**	**236**	P	Pn	21 00 07.4	-0.2
NNVZ	**North Ngauruho**	**3.19**	**237**	P	Pn	21 00 07.9	0.0
WIAZ	**Waiheke Island**	**3.19**	**280**	P	Pn	21 00 06.8	-1.0
WTVZ	**West Tongariro**	**3.19**	**237**	P	Pn	21 00 08.2	+0.3
SNVZ	**South Ngauruho**	**3.20**	**236**	P	Pn	21 00 08.0	0.0
NGZ	**Ngauruhoe**	**3.22**	**236**	P	Pn	21 00 08.1	-0.3
TUVZ	**Tukino**	**3.23**	**234**	P	Pn	21 00 07.9	-0.6
MOVZ	**Moawhango**	**3.25**	**232**	P	Pn	21 00 08.1	-0.6
TWVZ	**Taurewa**	**3.28**	**239**	P	Pn	21 00 09.0	-0.1
WHVZ	**Whangaehu Hut**	**3.28**	**235**	P	Pn	21 00 08.9	-0.4
FWVZ	**Far West T-bar**	**3.29**	**235**	P	Pn	21 00 09.4	0.0
WNVZ	**Wahianoa**	**3.30**	**234**	P	Pn	21 00 08.9	-0.6
ETAZ	**East Tamaki Re**	**3.32**	**277**	P	Pn	21 00 10.4	+0.8
WPHZ	**Waipukurau**	**3.32**	**217**	P	Pn	21 00 08.2	-1.4
PNHZ	**Pukenui**	**3.33**	**221**	P	Pn	21 00 07.8	-1.9
PRHZ	**Porangahau**	**3.40**	**213**	P	Pn	21 00 08.6	-2.0
HIZ	**Hauiti**	**3.48**	**251**	P	Pn	21 00 13.0	+1.2
AWAZ	**Awhitu Peninsu**	**3.53**	**275**	P	Pn	21 00 13.3	+0.9
TSZ	**Takapari Road**	**3.56**	**222**	P	Pn	21 00 11.0	-1.9
RVAZ	**Riverhead Bore**	**3.63**	**279**	P	Pn	21 00 13.5	-0.3
DVHZ	**Dannevirke**	**3.64**	**217**	P	Pn	21 00 12.1	-1.9
POWZ	**Post Office Ro**	**3.91**	**220**	P	Pn	21 00 16.3	-1.3
PRWZ	**Pori Road**	**3.93**	**217**	P	Pn	21 00 16.4	-1.6
WAZ	**Wanganui**	**3.94**	**233**	P	Pn	21 00 18.3	+0.2
WCZ	**Waipu Caves**	**4.06**	**290**	P	Pn	21 00 19.3	-0.5
MHEZ	**Mangahewa**	**4.06**	**245**	P	Pn	21 00 23.2	+3.4
PKE	**Pukeiti**	**4.35**	**245**	P	Pn	21 00 26.1	+2.3
OUZ	**Omahuta**	**4.92**	**295**	P	Pn	21 00 31.8	+0.3
CTZ	**Chatham Island**	**7.11**	**154**	P	Pn	21 01 03.6	+2.0

*IDC **03** 21:04:06.4±0.6,20.00S×174.02W,h0km,mb4.3/15, mbtmp4.3/16,ML4.1/1,MS3.9/21,Error ellipse: s-maj=23.4km s-min=16.4km az=130.0*

*NEIC **03** 21:04:07.5±2.0,20.15S±0.09×173.41W±0.07,h21km±5km, mb4.9/64,Error ellipse: s-maj=13.7km s-min=9.4km az=181.0*

ISC 03 21:04:08.4±0.4,**20.12S**±0.08×**173.58W**±0.07,**h25**km, **n186,**σ1**36**/160,**mb4.9**/50,**MS3.9**/22,**16C-18D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.59**	**74**	Pn	**Pn**	**21 05 00.2**	**-2.4**
NIUE				Sn	**Sn**	**21 05 38.9**	**-5.4**
AFI	**Afiamalu**	**6.41**	**16**	Pn	**Pn**	**21 05 39.7**	**-1.7**
	8.8nm,0.3s,baz=11,slow=8.8,SNR=8.2						
AFI				Sn	Sn	21 06 43.4	-11
	11nm,0.3s,baz=30,slow=22,SNR=2.3						
AFI	**Afiamalu**	**6.41**	**16**	Pn	**Pn**	**21 05 40.0**	**-1.4**
MSVF	**Nonsavu**	**8.27**	**285**	Pn	Pn	21 06 11.2	+4.2
	2.1nm,0.3s,baz=136,slow=11,SNR=8.7						
MSVF				LR	LR	21 08 56.6	
	comp=Z,2μm,19.5s,baz=146,slow=37						
MSVF	**Nonsavu**	**8.27**	**285**	Pn	Pn	21 06 10.7	+3.7
RAO	**Raoul Island**	**9.91**	**203**	LR	LR	21 10 10.4	
	comp=Z,234nm,19.0s,baz=8.0,slow=37						
RAR	**Rarotonga**	**12.97**	**97**	Pn	Pn	21 07 07.3	-3.9
	2.6nm,0.3s,baz=266,slow=8.1,SNR=8.3						
RAR	**Rarotonga**	**12.97**	**97**		Pn	21 07 08.0	-3.2
MARNC	**Mare, Loyalty**	**17.25**	**262**	P	**P**	**21 08 08.5**	**-0.6**
PINNC	**Pines Island,**	**17.85**	**259**	P	**P**	**21 08 16.6**	**+0.9**
OUENC	**Ouen Island, N**	**18.39**	**259**	P	**P**	**21 08 22.2**	**+0.4**
DZM	**Mont Dzumac**	**18.75**	**261**	*e*LR	LR	21 12 51.0	
	comp=Z,565nm,23.5s						
DZM	**Mont Dzumac**	**18.75**	**261**	P	**P**	**21 08 23.5**	**-2.2**
	0.6nm,0.3s,baz=86,slow=16,SNR=9.8						
DZM				LR	LR	21 14 45.0	
	comp=Z,454nm,18.4s,baz=44,slow=35						
	18nm,0.9s						
DZM	**Mont Dzumac**	**18.75**	**261**	P	**Pn**	**21 08 26.0**	**-0.2**
URZ	**Urewera**	**19.80**	**202**	P	**P**	**21 08 35.5**	**-1.5**
	11nm,0.6s,baz=28,slow=1.8,SNR=3.5						
URZ				S	S	21 12 07.5	-11
	6.8nm,0.7s,baz=32,slow=11,SNR=3.1						
URZ	**Urewera**	**19.80**	**202**	P	**P**	**21 08 36.1**	**-0.9**
KOUNC	**Koumac, New Ca**	**20.76**	**265**	P	Pn	21 08 50.0	-0.1
KOUNC				IAmb	IAmb	21 09 01.7	
	comp=Z,36nm,0.9s						
HIZ	**Hauiti**	**20.89**	**206**	P	**P**	**21 08 49.3**	**+0.5**
HIZ				IAmb	IAmb	21 08 55.6	
	comp=Z,41nm,0.9s						
BFZ	**Birch Farm**	**22.26**	**201**	P	**P**	**21 09 03.5**	**-0.1**
BFZ				IAmb	IAmb	21 09 27.8	
	comp=Z,31nm,1.0s						
TBI	**Tubuai**	**22.62**	**103**	*e*LR	LR	21 14 29.0	
	comp=Z,356nm,27.0s						
PPT2	**Papeete2**	**22.85**	**88**	*e*LR	LR	21 14 35.7	
	comp=Z,401nm,27.2s						
RPZ	**Rata Peaks**	**26.81**	**205**	P	**P**	**21 09 49.3**	**+2.7**
	comp=Z,15nm,1.0s,baz=43,slow=12,SNR=2.8						
	comp=Z,15nm,1.0s						
RPZ	**Rata Peaks**	**26.81**	**205**	P	**P**	**21 09 47.4**	**+0.8**
HNR	**Honiara**	**27.68**	**289**	LR	LR	21 19 51.4	
	comp=Z,254nm,18.6s,baz=178,slow=35						
EIDS	**Eidsvold**	**32.95**	**254**	P	**P**	**21 10 41.0**	**-0.2**
EIDS				IAmb	IAmb	21 10 51.3	
	comp=Z,20nm,1.4s						
ARMA	**Armidale**	**32.98**	**245**	P	**P**	**21 10 40.7**	**-0.9**
ARMA				IAmb	IAmb	21 11 21.8	
	comp=Z,20nm,1.2s						
TAOE	**Nuku Hiva Isla**	**34.17**	**76**	*e*LR	LR	21 19 50.6	
	comp=Z,262nm,23.6s						
CAN	**Canberra**	**36.19**	**237**	P	**P**	**21 11 07.6**	**-1.6**
CTA	**Charters Tower**	**37.66**	**263**	LR	LR	21 25 41.8	
	comp=Z,195nm,18.6s,baz=86,slow=35						
CTAO	**Charters Tower**	**37.66**	**263**	P	**P**	**21 11 19.9**	**-2.0**
PMG	**Port Moresby**	**39.34**	**280**	LR	LR	21 24 47.6	
	comp=Z,208nm,20.3s,baz=128,slow=32						
TOO	**Toolangi**	**39.49**	**235**	P	**P**	**21 11 35.4**	**-1.7**
TOO				IAmb	IAmb	21 11 47.2	
	comp=Z,29nm,1.4s						
STKA	**Stephens Creek**	**41.69**	**244**	P	**P**	**21 11 52.9**	**-2.4**
	comp=Z,2.8nm,0.7s,baz=95,slow=12,SNR=12						
STKA				LR	LR	21 27 46.0	
	comp=Z,130nm,18.0s,baz=65,slow=34						
	comp=Z,2.8nm,0.7s						
STKA	**Stephens Creek**	**41.69**	**244**	P	**P**	**21 11 53.8**	**-1.6**
COEN	**Coen**	**41.71**	**271**	P	**P**	**21 11 53.9**	**-1.8**
BBOO	**Buckleboo**	**46.43**	**244**	P	**P**	**21 12 32.1**	**-1.3**
WR0	**Warramunga Arr**	**48.57**	**261**	P	**P**	**21 12 48.6**	**-1.6**
AS31	**Alice Springs**	**48.64**	**256**	P	**P**	**21 12 49.4**	**-1.4**
ASAR	**Alice Springs**	**48.64**	**256**	P	**P**	**21 12 48.4**	**-2.4**
	comp=Z,3.3nm,0.6s,baz=100,slow=7.6,SNR=42						
ASAR				PcP	**PcP**	**21 14 16.6**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=102,slow=4.1,SNR=7.5						
ASAR				LR	LR	21 32 52.5	
	comp=Z,152nm,19.2s,baz=91,slow=36						
	comp=Z,3.3nm,0.6s						
WB0	**Warramunga Arr**	**48.74**	**261**	P	**P**	**21 12 49.3**	**-2.2**
WB0				IAmb	IAmb	21 12 52.9	
	comp=Z,6.1nm,0.7s						
WRA	**Warramunga Arr**	**48.76**	**261**	P	**P**	**21 12 49.1**	**-2.5**
	comp=Z,3.2nm,0.6s,baz=99,slow=6.3,SNR=26						
WRA				PcP	**PcP**	**21 14 16.8**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=95,slow=3.9,SNR=3.8						
WRA				LR	LR	21 32 40.0	
	comp=Z,151nm,18.1s,baz=57,slow=35						
	comp=Z,3.2nm,0.6s						
WRA	**Warramunga Arr**	**48.76**	**261**	P	**P**	**21 12 49.4**	**-2.3**
GUMO	**Guam**	**52.85**	**306**	LR	LR	21 34 03.3	
	comp=Z,50nm,19.4s,baz=138,slow=34						
FORT	**Forrest**	**53.25**	**246**	P	**P**	**21 13 24.5**	**-0.7**
FORT				IAmb	IAmb	21 13 36.2	
	comp=Z,19nm,0.8s						
MTN	**Manton Dam**	**53.32**	**269**	P	**P**	**21 13 24.1**	**-1.8**
MTN				IAmb	IAmb	21 13 29.3	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**54.83**	**265**	P	**P**	**21 13 35.3**	**-1.6**
KNRA				IAmb	IAmb	21 13 54.3

comp=Z,4.6nm,0.9s,baz=129,slow=6.3,SNR=14
KSRS LR LR 21 45 58.2
comp=Z,32nm,20.6s,baz=245,slow=32
comp=Z,4.6nm,0.9s
KSAR Wonju Array Be 79.44 316 P **P** **21 16 12.7 0.0**
USRK Ussuriysk Ar. 81.05 324 LR LR 21 48 08.5
comp=Z,62nm,19.8s,baz=192,slow=33
ELK Elko 81.23 41 LR LR 21 46 26.3
comp=Z,68nm,19.7s,baz=254,slow=31
H03S2 Juan Fernandez 82.75 123 T T 22 48 52.9
baz=247,SNR=6.7
H03S1 Juan Fernandez 82.77 123 T T 22 48 55.7
baz=247,SNR=6.2
H03S3 Juan Fernandez 82.77 123 T T 22 48 56.1
baz=247,SNR=5.4
H03N2 Juan Fernandez 82.88 123 T T 22 48 56.7
baz=252,SNR=5.0
H03N3 Juan Fernandez 82.88 123 T T 22 48 58.6
baz=252
H03N1 Juan Fernandez 82.89 123 T T 22 48 59.5
baz=252
MAW Mawson 83.29 199 P **P** **21 16 34.6 +2.0**
comp=Z,2.9nm,0.8s,baz=146,slow=6.4,SNR=6.1
comp=Z,2.9nm,0.8s
MAW Mawson 83.29 199 P **P** **21 16 32.3 -0.4**
SUA Susitna One 83.34 11 P **P** **21 16 33.2 +0.3**
SUA IAmb IAmb 21 16 51.6
comp=Z,5.3nm,0.9s
TXAR Lajitas Array 83.38 56 P **P** **21 16 37.4 +3.4**
comp=Z,0.5nm,0.7s,baz=212,slow=8.9,SNR=5.8
comp=Z,0.5nm,0.7s
SCM Sheep Creek Mo 84.32 12 P **P** **21 16 37.5 -0.4**
SCM IAmb IAmb 21 17 14.1
comp=Z,7.0nm,1.0s
NEW Newport 84.69 34 LR LR 21 52 27.4
comp=Z,50nm,18.2s,baz=190,slow=34
CTGM Chitina Glacie 84.88 15 P **P** **21 16 40.9 +0.1**
MCK McKinley 85.77 11 P **P** **21 16 45.9 +0.8**
MCK IAmb IAmb 21 17 04.4
comp=Z,13nm,1.0s
PDAR Pinedale Array 85.88 42 P **P** **21 16 48.1 +1.7**
comp=Z,0.2nm,0.4s,baz=285,slow=3.5,SNR=3.2
comp=Z,0.2nm,0.4s
M27K Edge Creek, AK 85.96 14 P **P** **21 16 46.4 +0.2**
M27K IAmb IAmb 21 17 06.8
comp=Z,6.9nm,1.1s
TIA Tai'an 86.13 311 P **P** **21 16 49.4 +1.9**
TIA pmax pmax
comp=Z,11nm,0.8s
PLCA Paso Flores 86.48 132 LR LR 21 49 13.1
comp=Z,51nm,20.3s,baz=194,slow=31
DOT Dot Lake 86.62 13 P **P** **21 16 49.4 0.0**
MLY Manley 86.67 9 P **P** **21 16 49.9 +0.4**
MLY IAmb IAmb 21 17 07.9
comp=Z,8.0nm,1.1s
HDA Harding Lake 86.74 11 P **P** **21 16 50.4 +0.6**
HDA IAmb IAmb 21 17 09.6
comp=Z,8.2nm,1.0s
CCB Clear Creek Bu 86.81 11 P **P** **21 16 49.7 -0.4**
CCB IAmb IAmb 21 17 08.9
comp=Z,8.7nm,1.2s
SCRK Sand Creek 86.93 13 **P** **21 16 50.0 -0.9**
UBPT Khong Chiam 86.96 287 P **P** **21 16 52.5 +0.5**
UBPT IAmb IAmb 21 16 54.1
comp=Z,6.1nm,0.8s
H21K Melozitna Rive 86.96 8 P **P** **21 16 49.7 -1.2**
H21K IAmb IAmb 21 17 11.5
comp=Z,12nm,1.4s
MDM Murphy Dome 87.02 11 P **P** **21 16 50.8 -0.4**
MDM IAmb IAmb 21 17 10.0
comp=Z,9.3nm,1.1s
ILAR Eielson Array 87.08 11 P **P** **21 16 53.5 +2.1**
comp=Z,1.1nm,0.9s,baz=208,slow=4.7,SNR=7.5
comp=Z,1.1nm,0.9s
ILAR Eielson Array 87.08 11 P **P** **21 16 51.5 0.0**
IMAR Indian Mountai 87.14 8 P **P** **21 16 52.3 +0.5**
IPM Ipoh 87.21 276 P **P** **21 16 53.6 +0.3**
KULM Kulim 87.84 276 P **P** **21 16 56.6 +0.3**
KULM IAmb IAmb 21 16 57.9
comp=Z,9.5nm,0.9s
TROLL Troll, Antarti 88.07 179 pP **P** **21 16 57.8 +1.2**
VNA3 Neumayer Olymp 88.20 175 pP pP 21 17 00.9 -2.4
SNAA Sanae 88.23 177 pP **P** **21 16 58.9 +1.7**
SNAA Sanae 88.23 177 P **P** **21 16 57.3 +0.1**
SNAA IAmb IAmb 21 17 06.9
comp=Z,4.1nm,1.0s
HNS HongShan 88.40 311 ⇑P **P** **21 17 00.5 +2.1**
HNS pmax pmax
comp=Z,8.0nm,0.7s
BJI Beijing 88.59 314 P **P** **21 17 01.0 +1.8**
BJI pmax pmax
comp=Z,6.0nm,0.7s
BJI LR LR
comp=N,31nm,8.3s
BJI LR LR
comp=E,260nm,13.5s
BJI LR LR
comp=Z,250nm,14.0s
VNA2 Neumayer--Watz 88.69 175 pP **P** **21 17 01.6 +2.3**
baz=185,slow=4.0
VNA1 Neumayer--Stat 88.89 175 pP **P** **21 17 02.7 +2.5**
SRIT Nakonsritamara 89.96 279 P **P** **21 17 05.2 -1.0**
HHC Hu-ho-hao-te 92.10 313 *e*P **P** **21 17 16.2 +0.4**
HHC pmax pmax
comp=Z,34nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.1s
KMI Kunming 92.91 296 ⇓P **P** **21 17 21.5 +1.5**
KMI pmax pmax
comp=Z,8.0nm,1.5s
CMAR Chiang Mai Arr 93.92 288 P **P** **21 17 25.9 +1.3**
comp=Z,3.9nm,1.0s,baz=110,slow=3.1,SNR=16
comp=Z,3.9nm,1.0s
CMAR Chiang Mai Arr 93.92 288 P **P** **21 17 25.0 +0.4**
CD2 Chengdu 94.11 301 *e*P **P** **21 17 25.0 -0.2**
PZH PanZhiHua 94.23 297 P **P** **21 17 27.6 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.1s
SONM Songino Array 98.23 318 P Pdif 21 17 44.9 +1.3
comp=Z,0.6nm,0.9s,baz=81,slow=1.9,SNR=2.5
comp=Z,0.6nm,0.9s
ZALV Zalesovo Beam 112.80 321 PKiKP **PKiKP** **21 22 42.9 +0.1**
comp=Z,0.4nm,0.5s,baz=90,slow=1.4,SNR=2.4
MKAR Makanchi Array 113.96 313 PKiKP **PKiKP** **21 22 45.2 -0.1**
comp=Z,0.4nm,0.6s,baz=98,slow=2.7,SNR=4.6
ARCES ARCESS Array B 129.23 351 PKP **PKiKP** **21 23 14.7 +0.1**
comp=Z,2.0nm,0.8s,baz=2.4,slow=2.9,SNR=6.4
FINES FINESS Array B 136.48 346 PKiKP PKPpre 21 23 26.8
comp=Z,1.4nm,0.9s,baz=302,slow=2.6,SNR=1.3
AKASG Malin Array Be 144.57 335 PKP **PKPdf** **21 23 42.1 -0.5**
comp=Z,5.1nm,0.7s,baz=40,slow=4.7,SNR=25
PURM Purcari 147.41 329 ⇑P **PKPab** **21 23 51.8 -0.2**
CLL Collm 148.45 352 *i* PKPbc **PKiKP** **21 23 54.6 +0.3**
comp=Z,7.0nm,0.8s
CLL *i* PKPab **sPKPdf** **21 23 57.4 -0.4**
comp=Z,9.0nm,0.8s
CLL *i* pPKiKP **pPKPab** **21 24 03.1 +0.3**
CLL *i* x x 21 24 14.3
comp=Z,8.0nm,0.8s
BURAR Bucovina Array 148.62 335 ⇑P **PKPab** **21 23 55.7 -1.3**
OSTC Ostas 148.65 348 *e*PKP **PKiKP** **21 23 54.9 +0.1**
BRG Berggiesshubel 148.74 351 *e*PKP **PKPab** **21 23 55.9 -1.3**
BRG Amp 21 24 00.1
comp=Z,3.8nm,0.8s
BRG *ex* x 21 24 09.1
BRG Amp 21 24 10.5
comp=Z,4.7nm,0.8s
BIZ Bicaz 148.80 334 ⇓P **PKPab** **21 23 56.5 -1.1**
DPC Dobruska-Polom 148.83 348 *e*PKP **PKiKP** **21 23 55.2 0.0**
CRVS Cervenica-Dubn 148.85 341 *e*PKP **PKPab** **21 23 57.0 -0.7**
TLCR 148.90 329 ⇑P **PKiKP** **21 23 56.0 +0.6**
TESR Tescani 148.90 332 ⇑P **PKiKP** **21 23 55.8 +0.4**
GHRR 148.91 331 ⇑P **PKPab** **21 23 57.2 -0.8**
KRLC Kraliky 149.00 347 *e*PKP **PKiKP** **21 23 56.0 +0.5**
KRLC *ex* x 21 24 09.4
MORC Moravsky Berou 149.11 346 *e*PKiKP **PKiKP** **21 23 55.4 -0.4**
BMR Baia Mare 149.22 337 ⇑P **PKiKP** **21 23 57.3 +1.3**
CFR Carcaliu 149.23 329 ⇓P **PKiKP** **21 23 56.5 +0.5**
TPGR Topolog 149.33 329 ⇓P **PKiKP** **21 23 57.0 +0.6**
VRI Vrincioaia 149.37 332 ⇓P **PKiKP** **21 23 56.9 +0.5**
ARCR ARCALIA 149.39 336 ⇓P **PKiKP** **21 23 57.7 +1.3**
MAUC Maruska 149.43 345 *e*PKP **PKiKP** **21 23 57.1 +0.7**
PRU Pruhonice 149.50 350 *e*PKP **PKiKP** **21 23 57.2 +0.7**
BRTR Keskin Array B 149.56 316 PKPbc **PKiKP** **21 23 57.2 +0.1**
comp=Z,1.8nm,0.8s,baz=116,slow=3.2,SNR=7.9
COVR Voineasa-Covas 149.62 332 ⇑P **PKiKP** **21 23 57.8 +0.8**
HARR Harsova 149.69 329 ⇓P **PKiKP** **21 23 57.5 +0.5**
TLBR Topalu 149.74 328 ⇓P **PKiKP** **21 23 58.9 +1.7**
VRAC Vranov 149.76 347 ⇓P **PKiKP** **21 23 57.6 +0.5**
VRAC Vranov 149.76 347 *e*PKIKP **PKiKP** **21 23 58.4 +1.3**
DOPR Dopca 149.87 333 ⇓P **PKiKP** **21 23 59.0 +1.6**
JAVC Velka Javorina 149.94 345 *e*PKIKP **PKPab** **21 23 59.8 -2.4**
VYHS Vyhne 149.97 343 *e*PKP **PKiKP** **21 23 58.5 +0.9**
CJR Cluj-Napoca 149.99 336 ⇓P **PKiKP** **21 23 59.0 +1.3**
MLR Muntele Rosu 150.00 332 ⇓P **PKiKP** **21 23 58.7 +0.8**
ISR Istrita 150.02 331 ⇓P **PKiKP** **21 23 59.0 +1.1**
LTVH Ltavrtes, Hu 150.03 339 ⇓P **PKPab** **21 23 59.8 -2.7**
ANTO Ankara 150.03 317 ⇓P **PKiKP** **21 23 59.3 +1.2**
KRUC Moravsky 150.04 347 *e*PKIKP **PKiKP** **21 23 58.9 +1.2**
DRGR 150.25 337 ⇑P **PKiKP** **21 23 59.3 +1.1**
VOIR 150.44 333 ⇑P **PKiKP** **21 24 00.1 +1.4**
MODS Modra-Piesok 150.48 345 *e*PKP **PKiKP** **21 24 01.1 +2.5**
KHC Kasperske Hory 150.49 350 *e*PKP **PKiKP** **21 23 59.0 +0.3**
ARR Arges 150.67 333 ⇑P **PKiKP** **21 24 01.2 +2.0**
CKRC Cesky Krumlov 150.67 349 *e*PKP **PKiKP** **21 23 59.5 +0.5**
CKRC *ex* x 21 24 12.4
GERES GERESS Array B 150.75 350 PKPbc **PKiKP** **21 24 00.6 +1.4**
comp=Z,1.5nm,0.8s,baz=11,slow=2.9,SNR=10
DEV Deva 150.94 336 ⇑P **PKiKP** **21 24 01.1 +1.5**
LOT Lotru 150.96 334 ⇑P **PKiKP** **21 24 00.4 +0.6**
SIRR Siria 151.08 338 ⇑P **PKiKP** **21 24 01.5 +1.5**
GZR Gura Zlata 151.40 336 ⇓P **PKiKP** **21 24 00.4 -0.3**
BZS Buzias 151.65 337 ⇑P **PKiKP** **21 24 02.2 +1.1**
HERR Herculane 151.97 335 ⇑P **PKiKP** **21 24 02.9 +1.2**
MORH Mrgy, Hungar 152.10 342 ⇓P **PKiKP** **21 24 02.9 +1.0**
BLKB Belogradchik 152.91 334 ⇓P **PKiKP** **21 24 05.1 +1.3**
ESDC Sonseca Array 158.56 22 PKPab **PKPab** **21 24 41.0 +1.9**
comp=Z,0.4nm,0.8s,baz=341,slow=4.6,SNR=2.5
TORD Torodi Ar. Bea 171.72 146 PKP **PKPdf** **21 24 16.1 +0.3**
comp=Z,0.4nm,0.8s,baz=222,slow=1.7,SNR=2.0
TORD PKPab **pPKPab** **21 25 41.6 -2.3**
comp=Z,0.5nm,0.9s,baz=210,slow=3.9,SNR=1.7

*IDC **03** 21:17:44.0±1.1,32.50N×130.40E, h0km, mb3.6/5, mbtmp3.5/7, ML2.8/2, MS2.4/2, Error ellipse: s-maj=41.6km s-min=16.5km az=70.0*
*NIED **03** 21:17:44.3, 32.51N×130.56E, h5km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.82; $M_{\theta\theta}$=4.39; $M_{\phi\phi}$=-2.58; $M_{r\theta}$=4.22; $M_{\theta\phi}$=-3.44; $M_{\phi r}$=-2.92; Fault plane solution: $M_0$6.73000×10^{14} NP1:ϕ_s322.00000°, δ37.00000°, λ-163.00000°. NP2:ϕ_s66.00000°, δ80.00000°, λ-55.00000°.*
*JMA **03** 21:17:44.3±0.0, 32.5N±0.1×130.6E±0.2, h5km±1km, MV3.9/20, SOUTHERN KUMAMOTO PREF*
JMA Felt III J1 at SOUTHERN KUMAMOTO PREF .
ISC 03 21:17:45.4±0.7,**32.50N**±0.04×**130.54E**±0.04,**h11**km,**n13,** σ1s**51**/17,**mb3.4**/5,**5D**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	**0.24**	**78**	⇓P	**Pg**	**21 17 48.5**	**-1.8**
JIU3				⇓S	**Sg**	**21 17 52.0**	**-1.6**
JHD	**Hondo**	**0.34**	**264**	⇓*i*P	**Pg**	**21 17 51.4**	**-0.8**
JHD				⇓S	**Sb**	**21 17 56.8**	**-2.1**
JZO	**Okuchi**	**0.36**	**172**	*i* P	**Pg**	**21 17 51.8**	**-0.8**
JZO				S	**Sg**	**21 17 57.0**	**-0.4**
JTA	**Tamana**	**0.46**	**360**	*i* P	**Pg**	**21 17 53.4**	**-1.1**
JTA				S	**Sg**	**21 17 59.8**	**-0.8**
JTZ	**Takazaki**	**0.76**	**142**	⇓*i*P	**Pg**	**21 17 59.5**	**-0.6**
KSRS	**Korea Array**	**5.39**	**337**	Pn	**Pn**	**21 19 05.2**	**-0.5**
	0.5nm,0.3s,baz=153,slow=14,SNR=7.0						
KSRS				Pg	**Pb**	**21 19 22.9**	**+3.4**
	1.3nm,0.3s,baz=151,slow=17,SNR=13						
KSRS				LR	LR	21 20 31.4	
	comp=Z,18nm,19.3s,baz=200,slow=31						
KSRS				Lg	Lg	21 20 33.8	
	2.5nm,0.3s,baz=159,slow=30,SNR=11						
	0.8nm,0.3s						
MJAR	**Matsushiro Arr**	**7.50**	**55**	Pn	**Pn**	**21 19 36.7**	**+1.9**
	0.1nm,0.3s,baz=241,slow=13,SNR=9.7						
	1.5nm,0.5s						
JHJ	**Hachijo jima 2**	**7.81**	**83**	LR	LR	21 22 13.6	
	comp=Z,50nm,21.4s,baz=108,slow=34						
SONM	**Songino Array**	**23.84**	**317**	P	**P**	**21 22 58.6**	**0.0**
	1.3nm,0.9s,baz=128,slow=7.3,SNR=6.6						
	1.3nm,0.9s						
ZALV	**Zalesovo Beam**	**38.74**	**317**	P	**P**	**21 25 09.1**	**-0.3**
	0.3nm,0.4s,baz=116,slow=9.8,SNR=2.1						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**52.27**	**175**	P	**P**	**21 26 56.4**	**-0.5**
	0.4nm,0.7s,baz=356,slow=7.9,SNR=2.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**55.94**	**176**	P	**P**	**21 27 24.8**	**+1.2**
	0.3nm,0.8s,baz=7.8,slow=14,SNR=8.4						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**68.44**	**330**	P	**P**	**21 28 46.1**	**-0.9**
	1.7nm,0.7s,baz=78,slow=7.3,SNR=12						
	1.7nm,0.7s						

RSNC 03 21:18:33.4±1.5,**3.79N**×**71.46W**,**h0**km±10km,**ML2.5, Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTGC	**Puerto Gaitan,**	**0.78**	**301**	*e*P	Pg	21 18 46.4	-2.1
PTGC				*e*S	Sg	21 18 58.8	+0.2
PTGC				IAML		21 19 06.2	
	comp=Z,83nm,0.1s						
PTGC	**Puerto Gaitan,**	**0.78**	**301**	*e*P	Pg	21 18 46.4	-2.0
PTGC				*e*S	Sg	21 18 58.8	+0.2
PTGC				IAML		21 19 04.3	
	comp=Z,85nm,0.2s						
GUVC	**San Jose del G**	**1.70**	**223**	*e*P	Pn	21 19 04.4	0.0
GUVC				*e*S	Sn	21 19 26.2	-0.7
GUVC				IAML		21 19 29.3	
	comp=Z,88nm,0.2s						
GUVC	**San Jose del G**	**1.70**	**223**	*e*P	Pn	21 19 04.5	+0.1
GUVC				*e*S	Sn	21 19 26.2	-0.7
GUVC				IAML		21 19 29.4	
	comp=Z,88nm,0.2s						
VILC	**Villavicencio,**	**2.25**	**278**	*e*P	Pn	21 19 11.9	-0.1
VILC				*e*S	Sn	21 19 41.7	+1.1
VILC	**Villavicencio,**	**2.25**	**278**	*e*P	Pn	21 19 10.5	-1.5
VILC				*e*S	Sn	21 19 40.6	0.0
CHIC	**Chingaza**	**2.41**	**290**	*e*P	Pn	21 19 13.3	-1.2
CHIC				*e*S	Sn	21 19 44.6	-0.4
CHIC	**Chingaza**	**2.41**	**290**	*e*P	Pn	21 19 14.3	-0.3
CHIC				*e*S	Sn	21 19 44.6	-0.4
CHIC				IAML		21 19 46.7	
	comp=Z,35nm,0.2s						
RUSC	**La Rusia**	**2.64**	**322**	*e*P	Pn	21 19 15.1	-2.7
RUSC				*e*S	Sn	21 19 46.3	-4.4
RUSC				IAML		21 20 07.6	
	comp=Z,10nm,0.4s						
RUSC	**La Rusia**	**2.64**	**322**	*e*P	Pn	21 19 17.2	-0.5
RUSC				*e*S	Sn	21 19 51.0	+0.3
RUSC				IAML		21 20 07.6	
	comp=Z,10nm,0.4s						
TAMC	**Tame, Arauca**	**2.65**	**353**	*e*P	Pn	21 19 13.0	-4.4
TAMC				*e*S	Sn	21 19 47.1	-3.2
TAMC				IAML		21 19 58.8	
	comp=Z,29nm,0.2s						
MACC	**Macarena, Meta**	**2.89**	**236**	*e*P	Pn	21 19 22.7	+1.9
MACC				*e*S	Sb	21 20 02.1	+0.2
MACC				IAML		21 20 12.8	
	comp=Z,28nm,0.5s						
MACC	**Macarena, Meta**	**2.89**	**236**	*e*P	Pn	21 19 22.7	+1.9
MACC				*e*S	Sb	21 20 02.0	+0.1
MACC				IAML		21 20 12.8	
	comp=Z,28nm,0.5s						
BARC	**Barichara**	**3.27**	**328**	*e*P	Pb	21 19 31.1	-1.4
BARC				*e*S	Sn	21 20 05.3	-0.5
BARC				IAML		21 20 24.6	
	comp=Z,15nm,0.3s						
PAMC	**Pamplona, Colo**	**3.73**	**341**	*e*P	Pb	21 19 38.1	-2.4
PAMC				*e*S	Sn	21 20 12.5	-5.2
PAMC				IAML		21 20 32.5	
	comp=Z,13nm,0.4s						

*IDC **03** 21:25:32.9±2.1,36.77S×179.10E, h0km, mb4.0/2, mbtmp4.0/3, ML3.5/1, Error ellipse: s-maj=46.5km s-min=42.1km az=128.0*
*WEL **03** 21:25:35.3±1.1,37.3S±4.1×177.9E±1.1, h11km±6km, M3.5/49, ML3.8/52, MLv3.5/49, Error ellipse: s-maj=0.0km s-min=0.0km az=95.9*
ISC 03 21:25:33.8±2.4,**37.06S**±0.07×**179.29E**±0.09,**h8**km±12km, **n76,** σ1s**01**/86,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.93**	**237**	P	**Pg**	**21 25 51.7**	**+0.1**
MXZ				S	**Sg**	**21 26 02.5**	**-1.3**
WMGZ	**Waiomatatini S**	**1.03**	**222**	P	**Pn**	**21 25 55.2**	**+0.6**
WMGZ				S	**Sn**	**21 26 09.7**	**+0.5**
PKGZ	**Pakihiroa**	**1.27**	**229**	P	**Pn**	**21 25 58.6**	**+0.7**
PKGZ				S	**Sb**	**21 26 14.5**	**-0.1**
PUZ	**Puketiti**	**1.30**	**219**	P	**Pb**	**21 25 59.4**	**+0.8**
PUZ				S	**Sn**	**21 26 16.1**	**+0.2**
HAZ	**Te Kaha**	**1.39**	**239**	P	**Pn**	**21 25 59.1**	**-0.4**
HAZ				S	**Sn**	**21 26 18.2**	**+0.2**
TWGZ	**Tauwhareparae**	**1.52**	**222**	P	**Pb**	**21 26 03.0**	**+0.7**
TWGZ				S	**Sn**	**21 26 21.8**	**+0.4**
RUGZ	**Raukumara Rang**	**1.57**	**234**	P	**Pb**	**21 26 03.3**	**+0.2**
RUGZ				S	**Sn**	**21 26 22.8**	**+0.2**
CNGZ	**Carnagh Statio**	**1.66**	**211**	P	**Pb**	**21 26 05.1**	**+0.4**
WIZ	**White Island**	**1.74**	**254**	P	**Pn**	**21 26 04.7**	**+0.4**
TKGZ	**Te Karaka**	**1.79**	**219**	P	**Pn**	**21 26 02.7**	**-2.2**
TKGZ				S	**Sn**	**21 26 28.8**	**+0.9**
MWZ	**Matawai**	**1.89**	**227**	P	**Pn**	**21 26 07.3**	**+0.9**
MWZ				S	**Sn**	**21 26 29.9**	**-0.5**
WHRZ	**Whale Island**	**2.00**	**246**	P	**Pn**	**21 26 08.8**	**+0.8**
RIGZ	**Rimuhau**	**2.04**	**216**	P	**Pn**	**21 26 09.5**	**+1.0**
RAGZ	**Rawiri**	**2.06**	**225**	P	**Pn**	**21 26 09.7**	**+0.9**
URZ	**Urewera**	**2.10**	**235**	Pn	**Pn**	**21 26 10.0**	**+0.7**
	16nm,0.3s,baz=211,slow=3.1,SNR=58						
URZ				Sn	**Sn**	**21 26 34.0**	**-1.6**
	31nm,0.3s,baz=211,slow=19,SNR=26						
	65nm,0.5s						
URZ	**Urewera**	**2.10**	**235**	P	**Pn**	**21 26 10.1**	**+0.7**
PRGZ	**Paritu Road**	**2.17**	**210**	P	**Pn**	**21 26 10.9**	**+0.7**
EDRZ	**Edgecumbe**	**2.28**	**242**	P	**Pn**	**21 26 12.7**	**+0.9**
SNGZ	**Shannon Statio**	**2.31**	**221**	P	**Pn**	**21 26 12.8**	**+0.6**
OPRZ	**Ohinepanea**	**2.31**	**249**	P	**Pn**	**21 26 11.7**	**-0.5**
KNZ	**Kokohu**	**2.34**	**213**	P	**Pn**	**21 26 12.7**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.36**	**207**	P	**Pn**	**21 26 13.6**	**+0.8**
RTZ	**Ruatahuna**	**2.40**	**229**	P	**Pn**	**21 26 14.4**	**+1.0**
MYRZ	**Mayor Island**	**2.44**	**264**	P	**Pn**	**21 26 14.6**	**+0.6**
TARZ	**Mount Tarawera**	**2.50**	**241**	P	**Pn**	**21 26 16.1**	**+1.2**
OMRZ	**Omania**	**2.54**	**245**	P	**Pn**	**21 26 16.1**	**+0.8**
RAHZ	**Arahi**	**2.54**	**222**	P	**Pn**	**21 26 16.0**	**+0.6**
RRRZ	**Republican Roa**	**2.54**	**239**	P	**Pn**	**21 26 17.5**	**+2.1**
WHHZ	**Waihua**	**2.59**	**218**	P	**Pn**	**21 26 16.5**	**+0.5**
KARZ	**Kaharoa**	**2.60**	**247**	P	**Pn**	**21 26 16.9**	**+0.7**
HLRZ	**Highlands Stat**	**2.62**	**242**	P	**Pn**	**21 26 16.9**	**+0.6**
MTHZ	**Maungataniwha**	**2.63**	**226**	P	**Pn**	**21 26 17.6**	**+0.9**
HSRZ	**Hossack Road**	**2.72**	**242**	P	**Pn**	**21 26 19.7**	**+1.9**
KMRZ	**Kaimai**	**2.78**	**253**	P	**Pn**	**21 26 19.0**	**+0.4**
NMHZ	**Naumai**	**2.82**	**223**	P	**Pn**	**21 26 20.0**	**+0.8**
ARHZ	**Aropaoanui**	**2.85**	**219**	P	**Pn**	**21 26 19.8**	**+0.3**
KUZ	**Kuaotunu**	**2.88**	**275**	P	**Pn**	**21 26 18.8**	**-1.1**
MRHZ	**Matea Rd**	**2.88**	**231**	P	**Pn**	**21 26 20.5**	**+0.5**
BKZ	**Black Stump Fm**	**3.05**	**225**	P	**Pn**	**21 26 22.6**	**+0.2**
TOZ	**Tahuroa Road**	**3.09**	**256**	P	**Pn**	**21 26 23.2**	**+0.4**
KUTZ	**Kaahu Road**	**3.09**	**241**	P	**Pn**	**21 26 24.3**	**+1.4**
CKHZ	**Cape Kidnapper**	**3.12**	**213**	P	**Pn**	**21 26 22.9**	**-0.4**
GRZ	**Great Barrier**	**3.18**	**284**	P	**Pn**	**21 26 23.7**	**-0.4**
KWHZ	**Kaweka Forest**	**3.27**	**223**	P	**Pn**	**21 26 24.9**	**-0.4**
MKAZ	**Moumakai**	**3.30**	**268**	P	**Pn**	**21 26 25.3**	**-0.5**
RATZ	**Rangitukua**	**3.31**	**236**	P	**Pn**	**21 26 27.6**	**+1.7**
KAHZ	**Kahuranaki**	**3.32**	**214**	P	**Pn**	**21 26 25.5**	**-0.6**
WIAZ	**Waiheke Island**	**3.34**	**273**	P	**Pn**	**21 26 26.0**	**-0.2**
KRHZ	**Kereru**	**3.45**	**221**	P	**Pn**	**21 26 26.9**	**-1.0**
ETAZ	**East Tamaki Re**	**3.49**	**270**	P	**Pn**	**21 26 28.7**	**+0.3**
TMVZ	**Te Maari**	**3.49**	**233**	P	**Pn**	**21 26 28.9**	**+0.4**
ETVZ	**East Tongariro**	**3.50**	**233**	P	**Pn**	**21 26 28.9**	**+0.3**
NTVZ	**North Tongarir**	**3.50**	**233**	P	**Pn**	**21 26 29.1**	**+0.4**
BHHZ	**Black Hill Sta**	**3.51**	**225**	P	**Pn**	**21 26 28.8**	**+0.1**
KRVZ	**Karewarewa**	**3.52**	**234**	P	**Pn**	**21 26 29.3**	**+0.4**
MBAZ	**Motutapu North**	**3.53**	**273**	P	**Pn**	**21 26 29.3**	**+0.5**
NNVZ	**North Ngauruho**	**3.56**	**233**	P	**Pn**	**21 26 30.1**	**+0.6**
WTVZ	**West Tongariro**	**3.57**	**234**	P	**Pn**	**21 26 30.7**	**+1.1**
ABAZ	**Army Bay**	**3.60**	**276**	P	**Pn**	**21 26 30.3**	**+0.4**
MOVZ	**Moawhango**	**3.64**	**229**	P	**Pn**	**21 26 30.5**	**0.0**
WNVZ	**Wahianoa**	**3.69**	**231**	P	**Pn**	**21 26 31.4**	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.71**	**269**	P	**Pn**	**21 26 31.7**	**+0.3**
PNHZ	**Pukenui**	**3.74**	**219**	P	**Pn**	**21 26 30.6**	**-1.3**
WTAZ	**Waiatarua**	**3.77**	**270**	P	**Pn**	**21 26 34.0**	**+1.7**
RVAZ	**Riverhead Bore**	**3.78**	**273**	P	**Pn**	**21 26 32.9**	**+0.6**
HIZ	**Hauiti**	**3.80**	**246**	P	**Pn**	**21 26 34.7**	**+2.0**
WCZ	**Waipu Caves**	**4.13**	**284**	P	**Pn**	**21 26 37.6**	**+0.3**
WAZ	**Wanganui**	**4.32**	**230**	P	**Pn**	**21 26 40.3**	**+0.6**
NEZ	**North Egmont**	**4.65**	**240**	P	**Pn**	**21 26 46.8**	**+2.4**
KHEZ	**Kahui Hut**	**4.72**	**240**	P	**Pn**	**21 26 48.9**	**+3.6**
OUZ	**Omahuta**	**4.96**	**290**	P	**Pn**	**21 26 49.4**	**+0.9**
CTZ	**Chatham Island**	**7.37**	**156**	P	**Pn**	**21 27 23.7**	**+2.1**
ASAR	**Alice Springs**	**41.00**	**276**	P	**P**	**21 33 16.4**	**-1.1**
	1.4nm,0.6s,baz=119,slow=8.0,SNR=26						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**42.60**	**281**	P	**P**	**21 33 29.1**	**-1.5**
	1.8nm,0.6s,baz=121,slow=7.9,SNR=20						
	1.8nm,0.6s						
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKPbc**	**21 45 24.2**	**-0.6**
	1.6nm,0.9s,baz=20,slow=4.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**156.09**	**186**	PKPab	**PKPab**	**21 45 57.4**	**+0.9**
	0.5nm,0.9s,baz=204,slow=3.2,SNR=2.0						

*IDC **03** 21:38:51.8±0.6,27.14N×96.89E, h0km, mb4.0/19, mbtmp4.0/19, MS3.6/12, Error ellipse: s-maj=25.4km s-min=13.0km az=48.0*
*BJI **03** 21:38:57.5±0.0,27.24N×96.81E, h58km, mb4.2/36, mB4.5/17, ML4.0/7, Ms4.2/35, Ms7 4.1/34*
*NEIC **03** 21:38:58.2±1.4,27.2N±0.0°,96.82E±0.0°,h44km±7km, mb4.5/64, Error ellipse: s-maj=10.9km s-min=9.1km az=51.0*
ISC 03 21:38:58.0±0.8,**27.21N**±0.05×**96.79E**±0.04,**h45**km±8km, **n155,** σ1s**65**/179,**mb4.4**/47,**MS3.6**/14,**2C**,**Myanmar-India border region**

| Code | Station

comp=N,167nm,0.3s
SHL IAML 21 41 03.4

comp=E,209nm,0.4s
MND Mandalay 5.21 187 Pn Pn 21 40 12.5 -0.9
LSA Lhasa 5.55 298 Pn 21 40 18.2 -0.2
LSA Lhasa 5.55 298 P Pn 21 40 18.7 +0.2
LSA S Sn 21 41 24.9 +3.6
KMI Kunming 5.73 110 ⇑P Pn 21 40 21.6 +0.8
KMI sP 21 40 40.8
KMI S Sn 21 41 30.0 +4.5
KMI pmax pmax

comp=E,39nm,0.9s
KMI LR LR

comp=E,3μm,10.5s
KMI LR LR

comp=E,1μm,7.4s
KMI LR LR

comp=E,2μm,8.6s
AGT Agartala 6.00 238 *eS* **Sn 21 41 35.5 +3.7**
TURI Tura 6.03 255 *eP* **Pn 21 40 23.2 -1.4**
TURI IAML 21 41 40.1

comp=E,194nm,0.3s
GTK Tadong 7.29 273 *eP* **Pn 21 40 41.1 -1.0**
GTK *eS* **Sn 21 42 04.8 +1.2**
GTK IAML 21 42 10.8

comp=E,74nm,0.4s
CRAI Chiangrai 7.69 154 Pn Pn 21 40 47.4 -0.1
TAPN Taplejung 8.08 273 *e*Pn **Pn 21 40 53.1 0.0**
TAPN *e*Sn **Sn 21 42 22.2 -1.1**

comp=E,82nm,0.6s
CHTO Chiang Mai 8.59 166 Pn Pn 21 41 00.7 +0.9
GYA Guiyang 8.85 93 ⇑*i*P Pn 21 41 05.7 +2.3
GYA S Sn 21 42 43.6 +1.7
GYA pmax pmax

comp=E,20nm,0.9s
GYA LR LR

comp=E,430nm,5.0s
GYA LR LR

comp=E,570nm,8.8s
GYA LR LR

comp=E,800nm,10.6s
CM31 Chiang Mai Arr 8.94 167 Pn 21 41 05.4 +0.8
CMAR Chiang Mai Arr 8.94 167 Pn Pn 21 41 05.0 +0.5

comp=E,0.5nm,0.3s,baz=338,slow=12,SNR=19
CMAR Lg Lg 21 43 31.3

comp=E,0.1nm,0.3s,baz=359,slow=27,SNR=1.4
CMAR Chiang Mai Arr 8.94 167 Pn Pn 21 41 05.7 +1.1
RAMN Ramite 9.09 271 *e*Pn **Pn 21 41 06.5 -0.3**
RAMN *e*Sn **Sn 21 42 47.4 -0.6**

comp=E,76nm,0.5s
GOMU GeErMu 9.11 350 P Pn 21 41 07.9 +0.7
GOMU pmax pmax

comp=E,5.0nm,0.8s
GOMU LR LR

comp=E,610nm,6.4s
GOMU LR LR

comp=E,290nm,5.9s
GOMU LR LR

comp=E,520nm,7.3s
JIRN Jiri 9.43 275 *e*Pn **Pn 21 41 11.1 -0.5**
JIRN *e*Sn **Sn 21 42 53.7 -2.8**

comp=E,62nm,0.5s
GUN Gumba 9.71 277 *e*Pn **Pn 21 41 14.3 -1.1**
GUN *e*Sn **Sn 21 43 01.0 -2.3**

comp=E,97nm,0.6s
PKI Pulchoki 10.12 275 *e*Pn **Pn 21 41 19.6 -1.5**
PKI *e*Sn **Sn 21 43 10.7 -2.8**

comp=E,76nm,0.7s
PKIN Phulchoki 10.14 275 *e*Pn **Pn 21 41 20.1 -1.1**
PKIN *e*Sn **Sn 21 43 10.4 -3.3**

comp=E,66nm,0.6s
DMN Daman 10.39 275 *e*Pn **Pn 21 41 23.6 -1.1**
DMN *e*Sn **Sn 21 43 16.5 -3.4**

comp=E,54nm,0.6s
BOK Bokaro 10.42 253 *e*P **Pn 21 41 22.4 -2.5**
BOK IAML 21 43 24.3

comp=N,24nm,0.5s
LZH Lanzhou 10.69 32 *e*P **Pn 21 41 29.2 +0.6**
LZH sP 21 41 44.1
LZH pmax pmax

comp=N,20nm,1.1s
LZH pmax pmax

comp=N,120nm,5.8s
LZH LR LR

comp=N,2μm,8.9s
LZH LR LR

comp=N,580nm,7.9s
LZH LR LR

comp=N,1μm,11.0s
GKN Gorkha 10.81 277 *e*Pn **Pn 21 41 28.3 -2.0**
GKN *e*Sn **Sn 21 43 26.6 -3.5**

comp=N,46nm,0.6s
ENH Enshi 11.55 72 Pn Pn 21 41 39.3 -1.0
DANN Dangsing 11.60 279 *e*Pn **Pn 21 41 38.7 -2.5**
DANN *e*Sn **Sn 21 43 44.4 -5.1**

comp=N,34nm,0.5s
GTA Gaotai 12.42 11 *e*P **P 21 42 00.8 -2.3**
GTA pP Pn 21 42 07.1 +15
GTA sP 21 42 11.1
GTA S Sn 21 44 19.5 +10
GTA pmax pmax

comp=Z,2.0nm,1.2s
GTA pmax pmax

comp=Z,39nm,4.7s
GTA LR LR

comp=N,810nm,10.2s
GTA LR LR

comp=E,670nm,10.9s
GTA LR LR

comp=Z,920nm,11.3s
UBPT Khong Chiam 14.36 144 P 21 42 24.2 -0.5
QIZ Qiongzhong 14.50 121 P Pn 21 42 21.5 +1.0
QIZ S Sn 21 45 02.8 +2.9
QIZ LR LR

comp=Z,230nm,7.2s
QIZ LR LR

comp=Z,280nm,6.8s
QIZ LR LR

comp=Z,360nm,10.4s
SMLA Simla 17.58 287 *e*P **P 21 43 00.9 +0.7**
SMLA IAmb IAmb 21 43 10.7

comp=Z,12nm,0.7s
BHPL Bhopal 17.96 262 *e*P **P 21 43 05.0 +0.4**
WMQ Urumqi 18.13 338 *e*P **P 21 43 00.7 -5.6**
WMQ LR LR

comp=N,260nm,11.3s
WMQ LR LR

comp=E,160nm,9.1s
WMQ LR LR

comp=Z,97nm,14.9s
HHC Hu-ho-hao-te 18.26 38 *e*P **Pn 21 43 12.0 +3.9**
HHC pmax pmax

comp=Z,28nm,0.9s
HHC pmax pmax

comp=Z,170nm,4.7s
HHC LR LR

comp=Z,1μm,11.0s
HHC LR LR

comp=Z,630nm,10.0s
HHC LR LR

comp=Z,1μm,11.7s
TIA Tai'an 19.45 58 *e*P **P 21 43 20.7 -0.2**
TIA pmax pmax

comp=Z,5.0nm,1.3s
TIA pmax pmax

comp=Z,120nm,4.4s
TIA LR LR

comp=Z,180nm,6.6s
TIA LR LR

comp=Z,310nm,10.4s
TIA LR LR

comp=Z,430nm,9.5s
HYBB Hyderabad (bro 19.47 244 *e*P **Pn 21 43 22.1 -0.6**
NJ2 Nanjing 19.76 71 *e*P **P 21 43 24.2 0.0**
NJ2 pmax pmax

comp=Z,5.0nm,0.5s
NJ2 LR LR

comp=Z,760nm,11.4s
NJ2 LR LR

comp=Z,320nm,7.6s
NJ2 LR LR

comp=Z,460nm,11.4s
BJT Baijiatuan 20.52 47 P P 21 43 31.8 -0.7
BJT IAmb IAmb 21 43 39.4

comp=Z,15nm,1.4s
KSH Kashi 21.22 311 P P 21 43 42.4 +2.3
KSH sP sP 21 43 59.2 +2.3
KSH S **S** **21 47 36.8 +3.1**
KSH pmax pmax

comp=Z,7.0nm,1.4s
KSH LR LR

comp=Z,390nm,13.4s
KSH LR LR

comp=Z,190nm,13.7s
KSH LR LR

comp=Z,350nm,13.7s
NIL Nilore 21.27 293 P 21 43 40.1 -0.5
NIL IAmb IAmb 21 43 54.3

comp=Z,14nm,0.8s
SONM Songino Array 21.91 18 P P 21 43 47.3 -0.2

comp=Z,3.0nm,0.7s,baz=205,slow=11,SNR=14
SONM LR LR 21 52 55.3

comp=Z,224nm,18.3s,baz=169,slow=38
comp=Z,3.0nm,0.7s
SONM Songino Array 21.91 18 P P 21 43 46.6 -0.8
KULM Kulim 22.11 170 P P 21 43 49.4 -0.2
ULN Ulaanbaatar 22.12 19 P P 21 43 49.2 -0.6
NRN Naryn 22.20 315 P P 21 43 49.5 -1.3
NACB Ninganchiao 22.54 92 P P 21 43 54.6 +0.3
NACB IAmb IAmb 21 43 56.2

comp=Z,22nm,1.1s
MK31 Makanchi Array 22.65 333 P P 21 43 54.9 -0.3
MKAR Makanchi Array 22.65 333 P P 21 43 55.0 -0.3

comp=Z,0.8nm,0.4s,baz=148,slow=8.6,SNR=25
MKAR PcP **PcP 21 47 47.1 +0.5**

comp=Z,0.5nm,0.5s,baz=172,slow=2.0,SNR=4.1
MKAR LR LR 21 53 36.2

comp=Z,132nm,18.6s,baz=106,slow=39
comp=Z,0.8nm,0.4s
MAKZ Makanchi 22.79 333 P P 21 43 56.9 +0.3
MAKZ IAmb IAmb 21 44 04.8

comp=Z,11nm,1.1s
XLT XiLinHaoTe 22.79 38 *eP* **P 21 43 59.2 +2.4**
XLT pP pP 21 44 10.0 +1.8
XLT sP sP 21 44 20.1 +6.0
XLT pmax pmax

comp=Z,12nm,1.7s
XLT pmax pmax

comp=Z,120nm,5.0s
XLT LR LR

comp=Z,430nm,8.6s
XLT LR LR

comp=Z,550nm,9.7s
AAK Ala-Archa 23.79 316 P P 21 44 07.9 +1.2

comp=Z,0.7nm,0.3s,baz=143,slow=10,SNR=6.2
comp=Z,0.7nm,0.3s
AAK Ala-Archa 23.79 316 P P 21 44 06.5 -0.2
KBL Kabul 24.86 294 P P 21 44 17.1 +0.4
KBL IAmb IAmb 21 44 26.2

comp=Z,17nm,0.8s
GAR Garm 25.01 305 P P 21 44 17.9 0.0
GAR IAmb IAmb 21 44 26.2

comp=Z,16nm,0.7s
PALK Pallekele 25.03 221 LR LR 21 54 06.6

comp=Z,105nm,21.9s,baz=157,slow=36
BTK Batken 25.03 307 P P 21 44 17.3 -0.7
BTK IAmb IAmb 21 44 53.5

comp=Z,8.7nm,0.8s
CHGR Chuyangaron 25.75 303 P P 21 44 23.6 -0.9
CHGR IAmb IAmb 21 44 36.8

comp=Z,16nm,1.0s
KK31 Karatay Array 26.55 313 P P 21 44 30.6 -1.0
KKAR Karatay Array 26.55 313 P P 21 44 30.4 -1.3
KURBB Kurchatov Arra 27.21 334 P P 21 44 40.1 +2.7

comp=Z,2.3nm,0.8s,baz=147,slow=11,SNR=16
KURBB PcP **PcP 21 47 57.0 +0.4**

comp=Z,1.3nm,0.7s,baz=150,slow=1.9,SNR=5.2
comp=Z,2.3nm,0.8s
KURK Kurchatov 27.25 334 P P 21 44 38.1 +0.4
KURK IAmb IAmb 21 44 49.8

comp=Z,12nm,1.0s
KSRS Korea Array 28.10 61 LR LR 21 57 07.2

comp=Z,123nm,18.4s,baz=285,slow=39
ZAA0 Zalesovo Array 28.13 345 P P 21 44 45.0 -0.5
ZALV Zalesovo Beam 28.13 345 P P 21 44 46.5 +0.9

comp=Z,0.3nm,0.3s,baz=158,slow=12,SNR=4.1
ZALV LR LR 21 56 54.0

comp=Z,104nm,19.1s,baz=256,slow=38
comp=Z,0.3nm,0.3s
ZALV Zalesovo Beam 28.13 345 P P 21 44 45.4 -0.2
HRA Herat 30.42 292 P P 21 45 05.2 -1.3
BVAR Borovoye Array 32.40 330 LR LR 22 00 28.0

comp=Z,74nm,19.1s,baz=125,slow=40
BRVK Borovoye 32.47 330 P P 21 45 23.9 0.0
GEYT Alibeck 34.08 298 P P 21 45 39.9 +1.7

comp=Z,3.6nm,0.8s,baz=111,slow=8.1,SNR=7.6
comp=Z,3.6nm,0.8s
GEYT Alibeck 34.08 298 P P 21 45 38.4 +0.1
GEYT IAmb IAmb 21 45 41.1

comp=Z,4.5nm,0.8s
GYA0B ALIBECK ARRAY 34.08 298 P P 21 45 37.9 -0.3
GYA0B IAmb IAmb 21 45 55.0

comp=Z,5.4nm,0.9s
ABKAR Akbulak array 35.85 318 P P 21 45 53.9 +0.6
MJAR Matsushiro Arr 36.15 65 P P 21 45 55.0 -1.0

comp=Z,1.9nm,0.9s,baz=271,slow=7.8,SNR=6.1
MJAR LR LR 22 01 48.4

comp=Z,60nm,18.7s,baz=268,slow=38
comp=Z,1.9nm,0.9s
ARU Arti 39.93 328 P P 21 46 27.4 -0.2
ARU IAmb IAmb 21 46 29.8

comp=Z,3.5nm,0.8s
BELG Belogornoye 44.25 318 LR LR 22 07 53.6

comp=Z,98nm,18.3s,baz=350,slow=39
KIV Kislovodsk 46.23 306 P P 21 47 18.7 -0.2
KIV IAmb IAmb 21 47 51.4

comp=Z,10nm,1.4s
GURO Guroymak-BITLI 46.75 298 P P 21 47 23.4 +0.4
GURO IAmb IAmb 21 47 26.1

comp=Z,6.3nm,1.3s
KLMR Klimovskoe 50.78 328 *eP* **P 21 47 52.5 -0.9**
KLMR AMP 21 47 55.4

comp=Z,13nm,1.1s
KNRA Kununurra 52.73 140 P P 21 48 07.1 -1.3
MBWA Marble Bar 52.97 153 P P 21 48 09.3 -0.8
FITZ Fitzroy Crossi 53.02 145 P P 21 48 09.4 -1.2
FITZ IAmb IAmb 21 48 17.3

comp=Z,3.5nm,1.1s
BRTR Keskin Array B 53.15 301 P P 21 48 11.8 +0.2

comp=Z,0.5nm,0.7s,baz=113,slow=9.6,SNR=2.0
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 53.15 301 P P 21 48 11.0 -0.6
AKASG Malin Array Be 55.45 314 P P 21 48 28.0 +0.1

comp=Z,1.1nm,0.4s,baz=75,slow=6.6,SNR=12
AKASG LR LR 22 15 29.6

comp=Z,89nm,20.2s,baz=100,slow=40
comp=Z,1.1nm,0.4s
AKASG Malin Array Be 55.45 314 P P 21 48 27.7 -0.2
AKASG IAmb IAmb 21 48 28.5

comp=Z,6.3nm,1.4s
AKBB Malin Array Si 55.45 314 P P 21 48 27.9 -0.1
AKBB IAmb IAmb 21 48 28.9

comp=Z,5.8nm,0.8s
AK05 Malin Array Si 55.46 314 P P 21 48 27.9 -0.2
AK05 IAmb IAmb 21 48 35.9

comp=Z,4.7nm,0.8s
MNK Minsk 56.19 319 *i* P **P 21 48 33.5 +0.3**

comp=E,1.0nm,1.1s
MNK *i* P **P 21 48 33.5 +0.3**

comp=N,8.0nm,0.9s
MNK *i* P **P 21 48 33.5 +0.3**

comp=Z,4.0nm,0.9s,baz=89
MNK *i* PcP **PcP 21 49 30.6 +0.1**
MNK *i* PP **PP 21 50 39.0 +0.6**
MNK *i* PPP PPP 21 51 53.7
MNK *i* S **S 21 56 21.7 +2.4**
MNK *i* SS **SS 22 00 10.1 +4.2**
MNK *i* SSS SSS 22 02 27.9
MNK *i* LQ LQ 22 08 43.8
MNK *i* LR LR 22 13 00.8
MNK *i* LRM MLR 22 15 18.3

comp=Z,120nm,21.7s
MNK *i* LRM MLR 22 15 41.9

comp=E,13nm,17.9s
MNK *i* LRM MLR 22 15 49.6

comp=N,43nm,17.2s
ELL Elmali 56.51 298 P P 21 48 35.8 -0.2
FIA1 FINESS Array S 57.30 327 P P 21 48 41.6 +0.7
FINES FINESS Array B 57.30 327 P P 21 48 42.0 +1.1

comp=N,2.9nm,0.8s,baz=105,slow=5.7,SNR=10
comp=N,2.9nm,0.8s
FINES FINESS Array B 57.30 327 P P 21 48 41.6 +0.7
MLR Muntele Rosu 58.07 308 P P 21 48 47.2 +0.4
MLR IAmb IAmb 21 48 49.1

comp=Z,6.2nm,0.9s
ARCES ARCESS Array B 58.24 337 P P 21 48 48.6 +1.1

comp=Z,1.9nm,0.8s,baz=88,slow=11,SNR=4.7
comp=Z,1.9nm,0.8s
BURAR Bucovina Array 58.31 311 P P 21 48 48.5 +0.1
BUR08 Bucovina Ar. S 58.31 311 P P 21 48 48.7 +0.2
WB0 Warramunga Arr 59.23 138 P P 21 48 54.2 -0.8
WRAB Tennant Creek 59.33 138 P P 21 48 54.3 -1.4
WRA Warramunga Arr 59.33 138 P P 21 48 55.3 -0.4

comp=Z,4.4nm,0.8s,baz=327,slow=7.3,SNR=25
comp=Z,4.4nm,0.8s
WRA Warramunga Arr 59.33 138 P P 21 48 55.0 -0.6
WB2 Warramunga Arr 59.34 138 P P 21 48 55.2 -0.5
WR0 Warramunga Arr 59.47 138 P P 21 48 55.9 -0.6
KWP Kalwaria Pacla 59.71 314 P P 21 48 58.5 +0.5
VTS Vitosha 60.47 306 P P 21 49 03.4 0.0
VTS IAmb IAmb 21 49 05.4

comp=Z,4.4nm,1.1s
IDI Anoyia 60.80 297 LR LR 22 19 50.5

comp=Z,35nm,20.8s,baz=266,slow=40
AS31 Alice Springs 61.99 141 P P 21 49 13.6 -0.1
AS31 IAmb IAmb 21 49 18.2

comp=Z,1.6nm,0.5s
ASAR Alice Springs 61.99 141 P P 21 49 13.4 -0.3

comp=Z,3.4nm,0.6s,baz=324,slow=6.7,SNR=50
comp=Z,3.4nm,0.6s
ASAR Alice Springs 61.99 141 P P 21 49 13.2 -0.5
KRLC Kraliky 63.42 315 *eP* **P 21 49 23.3 +0.3**
DPC Dobruska-Polom 63.56 315 *eP* **P 21 49 25.6 +1.0**
CHVC Chvalec 63.78 315 *eP* **P 21 49 27.0 +1.7**
NC405 NORSAR Array S 64.23 328 P P 21 49 28.7 +0.6
NB2 NORSAR Subarra 64.48 327 P P 21 49 29.9 +0.1

comp=Z,1.0nm,0.5s,baz=80,slow=6.5
NOA NORSAR Array B 64.48 327 P P 21 49 30.4 +0.6

comp=Z,2.5nm,0.8s,baz=80,slow=6.5,SNR=11
NOA LR LR 22 19 27.5

comp=Z,42nm,19.5s,baz=100,slow=38
comp=Z,2.5nm,0.8s
FORT Forrest 64.94 150 P P 21 49 32.9 -0.1
CKRC Cesky Krumlov 65.27 314 *eP* **P 21 49 36.0 +0.9**
GEC2 GERESS Array S 65.65 314 P P 21 49 38.2 +0.5
GEC2 IAmb IAmb 21 49 39.3

comp=Z,2.0nm,0.8s
GERES GERESS Array B 65.65 314 P P 21 49 38.4 +0.7

comp=Z,0.7nm,0.6s,baz=73,slow=6.4,SNR=10.0
comp=Z,0.7nm,0.6s
GERES GERESS Array B 65.65 314 P P 21 49 38.0 +0.3
KHC Kasperske Hory 65.66 314 *eP* **P 21 49 37.5 -0.2**
TRI Trieste 66.41 311 P P 21 49 43.7 +1.3
CUC Castrocucco 66.52 304 P P 21 49 43.5 +0.2
CUC IAmb IAmb 21 50 03.2

comp=Z,7.8nm,1.2s
DAVOX Davos/Dischmat 68.69 313 LR LR 22 22 55.6

comp=Z,81nm,18.3s,baz=46,slow=38
BBOO Buckleboo 70.41 146 P P 21 50 06.6 -0.9
BNI Bardonecchia 71.36 312 P P 21 50 13.2 -0.2
BNI IAmb IAmb 21 50 19.9

comp=Z,11nm,1.5s
STKA Stephens Creek 72.63 141 P P 21 50 20.4 -0.4

comp=Z,3.1nm,0.6s,baz=322,slow=6.2,SNR=6.8
comp=Z,3.1nm,0.6s
STKA Stephens Creek 72.63 141 P P 21 50 20.5 -0.3
KEST Kesra 72.74 302 P P 21 50 23.4 +1.6
KEST IAmb IAmb 21 50 27.8

comp=Z,7.1nm,1.2s
IMAR Indian Mountai 72.92 24 P P 21 50 23.1 +0.9
H21K Melozitna Rive 73.42 24 P P 21 50 26.3 +1.1
H21K IAmb IAmb 21 50 32.1

comp=Z,4.1nm,1.1s
MLY Manley 74.49 24 P P 21 50 32.2 +0.7
H23K Yukon River 74.50 23 P P 21 50 32.4 +0.9
H23K IAmb IAmb 21 51 01.2

comp=Z,8.7nm,1.5s
PPLA Purkeypile 75.05 26 P P 21 50 35.7 +0.9
PPLA IAmb IAmb 21 50 59.1

comp=Z,8.7nm,1.2s
BMAR Burnt Mountain 75.23 21 P P 21 50 37.1 +1.4
ILAR Eielson Array 76.01 23 P P 21 50 40.2 0.0

comp=Z,0.3nm,0.8s,baz=297,slow=5.9,SNR=2.6
comp=Z,0.3nm,0.8s
LSZ Lusaka 78.79 246 P P 21 50 56.6 0.0
LSZ IAmb IAmb 21 50 57.7

comp=Z,9.3nm,1.2s
BCAR Beaver Creek A 78.84 23 P P 21 50 57.0 +1.0
ESDC Sonseca Array 80.74 310 P P 21 51 07.0 +0.1

comp=Z,0.6nm,1.0s,baz=51,slow=5.9,SNR=4.8
comp=Z,0.6nm,1.0s
POGA Pongola 82.77 234 P P 21 51 17.0 -0.5
LBTB Lobatse 86.03 239 P P 21 51 33.1 -1.0
TORD Torodi Ar. Bea 88.53 284 P P 21 51 46.4 0.0

comp=Z,1.9nm,1.0s,baz=57,slow=4.6,SNR=6.9
comp=Z,1.9nm,1.0s
TXAR Lajitas Array 120.45 21 PKP PKiKP 21 57 46.1 +0.8

comp=Z,0.3nm,0.6s,baz=109,slow=0.2,SNR=6.0
BDFB Brasilia 145.39 282 PKPbc PKPab 21 58 32.7 +0.7

comp=Z,4.4nm,0.7s,baz=132,slow=7.3,SNR=5.0
ROSC El Rosal 147.00 344 PKPbc PKPab 21 58 38.2 -0.2

comp=Z,5.7nm,0.3s,baz=17,slow=19,SNR=2.0

IDC ***03*** *21:47:01.8±3.6, 17.77S×178.28W, h588km±22km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=114.1km s-min=33.7km az=143.0*

ISC 03 21:47:02.5±3.4, 17.6S±0.7×178.4W±0.6, h600km, n6, σ0$64/7, mb3.8/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.37**	**266**	P	**P**	**21 48 23.0**	**-0.9**
	20nm,0.7s,baz=115,slow=6.6,SNR=10						
STKA	**Stephens Creek**	**38.80**	**241**	P	**P**	**21 53 37.5**	**+0.1**
	2.0nm,0.6s,baz=95,slow=11,SNR=5.3						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**21 54 24.4**	**+0.6**
	1.0nm,0.4s,baz=96,slow=7.4,SNR=20						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**21 54 25.7**	**+0.4**
	4.5nm,0.6s,baz=87,slow=8.7,SNR=75						
ASAR				PcP	**PcP**	**21 55 53.5**	**-0.3**
	0.4nm,0.5s,baz=104,slow=3.5,SNR=5.8						
	4.5nm,0.6s						
BRTR	**Keskin Array B**	**144.52**	**315**	PKP	**PKPab**	**22 05 33.3**	**+0.3**
	0.5nm,0.8s,baz=60,slow=3.8,SNR=1.9						
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	**PKPbc**	**22 05 39.8**	**+0.2**
	0.4nm,0.8s,baz=46,slow=3.9,SNR=4.3						

IDC ***03*** *21:47:57.0±2.4, 2.14N×127.16E, h0km, mb3.3/3, mbtmp3.3/3, MS3.3/1, Error ellipse: s-maj=201.3km s-min=25.5km az=67.0*

DJA ***03*** *21:48:05.9±0.6, 2.1N±3.3°×127.8E±0.2°, h29km±7km, M3.9/10, mb4.3/2, MLv3.8/10*

ISC 03 21:48:07.2±1.5, 2.3N±0.1°×127.5E±0.2, h100km, n10, σ1$48/9, mb2.8/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.55**	**184**	P	**Pn**	**21 48 33.5**	**-0.6**
SGSI	**Sangihe**	**2.37**	**305**	P	**Pn**	**21 48 42.9**	**-1.7**
LBMI	**Labuha**	**2.95**	**180**	P	**Pn**	**21 48 51.6**	**-0.7**
SANI	**Sanana**	**4.60**	**199**	P	**Pn**	**21 49 13.7**	**-0.8**
GTOI	**Gorontalo**	**4.78**	**249**	P	**Pn**	**21 49 16.9**	**0.0**
MRSI	**Marisa**	**5.84**	**252**	P	**Pn**	**21 49 30.6**	**-0.7**
WRA	**Warramunga Arr**	**23.14**	**163**	P	**P**	**21 53 02.9**	**-2.0**
	0.2nm,0.4s,baz=341,slow=11,SNR=1.9						
	0.2nm,0.4s						
KRVT	**Keravat (AS076**	**25.40**	**105**	LR	LR	22 03 04.4	
	comp=Z,68nm,20.0s,baz=316,slow=35						
ASAR	**Alice Springs**	**26.59**	**167**	P	**P**	**21 53 37.1**	**+0.9**
	0.1nm,0.3s,baz=346,slow=12,SNR=4.8						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.12**	**325**	P	**P**	**21 57 59.2**	**+1.9**
	0.6nm,0.6s,baz=117,slow=8.4,SNR=10						
	0.6nm,0.6s						

NOU ***03*** *21:50:48.0, 17.37S×174.22W, h321km, mb4.4/13, Tonga Islands*

NEIC ***03*** *21:51:38.8±1.6, 20.1S±0.1°×178.3W±0.2, h574km±7km, mb4.3/39, Error ellipse: s-maj=21.7km s-min=18.9km az=109.0*

IDC ***03*** *21:51:38.9±2.8, 20.06S×178.32W, h572km±29km,*

mb3.4/12, mbtmp4.3/13, Error ellipse: s-maj=27.3km s-min=17.5km az=133.0

ISC 03 21:51:41.3±0.5, 20°07S±0°09×178°4W±0°1, h602km, n115, σ1$32/113, mb4.2/32, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.06**	**304**	P	**P**	**21 53 05.8**	**-1.8**
MARNC	**Mare, Loyalty**	**12.74**	**261**	P	**P**	**21 54 25.1**	**-2.4**
PINNC	**Pines Island,**	**13.40**	**257**	P	**P**	**21 54 33.1**	**-1.1**
YATNC	**Mamie plateau,**	**13.85**	**259**	P	**P**	**21 54 41.0**	**+2.3**
DZM	**Mont Dzumac**	**14.26**	**259**	P	**P**	**21 54 42.8**	**0.0**
	5.6nm,0.3s,baz=149,slow=24,SNR=26						
DZM	**Mont Dzumac**	**14.26**	**259**	P	**P**	**21 54 43.0**	**+0.2**
DZM	**Mont Dzumac**	**14.26**	**259**	P	**P**	**21 54 44.5**	**+1.7**
NOUC	**Port Laguerre**	**14.39**	**259**	P	**P**	**21 54 46.6**	**+2.7**
NFK	**Norfolk Island**	**15.27**	**232**	P	**P**	**21 54 58.1**	**+6.2**
KOUNC	**Koumac, New Ca**	**16.22**	**265**	P	**P**	**21 55 02.2**	**+1.5**
KOUNC				IAmb	IAmb	21 55 21.2	
	comp=Z,13nm,0.9s						
KOUNC	**Koumac, New Ca**	**16.22**	**265**	P	**P**	**21 55 03.3**	**+2.6**
OUZ	**Omahuta**	**16.65**	**203**	P	**P**	**21 55 05.4**	**+1.0**
URZ	**Urewera**	**18.54**	**191**	P	**P**	**21 55 17.3**	**-4.2**
URZ	**Urewera**	**18.54**	**191**	P	**P**	**21 55 17.5**	**-4.0**
HIZ	**Hauiti**	**19.28**	**196**	P	**P**	**21 55 26.6**	**-1.7**
BKZ	**Black Stump Fm**	**19.53**	**192**	P	**P**	**21 55 27.4**	**-3.2**
BFZ	**Birch Farm**	**21.04**	**191**	P	**P**	**21 55 40.4**	**-3.8**
QRZ	**Quartz Range**	**22.08**	**198**	P	**P**	**21 55 52.3**	**-1.1**
KHZ	**Kahutara**	**23.29**	**195**	P	**P**	**21 56 01.1**	**-3.0**
EIDS	**Eidsvold**	**28.58**	**254**	P	**P**	**21 56 50.7**	**-0.1**
EIDS				IAmb	IAmb	21 57 01.0	
	comp=Z,12nm,1.3s						
ARMA	**Armidale**	**28.90**	**243**	P	**P**	**21 56 53.6**	**0.0**
CTA	**Charters Tower**	**33.13**	**264**	P	**P**	**21 57 30.2**	**+0.5**
	comp=Z,14nm,0.4s,baz=97,slow=11,SNR=16						
	comp=Z,14nm,0.4s						
CTAO	**Charters Tower**	**33.13**	**264**	P	**P**	**21 57 30.0**	**+0.3**
PMG	**Port Moresby**	**34.85**	**283**	P	**P**	**21 57 44.0**	**-0.1**
COEN	**Coen**	**37.16**	**273**	P	**P**	**21 58 03.1**	**+0.1**
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**21 58 06.4**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=93,slow=10,SNR=9.1						
	comp=Z,3.6nm,0.6s						
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**21 58 06.1**	**-0.5**
BBOO	**Buckleboo**	**42.38**	**243**	P	**P**	**21 58 44.2**	**-0.3**
WR0	**Warramunga Arr**	**44.07**	**262**	P	**P**	**21 58 57.3**	**-0.4**
WR0				IAmb	IAmb	21 58 58.8	
	comp=Z,17nm,1.2s						
AS31	**Alice Springs**	**44.23**	**256**	P	**P**	**21 58 58.9**	**-0.1**
AS31				IAmb	IAmb	21 58 59.7	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**44.23**	**256**	P	**P**	**21 58 58.6**	**-0.3**
	comp=Z,11nm,0.6s,baz=86,slow=7.7,SNR=88						
ASAR				PcP	**PcP**	**22 00 30.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=106,slow=3.8,SNR=7.5						
ASAR				ScP	**ScP**	**22 03 29.4**	**+4.1**
	comp=Z,0.5nm,0.7s,baz=88,slow=4.8,SNR=4.4						
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**44.23**	**256**	P	**P**	**21 58 58.8**	**-0.1**
WB0	**Warramunga Arr**	**44.24**	**262**	P	**P**	**21 58 58.9**	**-0.1**
WRA	**Warramunga Arr**	**44.26**	**262**	P	**P**	**21 58 58.8**	**-0.5**
	comp=Z,7.4nm,0.3s,baz=96,slow=7.6,SNR=224						
	comp=Z,7.4nm,0.3s						
WRA	**Warramunga Arr**	**44.26**	**262**	P	**P**	**21 58 58.4**	**-0.8**
MTN	**Manton Dam**	**48.76**	**270**	P	**P**	**21 59 32.7**	**-0.3**
FORT	**Forrest**	**49.10**	**246**	P	**P**	**21 59 34.9**	**-0.4**
KNRA	**Kununurra**	**50.29**	**266**	P	**P**	**21 59 44.1**	**-0.1**
KNRA				IAmb	IAmb	21 59 45.0	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.69**	**262**	P	**P**	**22 00 01.5**	**+0.1**
FITZ				IAmb	IAmb	22 00 03.4	
	comp=Z,6.5nm,1.1s						
PSA00	**Pilbara Seismi**	**57.37**	**257**	P	**P**	**22 00 32.9**	**-1.0**
PSA00				IAmb	IAmb	22 00 56.0	
	comp=Z,22nm,1.4s						
MBWA	**Marble Bar**	**57.55**	**257**	P	**P**	**22 00 34.5**	**-0.7**
MBWA				IAmb	IAmb	22 00 38.0	
	comp=Z,26nm,1.4s						
SBA	**Scott Base**	**58.27**	**184**	P	**P**	**22 00 40.7**	**+1.6**
VNDA	**Vanda**	**58.30**	**185**	P	**P**	**22 00 39.8**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=0.4,slow=4.6,SNR=2.6						
	comp=Z,0.8nm,0.8s						
VNDA	**Vanda**	**58.30**	**185**	P	**P**	**22 00 40.2**	**+1.0**
MORW	**Morawa**	**59.62**	**247**	P	**P**	**22 00 48.4**	**-0.5**
MORW				IAmb	IAmb	22 00 49.3	
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**69.63**	**324**	P	**P**	**22 01 51.3**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=152,slow=6.8,SNR=6.6						
	comp=Z,1.2nm,0.6s						
QSPA	**South Pole Qui**	**70.00**	**180**	P	**P**	**22 01 53.6**	**+0.2**
QSPA				IAmb	IAmb	22 01 54.4	
	comp=Z,4.5nm,0.8s						
ADK	**Adak**	**71.66**	**1**	P	**P**	**22 02 02.3**	**-0.7**
SSLB	**Suanglung**	**73.40**	**304**	P	**P**	**22 02 13.0**	**-0.8**
SSLB				IAmb	IAmb	22 02 29.6	
	comp=Z,17nm,1.2s						
PEA0B	**Petropavlovsk-**	**75.75**	**345**	P	**P**	**22 02 26.4**	**+0.1**
PEA0B				IAmb	IAmb	22 02 48.9	
	comp=Z,12nm,1.3s						
PETK	**Petropavlovsk-**	**75.75**	**345**	P	**P**	**22 02 26.6**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=147,slow=8.3,SNR=8.1						
	comp=Z,2.4nm,0.7s						
PETK	**Petropavlovsk-**	**75.75**	**345**	P	**P**	**22 02 26.0**	**-0.2**
KSRS	**Korea Array**	**76.30**	**319**	P	**P**	**22 02 31.1**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=122,slow=5.7,SNR=4.2						
	comp=Z,0.6nm,0.5s						
BELA	**Belgrano 2**	**80.03**	**173**	P	**P**	**22 02 48.1**	**-0.8**
NVAR	**Mina Array Bea**	**80.99**	**44**	P	**P**	**22 02 54.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=220,slow=8.2,SNR=3.2						
	comp=Z,0.4nm,0.6s						
IPM	**Ipoh**	**82.68**	**277**	P	**P**	**22 03 04.3**	**+0.7**
IPM				IAmb	IAmb	22 03 05.0	
	comp=Z,5.1nm,0.6s						
KULM	**Kulim**	**83.31**	**278**	P	**P**	**22 03 06.8**	**+0.1**
KULM				IAmb	IAmb	22 03 16.6	
	comp=Z,16nm,1.2s						
M19K	**Big River Lodg**	**83.92**	**11**	P	**P**	**22 03 08.3**	**-0.3**
L19K	**White Mountain**	**84.09**	**11**	P	**P**	**22 03 10.6**	**+1.1**
SUA	**Susitna One**	**84.23**	**13**	P	**P**	**22 03 10.4**	**+0.1**
SUA				IAmb	IAmb	22 03 10.8	
	comp=Z,3.6nm,0.8s						
SCM	**Sheep Creek Mo**	**85.32**	**14**	P	**P**	**22 03 15.7**	**+0.2**
SCM				IAmb	IAmb	22 03 29.1	
	comp=Z,8.6nm,1.1s						
K20K	**Telida**	**85.32**	**11**	P	**P**	**22 03 15.5**	**+0.2**
K20K				IAmb	IAmb	22 03 17.0	
	comp=Z,12nm,1.5s						
RND	**Reindeer**	**86.37**	**13**	P	**P**	**22 03 20.6**	**+0.2**
RND				IAmb	IAmb	22 03 21.1	
	comp=Z,4.5nm,0.8s						
MLY	**Manley**	**87.45**	**11**	P	**P**	**22 03 24.8**	**-0.6**
HDA	**Harding Lake**	**87.66**	**13**	P	**P**	**22 03 25.9**	**-0.4**
HDA				IAmb	IAmb	22 03 27.0	
	comp=Z,2.9nm,0.7s						
CCB	**Clear Creek Bu**	**87.69**	**13**	P	**P**	**22 03 25.9**	**-0.5**
CCB				IAmb	IAmb	22 03 26.5	
	comp=Z,4.1nm,0.6s						
IMAR	**Indian Mountai**	**87.80**	**10**	P	**P**	**22 03 27.0**	**0.0**
ILAR	**Eielson Array**	**87.99**	**13**	P	**P**	**22 03 27.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=219,slow=5.7,SNR=7.5						
	comp=Z,0.8nm,0.5s						
ILAR	**Eielson Array**	**87.99**	**13**	P	**P**	**22 03 27.5**	**-0.4**
J26L	**Joseph Creek**	**88.49**	**14**	P	**P**	**22 03 30.8**	**+0.4**
J26L				IAmb	IAmb	22 03 32.3	
	comp=Z,4.4nm,1.1s						
PDAR	**Pinedale Array**	**88.93**	**43**	P	**P**	**22 03 33.4**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=219,slow=1.2,SNR=1.3						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**22 03 38.1**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=124,slow=3.0,SNR=7.2						
	comp=Z,1.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**22 03 37.8**	**+1.4**
CHTO	**Chiang Mai**	**89.72**	**290**	P	**P**	**22 03 38.5**	**+1.5**
MKAR	**Makanchi Array**	**110.61**	**314**	PKiKP	**PKiKP**	**22 09 05.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=61,slow=0.8,SNR=6.4						
ARCES	**ARCESS Array B**	**128.43**	**350**	PKP	**PKPdf**	**22 09 38.9**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=18,slow=5.5,SNR=6.8						
FINES	**FINESS Array B**	**135.25**	**344**	PKP	**PKPdf**	**22 09 53.5**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=90,slow=3.8,SNR=5.3						
AKASG	**Malin Array Be**	**142.44**	**331**	PKiKP	PKPpre	22 10 03.0	
	comp=Z,2.6nm,0.5s,baz=43,slow=4.7,SNR=16						
LODK	**Lodwar**	**143.14**	**248**		PKPbc	22 10 07.8	+0.6
BNN	**Bunyan**	**145.05**	**310**		**PKPdf**	**22 10 11.7**	**+0.2**
BR131	**Keskin Array S**	**146.25**	**313**		**PKPbc**	**22 10 15.5**	**-0.4**
BRTR	**Keskin Array B**	**146.25**	**313**	PKPbc	**PKPbc**	**22 10 15.7**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=144,slow=3.5,SNR=11						
KOLS	**Kolonicke sedl**	**146.75**	**335**	*e*	**PKPbc**	**22 10 17.6**	**+0.9**
OSTC	**Ostas**	**147.44**	**343**	*e*PKP	**PKiKP**	**22 10 19.3**	**-0.7**
CHVC	**Chvalec**	**147.46**	**343**	*e*PKP	**PKPbc**	**22 10 18.9**	**+0.4**
CLL	**Collm**	**147.55**	**347**		**PKPbc**	**22 10 18.7**	**0.0**
CLL	**Collm**	**147.55**	**347**	⇑*i*PKPab	**PKPab**	**22 10 23.0**	**0.0**
	comp=Z,5.0nm,0.7s						
CLL	**Collm**	**147.55**	**347**	⇓*i*PKPbc	**PKPbc**	**22 10 19.1**	**+0.4**
	comp=Z,8.0nm,0.9s						
DPC	**Dobruska-Polom**	**147.60**	**342**	*e*PKP	**PKPbc**	**22 10 19.2**	**+0.3**
KRLC	**Kraliky**	**147.71**	**342**	*e*PKP	**PKPbc**	**22 10 19.2**	**0.0**
BRG	**Berggiesshubel**	**147.75**	**345**	Amp		22 10 24.8	
	comp=Z,1.9nm,0.6s						
BRG	**Berggiesshubel**	**147.75**	**345**	*i* P	**PKiKP**	**22 10 20.0**	**-0.6**
BRG	**Berggiesshubel**	**147.75**	**345**	Amp		22 10 20.6	
	comp=Z,3.6nm,0.7s						
BRG	**Berggiesshubel**	**147.75**	**345**	*ex*	x	22 10 24.3	
PVCC	**Panska Ves**	**147.91**	**344**	*e*PKP	**PKPbc**	**22 10 20.0**	**+0.4**
MAUC	**Maruska**	**148.01**	**340**	*e*PKP	**PKPbc**	**22 10 20.4**	**+0.4**
PRU	**Pruhonice**	**148.41**	**344**	*e*PKP	**PKPbc**	**22 10 21.2**	**+0.3**
VYHS	**Vyhne**	**148.41**	**338**	*e*	**PKiKP**	**22 10 21.8**	**-0.3**
KHC	**Kasperske Hory**	**149.45**	**344**	*e*PKP	**PKPbc**	**22 10 23.4**	**-0.1**
KHC				*ex*	x	22 10 31.6	
CKRC	**Cesky Krumlov**	**149.54**	**343**	*e*PKP	**PKPbc**	**22 10 24.0**	**+0.3**
CKRC				*ex*	x	22 10 30.5	
GERES	**GERESS Array B**	**149.68**	**344**	PKPbc	**PKPbc**	**22 10 24.2**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=27,slow=1.5,SNR=14						
CONA	**Conrad Observa**	**149.89**	**341**	*i* P	**PKiKP**	**22 10 25.4**	**+0.2**
	comp=Z,2.3nm,0.6s						
RONA	**Rosalia, Austr**	**149.96**	**340**	*i* P	**PKiKP**	**22 10 25.5**	**+0.2**
	comp=Z,3.3nm,0.5s						
MOA	**Molln**	**150.44**	**343**	*i* P	**PKiKP**	**22 10 26.1**	**-0.2**
	comp=Z,2.7nm,1.1s						
ARSA	**Arzberg**	**150.60**	**340**	*i* P	**PKiKP**	**22 10 26.9**	**+0.2**
	comp=Z,0.5nm,0.5s						
KBA	**Koelnbreinsper**	**151.40**	**343**	*i* P	**PKiKP**	**22 10 28.6**	**+0.1**
	comp=Z,2.0nm,0.9s						
WATA	**Walderalm**	**151.61**	**346**	*i* P	**PKPbc**	**22 10 28.6**	**-0.1**
	comp=Z,1.3nm,0.5s						
WTTA	**Wattenberg**	**151.66**	**345**	*i* P	**PKPbc**	**22 10 28.3**	**-0.5**
	comp=Z,1.5nm,0.4s						
MOTA	**Moosalm**	**151.71**	**346**	*i* P	**PKPbc**	**22 10 28.9**	**0.0**
	comp=Z,1.1nm,0.8s						
MYKA	**Terra Mystica**	**151.72**	**342**	*i* P	**PKPbc**	**22 10 28.1**	**-0.7**
	comp=Z,1.2nm,0.5s						
SQTA	**Sankt Quirin**	**151.80**	**346**	*i* P	**PKiKP**	**22 10 29.3**	**0.0**
	comp=Z,1.3nm,0.6s						
PRED	**Cave del Predi**	**151.92**	**342**	PKPbc	**PKPbc**	**22 10 29.3**	**0.0**
PRED					**PKPab**	**22 10 41.0**	**-0.4**
ABTA	**Abfaltersbach**	**151.93**	**344**	*i* P	**PKPbc**	**22 10 29.0**	**-0.3**
	comp=Z,2.7nm,0.6s						
DAVA	**Damuels**	**152.02**	**348**	*i* P	**PKPbc**	**22 10 29.3**	**-0.3**
	comp=Z,4.3nm,1.4s						
FETA	**Feichten**	**152.10**	**347**	*i* P	**PKiKP**	**22 10 30.1**	**+0.2**
	comp=Z,1.3nm,1.0s						

WEL 03 21:54:43.5±1.4, 37°S±5°×177°9E±°, h7km±6km, M3.2/25, ML3.5/32, MLv3.2/25, Error ellipse: s-maj=0.0km s-min=0.0km az=91.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.78**	**237**	P	Pg	21 54 58.3	-0.2
MXZ				S	Sg	21 55 07.3	-1.5
WMGZ	**Waiomatatini S**	**0.89**	**220**	P	Pn	21 55 02.4	-0.1
WMGZ				S	Sb	21 55 14.1	+0.8
PKGZ	**Pakihiroa**	**1.13**	**228**	P	Pg	21 55 04.7	-0.4
PKGZ				S	Sg	21 55 19.8	+0.1
PUZ	**Puketiti**	**1.16**	**216**	P	Pb	21 55 06.1	+0.1
PUZ				S	Sg	21 55 21.1	+0.2
HAZ	**Te Kaha**	**1.24**	**240**	P	Pb	21 55 05.3	-1.9
HAZ				S	Sb	21 55 23.6	+0.1
TWGZ	**Tauwhareparae**	**1.38**	**221**	P	Pn	21 55 09.5	+0.2
TWGZ				S	Sg	21 55 28.2	+0.2
RUGZ	**Raukumara Rang**	**1.42**	**234**	P	Pn	21 55 09.6	-0.3
RUGZ				S	Sb	21 55 28.7	-0.1
CNGZ	**Carnagh Statio**	**1.53**	**208**	P	Pb	21 55 11.8	-0.4
MWZ	**Matawai**	**1.75**	**226**	P	Pn	21 55 14.4	+0.1
WHRZ	**Whale Island**	**1.86**	**247**	P	Pn	21 55 16.3	+0.4
RIGZ	**Rimuhau**	**1.91**	**214**	P	Pn	21 55 16.2	-0.3
RAGZ	**Rawiri**	**1.92**	**225**	P	Pn	21 55 17.2	+0.5
PRGZ	**Paritu Road**	**2.04**	**209**	P	Pn	21 55 17.8	-0.5
EDRZ	**Edgecumbe**	**2.13**	**242**	P	Pn	21 55 19.8	+0.2
SNGZ	**Shannon Statio**	**2.17**	**220**	P	Pn	21 55 20.2	+0.1
KNZ	**Kokohu**	**2.21**	**211**	P	Pn	21 55 19.2	-1.3
MHGZ	**Mahia Peninsul**	**2.23**	**205**	P	Pn	21 55 20.4	-0.6
RTZ	**Ruatahuna**	**2.25**	**228**	P	Pn	21 55 21.2	-0.1
MUGZ	**Murupara**	**2.30**	**234**	P	Pn	21 55 22.1	+0.2
TARZ	**Mount Tarawera**	**2.35**	**241**	P	Pn	21 55 23.7	+1.0
RAHZ	**Arahi**	**2.40**	**222**	P	Pn	21 55 23.8	+0.5
KARZ	**Kaharoa**	**2.46**	**248**	P	Pn	21 55 23.7	-0.4
MTHZ	**Maungataniwha**	**2.49**	**226**	P	Pn	21 55 24.6	0.0
NMHZ	**Naumai**	**2.68**	**222**	P	Pn	21 55 25.1	-2.1
ARHZ	**Aropaoanui**	**2.71**	**218**	P	Pn	21 55 27.1	-0.4
MRHZ	**Matea Rd**	**2.73**	**231**	P	Pn	21 55 28.8	+0.9
KUZ	**Kuaotunu**	**2.76**	**277**	P	Pn	21 55 26.6	-1.6
BKZ	**Black Stump Fm**	**2.91**	**225**	P	Pn	21 55 30.0	-0.2
TOZ	**Tahuroa Road**	**2.95**	**267**	P	Pn	21 55 30.3	-0.5
GRZ	**Great Barrier**	**3.08**	**286**	P	Pn	21 55 33.6	+1.0
KWHZ	**Kaweka Forest**	**3.12**	**222**	P	Pn	21 55 31.1	-2.2
MKAZ	**Moumakai**	**3.17**	**269**	P	Pn	21 55 32.9	-1.0
KAHZ	**Kahuranaki**	**3.19**	**213**	P	Pn	21 55 32.5	-1.7
TMVZ	**Te Maari**	**3.35**	**233**	P	Pn	21 55 36.1	-0.3
ETVZ	**East Tongariro**	**3.36**	**232**	P	Pn	21 55 35.5	-1.0
NTVZ	**North Tongarir**	**3.36**	**233**	P	Pn	21 55 36.7	+0.1
ETAZ	**East Tamaki Re**	**3.37**	**272**	P	Pn	21 55 37.8	+1.2
MBAZ	**Motutapu North**	**3.41**	**275**	P	Pn	21 55 38.0	+0.8
HIZ	**Hauiti**	**3.66**	**247**	P	Pn	21 55 41.6	+1.1
WCZ	**Waipu Caves**	**4.04**	**286**	P	Pn	21 55 45.7	0.0
WAZ	**Wanganui**	**4.17**	**230**	P	Pn	21 55 47.6	-0.1
OUZ	**Omahuta**	**4.87**	**291**	P	Pn	21 55 57.6	+0.4
CTZ	**Chatham Island**	**7.34**	**155**	P	Pn	21 56 31.9	+0.8
MQZ	**McQueen's Vall**	**8.21**	**215**	P	Pn	21 56 46.7	+3.6

KRSC 03 21:57:47.9±1.3, 49°16N×156°49E, h42km±21km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.54**	**351**	*e*P	Pn	21 58 14.2	+1.4
SKR				*e*S	Sn	21 58 32.6	+1.1
PAU	**Pauzhetka**	**2.31**	**5**	*e*P	Pn	21 58 26.3	+2.9
PAU				*e*S	Sn	21 58 54.3	+3.6
KDTR	**Khodutka, Kamc**	**2.84**	**20**	*e*P	Pn	21 59 03.9	+3.7
KDTR				*e*S	Sn	21 59 07.9	+4.4
ASAK	**Asacha**	**3.34**	**15**	*e*P	Pn	21 58 42.0	+4.3
MTVR	**Mutnovka**	**3.49**	**17**	*e*P	Pn	21 58 43.9	+4.1
MTVR				*e*S	Sn	21 59 24.7	+4.8
RUS	**Russkaya**	**3.52**	**21**	*e*P	Pn	21 58 43.2	+3.3
RUS				*e*S	Sn	21 59 23.9	+3.7
GRL	**Gorelyy**	**3.54**	**16**	*e*P	Pn	21 58 44.7	+4.3
GRL				*e*S	Sn	21 59 26.7	+5.7
UGLR	**Uglovaya**	**4.31**	**19**	*e*P	Pn	21 58 55.3	+4.4
AVH	**Avacha**	**4.34**	**18**	*e*P	Pn	21 58 56.6	+5.2
KOK	**Koryaka**	**4.35**	**17**	*e*P	Pn	21 58 56.3	+4.8
KRER	**Koryakskii**	**4.38**	**18**	*e*P	Pn	21 58 55.6	+3.6
SDLR	**Sedlovina**	**4.39**	**19**	*e*P	Pn	21 58 56.0	+4.0
GNL	**Ganaly**	**4.63**	**11**	*e*P	Pn	21 58 58.9	+3.6
TUMR	**Tumrok**	**6.53**	**19**	P	Pn	21 59 25.8	+4.4
KBTR	**Krutoberegovo**	**8.03**	**26**	*e*P	Pn	21 59 46.1	+4.2

*UCR **03** 22:06:01.0±1.6, 9°.38N×83°.87W, h23km±2km, ML4.4, MW5.0, mb4.7(NEIC)*

*NEIC **03** 22:06:02.1, 9°.45N×83°.80W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=0.04; $M_{\theta\theta}$=0.52; $M_{\phi\phi}$=0.56; $M_{r\theta}$=0.61; $M_{\theta\phi}$=0.87; $M_{r\phi}$=0.18; Fault plane solution: $M_0$1.21000×10^{16} NP1:ϕ_S253.51000°, δ88.82000°, λ-32.12000°. NP2:ϕ_S344.26000°, δ57.89000°, λ-178.60000°. Principal axes: T 1.2217, Plg21.0000°, Azm304.0000°; N -0.0297, Plg58.0000°, Azm72.0000°; P -1.1919, Plg23.0000°, Azm204.0000°;*

*INET **03** 22:06:02.5±1.4, 9°.53N×83°.79W, h14km±4km, MW5.1, Fault plane solution: NP1:ϕ_S179.08000°, δ46.92000°, λ-69.25000°.*

*NEIC **03** 22:06:02.6±1.7, 9°.48N±0°.05×83°.81W±0°.04, h37km±2km, mb4.8/149, Mwr4.7/35, ML5.3(HDC), Error ellipse: s-maj=7.2km s-min=4.8km az=200.0*

*IDC **03** 22:06:03.7±2.3, 9°.46N×83°.96W, h53km±21km, mb4.1/20, mbtmp4.4/26, ML4.1/5, MS3.9/44, Error ellipse: s-maj=19.4km s-min=10.6km az=53.0*

*GCMT **03** 22:06:04.6±0.4, 9°.46N±0°.02×83°.86W±0°.04, h37km±2km, MW4.8/74, Moment Tensor Solution. s6,c7; s74,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.47±.19; $M_{\theta\theta}$=-0.70±.10; $M_{\phi\phi}$=1.17±.13; $M_{r\theta}$=1.20±.10; $M_{\theta\phi}$=1.22±.08; $M_{r\phi}$=0.13±.10; Best double couple: $M_0$1.99500×10^{16} NP1:ϕ_S247.00000°, δ78.00000°, λ-39.00000°. NP2: ϕ_S346.00000°, δ52.00000°, λ-165.00000°. Principal axes: T 1.9690, Plg17.0000°, Azm302.0000°; N 0.0530, Plg50.0000°, Azm53.0000°; P -2.0220, Plg35.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SNET **03** 22:06:09.5±1.3, 10°.13N×83°.84W, h33km±999km, ML5.0*

ISC 03 22:06:00.9±0.6, 9°.45N±0°.03×83°.87W±0°.03, h30km±4km, n384, σ1$27/373, mb4.7/87, MS3.8/41, 13C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDM	**Cerro de Muert**	**0.14**	**46**	⇓*e*P	**Pn**	**22 06 07.4**	**0.0**
PEZE	**Perez Zeledon,**	**0.20**	**111**		**Pn**	**22 06 07.1**	**-0.8**
PEZE					**Sb**	**22 06 12.0**	**+0.4**
PEZE	**Perez Zeledon,**	**0.20**	**111**	⇑*e*P	**Pn**	**22 06 07.2**	**-0.8**
RIMA	**Rio Macho**	**0.31**	**1**		**Pn**	**22 06 09.1**	**-0.5**
RIMA					**Sn**	**22 06 15.5**	**+0.2**
RIMA	**Rio Macho**	**0.31**	**1**	⇓*e*P	**Pn**	**22 06 09.1**	**-0.5**
LCR2	**La Lucha 2**	**0.32**	**335**	*e*P	**Pn**	**22 06 08.5**	**-1.2**
LCR2				*e*S	**Sn**	**22 06 14.7**	**-0.7**
RAFA	**San Farael, Vo**	**0.51**	**6**	*e*P	**Pn**	**22 06 12.3**	**-0.1**
SJS	**Escuela Geolog**	**0.52**	**339**	*e*P	**Pn**	**22 06 12.1**	**-0.2**
SRBA	**San Rafael, Bu**	**0.55**	**114**		**Pb**	**22 06 11.3**	**-0.8**
SRBA					**Sb**	**22 06 19.3**	**-0.6**
CVTR	**Volcan Turrial**	**0.57**	**11**		**Pn**	**22 06 13.3**	**0.0**
CVTR					**Sn**	**22 06 22.2**	**+0.2**
CVTR	**Volcan Turrial**	**0.57**	**11**	*e*P	**Pn**	**22 06 13.3**	**0.0**
HDC3	**Heredia 3**	**0.60**	**336**	⇓*e*P	**Pn**	**22 06 13.6**	**+0.1**
HDC3				*e*S	**Sn**	**22 06 23.0**	**+0.8**
HDC	**Heredia**	**0.60**	**336**	*e*P	**Pn**	**22 06 13.3**	**-0.1**
EDPN	**Palmar Norte**	**0.63**	**140**	*e*P	**Pb**	**22 06 12.4**	**-1.1**
DRK0	**Durika**	**0.64**	**107**		**Pn**	**22 06 13.7**	**-0.4**
DRK0	**Durika**	**0.64**	**107**	*e*P	**Pn**	**22 06 13.9**	**-0.2**
DRK0	**Durika**	**0.64**	**107**	⇑*e*P	**Pn**	**22 06 14.0**	**-0.2**
EDBA	**Buenos Aires**	**0.65**	**116**	*e*P	**Pb**	**22 06 12.4**	**-1.5**
BATAN	**Batan**	**0.80**	**37**		**Pn**	**22 06 16.6**	**+0.5**
BATAN					**Sn**	**22 06 29.4**	**+2.3**
PTJ1	**Puerto Jimnez**	**1.07**	**148**	*e*P	**Pn**	**22 06 18.8**	**+1.0**
EDSV	**San Vito**	**1.08**	**125**	*e*P	**Pn**	**22 06 19.9**	**-0.3**
LAFE	**Finca La Fe, P**	**1.09**	**289**	⇑*e*P	**Pb**	**22 06 20.9**	**-0.2**
CASO	**Castillo**	**1.30**	**319**	⇑*e*P	**Pb**	**22 06 24

BAUV IAmb IAmb 22 10 08.3
comp=Z,34nm,0.9s
TLIG Tlapa 16.40 301 P P 22 09 51.0 -0.7
TLIG IAmb IAmb 22 09 59.1
comp=Z,75nm,0.7s
ATAH Atahualpa 17.36 162 P P 22 10 03.5 +0.9
comp=Z,0.4nm,0.3s,baz=342,slow=13,SNR=9.0
ATAH LR LR 22 15 57.5
comp=Z,920nm,21.3s,baz=342,slow=34
comp=Z,16nm,1.0s
BIRV Birongo 17.36 85 P P 22 10 01.7 -0.6
PCRV Puerto La Cruz 18.96 86 P Pn 22 10 23.9 +3.1
comp=Z,0.5nm,0.3s,baz=225,slow=2.9,SNR=2.6
comp=Z,11nm,0.8s
SJG San Juan 19.23 62 P Pn 22 10 26.0 +2.1
comp=Z,1.2nm,0.3s,baz=243,slow=12,SNR=5.2
SJG LR LR 22 16 38.4
comp=Z,159nm,21.9s,baz=241,slow=33
comp=Z,17nm,0.8s
SJG San Juan 19.23 62 P P 22 10 22.6 -0.1
GCPR Guaynabo City 19.36 61 P Pn 22 10 24.7 -0.8
GCPR IAmb IAmb 22 10 40.7
comp=Z,66nm,1.3s
TBTG Tabatinga, AM 19.42 134 P P 22 10 25.1 +0.2
TBTG IAmb IAmb 22 10 35.9
comp=Z,70nm,1.1s
TBTG Tabatinga, AM 19.42 134 eP P 22 10 24.8 -0.1
HUMP Col San Antoni 19.50 62 P Pn 22 10 26.7 -0.4
HUMP IAmb IAmb 22 10 46.5
comp=Z,53nm,1.1s
CBYP Canovanas 19.54 61 P P 22 10 26.4 +0.1
MOIG Morelia 19.59 303 P Pn 22 10 29.1 +0.6
MTP Monte Pirata 19.74 62 P P 22 10 28.1 -0.2
MTP IAmb IAmb 22 10 45.3
comp=Z,28nm,0.8s
656A Willston 19.85 3 P Pn 22 10 30.1 -1.1
CZSB Cruzeiro do Su 20.37 147 P P 22 10 35.6 +0.3
CZSB IAmb IAmb 22 10 41.9
comp=Z,64nm,1.0s
CZSB Cruzeiro do Su 20.37 147 eP P 22 10 35.2 -0.1
352A Blakely 21.94 358 P P 22 10 52.8 +0.7
352A IAmb IAmb 22 11 03.6
comp=Z,57nm,1.2s
ZAIG Zacatecas 22.28 309 P P 22 10 57.5 +1.4
NNA Nana 22.42 162 P P 22 10 58.5 +1.2
comp=Z,16nm,0.8s,baz=258,slow=10,SNR=4.8
NNA LR LR 22 19 14.0
comp=Z,136nm,20.5s,baz=330,slow=35
comp=Z,16nm,0.8s
NNA Nana 22.42 162 P P 22 10 57.0 -0.3
NNA IAmb IAmb 22 11 00.1
comp=Z,62nm,1.2s
346A Big Creek Wild 22.44 347 P P 22 10 58.3 +0.9
250A Grady 22.52 355 P P 22 10 58.3 0.0
250A IAmb IAmb 22 11 02.5
comp=Z,55nm,1.1s
344A Westbrook Farm 22.80 345 P P 22 11 02.5 +1.3
441A DeRidder 22.90 339 P P 22 11 03.0 +0.7
152A Waverly Hall 23.12 358 P P 22 11 05.4 +0.9
152A IAmb IAmb 22 11 17.7
comp=Z,20nm,0.8s
342A Flagon Creek P 23.19 341 P P 22 11 05.9 +0.7
HKT Hockley 23.26 333 P P 22 11 05.7 -0.1
HKT IAmb IAmb 22 11 06.9
comp=Z,27nm,1.2s
735A Kenedy 23.32 328 P P 22 11 06.6 +0.1
735A IAmb IAmb 22 11 31.2
comp=Z,21nm,0.7s
VBMS Vicksburg 23.48 346 P P 22 11 08.6 +0.6
146A Union 23.57 349 P P 22 11 09.4 +0.5
LRAL Lakeview Retre 23.64 353 P P 22 11 10.4 +0.7
LRAL IAmb IAmb 22 11 12.0
comp=Z,20nm,1.1s
833A Chaparral WMA, 23.79 324 P P 22 11 10.4 -0.6
833A IAmb IAmb 22 11 36.2
comp=Z,32nm,0.9s
Z47A Carrollton 23.95 351 P P 22 11 12.7 +0.2
Z47A IAmb IAmb 22 11 14.6
comp=Z,31nm,0.8s
BOAV Boa Vista 24.24 105 P P 22 11 15.3 -0.1
BOAV IAmb IAmb 22 11 55.6
comp=Z,11nm,1.3s
BOAV Boa Vista 24.24 105 eP P 22 11 17.0 +1.5
HODGE Hodges 24.71 3 P P 22 11 19.6 +0.2
HODGE IAmb IAmb 22 11 20.8
comp=Z,16nm,0.7s
435B Jarrell 24.77 331 P P 22 11 20.9 +0.8
JSC Jenkinsville 24.83 5 P P 22 11 21.1 +0.6
JSC IAmb IAmb 22 11 32.8
comp=Z,14nm,0.8s
BIRD Birdtown, Kers 25.27 7 P P 22 11 24.9 +0.4
BIRD IAmb IAmb 22 11 37.7
comp=Z,18nm,0.8s
CCAR Cane Creek 25.41 345 P P 22 11 26.1 +0.2
OXF Oxford 25.45 349 P P 22 11 25.2 -1.0
OXF IAmb IAmb 22 11 31.9
comp=Z,20nm,0.8s
WLAR White Oak Lake 25.58 342 P P 22 11 27.8 +0.4
WLAR IAmb IAmb 22 11 30.1
comp=Z,30nm,0.9s
JCT Junction City 25.66 327 P P 22 11 28.3 0.0
SWET Sewanee 25.71 356 P P 22 11 27.9 -0.8
SWET IAmb IAmb 22 11 44.3
comp=Z,32nm,1.2s
CPCT Cooper Cave 25.88 359 P P 22 11 30.9 +0.8
CPCT IAmb IAmb 22 11 59.0
comp=Z,27nm,1.4s
ETMB Extrema 25.98 137 P P 22 11 31.0 -0.3
ETMB IAmb IAmb 22 11 32.1
comp=Z,34nm,0.7s
ETMB Extrema 25.98 137 eP P 22 11 31.1 -0.1
TKL Tuckaleechee C 26.09 0 LR LR 22 22 18.5
comp=Z,407nm,18.9s,baz=180,slow=37
MACA Manacapuru-AM 26.28 117 P 22 11 33.4 -0.6
MACA IAmb IAmb 22 11 37.6
comp=Z,93nm,1.5s
MACA Manacapuru-AM 26.28 117 eP P 22 11 35.5 +1.5
MIAR Mount Ida 26.51 342 P P 22 11 36.4 +0.6
MIAR IAmb IAmb 22 12 09.5
comp=Z,34nm,1.4s
HPIG 26.96 313 P P 22 11 41.6 +1.4
TXAR Lajitas Array 27.12 320 P P 22 11 41.2 -0.2
comp=Z,2.2nm,0.6s,baz=142,slow=9.8,SNR=32
TXAR PcP PcP 22 15 02.5 +0.5
comp=Z,0.3nm,0.6s,baz=170,slow=5.1,SNR=3.9
TXAR LR LR 22 24 02.6
comp=Z,115nm,20.1s,baz=123,slow=40
comp=Z,2.2nm,0.6s
TXAR Lajitas Array 27.12 320 P P 22 11 40.9 -0.6
TX32 Lajitas Array 27.12 320 P P 22 11 41.0 -0.5
LCAR Lake Charles 27.31 347 P P 22 11 42.0 -1.0
LCAR IAmb IAmb 22 11 43.8
comp=Z,13nm,0.8s
CGM3 Cape Girardeau 28.21 350 P P 22 11 50.5 -0.5
CGM3 IAmb IAmb 22 11 51.5
comp=Z,16nm,1.2s
JSRW J. Sargeant Re 28.63 10 P P 22 11 54.4 -0.4
WMOK Wichita Mounta 28.63 334 P P 22 11 54.0 -0.9
LPIG La Paz 29.13 303 LR LR 22 24 28.4
comp=Z,161nm,19.7s,baz=98,slow=38
CCM Cathedral Cave 29.24 348 P P 22 11 58.9 -1.3
CCM IAmb IAmb 22 12 00.7
comp=Z,11nm,0.7s
LPAZ La Paz 29.95 149 P P 22 12 07.8 +0.5
comp=Z,3.0nm,0.8s,baz=344,slow=10.0,SNR=8.4
LPAZ LR LR 22 25 56.4
comp=Z,116nm,20.5s,baz=314,slow=40
comp=Z,3.0nm,0.8s
LPAZ La Paz 29.95 149 P P 22 12 06.7 -0.7
LPAZ La Paz 29.95 149 eP P 22 12 07.3 0.0
PB16 IPOC Station P 31.04 153 P P 22 12 17.4 +0.6
PB16 IAmb IAmb 22 12 20.0
comp=Z,16nm,0.9s
ITTB Itaituba 31.22 115 eP P 22 12 18.7 +0.7
MDP Montagnes des 31.26 96 LR LR 22 25 31.2
comp=Z,198nm,18.2s,baz=290,slow=37
N49A Columbus Grove 31.34 360 P P 22 12 18.5 -0.2
N49A IAmb IAmb 22 12 19.6
comp=Z,7.6nm,0.7s
SSPA Standing Stone 31.50 9 P P 22 12 20.8 +0.7
SSPA IAmb IAmb 22 12 27.6
comp=Z,31nm,1.5s
MALB Monte Alegre 31.55 109 eP P 22 12 21.6 +0.7
M57A Sunshine Farm, 32.31 10 P P 22 12 27.4 +0.2
GO01 Chusmiza 32.35 154 P P 22 12 28.8 +0.5

VILB Vilhena 32.37 133 P P 22 12 27.2 -0.9
VILB IAmb IAmb 22 12 28.8
comp=Z,16nm,0.8s
VILB Vilhena 32.37 133 eP P 22 12 28.7 +0.6
ANMO Albuquerque 32.72 324 LR LR 22 29 53.8
comp=Z,114nm,18.6s,baz=140,slow=44
KSPA Keystone Colle 32.77 11 P P 22 12 31.9 +0.7
NPGB Novo Progresso 32.79 119 eP P 22 12 31.4 -0.4
WVNY West Valley, N 33.15 7 P P 22 12 34.4 -0.2
WVNY IAmb IAmb 22 12 58.0
comp=Z,18nm,1.1s
PB01 IPOC Station P 33.44 155 P P 22 12 37.1 -0.3
PB01 IAmb IAmb 22 12 39.8
comp=Z,23nm,1.2s
K57A Scipio Center 33.77 10 P P 22 12 39.8 -0.2
JFWS Jewell Farm 33.80 352 P P 22 12 39.8 -0.4
JFWS IAmb IAmb 22 12 40.2
comp=Z,27nm,1.5s
PB07 IPOC Station P 33.89 156 P P 22 12 41.9 +0.5
SIV San Ignacio 33.89 138 LR LR 22 27 39.0
comp=Z,206nm,18.1s,baz=338,slow=38
PDRB Porto dos Gac 34.15 127 eP P 22 12 42.1 -1.5
PB09 IPOC Station P 34.21 155 P P 22 12 44.8 +0.6
CLDB Colider 34.46 125 eP P 22 12 45.5 -0.8
W18A Petrified Fore 34.80 321 P P 22 12 48.6 -0.6
W18A IAmb IAmb 22 13 07.2
comp=Z,4.9nm,0.7s
PTLB Pontes e Lacer 34.82 135 P P 22 12 48.4 -0.9
PTLB IAmb IAmb 22 12 49.6
comp=Z,6.3nm,0.8s
PTLB Pontes e Lacer 34.82 135 eP P 22 12 49.2 -0.2
LVC Limon Verde 35.07 155 LR LR 22 28 46.9
comp=Z,101nm,20.1s,baz=342,slow=39
LVC Limon Verde 35.07 155 P P 22 12 51.8 -0.1
LVC Limon Verde 35.07 155 eP P 22 12 53.9 +2.0
SADO Sadowa 35.42 6 LR LR 22 28 08.2
comp=Z,458nm,18.6s,baz=186,slow=37
SADO Sadowa 35.42 6 P P 22 12 53.4 -0.8
SADO IAmb IAmb 22 12 54.1
comp=Z,5.5nm,0.8s
X16A Lo Mia Camp, P 35.43 319 P P 22 12 55.1 +0.4
ECSD EROS Data Cent 35.91 344 P P 22 12 57.0 -1.5
ECSD IAmb IAmb 22 13 06.4
comp=Z,7.4nm,0.9s
LBNH Lisbon 36.17 15 P P 22 13 01.6 +0.9
LBNH IAmb IAmb 22 13 18.0
comp=Z,14nm,1.1s
GO02 Mina Guanaco 37.11 158 P P 22 13 10.4 +1.2
GO02 IAmb IAmb 22 13 11.6
comp=Z,12nm,0.9s
ESJX Sierra Juarez 37.22 312 P P 22 13 10.7 +0.7
PRPB Parauapebas 37.31 113 eP P 22 13 11.1 +0.3
G62A West of Eustis 37.44 16 P P 22 13 12.2 +0.7
G62A IAmb IAmb 22 13 15.4
comp=Z,15nm,1.1s
W13A Hualapai Mount 37.45 318 P P 22 13 12.6 +0.6
TRQ Mont Tremblant 37.50 11 P P 22 13 11.9 -0.1
TRQ IAmb IAmb 22 13 44.4
comp=Z,18nm,1.4s
SALV Santo Antonio 37.59 132 eP P 22 13 12.7 -0.3
PKME Peaks-Kenny Pk 37.83 17 P P 22 13 14.4 -0.3
PKME IAmb IAmb 22 13 41.0
comp=Z,16nm,1.3s
CBX Cerro Bola 37.90 312 P P 22 13 16.3 +0.6
PMD Palm Desert 38.37 314 P P 22 13 20.1 +0.6
PMD IAmb IAmb 22 13 23.1
comp=Z,5.2nm,0.8s
PFO Pinyon Flats O 38.41 314 LR LR 22 31 41.4
comp=Z,84nm,19.0s,baz=110,slow=40
V12A Nelson 38.46 318 P P 22 13 20.2 -0.1
F64A Sherman 38.65 17 P P 22 13 21.9 +0.3
F64A IAmb IAmb 22 13 24.3
comp=Z,14nm,1.2s
SNDB Serra Nova Dou 38.75 123 eP P 22 13 22.5 -0.4
AC02 Maricunga 38.81 159 P P 22 13 24.6 +0.8
AC02 IAmb IAmb 22 13 26.2
comp=Z,11nm,0.8s
E62A Clayton Lake 39.01 16 P P 22 13 25.0 +0.4
E62A IAmb IAmb 22 13 26.9
comp=Z,14nm,1.4s
PQI Presque Isle 39.48 17 P P 22 13 29.0 +0.5
LMN Caledonia Moun 39.78 21 P P 22 13 31.4 +0.3
LMN IAmb IAmb 22 13 34.5
comp=Z,17nm,1.1s
GWY Greenwater Val 39.93 317 P P 22 13 33.4 +0.7
PDAR Pinedale Array 40.08 330 P P 22 13 33.7 -0.3
comp=Z,0.5nm,0.7s,baz=124,slow=9.2,SNR=5.2
PDAR PcP PcP 22 15 38.7 +0.4
comp=Z,0.6nm,0.6s,baz=145,slow=5.3,SNR=4.0
PDAR LR LR 22 32 22.4
comp=Z,88nm,21.7s,baz=120,slow=39
comp=Z,0.5nm,0.7s
AC05 El Transito 40.27 161 P P 22 13 36.0 +0.5
SMTB Santa Maria do 40.45 116 eP P 22 13 37.5 +0.4
BATG Bathurst New B 40.62 19 P P 22 13 38.6 +0.6
BATG IAmb IAmb 22 13 41.6
comp=Z,16nm,1.2s
AQDB Aquidauana 40.65 137 eP P 22 13 39.3 +0.7
GO04 Tololo Observa 41.35 163 P P 22 13 44.9 +0.4
CO01 Juntas del Tor 41.38 162 P P 22 13 44.0 -0.7
CO06 Fray Jorge 41.59 164 P P 22 13 46.4 +0.2
CO06 IAmb IAmb 22 13 47.6
comp=Z,18nm,0.8s
ELK Elko 41.75 324 LR LR 22 34 40.6
comp=Z,88nm,18.1s,baz=118,slow=41
ULM Lac du Bonnet 41.87 348 P P 22 13 47.1 -1.2
comp=Z,11nm,0.9s,baz=165,slow=8.0,SNR=7.2
ULM LR LR 22 32 47.6
comp=Z,105nm,18.3s,baz=137,slow=38
comp=Z,11nm,0.9s
CO03 El Pedregal 42.01 163 P P 22 13 50.4 +0.6
CO03 IAmb IAmb 22 13 51.8
comp=Z,30nm,1.1s
NV11 Mina Array Sit 42.17 319 P P 22 13 51.9 +0.8
PAGB Antelope Grade 42.17 314 P P 22 13 52.0 +1.0
PAGB IAmb IAmb 22 13 57.4
comp=Z,8.7nm,0.8s
NVAR Mina Array Bea 42.26 319 P P 22 13 52.3 +0.4
comp=Z,1.8nm,0.7s,baz=132,slow=6.4,SNR=9.5
NVAR PcP PcP 22 15 46.4 +0.8
comp=Z,2.0nm,0.7s,baz=139,slow=4.5,SNR=7.8
NVAR LR LR 22 34 22.7
comp=Z,100nm,19.3s,baz=116,slow=40
comp=Z,1.8nm,0.7s
NVAR Mina Array Bea 42.26 319 P P 22 13 52.4 +0.5
CO02 Combarbal 42.27 164 P P 22 13 52.5 +0.7
ZON Zonda 43.28 161 P P 22 14 00.2 +0.2
ZON IAmb IAmb 22 14 02.2
comp=Z,38nm,1.4s
BDFB Brasilia 43.39 125 P P 22 14 01.4 +0.2
comp=Z,9.3nm,0.9s,baz=288,slow=11,SNR=9.6
BDFB LR LR 22 32 49.2
comp=Z,397nm,18.6s,baz=326,slow=37
comp=Z,9.3nm,0.9s
BDFB Brasilia 43.39 125 P P 22 14 00.6 -0.6
BDFB IAmb IAmb 22 14 02.2
comp=Z,19nm,1.2s
VA06 Catapilco 43.47 165 P P 22 14 01.1 -0.3
LRM Limekiln Ridge 43.74 331 P P 22 14 03.8 0.0
VA03 San Esteban 43.86 164 P P 22 14 05.1 +0.4
CPUP Villa Florida 43.94 145 P P 22 14 04.9 -0.3
comp=Z,2.0nm,0.7s,baz=301,slow=10,SNR=5.6
CPUP LR LR 22 34 03.3
comp=Z,106nm,18.5s,baz=341,slow=38
comp=Z,2.0nm,0.7s
CPUP Villa Florida 43.94 145 P P 22 14 05.2 0.0
ROC1 El Roble 43.94 164 P P 22 14 05.7 +0.2
ROC1 IAmb IAmb 22 14 06.8
comp=Z,18nm,0.7s
RPN Rapa Nui 43.96 214 LR LR 22 27 50.0
comp=Z,214nm,21.9s,baz=46,slow=30
MT02 Curacav 44.17 165 P P 22 14 07.8 +0.8
MT02 IAmb IAmb 22 14 09.3
comp=Z,36nm,1.4s
IPMB Ipameri, GO 44.53 128 eP P 22 14 09.3 -0.9
MT03 Universidad Ad 44.56 164 P P 22 14 10.2 -0.1
MT01 Popeta 44.72 165 P P 22 14 11.1 -0.3
MT01 IAmb IAmb 22 14 20.1
comp=Z,18nm,1.1s
WVOR Wild Horse Val 44.79 323 P P 22 14 10.9 -1.2
LMEL Las Melosas 44.98 164 P P 22 14 14.1 +0.4
LMEL IAmb IAmb 22 14 15.8
comp=Z,18nm,0.9s
GO05 Huala 45.64 166 P P 22 14 18.4 -0.4
GO05 IAmb IAmb 22 14 19.8
comp=Z,14nm,0.8s
BO02 Sierra Bellavi 45.72 165 P P 22 14 19.7 +0.2
BO02 IAmb IAmb 22 14 24.9
comp=Z,19nm,1.2s
ITQB Itaqui 46.92 147 P P 22 14 28.3 -0.5
ITQB Itaqui 46.92 147 eP P 22 14 29.2 +0.3
SCHQ Schefferville 47.24 13 P P 22 14 31.2 +0.1
comp=Z,4.3nm,0.7s,baz=283,slow=6.4,SNR=3.8
SCHQ LR LR 22 35 28.7
comp=Z,218nm,18.7s,baz=205,slow=37
comp=Z,4.3nm,0.7s
SCHQ Schefferville 47.24 13 P P 22 14 30.8 -0.3
SCHQ IAmb IAmb 22 14 40.2
comp=Z,20nm,1.4s
UNIS Unistalda (Bra 47.31 145 eP P 22 14 31.9 -0.1
FFC Flin Flon 47.40 346 P P 22 14 31.8 -0.5
FFC IAmb IAmb 22 14 43.0
comp=Z,10nm,1.1s
ITAB Concordia 47.71 141 P P 22 14 34.5 -0.6
ITAB Concordia 47.71 141 eP P 22 14 34.8 -0.3
RODS Rosario do Sul 48.22 146 eP P 22 14 39.2 +0.2
ALGR Alto Alegre (B 48.30 143 eP P 22 14 38.9 -0.7
DIAM Diamantina, MG 48.31 125 eP P 22 14 40.1 +0.1
VAO Valinhos 48.43 132 eP P 22 14 40.3 -0.5
PET01 Itanhaem-SP 49.00 134 eP P 22 14 44.7 -0.4
CPSB Cacapava Do Su 49.25 145 eP P 22 14 46.8 0.0
GO06 Curarrehue 50.13 168 P P 22 14 53.1 -0.4
GO06 IAmb IAmb 22 14 58.3
comp=Z,11nm,0.8s
RCBR Riachuelo 50.15 106 LR LR 22 37 16.7
comp=Z,279nm,19.5s,baz=82,slow=37
PLTB Pedras Altas 50.18 146 P P 22 14 54.0 0.0
PLTB Pedras Altas 50.18 146 eP P 22 14 53.5 -0.4
CMC01 Camacari, BA 50.38 119 eP P 22 14 57.0 +1.3
TER01 Tubaro-SC 50.52 139 eP P 22 14 55.4 -1.2
SJMB Sao Joao De Ma 50.55 124 eP P 22 14 57.8 +0.8
DUB01 Friburgo-RJ 51.36 128 eP P 22 15 04.5 +1.4
PLCA Paso Flores 51.43 167 P P 22 15 03.5 +0.3
comp=Z,20nm,0.8s,baz=342,slow=9.0,SNR=46
PLCA LR LR 22 32 30.0
comp=Z,86nm,19.4s,baz=9.5,slow=31
comp=Z,20nm,0.8s
PLCA Paso Flores 51.43 167 P P 22 15 03.3 +0.1
PLCA Paso Flores 51.43 167 eP P 22 15 02.4 -0.9
RIB01 Linhares ES 51.50 124 eP P 22 15 04.1 0.0
TRQA Tornquist 51.50 158 P P 22 15 03.6 -0.2
TRQA IAmb IAmb 22 15 04.7
comp=Z,17nm,1.3s
CAM01 Campos-RJ 51.78 127 eP P 22 15 06.3 +0.1
ALF01 Guarapari-ES 51.89 126 eP P 22 15 07.1 +0.1
GO07 Milladeo Hill, 53.14 171 P P 22 15 15.8 0.0
LL02 Futaleuf 53.52 169 P P 22 15 18.8 +0.1
AY01 Puyuhuapi 54.58 170 P P 22 15 25.5 -0.8
AY01 IAmb IAmb 22 15 27.4
comp=Z,10nm,1.0s
FRB Frobisher Bay 55.30 8 LR LR 22 39 43.3
comp=Z,321nm,19.6s,baz=261,slow=36
BBB Bella Bella 55.69 329 LR LR 22 42 20.5
comp=Z,82nm,19.4s,baz=134,slow=39
YKA Yellowknife Ar 57.44 344 P P 22 15 45.4 -1.1
comp=Z,3.4nm,0.8s,baz=145,slow=6.5,SNR=3.3
comp=Z,3.4nm,0.8s
DLBC Dease Lake 60.12 334 LR LR 22 46 45.4
comp=Z,82nm,18.1s,baz=110,slow=41
DLBC Dease Lake 60.12 334 P P 22 16 05.7 +0.3
DLBC IAmb IAmb 22 16 08.8
comp=Z,5.0nm,1.2s
SFJD Kangerlussuaq 61.68 14 LR LR 22 44 00.8
comp=Z,181nm,18.3s,baz=225,slow=37
RES Resolute Bay 65.50 357 LR LR 22 46 10.7
comp=Z,189nm,18.1s,baz=154,slow=37
ICESG Greenland Ices 66.04 16 i P P 22 16 42.1 -2.8
ICESG IAmb IAmb 22 16 45.0
comp=Z,9.8nm,0.4s
INK Inuvik 67.11 342 LR LR 22 47 45.3
comp=Z,71nm,19.6s,baz=180,slow=37
BCAR Beaver Creek A 67.42 335 P P 22 16 53.0 -0.4
L27K Beaver Creek, 67.44 335 P P 22 16 53.2 -0.3
K27K Chicken 67.95 336 P P 22 16 56.9 +0.2
KLU Klutina 68.59 333 P P 22 16 60.0 -0.9
DOT Dot Lake 68.60 335 P P 22 17 00.4 -0.4
DOT IAmb IAmb 22 17 02.8
comp=Z,5.9nm,1.2s
SUMG Summit 68.64 13 P P 22 17 00.4 -1.0
SUMG Summit 68.64 13 i P P 22 16 59.5 -1.9
SUMG IAmb IAmb 22 17 02.1
comp=Z,8.6nm,1.0s
SCRK Sand Creek 68.70 336 P P 22 17 01.1 -0.5
J25L Joseph Creek 68.74 336 P P 22 17 02.3 +0.5
I26K Coal Creek Min 68.92 337 P P 22 17 02.7 0.0
BORG Borgarnes 69.97 24 LR LR 22 46 11.7
comp=Z,44nm,19.2s,baz=240,slow=34
NEEM North Greenlan 70.08 7 i P P 22 17 08.2 -1.9
NEEM IAmb IAmb 22 17 11.0
comp=Z,8.5nm,0.7s
IL31 70.17 336 P P 22 17 09.9 -0.5
ILAR Eielson Array 70.17 336 P P 22 17 09.5 -0.9
comp=Z,1.6nm,0.6s,baz=116,slow=4.7,SNR=14
ILAR LR LR 22 51 38.6
comp=Z,74nm,18.4s,baz=88,slow=39
comp=Z,1.6nm,0.6s
BMAR Burnt Mountain 70.32 339 P P 22 17 12.0 +0.6
RND Reindeer 70.52 334 P P 22 17 12.3 -0.4
RND IAmb IAmb 22 17 15.9
comp=Z,10nm,1.2s
SUA Susitna One 70.78 332 P P 22 17 13.9 -0.5
H24K Noodor Dome 70.93 337 P P 22 17 14.6 -0.6
H24K IAmb IAmb 22 17 51.1
comp=Z,8.6nm,1.4s
NEA2 Nenana 70.99 336 P P 22 17 15.2 -0.3
I23K Minto, Yukon-K 71.29 336 P P 22 17 16.7 -0.5
BPAW Bear Paw Mtn. 71.64 335 P P 22 17 18.5 -0.9
BPAW IAmb IAmb 22 17 41.4
comp=Z,8.0nm,1.4s
MLY Manley 71.81 336 P P 22 17 19.8 -0.6
PCAS Casmilo, Conde 72.79 51 eP P 22 17 27.9 +1.1
PVIS Viseu 73.27 50 eP P 22 17 31.2 +1.5
IMAR Indian Mountai 73.28 336 P P 22 17 28.5 -0.6
PCBR Castelo Branco 73.57 51 eP P 22 17 31.8 +0.5
PMRV Marv??o 73.62 52 eP P 22 17 34.1 +2.4
PBAR Barrancos 73.88 53 eP P 22 17 33.9 +0.7
MVO Moncorvo 73.94 50 eP P 22 17 34.0 +0.4
PBRG Braganca 74.17 49 eP P 22 17 34.3 -0.6
DAG Danmarks Havn 75.28 12 i P P 22 17 38.4 -2.2
DAG IAmb IAmb 22 17 38.7
comp=Z,3.8nm,0.7s
PAB San Pablo 75.98 52 P P 22 17 45.2 -0.3
ESDC Sonseca Array 76.28 51 P P 22 17 47.5 +0.4
comp=Z,3.6nm,0.8s,baz=281,slow=5.5,SNR=49
comp=Z,3.6nm,0.8s
ESDC Sonseca Array 76.28 51 P P 22 17 47.1 0.0
ESBB Sonseca Array 76.28 51 P P 22 17 47.1 0.0
ORCD Orcadas 76.47 161 P P 22 17 45.9 -1.6
ESK Eskdalemuir 76.97 35 P P 22 17 49.2 -1.4
DBIC Dimbokro 78.13 85 P P 22 17 59.4 +1.6
comp=Z,5.3nm,0.8s,baz=270,slow=5.1,SNR=3.2
comp=Z,5.3nm,0.8s
CLF Chambon-Foret 80.46 43 P P 22 18 08.9 -1.1
SPITS Spitsbergen Ar 82.91 12 LR LR 22 57 07.7
comp=Z,173nm,19.3s,baz=250,slow=37
TOA0 Torodi Ar. Sit 83.61 78 P P 22 18 26.8 -0.4
TOA0 IAmb IAmb 22 18 38.0
comp=Z,6.0nm,1.2s
TORD Torodi Ar. Bea 83.61 78 P P 22 18 27.4 +0.3
comp=Z,1.7nm,0.8s,baz=284,slow=4.3,SNR=6.7
comp=Z,1.7nm,0.8s
NC204 NORSAR Array S 84.01 29 P P 22 18 28.3 0.0
NB2 NORSAR Subarra 84.26 29 P P 22 18 29.0 -0.6
comp=Z,1.3nm,0.7s,baz=280,slow=5.1
NOA NORSAR Array B 84.26 29 P P 22 18 29.3 -0.3
comp=Z,1.7nm,0.7s,baz=277,slow=5.0,SNR=9.1
NOA LR LR 22 56 54.7
comp=Z,16nm,18.1s,baz=290,slow=36
comp=Z,1.7nm,0.7s
HFS Hagfors 85.62 30 LR LR 22 55 26.0
comp=Z,45nm,18.4s,baz=267,slow=35
DAVOX Davos/Dischmat 85.74 43 LR LR 22 57 24.1
comp=Z,36nm,18.1s,baz=262,slow=36
ZCCA Zocca 86.91 46 P P 22 18 42.7 -0.5
CLL Collm 86.97 39 P P 22 18 42.8 -0.4
CLL IAmb IAmb 22 18 57.9
comp=Z,9.0nm,1.3s
CLL Collm 86.97 39 i P P 22 18 42.9 -0.3
comp=Z,7.0nm,1.3s
CLL *i* pP **sP 22 18 53.8 -3.8**

CLL				*i* sP	**pP**	**22 18 57.1**	**+3.3**
CLL				*e*PP	**PP**	**22 22 06.0**	**-0.2**
KEST	**Kesra**	**87.14**	**54**	P	**P**	**22 18 44.6**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=331,slow=5.5,SNR=3.6						
	comp=Z,2.4nm,0.7s						
KEST	**Kesra**	**87.14**	**54**	P	**P**	**22 18 44.2**	**-0.4**
KEST				IAmb	IAmb	22 19 17.5	
	comp=Z,5.4nm,1.1s						
CIMO	**Cimolais**	**87.56**	**44**	P	**P**	**22 18 45.3**	**-0.9**
CIMO				IAmb	IAmb	22 19 09.1	
	comp=Z,3.7nm,0.9s						
BRG	**Berggiesshubel**	**87.63**	**39**	*e*P	**P**	**22 18 46.9**	**+0.5**
BRG				Amp		22 18 48.5	
	comp=Z,5.1nm,1.3s						
KHC	**Kasperske Hory**	**87.76**	**41**	*e*P	**P**	**22 18 47.2**	**0.0**
CLUD	**Cludinico**	**87.84**	**43**	P	**P**	**22 18 47.3**	**-0.2**
CLUD				IAmb	IAmb	22 19 18.9	
	comp=Z,6.6nm,0.9s						
ARCES	**ARCESS Array B**	**87.84**	**19**	P	**P**	**22 18 46.7**	**-0.4**
	comp=Z,4.0nm,1.0s,baz=292,slow=4.8,SNR=6.3						
ARCES				LR	LR	22 57 02.7	
	comp=Z,40nm,21.0s,baz=178,slow=35						
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**87.84**	**19**	P	**P**	**22 18 46.4**	**-0.7**
ARCES				IAmb	IAmb	22 18 51.1	
	comp=Z,9.2nm,1.2s						
GERES	**GERESS Array B**	**87.90**	**41**	P	**P**	**22 18 47.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=297,slow=4.3,SNR=7.0						
	comp=Z,0.6nm,0.6s						
GERES	**GERESS Array B**	**87.90**	**41**	P	**P**	**22 18 46.8**	**-1.1**
CHVC	**Chvalec**	**89.00**	**39**	*e*P	**P**	**22 18 55.1**	**+2.1**
CHVC				*ex*	x	22 19 06.2	
OSTC	**Ostas**	**89.11**	**39**	*e*P	**P**	**22 18 53.0**	**-0.5**
DPC	**Dobruska-Polom**	**89.23**	**39**	*e*P	**P**	**22 18 56.4**	**+2.3**
DPC				*ep*P	**sP**	**22 19 07.8**	**-0.8**
VRAC	**Vranov**	**89.65**	**40**	LR	LR	22 57 16.5	
	comp=Z,49nm,18.0s,baz=280,slow=34						
FINES	**FINESS Array B**	**91.07**	**27**	P	**P**	**22 19 02.0**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=246,slow=2.7,SNR=5.6						
FINES				LR	LR	22 54 36.5	
	comp=Z,40nm,21.8s,baz=216,slow=32						
	comp=Z,1.8nm,0.7s						
VNA3	**Neumayer Olymp**	**93.87**	**162**	P	**P**	**22 19 14.5**	**-0.5**
VNA1	**Neumayer--Stat**	**94.13**	**161**	P	**P**	**22 19 15.0**	**-1.2**
VNA2	**Neumayer--Watz**	**94.49**	**161**	P	**P**	**22 19 17.0**	**-0.8**
	baz=290,slow=5.0						
SNAA	**Sanae**	**96.09**	**162**	P	**P**	**22 19 24.5**	**-0.7**
SNAA	**Sanae**	**96.09**	**162**	LR	LR	23 05 03.6	
	comp=Z,35nm,18.2s,baz=232,slow=37						
TIXI	**Tiksi**	**96.21**	**350**	LR	LR	23 04 30.8	
	comp=Z,75nm,21.1s,baz=0.0,slow=36						
AKASG	**Malin Array Be**	**96.90**	**36**	LR	LR	22 59 58.9	
	comp=Z,41nm,20.2s,baz=333,slow=33						
TROLL	**Troll, Antarti**	**97.81**	**162**	P	**P**	**22 19 32.8**	**-0.2**
MA2	**Magadan**	**98.64**	**335**	LR	LR	23 12 06.7	
	comp=Z,28nm,18.2s,baz=63,slow=40						
SONM	**Songino Array**	**122.24**	**352**	PKP	**PKiKP**	**22 24 53.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=12,slow=2.1,SNR=2.0						
MKAR	**Makanchi Array**	**122.66**	**11**	PKP	**PKPdf**	**22 24 53.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=327,slow=0.9,SNR=3.1						
KSRS	**Korea Array**	**124.65**	**329**	PKP	**PKPdf**	**22 24 57.7**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=20,slow=1.4,SNR=6.9						
WMQ	**Urumqi**	**126.43**	**8**	*e*P	**PKiKP**	**22 25 02.3**	**+0.5**
WMQ				LR	LR		
	comp=Z,120nm,18.1s						
HHC	**Hu-ho-hao-te**	**127.96**	**345**	*e*P	**PKPdf**	**22 25 02.2**	**-2.2**
ASAR	**Alice Springs**	**141.28**	**244**	PKhKP	PKPpre	22 25 23.3	
	comp=Z,0.6nm,0.7s,baz=117,slow=3.5,SNR=8.3						
WRA	**Warramunga Arr**	**141.69**	**250**	PKhKP	PKPpre	22 25 25.5	
	comp=Z,2.1nm,1.0s,baz=92,slow=2.0,SNR=6.7						
PZH	**PanZhiHua**	**143.85**	**351**	PKP	PKPbc	22 25 33.0	+1.2
CMAR	**Chiang Mai Arr**	**152.13**	**354**	PKP	**PKPdf**	**22 25 47.6**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=310,slow=2.9,SNR=4.4						
CMAR				PKPbc	**PKiKP**	**22 25 54.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=321,slow=3.1,SNR=8.6						
CMAR				PKPab	**PKPab**	**22 26 03.3**	**-0.5**
	comp=Z,4.2nm,0.9s,baz=343,slow=4.8,SNR=14						

ROM 03 22:08:15.6±0.1, 42°.858N±0°.004×13°.225E±0°.005, h8km, ML0.8/5, 3C-2D, Error ellipse: s-maj=0.4km s-min=0.3km az=54.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.03**	**208**	P	Pg	22 08 17.2	-0.2
T1242				S	Sg	22 08 18.1	-0.6
T1242				AML	AML		
	comp=E,576μm,0.1s						
T1242				AML	AML		
	comp=N,800μm,0.1s						
MC2	**Monte Cornacci**	**0.06**	**335**	⇑P	Pg	22 08 17.8	0.0
MC2				S	Sg	22 08 19.1	-0.2
NRCA	**Norcia**	**0.09**	**254**	⇑P	Pg	22 08 18.2	+0.3
NRCA				S	Sg	22 08 19.9	+0.4
NRCA				AML	AML		
	comp=N,485μm,0.2s						
NRCA				AML	AML		
	comp=E,398μm,0.5s						
T1244	**Arquata del Tr**	**0.11**	**152**	P	Pg	22 08 18.8	+0.5
T1244				S	Sg	22 08 21.1	+0.9
T1241	**Roccafluvione,**	**0.15**	**90**	⇑P	Pg	22 08 19.4	+0.5
T1241				S	Sg	22 08 22.2	+1.1
T1241				AML	AML		
	comp=N,30μm,0.6s						
T1241				AML	AML		
	comp=E,68μm,0.3s						
T1202	**Accumoli, Fraz**	**0.15**	**180**	P	Pg	22 08 19.6	+0.7
T1202				S	Sg	22 08 22.9	+1.6
T1204	**Amatrice, Fraz**	**0.19**	**160**	P	Pg	22 08 20.2	+0.6
T1204				S	Sg	22 08 23.8	+1.3
FDMO	**Fiordimonte**	**0.20**	**331**	P	Pg	22 08 20.6	+0.8
FDMO				S	Sg	22 08 24.1	+1.4
FDMO				AML	AML		
	comp=E,18μm,0.6s						
FDMO				AML	AML		
	comp=N,20μm,1.1s						
T1243	**Rocca Santa Ma**	**0.23**	**134**	⇓P	Pg	22 08 20.7	+0.4
T1243				S	Sg	22 08 24.5	+1.1
CSP1	**Cessapalombo**	**0.23**	**356**	P	Pg	22 08 21.5	+1.1
CSP1				S	Sg	22 08 25.4	+1.7
T1215	**Vallo di Nera,**	**0.27**	**258**	P	Pg	22 08 21.6	+0.6
T1215				S	Sb	22 08 26.2	-1.2
T1215				AML	AML		
	comp=E,64μm,1.6s						
T1215				AML	AML		
	comp=N,70μm,1.6s						
TERO	**Teramo**	**0.36**	**130**	⇓P	Pg	22 08 23.1	+0.3
TERO				S	Sb	22 08 29.0	-1.2
TERO				AML	AML		
	comp=E,29μm,0.3s						
TERO				AML	AML		
	comp=E,29μm,0.3s						
TERO				AML	AML		
	comp=N,35μm,0.5s						
ASSB	**Assisi San Ben**	**0.46**	**294**	P	Pg	22 08 24.8	+0.3
ASSB				S	Sb	22 08 32.4	-0.4
ASSB				AML	AML		
	comp=N,18μm,0.2s						
ASSB				AML	AML		
	comp=E,15μm,0.8s						

WEL 03 22:11:54.9±1.2, 37°.S±4°×17°.9E±°, h21km±7km, M3.4/36, ML3.6/42, MLv3.4/36, Error ellipse: s-maj=0.0km s-min=0.0km az=96.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.66**	**242**	P	Pb	22 12 07.7	0.0
MXZ				S	Sb	22 12 15.9	-0.6
WMGZ	**Waiomatatini S**	**0.75**	**222**	P	Pn	22 12 10.9	+0.7
WMGZ				S	Sn	22 12 22.0	+1.1
PKGZ	**Pakihiroa**	**0.99**	**230**	P	Pn	22 12 14.0	+0.3
PKGZ				S	Sn	22 12 27.0	0.0
PUZ	**Puketiti**	**1.02**	**217**	P	Pn	22 12 14.5	+0.5
PUZ				S	Sn	22 12 27.9	+0.2
HAZ	**Te Kaha**	**1.12**	**243**	P	Pn	22 12 14.7	-0.5
HAZ				S	Sn	22 12 30.4	+0.4
TWGZ	**Tauwhareparae**	**1.24**	**222**	P	Pb	22 12 17.8	+0.1
TWGZ				S	Sb	22 12 34.4	+1.2
RUGZ	**Raukumara Rang**	**1.29**	**237**	P	Pb	22 12 18.6	+0.1
RUGZ				S	Sb	22 12 35.0	+0.2
TKGZ	**Te Karaka**	**1.51**	**218**	P	Pn	22 12 21.1	+0.5
TKGZ				S	Sn	22 12 40.1	+0.4

MWZ	**Matawai**	**1.61**	**228**	P	Pn	22 12 22.4	+0.3
MWZ				S	Sn	22 12 41.9	-0.3
WHRZ	**Whale Island**	**1.75**	**249**	P	Pn	22 12 24.2	+0.2
RIGZ	**Rimuhau**	**1.76**	**215**	P	Pn	22 12 24.4	+0.2
RAGZ	**Rawiri**	**1.78**	**226**	P	Pn	22 12 25.3	+0.8
URZ	**Urewera**	**1.83**	**236**	P	Pn	22 12 25.5	+0.5
PRGZ	**Paritu Road**	**1.90**	**208**	P	Pn	22 12 26.5	+0.5
EDRZ	**Edgecumbe**	**2.01**	**244**	P	Pn	22 12 28.2	+0.5
SNGZ	**Shannon Statio**	**2.03**	**221**	P	Pn	22 12 28.1	+0.3
KNZ	**Kokohu**	**2.06**	**211**	P	Pn	22 12 27.8	-0.5
MHGZ	**Mahia Peninsul**	**2.09**	**205**	P	Pn	22 12 29.8	+1.1
RTZ	**Ruatahuna**	**2.12**	**230**	P	Pn	22 12 29.4	+0.3
MUGZ	**Murupara**	**2.17**	**235**	P	Pn	22 12 29.8	0.0
TARZ	**Mount Tarawera**	**2.23**	**243**	P	Pn	22 12 31.8	+1.0
RAHZ	**Arahi**	**2.26**	**222**	P	Pn	22 12 31.3	+0.2
RRRZ	**Republican Roa**	**2.27**	**241**	P	Pn	22 12 31.7	+0.5
WHHZ	**Waihua**	**2.31**	**218**	P	Pn	22 12 31.9	+0.2
MTHZ	**Maungataniwha**	**2.35**	**227**	P	Pn	22 12 32.8	+0.4
NMHZ	**Naumai**	**2.54**	**223**	P	Pn	22 12 35.3	+0.3
ARHZ	**Aropaoanui**	**2.57**	**218**	P	Pn	22 12 35.2	0.0
MRHZ	**Matea Rd**	**2.60**	**232**	P	Pn	22 12 35.9	+0.2
KUZ	**Kuaotunu**	**2.71**	**280**	P	Pn	22 12 35.9	-1.2
BKZ	**Black Stump Fm**	**2.77**	**226**	P	Pn	22 12 37.7	-0.3
CKHZ	**Cape Kidnapper**	**2.85**	**212**	P	Pn	22 12 38.2	-0.9
TOZ	**Tahuroa Road**	**2.85**	**259**	P	Pn	22 12 39.0	-0.1
KWHZ	**Kaweka Forest**	**2.98**	**223**	P	Pn	22 12 40.2	-0.8
KAHZ	**Kahuranaki**	**3.05**	**213**	P	Pn	22 12 40.7	-1.1
GRZ	**Great Barrier**	**3.05**	**288**	P	Pn	22 12 42.4	+0.5
MKAZ	**Moumakai**	**3.10**	**272**	P	Pn	22 12 41.9	-0.7
KRHZ	**Kereru**	**3.17**	**221**	P	Pn	22 12 42.4	-1.1
TMVZ	**Te Maari**	**3.22**	**234**	P	Pn	22 12 44.0	-0.3
ETVZ	**East Tongariro**	**3.22**	**233**	P	Pn	22 12 44.0	-0.4
NTVZ	**North Tongarir**	**3.23**	**234**	P	Pn	22 12 44.5	+0.1
BHHZ	**Black Hill Sta**	**3.23**	**226**	P	Pn	22 12 43.8	-0.6
KRVZ	**Karewarewa**	**3.25**	**235**	P	Pn	22 12 44.7	0.0
WTVZ	**West Tongariro**	**3.29**	**235**	P	Pn	22 12 45.5	+0.2
SNVZ	**South Ngauruho**	**3.30**	**233**	P	Pn	22 12 45.3	-0.1
ETAZ	**East Tamaki Re**	**3.30**	**274**	P	Pn	22 12 45.2	-0.1
NGZ	**Ngauruhoe**	**3.32**	**234**	P	Pn	22 12 45.3	-0.4
MOVZ	**Moawhango**	**3.36**	**229**	P	Pn	22 12 45.6	-0.6
FWVZ	**Far West T-bar**	**3.39**	**233**	P	Pn	22 12 46.5	-0.3
WNVZ	**Wahianoa**	**3.41**	**232**	P	Pn	22 12 46.2	-0.7
PNHZ	**Pukenui**	**3.46**	**219**	P	Pn	22 12 45.9	-1.7
HIZ	**Hauiti**	**3.54**	**248**	P	Pn	22 12 50.0	+1.4
PRHZ	**Porangahau**	**3.54**	**211**	P	Pn	22 12 46.8	-1.9
TSZ	**Takapari Road**	**3.69**	**220**	P	Pn	22 12 48.5	-2.2
WCZ	**Waipu Caves**	**4.00**	**288**	P	Pn	22 12 55.2	+0.2
WAZ	**Wanganui**	**4.04**	**231**	P	Pn	22 12 55.6	+0.1
OUZ	**Omahuta**	**4.85**	**293**	P	Pn	22 13 07.4	+0.8
CTZ	**Chatham Island**	**7.26**	**154**	P	Pn	22 13 41.0	+1.3

*IDC **03** 22:25:14.4±0.8, 22°.08S×68°.02W, h108km±14km, mb3.8/1, mbtmp4.2/4, Error ellipse: s-maj=31.7km s-min=14.5km az=115.0*
*GUC **03** 22:25:14.7±0.8, 21°.94S×68°.51W, h135km±5km, ML4.0*
*NEIC **03** 22:25:14.3±1.5, 21°.97S±0°.03×68°.54W±0°.04, h136km±6km, mb4.1/9, ML4.0(GUC), Error ellipse: s-maj=6.8km s-min=2.1km az=123.0*
*VAO **03** 22:25:17.6±0.9, 21°.78S×68°.21W, h145km, mb4.2*
ISC 03 22:25:14.0±0.6, 21°.96S±0°.03×68°.50W±0°.05, h136km±6km, n97, σ1°.943/120, mb4.2/5, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.71**	**283**		**Pn**	**22 25 35.7**	**+0.4**
PB09				Sn	**Sn**	**22 25 51.2**	**-0.1**
PB09	**IPOC Station P**	**0.71**	**283**	⇑*i*P	**Pn**	**22 25 35.8**	**+0.6**
PB09				*i* S	**Sn**	**22 25 51.3**	**-0.1**
PB09				IAML		22 25 53.5	
	comp=N,3μm,0.3s						
LVC	**Limon Verde**	**0.75**	**210**	P	**Pn**	**22 25 35.8**	**0.0**
	comp=N,211nm,0.3s,baz=46,slow=7.4,SNR=795						
LVC				S	**Sn**	**22 25 51.9**	**-0.4**
	comp=N,469nm,0.3s,baz=318,slow=23,SNR=21						
LVC	**Limon Verde**	**0.75**	**210**	*e*P	**Pn**	**22 25 35.4**	**-0.4**
LVC				*i* S	**Sn**	**22 25 51.6**	**-0.7**
AF01	**San Pedro de A**	**1.03**	**163**		**Pn**	**22 25 38.5**	**+0.4**
AF01				Sn	**Sn**	**22 25 56.9**	**+0.6**
AF01	**San Pedro de A**	**1.03**	**163**	*e*P	**Pn**	**22 25 38.1**	**+0.1**
AF01				*i* S	**Sn**	**22 25 56.6**	**+0.3**
AF01				IAML		22 26 13.0	
	comp=N,2μm,0.4s						
PB06	**IPOC Station P**	**1.24**	**233**		**Pn**	**22 25 40.4**	**+0.5**
PB06				Sn	**Sn**	**22 25 59.9**	**+0.3**
PB06	**IPOC Station P**	**1.24**	**233**	⇑*i*P	**Pn**	**22 25 40.5**	**+0.6**
PB06				*i* S	**Sn**	**22 26 00.2**	**+0.5**
PB06				IAML		22 26 00.8	
	comp=N,3μm,0.6s						
PB01	**IPOC Station P**	**1.30**	**315**		**Pn**	**22 25 40.5**	**+0.1**
PB01	**IPOC Station P**	**1.30**	**315**	⇑*i*P	**Pn**	**22 25 40.6**	**+0.1**
PB01				*i* S	**Sn**	**22 25 59.8**	**-0.7**
PB01				IAML		22 26 01.6	
	comp=N,2μm,0.2s						
PB07	**IPOC Station P**	**1.31**	**280**		**Pn**	**22 25 40.9**	**+0.3**
PB07				Sn	**Sn**	**22 26 00.7**	**-0.2**
PB07	**IPOC Station P**	**1.31**	**280**	⇑*i*P	**Pn**	**22 25 41.1**	**+0.5**
PB07				*i* S	**Sn**	**22 26 00.7**	**-0.2**
PB07				IAML		22 26 02.8	
	comp=N,2μm,0.5s						
PB02	**IPOC Station P**	**1.45**	**296**		**Pn**	**22 25 42.3**	**+0.3**
PB02	**IPOC Station P**	**1.45**	**296**	⇑*i*P	**Pn**	**22 25 42.3**	**+0.3**
PB02				*i* S	**Sn**	**22 26 02.9**	**-0.5**
PB02				IAML		22 26 03.5	
	comp=E,4μm,0.3s						
PB15	**IPOC Station P**	**1.53**	**216**		**Pn**	**22 25 43.6**	**+0.6**
PB15	**IPOC Station P**	**1.53**	**216**	⇑*i*P	**Pn**	**22 25 43.8**	**+0.7**
PB15				*i* S	**Sn**	**22 26 06.3**	**+1.0**
PB04	**IPOC Station P**	**1.57**	**256**		**Pn**	**22 25 43.8**	**+0.3**
PB04	**IPOC Station P**	**1.57**	**256**	⇑*i*P	**Pn**	**22 25 43.9**	**+0.5**
PB04				*i* S	**Sn**	**22 26 05.6**	**-0.4**
PB04				IAML		22 26 09.4	
	comp=N,1μm,0.4s						
TA01	**Diego Aracena**	**2.09**	**311**		**Pn**	**22 25 49.1**	**-0.3**
TA01	**Diego Aracena**	**2.09**	**311**	*e*P	**Pn**	**22 25 49.1**	**-0.3**
TA01				*i* S	**Sn**	**22 26 15.9**	**-0.6**
TA02	**Huaiquique**	**2.27**	**318**		**Pn**	**22 25 51.1**	**-0.5**
TA02	**Huaiquique**	**2.27**	**318**	*e*P	**Pn**	**22 25 51.0**	**-0.6**
TA02				*i* S	**Sn**	**22 26 18.6**	**-1.8**
TA02				IAML		22 26 24.8	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**2.37**	**344**		**Pn**	**22 25 53.7**	**+0.4**
GO01	**Chusmiza**	**2.37**	**344**	*e*P	**Pn**	**22 25 53.9**	**+0.6**
GO01				*i* S	**Sn**	**22 26 24.1**	**+0.6**
GO01				IAML		22 26 26.2	
	comp=N,588nm,0.1s						
PB10	**IPOC Station P**	**2.44**	**230**		**Pn**	**22 25 53.6**	**-0.2**
PB10	**IPOC Station P**	**2.44**	**230**	⇑*i*P	**Pn**	**22 25 53.6**	**-0.2**
PB10				*i* S	**Sn**	**22 26 21.9**	**-2.4**
PB14	**IPOC Station P**	**3.18**	**213**	Pn	**Pn**	**22 26 03.3**	**-0.1**
PB14	**IPOC Station P**	**3.18**	**213**	*e*P	**Pn**	**22 26 03.1**	**-0.2**
PB14				*i* S	**Sn**	**22 26 39.9**	**-1.7**
PB14				IAML		22 26 42.5	
	comp=E,228nm,0.3s						
GO02	**Mina Guanaco**	**3.34**	**197**	Pn	**Pn**	**22 26 05.5**	**+0.1**
GO02	**Mina Guanaco**	**3.34**	**197**	⇑*i*P	**Pn**	**22 26 05.6**	**+0.1**
GO02				*i* S	**Sn**	**22 26 45.2**	**-0.1**
PB16	**IPOC Station P**	**3.73**	**345**	Pn	**Pn**	**22 26 10.9**	**0.0**
PB16	**IPOC Station P**	**3.73**	**345**	⇑*i*P	**Pn**	**22 26 11.6**	**+0.7**
PB12	**IPOC Station P**	**3.75**	**332**		**Pn**	**22 26 09.0**	**-1.5**
PB12	**IPOC Station P**	**3.75**	**332**	*e*P	**Pn**	**22 26 09.1**	**-1.5**
AC01	**Pan de Azucar**	**4.59**	**204**	Pn	**Pn**	**22 26 20.4**	**-1.2**
AC01	**Pan de Azucar**	**4.59**	**204**	*e*P	**Pn**	**22 26 20.1**	**-1.5**
AC01				*i* S	**Sn**	**22 27 10.0**	**-4.3**
AC02	**Maricunga**	**4.88**	**187**	Pn	**Pn**	**22 26 25.6**	**-0.5**
AC06	**Mina Casimiro**	**5.63**	**197**		**Pn**	**22 26 33.4**	**-2.2**
LPAZ	**La Paz**	**5.66**	**4**	P	**Pn**	**22 26 39.1**	**+2.5**
	comp=E,2.8nm,0.4s,baz=178,slow=4.8,SNR=38						
LPAZ				S	**Sn**	**22 27 43.8**	**+2.9**
	comp=E,2.6nm,0.6s,baz=49,slow=23,SNR=1.9						
LPAZ	**La Paz**	**5.66**	**4**		**Pn**	**22 26 36.8**	**+0.3**
LPAZ	**La Paz**	**5.66**	**4**	*e*P	**Pn**	**22 26 37.3**	**+0.7**
AC04	**Llanos de Chal**	**6.64**	**200**	Pn	**Pn**	**22 26 44.9**	**-4.2**
AC05	**El Transito**	**7.03**	**193**	Pn	**Pn**	**22 26 52.2**	**-2.3**
CO01	**Juntas del Tor**	**8.11**	**190**	Pn	**Pn**	**22 27 05.9**	**-3.2**
SIV	**San Ignacio**	**9.20**	**51**	P	**Pn**	**22 27 20.5**	**-3.1**
	comp=E,31nm,0.4s,baz=242,slow=11,SNR=159						
SIV				S	**Sn**	**22 28 58.5**	**-7.1**
	comp=E,1.7nm,0.4s,baz=132,slow=22,SNR=2.2						

PTLB	**Pontes e Lacer**	**10.98**	**55**	Pn	**Pn**	**22 27 45.2**	**-2.2**
ANTJ	**Antonio Joao (**	**11.60**	**93**	*e*P	**Pn**	**22 27 54.6**	**-0.9**
VILB	**Vilhena**	**11.95**	**43**		**Pn**	**22 27 58.3**	**-1.9**
VILB	**Vilhena**	**11.95**	**43**	*e*P	**Pn**	**22 27 59.4**	**-0.8**
AQDB	**Aquidauana**	**12.03**	**85**	Pn	**Pn**	**22 28 03.6**	**+2.4**
AQDB	**Aquidauana**	**12.03**	**85**	*e*P	**Pn**	**22 28 01.3**	**+0.2**
UNIS	**Unistalda (Bra**	**14.03**	**123**	*e*P	**Pn**	**22 28 28.6**	**+1.7**
CRSM	**Crissiumal (Br**	**14.24**	**116**	*e*P	**Pn**	**22 28 30.9**	**+1.4**
PDRB	**Porto dos Gac**	**15.25**	**49**	*e*P	**Pn**	**22 28 41.3**	**-1.0**
PTGB	**Pitanga**	**15.34**	**103**	*e*P	**P**	**22 28 46.1**	**+1.0**
ALGR	**Alto Alegre (B**	**15.54**	**119**	*e*P	**P**	**22 28 48.1**	**+0.8**
ITAB	**Concordia**	**15.78**	**113**	P	**P**	**22 28 49.7**	**-0.1**
ITAB	**Concordia**	**15.78**	**113**	*e*P	**Pn**	**22 28 49.2**	**+0.4**
CPSB	**Cacapava Do Su**	**15.91**	**125**	*e*P	**P**	**22 28 51.8**	**+0.6**
PCMB	**Pacaembu**	**16.02**	**92**	*e*P	**Pn**	**22 28 51.5**	**-0.2**
CLDB	**Colider**	**16.42**	**50**	*e*P	**Pn**	**22 28 56.8**	**+0.1**
PLTB	**Pedras Altas**	**16.48**	**129**	*e*P	**P**	**22 28 58.7**	**+1.2**
TRQA	**Tornquist**	**17.00**	**162**	P	**P**	**22 29 03.0**	**-0.2**
ITRB	**Iturama**	**17.11**	**86**	*e*P	**Pn**	**22 29 04.9**	**-0.1**
BB19B	**Bebedouro**	**18.61**	**91**	*e*P	**P**	**22 29 20.5**	**-0.5**
TER01	**Tubaro-SC**	**18.69**	**114**	*e*P	**P**	**22 29 22.1**	**+0.3**
SNDB	**Serra Nova Dou**	**19.20**	**62**	*e*P	**P**	**22 29 26.6**	**-0.9**
IPMB	**Ipameri, GO**	**19.47**	**82**	*e*P	**P**	**22 29 30.7**	**+0.2**
NPGB	**Novo Progresso**	**19.52**	**42**	*e*P	**P**	**22 29 29.6**	**-1.3**
PET01	**Itanhaem-SP**	**19.66**	**101**	*e*P	**P**	**22 29 32.7**	**+0.4**
VAO	**Valinhos**	**19.93**	**97**	*e*P	**P**	**22 29 35.2**	**-0.2**
MACA	**Manacapuru-AM**	**20.17**	**23**	P	**P**	**22 29 37.0**	**-0.9**
MACA				IAmb	IAmb	22 29 41.0	
	comp=Z,29nm,0.9s						
MACA	**Manacapuru-AM**	**20.17**	**23**	*e*P	**P**	**22 29 37.4**	**-0.5**
BDFB	**Brasilia**	**20.38**	**76**	P	**P**	**22 29 39.1**	**-1.2**
	comp=Z,2.9nm,0.4s,baz=232,slow=12,SNR=6.3						
BDFB	**Brasilia**	**20.38**	**76**	P	**P**	**22 29 39.0**	**-1.3**
BDFB				IAmb	IAmb	22 29 40.5	
	comp=Z,7.4nm,1.2s						
BDFB	**Brasilia**	**20.38**	**76**	*e*P	**P**	**22 29 39.4**	**-0.9**
PMNB	**Patos De Minas**	**20.98**	**85**	*e*P	**P**	**22 29 46.2**	**-0.4**
ITTB	**Itaituba**	**21.43**	**37**	*e*P	**P**	**22 29 50.4**	**-1.0**
JANB	**Januaria**	**23.93**	**77**	*e*P	**P**	**22 30 14.4**	**-1.2**
PRPB	**Parauapebas**	**23.93**	**52**	*e*P	**P**	**22 30 14.6**	**-1.0**
SMTB	**Santa Maria do**	**23.96**	**60**	*e*P	**P**	**22 30 15.6**	**-0.3**
MALB	**Monte Alegre**	**24.32**	**37**	*e*P	**P**	**22 30 19.8**	**+0.7**
SDBA	**SAO DESIDERIO**	**24.43**	**71**	*e*P	**P**	**22 30 20.7**	**+0.4**
BOAV	**Boa Vista**	**25.43**	**19**	P	**P**	**22 30 30.4**	**+1.2**
BOAV				IAmb	IAmb	22 30 37.5	
	comp=Z,4.2nm,1.3s						
BOAV	**Boa Vista**	**25.43**	**19**	*e*P	**P**	**22 30 30.8**	**+1.6**
RIB01	**Linhares ES**	**26.42**	**89**	*e*P	**P**	**22 30 38.5**	**+0.3**
GUA01	**Guaratinga, BA**	**27.59**	**84**	*e*P	**P**	**22 30 49.5**	**+0.9**
GDU01	**Guandu, BA**	**28.69**	**78**	*e*P	**P**	**22 30 58.5**	**+0.1**
BELA	**Belgrano 2**	**58.24**	**172**	P	**P**	**22 34 51.9**	**-1.7**
BELA				IAmb	IAmb	22 34 52.4	
	comp=Z,3.2nm,1.4s						
SNAA	**Sanae**	**61.72**	**161**	P	**P**	**22 35 19.7**	**+2.2**
SNAA	**Sanae**	**61.72**	**161**	P	**P**	**22 35 19.1**	**+1.6**
SNAA				IAmb	IAmb	22 35 36.5	
	comp=Z,4.9nm,1.5s						
TROLL	**Troll, Antarti**	**63.44**	**161**	P	**P**	**22 35 31.4**	**+2.5**
QSPA

	baz=63								
GAR				⇓*i*S		Sn	22 47 00.0	-4.7	
	baz=63								
UCH	**Uchtor**	**2.69**	**14**	⇑*e*P		Pn	22 46 34.9	+2.1	
	baz=14								
UCH				⇑*e*S		Sb	22 47 10.8	+0.1	
	baz=14								
TRKS	**Terek-Say**	**2.70**	**316**	⇑*e*P		Pn	22 46 32.3	-0.4	
	baz=20								
TRKS				⇑*e*S		Sn	22 47 06.1	+0.2	
	baz=20								
MRKS	**Merke**	**3.14**	**354**	*e*P		Pb	22 46 46.6	+1.8	
	2.1nm,0.2s								
MRKS				*e*S		Sg	22 47 28.9	-0.4	
	5.3nm,0.5s								
MRKS	**Merke**	**3.14**	**354**	Pg		Pb	22 46 46.6	+1.8	
	2.1nm,0.2s								
MRKS				Lg		Lg	22 47 28.9		
	5.3nm,0.5s								
IUG	**luzhnay**	**3.73**	**314**	*e*P		Pg	22 46 58.1	-1.8	
	42nm,0.1s								
IUG				*e*S		Sg	22 47 48.8	+0.6	
	4.0nm,0.5s								
IUG	**luzhnay**	**3.73**	**314**	Pg		Pg	22 46 58.1	-1.8	
	71nm,0.6s								
IUG				Lg		Lg	22 47 48.8		
	4.0nm,0.5s								
KST	**Kastek**	**3.84**	**26**	*e*P		Pg	22 46 59.5	-2.5	
	0.7nm,0.2s								
KST				*e*S		Sg	22 47 51.4	-0.4	
	2.8nm,0.7s								
KST	**Kastek**	**3.84**	**26**	Pg		Pg	22 46 59.5	-2.5	
	0.7nm,0.2s								
KST				Lg		Lg	22 47 51.4		
	2.8nm,0.7s								
DGS	**Degeres**	**3.96**	**23**	*e*P		Pg	22 47 02.3	-1.9	
	1.3nm,0.3s								
DGS				*e*S		Sg	22 47 55.6	+0.1	
	4.7nm,0.6s								
DGS	**Degeres**	**3.96**	**23**	Pg		Pg	22 47 02.3	-1.9	
	1.3nm,0.6s								
DGS				Lg		Lg	22 47 55.6		
	4.7nm,0.6s								
KK31	**Karatay Array**	**4.21**	**327**	⇑Pn		Pb	22 46 59.3	-3.6	
	0.2nm,0.4s,baz=137,slow=13,SNR=5.4								
KK31				⇑Sn		Sn	22 47 48.1	+5.4	
	0.4nm,0.4s,baz=137,slow=13								
KK31				⇑Lg		Lg	22 48 08.6		
	0.6nm,0.5s,baz=135,slow=29								
KRBS	**Karabastau**	**4.35**	**20**	*e*P		Pg	22 47 09.3	-2.4	
	0.6nm,0.3s								
KRBS				*e*S		Sg	22 48 07.9	-0.1	
	2.3nm,0.1s								
KTBS	**Karatobe**	**4.68**	**28**	*e*P		Pg	22 47 15.5	-2.5	
	0.7nm,0.6s								
KTBS				*e*S		Sg	22 48 18.2	-0.4	
	2.1nm,0.6s								
KTBS	**Karatobe**	**4.68**	**28**	Pg		Pg	22 47 15.5	-2.5	
	0.7nm,0.6s								
KTBS				Lg		Lg	22 48 18.2		
	2.1nm,0.6s								
KUU	**Kurty**	**4.72**	**24**	*e*P		Pg	22 47 16.8	-2.0	
	0.7nm,0.2s								
KUU				*e*S		Sg	22 48 20.4	+0.3	
	2.2nm,0.8s								
KUU	**Kurty**	**4.72**	**24**	Pg		Pg	22 47 16.8	-2.0	
	0.7nm,0.6s								
KUU				Lg		Lg	22 48 20.4		
	2.2nm,0.8s								

*NOU **03** 22:51:18.0,38˙.14S×176˙.57E,h178km,mb4.6/7, North Island, New Zealand*
*WEL **03** 22:51:23.4,38˚S±8˚×17˚6E±˚, h121km±14km, M2.7/55, ML2.5/32, MLv2.7/55, Error ellipse: s-maj=0.0km s-min=0.0km az=148.8*
ISC 03 22:51:19.4±1.6, 38˙.14S±0˙.05×176˙.51E±0˙.05, h150km, n103, σ1§36/102, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC	h	m	s	ISC
RRRZ	**Republican Roa**	**0.20**	**180**	P	**Pn**	**22**	**51**	**40.1**	**+0.4**
OPRZ	**Ohinepanea**	**0.30**	**6**	P	**Pn**	**22**	**51**	**39.6**	**-0.4**
MUGZ	**Murupara**	**0.39**	**149**	P	**Pn**	**22**	**51**	**38.0**	**-2.2**
ALRZ	**Allen Road**	**0.44**	**198**	P	**Pn**	**22**	**51**	**41.5**	**+1.1**
TGRZ	**Tauranga**	**0.46**	**334**	P	**Pn**	**22**	**51**	**40.5**	**-0.1**
WPRZ	**Whakapapatarin**	**0.47**	**216**	P	**Pn**	**22**	**51**	**41.8**	**+1.2**
URZ	**Urewera**	**0.49**	**104**	P	Pn	22	51	35.0	-5.6
RTZ	**Ruatahuna**	**0.60**	**142**	P	**Pn**	**22**	**51**	**41.4**	**+0.1**
KUTZ	**Kaahu Road**	**0.64**	**237**	P	**Pn**	**22**	**51**	**43.1**	**+1.6**
MRHZ	**Matea Rd**	**0.69**	**186**	P	**Pn**	**22**	**51**	**43.0**	**+1.1**
MTHZ	**Maungataniwha**	**0.76**	**160**	P	**Pn**	**22**	**51**	**42.6**	**+0.3**
TLZ	**Tolley Road**	**0.79**	**256**	P	**Pn**	**22**	**51**	**44.1**	**+1.6**
RAGZ	**Rawiri**	**0.79**	**117**	P	**Pn**	**22**	**51**	**43.1**	**+0.5**
MWZ	**Matawai**	**0.82**	**104**	P	**Pn**	**22**	**51**	**43.0**	**+0.2**
WATZ	**Wairara**	**0.83**	**227**	P	**Pn**	**22**	**51**	**44.6**	**+1.7**
RAHZ	**Arahi**	**0.90**	**150**	P	**Pn**	**22**	**51**	**44.7**	**+1.3**
TOZ	**Tahuroa Road**	**0.90**	**297**	P	**Pn**	**22**	**51**	**44.3**	**+1.0**
SNGZ	**Shannon Statio**	**0.91**	**135**	P	**Pn**	**22**	**51**	**44.4**	**+1.0**
RATZ	**Rangitukua**	**0.93**	**219**	P	**Pn**	**22**	**51**	**45.3**	**+1.7**
RITZ	**Rihia Road**	**0.98**	**211**	P	**Pn**	**22**	**51**	**46.1**	**+2.1**
NMHZ	**Naumai**	**0.98**	**167**	P	**Pn**	**22**	**51**	**46.1**	**+2.0**
BKZ	**Black Stump Fm**	**1.02**	**181**	P	**Pn**	**22**	**51**	**45.6**	**+1.2**
BKZ	**Black Stump Fm**	**1.02**	**181**	P	**Pn**	**22**	**51**	**45.6**	**+1.2**
KATZ	**Kakaramea**	**1.05**	**217**	P	**Pn**	**22**	**51**	**46.4**	**+1.6**
TKGZ	**Te Karaka**	**1.09**	**106**	P	**Pn**	**22**	**51**	**48.7**	**+3.8**
WHHZ	**Waihua**	**1.09**	**149**	P	**Pn**	**22**	**51**	**46.3**	**+1.3**
RIGZ	**Rimuhau**	**1.13**	**120**	P	**Pn**	**22**	**51**	**46.0**	**+0.7**
TWGZ	**Tauwhareparae**	**1.15**	**92**	P	**Pn**	**22**	**51**	**42.4**	**-3.2**
NTVZ	**North Tongarir**	**1.16**	**214**	P	**Pn**	**22**	**51**	**47.5**	**+1.8**
TMVZ	**Te Maari**	**1.16**	**213**	P	**Pn**	**22**	**51**	**47.5**	**+1.8**
KRVZ	**Karewarewa**	**1.17**	**215**	P	**Pn**	**22**	**51**	**47.7**	**+1.9**
ETVZ	**East Tongariro**	**1.18**	**212**	P	**Pn**	**22**	**51**	**47.7**	**+1.9**
ARHZ	**Aropaoanui**	**1.18**	**161**	P	**Pn**	**22**	**51**	**47.4**	**+1.6**
WTVZ	**West Tongariro**	**1.21**	**216**	P	**Pn**	**22**	**51**	**48.1**	**+1.9**
NNVZ	**North Ngauruho**	**1.21**	**215**	P	**Pn**	**22**	**51**	**48.2**	**+1.9**
OTVZ	**Oturere**	**1.22**	**213**	P	**Pn**	**22**	**51**	**48.4**	**+2.1**
SNVZ	**South Ngauruho**	**1.25**	**213**	P	**Pn**	**22**	**51**	**48.7**	**+2.1**
TWVZ	**Taurewa**	**1.25**	**222**	P	**Pn**	**22**	**51**	**48.4**	**+1.9**
NGZ	**Ngauruhoe**	**1.25**	**214**	P	**Pn**	**22**	**51**	**48.6**	**+2.0**
KNZ	**Kokohu**	**1.27**	**134**	P	**Pn**	**22**	**51**	**47.4**	**+0.8**
KWHZ	**Kaweka Forest**	**1.28**	**183**	P	**Pn**	**22**	**51**	**48.5**	**+1.7**
PRGZ	**Paritu Road**	**1.33**	**126**	P	**Pn**	**22**	**51**	**48.0**	**+0.8**
FWVZ	**Far West T-bar**	**1.34**	**214**	P	**Pn**	**22**	**51**	**49.5**	**+1.9**
WHVZ	**Whangaehu Hut**	**1.35**	**212**	P	**Pn**	**22**	**51**	**49.5**	**+1.8**
WNVZ	**Wahianoa**	**1.38**	**211**	P	**Pn**	**22**	**51**	**49.7**	**+1.8**
BHHZ	**Black Hill Sta**	**1.39**	**194**	P	**Pn**	**22**	**51**	**49.3**	**+1.4**
MOVZ	**Moawhango**	**1.40**	**205**	P	**Pn**	**22**	**51**	**49.3**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.49**	**133**	P	**Pn**	**22**	**51**	**49.9**	**+1.1**
MKAZ	**Moumakai**	**1.49**	**314**	P	**Pn**	**22**	**51**	**49.7**	**+0.8**
KRHZ	**Kereru**	**1.50**	**184**	P	**Pn**	**22**	**51**	**50.4**	**+1.4**
KUZ	**Kuaotunu**	**1.53**	**335**	P	**Pn**	**22**	**51**	**47.4**	**-1.9**
CKHZ	**Cape Kidnapper**	**1.58**	**164**	P	**Pn**	**22**	**51**	**51.4**	**+1.7**
KAHZ	**Kahuranaki**	**1.68**	**170**	P	**Pn**	**22**	**51**	**52.5**	**+1.7**
ETAZ	**East Tamaki Re**	**1.73**	**313**	P	**Pn**	**22**	**51**	**52.7**	**+1.2**
WIAZ	**Waiheke Island**	**1.74**	**320**	P	**Pn**	**22**	**51**	**52.2**	**+0.7**
PNHZ	**Pukenui**	**1.79**	**188**	P	**Pn**	**22**	**51**	**53.2**	**+1.2**
AWAZ	**Awhitu Peninsu**	**1.83**	**305**	P	**Pn**	**22**	**51**	**53.7**	**+1.1**
MBAZ	**Motutapu North**	**1.88**	**316**	P	**Pn**	**22**	**51**	**54.1**	**+1.0**
PXZ	**Pawanui**	**1.91**	**172**	P	**Pn**	**22**	**51**	**54.6**	**+1.3**
WPHZ	**Waipukurau**	**1.92**	**182**	P	**Pn**	**22**	**51**	**54.8**	**+1.2**
TSZ	**Takapari Road**	**1.96**	**192**	P	**Pn**	**22**	**51**	**55.1**	**+1.0**
WAZ	**Wanganui**	**2.00**	**216**	P	**Pn**	**22**	**51**	**56.6**	**+2.0**
PRHZ	**Porangahau**	**2.12**	**177**	P	**Pn**	**22**	**51**	**56.8**	**+0.8**
DVHZ	**Dannevirke**	**2.17**	**187**	P	**Pn**	**22**	**51**	**57.2**	**+0.7**
POWZ	**Post Office Ro**	**2.32**	**194**	P	**Pn**	**22**	**51**	**59.3**	**+1.0**
PRWZ	**Pori Road**	**2.45**	**190**	P	**Pn**	**22**	**52**	**01.1**	**+1.2**
BFZ	**Birch Farm**	**2.54**	**185**	P	**Pn**	**22**	**52**	**01.7**	**+0.7**
BFZ	**Birch Farm**	**2.54**	**185**	P	**Pn**	**22**	**52**	**01.8**	**+0.8**
MRZ	**Mangatainoka R**	**2.62**	**196**	P	**Pn**	**22**	**52**	**02.4**	**+0.5**
TIWZ	**Tintock**	**2.67**	**190**	P	**Pn**	**22**	**52**	**03.4**	**+0.7**
CPWZ	**Castlepoint**	**2.77**	**185**	P	**Pn**	**22**	**52**	**05.1**	**+1.3**
HOWZ	**Holdsworth Sta**	**2.86**	**195**	P	**Pn**	**22**	**52**	**05.2**	**+0.2**
OGWZ	**Otaki Gorge**	**2.87**	**201**	P	**Pn**	**22**	**52**	**05.4**	**+0.4**
KIW	**Kapiti Island**	**2.98**	**204**	P	**Pn**	**22**	**52**	**06.6**	**+0.1**
TMWZ	**Te Maipa**	**3.00**	**189**	P	**Pn**	**22**	**52**	**04.7**	**-2.0**
MTW	**Mount Morrison**	**3.11**	**194**	P	**Pn**	**22**	**52**	**08.0**	**-0.1**
CAW	**Cannon Point**	**3.17**	**200**	P	**Pn**	**22**	**52**	**08.7**	**-0.1**
TRWZ	**Traveller**	**3.31**	**191**	P	**Pn**	**22**	**52**	**10.7**	**0.0**
DUWZ	**D'Urville Isla**	**3.33**	**216**	P	**Pn**	**22**	**52**	**10.8**	**-0.1**
PAWZ	**Paruwai Farm**	**3.34**	**194**	P	**Pn**	**22**	**52**	**10.7**	**-0.4**
MSWZ	**Moikau Station**	**3.41**	**196**	P	**Pn**	**22**	**52**	**11.5**	**-0.5**
SNZO	**South Karori**	**3.46**	**203**	P	**Pn**	**22**	**52**	**12.2**	**-0.3**
TCW	**Tory Channel**	**3.52**	**209**	P	**Pn**	**22**	**52**	**12.8**	**-0.5**
PLWZ	**Palliser**	**3.56**	**195**	P	**Pn**	**22**	**52**	**13.2**	**-0.7**
TUWZ	**Tuamarina**	**3.83**	**210**	P	**Pn**	**22**	**52**	**16.8**	**-0.6**
NNZ	**Nelson**	**3.91**	**217**	P	**Pn**	**22**	**52**	**18.1**	**-0.3**
TKNZ	**Takaka Hill**	**3.98**	**222**	P	**Pn**	**22**	**52**	**19.0**	**-0.3**
QRZ	**Quartz Range**	**4.08**	**228**	P	**Pn**	**22**	**52**	**20.4**	**-0.2**
QRZ	**Quartz Range**	**4.08**	**228**	P	**Pn**	**22**	**52**	**20.8**	**+0.1**
BSWZ	**Blackbirch Sta**	**4.10**	**209**	P	**Pn**	**22**	**52**	**20.6**	**-0.3**
MRNZ	**Matariki Terra**	**4.35**	**220**	P	**Pn**	**22**	**52**	**23.7**	**-0.5**
THZ	**Tophouse**	**4.56**	**216**	P	**Pn**	**22**	**52**	**26.6**	**-0.3**
KHZ	**Kahutara**	**4.84**	**207**	P	**Pn**	**22**	**52**	**29.6**	**-1.0**
KHZ	**Kahutara**	**4.84**	**207**	P	**Pn**	**22**	**52**	**29.8**	**-0.7**
LTZ	**Lake Taylor**	**5.65**	**214**	P	**Pn**	**22**	**52**	**39.7**	**-1.7**
WACZ	**Wakanui South**	**6.79**	**210**	P	**Pn**	**22**	**52**	**54.6**	**-1.8**
RPZ	**Rata Peaks**	**6.93**	**215**	P	**Pn**	**22**	**52**	**57.7**	**-0.8**
RPZ	**Rata Peaks**	**6.93**	**215**	P	**Pn**	**22**	**52**	**58.1**	**-0.4**
ARCZ	**Arundel**	**7.06**	**213**	P	**Pn**	**22**	**52**	**58.8**	**-1.4**
TMZ	**Timaru**	**7.49**	**212**	P	**Pn**	**22**	**53**	**04.4**	**-1.4**
ODZ	**Otahua Downs**	**8.18**	**211**	P	**Pn**	**22**	**53**	**13.2**	**-1.8**
ODZ	**Otahua Downs**	**8.18**	**211**	P	**Pn**	**22**	**53**	**13.4**	**-1.6**
JCZ	**Jackson Bay**	**8.31**	**222**	P	**Pn**	**22**	**53**	**17.6**	**+0.6**

*KRNET **03** 23:10:48.6±0.1, 40˙.45N×77˙.18E, h13km, mb4.3*
*IDC **03** 23:10:48.2±1.6, 40˙.20N×77˙.32E, h0km, mb3.6/7, mbtmp3.6/13, ML3.2/6, MS3.3/8, Error ellipse: s-maj=23.8km s-min=15.7km az=138.0*
*SOME **03** 23:10:49.5, 40˙.53N×76˙.87E, h5km, MS3.6*
*BJI **03** 23:10:49.4±0.0, 40˙.38N×77˙.20E, h12km, mb4.1/3, mB4.5/1, ML4.1/8, Ms3.7/3, Ms7 3.5/2*
*NNC **03** 23:10:51.9±0.8, 40˙.50N×77˙.10E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=6.1km s-min=4.3km az=164.0*
ISC 03 23:10:55.1±1.2, 40˙.63N±0˙.03×77˙.18E±0˙.03, h18km±8km, n102, σ1§81/138, mb3.5/7, MS3.4/6, 30C-22D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC	h	m	s	ISC
KSH	**Kashi**	**1.44**	**220**	Pg	**Pb**	**23**	**11**	**21.5**	**0.0**
KSH				Sg	**Sg**	**23**	**11**	**46.5**	**+4.8**
KSH				smax	smax				
	comp=N,1μm,0.6s								
KSH				smax	smax				
	comp=E,2μm,0.6s								
ULHL	**Ulahol**	**1.77**	**337**	P	**Pn**	**23**	**11**	**25.7**	**+0.8**
	SNR=23								
ULHL	**Ulahol**	**1.77**	**337**	⇑*e*P	**Pn**	**23**	**11**	**24.6**	**-0.3**
	baz=39								
ULHL				⇑*e*S	**Sb**	**23**	**11**	**50.4**	**+1.5**
	baz=39								
ANVS	**Anan'yevo**	**2.19**	**9**	⇑*e*P	**Pn**	**23**	**11**	**30.5**	**-0.2**
	baz=9.0								
ANVS				⇑*e*S	**Sb**	**23**	**12**	**01.0**	**0.0**
	baz=9.0								
TNSS	**Tian-Shan**	**2.42**	**356**	Pg	**Pb**	**23**	**11**	**38.4**	**+0.2**
	149nm,0.4s								
TNSS				Lg	Lg	23	12	14.0	
	921nm,0.6s								
ARLS	**Aral**	**2.48**	**301**	⇑*e*P	**Pn**	**23**	**11**	**33.8**	**-0.9**
	baz=4.0								
ARLS				⇑*e*S	**Sn**	**23**	**12**	**05.9**	**+1.2**
	baz=4.0								
MDOK	**Medeo**	**2.54**	**358**	*e*P	**Pb**	**23**	**11**	**40.6**	**+0.4**
	140nm,0.8s								
MDOK				*e*S	**Sg**	**23**	**12**	**16.7**	**0.0**
	728nm,0.7s								
MDOK	**Medeo**	**2.54**	**358**	⇓Pn	**Pn**	**23**	**11**	**36.8**	**+1.3**
	159nm,0.6s								
MDOK				Pg	**Pb**	**23**	**11**	**40.6**	**+0.4**
	140nm,0.8s								
MDOK				Lg	Lg	23	12	16.7	
	728nm,0.7s								
MDOK				⇑Lg	Lg	23	12	16.8	
	716nm,0.6s								
MTBS	**Maitube**	**2.56**	**348**	*e*P	**Pb**	**23**	**11**	**40.8**	**+0.3**
	37nm,0.5s								
MTBS				*e*S	**Sg**	**23**	**12**	**17.2**	**-0.3**
	324nm,0.1s								
MTBS	**Maitube**	**2.56**	**348**	Pg	**Pb**	**23**	**11**	**40.8**	**+0.3**
	37nm,0.5s								
MTBS				Lg	Lg	23	12	17.2	
	319nm,0.4s								
UCH	**Uchtor**	**2.56**	**309**	P	**Pn**	**23**	**11**	**37.5**	**+1.4**
	SNR=32								
UCH	**Uchtor**	**2.56**	**309**	⇑*e*P	**Pn**	**23**	**11**	**35.1**	**-1.0**
	baz=12								
UCH				⇑*e*S	**Sn**	**23**	**12**	**09.0**	**+1.9**
	baz=12								
KST	**Kastek**	**2.58**	**340**	*e*P	**Pb**	**23**	**11**	**40.6**	**-0.2**
	40nm,0.6s								
KST				*e*S	**Sg**	**23**	**12**	**16.8**	**-1.2**
	454nm,0.7s								
KST	**Kastek**	**2.58**	**340**	Pg	**Pb**	**23**	**11**	**40.7**	**-0.2**
	40nm,0.6s								
KST				Lg	Lg	23	12	17.6	
	454nm,0.7s								
TKM2	**Tokmak 2**	**2.58**	**333**	P	**Pn**	**23**	**11**	**38.1**	**+2.0**
	SNR=23								
TKM2	**Tokmak 2**	**2.58**	**333**	⇑Pn	**Pn**	**23**	**11**	**37.5**	**+1.4**
	30nm,0.9s								
TKM2				⇑Lg	Lg	23	12	18.0	
	233nm,0.7s								
TKM2	**Tokmak 2**	**2.58**	**333**	⇑*e*P	**Pn**	**23**	**11**	**36.1**	**0.0**
	baz=35								
TKM2				⇑*e*S	**Sn**	**23**	**12**	**10.1**	**+2.9**
	baz=35								
AAA	**Alma-Ata**	**2.59**	**356**	*e*P	**Pb**	**23**	**11**	**41.6**	**+0.6**
	173nm,0.6s								
AAA				*e*S	**Sg**	**23**	**12**	**18.6**	**+0.4**
	124nm,0.4s								
AAA	**Alma-Ata**	**2.59**	**356**	Pg	**Pb**	**23**	**11**	**41.6**	**+0.6**
	173nm,0.6s								
AAA				Lg	Lg	23	12	19.2	
	124nm,0.4s								
KNDC	**Almaty**	**2.59**	**357**	⇑Pn	**Pn**	**23**	**11**	**38.5**	**+2.3**
	636nm,1.1s								
KNDC				⇑Lg	Lg	23	12	19.3	
	4μm,0.6s								
SATY	**Saty**	**2.60**	**20**	*e*P	**Pb**	**23**	**11**	**41.8**	**+0.6**
	380nm,0.7s								
SATY				*e*S	**Sg**	**23**	**12**	**18.8**	**+0.2**
	938nm,0.6s								
SATY	**Saty**	**2.60**	**20**	Pg	**Pb**	**23**	**11**	**41.8**	**+0.6**
	380nm,0.7s								
SATY				Lg	Lg	23	12	18.8	
	938nm,0.6s								
KBK	**Karagaybulak**	**2.63**	**321**	P	**Pb**	**23**	**11**	**40.6**	**-1.1**
	SNR=73								
KBK	**Karagaybulak**	**2.63**	**321**	⇓*e*P	**Pn**	**23**	**11**	**36.3**	**-0.5**
	baz=23								
KBK				⇓*e*S	**Sn**	**23**	**12**	**10.8**	**+2.5**
	baz=23								
ZHN	**Zhinishke**	**2.71**	**20**	*e*P	**Pb**	**23**	**11**	**43.7**	**+0.6**
	125nm,0.3s								
ZHN				*e*S	**Sg**	**23**	**12**	**21.9**	**-0.3**
	605nm,0.6s								
ZHN	**Zhinishke**	**2.71**	**20**	Pg	**Pb**	**23**	**11**	**43.7**	**+0.6**
	125nm,0.3s								
ZHN				Lg	Lg	23	12	21.9	
	605nm,0.6s								
DGS	**Degeres**	**2.82**	**339**	*e*P	**Pb**	**23**	**11**	**45.0**	**+0.1**
	105nm,0.7s								
DGS				*e*S	**Sg**	**23**	**12**	**24.2**	**-1.4**
	289nm,0.1s								
DGS	**Degeres**	**2.82**	**339**	Pg	**Pb**	**23**	**11**	**44.6**	**-0.3**
	105nm,0.7s								
DGS				Lg	Lg	23	12	24.2	
	292nm,0.8s								
AAK	**Ala-Archa**	**2.84**	**316**	P	**Pb**	**23**	**11**	**44.3**	**-1.1**
	SNR=54								
AAK	**Ala-Archa**	**2.84**	**316**	Pn	**Pn**	**23**	**11**	**41.8**	**+2.1**
	25nm,0.3s,baz=141,slow=12,SNR=80								
AAK				Sn	**Sb**	**23**	**12**	**23.1**	**+3.2**
	15nm,0.3s,baz=321,slow=17,SNR=14								
	54nm,0.3s								
AAK	**Ala-Archa**	**2.84**	**316**	⇓*e*P	**Pn**	**23**	**11**	**39.1**	**-0.6**
	baz=18								
AAK				⇓*e*S	**Sn**	**23**	**12**	**15.7**	**+2.1**
	baz=18								
UZB	**Uzynbulak**	**2.87**	**28**	*e*P	**Pb**	**23**	**11**	**46.2**	**+0.3**
	58nm,0.5s								
UZB				*e*S	**Sg**	**23**	**12**	**25.9**	**-1.4**
	520nm,0.6s								
UZB	**Uzynbulak**	**2.87**	**28**	Pg	**Pb**	**23**	**11**	**46.2**	**+0.3**
	58nm,0.5s								
UZB				Lg	Lg	23	12	25.9	
	520nm,0.6s								
FRU1	**Bishkek**	**2.90**	**320**	⇑*e*P	**Pn**	**23**	**11**	**40.0**	**-0.4**
	baz=22								
FRU1				⇑*i*S	**Sn**	**23**	**12**	**17.0**	**+2.2**
	baz=22								
KURS	**Kuram**	**2.95**	**14**	*e*P	**Pb**	**23**	**11**	**48.2**	**+1.0**
	366nm,1.0s								
KURS				*e*S	**Sg**	**23**	**12**	**29.9**	**-0.1**
	385nm,0.9s								
KURS	**Kuram**	**2.95**	**14**	Pg	**Pb**	**23**	**11**	**48.2**	**+1.0**
	366nm,1.0s								
KURS				Lg	Lg	23	12	29.9	
	385nm,0.9s								
CHMS	**Chumysh**	**2.98**	**323**	P	**Pn**	**23**	**11**	**43.3**	**+1.7**
	SNR=20								
CHMS	**Chumysh**	**2.98**	**323**	⇑Pn	**Pn**	**23**	**11**	**42.6**	**+1.1**
	18nm,0.8s								
CHMS				⇑Pg	**Pb**	**23**	**11**	**48.4**	**+0.7**
	89nm,0.8s								
CHMS				⇑Lg	Lg	23	12	27.9	
	238nm,0.9s								
CHMS	**Chumysh**	**2.98**	**323**	⇓*e*P	**Pn**	**23**	**11**	**41.0**	**-0.5**
	baz=25								
CHMS				⇓*e*S	**Sn**	**23**	**12**	**19.4**	**+2.5**
	baz=25								
AML	**Almayashu**	**3.02**	**301**	P	**Pn**	**23**	**11**	**43.0**	**+0.7**
	SNR=35								
SHLS	**Shalkode**	**3.05**	**33**	*e*P	**Pg**	**23**	**11**	**53.1**	**-0.4**
	77nm,0.7s								
SHLS				*e*S	**Sg**	**23**	**12**	**38.0**	**+5.0**
	657nm,0.7s								
SHLS	**Shalkode**	**3.05**	**33**	Pg	**Pg**	**23**	**11**	**53.1**	**-0.4**
	77nm,0.7s								
SHLS				Lg	Lg	23	12	38.0	
	657nm,0.7s								
KPKS	**Kokpek**	**3.05**	**21**	*e*P	**Pb**	**23**	**11**	**49.9**	**+1.0**
	188nm,0.5s								
KPKS				*e*S	**Sg**	**23**	**12**	**32.7**	**-0.4**
	2μm,0.8s								
KPKS	**Kokpek**	**3.05**	**21**	Pg	**Pb**	**23**	**11**	**49.9**	**+1.0**
	188nm,0.5s								
KPKS				Lg	Lg	23	12	32.7	
	2μm,0.8s								
KTBS	**Karatobe**	**3.11**	**353**	*e*P	**Pb**	**23**	**11**	**50.9**	**+1.1**
	100nm,0.6s								
KTBS				*e*S	**Sg**	**23**	**12**	**34.5**	**-0.4**
	1μm,0.6s								
KTBS	**Karatobe**	**3.11**	**353**	Pg	**Pb**	**23**	**11**	**50.9**	**+1.1**
	100nm,0.6s								
KTBS				Lg	Lg	23	12	34.5	
	1μm,0.6s								
PDGK	**Podgornoye**	**3.20**	**32**	⇓Pn	**Pn**	**23**	**11**	**45.6**	**+0.9**
	26nm,0.7s								
PDGK				⇑Pg	**Pb**	**23**	**11**	**51.2**	**-0.3**
	213nm,0.9s								
PDGK				⇓Sn	**Sb**	**23**	**12**	**28.9**	**-1.4**
	537nm,0.8s								
PDGK				⇓Lg	Lg	23	12	36.4	
	2μm,1.0s								
CHKK	**Chushkaly**	**3.23**	**358**	*e*P	**Pb**	**23**	**11**	**53.1**	**+1.2**
	136nm,0.7s								
CHKK				*e*S	**Sg**	**23**	**12**	**38.5**	**-0.2**
	593nm,0.4s								
CHKK	**Chushkaly**	**3.23**	**358**	Pg	**Pb**	**23**	**11**	**53.1**	**+1.2**
	136nm,0.7s								
CHKK				Lg	Lg	23	12	38.5	
	593nm,0.4s								
EKS2	**Erkin-Say**	**3.26**	**310**	P	**Pn**	**23**	**11**	**47.7**	**+2.3**
	SNR=6.5

MAKZ	**Makanchi**	7.09	28	⇓Pn		Pn	23 12 38.9	+1.0	
	1.5nm,0.6s								
MAKZ				⇓Pg		Pb	23 13 02.4	+4.8	
	9.7nm,0.8s								
MAKZ				⇓Lg		Lg	23 14 40.9		
	65nm,1.2s								
MK31	**Makanchi Array**	7.19	29	Pn		Pn	23 12 39.4	+0.1	
	3.4nm,0.7s,baz=200,slow=12,SNR=42								
MK31				⇑Pg		Pb	23 13 05.2	+5.9	
	8.9nm,0.7s,baz=207,slow=16,SNR=3.8								
MK31				⇑Lg		Lg	23 14 44.2		
	34nm,0.7s								
MKAR	**Makanchi Array**	7.19	29	Pn		Pn	23 12 39.8	+0.5	
	0.8nm,0.3s,baz=200,slow=15,SNR=37								
MKAR				Sn		Sn	23 14 06.2	+5.7	
	0.9nm,0.3s,baz=190,slow=23,SNR=1.7								
MKAR				Lg		Lg	23 14 39.2		
	2.3nm,0.3s,baz=207,slow=27,SNR=4.5								
	0.9nm,0.3s								
OTUK	**Ortayu**	8.37	337	⇑Pn		Pn	23 12 54.4	-0.9	
	3.5nm,1.1s								
OTUK				⇓Pg		Pb	23 13 25.7	+6.4	
	3.0nm,0.8s								
OTUK				⇓Lg		Lg	23 15 20.6		
	164nm,1.3s								
WMQ	**Urumqi**	8.43	64	*eP*		Pn	23 12 55.6	-0.8	
WMQ				S		Sn	23 14 33.8	+2.7	
WMQ				smax		smax			
	comp=N,53nm,1.1s								
WMQ				smax		smax			
	comp=E,62nm,1.1s								
KURBB	**Kurchatov Arra**	10.04	5	Pn		Pn	23 13 18.6	+0.3	
	0.1nm,0.3s,baz=193,slow=12,SNR=12								
KURBB				Sn		Sn	23 15 12.5	+2.0	
	baz=187,slow=29								
KURBB				Lg		Lg	23 16 08.9		
	0.2nm,0.3s,baz=192,slow=29,SNR=9.0								
	2.7nm,0.9s								
KURBB	**Kurchatov Arra**	10.04	5	⇑Lg		Lg	23 16 14.9		
	101nm,0.9s								
KURK	**Kurchatov**	10.14	5	⇑Lg		Lg	23 16 18.2		
	89nm,1.2s								
BVA0	**Borovoye Array**	13.24	342	⇓Lg		Lg	23 17 56.3		
	24nm,1.1s,baz=150,slow=28,SNR=8.2								
BVAR	**Borovoye Array**	13.24	342	Pn		Pn	23 14 00.5	-1.5	
	0.1nm,0.3s,baz=158,slow=13,SNR=6.2								
BVAR				Lg		Lg	23 17 50.3		
	0.1nm,0.3s,baz=158,slow=23,SNR=4.2								
BVAR				LR		LR	23 18 21.5		
	comp=Z,59nm,18.2s,baz=354,slow=33								
	0.8nm,0.8s								
BRVK	**Borovoye**	13.29	342	⇑Lg		Lg	23 17 57.7		
	60nm,1.3s								
ZALV	**Zalesovo Beam**	14.29	19	Pn		Pn	23 14 16.4	+0.1	
	0.1nm,0.3s,baz=202,slow=14,SNR=7.6								
ZALV				Sn		Sn	23 17 01.3	+7.1	
	0.1nm,0.3s,baz=207,slow=16,SNR=1.7								
ZALV				Lg		Lg	23 18 26.3		
	0.1nm,0.3s,baz=202,slow=24,SNR=3.7								
	1.6nm,0.8s								
GOMU	**GeErMu**	14.51	102	P		Pn	23 14 11.6	-8.3	
GOMU				pmax		pmax			
	comp=Z,3.0nm,0.7s								
AKTO	**Aktyubinsk**	16.58	313	Pn		Pn	23 14 44.2	-2.3	
	0.1nm,0.3s,baz=141,slow=12,SNR=3.0								
	1.0nm,0.9s								
ARU	**Arti**	19.95	329	Lg		Lg	23 21 30.8		
	baz=37,slow=20								
ARU				LR		LR	23 22 29.6		
	comp=Z,38nm,18.9s,baz=96,slow=34								
SONM	**Songino Array**	22.05	61	P		P	23 15 46.1	-2.7	
	1.1nm,0.8s,baz=256,slow=12,SNR=8.4								
	1.1nm,0.8s								
GNI	**Garni**	24.64	280	LR		LR	23 27 24.6		
	comp=Z,30nm,21.8s,baz=16,slow=40								
BRTR	**Keskin Array B**	33.03	283	P		P	23 17 28.0	-1.4	
	0.6nm,0.7s,baz=69,slow=6.8,SNR=3.7								
	0.6nm,0.7s								
FINES	**FINESS Array B**	37.02	322	P		P	23 18 01.3	-2.0	
	0.5nm,0.4s,baz=108,slow=9.1,SNR=7.9								
FINES				LR		LR	23 33 22.7		
	comp=Z,46nm,18.3s,baz=186,slow=36								
	0.5nm,0.4s								
ARCES	**ARCESS Array B**	39.36	334	P		P	23 18 21.1	-1.9	
	2.0nm,0.9s,baz=88,slow=8.6,SNR=3.9								
	2.0nm,0.9s								
TIXI	**Tiksi**	40.12	23	LR		LR	23 35 59.7		
	comp=Z,95nm,18.7s,baz=183,slow=37								
NOA	**NORSAR Array B**	44.15	320	P		P	23 19 01.9	-0.5	
	0.6nm,0.8s,baz=88,slow=8.0,SNR=2.5								
NOA				LR		LR	23 38 07.2		
	comp=Z,26nm,19.4s,baz=345,slow=37								
	0.6nm,0.8s								
GERES	**GERESS Array B**	44.65	303	P		P	23 19 05.8	-0.7	
	0.2nm,0.5s,baz=77,slow=8.5,SNR=2.0								
	0.2nm,0.5s								
DAVOX	**Davos/Dischmat**	47.70	301	LR		LR	23 43 38.8		
	comp=Z,66nm,19.0s,baz=213,slow=41								
MBAR	**Mbarara**	58.82	238	LR		LR	23 46 42.0		
	comp=Z,32nm,18.5s,baz=280,slow=37								
TORD	**Torodi Ar. Bea**	70.58	271	P		P	23 22 06.1	-3.3	
	0.2nm,0.5s,baz=49,slow=5.5,SNR=7.6								
	0.2nm,0.5s								

ARE ***03*** *23:13:08.2±2.7, 17°.89S±0°.06×69°.58W±0°.08, h177km±4km, Error ellipse: s-maj=11.0km s-min=7.8km az=99.0*
NEIC ***03*** *23:13:08.9±1.4, 17°.68S±0°.06×69°.38W±0°.09, h149km±6km, mb4.6/61, ML4.5(ARE), Mwr4.6(GUC), Error ellipse: s-maj=11.9km s-min=8.6km az=91.0*
SCB ***03*** *23:13:08.3±2.6, 17°.61S×69°.45W, h186km±6km, ML4.0/4, MW4.3, Error ellipse: s-maj=14.5km s-min=7.8km az=1.0*
IDC ***03*** *23:13:10.8±0.6, 17°.63S×69°.15W, h158km±4km, mb4.0/19, mbtmp4.4/22, MS2.9/1, Error ellipse: s-maj=11.8km s-min=10.9km az=155.0*
GUC ***03*** *23:13:10.4±0.7, 17°.78S×69°.40W, h151km±4km, ML4.7*
VAO ***03*** *23:13:11.7±0.5, 17°.50S×68°.88W, h144km±4km, mb4.7*

ISC 03 23:13:08.2±0.4, **17°.65S**±0°.03×**69°.23W**±0°.04, **h143**km±3km, **n235**, σ1**§67**/256, **mb4.5**/47, **4C-1D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PB16	**IPOC Station P**	**0.73**	**201**	Pn		**Pn**	**23 13 32.7**		**+1.8**
PB16				Sn		**Sn**	**23 13 50.5**		**+2.5**
PB16	**IPOC Station P**	**0.73**	**201**	⇑*i*	P	**Pn**	**23 13 32.9**		**+2.1**
PB16				*i*	S	**Sn**	**23 13 50.7**		**+2.7**
BBOD	**La Paz, Gloria**	**1.17**	**31**	P		Pn	23 13 37.7		+3.2
BBOD				IAML			23 14 09.7		
	617nm,0.9s								
AP01	**Chacalluta**	**1.28**	**235**			**Pn**	**23 13 34.9**		**+0.1**
AP01				Sn		**Sn**	**23 13 54.5**		**-0.7**
AP01	**Chacalluta**	**1.28**	**235**	⇑*i*	P	**Pn**	**23 13 34.9**		**+0.1**
AP01				*i*	S	**Sn**	**23 13 54.6**		**-0.7**
AP01				IAML			23 13 55.7		
	comp=E,21µm,0.5s								
AP01	**Chacalluta**	**1.28**	**235**	P		**Pn**	**23 13 35.3**		**+0.5**
PB12	**IPOC Station P**	**1.42**	**227**	Pn		**Pn**	**23 13 36.0**		**-0.4**
PB12				Sn		**Sn**	**23 13 56.7**		**-1.2**
PB12	**IPOC Station P**	**1.42**	**227**	⇑*i*	P	**Pn**	**23 13 36.2**		**-0.2**
PB12				*i*	S	**Sn**	**23 13 56.6**		**-1.4**
PB12				IAML			23 13 57.6		
	comp=E,11µm,0.4s								
BBOE	**La Paz, Chanca**	**1.45**	**56**	P		Pn	23 13 41.4		+4.1
BBOE				IAML			23 14 12.3		
	comp=E,493nm,1.4s								
LPAZ	**La Paz**	**1.71**	**38**	P		Pn	23 13 43.4		+3.2
	comp=E,793nm,0.3s,baz=241,slow=3.7,SNR=5715								
LPAZ				S		**Sn**	**23 14 08.5**		**+3.9**
	comp=E,281nm,0.8s,baz=53,slow=19,SNR=4.3								
LPAZ	**La Paz**	**1.71**	**38**	⇓*i*	P	Pn	23 13 43.4		+3.2
LPAZ	**La Paz**	**1.71**	**38**	P		Pn	23 13 43.4		+3.2
GO01	**Chusmiza**	**2.01**	**179**			**Pn**	**23 13 45.5**		**+2.0**
GO01				Sn		**Sn**	**23 14 13.2**		**+2.6**
GO01	**Chusmiza**	**2.01**	**179**	⇑*i*	P	**Pn**	**23 13 45.6**		**+2.0**
GO01				*e*	S	**Sn**	**23 14 13.2**		**+2.6**
GO01				IAML			23 14 22.9		
	comp=N,3µm,0.2s								
GO01	**Chusmiza**	**2.01**	**179**	P		**Pn**	**23 13 45.3**		**+1.8**
TA02	**Huaiquique**	**2.75**	**198**			**Pn**	**23 13 52.0**		**0.0**
TA02	**Huaiquique**	**2.75**	**198**	*eP*		**Pn**	**23 13 51.9**		**-0.2**
TA02				*eS*		**Sn**	**23 14 22.9**		**-3.0**
TA02				IAML			23 14 25.1		
	comp=E,3µm,0.1s								
TA02	**Huaiquique**	**2.75**	**198**	P		**Pn**	**23 13 52.1**		**+0.1**

TA01	**Diego Aracena**	**3.04**	**197**	Pn		**Pn**	**23 13 55.4**		**-0.4**
TA01	**Diego Aracena**	**3.04**	**197**	*eP*		**Pn**	**23 13 55.4**		**-0.4**
TA01				*eS*		**Sn**	**23 14 28.4**		**-4.1**
TA01				IAML			23 14 30.0		
	comp=E,1µm,0.3s								
TA01	**Diego Aracena**	**3.04**	**197**	P		**Pn**	**23 13 55.4**		**-0.4**
PB01	**IPOC Station P**	**3.39**	**184**			**Pn**	**23 14 01.1**		**+0.7**
PB01				Sn		**Sn**	**23 14 38.9**		**-1.9**
PB01	**IPOC Station P**	**3.39**	**184**	*eP*		**Pn**	**23 14 01.2**		**+0.8**
PB01				*eS*		**Sn**	**23 14 38.0**		**-2.8**
PB01				IAML			23 14 45.6		
	comp=E,918nm,0.4s								
PB02	**IPOC Station P**	**3.71**	**190**			**Pn**	**23 14 04.8**		**+0.3**
PB02				Sn		**Sn**	**23 14 45.2**		**-3.0**
PB02	**IPOC Station P**	**3.71**	**190**	*eP*		**Pn**	**23 14 04.8**		**+0.3**
PB02	**IPOC Station P**	**3.71**	**190**	P		**Pn**	**23 14 04.9**		**+0.4**
PB07	**IPOC Station P**	**4.11**	**188**			**Pn**	**23 14 09.9**		**+0.1**
PB07	**IPOC Station P**	**4.11**	**188**	*eP*		**Pn**	**23 14 09.8**		**+0.1**
PB09	**IPOC Station P**	**4.13**	**180**			**Pn**	**23 14 11.2**		**+1.1**
PB09	**IPOC Station P**	**4.13**	**180**	*eP*		**Pn**	**23 14 11.1**		**+1.0**
PB04	**IPOC Station P**	**4.74**	**190**	Pn		**Pn**	**23 14 17.8**		**-0.5**
PB04	**IPOC Station P**	**4.74**	**190**	*eP*		**Pn**	**23 14 17.8**		**-0.5**
PB04	**IPOC Station P**	**4.74**	**190**	P		**Pn**	**23 14 17.9**		**-0.3**
MOCB	**Mochara**	**4.94**	**137**	P		Pn	23 14 25.3		+4.2
MOCB				IAML			23 15 27.5		
	comp=E,78nm,2.0s								
LVC	**Limon Verde**	**4.95**	**177**	P		**Pn**	**23 14 22.6**		**+1.4**
	comp=E,26nm,0.2s,baz=2.3,slow=7.8,SNR=181								
LVC				S		**Sn**	**23 15 16.1**		**-1.9**
	comp=E,83nm,0.3s,baz=223,slow=17,SNR=8.9								
LVC	**Limon Verde**	**4.95**	**177**	Pn		**Pn**	**23 14 21.8**		**+0.6**
LVC	**Limon Verde**	**4.95**	**177**	P		**Pn**	**23 14 22.1**		**+1.0**
LVC				IAML			23 15 22.0		
	comp=E,174nm,0.2s								
PB06	**IPOC Station P**	**5.04**	**184**			**Pn**	**23 14 22.0**		**-0.2**
PB06	**IPOC Station P**	**5.04**	**184**	*eP*		**Pn**	**23 14 22.1**		**-0.2**
PB06	**IPOC Station P**	**5.04**	**184**	P		**Pn**	**23 14 22.0**		**-0.2**
AF01	**San Pedro de A**	**5.37**	**170**	Pn		**Pn**	**23 14 27.3**		**+0.6**
AF01	**San Pedro de A**	**5.37**	**170**	P		**Pn**	**23 14 25.6**		**-1.1**
PB15	**IPOC Station P**	**5.54**	**182**			**Pn**	**23 14 28.6**		**-0.2**
PB15	**IPOC Station P**	**5.54**	**182**	P		**Pn**	**23 14 28.9**		**0.0**
YJA	**Yavi**	**5.71**	**143**	P		**Pn**	**23 14 33.5**		**+2.2**
PB10	**IPOC Station P**	**5.97**	**192**			**Pn**	**23 14 32.7**		**-1.7**
PB14	**IPOC Station P**	**7.03**	**189**			**Pn**	**23 14 46.7**		**-2.3**
GO02	**Mina Guanaco**	**7.49**	**182**			**Pn**	**23 14 53.6**		**-1.4**
GO02	**Mina Guanaco**	**7.49**	**182**	P		**Pn**	**23 14 54.2**		**-0.8**
SIV	**San Ignacio**	**7.99**	**79**	P		**Pn**	**23 15 01.6**		**+0.1**
	comp=E,11nm,0.3s,baz=256,slow=11,SNR=86								
SIV				S		**Sn**	**23 16 29.1**		**-1.4**
	comp=E,46nm,0.8s,baz=338,slow=18,SNR=9.8								
SIV				LR		LR	23 18 38.5		
	comp=E,88nm,21.7s,baz=147,slow=42								
SIV	**San Ignacio**	**7.99**	**79**	P		**Pn**	**23 15 01.7**		**+0.1**
ETMB	**Extrema**	**8.32**	**21**	Pn		**Pn**	**23 15 05.8**		**-0.2**
ETMB	**Extrema**	**8.32**	**21**	P		**Pn**	**23 15 05.7**		**-0.2**
ETMB	**Extrema**	**8.32**	**21**	*eP*		**Pn**	**23 15 05.6**		**-0.3**
ETMB				*eS*		**Sn**	**23 16 34.0**		**-4.4**
AC01	**Pan de Azucar**	**8.56**	**188**	Pn		**Pn**	**23 15 06.2**		**-2.9**
AC02	**Maricunga**	**9.15**	**179**	Pn		**Pn**	**23 15 16.5**		**-0.9**
NNA	**Nana**	**9.26**	**306**	P		**Pn**	**23 15 17.3**		**-1.3**
	comp=E,26nm,0.4s,baz=140,slow=12,SNR=17								
NNA				S		**Sn**	**23 16 53.7**		**-7.5**
	comp=E,24nm,0.6s,baz=36,slow=20,SNR=8.6								
NNA	**Nana**	**9.26**	**306**	Pn		**Pn**	**23 15 16.9**		**-1.7**
NNA	**Nana**	**9.26**	**306**	P		**Pn**	**23 15 15.9**		**-2.7**
AC06	**Mina Casimiro**	**9.72**	**186**	Pn		**Pn**	**23 15 22.9**		**-1.7**
VILB	**Vilhena**	**9.88**	**63**	Pn		**Pn**	**23 15 27.1**		**+0.2**
VILB	**Vilhena**	**9.88**	**63**	P		**Pn**	**23 15 27.1**		**+0.2**
VILB	**Vilhena**	**9.88**	**63**	*eP*		**Pn**	**23 15 26.9**		**0.0**
VILB				*eS*		**Sn**	**23 17 10.7**		**-5.6**
PTLB	**Pontes e Lacer**	**9.93**	**79**	Pn		**Pn**	**23 15 28.1**		**+0.7**
PTLB	**Pontes e Lacer**	**9.93**	**79**	*eP*		**Pn**	**23 15 26.2**		**-1.2**
PTLB				*eS*		**Sn**	**23 17 14.3**		**-3.0**
AC05	**El Transito**	**11.18**	**185**	Pn		**Pn**	**23 15 41.3**		**-2.8**
CO01	**Juntas del Tor**	**12.30**	**184**	Pn		**Pn**	**23 15 56.6**		**-2.3**
GO04	**Tololo Observa**	**12.55**	**186**	Pn		**Pn**	**23 15 59.0**		**-3.1**
SALV	**Santo Antonio**	**13.08**	**84**	*eP*		**Pn**	**23 16 09.2**		**+0.4**
SALV				*eS*		**Sn**	**23 18 31.3**		**-2.2**
AQDB	**Aquidauana**	**13.10**	**105**			**Pn**	**23 16 09.2**		**+0.1**
AQDB	**Aquidauana**	**13.10**	**105**	*eP*		**Pn**	**23 16 08.6**		**-0.4**
ANTJ	**Antonio Joao (**	**13.18**	**111**	*eP*		**Pn**	**23 16 12.1**		**+2.1**
CO03	**El Pedregal**	**13.20**	**185**	Pn		**Pn**	**23 16 07.0**		**-2.7**
PDRB	**Porto dos Gac**	**13.50**	**65**	*eP*		**Pn**	**23 16 11.9**		**-2.2**
PDRB				*eS*		**Sn**	**23 18 35.6**		**-8.0**
CO02	**Combarbal**	**13.60**	**186**	Pn		**Pn**	**23 16 15.0**		**-0.3**
CPUP	**Villa Florida**	**14.01**	**130**	P		**Pn**	**23 16 20.1**		**-0.5**
	comp=E,4.5nm,0.7s,baz=311,slow=12,SNR=7.5								
CPUP	**Villa Florida**	**14.01**	**130**			**Pn**	**23 16 20.5**		**-0.1**
CPUP	**Villa Florida**	**14.01**	**130**	P		**Pn**	**23 16 19.7**		**-0.9**
CLDB	**Colider**	**14.66**	**64**	*eP*		**Pn**	**23 16 28.7**		**0.0**
CLDB				*eS*		**Sn**	**23 19 04.4**		**-7.0**
VA06	**Catapilco**	**14.97**	**187**	Pn		**Pn**	**23 16 31.6**		**-0.9**
VA03	**San Esteban**	**15.10**	**184**			**Pn**	**23 16 33.4**		**-0.9**
VA03				IAmb		IAmb	23 16 39.8		
	comp=Z,28nm,1.2s								
ROC1	**El Roble**	**15.35**	**186**	Pn		**Pn**	**23 16 36.5**		**-1.0**
MT02	**Curacav**	**15.64**	**186**			**Pn**	**23 16 40.2**		**-0.6**
MT02				IAmb		IAmb	23 17 18.9		
	comp=Z,27nm,1.4s								
MT09	**Talagante**	**16.14**	**185**			**Pn**	**23 16 46.7**		**-0.5**
MT09				IAmb		IAmb	23 16 51.9		
	comp=Z,29nm,1.4s								
LMEL	**Las Melosas**	**16.16**	**183**			**Pn**	**23 16 46.6**		**-0.8**
MT01	**Popeta**	**16.25**	**186**			**Pn**	**23 16 47.5**		**-0.9**
TRCB	**Terra Rica**	**16.40**	**111**	P		**P**	**23 16 51.8**		**+1.3**
TRCB	**Terra Rica**	**16.40**	**111**	*eP*		**P**	**23 16 52.3**		**+1.9**
ITQB	**Itaqui**	**16.62**	**138**	P		**Pn**	**23 16 52.0**		**-0.8**
ITQB				IAmb		IAmb	23 16 55.0		
	comp=Z,44nm,1.1s								
ITQB	**Itaqui**	**16.62**	**138**	*eP*		**Pn**	**23 16 52.3**		**-0.5**
MACA	**Manacapuru-AM**	**16.66**	**31**	P		**Pn**	**23 16 53.0**		**-0.5**
MACA				IAmb		IAmb	23 16 55.6		
	comp=Z,13nm,0.7s								
MACA	**Manacapuru-AM**	**16.66**	**31**	*eP*		**Pn**	**23 16 53.6**		**+0.1**
CRSM	**Crissiumal (Br**	**17.10**	**128**	*eP*		**Pn**	**23 16 59.7**		**+1.0**
FRBT	**Francisco Belt**	**17.14**	**122**	*eP*		**Pn**	**23 16 59.8**		**+0.5**
NPGB	**Novo Progresso**	**17.15**	**54**	*eP*		**P**	**23 16 59.4**		**+0.6**
NPGB				*eS*		**Sn**	**23 20 03.6**		**-7.7**
UNIS	**Unistalda (Bra**	**17.25**	**134**	*eP*		**Pn**	**23 17 02.6**		**+2.1**
PCMB	**Pacaembu**	**17.38**	**106**	*eP*		**Pn**	**23 17 02.8**		**+0.6**
GO05	**Huala**	**17.46**	**187**	P		**P**	**23 17 01.3**		**-0.8**
PTGB	**Pitanga**	**17.48**	**117**	*eP*		**Pn**	**23 17 03.8**		**+0.4**
PTGB				*eS*		**S**	**23 20 14.7**		**-2.6**
H03N1	**Juan Fernandez**	**17.97**	**207**	T		T	23 35 01.6		
	baz=28,slow=73,SNR=4.2								
H03N2	**Juan Fernandez**	**17.98**	**207**	T		T	23 35 18.9		
	baz=28,slow=73,SNR=3.5								
RODS	**Rosario do Sul**	**17.99**	**137**	*eP*		**Pn**	**23 17 09.4**		**+0.2**
H03N3	**Juan Fernandez**	**17.99**	**207**	T		T	23 35 05.5		
	baz=28,slow=73,SNR=3.4								
ITRB	**Iturama**	**18.00**	**100**	*eP*		**P**	**23 17 08.9**		**+0.7**
SNDB	**Serra Nova Dou**	**18.23**	**74**	*eP*		**P**	**23 17 11.6**		**+1.0**
ITAB	**Concordia**	**18.45**	**124**	P		**P**	**23 17 13.5**		**+0.6**
ITAB	**Concordia**	**18.45**	**124**	*eP*		**P**	**23 17 13.6**		**+0.6**
ALGR	**Alto Alegre (B**	**18.55**	**130**	*eP*		**P**	**23 17 15.0**		**+0.8**
ITTB	**Itaituba**	**18.68**	**47**	*eP*		**P**	**23 17 15.8**		**+0.3**
ITTB				*eS*		**S**	**23 20 38.5**		**-2.5**
CPSB	**Cacapava Do Su**	**19.19**	**134**	*eP*		**P**	**23 17 21.7**		**+0.7**
CPSB				*eS*		**S**	**23 20 49.9**		**-1.0**
BB19B	**Bebedouro**	**19.83**	**103**	*eP*		**P**	**23 17 28.6**		**+0.6**
BB19B				*eS*		**S**	**23 21 03.5**		**-0.2**
PLTB	**Pedras Altas**	**19.95**	**138**	P		**P**	**23 17 29.1**		**0.0**
PLTB	**Pedras Altas**	**19.95**	**138**	*eP*		**P**	**23 17 28.9**		**-0.2**
IPMB	**Ipameri, GO**	**20.02**	**94**	*eP*		**P**	**23 17 29.9**		**-0.2**
BDFB	**Brasilia**	**20.43**	**88**	P		**P**	**23 17 35.5**		**+1.0**
	comp=Z,25nm,0.4s,baz=264,slow=8.8,SNR=43								
	comp=Z,25nm,0.4s								
BDFB	**Brasilia**	**20.43**	**88**	P		**P**	**23 17 35.3**		**+0.8**
BDFB	**Brasilia**	**20.43**	**88**	*eP*		**P**	**23 17 35.1**		**+0.6**
CNLB	**Canela**	**20.44**	**128**	*eP*		**P**	**23 17 35.3**		**+0.8**
TRQA	**Tornquist**	**21.31**	**164**	P		**P**	**23 17 43.9**		**+0.3**
TRQA				IAmb		IAmb	23 17 50.9		
	comp=Z,19nm,0.8s								
MALB	**Monte Alegre**	**21.51**	**45**	*eP*		**P**	**23 17 45.4**		**-0.6**
VAO	**Valinhos**	**21.54**	**108**	*eP*		**P**	**23 17 45.8**		**-0.6**
BOAV	**Boa Vista**	**21.69**	**24**	P		**P**	**23 17 47.9**		**+0.1**
BOAV				IAmb		IAmb	23 17 50.6		
	comp=Z,18nm,0.7s								
BOAV	**Boa Vista**	**21.69**	**24**	*eP*		**P**	**23 17 48.0**		**+0.1**
PMNB	**Patos De Minas**	**21.69**	**96**	*eP*		**P**	**23 17 47.6**		**-0.3**
GO06	**Curarrehue**	**21.95**	**185**	P		**P**	**23 17 50.6**		**+0.1**
PRPB	**Parauapebas**	**22.13**	**61**	*eP*		**P**	**23 17 51.6**		**-0.9**

SMTB	**Santa Maria do**	**22.79**	**70**	*eP*		**P**	**23 17 59.3**		**+0.5**
PARB	**Paraibuna**	**22.82**	**108**	*eP*		**P**	**23 17 59.2**		**0.0**
PLCA	**Paso Flores**	**23.04**	**183**	P		**P**	**23 18 02.4**		**+1.4**
	comp=Z,2.4nm,0.8s,baz=4.9,slow=11,SNR=5.9								
	comp=Z,2.4nm,0.8s								
PLCA	**Paso Flores**	**23.04**	**183**	P		**P**	**23 18 00.7**		**-0.3**
JANB	**Januaria**	**24.05**	**88**	*eP*		**P**	**23 18 11.5**		**+1.1**
SDBA	**SAO DESIDERIO**	**24.06**	**81**	*eP*		**P**	**23 18 11.0**		**+0.5**
MC01	**Montes Claros**	**24.18**	**92**	*eP*		**P**	**23 18 12.1**		**+0.5**
DIAM	**Diamantina, MG**	**24.32**	**95**	*eP*		**P**	**23 18 14.4**		**+1.4**
BAUV	**El Baul**	**26.44**	**3**	P		**P**	**23 18 31.4**		**-0.5**
BAUV				IAmb		IAmb	23 19 11.6		
	comp=Z,16nm,1.0s								
RIB01	**Linhares ES**	**27.39**	**98**	*eP*		**P**	**23 18 40.8**		**+0.3**
NAN01	**Guarapari, ES**	**27.71**	**95**	*eP*		**P**	**23 18 44.6**		**+1.2**
MDP	**Montagnes des**	**27.91**	**37**	P		**P**	**23 18 45.8**		**+0.7**
	comp=Z,5.2nm,0.6s,baz=221,slow=8.7,SNR=12								
	comp=Z,5.2nm,0.6s								
BIRV	**Birongo**	**28.09**	**6**	P		**P**	**23 18 46.8**		**+0.1**
BIRV				IAmb		IAmb	23 19 05.2		
	comp=Z,18nm,1.3s								
GUA01	**Guaratinga, BA**	**28.13**	**92**	*eP*		**P**	**23 18 48.8**		**+1.7**
GDU01	**Guandu, BA**	**28.80**	**86**	*eP*		**P**	**23 18 53.8**		**+0.7**
NBLA	**Lagarto - SE**	**31.15**	**82**	*eP*		**P**	**23 19 13.8**		**+0.1**
NBAN	**Anadia - AL**	**32.95**	**80**	*eP*		**P**	**23 19 29.7**		**+0.2**
RCBR	**Riachuelo**	**34.61**	**74**	P		**P**	**23 19 44.0**		**+0.1**
	comp=Z,9.6nm,0.8s,baz=27,slow=8.2,SNR=6.6								
	comp=Z,9.6nm,0.8s								
RCBR	**Riachuelo**	**34.61**	**74**	P		**P**	**23 19 44.2**		**+0.3**
RCBR				IAmb		IAmb	23 20 07.1		
	comp=Z,13nm,1.1s								
MTO3	**Montecristo**	**37.52**	**327**	P		**P**	**23 20 09.4**		**+0.6**
TEIG	**Tepich**	**42.02**	**333**	P		**P**	**23 20 45.8**		**+0.1**
CMIG	**Matias Romero**	**42.77**	**322**	P		**P**	**23 20 52.9**		**+1.1**
	comp=Z,3.2nm,0.7s,baz=168,slow=7.6,SNR=4.1								
	comp=Z,3.2nm,0.7s								
WVT	**Waverly**	**56.30**	**342**	P		**P**	**23 22 33.1**		**-0.9**
S54A	**Dingess

ESDC	**Sonseca Array**	**83.32**	**45**	P		**P**	**23 25 20.1**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=253,slow=5.6,SNR=19							
ESDC				pP		**pP**	**23 25 58.9**	**+2.5**
	comp=Z,1.1nm,1.1s,baz=235,slow=6.1,SNR=2.1							
	comp=Z,2.2nm,0.8s							
ESDC	**Sonseca Array**	**83.32**	**45**	P		**P**	**23 25 20.5**	**+1.2**
ESBB	**Sonseca Array**	**83.32**	**45**	P		**P**	**23 25 20.2**	**+0.9**
ESBB				IAmb		IAmb	23 25 21.5	
	comp=Z,6.0nm,1.1s							
BOSA	**Boshof**	**85.53**	**118**	P		**P**	**23 25 31.6**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=279,slow=4.1,SNR=5.5							
	comp=Z,2.6nm,0.9s							
BOSA	**Boshof**	**85.53**	**118**	P		**P**	**23 25 31.2**	**+0.4**
BOSA				IAmb		IAmb	23 25 37.1	
	comp=Z,13nm,1.2s							
LBTB	**Lobatse**	**86.92**	**115**	P		**P**	**23 25 38.4**	**+0.8**
YKA	**Yellowknife Ar**	**87.47**	**341**	P		**P**	**23 25 39.7**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=132,slow=4.7,SNR=5.0							
	comp=Z,1.8nm,0.6s							
MAW	**Mawson**	**88.09**	**163**	P		**P**	**23 25 43.5**	**+1.3**
	comp=Z,3.4nm,0.6s,baz=194,slow=4.8,SNR=12							
	comp=Z,3.4nm,0.6s							
MAW	**Mawson**	**88.09**	**163**	P		**P**	**23 25 44.1**	**+1.9**
KEST	**Kesra**	**91.23**	**53**	P		**P**	**23 25 58.6**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=207,slow=4.5,SNR=2.8							
	comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**98.55**	**42**	P		**P**	**23 26 30.8**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=165,slow=4.1,SNR=3.5							
	comp=Z,0.1nm,0.4s							
H11N3	**WAKE ISLAND Hyd**	**26.98**	**282**	T		T	01 51 59.2	
	baz=100,slow=74,SNR=6.1							
H11N2	**WAKE ISLAND Hyd**	**26.99**	**282**	T		T	01 52 01.5	
	baz=100,slow=74,SNR=7.7							
H11N1	**WAKE ISLAND Hyd**	**26.99**	**282**	T		T	01 51 53.3	
	baz=100,slow=74,SNR=5.2							
H11S2	**WAKE ISLAND Hyd**	**27.00**	**280**	T		T	01 51 58.3	
	baz=101,slow=74,SNR=23							
H11S1	**WAKE ISLAND Hyd**	**27.00**	**280**	T		T	01 51 59.2	
	baz=101,slow=74,SNR=9.6							
H11S3	**WAKE ISLAND Hyd**	**27.02**	**280**	T		T	01 51 58.7	
	baz=101,slow=74,SNR=10							
ASAR	**Alice Springs**	**133.13**	**210**	PKP		**PKPdf**	**23 32 08.7**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=119,slow=1.9,SNR=5.0							
ASAR				SKPbc		**SKPbc**	**23 35 22.3**	**-0.4**
	comp=Z,2.2nm,1.1s,baz=156,slow=4.6,SNR=6.4							
WRA	**Warramunga Arr**	**136.06**	**213**	SKPbc		**SKPbc**	**23 35 29.9**	**-2.3**
	comp=Z,1.3nm,0.9s,baz=149,slow=2.6,SNR=5.4							
KURBB	**Kurchatov Arra**	**138.25**	**31**	PKP		**PKPdf**	**23 32 17.3**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=318,slow=1.3,SNR=6.8							
KURBB				pPKP		**pPKPdf**	**23 32 58.2**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=302,slow=1.7,SNR=2.8							
ZALV	**Zalesovo Beam**	**138.57**	**23**	PKP		**PKPdf**	**23 32 17.4**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=293,slow=2.5,SNR=13							
ZALV				pPKP		**pPKPdf**	**23 32 59.6**	**+3.5**
	comp=Z,1.6nm,0.8s,baz=309,slow=0.9,SNR=3.6							
MKAR	**Makanchi Array**	**142.63**	**33**	PKP		**PKPdf**	**23 32 24.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=323,slow=2.6,SNR=3.4							
MKAR				pPKP		**pPKPdf**	**23 33 05.6**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=318,slow=1.9,SNR=2.3							
SONM	**Songino Array**	**149.68**	**6**	PKPbc		**PKPbc**	**23 32 42.3**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=315,slow=1.1,SNR=13							
SONM				pPKPbc		**pPKPab**	**23 33 23.7**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=344,slow=1.5,SNR=5.0							
PZH	**PanZhiHua**	**167.85**	**42**	PKP		**PKPdf**	**23 32 58.0**	**-0.3**

*IDC **03** 23:16:18.9±2.9, 16°.10S×174°.28W, h102km±25km, mb3.9/7, mbtmp4.2/8, Error ellipse: s-maj=60.9km s-min=15.8km az=143.0*

*NEIC **03** 23:16:20.3±1.1, 16°.06S±0°.09×174°.1W±0°.1, h116km±3km, mb4.4/26, Error ellipse: s-maj=15.8km s-min=11.2km az=129.0*

*NOU **03** 23:16:50.9, 14°.18S×172°.44W, h95km, MLv3.6/5, Samoa Islands*

ISC 03 23:16:19.8±0.5, 16°.06S±0°.09×174°.14W±0°.09, h115km, n53, σ0°.83/54, mb4.4/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.13**	**47**	P	**Pn**	**23 17 08.3**	**+0.6**
	76nm,0.3s,baz=219,slow=2.4,SNR=18						
AFI				S	**Sn**	**23 17 42.2**	**-2.5**
	889nm,0.3s,baz=43,slow=23,SNR=52						
AFI	**Afiamalu**	**3.13**	**47**		**Pn**	**23 17 08.6**	**+0.9**
AFI				Sn	**Sn**	**23 17 42.3**	**-2.3**
AFI	**Afiamalu**	**3.13**	**47**	P	**Pn**	**23 17 08.9**	**+1.2**
NIUE	**Niue**	**5.01**	**127**		**Pn**	**23 17 33.2**	**+0.4**
MARNC	**Mare, Loyalty**	**17.72**	**250**	Pn	**Pn**	**23 20 21.4**	**+2.1**
DZM	**Mont Dzumac**	**19.30**	**249**	P	**Pn**	**23 20 37.1**	**-1.0**
	7.0nm,1.0s,baz=78,slow=19,SNR=2.4						
DZM	**Mont Dzumac**	**19.30**	**249**	P	**Pn**	**23 20 37.5**	**-0.7**
DZM				IAmb	IAmb	23 20 43.9	
	comp=Z,12nm,0.9s						
EIDS	**Eidsvold**	**33.74**	**248**	P	**P**	**23 22 49.6**	**-0.9**
EIDS				IAmb	IAmb	23 23 11.0	
	comp=Z,12nm,1.2s						
ARMA	**Armidale**	**34.40**	**239**	P	**P**	**23 22 56.0**	**-0.3**
ARMA				IAmb	IAmb	23 23 20.1	
	comp=Z,11nm,1.3s						
COEN	**Coen**	**41.23**	**267**	P	**P**	**23 23 53.9**	**+0.1**
COEN				IAmb	IAmb	23 23 54.8	
	comp=Z,9.4nm,1.0s						
STKA	**Stephens Creek**	**43.09**	**240**	P	**P**	**23 24 07.9**	**-0.8**
	comp=Z,4.9nm,0.8s,baz=95,slow=7.0,SNR=7.0						
	comp=Z,4.9nm,0.8s						
STKA	**Stephens Creek**	**43.09**	**240**	P	**P**	**23 24 08.1**	**-0.6**
BBOO	**Buckleboo**	**47.87**	**240**	P	**P**	**23 24 45.9**	**-0.4**
WB0	**Warramunga Arr**	**48.97**	**258**	P	**P**	**23 24 54.7**	**-0.2**
WB0				IAmb	IAmb	23 25 01.2	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**49.01**	**257**	P	**P**	**23 24 54.3**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=90,slow=7.1,SNR=9.7						
WRA				PcP	**PcP**	**23 26 17.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=99,slow=3.0,SNR=2.4						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**49.01**	**257**	P	**P**	**23 24 54.4**	**-0.8**
AS31	**Alice Springs**	**49.23**	**252**	P	**P**	**23 24 56.0**	**-0.9**
ASAR	**Alice Springs**	**49.23**	**252**	P	**P**	**23 24 56.0**	**-0.9**
	comp=Z,4.6nm,0.6s,baz=87,slow=8.1,SNR=36						
ASAR				PcP	**PcP**	**23 26 18.4**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=98,slow=4.8,SNR=2.1						
	comp=Z,4.6nm,0.6s						
ASAR	**Alice Springs**	**49.23**	**252**	P	**P**	**23 24 55.8**	**-1.2**
MTN	**Manton Dam**	**52.97**	**266**	P	**P**	**23 25 25.0**	**0.0**
PSA00	**Pilbara Seismi**	**62.34**	**254**	P	**P**	**23 26 30.3**	**-0.2**
MBWA	**Marble Bar**	**62.50**	**254**	P	**P**	**23 26 31.3**	**-0.3**
PETK	**Petropavlovsk-**	**73.05**	**343**	P	**P**	**23 27 37.5**	**+0.5**
	comp=Z,3.6nm,1.0s,baz=121,slow=7.1,SNR=6.3						
	comp=Z,3.6nm,1.0s						
PETK	**Petropavlovsk-**	**73.05**	**343**	P	**P**	**23 27 37.1**	**+0.1**
QSPA	**South Pole Qui**	**73.98**	**180**	P	**P**	**23 27 43.2**	**+0.6**
NVAR	**Mina Array Bea**	**75.29**	**42**	P	**P**	**23 27 52.0**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=215,slow=9.5,SNR=5.8						
	comp=Z,0.6nm,0.7s						
N19K	**Bonanza Creek**	**78.22**	**10**	P	**P**	**23 28 06.4**	**-0.1**
N19K				IAmb	IAmb	23 28 07.7	
	comp=Z,3.9nm,0.8s						
M19K	**Big River Lodg**	**79.27**	**9**	P	**P**	**23 28 12.4**	**+0.3**
PWL	**Port Wells**	**79.41**	**13**	P	**P**	**23 28 12.8**	**0.0**
PWL				IAmb	IAmb	23 28 14.8	
	comp=Z,7.4nm,1.1s						
SUA	**Susitna One**	**79.48**	**11**	P	**P**	**23 28 13.9**	**+0.5**
SUA				IAmb	IAmb	23 28 15.0	
	comp=Z,9.1nm,0.8s						
SCM	**Sheep Creek Mo**	**80.50**	**13**	P	**P**	**23 28 19.7**	**+1.0**
SCM				IAmb	IAmb	23 28 20.3	
	comp=Z,8.0nm,0.8s						
TRF	**Thorofare Moun**	**81.40**	**11**	P	**P**	**23 28 23.6**	**0.0**
TRF				IAmb	IAmb	23 28 24.3	
	comp=Z,4.3nm,0.8s						
MCK	**McKinley**	**81.91**	**11**	P	**P**	**23 28 26.3**	**+0.2**
DOT	**Dot Lake**	**82.81**	**13**	P	**P**	**23 28 31.4**	**+0.6**
DOT				IAmb	IAmb	23 28 32.4	
	comp=Z,4.6nm,0.8s						
CCB	**Clear Creek Bu**	**82.95**	**11**	P	**P**	**23 28 31.6**	**+0.1**
CCB				IAmb	IAmb	23 28 32.3	
	comp=Z,5.3nm,0.8s						
SCRK	**Sand Creek**	**83.11**	**13**	P	**P**	**23 28 32.6**	**+0.1**
SCRK				IAmb	IAmb	23 28 34.6	
	comp=Z,3.8nm,1.0s						
IMAR	**Indian Mountai**	**83.23**	**8**	P	**P**	**23 28 33.4**	**+0.5**
PD31	**Pinedale Array**	**83.23**	**42**	P	**P**	**23 28 33.9**	**+0.2**
PDAR	**Pinedale Array**	**83.23**	**42**	P	**P**	**23 28 34.5**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=201,slow=2.8,SNR=11						
	comp=Z,0.8nm,0.5s						
PDAR	**Pinedale Array**	**83.23**	**42**	P	**P**	**23 28 33.9**	**+0.2**
ILAR	**Eielson Array**	**83.23**	**11**	P	**P**	**23 28 33.4**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=225,slow=5.8,SNR=23						
	comp=Z,1.2nm,0.5s						
POKR	**Poker Plat Res**	**83.44**	**11**	P	**P**	**23 28 34.3**	**+0.3**
PRP	**Porcupine Dome**	**84.16**	**12**	P	**P**	**23 28 38.6**	**+0.8**
PRP				IAmb	IAmb	23 28 39.5	
	comp=Z,8.1nm,1.0s						
BMAR	**Burnt Mountain**	**86.03**	**11**	P	**P**	**23 28 47.9**	**+0.9**
OSTC	**Ostas**	**144.59**	**349**	*e*PKP	PKPbc	23 35 41.9	+0.2
KMBO	**Kilima Mbogo**	**144.61**	**244**	PKP	**PKPdf**	**23 35 44.0**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=110,slow=9.7,SNR=5.1						
DPC	**Dobruska-Polom**	**144.77**	**348**	*e*PKP	PKPbc	23 35 42.7	+0.4
KRLC	**Kraliky**	**144.94**	**348**	*e*PKP	PKPbc	23 35 42.7	-0.2
MAUC	**Maruska**	**145.38**	**346**	*e*PKP	**PKPab**	**23 35 45.2**	**+0.6**
BRTR	**Keskin Array B**	**146.21**	**320**	PKPbc	**PKPbc**	**23 35 47.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=30,slow=3.2,SNR=9.3						
KHC	**Kasperske Hory**	**146.42**	**351**	*e*PKP	**PKPab**	**23 35 48.0**	**-0.5**
GERES	**GERESS Array B**	**146.68**	**351**	PKPbc	**PKPbc**	**23 35 48.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=20,slow=4.3,SNR=7.5						
ESDC	**Sonseca Array**	**154.96**	**18**	PKPab	**PKPab**	**23 36 24.7**	**+0.7**
	comp=Z,1.6nm,1.2s,baz=332,slow=4.1,SNR=7.3						

WEL 03 23:30:06.1±1.1, 37°.5S±4°.×17°.9E±°, h14km±4km, M3.9/66, ML4.0/69, MLv3.9/66, Error ellipse: s-maj=0.0km s-min=0.0km az=80.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.62**	**258**	P	Pg	23 30 18.2	-0.1
MXZ				S	Sg	23 30 24.6	-2.0
WMGZ	**Waiomatatini S**	**0.65**	**234**	P	Pn	23 30 20.8	-0.1
WMGZ				S	Sn	23 30 29.6	-1.3
PUZ	**Puketiti**	**0.91**	**226**	P	Pn	23 30 24.7	+0.2
PUZ				S	Sn	23 30 36.5	-0.9
PKGZ	**Pakihiroa**	**0.91**	**240**	P	Pn	23 30 24.2	-0.4
PKGZ				S	Sb	23 30 35.1	-0.6
HAZ	**Te Kaha**	**1.07**	**252**	P	Pb	23 30 26.4	0.0
HAZ				S	Sb	23 30 39.6	-0.8
TWGZ	**Tauwhareparae**	**1.14**	**229**	P	Pg	23 30 28.3	+0.2
TWGZ				S	Sn	23 30 43.3	+0.2
RUGZ	**Raukumara Rang**	**1.23**	**244**	P	Pb	23 30 29.1	0.0
RUGZ				S	Sb	23 30 44.6	-0.3
CNGZ	**Carnagh Statio**	**1.25**	**213**	P	Pg	23 30 30.5	+0.3
CNGZ				S	Sg	23 30 48.8	+2.3
TKGZ	**Te Karaka**	**1.39**	**224**	P	Pn	23 30 31.3	+0.2
TKGZ				S	Sb	23 30 49.6	+0.1
WIZ	**White Island**	**1.50**	**266**	P	Pn	23 30 33.0	+0.4
MWZ	**Matawai**	**1.52**	**233**	P	Pn	23 30 33.0	+0.2
MWZ				S	Sn	23 30 52.2	-0.2
RIGZ	**Rimuhau**	**1.64**	**219**	P	Pn	23 30 34.6	+0.1
RAGZ	**Rawiri**	**1.68**	**231**	P	Pn	23 30 35.3	+0.1
WHRZ	**Whale Island**	**1.72**	**255**	P	Pn	23 30 36.4	+0.8
PRGZ	**Paritu Road**	**1.75**	**212**	P	Pn	23 30 36.6	+0.5
URZ	**Urewera**	**1.76**	**242**	P	Pn	23 30 36.6	+0.5
SNGZ	**Shannon Statio**	**1.92**	**225**	P	Pn	23 30 38.6	+0.2
KNZ	**Kokohu**	**1.93**	**215**	P	Pn	23 30 38.2	-0.3
MHGZ	**Mahia Peninsul**	**1.94**	**208**	P	Pn	23 30 39.4	+0.8
EDRZ	**Edgecumbe**	**1.97**	**250**	P	Pn	23 30 39.4	+0.3
RTZ	**Ruatahuna**	**2.03**	**234**	P	Pn	23 30 40.5	+0.5
OPRZ	**Ohinepanea**	**2.04**	**258**	P	Pn	23 30 39.8	-0.2
MUGZ	**Murupara**	**2.10**	**240**	P	Pn	23 30 41.1	+0.3
RAHZ	**Arahi**	**2.15**	**226**	P	Pn	23 30 42.0	+0.4
MKRZ	**Makatiti**	**2.18**	**251**	P	Pn	23 30 42.8	+0.8
TARZ	**Mount Tarawera**	**2.19**	**248**	P	Pn	23 30 42.9	+0.8
WHHZ	**Waihua**	**2.19**	**221**	P	Pn	23 30 42.0	0.0
RRRZ	**Republican Roa**	**2.22**	**245**	P	Pn	23 30 42.9	+0.4
OMRZ	**Omania**	**2.24**	**252**	P	Pb	23 30 45.7	-0.7
MTHZ	**Maungataniwha**	**2.26**	**231**	P	Pn	23 30 43.5	+0.4
MYRZ	**Mayor Island**	**2.26**	**273**	P	Pn	23 30 43.4	+0.3
HLRZ	**Highlands Stat**	**2.30**	**249**	P	Pn	23 30 44.6	+0.9
KARZ	**Kaharoa**	**2.32**	**255**	P	Pn	23 30 44.0	+0.1
NMHZ	**Naumai**	**2.44**	**226**	P	Pn	23 30 45.8	+0.2
ARHZ	**Aropaoanui**	**2.45**	**221**	P	Pn	23 30 45.7	+0.1
MRHZ	**Matea Rd**	**2.52**	**236**	P	Pn	23 30 46.6	0.0
KMRZ	**Kaimai**	**2.52**	**260**	P	Pn	23 30 46.4	-0.2
BKZ	**Black Stump Fm**	**2.67**	**229**	P	Pn	23 30 48.6	-0.1
CKHZ	**Cape Kidnapper**	**2.71**	**215**	P	Pn	23 30 48.7	-0.6
KUZ	**Kuaotunu**	**2.77**	**283**	P	Pn	23 30 48.2	-1.9
KUTZ	**Kaahu Road**	**2.78**	**247**	P	Pn	23 30 50.5	+0.3
TOZ	**Tahuroa Road**	**2.85**	**263**	P	Pn	23 30 50.6	-0.6
KWHZ	**Kaweka Forest**	**2.88**	**226**	P	Pn	23 30 50.8	-0.8
KAHZ	**Kahuranaki**	**2.92**	**216**	P	Pn	23 30 51.0	-1.1
RITZ	**Rihia Road**	**2.96**	**238**	P	Pn	23 30 52.8	+0.1
RATZ	**Rangitukua**	**2.97**	**240**	P	Pn	23 30 53.2	+0.3
KRHZ	**Kereru**	**3.06**	**223**	P	Pn	23 30 52.9	-1.2
KATZ	**Kakaramea**	**3.07**	**239**	P	Pn	23 30 54.1	-0.2
PXZ	**Pawanui**	**3.11**	**213**	P	Pn	23 30 53.1	-1.7
BHHZ	**Black Hill Sta**	**3.13**	**228**	P	Pn	23 30 54.4	-0.6
GRZ	**Great Barrier**	**3.14**	**291**	P	Pn	23 30 54.2	-0.9
TMVZ	**Te Maari**	**3.14**	**237**	P	Pn	23 30 54.9	-0.4
MKAZ	**Moumakai**	**3.14**	**275**	P	Pn	23 30 54.3	-0.8
ETVZ	**East Tongariro**	**3.14**	**236**	P	Pn	23 30 55.0	-0.3
NTVZ	**North Tongarir**	**3.15**	**237**	P	Pn	23 30 55.1	-0.3
KRVZ	**Karewarewa**	**3.17**	**238**	P	Pn	23 30 55.4	-0.3
OTVZ	**Oturere**	**3.19**	**236**	P	Pn	23 30 55.7	-0.2
NNVZ	**North Ngauruho**	**3.21**	**237**	P	Pn	23 30 56.2	0.0
WTVZ	**West Tongariro**	**3.21**	**238**	P	Pn	23 30 56.3	0.0
SNVZ	**South Ngauruho**	**3.22**	**236**	P	Pn	23 30 56.1	-0.2
NGZ	**Ngauruhoe**	**3.24**	**237**	P	Pn	23 30 56.3	-0.3
MOVZ	**Moawhango**	**3.27**	**232**	P	Pn	23 30 56.1	-0.9
TWVZ	**Taurewa**	**3.29**	**239**	P	Pn	23 30 57.5	+0.1
WHVZ	**Whangaehu Hut**	**3.30**	**235**	P	Pn	23 30 57.1	-0.5
FWVZ	**Far West T-bar**	**3.31**	**236**	P	Pn	23 30 57.3	-0.4
WNVZ	**Wahianoa**	**3.32**	**234**	P	Pn	23 30 57.1	-0.7
WPHZ	**Waipukurau**	**3.33**	**217**	P	Pn	23 30 56.5	-1.3
PNHZ	**Pukenui**	**3.34**	**221**	P	Pn	23 30 56.1	-1.8
ETAZ	**East Tamaki Re**	**3.35**	**277**	P	Pn	23 30 58.3	+0.3
MBAZ	**Motutapu North**	**3.41**	**280**	P	Pn	23 30 59.2	+0.4
PRHZ	**Porangahau**	**3.41**	**213**	P	Pn	23 30 57.0	-1.8
MTVZ	**Mangateitei**	**3.43**	**234**	P	Pn	23 30 59.2	0.0
HIZ	**Hauiti**	**3.50**	**251**	P	Pn	23 31 01.3	+1.2
AWAZ	**Awhitu Peninsu**	**3.56**	**275**	P	Pn	23 31 01.5	+0.6
TSZ	**Takapari Road**	**3.57**	**222**	P	Pn	23 30 59.5	-1.6
ANWZ	**Angora Road**	**3.63**	**213**	P	Pn	23 31 00.1	-1.9
DVHZ	**Dannevirke**	**3.65**	**218**	P	Pn	23 31 00.3	-1.9
RVAZ	**Riverhead Bore**	**3.66**	**279**	P	Pn	23 31 01.9	-0.3
POWZ	**Post Office Ro**	**3.92**	**220**	P	Pn	23 31 03.9	-2.0
PRWZ	**Pori Road**	**3.94**	**217**	P	Pn	23 31 04.3	-1.8
WAZ	**Wanganui**	**3.95**	**233**	P	Pn	23 31 06.4	+0.1
WCZ	**Waipu Caves**	**4.09**	**290**	P	Pn	23 31 07.8	-0.3
CPWZ	**Castlepoint**	**4.12**	**212**	P	Pn	23 31 06.5	-2.1
TIWZ	**Tintock**	**4.15**	**216**	P	Pn	23 31 07.1	-2.0
LREZ	**Lake Rotokare**	**4.19**	**240**	P	Pn	23 31 09.5	-0.1
NEZ	**North Egmont**	**4.32**	**243**	P	Pn	23 31 13.1	+1.7
PKE	**Pukeiti**	**4.37**	**245**	P	Pn	23 31 14.2	+2.1
KHEZ	**Kahui Hut**	**4.39**	**243**	P	Pn	23 31 14.2	+1.8
NBEZ	**Newall Road No**	**4.48**	**244**	P	Pn	23 31 15.0	+1.4
OUZ	**Omahuta**	**4.95**	**295**	P	Pn	23 31 20.1	+0.1
KHZ	**Kahutara**	**6.54**	**219**	P	Pn	23 31 39.8	-2.1
CTZ	**Chatham Island**	**7.09**	**154**	P	Pn	23 31 52.2	+2.8

*IDC **03** 23:31:50.6±1.1, 39°.97N×77°.39E, h0km, mb3.7/12, mbtmp3.8/19, ML3.5/7, MS3.2/13, Error ellipse: s-maj=16.9km s-min=15.0km az=149.0*

*MOS **03** 23:31:51.5±1.5, 40°.07N×77°.26E, h9km, mb4.5/6, Error ellipse: s-maj=9.3km s-min=4.0km az=92.1*

*SOME **03** 23:31:53.6, 40°.32N×77°.05E, h15km, MS3.5*

*KRNET **03** 23:31:53.6±0.1, 40°.35N×77°.21E, h14km, mb4.5*

*NNC **03** 23:31:55.4±1.4, 40°.39N×77°.16E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=10.4km s-min=7.6km az=164.0*

ISC 03 23:31:54.7±0.4, 40°.18N±0°.02×77°.29E±0°.02, h10km, n175, σ1°74/227, mb3.9/19, MS3.1/9, 50C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.21**	**237**	Pg	Pg	23 32 25.4	+7.5
KSH				Sg	Sn	23 32 47.4	+13
KSH				pmax	pmax		
	comp=Z,830nm,0.6s						
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,2μm,0.6s						
ULHL	**Ulahol**	**2.21**	**339**	P	**Pn**	**23 32 33.3**	**+1.8**
	SNR=16						
ULHL	**Ulahol**	**2.21**	**339**	⇑*i*P	**Pn**	**23 32 31.0**	**-0.6**
	baz=39						
ULHL				⇑*i*S	**Sn**	**23 32 58.2**	**-0.8**
	baz=39						
ANVS	**Anan'yevo**	**2.61**	**6**	⇑*i*P	**Pn**	**23 32 37.4**	**+0.3**
	baz=8.0						
ANVS				⇑*i*S	**Sn**	**23 33 08.1**	**-0.9**
	baz=8.0						
ARLS	**Aral**	**2.80**	**308**	⇓*i*P	**Pn**	**23 32 40.2**	**+0.5**
	baz=6.0						
ARLS				⇓*i*S	**Sn**	**23 33 13.3**	**-0.3**
	baz=6.0						
TNSS	**Tian-Shan**	**2.86**	**355**	Pg	**Pn**	**23 32 42.7**	**+2.0**
	comp=E,210nm,0.6s						
TNSS				Lg	Lg	23 33 23.0	
	comp=E,2μm,0.9s						
UCH	**Uchtor**	**2.92**	**315**	P	**Pn**	**23 32 42.9**	**+1.3**
	SNR=170						
UCH	**Uchtor**	**2.92**	**315**	⇓*i*P	**Pn**	**23 32 41.4**	**-0.3**
	baz=14						
UCH				⇓*i*S	**Sn**	**23 33 15.5**	**-1.6**
	baz=14						
MDOK	**Medeo**	**2.98**	**357**	*i* PN	**Pn**	**23 32 43.6**	**+1.4**
MDOK				*i*		23 32 47.6	
MDOK				*i*		23 33 25.3	
MDOK	**Medeo**	**2.98**	**357**	*e*P	**Pb**	**23 32 46.8**	**-1.2**
	comp=E,318nm,0.7s						
MDOK				*e*S	**Sb**	**23 33 24.8**	**+0.2**
	comp=E,1μm,0.7s						
MDOK	**Medeo**	**2.98**	**357**	*i* Pn	**Pn**	**23 32 43.6**	**+1.4**
	baz=357						
MDOK				*i* Pg	**Pb**	**23 32 47.7**	**-0.3**
	baz=357						
MDOK				*i* Lg	Lg	23 33 25.3	
	baz=357						
MDOK	**Medeo**	**2.98**	**357**	⇑Pn	**Pn**	**23 32 43.3**	**+1.2**
	comp=E,328nm,0.7s						
MDOK				Pg	Pb	23 32 44.2	-3.8
	comp=E,318nm,0.7s						
MDOK				⇑Lg	Lg	23 33 24.9	
	comp=E,1μm,0.7s						
MDOK				Lg	Lg	23 33 25.0	
	comp=E,1μm,0.7s						
SATY	**Saty**	**2.99**	**16**	*i* PN	**Pn**	**23 32 44.0**	**+1.7**
SATY				*i*		23 32 47.5	
SATY				*e*		23 33 27.1	
SATY	**Saty**	**2.99**	**16**	*e*P	**Pb**	**23 32 47.4**	**-0.7**
	comp=E,200nm,0.8s						
SATY				*e*S	**Sb**	**23 33 26.2**	**+1.4**
	comp=E,466nm,0.7s						
SATY	**Saty**	**2.99**	**16**	*i* Pn	**Pn**	**23 32 44.1**	**+1.7**
	baz=17						
SATY				*i* Pg	**Pb**	**23 32 47.5**	**-0.7**
	baz=17						
SATY				*e*Lg	Lg	23 33 27.1	
	baz=17						
SATY	**Saty**	**2.99**	**16**	Pg	**Pn**	**23 32 45.1**	**+2.8**
	comp=E,200nm,0.8s						
SATY				Lg	Lg	23 33 26.2	
	comp=E,466nm,0.7s						
MTBS	**Maitube**	**3.01**	**348**	*e*P	**Pb**	**23 32 47.4**	**-1.1**
	comp=E,151nm,0.5s						
MTBS				*e*S	**Sb**	**23 33 25.0**	**-0.3**
	comp=E,298nm,0.6s						
MTBS	**Maitube**	**3.01**	**348**	Pg	**Pn**	**23 32 44.5**	**+1.9**

DGS Lg Lg 23 33 34.0
comp=Z,415nm,0.6s
FRU1 Bishkek 3.30 324 ⇑*i*P **Pn 23 32 46.0 -0.4**
baz=23
FRU1 ⇑*i*S **Sn 23 33 24.8 -0.9**
baz=23
AML Almayashu 3.34 307 P **Pn 23 32 49.1 +1.8**
SNR=168
KURS Kuram 3.37 11 *e*P **Pb 23 32 53.7 -0.8**
comp=Z,182nm,0.9s
KURS *e*S **Sb 23 33 36.6 +1.1**
comp=Z,292nm,0.7s
KURS Kuram 3.37 11 Pg Pn 23 32 51.6 +4.2
comp=Z,182nm,0.9s
KURS Lg Lg 23 33 37.5
comp=Z,292nm,0.7s
SHLS Shalkode 3.39 28 *i* PN Pn 23 32 52.1 +4.4
SHLS *i* 23 32 58.5
SHLS *i* 23 33 45.2
SHLS Shalkode 3.39 28 *e*P **Pg 23 32 58.5 -1.1**
comp=Z,47nm,0.6s
SHLS *e*S **Sg 23 33 44.7 +1.2**
comp=Z,509nm,1.0s
SHLS Shalkode 3.39 28 *i* Pn Pn 23 32 52.1 +4.4
baz=33
SHLS *i* Pg **Pg 23 32 58.6 -1.1**
baz=33
SHLS *i* Lg Lg 23 33 45.2
baz=33
SHLS Shalkode 3.39 28 Pg **Pb 23 32 56.4 +1.5**
comp=Z,47nm,0.6s
SHLS Lg Lg 23 33 45.4
comp=Z,509nm,1.0s
CHMS Chumysh 3.40 327 P **Pn 23 32 49.3 +1.6**
SNR=278
CHMS Chumysh 3.40 327 *i* PN **Pn 23 32 49.3 +1.6**
CHMS pmax pmax
comp=Z,266nm,0.5s
CHMS Chumysh 3.40 327 ⇓Pn **Pn 23 32 49.3 +1.6**
comp=Z,266nm,0.6s
CHMS ⇓Lg Lg 23 33 36.1
comp=Z,425nm,0.6s
CHMS Lg Lg 23 35 08.8
comp=Z,62nm,0.7s
CHMS Chumysh 3.40 327 ⇑*i*P **Pn 23 32 47.5 -0.2**
baz=26
CHMS ⇑*i*S **Sn 23 33 27.3 -0.8**
baz=26
KPKS Kokpek 3.44 17 *i* PN **Pn 23 32 50.2 +1.8**
KPKS *i* 23 32 55.9
KPKS *i* 23 33 40.3
KPKS Kokpek 3.44 17 *e*P **Pb 23 32 54.8 -1.0**
comp=Z,84nm,0.6s
KPKS *e*S **Sb 23 33 39.4 +1.7**
comp=Z,716nm,0.9s
KPKS Kokpek 3.44 17 *i* Pn **Pn 23 32 50.3 +1.8**
baz=18
KPKS *i* Pg **Pb 23 32 56.0 +0.2**
baz=18
KPKS *i* Lg Lg 23 33 40.4
baz=18
KPKS Kokpek 3.44 17 Pg Pn 23 32 53.1 +4.7
comp=Z,84nm,0.6s
KPKS Lg Lg 23 33 40.1
comp=Z,716nm,0.9s
OHH Osh 3.46 277 ⇑*i*P **Pn 23 32 49.7 +1.1**
baz=74
OHH ⇑*i*S **Sn 23 33 30.3 +0.6**
baz=74
PDGK Podgornoye 3.55 27 *i* PN **Pn 23 32 51.2 +1.2**
PDGK pmax pmax
comp=Z,30nm,0.5s
PDGK Podgornoye 3.55 27 ⇑Pn **Pn 23 32 51.2 +1.2**
comp=Z,30nm,0.5s
PDGK ⇑Pg **Pb 23 32 57.4 -0.2**
comp=Z,82nm,0.6s
PDGK ⇑Sn **Sn 23 33 35.4 +3.3**
comp=Z,230nm,0.8s
PDGK ⇓Lg Lg 23 33 43.7
comp=Z,990nm,0.9s
KTBS Karatobe 3.56 353 *e*P **Pb 23 32 57.1 -0.6**
comp=Z,247nm,0.6s
KTBS *e*S **Sb 23 33 41.6 +0.7**
comp=Z,629nm,0.5s
KTBS Karatobe 3.56 353 Pg Pn 23 32 54.2 +4.2
comp=Z,247nm,0.6s
KTBS Lg Lg 23 33 41.9
comp=Z,629nm,0.5s
EKS2 Erkin-Say 3.62 314 P **Pn 23 32 53.1 +2.2**
SNR=138
EKS2 Erkin-Say 3.62 314 ⇓*i*P **Pn 23 32 50.7 -0.2**
baz=13
EKS2 ⇓*i*S **Sn 23 33 32.8 -0.9**
baz=13
CHKK Chushkaly 3.67 357 *i* PN **Pn 23 32 52.9 +1.4**
CHKK *i* 23 33 00.1
CHKK *e* 23 33 34.0
CHKK *e* 23 33 45.2
CHKK Chushkaly 3.67 357 *e*P **Pb 23 32 59.3 -0.4**
comp=Z,166nm,0.7s
CHKK *e*S **Sb 23 33 46.0 +1.6**
comp=Z,562nm,0.6s
CHKK Chushkaly 3.67 357 *i* Pn **Pn 23 32 53.0 +1.4**
baz=357
CHKK *i* Pg **Pb 23 33 00.1 +0.4**
baz=357
CHKK *e*Sn **Sn 23 33 34.0 -0.9**
baz=357
CHKK *e*Sb **Sb 23 33 45.2 +0.9**
baz=357
CHKK Chushkaly 3.67 357 Pg Pn 23 32 56.4 +4.8
comp=Z,166nm,0.7s
CHKK Lg Lg 23 33 46.0
comp=Z,562nm,0.6s
KRBS Karabastau 3.71 342 *e*P **Pb 23 32 59.6 -0.7**
comp=Z,167nm,0.6s
KRBS *e*S **Sb 23 33 46.2 +0.8**
comp=Z,261nm,0.7s
KRBS Karabastau 3.71 342 Pg Pn 23 32 56.7 +4.6
comp=Z,167nm,0.6s
KRBS Lg Lg 23 33 46.2
comp=Z,261nm,0.7s
USP Ospenovka 3.72 327 P **Pn 23 32 53.6 +1.4**
SNR=111
USP Ospenovka 3.72 327 ⇓*e*P **Pn 23 32 52.1 -0.1**
baz=26
USP ⇓*i*S **Sn 23 33 35.0 -1.1**
baz=26
KUU Kurty 3.77 350 *i* PN **Pn 23 32 53.8 +0.9**
KUU *i* 23 33 01.8
KUU *i* 23 33 47.9
KUU Kurty 3.77 350 *e*P **Pb 23 33 00.1 -1.3**
comp=Z,42nm,0.6s
KUU *e*S **Sb 23 33 47.8 +0.6**
comp=Z,228nm,0.6s
KUU Kurty 3.77 350 *i* Pn **Pn 23 32 53.9 +0.9**
baz=350
KUU *i* Pg **Pb 23 33 01.8 +0.4**
baz=350
KUU *i* Sb **Sb 23 33 48.0 +0.8**
baz=350
KUU Kurty 3.77 350 Pg Pn 23 32 57.6 +4.7
comp=Z,42nm,0.6s
KUU Lg Lg 23 33 47.7
comp=Z,228nm,0.6s
SGDS Sogindy 3.82 330 *i* PN **Pn 23 32 54.3 +0.7**
SGDS *i* 23 33 01.6
SGDS *e* 23 33 49.0
SGDS Sogindy 3.82 330 *e*P **Pb 23 33 00.8 -1.4**
comp=Z,44nm,0.6s
SGDS *e*S **Sb 23 33 48.9 +0.3**
comp=Z,207nm,0.6s
SGDS Sogindy 3.82 330 *i* Pn **Pn 23 32 54.3 +0.7**
baz=330
SGDS *i* Pg **Pb 23 33 01.6 -0.6**
baz=330
SGDS *e*Sb **Sb 23 33 49.1 +0.5**
baz=330
SGDS Sogindy 3.82 330 Pg Pn 23 32 58.6 +5.0
comp=Z,44nm,0.6s
SGDS Lg Lg 23 33 49.3
comp=Z,207nm,0.6s
MRKS Merke 3.98 311 *e*P **Pb 23 33 04.5 -0.5**
comp=Z,25nm,0.5s
MRKS *e*S **Sb 23 33 54.9 +1.6**
comp=Z,148nm,0.4s
MRKS Merke 3.98 311 Pg Pn 23 33 01.9 +6.0
comp=Z,25nm,0.5s
MRKS Lg Lg 23 33 54.9
comp=Z,148nm,0.4s
KTMS Ketmen 3.98 34 *e*P **Pb 23 33 05.3 +0.3**
comp=Z,19nm,0.6s
KTMS *e*S **Sb 23 33 55.8 +2.5**
comp=Z,147nm,0.8s
KTMS Ketmen 3.98 34 Pg **Pb 23 33 03.4 -1.6**
comp=Z,19nm,0.6s
KTMS Lg Lg 23 33 57.7
comp=Z,147nm,0.8s
ARXS Arharly 4.05 6 *e*PN **Pn 23 32 57.5 +0.8**
ARXS Arharly 4.05 6 *e*P **Pb 23 33 05.8 -0.3**
comp=Z,129nm,0.6s
ARXS *e*S **Sb 23 33 57.7 +2.7**
comp=Z,326nm,0.8s
ARXS Arharly 4.05 6 Pg **Pb 23 33 03.2 -2.9**
comp=Z,129nm,0.6s
ARXS Lg Lg 23 33 57.7
comp=Z,326nm,0.8s
ARK Arkit 4.34 294 ⇑*e*P **Pn 23 33 01.8 +1.0**
baz=92
ARK ⇑*e*S **Sn 23 33 51.2 -0.3**
baz=92
DJR Jarkent 4.54 23 *e*P **Pb 23 33 14.9 +0.4**
comp=Z,13nm,0.6s
DJR *e*S **Sb 23 34 12.5 +3.2**
comp=Z,98nm,0.6s
DJR Jarkent 4.54 23 Pg **Pb 23 33 11.8 -2.7**
comp=Z,13nm,0.6s
DJR Lg Lg 23 34 12.5
comp=Z,98nm,0.6s
TRKS Terek-Say 4.85 288 ⇑*i*P **Pn 23 33 08.4 +0.5**
baz=86
TRKS ⇑*i*S **Sn 23 34 02.6 -1.6**
baz=86
TDK Taldyqorghan 4.89 9 *i* PN **Pn 23 33 09.4 +1.2**
TDK *i* 23 33 22.2
TDK *e* 23 34 04.1
TDK Taldyqorghan 4.89 9 *e*P **Pb 23 33 21.2 +0.8**
comp=Z,162nm,0.8s
TDK *e*S **Sb 23 34 23.5 +4.3**
comp=Z,382nm,0.7s
TDK Taldyqorghan 4.89 9 *i* Pn **Pn 23 33 09.4 +1.2**
baz=9.9
TDK *i* Pg **Pb 23 33 22.2 +1.9**
baz=9.9
TDK *e*Sn **Sn 23 34 04.1 -0.7**
baz=9.9
TDK Taldyqorghan 4.89 9 Pg **Pb 23 33 18.6 -1.8**
comp=Z,162nm,0.8s
TDK Lg Lg 23 34 23.5
comp=Z,382nm,0.7s
BTK Batken 4.96 271 ⇑*i*P **Pn 23 33 10.6 +1.3**
baz=69
BTK ⇑*i*S **Sn 23 34 07.0 +0.2**
baz=69
DZA Taraz 5.22 303 *e*PN **Pn 23 33 14.3 +1.5**
DZA *e* 23 33 27.4
DZA Taraz 5.22 303 *e*P **Pb 23 33 28.1 +1.9**
comp=Z,49nm,0.5s
DZA *e*S **Sb 23 34 36.0 +7.1**
comp=Z,183nm,0.8s
DZA Taraz 5.22 303 *e*Pn **Pn 23 33 14.4 +1.5**
baz=303
DZA *e*Pg **Pb 23 33 27.4 +1.3**
baz=303
DZA Taraz 5.22 303 Pg **Pb 23 33 27.7 +1.6**
comp=Z,49nm,0.5s
DZA Lg Lg 23 34 39.6
comp=Z,183nm,0.8s
BTLS Baital 5.41 335 *i* PN **Pn 23 33 15.8 +0.4**
BTLS *e* 23 33 31.0
BTLS Baital 5.41 335 *e*P **Pb 23 33 29.4 +0.2**
comp=Z,9.5nm,0.8s
BTLS *e*S **Sb 23 34 38.8 +4.5**
comp=Z,37nm,0.8s
BTLS Baital 5.41 335 *i* Pn **Pn 23 33 15.9 +0.4**
baz=335
BTLS *e*Pg **Pb 23 33 31.1 +1.8**
baz=335
BTLS Baital 5.41 335 Pg **Pb 23 33 27.2 -2.0**
comp=Z,9.5nm,0.8s
BTLS Lg Lg 23 34 39.5
comp=Z,37nm,0.8s
IUG luzhnay 5.82 292 *i* PN **Pn 23 33 21.8 +0.7**
IUG luzhnay 5.82 292 *e*P **Pb 23 33 37.6 +1.4**
comp=Z,281nm,0.7s
IUG *e*S **Sb 23 34 52.9 +6.8**
comp=Z,187nm,1.1s
IUG luzhnay 5.82 292 *i* Pn **Pn 23 33 21.8 +0.7**
baz=292
IUG *e*Lg Lg 23 34 57.0
baz=292
IUG luzhnay 5.82 292 Pg **Pb 23 33 37.9 +1.7**
comp=Z,281nm,0.7s
KK31 Karatay Array 5.86 302 Pn **Pn 23 33 21.6 0.0**
comp=Z,2.3nm,0.7s,baz=114,slow=13,SNR=39
KK31 ⇑Pg **Pb 23 33 39.9 +3.1**
comp=Z,7.4nm,0.5s,baz=130,slow=16,SNR=14
KK31 ⇑Lg Lg 23 34 56.2
comp=Z,43nm,0.6s
CHM Chimkent 6.17 293 *e*P **Pb 23 33 45.7 +3.5**
comp=Z,9.8nm,0.8s
CHM *e*S Sb 23 35 05.5 +9.4
comp=Z,62nm,0.7s
CHCP Chirah Chowk 7.26 208 ⇓P **Pn 23 33 43.8 +2.9**
MAKZ Makanchi 7.45 26 ⇓Pn **Pn 23 33 44.2 +0.8**
comp=Z,3.2nm,0.7s
MAKZ ⇑Pg Pb 23 34 09.3 +5.4
comp=Z,4.7nm,0.7s
MAKZ ⇑Lg Lg 23 35 49.0
comp=Z,22nm,0.9s
MK31 Makanchi Array 7.54 27 *i* P **Pn 23 33 44.8 +0.2**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 7.54 27 Pn **Pn 23 33 44.8 +0.2**
comp=Z,3.1nm,0.5s,baz=197,slow=11,SNR=37
MK31 ⇓Pg Pb 23 34 11.4 +5.9
comp=Z,15nm,1.0s,baz=207,slow=14,SNR=4.0
MK31 ⇑Lg Lg 23 35 52.2
comp=Z,59nm,1.2s
MKAR Makanchi Array 7.54 27 Pn **Pn 23 33 45.3 +0.6**
comp=Z,1.1nm,0.3s,baz=200,slow=15,SNR=40
MKAR Sn **Sn 23 35 11.4 +1.2**
comp=Z,0.5nm,0.3s,baz=203,slow=25,SNR=3.3
MKAR Lg Lg 23 35 48.6
comp=Z,0.6nm,0.3s,baz=207,slow=27,SNR=2.5
MKAR LR LR 23 36 59.6
comp=Z,162nm,19.5s,baz=244,slow=40
comp=Z,2.4nm,0.4s
CEP Cherat 7.67 216 P **Pn 23 33 49.4 +2.9**
WMQ Urumqi 8.56 61 *e*P **Pn 23 33 59.1 +0.4**
WMQ smax smax
comp=N,23nm,0.9s
WMQ smax smax
comp=E,29nm,1.5s
THW Thamme Wali 8.62 213 P **Pn 23 33 59.6 +0.1**
OTUK Ortayu 8.81 338 *i* P **Pn 23 34 01.4 -0.6**
OTUK pmax pmax
comp=Z,8.0nm,1.1s
OTUK Ortayu 8.81 338 ⇓Pn **Pn 23 34 01.4 -0.6**
comp=Z,7.7nm,1.1s
OTUK ⇑Lg Lg 23 36 29.3
comp=Z,133nm,1.4s
ZSN Zaisan 9.09 34 *e*P **Pn 23 34 05.0 -0.9**
ZSN *e* 23 35 48.2
ZSN Zaisan 9.09 34 *e*Pn **Pn 23 34 05.1 -0.9**
baz=35
ZSN *e*Sn **Sn 23 35 48.2 -0.1**
baz=35
BRZS Berezniki 10.32 343 *e*P **Pn 23 34 21.2 -1.5**
BRZS Berezniki 10.32 343 *e*Pn **Pn 23 34 21.3 -1.5**
baz=343
SEM Semipalatinsk 10.44 11 *e*P **Pn 23 34 23.0 -1.4**
SEM Semipalatinsk 10.44 11 *e*Pn **Pn 23 34 23.1 -1.4**
baz=11
KURBB Kurchatov Arra 10.48 4 Pn **Pn 23 34 24.1 -0.7**
comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=33
KURBB Lg Lg 23 37 17.3
comp=Z,0.1nm,0.3s,baz=193,slow=30,SNR=4.8
comp=Z,4.9nm,0.8s
KURBB Kurchatov Arra 10.48 4 ⇑Pn **Pn 23 34 25.1 +0.3**
comp=Z,8.0nm,0.8s
KURBB ⇑Lg Lg 23 37 22.7
comp=Z,100nm,1.1s
KURK Kurchatov 10.57 5*ce*P **Pn 23 34 25.1 -1.1**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 10.57 5 ⇑Pn **Pn 23 34 26.4 +0.2**
comp=Z,10nm,0.8s
KURK ⇑Lg Lg 23 37 26.4
comp=Z,97nm,1.2s
DGZ Jazzator, Alta 11.91 34 *i* P **Pn 23 34 44.2 -0.4**
DGZ pmax pmax
comp=Z,7.0nm,2.8s
BVA0 Borovoye Array 13.68 342 Pn **Pn 23 35 08.4 -0.2**
comp=Z,5.5nm,0.9s,baz=186,slow=17,SNR=34
BVA0 Lg Lg 23 39 03.5
comp=Z,39nm,1.4s,baz=158,slow=26,SNR=4.5
BVAR Borovoye Array 13.68 342 P **Pn 23 35 06.7 -1.9**
comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=27
BVAR Lg Lg 23 38 54.3
comp=Z,0.2nm,0.3s,baz=155,slow=24,SNR=5.5
BVAR LR LR 23 40 28.3
comp=Z,120nm,19.3s,baz=171,slow=37
comp=Z,3.4nm,0.8s
BRVK Borovoye 13.74 342*ce*P **Pn 23 35 07.4 -2.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 13.74 342 ⇑Pn **Pn 23 35 08.8 -0.6**
comp=Z,7.3nm,0.9s
BRVK ⇑Lg Lg 23 39 05.6
comp=Z,100nm,1.3s
GOMU GeErMu 14.35 101 P **Pn 23 35 16.3 -1.8**
GOMU pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 14.68 18 Pn **Pn 23 35 21.5 -0.8**
comp=Z,0.2nm,0.3s,baz=211,slow=13,SNR=9.4
ZALV Lg Lg 23 39 38.8
comp=Z,0.1nm,0.3s,baz=198,slow=27,SNR=7.3
ZALV LR LR 23 41 15.4
comp=Z,102nm,20.4s,baz=261,slow=38
comp=Z,3.6nm,0.9s
GEYT Alibeck 15.06 268 Pn **Pn 23 35 25.7 -1.9**
comp=Z,0.2nm,0.3s,baz=80,slow=10,SNR=2.0
comp=Z,0.7nm,0.5s
AKTO Aktyubinsk 16.95 314 P **Pn 23 35 50.2 -1.5**
comp=Z,0.2nm,0.3s,baz=112,slow=11,SNR=8.5
AKTO S **Sn 23 39 06.7 +6.7**
comp=Z,0.8nm,0.8s,baz=225,slow=20,SNR=1.6
AKTO Lg Lg 23 40 54.4
comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=2.1
AKTO LR LR 23 42 55.0
comp=Z,51nm,18.8s,baz=116,slow=39
comp=Z,2.7nm,0.8s
ARU Arti 20.37 329 P **P 23 36 30.6 -0.6**
comp=Z,3.4nm,0.7s,baz=256,slow=8.3,SNR=3.1
comp=Z,3.4nm,0.7s
ARU Arti 20.37 329*c i*P **P 23 36 30.3 -0.9**
ARU 23 36 47.3
ARU S **S 23 40 19.8 +0.6**
ARU SS **SnSn 23 40 37.4 +0.4**
ARU pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 22.19 60 P **P 23 36 49.3 -1.8**
comp=Z,0.9nm,0.8s,baz=260,slow=8.6,SNR=4.2
comp=Z,0.9nm,0.8s
ULN Ulaanbaatar 22.64 60*ce*P **P 23 36 57.5 +1.6**
ULN pmax pmax
comp=Z,7.0nm,2.6s
KIRV Kirov 25.55 325*ce*P **P 23 37 21.5 -1.8**
KIV Kislovodsk 25.85 290 *i* P **P 23 37 26.3 0.0**
KIV pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 28.58 133 LR LR 23 51 13.1
comp=Z,45nm,19.5s,baz=180,slow=41
OBN Obninsk 30.72 313 LR LR 23 51 01.4
comp=Z,14nm,19.1s,baz=173,slow=37
OBN Obninsk 30.72 313*ce*P **P 23 38 08.4 -1.2**
OBN pmax pmax
comp=Z,23nm,2.5s
BRTR Keskin Array B 33.21 284 P **P 23 38 30.9 -1.0**
comp=Z,0.8nm,0.7s,baz=97,slow=9.0,SNR=4.1
comp=Z,0.8nm,0.7s
BRTR Keskin Array B 33.21 284*ce*P **P 23 38 31.7 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 34.76 304 LR LR 23 53 02.2
comp=Z,28nm,19.4s,baz=143,slow=36
MNK Minsk 35.63 311 *i* P P 23 38 47.8 -4.6
MNK *i* 23 40 06.9
MNK *i* 23 41 16.6
MNK *i* S **S 23 44 24.3 -4.0**
MNK *i* SS **SnSn 23 46 45.8 -3.1**
MNK *i* 23 49 01.6
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=Z,7.0nm,1.0s
MNK MLR MLR
comp=E,11nm,18.0s
MNK MLR MLR
comp=Z,68nm,17.0s
MNK MLR MLR
comp=N,9.0nm,16.0s
MNK Minsk 35.63 311 *i* P P 23 38 47.9 -4.5
comp=E,1.0nm,0.8s
MNK *i* P P 23 38 47.9 -4.5
comp=N,7.0nm,1.0s
MNK *i* P P 23 38 47.9 -4.5
comp=Z,7.0nm,1.0s,baz=93
MNK *i* PP **PnPn 23 40 07.0 -4.6**
MNK *i* PPP PPP 23 40 20.2
MNK *i* S **S 23 44 24.4 -4.0**
MNK *i* SS **SnSn 23 46 45.9 -3.1**
MNK *i* SSS SSS 23 47 02.1
MNK *i* LQ LQ 23 50 40.0
MNK *i* LR LR 23 52 45.6
MNK *i* LRM MLR 23 54 23.9
comp=E,11nm,17.8s
MNK *i* LRM MLR 23 54 29.0
comp=Z,68nm,16.9s
MNK *i* LRM MLR 23 54 42.4
comp=N,9.0nm,16.1s
FINES FINESS Array B 37.41 322 P **P 23 39 06.6 -0.9**
comp=N,2.7nm,0.6s,baz=108,slow=8.6,SNR=19
FINES LR LR 23 54 07.0
comp=N,60nm,18.6s,baz=214,slow=36
comp=N,2.7nm,0.6s
FINES FINESS Array B 37.41 322*ce*P **P 23 39 06.5 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
YAK Yakutsk 38.08 37 *i* P **P 23 39 15.1 +2.0**
YAK pmax pmax
comp=Z,8.0nm,0.6s
TIXI Tiksi 40.50 22*ce*P **P 23 39 31.2 -2.0**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
VRAC Vranov 43.00 303 LR LR 00 02 03.3
comp=Z,54nm,18.4s,baz=240,slow=42
HFS Hagfors 43.37 319 P **P 23 39 55.5 -1.4**
comp=Z,6.9nm,1.1s,baz=107,slow=14,SNR=2.7
HFS LR LR 00 00 33.3
comp=Z,75nm,18.8s,baz=214,slow=40
comp=Z,6.9nm,1.1s
NB2 NORSAR Subarra 44.55 321 P **P 23 40 04.4 -1.9**
comp=Z,1.4nm,0.7s,baz=88,slow=7.9
NOA NORSAR Array B 44.55 321 P **P 23 40 04.6 -1.7**
comp=Z,0.7nm,0.6s,baz=87,slow=7.9,SNR=3.2
NOA LR LR 23 59 23.8
comp=Z,28nm,21.6s,baz=305,slow=37
comp=Z,0.7nm,0.6s
GERES GERESS Array B 44.96 303 P **P 23 40 08.7 -1.1**
comp=Z,1.4nm,0.7s,baz=71,slow=8.6,SNR=15
comp=Z,1.4nm,0.7s
DAVOX Davos/Dischmat 48.00 301 P **P 23 40 31.9 -1.9**
comp=Z,1.1nm,0.6s,baz=108,slow=6.4,SNR=2.8
comp=Z,1.1nm,0.6s
DAVOX Davos/Dischmat 48.00 301 P **P 23 40 32.0 -1.9**
BILL Bilibino 53.09 28 *e*P **P 23 41 12.2 +0.5**
BILL pmax pmax
comp=Z,3.0nm,0.8s
BORG Borgarnes 57.90 330 LR LR 00 05 58.9
comp=Z,55nm,19.0s,baz=273,slow=35
MBAR Mbarara 58.66 238*ce*P **P 23 41 52.1 -0.5**
MBAR pmax pmax
comp=Z,3.0nm,1.3s
ESDC Sonseca Array 60.09 298 P **P 23 42 01.0 -1.1**
comp=Z,0.4nm,0.7s,baz=62,slow=7.0,SNR=3.8
comp=Z,0.4nm,0.7s
ILAR Eielson Array 69.81 19 P **P 23 43 02.7 -2.1**

comp=Z,0.6nm,0.9s,baz=305,slow=3.2,SNR=4.5
comp=Z,0.6nm,0.9s

TORD	**Torodi Ar. Bea**	**70.67**	**271**	P		**P**	**23 43 08.7**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=42,slow=5.0,SNR=8.7								
	comp=Z,0.4nm,0.6s								
ASAR	**Alice Springs**	**82.53**	**129**	P		**P**	**23 44 15.2**	**-2.5**
	comp=Z,0.3nm,1.0s,baz=330,slow=5.4,SNR=2.0								
	comp=Z,0.3nm,1.0s								

*JMA **03** 23:35:54.5±0.3,32°N×3°×13°8E±°, h414km, MV3.0/26, FAR S OFF TOKAI DISTRICT*
*IDC **03** 23:35:57.0±1.0,31°17N×138°43E, h349km±11km, mb3.3/10, mbtmp4.0/14, Error ellipse: s-maj=31.6km s-min=13.8km az=60.0*
ISC 03 23:35:58.5±1.2, 31°5N±0°1×138°5E±0°1, h350km, n26, σ1$32/22, mb3.6/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.94**	**33**	P		**Pn**	**23 36 50.3**	**+1.0**
	59nm,0.3s,baz=142,slow=23,SNR=17							
JHJ				S		**S**	**23 37 33.0**	**+2.8**
	99nm,0.3s,baz=72,slow=19,SNR=2.4							
JHJ2	**Mitsune**	**1.95**	**34**	*e*P		**Pn**	**23 36 51.4**	**+2.0**
TTO2	**TONANKAI O.B.S**	**2.56**	**331**	*e*P		Pn	23 36 49.1	-4.5
TTO1	**TONANKAI O.B.S**	**2.58**	**326**	*e*P		Pn	23 36 49.0	-4.8
JIE	**Ise**	**3.27**	**333**	*e*P		Pn	23 36 53.0	-7.2
JKN2	**Miekihoku**	**3.32**	**326**	*e*P		Pn	23 36 53.3	-7.4
JTNC	**Tanabenakahech**	**3.37**	**314**	*e*P		Pn	23 36 54.4	-6.9
BSO3	**Boso 3**	**3.70**	**26**	*e*S		**S**	**23 37 55.3**	**-1.7**
BSO1	**Boso 1**	**3.77**	**33**	*e*S		**S**	**23 37 55.1**	**-2.6**
JHU	**Hanno**	**4.39**	**8**	*e*P		Pn	23 37 03.9	-7.6
JRY	**Ryogami san**	**4.52**	**4**	*e*P		Pn	23 37 05.6	-7.3
MJAR	**Matsushiro Arr**	**5.04**	**357**	P		**Pn**	**23 37 20.4**	**+1.9**
	0.5nm,0.4s,baz=163,slow=12,SNR=2.4							
MJAR				S		**S**	**23 38 23.8**	**+0.6**
	1.3nm,0.5s,baz=244,slow=13,SNR=4.9							
JCJ	**Chichijima**	**5.43**	**143**	P		Pn	23 37 19.9	-3.1
	54nm,0.6s,baz=312,slow=14,SNR=5.3							
JCJ				S		S	23 38 25.0	-6.3
	113nm,0.7s,baz=285,slow=22,SNR=9.1							
KSRS	**Korea Array**	**10.57**	**307**	P		**Pn**	**23 38 24.5**	**+1.3**
	4.9nm,0.9s,baz=123,slow=13,SNR=16							
USRK	**Ussuriysk Ar.**	**13.68**	**340**	P		**Pn**	**23 38 59.9**	**0.0**
	1.7nm,0.5s,baz=151,slow=10,SNR=6.4							
SONM	**Songino Array**	**29.35**	**313**	P		**P**	**23 41 30.3**	**-0.1**
	1.0nm,0.5s,baz=106,slow=7.5,SNR=8.2							
	1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**44.09**	**317**	P		**P**	**23 43 33.1**	**+0.1**
	0.5nm,0.3s,baz=88,slow=5.9,SNR=2.6							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**45.25**	**306**	P		**P**	**23 43 41.4**	**-0.8**
	1.0nm,0.7s,baz=89,slow=10,SNR=7.5							
MKAR				PcP		**PcP**	**23 45 14.7**	**-0.7**
	0.2nm,0.5s,baz=97,slow=3.9,SNR=1.9							
	1.0nm,0.7s							
BVAR	**Borovoye Array**	**52.66**	**315**	P		**P**	**23 44 37.2**	**-0.6**
	1.2nm,0.5s,baz=105,slow=6.9,SNR=16							
BVAR				PcP		**PcP**	**23 45 41.4**	**-0.9**
	0.3nm,0.6s,baz=122,slow=4.2,SNR=3.8							
	1.2nm,0.5s							
ARCES	**ARCESS Array B**	**68.33**	**340**	P		**P**	**23 46 22.3**	**-0.1**
	0.9nm,0.6s,baz=65,slow=9.5,SNR=6.0							
	0.9nm,0.6s							
FINES	**FINESS Array B**	**72.59**	**332**	P		**P**	**23 46 47.6**	**-0.4**
	0.6nm,0.4s,baz=72,slow=5.8,SNR=14							
	0.6nm,0.4s							
KBZ	**Khabaz**	**72.69**	**311**	P		**P**	**23 46 48.9**	**-0.1**
	2.5nm,0.7s,baz=85,slow=3.3,SNR=6.9							
	2.5nm,0.7s							
AKASG	**Malin Array Be**	**77.19**	**322**	P		**P**	**23 47 13.7**	**-0.7**
	0.9nm,0.4s,baz=51,slow=5.4,SNR=6.3							
	0.9nm,0.4s							
BRTR	**Keskin Array B**	**80.69**	**311**	P		**P**	**23 47 33.5**	**-0.2**
	0.9nm,0.7s,baz=111,slow=3.3,SNR=6.2							
	0.9nm,0.7s							
TXAR	**Lajitas Array**	**95.43**	**51**	P		**P**	**23 48 45.3**	**+0.9**
	0.2nm,0.7s,baz=300,slow=3.6,SNR=2.1							
	0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**119.30**	**310**	PKP		**PKPdf**	**23 54 06.4**	**-0.8**
	0.2nm,0.4s,baz=50,slow=1.0,SNR=1.8							

*KOLA **03** 23:37:13.3, 67°69N×20°08E, h0km, ML2.1*
*UPP **03** 23:37:13.5±0.0, 67°83N×20°21E, h1km, ML2.1, Explosion*
*HEL **03** 23:37:13.9±0.0, 67°83N×20°21E, h0km, ML2.0, ML2.1(UPP), Explosion*
*IDC **03** 23:37:14.8±1.1, 67°80N×20°76E, h0km, mbtmp3.1/4, ML2.0/4, Error ellipse: s-maj=18.5km s-min=6.7km az=119.0*
ISC 03 23:37:12.9±0.7, 67°82N±0°02×20°22E±0°02, h0km, n44, σ1$31/71, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUA	**Kuravaara**	**0.15**	**17**	P		**Pg**	**23 37 16.2**	**+0.5**
KUA				S		**Sg**	**23 37 18.2**	**+0.5**
KUA	**Kuravaara**	**0.15**	**17**	*i* P		**Pg**	**23 37 16.2**	**+0.5**
KUA				*i* S		**Sg**	**23 37 18.2**	**+0.5**
RATU	**Laukkuluspa**	**0.24**	**272**	P		**Pg**	**23 37 18.1**	**+0.6**
RATU				S		**Sg**	**23 37 21.2**	**+0.6**
RATU	**Laukkuluspa**	**0.24**	**272**	*i* P		**Pg**	**23 37 18.1**	**+0.6**
RATU				*i* S		**Sg**	**23 37 21.2**	**+0.6**
KOVU	**Salmi**	**0.41**	**357**	P		**Pg**	**23 37 20.9**	**+0.2**
KOVU				S		**Sg**	**23 37 26.2**	**+0.1**
KOVU	**Salmi**	**0.41**	**357**	*i* P		**Pg**	**23 37 20.9**	**+0.2**
KOVU				*i* S		**Sg**	**23 37 26.2**	**+0.1**
NIKU	**Nikkaluokta**	**0.45**	**277**	P		**Pg**	**23 37 21.9**	**+0.3**
NIKU	**Nikkaluokta**	**0.45**	**277**	*i* P		**Pg**	**23 37 21.9**	**+0.3**
LANU	**Lannavaara**	**0.71**	**70**	P		**Pg**	**23 37 26.8**	**+0.3**
LANU				S		**Sg**	**23 37 36.1**	**+0.5**
LANU	**Lannavaara**	**0.71**	**70**	*e*P		**Pg**	**23 37 26.7**	**+0.3**
LANU				*e*S		**Sg**	**23 37 35.2**	**-0.4**
DUNU	**Dundret**	**0.71**	**169**	P		**Pg**	**23 37 27.0**	**+0.6**
DUNU	**Dundret**	**0.71**	**169**	*i* P		**Pg**	**23 37 27.0**	**+0.6**
MASU	**Masugnsbyn**	**0.77**	**117**	P		**Pg**	**23 37 28.2**	**+0.6**
MASU	**Masugnsbyn**	**0.77**	**117**	*i* P		**Pg**	**23 37 28.2**	**+0.6**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P		**Pg**	**23 37 36.8**	**+0.6**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB		**Pg**	**23 37 36.6**	**+0.4**
KIF				MSG			23 37 51.3	
	comp=Z,16nm,0.2s							
KIF				*e*S		**Sg**	**23 37 51.6**	**-0.2**
PAJU	**Pajala**	**1.37**	**124**	*e*PG		**Pg**	**23 37 38.7**	**-0.4**
	baz=304							
PAJU				*e*SB		**Sg**	**23 37 57.0**	**+0.2**
HEF	**Hetta**	**1.42**	**64**	*e*P		**Pn**	**23 37 39.5**	**-0.5**
HEF	**Hetta**	**1.42**	**64**	*e*PG		**Pn**	**23 37 39.5**	**-0.5**
	baz=250							
HEF				MSG			23 37 56.2	
	comp=Z,8.4nm,0.2s							
HEF				*e*SB		**Sg**	**23 37 58.2**	**-0.2**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*PG		**Pn**	**23 37 40.7**	**0.0**
ERTU				*e*SN		**Sn**	**23 38 01.2**	**+0.4**
KLF	**Kolari**	**1.55**	**110**	*e*PG		**Pn**	**23 37 42.0**	**+0.2**
	baz=298							
KLF				*e*SN		**Sg**	**23 38 03.2**	**+0.6**
KTK1	**Kautokeino**	**1.64**	**41**	*e*PG		**Pn**	**23 37 43.2**	**+0.2**
KTK1				*e*SN		**Sb**	**23 38 05.3**	**+0.1**
TRO	**Tromso**	**1.89**	**346**	*e*PN		**Pn**	**23 37 47.3**	**+0.9**
TRO				*e*SG		**Sb**	**23 38 12.4**	**+0.2**
TOF	**Tornio**	**2.38**	**135**	*e*PB		**Pb**	**23 37 55.2**	**-1.3**
	baz=317							
TOF				MSG			23 38 24.5	
	comp=Z,7.8nm,0.2s							
TOF				*e*SG		**Sb**	**23 38 26.8**	**+0.6**
SGF	**Sodankyl**	**2.44**	**96**	*e*PB		**Pb**	**23 37 56.5**	**-1.1**
SGF				*e*SB		**Sb**	**23 38 26.7**	**-1.5**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB		**Pb**	**23 37 58.1**	**-1.5**
	baz=303							
RNF				*e*SB		**Sb**	**23 38 31.3**	**-0.3**
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P		**Pb**	**23 37 58.6**	**-1.6**
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn		**Pn**	**23 37 57.6**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=225,slow=15,SNR=14							
ARCES				Lg		Lg	23 38 31.1	
	comp=Z,2.1nm,0.3s,baz=226,slow=25,SNR=19							
	comp=Z,0.9nm,0.3s							
ARCES	**ARCESS Array B**	**2.59**	**46**	P		**Pn**	**23 37 57.7**	**+1.7**
ARCES				S		**Sb**	**23 38 31.0**	**-1.6**
MOR8	**Moi Rana**	**2.81**	**237**	*e*P		**Pb**	**23 38 02.2**	**-1.7**
KEV	**Kevo**	**3.14**	**49**	*e*S		**Sn**	**23 38 43.0**	**+1.2**
KEV				MSG			23 38 45.7	
	comp=Z,4.8nm,0.2s							
BURU	**Burvik**	**3.28**	**171**	*e*P		**Pn**	**23 38 08.2**	**+2.7**
BURU				*e*SB		**Sb**	**23 38 49.6**	**-2.7**
OUL	**Oulu**	**3.56**	**138**	*e*SG		**Sb**	**23 39 02.3**	**+1.9**
VRF	**Varrio**	**3.57**	**87**	*e*PG		**Pb**	**23 38 17.7**	**+0.9**
VRF				*e*SB		**Sb**	**23 39 01.3**	**+0.7**
OLKF	**Oulanka, Finla**	**3.89**	**108**	*e*PG		**Pb**	**23 38 24.3**	**+2.0**
OLKF				*e*SG		**Sb**	**23 39 13.3**	**+3.4**
OUF	**Merijarvi**	**3.92**	**150**	*e*SG		**Sg**	**23 39 17.2**	**-1.5**
MSF	**Maaselka**	**3.97**	**115**	*e*P		**Pn**	**23 38 17.0**	**+2.0**
	baz=308							
MSF				*e*SG		**Sb**	**23 39 16.2**	**+4.1**
KU6	**Riekki**	**4.21**	**111**	*e*PG		**Pb**	**23 38 29.0**	**+1.3**
KU6				*e*SG		**Sg**	**23 39 25.2**	**-2.4**
APA0	**Apatity Array**	**4.87**	**87**	P		**Pn**	**23 38 27.2**	**-0.1**
APA0				S		**Sn**	**23 39 23.2**	**-1.0**
LVZ	**Lovozero**	**5.46**	**82**	S		**Sn**	**23 39 37.4**	**-1.5**
TERR	**Teriberka**	**5.64**	**69**	S		**Sn**	**23 39 41.1**	**-2.1**
FINES	**FINESS Array B**	**6.87**	**156**	Pn		**Pn**	**23 38 56.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=347,slow=11,SNR=4.2							
FINES				Sn		**Sn**	**23 40 12.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=349,slow=26,SNR=1.6							
FINES				Lg		Lg	23 40 47.6	
	comp=Z,0.4nm,0.3s,baz=346,slow=32,SNR=7.3							
	comp=Z,3.1nm,1.1s							
NOA	**NORSAR Array B**	**7.83**	**214**	Pn		**Pn**	**23 39 10.2**	**+2.2**
	baz=38,slow=14,SNR=1.5							
NOA				Lg		Lg	23 41 18.5	
	baz=130,slow=21,SNR=1.6							
	comp=Z,0.5nm,0.9s							
HFS	**Hagfors**	**8.22**	**203**	Pn		**Pn**	**23 39 13.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=22,slow=16,SNR=2.1							
HFS				Sn		**Sn**	**23 40 44.2**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=27,slow=23,SNR=1.5							
HFS				Lg		Lg	23 41 33.7	
	comp=Z,0.3nm,0.3s,baz=16,slow=27,SNR=5.5							
	comp=Z,7.4nm,1.2s							

*IDC **03** 23:40:36.9±2.8, 39°41N×143°62E, h0km, mb3.9/10, mbtmp3.9/13, ML2.6/3, MS3.2/7, Error ellipse: s-maj=57.8km s-min=22.8km az=149.0*
*NIED **03** 23:40:38.7, 39°58N×143°59E, h23km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.65; Mθθ0.04; Mϕϕ-4.69; Mrθ2.92; Mϕϕ-2.82; Mϕr4.62; Fault plane solution: M0 7.64000×10¹⁴ NP1: ϕs196.00000°, δ23.00000°, λ76.00000°. NP2: ϕs31.00000°, δ68.00000°, λ96.00000°.*
*JMA **03** 23:40:38.7±0.2, 39.6N±0.6×14°4E±°, h23km, MD4.3/39, MV4.1/39, FAR E OFF SANRIKU*
*NEIC **03** 23:40:41.1±1.3, 39°47N±0°06×143°5E±0°1, h23km±8km, mb4.1/4, Error ellipse: s-maj=17.0km s-min=8.5km az=102.0*
ISC 03 23:40:43.9±1.6, 39°55N±0°04×143°5E±0°1, h45km±13km, n61, σ1$22/32, mb3.9/11, MS3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.27**	**272**	*i* P		Pn	23 41 02.8	-2.4
MIYJ				*e*S		**Sn**	**23 41 20.1**	**-0.9**
JTH	**Tanohata**	**1.29**	**288**	*i* P		Pn	23 41 02.7	-2.8
JTH				*e*S		**Sn**	**23 41 20.2**	**-1.3**
OFUJ	**Ofunato**	**1.46**	**252**	*i* P		Pn	23 41 05.7	-2.1
JKEN	**Kujiedanarisaw**	**1.50**	**297**	P		Pn	23 41 05.4	-2.9
JKEN				S		**Sn**	**23 41 25.4**	**-1.2**
JOH	**Ohasama**	**1.68**	**268**	*i* P		Pn	23 41 09.2	-1.6
JKZ	**Kuzumaki**	**1.70**	**286**	P		Pn	23 41 09.4	-1.7
JANG	**Nango**	**1.70**	**299**	P		Pn	23 41 08.4	-2.8
JKMT	**Kesennumamotoy**	**1.71**	**245**	P		Pn	23 41 09.2	-2.0
JMK	**Ichinoseki**	**1.84**	**252**	P		Pn	23 41 11.2	-1.7
JSZI	**Iwateshizukuis**	**1.94**	**276**	P		Pn	23 41 13.3	-1.1
JSZI	**Iwateshizukuis**	**1.94**	**276**	A		A	23 41 13.3	
	comp=E,6.0nm,9.2s,comp=E,5.0nm,4.4s							
JIO	**Ouri**	**1.97**	**237**	P		Pn	23 41 12.6	-2.2
JIKH	**Ishinomakikobu**	**1.99**	**232**	P		Pn	23 41 12.7	-2.3
JRG	**Rokugo**	**2.19**	**267**	P		Pn	23 41 16.5	-1.3
JRG	**Rokugo**	**2.19**	**267**	A		A	23 41 16.5	
	comp=E,2.0nm,0.8s,comp=E,3.0nm,4.8s							
JOFO	**Osakifurukawao**	**2.20**	**245**	P		Pn	23 41 16.9	-1.0
JOFO	**Osakifurukawao**	**2.20**	**245**	A		A	23 41 16.9	
	comp=E,7.0nm,3.5s,comp=E,6.0nm,1.8s							
JTM	**Tenmabayashi**	**2.21**	**305**			Pn	23 41 16.0	-2.0
JTM						**Sn**	**23 41 45.6**	**+1.4**
JTM	**Tenmabayashi**	**2.21**	**305**	P		Pn	23 41 16.3	-1.7
JAH	**Hinai**	**2.26**	**287**	P		Pn	23 41 17.3	-1.5
JYK	**Kaneyama**	**2.49**	**256**	P		Pn	23 41 21.1	-0.8
JYW	**Yuwa**	**2.51**	**271**	A		A	23 41 20.9	
	comp=E,5.0nm,2.6s,comp=E,4.0nm,2.9s							
JMM	**Marumori**	**2.68**	**232**			Pn	23 41 22.2	-2.3
JNBK	**Urakawa-nobuka**	**2.78**	**349**	P		Pn	23 41 24.2	-1.6
JNBK				S		**Sn**	**23 41 56.9**	**-1.3**
JCH	**Churui**	**3.06**	**359**	*e*P		Pn	23 41 27.2	-2.6
JCH				*e*S		**Sn**	**23 42 01.1**	**-4.1**
JFT	**Otama**	**3.18**	**231**	P		Pn	23 41 30.4	-1.0
JFT				*e*S		**Sn**	**23 42 09.2**	**+1.1**
JAK	**Akkeshi**	**3.57**	**15**	P		Pn	23 41 33.7	-3.0
JAK				*e*S		**Sn**	**23 42 14.3**	**-3.3**
JEW	**Eniwo**	**3.62**	**336**			**Pn**	**23 41 37.1**	**-0.3**
JYT	**Yasato**	**4.20**	**219**			Pn	23 41 43.0	-2.5
JSD	**Sado**	**4.33**	**251**	Pn		Pn	23 41 45.4	-1.9
MJAR	**Matsushiro Arr**	**5.12**	**236**	Pn		Pn	23 41 55.5	-2.5
	0.3nm,0.3s,baz=41,slow=11,SNR=31							
MJAR				LR		LR	23 44 09.5	
	comp=Z,85nm,20.4s,baz=162,slow=41							
	9.7nm,0.8s							
MAJO	**Matsushiro**	**5.12**	**236**			**Pn**	**23 41 57.5**	**-0.6**
INU	**Inuyama**	**6.62**	**233**	Pn		**Pn**	**23 42 17.9**	**-0.7**
JHJ	**Hachijo jima 2**	**7.07**	**206**	Sn		Sn	23 43 38.0	-5.9
	7.9nm,0.3s,baz=91,slow=16,SNR=1.4							
JHS	**Saijyo**	**9.41**	**244**	Pn		Pn	23 42 54.9	-2.0
USA0B	**Ussuriysk Arra**	**9.73**	**302**	Pn		Pn	23 42 59.5	-1.8
USRK	**Ussuriysk Ar.**	**9.73**	**302**	Pn		**Pn**	**23 43 02.1**	**+0.9**
	0.3nm,0.3s,baz=92,slow=12,SNR=4.9							
	2.9nm,0.6s							
KSRS	**Korea Array**	**12.35**	**265**	Pn		**Pn**	**23 43 37.0**	**0.0**
	baz=81,slow=15,SNR=4.6							
KSRS				LR		LR	23 48 02.8	
	comp=Z,60nm,18.7s,baz=70,slow=36							
	1.6nm,0.8s							
MA2	**Magadan**	**20.57**	**11**	P		**P**	**23 45 18.4**	**-0.3**
	3.3nm,0.7s,baz=178,slow=9.0,SNR=6.2							
	3.3nm,0.7s							
SEY	**Seymchan**	**24.03**	**10**	P		**P**	**23 45 54.8**	**+0.5**
	2.7nm,0.9s,baz=195,slow=11,SNR=4.5							
	2.7nm,0.9s							
YAK	**Yakutsk**	**24.03**	**344**	LR		LR	23 57 17.1	
	comp=Z,36nm,18.1s,baz=268,slow=41							
SONM	**Songino Array**	**27.83**	**300**	P		**P**	**23 46 29.3**	**+0.3**
	1.3nm,0.7s,baz=96,slow=7.2,SNR=5.2							
SONM				LR		LR	23 58 17.1	
	comp=Z,87nm,18.1s,baz=53,slow=38							
	1.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.23**	**128**	T		T	00 16 09.0	
	baz=319							
H11N1	**WAKE ISLAND Hy**	**28.24**	**128**	T		T	00 16 15.0	
	baz=319							
H11N3	**WAKE ISLAND Hy**	**28.25**	**128**	T		T	00 16 10.6	
	baz=319							
ZALV	**Zalesovo Beam**	**41.46**	**310**	P		**P**	**23 48 26.5**	**+0.4**
	1.4nm,0.6s,baz=96,slow=9.1,SNR=5.6							
	1.4nm,0.6s							
ZALV	**Zalesovo Beam**	**41.46**	**310**	P		**P**	**23 48 25.4**	**-0.7**
MK31	**Makanchi Array**	**44.19**	**300**	P		**P**	**23 48 48.3**	**-0.1**
MK31				IAmb		IAmb	23 48 53.0	
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	**44.19**	**300**	P		**P**	**23 48 48.6**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=83,slow=10,SNR=13							
MKAR				LR		LR	00 08 17.6	
	comp=Z,40nm,19.2s,baz=209,slow=37							
	comp=Z,1.5nm,0.7s							
MKAR	**Makanchi Array**	**44.19**	**300**	P		**P**	**23 48 48.2**	**-0.1**
KURK	**Kurchatov**	**45.69**	**306**	P		**P**	**23 48 59.9**	**-0.3**
KURK				IAmb		IAmb	23 49 00.9	
	comp=Z,3.9nm,0.9s							
ILAR	**Eielson Array**	**46.51**	**34**	P		**P**	**23 49 06.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=278,slow=6.2,SNR=2.2							
	comp=Z,0.2nm,0.5s							
BCAR	**Beaver Creek A**	**48.91**	**36**	P		**P**	**23 49 25.6**	**+0.5**
BVAR	**Borovoye Array**	**50.10**	**311**	P		**P**	**23 49 34.8**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=67,slow=8.2,SNR=9.0							
	comp=Z,1.1nm,0.6s							
KK31	**Karatay Array**	**53.28**	**299**	P		**P**	**23 49 57.4**	**-0.7**
KKAR	**Karatay Array**	**53.28**	**299**	P		**P**	**23 49 57.5**	**-0.7**
ARU	**Arti**	**55.56**	**318**	P		**P**	**23 50 14.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=79,slow=4.5,SNR=5.0							
ARU				LR		LR	00 16 15.3	
	comp=Z,50nm,19.1s,baz=214,slow=38							
	comp=Z,1.4nm,0.5s							
ARU	**Arti**	**55.56**	**318**	P		**P**	**23 50 14.5**	**+0.1**
FINES	**FINESS Array B**	**67.33**	**332**	P		**P**	**23 51 34.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=74,slow=10,SNR=5.7							
	comp=Z,1.1nm,0.7s							
NB2	**NORSAR Subarra**	**72.48**	**338**	P		**P**	**23 52 05.9**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=39,slow=5.9							
NOA	**NORSAR Array B**	**72.48**	**338**	P		**P**	**23 52 05.8**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=38,slow=5.7,SNR=4.1							
NOA				LR		LR	00 27 10.1	
	comp=Z,17nm,19.8s,baz=250,slow=38							
	comp=Z,0.8nm,0.7s							

*NEIC **03** 23:44:13.4±1.4, 45°73N±0°04×112°11W±0°05, h6km±7km, Error ellipse: s-maj=6.7km s-min=4.3km az=222.0*
*BUT **03** 23:44:13.3±1.6, 45°73N±0°04×112°13W±0°06, h8km±6km, ML4.0/27, ML3.8/57(NEIC), Mwr3.6/24(NEIC), Error ellipse: s-maj=6.5km s-min=4.9km az=46.0*
*NEIC **03** 23:44:13.3, 45°73N×112°13W, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-1.94; Mθθ0.23; Mϕϕ1.70; Mrθ0.22; Mϕθ-0.61; Mϕr-2.04; Fault plane solution: M0 2.82000×10¹⁴ NP1: ϕs151.20000°, δ22.53000°, λ-107.37000°. NP2: ϕs349.91000°, δ68.55000°, λ-82.94000°. Principal axes: T 2.7824, Plg23.0000°, Azm74.0000°; N 0.0716, Plg7.0000°, Azm167.0000°; P -2.8541, Plg66.0000°, Azm272.0000°;*
*IDC **03** 23:44:14.1±0.7, 45°79N×112°25W, h0km, mb3.9/2, mbtmp3.6/8, ML3.2/6, MS2.9/6 Error ellipse: s-maj=9.8km s-min=7.2km az=54.0*
ISC 03 23:44:12.8±1.4, 45°73N±0°03×112°09W±0°03, h0km±12km, n99, σ1$18/102, MS3.1/3, Montana

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LRM	**Limekiln Ridge**	**0.27**	**290**			**Pg**	**23 44 18.3**	**+0.3**
BOZ	**Bozeman (W)**	**0.35**	**112**			**Pg**	**23 44 20.2**	**+0.7**
BOZ				Sg		**Sg**	**23 44 25.2**	**+1.1**
BOZ				IAML			23 44 25.8	
	13μm,0.3s							
BOZ				IAML			23 44 26.2	
	7μm,0.6s							
HRY	**Holter Researc**	**1.00**	**10**			**Pg**	**23 44 32.1**	**+0.2**
QLMT	**Earthquake Lak**	**1.01**	**152**			**Pg**	**23 44 32.3**	**+0.1**
MCMT	**McKenzie Canyo**	**1.05**	**211**			**Pg**	**23 44 32.3**	**-0.6**
YHL	**Hebgen Lake**	**1.09**	**144**			**Pg**	**23 44 34.0**	**+0.4**
YHL				Sg		**Sb**	**23 44 48.6**	**-0.9**
YHL				IAML			23 44 54.8	
	comp=N,3μm,0.5s							
YHL				IAML			23 44 57.4	
	comp=E,3μm,0.8s							
GCR	**Grayling Creek**	**1.16**	**143**			**Pn**	**23 44 35.6**	**-0.9**
YHB	**Horse Butte**	**1.17**	**147**			**Pb**	**23 44 35.3**	**-0.6**
YPDC	**Denny Creek**	**1.18**	**149**			**Pb**	**23 44 35.8**	**-0.4**
YMC	**Maple Creek**	**1.24**	**141**			**Pn**	**23 44 36.6**	**-0.9**
YMV	**Mammoth Vault**	**1.25**	**127**			**Pg**	**23 44 37.0**	**+0.3**
YHH	**Holmes Hill**	**1.29**	**137**			**Pn**	**23 44 37.4**	**-0.9**
YPWB	**West Boundary**	**1.32**	**148**			**Pg**	**23 44 38.6**	**+0.5**
YMR	**Madison River**	**1.33**	**143**			**Pb**	**23 44 38.3**	**-0.4**
YMR				Sg		**Sb**	**23 44 55.2**	**-1.2**
YMR				IAML			23 44 59.0	
	comp=E,2μm,1.1s							
YMR				IAML			23 45 02.3	
	comp=N,3μm,0.9s							
YPM	**Purple Mountai**	**1.38**	**141**			**Pg**	**23 44 39.6**	**+0.4**
PZCI	**Patelzick Cree**	**1.40**	**187**			**Pb**	**23 44 39.5**	**-0.4**
YNR	**Norris Junctio**	**1.42**	**135**			**Pb**	**23 44 40.0**	**-0.3**
YNR						**Sg**

NEW				IAML			23 46 33.1	
	comp=E,123nm,1.1s							
E09A	**Wood Farm, Sta**	**4.28**	**283**		**Pn**	**23 45 18.5**	**-0.7**	
LNOR	**Lincton Mounta**	**4.33**	**274**		**Pn**	**23 45 20.6**	**+0.6**	
C09A	**Chrisman Ranch**	**4.73**	**298**		**Pn**	**23 45 24.1**	**-1.2**	
G08A	**Pilot Rock**	**4.85**	**267**		**Pn**	**23 45 26.5**	**-0.6**	
BGU	**Big Grassy Mou**	**4.85**	**188**	Pn	**Pn**	**23 45 24.4**	**-2.8**	
OD2	**Odessa Site #2**	**4.86**	**292**		**Pn**	**23 45 26.0**	**-1.2**	
E08A	**Dider Farm, El**	**4.91**	**281**		**Pn**	**23 45 25.7**	**-2.0**	
D08A	**Wollman Farm,**	**4.91**	**288**	Pn	**Pn**	**23 45 26.8**	**-1.0**	
J08A	**Circle Bar Ran**	**5.14**	**245**		**Pn**	**23 45 30.9**	**-0.2**	
HAWA	**Hanford**	**5.22**	**280**		**Pn**	**23 45 31.5**	**-0.6**	
HAWA				IAML		23 47 05.3		
	comp=E,64nm,0.9s							
RWWY	**Rawlins**	**5.37**	**137**		**Pn**	**23 45 35.3**	**+0.9**	
RWWY				IAML		23 47 19.4		
	comp=E,48nm,1.0s							
F07A	**Phinny Hill Vi**	**5.48**	**275**		**Pn**	**23 45 35.5**	**-0.2**	
ELK	**Elko**	**5.49**	**206**	Pn	**Pn**	**23 45 38.9**	**+2.9**	
	comp=E,0.1nm,0.3s,baz=19,slow=15,SNR=5.2							
ELK				Pg	**Pb**	**23 45 50.1**	**+0.5**	
	comp=E,0.8nm,0.3s,baz=18,slow=16,SNR=15							
ELK				Lg	Lg	23 47 00.7		
	comp=E,1.6nm,0.3s,baz=252,slow=8.4,SNR=5.7							
ELK				LR	LR	23 47 14.8		
	comp=E,58nm,20.7s,baz=277,slow=33							
	comp=E,0.8nm,0.5s							
I07A	**Izee**	**5.52**	**255**		**Pn**	**23 45 36.1**	**-0.1**	
B08A	**Colville Reser**	**5.60**	**301**		**Pn**	**23 45 35.8**	**-1.6**	
WVOR	**Wild Horse Val**	**5.75**	**237**		**Pn**	**23 45 39.7**	**+0.2**	
NLU	**North Lily Min**	**5.77**	**180**	Pn	**Pn**	**23 45 40.1**	**+0.2**	
RSSD	**Black Hills**	**5.94**	**103**		**Pn**	**23 45 42.4**	**+0.2**	
DGMT	**Dagmar**	**6.05**	**60**		**Pn**	**23 45 44.0**	**+0.5**	
LTY	**Liberty**	**6.12**	**288**		**Pn**	**23 45 43.4**	**-1.1**	
N23A	**Red Feather La**	**6.59**	**135**	Pn	**Pn**	**23 45 51.9**	**+0.7**	
PINE	**Pine Mountain**	**6.59**	**256**		**Pn**	**23 45 50.7**	**-0.4**	
HOOD	**Mount Hood Mea**	**6.73**	**270**	Pn	**Pn**	**23 45 52.4**	**-0.6**	
D05A	**Enumclaw**	**6.99**	**286**		**Pn**	**23 45 55.7**	**-0.6**	
MOD	**Modoc Plateau**	**7.06**	**240**	Pn	**Pn**	**23 45 57.4**	**-0.2**	
H04A	**Detroit Lake**	**7.21**	**265**		**Pn**	**23 45 58.9**	**-0.5**	
EDM	**Edmonton**	**7.54**	**354**		**Pn**	**23 46 02.5**	**-1.5**	
ISCO	**Idaho Springs**	**7.60**	**139**	Pn	**Pn**	**23 46 05.0**	**-0.1**	
BUCK	**Buck Mountain**	**7.88**	**263**	Pn	**Pn**	**23 46 09.1**	**+0.5**	
E03A	**Lebam**	**8.01**	**280**	Pn	**Pn**	**23 46 11.6**	**+1.2**	
RADR	**Rader Ridge**	**8.17**	**279**	Pn	**Pn**	**23 46 14.0**	**+1.4**	
PGC	**Sidney**	**8.27**	**295**	Pn	**Pn**	**23 46 13.4**	**-0.5**	
NLWA	**Neilton Lookou**	**8.29**	**286**	Pn	**Pn**	**23 46 14.9**	**+0.7**	
NVAR	**Mina Array Bea**	**8.63**	**214**	Pn	**Pn**	**23 46 22.5**	**+3.4**	
	comp=E,0.1nm,0.3s,baz=32,slow=12,SNR=6.2							
NVAR				Pg	Pg	23 46 49.5	-8.6	
	comp=E,0.2nm,0.3s,baz=31,slow=15,SNR=5.5							
NVAR				Lg	Lg	23 48 44.6		
	comp=E,0.3nm,0.3s,baz=308,slow=36,SNR=2.6							
	comp=E,0.7nm,0.7s							
YBH	**Yreka Blue Hor**	**8.66**	**246**	Pn	**Pn**	**23 46 21.6**	**+2.2**	
	comp=E,0.3nm,0.3s,baz=87,slow=17,SNR=2.1							
YBH				Lg	Lg	23 48 42.4		
	comp=E,0.5nm,0.3s,baz=136,slow=15,SNR=3.7							
	comp=E,1.2nm,0.4s							
ULM	**Lac du Bonnet**	**11.77**	**62**	Pn	**Pn**	**23 46 59.4**	**-2.4**	
	comp=E,0.6nm,0.3s,baz=251,slow=13,SNR=7.2							
ULM				Lg	Lg	23 50 18.7		
	baz=170,slow=17							
	comp=E,1.6nm,0.3s							
BBB	**Bella Bella**	**12.34**	**307**	LR	LR	23 52 03.6		
	comp=E,61nm,21.7s,baz=164,slow=38							
LPIG	**La Paz**	**21.63**	**176**	LR	LR	23 56 47.0		
	comp=E,48nm,20.6s,baz=195,slow=35							
TKL	**Tuckaleechee C**	**23.60**	**105**	LR	LR	23 58 16.1		
	comp=E,62nm,18.5s,baz=42,slow=36							
ILAR	**Eielson Array**	**26.96**	**327**	P	**P**	**23 49 57.7**	**+2.1**	
	comp=E,0.5nm,0.7s,baz=126,slow=8.2,SNR=5.8							
	comp=E,0.5nm,0.7s							
YAK	**Yakutsk**	**61.76**	**332**	LR	LR	00 25 14.7		
	comp=E,36nm,19.0s,baz=268,slow=40							
FINES	**FINESS Array B**	**67.97**	**20**	P	**P**	**23 55 14.5**	**+1.5**	
	comp=E,2.8nm,1.0s,baz=334,slow=12,SNR=3.4							
	comp=E,2.8nm,1.0s							

IDC 03 23:49:26.3±2.0, 6°52S×129°18E, h0km, mb3.9/1, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=122.7km s-min=30.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.25**	**160**	Pn	Pn	23 52 49.0	-0.6
	0.3nm,0.3s,baz=339,slow=13,SNR=5.9						
WRA				Sn	Sn	23 55 18.2	-10
	0.7nm,0.3s,baz=350,slow=21,SNR=9.1						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**17.64**	**166**	P	Pn	23 53 34.1	+0.4
	0.5nm,0.3s,baz=342,slow=8.8,SNR=32						
ASAR				S	Sn	23 56 42.3	-8.7
	0.2nm,0.5s,baz=346,slow=21,SNR=2.1						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**67.38**	**327**	P	P	00 00 23.6	0.0
	0.5nm,0.4s,baz=116,slow=7.9,SNR=9.8						
	0.5nm,0.4s						

*IDC **03** 23:54:57.5±1.4, 20°27N×147°71E, h0km, mb3.8/8, mbtmp3.9/9, ML4.6/1, MS2.8/2, Error ellipse: s-maj=46.5km s-min=22.6km az=82.0*

ISC 03 23:55:00.0±1.2, 20°28N±0°08×147°3E±0°2, h10km, n14, σ2s10/11, mb3.8/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.04**	**199**	Sn	**Sn**	**23 58 01.8**	**-1.5**
	2.4nm,0.3s,baz=205,slow=16,SNR=1.4						
GUMO				LR	LR	23 59 17.4	
	comp=Z,43nm,19.7s,baz=80,slow=36						
JCJ	**Chichijima**	**8.22**	**327**	Pn	**Pn**	**23 57 00.7**	**+1.3**
	8.0nm,0.3s,baz=273,slow=23,SNR=5.5						
JCJ				Sn	**Sn**	**23 58 28.1**	**-4.3**
	2.1nm,0.3s,baz=301,slow=20,SNR=2.2						
	46nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**18.41**	**92**	T	T	00 17 58.5	
	baz=279						
H11S1	**WAKE ISLAND Hy**	**18.42**	**92**	T	T	00 18 00.6	
	baz=279						
H11S2	**WAKE ISLAND Hy**	**18.43**	**92**	T	T	00 18 01.5	
	baz=279						
KSRS	**Korea Array**	**23.99**	**320**	P	**P**	**00 00 16.6**	**+1.8**
	1.5nm,0.8s,baz=143,slow=8.5,SNR=7.2						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**41.93**	**198**	P	**P**	**00 02 51.0**	**-0.1**
	0.4nm,0.7s,baz=13,slow=8.5,SNR=2.0						
	0.4nm,0.7s						
SONM	**Songino Array**	**42.87**	**320**	P	**P**	**00 03 00.3**	**+1.6**
	1.4nm,0.7s,baz=140,slow=7.9,SNR=8.1						
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.49**	**276**	LR	LR	00 23 49.8	
	comp=Z,17nm,18.0s,baz=235,slow=38						
ASAR	**Alice Springs**	**45.58**	**197**	P	**P**	**00 03 20.2**	**-0.2**
	0.2nm,0.6s,baz=24,slow=9.3,SNR=2.2						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**57.68**	**322**	P	**P**	**00 04 51.5**	**+0.9**
	2.1nm,0.6s,baz=102,slow=8.0,SNR=9.2						
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**58.45**	**313**	P	**P**	**00 04 57.5**	**+1.3**
	0.7nm,0.6s,baz=87,slow=9.8,SNR=5.8						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**61.58**	**26**	P	**P**	**00 05 15.3**	**-2.0**
	0.6nm,0.8s,baz=266,slow=6.0,SNR=3.2						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**86.06**	**336**	P	**P**	**00 07 40.5**	**-0.3**
	1.2nm,0.7s,baz=90,slow=4.2,SNR=7.2						
	1.2nm,0.7s						

TIR 04 00:02:49.0, 40°69N×19°91E, h16km±1km, Md2.7, Ml2.2, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIER	**Fieri**	**0.26**	**277**	P	Pg	00 02 54.7	0.0
	baz=277						
FIER				S	Sb	00 02 59.6	+0.1
	baz=277						
VLO	**Vlora**	**0.38**	**235**	P	Pg	00 02 56.9	+0.1
	baz=236						
VLO				S	Sb	00 03 03.9	+0.9
	baz=236						
VLO				AMP			
	comp=N,9.7nm,0.5s,baz=236						

TPE	**Tepelena**	**0.40**	**168**		P	Pg	00 02 57.4	+0.2
	baz=167							
TIR	**Tirane**	**0.66**	**357**		P	Pb	00 03 02.1	-0.1
	baz=358							
TIR					S	Sn	00 03 15.7	+1.9
	baz=358							
TIR					AMP			
	comp=E,0.4nm,1.1s,baz=358							
KBN	**Korca**	**0.67**	**95**		P	Pg	00 03 02.1	-0.2
	baz=95							
KBN					S	Sn	00 03 13.3	-0.8
	baz=95							
KBN					AMP			
	comp=N,0.9nm,0.8s,baz=95							
LSK	**Leskovik**	**0.75**	**135**		P	Pg	00 03 03.2	-0.6
	baz=135							
LSK					S	Sn	00 03 17.2	+1.1
	baz=135							
LSK					AMP			
	comp=N,1.0nm,0.7s,baz=135							
OHR	**Ohrid**	**0.80**	**58**	*i*	Pn	Pg	00 03 04.7	+0.1
SRN	**Sarande**	**0.81**	**175**		P	Pn	00 03 05.3	-0.3
	baz=174							
SRN					S	Sn	00 03 18.4	+1.0
	baz=174							
SRN					AMP			
	comp=N,0.2nm,0.6s,baz=174							
PHP	**Peshkopia**	**1.07**	**22**		P	Pb	00 03 08.4	-0.8
	baz=21							
PHP					S	Sn	00 03 26.1	+2.0
	baz=21							
PHP					AMP			
	comp=N,0.2nm,0.9s,baz=21							
SCTE	**Santa Cesarea**	**1.26**	**241**		P	Pg	00 03 13.2	-0.1
	baz=242							
SCTE					S	Sg	00 03 30.9	+1.1
	baz=242							
SCTE					AMP			
	comp=N,0.1nm,0.4s,baz=242							
BCI	**Bajram Curri**	**1.68**	**4**		P	Pg	00 03 20.6	-0.8
	baz=4.0							
LKD2	**Lefkada island**	**1.98**	**163**		P	Pb	00 03 25.2	+0.6
	baz=162							
STIP	**Stip**	**1.99**	**59**	*i*	Pn	Pg	00 03 28.8	+1.5

ROM 04 00:03:53.7±0.1, 42°654N±0°003×13°253E±0°004, h12km, ML0.9/4, Error ellipse: s-maj=0.3km s-min=0.0km az=75.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.05**	**64**	P	Pg	00 03 56.6	+0.3
T1204				S	Sg	00 03 58.1	0.0
T1202	**Accumoli, Fraz**	**0.05**	**337**	P	Pg	00 03 56.6	+0.3
T1202				S	Sg	00 03 58.5	+0.4
SMA1	**SAN MARTINO**	**0.07**	**111**	P	Pg	00 03 56.7	+0.4
SMA1				S	Sg	00 03 58.5	+0.3
SMA1				AML	AML		
	comp=E,89μm,0.6s						
SMA1				AML	AML		
	comp=N,148μm,0.2s						
SMA1				AML	AML		
	comp=E,89μm,0.6s						
SMA1				AML	AML		
	comp=N,148μm,0.2s						
T1244	**Arquata del Tr**	**0.11**	**18**	P	Pg	00 03 57.2	+0.4
RM33	**Pellescritta (**	**0.15**	**191**	P	Pg	00 03 57.8	+0.5
RM33				S	Sg	00 04 00.6	+0.7
RM33				AML	AML		
	comp=E,47μm,0.9s						
RM33				AML	AML		
	comp=N,63μm,0.2s						
T1243	**Rocca Santa Ma**	**0.15**	**73**	P	Pg	00 03 57.8	+0.4
T1243				S	Sg	00 04 00.4	+0.4
CAMP	**Campotosto**	**0.17**	**136**	P	Pg	00 03 58.1	+0.5
CAMP				S	Sg	00 04 01.0	+0.7
LNSS	**Leonessa**	**0.17**	**252**	P	Pg	00 03 58.0	+0.4
LNSS				S	Sg	00 04 00.8	+0.4
LNSS				AML	AML		
	comp=N,69μm,0.5s						
LNSS				AML	AML		
	comp=E,74μm,0.5s						
LNSS				AML	AML		
	comp=N,69μm,0.5s						
T1242	**Castelluccio d**	**0.18**	**348**	P	Pg	00 03 58.3	+0.4
T1242				S	Sg	00 04 01.4	+0.6
T1241	**Roccafluvione,**	**0.24**	**33**	P	Pg	00 03 59.2	+0.4
T1241				S	Sg	00 04 03.2	+0.9
T1241				AML	AML		
	comp=E,32μm,1.3s						
T1241				AML	AML		
	comp=N,22μm,0.2s						
TERO	**Teramo**	**0.26**	**97**	P	Pg	00 03 59.5	+0.4
TERO				S	Sg	00 04 03.6	+0.7
TERO				AML	AML		
	comp=E,29μm,0.1s						
TERO				AML	AML		
	comp=N,58μm,0.1s						
MC2	**Monte Cornacci**	**0.26**	**350**	P	Pg	00 03 59.8	+0.5
MC2				S	Sb	00 04 04.1	-1.0
T1215	**Vallo di Nera,**	**0.32**	**298**	P	Pg	00 04 00.4	+0.1
T1215				S	Sg	00 04 05.3	+0.6

*IDC **04** 00:15:07.3±2.0, 38°77N×142°49E, h0km, mb3.5/4, mbtmp3.6/8, ML2.7/4, Error ellipse: s-maj=40.9km s-min=24.3km az=70.0*
*JMA **04** 00:15:17.5±0.1, 38°5N±0°2×141°7E±0°5, h54km, MV3.7/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .

ISC 04 00:15:17.0±1.1, 38°52N±0°04×141°77E±0°09, h54km±7km, n26, σ0s71/31, mb3.5/4, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.32**	**229**	*i* P	**Pn**	**00 15 26.9**	**+0.2**
JIKH				S	**Sn**	**00 15 33.4**	**-0.3**
JIO	**Ouri**	**0.34**	**259**	⇓*i* P	**Pn**	**00 15 26.9**	**+0.1**
JIO				⇓S	**Sn**	**00 15 33.4**	**-0.6**
JKMT	**Kesennumamotoy**	**0.37**	**321**	⇓*i* P	**Pn**	**00 15 27.4**	**+0.2**
JKMT				⇓S	**Sn**	**00 15 34.0**	**-0.5**
OFUJ	**Ofunato**	**0.57**	**352**	*i* P	**Pn**	**00 15 29.5**	**+0.2**
OFUJ				S	**Sn**	**00 15 37.7**	**-0.5**
JMK	**Ichinoseki**	**0.61**	**315**	⇓*i* P	**Pn**	**00 15 30.0**	**+0.2**
JMK				⇓S	**Sn**	**00 15 38.7**	**-0.5**
JOU	**Okura**	**0.89**	**260**	⇓*i* P	**Pn**	**00 15 33.2**	**-0.2**
JOU				⇓S	**Sn**	**00 15 45.0**	**-0.3**
JMM	**Marumori**	**1.01**	**230**	⇓*i* P	**Pn**	**00 15 34.6**	**-0.4**
JMM				⇓S	**Sn**	**00 15 47.5**	**-0.8**
JOM	**Ohasama**	**1.02**	**339**	⇓*i* P	**Pn**	**00 15 35.3**	**+0.1**
JOM				⇓S	**Sn**	**00 15 48.5**	**0.0**
JYK	**Kaneyama**	**1.18**	**290**	⇓*i* P	**Pn**	**00 15 37.2**	**0.0**
JRG	**Rokugo**	**1.25**	**315**	⇓*i* P	**Pn**	**00 15 38.2**	**0.0**
JFK	**Kawauchi**	**1.35**	**212**	P	**Pn**	**00 15 39.6**	**0.0**
JFK				S	**Sn**	**00 15 56.0**	**-0.6**
JYS	**Shirataka**	**1.38**	**258**	⇓*i* P	**Pn**	**00 15 40.1**	**+0.2**
JYS				⇓*e*S	**Sn**	**00 15 57.2**	**+0.2**
MJAR	**Matsushiro Arr**	**3.45**	**236**	Pn	**Pn**	**00 16 09.7**	**+1.4**
MJAR	0.2nm,0.3s,baz=33,slow=13,SNR=14			Sn	Sn	00 17 00.5	+13
	0.2nm,0.3s,baz=52,slow=30,SNR=2.0						
	2.0nm,0.5s						
JHJ	**Hachijo jima 2**	**5.63**	**197**	Pn	**Pn**	**00 16 39.6**	**+1.5**
	3.1nm,0.3s,baz=41,slow=20,SNR=1.6						
JHJ				Sn	**Sn**	**00 17 39.5**	**-1.9**
	baz=79,slow=19						
	96nm,0.8s						
USRK	**Usurirysk Ar.**	**9.29**	**311**	Pn	**Pn**	**00 17 27.4**	**-0.8**
	0.1nm,0.3s,baz=119,slow=14,SNR=2.4						
	1.4nm,0.6s						
KSRS	**Korea Array**	**10.99**	**269**	Pn	**Pn**	**00 17 52.9**	**+1.5**
	0.1nm,0.3s,baz=79,slow=15,SNR=2.0						
	0.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.70**	**124**	T	T	00 51 38.5	
	baz=316,slow=76,SNR=172						
H11N1	**WAKE ISLAND Hy**	**28.70**	**124**	T	T	00 51 25.6	
	baz=316,slow=76,SNR=171						
H11N3	**WAKE ISLAND Hy**	**28.71**	**124**	T	T	00 51 26.3	
	baz=316,slow=76,SNR=251						
H11S1	**WAKE ISLAND Hy**	**29.46**	**126**	T	T	00 52 22.1	
	baz=318,slow=76,SNR=96						
H11S3	**WAKE ISLAND Hy**	**29.46**	**126**	T	T	00 52 23.4	
	baz=318,slow=76,SNR=129						
H11S2	**WAKE ISLAND Hy**	**29.47**	**126**	T	T	00 52 23.3	
	baz=318,slow=76,SNR=128						
ZALV	**Zalesovo Beam**	**41.14**	**311**	P	**P**	**00 22 55.1**	**-0.5**
	0.6nm,0.5s,baz=103,slow=9.0,SNR=2.7						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**43.59**	**301**	P	**P**	**00 23 15.7**	**0.0**
	0.6nm,0.6s,baz=80,slow=8.8,SNR=5.8						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**58.57**	**188**	P	**P**	**00 25 08.1**	**-0.1**
	0.3nm,0.6s,baz=2.0,slow=7.0,SNR=2.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**62.30**	**188**	P	**P**	**00 25 33.1**	**-0.4**
	0.3nm,0.8s,baz=358,slow=4.6,SNR=2.2						
	0.3nm,0.8s						

*IDC **04** 00:54:28.6±7.0, 56°21S×27°80W, h130km±65km, mb3.8/4, mbtmp4.3/5, Error ellipse: s-maj=34.4km s-min=19.3km az=56.0*
*NEIC **04** 00:54:28.1±1.4, 56°17S±0°07×27°8W±0°2, h123km±8km, mb4.4/22, Error ellipse: s-maj=18.8km s-min=10.3km az=83.0*

ISC 04 00:54:25.1±0.7, 56°1S±0°1×27°5W±0°1, h100km, n36, σ0s86/36, mb4.4/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.43**	**285**	Pn	**Pn**	**00 55 45.4**	**+1.9**
VNA1	**Neumayer--Stat**	**16.87**	**158**	P	**P**	**00 58 15.4**	**+0.4**
VNA3	**Neumayer Olymp**	**17.05**	**160**	P	**P**	**00 58 17.6**	**+0.4**
VNA2	**Neumayer--Watz**	**17.26**	**158**	P	**P**	**00 58 19.8**	**+0.4**
	baz=314,slow=13						
SNAA	**Sanae**	**18.82**	**156**	P	**P**	**00 58 36.3**	**-0.3**
SNAA	**Sanae**	**18.82**	**156**	P	**P**	**00 58 36.5**	**0.0**
	8.6nm,0.5s,baz=304,slow=9.9,SNR=210						
SNAA	**Sanae**	**18.82**	**156**	P	**P**	**00 58 36.5**	**0.0**
SNAA				IAmb	IAmb	00 58 37.5	
	comp=Z,8.5nm,0.5s						
TROLL	**Troll, Antarti**	**20.33**	**153**	P	**P**	**00 58 52.6**	**-0.4**
BELA	**Belgrano 2**	**22.06**	**184**	P	**P**	**00 59 11.4**	**+0.1**
TRQA	**Tornquist**	**29.15**	**294**	P	**P**	**01 00 15.6**	**-1.0**
TRQA				IAmb	IAmb	01 00 26.2	
	comp=Z,8.1nm,1.4s						
PLTB	**Pedras Altas**	**30.36**	**312**	P	**P**	**01 00 27.7**	**+0.4**
QSPA	**South Pole Qui**	**34.20**	**180**	P	**P**	**01 01 00.1**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=258,slow=9.3,SNR=11						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**34.20**	**180**	P	**P**	**01 01 00.5**	**-0.1**
CPUP	**Villa Florida**	**36.67**	**312**	P	**P**	**01 01 21.9**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=146,slow=6.8,SNR=5.9						
	comp=Z,1.3nm,0.5s						
CPUP	**Villa Florida**	**36.67**	**312**	P	**P**	**01 01 21.7**	**-0.3**
CPUP				IAmb	IAmb	01 01 26.3	
	comp=Z,9.2nm,1.5s						
MT09	**Talagante**	**37.13**	**288**	P	**P**	**01 01 23.7**	**-2.3**
MT09				IAmb	IAmb	01 01 40.0	
	comp=Z,19nm,1.4s						
MT02	**Curacav**	**37.60**	**289**	P	**P**	**01 01 28.0**	**-1.8**
AC05	**El Transito**	**40.65**	**294**	P	**P**	**01 01 54.6**	**-0.8**
AQDB	**Aquidauana**	**41.27**	**318**	P	**P**	**01 01 59.9**	**-0.4**
AQDB				IAmb	IAmb	01 02 24.3	
	comp=Z,9.4nm,1.4s						
LVC	**Limon Verde**	**45.13**	**300**	P	**P**	**01 02 32.4**	**+0.5**
LVC				IAmb	IAmb	01 03 01.3	
	comp=Z,15nm,1.4s						
PB09	**IPOC Station P**	**45.99**	**301**	P	**P**	**01 02 39.5**	**+1.1**
PTLB	**Pontes e Lacer**	**47.16**	**316**	P	**P**	**01 02 47.0**	**-0.4**
PTLB				IAmb	IAmb	01 02 48.1	
	comp=Z,2.7nm,0.6s						
GO01	**Chusmiza**	**47.78**	**302**	P	**P**	**01 02 52.3**	**-0.4**
GO01				IAmb	IAmb	01 02 54.0	
	comp=Z,5.2nm,0.7s						
PB16	**IPOC Station P**	**49.08**	**303**	P	**P**	**01 03 02.9**	**+0.1**
PB16				IAmb	IAmb	01 03 13.7	
	comp=Z,13nm,1.5s						
LPAZ	**La Paz**	**50.22**	**306**	P	**P**	**01 03 12.0**	**+0.5**
	comp=Z,5.0nm,0.3s,baz=146,slow=5.0,SNR=52						
	comp=Z,5.0nm,0.3s						
LPAZ	**La Paz**	**50.22**	**306**	P	**P**	**01 03 11.9**	**+0.5**
LPAZ				IAmb	IAmb	01 03 12.6	
	comp=Z,4.0nm,0.6s						
BOAV	**Boa Vista**	**64.16**	**323**	P	**P**	**01 04 48.1**	**-0.8**
BOAV				IAmb	IAmb	01 04 48.4	
	comp=Z,1.9nm,0.5s						
BOSC	**San Juan Bosco**	**66.55**	**302**	P	**P**	**01 05 03.8**	**-0.7**
OTAV	**Otavalo**	**69.50**	**304**	P	**P**	**01 05 23.5**	**+0.2**
MCQ	**Macquarie Isla**	**69.68**	**184**	P	**P**	**01 05 24.1**	**+0.8**
TOA0	**Torodi Ar. Sit**	**73.15**	**30**	P	**P**	**01 05 45.6**	**+0.9**
TOA0				IAmb	IAmb	01 05 57.3	
	comp=Z,8.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.15**	**30**	P	**P**	**01 05 46.2**	**+1.6**
	comp=Z,1.1nm,0.4s,baz=198,slow=6.5,SNR=26						
	comp=Z,1.1nm,0.4s						
BIRV	**Birongo**	**73.69**	**320**	P	**P**	**01 05 48.3**	**+0.5**
BIRV				IAmb	IAmb	01 06 11.6	
	comp=Z,11nm,1.3s						
ARCES	**ARCESS Array B**	**131.02**	**22**	PKP	**PKPdf**	**01 13 22.3**	**-1.0**
	comp=Z,3.9nm,1.1s,baz=191,slow=0.9,SNR=3.7						
ILAR	**Eielson Array**	**149.97**	**312**	PKPbc	**PKPbc**	**01 14 01.5**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=120,slow=2.5,SNR=15						
SONM	**Songino Array**	**150.92**	**87**	PKPbc	**PKPbc**	**01 14 04.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=222,slow=1.9,SNR=2.8						

*IDC **04** 00:57:36.3±5.1, 43°50N×84°55E, h0km, mbtmp3.4/3, ML3.0/3, Error ellipse: s-maj=63.2km s-min=30.9km az=36.0*
*NNC **04** 00:57:40.4±2.2, 43°60N×84°37E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=19.3km s-min=8.9km az=137.0*
*SOME **04** 00:57:41.2, 43°77N×84°23E, h10km*

ISC 04 00:57:34.5±1.6, 43°28N±0°08×84°63E±0°06, h10km, n41, σ2s23/59, 7C-1D, Northern Xinjiang

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

KPKS				Lg	Lg	00 59 48.7		
	42nm,0.6s							
ZHN	**Zhinishke**	**4.53 271**	*eP*	**Pg**		**00 59 01.6**	**+0.3**	
	12nm,0.3s							
ZHN			*eS*	**Sg**		**00 59 59.0**	**-0.8**	
	38nm,0.3s							
ZHN	**Zhinishke**	**4.53 271**	Pg	**Pg**		**00 59 01.6**	**+0.3**	
	12nm,0.3s							
ZHN			Lg	Lg		00 59 59.0		
	38nm,0.3s							
SATY	**Saty**	**4.55 269**	*eP*	**Pg**		**00 59 00.5**	**-1.2**	
	14nm,0.7s							
SATY			*eS*	**Sg**		**00 59 57.4**	**-3.4**	
	29nm,0.4s							
SATY	**Saty**	**4.55 269**	Pg	**Pg**		**00 59 00.5**	**-1.2**	
	14nm,0.7s							
SATY			Lg	Lg		00 59 57.4		
	29nm,0.4s							
KURS	**Kuram**	**4.71 275**	*eP*	**Pg**		**00 59 03.7**	**-1.0**	
	5.3nm,0.6s							
KURS			*eS*	**Sg**		**01 00 02.6**	**-3.1**	
	20nm,0.5s							
KURS	**Kuram**	**4.71 275**	Pg	**Pg**		**00 59 03.7**	**-1.0**	
	5.3nm,0.6s							
KURS			Lg	Lg		01 00 02.6		
	20nm,0.5s							
TDK	**Taldyqorghan**	**4.80 293**	*eP*	**Pb**		**00 59 02.2**	**+3.5**	
	69nm,0.3s							
TDK			*eS*	**Sb**		**01 00 00.3**	**+3.9**	
	58nm,0.4s							
TDK	**Taldyqorghan**	**4.80 293**	Pg	**Pg**		**00 59 05.4**	**-1.0**	
	39nm,0.2s							
TDK			Lg	Lg		01 00 05.9		
	76nm,0.5s							
ARXS	**Arharly**	**5.01 283**	*eP*	**Pb**		**00 59 05.7**	**+3.3**	
	5.1nm,0.7s							
ARXS			*eS*	**Sb**		**01 00 06.2**	**+3.5**	
	27nm,0.5s							
ARXS	**Arharly**	**5.01 283**	Pg	**Pg**		**00 59 11.3**	**+0.8**	
	12nm,0.5s							
ARXS			Lg	Lg		01 00 16.1		
	44nm,0.7s							
MDOK	**Medeo**	**5.54 271**	*eP*	**Pg**		**00 59 20.3**	**-0.3**	
	5.5nm,0.6s							
MDOK			*eS*	**Sg**		**01 00 31.3**	**-1.0**	
	15nm,0.8s							
MDOK	**Medeo**	**5.54 271**	Pg	**Pb**		**00 59 15.8**	**+4.4**	
	3.7nm,0.5s							
MDOK			Pg	**Pg**		**00 59 20.3**	**-0.3**	
	5.5nm,0.6s							
MDOK			Lg	Lg		01 00 31.1		
	18nm,0.7s							
MDOK			Lg	Lg		01 00 31.3		
	15nm,0.8s							
KTBS	**Karatobe**	**5.79 277**	*eP*	**Pg**		**00 59 24.6**	**-0.8**	
	2.6nm,0.4s							
KTBS			*eS*	**Sg**		**01 00 39.4**	**-1.1**	
	30nm,0.6s							
KTBS	**Karatobe**	**5.79 277**	Pg	**Pg**		**00 59 24.6**	**-0.8**	
	2.6nm,0.4s							
KTBS			Lg	Lg		01 00 39.4		
	30nm,0.6s							
IZV	**Izvestkoviy**	**5.87 270**	*eP*	**Pg**		**00 59 25.9**	**-1.0**	
	41nm,0.2s							
IZV			*eS*	**Sg**		**01 00 41.5**	**-1.4**	
	13nm,0.4s							
IZV	**Izvestkoviy**	**5.87 270**	Pg	**Pg**		**00 59 25.9**	**-1.0**	
	41nm,0.2s							
IZV			Lg	Lg		01 00 41.5		
	13nm,0.4s							
MTBS	**Maitube**	**5.99 271**	*eP*	**Pg**		**00 59 27.8**	**-1.5**	
	4.7nm,0.5s							
MTBS			*eS*	**Sg**		**01 00 43.9**	**-3.0**	
	8.9nm,0.4s							
MTBS	**Maitube**	**5.99 271**	Pg	**Pg**		**00 59 27.8**	**-1.5**	
	4.7nm,0.5s							
MTBS			Lg	Lg		01 00 43.9		
	8.9nm,0.4s							
KST	**Kastek**	**6.34 271**	*eP*	**Pg**		**00 59 34.7**	**-1.2**	
	5.1nm,0.7s							
KST			*eS*	**Sg**		**01 00 55.8**	**-2.2**	
	10nm,0.5s							
KST	**Kastek**	**6.34 271**	Pg	**Pg**		**00 59 34.7**	**-1.2**	
	5.1nm,0.7s							
KST			Lg	Lg		01 00 55.8		
	10nm,0.5s							
DGS	**Degeres**	**6.46 273**	*eP*	**Pg**		**00 59 36.0**	**-2.3**	
	3.0nm,0.4s							
DGS			*eS*	**Sg**		**01 00 58.7**	**-3.3**	
	14nm,0.6s							
DGS	**Degeres**	**6.46 273**	Pg	**Pg**		**00 59 36.0**	**-2.3**	
	3.0nm,0.4s							
DGS			Lg	Lg		01 00 58.7		
	14nm,0.6s							
TKM2	**Tokmak 2**	**6.62 270**	⇑Lg	Lg		01 01 02.4		
	12nm,0.9s							
SGDS	**Sogindy**	**7.29 275**	*eP*	**Pg**		**00 59 51.4**	**-2.6**	
	1.4nm,0.7s							
SGDS			*eS*	**Sg**		**01 01 24.3**	**-4.0**	
	2.3nm,0.4s							
SGDS	**Sogindy**	**7.29 275**	Pg	**Pg**		**00 59 51.4**	**-2.6**	
	1.4nm,0.7s							
SGDS			Lg	Lg		01 01 24.3		
	2.3nm,0.4s							
KURBB	**Kurchatov Arra**	**8.44 333**	⇑Lg	Lg		01 01 57.4		
	23nm,0.8s							
KURK	**Kurchatov**	**8.49 333**	⇑Lg	Lg		01 02 00.3		
	7.0nm,0.6s							
ZALV	**Zalesovo Beam**	**10.68 1**	Pn	**Pn**		**01 00 05.7**	**-1.7**	
	0.3nm,0.3s,baz=182,slow=13,SNR=4.6							
ZALV			Lg	Lg		01 03 03.9		
	baz=187,slow=29							
	0.7nm,0.3s							
SONM	**Songino Array**	**15.90 66**	Pn	**P**		**01 01 23.0**	**+0.9**	
	0.2nm,0.3s,baz=262,slow=11,SNR=6.2							
	1.2nm,0.8s							

WEL 04 01:09:49.0±2.2,37°S±8°×17°9E±1°2,h4km±9km,M3.3/14, ML3.5/12,MLv3.3/14,Error ellipse: s-maj=0.0km s-min=0.0km az=69.9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**225**	P	Pg	01 10 06.1	-0.3
MXZ				S	Sg	01 10 17.5	-0.7
WMGZ	**Waiomatatini S**	**1.05**	**211**	P	Pn	01 10 10.0	+0.2
WMGZ				S	Sn	01 10 24.9	-0.8
PKGZ	**Pakihiroa**	**1.27**	**220**	P	Pg	01 10 12.5	-0.8
PKGZ				S	Sg	01 10 29.6	-0.2
PUZ	**Puketiti**	**1.33**	**210**	P	Pn	01 10 13.4	-1.0
PUZ				S	Sg	01 10 31.1	-0.7
HAZ	**Te Kaha**	**1.34**	**231**	P	Pn	01 10 12.8	-1.8
HAZ				S	Sn	01 10 33.1	+0.2
TWGZ	**Tauwhareparae**	**1.54**	**215**	P	Pn	01 10 16.8	-0.6
TWGZ				S	Sn	01 10 37.1	-0.7
RUGZ	**Raukumara Rang**	**1.54**	**227**	P	Pn	01 10 17.1	-0.4
RUGZ				S	Sb	01 10 38.1	-0.1
WIZ	**White Island**	**1.65**	**248**	P	Pn	01 10 17.7	-1.0
CNGZ	**Carnagh Statio**	**1.71**	**204**	P	Pn	01 10 19.2	-0.5
TKGZ	**Te Karaka**	**1.81**	**213**	P	Pn	01 10 19.8	-1.2
MWZ	**Matawai**	**1.89**	**221**	P	Pn	01 10 21.5	-0.6
WHRZ	**Whale Island**	**1.94**	**241**	P	Pn	01 10 22.7	-0.1
RAGZ	**Rawiri**	**2.07**	**220**	P	Pn	01 10 23.9	-0.7
URZ	**Urewera**	**2.07**	**229**	P	Pn	01 10 24.1	-0.5
RIGZ	**Rimuhau**	**2.08**	**210**	P	Pn	01 10 23.1	-1.6
PRGZ	**Paritu Road**	**2.22**	**205**	P	Pn	01 10 24.8	-1.9
EDRZ	**Edgecumbe**	**2.22**	**237**	P	Pn	01 10 26.4	-0.4
OPRZ	**Ohinepanea**	**2.23**	**245**	P	Pn	01 10 25.9	-0.9
MYRZ	**Mayor Island**	**2.32**	**260**	P	Pn	01 10 28.1	+0.1
SNGZ	**Shannon Statio**	**2.33**	**216**	P	Pn	01 10 26.8	-1.3
KNZ	**Kokohu**	**2.38**	**208**	P	Pn	01 10 26.5	-2.4
RTZ	**Ruatahuna**	**2.39**	**224**	P	Pn	01 10 28.2	-0.8
TGRZ	**Tauranga**	**2.41**	**250**	P	Pn	01 10 29.2	0.0
MUGZ	**Murupara**	**2.42**	**229**	P	Pn	01 10 28.5	-0.8
MHGZ	**Mahia Peninsul**	**2.42**	**203**	P	Pn	01 10 27.5	-1.9
TARZ	**Mount Tarawera**	**2.45**	**237**	P	Pn	01 10 30.0	+0.2
RRRZ	**Republican Roa**	**2.50**	**235**	P	Pn	01 10 30.1	-0.4
KARZ	**Kaharoa**	**2.53**	**243**	P	Pn	01 10 31.0	+0.1
RAHZ	**Arahi**	**2.55**	**218**	P	Pn	01 10 30.6	-0.6
HLRZ	**Highlands Stat**	**2.56**	**238**	P	Pn	01 10 31.2	-0.2
WHHZ	**Waihua**	**2.61**	**214**	P	Pn	01 10 31.3	-0.8
MTHZ	**Maungataniwha**	**2.63**	**222**	P	Pn	01 10 31.5	-0.9
KMRZ	**Kaimai**	**2.69**	**249**	P	Pn	01 10 32.7	-0.3
KUZ	**Kuaotunu**	**2.72**	**273**	P	Pn	01 10 32.4	-1.1
NMHZ	**Naumai**	**2.83**	**219**	P	Pn	01 10 34.3	-0.8
MRHZ	**Matea Rd**	**2.86**	**227**	P	Pn	01 10 34.5	-0.9
ARHZ	**Aropaoanui**	**2.87**	**215**	P	Pn	01 10 34.0	-1.6
TOZ	**Tahuroa Road**	**2.99**	**253**	P	Pn	01 10 35.9	-1.2
GRZ	**Great Barrier**	**3.01**	**282**	P	Pn	01 10 38.2	+0.6
BKZ	**Black Stump Fm**	**3.05**	**222**	P	Pn	01 10 36.6	-1.5
MKAZ	**Moumakai**	**3.16**	**266**	P	Pn	01 10 38.9	-0.7
CKHZ	**Cape Kidnapper**	**3.17**	**210**	P	Pn	01 10 37.0	-2.6
KWHZ	**Kaweka Forest**	**3.27**	**219**	P	Pn	01 10 39.0	-2.2
ETAZ	**East Tamaki Re**	**3.35**	**268**	P	Pn	01 10 42.5	+0.4
KAHZ	**Kahuranaki**	**3.36**	**211**	P	Pn	01 10 39.3	-3.0
MBAZ	**Motutapu North**	**3.38**	**271**	P	Pn	01 10 43.5	+0.9
KRHZ	**Kereru**	**3.47**	**218**	P	Pn	01 10 41.4	-2.4
TMVZ	**Te Maari**	**3.47**	**230**	P	Pn	01 10 42.5	-1.3
NTVZ	**North Tongarir**	**3.47**	**230**	P	Pn	01 10 42.9	-1.1
ETVZ	**East Tongariro**	**3.48**	**229**	P	Pn	01 10 42.7	-1.3
KRVZ	**Karewarewa**	**3.49**	**231**	P	Pn	01 10 43.4	-0.8
EPAZ	**Eden Park BICE**	**3.50**	**269**	P	Pn	01 10 45.0	+0.9
BHHZ	**Black Hill Sta**	**3.51**	**222**	P	Pn	01 10 42.9	-1.6
OTVZ	**Oturere**	**3.52**	**229**	P	Pn	01 10 43.7	-0.9
NNVZ	**North Ngauruho**	**3.53**	**230**	P	Pn	01 10 43.9	-0.9
WTVZ	**West Tongariro**	**3.54**	**231**	P	Pn	01 10 45.4	+0.6
AWAZ	**Awhitu Peninsu**	**3.58**	**266**	P	Pn	01 10 45.2	-0.1
TWVZ	**Taurewa**	**3.61**	**232**	P	Pn	01 10 45.3	-0.5
MOVZ	**Moawhango**	**3.63**	**226**	P	Pn	01 10 44.4	-1.6
RVAZ	**Riverhead Bore**	**3.64**	**271**	P	Pn	01 10 46.4	+0.4
WNVZ	**Wahianoa**	**3.66**	**228**	P	Pn	01 10 45.4	-1.3
HIZ	**Hauiti**	**3.73**	**243**	P	Pn	01 10 48.1	+0.8
PNHZ	**Pukenui**	**3.76**	**217**	P	Pn	01 10 44.7	-3.1
PRHZ	**Porangahau**	**3.86**	**209**	P	Pn	01 10 45.9	-3.3
WCZ	**Waipu Caves**	**3.96**	**283**	P	Pn	01 10 51.2	+0.6
TSZ	**Takapari Road**	**3.99**	**217**	P	Pn	01 10 47.6	-3.4
WAZ	**Wanganui**	**4.30**	**228**	P	Pn	01 10 54.4	-0.9
OUZ	**Omahuta**	**4.78**	**289**	P	Pn	01 11 03.3	+1.6
TKNZ	**Takaka Hill**	**6.31**	**228**	P	Pn	01 11 19.7	-3.1
CTZ	**Chatham Island**	**7.55**	**156**	P	Pn	01 11 38.6	-1.1

IDC 04 01:13:14.8±1.6,4°20S×150°77E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=42.7km s-min=19.9km az=165.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.25**	**95**	Pn	Pn	01 13 39.9	+0.3
	121nm,0.3s,baz=244,slow=0.6,SNR=49						
KRVT				Sn	Sn	01 13 57.9	+0.6
	47nm,0.3s,baz=182,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**22.39**	**224**	P	P	01 18 16.0	+1.0
	0.3nm,0.7s,baz=50,slow=10,SNR=1.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**25.29**	**219**	P	P	01 18 42.3	-0.9
	0.3nm,0.6s,baz=55,slow=9.1,SNR=1.9						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**82.37**	**23**	P	P	01 25 38.3	0.0
	0.6nm,0.7s,baz=248,slow=4.7,SNR=4.3						
	0.6nm,0.7s						

IDC 04 01:22:35.6±4.4,4°31S×150°77E,h0km,mb3.2/3, mbtmp3.3/3,Error ellipse: s-maj=151.0km s-min=36.5km az=106.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.31**	**224**	P	P	01 27 35.6	+0.6
	0.2nm,0.6s,baz=50,slow=10,SNR=2.0						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**25.21**	**219**	P	P	01 28 02.5	-0.7
	1.0nm,0.9s,baz=59,slow=9.2,SNR=9.6						
	1.0nm,0.9s						
MKAR	**Makanchi Array**	**78.63**	**319**	P	P	01 34 38.5	-1.0
	0.2nm,0.5s,baz=128,slow=4.0,SNR=2.0						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.23**	**288**	PKPbc	PKiKP	01 42 25.9	-0.6
	0.3nm,0.7s,baz=98,slow=2.8,SNR=1.4						

*IDC **04** 01:26:04.8±0.8,23°82S×66°72W,h193km±7km,mb3.9/13, mbtmp4.6/20,MS3.1/1,Error ellipse: s-maj=11.6km s-min=9.6km az=17.0*
*NEIC **04** 01:26:04.5±2.1,23°91S±0°06×66°77W±0°09,h193km±5km, mb4.5/121,Md4.6(SJA),Mwr4.9(GUC),Error ellipse: s-maj=11.6km s-min=8.7km az=87.0*
*VAO **04** 01:26:05.4±0.3,23°83S×66°78W,h206km±3km,mb4.9*
*SJA **04** 01:26:05.4±0.8,23°91S×66°83W,h180km,ML4.5,MW4.4*
*GUC **04** 01:26:05.8±0.7,23°91S×67°11W,h230km±16km,ML5.2*

ISC 04 01:26:05.3±0.5,23°84S±0°03×66°86W±0°04,h206km±5km, n293,σ1°42/283,mb4.5/70,13C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.48**	**65**	*eP*	**Pn**	**01 26 40.5**	**+0.7**
HJA				IAML		01 27 11.1	
	comp=Z,368nm,0.6s						
AF01	**San Pedro de A**	**1.50**	**306**	Pn	**Pn**	**01 26 41.3**	**+1.4**
YJA	**Yavi**	**2.07**	**37**	*eP*	**Pn**	**01 26 41.0**	**-4.5**
YJA				IAML		01 27 23.8	
	comp=Z,134nm,0.5s						
LVC	**Limon Verde**	**2.25**	**303**	P	**Pn**	**01 26 47.9**	**+0.7**
	comp=Z,2μm,0.4s,baz=135,slow=6.9,SNR=2633						
LVC				LR	LR	01 27 13.8	
	comp=Z,424nm,20.5s,baz=106,slow=29						
LVC				S	**S**	**01 27 19.2**	**0.0**
	comp=Z,1μm,0.4s,baz=268,slow=21,SNR=18						
LVC	**Limon Verde**	**2.25**	**303**	*iP*	**Pn**	**01 26 47.8**	**+0.7**
LVC				*eS*	**S**	**01 27 19.1**	**-0.1**
LVC	**Limon Verde**	**2.25**	**303**	*eP*	**Pn**	**01 26 47.9**	**+0.7**
LVC				*eS*	**S**	**01 27 20.5**	**+1.2**
LVC				IAML		01 27 24.4	
	comp=Z,751nm,0.6s						
LVC	**Limon Verde**	**2.25**	**303**	*eP*	**Pn**	**01 26 48.0**	**+0.8**
PB15	**IPOC Station P**	**2.48**	**284**		**Pn**	**01 26 50.0**	**+0.5**
PB15	**IPOC Station P**	**2.48**	**284**	⇑*iP*	**Pn**	**01 26 49.9**	**+0.5**
PB15				*eS*	**S**	**01 27 23.1**	**-0.3**
PB15	**IPOC Station P**	**2.48**	**284**	*eP*	**Pn**	**01 26 49.7**	**+0.2**
PB15				*eS*	**S**	**01 27 23.8**	**+0.4**
PB15				IAML		01 27 25.6	
	comp=Z,10μm,0.2s						
PB06	**IPOC Station P**	**2.73**	**294**		**Pn**	**01 26 52.9**	**+0.5**
PB06	**IPOC Station P**	**2.73**	**294**	⇑*iP*	**Pn**	**01 26 52.8**	**+0.5**
PB06				*eS*	**S**	**01 27 27.6**	**-0.9**
PB06				IAML		01 27 29.6	
	comp=E,4μm,0.3s						
PB06	**IPOC Station P**	**2.73**	**294**	*eP*	**Pn**	**01 26 52.8**	**+0.5**
PB06				*eS*	**S**	**01 27 28.0**	**-0.5**
PB06				IAML		01 27 30.9	
	comp=Z,4μm,0.3s						
GO02	**Mina Guanaco**	**2.81**	**242**		**Pn**	**01 26 53.2**	**-0.1**
GO02	**Mina Guanaco**	**2.81**	**242**	⇑*iP*	**Pn**	**01 26 53.2**	**-0.1**
GO02				*eS*	**S**	**01 27 29.1**	**-1.2**
GO02	**Mina Guanaco**	**2.81**	**242**	*eP*	**Pn**	**01 26 53.2**	**-0.1**
GO02				*eS*	**S**	**01 27 29.8**	**-0.5**
PB09	**IPOC Station P**	**2.99**	**312**		**Pn**	**01 26 56.3**	**+1.0**
PB09	**IPOC Station P**	**2.99**	**312**	⇑*iP*	**Pn**	**01 26 56.0**	**+0.7**
PB09				*eS*	**S**	**01 27 34.4**	**+0.5**
PB09				IAML		01 27 35.7	
	comp=E,3μm,0.4s						
PB09	**IPOC Station P**	**2.99**	**312**	*eS*	**S**	**01 27 34.7**	**+0.8**
PB09				IAML		01 27 37.3	
	comp=Z,4μm,0.3s						
AHML	**Horco Molle**	**3.24**	**155**	*eP*	**Pn**	**01 26 57.9**	**-0.2**
AHML				*eS*	**S**	**01 27 37.1**	**-2.0**
AHML				IAML		01 28 29.1	
	comp=Z,0.3nm,0.4s						
PB14	**IPOC Station P**	**3.33**	**256**		**Pn**	**01 26 58.8**	**-0.6**
PB14	**IPOC Station P**	**3.33**	**256**	⇑*iP*	**Pn**	**01 26 58.8**	**-0.6**
PB14				*eS*	**S**	**01 27 38.5**	**-2.7**
PB14	**IPOC Station P**	**3.33**	**256**	*eP*	**Pn**	**01 26 58.8**	**-0.6**
PB14				*eS*	**S**	**01 27 39.0**	**-2.2**
PB14				IAML		01 27 41.0	
	comp=Z,2μm,0.5s						
PB04	**IPOC Station P**	**3.38**	**296**		**Pn**	**01 26 59.9**	**0.0**
PB04	**IPOC Station P**	**3.38**	**296**	⇑*iP*	**Pn**	**01 26 59.8**	**0.0**
PB04				*eS*	**S**	**01 27 40.2**	**-1.9**
PB04	**IPOC Station P**	**3.38**	**296**	*eP*	**Pn**	**01 26 59.9**	**0.0**
PB04				*eS*	**S**	**01 27 40.9**	**-1.2**
PB04				IAML		01 27 49.3	
	comp=Z,3μm,0.5s						
PB07	**IPOC Station P**	**3.49**	**306**		**Pn**	**01 27 00.9**	**-0.4**
PB07	**IPOC Station P**	**3.49**	**306**	⇑*iP*	**Pn**	**01 27 01.2**	**-0.1**
PB07				*eS*	**S**	**01 27 42.7**	**-1.9**
PB07	**IPOC Station P**	**3.49**	**306**	*eS*	**S**	**01 27 43.4**	**-1.3**
PB07				IAML		01 27 45.0	
	comp=Z,3μm,0.4s						
AC02	**Maricunga**	**3.62**	**214**		**Pn**	**01 27 02.2**	**-0.9**
AC02	**Maricunga**	**3.62**	**214**	⇑*iP*	**Pn**	**01 27 02.7**	**-0.3**
AC02				*eS*	**S**	**01 27 47.0**	**-0.9**
AC02	**Maricunga**	**3.62**	**214**	*eS*	**S**	**01 27 46.8**	**-1.1**
AC02				IAML		01 27 55.4	
	comp=Z,711nm,0.6s						
PB01	**IPOC Station P**	**3.69**	**318**		**Pn**	**01 27 03.5**	**-0.2**
PB01	**IPOC Station P**	**3.69**	**318**	⇑*iP*	**Pn**	**01 27 03.4**	**-0.2**
PB01				*eS*	**S**	**01 27 47.2**	**-1.7**
PB01	**IPOC Station P**	**3.69**	**318**	*eS*	**S**	**01 27 48.0**	**-0.9**
PB01				IAML		01 27 51.1	
	comp=Z,1μm,0.4s						
PB02	**IPOC Station P**	**3.76**	**311**		**Pn**	**01 27 04.2**	**-0.3**
PB02	**IPOC Station P**	**3.76**	**311**	⇑*iP*	**Pn**	**01 27 04.1**	**-0.4**
PB02				*eS*	**S**	**01 27 47.9**	**-2.5**
PB02	**IPOC Station P**	**3.76**	**311**	*eS*	**S**	**01 27 49.3**	**-1.1**
PB02				IAML		01 27 55.8	
	comp=Z,4μm,0.3s						
AC01	**Pan de Azucar**	**4.09**	**235**	Pn	**Pn**	**01 27 06.6**	**-1.8**
AC01	**Pan de Azucar**	**4.09**	**235**	⇑*iP*	**Pn**	**01 27 06.6**	**-1.8**
AC01				*eS*	**S**	**01 27 53.3**	**-4.4**
AC01	**Pan de Azucar**	**4.09**	**235**	*eP*	**Pn**	**01 27 06.7**	**-1.8**
AC01				*eS*	**S**	**01 27 53.8**	**-3.9**
AC01				IAML		01 27 55.2	
	comp=Z,766nm,0.8s						
TA01	**Diego Aracena**	**4.48**	**316**	Pn	**Pn**	**01 27 12.4**	**-0.9**
TA01	**Diego Aracena**	**4.48**	**316**	*eP*	**Pn**	**01 27 12.0**	**-1.3**
TA02	**Huaiquique**	**4.67**	**319**		**Pn**	**01 27 14.7**	**-1.0**
TA02	**Huaiquique**	**4.67**	**319**	*eP*	**Pn**	**01 27 16.2**	**+0.5**
TA02				*eS*	**S**	**01 28 05.0**	**-5.7**
TA02				IAML		01 28 14.8	
	comp=Z,1μm,0.4s						
GO01	**Chusmiza**	**4.68**	**332**		**Pn**	**01 27 16.4**	**+0.1**
GO01	**Chusmiza**	**4.68**	**332**	*i P*	**Pn**	**01 27 16.2**	**-0.1**
GO01				*eS*	**S**	**01 28 10.8**	**-1.0**
GO01	**Chusmiza**	**4.68**	**332**	*eP*	**Pn**	**01 27 17.0**	**+0.7**
GO01				*eS*	**S**	**01 28 11.2**	**-0.6**
AC06	**Mina Casimiro**	**4.71**	**221**		**Pn**	**01 27 13.9**	**-2.3**
AC06	**Mina Casimiro**	**4.71**	**221**	⇑*iP*	**Pn**	**01 27 13.9**	**-2.3**
AC06				*eS*	**S**	**01 28 05.6**	**-6.1**
VCA	**Vinchina**	**5.02**	**194**	*eP*	**Pn**	**01 27 21.0**	**+0.8**
VCA				*eS*	**S**	**01 28 20.2**	**+1.1**
VCA				IAML		01 28 27.6	
	comp=Z,157nm,0.6s						
AC04	**Llanos de Chal**	**5.76**	**220**	Pn	**Pn**	**01 27 27.2**	**-2.3**
AC04	**Llanos de Chal**	**5.76**	**220**	*eP*	**Pn**	**01 27 26.8**	**-2.8**
AC05	**El Transito**	**5.84**	**211**	Pn	**Pn**	**01 27 28.8**	**-1.9**
AC05	**El Transito**	**5.84**	**211**	*eP*	**Pn**	**01 27 28.6**	**-2.1**
PB16	**IPOC Station P**	**6.01**	**335**	Pn	**Pn**	**01 27 33.2**	**-0.1**
PB12	**IPOC Station P**	**6.12**	**327**	Pn	**Pn**	**01 27 33.0**	**-1.4**
LPAZ	**La Paz**	**7.61**	**351**	P	**Pn**	**01 27 54.8**	**+0.7**
	comp=Z,33nm,0.3s,baz=133,slow=3.6,SNR=474						
LPAZ				S	**S**	**01 29 20.2**	**-0.4**
	comp=Z,56nm,0.6s,baz=270,slow=21,SNR=14						
ZON	**Zonda**	**7.84**	**191**	Pn	**Pn**	**01 27 54.9**	**-1.6**
CPUP	**Villa Florida**	**8.99**	**108**	P	**Pn**	**01 28 09.9**	**-1.5**
	comp=Z,34nm,0.8s,baz=292,slow=11,SNR=68						
CPUP	**Villa Florida**	**8.99**	**108**	Pn	**Pn**	**01 28 09.4**	**-2.0**
CPUP	**Villa Florida**	**8.99**	**108**	*eP*	**Pn**	**01 28 09.8**	**-1.5**
VA03	**San Esteban**	**9.46**	**199**		**Pn**	**01 28 16.3**	**-1.3**
SIV	**San Ignacio**	**9.52**	**36**	P	**Pn**	**01 28 17.1**	**-1.2**
	comp=Z,46nm,0.5s,baz=219,slow=11,SNR=298						
SIV				S	S	01 29 51.8	-13
	comp=Z,6.3nm,0.4s,baz=287,slow=19,SNR=1.3						
MT05	**Renca**	**10.11**	**199**		**Pn**	**01 28 23.5**	**-2.3**
MT02	**Curacav**	**10.11**	**201**		**Pn**	**01 28 21.9**	**-3.8**
ANTJ	**Antonio Joao (**	**10.18**	**82**	*eP*	**Pn**	**01 28 25.4**	**-1.4**
VA05	**Santo Domingo**	**10.63**	**202**		**Pn**	**01 28 30.8**	**-1.7**
ITQB	**Itaqui**	**10.83**	**125**		**Pn**	**01 28 33.1**	**-2.0**
ITQB	**Itaqui**	**10.83**	**125**	*eP*	**Pn**	**01 28 33.8**	**-1.4**
AQDB	**Aquidauana**	**10.87**	**74**	Pn	**Pn**	**01 28 34.7**	**-1.0**
AQDB	**Aquidauana**	**10.87**	**74**	*eP*	**Pn**	**01 28 34.6**	**-1.0**
PTLB	**Pontes e Lacer**	**11.07**	**42**	Pn	**Pn**	**01 28 38.1**	**-0.2**
PTLB	**Pontes e Lacer**	**11.07**	**42**	*eP*	**Pn**	**01 28 38.1**	**-0.2**
MCR1	**Marechal Candi**	**11.73**	**96**	*eP*	**Pn**	**01 28 45.6**	**-1.0**
UNIS	**Unistalda (Bra**	**11.78**	**119**	*eP*	**Pn**	**01 28 45.7**	**-1.4**
CRSM	**Crissiumal (Br**	**12.12**	**110**	*eP*	**Pn**	**01 28 50.9**	**-0.7**
RODS	**

RIB01 **Linhares ES** 25.01 85 *e*P P **01 31 09.2 -1.2**
MALB **Monte Alegre** 25.03 31 *e*P P **01 31 09.2 -1.4**
NAN01 **Guarapari, ES** 25.67 82 *e*P P **01 31 14.7 -1.7**
GUA01 **Guaratinga, BA** 26.37 79 *e*P P **01 31 21.9 -0.8**
OTAV **Otavalo** 26.45 333 *e*P P **01 31 23.7 -0.3**
BOAV **Boa Vista** 26.80 14 P P **01 31 25.8 -0.7**
BOAV IAmb IAmb 01 31 27.8
comp=Z,5.3nm,0.5s
BOAV **Boa Vista** 26.80 14 *e*P P **01 31 27.0 +0.5**
CMC01 **Camacan, BA** 27.07 77 *e*P P **01 31 28.0 -0.9**
GDU01 **Guandu, BA** 27.68 74 *e*P P **01 31 33.5 -0.9**
TMAB **Tom-Au,PA,Br** 28.02 43 *e*P P **01 31 37.0 -0.5**
ROSB **Rosrio** 30.27 50 *e*P P **01 31 56.5 -0.8**
NBLA **Lagarto - SE** 30.46 70 *e*P P **01 31 57.2 -1.8**
NBAN **Anadia - AL** 32.41 69 *e*P P **01 32 14.8 -1.3**
BAUV **El Baul** 32.60 358 P P **01 32 17.0 -0.6**
BAUV IAmb IAmb 01 32 18.8
comp=Z,14nm,1.0s
NBRF **Rio Formoso -** 33.88 69 *e*P P **01 32 27.2 -1.6**
RCBR **Riachuelo** 34.74 64 *e*P P **01 32 35.8 -0.5**
PMSA **Palmer Station** 40.97 178 *e*P P **01 33 28.4 +0.9**
SMAI **San Martin Ant** 44.30 180 P P **01 33 54.8 +0.6**
BELA **Belgrano 2** 56.18 172 P P **01 35 23.3 +0.1**
BELA IAmb IAmb 01 35 25.4
comp=Z,9.7nm,1.0s
VNA3 **Neumayer Olymp** 57.26 161 P P **01 35 32.0 +1.1**
VNA1 **Neumayer--Stat** 57.46 160 P P **01 35 33.7 +1.5**
VNA2 **Neumayer--Watz** 57.83 160 P P **01 35 36.0 +1.1**
baz=281,slow=6.0
SNAA **Sanae** 59.46 161 P P **01 35 47.1 +0.9**
SNAA **Sanae** 59.46 161 P P **01 35 45.4 -0.8**
SNAA IAmb IAmb 01 35 48.7
comp=Z,20nm,1.6s
833A **Chaparral WMA,** 60.60 327 P P **01 35 55.2 +0.8**
TROLL **Troll, Antarti** 61.17 161 P P **01 35 58.8 +1.0**
JCT **Junction City** 62.58 328 IAmb IAmb 01 36 09.8
comp=Z,9.3nm,0.9s
WVT **Waverly** 62.85 341 P P **01 36 09.1 -0.1**
WVT IAmb IAmb 01 36 09.8
comp=Z,13nm,0.9s
WVT **Waverly** 62.85 341 P P **01 36 08.0 -1.2**
MIAR **Mount Ida** 63.37 335 P P **01 36 13.8 +1.2**
MIAR IAmb IAmb 01 36 14.6
comp=Z,5.7nm,0.9s
TXAR **Lajitas Array** 63.62 324 P P **01 36 16.0 +1.4**
comp=Z,0.5nm,0.4s,baz=154,slow=6.5,SNR=12
comp=Z,0.5nm,0.4s
TXAR **Lajitas Array** 63.62 324 P P **01 36 15.8 +1.2**
Z35A **Perchaven, San** 63.80 332 P P **01 36 16.2 +0.6**
WCI **Wyandotte Cave** 64.38 343 P P **01 36 18.4 -0.8**
WCI pP pP 01 37 17.9 +10
SSPA **Standing Stone** 64.96 351 P P **01 36 22.2 -0.7**
HHAR **Hobbs** 65.04 336 IAmb IAmb 01 36 25.3
comp=Z,7.5nm,1.0s
U38A **Gravette** 65.35 336 P P **01 36 25.3 -0.2**
U38A IAmb IAmb 01 36 41.5
comp=Z,15nm,1.6s
FVM **French Village** 65.36 340 IAmb IAmb 01 36 26.9
comp=Z,8.5nm,0.8s
DEOK **Depew** 65.65 334 IAmb IAmb 01 36 29.9
comp=Z,13nm,0.9s
CCM **Cathedral Cave** 65.69 339 P P **01 36 27.5 -0.1**
CCM IAmb IAmb 01 36 29.1
comp=Z,12nm,0.9s
CCM **Cathedral Cave** 65.69 339 P P **01 36 27.4 -0.3**
OK034 **N. Norfolk Rd.** 65.88 334 IAmb IAmb 01 36 30.9
comp=Z,11nm,0.9s
QUOK **Quay** 66.02 334 P P **01 36 30.9 +1.2**
QUOK IAmb IAmb 01 36 31.8
comp=Z,16nm,1.0s
S39A **Bolivar** 66.07 337 IAmb IAmb 01 36 32.0
comp=Z,13nm,0.8s
QSPA **South Pole Qui** 66.36 180 P P **01 36 32.1 +0.3**
QSPA IAmb IAmb 01 36 34.2
comp=Z,14nm,0.9s
QSPA **South Pole Qui** 66.36 180 P P **01 36 31.6 -0.2**
QSPA sP sP **01 37 47.5 +3.8**
MNTX **Cornudas Mount** 66.39 325 IAmb IAmb 01 36 34.2
comp=Z,6.5nm,1.0s
MSTX **Muleshoe** 66.87 328 IAmb IAmb 01 36 38.0
comp=Z,16nm,1.1s
AMTX **Amarillo** 67.09 329 P P **01 36 36.7 0.0**
AMTX IAmb IAmb 01 36 38.2
comp=Z,7.6nm,0.9s
P40A **Paris** 67.29 339 IAmb IAmb 01 36 39.2
comp=Z,8.2nm,0.9s
DBIC **Dimbokro** 67.63 72 P P **01 36 40.0 -0.5**
comp=Z,4.3nm,0.4s,baz=248,slow=6.5,SNR=10
comp=Z,4.3nm,0.4s
121A **Cookes Peak, D** 68.33 323 IAmb IAmb 01 36 48.4
comp=Z,7.3nm,0.9s
BNM **Barren Site** 68.95 325 P P **01 36 50.1 +1.6**
L40A **Anamosa** 69.34 341 IAmb IAmb 01 36 51.8
comp=Z,15nm,1.1s
ANMO **Albuquerque** 69.48 326 P P **01 36 53.5 +1.8**
comp=Z,4.2nm,1.0s,baz=149,slow=7.8,SNR=12
comp=Z,4.2nm,1.0s
ANMO **Albuquerque** 69.48 326 P P **01 36 52.4 +0.7**
ANMO **Albuquerque** 69.48 326 P P **01 36 52.7 +1.0**
TUC **Tucson** 69.84 321 P P **01 36 54.5 +0.8**
TUC **Tucson** 69.84 321 P P **01 36 55.0 +1.2**
SDCO **Great Sand Dun** 71.22 328 IAmb IAmb 01 37 05.5
comp=Z,13nm,1.6s
KOWA **Kowa** 72.25 65 P P **01 37 08.1 -0.4**
KOWA IAmb IAmb 01 37 11.8
comp=Z,9.6nm,0.8s
MVCO **Mesa Verde** 72.28 326 IAmb IAmb 01 37 12.0
comp=Z,12nm,1.3s
WUAZ **Wupatki** 72.53 323 IAmb IAmb 01 37 13.8
comp=Z,7.1nm,1.0s
ECSD **EROS Data Cent** 72.58 338 IAmb IAmb 01 37 12.8
comp=Z,12nm,1.1s
BLYC **Blythe** 73.05 320 P P **01 37 14.3 +1.4**
BLYC IAmb IAmb 01 37 17.2
comp=Z,8.9nm,1.1s
SMCO **Snowmass** 73.06 328 P P **01 37 14.8 +1.6**
PV15 **Paradox Valley** 73.14 327 IAmb IAmb 01 37 17.4
comp=Z,7.2nm,1.0s
F36A **Milaca** 73.48 341 IAmb IAmb 01 37 16.5
comp=Z,10.0nm,0.9s
BAR **Barrett** 73.60 318 P P **01 37 16.9 +0.8**
BAR IAmb IAmb 01 37 19.6
comp=Z,6.2nm,0.9s
U15A **North Rim** 73.70 323 IAmb IAmb 01 37 21.0
comp=Z,8.1nm,1.1s
SBA **Scott Base** 73.87 190 P P **01 37 18.6 +1.6**
O20A **White River Ci** 74.41 328 IAmb IAmb 01 37 24.3
comp=Z,11nm,1.1s
KNB **Kanab** 74.42 323 IAmb IAmb 01 37 25.2
comp=Z,19nm,1.2s
V12A **Nelson** 74.63 321 IAmb IAmb 01 37 25.6
comp=Z,8.3nm,1.1s
VNDA **Vanda** 74.88 190 P P **01 37 24.6 +1.8**
comp=Z,2.6nm,1.0s,baz=154,slow=2.0,SNR=6.4
comp=Z,2.6nm,1.0s
CCUT **Cedar City** 75.11 323 IAmb IAmb 01 37 29.2
comp=Z,7.9nm,1.0s
P17A **Butcher Ranch,** 75.14 326 IAmb IAmb 01 37 28.5
comp=Z,11nm,1.2s
GSC **Goldstone, Bar** 75.48 320 P P **01 37 28.3 +1.3**
GSC IAmb IAmb 01 37 30.7
comp=Z,8.5nm,1.1s
NLU **North Lily Min** 76.19 326 IAmb IAmb 01 37 34.7
comp=Z,16nm,1.7s
TPNV **Topopah Spring** 76.29 321 IAmb IAmb 01 37 35.6
comp=Z,11nm,1.2s
JLU **Jordanelle** 76.35 327 IAmb IAmb 01 37 35.5
comp=Z,15nm,1.5s
TOA0 **Torodi Ar. Sit** 76.39 69 P P **01 37 31.7 -0.7**
TORD **Torodi Ar. Bea** 76.39 69 P P **01 37 32.2 -0.2**
comp=Z,8.3nm,0.5s,baz=256,slow=5.8,SNR=103
comp=Z,8.3nm,0.5s
SPR3 **Spring Creek 3** 76.68 324 IAmb IAmb 01 37 37.3
comp=Z,6.1nm,1.1s
PD31 **Pinedale Array** 77.08 329 P P **01 37 37.0 +1.1**
PDAR **Pinedale Array** 77.08 329 P P **01 37 37.0 +1.1**
comp=Z,0.6nm,0.4s,baz=134,slow=8.2,SNR=6.6
comp=Z,0.6nm,0.4s
TSUM **Tsumeb** 77.58 106 P P **01 37 38.5 -0.7**
TSUM IAmb IAmb 01 37 40.4
comp=Z,12nm,0.9s
AHID **Auburn Hatcher** 77.81 328 IAmb IAmb 01 37 43.0
comp=Z,6.8nm,0.6s
ULM **Lac du Bonnet** 78.12 341 P P **01 37 41.7 +0.5**
comp=Z,3.3nm,0.5s,baz=141,slow=6.6,SNR=9.4
comp=Z,3.3nm,0.5s

REDW **Red Top Meadow** 78.14 329 IAmb IAmb 01 37 45.1
comp=Z,9.2nm,1.3s
TPAW **Teton Pass** 78.28 329 IAmb IAmb 01 37 47.5
comp=Z,19nm,1.9s
OMMB **Old Mammoth Mi** 78.34 320 IAmb IAmb 01 37 46.5
comp=Z,7.1nm,1.0s
NVAR **Mina Array Bea** 78.49 321 P P **01 37 45.0 +1.1**
comp=Z,1.1nm,0.9s,baz=155,slow=6.3,SNR=8.7
comp=Z,1.1nm,0.9s
NVAR **Mina Array Bea** 78.49 321 P P **01 37 45.1 +1.2**
IMW **Indian Meadow** 78.59 329 IAmb IAmb 01 37 47.7
comp=Z,7.7nm,1.1s
KVN **Kaiserville** 78.80 322 IAmb IAmb 01 37 48.6
comp=Z,6.7nm,0.9s
YHL **Hebgen Lake** 79.43 330 IAmb IAmb 01 37 52.7
comp=Z,8.7nm,1.1s
PAHR **Pah Rah Range** 79.98 322 IAmb IAmb 01 37 55.4
comp=Z,12nm,1.1s
HLID **Hailey** 80.02 327 IAmb IAmb 01 37 55.8
comp=Z,8.1nm,1.0s
AVE **Averroes** 80.20 47 P P **01 37 53.9 +1.0**
BOSA **Boshof** 80.69 117 P P **01 37 56.0 +0.1**
comp=Z,3.9nm,0.3s,baz=252,slow=4.0,SNR=60
comp=Z,3.9nm,0.3s
BOSA **Boshof** 80.69 117 *i* P P **01 37 56.2 +0.2**
BOSA **Boshof** 80.69 117 *i* P P **01 37 56.2 +0.2**
EGMT **Eagleton** 81.23 332 IAmb IAmb 01 38 00.6
comp=Z,12nm,1.1s
MAW **Mawson** 81.55 163 P P **01 38 00.7 +1.2**
comp=Z,4.3nm,0.7s,baz=233,slow=8.0,SNR=12
comp=Z,4.3nm,0.7s
MAW **Mawson** 81.55 163 P P **01 38 00.3 +0.8**
PLID **Pearl Lake** 81.91 327 IAmb IAmb 01 38 05.0
comp=Z,6.7nm,0.9s
J08A **Circle Bar Ran** 81.96 325 IAmb IAmb 01 38 05.5
comp=Z,9.9nm,1.2s
LBTB **Lobatse** 82.34 114 P P **01 38 04.6 0.0**
LBTB **Lobatse** 82.34 114 *i* P P **01 38 05.6 +1.0**
LBTB **Lobatse** 82.34 114 *i* P P **01 38 05.6 +1.0**
PCVE **Castro Verde** 82.42 43 *e*P P **01 38 06.6 +2.2**
PBAR **Barrancos** 83.37 43 *e*P P **01 38 11.2 +1.9**
PESTR **Estremoz** 83.45 42 *e*P P **01 38 13.6 +3.9**
PCAS **Casmilo, Conde** 83.62 41 *e*P P **01 38 12.6 +2.0**
TAM **Tamanrasset** 84.21 62 P P 01 38 07.6 -6.5
TAM IAmb IAmb 01 38 09.3
comp=Z,11nm,0.9s
PVIS **Viseu** 84.40 41 *e*P P **01 38 15.1 +0.6**
MTE **Manteigas** 84.41 41 *e*P P **01 38 16.5 +1.9**
HAWA **Hanford** 84.59 326 IAmb IAmb 01 38 18.3
comp=Z,9.4nm,1.2s
PVRL **Vila Real** 84.85 41 *e*P P **01 38 19.5 +2.7**
POLO **Lamas de Olo** 84.86 40 *e*P P **01 38 18.9 +2.0**
MVO **Moncorvo** 85.19 41 *e*P P **01 38 20.7 +2.2**
PBRG **Braganca** 85.75 41 *e*P P **01 38 23.3 +2.1**
LTY **Liberty** 85.75 327 IAmb IAmb 01 38 23.7
comp=Z,15nm,1.6s
PAB **San Pablo** 85.88 43 P P **01 38 23.2 +1.3**
PAB IAmb IAmb 01 38 27.8
comp=Z,6.7nm,1.1s
ESDC **Sonseca Array** 86.19 44 P P **01 38 24.9 +1.4**
comp=Z,2.4nm,0.9s,baz=242,slow=4.8,SNR=20
comp=Z,2.4nm,0.9s
MATP **Matopo** 86.61 111 *i* P P **01 38 27.4 +1.2**
MATP **Matopo** 86.61 111 *i* P P **01 38 27.4 +1.2**
BLWY **Bulawayo** 86.82 110 *i* P P **01 38 28.9 +1.7**
BLWY **Bulawayo** 86.82 110 *i* P P **01 38 28.9 +1.7**
MUSN **Musina, Limpop** 87.00 113 *i* P P **01 38 29.8 +1.9**
MUSN **Musina, Limpop** 87.00 113 *i* P P **01 38 29.8 +1.9**
MOPA **Mopani** 87.78 115 *i* P P **01 38 33.3 +1.8**
MOPA **Mopani** 87.78 115 *i* P P **01 38 33.3 +1.8**
LSZ **Lusaka** 88.43 106 P P **01 38 36.6 +1.8**
YKA **Yellowknife Ar** 94.02 340 P P **01 39 00.4 +1.0**
comp=Z,1.8nm,0.7s,baz=139,slow=4.7,SNR=4.5
comp=Z,1.8nm,0.7s
ASAR **Alice Springs** 128.65 205 PKP **PKiKP** **01 44 49.0 -0.3**
comp=Z,3.3nm,0.9s,baz=152,slow=2.5,SNR=22
ASAR SKPbc SKPbc 01 47 50.1
comp=Z,0.4nm,0.5s,baz=148,slow=3.4,SNR=4.9
WRA **Warramunga Arr** 131.82 207 PKP **PKPdf** **01 44 55.1 +0.4**
comp=Z,0.8nm,0.3s,baz=154,slow=2.0,SNR=24
WRA SKPbc **SKPab** **01 48 02.3 +0.1**
comp=Z,0.5nm,0.4s,baz=161,slow=3.3,SNR=9.1
PETK **Petropavlovsk-** 135.56 323 PKP **PKiKP** **01 45 01.4 -0.8**
comp=Z,2.4nm,0.7s,baz=176,slow=7.1,SNR=5.3
ZAA0 **Zalesovo Array** 143.19 28 PKPdf **PKPdf** **01 45 13.7 -0.7**
ZALV **Zalesovo Beam** 143.19 28 PKP **PKPdf** **01 45 13.3 -1.1**
comp=Z,2.6nm,0.5s,baz=311,slow=2.5,SNR=6.1
NRN **Naryn** 144.47 51 PKPdf **PKPdf** **01 45 19.3 +1.7**
SOEI **Soe** 144.88 199 PKPdf **PKPdf** **01 45 20.1 +1.3**
KSH **Kashi** 145.00 55 PKP **PKPab** **01 45 19.1 +0.8**
MAKZ **Makanchi** 146.13 40 PKPbc **PKPbc** **01 45 21.4 +0.3**
MK31 **Makanchi Array** 146.32 39 PKPbc **PKPbc** **01 45 22.0 +0.3**
MKAR **Makanchi Array** 146.32 39 PKPbc **PKPbc** **01 45 22.0 +0.3**
comp=Z,6.5nm,0.5s,baz=308,slow=2.9,SNR=32
MJAR **Matsushiro Arr** 154.99 306 PKPab **PKPab** **01 45 59.0 -0.1**
comp=Z,0.9nm,0.6s,baz=52,slow=3.4,SNR=4.8
SONM **Songino Array** 155.46 11 PKPab **PKPab** **01 46 00.5 -0.3**
comp=Z,1.1nm,0.7s,baz=309,slow=3.9,SNR=5.5
CMAR **Chiang Mai Arr** 165.72 109 PKPab **PKPab** **01 46 45.6 -0.8**
comp=Z,1.7nm,0.3s,baz=263,slow=5.9,SNR=8.0
PZH **PanZhiHua** 169.34 73 PKP **PKPdf** **01 45 48.1 -0.4**

*EAF **04** 01:26:31.8±4.4, 24°.99S×28°.82E, h10km, MD3.5*
BUL 04 01:26:31.2±1.3, 21°.56S×33°.43E, h10km, MD3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	2.71	224	*i* P	Pn	01 27 16.8	+2.0
MOPA				*i* Sg	Sg	01 27 57.8	-0.5
MOPA	**Mopani**	2.71	224	*i* P	Pn	01 27 16.8	+2.0
MOPA				*i* Sg	Sg	01 27 57.8	-0.5
MUSN	**Musina, Limpop**	3.40	257	*i* P	Pn	01 27 24.2	-0.2
MUSN				*i* S	Sn	01 28 03.6	-1.2
MUSN	**Musina, Limpop**	3.40	257	*i* P	Pn	01 27 24.2	-0.2
MUSN				*i* S	Sn	01 28 03.6	-1.2
BLWY	**Bulawayo**	4.73	287	*i* P	Pn	01 27 41.3	-1.5
BLWY				*i* S	Sn	01 28 33.7	-4.1
BLWY	**Bulawayo**	4.73	287	*i* P	Pn	01 27 41.3	-1.5
BLWY				*i* S	Sn	01 28 33.7	-4.1
MATP	**Matopo**	4.75	283	*i* P	Pn	01 27 41.9	-1.1
MATP				*i* S	Sn	01 28 34.4	-3.8
MATP	**Matopo**	4.75	283	*i* P	Pn	01 27 41.9	-1.1
MATP				*i* S	Sn	01 28 34.4	-3.8

*IDC **04** 01:31:39.9±1.2, 11°.73N×86°.99W, h0km, mb4.1/12, mbtmp4.1/14, ML3.6/2, MS3.6/6, Error ellipse: s-maj=36.0km s-min=17.1km az=36.0*
*UCR **04** 01:31:42.9±2.2, 11°.37N×87°.39W, h36km±32km, ML4.0, mb4.6(NEIC)*
*INET **04** 01:31:44.6±0.5, 11°.46N×87°.26W, h26km, MW4.3*
*SNET **04** 01:31:44.0±1.0, 11°.45N×87°.42W, h34km±115km, ML4.2*
*NEIC **04** 01:31:46.3±1.6, 11°.55N±0°.06×87°.09W±0°.08, h37km±5km, mb4.6/70, Error ellipse: s-maj=12.3km s-min=7.1km az=59.0*
ISC 04 01:31:44.2±0.5, 11°.46N±0°.05×87°.30W±0°.05, h37km, n155, σ1s19/135, mb4.5/45, MS3.5/5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	1.00	44	*e*P	Pn	**01 32 01.5**	**-0.1**
CNGN	**Cerro Negro**	1.19	29		Pn	**01 32 04.0**	**-0.3**
CNGN	**Cerro Negro**	1.19	29	*e*P	Pn	**01 32 04.3**	**0.0**
TEL3	**Telica 3**	1.20	22	*e*P	Pn	**01 32 04.5**	**+0.2**
MOMN	**Momotombo**	1.20	38	*e*P	Pn	**01 32 04.4**	**-0.1**
TISN	**Laguna Tiscapa**	1.22	56	*e*P	Pn	**01 32 04.4**	**-0.2**
TELN	**Telica**	1.23	22	*e*P	Pn	**01 32 05.0**	**+0.1**
MGAN	**Managua**	1.24	56	*e*P	Pn	**01 32 04.7**	**-0.2**
WILN	**Americas 2**	1.29	57	*e*P	Pn	**01 32 05.3**	**-0.4**
HUEN		1.41	51	*e*P	Pn	**01 32 07.1**	**-0.2**
CSGN	**Cosiguina Volc**	1.53	350	*e*P	Pn	**01 32 09.3**	**+0.3**
BRAN	**Las Pilas**	1.56	36	*e*P	Pn	01 32 04.0	-5.4
HZTE	**Horizontes, Gu**	1.82	114		Pn	**01 32 12.7**	**-0.3**
HZTE	**Horizontes, Gu**	1.82	114	*e*P	Pn	**01 32 11.6**	**-1.4**
HZTE	**Horizontes, Gu**	1.82	114	*e*P	Pn	**01 32 12.8**	**-0.2**
BOAB	**BOACO BROADBAN**	.88	58		Pn	**01 32 12.8**	**-0.9**
CNCH	**Conchagua**	1.89	344	*e*P	Pn	**01 32 13.8**	**-0.1**
CNCH				*e*S	Sn	**01 32 37.4**	**+0.9**
CNCH				IAML		01 32 50.8	
	comp=Z,2μm,0.4s						
CNCH	**Conchagua**	1.89	344	*e*P	Pn	**01 32 13.3**	**-1.1**
GBS3	**Finca Las Img**	1.93	110	*e*P	Pn	**01 32 13.0**	**-1.8**
LAPC	**Finca la Perla**	1.95	110	*e*P	Pn	**01 32 13.5**	**-1.5**
BUEV	**Buena Vista**	1.97	109	*e*P	Pn	**01 32 14.1**	**-0.9**
GB1A	**Borinquen Arri**	1.97	109	*e*P	Pn	**01 32 15.1**	**-0.2**
MATN	**Matagalpa**	1.99	42		Pn	**01 32 15.3**	**0.0**
MATN	**Matagalpa**	1.99	42	*e*P	Pn	**01 32 16.6**	**+1.0**
BUAI	**Buenos Aires**	2.01	106	*e*P	Pn	**01 32 15.3**	**-0.6**
GPS2	**Hotel Rincn d**	2.03	110	*e*P	Pn	**01 32 14.5**	**-2.0**
SAJU	**San Juanillo,**	2.08	131	*e*P	Pn	**01 32 16.2**	**-0.7**
ORTG	**Ortega, Santa**	2.11	121		Pn	**01 32 17.7**	**-0.5**
ACON	**Acrapa**	2.14	76		Pn	**01 32 15.7**	**-1.6**
LIM1	**Limonal**	2.14	110	*e*P	Pn	**01 32 18.7**	**+1.2**
GUAB	**Guayabo de Bag**	2.16	110	*e*P	Pn	**01 32 16.7**	**-0.9**
VSM	**San Miguel**	2.18	334	*e*P	Pn	**01 32 18.6**	**+0.5**
VSM	**San Miguel**	2.18	334	*e*P	Pn	**01 32 18.6**	**+0.5**
RANC	**El Ranchito**	2.19	334	*e*P	Pn	**01 32 17.7**	**-0.5**
RANC	**El Ranchito**	2.19	334	*e*P	Pn	**01 32 17.7**	**-0.5**
COLC	**Colonia**	2.20	111	*e*P	Pn	**01 32 18.8**	**+0.6**
HORNC	**Hornillas**	2.21	109	*e*P	Pn	**01 32 17.7**	**-0.6**
PACA	**Pacayal**	2.24	334	*e*P	Pn	**01 32 18.3**	**-0.5**
PACA				*e*S	Sn	**01 32 45.8**	**+0.5**
PACA				IAML		01 33 06.2	
	comp=Z,4μm,0.4s						
PACA	**Pacayal**	2.24	334	*e*P	Pn	**01 32 18.3**	**-0.5**
PACA				*e*S	Sn	**01 32 45.8**	**+0.5**
PACA				IAML		01 33 06.2	
	comp=Z,4μm,0.4s						
PACA	**Pacayal**	2.24	334	*e*P	Pn	**01 32 19.5**	**+0.7**
COEB	**Comit de Eme**	2.36	329	*e*P	Pn	**01 32 20.1**	**-0.4**
COEB	**Comit de Eme**	2.36	329	*e*P	Pn	**01 32 20.1**	**-0.4**
ACAL	**Aguas Claras**	2.37	110	*e*P	Pn	**01 32 22.9**	**+2.4**
PTEN	**Parque Tenorio**	2.38	108	*e*P	Pn	**01 32 20.1**	**-0.6**
VERA	**Finca Concepci**	2.46	104	*e*P	Pn	**01 32 21.1**	**-0.6**
JTS	**Las Juntas de**	2.58	116		Pn	**01 32 23.5**	**+0.1**
TGUH	**Tegucigalpa,Un**	2.59	1		Pn	**01 32 24.3**	**+0.7**
TGUH	**Tegucigalpa,Un**	2.59	1	*e*P	Pn	**01 32 23.6**	**0.0**
TGUH	**Tegucigalpa,Un**	2.59	1	*e*P	Pn	**01 32 23.6**	**0.0**
TGUH	**Tegucigalpa,Un**	2.59	1	*e*P	Pn	**01 32 24.6**	**+1.0**
COEG	**Centro de Oper**	2.65	324	*e*P	Pn	**01 32 24.3**	**-0.1**
COEG	**Centro de Oper**	2.65	324	*e*P	Pn	**01 32 24.3**	**-0.1**
CASO	**Castillo**	2.71	112	*e*P	Pn	**01 32 26.6**	**+1.3**
CEDE	**Laguna Cedeo**	2.72	110	*e*P	Pn	**01 32 27.8**	**+2.4**
PAVA	**Las Pavas**	2.76	325	*e*P	Pn	**01 32 24.9**	**-1.0**
PAVA				IAML		01 33 17.8	
	comp=Z,217nm,0.5s						
PAVA	**Las Pavas**	2.76	325	*e*P	Pn	**01 32 24.9**	**-1.0**
PAVA				IAML		01 33 17.8	
	comp=Z,217nm,0.5s						
FORC	**Fortuna**	2.76	111	*e*P	Pn	01 32 31.4	+5.5
LFRS	**El Faro**	2.76	322	*e*P	Pn	**01 32 25.6**	**-0.4**
LFRS				*e*S	Sn	**01 32 57.6**	**-0.6**
LFRS	**El Faro**	2.76	322	*e*P	Pn	**01 32 25.6**	**-0.4**
LFRS				*e*S	Sn	**01 32 57.6**	**-0.6**
P5NO	**Presa 5 de nov**	2.89	331	*e*P	Pn	**01 32 27.7**	**0.0**
COVE	**Coope Vega, Sa**	2.93	104		Pn	**01 32 28.1**	**-0.1**
JAYA	**Jayaque - finc**	3.03	316	*e*P	Pn	**01 32 27.9**	**-1.8**
JAYA	**Jayaque - finc**	3.03	316	*e*P	Pn	**01 32 27.9**	**-1.8**
CEVE	**Cerro Verde**	3.27	316	*e*P	Pn	**01 32 33.5**	**+0.3**
CEVE				IAML		01 33 22.0	
	comp=Z,495nm,0.4s						
CEVE	**Cerro Verde**	3.27	316	*e*P	Pn	**01 32 33.5**	**+0.3**
CEVE				IAML		01 33 22.0	
	comp=Z,495nm,0.4s						
NUBE	**Las Nubes**	3.43	315	*e*P	Pn	**01 32 34.8**	**-0.5**
NUBE	**Las Nubes**	3.43	315	*e*P	Pn	**01 32 34.8**	**-0.5**
MTO3	**Montecristo**	3.55	326		Pn	**01 32 37.7**	**+0.7**
MTO3	**Montecristo**	3.55	326	*e*P	Pn	**01 32 37.1**	**+0.1**
MTO3	**Montecristo**	3.55	326	*e*P	Pn	**01 32 37.1**	**+0.1**
ESQU	**Esquipulas**	3.67	327		Pn	**01 32 42.6**	**+3.4**
CVTR	**Volcan Turrial**	3.76	112		Pn	**01 32 41.0**	**+1.0**
RIMA	**Rio Macho**	3.77	116		Pn	**01 32 40.5**	**+0.6**
CDM	**Cerro de Muert**	3.96	118	*e*P	Pn	**01 32 42.5**	**-0.3**
BATAN	**Batan**	4.08	109		Pn	**01 32 46.4**	**+2.3**
PEZE	**Perez Zeledon,**	4.11	120		Pn	**01 32 44.4**	**-0.2**
SRBA	**San Rafael, Bu**	4.46	119	Pn	Pn	**01 32 49.4**	**0.0**
DRK0	**Durika**	4.54	118		Pn	**01 32 52.7**	**+2.2**
CMIG	**Matias Romero**	9.24	308	Pn	Pn	**01 33 56.0**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=152,slow=9.3,SNR=11						
	comp=Z,3.9nm,0.3s						
ROSC	**El Rosal**	14.42	116	Pn	**P**	**01 35 12.1**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=293,slow=19,SNR=10						
ROSC	**El Rosal**	14.42	116	Pn	**Pn**	**01 35 06.2**	**0.0**
PORT	**Chimborazo Vol**	15.38	146	Pn	**Pn**	**01 35 19.6**	**+0.5**
SDV	**Santo Domingo**	16.60	97	Pn	**Pn**	**01 35 33.2**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=271,slow=5.7,SNR=1.6						
SDV				LR	LR	01 43 22.8	
	comp=Z,115nm,19.1s,baz=278,slow=43						
	comp=Z,11nm,0.7s						
SDV	**Santo Domingo**	16.60	97	Pn	**Pn**	**01 35 32.4**	**-2.0**
BAUV	**El Baul**	19.11	96	P	**P**	**01 36 02.5**	**-1.5**
441A	**DeRidder**	19.96	345	P	**Pn**	**01 36 14.5**	**-0.6**
HKT	**Hockley**	20.04	338		Pn	01 36 15.3	-0.7
344A	**Westbrook Farm**	20.15	351	IAmb	IAmb	01 36 18.3	
	comp=Z,26nm,0.9s						
TIGA	**Tifton**	20.18	9	IAmb	IAmb	01 36 30.4	
	comp=Z,33nm,0.9s						
833A	**Chaparral WMA,**	20.25	328	P	Pn	01 36 17.4	-1.0
833A				IAmb	IAmb	01 36 18.2	
	comp=Z,31nm,1.1s						
ATAH	**Atahualpa**	20.48	154	LR	LR	01 43 23.1	
	comp=Z,182nm,18.9s,baz=341,slow=34						
152A	**Waverly Hall**	21.25	6	P	**P**	**01 36 27.6**	**+0.5**
152A				IAmb	IAmb	01 36 31.4	
	comp=Z,27nm,1.0s						
LRAL	**Lakeview Retre**	21.48	1	P	**P**	**01 36 30.9**	**+1.3**
LRAL				IAmb	IAmb	01 36 33.5	
	comp=Z,30nm,1.4s						
Z47A	**Carrollton**	21.66	358	IAmb	IAmb	01 36 43.4	
	comp=Z,24nm,1.0s						
Z51A	**Franklin**	21.85	5	IAmb	IAmb	01 36 37.0	
	comp=Z,28nm,1.1s						
GOGA	**Godfrey**	22.14	9	P	**P**	**01 36 38.2**	**+1.6**
PCRV	**Puerto La Cruz**	22.29	91	P	**P**	**01 36 37.7**	**-0.9**
	comp=Z,15nm,0.8s,baz=274,slow=2.3,SNR=6.4						
	comp=Z,15nm,0.8s						
Y49A	**Blount Mountai**	22.32	2		**P**	**01 36 39.1**	**+0.5**
Y49A				IAmb	IAmb	01 36 40.0	
	comp=Z,15nm,0.7s						
Y52A	**Lilburn**	22.50	7	IAmb	IAmb	01 36 43.0	
	comp=Z,25nm,1.0s						
Z38A	**Mt. Pleasant**	22.82	343	P	**P**	**01 36 44.9**	**+1.0**
TXAR	**Lajitas Array**	23.44	322	P	**P**	**01 36 50.6**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=137,slow=9.2,SNR=11						
TXAR				PcP	**PcP**	**01 40 37.6**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=146,slow=5.0,SNR=3.9						
	comp=Z,1.7nm,0.6s						
TX31	**

X34A	**Smith Ranch, M**	**24.96**	**339**			**P**	**01 37 06.2**	**+1.9**
FNO	**Franklin**	**25.41**	**340**			**P**	**01 37 08.8**	**+0.5**
T47A	**Sharon Grove**	**25.42**	**0**	IAmb	IAmb		01 37 10.6	
	comp=Z,12nm,0.8s							
WMOK	**Wichita Mounta**	**25.43**	**338**			**P**	**01 37 09.9**	**+1.4**
WMOK				IAmb	IAmb		01 37 18.1	
	comp=Z,20nm,1.4s							
HHAR	**Hobbs**	**25.44**	**347**	P		**P**	**01 37 09.1**	**+0.6**
OK030	**Cody Creek RV**	**25.84**	**342**	IAmb	IAmb		01 37 26.6	
	comp=Z,23nm,1.3s							
OK031	**S. Brethren Rd**	**25.88**	**342**	IAmb	IAmb		01 37 19.7	
	comp=Z,30nm,1.4s							
QUOK	**Quay**	**26.04**	**342**			**P**	**01 37 15.0**	**+1.0**
QUOK				IAmb	IAmb		01 37 23.1	
	comp=Z,17nm,0.9s							
S44A	**Carbondale**	**26.19**	**356**	IAmb	IAmb		01 37 15.3	
	comp=Z,13nm,1.1s							
CCM	**Cathedral Cave**	**26.72**	**353**	P		**P**	**01 37 19.1**	**-1.0**
CCM				IAmb	IAmb		01 37 20.6	
	comp=Z,16nm,1.2s							
CCM	**Cathedral Cave**	**26.72**	**353**	pP		**P**	**01 37 18.3**	**-1.8**
ELIS	**Ellis County**	**26.84**	**338**	IAmb	IAmb		01 37 44.5	
	comp=Z,15nm,0.7s							
OLIL	**Olney**	**27.18**	**359**	P		**P**	**01 37 26.5**	**+2.4**
Q51A	**Peebles**	**27.68**	**7**	IAmb	IAmb		01 37 30.2	
	comp=Z,11nm,0.8s							
P38A	**Dawn**	**28.60**	**350**	IAmb	IAmb		01 37 36.5	
	comp=Z,12nm,1.1s							
ANMO	**Albuquerque**	**29.16**	**326**	P		**P**	**01 37 44.4**	**+2.2**
	comp=Z,2.2nm,1.0s,baz=153,slow=6.3,SNR=4.5							
	comp=Z,2.2nm,1.0s							
ANMO	**Albuquerque**	**29.16**	**326**	P		**P**	**01 37 44.3**	**+2.2**
ANMO	**Albuquerque**	**29.16**	**326**	pP		**P**	**01 37 45.0**	**+2.8**
ETMB	**Extrema**	**29.76**	**134**	P		**P**	**01 37 48.7**	**+1.2**
ETMB				IAmb	IAmb		01 37 50.6	
	comp=Z,10nm,0.7s							
TUC	**Tucson**	**29.97**	**317**	pP		**P**	**01 37 46.5**	**-2.7**
PV11	**David Mesa, Pa**	**32.96**	**328**	P		**P**	**01 38 17.1**	**+1.4**
PV11				IAmb	IAmb		01 38 18.8	
	comp=Z,6.4nm,0.8s							
ECSD	**EROS Data Cent**	**33.16**	**348**	IAmb	IAmb		01 38 31.2	
	comp=Z,8.0nm,1.1s							
G40A	**Rib Lake**	**33.79**	**356**	IAmb	IAmb		01 38 36.9	
	comp=Z,12nm,1.2s							
SADO	**Sadowa**	**33.93**	**10**	P		**P**	**01 38 22.6**	**-1.1**
	comp=Z,3.6nm,0.5s,baz=258,slow=12,SNR=4.4							
SADO				LR	LR		01 53 08.3	
	comp=Z,87nm,18.2s,baz=192,slow=38							
	comp=Z,3.6nm,0.5s							
COWI	**Conover**	**34.56**	**358**	IAmb	IAmb		01 38 28.1	
	comp=Z,5.3nm,0.8s							
VILB	**Vilhena**	**36.21**	**131**	P		**P**	**01 38 44.3**	**+0.6**
VILB				IAmb	IAmb		01 38 45.3	
	comp=Z,15nm,0.9s							
PDAR	**Pinedale Array**	**36.72**	**332**	P		**P**	**01 38 47.4**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=125,slow=7.8,SNR=5.7							
	comp=Z,1.0nm,0.6s							
SNOW	**Snow King Moun**	**37.81**	**332**	P		**P**	**01 38 58.8**	**+1.4**
SNOW				IAmb	IAmb		01 38 59.0	
	comp=Z,6.2nm,0.8s							
NVAR	**Mina Array Bea**	**38.55**	**320**	P		**P**	**01 39 05.2**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=134,slow=6.4,SNR=2.3							
NVAR				PcP		**PcP**	**01 41 17.8**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=134,slow=3.9,SNR=5.7							
	comp=Z,0.3nm,0.5s							
PTLB	**Pontes e Lacer**	**38.63**	**133**	IAmb	IAmb		01 39 05.6	
	comp=Z,5.7nm,1.0s							
ULM	**Lac du Bonnet**	**39.32**	**351**	P		**P**	**01 39 07.0**	**-2.6**
	comp=Z,5.1nm,0.8s,baz=164,slow=7.5,SNR=4.8							
	comp=Z,5.1nm,0.8s							
RPN	**Rapa Nui**	**43.91**	**209**	LR	LR		01 53 10.8	
	comp=Z,90nm,20.0s,baz=155,slow=29							
HOOD	**Mount Hood Mea**	**44.70**	**326**	P		**P**	**01 39 55.9**	**+2.1**
HOOD				IAmb	IAmb		01 40 00.3	
	comp=Z,11nm,1.1s							
SCHQ	**Schefferville**	**46.19**	**16**	P		**P**	**01 40 03.1**	**-2.1**
	comp=Z,2.6nm,0.8s,baz=254,slow=7.4,SNR=1.6							
SCHQ				LR	LR		02 01 00.3	
	comp=Z,100nm,18.2s,baz=146,slow=38							
	comp=Z,2.6nm,0.8s							
BDFB	**Brasilia**	**47.30**	**124**	P		**P**	**01 40 14.3**	**-0.3**
	comp=Z,7.5nm,0.9s,baz=268,slow=7.4,SNR=7.1							
	comp=Z,7.5nm,0.9s							
ILAR	**Eielson Array**	**66.99**	**336**	P		**P**	**01 42 32.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=145,slow=6.1,SNR=5.2							
	comp=Z,0.5nm,0.8s							
ESDC	**Sonseca Array**	**77.68**	**52**	P		**P**	**01 43 35.2**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=270,slow=5.2,SNR=2.5							
	comp=Z,0.3nm,0.8s							
PZH	**PanZhiHua**	**141.26**	**347**	PKP		**PKPdf**	**01 51 13.0**	**+1.1**
PZH				PKP			01 57 15.0	
CMAR	**Chiang Mai Arr**	**149.65**	**348**	PKPbc		**PKPbc**	**01 51 31.2**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=339,slow=3.7,SNR=11							

MOS ***04*** *01:33:23.9±0.9, 52°.00N×175°.25E, h30km, mb5.0/43, Error ellipse: s-maj=9.5km s-min=5.7km az=113.1*
BJI ***04*** *01:33:26.1±0.0, 52°.30N×175°.08E, h45km, mb4.8/36, mB4.9/19, Ms4.4/7, Ms7 4.1/7*
IDC ***04*** *01:33:27.0±1.9, 51°.96N×175°.37E, h45km±15km, mb4.0/29, mbtmp4.3/33, ML4.3/4, MS3.8/43, Error ellipse: s-maj=16.8km s-min=10.1km az=170.0*
AEIC ***04*** *01:33:26±1.9, 51°.8N±0°.1×175°.22E±0°.08, h24km±5km, Error ellipse: s-maj=16.4km s-min=5.9km az=197.0*
NEIC ***04*** *01:33:27.3±1.0, 51°.9N±0°.1×175°.25E±0°.09, h44km±8km, mb4.5/132, ML4.3/20(AEIC), Error ellipse: s-maj=16.4km s-min=7.1km az=198.0*

ISC 04 01:33:25.1±0.7, 51°.99N±0°.07×175°.28E±0°.03, h27km±4km, n537, σ1s14/478, mb4.6/141, MS3.8/52, 50C-11D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.04**	**316**	P		**Pb**	**01 33 44.6**	**+0.3**
	4μm,0.3s,baz=154,slow=3.9,SNR=573							
SHEM				S		**Sn**	**01 34 00.5**	**+3.1**
	5μm,0.4s,baz=281,slow=17,SNR=7.8							
SMY	**Shemya**	**1.04**	**316**			**Pb**	**01 33 44.4**	**+0.1**
SMY	**Shemya**	**1.04**	**316**	P		**Pb**	**01 33 44.4**	**+0.1**
SMY							01 34 00.9	
LSSA	**Little Sitkin**	**2.00**	**90**			**Pn**	**01 33 58.7**	**+1.6**
LSSA						**Sn**	**01 34 23.0**	**+1.8**
LSNW	**Little Sitkin**	**2.00**	**89**			**Pn**	**01 33 58.6**	**+1.5**
LSSE	**Little Sitkin**	**2.04**	**90**			**Pn**	**01 33 59.5**	**-1.9**
CESW	**Semis' Southwe**	**2.65**	**90**			**Pn**	**01 34 07.3**	**+1.3**
CEPE	**Semis' Perret**	**2.70**	**89**			**Pn**	**01 34 08.8**	**+2.1**
GANO	**Gareloi North**	**3.67**	**90**			**Pn**	**01 34 21.4**	**+1.5**
GANO						**Sn**	**01 35 04.1**	**+1.7**
GALAA	**Gareloi Lava P**	**3.69**	**91**			**Pn**	**01 34 21.8**	**+1.5**
TASE	**Tanaga Southea**	**4.14**	**90**			**Pn**	**01 34 28.3**	**+1.8**
TAFP	**Tanaga Falls P**	**4.17**	**89**			**Pn**	**01 34 28.3**	**+1.4**
TAFP						**Sn**	**01 35 15.6**	**+1.0**
TAPA	**Tanaga Point A**	**4.28**	**90**			**Pn**	**01 34 30.1**	**+1.7**
KIMD	**Kanaga Island**	**4.64**	**90**			**Pn**	**01 34 35.2**	**+1.8**
KIKV	**Kanaga Island**	**4.67**	**88**			**Pn**	**01 34 35.7**	**+1.9**
KIWB	**Kanaga Island**	**4.69**	**89**			**Pn**	**01 34 35.9**	**+2.0**
ADK	**Adak**	**4.97**	**88**	Pn		**Pn**	**01 34 39.6**	**+1.7**
ADK	**Adak**	**4.97**	**88**	P		**Pn**	**01 34 39.6**	**+1.7**
GSCK	**Great Sitkin C**	**5.29**	**86**			**Pn**	**01 34 45.9**	**+3.7**
GSTR	**Great Sitkin T**	**5.35**	**85**	Pn		**Pn**	**01 34 46.7**	**+3.7**
NIKH	**Nikolski High**	**9.73**	**78**	P		**Pn**	**01 35 47.2**	**+4.1**
	baz=270							
SPIA	**Saint Paul Isl**	**9.87**	**53**	P		**Pn**	**01 35 48.2**	**+3.2**
	baz=244							
PET	**Petropavlovsk**	**10.19**	**282**	*e*P		**Pn**	**01 35 49.3**	**-0.1**
PET				*e*S		**Sn**	**01 37 37.1**	**-5.6**
PET				pmax	pmax			
	comp=Z,18nm,1.3s							
PET				MLR	MLR			
	comp=Z,200nm,18.0s							
PEA0B	**Petropavlovsk-**	**10.77**	**283**	Pn		**Pn**	**01 35 58.0**	**+0.6**
PEA0B	**Petropavlovsk-**	**10.77**	**283**	*i* P		**Pn**	**01 35 57.9**	**+0.6**
PETK	**Petropavlovsk-**	**10.77**	**283**	P		**Pn**	**01 35 58.6**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=97,slow=17,SNR=30							
PETK				S		**Sn**	**01 37 52.5**	**-4.3**
	comp=Z,3.5nm,0.4s,baz=81,slow=38,SNR=7.4							
	comp=Z,20nm,1.0s							
PETK	**Petropavlovsk-**	**10.77**	**283**	Pn		**Pn**	**01 35 58.2**	**+0.9**
PETK	**Petropavlovsk-**	**10.77**	**283**	P		**Pn**	**01 35 58.2**	**+0.9**
UNV	**Unalaska Valle**	**11.15**	**73**	P		**Pn**	**01 36 06.2**	**+3.6**
	baz=267							
SDPT	**Sand Point**	**14.73**	**67**	P		**Pn**	**01 36 54.2**	**+2.9**
	baz=266							
MA2	**Magadan**	**15.67**	**309**	P		**Pn**	**01 37 05.4**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=106,slow=8.7,SNR=17							
MA2				LR	LR		01 43 24.0	
	comp=Z,353nm,18.4s,baz=117,slow=38							
	comp=Z,14nm,0.9s							
MA2	**Magadan**	**15.67**	**309**	Pn		**Pn**	**01 37 03.4**	**-0.4**
MA2	**Magadan**	**15.67**	**309**	*i* P		**Pn**	**01 37 03.8**	**+0.1**
MA2				pmax	pmax			
	comp=Z,15nm,0.9s							
SEY	**Seymchan**	**16.38**	**321**	P		**P**	**01 37 15.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=121,slow=11,SNR=9.8							
	comp=Z,3.5nm,0.8s							
SEY	**Seymchan**	**16.38**	**321**	*i* P		**Pn**	**01 37 12.7**	**0.0**
SEY				pmax	pmax			
	comp=Z,3.0nm,0.9s							
N16K	**Nishlik Lake**	**16.64**	**49**	P		**Pn**	**01 37 16.8**	**+0.6**
	baz=251							
BILL	**Bilibino**	**16.68**	**348**	*e*P		**Pn**	**01 37 16.5**	**-0.1**
BILL				pmax	pmax			
	comp=Z,12nm,1.0s							
BILL				MLR	MLR			
	comp=Z,398nm,19.0s							
O16K	**Kokwok River B**	**16.70**	**52**	P		**Pn**	**01 37 17.8**	**+0.9**
	baz=254							
R17K	**Ugashik Creek**	**17.20**	**60**	P		**P**	**01 37 25.3**	**+0.7**
	baz=263							
Q16K	**King Salmon**	**17.22**	**56**	P		**P**	**01 37 25.2**	**+0.5**
	baz=259							
O17K	**Koliganek Bris**	**17.24**	**52**	P		**P**	**01 37 24.8**	**-0.2**
	baz=255							
CHIR	**Chirikof Islan**	**17.50**	**66**	P		**P**	**01 37 29.4**	**+1.5**
	baz=269							
N18K	**Kilae Creek**	**18.06**	**50**			**Pn**	**01 37 34.0**	**+0.3**
N18K	**Kilae Creek**	**18.06**	**50**	P		**P**	**01 37 35.9**	**+1.9**
	baz=254							
O18K	**Koktuh Hills**	**18.18**	**53**	P		**P**	**01 37 35.6**	**+0.2**
O18K				IAmb	IAmb		01 37 51.8	
	comp=Z,47nm,0.8s							
O18K	**Koktuh Hills**	**18.18**	**53**	P		**Pn**	**01 37 34.9**	**-0.4**
	baz=257							
SVW2	**Sparrevohn**	**18.32**	**49**	P		**P**	**01 37 38.3**	**+1.4**
SVW2				IAmb	IAmb		01 37 51.3	
	comp=Z,20nm,0.6s							
TTA	**Tatalina**	**18.75**	**43**	P		**Pn**	**01 37 42.8**	**+0.6**
TTA	**Tatalina**	**18.75**	**43**	P		**Pn**	**01 37 42.8**	**+0.6**
TTA				pmax	pmax			
	comp=Z,21nm,1.0s							
TTA	**Tatalina**	**18.75**	**43**	P		**P**	**01 37 41.9**	**+0.3**
	baz=247,SNR=7.8							
N19K	**Bonanza Creek**	**18.76**	**50**	P		**Pn**	**01 37 44.4**	**+2.0**
N19K				IAmb	IAmb		01 37 54.3	
	comp=Z,28nm,0.6s							
N19K	**Bonanza Creek**	**18.76**	**50**	P		**Pn**	**01 37 42.6**	**+0.2**
	baz=255							
Q19K	**Cape Douglas,**	**18.80**	**56**	P		**Pn**	**01 37 43.5**	**+0.6**
Q19K	**Cape Douglas,**	**18.80**	**56**	P		**Pn**	**01 37 43.0**	**+0.1**
	baz=262							
OHAK	**Old Harbor**	**18.83**	**61**	P		**Pn**	**01 37 43.9**	**+0.8**
OHAK				IAmb	IAmb		01 37 55.2	
	comp=Z,22nm,0.7s							
OHAK	**Old Harbor**	**18.83**	**61**	P		**P**	**01 37 42.4**	**-0.1**
	baz=267							
L19K	**White Mountain**	**18.98**	**46**	P		**Pn**	**01 37 45.9**	**+0.9**
L19K	**White Mountain**	**18.98**	**46**	P		**Pn**	**01 37 45.1**	**+0.2**
	baz=251							
M19K	**Big River Lodg**	**19.10**	**47**	P		**Pn**	**01 37 47.8**	**+1.4**
M19K	**Big River Lodg**	**19.10**	**47**	P		**P**	**01 37 46.0**	**+0.5**
	baz=252							
P19K	**Oil Pt**	**19.13**	**54**	P		**P**	**01 37 45.2**	**-0.6**
	baz=260							
GCSA	**Galena City Sc**	**19.18**	**38**	P		**P**	**01 37 45.9**	**-0.4**
	baz=241							
ILSW	**Iliamna Southw**	**19.23**	**53**	P		**Pn**	**01 37 48.3**	**+0.2**
ILSW				IAmb	IAmb		01 38 03.2	
	comp=Z,20nm,0.8s							
KDAK	**Kodiak Island**	**19.24**	**60**	P		**P**	**01 37 47.0**	**0.0**
	comp=Z,5.0nm,0.3s,baz=239,slow=1.6,SNR=64							
KDAK				S		**Sn**	**01 41 16.5**	**-6.2**
	comp=Z,14nm,1.2s,baz=140,slow=18,SNR=1.9							
	comp=Z,22nm,0.5s							
KDAK	**Kodiak Island**	**19.24**	**60**	P		**P**	**01 37 47.6**	**+0.6**
KDAK				IAmb	IAmb		01 37 55.3	
	comp=Z,58nm,1.1s							
KDAK	**Kodiak Island**	**19.24**	**60**	*i* P		**Pn**	**01 37 48.1**	**0.0**
KDAK				pmax	pmax			
	comp=Z,54nm,1.0s							
KDAK	**Kodiak Island**	**19.24**	**60**	P		**P**	**01 37 46.8**	**-0.2**
	baz=266							
RDOG	**Red Dog Mine**	**19.25**	**25**	P		**P**	**01 37 46.0**	**-1.1**
	baz=224							
Q20K	**Shuyak Island**	**19.41**	**57**	P		**P**	**01 37 49.3**	**+0.5**
	baz=264							
O20K	**Slope Mountain**	**19.50**	**53**	P		**P**	**01 37 50.7**	**+0.8**
	baz=260							
L20K	**Farewell, AK**	**19.51**	**45**	P		**Pn**	**01 37 51.7**	**+0.4**
	baz=251,SNR=6.2							
M20K	**Styx River**	**19.67**	**47**	P		**P**	**01 37 52.8**	**+1.0**
	baz=254							
K20K	**Telida**	**19.72**	**43**	IAmb	IAmb		01 37 59.1	
	comp=Z,14nm,0.8s							
K20K	**Telida**	**19.72**	**43**	P		**P**	**01 37 53.2**	**+1.0**
	baz=249,SNR=8.6							
HOM	**Homer**	**19.92**	**54**	P		**Pn**	**01 37 55.9**	**-0.3**
	baz=262							
N20K	**Mount Spurr**	**19.93**	**50**	P		**Pn**	**01 37 56.1**	**-0.2**
	baz=257							
SPCR	**Spurr Chakacha**	**19.93**	**50**	P		**Pn**	**01 37 56.1**	**-0.2**
	baz=257							
SPU	**Mount Spurr**	**20.00**	**50**	P		**Pn**	**01 37 57.0**	**-0.1**
J20K	**Nowinta River**	**20.00**	**41**	P		**P**	**01 37 56.3**	**+1.1**
J20K	**Nowinta River**	**20.00**	**41**	P		**Pn**	**01 37 56.9**	**-0.2**
	baz=247,SNR=34							
TYV	**Tymovskoe**	**20.29**	**280**	*e*P		Pn	01 38 09.3	+8.8
TYV				*e*S		Sn	01 42 04.9	+17
TYV				pmax	pmax			
	comp=Z,13nm,1.0s							
TYV				pmax	pmax			
	comp=Z,100nm,6.8s							
TYV				smax	smax			
	comp=N,200nm,6.7s							
TYV				smax	smax			
	comp=E,300nm,6.7s							
PPLA	**Purkeypile**	**20.38**	**45**	IAmb	IAmb		01 38 15.0	
	comp=Z,46nm,1.2s							
PPLA	**Purkeypile**	**20.38**	**45**	P	Pn		01 38 01.0	-0.7
	baz=252,SNR=5.4							
BRSE	**Bradley Lake S**	**20.39**	**54**	P		**P**	**01 38 00.4**	**+0.9**
	baz=262							
SKT	**Skwentna**	**20.43**	**48**	IAmb	IAmb		01 38 19.0	
	comp=Z,20nm,1.0s							
SKT	**Skwentna**	**20.43**	**48**	P		**P**	**01 38 00.9**	**+1.1**
	baz=256,SNR=5.9							
CAST	**Castle Rocks**	**20.59**	**44**	P	Pn		01 38 03.3	-0.7
	baz=251,SNR=16							
CHUM	**Lake Minchumin**	**20.64**	**42**	P		**P**	**01 38 03.4**	**+1.2**
	baz=250,SNR=7.0							
SUA	**Susitna One**	**20.67**	**49**	IAmb	IAmb		01 38 27.2	
	comp=Z,19nm,1.1s							
SUA	**Susitna One**	**20.67**	**49**	P		**P**	**01 38 04.0**	**+1.3**
	baz=258,SNR=7.2							
IMAR	**Indian Mountai**	**20.92**	**36**	P		**P**	**01 38 06.2**	**+1.0**
SEW	**Seward**	**21.08**	**54**	P		**P**	**01 38 08.1**	**+1.2**
	baz=263							
KTH	**Kantishna Hill**	**21.12**	**44**	IAmb	IAmb		01 38 20.8	
	comp=Z,35nm,0.9s							
H21K	**Melozitna Rive**	**21.13**	**37**	IAmb	IAmb		01 38 20.4	
	comp=Z,32nm,1.4s							
H21K	**Melozitna Rive**	**21.13**	**37**	P		**P**	**01 38 07.8**	**+0.4**
	baz=245							
I21K	**Tanana**	**21.25**	**39**	P		**P**	**01 38 08.8**	**0.0**
I21K				IAmb	IAmb		01 38 21.7	
	comp=Z,21nm,1.0s							
I21K	**Tanana**	**21.25**	**39**	P		**P**	**01 38 08.7**	**0.0**
	baz=247,SNR=5.7							
G21K	**Allakaket**	**21.26**	**35**	P		**P**	**01 38 09.6**	**+0.8**
	baz=242,SNR=8.6							
BPAW	**Bear Paw Mtn.**	**21.27**	**42**	IAmb	IAmb		01 38 22.1	
	comp=Z,26nm,1.3s							
BPAW	**Bear Paw Mtn.**	**21.27**	**42**	P		**P**	**01 38 09.8**	**+0.8**
	baz=251							
TRF	**Thorofare Moun**	**21.36**	**44**	IAmb	IAmb		01 38 34.9	
	comp=Z,21nm,1.0s							
TRF	**Thorofare Moun**	**21.36**	**44**	P		**P**	**01 38 10.7**	**+0.6**
	baz=253							
F21K	**Alatna River**	**21.61**	**33**	P		**P**	**01 38 13.5**	**+1.0**
	baz=240,SNR=27							
YSS	**Yuzh-Sakhalins**	**21.61**	**269**	P		**P**	**01 38 12.7**	**-0.1**
YSS				IAmb	IAmb		01 38 17.7	
	comp=Z,18nm,0.9s							
YSS	**Yuzh-Sakhalins**	**21.61**	**269**	*e*P		**P**	**01 38 14.4**	**+1.7**
YSS				*e*S		**S**	**01 42 08.0**	**-2.6**
YSS				pmax	pmax			
	comp=Z,100nm,3.2s							
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS				MLR	MLR			
	comp=Z,200nm,14.0s							
MLY	**Manley**	**21.68**	**40**	IAmb	IAmb		01 38 27.8	
	comp=Z,30nm,1.2s							
MLY	**Manley**	**21.68**	**40**	P		**P**	**01 38 14.5**	**+1.1**
	baz=249,SNR=13							
PWL	**Port Wells**	**21.72**	**52**	IAmb	IAmb		01 38 30.6	
	comp=Z,21nm,0.7s							
PWL	**Port Wells**	**21.72**	**52**	P		**P**	**01 38 13.2**	**-0.6**
	baz=262							
KNK	**Knik Glacier**	**21.75**	**50**	P		**P**	**01 38 13.9**	**-0.2**
	baz=261							
H22K	**Ishtalitna Cre**	**21.76**	**38**	P		**P**	**01 38 13.4**	**-0.9**
	baz=246							
SML	**Sawmill**	**21.87**	**49**	IAmb	IAmb		01 38 32.9	
	comp=Z,19nm,0.9s							
SML	**Sawmill**	**21.87**	**49**	P		**P**	**01 38 17.2**	**+1.7**
	baz=260,SNR=6.3							
WAT1	**Susitna Watana**	**21.97**	**46**	P		**P**	**01 38 15.3**	**-1.3**
	baz=257							
MCK	**McKinley**	**22.02**	**44**	P		**P**	**01 38 17.7**	**+0.6**
MCK				IAmb	IAmb		01 38 41.6	
	comp=Z,18nm,1.2s							
MCK	**McKinley**	**22.02**	**44**	P		**P**	**01 38 17.7**	**+0.6**
MCK				pmax	pmax			
	comp=Z,18nm,1.2s							
MCK	**McKinley**	**22.02**	**44**	P		**P**	**01 38 18.7**	**+1.6**
	baz=254							
P23K	**Montague Islan**	**22.09**	**54**	P		**P**	**01 38 17.2**	**-0.6**
	baz=265							
G22K	**Bettles**	**22.15**	**35**	P		**P**	**01 38 16.4**	**-1.9**
	baz=244							
M23K	**Glacier View**	**22.15**	**49**	P		**P**	**01 38 18.7**	**+0.3**
	baz=260							
F22K	**John River**	**22.18**	**33**	P		**P**	**01 38 18.3**	**-0.5**
	baz=242							
NEA2	**Nenana**	**22.21**	**42**	IAmb	IAmb		01 38 23.6	
	comp=Z,9.7nm,0.7s							
NEA2	**Nenana**	**22.21**	**42**	P		**P**	**01 38 20.8**	**+1.8**
	baz=252,SNR=16							
I23K	**Minto, Yukon-K**	**22.27**	**40**	P		**P**	**01 38 18.8**	**-0.8**
	baz=251							
WAT6	**Susitna Watana**	**22.29**	**47**	P		**P**	**01 38 19.1**	**-0.9**
	baz=258							
GLI	**Glacier Island**	**22.33**	**52**	IAmb	IAmb		01 38 29.4	
	comp=Z,11nm,0.7s							
GLI	**Glacier Island**	**22.33**	**52**	P		**P**	**01 38 17.2**	**-3.1**
	baz=263,SNR=6.0							
SCM	**Sheep Creek Mo**	**22.34**	**49**	IAmb	IAmb		01 38 48.8	
	comp=Z,20nm,1.0s							
SCM	**Sheep Creek Mo**	**22.34**	**49**	P		**P**	**01 38 18.8**	**-1.8**
	baz=261							
H23K	**Yukon River**	**22.43**	**38**	P		**P**	**01 38 22.5**	**+1.0**
	baz=249							
DHY	**Denali Highway**	**22.55**	**46**	P		**P**	**01 38 22.9**	**0.0**
	baz=258							
G23K	**Bananza Creek**	**22.59**	**36**	P		**P**	**01 38 23.6**	**+0.4**
	baz=246,SNR=8.6							
E22K	**Anaktuvuk Pass**	**22.61**	**32**	P		**P**	**01 38 23.2**	**-0.1**
	baz=241							
FID	**Port Fidalgo**	**22.61**	**52**	IAmb	IAmb		01 38 50.9	
	comp=Z,33nm,1.5s							
MDM	**Murphy Dome**	**22.67**	**41**	P		**P**	**01 38 24.2**	**+0.3**
MDM				IAmb	IAmb		01 38 36.3	
	comp=Z,20nm,1.1s							
COLD	**Coldfoot**	**22.74**	**35**	P		**P**	**01 38 23.7**	**-1.0**
	baz=245,SNR=6.5							
M24K	**Tolsona, Glenn**	**22.93**	**49**	P		**P**	**01 38 27.4**	**+0.7**
	baz=261							
EYAK	**Cordova Ski Ar**	**22.95**	**53**	P		**P**	**01 38 28.2**	**+1.3**
	baz=265							
KLU	**Klutina**	**22.96**	**50**	P		**P**	**01 38 27.8**	**+0.7**
	baz=263							
POKR	**Poker Plat Res**	**23.04**	**41**	P		**P**	**01 38 29.1**	**+1.3**
	baz=253							
HDA	**Harding Lake**	**23.05**	**43**	P		**P**	**01 38 27.7**	**-0.2**
	baz=255							
H24K	**Noodor Dome**	**23.08**	**39**	P		**P**	**01 38 28.8**	**+0.5**
	baz=251							
ILAR	**Eielson Array**	**23.16**	**42**	P		**P**	**01 38 27.5**	**-1.5**
	comp=Z,2.4nm,0.7s,baz=254,slow=9.0,SNR=24							
ILAR				PcP		**PcP**	**01 42 15.2**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=254,slow=3.2,SNR=3.8							
ILAR				LR	LR		01 48 00.5	
	comp=Z,173nm,19.1s,baz=256,slow=38							
	comp=Z,2.4nm,0.7s							
ILAR	**Eielson Array**	**23.16**	**42**	P		**P**	**01

comp=Z,14nm,0.9s
M26K Nabesna, AK 24.44 49 P **P 01 38 41.0 -0.2**
baz=264
J26L Joseph Creek 24.50 43 IAmb IAmb 01 38 56.0
comp=Z,8.3nm,0.8s
J26L Joseph Creek 24.50 43 P **P 01 38 41.5 -0.3**
baz=259,SNR=10
F25K Christian Rive 24.51 36 P **P 01 38 41.8 -0.1**
baz=250
E25K Arctic Village 24.72 34 P **P 01 38 44.8 +1.1**
baz=249,SNR=8.6
MESA MESA 24.83 54 P **P 01 38 45.4 +0.5**
baz=270
I26K Coal Creek Min 24.83 42 P **P 01 38 45.2 +0.5**
baz=258
BMAR Burnt Mountain 24.84 36 P **P 01 38 45.9 +1.1**
D25K Kavik River 24.92 32 P **P 01 38 46.2 +0.7**
baz=245
YAH Yahtse 24.93 53 IAmb IAmb 01 39 00.4
comp=Z,11nm,0.8s
M27K Edge Creek, AK 24.95 49 IAmb IAmb 01 39 02.2
comp=Z,9.8nm,0.9s
M27K Edge Creek, AK 24.95 49 P **P 01 38 47.2 +1.2**
baz=265,SNR=6.2
G26K Porcupine Rive 24.99 38 P **P 01 38 46.9 +0.8**
baz=253,SNR=11
L27K Beaver Creek, 25.04 47 P **P 01 38 47.6 +0.9**
baz=264,SNR=7.7
K27K Chicken 25.06 45 P **P 01 38 47.2 +0.5**
baz=261
BCAR Beaver Creek A 25.06 47 P **P 01 38 48.0 +1.1**
F26K Sheenjek River 25.09 36 P **P 01 38 47.8 +0.9**
baz=251,SNR=6.8
CTG Chitna Glacier 25.14 52 P **P 01 38 47.8 +0.2**
baz=269
CTGM Chitina Glacie 25.14 52 IAmb IAmb 01 39 00.3
comp=Z,8.9nm,0.8s
TABL Table Mountain 25.23 53 IAmb IAmb 01 39 10.9
comp=Z,14nm,0.8s
LOGN Logan Glacier 25.30 52 IAmb IAmb 01 39 12.8
comp=Z,16nm,1.2s
I27K Kandik River 25.52 41 P **P 01 38 52.7 +1.7**
baz=259
EGAK Eagle 25.57 43 P **P 01 38 51.7 +0.4**
baz=261,SNR=5.7
YUK3 Moose Creek 25.59 50 P **P 01 38 52.6 +0.8**
baz=268
PINM Pinnacle 25.68 54 P **P 01 38 52.5 +0.1**
baz=271
H27K Steamboat Moun 25.69 40 P **P 01 38 52.8 +0.3**
baz=257
O28M Mount Upton 25.70 53 P **P 01 38 53.5 +0.5**
baz=270,SNR=13
G27K Doyon Strip 25.77 38 P **P 01 38 53.6 +0.4**
baz=256
C27K Jago River 25.90 32 P **P 01 38 54.5 +0.1**
baz=248
BCPM Bancas Point 25.99 54 IAmb IAmb 01 39 09.3
comp=Z,21nm,1.0s
PNL Peninsula 26.13 55 P **P 01 38 56.4 -0.1**
baz=273
E27K Coleen River 26.15 35 P **P 01 38 57.2 +0.6**
baz=253
YAK Yakutsk 26.23 310 P **P 01 38 56.9 -0.4**
comp=Z,55nm,0.8s,baz=258,slow=3.2,SNR=19
YAK LR LR 01 49 07.7
comp=Z,122nm,20.5s,baz=92,slow=36
YAK Yakutsk 26.23 310 P **P 01 38 56.6 -0.7**
YAK Yakutsk 26.23 310*c i*P **P 01 38 57.0 -0.4**
YAK *e**PP **sP 01 39 07.9 -0.3**
YAK *e* 01 39 36.6
YAK *e* 01 42 23.3
YAK *e*S **S 01 43 26.8 -0.8**
YAK pmax pmax
comp=Z,111nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,10.0nm,0.4s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,22nm,1.5s
YAK smax smax
comp=E,97nm,4.6s
YAK smax smax
comp=N,42nm,2.5s
DAWY Dawson 26.23 45 P **P 01 38 57.6 +0.1**
baz=264
YUK4 Talbot Arm 26.45 51 P **P 01 38 59.5 -0.1**
baz=270
O29M Mount Kennedy 26.51 54 P **P 01 38 59.4 -0.6**
baz=272
M29M Somme Creek 26.55 49 P **P 01 39 00.8 +0.4**
baz=268
YUK6 Outpost Mounta 26.59 52 P **P 01 39 01.6 +0.7**
baz=271
P29M Windy Craggy 26.97 55 IAmb IAmb 01 39 19.0
comp=Z,14nm,0.9s
P29M Windy Craggy 26.97 55 P **P 01 39 04.5 +0.4**
baz=274,SNR=5.1
HYT Haines Junctio 27.01 52 IAmb IAmb 01 39 24.4
comp=Z,8.9nm,0.9s
HYT Haines Junctio 27.01 52 P **P 01 39 04.7 +0.1**
baz=272
K29M Barlow Dome 27.04 46 P **P 01 39 05.1 +0.4**
baz=266
N30M Aishikik Lake 27.19 51 P **P 01 39 06.5 +0.4**
baz=271
M30M Minto, Yukon 27.32 48 P **P 01 39 07.0 -0.3**
baz=269
P30M Million Dollar 27.32 54 P **P 01 39 07.4 +0.1**
baz=274
EPYK Eagle Plains 27.62 40 P **P 01 39 09.6 -0.3**
baz=262
PLBC Pleasant Camp 27.68 55 P **P 01 39 10.8 +0.3**
baz=276
G30M tAoh Zraii Nji 27.91 39 P **P 01 39 13.0 +0.6**
baz=262
SKAG Skagway 28.21 55 P **P 01 39 16.0 +0.9**
baz=276
TIXI Tiksi 28.30 331 P **P 01 39 15.4 -0.4**
comp=Z,1.2nm,0.4s,baz=90,slow=23,SNR=4.7
TIXI LR LR 01 50 47.0
comp=Z,144nm,18.1s,baz=163,slow=37
comp=Z,1.2nm,0.4s
TIXI Tiksi 28.30 331 *i* P **P 01 39 16.2 +0.4**
TIXI pmax pmax
comp=Z,12nm,2.7s
M31M Drury Creek, Y 28.45 49 P **P 01 39 18.2 +0.9**
baz=272
ZEA Zeya 28.62 293 *i* P **P 01 39 18.1 -0.7**
R32K Eaglecrest 28.79 57 P **P 01 39 21.0 +0.6**
baz=279
F31M Tsiigehtchic 28.92 38 P **P 01 39 21.4 +0.1**
baz=263
FARO Faro, Yukon 28.93 49 P **P 01 39 22.3 +0.7**
baz=273
P32M Atlin 29.01 55 P **P 01 39 22.8 +0.5**
baz=278
INK Inuvik 29.11 37 P **P 01 39 22.6 -0.5**
comp=Z,2.8nm,0.5s,baz=225,slow=7.1,SNR=6.2
INK LR LR 01 51 54.2
comp=Z,104nm,20.7s,baz=236,slow=38
comp=Z,2.8nm,0.5s
INK Inuvik 29.11 37 P **P 01 39 23.9 +0.8**
baz=262
P33M Teslin, Yukon 29.38 53 P **P 01 39 25.8 +0.2**
baz=277
USA0B Ussuriysk Arra 29.57 272 P **P 01 39 27.8 +0.4**
USA0B IAmb IAmb 01 39 30.2
comp=Z,8.1nm,0.8s
USA0B Ussuriysk Arra 29.57 272 P **P 01 39 27.8 +0.4**
USA0B pmax pmax
comp=Z,8.0nm,0.8s
USRK Ussuriysk Ar. 29.57 272 P **P 01 39 28.0 +0.6**
comp=Z,6.8nm,0.8s,baz=61,slow=12,SNR=5.5
comp=Z,6.8nm,0.8s
MMPY Sheldon Lake, 29.88 48 P **P 01 39 30.8 +0.8**
baz=274
MJAR Matsushiro Arr 30.32 254 P **P 01 39 34.2 +0.1**
comp=Z,1.7nm,0.8s,baz=52,slow=8.2,SNR=6.2
MJAR LR LR 01 52 23.5
comp=Z,15nm,21.3s,baz=42,slow=37
comp=Z,1.7nm,0.8s
MAJO Matsushiro 30.32 254 P **P 01 39 33.9 -0.2**
MAJO IAmb IAmb 01 39 36.2
comp=Z,7.0nm,1.0s
MAJO Matsushiro 30.32 254 *i* P **P 01 39 35.3 +1.2**
MAJO pmax pmax
comp=Z,6.0nm,0.9s
R33M Jennings River 30.42 55 P **P 01 39 36.1 +1.1**
baz=280,SNR=8.8
S34M Telegraph Cree 30.63 57 P **P 01 39 36.5 -0.1**
baz=282
DLBC Dease Lake 31.09 56 LR LR 01 52 34.8
comp=Z,137nm,19.8s,baz=279,slow=37
DLBC Dease Lake 31.09 56 P **P 01 39 39.7 -1.0**
baz=282
T35M Bob Quinn 31.31 59 P **P 01 39 43.1 +0.4**
baz=284
TGTN Hyland Airport 31.40 50 P **P 01 39 43.4 0.0**
baz=278
H11N2 WAKE ISLAND Hy 32.86 195 T T 02 14 31.4
baz=9.7,slow=76,SNR=989
H11N3 WAKE ISLAND Hy 32.87 195 T T 02 14 32.3
baz=9.7,slow=76,SNR=1232
H11N1 WAKE ISLAND Hy 32.88 195 T T 02 14 36.7
baz=9.7,slow=76,SNR=1272
H11S1 WAKE ISLAND Hy 34.09 195 T T 02 16 05.3
baz=9.4,slow=76,SNR=804
H11S3 WAKE ISLAND Hy 34.10 195 T T 02 16 15.0
baz=9.4,slow=76,SNR=843
H11S2 WAKE ISLAND Hy 34.10 195 T T 02 16 23.4
baz=9.4,slow=76,SNR=385
BOD Bodaibo 34.62 304 *e*P **P 01 40 10.3 -1.2**
BOD pmax pmax
comp=Z,27nm,1.1s
KSRS Korea Array 35.98 265 P **P 01 40 24.8 +1.4**
comp=Z,3.6nm,0.8s,baz=55,slow=9.0,SNR=15
KSRS LR LR 01 55 58.7
comp=Z,28nm,18.6s,baz=60,slow=38
comp=Z,3.6nm,0.8s
TJN Taejon 37.01 264*ce*P **P 01 40 32.9 +0.7**
YKA Yellowknife Ar 37.47 46 P **P 01 40 36.3 +0.5**
comp=Z,1.7nm,0.7s,baz=289,slow=12,SNR=1.6
comp=Z,1.7nm,0.7s
XLT XiLinHaoTe 39.47 282 *e*P **P 01 40 54.4 +1.4**
XLT pP sP 01 41 05.2 +1.1
XLT sP pP 01 41 12.1 +11
XLT pmax pmax
comp=Z,10.0nm,0.7s
XLT pmax pmax
comp=Z,67nm,7.0s
RES Resolute Bay 40.70 24 LR LR 02 00 53.7
comp=Z,51nm,18.0s,baz=308,slow=40
EDM Edmonton 41.69 59 P **P 01 41 11.6 +0.5**
EDM Edmonton 41.69 59 P **P 01 41 11.6 +0.5**
EDM pmax pmax
comp=Z,11nm,0.6s
NRIK Noril'sk 41.97 328 P **P 01 41 13.6 +0.4**
comp=Z,6.0nm,0.9s,baz=73,slow=13,SNR=5.7
NRIK LR LR 01 59 11.2
comp=Z,94nm,19.5s,baz=84,slow=37
comp=Z,6.0nm,0.9s
NRIK Noril'sk 41.97 328 P **P 01 41 13.6 +0.4**
NRIK IAmb IAmb 01 41 14.9
comp=Z,14nm,1.2s
NRIK Noril'sk 41.97 328*ce*P **P 01 41 13.3 +0.1**
NRIK pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 42.08 67 LR LR 01 57 47.8
comp=Z,62nm,18.3s,baz=322,slow=35
YBH Yreka Blue Hor 42.41 79 LR LR 01 56 30.9
comp=Z,52nm,19.4s,baz=288,slow=33
ULN Ulaanbaatar 42.65 293 P **P 01 41 19.1 -0.1**
ULN IAmb IAmb 01 41 21.0
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 42.65 293*ce*P **P 01 41 20.2 +1.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 43.05 293 P **P 01 41 23.1 +0.8**
comp=Z,6.1nm,0.8s,baz=60,slow=8.7,SNR=32
SONM PcP **PcP 01 43 10.9 -1.1**
comp=Z,1.0nm,0.7s,baz=111,slow=2.3,SNR=4.0
SONM LR LR 02 00 56.0
comp=Z,82nm,18.1s,baz=39,slow=38
comp=Z,6.1nm,0.8s
SONM Songino Array 43.05 293 P **P 01 41 23.3 +1.0**
SONM Songino Array 43.05 293 P **P 01 41 23.3 +1.0**
SONM pmax pmax
comp=Z,5.0nm,0.8s
ZAK Zakamensk 43.44 298 *e*P **P 01 41 25.2 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
HHC Hu-ho-hao-te 43.97 282 *e*P **P 01 41 31.6 +1.8**
HHC pmax pmax
comp=Z,36nm,1.0s
HHC pmax pmax
comp=Z,150nm,6.2s
HHC LR LR
comp=Z,260nm,14.0s
HHC LR LR
comp=Z,200nm,14.6s
HHC LR LR
comp=Z,220nm,14.0s
HNS HongShan 44.17 275 ⇑P **P 01 41 33.0 +1.7**
HNS pmax pmax
comp=Z,14nm,1.1s
NJ2 Nanjing 45.14 267 *e*P **P 01 41 39.9 +0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
GUMO Guam 45.41 224 LR LR 01 59 49.5
comp=Z,46nm,18.6s,baz=96,slow=35
BOZ Bozeman (W) 46.69 67 P **P 01 41 51.1 -0.3**
baz=306
NVAR Mina Array Bea 47.09 79 P **P 01 41 54.7 0.0**
comp=Z,0.4nm,0.6s,baz=297,slow=7.1,SNR=3.0
NVAR LR LR 02 00 30.0
comp=Z,84nm,18.3s,baz=299,slow=34
comp=Z,0.4nm,0.6s
ELK Elko 47.49 75 LR LR 01 59 02.3
comp=Z,191nm,19.8s,baz=284,slow=32
NEEM North Greenlan 47.66 12 *i* P **P 01 41 58.4 -0.3**
NEEM IAmb IAmb 01 42 00.8
comp=Z,26nm,0.6s
RLMT Red Lodge 48.32 67 P **P 01 42 03.9 -0.2**
baz=307
SPA0 Spitsbergen Ar 49.45 354 *e*P **P 01 42 12.6 +0.4**
SPITS Spitsbergen Ar 49.45 354 LR LR 02 03 41.4
comp=Z,139nm,19.2s,baz=314,slow=37
SPITS Spitsbergen Ar 49.45 354 P **P 01 42 11.9 -0.2**
SPITS pmax pmax
comp=Z,37nm,1.0s
PDAR Pinedale Array 49.59 69 P **P 01 42 13.5 -0.4**
comp=Z,0.3nm,0.6s,baz=308,slow=1.8,SNR=4.0
PDAR PcP **PcP 01 43 33.3 -1.9**
comp=Z,0.9nm,0.8s,baz=327,slow=1.5,SNR=2.4
PDAR LR LR 02 00 58.9
comp=Z,52nm,19.9s,baz=76,slow=33
comp=Z,0.3nm,0.6s
BBRC Big Bear Solar 50.66 83 P **P 01 42 21.8 -0.3**
baz=312
ZAA0 Zalesovo Array 50.88 310 P **P 01 42 22.2 -0.9**
ZAA0 IAmb IAmb 01 42 27.3
comp=Z,3.5nm,0.9s
ZALV Zalesovo Beam 50.88 310 P **P 01 42 22.4 -0.8**
comp=Z,1.5nm,0.5s,baz=44,slow=5.1,SNR=8.0
ZALV PcP **PcP 01 43 39.2 -0.2**
comp=Z,2.7nm,0.8s,baz=20,slow=5.4,SNR=6.2
ZALV LR LR 02 05 05.0
comp=Z,121nm,18.7s,baz=55,slow=37
comp=Z,1.5nm,0.5s
ZALV Zalesovo Beam 50.88 310 *i* P **P 01 42 22.7 -0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
PFO Pinyon Flats O 51.38 83 LR LR 02 00 05.8
comp=Z,99nm,21.6s,baz=292,slow=31
LZH Lanzhou 51.66 282 *e*P **P 01 42 30.7 +1.2**
LZH pP pP 01 42 36.9 -0.7
LZH pmax pmax
comp=Z,25nm,1.1s
GTA Gaotai 51.89 288 *e*P **P 01 42 32.3 +1.2**
GTA pP pP 01 42 39.0 -0.2
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,91nm,4.6s
GTA LR LR
comp=Z,77nm,18.5s
GTA LR LR
comp=Z,80nm,17.1s
GTA LR LR
comp=Z,100nm,18.2s
DGZ Jazzator, Alta 52.21 305 *i* P **P 01 42 33.7 +0.3**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 52.37 54 P **P 01 42 33.5 -0.8**
comp=Z,1.5nm,0.5s,baz=301,slow=13,SNR=1.7
ULM LR LR 02 07 26.0
comp=Z,66nm,18.1s,baz=231,slow=39
comp=Z,1.5nm,0.5s
PV13 Radium Mtn., P 52.96 73 P **P 01 42 39.4 +0.2**
PV13 IAmb IAmb 01 42 51.2
comp=Z,6.2nm,0.7s
SUMG Summit 53.52 12 P **P 01 42 43.8 +0.7**
SUMG Summit 53.52 12 P **P 01 42 43.8 +0.7**
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG Summit 53.52 12 *i* P **P 01 42 42.0 -1.1**
SUMG IAmb IAmb 01 42 45.5
comp=Z,7.6nm,0.7s
DBG Daneborg 53.55 5 *i* P **P 01 42 41.4 -1.4**
DBG IAmb IAmb 01 42 43.1
comp=Z,8.3nm,0.7s
AGMN Agassiz Nation 53.61 56 P **P 01 42 43.5 -0.1**
baz=310
ISCO Idaho Springs 53.77 70 P **P 01 42 45.1 -0.1**
baz=311
FRB Frobisher Bay 54.37 29 LR LR 02 07 57.9
comp=Z,129nm,19.0s,baz=354,slow=38
WMQ Urumqi 55.87 299 *e*P **P 01 43 00.9 +0.8**
WMQ LR LR
comp=Z,200nm,16.9s
WMQ LR LR
comp=Z,190nm,17.3s
KURK Kurchatov 55.87 310 P **P 01 42 60.0 +0.1**
KURK Kurchatov 55.87 310*ce*P **P 01 43 00.1 +0.2**
KURK pmax pmax
comp=Z,72nm,1.3s
KURBB Kurchatov Arra 55.98 310 LR LR 02 08 25.6
comp=Z,185nm,18.7s,baz=113,slow=37
KURBB Kurchatov Arra 55.98 310 P **P 01 43 00.7 +0.1**
EYMN Ely 56.05 54 P **P 01 43 01.6 +0.4**
baz=312
ICESG Greenland Ices 56.53 14 *i* P **P 01 43 02.8 -2.0**
ICESG IAmb IAmb 01 43 04.7
comp=Z,6.4nm,0.7s
ANMO Albuquerque 56.53 75 LR LR 02 04 57.9
comp=Z,83nm,20.9s,baz=316,slow=34
MK31 Makanchi Array 56.71 305 P **P 01 43 05.2 -0.8**
MK31 Makanchi Array 56.71 305 *i* P **P 01 43 05.4 -0.6**
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 56.71 305 P **P 01 43 05.6 -0.4**
comp=Z,5.6nm,0.4s,baz=54,slow=6.6,SNR=97
MKAR LR LR 02 08 35.5
comp=Z,182nm,19.8s,baz=57,slow=37
comp=Z,5.6nm,0.4s
ARCES ARCESS Array B 56.78 348 P **P 01 43 05.3 -0.9**
comp=Z,4.9nm,0.9s,baz=27,slow=8.5,SNR=11
ARCES PcP **PcP 01 44 01.9 +0.2**
comp=Z,3.0nm,0.8s,baz=20,slow=2.9,SNR=4.3
ARCES LR LR 02 08 18.4
comp=Z,51nm,21.1s,baz=327,slow=37
comp=Z,4.9nm,0.9s
MAKZ Makanchi 56.86 305 P **P 01 43 06.7 -0.3**
MAKZ Makanchi 56.86 305 P **P 01 43 06.7 -0.3**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
GOMU GeErMu 56.98 288 P **P 01 43 08.3 -0.2**
GOMU PcP **PcP 01 44 04.0 +0.5**
GOMU pmax pmax
comp=Z,8.0nm,0.8s
GOMU pmax pmax
comp=Z,67nm,4.2s
KTK1 Kautokeino 57.56 348 *e*P **P 01 43 11.8 +0.2**
BVA0 Borovoye Array 57.97 316 *i* P **P 01 43 15.0 +0.2**
BVAR Borovoye Array 57.97 316 LR LR 02 11 56.8
comp=Z,89nm,18.5s,baz=46,slow=40
BRVK Borovoye 57.99 317 P **P 01 43 15.0 +0.1**
BRVK Borovoye 57.99 317*ce*P **P 01 43 15.5 +0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
MNTX Cornudas Mount 59.44 77 P **P 01 43 26.0 +0.7**
MNTX IAmb IAmb 01 43 43.8
comp=Z,5.0nm,1.1s
MNTX Cornudas Mount 59.44 77 P **P 01 43 26.1 +0.9**
baz=315
STEI Steigen 59.47 351 *e*P **P 01 43 27.2 +2.3**
PZH PanZhiHua 59.61 275 P **P 01 43 27.2 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,40nm,3.5s
PRGR Permogore 59.86 335 *e*P **P 01 43 27.1 -0.6**
FAUS Fauske 60.00 351 *e*P **P 01 43 29.2 +0.6**
ARU Arti 60.07 325 LR LR 02 12 37.7
comp=Z,97nm,18.4s,baz=45,slow=39
ARU Arti 60.07 325 P **P 01 43 29.6 +0.4**
ARU Arti 60.07 325*c i*P **P 01 43 30.1 +0.9**
ARU 01 44 11.0
ARU 01 45 43.5
ARU S **S 01 51 43.0 +3.0**
ARU SS **SS 01 55 32.7 -3.3**
ARU pmax pmax
comp=Z,20nm,0.8s
ARU MLR MLR
comp=Z,119nm,15.0s
JFWS Jewell Farm 60.15 58 P **P 01 43 29.6 -0.4**
baz=315
MOR8 Moi Rana 61.26 351 *e*P **P 01 43 36.5 -0.8**
KIRV Kirov 61.33 331 LR LR 02 12 42.2
comp=Z,77nm,19.2s,baz=14,slow=38
KIRV Kirov 61.33 331*ce*P **P 01 43 39.1 +1.4**
P40A Paris 61.58 61 P **P 01 43 40.1 +0.3**
SCHQ Schefferville 61.73 35 P **P 01 43 40.6 +0.1**
comp=Z,16nm,0.8s,baz=330,slow=7.3,SNR=13
comp=Z,16nm,0.8s
SCHQ Schefferville 61.73 35 P **P 01 43 40.5 0.0**
KLMR Klimovskoe 62.07 337 *e*P **P 01 43 41.1 -1.6**
KLMR pmax pmax
comp=Z,19nm,1.0s
KLMR Klimovskoe 62.07 337 *e*P **P 01 43 41.2 -1.5**
KLMR AMP 01 43 44.6
comp=Z,19nm,1.0s
TX31 Lajitas Ar. Si 62.16 77 P **P 01 43 44.2 +0.3**
TX32 Lajitas Array 62.16 77 P **P 01 43 44.7 +0.8**
TX32 IAmb IAmb 01 44 02.1
comp=Z,6.3nm,1.1s
TXAR Lajitas Array 62.16 77 P **P 01 43 44.1 +0.2**
comp=Z,1.2nm,0.7s,baz=306,slow=4.6,SNR=18
TXAR LR LR 02 09 31.8
comp=Z,46nm,19.0s,baz=322,slow=35
comp=Z,1.2nm,0.7s
HDIL Hopedale 62.32 59 P **P 01 43 44.6 -0.1**
baz=316
BORG Borgarnes 62.89 8 LR LR 02 12 41.7
comp=Z,47nm,18.2s,baz=296,slow=37
AAK Ala-Archa 63.58 306 LR LR 02 12 44.4
comp=Z,129nm,19.9s,baz=42,slow=37
AAK Ala-Archa 63.58 306 P **P 01 43 53.3 +0.1**
AAK Ala-Archa 63.58 306*ce*P **P 01 43 54.0 +0.8**
AAK pmax pmax
comp=Z,7.0nm,0.7s
SFIN Lafayette 63.61 58 P **P 01 43 52.1 -1.1**
baz=317
LSA Lhasa 63.74 285 P **P 01 43 54.9 0.0**
LSA IAmb IAmb 01 43 57.1
comp=Z,6.2nm,0.8s
LSA Lhasa 63.74 285 P **P 01 43 54.9 0.0**
LSA pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 64.28 344 P **P 01 43 56.7 -0.6**
comp=Z,5.2nm,0.9s,baz=6.9,slow=6.3,SNR=7.5
FINES LR LR 02 14 43.0
comp=Z,57nm,20.2s,baz=28,slow=38
comp=Z,5.2nm,0.9s
FINES FINESS Array B 64.28 344*ce*P **P 01 43 57.2 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.9s
SADO Sadowa 64.32 50 P **P 01 43 57.0 -0.9**
comp=Z,2.7nm,0.7s,baz=284,slow=9.0,SNR=3.4
SADO LR LR 02 12 38.1
comp=Z,60nm,18.1s,baz=10,slow=37
comp=Z,2.7nm,0.7s
AKTO Aktyubinsk 64.97 321 LR LR 02 14 35.7
comp=Z,124nm,20.0s,baz=34,slow=38
CRAI Chiangrai 65.08 271 P **P 01 44 03.5 +0.3**

CRAI IAmb IAmb 01 44 04.6
comp=Z,4.4nm,0.8s
KSH Kashi 65.12 303 P **P** **01 44 07.7 +4.3**
KSH pmax pmax
comp=Z,14nm,0.8s
AB31 Akbulak array 65.14 319 *ce*P **P** **01 44 03.7 +0.5**
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 65.14 319 P **P** **01 44 03.3 +0.1**
KK31 Karatay Array 65.19 309 P **P** **01 44 03.9 +0.3**
KK31 IAmb IAmb 01 44 04.8
comp=Z,7.2nm,0.8s
KK31 Karatay Array 65.19 309 *ce*P **P** **01 44 03.5 -0.1**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 65.19 309 P **P** **01 44 03.8 +0.2**
KKAR Karatay Array 65.19 309 P **P** **01 44 03.8 +0.2**
DOMB Dombas 65.79 353 *e*P **P** **01 44 07.5 +0.4**
ERPA Erie 65.91 52 P **P** **01 44 08.3 0.0**
baz=319
M53A WI Miller and 66.09 53 P **P** **01 44 08.8 -0.6**
baz=319
SHL Shillong 66.33 282 P **P** **01 44 10.5 -0.9**
SHL Shillong 66.33 282 P **P** **01 44 10.5 -0.9**
SHL pmax pmax
comp=Z,18nm,1.0s
NC303 NORSAR Array S 66.40 352 *e*P **P** **01 44 11.3 +0.2**
NB2 NORSAR Subarra 66.60 352 P **P** **01 44 12.8 +0.4**
comp=Z,2.0nm,0.6s,baz=9.4,slow=6.5
NB2 NORSAR Subarra 66.60 352 P **P** **01 44 12.8 +0.4**
baz=9.4,slow=6.5
NOA NORSAR Array B 66.60 352 P **P** **01 44 11.2 -1.2**
comp=Z,3.2nm,0.6s,baz=11,slow=6.4,SNR=20
NOA LR LR 02 13 38.6
comp=Z,29nm,19.9s,baz=20,slow=36
comp=Z,3.2nm,0.6s
OXF Oxford 66.67 64 P **P** **01 44 12.6 -0.6**
baz=318
HYA Hoyanger 66.86 354 *e*P **P** **01 44 15.1 +1.1**
NC602 NORSAR Array S 66.87 351 *e*P **P** **01 44 14.3 +0.2**
MOS Moscow 67.07 336 *e*P **P** **01 44 15.1 -0.3**
MOS pmax pmax
comp=Z,25nm,0.9s
BELG Belogornoye 67.07 328 *i* P **P** **01 44 16.2 +0.7**
BELG pmax pmax
comp=Z,13nm,0.9s
SKAR Skarslia 67.19 353 *e*P **P** **01 44 16.8 +0.6**
HFS Hagfors 67.25 350 LR LR 02 14 33.1
comp=Z,48nm,20.1s,baz=317,slow=37
CMAR Chiang Mai Arr 67.30 271 P **P** **01 44 16.8 -0.6**
comp=Z,1.4nm,0.4s,baz=27,slow=6.9,SNR=9.4
comp=Z,1.4nm,0.4s
CMAR Chiang Mai Arr 67.30 271 *ce*P **P** **01 44 17.7 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
TAPN Taplejung 67.51 286 *e*P **P** **01 44 19.5 +0.4**
comp=Z,46nm,0.9s
OBN Obninsk 67.90 336 LR LR 02 17 49.3
comp=Z,38nm,18.0s,baz=6.5,slow=39
OBN Obninsk 67.90 336 P **P** **01 44 20.6 0.0**
OBN Obninsk 67.90 336 *e*P **P** **01 44 20.1 -0.5**
OBN *e* 01 44 46.1
OBN *e* 01 46 49.1
OBN *e*PPP PPP 01 48 29.0
OBN pmax pmax
comp=Z,5.0nm,0.6s
OBN MLR MLR
comp=Z,139nm,18.0s
SSPA Standing Stone 68.06 52 P **P** **01 44 21.7 -0.3**
baz=320
GUN Gumba 68.18 288 *e*P **P** **01 44 24.0 +0.7**
JIRN Jiri 68.19 287 *e*P **P** **01 44 23.9 +0.5**
comp=Z,50nm,0.8s
GAR Garm 68.40 306 P **P** **01 44 23.8 -0.4**
RAMN Ramite 68.47 286 *e*P **P** **01 44 25.5 +0.5**
comp=Z,75nm,0.9s
PKI Pulchoki 68.71 288 *e*P **P** **01 44 26.9 +0.3**
comp=Z,28nm,0.7s
PKIN Phulchoki 68.72 288 *e*P **P** **01 44 27.0 +0.4**
comp=Z,23nm,0.6s
GKN Gorkha 68.84 289 *e*P **P** **01 44 27.6 +0.4**
comp=Z,36nm,0.9s
DMN Daman 68.86 288 *e*P **P** **01 44 28.1 +0.6**
comp=Z,17nm,0.7s
DANN Dangsing 69.10 289 *e*P **P** **01 44 29.3 +0.3**
comp=Z,61nm,0.9s
LPSR Galich'ya Gora 69.52 333 *e*P **P** **01 44 30.1 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VRH Novokhopyorsk 69.95 331 *e*P **P** **01 44 32.6 -0.9**
VRH pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 70.27 333 *e*P **P** **01 44 37.2 +1.8**
VORR pmax pmax
comp=Z,10.0nm,0.4s
MNK Minsk 70.45 341 *i* P **P** **01 44 35.1 -1.3**
MNK *i* 01 44 56.4
MNK *i* 01 47 10.8
MNK *i* PPP PPP 01 48 53.4
MNK *i* S **S** **01 53 45.7 -1.6**
MNK *i* 01 54 25.5
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK Minsk 70.45 341 *i* P **P** **01 44 35.2 -1.3**
MNK *i* P **P** **01 44 35.2 -1.3**
MNK *i* P **P** **01 44 35.2 -1.3**
comp=Z,7.0nm,0.9s,baz=21
MNK *i* PcP **PcP** **01 44 56.4 -1.4**
MNK *i* PP **PP** **01 47 10.9 -1.0**
MNK *i* PPP PPP 01 48 53.5
MNK *i* S **S** **01 53 45.8 -1.6**
MNK *i* SS SS 01 57 22.6 -55
MNK *i* SSS SSS 02 01 09.5
MNK *i* LQ LQ 02 10 39.3
MNK *i* LR LR 02 16 00.6
MNK *i* LRM MLR 02 18 05.7
MNK *i* LRM MLR 02 21 25.4
MNK comp=Z,97nm,18.7s *i* LRM MLR 02 21 55.6
comp=E,8.0nm,18.3s
VSR Storozhevoye 70.69 332 *e*P **P** **01 44 37.6 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.8s
NIL Nilore 70.98 300 P **P** **01 44 40.2 +0.1**
NIL Nilore 70.98 300 P **P** **01 44 40.2 +0.1**
NIL pmax pmax
comp=Z,22nm,1.2s
TAOE Nuku Hiva Isla 71.63 133 *e*LR LR 02 06 43.2
comp=Z,174nm,24.9s
KBL Kabul 72.49 304 P **P** **01 44 49.1 -0.3**
KBL Kabul 72.49 304 P **P** **01 44 49.1 -0.3**
KBL pmax pmax
comp=Z,13nm,0.8s
AKASG Malin Array Be 73.72 338 P **P** **01 44 56.2 +0.1**
comp=Z,6.3nm,0.8s,baz=26,slow=6.2,SNR=16
AKASG LR LR 02 19 59.9
comp=Z,75nm,20.0s,baz=5.0,slow=38
comp=Z,6.3nm,0.8s
AKASG Malin Array Be 73.72 338 P **P** **01 44 56.5 +0.4**
AKASG Malin Array Be 73.72 338 P **P** **01 44 56.5 +0.4**
AKBB Malin Array Si 73.72 338 IAmb IAmb 01 44 57.5
comp=Z,9.2nm,0.9s
AKBB Malin Array Si 73.72 338 *ce*P **P** **01 44 56.7 +0.6**
PMOR Pomariorio Ree 73.97 143 *e*T T 03 05 30.2
comp=Z,32nm,0.2s
STKI Sintang 74.11 249 P **P** **01 45 00.0 +1.1**
DZM Mont Dzumac 74.15 189 *e*LR LR 02 07 52.5
comp=Z,172nm,23.6s
DZM Mont Dzumac 74.15 189 LR LR 02 12 08.0
comp=Z,86nm,19.3s,baz=192,slow=31
GEYT Alibeck 75.06 313 P **P** **01 45 04.6 +0.4**
comp=Z,5.1nm,0.9s,baz=308,slow=3.5,SNR=9.8
comp=Z,5.1nm,0.9s
GEYT Alibeck 75.06 313 P **P** **01 45 04.4 +0.2**
GEYT IAmb IAmb 01 45 06.4
comp=Z,8.9nm,1.1s
GYA0B ALIBECK ARRAY 75.06 313 IAmb IAmb 01 45 06.3
comp=Z,6.9nm,1.0s
GROC Groznyy 75.61 324 *e*P **P** **01 45 06.8 -0.4**
GROC *e* 01 45 18.6
GROC pmax pmax
comp=Z,57nm,1.1s
PPT Papeete 75.72 145 LR LR 02 11 11.2
comp=Z,109nm,19.7s,baz=70,slow=30
PPT2 Papeete2 75.75 145 *e*LR LR 02 08 38.7
comp=Z,191nm,23.0s
KIV Kislovodsk 76.03 327 ⇑P **P** **01 45 11.0 +1.3**
KIV Kislovodsk 76.03 327 P **P** **01 45 09.9 +0.2**
KIV Kislovodsk 76.03 327 *c i*P **P** **01 45 09.9 +0.2**
KIV *i* 01 45 20.5
KIV pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 76.06 344 P **P** **01 45 09.8 +0.1**
OJC IAmb IAmb 01 45 10.1
comp=Z,3.6nm,0.8s
OJC Ojcow 76.06 344 P **P** **01 45 09.8 +0.1**
OJC pmax pmax
comp=Z,4.0nm,0.8s
RAR Rarotonga 76.09 156 LR LR 02 13 31.6
comp=Z,141nm,19.3s,baz=238,slow=32
KWP Kalwaria Pacla 76.10 342 *e*P Pn 01 45 11.4 +1.8
KBZ Khabaz 76.16 327 P **P** **01 45 11.5 +1.2**
comp=Z,11nm,0.8s,baz=76,slow=1.6,SNR=22
comp=Z,11nm,0.8s
KBZ Khabaz 76.16 327 *ce*P **P** **01 45 11.4 +1.1**
KBZ pmax pmax
comp=Z,12nm,0.9s
SHA1 Shidzhatmaz 76.24 327 *i* P **P** **01 45 11.4 +0.3**
DPC Dobruska-Polom 76.48 346 *e*P **P** **01 45 12.9 +0.8**
DPC Dobruska-Polom 76.48 346 *e*P **P** **01 45 12.9 +0.8**
ZEI Tsey 76.64 325 *e*P **P** **01 45 13.8 +0.4**
ZEI pmax pmax
comp=Z,20nm,0.9s
KRLC Kraliky 76.68 346 *e*P **P** **01 45 14.1 +0.8**
KRLC Kraliky 76.68 346 *e*P **P** **01 45 14.1 +0.8**
KOLS Kolonicke sedl 76.85 342 *e*P **P** **01 45 15.5 +1.3**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 76.85 342 *e*P **P** **01 45 15.5 +1.3**
MORC Moravsky Berou 76.86 345 ⇑P **P** **01 45 15.3 +1.0**
MORC Moravsky Berou 76.86 345 *e*P **P** **01 45 15.5 +1.3**
CRVS Cervenica-Dubn 77.03 343 *e*P **P** **01 45 16.3 +1.1**
CRVS pmax pmax
comp=Z,13nm,1.2s
CRVS Cervenica-Dubn 77.03 343 *e*P **P** **01 45 16.3 +1.1**
LANS Liptovska Anna 77.15 344 *e*P **P** **01 45 18.6 +2.7**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 77.15 344 *e*P Pg 01 45 18.6 -3.2
MILM Milestii Mici 77.36 337 ⇓P **P** **01 45 17.7 +0.7**
VRAC Vranov 77.46 346 ⇑P **P** **01 45 18.8 +1.2**
VRAC Vranov 77.46 346 *e*P **P** **01 45 19.5 +1.9**
BURAR Bucovina Array 77.52 340 ⇑P **P** **01 45 19.2 +1.1**
BURAR Bucovina Array 77.52 340 P **P** **01 45 18.3 +0.2**
JAVC Velka Javorina 77.73 345 *e*P **P** **01 45 20.9 +1.7**
KRUC Moravsky 77.73 346 *e*P **P** **01 45 19.6 +0.5**
BMRD Maredsous 77.77 354 *d*P **P** **01 45 20.3 +1.1**
BMRD *d*PcP **sP** **01 45 29.4 -1.3**
VASR Vaslui 77.86 338 ⇑P **P** **01 45 20.4 +0.5**
VYHS Vyhne 77.89 344 *e*P **P** **01 45 20.7 +0.7**
VYHS Vyhne 77.89 344 *e*P **P** **01 45 20.7 +0.7**
BIZ Bicaz 77.96 339 ⇑P **P** **01 45 21.3 +0.9**
KHC Kasperske Hory 78.06 348 *e*P **P** **01 45 21.2 +0.3**
KHC *e* 01 45 27.3
KHC Kasperske Hory 78.06 348 *e*P **P** **01 45 21.2 +0.3**
KHC *ex* 01 45 27.3
SMOL Smolenice 78.10 345 *e*P **P** **01 45 22.5 +1.3**
TESR Tescani 78.25 338 ⇑P **P** **01 45 23.5 +1.5**
PSZ Piszkesteto 78.27 343 ⇑P **P** **01 45 24.2 +2.1**
PSZ Piszkesteto 78.27 343 IAmb IAmb 01 45 25.1
comp=Z,9.6nm,1.2s
GERES GERESS Array B 78.32 348 P **P** **01 45 22.7 +0.2**
comp=Z,0.6nm,1.0s,baz=35,slow=11,SNR=2.8
comp=Z,0.6nm,1.0s
LTVH Ltavrtes, Hu 78.41 342 ⇑P **P** **01 45 24.9 +2.0**
GHRR 78.50 338 ⇑P **P** **01 45 24.3 +0.9**
VLDR Vladesti 78.54 337 ⇑P **P** **01 45 24.8 +1.2**
GNI Garni 78.66 324 LR LR 02 23 48.4
comp=Z,117nm,20.9s,baz=31,slow=38
CJR Cluj-Napoca 78.71 341 ⇑P **P** **01 45 26.4 +1.8**
DRGR 78.82 341 ⇑P Pg 01 45 26.3 +3.0
OZUR 78.83 339 ⇓P **P** **01 45 26.9 +1.7**
VRI Vrincioaia 78.84 338 ⇑P **P** **01 45 27.4 +2.1**
PLOR Plostina 78.87 338 ⇑P **P** **01 45 27.2 +1.7**
CONA Conrad Observa 78.91 346 *i* P **P** **01 45 27.0 +1.2**
comp=Z,4.3nm,1.5s
COVR Voineasa-Covas 78.98 339 ⇓P **P** **01 45 27.1 +1.0**
TLCR 78.98 337 ⇑P **P** **01 45 25.1 -0.9**
DOPR Dopca 79.04 339 ⇑P **P** **01 45 28.2 +1.7**
RONA Rosalia, Austr 79.07 346 *i* P **P** **01 45 27.4 +0.8**
comp=Z,2.6nm,0.8s
CFR Carcallu 79.15 337 ⇑P **P** **01 45 28.5 +1.5**
MLR Muntele Rosu 79.37 339 ⇓P **P** **01 45 29.8 +1.5**
MLR Muntele Rosu 79.37 339 LR LR 02 24 47.1
comp=Z,58nm,18.8s,baz=347,slow=39
MLR Muntele Rosu 79.37 339 IAmb IAmb 01 45 31.4
comp=Z,6.0nm,0.8s
TPGR Topolog 79.39 337 ⇓P **P** **01 45 29.7 +1.4**
BIOA Bad Ischl, Aus 79.46 348 *i* P **P** **01 45 30.6 +1.9**
comp=Z,3.9nm,1.3s
SIRR Siria 79.53 342 ⇑P **P** **01 45 29.3 +0.3**
ISR Istrita 79.59 338 ⇑P **P** **01 45 31.6 +2.2**
VOIR 79.62 339 ⇑P **P** **01 45 30.4 +0.8**
ARSA Arzberg 79.62 346 *e*P **P** **01 45 30.4 +0.8**
comp=Z,2.1nm,1.0s
HARR Harsova 79.66 337 ⇑P **P** **01 45 30.4 +0.6**
TIRR Tirgusor 79.76 337 ⇑P **P** **01 45 31.2 +0.9**
ARR Arges 79.78 339 ⇓P Pg 01 45 32.7 -4.4
RETA Reutte 80.02 349 *i* P **P** **01 45 33.4 +1.7**
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 80.04 219 P **P** **01 45 30.9 -1.1**
comp=Z,1.5nm,1.0s,baz=29,slow=5.2,SNR=5.1
comp=Z,1.5nm,1.0s
WRA Warramunga Arr 80.04 219 *i* P **P** **01 45 31.2 -0.8**
WRA pmax pmax
comp=Z,2.0nm,1.2s
WATA Walderalm 80.07 349 *e*P **P** **01 45 33.9 +1.7**
comp=Z,5.2nm,1.1s
KBA Koelnbreinsper 80.10 348 *e*P **P** **01 45 34.0 +1.7**
comp=Z,10nm,1.2s
MOTA Moosalm 80.12 349 *e*P **P** **01 45 34.0 +1.6**
comp=Z,5.8nm,1.2s
MORH Mrgy, Hungar 80.13 344 ⇑P **P** **01 45 32.5 +0.3**
WTTA Wattenberg 80.13 349 *e*P **P** **01 45 34.3 +1.8**
comp=Z,4.6nm,1.0s
GZR Gura Zlata 80.14 341 ⇑P **P** **01 45 33.5 +1.0**
BZS Buzias 80.16 342 ⇑P **P** **01 45 34.1 +1.6**
SQTA Sankt Quirin 80.23 349 *i* P **P** **01 45 33.3 +0.4**
comp=Z,4.9nm,1.3s
SOKA Soboth 80.26 346 *i* P **P** **01 45 34.1 +1.0**
comp=Z,5.1nm,0.8s
PERS Pernice 80.29 346 *i* P **P** **01 45 34.3 +1.1**
GROS Grobnik 80.40 346 *i* P **P** **01 45 34.7 +0.9**
FETA Feichten 80.48 349 *e*P **P** **01 45 35.1 +0.7**
comp=Z,4.2nm,1.1s
OBKA Obir 80.49 347 *e*P **P** **01 45 35.3 +0.9**
comp=Z,4.2nm,0.7s
HUMR Humele 80.50 339 ⇑P Pg 01 45 36.2 -2.2
ABTA Abfaltersbach 80.53 348 *e*P **P** **01 45 35.4 +0.8**
comp=Z,4.5nm,1.2s
PRED Cave del Predi 80.69 347 IAmb IAmb 01 45 38.7
comp=Z,4.3nm,1.0s
HERR Herculane 80.71 341 ⇑P **P** **01 45 36.3 +0.9**
MDVR Moldovita 80.94 341 ⇑P **P** **01 45 37.8 +1.0**
FRGS Fruska Gora 80.95 343 ⇑P **P** **01 45 38.6 +1.8**
TBI Tubuai 81.12 148 *e*LR LR 02 11 08.0
comp=Z,172nm,23.8s
GBRS Gornja Briga 81.41 346 *i* P **P** **01 45 40.0 +0.8**
BLKB Belogradchik 81.86 340 ⇑P **P** **01 45 41.9 +0.3**
DIVS Divibare 81.94 342 IAmb IAmb 01 45 44.0
comp=Z,4.8nm,0.9s
BOVS Bovan 82.05 341 ⇓P **P** **01 45 42.7 +0.1**
MARD Mardin 82.60 325 P **P** **01 45 47.1 +1.4**
VTS Vitosha 82.70 340 ⇓P **P** **01 45 46.8 +0.6**
BRTR Keskin Array B 82.74 331 P **P** **01 45 47.0 +0.5**
comp=Z,5.8nm,0.7s,baz=52,slow=3.0,SNR=34
comp=Z,5.8nm,0.7s
BRTR Keskin Array B 82.74 331 *ce*P **P** **01 45 47.4 +1.0**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BNI Bardonecchia 82.84 352 IAmb IAmb 01 45 50.3
comp=Z,6.3nm,1.1s
ASAR Alice Springs 83.58 218 P **P** **01 45 50.0 -0.6**
comp=Z,1.2nm,0.8s,baz=34,slow=5.2,SNR=7.4
comp=Z,1.2nm,0.8s
PDG Podgorica 83.69 342 ⇑P **P** **01 45 52.4 +1.4**
ESDC Sonseca Array 88.71 359 P **P** **01 46 15.6 -0.3**
comp=Z,1.0nm,1.0s,baz=9.2,slow=4.4,SNR=6.4
comp=Z,1.0nm,1.0s
RAYN Ar Rayn 92.94 315 P **P** **01 46 35.8 0.0**
RAYN IAmb IAmb 01 46 36.8
comp=Z,3.8nm,1.1s
RAYN Ar Rayn 92.94 315 P **P** **01 46 35.8 0.0**
RAYN pmax pmax
comp=Z,4.0nm,1.1s
PLCA Paso Flores 134.69 103 PKP **PKPdf** **01 52 39.7 -0.7**
comp=Z,1.8nm,0.8s,baz=300,slow=4.4,SNR=4.7
MAW Mawson 144.71 218 PKP **PKPab** **01 52 55.9 -0.6**
comp=Z,8.0nm,0.9s,baz=88,slow=5.6,SNR=14
BOSA Boshof 147.71 305 PKPbc **PKPbc** **01 53 06.7 -0.3**
comp=Z,3.9nm,0.7s,baz=98,slow=2.0,SNR=8.8

---

*IDC **04** 01:37:52.2±0.6, 55.00S×31.93W, h0km, mb4.2/10, mbtmp4.3/10, MS3.8/19, Error ellipse: s-maj=23.9km s-min=16.3km az=49.0*
*NEIC **04** 01:37:54.0±1.6, 55.13S±0.05×32.0W±0.2, h10km±1km, mb4.6/23, Error ellipse: s-maj=18.6km s-min=2.8km az=62.0*

ISC 04 01:37:53.8±0.4, **55.02S**±0.08×**32.01W**±0.08, **h10km**, **n76**, σ1s**02**/54, **mb4.5**/18, **MS3.7**/18, **South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.71**	**284**			**Pn**	**01 38 37.7**	**+0.5**
PMSA	**Palmer Station**	**18.58**	**226**	LR	LR	LR	01 48 58.3	
	comp=Z,224nm,18.1s,baz=44,slow=36							
VNA1	**Neumayer--Stat**	**18.83**	**155**	P		**Pn**	**01 42 17.8**	**+4.0**
VNA3	**Neumayer Olymp**	**18.93**	**158**	P		**Pn**	**01 42 16.3**	**+1.2**
VNA2	**Neumayer--Watz**	**19.23**	**155**	P		**Pn**	**01 42 22.0**	**+3.4**
	baz=311,slow=12							
USHA	**Ushuaia**	**20.79**	**255**	P	**P**	**P**	**01 42 34.9**	**+0.1**
	10nm,0.3s,baz=117,slow=2.3,SNR=1.7							
	10nm,0.3s							
SNAA	**Sanae**	**20.83**	**154**	P		Pn	01 42 36.5	-1.1
SNAA	**Sanae**	**20.83**	**154**	P	**P**	**P**	**01 42 35.5**	**+0.3**
	1.5nm,0.6s,baz=302,slow=12,SNR=17							
SNAA				LR	LR	LR	01 48 35.2	
	comp=Z,113nm,20.5s,baz=314,slow=31							
	1.5nm,0.6s							
SNAA	**Sanae**	**20.83**	**154**	P	**P**	**P**	**01 42 34.5**	**-0.7**
SNAA				IAmb	IAmb	IAmb	01 43 01.2	
	comp=Z,13nm,1.0s							
SMAI	**San Martin Ant**	**20.85**	**217**	P	**P**	**P**	**01 42 33.2**	**-2.1**
TROLL	**Troll, Antarti**	**22.41**	**152**	P	**P**	**P**	**01 42 51.9**	**-0.3**
BELA	**Belgrano 2**	**22.97**	**181**	P	**P**	**P**	**01 42 57.2**	**-0.8**
BELA				IAmb	IAmb	IAmb	01 43 08.4	
	comp=Z,22nm,1.3s							
MG05	**Puerto Natales**	**24.16**	**261**	P	**P**	**P**	**01 43 08.8**	**-1.0**
TRQA	**Tornquist**	**26.41**	**298**	P	**P**	**P**	**01 43 29.8**	**-0.5**
TRQA				IAmb	IAmb	IAmb	01 43 35.3	
	comp=Z,17nm,1.4s							
AY01	**Puyuhuapi**	**27.95**	**275**	P	**P**	**P**	**01 43 43.8**	**-0.2**
LL02	**Futaleuf**	**28.25**	**278**	P	**P**	**P**	**01 43 48.1**	**+1.3**
LL02				IAmb	IAmb	IAmb	01 43 53.6	
	comp=Z,6.6nm,0.8s							
PLCA	**Paso Flores**	**29.11**	**283**	P	**P**	**P**	**01 43 53.9**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=138,slow=17,SNR=3.2							
PLCA				LR	LR	LR	01 55 33.7	
	comp=Z,236nm,19.6s,baz=140,slow=36							
	comp=Z,1.1nm,0.8s							
CPUP	**Villa Florida**	**34.13**	**317**	P	**P**	**P**	**01 44 38.4**	**-0.3**
	comp=Z,5.3nm,0.8s,baz=155,slow=6.3,SNR=13							
CPUP				LR	LR	LR	02 00 48.2	
	comp=Z,121nm,18.1s,baz=170,slow=40							
	comp=Z,5.3nm,0.8s							
CPUP	**Villa Florida**	**34.13**	**317**	P	**P**	**P**	**01 44 38.9**	**+0.2**
CPUP				IAmb	IAmb	IAmb	01 44 45.6	
	comp=Z,8.3nm,0.9s							
MT09	**Talagante**	**34.38**	**292**	P	**P**	**P**	**01 44 40.4**	**-0.7**
MT01	**Popeta**	**34.46**	**292**	P	**P**	**P**	**01 44 40.7**	**-0.8**
ZON	**Zonda**	**34.92**	**297**	P	**P**	**P**	**01 44 45.7**	**+0.2**
ZON				IAmb	IAmb	IAmb	01 44 59.2	
	comp=Z,7.0nm,0.8s							
QSPA	**South Pole Qui**	**35.23**	**180**	P	**P**	**P**	**01 44 48.4**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=187,slow=2.4,SNR=9.6							
QSPA				LR	LR	LR	01 58 40.1	
	comp=Z,127nm,18.1s,baz=180,slow=35							
	comp=Z,4.4nm,0.9s							
QSPA	**South Pole Qui**	**35.23**	**180**	P	**P**	**P**	**01 44 48.2**	**+0.1**
QSPA				IAmb	IAmb	IAmb	01 45 06.3	
	comp=Z,12nm,1.1s							
AQDB	**Aquidauana**	**38.86**	**323**	P	**P**	**P**	**01 45 20.7**	**+1.7**
BDFB	**Brasilia**	**41.21**	**336**	P	**P**	**P**	**01 45 38.8**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=153,slow=9.0,SNR=2.3							
	comp=Z,2.0nm,0.9s							
LVC	**Limon Verde**	**42.44**	**305**	P	**P**	**P**	**01 45 48.5**	**-0.6**
LVC				IAmb	IAmb	IAmb	01 46 08.1	
	comp=Z,14nm,1.1s							
MAW	**Mawson**	**42.58**	**146**	P	**P**	**P**	**01 45 48.6**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=230,slow=7.6,SNR=8.4							
	comp=Z,4.1nm,0.8s							
MAW	**Mawson**	**42.58**	**146**	P	**P**	**P**	**01 45 48.1**	**-1.1**
SUR	**Sutherland**	**43.10**	**81**	LR	LR	LR	01 59 53.8	
	comp=Z,98nm,21.8s,baz=238,slow=31							
PTLB	**Pontes e Lacer**	**44.71**	**321**	P	**P**	**P**	**01 46 07.6**	**+0.7**
PTLB				IAmb	IAmb	IAmb	01 46 14.7	
	comp=Z,8.8nm,0.8s							
SIV	**San Ignacio**	**44.93**	**319**	LR	LR	LR	02 04 17.2	
	comp=Z,83nm,19.3s,baz=130,slow=35							
VNDA	**Vanda**	**47.44**	**184**	LR	LR	LR	02 03 26.9	
	comp=Z,58nm,20.8s,baz=170,slow=32							
VNDA	**Vanda**	**47.44**	**184**	P	**P**	**P**	**01 46 27.7**	**-0.1**
LPAZ	**La Paz**	**47.58**	**310**	P	**P**	**P**	**01 46 31.3**	**+1.0**
	comp=Z,4.9nm,0.5s,baz=87,slow=6.3,SNR=25							
	comp=Z,4.9nm,0.5s							
H10S2	**ASCENSION HYDR**	**47.97**	**23**	T	T	T	02 38 42.0	
	baz=27,slow=74,SNR=7.7							
H10S3	**ASCENSION HYDR**	**47.98**	**23**	T	T	T	02 38 40.0	
	baz=193,slow=74,SNR=18							
BOSA	**Boshof**	**48.45**	**81**	P	**P**	**P**	**01 46 35.7**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=221,slow=4.3,SNR=6.3							
BOSA				LR	LR	LR	02 03 18.2	
	comp=Z,87nm,18.9s,baz=208,slow=32							
	comp=Z,3.8nm,0.9s							
H10N3	**ASCENSION HYDR**	**49.09**	**23**	T	T	T	02 39 41.1	
	baz=192,slow=76							
H10N1	**ASCENSION HYDR**	**49.09**	**23**	T	T	T	02 39 29.8	
	baz=192,slow=76							
H10N2	**ASCENSION HYDR**	**49.10**	**23**	T	T	T	02 39 50.0	
	baz=192,slow=76							
RCBR	**Riachuelo**	**49.15**	**355**	LR	LR	LR	02 05 10.6	
	comp=Z,126nm,19.0s,baz=260,slow=33							
LBTB	**Lobatse**	**51.41**	**79**	LR	LR	LR	02 06 41.3	
	comp=Z,82nm,18.5s,baz=204,slow=34							
TSUM	**Tsumeb**	**51.68**	**67**	LR	LR	LR	02 03 36.3	
	comp=Z,78nm,21.2s,baz=200,slow=30							
ETMB	**Extrema**	**52.57**	**316**	P	**P**	**P**	**01 47 07.4**	**0.0**
ETMB				IAmb	IAmb	IAmb	01 47 30.2	
	comp=Z,2.2nm,0.9s							
NNA	**Nana**	**55.37**	**303**	LR	LR	LR	02 14 36.3	
	comp=Z,37nm,18.0s,baz=154,slow=40							
ATAH	**Atahualpa**	**60.33**	**304**	LR	LR	LR	02 16 12.6	
	comp=Z,52nm,18.6s,baz=132,slow=38							
LSZ	**Lusaka**	**60.64**	**74**	LR	LR	LR	02 11 52.1	
	comp=Z,190nm,18.4s,baz=172,slow=34							
LSZ	**Lusaka**	**60.64**	**74**	P	**P**	**P**	**01 48 05.6**	**+0.5**
LSZ				IAmb	IAmb	IAmb	01 48 16.8	
	comp=Z,7.1nm,1.1s							
BOAV	**Boa Vista**	**61.86**	**327**	P	**P**	**P**	**01 48 13.1**	**0.0**
BOAV				IAmb	IAmb	IAmb	01 48 18.9	
	comp=Z,5.7nm,1.1s							
MDP	**Montagnes des**	**62.32**	**337**	LR	LR	LR	02 13 44.2	
	comp=Z,98nm,20.7s,baz=132,slow=34							
COHC	**Cochancay**	**64.82**	**306**	P	**P**	**P**	**01 48 33.8**	**+1.1**
COHC				IAmb	IAmb	IAmb	01 48 46.5	
	comp=Z,1.6nm,0.8s							
DBIC	**Dimbokro**	**65.50**	**30**	LR	LR	LR	02 10 32.4	
	comp=Z,112nm,18.5s,baz=158,slow=30							
OPO	**Ambohidratompo**	**68.83**	**92**	LR	LR	LR	02 12 11.4	
	comp=Z,82nm,18.3s,baz=3.0,slow=30							
KOWA	**Kowa**	**73.19**	**28**	LR	LR	LR	02 17 22.8	
	comp=Z,202nm,18.9s,baz=168,slow=32							
TOA0	**Torodi Ar. Sit**	**73.63**	**34**	P	**P**	**P**	**01 49 26.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**73.63**	**34**	P	**P**	**P**	**01 49 27.2**	**0.0**
	comp=Z,3.0nm,0.8s,baz=199,slow=6.4,SNR=15							
	comp=Z,3.0nm,0.8s							
MBAR	**Mbarara**	**74.20**	**67**	P	**P**	**P**	**01 49 30.9**	**0.0**
MBAR				IAmb	IAmb	IAmb	01 49 38.7	
	comp=Z,11nm,1.4s							
FINES	**FINESS Array B**	**124.80**	**30**	PKP		**PKPdf**	**01 56 51.0**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=180,slow=2.4,SNR=8.4							
CMAR	**Chiang Mai Arr**	**127.99**	**115**	PKP		**PKiKP**	**01 57 00.3**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=275,slow=4.4,SNR=1.2							

CTGM	**Chitina Glacie**	**143.77**	**309**	PKPdf	**PKPdf**	**01 57 27.7**	**-0.1**
ZAA0	**Zalesovo Array**	**144.40**	**65**	PKPdf	**PKPdf**	**01 57 28.4**	**-0.5**
ZALV	**Zalesovo Beam**	**144.40**	**65**	PKP	PKPbc	01 57 27.8	+0.3
	comp=Z,3.3nm,0.6s,baz=222,slow=4.0,SNR=16						
LZH	**Lanzhou**	**144.50**	**104**	*e*PKP	**PKPab**	**01 57 27.4**	**-1.0**
LZH				pPKP	PKiKP	01 57 34.6	+1.0
BCAR	**Beaver Creek A**	**144.75**	**312**	PKPdf	PKPbc	01 57 28.6	+0.2
EGAK	**Eagle**	**145.05**	**315**	PKPbc	**PKPdf**	**01 57 30.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**145.62**	**307**		**PKPab**	**01 57 32.5**	**+1.0**
SCM	**Sheep Creek Mo**	**146.77**	**308**	PKPbc	**PKPab**	**01 57 35.5**	**-0.5**
DHY	**Denali Highway**	**147.16**	**311**	PKPbc	**PKPbc**	**01 57 35.9**	**0.0**
ILAR	**Eielson Array**	**147.40**	**314**	PKPbc	**PKPbc**	**01 57 35.8**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=125,slow=2.2,SNR=19						
CCB	**Clear Creek Bu**	**147.76**	**313**	PKPbc	**PKPbc**	**01 57 36.9**	**-0.3**
MCK	**McKinley**	**148.02**	**311**	PKPbc	**PKPbc**	**01 57 38.1**	**+0.1**
NEA2	**Nenana**	**148.28**	**313**	PKPbc	**PKPbc**	**01 57 39.3**	**+0.7**
BPAW	**Bear Paw Mtn.**	**148.98**	**312**	PKPbc	**PKPbc**	**01 57 40.8**	**+0.3**
O18K	**Koktuh Hills**	**149.87**	**303**	PKPbc	**PKiKP**	**01 57 43.2**	**-0.5**
SONM	**Songino Array**	**153.42**	**88**	PKPbc	**PKiKP**	**01 57 51.5**	**-0.1**
	comp=Z,1.2nm,0.5s,bac=231,slow=4.0,SNR=6.8						

ROM 04 01:42:51.2±0.1, 42°.581N±0°.003×13°.246E±0°.004, h11km, ML1.9/18, 16C-8D, Error ellipse: s-maj=0.3km s-min=0.1km az=219.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.07**	**198**	P	Pg	01 42 54.1	+0.4
RM33				S	Sg	01 42 55.7	+0.1
RM33				AML	AML		
	comp=E,3325μm,1.4s						
RM33				AML	AML		
	comp=E,3275μm,1.4s						
RM33				AML	AML		
	comp=N,4155μm,0.1s						
RM33				AML	AML		
	comp=N,4070μm,0.1s						
RM33				AML	AML		
	comp=E,3270μm,1.4s						
RM33				AML	AML		
	comp=E,3325μm,1.4s						
RM33				AML	AML		
	comp=N,4150μm,0.1s						
RM33				AML	AML		
	comp=N,4065μm,0.1s						
T1204	**Amatrice, Fraz**	**0.11**	**29**	↑P	Pg	01 42 54.6	+0.4
T1204				S	Sg	01 42 56.6	+0.2
T1202	**Accumoli, Fraz**	**0.12**	**353**	↑P	Pg	01 42 54.9	+0.6
T1202				S	Sg	01 42 57.3	+0.7
CAMP	**Campotosto**	**0.13**	**110**	↑P	Pg	01 42 55.0	+0.6
CAMP				S	Sg	01 42 57.5	+0.8
CAMP				AML	AML		
	comp=N,630μm,1.2s						
CAMP				AML	AML		
	comp=E,534μm,0.6s						
LNSS	**Leonessa**	**0.15**	**278**	↑P	Pg	01 42 55.2	+0.4
LNSS				S	Sg	01 42 57.8	+0.5
LNSS				AML	AML		
	comp=E,1885μm,0.5s						
LNSS				AML	AML		
	comp=N,1740μm,1.5s						
LNSS				AML	AML		
	comp=N,1735μm,1.5s						
T1244	**Arquata del Tr**	**0.18**	**12**	↑P	Pg	01 42 55.7	+0.5
T1244				AML	AML		
	comp=E,646μm,0.3s						
T1244				AML	AML		
	comp=N,726μm,0.7s						
T1243	**Rocca Santa Ma**	**0.19**	**52**	↑P	Pg	01 42 55.8	+0.4
T1243				S	Sg	01 42 59.0	+0.7
T1242	**Castelluccio d**	**0.25**	**353**	↑P	Pg	01 42 57.0	+0.5
TERO	**Teramo**	**0.27**	**81**	↑P	Pg	01 42 57.1	+0.4
TERO				S	Sg	01 43 01.2	+0.9
TERO				AML	AML		
	comp=N,394μm,1.2s						
TERO				AML	AML		
	comp=E,332μm,0.2s						
TERO				AML	AML		
	comp=N,394μm,1.2s						
GIGS	**Gran Sasso**	**0.27**	**119**	↑P	Pg	01 42 57.2	+0.4
GIGS				S	Sg	01 43 01.6	+1.1
GIGS				AML	AML		
	comp=E,116μm,0.1s						
GIGS				AML	AML		
	comp=N,82μm,0.3s						
GIGS				AML	AML		
	comp=E,117μm,0.1s						
T1241	**Roccafluvione,**	**0.31**	**26**	↑P	Pg	01 42 57.8	+0.3
T1241				S	Sg	01 43 02.6	+1.0
T1241				AML	AML		
	comp=N,132μm,0.7s						
T1241				AML	AML		
	comp=E,228μm,0.2s						
T1241				AML	AML		
	comp=E,228μm,0.2s						
FIAM	**Fiamignano**	**0.33**	**197**	↑P	Pg	01 42 58.2	+0.4
FIAM				AML	AML		
	comp=E,170μm,0.9s						
FIAM				AML	AML		
	comp=N,138μm,0.5s						
MC2	**Monte Cornacci**	**0.33**	**353**	↓P	Pg	01 42 58.5	+0.5
ARRO	**Arrone**	**0.35**	**270**	↑P	Pg	01 42 58.5	+0.2
ARRO				AML	AML		
	comp=E,154μm,0.2s						
ARRO				AML	AML		
	comp=N,132μm,1.0s						
ARRO				AML	AML		
	comp=E,155μm,0.2s						
ARRO				AML	AML		
	comp=N,132μm,1.0s						
T1215	**Vallo di Nera,**	**0.36**	**309**	P	Pg	01 42 58.3	0.0
FAGN	**Fagnano**	**0.40**	**141**	↓P	Pg	01 42 59.7	+0.5
FAGN				AML	AML		
	comp=E,312μm,0.9s						
FAGN				AML	AML		
	comp=N,287μm,0.4s						
FAGN				AML	AML		
	comp=N,288μm,0.4s						
FAGN				AML	AML		
	comp=E,312μm,0.9s						
FDMO	**Fiordimonte**	**0.47**	**346**	↓P	Pg	01 43 00.6	+0.2
FDMO				AML	AML		
	comp=N,60μm,0.6s						
FDMO				AML	AML		
	comp=E,54μm,0.2s						
VCEL	**Villa Celiera**	**0.48**	**113**	P	Pb	01 43 01.3	-0.3
VCEL				AML	AML		
	comp=N,360μm,0.9s						
VCEL				AML	AML		
	comp=E,316μm,0.6s						
VCEL				AML	AML		
	comp=N,360μm,0.9s						
OFFI	**Offida**	**0.48**	**42**	↓P	Pb	01 43 01.9	+0.3
OFFI				AML	AML		
	comp=E,266μm,0.4s						
OFFI				AML	AML		
	comp=N,439μm,0.5s						
GUMA	**Gualdo di Mace**	**0.49**	**8**	↓P	Pb	01 43 01.4	-0.4
GUMA				AML	AML		
	comp=N,432μm,1.4s						
GUMA				AML	AML		
	comp=N,376μm,0.3s						
GUMA				AML	AML		
	comp=E,506μm,0.3s						
GUMA				AML	AML		
	comp=E,658μm,0.3s						
CESX	**Cesi**	**0.49**	**274**	↓P	Pg	01 43 00.8	0.0
CESX				AML	AML		
	comp=E,90μm,0.7s						
CESX				AML	AML		
	comp=N,112μm,0.5s						
CESX				AML	AML		
	comp=E,90μm,0.7s						
CSP1	**Cessapalombo**	**0.51**	**357**	↑P	Pg	01 43 01.6	+0.4
T0110	**Collepietro**	**0.53**	**132**	↑P	Pg	01 43 01.9	+0.4
T0110				AML	AML		
	comp=E,154μm,0.7s						
T0110				AML	AML		
	comp=E,155μm,0.7s						
T0110				AML	AML		
	comp=N,174μm,0.9s						
TRTR	**Tortoreto Alta**	**0.54**	**65**	↑P	Pb	01 43 02.9	+0.2
SRES	**S.Oreste - Sor**	**0.64**	**238**	↓P	Pb	01 43 04.1	-0.3
SRES				AML	AML		
	comp=E,50μm,0.2s						
SRES				AML	AML		
	comp=N,40μm,0.9s						
INTR	**Introdacqua**	**0.75**	**139**	↑P	Pg	01 43 05.5	-0.2
INTR				S	Sn	01 43 18.0	-1.1
INTR				AML	AML		
	comp=E,32μm,0.9s						
INTR				AML	AML		
	comp=N,64μm,0.6s						
INTR				AML	AML		
	comp=N,64μm,0.6s						
FOSV	**Fossato di Vic**	**0.80**	**334**	P	Pb	01 43 07.4	+0.3
LPEL	**Lama dei Pelig**	**0.88**	**127**	S	Sb	01 43 21.0	+0.9
MGAB	**Montegabbione**	**0.90**	**292**	↓P	Pg	01 43 08.4	-0.1
MGAB				AML	AML		
	comp=E,70μm,0.6s						
MGAB				AML	AML		
	comp=N,70μm,0.4s						
MGAB				AML	AML		
	comp=E,70μm,0.6s						
PESA	**Pesaro**	**1.39**	**348**	S	Sb	01 43 35.0	+0.1

NOU ***04*** *01:42:58.2, 37°.44S×179°.95W, h106km, MLv4.8/8, East of North Island, N.Z.*
NEIC ***04*** *01:43:04.6±0.8, 37°.5S±0°.1×179°.19E±0°.07, h10km±1km, mb4.2/5, Error ellipse: s-maj=19.5km s-min=9.7km az=359.0*
WEL ***04*** *01:43:08.0±1.0, 37°.5S±4°.×17°.9E±°, h10km, M4.1/14, MLv4.1/14, Error ellipse: s-maj=0.0km s-min=0.0km az=95.4*
IDC ***04*** *01:43:11.7±2.9, 37°.07S×177°.76E, h0km, mb3.9/2, mbtmp3.9/2, MS3.5/1, Error ellipse: s-maj=61.4km s-min=24.0km az=93.0*

ISC 04 01:43:02.6±2.2, 37°.45S±0°.05×179°.21E±0°.08, h4km±11km, n132, σ1$22/140, mb3.8/5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.73**	**261**		**Pb**	**01 43 18.1**	**+0.2**
MXZ	**Matakaoa Point**	**0.73**	**261**	P	**Pb**	**01 43 18.0**	**+0.2**
MXZ				S	**Sg**	**01 43 23.0**	**-3.0**
WMGZ	**Waiomatatini S**	**0.73**	**239**	P	**Pn**	**01 43 20.6**	**+0.8**
WMGZ				S	**Sb**	**01 43 29.2**	**+0.9**
PUZ	**Puketiti**	**0.98**	**230**	P	**Pn**	**01 43 24.4**	**+1.2**
PUZ				S	**Sn**	**01 43 36.5**	**-1.0**
PKGZ	**Pakihiroa**	**1.00**	**244**	P	**Pn**	**01 43 23.9**	**+0.3**
PKGZ				S	**Sg**	**01 43 34.6**	**-0.2**
HAZ	**Te Kaha**	**1.17**	**254**	P	**Pn**	**01 43 26.0**	**+0.1**
HAZ				S	**Sg**	**01 43 39.5**	**-0.9**
TWGZ	**Tauwhareparae**	**1.22**	**233**	P	**Pn**	**01 43 28.0**	**+1.5**
TWGZ				S	**Sn**	**01 43 43.1**	**-0.3**
CNGZ	**Carnagh Statio**	**1.30**	**217**	P	**Pg**	**01 43 30.6**	**+3.0**
CNGZ				S	**Sn**	**01 43 48.8**	**+3.3**
RUGZ	**Raukumara Rang**	**1.32**	**247**	P	**Pg**	**01 43 28.8**	**+0.9**
TKGZ	**Te Karaka**	**1.46**	**227**	P	**Pg**	**01 43 31.0**	**+0.4**
MWZ	**Matawai**	**1.60**	**236**	P	**Pb**	**01 43 32.5**	**-0.3**
WIZ	**White Island**	**1.61**	**267**	P	**Pb**	**01 43 32.7**	**-0.2**
WSRZ	**White Island S**	**1.62**	**267**	P	**Pg**	**01 43 33.4**	**-0.2**
RIGZ	**Rimuhau**	**1.70**	**222**	P	**Pb**	**01 43 34.4**	**-0.1**
RAGZ	**Rawiri**	**1.76**	**233**	P	**Pb**	**01 43 35.2**	**-0.4**
PRGZ	**Paritu Road**	**1.81**	**215**	P	**Pb**	**01 43 36.4**	**+0.2**
PRGZ				S	**Sn**	**01 43 57.9**	**-0.1**
WHRZ	**Whale Island**	**1.82**	**256**	P	**Pb**	**01 43 35.7**	**-0.8**
URZ	**Urewera**	**1.85**	**243**	Pn	**Pb**	**01 43 36.2**	**-0.7**
	68nm,0.3s,baz=211,slow=2.3,SNR=567						
URZ				Sn	**Sn**	**01 43 56.8**	**-2.1**
	208nm,0.3s,baz=211,slow=14,SNR=24						
URZ	**Urewera**	**1.85**	**243**		**Pn**	**01 43 35.9**	**+0.7**
URZ	**Urewera**	**1.85**	**243**	P	**Pb**	**01 43 36.5**	**-0.5**
URZ				S	**Sn**	**01 43 56.5**	**-2.5**
URZ	**Urewera**	**1.85**	**243**	P	**Pb**	**01 43 36.4**	**-0.5**
KNZ	**Kokohu**	**1.98**	**217**	P	**Pn**	**01 43 37.7**	**+0.7**
MHGZ	**Mahia Peninsul**	**1.99**	**211**	P	**Pb**	**01 43 39.2**	**-0.2**
SNGZ	**Shannon Statio**	**1.99**	**227**	P	**Pn**	**01 43 38.0**	**+0.9**
EDRZ	**Edgecumbe**	**2.06**	**251**	P	**Pn**	**01 43 39.1**	**+0.9**
MARZ	**Manawahe**	**2.08**	**254**	P	**Pn**	**01 43 39.2**	**+0.8**
RTZ	**Ruatahuna**	**2.11**	**236**	P	**Pb**	**01 43 40.3**	**-1.2**
OPRZ	**Ohinepanea**	**2.14**	**259**	P	**Pn**	**01 43 39.5**	**+0.3**
MUGZ	**Murupara**	**2.18**	**241**	P	**Pn**	**01 43 40.8**	**+1.0**
RAHZ	**Arahi**	**2.22**	**238**	P	**Pn**	**01 43 41.6**	**+1.3**
WHHZ	**Waihua**	**2.25**	**223**	P	**Pn**	**01 43 41.8**	**+1.2**
MKRZ	**Makatiti**	**2.28**	**252**	P	**Pb**	**01 43 44.3**	**-0.1**
TARZ	**Mount Tarawera**	**2.28**	**249**	P	**Pn**	**01 43 42.3**	**+1.1**
RRRZ	**Republican Roa**	**2.31**	**247**	P	**Pn**	**01 43 42.6**	**+1.1**
MTHZ	**Maungataniwha**	**2.33**	**232**	P	**Pn**	**01 43 43.4**	**+1.5**
OMRZ	**Omania**	**2.34**	**253**	P	**Pn**	**01 43 43.6**	**+1.6**
TGRZ	**Tauranga**	**2.36**	**262**	P	**Pn**	**01 43 42.9**	**+0.8**
MYRZ	**Mayor Island**	**2.37**	**273**	P	**Pn**	**01 43 43.3**	**+0.9**
HLRZ	**Highlands Stat**	**2.40**	**250**	P	**Pn**	**01 43 44.2**	**+1.5**
KARZ	**Kaharoa**	**2.42**	**255**	P	**Pn**	**01 43 43.9**	**+0.9**
PRRZ	**Plateau Road**	**2.46**	**244**	P	**Pn**	**01 43 44.5**	**+1.0**
NGRZ	**Ngongotaha**	**2.48**	**254**	P	**Pn**	**01 43 45.7**	**+1.8**
HRRZ	**Handcock Road**	**2.50**	**247**	P	**Pn**	**01 43 45.4**	**+1.2**
HSRZ	**Hossack Road**	**2.50**	**249**	P	**Pb**	**01 43 47.2**	**-0.9**
NMHZ	**Naumai**	**2.51**	**228**	P	**Pn**	**01 43 45.6**	**+1.3**
ARHZ	**Aropaoanui**	**2.51**	**223**	P	**Pn**	**01 43 45.5**	**+1.2**
ALRZ	**Allen Road**	**2.52**	**245**	P	**Pn**	**01 43 45.9**	**+1.5**
MRHZ	**Matea Rd**	**2.60**	**237**	P	**Pn**	**01 43 46.5**	**+1.6**
KMRZ	**Kaimai**	**2.62**	**260**	P	**Pn**	**01 43 46.6**	**+0.7**
WPRZ	**Whakapapatarin**	**2.63**	**245**	P	**Pn**	**01 43 47.4**	**+1.5**
BKZ	**Black Stump Fm**	**2.74**	**230**		**Pn**	**01 43 47.9**	**+0.4**
BKZ	**Black Stump Fm**	**2.74**	**230**	P	**Pn**	**01 43 48.4**	**+1.0**
BKZ	**Black Stump Fm**	**2.74**	**230**	P	**Pn**	**01 43 48.5**	**+1.0**
CKHZ	**Cape Kidnapper**	**2.77**	**216**	P	**Pn**	**01 43 48.3**	**+0.5**
HATZ	**Hinemaiaia**	**2.85**	**239**	P	**Pn**	**01 43 49.7**	**+0.8**
KUTZ	**Kaahu Road**	**2.87**	**248**	P	**Pn**	**01 43 50.4**	**+1.2**
KUZ	**Kuaotunu**	**2.88**	**283**	P	**Pn**	**01 43 48.0**	**-1.3**
KWHZ	**Kaweka Forest**	**2.95**	**227**	P	**Pn**	**01 43 50.7**	**+0.4**
TOZ	**Tahuroa Road**	**2.96**	**263**	P	**Pn**	**01 43 50.8**	**+0.4**
KAHZ	**Kahuranaki**	**2.97**	**217**	P	**Pn**	**01 43 50.7**	**+0.1**
RITZ	**Rihia Road**	**3.05**	**239**	P	**Pn**	**01 43 52.8**	**+1.1**
RATZ	**Rangitukua**	**3.06**	**241**	P	**Pn**	**01 43 53.1**	**+1.3**
KRHZ	**Kereru**	**3.12**	**225**	P	**Pn**	**01 43 52.8**	**0.0**
KATZ	**Kakaramea**	**3.16**	**240**	P	**Pn**	**01 43 54.3**	**+1.0**
PXZ	**Pawanui**	**3.17**	**215**	P	**Pn**	**01 43 53.1**	**-0.2**
BHHZ	**Black Hill Sta**	**3.20**	**230**	P	**Pn**	**01 43 54.2**	**+0.4**
TMVZ	**Te Maari**	**3.22**	**238**	P	**Pn**	**01 43 54.7**	**+0.6**
ETVZ	**East Tongariro**	**3.23**	**237**	P	**Pn**	**01 43 54.8**	**+0.6**
NTVZ	**North Tongarir**	**3.23**	**238**	P	**Pn**	**01 43 55.0**	**+0.7**
GRZ	**Great Barrier**	**3.24**	**291**	P	**Pn**	**01 43 54.1**	**-0.1**
MKAZ	**Moumakai**	**3.25**	**275**	P	**Pn**	**01 43 53.9**	**-0.4**
KRVZ	**Karewarewa**	**3.25**	**239**	P	**Pn**	**01 43 55.3**	**+0.7**
OTVZ	**Oturere**	**3.27**	**237**	P	**Pn**	**01 43 55.5**	**+0.6**
NNVZ	**North Ngauruho**	**3.29**	**238**	P	**Pn**	**01 43 56.1**	**+1.0**
WTVZ	**West Tongariro**	**3.30**	**239**	P	**Pn**	**01 43 56.2**	**+1.0**
SNVZ	**South Ngauruho**	**3.30**	**237**	P	**Pn**	**01 43 55.8**	**+0.6**
NGZ	**Ngauruhoe**	**3.32**	**238**	P	**Pn**	**01 43 56.2**	**+0.6**
TUVZ	**Tukino**	**3.33**	**236**	P	**Pn**	**01 43 56.8**	**+1.1**
MOVZ	**Moawhango**	**3.34**	**233**	P	**Pn**	**01 43 55.9**	**+0.1**
TWVZ	**Taurewa**	**3.38**	**240**	P	**Pn**	**01 43 57.2**	**+0.9**
WHVZ	**Whangaehu Hut**	**3.38**	**236**	P	**Pn**	**01 43 57.0**	**+0.5**
WPHZ	**Waipukurau**	**3.39**	**219**	P	**Pn**	**01 43 56.3**	**-0.1**
FWVZ	**Far West T-bar**	**3.39**	**237**	P	**Pn**	**01 43 57.2**	**+0.6**
WNVZ	**Wahianoa**	**3.40**	**235**	P	**Pn**	**01 43 57.0**	**+0.4**
PNHZ	**Pukenui**	**3.41**	**223**	P	**Pn**	**01 43 56.0**	**-0.6**
ETAZ	**East Tamaki Re**	**3.45**	**277**	P	**Pn**	**01 43 58.2**	**+1.0**
PRHZ	**Porangahau**	**3.46**	**215**	P	**Pn**	**01 43 56.9**	**-0.4**
MBAZ	**Motutapu North**	**3.51**	**280**	P	**Pn**	**01 43 59.2**	**+1.2**
PKVZ	**Pokaka**	**3.55**	**238**	P	**Pn**	**01 43 59.6**	**+1.0**
HIZ	**Hauiti**	**3.60**	**252**		**Pn**	**01 44 00.5**	**+1.3**
HIZ	**Hauiti**	**3.60**	**252**	P	**Pn**	**01 44 00.9**	**+1.7**
HIZ	**Hauiti**	**3.60**	**252**	P	**Pn**	**01 44 01.1**	**+1.9**
EPAZ	**Eden Park BICE**	**3.61**	**278**	P	**Pn**	**01 44 01.1**	**+1.7**
HBAZ	**Herne Bay Bore**	**3.63**	**278**	P	**Pn**	**01 44 01.3**	**+1.7**
TSZ	**Takapari Road**	**3.64**	**223**	P	**Pn**	**01 43 58.5**	**-1.3**
AWAZ	**Awhitu Peninsu**	**3.66**	**275**	P	**Pn**	**01 44 01.4**	**+1.3**
ANWZ	**Angora Road**	**3.69**	**214**	P	**Pn**	**01 43 60.0**	**-0.4**
DVHZ	**Dannevirke**	**3.71**	**219**	P	**Pn**	**01 43 60.0**	**-0.7**
WTAZ	**Waiatarua**	**3.74**	**277**	P	**Pn**	**01 44 03.2**	**+2.1**
RVAZ	**Riverhead Bore**	**3.76**	**279**	P	**Pn**	**01 44 02.8**	**+1.3**
BFZ	**Birch Farm**	**3.97**	**215**		**Pn**	**01 44 03.1**	**-1.2**
BFZ	**Birch Farm**	**3.97**	**215**	P	**Pn**	**01 44 03.2**	**-1.1**
BFZ	**Birch Farm**	**3.97**	**215**	P	**Pn**	**01 44 03.2**	**-1.1**
POWZ	**Post Office Ro**	**3.98**	**221**	P	**Pn**	**01 44 03.6**	**-0.9**
PRWZ	**Pori Road**	**4.00**	**218**	P	**Pn**	**01 44 04.3**	**-0.4**
WAZ	**Wanganui**	**4.03**	**234**	P	**Pn**	**01 44 06.3**	**+1.1**
OHWZ	**Ohakea**	**4.10**	**227**	P	**Pn**	**01 44 06.4**	**+0.3**
CPWZ	**Castlepoint**	**4.17**	**213**	P	**Pn**	**01 44 06.2**	**-0.8**
WCZ	**Waipu Caves**	**4.19**	**290**	P	**Pn**	**01 44 07.5**	**+0.2**
TIWZ	**Tintock**	**4.21**	**217**	P	**Pn**	**01 44 06.9**	**-0.8**
NEZ	**North Egmont**	**4.41**	**244**	P	**Pn**	**01 44 13.0**	**+2.5**
PKE	**Pukeiti**	**4.46**	**245**	P	**Pn**	**01 44 14.7**	**+3.6**
KHEZ	**Kahui Hut**	**4.48**	**244**	P	**Pn**	**01 44 14.0**	**+2.7**
NBEZ	**Newall Road No**	**4.57**	**245**	P	**Pn**	**01 44 16.0**	**+3.4**
MSWZ	**Moikau Station**	**5.01**	**217**		**Pn**	**01 44 16.3**	**-2.3**
OUZ	**Omahuta**	**5.05**	**294**	P	**Pn**	**01 44 19.9**	**+0.8**
OUZ	**Omahuta**	**5.05**	**294**	P	**Pn**	**01 44 19.9**	**+0.8**
SNZO	**South Karori**	**5.20**	**221**	P	**Pn**	**01 44 19.1**	**-2.1**
KHZ	**Kahutara**	**6.60**	**220**	P	**Pn**	**01 44 38.9**	**-1.5**
CZ	**Chatham Island**	**7.04**	**154**	P	Pn	01 44 52.1	+5.7
RPZ	**Rata Peaks**	**8.81**	**222**	Pn	**Pn**	**01 45 08.2**	**-2.5**
	1.2nm,0.3s,baz=292,slow=3.5,SNR=7.8						
RPZ				Sn	Sn	01 46 37.7	-13
	3.7nm,0.3s,baz=310,slow=22,SNR=14						
RPZ	**Rata Peaks**	**8.81**	**222**	P	**Pn**	**01 45 08.8**	**-2.0**
DZM	**Mont Dzumac**	**18.88**	**321**	LR	LR	01 52 47.1	
	comp=Z,147nm,18.5s,baz=190,slow=32						
AS31	**Alice Springs**	**40.98**	**276**	P	**P**	**01 50 47.2**	**+0.4**
AS31				IAmb	IAmb	01 50 52.5	
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**40.98**	**276**	P	**P**	**01 50 46.9**	**0.0**
	comp=Z,1.3nm,0.6s,baz=123,slow=8.4,SNR=19						
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**40.98**	**276**	P	**P**	**01 50 45.6**	**-1.2**
WRA	**Warramunga Arr**	**42.62**	**281**	P	**P**	**01 50 59.5**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=121,slow=7.8,SNR=8.7						
	comp=Z,0.7nm,0.5s						
WRA	**Warramunga Arr**	**42.62**	**281**	P	**P**	**01 51 00.7**	**+0.5**
WB0	**Warramunga Arr**	**42.67**	**282**	P	**P**	**01 51 00.6**	**0.0**
WB0				IAmb	IAmb	01 51 14.4	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**52.68**	**180**	P	**P**	**01 52 18.4**	**+0.4**
QSPA				IAmb	IAmb	01 52 52.4	
	comp=Z,7.6nm,1.4s						
PSA00	**Pilbara Seismi**	**53.21**	**270**	P	**P**	**01 52 22.2**	**-0.1**
FINES	**FINESS Array B**	**150.71**	**334**	PKPbc	**PKPab**	**02 03 02.8**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=72,slow=4.5,SNR=3.4						

IDC 04 01:48:52.1±17.0, 0°.59S×129°.70E, h0km, mb3.7/2, mbtmp3.6/4, ML3.6/1, MS3.7/1, Error ellipse: s-maj=253.1km s-min=92.4km az=156.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.85**	**193**	P	Pn	01 53 01.2	-0.8
	0.5nm,0.4s,baz=23,slow=7.7,SNR=1.2						
WRA	**Warramunga Arr**	**19.76**	**167**	P	P	01 53 23.2	-0.7
	0.2nm,0.3s,baz=348,slow=11,SNR=7.0						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**23.30**	**170**	P	P	01 54 02.0	+0.2
	0.4nm,0.4s,baz=346,slow=9.5,SNR=8.4						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**33.09**	**161**	P	P	01 55 30.3	+0.5
	1.3nm,0.5s,baz=352,slow=15,SNR=3.0						
	1.3nm,0.5s						
RPZ	**Rata Peaks**	**56.54**	**145**	LR	LR	02 24 18.3	
	comp=Z,66nm,18.1s,baz=92,slow=38						

NOU ***04*** *01:49:05.8, 37°.19S×179°.85W, h106km, MLv4.5/7, East of North Island, N.Z.*
IDC ***04*** *01:49:09.8±3.1, 36°.84S×179°.04E, h0km, mb3.9/2, mbtmp3.9/3, ML3.8/1, MS3.6/1, Error ellipse: s-maj=74.8km s-min=41.4km az=129.0*
WEL ***04*** *01:49:14.9±1.2, 37°.5S±4°.×17°.9E±1°.0, h15km, M3.6/17, ML3.8/18, MLv3.6/17, Error ellipse: s-maj=0.0km s-min=0.0km az=97.3*

ISC 04 01:49:12.8±2.4, 37°.25S±0°.06×179°.21E±0°.09, h16km±10km, n97, σ1$00/99, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.79**	**246**	P	**Pg**	**01 49 28.3**	**+0.1**
MXZ				S	**Sg**	**01 49 37.7**	**-0.9**
WMGZ	**Waiomatatini S**	**0.86**	**228**	P	**Pn**	**01 49 31.5**	**+1.2**
WMGZ				S	**Sn**	**01 49 43.6**	**+1.2**
PKGZ	**Pakihiroa**	**1.11**	**234**	S	**Sg**	**01 49 48.6**	**-0.2**
PUZ	**Puketiti**	**1.12**	**222**	S	**Sg**	**01 49 50.4**	**+1.2**
TWGZ	**Tauwhareparae**	**1.35**	**226**	P	**Pn**	**01 49 38.1**	**+1.0**
TWGZ				S	**Sb**	**01 49 55.6**	**+0.7**
RUGZ	**Raukumara Rang**	**1.42**	**239**	P	**Pn**	**01 49 39.1**	**+1.1**
RUGZ				S	**Sn**	**01 49 57.1**	**+0.6**
CNGZ	**Carnagh Statio**	**1.47**	**212**	P	**Pn**	**01 49 40.7**	**+1.9**
TKGZ	**Te Karaka**	**1.61**	**222**	P	**Pn**	**01 49 41.3**	**+0.7**
TKGZ				S	**Sn**	**01 50 01.9**	**+0.9**
MWZ	**Matawai**	**1.72**	**230**	P	**Pn**	**01 49 42.9**	**+0.6**
MWZ				S	**Sn**	**01 50 03.1**	**-0.8**
RIGZ	**Rimuhau**	**1.86**

DVHZ	**Dannevirke**	**3.87**	**217**	P		**Pn**	**01 50 09.9**	**-1.8**
WCZ	**Waipu Caves**	**4.13**	**287**	P		**Pn**	**01 50 15.3**	**0.0**
POWZ	**Post Office Ro**	**4.14**	**220**	P		**Pn**	**01 50 14.1**	**-1.3**
BFZ	**Birch Farm**	**4.14**	**213**	P		**Pn**	**01 50 13.5**	**-1.9**
WAZ	**Wanganui**	**4.16**	**232**	P		**Pn**	**01 50 15.6**	**-0.1**
PRWZ	**Pori Road**	**4.16**	**216**	P		**Pn**	**01 50 14.5**	**-1.3**
TIWZ	**Tintock**	**4.38**	**215**	P		**Pn**	**01 50 17.2**	**-1.5**
OUZ	**Omahuta**	**4.97**	**292**	P		**Pn**	**01 50 27.2**	**+0.4**
OUZ	**Omahuta**	**4.97**	**292**	P		**Pn**	**01 50 27.4**	**+0.6**
KHZ	**Kahutara**	**6.76**	**218**	P		**Pn**	**01 50 50.1**	**-1.3**
CTZ	**Chatham Island**	**7.22**	**155**	P		**Pn**	**01 50 59.9**	**+2.2**
RPZ	**Rata Peaks**	**8.96**	**221**	Pn		Pn	01 51 17.5	-4.1
	0.4nm,0.3s,baz=241,slow=19,SNR=1.3							
RPZ				Sn		Sn	01 52 49.7	-13
	2.1nm,0.3s,baz=323,slow=23,SNR=15							
ODZ	**Otahua Downs**	**10.12**	**217**	P		Pn	01 51 34.1	-3.3
AFI	**Afiamalu**	**24.59**	**21**	LR		LR	02 03 46.6	
	comp=Z,129nm,19.9s,baz=176,slow=36							
ASAR	**Alice Springs**	**40.96**	**276**	P		**P**	**01 56 53.2**	**-1.8**
	1.2nm,0.6s,baz=120,slow=8.1,SNR=22							
	1.2nm,0.6s							
WRA	**Warramunga Arr**	**42.58**	**281**	P		**P**	**01 57 05.6**	**-2.7**
	1.0nm,0.5s,baz=123,slow=7.6,SNR=7.2							
	1.0nm,0.5s							
H03N3	**Juan Fernandez**	**78.84**	**123**	T		T	03 27 44.7	
	baz=234,slow=72							
H03N2	**Juan Fernandez**	**78.84**	**123**	T		T	03 27 42.2	
	baz=234,slow=72							
H03N1	**Juan Fernandez**	**78.86**	**123**	T		T	03 27 42.4	
	baz=234,slow=72							
FINES	**FINESS Array B**	**150.53**	**334**	PKPbc		**PKPdf**	**02 09 01.2**	**+3.7**
	3.5nm,0.9s,baz=35,slow=5.3,SNR=5.5							

IDC 04 01:50:46.6±3.1, 5°76S×152°50E, h0km, mb3.5/3, mbtmp3.5/3, MS3.4/1, Error ellipse: s-maj=75.9km s-min=20.6km az=96.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.52**	**342**	Pn	Pg	01 51 16.3	+0.5
	196nm,0.3s,baz=272,slow=2.9,SNR=144						
KRVT				Sn	Sg	01 51 34.5	-1.0
	105nm,0.3s,baz=171,slow=15,SNR=9.9						
KRVT				LR	LR	01 51 50.4	
	comp=Z,221nm,18.5s,baz=196,slow=42						
WRA	**Warramunga Arr**	**22.60**	**230**	P	P	01 55 47.5	-1.5
	0.3nm,0.5s,baz=52,slow=9.8,SNR=5.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**25.25**	**223**	P	P	01 56 15.6	+0.9
	0.6nm,0.8s,baz=60,slow=8.8,SNR=6.8						
ASAR				LR	LR	02 05 20.7	
	comp=Z,87nm,18.9s,baz=134,slow=35						
	0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.95**	**243**	P	P	01 56 48.4	+0.5
	0.6nm,0.3s,baz=67,slow=6.9,SNR=1.5						
	0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**150.31**	**286**	PKPbc	PKPbc	02 10 40.0	-0.9
	0.4nm,0.5s,baz=80,slow=2.4,SNR=9.1						

IDC 04 02:08:54.0±0.7, 29°29S×61°09E, h0km, mb3.9/9, mbtmp4.0/10, ML4.4/1, MS3.6/8, Error ellipse: s-maj=31.7km s-min=20.4km az=44.0

NEIC 04 02:09:02.2±1.2, 28°35S±0°2×60°7E±0°2, h10km±2km, mb4.2/8, Error ellipse: s-maj=30.7km s-min=17.0km az=215.0

ISC 04 02:08:55.9±0.7, 29°4S±0°1×60°9E±0°1, h10km, n41, σ1§19/25, mb4.1/13, MS3.6/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.39**	**329**	Pn	Pn	02 11 03.7	-7.8
FOMA	**Nahampoana Res**	**13.14**	**286**	Pn	**Pn**	**02 12 01.7**	**-0.9**
VOI	**Vohitsoka**	**14.72**	**297**		**Pn**	**02 12 21.7**	**-2.6**
OPO	**Ambohidratompo**	**16.48**	**308**	Pn	**Pn**	**02 12 46.3**	**-1.2**
	0.1nm,0.3s,baz=113,slow=17,SNR=12						
OPO				Sn	Sn	02 15 38.1	-13
	0.2nm,0.3s,baz=330,slow=22,SNR=6.5						
	3.7nm,0.4s						
H08S1	**Diego Garcia H**	**24.18**	**29**	T	T	02 38 57.9	
	baz=204,slow=76,SNR=3.4						
H08S2	**Diego Garcia H**	**24.19**	**29**	T	T	02 38 59.0	
	baz=204,slow=76,SNR=10.0						
H08S3	**Diego Garcia H**	**24.20**	**29**	T	T	02 38 55.9	
	baz=204,slow=76,SNR=10.0						
BOSA	**Boshof**	**31.12**	**262**	LR	LR	02 24 55.0	
	comp=Z,88nm,20.5s,baz=82,slow=31						
LBTB	**Lobatse**	**31.63**	**269**	LR	LR	02 25 36.5	
	comp=Z,88nm,20.3s,baz=122,slow=32						
LSZ	**Lusaka**	**33.22**	**288**	LR	LR	02 28 51.9	
	comp=Z,102nm,18.0s,baz=163,slow=36						
LSZ	**Lusaka**	**33.22**	**288**	P	**P**	**02 15 34.6**	**+1.2**
LSZ				IAmb	IAmb	02 15 37.0	
	comp=Z,4.9nm,0.9s						
KMBO	**Kilima Mbogo**	**35.99**	**317**	LR	LR	02 29 52.3	
	comp=Z,104nm,18.7s,baz=103,slow=35						
MAW	**Mawson**	**38.30**	**179**	LR	LR	02 28 37.5	
	comp=Z,91nm,18.4s,baz=318,slow=31						
MBAR	**Mbarara**	**40.55**	**309**	LR	LR	02 31 59.5	
	comp=Z,80nm,19.0s,baz=146,slow=34						
ATD	**Arta Tunnel**	**44.22**	**334**	LR	LR	02 32 58.2	
	comp=Z,167nm,18.4s,baz=172,slow=33						
H01W2	**Cape Leeuwin H**	**44.99**	**111**	T	T	03 04 51.7	
	baz=261,slow=75,SNR=31						
H01W3	**Cape Leeuwin H**	**44.99**	**111**	T	T	03 04 52.0	
	baz=261,slow=75,SNR=31						
H01W1	**Cape Leeuwin H**	**45.00**	**111**	T	T	03 04 53.0	
	baz=261,slow=75,SNR=44						
SNAA	**Sanae**	**54.21**	**200**	P	**P**	**02 18 20.8**	**-0.5**
	comp=Z,1.2nm,1.0s,baz=326,slow=8.8,SNR=2.4						
SNAA				LR	LR	02 37 51.0	
	comp=Z,46nm,19.5s,baz=102,slow=32						
	comp=Z,1.2nm,1.0s						
VNDA	**Vanda**	**63.90**	**166**	P	**P**	**02 19 29.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=268,slow=6.6,SNR=4.0						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**64.62**	**104**	P	**P**	**02 19 32.5**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=245,slow=6.0,SNR=17						
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**64.62**	**104**	P	P	02 19 42.7	+8.6
AS31	**Alice Springs**	**64.62**	**104**	P	P	02 19 43.0	+8.9
WRA	**Warramunga Arr**	**66.45**	**100**	P	**P**	**02 19 44.1**	**-1.8**
	comp=Z,1.3nm,0.9s,baz=243,slow=5.5,SNR=5.3						
	comp=Z,1.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**71.02**	**298**	P	**P**	**02 20 14.7**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=118,slow=5.8,SNR=7.9						
	comp=Z,1.6nm,0.8s						
KK31	**Karatay Array**	**72.64**	**7**	P	**P**	**02 20 23.0**	**-0.4**
KK31				IAmb	IAmb	02 20 26.5	
	comp=Z,1.3nm,0.8s						
KKAR	**Karatay Array**	**72.64**	**7**	P	**P**	**02 20 22.5**	**-0.9**
AAK	**Ala-Archa**	**72.72**	**10**	P	**P**	**02 20 25.5**	**+1.4**
AAK				IAmb	IAmb	02 20 27.0	
	comp=Z,3.4nm,1.1s						
BRTR	**Keskin Array B**	**73.25**	**338**	P	**P**	**02 20 26.7**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=141,slow=7.9,SNR=5.3						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**78.22**	**15**	P	**P**	**02 20 55.4**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=184,slow=4.9,SNR=6.2						
	comp=Z,1.1nm,0.9s						
MKAR	**Makanchi Array**	**78.22**	**15**	P	**P**	**02 20 56.0**	**+0.6**
ABKAR	**Akbulak array**	**78.25**	**359**	P	**P**	**02 20 55.0**	**-0.5**
KURK	**Kurchatov**	**81.24**	**11**	P	**P**	**02 21 12.2**	**+0.6**
KURK				IAmb	IAmb	02 21 14.9	
	comp=Z,2.7nm,1.1s						
BURAR	**Bucovina Array**	**83.07**	**337**	P	**P**	**02 21 22.8**	**+1.3**
AKASG	**Malin Array Be**	**84.48**	**340**	P	**P**	**02 21 27.9**	**-0.6**
	comp=Z,0.1nm,0.2s,baz=152,slow=4.1,SNR=4.2						
	comp=Z,0.1nm,0.2s						
ARU	**Arti**	**85.46**	**359**	P	**P**	**02 21 35.2**	**+1.9**
ZAA0	**Zalesovo Array**	**85.50**	**14**	P	**P**	**02 21 34.1**	**+0.5**
ZALV	**Zalesovo Beam**	**85.50**	**14**	P	**P**	**02 21 34.6**	**+1.0**
ESDC	**Sonseca Array**	**91.37**	**316**	P	**P**	**02 22 03.4**	**+1.3**
	comp=Z,0.9nm,1.0s,baz=106,slow=4.3,SNR=5.5						
	comp=Z,0.9nm,1.0s						
PDAR	**Pinedale Array**	**164.56**	**333**	PKP	**PKPdf**	**02 28 59.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=34,slow=3.4,SNR=4.2						
TXAR	**Lajitas Array**	**166.54**	**274**	PKP	**PKPdf**	**02 29 02.9**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=134,slow=2.6,SNR=4.9						

BJI 04 02:38:07.2±0.0, 8°44N×126°24E, h6km, mb5.5/83, mB5.6/81, Ms5.7/97, Ms7 5.5/92

MOS 04 02:38:09.5±0.9, 8°48N×125°91E, h13km, mb6.0/85, MS5.4/36, Error ellipse: s-maj=6.8km s-min=3.7km az=114.2

NEIC 04 02:38:11.2, 8°43N×125°89E, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.47; $M_{\theta\theta}$1.15; $M_{\phi\phi}$1.32; $M_{r\theta}$-2.04; $M_{r\phi}$-0.93; $M_{\theta\phi}$2.87; Fault plane solution: $M_0$4.23000×10^{17} NP1:ϕ_s313.93000°, δ16.90000°, λ-98.93000°. NP2:ϕ_s143.26000°, δ73.31000°, λ-87.30000°. Principal axes: T 4.0566, Plg28.0000°, Azm231.0000°; N 0.3188, Plg3.0000°, Azm322.0000°; P -4.3754, Plg62.0000°, Azm57.0000°;

MAN 04 02:38:12.4, 8°39N×125°81E, h6km, mb6.3, ML5.3, MS6.0

MAN INTENSITY VI - TALACOGON ROSARIO LORETO & LA PAZ AGUSAN DEL SUR; INTENSITY V - PROSPERIDAD AGUSAN DEL SUR; BUNAWAN AGUSAN DEL SUR; INTENSITY IV - BUTUAN CITY; HINATUAN SURIGAO DEL SUR; TAGUM CITY; INTENSITY III - GINGOOG MEDINA BALINGASAG SALAY JASAAN & BALINGOAN MISAMIS ORIENTAL; BISLI CITY; DAVAO CITY; TALAINGOD SAN ISIDRO KAPALONG & SAMAL ISLAND DAVAO DEL NORTE; INTENSITY II - CAGAYAN DE ORO CITY; INTENSITY I - KIDAPAWAN CITY.

NEIC 04 02:38:12.4±1.9, 8°40N±0°06×125°89E±0°07, h16km±1km, mb5.9/386, Ms_20 5.4/317, Mwb5.7/42, Mww5.8, Error ellipse: s-maj=11.3km s-min=9.8km az=86.0

GCMT 04 02:38:13.4±0.1, 8°38N×125°85E, h19km, MW5.8/156, Moment Tensor Solution. s154,c305; s156,c394; Duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.66±.04; $M_{\theta\theta}$2.95±.03; $M_{\phi\phi}$0.70±.03; $M_{r\theta}$-1.47±.07; $M_{r\phi}$-2.22±.03; $M_{\theta\phi}$3.69±.10; Best double couple: $M_0$5.65400×10^{17} NP1:ϕ_s146.00000°, δ69.00000°, λ-69.00000°. NP2:ϕ_s279.00000°, δ30.00000°, λ-133.00000°. Principal axes: T 5.5400, Plg21.0000°, Azm220.0000°; N 0.2260, Plg20.0000°, Azm318.0000°; P -5.7680, Plg61.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

IDC 04 02:38:13.3±1.9, 8°41N×125°92E, h26km±12km, mb5.5/42, mbtmp5.6/46, ML5.2/4, MS5.3/72 Error ellipse: s-maj=9.8km s-min=7.7km az=86.0

NEIC 04 02:38:14, 8°48N×126°11E, h18km, Moment Tensor Solution. Duration: 4§6 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.73; $M_{\theta\theta}$2.45; $M_{\phi\phi}$1.28; $M_{r\theta}$-3.32; $M_{r\phi}$-1.89; $M_{\theta\phi}$3.63; Fault plane solution: $M_0$6.21000×10^{17} NP1: ϕ_s297.00000°, δ19.00000°, λ-106.00000°. NP2: ϕ_s135.00000°, δ71.00000°, λ-84.00000°. Principal axes: T 6.2208, Plg26.0000°, Azm221.0000°; N -0.0242, Plg6.0000°, Azm313.0000°; P -6.1965, Plg63.0000°, Azm55.0000°;

DJA 04 02:38:16.2±0.4, 8°N±3°×12°6E±°, h50km±3km, M5.7/85, mb5.7/85, mB6.1/71, MLv6.4/6, Mw(mB)5.7/71, MwMwp5.5/48, Mwp5.7/48

KLM 04 02:38:20, 8°50N×125°83E, h81km, mb5.7

ISC 04 02:38:11.9±0.3, 8°39N±0°02×125°94E±0°02, h18km±1km, h19km:pP-P, n1721, σ1§58/1771, mb5.9/385, MS5.4/285, 86C-78D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.46**	**116**	↓iP	**Pb**	**02 38 21.8**	**+0.3**
BIPH				*i* S	**Sb**	**02 38 29.6**	**+1.7**
CDOP	**Cateel, Davao**	**0.77**	**141**	↓iP	**Pb**	**02 38 26.5**	**-0.3**
CDOP				*i* S	**Sg**	**02 38 37.7**	**+0.3**
BUKP	**Musuan**	**1.01**	**240**	↓eP	**Pb**	**02 38 30.1**	**-0.7**
BUKP				*i* S	**Sn**	**02 38 48.0**	**+3.1**
DAV	**Davao City (W)**	**1.36**	**195**	Pn	**Pg**	**02 38 38.0**	**-0.2**
	11µm,0.3s,baz=18,slow=3.5,SNR=884						
DAV				Sn	**Sg**	**02 38 59.1**	**+3.2**
	7µm,0.3s,baz=38,slow=19,SNR=4.9						
DAV				LR	LR	02 39 02.8	
	comp=Z,160µm,18.9s,baz=302,slow=36						
DAV	**Davao City (W)**	**1.36**	**195**		**Pb**	**02 38 36.9**	**+0.1**
DAV	**Davao City (W)**	**1.36**	**195**	P	**Pg**	**02 38 37.9**	**-0.2**
SCPH	**Surigao**	**1.46**	**342**	↓eP	**Pb**	**02 38 37.8**	**-0.7**
SCPH				*i* S	**Sg**	**02 39 01.7**	**+2.6**
KCP	**Kidapawan**	**1.61**	**212**	↑iP	**Pn**	**02 38 38.9**	**-0.6**
KCP				*i* S	**Sb**	**02 39 00.8**	**-0.3**
GHBP	**Garcia Hernand**	**2.02**	**308**	↑iP	**Pn**	**02 38 46.1**	**+0.9**
GHBP				*i* S	**Sb**	**02 39 12.1**	**-1.0**
MSLP	**Maasin**	**2.04**	**328**	↓eP	**Pn**	**02 38 46.6**	**+1.2**
MSLP				*i* S	Sg	02 39 26.5	+8.8
CTBH	**Cotabato--PC H**	**2.04**	**236**	↑eP	**Pn**	**02 38 45.8**	**+0.4**
TABP	**Talibon, Bohol**	**2.32**	**317**	↓eP	**Pn**	**02 38 49.5**	**+0.3**
TABP				*i* S	**Sn**	**02 39 18.5**	**+1.1**
LSIP	**Lazi, Siquijor**	**2.40**	**288**	↑eP	**Pn**	**02 38 50.6**	**+0.2**
LSIP				*i* S	**Sn**	**02 39 21.2**	**+1.8**
GSPH	**General Santos**	**2.49**	**203**	↑iP	**Pn**	**02 38 52.4**	**+0.7**
GSPH				*i* S	**Sb**	**02 39 24.6**	**-2.0**
DCPH	**Dipolog City**	**2.57**	**275**	↓eP	**Pn**	**02 38 53.4**	**+0.7**
DCPH				eS	**Sg**	**02 39 33.9**	**-0.8**
PAGZ	**Pagadian**	**2.59**	**258**	↑eP	**Pn**	**02 38 53.7**	**+0.8**
PAGZ				*i* S	**Sb**	**02 39 30.9**	**+1.5**
LLP	**Lapu-Lapu**	**2.74**	**315**	↓iP	**Pn**	**02 38 56.3**	**+1.3**
LLP				*i* S	**Sb**	**02 39 31.0**	**-2.6**
SNPH	**Sibulan**	**2.84**	**290**	↑iP	**Pn**	**02 38 57.1**	**+0.6**
SNPH				*i* S	**Sn**	**02 39 33.0**	**+2.8**
CNOP	**Candoni, Negro**	**3.56**	**294**	↓eP	**Pn**	**02 39 07.7**	**+1.3**
CNOP				*i* S	**Sg**	**02 40 05.2**	**-1.3**
ZCP	**Zamboanga City**	**4.10**	**250**	↓iP	**Pn**	**02 39 14.9**	**+1.2**
ZCP				*i* S	**Sb**	**02 40 11.6**	**-1.2**
RCP	**Roxas**	**4.46**	**315**	↓eP	**Pn**	**02 39 20.5**	**+1.9**
MMPH	**Masbate**	**4.56**	**330**	↑iP	Pb	02 39 26.2	-5.3
MMPH				*i* S	**Sg**	**02 40 38.5**	**0.0**
JAP	**San Jose, Anti**	**4.59**	**301**	↓eP	**Pn**	**02 39 23.5**	**+3.1**
SGSI	**Sangihe**	**4.69**	**185**	P	**Pn**	**02 39 22.8**	**+1.0**
GQP	**Guinayangan**	**6.47**	**328**	↑eP	Pn	02 39 52.5	+6.2
JCNP	**Jose Panganiba**	**6.67**	**332**	↓eP	**Pn**	**02 39 53.1**	**+4.0**
PGP	**Puerto Galera**	**7.06**	**316**	↓eP	Pb	02 40 05.5	-8.6
LQP	**Lukban**	**7.14**	**323**	↑eP	**Pn**	**02 39 59.0**	**+3.3**
PPR	**Puerto Princes**	**7.26**	**282**	↓eP	**Pn**	**02 39 58.4**	**+1.3**
TGY	**Tagaytay City**	**7.51**	**320**	↑eP	Pn	02 40 10.7	+10
TNTI	**Ternate**	**7.70**	**169**	Pn	**Pn**	**02 40 04.7**	**+1.5**
TNTI	**Ternate**	**7.70**	**169**	P	**Pn**	**02 40 03.9**	**+0.8**
	5.7nm16µm19µm1µm,0.8s						
TNTI	**Ternate**	**7.70**	**169**	P	**Pn**	**02 40 06.2**	**+3.1**
LUBP	**Lubang**	**7.71**	**314**	↑eP	**Pn**	**02 40 07.1**	**+3.7**
KMSI	**Cibinong**	**8.00**	**194**	P	**Pn**	**02 40 07.7**	**+0.3**
	7.7nm810nm18µm2µm,0.9s						
MYLDM	**Lahad Datu**	**8.05**	**247**	Pn	**Pn**	**02 40 08.3**	**+0.3**
GTOI	**Gorontalo**	**8.23**	**201**	P	**Pn**	**02 40 09.1**	**-1.5**
	12µm9µm872nm,0.8s						
I39PW	**PALAU INFRASON**	**8.56**	**95**	Pn	**Pn**	**02 40 11.6**	**-3.4**
	baz=308,slow=21						
I39PW				*i*		03 30 00.0	
	baz=275,slow=311,SNR=3.2						
MRSI	**Marisa**	**8.81**	**207**	P	**Pn**	**02 40 18.0**	**-0.5**
	35µm12µm1µm,1.2s						
TOLI2	**Tolitoli**	**8.87**	**216**	Pn	**Pn**	**02 40 16.7**	**-2.5**
TOLI2	**Tolitoli**	**8.87**	**216**	P	**Pn**	**02 40 20.2**	**+0.9**
LBMI	**Labuha**	**9.10**	**170**	P	**Pn**	**02 40 23.2**	**+0.8**
	11µm17µm1µm,1.3s						
LUWI	**Luwuk**	**9.88**	**199**		**Pn**	**02 40 34.6**	**+1.4**
LUWI	**Luwuk**	**9.88**	**199**	P	**Pn**	**02 40 34.2**	**+1.0**
	30µm25µm2µm,1.3s						
LUWI	**Luwuk**	**9.88**	**199**	P	**Pn**	**02 40 37.2**	**+4.0**
KKM	**Kota Kinabalu**	**9.93**	**257**	Pn	**Pn**	**02 40 34.1**	**+0.2**
KKM	**Kota Kinabalu**	**9.93**	**257**	P	**Pn**	**02 40 38.4**	**+4.5**
MPSI	**Mapaga**	**10.01**	**217**	P	**Pn**	**02 40 35.4**	**+0.5**
	31µm2µm98nm,1.3s						
SPMM	**Sapulut**	**10.10**	**249**	P	Pn	02 40 41.0	+4.8
APSI	**Ampana**	**10.18**	**205**	P	**Pn**	**02 40 38.5**	**+1.3**
	20µm9µm1µm,1.1s						
SANI	**Sanana**	**10.37**	**180**	P	**Pn**	**02 40 37.4**	**-2.4**
	21µm9µm1µm,1.1s						
SANI	**Sanana**	**10.37**	**180**	P	**Pn**	**02 40 39.5**	**-0.3**
APYP	**Conner**	**10.47**	**335**	↑eP	**Pn**	**02 40 45.6**	**+4.4**
SWI	**Sorong**	**10.61**	**150**	P	**Pn**	**02 40 44.2**	**+1.1**
	7µm6µm738nm,0.9s						
SIJI	**Sorong**	**10.62**	**150**	Pn	**Pn**	**02 40 44.3**	**+1.1**
	26nm,0.3s,baz=343,slow=6.1,SNR=46						
SIJI				Sn	**Sn**	**02 42 38.8**	**-2.9**
	7.7nm,0.3s,baz=130,slow=20,SNR=11						
SIJI				LR	LR	02 45 22.7	
	comp=Z,16µm,19.7s,baz=330,slow=40						
	298nm,0.7s						
PACPP	**Pamplona Cagay**	**10.96**	**336**	↑eP	**Pn**	**02 40 48.3**	**+0.3**
NLAI	**Namlea**	**11.61**	**174**	P	**Pn**	**02 40 55.2**	**-1.6**
	7µm1µm,0.8s						
MSAI	**Masohi**	**12.03**	**166**	P	**Pn**	**02 41 03.6**	**+1.0**
	54nm,0.9s						
AAI	**Ambon**	**12.20**	**169**	P	**Pn**	**02 41 05.3**	**+0.4**
	14µm5µm366nm,0.8s						
FAKI	**Fak Fak**	**12.87**	**151**	Pn	**Pn**	**02 41 15.2**	**+1.2**
FAKI	**Fak Fak**	**12.87**	**151**	P	**Pn**	**02 41 15.3**	**+1.2**
	9µm7µm554nm,1.1s						
FAKI	**Fak Fak**	**12.87**	**151**	P	**Pn**	**02 41 15.6**	**+1.5**
TTSI	**Tana Toraja**	**12.89**	**209**	P	**Pn**	**02 41 15.5**	**+1.1**
	21µm6µm495nm,0.9s						
BKB	**Balikpapan**	**13.16**	**224**	Pn	**Pn**	**02 41 19.9**	**+1.8**
BKB	**Balikpapan**	**13.16**	**224**	P	**Pn**	**02 41 17.6**	**-0.4**
	31µm10µm720nm,1.1s						
BKB	**Balikpapan**	**13.16**	**224**	P	**Pn**	**02 41 20.6**	**+2.6**
SPSI	**Sidrap Palu**	**13.73**	**207**	P	**Pn**	**02 41 26.9**	**+1.1**
	26µm13µm352nm,1.0s						
SRPI	**Serui, Papua**	**14.46**	**134**	P	**Pn**	**02 41 38.2**	**+2.3**
	6µm13µm549nm,1.0s						
KAPI	**Kappang**	**14.67**	**205**	Pn	**Pn**	**02 41 40.1**	**+1.4**
	2.5nm,0.3s,baz=21,slow=8.9,SNR=102						
KAPI				Sn	**Sn**	**02 44 24.0**	**+3.0**
	0.4nm,0.3s,baz=98,slow=8.7,SNR=1.5						
KAPI				LR	LR	02 47 39.5	
	comp=Z,18µm,21.9s,baz=60,slow=39						
	277nm,1.1s						
KAPI	**Kappang**	**14.67**	**205**	Pn	**Pn**	**02 41 39.9**	**+1.2**
KAPI	**Kappang**	**14.67**	**205**	*c iP*	**Pn**	**02 41 39.4**	**+0.7**
KAPI	**Kappang**	**14.67**	**205**	P	**Pn**	**02 41 41.2**	**+2.5**
BKSI	**Bulukumba**	**14.80**	**203**	P	**Pn**	**02 41 40.4**	**-0.1**
	15µm7µm298nm,1.2s						
SBUM	**Sibu**	**14.88**	**247**		**Pn**	**02 41 40.6**	**-0.8**
TWG	**Pinlang**	**15.10**	**342**		**Pn**	**02 41 42.0**	**-2.4**
BSSI	**Bau Bau, Buton**	**15.42**	**201**	P	**Pn**	**02 41 48.4**	**-0.3**
	7µm4µm162nm,1.2s						
YULB	**Yu-li**	**15.57**	**344**		**Pn**	**02 41 47.0**	**-3.7**
TPUB	**Ta-pu**	**15.68**	**342**		**Pn**	**02 41 47.8**	**-4.3**
TPUB	**Ta-pu**	**15.68**	**342**	P	**P**	**02 41 54.2**	**-1.9**
SSLB	**Sualang**	**16.04**	**343**		**Pn**	**02 41 57.3**	**+0.6**
SSLB	**Sualang**	**16.04**	**343**	P	**P**	**02 41 59.8**	**-0.3**
BBKI	**Banjar Baru**	**16.16**	**224**	P	**Pn**	**02 41 58.9**	**+0.6**
	10µm14µm636nm,1.3s						
YOJ	**Yonaguni jima**	**16.23**	**350**	Pn	**Pn**	**02 41 56.3**	**-2.8**
YOJ	**Yonaguni jima**	**16.23**	**350**	P	**Pn**	**02 41 56.3**	**-2.8**
YOJ				pmax	pmax		
	comp=Z,164nm,1.0s						
YOJ	**Yonaguni jima**	**16.23**	**350**	P	**P**	**02 42 04.3**	**+2.2**
NACB	**Ninganchiao**	**16.24**	**346**	P	**Pn**	**02 41 57.2**	**-2.0**
JMJ	**Miyako jima 2**	**16.35**	**358**	P	**P**	**02 42 05.8**	**+2.4**
SMPI	**Sarmi**	**16.38**	**128**	P	**P**	**02 42 02.6**	**-1.2**
	comp=Z,8µmcomp=Z,19µmcomp=Z,2µm,1.3s						
YHNB	**Yeheng**	**16.77**	**345**		**Pn**	**02 42 03.9**	**-2.1**
YHNB	**Yeheng**	**16.77**	**345**	P	**P**	**02 42 10.0**	**+1.8**
SAUI	**Saumlaki**	**17.11**	**162**	Pn	**Pn**	**02 42 08.3**	**-2.1**
SAUI				IAmb	IAmb	02 42 17.1	
	comp=Z,611nm,0.8s						
SAUI	**Saumlaki**	**17.11**	**162**	P	**Pn**	**02 42 09.6**	**-0.7**
	comp=Z,14µmcomp=Z,1µm,0.8s						
SAUI	**Saumlaki**	**17.11**	**162**	P	**P**	**02 42 11.7**	**-0.3**
MMRI	**Maumere**	**17.31**	**192**	Pn	**Pn**	**02 42 11.9**	**-0.9**
MMRI				IAmb	IAmb	02 42 16.6	
	comp=Z,1µm,1.4s						
MMRI	**Maumere**	**17.31**	**192**	P	**Pn**	**02 42 11.9**	**-0.9**
	comp=Z,10µmcomp=Z,10µmcomp=Z,480nm,1.5s						
MMRI	**Maumere**	**17.31**	**192**	P	**Pn**	**02 42 13.3**	**+0.5**
DLV	**T Lat**	**17.54**	**283**	P	**P**	**02 42 19.6**	**+2.7**
EDFI	**Ende, Flores**	**17.54**	**194**	P	**Pn**	**02 42 14.4**	**-1.4**
	comp=Z,7µmcomp=Z,3µmcomp=Z,182nm,1.3s						
KNMB	**Chin-men Tao**	**17.54**	**337**	Pn	**Pn**	**02 42 13.3**	**-2.3**
GENI	**Genyem**	**17.89**	**127**	P	**P**	**02 42 21.1**	**

MTN **Manton Dam** **21.71 166** P **P** **02 43 00.9 -1.3**
MTN **Manton Dam** **21.71 166** P **P** **02 43 03.3 +1.1**
SMRI **Semarang** **21.77 226** P **P** **02 43 02.4 -0.5**
SMRI IAmb IAmb 02 43 16.7
comp=Z,296nm,0.9s
SMRI Semarang **21.77 226** P **P** **02 43 05.2 +2.3**
comp=Z,572nm,1.0s
KDU Kakadu **21.92 163** P **P** **02 43 04.4 0.0**
baz=22,SNR=56
KDU Kakadu **21.92 163** P **P** **02 43 04.6 +0.2**
PCJI Pacitan **22.09 222** P **P** **02 43 05.1 -1.2**
comp=Z,9μmcomp=Z,7μmcomp=Z,296nm,1.5s
UGM Wanagama **22.32 224** P **P** **02 43 09.3 +0.5**
UGM IAmb IAmb 02 43 24.2
comp=Z,711nm,1.2s
UGM IAMs_20 IAMs_20 02 52 22.5
comp=Z,14μm,20.0s
UGM Wanagama **22.32 224** P **P** **02 43 08.8 0.0**
comp=Z,12μmcomp=Z,14μmcomp=Z,526nm,1.2s
UGM Wanagama **22.32 224** P **P** **02 43 10.1 +1.3**
PPBI Pangkal Pinang **22.36 243** P **P** **02 43 09.4 +0.2**
comp=Z,15μmcomp=Z,194nm,1.6s
MYKOM **Kota Tinggi** **22.95 255** P **P** **02 43 14.3 -1.2**
MYKOM **Kota Tinggi** **22.95 255** P **P** **02 43 16.0 +0.5**
SSE Sheshan **23.03 350** P **P** **02 43 14.8 -1.3**
SSE S **S** **02 47 25.0 -1.0**
SSE pmax pmax
comp=Z,70nm,1.4s
SSE pmax pmax
comp=Z,750nm,6.0s
SSE LR LR
comp=Z,3μm,18.2s
SSE LR LR
comp=Z,3μm,19.1s
DSRI Dabo **23.04 249** P **P** **02 43 15.6 -0.8**
comp=Z,5μmcomp=Z,4μmcomp=Z,89nm,1.0s
CNSH ChangSha **23.21 330** ⇑P **P** **02 43 18.8 +0.9**
CNSH S **S** **02 47 33.1 +4.0**
CNSH pmax pmax
comp=Z,16nm,0.6s
CNSH LR LR
comp=Z,10μm,16.5s
CNSH LR LR
comp=Z,10μm,18.7s
CNSH LR LR
comp=Z,16μm,18.7s
JSU Suzuyama **23.39 10** P **P** **02 43 18.8 -1.0**
LEM Lembang **23.71 231** P **P** **02 43 24.8 +1.5**
comp=Z,73nm,0.7s,baz=30,slow=11,SNR=24
comp=Z,73nm,0.7s
LEM Lembang **23.71 231** P **P** **02 43 22.5 -0.7**
comp=Z,9μmcomp=Z,7μmcomp=Z,174nm,0.9s
MANU Manus Island **23.74 115** P **P** **02 43 23.3 -0.1**
JRMM Jerantut **23.75 261** P **P** **02 43 24.0 +0.5**
PMBI Palembang **23.92 243** P **P** **02 43 24.3 -0.8**
PMBI IAmb IAmb 02 43 47.5
comp=Z,530nm,0.9s
PMBI Palembang **23.92 243** P **P** **02 43 26.5 +1.4**
KNRA Kununurra **24.07 173** P **P** **02 43 26.1 -0.2**
baz=24,SNR=97
KNRA Kununurra **24.07 173** P **P** **02 43 25.6 -0.7**
KNRA Kununurra **24.07 173** P **P** **02 43 27.0 +0.6**
JCJ Chichijima **24.14 38** P **P** **02 43 26.4 -0.7**
comp=Z,1μm,1.0s,baz=273,slow=2.8,SNR=25
JCJ LR LR 02 53 25.5
comp=Z,6μm,19.1s,baz=241,slow=38
comp=Z,1μm,1.0s
JCJ Chichijima **24.14 38** P **P** **02 43 26.3 -0.7**
JCJ Chichijima **24.14 38** P **P** **02 43 28.8 +1.8**
JMBI JAMBI **24.36 247** P **P** **02 43 29.2 0.0**
comp=Z,6μmcomp=Z,370nm,1.4s
CNJI Cibinong **24.39 231** P **P** **02 43 27.8 -1.6**
comp=Z,8μmcomp=Z,7μmcomp=Z,494nm,1.2s
NJ2 Nanjing **24.45 345** ⇓*iP* **P** **02 43 28.6 -1.2**
NJ2 pmax pmax
comp=Z,39nm,0.6s
NJ2 pmax pmax
comp=Z,2μm,5.1s
NJ2 LR LR
comp=Z,6μm,14.2s
NJ2 LR LR
comp=Z,5μm,13.7s
NJ2 LR LR
comp=Z,6μm,12.6s
SBJI Serang **24.45 235** P **P** **02 43 29.6 -0.4**
comp=Z,12μmcomp=Z,826nm,1.2s
WHN Wuhan **24.57 335** ⇑P **P** **02 43 31.2 +0.4**
WHN sP **sP** **02 43 37.9 -0.9**
WHN S **S** **02 47 51.3 +0.3**
WHN pmax pmax
comp=Z,140nm,1.1s
WHN pmax pmax
comp=Z,4μm,5.2s
WHN LR LR
comp=Z,24μm,16.0s
WHN LR LR
comp=Z,9μm,12.5s
WHN LR LR
comp=Z,47μm,20.0s
KLI Kotabumi **24.81 239** P **P** **02 43 33.4 +0.2**
comp=Z,13μmcomp=Z,1μm,1.0s
JNU Nakatsue **25.04 10** P **P** **02 43 34.6 -0.5**
IPM Ipoh **25.06 263** P **P** **02 43 34.8 -0.8**
IPM PcP **PcP** **02 47 09.6 -0.6**
IPM Ipoh **25.06 263** P **P** **02 43 36.0 +0.5**
IPM Ipoh **25.06 263** P **P** **02 43 35.7 +0.2**
KULM Kulim **25.30 265** P **P** **02 43 36.4 -1.2**
KULM Kulim **25.30 265** P **P** **02 43 38.0 +0.3**
LWLI Liwa **25.57 239** P **P** **02 43 39.8 -0.4**
comp=Z,5μmcomp=Z,12μmcomp=Z,2μm,0.8s
GYA Guiyang **25.65 317** ⇓*iP* **P** **02 43 41.7 +0.8**
GYA sP sP 02 43 50.0 +1.2
GYA PcP **PcP** **02 47 12.5 +1.0**
GYA S **S** **02 48 12.0 +3.3**
GYA pmax pmax
comp=Z,75nm,1.1s
GYA pmax pmax
comp=Z,2μm,5.5s
GYA LR LR
comp=Z,9μm,21.6s
GYA LR LR
comp=Z,10μm,17.9s
GYA LR LR
comp=Z,17μm,19.0s
SRIT Nakonsritamara **26.05 272** P **P** **02 43 43.2 -1.3**
SRIT IAmb IAmb 02 44 08.2
comp=Z,328nm,1.5s
BKNI Bangkinang **26.07 253** P **P** **02 43 44.5 -0.2**
BKNI IAmb IAmb 02 43 48.0
comp=Z,354nm,1.1s
BKNI Bangkinang **26.07 253** P **P** **02 43 45.4 +0.7**
MNAI Manna **26.19 242** P **P** **02 43 45.5 -0.3**
MNAI IAmb IAmb 02 44 22.3
comp=Z,485nm,1.0s
MNAI Manna **26.19 242** P **P** **02 43 46.6 +0.8**
JTU Tsushima **26.21 6** P **P** **02 43 45.5 -0.2**
JTU IAmb IAmb 02 43 48.6
comp=Z,643nm,1.3s
JMN Monobe **26.26 15** P **P** **02 43 46.1 -0.1**
FITZ Fitzroy Crossi **26.32 181** P **P** **02 43 45.7 -1.0**
baz=26,SNR=169
FITZ Fitzroy Crossi **26.32 181** P **P** **02 43 46.0 -0.7**
comp=Z,170nm,1.0s,baz=9.1,slow=9.6,SNR=101
FITZ S **S** **02 48 18.0 -1.0**
comp=Z,17nm,1.0s,baz=312,slow=18,SNR=1.7
FITZ LR LR 02 57 04.7
comp=Z,3μm,18.1s,baz=1.5,slow=43
comp=Z,170nm,1.0s
FITZ Fitzroy Crossi **26.32 181** P **P** **02 43 45.8 -1.0**
FITZ IAmb IAmb 02 43 49.0
comp=Z,334nm,1.1s
FITZ Fitzroy Crossi **26.32 181** P **P** **02 43 46.1 -0.7**
ENH Enshi **26.67 327** P **P** **02 43 48.7 -1.3**
KSBUS **Busan** **26.89 6** P **P** **02 43 50.4 -1.5**
KSBUS IAmb IAmb 02 43 52.9
comp=Z,356nm,0.8s
NAWB Namwon **26.94 3** P **P** **02 43 51.4 -0.9**
NAWB IAmb IAmb 02 43 56.2
comp=Z,217nm,1.0s
JHS Saijyo **27.29 13** P **P** **02 43 54.5 -1.0**
JHS IAmb IAmb 02 44 01.6
comp=Z,359nm,1.0s
CRAI Chiangrai **27.38 298** P **P** **02 43 55.4 -1.1**
CRAI IAmb IAmb 02 44 13.8
comp=Z,204nm,1.2s
PSI Prapat **27.45 260** P **P** **02 43 57.7 +0.4**
comp=Z,106nm,1.1s,baz=67,slow=7.8,SNR=44
PSI PcP **PcP** **02 47 14.9 -1.0**
comp=Z,26nm,0.7s,baz=119,slow=1.2,SNR=5.0
PSI S **S** **02 48 34.5 -2.8**
comp=Z,3.2nm,0.4s,baz=255,slow=21,SNR=1.1
PSI ScP **ScP** **02 50 55.1 -0.6**
comp=Z,7.0nm,0.9s,baz=232,slow=8.3,SNR=6.6
PSI LR LR 02 57 10.7
comp=Z,4μm,18.2s,baz=98,slow=41
comp=Z,106nm,1.1s
XMI Christmas Isla **27.51 228** P **P** **02 43 58.2 +0.6**
PMG Port Moresby **27.55 129** P **P** **02 43 57.4 -0.5**
comp=Z,175nm,0.9s,baz=320,slow=6.0,SNR=30
PMG S **S** **02 48 36.5 -2.1**
comp=Z,19nm,0.8s,baz=240,slow=8.9,SNR=2.2
comp=Z,175nm,0.9s
PMG Port Moresby **27.55 129** P **P** **02 43 56.0 -2.0**
PMG IAmb IAmb 02 44 09.5
comp=Z,191nm,0.8s
PMG Port Moresby **27.55 129***d* *i*P **P** **02 43 57.2 -0.8**
PMG pmax pmax
comp=Z,205nm,0.9s
PMG Port Moresby **27.55 129** P **P** **02 43 58.1 +0.1**
PMG Port Moresby **27.55 129** P **P** **02 43 58.0 +0.1**
XMIS Christmas Isla **27.55 228** P **P** **02 43 56.3 -1.7**
XMIS IAmb IAmb 02 44 18.1
comp=Z,454nm,1.4s
XMIS Christmas Isla **27.55 228** P **P** **02 43 59.0 +1.0**
KMI Kunming **27.68 310** ⇓P **P** **02 44 00.9 +1.5**
KMI sP sP 02 44 08.3 +1.0
KMI PP **PnPn** **02 44 53.1 +7.9**
KMI PcP **PcP** **02 47 17.3 +0.9**
KMI S **S** **02 48 43.1 +2.1**
KMI ScP **ScP** **02 50 57.4 +1.0**
KMI PcS **PcS** **02 51 00.0 +1.3**
KMI ScS **ScS** **02 54 49.8 +1.1**
KMI pmax pmax
comp=Z,48nm,0.9s
KMI pmax pmax
comp=Z,820nm,5.2s
KMI LR LR
comp=Z,9μm,17.4s
KMI LR LR
comp=Z,13μm,17.2s
KMI LR LR
comp=Z,17μm,17.7s
JHJ Hachijo jima 2 **27.74 26** P **P** **02 43 58.5 -1.1**
comp=Z,146nm,0.7s,baz=162,slow=6.4,SNR=5.1
JHJ LR LR 02 55 39.2
comp=Z,9μm,18.7s,baz=230,slow=38
comp=Z,146nm,0.7s
JHJ2 Mitsune **27.75 26** P **P** **02 43 58.7 -0.9**
JHJ2 IAmb IAmb 02 44 17.3
comp=Z,345nm,0.9s
JHJ2 Mitsune **27.75 26** P **P** **02 43 59.6 0.0**
TJN Taejon **27.89 2** P **P** **02 43 58.7 -2.1**
TJN IAmb IAmb 02 44 16.1
comp=Z,395nm,1.1s
TJN Taejon **27.89 2***ce*P **P** **02 44 00.1 -0.7**
TJN Taejon **27.89 2** P **P** **02 44 01.2 +0.4**
COEN Coen **28.02 142** P **P** **02 44 01.9 -0.3**
baz=28,SNR=129
COEN Coen **28.02 142** P **P** **02 44 01.7 -0.5**
COEN Coen **28.02 142** P **P** **02 44 02.7 +0.5**
CM31 Chiang Mai Arr **28.07 294** P **P** **02 44 01.1 -1.6**
CM31 IAmb IAmb 02 44 21.4
comp=Z,287nm,1.4s
CMAR Chiang Mai Arr **28.07 294** P **P** **02 44 03.5 +0.8**
comp=Z,20nm,1.2s,baz=120,slow=6.8,SNR=28
CMAR PcP **PcP** **02 47 18.1 +0.9**
comp=Z,23nm,1.0s,baz=127,slow=0.5,SNR=11
CMAR ScP **ScP** **02 50 55.2 -2.2**
comp=Z,4.7nm,0.9s,baz=83,slow=2.0,SNR=5.9
CMAR P3KPbc 03 16 26.1
comp=Z,1.2nm,0.3s,baz=290,slow=6.0,SNR=7.0
comp=Z,20nm,1.2s
CMAR Chiang Mai Arr **28.07 294** P **P** **02 44 01.6 -1.1**
CMAR PcP **PcP** **02 47 16.5 -0.7**
CHTO Chiang Mai **28.17 294** P **P** **02 44 03.0 -0.6**
CHTO **PcP** **02 47 17.8 +0.4**
CHTO Chiang Mai **28.17 294** P **P** **02 44 03.0 -0.6**
CHTO 02 47 17.8
CHTO pmax pmax
comp=Z,6.0nm,1.3s
CHTO MLR MLR
comp=Z,7μm,19.0s
CHTO Chiang Mai **28.17 294** P **P** **02 44 04.3 +0.7**
KSCHJ Chungju **28.42 3** P **P** **02 44 04.6 -0.9**
KSCHJ IAmb IAmb 02 44 06.8
comp=Z,340nm,1.0s
KCSI Kotacane, Aceh **28.43 262** P **P** **02 44 05.1 -0.8**
comp=Z,2μmcomp=Z,131nm,1.0s
INU Inuyama **28.69 19** P **P** **02 44 06.6 -1.4**
INU IAmb IAmb 02 44 08.6
comp=Z,272nm,0.7s
INU IAMs_20 IAMs_20 02 55 49.8
comp=Z,10μm,18.0s
INU Inuyama **28.69 19** P **P** **02 44 07.5 -0.4**
LYN LuoYang **28.84 336** *e*P **P** **02 44 07.3 -2.0**
LYN pP sP 02 44 18.9 +1.7
LYN S **S** **02 48 49.8 -8.7**
LYN sS sS 02 49 08.3 +0.5
LYN pmax pmax
comp=Z,20nm,1.5s
LYN pmax pmax
comp=Z,860nm,9.8s
LYN LR LR
comp=Z,5μm,23.5s
LYN LR LR
comp=Z,7μm,20.8s
LYN LR LR
comp=Z,10μm,23.4s
TIA Tai'an **28.84 345** ⇑P **P** **02 44 08.2 -1.1**
TIA PP **PnPn** **02 44 57.8 -2.9**
TIA pmax pmax
comp=Z,21nm,1.2s
TIA pmax pmax
comp=Z,740nm,11.1s
TIA LR LR
comp=Z,4μm,20.1s
TIA LR LR
comp=Z,5μm,17.7s
TIA LR LR
comp=Z,6μm,25.0s
KRVT Keravat (AS076 **28.91 115** P **P** **02 44 10.8 +0.6**
comp=Z,40nm,0.3s,baz=274,slow=5.9,SNR=12
KRVT LR LR 02 55 14.6
comp=Z,5μm,18.2s,baz=66,slow=35
comp=Z,40nm,0.3s
LHMI Lhok Sumawe **28.96 266** P **P** **02 44 08.5 -2.1**
LHMI IAmb IAmb 02 44 12.8
comp=Z,278nm,0.9s
LHMI Lhok Sumawe **28.96 266** P **P** **02 44 11.9 +1.3**
INCN Inchon **28.97 1** P **P** **02 44 09.0 -1.5**
INCN Inchon **28.97 1** P **P** **02 44 09.0 -1.5**
INCN pmax pmax
comp=Z,37nm,0.8s
INCN MLR MLR
comp=Z,6μm,22.0s
INCN Inchon **28.97 1** P **P** **02 44 10.7 +0.2**
KSAR Wonju Array Be **28.98 3** P **P** **02 44 10.1 -0.4**
KSAR Wonju Array Be **28.98 3** P **P** **02 44 10.1 -0.4**
RABL Rabaul **28.98 115** P **P** **02 44 11.1 +0.2**
RABL IAmb IAmb 02 44 16.2
comp=Z,290nm,1.2s
RABL Rabaul **28.98 115** P **P** **02 44 11.4 +0.6**
KSRS Korea Array **28.99 3** P **P** **02 44 10.2 -0.3**
comp=Z,132nm,1.1s,baz=182,slow=9.7,SNR=180
KSRS PcP **PcP** **02 47 19.5 +0.4**
comp=Z,12nm,0.9s,baz=183,slow=3.0,SNR=8.0
KSRS ScP **ScP** **02 50 59.0 -0.9**
comp=Z,3.6nm,0.8s,baz=193,slow=2.6,SNR=7.5
KSRS LR LR 02 54 46.8
comp=Z,5μm,21.2s,baz=195,slow=34
comp=Z,132nm,1.1s
JGF Kuroka **29.03 19** P **P** **02 44 09.4 -1.6**
KS19 Wonju Array Si **29.04 3** P **P** **02 44 10.0 -1.0**
KS19 IAmb IAmb 02 44 12.2
comp=Z,288nm,1.2s
GSI Gunungsitoli **29.11 258** P **P** **02 44 10.6 -1.4**
GSI Gunungsitoli **29.11 258** P **P** **02 44 12.5 +0.5**
WB0 Warramunga Arr **29.19 164** P **P** **02 44 11.4 -1.1**
PZH PanZhiHua **29.19 311** P **P** **02 44 13.9 +1.2**
PZH sP **sP** **02 44 21.2 +0.6**
PZH S **S** **02 49 05.3 +0.8**
PZH SS ScP 02 50 35.1 -26
PZH PcS **PcS** **02 51 01.2 -1.9**
PZH ScS **ScS** **02 54 53.8 -1.6**
PZH pmax pmax
comp=Z,40nm,1.0s
PZH pmax pmax
comp=Z,1μm,7.6s
PZH LR LR
comp=Z,7μm,18.2s
PZH LR LR
comp=Z,12μm,17.4s
PZH LR LR
comp=Z,16μm,18.6s
WRAB Tennant Creek **29.33 164** P **P** **02 44 11.3 -2.5**
WRAB Tennant Creek **29.33 164** *i* P **P** **02 44 14.2 +0.4**
WRAB pmax pmax
comp=Z,116nm,1.6s
WRAB Tennant Creek **29.33 164** P **P** **02 44 14.0 +0.2**
WRA Warramunga Arr **29.34 164** P **P** **02 44 12.7 -1.1**
comp=Z,28nm,0.7s,baz=343,slow=9.7,SNR=126
WRA S **S** **02 49 05.2 -1.4**
comp=Z,3.0nm,0.9s,baz=341,slow=39,SNR=3.3
WRA LR LR 02 59 08.4
comp=Z,3μm,18.1s,baz=336,slow=43
comp=Z,28nm,0.7s
WRA Warramunga Arr **29.34 164** P **P** **02 44 12.4 -1.5**
WRA Warramunga Arr **29.34 164** *i* P **P** **02 44 12.6 -1.3**
WRA pmax pmax
comp=Z,28nm,0.7s
WB2 Warramunga Arr **29.34 164** P **P** **02 44 11.4 -2.5**
WB2 IAmb IAmb 02 45 00.4
comp=Z,584nm,1.9s
WR0 Warramunga Arr **29.41 163** P **P** **02 44 12.8 -1.7**
HJU Haeju **29.53 360** P **P** **02 44 14.7 -0.7**
HJU sP **pP** **02 44 21.3 +0.3**
HJU S **S** **02 49 10.2 +0.9**
HJU AmB
comp=Z,804nm,4.2s
HJU AMS AMS
comp=N,9μm,16.5s
HJU AMS AMS
comp=E,7μm,12.1s
HJU AMS AMS
comp=Z,9μm,14.9s
SEHB SEOHWA **29.82 4** P **P** **02 44 16.8 -1.2**
SEHB IAmb IAmb 02 44 20.6
comp=Z,179nm,1.0s
XAN Xi'an **29.96 331** P **P** **02 44 17.1 -2.2**
XAN pP pP 02 44 22.1 -2.9
XAN PP **PnPn** **02 45 15.6 -0.4**
XAN PcP **PcP** **02 47 22.1 +0.4**
XAN S **S** **02 49 16.5 +0.2**
XAN ScP **ScP** **02 51 04.4 +1.2**
XAN pmax pmax
comp=Z,68nm,1.0s
XAN pmax pmax
comp=Z,900nm,8.4s
XAN LR LR
comp=Z,7μm,16.4s
XAN LR LR
comp=Z,6μm,17.2s
XAN LR LR
comp=Z,11μm,16.1s
MBWA Marble Bar **29.99 192** P **P** **02 44 17.3 -2.3**
MBWA Marble Bar **29.99 192** P **P** **02 44 18.3 -1.3**
MAJO Matsushiro **30.17 20** P **P** **02 44 19.7 -1.4**
MAJO IAmb IAmb 02 44 20.7
comp=Z,118nm,0.8s
MAJO **PcP** **02 47 21.7 -0.5**
MAJO Matsushiro **30.17 20** IAMs_20 IAMs_20 02 57 04.0
comp=Z,10μm,19.0s
MAJO Matsushiro **30.17 20***d* *i*P **P** **02 44 19.2 -1.9**
MAJO pmax pmax
comp=Z,106nm,0.9s
MAJO Matsushiro **30.17 20** P **P** **02 44 20.5 -0.6**
MJAR Matsushiro Arr **30.17 20** P **P** **02 44 17.4 -3.7**
comp=Z,75nm,0.7s,baz=185,slow=9.0,SNR=112
MJAR PcP **PcP** **02 47 21.7 -0.4**
comp=Z,16nm,1.1s,baz=170,slow=2.7,SNR=4.4
MJAR LR LR 02 57 24.2
comp=Z,10μm,18.0s,baz=220,slow=38
MJAR P3KPbc 03 16 15.6
comp=Z,1.6nm,0.7s,baz=42,slow=4.2,SNR=6.2
PSA00 Pilbara Seismi **30.37 191** P **P** **02 44 21.1 -1.8**
PSA00 Pilbara Seismi **30.37 191** P **P** **02 44 21.9 -1.0**
CD2 Chengdu **30.51 320** P **P** **02 44 24.6 +0.4**
CD2 sP pP 02 44 30.0 +0.1
CD2 PP **PnPn** **02 45 26.0 +2.6**
CD2 S **S** **02 49 27.2 +2.2**
CD2 sS sS 02 49 33.9 -0.5
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,730nm,6.0s
CD2 LR LR
comp=Z,13μm,19.2s
CD2 LR LR
comp=Z,10μm,20.1s
CD2 LR LR
comp=Z,13μm,18.6s
PYAG Pyongyang **30.53 360** P **P** **02 44 24.3 +0.1**
JYT Yasato **30.61 23** P **P** **02 44 21.0 -3.9**
JYT IAmb IAmb 02 44 27.7
comp=Z,179nm,1.2s
HNS HongShan **30.63 342** ⇓P **P** **02 44 23.8 -1.3**
HNS PP **PnPn** **02 45 27.9 +3.2**
HNS PcP **PcP** **02 47 24.2 +0.9**
HNS S **S** **02 49 28.5 +2.0**
HNS SS **ScP** **02 51 05.7 +0.5**
HNS pmax pmax
comp=Z,43nm,1.3s
HNS pmax pmax
comp=Z,830nm,5.1s
HNS LR LR
comp=Z,7μm,15.5s
HNS LR LR
comp=Z,4μm,15.7s
HNS LR LR
comp=Z,9μm,16.5s
DL2 Dalian **30.64 353** P **P** **02 44 24.4 -0.7**
DL2 S **S** **02 49 31.9 +5.3**
DL2 pmax pmax
comp=Z,73nm,0.9s
DL2 pmax pmax
comp=Z,640nm,6.9s
DL2 LR LR
comp=Z,4μm,17.7s
DL2 LR LR
comp=Z,3μm,18.2s
DL2 LR LR
comp=Z,7μm,21.1s
HHU Hamhung **31.44 2** P **P** **02 44 31.7 -0.5**
HHU sP **pP** **02 44 38.4 +0.6**
HHU S **S** **02 49 38.9 -0.3**
HHU AmB
comp=Z,630nm,1.7s
HHU AMS AMS
comp=N,286nm,2.0s
HHU AMS AMS
comp=E,301nm,2.1s
HHU AMS AMS
comp=Z,911nm,6.2s
JSD Sado **31.55 19** P **P** **02 44 30.4 -2.8**
JSD IAmb IAmb 02 44 34.5
comp=Z,117nm,0.9s
SUJ Sinuiju **31.61 358** P **P** **02 44 33.3 -0.3**
SUJ pP **pP** **02 44 38.5 -0.8**
SUJ S **S** **02 49 42.6 +0.8**
SUJ AmB
comp=Z,658nm,2.5s
SUJ AMS AMS
comp=N,11μm,14.3s
SUJ AMS AMS
comp=E,4μm,4.7s
SUJ AMS AMS
comp=Z,16μm,20.7s
TIY Taiyuan **31.65 339** ⇓P **P** **02 44 34.3 +0.1**
TIY S **S** **02 49 45.0 +2.2**
TIY pmax pmax
comp=Z,890nm,4.7s
TIY LR LR
comp=Z,3μm,24.0s
TIY LR LR
comp=Z,4μm,24.5s
TIY LR LR
comp=Z,6μm,20.6s
QIS Mount Isa **31.75 155** P **P** **02 44 34.6 -0.5**

baz=32,SNR=94
QIS Mount Isa 31.75 155 P P 02 44 35.1 0.0
MTSU Mount Surprise 31.99 146 P P 02 44 38.2 +0.9
baz=32,SNR=24
MTSU Mount Surprise 31.99 146 P P 02 44 38.4 +1.1
PATS Pohnpei 32.12 90 P P 02 44 36.7 -1.8
baz=32,SNR=10
BJT Baijiatuau 32.69 346 P P 02 44 42.7 -0.5
BJT PcP **PcP** 02 47 29.2 +0.4
BJI Beijing 32.71 346 P P 02 44 41.8 -1.5
BJI pP **pP** 02 44 46.0 -3.0
BJI sP **sP** 02 44 48.5 -2.8
BJI PcP **PcP** 02 47 29.3 +0.5
BJI S **S** 02 49 56.5 -2.4
BJI pmax pmax
comp=Z,60nm,1.4s
BJI pmax pmax
comp=Z,580nm,4.9s
BJI LR LR
comp=Z,620nm,20.2s
BJI LR LR
comp=Z,4μm,19.8s
BJI LR LR
comp=Z,4μm,20.2s
AS31 Alice Springs 32.79 166 P P 02 44 43.7 -0.6
ASAR Alice Springs 32.79 166 P P 02 44 43.8 -0.5
comp=Z,36nm,0.7s,baz=342,slow=6.5,SNR=260
ASAR PcP **PcP** 02 47 30.0 +0.6
comp=Z,22nm,0.9s,baz=348,slow=1.9,SNR=6.3
ASAR S **S** 02 49 58.3 -2.4
comp=Z,1.1nm,0.6s,baz=328,slow=46,SNR=2.6
ASAR ScP **ScP** 02 51 11.2 -1.6
comp=Z,12nm,1.0s,baz=355,slow=1.9,SNR=7.9
ASAR LR LR 03 00 16.7
comp=Z,2μm,18.6s,baz=356,slow=40
comp=Z,36nm,0.7s
GIRL Giralia 32.90 200 P P 02 44 45.8 +0.6
baz=33,SNR=3.7
WRKA Warakurna 33.30 176 P P 02 44 48.1 -0.6
baz=34,SNR=105
WRKA Warakurna 33.30 176 P P 02 44 48.8 +0.1
SNY Shenyang 33.37 357 ⇓P P 02 44 48.7 -0.4
SNY S **S** 02 50 12.0 +2.8
SNY pmax pmax
comp=Z,250nm,1.2s
SNY pmax pmax
comp=Z,1μm,4.0s
SNY LR LR
comp=Z,5μm,20.2s
SNY LR LR
comp=Z,3μm,18.5s
SNY LR LR
comp=Z,9μm,21.8s
LZH Lanzhou 34.15 327 ⇑P P 02 44 57.3 +1.1
LZH sP sP 02 45 06.1 +1.9
LZH PcP **PcP** 02 47 33.3 0.0
LZH S **S** 02 50 19.6 -2.3
LZH sS sS 02 50 32.4 +1.1
LZH PcS **PcS** 02 51 19.6 0.0
LZH SS **SnSn** 02 52 35.4 +5.1
LZH ScS **ScS** 02 55 21.0 +1.1
LZH pmax pmax
comp=Z,180nm,1.4s
LZH pmax pmax
comp=Z,860nm,4.5s
LZH LR LR
comp=Z,12μm,16.8s
LZH LR LR
comp=Z,14μm,15.8s
LZH LR LR
comp=Z,22μm,18.5s
MSHR Mys Shultsa 34.37 7 *ceP* **P 02 44 58.4 +0.6**
MSHR pmax pmax
comp=Z,470nm,1.7s
IMP Imphal 34.62 302 *eP* **P 02 45 00.4 +0.1**
IMP IAmb IAmb 02 45 08.8
comp=Z,54nm,0.8s
CTA Charters Tower 34.64 145 LR LR 03 02 01.2
comp=Z,3μm,18.8s,baz=327,slow=41
CTA Charters Tower 34.64 145 P P 02 45 01.5 +1.0
CTAO Charters Tower 34.64 145 P P 02 45 00.5 0.0
CTAO IAmb IAmb 02 45 02.4
comp=Z,158nm,0.9s
CTAO Charters Tower 34.64 145 P P 02 45 00.5 0.0
CTAO pmax pmax
comp=Z,158nm,1.0s
CTAO MLR MLR
comp=Z,5μm,20.0s
CTAO Charters Tower 34.64 145 P P 02 45 01.5 +1.0
MOKO MOKOCHONG 34.75 305 *eP* **P 02 45 01.8 +0.2**
MOKO IAmb IAmb 02 45 16.8
comp=Z,103nm,0.9s
HHC Hu-ho-hao-te 34.77 341 *eP* **P 02 45 01.4 0.0**
HHC PP **PP** 02 46 21.5 +1.1
HHC S **S** 02 50 27.7 -3.4
HHC pmax pmax
comp=Z,80nm,1.3s
HHC pmax pmax
comp=Z,2μm,5.8s
HHC LR LR
comp=Z,10μm,16.5s
HHC LR LR
comp=Z,5μm,16.5s
HHC LR LR
comp=Z,14μm,17.9s
KOHI KOHIMA 34.84 304 *eP* **P 02 45 02.3 0.0**
KOHI IAmb IAmb 02 45 11.2
comp=Z,205nm,1.2s
JTM Tenmabayashi 34.96 20 IAmb IAmb 02 45 09.3
comp=Z,212nm,1.1s
VLA Vladivostok 34.99 8 *dP* **P 02 44 59.5 -3.6**
VLA pmax pmax
comp=Z,914nm,1.4s
BTO Baotou 35.08 339 *eP* **P 02 45 02.6 -1.5**
BTO S **S** 02 50 37.3 +1.4
BTO LR LR
comp=Z,27μm,19.9s
BTO LR LR
comp=Z,26μm,19.9s
JORH JORHAT 35.14 305 *eP* **P 02 45 02.0 -2.7**
CN2 Changchun 35.28 359 *eP* **P 02 45 05.0 -0.7**
CN2 PcP **PcP** 02 47 35.6 -0.5
CN2 S **S** 02 50 32.1 -6.6
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,900nm,10.0s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,4μm,16.0s
MEEK Meekatharra 35.53 191 P P 02 45 06.6 -1.4
baz=36,SNR=26
MEEK Meekatharra 35.53 191 P P 02 45 07.3 -0.8
ITAN ITANAGAR 35.74 306 *eP* **P 02 45 11.1 +1.2**
ITAN IAmb IAmb 02 45 16.9
comp=Z,172nm,0.8s
ZIRO ZIRO 35.80 306 *eP* **P 02 45 12.5 +1.9**
ZIRO IAmb IAmb 02 45 23.4
comp=Z,98nm,0.6s
BRDH Bariadhala 35.86 297 P P 02 45 12.0 +1.1
comp=Z,61nm,0.3s,baz=33,slow=12,SNR=4.5
comp=Z,61nm,0.3s
USA0B Ussuriysk Arra 36.06 7 P P 02 45 13.2 +0.8
USA0B IAmb IAmb 02 45 13.9
comp=Z,245nm,0.8s
USA0B Ussuriysk Arra 36.06 7 P P 02 45 13.2 +0.8
USA0B pmax pmax
comp=Z,245nm,0.9s
USRK Ussuriysk Ar. 36.06 7 P P 02 45 12.3 -0.1
comp=Z,559nm,0.8s,baz=190,slow=8.0,SNR=419
USRK S **S** 02 50 50.0 -0.7
comp=Z,5.9nm,1.0s,baz=199,slow=17,SNR=4.7
USRK LR LR 03 00 47.0
comp=Z,2μm,18.7s,baz=236,slow=38
comp=Z,559nm,0.8s
MDJ Mudanjiang 36.23 4 P P 02 45 14.1 +0.3
MDJ Mudanjiang 36.23 4 P P 02 45 14.2 +0.3
MDJ S **S** 02 50 53.0 -0.3
MDJ SS **SS** 02 53 19.3 -12
MDJ pmax pmax
comp=Z,540nm,1.0s
MDJ pmax pmax
comp=Z,760nm,5.6s
MDJ LR LR
comp=Z,4μm,13.7s
MDJ LR LR
comp=Z,6μm,14.7s
MDJ LR LR
comp=Z,6μm,16.1s
MDJ Mudanjiang 36.23 4 P P 02 45 15.1 +1.3
TEZP TEZPUR 36.27 304 *eP* **P 02 45 15.3 +0.9**
TEZP IAmb IAmb 02 45 30.6
comp=Z,135nm,1.1s
XLT XiLinHaoTe 36.41 348 *⇑iP* **P 02 45 14.6 -0.9**
XLT pP pP 02 45 18.0 -3.2
XLT sP sP 02 45 21.4 -2.0
XLT S **S** 02 50 55.0 -1.2
XLT SS **SnSn** 02 53 25.4 +0.7
XLT pmax pmax
comp=Z,55nm,1.3s
XLT pmax pmax
comp=Z,1μm,5.0s
XLT LR LR
comp=Z,440nm,19.4s
XLT LR LR
comp=Z,4μm,20.4s
XLT LR LR
comp=Z,4μm,20.0s
AGT Agartala 36.58 299 *eP* **P 02 45 18.2 +1.1**
SHL Shillong 36.63 302 IAmb IAmb 02 45 25.1
comp=Z,220nm,0.8s
SHL Shillong 36.63 302 *eP* **P 02 45 18.5 +0.8**
SHL IAmb IAmb 02 45 25.3
comp=Z,174nm,0.8s
GUWA GUWAHATI 37.02 303 *eP* **P 02 45 21.3 +0.5**
GUWA IAmb IAmb 02 45 38.5
comp=Z,131nm,1.3s
OOD Oodnadatta 37.18 166 P P 02 45 22.4 +0.3
BNX BinXian 37.24 2 ⇓P P 02 45 21.1 -1.3
BNX PP **PP** 02 46 48.7 +1.3
BNX S **S** 02 51 08.5 -0.1
BNX pmax pmax
comp=Z,150nm,1.2s
BNX pmax pmax
comp=Z,920nm,6.8s
BNX LR LR
comp=Z,4μm,20.1s
BNX LR LR
comp=Z,3μm,19.9s
BNX LR LR
comp=Z,5μm,22.9s
TEY Ternei 37.66 12 *⇓iP* **P 02 45 26.7 +0.7**
TEY *e* 02 45 31.8
TEY pmax pmax
comp=N,600nm,1.1s
TEY pmax pmax
comp=Z,900nm,1.2s
TEY pmax pmax
comp=N,390nm,0.9s
TEY pmax pmax
comp=E,60nm,0.9s
TEY pmax pmax
comp=Z,590nm,0.9s
MORW Morawa 38.44 194 P P 02 45 31.3 -1.4
baz=39,SNR=16
MORW Morawa 38.44 194 P P 02 45 32.1 -0.6
INKA Innaminka 38.67 159 P P 02 45 35.9 +1.3
GTA Gaotai 38.76 327 ⇓P P 02 45 35.8 +0.3
GTA pP pP 02 45 41.0 -0.2
GTA sP sP 02 45 44.2 +0.7
GTA PP **PnPn** 02 47 10.4 +3.8
GTA PcP **PcP** 02 47 47.7 +0.8
GTA S **S** 02 51 32.1 0.0
GTA ScP **ScP** 02 51 34.4 0.0
GTA sS sS 02 51 41.9 +0.4
GTA ScS **ScS** 02 55 44.5 -0.7
GTA pmax pmax
comp=Z,130nm,1.2s
GTA pmax pmax
comp=Z,760nm,6.5s
GTA LR LR
comp=Z,7μm,15.3s
GTA LR LR
comp=Z,6μm,16.4s
GTA LR LR
comp=Z,9μm,15.6s
LSA Lhasa 38.89 308 P P 02 45 38.3 +1.2
LSA IAMs_20 IAMs_20 03 03 13.7
comp=Z,5μm,18.0s
LSA Lhasa 38.89 308 P P 02 45 39.4 +2.3
LSA S **S** 02 51 32.8 -2.2
LSA pmax pmax
comp=Z,100nm,1.2s
LSA LR LR
comp=Z,2μm,17.1s
LSA LR LR
comp=Z,2μm,16.4s
LSA LR LR
comp=Z,2μm,18.5s
LSA Lhasa 38.89 308 P P 02 45 38.3 +1.2
LSA pmax pmax
comp=Z,196nm,1.2s
LSA MLR MLR
comp=Z,5μm,18.0s
LSA Lhasa 38.89 308 P P 02 45 39.0 +1.9
FORT Forrest 38.99 177 P P 02 45 37.3 0.0
baz=39,SNR=177
FORT Forrest 38.99 177 IAmb IAmb 02 45 39.9
comp=Z,328nm,0.7s
FORT Forrest 38.99 177 P P 02 45 39.5 +2.2
QLP Quilpie 39.03 153 P P 02 45 37.5 -0.2
baz=39,SNR=25
QLP Quilpie 39.03 153 P P 02 45 38.7 +1.0
MULG Mulgathing 39.23 169 P P 02 45 40.4 +1.1
YUK Yuzh-Kuril'sk 39.53 23 *eP* **P 02 45 38.9 -2.7**
YUK *e* 02 47 09.4
YUK *eS* **S** 02 51 40.1 -3.1
YUK pmax pmax
comp=Z,831nm,1.2s
YUK pmax pmax
comp=Z,688nm,1.1s
YUK pmax pmax
comp=N,584nm,1.2s
YUK pmax pmax
comp=E,467nm,1.2s
GOMU GeErMu 39.62 319 P P 02 45 44.8 +1.8
GOMU sP pP 02 45 49.3 +0.5
GOMU PP **PnPn** 02 47 19.1 +1.9
GOMU S **S** 02 51 49.5 +3.8
GOMU pmax pmax
comp=E,94nm,1.4s
GOMU pmax pmax
comp=E,1μm,5.6s
GOMU LR LR
comp=E,5μm,15.8s
GOMU LR LR
comp=E,9μm,18.0s
GOMU LR LR
comp=E,12μm,17.9s
RK1H Rockhampton Ha 39.67 143 P P 02 45 43.4 +0.3
comp=E,214nm,0.9s
BLDU Ballidu 39.78 192 P P 02 45 42.5 -1.4
baz=40,SNR=40
BLDU Ballidu 39.78 192 P P 02 45 43.2 -0.7
GTK Tadong 40.00 303 *eP* **P 02 45 47.7 +1.7**
GTK IAmb IAmb 02 46 02.9
comp=Z,547nm,1.4s
LCRK Leigh Creek 40.37 164 P P 02 45 50.0 +1.2
KLBR Kellerberrin 40.52 191 P P 02 45 49.0 -1.0
baz=41,SNR=17
KLBR Kellerberrin 40.52 191 P P 02 45 48.7 -1.3
TAPN Taplejung 40.76 303 *eP* **P 02 45 53.9 +1.4**
H11S3 WAKE ISLAND Hy 40.79 71 P P 02 45 53.6 +1.3
baz=251,slow=8.3,SNR=15
H11S1 WAKE ISLAND Hy 40.81 71 P P 02 45 53.7 +1.2
baz=251,slow=8.3,SNR=16
H11S2 WAKE ISLAND Hy 40.81 71 P P 02 45 54.1 +1.6
baz=251,slow=8.3,SNR=17
ODAN Odare 40.86 302 *eP* **P 02 45 53.9 +0.6**
comp=Z,50nm,1.0s
WAKE Wake Island 40.88 70 P P 02 45 53.3 0.0
WAKE Wake Island 40.88 70 P P 02 45 55.0 +1.7
YSS Yuzh-Sakhalins 41.03 18 P P 02 45 54.0 -0.1
YSS IAmb IAmb 02 45 55.5
comp=Z,342nm,1.4s
YSS Yuzh-Sakhalins 41.03 18 *keP* **P 02 45 54.1 +0.1**
YSS *e*SP* **pP** 02 46 00.0 +0.2
YSS *e* 02 47 27.8
YSS *e* 02 47 53.5
YSS *eS* **S** **02 52 05.0 -0.6**
YSS pmax pmax
comp=Z,800nm,4.6s
YSS pmax pmax
comp=N,400nm,4.2s
YSS pmax pmax
comp=E,300nm,4.7s
YSS pmax pmax
comp=Z,140nm,1.0s
YSS pmax pmax
comp=Z,2μm,4.9s
YSS pmax pmax
comp=N,1μm,4.6s
YSS pmax pmax
comp=E,600nm,3.9s
YSS MLR MLR
comp=E,3μm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 41.03 18 P P 02 45 55.6 +1.6
HIA Hailar 41.08 354 P P 02 45 54.8 +0.3
HIA PcP **PcP** 02 47 54.5 +0.5
HIA Hailar 41.08 354 IAMs_20 IAMs_20 03 02 09.8
comp=Z,6μm,22.0s
HIA Hailar 41.08 354 *dP* **P 02 45 53.7 -0.8**
HIA pmax pmax
comp=Z,54nm,1.3s
RMQ Roma 41.14 148 P P 02 45 55.3 0.0
baz=41,SNR=31
RMQ Roma 41.14 148 P P 02 45 56.4 +1.2
H11N1 WAKE ISLAND Hy 41.18 70 P P 02 45 56.8 +1.3
baz=259,slow=9.0,SNR=9.0
H11N2 WAKE ISLAND Hy 41.19 70 P P 02 45 57.0 +1.4
baz=259,slow=9.0,SNR=5.1
KWAJ Kwajalein Atol 41.19 86 P P 02 45 56.3 +0.5
KWAJ Kwajalein Atol 41.19 86 IAMs_20 IAMs_20 02 59 40.7
comp=Z,5μm,20.0s
KWAJ Kwajalein Atol 41.19 86 P P 02 45 56.3 +0.5
KWAJ pmax pmax
comp=Z,633nm,1.1s
KWAJ Kwajalein Atol 41.19 86 P P 02 45 58.3 +2.5
H11N3 WAKE ISLAND Hy 41.20 70 P P 02 45 57.5 +1.9
baz=259,slow=9.0,SNR=15
MUN Mundaring 41.20 193 P P 02 45 54.6 -1.0
baz=41,SNR=28
MUN Mundaring 41.20 193 P P 02 45 55.1 -0.5
BOK Bokaro 41.25 297 *eP* **P 02 45 58.1 +1.8**
BOK IAmb IAmb 02 46 09.2
comp=Z,78nm,1.0s
KUR Kuril'sk 41.31 24 *diP* **P 02 45 56.9 +0.5**
KUR pmax pmax
comp=Z,772nm,1.3s
KUR pmax pmax
comp=N,146nm,1.2s
KUR pmax pmax
comp=Z,3μm,4.5s
KUR pmax pmax
comp=N,6μm,23.0s
KUR MLR MLR
comp=Z,2μm,18.0s
EIDS Eidsvold 41.53 145 P P 02 45 57.9 -0.5
baz=42,SNR=47
EIDS Eidsvold 41.53 145 P P 02 45 58.5 0.0
RAMN Ramite 41.55 301 *eP* **P 02 46 00.5 +1.5**
comp=Z,423nm,1.2s
NWAO Narrogin (SRO) 41.91 191 P P 02 46 00.8 -0.7
baz=42,SNR=21
NWAO P **P** 02 46 00.8 -0.7
baz=42,SNR=21
NWAO Narrogin (SRO) 41.91 191 LR LR 03 06 29.2
comp=Z,3μm,18.2s,baz=231,slow=40
NWAO Narrogin (SRO) 41.91 191 P P 02 46 00.7 -0.7
NWAO Narrogin (SRO) 41.91 191 P P 02 46 00.7 -0.7
NWAO pmax pmax
comp=Z,161nm,1.1s
NWAO Narrogin (SRO) 41.91 191 P P 02 46 01.3 -0.2
BBOO Buckleboo 42.09 167 P P 02 46 03.1 +0.2
baz=42,SNR=169
BBOO Buckleboo 42.09 167 P P 02 46 03.1 +0.2
BBOO IAmb IAmb 02 46 11.4
comp=Z,436nm,1.1s
BBOO Buckleboo 42.09 167 P P 02 46 03.6 +0.7
JIRN Jiri 42.13 302 *eP* **P 02 46 05.3 +1.4**
GUN Gumba 42.47 302 *eP* **P 02 46 08.0 +1.4**
ULN Ulaanbaatar 42.48 341 P P 02 46 05.8 -0.3
ULN Ulaanbaatar 42.48 341 *deP* **P 02 46 05.3 -0.9**
ULN pmax pmax
comp=Z,107nm,1.7s
WHYH Whyalla 42.65 166 P P 02 46 08.0 +0.5
comp=Z,211nm,0.8s
SONM Songino Array 42.67 341 P P 02 46 06.9 -0.7
comp=Z,32nm,1.1s,baz=162,slow=7.4,SNR=76
SONM PcP **PcP** 02 47 58.5 -0.9
comp=Z,12nm,0.8s,baz=161,slow=4.0,SNR=5.7
SONM ScP **ScP** 02 51 50.4 +0.8
comp=Z,0.9nm,0.5s,baz=132,slow=2.1,SNR=2.4
SONM LR LR 03 06 37.3
comp=Z,7μm,18.5s,baz=154,slow=40
comp=Z,32nm,1.1s
SONM Songino Array 42.67 341 P P 02 46 06.7 -1.0
SONM Songino Array 42.67 341 P P 02 46 06.7 -1.0
SONM pmax pmax
comp=Z,83nm,1.4s
STKA Stephens Creek 42.74 160 P P 02 46 08.2 -0.1
baz=43,SNR=127
STKA Stephens Creek 42.74 160 P P 02 46 08.1 -0.1
comp=Z,71nm,0.8s,baz=337,slow=7.8,SNR=70
STKA ScP **ScP** 02 51 49.3 -0.7
comp=Z,5.8nm,0.8s,baz=322,slow=6.3,SNR=2.9
STKA LR LR 03 05 48.4
comp=Z,3μm,20.6s,baz=333,slow=39
comp=Z,71nm,0.8s
STKA Stephens Creek 42.74 160 P P 02 46 08.3 +0.1
STKA Stephens Creek 42.74 160 P P 02 46 08.4 +0.1
STKA pmax pmax
comp=Z,19nm,0.9s
STKA Stephens Creek 42.74 160 P P 02 46 08.8 +0.6
PKI Pulchoki 42.76 302 *eP* **P 02 46 09.7 +0.8**
UGL Uglegorsk 42.76 16 *eP* **P 02 46 09.0 +0.8**
UGL *eS* **S** **02 52 31.6 +0.5**
UGL pmax pmax
comp=Z,500nm,0.9s
UGL smax smax
comp=E,2μm,18.0s
UGL smax smax
comp=N,2μm,12.0s
UGL MLR MLR
comp=N,3μm,18.0s
UGL MLR MLR
comp=E,2μm,18.0s
UGL MLR MLR
comp=Z,3μm,17.0s
PKIN Phulchoki 42.77 302 *eP* **P 02 46 09.6 +0.7**
PTPS Port Pirie 42.89 165 P P 02 46 10.3 +0.9
KKN Kakani 42.93 302 *eP* **P 02 46 10.5 +0.3**
comp=Z,26nm,1.2s
DMN Daman 43.02 302 *eP* **P 02 46 11.9 +0.9**
comp=Z,259nm,1.2s
GRNR Gornyy 43.13 10 *⇓iP* **P 02 46 12.1 +0.9**
GRNR *eS* **S** **02 52 42.5 +5.8**
GRNR pmax pmax
comp=E,20nm,0.7s
GRNR pmax pmax
comp=N,70nm,1.2s
GRNR pmax pmax
comp=Z,130nm,1.3s
GRNR smax smax
comp=E,8.0nm,0.7s
GRNR MLR MLR
comp=E,640nm,13.0s
GRNR MLR MLR
comp=N,2μm,17.0s
GRNR MLR MLR
comp=Z,4μm,18.0s
HTT Hallett 43.38 164 P P 02 46 14.7 +1.2
baz=44,SNR=78
HTT Hallett 43.38 164 P P 02 46 15.0 +1.6
GKN Gorkha 43.54 302 *eP* **P 02 46 15.9 +0.8**
RKGY Rocky Gully 43.60 191 P P 02 46 15.5 +0.4
baz=44,SNR=14
RKGY Rocky Gully 43.60 191 P P 02 46 15.7 +0.6
CMSA Cobar Meteorol 43.97 155 P P 02 46 18.1 0.0
baz=44,SNR=25
CMSA Cobar Meteorol 43.97 155 P P 02 46 19.3 +1.2
KOLN Koldanda 44.34 301 *eP* **P 02 46 21.9 +0.3**

comp=Z,40nm,1.1s
DANN Dangsing 44.38 302 *e*P P 02 46 23.0 +1.0
comp=Z,356nm,0.9s
H01W3 Cape Leeuwin H 44.46 194 P P 02 46 24.9 +3.1
baz=57,slow=6.5,SNR=3.9
H01W1 Cape Leeuwin H 44.47 194 P P 02 46 23.2 +1.4
baz=57,slow=6.5,SNR=5.8
H01W2 Cape Leeuwin H 44.48 194 P P 02 46 26.1 +4.2
baz=57,slow=6.5,SNR=5.4
TYV Tymovskoe 44.55 15 *e*P P 02 46 23.7 +1.1
TYV *e*S S 02 53 02.5 +5.2
TYV pmax pmax
comp=Z,84nm,1.7s
TYV pmax pmax
comp=Z,1µm,5.8s
TYV smax smax
comp=N,800nm,7.2s
TYV smax smax
comp=E,700nm,7.2s
CIT Chita 44.68 349 *e*P P 02 46 23.7 +0.1
CIT *e* 02 46 29.1
CIT *e* 02 48 06.9
CIT pmax pmax
comp=Z,215nm,1.5s
GHSS Government Hou 44.70 165 P P 02 46 26.1 +2.2
comp=Z,378nm,1.0s
TWOA Tennyson Woods 44.80 165 P P 02 46 25.8 +1.0
comp=Z,378nm,0.8s
PALK Pallekele 44.82 272 P P 02 46 25.7 +0.4
comp=Z,17nm,0.9s,baz=248,slow=4.9,SNR=4.5
PALK S S 02 53 02.0 -0.3
comp=Z,4.7nm,0.6s,baz=293,slow=20,SNR=1.6
PALK LR LR 03 08 22.6
comp=Z,4µm,18.4s,baz=187,slow=40
comp=Z,17nm,0.9s
PALK Pallekele 44.82 272 P P 02 46 25.1 -0.2
PALK Pallekele 44.82 272 IAMs_20 IAMs_20 03 08 02.4
comp=Z,4µm,19.0s
PALK Pallekele 44.82 272 P P 02 46 25.1 -0.2
PALK pmax pmax
comp=Z,74nm,1.2s
PALK MLR MLR
comp=Z,4µm,19.0s
MDRS Chennai 45.09 280 *e*P P 02 46 30.6 +3.2
MDRS IAmb IAmb 02 46 40.7
comp=Z,77nm,1.2s
ZEA Zeya 45.24 1 *e*P P 02 46 26.5 -1.5
ZEA *e* 02 48 16.0
ZEA *e*S S 02 53 24.1 +17
ZEA *e*SS **ScS** 02 56 23.9 0.0
ZEA pmax pmax
comp=N,60nm,1.2s
ZEA pmax pmax
comp=Z,100nm,1.2s
ZEA pmax pmax
comp=N,300nm,6.8s
ZEA pmax pmax
comp=Z,500nm,7.2s
ZEA pmax pmax
comp=N,500nm,4.7s
ZEA pmax pmax
comp=Z,600nm,7.2s
ZEA smax smax
comp=E,400nm,19.7s
ZEA MLR MLR
comp=E,1µm,15.0s
ZEA MLR MLR
comp=N,2µm,17.0s
ZEA MLR MLR
comp=Z,3µm,18.0s
ARMA Armidale 45.79 149 P P 02 46 33.7 +0.8
baz=46,SNR=9.3
ARMA Armidale 45.79 149 P P 02 46 33.6 +0.8
ARMA IAmb IAmb 02 46 44.0
comp=Z,229nm,1.6s
ARMA Armidale 45.79 149 P P 02 46 34.1 +1.2
ZAK Zakamensk 45.91 340 *e*P P 02 46 32.0 -1.5
ZAK pmax pmax
comp=Z,23nm,1.4s
HYB Hyderabad 46.95 286 *e*P P 02 46 43.8 +1.7
HYB IAmb IAmb 02 46 54.1
comp=Z,65nm,1.0s
HYBB Hyderabad (bro 46.95 286 *e*P P 02 46 42.7 +0.5
HYBB IVmBBB 02 46 53.8
comp=Z,657nm,2.3s
HYBB *e*S S 02 53 33.4 +0.4
HYBB IVMs_BB IVMs_BB 03 09 38.4
comp=Z,743nm,15.4s
IRK Irkutsk 47.18 342 *e*P P 02 46 41.0 -2.4
IRK pmax pmax
comp=Z,37nm,1.5s
TARA Tarawa 47.29 96 P P 02 46 46.0 +1.3
TARA Tarawa 47.29 96 IAMs_20 IAMs_20 03 02 39.5
comp=Z,5µm,20.0s
TARA Tarawa 47.29 96 P P 02 46 47.3 +2.5
comp=Z,244nm,1.2s
ARPS Mount Arapiles 47.33 163 P P 02 46 45.6 +0.9
baz=48,SNR=31
ARPS Mount Arapiles 47.33 163 P P 02 46 45.8 +1.1
KOUNC Koumac, New Ca 47.41 128 IAmb IAmb 02 46 54.8
comp=Z,123nm,1.1s
KOUNC Koumac, New Ca 47.41 128 P P 02 46 46.6 +1.0
MOY Mondy 47.77 339 *e*P P 02 46 48.2 +0.1
MOY pmax pmax
comp=Z,20nm,1.4s
SYDH Sydney Hard Ro 48.08 152 P P 02 46 52.9 +2.4
RIV Riverview 48.33 152 P P 02 46 55.6 +3.1
baz=48,SNR=5.3
TRD Trivandrum 48.43 274 *e*P P 02 46 55.2 +1.6
TRD IAmb IAmb 02 47 05.9
comp=Z,115nm,1.0s
WMQ Urumqi 48.52 323 ⇑P P 02 46 55.3 +1.4
WMQ pP sP 02 47 01.3 -0.7
WMQ PP **PP** 02 48 50.4 +3.6
WMQ PcS **PcS** 02 52 14.8 -1.0
WMQ S **S** 02 53 56.6 +2.1
WMQ ScS **ScS** 02 56 45.8 -0.3
WMQ pmax pmax
comp=Z,170nm,1.1s
WMQ pmax pmax
comp=Z,3µm,4.9s
WMQ LR LR
comp=Z,9µm,14.9s
WMQ LR LR
comp=Z,9µm,16.1s
WMQ LR LR
comp=Z,6µm,16.3s
CAN Canberra 48.62 155 IAmb IAmb 02 47 23.7
comp=Z,130nm,1.3s
CAN Canberra 48.62 155 P P 02 46 57.1 +2.4
BRAT Ballarat 48.70 161 P P 02 46 57.7 +2.5
comp=Z,60nm,1.3s
BHPL Bhopal 48.73 294 *e*P P 02 46 55.2 -0.7
BHPL IAmb IAmb 02 47 03.1
comp=Z,139nm,0.9s
CNB Canberra Magne 48.77 154 P P 02 46 57.6 +1.7
baz=49,SNR=23
CNB Canberra Magne 48.77 154 P P 02 46 58.1 +2.2
SKR Severo-Kuril's 49.01 25 *e*P P 02 46 58.0 +0.5
SKR *e*S S 02 54 02.7 +1.7
SKR pmax pmax
comp=Z,55nm,1.4s
SKR pmax pmax
comp=Z,300nm,5.2s
SKR MLR MLR
comp=Z,2µm,19.0s
TOO Toolangi 49.24 159 P P 02 47 01.6 +2.2
baz=49,SNR=18
TOO Toolangi 49.24 159 P P 02 47 00.4 +0.9
TOO IAmb IAmb 02 47 12.1
comp=Z,326nm,1.6s
TOO Toolangi 49.24 159 P P 02 47 00.4 +0.9
TOO pmax pmax
comp=Z,326nm,1.6s
TOO Toolangi 49.24 159 P P 02 47 00.9 +1.4
GEXS Deakin Univers 49.41 161 P P 02 47 01.2 +0.6
NOUC Port Laguerre 49.83 128 P P 02 47 04.1 -0.1
LIFNC LIFOU 49.87 126 P P 02 47 04.2 -0.3
LIFNC LIFOU 49.87 126 P P 02 47 05.3 +0.8
DZM Mont Dzumac 49.93 128 *e*P P 02 47 04.1 -0.9
comp=Z,515nm,1.1s
DZM *e*S S 02 54 17.2 +2.3
comp=Z,441nm,25.0s
DZM *e*LR LR 03 01 19.7
comp=Z,4µm,25.1s
DZM Mont Dzumac 49.93 128 LR LR 03 05 20.0
comp=Z,1µm,21.6s,baz=302,slow=33
DZM Mont Dzumac 49.93 128 IAmb IAmb 02 47 06.7
comp=Z,233nm,1.0s
DZM Mont Dzumac 49.93 128 P P 02 47 06.2 +1.2
ONTNC Ouen Toro 50.06 128 IAmb IAmb 02 47 07.3
comp=Z,216nm,1.1s
ONTNC Ouen Toro 50.06 128 P P 02 47 07.2 +1.3
BOD Bodaibo 50.17 352 *e*P P 02 47 05.4 -0.8
BOD pmax pmax
comp=Z,100nm,1.4s
YATNC Mamie plateau, 50.27 128 P P 02 47 09.1 +1.6
OUENC Ouen Island, N 50.42 128 IAmb IAmb 02 47 10.7
comp=Z,188nm,1.0s
OUENC Ouen Island, N 50.42 128 P P 02 47 09.8 +1.1
comp=Z,192nm,1.0s
SMLA Simla 50.68 304 *e*P P 02 47 11.9 +1.4
SMLA IAmb IAmb 02 47 19.1
comp=Z,381nm,1.0s
MARNC Mare, Loyalty 50.86 126 P P 02 47 12.6 +0.6
MARNC Mare, Loyalty 50.86 126 P P 02 47 13.1 +1.1
comp=Z,5.4nm,1.0s
PINNC Pines Island, 51.00 128 P P 02 47 14.3 +1.3
GOA Goa 51.38 283 *e*P P 02 47 17.0 +1.0
PEA0B Petropavlovsk- 51.48 24 IAmb IAmb 02 47 19.1
comp=Z,181nm,0.8s
PEA0B Petropavlovsk- 51.48 24 *ce*P P 02 47 17.3 +1.1
PETK Petropavlovsk- 51.48 24 P P 02 47 16.6 +0.4
comp=Z,79nm,0.7s,baz=90,slow=3.0,SNR=162
PETK LR LR 03 10 18.3
comp=Z,3µm,18.6s,baz=216,slow=37
comp=Z,79nm,0.7s
POO Poona 51.50 287 *e*P P 02 47 17.3 +0.4
POO IAmb IAmb 02 47 26.3
comp=Z,59nm,0.9s
PET Petropavlovsk 51.80 25 P P 02 47 18.8 +0.2
PET IAmb IAmb 02 47 22.7
comp=Z,325nm,1.2s
PET Petropavlovsk 51.80 25 *de*P P 02 47 18.8 +0.2
PET *e**SP **sP** 02 47 25.9 -0.8
PET *e*S S 02 54 39.3 -0.5
PET pmax pmax
comp=Z,333nm,1.3s
PET MLR MLR
comp=Z,4µm,18.0s
PET MLR MLR
comp=Z,4µm,17.0s
PET Petropavlovsk 51.80 25 P P 02 47 19.3 +0.7
comp=Z,1µm,1.3s
DGZ Jazzator, Alta 52.20 329 *d i*P P 02 47 22.1 +0.3
DGZ pmax pmax
comp=Z,41nm,1.1s
ZSN Zaisan 52.22 326 *d i*P P 02 47 21.8 0.0
ZSN *e*S S 02 54 47.1 +1.3
ZSN pmax pmax
comp=Z,173nm,2.2s
ZSN Zaisan 52.22 326 ⇓ *i*P P 02 47 21.9 0.0
comp=Z,173nm,2.2s,baz=326
ZSN *e*S S 02 54 47.2 +1.3
baz=326
SHLS Shalkode 53.32 319 *e*P P 02 47 28.3 -1.9
SHLS *e*S S 02 54 58.5 -2.7
SHLS pmax pmax
comp=Z,171nm,2.0s
SHLS Shalkode 53.32 319 *e*P P 02 47 28.3 -1.9
comp=Z,171nm,2.0s,baz=319
SHLS *e*S S 02 54 58.6 -2.7
baz=319
MK31 Makanchi Array 53.34 324 P P 02 47 31.3 +1.1
MK31 PcP **PcP** 02 48 37.6 +0.1
MK31 Makanchi Array 53.34 324 *d i*P P 02 47 29.9 -0.2
MK31 pmax pmax
comp=Z,69nm,0.8s
MKAR Makanchi Array 53.34 324 P P 02 47 30.7 +0.6
comp=Z,43nm,0.8s,baz=121,slow=7.1,SNR=171
MKAR PcP **PcP** 02 48 37.3 -0.2
comp=Z,58nm,0.8s,baz=120,slow=4.6,SNR=8.1
MKAR ScP **ScP** 02 52 33.2 -1.3
comp=Z,8.2nm,1.1s,baz=132,slow=4.1,SNR=3.7
MKAR *e*S S 02 55 02.2 +1.1
comp=Z,0.2nm,0.5s,baz=8.6,slow=33,SNR=1.5
MKAR LR LR 03 11 59.4
comp=Z,3µm,19.2s,baz=105,slow=38
MKAR PKPPKP 03 17 51.8
comp=Z,1.8nm,1.1s,baz=306,slow=5.2,SNR=4.2
MKAR P4KPbc 03 24 53.5
comp=Z,1.2nm,0.7s,baz=123,slow=4.5,SNR=9.4
comp=Z,43nm,0.8s
MKAR Makanchi Array 53.34 324 *ce*P P 02 47 30.2 +0.1
MKAR pmax pmax
comp=Z,43nm,0.8s
PDGK Podgornoye 53.38 319 *i* P P 02 47 30.9 +0.2
PDGK pmax pmax
comp=Z,67nm,1.3s
MAKZ Makanchi 53.53 324 P P 02 47 31.6 +0.1
MAKZ IAmb IAmb 02 47 41.5
comp=Z,144nm,1.1s
MAKZ PcP **PcP** 02 48 38.0 -0.2
MAKZ IAMs_20 IAMs_20 03 11 45.8
comp=Z,4µm,20.0s
UZB Uzynbulak 53.61 318 *e*P P 02 47 32.5 +0.2
UZB *e*S S 02 55 06.4 +1.2
UZB Uzynbulak 53.61 318 *e*P P 02 47 32.5 +0.2
baz=318
UZB *e*S S 02 55 06.4 +1.2
baz=318
YAK Yakutsk 53.61 2 P P 02 47 31.3 -0.5
comp=Z,124nm,0.8s,baz=176,slow=2.2,SNR=64
YAK S S 02 55 00.2 -4.0
comp=Z,5.2nm,0.4s,baz=334,slow=1.2,SNR=1.5
YAK LR LR 03 12 56.5
comp=Z,2µm,18.6s,baz=195,slow=39
comp=Z,124nm,0.8s
YAK Yakutsk 53.61 2 P P 02 47 31.6 -0.2
YAK IAMs_20 IAMs_20 03 14 29.4
comp=Z,3µm,18.0s
YAK Yakutsk 53.61 2 *d i*P P 02 47 30.7 -1.1
YAK *e**PP **sP** 02 47 40.6 +0.7
YAK *e* 02 48 36.7
YAK *e* 02 49 31.7
YAK *e*PPP PPP 02 50 41.1
YAK *e*S S 02 55 02.2 -2.0
YAK *e**SS **sS** 02 55 19.2 +5.3
YAK *e* 02 57 12.1
YAK *e*SS **SS** 02 58 43.5 -1.3
YAK pmax pmax
comp=Z,802nm,1.4s
YAK pmax pmax
comp=N,452nm,1.4s
YAK pmax pmax
comp=E,146nm,1.3s
YAK pmax pmax
comp=Z,409nm,4.8s
YAK pmax pmax
comp=N,241nm,4.4s
YAK pmax pmax
comp=E,102nm,2.3s
YAK smax smax
comp=N,301nm,2.1s
YAK smax smax
comp=E,181nm,2.1s
YAK MLR MLR
comp=Z,3µm,22.0s
YAK MLR MLR
comp=N,2µm,20.0s
YAK MLR MLR
comp=E,827nm,15.0s
KPKS Kokpek 53.97 319 *i* P P 02 47 34.9 0.0
KPKS *e*S S 02 55 11.3 +1.4
KPKS pmax pmax
comp=Z,252nm,2.2s
KPKS Kokpek 53.97 319 *i* P P 02 47 35.0 0.0
comp=Z,252nm,2.2s,baz=319
KPKS *e*S S 02 55 11.3 +1.4
baz=319
SATY Saty 53.97 318 *d i*P P 02 47 35.6 +0.6
SATY *e*S S 02 55 12.4 +2.3
SATY pmax pmax
comp=Z,117nm,1.1s
SATY Saty 53.97 318 ⇓ *i*P P 02 47 35.6 +0.6
comp=Z,117nm,1.1s,baz=318
SATY *e*S S 02 55 12.4 +2.3
baz=318
ZHN Zhinishke 54.00 318 *e*P P 02 47 34.8 -0.4
ZHN Zhinishke 54.00 318 *e*P P 02 47 34.8 -0.4
baz=318
KSH Kashi 54.26 313 P P 02 47 39.6 +2.4
KSH sP sP 02 47 45.8 +0.5
KSH PP **PP** 02 49 42.2 +3.1
KSH S **S** 02 55 16.4 +2.3
KSH ScS **ScS** 02 57 25.7 -0.3
KSH pmax pmax
comp=Z,140nm,1.2s
KSH LR LR
comp=Z,4µm,19.9s
KSH LR LR
comp=Z,10µm,17.5s
KSH LR LR
comp=Z,13µm,18.6s
MA2 Magadan 54.43 15 P P 02 47 38.2 +0.4
comp=Z,113nm,0.7s,baz=211,slow=6.9,SNR=150
MA2 S **S** 02 55 14.0 -1.4
comp=Z,0.9nm,0.4s,baz=159,slow=21,SNR=1.3
MA2 LR LR 03 08 58.7
comp=Z,1µm,21.7s,baz=204,slow=34
comp=Z,113nm,0.7s
MA2 Magadan 54.43 15 P P 02 47 38.1 +0.3
MA2 IAmb IAmb 02 47 39.3
comp=Z,167nm,0.9s
MA2 IAMs_20 IAMs_20 03 14 17.5
comp=Z,3µm,19.0s
MA2 Magadan 54.43 15 *de*P P 02 47 37.9 +0.1
MA2 pmax pmax
comp=Z,289nm,1.3s
MA2 Magadan 54.43 15 P P 02 47 38.6 +0.8
NIL Nilore 54.54 305 P P 02 47 40.8 +1.6
NIL Nilore 54.54 305 P P 02 47 40.8 +1.6
NIL pmax pmax
comp=Z,928nm,1.0s
TAU Tasmania Unive 54.64 161 P P 02 47 41.8 +2.2
TAU IAmb IAmb 02 47 49.3
comp=Z,114nm,1.2s
TAU Tasmania Unive 54.64 161 P P 02 47 41.8 +2.2
TAU pmax pmax
comp=Z,114nm,1.3s
TDK Taldyqorghan 54.83 320 *e*P P 02 47 41.4 +0.4
TDK *e*S S 02 55 23.2 +1.9
TDK MLR MLR
comp=Z,3µm,16.0s
TDK Taldyqorghan 54.83 320 *e*P P 02 47 41.4 +0.4
baz=320
TDK *e*S S 02 55 23.3 +1.9
baz=320
TDK LR LR 03 11 23.2
comp=Z,3µm,16.1s,baz=320
ARXS Arharly 54.85 319 *e*P P 02 47 41.0 -0.3
MDOK Medeo 54.92 318 *e*P P 02 47 42.4 +0.5
MDOK *e*S S 02 55 24.6 +1.7
MDOK MLR MLR
comp=Z,2µm,18.0s
MDOK Medeo 54.92 318 *e*P P 02 47 42.4 +0.5
baz=318
MDOK *e*S S 02 55 24.6 +1.7
baz=318
MDOK LR LR 03 10 38.0
comp=Z,2µm,17.9s,baz=318
NRN Naryn 54.95 315 IAmb IAmb 02 47 50.6
comp=Z,115nm,1.2s
AAA Alma-Ata 55.03 318 *e*P P 02 47 43.4 +0.8
AAA *e*S S 02 55 25.8 +1.6
AAA pmax pmax
comp=Z,139nm,1.4s
AAA Alma-Ata 55.03 318 *e*P P 02 47 43.4 +0.8
comp=Z,139nm,1.4s,baz=318
AAA *e*S S 02 55 25.9 +1.6
baz=318
ULHL Ulahol 55.10 316 P P 02 47 44.5 +1.2
SNR=58
CHKK Chushkaly 55.25 318 *e*P P 02 47 43.8 -0.3
CHKK Chushkaly 55.25 318 *e*P P 02 47 43.9 -0.3
baz=318
H08S2 Diego Garcia H 55.60 255 P P 02 47 46.2 -0.6
baz=43,slow=9.2,SNR=7.5
H08S3 Diego Garcia H 55.61 255 P P 02 47 45.9 -0.9
baz=43,slow=9.2,SNR=9.8
H08S1 Diego Carcia H 55.62 255 P P 02 47 46.6 -0.3
baz=43,slow=9.2,SNR=6.2
FUNA Funafuti 55.66 106 P P 02 47 47.9 +0.4
FUNA Funafuti 55.66 106 P P 02 47 50.4 +3.0
KUU Kurty 55.69 318 *d i*P P 02 47 47.5 +0.2
KUU *e*S S 02 55 34.5 +1.6
KUU MLR MLR
comp=Z,2µm,15.0s
KUU Kurty 55.69 318 ⇓ *i*P P 02 47 47.5 +0.2
baz=318
KUU *e*S S 02 55 34.6 +1.6
baz=318
KUU LR LR 03 12 36.0
comp=Z,2µm,14.6s,baz=318
TKM2 Tokmak 2 55.80 317 P P 02 47 48.9 +0.6
SNR=72
TKM2 Tokmak 2 55.80 317 *i* P P 02 47 48.6 +0.3
TKM2 pmax pmax
comp=Z,69nm,0.9s
ZAA0 Zalesovo Array 56.12 332 P P 02 47 49.6 -0.5
ZAA0 IAmb IAmb 02 48 00.5
comp=Z,104nm,1.2s
ZALV Zalesovo Beam 56.12 332 P P 02 47 49.2 -0.9
comp=Z,7.9nm,0.4s,baz=120,slow=6.7,SNR=40
ZALV PcP **PcP** 02 48 46.7 -1.3
comp=Z,30nm,0.8s,baz=187,slow=4.3,SNR=5.0
ZALV LR LR 03 13 11.7
comp=Z,4µm,21.0s,baz=130,slow=37
ZALV PKPPKP **P'P'df** 03 17 49.5 -1.3
comp=Z,3.1nm,1.0s,baz=270,slow=4.4,SNR=5.2
comp=Z,7.9nm,0.4s
KBK Karagaybulak 56.14 316 P P 02 47 52.0 +1.3
SNR=61
UCH Uchtor 56.28 316 P P 02 47 53.0 +0.9
SNR=314
SEM Semipalatinsk 56.39 327 *e*P P 02 47 51.4 -1.0
SEM *e*S S 02 55 43.7 +1.3
SEM Semipalatinsk 56.39 327 *e*P P 02 47 51.5 -1.0
baz=327
SEM *e*S S 02 55 43.7 +1.3
baz=327
SEM LR LR 03 13 22.7
baz=327
CHMS Chumysh 56.40 317 P P 02 47 53.6 +1.2
SNR=53
CHMS Chumysh 56.40 317 *i* P P 02 47 52.5 +0.1
CHMS pmax pmax
comp=Z,176nm,1.2s
AAK Ala-Archa 56.44 316 P P 02 47 54.5 +1.6
SNR=21
AAK Ala-Archa 56.44 316 P P 02 47 53.9 +1.1
comp=Z,23nm,0.9s,baz=107,slow=6.1,SNR=50
AAK LR LR 03 15 34.8
comp=Z,6µm,19.5s,baz=92,slow=40
comp=Z,23nm,0.9s
AAK Ala-Archa 56.44 316 P P 02 47 53.8 +0.9
AAK IAmb IAmb 02 48 01.5
comp=Z,177nm,1.4s
AAK Ala-Archa 56.44 316 *de*P P 02 47 53.6 +0.7
AAK pmax pmax
comp=Z,85nm,1.7s
AAK Ala-Archa 56.44 316 *i* P P 02 47 53.8 +0.9
SNR=48
SGDS Sogindy 56.66 317 *e*P P 02 47 54.2 -0.1
SGDS Sogindy 56.66 317 *e*P P 02 47 54.2 -0.1
comp=Z,149nm,2.4s,baz=317
SGDS *e*S S 02 55 47.8 +1.9
baz=317
MIDW Midway 56.79 62 P P 02 47 56.2 +0.9
MIDW IAmb IAmb 02 47 58.3
comp=Z,87nm,0.8s
AML Almayashu 56.81 315 P P 02 47 57.0 +1.2
SNR=164
EKS2 Erkin-Say 56.94 316 P P 02 47 58.2 +1.8
SNR=42
KURK Kurchatov 57.44 326 P P 02 47 59.2 -0.3
KURK Kurchatov 57.44 326 IAMs_20 IAMs_20 03 13 50.1
comp=Z,3µm,19.0s
KURK Kurchatov 57.44 326 *de*P P 02 47 59.3 -0.3
KURK pmax pmax
comp=Z,344nm,1.3s
KURBB Kurchatov Arra 57.44 326 P P 02 47 59.9 +0.3
comp=Z,60nm,0.8s,baz=126,slow=6.3,SNR=200
KURBB S **S** 02 55 54.1 -1.7
KURBB LR LR 03 14 02.2
comp=Z,3µm,19.2s,baz=100,slow=37
comp=Z,60nm,0.8s
KURBB Kurchatov Arra 57.44 326 P P 02 47 59.4 -0.2
MSVF Nonsavu 57.63 117 LR LR 03 09 18.9

comp=Z,3µm,21.5s,baz=339,slow=32
MSVF Nonsavu 57.63 117 P **P** **02 48 02.8 +1.2**
MSVF Nonsavu 57.63 117 IAMs_20 IAMs_20 03 09 18.7
comp=Z,3µm,20.0s
MSVF Nonsavu 57.63 117 P **P** **02 48 02.8 +1.2**
MSVF pmax pmax
comp=Z,569nm,1.0s
MSVF Nonsavu 57.63 117 P **P** **02 48 04.1 +2.6**
BTLS Baital 57.65 319 *i* P **P** **02 48 01.0 -0.2**
BTLS *e*S **S** **02 55 59.3 +0.5**
BTLS pmax pmax
comp=Z,165nm,2.5s
BTLS Baital 57.65 319 *i* P **P** **02 48 01.0 -0.2**
comp=Z,166nm,2.5s,baz=319
BTLS *e*S **S** **02 55 59.4 +0.5**
baz=319
SEY Seymchan 57.72 14 P **P** **02 48 02.0 +0.7**
comp=Z,74nm,0.9s,baz=223,slow=6.6,SNR=138
SEY S **S** **02 56 00.5 +1.5**
comp=Z,0.7nm,0.7s,baz=7.0,slow=22,SNR=1.2
SEY LR LR 03 12 20.1
comp=Z,872nm,21.8s,baz=162,slow=36
comp=Z,74nm,0.9s
SEY Seymchan 57.72 14*de*P **P** **02 48 02.3 +1.0**
SEY pmax pmax
comp=Z,297nm,1.7s
KBL Kabul 58.14 305 P **P** **02 48 05.5 +0.4**
KBL Kabul 58.14 305 P **P** **02 48 05.5 +0.4**
KBL pmax pmax
comp=Z,240nm,1.1s
BTK Batken 58.19 312 IAmb IAmb 02 48 13.3
comp=Z,229nm,1.1s
GAR Garm 58.26 311 P **P** **02 48 06.6 +0.8**
DGTI Dogotuki 58.61 115 P **P** **02 48 10.9 +2.6**
DZA Taraz 58.71 315 *e*P **P** **02 48 08.5 -0.2**
DZA *e*S **S** **02 56 14.4 +1.6**
DZA pmax pmax
comp=Z,88nm,1.2s
DZA Taraz 58.71 315 *e*P **P** **02 48 08.5 -0.2**
comp=Z,88nm,1.2s,baz=316
DZA *e*S **S** **02 56 14.4 +1.6**
baz=316
SHEM Shemya Is, Ala 58.91 32 P **P** **02 48 11.5 +1.8**
comp=Z,422nm,1.1s,baz=38,slow=2.8,SNR=9.2
SHEM LR LR 03 09 57.4
comp=Z,824nm,20.8s,baz=261,slow=32
comp=Z,422nm,1.1s
TAVE Taveuni 59.07 115 P **P** **02 48 14.6 +3.1**
KK31 Karatay Array 59.35 315 P **P** **02 48 13.6 +0.5**
KK31 Karatay Array 59.35 315 *i* P **P** **02 48 13.5 +0.4**
KK31 pmax pmax
comp=Z,182nm,1.1s
KKAR Karatay Array 59.35 315 P **P** **02 48 12.6 -0.5**
KKAR Karatay Array 59.35 315 P **P** **02 48 12.6 -0.5**
IUG luzhnay 59.39 314*d* *i*P **P** **02 48 14.0 +0.5**
IUG *e*S **S** **02 56 23.5 +1.8**
IUG luzhnay 59.39 314⇓ *i*P **P** **02 48 14.1 +0.5**
baz=314
IUG *e*S **S** **02 56 23.5 +1.8**
baz=314
TAS Tashkent 59.67 313 P **P** **02 48 16.1 +0.8**
TAS Tashkent 59.67 313 P **P** **02 48 16.1 +0.8**
TAS pmax pmax
comp=Z,193nm,0.9s
OTUK Ortayu 59.99 322 *i* P **P** **02 48 17.3 -0.1**
OTUK pmax pmax
comp=Z,209nm,1.2s
BRZS Berezniki 60.48 324*d* *i*P **P** **02 48 20.3 -0.4**
BRZS *i* S **S** **02 56 36.8 +1.4**
BRZS pmax pmax
comp=Z,149nm,1.7s
BRZS Berezniki 60.48 324⇓ *i*P **P** **02 48 20.4 -0.4**
comp=Z,148nm,1.7s,baz=324
BRZS *i* S **S** **02 56 36.8 +1.4**
baz=324
LKBA Tubou, Lakemba 60.59 116 P **P** **02 48 23.1 +1.2**
comp=Z,3.0nm,1.0s
AMKA Amchitka 61.12 35 P **P** **02 48 26.2 +1.2**
OUZ Omahuta 62.45 137 P **P** **02 48 35.7 +1.5**
OUZ IAmb IAmb 02 48 36.9
comp=Z,115nm,1.0s
BVAR Borovoye Array 63.03 326 P **P** **02 48 38.7 +0.8**
comp=Z,107nm,1.1s,baz=116,slow=6.8,SNR=269
BVAR LR LR 03 19 01.2
comp=Z,3µm,18.5s,baz=108,slow=39
comp=Z,107nm,1.1s
BRVK Borovoye 63.10 326 P **P** **02 48 38.4 +0.1**
BRVK Borovoye 63.10 326 IAMs_20 IAMs_20 03 18 59.0
comp=Z,3µm,19.0s
BRVK Borovoye 63.10 326*de*P **P** **02 48 38.2 -0.1**
BRVK pmax pmax
comp=Z,301nm,1.3s
TIXI Tiksi 63.23 1 P **P** **02 48 37.9 -0.9**
comp=Z,342nm,1.2s,baz=94,slow=22,SNR=134
TIXI S **S** **02 57 07.1 -2.2**
comp=Z,5.2nm,1.0s,baz=91,slow=24,SNR=11
TIXI LR LR 03 15 50.5
comp=Z,4µm,21.5s,baz=181,slow=36
comp=Z,342nm,1.2s
TIXI Tiksi 63.23 1 P **P** **02 48 37.7 -1.1**
TIXI Tiksi 63.23 1*de*P **P** **02 48 37.4 -1.4**
TIXI pmax pmax
comp=Z,604nm,1.7s
ADK Adak 63.62 36 P **P** **02 48 41.9 +0.2**
ADK Adak 63.62 36 IAMs_20 IAMs_20 03 12 18.6
comp=Z,3µm,21.0s
ADK Adak 63.62 36 P **P** **02 48 41.9 +0.2**
ADK pmax pmax
comp=Z,339nm,1.0s
ADK Adak 63.62 36 P **P** **02 48 42.6 +0.9**
HRA Herat 63.64 304 IAmb IAmb 02 48 53.5
comp=Z,318nm,1.9s
QRZ Quartz Range 65.06 143 P **P** **02 48 52.4 +1.1**
QRZ IAMs_20 IAMs_20 03 19 25.0
comp=Z,3µm,20.0s
DCZ Deep Cove 65.11 149 P **P** **02 48 52.1 +0.6**
DCZ IAmb IAmb 02 49 02.0
comp=Z,93nm,1.0s
BILL Bilibino 65.29 16 P **P** **02 48 52.8 +0.4**
BILL Bilibino 65.29 16*ce*P **P** **02 48 51.9 -0.5**
BILL *e* 02 49 24.9
BILL *e* 02 51 17.4
BILL *e*S **S** **02 57 37.9 +2.9**
BILL *e*SS **SS** **03 01 52.2 +4.3**
BILL pmax pmax
comp=Z,323nm,1.7s
BILL MLR MLR
comp=Z,1µm,18.0s
AFI Afiamalu 65.65 109 LR LR 03 12 41.0
comp=Z,3µm,20.9s,baz=280,slow=32
AFI Afiamalu 65.65 109 P **P** **02 48 55.7 0.0**
AFI IAmb IAmb 02 49 05.3
comp=Z,126nm,1.1s
AFI Afiamalu 65.65 109 P **P** **02 48 55.7 0.0**
AFI pmax pmax
comp=Z,126nm,1.1s
RAO Raoul Island 65.71 127 LR LR 03 17 45.7
comp=Z,358nm,18.3s,baz=306,slow=36
NRIK Noril'sk 65.75 346 P **P** **02 48 54.6 -0.7**
comp=Z,100nm,1.0s,baz=133,slow=6.3,SNR=105
NRIK S **S** **02 57 37.4 -3.1**
comp=Z,1.0nm,0.4s,baz=249,slow=19,SNR=8.6
NRIK PKP2bc 03 17 39.5
comp=Z,1.3nm,0.4s,baz=317,slow=5.3,SNR=3.6
NRIK LR LR 03 18 55.4
comp=Z,5µm,21.2s,baz=144,slow=37
comp=Z,100nm,1.0s
NRIK Noril'sk 65.75 346 P **P** **02 48 54.5 -0.8**
NRIK Noril'sk 65.75 346*de*P **P** **02 48 54.4 -0.9**
NRIK pmax pmax
comp=Z,166nm,1.1s
NNZ Nelson 65.81 142 IAMs_20 IAMs_20 03 17 49.8
comp=Z,3µm,20.0s
THZ Tophouse 65.85 143 IAMs_20 IAMs_20 03 14 37.0
comp=Z,3µm,22.0s
WSAR Wadi Sarin 65.93 292 LR LR 03 22 18.6
comp=Z,977nm,19.1s,baz=94,slow=40
RPZ Rata Peaks 66.01 146 LR LR 03 19 32.1
comp=Z,1µm,19.1s,baz=302,slow=38
LTZ Lake Taylor 66.11 144 IAMs_20 IAMs_20 03 15 55.7
comp=Z,3µm,20.0s
URZ Urewera 66.48 138 IAMs_20 IAMs_20 03 16 52.7
comp=Z,2µm,19.0s
BKZ Black Stump Fm 66.57 139 P **P** **02 49 01.9 +0.7**
BKZ Black Stump Fm 66.57 139 P **P** **02 49 02.1 +0.9**
KHZ Kahutara 66.62 143 IAmb IAmb 02 49 02.5
comp=Z,91nm,1.0s
KHZ IAMs_20 IAMs_20 03 21 28.4
comp=Z,3µm,19.0s
SNZO South Karori 66.67 142 IAMs_20 IAMs_20 03 18 16.5
comp=Z,3µm,21.0s
SNZO South Karori 66.67 142 P **P** **02 49 02.3 +0.7**
MQZ McQueen's Vall 66.90 145 IAMs_20 IAMs_20 03 18 53.7
comp=Z,2µm,19.0s
BFZ Birch Farm 67.26 141 IAMs_20 IAMs_20 03 17 40.2
comp=Z,3µm,21.0s
BFZ Birch Farm 67.26 141 P **P** **02 49 06.4 +0.9**
GEYT Alibeck 67.42 308 P **P** **02 49 07.8 +1.1**
comp=Z,33nm,1.1s,baz=132,slow=2.2,SNR=38
GEYT S **S** **02 58 03.1 +1.1**
comp=Z,0.9nm,0.6s,baz=30,slow=41,SNR=1.4
GEYT LR LR 03 22 11.8
comp=Z,3µm,21.1s,baz=82,slow=39
comp=Z,33nm,1.1s
GEYT Alibeck 67.42 308 P **P** **02 49 07.8 +1.1**
GEYT IAmb IAmb 02 49 15.2
comp=Z,111nm,1.2s
GYA0B ALIBECK ARRAY 67.42 308 IAmb IAmb 02 49 15.8
comp=Z,67nm,0.9s
AB31 Akbulak array 68.09 320 *i* P **P** **02 49 10.2 -0.4**
AB31 pmax pmax
comp=Z,84nm,0.9s
ABKAR Akbulak array 68.09 320 P **P** **02 49 10.5 -0.1**
MDH Madha 68.09 294 P **P** **02 49 11.0 0.0**
UOSS Minazif 68.17 293 P **P** **02 49 11.9 +0.2**
UOSS Minazif 68.17 293 P **P** **02 49 10.5 -1.1**
MSFE Esma-Masafi 68.22 294 P **P** **02 49 11.4 -0.5**
HATD Hatta, Dubai 68.24 293 P **P** **02 49 12.3 +0.3**
SHME Shamm 68.25 295 P **P** **02 49 12.4 +0.4**
ASHO Ashiyiah 68.30 293 *i* P **P** **02 49 13.5 +1.0**
SNR=5.7
NIKH Nikolski High 68.51 36 P **P** **02 49 13.1 -0.1**
baz=255,SNR=6.7
NIUE Niue 68.82 114 P **P** **02 49 14.6 -1.1**
baz=69,SNR=6.1
NIUE Niue 68.82 114 P **P** **02 49 16.9 +1.2**
NIUE Niue 68.82 114 P **P** **02 49 17.2 +1.5**
SPIA Saint Paul Isl 68.94 32 P **P** **02 49 16.3 +0.6**
baz=252
ASUD Al Ashush, Dub 68.97 293 P **P** **02 49 18.3 +1.7**
AKTO Aktyubinsk 69.56 321 LR LR 03 22 21.4
comp=Z,5µm,18.7s,baz=102,slow=38
AKTO Aktyubinsk 69.56 321 *i* P **P** **02 49 19.0 -0.8**
AKTO pmax pmax
comp=Z,143nm,1.1s
UNV Unalaska Valle 70.09 36 P **P** **02 49 22.6 -0.3**
baz=257,SNR=18
GAMB Gambell 70.50 25 P **P** **02 49 25.9 +0.7**
baz=248
ARU Arti 70.62 327 LR LR 03 22 42.6
comp=Z,4µm,20.8s,baz=96,slow=38
ARU Arti 70.62 327 P **P** **02 49 25.0 -1.2**
ARU IAmb IAmb 02 49 31.9
comp=Z,88nm,0.8s
ARU Arti 70.62 327*d* *i*P **P** **02 49 24.9 -1.2**
ARU 02 49 45.2
ARU 02 52 02.6
ARU PPP PPP 02 53 43.6
ARU S **S** **02 58 38.9 -0.2**
ARU SS **SS** **03 03 10.0 -0.6**
ARU pmax pmax
comp=Z,176nm,1.5s
ARU MLR MLR
comp=Z,4µm,19.0s
MZR Muzera 70.67 291 *i* P **P** **02 49 27.2 +0.1**
SNR=9.4
SOCY Socotra 70.73 280 IAMs_20 IAMs_20 03 20 43.3
comp=Z,3µm,21.0s
KEKH Keha 72.44 70 P **P** **02 49 39.0 +1.2**
TNA Tin City 72.64 23 P **P** **02 49 38.5 +0.4**
baz=251
ANM Nome 73.38 25 IAmb IAmb 02 49 44.7
comp=Z,197nm,1.4s
ANM Nome 73.38 25 P **P** **02 49 43.0 +0.4**
baz=254
SDPT Sand Point 73.82 35 P **P** **02 49 45.0 -0.3**
baz=261,SNR=13
KIP Kipapa 74.04 70 P **P** **02 49 47.6 +0.4**
KIP IAmb IAmb 02 49 50.5
comp=Z,230nm,1.1s
KIP Kipapa 74.04 70*ce*P **P** **02 49 47.8 +0.6**
KIP pmax pmax
comp=Z,284nm,1.7s
KIP Kipapa 74.04 70 P **P** **02 49 49.0 +1.8**
KIP Kipapa 74.04 70 P **P** **02 49 49.5 +2.3**
CNBA Chernabura Isl 74.25 35 IAmb IAmb 02 49 49.0
comp=Z,200nm,1.0s
CHNA Chernabura Isl 74.25 35 P **P** **02 49 47.3 -0.4**
baz=262,SNR=16
S14K Fog Glacier 74.47 34 P **P** **02 49 48.7 -0.5**
baz=262,SNR=5.6
CHGN Chignik 75.10 34 P **P** **02 49 52.4 -0.3**
baz=263,SNR=22
RDOG Red Dog Mine 75.26 22 P **P** **02 49 55.8 +2.4**
baz=256
CASY Casey 75.32 186 P **P** **02 49 53.9 +0.3**
CASY IAmb IAmb 02 49 54.6
comp=Z,75nm,0.8s
CASY Casey 75.32 186 IAMs_20 IAMs_20 03 19 33.9
comp=Z,2µm,22.0s
N16K Nishlik Lake 75.50 30 P **P** **02 49 56.1 +1.1**
baz=261,SNR=72
P16K Nushagak River 75.69 31 P **P** **02 49 56.4 +0.5**
baz=262
O16K Kokwok River B 75.71 31 P **P** **02 49 56.8 +0.6**
baz=262,SNR=71
R16K Pilot Point 75.72 33 P **P** **02 49 55.5 -0.7**
baz=263
KIRV Kirov 75.87 328 LR LR 03 26 07.9
comp=Z,6µm,20.3s,baz=96,slow=38
KIRV Kirov 75.87 328*de*P **P** **02 49 55.7 -1.3**
MAK Makhachkala 75.88 312 *e*P P 02 49 51.2 -6.2
MAK *e*S S 02 59 29.8 -9.4
MAK *e*SSS SSS 03 07 52.7
MAK pmax pmax
comp=Z,165nm,1.3s
O17K Koliganek Bris 76.24 30 P **P** **02 49 59.8 +0.6**
baz=263
BELG Belogornoye 76.28 322 LR LR 03 25 10.1
comp=Z,1µm,21.5s,baz=91,slow=37
BELG Belogornoye 76.28 322*d* *i*P **P** **02 49 58.4 -1.1**
BELG pmax pmax
comp=Z,56nm,1.1s
Q16K King Salmon 76.33 32 P **P** **02 49 59.2 -0.5**
baz=264,SNR=6.6
R17K Ugashik Creek 76.36 33 P **P** **02 49 59.5 -0.4**
baz=264,SNR=17
POHA Pohakuloa 76.46 72 P **P** **02 50 01.0 -0.5**
POHA Pohakuloa 76.46 72 P **P** **02 50 04.6 +3.1**
XMAS Kiritimati 76.46 90 P **P** **02 50 01.8 +0.5**
XMAS IAmb IAmb 02 50 04.2
comp=Z,207nm,1.1s
XMAS Kiritimati 76.46 90 P **P** **02 50 04.0 +2.7**
P17K Kvichak River 76.50 31 P **P** **02 50 01.0 +0.4**
baz=264
CHIR Chirikof Islan 76.61 35 IAMs_20 IAMs_20 03 19 04.1
comp=Z,2µm,22.0s
CHIR Chirikof Islan 76.61 35 P **P** **02 50 02.0 +0.7**
baz=265,SNR=13
PUH Pauahi 76.79 72 P **P** **02 50 04.2 +1.0**
N18K Kilae Creek 76.94 30 IAmb IAmb 02 50 05.6
comp=Z,160nm,1.3s
N18K Kilae Creek 76.94 30 P **P** **02 50 03.6 +0.4**
baz=264,SNR=39
GCSA Galena City Sc 76.99 25 P **P** **02 50 03.3 0.0**
baz=262
SVW2 Sparrevohn 77.13 29 IAmb IAmb 02 50 06.6
comp=Z,139nm,1.3s
GROC Groznyy 77.14 312 *e*P **P** **02 50 04.4 -0.2**
GROC *e* 02 50 15.0
GROC *e*S **S** **02 59 50.9 -2.1**
GROC pmax pmax
comp=Z,401nm,1.2s
TTA Tatalina 77.14 27 P **P** **02 50 04.3 0.0**
baz=263
P18K Big Mountain, 77.14 31 P **P** **02 50 04.0 -0.3**
baz=265
O18K Koktuh Hills 77.19 31 P **P** **02 50 05.5 +0.9**
baz=265,SNR=41
SII Sitkinak Islan 77.47 34 IAMs_20 IAMs_20 03 20 44.7
comp=Z,3µm,21.0s
SII Sitkinak Islan 77.47 34 P **P** **02 50 07.0 +0.9**
baz=266,SNR=11
SII Sitkinak Islan 77.47 34 P **P** **02 50 09.1 +2.9**
L19K White Mountain 77.59 28 P **P** **02 50 07.9 +1.1**
L19K IAmb IAmb 02 50 08.9
comp=Z,96nm,1.1s
L19K White Mountain 77.59 28 P **P** **02 50 07.4 +0.6**
baz=264,SNR=42
N19K Bonanza Creek 77.64 30 P **P** **02 50 07.9 +0.8**
baz=265,SNR=32
O19K Port Alsworth 77.67 30 IAmb IAmb 02 50 09.0
comp=Z,155nm,1.2s
O19K Port Alsworth 77.67 30 P **P** **02 50 07.7 +0.5**
baz=265
M19K Big River Lodg 77.78 28 IAmb IAmb 02 50 10.2
comp=Z,126nm,1.4s
M19K Big River Lodg 77.78 28 P **P** **02 50 08.4 +0.6**
baz=265,SNR=19
Q19K Cape Douglas, 77.92 32 IAmb IAmb 02 50 09.2
comp=Z,139nm,1.0s
Q19K IAMs_20 IAMs_20 03 20 57.4
comp=Z,3µm,22.0s
Q19K Cape Douglas, 77.92 32 P **P** **02 50 07.4 -1.2**
baz=266,SNR=7.1
GNI Garni 77.93 309 LR LR 03 29 09.8
comp=Z,965nm,20.0s,baz=82,slow=39
GNI Garni 77.93 309 P **P** **02 50 09.9 +0.5**
GNI IAmb IAmb 02 50 27.1
comp=Z,300nm,1.6s
GNI Garni 77.93 309*de*P **P** **02 50 09.3 0.0**
GNI pmax pmax
comp=Z,81nm,1.3s
GNI Garni 77.93 309 P **P** **02 50 10.1 +0.8**
RAYN Ar Rayn 77.98 292 P **P** **02 50 09.1 -0.6**
RAYN Ar Rayn 77.98 292 IAMs_20 IAMs_20 03 30 45.7
comp=Z,2µm,19.0s
RAYN Ar Rayn 77.98 292 P **P** **02 50 09.1 -0.6**
RAYN pmax pmax
comp=Z,73nm,1.0s
RAYN Ar Rayn 77.98 292 *i* P **P** **02 50 09.2 -0.5**
SNR=55
OHAK Old Harbor 78.00 33 IAmb IAmb 02 50 10.8
comp=Z,176nm,0.9s
OHAK Old Harbor 78.00 33 P **P** **02 50 09.3 +0.2**
baz=267,SNR=18
K20K Telida 78.06 27 IAmb IAmb 02 50 11.8
comp=Z,148nm,1.3s
K20K Telida 78.06 27 P **P** **02 50 09.8 +0.5**
baz=265,SNR=54
PRGR Permogore 78.07 331 *e*P **P** **02 50 06.6 -2.8**
PRGR 02 53 00.8
PRGR *e*S **S** **03 00 02.0 -0.4**
L20K Farewell, AK 78.07 28 P **P** **02 50 10.1 +0.7**
baz=265,SNR=46
A21K Barrow 78.08 19 IAMs_20 IAMs_20 03 29 49.9
comp=Z,1µm,19.0s
A21K Barrow 78.08 19 P **P** **02 50 09.9 +0.7**
baz=261
J20K Nowinta River 78.10 26 IAmb IAmb 02 50 11.9
comp=Z,189nm,1.3s
J20K Nowinta River 78.10 26 P **P** **02 50 10.2 +0.6**
baz=265,SNR=70
P19K Oil Pt 78.17 31 IAMs_20 IAMs_20 03 20 54.2
comp=Z,2µm,19.0s
P19K Oil Pt 78.17 31 P **P** **02 50 09.2 -0.8**
baz=266
ILSW Iliamna Southw 78.24 30 IAmb IAmb 02 50 10.9
comp=Z,189nm,1.9s
M20K Styx River 78.37 29 IAmb IAmb 02 50 13.5
comp=Z,361nm,1.8s
M20K Styx River 78.37 29 P **P** **02 50 11.8 +0.6**
baz=266
KDAK Kodiak Island 78.41 33 P **P** **02 50 11.8 +0.5**
comp=Z,88nm,0.8s,baz=278,slow=4.8,SNR=35
KDAK LR LR 03 21 59.9
comp=Z,2µm,20.4s,baz=266,slow=34
comp=Z,88nm,0.8s
KDAK Kodiak Island 78.41 33 P **P** **02 50 12.0 +0.7**
KDAK IAmb IAmb 02 50 13.0
comp=Z,177nm,1.0s
KDAK Kodiak Island 78.41 33 IAMs_20 IAMs_20 03 20 56.5
comp=Z,3µm,22.0s
KDAK Kodiak Island 78.41 33 P **P** **02 50 11.5 +0.2**
baz=267
O20K Slope Mountain 78.51 30 P **P** **02 50 11.3 -0.7**
baz=267,SNR=8.5
ZEI Tsey 78.53 312 *e*P **P** **02 50 10.4 -2.2**
ZEI pmax pmax
comp=Z,73nm,1.3s
Q20K Shuyak Island 78.55 32 P **P** **02 50 11.9 -0.2**
baz=267,SNR=8.7
RAR Rarotonga 78.58 114 LR LR 03 18 44.8
comp=Z,1µm,21.6s,baz=280,slow=31
G21K Allakaket 78.59 24 P **P** **02 50 12.8 +0.6**
baz=265,SNR=144
F21K Alatna River 78.66 23 P **P** **02 50 12.5 -0.1**
baz=265,SNR=24
NCK Nalchik 78.74 313*d* *i*P **P** **02 50 13.0 -0.5**
NCK pmax pmax
comp=Z,44nm,1.0s
N20K Mount Spurr 78.77 29 P **P** **02 50 13.0 -0.4**
baz=267,SNR=17
SPCR Spurr Chakacha 78.77 29 P **P** **02 50 12.9 -0.6**
baz=267,SNR=15
H21K Melozitna Rive 78.80 25 IAmb IAmb 02 50 15.6
comp=Z,187nm,1.2s
H21K IAMs_20 IAMs_20 03 26 49.2
comp=Z,1µm,20.0s
H21K Melozitna Rive 78.80 25 P **P** **02 50 14.1 +0.7**
baz=266,SNR=114
PPLA Purkeypile 78.88 28 IAmb IAmb 02 50 15.8
comp=Z,207nm,1.4s
PPLA Purkeypile 78.88 28 P **P** **02 50 14.2 +0.2**
baz=267,SNR=31
CHUM Lake Minchumin 78.88 27 P **P** **02 50 14.4 +0.6**
baz=266,SNR=16
CAST Castle Rocks 78.96 27 IAmb IAmb 02 50 16.0
comp=Z,150nm,1.0s
CAST Castle Rocks 78.96 27 P **P** **02 50 14.5 +0.2**
baz=267,SNR=145
HOM Homer 78.98 31 IAmb IAmb 02 50 18.4
comp=Z,188nm,0.9s
HOM IAMs_20 IAMs_20 03 20 20.4
comp=Z,2µm,22.0s
HOM Homer 78.98 31 P **P** **02 50 14.0 -0.4**
baz=268
I21K Tanana 79.11 25 IAmb IAmb 02 50 17.3
comp=Z,181nm,1.1s
I21K IAMs_20 IAMs_20 03 31 24.5
comp=Z,2µm,18.0s
I21K Tanana 79.11 25 P **P** **02 50 15.5 +0.5**
baz=266,SNR=140
SKT Skwentna 79.13 28 IAmb IAmb 02 50 16.0
comp=Z,139nm,1.1s
SKT Skwentna 79.13 28 P **P** **02 50 14.5 -0.8**
baz=267,SNR=66
CNPM China Poot 79.18 31 IAmb IAmb 02 50 19.4
comp=Z,109nm,0.8s
CNPM IAMs_20 IAMs_20 03 20 55.8
comp=Z,2µm,22.0s
F22K John River 79.19 23 P **P** **02 50 16.4 +0.9**
baz=266
KARS Kars 79.19 310 P **P** **02 50 16.6 +0.3**
KARS Kars 79.19 310 P **P** **02 50 16.6 +0.3**
KARS pmax pmax
comp=Z,258nm,0.9s
KBZ Khabaz 79.24 313 P **P** **02 50 15.8 -0.4**
comp=Z,25nm,1.0s,baz=110,slow=2.3,SNR=28
KBZ S **S** **03 00 13.4 -2.2**
comp=Z,2.3nm,1.1s,baz=358,slow=15,SNR=1.9
KBZ LR LR 03 31 00.2
comp=Z,3µm,18.1s,baz=72,slow=40
comp=Z,25nm,1.0s
KBZ Khabaz 79.24 313*de*P **P** **02 50 15.4 -0.8**
KBZ pmax pmax
comp=Z,32nm,1.1s
CAPN Captain Cook N 79.27 30 IAmb IAmb 02 50 22.8
comp=Z,202nm,1.0s
CAPN Captain Cook N 79.27 30 P **P** **02 50 16.6 +0.6**
baz=268,SNR=6.8
GEVA Gevas 79.29 307 IAmb IAmb 02 50 30.1
comp=Z,172nm,1.4s
BRLK Bradley Lake 79.37 31 IAmb IAmb 02 50 17.2
comp=Z,95nm,0.9s
BRLK IAMs_20 IAMs_20 03 21 15.4
comp=Z,2µm,22.0s
E22K Anaktuvuk Pass 79.38 22 P **P** **02 50 17.1 +0.6**
baz=266
KIV Kislovodsk 79.39 313 ⇑P **P** **02 50 17.1 -0.1**

KIV	**Kislovodsk**	79.39	313		P		**P**	02 50 16.8	-0.4	
KIV	**Kislovodsk**	79.39	313	*d*	iP		**P**	02 50 16.2	-1.0	
KIV					*i*			02 50 23.2		
KIV					*i*			02 53 21.1		
KIV					*i*	S	**S**	03 00 10.4	-7.1	
KIV					*i*	SS	**SS**	03 05 29.7	+5.1	
KIV						pmax	pmax			
	comp=Z,37nm,0.8s									
KIV	**Kislovodsk**	79.39	313	*i*	P		**P**	02 50 16.6	-0.6	
	SNR=16									
H22K	**Ishtalitna Cre**	79.40	24		P		**P**	02 50 17.6	+0.9	
	baz=267,SNR=120									
G22K	**Bettles**	79.41	23		P		**P**	02 50 17.0	+0.3	
	baz=266,SNR=66									
SHA1	**Shidzhatmaz**	79.42	313	*d*	iP		**P**	02 50 16.7	-0.8	
BRSE	**Bradley Lake S**	79.44	31		P		**P**	02 50 16.7	-0.3	
	baz=268,SNR=21									
BPAW	**Bear Paw Mtn.**	79.48	26		P		**P**	02 50 17.2	+0.1	
	baz=268,SNR=178									
KTH	**Kantishna Hill**	79.48	27		IAmb		IAmb	02 50 19.4		
	comp=Z,128nm,1.1s									
KTH					IAMs_20		IAMs_20	03 29 43.5		
	comp=Z,2µm,19.0s									
SUA	**Susitna One**	79.49	29		IAmb		IAmb	02 50 18.1		
	comp=Z,170nm,0.9s									
SUA	**Susitna One**	79.49	29		P		**P**	02 50 16.7	-0.7	
	baz=268,SNR=151									
MLY	**Manley**	79.63	25		IAmb		IAmb	02 50 19.8		
	comp=Z,139nm,1.0s									
MLY					IAMs_20		IAMs_20	03 27 55.1		
	comp=Z,2µm,20.0s									
MLY	**Manley**	79.63	25		P		**P**	02 50 18.0	+0.1	
	baz=268,SNR=151									
CUT	**Chulitna**	79.74	28		P		**P**	02 50 18.5	0.0	
CUT	**Chulitna**	79.74	28		P		**P**	02 50 17.9	-0.6	
	baz=268,SNR=18									
TRF	**Thorofare Moun**	79.76	27		IAmb		IAmb	02 50 20.0		
	comp=Z,136nm,1.1s									
TRF	**Thorofare Moun**	79.76	27		P		**P**	02 50 18.6	-0.3	
	baz=268,SNR=76									
M22K	**Willow**	79.80	29		IAmb		IAmb	02 50 20.0		
	comp=Z,245nm,1.1s									
M22K	**Willow**	79.80	29		P		**P**	02 50 18.1	-0.7	
	baz=269,SNR=49									
D23K	**Nanushuk River**	79.84	21		P		**P**	02 50 20.0	+0.9	
	baz=267,SNR=60									
VRH	**Novokhopyorsk**	79.91	321		*e*P		**P**	02 50 17.7	-2.0	
VRH					*e*S		**S**	03 00 14.9	-7.5	
VRH						pmax	pmax			
	comp=Z,110nm,1.2s									
VRH						MLR	MLR			
	comp=Z,1µm,15.0s									
C23K	**Itkillik River**	79.92	20		P		**P**	02 50 20.0	+0.7	
	baz=267,SNR=31									
COLD	**Coldfoot**	79.94	23		IAmb		IAmb	02 50 21.8		
	comp=Z,143nm,1.0s									
COLD	**Coldfoot**	79.94	23		P		**P**	02 50 20.1	+0.6	
	baz=268,SNR=82									
O22K	**Cooper Landing**	79.96	30		IAMs_20		IAMs_20	03 22 05.4		
	comp=Z,2µm,21.0s									
O22K	**Cooper Landing**	79.96	30		P		**P**	02 50 19.3	-0.5	
	baz=269,SNR=14									
RC01	**Rabbit Creek A**	79.97	29		IAmb		IAmb	02 50 20.6		
	comp=Z,94nm,0.9s									
RC01	**Rabbit Creek A**	79.97	29		P		**P**	02 50 19.3	-0.6	
	baz=269,SNR=24									
G23K	**Bananza Creek**	79.99	24		P		**P**	02 50 20.6	+0.7	
	baz=268,SNR=123									
GURO	**Guroymak-BITLI**	80.08	308		P		**P**	02 50 22.4	+1.2	
GURO					IAmb		IAmb	02 50 23.7		
	comp=Z,103nm,0.8s									
SEW	**Seward**	80.09	30		P		**P**	02 50 20.0	-0.5	
	baz=270,SNR=28									
BWN	**Browne**	80.15	26		IAmb		IAmb	02 50 23.2		
	comp=Z,140nm,1.0s									
H23K	**Yukon River**	80.15	25		IAmb		IAmb	02 50 23.1		
	comp=Z,132nm,1.1s									
H23K	**Yukon River**	80.15	25		P		**P**	02 50 21.6	+0.8	
	baz=268,SNR=62									
I23K	**Minto, Yukon-K**	80.21	25		IAMs_20		IAMs_20	03 28 31.7		
	comp=Z,2µm,19.0s									
I23K	**Minto, Yukon-K**	80.21	25		P		**P**	02 50 21.4	+0.3	
	baz=269,SNR=63									
TOLK	**Toolik Lake Re**	80.23	22		IAmb		IAmb	02 50 23.3		
	comp=Z,167nm,1.1s									
TOLK	**Toolik Lake Re**	80.23	22		P		**P**	02 50 21.9	+0.7	
	baz=268,SNR=53									
PMR	**Palmer**	80.26	29		IAmb		IAmb	02 50 22.1		
	comp=Z,139nm,0.8s									
PMR	**Palmer**	80.26	29		P		**P**	02 50 20.8	-0.6	
	baz=270,SNR=76									
NEA2	**Nenana**	80.33	26		P		**P**	02 50 21.8	+0.1	
NEA2					IAmb		IAmb	02 50 23.8		
	comp=Z,95nm,0.9s									
NEA2	**Nenana**	80.33	26		P		**P**	02 50 21.1	-0.6	
	baz=269,SNR=43									
GHO	**Glory Hole Cre**	80.36	29		IAmb		IAmb	02 50 32.4		
	comp=Z,194nm,1.3s									
MCK	**McKinley**	80.38	27		P		**P**	02 50 21.6	-0.5	
	baz=269,SNR=158									
RND	**Reindeer**	80.41	27		IAmb		IAmb	02 50 23.7		
	comp=Z,280nm,1.2s									
D24K	**Happy Valley**	80.52	21		P		**P**	02 50 23.3	+0.7	
	baz=269									
WAT1	**Susitna Watana**	80.54	28		P		**P**	02 50 22.3	-0.7	
	baz=270									
C24K	**Franklin Bluff**	80.58	21		P		**P**	02 50 23.1	+0.2	
	baz=269									
KNK	**Knik Glacier**	80.59	29		IAmb		IAmb	02 50 24.5		
	comp=Z,188nm,0.8s									
KNK					IAMs_20		IAMs_20	03 31 49.8		
	comp=Z,1µm,18.0s									
KNK	**Knik Glacier**	80.59	29		P		**P**	02 50 23.1	-0.1	
	baz=270,SNR=63									
E24K	**Your Creek**	80.62	22		P		**P**	02 50 23.9	+0.6	
	baz=269									
SML	**Sawmill**	80.65	29		P		**P**	02 50 23.4	-0.2	
	baz=270,SNR=101									
PWL	**Port Wells**	80.65	30		P		**P**	02 50 23.3	-0.2	
	baz=270,SNR=81									
MDM	**Murphy Dome**	80.69	25		IAmb		IAmb	02 50 26.4		
	comp=Z,133nm,1.1s									
MDM					IAMs_20		IAMs_20	03 28 47.3		
	comp=Z,2µm,20.0s									
WRH	**Wood River Hil**	80.75	26		IAmb		IAmb	02 50 25.6		
	comp=Z,188nm,1.2s									
H24K	**Noodor Dome**	80.84	25		P		**P**	02 50 25.0	+0.5	
	baz=270,SNR=79									
F24K	**Squaw Lake**	80.84	23		P		**P**	02 50 25.3	+0.9	
	baz=270,SNR=61									
TCOL	**CIGO, UAF Yank**	80.85	26		IAMs_20		IAMs_20	03 29 10.4		
	comp=Z,2µm,19.0s									
TCOL	**CIGO, UAF Yank**	80.85	26		P		**P**	02 50 23.9	-0.5	
	baz=270,SNR=14									
COLA	**College**	80.85	26		P		**P**	02 50 24.3	-0.2	
COLA	**College**	80.85	26		IAMs_20		IAMs_20	03 29 10.4		
	comp=Z,2µm,19.0s									
COLA	**College**	80.85	26		P		**P**	02 50 24.3	-0.2	
COLA					pmax		pmax			
	comp=Z,51nm,0.9s									
COLA					MLR		MLR			
	comp=Z,2µm,19.0s									
COLA	**College**	80.85	26		P		**P**	02 50 23.9	-0.5	
	baz=270									
CCB	**Clear Creek Bu**	80.87	26		IAmb		IAmb	02 50 27.3		
	comp=Z,106nm,1.0s									
WAT6	**Susitna Watana**	80.92	28		P		**P**	02 50 25.0	-0.1	
	baz=271,SNR=195									
M23K	**Glacier View**	80.93	29		P		**P**	02 50 24.9	-0.1	
	baz=271,SNR=60									
KLMR	**Klimovskoe**	80.99	330		*e*P		**P**	02 50 22.7	-2.6	
KLMR					*e*			02 53 26.9		
KLMR					*e*S		**S**	03 00 30.0	-3.4	
KLMR						pmax	pmax			
	comp=Z,176nm,1.4s									
KLMR						MLR	MLR			
	comp=Z,3µm,15.0s									
KLMR	**Klimovskoe**	80.99	330		*e*P		**P**	02 50 22.7	-2.6	
KLMR					AMP			02 50 25.8		
	comp=Z,176nm,1.4s									
KLMR					*e*PP		**PP**	02 53 26.9	-3.0	
KLMR					*e*S		**S**	03 00 30.0	-3.4	
KLMR					*e*S		**S**	03 00 30.0	-3.4	
KLMR					LQ		LQ	03 19 37.0		
KLMR					LQ		LQ	03 19 37.0		
KLMR					LR		LR	03 25 10.8		
KLMR					AMP			03 30 41.8		
	comp=Z,3µm,15.4s									
G24K	**Hadweenzic Riv**	81.00	24		P		**P**	02 50 26.1	+0.8	
	baz=270,SNR=85									
POKR	**Poker Plat Res**	81.03	25		IAMs_20		IAMs_20	03 29 07.2		
	comp=Z,2µm,20.0s									
POKR	**Poker Plat Res**	81.03	25		P		**P**	02 50 24.8	-0.7	
	baz=270,SNR=10									
DHY	**Denali Highway**	81.08	27		IAmb		IAmb	02 50 28.8		
	comp=Z,77nm,1.0s									
DHY	**Denali Highway**	81.08	27		P		**P**	02 50 25.7	-0.3	
	baz=271,SNR=80									
SCM	**Sheep Creek Mo**	81.12	29		P		**P**	02 50 26.1	0.0	
	baz=271,SNR=84									
P23K	**Montague Islan**	81.12	31		P		**P**	02 50 26.1	+0.1	
	baz=271									
MARD	**Mardin**	81.14	306		P		**P**	02 50 27.1	+0.3	
KOPT	**Kop Dagi**	81.19	309		IAmb		IAmb	02 50 44.1		
	comp=Z,110nm,1.1s									
HDA	**Harding Lake**	81.25	26		IAmb		IAmb	02 50 28.2		
	comp=Z,102nm,0.9s									
HDA	**Harding Lake**	81.25	26		P		**P**	02 50 25.4	-1.3	
	baz=271,SNR=92									
GLI	**Glacier Island**	81.25	30		IAmb		IAmb	02 50 28.0		
	comp=Z,127nm,0.8s									
GLI					IAMs_20		IAMs_20	03 32 17.5		
	comp=Z,1µm,20.0s									
GLI	**Glacier Island**	81.25	30		P		**P**	02 50 26.6	-0.1	
	baz=272,SNR=67									
D25K	**Kavik River**	81.39	21		P		**P**	02 50 27.8	+0.4	
	baz=271									
VORR	**Voronezh**	81.46	321		*e*P		**P**	02 50 27.3	-0.7	
VORR						pmax	pmax			
	comp=Z,250nm,1.4s									
VSR	**Storozhevoye**	81.51	321		*e*P		**P**	02 50 26.3	-2.0	
VSR					*e*S		S	03 00 30.1	-9.1	
VSR						pmax	pmax			
	comp=Z,80nm,1.4s									
VSR						MLR	MLR			
	comp=Z,2µm,16.0s									
SOC	**Sochi**	81.56	313		*e*P		**P**	02 50 26.3	-2.4	
SOC					*e*			02 53 31.3		
SOC					*e*S		**S**	03 00 37.5	-2.5	
SOC					*e*SS		**SS**	03 06 00.1	+3.3	
SOC					*e*SSS		SSS	03 09 17.2		
SOC						pmax	pmax			
	comp=Z,48nm,1.5s									
FID	**Port Fidalgo**	81.56	30		IAmb		IAmb	02 50 29.8		
	comp=Z,106nm,0.9s									
FID					IAMs_20		IAMs_20	03 32 32.1		
	comp=Z,2µm,20.0s									
HIN	**Hinchinbrook I**	81.56	30		IAmb		IAmb	02 50 30.0		
	comp=Z,129nm,1.0s									
HIN					IAMs_20		IAMs_20	03 23 45.7		
	comp=Z,2µm,22.0s									
LPSR	**Galich'ya Gora**	81.59	322		*e*P		**P**	02 50 27.2	-1.5	
LPSR					*e*S		**S**	03 00 32.0	-7.9	
LPSR						pmax	pmax			
	comp=Z,130nm,1.2s									
LPSR						MLR	MLR			
	comp=Z,1µm,15.0s									
ATD	**Arta Tunnel**	81.64	280		LR		LR	03 26 02.2		
	comp=Z,490nm,21.0s,baz=74,slow=35									
ATD	**Arta Tunnel**	81.64	280		P		**P**	02 50 29.6	-0.2	
M24K	**Tolsona, Glenn**	81.66	28		IAMs_20		IAMs_20	03 24 15.1		
	comp=Z,2µm,21.0s									
M24K	**Tolsona, Glenn**	81.66	28		P		**P**	02 50 29.6	+0.6	
	baz=272,SNR=59									
H25K	**Birch Creek**	81.67	24		P		**P**	02 50 29.9	+1.0	
	baz=272,SNR=50									
Q23K	**Middleton Isla**	81.68	31		P		**P**	02 50 29.6	+0.7	
	baz=272									
F25K	**Christian Rive**	81.70	23		P		**P**	02 50 30.1	+1.1	
	baz=272,SNR=57									
E25K	**Arctic Village**	81.71	22		P		**P**	02 50 29.7	+0.6	
	baz=272									
K24K	**Donnelly Dome**	81.78	27		P		**P**	02 50 29.1	-0.4	
	baz=272,SNR=63									
KLU	**Klutina**	81.80	29		IAmb		IAmb	02 50 32.4		
	comp=Z,63nm,0.8s									
KLU					IAMs_20		IAMs_20	03 30 28.9		
	comp=Z,1µm,20.0s									
KLU	**Klutina**	81.80	29		P		**P**	02 50 30.0	+0.3	
	baz=272,SNR=57									
PRP	**Porcupine Dome**	81.82	25		IAMs_20		IAMs_20	03 29 02.1		
	comp=Z,1µm,19.0s									
PRP	**Porcupine Dome**	81.82	25		P		**P**	02 50 28.8	-1.1	
	baz=272,SNR=39									
C26K	**Camden Bay**	81.89	20		P		**P**	02 50 29.7	-0.2	
	baz=272,SNR=7.9									
DIV	**Divide**	81.89	29		IAmb		IAmb	02 50 32.0		
	comp=Z,236nm,1.1s									
FYU	**Fort Yukon**	81.90	24		IAmb		IAmb	02 50 32.5		
	comp=Z,234nm,1.3s									
J25K	**Salcha River,**	81.92	26		IAMs_20		IAMs_20	03 29 43.9		
	comp=Z,1µm,19.0s									
J25K	**Salcha River,**	81.92	26		P		**P**	02 50 29.2	-1.1	
	baz=272,SNR=50									
EYAK	**Cordova Ski Ar**	81.93	30		IAmb		IAmb	02 50 32.2		
	comp=Z,89nm,1.1s									
EYAK	**Cordova Ski Ar**	81.93	30		P		**P**	02 50 30.5	+0.2	
	baz=273,SNR=25									
PAX	**Paxson**	81.95	27		IAmb		IAmb	02 50 32.1		
	comp=Z,132nm,1.1s									
PAX	**Paxson**	81.95	27		P		**P**	02 50 30.5	0.0	
	baz=273,SNR=131									
HARP	**HAARP**	82.12	28		P		**P**	02 50 31.7	+0.4	
	baz=273,SNR=28									
MOS	**Moscow**	82.19	325		*e*P		**P**	02 50 28.9	-2.8	
MOS					*e*			02 50 35.6		
MOS					*e*			02 53 35.4		
MOS					*e*S		**S**	03 00 37.4	-8.6	
MOS					*e*PS		**PnS**	03 01 42.3	+6.4	
MOS						pmax	pmax			
	comp=Z,117nm,1.1s									
MOS						pmax	pmax			
	comp=Z,600nm,3.0s									
MOS						MLR	MLR			
	comp=E,2µm,18.0s									
MOS						MLR	MLR			
	comp=Z,3µm,18.0s									
RIDG	**Independent Ri**	82.19	27		P		**P**	02 50 31.4	-0.3	
	baz=273,SNR=202									
F26K	**Sheenjek River**	82.27	23		P		**P**	02 50 33.1	+1.1	
	baz=273,SNR=31									
C27K	**Jago River**	82.32	21		P		**P**	02 50 33.3	+1.1	
	baz=273,SNR=18									
N25K	**Chitina, Valde**	82.43	29		IAmb		IAmb	02 50 35.1		
	comp=Z,86nm,1.1s									
N25K	**Chitina, Valde**	82.43	29		P		**P**	02 50 33.5	+0.5	
	baz=274,SNR=56									
G26K	**Porcupine Rive**	82.45	23		P		**P**	02 50 34.0	+1.1	
	baz=274,SNR=51									
BMRM	**Bremner River**	82.47	29		IAmb		IAmb	02 50 35.0		
	comp=Z,112nm,1.0s									
BMRM	**Bremner River**	82.47	29		P		**P**	02 50 33.4	+0.2	
	baz=274,SNR=38									
RAGM	**Ragged Mountai**	82.47	30		P		**P**	02 50 34.1	+0.9	
RAGM					IAmb		IAmb	02 50 37.6		
	comp=Z,144nm,1.1s									
RAGM					IAMs_20		IAMs_20	03 24 09.6		
	comp=Z,2µm,21.0s									
DOT	**Dot Lake**	82.55	27		IAmb		IAmb	02 50 34.8		
	comp=Z,104nm,1.0s									
SCRK	**Sand Creek**	82.56	26		IAmb		IAmb	02 50 35.1		
	comp=Z,134nm,1.3s									
SCRK	**Sand Creek**	82.56	26		P		**P**	02 50 33.6	-0.1	
	baz=274,SNR=77									
KAIM	**Kayak Island**	82.63	31		P		**P**	02 50 34.8	+0.8	
	baz=274,SNR=56									
HMT	**Hamilton**	82.68	30		IAmb		IAmb	02 50 37.8		
	comp=Z,109nm,1.0s									
HMT					IAMs_20		IAMs_20	03 28 40.2		
	comp=Z,2µm,21.0s									
J26L	**Joseph Creek**	82.71	26		IAmb		IAmb	02 50 40.1		
	comp=Z,82nm,1.0s									
J26L	**Joseph Creek**	82.71	26		P		**P**	02 50 34.1	-0.3	
	baz=274,SNR=83									
MENT	**Mentasta**	82.75	27		IAmb		IAmb	02 50 36.4		
	comp=Z,71nm,0.8s									
LVZ	**Lovozero**	82.78	338		P		**P**	02 50 33.6	-1.1	
LVZ					IAmb		IAmb	02 50 35.9		
	comp=Z,169nm,1.3s									
LVZ	**Lovozero**	82.78	338	*ce*	P		**P**	02 50 32.0	-2.7	
LVZ						pmax	pmax			
	comp=Z,148nm,1.3s									
GLB	**Gilahina Butte**	82.82	29		IAmb		IAmb	02 50 36.8		
	comp=Z,106nm,1.0s									
GLB					IAMs_20		IAMs_20	03 24 36.8		
	comp=Z,2µm,22.0s									
I26K	**Coal Creek Min**	82.82	25		IAmb		IAmb	02 50 39.4		
	comp=Z,101nm,1.1s									
I26K	**Coal Creek Min**	82.82	25		P		**P**	02 50 34.5	-0.4	
	baz=274									
OBN	**Obninsk**	82.83	325	⇑	P		**P**	02 50 34.7	-0.4	
OBN	**Obninsk**	82.83	325		LR		LR	03 31 30.6		
	comp=Z,588nm,18.0s,baz=83,slow=39									
OBN	**Obninsk**	82.83	325		P		**P**	02 50 34.6	-0.5	
OBN					IAmb		IAmb	02 50 38.2		
	comp=Z,213nm,1.5s									
OBN	**Obninsk**	82.83	325	*de*	P		**P**	02 50 33.5	-1.6	
OBN					*e*			02 50 39.9		
OBN					*e*			02 53 45.5		
OBN					*e*	PPP	PPP	02 55 35.7		
OBN					*e*S		**S**	03 00 48.3	-4.2	
OBN					*e*SS		**SS**	03 06 16.9	+1.8	
OBN					*e*SSS		SSS	03 09 45.5		
OBN						pmax	pmax			
	comp=Z,135nm,1.3s									
OBN						MLR	MLR			
	comp=Z,3µm,25.0s									
L26K	**Log Cabin Wild**	82.91	27		IAmb		IAmb	02 50 37.4		
	comp=Z,59nm,0.9s									
L26K					IAMs_20		IAMs_20	03 32 28.2		
	comp=Z,2µm,18.0s									
L26K	**Log Cabin Wild**	82.91	27		P		**P**	02 50 35.9	+0.4	
	baz=274,SNR=87									
SUCK	**Suckling Hills**	82.94	30		IAMs_20		IAMs_20	03 23 48.1		
	comp=Z,2µm,20.0s									
ANN	**Anapa**	83.11	314		*e*P		**P**	02 50 34.4	-2.3	
ANN					*e*			02 53 46.1		
ANN					*e*S		**S**	03 00 52.5	-3.3	
ANN						pmax	pmax			
	comp=Z,217nm,1.9s									
ANN						pmax	pmax			
	comp=N,129nm,2.0s									
ANN						pmax	pmax			
	comp=E,66nm,1.3s									
M26K	**Nabesna, AK**	83.13	28		IAmb		IAmb	02 50 38.5		
	comp=Z,172nm,1.4s									
M26K	**Nabesna, AK**	83.13	28		P		**P**	02 50 37.0	+0.4	
	baz=275,SNR=101									
VOI	**Vohitsoka**	83.15	247		P		**P**	02 50 35.7	-1.9	
VOI	**Vohitsoka**	83.15	247		P		**P**	02 50 36.2	-1.4	
BGLC	**Bering Glacier**	83.18	30		P		**P**	02 50 38.2	+1.4	
	baz=275									
E27K	**Coleen River**	83.19	22		P		**P**	02 50 37.4	+0.6	
	baz=275,SNR=29									
MCARA	**McCarthy VSAT**	83.20	29		IAmb		IAmb	02 50 57.2		
	comp=Z,93nm,1.1s									
MCARA	**McCarthy VSAT**	83.20	29		P		**P**	02 50 37.6	+0.7	
	baz=275,SNR=22									
APA	**Apatity**	83.28	337	⇑	*i*P		**P**	02 50 35.2	-2.0	
APA					*i*S		**S**	03 00 53.0	-3.7	
APA					*i*SS		**SS**	03 06 30.0	+8.8	
APA						pmax	pmax			
	comp=Z,61nm,1.2s									
APA						MLR	MLR			
	comp=Z,2µm,20.0s									
G27K	**Doyon Strip**	83.30	23		P		**P**	02 50 38.3	+0.9	
	baz=276,SNR=47									
TGL	**Tana Glacier**	83.35	30		IAMs_20		IAMs_20	03 33 49.9		
	comp=Z,2µm,19.0s									
WAX	**Waxell Ridge**	83.37	30		IAMs_20		IAMs_20	03 33 50.4		
	comp=Z,2µm,19.0s									
K27K	**Chicken**	83.39	26		P		**P**	02 50 39.1	+1.3	
	baz=276									
SNH	**Sunshine Point**	83.40	30		IAMs_20		IAMs_20	03 24 01.2		
	comp=Z,2µm,22.0s									
H27K	**Steamboat Moun**	83.41	24		P		**P**	02 50 39.1	+1.1	
	baz=276,SNR=46									
I27K	**Kandik River**	83.44	25		P		**P**	02 50 39.1	+1.0	
	baz=276,SNR=292									
L27K	**Beaver Creek,**	83.60	27		IAmb		IAmb	02 50 42.1		
	comp=Z,112nm,0.9s									
L27K	**Beaver Creek,**	83.60	27		P		**P**	02 50 39.9	+0.9	
	baz=276,SNR=184									
ISLE	**Juniper Island**	83.60	30		IAMs_20		IAMs_20	03 33 57.6		
	comp=Z,92nm,1.0s									
FOMA	**Nahampoana Res**	83.62	244		P		**P**	02 50 39.7	0.0	
FOMA					IAmb		IAmb	02 50 50.3		
	comp=Z,165nm,1.8s									
M27K	**Edge Creek, AK**	83.65	28		IAmb		IAmb	02 50 41.6		
	comp=Z,155nm,1.2s									
M27K	**Edge Creek, AK**	83.65	28		P		**P**	02 50 40.0	+0.5	
	baz=276,SNR=101									
EGAK	**Eagle**	83.72	26		IAmb		IAmb	02 50 41.2		
	comp=Z,153nm,1.1s									
EGAK					IAMs_20		IAMs_20	03 30 58.2		
	comp=Z,1µm,20.0s									
EGAK	**Eagle**	83.72	26		P		**P**	02 50 39.6	+0.1	
	baz=276,SNR=114									
MESA	**MESA**	83.84	30		IAMs_20		IAMs_20	03 24 13.9		
	comp=Z,2µm,22.0s									
MESA	**MESA**	83.84	30		P		**P**	02 50 41.4	+0.9	
	baz=276,SNR=64									
YAH	**Yahtse**	83.92	30		IAMs_20		IAMs_20	03 23 57.0		
	comp=Z,2µm,20.0s									
CTG	**Chitna Glacier**	84.05	29		P		**P**	02 50 42.6	+1.1	
	baz=276,SNR=304									
BVCY	**Beaver Creek**

SPA0	**Spitsbergen Ar**	**85.79**	**349**	*e*P		**P**		**02 50 48.8**	**-0.9**
SPA0				IAmb		IAmb		02 50 49.6		
	comp=Z,80nm,1.1s									
SPITS	**Spitsbergen Ar**	**85.79**	**349**	LR		LR		03 35 08.8		
	comp=Z,2µm,19.4s,baz=31,slow=40									
ARA0	**ARCESS Array S**	**85.84**	**340**	*e*P		**P**		**02 50 49.1**	**-1.0**
ARA0				IAmb		IAmb		02 50 51.3		
	comp=Z,47nm,1.1s									
ARCES	**ARCESS Array B**	**85.84**	**340**	P		**P**		**02 50 48.6**	**-1.5**
	comp=Z,25nm,0.8s,baz=69,slow=6.6,SNR=35									
ARCES				PKKPbc		**PKKPbc**		**03 08 54.4**	**+0.3**	
	comp=Z,3.4nm,1.0s,baz=251,slow=4.4,SNR=3.7									
	comp=Z,25nm,0.8s									
ARCES	**ARCESS Array B**	**85.84**	**340**	P		**P**		**02 50 49.8**	**-0.3**
ARCES	**ARCESS Array B**	**85.84**	**340**	P		**P**		**02 50 49.8**	**-0.3**
ARCES				pmax		pmax				
	comp=Z,40nm,1.0s									
HYT	**Haines Junctio**	**85.93**	**29**	IAmb		IAmb		02 50 53.6		
	comp=Z,53nm,0.9s									
HYT	**Haines Junctio**	**85.93**	**29**	P		**P**		**02 50 51.5**	**+0.5**	
	baz=280,SNR=83									
MMAI	**Mount Meron Ar**	**85.94**	**303**	LR		LR		03 34 27.4		
	comp=Z,1µm,20.8s,baz=236,slow=39									
AAE	**Adis Abeba**	**85.95**	**278**	*e*P		**P**		**02 50 47.7**	**-4.5**
AAE	**Adis Abeba**	**85.95**	**278**	*e*S		**S**		**03 01 27.5**	**+1.6**
M30M	**Minto, Yukon**	**85.96**	**27**	IAmb		IAmb		02 50 53.3		
	comp=Z,124nm,1.1s									
M30M				IAMs_20		IAMs_20		03 33 43.6		
	comp=Z,1µm,20.0s									
M30M	**Minto, Yukon**	**85.96**	**27**	P		**P**		**02 50 51.6**	**+0.7**	
	baz=280,SNR=92									
P29M	**Windy Craggy**	**86.02**	**30**	IAmb		IAmb		02 50 54.3		
	comp=Z,76nm,1.0s									
P29M				IAMs_20		IAMs_20		03 24 22.5		
	comp=Z,2µm,22.0s									
P29M	**Windy Craggy**	**86.02**	**30**	P		**P**		**02 50 52.2**	**+1.0**	
	baz=280,SNR=40									
N30M	**Aishikik Lake**	**86.02**	**29**	P		**P**		**02 50 52.2**	**+0.9**	
	baz=280,SNR=102									
GHAJ	**Ghor Haditha**	**86.03**	**301**	IAmb		IAmb		02 51 03.8		
	comp=Z,152nm,1.2s									
FURI	**Furi**	**86.05**	**278**	P		**P**		**02 50 53.3**	**+0.6**	
FURI	**Furi**	**86.05**	**278**	IAMs_20		IAMs_20		03 31 41.1		
	comp=Z,2µm,18.0s									
FURI	**Furi**	**86.05**	**278**	*e*P		**P**		**02 50 54.3**	**+1.7**	
FURI	**Furi**	**86.05**	**278**	*e*S		**S**		**03 01 26.1**	**-0.8**	
INK	**Inuvik**	**86.14**	**21**	P		**P**		**02 50 51.3**	**-0.3**	
	comp=Z,43nm,1.1s,baz=292,slow=6.1,SNR=24									
INK				LR		LR		03 34 04.2		
	comp=Z,619nm,18.1s,baz=275,slow=39									
	comp=Z,43nm,1.1s									
INK	**Inuvik**	**86.14**	**21**	IAmb		IAmb		02 50 52.8		
	comp=Z,110nm,1.2s									
INK	**Inuvik**	**86.14**	**21**	P		**P**		**02 50 51.2**	**-0.4**	
	baz=283,SNR=20									
MAYO	**Mayo, Yukon**	**86.17**	**26**	IAmb		IAmb		02 51 17.4		
	comp=Z,91nm,1.0s									
MAYO	**Mayo, Yukon**	**86.17**	**26**	P		**P**		**02 50 52.4**	**+0.6**	
	baz=281,SNR=12									
F31M	**Tsiigehtchic**	**86.25**	**22**	P		**P**		**02 50 51.7**	**-0.5**	
	baz=283,SNR=13									
P30M	**Million Dollar**	**86.32**	**30**	P		**P**		**02 50 53.0**	**+0.3**	
	baz=280									
BRTR	**Keskin Array B**	**86.47**	**309**	P		**P**		**02 50 53.1**	**-1.0**	
	comp=Z,8.0nm,0.9s,baz=97,slow=4.1,SNR=30									
BRTR				PP		**PP**		**02 54 14.7**	**-0.8**	
	comp=Z,6.5nm,1.0s,baz=81,slow=9.3,SNR=5.3									
BRTR				PKKPbc		**PKKPbc**		**03 08 51.2**	**-0.4**	
	comp=Z,2.3nm,0.9s,baz=234,slow=2.0,SNR=6.6									
BRTR				LR		LR		03 34 54.5		
	comp=Z,1µm,19.7s,baz=74,slow=39									
	comp=Z,8.0nm,0.9s									
O30N	**Mendenhall**	**86.62**	**29**	P		**P**		**02 50 54.7**	**+0.5**	
	baz=281,SNR=31									
N31M	**Braeburn, Yuko**	**86.63**	**28**	IAmb		IAmb		02 50 57.6		
	comp=Z,121nm,1.1s									
N31M				IAMs_20		IAMs_20		03 24 26.5		
	comp=Z,2µm,22.0s									
N31M	**Braeburn, Yuko**	**86.63**	**28**	P		**P**		**02 50 54.9**	**+0.6**	
	baz=281,SNR=68									
PLBC	**Pleasant Camp**	**86.74**	**30**	P		**P**		**02 50 55.1**	**+0.4**	
	baz=281,SNR=18									
KTK1	**Kautokeino**	**86.75**	**339**	*e*P		**P**		**02 50 53.5**	**-1.1**	
KTK1				IAmb		IAmb		02 50 53.8		
	comp=Z,27nm,1.0s									
EIL	**Elat**	**86.77**	**299**	LR		LR		03 38 14.5		
	comp=Z,1µm,18.1s,baz=74,slow=42									
ANTO	**Ankara**	**87.10**	**310**	⇑P		**P**		**02 50 56.6**	**-0.4**	
BR231	**Keskin MP Arra**	**87.11**	**310**	P		**P**		**02 50 56.7**	**-0.5**	
M31M	**Drury Creek, Y**	**87.13**	**28**	IAmb		IAmb		02 50 59.1		
	comp=Z,77nm,1.6s									
M31M				IAMs_20		IAMs_20		03 26 37.6		
	comp=Z,2µm,22.0s									
M31M	**Drury Creek, Y**	**87.13**	**28**	P		**P**		**02 50 56.8**	**+0.2**	
	baz=282,SNR=28									
WHY	**Whitehorse**	**87.23**	**29**	P		**P**		**02 50 57.6**	**+0.3**	
	baz=282,SNR=25									
SKAG	**Skagway**	**87.25**	**30**	P		**P**		**02 50 57.8**	**+0.6**	
	baz=282,SNR=29									
PPT2	**Papeete2**	**87.29**	**108**	*e*S		**S**		**03 01 38.4**	**+0.1**	
	comp=Z,530nm,23.0s									
PPT2	**Papeete2**	**87.29**	**108**	*e*LR		LR		03 18 39.9		
	comp=Z,3µm,30.0s									
FIA1	**FINESS Array S**	**87.39**	**332**	IAmb		IAmb		02 50 58.6		
	comp=Z,148nm,1.2s									
CSS	**Mathiatis**	**87.39**	**305**	IAmb		IAmb		02 51 00.1		
	comp=Z,55nm,1.1s									
FINES	**FINESS Array B**	**87.39**	**332**	P		**P**		**02 50 57.0**	**-0.8**	
	comp=Z,92nm,1.1s,baz=79,slow=4.2,SNR=114									
FINES				LR		LR		03 34 37.8		
	comp=Z,4µm,19.2s,baz=80,slow=39									
	comp=Z,92nm,1.1s									
FINES	**FINESS Array B**	**87.39**	**332**	P		**P**		**02 50 56.5**	**-1.3**	
FINES	**FINESS Array B**	**87.39**	**332**	P		**P**		**02 50 57.0**	**-0.8**	
TIAR	**Tiarei**	**87.50**	**108**	*e*P		**P**		**02 51 01.0**	**+1.7**	
	comp=Z,22nm,1.0s									
JETT	**Jettan, Norway**	**87.56**	**340**	*e*P		**P**		**02 50 57.8**	**-0.8**	
JETT				IAmb		IAmb		02 50 59.7		
	comp=Z,47nm,0.8s									
FARO	**Faro, Yukon**	**87.60**	**27**	IAmb		IAmb		02 51 01.6		
	comp=Z,88nm,1.1s									
FARO	**Faro, Yukon**	**87.60**	**27**	P		**P**		**02 50 59.0**	**+0.1**	
	baz=283,SNR=115									
VSU	**Vasula**	**87.71**	**329**	*d*	*i*P	**P**		**02 50 57.4**	**-2.0**	
VSU				pmax		pmax				
	comp=Z,440nm,1.3s									
VSU	**Vasula**	**87.71**	**329**	*e*P		**P**		**02 50 56.6**	**-2.8**	
SIT	**Sitka**	**87.75**	**33**	P		**P**		**02 50 59.9**	**+0.3**	
	baz=282									
A36M	**Sachs Harbour**	**87.80**	**17**	P		**P**		**02 50 59.3**	**-0.3**	
A36M	**Sachs Harbour**	**87.80**	**17**	P		**P**		**02 50 59.0**	**-0.6**	
	baz=290									
AKASG	**Malin Array Be**	**87.81**	**321**	P		**P**		**02 50 58.5**	**-1.5**	
	comp=Z,31nm,1.1s,baz=61,slow=4.6,SNR=108									
AKASG				PP		**PP**		**02 54 26.3**	**+0.5**	
	comp=Z,0.2nm,0.3s,baz=66,slow=7.5,SNR=1.8									
AKASG				LR		LR		03 34 24.2		
	comp=Z,1µm,18.1s,baz=73,slow=38									
	comp=Z,31nm,1.1s									
AKASG	**Malin Array Be**	**87.81**	**321**	IAmb		IAmb		02 51 01.6		
	comp=Z,83nm,1.4s									
AKBB	**Malin Array Si**	**87.81**	**321**	IAmb		IAmb		02 51 00.1		
	comp=Z,88nm,1.2s									
AKBB	**Malin Array Si**	**87.81**	**321**	*de*P		**P**		**02 50 58.1**	**-2.0**	
MAW	**Mawson**	**87.83**	**200**	P		**P**		**02 50 59.3**	**-0.3**	
	baz=88,SNR=20									
MAW	**Mawson**	**87.83**	**200**	P		**P**		**02 50 59.4**	**-0.3**	
	comp=Z,15nm,0.8s,baz=47,slow=6.6,SNR=27									
MAW				S		**SKSac**		**03 01 23.5**	**-3.1**	
	comp=Z,1.4nm,0.9s,baz=34,slow=20,SNR=1.9									
MAW				PKKPbc		**PKKPdf**		**03 08 44.8**	**+0.8**	
	comp=Z,1.8nm,0.8s,baz=322,slow=15,SNR=3.9									
MAW				PKPPKP				03 16 52.3		
	comp=Z,4.0nm,1.0s,baz=242,slow=5.0,SNR=5.4									
MAW				LR		LR		03 26 37.4		
	comp=Z,683nm,21.2s,baz=48,slow=33									
	comp=Z,15nm,0.8s									
MAW	**Mawson**	**87.83**	**200**	P		**P**		**02 50 59.1**	**-0.6**	
MNK	**Minsk**	**87.89**	**325**	*i* P		**P**		**02 50 58.1**	**-2.2**	
MNK				*i*				02 54 23.8		
MNK				*i* PPP		PPP		02 56 18.9		
MNK				*i* S		**SKSac**		**03 01 25.8**	**-2.1**	
MNK				*i* SS		**SS**		**03 07 29.5**	**0.0**	
MNK				pmax		pmax				
	comp=E,7.0nm,1.0s									
MNK				pmax		pmax				
	comp=Z,79nm,1.0s									
MNK	**Minsk**	**87.89**	**325**	*i* P		**P**		**02 50 58.2**	**-2.2**	
	comp=E,7.0nm,1.0s									
MNK				*i* P		**P**		**02 50 58.2**	**-2.2**	
MNK				*i* P		**P**		**02 50 58.2**	**-2.2**	
	comp=Z,79nm,1.0s,baz=79									
MNK				*i* PP		**PP**		**02 54 23.8**	**-2.5**	
MNK				*i* PPP		PPP		02 56 18.9		
MNK				*i* S		**SKSac**		**03 01 25.8**	**-2.1**	
MNK				*i* SS		**SS**		**03 07 29.5**	**0.0**	
MNK				*i* LQ		LQ		03 22 15.5		
MNK				*i* LR		LR		03 26 10.9		
MNK				*i* LRM		MLR		03 34 30.6		
	comp=E,483nm,19.7s									
MNK				*i* LRM		MLR		03 34 37.7		
	comp=Z,3µm,19.7s									
MNK				*i* LRM		MLR		03 34 55.6		
R32K	**Eaglecrest**	**87.92**	**31**	P		**P**		**02 51 01.1**	**+0.7**	
	baz=282,SNR=31									
N32M	**Quiet Lake**	**87.97**	**28**	P		**P**		**02 51 01.0**	**+0.3**	
	baz=284									
JIS	**Juneau Island**	**87.98**	**31**	IAMs_20		IAMs_20		03 27 00.6		
	comp=Z,1µm,22.0s									
P32M	**Atlin**	**88.03**	**30**	P		**P**		**02 51 01.4**	**+0.3**	
	baz=283,SNR=8.5									
TRO	**Tromso**	**88.03**	**340**	*e*P		**P**		**02 50 59.4**	**-1.3**	
TRO				IAmb		IAmb		02 51 00.2		
	comp=Z,34nm,1.1s									
VNDA	**Vanda**	**88.11**	**173**	P		**P**		**02 51 01.2**	**+0.3**	
	comp=Z,24nm,0.9s,baz=316,slow=5.6,SNR=52									
VNDA				PP		**PP**		**02 54 27.3**	**-0.5**	
	comp=Z,15nm,1.1s,baz=318,slow=7.8,SNR=3.8									
VNDA				S		**SKSac**		**03 01 33.8**	**+5.6**	
	comp=Z,0.4nm,0.5s,baz=32,slow=23,SNR=1.2									
VNDA				PKKPbc		**PKKPdf**		**03 08 44.5**	**+0.8**	
	comp=Z,2.8nm,1.0s,baz=157,slow=1.2,SNR=4.0									
VNDA				LR		LR		03 29 55.7		
	comp=Z,918nm,20.8s,baz=339,slow=35									
	comp=Z,24nm,0.9s									
VNDA	**Vanda**	**88.11**	**173**	P		**P**		**02 51 01.3**	**+0.4**	
VNDA				IAmb		IAmb		02 51 09.7		
	comp=Z,184nm,1.8s									
PURM	**Purcari**	**88.13**	**317**	⇑P		**P**		**02 51 01.3**	**-0.4**	
MDUB	**Mudurnu**	**88.21**	**310**	IAmb		IAmb		02 51 01.1		
	comp=Z,80nm,1.0s									
KIBK	**Kibwezi**	**88.26**	**267**	P		**P**		**02 51 02.8**	**-0.3**	
P33M	**Teslin, Yukon**	**88.32**	**29**	P		**P**		**02 51 02.2**	**-0.3**	
	baz=284,SNR=21									
TBI	**Tubuai**	**88.36**	**114**	*e*S		**S**		**03 01 48.4**	**+0.2**	
	comp=Z,531nm,24.8s									
TBI	**Tubuai**	**88.36**	**114**	*e*LR		LR		03 19 08.5		
	comp=Z,3µm,23.2s									
NACGM	**Naroch**	**88.44**	**325**	⇑	*e*P	**P**		**02 51 02.2**	**-0.7**	
	baz=77									
MMPY	**Sheldon Lake,**	**88.44**	**27**	P		**P**		**02 51 03.3**	**+0.3**	
	baz=285,SNR=36									
PMOR	**Pomariorio Ree**	**88.47**	**105**	*e*P		**P**		**02 51 05.7**	**+1.8**	
	comp=Z,408nm,1.1s									
PMOR	**Pomariorio Ree**	**88.47**	**105**	*e*T		T		04 28 13.5		
	comp=Z,5.5nm,0.2s									
MEF	**Metsahovi**	**88.47**	**331**	*e*P		**P**		**02 51 01.1**	**-2.0**	
IIGN	**Ignalina**	**88.65**	**326**	*e*P		**P**		**02 51 02.9**	**-1.1**	
ISAL	**Salakas**	**88.66**	**326**	*e*P		**P**		**02 51 03.3**	**-0.7**	
MEH	**Mehetia**	**88.76**	**108**	*e*P		**P**		**02 51 07.2**	**+2.0**	
	comp=Z,114nm,1.2s									
VAH	**Vaihoa**	**88.76**	**105**	*e*P		**P**		**02 51 06.6**	**+1.4**	
	comp=Z,182nm,1.1s									
KIS	**Kishinev**	**88.76**	**317**	*e*P		**P**		**02 51 01.7**	**-3.0**	
KIS	**Kishinev**	**88.76**	**317**	*e*PP		PP		02 54 25.0	-8.5	
KIS	**Kishinev**	**88.76**	**317**	*e*PS		PS		03 02 45.2	-12	
KIS				*e*SS		SS		03 07 02.6	-40	
KIS				LQM				03 28 43.2		
	comp=Z,700nm,24.5s									
KIS				LRM		MLR		03 37 43.0		
	comp=Z,600nm,17.0s									
MILM	**Milestii Mici**	**88.78**	**317**	*e*P		**P**		**02 51 03.5**	**-1.3**	
MILM				*e*SKS		SKSac		03 01 18.0	-15	
MILM	**Milestii Mici**	**88.78**	**317**	*e*PS		PS		03 02 54.0	-3.2	
MILM				LQM				03 28 37.0		
	comp=Z,2µm,23.0s									
MILM				LRM		MLR		03 35 09.0		
	comp=Z,2µm,19.0s									
MILM	**Milestii Mici**	**88.78**	**317**	*e*P		**P**		**02 51 03.5**	**-1.3**	
MILM				*e*PS		**PnS**		**03 02 54.0**	**-2.1**	
MILM				MLR		MLR				
	comp=E,1µm,20.0s									
KMBO	**Kilima Mbogo**	**88.87**	**269**	P		**P**		**02 51 06.0**	**-0.2**	
	comp=E,5.7nm,0.8s,baz=53,slow=7.9,SNR=18									
KMBO				S		**SKSac**		**03 01 36.9**	**+1.1**	
	comp=E,0.4nm,0.7s,baz=20,slow=23,SNR=1.2									
KMBO				LR		LR		03 28 26.9		
	comp=E,752nm,21.7s,baz=78,slow=34									
	comp=E,5.7nm,0.8s									
KMBO	**Kilima Mbogo**	**88.87**	**269**	P		**P**		**02 51 06.1**	**-0.1**	
KMBO	**Kilima Mbogo**	**88.87**	**269**	P		**P**		**02 51 06.0**	**-0.2**	
KMBO	**Kilima Mbogo**	**88.87**	**269**	*e*P		**P**		**02 51 04.0**	**-2.2**	
KMBO	**Kilima Mbogo**	**88.87**	**269**	*e*P		**P**		**02 51 06.2**	**0.0**	
KMBO				*e*S		**SKSac**		**03 01 40.5**	**+4.7**	
KMBO	**Kilima Mbogo**	**88.87**	**269**	*i* P		**P**		**02 51 06.0**	**-0.2**	
	SNR=9.1									
SBA	**Scott Base**	**89.02**	**172**	P		**P**		**02 51 06.4**	**+1.2**	
SBA				IAmb		IAmb		02 51 15.2		
	comp=Z,186nm,1.6s									
SBA	**Scott Base**	**89.02**	**172**	P		**P**		**02 51 06.4**	**+1.2**	
SBA				pmax		pmax				
	comp=Z,186nm,1.6s									
T33K	**Petersburg**	**89.07**	**33**	P		**P**		**02 51 06.1**	**+0.2**	
	baz=284									
TLCR		**89.11**	**315**	⇑P		**P**		**02 51 05.7**	**-0.6**	
C36M	**Paulatuk**	**89.11**	**19**	P		**P**		**02 51 05.3**	**-0.6**	
	baz=292,SNR=8.0									
MTSE	**Matsula**	**89.14**	**329**	*e*P		**P**		**02 51 04.1**	**-2.0**	
JURR	**Jurilovca**	**89.14**	**315**	⇑P		**P**		**02 51 05.9**	**-0.6**	
CRAG	**Craig**	**89.30**	**34**	P		**P**		**02 51 07.5**	**+0.5**	
	baz=284									
R33M	**Jennings River**	**89.44**	**30**	P		**P**		**02 51 08.3**	**+0.5**	
	baz=286,SNR=51									
TPGR	**Topolog**	**89.44**	**315**	⇑P		**P**		**02 51 07.0**	**-0.9**	
WRAK	**Wrangell Islan**	**89.49**	**33**	P		**P**		**02 51 07.9**	**+0.1**	
	baz=284,SNR=12									
RAF	**Rauma**	**89.51**	**332**	*e*P		**P**		**02 51 05.7**	**-2.2**	
VASR	**Vaslui**	**89.52**	**317**	⇑P		**P**		**02 51 07.9**	**-0.4**	
TIRR	**Tirgusor**	**89.53**	**315**	⇓P		**P**		**02 51 07.5**	**-0.9**	
TIRR	**Tirgusor**	**89.53**	**315**	IAmb		IAmb		02 51 08.4		
	comp=Z,55nm,1.0s									
SCTR	**Scanteiesti**	**89.58**	**316**	⇑P		**P**		**02 51 08.6**	**0.0**	
CFR	**Carcaliu**	**89.58**	**316**	⇑P		**P**		**02 51 07.9**	**-0.6**	
S34M	**Telegraph Cree**	**89.75**	**31**	P		**P**		**02 51 09.4**	**+0.3**	
	baz=285,SNR=22									
VSVD	**Vaisvydziai**	**89.77**	**327**	*e*P		**P**		**02 51 07.5**	**-1.6**	
TLBR	**Topalu**	**89.77**	**315**	⇑P		**P**		**02 51 09.0**	**-0.4**	
HARR	**Harsova**	**89.82**	**315**	⇑P		**P**		**02 51 09.2**	**-0.4**	
ELL	**Elmali**	**89.84**	**307**	IAmb		IAmb		02 51 33.8		
	comp=Z,144nm,1.2s									
PABE	**Paberze**	**89.87**	**326**	*e*P		**P**		**02 51 07.3**	**-2.4**	
STEI	**Steigen**	**89.89**	**339**	*e*P		**P**		**02 51 07.7**	**-1.8**	
STEI				IAmb		IAmb		02 51 09.5		
	comp=Z,82nm,1.2s									
ICOR	**Ion Corvin**	**90.03**	**315**	⇑P		**P**		**02 51 10.4**	**-0.3**	
FAUS	**Fauske**	**90.08**	**339**	*e*P		**P**		**02 51 08.0**	**-2.4**	
FAUS				IAmb		IAmb		02 51 09.9		
	comp=Z,98nm,1.3s									
LODK	**Lodwar**	**90.08**	**273**	IAMs_20		IAMs_20		03 30 13.2		
	comp=Z,1µm,20.0s									
TGTN	**Hyland Airport**	**90.10**	**27**	P		**P**		**02 51 10.9**	**+0.2**	
	baz=288,SNR=28									
EUNU	**Eureka**	**90.15**	**5**	IAmb		IAmb		02 51 11.4		
	comp=Z,68nm,1.0s									
V35K	**Ketchikan**	**90.17**	**34**	P		**P**		**02 51 10.8**	**-0.2**	
	baz=285									
DLBC	**Dease Lake**	**90.17**	**31**	LR		LR		03 28 34.7		
	comp=Z,928nm,21.2s,baz=296,slow=34									
DLBC	**Dease Lake**	**90.17**	**31**	P		**P**		**02 51 11.4**	**+0.2**	
	baz=286,SNR=24									
H02S1	**DAWSON INLET T**	**90.21**	**36**	P		**P**		**02 51 11.8**	**+0.5**	
	SNR=8.2									
WTLY	**Watson Lake, Y**	**90.29**	**29**	IAmb		IAmb		02 51 13.3		
	comp=Z,91nm,1.0s									
WTLY	**Watson Lake, Y**	**90.29**	**29**	P		**P**		**02 51 12.2**	**+0.6**	
	baz=287,SNR=21									
TESR	**Tescani**	**90.32**	**317**	⇑P		**P**		**02 51 11.5**	**-0.5**	
VRI	**Vrincioaia**	**90.41**	**316**	⇑P		**P**		**02 51 12.2**	**-0.3**	
T35M	**Bob Quinn**	**90.46**	**32**	P		**P**		**02 51 13.0**	**+0.5**	
	baz=286									
PLOR	**Plostina**	**90.46**	**316**	⇑P		**P**		**02 51 12.6**	**-0.2**	
MANT	**Manisa**	**90.57**	**309**	P		**P**		**02 51 12.8**	**-0.9**	
BIZ	**Bicaz**	**90.59**	**318**	⇑P		**P**		**02 51 12.9**	**-0.4**	
COVR	**Voineasa-Covas**	**90.77**	**316**	⇑P		**P**		**02 51 14.2**	**+0.1**	
NEHR	**Nehoiu**	**90.80**	**316**	⇑P		**P**		**02 51 14.4**	**+0.1**	
PBUR	**Paburge**	**90.84**	**327**	*e*P		**P**		**02 51 11.4**	**-2.7**	
MOR8	**Moi Rana**	**90.86**	**338**	*e*P		**P**		**02 51 11.5**	**-2.6**	
MOR8				IAmb		IAmb		02 51 12.1		
	comp=Z,34nm,0.8s									
MLR	**Muntele Rosu**	**91.02**	**316**	⇑P		**P**		**02 51 14.8**	**-0.7**	
MLR	**Muntele Rosu**	**91.02**	**316**	LR		LR		03 37 12.3		
	comp=Z,2µm,20.0s,baz=64,slow=39									
MLR	**Muntele Rosu**	**91.02**	**316**	IAmb		IAmb		02 51 23.0		
	comp=Z,61nm,1.5s									
BURAR	**Bucovina Array**	**91.03**	**318**	⇑P		**P**		**02 51 14.8**	**-0.6**	
BUR08	**Bucovina Ar. S**	**91.03**	**318**	P		**P**		**02 51 14.6**	**-0.8**	
BUR08				IAmb		IAmb		02 51 18.0		
	comp=Z,53nm,1.2s									
HG4B	**Hotspring**	**91.20**	**37**	IAmb		IAmb		02 51 17.9		
	comp=Z,61nm,1.1s									
LVV	**L'vov**	**91.26**	**321**	*e*P		**P**		**02 51 15.8**	**-0.5**	
LVV				*e*				02 54 49.7		
LVV				*e*S		**S**		**03 02 08.7**	**-5.5**	
LVV				*e*PS		**PnS**		**03 03 28.3**	**+3.2**	
LVV				pmax		pmax				
	comp=Z,200nm,1.4s									
LVV				smax		smax				
	comp=E,410nm,6.3s									
LVV				smax		smax				
	comp=N,460nm,5.9s									
SGRR	**Singureni**	**91.29**	**315**	⇑P		**P**		**02 51 16.9**	**+0.4**	
ARG	**Arkhangelos**	**91.35**	**307**	IAmb		IAmb		02 51 31.1		
	comp=Z,66nm,1.2s									
GRNB	**Grenville Isla**	**91.50**	**35**	IAmb		IAmb		02 51 18.8		
	comp=Z,54nm,1.2s									
SZH	**Strazhica**	**91.53**	**314**	*e*P		**P**		**02 51 16.8**	**-0.9**	
WRGLY	**Wrigley**	**91.63**	**25**	P		**P**		**02 51 17.4**	**-0.3**	
	baz=292,SNR=15									
VOIR		**91.65**	**316**	⇑P		**P**		**02 51 17.5**	**-0.9**	
ARCR	**ARCALIA**	**91.72**	**318**	⇑P		**P**		**02 51 18.4**	**-0.1**	
COPA	**Copaceanca**	**91.84**	**315**	⇑P		**P**		**02 51 18.4**	**-0.7**	
HUMR	**Humele**	**91.91**	**315**	⇑P		**P**		**02 51 18.6**	**-0.8**	
ALN	**Alexandroupoli**	**91.97**	**312**	P		**P**		**02 51 19.0**	**-0.8**	
ALN	**Alexandroupoli**	**91.97**	**312**	P		**P**		**02 51 19.0**	**-0.8**	
ALN				pmax		pmax				
	comp=Z,28nm,1.3s									
KWP	**Kalwaria Pacla**	**92.13**	**321**	*e*P		**P**		**02 51 19.7**	**-0.7**	
KWP				*e*sP		**pP**		**02 51 25.6**	**-1.0**	
KWP				*e*PP		**PP**		**02 55 06.6**	**+6.4**	
KWP				*e*L		L		03 39 47.8		
	comp=Z,4µm,18.1s									
BMR	**Baia Mare**	**92.14**	**319**	⇑P		**P**		**02 51 20.5**	**+0.1**	
CJR	**Cluj-Napoca**	**92.32**	**318**	⇑P		**P**		**02 51 21.6**	**+0.2**	
VLAD	**Vladila**	**92.44**	**315**	⇑P		**P**		**02 51 21.8**	**-0.1**	
NSS	**Namsos**	**92.48**	**337**	*e*P		**P**		**02 51 19.8**	**-1.8**	
NSS				IAmb		IAmb		02 51 21.

OKC MLR MLR
comp=Z,2µm,16.6s
OKC Ostrava-Krasne 94.90 322 *e*P **P 02 51 32.9 -0.2**
OKC *e*S **S 03 02 45.9 -0.5**
OKC AMS AMS 03 41 20.0
comp=Z,2µm,16.6s
VYHS Vyhne 94.90 320 *e*P **P 02 51 32.6 -0.6**
VYHS pmax pmax
comp=Z,22nm,1.5s
VYHS Vyhne 94.90 320 *e*P **P 02 51 32.6 -0.6**
VYHS *e*PP **PP 02 55 24.1 +2.3**
VYHS *e*S **S 03 02 46.5 -0.1**
VYHS *e*L L 03 37 30.8
OSL Oslo 95.00 333 *e*P **P 02 51 32.6 -0.7**
OSL IAmb IAmb 02 51 32.8
comp=Z,61nm,0.9s
SKO Skopje 95.06 314 *i* P **P 02 51 32.7 -1.3**
TAOE Nuku Hiva Isla 95.09 98 *e*LR LR 03 22 16.8
comp=Z,2µm,22.1s
BUD Budapest 95.10 319 P **P 02 51 33.1 -1.0**
MOL Molde 95.14 336 *e*P **P 02 51 32.3 -1.6**
JMIC Jan Mayen 95.18 346 LR LR 03 38 24.5
comp=Z,1µm,21.2s,baz=64,slow=38
MBAR Mbarara 95.24 270 LR LR 03 33 20.1
comp=Z,920nm,20.5s,baz=58,slow=35
MBAR Mbarara 95.24 270 IAMs_20 IAMs_20 03 35 06.9
comp=Z,1µm,20.0s
MAUC Maruska 95.25 321 *e*P **P 02 51 34.9 +0.1**
MAUC *ex* x 02 51 41.0
MAUC *e*S **S 03 02 57.3 +7.7**
MAUC AMS AMS 03 42 10.0
comp=Z,3µm,19.0s
FRGS Fruska Gora 95.29 317 ⇑P **P 02 51 34.2 -0.8**
MORC Moravsky Berou 95.29 322 ⇑P **P 02 51 34.1 -0.8**
MORC Moravsky Berou 95.29 322 P **P 02 51 34.5 -0.5**
MORC IAmb IAmb 02 51 36.5
comp=Z,58nm,1.4s
MORC Moravsky Berou 95.29 322 *e*P **P 02 51 34.3 -0.6**
MORC Moravsky Berou 95.29 322 *e*S **S 03 02 51.9 +1.9**
MORC Moravsky Berou 95.29 322 P **P 02 51 34.5 -0.5**
MORC pmax pmax
comp=Z,58nm,1.4s
SRO Srobarova 95.45 320 *e*P **P 02 51 35.4 -0.2**
SRO Srobarova 95.45 320 *e*PDIFF **P 02 51 35.4 -0.2**
JAVC Velka Javorina 95.51 321 *e*P **P 02 51 36.5 +0.5**
AKN Aaknes 95.55 336 *e*P **P 02 51 35.1 -0.7**
YKA Yellowknife Ar 95.60 24 P **P 02 51 35.8 -0.2**
comp=Z,35nm,0.8s,baz=297,slow=4.8,SNR=40
YKA PP **PP 02 55 27.6 +0.9**
comp=Z,7.2nm,1.0s,baz=290,slow=7.2,SNR=3.7
comp=Z,35nm,0.8s
KONO Kongsberg 95.63 333 P **P 02 51 34.8 -1.4**
KONO IAmb IAmb 02 51 35.7
comp=Z,35nm,1.1s
KONO Kongsberg 95.63 333 *ce*P **P 02 51 35.4 -0.8**
KONO pmax pmax
comp=Z,36nm,1.7s
KONO Kongsberg 95.63 333 *e*P **P 02 51 33.8 -2.4**
KRLC Kraliky 95.65 322 *e*P **P 02 51 35.9 -0.7**
KRLC MLR MLR
comp=Z,2µm,20.0s
KRLC Kraliky 95.65 322 *e*P **P 02 51 35.9 -0.7**
KRLC *e*S **S 03 02 59.4 +6.3**
KRLC AMS AMS 03 37 30.0
comp=Z,2µm,20.0s
KSP Ksiaz 95.68 323 *e*P **P 02 51 36.1 -0.5**
KSP *es*P **pP 02 51 42.6 -0.2**
KSP *e*PP **PP 02 55 30.1 +2.4**
KSP *e*S **S 03 02 56.6 +3.4**
KSP *e*L L 03 38 00.5
comp=Z,3µm,21.1s
SKAR Skarslia 95.73 334 *e*P **P 02 51 36.4 -0.3**
MORH Mrgy, Hungar 95.74 318 ⇑P **P 02 51 36.1 -0.9**
OHR Ohrid 95.76 313 *i* P **P 02 51 35.6 -1.7**
SMOL Smolenice 95.78 321 *e*P **P 02 51 37.0 -0.2**
OSTC Ostas 95.82 323 *e*P **P 02 51 37.0 -0.3**
OSTC *e*PP **PP 02 55 33.2 +4.3**
OSTC *e*S S 03 02 44.5 -10
OSTC AMS AMS 03 37 40.0
comp=Z,3µm,20.7s
DPC Dobruska-Polom 95.83 323 *e*P **P 02 51 37.2 -0.2**
DPC *e* 02 55 27.0
DPC *e*S **S 03 02 49.5 -5.2**
DPC MLR MLR
comp=Z,2µm,21.1s
DPC Dobruska-Polom 95.83 323 *e*P **P 02 51 37.2 -0.2**
DPC *e*PP **PP 02 55 27.0 -2.0**
DPC *e*S **S 03 02 49.5 -5.2**
DPC AMS AMS 03 37 40.0
comp=Z,2µm,21.1s
CHVC Chvalec 95.91 323 *e*P **P 02 51 37.5 -0.2**
CHVC *e*S **S 03 02 51.3 -4.0**
CHVC AMS AMS 03 37 40.0
comp=Z,3µm,20.4s
MODS Modra-Piesok 95.92 321 *e*P **P 02 51 37.5 -0.3**
MODS *e*S **S 03 02 55.9 +0.4**
MODS Modra-Piesok 95.92 321 *e*PDIFF **P 02 51 37.5 -0.3**
UPC Upice 95.96 323 *e*P **P 02 51 37.8 -0.1**
UPC *e*S **S 03 02 55.0 -0.7**
UPC MLR MLR
comp=Z,3µm,19.6s
UPC Upice 95.96 323 *e*P **P 02 51 37.8 -0.1**
UPC *e*S **S 03 02 55.0 -0.7**
UPC AMS AMS 03 38 00.0
comp=Z,3µm,19.6s
VRAC Vranov 96.03 322 ⇓P **P 02 51 38.0 -0.3**
VRAC Vranov 96.03 322 LR LR 03 38 32.5
comp=Z,2µm,19.7s,baz=76,slow=38
VRAC Vranov 96.03 322 *e*P **P 02 51 38.0 -0.3**
VRAC Vranov 96.03 322 *e*S **S 03 02 55.7 -0.6**
ZST Bratislava 96.09 320 *e*PDIFF **P 02 51 37.5 -1.1**
KOVH Kovagotottos 96.14 318 P **P 02 51 37.5 -1.4**
MPLH Magyarpolny 96.16 319 P **P 02 51 38.3 -0.5**
KRUC Moravsky 96.24 321 *e*P **P 02 51 38.6 -0.6**
KRUC Moravsky 96.24 321 *e*S **S 03 03 02.6 +4.5**
TIR Tirane 96.37 313 ⇑P **P 02 51 39.8 -0.1**
TIR Tirane 96.37 313 P **P 02 51 39.3 -0.7**
TIR IAmb IAmb 02 51 53.5
comp=Z,57nm,1.2s
TIR Tirane 96.37 313 P **P 02 51 39.3 -0.7**
TIR pmax pmax
comp=Z,57nm,1.2s
HYA Hoyanger 96.39 335 *e*P **P 02 51 38.9 -0.7**
PDG Podgorica 96.49 314 ⇑P **P 02 51 39.5 -1.0**
PDG Podgorica 96.49 314 IAMs_20 IAMs_20 03 43 06.7
comp=Z,1µm,20.0s
RUE Ruedersdorf 96.53 325 *e*P **P 02 51 38.7 -1.7**
FOO Floro 96.64 336 *e*P **P 02 51 39.8 -0.9**
TREC Trest 96.71 322 *e*P **P 02 51 41.1 -0.3**
TREC *e* 02 51 50.1
TREC *e*S **S 03 03 06.6 +4.4**
TREC MLR MLR
comp=Z,2µm,17.4s
TREC Trest 96.71 322 *e*P **P 02 51 41.1 -0.3**
TREC *ex* x 02 51 50.1
TREC *e*S **S 03 03 06.6 +4.4**
TREC AMS AMS 03 43 10.0
comp=Z,2µm,17.4s
RONA Rosalia, Austr 96.77 320 *i* P **P 02 51 40.8 -0.9**
comp=Z,13nm,1.3s,SNR=8.5
RONA *e*P **PP 02 55 33.8 -2.6**
comp=Z,12nm,1.3s
PVCC Panska Ves 96.81 323 *e*P **P 02 51 42.0 +0.2**
PVCC MLR MLR
comp=Z,2µm,18.9s
PVCC Panska Ves 96.81 323 *e*P **P 02 51 42.0 +0.2**
PVCC AMS AMS 03 38 20.0
comp=Z,2µm,18.9s
ODD1 Odda 96.83 334 *e*P **P 02 51 41.1 -0.6**
CONA Conrad Observa 96.97 320 *i* P **P 02 51 41.5 -1.1**
comp=Z,25nm,1.6s,SNR=13
CONA *e*P **PP 02 55 38.7 +0.8**
comp=Z,12nm,1.4s
PRU Pruhonice 97.03 323 *e*P **P 02 51 42.5 -0.3**
PRU *e* 02 51 51.7
PRU *e* 02 55 33.2
PRU *e*S **S 03 03 02.0 -2.9**
PRU MLR MLR
comp=Z,2µm,18.8s
PRU Pruhonice 97.03 323 *e*P **P 02 51 42.5 -0.3**
PRU *ex* x 02 51 51.7
PRU *e*PP **PP 02 55 33.2 -5.0**
PRU *e*S **S 03 03 02.0 -2.9**

PRU AMS AMS 03 38 20.0
comp=Z,2µm,18.8s
PGC Sidney 97.03 39 P **P 02 51 42.8 0.0**
PGC IAmb IAmb 02 51 44.9
comp=Z,43nm,1.4s
SUE Sulen 97.04 335 *e*P **P 02 51 41.7 -0.8**
BRG Berggiesshubel 97.05 324 ⇑*i*P **P 02 51 42.7 -0.2**
BRG Amp 02 51 45.7
comp=Z,88nm,1.3s
BRG PP PP 02 55 47.1 +8.8
BRG Amp 02 55 49.0
comp=Z,28nm,1.7s
BRG SKS **SKSac 03 02 18.3 -0.9**
BRG Berggiesshubel 97.05 324 SS SS 03 09 46.0 +5.0
BRG Amp 03 41 41.0
comp=N,1.3nm,18.4s
BRG Amp 03 41 43.0
comp=E,1.5nm,19.2s
BRG Amp 03 41 47.0
comp=Z,2.2nm,18.6s
BRG Berggiesshubel 97.05 324 ⇑*i*P **P 02 51 42.6 -0.2**
BRG 02 55 47.1
BRG 03 02 18.3
BRG S **S 03 03 05.0 0.0**
BRG PS **PS 03 04 30.0 +1.7**
BRG SS **SS 03 09 46.0 +5.0**
BRG pmax pmax
comp=Z,88nm,1.3s
BRG pmax pmax
comp=Z,28nm,1.7s
BRG pmax pmax
comp=N,1µm,18.4s
BLS5 Blasjo 97.15 333 *e*P **P 02 51 42.5 -0.7**
ASK Askoy 97.16 335 *e*P **P 02 51 42.4 -0.7**
B04A Port Angeles 97.21 39 IAmb IAmb 02 51 46.1
comp=Z,44nm,1.1s
NLWA Neilton Lookou 97.22 40 IAmb IAmb 02 51 46.3
comp=Z,41nm,1.1s
LLLB Lillooet 97.25 36 IAmb IAmb 02 51 45.3
comp=Z,30nm,1.0s
MUD Monsted U'grnd 97.29 330 *i* P **P 02 51 41.8 -2.0**
MUD IAmb IAmb 02 51 47.3
comp=Z,6.4nm,0.9s
ARSA Arzberg 97.42 320 *i* P **P 02 51 43.7 -0.9**
comp=Z,12nm,1.4s,SNR=8.8
CLL Collm 97.43 324 IAmb IAmb 02 51 46.2
comp=Z,50nm,1.2s
CLL Collm 97.43 324 *i* P **P 02 51 42.7 -1.8**
CLL *e*S **S 03 03 07.0 -1.2**
CLL pmax pmax
comp=Z,60nm,1.3s
CLL MLR MLR
comp=Z,2µm,19.3s
CLL Collm 97.43 324 *i* P **P 02 51 44.1 -0.4**
comp=Z,60nm,1.3s
CLL *e*PP **PP 02 55 37.0 -4.2**
CLL *e*(PPP) 02 58 06.0
CLL *e*S **S 03 03 07.0 -1.2**
CLL *e*PS PS 03 04 39.0 +6.6
CLL *ex* x 03 05 46.0
CLL *e*SS **SS 03 09 55.0 +8.7**
CLL *e*SSS SSS 03 13 36.0
CLL *ex* x 03 15 30.0
CLL LmH 03 40 00.0
comp=N,2µm,19.4s
CLL LmH 03 40 00.0
comp=E,1µm,18.7s
CLL LmV 03 41 00.0
comp=Z,2µm,19.3s
CKRC Cesky Krumlov 97.61 322 *e*P **P 02 51 45.0 -0.5**
CKRC *ex* x 02 51 54.5
CKRC *e*PP **PP 02 55 45.5 +2.8**
CKRC *e*S **S 03 03 04.5 -5.4**
E03A Lebam 97.72 41 IAmb IAmb 02 51 48.5
comp=Z,56nm,1.0s
KMY Karmoy 97.79 333 *e*P **P 02 51 45.4 -0.6**
GCIS Gornji Cirnik 97.84 319 *i* Pdiff **P 02 51 45.5 -1.0**
GCIS *e*PP **PP 02 55 46.8 +2.2**
PERS Pernice 97.90 319 *e*PP PKiKP 02 55 48.5 -32
KHC Kasperske Hory 97.94 322 IAMs_20 IAMs_20 03 37 51.3
comp=Z,2µm,21.0s
KHC Kasperske Hory 97.94 322 *e*P **P 02 51 46.2 -0.7**
KHC *e* 02 51 52.5
KHC *e* 02 55 45.4
KHC *e*S **S 03 03 09.3 -3.5**
KHC MLR MLR
comp=Z,2µm,21.8s
KHC Kasperske Hory 97.94 322 *e*P **P 02 51 46.2 -0.7**
KHC *ep*P **pP 02 51 52.5 -0.6**
KHC *e*PP **PP 02 55 45.4 +0.1**
KHC *e*S **S 03 03 09.3 -3.5**
KHC AMS AMS 03 36 50.0
comp=Z,2µm,21.8s
SOKA Soboth 97.94 320 *e*P **P 02 51 45.7 -1.4**
comp=Z,9.3nm,1.1s
SOKA *e*P **PP 02 55 43.1 -2.3**
comp=Z,14nm,1.4s
CRES Cresnjev 97.97 319 *i* Pdiff **P 02 51 46.1 -1.0**
CRES *e*PP **PP 02 55 48.1 +2.5**
GEC2 GERESS Array S 97.97 322 IAmb IAmb 02 51 49.1
comp=Z,60nm,1.2s
GERES GERESS Array B 97.97 322 P **P 02 51 47.1 -0.1**
comp=Z,24nm,1.1s,baz=82,slow=1.9,SNR=102
GERES PP **PP 02 55 45.2 -0.4**
comp=Z,2.9nm,1.0s,baz=54,slow=6.6,SNR=4.2
GERES PKKPbc **PKKPbc 03 08 20.0 -2.4**
comp=Z,0.1nm,0.3s,baz=149,slow=2.8,SNR=4.1
comp=Z,24nm,1.1s
GERES GERESS Array B 97.97 322 P **P 02 51 46.6 -0.6**
GERES GERESS Array B 97.97 322 P **P 02 51 46.6 -0.6**
MOA Molln 98.00 321 *i* P **P 02 51 46.7 -0.6**
comp=Z,48nm,1.2s,SNR=26
NKC Novy Kostel 98.18 323 *e*P **P 02 51 47.9 -0.1**
NKC *e* 02 51 57.2
NKC *e*S **S 03 03 10.7 -4.0**
NKC MLR MLR
comp=Z,2µm,20.1s
NKC Novy Kostel 98.18 323 *e*P **P 02 51 47.9 -0.1**
NKC *ex* x 02 51 57.2
NKC *e*S **S 03 03 10.7 -4.0**
NKC AMS AMS 03 38 20.0
comp=Z,2µm,20.1s
QSPA South Pole Qui 98.26 180 LR LR 03 38 22.7
comp=Z,1µm,18.1s,baz=338,slow=37
QSPA South Pole Qui 98.26 180 P **P 02 51 47.8 -0.3**
QSPA IAmb IAmb 02 51 50.2
comp=Z,26nm,1.1s
OBKA Obir 98.31 319 *i* P **P 02 51 47.5 -1.3**
comp=Z,7.8nm,1.4s
OBKA *e*P **PP 02 55 50.5 +2.2**
comp=Z,12nm,1.4s
SCO Scoresbysund 98.35 350 IAMs_20 IAMs_20 03 44 00.3
comp=Z,1µm,19.0s
I02E Swisshome, OR 98.38 43 IAMs_20 IAMs_20 03 26 55.8
comp=Z,1µm,22.0s
I02E Swisshome, OR 98.38 43 P **P 02 51 49.0 0.0**
baz=290
G03D McMinnville, O 98.38 42 IAmb IAmb 02 51 51.0
comp=Z,55nm,1.2s
G03D McMinnville, O 98.38 42 P Pdif 02 51 49.3 +0.2
baz=291
BIOA Bad Ischl, Aus 98.45 321 *i* P **P 02 51 48.5 -0.8**
comp=Z,16nm,1.4s,SNR=7.8
D05A Enumclaw 98.49 40 IAmb IAmb 02 51 52.0
comp=Z,48nm,1.4s
LJU Ljubljana 98.49 319 *e*PP PKiKP 02 55 53.6 -28
SUMG Summit 98.57 355 IAMs_20 IAMs_20 03 42 26.1
comp=Z,2µm,19.0s
SUMG Summit 98.57 355 *i* P **P 02 51 47.3 -2.5**
COR Corvallis 98.58 43 P Pdif 02 51 50.1 +0.2
COR IAmb IAmb 02 51 52.4
comp=Z,36nm,1.1s
COR Corvallis 98.58 43 IAMs_20 IAMs_20 03 31 10.9
comp=Z,2µm,20.0s
COR Corvallis 98.58 43 P Pdif 02 51 50.1 +0.2
COR pmax pmax
comp=Z,36nm,1.1s
J01E Myrtle Point 98.65 44 IAMs_20 IAMs_20 03 27 32.0
comp=Z,2µm,21.0s
J01E Myrtle Point 98.65 44 P Pdif 02 51 50.4 +0.2
baz=290
MYKA Terra Mystica 98.85 320 *i* P **P 02 51 48.8 -2.3**
comp=Z,51nm,1.0s
I03D Drain, OR 98.86 43 P **P 02 51 50.6 -0.5**
baz=291

KBA Koelnbreinsper 98.86 320 *i* P **P 02 51 49.6 -1.7**
comp=Z,12nm,1.2s
H04D Lebanon 98.98 42 IAmb IAmb 02 51 53.3
comp=Z,37nm,1.2s
H04D IAMs_20 IAMs_20 03 31 44.5
comp=Z,2µm,20.0s
H04D Lebanon 98.98 42 P **P 02 51 51.5 -0.1**
baz=291
SABO M.te Sabotino 99.12 319 IAmb IAmb 02 51 55.6
comp=Z,33nm,1.8s
GRA1 Grafenberg Arr 99.12 323 IAmb IAmb 02 51 53.3
comp=Z,24nm,1.0s
GRFO Grafenberg 99.12 323 **Pdif 02 51 51.9 -0.3**
GRFO IAmb IAmb 02 51 53.2
comp=Z,25nm,1.0s
GRFO Grafenberg 99.12 323 P **Pdif 02 51 51.9 -0.3**
GRFO pmax pmax
comp=Z,25nm,1.0s
LTY Liberty 99.29 39 IAmb IAmb 02 55 55.3
comp=Z,52nm,1.7s
TIP Timpagrande 99.30 312 ⇑P **Pdif 02 51 51.8 -1.5**
TIP Timpagrande 99.30 312 IAmb IAmb 02 51 57.0
comp=Z,64nm,1.9s
TIP IAMs_20 IAMs_20 03 43 48.1
comp=Z,2µm,21.0s
HOOD Mount Hood Mea 99.40 41 IAmb IAmb 02 51 55.7
comp=Z,40nm,1.2s
I04A Tendick Farm, 99.46 43 P **Pdif 02 51 53.6 -0.3**
baz=291
HUMO Hull Mountain 99.51 44 IAMs_20 IAMs_20 03 32 21.9
comp=Z,1µm,20.0s
ABTA Abfaltersbach 99.52 320 *i* P **Pdif 02 51 52.0 -2.1**
comp=Z,14nm,1.2s,SNR=12
LSZ Lusaka 99.60 256 LR LR 03 32 60.0
comp=Z,1µm,21.7s,baz=94,slow=33
LSZ Lusaka 99.60 256 IAMs_20 IAMs_20 03 31 52.6
comp=Z,2µm,22.0s
G05D Wamic, OR 99.65 41 P **Pdif 02 51 54.8 +0.1**
baz=292
B08A Colville Reser 99.67 38 Pdif **Pdif 02 51 54.5 -0.3**
B08A IAmb IAmb 02 51 55.9
comp=Z,23nm,0.9s
MATP Matopo 99.82 251 LR LR 03 36 17.7
comp=Z,2µm,19.2s,baz=61,slow=35
WTTA Wattenberg 99.86 321 *i* P **Pdif 02 51 54.5 -1.3**
comp=Z,31nm,1.3s,SNR=19
WTTA *e*P **PP 02 56 02.3 +2.1**
comp=Z,30nm,1.4s
WTTA *e*S **SKSac 03 02 33.3 -0.7**
comp=Z,8.0nm,1.4s
J04D Umpqua Nationa 99.87 43 IAMs_20 IAMs_20 03 32 37.1
comp=Z,1µm,20.0s
J04D Umpqua Nationa 99.87 43 P **Pdif 02 51 55.8 -0.1**
baz=291
WATA Walderalm 99.87 321 *i* P **Pdif 02 51 54.6 -1.2**
comp=Z,30nm,1.3s,SNR=14
WATA *e*P **PP 02 56 01.3 +1.1**
comp=Z,21nm,1.3s
I05D Terrebonne, OR 99.98 42 P **Pdif 02 51 56.1 -0.1**
baz=292
YBH Yreka Blue Hor 99.99 45 LR LR 03 29 06.0
comp=Z,812nm,21.5s,baz=308,slow=30
YBH Yreka Blue Hor 99.99 45 IAMs_20 IAMs_20 03 28 09.6
comp=Z,2µm,22.0s
L04D Klamath Falls 100.10 44 IAMs_20 IAMs_20 03 26 41.5
comp=Z,1µm,22.0s
L04D Klamath Falls 100.10 44 P **Pdif 02 51 56.5 -0.4**
baz=291
SQTA Sankt Quirin 100.15 321 *i* P **Pdif 02 51 55.9 -1.1**
comp=Z,29nm,1.3s,SNR=15
SQTA *e*P **PP 02 56 01.2 -1.1**
comp=Z,16nm,1.3s
SQTA *e*S **SKSac 03 02 35.2 -0.1**
comp=Z,7.5nm,1.4s
MOTA Moosalm 100.16 321 *i* P **Pdif 02 51 55.9 -1.2**
comp=Z,22nm,1.2s,SNR=14
MOTA *e*P **PP 02 56 03.7 +1.3**
comp=Z,15nm,1.3s
MOTA *e*S **SKSac 03 02 34.5 -0.9**
comp=Z,14nm,1.6s
CEL Celeste 100.24 311 IAMs_20 IAMs_20 03 44 17.0
comp=Z,1µm,22.0s
RETA Reutte 100.31 321 *i* P **Pdif 02 51 56.1 -1.6**
comp=Z,8.6nm,1.5s
RETA *e*S **SKSac 03 02 35.1 -0.9**
comp=Z,6.5nm,1.6s
K04D Chiloquin, OR 100.33 44 P **Pdif 02 51 57.5 -0.4**
baz=292
CTI Castel Tesino 100.34 320 Pdif **Pdif 02 51 57.0 -0.9**
CTI Castel Tesino 100.34 320 P **Pdif 02 51 57.0 -0.9**
HAWA Hanford 100.35 40 IAMs_20 IAMs_20 03 29 14.6
comp=Z,2µm,22.0s
J05D Fort Rock, OR 100.44 43 P **Pdif 02 51 58.4 0.0**
baz=292
D08A Wollman Farm, 100.46 39 Pdif **Pdif 02 51 58.5 +0.2**
FETA Feichten 100.53 321 *i* P **Pdif 02 51 58.0 -0.7**
comp=Z,24nm,1.3s,SNR=14
FETA *e*P **PP 02 56 04.1 -1.1**
comp=Z,12nm,1.3s
FETA *e*S **SKSac 03 02 36.6 -0.6**
comp=Z,14nm,1.5s
K05A Summer Lake 100.89 44 Pdif **Pdif 02 52 01.2 +0.7**
DAVA Damuels 100.94 321 *e*P **Pdif 02 51 59.7 -0.9**
comp=Z,16nm,1.4s,SNR=6.0
NEW Newport 101.05 37 P **Pdif 02 52 00.9 +0.1**
baz=296
MOD Modoc Plateau 101.60 44 IAMs_20 IAMs_20 03 33 59.2
comp=Z,976nm,20.0s
ORV Oroville 101.63 47 IAMs_20 IAMs_20 03 30 00.1
comp=Z,1µm,22.0s
BTNL Ternell 101.65 326 *d*Pdif **Pdif 02 52 03.1 -0.3**
MEM Membach 101.71 326 *d*Pdif **Pdif 02 52 03.4 -0.3**
BHOU Houvegnez 101.83 325 *d*Pdif **Pdif 02 52 03.8 -0.5**
BSTI Sart Tilman 101.97 326 *d*Pdif **Pdif 02 52 04.9 0.0**
ICESG Greenland Ices 102.05 355 *e*P **PP 02 56 14.2 -1.9**
WLF Walferdange 102.08 325 *d*Pdif **Pdif 02 52 05.2 -0.1**
BCLA Clavier 102.19 326 *d*Pdif **Pdif 02 52 06.0 +0.2**
AFDM Forest Hills D 102.23 47 Pdif **Pdif 02 52 05.8 -0.5**
RCHB Rochefort 102.37 326 *d*Pdif **Pdif 02 52 05.0 -1.6**
BMO Blue Mountains 102.41 41 IAMs_20 IAMs_20 03 33 30.2
comp=Z,1µm,21.0s
WVOR Wild Horse Val 102.53 43 IAMs_20 IAMs_20 03 34 34.7
comp=Z,1µm,19.0s
BMRD Maredsous 102.55 326 *d*Pdif **Pdif 02 52 07.3 -0.2**
ILULI Ilulissat 102.56 359 IAMs_20 IAMs_20 03 45 48.6
comp=Z,1µm,19.0s
DOU Dourbes 102.75 326 *d*Pdif **Pdif 02 52 07.9 -0.4**
CMB Columbia Colle 102.99 48 Pdif **Pdif 02 52 09.5 -0.3**
CMB Columbia Colle 102.99 48 P **Pdif 02 52 09.5 -0.3**
MSO Missoula 103.62 38 IAMs_20 IAMs_20 03 38 20.9
comp=Z,1µm,20.0s
MSO Missoula 103.62 38 P **Pdif 02 52 12.0 -0.5**
baz=298
MFID Camas Ranch 103.99 41 Pdif **Pdif 02 52 14.5 +0.3**
MFID IAMs_20 IAMs_20 03 34 17.1
comp=Z,1µm,21.0s
NVAR Mina Array Bea 104.36 47 Pdif **Pdif 02 52 16.4 +0.4**
comp=Z,5.5nm,0.8s,baz=271,slow=4.9,SNR=29
NVAR PP **PKiKP 02 56 29.8 -2.8**
comp=Z,5.6nm,1.0s,baz=267,slow=7.4,SNR=3.8
NVAR PKKPbc **PKKPbc 03 08 01.8 -2.1**
comp=Z,0.5nm,0.7s,baz=139,slow=4.3,SNR=4.4
PKM Mcpherson Peak 104.56 51 P **Pdif 02 52 14.9 -2.1**
baz=291
VES Vestal, Richgr 104.77 50 P **Pdif 02 52 16.6 -1.0**
baz=292
SFJD Kangerlussuaq 104.77 359 IAMs_20 IAMs_20 03 45 15.0
comp=Z,1µm,20.0s
SBC Santa Barbara 104.80 51 P **Pdif 02 52 16.7 -1.1**
baz=291
HLID Hailey 104.85 41 IAMs_20 IAMs_20 03 34 34.6
comp=Z,1µm,21.0s
HLID Hailey 104.85 41 P **Pdif 02 52 17.6 -0.5**
baz=297
TIN Tinemaha, Big 104.95 48 P **Pdif 02 52 18.5 -0.1**
baz=293
LRM Limekiln Ridge 105.01 38 Pdif **Pdif 02 52 20.6 +1.8**
DY2G Dye2 105.12 357 *e*P **PKiKP 02 56 31.7 -1.5**
SSB Saint Sauveur 105.15 321 IAMs_20 IAMs_20 03 45 39.5
comp=Z,1µm,18.0s
FFC Flin Flon 105.46 27 IAMs_20 IAMs_20 03 47 38.3
comp=Z,1µm,20.0s
EGMT Eagleton 105.48 35 IAMs_20 IAMs_20 03 36 04.7
comp=Z,1µm,20.0s
EGMT Eagleton 105.48 35 P **PKiKP 02 56 34.5 +0.4**
baz=302
ELK Elko 105.56 44 IAMs_20 IAMs_20 03 31 42.7

comp=Z,1µm,22.0s
GRAC Grapevine Rang 105.60 48 P **PKiKP 02 56 34.9 +0.3**
baz=294
KEST Kesra 106.03 311 PP **PP 02 56 43.5 -3.2**
comp=Z,4.0nm,1.0s,baz=27,slow=2.3,SNR=3.1
PASC Pasadena Art C 106.08 51 IAMs_20 IAMs_20 03 34 08.5
comp=Z,1µm,20.0s
QLMT Earthquake Lak 106.13 39 Pdif **Pdif 02 52 24.2 +0.5**
R11A Troy Canyon, C 106.34 46 P **PKiKP 02 56 38.4 +2.3**
baz=295
TPNV Topopah Spring 106.44 48 IAMs_20 IAMs_20 03 31 36.7
comp=Z,2µm,22.0s
TPNV Topopah Spring 106.44 48 P **PKiKP 02 56 38.6 +2.2**
baz=294
IMW Indian Meadow 106.90 39 IAMs_20 IAMs_20 03 33 25.7
comp=Z,2µm,22.0s
TPAW Teton Pass 107.09 40 IAMs_20 IAMs_20 03 33 18.9
comp=Z,2µm,22.0s
PRN Pahroc Range 107.12 47 Pdif **Pdif 02 52 29.5 +1.2**
REDW Red Top Meadow 107.22 40 IAMs_20 IAMs_20 03 33 44.6
comp=Z,2µm,21.0s
RLMT Red Lodge 107.30 38 IAMs_20 IAMs_20 03 50 54.1
comp=Z,820nm,19.0s
TUQ Turquoise Moun 107.30 49 P **PKiKP 02 56 39.4 +1.5**
baz=294
AHID Auburn Hatcher 107.36 40 IAMs_20 IAMs_20 03 36 20.1
comp=Z,1µm,20.0s
109C Camp Elliot, M 107.40 52 IAMs_20 IAMs_20 03 32 24.9
comp=Z,1µm,21.0s
PFO Pinyon Flats O 107.62 51 PP PKiKP 02 56 47.7 +9.1
comp=Z,2.7nm,0.8s,baz=229,slow=20,SNR=4.5
PFO Pinyon Flats O 107.62 51 IAMs_20 IAMs_20 03 40 50.4
comp=Z,1µm,20.0s
HWUT Hardware Ranch 107.62 42 IAMs_20 IAMs_20 03 37 35.2
comp=Z,1µm,20.0s
TROLL Troll, Antarti 107.88 196 PKiKP **PKiKP 02 56 35.3 -2.7**
TROLL Troll, Antarti 107.88 196 Pdiff **Pdif 02 52 33.0 +2.2**
MAHO Mahon 107.89 317 IAMs_20 IAMs_20 03 48 33.4
comp=Z,961nm,19.0s
JLU Jordanelle 108.18 42 Pdif **Pdif 02 52 33.1 +0.1**
LAO LASA Array 108.22 35 IAMs_20 IAMs_20 03 48 57.2
comp=Z,1µm,20.0s
DGMT Dagmar 108.29 33 P **PKiKP 02 56 41.2 +1.9**
baz=307
PDAR Pinedale Array 108.34 40 Pdiff **Pdif 02 52 32.9 -0.8**
comp=Z,0.4nm,0.7s,baz=266,slow=1.4,SNR=2.1
PDAR PKiKP **PKiKP 02 56 41.0 +1.1**
comp=Z,1.2nm,0.8s,baz=333,slow=0.7,SNR=4.5
PDAR PKKPbc **PKKPbc 03 07 50.2 -1.5**
comp=Z,1.1nm,0.8s,baz=152,slow=2.7,SNR=6.6
Q16A Castle Valley 109.17 44 Pdif **Pdif 02 52 37.8 +0.3**
SNAA Sanae 109.48 195 PKiKP **PKiKP 02 56 40.8 -0.1**
SNAA Sanae 109.48 195 Pdiff **Pdif 02 52 38.6 +0.8**
RWWY Rawlins 110.39 40 IAMs_20 IAMs_20 03 38 12.2
comp=Z,1µm,20.0s
O20A White River Ci 110.54 42 P **PKiKP 02 56 44.3 +0.3**
baz=301
WUAZ Wupatki 110.61 47 IAMs_20 IAMs_20 03 33 36.1
comp=Z,2µm,22.0s
WUAZ Wupatki 110.61 47 P **PKiKP 02 56 44.5 +0.2**
baz=297
RSSD Black Hills 110.96 36 P **PKiKP 02 56 44.7 0.0**
baz=306
RSSD Black Hills 110.96 36 P **PKiKP 02 56 44.6 0.0**
baz=306
VNA2 Neumayer--Watz 111.11 195 PKiKP **PKiKP 02 56 43.7 -0.2**
baz=103,slow=2.0
ULM Lac du Bonnet 111.24 27 PP PP 02 57 13.8 -10
comp=Z,5.2nm,1.0s,baz=297,slow=2.9,SNR=3.4
VNA3 Neumayer Olymp 111.46 194 PKiKP **PKiKP 02 56 44.0 -0.6**
VNA1 Neumayer--Stat 111.50 195 PKiKP **PKiKP 02 56 46.1 +1.5**
PHWY Pilot Hill 111.70 39 IAMs_20 IAMs_20 03 35 02.9
comp=Z,2µm,22.0s
MVCO Mesa Verde 111.85 44 P **PKiKP 02 56 46.4 -0.2**
baz=300
X18A Snowflake 112.11 48 Pdif **Pdif 02 52 51.9 +1.3**
ISCO Idaho Springs 112.43 41 P **PKiKP 02 56 47.9 +0.1**
baz=303
TUC Tucson 112.49 50 IAMs_20 IAMs_20 03 36 56.2
comp=Z,902nm,21.0s
AGMN Agassiz Nation 112.62 29 IAMs_20 IAMs_20 03 39 18.9
comp=Z,1µm,22.0s
ESDC Sonseca Array 113.44 320 PKiKP **PKiKP 02 56 49.1 -0.3**
comp=Z,1.0nm,1.0s,baz=31,slow=1.9,SNR=5.4
ESDC PP **PP 02 57 34.2 -5.7**
comp=Z,1.2nm,1.0s,baz=55,slow=8.8,SNR=4.9
ESDC PKKPbc **PKKPbc 03 07 33.7 -1.1**
comp=Z,1.7nm,1.0s,baz=261,slow=3.6,SNR=8.3
SDCO Great Sand Dun 113.61 43 IAMs_20 IAMs_20 03 39 32.9
comp=Z,2µm,22.0s
SDCO Great Sand Dun 113.61 43 P **PKiKP 02 56 51.3 +1.3**
baz=302
PAB San Pablo 113.76 320 IAMs_20 IAMs_20 03 51 46.4
comp=Z,1µm,19.0s
PBRG Braganca 113.91 323 *e*PP PP 02 57 51.1 +8.0
TAM Tamarasset 113.99 299 IAMs_20 IAMs_20 03 47 30.8
comp=Z,1µm,22.0s
ANMO Albuquerque 114.41 46 IAMs_20 IAMs_20 03 36 42.5
comp=Z,1µm,22.0s
ANMO Albuquerque 114.41 46*c i* PKiKP **PKiKP 02 56 50.0 -1.5**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 114.41 46 P PKPdf 02 56 51.8 +0.3
baz=301,SNR=5.4
ANMO Albuquerque 114.41 46 P PKPdf 02 56 52.9 +1.3
baz=301
MVO Moncorvo 114.47 323 *e*PKPdf PKPdf 02 56 52.7 +1.4
MVO Moncorvo 114.47 323 *e*PP **PP 02 57 49.4 +2.3**
MVO Moncorvo 114.47 323 *e*SS SS 03 13 46.7 +7.8
MVO Moncorvo 114.47 323 *e*LQ LQ 03 34 27.6
MVO *e*LR LR 03 38 06.4
comp=Z,1µm,20.0s
121A Cookes Peak, D 114.64 49 P PKPdf 02 56 53.1 +1.1
baz=299
121A Cookes Peak, D 114.64 49 P PKPdf 02 56 52.9 +0.9
baz=299
T25A Trinidad 114.67 43 P PKPdf 02 56 52.5 +0.5
baz=303
PGAV Gavieira, Arco 114.71 324 *e*SS SS 03 13 49.7 +7.7
PGAV Gavieira, Arco 114.71 324 *e*LQ LQ 03 34 50.7
PGAV *e*LR LR 03 38 08.3
comp=Z,2µm,20.0s
PCAB Cabril 114.73 324 *e*PP **PP 02 57 49.1 +0.2**
POLO Lamas de Olo 114.80 323 *e*PKPdf PKPdf 02 56 52.3 +0.3
PVRL Vila Real 114.81 323 *e*PKPdf PKPdf 02 56 52.4 +0.5
EYMN Ely 114.89 27 IAMs_20 IAMs_20 03 52 06.7
comp=Z,971nm,20.0s
MTE Manteigas 115.25 322 *e*PKPdf **PKPdf 02 56 54.3 +1.5**
MTE Manteigas 115.25 322 *e*PP **PP 02 57 55.2 +2.6**
MTE Manteigas 115.25 322 *e*SS SS 03 13 58.9 +10
MTE Manteigas 115.25 322 *e*LQ LQ 03 35 05.5
MTE *e*LR LR 03 39 52.4
comp=Z,2µm,18.0s
PVIS Viseu 115.26 323 *e*PKPdf **PKPdf 02 56 54.5 +1.7**
PVIS Viseu 115.26 323 *e*PP **PP 02 57 55.8 +3.1**
JBK JBK 115.37 314 P **PKPdf 02 56 54.1 +0.7**
ECSD EROS Data Cent 115.37 33 **PKiKP 02 56 52.3 -0.6**
ECSD EROS Data Cent 115.37 33 IAMs_20 IAMs_20 03 50 12.1
comp=Z,948nm,20.0s
ECSD EROS Data Cent 115.37 33 P **PKiKP 02 56 52.2 -0.7**
baz=312
ECSD EROS Data Cent 115.37 33 P **PKiKP 02 56 52.6 -0.2**
baz=312
F36A Milaca 115.47 29 P **PKiKP 02 56 52.4 -0.5**
baz=316
FIGM Figuig 115.53 312 P **PKPdf 02 56 54.1 +0.4**
PCBR Castelo Branco 115.54 322 *e*PKPdf **PKPdf 02 56 53.6 +0.3**
PCBR Castelo Branco 115.54 322 *e*PP **PP 02 57 58.5 +3.9**
PMRV Marv??o 115.74 321 *e*PKPdf **PKPdf 02 56 53.8 +0.1**
PMRV Marv??o 115.74 321 *e*LR LR 03 39 09.7
comp=Z,969nm,20.0s
E38A The Farm, Brul 115.87 28 P **PKiKP 02 56 53.2 -0.5**
baz=318
COI Coimbra 115.89 323 *e*PP **PP 02 57 59.3 +2.3**
EPT El Paso 115.96 49 IAMs_20 IAMs_20 03 40 12.8
comp=Z,948nm,21.0s
PCAS Casmilo, Conde 116.03 322 *e*PP **PP 02 57 57.9 -0.2**
BGNE Belgrade 116.04 36 P **PKiKP 02 56 52.8 -1.5**
baz=310
SCHQ Schefferville 116.11 8 PKP **PKiKP 02 56 52.3 -1.7**
comp=Z,8.5nm,1.1s,baz=259,slow=4.9,SNR=6.7
PESTR Estremoz 116.20 321 *e*PKPdf **PKiKP 02 56 54.6 0.0**
PESTR Estremoz 116.20 321 **PKiKP 02 56 53.5 -1.1**
PBAR Barrancos 116.26 320 *e*PKPdf **PKiKP 02 56 55.3 +0.6**
PBAR Barrancos 116.26 320 *e*PP **PP 02 57 59.3 -0.4**
SPMN Marine on St. 116.29 30 P **PKPdf 02 56 55.1 +0.6**
baz=316
PMTG Montargil 116.47 321 *e*PKPdf **PKPdf 02 56 54.9 -0.2**
EVO Evora 116.66 321 *e*PKPdf **PKPdf 02 56 55.1 -0.4**
EVO Evora 116.66 321 *e*PP **PP 02 58 03.9 +1.4**
CBKS Cedar Bluff 116.72 39 IAMs_20 IAMs_20 03 51 55.6
comp=Z,848nm,20.0s
MNTX Cornudas Mount 116.83 48 IAMs_20 IAMs_20 03 57 40.7
comp=Z,872nm,19.0s
MNTX Cornudas Mount 116.83 48 P **PKiKP 02 56 56.5 +0.5**
baz=310,SNR=11
MNTX Cornudas Mount 116.83 48 P **PKPdf 02 56 55.5 -0.5**
baz=300
PBEJ Beja 116.88 320 *e*PKPdf **PKiKP 02 56 56.3 +0.4**
PBEJ Beja 116.88 320 *e*PP **PP 02 58 06.4 +2.4**
PVAQ Vaqueiros 117.15 320 *e*PKPdf **PKiKP 02 56 57.0 +0.5**
PVAQ Vaqueiros 117.15 320 *e*SS SS 03 14 21.0 +7.0
PVAQ Vaqueiros 117.15 320 *e*LR LR 03 41 06.8
comp=Z,1µm,18.0s
MESJ Messejana 117.21 320 *e*PKPdf **PKiKP 02 56 57.1 +0.5**
MESJ *e*SS SS 03 14 18.1 +3.3
MESJ IAMs_20 IAMs_20 03 44 11.3
comp=N,2µm,25.8s
MESJ Messejana 117.21 320 *e*PKPdf **PKiKP 02 56 57.3 +0.7**
MESJ Messejana 117.21 320 *e*PKIKP **PKiKP 02 56 57.1 +0.5**
MESJ *e*SS SS 03 14 18.1 +3.3
PCVE Castro Verde 117.22 320 *e*PKPdf **PKiKP 02 56 57.1 +0.5**
PNCL Nicolau / Gran 117.24 321 *e*PKPdf **PKiKP 02 56 57.1 +0.5**
PMST Lisbon--Monsan 117.27 322 *e*PP **PP 02 58 09.2 +2.5**
LCRM LCR 117.33 315 P **PKiKP 02 56 58.0 +0.8**
G40A Rib Lake 117.49 28 P **PKPdf 02 56 56.7 -0.3**
baz=319
MSTX Muleshoe 117.51 45 P **PKPdf 02 56 57.4 0.0**
baz=303,SNR=7.4
MSTX Muleshoe 117.51 45 P **PKPdf 02 56 56.8 -0.6**
baz=303
R32A Long Quarter, 117.59 39 P **PKiKP 02 56 57.6 +0.2**
baz=308
MDT Midelt 117.62 314 P **PKiKP 02 56 58.1 +0.5**
PTEO Sao Teotonio 117.71 320 *e*PKPdf **PKiKP 02 56 58.3 +0.8**
AMTX Amarillo 117.76 43 P **PKPdf 02 56 57.7 -0.2**
baz=304
KSU1 Kansas State U 118.43 37 P **PKiKP 02 56 59.7 +0.8**
baz=311
SCIA State Center 118.44 32 P **PKiKP 02 56 58.9 0.0**
baz=315
U32A Winter Ranch, 118.66 41 PKPdf **PKPdf 02 56 59.1 -0.4**
ZHG ZHG 118.71 315 P **PKiKP 02 57 01.0 +1.3**
I42A Draeger Farm, 119.14 28 P **PKPdf 02 56 59.3 -0.8**
baz=320
E46A Sault Ste Mari 119.17 24 P **PKPdf 02 56 59.8 -0.3**
baz=325
JFWS Jewell Farm 119.23 30 IAMs_20 IAMs_20 03 49 48.9
comp=Z,1µm,20.0s
JFWS Jewell Farm 119.23 30 P **PKPdf 02 56 59.2 -1.1**
baz=318
JFWS Jewell Farm 119.23 30 P **PKPdf 02 56 59.6 -0.7**
baz=318
TX31 Lajitas Ar. Si 119.29 50 P **PKiKP 02 57 01.0 0.0**
baz=300
TXAR Lajitas Array 119.29 50 PKP **PKPdf 02 57 00.8 -0.2**
comp=Z,7.5nm,1.1s,baz=270,slow=1.3,SNR=25
TXAR PP **PP 02 58 18.2 -3.1**
comp=Z,5.8nm,1.1s,baz=309,slow=6.1,SNR=6.1
TXAR PKKPbc **PKKPbc 03 07 13.7 -0.3**
comp=Z,1.5nm,1.0s,baz=140,slow=4.1,SNR=6.7
TXAR Lajitas Array 119.29 50 PKPdf **PKPdf 02 57 00.3 -0.6**
TXAR Lajitas Array 119.29 50 PKIKP **PKPdf 02 57 00.3 -0.6**
WMOK Wichita Mounta 119.79 42 IAMs_20 IAMs_20 03 38 48.2
comp=Z,1µm,21.0s
WMOK Wichita Mounta 119.79 42 P **PKPdf 02 57 01.1 -0.5**
baz=307
L42A Oliver, Polo 120.20 30 PKPdf **PKPdf 02 57 01.6 -0.6**
OK025 Westminster Rd 120.21 40 IAMs_20 IAMs_20 03 45 12.3
comp=Z,1µm,19.0s
TOA0 Torodi Ar. Sit 120.64 291 PKPdf **PKPdf 02 57 01.8 -2.0**
TORD Torodi Ar. Bea 120.64 291 PKP **PKPdf 02 57 02.1 -1.6**
comp=Z,18nm,0.8s,baz=36,slow=2.0,SNR=78
TORD PP **PP 02 58 28.6 -2.6**
comp=Z,4.0nm,1.0s,baz=41,slow=3.7,SNR=1.9
TORD SKP 03 00 36.2
comp=Z,4.9nm,0.8s,baz=39,slow=1.8,SNR=5.2
TORD PKKPbc **PKKPbc 03 07 07.2 -1.4**
comp=Z,6.4nm,1.0s,baz=294,slow=3.1,SNR=12
TORD SKKPbc SKKPbc 03 11 05.3 +10
comp=Z,2.0nm,1.1s,baz=268,slow=4.5,SNR=3.5
P40A Paris 120.75 34 P **PKPdf 02 57 03.0 -0.3**
baz=315
OUK Oukaimeden 120.81 314 P **PKiKP 02 57 05.0 +0.7**
TUL1 Leonard 120.98 39 P **PKiKP 02 57 04.1 +0.2**
baz=310
TUL1 Leonard 120.98 39 P **PKiKP 02 57 04.2 +0.2**
baz=310
S39A Bolivar 121.30 36 P **PKPdf 02 57 04.0 -0.5**
baz=313,SNR=9.5
HDIL Hopedale 121.46 31 IAMs_20 IAMs_20 03 51 34.0
comp=Z,1µm,20.0s
HDIL Hopedale 121.46 31 P **PKPdf 02 57 04.2 -0.4**
baz=318
HDIL Hopedale 121.46 31 P **PKPdf 02 57 04.6 0.0**
baz=318
R40A Maddies Statio 121.49 35 P **PKPdf 02 57 04.1 -0.7**
baz=314,SNR=14
J47A Sumner 121.50 26 P **PKPdf 02 57 04.3 -0.4**
baz=324
J47A P **PKPdf 02 57 04.3 -0.4**
baz=324
U38A Gravette 121.50 38 P **PKPdf 02 57 04.1 -0.8**
baz=312,SNR=9.5
JCT Junction City 121.53 47 IAMs_20 IAMs_20 03 43 55.1
comp=Z,1µm,21.0s
JCT Junction City 121.53 47 P **PKPdf 02 57 04.9 -0.3**
baz=304
JCT Junction City 121.53 47 P **PKPdf 02 57 05.2 0.0**
baz=304,SNR=19
TTIG Tnine Tigouga, 121.59 314 P **PKiKP 02 57 06.0 +0.5**
HHAR Hobbs 121.88 38 PKPdf **PKPdf 02 57 04.7 -0.9**
CCM Cathedral Cave 122.23 34 PKPdf **PKPdf 02 57 04.8 -1.3**
CCM Cathedral Cave 122.23 34 IAMs_20 IAMs_20 03 45 33.8
comp=Z,1µm,21.0s
CCM Cathedral Cave 122.23 34 PKIKP **PKPdf 02 57 04.9 -1.3**
CCM Cathedral Cave 122.23 34 P **PKPdf 02 57 05.5 -0.7**
baz=315,SNR=7.6
CCM Cathedral Cave 122.23 34 P **PKPdf 02 57 05.0 -1.3**
baz=315
WHTX Lake Whitney, 122.31 44 P **PKPdf 02 57 05.2 -1.4**
baz=307
SFIN Lafayette 122.69 30 P **PKPdf 02 57 06.6 -0.4**
baz=320
L48A N Adams 122.71 27 P **PKPdf 02 57 06.3 -0.7**
baz=324
L48A P **PKPdf 02 57 06.3 -0.7**
baz=324
FVM French Village 122.73 34 P **PKPdf 02 57 06.9 -0.3**
baz=316,SNR=7.5
K50A Casco 122.81 25 P **PKPdf 02 57 06.5 -0.7**
baz=326
K50A P **PKPdf 02 57 06.5 -0.7**
baz=326
Q44A Meyer Farm, Va 122.83 32 P **PKPdf 02 57 07.0 -0.3**
baz=318
435B Jarrell 122.93 45 IAMs_20 IAMs_20 03 42 03.9
comp=Z,1µm,22.0s
435B Jarrell 122.93 45 P **PKiKP 02 57 08.5 +0.5**
baz=306
435B Jarrell 122.93 45 P **PKPdf 02 57 07.3 -0.5**
baz=306
N47A Urbana 122.98 28 P **PKPdf 02 57 06.8 -0.8**
baz=322
N47A P **PKPdf 02 57 06.8 -0.8**
baz=322
833A Chaparral WMA, 123.01 48 P **PKiKP 02 57 08.8 +0.6**
baz=303
833A Chaparral WMA, 123.01 48 P **PKPdf 02 57 07.7 -0.2**
baz=303
D62A Allapoint, All 123.19 12 P **PKPdf 02 57 06.8 -1.0**
baz=342,SNR=6.7
D62A P **PKPdf 02 57 06.8 -1.0**
baz=342,SNR=6.7
DELO Deloro Mine 123.20 20 PKPdf **PKPdf 02 57 06.4 -1.5**
MIAR Mount Ida 123.25 39 P **PKPdf 02 57 08.1 -0.2**
baz=311
MIAR Mount Ida 123.25 39 P **PKPdf 02 57 08.4 +0.1**
baz=311,SNR=17
OLIL Olney 123.43 32 P **PKPdf 02 57 08.3 -0.2**
baz=319,SNR=10
E62A Clayton Lake 123.53 13 P **PKPdf 02 57 08.0 -0.5**
baz=342
E62A P **PKPdf 02 57 08.0 -0.5**
baz=342
BATG Bathurst New B 123.56 10 PKPdf **PKPdf 02 57 07.5 -1.0**
S44A Carbondale 123.58 33 P **PKPdf 02 57 08.9 +0.1**
baz=317
N49A Columbus Grove 123.64 27 P **PKPdf 02 57 08.3 -0.5**
baz=324,SNR=5.3
N49A P **PKPdf 02 57 08.3 -0.5**
baz=324,SNR=5.3
O48B Farmland 123.72 28 P **PKPdf 02 57 08.5 -0.5**
baz=322,SNR=7.0
O48B Farmland 123.72 28 P **PKPdf 02 57 08.4 -0.6**
baz=322,SNR=7.0
UALR University of 123.85 38 **PKPdf 02 57 08.0 -1.4**
BMNY Brushton-Moira 123.90 17 P **PKPdf 02 57 08.8 -0.4**
baz=336,SNR=8.2
E63A Oxbow 123.95 12 P **PKPdf 02 57 08.6 -0.6**
baz=343,SNR=9.1
E63A P **PKPdf 02 57 08.6 -0.6**
baz=343,SNR=9.1
LONY Lake Ozonia 124.08 18 P **PKPdf 02 57 09.2 -0.4**
baz=335,SNR=5.4
O49A Covington 124.16 28 P **PKPdf 02 57 09.2 -0.6**
baz=323,SNR=7.8
O49A P **PKPdf 02 57 09.2 -0.6**
baz=323,SNR=7.8
P48A Milroy 124.22 29 P **PKPdf 02 57 09.4 -0.6**
baz=322,SNR=7.7
P48A P **PKPdf 02 57 09.4 -0.6**
baz=322,SNR=7.7
USIN University of 124.23 32 PKPdf **PKPdf 02 57 09.0 -1.0**
J55A Hilton 124.23 21 P **PKPdf 02 57 09.3 -0.5**
baz=331,SNR=12
J55A P **PKPdf 02 57 09.3 -0.5**
baz=331,SNR=12
WCNY West Carthage 124.32 19 P **PKPdf 02 57 09.3 -0.7**
baz=334,SNR=6.0
NATX Nacogdoches 124.33 42 P **PKPdf 02 57 10.1 -0.3**
baz=309
ERPA Erie 124.42 23 P **PKPdf 02 57 09.4 -0.9**
baz=328
N51A Ashland 124.44 26 P **PKPdf 02 57 10.1 -0.3**
baz=325
N51A P **PKPdf 02 57 10.1 -0.3**
baz=325
F63A Nahmakanta, Br 124.49 13 P **PKPdf 02 57 10.4 0.0**
baz=342,SNR=6.9
F63A P **PKPdf 02 57 10.4 0.0**
baz=342,SNR=6.9
P49A Miami Univ. Ec 124.50 29 P **PKPdf 02 57 10.0 -0.5**
baz=322,SNR=5.3
P49A Miami Univ. Ec 124.50 29 P **PKPdf 02 57 09.3 -1.3**
baz=322,SNR=5.3
F64A Sherman 124.50 12 P **PKPdf 02 57 10.0 -0.4**
baz=343,SNR=7.4
F64A P **PKPdf 02 57 10.0 -0.4**
baz=343,SNR=7.4
J56A Wolcott 124.56 20 P **PKPdf 02 57 10.0 -0.5**
baz=332,SNR=5.0
J56A P **PKPdf 02 57 10.0 -0.5**
baz=332,SNR=5.0
G62A West of Eustis 124.62 14 P **PKPdf 02 57 10.6 0.0**
baz=340
G62A P **PKPdf 02 57 10.6 0.0**
baz=340
HKT Hockley 124.64 45 PKPdf **PKPdf 02 57 10.3 -0.7**
HKT Hockley 124.64 45 PKIKP **PKPdf 02 57 10.3 -0.7**
HKT Hockley 124.64 45 P **PKiKP 02 57 11.7 +0.4**
baz=307
WVNY West Valley, N 124.70 22 P **PKPdf 02 57 10.5 -0.4**
baz=330
M53A WI Miller and 124.72 24 P **PKPdf 02 57 09.6 -1.3**
baz=328
J57A Williamstown 124.72 19 P **PKPdf 02 57 10.4 -0.5**
baz=333,SNR=7.0
J57A P **PKPdf 02 57 10.4 -0.5**
baz=333,SNR=7.0
ACSO Alum Creek Sta 124.73 27 P **PKPdf 02 57 10.5 -0.5**
baz=324,SNR=6.5
ACSO Alum Creek Sta 124.73 27 P **PKPdf 02 57 09.9 -1.1**
baz=324,SNR=6.5
WCI Wyandotte Cave 124.74 31 PKPdf **PKPdf 02 57 09.8 -1.2**
WCI Wyandotte Cave 124.74 31 IAMs_20 IAMs_20 03 44 59.8
comp=Z,1µm,21.0s
WCI Wyandotte Cave 124.74 31 PKIKP **PKPdf 02 57 09.8 -1.2**
WCI Wyandotte Cave 124.74 31 P **PKPdf 02 57 10.8 -0.2**
baz=320,SNR=7.6
WCI Wyandotte Cave 124.74 31 P **PKPdf 02 57 09.9 -1.2**
baz=320
NCB Newcomb 124.78 18 P **PKPdf 02 57 10.8 -0.2**
baz=336,SNR=8.1
PKME Peaks-Kenny Pk 124.86 13 P **PKPdf 02 57 10.2 -0.8**
baz=342
J58A Remsen 125.00 19 P **PKPdf 02 57 11.3 -0.1**
baz=334,SNR=8.1
J58A P **PKPdf 02 57 11.3 -0.1**
baz=334,SNR=8.1
J59A Piesco 125.15 18 P **PKPdf 02 57 11.6 -0.1**
baz=335,SNR=13
J59A P **PKPdf 02 57 11.6 -0.1**
baz=335,SNR=13
MCVT Middlebury Col 125.15 17 P **PKPdf 02 57 11.2 -0.5**
baz=327,SNR=5.3
K57A Scipio Center 125.15 20 P **PKPdf 02 57 11.5 -0.2**
baz=333,SNR=10
LMN Caledonia Moun 125.16 9 **PKPdf 02 57 10.8 -0.8**
LBNH Lisbon 125.18 16 P **PKiKP 02 57 12.0 0.0**
baz=338
N53A Lisbon 125.18 25 P **PKPdf 02 57 11.5 -0.3**
baz=327,SNR=5.8
N53A P **PKPdf 02 57 11.5 -0.3**
baz=327,SNR=5.8
G65A Princeton 125.29 12 P **PKPdf 02 57 11.4 -0.4**
baz=344,SNR=7.1
G65A P **PKPdf 02 57 11.4 -0.4**
baz=344,SNR=7.1
P51A Williamsport 125.31 27 P **PKPdf 02 57 11.4 -0.6**
baz=324,SNR=6.4
P51A P **PKPdf 02 57 11.4 -0.6**
baz=324,SNR=6.4
L56A Greenwood 125.31 21 P **PKPdf 02 57 11.7 -0.4**
baz=331,SNR=5.4
L56A P **PKPdf 02 57 11.7 -0.4**
baz=331,SNR=5.4
KOWA Kowa 125.41 294 PKPdf **PKPdf 02 57 11.7 -1.2**
KOWA Kowa 125.41 294 P **PKPdf 02 57 12.6 -0.3**
WVL Waterville 125.44 14 P **PKPdf 02 57 11.7 -0.5**
baz=341,SNR=8.6
M55A Ridgway 125.44 23 P **PKPdf 02 57 11.9 -0.4**
baz=330
M55A P **PKPdf 02 57 11.9 -0.4**
baz=330
W45A Hickory Valley 125.45 35 P **PKPdf 02 57 12.5 0.0**
baz=316
ACCN Adirondack Com 125.47 17 P **PKPdf 02 57 11.9 -0.4**
baz=336,SNR=5.2
O53A New Philadelph 125.49 25 P **PKPdf 02 57 11.7 -0.8**
baz=326,SNR=6.0
WVT Waverly 125.51 34 PKPdf **PKPdf 02 57 12.0 -0.6**
WVT Waverly 125.51 34 IAMs_20 IAMs_20 03 47 56.5
comp=Z,1µm,21.0s
WVT Waverly 125.51 34 PKIKP **PKPdf 02 57 12.0 -0.6**
WVT Waverly 125.51 34 P **PKPdf 02 57 12.2 -0.4**
baz=318,SNR=12
WVT Waverly 125.51 34 P **PKPdf 02 57 11.9 -0.6**
baz=318
Q51A Peebles 125.54 28 P **PKPdf 02 57 11.5 -1.1**
baz=324,SNR=5.5
Q51A P **PKPdf 02 57 11.5 -1.1**
baz=324,SNR=5.5
HNH Hanover 125.58 16 P **PKPdf 02 57 12.1 -0.3**
baz=338,SNR=7.4
P52A Corning 125.60 27 P **PKPdf 02 57 12.2 -0.4**
baz=325,SNR=7.0
R50A Paris 125.67 29 P **PKPdf 02 57 12.3 -0.5**
baz=322,SNR=5.2
R50A P **PKPdf 02 57 12.3 -0.5**
baz=322,SNR=5.2
I63A Otisfield 125.70 15 P **PKPdf 02 57 12.6 0.0**
baz=340
I63A P **PKPdf 02 57 12.6 0.0**
baz=340
OXF Oxford 125.78 36 IAMs_20 IAMs_20 03 45 12.3
comp=Z,1µm,21.0s
OXF Oxford 125.78 36 P **PKPdf 02 57 13.0 -0.1**
baz=315
OXF Oxford 125.78 36 P **PKPdf 02 57 12.3 -0.8**
baz=315

BINY	**Binghamton**	**125.81**	**20**	P	**PKPdf**	02 57 12.5	**-0.5**
	baz=333,SNR=5.7						
BINY	**Binghamton**	**125.81**	**20**	P	**PKPdf**	02 57 12.1	**-0.9**
	baz=333,SNR=5.7						
J61A	**Chester**	**125.83**	**17**	P	**PKPdf**	02 57 12.8	**-0.1**
	baz=337,SNR=6.1						
J61A				P	**PKPdf**	02 57 12.8	**-0.1**
	baz=337,SNR=6.1						
HCNY	**Howe Caverns**	**125.88**	**18**	P	**PKPdf**	02 57 12.9	**-0.2**
	baz=335,SNR=6.3						
O54A	**Avella**	**125.90**	**25**	P	**PKPdf**	02 57 13.1	**-0.1**
	baz=327						
O54A				P	**PKPdf**	02 57 13.1	**-0.1**
	baz=327						
FFD	**Franklin Falls**	**125.97**	**16**	P	**PKiKP**	02 57 13.7	**+0.1**
	baz=338						
GBN	**Guysborough**	**126.03**	**6**	PKPdf	**PKiKP**	02 57 13.7	**0.0**
P53A	**Whipple**	**126.05**	**26**	P	**PKPdf**	02 57 13.4	**-0.1**
	baz=326,SNR=6.4						
P53A				P	**PKPdf**	02 57 13.4	**-0.1**
	baz=326,SNR=6.4						
Q52A	**Bidwell**	**126.09**	**27**	P	**PKPdf**	02 57 13.1	**-0.5**
	baz=325						
Q52A				P	**PKPdf**	02 57 13.1	**-0.5**
	baz=325						
L59A	**Walton**	**126.13**	**19**	P	**PKPdf**	02 57 13.5	**-0.2**
	baz=334						
L59A				P	**PKPdf**	02 57 13.5	**-0.2**
	baz=334						
Y45A	**Yeager Farm, C**	**126.16**	**37**	P	**PKPdf**	02 57 13.7	**-0.2**
	baz=315						
M57A	**Sunshine Farm,**	**126.17**	**21**	P	**PKPdf**	02 57 13.2	**-0.5**
	baz=331						
M57A				P	**PKPdf**	02 57 13.2	**-0.5**
	baz=331						
U49A	**Red Boiling Sp**	**126.31**	**32**	P	**PKPdf**	02 57 13.9	**-0.2**
	baz=320,SNR=7.1						
V48A	**Smith Brothers**	**126.34**	**33**	P	**PKPdf**	02 57 13.4	**-0.7**
	baz=318,SNR=6.1						
T50A	**Nancy**	**126.41**	**31**	P	**PKPdf**	02 57 13.9	**-0.4**
	baz=321						
T50A				P	**PKPdf**	02 57 13.9	**-0.4**
	baz=321						
SSPA	**Standing Stone**	**126.50**	**22**	PKPdf	**PKPdf**	02 57 14.0	**-0.4**
SSPA	**Standing Stone**	**126.50**	**22**	P	**PKPdf**	02 57 14.2	**-0.1**
	baz=330,SNR=6.0						
SSPA	**Standing Stone**	**126.50**	**22**	P	**PKPdf**	02 57 12.2	**-2.2**
	baz=330						
S51A	**Beattyville**	**126.53**	**29**	P	**PKPdf**	02 57 14.1	**-0.4**
	baz=323						
S51A				P	**PKPdf**	02 57 14.1	**-0.4**
	baz=323						
K62A	**Royalston**	**126.55**	**17**	P	**PKiKP**	02 57 14.7	**-0.2**
	baz=338						
K62A				P	**PKiKP**	02 57 14.7	**-0.2**
	baz=338						
MCWV	**Mont Chateau**	**126.56**	**25**	P	**PKPdf**	02 57 13.0	**-1.5**
	baz=328						
L61B	**Northampton**	**126.62**	**17**	P	**PKPdf**	02 57 14.6	**0.0**
	baz=337,SNR=6.0						
L61B	**Northampton**	**126.62**	**17**	P	**PKPdf**	02 57 13.6	**-0.9**
	baz=337						
R53A	**Hurricane**	**126.75**	**27**	P	**PKPdf**	02 57 15.0	**+0.1**
	baz=325						
R53A				P	**PKPdf**	02 57 15.0	**+0.1**
	baz=325						
N58A	**Sunbury**	**126.75**	**21**	P	**PKPdf**	02 57 14.8	**0.0**
	baz=332						
N58A				P	**PKPdf**	02 57 14.8	**0.0**
	baz=332						
HRV	**Adam Dziewonsk**	**126.89**	**16**	PKPdf	**PKPdf**	02 57 14.6	**-0.4**
HRV	**Adam Dziewonsk**	**126.89**	**16**	PKIKP	**PKPdf**	02 57 14.6	**-0.4**
HRV	**Adam Dziewonsk**	**126.89**	**16**	P	**PKPdf**	02 57 14.1	**-0.9**
	baz=338						
146A	**Union**	**127.31**	**37**	P	**PKiKP**	02 57 16.7	**0.0**
	baz=315						
TZTN	**Tazewell**	**127.42**	**30**	P	**PKPdf**	02 57 15.9	**-0.4**
	baz=322						
W50A	**Signal Mountai**	**127.56**	**32**	P	**PKPdf**	02 57 16.5	**-0.1**
	baz=320						
PAL	**Palisades**	**127.56**	**19**		**PKPdf**	02 57 15.6	**-0.7**
PAL	**Palisades**	**127.56**	**19**	PKIKP	**PKPdf**	02 57 15.6	**-0.7**
PAL	**Palisades**	**127.56**	**19**	P	**PKPdf**	02 57 15.7	**-0.6**
	baz=335						
FPAL	**Fort Paine**	**127.90**	**33**		**PKPdf**	02 57 15.9	**-1.3**
V52A	**Sevierville**	**127.95**	**31**	P	**PKPdf**	02 57 16.8	**-0.5**
	baz=322,SNR=8.7						
TKL	**Tuckaleechee C**	**128.00**	**31**	P	**PKPdf**	02 57 17.5	**+0.1**
	baz=322,SNR=9.5						
LRAL	**Lakeview Retre**	**128.24**	**36**	P	**PKPdf**	02 57 18.0	**+0.1**
	baz=317						
BLA	**Blacksburg**	**128.35**	**27**	P	**PKPdf**	02 57 18.1	**+0.1**
	baz=326						
W52A	**Murphy**	**128.36**	**31**	P	**PKPdf**	02 57 18.2	**+0.1**
	baz=321,SNR=6.6						
V53A	**Saluda**	**128.48**	**30**	P	**PKPdf**	02 57 18.6	**+0.3**
	baz=323,SNR=5.8						
V53A				P	**PKPdf**	02 57 18.6	**+0.3**
	baz=323,SNR=5.8						
KIC	**Kosan Boka**	**128.69**	**285**↑	*e*PKIKP	**PKPdf**	02 57 19.1	**-0.1**
	comp=Z,15nm,0.8s						
DBIC	**Dimbokro**	**128.72**	**285**	PKP	**PKPdf**	02 57 18.9	**-0.4**
	comp=Z,30nm,1.0s,baz=77,slow=2.2,SNR=13						
CBN	**Corbin Frederi**	**128.80**	**24**	P	**PKPdf**	02 57 18.1	**-0.7**
	baz=330						
TIC	**Toumodi**	**128.88**	**286**↑	*e*PKIKP	**PKPdf**	02 57 19.3	**-0.3**
	comp=Z,49nm,1.0s						
LIC	**Lamto**	**129.00**	**285**↑	*e*PKIKP	**PKPdf**	02 57 19.6	**-0.2**
	comp=Z,109nm,1.1s						
Z51A	**Franklin**	**129.06**	**34**	P	**PKPdf**	02 57 19.6	**+0.2**
	baz=319						
Y52A	**Lilburn**	**129.24**	**32**		**PKPdf**	02 57 19.9	**+0.2**
BRAL	**Brewton**	**129.55**	**37**	P	**PKPdf**	02 57 20.5	**+0.1**
	baz=316						
KMSC	**Kings Mountain**	**129.62**	**29**	P	**PKPdf**	02 57 20.8	**+0.4**
	baz=324,SNR=6.1						
KMSC	**Kings Mountain**	**129.62**	**29**	P	**PKPdf**	02 57 20.4	**-0.1**
	baz=324						
PAULI	**Pauline**	**129.64**	**30**	P	**PKPdf**	02 57 20.1	**-0.4**
	baz=323,SNR=5.1						
T59A	**Double "B" Far**	**129.79**	**25**	P	**PKiKP**	02 57 21.3	**-0.1**
	baz=329						
T59A				P	**PKiKP**	02 57 21.3	**-0.1**
	baz=329						
GOGA	**Godfrey**	**129.91**	**32**	P	**PKPdf**	02 57 20.6	**-0.4**
	baz=321						
TIGA	**Tifton**	**131.35**	**34**	P	**PKPdf**	02 57 23.5	**-0.3**
	baz=320						
NHSC	**New Hope**	**131.83**	**30**	P	**PKPdf**	02 57 24.7	**+0.1**
	baz=324						
CMIG	**Matias Romero**	**132.35**	**58**	PKP	**PKPdf**	02 57 25.9	**-0.1**
	comp=Z,15nm,1.1s,baz=16,slow=0.3,SNR=5.4						
TEIG	**Tepich**	**135.93**	**49**	IAMs_20	IAMs_20	03 48 12.0	
	comp=Z,750nm,22.0s						
SNET	**Serv Nac Est T**	**138.77**	**58**	IAMs_20	IAMs_20	03 49 41.8	
	comp=Z,746nm,20.0s						
TGUH	**Tegucigalpa,Un**	**140.20**	**56**	PKPdf	**PKPdf**	02 57 39.3	**-1.6**
TGUH				IAMs_20	IAMs_20	03 50 39.6	
	comp=Z,1μm,22.0s						
LL02	**Futaleuf**	**141.99**	**159**	PKPdf	**PKPdf**	02 57 41.1	**-2.0**
JTS	**Las Juntas de**	**144.08**	**59**	PKPdf	**PKPab**	02 57 45.4	**+0.3**
JTS				IAMs_20	IAMs_20	03 49 25.3	
	comp=Z,752nm,21.0s						
JTS	**Las Juntas de**	**144.08**	**59**	PKIKP	**PKPab**	02 57 45.4	**+0.3**
PLCA	**Paso Flores**	**144.60**	**158**	PKP	PKPbc	02 57 47.2	+0.6
	comp=Z,53nm,1.0s,baz=202,slow=4.3,SNR=45						
MTDJ	**Mount Denham**	**144.84**	**41**	IAMs_20	IAMs_20	04 11 45.6	
	comp=Z,690nm,20.0s						
RIMA	**Rio Macho**	**145.27**	**59**	PKPbc	**PKPab**	02 57 49.8	**+0.1**
GRTK	**Grand Turk**	**145.88**	**29**	PKPbc	**PKPdf**	02 57 50.1	**-0.5**
TRQA	**Tornquist**	**149.60**	**168**	PKPdf	**PKPdf**	02 57 55.2	**-1.1**
TRQA	**Tornquist**	**149.60**	**168**	PKHKP	PKPpre	02 57 55.2	
VA05	**Santo Domingo**	**150.08**	**150**		**PKPbc**	02 58 01.5	**-0.6**
MLPR	**Magueyes Islan**	**150.84**	**26**		**PKPbc**	02 58 03.7	**-0.6**
OBIP	**Obispado Ponce**	**150.96**	**25**	PKPdf	**PKPdf**	02 57 57.0	**-1.9**
OBIP					**PKPbc**	02 58 03.2	**-1.4**
SJG	**San Juan**	**151.09**	**24**		**PKPdf**	02 57 57.7	**-1.4**
SJG				PKPbc	**PKPbc**	02 58 04.4	**-0.5**
SJG	**San Juan**	**151.09**	**24**	IAMs_20	IAMs_20	04 07 05.8	
	comp=Z,834nm,22.0s						
SJG	**San Juan**	**151.09**	**24**	PKIKP	**PKPdf**	02 57 57.7	**-1.4**
SJG						02 58 04.4	
SMRT	**St. Maarten**	**152.26**	**19**	IAMs_20	IAMs_20	04 19 44.2	
	comp=Z,576nm,20.0s						
GO04	**Tololo Observa**	**153.25**	**146**	PKPdf	**PKPdf**	02 58 01.0	**-1.4**
GO04					**PKPbc**	02 58 09.5	**-0.3**
PORT	**Chimborazo Vol**	**154.45**	**76**		**PKPbc**	02 58 11.0	**-2.3**
HATO	**Hato, Curacao**	**154.76**	**36**	IAMs_20	IAMs_20	04 14 45.8	
	comp=Z,710nm,21.0s						
ROSC	**El Rosal**	**155.90**	**58**	PKP	**PKPdf**	02 58 06.5	**-0.1**
	comp=Z,35nm,1.0s,baz=326,slow=6.6,SNR=13						
ROSC				PKPab	**PKPab**	02 58 32.7	**-0.7**
	comp=Z,4.7nm,0.4s,baz=81,slow=21,SNR=3.9						
SDV	**Santo Domingo**	**156.19**	**44**	PKPdf	**PKPdf**	02 58 06.1	**-0.7**
SDV				PKPab	**PKPab**	02 58 32.9	**-1.4**
SDV	**Santo Domingo**	**156.19**	**44**	IAMs_20	IAMs_20	04 04 12.8	
	comp=Z,829nm,22.0s						
BIRV	**Birongo**	**157.66**	**33**	PKPdf	**PKPdf**	02 58 06.9	**-1.5**
BIRV				PKPab	**PKPab**	02 58 40.4	**0.0**
BAUV	**El Baul**	**157.85**	**39**	PKPdf	**PKPdf**	02 58 07.7	**-0.9**
BAUV				PKPab	**PKPab**	02 58 41.1	**-0.1**
CPUP	**Villa Florida**	**161.88**	**171**	PKP	**PKPdf**	02 58 12.8	**-0.1**
	comp=Z,9.3nm,1.2s,baz=144,slow=2.5,SNR=5.0						
CPUP				PKPab	**PKPab**	02 59 00.1	**+1.8**
	comp=Z,12nm,0.9s,baz=182,slow=5.9,SNR=7.3						
LPAZ	**La Paz**	**164.17**	**121**	PKP	**PKPdf**	02 58 16.7	**+0.6**
	comp=Z,40nm,1.1s,baz=28,slow=1.3,SNR=60						
LPAZ				PKPab	**PKPab**	02 59 10.6	**+0.9**
	comp=Z,33nm,0.9s,baz=252,slow=1.8,SNR=12						
LPAZ				PP	**PP**	03 02 54.0	**-1.3**
	comp=Z,7.6nm,1.1s,baz=228,slow=7.7,SNR=4.6						
TRCB	**Terra Rica**	**165.61**	**185**	PKPdf	**PKPdf**	02 58 15.0	**-1.5**
TRCB					**PKPab**	02 59 13.9	**-0.9**
AQDB	**Aquidauana**	**167.88**	**173**		**PKPdf**	02 58 16.4	**-1.7**
AQDB				PKPab	**PKPab**	02 59 23.9	**-0.9**
ETMB	**Extrema**	**167.91**	**98**		**PKPdf**	02 58 16.6	**-1.7**
ETMB				PKPab	**PKPab**	02 59 24.4	**-1.1**
BDFB	**Brasilia**	**170.68**	**219**	PKP	**PKPdf**	02 58 19.6	**-0.5**
	comp=Z,5.6nm,0.9s,baz=110,slow=4.4,SNR=7.2						
BDFB	**Brasilia**	**170.68**	**219**		**PKPdf**	02 58 18.2	**-2.0**
MACA	**Manacapuru-AM**	**171.61**	**52**	PKPdf	**PKPdf**	02 58 18.6	**-2.0**
MACA				PKPab	**PKPab**	02 59 39.6	**-2.2**

JMA 04 02:43:45.0±0.1,**36°.5N**±0°.3×**140°.9E**±0°.6,**h25**km±1km,
MV1.1/16,**E OFF IBARAKI PREF,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.31**	**299**	P	Pb	02 43 52.0	-0.1
JHO				S	Sb	02 43 57.0	+0.1

*MDD **04** 02:49:43.2±0.4,35°.48N×3°.87W,h0km,mb_Lg2.1/15,*
Error ellipse: s-maj=3.6km s-min=2.5km az=178.0
*CNRM **04** 02:49:43.1,35°.42N×3°.86W,h26km,ml2.0*
*SFS **04** 02:49:43.0,35°.48N×3°.86W,ML2.1,ALBORAN SUR*
*INMG **04** 02:49:44.7±1.7,35°.57N×3°.89W,h1km±5km,ML1.9,Error ellipse: s-maj=5.2km s-min=3.8km az=172.0*
ISC 04 02:49:42.6±0.9,**35°.42N**±0°.02×**3°.85W**±0°.02,**h17**km±7km,
n52,σ1°30/91,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.22**	**199**	P	**Pb**	02 49 50.0	**+1.8**
PALE	**Palemas**	**0.22**	**199**	P	**Pg**	02 49 47.2	**-0.6**
PALE				S	**Sg**	02 49 50.7	**+0.4**
PVLZ	**Peæn de**	**0.44**	**236**	P	**Pb**	02 49 51.8	**-0.2**
PVLZ				S	**Sb**	02 49 58.6	**+0.3**
EMEL	**Melilla**	**0.74**	**99**	Pg	**Pn**	02 49 59.2	**+0.8**
EMEL				Sg	**Sg**	02 50 06.7	**-0.3**
WMELI	**Melilla**	**0.74**	**98**	P	**Pg**	02 49 56.3	**-0.9**
WMELI				S	**Sb**	02 50 07.9	**+0.9**
AKLM	**AKL**	**0.91**	**180**	P	**Pb**	02 49 60.0	**-0.1**
AKLM	**AKL**	**0.91**	**180**	P	**Pb**	02 49 59.8	**-0.3**
AKLM				S	**Sg**	02 50 12.8	**+0.5**
CHAS	**Isla Isabel II**	**1.19**	**101**	P	**Pg**	02 50 05.5	**-0.1**
CHAS				S	**Sb**	02 50 18.4	**-1.4**
CHEFC	**Chefchaouen**	**1.26**	**256**	P	**Pg**	02 50 08.0	**+1.1**
CHEFC	**Chefchaouen**	**1.26**	**256**	P	**Pb**	02 50 06.1	**+0.1**
CHEFC				S	**Sb**	02 50 21.3	**-0.6**
SMIR	**Smir Dam**	**1.27**	**282**	P	**Pn**	02 50 05.0	**-0.6**
SMIR				S	**Sb**	02 50 21.7	**-0.6**
CEU	**Ceuta**	**1.32**	**291**	P	**Pn**	02 50 05.5	**-0.9**
CEU				S	**Sn**	02 50 19.4	**-4.2**
TAF	**Taforalt**	**1.33**	**117**	P	**Pn**	02 50 06.0	**-0.5**
TAF				S	**Sn**	02 50 22.4	**-1.5**
ECEU	**Ceuta**	**1.33**	**291**	Sg	**Sn**	02 50 20.9	**-2.9**
EMIJ	**Mijas**	**1.36**	**327**	Pg	**Pn**	02 50 06.8	**-0.1**
EMIJ				Sg	**Sn**	02 50 23.3	**-1.3**
EMIJ				*i* Vmb_Lg		02 50 33.0	
EMAL	**Malaga-Limoner**	**1.42**	**341**	P	**Pb**	02 50 07.9	**-0.7**
EMAL				S	**Sb**	02 50 26.5	**+0.1**
ELGU	**Los Guajares,**	**1.45**	**7**	Pg	**Pn**	02 50 08.3	**+0.1**
ELGU				Sg	**Sn**	02 50 26.7	**-0.2**
ELGU				*i* Vmb_Lg		02 50 33.4	
JBK	**JBK**	**1.52**	**135**	P	**Pb**	02 50 11.0	**+0.5**
JBK	**JBK**	**1.52**	**135**	P	**Pn**	02 50 09.0	**-0.2**
JBK				S	**Sn**	02 50 25.4	**-3.2**
EJIF	**Jimena Fronter**	**1.67**	**309**	Pn	**Pb**	02 50 12.2	**-0.7**
EBER	**Berja**	**1.67**	**28**	Pn	**Pb**	02 50 11.9	**-1.1**
EBER				Sn	**Sn**	02 50 32.4	**+0.1**
EBER				*i* Vmb_Lg		02 50 38.9	
EGOR	**Sierra Gorda,**	**1.70**	**353**	Pn	**Pb**	02 50 12.4	**-1.1**
EGOR				Sn	**Sn**	02 50 32.9	**-0.1**
EGOR				*i* Vmb_Lg		02 50 47.4	
EQUE	**Quentar**	**1.81**	**11**	Pn	**Pn**	02 50 13.9	**+0.7**
EQUE				Sn	**Sn**	02 50 35.8	**0.0**
EQUE				*i* Vmb_Lg		02 50 52.2	
LCRM	**LCR**	**1.92**	**206**	P	**Pg**	02 50 20.0	**+0.4**
LCRM	**LCR**	**1.92**	**206**	P	**Pb**	02 50 17.0	**-0.3**
LCRM				S	**Sb**	02 50 41.8	**+0.7**
ENIJ	**Nijar**	**2.04**	**40**	Pn	**Pn**	02 50 16.3	**+0.1**
ENIJ				Sn	**Sn**	02 50 41.7	**+0.3**
ENIJ				*i* Vmb_Lg		02 50 42.4	
IFR	**Ifrane**	**2.17**	**209**	P	**Pn**	02 50 18.2	**0.0**
IFR				S	**Sn**	02 50 42.2	**-2.7**
EQES	**Quesada**	**2.46**	**15**	Pn	**Pb**	02 50 25.5	**-0.9**
EQES				Sn	**Sb**	02 50 55.8	**-0.7**
EQES				*i* Vmb_Lg		02 50 59.7	
MD31	**MD31**	**2.66**	**197**	P	**Pn**	02 50 25.8	**+1.0**
MD31				S	**Sn**	02 50 56.6	**-0.1**
MDT	**Midelt**	**2.68**	**194**	P	**Pn**	02 50 26.9	**+1.8**
MDT	**Midelt**	**2.68**	**194**	P	**Pn**	02 50 24.1	**-1.0**
MDT				S	**Sn**	02 50 58.4	**+1.2**
EADA	**Adamuz**	**2.80**	**348**	Pn	**Pn**	02 50 28.6	**+1.9**
EADA				Sn	**Sn**	02 51 01.5	**+1.4**
EADA				*i* Vmb_Lg		02 51 17.0	
ECAB	**El Cabril**	**2.93**	**335**	Pn	**Pn**	02 50 30.0	**+1.5**
ECAB				Sn	**Sn**	02 51 05.0	**+1.6**
ECAB				*i* Vmb_Lg		02 51 12.8	
ZHG	**ZHG**	**3.03**	**230**	P	**Pn**	02 50 30.5	**+0.5**
ZHG				S	**Sn**	02 51 06.1	**+0.2**
EMUR	**La Murta**	**3.20**	**40**	Pn	**Pn**	02 50 31.9	**-0.3**
EMUR				Sn	**Sn**	02 51 10.2	**+0.2**
EMUR				*i* Vmb_Lg		02 51 14.2	
EMIN	**Mina Concepcio**	**3.26**	**317**	Pn	**Pn**	02 50 33.1	**+0.1**
EMIN				Sn	**Sn**	02 51 08.8	**-2.6**
EMIN				*i* Vmb_Lg		02 51 15.3	
EGRO	**El Granado**	**3.60**	**307**	Pn	**Pn**	02 50 38.0	**+0.3**
EGRO				Sn	**Sn**	02 51 17.8	**-2.1**
PVAQ	**Vaqueiros**	**3.69**	**304**	*e*Pn	**Pn**	02 50 39.8	**+0.9**
PVAQ				*e*Sn	**Sn**	02 51 20.6	**-1.4**
PVAQ				A	A	02 51 23.5	
	2.2nm,0.3s						
PVAQ	**Vaqueiros**	**3.69**	**304**	P	**Pn**	02 50 40.1	**+1.2**
PVAQ				S	**Sn**	02 51 20.8	**-1.2**
ETOB	**Tobarra**	**3.71**	**29**	Pn	**Pn**	02 50 41.4	**+2.2**
ETOB				Sn	**Sn**	02 51 24.4	**+1.9**
ETOB				*i* Vmb_Lg		02 51 29.6	
PBAR	**Barrancos**	**3.75**	**318**	*e*Pn	**Pn**	02 50 41.3	**+1.5**
PBAR				*e*Sn	**Sn**	02 51 22.7	**-0.8**
PBAR				A	A	02 51 29.0	
	1.6nm,0.2s						
PCVE	**Castro Verde**	**4.03**	**304**	*e*Sn	**Sn**	02 51 29.8	**-0.5**
PCVE				A	A	02 51 51.3	
	1.6nm,0.5s						
PAB	**San Pablo**	**4.13**	**355**	Pn	**Pn**	02 50 47.5	**+2.4**
PAB				*i* Vmb_Lg		02 51 31.5	
EBAD	**Badajoz**	**4.18**	**324**	Pn	**Pn**	02 50 46.1	**+0.5**
EBAD				Sn	**Sn**	02 51 33.0	**-1.0**
MESJ	**Messejana**	**4.26**	**306**	*e*Sn	**Sn**	02 51 35.5	**-0.6**
MESJ				A	A	02 51 37.5	
	1.6nm,0.8s						
PTEO	**Sao Teotonio**	**4.46**	**300**	*e*Sn	**Sn**	02 51 40.0	**-1.0**
EVO	**Evora**	**4.55**	**314**	*e*Pn	**Pn**	02 50 52.3	**+1.6**
EVO				*e*Sn	**Sn**	02 51 42.7	**-0.6**
EVO				A	A	02 51 43.7	
	1.1nm,0.3s						
PESTR	**Estremoz**	**4.55**	**320**	P	**Pn**	02 50 53.1	**+2.3**
PESTR				S	**Sn**	02 51 42.1	**-1.2**
PNCL	**Nicolau / Gran**	**4.61**	**307**	*e*Pn	**Pn**	02 50 53.0	**+1.4**
PNCL				*e*Sn	**Sn**	02 51 43.8	**-1.0**
PNCL				A	A	02 51 52.3	
	1.6nm,0.9s						
PMRV	**Marv??o**	**4.89**	**326**	*e*Pn	**Pn**	02 50 58.0	**+2.6**
PMRV				*e*Sn	**Sn**	02 51 51.8	**+0.2**
PMRV				A	A	02 51 55.3	
	1.3nm,0.2s						
PMTG	**Montargil**	**5.04**	**318**	*e*Pn	**Pn**	02 50 59.3	**+1.8**
PMTG				*e*Sn	**Sn**	02 51 55.1	**-0.2**
PMTG				A	A	02 51 57.4	
	1.1nm,0.7s						
PSBE	**So Bento**	**5.67**	**318**	*e*Pn	**Pn**	02 51 08.3	**+2.2**

*IDC **04** 03:09:11.6±1.0,8°.49N×126°.24E,h0km,mb3.9/7,*
mbtmp3.9/7,Error ellipse: s-maj=36.3km s-min=12.5km az=101.0
*MAN **04** 03:09:14.4,8°.36N×125°.81E,h10km,mb4.8,ML3.7,MS3.7*
ISC 04 03:09:13.8±1.1,**8°.31N**±0°.04×**125°.97E**±0°.04,**h14**km±7km,
n22,σ1°22/32,mb3.9/7,10C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASP	**Talacogon, Agu**	**0.21**	**310**↑	*i*P	**Pg**	03 09 18.0	**-0.5**
TASP				*i* S	**Sg**	03 09 23.2	**+1.5**
BIPH	**Bislig**	**0.41**	**109**↑	*e*P	**Pn**	03 09 23.6	**-1.7**
BIPH				*i* S	**Sb**	03 09 31.6	**+2.7**
CDOP	**Cateel, Davao**	**0.70**	**139**↓	*i*P	**Pn**	03 09 28.3	**-1.1**
CDOP				*i* S	**Sn**	03 09 39.6	**-0.4**
BUKP	**Musuan**	**1.00**	**244**↑	*e*P	**Pg**	03 09 30.7	**-2.3**
BUKP				*e*S	**Sg**	03 09 44.9	**-1.2**
DAV	**Davao City (W)**	**1.30**	**197**	Pg	**Pg**	03 09 38.9	**+0.2**
	158nm,0.3s,baz=31,slow=2.8,SNR=18						
DAV				Lg	Lg	03 10 01.4	
	100nm,0.3s,baz=353,slow=22,SNR=7.8						
SCPH	**Surigao**	**1.53**	**342**↑	*e*P	**Pn**	03 09 40.1	**-0.7**
SCPH				*i* S	**Sg**	03 10 04.1	**+0.9**
KCP	**Kidapawan**	**1.56**	**214**↑	*i*P	**Pn**	03 09 40.6	**-0.6**
KCP				*i* S	**Sn**	03 10 01.6	**+0.1**
CTBH	**Cotabato--PC H**	**2.02**	**238**↓	*i*P	**Pn**	03 09 47.6	**+0.1**
MSLP	**Maasin**	**2.12**	**329**↑	*e*P	**Pn**	03 09 48.2	**-0.6**
DCPH	**Dipolog City**	**2.60**	**276**↑	*e*P	**Pn**	03 09 57.0	**+1.4**
DCPH				*e*S	**Sn**	03 10 26.7	**-0.3**
PAGZ	**Pagadian**	**2.60**	**260**↑	*e*P	**Pn**	03 09 57.5	**+1.9**
PAGZ				*e*S	**Sb**	03 10 31.7	**-0.5**
LLP	**Lapu-Lapu**	**2.81**	**315**↑	*e*P	**Pn**	03 09 57.9	**-0.4**
LLP				*i* S	**Sn**	03 10 32.5	**+0.5**
SNPH	**Sibulan**	**2.89**	**291**↑	*i*P	**Pn**	03 09 58.6	**-0.9**
SNPH				*i* S	**Sn**	03 10 34.3	**+0.1**
RCP	**Roxas**	**4.53**	**316**↓	*e*P	**Pn**	03 10 21.5	**-0.6**
FITZ	**Fitzroy Crossi**	**26.25**	**181**	P	**P**	03 14 50.4	**+1.6**
	3.1nm,0.8s,baz=36,slow=11,SNR=5.8						
	3.1nm,0.8s						
WRA	**Warramunga Arr**	**29.26**	**164**	P	**P**	03 15 15.4	**-0.3**
	0.5nm,0.8s,baz=349,slow=9.1,SNR=1.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**32.72**	**166**	P	**P**	03 15 48.2	**+2.0**
	0.3nm,0.5s,baz=343,slow=7.0,SNR=2.9						
	0.3nm,0.5s						
USRK	**Ussuriysk Ar.**	**36.13**	**7**	P	**P**	03 16 13.5	**-2.0**
	2.3nm,0.7s,baz=188,slow=8.0,SNR=5.4						
	2.3nm,0.7s						
MKAR	**Makanchi Array**	**53.41**	**324**	P	**P**	03 18 33.5	**+0.3**
	0.8nm,0.8s,baz=126,slow=6.2,SNR=4.0						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**56.20**	**332**	P	**P**	03 18 53.1	**-0.2**
	0.5nm,0.4s,baz=139,slow=6.1,SNR=1.3						
	0.5nm,0.4s						
**FIN

WMOK	**Wichita Mounta** baz=42	**2.28**	**223**	P	**Pn**	**03 16 35.0**	**+0.6**
HHAR	**Hobbs**	**2.39**	**92**	Pn	**Pn**	**03 16 36.6**	**+0.7**
HHAR	**Hobbs** baz=274	**2.39**	**92**	P	**Pn**	**03 16 37.6**	**+1.6**
LOOK	**Love County** comp=Z,86nm,0.9s	**2.44**	**185**	IAmb_Lg		03 17 19.1	
R32A	**Long Quarter,**	**2.46**	**325**	Pn	**Pn**	**03 16 37.6**	**+0.7**
R32A	**Long Quarter,** baz=144,SNR=22	**2.46**	**325**	P	**Pn**	**03 16 38.1**	**+1.2**
Z35A	**Perchaven, San**	**3.10**	**185**	Pn	**Pn**	**03 16 45.3**	**-0.3**
S39A	**Bolivar** baz=247	**3.13**	**65**	P	**Pn**	**03 16 48.0**	**+1.9**
CBKS	**Cedar Bluff** baz=136	**3.28**	**318**	P	**Pn**	**03 16 49.5**	**+1.3**
MIAR	**Mount Ida**	**3.30**	**124**	Pn	**Pn**	**03 16 48.7**	**+0.4**
MIAR	comp=Z,43nm,0.9s			IAmb_Lg		03 17 45.2	
MIAR	**Mount Ida** baz=305,SNR=22	**3.30**	**124**	P	**Pn**	**03 16 49.4**	**+1.0**
MIAR	baz=305			Sn	**Sn**	**03 17 30.3**	**+2.8**
Z38A	**Mt. Pleasant** comp=Z,39nm,0.8s	**3.53**	**153**	IAmb_Lg		03 17 56.2	
MGMO	**Mountain Grove**	**3.79**	**78**	Pn	**Pn**	**03 16 55.3**	**+0.2**
FCAR	**Ozark Folk Cen**	**3.90**	**96**	Pn	**Pn**	**03 16 56.5**	**-0.1**
FCAR	comp=Z,59nm,0.8s			IAmb_Lg		03 18 06.5	
WHAR	**Wooly Hollow**	**3.91**	**105**	Pn	**Pn**	**03 16 55.9**	**-0.9**
UALR	**University of** comp=Z,53nm,0.8s	**4.06**	**113**	IAmb_Lg		03 18 08.8	
R40A	**Maddies Statio**	**4.13**	**62**	Pn	**Pn**	**03 16 59.3**	**-0.6**
R40A	**Maddies Statio** baz=244	**4.13**	**62**	P	**Pn**	**03 17 00.7**	**+0.9**
WLAR	**White Oak Lake** comp=Z,33nm,0.7s	**4.13**	**130**	IAmb_Lg		03 18 13.1	
P38A	**Dawn**	**4.16**	**39**	Pn	**Pn**	**03 17 00.2**	**0.0**
P38A	**Dawn** baz=221	**4.16**	**39**	Sn	**Sn**	**03 17 49.8**	**+1.0**
AMTX	**Amarillo**	**4.18**	**250**	Pn	**Pn**	**03 17 01.3**	**+0.6**
AMTX	comp=Z,32nm,0.9s			IAmb_Lg		03 18 16.7	
AMTX	**Amarillo** baz=67	**4.18**	**250**	P	**Pn**	**03 17 00.8**	**+0.2**
N33B	**J Bar K, Exete** baz=174	**4.33**	**354**	Sn	**Sn**	**03 17 54.2**	**+1.1**
N33A	**J Bar K, Exete** comp=Z,54nm,0.8s	**4.33**	**354**	IAmb_Lg		03 18 23.6	
ABTX	**Abilene, Hawle**	**4.42**	**212**	Pn	**Pn**	**03 17 04.0**	**+0.3**
WHTX	**Lake Whitney,**	**4.44**	**186**	Pn	**Pn**	**03 17 04.9**	**+0.8**
WHTX	**Lake Whitney,** baz=5.6	**4.44**	**186**	Sn	**Sn**	**03 17 56.4**	**+0.5**
237A	**Washetta, Mont** baz=348	**4.50**	**168**	P	**Pn**	**03 17 05.3**	**+0.4**
N35A	**Tabor**	**4.54**	**12**	Pn	**Pn**	**03 17 05.0**	**-0.4**
LCAR	**Lake Charles**	**4.66**	**93**	Pn	**Pn**	**03 17 06.9**	**-0.1**
CCAR	**Cane Creek** comp=Z,27nm,0.8s	**4.89**	**119**	IAmb_Lg		03 18 43.9	
P40A	**Paris** comp=Z,49nm,0.9s	**4.93**	**50**	IAmb_Lg		03 18 40.7	
P40A	**Paris** baz=232	**4.93**	**50**	Sn	**Sn**	**03 18 07.6**	**-0.2**
BGNE	**Belgrade**	**5.07**	**349**	Pn	**Pn**	**03 17 12.9**	**+0.2**
BGNE	comp=Z,42nm,0.8s			IAmb_Lg		03 18 41.9	
BGNE	**Belgrade** baz=169	**5.07**	**349**	Sn	**Sn**	**03 18 10.9**	**-0.5**
N38A	**Joes South For** comp=Z,57nm,0.7s	**5.22**	**32**	IAmb_Lg		03 18 51.1	
N38A	**Joes South For** baz=214	**5.22**	**32**	Sn	**Sn**	**03 18 14.9**	**-0.2**
KSCO	**Kaye Shedlock'** comp=Z,24nm,0.8s	**5.22**	**301**	IAmb_Lg		03 18 56.6	
MSTX	**Muleshoe**	**5.40**	**245**	Pn	**Pn**	**03 17 17.6**	**+0.3**
FVM	**French Village**	**5.40**	**71**	Pn	**Pn**	**03 17 17.1**	**-0.1**
FVM	comp=Z,26nm,0.7s			IAmb_Lg		03 18 46.1	
FVM	**French Village** baz=255	**5.40**	**71**	P	**Pn**	**03 17 17.7**	**+0.5**
FVM	baz=255			Sn	**Sn**	**03 18 17.6**	**-1.8**
435B	**Jarrell** comp=Z,35nm,0.8s	**5.65**	**186**	IAmb_Lg		03 19 10.2	
435B	**Jarrell** baz=5.4	**5.65**	**186**	Sn	**Sn**	**03 18 24.8**	**-0.9**
SLM	**Saint Louis** comp=Z,39nm,1.0s	**5.74**	**65**	IAmb_Lg		03 19 00.1	
CGM3	**Cape Girardeau** comp=Z,24nm,0.9s	**5.87**	**79**	IAmb_Lg		03 19 06.6	
SCIA	**State Center** comp=Z,44nm,0.8s	**6.18**	**26**	IAmb_Lg		03 19 19.7	
SCIA	**State Center** baz=209	**6.18**	**26**	Sn	**Sn**	**03 18 37.4**	**-1.2**
S44A	**Carbondale** comp=Z,38nm,0.9s	**6.24**	**76**	IAmb_Lg		03 19 14.4	
SIUC	**Southern Illin** comp=Z,37nm,0.8s	**6.28**	**76**	IAmb_Lg		03 19 15.4	
N41A	**Harden Midland** comp=Z,44nm,0.8s	**6.38**	**46**	IAmb_Lg		03 19 18.6	
W45A	**Hickory Valley** comp=Z,41nm,0.7s	**6.39**	**99**	IAmb_Lg		03 19 23.8	
OXF	**Oxford** comp=Z,35nm,0.8s	**6.40**	**105**	IAmb_Lg		03 19 24.9	
K38A	**Parkersburg** comp=Z,37nm,0.9s	**6.99**	**26**	IAmb_Lg		03 19 44.2	
SDCO	**Great Sand Dun** comp=Z,21nm,1.1s	**7.00**	**283**	IAmb_Lg		03 19 46.5	
L40A	**Anamosa** comp=Z,20nm,0.7s	**7.15**	**36**	IAmb_Lg		03 19 44.7	
HDIL	**Hopedale** comp=Z,20nm,0.7s	**7.25**	**53**	IAmb_Lg		03 19 49.9	
PLAL	**Pickwick Lake** comp=Z,17nm,0.8s	**7.32**	**99**	IAmb_Lg		03 19 51.3	
OLIL	**Olney** comp=Z,20nm,0.9s	**7.36**	**69**	IAmb_Lg		03 19 58.0	
O44A	**Mansfield** comp=Z,24nm,1.1s	**7.60**	**58**	IAmb_Lg		03 20 13.6	
L42A	**Oliver, Polo** comp=Z,18nm,0.8s	**7.91**	**43**	IAmb_Lg		03 20 13.9	
JFWS	**Jewell Farm** comp=Z,17nm,0.7s	**8.26**	**36**	IAmb_Lg		03 20 18.4	
N23A	**Red Feather La** comp=Z,15nm,0.8s	**8.37**	**305**	IAmb_Lg		03 20 42.1	
I40A	**Norwalk** baz=215	**8.87**	**31**	P	**Pn**	**03 18 04.8**	**-0.1**
F33A	**5 Mile Ranch,** comp=Z,11nm,0.9s	**9.42**	**3**	IAmb_Lg		03 20 53.3	
I42A	**Draeger Farm,** baz=222	**9.64**	**37**	P	**Pn**	**03 18 16.1**	**+0.7**

*JMA **04** 03:28:47.0±0.1,24°.3N±0°.5×121°.8E±0°.6,h42km±1km, MV2.6/9, TAIWAN REGION*
*TAP **04** 03:28:47.5,24°.45N×121°.88E,h14km,ML3.4,C*
ISC 04 03:28:47.2±0.8,**24°.43N**±0°.01×**121°.92E**±0°.02,**h13**km±5km, **n94**,σ0**862**/167,**6C-8D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta** baz=265	**0.13**	**276**	⇓*i*	P	**Pg**	**03 28 50.3**	**-0.3**
EWUT	baz=265			*i*	S	**Sg**	**03 28 52.7**	**-0.3**
ENA	**Nanau** baz=257	**0.17**	**269**	⇓*i*	P	**Pg**	**03 28 51.6**	**+0.5**
ENA	baz=257				S	**Sg**	**03 28 54.4**	**+0.6**
EHP	**Heping Village** baz=219	**0.21**	**234**	*e*	P	**Pg**	**03 28 52.0**	**+0.2**
EHP	baz=219				S	**Sb**	**03 28 55.8**	**-0.8**
NDS	**Dongshan** baz=320	**0.28**	**317**	⇓*i*	P	**Pg**	**03 28 52.6**	**-0.4**
NDS	baz=320				S	**Sg**	**03 28 56.0**	**-0.8**
ILA	**Ilan** baz=340	**0.37**	**334**	*e*	P	**Pb**	**03 28 56.9**	**+1.2**
ILA	baz=340				S	**Sb**	**03 29 00.6**	**-0.7**
TWE	**Neicheng** baz=326	**0.37**	**321**	⇑*i*	P	**Pg**	**03 28 55.0**	**+0.3**
TWE	baz=326			*i*	S	**Sg**	**03 28 59.9**	**+0.2**
LATG	**Datong** baz=284	**0.38**	**286**	⇓*i*	P	**Pg**	**03 28 55.0**	**+0.2**
LATG	baz=284			*i*	S	**Sg**	**03 28 59.7**	**-0.3**
ETL	**Fush Village** baz=218	**0.39**	**226**	P		**Pg**	**03 28 55.0**	**0.0**
ETL	baz=218				S	**Sg**	**03 29 00.5**	**+0.4**
ENTT	**Nioudou** baz=303	**0.39**	**303**	⇑*i*	P	**Pg**	**03 28 54.2**	**-0.8**
ENTT	baz=303			*i*	S	**Sg**	**03 28 59.5**	**-0.7**
NACB	**Ninganchiao** baz=223	**0.40**	**230**	⇓*i*	P	**Pg**	**03 28 54.8**	**-0.3**
NACB	baz=223				S	**Sg**	**03 29 00.5**	**+0.1**
EGS	baz=9.0	**0.41**	**1**	P		**Pb**	**03 28 56.0**	**-0.3**
EGS	baz=9.0				S	**Sg**	**03 29 01.2**	**+0.2**
NDT	**Datong Townshi** baz=294	**0.41**	**295**	*e*	P	**Pg**	**03 28 55.7**	**+0.3**
NDT	baz=294			*e*	S	**Sg**	**03 29 00.9**	**-0.1**
NTC	**Toucheng** baz=354	**0.43**	**348**	*e*	P	**Pg**	**03 28 56.1**	**+0.3**
NTC	baz=354				S	**Sg**	**03 29 01.6**	**+0.1**
FUSB	**Fushanzhiwuyua** baz=319	**0.45**	**317**	P		**Pg**	**03 28 56.4**	**+0.3**
FUSB	baz=319				S	**Sg**	**03 29 02.0**	**-0.1**
TWD	**Chiawan** baz=220	**0.46**	**221**	P		**Pg**	**03 28 56.3**	**0.0**
TWD	baz=220			*e*	S	**Sb**	**03 29 04.7**	**+0.8**
ETLH	**Xiulin Townshi** baz=236	**0.46**	**241**	*e*	P	**Pg**	**03 28 56.0**	**-0.3**
ETLH	baz=236			*e*	S	**Sg**	**03 29 02.8**	**+0.3**
NNSH	**Datong** baz=267	**0.49**	**270**	P		**Pg**	**03 28 56.9**	**0.0**
NNSH	baz=267				S	**Sg**	**03 29 03.2**	**-0.3**
NNSB	**Datong** baz=267	**0.49**	**270**	⇓P		**Pg**	**03 28 56.9**	**0.0**
NNSB	baz=267				S	**Sg**	**03 29 03.2**	**-0.4**
NNS	**Nan Shan** baz=268	**0.50**	**271**	⇑P		**Pg**	**03 28 56.1**	**-1.0**
NNS	baz=268				S	**Sg**	**03 29 02.4**	**-1.5**
HWA	**Hwalien** baz=214	**0.54**	**213**	*e*	P	**Pb**	**03 28 58.9**	**+0.4**
TIPB	**Shuangxi** baz=355	**0.55**	**351**	P		**Pg**	**03 28 58.2**	**+0.3**
TIPB	baz=355				S	**Sg**	**03 29 05.2**	**-0.1**
YHNB	**Yeheng** baz=295	**0.55**	**296**	⇑*i*	P	**Pg**	**03 28 58.0**	**-0.1**
YHNB	baz=295				S	**Sg**	**03 29 05.0**	**-0.4**
NSK	**Sanguang** baz=295	**0.57**	**295**	⇑*i*	P	**Pg**	**03 28 57.2**	**-1.1**
NSK	baz=295				S	**Sg**	**03 29 04.5**	**-1.5**
TWB1	**Santiao Chiao** baz=11	**0.58**	**6**	⇓*i*	P	**Pg**	**03 28 58.7**	**+0.2**
TWB1	baz=11			*i*	S	**Sg**	**03 29 06.0**	**-0.1**
ETM	**Tongmen** baz=213	**0.61**	**220**	*e*	P	**Pg**	**03 28 58.9**	**-0.1**
TWA	**Mucha** baz=321	**0.63**	**331**	P		**Pb**	**03 29 00.8**	**+0.7**
TWA	baz=321				S	**Sg**	**03 29 07.9**	**+0.1**
TEYL	**Yanliau Villag** baz=212	**0.64**	**208**	*e*	P	**Pb**	**03 29 00.1**	**0.0**
TEYL	baz=212			*e*	S	**Sn**	**03 29 11.4**	**-0.4**
NHDH	**Xindian Distri** baz=318	**0.64**	**326**	*i*	P	**Pb**	**03 29 00.6**	**+0.3**
NHDH	baz=318			*e*	S	**Sg**	**03 29 08.4**	**+0.2**
FUSS	**Fushou** baz=250	**0.65**	**254**	*e*	P	**Pg**	**03 29 00.0**	**+0.2**
FUSS	baz=250			*e*	S	**Sg**	**03 29 08.0**	**-0.4**
NWF	**Wu-fen Shan** baz=343	**0.65**	**348**	⇑P		**Pb**	**03 29 00.4**	**-0.1**
NWF	baz=343				S	**Sg**	**03 29 08.5**	**0.0**
WFSB	**Wu-fen Shan** baz=342	**0.65**	**348**	P		**Pb**	**03 29 00.3**	**-0.1**
WFSB	baz=342			*e*	S	**Sg**	**03 29 08.9**	**+0.4**
SXI1	**Grass Mountain** baz=7.0	**0.66**	**356**	P		**Pg**	**03 29 00.3**	**+0.2**
SXI1	baz=7.0				S	**Sg**	**03 29 09.0**	**+0.1**
WHF	**Hehuan Shan** baz=241	**0.67**	**245**	⇓P		**Pg**	**03 28 59.7**	**-0.5**
WHF	baz=241				S	**Sb**	**03 29 09.7**	**-0.5**
TATO	**Taipei** baz=316	**0.67**	**324**	*e*	P	**Pb**	**03 29 00.6**	**-0.1**
TATO	baz=316			*e*	S	**Sg**	**03 29 09.1**	**-0.1**
TWT	**Tachien** baz=246	**0.70**	**256**	*e*	P	**Pb**	**03 29 01.8**	**+0.3**
TWT	baz=246			*e*	S	**Sb**	**03 29 11.1**	**-0.1**
TAP	**Taipei** baz=321	**0.71**	**328**	*e*	S	**Sb**	**03 29 11.2**	**0.0**
TDCB	**Techi** baz=246	**0.72**	**256**	*e*	P	**Pb**	**03 29 01.9**	**+0.2**
TDCB	baz=246			*e*	S	**Sb**	**03 29 11.8**	**+0.3**
NFF	**Wufeng Townshi** baz=284	**0.76**	**285**	*e*	P	**Pg**	**03 29 01.7**	**-0.3**
CHGB	**Renai** baz=238	**0.78**	**242**	P		**Pg**	**03 29 02.2**	**-0.1**
CHGB	baz=238			*e*	S	**Sb**	**03 29 13.8**	**+0.5**
YM01	**YM01** baz=338	**0.78**	**336**	P		**Pb**	**03 29 02.8**	**+0.1**
YM01	baz=338			*e*	S	**Sg**	**03 29 12.5**	**-0.2**
TWS1	**Kuangyinshan** baz=319	**0.81**	**325**	*e*	P	**Pb**	**03 29 03.4**	**+0.3**
TWS1	baz=319			*e*	S	**Sb**	**03 29 14.5**	**+0.6**
OWD	**Renai** baz=241	**0.83**	**235**	P		**Pg**	**03 29 03.1**	**-0.2**
OWD	baz=241				S	**Sb**	**03 29 14.8**	**+0.1**
NTST	**Danshui** baz=331	**0.85**	**330**	*e*	P	**Pn**	**03 29 04.3**	**-0.5**
NTST	baz=331			*e*	S	**Sn**	**03 29 16.3**	**-0.8**
LIOB	**Emei** baz=283	**0.85**	**285**	*e*	P	**Pn**	**03 29 04.7**	**-0.2**
WUSB	**Renai** baz=236	**0.86**	**239**	P		**Pg**	**03 29 03.7**	**-0.1**
WUSB	baz=236				S	**Sb**	**03 29 15.8**	**+0.4**
NCUH	**Zhongli** baz=318	**0.86**	**309**	*e*	P	**Pb**	**03 29 04.1**	**+0.1**
NCUH	baz=318			*e*	S	**Sb**	**03 29 15.9**	**+0.6**
NSTT	**Nanjuang** baz=273	**0.86**	**284**	*e*	P	**Pn**	**03 29 04.9**	**-0.2**
NSTT	baz=273			*e*	S	**Sb**	**03 29 16.3**	**+0.7**
TWY	**Chenhua** baz=331	**0.89**	**341**	*e*	P	**Pg**	**03 29 04.9**	**+0.5**
WHP	**Taichung City** baz=258	**0.91**	**261**	*e*	P	**Pb**	**03 29 05.0**	**+0.2**
WHP	baz=258			*e*	S	**Sb**	**03 29 17.4**	**+0.6**
SBCB	**Hsinchu** baz=287	**0.93**	**293**	*e*	P	**Pn**	**03 29 06.0**	**+0.2**
SBCB	baz=287			*e*	S	**Sn**	**03 29 18.9**	**-0.2**
JYNG	**Yonagunijimaku**	**0.93**	**89**	P		**Pb**	**03 29 05.3**	**+0.1**
JYNG					S	**Sg**	**03 29 18.1**	**+0.7**
NHW	**Xinwu Township** baz=306	**0.98**	**306**	*e*	P	**Pn**	**03 29 06.7**	**+0.1**
NHW	baz=306			*e*	S	**Sn**	**03 29 21.1**	**+0.7**
VWDT	**VWDT** baz=224	**0.98**	**227**	P		**Pb**	**03 29 05.8**	**-0.3**
VWDT	baz=224				S	**Sn**	**03 29 19.6**	**-0.9**
YOJ	**Yonaguni jima** baz=89	**0.99**	**88**	P		**Pb**	**03 29 05.6**	**-0.6**
YOJ	baz=89			*e*	S	**Sb**	**03 29 19.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.99**	**88**	P		**Pb**	**03 29 06.3**	**+0.1**
YOJ					S	**Sg**	**03 29 19.6**	**+0.4**
WCS	**Beigang Elemen** baz=246	**1.00**	**248**	*e*	P	**Pb**	**03 29 06.0**	**-0.3**
WCS	baz=246			*e*	S	**Sg**	**03 29 19.7**	**+0.2**
NMLH	**Miaoli** baz=274	**1.04**	**276**	*e*	P	**Pn**	**03 29 07.7**	**+0.3**
HGSD	**Ruisui** baz=191	**1.04**	**206**	*e*	P	**Pb**	**03 29 07.1**	**0.0**
TWQ1	**Liyutan** baz=263	**1.05**	**266**	*e*	P	**Pn**	**03 29 08.5**	**+0.8**
TWQ1	baz=263			*e*	S	**Sn**	**03 29 23.0**	**+0.8**
EHY	**Hungye** baz=218	**1.07**	**211**	*e*	P	**Pb**	**03 29 06.4**	**-1.2**
SMLT	**Sun Moon Lake** baz=237	**1.08**	**240**	P		**Pn**	**03 29 07.9**	**-0.2**
SMLT	baz=237			*e*	S	**Sn**	**03 29 23.9**	**+0.8**
SSLB	**Suanglung** baz=239	**1.09**	**234**	*e*	P	**Pb**	**03 29 07.6**	**-0.3**
SSLB	baz=239			*e*	S	**Sn**	**03 29 23.2**	**0.0**
TYC	**Yuchr** baz=239	**1.11**	**242**	*e*	P	**Pb**	**03 29 07.9**	**-0.2**
TYC	baz=239			*e*	S	**Sn**	**03 29 23.8**	**+0.3**
TCU	**Taichung** baz=244	**1.17**	**256**	*e*	P	**Pg**	**03 29 09.6**	**-0.1**
YULB	**Yu-li** baz=216	**1.18**	**209**	*e*	P	**Pn**	**03 29 08.0**	**-1.4**
EYUL	**Yuli** baz=218	**1.21**	**207**	*e*	P	**Pb**	**03 29 10.0**	**+0.1**
WHYT	**Xinyi Township** baz=230	**1.22**	**233**	*e*	P	**Pb**	**03 29 10.2**	**+0.1**
WJS	**Zhushan** baz=235	**1.25**	**241**	*e*	P	**Pg**	**03 29 11.7**	**+0.5**
WJS	baz=235			*e*	S	**Sg**	**03 29 30.1**	**+2.6**
WNT	**Mingjian** baz=256	**1.26**	**244**	*e*	P	**Pg**	**03 29 12.0**	**+0.6**
WNT	baz=256			*e*	S	**Sg**	**03 29 30.4**	**+2.6**
YUS	**Yu-Shan** baz=220	**1.29**	**224**	*e*	P	**Pn**	**03 29 11.1**	**-0.3**
FULB	**Fuli** baz=217	**1.36**	**205**	*e*	P	**Pn**	**03 29 11.9**	**+0.1**
ALS	**Alishan** baz=211	**1.37**	**228**	*e*	P	**Pb**	**03 29 12.9**	**0.0**
ALS	baz=211			*e*	S	**Sg**	**03 29 33.4**	**+1.8**
WDLH	**Douliu** baz=250	**1.47**	**240**	*e*	P	**Pb**	**03 29 14.0**	**-0.3**
WDLH	baz=250			*e*	S	**Sg**	**03 29 35.6**	**+1.2**
ELDTW	**Lidau** baz=196	**1.49**	**214**	*e*	P	**Pn**	**03 29 13.3**	**-0.5**
WRL	**Guolierlin Hig** baz=261	**1.51**	**250**	*e*	P	**Pn**	**03 29 12.8**	**-1.1**
WRL	baz=261			*e*	S	**Sg**	**03 29 34.8**	**-1.0**
EDH	**Donghe** baz=184	**1.56**	**202**	*e*	P	**Pn**	**03 29 13.4**	**-1.2**
WCKO	**Fanlu** baz=215	**1.56**	**231**	*e*	P	**Pb**	**03 29 16.3**	**+0.4**
WCKO	baz=215			*e*	S	**Sg**	**03 29 37.9**	**+0.5**
CHN4	**Tsaushan** baz=213	**1.62**	**229**	*e*	P	**Pn**	**03 29 16.1**	**+0.6**
CHN4	baz=213			*e*	S	**Sg**	**03 29 39.1**	**-0.4**
TPUB	**Ta-pu** baz=213	**1.63**	**227**	*e*	P	**Pb**	**03 29 17.6**	**+0.4**
TPUB	baz=213			*e*	S	**Sg**	**03 29 39.8**	**0.0**
STYH	**Taoyuan** baz=217	**1.64**	**220**	*e*	P	**Pn**	**03 29 15.8**	**+0.1**
IRIF	**Iriomote-Funau**	**1.65**	**93**	P		**Pn**	**03 29 15.2**	**-0.6**
IRIF					S	**Sn**	**03 29 36.6**	**-0.3**
CHY	**Chiayi** baz=234	**1.66**	**236**	*e*	S	**Sg**	**03 29 40.4**	**-0.2**
WTP	**Ta-pu** baz=224	**1.68**	**226**	P		**Pb**	**03 29 17.7**	**-0.3**
WTP	baz=224			*e*	S	**Sg**	**03 29 41.9**	**+0.6**
TWK	**Hsinying** baz=227	**1.75**	**229**	*e*	P	**Pb**	**03 29 19.3**	**+0.1**
TWK	baz=227			*e*	S	**Sg**	**03 29 43.5**	**-0.1**
SNST	**Tainan City** baz=226	**1.78**	**228**	*e*	S	**Sg**	**03 29 44.5**	**+0.1**
CHN1	**Nanshi** baz=224	**1.78**	**226**	*e*	P	**Pb**	**03 29 19.7**	**0.0**
CHN1	baz=224			*e*	S	**Sg**	**03 29 44.1**	**-0.4**
WSL	**Shuilin Townsh** baz=251	**1.80**	**240**	*e*	P	**Pn**	**03 29 17.9**	**0.0**
WSL	baz=251			*e*	S	**Sb**	**03 29 43.2**	**+0.8**
SGST	**Jiashian** baz=220	**1.82**	**223**	*e*	P	**Pn**	**03 29 18.6**	**+0.4**
SGST	baz=220			*e*	S	**Sg**	**03 29 44.6**	**-1.2**
ICHU	**Yijhu** baz=217	**1.84**	**235**	*e*	P	**Pb**	**03 29 20.0**	**-0.8**
ICHU	baz=217			*e*	S	**Sg**	**03 29 45.1**	**-1.4**
JKRS	**Kuro-shima**	**1.91**	**95**	*e*	P	**Pn**	**03 29 19.4**	**0.0**
JKRS					S	**Sn**	**03 29 43.0**	**-0.3**
JIJ	**Ishigaki jima**	**2.02**	**91**	P		**Pn**	**03 29 21.2**	**+0.2**
JIJ					S	**Sn**	**03 29 45.4**	**-0.8**
MASBT	**Mashibuluo** baz=211	**2.16**	**213**	*e*	P	**Pn**	**03 29 24.5**	**+1.5**
MASBT	baz=211			*e*	S	**Sb**	**03 29 52.4**	**-0.5**
VWUC	**VWUC** baz=282	**2.32**	**284**	*e*	P	**Pn**	**03 29 23.8**	**-1.3**
JTJ	**Tarama**	**2.54**	**85**	P		**Pn**	**03 29 28.0**	**-0.1**
JTJ					S	**Sn**	**03 29 59.0**	**+0.2**

*NEIC **04** 03:47:22.8±1.5,37°.45N±0°.09×142°.5E±0°.2,h8km±10km, mb4.2/6,Error ellipse: s-maj=25.7km s-min=3.8km az=61.0*
*IDC **04** 03:47:24.3±1.7,37°.36N×142°.30E,h0km,mb3.8/5, mbtmp3.8/9,ML2.9/4,Error ellipse: s-maj=38.1km s-min=20.7km az=65.0*
*JMA **04** 03:47:28.7±0.2,37°.4N±0°.5×142°.0E±1°.0,h35km±3km, MV3.9/40,E OFF FUKUSHIMA PREF*
*NIED **04** 03:47:28.7,37°.36N×141°.98E,h35km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.98; Mθθ-3.93; Mφφ6.91; Mrθ3.75; Mrφ2.05; Mθφ4.34; Fault plane solution: M₀8.38000×10¹⁴ NP1: φs330.00000°,δ39.00000°,λ-159.00000°. NP2: φs223.00000°,δ77.00000°,λ-53.00000°.*
ISC 04 03:47:25.6±1.8,**37°.36N**±0°.04×**142°.05E**±0°.06,**h8**km±10km, **n42**,σ1**s51**/48,**mb3.9**/9,**4D**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.94**	**271**	*i*	P	**Pn**	**03 47 44.9**	**-0.2**
JFK					S	**Sg**	**03 47 55.9**	**0.0**
JMST	**Minamisoumatoc**	**1.00**	**292**	*i*	P	**Pn**	**03 47 45.7**	**-0.2**
JMST					S	**Sg**	**03 47 57.5**	**-0.3**
JIKH	**Ishinomakikobu**	**1.06**	**334**	⇓*i*	P	**Pn**	**03 47 46.9**	**+0.1**
JIKH				⇓	S	**Sg**	**03 47 59.6**	**-0.2**
JMM	**Marumori**	**1.12**	**297**			**Pn**	**03 47 47.8**	**+0.1**
JMM	**Marumori**	**1.12**	**297**	*i*	P	**Pn**	**03 47 47.8**	**+0.1**
JMM					S	**Sg**	**03 48 01.1**	**-0.7**
JIO	**Ouri**	**1.23**	**333**	⇓*i*	P	**Pg**	**03 47 49.5**	**+0.2**
JIO				⇓	S	**Sg**	**03 48 03.7**	**-1.6**
JFT	**Otama**	**1.38**	**277**	*i*	P	**Pg**	**03 47 52.1**	**+0.1**
JFT					S	**Sb**	**03 48 08.7**	**-0.7**
JOU	**Okura**	**1.49**	**313**	*i*	P	**Pg**	**03 47 54.2**	**-0.1**
JOU					S	**Sn**	**03 48 12.4**	**0.0**
JMK	**Ichinoseki**	**1.72**	**338**	*i*	P	**Pb**	**03 47 57.2**	**-0.3**
JYS	**Shirataka**	**1.80**	**299**	*i*	P	**Pb**	**03 47 59.0**	**+0.2**
JYS					S	**Sb**	**03 48 21.1**	**-0.4**

JYT	**Yasato**	**1.87**	**234**		**Pb**	**03 47 59.7**	**-0.3**
JFY	**Yanaizu**	**1.87**	**272**	P	**Pb**	**03 47 59.4**	**-0.6**
JFY				S	**Sn**	**03 48 22.0**	**+0.2**
JYK	**Kaneyama**	**2.05**	**320**	P	**Pb**	**03 48 02.1**	**-1.1**
JYK				S	**Sn**	**03 48 27.1**	**+0.8**
JSD	**Sado**	**3.08**	**284**		**Pn**	**03 48 16.7**	**+2.1**
MJAR	**Matsushiro Arr**	**3.19**	**256**	Pn	**Pn**	**03 48 17.6**	**+1.6**
	0.6nm,0.3s,baz=80,slow=17,SNR=26						
MJAR				Sn	**Sb**	**03 48 58.9**	**-2.6**
	0.6nm,0.3s,baz=59,slow=20,SNR=4.6						
	3.4nm,0.4s						
MAJO	**Matsushiro**	**3.19**	**256**		**Pn**	**03 48 17.7**	**+1.7**
JGF	**Kuroka**	**4.17**	**247**	Pn	**Pn**	**03 48 32.2**	**+2.6**
INU	**Inuyama**	**4.53**	**245**		**Pn**	**03 48 37.8**	**+3.3**
JHJ	**Hachijo jima 2**	**4.62**	**204**	Pn	**Pn**	**03 48 36.2**	**+0.5**
	14nm,0.3s,baz=120,slow=20,SNR=12						
JHJ				Sn	**Sn**	**03 49 27.1**	**-2.3**
	26nm,0.3s,baz=72,slow=23,SNR=8.6						
	105nm,0.8s						
USRK	**Ussuriysk Ar.**	**10.24**	**315**	Pn	**Pn**	**03 49 55.5**	**+2.6**
	0.2nm,0.3s,baz=126,slow=13,SNR=2.2						
	1.9nm,0.7s						
KSRS	**Korea Array**	**11.24**	**275**	Pn	**Pn**	**03 50 10.9**	**+4.4**
	0.1nm,0.3s,baz=90,slow=13,SNR=7.8						
	2.5nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.88**	**122**	T	T	04 22 30.6	
	baz=315,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**27.89**	**122**	T	T	04 22 47.8	
	baz=315,slow=75,SNR=90						
H11N3	**WAKE ISLAND Hy**	**27.90**	**122**	T	T	04 22 48.5	
	baz=315,slow=75,SNR=84						
SONM	**Songino Array**	**28.03**	**303**	P	**P**	**03 53 18.3**	**+1.0**
	0.9nm,0.6s,baz=92,slow=7.1,SNR=6.3						
	0.9nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.61**	**124**	T	T	04 23 37.9	
	baz=316,slow=76,SNR=67						
H11S3	**WAKE ISLAND Hy**	**28.61**	**124**	T	T	04 23 37.8	
	baz=316,slow=75,SNR=86						
H11S2	**WAKE ISLAND Hy**	**28.63**	**124**	T	T	04 23 31.8	
	baz=316,slow=76,SNR=49						
ZAA0	**Zalesovo Array**	**42.08**	**312**	P	**P**	**03 55 15.9**	**-1.8**
ZAA0				IAmb	IAmb	03 55 19.6	
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**42.08**	**312**	P	**P**	**03 55 18.8**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=87,slow=7.7,SNR=6.0						
	comp=Z,1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**42.08**	**312**	P	**P**	**03 55 15.7**	**-2.0**
MK31	**Makanchi Array**	**44.38**	**302**	P	**P**	**03 55 35.0**	**-1.5**
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**03 55 37.3**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=88,slow=9.0,SNR=11						
	comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**03 55 34.4**	**-2.1**
MAKZ	**Makanchi**	**44.59**	**302**	P	**P**	**03 55 37.0**	**-1.2**
KURK	**Kurchatov**	**46.14**	**308**	P	**P**	**03 55 49.5**	**-0.8**
KURK				IAmb	IAmb	03 55 56.3	
	comp=Z,4.0nm,0.8s						
KK31	**Karatay Array**	**53.41**	**300**	P	**P**	**03 56 43.9**	**-1.9**
KK31				IAmb	IAmb	03 56 52.4	
	comp=Z,2.1nm,1.1s						
KKAR	**Karatay Array**	**53.41**	**300**	P	**P**	**03 56 43.9**	**-1.9**
WRA	**Warramunga Arr**	**57.45**	**189**	P	**P**	**03 57 14.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=5.1,slow=7.3,SNR=9.2						
	comp=Z,0.7nm,0.6s						
KBL	**Kabul**	**57.78**	**291**	P	**P**	**03 57 16.6**	**-1.0**
KBL				IAmb	IAmb	03 57 29.2	
	comp=Z,3.3nm,0.7s						
ABKAR	**Akbulak array**	**58.12**	**310**	P	**P**	**03 57 20.0**	**+0.5**
ASAR	**Alice Springs**	**61.18**	**189**	P	**P**	**03 57 41.8**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=4.5,slow=4.7,SNR=1.9						
	comp=Z,0.2nm,0.6s						

*IDC **04** 04:50:27.4±3.3, 17°45S×178°83W, h616km±20km, mb2.4/3, mbtmp3.3/4, Error ellipse: s-maj=171.0km s-min=27.1km az=150.0, Fiji Islands region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.99**	**264**	P	P	03 51 47.9	0.0
	6.0nm,0.6s,baz=125,slow=22,SNR=5.0						
WRA	**Warramunga Arr**	**44.33**	**259**	P	P	03 57 44.4	-0.5
	0.2nm,0.5s,baz=91,slow=6.8,SNR=1.2						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.53**	**254**	P	P	03 57 46.7	+0.3
	0.3nm,0.4s,baz=87,slow=9.4,SNR=8.1						
ASAR				PcP	PcP	03 59 15.2	-0.7
	0.3nm,0.6s,baz=95,slow=3.9,SNR=4.9						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**79.37**	**44**	P	P	04 01 31.1	-0.1
	0.2nm,0.5s,baz=202,slow=6.8,SNR=2.9						
	0.2nm,0.5s						
GERES	**GERESS Array B**	**147.06**	**345**	PKPbc	PKPbc	04 09 02.1	-0.3
	0.5nm,0.5s,baz=47,slow=2.7,SNR=7.0						

*BER **04** 04:02:44.7±1.6, 67°04N×32°48E, h0km, ML1.2, Suspected explosion*

HEL 04 04:02:45.1±0.2, 67°65N×33°71E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.44**	**54**	PG	Pg	04 02 52.9	-0.6
LVZ				SG	Sg	04 02 58.5	-0.7
VRF	**Varrio**	**1.57**	**276**	PG	Pn	04 03 12.6	-1.5
	baz=87						
VRF				MSG		04 03 32.0	
	comp=Z,4.4nm,0.2s						
VRF				SN	Sn	04 03 33.6	-1.5
KU6	**Riekki**	**2.22**	**225**	PG	Pn	04 03 24.5	+1.4
KU6				MSG		04 03 50.9	
	comp=Z,2.9nm,0.2s						
KU6				SG	Sb	04 03 54.4	+0.3
MSF	**Maaselka**	**2.54**	**229**	PG	Pb	04 03 29.8	-1.7
MSF				SG	Sb	04 04 04.5	+1.2
SGF	**Sodankyl**	**2.77**	**269**	PG	Pb	04 03 33.4	-1.9
	baz=80						
SGF				SB	Sb	04 04 08.2	-1.5
RNF	**Rovaniemi**	**3.18**	**254**	PN	Pn	04 03 36.0	-0.3
	baz=72						
RNF				SN	Sn	04 04 15.1	+0.2
KEV	**Kevo**	**3.23**	**314**	*e*P	Pn	04 03 36.9	-0.1
KEV				*e*S	Sn	04 04 14.7	-1.5
KEV	**Kevo**	**3.23**	**314**	PN	Pn	04 03 36.8	-0.3
KEV				SN	Sn	04 04 14.9	-1.3
ARA0	**ARCESS Array S**	**3.56**	**306**	*e*P	Pn	04 03 40.9	-0.6
ARA0				*e*S	Sn	04 04 21.6	-2.5
ARA0				IAML		04 04 37.0	
	comp=Z,1.5nm,0.2s						
ARA0	**ARCESS Array S**	**3.56**	**306**	PB	Pn	04 03 43.8	+2.3
ARA0				SN	Sn	04 04 22.3	-1.8
RMF	**Romuvaara**	**3.77**	**206**	PN	Pn	04 03 44.2	-0.2
RMF				SN	Sn	04 04 28.6	-0.9
KLF	**Kolari**	**3.78**	**268**	PG	Pb	04 03 53.3	+0.8
HEF	**Hetta**	**3.85**	**286**	*e*P	Pn	04 03 39.5	-6.1
HEF	**Hetta**	**3.85**	**286**	PN	Pn	04 03 45.9	+0.3
	baz=101						
HEF				SN	Sn	04 04 30.8	-0.6
TOF	**Tornio**	**4.02**	**251**	PG	Pb	04 03 58.0	+1.3
OUL	**Oulu**	**4.06**	**234**	PG	Pb	04 03 59.1	+1.7
KTK1	**Kautokeino**	**4.12**	**294**	SN	Sn	04 04 35.5	-2.4
PAJU	**Pajala**	**4.15**	**266**	PG	Pb	04 03 58.9	0.0
	baz=73						
LANU	**Lannavaara**	**4.46**	**281**	PN	Pn	04 03 52.1	-1.7
ERTU	**Ertsjaerv**	**4.63**	**262**	PG	Pb	04 04 08.9	+1.8

*IDC **04** 04:14:05.0±2.5, 0°01N×17°95W, h0km, mb3.7/3, mbtmp4.0/6, ML4.2/3, Error ellipse: s-maj=59.7km s-min=25.4km az=88.0*

ISC 04 04:14:07.3±1.3, 0°05N±0°09×17°7W±0°2, h10km, n11, σ1s45/12, mb3.8/3, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**8.45**	**158**	Pn	**Pn**	**04 16 08.1**	**-1.4**
	baz=338,slow=12						
H10N2				T	T	04 24 33.6	
	baz=334,slow=74,SNR=24						
H10N3	**ASCENSION HYDR**	**8.46**	**158**	Pn	**Pn**	**04 16 09.2**	**-0.4**
	baz=338,slow=12						
H10N3				T	T	04 24 39.7	
	baz=334,slow=74,SNR=60						
H10N1	**ASCENSION HYDR**	**8.47**	**158**	Pn	**Pn**	**04 16 09.3**	**-0.6**
	baz=338,slow=12						
H10N1				T	T	04 24 30.1	
	baz=334,slow=74,SNR=20						
H10S3	**ASCENSION HYDR**	**9.43**	**161**	Pn	**Pn**	**04 16 22.1**	**-1.0**
H10S3				T	T	04 26 24.3	
	baz=339,slow=74,SNR=17						
H10S2	**ASCENSION HYDR**	**9.45**	**161**	Pn	**Pn**	**04 16 23.4**	**+0.1**
H10S2				T	T	04 26 27.0	
	baz=241,slow=74,SNR=5.6						
DBIC	**Dimbokro**	**14.40**	**63**	Pn	**Pn**	**04 17 33.4**	**+2.0**
	2.0nm,0.3s,baz=259,slow=13,SNR=18						
DBIC				Sn	**Sn**	**04 20 08.8**	**-2.4**
	0.6nm,0.3s,baz=148,slow=13,SNR=4.3						
	4.7nm,0.3s						
BBTS	**Babate**	**14.57**	**4**	Pn	**Pn**	**04 17 32.2**	**-1.4**
	1.6nm,0.3s,baz=151,slow=19,SNR=1.5						
BBTS				Sn	Sn	04 20 02.6	-13
	3.6nm,0.3s,baz=144,slow=23,SNR=9.2						
	4.6nm,0.3s						
KOWA	**Kowa**	**19.73**	**43**	P	**Pn**	**04 18 39.0**	**+0.3**
	0.3nm,0.3s,baz=219,slow=9.9,SNR=7.3						
	3.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**23.21**	**55**	P	**P**	**04 19 16.1**	**+1.5**
	2.6nm,0.9s,baz=241,slow=9.0,SNR=6.8						
	2.6nm,0.9s						
GERES	**GERESS Array B**	**55.63**	**25**	P	**P**	**04 23 44.6**	**+1.1**
	0.2nm,0.6s,baz=214,slow=8.9,SNR=2.5						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**69.66**	**21**	P	**P**	**04 25 16.6**	**-0.1**
	1.4nm,0.8s,baz=212,slow=4.2,SNR=4.8						
	1.4nm,0.8s						

NOU 04 04:19:24.6, 15°21S×167°28E, h1km, mb3.8/6, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.65**	**161**	P	Pn	04 20 08.0	-0.5
YATNC	**Mamie plateau,**	**6.82**	**183**	P	Pn	04 21 05.6	-0.3
DZM	**Mont Dzumac**	**6.87**	**186**	P	Pn	04 21 06.7	+0.1

*ANF **04** 04:20:27.9±0.7, 36°34N×96°96W, h4km±5km, ML4.1/16, Error ellipse: s-maj=3.6km s-min=2.9km az=73.0*
*NEIC **04** 04:20:28.3±0.7, 36°32N±0°02×96°98W±0°03, h8km±7km, Error ellipse: s-maj=3.8km s-min=1.6km az=63.0*
*TUL **04** 04:20:28±1.0, 36°32N±0°02×96°97W±0°04, h6km±7km, ML3.2, mb_Lg3.5/104(NEIC), Error ellipse: s-maj=4.6km s-min=1.6km az=69.0*
*IDC **04** 04:20:29.3±2.3, 36°33N×97°41W, h0km, mbtmp3.1/4, ML3.1/4, Error ellipse: s-maj=27.7km s-min=15.3km az=106.0*

ISC 04 04:20:28.1±1.0, 36°33N±0°02×96°99W±0°02, h8km±8km, n147, σ1s00/140, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.28**	**124**	Pg	**Pg**	**04 20 33.6**	**+0.1**
QUOK				Sg	**Sg**	**04 20 37.2**	**0.0**
OK034	**N. Norfolk Rd.**	**0.39**	**145**	Pg	**Pg**	**04 20 35.6**	**0.0**
OK034				Sg	**Sg**	**04 20 40.7**	**0.0**
OK031	**S. Brethren Rd**	**0.39**	**162**	Pg	**Pg**	**04 20 35.8**	**+0.1**
OK031				Sg	**Sg**	**04 20 41.1**	**+0.2**
OK030	**Cody Creek RV**	**0.43**	**157**		**Pg**	**04 20 36.5**	**+0.1**
OK030				Sg	**Sg**	**04 20 42.3**	**+0.2**
BLOK	**Blackwell**	**0.47**	**337**	Pg	**Pg**	**04 20 37.7**	**+0.5**
BLOK				Sg	**Sg**	**04 20 44.3**	**+0.9**
DEOK	**Depew**	**0.62**	**140**	Pg	**Pg**	**04 20 40.0**	**-0.1**
DEOK				Sg	**Sg**	**04 20 48.2**	**-0.1**
OK029	**Liberty Lake**	**0.65**	**216**	Pg	**Pg**	**04 20 40.8**	**+0.2**
OK005	**Luther M Schoo**	**0.69**	**194**	Pg	**Pg**	**04 20 41.4**	**0.0**
T35A	**Sooner Cattle**	**0.70**	**33**	Pg	**Pg**	**04 20 41.6**	**0.0**
T35A				Sg	**Sg**	**04 20 50.9**	**0.0**
T35B	**Sooner Cattle**	**0.70**	**33**	P	**Pg**	**04 20 41.6**	**-0.1**
	baz=212,SNR=698						
T35B				S	**Sg**	**04 20 50.8**	**0.0**
	baz=212						
KAN13	**South Haven SW**	**0.79**	**330**	Pg	**Pg**	**04 20 43.6**	**+0.3**
OK025	**Westminster Rd**	**0.80**	**201**	Pg	**Pg**	**04 20 43.2**	**-0.2**
CROK	**Carrier**	**0.82**	**283**	Pg	**Pg**	**04 20 44.2**	**+0.3**
BCOK	**Bluff Creek, N**	**0.84**	**217**	Pg	**Pg**	**04 20 44.1**	**0.0**
GC02	**Grant County #**	**0.88**	**307**	Pg	**Pg**	**04 20 45.0**	**+0.1**
KAN17	**Caldwell West**	**0.95**	**319**	Pg	**Pg**	**04 20 46.5**	**+0.2**
KAN01	**Argonia South**	**1.03**	**323**	Pg	**Pg**	**04 20 47.9**	**0.0**
TUL1	**Leonard**	**1.05**	**113**	Pg	**Pg**	**04 20 47.4**	**-0.9**
TUL1	**Leonard**	**1.05**	**113**	P	**Pg**	**04 20 47.5**	**-0.9**
	baz=293,SNR=855						
TUL1				S	**Sg**	**04 21 01.8**	**-0.2**
	baz=293						
TUL1	**Leonard**	**1.05**	**113**	P	**Pg**	**04 20 47.5**	**-0.9**
	baz=293						
TUL1				S	**Sg**	**04 21 01.7**	**-0.3**
	baz=293						
OK032	**Salt Plains WL**	**1.09**	**296**	Pg	**Pg**	**04 20 49.0**	**-0.1**
FNO	**Franklin**	**1.12**	**198**	Pg	**Pg**	**04 20 48.6**	**-0.9**
KAN12	**Harper NE Stat**	**1.26**	**320**		**Pb**	**04 20 52.3**	**+0.1**
OK038	**West End E0370**	**1.42**	**277**		**Pn**	**04 20 53.6**	**-0.7**
OK035	**E0210 Rd and N**	**1.44**	**286**	Pn	**Pn**	**04 20 54.9**	**+0.4**
CSTR	**Hydro, Custer**	**1.54**	**244**		**Pn**	**04 20 56.2**	**+0.3**
RLO	**Rose Lookout**	**1.60**	**95**	Pn	**Pn**	**04 20 57.0**	**+0.3**
U32A	**Winter Ranch,**	**1.62**	**272**	P	**Pb**	**04 20 57.9**	**-0.5**
	baz=92,SNR=66						
U32A				S	**Sg**	**04 21 20.4**	**+0.1**
	baz=92						
X34A	**Smith Ranch, M**	**1.85**	**202**		**Pn**	**04 21 00.9**	**+0.7**
X34A				IAmb_Lg		04 21 30.7	
	comp=Z,182nm,0.9s						
ELIS	**Ellis County**	**1.98**	**263**		**Pn**	**04 21 03.2**	**+1.2**
ELIS				IAmb_Lg		04 21 36.7	
	comp=Z,242nm,0.8s						
U38A	**Gravette**	**2.10**	**86**	Pn	**Pn**	**04 21 04.2**	**+0.5**
U38A	**Gravette**	**2.10**	**86**	P	**Pn**	**04 21 04.7**	**+1.0**
	baz=268,SNR=282						
U38A				S	**Sb**	**04 21 33.9**	**+1.1**
	baz=268						
WMOK	**Wichita Mounta**	**2.15**	**223**		**Pn**	**04 21 05.0**	**+0.7**
WMOK				IAmb_Lg		04 21 36.6	
	comp=Z,170nm,1.0s						
WMOK	**Wichita Mounta**	**2.15**	**223**	P	**Pn**	**04 21 05.2**	**+0.8**
	baz=42,SNR=108						
WMOK				S	**Sb**	**04 21 34.3**	**0.0**
	baz=42						
WMOK	**Wichita Mounta**	**2.15**	**223**	P	**Pn**	**04 21 05.2**	**+0.8**
	baz=42						
WMOK				Sb	**Sb**	**04 21 35.2**	**+0.9**
	baz=42						
X37A	**Clayton**	**2.18**	**142**	Pn	**Pn**	**04 21 05.6**	**+0.9**
X37A				IAmb_Lg		04 21 39.5	
	comp=Z,328nm,0.8s						
X37A	**Clayton**	**2.18**	**142**	P	**Pn**	**04 21 05.3**	**+0.6**
	baz=323,SNR=253						
X37A				S	**Sn**	**04 21 33.4**	**+1.5**
	baz=323						
LOOK	**Love County**	**2.33**	**184**	Pn	**Pn**	**04 21 07.5**	**+0.6**
LOOK				IAmb_Lg		04 21 44.4	
	comp=Z,81nm,0.7s						
HHAR	**Hobbs**	**2.46**	**90**	Pn	**Pn**	**04 21 08.5**	**-0.1**
R32A	**Long Quarter,**	**2.50**	**327**	Pn	**Pn**	**04 21 10.8**	**+1.7**
R32A	**Long Quarter,**	**2.50**	**327**	P	**Pn**	**04 21 10.2**	**+1.1**
	baz=146						
R32A				S	**Sn**	**04 21 41.6**	**+1.7**
	baz=146						
KSU1	**Kansas State U**	**2.79**	**6**	Pn	**Pn**	**04 21 12.7**	**-0.3**
KSU1	**Kansas State U**	**2.79**	**6**	P	**Pn**	**04 21 13.9**	**+0.8**
	baz=186,SNR=11						
KSU1	**Kansas State U**	**2.79**	**6**	P	**Pg**	**04 21 20.2**	**-1.3**
	baz=186						
Z35A	**Perchaven, San**	**3.00**	**184**	P	**Pn**	**04 21 16.9**	**+1.0**
	baz=4.2,SNR=22						
Z35A				S	**Sn**	**04 21 54.6**	**+2.6**
	baz=4.2						
S39A	**Bolivar**	**3.24**	**64**	Pn	**Pn**	**04 21 19.7**	**+0.5**
MIAR	**Mount Ida**	**3.30**	**122**	Pn	**Pn**	**04 21 20.1**	**-0.1**
MIAR	**Mount Ida**	**3.30**	**122**	P	**Pn**	**04 21 20.7**	**+0.5**
	baz=304,SNR=49						
MIAR	**Mount Ida**	**3.30**	**122**	P	**Pn**	**04 21 20.8**	**+0.6**
	baz=304						
CBKS	**Cedar Bluff**	**3.31**	**320**	Pn	**Pn**	**04 21 20.3**	**+0.1**
CBKS	**Cedar Bluff**	**3.31**	**320**	P	**Pb**	**04 21 29.2**	**+2.1**
	baz=138						
CBKS				Sb	**Sg**	**04 22 11.7**	**-2.6**
	baz=138						
Z38A	**Mt. Pleasant**	**3.48**	**151**	Pn	**Pn**	**04 21 22.7**	**+0.2**
Z38A				IAmb_Lg		04 22 20.9	
	comp=Z,123nm,0.9s						
WHAR	**Wooly Hollow**	**3.96**	**104**	Pn	**Pn**	**04 21 29.0**	**-0.1**
WHAR				IAmb_Lg		04 22 33.1	
	comp=Z,132nm,1.1s						
AMTX	**Amarillo**	**4.08**	**251**	Pn	**Pn**	**04 21 31.0**	**0.0**
AMTX				IAmb_Lg		04 22 39.8	
	comp=Z,115nm,0.8s						
AMTX	**Amarillo**	**4.08**	**251**	P	**Pn**	**04 21 32.8**	**+1.8**
	baz=68						
WLAR	**White Oak Lake**	**4.13**	**128**	Pn	**Pn**	**04 21 31.7**	**+0.2**
R40A	**Maddies Statio**	**4.24**	**61**	IAmb_Lg		04 22 41.7	
	comp=Z,182nm,1.0s						
R40A	**Maddies Statio**	**4.24**	**61**	P	**Pn**	**04 21 33.6**	**+0.6**
	baz=244,SNR=36						
P38A	**Dawn**	**4.28**	**39**	IAmb_Lg		04 22 45.5	
	comp=Z,135nm,0.7s						
ABTX	**Abilene, Hawle**	**4.29**	**211**	Pn	**Pn**	**04 21 34.5**	**+0.7**
WHTX	**Lake Whitney,**	**4.34**	**185**	Pn	**Pn**	**04 21 34.5**	**+0.1**
WHTX	**Lake Whitney,**	**4.34**	**185**	P	**Pn**	**04 21 35.4**	**+0.9**
	baz=5.1						
WHTX				S	**Sn**	**04 22 29.3**	**+4.1**
	baz=5.1						
N33B	**J Bar K, Exete**	**4.42**	**355**	S	**Sn**	**04 22 26.9**	**-0.2**
	baz=175						
N33A	**J Bar K, Exete**	**4.42**	**355**	IAmb_Lg		04 22 58.0	
	comp=Z,91nm,0.8s						
237A	**Washetta, Mont**	**4.42**	**167**	S	**Sn**	**04 22 26.9**	**-0.3**
	baz=348						
N35A	**Tabor**	**4.65**	**13**	IAmb_Lg		04 22 54.0	
	comp=Z,55nm,0.7s						
N35A	**Tabor**	**4.65**	**13**	P	**Pn**	**04 21 38.9**	**+0.2**
	baz=193,SNR=13						
LCAR	**Lake Charles**	**4.73**	**91**	IAmb_Lg		04 22 57.8	
	comp=Z,70nm,0.7s						
CCM	**Cathedral Cave**	**4.90**	**68**	Pn	**Pn**	**04 21 41.5**	**-0.6**
CCM				IAmb_Lg		04 23 12.6	
	comp=Z,130nm,0.8s						
CCM	**Cathedral Cave**	**4.90**	**68**	Sb	**Sb**	**04 22 58.2**	**+4.9**
	baz=251						
CCAR	**Cane Creek**	**4.91**	**118**	IAmb_Lg		04 23 10.7	
	comp=Z,51nm,1.1s						
NATX	**Nacogdoches**	**4.95**	**156**	IAmb_Lg		04 23 08.0	
	comp=Z,46nm,0.8s						
P40A	**Paris**	**5.05**	**49**	IAmb_Lg		04 23 07.7	
	comp=Z,103nm,0.7s						
BGNE	**Belgrade**	**5.16**	**350**	P	**Pn**	**04 21 46.4**	**+0.8**
	baz=170						
HBAR	**Harrisburg**	**5.20**	**97**	IAmb_Lg		04 23 16.0	
	comp=Z,118nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.21**	**303**	Pn	**Pn**	**04 21 47.1**	**+0.6**
KSCO				IAmb_Lg		04 23 21.8	
	comp=Z,52nm,0.7s						
MSTX	**Muleshoe**	**5.29**	**245**	Pn	**Pn**	**04 21 47.6**	**0.0**
N38A	**Joes South For**	**5.34**	**32**	IAmb_Lg		04 23 26.2	
	comp=Z,91nm,0.8s						
FVM	**French Village**	**5.50**	**71**	Pn	**Pn**	**04 21 50.5**	**+0.2**
FVM				IAmb_Lg		04 23 26.8	
	comp=Z,130nm,1.1s						
435B	**Jarrell**	**5.55**	**185**	IAmb_Lg		04 23 36.5	
	comp=Z,43nm,0.7s						
PARMO	**Parma**	**5.84**	**85**	Pn	**Pn**	**04 21 55.5**	**+0.5**
PARMO				IAmb_Lg		04 23 31.8	
	comp=Z,118nm,0.8s						
SLM	**Saint Louis**	**5.84**	**65**	Pn	**Pn**	**04 21 55.6**	**+0.5**
143A	**Socs Landing,**	**5.86**	**126**	Pn	**Pn**	**04 21 54.9**	**-0.3**
PVMO	**Portageville**	**5.88**	**87**	IAmb_Lg		04 23 42.3	
	comp=Z,107nm,0.8s						
CGM3	**Cape Girardeau**	**5.96**	**78**	Pn	**Pn**	**04 21 56.3**	**-0.3**
CGM3				IAmb_Lg		04 23 36.1	
	comp=Z,116nm,0.8s						
T25A	**Trinidad**	**6.02**	**280**	Pn	**Pn**	**04 21 57.9**	**+0.2**
T25A				IAmb_Lg		04 23 49.7	
	comp=Z,44nm,0.8s						
OGNE	**Ogallala**	**6.07**	**321**	Pn	**Pn**	**04 21 57.5**	**-0.7**
OGNE				IAmb_Lg		04 23 57.4	
	comp=Z,68nm,0.7s						
HALT	**Halls**	**6.21**	**92**	IAmb_Lg		04 24 02.5	
	comp=Z,85nm,0.8s						
HICK	**Hickman**	**6.26**	**86**	Pn	**Pn**	**04 22 00.4**	**-0.3**
JCT	**Junction City**	**6.29**	**203**	IAmb_Lg		04 24 03.1	
	comp=Z,40nm,0.8s						
SCIA	**State Center**	**6.30**	**27**	Pn	**Pn**	**04 22 02.0**	**+0.7**
SCIA				IAmb_Lg		04 23 57.5	
	comp=Z,41nm,0.7s						
S44A	**Carbondale**	**6.34**	**75**	Pn	**Pn**	**04 22 02.0**	**+0.2**
K31A	**O'Neill**	**6.43**	**348**	Pn	**Pn**	**04 22 04.3**	**+1.1**
K31A				IAmb_Lg		04 23 59.6	
	comp=Z,86nm,0.9s						
OXF	**Oxford**	**6.45**	**104**		**Pn**	**04 22 01.7**	**-1.7**
OXF				IAmb_Lg		04 24 00.4	
	comp=Z,58nm,1.1s						
OXF	**Oxford**	**6.45**	**104**	P	**Pn**	**04 22 02.1**	**-1.3**
	baz=288						
W45A	**Hickory Valley**	**6.45**	**98**	IAmb_Lg		04 23 52.5	
	comp=Z,79nm,0.8s						
Y45A	**Yeager Farm, C**	**6.58**	**110**	Pn	**Pn**	**04 22 05.0**	**-0.1**
Y45A				IAmb_Lg		04 24 06.4	
	comp=Z,46nm,1.0s						
HTMS	**Hat Mesa**	**6.70**	**237**	Pn	**Pn**	**04 22 07.7**	**+0.8**
P43A	**Skaggs, Pawnee**	**6.76**	**58**	Pn	**Pn**	**04 22 07.7**	**0.0**
P43A	**Skaggs, Pawnee**	**6.76**	**58**	P	**Pn**	**04 22 07.8**	**+0.2**
	baz=243						
Q44A	**Meyer Farm, Va**	**6.83**	**65**	Pn	**Pn**	**04 22 07.8**	**-

HQIL	**Hanson Quary C**	**8.96**	**50**	IAmb_Lg		04 25 07.4	
	comp=Z,111nm,1.2s						
I40A	**Norwalk**	**8.99**	**31**		**Pn**	**04 22 37.9**	**-0.4**
I40A				IAmb_Lg		04 25 15.0	
	comp=Z,24nm,0.8s						
I40A	**Norwalk**	**8.99**	**31**	P	**Pn**	**04 22 37.7**	**-0.6**
	baz=215						
L44A	**Lake County Fo**	**9.15**	**48**	IAmb_Lg		04 25 22.1	
	comp=Z,62nm,0.9s						
K43A	**Burlington**	**9.23**	**44**	IAmb_Lg		04 25 25.6	
	comp=Z,55nm,0.9s						
SPMN	**Marine on St.**	**9.44**	**18**	P	**Pn**	**04 22 44.2**	**-0.1**
	baz=201						
RSSD	**Black Hills**	**9.46**	**328**	Pn	**Pn**	**04 22 45.4**	**+0.5**
RSSD				IAmb_Lg		04 25 40.1	
	comp=Z,28nm,0.9s						
F33A	**5 Mile Ranch,**	**9.52**	**3**	IAmb_Lg		04 25 28.2	
	comp=Z,25nm,1.0s						
P48A	**Milroy**	**9.66**	**68**	Pn	**Pn**	**04 22 47.9**	**+0.5**
K22A	**Casper**	**9.70**	**314**	IAmb_Lg		04 25 55.1	
	comp=Z,44nm,1.2s						
I42A	**Draeger Farm,**	**9.76**	**37**	Pn	**Pn**	**04 22 48.6**	**-0.2**
I42A				IAmb_Lg		04 25 43.4	
	comp=Z,24nm,1.1s						
I42A	**Draeger Farm,**	**9.76**	**37**	P	**Pn**	**04 22 48.2**	**-0.6**
	baz=222						
TKL	**Tuckaleechee C**	**10.73**	**90**	Lg	Lg	04 26 00.7	
	comp=Z,1.7nm,0.3s,baz=16,slow=18,SNR=5.2						
H43A	**Windswept, Lux**	**10.74**	**38**	P	**Pn**	**04 23 01.1**	**-1.1**
	baz=224						
PDAR	**Pinedale Array**	**11.63**	**307**	Pn	**Pn**	**04 23 13.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=123,slow=13,SNR=2.8						
PDAR				Pg	Pg	04 23 56.4	
	comp=Z,0.2nm,0.3s,baz=109,slow=14,SNR=2.7						
PDAR				Lg	Lg	04 26 23.1	
	comp=Z,0.2nm,0.3s,baz=111,slow=18,SNR=3.6						
	comp=Z,0.3nm,0.7s						
G45A	**Suttons Bay**	**12.23**	**41**	P	**Pn**	**04 23 21.7**	**-0.8**
	baz=228						
G45A				P	**Pn**	**04 23 21.7**	**-0.8**
	baz=228						
EYMN	**Ely**	**12.30**	**18**	P	**Pn**	**04 23 21.3**	**-2.2**
	baz=201						
ULM	**Lac du Bonnet**	**13.94**	**3**	Pn	**Pn**	**04 23 43.4**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=180,slow=14,SNR=1.4						
ULM				Lg	Lg	04 27 39.5	
	comp=Z,0.3nm,0.3s,baz=96,slow=10,SNR=1.9						
	comp=Z,1.5nm,0.5s						
SADO	**Sadowa**	**15.95**	**53**	Lg	Lg	04 28 41.7	
	comp=Z,0.3nm,0.3s,baz=297,slow=9.0,SNR=4.8						

*IDC **04** 04:28:08.5±2.7,20˚.16N×148˚.06E, h0km, mb3.9/8, mbtmp3.8/9,Error ellipse: s-maj=99.8km s-min=19.0km az=82.0*

ISC 04 04:28:14.1±2.5,20˚.1N±0˚.2×148˚.0E±0˚.6, h35km, n15, σ0§97/10, mb3.7/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**17.75**	**92**	T	T	04 51 06.4	
	baz=284,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**17.77**	**92**	T	T	04 51 07.6	
	baz=284						
H11S2	**WAKE ISLAND Hy**	**17.77**	**92**	T	T	04 51 08.2	
	baz=284						
H11N1	**WAKE ISLAND Hy**	**17.81**	**88**	T	T	04 51 10.0	
	baz=275,slow=75,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**17.81**	**88**	T	T	04 51 10.9	
	baz=275,slow=75,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**17.83**	**88**	T	T	04 51 11.7	
	baz=275,slow=75,SNR=3.8						
MJAR	**Matsushiro Arr**	**18.43**	**334**	P	**Pn**	**04 32 27.0**	**+0.2**
	0.6nm,0.5s,baz=159,slow=10,SNR=2.9						
KSRS	**Korea Array**	**24.53**	**319**	P	**P**	**04 33 32.1**	**+1.8**
	0.9nm,0.6s,baz=136,slow=8.0,SNR=5.0						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**42.01**	**199**	P	**P**	**04 36 02.7**	**+0.5**
	1.4nm,1.0s,baz=24,slow=9.1,SNR=5.9						
WRA				PcP	**PcP**	**04 37 56.8**	**-0.2**
	0.4nm,0.7s,baz=15,slow=3.0,SNR=2.3						
	1.4nm,1.0s						
SONM	**Songino Array**	**43.40**	**319**	P	**P**	**04 36 12.9**	**-0.5**
	0.6nm,0.7s,baz=115,slow=10.0,SNR=2.8						
	0.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.86**	**211**	P	**P**	**04 36 17.1**	**-0.1**
	1.4nm,0.6s,baz=26,slow=17,SNR=6.5						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**45.65**	**198**	P	**P**	**04 36 31.4**	**0.0**
	0.6nm,0.8s,baz=6.2,slow=7.8,SNR=6.8						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**59.02**	**313**	P	**P**	**04 38 09.3**	**-1.1**
	0.3nm,0.4s,baz=102,slow=6.1,SNR=3.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**61.69**	**317**	P	**P**	**04 38 27.5**	**-1.1**
	1.2nm,0.2s,baz=92,slow=7.0,SNR=1.9						
	1.2nm,0.2s						
FINES	**FINESS Array B**	**86.46**	**336**	P	**P**	**04 40 53.3**	**+0.4**
	3.6nm,1.1s,baz=96,slow=7.1,SNR=4.0						
	3.6nm,1.1s						

*NOU **04** 04:58:02.4,37˚.25S×179˚.93W, h116km, MLv4.9/10, East of North Island, N.Z.*
*IDC **04** 04:58:08.5±1.6,36˚.82S×178˚.82E, h0km, mb4.6/4, mbtmp4.8/5, ML5.4/1, MS3.7/3, Error ellipse: s-maj=39.0km s-min=27.7km az=135.0*
*NEIC **04** 04:58:09.6±2.0,37˚.1S±0˚.1×178˚.9E±0˚.1, h10km±2km, mb4.5/9, Error ellipse: s-maj=22.7km s-min=17.7km az=138.0*
*WEL **04** 04:58:10.1±0.9,37˚S±4˚×17˚9E±˚, h10km, M4.1/18, ML4.3/18, MLv4.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=96.1*

ISC 04 04:58:07.9±1.9,37˚.19S±0˚.05×179˚.19E±0˚.07, h10km±10km, n149, σ1§30/147, mb4.6/10, MS3.7/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**242**		**Pb**	**04 58 24.1**	**+0.3**
MXZ	**Matakaoa Point**	**0.80**	**242**	P	**Pb**	**04 58 24.1**	**+0.3**
MXZ				S	**Sg**	**04 58 33.0**	**-0.6**
WMGZ	**Waiomatatini S**	**0.88**	**224**	P	**Pn**	**04 58 27.5**	**+1.3**
WMGZ				S	**Sn**	**04 58 39.9**	**+0.8**
PKGZ	**Pakihiroa**	**1.12**	**232**	P	**Pn**	**04 58 30.9**	**+1.2**
PKGZ				S	**Sn**	**04 58 45.3**	**0.0**
PUZ	**Puketiti**	**1.15**	**220**	P	**Pg**	**04 58 31.2**	**+1.3**
PUZ				S	**Sn**	**04 58 46.5**	**+0.8**
HAZ	**Te Kaha**	**1.25**	**243**	P	**Pn**	**04 58 31.0**	**-0.4**
HAZ				S	**Sn**	**04 58 48.8**	**+0.5**
TWGZ	**Tauwhareparae**	**1.37**	**224**	P	**Pg**	**04 58 34.5**	**+0.2**
TWGZ				S	**Sg**	**04 58 52.7**	**+0.6**
RUGZ	**Raukumara Rang**	**1.43**	**237**	P	**Pg**	**04 58 35.1**	**-0.2**
RUGZ				S	**Sg**	**04 58 53.9**	**+0.1**
CNGZ	**Carnagh Statio**	**1.50**	**211**	P	**Pg**	**04 58 37.0**	**+0.3**
WIZ	**White Island**	**1.63**	**258**	P	**Pn**	**04 58 35.8**	**-0.8**
WIZ				S	**Sn**	**04 58 55.7**	**-1.8**
TKGZ	**Te Karaka**	**1.64**	**220**	P	**Pb**	**04 58 37.7**	**-0.4**
TKGZ				S	**Sn**	**04 58 58.2**	**+0.4**
WSRZ	**White Island S**	**1.64**	**258**	P	**Pb**	**04 58 38.3**	**+0.1**
MWZ	**Matawai**	**1.74**	**229**	P	**Pb**	**04 58 39.3**	**-0.7**
MWZ				S	**Sn**	**04 59 00.7**	**+0.3**
WHRZ	**Whale Island**	**1.88**	**249**	P	**Pb**	**04 58 41.2**	**-1.2**
RIGZ	**Rimuhau**	**1.89**	**216**	P	**Pn**	**04 58 41.3**	**+1.1**
RAGZ	**Rawiri**	**1.91**	**227**	P	**Pb**	**04 58 41.9**	**-1.0**
URZ	**Urewera**	**1.96**	**237**	Pn	**Pn**	**04 58 42.3**	**+1.2**
	96nm,0.3s,baz=211,slow=1.2,SNR=358						
URZ				Sn	**Sn**	**04 59 04.3**	**-1.5**
	76nm,0.3s,baz=211,slow=3.9,SNR=6.5						
URZ	**Urewera**	**1.96**	**237**	P	**Pn**	**04 58 42.3**	**+1.2**
URZ	**Urewera**	**1.96**	**237**	P	**Pb**	**04 58 42.5**	**-1.2**
PRGZ	**Paritu Road**	**2.01**	**210**	P	**Pn**	**04 58 42.7**	**+0.9**
EDRZ	**Edgecumbe**	**2.15**	**244**	P	**Pn**	**04 58 45.0**	**+1.2**
MARZ	**Manawahe**	**2.15**	**248**	P	**Pn**	**04 58 45.0**	**+1.2**
SNGZ	**Shannon Statio**	**2.16**	**222**	P	**Pn**	**04 58 44.6**	**+0.7**
KNZ	**Kokohu**	**2.18**	**213**	P	**Pn**	**04 58 44.4**	**+0.2**
OPRZ	**Ohinepanea**	**2.19**	**252**	P	**Pn**	**04 58 44.9**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.20**	**207**	P	**Pn**	**04 58 45.4**	**+0.9**
RTZ	**Ruatahuna**	**2.25**	**230**	P	**Pn**	**04 58 46.8**	**+1.5**
MUGZ	**Murupara**	**2.31**	**236**	P	**Pn**	**04 58 46.8**	**+0.9**
MYRZ	**Mayor Island**	**2.36**	**267**	P	**Pn**	**04 58 46.7**	**+0.2**
TARZ	**Mount Tarawera**	**2.37**	**243**	P	**Pn**	**04 58 48.3**	**+1.5**
RAHZ	**Arahi**	**2.39**	**223**	P	**Pn**	**04 58 48.0**	**+0.9**
TGRZ	**Tauranga**	**2.39**	**256**	P	**Pn**	**04 58 47.7**	**+0.7**
RRRZ	**Republican Roa**	**2.41**	**241**	P	**Pn**	**04 58 48.7**	**+1.3**
OMRZ	**Omania**	**2.42**	**247**	P	**Pn**	**04 58 49.2**	**+1.8**
WHHZ	**Waihua**	**2.43**	**219**	P	**Pn**	**04 58 48.8**	**+1.2**
KARZ	**Kaharoa**	**2.48**	**250**	P	**Pn**	**04 58 49.3**	**+1.0**
HLRZ	**Highlands Stat**	**2.49**	**244**	P	**Pn**	**04 58 49.8**	**+1.4**
MTHZ	**Maungataniwha**	**2.49**	**228**	P	**Pn**	**04 58 49.7**	**+1.3**
NGRZ	**Ngongotaha**	**2.55**	**248**	P	**Pn**	**04 58 51.1**	**+1.8**
PRRZ	**Plateau Road**	**2.57**	**239**	P	**Pn**	**04 58 50.4**	**+0.9**
HSRZ	**Hossack Road**	**2.59**	**244**	P	**Pn**	**04 58 51.4**	**+1.6**
HRRZ	**Handcock Road**	**2.59**	**242**	P	**Pn**	**04 58 51.3**	**+1.4**
ALRZ	**Allen Road**	**2.63**	**238**	P	**Pn**	**04 58 51.3**	**+0.9**
KMRZ	**Kaimai**	**2.66**	**255**	P	**Pn**	**04 58 51.4**	**+0.6**
NMHZ	**Naumai**	**2.67**	**224**	P	**Pn**	**04 58 52.3**	**+1.3**
ARHZ	**Aropaoanui**	**2.69**	**219**	P	**Pn**	**04 58 51.8**	**+0.6**
GRRZ	**Galatos Road**	**2.70**	**244**	P	**Pn**	**04 58 53.2**	**+1.8**
MRHZ	**Matea Rd**	**2.73**	**232**	P	**Pn**	**04 58 52.8**	**+0.9**
WPRZ	**Whakapapatarin**	**2.74**	**240**	P	**Pn**	**04 58 53.5**	**+1.6**
KUZ	**Kuaotunu**	**2.81**	**278**	P	**Pn**	**04 58 52.0**	**-0.9**
BKZ	**Black Stump Fm**	**2.90**	**226**		**Pn**	**04 58 54.8**	**+0.7**
BKZ	**Black Stump Fm**	**2.90**	**226**	P	**Pn**	**04 58 54.7**	**+0.6**
BKZ	**Black Stump Fm**	**2.90**	**226**	P	**Pn**	**04 58 54.7**	**+0.6**
KUTZ	**Kaahu Road**	**2.96**	**243**	P	**Pn**	**04 58 56.4**	**+1.4**
TOZ	**Tahuroa Road**	**2.98**	**259**	P	**Pn**	**04 58 55.0**	**-0.2**
KWHZ	**Kaweka Forest**	**3.11**	**224**	P	**Pn**	**04 58 57.2**	**+0.1**
GRZ	**Great Barrier**	**3.14**	**286**	P	**Pn**	**04 58 57.5**	**+0.1**
KAHZ	**Kahuranaki**	**3.17**	**214**	P	**Pn**	**04 58 57.4**	**-0.4**
RATZ	**Rangitukua**	**3.17**	**237**	P	**Pn**	**04 58 59.2**	**+1.3**
RITZ	**Rihia Road**	**3.17**	**235**	P	**Pn**	**04 58 59.1**	**+1.2**
MKAZ	**Moumakai**	**3.22**	**270**	P	**Pn**	**04 58 58.1**	**-0.3**
WIAZ	**Waiheke Island**	**3.27**	**276**	P	**Pn**	**04 58 59.3**	**+0.1**
KATZ	**Kakaramea**	**3.28**	**236**	P	**Pn**	**04 59 00.7**	**+1.2**
KRHZ	**Kereru**	**3.30**	**221**	P	**Pn**	**04 58 59.8**	**+0.2**
TMVZ	**Te Maari**	**3.35**	**234**	P	**Pn**	**04 59 00.8**	**+0.4**
ETVZ	**East Tongariro**	**3.36**	**234**	P	**Pn**	**04 59 01.1**	**+0.6**
NTVZ	**North Tongariro**	**3.36**	**234**	P	**Pn**	**04 59 01.2**	**+0.7**
BHHZ	**Black Hill Sta**	**3.36**	**226**	P	**Pn**	**04 59 00.7**	**+0.2**
PXZ	**Pawanui**	**3.37**	**212**	P	**Pn**	**04 58 59.5**	**-1.0**
KRVZ	**Karewarewa**	**3.38**	**235**	P	**Pn**	**04 59 01.6**	**+0.8**
OTVZ	**Oturere**	**3.40**	**234**	P	**Pn**	**04 59 01.9**	**+0.8**
ETAZ	**East Tamaki Re**	**3.42**	**273**	P	**Pn**	**04 59 01.3**	**+0.1**
NNVZ	**North Ngauruho**	**3.42**	**234**	P	**Pn**	**04 59 02.3**	**+0.9**
WTVZ	**West Tongariro**	**3.43**	**235**	P	**Pn**	**04 59 02.4**	**+1.0**
SNVZ	**South Ngauruho**	**3.43**	**234**	P	**Pn**	**04 59 02.3**	**+0.8**
NGZ	**Ngauruhoe**	**3.45**	**234**	P	**Pn**	**04 59 02.3**	**+0.5**
MBAZ	**Motutapu North**	**3.46**	**276**	P	**Pn**	**04 59 02.0**	**+0.2**
MOVZ	**Moawhango**	**3.49**	**230**	P	**Pn**	**04 59 02.8**	**+0.5**
TWVZ	**Taurewa**	**3.50**	**237**	P	**Pn**	**04 59 04.3**	**+1.8**
WHVZ	**Whangaehu Hut**	**3.52**	**233**	P	**Pn**	**04 59 03.3**	**+0.5**
FWVZ	**Far West T-bar**	**3.53**	**233**	P	**Pn**	**04 59 03.4**	**+0.5**
WNVZ	**Wahianoa**	**3.54**	**232**	P	**Pn**	**04 59 03.3**	**+0.3**
ABAZ	**Army Bay**	**3.54**	**278**	P	**Pn**	**04 59 03.4**	**+0.5**
EPAZ	**Eden Park BICE**	**3.57**	**274**	P	**Pn**	**04 59 04.2**	**+0.9**
WPHZ	**Waipukurau**	**3.58**	**216**	P	**Pn**	**04 59 02.9**	**-0.5**
HBAZ	**Herne Bay Bore**	**3.59**	**274**	P	**Pn**	**04 59 04.6**	**+1.2**
PNHZ	**Pukenui**	**3.59**	**220**	P	**Pn**	**04 59 02.6**	**-1.0**
AWAZ	**Awhitu Peninsu**	**3.64**	**271**	P	**Pn**	**04 59 04.6**	**+0.4**
MTVZ	**Mangateitei**	**3.65**	**232**	P	**Pn**	**04 59 05.8**	**+1.3**
HIZ	**Hauiti**	**3.67**	**248**	Pn	**Pn**	**04 59 06.6**	**+1.9**
HIZ	**Hauiti**	**3.67**	**248**	P	**Pn**	**04 59 06.8**	**+2.1**
HIZ	**Hauiti**	**3.67**	**248**	P	**Pn**	**04 59 06.9**	**+2.2**
WTAZ	**Waiatarua**	**3.70**	**273**	P	**Pn**	**04 59 05.7**	**+0.6**
RVAZ	**Riverhead Bore**	**3.72**	**275**	P	**Pn**	**04 59 05.8**	**+0.6**
TSZ	**Takapari Road**	**3.82**	**221**	P	**Pn**	**04 59 05.7**	**-1.0**
DVHZ	**Dannevirke**	**3.90**	**216**	P	**Pn**	**04 59 06.8**	**-1.0**
WCZ	**Waipu Caves**	**4.10**	**286**	P	**Pn**	**04 59 11.1**	**+0.6**
POWZ	**Post Office Ro**	**4.16**	**219**	P	**Pn**	**04 59 10.5**	**-1.0**
BFZ	**Birch Farm**	**4.17**	**219**	Pn	**Pn**	**04 59 11.6**	**-1.4**
BFZ	**Birch Farm**	**4.17**	**212**	P	**Pn**	**04 59 09.0**	**-2.5**
WAZ	**Wanganui**	**4.17**	**231**	P	**Pn**	**04 59 12.5**	**+0.9**
PRWZ	**Pori Road**	**4.19**	**216**	P	**Pn**	**04 59 10.9**	**-0.9**
LREZ	**Lake Rotokare**	**4.39**	**238**	P	**Pn**	**04 59 16.4**	**+1.8**
NEZ	**North Egmont**	**4.51**	**241**	P	**Pn**	**04 59 18.9**	**+2.5**
PKE	**Pukeiti**	**4.56**	**242**	P	**Pn**	**04 59 19.6**	**+2.7**
NBEZ	**Newall Road No**	**4.67**	**242**	P	**Pn**	**04 59 21.8**	**+3.3**
OUZ	**Omahuta**	**4.93**	**292**	P	**Pn**	**04 59 23.2**	**+1.2**
OUZ	**Omahuta**	**4.93**	**292**	P	**Pn**	**04 59 23.4**	**+1.4**
SNZO	**South Karori**	**5.39**	**219**	P	**Pn**	**04 59 25.7**	**-2.5**
TKNZ	**Takaka Hill**	**6.18**	**230**	P	**Pn**	**04 59 38.2**	**-0.9**
QRZ	**Quartz Range**	**6.33**	**233**	P	**Pn**	**04 59 39.5**	**-1.6**
QRZ	**Quartz Range**	**6.33**	**233**	P	**Pn**	**04 59 39.2**	**-2.0**
KHZ	**Kahutara**	**6.79**	**218**	P	**Pn**	**04 59 44.9**	**-2.6**
RAO	**Raoul Island**	**8.28**	**18**	Pn	**Pn**	**05 00 07.9**	**-0.1**
	53nm,0.3s,baz=258,slow=22,SNR=2.2						
	148nm,0.5s						
RPZ	**Rata Peaks**	**8.99**	**221**	Pn	**Pn**	**05 00 16.0**	**-1.7**
	1.1nm,0.3s,baz=195,slow=21,SNR=2.2						
RPZ				Sn	Sn	05 01 46.8	-12
	3.7nm,0.3s,baz=48,slow=17,SNR=12						
RPZ	**Rata Peaks**	**8.99**	**221**	P	**Pn**	**05 00 15.1**	**-2.6**
ODZ	**Otahua Downs**	**10.15**	**217**	P	**Pn**	**05 00 30.6**	**-2.9**
STKA	**Stephens Creek**	**31.28**	**268**	P	**P**	**05 04 28.8**	**+0.8**
	3.2nm,0.5s,baz=108,slow=10,SNR=10						
STKA				LR	LR	05 17 59.0	
	comp=Z,134nm,18.1s,baz=229,slow=38						
	3.2nm,0.5s						
BBOO	**Buckleboo**	**35.38**	**264**	P	**P**	**05 05 03.0**	**-0.7**
BBOO				IAmb	IAmb	05 05 03.6	
	comp=Z,18nm,1.2s						
AS31	**Alice Springs**	**40.94**	**276**	P	**P**	**05 05 50.0**	**-0.8**
AS31				IAmb	IAmb	05 05 50.9	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**40.94**	**276**	P	**P**	**05 05 49.8**	**-1.0**
	comp=Z,6.7nm,0.6s,baz=119,slow=8.1,SNR=100						
	comp=Z,6.7nm,0.6s						
ASAR	**Alice Springs**	**40.94**	**276**	P	**P**	**05 05 49.0**	**-1.7**
WR0	**Warramunga Arr**	**42.38**	**281**	P	**P**	**05 06 00.6**	**-1.9**
WR0				IAmb	IAmb	05 06 04.7	
	comp=Z,3.0nm,0.8s						
FORT	**Forrest**	**42.46**	**263**	P	**P**	**05 06 02.1**	**-0.9**
WB2	**Warramunga Arr**	**42.54**	**281**	P	**P**	**05 06 02.2**	**-1.6**
WB2				IAmb	IAmb	05 06 03.7	
	comp=Z,9.9nm,0.8s						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**05 06 03.0**	**-1.0**
	comp=Z,3.5nm,0.3s,baz=122,slow=7.4,SNR=130						
	comp=Z,3.5nm,0.3s						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**05 06 02.8**	**-1.2**
NWAO	**Narrogin (SRO)**	**50.10**	**255**	LR	LR	05 26 39.3	
	comp=Z,118nm,19.6s,baz=260,slow=34						
FITZ	**Fitzroy Crossi**	**50.42**	**277**	P	**P**	**05 07 05.2**	**-0.5**
	baz=52,SNR=18						
FITZ	**Fitzroy Crossi**	**50.42**	**277**	P	**P**	**05 07 05.4**	**-0.3**
	comp=Z,5.5nm,0.5s,baz=152,slow=6.8,SNR=30						
	comp=Z,5.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.42**	**277**	P	**P**	**05 07 05.2**	**-0.5**
MORW	**Morawa**	**52.65**	**259**	P	**P**	**05 07 20.4**	**-1.9**
MORW				IAmb	IAmb	05 07 27.1	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**52.93**	**180**	P	**P**	**05 07 27.6**	**+3.6**
BATI	**Baumata**	**56.57**	**283**	P	**P**	**05 07 50.5**	**-0.4**
EDFI	**Ende, Flores**	**59.00**	**283**	P	**P**	**05 08 06.1**	**-2.0**
	comp=Z,1µmcomp=Z,122nm,0.9s						
TROLL	**Troll, Antarti**	**71.07**	**181**	P	P	05 09 36.2	+10
VNA3	**Neumayer Olymp**	**71.68**	**177**	P	P	05 09 40.9	+12
VNA2	**Neumayer--Watz**	**72.08**	**178**	P	P	05 09 43.0	+11
	baz=169,slow=6.0						
VNA1	**Neumayer--Stat**	**72.33**	**177**	P	P	05 09 43.6	+10
H03S2	**Juan Fernandez**	**78.65**	**124**	T	T	06 36 40.1	
	baz=232						
H03S1	**Juan Fernandez**	**78.66**	**124**	T	T	06 36 36.3	
	baz=232						
H03S3	**Juan Fernandez**	**78.67**	**124**	T	T	06 36 42.5	
	baz=232						
H03N3	**Juan Fernandez**	**78.88**	**124**	T	T	06 36 48.6	
	baz=234,slow=72,SNR=17						
H03N2	**Juan Fernandez**	**78.89**	**123**	T	T	06 36 41.4	
	baz=234,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**78.90**	**124**	T	T	06 36 41.4	
	baz=234,slow=72,SNR=19						
NNA	**Nana**	**93.69**	**108**	LR	LR	05 44 45.6	
	comp=Z,25nm,18.7s,baz=102,slow=30						
ARCES	**ARCESS Array B**	**144.61**	**344**	PKP	PKPbc	05 17 42.8	+0.5
	comp=Z,4.1nm,1.0s,baz=64,slow=2.1,SNR=2.3						
FINES	**FINESS Array B**	**150.47**	**334**	PKPbc	**PKPbc**	**05 17 58.4**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=24,slow=3.8,SNR=7.4						
TORD	**Torodi Ar. Bea**	**155.95**	**186**	PKPab	**PKPab**	**05 18 34.4**	**+4.7**
	comp=Z,0.4nm,0.4s,baz=159,slow=4.0,SNR=5.9						

*BJI **04** 04:59:09.5±0.0,21˚.70S×179˚.30W, h595km, mb5.0/47, mB4.9/22*
*NEIC **04** 04:59:09.5±1.6,21˚.78S±0˚.09×179˚.37W±0˚.10, h583km±5km, mb4.9/296, Error ellipse: s-maj=13.8km s-min=12.2km az=142.0*
*IDC **04** 04:59:10.0±0.3,21˚.79S×179˚.45W, h593km±3km, mb4.4/35, mbtmp5.4/38, Error ellipse: s-maj=8.8km s-min=7.0km az=167.0*
*NOU **04** 04:59:10.1,21˚.78S×179˚.41W, h591km, ML4.9/107, Fiji Islands Region*
*GCMT **04** 04:59:13.5±0.5,21˚.88S±0˚.05×179˚.44W±0˚.04, h596km±3km, MW5.4/60, Moment Tensor Solution. s60,c74; Duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr0.29±.05; Mθθ-0.14±.09; Mϕϕ-0.15±.08; Mrθ-0.43±.08; Mθϕ-0.45±.07; Mϕr-1.22±.07; Best double couple: M0 1.38700×10^17^ NP1:φs199.00000°, δ82.00000°, λ76.00000°. NP2:φs81.00000°, δ16.00000°, λ151.00000°. Principal axes: T 1.3120, Plg51.0000°, Azm93.0000°; N 0.1500, Plg14.0000°, Azm201.0000°; P -1.4620, Plg36.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 04 04:59:09.8±0.3,21˚.82S±0˚.04×179˚.36W±0˚.04, h598km±2km, h599km:pP-P, n819, σ1§35/792, mb4.9/246, 38C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.60**	**8**	P	**P**	**05 00 32.9**	**+0.3**
MSVF	**Nonsavu**	**4.74**	**329**	P	**P**	**05 00 40.8**	**0.0**
	1µm,0.5s,baz=187,slow=4.6,SNR=1192						
MSVF				S	**S**	**05 01 54.5**	**-0.3**
	370nm,1.0s,baz=104,slow=17,SNR=5.6						
TAVE	**Taveuni**	**5.11**	**354**	P	**P**	**05 00 43.9**	**+0.3**
DGTI	**Dogotuki**	**5.55**	**351**	P	**P**	**05 00 47.1**	**-0.1**
RAO	**Raoul Island**	**7.52**	**170**	P	**P**	**05 01 02.8**	**-1.5**
	2µm,0.3s,baz=18,slow=1.7,SNR=39						
RAO				S	**S**	**05 02 34.7**	**-3.6**
	1µm,0.3s,baz=100,slow=23,SNR=14						
RAO	**Raoul Island**	**7.52**	**170**	P	**P**	**05 01 03.0**	**-1.4**
NIUE	**Niue**	**9.26**	**75**	P	**P**	**05 01 19.2**	**-2.1**
	baz=9.2,SNR=6.3						
NIUE	**Niue**	**9.26**	**75**	P	**P**	**05 01 19.0**	**-2.2**
NIUE	**Niue**	**9.26**	**75**	P	**P**	**05 01 20.6**	**-0.6**
AFI	**Afiamalu**	**10.67**	**44**	P	**P**	**05 01 32.8**	**-2.6**
	52nm,0.5s,baz=78,slow=5.6,SNR=6.5						
AFI				S	**S**	**05 03 27.2**	**-7.7**
	100nm,0.8s,baz=54,slow=21,SNR=5.9						
AFI	**Afiamalu**	**10.67**	**44**	P	**P**	**05 01 31.9**	**-3.6**
MARNC	**Mare, Loyalty**	**11.73**	**269**	P	**P**	**05 01 45.2**	**-0.6**
MARNC	**Mare, Loyalty**	**11.73**	**269**	P	**P**	**05 01 45.7**	**-0.1**
PINNC	**Pines Island,**	**12.24**	**264**		**P**	**05 01 50.9**	**0.0**
LIFNC	**LIFOU**	**12.53**	**272**	P	**P**	**05 01 53.2**	**-0.7**
LIFNC	**LIFOU**	**12.53**	**272**	P	**P**	**05 01 52.2**	**-1.7**
YATNC	**Mamie plateau,**	**12.76**	**266**	P	**P**	**05 01 57.0**	**+0.8**
OUENC	**Ouen Island, N**	**12.80**	**265**	P	**P**	**05 01 57.1**	**+0.5**
OUENC	**Ouen Island, N**	**12.80**	**265**	P	**P**	**05 01 57.3**	**+0.7**
ONTNC	**Ouen Toro**	**13.16**	**265**	P	**P**	**05 01 59.4**	**-0.9**
ONTNC	**Ouen Toro**	**13.16**	**265**	P	**P**	**05 02 00.2**	**-0.1**
DZM	**

CTAO	Charters Tower	32.12 267	P	P	05 04 50.2	+0.4		
CTAO	Charters Tower	32.12 267	P	P	05 04 49.0	-0.8		
CMSA	Cobar Meteorol	32.57 245	P	P	05 04 53.8	+0.4		
	baz=33,SNR=147							
CMSA	Cobar Meteorol	32.57 245	P	P	05 04 54.0	+0.5		
KRVT	Keravat (AS076	32.75 298	P	P	05 04 54.2	-1.0		
	141nm,0.9s,baz=39,slow=2.6,SNR=19							
	141nm,0.9s							
QLP	Quilpie	33.47 255	P	P	05 05 01.1	+0.1		
	baz=34,SNR=34							
QLP	Quilpie	33.47 255	P	P	05 05 01.2	+0.1		
TOO	Toolangi	34.10 235	P	P	05 05 06.8	+0.5		
	baz=34,SNR=42							
TOO	Toolangi	34.10 235	P	P	05 05 05.6	-0.6		
TOO	Toolangi	34.10 235	P	P	05 05 06.9	+0.7		
MTSU	Mount Surprise	34.28 270	P	P	05 05 08.3	+0.3		
	baz=34,SNR=66							
MTSU	Mount Surprise	34.28 270	P	P	05 05 08.4	+0.4		
CORO	Coronation Par	34.29 227	P	P	05 05 08.5	+0.9		
PMG	Port Moresby	34.43 286	P	P	05 05 09.1	-0.2		
	264nm,0.8s,baz=91,slow=4.9,SNR=40							
	264nm,0.8s							
PMG	Port Moresby	34.43 286	P	P	05 05 08.9	-0.3		
PMG	Port Moresby	34.43 286	P	P	05 05 09.4	+0.1		
PMG	Port Moresby	34.43 286	P	P	05 05 07.3	-1.9		
GEXS	Deakin Univers	35.19 234	P	P	05 05 16.4	+1.2		
	160nm,0.9s							
BRAT	Ballarat	35.28 235	P	P	05 05 17.3	+1.4		
PATS	Pohnpei	35.92 320	P	P	05 05 22.4	+0.9		
	baz=36,SNR=8.5							
STKA	Stephens Creek	36.08 246	P	P	05 05 23.2	+0.6		
	baz=36,SNR=82							
STKA	Stephens Creek	36.08 246	P	P	05 05 23.2	+0.6		
	104nm,0.7s,baz=90,slow=9.9,SNR=137							
STKA			S	S	05 10 18.8	-1.9		
	6.6nm,1.0s,baz=219,slow=20,SNR=4.1							
	104nm,0.7s							
STKA	Stephens Creek	36.08 246	P	P	05 05 23.2	+0.6		
STKA			IAmb	IAmb	05 05 24.2			
	comp=Z,26nm,0.9s							
STKA	Stephens Creek	36.08 246	P	P	05 05 23.2	+0.6		
COEN	Coen	36.42 276	P	P	05 05 26.1	+0.3		
	baz=36,SNR=55							
COEN	Coen	36.42 276	P	P	05 05 26.0	+0.3		
COEN	Coen	36.42 276	P	P	05 05 26.3	+0.6		
INKA	Innaminka	36.58 253	P	P	05 05 27.7	+0.9		
ARPS	Mount Arapiles	36.70 237	P	P	05 05 28.0	+0.3		
	baz=37,SNR=14							
ARPS	Mount Arapiles	36.70 237	P	P	05 05 27.9	+0.3		
QIS	Mount Isa	38.20 264	P	P	05 05 39.8	-0.3		
	baz=38,SNR=8.0							
QIS	Mount Isa	38.20 264	P	P	05 05 39.9	-0.2		
HTT	Hallett	38.49 243	P	P	05 05 42.5	+0.1		
	baz=39,SNR=66							
HTT	Hallett	38.49 243	P	P	05 05 42.7	+0.3		
LCRK	Leigh Creek	38.86 248	P	P	05 05 45.7	+0.4		
TWOA	Tennyson Woods	38.98 241	P	P	05 05 46.4	+0.2		
PTPS	Port Pirie	39.24 244	P	P	05 05 49.3	+1.1		
WHYH	Whyalla	39.58 244	P	P	05 05 51.6	+0.7		
TAOE	Nuku Hiva Isla	39.83 77	eP	P	05 05 53.7	+0.4		
	comp=Z,510nm,1.1s							
TAOE	Nuku Hiva Isla	39.83 77	P	P	05 05 54.7	+1.4		
BBOO	Buckleboo	40.83 245	P	P	05 06 00.7	-0.2		
	baz=41,SNR=86							
BBOO	Buckleboo	40.83 245	P	P	05 06 00.7	-0.2		
BBOO	Buckleboo	40.83 245	P	P	05 06 01.0	+0.1		
OOD	Oodnadatta	41.06 252	P	P	05 06 03.8	+1.0		
MULG	Mulgathing	42.45 249	P	P	05 06 13.7	0.0		
AS31	Alice Springs	42.99 258	P	P	05 06 17.9	-0.1		
ASAR	Alice Springs	42.99 258	P	P	05 06 17.8	-0.3		
	comp=Z,208nm,0.8s,baz=90,slow=8.3,SNR=418							
ASAR			PcP	PcP	05 07 54.9	+0.4		
	comp=Z,9.1nm,0.8s,baz=99,slow=3.2,SNR=4.9							
ASAR			ScP	ScP	05 10 50.8	+1.4		
	comp=Z,11nm,1.0s,baz=116,slow=4.4,SNR=9.7							
ASAR			S	S	05 11 58.8	-2.7		
	comp=Z,10.0nm,0.9s,baz=96,slow=16,SNR=15							
ASAR			ScS	ScS	05 15 13.1	+1.0		
	comp=Z,2.9nm,0.9s,baz=76,slow=5.7,SNR=4.1							
	comp=Z,208nm,0.8s							
WAKE	Wake Island	43.08 340	P	P	05 06 18.6	0.0		
WAKE	Wake Island	43.08 340	P	P	05 06 19.2	+0.6		
	comp=Z,113nm,1.4s							
WRAB	Tennant Creek	43.17 264	P	P	05 06 18.6	-0.9		
WRAB	Tennant Creek	43.17 264	P	P	05 06 19.2	-0.2		
WRAB	Tennant Creek	43.17 264	P	P	05 06 17.1	-2.4		
WRA	Warramunga Arr	43.17 264	P	P	05 06 18.6	-1.0		
	comp=Z,160nm,0.9s,baz=96,slow=7.7,SNR=262							
WRA			PcP	PcP	05 07 55.3	+0.2		
	comp=Z,7.6nm,0.9s,baz=92,slow=4.6,SNR=4.8							
WRA			ScP	ScP	05 10 52.3	+2.2		
	comp=Z,12nm,1.0s,baz=100,slow=4.0,SNR=14							
WRA			S	S	05 12 01.1	-3.0		
	comp=Z,3.3nm,1.0s,baz=103,slow=13,SNR=4.9							
	comp=Z,160nm,0.9s							
WRA	Warramunga Arr	43.17 264	P	P	05 06 18.2	-1.3		
GENI	Genyem	43.71 290	P	P	05 06 23.7	+0.1		
	comp=Z,283nm,1.1s							
GENI	Genyem	43.71 290	P	P	05 06 23.8	+0.1		
	comp=Z,284nm,1.1s							
SMPI	Sarmi	45.28 290	P	P	05 06 34.8	-0.9		
	comp=Z,3µmcomp=Z,78nm,1.5s							
KDU	Kakadu	46.73 273	P	P	05 06 45.9	-0.7		
	baz=47,SNR=37							
KDU	Kakadu	46.73 273	P	P	05 06 46.1	-0.5		
FORT	Forrest	47.61 248	P	P	05 06 52.6	-0.4		
	baz=48,SNR=47							
FORT	Forrest	47.61 248	P	P	05 06 52.6	-0.4		
FORT	Forrest	47.61 248	P	P	05 06 52.9	-0.1		
WRKA	Warakurna	47.89 255	P	P	05 06 55.0	-0.3		
	baz=48,SNR=169							
WRKA	Warakurna	47.89 255	P	P	05 06 55.1	-0.2		
MTN	Manton Dam	47.92 272	P	P	05 06 54.9	-0.7		
	baz=48,SNR=18							
MTN	Manton Dam	47.92 272	P	P	05 06 54.6	-1.0		
MTN	Manton Dam	47.92 272	P	P	05 06 55.3	-0.2		
BAKI	Biak	47.94 289	P	P	05 06 55.5	-0.2		
	comp=Z,2µmcomp=Z,263nm,1.2s							
KNRA	Kununurra	49.32 268	P	P	05 07 05.5	-0.3		
	baz=49,SNR=72							
KNRA	Kununurra	49.32 268	P	P	05 07 04.7	-1.1		
KNRA	Kununurra	49.32 268	P	P	05 07 05.6	-0.3		
GUMO	Guam	49.69 312	P	P	05 07 08.8	+0.3		
	comp=Z,131nm,0.8s,baz=176,slow=8.2,SNR=9.8							
	comp=Z,131nm,0.8s							
GUMO	Guam	49.69 312	P	P	05 07 08.0	-0.5		
GUMO	Guam	49.69 312	P	P	05 07 09.1	+0.6		
FAKI	Fak Fak	50.58 285	P	P	05 07 14.3	-0.8		
FAKI	Fak Fak	50.58 285	P	P	05 07 14.0	-1.1		
	comp=Z,1µmcomp=Z,135nm,1.1s							
FAKI	Fak Fak	50.58 285	P	P	05 07 14.9	-0.2		
FITZ	Fitzroy Crossi	51.61 264	P	P	05 07 21.7	-0.7		
	comp=Z,72nm,0.9s,baz=121,slow=3.6,SNR=64							
	comp=Z,72nm,0.9s							
FITZ	Fitzroy Crossi	51.61 264	P	P	05 07 21.9	-0.5		
FITZ	Fitzroy Crossi	51.61 264	P	P	05 07 22.8	+0.4		
BNDI	Bandanaira	52.03 282	P	P	05 07 24.8	-0.7		
	comp=Z,6µmcomp=Z,525nm,0.7s							
SWI	Sorong	52.38 287	P	P	05 07 27.6	-0.4		
	comp=Z,7µmcomp=Z,935nm,0.8s							
MSAI	Masohi	53.40 283	P	P	05 07 34.7	-0.5		
AAI	Ambon	53.92 282	P	P	05 07 38.3	-0.6		
	comp=Z,3µmcomp=Z,246nm,0.8s							
NLAI	Namlea	55.10 282	P	P	05 07 46.5	-0.7		
	comp=Z,2µmcomp=Z,154nm,1.2s							
SOEI	Soe	55.28 273	P	P	05 07 49.0	+0.5		
SOEI	Soe	55.28 273	P	P	05 07 50.3	+1.7		
BATI	Baumata	55.70 272	P	P	05 07 52.3	+1.0		
	comp=Z,232nm,0.6s,baz=170,slow=1.5,SNR=20							
	comp=Z,232nm,0.6s							
LBMI	Labuha	55.84 285	P	P	05 07 51.9	-0.4		
	comp=Z,2µmcomp=Z,172nm,1.0s							
PSA00	Pilbara Seismi	56.14 258	P	P	05 07 53.2	-1.1		
PSA00			IAmb	IAmb	05 07 54.8			
	comp=Z,82nm,1.0s							
PSA00	Pilbara Seismi	56.14 258	P	P	05 07 54.1	-0.1		
MEEK	Meekatharra	56.29 252	P	P	05 07 54.7	-0.5		
	baz=56,SNR=22							
MEEK	Meekatharra	56.29 252	P	P	05 07 55.0	-0.3		
MBWA	Marble Bar	56.34 259	P	P	05 07 54.9	-0.7		
MBWA	Marble Bar	56.34 259	P	P	05 07 55.2	-0.4		
MBWA	Marble Bar	56.34 259	P	P	05 07 52.8	-2.8		
MBWA			pP	pP	05 09 47.3	-0.2		
MBWA			PP	pwP	05 09 53.1	-0.4		
KLBR	Kellerberrin	56.35 246	P	P	05 07 55.2	-0.3		
	baz=56,SNR=61							
KLBR	Kellerberrin	56.35 246	P	P	05 07 55.4	-0.2		
SBA	Scott Base	56.48 183	P	P	05 07 57.1	+1.5		
SBA	Scott Base	56.48 183	P	P	05 07 55.5	-0.1		
SBA			pP	pwP	05 09 52.3	+0.6		
VNDA	Vanda	56.49 185	P	P	05 07 57.8	+2.1		
	comp=Z,4.5nm,0.7s,baz=353,slow=6.8,SNR=21							
	comp=Z,4.5nm,0.7s							
VNDA	Vanda	56.49 185	P	P	05 07 57.0	+1.3		
VNDA	Vanda	56.49 185	P	P	05 07 56.8	+1.1		
TNTI	Ternate	56.58 286	P	P	05 07 56.8	-0.6		
TNTI	Ternate	56.58 286	P	P	05 07 56.9	-0.5		
	comp=Z,2µmcomp=Z,203nm,1.2s							
TNTI	Ternate	56.58 286	P	P	05 07 57.4	0.0		
	comp=Z,203nm,1.2s							
SANI	Sanana	56.60 282	P	P	05 07 56.4	-1.1		
	comp=Z,1µmcomp=Z,151nm,1.0s							
SANI	Sanana	56.60 282	P	P	05 07 57.7	+0.2		
NWAO	Narrogin (SRO)	56.65 244	P	P	05 07 57.5	0.0		
	baz=57,SNR=7.7							
NWAO			P	P	05 07 57.5	0.0		
	baz=57,SNR=7.7							
NWAO	Narrogin (SRO)	56.65 244	P	P	05 07 57.1	-0.4		
	comp=Z,49nm,0.9s,baz=346,slow=12,SNR=19							
NWAO			pP	pP	05 09 50.8	+1.1		
	comp=Z,9.9nm,0.8s,baz=162,slow=22,SNR=2.8							
	comp=Z,49nm,0.9s							
NWAO	Narrogin (SRO)	56.65 244	P	P	05 07 57.2	-0.4		
NWAO			IAmb	IAmb	05 07 58.5			
	comp=Z,79nm,1.1s							
NWAO	Narrogin (SRO)	56.65 244	P	P	05 07 57.9	+0.4		
	comp=Z,76nm,1.0s							
NWAO	Narrogin (SRO)	56.65 244	P	P	05 07 56.0	-1.5		
NWAO			pP	pP	05 09 50.2	+0.5		
RKGY	Rocky Gully	56.70 242	P	P	05 07 58.8	+0.9		
	baz=57,SNR=5.3							
RKGY	Rocky Gully	56.70 242	P	P	05 07 58.2	+0.3		
BLDU	Ballidu	57.36 247	P	P	05 08 01.9	-0.5		
	baz=57,SNR=45							
BLDU	Ballidu	57.36 247	P	P	05 08 02.2	-0.3		
	comp=Z,88nm,0.9s							
MMRI	Maumere	57.55 274	P	P	05 08 03.3	-0.6		
	comp=Z,3µmcomp=Z,230nm,1.0s							
MUN	Mundaring	57.62 245	P	P	05 08 04.4	+0.3		
	baz=58,SNR=15							
MUN	Mundaring	57.62 245	P	P	05 08 04.5	+0.3		
MTKN	Mount Kenneth	57.99 245	P	P	05 08 08.3	+1.7		
MORW	Morawa	58.16 249	P	P	05 08 07.4	-0.4		
	baz=58,SNR=22							
MORW	Morawa	58.16 249	IAmb	IAmb	05 08 08.6			
	comp=Z,92nm,1.0s							
MORW	Morawa	58.16 249	P	P	05 08 08.0	+0.1		
H01W1	Cape Leeuwin H	58.99 242	P	P	05 08 14.6	+1.6		
	baz=98,slow=7.9,SNR=6.3							
H01W2	Cape Leeuwin H	59.01 242	P	P	05 08 14.3	+1.2		
	baz=98,slow=7.9,SNR=2.7							
H01W3	Cape Leeuwin H	59.01 242	P	P	05 08 14.7	+1.6		
	baz=98,slow=7.9,SNR=2.8							
KMSI	Cibinong	59.53 284	P	P	05 08 16.5	-0.7		
	comp=Z,110nm,1.1s							
SGSI	Sangihe	59.55 288	P	P	05 08 16.3	-1.0		
	comp=Z,6µmcomp=Z,90nm,0.6s							
WBSI	Waikabubak, Su	59.85 271	P	P	05 08 18.9	-0.5		
	comp=Z,2µmcomp=Z,170nm,1.0s							
LUWI	Luwuk	59.94 282	P	P	05 08 20.2	+0.3		
LUWI	Luwuk	59.94 282	P	P	05 08 20.0	+0.1		
	comp=Z,5µmcomp=Z,251nm,1.0s							
LUWI	Luwuk	59.94 282	P	P	05 08 20.9	+1.0		
	comp=Z,254nm,1.2s							
BSSI	Bau Bau, Buton	60.05 276	P	P	05 08 19.6	-1.1		
	comp=Z,54nm,1.7s							
BKSI	Bulukumba	60.69 276	P	P	05 08 23.8	-1.1		
	comp=Z,797nmcomp=Z,82nm,0.9s							
GIRL	Giralia	60.98 255	P	P	05 08 26.8	+0.1		
	baz=61,SNR=13							
GIRL	Giralia	60.98 255	P	P	05 08 27.2	+0.6		
GIRL	Giralia	60.98 255	P	P	05 08 27.9	+1.2		
APSI	Ampana	61.02 282	P	P	05 08 27.3	+0.3		
	comp=Z,842nmcomp=Z,102nm,1.2s							
KAPI	Kappang	61.15 276	P	P	05 08 27.9	0.0		
KAPI	Kappang	61.15 276	P	P	05 08 28.4	+0.5		
JCJ	Chichijima	61.23 321	P	P	05 08 27.9	-0.2		
	comp=Z,80nm,0.6s,baz=276,slow=20,SNR=2.4							
	comp=Z,80nm,0.6s							
SPSI	Sidrap Palu	61.53 278	P	P	05 08 28.8	-1.6		
	comp=Z,80nm,0.9s							
PLAI	Plampang	61.62 272	P	P	05 08 30.2	-0.8		
	comp=Z,3µmcomp=Z,288nm,1.0s							
PLAI	Plampang	61.62 272	P	P	05 08 30.9	-0.1		
TTSI	Tana Toraja	61.84 279	P	P	05 08 31.7	-0.7		
	comp=Z,40nm,1.0s							
CASY	Casey	62.23 205	P	P	05 08 34.8	+0.8		
CASY	Casey	62.23 205	P	P	05 08 33.8	-0.2		
CASY			sP	sP	05 11 37.6	+5.1		
TWSI	Taliwang, Sumb	62.48 271	P	P	05 08 35.9	-0.6		
	comp=Z,2µmcomp=Z,174nm,1.0s							
TOLI2	Tolitoli	62.65 283	P	P	05 08 36.9	-0.7		
TOLI2	Tolitoli	62.65 283	P	P	05 08 37.3	-0.3		
MPSI	Mapaga	63.13 282	P	P	05 08 39.8	-0.8		
	comp=Z,1µmcomp=Z,127nm,1.1s							
SRBI	Singaraja	64.26 271	P	P	05 08 47.2	-0.6		
	comp=Z,192nm,1.0s							
JAGI	Jajag, Banyuwa	65.11 271	P	P	05 08 51.6	-1.7		
JAGI	Jajag, Banyuwa	65.11 271	P	P	05 08 51.8	-1.4		
	comp=Z,3µmcomp=Z,188nm,1.0s							
SMKI	Samarinda	65.26 280	P	P	05 08 53.6	-0.5		
	comp=Z,120nm,0.4s							
ABJI	Asem Bagus	65.27 271	P	P	05 08 53.4	-0.8		
	comp=Z,158nm,1.0s							
KMMI	Kalianget	65.78 272	P	P	05 08 56.6	-0.7		
	comp=Z,122nm,1.1s							
GMJI	Gumukmas	65.84 271	P	P	05 08 56.6	-1.1		
	comp=Z,104nm,1.0s							
BLJI	Banyuglugur	65.88 271	P	P	05 08 57.5	-0.5		
	comp=Z,980nmcomp=Z,109nm,0.7s							
BBKI	Banjar Baru	66.27 276	P	P	05 09 00.7	+0.3		
	comp=Z,65nm,1.5s							
MYLDM	Lahad Datu	66.46 286	IAmb	IAmb	05 09 21.6			
	comp=Z,44nm,0.9s							
JHJ	Hachijo jima 2	67.11 323	P	P	05 09 05.2	+0.1		
	comp=Z,115nm,0.7s,baz=74,slow=24,SNR=6.4							
	comp=Z,115nm,0.7s							
MTKI	Muara Teweh, K	67.18 279	P	P	05 09 05.0	-1.0		
PWJI	Pagerwojo	67.45 270	P	P	05 09 07.3	-0.3		
	comp=Z,175nm,1.1s							
PCJI	Pacitan	67.97 270	P	P	05 09 10.8	0.0		
	comp=Z,7µmcomp=Z,657nm,0.7s							
QSPA	South Pole Qui	68.26 180	P	P	05 09 13.0	+1.2		
QSPA			IAmb	IAmb	05 09 14.1			
	comp=Z,45nm,0.9s							
QSPA	South Pole Qui	68.26 180	P	P	05 09 11.2	-0.6		
QSPA			pP	pwP	05 11 12.9	-0.7		
UGM	Wanagama	68.68 270	P	P	05 09 14.8	-0.3		
	comp=Z,320nm,1.2s							
UGM	Wanagama	68.68 270	P	P	05 09 15.3	+0.2		
KKM	Kota Kinabalu	68.88 286	P	P	05 09 17.0	+0.6		
YOGI	Yogyakarta	68.92 270	P	P	05 09 16.1	-0.4		
	comp=Z,254nm,1.0s							
SMRI	Semarang	69.05 271	P	P	05 09 16.8	-0.5		
	comp=Z,172nm,0.8s							
SMRI	Semarang	69.05 271	P	P	05 09 17.8	+0.5		
	comp=Z,172nm,0.8s							
JYT	Yasato	69.24 326	P	P	05 09 17.9	0.0		
PBKI	Pangkalan Bun	69.48 275	P	P	05 09 19.3	-0.6		
	comp=Z,7µmcomp=Z,191nm,0.9s							
JOW	Kunigami	70.05 311	P	P	05 09 24.1	+1.1		
	comp=Z,106nm,1.2s							
JMM	Marumori	70.20 327	P	P	05 09 23.6	0.0		
JMM			IAmb	IAmb	05 09 25.0			
	comp=Z,53nm,1.0s							
INU	Inuyama	70.30 323	IAmb	IAmb	05 09 25.6			
	comp=Z,43nm,1.1s							
INU	Inuyama	70.30 323	P	P	05 09 25.3	+1.1		
	comp=Z,39nm,1.6s							
MJAR	Matsushiro Arr	70.53 325	P	P	05 09 24.8	-0.8		
	comp=Z,25nm,0.9s,baz=155,slow=6.3,SNR=49							
MJAR			pP	pP	05 11 26.8	0.0		
	comp=Z,1.6nm,0.8s,baz=161,slow=5.1,SNR=3.4							
	comp=Z,25nm,0.9s							
MAJO	Matsushiro	70.53 325	P	P	05 09 25.4	-0.2		
MAJO			IAmb	IAmb	05 09 26.6			
	comp=Z,35nm,0.8s							
MAJO	Matsushiro	70.53 325	P	P	05 09 26.0	+0.4		
MAJO	Matsushiro	70.53 325	P	P	05 09 24.5	-1.1		
MAJO			pP	pP	05 11 30.9	+4.1		
STKI	Sintang	70.72 278	P	P	05 09 27.9	+0.7		
SBUM	Sibu	70.98 281	P	P	05 09 28.4	-0.3		
SBUM			IAmb	IAmb	05 09 30.4			
	comp=Z,36nm,1.1s							
JCJI	Jatiwangi	71.27 270	P	P	05 09 29.6	-0.8		
	comp=Z,336nm,0.8s							
JSD	Sado	71.62 326	IAmb	IAmb	05 09 34.2			
	comp=Z,41nm,0.8s							
LEM	Lembang	71.75 270	P	P	05 09 33.2	-0.2		
	comp=Z,2µmcomp=Z,177nm,0.9s							
CNJI	Cibinong	72.04 269	P	P	05 09 33.6	-1.3		
	comp=Z,182nm,1.0s							
CBJI	Citeko	72.61 270	P	P	05 09 36.6	-1.5		
DBJI	Dramaga	72.66 270	P	P	05 09 38.0	-0.4		
	comp=Z,12µmcomp=Z,170nm,1.1s							
YULB	Yu-li	73.17 304	IAmb	IAmb	05 09 43.7			
	comp=Z,23nm,0.7s							
TPI	Tanjungpandan	73.19 274	P	P	05 09 41.4	0.0		
	comp=Z,384nmcomp=Z,31nm,1.1s							
NACB	Ninganchiao	73.38 305	P	P	05 09 41.3	-1.0		
SBJI	Serang	73.38 270	P	P	05 09 41.8	-0.8		
	comp=Z,207nm,1.1s							
TPUB	Ta-pu	73.64 304	P	P	05 09 43.2	-0.6		
SSLB	Suanglung	73.65 305	P	P	05 09 43.4	-0.5		
YHNB	Yeheng	73.81 305	P	P	05 09 45.7	+0.9		
PPBI	Pangkal Pinang	74.81 274	P	P	05 09 50.7	+0.1		
NIKH	Nikolski High	75.03 7	P	P	05 09 50.6	-0.3		
	baz=190							
KASI	Kota Agung	75.11 270	P	P	05 09 51.2	-1.1		
	comp=Z,102nm,1.1s							
NAWB	Namwon	76.06 318	IAmb	IAmb	05 09 58.8			
	comp=Z,61nm,1.1s							
UNV	Unalaska Valle	76.16 8	P	P	05 09 56.1	-0.9		
	baz=192							
YSS	Yuzh-Sakhalins	76.51 334	P	P	05 10 00.3	+1.1		
YSS			IAmb	IAmb	05 10 01.8			
	comp=Z,52nm,1.2s							
YSS	Yuzh-Sakhalins	76.51 334	P	P	05 10 00.6	+1.4		
KSCHJ	Chungju	76.63 319	IAmb	IAmb	05 10 01.6			
	comp=Z,30nm,1.1s							
TJN	Taejon	76.69 318	P	P	05 10 01.5	+1.1		
DSRI	Dabo	76.88 275	P	P	05 10 01.7	-0.3		
	comp=Z,30nm,1.5s							
MNAI	Manna	76.96 270	P	P	05 10 02.4	-0.1		
	comp=Z,235nm,1.5s							
KSRS	Korea Array	77.04 319	P	P	05 10 03.6	+1.3		
	comp=Z,7.3nm,0.9s,baz=140,slow=6.0,SNR=30							
	comp=Z,7.3nm,0.9s							
KS19	Wonju Array Si	77.11 319	P	P	05 10 02.9	+0.2		
PEA0B	Petropavlovsk-	77.22 346	P	P	05 10 03.0	0.0		
PEA0B			IAmb	IAmb	05 10 04.3			
	comp=Z,40nm,0.8s							
PETK	Petropavlovsk-	77.22 346	P	P	05 10 02.8	-0.2		
	comp=Z,31nm,0.9s,baz=142,slow=7.5,SNR=70							
PETK			pP	pP	05 12 07.5	+1.2		
	comp=Z,4.5nm,0.9s,baz=159,slow=9.5,SNR=5.0							
	comp=Z,31nm,0.9s							
KSI	Kapahiang	77.56 271	P	P	05 10 04.9	-0.9		
INCN	Inchon	77.84 319	P	P	05 10 07.0	+0.3		
INCN			IAmb	IAmb	05 10 08.8			
	comp=Z,66nm,1.2s							
INCN	Inchon	77.84 319	P	P	05 10 08.5	+1.8		
	comp=Z,48nm,1.1s							
CHNA	Chernabura Isl	78.20 12	P	P	05 10 09.1	+1.1		
	baz=199							
DLV	T Lat	78.30 288	P	P	05 10 11.7	+1.9		
MYKOM	Kota Tinggi	78.41 277	P	P	05 10 10.6	+0.3		
MYKOM			IAmb	IAmb	05 10 11.7			
	comp=Z,75nm,1.3s							
BELA	Belgrano 2	78.42 173	P	P	05 10 08.7	-0.4		
BELA			IAmb	IAmb	05 10 10.4			
	comp=Z,35nm,0.9s							
USRK	Ussuriysk Ar.	79.35 327	P	P	05 10 15.9	+1.5		
	comp=Z,31nm,1.0s,baz=127,slow=3.7,SNR=29							
USRK			pP	pP	05 12 20.1	+1.3		
	comp=Z,4.8nm,0.7s,baz=152,slow=39,SNR=1.7							
	comp=Z,31nm,1.0s							
USRK	Ussuriysk Ar.	79.35 327	P	P	05 10 15.2	+0.8		
SCI2	San Clemente I	79.59 48	P	P	05 10 15.2	-0.8		
	baz=236							
SBC	Santa Barbara	79.63 46	P	P	05 10 15.7	-0.5		
	baz=234							
NJ2	Nanjing	79.75 311	eP	P	05 10 18.1	+1.2		
NJ2			pmax	pmax				
	comp=Z,32nm,0.9s							
PKM	Mcpherson Peak	79.82 46	P	P	05 10 16.7	-0.7		
	baz=234							
MAW	Mawson	79.90 200	P	P	05 10 18.7	+1.6		
	comp=Z,1.4nm,0.6s,baz=170,slow=7.4,SNR=4.4							
MAW			pP	pP	05 12 21.3	-0.3		
	comp=Z,1.9nm,0.6s,baz=46,slow=2.4,SNR=3.3							
CIS	Catalina Islan	79.92 48	P	P	05 10 19.5	+1.7		
	baz=236							
BCW	Bitter Crk WRg	80.12 46	IAmb	IAmb	05 10 22.4			
	comp=Z,51nm,1.3s							
CC

baz=236
L02F Cave Junction 81.85 38 P P 05 10 28.6 +1.2
baz=231
CWC Cottonwood Cre 81.86 46 P P 05 10 29.1 +1.2
baz=235
MDPB Devils Postpil 81.89 44 IAmb IAmb 05 10 30.5
comp=Z,26nn,0.9s
BELC Belle Mtn. Jos 81.93 49 P P 05 10 29.5 +1.3
baz=237,SNR=13
MNSI Mandailing Nat 81.99 274 P P 05 10 27.7 -1.1
comp=Z,50nn,0.8s
MPMC Manual Prospec 82.04 46 P P 05 10 29.9 +1.0
baz=236,SNR=23
IPM Ipoh 82.05 278 P P 05 10 28.7 -0.4
IPM Ipoh 82.05 278 P P 05 10 30.0 +0.9
MLAC Mammoth, Mammo 82.05 44 P P 05 10 30.1 +1.2
baz=235
GSC Goldstone, Bar 82.08 47 IAmb IAmb 05 10 31.3
comp=Z,26nn,1.1s
GSC Goldstone, Bar 82.08 47 P P 05 10 30.1 +1.2
baz=236,SNR=13
YBH Yreka Blue Hor 82.11 39 P P 05 10 30.8 +1.9
comp=Z,18nn,0.8s,baz=201,slow=2.5,SNR=19
comp=Z,18nn,0.8s
YBH Yreka Blue Hor 82.11 39 P P 05 10 30.1 +1.2
YBH IAmb IAmb 05 10 31.9
comp=Z,27nn,0.9s
TIN Tinemaha, Big 82.11 45 P P 05 10 30.4 +1.3
baz=235
BC3 Big Chuckawall 82.12 49 P P 05 10 30.9 +1.7
baz=237,SNR=8.3
HEC Hector,Ludlow 82.15 48 P P 05 10 30.1 +0.9
baz=237,SNR=7.8
K02D Willamette Mer 82.16 38 P P 05 10 30.6 +1.5
baz=231
WHN Wuhan 82.21 307 ⇑P P 05 10 30.9 +1.4
WHN pmax pmax
comp=Z,82nn,1.3s
GLA Glamis 82.24 50 IAmb IAmb 05 10 32.8
comp=Z,48nn,0.9s
GLA Glamis 82.24 50 P P 05 10 31.3 +1.6
baz=238,SNR=10
MPK Martis Peak 82.26 42 IAmb IAmb 05 10 32.5
comp=Z,56nn,0.9s
J01E Myrtle Point 82.30 37 P P 05 10 31.3 +1.6
baz=230
UBPT Khong Chiam 82.37 290 P P 05 10 31.2 +0.6
UBPT IAmb IAmb 05 10 32.2
comp=Z,22nn,0.9s
DSP Deep Springs 82.46 45 IAmb IAmb 05 10 33.3
comp=Z,23nn,0.9s
VCNR Virginia City 82.50 43 IAmb IAmb 05 10 33.5
comp=Z,22nn,1.0s
HUMO Hull Mountain 82.51 38 P P 05 10 33.0 +2.1
HUMO IAmb IAmb 05 10 34.1
comp=Z,33nn,0.9s
CN2 Changchun 82.57 323 eP P 05 10 31.9 +0.9
CN2 pmax pmax
comp=Z,50nn,1.1s
YERR Yerington 82.57 43 IAmb IAmb 05 10 33.7
comp=Z,31nn,0.8s
GMRC Granite Mounta 82.59 48 P P 05 10 32.6 +1.1
baz=237,SNR=13
IRM Iron Mountain 82.61 49 P P 05 10 33.2 +1.7
baz=238,SNR=16
LHV Little Huntoon 82.62 44 IAmb IAmb 05 10 34.2
comp=Z,32nn,1.0s
L04D Klamath Falls 82.65 39 IAmb IAmb 05 10 34.3
comp=Z,43nn,0.9s
L04D Klamath Falls 82.65 39 P P 05 10 33.0 +1.4
baz=232,SNR=8.1
GRAC Grapevine Rang 82.65 45 IAmb IAmb 05 10 34.4
comp=Z,39nn,0.9s
GRAC Grapevine Rang 82.65 45 P P 05 10 32.9 +1.3
baz=236,SNR=6.2
FURC Furnace Creek, 82.69 46 P P 05 10 32.5 +0.7
baz=236,SNR=8.7
KULM Kulim 82.70 279 P P 05 10 32.4 0.0
KULM IAmb IAmb 05 10 34.1
comp=Z,34nn,0.8s
TUQ Turquoise Moun 82.76 47 P P 05 10 33.6 +1.2
baz=237,SNR=5.3
SHOC Shoshone, Teco 82.77 47 P P 05 10 33.4 +1.1
baz=237,SNR=9.3
BLYC Blythe 82.83 49 IAmb IAmb 05 10 35.4
comp=Z,26nn,0.9s
NVAR Mina Array Bea 82.85 44 P P 05 10 33.8 +0.9
comp=Z,18nn,0.9s,baz=224,slow=8.8,SNR=93
NVAR pP pwP 05 12 40.5 -1.6
comp=Z,3.1nn,0.9s,baz=227,slow=9.3,SNR=9.9
comp=Z,18nn,0.9s
113A Mohawk Valley, 82.85 51 IAmb IAmb 05 10 35.5
comp=Z,32nn,1.1s
PAHR Pah Rah Range 82.90 42 IAmb IAmb 05 10 35.4
comp=Z,27nn,1.0s
NV11 Mina Array Sit 82.95 44 IAmb IAmb 05 10 35.6
comp=Z,29nn,1.1s
I02E Swisshome, OR 82.95 37 P P 05 10 34.6 +1.6
baz=230
I03D Drain, OR 82.97 37 P P 05 10 34.4 +1.4
baz=231,SNR=5.6
MG05 Puerto Natales 83.03 143 P P 05 10 34.3 +1.0
MG05 IAmb IAmb 05 10 35.7
comp=Z,36nn,0.9s
HSIG 83.05 55 IAmb IAmb 05 10 36.2
comp=Z,26nn,0.8s
214A Organ Pipe Nat 83.12 52 P P 05 10 35.6 +1.4
baz=239,SNR=8.0
Q20K Shuyak Island 83.19 14 P P 05 10 35.4 +1.7
baz=205
Q19K Cape Douglas, 83.21 13 P P 05 10 35.7 +1.9
baz=204
K04D Chiloquin, OR 83.22 39 P P 05 10 35.7 +1.2
baz=232
NEE2 Needles Airpor 83.30 49 P P 05 10 36.1 +1.2
baz=238
RPSI Rantau Prapat 83.31 276 P P 05 10 34.7 -0.7
KVN Kaiserville 83.34 43 P P 05 10 36.1 +0.8
KVN IAmb IAmb 05 10 37.3
comp=Z,19nn,0.9s
PSI Prapat 83.35 276 P P 05 10 34.7 -1.1
comp=Z,36nn,0.9s,baz=145,slow=2.0,SNR=9.0
PSI pP pP 05 12 40.3 -1.1
comp=Z,5.4nn,0.8s,baz=161,slow=3.5,SNR=2.0
PSI PP PP 05 13 52.9 -6.2
comp=Z,12nn,0.9s,baz=162,slow=7.4,SNR=4.2
comp=Z,36nn,0.9s
TPNV Topopah Spring 83.37 46 IAmb IAmb 05 10 37.8
comp=Z,24nn,1.1s
TPNV Topopah Spring 83.37 46 P P 05 10 36.4 +1.0
baz=236,SNR=13
PDMCI Parker Dam,Lak 83.39 49 P P 05 10 36.3 +1.0
baz=238,SNR=14
J04D Umpqua Nationa 83.39 38 P P 05 10 37.1 +1.7
baz=232,SNR=11
PLTX Planet X, Gerl 83.44 41 IAmb IAmb 05 10 38.0
comp=Z,19nn,0.8s
BUCK Buck Mountain 83.49 37 IAmb IAmb 05 10 38.6
comp=Z,39nn,0.9s
I04A Tendick Farm, 83.56 38 P P 05 10 36.8 +0.7
baz=232,SNR=1.
MOD Modoc Plateau 83.64 40 IAmb IAmb 05 10 39.1
comp=Z,29nn,1.1s
K05A Summer Lake 83.78 39 P P 05 10 38.4 +1.1
K05A IAmb IAmb 05 10 40.3
comp=Z,46nn,1.0s
WTNK Soaring Height 83.79 47 IAmb IAmb 05 10 39.8
comp=Z,9.7nn,1.3s
H04D Lebanon 83.83 37 IAmb IAmb 05 10 40.1
comp=Z,31nn,0.9s
H04D Lebanon 83.83 37 P P 05 10 38.5 +1.2
baz=231,SNR=5.5
SHPR Sheep Range 83.86 47 IAmb IAmb 05 10 40.5
comp=Z,28nn,1.4s
J05D Fort Rock, OR 83.92 39 P P 05 10 39.6 +1.6
baz=232,SNR=31
G03D McMinnville, O 83.97 36 P P 05 10 39.1 +1.1
baz=231
GSI Gunungsitoli 84.04 274 P P 05 10 39.2 +0.2
GSI Gunungsitoli 84.04 274 P P 05 10 39.7 +0.6
comp=Z,122nn,1.0s
GSI Gunungsitoli 84.04 274 P P 05 10 41.0 +1.9
S11A Rachel 84.08 46 IAmb IAmb 05 10 41.0
comp=Z,58nn,1.8s
H04A Detroit Lake 84.24 37 IAmb IAmb 05 10 41.5
comp=Z,20nn,1.0s
PINE Pine Mountain 84.40 38 IAmb IAmb 05 10 43.3
comp=Z,48nn,1.1s

PRN Pahroc Range 84.42 46 IAmb IAmb 05 10 43.3
comp=Z,45nn,1.5s
I05D Terrebonne, OR 84.50 38 P P 05 10 42.0 +1.3
baz=232,SNR=9.4
R11A Troy Canyon, C 84.58 45 P P 05 10 42.0 +0.7
baz=237,SNR=6.8
BRSE Bradley Lake S 84.58 14 P P 05 10 41.8 +1.2
baz=207
E03A Lebam 84.66 35 IAmb IAmb 05 10 44.0
comp=Z,31nn,1.0s
KCSI Kotacane, Aceh 84.68 276 P P 05 10 41.6 -0.6
comp=Z,22nn,1.7s
MA2 Magadan 84.72 345 P P 05 10 41.2 -0.1
comp=Z,12nn,0.8s,baz=147,slow=6.4,SNR=17
comp=Z,12nn,0.8s
MA2 Magadan 84.72 345 P P 05 10 40.9 -0.4
MA2 IAmb IAmb 05 10 42.2
comp=Z,23nn,1.0s
MA2 Magadan 84.72 345 P P 05 10 41.3 0.0
comp=Z,29nn,1.1s
N19K Bonanza Creek 84.77 12 P P 05 10 44.5 +2.9
baz=203
TUC Tucson 84.79 52 P P 05 10 43.4 +1.0
TUC IAmb IAmb 05 10 45.6
comp=Z,28nn,1.0s
TUC Tucson 84.79 52 P P 05 10 44.1 +1.7
baz=240
HOOD Mount Hood Mea 84.93 37 IAmb IAmb 05 10 45.2
comp=Z,30nn,1.3s
SRIT Nakonsritamara 84.93 281 P P 05 10 45.1 +1.7
WVOR Wild Horse Val 84.95 40 IAmb IAmb 05 10 45.6
comp=Z,21nn,1.1s
G05D Wamic, OR 85.07 37 P P 05 10 44.7 +1.4
baz=232
I07A Izee 85.41 39 IAmb IAmb 05 10 47.8
comp=Z,26nn,1.1s
HNS HongShan 85.51 313 ⇓P P 05 10 46.8 +1.2
HNS pP pwP 05 12 57.7 +0.8
HNS SKS SKSac 05 20 13.8 -0.5
HNS pmax pmax
comp=Z,25nn,1.2s
J08A Circle Bar Ran 85.59 40 IAmb IAmb 05 10 48.5
comp=Z,40nn,1.3s
LYN LuoYang 85.61 310 eP P 05 10 46.9 +0.8
LYN S S 05 20 35.8 +6.6
LYN pmax pmax
comp=Z,20nn,1.4s
LYN pmax pmax
comp=Z,180nn,4.5s
KNB Kanab 85.72 47 IAmb IAmb 05 10 49.5
comp=Z,21nn,1.1s
ENH Enshi 85.73 305 P P 05 10 47.5 +0.7
SPR3 Spring Creek 3 85.75 45 IAmb IAmb 05 10 48.9
comp=Z,8.3nn,1.1s
U15A North Rim 85.78 48 IAmb IAmb 05 10 50.1
comp=Z,28nn,0.8s
BJT Baijiatuau 85.93 316 P P 05 10 47.8 +0.3
BJT IAmb IAmb 05 10 48.9
comp=Z,23nn,1.1s
BJI Beijing 85.94 316 P P 05 10 48.4 +0.8
BJI pmax pmax
comp=Z,20nn,1.0s
WUAZ Wupatki 85.96 49 IAmb IAmb 05 10 50.7
comp=Z,21nn,1.1s
WUAZ Wupatki 85.96 49 P P 05 10 49.3 +1.3
baz=240
CBB Campbell River 86.00 32 IAmb IAmb 05 10 50.3
comp=Z,27nn,1.2s
PGC Sidney 86.05 33 IAmb IAmb 05 10 50.2
comp=Z,16nn,0.9s
ELK Elko 86.11 43 P P 05 10 49.4 +0.7
comp=Z,7.6nn,0.9s,baz=243,slow=4.4,SNR=22
ELK pP pP 05 12 56.5 +0.5
comp=Z,1.4nn,0.8s,baz=229,slow=5.6,SNR=2.9
comp=Z,7.6nn,0.9s
SUA Susitna One 86.12 13 P P 05 10 48.0 -0.1
baz=206
PWL Port Wells 86.13 15 P P 05 10 48.0 0.0
baz=209
BBB Bella Bella 86.16 29 P P 05 10 49.5 +1.2
comp=Z,8.9nn,0.9s,baz=298,slow=4.2,SNR=4.7
comp=Z,8.9nn,0.9s
HPIG 86.19 59 P P 05 10 49.8 +0.4
HPIG IAmb IAmb 05 10 51.7
comp=Z,17nn,0.9s
GYA Guiyang 86.20 300 ⇓P P 05 10 50.0 +0.7
GYA pmax pmax
comp=Z,31nn,1.2s
AY01 Puyuhuapi 86.20 137 P P 05 10 49.9 +1.0
AY01 IAmb IAmb 05 10 51.5
comp=Z,17nn,1.0s
F07A Phinny Hill Vi 86.24 37 IAmb IAmb 05 10 51.4
comp=Z,24nn,1.0s
PKCU Pink Cliffs 86.29 47 IAmb IAmb 05 10 53.1
comp=Z,40nn,1.0s
KAIM Kayak Island 86.31 17 P P 05 10 50.1 +1.3
baz=212
TROLL Troll, Antarti 86.41 181 P P 05 10 49.1 -0.4
TROLL Troll, Antarti 86.41 181 pP pP 05 12 58.3 +1.3
G08A Pilot Rock 86.43 38 IAmb IAmb 05 10 52.5
comp=Z,29nn,1.0s
CRAG Craig 86.43 24 P P 05 10 51.3 +1.8
baz=222
GLI Glacier Island 86.44 15 P P 05 10 49.6 +0.1
baz=210
PMR Palmer 86.59 14 P P 05 10 50.9 +0.8
baz=208
LTY Liberty 86.65 36 IAmb IAmb 05 10 53.0
comp=Z,17nn,0.9s
SNAA Sanae 86.73 179 P P 05 10 50.0 -1.0
SNAA Sanae 86.73 179 pP pP 05 12 59.4 +0.7
SNAA Sanae 86.73 179 P P 05 10 50.8 -0.2
HAWA Hanford 86.76 37 IAmb IAmb 05 10 53.9
comp=Z,33nn,0.9s
TCRU Three Creeks R 86.80 46 IAmb IAmb 05 11 13.2
comp=Z,8.3nn,0.4s
MVU Marysvale 86.90 46 IAmb IAmb 05 10 55.5
comp=Z,44nn,1.1s
VNA3 Neumayer Olymp 86.91 177 P P 05 10 51.1 -0.6
VNA3 Neumayer Olymp 86.91 177 pP pP 05 13 00.0 +0.4
V35K Ketchikan 86.91 25 P P 05 10 53.3 +1.5
baz=224
ZAIG Zacatecas 86.92 64 IAmb IAmb 05 10 56.0
comp=Z,25nn,1.1s
W18A Petrified Fore 86.93 50 IAmb IAmb 05 10 55.8
comp=Z,34nn,1.4s
W18A Petrified Fore 86.93 50 P P 05 10 54.0 +1.4
baz=241
E08A Dider Farm, El 87.08 37 IAmb IAmb 05 10 55.3
comp=Z,24nn,1.0s
M23K Glacier View 87.09 14 P P 05 10 54.3 +1.8
baz=209
121A Cookes Peak, D 87.12 53 P P 05 10 54.7 +1.1
121A IAmb IAmb 05 10 56.7
comp=Z,27nn,1.4s
121A Cookes Peak, D 87.12 53 P P 05 10 55.3 +1.8
baz=242
PPLA Purkeypile 87.12 12 P P 05 10 53.8 +1.0
baz=205
BMO Blue Mountains 87.13 39 IAmb IAmb 05 10 55.4
comp=Z,15nn,0.9s
BMRM Bremner River 87.14 16 P P 05 10 53.7 +0.9
baz=212
K20K Telida 87.19 11 P P 05 10 53.5 +0.5
baz=203
MESA MESA 87.20 18 IAmb IAmb 05 10 55.2
comp=Z,16nn,0.8s
MESA MESA 87.20 18 P P 05 10 53.0 -0.3
baz=214
MFID Camas Ranch 87.21 41 IAmb IAmb 05 10 56.0
comp=Z,27nn,1.0s
TIY Taiyuan 87.22 313 ⇑P P 05 10 55.5 +1.7
TIY pmax pmax
comp=Z,35nn,0.5s
SCM Sheep Creek Mo 87.22 15 P P 05 10 53.3 +0.1
baz=210
KLU Klutina 87.26 15 P P 05 10 53.5 +0.1
baz=211
LL02 Futaleuf 87.28 136 P P 05 10 55.3 +1.3
VNA2 Neumayer--Watz 87.34 177 P P 05 10 53.4 -0.3
baz=182,slow=5.0
VNA2 Neumayer--Watz 87.34 177 pP pP 05 13 02.5 +0.7
baz=175,slow=4.0
SEY Seymchan 87.37 347 P P 05 10 54.1 +0.4
comp=Z,21nn,1.0s,baz=149,slow=5.1,SNR=27
SEY pP pP 05 13 01.7 +0.2
comp=Z,2.3nn,0.7s,baz=168,slow=5.0,SNR=3.7

comp=Z,21nn,1.0s
DUG Dugway, Tooele 87.38 45 P P 05 10 55.4 +0.8
baz=238
WRAK Wrangell Islan 87.43 24 IAmb IAmb 05 10 57.2
comp=Z,20nn,1.4s
WRAK Wrangell Islan 87.43 24 P P 05 10 55.0 +0.9
baz=223
D08A Wollman Farm, 87.49 37 IAmb IAmb 05 10 57.2
comp=Z,34nn,1.0s
PNL Peninsula 87.53 19 P P 05 10 55.8 +1.1
baz=217
VNA1 Neumayer--Stat 87.57 177 P P 05 10 54.6 -0.2
VNA1 Neumayer--Stat 87.57 177 pP pP 05 13 03.1 +0.2
E09A Wood Farm, Sta 87.61 37 IAmb IAmb 05 10 57.4
comp=Z,27nn,1.1s
CAST Castle Rocks 87.62 12 P P 05 10 54.2 -0.8
baz=205
N25K Chitina, Valde 87.69 16 P P 05 10 55.6 +0.2
baz=212
NLU North Lily Min 87.74 45 IAmb IAmb 05 10 58.9
comp=Z,24nn,1.7s
WAT6 Susitna Watana 87.78 14 P P 05 10 56.3 +0.4
baz=209
WAT1 Susitna Watana 87.82 14 P P 05 10 56.6 +0.7
baz=208
MCARA McCarthy VSAT 87.91 17 P P 05 10 57.4 +1.1
baz=213
XAN Xi'an 87.92 308 P P 05 10 58.2 +1.1
XAN pP pwP 05 13 08.4 -0.9
XAN pmax pmax
comp=Z,40nn,1.1s
LL04 Puerto Octay 87.96 133 P P 05 10 58.3 +1.1
LL04 IAmb IAmb 05 10 59.5
comp=Z,25nn,1.1s
TRF Thorofare Moun 88.00 13 P P 05 10 56.7 -0.2
baz=207
P29M Windy Craggy 88.01 20 P P 05 10 57.1 +0.2
baz=218
CTG Chitna Glacier 88.02 17 P P 05 10 57.2 +0.1
baz=215
PLID Pearl Lake 88.03 39 IAmb IAmb 05 10 59.6
comp=Z,29nn,1.2s
B08A Colville Reser 88.03 35 IAmb IAmb 05 10 58.9
comp=Z,20nn,0.8s
MPU Maple Canyon 88.06 45 IAmb IAmb 05 11 00.2
comp=Z,17nn,1.2s
LLLB Lillooet 88.08 33 IAmb IAmb 05 10 59.6
comp=Z,14nn,1.0s
XLT XiLinHaoTe 88.09 319 eP P 05 10 58.5 +0.8
XLT pP pwP 05 13 10.6 +0.9
XLT sP sP 05 14 05.3 +0.5
XLT pmax pmax
comp=Z,12nn,1.3s
XLT pmax pmax
comp=Z,110nn,3.8s
HLID Hailey 88.15 41 IAmb IAmb 05 11 00.7
comp=Z,17nn,0.9s
HLID Hailey 88.15 41 P P 05 10 59.0 +0.9
baz=237,SNR=28
O28M Mount Upton 88.19 18 P P 05 10 58.7 +0.7
baz=216
HARP HAARP 88.22 15 P P 05 10 58.5 +0.7
baz=212
HVU Hansel Valley 88.23 43 IAmb IAmb 05 11 00.8
comp=Z,25nn,1.0s
C09A Chrisman Ranch 88.28 36 IAmb IAmb 05 11 00.5
comp=Z,21nn,1.0s
O29M Mount Kennedy 88.29 19 P P 05 10 59.0 +0.8
baz=217
PLBC Pleasant Camp 88.31 20 P P 05 10 59.4 +1.2
baz=219
CTU Camp Tracy 88.33 45 IAmb IAmb 05 11 01.2
comp=Z,18nn,1.0s
SRU San Rafael Swe 88.35 47 P P 05 10 59.6 +0.4
P17A Butcher Ranch, 88.38 46 IAmb IAmb 05 11 02.6
comp=Z,29nn,1.2s
Y22D IRIS PASSCAL I 88.47 52 P P 05 11 00.4 +0.6
baz=242
JLU Jordanelle 88.48 45 IAmb IAmb 05 11 02.1
comp=Z,31nn,1.4s
MNTX Cornudas Mount 88.55 55 P P 05 11 01.4 +1.4
baz=243
LR03 Panguipulli 88.58 132 IAmb IAmb 05 11 02.9
comp=Z,24nn,0.8s
T35M Bob Quinn 88.64 24 P P 05 11 01.3 +1.4
baz=225
PAX Paxson 88.64 15 P P 05 10 59.5 -0.3
baz=211
P30M Million Dollar 88.64 20 P P 05 11 00.8 +1.0
baz=219
SKAG Skagway 88.66 21 P P 05 11 01.5 +1.7
baz=220
M26K Nabesna, AK 88.77 16 P P 05 11 01.1 +0.8
baz=213
P18A Preston Nutter 88.79 46 IAmb IAmb 05 11 03.6
comp=Z,19nn,1.1s
MVCO Mesa Verde 88.81 49 P P 05 11 01.9 +0.4
baz=241
KMI Kunming 88.82 298 ⇓P P 05 11 03.2 +1.5
KMI pmax pmax
comp=Z,26nn,1.4s
CRAI Chiangrai 88.82 292 P P 05 11 02.3 +0.7
CRAI IAmb IAmb 05 11 04.1
comp=Z,22nn,1.0s
TXAR Lajitas Array 88.83 58 P P 05 11 03.0 +1.5
comp=Z,16nn,0.9s,baz=219,slow=4.6,SNR=135
TXAR pP pwP 05 13 12.2 -0.4
comp=Z,2.3nn,1.0s,baz=226,slow=5.0,SNR=6.8
comp=Z,16nn,0.9s
YUK6 Outpost Mounta 88.86 19 P P 05 11 01.3 +0.2
baz=218
HWUT Hardware Ranch 88.92 44 IAmb IAmb 05 11 03.5
comp=Z,14nn,0.8s
YUK3 Moose Creek 88.93 17 P P 05 11 01.9 +0.5
baz=216
S34M Telegraph Cree 88.97 23 P P 05 11 02.7 +1.4
baz=224
M27K Edge Creek, AK 89.02 16 P P 05 11 01.8 +0.1
baz=214
HYT Haines Junctio 89.03 19 P P 05 11 02.6 +0.9
baz=218
PV13 Radium Mtn., P 89.05 48 IAmb IAmb 05 11 04.4
comp=Z,15nn,1.2s
PV23 Carpenter Ridg 89.06 48 IAmb IAmb 05 11 04.6
comp=Z,16nn,1.0s
YUK4 Talbot Arm 89.10 18 P P 05 11 03.5 +1.4
baz=217
NEW Newport 89.18 36 P P 05 11 02.8 +0.2
comp=Z,2.8nn,0.8s,baz=355,slow=2.3,SNR=5.2
comp=Z,2.8nn,0.8s
NEW Newport 89.18 36 P P 05 11 02.9 +0.3
baz=235
GO06 Curarrehue 89.20 133 IAmb IAmb 05 11 05.7
comp=Z,24nn,1.0s
ANMO Albuquerque 89.22 52 P P 05 11 03.9 +0.6
comp=Z,13nn,1.0s,baz=220,slow=5.1,SNR=37
ANMO pP pP 05 13 13.2 +1.6
comp=Z,5.2nn,1.1s,baz=235,slow=3.4,SNR=6.6
comp=Z,13nn,1.0s
ANMO Albuquerque 89.22 52 P P 05 11 04.3 +1.0
ANMO IAmb IAmb 05 11 05.4
comp=Z,17nn,1.0s
ANMO Albuquerque 89.22 52 P P 05 11 03.8 +0.5
baz=243
I21K Tanana 89.24 11 P P 05 11 03.0 +0.7
baz=205
K24K Donnelly Dome 89.28 14 P P 05 11 03.3 +0.5
baz=211
PLCA Paso Flores 89.29 134 P P 05 11 05.3 +1.8
comp=Z,16nn,0.9s,baz=235,slow=4.7,SNR=26
PLCA pP pP 05 13 11.7 -0.3
comp=Z,2.0nn,1.0s,baz=252,slow=8.8,SNR=3.2
comp=Z,16nn,0.9s
PLCA Paso Flores 89.29 134 P P 05 11 04.6 +1.1
PLCA IAmb IAmb 05 11 06.1
comp=Z,17nn,0.8s
P32M Atlin 89.29 21 P P 05 11 03.9 +1.1
baz=222
PV07 Paradox Valley 89.30 48 IAmb IAmb 05 11 05.6
comp=Z,13nn,1.1s
MLY Manley 89.33 12 P P 05 11 04.6 +1.7
baz=206
CMAR Chiang Mai Arr 89.36 290 P P 05 11 06.0 +1.9
comp=Z,32nn,0.9s,baz=131,slow=3.1,SNR=129
CMAR pP pP 05 13 11.0 -1.0
comp=Z,0.8nn,0.4s,baz=122,slow=3.4,SNR=2.2
CMAR PP PP 05 14 47.0 +0.4
comp=Z,3.6nn,0.9s,baz=121,slow=6.2,SNR=5.9

comp=Z,32nm,0.9s
CMAR Chiang Mai Arr 89.36 290 P **P** **05 11 05.1 +1.0**
PV15 Paradox Valley 89.37 48 IAmb IAmb 05 11 05.8
comp=Z,10nm,1.0s
HHC Hu-ho-hao-te 89.37 315 *e*P **P** **05 11 05.4 +1.7**
HHC S **S** **05 21 08.0 +3.9**
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,150nm,5.2s
O30N Mendenhall 89.42 20 P **P** **05 11 04.2 +0.8**
baz=220
RIDG Independent Ri 89.45 15 P **P** **05 11 04.1 +0.6**
baz=212
CHTO Chiang Mai 89.50 290 P **P** **05 11 05.9 +1.2**
CHTO Chiang Mai 89.50 290 P **P** **05 11 05.6 +0.9**
HDA Harding Lake 89.55 13 P **P** **05 11 04.6 +0.7**
baz=210
L27K Beaver Creek, 89.62 16 P **P** **05 11 04.8 +0.5**
baz=214
N30M Aishikik Lake 89.65 19 P **P** **05 11 04.9 +0.4**
baz=219
RDMU Red Mountain 89.71 46 IAmb IAmb 05 11 07.4
comp=Z,17nm,0.9s
WHY Whitehorse 89.72 20 P **P** **05 11 05.4 +0.5**
baz=221
DLBC Dease Lake 89.76 24 P **P** **05 11 06.0 +1.0**
comp=Z,2.5nm,0.9s,baz=242,slow=7.8,SNR=5.9
comp=Z,2.5nm,0.9s
DLBC Dease Lake 89.76 24 P **P** **05 11 05.4 +0.3**
baz=225
AHID Auburn Hatcher 89.80 43 IAmb IAmb 05 11 08.8
comp=Z,19nm,0.8s
SCRK Sand Creek 89.85 15 P **P** **05 11 06.2 +0.8**
baz=213
ILAR Eielson Array 89.88 13 P **P** **05 11 04.5 -0.8**
comp=Z,0.3nm,0.6s,baz=222,slow=3.7,SNR=4.5
ILAR pP **pwP** **05 13 15.8 -0.9**
comp=Z,1.6nm,1.1s,baz=236,slow=6.1,SNR=2.6
M29M Somme Creek 90.03 18 P **P** **05 11 06.9 +0.6**
baz=218
P33M Teslin, Yukon 90.06 21 P **P** **05 11 07.4 +1.0**
baz=222
N31M Braeburn, Yuko 90.07 19 P **P** **05 11 07.1 +0.7**
baz=220
J25K Salcha River, 90.07 14 P **P** **05 11 06.4 0.0**
baz=211
R33M Jennings River 90.10 22 P **P** **05 11 07.9 +1.2**
baz=224
MSO Missoula 90.19 39 P **P** **05 11 08.0 +0.6**
baz=238
G21K Allakaket 90.20 10 P **P** **05 11 07.7 +0.9**
baz=204
PZH PanZhiHua 90.21 298 P **P** **05 11 08.7 +0.7**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,90nm,5.1s
S22A 4UR Ranch, Cre 90.24 49 IAmb IAmb 05 11 10.5
comp=Z,18nm,1.1s
S22A 4UR Ranch, Cre 90.24 49 P **P** **05 11 09.1 +1.0**
baz=242,SNR=20
REDW Red Top Meadow 90.26 43 P **P** **05 11 08.4 +0.5**
REDW IAmb IAmb 05 11 10.2
comp=Z,24nm,1.0s
TPAW Teton Pass 90.26 43 IAmb IAmb 05 11 09.4
comp=Z,14nm,1.1s
K27K Chicken 90.36 15 P **P** **05 11 08.4 +0.8**
baz=214
O20A White River Ci 90.39 47 IAmb IAmb 05 11 10.6
comp=Z,15nm,0.9s
O20A White River Ci 90.39 47 P **P** **05 11 08.9 +0.3**
baz=242,SNR=8.0
J26L Joseph Creek 90.39 15 P **P** **05 11 08.9 +1.0**
baz=213
CD2 Chengdu 90.43 303 *e*P **P** **05 11 10.0 +1.2**
IMW Indian Meadow 90.47 42 IAmb IAmb 05 11 11.4
comp=Z,19nm,1.1s
LOHW Long Hollow 90.54 43 IAmb IAmb 05 11 11.4
comp=Z,8.2nm,0.9s
M30M Minto, Yukon 90.61 18 P **P** **05 11 09.6 +0.7**
baz=219
YPP Pitchstone Pla 90.75 42 IAmb IAmb 05 11 27.4
comp=Z,13nm,1.8s
BW06 Boulder Array 90.79 44 IAmb IAmb 05 11 12.0
comp=Z,11nm,1.1s
BW06 Boulder Array 90.79 44 P **P** **05 11 10.1 -0.3**
baz=241,SNR=5.1
PD31 Pinedale Array 90.79 44 P **P** **05 11 10.5 0.0**
PD31 IAmb IAmb 05 11 12.0
comp=Z,9.2nm,1.0s
PDAR Pinedale Array 90.79 44 P **P** **05 11 11.1 +0.7**
comp=Z,7.7nm,0.9s,baz=204,slow=3.3,SNR=51
PDAR pP **pP** **05 13 20.4 +1.3**
comp=Z,0.4nm,0.7s,baz=197,slow=2.7,SNR=3.4
PDAR PP **PP** **05 14 53.5 -4.1**
comp=Z,0.7nm,0.9s,baz=216,slow=4.8,SNR=4.5
comp=Z,7.7nm,0.9s
SMCO Snowmass 90.80 48 IAmb IAmb 05 11 26.2
comp=Z,9.5nm,0.7s
YHL Hebgen Lake 90.80 41 IAmb IAmb 05 11 13.3
comp=Z,9.1nm,0.9s
BOZ Bozeman (W) 90.91 41 IAmb IAmb 05 11 13.0
comp=Z,8.9nm,1.0s
BOZ Bozeman (W) 90.91 41 P **P** **05 11 11.2 +0.4**
baz=239
H17A Grant Village 90.95 42 P **P** **05 11 13.2 +2.0**
baz=240
DAWY Dawson 91.07 16 P **P** **05 11 11.3 +0.3**
baz=217
I26K Coal Creek Min 91.17 14 P **P** **05 11 11.9 +0.6**
baz=213
SDCO Great Sand Dun 91.17 50 IAmb IAmb 05 11 14.2
comp=Z,8.3nm,0.9s
SDCO Great Sand Dun 91.17 50 P **P** **05 11 12.5 0.0**
baz=243,SNR=15
EGAK Eagle 91.20 15 P **P** **05 11 12.4 +0.9**
baz=215
WALA Waterton Lakes 91.39 37 IAmb IAmb 05 11 16.0
comp=Z,22nm,1.7s
K29M Barlow Dome 91.40 17 P **P** **05 11 13.3 +0.7**
baz=218
COLD Coldfoot 91.40 11 P **P** **05 11 13.3 +1.0**
baz=207
G24K Hadweenzic Riv 91.44 12 P **P** **05 11 14.0 +1.4**
baz=209
MSTX Muleshoe 91.51 54 IAmb IAmb 05 11 15.5
comp=Z,13nm,0.8s
MSTX Muleshoe 91.51 54 P **P** **05 11 13.4 -0.4**
baz=245,SNR=7.4
T25A Trinidad 91.68 51 IAmb IAmb 05 11 16.3
comp=Z,11nm,0.9s
T25A Trinidad 91.68 51 P **P** **05 11 14.6 0.0**
baz=244,SNR=6.6
RWWY Rawlins 91.81 46 IAmb IAmb 05 11 16.9
comp=Z,14nm,1.1s
833A Chaparral WMA, 91.82 60 P **P** **05 11 16.0 +0.8**
baz=246,SNR=6.5
ISCO Idaho Springs 92.02 48 IAmb IAmb 05 11 17.6
comp=Z,15nm,1.8s
ISCO Idaho Springs 92.02 48 P **P** **05 11 17.0 +0.7**
baz=243
MT01 Popeta 92.03 128 P **P** **05 11 16.1 -0.1**
RLMT Red Lodge 92.12 42 P **P** **05 11 17.5 +1.0**
baz=241
N23A Red Feather La 92.29 47 IAmb IAmb 05 11 19.5
comp=Z,13nm,1.1s
N23A Red Feather La 92.29 47 P **P** **05 11 18.5 +1.0**
baz=243,SNR=5.9
JCT Junction City 92.36 58 IAmb IAmb 05 11 19.0
comp=Z,7.9nm,0.8s
JCT Junction City 92.36 58 P **P** **05 11 18.0 +0.3**
baz=246,SNR=5.4
TGTN Hyland Airport 92.56 22 P **P** **05 11 19.2 +1.3**
baz=226
LZH Lanzhou 92.56 308 *e*P **P** **05 11 20.3 +1.6**
LZH S **S** **05 21 37.7 +5.1**
LZH pmax pmax
comp=Z,33nm,1.4s
LZH pmax pmax
comp=Z,210nm,5.9s
K22A Casper 92.70 45 IAmb IAmb 05 11 20.9
comp=Z,14nm,1.3s
K22A Casper 92.70 45 P **P** **05 11 20.0 +0.8**
baz=243
AMTX Amarillo 92.72 54 P **P** **05 11 20.0 +0.6**
baz=245
LMEL Las Melosas 92.81 128 IAmb IAmb 05 11 23.3
comp=Z,24nm,1.4s
YAK Yakutsk 92.86 338 P **P** **05 11 18.2 -1.0**
comp=Z,6.9nm,0.3s,baz=292,slow=1.8,SNR=4.8
comp=Z,6.9nm,0.3s
KSCO Kaye Shedlock' 93.76 49 P **P** **05 11 24.7 +0.7**
baz=245
WMOK Wichita Mounta 94.84 55 P **P** **05 11 29.3 +0.4**
baz=247
RSSD Black Hills 94.98 44 P **P** **05 11 29.1 -0.5**
RSSD IAmb IAmb 05 11 31.2
comp=Z,5.6nm,0.8s
RSSD Black Hills 94.98 44 P **P** **05 11 30.0 +0.4**
baz=244
SONM Songino Array 95.91 319 P **P** **05 11 32.8 -0.7**
comp=Z,0.5nm,0.4s,baz=125,slow=2.3,SNR=6.7
SONM pP **pP** **05 13 41.2 -1.2**
comp=Z,0.4nm,0.4s,baz=117,slow=4.5,SNR=2.0
SONM PP **PP** **05 15 35.5 -1.1**
comp=Z,0.5nm,0.3s,baz=120,slow=8.8,SNR=4.1
SONM PKKPbc **PKKPbc** **05 28 18.9 -1.4**
comp=Z,0.8nm,0.9s,baz=90,slow=3.0,SNR=4.0
comp=Z,0.5nm,0.4s
SONM Songino Array 95.91 319 P **P** **05 11 33.6 0.0**
DGMT Dagmar 96.75 40 P **P** **05 11 38.6 +1.5**
baz=245
GTA Gaotai 96.82 310 *e*P **P** **05 11 37.9 +0.1**
GTA pP pwP 05 13 50.5 -0.9
GTA PP **PP** **05 15 42.3 -1.4**
GTA pmax pmax
comp=Z,4.0nm,1.2s
ECSD EROS Data Cent 99.76 47 P **Pdif** **05 11 50.6 0.0**
baz=249
LPAZ La Paz 102.72 113 PP **PP** **05 16 27.2 -0.9**
comp=Z,2.8nm,1.1s,baz=259,slow=8.8,SNR=2.7
LPAZ PKKPbc **PKKPbc** **05 28 01.4 +0.2**
comp=Z,0.8nm,0.8s,baz=14,slow=4.1,SNR=3.5
MKAR Makanchi Array 111.17 313 Pdiff **Pdif** **05 12 45.2 +3.9**
comp=Z,0.2nm,0.6s,baz=99,slow=5.4,SNR=5.2
MKAR PKiKP **PKiKP** **05 16 35.5 -0.8**
comp=Z,0.7nm,0.7s,baz=92,slow=0.2,SNR=5.3
MKAR PP PP 05 17 19.4 -8.7
comp=Z,0.9nm,0.8s,baz=112,slow=9.3,SNR=4.2
MKAR PKKPbc **PKKPbc** **05 27 35.0 -0.2**
comp=Z,1.8nm,0.7s,baz=270,slow=3.8,SNR=16
NRIK Noril'sk 111.30 338 PP **PP** **05 17 25.4 -2.8**
comp=Z,1.4nm,0.4s,baz=153,slow=5.8,SNR=4.3
KURBB Kurchatov Arra 114.14 317 PKP PKPdf 05 16 40.7 -1.1
comp=Z,0.9nm,0.6s,baz=107,slow=1.5,SNR=8.1
KURBB PP PP 05 17 39.8 -8.9
comp=Z,2.2nm,1.1s,baz=95,slow=5.9,SNR=4.8
AAK Ala-Archa 116.11 308 PP **PP** **05 18 01.6 -1.1**
comp=Z,1.0nm,0.3s,baz=107,slow=7.6,SNR=3.9
AAK PKKPbc **PKKPbc** **05 27 18.3 -0.5**
comp=Z,1.8nm,0.4s,baz=251,slow=10,SNR=4.5
BTK Batken 118.60 305 **PKPdf** **05 16 49.2 -1.7**
KK31 Karatay Array 119.06 308 PKPdf **PKPdf** **05 16 51.0 -0.6**
KKAR Karatay Array 119.06 308 PKPdf **PKPdf** **05 16 51.1 -0.5**
BVAR Borovoye Array 119.26 319 PKP **PKPdf** **05 16 51.0 -0.6**
comp=Z,1.3nm,0.5s,baz=64,slow=3.4,SNR=9.4
BVAR PP **PP** **05 18 20.9 -2.7**
comp=Z,1.0nm,0.8s,baz=93,slow=7.7,SNR=4.3
KBL Kabul 119.40 298 PKPdf **PKPdf** **05 16 52.4 -0.3**
BDFB Brasilia 119.50 124 PKP **PKPdf** **05 16 52.1 -1.2**
comp=Z,0.6nm,0.3s,baz=180,slow=4.0,SNR=3.8
ARU Arti 125.55 325 PKPdf **PKPdf** **05 17 03.1 -0.4**
ABKAR Akbulak array 126.15 316 PKPdf **PKPdf** **05 17 04.8 -0.1**
GEYT Alibeck 128.43 302 PKP **PKiKP** **05 17 10.0 -0.3**
comp=Z,2.6nm,0.7s,baz=270,slow=3.0,SNR=4.9
GEYT SKPbc SKPbc 05 19 36.5
comp=Z,5.9nm,0.9s,baz=222,slow=1.8,SNR=7.9
ARCES ARCESS Array B 129.97 349 PKP **PKPdf** **05 17 11.1 -0.6**
comp=Z,1.7nm,0.6s,baz=20,slow=3.9,SNR=7.0
ARCES SKPbc SKPab 05 19 41.4 +1.9
comp=Z,23nm,1.1s,baz=359,slow=4.9,SNR=12
FINES FINESS Array B 136.66 342 PKhKP PKPpre 05 17 13.2
comp=Z,2.8nm,1.0s,baz=132,slow=2.6,SNR=3.5
FINES PKP **PKPdf** **05 17 24.0 -0.3**
comp=Z,1.4nm,0.6s,baz=100,slow=2.3,SNR=9.2
FINES SKPbc **SKPbc** **05 20 01.7 +0.2**
comp=Z,6.0nm,0.9s,baz=94,slow=5.7,SNR=9.0
KMBO Kilima Mbogo 137.60 242 SKPbc **SKPbc** **05 20 07.3 +1.2**
comp=Z,7.1nm,1.0s,baz=99,slow=1.8,SNR=7.6
KMBO **Kilima Mbogo 137.60 242** PKPdf **PKPdf** **05 17 27.6 -0.3**
KMBO SKPbc **SKPbc** **05 20 07.7 +1.6**
KBZ Khabaz 138.86 312 SKPbc **SKPbc** **05 20 08.7 +0.4**
comp=Z,1.3nm,0.5s,baz=49,slow=6.9,SNR=4.1
NB2 NORSAR Subarra 140.13 352 PKP **PKPdf** **05 17 24.4 -6.4**
comp=Z,0.8nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B 140.12 352 PKhKP PKPpre 05 17 23.9
comp=Z,1.8nm,0.8s,baz=15,slow=4.6,SNR=5.6
NOA SKPbc **SKiKP** **05 20 12.8 -0.7**
comp=Z,1.4nm,0.7s,baz=15,slow=4.4,SNR=6.4
GURO Guroymak-BITLI 140.89 305 PKPdf **PKPdf** **05 17 29.2 -3.8**
GURO SKPbc **SKiKP** **05 20 15.3 -0.6**
NACGM Naroch 141.57 336 *e*PKP **PKPdf** **05 17 28.6 -4.8**
comp=Z,15nm,0.8s,baz=40
LODK Lodk 141.66 246 PKPdf **PKPdf** **05 17 31.1 -3.8**
KOPT Kop Dagi 141.67 307 PKPdf **PKPdf** **05 17 32.4 -2.1**
PABE Paberze 142.12 338 *e*P **PKPdf** **05 17 32.2 -2.2**
MARD Mardin 142.13 303 PKPdf **PKPdf** **05 17 32.8 -2.4**
MBAR Mbarara 143.13 237 PKPbc 05 17 36.4 +0.3
AKASG Malin Array Be 143.52 329 PKP PKPab 05 17 35.0 -0.9
comp=Z,30nm,0.6s,baz=41,slow=4.6,SNR=84
AKASG pPKP pPKPdf 05 19 53.9 -0.9
comp=Z,1.1nm,0.6s,baz=40,slow=3.7,SNR=1.9
AKASG SKPbc **SKiKP** **05 20 21.3 +0.6**
comp=Z,4.0nm,0.9s,baz=41,slow=2.7,SNR=12
DEL Delary 144.03 348 *i* P PKPbc 05 17 36.0 -1.3
BSD Bornholm Skovb 145.07 346 *e*P **PKPbc** **05 17 40.9 +0.4**
GKP Gorka Klasztor 146.13 342 *e*PKP **PKPbc** **05 17 44.0 +0.4**
GKP Gorka Klasztor 146.13 342 *e*P **PKPbc** **05 17 44.2 +0.6**
ILGA Ilgaz 146.16 312 PKPbc **PKPbc** **05 17 45.5 +1.1**
BEL Belsk 146.21 337 *e*PKP **PKPbc** **05 17 44.7 +0.8**
BEL *ep*PKP **pPKPdf** **05 20 04.1 +4.6**
BR131 Keskin Array S 146.74 310 PKPbc **PKPbc** **05 17 45.7 -0.3**
BRTR Keskin Array B 146.74 310 PKPbc **PKPbc** **05 17 46.0 +0.1**
comp=Z,9.0nm,0.7s,baz=130,slow=4.3,SNR=46
BRTR pPKPbc pPKPbc 05 20 01.1 +0.3
comp=Z,1.4nm,0.8s,baz=119,slow=1.5,SNR=3.5
VASR Vaslui 146.87 325 ⇑P **PKPbc** **05 17 46.5 +0.7**
TLCR 147.19 322 ⇑P **PKPbc** **05 17 46.9 +0.2**
VLDR Vladesti 147.21 323 ⇑P **PKPbc** **05 17 47.3 +0.6**
ANTO Ankara 147.28 311 ⇑P **PKPbc** **05 17 47.9 +0.6**
ANTO Ankara 147.28 311 **PKPbc** **05 17 46.8 -0.4**
GHRR 147.45 324 ⇑P **PKiKP** **05 17 48.6 -0.2**
BURAR Bucovina Array 147.54 328 ⇓P **PKiKP** **05 17 48.5 -0.7**
TESR Tescani 147.56 326 ⇑P **PKPbc** **05 17 47.8 +0.1**
CFR Carcaliu 147.58 322 ⇑P **PKPbc** **05 17 48.0 +0.3**
TPGR Topolog 147.61 322 ⇑P **PKiKP** **05 17 48.6 -0.7**
RUE Ruedersdorf 147.75 345 *e*P **PKiKP** **05 17 48.8 -0.5**
TIRR Tirgusor 147.85 321 ⇑P **PKPbc** **05 17 48.7 +0.3**
OJC Ojcow 147.89 337 *e*PKP **PKPbc** **05 17 47.7 -0.7**
OJC *ep*PKP **pPKPab** **05 20 08.7 +4.1**
KOLS Kolonicke sedl 147.93 333 *e*PKP **PKiKP** **05 17 49.9 +0.1**
KOLS *e* 05 20 05.3
VRI Vrincioaia 147.94 325 ⇓P **PKPbc** **05 17 48.9 +0.2**
PLOR Plostina 147.99 325 ⇑P **PKPbc** **05 17 48.7 -0.1**
HARR Harsova 147.99 322 ⇓P **PKPbc** **05 17 49.3 +0.5**
TLBR Topalu 148.01 322 ⇓P **PKiKP** **05 17 50.1 0.0**
COVR Voineasa-Covas 148.23 325 ⇑P **PKPbc** **05 17 49.6 +0.2**
OZUR 148.29 326 ⇓P **PKiKP** **05 17 50.4 -0.3**
CRVS Cervenica-Dubn 148.29 333 *e*PKP **PKiKP** **05 17 50.5 -0.1**
CRVS *e* 05 17 55.5
CRVS *e* 05 20 08.1
CRVS *e* 05 20 11.7
NIE Niedzica 148.35 335 *e*PKP **PKiKP** **05 17 50.5 -0.2**
NIE *ep*PKP **pPKPab** **05 20 12.2 +5.7**
KSP Ksiaz 148.54 341 *e*PKP **PKPbc** **05 17 50.4 +0.5**
KSP *ep*PKP **pPKPab** **05 20 12.2 +5.1**
CSS Mathiatis 148.55 302 **PKPbc** **05 17 50.5 0.0**
DOPR Dopca 148.58 326 ⇑P **PKiKP** **05 17 51.4 +0.1**
MLR Muntele Rosu 148.60 325 ⇓P **PKPbc** **05 17 50.9 +0.5**
OKC Ostrava-Krasne 148.80 338 *e*PKP **PKiKP** **05 17 51.3 -0.3**
OKC *e*PKPAB **PKPab** **05 17 58.2 +1.3**
OKC *ex* x 05 20 12.9
OSTC Ostas 148.82 341 *e*PKP **PKiKP** **05 17 51.3 -0.3**
OSTC *e*PKPAB **PKPab** **05 17 58.2 +1.2**
OSTC *ex* x 05 20 13.3
CHVC Chvalec 148.84 341 *e*PKP **PKiKP** **05 17 51.6 -0.1**
CHVC *e*PKPAB **PKPab** **05 17 57.5 +0.4**
CHVC *ep*PKP **pPKPab** **05 20 12.4 +4.1**
LANS Liptovska Anna 148.89 336 *e* 05 20 13.2
LANS Liptovska Anna 148.89 336 *e*PKP **PKiKP** **05 17 52.4 +0.5**
LANS Liptovska Anna 148.89 336 *e* **PKPab** **05 17 58.6 +1.2**

UPC Upice 148.92 341 ⇑*e*PKP **PKiKP** **05 17 51.7 -0.1**
UPC *e*PKPAB **PKPab** **05 17 58.4 +1.0**
UPC *ex* x 05 20 12.8
DPC Dobruska-Polom 148.96 340 ⇑*e*PKP **PKPbc** **05 17 51.4 +0.3**
DPC *e*PKPAB **PKPab** **05 17 58.3 +0.6**
DPC *ex* x 05 20 12.0
CLL Collm 149.02 345 ⇓*i*PKPbc **PKPbc** **05 17 51.3 +0.2**
comp=Z,26nm,1.1s
CLL ⇑*i*PKPab **PKPab** **05 17 58.1 +0.3**
comp=Z,15nm,0.8s
KRLC Kraliky 149.06 340 ⇑*e*PKP **PKPbc** **05 17 51.2 -0.1**
KRLC *e*PKPAB **PKPab** **05 17 58.1 0.0**
KRLC *ex* x 05 20 12.2
MORC Moravsky Berou 149.06 338 ⇑P **PKiKP** **05 17 52.1 0.0**
MORC Moravsky Berou 149.06 338 *e* 05 20 14.2
MORC Moravsky Berou 149.06 338 *e*PKP **PKiKP** **05 17 52.2 0.0**
MORC Moravsky Berou 149.06 338 *e* **PKPab** **05 17 58.7 +0.6**
VOIR 149.11 325 ⇑P **PKPbc** **05 17 51.9 +0.2**
BRG Berggiesshubel 149.18 343 *i* PKP **PKiKP** **05 17 52.0 -0.4**
BRG Amp 05 17 53.7
comp=Z,19nm,1.0s
BRG *i* x x 05 17 58.8
BRG Amp 05 17 59.8
comp=Z,17nm,0.9s
BRG pPKP **pPKPab** **05 20 13.8 +4.2**
BRG Amp 05 20 17.3
comp=Z,13nm,1.1s
MAUC Maruska 149.31 338 ⇑*e*PKP **PKiKP** **05 17 52.6 -0.1**
MAUC *ex* x 05 20 14.0
PVCC Panska Ves 149.32 342 ⇑*e*PKP **PKiKP** **05 17 52.7 +0.1**
PVCC *e*PKPAB **PKPab** **05 17 58.6 -0.5**
PVCC *ex* x 05 20 14.2
DRGR 149.33 330 ⇑P **PKPbc** **05 17 52.3 +0.2**
ARR Arges 149.37 326 ⇑P **PKiKP** **05 17 53.5 +0.5**
VYHS Vyhne 149.66 336 *e* 05 20 14.9
VYHS Vyhne 149.66 336 *e*PKP **PKiKP** **05 17 53.5 +0.1**
VYHS Vyhne 149.66 336 *e* **PKPab** **05 18 01.5 +0.9**
VYHS Vyhne 149.66 336 *e* 05 20 09.6
PSZ Piszkesteto 149.71 334 PKP **PKiKP** **05 17 54.0 +0.4**
ISP Isparta 149.73 308 **PKPbc** **05 17 52.4 -1.0**
LOT Lotru 149.76 327 ⇑P **PKPbc** **05 17 53.0 -0.3**
VRAC Vranov 149.78 339 ⇑P **PKiKP** **05 17 53.8 +0.1**
VRAC Vranov 149.78 339 *e* 05 20 14.8
VRAC Vranov 149.78 339 *e*PKP **PKiKP** **05 17 53.8 +0.1**
VRAC Vranov 149.78 339 *e* **PKPab** **05 18 01.9 +0.8**
JAVC Velka Javorina 149.79 337 *e* 05 20 16.2
JAVC Velka Javorina 149.79 337 *e*PKP **PKiKP** **05 17 55.0 +1.3**
PRU Pruhonice 149.82 342 ⇑*e*PKP **PKPbc** **05 17 53.2 +0.2**
PRU *e*PKPAB **PKPab** **05 18 01.6 +0.4**
PRU *ep*PKP **pPKPab** **05 20 13.4 +1.3**
DEV Deva 149.89 328 ⇓P **PKPbc** **05 17 53.1 -0.3**
KRUC Moravsky 150.06 339 *e* 05 20 13.8
KRUC Moravsky 150.06 339 *e*PKP **PKiKP** **05 17 54.2 0.0**
KRUC Moravsky 150.06 339 *e* **PKPab** **05 18 02.8 +0.6**
TREC Trest 150.15 340 ⇑*e*PKP **PKiKP** **05 17 54.6 +0.2**
TREC *e*PKPAB **PKPab** **05 18 03.2 +0.6**
NKC Novy Kostel 150.15 345 ⇑*e*PKP **PKiKP** **05 17 54.3 -0.1**
NKC *e*PKPAB **PKPab** **05 18 01.1 -0.7**
NKC *ex* x 05 20 16.1
GZR Gura Zlata 150.30 328 ⇓P **PKPbc** **05 17 53.9 -0.5**
MODS Modra-Piesok 150.34 337 *e* 05 20 17.0
MODS Modra-Piesok 150.34 337 *e*PKP **PKiKP** **05 17 55.6 +0.8**
MODS Modra-Piesok 150.34 337 *e* **PKPab** **05 18 04.9 +1.4**
MODS Modra-Piesok 150.34 337 *e* 05 20 12.0
BZS Buzias 150.71 329 ⇑P **PKiKP** **05 17 55.5 -0.2**
HERR Herculane 150.85 327 ⇑P **PKPbc** **05 17 55.2 -0.4**
KHC Kasperske Hory 150.86 342 ⇑*e*PKP **PKPbc** **05 17 55.4 -0.2**
KHC *e*PKPAB **PKPab** **05 18 05.7 +0.1**
KHC *ep*PKP **pPKPbc** **05 20 11.7 -0.5**
KHC *ep*PKP **pPKPab** **05 20 15.5 -0.9**
CKRC Cesky Krumlov 150.93 341 ⇑*e*PKP **PKPbc** **05 17 55.4 -0.3**
CKRC *e*PKPAB **PKPab** **05 18 05.8 -0.1**
CKRC *ep*PKP **pPKPbc** **05 20 11.9 -0.1**
GRFO Grafenberg 150.95 346 PKPbc **PKPbc** **05 17 54.8 -0.9**
GERES GERESS Array B 151.09 342 PKPbc **PKPbc** **05 17 56.1 0.0**
comp=Z,3.0nm,0.8s,baz=66,slow=1.6,SNR=24
GERES PKPab **PKPab** **05 18 06.6 0.0**
comp=Z,3.2nm,0.9s,baz=34,slow=3.6,SNR=11
GERES pPKPbc **pPKPbc** **05 20 12.3 -0.6**
comp=Z,4.1nm,0.9s,baz=29,slow=2.5,SNR=6.6
CONA Conrad Observa 151.22 338 *e*P **PKiKP** **05 17 57.0 +0.2**
comp=Z,13nm,1.2s
CONA *i* P **PKPab** **05 18 08.3 +1.0**
comp=Z,11nm,0.8s
CONA *i* P **pPKPab** **05 20 18.4 +0.5**
comp=Z,8.4nm,0.9s
RONA Rosalia, Austr 151.26 338 *i* P **PKiKP** **05 17 57.0 +0.2**
comp=Z,7.7nm,0.6s
RONA *e*P **PKPab** **05 18 08.5 +1.1**
comp=Z,19nm,1.0s
RONA *i* P **pPKPab** **05 20 18.4 +0.3**
comp=Z,11nm,0.9s
MORH Mrgy, Hungar 151.59 333 ⇑P **PKiKP** **05 17 57.3 -0.1**
MORH Mrgy, Hungar 151.59 333 PKP **PKiKP** **05 17 57.5 +0.1**
BLKB Belogradchik 151.59 325 ⇑P **PKPbc** **05 17 57.3 0.0**
MOA Molln 151.81 340 *i* P **PKPbc** **05 17 57.7 0.0**
comp=Z,1.9nm,0.7s
MOA *i* P **PKPab** **05 18 10.7 +1.0**
comp=Z,12nm,1.1s
FRGS Fruska Gora 151.90 330 ⇓P **PKPbc** **05 17 58.0 0.0**
KOVH Kovagotottos 151.91 334 PKP **PKiKP** **05 17 58.4 +0.3**
ARSA Arzberg 151.92 338 *e*P **PKPab** **05 18 10.8 +0.6**
comp=Z,7.8nm,0.9s
VTS Vitosha 151.95 323 **PKPbc** **05 17 58.4 0.0**
VTS PKPab **PKPab** **05 18 11.1 +0.5**
BOVS Bovan 152.09 326 ⇓P **PKPbc** **05 17 58.2 -0.2**
BIOA Bad Ischl, Aus 152.14 341 *i* P **PKPbc** **05 17 58.0 -0.4**
comp=Z,3.3nm,0.8s
BIOA *e*P **PKPab** **05 18 12.0 +0.9**
comp=Z,16nm,0.8s,SNR=7.4
BIOA *i* P **pPKPab** **05 20 19.4 -2.2**
comp=Z,4.4nm,1.0s
SOKA Soboth 152.58 338 *e*P **PKPab** **05 18 13.5 +0.4**
comp=Z,10nm,0.9s
SOKA *e*P **pPKPbc** **05 20 15.6 -0.6**
comp=Z,10nm,1.4s
KBA Koelnbreinsper 152.78 341 *e*P **PKPab** **05 18 15.3 +1.3**
comp=Z,8.9nm,0.9s
KBA *e*P **pPKPab** **05 20 22.1 -2.3**
comp=Z,3.2nm,0.6s
OBKA Obir 152.90 339 *i* P **PKPab** **05 18 14.3 -0.1**
comp=Z,6.7nm,0.9s
OBKA *i* P **pPKPbc** **05 20 16.7 -0.2**
comp=Z,1.9nm,0.7s
WATA Walderalm 153.05 343 *e*P **PKPab** **05 18 15.7 +0.6**
comp=Z,18nm,1.2s,SNR=6.6
WATA *i* P **pPKPbc** **05 20 16.7 -0.7**
comp=Z,8.8nm,1.2s
MYKA Terra Mystica 153.09 340 *e*P **PKPab** **05 18 14.9 -0.3**
comp=Z,8.8nm,0.7s,SNR=6.4
WTTA Wattenberg 153.10 343 *i* P **PKiKP** **05 18 00.9 +0.1**
comp=Z,2.9nm,0.6s
WTTA *e*P **PKPab** **05 18 16.1 +0.8**
comp=Z,13nm,0.7s,SNR=6.0
WTTA *e*P **pPKPbc** **05 20 17.1 -0.4**
comp=Z,9.5nm,1.3s
RETA Reutte 153.12 345 *e*P **PKiKP** **05 18 00.7 0.0**
comp=Z,3.6nm,1.1s
RETA *e*P **PKPab** **05 18 15.6 +0.3**
comp=Z,12nm,1.1s
RETA *e*P **pPKPbc** **05 20 16.3 -1.4**
comp=Z,4.9nm,1.0s
CRES Cresnjev 153.16 337 *i* PKPbc **PKiKP** **05 18 00.8 +0.1**
CRES *e*PKPab **PKPab** **05 18 15.5 0.0**
MOTA Moosalm 153.16 344 *e*P **PKiKP** **05 18 01.0 +0.1**
comp=Z,6.3nm,1.2s
MOTA *e*P **PKPab** **05 18 16.1 +0.5**
comp=Z,15nm,1.2s
MOTA *e*P **pPKPbc** **05 20 16.8 -0.8**
comp=Z,9.0nm,1.4s
SQTA Sankt Quirin 153.25 344 *e*P **PKiKP** **05 18 01.2 +0.2**
comp=Z,2.1nm,0.7s
SQTA *i* P **PKPab** **05 18 16.7 +0.8**
comp=Z,10nm,1.1s
SQTA *e*P **pPKPbc** **05 20 16.8 -1.0**
comp=Z,6.7nm,1.1s
LJU Ljubljana 153.31 338 *i* PKPbc **PKiKP** **05 18 01.2 +0.2**
LJU *i* PKPab **PKPab** **05 18 16.2 +0.2**
ABTA Abfaltersbach 153.33 342 *i* P **PKPab** **05 18 16.0 -0.3**
comp=Z,12nm,0.8s,SNR=5.4
ABTA *i* P **pPKPbc** **05 20 16.4 -1.6**
comp=Z,8.0nm,1.1s
DAVA Damuels 153.51 346 *i* P **PKPab** **05 18 17.6 +0.5**
comp=Z,7.7nm,0.9s

VOJS	**Vojsko**	**153.54**	**339**	*i* PKPbc	**PKPbc**	**05 18 01.3**	**-0.2**
FETA	**Feichten**	**153.56**	**344**	*i* P	**PKPab**	**05 18 17.9**	**+0.5**
	comp=Z,8.7nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**154.05**	**345**	PKPdf	**PKPdf**	**05 17 54.8**	**+0.5**
FUORN				PKPab	**PKPab**	**05 18 19.2**	**-0.4**
TIP	**Timpagrande**	**157.87**	**325**	PKPab	**PKPab**	**05 18 35.8**	**-0.3**
ESDC	**Sonseca Array**	**161.77**	**11**	pPKPab	pPKPab	05 21 05.2	+1.9
	comp=Z,0.3nm,0.9s,baz=92,slow=1.4,SNR=1.8						
BBTS	**Babate**	**162.22**	**111**	PKPab	**PKPab**	**05 18 56.7**	**+1.0**
	comp=Z,26nm,0.8s,baz=325,slow=23,SNR=4.2						
DBIC	**Dimbokro**	**164.03**	**160**	PKP	**PKPdf**	**05 18 05.0**	**-1.3**
	comp=Z,5.4nm,0.8s,baz=245,slow=5.7,SNR=3.9						
DBIC				PKPab	**PKPab**	**05 19 04.2**	**+0.7**
	comp=Z,7.3nm,0.7s,baz=224,slow=8.2,SNR=6.5						
KEST	**Kesra**	**164.19**	**333**	PKPab	**PKPab**	**05 19 03.6**	**-0.3**
	comp=Z,6.3nm,0.9s,baz=282,slow=2.2,SNR=7.4						
TORD	**Torodi Ar. Bea**	**171.32**	**187**	PKP	**PKPdf**	**05 18 10.3**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=318,slow=1.1,SNR=7.6						
TORD				PKPab	**PKPab**	**05 19 35.1**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=177,slow=4.3,SNR=8.1						
TORD				pPKPab	**pPKPab**	**05 21 49.2**	**+3.7**
	comp=Z,1.7nm,0.8s,baz=184,slow=2.9,SNR=4.3						
KOWA	**Kowa**	**171.48**	**148**	PKPab	**PKPab**	**05 19 36.6**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=198,slow=4.3,SNR=10						

*RHSSO **04** 05:01:29.8±0.2, 43°.34N×18°.03E, h8^{km}±3^{km}, ML2.5/10*
*PDG **04** 05:01:29.2±0.3, 43°.32N×17°.97E, h11^{km}, ML2.6/13, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*
*BEO **04** 05:01:29.5±0.4, 43°.35N×18°.01E, h10^{km}±3^{km}, ML2.1/8*
ISC 04 05:01:29.3±1.1, **43°.35N**±0°.02×**18°.02E**±0°.01, **h5**^{km}±9^{km}, **n82,σ1s07**/154, **15C-13D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.53**	**206**		*e*Pg		**Pg**	**05 01 38.5**	**-1.1**
STON					*e*Sg		**Sg**	**05 01 47.1**	**+0.6**
STON	**Ston**	**0.53**	**206**		*e*Pg		**Pg**	**05 01 38.4**	**-1.1**
STON					Sg		**Sg**	**05 01 46.4**	**-0.1**
BRY	**Bratogost**	**0.59**	**140**		*e*Pg		**Pg**	**05 01 40.2**	**-0.4**
BRY					*e*Sg		**Sb**	**05 01 49.9**	**-0.9**
BRY	**Bratogost**	**0.59**	**140**	⇑	*i*Pg		**Pg**	**05 01 40.2**	**-0.4**
BRY					*i* Sg		**Sb**	**05 01 49.9**	**-0.9**
BRY	**Bratogost**	**0.59**	**140**	⇓	*i*Pg		**Pg**	**05 01 40.3**	**-0.4**
BRY					*i* Sg		**Sg**	**05 01 48.9**	**+0.7**
UPM	**Unac-Piva**	**0.66**	**103**	⇑	*i*Pg		**Pg**	**05 01 42.0**	**0.0**
UPM					*e*Sg		**Sb**	**05 01 51.9**	**-1.1**
UPM	**Unac-Piva**	**0.66**	**103**	⇓	*i*Pg		**Pg**	**05 01 42.0**	**0.0**
UPM					*e*Sg		**Sb**	**05 01 52.9**	**-0.1**
UPM	**Unac-Piva**	**0.66**	**103**	⇓	*i*Pg		**Pg**	**05 01 42.2**	**+0.2**
UPM					*i* Sg		**Sb**	**05 01 52.6**	**-0.4**
RICI	**Ricice**	**0.66**	**283**		*e*Pg		**Pg**	**05 01 41.5**	**-0.6**
RICI					Sg		**Sb**	**05 01 52.1**	**-0.9**
TREB	**Trebinje**	**0.68**	**159**	⇑	*i*Pg		**Pg**	**05 01 42.0**	**-0.3**
TREB					*e*Sg		**Sb**	**05 01 52.6**	**-0.7**
TREB	**Trebinje**	**0.68**	**159**		*e*Pg		**Pg**	**05 01 41.7**	**-0.6**
TREB					*e*Sg		**Sb**	**05 01 52.4**	**-0.9**
DBRK	**Dubrovnik**	**0.69**	**172**		*e*Pg		**Pg**	**05 01 41.2**	**-1.2**
DBRK					Sg		**Sg**	**05 01 52.0**	**+0.7**
MAKA	**Makarska**	**0.73**	**265**		*e*Pg		**Pg**	**05 01 42.9**	**-0.5**
MAKA					Sg		**Sg**	**05 01 53.2**	**+0.3**
NKY	**Niksic**	**0.89**	**127**		*e*Pg		**Pg**	**05 01 45.9**	**-0.5**
NKY					*e*Sg		**Sb**	**05 02 00.4**	**+0.8**
NKY	**Niksic**	**0.89**	**127**	⇑	*i*Pg		**Pg**	**05 01 46.2**	**-0.2**
NKY					*i* Sg		**Sb**	**05 01 59.4**	**-0.2**
NKME	**Niksic**	**0.90**	**130**	⇓	*i*Pg		**Pg**	**05 01 46.1**	**-0.4**
NKME					*i* Sg		**Sn**	**05 02 00.8**	**-1.2**
NKME	**Niksic**	**0.90**	**130**	⇑	*i*Pg		**Pg**	**05 01 46.1**	**-0.4**
NKME					*i* Sg		**Sb**	**05 01 59.6**	**-0.1**
SRKY	**Kupres RS**	**0.95**	**319**	⇓	*i*Pg		**Pg**	**05 01 47.4**	**-0.1**
SRKY					*e*Sg		**Sg**	**05 02 00.5**	**+0.7**
HCY	**Herceg Novi**	**0.97**	**159**	⇑	*i*Pg		**Pg**	**05 01 46.7**	**-1.1**
HCY					*e*Sg		**Sb**	**05 02 00.8**	**-0.9**
HCY	**Herceg Novi**	**0.97**	**159**	⇑	*i*Pg		**Pg**	**05 01 46.7**	**-1.1**
HCY					*i* Sg		**Sn**	**05 02 02.3**	**-1.4**
HCY	**Herceg Novi**	**0.97**	**159**	⇓	*i*Pg		**Pg**	**05 01 46.7**	**-1.1**
HCY					*i* Sg		**Sb**	**05 02 00.7**	**-0.9**
PLE	**Pljevlja**	**1.00**	**91**	⇑	*i*Pg		**Pg**	**05 01 48.3**	**-0.1**
PLE					*i* Sg		**Sn**	**05 02 04.3**	**-0.3**
PLE	**Pljevlja**	**1.00**	**91**	⇑	*i*Pg		**Pg**	**05 01 47.5**	**-0.9**
PLE					*i* Sg		**Sb**	**05 02 03.4**	**+0.8**
LSTV	**Lastovo**	**1.01**	**235**		*e*Pg		**Pg**	**05 01 47.6**	**-1.1**
LSTV					Sg		**Sb**	**05 02 02.6**	**-0.3**
RUDO	**Rudo**	**1.02**	**74**		*e*Pg		**Pg**	**05 01 47.5**	**-1.3**
RUDO					*e*Sg		**Sg**	**05 02 01.8**	**-0.2**
RUDO	**Rudo**	**1.02**	**74**		*e*Pg		**Pg**	**05 01 47.7**	**-1.1**
RUDO					*e*Sg		**Sg**	**05 02 02.4**	**+0.4**
CEME	**Cevo**	**1.04**	**140**	⇑	*i*Pg		**Pg**	**05 01 48.3**	**-0.9**
CEME					*i* Sg		**Sn**	**05 02 05.2**	**-0.3**
CEME	**Cevo**	**1.04**	**140**	⇑	*i*Pg		**Pg**	**05 01 48.3**	**-0.9**
CEME					*i* Sg		**Sn**	**05 02 05.4**	**-0.1**
BBLS	**Lazići**	**1.13**	**62**		*e*Pg		**Pg**	**05 01 50.9**	**-0.1**
BBLS					*e*Sg		**Sg**	**05 02 05.5**	**-0.1**
HVAR	**Hvar**	**1.16**	**262**		*e*Pg		**Pg**	**05 01 51.1**	**-0.5**
HVAR					Sg		**Sb**	**05 02 07.2**	**0.0**
KOME	**Kolasin**	**1.20**	**114**		*e*Pg		**Pg**	**05 01 51.9**	**-0.5**
KOME					*e*Sg		**Sn**	**05 02 11.3**	**+1.7**
KOME	**Kolasin**	**1.20**	**114**	⇑	*i*Pg		**Pg**	**05 01 52.4**	**0.0**
KOME					*i* Sg		**Sn**	**05 02 10.0**	**+0.4**
BUM	**Brajici-Budva**	**1.23**	**148**		*e*Pg		**Pg**	**05 01 51.9**	**-1.0**
BUM					*i* Sg		**Sn**	**05 02 11.2**	**+1.1**
BUM	**Brajici-Budva**	**1.23**	**148**	⇓	*i*Pg		**Pg**	**05 01 52.2**	**-0.7**
BUM					*i* Sg		**Sn**	**05 02 10.3**	**+0.1**
TTG	**Podgorica**	**1.29**	**135**		*e*Pg		**Pn**	**05 01 52.6**	**-1.4**
TTG					*i* Sg		**Sn**	**05 02 13.9**	**+2.3**
TTG	**Podgorica**	**1.29**	**135**	⇑	*i*Pg		**Pn**	**05 01 52.7**	**-1.3**
TTG					*i* Sg		**Sn**	**05 02 13.9**	**+2.3**
KIJV	**Kijevo**	**1.34**	**300**		*e*Pg		**Pn**	**05 01 54.7**	**0.0**
KIJV					Sg		**Sn**	**05 02 14.3**	**+1.3**
SJES	**Sjenica**	**1.43**	**93**		*e*Pg		**Pn**	**05 01 56.0**	**0.0**
SJES					*e*Sg		**Sg**	**05 02 15.3**	**+0.1**
DRME	**Dracevica, Mon**	**1.44**	**143**	⇓	*i*Pg		**Pn**	**05 01 56.1**	**0.0**
DRME					*e*Sg		**Sg**	**05 02 18.6**	**+2.9**
DRME	**Dracevica, Mon**	**1.44**	**143**	⇑	*i*Pg		**Pn**	**05 01 56.2**	**+0.1**
DRME					*i* Sg		**Sg**	**05 02 17.7**	**+2.0**
IVA	**Berane**	**1.45**	**109**	⇓	*i*Pg		**Pb**	**05 01 56.7**	**-0.2**
IVA					*e*Sg		**Sg**	**05 02 19.5**	**+3.6**
IVA	**Berane**	**1.45**	**109**	⇓	*i*Pg		**Pb**	**05 01 56.6**	**-0.3**
IVA					*i* Sg		**Sg**	**05 02 18.7**	**+2.8**
BLY	**Banja Luka**	**1.52**	**337**		*e*Pn		**Pn**	**05 01 56.9**	**-0.3**
BLY					*e*Sn		**Sb**	**05 02 18.0**	**+0.3**
BLY	**Banja Luka**	**1.52**	**337**		*e*Pg		**Pn**	**05 01 56.9**	**-0.3**
BLY					*e*Sg		**Sg**	**05 02 20.0**	**+1.8**
A050A	**Klekovaca**	**1.56**	**317**	⇓	*i*Pn		**Pn**	**05 01 58.3**	**+0.5**
A050A					*e*Sn		**Sn**	**05 02 18.7**	**+0.2**
IVAS	**Ivanjica**	**1.57**	**81**		*e*Pg		**Pn**	**05 01 56.7**	**-1.2**
IVAS					*e*Sg		**Sb**	**05 02 18.8**	**-0.2**
PVY	**Plav**	**1.61**	**117**	⇓	*i*Pn		**Pb**	**05 01 59.4**	**-0.2**
PVY					*e*Sn		**Sg**	**05 02 23.2**	**+2.2**
PVY	**Plav**	**1.61**	**117**	⇓	*i*Pn		**Pb**	**05 01 59.2**	**-0.4**
PVY					*i* Sn		**Sg**	**05 02 22.4**	**+1.4**
DIVS	**Divibare**	**1.61**	**62**		*e*Pn		**Pn**	**05 01 57.9**	**-0.6**
DIVS					*e*Sn		**Sn**	**05 02 19.7**	**0.0**
DIVS	**Divibare**	**1.61**	**62**		*e*Pg		**Pn**	**05 01 58.5**	**0.0**
DIVS					*e*Sg		**Sg**	**05 02 22.4**	**+1.3**
BLJ	**Bijeljina**	**1.69**	**32**		*e*Sn		**Sn**	**05 02 20.2**	**-1.3**
MORI	**Morici**	**1.76**	**288**		*e*Pn		**Pb**	**05 02 01.2**	**-1.8**
MORI					Sn		**Sb**	**05 02 25.1**	**+0.7**
A051A	**Mrakovica**	**1.84**	**335**	⇑	*i*Pn		**Pn**	**05 02 01.2**	**-0.5**
A051A					*e*Sn		**Sn**	**05 02 25.4**	**-0.1**
TRUS	**Trudelj**	**1.94**	**62**		*e*Pg		**Pb**	**05 02 04.1**	**-1.0**
TRUS					*e*Sg		**Sg**	**05 02 31.4**	**-0.1**
UDBI	**Udbina**	**2.01**	**307**		*e*Pn		**Pb**	**05 02 05.5**	**-0.9**
UDBI					Sn		**Sb**	**05 02 32.6**	**+0.9**
GRUS	**Gruza**	**2.03**	**74**		*e*Pn		**Pn**	**05 02 03.9**	**-0.3**
GRUS					*e*Sn		**Sn**	**05 02 30.0**	**+0.1**
A252A	**Venje**	**2.09**	**357**		*e*Pn		**Pn**	**05 02 05.2**	**+0.1**
A252A					Sn		**Sb**	**05 02 33.2**	**-0.7**
A251A	**Rujevac**	**2.18**	**325**		*e*Pn		**Pn**	**05 02 06.1**	**-0.1**
A251A					Sn		**Sb**	**05 02 36.3**	**-0.2**
FRGS	**Fruska Gora**	**2.22**	**35**		*e*Pn		**Pn**	**05 02 06.6**	**-0.2**
FRGS					*e*Sn		**Sn**	**05 02 33.7**	**-0.9**
FRGS	**Fruska Gora**	**2.22**	**35**		*e*Pn		**Pn**	**05 02 05.7**	**-1.3**
DUGI	**Dugi Otok**	**2.24**	**288**		*e*Pn		**Pn**	**05 02 07.7**	**+0.6**
DUGI					Sn		**Sb**	**05 02 37.9**	**-0.5**
PLIT	**Plitvice**	**2.31**	**312**		*e*Pn		**Pn**	**05 02 09.1**	**+1.1**
PLIT					Sn		**Sb**	**05 02 38.8**	**-1.4**
VIRC	**Vir**	**2.34**	**295**		*e*Pn		**Pn**	**05 02 09.3**	**+0.8**
VIRC					Sn		**Sb**	**05 02 39.9**	**-1.4**
MOSL	**Moslavina**	**2.44**	**339**		*e*Pn		**Pn**	**05 02 09.9**	**+0.1**
MOSL					Sn		**Sn**	**05 02 41.8**	**+1.8**
NVLJ	**Novalja**	**2.58**	**299**		*e*Pn		**Pn**	**05 02 13.0**	**+1.3**
NVLJ					Sn		**Sn**	**05 02 45.6**	**+2.2**
RABC	**Rab**	**2.72**	**302**		*e*Pn		**Pn**	**05 02 14.8**	**+1.1**
RABC					Sn		**Sb**	**05 02 50.0**	**-2.1**
BOJS	**Bojanci**	**2.93**	**318**		*e*Pn		**Pn**	**05 02 17.1**	**+0.6**
BOJS					*e*Sn		**Sn**	**05 02 52.1**	**0.0**
CRES	**Cresnjev**	**3.08**	**324**		*e*Pn		**Pn**	**05 02 18.2**	**-0.4**
CRES					*e*Sn		**Sn**	**05 02 56.1**	**+0.3**
PRVS	**Prvonek**	**3.09**	**104**		*e*Pn		**Pn**	**05 02 19.8**	**+1.0**
SMRN	**Sveta Marina**	**3.25**	**303**		*e*Pn		**Pn**	**05 02 21.3**	**+0.4**
SMRN					Sn		**Sn**	**05 03 02.0**	**+2.0**
ZAPS	**Zavoj**	**3.37**	**90**		*e*Pn		**Pn**	**05 02 21.3**	**-1.3**
BRJN	**Brijuni**	**3.45**	**298**		*e*Pn		**Pn**	**05 02 24.4**	**+0.8**
BRJN					Sn		**Sn**	**05 03 06.0**	**+1.2**
CEY	**Cerknica**	**3.51**	**314**		*e*Pn		**Pn**	**05 02 24.8**	**+0.3**
CEY					*e*Sn		**Sn**	**05 03 05.6**	**-0.8**
A253A	**Karojba, Istri**	**3.59**	**304**		*e*Pn		**Pn**	**05 02 25.5**	**-0.1**
A253A					Sn		**Sn**	**05 03 05.8**	**-2.5**
SKDS	**Skadanscina**	**3.61**	**309**		*e*Pn		**Pn**	**05 02 26.3**	**+0.3**
SKDS					*e*Sn		**Sn**	**05 03 08.4**	**-0.6**
OBKA	**Obir**	**4.01**	**323**		*e*Pn		**Pn**	**05 02 30.8**	**-0.6**
OBKA					*e*Sn		**Sn**	**05 03 17.9**	**-0.9**
OBKA	**Obir**	**4.01**	**323**		*i* Pn		**Pn**	**05 02 33.0**	**+1.6**
	0.6nm,0.2s								
ABTA	**Abfaltersbach**	**5.17**	**313**		*i* Pn		**Pn**	**05 02 48.8**	**+1.4**
	0.7nm,0.2s								
WTTA	**Wattenberg**	**5.96**	**313**		*i* Pn		**Pn**	**05 03 00.2**	**+1.8**
	0.8nm,0.2s								
WATA	**Walderalm**	**6.04**	**313**		*i* Pn		**Pn**	**05 03 01.6**	**+2.2**
	0.8nm,0.2s								
SQTA	**Sankt Quirin**	**6.17**	**311**		*i* Pn		**Pn**	**05 03 03.5**	**+2.3**
	0.3nm,0.1s								
MOTA	**Moosalm**	**6.30**	**312**		*i* Pn		**Pn**	**05 03 05.1**	**+2.1**
	0.8nm,0.2s								

ROM 04 05:11:43.8±0.2, **42°.78N**±0°.01×**13°.19E**±0°.02, **h11**^{km}, **ML0.7**/3, **5C-1D, Error ellipse: s-maj=1.3km s-min=1.3km az=67.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.05**	**10**		P		Pg	05 11 45.9	-0.2
T1242					S		Sg	05 11 47.0	-0.7
T1242					AML		AML		
	comp=E,136μm,0.2s								
T1242					AML		AML		
	comp=N,150μm,0.4s								
T1244	**Arquata del Tr**	**0.08**	**108**	⇑	P		Pg	05 11 47.0	+0.7
T1244					S		Sg	05 11 49.6	+1.4
MC2	**Monte Cornacci**	**0.13**	**359**	⇑	P		Pb	05 11 49.0	+0.6
T1204	**Amatrice, Fraz**	**0.14**	**139**		P		Pb	05 11 48.0	-0.5
T1204					S		Sg	05 11 49.9	+0.3
T1241	**Roccafluvione,**	**0.19**	**67**	⇑	P		Pg	05 11 48.3	+0.4
T1241					AML		AML		
	comp=E,16μm,0.6s								
T1241					AML		AML		
	comp=N,17μm,1.0s								
T1241					AML		AML		
	comp=E,16μm,0.6s								
T1241					AML		AML		
	comp=N,17μm,1.0s								
T1243	**Rocca Santa Ma**	**0.21**	**115**		P		Pg	05 11 48.9	+0.7
T1243					S		Sg	05 11 52.0	+0.7
LNSS	**Leonessa**	**0.21**	**212**		P		Pb	05 11 49.4	-0.3
LNSS					S		Sg	05 11 52.6	+1.2
LNSS					AML		AML		
	comp=N,59μm,0.4s								
LNSS					AML		AML		
	comp=E,42μm,0.2s								
T1215	**Vallo di Nera,**	**0.24**	**275**	⇑	P		Pg	05 11 48.8	0.0
RM33	**Pellescritta (**	**0.27**	**177**	⇓	P		Pg	05 11 50.1	+0.7
RM33					S		Sg	05 11 53.6	+0.5
CAMP	**Campotosto**	**0.29**	**147**		P		Pg	05 11 50.2	+0.5
CSP1	**Cessapalombo**	**0.31**	**2**		P		Pb	05 11 52.7	+1.3
TERO	**Teramo**	**0.34**	**118**	⇑	P		Pb	05 11 51.4	-0.5
TERO					AML		AML		
	comp=E,18μm,0.5s								
TERO					AML		AML		
	comp=N,22μm,0.1s								

RHSSO 04 05:12:39.6±0.2, **43°.32N**×**18°.02E**, **h6**^{km}±3^{km}, **ML1.8**/8, **1C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.50**	**208**		*e*Pg		Pg	05 12 48.1	-1.2
STON					*e*Sg		Sg	05 12 56.2	+0.4
STON	**Ston**	**0.50**	**208**		*e*Pg		Pg	05 12 48.1	-1.2
STON					Sg		Sg	05 12 56.4	+0.6
BRY	**Bratogost**	**0.56**	**137**		*e*Pg		Pg	05 12 50.2	-0.2
BRY					*e*Sg		Sg	05 12 58.2	+0.4
TREB	**Trebinje**	**0.65**	**158**	⇑	*i*Pg		Pg	05 12 51.9	-0.1
TREB					*e*Sg		Sb	05 13 01.6	-0.8
DBRK	**Dubrovnik**	**0.65**	**172**		*e*Pg		Pg	05 12 51.2	-0.9
DBRK					Sg		Sb	05 13 01.8	-0.8
UPM	**Unac-Piva**	**0.66**	**100**		*e*Pg		Pg	05 12 51.6	-0.6
UPM					*e*Sg		Sg	05 13 01.3	+0.5
RICI	**Ricice**	**0.67**	**286**		*e*Pg		Pg	05 12 51.6	-0.9
RICI					Sg		Sg	05 13 01.9	+0.7
MAKA	**Makarska**	**0.73**	**268**		*e*Pg		Pg	05 12 52.1	-1.5
MAKA					Sg		Sg	05 13 04.0	+0.9
HCY	**Herceg Novi**	**0.94**	**158**		*e*Pg		Pg	05 12 56.7	-0.8
HCY					*e*Sg		Sg	05 13 09.0	-0.6
SRKY	**Kupres RS**	**0.97**	**321**		*e*Pg		Pg	05 12 57.2	-1.1
SRKY					*e*Sg		Sg	05 13 10.8	-0.2
LSTV	**Lastovo**	**0.99**	**237**		*e*Pg		Pg	05 12 58.0	-0.6
LSTV					Sg		Sb	05 13 12.6	+0.2
RUDO	**Rudo**	**1.03**	**72**		*e*Pg		Pg	05 12 57.7	-1.6
RUDO					*e*Sg		Sg	05 13 12.0	-0.7
HVAR	**Hvar**	**1.16**	**264**		*e*Pg		Pg	05 13 01.2	-0.6
HVAR					Sg		Sg	05 13 16.9	+0.2
KIJV	**Kijevo**	**1.36**	**301**		*e*Pg		Pn	05 13 05.2	+0.1
KIJV					Sg		Sn	05 13 24.4	+1.0
BLY	**Banja Luka**	**1.56**	**337**		*e*Pn		Pn	05 13 07.7	-0.1
A050A	**Klekovaca**	**1.59**	**318**		*e*Pn		Pn	05 13 07.9	-0.4
A050A					*e*Sn		Sn	05 13 28.9	-0.2
DIVS	**Divibare**	**1.63**	**61**		*e*Pn		Pn	05 13 08.6	-0.3
DIVS					*e*Sn		Sn	05 13 30.2	0.0
MORI	**Morici**	**1.77**	**289**		*e*Pn		Pn	05 13 11.0	+0.3
A051A	**Mrakovica**	**1.88**	**335**		*e*Pn		Pn	05 13 12.6	+0.3
A051A					*e*Sn		Sn	05 13 35.9	-0.4

BEO 04 05:13:00.8±0.5, **43°.35N**×**17°.96E**, **h5**^{km}±8^{km}, **ML1.8**/6, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.51**	**202**		*e*Pg		Pg	05 13 08.2	-2.5
STON					Sg		Sg	05 13 16.6	-0.7
RICI	**Ricice**	**0.62**	**284**		*e*Pg		Pg	05 13 12.0	-0.7
RICI					Sg		Sb	05 13 22.8	-0.4
MAKA	**Makarska**	**0.69**	**265**		*e*Pg		Pg	05 13 13.1	-0.9
MAKA					Sg		Sb	05 13 24.4	-0.6
DBRK	**Dubrovnik**	**0.69**	**168**		*e*Pg		Pg	05 13 12.3	-1.9
DBRK					Sg		Sg	05 13 21.8	-1.3
TREB	**Trebinje**	**0.69**	**155**		*e*Pg		Pg	05 13 12.8	-1.3
TREB					*e*Sg		Sb	05 13 24.3	-1.0
LSTV	**Lastovo**	**0.97**	**234**		*e*Pg		Pg	05 13 18.9	-0.5
LSTV					Sg		Sb	05 13 32.9	-0.4
RUDO	**Rudo**	**1.06**	**75**		*e*Pg		Pg	05 13 18.8	-2.4
RUDO					*e*Sg		Sg	05 13 33.5	-1.4
HVAR	**Hvar**	**1.12**	**262**		*e*Pg		Pb	05 13 22.4	-0.1
HVAR					Sg		Sb	05 13 37.4	0.0
BBLS	**Lazići**	**1.17**	**63**		*e*Pg		Pg	05 13 21.0	-2.2
BBLS					*e*Sg		Sg	05 13 38.5	+0.1
KIJV	**Kijevo**	**1.30**	**301**		*e*Pg		Pb	05 13 26.4	+0.6
KIJV					Sg		Sn	05 13 45.4	+1.8
SJES	**Sjenica**	**1.47**	**93**		*e*Pg		Pn	05 13 26.8	-1.3
BLY	**Banja Luka**	**1.51**	**338**		*e*Pg		Pn	05 13 28.6	+0.1
BLY					*e*Sg		Sg	05 13 49.5	+0.3
IVAS	**Ivanjica**	**1.61**	**81**		*e*Pg		Pn	05 13 29.0	-1.0
IVAS					*e*Sg		Sb	05 13 51.9	+0.1
DIVS	**Divibare**	**1.65**	**62**		*e*Pg		Pb	05 13 32.0	+0.2
DIVS					*e*Sg		Sg	05 13 54.4	+0.5
MORI	**Morici**	**1.71**	**288**		*e*Pn		Pn	05 13 31.8	+0.5
MORI					Sn		Sg	05 13 55.7	-0.2
FRGS	**Fruska Gora**	**2.24**	**36**		*e*Pn		Pn	05 13 39.3	+0.7

*BEO **04** 05:14:02.8±0.4, 43°.38N×18°.01E, h9^{km}±3^{km}, ML2.4/9*
*RHSSO **04** 05:14:02.8±0.2, 43°.35N×18°.03E, h8^{km}±3^{km}, ML2.7/12*
*PDG **04** 05:14:02.2±0.1, 43°.34N×17°.97E, h9^{km}, MD2.8/1, ML2.8/11, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
ISC 04 05:14:02.2±1.1, **43°.36N**±0°.02×**18°.02E**±0°.01, **h3**^{km}±10^{km}, **n73,σ0s98**/130, **13C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.54**	**206**		*e*Pg		**Pg**	**05 14 11.7**	**-0.9**
STON					*e*Sg		**Sg**	**05 14 20.2**	**+0.6**
STON	**Ston**	**0.54**	**206**		*e*Pg		**Pg**	**05 14 11.4**	**-1.2**
STON					Sg		**Sg**	**05 14 19.4**	**-0.2**
BRY	**Bratogost**	**0.59**	**140**		*e*Pg		**Pg**	**05 14 13.2**	**-0.5**
BRY					*e*Sg		**Sb**	**05 14 22.9**	**-1.3**
BRY	**Bratogost**	**0.59**	**140**	⇓	*i*Pg		**Pg**	**05 14 13.4**	**-0.3**
BRY					*i* Sg		**Sb**	**05 14 23.0**	**-1.3**
RICI	**Ricice**	**0.66**	**282**		*i* Pg		**Pg**	**05 14 15.1**	**+0.2**
RICI					Sg		**Sb**	**05 14 25.1**	**-0.9**
UPM	**Unac-Piva**	**0.67**	**103**	⇑	*i*Pg		**Pg**	**05 14 15.1**	**+0.1**
UPM					*e*Sg		**Sg**	**05 14 24.6**	**+1.0**
UPM	**Unac-Piva**	**0.67**	**103**	⇑	*i*Pg		**Pg**	**05 14 15.1**	**+0.1**
UPM					*e*Sg		**Sb**	**05 14 26.0**	**-0.4**
TREB	**Trebinje**	**0.69**	**159**		*e*Pg		**Pg**	**05 14 15.1**	**-0.3**
TREB					*e*Sg		**Sb**	**05 14 25.8**	**-1.0**
TREB	**Trebinje**	**0.69**	**159**		*e*Pg		**Pg**	**05 14 14.6**	**-0.8**
TREB					*e*Sg		**Sb**	**05 14 26.9**	**+0.1**
DBRK	**Dubrovnik**	**0.70**	**172**		*i* Pg		**Pg**	**05 14 14.2**	**-1.4**
DBRK					Sg		**Sg**	**05 14 24.8**	**+0.2**
MAKA	**Makarska**	**0.73**	**265**		*e*Pg		**Pg**	**05 14 15.8**	**-0.5**
MAKA					Sg		**Sg**	**05 14 26.4**	**+0.6**
NKY	**Niksic**	**0.90**	**127**

INET ***04*** *05:15:02.2±0.3,11.72N×87.19W,h22km±3km,MW4.1*
ISC 04 05:14:57.0±0.6,11.64N±0.05×87.41W±0.05,h20km±4km,
n131,σ1823/128,mb4.3/30,MS3.4/4,1C,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.96**	**56**	*eP*	**Pn**	**05 15 16.2**	**+0.9**
TEL3	**Telica 3**	**1.07**	**31**	*eP*	**Pn**	**05 15 18.5**	**+1.6**
CNGN	**Cerro Negro**	**1.10**	**39**		**Pb**	**05 15 18.3**	**+1.0**
CNGN					**Sb**	**05 15 28.7**	**-2.5**
CNGN	**Cerro Negro**	**1.10**	**39**	*eP*	**Pb**	**05 15 18.3**	**+1.0**
CRIN	**San Cristobal**	**1.11**	**18**		**Pb**	**05 15 18.8**	**+1.3**
CRIN	**San Cristobal**	**1.11**	**18**	*eP*	**Pb**	**05 15 18.8**	**+1.3**
CRIN	**San Cristobal**	**1.11**	**18**	*eP*	**Pb**	**05 15 18.8**	**+1.3**
TELN	**Telica**	**1.11**	**30**	*eP*	**Pb**	**05 15 19.2**	**+1.7**
MOMN	**Momotombo**	**1.14**	**48**	*eP*	**Pb**	**05 15 18.8**	**+0.7**
TISN	**Laguna Tiscapa**	**1.22**	**66**	*eP*	**Pb**	**05 15 19.6**	**+0.2**
MGAN	**Managua**	**1.24**	**66**	*eP*	**Pb**	**05 15 19.9**	**+0.2**
CNCH	**Conchagua**	**1.68**	**346**	*eP*	**Pn**	**05 15 26.0**	**+0.7**
CNCH				*eS*	**Sb**	**05 15 47.4**	**-0.6**
CNCH				IAML		05 16 05.4	
	comp=Z,2μm,0.4s						
CNCH	**Conchagua**	**1.68**	**346**	*eP*	**Pn**	**05 15 26.0**	**+0.7**
CNCH				*eS*	**Sb**	**05 15 47.4**	**-0.6**
CNCH				IAML		05 16 05.4	
	comp=Z,2μm,0.4s						
BOAB	**BOACO BROADBAN**	**.88**	**65**		**Pn**	**05 15 28.3**	**+0.3**
BOAB	**BOACO BROADBAN**	**.88**	**65**	*eP*	**Pn**	**05 15 28.3**	**+0.3**
MATN	**Matagalpa**	**1.93**	**48**	Pn	**Pn**	**05 15 29.7**	**+0.9**
CNRM	**Centro Naciona**	**1.97**	**338**	*eP*	**Pn**	**05 15 29.4**	**+0.2**
CNRM	**Centro Naciona**	**1.97**	**338**	*eP*	**Pn**	**05 15 29.4**	**+0.2**
HZTE	**Horizontes, Gu**	**2.00**	**117**		**Pn**	**05 15 29.0**	**-0.7**
PACA	**Pacayal**	**2.02**	**334**	*eP*	**Pn**	**05 15 31.0**	**+0.9**
PACA				*eS*	**Sn**	**05 15 54.4**	**-0.5**
PACA				IAML		05 16 11.4	
	comp=Z,5μm,0.4s						
PACA	**Pacayal**	**2.02**	**334**	*eP*	**Pn**	**05 15 31.0**	**+0.9**
PACA				*eS*	**Sn**	**05 15 54.4**	**-0.5**
PACA				IAML		05 16 11.4	
	comp=Z,5μm,0.4s						
GBS3	**Finca Las Img**	**2.10**	**114**	↑*eP*	**Pn**	**05 15 31.1**	**+0.1**
BUEV	**Buena Vista**	**2.13**	**113**	*eP*	**Pn**	**05 15 31.5**	**-0.1**
GB1A	**Borinquen Arri**	**2.13**	**112**	*eP*	**Pn**	**05 15 31.1**	**-0.4**
COEB	**Comit de Eme**	**2.15**	**329**	*eP*	**Pn**	**05 15 32.1**	**+0.4**
COEB				*eS*	**Sn**	**05 15 56.8**	**-1.0**
COEB				IAML		05 16 05.8	
	comp=Z,238nm,0.5s						
COEB	**Comit de Eme**	**2.15**	**329**	*eP*	**Pn**	**05 15 32.1**	**+0.4**
COEB				*eS*	**Sn**	**05 15 56.8**	**-1.0**
COEB				IAML		05 16 05.8	
	comp=Z,238nm,0.5s						
BUAI	**Buenos Aires**	**2.17**	**110**	*eP*	**Pn**	**05 15 32.8**	**+0.8**
GPS2	**Hotel Rincn d**	**2.20**	**113**	*eP*	**Pn**	**05 15 32.3**	**-0.1**
ACON	**Acoyapa**	**2.21**	**81**		**Pn**	**05 15 33.6**	**+1.1**
ACON	**Acoyapa**	**2.21**	**81**	*eP*	**Pb**	**05 15 35.2**	**-1.1**
ACON	**Acoyapa**	**2.21**	**81**	*eP*	**Pb**	**05 15 36.5**	**+0.2**
ORTG	**Ortega, Santa**	**2.30**	**123**		**Pn**	**05 15 33.2**	**-0.6**
UESV	**Universidad de**	**2.40**	**326**	*eP*	**Pn**	**05 15 35.6**	**+0.4**
UESV				*eS*	**Sn**	**05 16 03.6**	**-0.3**
UESV	**Universidad de**	**2.40**	**326**	*eP*	**Pn**	**05 15 35.6**	**+0.4**
UESV				*eS*	**Sn**	**05 16 03.6**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.40**	**3**	Pn	**Pb**	**05 15 37.7**	**-1.9**
SCLA	**Alcaldia de Sa**	**2.42**	**328**	*eP*	**Pn**	**05 15 35.4**	**0.0**
SCLA	**Alcaldia de Sa**	**2.42**	**328**	*eP*	**Pn**	**05 15 35.4**	**0.0**
COEG	**Centro de Oper**	**2.44**	**324**	*eP*	**Pn**	**05 15 35.5**	**-0.1**
COEG				IAML		05 16 18.9	
	comp=Z,296nm,0.4s						
COEG	**Centro de Oper**	**2.44**	**324**	*eP*	**Pn**	**05 15 35.5**	**-0.1**
COEG				IAML		05 16 18.9	
	comp=Z,296nm,0.4s						
NICO	**Nicoya**	**2.44**	**128**	*eP*	**Pn**	**05 15 34.3**	**-1.4**
ACAL	**Aguas Claras**	**2.54**	**113**	*eP*	**Pn**	**05 15 39.1**	**+2.0**
PAVA	**Las Pavas**	**2.54**	**324**	*eP*	**Pn**	**05 15 38.0**	**+0.8**
PAVA				*eS*	**Sn**	**05 16 07.2**	**-0.5**
PAVA	**Las Pavas**	**2.54**	**324**	*eP*	**Pn**	**05 15 38.0**	**+0.8**
PAVA				*eS*	**Sn**	**05 16 07.2**	**-0.5**
LFRS	**El Faro**	**2.55**	**321**	*eP*	**Pn**	**05 15 37.0**	**-0.2**
LFRS				*eS*	**Sn**	**05 16 07.4**	**-0.3**
LFRS	**El Faro**	**2.55**	**321**	*eP*	**Pn**	**05 15 37.0**	**-0.2**
LFRS				*eS*	**Sn**	**05 16 07.4**	**-0.3**
PTEN	**Parque Tenorio**	**2.55**	**111**	*eP*	**Pn**	**05 15 37.6**	**+0.3**
VERA	**Finca Concepci**	**2.61**	**107**	*eP*	**Pn**	**05 15 38.8**	**+0.8**
P5NO	**Presa 5 de nov**	**2.68**	**331**	*eP*	**Pn**	**05 15 39.6**	**+0.6**
SNET	**Serv Nac Est T**	**2.70**	**319**		**Pn**	**05 15 40.4**	**+1.1**
JTS	**Las Juntas de**	**2.76**	**119**		**Pn**	**05 15 40.3**	**+0.2**
JTS	**Las Juntas de**	**2.76**	**119**	*eP*	**Pn**	**05 15 39.7**	**-0.4**
JAYA	**Jayaque - finc**	**2.82**	**315**	*eP*	**Pn**	**05 15 41.0**	**-0.1**
JAYA				*eS*	**Sn**	**05 16 12.7**	**-2.0**
JAYA				IAML		05 16 19.3	
	comp=Z,389nm,0.2s						
JAYA	**Jayaque - finc**	**2.82**	**315**	*eP*	**Pn**	**05 15 41.0**	**-0.1**
JAYA				*eS*	**Sn**	**05 16 12.7**	**-2.0**
JAYA				IAML		05 16 19.3	
	comp=Z,389nm,0.2s						
CASO	**Castillo**	**2.89**	**114**	*eP*	**Pn**	**05 15 41.0**	**-0.9**
SBLS	**San Blas**	**3.07**	**316**	*eP*	**Pn**	**05 15 44.6**	**0.0**
SBLS	**San Blas**	**3.07**	**316**	*eP*	**Pn**	**05 15 44.6**	**0.0**
COVE	**Coope Vega, Sa**	**3.09**	**107**		**Pn**	**05 15 45.2**	**+0.6**
NUBE	**Las Nubes**	**3.22**	**314**	*eP*	**Pn**	**05 15 46.3**	**-0.3**
NUBE				IAML		05 16 27.0	
	comp=Z,137nm,0.4s						
NUBE	**Las Nubes**	**3.22**	**314**	*eP*	**Pn**	**05 15 46.3**	**-0.3**
NUBE				IAML		05 16 27.0	
	comp=Z,137nm,0.4s						
SLOZ	**Alcaldia de Sa**	**3.31**	**316**	*eP*	**Pn**	**05 15 47.2**	**-0.5**
MTO3	**Montecristo**	**3.34**	**325**		**Pn**	**05 15 49.5**	**+1.3**
MTO3	**Montecristo**	**3.34**	**325**	*eP*	**Pn**	**05 15 49.2**	**+1.0**
MTO3	**Montecristo**	**3.34**	**325**	*eP*	**Pn**	**05 15 49.2**	**+1.0**
ESQI	**Esquipulas**	**3.46**	**327**		**Pn**	**05 15 50.7**	**+0.9**
LCR2	**La Lucha 2**	**3.84**	**119**	*eP*	**Pn**	**05 15 55.6**	**+0.4**
CVTR	**Volcan Turrial**	**3.93**	**114**		**Pn**	**05 15 57.1**	**+0.5**
RIMA	**Rio Macho**	**3.95**	**118**		**Pn**	**05 15 57.4**	**+0.7**
PEZE	**Perez Zeledon,**	**4.30**	**121**		**Pn**	**05 16 01.9**	**+0.6**
SRBA	**San Rafael, Bu**	**4.65**	**121**		**Pn**	**05 16 07.0**	**+0.8**
DRK0	**Durika**	**4.73**	**120**		**Pn**	**05 16 09.0**	**+1.7**
DRK0	**Durika**	**4.73**	**120**	*eP*	**Pn**	**05 16 09.2**	**+1.8**
CDITO	**Canoas**	**5.41**	**124**		**Pn**	**05 16 18.4**	**+1.9**
BRU2	**Volcan**	**5.44**	**121**		**Pn**	**05 16 18.0**	**+0.9**
CMIG	**Matias Romero**	**9.04**	**308**	Pn	**Pn**	**05 17 07.8**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=113,slow=11,SNR=11						
CMIG				Sn	**Sn**	**05 18 50.2**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=127,slow=20,SNR=1.2						
	comp=Z,1.9nm,0.3s						
TLIG	**Tlapa**	**12.30**	**300**	Pn	**Pn**	**05 17 54.6**	**+3.4**
PORT	**Chimborazo Vol**	**15.59**	**146**	P	**P**	**05 18 44.0**	**+3.5**
BANI	**BANI**	**17.77**	**66**	P	**Pn**	**05 19 02.1**	**-1.3**
ZAIG	**Zacatecas**	**18.20**	**309**		**P**	**05 19 10.2**	**+1.1**
656A	**Willston**	**18.21**	**14**		**P**	**05 19 09.3**	**+0.5**
344A	**Westbrook Farm**	**19.95**	**352**	P	**P**	**05 19 28.4**	**+0.5**
344A				IAmb	IAmb	05 19 31.3	
	comp=Z,29nm,1.0s						
TIGA	**Tifton**	**20.01**	**10**	P	**P**	**05 19 28.6**	**+0.1**
833A	**Chaparral WMA,**	**20.03**	**328**	P	**P**	**05 19 29.4**	**+0.7**
342A	**Flagon Creek P**	**20.16**	**348**	P	**P**	**05 19 30.6**	**+0.6**
ATAH	**Atahualpa**	**20.70**	**154**	LR	LR	05 26 22.8	
	comp=Z,107nm,21.8s,baz=344,slow=33						
152A	**Waverly Hall**	**21.07**	**6**	P	**P**	**05 19 44.2**	**+4.2**
152A				IAmb	IAmb	05 19 44.8	
	comp=Z,24nm,1.1s						
LRAL	**Lakeview Retre**	**21.30**	**1**	P	**P**	**05 19 45.1**	**+2.7**
LRAL				IAmb	IAmb	05 19 46.8	
	comp=Z,19nm,1.1s						
Z47A	**Carrollton**	**21.46**	**358**	P	**P**	**05 19 44.8**	**+0.6**
Z47A				IAmb	IAmb	05 19 47.4	
	comp=Z,26nm,1.1s						
Z51A	**Franklin**	**21.67**	**5**	IAmb	IAmb	05 19 50.4	
	comp=Z,14nm,0.9s						
JCT	**Junction City**	**21.99**	**330**	P	**P**	**05 19 50.6**	**+0.7**
Y49A	**Blount Mountai**	**22.13**	**2**	P	**P**	**05 19 52.6**	**+1.2**
Y49A				IAmb	IAmb	05 19 53.7	
	comp=Z,12nm,0.8s						
Y52A	**Lilburn**	**22.33**	**7**	IAmb	IAmb	05 19 56.9	
	comp=Z,18nm,1.1s						
PCRV	**Puerto La Cruz**	**22.41**	**92**	P	**P**	**05 19 53.3**	**-1.3**
	comp=Z,3.8nm,0.6s,baz=292,slow=11,SNR=1.5						
	comp=Z,3.8nm,0.6s						
FPAL	**Fort Paine**	**22.85**	**4**	P	**P**	**05 20 00.8**	**+1.7**
HODGE	**Hodges**	**22.97**	**11**	P	**P**	**05 20 02.1**	**+1.9**
TXAR	**Lajitas Array**	**23.23**	**322**	P	**P**	**05 20 03.6**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=138,slow=9.4,SNR=16						
	comp=Z,1.4nm,0.7s						
TX31	**Lajitas Ar. Si**	**23.23**	**322**	P	**P**	**05 20 04.2**	**+1.2**
TX31				IAmb	IAmb	05 20 18.7	
	comp=Z,10nm,1.0s						
TX32	**Lajitas Array**	**23.23**	**322**	P	**P**	**05 20 04.2**	**+1.2**
MIAR	**Mount Ida**	**23.48**	**347**	IAmb	IAmb	05 20 19.0	
	comp=Z,10.0nm,1.1s						
SWET	**Sewanee**	**23.51**	**3**	P	**P**	**05 20 06.2**	**+0.5**
SWET				IAmb	IAmb	05 20 25.8	
	comp=Z,12nm,1.2s						
W50A	**Signal Mountai**	**23.53**	**4**	IAmb	IAmb	05 20 08.3	
	comp=Z,9.7nm,0.7s						
H06E1	**SOCORRO T-PHAS**	**23.76**	**290**	T	T	05 44 40.7	
	SNR=8.0						
CPCT	**Cooper Cave**	**23.84**	**6**	P	**P**	**05 20 09.6**	**+0.7**
CPCT				IAmb	IAmb	05 20 11.1	
	comp=Z,11nm,1.0s						
WHAR	**Wooly Hollow**	**23.95**	**350**	P	**P**	**05 20 10.6**	**+0.6**
LOOK	**Love County**	**23.97**	**340**	IAmb	IAmb	05 20 13.7	
	comp=Z,23nm,1.0s						
TKL	**Tuckaleechee C**	**24.14**	**7**	P	**P**	**05 20 09.9**	**-1.7**
	comp=Z,7.0nm,0.9s,baz=182,slow=9.2,SNR=5.4						
	comp=Z,7.0nm,0.9s						
CLTN	**Cedars of Leba**	**24.36**	**2**	IAmb	IAmb	05 20 15.9	
	comp=Z,10nm,0.7s						
T47A	**Sharon Grove**	**25.24**	**1**	IAmb	IAmb	05 20 23.4	
	comp=Z,12nm,1.0s						
MSTX	**Muleshoe**	**26.28**	**330**	IAmb	IAmb	05 20 33.4	
	comp=Z,8.4nm,1.0s						
S39A	**Bolivar**	**26.48**	**349**	IAmb	IAmb	05 20 32.8	
	comp=Z,6.8nm,0.8s						
BLOK	**Blackwell**	**26.52**	**342**	P	**P**	**05 20 33.1**	**-0.2**
BLOK				IAmb	IAmb	05 20 37.6	
	comp=Z,19nm,1.3s						
CCM	**Cathedral Cave**	**26.52**	**353**	P	**P**	**05 20 32.1**	**-1.2**
CCM				IAmb	IAmb	05 20 33.1	
	comp=Z,15nm,1.2s						
AMTX	**Amarillo**	**26.53**	**333**	P	**P**	**05 20 34.2**	**+0.8**
ETMB	**Extrema**	**29.97**	**135**	P	**P**	**05 21 04.6**	**+0.3**
ETMB				IAmb	IAmb	05 21 07.2	
	comp=Z,4.0nm,1.0s						
SADO	**Sadowa**	**33.77**	**11**	P	**P**	**05 21 35.9**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=207,slow=2.3,SNR=3.8						
SADO				LR	LR	05 35 29.0	
	comp=Z,61nm,19.1s,baz=68,slow=37						
	comp=Z,3.2nm,0.8s						
PDAR	**Pinedale Array**	**36.50**	**332**	P	**P**	**05 22 01.7**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=122,slow=16,SNR=4.7						
	comp=Z,0.3nm,0.5s						
REDW	**Red Top Meadow**	**37.56**	**332**	IAmb	IAmb	05 22 11.5	
	comp=Z,6.3nm,1.1s						
TPAW	**Teton Pass**	**37.70**	**332**	IAmb	IAmb	05 22 32.8	
	comp=Z,5.3nm,1.1s						
NVAR	**Mina Array Bea**	**38.34**	**319**	P	**P**	**05 22 19.1**	**+2.3**
	comp=Z,0.6nm,0.9s,baz=134,slow=4.3,SNR=3.6						
	comp=Z,0.6nm,0.9s						
ULM	**Lac du Bonnet**	**39.12**	**351**	P	**P**	**05 22 20.8**	**-2.2**
	comp=Z,5.0nm,1.0s,baz=141,slow=13,SNR=3.6						
	comp=Z,5.0nm,1.0s						
PAHR	**Pah Rah Range**	**39.77**	**320**	IAmb	IAmb	05 22 36.7	
	comp=Z,6.1nm,0.9s						
NEW	**Newport**	**44.13**	**332**	LR	LR	05 44 59.7	
	comp=Z,56nm,18.5s,baz=178,slow=41						
H03N2	**Juan Fernandez**	**45.55**	**170**	T	T	06 11 50.9	
	baz=348						
H03N1	**Juan Fernandez**	**45.56**	**170**	T	T	06 11 53.8	
	baz=348						
H03N3	**Juan Fernandez**	**45.57**	**170**	T	T	06 11 45.8	
	baz=348						
SCHQ	**Schefferville**	**46.04**	**16**	P	**P**	**05 23 16.5**	**-2.6**
	comp=Z,6.6nm,1.0s,baz=217,slow=5.1,SNR=2.5						
	comp=Z,6.6nm,1.0s						
BDFB	**Brasilia**	**47.49**	**124**	P	**P**	**05 23 30.4**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=293,slow=9.0,SNR=4.6						
	comp=Z,2.7nm,0.6s						
FRB	**Frobisher Bay**	**53.71**	**10**	LR	LR	05 49 33.5	
	comp=Z,77nm,18.3s,baz=206,slow=39						
INK	**Inuvik**	**63.98**	**343**	P	**P**	**05 25 29.2**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=117,slow=8.1,SNR=1.7						
	comp=Z,2.6nm,0.9s						
KSH	**Kashi**	**126.81**	**16**	PKP	**PKPdf**	**05 33 56.2**	**-3.6**
KSH				sPKP		05 34 03.6	
PZH	**PanZhiHua**	**141.05**	**347**	PKP	**PKPdf**	**05 34 26.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**149.44**	**348**	PKPbc	**PKPbc**	**05 34 46.0**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=343,slow=2.8,SNR=12						

ROM 04 05:16:08.0±0.1,42.764N±0.003×13.194E±0.005,
h11km,ML2.4/47,22C-23D,Error ellipse: s-maj=0.4km
s-min=0.1km az=65.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.07**	**7**	P	Pg	05 16 10.6	+0.1
T1242				S	Sg	05 16 12.1	-0.2
T1244	**Arquata del Tr**	**0.08**	**95**	P	Pg	05 16 10.9	+0.4
T1244				S	Sg	05 16 12.9	+0.6
NRCA	**Norcia**	**0.09**	**320**	↑P	Pg	05 16 10.9	+0.2
NRCA				S	Sg	05 16 12.6	-0.1
NRCA				AML	AML		
	comp=N,19500μm,1.0s						
NRCA				AML	AML		
	comp=E,27700μm,0.7s						
NRCA				AML	AML		
	comp=E,24950μm,0.7s						
NRCA				AML	AML		
	comp=N,22000μm,1.0s						
T1204	**Amatrice, Fraz**	**0.13**	**134**	P	Pg	05 16 11.7	+0.5
T1204				S	Sg	05 16 14.1	+0.7
T1204				AML	AML		
	comp=E,8135μm,0.6s						
T1204				AML	AML		
	comp=N,6350μm,0.1s						
MC2	**Monte Cornacci**	**0.15**	**359**	↑P	Pg	05 16 11.9	+0.3
MC2				S	Sg	05 16 15.0	+0.8
SMA1	**SAN MARTINO**	**0.17**	**142**	↑P	Pg	05 16 12.3	+0.5
SMA1				S	Sg	05 16 15.4	+1.0
SMA1				AML	AML		
	comp=N,2975μm,0.3s						
SMA1				AML	AML		
	comp=E,2790μm,1.6s						
LNSS	**Leonessa**	**0.20**	**215**	↓P	Pg	05 16 12.9	+0.7
LNSS				S	Sg	05 16 16.5	+1.3
LNSS				AML	AML		
	comp=N,5765μm,0.3s						
LNSS				AML	AML		
	comp=E,9545μm,0.1s						
T1241	**Roccafluvione,**	**0.20**	**62**	↑P	Pg	05 16 12.8	+0.5
T1241				S	Sg	05 16 16.0	+0.9
T1241				AML	AML		
	comp=E,4115μm,0.2s						
T1241				AML	AML		
	comp=N,1955μm,0.2s						
T1241				AML	AML		
	comp=N,1755μm,0.4s						
T1241				AML	AML		
	comp=E,4120μm,0.2s						
T1243	**Rocca Santa Ma**	**0.20**	**110**	↓P	Pg	05 16 12.7	+0.4
T1243				S	Sg	05 16 16.0	+0.8
T1215	**Vallo di Nera,**	**0.24**	**279**	↑P	Pg	05 16 13.5	+0.5
T1215				AML	AML		
	comp=E,1347μm,1.3s						
T1215				AML	AML		
	comp=N,1410μm,0.4s						
T1215				AML	AML		
	comp=N,1402μm,0.4s						
T1215				AML	AML		
	comp=E,1401μm,1.3s						
RM33	**Pellescritta (**	**0.26**	**177**	P	Pg	05 16 13.8	+0.6
RM33				S	Sb	05 16 18.3	-0.9
CAMP	**Campotosto**	**0.28**	**145**	P	Pg	05 16 14.1	+0.4
CAMP				S	Sg	05 16 18.6	+1.1
FDMO	**Fiordimonte**	**0.28**	**344**	↑P	Pg	05 16 14.1	+0.3
FDMO				S	Sb	05 16 18.9	-1.1
FDMO				AML	AML		
	comp=E,1125μm,0.3s						
FDMO				AML	AML		
	comp=N,1295μm,0.1s						
GUMA	**Gualdo di Mace**	**0.32**	**19**	↑P	Pb	05 16 15.1	-0.6
GUMA				S	Sb	05 16 20.6	-0.3
GUMA				AML	AML		
	comp=E,3615μm,1.5s						
GUMA				AML	AML		
	comp=N,4070μm,1.5s						
GUMA				AML	AML		
	comp=N,2830μm,0.3s						
GUMA				AML	AML		
	comp=E,5045μm,1.5s						
GUMA				AML	AML		
	comp=N,4065μm,1.5s						
CESI	**CESI - Serrava**	**0.32**	**319**	↑P	Pg	05 16 14.9	+0.4
CESI				S	Sb	05 16 20.1	-1.0
CESI				AML	AML		
	comp=E,2430μm,0.7s						
CESI				AML	AML		
	comp=N,5370μm,0.2s						
CSP1	**Cessapalombo**	**0.33**	**1**	↑P	Pg	05 16 14.9	+0.3
CSP1				S	Sb	05 16 20.4	-1.0
CSP1				AML	AML		
	comp=E,1934μm,0.3s						
CSP1				AML	AML		
	comp=N,1985μm,0.3s						
CSP1				AML	AML		
	comp=E,1933μm,0.3s						
CSP1				AML	AML		
	comp=N,1990μm,0.3s						
TERO	**Teramo**	**0.33**	**115**	P	Pg	05 16 14.9	+0.2
TERO				S	Sg	05 16 20.2	+1.1
TERO				AML	AML		
	comp=E,1620μm,0.8s						
TERO				AML	AML		
	comp=E,1365μm,0.3s						
TERO				AML	AML		
	comp=N,1340μm,0.3s						
TERO				AML	AML		
	comp=N,1620μm,0.1s						
TERO				AML	AML		
	comp=E,1360μm,0.3s						
ARRO	**Arrone**	**0.37**	**240**	↓P	Pg	05 16 15.7	+0.5
ARRO				AML	AML		
	comp=E,1050μm,1.0s						
ARRO				AML	AML		
	comp=N,682μm,0.2s						
OFFI	**Offida**	**0.40**	**65**	P	Pb	05 16 17.2	0.0
OFFI				S	Sb	05 16 24.8	+1.5
OFFI				AML	AML		
	comp=E,1061μm,1.2s						
OFFI				AML	AML		
	comp=N,1380μm,0.4s						
GIGS	**Gran Sasso**	**0.42**	**138**	↑P	Pg	05 16 16.3	0.0
GIGS				S	Sg	05 16 22.6	+0.8
GIGS				AML	AML		
	comp=E,152μm,0.2s						
GIGS				AML	AML		
	comp=N,206μm,0.1s						
SEF1	**Sefro**	**0.42**	**335**	↓P	Pg	05 16 16.6	+0.3
SEF1				AML	AML		
	comp=E,1623μm,1.6s						
SEF1				AML	AML		
	comp=N,2690μm,1.1s						
CESX	**Cesi**	**0.48**	**251**	↓P	Pg	05 16 17.5	+0.2
CESX				AML	AML		
	comp=E,642μm,0.2s						
CESX				AML	AML		
	comp=N,594μm,0.4s						
ASSB	**Assisi San Ben**	**0.48**	**305**	↑P	Pg	05 16 17.6	+0.1
ASSB				AML	AML		
	comp=E,831μm,0.3s						
ASSB				AML	AML		
	comp=N,798μm,0.4s						
FIAM	**Fiamignano**	**0.50**	**187**	↑P	Pg	05 16 18.0	+0.2
FIAM				AML	AML		
	comp=E,528μm,0.2s						
FIAM				AML	AML		
	comp=N,354μm,0.3s						
SNTG	**Esanatoglia**	**0.53**	**339**	↑P	Pg	05 16 18.3	0.0
SNTG				S	Sb	05 16 27.0	+0.1
SNTG				AML	AML		
	comp=N,332μm,0.2s						
SNTG				AML	AML		
	comp=E,339μm,0.6s						
TRTR	**Tortoreto Alta**	**0.53**	**85**	↑P	Pb	05 16 19.8	+0.5
TRTR				AML	AML		
	comp=N,780μm,0.9s						
TRTR				AML	AML		
	comp=E,870μm,0.5s						
EL6	**Elcito**	**0.57**	**353**	↑P	Pg	05 16 19.2	+0.1
EL6				S	Sn	05 16 30.0	-1.6
FAGN	**Fagnano**	**0.57**	**150**	↓P	Pg	05 16 19.2	0.0
FAGN				AML	AML		
	comp=E,512μm,0.4s						
FAGN				AML	AML		
	comp=N,442μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.59**	**316**	↑P	Pg	05 16 19.5	+0.1
ATCC				AML	AML		
	comp=N,598μm,0.3s						
ATCC				AML	AML		
	comp=E,504μm,0.7s						
VCEL	**Villa Celiera**	**0.60**	**127**	↓P	Pg	05 16 20.0	+0.3
VCEL				AML	AML		
	comp=E,452μm,0.2s						
VCEL				AML	AML		
	comp=N,494μm,0.4s						
CING	**Cingoli**	**0.61**	**0**	↑P	Pg	05 16 19.9	0.0
CING				AML	AML		
	comp=N,284μm,0.4s						
CING				AML	AML		
	comp=E,237μm,0.1s						
FOSV	**Fossato di Vic**	**0.62**	**329**	↑P	Pg	05 16 20.0	0.0
FOSV				AML	AML		
	comp=E,364μm,0.4s						
FOSV				AML	AML		
	comp=N,668μm,0.3s						
PP3	**Marolino**	**0.69**	**26**	↓P	Pb	05 16 22.4	+0.5
PP3				AML	AML		
	comp=E,394μm,1.5s						
PP3				AML	AML		
	comp=N,392μm,0.4s						
T0110	**Collepietro**	**0.69**	**141**	↑P	Pg	05 16 21.1	-0.2
T0110				AML	AML		
	comp=E,316μm,0.4s						
T0110				AML	AML		
	comp=N,300μm,0.4s						
MURB	**Monte Urbino**	**0.70**	**316**	↓P	Pg	05 16 21.8	+0.2
MURB				AML	AML		
	comp=E,914μm,0.3s						
MURB				AML	AML		
	comp=N,846μm,0.4s						
MURB				AML	AML	

comp=N,258μm,0.3s
FRON AML AML
comp=E,156μm,0.4s
CERT Cerreto 0.83 191 P Pg 05 16 23.5 -0.5
CERT AML AML
comp=E,194μm,0.5s
CERT AML AML
comp=N,130μm,0.8s
ATVO AVT- Monte Val 0.85 317 ⇓P Pg 05 16 24.1 -0.3
ATVO AML AML
comp=N,160μm,0.7s
ATVO AML AML
comp=E,195μm,1.5s
ATVO AML AML
comp=N,160μm,0.7s
ATPI Pietralunga - 0.90 320 ⇓P Pg 05 16 25.1 -0.2
INTR Introdacqua 0.92 145 ⇓P Pg 05 16 24.9 -0.8
INTR AML AML
comp=N,170μm,0.7s
INTR AML AML
comp=E,105μm,1.2s
MPAG Monte Paganucc 0.92 340 ⇓P Pg 05 16 25.6 -0.2
MPAG S Sn 05 16 41.0 +0.7
MPAG AML AML
comp=E,122μm,0.4s
MPAG AML AML
comp=N,109μm,1.5s
MPAG AML AML
comp=N,109μm,1.5s
MPAG AML AML
comp=E,121μm,0.5s
SACS San Casciano d 0.95 276 ⇓P Pb 05 16 26.5 0.0
SACS AML AML
comp=E,148μm,0.8s
SACS AML AML
comp=N,135μm,0.5s
NARO Abbazia di Nar 0.96 332 ⇓P Pg 05 16 26.0 -0.4
NARO S Sn 05 16 42.0 +0.9
NARO AML AML
comp=E,81μm,0.3s
NARO AML AML
comp=N,67μm,0.3s
FSSB Fossombrone 0.98 342 ⇑P Pg 05 16 26.6 -0.2
FSSB S Sn 05 16 43.0 +1.4
FSSB AML AML
comp=E,494μm,0.3s
FSSB AML AML
comp=E,495μm,0.3s
FSSB AML AML
comp=N,528μm,0.3s
BADI Badiali 1.02 317 P Pg 05 16 27.3 -0.3
LATE Laterza 1.04 262 S Sb 05 16 42.0 +0.4
CAFI Castiglion Fio 1.06 303 P Pg 05 16 28.6 +0.1
CAFI AML AML
comp=E,63μm,0.4s
CAFI AML AML
comp=N,79μm,1.3s
CAFI AML AML
comp=E,63μm,0.4s
CAFI AML AML
comp=N,79μm,1.3s
PARC Parchiule 1.13 322 ⇓P Pb 05 16 29.4 -0.2
PARC AML AML
comp=N,71μm,0.4s
PARC AML AML
comp=E,82μm,1.0s
PARC AML AML
comp=N,71μm,0.4s
CRE Caprese Michel 1.25 314 ⇑P Pg 05 16 32.6 +0.6
CRE AML AML
comp=N,53μm,1.3s
CRE AML AML
comp=E,40μm,0.4s
SGRT San Giovanni R 2.14 117 ⇓P Pb 05 16 45.6 -1.3
GSCL Gusciola 2.47 311 S Sn 05 17 20.0 +1.5

*IDC **04** 05:16:52.0±2.1, 12°.03N×86°.89W, h0km, mb3.6/3, mbtmp3.7/4, ML3.5/1, MS3.6/3, Error ellipse: s-maj=159.8km s-min=25.3km az=42.0*
*INET **04** 05:16:53.7±0.5, 11°.55N×87°.45W, h3km±4km, MW3.4*
*SNET **04** 05:16:59.0±1.1, 11°.90N×87°.63W, h18km±136km, ML3.4*
ISC 04 05:16:55.4±2.6, 11°.8N±0°.1×87°.50W±0°.05, h14km±14km, n28, σ1s18/28, mb3.5/3, MS3.6/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.98**	**65**	*e*P		**Pb**	**05 17 13.6**	**-0.6**
CRIN	**San Cristobal**	**1.03**	**25**	*e*P		**Pn**	**05 17 16.3**	**+0.7**
TELN	**Telica**	**1.06**	**38**	*e*P		**Pg**	**05 17 16.4**	**+0.3**
CNGN	**Cerro Negro**	**1.07**	**47**	*e*P		**Pb**	**05 17 16.3**	**+0.5**
MOMN	**Momotombo**	**1.14**	**55**	*e*P		**Pb**	**05 17 16.1**	**-0.8**
MOMN				*e*S		**Sn**	**05 17 34.0**	**+1.5**
TISN	**Laguna Tiscapa**	**1.26**	**72**	*e*P		**Pn**	**05 17 17.0**	**-1.7**
MGAN	**Managua**	**1.28**	**72**	*e*P		**Pn**	**05 17 17.3**	**-1.7**
WILN	**Americas 2**	**1.34**	**73**	*e*P		**Pn**	**05 17 18.2**	**-1.5**
BRAN	**Las Pilas**	**1.47**	**49**	*e*P		Pn	05 17 16.4	-5.2
CNCH	**Conchagua**	**1.54**	**348**	*e*P		**Pn**	**05 17 23.0**	**+0.4**
CNCH				*e*S		**Sb**	**05 17 43.0**	**-0.4**
CNCH					IAML		05 17 56.5	
	comp=Z,1μm,0.4s							
PACA	**Pacayal**	**1.88**	**335**	*e*P		**Pb**	**05 17 28.7**	**-1.0**
PACA					IAML		05 18 06.2	
	comp=Z,2μm,0.4s							
BOAB	**BOACO BROADBAN**	**.92**	**69**	*e*P		**Pn**	**05 17 26.2**	**-1.5**
COEB	**Comit de Eme**	**2.00**	**330**	*e*P		**Pn**	**05 17 29.5**	**+0.5**
COEB				*e*S		**Sn**	**05 17 52.7**	**-1.2**
COEB					IAML		05 18 09.4	
	comp=Z,103nm,0.5s							
UESV	**Universidad de**	**2.25**	**326**	*e*P		**Pn**	**05 17 32.7**	**+0.4**
SCLA	**Alcaldia de Sa**	**2.27**	**328**	*e*P		**Pn**	**05 17 33.5**	**+0.9**
COEG	**Centro de Oper**	**2.29**	**324**	*e*P		**Pn**	**05 17 33.2**	**+0.3**
PAVA	**Las Pavas**	**2.40**	**324**	*e*P		**Pn**	**05 17 34.6**	**+0.2**
LFRS	**El Faro**	**2.40**	**321**	*e*P		**Pn**	**05 17 35.2**	**+0.8**
LFRS				*e*S		**Sn**	**05 18 02.8**	**-0.9**
JAYA	**Jayaque - finc**	**2.68**	**315**	*e*P		**Pn**	**05 17 38.1**	**-0.2**
JAYA				*e*S		**Sn**	**05 18 09.7**	**-1.0**
JAYA					IAML		05 18 12.4	
	comp=Z,100nm,0.4s							
CMIG	**Matias Romero**	**8.90**	**307**	Pn		**Pn**	**05 19 06.3**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=86,slow=15,SNR=2.8 comp=Z,3.9nm,0.7s							
TXAR	**Lajitas Array**	**23.08**	**322**	P		**P**	**05 22 01.4**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=133,slow=10.0,SNR=7.3 comp=Z,0.9nm,0.6s							
PDAR	**Pinedale Array**	**36.36**	**332**	P		**P**	**05 23 58.4**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=130,slow=11,SNR=2.7 comp=Z,0.2nm,0.6s							
NVAR	**Mina Array Bea**	**38.19**	**319**	PcP		**PcP**	**05 26 29.5**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=140,slow=4.7,SNR=1.9							
YBH	**Yreka Blue Hor**	**42.85**	**321**	LR		LR	05 43 36.8	
	comp=Z,70nm,18.2s,baz=150,slow=37							
BDFB	**Brasilia**	**47.63**	**124**	P		P	05 25 27.8	-3.9
	comp=Z,1.9nm,0.6s,baz=284,slow=7.1,SNR=4.9 comp=Z,1.9nm,0.6s							
NOA	**NORSAR Array B**	**83.99**	**29**	LR		LR	06 06 14.3	
	comp=Z,16nm,18.1s,baz=225,slow=36							
DAVOX	**Davos/Dischmat**	**86.52**	**43**	LR		LR	06 00 59.6	
	comp=Z,46nm,21.1s,baz=258,slow=31							
CMAR	**Chiang Mai Arr**	**149.31**	**348**	PKPbc		**PKPdf**	**05 36 42.7**	**+2.2**
	comp=Z,1.9nm,0.9s,baz=330,slow=3.1,SNR=5.4							

*LDG **04** 05:31:35.1±0.1, 42°.82N×13°.24E, h9km, Ml2.3/13, Error ellipse: s-maj=4.5km s-min=2.9km az=44.0*
*ROM **04** 05:31:35.4±0.0, 42°.851N±0°.003×13°.230E±0°.004, h9km, ML2.9/49, Error ellipse: s-maj=0.3km s-min=0.2km az=60.0*
*PRU **04** 05:31:37.9±0.0, 42°.83N×13°.89E, h10km*
ISC 04 05:31:35.7±0.7, 42°.82N±0°.02×13°.19E±0°.02, h13km±4km, n102, σ2s18/145, 27C-19D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.02**	**40**	⇑P		**Pg**	**05 31 37.1**	**-1.1**
T1242				S		**Sg**	**05 31 38.0**	**-1.9**
T1242					AML	AML		
	comp=E,78850μm,0.8s							
T1242					AML	AML		
	comp=N,95900μm,0.4s							
T1242					AML	AML		
	comp=N,94900μm,0.4s							
T1242					AML	AML		
	comp=E,78850μm,0.8s							
T1242					AML	AML		
	comp=N,95950μm,0.4s							
T1242					AML	AML		
	comp=E,79050μm,0.8s							
NRCA	**Norcia**	**0.06**	**286**	⇑P		**Pg**	**05 31 38.2**	**-0.2**
NRCA				S		**Sg**	**05 31 39.9**	**-0.3**
NRCA					AML	AML		
	comp=E,61700μm,0.4s							
NRCA					AML	AML		
	comp=E,58100μm,0.4s							
NRCA					AML	AML		
	comp=N,39200μm,0.2s							
NRCA					AML	AML		
	comp=N,39200μm,0.1s							
NRCA					AML	AML		
	comp=N,42950μm,0.1s							
MC2	**Monte Cornacci**	**0.10**	**0**	⇑P		**Pg**	**05 31 37.8**	**-1.1**
MC2				S		**Sg**	**05 31 39.4**	**-1.7**
T1244	**Arquata del Tr**	**0.10**	**127**	⇑P		**Pg**	**05 31 38.6**	**-0.2**
T1244				S		**Sg**	**05 31 40.8**	**-0.1**
T1244					AML	AML		
	comp=E,52150μm,0.2s							
T1244					AML	AML		
	comp=E,52500μm,0.2s							
T1244					AML	AML		
	comp=N,38150μm,1.3s							
T1244					AML	AML		
	comp=N,37750μm,1.3s							
T1244					AML	AML		
	comp=N,37700μm,1.3s							
T1244					AML	AML		
	comp=E,52200μm,0.2s							
T1202	**Accumoli, Fraz**	**0.12**	**167**	⇑P		**Pg**	**05 31 39.4**	**+0.4**
T1202				S		**Sg**	**05 31 42.5**	**+1.2**
T1202					AML	AML		
	comp=N,16750μm,0.8s							
T1202					AML	AML		
	comp=E,22400μm,1.1s							
T1202					AML	AML		
	comp=E,22350μm,1.1s							
T1202					AML	AML		
	comp=N,16700μm,0.8s							
T1204	**Amatrice, Fraz**	**0.17**	**147**	⇓P		**Pg**	**05 31 40.0**	**+0.2**
T1204				S		**Sg**	**05 31 43.4**	**+0.8**
T1204					AML	AML		
	comp=E,6090μm,0.2s							
T1204					AML	AML		
	comp=N,5490μm,0.6s							
T1204					AML	AML		
	comp=N,5495μm,0.6s							
T1204					AML	AML		
	comp=E,6085μm,0.2s							
T1241	**Roccafluvione,**	**0.18**	**77**	P		**Pg**	**05 31 39.2**	**-0.7**
T1241				S		**Sg**	**05 31 41.8**	**-1.0**
T1241					AML	AML		
	comp=N,12970μm,0.6s							
T1241					AML	AML		
	comp=E,14000μm,0.3s							
SMA1	**SAN MARTINO**	**0.21**	**150**	⇓P		**Pg**	**05 31 40.7**	**+0.2**
SMA1				S		**Sg**	**05 31 44.8**	**+1.1**
SMA1					AML	AML		
	comp=N,5965μm,0.5s							
SMA1					AML	AML		
	comp=E,6370μm,0.6s							
T1243	**Rocca Santa Ma**	**0.23**	**122**	P		**Pg**	**05 31 40.4**	**-0.2**
T1243				S		**Sg**	**05 31 44.1**	**+0.2**
FDMO	**Fiordimonte**	**0.23**	**341**	P		**Pg**	**05 31 40.3**	**-0.4**
FDMO				S		**Sg**	**05 31 44.2**	**+0.1**
FDMO					AML	AML		
	comp=E,3300μm,0.7s							
FDMO					AML	AML		
	comp=N,3865μm,0.8s							
T1215	**Vallo di Nera,**	**0.24**	**266**	⇑P		**Pg**	**05 31 41.5**	**+0.7**
T1215				S		**Sb**	**05 31 46.1**	**0.0**
T1215					AML	AML		
	comp=E,2500μm,0.4s							
T1215					AML	AML		
	comp=N,2465μm,1.0s							
T1215					AML	AML		
	comp=E,2615μm,0.4s							
T1215					AML	AML		
	comp=N,2375μm,1.4s							
T1215					AML	AML		
	comp=N,2465μm,0.9s							
T1215					AML	AML		
	comp=E,2495μm,0.4s							
LNSS	**Leonessa**	**0.24**	**207**	⇑P		**Pb**	**05 31 41.7**	**-0.3**
LNSS				S		**Sb**	**05 31 46.9**	**+0.7**
LNSS					AML	AML		
	comp=N,12350μm,0.3s							
LNSS					AML	AML		
	comp=E,12100μm,0.9s							
GUMA	**Gualdo di Mace**	**0.27**	**23**	⇑P		**Pg**	**05 31 40.9**	**-0.4**
GUMA				S		**Sg**	**05 31 45.1**	**-0.1**
GUMA					AML	AML		
	comp=E,17650μm,0.9s							
GUMA					AML	AML		
	comp=N,26150μm,0.6s							
GUMA					AML	AML		
	comp=E,20550μm,0.3s							
GUMA					AML	AML		
	comp=N,26200μm,0.6s							
GUMA					AML	AML		
	comp=N,28350μm,0.6s							
GUMA					AML	AML		
	comp=E,17700μm,0.9s							
CSP1	**Cessapalombo**	**0.28**	**2**	⇑P		**Pg**	**05 31 40.9**	**-0.7**
CSP1				S		**Sg**	**05 31 45.1**	**-0.4**
CSP1					AML	AML		
	comp=E,5795μm,0.4s							
CSP1					AML	AML		
	comp=N,6785μm,1.4s							
CSP1					AML	AML		
	comp=E,5800μm,0.4s							
CSP1					AML	AML		
	comp=N,6780μm,1.4s							
CESI	**CESI - Serrava**	**0.28**	**312**	⇑P		**Pg**	**05 31 41.8**	**+0.2**
CESI				S		**Sg**	**05 31 46.7**	**+1.1**
CESI					AML	AML		
	comp=E,4010μm,0.4s							
CESI					AML	AML		
	comp=N,7065μm,0.5s							
RM33	**Pellescritta (**	**0.31**	**177**	⇓P		**Pb**	**05 31 42.8**	**-0.4**
RM33				S		**Sb**	**05 31 48.4**	**+0.2**
RM33					AML	AML		
	comp=E,3145μm,1.4s							
RM33					AML	AML		
	comp=N,3710μm,0.3s							
RM33					AML	AML		
	comp=E,3145μm,1.4s							
RM33					AML	AML		
	comp=E,3150μm,1.4s							
RM33					AML	AML		
	comp=N,3645μm,0.3s							
CAMP	**Campotosto**	**0.32**	**150**	P		**Pb**	**05 31 42.5**	**-0.9**
CAMP				S		**Sb**	**05 31 48.1**	**-0.6**
CAMP					AML	AML		
	comp=N,1840μm,0.6s							
CAMP					AML	AML		
	comp=E,2190μm,0.9s							
TERO	**Teramo**	**0.36**	**122**	⇓P		**Pg**	**05 31 42.8**	**-0.3**
TERO				S		**Sb**	**05 31 48.6**	**-1.0**
TERO					AML	AML		
	comp=E,3325μm,0.3s							
TERO					AML	AML		
	comp=N,5330μm,0.5s							
TERO					AML	AML		
	comp=N,5655μm,0.5s							
TERO					AML	AML		
	comp=E,3545μm,0.3s							
SEF1	**Sefro**	**0.38**	**332**	P		**Pg**	**05 31 43.1**	**-0.2**
OFFI	**Offida**	**0.38**	**72**	⇑P		**Pb**	**05 31 43.6**	**-0.8**
OFFI					AML	AML		
	comp=N,5225μm,0.7s							
OFFI					AML	AML		
	comp=E,3540μm,0.6s							
ARRO	**Arrone**	**0.39**	**233**	⇑P		**Pg**	**05 31 44.4**	**+0.8**
ARRO				S		**Sb**	**05 31 51.8**	**+1.3**
ARRO					AML	AML		
	comp=E,1402μm,0.7s							
ARRO					AML	AML		
	comp=N,1580μm,0.9s							
ARRO					AML	AML		
	comp=N,1402μm,0.7s							
GAG1	**Gagliole**	**0.43**	**348**	⇑P		**Pb**	**05 31 44.6**	**-0.6**
GAG1					AML	AML		
	comp=E,4260μm,0.3s							
GAG1					AML	AML		
	comp=N,5130μm,0.4s							
GAG1					AML	AML		
	comp=N,5130μm,0.4s							
ASSB	**Assisi San Ben**	**0.45**	**300**	⇑P		**Pg**	**05 31 44.8**	**+0.1**
ASSB					AML	AML		
	comp=E,2120μm,1.5s							
ASSB					AML	AML		
	comp=N,3665μm,0.2s							
GIGS	**Gran Sasso**	**0.46**	**143**	P		**Pg**	**05 31 44.8**	**-0.1**
GIGS				S		**Sb**	**05 31 52.3**	**-0.3**
GIGS					AML	AML		
	comp=N,370μm,0.7s							
GIGS					AML	AML		
	comp=E,430μm,0.3s							
SNTG	**Esanatoglia**	**0.47**	**337**	P		**Pg**	**05 31 44.7**	**-0.4**
SNTG					AML	AML		
	comp=N,1214μm,0.4s							
SNTG					AML	AML		
	comp=N,1214μm,0.4s							
SNTG					AML	AML		
	comp=E,876μm,0.4s							
CESX	**Cesi**	**0.49**	**246**	⇑P		**Pg**	**05 31 46.0**	**+0.5**
CESX					AML	AML		
	comp=E,1290μm,0.4s							
CESX					AML	AML		
	comp=N,1265μm,0.8s							
EL6	**Elcito**	**0.52**	**353**	⇑P		**Pg**	**05 31 45.3**	**-0.6**
EL6				S		**Sb**	**05 31 54.0**	**-0.2**
TRTR	**Tortoreto Alta**	**0.53**	**91**	⇑P		**Pb**	**05 31 46.9**	**0.0**
TRTR					AML	AML		
	comp=N,4885μm,1.2s							
TRTR					AML	AML		
	comp=E,4040μm,0.7s							
ATCC	**AVT- Casa Cast**	**0.55**	**313**	⇑P		**Pg**	**05 31 46.5**	**0.0**
ATCC					AML	AML		
	comp=E,1755μm,1.1s							
ATCC					AML	AML		
	comp=E,1750μm,1.1s							
ATCC					AML	AML		
	comp=N,1680μm,0.4s							
FIAM	**Fiamignano**	**0.55**	**186**	P		**Pb**	**05 31 47.0**	**-0.4**
FIAM				S		**Sb**	**05 31 56.0**	**+0.9**
FIAM					AML	AML		
	comp=E,1052μm,0.3s							
FIAM					AML	AML		
	comp=N,764μm,0.4s							
CING	**Cingoli**	**0.56**	**0**	S		**Sb**	**05 31 56.0**	**+0.6**
FOSV	**Fossato di Vic**	**0.57**	**327**	⇓P		**Pg**	**05 31 46.7**	**-0.2**
FOSV				S		**Sb**	**05 31 57.0**	**+1.2**
FOSV					AML	AML		
	comp=N,2120μm,0.2s							
FOSV					AML	AML		
	comp=E,1450μm,0.2s							
FAGN	**Fagnano**	**0.62**	**152**	P		**Pg**	**05 31 47.7**	**-0.2**
FAGN					AML	AML		
	comp=E,1880μm,0.5s							
FAGN					AML	AML		
	comp=N,1680μm,0.5s							
PP3	**Marolino**	**0.64**	**29**	P		**Pb**	**05 31 48.2**	**-0.6**
PP3					AML	AML		
	comp=E,3415μm,0.5s							
PP3					AML	AML		
	comp=N,2270μm,0.5s							
PP3					AML	AML		
	comp=N,1965μm,0.7s							
PP3					AML	AML		
	comp=N,1960μm,0.7s							
PP3					AML	AML		
	comp=E,3410μm,0.5s							
PP3					AML	AML		
	comp=E,3360μm,0.5s							
VCEL	**Villa Celiera**	**0.64**	**131**	⇓P		**Pb**	**05 31 48.5**	**-0.3**
VCEL					AML	AML		
	comp=E,914μm,0.6s							
VCEL					AML	AML		
	comp=N,1340μm,0.6s							
VCEL					AML	AML		
	comp=E,916μm,0.6s							
VCEL					AML	AML		
	comp=N,1335μm,0.6s							
MURB	**Monte Urbino**	**0.66**	**313**	S		**Sb**	**05 31 60.0**	**+1.6**
SSFR	**Montelago di S**	**0.69**	**334**	⇓P		**Pg**	**05 31 48.8**	**-0.4**
SSFR					AML	AML		
	comp=E,1490μm,0.2s							
SSFR					AML	AML		
	comp=N,2400μm,0.2s							
SSFR					AML	AML		
	comp=N,1910μm,0.2s							
SSFR					AML	AML		
	comp=E,1545μm,0.8s							
ARVD	**Arcevia**	**0.70**	**345**	S		**Sb**	**05 32 01.0**	**+1.4**
ATFO	**Monte Foce - G**	**0.71**	**321**	⇓P		**Pg**	**05 31 49.3**	**-0.3**
ATFO					AML	AML		
	comp=E,567μm,1.3s							
ATFO					AML	AML		
	comp=N,484μm,0.8s							
ATTE	**AVT- Monte Tez**	**0.72**	**302**	⇓P		**Pg**	**05 31 49.6**	**-0.1**
ATTE					AML	AML		
	comp=N,358μm,0.4s							
ATTE					AML	AML		
	comp=E,383μm,0.5s							
T0110	**Collepietro**	**0.73**	**143**	⇓P		**Pg**	**05 31 49.5**	**-0.4**
T0110					AML	AML		
	comp=E,945μm,1.4s							
T0110					AML	AML		
	comp=N,1055μm,0.8s							
T0110					AML	AML		
	comp=E,944μm,1.4s							
FRON	**Frontone**	**0.78**	**334**	⇓P		**Pg**	**05 31 50.1**	**-0.7**
FRON					AML	AML		
	comp=E,492μm,0.3s							
FRON					AML	AML		
	comp=N,616μm,0.4s							
MGAB	**Montegabbione**	**0.80**	**277**	⇓P		**Pg**	**05 31 51.5**	**+0.3**
MGAB					AML	AML		
	comp=E,926μm,0.4s							
MGAB					AML	AML		
	comp=N,1024μm,0.4s							
MGAB					AML	AML		
	comp=E,972μm,0.4s							
MGAB					AML	AML		
	comp=N,1145μm,0.5s							
ATVO	**AVT- Monte Val**	**0.81**	**315**	⇑P		**Pg**	**05 31 50.9**	**-0.5**
ATVO					AML	AML		
	comp=E,362μm,1.1s							
ATVO					AML	AML		
	comp=N,346μm,0.5s							
COR1	**Corinaldo**	**0.83**	**350**	⇑P		**Pb**	**05 31 52.1**	**+0.1**
ATMI	**Monte Miggiano**	**0.85**	**308**	⇑P		**Pn**	**05 31 53.7**	**+0.2**
ATPI	**Pietralunga -**	**0.86**	**318**	⇓P		**Pg**	**05 31 51.9**	**-0.4**
ATPI					AML	AML		
	comp=E,350μm,0.7s							
ATPI					AML	AML		
	comp=N,318μm,0.6s							
MPAG	**Monte Paganucc**	**0.87**	**339**	⇑P		**Pg**	**05 31 52.3**	**-0.3**
MPAG				S		**Sn**	**05 32 07.0**	**+0.6**
MPAG					AML	AML		
	comp=E,420μm,0.4s							
MPAG					AML	AML		
	comp=N,431μm,0.6s							
CERT	**Cerreto**	**0.88**	**190**	⇑P		**Pg**	**05 31 52.6**	**-0.1**
CERT					AML	AML		
	comp=E,528μm,1.1s							
CERT					AML	AML		
	comp=N,388μm,0.9s							
NARO	**Abbazia di Nar**	**0.91**	**331**	⇑P		**Pg**	**05 31 52.5**	**-0.8**
NARO					AML	AML		
	comp=N,210μm,0.7s							
NARO					AML	AML		
	comp=E,298μm,0.3s							
NARO					AML	AML		
	comp=N,209μm,0.7s							
FSSB	**Fossombrone**	**0.93**	**341**	⇓P		**Pg**	**05 31 53.0**	**-0.6**
FSSB					AML	AML		
	comp=E,1240μm,0.4s							
FSSB					AML	AML		
	comp=N,1625μm,0.5s							
APEC	**Apecchio**	**0.93**	**323**	S		**Sb**	**05 32 07.0**	**+0.9**
SACS	**San Casciano d**	**0.94**	**272**	⇓P		**Pb**	**05 31 54.4**	**+0.4**
SACS					AML	AML		
	comp=E,266μm,0.8s							
SACS					AML	AML		
	comp=N,331μm,1.4s							
SACS					AML	AML		
	comp=N,318μm,1.2s							

SACS				AML	AML			
	comp=E,272μm,0.4s							
INTR	**Introdacqua**	**0.96**	**146**	⇓P	**Pg**	**05 31 53.2**	**-1.1**	
INTR				AML	AML			
	comp=N,712μm,1.0s							
INTR				AML	AML			
	comp=E,292μm,0.8s							
CAFI	**Castiglion Fio**	**1.03**	**300**	⇓P	**Pg**	**05 31 55.4**	**-0.3**	
CAFI				AML	AML			
	comp=E,216μm,0.7s							
CAFI				AML	AML			
	comp=N,232μm,0.8s							
PARC	**Parchiule**	**1.08**	**320**	⇓P	**Pn**	**05 31 57.2**	**+0.5**	
PARC				AML	AML			
	comp=N,290μm,0.5s							
PARC				AML	AML			
	comp=E,478μm,0.5s							
PESA	**Pesaro**	**1.15**	**347**	⇑P	**Pn**	**05 31 58.0**	**+0.4**	
PESA				AML	AML			
	comp=E,576μm,0.9s							
PESA				AML	AML			
	comp=N,575μm,1.2s							
TOLF	**Tolfa**	**1.16**	**230**	⇑P	**Pb**	**05 31 58.1**	**+0.5**	
TOLF				AML	AML			
	comp=E,228μm,0.9s							
TOLF				AML	AML			
	comp=N,188μm,0.4s							
CERA	**Filignano**	**1.36**	**153**	⇑P	**Pg**	**05 32 02.8**	**+0.9**	
VAGA	**Valle Agricola**	**1.60**	**151**	P	**Pn**	**05 32 03.8**	**0.0**	
VAGA				AML	AML			
	comp=N,112μm,0.5s							
VAGA				AML	AML			
	comp=E,63μm,1.4s							
CIGN	**Sant'Elia a Pi**	**1.72**	**132**	P	**Pg**	**05 32 09.3**	**+0.5**	
APRC	**Apricena**	**2.04**	**120**	⇓P	**Pb**	**05 32 11.9**	**-0.8**	
VULT	**Monte Vulture**	**2.60**	**135**	P	**Pn**	**05 32 19.6**	**+2.0**	
PGF	**Pioggiola**	**3.10**	**266**	*e*P	**Pn**	**05 32 25.7**	**+1.2**	
PGF				*e*Sn	**Sn**	**05 32 58.0**	**-3.5**	
	comp=E,2.9nm,0.5s							
ABTA	**Abfaltersbach**	**3.96**	**353**	*i* Pn	**Pn**	**05 32 38.3**	**+2.0**	
	comp=E,12nm,0.5s,SNR=7.3							
ABTA				*e*Sn	**Sn**	**05 33 21.7**	**-0.9**	
	comp=E,7.1nm,0.6s							
SBF	**Sospel**	**4.33**	**286**	*e*P	**Pn**	**05 32 43.6**	**+2.3**	
SBF				*e*Sn	**Sn**	**05 33 28.7**	**-2.9**	
	comp=E,2.3nm,0.4s							
FETA	**Feichten**	**4.55**	**338**	*i* Pn	**Pn**	**05 32 48.0**	**+3.5**	
	comp=E,1.1nm,0.5s							
FETA				*i* Sn	**Sn**	**05 33 41.9**	**+4.6**	
	comp=E,1.9nm,0.7s							
WTTA	**Wattenberg**	**4.58**	**347**	*e*Pn	**Pn**	**05 32 48.3**	**+3.4**	
	comp=E,1.1nm,0.2s,SNR=4.5							
WTTA				*e*Sn	**Sn**	**05 33 43.2**	**+5.1**	
	comp=E,7.7nm,0.5s							
SQTA	**Sankt Quirin**	**4.62**	**343**	*e*Pn	**Pn**	**05 32 48.6**	**+3.2**	
	comp=E,3.8nm,0.3s,SNR=7.1							
SQTA				*i* Sn	**Sn**	**05 33 43.3**	**+4.3**	
	comp=E,3.2nm,0.3s							
WATA	**Walderalm**	**4.66**	**346**	*i* Pn	**Pn**	**05 32 48.9**	**+3.0**	
	comp=E,1.7nm,0.3s							
WATA				*e*Sn	**Sn**	**05 33 44.5**	**+4.5**	
	comp=E,4.4nm,0.4s							
ARSA	**Arzberg**	**4.73**	**20**	*i* Pn	**Pn**	**05 32 46.8**	**0.0**	
	comp=E,1.5nm,0.5s							
ARSA				*i* Sn	**Sn**	**05 33 40.2**	**-1.4**	
	comp=E,0.6nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.88**	**4**	*i* Pn	**Pn**	**05 32 50.6**	**+1.7**	
	comp=E,1.9nm,0.3s							
LMR	**La Mourre**	**4.92**	**278**	*e*Pn	**Pn**	**05 32 47.4**	**-2.0**	
LMR	**La Mourre**	**4.92**	**278**	*e*P	**Pn**	**05 32 52.0**	**+2.6**	
LMR				*e*Sn	**Sn**	**05 33 43.2**	**-3.0**	
	comp=E,0.1nm,0.2s							
RETA	**Reutte**	**4.97**	**341**	*i* Pn	**Pn**	**05 32 53.4**	**+3.2**	
	comp=E,1.3nm,0.4s							
MBDF	**Montbardon**	**5.03**	**295**	*e*Pn	**Pn**	**05 32 49.9**	**-1.1**	
MBDF	**Montbardon**	**5.03**	**295**	*e*P	**Pn**	**05 32 55.0**	**+4.0**	
MBDF				*e*Sn	**Sn**	**05 33 43.9**	**-5.1**	
	comp=E,0.5nm,0.3s							
DAVA	**Damuels**	**5.05**	**333**	*i* Pn	**Pn**	**05 32 55.3**	**+4.0**	
	comp=E,2.1nm,0.4s							
MOA	**Molln**	**5.09**	**8**	*i* Pn	**Pn**	**05 32 53.9**	**+2.2**	
	comp=E,1.1nm,0.3s							
MOA				*e*Sn	**Sn**	**05 33 51.5**	**+1.1**	
	comp=E,1.6nm,0.5s							
LPG	**La Plagne**	**5.35**	**302**	*e*P	**Pn**	**05 32 59.0**	**+3.4**	
LPG				*e*Sn	**Sn**	**05 33 50.9**	**-6.3**	
	comp=E,1.2nm,0.5s							
LPL	**La Plagne**	**5.37**	**302**	*e*P	**Pn**	**05 32 58.8**	**+3.0**	
LPL				*e*Sn	**Sn**	**05 33 53.8**	**-3.8**	
	comp=E,0.8nm,0.3s							
CONA	**Conrad Observa**	**5.45**	**19**	*i* Pn	**Pn**	**05 32 58.6**	**+1.9**	
	comp=E,0.4nm,0.2s							
SMRF	**Simiane la Rot**	**5.67**	**284**	*e*Pn	**Pn**	**05 32 58.5**	**-1.2**	
SMRF	**Simiane la Rot**	**5.67**	**284**	*e*P	**Pn**	**05 33 03.1**	**+3.4**	
SMRF				*e*Sn	**Sn**	**05 34 01.7**	**-3.0**	
	comp=E,0.1nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.69**	**294**	*e*P	**Pn**	**05 33 04.6**	**+4.6**	
KHC	**Kasperske Hory**	**6.32**	**2**	*e*PN	**Pn**	**05 33 09.9**	**+1.3**	
KHC				*e*SN	**Sn**	**05 34 19.1**	**-1.6**	
CABF	**La Chapelle**	**6.32**	**309**	*e*Pn	**Pn**	**05 33 08.2**	**-0.5**	
CABF				*e*Sn	**Sn**	**05 34 14.8**	**-6.1**	
	comp=E,1.0nm,0.4s							
VIVF	**Saint-Julien-l**	**6.49**	**291**	*e*P	**Pn**	**05 33 12.8**	**+1.9**	
HINF	**Hinteralfeld**	**6.70**	**320**	*e*Pn	**Pn**	**05 33 12.5**	**-1.4**	
HINF				*e*Sn	**Sn**	**05 34 25.9**	**-4.2**	
	comp=E,1.2nm,0.3s							
LASF	**Ste Croix**	**6.91**	**284**	*e*P	**Pn**	**05 33 20.7**	**+4.0**	
LASF				*e*Sn	**Sn**	**05 34 28.9**	**-6.3**	
	comp=E,0.2nm,0.2s							
CDF	**Champ du Feu**	**6.96**	**326**	*e*P	**Pn**	**05 33 18.6**	**+1.1**	
CDF				*e*Sn	**Sn**	**05 34 31.4**	**-5.2**	
	comp=E,0.9nm,0.4s							
HAU	**Haudompre**	**7.08**	**320**	*e*Pn	**Pn**	**05 33 18.1**	**-0.9**	
HAU	**Haudompre**	**7.08**	**320**	*e*P	**Pn**	**05 33 21.2**	**+2.2**	
HAU				*e*Sn	**Sn**	**05 34 32.3**	**-7.0**	
	comp=E,2.7nm,0.4s							
PAGF	**Fort de Pagny**	**7.76**	**320**	*e*P	**Pn**	**05 33 31.4**	**+3.1**	
AVF	**Avril sur Loir**	**8.04**	**303**	*e*P	**Pn**	**05 33 34.5**	**+2.3**	
MEZF	**Maizieres J'vi**	**8.05**	**318**	*e*P	Pn	05 33 38.7	+6.4	
CAF	**Calviac**	**8.31**	**288**	*e*Pn	**Pn**	**05 33 34.6**	**-1.4**	
HYF	**Humbligny**	**8.69**	**304**	*e*Pn	**Pn**	**05 33 39.7**	**-1.5**	
HYF	**Humbligny**	**8.69**	**304**	*e*P	**Pn**	**05 33 43.1**	**+1.9**	
LFF	**La Frestale**	**9.24**	**288**	*e*P	**Pn**	**05 33 51.8**	**+3.2**	
GIVF	**Givet**	**9.29**	**325**	*e*P	**Pn**	**05 33 51.8**	**+2.5**	
EPF	**Esparros**	**9.43**	**276**	*e*P	**Pn**	**05 33 53.7**	**+2.4**	

ROM 04 05:32:28.4±0.2, 42°.856N±0°.004×13°.232E±0°.005, h6km±1km, ML2.2/6, 10C-6D, Error ellipse: s-maj=0.4km s-min=0.2km az=199.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**218**	P	Pg	05 32 29.7	-0.2
T1242				S	Sg	05 32 30.7	-0.3
MC2	**Monte Cornacci**	**0.07**	**332**	⇓P	Pg	05 32 30.2	-0.1
MC2				S	Sg	05 32 31.8	+0.2
NRCA	**Norcia**	**0.09**	**256**	⇓P	Pg	05 32 30.9	+0.3
NRCA				S	Sg	05 32 32.6	+0.6
NRCA				AML	AML		
	comp=E,2640μm,0.5s						
NRCA				AML	AML		
	comp=E,2640μm,0.5s						
NRCA				AML	AML		
	comp=N,2340μm,0.2s						
NRCA				AML	AML		
	comp=N,2210μm,0.2s						
NRCA				AML	AML		
	comp=E,2895μm,0.5s						
T1244	**Arquata del Tr**	**0.11**	**154**	⇓P	Pg	05 32 31.3	+0.4
T1244				S	Sg	05 32 33.6	+1.1
T1244				AML	AML		
	comp=E,1495μm,0.6s						
T1244				AML	AML		
	comp=N,2185μm,0.6s						
T1241	**Roccafluvione,**	**0.15**	**90**	⇑P	Pg	05 32 31.9	+0.4
T1241				S	Sg	05 32 34.6	+1.1
T1241				AML	AML		
	comp=E,2435μm,0.2s						
T1241				AML	AML		
	comp=N,1053μm,0.2s						
T1202	**Accumoli, Fraz**	**0.15**	**182**	⇑P	Pg	05 32 32.1	+0.5
T1202				AML	AML		
	comp=N,3466μm,0.1s						
T1202				AML	AML		
	comp=E,1440μm,0.8s						
T1204	**Amatrice, Fraz**	**0.19**	**161**	⇑P	Pg	05 32 32.8	+0.5
T1204				S	Sg	05 32 35.9	+1.0
FDMO	**Fiordimonte**	**0.21**	**330**	⇓P	Pg	05 32 33.1	+0.4
FDMO				AML	AML		
	comp=N,486μm,0.2s						
FDMO				AML	AML		
	comp=E,458μm,0.2s						
T1243	**Rocca Santa Ma**	**0.23**	**135**	⇑P	Pg	05 32 33.3	+0.4
T1243				S	Sg	05 32 37.0	+1.0
CSP1	**Cessapalombo**	**0.24**	**355**	⇑P	Pg	05 32 33.7	+0.5
T1215	**Vallo di Nera,**	**0.27**	**259**	⇑P	Pg	05 32 34.2	+0.4
CESI	**CESI - Serrava**	**0.28**	**302**	⇑P	Pg	05 32 34.5	+0.4
LNSS	**Leonessa**	**0.29**	**209**	⇓P	Pg	05 32 34.7	+0.6
LNSS				S	Sb	05 32 39.8	-1.4
LNSS				AML	AML		
	comp=E,974μm,0.9s						
LNSS				AML	AML		
	comp=N,751μm,0.2s						
LNSS				AML	AML		
	comp=N,750μm,0.2s						
LNSS				AML	AML		
	comp=E,974μm,0.9s						
CAMP	**Campotosto**	**0.34**	**158**	⇑P	Pg	05 32 35.4	+0.2
RM33	**Pellescritta (**	**0.35**	**182**	P	Pg	05 32 35.8	+0.6
TERO	**Teramo**	**0.36**	**130**	P	Pg	05 32 35.6	+0.2
TERO				AML	AML		
	comp=N,661μm,0.5s						
TERO				AML	AML		
	comp=E,383μm,1.1s						
ARRO	**Arrone**	**0.44**	**231**	⇑P	Pg	05 32 37.4	+0.4
SNTG	**Esanatoglia**	**0.45**	**332**	⇓P	Pg	05 32 37.4	+0.2
ASSB	**Assisi San Ben**	**0.46**	**294**	⇑P	Pg	05 32 37.6	+0.2
EL6	**Elcito**	**0.48**	**349**	S	Sb	05 32 47.0	+0.2
FIAM	**Fiamignano**	**0.59**	**188**	S	Sb	05 32 50.0	+0.1
ARVD	**Arcevia**	**0.68**	**342**	S	Sb	05 32 53.0	+0.7

ROM 04 05:33:18.2±0.1, 42°.741N±0°.003×13°.218E±0°.004, h11km, ML1.4/3, 5C-3D, Error ellipse: s-maj=0.3km s-min=0.3km az=291.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.09**	**354**	⇓P	Pg	05 33 21.2	+0.3
T1242				S	Sg	05 33 23.2	+0.2
T1242				AML	AML		
	comp=N,230μm,0.3s						
T1242				AML	AML		
	comp=N,397μm,0.1s						
T1242				AML	AML		
	comp=E,195μm,0.3s						
T1204	**Amatrice, Fraz**	**0.10**	**132**	⇑P	Pg	05 33 21.3	+0.2
T1204				S	Sg	05 33 23.4	+0.3
SMA1	**SAN MARTINO**	**0.14**	**142**	⇓P	Pb	05 33 22.3	-0.6
SMA1				S	Sg	05 33 24.8	+0.8
T1243	**Rocca Santa Ma**	**0.18**	**105**	P	Pg	05 33 22.7	+0.5
T1243				S	Sg	05 33 25.6	+0.7
LNSS	**Leonessa**	**0.19**	**223**	⇑P	Pg	05 33 22.8	+0.4
LNSS				S	Sg	05 33 26.2	+0.9
LNSS				AML	AML		
	comp=N,142μm,0.9s						
LNSS				AML	AML		
	comp=N,142μm,0.9s						
LNSS				AML	AML		
	comp=E,122μm,0.3s						
T1241	**Roccafluvione,**	**0.20**	**54**	⇑P	Pg	05 33 23.1	+0.6
T1241				S	Sg	05 33 26.5	+1.1
RM33	**Pellescritta (**	**0.23**	**181**	P	Pg	05 33 23.6	+0.5
RM33				S	Sg	05 33 27.6	+1.2
T1215	**Vallo di Nera,**	**0.26**	**283**	P	Pg	05 33 24.0	+0.3
TERO	**Teramo**	**0.31**	**112**	⇑P	Pg	05 33 24.8	+0.3
TERO				S	Sb	05 33 29.9	-1.0
FDMO	**Fiordimonte**	**0.31**	**342**	⇓P	Pb	05 33 25.2	-0.6
FDMO				AML	AML		
	comp=E,102μm,0.2s						
FDMO				AML	AML		
	comp=N,101μm,0.1s						
FDMO				AML	AML		
	comp=N,101μm,0.1s						
FDMO				AML	AML		
	comp=E,102μm,0.2s						
CSP1	**Cessapalombo**	**0.35**	**358**	S	Sb	05 33 33.0	+0.8
ASSB	**Assisi San Ben**	**0.51**	**306**	S	Sb	05 33 37.0	+0.3
SNTG	**Esanatoglia**	**0.55**	**339**	S	Sb	05 33 39.0	+1.1
EL6	**Elcito**	**0.59**	**352**	S	Sn	05 33 41.0	-1.4
CAFR	**Castel Frentan**	**0.98**	**121**	⇑P	Pg	05 33 35.6	-1.5
APEC	**Apecchio**	**1.00**	**325**	S	Sg	05 33 49.0	-1.6

*IDC **04** 05:38:34.4±2.9, 36°.86S×178°.63E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=63.8km s-min=29.7km az=118.0*
*NEIC **04** 05:38:35.2±0.6, 37°.0S±0°.1×178°.9E±0°.2, h10km±2km, mb4.3/9, ML3.8(WEL), Error ellipse: s-maj=28.5km s-min=8.5km az=129.0*
*WEL **04** 05:38:35.2±1.0, 37°S±5°×17°.9E±°, h5km, M3.8/17, ML4.0/19, MLv3.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=104.6*

ISC 04 05:38:34.4±2.2, 37°.17S±0°.06×179°.13E±0°.08, h12km±11km, n96, σ1°.912/102, mb4.2/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.76**	**239**		**Pg**	**05 38 49.9**	**+0.7**
MXZ	**Matakaoa Point**	**0.76**	**239**	P	**Pg**	**05 38 50.0**	**+0.8**
MXZ				S	**Sg**	**05 38 59.1**	**0.0**
PKGZ	**Pakihiroa**	**1.10**	**229**	P	**Pg**	**05 38 56.4**	**+0.8**
PKGZ				S	**Sg**	**05 39 10.6**	**+0.7**
PUZ	**Puketiti**	**1.13**	**218**	P	**Pg**	**05 38 56.8**	**+0.6**
PUZ				S	**Sg**	**05 39 11.4**	**+0.4**
HAZ	**Te Kaha**	**1.22**	**241**	P	**Pg**	**05 38 56.9**	**-1.0**
HAZ				S	**Sb**	**05 39 14.1**	**+0.9**
TWGZ	**Tauwhareparae**	**1.36**	**222**	P	**Pn**	**05 39 00.5**	**+1.2**
TWGZ				S	**Sb**	**05 39 17.8**	**+0.7**
RUGZ	**Raukumara Rang**	**1.40**	**235**	P	**Pn**	**05 39 01.0**	**+1.1**
RUGZ				S	**Sb**	**05 39 18.6**	**+0.1**
CNGZ	**Carnagh Statio**	**1.50**	**209**	P	**Pn**	**05 39 02.8**	**+1.6**
WIZ	**White Island**	**1.59**	**257**	P	**Pn**	**05 39 02.2**	**-0.1**
TKGZ	**Te Karaka**	**1.62**	**218**	P	**Pn**	**05 39 03.6**	**+0.8**
MWZ	**Matawai**	**1.72**	**227**	P	**Pn**	**05 39 04.9**	**+0.7**
WHRZ	**Whale Island**	**1.85**	**248**	P	**Pn**	**05 39 07.0**	**+1.1**
RIGZ	**Rimuhau**	**1.87**	**213**	P	**Pn**	**05 39 06.8**	**+0.5**
RAGZ	**Rawiri**	**1.90**	**225**	P	**Pn**	**05 39 07.6**	**+0.9**
URZ	**Urewera**	**1.94**	**235**	Pn	**Pn**	**05 39 07.7**	**+0.6**
	27nm,0.3s,baz=31,slow=11,SNR=121						
URZ				Sn	**Sn**	**05 39 30.5**	**-0.8**
	27nm,0.3s,baz=211,slow=23,SNR=7.0						
URZ	**Urewera**	**1.94**	**235**		**Pn**	**05 39 07.9**	**+0.7**
URZ	**Urewera**	**1.94**	**235**	P	**Pn**	**05 39 07.7**	**+0.6**
PRGZ	**Paritu Road**	**2.00**	**209**	P	**Pn**	**05 39 08.5**	**+0.3**
MARZ	**Manawahe**	**2.11**	**247**	P	**Pn**	**05 39 11.2**	**+1.6**
EDRZ	**Edgecumbe**	**2.12**	**243**	P	**Pn**	**05 39 11.3**	**+1.6**
SNGZ	**Shannon Statio**	**2.14**	**221**	P	**Pn**	**05 39 10.4**	**+0.4**
OPRZ	**Ohinepanea**	**2.16**	**251**	P	**Pn**	**05 39 10.5**	**+0.3**
KNZ	**Kokohu**	**2.17**	**212**	P	**Pn**	**05 39 10.1**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.20**	**206**	P	**Pn**	**05 39 11.2**	**+0.4**
RTZ	**Ruatahuna**	**2.23**	**229**	P	**Pn**	**05 39 12.5**	**+1.2**
MUGZ	**Murupara**	**2.28**	**234**	P	**Pn**	**05 39 12.4**	**+0.5**
MYRZ	**Mayor Island**	**2.31**	**266**	P	**Pb**	**05 39 13.3**	**-2.7**
TARZ	**Mount Tarawera**	**2.34**	**242**	P	**Pn**	**05 39 14.7**	**+1.9**
TGRZ	**Tauranga**	**2.35**	**255**	P	**Pn**	**05 39 13.5**	**+0.7**
RAHZ	**Arahi**	**2.37**	**222**	P	**Pn**	**05 39 13.9**	**+0.7**
RRRZ	**Republican Roa**	**2.38**	**240**	P	**Pn**	**05 39 15.4**	**+2.2**
WHHZ	**Waihua**	**2.42**	**218**	P	**Pn**	**05 39 14.0**	**+0.2**
KARZ	**Kaharoa**	**2.44**	**249**	P	**Pn**	**05 39 15.5**	**+1.3**
HLRZ	**Highlands Stat**	**2.45**	**243**	P	**Pn**	**05 39 15.7**	**+1.4**
MTHZ	**Maungataniwha**	**2.47**	**226**	P	**Pn**	**05 39 15.3**	**+0.8**
ALRZ	**Allen Road**	**2.61**	**237**	P	**Pn**	**05 39 18.0**	**+1.6**
KMRZ	**Kaimai**	**2.62**	**254**	P	**Pn**	**05 39 17.3**	**+0.6**
NMHZ	**Naumai**	**2.66**	**223**	P	**Pn**	**05 39 17.9**	**+0.8**
ARHZ	**Aropaoanui**	**2.68**	**218**	P	**Pn**	**05 39 17.5**	**+0.1**
MRHZ	**Matea Rd**	**2.71**	**231**	P	**Pn**	**05 39 18.3**	**+0.5**
KUZ	**Kuaotunu**	**2.77**	**278**	P	**Pn**	**05 39 17.9**	**-0.7**
BKZ	**Black Stump Fm**	**2.88**	**225**		**Pn**	**05 39 20.3**	**+0.1**
BKZ	**Black Stump Fm**	**2.88**	**225**	P	**Pn**	**05 39 20.3**	**+0.1**
KUTZ	**Kaahu Road**	**2.93**	**242**	P	**Pn**	**05 39 22.3**	**+1.4**
TOZ	**Tahuroa Road**	**2.94**	**258**	P	**Pn**	**05 39 21.5**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.96**	**212**	P	**Pn**	**05 39 20.4**	**-0.8**
GRZ	**Great Barrier**	**3.09**	**286**	P	**Pn**	**05 39 23.6**	**+0.5**
KWHZ	**Kaweka Forest**	**3.10**	**223**	P	**Pn**	**05 39 22.7**	**-0.5**
KAHZ	**Kahuranaki**	**3.16**	**213**	P	**Pn**	**05 39 23.0**	**-1.0**
MKAZ	**Moumakai**	**3.17**	**270**	P	**Pn**	**05 39 24.0**	**-0.2**
WIAZ	**Waiheke Island**	**3.22**	**276**	P	**Pn**	**05 39 25.8**	**+1.0**
KRHZ	**Kereru**	**3.28**	**221**	P	**Pn**	**05 39 25.2**	**-0.5**
TMVZ	**Te Maari**	**3.33**	**233**	P	**Pn**	**05 39 26.2**	**-0.2**
ETVZ	**East Tongariro**	**3.33**	**233**	P	**Pn**	**05 39 26.8**	**+0.3**
NTVZ	**North Tongarir**	**3.33**	**234**	P	**Pn**	**05 39 26.4**	**-0.1**
BHHZ	**Black Hill Sta**	**3.34**	**225**	P	**Pn**	**05 39 26.6**	**+0.1**
KRVZ	**Karewarewa**	**3.35**	**234**	P	**Pn**	**05 39 26.9**	**+0.1**
PXZ	**Pawanui**	**3.36**	**211**	P	**Pn**	**05 39 25.5**	**-1.2**
ETAZ	**East Tamaki Re**	**3.37**	**272**	P	**Pn**	**05 39 28.0**	**+1.1**
OTVZ	**Oturere**	**3.38**	**233**	P	**Pn**	**05 39 27.1**	**-0.1**
NNVZ	**North Ngauruho**	**3.39**	**234**	P	**Pn**	**05 39 29.1**	**+1.8**
WTVZ	**West Tongariro**	**3.40**	**234**	P	**Pn**	**05 39 28.1**	**+0.7**
SNVZ	**South Ngauruho**	**3.41**	**233**	P	**Pn**	**05 39 27.7**	**+0.2**
MBAZ	**Motutapu North**	**3.42**	**276**	P	**Pn**	**05 39 28.6**	**+1.1**
ABAZ	**Army Bay**	**3.49**	**278**	P	**Pn**	**05 39 29.9**	**+1.3**
EPAZ	**Eden Park BICE**	**3.52**	**274**	P	**Pn**	**05 39 30.6**	**+1.6**
HBAZ	**Herne Bay Bore**	**3.54**	**274**	P	**Pn**	**05 39 30.8**	**+1.6**
PNHZ	**Pukenui**	**3.57**	**219**	P	**Pn**	**05 39 29.2**	**-0.5**
WPHZ	**Waipukurau**	**3.57**	**215**	P	**Pn**	**05 39 28.8**	**-0.9**
AWAZ	**Awhitu Peninsu**	**3.59**	**270**	P	**Pn**	**05 39 30.7**	**+0.8**
PRHZ	**Porangahau**	**3.65**	**212**	P	**Pn**	**05 39 29.2**	**-1.6**
RVAZ	**Riverhead Bore**	**3.67**	**275**	P	**Pn**	**05 39 31.8**	**+0.8**
TSZ	**Takapari Road**	**3.80**	**220**	P	**Pn**	**05 39 31.9**	**-1.0**
DVHZ	**Dannevirke**	**3.89**	**216**	P	**Pn**	**05 39 32.6**	**-1.4**
WCZ	**Waipu Caves**	**4.05**	**286**	P	**Pn**	**05 39 37.2**	**+1.0**
WAZ	**Wanganui**	**4.15**	**230**	P	**Pn**	**05 39 38.1**	**+0.5**
BFZ	**Birch Farm**	**4.16**	**212**	Pn	**Pn**	**05 39 37.0**	**-0.8**
PRWZ	**Pori Road**	**4.18**	**215**	P	**Pn**	**05 39 37.1**	**-1.0**
OUZ	**Omahuta**	**4.88**	**292**	P	**Pn**	**05 39 49.0**	**+1.3**
MSWZ	**Moikau Station**	**5.20**	**214**	Sn	**Sn**	05 40 45.3	-6.6
KHZ	**Kahutara**	**6.78**	**218**	P	**Pn**	**05 40 12.3**	**-1.3**
CTZ	**Chatham Island**	**7.31**	**155**	P	**Pn**	**05 40 21.8**	**+0.9**
AS31	**Alice Springs**	**40.89**	**276**	P	**P**	**05 46 15.5**	**-1.1**
ASAR	**Alice Springs**	**40.89**	**276**	P	**P**	**05 46 14.9**	**-1.7**
	1.2nm,0.7s,baz=120,slow=8.0,SNR=13 1.2nm,0.7s						
ASAR	**Alice Springs**	**40.89**	**276**	P	**P**	**05 46 15.4**	**-1.2**
WR0	**Warramunga Arr**	**42.33**	**281**	P	**P**	**05 46 27.1**	**-1.3**
WR0				IAmb	IAmb	05 46 50.5	
	comp=Z,12nm,1.5s						
FORT	**Forrest**	**42.41**	**263**	P	**P**	**05 46 28.0**	**-1.0**
WB2	**Warramunga Arr**	**42.49**	**281**	P	**P**	**05 46 28.1**	**-1.6**
WB2				IAmb	IAmb	05 46 44.6	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**42.50**	**281**	P	**P**	**05 46 27.9**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=121,slow=7.8,SNR=8.0 comp=Z,1.1nm,0.6s						
WRA	**Warramunga Arr**	**42.50**	**281**	P	**P**	**05 46 28.3**	**-1.5**
WB0	**Warramunga Arr**	**42.56**	**281**	IAmb	IAmb	05 46 28.3	
	comp=Z,4.3nm,0.9s						
WB0				P	**P**	**05 46 28.5**	**-1.7**
CASY	**Casey**	**48.08**	**210**	P	**P**	**05 47 15.9**	**+2.5**
FITZ	**Fitzroy Crossi**	**50.38**	**277**	P	**P**	**05 47 29.8**	**-1.8**
	comp=Z,1.7nm,0.7s,baz=110,slow=6.2,SNR=6.7 comp=Z,1.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.38**	**277**	P	**P**	**05 47 29.8**	**-1.8**
FITZ				IAmb	IAmb	05 47 55.1	
	comp=Z,5.2nm,1.3s						
QSPA	**South Pole Qui**	**52.95**	**180**	P	**P**	**05 47 53.0**	**+2.5**
QSPA				IAmb	IAmb	05 47 54.1	
	comp=Z,7.6nm,1.4s						
FINES	**FINESS Array B**	**150.43**	**334**	PKPbc	**PKPbc**	**05 58 25.2**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=32,slow=3.6,SNR=6.9						

IDC 04 05:45:01.4±12.0, 1°.42S×128°.63E, h0km, mb3.4/2, mbtmp3.4/4, ML3.3/2, MS3.1/1, Error ellipse: s-maj=183.9km s-min=101.5km az=146.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.84**	**190**	Pn	P	05 49 00.1	-0.8
	0.1nm,0.3s,baz=15,slow=12,SNR=1.0 2.0nm,1.1s						
WRA	**Warramunga Arr**	**19.24**	**163**	P	P	05 49 26.9	-0.5
	0.1nm,0.3s,baz=342,slow=11,SNR=5.6 0.2nm,0.4s						
ASAR	**Alice Springs**	**22.70**	**167**	P	P	05 50 04.3	-0.6
	0.1nm,0.3s,baz=345,slow=12,SNR=4.3 0.1nm,0.3s						
STKA	**

HUEH				*e*S		**Sb**	**06 01 01.0**	**-0.5**
ESQI	**Esquipulas**	**1.94**	**56**	*e*P		**Pn**	**06 00 35.9**	**0.0**
ESQI				*e*S		**Sb**	**06 01 01.2**	**-1.4**
PAVA	**Las Pavas**	**2.02**	**83**	*e*P		**Pn**	**06 00 37.4**	**+0.3**
PAVA				IAML			06 01 07.5	
	comp=Z,260nm,0.4s							
PAVA	**Las Pavas**	**2.02**	**83**	*e*P		**Pn**	**06 00 37.4**	**+0.3**
PAVA				IAML			06 01 07.5	
	comp=Z,260nm,0.4s							
COEG	**Centro de Oper**	**2.07**	**86**	*e*P		**Pn**	**06 00 37.9**	**+0.2**
COEG	**Centro de Oper**	**2.07**	**86**	*e*P		**Pn**	**06 00 37.9**	**+0.2**
SCLA	**Alcaldia de Sa**	**2.22**	**84**	*e*P		**Pn**	**06 00 39.5**	**-0.2**
SCLA	**Alcaldia de Sa**	**2.22**	**84**	*e*P		**Pn**	**06 00 39.5**	**-0.2**
P5NO	**Presa 5 de nov**	**2.24**	**77**	*e*P		**Pn**	**06 00 39.6**	**-0.3**
COEB	**Comit de Eme**	**2.41**	**89**	*e*P		**Pn**	**06 00 42.2**	**-0.1**
COEB				IAML			06 01 19.3	
	comp=Z,298nm,0.4s							
COEB	**Comit de Eme**	**2.41**	**89**	*e*P		**Pn**	**06 00 42.2**	**-0.1**
COEB				IAML			06 01 19.3	
	comp=Z,298nm,0.4s							
PACA	**Pacayal**	**2.61**	**90**	*e*P		**Pn**	**06 00 45.5**	**+0.4**
PACA	**Pacayal**	**2.61**	**90**	*e*P		**Pn**	**06 00 45.5**	**+0.4**
CNCH	**Conchagua**	**3.09**	**93**	*e*P		**Pn**	**06 00 52.2**	**+0.4**
CNCH	**Conchagua**	**3.09**	**93**	*e*P		**Pn**	**06 00 52.2**	**+0.4**

JMA ***04*** *06:02:11.7±0.3,37°.2N±0°.7×14°.2E±°, h17km, MV3.8/33, E OFF FUKUSHIMA PREF*
IDC ***04*** *06:02:12.1±1.6,37°.14N×142°.31E, h0km, mb3.4/4, mbtmp3.3/5, ML2.2/1, Error ellipse: s-maj=35.9km s-min=28.2km az=153.0*
ISC 04 06:02:13.8±1.2,37°.29N±0°.06×142°.14E±0°.07, h10km, n25, σ1§11/24, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.01**	**275**			P	**Pg**	**06 02 33.3**	**0.0**
JFK						*e*S	**Sn**	**06 02 49.2**	**+0.8**
JMST	**Minamisoumatoc**	**1.09**	**294**	*i*	P	P	**Pb**	**06 02 34.1**	**-0.6**
JIKH	**Ishinomakikobu**	**1.15**	**332**	*i*	P	P	**Pn**	**06 02 34.8**	**-1.1**
JIKH					S	S	**Sg**	**06 02 51.9**	**+1.1**
JMM	**Marumori**	**1.21**	**299**	*i*	P	P	**Pn**	**06 02 36.1**	**-0.7**
JFFD	**Fukushimafurud**	**1.28**	**261**	*i*	P	P	**Pn**	**06 02 37.2**	**-0.5**
JFFD					S	S	**Sg**	**06 02 56.0**	**+1.1**
JIO	**Ouri**	**1.32**	**332**	*i*	P	P	**Pn**	**06 02 37.5**	**-0.8**
JFT	**Otama**	**1.45**	**279**	*i*	P	P	**Pb**	**06 02 40.7**	**-0.2**
JFT					S	S	**Sg**	**06 03 01.6**	**+1.0**
JOU	**Okura**	**1.58**	**313**	*i*	P	P	**Pn**	**06 02 42.4**	**+0.4**
JMK	**Ichinoseki**	**1.81**	**337**		P	P	**Pn**	**06 02 45.0**	**0.0**
JYS	**Shirataka**	**1.89**	**300**	*e*P		P	**Pb**	**06 02 47.5**	**-0.9**
JFY	**Yanaizu**	**1.94**	**274**	*e*P		P	**Pb**	**06 02 48.1**	**-1.2**
JYK	**Kaneyama**	**2.15**	**320**		P	P	**Pn**	**06 02 50.0**	**+0.4**
JOM	**Ohasama**	**2.28**	**343**		P	P	**Pn**	**06 02 51.9**	**+0.4**
JAG	**Ashikaga**	**2.32**	**249**		P	P	**Pn**	**06 02 52.5**	**+0.4**
MJAR	**Matsushiro Arr**	**3.24**	**258**		Pn	Pn	**Pn**	**06 03 06.8**	**+2.2**
	0.3nm,0.3s,baz=94,slow=16,SNR=18								
MJAR					Sn		**Sb**	**06 03 48.2**	**-2.7**
	0.4nm,0.3s,baz=98,slow=24,SNR=5.3 1.4nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**27.79**	**122**		T	T		06 37 29.5	
	baz=314,slow=75								
H11N1	**WAKE ISLAND Hy**	**27.80**	**122**		T	T		06 37 16.0	
	baz=314,slow=75								
H11N3	**WAKE ISLAND Hy**	**27.80**	**122**		T	T		06 37 14.4	
	baz=314,slow=75								
H11S1	**WAKE ISLAND Hy**	**28.52**	**124**		T	T		06 38 10.4	
	baz=317,slow=76,SNR=24								
H11S3	**WAKE ISLAND Hy**	**28.52**	**124**		T	T		06 38 11.8	
	baz=317,slow=76,SNR=28								
H11S2	**WAKE ISLAND Hy**	**28.54**	**124**		T	T		06 38 07.6	
	baz=317,slow=76,SNR=30								
ZALV	**Zalesovo Beam**	**42.17**	**312**		P	**P**		**06 10 07.2**	**+0.9**
	0.5nm,0.3s,baz=91,slow=6.3,SNR=1.5 0.5nm,0.3s								
MKAR	**Makanchi Array**	**44.47**	**302**		P	**P**		**06 10 25.7**	**+0.6**
	0.3nm,0.6s,baz=91,slow=8.5,SNR=3.6 0.3nm,0.6s								
ILAR	**Eielson Array**	**48.97**	**32**		P	**P**		**06 11 01.0**	**+1.0**
	0.3nm,0.8s,baz=252,slow=8.3,SNR=4.1 0.3nm,0.8s								
WRA	**Warramunga Arr**	**57.40**	**189**		P	**P**		**06 12 01.1**	**-1.4**
	0.5nm,1.1s,baz=5.6,slow=7.2,SNR=1.5 0.5nm,1.1s								

HVO ***04*** *06:05:35.7±1.7,20°.02N±0°.01×155°.62W±0°.03, h15km±2km, ML3.3/39, ML3.4/42(NEIC), Error ellipse: s-maj=4.0km s-min=0.9km az=66.0*
NEIC 04 06:05:33.1±0.5,20°.02N±0°.04×155°.61W±0°.06, h28km±9km, Error ellipse: s-maj=8.6km s-min=5.2km az=65.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.08**	**277**	Pg		Pb	Pb	06 05 38.8	+0.7
HPAH							Sb	06 05 41.0	-0.5
POHA	**Pohakuloa**	**0.27**	**164**	IAML				06 05 45.4	
	5µm,0.3s								
POHA	**Pohakuloa**	**0.27**	**164**				Sb	06 05 45.3	+0.3
POHA	**Pohakuloa**	**0.27**	**164**	Pg		Pn	Pn	06 05 41.1	-0.4
MHA	**Mahukona**	**0.32**	**301**	Pg		Pn	Pn	06 05 42.0	0.0
HUH	**Hualalai**	**0.40**	**213**				Pn	06 05 43.4	+0.1
HMH	**Humu'ula Sheep**	**0.43**	**164**				Pn	06 05 43.8	0.0
HMH				IAML				06 05 54.6	
	comp=E,5µm,0.5s								
HMH				IAML				06 05 54.9	
	comp=N,2µm,0.2s								
ALEP	**Alea Permanent**	**0.48**	**184**				Pn	06 05 44.6	+0.2
MLOA	**Mauna Loa Obse**	**0.48**	**176**	Pg			Pn	06 05 44.9	+0.2
MLOA				IAML				06 05 53.2	
	comp=E,2µm,0.2s								
MLOA				IAML				06 05 58.0	
	comp=N,3µm,0.2s								
KHLU	**Kahalu`u**	**0.50**	**212**				Pn	06 05 44.2	-0.4
KHLU				IAML				06 05 52.1	
	comp=N,2µm,0.2s								
MWH	**Moku'aweowe**	**0.53**	**179**				Pn	06 05 45.0	-0.3
MWH				IAML				06 06 03.3	
	comp=E,4µm,0.3s								
MLH	**Mauna Loa**	**0.56**	**158**				Pn	06 05 45.6	0.0
MLH				IAML				06 05 55.1	
	comp=E,2µm,0.2s								
MLH				IAML				06 05 55.4	
	comp=N,2µm,0.2s								
CPH	**Captain Cook**	**0.60**	**209**				Pn	06 05 45.5	-0.3
RSD	**Rainshed**	**0.64**	**151**				Pn	06 05 46.7	+0.2
AIN	**Ainahou**	**0.66**	**167**				Pn	06 05 46.9	+0.1
AIN				IAML				06 05 58.0	
	comp=E,3µm,0.3s								
UWE	**Uwekahuna**	**0.67**	**153**				Pn	06 05 46.9	0.0
UWB	**Uwekahuna B**	**0.67**	**152**				Pn	06 05 46.7	-0.2
SBLHI	**Steaming Bluff**	**0.67**	**151**				Pn	06 05 46.8	-0.2
SBLHI				IAML				06 06 07.0	
	comp=E,1µm,0.4s								
SBLHI				IAML				06 06 08.8	
	comp=N,2µm,0.4s								
OBL	**Observatory Le**	**0.67**	**153**				Pn	06 05 46.8	-0.1
WRMHI	**West Rim**	**0.68**	**154**				Pn	06 05 46.8	-0.2
WRMHI				IAML				06 06 08.8	
	comp=N,3µm,0.7s								
HATHI	**Halema'uma'u T**	**0.68**	**151**				Pn	06 05 46.8	-0.2
HATHI				IAML				06 06 08.7	
	comp=N,1µm,0.7s								
HATHI				IAML				06 06 08.8	
	comp=E,1µm,0.6s								
NPH	**North Pit**	**0.68**	**153**				Pn	06 05 46.8	-0.2
NPH				IAML				06 06 02.2	
	comp=N,1µm,0.5s								
BYL	**Byron's Ledge**	**0.69**	**151**				Pn	06 05 46.9	-0.2
BYL				IAML				06 06 06.5	
	comp=N,1µm,0.9s								
SDHHI	**Sand Hill**	**0.69**	**155**				Pn	06 05 47.0	-0.2
SDHHI				IAML				06 05 58.9	
	comp=N,2µm,0.3s								
SDHHI				IAML				06 06 04.2	
	comp=E,2µm,0.3s								
RIM	**Rim**	**0.70**	**153**	Pg			Pn	06 05 47.2	0.0
RIM				IAML				06 06 08.5	
	comp=N,1µm,1.1s								
KKO	**Keanakako`i**	**0.70**	**152**				Pn	06 05 47.2	-0.1
KKO				IAML				06 06 10.1	
	comp=N,1µm,1.2s								
KNHH	**Kane Nui o Ham**	**0.76**	**147**				Pn	06 05 48.1	-0.1
HLP	**Hilina Pali**	**0.77**	**158**				Pn	06 05 48.3	0.0
HLP				IAML				06 06 08.7	
	comp=N,2µm,0.5s								
HTC	**Hot Caves**	**0.80**	**166**				Pn	06 05 48.7	0.0
JOKA	**Jonika Flow**	**0.81**	**136**				Pb	06 05 48.8	0.0

UCR ***04*** *06:07:39.0±2.2,8°.26N×82°.82W, h5km, MW4.7*
UPA ***04*** *06:07:40.7±1.7,8°.33N×82°.77W, h12km±4km, MW4.0*
ISC 04 06:07:39.1±2.1,8°.31N±0°.08×82°.81W±0°.04, h6km±12km, n44, σ1§24/56, 2C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.27**	**347**			*e*P	**Pb**	**06 07 46.3**	**-0.1**
CDITO						*e*S	**Sb**	**06 07 51.8**	**+0.5**
PTAR3	**Potrerillos Ar**	**0.49**	**39**			*e*P	**Pb**	**06 07 50.2**	**-0.1**
PTAR3						*e*S	**Sb**	**06 07 58.1**	**+0.3**
BCO2	**Palmira**	**0.49**	**35**			*e*P	**Pb**	**06 07 50.3**	**-0.1**
BCO2						*e*S	**Sb**	**06 07 58.5**	**+0.6**
BRU2	**Volcan**	**0.50**	**14**			*i*P	**Pb**	**06 07 50.2**	**-0.2**
BRU2						*i* S	**Sb**	**06 07 58.2**	**+0.2**
EDSV	**San Vito**	**0.53**	**343**			*e*P	**Pb**	**06 07 50.9**	**0.0**
EDSV						*e*S	**Sb**	**06 08 00.1**	**+1.2**
BC3P	**Paso Ancho**	**0.54**	**22**			*e*P	**Pb**	**06 07 50.6**	**-0.5**
BC3P						*e*S	**Sb**	**06 07 59.5**	**+0.2**
CHGR2	**Aguacate**	**0.91**	**47**			*e*P	**Pg**	**06 07 56.0**	**-0.6**
CHGR2						*e*S	**Sg**	**06 08 08.5**	**+0.1**
DRK0	**Durika**	**1.04**	**336**			*e*P	**Pg**	**06 07 59.5**	**+0.4**
DRK0						*e*S	**Sn**	**06 08 14.6**	**-0.8**
CNI2	**El Empalme, Bo**	**1.16**	**17**			*e*P	**Pb**	**06 08 00.4**	**-1.2**
CNI2						*e*S	**Sg**	**06 08 16.4**	**-0.1**
PEZE	**Perez Zeledon,**	**1.37**	**321**			*e*P	**Pn**	**06 08 03.3**	**-1.6**
CDM	**Cerro de Muert**	**1.55**	**323**			*e*P	**Pn**	**06 08 06.3**	**-1.5**
CDM	**Cerro de Muert**	**1.55**	**323**			*i*P	**Pn**	**06 08 06.2**	**-1.5**
RIMA	**Rio Macho**	**1.78**	**324**			*e*P	**Pn**	**06 08 09.5**	**-1.1**
RIMA	**Rio Macho**	**1.78**	**324**			*e*P	**Pn**	**06 08 09.6**	**-1.0**
LCR2	**La Lucha 2**	**1.85**	**320**			*e*P	**Pn**	**06 08 09.9**	**-1.7**
BATAN	**Batan**	**1.86**	**343**			*e*P	**Pn**	**06 08 12.6**	**+1.0**
BATAN						*e*S	**Sn**	**06 08 34.9**	**-0.6**
MARI3	**Mariato, Verag**	**1.92**	**110**			*e*P	**Pn**	**06 08 13.0**	**+0.6**
HDC	**Heredia**	**2.12**	**323**			*e*P	**Pn**	**06 08 16.3**	**+1.2**
HDC	**Heredia**	**2.12**	**323**			*e*P	**Pn**	**06 08 15.1**	**+0.2**
HDC	**Heredia**	**2.12**	**323**			*i*P	**Pn**	**06 08 16.4**	**+1.2**
HDC						*e*S	**Sb**	**06 08 43.7**	**-0.8**
PNME	**Penonome**	**2.47**	**86**			*e*P	**Pn**	**06 08 20.2**	**+0.3**
FORC	**Fortuna**	**2.82**	**320**			*e*P	**Pn**	**06 08 26.5**	**+1.7**
CASO	**Castillo**	**2.84**	**318**			*e*P	**Pn**	**06 08 26.9**	**+1.8**
CEDE	**Laguna Cedeo**	**2.86**	**319**			*e*P	**Pn**	**06 08 27.0**	**+1.6**
COVE	**Coope Vega, Sa**	**2.86**	**327**			*e*P	**Pn**	**06 08 26.3**	**+0.9**
JTS	**Las Juntas de**	**2.89**	**313**			*e*P	**Pn**	**06 08 25.5**	**-0.2**
JTS	**Las Juntas de**	**2.89**	**313**			*e*P	**Pn**	**06 08 25.5**	**-0.2**
JTS						*e*S	**Sn**	**06 09 00.0**	**-0.8**
INDI	**Punta indio, G**	**3.07**	**300**			*e*P	**Pn**	**06 08 27.5**	**-0.7**
ACAL	**Aguas Claras**	**3.19**	**317**			*e*P	**Pn**	**06 08 31.2**	**+1.3**
PTEN	**Parque Tenorio**	**3.21**	**318**			*e*P	**Pn**	**06 08 32.7**	**+2.5**
VERA	**Finca Concepci**	**3.24**	**321**			*e*P	**Pn**	**06 08 32.9**	**+2.3**
VERA	**Finca Concepci**	**3.24**	**321**			*e*P	**Pn**	**06 08 31.9**	**+1.4**
CUI	**Cuipilapa**	**3.29**	**315**			*e*P	**Pn**	**06 08 33.1**	**+1.8**
COLC	**Colonia**	**3.32**	**315**			*e*P	**Pn**	**06 08 33.3**	**+1.6**
HORNC	**Hornillas**	**3.34**	**316**			*e*P	**Pn**	**06 08 33.6**	**+1.6**
GUAB	**Guayabo de Bag**	**3.37**	**315**			*e*P	**Pn**	**06 08 33.9**	**+1.5**
VMAR	**Armenia, Volca**	**3.37**	**318**			*e*P	**Pn**	**06 08 34.6**	**+2.2**
GPS2	**Hotel Rincn d**	**3.49**	**314**			*e*P	**Pn**	**06 08 35.8**	**+1.8**
GPS3	**Bodega del ICE**	**3.50**	**314**			*e*P	**Pn**	**06 08 35.8**	**+1.6**
LAPC	**Finca la Perla**	**3.56**	**314**			*i*P	**Pn**	**06 08 36.0**	**+1.1**
BUAI	**Buenos Aires**	**3.56**	**316**			*i*P	**Pn**	**06 08 36.6**	**+1.6**
GBS3	**Finca Las Img**	**3.58**	**314**			*e*P	**Pn**	**06 08 36.6**	**+1.3**
HZTE	**Horizontes, Gu**	**3.64**	**311**			*e*P	**Pn**	**06 08 37.6**	**+1.6**
HZTE	**Horizontes, Gu**	**3.64**	**311**			*e*P	**Pn**	**06 08 37.6**	**+1.6**

NOU ***04*** *06:10:39.7,37°.13S×179°.67W, h117km, mb4.5/8, East of North Island, N.Z.*
IDC ***04*** *06:10:50.4±3.1,37°.00S×178°.64E, h0km, mb3.5/2, mbtmp3.5/2, MS3.4/1, Error ellipse: s-maj=72.4km s-min=29.8km az=120.0*
WEL ***04*** *06:10:52.0±0.9,37°.5S±4°.×17°.9E±°, h10km, M3.8/22, ML4.0/22, MLv3.8/22, Error ellipse: s-maj=0.0km s-min=0.0km az=97.8*
ISC 04 06:10:51.0±2.4,37°.35S±0°.07×179°.15E±0°.09, h23km±14km, n102, σ1§17/116, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.71**	**252**			P	**Pb**	**06 11 04.1**	**-0.6**
MXZ						S	**Sb**	**06 11 11.6**	**-2.4**
PKGZ	**Pakihiroa**	**1.01**	**237**			P	**Pn**	**06 11 10.3**	**+0.5**
PKGZ						S	**Sn**	**06 11 22.9**	**-0.5**
PUZ	**Puketiti**	**1.01**	**224**			P	**Pn**	**06 11 10.8**	**+1.0**
PUZ						S	**Sn**	**06 11 23.4**	**0.0**
HAZ	**Te Kaha**	**1.16**	**249**			P	**Pn**	**06 11 11.6**	**-0.3**
HAZ						S	**Sn**	**06 11 26.7**	**-0.3**
TWGZ	**Tauwhareparae**	**1.25**	**228**			P	**Pn**	**06 11 14.2**	**+1.1**
TWGZ						S	**Sn**	**06 11 30.2**	**+1.1**
RUGZ	**Raukumara Rang**	**1.32**	**242**			P	**Pn**	**06 11 15.1**	**+0.9**
RUGZ						S	**Sn**	**06 11 30.9**	**-0.3**
CNGZ	**Carnagh Statio**	**1.36**	**213**			P	**Pb**	**06 11 16.7**	**+0.9**
CNGZ						S	**Sb**	**06 11 35.2**	**+2.4**
TKGZ	**Te Karaka**	**1.50**	**223**			P	**Pn**	**06 11 17.3**	**+0.9**
TKGZ						S	**Sn**	**06 11 35.9**	**+0.5**
WIZ	**White Island**	**1.57**	**263**			P	**Pn**	**06 11 18.1**	**+0.6**
WIZ						S	**Sn**	**06 11 35.7**	**-1.4**
MWZ	**Matawai**	**1.62**	**232**			P	**Pn**	**06 11 18.8**	**+0.6**
MWZ						S	**Sn**	**06 11 39.0**	**+0.7**
RIGZ	**Rimuhau**	**1.75**	**219**			P	**Pn**	**06 11 20.7**	**+0.8**
RIGZ						S	**Sn**	**06 11 42.6**	**+1.1**
RAGZ	**Rawiri**	**1.79**	**230**			P	**Pn**	**06 11 21.5**	**+0.9**
RAGZ						S	**Sn**	**06 11 41.5**	**-1.1**
WHRZ	**Whale Island**	**1.80**	**253**			P	**Pn**	**06 11 21.9**	**+1.3**
WHRZ						S	**Sn**	**06 11 42.6**	**-0.2**
URZ	**Urewera**	**1.86**	**240**		Pn	Pn	**Pn**	**06 11 22.2**	**+0.9**
	63nm,0.3s,baz=211,slow=3.0,SNR=183								
URZ					Sn		**Sn**	**06 11 44.1**	**0.0**
	232nm,0.3s,baz=31,slow=18,SNR=46								
URZ	**Urewera**	**1.86**	**240**		P	P	**Pn**	**06 11 22.4**	**+1.1**
URZ					S	S	**Sn**	**06 11 44.1**	**0.0**
URZ	**Urewera**	**1.86**	**240**		P	P	**Pn**	**06 11 22.9**	**+1.5**
PRGZ	**Paritu Road**	**1.87**	**212**		P	P	**Pn**	**06 11 22.4**	**+0.9**
SNGZ	**Shannon Statio**	**2.03**	**224**		P	P	**Pn**	**06 11 24.2**	**+0.4**
KNZ	**Kokohu**	**2.04**	**214**		P	P	**Pn**	**06 11 24.0**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.05**	**208**		P	P	**Pn**	**06 11 25.1**	**+1.1**
EDRZ	**Edgecumbe**	**2.06**	**248**		P	P	**Pn**	**06 11 25.1**	**+0.9**
MARZ	**Manawahe**	**2.07**	**251**		P	P	**Pn**	**06 11 26.1**	**+1.8**
OPRZ	**Ohinepanea**	**2.12**	**256**		P	P	**Pn**	**06 11 25.3**	**+0.3**
RTZ	**Ruatahuna**	**2.13**	**233**		P	P	**Pn**	**06 11 26.3**	**+1.0**
MUGZ	**Murupara**	**2.20**	**238**		P	P	**Pn**	**06 11 26.7**	**+0.6**
RAHZ	**Arahi**	**2.26**	**225**		P	P	**Pn**	**06 11 27.7**	**+0.7**
MKRZ	**Makatiti**	**2.27**	**249**		P	P	**Pn**	**06 11 29.8**	**+2.6**
TARZ	**Mount Tarawera**	**2.28**	**246**		P	P	**Pn**	**06 11 28.5**	**+1.3**
WHHZ	**Waihua**	**2.30**	**221**		P	P	**Pn**	**06 11 28.0**	**+0.6**
RRRZ	**Republican Roa**	**2.31**	**244**		P	P	**Pn**	**06 11 28.6**	**+0.9**
MYRZ	**Mayor Island**	**2.32**	**271**		P	P	**Pn**	**06 11 28.2**	**+0.4**
TGRZ	**Tauranga**	**2.33**	**260**		P	P	**Pn**	**06 11 28.1**	**+0.3**
OMRZ	**Omania**	**2.33**	**250**		P	P	**Pn**	**06 11 29.7**	**+1.8**
MTHZ	**Maungataniwha**	**2.37**	**230**		P	P	**Pn**	**06 11 29.4**	**+1.0**
KARZ	**Kaharoa**	**2.40**	**253**		P	P	**Pn**	**06 11 29.7**	**+0.7**
PRRZ	**Plateau Road**	**2.47**	**241**		P	P	**Pn**	**06 11 30.2**	**+0.4**
HSRZ	**Hossack Road**	**2.50**	**246**		P	P	**Pn**	**06 11 32.9**	**+2.7**
HRRZ	**Handcock Road**	**2.50**	**244**		P	P	**Pn**	**06 11 30.9**	**+0.7**
ALRZ	**Allen Road**	**2.53**	**240**		P	P	**Pn**	**06 11 31.4**	**+0.7**
NMHZ	**Naumai**	**2.54**	**226**		P	P	**Pn**	**06 11 32.0**	**+1.1**
ARHZ	**Aropaoanui**	**2.56**	**221**		P	P	**Pn**	**06 11 31.6**	**+0.6**
KMRZ	**Kaimai**	**2.60**	**258**		P	P	**Pn**	**06 11 31.8**	**+0.2**
MRHZ	**Matea Rd**	**2.62**	**235**		P	P	**Pn**	**06 11 32.6**	**+0.6**
BKZ	**Black Stump Fm**	**2.77**	**228**		P	P	**Pn**	**06 11 34.5**	**+0.5**
BKZ	**Black Stump Fm**	**2.77**	**228**		P	P	**Pn**	**06 11 34.5**	**+0.5**
KUZ	**Kuaotunu**	**2.81**	**281**		P	P	**Pn**	**06 11 33.1**	**-1.4**
CKHZ	**Cape Kidnapper**	**2.83**	**215**		P	P	**Pn**	**06 11 34.6**	**-0.1**
KUTZ	**Kaahu Road**	**2.87**	**246**		P	P	**Pn**	**06 11 36.1**	**+0.8**
TOZ	**Tahuroa Road**	**2.93**	**261**		P	P	**Pn**	**06 11 36.9**	**+0.2**
KWHZ	**Kaweka Forest**	**2.98**	**225**		P	P	**Pn**	**06 11 36.9**	**-0.1**
KAHZ	**Kahuranaki**	**3.03**	**215**		P	P	**Pn**	**06 11 36.9**	**-0.6**
RITZ	**Rihia Road**	**3.07**	**237**		P	P	**Pn**	**06 11 38.8**	**+0.8**
GRZ	**Great Barrier**	**3.16**	**289**		P	P	**Pn**	**06 11 39.0**	**-0.3**
KRHZ	**Kereru**	**3.17**	**223**		P	P	**Pn**	**06 11 39.0**	**-0.4**
KATZ	**Kakaramea**	**3.17**	**238**		P	P	**Pn**	**06 11 40.3**	**+0.7**
MKAZ	**Moumakai**	**3.19**	**273**		P	P	**Pn**	**06 11 39.1**	**-0.7**
PXZ	**Pawanui**	**3.23**	**213**		P	P	**Pn**	**06 11 39.2**	**-0.9**
BHHZ	**Black Hill Sta**	**3.24**	**228**		P	P	**Pn**	**06 11 40.3**	**-0.1**
TMVZ	**Te Maari**	**3.24**	**236**		P	P	**Pn**	**06 11 40.7**	**+0.2**
ETVZ	**East Tongariro**	**3.25**	**236**		P	P	**Pn**	**06 11 40.8**	**+0.2**
NTVZ	**North Tongarir**	**3.25**	**236**		P	P	**Pn**	**06 11 40.9**	**+0.2**
WIAZ	**Waiheke Island**	**3.26**	**279**		P	P	**Pn**	**06 11 41.5**	**+0.8**
KRVZ	**Karewarewa**	**3.27**	**237**		P	P	**Pn**	**06 11 41.2**	**+0.2**
OTVZ	**Oturere**	**3.29**	**235**		P	P	**Pn**	**06 11 41.4**	**+0.2**
NNVZ	**North Ngauruho**	**3.31**	**236**		P	P	**Pn**	**06 11 42.1**	**+0.6**
WTVZ	**West Tongariro**	**3.32**	**237**		P	P	**Pn**	**06 11 42.3**	**+0.7**
SNVZ	**South Ngauruho**	**3.32**	**235**		P	P	**Pn**	**06 11 41.8**	**+0.1**
MOVZ	**Moawhango**	**3.37**	**231**		P	P	**Pn**	**06 11 42.3**	**0.0**
ETAZ	**East Tamaki Re**	**3.40**	**275**		P	P	**Pn**	**06 11 43.3**	**+0.7**
WHVZ	**Whangaehu Hut**	**3.41**	**234**		P	P	**Pn**	**06 11 42.7**	**-0.2**
FWVZ	**Far West T-bar**	**3.41**	**235**		P	P	**Pn**	**06 11 43.4**	**+0.4**
WNVZ	**Wahianoa**	**3.42**	**234**		P	P	**Pn**	**06 11 43.0**	**0.0**
WPHZ	**Waipukurau**	**3.45**	**217**		P	P	**Pn**	**06 11 42.4**	**-0.8**
MBAZ	**Motutapu North**	**3.45**	**278**		P	P	**Pn**	**06 11 44.6**	**+1.3**
PNHZ	**Pukenui**	**3.45**	**221**		P	P	**Pn**	**06 11 42.2**	**-1.1**
PRHZ	**Porangahau**	**3.52**	**213**		P	P	**Pn**	**06 11 42.7**	**-1.5**
ABAZ	**Army Bay**	**3.54**	**281**		P	P	**Pn**	**06 11 45.5**	**+1.1**
HBAZ	**Herne Bay Bore**	**3.57**	**277**		P	P	**Pn**	**06 11 46.4**	**+1.5**
HIZ	**Hauiti**	**3.59**	**250**		P	P	**Pn**	**06 11 46.8**	**+1.6**
HIZ	**Hauiti**	**3.59**	**250**		P	P	**Pn**	**06 11 47.0**	**+1.8**
AWAZ	**Awhitu Peninsu**	**3.61**	**273**		P	P	**Pn**	**06 11 46.1**	**+0.6**
WTAZ	**Waiatarua**	**3.68**	**275**		P	P	**Pn**	**06 11 47.8**	**+1.3**
TSZ	**Takapari Road**	**3.69**	**222**		P	P	**Pn**	**06 11 44.7**	**-1.8**
RVAZ	**Riverhead Bore**	**3.70**	**278**		P	P	**Pn**	**06 11 46.8**	**0.0**
DVHZ	**Dannevirke**	**3.76**	**217**		P	P	**Pn**	**06 11 46.1**	**-1.5**
BFZ	**Birch Farm**	**4.03**	**213**		P	P	**Pn**	**06 11 49.5**	**-1.7**
POWZ	**Post Office Ro**	**4.03**	**220**		P	P	**Pn**	**06 11 49.9**	**-1.4**
PRWZ	**Pori Road**	**4.05**	**217**		P	P	**Pn**	**06 11 50.5**	**-1.1**
WAZ	**Wanganui**	**4.06**	**232**		P	P	**Pn**	**06 11 52.7**	**+1.0**
WCZ	**Waipu Caves**	**4.11**	**289**		P	P	**Pn**	**06 11 52.5**	**+0.2**
NEZ	**North Egmont**	**4.42**	**243**		P	P	**Pn**	**06 11 59.8**	**+3.2**
PKE	**Pukeiti**	**4.46**	**244**		P	P	**Pn**	**06

UPD2					IAML			06 13 54.5	
	comp=Z,127nm,0.6s								
PTAC	**Punta Ardita,**	**4.21**	**246**	*eP*		Pn		06 13 06.4	-0.6
PTAC				*eS*		Sn		06 13 51.5	-3.6
CHIC	**Chingaza**	**4.21**	**177**	*eP*		Pn		06 13 08.7	+1.2
CHIC				*eS*		Sn		06 13 56.9	+1.0
CHIC					IAML			06 14 15.3	
	comp=Z,39nm,0.6s								
PLMC	**San Jos del P**	**4.58**	**211**	*eP*		Pn		06 13 13.0	+0.9
ANIL	**Santa Ana**	**4.59**	**199**	*eP*		Pn		06 13 14.2	+1.7
ANIL				*eS*		Sn		06 14 12.2	+7.4
ANIL					IAML			06 14 23.5	
	comp=Z,120nm,0.3s								
VILC	**Villavicencio,**	**4.73**	**177**	*eP*		Pn		06 13 15.6	+1.3
VILC				*eS*		Sn		06 14 08.5	+0.5
VILC					IAML			06 14 19.2	
	comp=Z,98nm,0.4s								
PTGC	**Puerto Gaitan,**	**4.97**	**159**	*eP*		Pn		06 13 17.2	-0.2
PTGC				*eS*		Sn		06 14 12.1	-1.5
PTGC					IAML			06 14 16.1	
	comp=Z,34nm,0.2s								
YOTC	**Yotoco, Valle**	**5.41**	**207**	*eP*		Pn		06 13 23.2	-0.3

IDC ***04*** *06:14:40.1±1.2, 13.˚63N×90.˚62W, h0km, mb3.8/7, mbtmp3.9/9, ML4.3/2, MS3.6/3, Error ellipse: s-maj=41.9km s-min=21.9km az=52.0*

UCR ***04*** *06:14:42.8±1.2, 13.˚65N×91.˚07W, h19km±10km, ML4.0, mb4.1(NEIC)*

SNET ***04*** *06:14:43.1±1.0, 13.˚42N×90.˚85W, h0km±8km, ML4.0*

INET ***04*** *06:14:44.1±0.8, 13.˚41N×90.˚99W, h10km±9km, MW4.6*

NEIC ***04*** *06:14:47±2.3, 13.˚54N±0.˚08×90.˚97W±0.˚07, h45km±4km, mb4.1/35, Md4.0(SNET), Error ellipse: s-maj=13.9km s-min=6.9km az=218.0*

GCG ***04*** *06:14:50.0±0.3, 14.˚01N×91.˚06W, h67km±12km, MD4.2*

ISC 04 06:14:46.1±1.3, **13.˚49N**±0.˚08×**90.˚99W**±0.˚05, **h49**km±12km, **n120**, σ1$**32**/122, **mb4.1**/23, **MS3.4**/3, **3D**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.96**	**9**	*i* P	**Pn**	**06 15 03.1**	**-0.4**
PCG	**Pacaya**	**0.97**	**23**	‖ *i*P	**Pn**	**06 15 03.2**	**-0.5**
RTAL	**Retalhuleu**	**1.23**	**327**		**Pn**	**06 15 04.8**	**-2.2**
RTAL				Sn	**Sn**	**06 15 21.6**	**-0.9**
NUBE	**Las Nubes**	**1.25**	**71**	*eP*	**Pn**	**06 15 05.3**	**-2.0**
NUBE				IAML		06 15 28.9	
	comp=Z,1μm,0.4s						
NUBE	**Las Nubes**	**1.25**	**71**	*eP*	**Pn**	**06 15 05.3**	**-2.0**
NUBE				IAML		06 15 28.9	
	comp=Z,1μm,0.4s						
NBG	**Las Nubes**	**1.26**	**30**	‖ *eP*	**Pn**	**06 15 08.1**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.29**	**65**	*eP*	**Pn**	**06 15 06.5**	**-1.3**
SLOZ				*eS*	**Sn**	**06 15 23.6**	**-0.3**
STG3	**Santiaguito 3,**	**1.34**	**335**	‖ *eP*	**Pn**	**06 15 07.3**	**-1.3**
RTR	**El Retiro**	**1.37**	**73**	*eP*	**Pn**	**06 15 07.5**	**-1.5**
RTR	**El Retiro**	**1.37**	**73**	*eP*	**Pn**	**06 15 07.5**	**-1.5**
CEVE	**Cerro Verde**	**1.37**	**76**	*eP*	**Pn**	**06 15 07.3**	**-1.8**
CEVE				IAML		06 15 32.8	
	comp=Z,7μm,0.4s						
CEVE	**Cerro Verde**	**1.37**	**76**	*eP*	**Pn**	**06 15 07.3**	**-1.8**
CEVE				IAML		06 15 32.8	
	comp=Z,7μm,0.4s						
SBLS	**San Blas**	**1.38**	**75**	*eP*	**Pn**	**06 15 07.3**	**-1.8**
SBLS	**San Blas**	**1.38**	**75**	*eP*	**Pn**	**06 15 07.3**	**-1.8**
SNJE	**San Jose**	**1.40**	**74**	*eP*	**Pn**	**06 15 07.7**	**-1.7**
SNJE	**San Jose**	**1.40**	**74**	*eP*	**Pn**	**06 15 07.7**	**-1.7**
JAYA	**Jayaque - finc**	**1.51**	**84**	*eP*	**Pn**	**06 15 09.0**	**-1.9**
JAYA				IAML		06 15 36.1	
	comp=Z,5μm,0.2s						
JAYA	**Jayaque - finc**	**1.51**	**84**	*eP*	**Pn**	**06 15 09.0**	**-1.9**
JAYA				IAML		06 15 36.1	
	comp=Z,5μm,0.2s						
CEDA	**San Andres**	**1.58**	**78**	*eP*	**Pn**	**06 15 10.2**	**-1.6**
CEDA	**San Andres**	**1.58**	**78**	*eP*	**Pn**	**06 15 10.2**	**-1.6**
BOQS	**Boqueron**	**1.68**	**81**	*eP*	**Pn**	**06 15 12.2**	**-1.1**
BOQS				*eS*	**Sn**	**06 15 35.9**	**+2.1**
BOQS	**Boqueron**	**1.68**	**81**	*eP*	**Pn**	**06 15 12.2**	**-1.1**
BOQS				*eS*	**Sn**	**06 15 35.9**	**+2.1**
UEES	**Universidad Ev**	**1.72**	**82**	*eP*	**Pn**	**06 15 12.4**	**-1.2**
UEES	**Universidad Ev**	**1.72**	**82**	*eP*	**Pn**	**06 15 12.4**	**-1.2**
SNET	**Serv Nac Est T**	**1.72**	**83**		**Pn**	**06 15 12.0**	**-1.7**
SNET	**Serv Nac Est T**	**1.72**	**83**	*eP*	**Pn**	**06 15 12.3**	**-1.4**
SNET	**Serv Nac Est T**	**1.72**	**83**	*eP*	**Pn**	**06 15 12.3**	**-1.4**
SNET	**Serv Nac Est T**	**1.72**	**83**	*eP*	**Pn**	**06 15 12.4**	**-1.4**
SNET				*eS*	**Sn**	**06 15 35.4**	**+0.7**
MTO3	**Montecristo**	**1.82**	**60**		**Pn**	**06 15 15.1**	**-0.2**
MTO3	**Montecristo**	**1.82**	**60**	*eP*	**Pn**	**06 15 14.9**	**-0.3**
MTO3				*eS*	**Sn**	**06 15 39.3**	**+2.0**
LFRS	**El Faro**	**1.88**	**86**	*eP*	**Pn**	**06 15 14.6**	**-1.3**
LFRS				*eS*	**Sn**	**06 15 39.7**	**+1.1**
LFRS	**El Faro**	**1.88**	**86**	*eP*	**Pn**	**06 15 14.6**	**-1.3**
LFRS				*eS*	**Sn**	**06 15 39.7**	**+1.1**
HUEH	**Huehuetenango**	**1.88**	**345**		**Pn**	**06 15 16.4**	**+0.4**
HUEH	**Huehuetenango**	**1.88**	**345**	*eP*	**Pn**	**06 15 16.6**	**+0.5**
HUEH				*eS*	**Sn**	**06 15 42.0**	**+3.3**
LBRS	**Las Brisas**	**1.91**	**82**	*eP*	**Pn**	**06 15 16.0**	**-0.3**
LBRS	**Las Brisas**	**1.91**	**82**	*eP*	**Pn**	**06 15 16.0**	**-0.3**
ESQI	**Esquipulas**	**1.92**	**56**		**Pn**	**06 15 16.4**	**-0.1**
PAVA	**Las Pavas**	**2.01**	**83**	*eP*	**Pn**	**06 15 17.0**	**-0.7**
PAVA				IAML		06 15 55.2	
	comp=Z,928nm,0.5s						
PAVA	**Las Pavas**	**2.01**	**83**	*eP*	**Pn**	**06 15 17.0**	**-0.7**
PAVA				IAML		06 15 55.2	
	comp=Z,928nm,0.5s						
COEG	**Centro de Oper**	**2.06**	**86**	*eP*	**Pn**	**06 15 17.7**	**-0.6**
COEG				IAML		06 16 01.1	
	comp=Z,2μm,0.5s						
COEG	**Centro de Oper**	**2.06**	**86**	*eP*	**Pn**	**06 15 17.7**	**-0.6**
COEG				IAML		06 16 01.1	
	comp=Z,2μm,0.5s						
SCLA	**Alcaldia de Sa**	**2.21**	**84**	*eP*	**Pn**	**06 15 19.7**	**-0.7**
SCLA	**Alcaldia de Sa**	**2.21**	**84**	*eP*	**Pn**	**06 15 19.7**	**-0.7**
P5NO	**Presa 5 de nov**	**2.23**	**77**	*eP*	**Pn**	**06 15 19.2**	**-1.3**
P5NO				IAML		06 15 52.1	
	comp=Z,444nm,0.2s						
COEB	**Comit de Eme**	**2.40**	**90**	*eP*	**Pn**	**06 15 22.1**	**-0.8**
COEB				IAML		06 15 59.0	
	comp=Z,1μm,0.4s						
COEB	**Comit de Eme**	**2.40**	**90**	*eP*	**Pn**	**06 15 22.1**	**-0.8**
COEB				IAML		06 15 59.0	
	comp=Z,1μm,0.4s						
PACA	**Pacayal**	**2.60**	**90**	*eP*	**Pn**	**06 15 25.0**	**-0.8**
PACA	**Pacayal**	**2.60**	**90**	*eP*	**Pn**	**06 15 25.0**	**-0.8**
VSM	**San Miguel**	**2.65**	**91**	*eP*	**Pn**	**06 15 26.6**	**+0.1**
VSM	**San Miguel**	**2.65**	**91**	*eP*	**Pn**	**06 15 26.6**	**+0.1**
CCIG	**Comitan**	**2.99**	**338**		**Pn**	**06 15 32.2**	**+1.0**
CNCH	**Conchagua**	**3.08**	**94**	*eP*	**Pn**	**06 15 31.2**	**-1.2**
CNCH	**Conchagua**	**3.08**	**94**	*eP*	**Pn**	**06 15 31.2**	**-1.2**
CSGN	**Cosiguina Volc**	**3.38**	**98**	*eP*	**Pn**	**06 15 35.2**	**-1.3**
PETF	**Flores**	**3.58**	**18**		**Pn**	**06 15 36.6**	**-2.4**
TGUH	**Tegucigalpa,Un**	**3.66**	**81**	Pn	**Pn**	**06 15 39.4**	**-0.9**
TGUH	**Tegucigalpa,Un**	**3.66**	**81**	*eP*	**Pn**	**06 15 39.3**	**-0.9**
CRIN	**San Cristobal**	**3.92**	**101**		**Pn**	**06 15 43.6**	**-0.3**
CNGN	**Cerro Negro**	**4.30**	**103**		**Pn**	**06 15 48.5**	**-0.6**
COPN	**Copaltepe**	**4.49**	**106**	*eP*	**Pn**	**06 15 50.6**	**-1.0**
MATN	**Matagalpa**	**4.97**	**96**	Pn	**Pn**	**06 15 57.2**	**-1.0**
CMIG	**Matias Romero**	**5.19**	**314**	Pn	**Sn**	**06 16 00.0**	**-1.2**
	comp=Z,5.8nm,0.3s,baz=123,slow=11,SNR=60						
CMIG				Sn	**Sn**	**06 16 58.8**	**-1.0**
	comp=Z,7.5nm,0.3s,baz=283,slow=15,SNR=6.2						
CMIG				Lg	Lg	06 17 12.5	
	comp=Z,13nm,0.3s,baz=328,slow=20,SNR=8.0						
	comp=Z,11nm,0.3s						
BOAB	**BOACO BROADBAN**	**5.29**	**101**	Pn	**Pn**	**06 16 00.9**	**-1.7**
ACON	**Acoyapa**	**5.88**	**104**	Pn	**Pn**	**06 16 09.2**	**-1.4**
HZTE	**Horizontes, Gu**	**5.96**	**117**	Pn	**Pn**	**06 16 12.6**	**+0.8**
ORTG	**Ortega, Santa**	**6.24**	**119**		**Pn**	**06 16 16.4**	**+0.6**
JTS	**Las Juntas de**	**6.71**	**118**		**Pn**	**06 16 24.1**	**+2.0**
COVE	**Coope Vega, Sa**	**7.01**	**112**	Pn	**Pn**	**06 16 22.1**	**-4.1**
TEIG	**Tepich**	**7.18**	**21**	Pn	**Pn**	**06 16 29.8**	**+1.2**
RIMA	**Rio Macho**	**7.90**	**117**		**Pn**	**06 16 38.5**	**-0.2**
TLIG	**Tlapa**	**8.35**	**300**	Pn	**Pn**	**06 16 46.0**	**+1.4**
SRBA	**San Rafael, Bu**	**8.60**	**119**		**Pn**	**06 16 49.4**	**+1.3**
DRK0	**Durika**	**8.68**	**118**		**Pn**	**06 16 50.0**	**+0.7**
HPIG		**19.17**	**316**		**P**	**06 19 06.8**	**+0.9**
TX31	**Lajitas Ar. Si**	**19.66**	**325**	P	**Pn**	**06 19 12.5**	**-0.4**
TX31				IAmb	IAmb	06 19 34.7	
	comp=Z,19nm,1.3s						
TX32	**Lajitas Array**	**19.66**	**325**	P	**Pn**	**06 19 12.4**	**-0.5**
TXAR	**Lajitas Array**	**19.66**	**325**	P	**Pn**	**06 19 13.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=30						
	comp=Z,2.1nm,0.7s						
TXAR	**Lajitas Array**	**19.66**	**325**	P	**Pn**	**06 19 12.7**	**-0.2**
Y52A	**Lilburn**	**21.24**	**16**	P	**P**	**06 19 27.9**	**-0.1**
FPAL	**Fort Paine**	**21.52**	**12**	P	**P**	**06 19 31.7**	**+0.6**
FPAL				IAmb	IAmb	06 19 34.2	
	comp=Z,10.0nm,1.1s						
SWET	**Sewanee**	**22.11**	**11**	P	**P**	**06 19 37.6**	**+0.2**
SWET				IAmb	IAmb	06 20 03.0	
	comp=Z,6.2nm,0.9s						
HODGE	**Hodges**	**22.12**	**20**	P	**P**	**06 19 37.2**	**-0.2**
HODGE				IAmb	IAmb	06 19 49.6	
	comp=Z,12nm,1.4s						
W50A	**Signal Mountai**	**22.22**	**12**	P	**P**	**06 19 37.5**	**-1.0**
W50A				IAmb	IAmb	06 20 05.1	
	comp=Z,11nm,1.1s						
MNTX	**Cornudas Mount**	**22.43**	**326**	P	**P**	**06 19 41.1**	**+0.2**
MNTX				IAmb	IAmb	06 19 44.0	
	comp=Z,7.1nm,0.8s						
TKL	**Tuckaleechee C**	**23.01**	**15**	P	**P**	**06 19 45.9**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=172,slow=9.1,SNR=6.4						
	comp=Z,2.1nm,0.6s						
TKL	**Tuckaleechee C**	**23.01**	**15**	P	**P**	**06 19 46.8**	**-0.1**
TKL				IAmb	IAmb	06 20 12.8	
	comp=Z,12nm,1.2s						
U49A	**Red Boiling Sp**	**23.40**	**11**	P	**P**	**06 19 49.8**	**-0.8**
TZTN	**Tazewell**	**23.91**	**15**	P	**P**	**06 19 55.6**	**+0.2**
ATAH	**Atahualpa**	**24.01**	**148**	LR	LR	06 28 16.2	
	comp=Z,83nm,19.0s,baz=27,slow=34						
S39A	**Bolivar**	**24.19**	**355**	P	**P**	**06 19 57.3**	**-0.7**
121A	**Cookes Peak, D**	**24.39**	**324**	P	**P**	**06 20 01.2**	**+1.1**
121A				IAmb	IAmb	06 20 04.0	
	comp=Z,4.7nm,0.7s						
CRNM	**Carthage**	**24.89**	**328**	P	**P**	**06 20 06.7**	**+2.0**
BNM	**Barren Site**	**24.99**	**328**	P	**P**	**06 20 05.3**	**-0.2**
SBM	**South Baldy**	**25.14**	**327**	P	**P**	**06 20 08.1**	**+1.0**
LENM	**Lemitar**	**25.18**	**328**	P	**P**	**06 20 09.3**	**+2.1**
U15A	**North Rim**	**29.77**	**324**	IAmb	IAmb	06 20 53.4	
	comp=Z,5.3nm,1.3s						
KNB	**Kanab**	**30.49**	**324**	IAmb	IAmb	06 20 58.5	
	comp=Z,3.3nm,0.9s						
V12A	**Nelson**	**30.84**	**320**	P	**P**	**06 21 00.6**	**+2.9**
V12A				IAmb	IAmb	06 21 02.2	
	comp=Z,3.7nm,0.8s						
MTPU	**Mount Pierson**	**30.87**	**326**	IAmb	IAmb	06 21 02.1	
	comp=Z,3.6nm,0.9s						
CCUT	**Cedar City**	**31.17**	**324**	IAmb	IAmb	06 21 05.9	
	comp=Z,3.4nm,0.9s						
PSUT	**Pine Spring**	**32.14**	**325**	IAmb	IAmb	06 21 14.6	
	comp=Z,2.8nm,1.0s						
SPR3	**Spring Creek 3**	**32.73**	**325**	IAmb	IAmb	06 21 17.7	
	comp=Z,3.2nm,1.1s						
PDAR	**Pinedale Array**	**33.29**	**335**	P	**P**	**06 21 20.5**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=123,slow=10.0,SNR=2.0						
PDAR				PcP	**PcP**	**06 24 01.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=150,slow=3.8,SNR=3.2						
	comp=Z,0.2nm,0.5s						
ETMB	**Extrema**	**33.78**	**132**	P	**P**	**06 21 23.7**	**+0.1**
ETMB				IAmb	IAmb	06 21 30.4	
	comp=Z,2.7nm,0.8s						
REDW	**Red Top Meadow**	**34.33**	**334**	IAmb	IAmb	06 21 30.6	
	comp=Z,2.8nm,0.8s						
ELK	**Elko**	**34.45**	**327**	P	**P**	**06 21 30.7**	**+1.3**
NV11	**Mina Array Sit**	**34.59**	**321**	IAmb	IAmb	06 21 35.1	
	comp=Z,3.4nm,1.0s						
NVAR	**Mina Array Bea**	**34.68**	**321**	P	**P**	**06 21 34.0**	**+2.6**
	comp=Z,2.6nm,0.7s,baz=131,slow=8.5,SNR=27						
NVAR				PcP	**PcP**	**06 24 06.2**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=144,slow=2.4,SNR=5.3						
NVAR				LR	LR	06 36 35.7	
	comp=Z,64nm,18.1s,baz=174,slow=38						
	comp=Z,2.6nm,0.7s						
NVAR	**Mina Array Bea**	**34.68**	**321**	P	**P**	**06 21 32.6**	**+1.2**
LHV	**Little Huntoon**	**34.70**	**320**	P	**P**	**06 21 31.3**	**+0.1**
KVN	**Kaiserville**	**34.95**	**322**	P	**P**	**06 21 34.4**	**+0.7**
ULM	**Lac du Bonnet**	**36.87**	**355**	P	**P**	**06 21 47.4**	**-2.3**
	comp=Z,1.9nm,0.7s,baz=192,slow=9.3,SNR=3.0						
	comp=Z,1.9nm,0.7s						
J08A	**Circle Bar Ran**	**38.00**	**327**	P	**P**	**06 22 00.3**	**+0.8**
HOOD	**Mount Hood Mea**	**41.01**	**327**	P	**P**	**06 22 25.5**	**+0.9**
SIV	**San Ignacio**	**41.63**	**134**	P	**P**	**06 22 29.2**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=308,slow=7.7,SNR=6.2						
	comp=Z,1.0nm,0.7s						
SCHQ	**Schefferville**	**45.37**	**19**	P	**P**	**06 22 57.6**	**-1.9**
	comp=Z,3.2nm,0.7s,baz=249,slow=8.6,SNR=2.2						
	comp=Z,3.2nm,0.7s						
ILAR	**Eielson Array**	**63.69**	**337**	P	**P**	**06 25 11.8**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=124,slow=5.3,SNR=3.2						
	comp=Z,0.4nm,0.8s						
YAK	**Yakutsk**	**98.25**	**342**	LR	LR	07 20 49.8	
	comp=Z,68nm,18.1s,baz=89,slow=40						
PZH	**PanZhiHua**	**138.36**	**343**	PKP	**PKiKP**	**06 34 08.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**146.78**	**343**	PKPbc	**PKPbc**	**06 34 24.1**	**+0.4**
	comp=Z,1.9nm,0.4s,baz=348,slow=3.5,SNR=5.8						

IDC ***04*** *06:18:08.6±10.0, 36.˚97S×178.˚94E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=191.1km s-min=36.6km az=111.0*

WEL ***04*** *06:18:37.2, 39.˚52S×20.˚17˚8E±1.˚0, h40km±16km, M2.4/13, ML2.4/13, MLv2.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=1.7*

ISC 04 06:18:11.9±2.2, **37.˚08S**±0.˚1×**179.˚2E**±0.˚2, **h35**km, **n21**, σ0$**89**/22, **mb3.6**/4, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**1.56**	**218**	P	**Sn**	**06 18 57.5**	**+1.2**
RIGZ	**Rimuhau**	**2.09**	**212**	P	**Pn**	**06 18 44.4**	**-0.1**
RAGZ	**Rawiri**	**2.09**	**222**	P	**Pn**	**06 18 45.5**	**+0.9**
URZ	**Urewera**	**2.11**	**231**	Pn	**Pn**	**06 18 42.0**	**-2.7**
	5.9nm,0.3s,baz=211,slow=2.2,SNR=56						
URZ				Sn	**Sn**	**06 19 09.2**	**-0.6**
	8.5nm,0.3s,baz=210,slow=5.2,SNR=14						
PRGZ	**Paritu Road**	**2.23**	**207**	P	**Pn**	**06 18 45.8**	**-0.6**
SNGZ	**Shannon Statio**	**2.35**	**218**	P	**Pn**	**06 18 48.0**	**0.0**
KNZ	**Kokohu**	**2.40**	**210**	P	**Pn**	**06 18 47.5**	**-1.1**
RTZ	**Ruatahuna**	**2.42**	**226**	P	**Pn**	**06 18 49.3**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.43**	**204**	P	**Pn**	**06 18 48.5**	**-0.6**
MUGZ	**Murupara**	**2.46**	**231**	P	**Pn**	**06 18 49.9**	**+0.3**
RAHZ	**Arahi**	**2.58**	**220**	P	**Pn**	**06 18 51.5**	**+0.3**
MTHZ	**Maungataniwha**	**2.66**	**224**	P	**Pn**	**06 18 52.4**	**+0.1**
NMHZ	**Naumai**	**2.86**	**221**	P	**Pn**	**06 18 55.2**	**+0.1**
ARHZ	**Aropaoanui**	**2.89**	**216**	P	**Pn**	**06 18 54.7**	**-0.8**
MRHZ	**Matea Rd**	**2.90**	**229**	P	**Pn**	**06 18 55.5**	**0.0**
BKZ	**Black Stump Fm**	**3.08**	**223**	P	**Pn**	**06 18 57.5**	**-0.6**
KWHZ	**Kaweka Forest**	**3.30**	**221**	P	**Pn**	**06 18 60.0**	**-1.2**
STKA	**Stephens Creek**	**31.29**	**268**	P	**P**	**06 24 28.5**	**-0.2**
	1.0nm,0.4s,baz=89,slow=9.5,SNR=1.3						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**40.92**	**276**	P	**P**	**06 25 51.3**	**+0.2**
	0.3nm,0.6s,baz=118,slow=7.9,SNR=5.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**42.51**	**281**	P	**P**	**06 26 04.0**	**-0.1**
	0.4nm,0.5s,baz=121,slow=7.7,SNR=7.7						
	0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.40**	**277**	P	**P**	**06 27 06.5**	**+0.5**
	1.0nm,0.8s,baz=146,slow=7.3,SNR=1.1						
	1.0nm,0.8s						

WEL ***04*** *06:19:00, 37.˚12S×179.˚25E, h14km, ML5.0, Mw5.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^16 Nm; Mrr=1.52; Mθθ=0.40; Mϕϕ=1.13; Mrθ=1.29; Mθϕ=0.78; Mϕr=2.82; Fault plane solution: M0=3.47000×10^16 NP1: ϕs=40.00000°, δ14.00000°, λ-76.00000°. NP2:ϕs=205.00000°, δ77.00000°, λ-94.00000°. Principal axes: T 3512.2700, Plg32.0000°, Azm298.0000°; N -74.8600, Plg3.0000°, Azm205.0000°; P -3437.4100, Plg58.0000°, Azm110.0000°;*

BJI ***04*** *06:19:37.6±0.0, 37.˚19S×179.˚31E, h15km, mb5.0/8, Ms4.8/1, Ms7 4.5/1*

IDC ***04*** *06:19:38.7±0.7, 36.˚97S×179.˚09E, h0km, mb4.8/14, mbtmp4.7/17, ML5.4/2, MS4.3/15, Error ellipse: s-maj=19.8km s-min=17.7km az=74.0*

NEIC ***04*** *06:19:38.5±1.5, 37.˚18S±0.˚09×179.˚38E±0.˚08, h10km±1km, mb5.1/32, ML5.0(WEL), Error ellipse: s-maj=16.8km s-min=9.4km az=153.0*

WEL ***04*** *06:19:42.7±0.9, 37.˚5S±5.˚×17.˚9E±.˚, h15km, M5.0/21, ML5.1/18, MLv5.0/21, Error ellipse: s-maj=0.0km s-min=0.0km az=99.2*

NOU ***04*** *06:19:43.2, 37.˚37S×179.˚32E, h39km, mb4.9/29, Off E. Coast of N. Island, N.Z.*

GCMT ***04*** *06:19:45.5±0.3, 37.˚15S±0.˚02×179.˚05E±0.˚02, h32km, MW5.1/85, Moment Tensor Solution.. s52,c69; s85,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.61±.21; Mθθ=2.12±.14; Mϕϕ=2.50±.13; Mrθ=1.31±.16; Mθϕ=2.33±.09; Mϕr=1.96±.14; Best double couple: M0=5.19500×10^16 NP1:ϕs219.00000°, δ58.00000°, λ-94.00000°. NP2: ϕs47.00000°, δ32.00000°, λ-83.00000°. Principal axes: T 5.2020, Plg13.0000°, Azm312.0000°; N -0.0050, Plg4.0000°, Azm221.0000°; P -5.1870, Plg76.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 06:19:39.6±1.8, **37.˚12S**±0.˚04×**179.˚31E**±0.˚05, **h15**km±10km, **n321**, σ1$**47**/303, **mb5.1**/34, **MS4.4**/16, **2C-1D**, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**241**		**Pb**	**06 19 56.7**	**-0.5**
MXZ	**Matakaoa Point**	**0.92**	**241**	P	**Pb**	**06 19 56.9**	**-0.3**
MXZ				S	**Sb**	**06 20 06.4**	**-2.8**
PKGZ	**Pakihiroa**	**1.25**	**231**	P	**Pg**	**06 20 04.0**	**+0.3**
PKGZ				S	**Sb**	**06 20 18.9**	**+0.1**
PUZ	**Puketiti**	**1.27**	**221**	P	**Pg**	**06 20 04.1**	**0.0**
PUZ				S	**Sb**	**06 20 19.8**	**+0.4**
HAZ	**Te Kaha**	**1.37**	**242**	P	**Pn**	**06 20 03.7**	**-0.5**
HAZ				S	**Sb**	**06 20 22.7**	**+0.3**
TWGZ	**Tauwhareparae**	**1.50**	**225**	P	**Pb**	**06 20 07.7**	**+0.6**
RUGZ	**Raukumara Rang**	**1.55**	**236**	P	**Pb**	**06 20 08.3**	**+0.2**
RUGZ				S	**Sn**	**06 20 26.3**	**-0.4**
CNGZ	**Carnagh Statio**	**1.62**	**212**	P	**Pb**	**06 20 09.7**	**+0.5**
WIZ	**White Island**	**1.74**	**256**	P	**Pn**	**06 20 08.0**	**-1.2**
WSRZ	**White Island S**	**1.75**	**256**	P	**Pn**	**06 20 08.3**	**-1.0**
TKGZ	**Te Karaka**	**1.76**	**221**	P	**Pn**	**06 20 10.6**	**+1.1**
MWZ	**Matawai**	**1.86**	**229**	P	**Pb**	**06 20 12.5**	**-0.9**
MWZ				S	**Sn**	**06 20 33.4**	**-0.9**
WHRZ	**Whale Island**	**2.00**	**248**	P	**Pn**	**06 20 13.4**	**+0.6**
RIGZ	**Rimuhau**	**2.00**	**217**	P	**Pn**	**06 20 14.1**	**+1.1**
RAGZ	**Rawiri**	**2.04**	**227**	P	**Pn**	**06 20 14.9**	**+1.5**
URZ	**Urewera**	**2.09**	**236**	Pn	**Pn**	**06 20 14.9**	**+0.9**
	493nm,0.3s,baz=211,slow=2.1,SNR=188						
URZ				Sn	**Sn**	**06 20 38.7**	**-0.9**
	baz=211,slow=19						
URZ				LR	LR	06 21 20.0	
	comp=Z,9μm,20.2s,baz=30,slow=50						
	1μm,0.3s						
URZ	**Urewera**	**2.09**	**236**		**Pn**	**06 20 14.3**	**+0.3**
URZ	**Urewera**	**2.09**	**236**	P	**Pn**	**06 20 15.1**	**+1.1**
URZ	**Urewera**	**2.09**	**236**	P	**Pn**	**06 20 15.6**	**+1.6**
PRGZ	**Paritu Road**	**2.13**	**212**	P	**Pn**	**06 20 15.8**	**+1.2**
MARZ	**Manawahe**	**2.27**	**247**	P	**Pn**	**06 20 17.0**	**+0.4**
EDRZ	**Edgecumbe**	**2.27**	**243**	P	**Pn**	**06 20 17.4**	**+0.8**
SNGZ	**Shannon Statio**	**2.28**	**223**	P	**Pn**	**06 20 17.5**	**+0.8**
KNZ	**Kokohu**	**2.30**	**214**	P	**Pn**	**06 20 17.8**	**+0.4**
OPRZ	**Ohinepanea**	**2.31**	**251**	P	**Pn**	**06 20 17.7**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.31**	**208**	P	**Pn**	**06 20 18.4**	**+1.2**
RTZ	**Ruatahuna**	**2.38**	**230**	P	**Pn**	**06 20 19.4**	**+1.4**
RTZ				S	**Sn**	**06 20 46.6**	**-0.4**
MUGZ	**Murupara**	**2.43**	**235**	P	**Pn**	**06 20 19.6**	**+0.9**
MYRZ	**Mayor Island**	**2.46**	**265

PLWZ **Palliser** 5.45 214 Pn Pn 06 20 58.5 -1.7
SNZO **South Karori** 5.51 219 Pn Pn 06 20 58.7 -2.3
TUWZ **Tuamarina** 5.99 222 Pn Pn 06 21 06.0 -1.7
CMWZ **Cape Campbell** 6.08 219 P Pn 06 21 09.8 +0.9
NNZ **Nelson** 6.17 227 Pn Pn 06 21 07.9 -2.1
BSWZ **Blackbirch Sta** 6.23 221 Pn 06 21 08.7 -2.2
TKNZ **Takaka Hill** 6.30 230 P Pn 06 21 10.5 -1.5
QRZ **Quartz Range** 6.45 233 Pn Pn 06 21 11.8 -2.2
QRZ **Quartz Range** 6.45 233 P Pn 06 21 12.9 -1.1
THZ **Tophouse** 6.79 225 Pn Pn 06 21 16.1 -2.6
KHZ **Kahutara** 6.91 218 Pn Pn 06 21 19.0 -1.3
KHZ **Kahutara** 6.91 218 P Pn 06 21 18.4 -1.9
CTZ **Chatham Island** 7.30 156 P Pn 06 21 28.8 +3.1
LTZ **Lake Taylor** 7.83 222 Pn Pn 06 21 29.0 -3.9
RAO **Raoul Island** 8.18 17 Sn Sn 06 23 05.9 -4.0
baz=110,slow=22
MQZ **McQueen's Vall** 8.31 216 Pn Pn 06 21 35.6 -3.9
OXZ **Oxford** 8.33 220 Pn Pn 06 21 35.6 -4.2
RPZ **Rata Peaks** 9.11 221 Pn Pn 06 21 46.8 -3.7
6.1nm,0.3s,baz=227,slow=3.1,SNR=20
RPZ Sn Sn 06 23 21.3 -11
41nm,0.3s,baz=28,slow=17,SNR=18
RPZ **Rata Peaks** 9.11 221 P Pn 06 21 48.0 -2.5
GCSZ **Gaunt Creek Bo** 9.25 225 P Pn 06 21 51.4 -0.9
DZM **Mont Dzumac** 18.68 320 *e*LR LR 06 28 19.0
comp=Z,4µm,24.2s
DZM **Mont Dzumac** 18.68 320 P P 06 23 56.6 -0.7
1.9nm,0.6s,baz=172,slow=9.0,SNR=2.2
DZM LR LR 06 30 14.2
comp=Z,2µm,18.4s,baz=146,slow=34
MSVF **Nonsavu** 19.34 356 P Pn 06 24 05.5 -0.1
1.1nm,0.3s,baz=176,slow=15,SNR=2.5
MSVF LR LR 06 30 00.0
comp=Z,2µm,21.1s,baz=182,slow=32
6.4nm,0.9s
MSVF **Nonsavu** 19.34 356 P Pn 06 24 08.9 +3.3
KOUNC **Koumac, New Ca** 21.06 317 P P 06 24 22.3 -0.9
ARMA **Armidale** 23.91 278 P P 06 24 54.8 +1.8
baz=24,SNR=4.0
ARMA **Armidale** 23.91 278 P P 06 24 52.3 -0.7
ARMA IAmb IAmb 06 25 01.9
comp=Z,101nm,1.9s
RAR **Rarotonga** 24.10 55 LR LR 06 32 49.7
comp=Z,428nm,20.3s,baz=261,slow=33
CNB **Canberra Magne** 24.19 265 P P 06 24 56.1 +0.6
AFI **Afiamalu** 24.44 21 P P 06 24 56.2 -1.7
AFI IAmb IAmb 06 25 45.2
comp=Z,86nm,1.1s
CAN **Canberra** 24.48 265 P P 06 24 57.7 -0.4
CAN IAmb IAmb 06 25 20.4
comp=Z,70nm,1.6s
TAU **Tasmania Unive** 25.08 247 P P 06 25 03.8 +0.4
MOO **Moorlands** 25.16 248 P P 06 25 03.9 -0.3
baz=25,SNR=3.8
MOO **Moorlands** 25.16 248 P P 06 25 04.9 +0.7
EIDS **Eidsvold** 26.73 288 P P 06 25 18.0 -0.4
TOO **Toolangi** 26.81 259 P P 06 25 17.9 -1.3
baz=26,SNR=5.4
TOO **Toolangi** 26.81 259 P P 06 25 18.4 -0.9
TOO **Toolangi** 26.81 259 P P 06 25 19.7 +0.5
RMQ **Roma** 27.94 283 P P 06 25 32.2 +2.8
baz=28,SNR=5.1
CMSA **Cobar Meteorol** 28.22 271 P P 06 25 32.9 +1.0
baz=28,SNR=13
CMSA **Cobar Meteorol** 28.22 271 P P 06 25 32.7 +0.8
TBI **Tubuai** 30.12 72 *e*LR LR 06 33 33.9
comp=Z,915nm,27.2s
TBI **Tubuai** 30.12 72 *e*T T 06 57 22.4
comp=Z,52nm,0.3s
STKA **Stephens Creek** 31.38 268 P P 06 26 00.7 +0.8
baz=31,SNR=5.6
STKA **Stephens Creek** 31.38 268 P P 06 26 00.3 +0.5
comp=Z,5.6nm,0.6s,baz=96,slow=11,SNR=9.5
comp=Z,5.6nm,0.6s
STKA **Stephens Creek** 31.38 268 P P 06 25 58.7 -1.1
STKA **Stephens Creek** 31.38 268 P P 06 26 00.5 +0.7
HNR **Honiara** 32.66 323 LR LR 06 38 28.8
comp=Z,5µm,18.4s,baz=160,slow=35
TWOA **Tennyson Woods** 32.81 261 P P 06 26 13.0 +0.6
HTT **Hallett** 33.01 264 P P 06 26 14.3 +0.1
baz=33,SNR=13
HTT **Hallett** 33.01 264 P P 06 26 14.5 +0.3
CTA **Charters Tower** 33.40 291 P P 06 26 18.5 +0.9
comp=Z,2.9nm,0.5s,baz=130,slow=11,SNR=7.9
CTA LR LR 06 38 17.2
comp=Z,697nm,21.9s,baz=132,slow=34
comp=Z,2.9nm,0.5s
CTA **Charters Tower** 33.40 291 P P 06 26 19.0 +1.4
CTAO **Charters Tower** 33.40 291 P P 06 26 17.1 -0.5
CTAO IAmb IAmb 06 26 29.3
comp=Z,35nm,1.6s
CTAO **Charters Tower** 33.40 291 P P 06 26 19.1 +1.4
PAE **Paea** 33.52 63 *e*T T 07 01 43.0
comp=Z,3.1nm,0.3s
PPT2 **Papeete2** 33.57 63 *e*LR LR 06 35 11.4
comp=Z,919nm,24.8s
PPT2 **Papeete2** 33.57 63 *e*T T 07 01 54.2
comp=Z,5.6nm,0.3s
PPT **Papeete** 33.58 63 LR LR 06 36 46.7
comp=Z,261nm,21.4s,baz=264,slow=30
INKA **Innaminka** 33.68 275 P P 06 26 20.6 +0.6
LCRK **Leigh Creek** 34.59 269 P P 06 26 28.7 +0.8
BBOO **Buckleboo** 35.48 264 P P 06 26 35.1 -0.5
baz=35,SNR=6.9
BBOO **Buckleboo** 35.48 264 P P 06 26 34.3 -1.2
BBOO IAmb IAmb 06 27 19.6
comp=Z,71nm,1.6s
BBOO **Buckleboo** 35.48 264 P P 06 26 34.9 -0.7
MTSU **Mount Surprise** 36.04 292 P P 06 26 41.8 +1.3
baz=36,SNR=4.4
PMOR **Pomariorio Ree** 36.49 62 *e*T T 07 05 32.7
comp=Z,5.2nm,0.3s
VAH **Vaihoa** 36.52 62 *e*T T 07 05 21.0
comp=Z,11nm,0.2s
OOD **Oodnadatta** 37.69 271 P P 06 26 55.2 +0.8
MULG **Mulgathing** 37.98 267 P P 06 26 56.5 -0.4
QIS **Mount Isa** 38.18 284 P P 06 26 59.1 +0.4
baz=38,SNR=6.5
QIS **Mount Isa** 38.18 284 P P 06 27 00.0 +1.3
COEN **Coen** 39.58 296 P P 06 27 10.9 +0.5
baz=40,SNR=15
COEN **Coen** 39.58 296 P P 06 27 09.3 -1.1
COEN IAmb IAmb 06 27 12.1
comp=Z,22nm,0.8s
COEN **Coen** 39.58 296 P P 06 27 11.4 +1.0
PMG **Port Moresby** 40.06 305 LR LR 06 42 39.5
comp=Z,578nm,18.6s,baz=178,slow=35
AS31 **Alice Springs** 41.03 276 P P 06 27 21.8 -0.6
AS31 IAmb IAmb 06 27 22.9
comp=Z,9.9nm,0.5s
ASAR **Alice Springs** 41.03 276 P P 06 27 21.7 -0.7
comp=Z,16nm,0.5s,baz=119,slow=8.0,SNR=260
comp=Z,16nm,0.5s
ASAR **Alice Springs** 41.03 276 P P 06 27 21.6 -0.8
KRVT **Keravat (AS076** 41.13 316 P P 06 27 24.0 +0.8
comp=Z,52nm,0.7s,baz=113,slow=4.1,SNR=5.2
KRVT LR LR 06 41 47.8
comp=Z,129nm,20.5s,baz=268,slow=32
comp=Z,52nm,0.7s
VNDA **Vanda** 41.21 186 LR LR 06 40 52.6
comp=Z,317nm,21.6s,baz=27,slow=31
WR0 **Warramunga Arr** 42.46 281 P P 06 27 32.9 -1.3
FORT **Forrest** 42.56 263 P P 06 27 34.1 -0.7
baz=42,SNR=10
FORT **Forrest** 42.56 263 P P 06 27 34.1 -0.7
FORT IAmb IAmb 06 27 37.9
comp=Z,39nm,0.6s
FORT **Forrest** 42.56 263 P P 06 27 34.5 -0.3
WB2 **Warramunga Arr** 42.62 281 P P 06 27 34.6 -0.9
WRAB **Tennant Creek** 42.63 281 P P 06 27 34.4 -1.0
WRAB IAmb IAmb 06 27 35.6
comp=Z,36nm,0.6s
WRAB **Tennant Creek** 42.63 281 P P 06 27 34.5 -1.0
WRA **Warramunga Arr** 42.63 281 P P 06 27 34.4 -1.1
comp=Z,25nm,0.5s,baz=122,slow=7.7,SNR=273
comp=Z,25nm,0.5s
WRA **Warramunga Arr** 42.63 281 P P 06 27 34.1 -1.4
WB0 **Warramunga Arr** 42.69 281 P P 06 27 34.8 -1.2
WRKA **Warakurna** 44.84 271 P P 06 27 51.2 -2.1
baz=45,SNR=21
WRKA **Warakurna** 44.84 271 P P 06 27 51.4 -1.9
TAOE **Nuku Hiva Isla** 46.19 63 *e*LR LR 06 41 01.1
comp=Z,613nm,27.3s
CASY **Casey** 48.20 210 P P 06 28 18.3 -0.7
CASY IAmb IAmb 06 28 35.7
comp=Z,33nm,1.4s
KDU **Kakadu** 48.34 288 P P 06 28 21.7 +1.0
baz=48,SNR=4.6
MTN **Manton Dam** 49.26 286 P P 06 28 27.3 -0.6
baz=49,SNR=6.8
MTN **Manton Dam** 49.26 286 P P 06 28 27.2 -0.6
MTN IAmb IAmb 06 28 50.2
comp=Z,40nm,1.2s
KNRA **Kununurra** 49.41 282 P P 06 28 28.2 -0.7
baz=49,SNR=17
KNRA **Kununurra** 49.41 282 P P 06 28 28.3 -0.7
KNRA IAmb IAmb 06 28 54.3
comp=Z,17nm,0.8s
NWAO **Narrogin (SRO)** 50.22 255 P P 06 28 33.8 -1.2
baz=50,SNR=4.8
NWAO P P 06 28 33.8 -1.2
baz=50,SNR=4.8
NWAO **Narrogin (SRO)** 50.22 255 P P 06 28 33.8 -1.2
comp=Z,6.4nm,0.6s,baz=338,slow=7.5,SNR=7.7
comp=Z,6.4nm,0.6s
NWAO **Narrogin (SRO)** 50.22 255 P P 06 28 33.4 -1.6
KLBR **Kellerberrin** 50.35 257 P P 06 28 34.9 -1.1
baz=50,SNR=15
FITZ **Fitzroy Crossi** 50.51 277 P P 06 28 36.5 -0.8
baz=50,SNR=52
FITZ **Fitzroy Crossi** 50.51 277 P P 06 28 36.5 -0.8
comp=Z,14nm,0.5s,baz=151,slow=7.4,SNR=86
comp=Z,14nm,0.5s
FITZ **Fitzroy Crossi** 50.51 277 P P 06 28 36.7 -0.6
MUN **Mundaring** 51.39 256 P P 06 28 42.7 -1.1
baz=51,SNR=6.4
BLDU **Ballidu** 51.57 258 P P 06 28 43.6 -1.6
baz=51,SNR=12
MEEK **Meekatharra** 51.82 263 P P 06 28 45.7 -1.4
baz=52,SNR=4.9
MORW **Morawa** 52.76 259 P P 06 28 52.2 -1.9
baz=52,SNR=7.7
MORW **Morawa** 52.76 259 P P 06 28 52.3 -1.7
MORW IAmb IAmb 06 28 54.2
comp=Z,55nm,1.8s
QSPA **South Pole Qui** 53.01 180 P P 06 28 59.7 +4.2
comp=Z,13nm,0.9s,baz=27,slow=3.5,SNR=26
comp=Z,13nm,0.9s
QSPA **South Pole Qui** 53.01 180 P P 06 28 55.1 -0.5
QSPA IAmb IAmb 06 29 14.3
comp=Z,18nm,0.9s
PSA00 **Pilbara Seismi** 53.30 269 P P 06 28 56.7 -1.4
MBWA **Marble Bar** 53.60 270 P P 06 28 58.9 -1.4
FAKI **Fak Fak** 54.95 297 P P 06 29 09.5 -0.8
BATI **Baumata** 56.65 283 LR LR 06 55 22.3
comp=Z,843nm,18.1s,baz=140,slow=38
SIJI **Sorong** 57.09 298 P P 06 29 25.8 +0.3
comp=Z,15nm,0.6s,baz=108,slow=8.0,SNR=12
comp=Z,15nm,0.6s
EDFI **Ende, Flores** 59.07 283 P P 06 29 38.0 -1.5
comp=Z,6.0nm,1.1s
BKSI **Bukumbara** 62.41 285 P P 06 30 00.6 -1.6
comp=Z,522nmcomp=Z,6.9nm,0.8s
BELA **Belgrano 2** 63.44 172 P P 06 30 07.7 -0.4
BELA IAmb IAmb 06 30 13.0
comp=Z,16nm,1.0s
MAW **Mawson** 65.25 202 P P 06 30 23.2 +3.1
comp=Z,3.3nm,0.7s,baz=108,slow=5.2,SNR=5.3
comp=Z,3.3nm,0.7s
MAW **Mawson** 65.25 202 P P 06 30 20.5 +0.5
GMJI **Gumunas** 65.84 278 P P 06 30 22.6 -2.1
comp=Z,32nm,1.0s
DAV **Davao City (W)** 66.68 299 LR LR 06 59 30.4
comp=Z,77nm,21.4s,baz=162,slow=36
TROLL **Troll, Antarti** 71.15 181 P P 06 30 59.9 +2.7
SNAA **Sanae** 71.50 179 P P 06 31 01.6 +2.4
SNAA **Sanae** 71.50 179 P P 06 30 59.2 -0.1
SNAA IAmb IAmb 06 31 28.5
comp=Z,13nm,1.5s
VNA3 **Neumayer Olymp** 71.75 177 P P 06 31 03.2 +2.5
VNA2 **Neumayer--Watz** 72.16 178 P P 06 31 05.9 +2.8
baz=197,slow=7.0
VNA1 **Neumayer--Stat** 72.40 177 P P 06 31 07.7 +3.2
H03S2 **Juan Fernandez** 78.62 124 T T 07 58 21.2
baz=235
H03S1 **Juan Fernandez** 78.62 124 T T 07 58 16.7
baz=235
H03S3 **Juan Fernandez** 78.63 124 T T 07 58 26.4
baz=235
H03N3 **Juan Fernandez** 78.85 123 T T 07 58 29.9
baz=234,slow=72,SNR=130
H03N2 **Juan Fernandez** 78.85 123 T T 07 58 21.7
baz=234,slow=72,SNR=146
H03N1 **Juan Fernandez** 78.86 123 T T 07 58 32.3
baz=234,slow=72,SNR=152
LR03 **Panguipulli** 79.19 132 P P 06 31 42.3 -1.6
PLCA **Paso Flores** 79.55 133 P P 06 31 44.5 -1.4
MJAR **Matsushiro Arr** 82.59 328 LR LR 07 11 40.0
comp=Z,38nm,18.1s,baz=148,slow=38
PSI **Prapat** 84.02 278 LR LR 07 13 37.8
comp=Z,425nm,18.1s,baz=113,slow=39
MT02 **Curacav** 84.04 127 P P 06 32 08.5 -1.2
KSRS **Korea Array** 88.10 322 P P 06 32 29.2 -0.1
comp=Z,1.6nm,0.8s,baz=142,slow=5.3,SNR=6.7
comp=Z,1.6nm,0.8s
NJ2 **Nanjing** 89.00 312 *e*P P 06 32 31.8 -1.9
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
SHEM **Shemya Is, Ala** 89.59 357 LR LR 07 06 29.5
comp=Z,168nm,21.6s,baz=144,slow=31
PETK **Petropavlovsk-** 91.80 347 P P 06 32 48.4 +2.2
comp=Z,2.2nm,0.7s,baz=158,slow=9.0,SNR=8.8
comp=Z,2.2nm,0.7s
CMAR **Chiang Mai Arr** 93.56 290 P P 06 32 55.7 +0.5
comp=Z,2.5nm,0.3s,baz=145,slow=3.7,SNR=7.1
comp=Z,2.5nm,0.3s
NVAR **Mina Array Bea** 94.64 44 P P 06 33 01.8 +1.8
comp=Z,0.3nm,0.6s,baz=194,slow=6.1,SNR=3.6
comp=Z,0.3nm,0.6s
PZH **PanZhiHua** 96.46 298 P P 06 33 10.3 +1.8
PZH pmax pmax
comp=Z,10.0nm,0.7s
CPUP **Villa Florida** 97.44 131 LR LR 07 10 55.0
comp=Z,378nm,18.6s,baz=222,slow=32
CD2 **Chengdu** 97.80 303 *e*P Pdif 06 33 15.0 +0.6
XLT **XiLinHaoTe** 98.91 319 *e*P Pdif 06 33 20.3 +1.3
XLT pmax pmax
comp=Z,9.0nm,0.7s
LZH **Lanzhou** 100.95 307 *e*P **Pdif** 06 33 21.2 -7.2
LZH pP pPdif 06 33 27.4 -5.5
LZH pmax pmax
comp=Z,21nm,0.9s
ILAR **Eielson Array** 104.96 14 PKiKP **PKiKP** 06 38 03.3 +3.3
comp=Z,0.3nm,0.6s,baz=280,slow=1.5,SNR=4.1
WMQ **Urumqi** 115.53 307 *e*PKP **PKPdf** 06 38 20.6 -0.1
MK31 **Makanchi Array** 120.25 308 **PKPdf** 06 38 29.2 -0.4
MKAR **Makanchi Array** 120.25 308 PKP **PKPdf** 06 38 29.4 -0.2
comp=Z,0.4nm,0.6s,baz=211,slow=1.8,SNR=7.1
MKAR **Makanchi Array** 120.25 308 **PKPdf** 06 38 29.1 -0.5
KURK **Kurchatov** 123.92 311 **PKPdf** 06 38 36.6 +0.1
NRIK **Noril'sk** 124.78 334 PKP **PKPdf** 06 38 37.5 0.0
comp=Z,3.9nm,0.6s,baz=109,slow=3.1,SNR=6.2
KMBO **Kilima Mbogo** 128.21 231 PKP **PKiKP** 06 38 47.5 +0.7
comp=Z,2.5nm,1.0s,baz=19,slow=8.4,SNR=3.6
SPA0 **Spitsbergen Ar** 138.20 355 *e*PKPdf **PKPdf** 06 39 02.8 0.0
ARA0 **ARCESS Array S** 144.56 344 *e*PKPbc **PKPab** 06 39 12.3 -0.5
ARA0 IAmb IAmb 06 39 14.5
comp=Z,13nm,1.2s
ARCES **ARCESS Array B** 144.56 344 PKP **PKPdf** 06 39 14.0 -0.4
comp=Z,3.3nm,0.5s,baz=39,slow=2.8,SNR=31
KLMR **Klimovskoe** 145.37 326 *e*PKPdf **PKPbc** 06 39 14.4 -1.4
KLMR AMP 06 39 20.0
comp=Z,22nm,1.4s
KLMR *e*SKP 06 42 50.8
KTK1 **Kautokeino** 145.46 345 *e*PKPbc **PKPdf** 06 39 15.2 -0.7
KTK1 IAmb IAmb 06 39 17.2
comp=Z,8.0nm,0.8s
JETT **Jettan, Norway** 145.55 347 *e*PKPdf **PKPdf** 06 39 15.5 -0.6
TRO **Tromso** 145.74 348 *e*PKPbc **PKPdf** 06 39 16.1 -0.2
TRO IAmb IAmb 06 39 17.9
comp=Z,15nm,0.9s
KBZ **Khabaz** 146.47 295 PKPbc **PKPab** 06 39 21.2 +0.5
comp=Z,1.2nm,0.3s,baz=136,slow=4.9,SNR=2.4
STEI **Steigen** 147.86 349 *e*PKPbc **PKPbc** 06 39 22.7 -0.2
STEI IAmb IAmb 06 39 28.9
comp=Z,94nm,1.6s
LOF **Lofoten** 147.93 350 *e*PKPab **PKiKP** 06 39 25.2 +0.2
FAUS **Fauske** 148.36 348 *e*PKPbc **PKiKP** 06 39 25.2 -0.7
FAUS IAmb IAmb 06 39 32.0
comp=Z,45nm,1.4s
LIC **Lamto** 149.00 172 ⇧*i*PKIKP **PKiKP** 06 39 29.6 +0.7
comp=Z,25nm,0.7s
KIC **Kosan Boka** 149.16 172 ⇧*e*PKIKP **PKiKP** 06 39 29.4 +0.2
comp=Z,8.3nm,0.6s
TIC **Toumodi** 149.41 172 ⇩*e*PKIKP **PKiKP** 06 39 30.1 +0.4
comp=Z,9.4nm,0.7s
DBIC **Dimbokro** 149.46 172 PKPbc **PKiKP** 06 39 30.2 +0.4
comp=Z,4.5nm,0.6s,baz=192,slow=2.8,SNR=4.7
KONS **Konsvik** 149.51 349 *e*PKPbc **PKPbc** 06 39 26.5 -0.7
KONS IAmb IAmb 06 39 31.6
comp=Z,13nm,0.8s
MOR8 **Moi Rana** 149.60 348 *e*PKPbc **PKPbc** 06 39 26.8 -0.7
MOR8 IAmb IAmb 06 39 37.8
comp=Z,32nm,1.5s
FINES **FINESS Array B** 150.44 334 PKPbc **PKPbc** 06 39 29.7 +0.1
comp=Z,6.7nm,0.5s,baz=47,slow=4.3,SNR=52
FINES **FINESS Array B** 150.44 334 **PKiKP** 06 39 30.8 +0.4
FINES PKPab **PKPab** 06 39 36.9 +0.8
NSS **Namsos** 151.53 349 *e*PKPbc **PKPbc** 06 39 32.2 +0.2
NSS IAmb IAmb 06 39 40.4
comp=Z,76nm,1.8s
TBLU **Trondheim** 152.99 349 *e*PKPbc **PKPbc** 06 39 34.6 -0.8
BRTR **Keskin Array B** 153.07 286 PKPbc **PKPbc** 06 39 35.8 -0.8
comp=Z,1.3nm,0.7s,baz=89,slow=3.6,SNR=5.0
MOL **Molde** 154.01 351 *e*PKPbc **PKPbc** 06 39 37.1 -0.4
DOMB **Dombas** 154.32 349 *e*PKPbc **PKPbc** 06 39 38.4 +0.1
AKN **Aaknes** 154.46 352 *e*PKPbc **PKiKP** 06 39 38.7 +0.1
AKASG **Malin Array Be** 154.73 312 PKPbc **PKPbc** 06 39 39.6 +0.1
comp=Z,1.2nm,0.6s,baz=56,slow=2.9,SNR=8.4
NB2 **NORSAR Subarra** 154.90 346 PKP **PKiKP** 06 39 40.0 +0.4
comp=Z,4.7nm,1.0s,baz=26,slow=2.1
NOA **NORSAR Array B** 154.90 346 PKPbc **PKiKP** 06 39 40.0 +0.4
comp=Z,0.9nm,0.6s,baz=30,slow=2.1,SNR=8.8
NC602 **NORSAR Array S** 155.12 346 *ep*PKPdf pPKPdf 06 39 40.0 +4.3
FOO **Floro** 155.23 353 *ep*PKPdf pPKPdf 06 39 40.4 +4.6
TORD **Torodi Ar. Bea** 156.04 186 PKPbc PKPbc 06 39 48.0
comp=Z,1.5nm,0.8s,baz=157,slow=4.0,SNR=4.1
TORD PKPab **PKPab** 06 40 01.9 +1.0
comp=Z,5.5nm,1.0s,baz=173,slow=2.8,SNR=10.0
DPC **Dobruska-Polom** 162.00 323 *e*PKPAB **PKPab** 06 40 28.3 +2.2
KHC **Kasperske Hory** 164.14 324 *e*PKPAB **PKPab** 06 40 34.9 -0.6
GERES **GERESS Array B** 164.28 323 PKPab **PKPab** 06 40 37.6 +1.4
comp=Z,0.3nm,0.7s,baz=46,slow=7.6,SNR=4.3
KEST **Kesra** 171.79 263 PKPab **PKPab** 06 41 10.8 +0.9
comp=Z,1.6nm,0.5s,baz=49,slow=21,SNR=2.8

*KRSC **04** 06:23:53.3±1.7, 48°.45N×156°.72E, h18km±41km, ML4.0*
*IDC **04** 06:23:56.6±4.5, 48°.69N×154°.44E, h78km±44km, mb3.1/5,*
mbtmp3.4/6, ML2.3/1, Error ellipse: s-maj=44.5km
s-min=23.1km az=143.0
ISC 04 06:23:52.4±1.1, 48°.3N±0°.1×155°.4E±0°.2, h36km, n23,
σ1§82/19, mb3.4/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	3.28	16	S	Sn	06 25 17.9	-0.9
KDTR	**Khodutka, Kamc**	3.90	26	P	Pn	06 24 50.2	+0.5
KDTR				S	Sn	06 25 31.2	-2.9
ASAK	**Asacha**	4.37	21	P	Pn	06 24 58.4	+2.1
MTVR	**Mutnovka**	4.54	22	P	Pn	06 25 00.4	+1.9
MTVR				S	Sn	06 25 49.4	-0.6
GRL	**Gorelyy**	4.57	21	P	Pn	06 25 00.4	+1.4
GRL				S	Sn	06 25 50.5	-0.4
RUS	**Russkaya**	4.58	25	P	Pn	06 24 59.0	0.0
RUS				S	Sn	06 25 48.2	-2.6
PETK	**Petropavlovsk-**	5.01	16	P	Pn	06 25 06.0	+1.1
	0.6nm,0.3s,baz=176,slow=12,SNR=13						
PETK				S	Sn	06 26 04.0	+2.4
	1.7nm,0.6s,baz=197,slow=4.6,SNR=1.7						
	1.7nm,0.5s						
KRX	**Arik**	5.45	21	P	Pn	06 25 13.8	+2.7
GNL	**Ganaly**	5.62	16	P	Pn	06 25 15.7	+2.4
SPN	**Mys Shipunski**	5.62	30	S	Sn	06 26 13.8	-2.7
MKZ	**Mys Kozlova**	7.40	30	P	Pn	06 25 37.4	-0.2
KBTR	**Krutoberegovo**	9.12	27	P	Pn	06 26 01.8	+0.6
KSRS	**Korea Array**	22.73	252	P	P	06 28 48.2	-2.8
	0.6nm,0.5s,baz=46,slow=12,SNR=2.5						
	0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	30.02	158	T	T	07 02 14.9	
	baz=342,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	30.04	158	T	T	07 02 26.5	
	baz=342,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	30.04	158	T	T	07 02 24.1	
	baz=342,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	31.15	159	T	T	07 03 23.5	
	baz=344,slow=76						
H11S3	**WAKE ISLAND Hy**	31.16	159	T	T	07 03 16.1	
	baz=344						
H11S2	**WAKE ISLAND Hy**	31.16	159	T	T	07 04 01.0	
	baz=344,slow=76						
MKAR	**Makanchi Array**	47.57	297	P	P	06 32 17.9	-6.2
	0.2nm,0.5s,baz=71,slow=9.3,SNR=2.1						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	70.52	201	P	P	06 35 03.2	-0.1
	0.6nm,0.8s,baz=14,slow=6.8,SNR=2.6						
	0.6nm,0.8s						
ASAR	**Alice Springs**	74.20	200	P	P	06 35 26.0	+0.7
	0.2nm,0.5s,baz=7.0,slow=5.2,SNR=1.5						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	75.40	62	P	P	06 35 34.1	+1.6
	0.1nm,0.4s,baz=297,slow=4.1,SNR=4.2						
	0.1nm,0.4s						

WEL 04 06:25:13.7±1.1, 37°S±5°×17°9E±°, h10km, M3.6/18,
ML3.7/20, MLv3.6/18, Error ellipse: s-maj=0.0km
s-min=0.0km az=92.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	0.97	232	P	Pg	06 25 31.4	-1.0
WMGZ	**Waiomatatini S**	1.09	219	P	Pn	06 25 35.0	0.0
WMGZ				S	Sn	06 25 49.6	-0.5
PKGZ	**Pakihiroa**	1.32	226	P	Pn	06 25 37.7	-0.5
PKGZ				S	Sb	06 25 54.9	-0.7
PUZ	**Puketiti**	1.36	216	P	Pn	06 25 38.5	-0.3
PUZ				S	Sb	06 25 56.5	-0.3
HAZ	**Te Kaha**	1.42	236	P	Pn	06 25 38.2	-1.4
HAZ				S	Sn	06 25 58.3	0.0
TWGZ	**Tauwhareparae**	1.58	220	P	Pn	06 25 42.0	+0.2
TWGZ				S	Sn	06 26 01.9	-0.5
RUGZ	**Raukumara Rang**	1.61	232	P	Pn	06 25 42.7	+0.4
RUGZ				S	Sn	06 26 02.6	-0.6
CNGZ	**Carnagh Statio**	1.73	209	P	Pn	06 25 44.3	+0.5
WIZ	**White Island**	1.75	251	P	Pn	06 25 42.7	-1.4
TKGZ	**Te Karaka**	1.85	217	P	Pn	06 25 45.2	-0.3
TKGZ				S	Sn	06 26 07.1	-1.8
MWZ	**Matawai**	1.94	225	P	Pn	06 25 46.7	-0.1
MWZ				S	Sn	06 26 08.7	-2.6
WHRZ	**Whale Island**	2.03	244	P	Pn	06 25 48.5	+0.5
RIGZ	**Rimuhau**	2.10	214	P	Pn	06 25 48.4	-0.6
RAGZ	**Rawiri**	2.12	224	P	Pn	06 25 49.2	0.0
URZ	**Urewera**	2.14	233	P	Pn	06 25 49.6	+0.1
PRGZ	**Paritu Road**	2.23	209	P	Pn	06 25 50.0	-0.8
EDRZ	**Edgecumbe**	2.31	240	P	Pn	06 25 52.3	+0.5
OPRZ	**Ohinepanea**	2.33	247	P	Pn	06 25 51.7	-0.4
SNGZ	**Shannon Statio**	2.37	220	P	Pn	06 25 51.8	-0.8
KNZ	**Kokohu**	2.40	211	P	Pn	06 25 51.6	-1.5
MHGZ	**Mahia Peninsul**	2.43	206	P	Pn	06 25 52.5	-1.0
RTZ	**Ruatahuna**	2.45	227	P	Pn	06 25 54.0	+0.3
MUGZ	**Murupara**	2.49	232	P	Pn	06 25 54.1	-0.2
TGRZ	**Tauranga**	2.52	252	P	Pn	06 25 54.9	+0.3
TARZ	**Mount Tarawera**	2.53	239	P	Pn	06 25 56.1	+1.2
RRRZ	**Republican Roa**	2.58	237	P	Pn	06 25 55.9	+0.4
RAHZ	**Arahi**	2.60	221	P	Pn	06 25 55.9	+0.1
KARZ	**Kaharoa**	2.62	246	P	Pn	06 25 56.6	+0.5
WHHZ	**Waihua**	2.65	217	P	Pn	06 25 55.7	-0.7
MTHZ	**Maungataniwha**	2.69	225	P	Pn	06 25 56.9	-0.1
PRRZ	**Plateau Road**	2.74	235	P	Pn	06 25 57.7	-0.1
HSRZ	**Hossack Road**	2.75	240	P	Pn	06 26 00.3	+2.4
KMRZ	**Kaimai**	2.79	251	P	Pn	06 25 58.4	-0.1
ALRZ	**Allen Road**	2.81	235	P	Pn	06 25 58.6	-0.1
KUZ	**Kuaotunu**	2.86	273	P	Pn	06 25 58.3	-1.0
NMHZ	**Naumai**	2.88	222	P	Pn	06 25 59.6	-0.1
ARHZ	**Aropaoanui**	2.91	217	P	Pn	06 25 59.6	-0.4
MRHZ	**Matea Rd**	2.92	230	P	Pn	06 26 00.1	-0.2
TOZ	**Tahuroa Road**	3.10	255	P	Pn	06 26 01.5	-1.2
BKZ	**Black Stump Fm**	3.10	224	P	Pn	06 26 02.1	-0.7
CKHZ	**Cape Kidnapper**	3.19	212	P	Pn	06 26 02.3	-1.6
MKAZ	**Moumakai**	3.29	266	P	Pn	06 26 04.4	-0.9
KWHZ	**Kaweka Forest**	3.32	222	P	Pn	06 26 04.4	-1.4
RITZ	**Rihia Road**	3.36	232	P	Pn	06 26 06.2	-0.1
KAHZ	**Kahuranaki**	3.39	213	P	Pn	06 26 04.6	-2.0
ETAZ	**East Tamaki Re**	3.48	269	P	Pn	06 26 07.8	-0.1

KRHZ	**Kereru**	**3.51 220**	P		Pn	06 26 06.6	-1.7
MBAZ	**Motutapu North**	**3.51 272**	P		Pn	06 26 09.5	+1.2
TMVZ	**Te Maari**	**3.54 232**	P		Pn	06 26 08.0	-0.8
NTVZ	**North Tongarir**	**3.54 232**	P		Pn	06 26 08.1	-0.8
BHHZ	**Black Hill Sta**	**3.56 224**	P		Pn	06 26 08.1	-1.0
KRVZ	**Karewarewa**	**3.56 232**	P		Pn	06 26 08.8	-0.4
ABAZ	**Army Bay**	**3.58 275**	P		Pn	06 26 10.4	+1.2
OTVZ	**Oturere**	**3.59 231**	P		Pn	06 26 09.0	-0.5
NNVZ	**North Ngauruho**	**3.60 232**	P		Pn	06 26 10.8	+1.1
WTVZ	**West Tongariro**	**3.61 233**	P		Pn	06 26 10.7	+0.9
MOVZ	**Moawhango**	**3.69 228**	P		Pn	06 26 10.4	-0.4
AWAZ	**Awhitu Peninsu**	**3.71 267**	P		Pn	06 26 11.2	+0.2
RVAZ	**Riverhead Bore**	**3.77 272**	P		Pn	06 26 12.0	+0.1
PNHZ	**Pukenui**	**3.80 218**	P		Pn	06 26 10.3	-2.0
TSZ	**Takapari Road**	**4.03 219**	P		Pn	06 26 13.0	-2.5
WCZ	**Waipu Caves**	**4.10 283**	P		Pn	06 26 17.0	+0.5
WAZ	**Wanganui**	**4.37 229**	P		Pn	06 26 20.0	-0.1
PRWZ	**Pori Road**	**4.41 215**	P		Pn	06 26 18.3	-2.3
HOWZ	**Holdsworth Sta**	**4.89 216**	P		Pn	06 26 30.8	+3.5
OUZ	**Omahuta**	**4.92 289**	P		Pn	06 26 28.7	+1.1
CTZ	**Chatham Island**	**7.45 156**	P		Pn	06 27 01.8	-0.5

WEL 04 06:26:57.4±1.2,37°S±5′×17°9E±1′0,h10km,M3.2/8, ML3.5/12,MLv3.2/8,Error ellipse: s-maj=0.0km s-min=0.0km az=96.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.78**	**228**	P	Pg	06 27 12.1	-0.3
MXZ				S	Sg	06 27 22.3	-0.2
WMGZ	**Waiomatatini S**	**0.92**	**212**	P	Pb	06 27 15.7	+0.3
WMGZ				S	Sn	06 27 28.9	-0.7
PKGZ	**Pakihiroa**	**1.14**	**222**	P	Pb	06 27 18.7	-0.4
PKGZ				S	Sg	06 27 34.0	0.0
PUZ	**Puketiti**	**1.20**	**211**	P	Pb	06 27 19.1	-1.1
PUZ				S	Sb	06 27 35.7	0.0
HAZ	**Te Kaha**	**1.22**	**234**	P	Pn	06 27 19.6	-0.9
HAZ				S	Sn	06 27 37.6	+0.4
TWGZ	**Tauwhareparae**	**1.41**	**216**	P	Pn	06 27 22.9	-0.2
TWGZ				S	Sn	06 27 41.7	-0.1
RUGZ	**Raukumara Rang**	**1.42**	**229**	P	Pn	06 27 23.5	+0.1
RUGZ				S	Sb	06 27 42.4	+0.2
CNGZ	**Carnagh Statio**	**1.58**	**204**	P	Pn	06 27 24.9	-0.6
MWZ	**Matawai**	**1.76**	**222**	P	Pn	06 27 27.4	-0.6
MWZ				S	Sn	06 27 48.9	-1.5
WHRZ	**Whale Island**	**1.83**	**243**	P	Pb	06 27 30.2	-0.7
WHRZ				S	Sn	06 27 52.2	+0.1
RAGZ	**Rawiri**	**1.94**	**221**	P	Pn	06 27 29.7	-0.7
RAGZ				S	Sn	06 27 53.1	-1.7
RIGZ	**Rimuhau**	**1.94**	**211**	P	Pn	06 27 29.1	-1.4
RIGZ				S	Sn	06 27 53.7	-1.2
URZ	**Urewera**	**1.95**	**231**	P	Pn	06 27 30.0	-0.5
URZ				S	Sn	06 27 54.4	-0.7
PRGZ	**Paritu Road**	**2.08**	**206**	P	Pn	06 27 30.8	-1.7
OPRZ	**Ohinepanea**	**2.13**	**247**	P	Pn	06 27 32.9	-0.1
SNGZ	**Shannon Statio**	**2.19**	**217**	P	Pn	06 27 32.6	-1.3
KNZ	**Kokohu**	**2.25**	**208**	P	Pn	06 27 32.3	-2.3
RTZ	**Ruatahuna**	**2.26**	**225**	P	Pn	06 27 34.3	-0.6
MHGZ	**Mahia Peninsul**	**2.29**	**205**	P	Pn	06 27 33.4	-1.8
MUGZ	**Murupara**	**2.29**	**231**	P	Pn	06 27 34.6	-0.6
RAHZ	**Arahi**	**2.42**	**219**	P	Pn	06 27 36.3	-0.8
MTHZ	**Maungataniwha**	**2.50**	**223**	P	Pn	06 27 37.5	-0.7
ALRZ	**Allen Road**	**2.62**	**234**	P	Pn	06 27 39.2	-0.5
KUZ	**Kuaotunu**	**2.67**	**275**	P	Pn	06 27 39.2	-1.2
NMHZ	**Naumai**	**2.70**	**220**	P	Pn	06 27 39.8	-1.1
MRHZ	**Matea Rd**	**2.73**	**228**	P	Pn	06 27 40.6	-0.8
ARHZ	**Aropaoanui**	**2.74**	**215**	P	Pn	06 27 39.9	-1.4
TOZ	**Tahuroa Road**	**2.90**	**255**	P	Pn	06 27 42.6	-0.9
BKZ	**Black Stump Fm**	**2.92**	**223**	P	Pn	06 27 42.4	-1.5
GRZ	**Great Barrier**	**2.98**	**284**	P	Pn	06 27 45.4	+0.6
MKAZ	**Moumakai**	**3.10**	**268**	P	Pn	06 27 45.5	-0.8
KAHZ	**Kahuranaki**	**3.23**	**211**	P	Pn	06 27 45.3	-2.8
ETAZ	**East Tamaki Re**	**3.29**	**270**	P	Pn	06 27 49.0	0.0
MBAZ	**Motutapu North**	**3.33**	**274**	P	Pn	06 27 49.9	+0.4
NTVZ	**North Tongarir**	**3.35**	**231**	P	Pn	06 27 49.1	-0.8
BHHZ	**Black Hill Sta**	**3.38**	**223**	P	Pn	06 27 48.8	-1.5
RVAZ	**Riverhead Bore**	**3.58**	**273**	P	Pn	06 27 53.3	+0.3
WCZ	**Waipu Caves**	**3.94**	**285**	P	Pn	06 27 58.1	+0.3
OUZ	**Omahuta**	**4.76**	**291**	P	Pn	06 28 10.1	+0.9
INZ	**Inchbonnie**	**8.13**	**223**	P	Pn	06 28 57.7	+2.3

*IDC **04** 06:43:29.7±3.6,9°29S×119°44E,h88km±30km,mb3.6/4, mbtmp3.9/9,Error ellipse: s-maj=58.5km s-min=12.0km az=69.0*
*DJA **04** 06:43:30.1±0.2,9°S±3′×12°0E±°,h82km±6km,M4.2/13, mb4.3/7,MLv4.1/13*

ISC 04 06:43:29.7±0.7,9°42S±0′.05×119°52E±0′.05,h100km,n36, σ1°80/39,mb3.9/4,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.26**	**210**	P	**Pn**	**06 43 43.6**	**-0.6**
BASI	**Baing, Sumba**	**1.31**	**128**	P	**Pn**	**06 43 53.7**	**+0.1**
PLAI	**Plampang**	**1.82**	**289**	P	**Pn**	**06 44 00.3**	**+0.3**
PLAI				S	**Sn**	**06 44 21.9**	**-1.2**
PLAI	**Plampang**	**1.82**	**289**	P	**Pn**	**06 44 00.7**	**+0.7**
EDFI	**Ende, Flores**	**2.24**	**73**	P	**Pn**	**06 44 06.1**	**+0.6**
TWSI	**Taliwang, Sumb**	**2.69**	**284**	P	**Pn**	**06 44 12.3**	**+0.9**
MMRI	**Maumere**	**2.79**	**74**	P	**Pn**	**06 44 12.8**	**+0.1**
MMRI	**Maumere**	**2.79**	**74**	P	**Pn**	**06 44 15.2**	**+2.5**
BSSI	**Bau Bau, Buton**	**3.39**	**16**	P	**Pn**	**06 44 20.5**	**-0.2**
BKSI	**Bulukumba**	**4.11**	**8**	P	**Pn**	**06 44 30.6**	**+0.2**
BATI	**Baumata**	**4.16**	**101**	P	**Pn**	**06 44 31.7**	**+0.7**
	28nm,0.3s,baz=283,slow=10.0,SNR=4.2						
BATI				S	**Sn**	**06 45 19.2**	**+0.6**
	56nm,0.3s,baz=275,slow=22,SNR=6.7						
BATI	**Baumata**	**4.16**	**101**	P	**Pn**	**06 44 32.1**	**+1.1**
KAPI	**Kappang**	**4.38**	**3**	P	**Pn**	**06 44 33.8**	**-0.2**
	16nm,0.4s,baz=174,slow=9.2,SNR=16						
KAPI				S	**Sn**	**06 45 21.4**	**-2.6**
	51nm,0.3s,baz=70,slow=23,SNR=14						
KAPI	**Kappang**	**4.38**	**3**	P	**Pn**	**06 44 34.4**	**+0.4**
JAGI	**Jajag, Banyuwa**	**5.39**	**280**	P	**Pn**	**06 44 46.0**	**-1.7**
JAGI	**Jajag, Banyuwa**	**5.39**	**280**	P	**Pn**	**06 44 46.4**	**-1.3**
SPSI	**Sidrap Palu**	**5.42**	**3**	P	**Pn**	**06 44 47.5**	**-0.7**
	0.1nm21nm,0.6s						
PCJI	**Pacitan**	**8.34**	**278**	P	**Pn**	**06 45 28.1**	**+0.3**
	65nm,1.6s						
UGM	**Wanagama**	**9.02**	**279**	P	**Pn**	**06 45 38.4**	**+1.2**
	125nm,2.2s						
FITZ	**Fitzroy Crossi**	**10.47**	**146**	P	**Pn**	**06 45 57.2**	**+0.3**
	1.2nm,0.4s,baz=326,slow=10,SNR=22						
FITZ				S	**Sn**	**06 47 48.6**	**-3.7**
	8.3nm,0.5s,baz=182,slow=19,SNR=18						
FITZ	**Fitzroy Crossi**	**10.47**	**146**	P	**Pn**	**06 45 56.5**	**-0.4**
KNRA	**Kununurra**	**10.96**	**126**	P	**Pn**	**06 46 03.4**	**0.0**
MBWA	**Marble Bar**	**11.68**	**179**	P	**Pn**	**06 46 13.0**	**-0.1**
PSA00	**Pilbara Seismi**	**12.09**	**179**	P	**Pn**	**06 46 18.1**	**-0.5**
KDU	**Kakadu**	**13.12**	**106**	P	**Pn**	**06 46 33.1**	**+0.9**
GIRL	**Giralia**	**14.10**	**200**	P	**Pn**	**06 46 46.2**	**+1.3**
WRKA	**Warakurna**	**17.64**	**153**	P	**Pn**	**06 47 30.6**	**+1.5**
WRA	**Warramunga Arr**	**17.73**	**128**	P	**Pn**	**06 47 31.6**	**+1.4**
	0.3nm,0.3s,baz=303,slow=12,SNR=13						
WRA				S	**Sn**	**06 50 40.6**	**-7.3**
	0.4nm,0.3s,baz=302,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**19.74**	**138**	P	**Pn**	**06 47 54.9**	**+0.8**
	1.2nm,0.4s,baz=316,slow=9.2,SNR=30						
ASAR				S	**S**	**06 51 27.0**	**-2.0**
	0.6nm,0.7s,baz=315,slow=24,SNR=4.6						
STKA	**Stephens Creek**	**30.30**	**141**	P	**P**	**06 49 35.0**	**+3.3**
	1.8nm,0.5s,baz=318,slow=11,SNR=6.6						
	1.8nm,0.5s						
H08S2	**Diego Garcia H**	**46.52**	**268**	T	T	07 41 19.5	
	baz=96,slow=75,SNR=9.8						
H08S3	**Diego Garcia H**	**46.53**	**268**	T	T	07 41 20.7	
	baz=96,slow=75,SNR=6.6						
H08S1	**Diego Carcia H**	**46.54**	**268**	T	T	07 41 19.5	
	baz=96,slow=75,SNR=5.8						
SONM	**Songino Array**	**58.18**	**350**	P	**P**	**06 53 12.8**	**-0.5**
	0.5nm,0.4s,baz=168,slow=8.2,SNR=3.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**65.06**	**333**	P	**P**	**06 53 59.8**	**+0.3**
	0.5nm,0.5s,baz=138,slow=7.6,SNR=8.8						
	0.5nm,0.5s						
SEY	**Seymchan**	**76.43**	**15**	P	**P**	**06 55 08.7**	**+0.7**
	1.2nm,0.5s,baz=199,slow=5.0,SNR=4.2						
	1.2nm,0.5s						

ROM 04 06:43:52.1±0.1,42°.854N±0′.003×13°.228E±0′.006,

h8km,ML2.0/7,2C-1D,Error ellipse: s-maj=0.5km s-min=0.1km az=72.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.03**	**215**	P	Pg	06 43 53.6	-0.1
T1242				S	Sg	06 43 54.7	-0.2
T1242				AML	AML		
	comp=E,15400μm,0.2s						
T1242				AML	AML		
	comp=N,14650μm,0.3s						
T1242				AML	AML		
	comp=E,15500μm,0.2s						
T1242				AML	AML		
	comp=N,14450μm,0.3s						
T1242				AML	AML		
	comp=E,15400μm,0.2s						
T1242				AML	AML		
	comp=N,14650μm,0.3s						
T1242				AML	AML		
	comp=E,15500μm,0.2s						
T1242				AML	AML		
	comp=N,14450μm,0.3s						
T1242				END			
T1242	**Castelluccio d**	**0.03**	**215**	P	Pg	06 43 53.6	-0.1
T1242				S	Sg	06 43 54.6	-0.3
MC2	**Monte Cornacci**	**0.07**	**335**	P	Pg	06 43 54.2	+0.1
MC2				S	Sg	06 43 55.5	-0.1
MC2				END			
MC2	**Monte Cornacci**	**0.07**	**335**	P	Pg	06 43 54.2	+0.1
MC2				S	Sg	06 43 55.5	-0.1
NRCA	**Norcia**	**0.09**	**257**	P	Pg	06 43 54.7	+0.4
NRCA				S	Sg	06 43 56.5	+0.7
NRCA				END			
NRCA	**Norcia**	**0.09**	**257**	P	Pg	06 43 54.6	+0.4
NRCA				S	Sg	06 43 56.4	+0.6
T1244	**Arquata del Tr**	**0.11**	**152**	P	Pg	06 43 55.2	+0.6
T1244				S	Sg	06 43 57.8	+1.5
T1244				END			
T1244	**Arquata del Tr**	**0.11**	**152**	P	Pg	06 43 55.2	+0.6
T1244				S	Sg	06 43 57.7	+1.4
T1202	**Accumoli, Fraz**	**0.15**	**181**	P	Pg	06 43 56.0	+0.7
T1202				S	Sg	06 43 59.4	+1.9
T1202				END			
T1202	**Accumoli, Fraz**	**0.15**	**181**	P	Pg	06 43 56.1	+0.8
T1202				S	Sg	06 43 59.3	+1.9
T1241	**Roccafluvione,**	**0.15**	**89**	P	Pg	06 43 55.8	+0.6
T1241				S	Sg	06 43 58.7	+1.3
T1241				END			
T1241	**Roccafluvione,**	**0.15**	**89**	P	Pg	06 43 55.8	+0.5
T1241				S	Sg	06 43 58.4	+1.0
T1204	**Amatrice, Fraz**	**0.19**	**160**	P	Pg	06 43 56.6	+0.7
T1204				S	Sg	06 44 00.3	+1.7
T1204				END			
T1204	**Amatrice, Fraz**	**0.19**	**160**	P	Pg	06 43 56.6	+0.7
T1204				S	Sg	06 44 00.3	+1.7
FDMO	**Fiordimonte**	**0.21**	**331**	P	Pg	06 43 56.8	+0.4
FDMO				S	Sg	06 44 00.4	+1.2
FDMO				END			
FDMO	**Fiordimonte**	**0.21**	**331**	P	Pg	06 43 56.7	+0.4
FDMO				S	Sg	06 44 00.5	+1.3
GUMA	**Gualdo di Mace**	**0.22**	**21**	P	Pg	06 43 57.4	+0.8
GUMA				S	Sg	06 44 01.7	+2.1
GUMA				END			
GUMA	**Gualdo di Mace**	**0.22**	**21**	P	Pg	06 43 57.4	+0.9
GUMA				S	Sg	06 44 01.6	+2.0
SMA1	**SAN MARTINO**	**0.24**	**160**	P	Pg	06 43 57.4	+0.6
CSP1	**Cessapalombo**	**0.24**	**356**	P	Pg	06 43 57.2	+0.4
CSP1				S	Sg	06 44 01.5	+1.3
CSP1				END			
CSP1	**Cessapalombo**	**0.24**	**356**	P	Pg	06 43 57.3	+0.4
CSP1				S	Sg	06 44 01.5	+1.4
T1215	**Vallo di Nera,**	**0.27**	**259**	P	Pg	06 43 58.0	+0.6
T1215				S	Sb	06 44 02.7	-1.3
CESI	**CESI - Serrava**	**0.28**	**303**	P	Pg	06 43 58.2	+0.6
LNSS	**Leonessa**	**0.29**	**209**	P	Pg	06 43 58.4	+0.7
LNSS				S	Sb	06 44 03.7	-0.9
RM33	**Pellescritta (**	**0.34**	**182**	P	Pg	06 43 59.4	+0.6
RM33				S	Sb	06 44 05.6	-0.6
RM33				AML	AML		
	comp=E,193μm,0.5s						
RM33				AML	AML		
	comp=N,212μm,1.0s						
RM33				AML	AML		
	comp=E,194μm,0.5s						
RM33				AML	AML		
	comp=N,212μm,1.0s						
RM33				AML	AML		
	comp=E,193μm,0.5s						
RM33				AML	AML		
	comp=N,212μm,1.0s						
RM33				END			
RM33	**Pellescritta (**	**0.34**	**182**	P	Pg	06 43 59.4	+0.5
RM33				S	Sb	06 44 05.3	-0.9
CAMP	**Campotosto**	**0.34**	**157**	P	Pg	06 43 59.2	+0.4
CAMP				S	Sb	06 44 05.0	-1.2
CAMP				END			
CAMP	**Campotosto**	**0.34**	**157**	P	Pg	06 43 59.2	+0.3
CAMP				S	Sb	06 44 04.9	-1.3
TERO	**Teramo**	**0.36**	**130**	P	Pg	06 43 59.7	+0.6
TERO				S	Sb	06 44 05.6	-1.0
TERO				AML	AML		
	comp=E,739μm,0.3s						
TERO				AML	AML		
	comp=N,936μm,0.4s						
TERO				AML	AML		
	comp=E,740μm,0.3s						
TERO				AML	AML		
	comp=N,936μm,0.4s						
TERO				AML	AML		
	comp=E,739μm,0.3s						
TERO				AML	AML		
	comp=N,936μm,0.4s						
TERO				END			
TERO	**Teramo**	**0.36**	**130**	P	Pg	06 43 59.6	+0.4
TERO				S	Sb	06 44 05.4	-1.2
ARRO	**Arrone**	**0.44**	**231**	P	Pg	06 44 01.2	+0.7
ARRO				S	Sb	06 44 08.2	-0.5
ARRO				AML	AML		
	comp=E,144μm,1.4s						
ARRO				AML	AML		
	comp=N,144μm,0.2s						
ASSB	**Assisi San Ben**	**0.46**	**295**	S	Pn	06 44 02.0	-3.1
GIGS	**Gran Sasso**	**0.47**	**148**	P	Pg	06 44 01.6	+0.3
EL6	**Elcito**	**0.48**	**349**	S	Pg	06 44 02.0	+0.5
EL6	**Elcito**	**0.48**	**349**	P	Pg	06 44 01.8	+0.3
EL6				S	Sb	06 44 10.0	-0.3
CING	**Cingoli**	**0.52**	**357**	S	Pg	06 44 03.0	+0.8
CESX	**Cesi**	**0.54**	**243**	P	Pg	06 44 02.7	+0.3
CESX				S	Sb	06 44 11.4	-0.2
CESX				AML	AML		
	comp=N,93μm,0.8s						
CESX				AML	AML		
	comp=E,107μm,0.5s						
CESX				AML	AML		
	comp=N,93μm,0.8s						
ATCC	**AVT- Casa Cast**	**0.54**	**308**	S	Pg	06 44 03.0	+0.4
ATCC	**AVT- Casa Cast**	**0.54**	**308**	P	Pg	06 44 02.9	+0.3
ATCC				S	Sb	06 44 12.0	+0.1
FOSV	**Fossato di Vic**	**0.56**	**322**	S	Sg	06 44 10.0	-0.2
FOSV				S	Pg	06 44 01.0	-1.9
FOSV	**Fossato di Vic**	**0.56**	**322**	P	Pg	06 44 03.2	+0.3
FOSV				S	Sb	06 44 12.3	-0.1
FIAM	**Fiamignano**	**0.59**	**188**	⇓P	Pg	06 44 03.6	+0.1
FIAM				S	Sb	06 44 13.4	+0.1
FIAM				AML	AML		
	comp=N,52μm,1.0s						
FIAM				AML	AML		
	comp=E,78μm,0.3s						
FIAM				AML	AML		
	comp=N,52μm,1.0s						
FAGN	**Fagnano**	**0.64**	**156**	⇑P	Pg	06 44 04.8	+0.4
FAGN				S	Sb	06 44 15.0	+0.2
FAGN				AML	AML		
	comp=N,120μm,1.6s						
FAGN				AML	AML		
	comp=E,146μm,0.5s						
FAGN				AML	AML		
	comp=N,120μm,1.6s						
FAGN				AML	AML		
	comp=E,146μm,0.5s						
VCEL	**Villa Celiera**	**0.64**	**135**	⇑P	Pb	06 44 05.1	-0.5
VCEL				S	Sb	06 44 15.4	+0.6
VCEL				AML	AML		
	comp=N,134μm,0.9s						
VCEL				AML	AML		
	comp=N,135μm,0.9s						
VCEL				AML	AML		
	comp=E,126μm,0.8s						
ARVD	**Arcevia**	**0.68**	**342**	P	Pg	06 44 05.2	+0.1
ARVD				S	Sb	06 44 16.3	+0.6
ATFO	**Monte Foce - G**	**0.70**	**317**	S	Pg	06 44 03.0	-2.6
ATTE	**AVT- Monte Tez**	**0.73**	**299**	P	Pg	06 44 06.2	+0.2
ATTE				S	Sb	06 44 18.4	+1.1
ATVO	**AVT- Monte Val**	**0.80**	**312**	P	Pg	06 44 07.3	-0.1
MPAG	**Monte Paganucc**	**0.85**	**336**	P	Pb	06 44 08.8	-0.4
FSSB	**Fossombrone**	**0.90**	**339**	P	Pb	06 44 10.0	0.0
FSSB				AML	AML		
	comp=E,97μm,0.3s						
FSSB				AML	AML		
	comp=N,176μm,0.4s						

*NEIC **04** 06:53:34.2±0.8,18°.1S±0°.1×173°.09W±0°.05,h10km±1km, mb4.4/8,Error ellipse: s-maj=19.2km s-min=8.3km az=188.0*
*IDC **04** 06:53:35.8±1.5,17°.85S×173°.62W,h0km,mb3.8/8, mbtmp3.9/9,ML3.3/1,Error ellipse: s-maj=66.6km s-min=19.6km az=149.0*

ISC 04 06:53:34.6±0.7,18°.12S±0°.07×173°.09W±0°.08,h10km,n21, σ2°55/23,mb4.0/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.15**	**108**		**Pn**	**06 54 23.8**	**-0.4**
NIUE				Sn	**Sn**	**06 54 56.0**	**-5.9**
AFI	**Afiamalu**	**4.37**	**17**	Pn	**Pn**	**06 54 40.6**	**-0.6**
	1.6nm,0.3s,baz=346,slow=22,SNR=4.0						
AFI				Sn	**Sn**	**06 55 27.2**	**-5.0**
	26nm,0.3s,baz=32,slow=20,SNR=6.6						
	60nm,0.9s						
AFI	**Afiamalu**	**4.37**	**17**	Pn	**Pn**	**06 54 39.8**	**-1.4**
CTA	**Charters Tower**	**38.40**	**260**	P	**P**	**07 00 54.7**	**-1.8**
	3.3nm,0.9s,baz=90,slow=8.1,SNR=2.0						
	3.3nm,0.9s						
CTAO	**Charters Tower**	**38.40**	**260**	P	**P**	**07 00 55.4**	**-1.2**
CTAO				IAmb	IAmb	07 01 23.8	
	comp=Z,8.9nm,1.2s						
TOO	**Toolangi**	**41.03**	**233**	P	**P**	**07 01 17.6**	**-0.7**
TOO				IAmb	IAmb	07 01 38.4	
	comp=Z,5.6nm,0.9s						
COEN	**Coen**	**42.16**	**269**	P	**P**	**07 01 25.4**	**-2.4**
WB0	**Warramunga Arr**	**49.54**	**259**	P	**P**	**07 02 24.4**	**-1.6**
WB0				IAmb	IAmb	07 02 50.5	
	comp=Z,8.7nm,1.4s						
WB2	**Warramunga Arr**	**49.55**	**259**	P	**P**	**07 02 25.0**	**-1.2**
WRA	**Warramunga Arr**	**49.57**	**259**	P	**P**	**07 02 25.2**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=99,slow=6.8,SNR=25						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**49.57**	**259**	P	**P**	**07 02 24.6**	**-1.6**
AS31	**Alice Springs**	**49.60**	**254**	P	**P**	**07 02 26.3**	**-0.2**
ASAR	**Alice Springs**	**49.60**	**254**	P	**P**	**07 02 25.7**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=90,slow=7.9,SNR=26						
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**49.60**	**254**	P	**P**	**07 02 24.8**	**-1.7**
MJAR	**Matsushiro Arr**	**71.20**	**320**	P	**P**	**07 04 53.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=137,slow=7.2,SNR=2.6						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**07 04 58.5**	**+0.4**
QSPA				IAmb	IAmb	07 05 22.3	
	comp=Z,4.5nm,1.4s						
NVAR	**Mina Array Bea**	**76.15**	**41**	P	**P**	**07 05 26.9**	**+3.7**
	comp=Z,0.6nm,0.6s,baz=229,slow=7.9,SNR=7.0						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**81.88**	**56**	P	**P**	**07 05 58.8**	**+4.1**
	comp=Z,0.4nm,0.9s,baz=224,slow=4.7,SNR=4.1						
	comp=Z,0.4nm,0.9s						
PDAR	**Pinedale Array**	**84.09**	**42**	P	**P**	**07 06 09.1**	**+3.1**
	comp=Z,0.4nm,0.9s,baz=224,slow=7.4,SNR=3.2						
	comp=Z,0.4nm,0.9s						
ILAR	**Eielson Array**	**85.04**	**11**	P	**P**	**07 06 12.2**	**+2.2**
	comp=Z,0.8nm,0.9s,baz=223,slow=6.2,SNR=6.9						
	comp=Z,0.8nm,0.9s						
BRTR	**Keskin Array B**	**148.41**	**319**	PKPbc	**PKPab**	**07 13 24.6**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=64,slow=2.9,SNR=5.2						

*IDC **04** 07:12:43.0±2.0,36°.61S×179°.24E,h0km,mb3.9/4, mbtmp4.0/5,ML4.2/1,Error ellipse: s-maj=44.1km s-min=35.2km az=63.0*
*WEL **04** 07:12:46.7±1.7,37°S±6′×179°9E±1°0,h6km±7km,M3.8/30, ML4.0/31,MLv3.8/30,Error ellipse: s-maj=0.0km s-min=0.0km az=91.7*

ISC 04 07:12:44.9±2.4,36°.97S±0°.07×179°.26E±0°.08,h10km±12km, n105,σ1°49/106,mb3.9/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.96**	**232**	P	**Pg**	**07 13 03.5**	**+0.2**
MXZ				S	**Sb**	**07 13 14.7**	**-1.6**
WMGZ	**Waiomatatini S**	**1.08**	**218**	P	**Pn**	**07 13 07.6**	**+1.6**
WMGZ				S	**Sn**	**07 13 22.6**	**+1.5**
PKGZ	**Pakihiroa**	**1.31**	**225**	P	**Pb**	**07 13 09.9**	**+0.3**
PKGZ				S	**Sg**	**07 13 27.3**	**+0.3**
PUZ	**Puketiti**	**1.35**	**216**	P	**Pg**	**07 13 11.3**	**+0.4**
PUZ				S	**Sg**	**07 13 29.2**	**+0.8**
HAZ	**Te Kaha**	**1.41**	**236**	P	**Pn**	**07 13 10.3**	**-0.3**
HAZ				S	**Sg**	**07 13 31.3**	**+1.1**
TWGZ	**Tauwhareparae**	**1.57**	**220**	P	**Pb**	**07 13 14.6**	**+0.5**
TWGZ				S	**Sg**	**07 13 35.0**	**-0.5**
RUGZ	**Raukumara Rang**	**1.60**	**231**	P	**Pb**	**07 13 14.6**	**0.0**
CNGZ	**Carnagh Statio**	**1.72**	**209**	P	**Pb**	**07 13 16.8**	**+0.2**
WIZ	**White Island**	**1.74**	**251**	P	**Pn**	**07 13 14.6**	**-0.6**
TKGZ

KWHZ	Kaweka Forest	3.31 222	P	Pn	07 13 37.0	+0.1
RITZ	Rihia Road	3.35 232	P	Pb	07 13 40.8	-3.5
KAHZ	Kahuranaki	3.38 213	P	Pn	07 13 37.3	-0.5
ETAZ	East Tamaki Re	3.47 269	P	Pn	07 13 40.2	+1.3
KRHZ	Kereru	3.50 220	P	Pn	07 13 39.5	+0.1
MBAZ	Motutapu North	3.50 272	P	Pn	07 13 40.6	+1.3
TMVZ	Te Maari	3.52 232	P	Pn	07 13 40.8	+1.0
ETVZ	East Tongariro	3.53 231	P	Pn	07 13 41.3	+1.4
NTVZ	North Tongariro	3.53 232	P	Pn	07 13 41.0	+1.1
BHHZ	Black Hill Sta	3.55 224	P	Pn	07 13 40.6	+0.4
KRVZ	Karewarewa	3.55 232	P	Pn	07 13 41.4	+1.2
ABAZ	Army Bay	3.57 275	P	Pn	07 13 41.4	+1.1
OTVZ	Oturere	3.58 231	P	Pn	07 13 42.0	+1.4
PXZ	Pawanui	3.58 211	P	Pn	07 13 39.3	-1.2
NNVZ	North Ngauruho	3.59 232	P	Pn	07 13 43.1	+2.3
WTVZ	West Tongariro	3.60 232	P	Pn	07 13 43.0	+2.2
SNVZ	South Ngauruho	3.61 231	P	Pn	07 13 41.8	+0.8
EPAZ	Eden Park BICE	3.62 270	P	Pn	07 13 43.3	+2.3
HBAZ	Herne Bay Bore	3.63 271	P	Pn	07 13 43.4	+2.3
MOVZ	Moawhango	3.68 228	P	Pn	07 13 42.4	+0.5
AWAZ	Awhitu Peninsu	3.69 267	P	Pn	07 13 42.8	+0.8
WNVZ	Wahianoa	3.72 230	P	Pn	07 13 43.9	+1.3
WTAZ	Waiatarua	3.75 269	P	Pn	07 13 43.9	+1.1
RVAZ	Riverhead Bore	3.75 272	P	Pn	07 13 44.0	+1.1
PNHZ	Pukenui	3.79 218	P	Pn	07 13 43.2	-0.2
WPHZ	Waipukurau	3.79 215	P	Pn	07 13 42.9	-0.5
HIZ	Hauiti	3.81 245	P	Pn	07 13 45.8	+2.1
PRHZ	Porangahau	3.88 211	P	Pn	07 13 43.6	-1.0
TSZ	Takapari Road	4.02 219	P	Pn	07 13 46.0	-0.6
WCZ	Waipu Caves	4.09 283	P	Pn	07 13 48.5	+1.0
ANWZ	Angora Road	4.10 211	P	Pn	07 13 47.0	-0.6
DVHZ	Dannevirke	4.11 215	P	Pn	07 13 47.4	-0.3
WAZ	Wanganui	4.36 229	P	Pn	07 13 52.3	+1.2
POWZ	Post Office Ro	4.37 218	P	Pn	07 13 50.8	-0.5
PRWZ	Pori Road	4.40 215	P	Pn	07 13 50.9	-0.8
TIWZ	Tintock	4.62 214	P	Pn	07 13 54.6	-0.2
PREZ	Palmer Road	4.66 238	P	Pn	07 13 59.3	+4.0
NEZ	North Egmont	4.67 239	P	Pn	07 13 59.8	+4.3
PKE	Pukeiti	4.71 240	P	Pn	07 13 58.3	+2.2
KHEZ	Kahui Hut	4.74 239	P	Pn	07 14 00.8	+4.4
OUZ	Omahuta	4.91 289	P	Pn	07 14 00.4	+1.7
TKNZ	Takaka Hill	6.36 228	P	Pn	07 14 17.6	-1.1
CTZ	Chatham Island	7.45 156	P	Pn	07 14 34.6	+1.0
ASAR	Alice Springs 1.8nm,0.7s,baz=122,slow=8.2,SNR=25 1.8nm,0.7s	40.97 276	P	P	07 20 27.2	-0.8
WRA	Warramunga Arr 1.2nm,0.6s,baz=121,slow=7.7,SNR=21 1.2nm,0.6s	42.56 281	P	P	07 20 40.2	-0.9
FITZ	Fitzroy Crossi 1.8nm,0.9s,baz=125,slow=8.9,SNR=2.3 1.8nm,0.9s	50.45 277	P	P	07 21 42.3	-0.7
QSPA	South Pole Qui 1.3nm,1.1s,baz=329,slow=16,SNR=1.9 1.3nm,1.1s	53.15 180	P	P	07 22 05.3	+2.6
H03S2	Juan Fernandez baz=230	78.73 124	T	T	08 51 21.2	
H03S1	Juan Fernandez baz=230	78.74 124	T	T	08 51 21.5	
H03S3	Juan Fernandez baz=230	78.75 124	T	T	08 51 20.3	
H03N3	Juan Fernandez baz=234,slow=72,SNR=8.5	78.96 124	T	T	08 51 35.4	
H03N2	Juan Fernandez baz=234,slow=72,SNR=8.8	78.97 124	T	T	08 51 31.0	
H03N1	Juan Fernandez baz=234,slow=72,SNR=9.3	78.98 124	T	T	08 51 31.1	
FINES	FINESS Array B 2.5nm,0.9s,baz=76,slow=5.9,SNR=4.6	150.30 334	PKPbc	PKPbc	07 32 33.6	-1.9

MAN 04 07:15:06.6,8.32N×125.90E,h11km,mb5.0,ML3.9,MS3.9, 7C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.16**	**325**	⇑*i*P	Pb	07 15 11.5	-0.1
TASP				*i* S	Sg	07 15 16.6	+3.9
BIPH	**Bislig**	**0.48**	**107**	⇑*e*P	Pg	07 15 15.9	0.0
BIPH				*e*S	Sg	07 15 23.1	+0.7
CDOP	**Cateel, Davao**	**0.76**	**135**	⇓*i*P	Pg	07 15 20.5	-0.7
CDOP				*i* S	Sg	07 15 31.4	+0.3
BUKP	**Musuan**	**0.94**	**242**	⇑*e*P	Pg	07 15 24.7	-0.5
BUKP				*i* S	Sn	07 15 38.7	+0.5
SCPH	**Surigao**	**1.51**	**344**	⇑*e*P	Pb	07 15 34.4	-0.2
KCP	**Kidapawan**	**1.53**	**212**	⇑*i*P	Pn	07 15 33.6	-0.3
KCP				*i* S	Sg	07 15 55.5	-0.5
CTBH	**Cotabato--PC H**	**1.97**	**236**	⇑*e*P	Pn	07 15 40.9	+1.0
GHBP	**Garcia Hernand**	**2.03**	**310**	⇑*i*P	Pn	07 15 41.7	+0.9
GHBP				*i* S	Sn	07 16 06.7	+0.6

WEL 04 07:21:01.4±1.1,37°S±7°×17°9E±°,h5km,M3.3/13, ML3.6/13,MLv3.3/13,Error ellipse: s-maj=0.0km s-min=0.0km az=116.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.70**	**236**	P	Pg	07 21 14.1	-0.8
MXZ				S	Sg	07 21 22.6	-1.5
WMGZ	**Waiomatatini S**	**0.82**	**217**	P	Pb	07 21 18.2	+0.1
WMGZ				S	Sb	07 21 30.1	+0.6
PKGZ	**Pakihiroa**	**1.05**	**226**	P	Pg	07 21 21.2	-0.3
PKGZ				S	Sg	07 21 35.6	+0.4
PUZ	**Puketiti**	**1.09**	**214**	P	Pg	07 21 22.1	-0.3
PUZ				S	Sg	07 21 36.0	-0.6
HAZ	**Te Kaha**	**1.16**	**239**	P	Pb	07 21 23.9	-0.1
HAZ				S	Sn	07 21 40.2	-0.2
RUGZ	**Raukumara Rang**	**1.34**	**233**	P	Pn	07 21 26.5	-0.5
RUGZ				S	Sn	07 21 46.0	+0.7
CNGZ	**Carnagh Statio**	**1.47**	**206**	P	Pn	07 21 27.7	-0.9
MWZ	**Matawai**	**1.67**	**225**	P	Pn	07 21 30.6	-0.8
MWZ				S	Sn	07 21 51.5	-1.7
RIGZ	**Rimuhau**	**1.84**	**213**	P	Pn	07 21 32.7	-1.0
RAGZ	**Rawiri**	**1.84**	**224**	P	Pn	07 21 33.4	-0.4
URZ	**Urewera**	**1.88**	**234**	P	Pn	07 21 33.6	-0.5
PRGZ	**Paritu Road**	**1.98**	**207**	P	Pn	07 21 33.8	-1.8
EDRZ	**Edgecumbe**	**2.05**	**242**	P	Pn	07 21 36.3	-0.3
OPRZ	**Ohinepanea**	**2.08**	**250**	P	Pn	07 21 35.6	-1.4
SNGZ	**Shannon Statio**	**2.10**	**219**	P	Pn	07 21 36.2	-1.1
KNZ	**Kokohu**	**2.14**	**210**	P	Pn	07 21 35.4	-2.4
MHGZ	**Mahia Peninsul**	**2.17**	**204**	P	Pn	07 21 36.5	-1.8
RRRZ	**Republican Roa**	**2.31**	**239**	P	Pn	07 21 40.5	+0.2
RAHZ	**Arahi**	**2.33**	**221**	P	Pn	07 21 38.7	-1.8
KARZ	**Kaharoa**	**2.37**	**248**	P	Pn	07 21 41.0	-0.1
WHHZ	**Waihua**	**2.38**	**216**	P	Pn	07 21 37.9	-3.2
MTHZ	**Maungataniwha**	**2.42**	**225**	P	Pn	07 21 41.0	-0.7
ALRZ	**Allen Road**	**2.54**	**236**	P	Pn	07 21 42.7	-0.7
NMHZ	**Naumai**	**2.61**	**222**	P	Pn	07 21 43.5	-0.8
ARHZ	**Aropaoanui**	**2.64**	**217**	P	Pn	07 21 42.9	-1.8
MRHZ	**Matea Rd**	**2.65**	**230**	P	Pn	07 21 44.7	-0.3
KUZ	**Kuaotunu**	**2.69**	**278**	P	Pn	07 21 42.3	-3.1
BKZ	**Black Stump Fm**	**2.83**	**224**	P	Pn	07 21 45.6	-1.7
TOZ	**Tahuroa Road**	**2.87**	**258**	P	Pn	07 21 46.8	-1.0
GRZ	**Great Barrier**	**3.02**	**287**	P	Pn	07 21 49.9	+0.1
KWHZ	**Kaweka Forest**	**3.05**	**222**	P	Pn	07 21 48.4	-2.0
MKAZ	**Moumakai**	**3.10**	**270**	P	Pn	07 21 48.9	-2.0
KAHZ	**Kahuranaki**	**3.12**	**212**	P	Pn	07 21 48.3	-3.1
KRHZ	**Kereru**	**3.24**	**219**	P	Pn	07 21 50.9	-2.1
TMVZ	**Te Maari**	**3.27**	**232**	P	Pn	07 21 52.8	-0.6
NTVZ	**North Tongariro**	**3.28**	**233**	P	Pn	07 21 52.8	-0.8
BHHZ	**Black Hill Sta**	**3.29**	**224**	P	Pn	07 21 52.0	-1.7
KRVZ	**Karewarewa**	**3.30**	**233**	P	Pn	07 21 52.7	-1.2
OTVZ	**Oturere**	**3.32**	**232**	P	Pn	07 21 52.5	-1.7
PXZ	**Pawanui**	**3.33**	**210**	P	Pn	07 21 50.7	-3.4
MBAZ	**Motutapu North**	**3.34**	**276**	P	Pn	07 21 54.8	+0.5
SNVZ	**South Ngauruho**	**3.35**	**232**	P	Pn	07 21 53.2	-1.4
MOVZ	**Moawhango**	**3.42**	**228**	P	Pn	07 21 53.8	-1.6
AWAZ	**Awhitu Peninsu**	**3.51**	**270**	P	Pn	07 21 56.7	+0.1
PNHZ	**Pukenui**	**3.53**	**218**	P	Pn	07 21 54.0	-3.0
HIZ	**Hauiti**	**3.57**	**247**	P	Pn	07 21 57.9	+0.4
RVAZ	**Riverhead Bore**	**3.59**	**275**	P	Pn	07 21 56.6	-1.1
PRHZ	**Porangahau**	**3.62**	**210**	P	Pn	07 21 54.9	-3.2
TSZ	**Takapari Road**	**3.76**	**219**	P	Pn	07 21 57.1	-3.1
WCZ	**Waipu Caves**	**3.97**	**287**	P	Pn	07 22 01.5	-1.5
WAZ	**Wanganui**	**4.10**	**230**	P	Pn	07 22 03.7	-1.0
BFZ	**Birch Farm**	**4.13**	**211**	P	Pn	07 22 00.9	-4.2
MRZ	**Mangatainoka R**	**4.41**	**217**	P	Pn	07 22 04.9	-4.1
OUZ	**Omahuta**	**4.81**	**292**	P	Pn	07 22 13.6	-0.9
CTZ	**Chatham Island**	**7.35**	**155**	P	Pn	07 22 47.6	-1.7

NNC 04 07:26:13.8±0.3,50.01N×78.78E,h0km,mb3.6,mpv3.2, 23C-10D,Error ellipse: s-maj=5.0km s-min=1.6km az=80.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.60**	**344**	⇑P	Pg	07 26 25.4	+0.1
KUR07				⇑S	Sg	07 26 34.2	+1.2
KUR06	**Kurchatov Arra**	**0.62**	**345**	⇑P	Pg	07 26 25.8	+0.2
KUR06				⇑S	Sg	07 26 34.9	+1.3
KUR14	**Kurchatov Arra**	**0.62**	**349**	⇑P	Pg	07 26 25.8	+0.2
KUR14				⇑S	Sg	07 26 35.2	+1.5
KUR15	**Kurchatov Arra**	**0.63**	**347**	⇑P	Pg	07 26 26.0	+0.2
KUR15				⇑S	Sb	07 26 35.6	-1.3
KURBB	**Kurchatov Arra** 36nm,0.3s	**0.64**	**346**	⇑P	Pg	07 26 26.0	0.0
KURBB				⇑S	Sg	07 26 35.1	+0.9
	116nm,0.5s						
KUR16	**Kurchatov Arra**	**0.65**	**344**	⇓P	Pg	07 26 26.4	+0.2
KUR16				⇑S	Sb	07 26 36.3	-1.2
KUR05	**Kurchatov Arra**	**0.66**	**347**	⇑P	Pg	07 26 26.4	0.0
KUR05				⇓S	Sg	07 26 35.6	+0.8
KUR17	**Kurchatov Arra**	**0.66**	**343**	⇑P	Pg	07 26 26.4	+0.1
KUR17				⇑S	Sb	07 26 36.4	-1.4
KUR04	**Kurchatov Arra**	**0.67**	**347**	⇑P	Pg	07 26 26.9	+0.2
KUR04				⇑S	Sg	07 26 36.4	+1.1
KURK	**Kurchatov** 11nm,0.3s	**0.72**	**352**	⇑P	Pg	07 26 27.4	-0.1
KURK				⇑S	Sg	07 26 37.9	+1.1
	80nm,0.8s						
MAKZ	**Makanchi** 2.9nm,0.6s	**3.85**	**145**	⇓Pg	Pb	07 27 23.6	+1.2
MAKZ				⇓Lg	Lg	07 28 15.6	
	14nm,0.5s						
MK31	**Makanchi Array** 0.2nm,0.2s,baz=285,slow=5.6,SNR=49	**3.98**	**143**	⇑Pn	Pn	07 27 18.2	+2.2
MK31				⇑Pg	Pb	07 27 26.2	+1.5
	1.9nm,0.4s,baz=325,slow=14,SNR=23						
MK31				⇑Lg	Lg	07 28 20.8	
	15nm,0.6s,baz=342,slow=27,SNR=18						
OTUK	**Ortayu** 2.3nm,0.5s	**4.58**	**250**	⇓Pn	Pn	07 27 25.3	+1.0
OTUK				⇑Pg	Pb	07 27 37.5	+2.5
	1.2nm,0.4s						
OTUK				⇓Lg	Lg	07 28 39.1	
	7.5nm,0.9s						
DJR	**Jarkent** 1.5nm,0.5s	**5.72**	**173**	Pg	Pg	07 27 59.6	-3.7
DJR				Lg	Lg	07 29 14.0	
	3.9nm,0.6s						
ARXS	**Arharly** 1.2nm,0.2s	**5.83**	**187**	Pg	Pg	07 28 01.3	-4.2
ARXS				Lg	Lg	07 29 17.0	
	11nm,0.6s						
BTLS	**Baital**	**5.91**	**215**	Pg	Pg	07 28 02.6	-4.4
BTLS				Lg	Lg	07 29 18.9	
BVA0	**Borovoye Array** 1.1nm,0.5s,baz=120,slow=14,SNR=5.4	**6.04**	**303**	⇓Pn	Pn	07 27 44.7	+0.4
BVA0				⇓Sn	Sn	07 28 55.2	+1.0
	3.4nm,0.9s,baz=112,slow=24,SNR=3.8						
BVA0				⇓Lg	Lg	07 29 25.4	
	3.5nm,0.7s						
BRVK	**Borovoye** 2.2nm,0.7s	**6.12**	**303**	⇓Sn	Sn	07 28 56.6	+0.6
BRVK				⇑Lg	Lg	07 29 26.3	
	3.3nm,0.7s						
KPKS	**Kokpek** 1.8nm,0.2s	**6.54**	**181**	Pg	Pb	07 28 12.3	+3.8
KPKS				Lg	Lg	07 29 35.7	
	5.5nm,0.4s						
KRBS	**Karabastau** 0.9nm,0.5s	**6.66**	**200**	Pg	Pg	07 28 17.4	-3.9
KRBS				Lg	Lg	07 29 45.2	
	5.1nm,0.4s						

*IDC **04** 07:29:04.4±1.1,8.58N×126.12E,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=49.2km s-min=18.1km az=82.0*

*MAN **04** 07:29:09.1,8.35N×125.95E,h12km,mb4.7,ML3.6,MS3.5*

ISC 04 07:29:09.4±1.0,8.36N±0.04×126.01E±0.04,h26km±7km, n17,σ1ᵗ80/26,mb3.7/6,3C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.23**	**295**	⇓*i*P	Pb	**07 29 14.3**	**-1.2**
TASP				*i* S	Sb	**07 29 19.4**	**-0.2**
BIPH	**Bislig**	**0.38**	**116**	⇑*e*P	Pn	**07 29 18.8**	**-0.5**
BIPH				*e*S	Sn	**07 29 25.9**	**+0.1**
CDOP	**Cateel, Davao**	**0.71**	**144**	⇓*i*P	Pb	**07 29 23.2**	**+0.1**
CDOP				*i* S	Sn	**07 29 34.1**	**+0.4**
BUKP	**Musuan**	**1.05**	**243**	⇑*e*P	Pn	**07 29 27.0**	**-1.6**
BUKP				*i* S	Sn	**07 29 41.2**	**-1.2**
DAV	**Davao City (W)** baz=60,slow=13	**1.35**	**199**	Pn	Pb	**07 29 34.2**	**+0.1**
DAV				Sn	Sb	**07 29 56.6**	**+5.7**
	140nm,0.3s,baz=165,slow=20,SNR=3.7						
SCPH	**Surigao**	**1.51**	**340**	⇓*e*P	Pb	**07 29 37.0**	**+0.2**
SCPH				*e*S	Sb	**07 29 59.1**	**+3.6**
KCP	**Kidapawan**	**1.62**	**214**	⇑*e*P	Pn	**07 29 36.6**	**+0.2**
KCP				*i* S	Sb	**07 29 58.8**	**0.0**
CTBH	**Cotabato--PC H**	**2.08**	**237**	⇓*i*P	Pn	**07 29 43.7**	**+1.0**
GHBP	**Garcia Hernand**	**2.10**	**307**	⇓*i*P	Pn	**07 29 43.9**	**+1.1**
GHBP				*i* S	Sn	**07 30 09.8**	**+1.6**
LLP	**Lapu-Lapu**	**2.81**	**314**	*e*P	Pn	07 29 46.0	-6.7
LLP				*e*S	Sn	**07 30 27.9**	**+2.2**
FITZ	**Fitzroy Crossi** 1.0nm,0.5s,baz=0.0,slow=6.1,SNR=5.4 1.0nm,0.5s	**26.29**	**181**	P	P	**07 34 42.9**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=344,slow=9.7,SNR=1.7 0.4nm,0.7s	**29.29**	**164**	P	P	**07 35 10.1**	**+0.2**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=342,slow=7.1,SNR=18 0.7nm,0.5s	**32.75**	**167**	P	P	**07 35 41.1**	**+0.8**
STKA	**Stephens Creek** 1.0nm,0.8s,baz=326,slow=13,SNR=3.6 1.0nm,0.6s	**42.69**	**160**	P	P	**07 37 05.0**	**+0.7**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=120,slow=7.3,SNR=2.1	**53.40**	**324**	P	P	**07 38 24.8**	**-2.2**
MKAR				PcP	PcP	**07 39 33.5**	**-0.5**
	0.5nm,0.7s,baz=120,slow=4.3,SNR=4.2 0.4nm,0.8s						
FINES	**FINESS Array B** 1.2nm,0.8s,baz=64,slow=3.2,SNR=4.3 1.2nm,0.8s	**87.44**	**332**	P	P	**07 41 53.1**	**-1.3**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=56,slow=2.2,SNR=1.7	**120.72**	**291**	PKP	PKPdf	**07 47 58.7**	**-1.4**

*IDC **04** 07:32:33.9±1.0,10.70N×41.44W,h0km,mb4.0/6, mbtmp4.0/6,ML5.3/1,Error ellipse: s-maj=32.1km s-min=21.8km az=172.0*

ISC 04 07:32:36.2±0.9,10.5N±0.2×41.6W±0.1,h18km,n10, σ2ᵗ61/8,mb4.0/6,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des** 18nm,0.3s,baz=55,slow=14,SNR=200	**12.21**	**245**	Pn	Pn	**07 35 30.8**	**+1.4**
MDP				Sn	Sn	**07 37 40.7**	**-4.5**
	0.4nm,0.3s,baz=79,slow=9.9,SNR=1.7						
H10N3	**ASCENSION HYDR** baz=303,slow=75,SNR=11	**32.55**	**123**	T	T	08 13 11.7	
H10N2	**ASCENSION HYDR** baz=303,slow=75,SNR=10	**32.55**	**123**	T	T	08 13 16.0	
H10N1	**ASCENSION HYDR** baz=303,slow=75,SNR=12	**32.57**	**123**	T	T	08 13 13.4	
DBIC	**Dimbokro** 2.7nm,0.6s,baz=308,slow=8.6,SNR=3.6 2.7nm,0.6s	**36.49**	**93**	P	P	**07 39 39.5**	**-1.4**
LPAZ	**La Paz** 1.8nm,0.7s,baz=32,slow=5.9,SNR=7.5 1.8nm,0.7s	**37.41**	**225**	P	P	**07 39 51.8**	**+2.5**
TORD	**Torodi Ar. Bea** 2.0nm,0.6s,baz=280,slow=9.3,SNR=8.7 2.0nm,0.6s	**42.40**	**82**	P	P	**07 40 29.4**	**-0.7**
SCHQ	**Schefferville** 2.1nm,0.5s,baz=180,slow=5.1,SNR=5.5 2.1nm,0.5s	**48.51**	**341**	P	P	**07 41 16.6**	**-1.3**
TXAR	**Lajitas Array** 0.5nm,0.8s,baz=102,slow=8.9,SNR=6.4 0.5nm,0.8s	**60.63**	**298**	P	P	**07 42 47.6**	**+0.9**
ILAR	**Eielson Array** 0.9nm,0.9s,baz=77,slow=2.8,SNR=6.8 0.9nm,0.9s	**86.98**	**336**	P	P	**07 45 21.2**	**+1.0**

KRSC 04 07:40:33.6±1.6,49.53N×157.65E,h40km±27km,ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.01**	**345**	P	Pn	07 41 05.7	+0.7
PAU				S	Sn	07 41 29.7	+0.8
KDTR	**Khodutka, Kamc**	**2.30**	**7**	P	Pn	07 41 11.9	+3.0
KDTR				S	Sn	07 41 40.0	+4.1
ASAK	**Asacha**	**2.86**	**3**	P	Pn	07 41 20.4	+3.6
ASAK				S	Sn	07 41 54.4	+4.4
RUS	**Russkaya**	**2.96**	**10**	P	Pn	07 41 21.1	+3.1
RUS				S	Sn	07 41 56.2	+4.0
MTVR	**Mutnovka**	**2.97**	**6**	P	Pn	07 41 22.0	+3.6
MTVR				S	Sn	07 41 56.8	+3.9
GRL	**Gorelyy**	**3.04**	**5**	P	Pn	07 41 22.9	+3.7
GRL				S	Sn	07 41 58.9	+4.5
PET	**Petropavlovsk**	**3.55**	**10**	S	Sn	07 42 12.0	+5.1
DALK	**Dalny**	**3.57**	**11**	P	Pn	07 41 30.2	+3.7
DALK				S	Sn	07 42 11.9	+4.5
NLC	**Nalytchevo**	**3.80**	**16**	S	Sn	07 42 16.4	+3.5
AVH	**Avacha**	**3.80**	**10**	P	Pn	07 41 34.8	+5.1
AVH				S	Sn	07 42 19.3	+6.2
KOK	**Koryaka**	**3.81**	**9**	P	Pn	07 41 34.7	+4.8
KOK				S	Sn	07 42 19.5	+6.0
KRER	**Koryakskii**	**3.84**	**10**	P	Pn	07 41 34.8	+4.5
KRER				S	Sn	07 42 19.5	+5.2
SPN	**Mys Shipunski**	**3.87**	**22**	P	Pn	07 41 35.7	+5.2
SPN				S	Sn	07 42 20.8	+6.1
KRX	**Arik**	**3.88**	**9**	P	Pn	07 41 35.2	+4.3
KRX				S	Sn	07 42 20.3	+5.0
GNL	**Ganaly**	**4.17**	**2**	P	Pn	07 41 38.4	+3.6
MKZ	**Mys Kozlova**	**5.62**	**25**	P	Pn	07 41 58.5	+3.9
MKZ				S	Sn	07 43 01.8	+3.9

IDC 04 07:42:49.4±2.2,6.99S×127.23E,h412km±56km,mb3.1/1, mbtmp4.0/5,Error ellipse: s-maj=75.5km s-min=21.2km az=118.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 22nm,0.5s,baz=36,slow=6.5,SNR=1.6	**4.75**	**228**	P	P	07 44 09.6	+0.2
BATI				S	S	07 45 15.0	+0.3
	28nm,0.3s,baz=329,slow=22,SNR=10.0						
SIJI	**Sorong** 7.8nm,0.5s,baz=174,slow=13,SNR=9.8	**7.30**	**34**	P	P	07 44 36.6	-0.4
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=329,slow=11,SNR=52	**14.61**	**152**	P	P	07 45 57.9	+0.6
WRA				S	S	07 48 31.3	-1.5
	0.5nm,0.8s,baz=330,slow=20,SNR=5.9						
ASAR	**Alice Springs** 1.0nm,0.5s,baz=347,slow=12,SNR=26	**17.78**	**160**	P	P	07 46 31.4	+0.3
STKA	**Stephens Creek** 0.9nm,0.5s,baz=354,slow=9.2,SNR=3.1 0.9nm,0.5s	**28.16**	**153**	P	P	07 48 05.8	-0.3

*BJI **04** 07:54:34.9±0.0,8.53N×126.19E,h3km,mb4.8/61, mB4.9/34,Ms4.3/36,Ms7 4.1/35*

*MOS **04** 07:54:35.9±0.9,8.43N×126.01E,h13km,mb5.2/54,Error ellipse: s-maj=8.3km s-min=4.4km az=113.7*

*IDC **04** 07:54:35.6±0.3,8.41N×125.92E,h0km,mb4.8/35, mbtmp4.8/39,ML4.5/4,MS3.9/34,Error ellipse: s-maj=14.8km s-min=8.6km az=70.0*

*NEIC **04** 07:54:37.9±1.3,8.44N±0.07×126.05E±0.08,h10km±1km, mb5.0/181,Error ellipse: s-maj=13.5km s-min=11.2km az=69.0*

*MAN **04** 07:54:40.0,8.36N×125.93E,h19km,mb5.0,ML3.9,MS3.9*

MAN INTENSITY V - ROSARIO & LA PAZ AGUSAN DEL SUR; INTENSITY IV - BUNAWAN & LORETO AGUSAN DEL SUR; INTENSITY II - BISLIG CITY; GINGOOG CITY MISAMIS ORIENTAL.

*DJA **04** 07:54:43.0±0.6,8°N±4°×12°6E±°,h52km±5km,M5.0/41, mB5.4/14,mb5.0/41,MLv5.4/6,Mw(mB)4.8/14*

ISC 04 07:54:39.7±0.6,8.39N±0.02×125.96E±0.03,h25km±4km, n665,σ1ᵗ14/641,mb4.9/174,MS4.0/48,34C-20D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.16**	**293**	⇓*i*P	Pb	**07 54 44.7**	**-0.2**
TASP				*i* S	Sb	**07 54 49.7**	**+1.3**
BIPH	**Bislig**	**0.45**	**117**	⇑*e*P	Pb	**07 54 48.8**	**-0.2**
BIPH				*e*S	Sb	**07 54 55.5**	**0.0**
CDOP	**Cateel, Davao**	**0.77**	**142**	⇑*i*P	Pb	**07 54 53.6**	**-0.7**
CDOP				*i* S	Sb	**07 55 02.6**	**-1.9**
BUKP	**Musuan**	**1.02**	**240**	⇑*e*P	Pn	**07 54 58.0**	**-0.4**
BUKP				*i* S	Sb	**07 55 11.5**	**-0.3**
DAV	**Davao City (W)** 2µm,0.3s,baz=47,slow=2.8,SNR=91	**1.36**	**196**	Pg	Pb	**07 55 05.1**	**+0.6**
DAV				Lg	Lg	07 55 20.7	
	867nm,0.3s,baz=295,slow=19,SNR=9.5						
DAV	**Davao City (W)**	**1.36**	**196**		Pb	**07 55 05.3**	**+0.8**
DAV	**Davao City (W)**	**1.36**	**196**	P	Pb	**07 55 05.1**	**+0.6**
SCPH	**Surigao**	**1.46**	**342**	⇓*e*P	Pb	**07 55 05.9**	**-0.3**
SCPH				*e*S	Sb	**07 55 31.6**	**+7.3**
KCP	**Kidapawan**	**1.62**	**212**	⇑*e*P	Pn	**07 55 07.3**	**+0.7**
KCP				*i* S	Sb	**07 55 28.6**	**-0.3**
GHBP	**Garcia Hernand**	**2.03**	**307**	⇓*i*P	Pn	**07 55 13.3**	**+1.0**
GHBP				*i* S	Sn	**07 55 37.9**	**+1.0**
MSLP	**Maasin**	**2.04**	**328**	⇑*e*P	Pn	**07 55 13.5**	**+1.0**
MSLP				*i* S	Sb	**07 55 40.3**	**-0.9**
CTBH	**Cotabato--PC H**	**2.06**	**236**	⇓*i*P	Pn	**07 55 13.6**	**+1.0**
CTBH				*i* S	Sb	**07 55 42.1**	**+0.6**
TABP	**Talibon, Bohol**

FAKI Fak Fak 12.87 151 P Pn 07 57 43.4 +2.3
55nm,0.9s
FAKI Fak Fak 12.87 151 P Pn 07 57 42.4 +1.3
SPSI Sidrap Palu 13.74 207 P Pn 07 57 54.5 +1.6
28nm,0.8s
KAPI Kappang 14.68 205 Pn Pn 07 58 04.6 -1.3
0.4nm,0.3s,baz=244,slow=20,SNR=1.3
KAPI LR LR 08 04 20.0
comp=Z,396nm,20.3s,baz=32,slow=40
1.8nm,0.4s
KAPI Kappang 14.68 205*ce*P P 07 58 10.3 -1.5
KAPI pmax pmax
comp=Z,22nm,1.0s
BKSI Bulukumba 14.81 203 P Pn 07 58 09.5 +1.9
comp=Z,27nm,0.8s
TPUB Ta-pu 15.68 342 P 07 58 22.3 -0.7
TPUB Ta-pu 15.68 342 P P 07 58 22.1 -0.8
BBKI Banjar Baru 16.17 224 P P 07 58 27.3 -1.1
comp=Z,50nm,0.7s
SMPI Sarmi 16.37 128 P P 07 58 29.6 -1.0
comp=Z,2µmcomp=Z,65nm,1.3s
EDFI Ende, Flores 17.55 194 P P 07 58 43.7 -0.1
comp=Z,16nm,0.9s
GENI Genyem 17.88 127 P P 07 58 48.8 +1.4
comp=Z,5µmcomp=Z,131nm,0.8s
SOEI Soe 18.10 185 P Pn 07 58 48.2 -1.4
SOEI IAmb IAmb 07 59 12.6
comp=Z,53nm,0.7s
JOW Kunigami 18.47 7 P 07 58 51.7 -2.1
JOW IAmb IAmb 07 58 58.8
comp=Z,92nm,1.0s
BATI Baumata 18.61 187 P P 07 58 55.3 -0.1
comp=Z,6.1nm,0.3s,baz=348,slow=3.1,SNR=2.8
BATI LR LR 08 06 40.6
comp=Z,449nm,18.6s,baz=244,slow=39
comp=Z,27nm,0.5s
BATI Baumata 18.61 187 P Pn 07 58 55.7 -0.1
comp=Z,826nmcomp=Z,75nm,1.0s
QIZ Qiongzhong 18.87 306 P Pn 07 59 03.3 +4.4
QIZ S Sn 08 02 24.3 -5.3
QIZ pmax pmax
comp=Z,22nm,0.7s
QIZ LR LR
comp=Z,480nm,15.9s
QIZ LR LR
comp=Z,430nm,16.7s
QIZ LR LR
comp=Z,600nm,13.5s
PLAI Plampang 18.95 206 P Pn 07 59 00.4 +0.6
comp=Z,69nm,1.1s
PLAI Plampang 18.95 206 P Pn 07 59 00.0 +0.2
WBSI Waikabubak, Su 19.07 200 P Pn 07 59 01.3 0.0
comp=Z,44nm,1.1s
GUMO Guam 19.27 73 P P 07 59 02.4 -0.1
comp=Z,1.1nm,0.3s,baz=256,slow=1.7,SNR=2.8
comp=Z,48nm,0.8s
UBPT Khong Chiam 21.18 291 P 07 59 23.8 +0.4
MTN Manton Dam 21.71 166 P P 07 59 30.9 +1.9
baz=22,SNR=31
MTN Manton Dam 21.71 166 P P 07 59 29.0 -0.1
MTN IAmb IAmb 07 59 58.3
comp=Z,62nm,1.2s
MTN Manton Dam 21.71 166 P P 07 59 31.0 +1.9
KDU Kakadu 21.92 163 P P 07 59 30.5 -0.8
baz=22,SNR=12
KDU Kakadu 21.92 163 P P 07 59 31.2 0.0
MYKOM Kota Tinggi 22.96 255 P P 07 59 43.3 +0.8
MYKOM IAmb IAmb 07 59 57.6
comp=Z,62nm,1.3s
JSU Suzuyama 23.38 10 P P 07 59 45.6 -0.9
JSU IAmb IAmb 07 59 48.8
comp=Z,89nm,1.1s
LEM Lembang 23.72 231 P P 07 59 51.2 +1.0
comp=Z,14nm,0.3s,baz=12,slow=9.8,SNR=3.6
comp=Z,14nm,0.3s
KNRA Kununurra 24.07 173 P P 07 59 53.3 +0.1
baz=24,SNR=18
KNRA Kununurra 24.07 173 P P 07 59 53.1 -0.1
KNRA IAmb IAmb 08 00 13.2
comp=Z,49nm,0.8s
KNRA Kununurra 24.07 173 P P 07 59 53.5 +0.3
NJ2 Nanjing 24.45 345 *e*P P 07 59 57.5 +0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
IPM Ipoh 25.07 263 P P 08 00 02.9 +0.4
IPM IAmb IAmb 08 00 05.0
comp=Z,22nm,0.8s
KULM Kulim 25.31 265 P P 08 00 04.9 +0.3
KULM IAmb IAmb 08 00 06.4
comp=Z,24nm,1.0s
LWLI Liwa 25.58 239 P P 08 00 06.9 -0.2
comp=Z,170nm,0.9s
GYA Guiyang 25.66 317 *e*P P 08 00 00.0 -7.7
GYA pmax pmax
comp=Z,180nm,3.5s
GYA LR LR
comp=N,270nm,18.3s
GYA LR LR
comp=E,390nm,15.8s
GYA LR LR
comp=Z,450nm,16.7s
JTU Tsushima 26.20 6 P P 08 00 11.8 -0.6
JMN Monobe 26.25 15 P P 08 00 12.2 -0.7
FITZ Fitzroy Crossi 26.32 181 P P 08 00 13.1 -0.6
baz=26,SNR=32
FITZ Fitzroy Crossi 26.32 181 P P 08 00 13.0 -0.6
comp=Z,24nm,0.8s,baz=14,slow=8.0,SNR=35
comp=Z,24nm,0.8s
FITZ Fitzroy Crossi 26.32 181 P P 08 00 13.4 -0.2
FITZ IAmb IAmb 08 00 24.6
comp=Z,23nm,0.8s
FITZ Fitzroy Crossi 26.32 181 P P 08 00 13.0 -0.6
KSBUS Busan 26.89 6 P P 08 00 17.6 -1.0
KSBUS IAmb IAmb 08 00 19.4
comp=Z,51nm,0.7s
NAWB Namwon 26.94 3 P P 08 00 18.2 -0.8
NAWB IAmb IAmb 08 00 19.5
comp=Z,31nm,0.8s
JHS Saijyo 27.29 13 IAmb IAmb 08 00 36.4
comp=Z,15nm,0.7s
CRAI Chiangrai 27.39 298 P P 08 00 22.9 -0.5
PSI Prapat 27.46 260 P P 08 00 23.1 -1.1
comp=Z,2.7nm,0.4s,baz=189,slow=15,SNR=2.3
comp=Z,2.7nm,0.4s
PMG Port Moresby 27.54 129 P P 08 00 24.6 0.0
comp=Z,16nm,0.8s,baz=243,slow=10,SNR=2.3
comp=Z,16nm,0.8s
KMI Kunming 27.69 310 ⇑P P 08 00 28.6 +2.4
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI LR LR
comp=Z,230nm,15.1s
KMI LR LR
comp=Z,280nm,16.5s
KMI LR LR
comp=Z,330nm,15.9s
JHJ Hachijo jima 2 27.73 26 LR LR 08 12 02.7
comp=Z,151nm,18.7s,baz=246,slow=38
TJN Taejon 27.89 2⇑*e*P P 08 00 26.3 -1.2
COEN Coen 28.02 142 P P 08 00 28.5 -0.4
baz=28,SNR=29
COEN Coen 28.02 142 P P 08 00 28.1 -0.8
COEN Coen 28.02 142 P P 08 00 28.7 -0.2
CMAR Chiang Mai Arr 28.08 294 P P 08 00 30.4 +0.8
comp=Z,5.1nm,0.9s,baz=117,slow=7.2,SNR=16
CMAR PcP PcP 08 03 44.6 +0.8
comp=Z,3.4nm,0.7s,baz=138,slow=0.7,SNR=12
comp=Z,5.1nm,0.9s
CMAR Chiang Mai Arr 28.08 294 P P 08 00 29.7 +0.2
CHTO Chiang Mai 28.18 294 P P 08 00 30.1 -0.3
CHTO Chiang Mai 28.18 294 P P 08 00 30.1 -0.3
KSCHJ Chungju 28.41 3 P P 08 00 31.9 -0.4
KCSI Kotacane, Aceh 28.44 262 P P 08 00 33.7 +0.9
comp=Z,26nm,1.0s
INU Inuyama 28.68 19 P P 08 00 33.6 -1.0
INU IAmb IAmb 08 00 35.1
comp=Z,22nm,0.8s
INU Inuyama 28.68 19 P P 08 00 34.5 -0.1
LYN LuoYang 28.84 336 *e*P P 08 00 35.5 -0.6
LYN pmax pmax
comp=Z,60nm,11.8s
LYN LR LR
comp=Z,160nm,24.7s
LYN LR LR
comp=Z,210nm,22.9s
LYN LR LR
comp=Z,240nm,22.0s

KSAR Wonju Array Be 28.98 3 P P 08 00 37.2 0.0
KSAR Wonju Array Be 28.98 3 P P 08 00 37.2 0.0
KSRS Korea Array 28.99 3 P P 08 00 37.1 -0.2
comp=Z,24nm,1.1s,baz=181,slow=10,SNR=41
KSRS PcP PcP 08 03 45.6 0.0
comp=Z,1.1nm,0.7s,baz=191,slow=2.4,SNR=4.6
KSRS LR LR 08 12 01.9
comp=Z,130nm,21.7s,baz=175,slow=36
comp=Z,24nm,1.1s
KS19 Wonju Array Si 29.03 3 P P 08 00 35.8 -2.0
WB0 Warramunga Arr 29.19 164 P P 08 00 38.2 -1.1
PZH PanZhiHua 29.20 311 P P 08 00 40.5 +1.0
PZH S S 08 05 32.1 +1.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,60nm,3.5s
PZH LR LR
comp=Z,420nm,17.1s
PZH LR LR
comp=Z,510nm,17.1s
PZH LR LR
comp=Z,930nm,18.6s
WRAB Tennant Creek 29.33 164 P P 08 00 39.2 -1.4
WRAB Tennant Creek 29.33 164⇑*e*P P 08 00 38.8 -1.8
WRAB pmax pmax
comp=Z,5.0nm,0.8s
WRAB Tennant Creek 29.33 164 P P 08 00 40.2 -0.4
WRA Warramunga Arr 29.34 164 P P 08 00 39.2 -1.4
comp=Z,3.8nm,0.9s,baz=350,slow=9.4,SNR=20
WRA PcP PcP 08 03 47.7 +0.8
comp=Z,1.1nm,0.7s,baz=341,slow=2.8,SNR=1.3
WRA ScP ScP 08 07 28.6 +1.4
comp=Z,1.0nm,0.9s,baz=346,slow=3.3,SNR=2.9
comp=Z,3.8nm,0.9s
WRA Warramunga Arr 29.34 164 P P 08 00 39.6 -1.0
WRA Warramunga Arr 29.34 164 *i* P P 08 00 39.9 -0.7
WRA pmax pmax
comp=Z,4.0nm,0.9s
WB2 Warramunga Arr 29.34 164 P P 08 00 39.2 -1.5
WR0 Warramunga Arr 29.41 163 P P 08 00 40.0 -1.2
SEHB SEOHWA 29.82 4 IAmb IAmb 08 00 47.7
comp=Z,28nm,0.9s
XAN Xi'an 29.96 331 P P 08 00 45.7 -0.4
XAN pP pP 08 00 49.7 -4.0
XAN S S 08 05 45.5 +3.0
XAN pmax pmax
comp=Z,12nm,0.9s
XAN LR LR
comp=Z,160nm,21.3s
XAN LR LR
comp=Z,280nm,17.9s
XAN LR LR
comp=Z,250nm,14.7s
MBWA Marble Bar 29.99 192 P P 08 00 45.4 -1.0
MAJO Matsushiro 30.16 20 P P 08 00 46.1 -1.7
MAJO Matsushiro 30.16 20*c* *i*P P 08 00 46.4 -1.4
MAJO pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 30.16 20 P P 08 00 46.6 -1.2
comp=Z,4.4nm,0.7s,baz=189,slow=9.7,SNR=23
MJAR PcP PcP 08 03 49.0 +0.2
comp=Z,0.6nm,0.4s,baz=174,slow=3.6,SNR=2.5
MJAR LR LR 08 13 21.0
comp=Z,175nm,18.1s,baz=208,slow=37
comp=Z,4.4nm,0.7s
PSA00 Pilbara Seismi 30.37 191 P P 08 00 49.9 +0.1
CD2 Chengdu 30.52 320 P P 08 00 52.0 +0.9
CD2 S S 08 05 53.1 +1.8
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,430nm,20.6s
CD2 LR LR
comp=Z,380nm,17.6s
CD2 LR LR
comp=Z,290nm,17.6s
JSD Sado 31.54 19 P P 08 00 57.3 -2.6
JSD IAmb IAmb 08 01 02.1
comp=Z,14nm,0.9s
QIS Mount Isa 31.74 155 P P 08 01 02.1 +0.2
baz=32,SNR=17
MTSU Mount Surprise 31.99 146 P P 08 01 04.8 +0.8
baz=32,SNR=7.9
JMM Marumori 32.27 22 P P 08 01 05.5 -0.7
BJT Baijiatuan 32.69 346 P P 08 01 08.4 -1.5
BJT Baijiatuan 32.69 346 P P 08 01 08.5 -1.5
BJT pmax pmax
comp=Z,10.0nm,1.1s
BJI Beijing 32.71 346 P P 08 01 08.6 -1.5
BJI pmax pmax
comp=Z,9.0nm,1.2s
AS31 Alice Springs 32.79 166 P P 08 01 10.8 -0.3
ASAR Alice Springs 32.79 166 P P 08 01 10.1 -1.0
comp=Z,3.3nm,0.5s,baz=342,slow=7.1,SNR=74
ASAR PcP PcP 08 03 56.8 +0.7
comp=Z,1.4nm,0.8s,baz=352,slow=2.8,SNR=3.2
ASAR ScP ScP 08 07 38.6 -0.1
comp=Z,0.5nm,0.6s,baz=344,slow=3.1,SNR=3.1
ASAR LR LR 08 14 17.7
comp=Z,131nm,19.5s,baz=308,slow=36
comp=Z,3.3nm,0.5s
ASAR Alice Springs 32.79 166 P P 08 01 10.9 -0.1
WRKA Warakurna 33.30 176 P P 08 01 15.6 +0.1
baz=33,SNR=22
SNY Shenyang 33.37 357 ⇑P P 08 01 15.9 0.0
SNY pmax pmax
comp=Z,49nm,0.8s
LZH Lanzhou 34.16 327 ⇑P P 08 01 24.1 +1.0
LZH pP pP 08 01 27.9 -2.7
LZH sP sP 08 01 30.9 -2.8
LZH pmax pmax
comp=Z,21nm,0.9s
LZH LR LR
comp=Z,350nm,17.5s
LZH LR LR
comp=Z,350nm,16.1s
LZH LR LR
comp=Z,380nm,19.6s
MSHR Mys Shultsa 34.36 7⇓*e*P P 08 01 24.5 0.0
MSHR pmax pmax
comp=Z,37nm,0.8s
CTA Charters Tower 34.64 145 P P 08 01 27.9 +0.7
comp=Z,17nm,0.8s,baz=322,slow=11,SNR=16
CTA LR LR 08 16 29.9
comp=Z,110nm,19.6s,baz=268,slow=38
comp=Z,17nm,0.8s
CTA Charters Tower 34.64 145 P P 08 01 27.4 +0.2
CTAO Charters Tower 34.64 145 P P 08 01 27.0 -0.2
CTAO IAmb IAmb 08 01 28.6
comp=Z,17nm,0.8s
CTAO Charters Tower 34.64 145 P P 08 01 27.0 -0.2
CTAO pmax pmax
comp=Z,17nm,0.8s
CTAO Charters Tower 34.64 145 P P 08 01 27.9 +0.7
HHC Hu-ho-hao-te 34.77 341 *e*P P 08 01 29.6 +1.4
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,170nm,3.9s
HHC LR LR
comp=Z,470nm,15.2s
HHC LR LR
comp=Z,210nm,15.9s
HHC LR LR
comp=Z,530nm,16.5s
VLA Vladivostok 34.98 8*c* *i*P P 08 01 26.7 -3.1
VLA pmax pmax
comp=Z,49nm,1.1s
CN2 Changchun 35.28 359 *e*P P 08 01 31.7 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
MEEK Meekatharra 35.54 191 P P 08 01 35.8 +0.9
baz=36,SNR=4.4
BRDH Bariadhala 35.87 297 LR LR 08 18 13.5
comp=Z,250nm,19.2s,baz=62,slow=40
USA0B Ussuriysk Arra 36.06 7 P P 08 01 39.2 +0.1
USA0B Ussuriysk Arra 36.06 7 P P 08 01 39.2 +0.1
USA0B pmax pmax
comp=Z,31nm,0.8s
USRK Ussuriysk Ar. 36.06 7 P P 08 01 39.5 +0.4
comp=Z,84nm,0.7s,baz=192,slow=7.8,SNR=133
comp=Z,84nm,0.7s
MDJ Mudanjiang 36.23 4 P P 08 01 40.2 -0.3

MDJ Mudanjiang 36.23 4 P P 08 01 41.5 +1.0
MDJ pmax pmax
comp=Z,72nm,0.9s
MDJ pmax pmax
comp=Z,210nm,3.5s
XLT XiLinHaoTe 36.41 348 *e*P P 08 01 41.5 -0.7
XLT pP pP 08 01 46.6 -3.3
XLT sP sP 08 01 48.2 -4.8
XLT S S 08 07 18.3 -4.0
XLT pmax pmax
comp=Z,18nm,0.9s
XLT pmax pmax
comp=Z,130nm,8.3s
XLT LR LR
comp=Z,190nm,14.3s
XLT LR LR
comp=Z,120nm,14.3s
SHL Shillong 36.63 302 P P 08 01 45.0 +0.4
SHL Shillong 36.63 302 P P 08 01 45.0 +0.4
SHL pmax pmax
comp=Z,42nm,0.8s
OOD Oodnadatta 37.18 166 P P 08 01 48.1 -0.7
BNX BinXian 37.23 2 ⇑P P 08 01 48.8 -0.3
BNX pmax pmax
comp=Z,18nm,0.9s
BNX pmax pmax
comp=Z,55nm,3.7s
TEY Ternei 37.66 12⇓*e*P P 08 01 53.1 +0.4
TEY pmax pmax
comp=N,100nm,1.0s
TEY pmax pmax
comp=Z,100nm,1.0s
TEY pmax pmax
comp=N,40nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,70nm,0.8s
HNR Honiara 38.20 117 LR LR 08 19 14.2
comp=Z,840nm,18.1s,baz=314,slow=39
MORW Morawa 38.45 194 P P 08 02 01.5 +2.0
baz=39,SNR=4.8
MORW Morawa 38.45 194 P P 08 01 58.5 -1.0
INKA Innaminka 38.66 159 P P 08 02 00.8 -0.6
GTA Gaotai 38.76 327 *e*P P 08 02 03.3 +1.0
GTA pP pP 08 02 06.6 -3.3
GTA sP sP 08 02 09.3 -3.7
GTA PcP PcP 08 04 14.6 +1.0
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,55nm,5.5s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,190nm,18.5s
GTA LR LR
comp=Z,250nm,22.9s
LSA Lhasa 38.90 308 P P 08 02 02.6 -1.3
LSA Lhasa 38.90 308 P P 08 02 06.2 +2.3
LSA pmax pmax
comp=Z,21nm,1.2s
LSA Lhasa 38.90 308 P P 08 02 02.6 -1.3
LSA pmax pmax
comp=Z,15nm,0.9s
FORT Forrest 39.00 177 P P 08 02 05.1 +1.0
baz=39,SNR=14
FORT Forrest 39.00 177 P P 08 02 03.7 -0.4
FORT IAmb IAmb 08 02 05.6
comp=Z,42nm,0.7s
FORT Forrest 39.00 177 P P 08 02 04.3 +0.2
MULG Mulgathing 39.23 169 P P 08 02 06.1 0.0
GOMU GeErMu 39.63 319 P P 08 02 11.3 +1.5
GOMU sP pP 08 02 14.9 -2.6
GOMU S S 08 08 13.4 +1.5
GOMU SS SS 08 11 03.5 -4.0
GOMU pmax pmax
comp=Z,19nm,1.2s
GOMU pmax pmax
comp=Z,89nm,4.5s
GOMU LR LR
comp=Z,190nm,19.1s
GOMU LR LR
comp=Z,150nm,18.5s
GOMU LR LR
comp=Z,190nm,19.7s
RK1H Rockhampton Ha 39.66 143 P P 08 02 10.4 +0.6
BLDU Ballidu 39.78 193 P P 08 02 09.7 -1.0
LCRK Leigh Creek 40.37 164 P P 08 02 15.8 +0.3
KLBR Kellerberrin 40.52 191 P P 08 02 16.0 -0.8
baz=41,SNR=6.6
KLBR Kellerberrin 40.52 191 P P 08 02 16.0 -0.8
TAPN Taplejung 40.76 303 *e*P P 08 02 20.9 +1.6
ODAN Odare 40.87 302 *e*P P 08 02 21.5 +1.4
comp=Z,12nm,1.4s
YSS Yuzh-Sakhalins 41.02 18 P P 08 02 19.3 -1.4
YSS Yuzh-Sakhalins 41.02 18*de*P P 08 02 20.9 +0.2
YSS pmax pmax
comp=Z,17nm,1.3s
HIA Hailar 41.08 354 P P 08 02 20.7 -0.5
HIA IAmb IAmb 08 02 21.0
comp=Z,9.1nm,0.4s
HIA Hailar 41.08 354 P P 08 02 20.7 -0.5
HIA pmax pmax
comp=Z,9.0nm,0.4s
MUN Mundaring 41.21 193 P P 08 02 21.9 -0.5
baz=41,SNR=4.1
MUN Mundaring 41.21 193 P P 08 02 21.8 -0.7
KUR Kuril'sk 41.30 24⇓*e*P P 08 02 20.3 -2.8
KUR pmax pmax
comp=Z,39nm,1.0s
EIDS Eidsvold 41.52 145 P P 08 02 24.6 -0.5
baz=42,SNR=5.2
EIDS Eidsvold 41.52 145 P P 08 02 24.3 -0.9
RAMN Ramite 41.56 301 *e*P P 08 02 26.4 +0.6
comp=Z,138nm,1.3s
NWAO Narrogin (SRO) 41.92 191 P P 08 02 30.1 +1.8
baz=42,SNR=4.1
NWAO P P 08 02 30.1 +1.8
baz=42,SNR=4.1
NWAO Narrogin (SRO) 41.92 191 P P 08 02 28.2 -0.1
NWAO IAmb IAmb 08 02 30.3
comp=Z,22nm,0.9s
NWAO Narrogin (SRO) 41.92 191 P P 08 02 28.2 -0.1
NWAO pmax pmax
comp=Z,22nm,0.9s
NWAO Narrogin (SRO) 41.92 191 P P 08 02 29.9 +1.6
BBOO Buckleboo 42.09 167 P P 08 02 29.5 -0.2
baz=42,SNR=48
BBOO Buckleboo 42.09 167 P P 08 02 29.8 +0.1
BBOO Buckleboo 42.09 167 P P 08 02 29.7 +0.1
JIRN Jiri 42.14 302 *e*P P 08 02 32.1 +1.4
comp=Z,137nm,1.0s
GUN Gumba 42.48 302 *e*P P 08 02 35.1 +1.6
comp=Z,147nm,1.0s
ULN Ulaanbaatar 42.48 341 P P 08 02 32.6 -0.3
ULN Ulaanbaatar 42.48 341*de*P P 08 02 32.5 -0.4
ULN pmax pmax
comp=Z,17nm,1.3s
SONM Songino Array 42.67 341 P P 08 02 34.2 -0.3
comp=Z,6.0nm,1.1s,baz=161,slow=9.2,SNR=21
SONM PcP PcP 08 04 25.8 -0.2
comp=Z,1.5nm,0.8s,baz=164,slow=2.1,SNR=3.6
SONM LR LR 08 22 54.5
comp=Z,158nm,18.4s,baz=136,slow=40
comp=Z,6.0nm,1.1s
SONM Songino Array 42.67 341 P P 08 02 34.3 -0.1
SONM Songino Array 42.67 341 P P 08 02 34.3 -0.1
SONM pmax pmax
comp=Z,8.0nm,1.2s
STKA Stephens Creek 42.74 160 P P 08 02 34.5 -0.4
baz=43,SNR=11
STKA Stephens Creek 42.74 160 P P 08 02 34.4 -0.6
comp=Z,5.4nm,0.7s,baz=330,slow=8.9,SNR=9.9
comp=Z,5.4nm,0.7s
STKA Stephens Creek 42.74 160 P P 08 02 34.5 -0.4
STKA Stephens Creek 42.74 160 P P 08 02 34.5 -0.4
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 42.74 160 P P 08 02 34.6 -0.4
PKI Pulchoki 42.77 302 *e*P P 08 02 36.3 +0.6
comp=Z,73nm,1.1s
PKIN Phulchoki 42.78 302 *e*P P 08 02 36.2 +0.4
comp=Z,71nm,1.1s
KKN Kakani 42.94 302 *e*P P 08 02 38.2 +1.1
DMN Daman 43.03 302 *e*P P 08 02 37.8 0.0

comp=Z,14nm,0.3s
GRNR Gornyy 43.13 10⇓ *i*P P 08 02 38.7 +0.8
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=E,260nm,15.0s
GRNR MLR MLR
comp=N,190nm,17.0s
GRNR MLR MLR
comp=Z,120nm,18.0s
HTT Hallett 43.38 164 P P 08 02 41.8 +1.6
baz=44,SNR=6.7
HTT Hallett 43.38 164 P P 08 02 41.4 +1.2
GKN Gorkha 43.55 302 *e*P P 08 02 42.6 +0.7
comp=Z,48nm,0.9s
CMSA Cobar Meteorol 43.96 155 P P 08 02 45.6 +0.8
baz=44,SNR=12
CMSA Cobar Meteorol 43.96 155 P P 08 02 45.4 +0.5
KOLN Koldanda 44.35 301 *e*P P 08 02 48.1 -0.3
comp=Z,22nm,1.3s
DANN Dangsing 44.40 302 *e*P P 08 02 49.5 +0.7
comp=Z,164nm,0.9s
TWOA Tennyson Woods 44.80 165 P P 08 02 53.2 +1.7
PALK Pallekele 44.83 272 LR LR 08 24 02.5
comp=Z,155nm,18.1s,baz=232,slow=39
ZEA Zeya 45.23 1⇑ *e*P P 08 02 54.1 -0.6
ARMA Armidale 45.79 149 P P 08 02 59.5 -0.1
ARMA IAmb IAmb 08 03 07.2
comp=Z,19nm,1.1s
HYBB Hyderabad (bro 46.96 286 *e*P P 08 03 09.8 +0.8
ARPS Mount Arapiles 47.33 163 P P 08 03 12.8 +1.4
baz=48,SNR=7.2
ARPS Mount Arapiles 47.33 163 P P 08 03 13.0 +1.6
WMQ Urumqi 48.52 323 *e*P P 08 03 23.6 +2.9
WMQ LR LR
comp=Z,430nm,16.1s
WMQ LR LR
comp=Z,490nm,16.3s
WMQ LR LR
comp=Z,200nm,14.9s
CNB Canberra Magne 48.76 154 P P 08 03 23.8 +1.2
baz=49,SNR=4.4
TOO Toolangi 49.24 159 P P 08 03 26.9 +0.7
baz=49,SNR=3.7
TOO Toolangi 49.24 159 P P 08 03 26.1 -0.1
TOO IAmb IAmb 08 03 39.5
comp=Z,24nm,1.2s
TOO Toolangi 49.24 159 P P 08 03 26.1 -0.1
TOO pmax pmax
comp=Z,24nm,1.3s
TOO Toolangi 49.24 159 P P 08 03 26.8 +0.6
LIFNC LIFOU 49.86 126 P P 08 03 31.0 -0.2
DZM Mont Dzumac 49.92 128 P P 08 03 32.1 +0.4
comp=Z,12nm,0.6s,baz=194,slow=14,SNR=14
comp=Z,12nm,0.6s
DZM Mont Dzumac 49.92 128 P P 08 03 31.1 -0.6
DZM IAmb IAmb 08 03 33.1
comp=Z,20nm,1.0s
DZM Mont Dzumac 49.92 128 P P 08 03 32.1 +0.4
BOD Bodaibo 50.17 352 *e*P P 08 03 32.3 -0.7
BOD pmax pmax
comp=Z,13nm,0.9s
PEA0B Petropavlovsk- 51.47 24 P P 08 03 42.5 -0.3
PEA0B IAmb IAmb 08 03 52.6
comp=Z,33nm,1.4s
PEA0B Petropavlovsk- 51.47 24 P P 08 03 42.5 -0.3
PEA0B pmax pmax
comp=Z,33nm,1.5s
PETK Petropavlovsk- 51.47 24 P P 08 03 43.5 +0.7
comp=Z,2.6nm,0.5s,baz=198,slow=4.1,SNR=11
PETK PcP PcP 08 04 56.4 -0.5
comp=Z,2.5nm,0.8s,baz=164,slow=2.7,SNR=1.3
PETK LR LR 08 26 24.3
comp=Z,84nm,18.6s,baz=233,slow=37
comp=Z,2.6nm,0.5s
PETK Petropavlovsk- 51.47 24 P P 08 03 42.8 0.0
DGZ Jazzator, Alta 52.20 329 *de*P P 08 03 49.0 +0.4
DGZ pmax pmax
comp=Z,6.0nm,0.9s
SHLS Shalkode 53.33 319 *e*P P 08 03 56.5 -0.5
MK31 Makanchi Array 53.34 324 P P 08 03 57.3 +0.4
MK31 PcP PcP 08 05 03.9 -0.3
MK31 Makanchi Array 53.34 324 *i*P P 08 03 56.7 -0.2
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 53.34 324 P P 08 03 57.8 +0.9
comp=Z,9.1nm,0.8s,baz=122,slow=7.9,SNR=53
MKAR PcP PcP 08 05 03.7 -0.5
comp=Z,11nm,0.8s,baz=118,slow=4.4,SNR=11
MKAR LR LR 08 26 56.5
comp=Z,100nm,21.9s,baz=126,slow=36
comp=Z,9.1nm,0.8s
MKAR Makanchi Array 53.34 324 P P 08 03 57.7 +0.9
MKAR PcP PcP 08 05 04.0 -0.1
PDGK Podgornoye 53.39 319 *i*P P 08 03 57.8 +0.4
PDGK pmax pmax
comp=Z,31nm,1.2s
MAKZ Makanchi 53.53 324 P P 08 03 58.9 +0.6
MAKZ IAmb IAmb 08 04 01.4
comp=Z,24nm,1.2s
MAKZ PcP PcP 08 05 04.7 -0.2
MAKZ Makanchi 53.53 324 P P 08 03 58.9 +0.6
MAKZ 08 05 04.7
MAKZ pmax pmax
comp=Z,24nm,1.3s
YAK Yakutsk 53.61 2 P P 08 03 58.0 -0.4
comp=Z,10nm,0.4s,baz=343,slow=2.0,SNR=8.3
comp=Z,10nm,0.4s
YAK Yakutsk 53.61 2 P P 08 03 58.4 -0.1
YAK Yakutsk 53.61 2*c* *i*P P 08 03 58.5 0.0
YAK *e**PP pP 08 04 03.2 -3.1
YAK *e* 08 05 04.1
YAK *e* 08 05 58.8
YAK *e*PPP PPP 08 07 05.1
YAK *e*S S 08 11 31.1 +0.9
YAK *e**SS pS 08 11 39.3 -0.4
YAK *e*SS SKiKP 08 15 12.7 +0.6
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,53nm,3.0s
YAK pmax pmax
comp=N,27nm,3.5s
YAK pmax pmax
comp=E,35nm,3.1s
YAK smax smax
comp=E,40nm,3.8s
YAK smax smax
comp=N,27nm,3.6s
KPKS Kokpek 53.97 319 *e*P P 08 04 03.0 +1.3
KSH Kashi 54.27 313 P P 08 04 06.7 +2.8
KSH sP pP 08 04 12.9 +1.1
KSH pmax pmax
comp=N,29nm,1.3s
MA2 Magadan 54.42 15 P P 08 04 04.0 -0.5
MA2 IAmb IAmb 08 04 05.9
comp=Z,14nm,0.8s
MA2 Magadan 54.42 15*d* *i*P P 08 04 04.7 +0.2
MA2 pmax pmax
comp=Z,6.0nm,0.7s
NIL Nilore 54.55 305 P P 08 04 07.2 +1.2
NIL Nilore 54.55 305 P P 08 04 07.2 +1.2
NIL pmax pmax
comp=Z,113nm,1.1s
ARXS Arharly 54.86 319 *e*P P 08 04 09.2 +1.1
NRN Naryn 54.96 315 P P 08 04 09.2 0.0
NRN IAmb IAmb 08 04 12.3
comp=Z,14nm,1.0s
NRN Naryn 54.96 315 P P 08 04 09.2 0.0
NRN pmax pmax
comp=Z,14nm,1.0s
ULHL Ulahol 55.10 316 P P 08 04 11.6 +1.6
SNR=14
TKM2 Tokmak 2 55.80 317 P P 08 04 17.6 +2.5
SNR=9.1
TKM2 Tokmak 2 55.80 317 *i*P P 08 04 16.1 +1.0
TKM2 pmax pmax
comp=Z,19nm,1.0s
ZAA0 Zalesovo Array 56.12 332 P P 08 04 16.3 -0.6
ZAA0 PcP PcP 08 05 13.3 -1.3
ZALV Zalesovo Beam 56.12 332 P P 08 04 16.2 -0.7
comp=Z,4.2nm,0.6s,baz=134,slow=6.2,SNR=14
ZALV PcP PcP 08 05 13.2 -1.5
comp=Z,6.3nm,0.8s,baz=145,slow=3.6,SNR=7.0
ZALV LR LR 08 29 14.6
comp=Z,69nm,20.4s,baz=162,slow=37
comp=Z,4.2nm,0.6s
ZALV Zalesovo Beam 56.12 332 P P 08 04 15.1 -1.8
ZALV PcP PcP 08 05 13.6 -1.0
UCH Uchtor 56.28 316 P P 08 04 20.7 +1.9
SNR=46
CHMS Chumysh 56.41 317 P P 08 04 21.3 +2.1
SNR=7.3
CHMS Chumysh 56.41 317 *i*P P 08 04 19.8 +0.6
CHMS pmax pmax
comp=Z,29nm,1.2s
AAK Ala-Archa 56.45 316 LR LR 08 29 18.2
comp=Z,171nm,21.7s,baz=92,slow=37
AAK Ala-Archa 56.45 316 P P 08 04 20.3 +0.7
AAK IAmb IAmb 08 04 25.2
comp=Z,18nm,1.5s
AAK Ala-Archa 56.45 316⇑ *e*P P 08 04 21.4 +1.8
AAK pmax pmax
comp=Z,15nm,1.7s
SGDS Sogindy 56.66 317 *e*P P 08 04 21.5 +0.5
USP Ospenovka 56.68 317 P P 08 04 22.6 +1.4
SNR=12
AML Almayashu 56.82 315 P P 08 04 24.6 +2.1
SNR=15
EKS2 Erkin-Say 56.95 316 P P 08 04 24.3 +1.1
SNR=16
KURK Kurchatov 57.44 326 P P 08 04 26.9 +0.6
KURK Kurchatov 57.44 326*de*P P 08 04 26.3 0.0
KURK pmax pmax
comp=Z,42nm,1.3s
KURBB Kurchatov Arra 57.45 326 P P 08 04 26.5 +0.2
MSVF Nonsavu 57.62 117 P P 08 04 29.4 +1.2
comp=Z,24nm,0.8s,baz=267,slow=4.4,SNR=8.3
comp=Z,24nm,0.8s
MSVF Nonsavu 57.62 117 P P 08 04 29.8 +1.6
MSVF Nonsavu 57.62 117*ce*P P 08 04 30.1 +1.9
MSVF pmax pmax
comp=Z,28nm,0.9s
BTLS Baital 57.66 319 *e*P P 08 04 29.4 +1.4
SEY Seymchan 57.71 14⇓ *e*P P 08 04 29.1 +1.2
SEY pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 58.15 305 P P 08 04 32.3 +0.4
KBL IAmb IAmb 08 04 43.0
comp=Z,15nm,0.8s
KBL Kabul 58.15 305 P P 08 04 32.3 +0.4
KBL pmax pmax
comp=Z,15nm,0.9s
BTK Batken 58.20 312 P P 08 04 32.8 +0.9
BTK Batken 58.20 312 P P 08 04 32.8 +0.9
BTK pmax pmax
comp=Z,31nm,1.1s
GAR Garm 58.27 311 P P 08 04 32.8 +0.3
CHGR Chuyangaron 59.05 310 P P 08 04 38.3 +0.4
CHGR Chuyangaron 59.05 310 P P 08 04 38.3 +0.4
CHGR pmax pmax
comp=Z,52nm,0.8s
KK31 Karatay Array 59.35 315 P P 08 04 40.7 +0.8
KK31 Karatay Array 59.35 315*ce*P P 08 04 39.9 0.0
KK31 pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 59.35 315 P P 08 04 40.4 +0.6
KKAR Karatay Array 59.35 315 P P 08 04 40.4 +0.6
IUG Iuzhnay 59.39 314 *e*P P 08 04 41.3 +1.1
OTUK Ortayu 59.99 322 *i*P P 08 04 44.8 +0.6
OTUK pmax pmax
comp=Z,19nm,0.9s
BRZS Berezniki 60.49 324 *e*P P 08 04 48.3 +0.8
BRVK Borovoye 63.11 326 P P 08 05 05.6 +0.6
BRVK Borovoye 63.11 326*de*P P 08 05 05.3 +0.3
BRVK pmax pmax
comp=Z,28nm,1.0s
TIXI Tiksi 63.23 1 LR LR 08 32 36.1
comp=Z,116nm,20.5s,baz=181,slow=36
TIXI Tiksi 63.23 1 P P 08 05 05.0 -0.4
TIXI Tiksi 63.23 1 P P 08 05 05.0 -0.4
TIXI pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 65.29 16 P P 08 05 19.5 +0.4
BILL Bilibino 65.29 16 *e*P P 08 05 19.1 0.0
BILL *e* 08 05 51.5
BILL *e* 08 07 40.4
BILL *e*PPP PPP 08 09 16.2
BILL pmax pmax
comp=Z,7.0nm,0.4s
BILL MLR MLR
comp=Z,174nm,19.0s
NRIK Noril'sk 65.75 346 P P 08 05 21.7 -0.4
comp=Z,21nm,1.0s,baz=124,slow=6.8,SNR=26
comp=Z,21nm,1.0s
NRIK Noril'sk 65.75 346 P P 08 05 21.5 -0.5
RPZ Rata Peaks 66.01 146 P P 08 05 24.6 +0.5
comp=Z,46nm,0.7s,baz=273,slow=3.7,SNR=14
comp=Z,46nm,0.7s
RPZ Rata Peaks 66.01 146 P P 08 05 25.0 +0.9
URZ Urewera 66.47 138 LR LR 08 37 25.5
comp=Z,84nm,18.0s,baz=308,slow=39
GEYT Alibeck 67.43 308 P P 08 05 34.5 +1.1
comp=Z,3.6nm,0.7s,baz=176,slow=5.8,SNR=7.9
comp=Z,3.6nm,0.7s
GEYT Alibeck 67.43 308 IAmb IAmb 08 05 35.6
comp=Z,9.8nm,1.1s
AB31 Akbulak array 68.10 320*ce*P P 08 05 36.9 -0.4
AB31 pmax pmax
comp=Z,26nm,1.2s
ABKAR Akbulak array 68.10 320 P P 08 05 37.3 0.0
NIKH Nikolski High 68.50 36 P P 08 05 39.6 -0.2
NIKH Nikolski High 68.50 36 P P 08 05 39.4 -0.4
baz=255
SPIA Saint Paul Isl 68.93 32 P P 08 05 41.6 -0.7
baz=252
AKTO Aktyubinsk 69.57 321 LR LR 08 38 17.7
comp=Z,161nm,19.9s,baz=107,slow=38
UNV Unalaska Valle 70.08 36 P P 08 05 49.9 +0.4
UNV Unalaska Valle 70.08 36 P P 08 05 49.4 -0.1
baz=257
AKUT Akutan 70.56 35 P P 08 05 52.6 +0.2
ARU Arti 70.62 327 LR LR 08 38 58.8
comp=Z,118nm,19.9s,baz=128,slow=38
ARU Arti 70.62 327 P P 08 05 52.8 -0.1
ARU Arti 70.62 327*c* *i*P P 08 05 52.1 -0.7
ARU 08 06 14.0
ARU 08 08 26.2
ARU S S 08 15 06.0 +0.9
ARU SS SS 08 19 34.0 -2.9
ARU pmax pmax
comp=Z,15nm,0.7s
TNA Tin City 72.64 23 P P 08 06 04.6 -0.2
baz=251
ANM Nome 73.37 25 P P 08 06 09.3 +0.1
baz=254
SDPT Sand Point 73.81 35 P P 08 06 11.7 -0.2
baz=261
CHNA Chernabura Isl 74.24 35 P P 08 06 14.9 +0.5
baz=262
S14K Fog Glacier 74.46 34 P P 08 06 15.7 -0.1
baz=262
CHGN Chignik 75.09 34 IAmb IAmb 08 06 28.9
comp=Z,18nm,0.8s
RDOG Red Dog Mine 75.25 22 P P 08 06 21.1 +1.0
baz=256
CASY Casey 75.33 186 P P 08 06 20.8 +0.4
CASY IAmb IAmb 08 06 21.4
comp=Z,16nm,0.9s
N16K Nishlik Lake 75.49 30 P P 08 06 22.6 +1.0
baz=261
P16K Nushagak River 75.68 31 P P 08 06 23.3 +0.7
baz=262
O16K Kokwok River B 75.70 31 P P 08 06 23.3 +0.5
baz=262
R16K Pilot Point 75.71 33 P P 08 06 23.2 +0.4
baz=263
KIRV Kirov 75.87 328*d* *i*P P 08 06 23.2 -0.5
O17K Koliganek Bris 76.23 30 P P 08 06 25.5 -0.2
baz=263
BELG Belogornoye 76.28 322 LR LR 08 41 40.0
comp=Z,70nm,19.6s,baz=151,slow=37
BELG Belogornoye 76.28 322*c* *i*P P 08 06 25.9 -0.3
BELG pmax pmax
comp=Z,10.0nm,0.9s
Q16K King Salmon 76.32 32 P P 08 06 26.4 +0.1
baz=264
R17K Ugashik Creek 76.35 33 P P 08 06 26.4 -0.1
baz=264
P17K Kvichak River 76.49 31 P P 08 06 27.6 +0.3
baz=264
CHIR Chirikof Islan 76.60 35 P P 08 06 29.0 +1.0
CHIR Chirikof Islan 76.60 35 P P 08 06 27.7 -0.2
baz=265
N18K Kilae Creek 76.93 30 P P 08 06 29.5 -0.3
baz=264
GCSA Galena City Sc 76.98 25 P P 08 06 30.3 +0.4
baz=262
SVW2 Sparrevohn 77.12 29 IAmb IAmb 08 06 40.9
comp=Z,18nm,1.4s
P18K Big Mountain, 77.13 31 P P 08 06 30.9 0.0
baz=265
TTA Tatalina 77.13 27 P P 08 06 31.0 +0.1
baz=263
O18K Koktuh Hills 77.18 31 P P 08 06 31.3 +0.1
baz=265
SII Sitkinak Islan 77.46 34 P P 08 06 33.1 +0.3
baz=266
L19K White Mountain 77.58 28 P P 08 06 33.3 -0.1
baz=264
N19K Bonanza Creek 77.63 30 IAmb IAmb 08 06 45.2
comp=Z,7.2nm,0.8s
N19K Bonanza Creek 77.63 30 P P 08 06 33.3 -0.5
baz=265
M19K Big River Lodg 77.77 28 P P 08 06 35.2 +0.7
baz=265
Q19K Cape Douglas, 77.91 32 P P 08 06 35.4 +0.1
baz=266
GNI Garni 77.94 309 LR LR 08 43 36.1
comp=Z,32nm,21.9s,baz=108,slow=38
GNI Garni 77.94 309*ce*P P 08 06 37.6 +1.5
GNI pmax pmax
comp=Z,11nm,1.1s
RAYN Ar Rayn 77.99 292 P P 08 06 36.5 0.0
RAYN IAmb IAmb 08 06 37.1
comp=Z,25nm,1.4s
RAYN Ar Rayn 77.99 292 P P 08 06 36.5 0.0
RAYN pmax pmax
comp=Z,25nm,1.4s
OHAK Old Harbor 77.99 33 P P 08 06 35.8 +0.1
baz=267
K20K Telida 78.05 27 P P 08 06 35.8 -0.2
baz=265
L20K Farewell, AK 78.06 28 P P 08 06 35.5 -0.5
baz=265
PRGR Permogore 78.07 331 *e*P P 08 06 33.8 -2.3
A21K Barrow 78.08 19 P P 08 06 36.3 +0.4
baz=261
J20K Nowinta River 78.09 26 P P 08 06 36.4 +0.2
baz=265,SNR=5.9
P19K Oil Pt 78.16 31 P P 08 06 36.3 -0.4
baz=266
M20K Styx River 78.36 29 P P 08 06 38.0 +0.2
baz=266,SNR=5.1
KDAK Kodiak Island 78.40 33 LR LR 08 36 37.2
comp=Z,41nm,21.5s,baz=240,slow=32
KDAK Kodiak Island 78.40 33 P P 08 06 37.3 -0.7
baz=267
O20K Slope Mountain 78.50 30 P P 08 06 37.9 -0.6
baz=267
ZEI Tsey 78.53 312 *e*P P 08 06 39.0 -0.3
ZEI pmax pmax
comp=Z,15nm,1.0s
Q20K Shuyak Island 78.54 32 P P 08 06 38.1 -0.7
baz=267
G21K Allakaket 78.58 24 P P 08 06 38.9 0.0
baz=265
F21K Alatna River 78.66 23 P P 08 06 39.4 +0.1
baz=265
H21K Melozitna Rive 78.79 25 IAmb IAmb 08 06 42.2
comp=Z,22nm,1.4s
H21K Melozitna Rive 78.79 25 P P 08 06 40.3 +0.3
baz=266,SNR=9.0
PPLA Purkeypile 78.87 28 P P 08 06 40.2 -0.5
baz=267
CHUM Lake Minchumin 78.87 27 P P 08 06 40.5 0.0
baz=266
CAST Castle Rocks 78.95 27 IAmb IAmb 08 06 42.5
comp=Z,8.8nm,0.8s
CAST Castle Rocks 78.95 27 P P 08 06 41.0 0.0
baz=267,SNR=11
HOM Homer 78.97 31 P P 08 06 40.5 -0.6
baz=268
I21K Tanana 79.10 25 IAmb IAmb 08 06 43.8
comp=Z,11nm,0.9s
I21K Tanana 79.10 25 P P 08 06 41.7 0.0
baz=266
SKT Skwentna 79.12 28 IAmb IAmb 08 06 42.6
comp=Z,11nm,1.0s
SKT Skwentna 79.12 28 P P 08 06 41.9 0.0
baz=267,SNR=5.8
F22K John River 79.18 23 P P 08 06 42.5 +0.3
baz=266
KBZ Khabaz 79.25 313 P P 08 06 43.3 +0.4
comp=Z,8.4nm,1.1s,baz=144,slow=3.3,SNR=6.9
KBZ LR LR 08 46 48.9
comp=Z,78nm,18.8s,baz=74,slow=40
comp=Z,8.4nm,1.1s
KBZ Khabaz 79.25 313⇑ *e*P P 08 06 43.0 +0.1
KBZ pmax pmax
comp=Z,9.0nm,1.1s
CAPN Captain Cook N 79.26 30 P P 08 06 42.8 +0.2
baz=268
E22K Anaktuvuk Pass 79.37 22 P P 08 06 43.7 +0.5
baz=266
H22K Ishtalitna Cre 79.39 24 P P 08 06 44.1 +0.7
baz=267,SNR=8.2
KIV Kislovodsk 79.40 313⇓ *i*P P 08 06 42.3 -1.6
KIV *i* 08 06 53.2
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,11nm,14.0s
BRSE Bradley Lake S 79.43 31 P P 08 06 43.4 -0.3
baz=268
BPAW Bear Paw Mtn. 79.47 26 IAmb IAmb 08 06 45.3
comp=Z,16nm,1.0s
BPAW Bear Paw Mtn. 79.47 26 P P 08 06 44.0 +0.3
baz=268,SNR=12
SUA Susitna One 79.48 29 IAmb IAmb 08 06 44.6
comp=Z,13nm,0.8s
SUA Susitna One 79.48 29 P P 08 06 43.7 -0.3
baz=268,SNR=7.8
MLY Manley 79.62 25 P P 08 06 44.6 0.0
baz=268,SNR=9.8
TRF Thorofare Moun 79.75 27 P P 08 06 45.5 0.0
baz=268,SNR=6.6
M22K Willow 79.79 29 IAmb IAmb 08 06 46.0
comp=Z,15nm,0.8s
M22K Willow 79.79 29 P P 08 06 45.5 0.0
baz=269,SNR=8.1
D23K Nanushuk River 79.84 21 P P 08 06 46.6 +0.9
baz=267,SNR=5.7
C23K Itkillik River 79.91 20 P P 08 06 46.9 +0.9
baz=267,SNR=5.9
COLD Coldfoot 79.93 23 IAmb IAmb 08 06 48.3
comp=Z,19nm,1.4s
COLD Coldfoot 79.93 23 P P 08 06 46.4 +0.2
baz=268,SNR=6.2
O22K Cooper Landing 79.95 30 P P 08 06 46.4 0.0
baz=269
RC01 Rabbit Creek A 79.96 29 P P 08 06 45.7 -0.8
baz=269
G23K Bananza Creek 79.98 24 P P 08 06 46.9 +0.4
baz=268,SNR=9.4
SEW Seward 80.08 30 P P 08 06 46.8 -0.3
baz=270
GURO Guroymak-BITLI 80.09 308 IAmb IAmb 08 06 49.9
comp=Z,23nm,0.9s
H23K Yukon River 80.15 25 P P 08 06 47.5 0.0
baz=268,SNR=7.0
TOLK Toolik Lake Re 80.22 22 IAmb IAmb 08 06 58.5
comp=Z,9.2nm,0.8s
TOLK Toolik Lake Re 80.22 22 P P 08 06 48.3 +0.5
baz=268,SNR=5.3
PMR Palmer 80.25 29 IAmb IAmb 08 06 48.6
comp=Z,13nm,0.8s
PMR Palmer 80.25 29 P P 08 06 47.5 -0.5
baz=270,SNR=12
NEA2 Nenana 80.32 26 P P 08 06 48.4 0.0
baz=269,SNR=9.6
GHO Glory Hole Cre 80.36 29 IAmb IAmb 08 06 58.4
comp=Z,11nm,0.8s
MCK McKinley 80.37 27 IAmb IAmb 08 06 49.4
comp=Z,19nm,0.9s
MCK McKinley 80.37 27 P P 08 06 48.2 -0.5

baz=269,SNR=12
RND Reindeer 80.40 27 IAmb IAmb 08 06 49.5
comp=Z,21nm,1.2s
D24K Happy Valley 80.51 21 P **P** **08 06 49.4 +0.1**
baz=269
WAT1 Susitna Watana 80.53 28 P **P** **08 06 49.2 -0.4**
baz=270
C24K Franklin Bluff 80.57 21 P **P** **08 06 49.7 +0.2**
baz=269
KNK Knik Glacier 80.58 29 P **P** **08 06 50.0 +0.2**
baz=270
E24K Your Creek 80.61 22 P **P** **08 06 50.2 +0.2**
baz=269
SML Sawmill 80.64 29 IAmb IAmb 08 06 51.2
comp=Z,18nm,0.8s
SML Sawmill 80.64 29 P **P** **08 06 50.4 +0.2**
baz=270,SNR=8.9
PWL Port Wells 80.64 30 IAmb IAmb 08 06 51.1
comp=Z,25nm,0.9s
PWL Port Wells 80.64 30 P **P** **08 06 50.4 +0.3**
baz=270,SNR=12
H24K Noodor Dome 80.83 25 IAmb IAmb 08 07 01.6
comp=Z,8.2nm,0.8s
H24K Noodor Dome 80.83 25 P **P** **08 06 51.7 +0.6**
baz=270,SNR=7.7
F24K Squaw Lake 80.83 23 P **P** **08 06 51.8 +0.7**
baz=270,SNR=7.2
COLA College 80.84 26 *ce*P **P** **08 06 50.8 -0.3**
COLA pmax pmax
comp=Z,3.0nm,1.0s
WAT6 Susitna Watana 80.91 28 P **P** **08 06 51.7 0.0**
baz=271,SNR=12
M23K Glacier View 80.92 29 P **P** **08 06 51.8 +0.1**
baz=271,SNR=10
G24K Hadweenzic Riv 80.99 24 P **P** **08 06 52.4 +0.5**
baz=270,SNR=7.5
KLMR Klimovskoe 81.00 330 *e*P **P** **08 06 50.0 -2.0**
KLMR pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 81.00 330 *e*P **P** **08 06 50.0 -2.0**
KLMR AMP 08 06 51.8
comp=Z,10.0nm,0.7s
DHY Denali Highway 81.07 27 P **P** **08 06 52.7 +0.1**
baz=271,SNR=6.5
SCM Sheep Creek Mo 81.11 29 IAmb IAmb 08 06 54.1
comp=Z,18nm,0.9s
SCM Sheep Creek Mo 81.11 29 P **P** **08 06 52.9 +0.1**
baz=271,SNR=6.7
HDA Harding Lake 81.24 26 IAmb IAmb 08 06 54.2
comp=Z,8.2nm,0.8s
HDA Harding Lake 81.24 26 P **P** **08 06 52.5 -0.7**
baz=271,SNR=9.7
GLI Glacier Island 81.25 30 IAmb IAmb 08 06 55.8
comp=Z,12nm,0.7s
GLI Glacier Island 81.25 30 P **P** **08 06 53.1 -0.3**
baz=272,SNR=8.8
ILAR Eielson Array 81.26 26 P **P** **08 06 53.0 -0.4**
comp=Z,3.1nm,0.7s,baz=243,slow=5.1,SNR=28
comp=Z,3.1nm,0.7s
ILAR Eielson Array 81.26 26 P **P** **08 06 53.0 -0.4**
D25K Kavik River 81.39 21 P **P** **08 06 54.3 +0.3**
baz=271
VORR Voronezh 81.47 321 *e*P **P** **08 06 54.2 -0.5**
VORR pmax pmax
comp=Z,60nm,0.4s
FID Port Fidalgo 81.55 30 IAmb IAmb 08 07 03.3
comp=Z,9.3nm,0.9s
M24K Tolsona, Glenn 81.65 28 IAmb IAmb 08 07 06.2
comp=Z,21nm,0.9s
M24K Tolsona, Glenn 81.65 28 P **P** **08 06 55.9 +0.3**
baz=272
H25K Birch Creek 81.67 24 P **P** **08 06 56.6 +1.1**
baz=272
F25K Christian Rive 81.69 23 P **P** **08 06 56.2 +0.6**
baz=272,SNR=5.2
E25K Arctic Village 81.71 22 P **P** **08 06 56.2 +0.5**
baz=272,SNR=6.5
K24K Donnelly Dome 81.77 27 P **P** **08 06 56.0 -0.2**
baz=272,SNR=7.9
KLU Klutina 81.79 29 IAmb IAmb 08 06 58.8
comp=Z,6.8nm,0.7s
KLU Klutina 81.79 29 P **P** **08 06 56.1 -0.3**
baz=272,SNR=7.1
PRP Porcupine Dome 81.81 25 P **P** **08 06 56.8 +0.3**
baz=272
DIV Divide 81.88 29 IAmb IAmb 08 07 07.1
comp=Z,12nm,0.8s
J25K Salcha River, 81.91 26 P **P** **08 06 56.0 -0.9**
baz=272,SNR=6.1
EYAK Cordova Ski Ar 81.92 30 P **P** **08 06 57.0 +0.1**
baz=273
PAX Paxson 81.94 27 IAmb IAmb 08 07 07.3
comp=Z,8.0nm,0.9s
PAX Paxson 81.94 27 P **P** **08 06 56.5 -0.6**
baz=273,SNR=9.1
HARP HAARP 82.11 28 P **P** **08 06 58.5 +0.5**
baz=273
RIDG Independent Ri 82.18 27 P **P** **08 06 58.3 -0.1**
baz=273,SNR=16
F26K Sheenjek River 82.26 23 P **P** **08 06 58.8 +0.1**
baz=275
C27K Jago River 82.31 21 P **P** **08 06 59.4 +0.5**
baz=273
N25K Chitina, Valde 82.42 29 P **P** **08 06 58.5 -1.2**
baz=274
G26K Porcupine Rive 82.44 23 P **P** **08 06 59.4 -0.2**
baz=274
BMRM Bremner River 82.46 29 IAmb IAmb 08 07 03.9
comp=Z,8.6nm,1.0s
BMRM Bremner River 82.46 29 P **P** **08 06 59.5 -0.4**
baz=274
DOT Dot Lake 82.54 27 IAmb IAmb 08 07 01.3
comp=Z,8.4nm,1.0s
SCRK Sand Creek 82.55 26 IAmb IAmb 08 07 01.7
comp=Z,17nm,1.5s
SCRK Sand Creek 82.55 26 P **P** **08 07 00.6 +0.3**
baz=274,SNR=7.7
KAIM Kayak Island 82.62 31 P **P** **08 07 01.1 +0.5**
baz=274,SNR=5.2
J26L Joseph Creek 82.70 26 IAmb IAmb 08 07 10.3
comp=Z,6.6nm,0.8s
J26L Joseph Creek 82.70 26 P **P** **08 07 00.7 -0.4**
baz=274,SNR=8.0
MENT Mentasta 82.74 27 IAmb IAmb 08 07 06.6
comp=Z,10nm,0.9s
GLB Gilahina Butte 82.81 29 IAmb IAmb 08 07 06.5
comp=Z,8.7nm,0.8s
I26K Coal Creek Min 82.81 25 IAmb IAmb 08 07 10.8
comp=Z,7.5nm,0.9s
I26K Coal Creek Min 82.81 25 P **P** **08 07 01.1 -0.4**
baz=274
OBN Obninsk 82.84 325 *e*P **P** **08 07 01.4 -0.4**
OBN *e* 08 10 11.2
OBN *e*PPP PPP 08 12 04.0
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,77nm,15.0s
L26K Log Cabin Wild 82.90 27 P **P** **08 07 01.9 -0.2**
baz=274,SNR=6.8
BERG Berg Lake 82.94 30 IAmb IAmb 08 07 04.1
comp=Z,12nm,0.8s
M26K Nabesna, AK 83.12 28 IAmb IAmb 08 07 06.0
comp=Z,9.5nm,1.4s
M26K Nabesna, AK 83.12 28 P **P** **08 07 03.3 +0.1**
baz=275
E27K Coleen River 83.19 22 P **P** **08 07 03.8 +0.3**
baz=275
MCARA McCarthy VSAT 83.19 29 IAmb IAmb 08 07 10.5
comp=Z,7.0nm,0.9s
MCARA McCarthy VSAT 83.19 29 P **P** **08 07 03.8 +0.3**
baz=275
G27K Doyon Strip 83.29 23 P **P** **08 07 04.4 +0.4**
baz=276
WAX Waxell Ridge 83.36 30 IAmb IAmb 08 07 06.9
comp=Z,10nm,0.7s
K27K Chicken 83.39 26 IAmb IAmb 08 07 10.3
comp=Z,19nm,1.1s
K27K Chicken 83.39 26 P **P** **08 07 05.3 +0.8**
baz=276
H27K Steamboat Moun 83.40 24 P **P** **08 07 05.0 +0.4**
baz=276
I27K Kandik River 83.43 25 P **P** **08 07 05.7 +0.9**
baz=276,SNR=20
L27K Beaver Creek, 83.59 27 IAmb IAmb 08 07 08.6
comp=Z,6.5nm,0.8s
L27K Beaver Creek, 83.59 27 P **P** **08 07 05.9 +0.2**
baz=276,SNR=13

M27K Edge Creek, AK 83.64 28 IAmb IAmb 08 07 08.7
comp=Z,12nm,1.2s
M27K Edge Creek, AK 83.64 28 P **P** **08 07 06.6 +0.5**
baz=276,SNR=10
EGAK Eagle 83.71 26 IAmb IAmb 08 07 07.7
comp=Z,12nm,1.0s
EGAK Eagle 83.71 26 P **P** **08 07 07.0 +0.9**
baz=276,SNR=7.2
MESA MESA 83.83 30 IAmb IAmb 08 07 13.1
comp=Z,16nm,1.0s
MESA MESA 83.83 30 P **P** **08 07 07.8 +0.7**
baz=276
CTG Chitna Glacier 84.04 29 P **P** **08 07 09.3 +1.2**
baz=276,SNR=22
BVCY Beaver Creek 84.10 28 P **P** **08 07 08.9 +0.7**
baz=277
YUK3 Moose Creek 84.37 28 P **P** **08 07 10.2 +0.3**
baz=277,SNR=7.2
DAWY Dawson 84.56 26 IAmb IAmb 08 07 12.5
comp=Z,14nm,1.1s
DAWY Dawson 84.56 26 P **P** **08 07 11.2 +0.7**
baz=278,SNR=11
O28M Mount Upton 84.62 29 P **P** **08 07 11.9 +0.6**
baz=278
PINM Pinnacle 84.68 30 P **P** **08 07 12.0 +0.7**
baz=278
I29M Ogilvie Camp, 84.83 25 IAmb IAmb 08 07 13.6
comp=Z,16nm,1.0s
I29M Ogilvie Camp, 84.83 25 P **P** **08 07 12.5 +0.7**
baz=279,SNR=13
PNL Peninsula 85.17 31 P **P** **08 07 14.5 +0.8**
baz=278
M29M Somme Creek 85.21 28 P **P** **08 07 14.5 +0.5**
baz=279
YUK4 Talbot Arm 85.29 29 P **P** **08 07 14.7 +0.2**
baz=279
EPYK Eagle Plains 85.31 24 P **P** **08 07 14.4 +0.1**
baz=280
G30M tAoh Zraii Nji 85.39 23 P **P** **08 07 14.9 +0.2**
baz=280
K29M Barlow Dome 85.41 26 P **P** **08 07 15.0 +0.1**
baz=280
O29M Mount Kennedy 85.48 30 P **P** **08 07 15.4 0.0**
baz=279
YUK6 Outpost Mounta 85.49 29 P **P** **08 07 16.2 +0.7**
baz=279
ARCES ARCESS Array B 85.84 340 P **P** **08 07 15.9 -0.8**
comp=Z,4.6nm,0.7s,baz=68,slow=7.9,SNR=11
ARCES LR LR 08 49 00.4
comp=Z,58nm,18.2s,baz=65,slow=38
comp=Z,4.6nm,0.7s
ARCES ARCESS Array B 85.84 340 P **P** **08 07 16.0 -0.8**
HYT Haines Junctio 85.92 29 P **P** **08 07 18.6 +1.1**
HYT Haines Junctio 85.92 29 P **P** **08 07 17.7 +0.1**
baz=280
M30M Minto, Yukon 85.95 27 P **P** **08 07 18.1 +0.6**
baz=280
P29M Windy Craggy 86.01 30 IAmb IAmb 08 07 32.4
comp=Z,12nm,1.4s
P29M Windy Craggy 86.01 30 P **P** **08 07 17.8 -0.1**
baz=280
N30M Aishikik Lake 86.01 29 P **P** **08 07 18.8 +0.9**
baz=280
INK Inuvik 86.14 21 P **P** **08 07 18.5 +0.2**
baz=283
P30M Million Dollar 86.31 30 P **P** **08 07 19.7 +0.3**
baz=280
BR131 Keskin Array S 86.48 309 *e*P **P** **08 07 19.8 -1.0**
BRTR Keskin Array B 86.48 309 P **P** **08 07 19.6 -1.2**
comp=Z,1.4nm,0.7s,baz=103,slow=5.7,SNR=7.0
comp=Z,1.4nm,0.7s
O30N Mendenhall 86.61 29 P **P** **08 07 20.9 +0.1**
baz=281
N31M Braeburn, Yuko 86.62 28 IAmb IAmb 08 07 23.6
comp=Z,7.3nm,1.0s
N31M Braeburn, Yuko 86.62 28 P **P** **08 07 21.3 +0.5**
baz=281
PLBC Pleasant Camp 86.73 30 P **P** **08 07 21.3 -0.1**
baz=281
EIL Elat 86.78 299 LR LR 08 51 53.2
comp=Z,57nm,18.1s,baz=94,slow=40
M31M Drury Creek, Y 87.12 28 P **P** **08 07 23.4 +0.1**
baz=282
WHY Whitehorse 87.22 29 P **P** **08 07 24.1 +0.2**
baz=282
SKAG Skagway 87.24 30 P **P** **08 07 24.7 +0.9**
baz=282
FINES FINESS Array B 87.39 332 P **P** **08 07 23.6 -0.9**
comp=Z,4.7nm,0.6s,baz=69,slow=4.8,SNR=39
FINES LR LR 08 49 50.7
comp=Z,97nm,18.2s,baz=66,slow=38
comp=Z,4.7nm,0.6s
FARO Faro, Yukon 87.59 27 IAmb IAmb 08 07 26.8
comp=Z,7.5nm,0.8s
FARO Faro, Yukon 87.59 27 P **P** **08 07 26.0 +0.5**
baz=283
SIT Sitka 87.74 33 P **P** **08 07 27.3 +1.1**
baz=282
A36M Sachs Harbour 87.79 17 P **P** **08 07 27.1 +0.9**
baz=290
AKASG Malin Array Be 87.82 321 P **P** **08 07 25.6 -1.2**
comp=Z,4.3nm,0.8s,baz=65,slow=4.6,SNR=20
AKASG LR LR 08 49 33.3
comp=Z,70nm,18.8s,baz=69,slow=38
comp=Z,4.3nm,0.8s
AKASG Malin Array Be 87.82 321 IAmb IAmb 08 07 27.0
comp=Z,14nm,1.4s
AKBB Malin Array Si 87.82 321 *ce*P **P** **08 07 25.8 -1.0**
MAW Mawson 87.84 200 P **P** **08 07 27.6 +1.2**
comp=Z,1.5nm,0.8s,baz=103,slow=1.8,SNR=2.6
comp=Z,1.5nm,0.8s
MNK Minsk 87.90 325 *i* P **P** **08 07 25.4 -1.7**
MNK *i* 08 10 50.9
MNK *i* PPP PPP 08 12 46.0
MNK *i* S **SKSac** **08 17 53.0 -0.8**
MNK *i* PS **PnS** **08 19 08.9 -3.3**
MNK *i* SS **SS** **08 23 51.3 -4.4**
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK MLR MLR
comp=E,35nm,20.0s
MNK MLR MLR
comp=Z,88nm,20.0s
MNK Minsk 87.90 325 *i* P **P** **08 07 25.4 -1.7**
comp=E,3.0nm,0.9s
MNK *i* P **P** **08 07 25.4 -1.7**
MNK *i* P **P** **08 07 25.4 -1.7**
comp=Z,11nm,0.9s,baz=78
MNK *i* PP **PP** **08 10 51.0 -2.1**
MNK *i* PPP PPP 08 12 46.0
MNK *i* S **SKSac** **08 17 53.0 -0.8**
MNK *i* PS 08 19 09.0
MNK *i* SS **SS** **08 23 51.4 -4.4**
MNK *i* SSS SSS 08 26 30.9
MNK *i* LQ LQ 08 40 01.6
MNK *i* LR LR 08 42 56.7
MNK *i* LRM MLR 08 48 18.0
MNK *i* LRM MLR 08 49 26.4
comp=E,35nm,19.8s
MNK *i* LRM MLR 08 49 41.1
comp=Z,88nm,19.8s
R32K Eaglecrest 87.91 31 P **P** **08 07 27.4 +0.3**
baz=282
N32M Quiet Lake 87.97 28 P **P** **08 07 27.9 +0.5**
baz=284
JIS Juneau Island 87.97 31 IAmb IAmb 08 07 35.4
comp=Z,6.2nm,1.1s
P32M Atlin 88.02 30 P **P** **08 07 28.2 +0.5**
baz=283
VNDA Vanda 88.11 173 P **P** **08 07 27.9 +0.3**
comp=Z,3.2nm,0.8s,baz=320,slow=7.0,SNR=12
comp=Z,3.2nm,0.8s
VNDA Vanda 88.11 173 P **P** **08 07 28.4 +0.8**
VNDA IAmb IAmb 08 07 43.5
comp=Z,5.7nm,1.0s
VNDA Vanda 88.11 173 P **P** **08 07 28.4 +0.8**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
P33M Teslin, Yukon 88.31 29 P **P** **08 07 29.7 +0.6**
baz=284
MMPY Sheldon Lake, 88.43 27 P **P** **08 07 29.5 0.0**
baz=285
KMBO Kilima Mbogo 88.88 269 P **P** **08 07 32.5 -0.5**
comp=Z,2.2nm,0.8s,baz=23,slow=6.3,SNR=4.8
comp=Z,2.2nm,0.8s
KMBO Kilima Mbogo 88.88 269 *e*P **P** **08 07 32.2 -0.7**

SBA Scott Base 89.03 172 P **P** **08 07 33.5 +1.6**
SBA IAmb IAmb 08 07 53.7
comp=Z,8.0nm,1.1s
SBA Scott Base 89.03 172 P **P** **08 07 33.5 +1.6**
SBA pmax pmax
comp=Z,8.0nm,1.2s
C36M Paulatuk 89.11 19 P **P** **08 07 32.3 -0.2**
baz=292
R33M Jennings River 89.43 30 P **P** **08 07 34.8 +0.4**
baz=286
WRAK Wrangell Islan 89.48 33 P **P** **08 07 35.4 +0.9**
baz=284
S34M Telegraph Cree 89.74 31 P **P** **08 07 36.0 +0.3**
baz=285
TGTN Hyland Airport 90.09 27 P **P** **08 07 38.0 +0.6**
baz=288
V35K Ketchikan 90.16 34 P **P** **08 07 38.3 +0.6**
baz=285
DLBC Dease Lake 90.16 31 P **P** **08 07 37.8 +0.1**
baz=286
WTLY Watson Lake, Y 90.28 29 IAmb IAmb 08 07 39.8
comp=Z,6.3nm,0.9s
WTLY Watson Lake, Y 90.28 29 P **P** **08 07 38.8 +0.6**
baz=287
MLR Muntele Rosu 91.03 316 LR LR 08 51 39.2
comp=Z,110nm,20.8s,baz=72,slow=38
BURAR Bucovina Array 91.03 318 P **P** **08 07 41.4 -0.7**
BUR08 Bucovina Ar. S 91.04 318 IAmb IAmb 08 07 51.5
comp=Z,5.3nm,1.1s
UZH Uzhgorod 92.67 320 *e*P **P** **08 07 49.0 -0.5**
UZH *e* 08 07 53.6
UZH *e* 08 07 58.0
CRVS Cervenica-Dubn 93.12 320 *e*P **P** **08 07 52.0 +0.4**
CRVS pmax pmax
comp=Z,29nm,1.3s
CRVS Cervenica-Dubn 93.12 320 *e*P **P** **08 07 52.0 +0.4**
HFS Hagfors 93.56 332 LR LR 08 52 40.5
comp=Z,96nm,18.6s,baz=72,slow=37
NIE Niedzica 93.70 321 *e*P **P** **08 07 55.0 +0.6**
OJC Ojcow 93.77 322 IAmb IAmb 08 07 54.7
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 94.30 334 P **P** **08 07 55.2 -1.6**
comp=Z,1.0nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 94.30 334 P **P** **08 07 55.2 -1.6**
comp=Z,2.6nm,0.8s,baz=64,slow=4.6,SNR=11
NOA LR LR 08 53 59.0
comp=Z,60nm,19.3s,baz=65,slow=38
comp=Z,2.6nm,0.8s
LANS Liptovska Anna 94.31 321 *e*P **P** **08 07 58.0 +0.9**
LANS Liptovska Anna 94.31 321 *e*P **P** **08 07 58.0 +0.9**
MAUC Maruska 95.25 321 *e*P **P** **08 08 01.8 +0.3**
MORC Moravsky Berou 95.29 322 P **P** **08 08 00.8 -0.8**
MORC IAmb IAmb 08 08 02.5
comp=Z,7.2nm,1.1s
MORC Moravsky Berou 95.29 322 *e*P **P** **08 08 01.6 0.0**
MORC Moravsky Berou 95.29 322 P **P** **08 08 00.8 -0.8**
MORC pmax pmax
comp=Z,7.0nm,1.1s
DIVS Divibare 95.48 316 IAmb IAmb 08 08 02.8
comp=Z,5.8nm,1.2s
JAVC Velka Javorina 95.52 321 *e*P **P** **08 08 03.7 +1.0**
YKA Yellowknife Ar 95.59 24 P **P** **08 08 02.2 -0.4**
comp=Z,2.9nm,0.7s,baz=301,slow=4.8,SNR=5.2
comp=Z,2.9nm,0.7s
KRLC Kraliky 95.66 322 *e*P **P** **08 08 02.6 -0.7**
KRLC *e* 08 08 12.1
KRLC Kraliky 95.66 322 *e*P **P** **08 08 02.6 -0.7**
KRLC *ex* x 08 08 12.1
DPC Dobruska-Polom 95.84 323 *e*P **P** **08 08 04.2 +0.1**
DPC *e* 08 08 13.6
DPC Dobruska-Polom 95.84 323 *e*P **P** **08 08 04.2 +0.1**
DPC *ex* x 08 08 13.6
UPC Upice 95.97 323 *e*P **P** **08 08 04.5 -0.1**
UPC Upice 95.97 323 *e*P **P** **08 08 04.5 -0.1**
VRAC Vranov 96.03 322 LR LR 08 53 26.2
comp=Z,59nm,18.5s,baz=76,slow=37
VRAC Vranov 96.03 322 *e*P **P** **08 08 05.3 +0.3**
KRUC Moravsky 96.24 321 *e*P **P** **08 08 06.0 +0.1**
PRU Pruhonice 97.04 323 *e*P **P** **08 08 09.2 -0.3**
PRU Pruhonice 97.04 323 *e*P **P** **08 08 09.2 -0.3**
BRG Berggiesshubel 97.06 324 *e*P Pdif 08 08 09.6 0.0
BRG Amp 08 08 11.7
comp=Z,11nm,1.2s
BRG Berggiesshubel 97.06 324 *e*P Pdif 08 08 09.6 0.0
BRG pmax pmax
comp=Z,11nm,1.2s
CLL Collm 97.43 324 *i* P **P** **08 08 10.8 -0.4**
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 97.43 324 *i* P **P** **08 08 10.8 -0.4**
comp=Z,8.0nm,1.3s
CKRC Cesky Krumlov 97.61 322 *e*P **P** **08 08 11.3 -0.8**
KHC Kasperske Hory 97.94 322 IAmb IAmb 08 08 14.5
comp=Z,4.8nm,1.1s
KHC Kasperske Hory 97.94 322 *e*P **P** **08 08 13.3 -0.3**
KHC Kasperske Hory 97.94 322 *e*P **P** **08 08 13.3 -0.3**
GEC2 GERESS Array S 97.97 322 P **P** **08 08 13.3 -0.6**
GEC2 IAmb IAmb 08 08 14.5
comp=Z,6.6nm,1.0s
GERES GERESS Array B 97.97 322 P **P** **08 08 13.5 -0.4**
comp=Z,3.2nm,0.9s,baz=72,slow=4.3,SNR=19
comp=Z,3.2nm,0.9s
NKC Novy Kostel 98.19 323 *e*P **P** **08 08 13.4 -1.3**
NKC Novy Kostel 98.19 323 *e*P **P** **08 08 13.4 -1.3**
QSPA South Pole Qui 98.27 180 P Pdif 08 08 15.1 +0.4
comp=Z,2.4nm,1.0s,baz=316,slow=0.9,SNR=4.2
QSPA LR LR 08 53 58.4
comp=Z,54nm,18.6s,baz=296,slow=36
comp=Z,2.4nm,1.0s
I02E Swisshome, OR 98.37 43 P **P** **08 08 15.3 -0.3**
baz=290
J01E Myrtle Point 98.64 44 P **P** **08 08 16.5 -0.3**
baz=290
I03D Drain, OR 98.85 43 P **P** **08 08 17.4 -0.3**
baz=291
G05D Wamic, OR 99.64 41 P **Pdif** **08 08 20.8 -0.5**
baz=292
YBH Yreka Blue Hor 99.98 45 LR LR 08 43 34.2
comp=Z,41nm,21.7s,baz=320,slow=29
NEW Newport 101.04 37 P **Pdif** **08 08 26.9 -0.6**
baz=296
NVAR Mina Array Bea 104.34 47 Pdiff **Pdif** **08 08 42.4 -0.2**
comp=Z,0.6nm,0.7s,baz=293,slow=4.8,SNR=5.6
PKM Mcpherson Peak 104.55 51 P **Pdif** **08 08 43.2 -0.4**
baz=291
CIS Catalina Islan 106.17 52 P **PKiKP** **08 13 01.8 -0.6**
baz=292
LAO LASA Array 108.21 35 P **PKiKP** **08 13 05.6 -0.3**
baz=305
PDAR Pinedale Array 108.33 40 PKKP 08 24 27.4
comp=Z,0.4nm,0.7s,baz=116,slow=3.4,SNR=4.0
BC3 Big Chuckawall 108.36 51 P **PKiKP** **08 13 05.7 -0.9**
baz=294
SWSC Sam W. Stewart 108.38 51 P **PKiKP** **08 13 06.2 -0.3**
baz=293
IRM Iron Mountain 108.39 50 P **PKiKP** **08 13 05.9 -0.6**
baz=294
EYMN Ely 114.88 27 P PKPdf 08 13 18.5 0.0
baz=319
MNTX Cornudas Mount 116.81 48 P **PKiKP** **08 13 22.9 +0.3**
baz=300
TXAR Lajitas Array 119.28 50 PKP **PKiKP** **08 13 27.6 0.0**
comp=Z,0.4nm,0.8s,baz=225,slow=1.1,SNR=4.3
TORD Torodi Ar. Bea 120.66 291 PKP **PKPdf** **08 13 29.4 -1.0**
comp=Z,3.6nm,0.7s,baz=67,slow=1.8,SNR=16
TORD PP **PP** **08 14 55.6 -2.4**
comp=Z,0.9nm,0.9s,baz=37,slow=7.4,SNR=3.6
L44A Lake County Fo 120.91 29 P **PKPdf** **08 13 30.1 0.0**
baz=320
HDIL Hopedale 121.45 31 P **PKPdf** **08 13 31.1 -0.2**
baz=318
JCT Junction City 121.52 47 P **PKPdf** **08 13 31.2 -0.5**
baz=304
CCM Cathedral Cave 122.22 34 P **PKPdf** **08 13 32.3 -0.5**
baz=315
AAM Ann Arbor 122.75 26 P **PKPdf** **08 13 33.7 0.0**
baz=325
833A Chaparral WMA, 123.00 48 P **PKiKP** **08 13 34.8 0.0**
baz=303
MIAR Mount Ida 123.24 39 P **PKPdf** **08 13 34.8 -0.1**
baz=311
O48B Farmland 123.71 28 P **PKPdf** **08 13 35.0 -0.6**
baz=322
WCI Wyandotte Cave 124.73 31 P **PKiKP** **08 13 38.1 +0.2**
baz=320
WVT Waverly 125.50 34 P **PKPdf** **08 13 39.0 -0.1**

baz=318
BINY Binghamton 125.80 20 P PKPdf 08 13 39.4 -0.2
baz=333
HRV Adam Dziewonsk 126.88 16 P PKPdf 08 13 41.4 -0.2
baz=338
DBIC Dimbokro 128.73 285 PKP PKPdf 08 13 44.7 -1.2
comp=Z,6.2nm,0.9s,baz=125,slow=3.9,SNR=3.4
PLCA Paso Flores 144.60 158 PKP PKPdf 08 14 14.5 0.0
comp=Z,5.7nm,0.8s,baz=200,slow=4.5,SNR=16
LPAZ La Paz 164.16 121 PKP PKPdf 08 14 43.4 +0.7
comp=Z,5.0nm,1.0s,baz=314,slow=2.8,SNR=11
LPAZ PKPab PKPab 08 15 37.8 +1.6
comp=Z,2.9nm,0.7s,baz=242,slow=6.0,SNR=9.1
BOAV Boa Vista 167.49 31 eP PKPdf 08 14 47.5 +2.8
ETMB Extrema 167.90 98 eP PKPdf 08 14 47.5 +2.5
PTLB Pontes e Lacer 171.40 145 eP PKPdf 08 14 50.6 +3.7

*IDC **04** 07:56:56.1±6.5,31°.87S×179°.39W,h0km,mb3.8/2,*
mbtmp3.8/2,Error ellipse: s-maj=277.5km s-min=59.7km
az=159.0
ISC 04 07:56:55.8±2.3,32°.6S±0°.5×178°.6W±0°.4,h35km,n6,
σ0$27/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	42.50	270	P	P	08 04 48.1	+0.2
	0.7nm,0.5s,baz=104,slow=7.8,SNR=2.6						
	0.7nm,0.5s						
WRA	Warramunga Arr	43.69	275	P	P	08 04 57.3	-0.2
	0.7nm,0.5s,baz=116,slow=7.8,SNR=3.1						
	0.7nm,0.5s						
VNA3	Neumayer Olymp	76.19	176	P	P	08 08 39.7	-0.3
VNA2	Neumayer--Watz	76.62	177	P	P	08 08 42.4	+0.1
	baz=163,slow=4.0						
VNA1	Neumayer--Stat	76.86	177	P	P	08 08 43.8	+0.1
FINES	FINESS Array B	146.96	338	PKPbc	PKiKP	08 16 36.4	+0.1
	2.2nm,1.0s,baz=45,slow=4.1,SNR=8.8						

*NOU **04** 08:02:43.7,37°.04S×179°.92W,h144km,mb4.5/8,East of*
North Island, N.Z.
*IDC **04** 08:02:49.7±3.5,37°.18S×179°.21E,h0km,mb4.0/4,*
mbtmp4.0/4,MS3.5/1,Error ellipse: s-maj=86.6km
s-min=41.9km az=140.0
*WEL **04** 08:02:56.8±0.9,37°.S±4°.×17°.9E±°,h20km,M3.7/17,*
ML4.0/18,MLv3.7/17,Error ellipse: s-maj=0.0km
s-min=0.0km az=89.6
ISC 04 08:02:52.5±2.3,37°.32S±0°.06×179°.23E±0°.09,h23km±13km,
n124,σ1$49/131,mb4.0/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.77	252	P	Pn	08 03 08.0	+0.1
MXZ				S	Sb	08 03 15.5	-1.8
WMGZ	Waiomatatini S	0.82	232	P	Pn	08 03 11.1	+2.6
WMGZ				S	Sn	08 03 21.2	+1.3
PUZ	Puketiti	1.08	226	P	Pb	08 03 14.6	+2.2
PUZ				S	Sn	08 03 27.3	+0.9
PKGZ	Pakihiroa	1.08	238	P	Pb	08 03 14.1	+1.6
PKGZ				S	Sb	08 03 25.9	-0.2
HAZ	Te Kaha	1.23	249	P	Pb	08 03 14.9	-0.1
HAZ				S	Sn	08 03 29.0	-1.1
TWGZ	Tauwhareparae	1.31	229	P	Pb	08 03 17.8	+1.4
TWGZ				S	Sb	08 03 33.9	+1.1
RUGZ	Raukumara Rang	1.39	242	P	Pb	08 03 18.6	+0.8
RUGZ				S	Sn	08 03 33.9	-0.3
CNGZ	Carnagh Station	1.42	215	P	Pb	08 03 20.4	+2.2
TKGZ	Te Karaka	1.56	224	P	Pb	08 03 20.9	+0.2
TKGZ				S	Sb	08 03 39.5	-0.6
WIZ	White Island	1.64	262	P	Pn	08 03 20.2	+0.4
WIZ				S	Sn	08 03 37.3	-2.9
MWZ	Matawai	1.69	233	P	Pb	08 03 22.5	-0.3
MWZ				S	Sn	08 03 40.8	-0.6
RIGZ	Rimuhau	1.81	220	P	Pb	08 03 24.2	-0.7
RAGZ	Rawiri	1.85	230	P	Pb	08 03 25.2	-0.5
RAGZ				S	Sn	08 03 44.9	-0.7
WHRZ	Whale Island	1.87	253	P	Pb	08 03 25.0	-0.9
PRGZ	Paritu Road	1.92	213	P	Pb	08 03 26.3	-0.5
URZ	Urewera	1.92	240	Pn	Pn	08 03 25.3	+1.5
	81nm,0.3s,baz=211,slow=1.1,SNR=398						
URZ				Sn	Sn	08 03 45.8	-1.4
	111nm,0.3s,baz=211,slow=18,SNR=24						
URZ				LR	LR	08 04 20.6	
	comp=Z,177nm,20.3s,baz=30,slow=46						
URZ	Urewera	1.92	240	P	Pn	08 03 25.3	+1.5
URZ	Urewera	1.92	240	P	Pb	08 03 25.5	-1.3
SNGZ	Shannon Statio	2.09	225	P	Pb	08 03 27.9	-1.7
KNZ	Kokohu	2.10	215	P	Pn	08 03 27.6	+1.5
MHGZ	Mahia Peninsul	2.10	209	P	Pb	08 03 29.0	-1.0
EDRZ	Edgecumbe	2.12	248	P	Pn	08 03 28.1	+1.5
MAWZ	Manawahe	2.13	251	P	Pn	08 03 28.0	+1.3
OPRZ	Ohinepaea	2.19	255	P	Pn	08 03 27.8	+0.4
RTZ	Ruatahuna	2.20	233	P	Pn	08 03 29.6	+1.9
MUGZ	Murupara	2.26	239	P	Pn	08 03 29.9	+1.5
RAHZ	Arahi	2.32	226	P	Pn	08 03 31.3	+2.0
TARZ	Mount Tarawera	2.34	246	P	Pn	08 03 31.3	+1.6
WHHZ	Waihua	2.35	221	P	Pn	08 03 31.6	+1.8
LIRZ	Lichensteins R	2.36	252	P	Pn	08 03 31.3	+1.6
RRRZ	Republican Roa	2.38	244	P	Pn	08 03 31.5	+1.4
TGRZ	Tauranga	2.40	259	P	Pn	08 03 30.8	+0.5
MTHZ	Maungataniwha	2.43	230	P	Pn	08 03 32.7	+2.0
HLRZ	Highlands Stat	2.46	247	P	Pn	08 03 32.8	+1.6
KARZ	Kaharoa	2.47	253	P	Pn	08 03 32.3	+1.0
PRRZ	Plateau Road	2.53	241	P	Pn	08 03 33.3	+1.1
HSRZ	Hossack Road	2.56	246	P	Pn	08 03 34.5	+1.9
HRRZ	Handcock Road	2.56	244	P	Pn	08 03 34.1	+1.5
ALRZ	Allen Road	2.60	241	P	Pn	08 03 34.2	+1.1
NMHZ	Naumai	2.61	226	P	Pn	08 03 35.3	+2.1
ARHZ	Aropaoanui	2.62	221	P	Pn	08 03 35.2	+1.9
KMRZ	Kaimai	2.66	258	P	Pn	08 03 34.5	+0.5
GRRZ	Galatos Road	2.67	246	P	Pn	08 03 36.1	+1.9
MRHZ	Matea Rd	2.69	235	P	Pn	08 03 35.9	+1.6
WPRZ	Whakapapatarin	2.71	243	P	Pn	08 03 36.5	+2.0
BKZ	Black Stump Fm	2.83	229	P	Pn	08 03 38.2	+1.8
BKZ	Black Stump Fm	2.83	229	P	Pn	08 03 38.1	+1.8
BKZ	Black Stump Fm	2.83	229	P	Pn	08 03 38.5	+2.1
KUZ	Kuaotunu	2.87	280	P	Pn	08 03 36.2	-0.5
CKHZ	Cape Kidnapper	2.88	215	P	Pn	08 03 38.2	+1.2
KUTZ	Kaahu Road	2.94	246	P	Pn	08 03 39.2	+1.5
TOZ	Tahuroa Road	2.99	261	P	Pn	08 03 38.9	+0.5
KWHZ	Kaweka Forest	3.05	226	P	Pn	08 03 40.3	+1.0
KAHZ	Kahuranaki	3.08	216	P	Pn	08 03 40.8	+1.1
RITZ	Rihia Road	3.13	237	P	Pn	08 03 42.1	+1.7
RATZ	Rangitukua	3.13	239	P	Pn	08 03 42.4	+2.0
GRZ	Great Barrier	3.21	288	P	Pn	08 03 41.8	+0.4
KRHZ	Kereru	3.23	223	P	Pn	08 03 42.2	+0.5
MKAZ	Moumakai	3.25	273	P	Pn	08 03 42.3	+0.2
PXZ	Pawanui	3.28	214	P	Pn	08 03 42.8	+0.4
BHHZ	Black Hill Sta	3.30	228	P	Pn	08 03 43.8	+1.0
TMVZ	Te Maari	3.31	236	P	Pn	08 03 43.9	+1.0
ETVZ	East Tongariro	3.31	236	P	Pn	08 03 44.0	+1.0
NTVZ	North Tongarir	3.31	237	P	Pn	08 03 44.0	+1.0
KRVZ	Karewarewa	3.34	237	P	Pn	08 03 44.4	+1.1
OTVZ	Oturere	3.36	236	P	Pn	08 03 44.5	+0.9
NNVZ	North Ngauruho	3.37	236	P	Pn	08 03 45.3	+1.5
WTVZ	West Tongariro	3.38	237	P	Pn	08 03 45.5	+1.6
SNVZ	South Ngauruho	3.38	236	P	Pn	08 03 45.2	+1.1
NGZ	Ngauruhoe	3.40	236	P	Pn	08 03 45.2	+0.9
MOVZ	Moawhango	3.44	232	P	Pn	08 03 45.4	+0.8
ETAZ	East Tamaki Re	3.46	275	P	Pn	08 03 45.6	+0.7
TWVZ	Taurewa	3.46	239	P	Pn	08 03 46.7	+1.7
WHVZ	Whangaehu Hut	3.47	235	P	Pn	08 03 46.2	+0.9
FWVZ	Far West T-bar	3.48	235	P	Pn	08 03 46.4	+1.0
WNVZ	Wahianoa	3.49	234	P	Pn	08 03 46.3	+0.8
WPHZ	Waipukurau	3.50	218	P	Pn	08 03 46.0	+0.5
MBAZ	Motutapu North	3.51	278	P	Pn	08 03 46.2	+0.7
PNHZ	Pukenui	3.51	222	P	Pn	08 03 45.6	0.0
PRHZ	Porangahau	3.57	214	P	Pn	08 03 46.4	-0.1
ABAZ	Army Bay	3.59	280	P	Pn	08 03 47.6	+0.9
EPAZ	Eden Park BICE	3.61	276	P	Pn	08 03 48.3	+1.3
HBAZ	Herne Bay Bore	3.63	276	P	Pn	08 03 48.2	+1.0
HIZ	Hauiti	3.66	250	P	Pn	08 03 49.8	+2.1
HIZ	Hauiti	3.66	250	P	Pn	08 03 49.7	+2.1
HIZ	Hauiti	3.66	250	P	Pn	08 03 49.9	+2.3
AWAZ	Awhitu Peninsu	3.67	273	P	Pn	08 03 48.8	+1.0
WTAZ	Waiatarua	3.74	275	P	Pn	08 03 50.0	+1.2
TSZ	Takapari Road	3.74	222	P	Pn	08 03 48.4	-0.4
RVAZ	Riverhead Bore	3.76	277	P	Pn	08 03 50.2	+1.1
ANWZ	Angora Road	3.80	214	P	Pn	08 03 49.3	-0.2
DVHZ	Dannevirke	3.82	218	P	Pn	08 03 49.7	-0.1
BFZ	Birch Farm	4.08	214	P	Pn	08 03 52.8	-0.7
BFZ	Birch Farm	4.08	214	P	Pn	08 03 52.9	-0.6
POWZ	Post Office Ro	4.09	220	P	Pn	08 03 53.0	-0.6
PRWZ	Pori Road	4.11	217	P	Pn	08 03 54.1	+0.3
WAZ	Wanganui	4.12	233	P	Pn	08 03 55.0	+1.0
WCZ	Waipu Caves	4.16	288	P	Pn	08 03 55.5	+1.0
TIWZ	Tintock	4.32	216	P	Pn	08 03 56.6	-0.2
PREZ	Palmer Road	4.47	242	P	Pn	08 04 01.5	+2.7
NEZ	North Egmont	4.48	243	P	Pn	08 04 02.0	+2.9
PKE	Pukeiti	4.53	244	P	Pn	08 04 03.6	+3.9
KHEZ	Kahui Hut	4.55	243	P	Pn	08 04 03.4	+3.5
OUZ	Omahuta	5.01	293	P	Pn	08 04 07.8	+1.6
OUZ	Omahuta	5.01	293	P	Pn	08 04 07.7	+1.5
QRZ	Quartz Range	6.28	234	P	Pn	08 04 22.2	-1.4
QRZ	Quartz Range	6.28	234	P	Pn	08 04 22.4	-1.2
KHZ	Kahutara	6.71	219	P	Pn	08 04 27.6	-1.9
KHZ	Kahutara	6.71	219	P	Pn	08 04 29.4	-0.1
CTZ	Chatham Island	7.14	155	P	Pn	08 04 41.5	+6.0
RPZ	Rata Peaks	8.92	222	Pn	Pn	08 04 57.1	-2.7
	0.9nm,0.3s,baz=139,slow=22,SNR=1.9						
RPZ				Sn	Sn	08 06 26.1	-13
	3.6nm,0.3s,baz=134,slow=21,SNR=21						
RPZ	Rata Peaks	8.92	222	P	Pn	08 04 57.5	-2.3
RPZ	Rata Peaks	8.92	222	P	Pn	08 04 58.0	-1.8
ODZ	Otahua Downs	10.06	217	P	Pn	08 05 11.5	-4.0
ODZ	Otahua Downs	10.06	217	P	Pn	08 05 12.9	-2.6
STKA	Stephens Creek	31.31	269	P	P	08 09 11.7	+0.8
	2.2nm,0.9s,baz=90,slow=12,SNR=3.0						
	2.2nm,0.9s						
ASAR	Alice Springs	40.98	276	P	P	08 10 33.5	-0.3
	1.5nm,0.8s,baz=117,slow=7.6,SNR=11						
	1.5nm,0.8s						
WRA	Warramunga Arr	42.61	281	P	P	08 10 46.9	-0.1
	1.6nm,0.5s,baz=128,slow=6.5,SNR=36						
	1.6nm,0.5s						
FITZ	Fitzroy Crossi	50.47	277	P	P	08 11 48.9	+0.2
	0.9nm,0.7s,baz=135,slow=8.6,SNR=1.6						
	0.9nm,0.7s						
H03N3	Juan Fernandez	78.79	123	T	T	09 41 36.6	
	baz=234,slow=72,SNR=13						
H03N2	Juan Fernandez	78.79	123	T	T	09 41 28.3	
	baz=234,slow=72,SNR=11						
H03N1	Juan Fernandez	78.81	123	T	T	09 41 45.2	
	baz=234,slow=72,SNR=9.4						
ANMO	Albuquerque	99.62	53	LR	LR	08 57 56.6	
	comp=Z,20nm,18.6s,baz=325,slow=33						
FINES	FINESS Array B	150.60	334	PKPbc	PKiKP	08 22 42.8	+0.6
	2.6nm,0.9s,baz=29,slow=3.2,SNR=4.3						

MAN 04 08:04:58.8,8°.35N×125°.88E,h26km,mb4.6,ML3.4,MS3.3,
3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASP	Talacogon, Agu	0.13	325	i↓P	Pb	08 05 02.1	-1.7
TASP				i S	Sb	08 05 07.0	-0.2
BIPH	Bislig	0.50	109	e↑P	Pb	08 05 06.3	-2.7
BIPH				e S	Sb	08 05 13.2	-2.8
BUKP	Musuan	0.94	240	e↑P	Pn	08 05 15.4	-0.9
BUKP				e S	Sn	08 05 31.2	+2.3
KCP	Kidapawan	1.54	211	e↓P	Pn	08 05 23.8	-0.9
KCP				i S	Sb	08 05 45.0	-0.9
CTBH	Cotabato--PC H	1.97	236	i↑P	Pn	08 05 31.7	+1.2
LLP	Lapu-Lapu	2.72	316	eP	Pb	08 05 51.8	+4.9
LLP				eS	Sb	08 06 28.1	+8.3

*IDC **04** 08:10:44.9±1.1,55°.04S×31°.33W,h0km,mb3.8/5,*
mbtmp3.9/5,MS3.6/2,Error ellipse: s-maj=50.3km
s-min=23.3km az=63.0
*NEIC **04** 08:10:47.2±1.2,55°.1S±0°.2×31°.6W±0°.2,h10km±1km,*
mb4.5/15,Error ellipse: s-maj=30.1km s-min=10.3km
az=34.0
ISC 04 08:10:46.7±0.8,55°.0S±0°.1×31°.5W±0°.1,h10km,n31,
σ0$86/26,mb4.5/10,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	2.98	282		Pn	08 11 34.6	+0.6
PMSA	Palmer Station	18.80	226	LR	LR	08 22 21.9	
	comp=Z,174nm,18.2s,baz=56,slow=37						
PMSA	Palmer Station	18.80	226	P	P	08 15 05.6	-0.3
PMSA				IAmb	IAmb	08 15 27.9	
	comp=Z,28nm,1.0s						
VNA3	Neumayer Olymp	18.84	158	P	Pn	08 15 07.8	+0.9
VNA2	Neumayer--Watz	19.12	156	P	P	08 15 09.1	-0.3
	baz=306,slow=11						
SNAA	Sanae	20.72	155	P	P	08 15 25.6	-1.3
SNAA	Sanae	20.72	155	P	P	08 15 25.3	-1.6
	comp=Z,1.4nm,0.7s,baz=315,slow=9.7,SNR=15						
	comp=Z,1.4nm,0.7s						
SNAA	Sanae	20.72	155	P	P	08 15 26.1	-0.7
MG02	Cerro Sombrero	22.16	260	P	P	08 15 42.1	-0.3
TROLL	Troll, Antarti	22.29	153	P	P	08 15 44.5	+0.7
MG05	Puerto Natales	24.45	261	P	P	08 16 05.1	-0.2
TRQA	Tornquist	26.65	297	P	P	08 16 25.8	+0.4
TRQA				IAmb	IAmb	08 16 27.7	
	comp=Z,14nm,1.4s						
AY01	Puyuhuapi	28.23	275	P	P	08 16 38.4	-1.1
CPUP	Villa Florida	34.31	316	P	P	08 17 32.8	-0.3
	comp=Z,1.7nm,0.8s,baz=153,slow=12,SNR=2.9						
	comp=Z,1.7nm,0.8s						
CPUP	Villa Florida	34.31	316	P	P	08 17 33.5	+0.4
CPUP				IAmb	IAmb	08 17 51.6	
	comp=Z,5.8nm,1.3s						
MT09	Talagante	34.65	291	P	P	08 17 35.0	-1.1
MT09				IAmb	IAmb	08 17 50.9	
	comp=Z,19nm,1.4s						
MT01	Popeta	34.72	291	P	P	08 17 36.0	-0.7
MT01				IAmb	IAmb	08 17 36.5	
	comp=Z,17nm,1.2s						
QSPA	South Pole Qui	35.25	180	P	P	08 17 41.0	-0.1
	comp=Z,1.0nm,0.8s,baz=180,slow=7.1,SNR=2.3						
	comp=Z,1.0nm,0.8s						
QSPA	South Pole Qui	35.25	180	P	P	08 17 42.3	+1.2
VA06	Catapilco	35.74	292	P	P	08 17 45.3	-0.1
PTLB	Pontes e Lacer	44.88	321	P	P	08 19 01.5	+0.3
PTLB				IAmb	IAmb	08 19 02.4	
	comp=Z,4.9nm,1.2s						
GO01	Chusmiza	45.32	306	P	P	08 19 05.6	+0.4
GO01				IAmb	IAmb	08 19 27.3	
	comp=Z,9.0nm,1.4s						
LPAZ	La Paz	47.79	309	P	P	08 19 25.9	+1.1
	comp=Z,2.8nm,0.5s,baz=158,slow=5.4,SNR=25						
	comp=Z,2.8nm,0.5s						
LPAZ	La Paz	47.79	309	P	P	08 19 26.3	+1.5
LPAZ				IAmb	IAmb	08 19 35.5	
	comp=Z,4.1nm,0.9s						
H10N1	ASCENSION HYDR	48.96	23	T	T	09 12 27.4	
	baz=192						
H10N3	ASCENSION HYDR	48.96	23	T	T	09 12 27.6	
	baz=192						
H10N2	ASCENSION HYDR	48.97	23	T	T	09 12 28.8	
	baz=192						
MACA	Manacapuru-AM	56.84	324	P	P	08 20 31.0	-0.2
MACA				IAmb	IAmb	08 20 33.1	
	comp=Z,6.5nm,1.0s						
TORD	Torodi Ar. Bea	73.45	34	P	P	08 22 19.1	+0.1
	comp=Z,0.5nm,0.7s,baz=210,slow=7.1,SNR=2.6						
	comp=Z,0.5nm,0.7s						
CMIG	Matias Romero	89.53	301	LR	LR	09 02 27.5	
	comp=Z,26nm,19.5s,baz=256,slow=35						
ILAR	Eielson Array	147.60	314	PKPbc	PKPbc	08 30 28.4	-1.3
	comp=Z,1.0nm,0.8s,baz=122,slow=1.2,SNR=8.9						

IDC 04 08:20:28.3±1.4,15°.87S×175°.76W,h362km±24km,
mb3.1/3,mbtmp3.9/5,Error ellipse: s-maj=142.0km
s-min=26.2km az=157.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.31	64	P	Pn	08 21 42.4	+1.1
	15nm,0.3s,baz=235,slow=7.8,SNR=7.3						
AFI				S	S	08 22 40.1	-0.3
	21nm,0.4s,baz=176,slow=20,SNR=1.7						
MSVF	Nonsavu	6.21	252	P	Pn	08 22 02.1	0.0
	10nm,0.6s,baz=102,slow=12,SNR=4.9						
STKA	Stephens Creek	41.84	240	P	P	08 27 44.0	-0.3
	0.9nm,0.6s,baz=73,slow=11,SNR=1.5						
	0.9nm,0.6s						
WRA	Warramunga Arr	47.53	257	P	P	08 28 28.6	-0.3
	0.3nm,0.4s,baz=91,slow=7.5,SNR=21						
	0.3nm,0.4s						
ASAR	Alice Springs	47.81	252	P	P	08 28 31.1	0.0
	1.7nm,0.5s,baz=89,slow=7.9,SNR=45						
	1.7nm,0.5s						

ROM 04 08:24:48.6±0.1,42°.765N±0°.004×13°.261E±0°.005,h10km,
Md0.8/2,3C-2D,Error ellipse: s-maj=0.5km
s-min=0.3km az=299.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1244	Arquata del Tr	0.03	107	P	Pg	08 24 50.5	-0.1
T1244				AML	AML		
	comp=E,26150μm,0.4s						
T1244				AML	AML		
	comp=N,11450μm,0.4s						
T1244				AML	AML		
	comp=E,25950μm,0.4s						
T1244				AML	AML		
	comp=N,11350μm,0.4s						
T1202	Accumoli, Fraz	0.07	203	P	Pg	08 24 51.1	+0.1
T1202				S	Sg	08 24 53.0	+0.4
T1202				AML	AML		
	comp=E,10495μm,0.3s						
T1202				AML	AML		
	comp=N,31750μm,0.3s						
T1202				END			
T1243	Rocca Santa Ma	0.15	116	↓P	Pg	08 24 52.6	+0.5
T1241	Roccafluvione,	0.15	54	↓P	Pg	08 24 52.7	+0.6
T1241				AML	AML		
	comp=E,5195μm,0.9s						
T1241				AML	AML		
	comp=N,12445μm,0.5s						
T1241				AML	AML		
	comp=E,4955μm,0.9s						
T1241				AML	AML		
	comp=N,12140μm,0.5s						
MC2	Monte Cornacci	0.16	341	↑P	Pg	08 24 52.7	+0.5
MC2				END			
TERO	Teramo	0.29	119	↑P	Pg	08 24 55.1	+0.6
TERO				AML	AML		
	comp=E,2345μm,0.8s						
TERO				AML	AML		
	comp=N,4155μm,1.2s						
TERO				AML	AML		
	comp=E,2590μm,0.9s						
TERO				AML	AML		
	comp=N,4715μm,1.2s						
CSP1	Cessapalombo	0.33	353	↑P	Pg	08 24 55.8	+0.5
CSP1				AML	AML		
	comp=E,1760μm,0.3s						
CSP1				AML	AML		
	comp=N,2340μm,0.3s						

ROM 04 08:25:08.9±0.0,42°.765N±0°.002×13°.296E±0°.004,
h15km,ML2.8/37,18C-14D,Error ellipse: s-maj=0.3km
s-min=0.2km az=77.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1244	Arquata del Tr	0.01	172	↓P	Pg	08 25 11.9	+0.2
T1244				S	Sg	08 25 13.7	+0.1
T1244				AML	AML		
	comp=E,26100μm,0.4s						
T1244				AML	AML		
	comp=N,11400μm,0.4s						
T1244				AML	AML		
	comp=E,26150μm,0.4s						
T1244				AML	AML		
	comp=N,11450μm,0.4s						
T1244				AML	AML		
	comp=E,25950μm,0.4s						
T1244				AML	AML		
	comp=N,11350μm,0.4s						
T1202	Accumoli, Fraz	0.08	221	P	Pg	08 25 12.5	+0.3
T1202				S	Sg	08 25 14.8	+0.5
T1202				AML	AML		
	comp=E,10530μm,0.3s						
T1202				AML	AML		
	comp=N,31750μm,0.3s						
T1202				AML	AML		
	comp=E,10505μm,0.3s						
T1202				AML	AML		
	comp=N,10495μm,0.3s						
T1204	Amatrice, Fraz	0.09	170	P	Pg	08 25 12.5	+0.2
T1204				S	Sg	08 25 14.7	+0.2
T1204				AML	AML		
	comp=E,28750μm,0.3s						
T1204				AML	AML		
	comp=N,13400μm,0.6s						
T1201	Domo (RI)	0.11	197	P	Pb	08 25 12.8	0.0
T1201				S	Sb	08 25 15.4	0.0
T1243	Rocca Santa Ma	0.13	121	↓P	Pg	08 25 12.9	+0.2
T1243				S	Sg	08 25 15.6	+0.4
T1241	Roccafluvione,	0.14	47	↓P	Pg	08 25 12.9	+0.2
T1241				S	Sb	08 25 15.7	-0.4
T1241				AML	AML		
	comp=N,12455μm,0.5s						
T1241				AML	AML		
	comp=N,12140μm,0.5s						
T1241				AML	AML		
	comp=E,5200μm,0.9s						
T1241				AML	AML		
	comp=E,4955μm,0.9s						
T1241				AML	AML		
	comp=E,5195μm,0.9s						
T1241				AML	AML		
	comp=N,12445μm,0.5s						
T1241				AML	AML		
	comp=N,12450μm,0.5s						
SMA1	SAN MARTINO	0.14	168	↑P	Pg	08 25 13.0	+0.2
SMA1				S	Sg	08 25 15.6	+0.3
SMA1				AML	AML		
	comp=N,10325μm,0.5s						
SMA1				AML	AML		
	comp=N,10320μm,0.5s						
SMA1				AML	AML		
	comp=E,9555μm,1.6s						
NRCA	Norcia	0.15	297	P	Pg	08 25 13.0	0.0
NRCA				S	Sg	08 25 15.7	+0.1
NRCA				AML	AML		
	comp=E,6880μm,0.2s						
NRCA				AML	AML		
	comp=N,5850μm,0.5s						
NRCA				AML	AML		
	comp=E,7220μm,0.1s						
NRCA				AML	AML		
	comp=E,6885μm,0.1s						
NRCA				AML	AML		
	comp=E,6880μm,0.1s						
NRCA				AML	AML		
	comp=N,5845μm,0.5s						
NRCA				AML	AML		
	comp=N,6460μm,0.4s						
MC2	Monte Cornacci	0.17	332	↑P	Pg	08 25 13.4	+0.1
MC2				S	Sg	08 25 16.6	+0.4
CAMP	Campotosto	0.24	160	↑P	Pg	08 25 14.6

FEMA S Sg 08 25 19.1 +0.3
FEMA AML AML
comp=E,7820µm,0.2s
FEMA AML AML
comp=N,3505µm,1.6s
TERO Teramo 0.27 122 P Pg 08 25 14.9 +0.2
TERO S Sb 08 25 19.3 -0.5
TERO AML AML
comp=E,2345µm,0.8s
TERO AML AML
comp=N,4150µm,1.2s
TERO AML AML
comp=N,4155µm,1.2s
TERO AML AML
comp=E,2590µm,0.9s
TERO AML AML
comp=N,4715µm,1.2s
GUMA Gualdo di Mace 0.30 5 ⇑P Pb 08 25 15.9 -0.2
GUMA AML AML
comp=E,4245µm,0.3s
GUMA AML AML
comp=E,7430µm,0.3s
GUMA AML AML
comp=N,5405µm,0.2s
GUMA AML AML
comp=N,6345µm,0.3s
FDMO Fiordimonte 0.31 331 ⇑P Pg 08 25 15.6 +0.1
FDMO AML AML
comp=N,5455µm,0.2s
FDMO AML AML
comp=E,3405µm,0.2s
T1215 Vallo di Nera, 0.32 277 ⇓P Pg 08 25 15.7 +0.1
T1215 AML AML
comp=E,1038µm,1.3s
T1215 AML AML
comp=N,1260µm,0.8s
T1215 AML AML
comp=E,1037µm,1.3s
T1215 AML AML
comp=E,1037µm,1.3s
T1215 AML AML
comp=N,1265µm,0.8s
T1215 AML AML
comp=N,1270µm,0.8s
CSP1 Cessapalombo 0.33 348 ⇑P Pg 08 25 16.1 +0.1
CSP1 AML AML
comp=E,1760µm,0.3s
CSP1 AML AML
comp=N,2340µm,0.3s
OFFI Offida 0.33 59 P Pb 08 25 17.1 +0.5
OFFI AML AML
comp=E,8445µm,0.7s
OFFI AML AML
comp=N,14000µm,0.6s
GIGS Gran Sasso 0.37 147 P Pg 08 25 16.5 -0.1
GIGS S Sg 08 25 22.1 +0.3
GIGS AML AML
comp=E,848µm,0.3s
GIGS AML AML
comp=E,848µm,0.3s
GIGS AML AML
comp=N,377µm,0.3s
CESI CESI - Serrava 0.38 310 ⇑P Pg 08 25 16.7 +0.1
CESI S Sb 08 25 22.7 -0.3
CESI AML AML
comp=E,2435µm,0.4s
CESI AML AML
comp=N,3640µm,0.5s
MNTP Montappone 0.39 19 ⇓P Pb 08 25 17.8 +0.1
MNTP AML AML
comp=E,2505µm,1.4s
MNTP AML AML
comp=N,2435µm,0.6s
MNTP AML AML
comp=E,2500µm,1.4s
ARRO Arrone 0.43 245 ⇓P Pg 08 25 17.8 +0.2
ARRO AML AML
comp=N,1210µm,0.2s
ARRO AML AML
comp=E,1310µm,0.2s
ARRO AML AML
comp=N,1215µm,0.2s
MDAR Monte D'Aria 0.44 345 P Pg 08 25 17.8 0.0
MDAR S Sb 08 25 24.8 -0.2
TRTR Tortoreto Alta 0.46 84 P Pb 08 25 19.5 +0.9
SEF1 Sefro 0.46 326 P Pg 08 25 18.2 0.0
SEF1 S Sb 08 25 25.4 0.0
SSM1 San Severino M 0.47 349 P Pg 08 25 18.6 +0.2
GAG1 Gagliole 0.50 341 ⇑P Pb 08 25 19.2 -0.2
FAGN Fagnano 0.54 157 ⇓P Pg 08 25 19.5 -0.2
FAGN AML AML
comp=N,1052µm,0.4s
FAGN AML AML
comp=E,1650µm,0.3s
ASSB Assisi San Ben 0.54 301 ⇓P Pg 08 25 19.6 -0.2
ASSB AML AML
comp=N,1335µm,0.6s
ASSB AML AML
comp=E,948µm,0.3s
VCEL Villa Celiera 0.55 132 ⇑P Pg 08 25 20.0 +0.2
VCEL AML AML
comp=E,1420µm,0.4s
VCEL AML AML
comp=N,1190µm,0.5s
VCEL AML AML
comp=E,1415µm,0.4s
CESX Cesi 0.55 254 P Pg 08 25 19.9 +0.1
CESX AML AML
comp=N,730µm,0.4s
CESX AML AML
comp=E,750µm,0.4s
SNTG Esanatoglia 0.56 332 ⇑P Pg 08 25 19.6 -0.3
SNTG AML AML
comp=E,638µm,0.1s
SNTG AML AML
comp=E,637µm,0.1s
SNTG AML AML
comp=N,583µm,0.1s
EL6 Elcito 0.58 346 ⇑P Pg 08 25 20.3 -0.1
CING Cingoli 0.61 353 AML AML
comp=E,812µm,0.2s
CING AML AML
comp=N,680µm,0.3s
ATCC AVT- Casa Cast 0.64 311 ⇓P Pg 08 25 21.5 0.0
ATCC AML AML
comp=E,954µm,0.3s
ATCC AML AML
comp=N,856µm,0.4s
ATCC AML AML
comp=E,955µm,0.3s
ATCC AML AML
comp=N,859µm,0.4s
T0110 Collepietro 0.65 146 ⇑P Pg 08 25 21.2 -0.4
T0110 AML AML
comp=E,802µm,0.6s
T0110 AML AML
comp=E,802µm,0.6s
T0110 AML AML
comp=N,1085µm,0.5s
PP3 Marolino 0.65 20 ⇑P Pn 08 25 22.9 -0.7
PP3 AML AML
comp=E,1215µm,0.3s
PP3 AML AML
comp=N,986µm,0.3s
PP3 AML AML
comp=N,860µm,0.3s
PP3 AML AML
comp=N,982µm,0.3s
PP3 AML AML
comp=E,1230µm,0.3s
FOSV Fossato di Vic 0.66 324 ⇑P Pg 08 25 21.6 -0.3
FOSV AML AML
comp=E,921µm,0.4s
FOSV AML AML
comp=N,1305µm,0.4s
FOSV AML AML
comp=E,922µm,0.4s
FOSV AML AML
comp=N,1300µm,0.4s
SSFR Montelago di S 0.77 331 AML AML
comp=E,2020µm,0.2s
SSFR AML AML
comp=N,1630µm,0.3s
SSFR AML AML
comp=E,2090µm,0.2s
SSFR AML AML
comp=N,1745µm,0.3s

ARVD Arcevia 0.78 341 ⇑P Pg 08 25 23.7 -0.4
ARVD AML AML
comp=N,239µm,0.5s
ARVD AML AML
comp=E,337µm,0.2s
ATFO Monte Foce - G 0.80 319 ⇓P Pg 08 25 24.3 -0.3
ATFO AML AML
comp=N,332µm,0.3s
ATFO AML AML
comp=E,375µm,0.5s
AOI Ancona 0.82 16 P Pb 08 25 24.9 +0.1
AOI AML AML
comp=E,370µm,0.3s
AOI AML AML
comp=E,370µm,0.3s
AOI AML AML
comp=N,320µm,0.4s
AOI AML AML
comp=N,321µm,0.4s
ATTE AVT- Monte Tez 0.82 302 P Pg 08 25 24.7 -0.2
CERT Cerreto 0.85 196 ⇑P Pb 08 25 24.4 -0.9
CERT AML AML
comp=E,542µm,0.4s
CERT AML AML
comp=N,310µm,1.0s
MTCE Montecelio 0.85 209 P Pb 08 25 24.7 -0.6
MTCE AML AML
comp=E,391µm,0.4s
MTCE AML AML
comp=E,392µm,0.4s
MTCE AML AML
comp=N,242µm,0.3s
FRON Frontone 0.86 331 AML AML
comp=E,387µm,1.4s
FRON AML AML
comp=N,445µm,0.3s
INTR Introdacqua 0.88 149 ⇓P Pb 08 25 25.0 -0.9
INTR AML AML
comp=N,418µm,0.7s
INTR AML AML
comp=E,174µm,0.8s
MGAB Montegabbione 0.88 280 ⇓P Pg 08 25 26.1 +0.1
MGAB AML AML
comp=E,230µm,1.4s
MGAB AML AML
comp=N,346µm,0.6s
MGAB AML AML
comp=E,302µm,0.4s
MGAB AML AML
comp=N,339µm,0.5s
MGAB AML AML
comp=N,338µm,0.5s
ATVO AVT- Monte Val 0.90 314 AML AML
comp=E,288µm,0.3s
ATVO AML AML
comp=N,237µm,0.4s
ATPI Pietralunga - 0.95 317 AML AML
comp=N,242µm,0.3s
ATPI AML AML
comp=E,282µm,0.5s
MPAG Monte Paganucc 0.95 336 AML AML
comp=E,57µm,0.4s
MPAG AML AML
comp=N,53µm,0.7s
NARO Abbazia di Nar 0.99 328 AML AML
comp=E,244µm,0.4s
NARO AML AML
comp=N,166µm,0.3s
FSSB Fossombrone 1.00 338 ⇓P Pb 08 25 28.1 +0.1
FSSB AML AML
comp=E,931µm,0.3s
FSSB AML AML
comp=N,956µm,0.2s
CAFI Castiglion Fio 1.13 300 AML AML
comp=N,153µm,0.5s
CAFI AML AML
comp=E,116µm,0.6s

IDC ***04*** *08:26:07.5±2.2,41˚.92N×2˚.56E,h0km,mbtmp3.7/3, ML3.9/3,Error ellipse: s-maj=39.1km s-min=21.0km az=153.0*
LDG ***04*** *08:26:09.9±0.1,41˚.85N×2˚.65E,h4km,Md3.8/3,Ml3.7/46, Error ellipse: s-maj=1.4km s-min=0.9km az=149.0*
MDD ***04*** *08:26:09.9±0.2,41˚.81N×2˚.69E,h11km,mb_Lg3.7/28, Error ellipse: s-maj=1.7km s-min=1.2km az=141.0*
STR ***04*** *08:26:09.8±0.8,42˚.N±5˚×˚±˚,h5km,MLv3.8/11,Error ellipse: s-maj=0.0km s-min=0.0km az=166.1,preliminary*
MRB ***04*** *08:26:10.0±0.3,41˚.84N×2˚.65E,h5km±3km,ML3.6/24, Error ellipse: s-maj=1.2km s-min=0.8km az=309.0*
PRU ***04*** *08:26:10.3±0.0,41˚.93N×2˚.58E,h10km*
SFS ***04*** *08:26:10.0,41˚.81N×2˚.69E,ML3.8,RIUDARENES (GIRONA)*
INMG ***04*** *08:26:10.1±1.8,41˚.82N×2˚.69E,h23km±4km,ML3.2,Error ellipse: s-maj=4.4km s-min=3.0km az=112.0*

ISC 04 08:26:09.0±0.4,**41˚87N**±0˚01×**2˚68E**±0˚01,**h16**km±2km, **n197,**σ2**S44/343,3C-1D,Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CCAS	**Cassa de la Se**	**0.17**	**86**	P	**Pg**	**08 26 13.7**	**+0.5**
CCAS				S	**Sg**	**08 26 16.9**	**+0.9**
	4µm,0.2s						
CFON	**Fontmartina**	**0.21**	**239**	P	**Pg**	**08 26 13.7**	**-0.3**
CFON				S	**Sg**	**08 26 16.7**	**-0.7**
	27µm,0.3s						
CBEU	**Beuda**	**0.38**	**359**	P	**Pg**	**08 26 18.1**	**+1.2**
CBEU				S	**Sg**	**08 26 24.1**	**+1.9**
	1µm,0.2s						
CORI	**Orista**	**0.48**	**282**	P	**Pg**	**08 26 18.9**	**+0.2**
CORI				S	**Sg**	**08 26 25.5**	**+0.4**
	4µm,0.2s						
CBRU	**Bruguera**	**0.56**	**318**	P	**Pg**	**08 26 20.7**	**+0.6**
CBRU				S	**Sg**	**08 26 28.6**	**+1.0**
	1µm,0.4s						
CPAL	**Palau Saverder**	**0.57**	**39**	P	**Pg**	**08 26 21.3**	**+1.1**
CPAL				S	**Sg**	**08 26 29.5**	**+1.7**
	1µm,0.2s						
EJON	**La Jonquera**	**0.59**	**15**	Pg	**Pg**	**08 26 22.2**	**+1.4**
EJON				Sg	**Sg**	**08 26 30.9**	**+2.2**
EJON	**La Jonquera**	**0.59**	**15**	⇓Pg	**Pg**	**08 26 21.9**	**+1.1**
EJON				Sg	**Sg**	**08 26 30.5**	**+1.7**
EJON				*i* Vmb_Lg		08 26 33.8	
FBR	**Fabra**	**0.62**	**223**	P	**Pg**	**08 26 20.9**	**-0.3**
SJAF	**Saint Jean de**	**0.63**	**14**	P	**Pg**	**08 26 22.4**	**+1.0**
SJAF				S	**Sg**	**08 26 31.6**	**+1.8**
	2µm,0.2s						
SJAF	**Saint Jean de**	**0.63**	**14**	Pg	**Pg**	**08 26 22.6**	**+1.2**
SJAF				Sg	**Sg**	**08 26 31.4**	**+1.6**
FILF	**Fillols**	**0.69**	**353**	P	**Pg**	**08 26 23.8**	**+1.2**
FILF				S	**Sg**	**08 26 34.2**	**+2.4**
	2µm,0.3s						
FILF	**Fillols**	**0.69**	**353**	Pg	**Pg**	**08 26 24.0**	**+1.4**
FILF				Sg	**Sg**	**08 26 33.4**	**+1.6**
CLLI	**Llivia**	**0.80**	**319**	P	**Pg**	**08 26 25.2**	**+0.5**
CLLI				S	**Sg**	**08 26 36.4**	**+1.1**
	1µm,0.4s						
CGAR	**Garraf**	**0.82**	**225**	P	**Pg**	**08 26 24.6**	**-0.3**
CGAR				S	**Sg**	**08 26 35.0**	**-0.7**
	927nm,0.6s						
EMIR	**Miracle**	**0.86**	**273**	Pg	**Pg**	**08 26 26.0**	**+0.2**
EMIR				Sg	**Sg**	**08 26 37.8**	**+0.6**
EMIR	**Miracle**	**0.86**	**273**	⇑Pg	**Pg**	**08 26 26.0**	**+0.2**
EMIR				Sg	**Sg**	**08 26 37.6**	**+0.4**
EMIR				*i* Vmb_Lg		08 26 40.1	
ARBS	**La Rabassa**	**1.02**	**305**	P	**Pg**	**08 26 29.0**	**+0.2**
ARBS				S	**Sg**	**08 26 43.2**	**+1.1**
	2µm,0.5s						
PAND	**Andorre**	**1.06**	**308**	P	**Pb**	**08 26 29.9**	**+0.6**
PAND				S	**Sb**	**08 26 44.6**	**+1.6**
	3µm,0.3s						
PAND	**Andorre**	**1.06**	**308**	Pg	**Pb**	**08 26 29.8**	**+0.6**
PAND				Sg	**Sb**	**08 26 44.5**	**+1.5**
CORG	**Organya**	**1.08**	**290**	P	**Pb**	**08 26 29.8**	**+0.4**
CORG				S	**Sb**	**08 26 44.6**	**+1.3**
	384nm,0.3s						
FNEB	**Nbias**	**1.11**	**338**	S	**Sb**	**08 26 46.7**	**+2.3**
	2µm,0.2s						
FNEB	**Nbias**	**1.11**	**338**	Pg	**Pb**	**08 26 31.3**	**+1.3**
FNEB				Sg	**Sb**	**08 26 46.6**	**+2.3**
CSOR	**Sort**	**1.26**	**294**	P	**Pn**	**08 26 33.1**	**+1.0**
CSOR				S	**Sb**	**08 26 50.1**	**+1.7**
	1µm,0.3s						

CEST Esterri de Car 1.28 305 P Pn **08 26 33.6 +1.1**
CEST S Sb **08 26 50.8 +1.5**
767nm,0.4s
EPOB Poblet 1.31 247 P Pn **08 26 32.9 +0.1**
EPOB S Sb **08 26 50.3 +0.4**
500nm,0.4s
EPOB Poblet 1.31 247 ⇑Pg Pn **08 26 33.0 +0.1**
EPOB Sg Sb **08 26 50.1 +0.1**
EPOB *i* Vmb_Lg 08 26 51.8
CAVN Les Avellanes 1.44 271 P Pn **08 26 35.4 +0.9**
CAVN S Sn **08 26 55.3 +2.1**
2µm,0.4s
CTRE Tremp 1.49 288 P Pn **08 26 36.5 +1.2**
CTRE S Sn **08 26 56.6 +2.1**
414nm,0.3s
CARA Val d'Aran 1.61 302 P Pn **08 26 39.1 +2.0**
CARA S Sn **08 27 00.3 +2.6**
2µm,0.3s
CBUD Illa de Buda 1.82 231 P Pn **08 26 41.1 +1.4**
ERTA Horta de San J 1.99 243 P Pn **08 26 43.4 +1.3**
ERTA S Sn **08 27 08.9 +2.1**
566nm,0.3s
ERTA Horta de San J 1.99 243 Pn Pn **08 26 42.6 +0.5**
ERTA Pg Pb **08 26 45.0 +0.1**
ERTA Sn Sn **08 27 07.0 +0.3**
ERTA Sg Sb **08 27 11.4 +2.0**
ERTA *i* Vmb_Lg 08 27 13.2
ECHI Chisagues Biel 2.01 294 P Pn **08 26 44.3 +1.8**
ECHI S Sn **08 27 10.3 +3.0**
382nm,0.3s
ECHI Chisagues Biel 2.01 294 Pn Pn **08 26 43.9 +1.5**
ECHI Pg Pb **08 26 46.2 +0.9**
ECHI Sg Sb **08 27 12.2 +2.1**
ECHI *i* Vmb_Lg 08 27 13.0
ECHI Chisagues Biel 2.01 294 Pn Pn **08 26 44.1 +1.6**
ECHI Chisagues Biel 2.01 294 Sn Sn **08 27 10.6 +3.3**
EPF Esparros 2.08 305 *e*Pn Pn **08 26 44.0 +0.6**
EPF Esparros 2.08 305 *e*P Pn **08 26 45.9 +2.5**
EPF Esparros 2.08 305 *e*Pg Pb **08 26 48.0 +1.5**
EPF *e*Sn Sn **08 27 08.5 -0.6**
EPF *e*Sg Sb **08 27 15.3 +3.1**
349nm,0.3s
ETOS Mallorca 2.11 177 Pn Pn **08 26 42.6 -1.1**
ETOS Pg Pb **08 26 44.9 -2.0**
ETOS Sn Sn **08 27 06.2 -3.4**
VIEF Viey 2.21 298 Pn Pn **08 26 47.0 +1.8**
VIEF Sn Sn **08 27 15.7 +3.4**
MAHO Mahon 2.31 148 P Pn **08 26 45.7 -0.8**
MAHO S Sn **08 27 11.4 -3.1**
ESAC San Caprasio 2.36 267 Pn Pn **08 26 48.0 +0.8**
ESAC Pg Pb **08 26 52.0 +0.8**
ESAC Sn Sn **08 27 16.2 +0.2**
ESAC Sg Sg **08 27 24.0 -0.9**
PYLO Lourdes 2.36 302 Pn Pn **08 26 49.1 +1.9**
LASF Ste Croix 2.37 21 *e*Pn Pn **08 26 48.0 +0.7**
LASF Ste Croix 2.37 21 *e*Pg Pb **08 26 53.8 +2.5**
LASF *e*Sn Sn **08 27 15.4 -0.6**
LASF *e*Sg Sb **08 27 25.0 +4.7**
118nm,0.4s
ECOL Islas Columbre 2.49 218 Pn Pn **08 26 48.3 -0.5**
ECOL Pg Pb **08 26 52.8 -0.5**
ECOL Sn Sn **08 27 17.1 -1.8**
ECOL Sg Sb **08 27 25.1 +1.4**
CANF Canfranc 2.53 292 Pn Pn **08 26 51.5 +1.9**
CANF Sn Sn **08 27 22.9 +2.6**
ETSF Etsaut 2.61 294 *e*Pn Pn **08 26 51.5 +0.8**
ETSF Etsaut 2.61 294 *e*Pg Pb **08 26 58.4 +2.9**
ETSF *e*Sg Sb **08 27 31.1 +3.7**
328nm,0.3s
ATE Arette 2.78 297 P Pn **08 26 55.1 +2.1**
ATE S Sn **08 27 28.9 +2.7**
257nm,0.4s
ATE Arette 2.78 297 Pn Pn **08 26 55.0 +2.1**
ATE Sn Sn **08 27 29.0 +2.7**
EMOS Mosqueruela 2.82 239 S Sn **08 27 29.1 +1.7**
110nm,0.7s
EMOS Mosqueruela 2.82 239 Pn Pn **08 26 54.3 +0.7**
EMOS Pg Pg **08 27 01.8 -1.2**
EMOS Sg Sg **08 27 37.3 -2.4**
EMOS *i* Vmb_Lg 08 27 43.5
RUSF Rustrel 2.92 44 Pn Pn **08 26 56.1 +1.3**
RUSF Sn Sn **08 27 30.7 +1.0**
BSTF la Bastide-des 2.96 46 Pn Pn **08 26 56.0 +0.6**
SMRF Simiane la Rot 2.99 44 *e*Pn Pn **08 26 57.2 +1.4**
SMRF Simiane la Rot 2.99 44 *e*Pg Pb **08 27 05.6 +3.7**
SMRF *e*Sn Sn **08 27 30.6 -0.8**
SMRF *e*Sg Sb **08 27 43.8 +5.6**
124nm,0.3s
EIBI Ibiza 3.02 200 Pn Pn **08 26 55.1 -1.2**
EIBI Sn Sn **08 27 27.9 -4.2**
EIBI *i* Vmb_Lg 08 27 32.7
FLAF Flassans-sur-I 3.04 59 Pn Pn **08 26 57.4 +1.0**
CAF Calviac 3.08 352 *e*Pn Pn **08 26 58.0 +0.8**
CAF Calviac 3.08 352 *e*Pg Pb **08 27 07.1 +3.5**
CAF *e*Sn Sn **08 27 33.1 -0.7**
CAF *e*Sg Sb **08 27 47.1 +6.1**
116nm,0.3s
MLYF Mely 3.10 46 Pn Pn **08 26 59.2 +1.9**
EORO Oroz-Betelu 3.13 290 Pn Pn **08 26 58.1 +0.3**
EORO Pg Pb **08 27 08.0 +3.7**
EORO Sg Sb **08 27 46.4 +4.1**
EORO *i* Vmb_Lg 08 27 57.0
SJPF Ste Jean 3.14 295 *e*Pn Pn **08 26 59.4 +1.4**
SJPF Ste Jean 3.14 295 *e*Pg Pb **08 27 08.1 +3.5**
SJPF *e*Sg Sb **08 27 48.1 +5.4**
122nm,0.3s
LMR La Mourre 3.18 61 *e*Pn Pn **08 26 58.6 +0.2**
LMR La Mourre 3.18 61 *e*Pg Pb **08 27 08.8 +3.6**
LMR *e*Sn Sn **08 27 35.2 -0.8**
66nm,0.3s
LMR *e*Sg Sg **08 27 50.2 -1.0**
BLAF les Blancs 3.23 49 Pn Pn **08 27 00.1 +1.0**
EARA Aranguren 3.29 287 Pn Pn **08 27 01.4 +1.5**
EARA Pg Pb **08 27 10.6 +3.6**
EARA Sg Sg **08 27 55.6 +1.1**
EARA *i* Vmb_Lg 08 28 10.5
VIVF Saint-Julien-l 3.32 25 *e*Pn Pn **08 27 00.9 +0.6**
VIVF Saint-Julien-l 3.32 25 *e*Pg Pb **08 27 11.4 +3.9**
VIVF *e*Sn Sn **08 27 38.5 -1.0**
VIVF *e*Sg Sg **08 27 54.7 -0.8**
43nm,0.2s
TRIGF Trigance 3.32 54 Pn Pn **08 27 01.0 +0.6**
TERF Tercis-les-Bai 3.33 304 Pn Pn **08 27 02.7 +2.2**
EALK Alkurruntz 3.38 295 Pn Pn **08 27 03.1 +2.0**
EALK Pg Pb **08 27 10.6 +2.1**
EALK Sn Sn **08 27 42.6 +1.6**
EALK Sg Sb **08 27 55.4 +6.0**
EALK *i* Vmb_Lg 08 27 59.3
EALK Alkurruntz 3.38 295 Pn Pn **08 27 03.0 +1.8**
LFF La Frestale 3.38 336 *e*Pn Pn **08 27 02.0 +0.9**
LFF La Frestale 3.38 336 *e*Pg Pb 08 27 12.9 +4.4
LFF *e*Sg Sb **08 27 55.6 +6.3**
424nm,0.4s
LBL Lubilhac 3.38 7 Pn Pn **08 27 01.7 +0.3**
OGDI Digne 3.47 49 Pn Pn **08 27 03.4 +0.9**
OGDI Sn Sn **08 27 43.4 +0.1**
RJF Les Rejaudoux 3.53 347 *e*Pn Pn **08 27 03.4 +0.1**
RJF Les Rejaudoux 3.53 347 *e*Pg Pb **08 27 14.8 +3.6**
RJF *e*Sn Sn **08 27 42.4 -2.4**
RJF *e*Sg Sb **08 28 00.8 +6.9**
69nm,0.2s
ECHE Chera 3.59 232 Pn Pn **08 27 04.3 +0.2**
ECHE Sn Sn **08 27 43.2 -3.1**
ECHE Sg Sb **08 27 59.2 +3.7**
ECHE *i* Vmb_Lg 08 28 17.3
ETOR Torete 3.72 255 Pn Pn **08 27 07.2 +1.3**
ETOR Pg Pb **08 27 14.2 -0.2**
ETOR Sn Sn **08 27 50.2 +0.7**
ETOR Sg Sg **08 28 05.1 -3.4**
ETOR *i* Vmb_Lg 08 28 10.4
OGAG Argentiere 3.82 46 Pn Pn 08 27 12.6 +5.2
ORIF Oris-en-Rattie 3.83 36 *e*Pn Pn **08 27 09.0 +1.5**
ORIF *e*Sn Sn **08 27 51.5 -0.8**
12nm,0.3s
ORIF *e*Sg Sb **08 28 09.7 +7.1**
13nm,0.5s
EBEN2 Beniarda presa 3.88 215 Pn Pn **08 27 07.8 -0.2**
EBEN2 Sn Sn **08 27 50.1 -3.1**
EBEN2 *i* Vmb_Lg 08 29 17.0
PYM Petit Puy Mans 3.88 3 Pn Pn **08 27 09.3 +1.1**
ISO Isola 3.95 53 Pn Pn **08 27 10.1 +1.0**

ESCA	**l'Escarene**	**3.97**	**59**	Pn		**Pn**	**08 27 10.2**	**+1.0**
SURF	**Saint Ours**	**3.99**	**48**	Pn		**Pn**	**08 27 11.9**	**+2.1**
SBF	**Sospel**	**4.02**	**59**	*e*Pn		**Pn**	**08 27 10.0**	**0.0**
SBF	**Sospel**	**4.02**	**59**	*e*Pg		**Pb**	**08 27 22.5**	**+3.0**
SBF				*e*Sn		**Sn**	**08 27 55.6**	**-1.3**
	142nm,0.6s							
GRN	**Grenoble**	**4.04**	**32**	Pn		**Pn**	**08 27 11.6**	**+1.3**
AFON	**Font Roja**	**4.04**	**219**	Pn		**Pn**	**08 27 10.2**	**-0.2**
AFON				Sn		**Sn**	**08 27 57.2**	**-0.3**
TURF	**col de Turini**	**4.05**	**57**	Pn		**Pn**	**08 27 11.4**	**+0.9**
MBDF	**Montbardon**	**4.13**	**45**	*e*Pn		**Pn**	**08 27 13.2**	**+1.6**
MBDF				*e*Sn		**Sn**	**08 27 57.4**	**-2.3**
	26nm,0.6s							
BNI	**Bardonecchia**	**4.31**	**41**	Pn		**Pn**	**08 27 15.9**	**+1.8**
BNI				Sn		**Sn**	**08 28 04.1**	**+0.1**
OGSM	**Saint Maurice**	**4.33**	**29**	Pn		**Pn**	**08 27 15.6**	**+1.4**
TCF	**Toulx Ste Croi**	**4.43**	**356**	*e*Pn		**Pn**	**08 27 16.2**	**+0.6**
TCF	**Toulx Ste Croi**	**4.43**	**356**	*e*Pg		**Pg**	**08 27 32.4**	**-1.4**
TCF				*e*Sn		**Sn**	**08 28 05.4**	**-1.4**
TCF				*e*Sg		**Sg**	**08 28 29.2**	**-1.9**
	50nm,0.4s							
ETOB	**Tobarra**	**4.57**	**226**	⇑Pn		**Pn**	**08 27 17.2**	**-0.3**
ETOB				Sn		**Sn**	**08 28 07.7**	**-2.7**
ETOB				Sg		**Sg**	**08 28 32.8**	**-2.8**
OG35	**Corcelles**	**4.66**	**26**	Pn		**Pn**	**08 27 20.2**	**+1.3**
LPG	**La Plagne**	**4.67**	**38**	*e*Pn		**Pn**	**08 27 21.7**	**+2.5**
LPG				*e*Sn		**Sn**	**08 28 12.0**	**-1.3**
	8.4nm,0.5s							
LPG				*e*Sg		**Sg**	**08 28 36.8**	**-2.2**
	5.0nm,0.4s							
LPL	**La Plagne**	**4.68**	**38**	*e*Pn		**Pn**	**08 27 21.5**	**+2.3**
LPL				*e*Sn		**Sn**	**08 28 11.3**	**-2.0**
	16nm,0.6s							
LPL				*e*Sg		**Sg**	**08 28 37.8**	**-1.4**
	16nm,0.8s							
BGF	**Bois d'Agland**	**4.69**	**1**	*e*Pn		**Pn**	**08 27 20.0**	**+0.9**
BGF	**Bois d'Agland**	**4.69**	**1**	*e*Pg		Pb	08 27 36.1	+5.3
BGF				*e*Sg		**Sg**	**08 28 37.6**	**-1.8**
	206nm,0.4s							
PGF	**Pioggiola**	**4.74**	**80**	*e*Pn		**Pn**	**08 27 18.9**	**-1.1**
PGF				*e*Sn		**Sn**	**08 28 09.6**	**-5.1**
	56nm,0.3s							
UCM	**Universidad Co**	**4.74**	**253**	P		**Pn**	**08 27 20.2**	**+0.2**
UCM				S		**Sb**	**08 28 34.5**	**+5.8**
RSL	**Roselend**	**4.76**	**35**	Pn		**Pn**	**08 27 22.4**	**+2.1**
CHIF	**Chize**	**4.81**	**333**	Pn		**Pn**	**08 27 22.5**	**+1.7**
CHIF				Sn		**Sn**	**08 28 17.3**	**+1.2**
SMF	**Signal de Mont**	**4.84**	**10**	*e*Pn		**Pn**	**08 27 21.0**	**-0.3**
SMF	**Signal de Mont**	**4.84**	**10**	*e*Pg		Pb	08 27 39.7	+6.2
SMF				*e*Sn		**Sn**	**08 28 13.5**	**-3.6**
SMF				*e*Sg		**Sg**	**08 28 42.2**	**-2.2**
	32nm,0.5s							
AVF	**Avril sur Loir**	**4.94**	**5**	*e*Pn		**Pn**	**08 27 23.0**	**+0.4**
AVF	**Avril sur Loir**	**4.94**	**5**	*e*Pg		Pb	08 27 41.4	+6.3
AVF				*e*Sn		**Sn**	**08 28 18.1**	**-1.3**
AVF				*e*Sg		**Sg**	**08 28 45.0**	**-2.5**
	23nm,0.4s							
EMUR	**La Murta**	**5.03**	**218**	Pn		**Pn**	**08 27 23.5**	**-0.5**
EMUR				Sn		**Sn**	**08 28 20.9**	**-0.8**
OGSI	**Sixt**	**5.12**	**34**	Pn		**Pn**	**08 27 27.1**	**+1.9**
OGSI				Sn		**Sn**	**08 28 23.9**	**-0.1**
MFF	**Saint Martin d**	**5.15**	**338**	*e*Pn		**Pn**	**08 27 26.2**	**+0.8**
MFF	**Saint Martin d**	**5.15**	**338**	*e*Pg		**Pg**	**08 27 45.4**	**-2.1**
MFF				*e*Sn		**Sn**	**08 28 22.0**	**-2.5**
MFF				*e*Sg		**Sg**	**08 28 51.3**	**-2.8**
	53nm,0.4s							
SSF	**Saint Saulge**	**5.22**	**6**	*e*Pn		**Pn**	**08 27 26.3**	**-0.2**
SSF	**Saint Saulge**	**5.22**	**6**	*e*Pg		**Pg**	**08 27 46.7**	**-2.3**
SSF				*e*Sn		**Sn**	**08 28 24.8**	**-1.6**
SSF				*e*Sg		**Sg**	**08 28 52.9**	**-3.6**
	19nm,0.5s							
EZAR	**Zarzadilla de**	**5.22**	**222**	Pn		**Pn**	**08 27 25.9**	**-0.7**
GUD	**Guadarrama**	**5.30**	**259**	Pn		**Pn**	**08 27 27.9**	**+0.2**
GUD				Sn		**Sn**	**08 28 26.1**	**-2.4**
GUD				*i* Vmb_Lg			08 28 32.1	
GUD				Sg		**Sb**	**08 28 48.2**	**+3.5**
CABF	**La Chapelle**	**5.33**	**26**	*e*Pn		**Pn**	**08 27 28.6**	**+0.5**
CABF	**La Chapelle**	**5.33**	**26**	*e*Pg		**Pg**	**08 27 49.1**	**-2.0**
CABF				*e*Sn		**Sn**	**08 28 27.0**	**-2.2**
CABF				*e*Sg		**Sg**	**08 28 57.7**	**-2.4**
	33nm,0.7s							
HYF	**Humbligny**	**5.39**	**360**	*e*Pn		**Pn**	**08 27 28.2**	**-0.7**
HYF				*e*Sn		**Sn**	**08 28 28.0**	**-2.6**
HYF				*e*Sg		Sb	08 28 57.7	+10
LOR	**Lormes**	**5.46**	**8**	*e*Pn		**Pn**	**08 27 29.8**	**0.0**
	baz=186							
LOR	**Lormes**	**5.46**	**8**	*e*Pg		**Pg**	**08 27 51.0**	**-2.5**
	baz=187							
LOR				*e*Sn		**Sn**	**08 28 30.3**	**-2.0**
LOR				*e*Sg		**Sg**	**08 29 01.2**	**-3.0**
	33nm,0.5s,baz=187							
ESDC	**Sonseca Array**	**5.50**	**249**	Pn		**Pn**	**08 27 29.7**	**-0.7**
	0.6nm,0.3s,baz=66,slow=14,SNR=33							
ESDC				Sn		**Sn**	**08 28 27.1**	**-6.3**
	0.8nm,0.3s,baz=58,slow=24,SNR=5.3							
ESDC				Lg		Lg	08 28 59.9	
	2.7nm,0.3s,baz=66,slow=30,SNR=6.5							
	2.5nm,0.5s							
ESDC	**Sonseca Array**	**5.50**	**249**	Pn		**Pn**	**08 27 29.7**	**-0.7**
ESDC				Sn		**Sn**	**08 28 34.5**	**+1.1**
ESDC				Sg		**Sg**	**08 28 59.1**	**-6.5**
ESDC				*i* Vmb_Lg			08 29 08.2	
PAB	**San Pablo**	**5.83**	**249**	Pn		**Pn**	**08 27 34.6**	**-0.2**
PAB				Sg		Sb	08 29 08.0	+8.1
PAB				*i* Vmb_Lg			08 29 16.1	
EARI	**Arriondas**	**6.00**	**286**	Pn		**Pn**	**08 27 37.9**	**+0.7**
EARI				Sn		**Sn**	**08 28 42.1**	**-3.5**
EARI				*i* Vmb_Lg			08 29 42.1	
EQES	**Quesada**	**6.01**	**229**	Pn		**Pn**	**08 27 36.2**	**-1.3**
EQES				Sg		**Sb**	**08 29 10.7**	**+5.5**
EQES				*i* Vmb_Lg			08 29 34.6	
MUGIO	**Muggio**	**6.12**	**46**	Pn		**Pn**	**08 27 40.4**	**+1.5**
MUGIO				Sn		**Sn**	**08 28 47.9**	**-0.7**
SFTF	**Sexfontaines**	**6.55**	**14**	*e*Pn		**Pn**	**08 27 44.6**	**-0.1**
	baz=194							
SFTF	**Sexfontaines**	**6.55**	**14**	*e*Pg		Pg	08 28 11.2	-3.1
SFTF				*e*Sn		**Sn**	**08 28 57.4**	**-1.6**
SFTF				*e*Sg		**Sg**	**08 29 34.5**	**-4.5**
	20nm,0.5s							
HINF	**Hinteralfeld**	**6.64**	**25**	*e*Pn		**Pn**	**08 27 45.2**	**-0.8**
HINF				*e*Sn		**Sn**	**08 28 58.9**	**-2.5**
HINF				*e*Sg		**Sg**	**08 29 37.7**	**-4.3**
	5.8nm,0.4s							
HAU	**Haudompre**	**6.66**	**22**	*e*Pn		**Pn**	**08 27 46.2**	**-0.1**
HAU				*e*Sn		**Sn**	**08 28 59.0**	**-2.8**
HAU				*e*Sg		**Sg**	**08 29 38.7**	**-3.9**
	7.9nm,0.4s							
MEZF	**Maizieres J'vi**	**6.84**	**13**	*e*Pn		**Pn**	**08 27 49.0**	**+0.4**
	baz=191							
MEZF	**Maizieres J'vi**	**6.84**	**13**	*e*Pg		Pg	08 28 16.8	-3.0
	baz=193							
MEZF				*e*Sn		**Sn**	**08 29 03.4**	**-2.7**
MEZF				*e*Sg		**Sg**	**08 29 43.2**	**-5.1**
	20nm,0.4s,baz=190							
SAVF	**Savonnieres en**	**6.96**	**13**	*e*Pn		**Pn**	**08 27 50.7**	**+0.4**
	baz=194							
SAVF	**Savonnieres en**	**6.96**	**13**	*e*Pg		Pg	08 28 18.6	-3.6
SAVF				*e*Sn		**Sn**	**08 29 05.3**	**-3.8**
SAVF				*e*Sg		**Sg**	**08 29 48.5**	**-3.7**
	18nm,0.6s							
GRR	**Gorron**	**6.98**	**340**	*e*Pn		**Pn**	**08 27 50.4**	**-0.2**
GRR	**Gorron**	**6.98**	**340**	*e*Pg		Pb	08 28 18.4	+8.6
GRR				*e*Sn		**Sn**	**08 29 06.2**	**-3.4**
GRR				*e*Sg		**Sg**	**08 29 48.5**	**-4.3**
	25nm,0.4s							
LDF	**La Druitiere**	**7.00**	**345**	*e*Pn		**Pn**	**08 27 50.6**	**-0.4**
LDF	**La Druitiere**	**7.00**	**345**	*e*Pg		Pg	08 28 19.0	-4.1
LDF				*e*Sn		**Sn**	**08 29 05.4**	**-4.9**
LDF				*e*Sg		**Sg**	**08 29 48.7**	**-5.0**
	25nm,0.5s							
PAGF	**Fort de Pagny**	**7.02**	**17**	*e*Pn		**Pn**	**08 27 52.1**	**+1.0**
PAGF	**Fort de Pagny**	**7.02**	**17**	*e*Pg		Pg	08 28 19.5	-3.8
PAGF				*e*Sg		**Sg**	**08 29 49.8**	**-4.3**
	32nm,0.9s							
ECAL	**Calabor**	**7.03**	**274**	Pn		**Pn**	**08 27 51.4**	**0.0**
ECAL				*i* Vmb_Lg			08 30 02.8	
PBRG	**Braganca**	**7.04**	**273**	*e*Pn		**Pn**	**08 27 51.6**	**+0.1**
PBRG	**Braganca**	**7.04**	**273**	*e*Pg		**Pg**	**08 28 21.5**	**-2.2**
PBRG				*e*Sg		**Sg**	**08 29 52.5**	**-2.3**
PBRG				A		A	08 30 04.8	
	9.7nm,0.5s							
FLN	**La Foliniere**	**7.24**	**343**	*e*Pn		**Pn**	**08 27 54.6**	**+0.4**
	baz=168							
FLN				*e*Sn		**Sn**	**08 29 11.4**	**-4.6**
FLN				*e*Sg		**Sg**	**08 29 57.6**	**-3.6**
	13nm,0.3s,baz=168							
ECAB	**El Cabril**	**7.29**	**241**	Pn		**Pn**	**08 27 53.7**	**-1.2**
ECAB				Sg		Sb	08 29 50.8	+9.0
ECAB				*i* Vmb_Lg			08 30 03.7	
CDF	**Champ du Feu**	**7.30**	**25**	*e*Pn		**Pn**	**08 27 54.9**	**-0.2**
CDF				*e*Sn		**Sn**	**08 29 14.2**	**-3.5**
CDF				*e*Sg		**Sg**	**08 29 59.3**	**-3.8**
	5.1nm,0.5s							
MVO	**Moncorvo**	**7.32**	**268**	*e*Pn		**Pn**	**08 27 55.2**	**-0.2**
MVO	**Moncorvo**	**7.32**	**268**	*e*Pg		**Pg**	**08 28 26.4**	**-2.8**
MVO				*e*Sn		**Sn**	**08 29 14.5**	**-3.7**
MVO				*e*Sg		**Sg**	**08 30 03.7**	**-0.2**
MVO				A		A	08 30 12.0	
	18nm,0.7s							
QUIF	**Quistinic**	**7.33**	**328**	*e*Pn		**Pn**	**08 27 56.1**	**+0.7**
QUIF	**Quistinic**	**7.33**	**328**	*e*Pg		Pg	08 28 25.9	-3.4
QUIF				*e*Sn		**Sn**	**08 29 15.0**	**-3.2**
QUIF				*e*Sg		**Sg**	**08 29 59.9**	**-4.2**
	13nm,0.4s							
SGMF	**Saint Gilles**	**7.38**	**332**	*e*Pn		**Pn**	**08 27 56.3**	**+0.2**
SGMF	**Saint Gilles**	**7.38**	**332**	*e*Pg		Pg	08 28 26.3	-3.9
SGMF				*e*Sn		**Sn**	**08 29 16.0**	**-3.4**
SGMF				*e*Sg		**Sg**	**08 30 00.8**	**-4.8**
	16nm,0.5s							
EPON	**Pontenova**	**7.40**	**285**	Pn		**Pn**	**08 27 56.1**	**-0.2**
EPON				Sn		**Sn**	**08 29 21.8**	**+1.8**
EPON				*i* Vmb_Lg			08 30 07.4	
ROSF	**Rostrenen**	**7.71**	**329**	*e*Pn		**Pn**	**08 28 00.8**	**+0.2**
ROSF				*e*Sn		**Sn**	**08 29 24.3**	**-3.3**
ROSF				*e*Sg			08 30 12.1	
	34nm,0.7s							
PVRL	**Vila Real**	**7.82**	**269**	*e*Pn		**Pn**	**08 28 02.1**	**-0.1**
MTE	**Manteigas**	**7.86**	**263**	*e*Pn		**Pn**	**08 28 02.6**	**-0.1**
MTE				*e*Sn		**Sn**	**08 29 26.9**	**-4.5**
MTE				*e*Sg			08 30 18.4	
MTE				A		A	08 30 27.1	
	13nm,0.7s							
POLO	**Lamas de Olo**	**7.87**	**270**	*e*Pn		**Pn**	**08 28 02.5**	**-0.4**
POLO				*e*Sg			08 30 17.1	
POLO				A		A	08 30 30.6	
	6.4nm,0.5s							
PCBR	**Castelo Branco**	**7.96**	**259**	*e*Pn		**Pn**	**08 28 03.3**	**-0.8**
PCBR				*e*Sn		**Sn**	**08 29 29.6**	**-4.3**
PCBR				*e*Sg			08 30 26.6	
PCBR				A		A	08 30 34.2	
	8.6nm,0.5s							
PCAB	**Cabril**	**8.00**	**272**	*e*Pn		**Pn**	**08 28 04.6**	**-0.1**
PCAB				*e*Sn		**Sn**	**08 29 31.4**	**-3.5**
PCAB				*e*Sg			08 30 21.2	
PCAB				A		A	08 30 30.5	
	10nm,0.7s							
ELOB	**Lobios**	**8.02**	**274**	Pn		**Pn**	**08 28 04.3**	**-0.7**
ELOB				Sn		**Sn**	**08 29 30.6**	**-4.8**
ELOB				*i* Vmb_Lg			08 30 38.2	
EAGO	**Agolada(Pontev**	**8.03**	**280**	Pn		**Pn**	**08 28 05.0**	**-0.2**
EAGO				Sn		**Sn**	**08 29 36.7**	**+1.0**
EAGO				*i* Vmb_Lg			08 30 42.3	
EBAD	**Badajoz**	**8.04**	**250**	Pn		**Pn**	**08 28 04.7**	**-0.4**
EBAD				Sg			08 30 17.4	
EBAD				*i* Vmb_Lg			08 30 28.2	
PMRV	**Marv??o**	**8.04**	**256**	*e*Pn		**Pn**	**08 28 04.5**	**-0.7**
PMRV				*e*Sn		**Sn**	**08 29 31.6**	**-4.2**
PMRV				*e*Sg			08 30 22.0	
PMRV				A		A	08 30 34.5	
	10nm,0.6s							
RETA	**Reutte**	**8.04**	**43**	*i* Pn		**Pn**	**08 28 06.8**	**+1.6**
	2.6nm,0.4s							
KEST	**Kesra**	**8.04**	**138**	Pn		**Pn**	**08 28 08.3**	**+3.0**
	0.5nm,0.3s,baz=327,slow=2.6,SNR=5.3							
KEST				Sn		**Sn**	**08 29 35.3**	**-0.6**
	0.3nm,0.3s,baz=41,slow=20,SNR=1.8							
	1.4nm,0.4s							
PVIS	**Viseu**	**8.05**	**265**	*e*Pn		**Pn**	**08 28 04.5**	**-0.8**
PVIS				*e*Sn		**Sn**	**08 29 30.7**	**-5.3**
PVIS				*e*Sg			08 30 25.2	
PVIS				A		A	08 30 43.0	
	6.3nm,0.5s							
SQTA	**Sankt Quirin**	**8.10**	**46**	*i* Pn		**Pn**	**08 28 09.7**	**+3.6**
	2.5nm,0.3s							
MOTA	**Moosalm**	**8.12**	**45**	*i* Pn		**Pn**	**08 28 08.6**	**+2.1**
	0.8nm,0.2s							
PGAV	**Gavieira, Arco**	**8.17**	**274**	*e*Pn		**Pn**	**08 28 07.1**	**+0.1**
BAIF	**Baives**	**8.26**	**7**	*e*Pn		**Pn**	**08 28 09.3**	**+1.2**
BAIF				*e*Sg			08 30 27.3	
	3.4nm,0.5s							
EMIN	**Mina Concepcio**	**8.28**	**243**	Sg			08 30 29.2	
EMIN				*i* Vmb_Lg			08 30 38.4	
PBAR	**Barrancos**	**8.32**	**247**	*e*Sn		**Sn**	**08 29 38.3**	**-4.4**
PBAR				*e*Sg			08 30 32.7	
PBAR				A		A	08 30 39.1	
	7.8nm,0.6s							
WTTA	**Wattenberg**	**8.36**	**47**	*i* Pn		**Pn**	**08 28 13.3**	**+3.6**
	2.8nm,0.4s							
GIVF	**Givet**	**8.36**	**10**	*e*Sg			08 30 32.0	
	4.2nm,0.3s							
PESTR	**Estremoz**	**8.40**	**252**	*e*Pn		**Pn**	**08 28 09.2**	**-0.9**
PESTR				*e*Sn		**Sn**	**08 29 40.1**	**-4.5**
PESTR				*e*Sg			08 30 36.9	
PESTR				A		A	08 30 41.8	
	6.4nm,0.6s							
ABTA	**Abfaltersbach**	**8.57**	**52**	*i* Pn		**Pn**	**08 28 15.6**	**+3.2**
	1.7nm,0.5s							
PCAS	**Casmilo, Conde**	**8.65**	**262**	*e*Pn		**Pn**	**08 28 13.4**	**-0.2**
PCAS				*e*Sn		**Sn**	**08 29 45.3**	**-5.6**
PCAS				*e*Sg			08 30 47.7	
PCAS				A		A	08 31 04.5	
	9.0nm,0.7s							
PMTG	**Montargil**	**8.77**	**255**	*e*Pn		**Pn**	**08 28 14.6**	**-0.6**
PMTG				*e*Sn		**Sn**	**08 29 47.1**	**-6.7**
PMTG				*e*Sg			08 30 49.6	
PMTG				A		A	08 31 03.9	
	7.3nm,0.6s							
EVO	**Evora**	**8.84**	**251**	P		**Pn**	**08 28 14.5**	**-1.6**
EVO				S		**Sn**	**08 29 48.8**	**-6.6**
PBEJ	**Beja**	**8.96**	**248**	*e*Sg			08 30 52.8	
PBEJ				A		A	08 31 13.6	
	3.6nm,0.6s							
PSBE	**So Bento**	**9.03**	**259**	*e*Pn		**Pn**	**08 28 19.0**	**+0.2**
PSBE				*e*Sg		Sg	08 30 57.6	
PSBE				A		A	08 31 05.5	
	6.4nm,0.8s							
PCVE	**Castro Verde**	**9.28**	**246**	*e*Sg		Sg	08 31 05.5	
PCVE				A		A	08 31 18.9	
	4.5nm,0.6s							
MESJ	**Messejana**	**9.30**	**248**	*e*Sg		Sg	08 31 03.1	
MESJ				A		A	08 31 06.9	
	5.2nm,0.6s							
PNCL	**Nicolau / Gran**	**9.39**	**250**	*e*Sg		Sg	08 31 07.0	
PNCL				A		A	08 31 10.9	
	4.0nm,0.7s							
BIOA	**Bad Ischl, Aus**	**9.72**	**50**	*e*Pn		**Pn**	**08 28 30.8**	**+2.6**
	1.1nm,0.3s							
MOA	**Molln**	**10.16**	**50**	*i* Pn		**Pn**	**08 28 37.1**	**+2.8**
	0.9nm,0.3s							
GERES	**GERESS Array B**	**10.42**	**44**	Pn		**Pn**	**08 28 38.2**	**+0.3**
	1.2nm,0.3s,baz=232,slow=13,SNR=32							
GERES				Sn		Sn	08 30 25.2	-9.1
	0.1nm,0.3s,baz=235,slow=24,SNR=3.6							
	1.7nm,0.4s							
KHC	**Kasperske Hory**	**10.54**	**43**	*e*PN		**Pn**	**08 28 39.6**	**+0.2**
KHC				*e*SN		**Sn**	**08 30 32.3**	**-4.7**

*IDC **04** 08:28:12.9±4.6,54.°99S×31.°76W,h0km,mb3.7/2, mbtmp3.7/2,MS3.5/1,Error ellipse: s-maj=155.4km s-min=55.0km az=179.0*

ISC 04 08:28:16.8±1.1,54.°5S±0.°2×31.°7W±0.°3,h10km,n12, σ2s49/8,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**19.23**	**156**	P		**Pn**	**08 32 44.3**		**+2.7**
VNA3	**Neumayer Olymp**	**19.35**	**159**	P		**P**	**08 32 41.6**		**-0.4**
VNA2	**Neumayer--Watz**	**19.63**	**156**	P		**P**	**08 32 45.9**		**+0.8**
	baz=316,slow=10.0								
SNAA	**Sanae**	**21.23**	**155**	P		**P**	**08 32 59.5**		**-2.9**
TROLL	**Troll, Antarti**	**22.79**	**153**	P		**P**	**08 33 15.5**		**-3.8**
LPAZ	**La Paz**	**47.38**	**309**	P		**P**	**08 36 51.5**		**-0.2**
	0.6nm,0.6s,baz=135,slow=5.7,SNR=5.4								
	0.6nm,0.6s								
H10N1	**ASCENSION HYDR**	**48.54**	**23**	T		T	09 29 40.9		
	baz=194								
H10N3	**ASCENSION HYDR**	**48.54**	**23**	T		T	09 29 42.2		
	baz=194,slow=74								
H10N2	**ASCENSION HYDR**	**48.55**	**23**	T		T	09 29 41.7		
	baz=194,slow=74								
RCBR	**Riachuelo**	**48.65**	**354**	LR		LR	08 55 23.4		
	comp=Z,49nm,18.5s,baz=318,slow=33								
TORD	**Torodi Ar. Bea**	**73.09**	**34**	P		**P**	**08 39 47.4**		**+0.3**
	0.8nm,0.8s,baz=206,slow=6.4,SNR=2.8								
	0.8nm,0.8s								
ILAR	**Eielson Array**	**147.17**	**314**	PKPbc		**PKPdf**	**08 47 56.6**		**+0.2**
	0.7nm,0.9s,baz=111,slow=2.0,SNR=4.4								

MAN 04 08:37:09.1,8.°37N×125.°86E,h4km,mb4.3,ML3.1,MS2.8, 3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.09**	**329**	⇓*e*P		Pg	08 37 13.5		+2.4
TASP				*i* S		Sg	08 37 19.4		+7.1
BIPH	**Bislig**	**0.53**	**110**	⇑*e*P		Pg	08 37 18.2		-1.2
BIPH				*e*S		Sg	08 37 25.3		-1.0
BUKP	**Musuan**	**0.93**	**238**	⇓*e*P		Pg	08 37 26.0		-0.9
BUKP				*e*S		Sb	08 37 40.6		+0.2
KCP	**Kidapawan**	**1.55**	**209**	⇑*i*P		Pn	08 37 35.7		-1.9
KCP				*i* S		Sn	08 37 57.8		-0.4
CTBH	**Cotabato--PC H**	**1.96**	**234**	⇓*i*P		Pn	08 37 43.3		+0.1
GHBP	**Garcia Hernand**	**1.96**	**310**	⇑*i*P		Pn	08 37 43.6		+0.4
GHBP				*i* S		Sb	08 38 09.7		-0.7

MAN 04 08:54:35.7,8.°32N×125.°93E,h11km,mb5.0,ML3.9,MS3.9, 3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.18**	**318**	⇑*i*P		Pb	08 54 40.8		-0.2
TASP				*e*S		Sg	08 54 46.0		+3.7
BIPH	**Bislig**	**0.45**	**107**	⇓*e*P		Pb	08 54 45.1		-0.5
BIPH				*e*S		Sb	08 54 52.2		-0.2
BUKP	**Musuan**	**0.96**	**243**	⇓*e*P		Pg	08 54 53.9		-0.4
BUKP				*e*S		Sn	08 55 09.2		+0.2
SCPH	**Surigao**	**1.52**	**343**	⇓*e*P		Pb	08 55 03.4		-0.5
KCP	**Kidapawan**	**1.54**	**213**	⇑*e*P		Pn	08 55 03.4		+0.1
KCP				*i* S		Sb	08 55 24.4		+0.4
GHBP	**Garcia Hernand**	**2.05**	**309**	⇑*i*P		Pn	08 55 10.7		+0.4
GHBP				*i* S		Sn	08 55 36.2		+0.4

*JMA **04** 09:12:27.9±0.2,36.°2N±0.°9×13.°7E±,h256km±1km, MV2.6/26,NORTHERN GIFU PREF*
*IDC **04** 09:12:28.6±1.0,35.°89N×137.°62E,h249km±10km,mb3.0/2, mbtmp3.5/2,Error ellipse: s-maj=38.6km s-min=25.6km az=52.0*

ISC 04 09:12:28.0±1.0,36.°18N±0.°09×137.°35E±0.°09,h254km±7km, n14,σ0s51/22,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.05**	**323**	P		**Pn**		**09 13 00.8**	**+0.2**
JGN				S		**S**		**09 13 26.2**	**-0.2**
JYTA	**Yamagatataniai**	**0.77**	**221**	P		**Pn**		**09 13 02.3**	**0.0**
JYTA				*e*S		**S**		**09 13 28.6**	**-0.7**
MAT	**Matsushiro**	**0.78**	**62**	P		**Pn**		**09 13 02.8**	**+0.5**
MAT				*e*S		**S**		**09 13 29.2**	**-0.1**
MJAR	**Matsushiro Arr**	**0.78**	**62**	P		**Pn**		**09 13 02.8**	**+0.5**
	3.1nm,0.3s,baz=236,slow=5.0,SNR=31								
MJAR				S		**S**		**09 13 29.8**	**+0.4**
	3.1nm,0.7s,baz=218,slow=20,SNR=7.2								
JKG	**Kaga**	**0.83**	**277**	P		**Pn**		**09 13 03.0**	**+0.5**
JSZ	**Suzu**	**1.27**	**0**	*e*S		**S**		**09 13 33.9**	**-0.3**
JAG	**Ashikaga**	**1.71**	**81**	P		**Pn**		**09 13 08.3**	**0.0**
JAG				*e*S		**S**		**09 13 39.4**	**-0.7**
JWT	**Wachi**	**1.82**	**241**	P		**Pn**		**09 13 09.2**	**0.0**
JWT				*e*S		**S**		**09 13 41.3**	**-0.4**
JIE	**Ise**	**1.86**	**197**	P		**Pn**		**09 13 10.3**	**+0.7**
JIE				*e*S		**S**		**09 13 42.7**	**+0.3**
JSD	**Sado**	**

EFP					AML	AML	09 44 20.6			
	comp=N,9697µm,0.4s									
EFP					AML	AML	09 44 22.4			
	comp=E,9294µm,0.2s									
RLS	**Riolos of Patr**	**0.39**	**268**	P	**Pg**		**09 44 13.2**	**0.0**		
RLS				S	**Sb**		**09 44 19.7**	**+0.3**		
	comp=E,16µm,0.1s									
RLS	**Riolos of Patr**	**0.39**	**268**	P	**Pg**		**09 44 13.0**	**-0.2**		
RLS				S	**Sg**		**09 44 18.8**	**+0.2**		
RLS				AML	AML		09 44 21.2			
	comp=N,21155µm,0.1s									
RLS				AML	AML		09 44 21.4			
	comp=E,11075µm,0.2s									
ANX	**Ano Chora**	**0.52**	**357**	P	**Pg**		**09 44 15.6**	**0.0**		
ANX				S	**Sb**		**09 44 24.4**	**+1.1**		
	comp=E,7µm,0.3s									
ANX	**Ano Chora**	**0.52**	**357**	P	**Pg**		**09 44 15.4**	**-0.2**		
ANX				S	**Sg**		**09 44 22.2**	**-0.5**		
ANX				AML	AML		09 44 24.9			
	comp=N,16169µm,0.4s									
ANX				AML	AML		09 44 25.4			
	comp=E,10049µm,0.2s									
THAL	**Thalero**	**0.56**	**93**	P	**Pg**		**09 44 16.1**	**-0.1**		
THAL				S	**Sg**		**09 44 23.1**	**-0.6**		
DLFA	**Delphi**	**0.58**	**46**	P	**Pg**		**09 44 16.0**	**-0.8**		
PVO	**Paravola**	**0.64**	**328**	P	**Pg**		**09 44 17.8**	**0.0**		
PVO	**Paravola**	**0.64**	**328**	P	**Pg**		**09 44 17.9**	**0.0**		
PVO				S	**Sg**		**09 44 26.6**	**+0.2**		
LTK	**Loutraki**	**0.80**	**93**	P	**Pb**		**09 44 20.6**	**-0.1**		
LTK				S	**Sg**		**09 44 31.8**	**+0.6**		
	comp=E,1µm,0.5s									
LTK	**Loutraki**	**0.80**	**93**	P	**Pb**		**09 44 20.5**	**-0.1**		
LTK				S	**Sb**		**09 44 30.7**	**-0.5**		
LTK				AML	AML		09 44 34.1			
	comp=N,4033µm,0.2s									
LTK				AML	AML		09 44 36.6			
	comp=E,4246µm,0.8s									
LOUT	**Loutraki**	**0.81**	**96**	P	**Pb**		**09 44 20.5**	**-0.2**		
LOUT				S	**Sb**		**09 44 30.7**	**-0.7**		
EVR	**Evrytania**	**0.85**	**352**	P	**Pb**		**09 44 21.4**	**-0.2**		
EVR				S	**Sn**		**09 44 34.2**	**-0.5**		
	comp=E,1µm,0.7s									
EVR	**Evrytania**	**0.85**	**352**	P	**Pb**		**09 44 21.5**	**-0.2**		
EVR				S	**Sg**		**09 44 33.2**	**+0.2**		
EVR				AML	AML		09 44 39.3			
	comp=E,3217µm,0.6s									
EVR				AML	AML		09 44 39.9			
	comp=N,2533µm,0.7s									
AXAR	**Agios Charalam**	**0.88**	**38**	P	**Pb**		**09 44 20.7**	**-1.4**		
AXAR				S	**Sg**		**09 44 34.0**	**-0.1**		
AXAR				AML	AML		09 44 39.5			
	comp=N,5566µm,0.4s									
AXAR				AML	AML		09 44 43.8			
	comp=E,6698µm,0.8s									
ITM	**Ithomi**	**0.89**	**182**	P	**Pb**		**09 44 21.3**	**-1.0**		
ITM	**Ithomi**	**0.89**	**182**	P	**Pb**		**09 44 21.5**	**-0.8**		
ITM				S	**Sb**		**09 44 33.6**	**-0.3**		
ITM				AML	AML		09 44 39.9			
	comp=E,4472µm,0.3s									
ITM				AML	AML		09 44 40.0			
	comp=N,3085µm,0.2s									
MAKR	**Makrakomi, Fth**	**0.95**	**8**	P	**Pb**		**09 44 23.1**	**-0.1**		
MAKR				S	**Sg**		**09 44 36.3**	**+0.2**		
MAKR				AML	AML		09 44 41.3			
	comp=N,3759µm,0.5s									
MAKR				AML	AML		09 44 41.9			
	comp=E,4238µm,0.3s									
LTHK	**Lithakia**	**0.96**	**248**	P	**Pg**		**09 44 23.8**	**0.0**		
LTHK				S	**Sb**		**09 44 34.8**	**-1.0**		
LKR	**Lokris**	**1.00**	**54**	P	**Pb**		**09 44 22.6**	**-1.5**		
LKR				S	**Sn**		**09 44 38.0**	**-0.2**		
	comp=E,1µm,0.3s									
LKR	**Lokris**	**1.00**	**54**	P	**Pb**		**09 44 22.7**	**-1.5**		
LKR				S	**Sb**		**09 44 36.8**	**-0.2**		
LKR				AML	AML		09 44 38.8			
	comp=E,2140µm,0.2s									
LKR				AML	AML		09 44 42.1			
	comp=N,3066µm,0.4s									
EPID	**Epidavros**	**1.02**	**116**	P	**Pb**		**09 44 24.4**	**-0.1**		
EPID				S	**Sg**		**09 44 38.3**	**-0.2**		
ATAL	**Atalanti**	**1.04**	**53**	P	**Pb**		**09 44 24.6**	**-0.2**		
ATAL				S	**Sn**		**09 44 39.4**	**+0.2**		
	comp=N,295nm,0.7s									
VIL2	**Platees**	**1.04**	**82**	P	**Pg**		**09 44 25.6**	**+0.2**		
VIL2				S	**Sn**		**09 44 39.2**	**0.0**		
VIL2				AML	AML		09 44 47.1			
	comp=E,2592µm,0.6s									
VIL2				AML	AML		09 44 47.8			
	comp=N,1841µm,0.7s									
VLS	**Valsamata**	**1.09**	**276**	P	**Pb**		**09 44 24.9**	**-0.7**		
VLS				S	**Sg**		**09 44 41.1**	**+0.7**		
	comp=N,1µm,0.1s									
VLS	**Valsamata**	**1.09**	**276**	P	**Pb**		**09 44 24.6**	**-1.0**		
VLS				S	**Sb**		**09 44 39.4**	**-0.1**		
VLS				AML	AML		09 44 43.6			
	comp=N,2692µm,0.1s									
VLS				AML	AML		09 44 46.9			
	comp=E,1712µm,0.2s									
PSDA	**Pessada-Kefalo**	**1.09**	**273**	P	**Pb**		**09 44 24.9**	**-0.6**		
PSDA				S	**Sg**		**09 44 41.4**	**+1.0**		
	comp=E,2µm,0.2s									
PSDA	**Pessada-Kefalo**	**1.09**	**273**	P	**Pb**		**09 44 25.0**	**-0.6**		
EVGI	**Lefkada island**	**1.16**	**298**	P	**Pn**		**09 44 26.1**	**-0.7**		
EVGI	**Lefkada island**	**1.16**	**298**	P	**Pn**		**09 44 26.1**	**-0.7**		
FSK	**Fiskardo**	**1.17**	**290**	P	**Pb**		**09 44 27.2**	**+0.3**		
KRND	**KRANIDI**	**1.17**	**126**	P	**Pn**		**09 44 26.9**	**+0.1**		
NYDR	**Nydri-Lefkada**	**1.18**	**303**	P	**Pn**		**09 44 26.4**	**-0.6**		
PYL	**PYLOS**	**1.19**	**188**	P	**Pn**		**09 44 26.5**	**-0.6**		
PYL	**PYLOS**	**1.19**	**188**	P	**Pn**		**09 44 26.5**	**-0.6**		
KEF4	**Livadi, Kephal**	**1.23**	**279**	P	**Pn**		**09 44 27.0**	**-0.6**		
KEF4				S	**Sn**		**09 44 44.2**	**+0.4**		
LKD2	**Lefkada island**	**1.25**	**305**	P	**Pn**		**09 44 27.7**	**-0.3**		
DMLN	**Damoulianata-K**	**1.26**	**278**	P	**Pn**		**09 44 27.8**	**-0.3**		
TSLK	**Tsoukalades, L**	**1.27**	**307**	P	**Pn**		**09 44 27.9**	**-0.3**		
TSLK	**Tsoukalades, L**	**1.27**	**307**	P	**Pn**		**09 44 28.1**	**-0.2**		
KEF3	**Kipouria, Keph**	**1.28**	**276**	P	**Pn**		**09 44 27.5**	**-0.8**		
KEF3				S	**Sb**		**09 44 45.1**	**+0.1**		
ATH	**Athens Observa**	**1.39**	**94**	P	**Pb**		**09 44 30.8**	**+0.1**		
ATH				S	**Sn**		**09 44 47.8**	**0.0**		
ATHU	**Athens Univers**	**1.44**	**94**	P	**Pb**		**09 44 32.0**	**+0.4**		
ATHU				S	**Sb**		**09 44 49.5**	**-0.3**		
ATHU				AML	AML		09 44 54.1			
	comp=N,796µm,0.5s									
ATHU				AML	AML		09 44 54.4			
	comp=E,376µm,0.6s									
VLY	**Voula,Athens**	**1.47**	**98**	P	**Pn**		**09 44 30.8**	**-0.1**		
VLY	**Voula,Athens**	**1.47**	**98**	P	**Pn**		**09 44 31.0**	**+0.1**		
THL	**Klokotos Trika**	**1.49**	**2**	P	**Pn**		**09 44 31.1**	**-0.1**		
THL	**Klokotos Trika**	**1.49**	**2**	P	**Pb**		**09 44 31.9**	**-0.5**		
PTL	**Penteli**	**1.50**	**90**	P	**Pn**		**09 44 31.9**	**+0.4**		
PTL	**Penteli**	**1.50**	**90**	P	**Pn**		**09 44 31.8**	**+0.3**		
PTL				S	**Sn**		**09 44 50.9**	**+0.2**		
PTL				AML	AML		09 44 55.5			
	comp=N,1002µm,0.4s									
PTL				AML	AML		09 44 58.3			
	comp=E,1142µm,0.6s									
DION	**Dionisos Attik**	**1.56**	**89**	P	**Pn**		**09 44 32.6**	**+0.4**		
DION	**Dionisos Attik**	**1.56**	**89**	P	**Pn**		**09 44 32.6**	**+0.4**		
DION				S	**Sn**		**09 44 52.3**	**+0.2**		
DION				AML	AML		09 44 57.4			
	comp=E,1752µm,0.4s									
DION				AML	AML		09 44 59.1			
	comp=N,1613µm,0.5s									
VLI	**Veliai**	**1.56**	**150**	P	**Pn**		**09 44 32.4**	**+0.2**		
VLI	**Veliai**	**1.56**	**150**	P	**Pb**		**09 44 33.1**	**-0.5**		
NEO	**Neokhori**	**1.58**	**38**	P	**Pn**		**09 44 31.8**	**-0.7**		
NEO	**Neokhori**	**1.58**	**38**	P	**Pn**		**09 44 32.5**	**0.0**		
XOR	**Xorichti**	**1.61**	**36**	P	**Pn**		**09 44 33.3**	**+0.3**		
KYMI	**Kymi, Euboea I**	**1.77**	**71**	P	**Pn**		**09 44 34.7**	**-0.4**		
KYMI	**Kymi, Euboea I**	**1.77**	**71**	P	**Pn**		**09 44 34.9**	**-0.2**		
KEK	**Kerkira**	**2.35**	**315**	P	**Pn**		**09 44 45.2**	**+2.1**		
SRN	**Sarande**	**2.36**	**320**	P	**Pb**		**09 44 45.5**	**-1.8**		
CHOS	**Chios island**	**3.24**	**83**	P	**Pn**		**09 44 55.4**	**0.0**		
IDI	**Anoyia**	**3.64**	**139**	Pn	**Pn**		**09 45 03.0**	**+2.1**		
	comp=N,1.6nm,0.3s,baz=322,slow=16,SNR=7.8									
IDI				Sn	**Sn**		**09 45 44.3**	**+0.8**		
	comp=N,2.9nm,0.3s,baz=231,slow=20,SNR=1.9									
	comp=N,6.0nm,0.5s									
ESDC	**Sonseca Array**	**20.23**	**283**	P	**P**		**09 48 40.3**	**+0.8**		
	comp=N,0.4nm,0.9s,baz=76,slow=10,SNR=4.4									
	comp=N,0.4nm,0.9s									
FINES	**FINESS Array B**	**23.54**	**5**	P	**P**		**09 49 13.5**	**-0.8**		
	comp=N,1.7nm,0.9s,baz=192,slow=11,SNR=1.2									
	comp=N,1.7nm,0.9s									
NOA	**NORSAR Array B**	**23.96**	**347**	P	**P**		**09 49 17.7**	**-0.7**		
	comp=N,0.4nm,0.8s,baz=157,slow=9.0,SNR=2.4									
	comp=N,0.4nm,0.8s									
TORD	**Torodi Ar. Bea**	**30.68**	**221**	P	**P**		**09 50 20.1**	**+1.0**		
	comp=N,0.3nm,0.5s,baz=29,slow=8.9,SNR=2.9									
	comp=N,0.3nm,0.5s									
MKAR	**Makanchi Array**	**44.39**	**59**	P	**P**		**09 52 14.4**	**-0.4**		
	comp=N,0.2nm,0.4s,baz=273,slow=7.5,SNR=3.5									
	comp=N,0.2nm,0.4s									
ZALV	**Zalesovo Beam**	**44.91**	**48**	P	**P**		**09 52 18.4**	**-0.4**		
	comp=N,1.7nm,0.4s,baz=278,slow=8.3,SNR=5.0									
	comp=N,1.7nm,0.4s									

*IDC **04** 09:55:51.6±6.5, 18°.55S×175°.63W, h125km±47km, mb3.5/4, mbtmp4.0/5, Error ellipse: s-maj=150.7km s-min=20.0km az=153.0*

ISC 04 09:55:55.5±1.7, 17°.7S±0°.6×176°.1W±0°.4, h150km, n6, σ1§03/9, mb3.7/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.55**	**49**	P	**Pn**	**09 57 16.8**	**+0.5**
	32nm,1.0s,baz=231,slow=16,SNR=1.5						
AFI				S	**Sn**	**09 58 18.2**	**-1.2**
	22nm,0.4s,baz=163,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**46.88**	**259**	P	**P**	**10 04 11.4**	**+0.3**
	0.8nm,0.3s,baz=96,slow=7.3,SNR=50						
WRA				PcP	**PcP**	**10 05 40.6**	**-0.9**
	0.4nm,0.7s,baz=98,slow=3.3,SNR=2.1						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**47.02**	**254**	P	**P**	**10 04 11.9**	**-0.2**
	2.7nm,0.6s,baz=91,slow=8.2,SNR=45						
ASAR				PcP	**PcP**	**10 05 40.8**	**-1.2**
	0.4nm,0.6s,baz=105,slow=4.5,SNR=2.8						
	2.7nm,0.6s						
NVAR	**Mina Array Bea**	**77.70**	**43**	P	**P**	**10 07 37.5**	**+1.5**
	0.2nm,0.4s,baz=223,slow=8.6,SNR=3.8						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**83.97**	**57**	P	**P**	**10 08 09.0**	**-0.4**
	1.0nm,1.2s,baz=202,slow=4.6,SNR=4.4						
	1.0nm,1.2s						
BRTR	**Keskin Array B**	**146.16**	**317**	PKPbc	**PKPab**	**10 15 19.5**	**0.0**
	0.6nm,0.7s,baz=64,slow=3.4,SNR=2.8						

IDC 04 10:07:04.1±15.0, 21°.48S×178°.89E, h564km±128km, mb2.8/4, mbtmp3.7/5, Error ellipse: s-maj=401.5km s-min=103.5km az=95.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.81**	**348**	P	P	10 08 25.7	-0.1
	5.9nm,0.4s,baz=106,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**34.75**	**245**	P	P	10 13 07.8	-0.2
	2.9nm,1.1s,baz=72,slow=13,SNR=1.9						
	2.9nm,1.1s						
ASAR	**Alice Springs**	**41.47**	**258**	P	P	10 14 02.9	+0.1
	0.6nm,0.5s,baz=99,slow=7.8,SNR=13						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**41.60**	**264**	P	P	10 14 03.3	-0.4
	0.6nm,0.7s,baz=99,slow=7.4,SNR=21						
	0.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.03**	**264**	P	P	10 15 07.6	-0.2
	0.9nm,0.7s,baz=92,slow=7.6,SNR=1.2						
	0.9nm,0.7s						

*IDC **04** 10:08:27.8±2.7, 13°.95S×166°.96E, h0km, mb3.5/3, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=57.3km s-min=45.4km az=102.0*

*NOU **04** 10:08:34.0, 14°.34S×166°.73E, h5km, mb4.3/13, Vanuatu Islands*

ISC 04 10:08:35.5±1.7, 14°.3S±0°.1×166°.7E±0°.2, h35km, n15, σ1§65/16, mb3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.68**	**158**	P	**Pn**	**10 09 32.8**	**+2.8**
RTV	**Rentapao**	**3.83**	**155**	P	**Pn**	**10 09 32.7**	**+0.6**
LIFNC	**LIFOU**	**6.46**	**176**	P	**Pn**	**10 10 09.4**	**+1.2**
	127nm,1.3s						
KOUNC	**Koumac, New Ca**	**6.65**	**200**	P	**Pn**	**10 10 12.1**	**+1.4**
MARNC	**Mare, Loyalty**	**7.25**	**170**	P	**Pn**	**10 10 19.2**	**+0.2**
	0.5nm,1.1s						
YATNC	**Mamie plateau,**	**7.72**	**179**	P	**Pn**	**10 10 25.0**	**-0.5**
DZM	**Mont Dzumac**	**7.74**	**182**	Pn	**Pn**	**10 10 26.1**	**+0.3**
	4.3nm,0.3s,baz=55,slow=19,SNR=30						
DZM				Sn	**Sn**	**10 11 49.6**	**-2.7**
	0.5nm,0.3s,baz=140,slow=22,SNR=1.4						
	9.9nm,0.3s						
NOUC	**Port Laguerre**	**7.77**	**183**	P	**Pn**	**10 10 27.7**	**+1.5**
ONTNC	**Ouen Toro**	**7.97**	**182**	P	**Pn**	**10 10 30.0**	**+1.1**
OUENC	**Ouen Island, N**	**8.08**	**179**	P	**Pn**	**10 10 31.7**	**+1.3**
PINNC	**Pines Island,**	**8.30**	**175**	P	**Pn**	**10 10 34.6**	**+1.2**
STKA	**Stephens Creek**	**28.89**	**228**	P	**P**	**10 14 32.6**	**+1.5**
	0.5nm,0.4s,baz=45,slow=11,SNR=1.3						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**31.44**	**255**	P	**P**	**10 14 53.5**	**-0.3**
	0.4nm,1.0s,baz=85,slow=9.2,SNR=1.4						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**32.35**	**248**	P	**P**	**10 15 01.8**	**-0.1**
	0.3nm,0.7s,baz=76,slow=9.1,SNR=5.4						
	0.3nm,0.7s						
ARCES	**ARCESS Array B**	**119.71**	**345**	PKP	**PKPdf**	**10 27 18.6**	**-2.7**
	1.4nm,0.6s,baz=46,slow=2.6,SNR=3.5						

*DJA **04** 10:17:05.2±0.2, 7°.S±2°.×12°.7E±°., h407km±4km, M4.1/24, mB4.7/10, mb4.1/24, MLv4.4/17, Mw(mB)3.9/10*

*IDC **04** 10:17:05.9±1.2, 6°.57S×127°.37E, h408km±14km, mb3.6/12, mbtmp4.4/19, Error ellipse: s-maj=15.0km s-min=10.1km az=74.0*

*NEIC **04** 10:17:06.5±1.1, 6°.6S±0°.1×127°.4E±0°.1, h416km±10km, mb4.2/17, Error ellipse: s-maj=18.0km s-min=15.1km az=68.0*

ISC 04 10:17:05.3±0.4, 6°.59S±0°.05×127°.38E±0°.06, h408km, n95, σ1§04/100, mb4.0/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**3.00**	**16**	P	**P**	**10 18 09.3**	**+0.2**
BNDI	**Bandanaira**	**3.24**	**51**	P	**P**	**10 18 11.4**	**+0.3**
BNDI	**Bandanaira**	**3.24**	**51**	P	**P**	**10 18 12.4**	**+1.3**
NLAI	**Namlea**	**3.34**	**355**	P	**P**	**10 18 12.5**	**+0.6**
MSAI	**Masohi**	**3.57**	**26**	P	**P**	**10 18 13.8**	**-0.1**
SAUI	**Saumlaki**	**4.13**	**110**	P	**P**	**10 18 20.4**	**+1.5**
SAUI	**Saumlaki**	**4.13**	**110**	P	**P**	**10 18 19.5**	**+0.6**
SAUI	**Saumlaki**	**4.13**	**110**	P	**P**	**10 18 20.4**	**+1.5**
SANI	**Sanana**	**4.72**	**343**	P	**P**	**10 18 24.5**	**-0.2**
BBSI	**Bau Bau**	**4.91**	**283**	P	**P**	**10 18 26.7**	**+0.1**
BATI	**Baumata**	**5.14**	**225**	P	**P**	**10 18 29.6**	**+0.6**
	227nm,0.5s,baz=128,slow=1.8,SNR=37						
BATI				S	**S**	**10 19 34.0**	**-3.5**
	545nm,0.7s,baz=323,slow=20,SNR=7.2						
BATI	**Baumata**	**5.14**	**225**	P	**P**	**10 18 29.4**	**+0.4**
	1.2nm2µm172nm,0.6s						
EDFI	**Ende, Flores**	**6.04**	**249**	P	**P**	**10 18 37.5**	**-1.0**
	0.1nm11nm,0.7s						
FAKI	**Fak Fak**	**6.07**	**53**		**P**	**10 18 39.3**	**+0.5**
FAKI	**Fak Fak**	**6.07**	**53**	P	**P**	**10 18 38.4**	**-0.4**
	0.4nm1µm72nm,0.5s						
FAKI	**Fak Fak**	**6.07**	**53**	P	**P**	**10 18 38.8**	**0.0**
SIJI	**Sorong**	**6.88**	**34**	P	**P**	**10 18 48.7**	**+0.3**
	14nm,0.5s,baz=208,slow=17,SNR=12						
SIJI				S	**S**	**10 20 06.5**	**-5.1**
	16nm,0.5s,baz=220,slow=23,SNR=8.3						
SWI	**Sorong**	**6.88**	**34**	P	**P**	**10 18 48.0**	**-0.4**
	0.2nm28nm,0.7s						
LUWI	**Luwuk**	**7.18**	**320**	P	**P**	**10 18 51.8**	**+0.2**
	0.3nm2µm78nm,0.9s						
MTN	**Manton Dam**	**7.23**	**150**		**P**	**10 18 52.6**	**+0.4**
MTN	**Manton Dam**	**7.23**	**150**	P	**P**	**10 18 52.8**	**+0.6**
BKSI	**Bulukumba**	**7.33**	**280**	P	**P**	**10 18 53.5**	**+0.2**
	0.2nm701nm65nm,0.6s						
KAPI	**Kappang**	**7.75**	**281**	P	**P**	**10 18 58.8**	**+0.9**
	56nm,0.6s,baz=125,slow=4.7,SNR=31						
KAPI	**Kappang**	**7.75**	**281**		**P**	**10 18 58.7**	**+0.7**
KAPI	**Kappang**	**7.75**	**281**	P	**P**	**10 18 58.9**	**+0.9**
KDU	**Kakadu**	**7.87**	**141**	P	**P**	**10 18 59.5**	**+0.3**
SPSI	**Sidrap Palu**	**8.02**	**289**	P	**P**	**10 19 00.9**	**+0.1**
	1µm42nm,0.7s						
TTSI	**Tana Toraja**	**8.32**	**295**	P	**P**	**10 19 04.6**	**+0.4**
	2µm42nm,0.8s						
WBSI	**Waikabubak, Su**	**8.47**	**249**	P	**P**	**10 19 04.4**	**-1.5**
	40nm,1.1s						
KNRA	**Kununurra**	**9.13**	**172**		**P**	**10 19 13.6**	**+0.4**
KNRA	**Kununurra**	**9.13**	**172**	P	**P**	**10 19 14.0**	**+0.9**
PLAI	**Plampang**	**9.78**	**256**	P	**P**	**10 19 17.0**	**-3.3**
	29nm,0.9s						
TOLI2	**Tolitoli**	**10.10**	**319**	P	**P**	**10 19 24.3**	**+0.4**
TOLI2	**Tolitoli**	**10.10**	**319**	P	**P**	**10 19 24.2**	**+0.3**
MPSI	**Mapaga**	**10.15**	**312**	P	**P**	**10 19 25.0**	**+0.5**
	4µm14nm,0.9s						
TWSI	**Taliwang, Sumb**	**10.62**	**258**	P	**P**	**10 19 29.5**	**-0.2**
	11nm,1.2s						
FITZ	**Fitzroy Crossi**	**11.56**	**188**	P	**P**	**10 19 40.4**	**+0.4**
	1.4nm,0.6s,baz=8.4,slow=7.8,SNR=8.6						
FITZ	**Fitzroy Crossi**	**11.56**	**188**	P	**P**	**10 19 40.0**	**-0.1**
BKB	**Balikpapan**	**11.72**	**296**	P	**P**	**10 19 43.1**	**+1.3**
	66nm,0.5s						
WB0	**Warramunga Arr**	**14.76**	**153**	P	**P**	**10 20 15.7**	**+0.6**
WRA	**Warramunga Arr**	**14.89**	**154**	P	**P**	**10 20 16.8**	**+0.3**
	4.1nm,0.6s,baz=333,slow=12,SNR=70						
WRA				S	**S**	**10 22 51.8**	**-2.8**
	3.1nm,0.7s,baz=326,slow=19,SNR=7.3						
WRA	**Warramunga Arr**	**14.89**	**154**	P	**P**	**10 20 16.3**	**-0.1**
WB2	**Warramunga Arr**	**14.90**	**154**	P	**P**	**10 20 17.2**	**+0.7**
WR0	**Warramunga Arr**	**15.00**	**153**	P	**P**	**10 20 18.2**	**+0.6**
PSA00	**Pilbara Seismi**	**16.58**	**205**	P	**P**	**10 20 34.1**	**-0.5**
PSA00				IAmb	IAmb	10 20 37.4	
	comp=Z,10nm,1.1s						
COEN	**Coen**	**17.17**	**116**	P	**P**	**10 20 41.5**	**+0.7**
COEN				IAmb	IAmb	10 21 24.5	
	comp=Z,24nm,1.3s						
SBUM	**Sibu**	**17.60**	**300**	P	**P**	**10 20 47.3**	**+1.9**
SBUM				IAmb	IAmb	10 20 49.8	
	comp=Z,13nm,0.8s						
AS31	**Alice Springs**	**18.10**	**160**	P	**P**	**10 20 52.0**	**+1.3**
ASAR	**Alice Springs**	**18.10**	**160**	P	**P**	**10 20 51.0**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=341,slow=10,SNR=34						
ASAR				S	**S**	**10 23 56.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=348,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**18.10**	**160**	P	**P**	**10 20 52.3**	**+1.6**
LEM	**Lembang**	**19.63**	**268**	P	**P**	**10 21 06.7**	**+0.5**
	comp=Z,23nm,0.6s,baz=131,slow=20,SNR=4.3						
CNJI	**Cibinong**	**20.12**	**267**	P	**P**	**10 21 10.0**	**-0.5**
	comp=Z,154nm,1.0s						
BBOO	**Buckleboo**	**27.31**	**164**	P	**P**	**10 22 14.8**	**0.0**
STKA	**Stephens Creek**	**28.45**	**154**	P	**P**	**10 22 25.8**	**+0.8**
	comp=Z,1.6nm,0.4s,baz=317,slow=9.2,SNR=15						
	comp=Z,1.6nm,0.4s						
STKA	**Stephens Creek**	**28.45**	**154**	P	**P**	**10 22 25.0**	**0.0**
PSI	**Prapat**	**29.90**	**287**	P	**P**	**10 22 38.3**	**+0.2**
	comp=Z,21nm,0.7s,baz=108,slow=6.2,SNR=6.0						
	comp=Z,21nm,0.7s						
GSI	**Gunungsitoli**	**30.77**	**284**	P	**P**	**10 22 45.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**37.50**	**312**	P	**P**	**10 23 43.0**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=138,slow=6.9,SNR=6.4						
	comp=Z,1.0nm,0.4s						
JMN	**Monobe**	**40.57**	**8**	P	**P**	**10 24 08.3**	**+1.0**
JHS	**Saijyo**	**41.72**	**7**	P	**P**	**10 24 17.5**	**+1.0**
JHS				IAmb	IAmb	10 24 40.0	
	comp=Z,30nm,1.4s						
KSRS	**Korea Array**	**43.82**	**1**	P	**P**	**10 24 33.9**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=174,slow=9.2,SNR=9.8						
	comp=Z,1.3nm,0.5s						
MAJO	**Matsushiro**	**44.09**	**13**	P	**P**	**10 24 34.6**	**-0.7**
MAJO				IAmb	IAmb	10 24 36.2	
	comp=Z,8.4nm,0.9s						
MJAR	**Matsushiro Arr**	**44.09**	**13**	P	**P**	**10 24 34.9**	**-0.4**
	comp=Z,5.0nm,0.7s,baz=186,slow=9.2,SNR=22						
	comp=Z,5.0nm,0.7s						
JSD	**Sado**	**45.54**	**12**	P	**P**	**10 24 46.5**	**0.0**
USRK	**Ussuriysk Ar.**	**50.72**	**4**	P	**P**	**10 25 26.3**	**+0.8**
	comp=Z,5.1nm,0.6s,baz=190,slow=7.5,SNR=25						
	comp=Z,5.1nm,0.6s						
RAMN	**Ramite**	**51.68**	**312**	*eP*	**P**	**10 25 33.1**	**0.0**
	comp=Z,12nm,0.6s						
JIRN	**Jiri**	**52.38**	**312**

comp=Z,18nm,0.8s,baz=49,slow=16,SNR=9.8
comp=Z,18nm,0.8s
RPZ Rata Peaks 22.65 203 P **P** **10 25 12.6 -0.4**
CTA Charters Tower 34.22 268 P **P** **10 26 56.6 +0.8**
comp=Z,10nm,0.3s,baz=96,slow=9.7,SNR=29
comp=Z,10nm,0.3s
CTAO Charters Tower 34.22 268 P **P** **10 26 56.7 +0.8**
STKA Stephens Creek 37.49 248 P **P** **10 27 24.0 +0.4**
comp=Z,2.0nm,0.4s,baz=71,slow=8.1,SNR=8.5
comp=Z,2.0nm,0.4s
STKA Stephens Creek 37.49 248 P **P** **10 27 23.5 -0.1**
BBOO Buckleboo 42.21 246 P **P** **10 28 00.8 -1.8**
BBOO IAmb IAmb 10 28 02.5
comp=Z,24nm,1.4s
AS31 Alice Springs 44.84 259 P **P** **10 28 22.7 -1.0**
ASAR Alice Springs 44.84 259 P **P** **10 28 23.1 -0.6**
comp=Z,2.6nm,0.6s,baz=96,slow=6.8,SNR=9.9
ASAR PcP **PcP** **10 30 02.7 0.0**
comp=Z,0.3nm,0.4s,baz=116,slow=4.0,SNR=2.3
comp=Z,2.6nm,0.6s
ASAR Alice Springs 44.84 259 P **P** **10 28 22.5 -1.2**
WR0 Warramunga Arr 44.99 265 P **P** **10 28 24.3 -0.7**
WR0 IAmb IAmb 10 28 35.7
comp=Z,5.3nm,0.9s
WB2 Warramunga Arr 45.17 265 P **P** **10 28 25.3 -1.1**
WB2 IAmb IAmb 10 28 25.5
comp=Z,10nm,1.0s
WB0 Warramunga Arr 45.17 265 P **P** **10 28 25.7 -0.7**
WB0 IAmb IAmb 10 28 26.6
comp=Z,7.6nm,0.5s
WRAB Tennant Creek 45.17 265 P **P** **10 28 24.8 -1.6**
WRAB IAmb IAmb 10 28 25.4
comp=Z,15nm,1.4s
WRA Warramunga Arr 45.18 265 P **P** **10 28 25.2 -1.2**
comp=Z,4.3nm,0.5s,baz=95,slow=8.4,SNR=32
comp=Z,4.3nm,0.5s
WRA Warramunga Arr 45.18 265 P **P** **10 28 25.4 -1.1**
FORT Forrest 49.09 249 P **P** **10 28 55.3 -1.2**
FORT IAmb IAmb 10 29 38.0
comp=Z,14nm,1.1s
KNRA Kununurra 51.43 268 P **P** **10 29 13.2 -1.1**
FITZ Fitzroy Crossi 53.61 264 P **P** **10 29 29.4 -0.9**
FITZ IAmb IAmb 10 29 31.4
comp=Z,4.1nm,0.8s
MORW Morawa 59.66 249 P **P** **10 30 11.7 -1.2**
CASY Casey 61.88 206 P **P** **10 30 28.6 +1.4**
CASY IAmb IAmb 10 30 29.0
comp=Z,3.5nm,0.7s
QSPA South Pole Qui 66.83 180 P **P** **10 31 01.1 +1.6**
QSPA IAmb IAmb 10 31 02.7
comp=Z,3.5nm,1.1s
MAW Mawson 79.29 200 P **P** **10 32 14.6 +2.2**
comp=Z,2.6nm,0.7s,baz=134,slow=3.9,SNR=9.4
comp=Z,2.6nm,0.7s
NVAR Mina Array Bea 82.41 43 P **P** **10 32 29.7 0.0**
comp=Z,0.2nm,0.5s,baz=232,slow=6.8,SNR=4.1
comp=Z,0.2nm,0.5s
TROLL Troll, Antarti 84.99 180 P **P** **10 32 43.5 +1.3**
SNAA Sanae 85.24 178 P **P** **10 32 41.8 -1.7**
SNAA Sanae 85.24 178 P **P** **10 32 41.3 -2.1**
VNA3 Neumayer Olymp 85.34 176 P **P** **10 32 44.6 +0.8**
TXAR Lajitas Array 87.78 57 P **P** **10 32 57.1 +0.6**
comp=Z,0.5nm,0.9s,baz=215,slow=7.4,SNR=5.9
comp=Z,0.5nm,0.9s
ILAR Eielson Array 90.79 12 P **P** **10 33 07.9 -1.6**
comp=Z,0.3nm,0.8s,baz=212,slow=5.3,SNR=2.2
comp=Z,0.3nm,0.8s
ARCES ARCESS Array B 131.78 350 PKP **PKPdf** **10 39 17.2 -1.2**
comp=Z,1.7nm,0.8s,baz=17,slow=0.9,SNR=3.6
AKASG Malin Array Be 145.85 330 PKPbc **PKPdf** **10 39 43.7 -0.7**
comp=Z,1.7nm,0.5s,baz=41,slow=4.2,SNR=7.4
BRTR Keskin Array B 149.32 310 PKPbc **PKiKP** **10 39 56.6 +0.2**
comp=Z,0.8nm,0.7s,baz=57,slow=5.3,SNR=2.9
TORD Torodi Ar. Bea 169.87 173 PKPab **PKPab** **10 41 30.5 +1.0**
comp=Z,0.6nm,0.8s,baz=194,slow=4.1,SNR=2.7

ROM 04 10:38:55.9±0.1, 42°.766N±0°.003×13°.289E±0°.005, h15km, ML2.5/30, 21C-9D, Error ellipse: s-maj=0.4km s-min=0.2km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
T1244	**Arquata del Tr**	**0.01**	**145**	P		Pg	10 38 58.7	+0.2
T1244				S		Sg	10 39 00.7	+0.3
T1244				AML		AML		
	comp=E,8630μm,0.2s							
T1244				AML		AML		
	comp=N,15300μm,0.1s							
T1244				AML		AML		
	comp=E,8700μm,0.2s							
T1244				AML		AML		
	comp=N,15300μm,0.1s							
T1244				AML		AML		
	comp=E,8705μm,0.2s							
T1244				AML		AML		
	comp=N,15250μm,0.1s							
T1202	**Accumoli, Fraz**	**0.08**	**217**	P		Pg	10 38 59.3	+0.3
T1202				S		Sg	10 39 01.7	+0.6
T1242	**Castelluccio d**	**0.09**	**315**	P		Pg	10 38 59.2	+0.1
T1242				S		Sg	10 39 01.5	+0.1
T1242				AML		AML		
	comp=E,3290μm,0.2s							
T1242				AML		AML		
	comp=N,6885μm,0.2s							
T1242				AML		AML		
	comp=E,3210μm,0.2s							
T1242				AML		AML		
	comp=N,6830μm,0.2s							
T1242				AML		AML		
	comp=N,6890μm,0.2s							
T1242				AML		AML		
	comp=N,6885μm,0.2s							
T1242				AML		AML		
	comp=E,3290μm,0.2s							
T1204	**Amatrice, Fraz**	**0.09**	**167**	P		Pg	10 38 59.4	+0.2
T1204				S		Sg	10 39 01.7	+0.3
T1204				AML		AML		
	comp=E,8015μm,0.3s							
T1204				AML		AML		
	comp=E,8025μm,0.3s							
T1204				AML		AML		
	comp=N,4140μm,0.2s							
T1204				AML		AML		
	comp=N,4135μm,0.2s							
T1204				AML		AML		
	comp=E,8035μm,0.3s							
T1201	**Domo (RI)**	**0.11**	**195**	P		Pb	10 38 59.7	-0.1
T1201				S		Sg	10 39 01.3	-0.3
T1243	**Rocca Santa Ma**	**0.14**	**121**	⇑P		Pg	10 38 59.8	+0.2
T1243				S		Sb	10 39 02.7	-0.4
SMA1	**SAN MARTINO**	**0.14**	**166**	P		Pg	10 38 59.9	+0.1
SMA1				S		Sg	10 39 02.6	+0.4
SMA1				AML		AML		
	comp=E,2635μm,0.4s							
SMA1				AML		AML		
	comp=E,2630μm,0.4s							
SMA1				AML		AML		
	comp=N,2275μm,0.1s							
NRCA	**Norcia**	**0.14**	**298**	⇑P		Pg	10 38 59.8	0.0
NRCA				S		Sg	10 39 02.8	+0.4
NRCA				AML		AML		
	comp=E,6005μm,0.1s							
NRCA				AML		AML		
	comp=E,6495μm,0.1s							
NRCA				AML		AML		
	comp=E,6010μm,0.1s							
NRCA				AML		AML		
	comp=N,4980μm,0.1s							
NRCA				AML		AML		
	comp=N,5510μm,0.1s							
MC2	**Monte Cornacci**	**0.16**	**334**	⇓P		Pg	10 39 00.2	+0.1
MC2				S		Sg	10 39 03.4	+0.4
CAMP	**Campotosto**	**0.25**	**159**	⇑P		Pg	10 39 01.4	+0.1
CAMP				S		Sg	10 39 05.6	+0.6
CAMP				AML		AML		
	comp=N,634μm,0.7s							
CAMP				AML		AML		
	comp=E,988μm,0.5s							
LNSS	**Leonessa**	**0.25**	**228**	P		Pg	10 39 01.6	+0.3
LNSS				S		Sb	10 39 05.8	-0.5
LNSS				AML		AML		
	comp=E,5825μm,0.3s							
LNSS				AML		AML		
	comp=N,2420μm,0.9s							
FEMA	**Monte Fema**	**0.26**	**318**	⇑P		Pg	10 39 01.8	+0.2
FEMA				S		Sg	10 39 06.1	+0.6
RM33	**Pellescritta (**	**0.26**	**192**	P		Pg	10 39 01.8	+0.2
RM33				S		Sb	10 39 06.3	-0.4
RM33				AML		AML		
	comp=E,806μm,0.7s							
RM33				AML		AML		
	comp=E,805μm,0.7s							
RM33				AML		AML		
	comp=N,510μm,0.9s							
GUMA	**Gualdo di Mace**	**0.30**	**6**	⇑P		Pb	10 39 02.6	-0.3
GUMA				S		Sb	10 39 08.1	+0.3
GUMA				AML		AML		
	comp=E,3205μm,0.4s							
GUMA				AML		AML		
	comp=E,5335μm,0.3s							
GUMA				AML		AML		
	comp=N,5450μm,0.6s							
GUMA				AML		AML		
	comp=E,3210μm,0.4s							
GUMA				AML		AML		
	comp=N,4945μm,0.5s							
GUMA				AML		AML		
	comp=N,4950μm,0.5s							
FDMO	**Fiordimonte**	**0.31**	**331**	P		Pg	10 39 02.4	0.0
FDMO				S		Sg	10 39 07.3	+0.6
FDMO				AML		AML		
	comp=N,3830μm,0.1s							
FDMO				AML		AML		
	comp=E,2710μm,0.2s							
CSP1	**Cessapalombo**	**0.33**	**349**	⇑P		Pg	10 39 02.9	+0.1
CSP1				S		Sb	10 39 08.3	-0.5
CSP1				AML		AML		
	comp=E,1196μm,0.4s							
CSP1				AML		AML		
	comp=N,1920μm,0.4s							
CSP1				AML		AML		
	comp=E,1193μm,0.4s							
CSP1				AML		AML		
	comp=N,1918μm,0.4s							
CSP1				AML		AML		
	comp=N,1916μm,0.4s							
CSP1				AML		AML		
	comp=E,1195μm,0.4s							
OFFI	**Offida**	**0.34**	**60**	⇓P		Pb	10 39 04.0	+0.4
OFFI				AML		AML		
	comp=N,3640μm,0.5s							
OFFI				AML		AML		
	comp=E,2370μm,0.4s							
CESI	**CESI - Serrava**	**0.37**	**310**	P		Pg	10 39 03.4	0.0
CESI				S		Sb	10 39 09.3	-0.5
CESI				AML		AML		
	comp=N,1280μm,1.1s							
CESI				AML		AML		
	comp=E,962μm,1.0s							
GIGS	**Gran Sasso**	**0.38**	**147**	⇓P		Pg	10 39 03.4	-0.1
GIGS				S		Sg	10 39 09.3	+0.5
GIGS				AML		AML		
	comp=N,260μm,0.4s							
GIGS				AML		AML		
	comp=N,260μm,0.4s							
GIGS				AML		AML		
	comp=E,378μm,0.6s							
ARRO	**Arrone**	**0.43**	**244**	⇑P		Pg	10 39 04.7	+0.3
ARRO				AML		AML		
	comp=E,607μm,0.2s							
ARRO				AML		AML		
	comp=N,542μm,0.2s							
ARRO				AML		AML		
	comp=E,602μm,0.2s							
ARRO				AML		AML		
	comp=N,526μm,0.2s							
FIAM	**Fiamignano**	**0.51**	**194**	⇑P		Pg	10 39 05.9	-0.2
FIAM				AML		AML		
	comp=E,166μm,0.3s							
FIAM				AML		AML		
	comp=N,118μm,0.3s							
ASSB	**Assisi San Ben**	**0.54**	**301**	⇓P		Pg	10 39 06.2	-0.3
ASSB				AML		AML		
	comp=N,529μm,1.5s							
ASSB				AML		AML		
	comp=E,528μm,0.2s							
FAGN	**Fagnano**	**0.55**	**156**	⇓P		Pg	10 39 06.4	-0.2
FAGN				AML		AML		
	comp=E,648μm,0.8s							
FAGN				AML		AML		
	comp=N,928μm,1.4s							
FAGN				AML		AML		
	comp=N,928μm,1.4s							
CESX	**Cesi**	**0.55**	**254**	⇑P		Pb	10 39 07.0	-0.2
CESX				S		Sb	10 39 16.0	+1.2
CESX				AML		AML		
	comp=N,254μm,0.3s							
CESX				AML		AML		
	comp=E,330μm,0.4s							
VCEL	**Villa Celiera**	**0.55**	**132**	⇑P		Pg	10 39 06.9	+0.2
VCEL				AML		AML		
	comp=E,573μm,0.6s							
VCEL				AML		AML		
	comp=N,516μm,1.3s							
SNTG	**Esanatoglia**	**0.55**	**332**	⇑P		Pg	10 39 06.6	-0.1
SNTG				AML		AML		
	comp=E,375μm,0.4s							
SNTG				AML		AML		
	comp=N,310μm,0.5s							
SNTG				AML		AML		
	comp=N,310μm,0.5s							
EL6	**Elcito**	**0.58**	**346**	⇑P		Pg	10 39 07.1	-0.2
EL6				S		Sb	10 39 17.0	+1.1
ATCC	**AVT- Casa Cast**	**0.64**	**312**	⇑P		Pg	10 39 08.2	-0.1
ATCC				AML		AML		
	comp=E,424μm,0.9s							
ATCC				AML		AML		
	comp=N,327μm,0.7s							
ATCC				AML		AML		
	comp=E,425μm,0.9s							
ATCC				AML		AML		
	comp=N,326μm,0.7s							
T0110	**Collepietro**	**0.65**	**146**	⇓P		Pg	10 39 08.2	-0.3
T0110				S		Sn	10 39 20.0	-0.7
T0110				AML		AML		
	comp=E,484μm,0.3s							
T0110				AML		AML		
	comp=N,451μm,0.4s							
FOSV	**Fossato di Vic**	**0.66**	**324**	⇑P		Pg	10 39 08.1	-0.6
FOSV				S		Sb	10 39 19.0	+1.0
FOSV				AML		AML		
	comp=N,730μm,0.3s							
FOSV				AML		AML		
	comp=E,310μm,0.5s							
SSFR	**Montelago di S**	**0.77**	**331**	⇑P		Pg	10 39 10.6	-0.2
SSFR				AML		AML		
	comp=E,810μm,1.1s							
SSFR				AML		AML		
	comp=N,1026μm,0.3s							
SSFR				AML		AML		
	comp=N,1270μm,0.3s							
SSFR				AML		AML		
	comp=E,1069μm,1.1s							
ARVD	**Arcevia**	**0.78**	**341**	⇑P		Pg	10 39 10.6	-0.4
ARVD				S		Sn	10 39 24.0	+0.2
ARVD				AML		AML		
	comp=E,175μm,1.5s							
ARVD				AML		AML		
	comp=N,126μm,0.8s							
CERT	**Cerreto**	**0.85**	**196**	⇑P		Pg	10 39 11.5	-0.8
CERT				AML		AML		
	comp=N,115μm,0.7s							
CERT				AML		AML		
	comp=E,154μm,0.5s							
MGAB	**Montegabbione**	**0.88**	**280**	⇓P		Pg	10 39 12.9	0.0
MGAB				AML		AML		
	comp=N,107μm,0.5s							
MGAB				AML		AML		
	comp=E,124μm,0.4s							
INTR	**Introdacqua**	**0.88**	**149**	⇑P		Pb	10 39 12.3	-0.6
INTR				AML		AML		
	comp=E,96μm,0.5s							
INTR				AML		AML		
	comp=N,188μm,1.4s							
INTR				AML		AML		
	comp=N,187μm,1.4s							
INTR				AML		AML		
	comp=E,96μm,0.5s							
COR1	**Corinaldo**	**0.89**	**346**	⇓P		Pb	10 39 12.6	-0.5
ATVO	**AVT- Monte Val**	**0.89**	**314**	P		Pb	10 39 12.7	-0.4
ATVO				AML		AML		
	comp=E,132μm,0.4s							
ATVO				AML		AML		
	comp=N,115μm,0.4s							
MPAG	**Monte Paganucc**	**0.95**	**336**	⇓P		Pb	10 39 13.8	-0.3
MPAG				S		Sn	10 39 29.0	+0.9
LPEL	**Lama dei Pelig**	**0.98**	**137**	⇑P		Pb	10 39 14.4	-0.2
LPEL				AML		AML		
	comp=E,130μm,0.8s							
LPEL				AML		AML		
	comp=N,108μm,0.2s							
FSSB	**Fossombrone**	**1.00**	**338**	⇑P		Pb	10 39 14.9	0.0
FSSB				AML		AML		
	comp=E,288μm,0.3s							
FSSB				AML		AML		
	comp=N,408μm,0.4s							
CAFI	**Castiglion Fio**	**1.12**	**301**	⇑P		Pg	10 39 17.4	-0.2

ROM 04 10:39:55.2±0.1, 42°.729N±0°.004×13°.188E±0°.005, h10km, ML1.6/9, 4C-1D, Error ellipse: s-maj=0.5km s-min=0.2km az=238.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
T1202	**Accumoli, Fraz**	**0.04**	**133**	P		Pg	10 39 57.3	0.0
T1202				S		Sg	10 39 58.5	-0.3
T1202				AML		AML		
	comp=E,3150μm,0.2s							
T1202				AML		AML		
	comp=N,5350μm,0.7s							
T1202				AML		AML		
	comp=N,5360μm,0.7s							
T1244	**Arquata del Tr**	**0.09**	**71**	P		Pg	10 39 58.2	+0.4
T1244				AML		AML		
	comp=E,1089μm,0.2s							
T1244				AML		AML		
	comp=N,556μm,0.3s							
T1244				AML		AML		
	comp=E,1084μm,0.2s							
T1244				AML		AML		
	comp=N,518μm,0.3s							
T1244				AML		AML		
	comp=E,1090μm,0.2s							
T1244				AML		AML		
	comp=N,556μm,0.3s							
T1242	**Castelluccio d**	**0.10**	**7**	P		Pg	10 39 58.3	+0.3
T1242				S		Sg	10 40 00.1	+0.1
T1242				AML		AML		
	comp=N,618μm,0.1s							
T1242				AML		AML		
	comp=N,619μm,0.1s							
T1242				AML		AML		
	comp=E,442μm,1.0s							
T1204	**Amatrice, Fraz**	**0.11**	**119**	⇑P		Pg	10 39 58.5	+0.5
T1204				S		Sg	10 40 00.7	+0.6
NRCA	**Norcia**	**0.12**	**333**	P		Pg	10 39 58.4	+0.2
NRCA				S		Sg	10 40 00.3	0.0
NRCA				AML		AML		
	comp=N,694μm,1.0s							
NRCA				AML		AML		
	comp=E,888μm,0.5s							
SMA1	**SAN MARTINO**	**0.15**	**132**	P		Pg	10 39 59.2	+0.7
SMA1				S		Sg	10 40 02.2	+1.3
SMA1				AML		AML		
	comp=N,298μm,1.6s							
SMA1				AML		AML		
	comp=E,272μm,0.3s							
LNSS	**Leonessa**	**0.17**	**221**	⇑P		Pg	10 39 59.6	+0.7
LNSS				S		Sg	10 40 02.6	+1.1
LNSS				AML		AML		
	comp=N,405μm,0.6s							
LNSS				AML		AML		
	comp=E,554μm,0.5s							
LNSS				AML		AML		
	comp=N,404μm,0.6s							
MC2	**Monte Cornacci**	**0.18**	**1**	P		Pg	10 39 59.7	+0.4
MC2				S		Sg	10 40 03.5	+1.4
T1243	**Rocca Santa Ma**	**0.20**	**99**	⇑P		Pg	10 39 59.8	+0.4
T1243				S		Sg	10 40 03.1	+0.9
RM33	**Pellescritta (**	**0.22**	**175**	P		Pg	10 40 00.6	+0.8
RM33				S		Sg	10 40 04.4	+1.4
RM33				AML		AML		
	comp=E,100μm,0.2s							
RM33				AML		AML		
	comp=N,112μm,0.2s							
FDMO	**Fiordimonte**	**0.32**	**347**	P		Pg	10 40 02.0	+0.5
FDMO				S		Sb	10 40 07.2	-1.1
TERO	**Teramo**	**0.33**	**109**	⇑P		Pg	10 40 02.0	+0.3
TERO				S		Sg	10 40 07.2	+1.1
TERO				AML		AML		
	comp=E,200μm,0.1s							
TERO				AML		AML		
	comp=N,288μm,0.1s							
CESI	**CESI - Serrava**	**0.35**	**323**	P		Pg	10 40 02.5	+0.3
CESI				S		Sg	10 40 07.8	+1.1
CESI				AML		AML		
	comp=E,84μm,0.5s							
CESI				AML		AML		
	comp=N,97μm,0.6s							
GUMA	**Gualdo di Mace**	**0.35**	**18**	P		Pb	10 40 03.1	-0.5
GUMA				S		Sb	10 40 09.2	0.0
GUMA				AML		AML		
	comp=E,306μm,0.6s							
GUMA				AML		AML		
	comp=N,271μm,0.7s							
CSP1	**Cessapalombo**	**0.36**	**2**	⇓P		Pg	10 40 03.0	+0.5
CSP1				S		Sb	10 40 08.9	-0.7
GIGS	**Gran Sasso**	**0.40**	**135**	P		Pg	10 40 03.5	+0.5
GIGS				S		Sg	10 40 09.4	+1.1
ASSB	**Assisi San Ben**	**0.50**	**309**	P		Pg	10 40 05.2	+0.2
ASSB				S		Sb	10 40 13.1	-0.5
ASSB				AML		AML		
	comp=E,66μm,0.2s							
ASSB				AML		AML		
	comp=N,41μm,0.7s							
VCEL	**Villa Celiera**	**0.59**	**124**	S		Sb	10 40 16.0	-0.1

*STR **04** 10:39:59.8±0.3, 47°N±1°×°±°, h3km±3km, MLv2.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=102.2, preliminary*
*ZUR **04** 10:39:59.4, 46°.91N×5°.94E, h0km±2km, MLh2.2/46, Error ellipse: s-maj=5.0km s-min=1.5km az=173.0*
*LDG **04** 10:39:59.3±0.0, 46°.89N×5°.94E, h2km, Md2.9/1, Ml2.8/36, Error ellipse: s-maj=0.9km s-min=0.8km az=77.0*
*GEN **04** 10:40:00.2, 46°.98N×5°.79E, h44km±22km, Ml0.0*

ISC 04 10:39:58.7±0.9, 46°.90N±0°.01×5°.85E±0°.01, h16km±7km, n109, σ1§13/190, 13C-2D, France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CABF	**La Chapelle**	**0.33**	**151**	*e*Pg		**Pg**	**10 40 05.2**	**-0.5**
CABF				*e*Sg		**Sg**	**10 40 09.2**	**-1.3**
	58nm,0.3s							
BRANT	**Les Verrieres**	**0.43**	**85**	⇑Pg		**Pg**	**10 40 06.7**	**-0.7**
BRANT				Sg		**Sg**	**10 40 12.0**	**-1.2**
BRANT	**Les Verrieres**	**0.43**	**85**	Sg		**Sg**	**10 40 12.0**	**-1.2**
BRANT	**Les Verrieres**	**0.43**	**85**	⇑Pg		**Pg**	**10 40 06.6**	**-0.7**
BOUC	**Bouclans**	**0.44**	**39**	⇑Pg		**Pg**	**10 40 07.4**	**-0.2**
BOUC				Sg		**Sg**	**10 40 13.4**	**-0.2**
GIMEL	**St. Georges /**	**0.47**	**142**	⇓Pg		**Pg**	**10 40 07.7**	**-0.3**
GIMEL				Sg		**Sg**	**10 40 14.0**	**-0.4**
GIMEL	**St. Georges /**	**0.47**	**142**	Sg		**Sg**	**10 40 14.0**	**-0.4**
GIMEL	**St. Georges /**	**0.47**	**142**	⇓Pg		**Pg**	**10 40 07.8**	**-0.3**
CHMF	**Charmoille**	**0.65**	**57**	⇑Pg		**Pg**	**10 40 11.0**	**-0.4**
TORNY	**Torny/Romont**	**0.77**	**99**	Sg		**Sg**	**10 40 22.7**	**-1.2**
TORNY	**Torny/Romont**	**0.77**	**99**	Pg		**Pb**	**10 40 13.8**	**+0.1**
OG02	**Monnetier-Morn**	**0.79**	**161**	Pg		**Pb**	**10 40 14.7**	**+0.6**
OG35	**Corcelles**	**0.88**	**193**	Pg		**Pn**	**10 40 16.3**	**-0.2**
OG35	**Corcelles**	**0.88**	**193**	Pg		**Pg**	**10 40 16.2**	**+0.4**
OG35				Pn		**Pn**	**10 40 18.0**	**+1.4**
OG35				Sg		**Sn**	**10 40 28.6**	**-0.4**
OG35				Sn		**Sg**	**10 40 31.0**	**+3.7**
SAIRA	**Les Sairains D**	**0.93**	**64**	Pg		**Pb**	**10 40 16.6**	**0.0**
AIGLE	**Aigle**	**0.94**	**126**	Pn		**Pb**	**10 40 16.8**	**+0.1**
AIGLE	**Aigle**	**0.94**	**126**	Sg		**Sg**	**10 40 29.9**	**+0.5**
AIGLE	**Aigle**	**0.94**	**126**	Pg		**Pb**	**10 40 16.8**	**+0.1**
AIGLE				Pn		**Pn**	**10 40 18.4**	**+1.0**
RONF	**Ronchamp**	**0.97**	**33**	⇑Pg		**Pg**	**10 40 17.5**	**0.0**
RONF				Sg		**Sg**	**10 40 30.4**	**+0.1**
OGSI	**Sixt**	**1.04**	**143**	⇑Pg		**Pg**	**10 40 19.9**	**+1.0**
OGSI				Sg		**Sn**	**10 40 33.3**	**+0.4**
BOURR	**Bourrignon**	**1.06**	**62**	⇑Pn		**Pg**	**10 40 19.1**	**-0.2**
BOURR	**Bourrignon**	**1.06**	**62**	⇑Pg		**Pg**	**10 40 19.0**	**-0.2**

BOURR	Bourrignon	1.06	62	Sg	Sg	10 40 33.1	0.0
SALAN	Lac Salanfe	1.08	134	Pn	Pg	10 40 20.1	+0.4
SALAN	Lac Salanfe	1.08	134	P	Pg	10 40 20.1	+0.4
SALAN				S	Sn	10 40 35.5	+1.3
GRYON	Gryon	1.09	126	⇑Pn	Pb	10 40 19.2	0.0
SENIN	Lac Senin/Sane	1.13	118	Pn	Pb	10 40 19.9	-0.1
HINF	Hinteralfeld	1.14	36	*e*Pg	Pb	10 40 19.9	-0.2
HINF				*e*Sg	Sg	10 40 35.4	-0.2
	24nm,0.2s						
HAU	Haudompre	1.15	17	*e*Pg	Pg	10 40 21.1	+0.1
HAU				*e*Sg	Sg	10 40 36.2	+0.1
	46nm,0.3s						
MOF	Molkenrain	1.29	42	⇑Pg	Pg	10 40 23.1	-0.4
MOF				Sg	Sg	10 40 39.9	-0.4
OGSM	Saint Maurice	1.30	185	Pn	Pg	10 40 24.1	+0.4
RSL	Roselend	1.33	156	P	Pg	10 40 24.5	+0.2
RSL				S	Sg	10 40 41.6	-0.1
RSL	Roselend	1.33	156	Pn	Pg	10 40 24.5	+0.2
RSL				Sn	Sg	10 40 41.5	-0.1
BALST	Balsthal	1.33	70	⇑Pg	Pb	10 40 23.7	+0.3
BALST	Balsthal	1.33	70	Sg	Sb	10 40 40.7	+0.5
DIX	Grande Dixence	1.35	127	P	Pb	10 40 24.1	+0.2
DIX				S	Sg	10 40 42.9	+0.4
DIX	Grande Dixence	1.35	127	Sn	Sg	10 40 42.9	+0.4
DIX	Grande Dixence	1.35	127	⇑Pn	Pb	10 40 24.1	+0.2
REMY	Saint-Rhmy-en	1.40	139	P	Pg	10 40 25.6	0.0
REMY				S	Sg	10 40 44.7	+0.9
SMF	Signal de Mont	1.41	260	*e*Pg	Pg	10 40 26.5	+0.7
SMF				*e*Sg	Sg	10 40 45.8	+1.7
	20nm,0.2s						
LAUCH	Lauchernalp	1.41	110	P	Pg	10 40 25.8	-0.1
LAUCH				S	Sn	10 40 42.5	+0.2
MRGE	Morge	1.41	143	P	Pg	10 40 25.6	-0.2
MRGE				S	Sg	10 40 44.1	-0.1
LOR	Lormes	1.41	286	*e*Pg	Pb	10 40 25.1	+0.4
	baz=108						
LOR				*e*Sg	Sg	10 40 44.4	+0.2
	39nm,0.3s,baz=114						
LOR	Lormes	1.41	286	Pn	Pg	10 40 25.4	-0.5
LOR	Lormes	1.41	286	Sn	Sg	10 40 44.0	-0.2
SFTF	Sexfontaines	1.42	337	*e*Pn	Pb	10 40 24.6	-0.1
	baz=158						
SFTF	Sexfontaines	1.42	337	*e*Pg	Pg	10 40 27.0	+1.1
	baz=153						
SFTF				*e*Sg	Sg	10 40 45.3	+0.9
	36nm,0.3s						
LPL	La Plagne	1.52	156	*e*Pg	Pb	10 40 27.3	+0.7
LPL				*e*Sg	Sb	10 40 46.5	+0.9
	16nm,0.3s						
EMBD	Embd, Matterta	1.53	116	P	Pg	10 40 27.8	-0.4
EMBD				S	Sg	10 40 47.2	-0.8
EMBD	Embd, Matterta	1.53	116	Pn	Pg	10 40 27.7	-0.4
LPG	La Plagne	1.54	156	*e*Pg	Pb	10 40 27.8	+0.8
LPG				*e*Sn	Sn	10 40 45.1	-0.4
LPG				*e*Sg	Sb	10 40 47.1	+0.8
	16nm,0.3s						
ECH	Echery	1.58	33	Pn	Pn	10 40 26.0	-0.2
SSF	Saint Saulge	1.61	276	*e*Pn	Pb	10 40 28.1	0.0
SSF	Saint Saulge	1.61	276	*e*Pg	Pg	10 40 30.6	+0.9
SSF				*e*Sg	Sg	10 40 51.9	+1.2
	14nm,0.2s						
SIMPL	Simplonpass	1.64	113	P	Pg	10 40 30.0	-0.2
SIMPL				S	Sb	10 40 49.7	+0.6
PAGF	Fort de Pagny	1.66	357	*e*Pn	Pb	10 40 27.0	-0.9
PAGF	Fort de Pagny	1.66	357	*e*Pg	Pg	10 40 30.0	-0.5
PAGF				*e*Sn	Sb	10 40 48.6	-0.9
PAGF				*e*Sg	Sg	10 40 51.9	-0.1
	26nm,0.2s						
MEZF	Maizieres J'vi	1.69	342	*e*Pg	Pg	10 40 31.7	+0.5
	baz=160						
MEZF				*e*Sn	Sb	10 40 49.8	-0.6
MEZF				*e*Sg	Sg	10 40 53.4	+0.3
	32nm,0.5s						
MMK	Mattmark	1.69	120	P	Pg	10 40 30.8	-0.4
MMK				S	Sb	10 40 51.9	+1.2
AVF	Avril sur Loir	1.72	267	*e*Pn	Pn	10 40 28.7	+0.7
AVF	Avril sur Loir	1.72	267	*e*Pg	Pg	10 40 32.4	+0.7
AVF				*e*Sn	Sb	10 40 50.5	-0.8
AVF				*e*Sg	Sg	10 40 54.5	+0.4
	16nm,0.3s						
SAVF	Savonnieres en	1.78	344	*e*Pn	Pn	10 40 29.7	+0.9
SAVF	Savonnieres en	1.78	344	*e*Pg	Pg	10 40 32.4	-0.5
SAVF				*e*Sg	Sg	10 40 56.7	+0.6
	15nm,0.4s						
CDF	Champ du Feu	1.79	32	*e*Pn	Pn	10 40 28.7	-0.4
CDF	Champ du Feu	1.79	32	*e*Pg	Pb	10 40 31.7	+0.5
CDF				*e*Sn	Sn	10 40 51.1	-0.4
CDF				*e*Sg	Sb	10 40 54.6	+1.2
	16nm,0.3s						
OGMO	Fort Saint-Gob	1.79	161	⇑Pg	Pg	10 40 33.4	+0.3
OGMO				Sn	Sb	10 40 54.2	+0.8
WLS	Welschbruch	1.82	33	Pn	Pn	10 40 29.3	-0.1
ORIF	Oris-en-Rattie	1.98	179	*e*Pn	Pn	10 40 32.5	+0.8
ORIF	Oris-en-Rattie	1.98	179	*e*Pg	Pg	10 40 36.1	-0.7
ORIF				*e*Sg	Sb	10 41 01.0	+2.0
	30nm,0.4s						
SLE	Schleitheim	1.99	63	Pn	Pn	10 40 31.4	-0.3
BGF	Bois d'Agland	2.10	262	*e*Pn	Pb	10 40 35.0	-1.3
BGF	Bois d'Agland	2.10	262	*e*Pg	Pg	10 40 39.7	+0.8
BGF				*e*Sn	Sn	10 40 59.5	+0.6
BGF				*e*Sg	Sg	10 41 06.4	+0.3
	23nm,0.3s						
VIVF	Saint-Julien-l	2.21	202	*e*Pn	Pn	10 40 35.0	+0.3
VIVF	Saint-Julien-l	2.21	202	*e*Pg	Pg	10 40 40.3	-0.7
VIVF				*e*Sn	Sn	10 41 01.3	-0.4
VIVF				*e*Sg	Sg	10 41 08.2	-1.4
	12nm,0.2s						
HYF	Humbligny	2.23	281	*e*Pn	Pb	10 40 37.0	-1.6
HYF	Humbligny	2.23	281	*e*Pg	Pg	10 40 42.3	+0.9
HYF				*e*Sn	Sn	10 41 03.9	+1.8
HYF				*e*Sg	Sg	10 41 11.2	+0.9
	59nm,0.4s						
MBDF	Montbardon	2.27	163	*e*Pg	Pg	10 40 41.0	-1.2
MBDF				*e*Sn	Sn	10 41 03.2	-0.2
MBDF				*e*Sg	Sg	10 41 10.4	-1.3
	5.2nm,0.4s						
TCF	Toulx Ste Croi	2.59	258	*e*Pn	Pn	10 40 41.4	+1.5
TCF	Toulx Ste Croi	2.59	258	*e*Pg	Pg	10 40 49.0	+0.7
TCF				*e*Sn	Sn	10 41 11.4	+0.4
TCF				*e*Sg	Sg	10 41 21.5	-0.3
	6.9nm,0.3s						
DAVA	Damuels	2.78	81	*e*Sn	Sg	10 41 25.8	-2.1
	7.1nm,0.3s						
SMRF	Simiane la Rot	2.93	184	*e*Pn	Pn	10 40 45.1	+0.4
SMRF	Simiane la Rot	2.93	184	*e*Pg	Pg	10 40 54.5	-0.4
SMRF				*e*Sn	Sn	10 41 19.6	0.0
SMRF				*e*Sg	Sg	10 41 30.7	-2.2
	1.2nm,0.3s						
LASF	Ste Croix	3.16	207	*e*Pn	Pn	10 40 48.0	+0.2
LASF	Ste Croix	3.16	207	*e*Pg	Pg	10 40 57.7	-1.5
LASF				*e*Sn	Sn	10 41 23.8	-1.3
LASF				*e*Sg	Sg	10 41 38.0	-2.1
	6.4nm,0.3s						
SBF	Sospel	3.24	159	*e*Pn	Pn	10 40 49.0	+0.1
SBF				*e*Sn	Sn	10 41 24.6	-2.6
	4.0nm,0.4s						
GIVF	Givet	3.27	348	*e*Pn	Pn	10 40 50.4	+1.1
GIVF				*e*Sn	Sn	10 41 28.5	+0.6
GIVF				*e*Sg	Sg	10 41 43.6	-0.2
	1.8nm,0.2s						
CAF	Calviac	3.30	235	*e*Pn	Pn	10 40 51.6	+1.8
CAF	Calviac	3.30	235	*e*Pg	Pg	10 41 01.6	-0.3
CAF				*e*Sn	Sn	10 41 28.4	-0.3
CAF				*e*Sg	Sg	10 41 43.5	-1.2
	1.6nm,0.2s						
FETA	Feichten	3.34	86	*i* Pn	Pn	10 40 53.2	+2.8
	0.3nm,0.2s						
FETA				*e*Sn	Sb	10 41 40.4	+2.3
	0.9nm,0.3s						
BAIF	Baives	3.34	341	*e*Pn	Pn	10 40 51.8	+1.5
BAIF	Baives	3.34	341	*e*Pg	Pg	10 41 02.4	-0.3
BAIF				*e*Sn	Sn	10 41 28.4	-1.2
BAIF				*e*Sg	Sg	10 41 44.9	-1.1
	2.0nm,0.3s						
RETA	Reutte	3.40	78	*e*Pn	Pn	10 40 53.1	+2.0
	0.2nm,0.1s						
RETA				*i* Sn	Sg	10 41 46.7	-1.1
	1.3nm,0.3s						
RJF	Les Rejaudoux	3.41	244	*e*Pn	Pn	10 40 51.7	+0.4
RJF	Les Rejaudoux	3.41	244	*e*Pg	Pg	10 41 03.0	-1.1
RJF				*e*Sn	Sn	10 41 31.3	-0.1
RJF				*e*Sg	Sg	10 41 47.3	-1.0
	4.0nm,0.4s						
LMR	La Mourre	3.60	172	*e*Pn	Pn	10 40 53.9	+0.1
LMR	La Mourre	3.60	172	*e*Pg	Pb	10 41 04.3	+2.4
LMR				*e*Sn	Sn	10 41 33.6	-2.4
LMR				*e*Sg	Sg	10 41 50.1	-4.1
	1.8nm,0.3s						
LFF	La Frestale	4.07	243	*e*Pn	Pn	10 41 01.4	+1.1
LFF				*e*Sn	Sn	10 41 47.6	0.0
LFF				*e*Sg	Sg	10 42 08.5	-0.9
	7.9nm,0.5s						
MFF	Saint Martin d	4.13	268	*e*Pn	Pn	10 41 02.1	+0.9
MFF	Saint Martin d	4.13	268	*e*Pg	Pg	10 41 17.1	-0.8
MFF				*e*Sn	Sn	10 41 48.7	-0.5
MFF				*e*Sg	Sg	10 42 09.6	-1.8
	2.7nm,0.4s						
LDF	La Druitiere	4.37	295	*e*Pn	Pn	10 41 05.5	+1.1
LDF	La Druitiere	4.37	295	*e*Pg	Pg	10 41 20.7	-1.7
LDF				*e*Sn	Sn	10 41 54.9	-0.1
LDF				*e*Sg	Sg	10 42 17.6	-1.4
	0.9nm,0.3s						
FLN	La Foliniere	4.65	296	*e*Pn	Pn	10 41 10.0	+1.7
FLN	La Foliniere	4.65	296	*e*Pg	Pg	10 41 26.2	-1.6
FLN				*e*Sn	Sn	10 42 00.7	-1.3
FLN				*e*Sg	Sg	10 42 26.4	-1.6
	1.5nm,0.2s						
GRR	Gorron	4.77	291	*e*Pn	Pn	10 41 10.9	+1.0
GRR	Gorron	4.77	291	*e*Pg	Pg	10 41 28.6	-1.5
GRR				*e*Sn	Sn	10 42 04.4	-0.5
GRR				*e*Sg	Sg	10 42 31.0	-0.8
	2.3nm,0.3s						
EPF	Esparros	5.50	227	*e*Pn	Pn	10 41 21.7	+1.7
EPF				*e*Sn	Sn	10 42 21.5	-1.5
KHC	Kasperske Hory	5.64	64	*e*SG	Sg	10 43 04.0	+4.3
ETSF	Etsaut	6.06	231	*e*Pn	Pn	10 41 26.9	-0.8
ETSF				*e*Sn	Sn	10 42 32.1	-4.7
	1.4nm,0.3s						
ROSF	Rostrenen	6.33	286	*e*Pn	Pn	10 41 32.3	+0.9
ROSF				*e*Sn	Sn	10 42 42.2	-1.1
	1.3nm,0.3s						

ROM 04 10:41:36.1±0.1, 42°07.16N±0.003×13°12.51E±0.005, h10km, ML1.2/6, 1C, Error ellipse: s-maj=0.4km s-min=0.3km az=248.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.02**	**236**	P	Pg	10 41 38.3	+0.2
T1202				S	Sg	10 41 39.6	0.0
T1202				AML	AML		
	comp=E,1745μm,0.3s						
T1202				AML	AML		
	comp=N,3035μm,0.8s						
T1202				AML	AML		
	comp=E,1746μm,0.3s						
T1202				AML	AML		
	comp=N,3030μm,0.8s						
T1244	**Arquata del Tr**	**0.05**	**40**	P	Pg	10 41 38.7	+0.3
T1244				S	Sg	10 41 40.1	+0.2
T1244				AML	AML		
	comp=E,493μm,0.5s						
T1244				AML	AML		
	comp=N,342μm,0.4s						
T1244				AML	AML		
	comp=N,342μm,0.4s						
T1204	**Amatrice, Fraz**	**0.06**	**130**	P	Pg	10 41 38.8	+0.3
T1204				S	Sg	10 41 40.4	+0.2
SMA1	**SAN MARTINO**	**0.11**	**144**	P	Pb	10 41 39.8	-0.6
SMA1				AML	AML		
	comp=E,89μm,0.5s						
SMA1				AML	AML		
	comp=N,82μm,0.5s						
T1242	**Castelluccio d**	**0.12**	**343**	P	Pg	10 41 38.9	-0.3
T1242				S	Sg	10 41 41.9	+0.5
T1242				AML	AML		
	comp=E,105μm,0.2s						
T1242				AML	AML		
	comp=N,113μm,0.8s						
T1243	**Rocca Santa Ma**	**0.15**	**98**	P	Pg	10 41 40.0	+0.5
T1243				S	Sg	10 41 42.6	+0.7
LNSS	**Leonessa**	**0.19**	**234**	P	Pg	10 41 40.8	+0.5
LNSS				S	Sg	10 41 44.2	+1.1
LNSS				AML	AML		
	comp=N,102μm,0.8s						
LNSS				AML	AML		
	comp=N,102μm,0.8s						
LNSS				AML	AML		
	comp=E,136μm,0.3s						
MC2	**Monte Cornacci**	**0.20**	**347**	P	Pg	10 41 41.0	+0.4
MC2				S	Sg	10 41 44.9	+1.4
RM33	**Pellescritta (**	**0.21**	**187**	P	Pb	10 41 41.6	-0.5
RM33				S	Sg	10 41 44.8	+1.2
RM33				AML	AML		
	comp=E,65μm,0.1s						
RM33				AML	AML		
	comp=N,60μm,0.1s						
TERO	**Teramo**	**0.28**	**110**	P	Pg	10 41 42.2	+0.5
TERO				S	Sg	10 41 46.7	+1.2
FDMO	**Fiordimonte**	**0.34**	**339**	⇑P	Pg	10 41 43.5	+0.5
FDMO				S	Sb	10 41 49.0	-0.9
FDMO				AML	AML		
	comp=N,17μm,1.1s						
FDMO				AML	AML		
	comp=E,12μm,1.5s						
CSP1	**Cessapalombo**	**0.38**	**355**	P	Pg	10 41 44.2	+0.5
CSP1				S	Sb	10 41 50.1	-0.8
CSP1				AML	AML		
	comp=E,52μm,1.6s						
CSP1				AML	AML		
	comp=N,53μm,1.6s						

*IDC **04** 10:57:38.9±1.5, 22°.94S×174°.25W, h0km, mb4.1/5, mbtmp4.2/6, ML3.5/1, Error ellipse: s-maj=49.6km s-min=30.4km az=162.0*

ISC 04 10:57:42.4±1.2, 22°.7S±0°.5×174°.2W±0°.1, h35km, n9, σ3°58/6, mb4.0/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.78**	**303**	Pn	Pn	10 59 49.7	+2.8
	baz=145,slow=18						
RAR	**Rarotonga**	**13.48**	**86**	Pn	**Pn**	**11 00 51.0**	**-0.2**
	2.4nm,0.3s,baz=264,slow=10,SNR=3.6						
	29nm,0.7s						
ASAR	**Alice Springs**	**47.49**	**258**	P	P	11 06 15.0	+0.7
	2.8nm,0.8s,baz=92,slow=8.3,SNR=23						
ASAR				PcP	**PcP**	**11 07 47.6**	**+3.3**
	0.7nm,0.9s,baz=90,slow=4.8,SNR=2.7						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**47.82**	**263**	P	**P**	**11 06 16.4**	**-0.5**
	1.4nm,0.8s,baz=99,slow=8.0,SNR=27						
	1.4nm,0.8s						
MJAR	**Matsushiro Arr**	**74.08**	**322**	P	P	11 09 17.6	+2.7
	0.4nm,0.3s,baz=156,slow=7.2,SNR=2.4						
	0.4nm,0.3s						
PETK	**Petropavlovsk-**	**79.33**	**343**	P	**P**	**11 09 46.1**	**+2.0**
	1.2nm,0.7s,baz=108,slow=6.1,SNR=4.4						
	1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**94.16**	**288**	P	P	11 11 01.9	+3.9
	1.8nm,0.8s,baz=134,slow=3.1,SNR=8.5						
	1.8nm,0.8s						
AKASG	**Malin Array Be**	**146.60**	**333**	PKPbc	**PKiKP**	**11 17 22.4**	**-0.5**
	1.0nm,0.7s,baz=37,slow=4.3,SNR=6.9						
BRTR	**Keskin Array B**	**150.92**	**312**	PKPbc	**PKPab**	**11 17 34.3**	**-4.8**
	0.6nm,0.7s,baz=59,slow=3.9,SNR=2.3						

*SKO **04** 11:33:15.6, 41°.31N×20°.37E, h15km*
*TIR **04** 11:33:15.5, 41°.30N×20°.35E, h12km±1km, Md2.5, Ml1.9*
*PDG **04** 11:33:19.8±0.1, 41°.39N×20°.07E, h3km, ML2.4/12, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

ISC 04 11:33:16.0±1.1, 41°.29N±0°.03×20°.32E±0°.03, h11km±10km, n20, σ1°05/39, 6C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.35**	**280**	*i* Pg	**Pb**	**11 33 23.6**	**-0.6**
TIR				*i* Sg	**Sb**	**11 33 29.9**	**+0.2**
TIR	**Tirane**	**0.35**	**280**	P	**Pb**	**11 33 23.6**	**-0.6**
	baz=278						
TIR				S	**Sb**	**11 33 29.1**	**-0.6**
	baz=278						
TIR				AMP			
	comp=N,0.5nm,0.1s,baz=278						
OHR	**Ohrid**	**0.40**	**116**	⇑*i* Pg	**Pg**	**11 33 23.4**	**-0.6**
OHR				*i* Sg	**Sg**	**11 33 29.4**	**0.0**
OHR				*e*Lg	Lg	11 33 29.8	
	comp=N,141nm,0.4s						
PHP	**Peshkopia**	**0.41**	**13**	P	**Pg**	**11 33 23.7**	**-0.3**
	baz=9.0						
PHP				S	**Sb**	**11 33 29.8**	**-1.6**
	baz=9.0						
PHP				AMP			
	comp=N,0.7nm,0.4s,baz=9.0						
SKO	**Skopje**	**1.08**	**51**	*i* Pg	**Pg**	**11 33 35.9**	**-0.9**
SKO				*i* Sg	**Sn**	**11 33 50.7**	**-1.4**
BCI	**Bajram Curri**	**1.09**	**350**	P	**Pn**	**11 33 38.3**	**+1.0**
	baz=349						
BCI				S	**Sn**	**11 33 52.8**	**+0.4**
	baz=349						
LSK	**Leskovik**	**1.16**	**169**	P	**Pg**	**11 33 38.6**	**+0.4**
	baz=170						
LSK				S	**Sn**	**11 33 55.0**	**+0.8**
	baz=170						
DRME	**Dracevica, Mon**	**1.23**	**317**	⇓*i* Pg	**Pb**	**11 33 38.8**	**-0.5**
DRME				*i* Sg	**Sb**	**11 33 55.0**	**-0.3**
PVY	**Plav**	**1.33**	**348**	*e*Pg	**Pg**	**11 33 42.0**	**+0.5**
PVY				*i* Sg	**Sg**	**11 34 01.1**	**+2.3**
PDG	**Podgorica**	**1.39**	**325**	*i* Pg	**Pg**	**11 33 42.3**	**-0.3**
TTG	**Podgorica**	**1.39**	**325**	⇓*i* Pg	**Pg**	**11 33 42.0**	**-0.6**
TTG				*i* Sg	**Sg**	**11 34 01.0**	**+0.4**
BUM	**Brajici-Budva**	**1.47**	**314**	⇑*i* Pg	**Pg**	**11 33 43.5**	**-0.6**
BUM				*e*Sg	**Sg**	**11 34 02.9**	**-0.3**
IVA	**Berane**	**1.61**	**349**	⇑*i* Pg	**Pg**	**11 33 47.5**	**+0.6**
IVA				*e*Sg	**Sg**	**11 34 10.6**	**+2.8**
CEME	**Cevo**	**1.63**	**321**	⇑*i* Pg	**Pb**	**11 33 46.0**	**-0.2**
CEME				*i* Sg	**Sg**	**11 34 09.1**	**+0.6**
KOME	**Kolasin**	**1.67**	**339**	⇑*i* Pg	**Pg**	**11 33 47.9**	**-0.1**
KOME				*i* Sg	**Sg**	**11 34 11.8**	**+2.1**
HCY	**Herceg Novi**	**1.79**	**311**	*e*Pn	**Pn**	**11 33 48.7**	**0.0**
HCY				*e*Sn	**Sg**	**11 34 13.4**	**0.0**
NKME	**Niksic**	**1.79**	**326**	⇓*i* Pn	**Pg**	**11 33 49.4**	**-0.9**
NKME				*i* Sn	**Sg**	**11 34 14.2**	**+0.6**
BRY	**Bratogost**	**2.08**	**321**	⇓*i* Pn	**Pb**	**11 33 54.0**	**+0.1**
BRY				*i* Sn	**Sg**	**11 34 21.4**	**-1.6**
PLE	**Pljevlja**	**2.15**	**342**	*e*Pn	**Pb**	**11 33 55.3**	**+0.3**
PLE				*e*Sn	**Sg**	**11 34 23.9**	**-1.2**
UPM	**Unac-Piva**	**2.18**	**332**	⇑*i* Pn	**Pb**	**11 33 55.8**	**+0.2**
UPM				*i* Sn	**Sg**	**11 34 24.0**	**-2.0**

*BEO **04** 11:41:52.9±0.7, 41°.11N×20°.48E, h0km, ML2.3/8*
*ATH **04** 11:41:54.5, 41°.30N×20°.44E, h10km±31km, ML2.2/1, Error ellipse: s-maj=31.6km s-min=3.0km az=0.0*
*SKO **04** 11:41:54.2, 41°.23N×20°.33E, h19km*
*THE **04** 11:41:54.8, 41°.26N×20°.36E, h4km±1km, ML2.1/2, Error ellipse: s-maj=1.7km s-min=0.4km az=270.0*
*TIR **04** 11:41:54.1, 41°.28N×20°.36E, h7km±1km, Md2.7, Ml2.4*
*PDG **04** 11:41:55.1±0.2, 41°.29N×20°.35E, h0km±11km, ML2.8/11, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*

ISC 04 11:41:54.8±1.0, 41°.27N±0°.02×20°.37E±0°.02, h8km±9km, n49, σ1°06/83, 10C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.36**	**116**	⇑*i* Pg	**Pg**	**11 42 02.2**	**+0.4**
OHR				*i* Sg	**Sb**	**11 42 08.1**	**-1.2**
OHR				*e*Lg	Lg	11 42 08.4	
	comp=N,168nm,0.4s						
TIR	**Tirane**	**0.39**	**282**	P	**Pg**	**11 42 02.3**	**-0.2**
TIR				S	**Sg**	**11 42 07.5**	**0.0**
	comp=N,355nm,0.1s						
TIR	**Tirane**	**0.39**	**282**	*e*Pg	**Pg**	**11 42 02.2**	**-0.2**
TIR				*e*Sg	**Sb**	**11 42 08.6**	**-1.5**
TIR	**Tirane**	**0.39**	**282**	*i* Pg	**Pg**	**11 42 02.2**	**-0.2**
TIR				*i* Sg	**Sb**	**11 42 08.7**	**-1.5**
TIR	**Tirane**	**0.39**	**282**	P	**Pg**	**11 42 02.1**	**-0.3**
	baz=281						
TIR				S	**Sg**	**11 42 07.9**	**+0.3**
	baz=281						
TIR				AMP			
	comp=N,1.2nm,0.1s,baz=281						
PHP	**Peshkopia**	**0.42**	**7**	P	**Pg**	**11 42 02.5**	**-0.5**
PHP				S	**Sb**	**11 42 09.3**	**-1.7**
PHP	**Peshkopia**	**0.42**	**7**	P	**Pg**	**11 42 02.5**	**-0.5**
	baz=8.0						
PHP				S	**Sg**	**11 42 08.8**	**+0.4**
	baz=8.0						
PHP				AMP			
	comp=N,2.0nm,0.4s,baz=8.0						
KBN	**Korca**	**0.72**	**154**	P	**Pg**	**11 42 08.9**	**+0.3**
	baz=153						
KBN				S	**Sb**	**11 42 19.5**	**-0.1**
	baz=153						
NEST	**Nestorio**	**1.00**	**149**	P	**Pg**	**11 42 13.2**	**-0.7**
NEST				S	**Sb**	**11 42 28.2**	**+0.5**
	comp=N,115nm,0.5s						
NEST	**Nestorio**	**1.00**	**149**	P	**Pg**	**11 42 13.3**	**-0.6**
NEST				S	**Sg**	**11 42 26.8**	**0.0**
NEST				AML	AML	11 42 29.5	
	comp=E,336μm,0.4s						
NEST				AML	AML	11 42 29.8	
	comp=N,251μm,0.4s						
SKO	**Skopje**	**1.06**	**48**	*i* Pg	**Pn**	**11 42 16.2**	**+0.2**
SKO				*i* Sg	**Sb**	**11 42 29.5**	**-0.1**
BCI	**Bajram Curri**	**1.12**	**348**	P	**Pb**	**11 42 16.1**	**-0.3**
	baz=349						
BCI				S	**Sb**	**11 42 30.9**	**-0.3**
	baz=349						
LSK	**Leskovik**	**1.13**	**171**	P	**Pg**	**11 42 15.8**	**-0.7**
LSK	**Leskovik**	**1.13**	**171**	P	**Pb**	**11 42 16.7**	**0.0**
	baz=170						
LSK				S	**Sb**	**11 42 32.4**	**+0.8**
	baz=170						
LSK				AMP			
	comp=N,0.6nm,0.5s,baz=170						
PENT	**Pentalofos**	**1.22**	**151**	P	**Pg**	**11 42 17.6**	**-0.6**
DRME	**Dracevica, Mon**	**1.28**	**316**	⇑*i* Pg	**Pn**	**11 42 17.8**	**-1.2**
DRME				*i* Sg	**Sn**	**11 42 37.7**	**+1.4**
PVY	**Plav**	**1.36**	**347**	⇑*i* Pg	**Pn**	**11 42 19.1**	**-0.5**
PVY				*i* Sg	**Sn**	**11 42 40.3**	**+1.8**
PDG	**Podgorica**	**1.43**	**325**	*e*Pg	**Pb**	**11 42 21.1**	**-0.6**
PDG				*e*Sg	**Sg**	**11 42 43.6**	**+2.9**
PDG	**Podgorica**	**1.43**	**325**	*i

ZAPS				*e*Sn	**Sn**	**11 43 09.3**	**0.0**
GRUS	**Gruza**	**2.63**	**5**	*e*Pn	**Pn**	**11 42 38.5**	**+0.9**
BBLS	**Lazići**	**2.69**	**345**	*e*Pn	**Pn**	**11 42 39.5**	**+1.0**
BBLS				*e*Sn	**Sb**	**11 43 15.7**	**-0.8**
ZAGS	**Zajecar**	**2.89**	**28**	*e*Pn	**Pn**	**11 42 41.7**	**+0.6**

IDC 04 11:46:08.9±2.5, 4°88N×127°27E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=209.4km s-min=28.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.63**	**164**	P	P	11 51 39.7	-0.7
	0.6nm,0.6s,baz=345,slow=9.8,SNR=3.1 0.6nm,0.6s						
ASAR	**Alice Springs**	**29.10**	**167**	P	P	11 52 11.3	-0.3
	0.1nm,0.4s,baz=348,slow=7.5,SNR=4.4 0.1nm,0.4s						
STKA	**Stephens Creek**	**39.02**	**160**	P	P	11 53 38.2	+0.8
	1.4nm,0.7s,baz=331,slow=10,SNR=3.6 1.4nm,0.7s						
MKAR	**Makanchi Array**	**56.93**	**325**	P	P	11 55 55.9	-0.1
	0.2nm,0.3s,baz=130,slow=7.9,SNR=1.7 0.2nm,0.3s						

*IDC **04** 12:11:26.8±1.1, 26°47S×178°51W, h304km±11km, mb3.3/9, mbtmp4.0/11, Error ellipse: s-maj=20.0km s-min=18.0km az=94.0*

ISC 04 12:11:26.4±0.7, 26°57S±0°07×178°4W±0°1, h300km, n20, σ2s10/21, mb3.5/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.71**	**170**	P	**Pn**	**12 12 22.4**	**+3.1**
	680nm,0.3s,baz=78,slow=6.0,SNR=24			S	**S**	**12 13 04.2**	**+2.7**
RAO	216nm,0.3s,baz=68,slow=22,SNR=1.6						
MSVF	**Nonsavu**	**9.38**	**339**	P	**Pn**	**12 13 36.5**	**-0.6**
	34nm,0.9s,baz=144,slow=10,SNR=7.0			S	**S**	**12 16 21.7**	**-6.0**
URZ	**Urewera**	**12.24**	**197**	P	**Pn**	**12 14 11.7**	**0.0**
	6.4nm,0.4s,baz=211,slow=2.4,SNR=8.4			S	**S**	**12 16 21.7**	**-6.0**
URZ	7.4nm,0.7s,baz=31,slow=19,SNR=1.7						
AFI	**Afiamalu**	**14.06**	**28**	P	P	12 14 25.3	-8.0
	21nm,0.8s,baz=202,slow=15,SNR=1.6			S	S	12 16 48.9	-20
AFI	13nm,0.5s,baz=339,slow=22,SNR=1.2						
DZM	**Mont Dzumac**	**14.49**	**285**	P	**Pn**	**12 14 43.0**	**+4.0**
	13nm,0.6s,baz=105,slow=12,SNR=18			P	**P**	**12 18 57.3**	**-0.3**
ASAR	**Alice Springs**	**43.05**	**263**	PcP	**PcP**	**12 20 42.0**	**+0.3**
	0.4nm,0.4s,baz=93,slow=7.2,SNR=12			ScP	**ScP**	**12 24 04.1**	**+0.3**
ASAR	0.2nm,0.4s,baz=114,slow=4.3,SNR=4.3						
	0.2nm,0.7s,baz=118,slow=3.6,SNR=1.7 0.4nm,0.4s						
WRA	**Warramunga Arr**	**43.69**	**268**	P	**P**	**12 19 01.5**	**-1.2**
	0.4nm,0.4s,baz=105,slow=5.9,SNR=14 0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.07**	**267**	P	**P**	**12 20 06.2**	**-0.3**
	1.8nm,0.8s,baz=147,slow=13,SNR=3.4 1.8nm,0.8s						
QSPA	**South Pole Qui**	**63.52**	**180**	P	**P**	**12 21 25.9**	**+0.8**
	1.1nm,1.0s,baz=316,slow=13,SNR=2.7 1.1nm,1.0s						
MJAR	**Matsushiro Arr**	**74.89**	**325**	P	**P**	**12 22 33.4**	**-1.2**
	2.2nm,0.7s,baz=153,slow=6.0,SNR=10 2.2nm,0.7s						
KSRS	**Korea Array**	**81.19**	**320**	P	**P**	**12 23 08.9**	**0.0**
	1.0nm,0.6s,baz=122,slow=6.3,SNR=7.1 1.0nm,0.6s						
PETK	**Petropavlovsk-**	**82.02**	**346**	P	**P**	**12 23 12.0**	**-0.9**
	1.3nm,0.8s,baz=138,slow=9.1,SNR=4.2 1.3nm,0.8s						
NVAR	**Mina Array Bea**	**85.71**	**43**	P	**P**	**12 23 32.3**	**+0.1**
	0.4nm,0.7s,baz=222,slow=8.5,SNR=5.1 0.4nm,0.7s						
PDAR	**Pinedale Array**	**93.64**	**43**	P	**P**	**12 24 08.0**	**-1.2**
	0.2nm,0.6s,baz=189,slow=5.2,SNR=1.9 0.2nm,0.6s						
ARCES	**ARCESS Array B**	**134.78**	**348**	PKP	**PKPdf**	**12 30 08.0**	**-0.7**
	1.9nm,0.8s,baz=5.2,slow=4.0,SNR=3.9						
FINES	**FINESS Array B**	**141.42**	**341**	PKhKP	PKPpre	12 30 13.8	
	1.0nm,0.7s,baz=64,slow=4.4,SNR=5.9						
NB2	**NORSAR Subarra**	**144.92**	**352**	PKP	PKPbc	12 30 25.9	-1.4
	comp=Z,1.4nm,0.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**144.92**	**352**	PKP	PKPbc	12 30 26.1	-1.1
	comp=Z,2.0nm,0.7s,baz=16,slow=2.7,SNR=11						
AKASG	**Malin Array Be**	**147.97**	**326**	PKPbc	**PKPbc**	**12 30 34.7**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=43,slow=4.2,SNR=5.1						
BRTR	**Keskin Array B**	**150.28**	**304**	PKPbc	**PKPbc**	**12 30 41.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=154,slow=2.2,SNR=2.2						
BRTR				PKPab	**PKPab**	**12 30 49.4**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=90,slow=2.8,SNR=4.5						

*REN **04** 12:15:56.8±2.2, 40°87N±0°05×116°92W±0°06, h8km±7km, ML2.5/11, ML2.4/68(NEIC), Error ellipse: s-maj=7.0km s-min=6.7km az=52.0*

NEIC 04 12:15:56.2±2.2, 40°89N±0°04×116°99W±0°06, h5km±2km, Error ellipse: s-maj=8.6km s-min=6.7km az=45.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMN	**Battle Mountai**	**0.49**	**201**		Pg	12 16 06.4	+0.7
BMN					Sg	12 16 13.2	+1.1
ELK	**Elko**	**1.33**	**96**		Pn	12 16 20.0	-1.7
ELK					Sg	12 16 37.0	-2.1
ELK	**Elko**	**1.33**	**96**	IAML		12 16 38.4	
	105nm,0.2s						
ELK	77nm,0.3s			IAML		12 16 39.5	
WVOR	**Wild Horse Val**	**1.98**	**322**	Pn	Pn	12 16 30.0	-0.4
WVOR				IAML		12 17 02.9	
	22nm,0.6s						
WVOR	22nm,0.5s			IAML		12 17 04.1	
KVN	**Kaiserville**	**2.03**	**205**		Pn	12 16 30.8	-0.4
KVN	**Kaiserville**	**2.03**	**205**	IAML		12 16 57.2	
	comp=N,23nm,0.3s						
Q09A	**Carvers**	**2.06**	**184**		Pn	12 16 31.2	-0.4
PAHR	**Pah Rah Range**	**2.18**	**238**		Pn	12 16 33.0	-0.3
WVA	**Winnemucca Val**	**2.37**	**247**		Pn	12 16 35.8	0.0
RYN	**Ryan**	**2.55**	**208**	Pn	Pn	12 16 38.2	-0.2
RYN	comp=E,25nm,0.4s			IAML		12 17 21.4	
RYN	comp=N,19nm,0.2s			IAML		12 17 22.4	
YERR	**Yerington**	**2.58**	**223**	Pn	Pn	12 16 38.3	-0.4
YERR	comp=E,17nm,0.7s			IAML		12 17 23.4	
YERR	comp=N,12nm,0.7s			IAML		12 17 27.0	
VCNR	**Virginia City**	**2.59**	**233**	Pn	Pn	12 16 38.9	-0.1
VCNR	comp=N,16nm,0.4s			IAML		12 17 23.6	
VCNR	comp=E,17nm,0.7s			IAML		12 17 25.1	
NV11	**Mina Array Sit**	**2.62**	**201**	Pn	Pn	12 16 39.2	-0.1
NVAR	**Mina Array Bea**	**2.66**	**203**	Pn	Pn	12 16 39.2	-0.7
PNTR	**Pine Nut**	**2.70**	**229**	Pn	Pn	12 16 39.8	-0.6
PNTR	comp=E,13nm,1.2s			IAML		12 17 29.9	
PNTR	comp=N,11nm,1.2s			IAML		12 17 46.3	
J08A	**Circle Bar Ran**	**2.70**	**336**		Pb	12 16 44.9	-0.1
J08A	**Circle Bar Ran**	**2.70**	**336**	IAML		12 17 34.4	
	comp=E,21nm,1.1s						
R11A	**Troy Canyon, C**	**2.76**	**156**	Pn	Pn	12 16 40.2	-1.0
R11A	comp=N,15nm,0.2s			IAML		12 17 24.1	
BEKR	**Beckworth**	**2.77**	**249**		Pn	12 16 42.0	+0.5
SPR3	**Spring Creek 3**	**2.78**	**132**	Pn	Pn	12 16 43.5	+1.9
SPR3	comp=E,14nm,0.8s			IAML		12 17 28.6	
SPR3	comp=N,12nm,0.7s			IAML		12 17 29.9	
TPH	**Tonopah**	**2.82**	**184**	Pn	Pn	12 16 42.0	-0.1
LHV	**Little Huntoon**	**2.89**	**204**		Pn	12 16 41.7	-1.1
LHV	comp=N,13nm,1.1s			IAML		12 17 30.7	
LHV	comp=E,14nm,0.7s			IAML		12 17 40.2	
MZP	**Montezuma Peak**	**3.20**	**186**		Pn	12 16 46.8	-0.6
MZP	comp=E,7.5nm,0.4s			IAML		12 17 38.6	
DUG	**Dugway, Tooele**	**3.25**	**101**		Pn	12 16 47.0	-1.0
DUG	comp=E,9.0nm,0.5s			IAML		12 17 42.1	
DUG	comp=E,8.9nm,1.3s			IAML		12 17 45.1	
HLID	**Hailey**	**3.28**	**35**		Pn	12 16 49.1	+0.7
HLID	comp=E,6.7nm,1.1s			IAML		12 17 44.7	
HVU	**Hansel Valley**	**3.29**	**73**		Pn	12 16 47.5	-1.0
HVU	comp=E,13nm,0.9s			IAML		12 17 43.5	
PSUT	**Pine Spring**	**3.37**	**133**		Pn	12 16 49.8	0.0
S11A	**Rachel**	**3.38**	**163**		Pn	12 16 48.8	-0.9
MLNR	**Milner Canyon**	**3.46**	**198**		Pg	12 17 01.6	-0.8
GMN	**Gold Mountain**	**3.59**	**183**		Pn	12 16 52.8	+0.1
GMN	comp=E,7.1nm,0.6s			IAML		12 17 51.2	
PRN	**Pahroc Range**	**3.79**	**156**	Pn	Pn	12 16 55.2	-0.1
CMB	**Columbia Colle**	**3.88**	**224**	Pn	Pn	12 16 55.8	-0.7
CMB	comp=N,4.3nm,4.0s			IAML		12 18 24.3	
SGV	**South Grapevin**	**3.91**	**181**		Pg	12 17 08.8	-2.3
CPY	**CP-1**	**4.02**	**169**		Pg	12 17 12.0	-1.2
WCT	**Wildcat Mounta**	**4.10**	**176**		Pg	12 17 13.0	-1.8
WCT	**Wildcat Mounta**	**4.10**	**176**	IAML		12 18 09.6	
WCT	comp=N,5.2nm,3.0s			IAML		12 18 14.8	
TCRU	**Three Creeks R**	**4.18**	**122**		Pn	12 17 01.0	+0.2
CCUT	**Cedar City**	**4.37**	**139**		Pg	12 17 18.2	-1.6
CCUT	**Cedar City**	**4.37**	**139**	IAML		12 19 03.5	
SHPR	**Sheep Range**	**4.61**	**161**	Pn	Pn	12 17 06.3	-0.3
SHPR	comp=E,3.6nm,4.3s			IAML		12 18 02.8	

*BEO **04** 12:33:39.1±0.7, 41°09N×20°38E, h2km±5km, ML2.5/10*
*ATH **04** 12:33:39.5, 41°42N×20°37E, h10km±31km, ML2.5/3, Error ellipse: s-maj=31.6km s-min=1.4km az=0.0*
*PDG **04** 12:33:40.8±0.5, 41°31N×20°37E, h0km±11km, ML2.8/10, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0*
*THE **04** 12:33:40.7, 41°28N×20°38E, h2km±1km, ML2.4/3, Error ellipse: s-maj=1.4km s-min=0.3km az=281.0*
*SKO **04** 12:33:41.6, 41°26N×20°36E, h6km*

ISC 04 12:33:40.7±1.1, 41°28N±0°02×20°39E±0°02, h1km±10km, n72, σ0s96/112, 15C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.35**	**118**	⇑*i* Pg	**Pg**	**12 33 48.1**	**+0.6**
OHR				*i* Sg	**Sg**	**12 33 54.1**	**+2.0**
OHR				*e*Lg	Lg	12 33 54.5	
TIR	**Tirane**	**0.40**	**280**	⇑P	**Pg**	**12 33 48.3**	**-0.2**
TIR				⇓S	**Sb**	**12 33 55.2**	**-2.0**
TIR	**Tirane**	**0.40**	**280**	P	**Pg**	**12 33 48.2**	**-0.2**
TIR	comp=N,522nm,0.5s			S	**Sg**	**12 33 54.1**	**+0.5**
TIR	**Tirane**	**0.40**	**280**	*e*Pg	**Pg**	**12 33 48.2**	**-0.2**
TIR				*e*Sg	**Sg**	**12 33 54.6**	**+1.0**
TIR	**Tirane**	**0.40**	**280**	*i* Pg	**Pg**	**12 33 48.3**	**-0.2**
TIR				*i* Sg	**Sg**	**12 33 54.8**	**+1.2**
PHP	**Peshkopia**	**0.41**	**5**	P	**Pg**	**12 33 48.4**	**-0.1**
PHP				S	**Sg**	**12 33 54.4**	**+0.6**
KBN	**Korca**	**0.72**	**155**	P	**Pg**	**12 33 54.4**	**-0.1**
KBN	comp=N,540nm,0.4s			S	**Sg**	**12 34 05.1**	**+1.2**
NEST	**Nestorio**	**1.00**	**150**	P	**Pg**	**12 33 59.2**	**-0.6**
NEST	comp=N,218nm,0.4s			S	**Sb**	**12 34 14.2**	**-0.3**
NEST	**Nestorio**	**1.00**	**150**	P	**Pg**	**12 33 59.5**	**-0.3**
NEST				S	**Sb**	**12 34 15.1**	**+0.6**
NEST				AML	AML	12 34 15.4	
NEST	comp=E,624μm,0.3s			AML	AML	12 34 15.7	
	comp=N,478μm,0.4s						
SKO	**Skopje**	**1.05**	**48**	*i* Pg	**Pb**	**12 34 01.5**	**-0.1**
SKO				*i* Sg	**Sb**	**12 34 15.5**	**-0.4**
PENT	**Pentalofos**	**1.22**	**152**	P	**Pg**	**12 34 04.1**	**0.0**
PENT				S	**Sn**	**12 34 22.3**	**+0.1**
DRME	**Dracevica, Mon**	**1.28**	**316**	⇑*i* Pg	**Pg**	**12 34 03.7**	**-1.5**
DRME				*i* Sg	**Sn**	**12 34 23.0**	**-0.5**
PVY	**Plav**	**1.35**	**346**	⇑*i* Pg	**Pg**	**12 34 05.0**	**-1.7**
PVY				*i* Sg	**Sn**	**12 34 25.8**	**+0.3**
KZN	**Kozani**	**1.43**	**132**	P	**Pn**	**12 34 06.8**	**-1.0**
KZN	**Kozani**	**1.43**	**132**	P	**Pn**	**12 34 07.7**	**-0.1**
KZN				S	**Sn**	**12 34 28.3**	**+1.1**
KZN	comp=E,240μm,0.5s			AML	AML	12 34 33.4	
KZN	comp=N,274μm,0.5s			AML	AML	12 34 33.7	
PDG	**Podgorica**	**1.43**	**324**	⇑P	**Pn**	**12 34 06.7**	**-1.1**
PDG				⇑S	**Sn**	**12 34 29.6**	**+2.5**
PDG	**Podgorica**	**1.43**	**324**	*e*Pg	**Pn**	**12 34 06.5**	**-1.2**
PDG				*e*Sg	**Sn**	**12 34 29.3**	**+2.2**
PDG	**Podgorica**	**1.43**	**324**	*i* Pn	**Pn**	**12 34 06.6**	**-1.1**
PDG				*i* Sn	**Sn**	**12 34 29.4**	**+2.3**
TTG	**Podgorica**	**1.43**	**324**	⇑*i* Pg	**Pn**	**12 34 06.2**	**-1.5**
TTG				*i* Sg	**Sn**	**12 34 28.2**	**+1.1**
BUM	**Brajici-Budva**	**1.51**	**313**	⇓*i* Pg	**Pn**	**12 34 07.6**	**-1.4**
BUM				*i* Sg	**Sg**	**12 34 31.1**	**+1.7**
GRG	**Griva**	**1.55**	**101**	*i* Pn	**Pn**	**12 34 09.1**	**-0.4**
GRG	**Griva**	**1.55**	**101**	P	**Pn**	**12 34 09.1**	**-0.4**
KEK	**Kerkira**	**1.63**	**196**	P	**Pn**	**12 34 09.5**	**-1.0**
KEK	**Kerkira**	**1.63**	**196**	P	**Pb**	**12 34 11.5**	**0.0**
KEK				S	**Sg**	**12 34 34.4**	**+1.4**
KEK	comp=E,117μm,0.3s			AML	AML	12 34 39.2	
KEK	comp=N,134μm,0.4s			AML	AML	12 34 41.3	
IVA	**Berane**	**1.63**	**347**	⇓*i* Pn	**Pn**	**12 34 10.3**	**-0.4**
IVA				*i* Sn	**Sg**	**12 34 35.4**	**+2.2**
VAY	**Valandovo**	**1.64**	**88**	*i* Pn	**Pn**	**12 34 10.1**	**-0.6**
VAY				*i* Sn	**Sg**	**12 34 33.6**	**+0.1**
JAN	**Janina**	**1.66**	**168**	P	**Pb**	**12 34 12.1**	**0.0**
CEME	**Cevo**	**1.68**	**320**	⇓*i* Pn	**Pn**	**12 34 10.6**	**-0.6**
CEME				*i* Sn	**Sg**	**12 34 36.5**	**+1.9**
KOME	**Kolasin**	**1.70**	**338**	⇑*i* Pn	**Pn**	**12 34 11.2**	**-0.4**
KOME				*i* Sn	**Sg**	**12 34 37.1**	**+1.8**
PRVS	**Prvonek**	**1.76**	**45**	*e*Pn	**Pn**	**12 34 11.5**	**-0.8**
PRVS				*e*Sn	**Sb**	**12 34 36.1**	**-0.2**
NKME	**Niksic**	**1.83**	**325**	⇓*i* Pn	**Pn**	**12 34 13.5**	**+0.2**
NKME				*i* Sn	**Sg**	**12 34 40.1**	**+0.5**
HCY	**Herceg Novi**	**1.83**	**310**	*e*Pn	**Pn**	**12 34 13.2**	**-0.1**
HCY	**Herceg Novi**	**1.83**	**310**	⇑*i* Pn	**Pn**	**12 34 13.7**	**+0.4**
HCY				*i* Sn	**Sg**	**12 34 40.3**	**+0.6**
BARS	**Barje**	**1.87**	**34**	*e*Pn	**Pb**	**12 34 14.7**	**-0.9**
BARS				*e*Sn	**Sg**	**12 34 41.0**	**+0.3**
BARS	**Barje**	**1.87**	**34**	*i* Pn	**Pn**	**12 34 14.1**	**+0.3**
BARS				*i* Sn	**Sb**	**12 34 40.1**	**+0.6**
SCTE	**Santa Cesarea**	**1.90**	**231**	P	**Pn**	**12 34 14.9**	**+0.7**
SCTE				S	**Sb**	**12 34 40.1**	**-0.1**
KNT	**Kendrikon**	**1.90**	**93**	P	**Pn**	**12 34 13.6**	**-0.5**
KNT	**Kendrikon**	**1.90**	**93**	*i* Pn	**Pn**	**12 34 13.7**	**-0.5**
KNT	**Kendrikon**	**1.90**	**93**	P	**Pn**	**12 34 13.7**	**-0.5**
KNT				S	**Sn**	**12 34 38.5**	**-0.2**
BOSS	**Bosilegrad**	**1.98**	**51**	*e*Pn	**Pn**	**12 34 15.3**	**0.0**
BOSS				*e*Sn	**Sn**	**12 34 41.6**	**+0.8**
SJES	**Sjenica**	**2.00**	**351**	*e*Pn	**Pb**	**12 34 17.4**	**-0.6**
SJES				*e*Sn	**Sg**	**12 34 45.8**	**+0.7**
SELS	**Selova**	**2.01**	**15**	*e*Pn	**Pn**	**12 34 16.2**	**+0.4**
SELS				*e*Sn	**Sg**	**12 34 45.2**	**-0.2**
TREB	**Trebinje**	**2.09**	**314**	*e*Pn	**Pn**	**12 34 17.3**	**+0.4**
KKB	**Krupnik**	**2.10**	**73**	P	**Pn**	**12 34 17.3**	**+0.2**
THL	**Klokotos Trika**	**2.12**	**144**	P	**Pn**	**12 34 16.9**	**-0.2**
BRY	**Bratogost**	**2.13**	**320**	*e*Pn	**Pn**	**12 34 18.3**	**+0.8**
BRY	**Bratogost**	**2.13**	**320**	⇑*i* Pn	**Pn**	**12 34 17.9**	**+0.4**
BRY				*i* Sn	**Sb**	**12 34 47.5**	**+0.4**
UPM	**Unac-Piva**	**2.22**	**331**	*e*Pn	**Pb**	**12 34 20.4**	**-1.3**
IVAS	**Ivanjica**	**2.30**	**356**	*e*Pn	**Pn**	**12 34 19.1**	**-0.7**
IVAS				*e*Sn	**Sb**	**12 34 51.4**	**-0.6**
RUDO	**Rudo**	**2.46**	**342**	*e*Pn	**Pn**	**12 34 21.6**	**-0.3**
VTS	**Vitosha**	**2.51**	**57**	⇓P	**Pn**	**12 34 21.5**	**-1.2**
VTS				⇑S	**Sn**	**12 34 53.8**	**-0.2**
VTS	**Vitosha**	**2.51**	**57**	P	**Pn**	**12 34 22.7**	**0.0**
MMB	**Musomiste**	**2.53**	**82**	*e*P	**Pn**	**12 34 22.3**	**-0.6**
BOVS	**Bovan**	**2.55**	**22**	⇑P	**Pn**	**12 34 22.6**	**-0.5**
STON	**Ston**	**2.56**	**309**	*e*Pn	**Pn**	**12 34 21.8**	**-1.4**
ZAPS	**Zavoj**	**2.60**	**39**	*e*Pn	**Pn**	**12 34 24.3**	**+0.4**
EVR	**Evrytania**	**2.60**	**155**	P	**Pb**	**12 34 26.8**	**-1.4**
EVR				S	**Sg**	**12 35 02.8**	**-1.4**
GRUS	**Gruza**	**2.62**	**5**	*e*Pn	**Pn**	**12 34 25.0**	**+0.9**
BBLS	**Lazići**	**2.69**	**345**	*e*Pn	**Pn**	**12 34 26.1**	**+1.0**
BBLS				*e*Sn	**Sn**	**12 34 59.4**	**+1.1**
DIVS	**Divibare**	**2.83**	**354**	*e*Pn	**Pn**	**12 34 28.2**	**+1.1**
DIVS	**Divibare**	**2.83**	**354**	*e*Pn	**Pn**	**12 34 28.2**	**+1.1**
ZAGS	**Zajecar**	**2.88**	**28**	*e*Pn	**Pn**	**12 34 29.8**	**+2.2**
BLKB	**Belogradchik**	**2.89**	**35**	⇑P	**Pn**	**12 34 27.9**	**0.0**
BLKB				⇓S	**Sn**	**12 35 03.8**	**+0.5**
MDVR	**Moldovita**	**3.63**	**15**	⇑P	**Pn**	**12 34 38.5**	**+0.4**
FRGS	**Fruska Gora**	**3.90**	**354**	*e*Pn	**Pn**	**12 34 42.7**	**+1.0**
A050A	**Klekovaca**	**4.28**	**320**	*e*Pn	**Pn**	**12 34 47.3**	**+0.3**
BZS	**Buzias**	**4.43**	**11**	⇑P	**Pn**	**12 34 49.1**	**+0.1**
GZR	**Gura Zlata**	**4.47**	**22**	⇓P	**Pn**	**12 34 49.6**	**0.0**
A051A	**Mrakovica**	**4.52**	**327**	*e*Pn	**Pn**	**12 34 50.7**	**+0.4**
BOJS	**Bojanci**	**5.64**	**320**	*e*Pn	**Pn**	**12 35 05.7**	**+0.1**
CRES	**Cresnjev**	**5.79**	**323**	*e*Pn	**Pn**	**12 35 07.1**	**-0.6**
CEY	**Cerknica**	**6.22**	**318**	*e*Pn	**Pn**	**12 35 12.0**	**-1.6**

*DJA **04** 12:35:28.3±0.4, 10°S±2°×11°9E±°, h12km±3km, M4.5/18, mB5.1/8, mb4.6/18, MLv4.6/17, Mw(mB)4.5/8*
*NEIC **04** 12:35:30.8±2.1, 10°33S±0°06×119°25E±0°06, h44km±8km, mb4.3/18, Error ellipse: s-maj=11.6km s-min=3.9km az=220.0*
*IDC **04** 12:35:32.9±3.6, 10°21S×119°28E, h61km±30km, mb3.9/10, mbtmp4.3/14, ML4.2/4, MS3.7/12, Error ellipse: s-maj=31.1km s-min=14.5km az=49.0*

ISC 04 12:35:29.8±0.4, 10°36S±0°04×119°29E±0°05, h35km, n101, σ1s98/98, mb4.4/18, MS3.7/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.72**	**8**	P	**Pn**	**12 35 40.7**	**-2.9**
BASI	**Baing, Sumba**	**1.27**	**84**	P	**Pn**	**12 35 53.2**	**+2.1**
PLAI	**Plampang**	**2.13**	**315**	P	**Pn**	**12 36 03.0**	**0.0**
PLAI	**Plampang**	**2.13**	**315**	P	**Pn**	**12 36 03.7**	**+0.7**
EDFI	**Ende, Flores**	**2.86**	**56**	P	**Pn**	**12 36 12.9**	**-0.1**
TWSI	**Taliwang, Sumb**	**2.87**	**304**	P	**Pn**	**12 36 13.0**	**-0.1**
MMRI	**Maumere**	**3.37**	**60**	Pn	**Pn**	**12 36 21.3**	**+1.2**
MMRI	**Maumere**	**3.37**	**60**	P	**Pn**	**12 36 21.9**	**+1.8**
MMRI	**Maumere**	**3.37**	**60**	P	**Pn**	**12 36 22.2**	**+2.1**
BATI	**Baumata**	**4.31**	**88**	P	**Pn**	**12 36 35.7**	**+2.8**
BATI	23nm,0.3s,baz=305,slow=3.8,SNR=17			S	**Sn**	**12 37 25.8**	**+3.8**
BATI	102nm,0.4s,baz=45,slow=23,SNR=9.4 52nm,0.3s **Baumata**	**4.31**	**88**	P	**Pn**	**12 36 35.2**	**+2.3**
BSSI	**Bau Bau, Buton**	**4.35**	**16**	P	**Pn**	**12 36 34.3**	**+0.7**
BSSI				S	**Sn**	**12 37 23.9**	**+0.8**
SRBI	**Singaraja**	**4.62**	**299**	P	**Pn**	**12 36 40.5**	**+3.4**
BKSI	**Bulukumba**	**5.07**	**9**	P	**Pn**	**12 36 43.9**	**+0.5**
BKSI	1.5nm4μm450nm,0.6s			S	**Sn**	**12 37 40.8**	**0.0**
KAPI	1.5nm4μm450nm,0.6s **Kappang**	**5.33**	**5**	P	**Pn**	**12 36 48.1**	**+1.2**
KAPI	10nm,0.3s,baz=172,slow=4.1,SNR=20			S	**Sn**	**12 37 47.6**	**+0.4**
KAPI	42nm,0.4s,baz=51,slow=23,SNR=2.6			LR	LR	12 39 01.8	
KAPI	comp=Z,736nm,19.2s,baz=154,slow=40 28nm,0.3s **Kappang**	**5.33**	**5**	Pn	**Pn**	**12 36 48.4**	**+1.4**
KAPI	**Kappang**	**5.33**	**5**	P	**Pn**	**12 36 48.9**	**+1.9**
JAGI	**Jajag, Banyuwa**	**5.41**	**290**	Pn	**Pn**	**12 36 46.5**	**-1.6**
JAGI	**Jajag, Banyuwa** 0.9nm3μm189nm,0.7s	**5.41**	**290**	P	**Pn**	**12 36 46.8**	**-1.2**
JAGI	**Jajag, Banyuwa**	**5.41**	**290**	P	**Pn**	**12 36 47.7**	**-0.3**
ABJI	**Asem Bagus** 0.8nm174nm,0.7s	**5.61**	**297**	P	**Pn**	**12 36 52.9**	**+2.2**
BBSI	**Bau Bau** 0.0nm136nm15nm,0.9s	**5.83**	**34**	P	**Pn**	**12 36 56.5**	**+2.7**
SPSI	**Sidrap Palu** 0.2nm670nm62nm,0.7s	**6.37**	**4**	P	**Pn**	**12 37 03.1**	**+1.8**
TTSI	**Tana Toraja** 0.2nm2μm43nm,1.1s	**7.29**	**4**	P	**Pn**	**12 37 16.3**	**+2.5**
PWJI	**Pagerwojo** 0.3nm52nm,0.7s	**7.75**	**287**	P	**Pn**	**12 37 21.4**	**+1.2**
BBKI	**Banjar Baru** 39nm,1.0s	**8.15**	**327**	P	**Pn**	**12 37 26.0**	**+0.3**
PCJI	**Pacitan** 65nm,1.2s	**8.29**	**284**	P	**Pn**	**12 37 26.1**	**-1.5**
UGM	**Wanagama**	**8.99**	**285**	Pn	**Pn**	**12 37 37.1**	**-0.2**
FITZ	**Fitzroy Crossi** 7.2nm,0.5s,baz=332,slow=7.3,SNR=110	**9.85**	**142**	P	**Pn**	**12 37 50.0**	**+1.0**
FITZ	12nm,0.3s,baz=22,slow=21,SNR=9.4			S	**Sn**	**12 39 33.4**	**-5.0**
FITZ	comp=Z,277nm,21.6s,baz=318,slow=36			LR	LR	12 41 30.5	
FITZ	**Fitzroy Crossi**	**9.85**	**142**	Pn	**Pn**	**12 37 50.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**9.85**	**142**	P	**Pn**	**12 37 50.1**	**+1.1**
KNRA	**Kununurra**	**10.63**	**121**	Pn	**Pn**	**12 38 01.6**	**+1.8**
KNRA	**Kununurra**	**10.63**	**121**	P	**Pn**	**12 38 01.6**	**+1.8**
MBWA	**Marble Bar**	**10.75**	**178**	Pn	**Pn**	**12 38 01.5**	**+0.1**
MBWA	**Marble Bar**	**10.75**	**178**	P	**Pn**	**12 38 01.4**	**+0.1**
PSA00	**Pilbara Seismi**	**11.16**	**177**	Pn	**

baz=96,slow=75,SNR=17
H08S3 Diego Garcia H 46.28 269 T T 13 33 17.3
baz=96,slow=75,SNR=17
H08S1 Diego Garcia H 46.29 269 T T 13 33 21.4
baz=96,slow=75,SNR=19
DZM Mont Dzumac 46.58 111 LR LR 13 04 14.2
comp=Z,100nm,19.2s,baz=253,slow=37
KSRS Korea Array 48.24 9 P **P 12 44 06.4 -0.9**
comp=Z,0.9nm,0.6s,baz=190,slow=8.4,SNR=4.3
KSRS LR LR 13 06 34.7
comp=Z,22nm,19.1s,baz=240,slow=39
comp=Z,0.9nm,0.6s
RAMN Ramite 48.81 320 *e*P **P 12 44 11.1 -1.0**
comp=Z,8.7nm,0.5s
JIRN Jiri 49.56 320 *e*P **P 12 44 16.8 -1.3**
comp=Z,17nm,0.6s
GUN Gumba 49.94 320 *e*P **P 12 44 19.7 -1.2**
comp=Z,17nm,0.6s
MJAR Matsushiro Arr 49.94 20 P **P 12 44 18.9 -1.4**
comp=Z,0.6nm,0.7s,baz=183,slow=8.5,SNR=4.0
MJAR LR LR 13 05 20.4
comp=Z,16nm,19.8s,baz=217,slow=36
comp=Z,0.6nm,0.7s
PKI Pulchoki 49.99 320 *e*P **P 12 44 19.4 -1.9**
comp=Z,8.6nm,0.6s
PKIN Phulchoki 50.01 320 *e*P **P 12 44 19.3 -2.0**
comp=Z,12nm,0.6s
GKN Gorkha 50.79 320 *e*P **P 12 44 24.5 -2.6**
comp=Z,2.0nm,0.2s
DANN Dangsing 51.59 319 *e*P **P 12 44 29.9 -3.3**
comp=Z,7.1nm,0.3s
GTA Gaotai 52.72 341 *e*P **P 12 44 43.7 +2.4**
GTA pP pP 12 44 47.4 -3.6
GTA sP pwP 12 44 49.9 -4.4
GTA pmax pmax
comp=Z,3.0nm,1.2s
USRK Ussuriysk Ar. 55.51 11 P **P 12 45 02.4 +1.1**
comp=Z,1.9nm,0.7s,baz=180,slow=8.6,SNR=2.5
comp=Z,1.9nm,0.7s
RPZ Rata Peaks 55.63 136 LR LR 13 09 13.3
comp=Z,129nm,19.0s,baz=346,slow=36
SONM Songino Array 59.06 350 P **P 12 45 25.6 -0.9**
comp=Z,2.8nm,0.8s,baz=165,slow=7.3,SNR=7.8
comp=Z,2.8nm,0.8s
KSH Kashi 63.86 324 P **P 12 45 58.6 -0.5**
KSH pP pP 12 46 06.2 -2.7
KSH pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 65.79 333 P **P 12 46 10.3 -1.1**
MK31 IAmb IAmb 12 46 11.3
comp=Z,3.7nm,0.8s
MKAR Makanchi Array 65.79 333 P **P 12 46 10.5 -0.9**
comp=Z,3.4nm,0.5s,baz=151,slow=7.4,SNR=48
comp=Z,3.4nm,0.5s
MKAR Makanchi Array 65.79 333 P **P 12 46 10.7 -0.7**
AAK Ala-Archa 66.76 326 P **P 12 46 17.2 -0.7**
comp=Z,3.6nm,0.6s,baz=146,slow=5.0,SNR=5.5
comp=Z,3.6nm,0.6s
KKAR Karatay Array 69.31 324 P **P 12 46 33.4 -0.4**
KURK Kurchatov 70.33 334 P **P 12 46 38.4 -1.4**
KURK IAmb IAmb 12 46 49.0
comp=Z,3.9nm,0.8s
ZAA0 Zalesovo Array 70.41 339 P **P 12 46 39.1 -1.1**
ZALV Zalesovo Beam 70.41 339 P **P 12 46 38.5 -1.7**
comp=Z,4.2nm,0.6s,baz=141,slow=5.4,SNR=19
comp=Z,4.2nm,0.6s
VNDA Vanda 70.61 171 P **P 12 46 43.7 +2.6**
VNDA IAmb IAmb 12 46 56.6
comp=Z,3.2nm,1.4s
PEA0B Petropavlovsk- 71.20 23 P **P 12 46 44.0 -1.0**
PETK Petropavlovsk- 71.20 23 P **P 12 46 44.4 -0.6**
comp=Z,1.4nm,0.7s,baz=207,slow=3.0,SNR=6.4
comp=Z,1.4nm,0.7s
ABKAR Akbulak array 78.83 325 P **P 12 47 28.1 -1.1**
QSPA South Pole Qui 79.64 180 LR LR 13 22 24.3
comp=Z,70nm,18.2s,baz=2.0,slow=35
QSPA South Pole Qui 79.64 180 P **P 12 47 34.6 +1.0**
QSPA IAmb IAmb 12 47 39.9
comp=Z,3.7nm,1.3s
MATP Matopo 87.18 250 LR LR 13 21 41.4
comp=Z,246nm,21.5s,baz=240,slow=32
BRTR Keskin Array B 93.22 310 P **P 12 48 41.8 +0.7**
comp=Z,1.2nm,0.9s,baz=126,slow=6.3,SNR=4.4
comp=Z,1.2nm,0.9s
TORD Torodi Ar. Bea 118.97 279 PKP **PKiKP 12 54 16.9 +1.0**
comp=Z,0.4nm,0.8s,baz=65,slow=1.4,SNR=1.7

*IDC **04** 12:39:21.6±2.0, 1°.41S×134°.41E, h0km, mb3.8/3, mbtmp3.9/5, ML4.1/2, MS3.5/3, Error ellipse: s-maj=44.4km s-min=21.5km az=51.0*
*DJA **04** 12:39:24.9±2.6, 1°S.12°×13°4E±°, h11km±19km, M3.9/5, MLv3.9/5*
*NEIC **04** 12:39:28.2±0.8, 1°.5S±0°.1×134°.1E±0°.2, h36km±11km, mb3.8/6, Error ellipse: s-maj=22.9km s-min=16.1km az=90.0*
ISC 04 12:39:26.6±0.8,**1°.51S**±0°.08×**134°.14E**±0°.04,**h24**km,**n20, σ0s90/22, mb3.9/3, MS3.6/3, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**1.99**	**81**	P	**Pn**	**12 39 58.3**	**-0.4**
BAKI				S	**Sn**	**12 40 24.3**	**+1.4**
SRPI	**Serui, Papua**	**2.13**	**100**	P	**Pn**	**12 40 01.3**	**+0.7**
FAKI	**Fak Fak**	**2.35**	**233**	Pn	**Pn**	**12 40 03.5**	**-0.2**
FAKI	**Fak Fak**	**2.35**	**233**	P	**Pn**	**12 40 04.5**	**+0.7**
SIJI	**Sorong**	**2.95**	**282**	Pn	**Pn**	**12 40 11.7**	**-0.3**
	4.3nm,0.3s,baz=162,slow=22,SNR=34						
SIJI				Pg	**Pb**	**12 40 20.2**	**+1.8**
	18nm,0.3s,baz=67,slow=16,SNR=15						
SIJI				Sn	**Sn**	**12 40 47.6**	**+1.0**
	4.9nm,0.3s,baz=137,slow=23,SNR=1.7						
SIJI				Lg	Lg	12 40 55.7	
	14nm,0.3s,baz=299,slow=24,SNR=7.3						
	11nm,0.3s						
SWI	**Sorong**	**2.95**	**283**	P	**Pn**	**12 40 11.2**	**-0.8**
SMKI	**Samarinda**	**16.97**	**273**	P	**Pn**	**12 43 21.5**	**-1.0**
WRAB	**Tennant Creek**	**18.31**	**179**		**P**	**12 43 38.7**	**-0.4**
WRA	**Warramunga Arr**	**18.32**	**179**	P	**P**	**12 43 39.3**	**0.0**
	1.3nm,0.3s,baz=360,slow=12,SNR=6.5						
	2.8nm,0.4s						
WRA	**Warramunga Arr**	**18.32**	**179**	P	**P**	**12 43 39.3**	**0.0**
WB2	**Warramunga Arr**	**18.32**	**179**	P	**P**	**12 43 39.0**	**-0.2**
WB2				IAmb	IAmb	12 44 13.5	
	comp=Z,11nm,0.9s						
WR0	**Warramunga Arr**	**18.34**	**179**	P	**P**	**12 43 39.5**	**0.0**
WR0				IAmb	IAmb	12 44 13.8	
	comp=Z,10nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.48**	**206**	P	**Pn**	**12 43 41.8**	**+0.6**
FITZ				IAmb	IAmb	12 44 12.6	
	comp=Z,7.3nm,1.4s						
ASAR	**Alice Springs**	**22.03**	**181**	P	**P**	**12 44 19.6**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=9.5,slow=12,SNR=11						
ASAR				S	**S**	**12 48 21.4**	**-0.1**
	comp=Z,1.5nm,1.0s,baz=7.2,slow=24,SNR=6.5						
	comp=Z,3.3nm,0.7s						
STKA	**Stephens Creek**	**31.01**	**168**	P	**P**	**12 45 40.4**	**-2.1**
	comp=Z,1.7nm,0.6s,baz=340,slow=12,SNR=2.9						
	comp=Z,1.7nm,0.6s						
STKA	**Stephens Creek**	**31.01**	**168**	P	**P**	**12 45 41.8**	**-0.6**
STKA				IAmb	IAmb	12 46 00.8	
	comp=Z,2.3nm,1.4s						
URZ	**Urewera**	**53.70**	**138**	LR	LR	13 12 12.1	
	comp=Z,65nm,18.9s,baz=81,slow=37						
MKAR	**Makanchi Array**	**66.09**	**324**	P	**P**	**12 50 11.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=118,slow=8.2,SNR=4.2						
MKAR				LR	LR	13 20 56.2	
	comp=Z,20nm,18.4s,baz=212,slow=38						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**66.09**	**324**	P	**P**	**12 50 11.1**	**-0.7**
BVAR	**Borovoye Array**	**75.75**	**326**	LR	LR	13 24 48.4	
	comp=Z,32nm,20.9s,baz=126,slow=36						

ROM 04 12:44:08.5±0.2,**42°.617N**±0°.008×**13°.325E**±0°.010, **h8**km±1km,**ML1.6/6, 3C, Error ellipse: s-maj=0.8km s-min=0.6km az=154.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.02**	**30**	P	Pg	12 44 10.2	0.0
SMA1				S	Sg	12 44 11.1	-0.1
SMA1				AML	AML		
	comp=E,11530μm,0.4s						
SMA1				AML	AML		
	comp=N,6825μm,0.5s						
T1204	**Amatrice, Fraz**	**0.06**	**354**	P	Pg	12 44 10.8	+0.3
T1204				S	Sg	12 44 12.1	+0.2
T1204				AML	AML		
	comp=E,579μm,1.4s						
T1204				AML	AML		
	comp=N,637μm,0.1s						
CAMP	**Campotosto**	**0.10**	**142**	⇑P	Pg	12 44 11.5	+0.5
CAMP				S	Sg	12 44 13.5	+0.8
CAMP				AML	AML		
	comp=E,147μm,0.2s						
CAMP				AML	AML		
	comp=N,140μm,0.6s						
T1202	**Accumoli, Fraz**	**0.11**	**320**	P	Pg	12 44 06.8	-4.4
T1202				AML	AML		
	comp=E,879μm,1.1s						
T1202				AML	AML		
	comp=N,1133μm,0.7s						
T1243	**Rocca Santa Ma**	**0.12**	**49**	P	Pg	12 44 11.7	+0.4
T1243				S	Sg	12 44 14.2	+0.9
RM33	**Pellescritta (**	**0.14**	**217**	P	Pg	12 44 11.0	-0.5
RM33				S	Sg	12 44 14.8	+1.2
RM33				AML	AML		
	comp=E,314μm,0.2s						
RM33				AML	AML		
	comp=N,235μm,0.3s						
T1244	**Arquata del Tr**	**0.14**	**352**	S	Sg	12 44 13.0	-0.8
TERO	**Teramo**	**0.21**	**88**	⇑P	Pg	12 44 13.3	+0.6
TERO				S	Sg	12 44 16.7	+1.2
TERO				AML	AML		
	comp=N,546μm,0.2s						
TERO				AML	AML		
	comp=N,546μm,0.2s						
TERO				AML	AML		
	comp=E,488μm,0.3s						
T1242	**Castelluccio d**	**0.23**	**337**	⇑P	Pg	12 44 09.3	-4.0
T1242				S	Sg	12 44 12.0	-4.4
T1242				AML	AML		
	comp=E,131μm,0.4s						
T1242				AML	AML		
	comp=N,232μm,0.2s						
T1242				AML	AML		
	comp=N,2730μm,1.4s						
T1242				AML	AML		
	comp=E,3840μm,0.2s						
GIGS	**Gran Sasso**	**0.25**	**133**	P	Pg	12 44 14.1	+0.6
GIGS				S	Sg	12 44 18.2	+1.4
GIGS				AML	AML		
	comp=E,31μm,0.3s						
GIGS				AML	AML		
	comp=N,29μm,1.4s						
GIGS				AML	AML		
	comp=E,31μm,0.3s						
GIGS				AML	AML		
	comp=N,33μm,0.1s						
T1215	**Vallo di Nera,**	**0.38**	**299**	S	Sg	12 44 17.0	-4.1
ARRO	**Arrone**	**0.41**	**265**	S	Sg	12 44 18.0	-4.1
CESX	**Cesi**	**0.55**	**270**	P	Pg	12 44 19.4	+0.2
CESX				S	Sb	12 44 28.6	0.0

ROM 04 12:44:42.1±0.1,**42°.900N**±0°.003×**13°.204E**±0°.005, **h9**km,**Md1.8/2, ML1.9/15, 6C-4D, Error ellipse: s-maj=0.4km s-min=0.1km az=72.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.02**	**322**	P	Pg	12 44 43.8	-0.3
MC2				S	Sg	12 44 45.1	-0.4
T1242	**Castelluccio d**	**0.07**	**180**	P	Pg	12 44 44.6	+0.2
T1242				S	Sg	12 44 46.1	+0.1
T1242				AML	AML		
	comp=N,2800μm,1.4s						
T1242				AML	AML		
	comp=E,3835μm,0.2s						
T1242				AML	AML		
	comp=N,2730μm,1.4s						
T1242				AML	AML		
	comp=E,3830μm,0.2s						
T1242				AML	AML		
	comp=E,3840μm,0.2s						
T1242				AML	AML		
	comp=N,2805μm,1.4s						
NRCA	**Norcia**	**0.09**	**225**	⇑P	Pg	12 44 45.0	+0.4
NRCA				S	Sg	12 44 46.9	+0.5
NRCA				AML	AML		
	comp=N,8000μm,0.4s						
NRCA				AML	AML		
	comp=N,8890μm,0.4s						
NRCA				AML	AML		
	comp=E,11500μm,0.1s						
NRCA				AML	AML		
	comp=N,8895μm,0.4s						
NRCA				AML	AML		
	comp=E,10650μm,0.1s						
NRCA				AML	AML		
	comp=N,7995μm,0.4s						
T1244	**Arquata del Tr**	**0.16**	**154**	P	Pg	12 44 46.2	+0.7
T1244				S	Sg	12 44 49.4	+1.4
FDMO	**Fiordimonte**	**0.16**	**328**	⇑P	Pg	12 44 46.1	+0.5
FDMO				S	Sg	12 44 49.2	+1.1
FDMO				AML	AML		
	comp=N,924μm,0.8s						
FDMO				AML	AML		
	comp=E,902μm,0.2s						
GUMA	**Gualdo di Mace**	**0.19**	**30**	P	Pg	12 44 46.9	+0.8
GUMA				S	Sg	12 44 50.4	+1.6
GUMA	**Gualdo di Mace**	**0.19**	**30**	P	Pg	12 44 46.8	+0.7
GUMA				S	Sg	12 44 50.4	+1.5
CSP1	**Cessapalombo**	**0.19**	**0**	P	Pg	12 44 46.5	+0.3
CSP1				S	Sg	12 44 50.0	+1.0
CSP1				AML	AML		
	comp=E,688μm,0.9s						
CSP1				AML	AML		
	comp=N,1055μm,0.6s						
CSP1				AML	AML		
	comp=E,686μm,0.9s						
CSP1				AML	AML		
	comp=N,1057μm,0.6s						
T1202	**Accumoli, Fraz**	**0.20**	**176**	P	Pg	12 44 47.0	+0.7
T1202				S	Sg	12 44 50.7	+1.6
T1204	**Amatrice, Fraz**	**0.24**	**160**	P	Pg	12 44 47.6	+0.6
T1204				S	Sg	12 44 52.1	+1.7
CESI	**CESI - Serrava**	**0.24**	**296**	⇑P	Pg	12 44 47.7	+0.6
CESI				S	Sg	12 44 52.2	+1.7
CESI				AML	AML		
	comp=E,472μm,1.5s						
CESI				AML	AML		
	comp=N,1006μm,0.1s						
CESI				AML	AML		
	comp=E,472μm,1.5s						
T1215	**Vallo di Nera,**	**0.27**	**249**	P	Pg	12 44 48.1	+0.6
T1215				S	Sb	12 44 52.9	-0.8
T1243	**Rocca Santa Ma**	**0.27**	**138**	P	Pg	12 44 48.0	+0.4
T1243				S	Sb	12 44 52.7	-1.2
LNSS	**Leonessa**	**0.32**	**202**	P	Pg	12 44 49.0	+0.5
LNSS				S	Sb	12 44 54.4	-1.0
LNSS				AML	AML		
	comp=E,1070μm,0.2s						
LNSS				AML	AML		
	comp=E,1065μm,0.2s						
LNSS				AML	AML		
	comp=N,1175μm,0.3s						
LNSS				END			
RM33	**Pellescritta (**	**0.39**	**179**	AML	AML		
	comp=N,145μm,0.1s						
RM33				AML	AML		
	comp=E,188μm,0.8s						
CAMP	**Campotosto**	**0.39**	**157**	AML	AML		
	comp=E,147μm,0.2s						
CAMP				AML	AML		
	comp=N,94μm,0.3s						
TERO	**Teramo**	**0.40**	**133**	AML	AML		
	comp=N,173μm,0.5s						
TERO				AML	AML		
	comp=E,151μm,0.3s						
ASSB	**Assisi San Ben**	**0.42**	**290**	⇑P	Pg	12 44 50.8	+0.4
ASSB				AML	AML		
	comp=E,346μm,1.2s						
ASSB				AML	AML		
	comp=N,292μm,0.3s						
EL6	**Elcito**	**0.44**	**350**	AML	AML		
	comp=E,850μm,1.6s						
EL6				AML	AML		
	comp=N,500μm,1.6s						
ARRO	**Arrone**	**0.46**	**225**	AML	AML		
	comp=N,66μm,1.6s						
ARRO				AML	AML		
	comp=E,80μm,1.1s						
ARRO				AML	AML		
	comp=N,67μm,1.6s						
ARRO				AML	AML		
	comp=E,80μm,1.1s						
CING	**Cingoli**	**0.48**	**359**	⇑P	Pg	12 44 51.7	+0.3
CING				AML	AML		
	comp=N,118μm,0.1s						
CING				AML	AML		
	comp=E,129μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.50**	**305**	P	Pg	12 44 52.5	+0.6
ATCC				AML	AML		
	comp=E,278μm,0.2s						
ATCC				AML	AML		
	comp=N,184μm,1.0s						
ATCC				AML	AML		
	comp=E,278μm,0.2s						
ATCC				AML	AML		
	comp=N,157μm,1.4s						
FOSV	**Fossato di Vic**	**0.51**	**321**	P	Pg	12 44 52.5	+0.5
FOSV				S	Sb	12 45 00.6	-0.2
FOSV				END			
GIGS	**Gran Sasso**	**0.52**	**149**	AML	AML		
	comp=E,26μm,1.0s						
GIGS				AML	AML		
	comp=N,33μm,0.1s						
CESX	**Cesi**	**0.54**	**238**	⇓P	Pg	12 44 52.9	+0.2
CESX				AML	AML		
	comp=E,70μm,1.2s						
CESX				AML	AML		
	comp=E,70μm,1.2s						
CESX				AML	AML		
	comp=N,67μm,1.2s						
ARVD	**Arcevia**	**0.63**	**342**	⇓P	Pg	12 44 54.7	+0.4
ARVD				S	Sn	12 45 06.0	-1.4
ARVD				AML	AML		
	comp=E,58μm,0.4s						
ARVD				AML	AML		
	comp=N,34μm,0.6s						
ARVD				AML	AML		
	comp=E,58μm,0.4s						
FSSB	**Fossombrone**	**0.85**	**339**	S	Sn	12 45 14.0	+1.1
VVLD	**Villa Vallelon**	**1.07**	**163**	⇓P	Pg	12 45 02.3	-0.4
VVLD				AML	AML		
	comp=E,16μm,1.6s						
VVLD				AML	AML		
	comp=N,20μm,0.8s						
VVLD				AML	AML		
	comp=E,20μm,0.1s						
LPEL	**Lama dei Pelig**	**1.12**	**139**	⇓P	Pg	12 45 00.2	-3.4
LPEL				AML	AML		
	comp=N,47μm,1.3s						
LPEL				AML	AML		
	comp=E,54μm,1.6s						
VAGA	**Valle Agricola**	**1.67**	**152**	⇑P	Pn	12 45 10.9	-0.6

*IDC **04** 13:05:43.5±0.9, 27°.84N×91°.80E, h0km, mb3.7/8, mbtmp3.7/9, ML4.3/1, Error ellipse: s-maj=73.6km s-min=16.3km az=55.0*
*NEIC **04** 13:05:48.7±0.8, 28°.07N±0°.08×92°.0E±0°.2, h29km±6km, mb4.0/5, Error ellipse: s-maj=21.9km s-min=6.9km az=64.0*
*NDI **04** 13:05:50.9±4.4, 27°.87N×92°.12E, h15km, ML3.9, mb4.0(NEIC)*
ISC 04 13:05:46.1±1.4,**28°.06N**±0°.05×**92°.19E**±0°.05,**h17**km±10km, **n32, σ1s48/40, mb3.9/10, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEZP	**TEZPUR**	**1.53**	**159**	*e*P	**Pb**	**13 06 13.5**	**-0.6**
TEZP				*e*S	**Sg**	**13 06 35.7**	**+0.1**
TEZP				IAML		13 06 38.0	
	comp=N,2μm,0.2s						
TEZP				IAML		13 06 38.8	
	comp=E,2μm,0.2s						
ZIRO	**ZIRO**	**1.57**	**109**	*e*P	**Pg**	**13 06 16.7**	**+0.4**
ZIRO				*e*S	**Sg**	**13 06 39.2**	**+2.5**
ZIRO				IAML		13 06 45.3	
	comp=E,8μm,0.4s						
ITAN	**ITANAGAR**	**1.64**	**123**	*e*P	**Pg**	**13 06 17.6**	**0.0**
ITAN				*e*S	**Sg**	**13 06 42.0**	**+3.0**
ITAN				IAML		13 06 45.0	
	comp=N,1μm,0.3s						
LSA	**Lhasa**	**1.87**	**331**		**Pn**	**13 06 18.2**	**+0.3**
GUWA	**GUWAHATI**	**1.91**	**193**	*e*P	**Pn**	**13 06 18.8**	**+0.9**
GUWA				*e*S	**Sn**	**13 06 42.1**	**+0.6**
GUWA				IAML		13 06 43.7	
	comp=E,9μm,0.3s						
JORH	**JORHAT**	**2.25**	**125**	*e*P	**Pg**	**13 06 27.9**	**-1.5**
JORH				IAML		13 07 02.8	
	comp=E,2μm,0.3s						
DIBR	**DIBRUGARH**	**2.48**	**103**	*e*P	**Pg**	**13 06 33.3**	**-0.5**
DIBR				IAML		13 07 10.1	
	comp=E,850nm,0.3s						
SHL	**Shillong**	**2.50**	**186**	Pn	**Pn**	**13 06 26.5**	**+0.3**
SHL	**Shillong**	**2.50**	**186**	*e*P	**Pn**	**13 06 26.3**	**+0.1**
SHL				*e*S	**Sn**	**13 06 58.5**	**+2.1**
SHL				IAML		13 07 00.3	
	comp=E,658nm,0.2s						
SHL				IAML		13 07 01.1	
	comp=N,456nm,0.2s						
MOKO	**MOKOCHONG**	**2.70**	**129**	*e*P	**Pb**	**13 06 31.5**	**-2.7**
MOKO				*e*S	**Sb**	**13 07 06.3**	**-0.7**
MOKO				IAML		13 07 16.5	
	comp=N,632nm,0.5s						
KOHI	**KOHIMA**	**2.89**	**143**	*e*P	**Pn**	**13 06 33.6**	**+2.0**
KOHI				*e*S	**Sb**	**13 07 09.6**	**-3.0**
TURI	**Tura**	**3.00**	**214**	*e*S	**Sn**	**13 07 08.3**	**-0.1**
GTK	**Tadong**	**3.26**	**258**	*e*P	**Pb**	**13 06 41.9**	**-1.8**
GTK				*e*S	**Sn**	**13 07 19.8**	**+4.6**
GTK				IAML		13 07 23.9	
	comp=E,468nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.39**	**146**	Pn	**Pn**	**13 08 28.7**	**+0.5**
	comp=E,0.6nm,0.3s,baz=334,slow=12,SNR=1.5						
	comp=E,0.5nm,0.3s						
MK31	**Makanchi Array**	**20.26**	**340**	P	**P**	**13 10 20.7**	**0.0**
MKAR	**Makanchi Array**	**20.26**	**340**	P	**P**	**13 10 21.2**	**+0.5**
	comp=E,0.6nm,0.6s,baz=149,slow=12,SNR=8.8						
	comp=E,0.6nm,0.6s						
MKAR	**Makanchi Array**	**20.26**	**340**	P	**P**	**13 10 20.7**	**+0.1**
BTK	**Batken**	**21.31**	**310**	P	**P**	**13 10 32.1**	**-0.1**
BTK				IAmb	IAmb	13 10 33.4	
	comp=Z,4.7nm,0.7s						
KURBB	**Kurchatov Arra**	**24.81**	**339**	P	**P**	**13 11 08.5**	**+1.2**
	comp=Z,3.1nm,0.2s,baz=156,slow=10,SNR=1.4						
	comp=Z,3.1nm,0.2s						
ZALV	**Zalesovo Beam**	**26.43**	**350**	P	**P**	**13 11 23.2**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=165,slow=7.4,SNR=2.0						
	comp=Z,0.3nm,0.3s						
ABKAR	**Akbulak array**	**32.52**	**319**	P	**P**	**13 12 14.8**	**-1.2**
AKASG	**Malin Array Be**	**51.93**	**314**	P	**P**	**13 14 52.6**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=77,slow=6.5,SNR=2.8						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**54.39**	**327**	P	**P**	**13 15 11.3**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=103,slow=8.6,SNR=4.6						
	comp=Z,0.8nm,0.6s						
FINES	**FINESS Array B**	**54.39**	**327**	P	**P**	**13 15 12.0**	**+0.1**
GERES	**GERESS Array B**	**62.11**	**313**	P	**P**	**13 16 06.0**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=72,slow=6.3,SNR=12						
	comp=Z,1.1nm,0.5s						
GERES	**GERESS Array B**	**62.11**	**313**	P	**P**	**13 16 06.2**	**0.0**
WB0	**Warramunga Arr**	**62.66**	**135**	P	**P**	**13 16 10.4**	**+0.3**
WB0				IAmb	IAmb	13 16 35.1	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**62.76**	**135**	P	**P**	**13 16 11.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=320,slow=7.6,SNR=12						
	comp=Z,0.5nm,0.6s						
WB2	**Warramunga Arr**	**62.77**	**135**	P	**P**	**13 16 11.6**	**+0.8**
AS31	**Alice Springs**	**65.28**	**138**	P	**P**	**13 16 28.2**	**+0.9**
AS31				IAmb	IAmb	13 16 39.5	
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**65.29**	**138**	P	**P**	**13 16 27.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=323,slow=6.7,SNR=12						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**65.29**	**138**	P	**P**	**13 16 28.0**	**+0.6**

*IDC **04** 13:21:30.3±1.7, 29°.42N×70°.11E, h0km, mb3.6/5, mbtmp3.5/6, ML3.0/1, Error ellipse: s-maj=70.7km s-min=24.8km az=57.0*
ISC 04 13:21:35.7±1.6,**29°.5N**±0°.2×**70°.1E**±0°.3,**h35**km,**n6, σ0s72/6,**

mb3.5/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.70**	**25**	P	**P**	**13 26 01.7**	**-0.3**
	baz=204,slow=10,SNR=1.9						
	0.1nm,0.5s						
AKTO	**Aktyubinsk**	**22.83**	**340**	P	**P**	**13 26 36.2**	**+0.7**
	0.6nm,0.4s,baz=158,slow=11,SNR=2.3						
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**47.41**	**340**	P	**P**	**13 30 06.6**	**+0.3**
	1.2nm,0.7s,baz=128,slow=7.3,SNR=5.6						
	1.2nm,0.7s						
NOA	**NORSAR Array B**	**49.69**	**327**	P	**P**	**13 30 23.2**	**-0.8**
	0.4nm,0.6s,baz=103,slow=7.8,SNR=2.1						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**79.00**	**120**	P	**P**	**13 33 36.0**	**-0.3**
	0.6nm,1.1s,baz=324,slow=4.7,SNR=2.5						
	0.6nm,1.1s						
ASAR	**Alice Springs**	**80.92**	**124**	P	**P**	**13 33 47.1**	**+0.5**
	0.2nm,0.4s,baz=309,slow=6.1,SNR=6.3						
	0.2nm,0.4s						

*IDC **04** 13:21:36.2±3.0, 18°.71N×145°.58E, h193km±27km, mb3.1/5, mbtmp3.7/6, MS3.2/1, Error ellipse: s-maj=41.6km s-min=23.7km az=97.0*

*NEIC **04** 13:21:36.9±1.6, 18°.6N±0°.1×145°.6E±0°.3, h195km±9km, mb4.1/12, Error ellipse: s-maj=36.7km s-min=15.6km az=99.0*

ISC 04 13:21:36.7±0.6, 18°.67N±0°.08×145°.6E±0°.2, h200km, n25, σ1s00/26, mb4.0/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.09**	**188**	P	**Pn**	**13 22 51.8**	**-0.6**
	12nm,0.3s,baz=320,slow=4.5,SNR=8.4						
GUMO				S	**Sn**	**13 23 52.7**	**+0.7**
	13nm,0.3s,baz=180,slow=22,SNR=2.3						
GUMO	**Guam**	**5.09**	**188**	Pn	**Pn**	**13 22 52.8**	**+0.4**
WB0	**Warramunga Arr**	**39.74**	**197**	P	**P**	**13 28 50.4**	**+0.3**
WB0				IAmb	IAmb	13 28 55.4	
	comp=Z,7.8nm,1.5s						
WB2	**Warramunga Arr**	**39.92**	**197**	P	**P**	**13 28 51.6**	**+0.1**
WRA	**Warramunga Arr**	**39.92**	**197**	P	**P**	**13 28 51.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=18,slow=8.7,SNR=6.7						
WRA				PcP	**PcP**	**13 30 52.4**	**-0.7**
	comp=Z,0.5nm,1.1s,baz=17,slow=3.5,SNR=1.9						
	comp=Z,0.2nm,0.3s						
MA2	**Magadan**	**41.03**	**4**	LR	LR	13 45 37.9	
	comp=Z,29nm,19.6s,baz=232,slow=35						
ASAR	**Alice Springs**	**43.59**	**196**	P	**P**	**13 29 22.5**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=17,slow=7.5,SNR=4.3						
	comp=Z,0.2nm,0.7s						
ARMA	**Armidale**	**49.15**	**173**	P	**P**	**13 30 03.0**	**-1.5**
ARMA				IAmb	IAmb	13 30 08.9	
	comp=Z,15nm,1.4s						
CHGN	**Chignik**	**55.97**	**34**	P	**P**	**13 30 53.9**	**-0.2**
MKAR	**Makanchi Array**	**58.41**	**314**	P	**P**	**13 31 12.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=98,slow=6.6,SNR=3.0						
	comp=Z,0.2nm,0.5s						
SKT	**Skwentna**	**61.02**	**29**	P	**P**	**13 31 29.5**	**+0.6**
SKT				IAmb	IAmb	13 31 37.1	
	comp=Z,4.8nm,1.3s						
CAST	**Castle Rocks**	**61.17**	**27**	P	**P**	**13 31 31.4**	**+1.5**
CAST				IAmb	IAmb	13 32 13.6	
	comp=Z,4.9nm,1.5s						
BPAW	**Bear Paw Mtn.**	**61.83**	**26**	P	**P**	**13 31 35.7**	**+1.4**
TRF	**Thorofare Moun**	**61.96**	**27**	P	**P**	**13 31 36.1**	**+0.8**
MLY	**Manley**	**62.19**	**25**	P	**P**	**13 31 37.5**	**+0.8**
WRH	**Wood River Hil**	**63.15**	**26**	P	**P**	**13 31 43.5**	**+0.6**
WRH				IAmb	IAmb	13 32 12.8	
	comp=Z,3.2nm,1.4s						
BMRM	**Bremner River**	**64.07**	**31**	P	**P**	**13 31 48.4**	**-0.7**
BMRM				IAmb	IAmb	13 32 11.5	
	comp=Z,5.0nm,1.0s						
BMAR	**Burnt Mountain**	**65.19**	**24**	P	**P**	**13 31 57.5**	**+1.2**
BCAR	**Beaver Creek A**	**65.66**	**28**	P	**P**	**13 32 00.1**	**+0.8**
INK	**Inuvik**	**69.44**	**23**	P	**P**	**13 32 20.8**	**-2.0**
ABKAR	**Akbulak array**	**73.29**	**317**	P	**P**	**13 32 45.6**	**-0.6**
NVAR	**Mina Array Bea**	**83.25**	**52**	P	**P**	**13 33 42.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=267,slow=5.2,SNR=6.9						
	comp=Z,0.5nm,0.6s						
HRY	**Holter Researc**	**84.91**	**42**	P	**P**	**13 33 49.8**	**+0.3**
FINES	**FINESS Array B**	**86.87**	**335**	P	**P**	**13 33 56.8**	**-1.7**
	comp=Z,2.0nm,0.9s,baz=49,slow=6.3,SNR=3.8						
	comp=Z,2.0nm,0.9s						
CASY	**Casey**	**88.68**	**193**	P	**P**	**13 34 07.3**	**+0.6**

*MAN **04** 13:48:44.7, 12°.43N×125°.98E, h16km, mb4.4, ML3.3, MS3.0*

*IDC **04** 13:48:44.8±1.1, 12°.24N×125°.62E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=86.5km s-min=22.8km az=76.0*

ISC 04 13:48:49.5±1.1, 12°.3N±0°.1×125°.8E±0°.4, h32km, n8, σ0s55/7, mb3.3/4, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**2.52**	**187**	↑*e*P	**Pn**	**13 49 28.4**	**+0.2**
KSRS	**Korea Array**	**25.12**	**4**	P	**P**	**13 54 11.6**	**+0.2**
	0.7nm,0.8s,baz=173,slow=11,SNR=4.4						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**33.12**	**165**	P	**P**	**13 55 22.1**	**-0.8**
	0.3nm,0.8s,baz=344,slow=9.3,SNR=2.2						
WRA				PcP	**PcP**	**13 58 06.4**	**+0.7**
	0.8nm,1.1s,baz=341,slow=2.6,SNR=2.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**36.61**	**167**	P	**P**	**13 55 53.2**	**+0.2**
	0.2nm,0.5s,baz=342,slow=7.2,SNR=7.1						
ASAR				PcP	**PcP**	**13 58 15.8**	**0.0**
	0.5nm,0.9s,baz=345,slow=3.5,SNR=3.3						
	0.2nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**40.09**	**74**	T	T	14 39 29.7	
	baz=266,slow=75						
H11N2	**WAKE ISLAND Hy**	**40.10**	**74**	T	T	14 39 29.0	
	baz=266,slow=75						
H11N3	**WAKE ISLAND Hy**	**40.11**	**74**	T	T	14 39 30.4	
	baz=266,slow=75						
MKAR	**Makanchi Array**	**50.15**	**322**	P	**P**	**13 57 41.7**	**-0.2**
	0.4nm,0.7s,baz=122,slow=8.9,SNR=4.7						
	0.4nm,0.7s						

*IGIL **04** 14:02:14.9, 37°.15N×14°.64W, h40km, ML2.0*

*INMG **04** 14:02:17.1±1.2, 37°.16N×14°.65W, h10km, ML2.3, Error ellipse: s-maj=7.6km s-min=7.3km az=97.0*

*CNRM **04** 14:02:18.3, 36°.59N×13°.81W, h106km, ml3.1*

ISC 04 14:02:13.7±1.5, 36°.83N±0°.06×13°.97W±0°.09, h10km, n35, σ3s19/61, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**4.13**	**84**	*e*Pn	**Pn**	**14 03 21.3**	**+4.4**
PFVI				*e*Sn	**Sn**	**14 04 08.7**	**+3.4**
PFVI				A	A	14 04 11.3	
	6.1nm,0.5s						
PFVI	**Vila Bisbo**	**4.13**	**84**	P	**Pn**	**14 03 18.0**	**+1.1**
PFVI				S	**Sn**	**14 04 04.4**	**-0.8**
PMAFR	**Mafra**	**4.28**	**59**	*e*Pn	**Pn**	**14 03 20.7**	**+1.8**
PMAFR				*e*Sn	**Sn**	**14 04 09.7**	**+0.9**
PMAFR				A	A	14 04 11.3	
	9.7nm,0.6s						
MORF	**Marmelete**	**4.28**	**82**	*e*P	**Pn**	**14 03 23.0**	**+4.0**
MORF	**Marmelete**	**4.28**	**82**	*e*Pn	**Pn**	**14 03 23.0**	**+4.0**
PACT	**Alcochete**	**4.51**	**63**	*e*Pn	**Pn**	**14 03 24.4**	**+2.4**
PACT				*e*Sn	**Sn**	**14 04 18.5**	**+4.0**
PNCL	**Nicolau / Gran**	**4.52**	**72**	*e*Pn	**Pn**	**14 03 25.0**	**+2.8**
PNCL				*e*Sn	**Sn**	**14 04 16.2**	**+1.5**
PNCL				A	A	14 04 19.6	
	1.8nm,0.2s						
MESJ	**Messejana**	**4.70**	**76**	*e*P	**Pn**	**14 03 28.0**	**+3.5**
MESJ				*e*S	**Sn**	**14 04 21.4**	**+2.2**
MESJ				IAML		14 04 25.8	
	comp=N,2.3nm,0.2s						
MESJ	**Messejana**	**4.70**	**76**	*e*Pn	**Pn**	**14 03 28.1**	**+3.5**
MESJ				*e*Sn	**Sn**	**14 04 21.5**	**+2.4**
MESJ				A	A	14 04 30.2	
	comp=N,2.2nm,0.7s						
PMAR	**Madeira**	**4.75**	**211**	P	**Pn**	**14 03 25.6**	**0.0**
PMAR				S	**Sn**	**14 04 18.4**	**-2.4**
PMOZ	**Porto Moniz, M**	**4.79**	**215**	P	**Pn**	**14 03 26.9**	**+0.8**
PMOZ				S	**Sn**	**14 04 21.5**	**-0.3**
PCVE	**Castro Verde**	**4.80**	**79**	*e*Pn	Pn	14 03 31.1	+5.0
PCVE				*e*Sn	**Sn**	**14 04 24.8**	**+3.0**
PCVE				A	A	14 04 37.7	
	comp=N,1.8nm,1.0s						
PSBE	**So Bento**	**4.88**	**55**	*e*Pn	**Pn**	**14 03 28.6**	**+1.4**
PSBE				*e*Sn	**Sn**	**14 04 23.7**	**-0.1**
PBEJ	**Beja**	**5.01**	**74**	*e*Sn	**Sn**	**14 04 29.3**	**+2.5**
EVO	**Evora**	**5.03**	**68**	*e*Sn	**Sn**	**14 04 28.1**	**+0.8**
PVAQ	**Vaqueiros**	**5.03**	**82**	*e*Pn	**Pn**	**14 03 33.4**	**+4.1**
PVAQ				*e*Sn	**Sn**	**14 04 31.3**	**+3.8**
PVAQ				A	A	14 04 35.7	
	comp=N,2.7nm,0.3s						
PVAQ	**Vaqueiros**	**5.03**	**82**	P	**Pn**	**14 03 30.5**	**+1.2**
PVAQ				S	**Sn**	**14 04 27.1**	**-0.4**
PMTG	**Montargil**	**5.07**	**62**	*e*Pn	**Pn**	**14 03 31.1**	**+1.4**
PMTG				*e*Sn	**Sn**	**14 04 27.6**	**-0.6**
PMTG				A	A	14 04 33.5	
	comp=N,1.8nm,0.7s						
PCAS	**Casmilo, Conde**	**5.37**	**51**	*e*Pn	**Pn**	**14 03 35.1**	**+1.2**
PCAS				*e*Sn	**Sn**	**14 04 34.0**	**-1.8**
PCAS				A	A	14 04 42.4	
	comp=N,1.9nm,0.5s						
PESTR	**Estremoz**	**5.45**	**66**	*e*Pn	**Pn**	**14 03 37.6**	**+2.6**
PESTR				*e*Sn	**Sn**	**14 04 38.3**	**+0.6**
PESTR				A	A	14 04 42.1	
	comp=N,1.3nm,0.5s						
PESTR	**Estremoz**	**5.45**	**66**	P	**Pn**	**14 03 37.6**	**+2.6**
PESTR				S	**Sn**	**14 04 37.0**	**-0.7**
PBAR	**Barrancos**	**5.68**	**74**	*e*Pn	**Pn**	**14 03 42.0**	**+3.9**
PBAR				*e*Sn	**Sn**	**14 04 44.5**	**+1.2**
PBAR				A	A	14 04 49.6	
	comp=N,0.9nm,0.2s						
PMRV	**Marv??o**	**5.80**	**61**	*e*Pn	**Pn**	**14 03 41.2**	**+1.3**
PMRV				*e*Sn	**Sn**	**14 04 44.9**	**-1.6**
PMRV				A	A	14 04 48.7	
	comp=N,1.8nm,0.3s						
PCBR	**Castelo Branco**	**5.93**	**58**	*e*Pn	**Pn**	**14 03 43.0**	**+1.5**
PCBR				*e*Sn	**Sn**	**14 04 48.4**	**-1.1**
PCBR				A	A	14 04 59.7	
	comp=N,1.3nm,0.5s						
PVIS	**Viseu**	**6.13**	**49**	*e*Sn	**Sn**	**14 04 50.3**	**-4.4**
PVRL	**Vila Real**	**6.59**	**46**	*e*Sn	**Sn**	**14 05 00.4**	**-5.5**
POLO	**Lamas de Olo**	**6.61**	**45**	*e*Pn	**Pn**	**14 03 50.6**	**-0.4**
POLO				*e*Sn	**Sn**	**14 05 00.9**	**-5.6**
POLO				A	A	14 05 03.0	
	comp=N,0.6nm,0.5s						
PCAB	**Cabril**	**6.71**	**42**	*e*Sn	**Sn**	**14 05 01.7**	**-7.2**
PGAV	**Gavieira, Arco**	**6.77**	**39**	*e*Pn	**Pn**	**14 03 53.0**	**-0.2**
PGAV				*e*Sn	**Sn**	**14 05 02.0**	**-8.4**
PGAV				A	A	14 05 08.3	
	comp=N,2.5nm,0.5s						
MVO	**Moncorvo**	**6.93**	**49**	*e*Pn	**Pn**	**14 03 55.2**	**-0.2**
MVO				*e*Sn	**Sn**	**14 05 08.9**	**-5.4**
MVO				A	A	14 05 13.3	
	comp=N,1.4nm,0.2s						
PBRG	**Braganca**	**7.49**	**46**	*e*Pn	**Pn**	**14 04 02.7**	**-0.4**
OUK	**Oukaimeden**	**7.56**	**136**	P	**Pn**	**14 04 02.4**	**-1.9**
OUK				S	**Sn**	**14 05 25.1**	**-5.0**
LCRM	**LCR**	**8.09**	**110**	P	**Pn**	**14 04 10.7**	**-0.6**
LCRM				S	**Sn**	**14 05 39.0**	**-3.9**
MD31	**MD31**	**8.54**	**115**	P	**Pn**	**14 04 16.1**	**-1.4**
MD31				S	**Sn**	**14 05 48.2**	**-5.8**
MDT	**Midelt**	**8.68**	**115**	P	**Pn**	**14 04 18.1**	**-1.3**
MDT				S	**Sn**	**14 05 51.1**	**-6.3**

*MAN **04** 14:07:00.8, 9°.19N×126°.75E, h28km, mb4.9, ML3.9, MS3.9*

*DJA **04** 14:07:00.3±0.6, 10°.N±5°.×12°.7E±°, h24km±3km, M5.0/12, mB5.1/3, mb4.8/12, MLv5.2/4, Mw(mB)4.4/3*

*IDC **04** 14:07:06.9±2.2, 9°.11N×126°.44E, h73km±21km, mb4.0/22, mbtmp4.3/25, MS3.5/13, Error ellipse: s-maj=20.2km s-min=9.6km az=83.0*

*NEIC **04** 14:07:07.8±1.3, 9°.11N±0°.07×126°.29E±0°.10, h80km±6km, mb4.6/61, Error ellipse: s-maj=13.9km s-min=9.8km az=77.0*

ISC 04 14:07:04.4±1.1, 9°.13N±0°.04×126°.58E±0°.07, h52km±10km, n143, σ1s77/147, mb4.5/51, MS3.7/12, 6C-8D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.96**	**193**	↓*e*P	**Pn**	**14 07 19.1**	**-2.5**
BIPH				*e*S	**Sn**	**14 07 31.1**	**-3.2**
TASP	**Talacogon, Agu**	**1.01**	**229**	↑*e*P	**Pn**	**14 07 20.9**	**-1.4**
TASP				*i* S	**Sn**	**14 07 32.0**	**-3.6**
SCPH	**Surigao**	**1.26**	**301**	↓*e*P	**Pn**	**14 07 24.1**	**-1.5**
SCPH				*e*S	**Sn**	**14 07 42.4**	**+0.9**
CDOP	**Cateel, Davao**	**1.34**	**186**	↓*i*P	**Pn**	**14 07 24.9**	**-1.9**
CDOP				*i* S	**Sn**	**14 07 41.5**	**-2.0**
DAV	**Davao City (W)**	**2.27**	**206**	P	**Pn**	**14 07 42.4**	**+2.9**
	217nm,0.3s,baz=262,slow=4.7,SNR=7.0						
DAV				S	**Sn**	**14 08 11.3**	**+5.1**
	689nm,0.6s,baz=274,slow=22,SNR=5.1						
DAV				LR	LR	14 08 35.6	
	comp=Z,474nm,19.8s,baz=9.5,slow=40						
DAV	**Davao City (W)**	**2.27**	**206**		**Pn**	**14 07 41.0**	**+1.6**
GHBP	**Garcia Hernand**	**2.28**	**283**	↓*i*P	**Pn**	**14 07 39.4**	**-0.2**
GHBP				*i* S	**Sn**	**14 08 08.9**	**+2.3**
TABP	**Talibon, Bohol**	**2.41**	**294**	↓*e*P	**Pn**	**14 07 41.0**	**-0.4**
TABP				*i* S	**Sn**	**14 08 11.4**	**+1.6**
KCP	**Kidapawan**	**2.57**	**215**	↑*e*P	**Pn**	**14 07 44.3**	**+0.7**
KCP				*i* S	**Sn**	**14 08 16.6**	**+2.9**
LLP	**Lapu-Lapu**	**2.83**	**295**	↑*i*P	**Pn**	**14 07 48.6**	**+1.4**
LLP				*i* S	**Sn**	**14 08 24.9**	**+4.8**
LSIP	**Lazi, Siquijor**	**2.91**	**270**	↑*i*P	**Pn**	**14 07 48.3**	**+0.1**
LSIP				*i* S	**Sn**	**14 08 17.0**	**-5.0**
DCPH	**Dipolog City**	**3.23**	**261**	↑*e*P	**Pn**	**14 07 53.3**	**+0.7**
DCPH				*e*S	**Sn**	**14 08 32.7**	**+2.8**
SNPH	**Sibulan**	**3.30**	**274**	↓*i*P	**Pn**	**14 07 53.8**	**+0.1**
SNPH				*i* S	**Sn**	**14 08 38.2**	**+6.4**
GSPH	**General Santos**	**3.42**	**208**	↑*e*P	**Pn**	**14 07 57.4**	**+2.0**
GSPH				*i* S	**Sn**	**14 08 40.1**	**+5.3**
RCP	**Roxas**	**4.48**	**303**	↓*e*P	**Pn**	**14 08 11.3**	**+1.6**
SGSI	**Sangihe**	**5.50**	**191**	P	**Pn**	**14 08 26.3**	**+2.5**
	1.7nm118nm,0.5s						
SGSI	**Sangihe**	**5.50**	**191**	P	**Pn**	**14 08 26.0**	**+2.2**
	1.7nm118nm,0.5s						
LQP	**Lukban**	**6.99**	**316**	↓*e*P	**Pn**	**14 08 45.3**	**+0.8**
TNTI	**Ternate**	**8.34**	**175**	Pn	**Pn**	**14 09 04.4**	**+1.7**
GTOI	**Gorontalo**	**9.15**	**203**	P	**Pn**	**14 09 15.5**	**+1.7**
	16nm,0.8s						
LBMI	**Labuha**	**9.74**	**175**	P	**Pn**	**14 09 25.3**	**+3.4**
	330nm19nm,0.7s						
MRSI	**Marisa**	**9.75**	**208**	P	**Pn**	**14 09 25.3**	**+3.2**
	36nm,0.7s						
TOLI2	**Tolitoli**	**9.83**	**216**	Pn	**Pn**	**14 09 23.5**	**+0.3**
SIJI	**Sorong**	**10.97**	**155**	P	**Pn**	**14 09 41.4**	**+2.6**
	6.9nm,0.3s,baz=335,slow=22,SNR=12						
SANI	**Sanana**	**11.12**	**183**	P	**Pn**	**14 09 42.0**	**+1.3**
	17nm,0.8s						
FAKI	**Fak Fak**	**13.23**	**154**	Pn	**Pn**	**14 10 10.2**	**+0.5**
TPUB	**Ta-pu**	**15.20**	**339**	Pn	**Pn**	**14 10 36.7**	**+0.8**
TPUB				IAmb	IAmb	14 10 41.1	
	comp=Z,67nm,1.2s						
SBUM	**Sibu**	**15.74**	**246**		**Pn**	**14 10 41.7**	**-1.1**
EDFI	**Ende, Flores**	**18.41**	**195**	P	**Pn**	**14 11 19.7**	**+3.6**
	comp=Z,4.7nm,0.6s						
GUMO	**Guam**	**18.47**	**74**	LR	LR	14 20 15.2	
	comp=Z,40nm,18.4s,baz=230,slow=42						
BATI	**Baumata**	**19.42**	**189**	P	**Pn**	**14 11 28.6**	**+0.5**
	comp=Z,17nm,0.3s,baz=308,slow=6.3,SNR=2.4						
BATI	**Baumata**	**19.42**	**189**	P	**Pn**	**14 11 28.3**	**+0.2**
	comp=Z,22nm,0.8s						
UBPT	**Khong Chiam**	**21.51**	**289**	P	**P**	**14 11 46.1**	**-3.0**
JCJ	**Chichijima**	**23.18**	**38**	LR	LR	14 19 31.1	
	comp=Z,40nm,21.7s,baz=112,slow=32						
NJ2	**Nanjing**	**23.91**	**344**	*e*P	**P**	**14 12 11.4**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KNRA	**Kununurra**	**24.74**	**175**	P	**P**	**14 12 21.1**	**0.0**
KNRA				IAmb	IAmb	14 12 39.9	
	comp=Z,15nm,0.7s						
JMN	**Monobe**	**25.39**	**14**	P	**P**	**14 12 28.8**	**+1.8**
JMN				IAmb	IAmb	14 12 56.3	
	comp=Z,48nm,1.3s						
SKJI	**Sukabumi**	**25.59**	**232**	P	P	14 12 50.7	+22
NAWB	**Namwon**	**26.19**	**2**	P	**P**	**14 12 34.9**	**+0.8**
NAWB				IAmb	IAmb	14 12 55.4	
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**27.07**	**182**	P	**P**	**14 12 42.7**	**+0.5**
	comp=Z,8.8nm,0.7s,baz=360,slow=5.2,SNR=20						
	comp=Z,8.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.07**	**182**	P	**P**	**14 12 42.3**	**+0.2**
FITZ				IAmb	IAmb	14 12 46.2	
	comp=Z,9.9nm,0.9s						
KSCHJ	**Chungju**	**27.65**	**2**	P	**P**	**14 12 47.7**	**+0.5**
KSCHJ				IAmb	IAmb	14 12 51.3	
	comp=Z,36nm,1.5s						
INU	**Inuyama**	**27.79**	**19**	P	**P**	**14 12 49.0**	**+0.5**
KSRS	**Korea Array**	**28.23**	**2**	P	**P**	**14 12 53.0**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=184,slow=9.7,SNR=12						
KSRS				LR	LR	14 26 39.0	
	comp=Z,56nm,18.1s,baz=160,slow=42						
	comp=Z,2.0nm,0.6s						
COEN	**Coen**	**28.23**	**144**	P	**P**	**14 12 54.2**	**+1.5**
COEN				IAmb	IAmb	14 13 16.9	
	comp=Z,25nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.36**	**292**	P	**P**	**14 12 53.2**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=100,slow=7.6,SNR=10						
CMAR				LR	LR	14 23 38.6	
	comp=Z,59nm,19.3s,baz=185,slow=35						
	comp=Z,1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.36**	**292**	P	**P**	**14 12 52.4**	**-1.4**
PZH	**PanZhiHua**	**29.19**	**309**	P	**P**	**14 13 01.5**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,60nm,4.7s						
MJAR	**Matsushiro Arr**	**29.27**	**19**	P	**P**	**14 13 01.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=187,slow=9.3,SNR=5.2						
MJAR				LR	LR	14 25 03.1	
	comp=Z,40nm,18.4s,baz=192,slow=37						
	comp=Z,0.9nm,0.8s						
WB0	**Warramunga Arr**	**29.72**	**165**	P	**P**	**14 13 04.8**	**-1.1**
WRA	**Warramunga Arr**	**29.88**	**165**	P	**P**	**14 13 06.3**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=348,slow=9.4,SNR=33						
WRA				PcP	**PcP**	**14 16 09.6**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=0.2,slow=2.7,SNR=1.6						
	comp=Z,1.6nm,0.5s						
WRA	**Warramunga Arr**	**29.88**	**165**	P	**P**	**14 13 05.9**	**-1.3**
WB2	**Warramunga Arr**	**29.88**	**165**	P	**P**	**14 13 06.2**	**-1.0**
WR0	**Warramunga Arr**	**29.95**	**165**	P	**P**	**14 13 06.9**	**-0.9**
MBWA	**Marble Bar**	**30.84**	**193**	P	**P**	**14 13 15.7**	**+0.1**
PSA00	**Pilbara Seismi**	**31.21**	**192**	P	**P**	**14 13 19.0**	**+0.1**
PSA00				IAmb	IAmb	14 13 35.6	
	comp=Z,14nm,1.2s						
PSA00	**Pilbara Seismi**	**31.21**	**192**	P	**P**	**14 13 19.2**	**+0.2**
PSA00				IAmb	IAmb	14 13 20.0	
	comp=Z,6.7nm,1.3s						
JMM	**Marumori**	**31.36**	**22**	P	**P**	**14 13 20.9**	**+0.8**
JMM				IAmb	IAmb	14 13 29.0	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**33.37**	**168**	P	**P**	**14 13 37.3**	**-0.6**
ASAR	**Alice Springs**	**33.37**	**168**	P	**P**	**14 13 37.2**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=353,slow=6.4,SNR=43						
ASAR				PcP	**PcP**	**14 16 19.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=352,slow=1.9,SNR=5.1						
	comp=Z,0.9nm,0.3s						
ASAR	**Alice Springs**	**33.37**	**168**	P	**P**	**14 13 37.4**	**-0.4**
LZH	**Lanzhou**	**33.89**	**326**	*e*P	**P**	**14 13 43.7**	**+1.2**
LZH				sP	sP	14 14 28.1	+27
LZH				pmax	pmax		
	comp=Z,16nm,0.9s						
LZH				LR	LR		
	comp=N,250nm,14.7s						
LZH				LR	LR		
	comp=E,300nm,16.8s						
LZH				LR	LR		
	comp=Z,260nm,16.3s						
HHC	**Hu-ho-hao-te**	**34.29**	**340**	*e*P	**P**	**14 13 47.2**	**+1.4**
HHC				pmax	pmax		
	comp=Z,49nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,5.7s						
CN2	**Changchun**	**34.56**	**359**	*e*P	**P**	**14 13 48.8**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CTA	**Charters Tower**	**34.90**	**146**	P	**P**	**14 13 52.5**	**+1.3**
	comp=Z,3.3nm,0.7s,baz=297,slow=7.7,SNR=1.9						
	comp=Z,3.3nm,0.7s						
CTAO	**Charters Tower**	**34.90**	**146**	P	**P**	**14 13 53.1**	**+1.9**
USRK	**Ussuriysk Ar.**	**35.26**	**7**	P	**P**	**14 13 55.1**	**+1.2**
	comp=Z,6.5nm,0.8s,baz=200,slow=7.2,SNR=14						
	comp=Z,6.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.26**	**7**	P	**P**	**14 13 55.0**	**+1.0**
HNR	**Honiara**	**38.00**	**118**	LR	LR	14 31 22.8	
	comp=Z,470nm,18.1s,baz=238,slow=38						
MORW	**Morawa**	**39.31**	**195**	P	**P**	**14 14 27.6**	**-0.9**
MORW				IAmb	IAmb	14 14 47.9	
	comp=Z,19nm,1.4s						
FORT	**Forrest**	**39.70**	**178**	P	**P**	**14 14 32.1**	**+0.4**
H11S3	**WAKE ISLAND Hy**	**39.97**	**72**	T	T	14 57 32.0	
	baz=262,slow=75,SNR=215						
H11S1	**WAKE ISLAND Hy**	**39.98**	**72**	T	T	14 57 40.1	
	baz=262,slow=75,SNR=117						
H11S2	**WAKE ISLAND Hy**	**39.98**	**72**	T	T	14 57 39.5	
	baz=262,slow=75,SNR=83						
BBOO	**Buck

CHGN	**Chignik**	**74.15**	**34**	P	**P**	**14 18 35.9**	**+0.8**
RDOG	**Red Dog Mine**	**74.35**	**22**	P	**P**	**14 18 36.0**	**-0.2**
RDOG				IAmb	IAmb	14 18 50.2	
	comp=Z,7.1nm,0.6s						
KDAK	**Kodiak Island**	**77.45**	**33**	P	**P**	**14 18 55.6**	**+1.6**
GNI	**Garni**	**77.95**	**309**	LR	LR	14 57 12.1	
	comp=Z,28nm,19.0s,baz=46,slow=39						
RAYN	**Ar Rayn**	**78.28**	**292**	P	**P**	**14 18 55.4**	**-4.0**
RAYN				IAmb	IAmb	14 18 59.9	
	comp=Z,5.4nm,0.8s						
BPAW	**Bear Paw Mtn.**	**78.54**	**26**	P	**P**	**14 19 01.1**	**+1.0**
MLY	**Manley**	**78.70**	**25**	P	**P**	**14 19 01.1**	**+0.2**
KBZ	**Khabaz**	**79.20**	**313**	LR	LR	14 58 07.3	
	comp=Z,43nm,18.4s,baz=144,slow=39						
RND	**Reindeer**	**79.47**	**27**	P	**P**	**14 19 05.7**	**+0.5**
RND				IAmb	IAmb	14 19 06.8	
	comp=Z,9.2nm,1.4s						
PWL	**Port Wells**	**79.70**	**30**	P	**P**	**14 19 06.9**	**+0.5**
PWL				IAmb	IAmb	14 19 14.5	
	comp=Z,5.1nm,0.8s						
GLI	**Glacier Island**	**80.31**	**30**	P	**P**	**14 19 10.7**	**+1.0**
GLI				IAmb	IAmb	14 19 18.4	
	comp=Z,4.9nm,0.8s						
ILAR	**Eielson Array**	**80.33**	**26**	P	**P**	**14 19 10.3**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=245,slow=5.5,SNR=10						
	comp=Z,0.9nm,0.6s						
KLMR	**Klimovskoe**	**80.67**	**330**	*eP*	**P**	**14 19 10.0**	**-1.5**
KLMR				AMP		14 19 11.6	
	comp=Z,10.0nm,0.9s						
BMAR	**Burnt Mountain**	**81.20**	**23**	P	**P**	**14 19 16.4**	**+2.1**
RIDG	**Independent Ri**	**81.26**	**27**	P	**P**	**14 19 15.8**	**+1.0**
RIDG				IAmb	IAmb	14 19 33.5	
	comp=Z,5.3nm,1.0s						
J26L	**Joseph Creek**	**81.78**	**26**	P	**P**	**14 19 19.1**	**+1.6**
EGAK	**Eagle**	**82.78**	**26**	P	**P**	**14 19 23.7**	**+1.0**
VOI	**Vohitsoka**	**84.02**	**247**	P	**P**	**14 19 27.1**	**-2.9**
VOI				IAmb	IAmb	14 19 30.3	
	comp=Z,10.0nm,1.0s						
M30M	**Minto, Yukon**	**85.02**	**27**	P	**P**	**14 19 35.3**	**+1.1**
M30M				IAmb	IAmb	14 19 49.6	
	comp=Z,5.1nm,1.2s						
INK	**Inuvik**	**85.23**	**22**	P	**P**	**14 19 36.0**	**+1.0**
INK				IAmb	IAmb	14 19 55.0	
	comp=Z,5.2nm,1.1s						
ARCES	**ARCESS Array B**	**85.37**	**340**	P	**P**	**14 19 35.2**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=77,slow=5.4,SNR=10						
	comp=Z,2.3nm,0.7s						
ARCES	**ARCESS Array B**	**85.37**	**340**	P	**P**	**14 19 35.0**	**-0.8**
ARCES				IAmb	IAmb	14 19 41.2	
	comp=Z,7.7nm,1.5s						
KBS	**Kingsbay**	**85.70**	**350**	P	**P**	**14 19 37.1**	**-0.1**
FARO	**Faro, Yukon**	**86.66**	**28**	P	**P**	**14 19 43.1**	**+0.8**
FARO				IAmb	IAmb	14 19 45.3	
	comp=Z,4.8nm,1.1s						
FIA1	**FINESS Array S**	**87.03**	**332**	P	**P**	**14 19 43.1**	**-0.9**
FINES	**FINESS Array B**	**87.04**	**332**	P	**P**	**14 19 43.4**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=64,slow=4.4,SNR=7.5						
	comp=Z,1.6nm,0.7s						
FINES	**FINESS Array B**	**87.04**	**332**	P	**P**	**14 19 43.1**	**-1.0**
AKASG	**Malin Array Be**	**87.64**	**321**	P	**P**	**14 19 46.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=63,slow=5.8,SNR=4.8						
	comp=Z,0.6nm,0.5s						
C36M	**Paulatuk**	**88.21**	**20**	P	**P**	**14 19 50.3**	**+0.8**
VNDA	**Vanda**	**88.76**	**173**	P	**P**	**14 19 52.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=303,slow=8.4,SNR=5.9						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**88.76**	**173**	P	**P**	**14 19 52.0**	**+0.1**
VNDA				IAmb	IAmb	14 20 09.0	
	comp=Z,3.9nm,1.5s						
NOA	**NORSAR Array B**	**93.91**	**334**	LR	LR	15 05 22.8	
YBH	**Yreka Blue Hor**	**99.03**	**45**	LR	LR	15 00 48.9	
	comp=Z,24nm,18.9s,baz=286,slow=32						
TORD	**Torodi Ar. Bea**	**120.97**	**291**	PKP	**PKPdf**	**14 25 51.4**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=84,slow=2.0,SNR=7.5						
PLCA	**Paso Flores**	**145.04**	**157**	PKPbc	**PKPdf**	**14 26 36.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=214,slow=6.9,SNR=4.1						

*NEIC **04** 14:11:40.1±1.5,53.4°N±0.2×165.6°W±0.2,h49km±52km, ML3.1/8,ML2.9(AEIC),Error ellipse: s-maj=26.9km s-min=6.7km az=149.0*

AEIC 04 14:11:39.1±1.0,**53.41°N**±0.08×**165.6W**±0.1,**h49**km±10km,
Error ellipse: s-maj=12.8km s-min=6.7km az=146.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.70**	**310**		Pn	14 11 53.6	+1.0
AKBBA	**Akutan Broad B**	**0.72**	**344**		Pn	14 11 54.2	+1.2
AKMO	**Akutan Morgan**	**0.73**	**341**		Pn	14 11 54.5	+1.4
AKSA	**Akutan Strait**	**0.73**	**356**		Pn	14 11 54.1	+1.0
AKUT	**Akutan**	**0.74**	**352**		Pn	14 11 54.4	+1.3
AKRB	**Akutan Reef Bi**	**0.78**	**339**		Pn	14 11 55.2	+1.5
AKLV	**Akutan Long Va**	**0.79**	**345**		Pn	14 11 54.9	+1.0
MNAT	**Makushin Natee**	**0.80**	**307**		Pn	14 11 55.5	+1.4
AKGG	**Akutan Green G**	**0.83**	**344**		Pn	14 11 54.7	+0.3
MGOD	**Makushin Gods**	**0.85**	**298**		Pn	14 11 56.0	+1.2
MSW	**Makushin Switc**	**0.87**	**306**		Pn	14 11 56.4	+1.5
MAPS	**Pakushin South**	**0.90**	**297**		Pn	14 11 56.8	+1.3
WECS	**Westdahl Pass**	**1.23**	**23**		Pn	14 12 01.8	+2.0
WESN	**West Dahl Nort**	**1.31**	**27**		Pn	14 12 01.7	+0.8
OKFG	**Magazine Ridge**	**1.38**	**271**		Pn	14 12 02.2	+0.3
OKCE	**Okmok Cone E**	**1.54**	**272**		Pn	14 12 05.1	+1.1
OKSO	**Okmok South**	**1.54**	**269**		Pn	14 12 04.0	+0.1
SSLS	**Shishaldin Sou**	**1.61**	**35**		Pn	14 12 06.4	+1.3
OKSP	**Okmok Steeple**	**1.62**	**266**		Pn	14 12 06.5	+1.3
BRPK	**Brown Peak**	**1.66**	**41**		Pn	14 12 06.7	+1.1
ISLZ	**Isanotski Laza**	**1.73**	**39**		Pn	14 12 07.8	+1.2
FALS	**False Pass**	**1.94**	**41**		Pn	14 12 10.9	+1.5
NIKH	**Nikolski High**	**2.01**	**259**		Pn	14 12 11.7	+1.3
SDPT	**Sand Point**	**3.57**	**55**		Pn	14 12 33.1	+1.3
SDPT	**Sand Point**	**3.57**	**55**	IAML		14 13 29.6	
	comp=E,41nm,1.1s						
SDPT				IAML		14 13 42.4	
	comp=N,50nm,2.5s						
CNBA	**Chernabura Isl**	**3.81**	**66**		Pn	14 12 35.5	+0.4
CNBA	**Chernabura Isl**	**3.81**	**66**	IAML		14 13 20.8	
	comp=E,25nm,2.5s						
CNBA				IAML		14 15 04.2	
	comp=N,26nm,3.4s						
CHGN	**Chignik**	**5.06**	**52**	Pn	Pn	14 12 53.0	+0.7
OHAK	**Old Harbor**	**7.99**	**57**	Pn	Pn	14 13 32.2	-0.2
KDAK	**Kodiak Island**	**8.57**	**54**	Pn	Pn	14 13 40.2	-0.1
RC01	**Rabbit Creek A**	**11.51**	**42**	Pn	Pn	14 14 20.1	-0.3
PWL	**Port Wells**	**11.96**	**45**	Pn	Pn	14 14 26.0	-0.6
GLI	**Glacier Island**	**12.49**	**46**	Pn	Pn	14 14 32.5	-1.4
HIN	**Hinchinbrook I**	**12.53**	**48**	Pn	Pn	14 14 33.8	-0.7
FID	**Port Fidalgo**	**12.70**	**47**	Pn	Pn	14 14 35.2	-1.5
SCM	**Sheep Creek Mo**	**12.88**	**42**	Pn	Pn	14 14 38.1	-1.1

*DJA **04** 14:14:09.5±0.3,11°S±3°×11°E±°,h10km,M4.4/11, mb4.3/8,mB5.2/2,MLv4.4/11,Mw(mB)4.6/2*
*IDC **04** 14:14:13.2±2.8,10°.11S×110°.07E,h0km,mb3.6/4, mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=123.7km s-min=20.6km az=47.0*

ISC 04 14:14:12.2±1.5,**10°.7S**±0°.1×**109°.6E**±0°.1,**h10**km,**n21,**
σ1**9**/**20**/17,**mb3.6**/4,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.91**	**18**	P	**Pn**	**14 14 58.0**	**-0.7**
PCJI	**Pacitan**	**2.93**	**32**	P	**Pn**	**14 14 57.6**	**-1.3**
YOGI	**Yogyakarta**	**2.94**	**14**	P	**Pn**	**14 14 58.7**	**-0.3**
PWJI	**Pagerwojo**	**3.43**	**40**	P	**Pn**	**14 15 05.3**	**-0.5**
CNJI	**Cibinong**	**4.15**	**324**	P	**Pn**	**14 15 14.2**	**-1.5**
LEM	**Lembang**	**4.31**	**333**	Pn	**Pn**	**14 15 19.0**	**+1.0**
LEM				Sn	**Sn**	**14 16 10.8**	**+2.3**
	6.3nm,0.3s,baz=133,slow=12,SNR=4.8						
	7.0nm,0.3s,baz=355,slow=17,SNR=4.8						
	20nm,0.5s						
GMJI	**Gumukmas**	**4.50**	**58**	P	**Pn**	**14 15 19.9**	**-0.5**
BLJI	**Banyuglugur**	**4.92**	**54**	P	**Pn**	**14 15 26.1**	**-0.1**
JAGI	**Jajag, Banyuwa**	**5.01**	**64**	P	**Pn**	**14 15 26.8**	**-0.7**
	0.6nm3µm28nm,0.6s						
SRBI	**Singaraja**	**6.12**	**65**	P	**Pn**	**14 15 42.8**	**0.0**
	0.3nm58nm,0.6s						
TWSI	**Taliwang, Sumb**	**7.44**	**76**	P	**Pn**	**14 16 00.9**	**-0.1**
	0.1nm10nm,1.1s						
MNAI	**Manna**	**9.10**	**313**	P	Pn	14 16 22.0	-1.7
	253nm,1.3s						
EDFI	**Ende, Flores**	**12.08**	**82**	P	Pn	14 17 02.2	-2.5
	2.1nm,0.6s						

FITZ	**Fitzroy Crossi**	**17.19**	**117**	P	**Pn**	**14 18 12.1**	**-0.6**
	0.1nm,0.3s,baz=297,slow=12,SNR=12						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**25.55**	**114**	P	**P**	**14 19 43.1**	**+1.7**
	0.5nm,0.8s,baz=286,slow=11,SNR=3.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**26.51**	**122**	P	**P**	**14 19 52.0**	**+1.8**
	0.4nm,0.7s,baz=300,slow=9.2,SNR=5.3						
	0.4nm,0.7s						
H08S2	**Diego Garcia H**	**36.73**	**272**	T	T	15 00 09.2	
	baz=98						
H08S3	**Diego Garcia H**	**36.75**	**272**	T	T	15 00 06.2	
	baz=98						
H08S1	**Diego Garcia H**	**36.75**	**272**	T	T	15 00 12.6	
	baz=98						
SONM	**Songino Array**	**58.33**	**357**	P	**P**	**14 24 06.3**	**-1.3**
	0.9nm,0.6s,baz=168,slow=6.9,SNR=3.0						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**62.22**	**339**	P	**P**	**14 24 33.5**	**-0.6**
	0.6nm,0.5s,baz=142,slow=7.4,SNR=8.8						
	0.6nm,0.5s						

*MAN **04** 14:38:12.9,8.33N×125.93E,h6km,mb4.6,ML3.4,MS3.3*
*NEIC **04** 14:38:13.0±1.1,8.45N±0.08×126.03E±0.07,h10km±1km, mb4.6/10,Error ellipse: s-maj=15.6km s-min=7.8km az=38.0*
*IDC **04** 14:38:17.6±2.8,8.39N×125.93E,h52km±28km,mb3.6/10, mbtmp4.0/11,ML4.6/1,MS2.8/1,Error ellipse: s-maj=41.3km s-min=16.2km az=87.0*

ISC 04 14:38:14.2±0.9,**8.42N**±0.03×**126.00E**±0.04,**h23**km±6km,
n43,σ1**31**/54,**mb4.3**/16,**6C-4D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.19**	**281**	*iP*	**Pb**	**14 38 18.6**	**-0.9**
TASP				*i* S	**Sb**	**14 38 23.0**	**-0.2**
BIPH	**Bislig**	**0.43**	**122**	*eP*	**Pb**	**14 38 23.4**	**+0.2**
BIPH				*eS*	**Sb**	**14 38 30.0**	**+0.7**
CDOP	**Cateel, Davao**	**0.77**	**145**	*iP*	**Pb**	**14 38 28.2**	**-0.7**
CDOP				*i* S	**Sn**	**14 38 39.7**	**-0.7**
DAV	**Davao City (W)**	**1.40**	**197**	P	**Pb**	**14 38 39.7**	**0.0**
	644nm,0.3s,baz=318,slow=1.5,SNR=29						
DAV				S	**Sb**	**14 39 03.9**	**+6.8**
	502nm,0.5s,baz=315,slow=17,SNR=5.9						
DAV	**Davao City (W)**	**1.40**	**197**	Pn	**Pb**	**14 38 39.1**	**-0.6**
SCPH	**Surigao**	**1.45**	**340**	*eP*	**Pb**	**14 38 40.1**	**-0.4**
SCPH				*eS*	**Sb**	**14 39 01.4**	**+3.0**
KCP	**Kidapawan**	**1.66**	**213**	*iP*	**Pn**	**14 38 41.6**	**-0.4**
KCP				*i* S	**Sn**	**14 39 02.8**	**+0.2**
GHBP	**Garcia Hernand**	**2.05**	**306**	*iP*	**Pn**	**14 38 47.8**	**+0.5**
GHBP				*i* S	**Sn**	**14 39 13.3**	**+1.2**
CTBH	**Cotabato--PC H**	**2.10**	**236**	*eP*	**Pn**	**14 38 47.8**	**-0.2**
CTBH				*i* S	**Sb**	**14 39 15.8**	**-1.5**
LSIP	**Lazi, Siquijor**	**2.44**	**287**	*iP*	**Pn**	**14 38 52.7**	**+0.1**
LSIP				*i* S	**Sn**	**14 39 22.1**	**+0.2**
GSPH	**General Santos**	**2.54**	**204**	*eP*	**Pn**	**14 38 54.5**	**+0.4**
DCPH	**Dipolog City**	**2.62**	**274**	*eP*	**Pn**	**14 38 56.6**	**+1.4**
LLP	**Lapu-Lapu**	**2.75**	**313**	*eP*	**Pn**	**14 38 58.0**	**+1.0**
LLP				*i* S	**Sn**	**14 39 32.2**	**+2.7**
SNPH	**Sibulan**	**2.88**	**289**	*iP*	**Pn**	**14 38 57.0**	**-1.7**
SNPH				*i* S	**Sn**	**14 39 32.5**	**-0.1**
HKPS	**Hong Kong Po S**	**17.89**	**322**		**Sn**	**14 45 39.6**	**-1.0**
BATI	**Baumata**	**18.64**	**187**	P	**Pn**	**14 42 31.4**	**+0.5**
	2.0nm,0.3s,baz=1.2,slow=15,SNR=1.8						
	6.4nm,0.4s						
GUMO	**Guam**	**19.22**	**73**	LR	LR	14 50 48.9	
	comp=Z,27nm,19.0s,baz=204,slow=39						
KNRA	**Kununurra**	**24.09**	**173**	P	**P**	**14 43 27.9**	**-0.3**
KNRA				IAmb	IAmb	14 43 38.4	
	comp=Z,13nm,1.2s						
FITZ	**Fitzroy Crossi**	**26.35**	**181**	P	**P**	**14 43 48.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=10,slow=11,SNR=2.1						
	comp=Z,1.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.35**	**181**	P	**P**	**14 43 47.8**	**-0.9**
JHS	**Saijyo**	**27.25**	**13**	P	**P**	**14 43 56.7**	**0.0**
JHS				IAmb	IAmb	14 44 21.2	
	comp=Z,27nm,1.5s						
INU	**Inuyama**	**28.64**	**19**	P	**P**	**14 44 08.7**	**-0.4**
INU				IAmb	IAmb	14 44 35.2	
	comp=Z,28nm,1.5s						
KSRS	**Kora Array**	**28.96**	**3**	P	**P**	**14 44 12.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=195,slow=9.1,SNR=4.4						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**29.35**	**164**	P	**P**	**14 44 15.9**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=346,slow=9.0,SNR=2.6						
	comp=Z,0.5nm,0.9s						
WRA	**Warramunga Arr**	**29.35**	**164**	P	**P**	**14 44 15.9**	**+0.3**
JMM	**Marumori**	**32.23**	**22**	P	**P**	**14 44 40.6**	**-0.2**
ASAR	**Alice Springs**	**32.81**	**167**	P	**P**	**14 44 46.6**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=343,slow=7.0,SNR=12						
	comp=Z,0.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**36.03**	**7**	P	**P**	**14 45 13.8**	**+0.2**
	comp=Z,9.0nm,0.7s,baz=192,slow=7.6,SNR=31						
	comp=Z,9.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**36.03**	**7**	P	**P**	**14 45 13.6**	**-0.1**
PEA0B	**Petropavlovsk-**	**51.43**	**24**	P	**P**	**14 47 17.3**	**-0.1**
PEA0B				IAmb	IAmb	14 47 19.5	
	comp=Z,6.4nm,0.9s						
PETK	**Petropavlovsk-**	**51.43**	**24**	P	**P**	**14 47 18.3**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=194,slow=5.0,SNR=9.1						
	comp=Z,1.2nm,0.7s						
PETK	**Petropavlovsk-**	**51.43**	**24**	P	**P**	**14 47 17.5**	**+0.1**
MKAR	**Makanchi Array**	**53.34**	**324**	P	**P**	**14 47 32.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=130,slow=7.9,SNR=5.7						
MKAR				PcP	**PcP**	**14 48 38.4**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=112,slow=5.1,SNR=4.6						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**53.34**	**324**	P	**P**	**14 47 32.6**	**+0.9**
ABKAR	**Akbulak array**	**68.10**	**320**	P	**P**	**14 49 11.3**	**-0.9**
JCUZ	**Jacuzzi**	**76.84**	**72**	P	**P**	**14 50 03.7**	**-1.2**
BPAW	**Bear Paw Mtn.**	**79.43**	**26**	P	**P**	**14 50 18.6**	**+0.2**
BPAW				IAmb	IAmb	14 50 19.5	
	comp=Z,3.8nm,1.1s						
MLY	**Manley**	**79.58**	**25**	P	**P**	**14 50 19.6**	**+0.3**
PWL	**Port Wells**	**80.60**	**30**	P	**P**	**14 50 24.8**	**0.0**
PWL				IAmb	IAmb	14 50 26.0	
	comp=Z,5.6nm,0.9s						
ILAR	**Eielson Array**	**81.22**	**26**	P	**P**	**14 50 27.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=236,slow=4.7,SNR=5.3						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**81.22**	**26**	P	**P**	**14 50 27.9**	**-0.1**
ARCES	**ARCESS Array B**	**85.83**	**340**	P	**P**	**14 50 51.1**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=82,slow=7.5,SNR=1.4						
	comp=Z,2.2nm,0.9s						
FINES	**FINESS Array B**	**87.38**	**332**	P	**P**	**14 50 58.4**	**-0.9**
	comp=Z,2.4nm,1.0s,baz=93,slow=3.1,SNR=7.2						
	comp=Z,2.4nm,1.0s						

*IDC **04** 14:40:27.4±1.1,6.73S×31.00E,h0km,mb3.7/4, mbtmp3.9/10,ML4.4/5,MS3.3/5,Error ellipse: s-maj=27.4km s-min=18.7km az=99.0*
*PRE **04** 14:40:28.0±2.8,6.70S×31.02E,h10km,mb5.3*

ISC 04 14:40:28.9±0.7,**6.54S**±0.05×**31.02E**±0.08,**h10**km,**n29,**
σ2**6**/**61**/28,**mb3.9**/6,**Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**5.90**	**357**	Pn	**Pn**	**14 41 58.2**	**+1.6**
	66nm,0.3s,baz=346,slow=13,SNR=49						
MBAR				Sn	**Sn**	**14 43 03.1**	**-1.3**
	58nm,0.3s,baz=232,slow=24,SNR=1.8						
MBAR				Lg	Lg	14 43 31.6	
	107nm,0.3s,baz=206,slow=16,SNR=7.4						
MBAR				LR	LR	14 44 17.4	
	comp=Z,208nm,18.9s,baz=198,slow=38						
MBAR	**Mbarara**	**5.90**	**357**	*eP*	**Pn**	**14 41 58.0**	**+1.5**
MBAR				*eS*	**Sn**	**14 43 06.1**	**+1.7**
MBAR	**Mbarara**	**5.90**	**357**	*eP*	**Pn**	**14 41 57.9**	**+1.3**
MBAR				*eS*	Sn	14 42 52.7	-12
MBAR	**Mbarara**	**5.90**	**357**	*eP*	Pn	14 41 48.5	-8.1
MBAR				*eS*	**Sg**	**14 43 30.6**	**-7.9**
KIL	**Kilembe**	**6.77**	**351**	*eP*	**Pn**	**14 42 09.4**	**+0.9**
KIL				*eS*	**Sn**	**14 43 25.7**	**-0.1**
KMBO	**Kilima Mbogo**	**8.22**	**49**	Pn	**Pn**	**14 42 30.2**	**+1.8**
	6.5nm,0.3s,baz=225,slow=19,SNR=52						
KMBO				Sn	**Sn**	**14 43 59.5**	**-2.0**
	5.3nm,0.3s,baz=236,slow=15,SNR=5.0						
KMBO				Lg	Lg	14 44 42.6	
	7.0nm,0.3s,baz=218,slow=22,SNR=3.5						
KMBO				LR	LR	14 45 58.8	
	comp=Z,97nm,18.2s,baz=111,slow=40						
	17nm,0.5s						
KMBO	**Kilima Mbogo**	**8.22**	**49**	*eP*	**Pn**	**14 42 30.0**	**+1.6**
KMBO				*eS*	**Sn**	**14 44 00.6**	**-1.0**
KMBO	**Kilima Mbogo**	**8.22**	**49**	*eP*	Pn	14 42 23.9	-4.5
KMBO				*eS*	Sb	14 44 35.3	+5.8
LSZ	**Lusaka**	**9.12**	**198**	Pn	**Pn**	**14 42 39.8**	**-0.9**
	1.3nm,0.3s,baz=8.7,slow=14,SNR=4.4						
LSZ				Sn	**Sn**	**14 44 18.5**	**-5.1**
	5.9nm,0.3s,baz=125,slow=20,SNR=12						
LSZ				Lg	Lg	14 45 08.2	
	7.8nm,0.3s,baz=303,slow=18,SNR=4.0						
LSZ				LR	LR	14 46 20.5	
	comp=Z,143nm,20.2s,baz=34,slow=40						
	3.4nm,0.3s						
LODK	**Lodwar**	**10.80**	**24**	*eP*	Pn	14 42 54.3	-9.4
LODK				*eS*	Sn	14 45 32.0	+27
BLWY	**Bulawayo**	**13.72**	**190**	*eP*	**Pn**	**14 43 44.0**	**+0.2**
MATP	**Matopo**	**14.02**	**190**	Pn	Pn	14 43 43.6	-4.2
	0.7nm,0.3s,baz=8.6,slow=14,SNR=10						
MATP				Sn	Sn	14 46 15.1	-8.7
	0.9nm,0.3s,baz=87,slow=18,SNR=3.8						
MATP				Lg	Lg	14 47 40.8	
	1.7nm,0.3s,baz=114,slow=22,SNR=2.3						
	1.6nm,0.4s						
MATP	**Matopo**	**14.02**	**190**	*eP*	**Pn**	**14 43 46.2**	**-1.7**
MATP	**Matopo**	**14.02**	**190**	*i* P	Pn	14 43 43.3	-4.5
MATP	**Matopo**	**14.02**	**190**	*i* P	Pn	14 43 43.3	-4.5
MUSN	**Musina, Limpop**	**15.70**	**184**	*eP*	**Pn**	**14 44 08.7**	**-1.6**
RUDU	**RUNDU**	**15.79**	**223**	*eP*	**P**	**14 44 17.9**	**+2.4**
MOPA	**Mopani**	**16.89**	**179**	*eP*	**Pn**	**14 44 25.4**	**-0.1**
TSUM	**Tsumeb**	**18.15**	**225**	P	**Pn**	**14 44 39.0**	**-2.3**
	1.2nm,0.3s,baz=22,slow=13,SNR=1.4						
TSUM				S	Sn	14 47 49.8	-14
	3.9nm,0.5s,baz=277,slow=17,SNR=4.6						
TSUM				Lg	Lg	14 50 00.9	
	0.3nm,0.3s,baz=118,slow=22,SNR=1.7						
TSUM				LR	LR	14 51 57.3	
	comp=Z,132nm,18.7s,baz=154,slow=38						
TSUM	**Tsumeb**	**18.15**	**225**	*eP*	**P**	**14 44 46.1**	**+4.5**
LBTB	**Lobatse**	**19.09**	**195**	P	**P**	**14 44 50.0**	**-2.0**
	1.2nm,0.5s,baz=7.4,slow=23,SNR=1.1						
LBTB				S	Sn	14 48 15.4	-11
	4.0nm,0.6s,baz=273,slow=24,SNR=2.7						
LBTB				Lg	Lg	14 50 22.4	
	0.3nm,0.3s,baz=75,slow=19,SNR=2.5						
LBTB	**Lobatse**	**19.09**	**195**	*eP*	Pn	14 45 04.5	+12
OPO	**Ambohidratompo**	**19.78**	**129**	P	P	14 44 57.6	-1.9
	baz=306,slow=19,SNR=1.7						
	3.2nm,0.7s						
ARMS	**Ukamas**	**23.91**	**205**	*eP*	**P**	**14 45 44.8**	**+1.6**
ARMS				IAmb	IAmb	14 45 58.4	
	comp=Z,109nm,2.2s						
BFON	**Badsfontein, M**	**26.05**	**194**	*eP*	**P**	**14 46 00.6**	**-2.0**
BFON				IAmb	IAmb	14 46 13.1	
	comp=Z,324nm,2.8s						
TORD	**Torodi Ar. Bea**	**35.09**	**304**	P	**P**	**14 47 22.9**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=118,slow=7.8,SNR=11						
TORD				LR	LR	15 02 53.2	
	comp=Z,85nm,21.2s,baz=214,slow=38						
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**46.09**	**3**	P	**P**	**14 48 55.7**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=169,slow=8.7,SNR=2.5						
	comp=Z,0.5nm,0.7s						
ESDC	**Sonseca Array**	**56.20**	**328**	P	**P**	**14 50 10.8**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=136,slow=7.1,SNR=4.5						
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**69.82**	**35**	P	**P**	**14 51 41.0**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=220,slow=5.9,SNR=4.1						
	comp=Z,0.3nm,0.6s						

EAF 04 14:41:58.2±1.0,**24°.64S**×**22°.26E**,**h0**km±999km,**MD4.2,**
Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.05**	**98**	*i* P	Pn	14 42 47.3	-0.6
LBTB	**Lobatse**	**3.05**	**98**	*i* P	Pn	14 42 47

CHM	**Chimkent**	**1.51**	**9**	*e*P	**Pb**	**14 49 35.8**	**+0.5**
	95nm,0.2s						
CHM				*e*S	**Sg**	**14 49 56.8**	**+0.3**
	210nm,0.3s						
TCH	**Chimkent**	**1.51**	**9**	*e*P	**Pb**	**14 49 35.8**	**+0.6**
	baz=9.0						
TCH				*e*S	**Sg**	**14 49 56.8**	**+0.3**
	baz=9.0						
TRKS	**Terek-Say**	**1.56**	**63**	⇑*i*P	**Pb**	**14 49 36.1**	**-0.1**
	baz=65						
TRKS				⇑*i*S	**Sg**	**14 49 57.9**	**-0.3**
	baz=65						
FRG	**Fergana**	**1.95**	**102**	P	**Pg**	**14 49 44.9**	**-0.2**
FRG				S	**Sg**	**14 50 11.3**	**+0.9**
GAR	**Garm**	**1.98**	**156**	⇑*i*P	**Pb**	**14 49 43.0**	**-0.4**
	baz=56						
GAR				⇑*i*S	**Sb**	**14 50 09.1**	**+1.3**
	baz=56						
CHGR	**Chuyangaron**	**2.17**	**183**	⇑*i*P	**Pb**	**14 49 45.7**	**-0.8**
	baz=82						
CHGR				⇑*i*S	**Sb**	**14 50 13.1**	**+0.1**
	baz=82						
ARK	**Arkit**	**2.23**	**63**	⇑*i*P	**Pb**	**14 49 47.2**	**-0.4**
	baz=63						
ARK				⇑*i*S	**Sb**	**14 50 15.7**	**+0.7**
	baz=63						
AGL	**Agalyk**	**2.26**	**236**	S	**Sb**	**14 50 16.8**	**+1.0**
ANR	**Andizhan**	**2.33**	**91**	S	**Sg**	**14 50 30.3**	**+7.7**
KK31	**Karatay Array**	**2.45**	**21**	⇓Pg	**Pn**	**14 49 48.6**	**+1.7**
	4.2nm,0.5s,baz=213,slow=17,SNR=7.2						
KK31				⇑Lg	Lg	14 50 24.2	
	3.1nm,0.2s,baz=214,slow=27,SNR=4.4						
DZA	**Taraz**	**2.57**	**36**	*e*P	**Pg**	**14 49 55.2**	**-1.7**
	90nm,0.1s						
DZA				*e*S	**Sg**	**14 50 30.1**	**-0.1**
	101nm,0.2s						
OHH	**Osh**	**2.67**	**95**	⇑*e*P	**Pb**	**14 49 52.8**	**-2.3**
	baz=95						
OHH				⇑*i*S	**Sb**	**14 50 26.1**	**-1.5**
	baz=95						
MRKS	**Merke**	**3.51**	**56**	*e*P	**Pb**	**14 50 12.0**	**+2.6**
	1.6nm,0.2s						
MRKS				*e*S	**Sg**	**14 50 59.4**	**-1.1**
	16nm,0.4s						
MRKS	**Merke**	**3.51**	**56**	Pg	**Pb**	**14 50 12.0**	**+2.6**
	1.6nm,0.2s						
MRKS				Lg	Lg	14 50 59.4	
	16nm,0.4s						
SGDS	**Sogindy**	**4.76**	**55**	*e*P	**Pb**	**14 50 33.5**	**+2.9**
	1.5nm,0.3s						
SGDS				*e*S	**Sg**	**14 51 36.1**	**-4.3**
	8.7nm,0.2s						
SGDS	**Sogindy**	**4.76**	**55**	Pg	**Pb**	**14 50 33.5**	**+2.9**
	1.5nm,0.3s						
SGDS				Lg	Lg	14 51 36.1	
	8.7nm,0.2s						
DGS	**Degeres**	**5.40**	**61**	*e*P	**Pb**	**14 50 46.2**	**+4.7**
	1.9nm,0.3s						
DGS				*e*S	**Sg**	**14 51 57.7**	**-3.1**
	7.1nm,0.8s						
DGS	**Degeres**	**5.40**	**61**	Pg	**Pb**	**14 50 46.2**	**+4.7**
	1.9nm,0.3s						
DGS				Lg	Lg	14 51 57.7	
	7.1nm,0.8s						
KST	**Kastek**	**5.45**	**64**	*e*P	**Pb**	**14 50 47.0**	**+4.6**
	0.6nm,0.1s						
KST				*e*S	**Sg**	**14 51 58.8**	**-3.6**
	8.4nm,0.4s						
KST	**Kastek**	**5.45**	**64**	Pg	**Pb**	**14 50 47.0**	**+4.6**
	0.6nm,0.1s						
KST				Lg	Lg	14 51 58.8	
	8.4nm,0.4s						
BTLS	**Baital**	**5.47**	**38**	*e*P	**Pg**	**14 50 48.1**	**-4.3**
	0.8nm,0.2s						
BTLS				*e*S	**Sg**	**14 52 01.1**	**-2.1**
	3.5nm,0.7s						
BTLS	**Baital**	**5.47**	**38**	Pg	**Pg**	**14 50 48.1**	**-4.3**
	0.8nm,0.2s						
BTLS				Lg	Lg	14 52 01.1	
	3.5nm,0.7s						
KRBS	**Karabastau**	**5.54**	**57**	*e*P	**Pb**	**14 50 48.6**	**+4.7**
	0.7nm,0.5s						
KRBS				*e*S	**Sg**	**14 52 01.7**	**-3.7**
	2.9nm,0.6s						
KRBS	**Karabastau**	**5.54**	**57**	Pg	**Pb**	**14 50 48.6**	**+4.7**
	0.7nm,0.5s						
KRBS				Lg	Lg	14 52 01.7	
	2.9nm,0.6s						

MAN 04 14:55:37.1,8.37N×125.84E,h11km,mb4.2,ML3.0,MS2.7, 3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASP	**Talacogon, Agu**	**0.09**	**340**	⇑*i*P	Pg	14 55 41.2	+1.6
TASP				*i* S	Sg	14 55 46.4	+4.9
BIPH	**Bislig**	**0.55**	**110**	⇓*e*P	Pg	14 55 45.6	-2.2
BIPH				*i* S	Sg	14 55 52.7	-2.5
KCP	**Kidapawan**	**1.54**	**209**	⇑*i*P	Pn	14 56 03.5	-1.0
KCP				*i* S	Sn	14 56 24.6	-0.1
CTBH	**Cotabato--PC H**	**1.95**	**234**	⇓*i*P	Pn	14 56 09.9	-0.2
CTBH				*i* S	Sb	14 56 38.3	+1.4
GSPH	**General Santos**	**2.44**	**201**	⇑*e*P	Pb	14 56 21.0	0.0
SNPH	**Sibulan**	**2.75**	**291**	*i* P	Pn	14 56 20.6	-0.5

*IDC **04** 15:03:54.9±1.0,29.°63S×60.°91E,h0km,mb3.7/6, mbtmp3.8/7,ML4.5/1,MS3.7/2,Error ellipse: s-maj=40.0km s-min=23.8km az=41.0*

ISC 04 15:03:57.0±0.9,29.°7S±0.°2×60.°9E±0.°2,h14km,n15, σ0°86/7,mb3.8/6,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.64**	**308**	Pn	**Pn**	**15 07 49.1**	**-1.0**
	0.2nm,0.3s,baz=116,slow=16,SNR=9.2						
OPO				Sn	Sn	15 10 39.9	-15
	0.1nm,0.3s,baz=139,slow=20,SNR=2.5						
	2.7nm,0.3s						
H08S1	**Diego Garcia H**	**24.46**	**29**	T	T	15 33 56.7	
	baz=205						
H08S2	**Diego Garcia H**	**24.47**	**29**	T	T	15 34 17.7	
	baz=205						
H08S3	**Diego Garcia H**	**24.48**	**29**	T	T	15 34 11.6	
	baz=205						
MAW	**Mawson**	**38.00**	**179**	P	**P**	**15 11 13.7**	**-0.4**
	0.6nm,0.7s,baz=330,slow=7.1,SNR=1.4						
	0.6nm,0.7s						
ATD	**Arta Tunnel**	**44.47**	**334**	LR	LR	15 26 10.3	
	comp=Z,30nm,19.2s,baz=24,slow=30						
H01W2	**Cape Leeuwin H**	**44.91**	**111**	T	T	15 59 51.7	
	baz=261,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**44.92**	**111**	T	T	15 59 53.6	
	baz=261,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**44.93**	**111**	T	T	15 59 50.1	
	baz=261,slow=75,SNR=19						
ASAR	**Alice Springs**	**64.58**	**104**	P	**P**	**15 14 34.4**	**+0.2**
	0.8nm,0.7s,baz=245,slow=6.1,SNR=12						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**66.44**	**100**	P	**P**	**15 14 46.3**	**+0.1**
	0.9nm,0.8s,baz=248,slow=5.8,SNR=4.9						
	0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**71.13**	**298**	P	**P**	**15 15 16.7**	**+1.3**
	0.9nm,0.8s,baz=116,slow=6.7,SNR=3.9						
	0.9nm,0.8s						
BRTR	**Keskin Array B**	**73.52**	**338**	P	**P**	**15 15 29.5**	**+0.1**
	0.4nm,0.7s,baz=142,slow=5.3,SNR=2.4						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**78.52**	**15**	P	**P**	**15 15 57.1**	**-0.4**
	0.4nm,0.9s,baz=196,slow=4.1,SNR=4.2						
	0.4nm,0.9s						
JHJ	**Hachijo jima 2**	**97.32**	**56**	LR	LR	15 53 15.1	
	comp=Z,98nm,21.4s,baz=76,slow=30						

*IDC **04** 15:17:43.2±1.0,4.°20N×125.°90E,h0km,mb3.6/6, mbtmp3.7/7,ML3.7/1,MS4.2/2,Error ellipse: s-maj=46.3km s-min=17.3km az=79.0*

*DJA **04** 15:17:47.6±0.5,4.°N±4.°×12.°6E±.°,h39km±12km,M4.1/10, mb4.1/4,mB4.8/2,MLv4.2/10,Mw(mB)4.1/2*

*NEIC **04** 15:17:52.3±1.8,4.°07N±0.°10×126.°2E±0.°2,h74km±4km, mb4.1/9,Error ellipse: s-maj=27.7km s-min=12.2km az=73.0*

ISC 04 15:17:49.9±0.6,4.°18N±0.°05×126.°23E±0.°07,h50km,n36, σ1°00/38,mb3.8/9,4C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.85**	**235**	P	**Pn**	**15 18 06.1**	**+0.4**
SGSI				S	**Sn**	**15 18 17.7**	**+0.5**
GSPH	**General Santos**	**2.29**	**326**	⇓*i*P	**Pn**	**15 18 24.8**	**-0.6**
GSPH				*i* S	**Sn**	**15 18 51.1**	**-1.2**
DAV	**Davao City (W)**	**2.95**	**347**	LR	LR	15 19 07.3	
	comp=Z,15nm,19.9s,baz=129,slow=29						
KCP	**Kidapawan**	**3.03**	**338**	⇑*i*P	**Pn**	**15 18 36.4**	**+0.9**
KCP				*e*S	**Sn**	**15 19 11.6**	**+0.9**
TNTI	**Ternate**	**3.57**	**161**	Pn	**Pn**	**15 18 43.8**	**+1.0**
CTBH	**Cotabato--PC H**	**3.61**	**327**	⇑P	**Pn**	**15 18 43.7**	**+0.3**
BIPH	**Bislig**	**3.98**	**2**	⇑*i*P	**Pn**	**15 18 49.4**	**+0.9**
BIPH				*i* S	**Sn**	**15 19 35.3**	**+1.4**
KMSI	**Cibinong**	**4.23**	**212**	P	**Pn**	**15 18 53.0**	**+1.2**
TASP	**Talacogon, Agu**	**4.27**	**354**	⇑*e*P	Pn	15 18 57.2	+4.8
TASP				*i* S	Pn	15 19 03.5	+11
GTOI	**Gorontalo**	**4.77**	**223**	P	**Pn**	**15 19 00.1**	**+0.8**
MRSI	**Marisa**	**5.65**	**229**	P	**Pn**	**15 19 11.6**	**+0.3**
	0.3nm836nm52nm,0.6s						
SANI	**Sanana**	**6.19**	**182**	P	**Pn**	**15 19 17.8**	**-1.0**
	0.1nm768nm14nm,0.7s						
SIJI	**Sorong**	**7.10**	**135**	Pn	**Pn**	**15 19 32.6**	**+1.3**
	1.2nm,0.3s,baz=356,slow=15,SNR=2.7						
SIJI				Sn	**Sn**	**15 20 49.0**	**-1.7**
	0.3nm,0.3s,baz=217,slow=20,SNR=1.6						
	3.0nm,0.3s						
MPSI	**Mapaga**	**7.39**	**239**	P	**Pn**	**15 19 36.5**	**+1.3**
	0.1nm7.8nm,1.1s						
NLAI	**Namlea**	**7.42**	**173**	P	**Pn**	**15 19 35.7**	**+0.1**
FAKI	**Fak Fak**	**9.27**	**139**	Pn	**Pn**	**15 20 02.8**	**+1.8**
KNRA	**Kununurra**	**19.89**	**173**	Pn	**P**	**15 22 17.5**	**+0.2**
KNRA				IAmb	IAmb	15 22 42.1	
	comp=Z,8.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.14**	**181**	P	**P**	**15 22 41.5**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=3.6,slow=10,SNR=14						
	comp=Z,1.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**22.14**	**181**	P	**P**	**15 22 41.0**	**-0.5**
FITZ				IAmb	IAmb	15 23 06.0	
	comp=Z,5.5nm,1.2s						
WB0	**Warramunga Arr**	**25.11**	**162**	P	**P**	**15 23 09.3**	**-1.0**
WB0				IAmb	IAmb	15 23 14.6	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**25.26**	**162**	P	**P**	**15 23 12.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=338,slow=10,SNR=10						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**25.26**	**162**	P	**P**	**15 23 09.4**	**-2.2**
WB2	**Warramunga Arr**	**25.26**	**162**	P	**P**	**15 23 09.9**	**-1.7**
WB2				IAmb	IAmb	15 23 23.3	
	comp=Z,11nm,1.2s						
ASAR	**Alice Springs**	**28.67**	**165**	P	**P**	**15 23 42.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=341,slow=7.9,SNR=6.4						
	comp=Z,0.2nm,0.5s						
STKA	**Stephens Creek**	**38.72**	**159**	P	**P**	**15 25 09.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**40.18**	**6**	P	**P**	**15 25 21.6**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=180,slow=10,SNR=3.0						
	comp=Z,1.1nm,0.7s						
PEA0B	**Petropavlovsk-**	**55.21**	**23**	P	**P**	**15 27 17.8**	**+0.2**
PETK	**Petropavlovsk-**	**55.21**	**23**	P	**P**	**15 27 18.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=193,slow=4.1,SNR=9.7						
	comp=Z,0.5nm,0.5s						
PETK	**Petropavlovsk-**	**55.21**	**23**	P	**P**	**15 27 17.7**	**+0.1**
MKAR	**Makanchi Array**	**56.91**	**325**	P	**P**	**15 27 29.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=117,slow=7.4,SNR=5.6						
MKAR				PcP	**PcP**	**15 28 23.2**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=116,slow=2.8,SNR=3.6						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**56.91**	**325**	P	**P**	**15 27 29.3**	**-0.6**
MAKZ	**Makanchi**	**57.09**	**325**	P	**P**	**15 27 30.4**	**-0.9**
MAKZ				IAmb	IAmb	15 27 52.0	
	comp=Z,1.6nm,1.2s						
MA2	**Magadan**	**58.40**	**14**	P	**P**	**15 27 40.3**	**+0.2**
KDAK	**Kodiak Island**	**81.78**	**32**	LR	LR	16 00 18.6	
	comp=Z,214nm,21.9s,baz=268,slow=31						
BMAR	**Burnt Mountain**	**85.86**	**23**	P	**P**	**15 30 23.3**	**-0.8**
SPITS	**Spitsbergen Ar**	**89.95**	**349**	LR	LR	16 16 12.1	
	comp=Z,79nm,18.1s,baz=14,slow=39						

*IDC **04** 15:20:15.3±0.8,55.°60S×29.°81W,h0km,mb4.1/7, mbtmp4.1/7,MS3.6/16,Error ellipse: s-maj=31.9km s-min=20.7km az=55.0*

*NEIC **04** 15:20:17.1±2.6,55.°64S±0.°08×30.°2W±0.°2,h10km±1km, mb4.6/18,Error ellipse: s-maj=16.2km s-min=12.5km az=114.0*

ISC 04 15:20:16.8±0.6,55.°6S±0.°1×30.°1W±0.°1,h10km,n49, σ1°27/32,mb4.5/13,MS3.6/16,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.90**	**287**		**Pn**	**15 21 14.9**	**-1.8**
VNA1	**Neumayer--Stat**	**17.86**	**156**	P	**P**	**15 24 27.8**	**+2.3**
VNA3	**Neumayer Olymp**	**18.00**	**159**	P	**P**	**15 24 29.3**	**+2.2**
VNA2	**Neumayer--Watz**	**18.26**	**156**	P	**P**	**15 24 33.3**	**+3.2**
	baz=316,slow=13						
SNAA	**Sanae**	**19.84**	**155**	P	**Pn**	**15 24 48.8**	**-0.2**
SNAA	**Sanae**	**19.84**	**155**	P	**P**	**15 24 46.3**	**-1.1**
TROLL	**Troll, Antarti**	**21.40**	**153**	P	**P**	**15 25 05.3**	**+1.0**
TRQA	**Tornquist**	**27.63**	**296**	P	**P**	**15 26 02.6**	**-1.7**
PLCA	**Paso Flores**	**30.29**	**282**	LR	LR	15 37 45.6	
	comp=Z,191nm,19.9s,baz=140,slow=34						
QSPA	**South Pole Qui**	**34.66**	**180**	LR	LR	15 41 28.1	
	comp=Z,108nm,18.1s,baz=223,slow=37						
QSPA	**South Pole Qui**	**34.66**	**180**	P	**P**	**15 27 06.0**	**0.0**
QSPA				IAmb	IAmb	15 27 07.3	
	comp=Z,14nm,1.2s						
CPUP	**Villa Florida**	**35.29**	**315**	P	**P**	**15 27 12.0**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=165,slow=9.3,SNR=4.2						
CPUP				LR	LR	15 39 27.3	
	comp=Z,85nm,21.7s,baz=172,slow=32						
	comp=Z,2.6nm,0.9s						
CPUP	**Villa Florida**	**35.29**	**315**	P	**P**	**15 27 12.5**	**+0.8**
MAW	**Mawson**	**41.49**	**145**	P	**P**	**15 28 02.4**	**-0.9**
	comp=Z,2.1nm,1.1s,baz=222,slow=10.0,SNR=2.2						
MAW				LR	LR	15 42 60.0	
	comp=Z,75nm,20.0s,baz=244,slow=33						
	comp=Z,2.1nm,1.1s						
MAW	**Mawson**	**41.49**	**145**	P	**P**	**15 28 02.8**	**-0.5**
SUR	**Sutherland**	**42.14**	**78**	LR	LR	15 41 14.3	
	comp=Z,59nm,19.5s,baz=197,slow=30						
BDFB	**Brasilia**	**42.19**	**334**	P	**P**	**15 28 11.2**	**+1.5**
	comp=Z,3.0nm,0.8s,baz=175,slow=11,SNR=3.4						
	comp=Z,3.0nm,0.8s						
LVC	**Limon Verde**	**43.66**	**303**	LR	LR	15 47 57.5	
	comp=Z,53nm,19.8s,baz=208,slow=38						
PB01	**IPOC Station P**	**45.27**	**303**	P	**P**	**15 28 35.4**	**+0.9**
PTLB	**Pontes e Lacer**	**45.85**	**319**	P	**P**	**15 28 39.5**	**+0.5**
PTLB				IAmb	IAmb	15 28 42.0	
	comp=Z,5.0nm,1.0s						
SIV	**San Ignacio**	**46.09**	**317**	LR	LR	15 46 17.3	
	comp=Z,64nm,19.5s,baz=93,slow=34						
GO01	**Chusmiza**	**46.32**	**305**	P	**P**	**15 28 43.7**	**+0.5**
GO01				IAmb	IAmb	15 28 54.4	
	comp=Z,6.9nm,0.8s						
SBA	**Scott Base**	**46.41**	**185**	P	**P**	**15 28 41.8**	**-0.9**
SBA				IAmb	IAmb	15 28 45.8	
	comp=Z,8.1nm,1.4s						
VNDA	**Vanda**	**46.94**	**184**	P	**P**	**15 28 47.4**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=186,slow=5.8,SNR=13						
	comp=Z,2.6nm,0.7s						
VNDA	**Vanda**	**46.94**	**184**	P	**P**	**15 28 47.0**	**+0.2**
VNDA				IAmb	IAmb	15 28 49.1	
	comp=Z,3.2nm,0.8s						
BOSA	**Boshof**	**47.48**	**79**	P	**P**	**15 28 50.9**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=214,slow=7.3,SNR=1.6						
BOSA				LR	LR	15 44 31.3	
	comp=Z,86nm,19.6s,baz=198,slow=31						
	comp=Z,1.4nm,0.7s						
BOSA	**Boshof**	**47.48**	**79**	P	**P**	**15 28 50.8**	**-1.0**
BOSA				IAmb	IAmb	15 29 05.5	
	comp=Z,7.2nm,1.3s						
PB16	**IPOC Station P**	**47.62**	**305**	P	**P**	**15 28 54.2**	**+0.8**
PB16				IAmb	IAmb	15 29 18.9	
	comp=Z,8.8nm,1.4s						
H10S2	**ASCENSION HYDR**	**48.10**	**21**	T	T	16 20 56.3	
	baz=29,slow=74,SNR=6.0						
H10S3	**ASCENSION HYDR**	**48.10**	**21**	T	T	16 20 52.8	
	baz=191,slow=74,SNR=11						
LPAZ	**La Paz**	**48.78**	**308**	P	**P**	**15 29 04.0**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=157,slow=6.6,SNR=16						
LPAZ				LR	LR	15 50 38.4	
	comp=Z,43nm,19.3s,baz=102,slow=37						
	comp=Z,2.4nm,0.6s						
LPAZ	**La Paz**	**48.78**	**308**	P	**P**	**15 29 03.4**	**+0.8**
LPAZ				IAmb	IAmb	15 29 14.9	
	comp=Z,3.9nm,0.8s						
H10N1	**ASCENSION HYDR**	**49.22**	**21**	T	T	16 22 24.6	
	baz=191						
H10N3	**ASCENSION HYDR**	**49.22**	**21**	T	T	16 22 22.2	
	baz=191						
H10N2	**ASCENSION HYDR**	**49.23**	**21**	T	T	16 22 27.5	
	baz=191						
RCBR	**Riachuelo**	**49.84**	**352**	LR	LR	15 47 11.6	
	comp=Z,30nm,18.5s,baz=318,slow=32						
LBTB	**Lobatse**	**50.48**	**76**	P	**P**	**15 29 13.4**	**-1.5**
NNA	**Nana**	**56.59**	**301**	LR	LR	15 56 02.4	
	comp=Z,28nm,18.5s,baz=188,slow=38						
ATAH	**Atahualpa**	**61.55**	**303**	LR	LR	15 59 25.7	
	comp=Z,44nm,19.2s,baz=133,slow=38						
BOAV	**Boa Vista**	**62.94**	**325**	P	**P**	**15 30 42.8**	**-0.5**
BOAV				IAmb	IAmb	15 30 46.0	
	comp=Z,6.3nm,1.2s						
MDP	**Montagnes des**	**63.29**	**335**	LR	LR	15 57 33.7	
	comp=Z,43nm,18.6s,baz=192,slow=35						
ROSC	**El Rosal**	**70.34**	**312**	LR	LR	16 02 11.1	
	comp=Z,46nm,21.4s,baz=210,slow=36						
BIRV	**Birongo**	**72.42**	**323**	P	**P**	**15 31 44.5**	**+1.5**
SDV	**Santo Domingo**	**72.54**	**318**	LR	LR	16 05 12.7	
	comp=Z,72nm,19.2s,baz=118,slow=37						
TOA0	**Torodi Ar. Sit**	**73.51**	**32**	P	**P**	**15 31 49.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.51**	**32**	P	**P**	**15 31 49.5**	**0.0**
	comp=Z,1.8nm,0.6s,baz=198,slow=5.2,SNR=7.6						
	comp=Z,1.8nm,0.6s						
SJG	**San Juan**	**79.50**	**325**	LR	LR	16 08 37.1	
	comp=Z,32nm,20.2s,baz=168,slow=36						
ILAR	**Eielson Array**	**148.59**	**313**	PKPbc	**PKPbc**	**15 40 01.8**	**-0.6**
	comp=Z,4.5nm,0.9s,baz=135,slow=2.2,SNR=29						
SONM	**Songino Array**	**152.35**	**88**	PKPbc	**PKPbc**	**15 40 10.8**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=232,slow=2.5,SNR=5.8						

*NOU **04** 15:23:08.4,37.°01S×179.°28W,h84km,ML5.0/9,East of North Island, N.Z.*

*NEIC **04** 15:23:19.3±1.9,37.°36S±0.°06×179.°24E±0.°07,h10km±1km, mb4.3/9,Error ellipse: s-maj=13.3km s-min=4.2km az=319.0*

*IDC **04** 15:23:20.8±1.6,36.°89S×178.°82E,h0km,mb4.2/4, mbtmp4.2/4,MS3.5/3,Error ellipse: s-maj=36.5km s-min=32.3km az=64.0*

*WEL **04** 15:23:23.4±1.0,37.°5S±5.°×17.°9E±.°,h10km,M4.2/17, ML4.3/15,MLv4.2/17,Error ellipse: s-maj=0.0km s-min=0.0km az=95.5*

ISC 04 15:23:20.4±2.2,37.°20S±0.°06×179.°09E±0.°08,h8km±11km, n110,σ1°87/107,mb4.2/9,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.72**	**240**		**Pb**	**15 23 35.9**	**+0.6**
MXZ				Sg	**Sg**	**15 23 43.4**	**-0.4**
MXZ	**Matakaoa Point**	**0.72**	**240**	P	**Pb**	**15 23 35.9**	**+0.6**
MXZ				S	**Sg**	**15 23 43.8**	**0.0**
WMGZ	**Waiomatatini S**	**0.82**	**221**	P	**Pn**	**15 23 40.0**	**+1.7**
WMGZ				S	**Sn**	**15 23 51.5**	**+1.0**
PKGZ	**Pakihiroa**	**1.06**	**229**	P	**Pn**	**15 23 42.2**	**+0.6**
PKGZ				S	**Sn**	**15 23 56.8**	**+0.2**
PUZ	**Puketiti**	**1.10**	**217**	P	**Pn**	**15 23 43.7**	**+1.7**
PUZ				S	**Sn**	**15 23 58.0**	**+0.6**
HAZ	**Te Kaha**	**1.18**	**241**	P	**Pb**	**15 23 42.8**	**-0.2**
HAZ				S	**Sn**	**15 23 59.6**	**+0.2**
TWGZ	**Tauwhareparae**	**1.32**	**222**	P	**Pg**	**15 23 47.2**	**+1.3**
TWGZ				S	**Sg**	**15 24 04.3**	**+1.5**
RUGZ	**Raukumara Rang**	**1.36**	**235**	P	**Pg**	**15 23 46.9**	**+0.3**
CNGZ	**Carnagh Statio**	**1.46**	**208**	P	**Pg**	**15 23 49.5**	**+1.0**
WIZ	**White Island**	**1.55**	**257**	P	**Pn**	**15 23 47.7**	**-0.5**
TKGZ	**Te Karaka**	**1.58**	**218**	P	**Pb**	**15 23 50.2**	**+0.3**
MWZ	**Matawai**	**1.68**	**227**	P	**Pb**	**15 23 51.4**	**-0.1**
WHRZ	**Whale Island**	**1.81**	**248**	P	**Pg**	**15 23 54.4**	**-0.6**
RIGZ	**Rimuhau**	**1.84**	**215**	P	**Pb**	**15 23 53.9**	**-0.4**
RAGZ	**Rawiri**	**1.86**	**225**	P	**Pb**	**15 23 54.0**	**-0.6**
URZ	**Urewera**	**1.90**	**235**	Pn	**Pb**	**15 23 54.7**	**-0.5**
	126nm,0.3s,baz=31,slow=0.6,SNR=418						
URZ				Sn	**Sn**	**15 24 16.8**	**-0.3**
	199nm,0.3s,baz=31,slow=21,SNR=44						
URZ				LR	LR	15 24 55.4	
	comp=Z,356nm,20.3s,baz=30,slow=49						
URZ	**Urewera**	**1.90**	**235**		**Pb**	**15 23 54.1**	**-1.1**
URZ	**Urewera**	**1.90**	**235**	P	**Pb**	**15 23 54.6**	**-0.6**
URZ	**Urewera**	**1.90**	**235**	P	**Pb**	**15 23 54.9**	**-0.3**
PRGZ	**Paritu Road**	**1.97**	**209**	P	**Pn**	**15 23 55.5**	**+1.4**
EDRZ	**Edgecumbe**	**2.08**	**243**	P	**Pb**	**15 23 57.1**	**-1.3**
SNGZ	**Shannon Statio**	**2.10**	**221**	P	**Pn**	**15 23 57.3**	**+1.4**
OPRZ	**Ohinepanea**	**2.12**	**251**	P	**Pn**	**15 23 56.6**	**+0.5**
KNZ	**Kokohu**	**2.14**	**211**	P	**Pn**	**15 23 56.9**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.17**	**205**	P	**Pn**	**15 23 58.0**	**+1.2**
RTZ	**Ruatahuna**	**2.19**	**229**	P	**Pb**	**15 23 59.2**	**-1.1**
MUGZ	**Murupara**	**2.24**	**234**	P	**Pn**	**15 23 58.9**	**+1.2**
MYRZ	**Mayor Island**	**2.28**	**267**	P	**Pb**	**15 23 59.8**	**-1.9**
TGRZ	**Tauranga**	**2.31**	**256**	P	**Pn**	**

AS31	**Alice Springs**	**40.86**	**276**	P	**P**	**15 31 01.8**	**-1.1**
ASAR	**Alice Springs**	**40.86**	**276**	P	**P**	**15 31 02.1**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=118,slow=7.9,SNR=50						
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**40.86**	**276**	P	**P**	**15 31 01.8**	**-1.1**
VNDA	**Vanda**	**41.11**	**186**	LR	LR	15 44 01.7	
	comp=Z,127nm,21.8s,baz=160,slow=30						
VNDA	**Vanda**	**41.11**	**186**	P	P	15 30 59.2	-5.0
VNDA				IAmb	IAmb	15 31 05.8	
	comp=Z,4.0nm,1.4s						
WR0	**Warramunga Arr**	**42.31**	**281**	P	**P**	**15 31 13.7**	**-1.0**
WR0				IAmb	IAmb	15 31 53.6	
	comp=Z,5.5nm,1.1s						
FORT	**Forrest**	**42.38**	**263**	P	**P**	**15 31 14.5**	**-0.7**
WB2	**Warramunga Arr**	**42.47**	**281**	P	**P**	**15 31 15.4**	**-0.6**
WB2				IAmb	IAmb	15 31 16.4	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**42.48**	**281**	P	**P**	**15 31 15.5**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=122,slow=7.8,SNR=49						
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**42.48**	**281**	P	**P**	**15 31 15.1**	**-1.0**
WB0	**Warramunga Arr**	**42.53**	**281**	P	**P**	**15 31 15.8**	**-0.7**
WB0				IAmb	IAmb	15 31 17.0	
	comp=Z,4.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.35**	**277**	P	**P**	**15 32 17.9**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=122,slow=7.8,SNR=10						
	comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**52.93**	**180**	P	**P**	**15 32 40.6**	**+3.8**
	comp=Z,1.6nm,0.8s,baz=38,slow=3.7,SNR=4.5						
	comp=Z,1.6nm,0.8s						
H03S2	**Juan Fernandez**	**78.72**	**124**	T	T	17 01 53.3	
	baz=232						
H03S1	**Juan Fernandez**	**78.72**	**124**	T	T	17 01 57.8	
	baz=232						
H03S3	**Juan Fernandez**	**78.73**	**124**	T	T	17 01 57.8	
	baz=232						
H03N3	**Juan Fernandez**	**78.95**	**124**	T	T	17 01 53.8	
	baz=234,slow=72,SNR=16						
H03N2	**Juan Fernandez**	**78.95**	**124**	T	T	17 01 52.5	
	baz=234,slow=72,SNR=15						
H03N1	**Juan Fernandez**	**78.96**	**124**	T	T	17 01 52.8	
	baz=234,slow=72,SNR=15						
ARCES	**ARCESS Array B**	**144.59**	**344**	PKP	PKPbc	15 42 56.0	+0.9
	comp=Z,3.5nm,0.9s,baz=38,slow=3.4,SNR=5.7						
FINES	**FINESS Array B**	**150.44**	**334**	PKPbc	**PKiKP**	**15 43 12.4**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=45,slow=3.0,SNR=6.5						
BRTR	**Keskin Array B**	**152.93**	**286**	PKPbc	**PKiKP**	**15 43 19.3**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=134,slow=3.3,SNR=2.3						

*NEIC **04** 15:27:26.4±1.5, 8.39N±0.05×126.13E±0.10, h10km±1km, mb4.7/36, Error ellipse: s-maj=18.1km s-min=3.1km az=64.0*

*MAN **04** 15:27:27.8, 8.29N×125.92E, h11km, mb5.0, ML3.9, MS3.9*

MAN INTENSITY IV - LA PAZ AGUSAN DEL SUR; INTENSITY II - BISLIG CITY; INTENSITY I - GINGOOG CITY MISAMIS ORIENTAL.

*BJI **04** 15:27:27.8±0.0, 8.74N×126.09E, h10km, mb4.3/27, mB4.8/18, Ms4.2/13, Ms7 4.1/14*

*IDC **04** 15:27:30.1±2.2, 8.34N×126.09E, h32km±18km, mb4.0/22, mbtmp4.1/22, MS3.5/4, Error ellipse: s-maj=21.0km s-min=11.2km az=80.0*

*DJA **04** 15:27:30.1±0.5, 8˚N±3˚×12˚6E±˚, h24km±3km, M4.6/21, mB5.0/12, mb4.7/21, MLv5.0/6, Mw(mB)4.3/12*

ISC 04 15:27:27.8±1.2, 8.40N±0.04×126.08E±0.04, h17km±7km, n117, σ1$40/128, mb4.5/47, MS4.0/7, 10C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASP	**Talacogon, Agu**	**0.28**	**281**	↑*i*	**Pg**	**15 27 33.2**	**-0.7**
TASP				*i*	**Sb**	**15 27 38.6**	**-0.1**
BIPH	**Bislig**	**0.35**	**128**	↑*e*	**Pn**	**15 27 37.6**	**-0.3**
BIPH				*e*	**Sn**	**15 27 44.9**	**+0.3**
CDOP	**Cateel, Davao**	**0.70**	**150**	↓*i*	**Pg**	**15 27 42.1**	**+0.5**
CDOP				*i*	**Sn**	**15 27 53.0**	**-0.4**
DAV	**Davao City (W)**	**1.41**	**201**	Pg	**Pb**	**15 27 53.8**	**+0.2**
	957nm,0.3s,baz=31,slow=2.4,SNR=116						
DAV				Lg	Lg	15 28 15.7	
	414nm,0.3s,baz=174,slow=22,SNR=9.7						
DAV	**Davao City (W)**	**1.41**	**201**		**Pn**	**15 27 53.0**	**+0.3**
SCPH	**Surigao**	**1.50**	**337**	↓*e*	**Pb**	**15 27 55.2**	**+0.1**
KCP	**Kidapawan**	**1.69**	**216**	↑*i*	**Pn**	**15 27 55.3**	**-1.4**
KCP				*i*	**Sn**	**15 28 16.9**	**-1.1**
GHBP	**Garcia Hernand**	**2.13**	**305**	↓*i*	**Pn**	**15 28 02.2**	**-0.3**
GHBP				*i*	**Sn**	**15 28 29.1**	**+0.5**
CTBH	**Cotabato--PC H**	**2.16**	**237**	↑*e*	**Pn**	**15 28 01.6**	**-1.4**
CTBH				*i*	**Sn**	**15 28 29.8**	**+0.4**
TABP	**Talibon, Bohol**	**2.41**	**314**	↓*e*	**Pn**	**15 28 06.4**	**0.0**
TABP				*i*	**Sn**	**15 28 35.0**	**-0.6**
LSIP	**Lazi, Siquijor**	**2.53**	**287**	↑*i*	**Pn**	**15 28 07.4**	**-0.7**
LSIP				*i*	**Sn**	**15 28 37.2**	**-1.3**
GSPH	**General Santos**	**2.56**	**206**	↑*i*	**Pn**	**15 28 08.7**	**+0.2**
DCPH	**Dipolog City**	**2.71**	**274**	↑*e*	**Pn**	**15 28 12.7**	**+2.2**
LLP	**Lapu-Lapu**	**2.83**	**313**	↓*i*	**Pn**	**15 28 13.1**	**+0.9**
LLP				*i*	**Sn**	**15 28 47.6**	**+1.7**
SNPH	**Sibulan**	**2.97**	**289**	↓*i*	**Pn**	**15 28 13.9**	**-0.2**
SNPH				*i*	**Sn**	**15 28 47.3**	**-2.1**
RCP	**Roxas**	**4.55**	**314**	↑*e*	**Pn**	**15 28 37.3**	**+1.4**
JAP	**San Jose, Anti**	**4.70**	**300**	↑*e*	**Pn**	**15 28 40.2**	**+2.2**
SGSI	**Sangihe**	**4.71**	**187**	P	**Pn**	**15 28 38.1**	**0.0**
SGSI				S	**Sn**	**15 29 33.1**	**+0.7**
LQP	**Lukban**	**7.22**	**322**	↑*e*	**Pn**	**15 29 16.4**	**+3.7**
TNTI	**Ternate**	**7.68**	**170**	Pn	**Pn**	**15 29 17.4**	**-1.5**
TNTI	**Ternate**	**7.68**	**170**	P	**Pn**	**15 29 20.9**	**+2.0**
	0.2nm660nm50nm,1.3s						
KMSI	**Cibinong**	**8.05**	**195**	P	**Pn**	**15 29 28.5**	**+4.5**
	65nm,0.5s						
GTOI	**Gorontalo**	**8.30**	**202**	P	**Pn**	**15 29 25.5**	**-1.9**
	334nm30nm,1.0s						
MRSI	**Marisa**	**8.88**	**208**	P	**Pn**	**15 29 36.6**	**+1.2**
	477nm39nm,1.1s						
LBMI	**Labuha**	**9.09**	**171**	P	Pn	15 29 43.5	+5.3
	491nm44nm,1.4s						
LUWI	**Luwuk**	**9.94**	**200**		**Pn**	**15 29 49.0**	**-0.9**
LUWI	**Luwuk**	**9.94**	**200**	P	**Pn**	**15 29 52.2**	**+2.3**
	1µm100nm,1.4s						
APSI	**Ampana**	**10.25**	**206**	P	**Pn**	**15 29 58.8**	**+4.6**
	420nm48nm,1.3s						
SANI	**Sanana**	**10.38**	**181**	P	Pn	15 30 01.9	+6.0
	701nm49nm,1.2s						
SWI	**Sorong**	**10.55**	**150**	P	Pn	15 30 04.4	+6.2
	18nm,0.5s						
NLAI	**Namlea**	**11.60**	**175**	P	**Pn**	**15 30 13.8**	**+1.1**
	6µm34nm,1.0s						
KAPI	**Kappang**	**14.74**	**206**	Pn	**Pn**	**15 30 58.1**	**+2.5**
	0.4nm,0.3s,baz=239,slow=17,SNR=3.6						
KAPI				LR	LR	15 36 54.0	
	comp=Z,213nm,21.7s,baz=77,slow=38						
SMPI	**Sarmi**	**16.28**	**129**	P	**P**	**15 31 19.4**	**+0.7**
	787nm66nm,1.2s						
GENI	**Genyem**	**17.79**	**127**	P	**P**	**15 31 38.9**	**+3.5**
	43µm48nm,1.0s						
QIZ	**Qiongzhong**	**18.97**	**306**	P	**P**	**15 31 47.2**	**-1.2**
QIZ				S	**S**	**15 35 25.5**	**+2.0**
QIZ				LR	LR		
	comp=N,280nm,14.3s						
QIZ				LR	LR		
	comp=E,240nm,15.9s						
QIZ				LR	LR		
	comp=Z,350nm,17.5s						
GUMO	**Guam**	**19.14**	**73**	LR	LR	15 37 31.1	
	comp=Z,107nm,21.1s,baz=250,slow=31						
MTN	**Manton Dam**	**21.69**	**167**	P	**P**	**15 32 18.6**	**+0.7**
KNRA	**Kununurra**	**24.07**	**174**	P	**P**	**15 32 41.7**	**-0.6**
KNRA				IAmb	IAmb	15 32 51.5	
	comp=Z,34nm,1.1s						
NJ2	**Nanjing**	**24.48**	**345**	*e*P	**P**	**15 32 44.2**	**-1.8**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**26.33**	**181**	P	**P**	**15 33 02.0**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=359,slow=6.5,SNR=9.3						
	comp=Z,3.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**26.33**	**181**	P	**P**	**15 33 01.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**28.19**	**294**	P	**P**	**15 33 21.1**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=114,slow=6.1,SNR=3.9						
CMAR				PcP	**PcP**	**15 36 33.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=290,slow=0.4,SNR=5.0						
	comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**28.19**	**294**	P	**P**	**15 33 20.0**	**+0.3**
INU	**Inuyama**	**28.63**	**19**	P	**P**	**15 33 22.8**	**-0.6**
INU				IAmb	IAmb	15 33 53.6	
	comp=Z,11nm,1.1s						
KSAR	**Wonju Array Be**	**28.96**	**3**	P	**P**	**15 33 25.9**	**-0.4**
KSRS	**Korea Array**	**28.97**	**3**	P	**P**	**15 33 27.0**	**+0.6**
	comp=Z,2.4nm,1.0s,baz=181,slow=11,SNR=11						
	comp=Z,2.4nm,1.0s						
PZH	**PanZhiHua**	**29.29**	**311**	P	**P**	**15 33 32.2**	**+2.7**
PZH				S	**S**	**15 38 24.9**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,70nm,4.3s						
PZH				LR	LR		
	comp=Z,450nm,19.0s						
PZH				LR	LR		
	comp=Z,480nm,17.8s						
PZH				LR	LR		
	comp=Z,810nm,17.6s						
WRA	**Warramunga Arr**	**29.31**	**164**	P	**P**	**15 33 29.1**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=342,slow=9.5,SNR=5.3						
WRA				LR	LR	15 46 01.7	
	comp=Z,122nm,19.3s,baz=353,slow=38						
	comp=Z,1.4nm,0.9s						
WB2	**Warramunga Arr**	**29.31**	**164**	P	**P**	**15 33 27.0**	**-2.7**
MJAR	**Matsushiro Arr**	**30.11**	**20**	P	**P**	**15 33 36.0**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=186,slow=10,SNR=8.8						
	comp=Z,1.4nm,0.7s						
JMM	**Marumori**	**32.21**	**22**	P	**P**	**15 33 54.5**	**-0.5**
AS31	**Alice Springs**	**32.77**	**167**	P	**P**	**15 33 59.5**	**-0.7**
ASAR	**Alice Springs**	**32.77**	**167**	P	**P**	**15 33 59.7**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=343,slow=7.1,SNR=42						
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**32.77**	**167**	P	**P**	**15 33 59.4**	**-0.7**
LZH	**Lanzhou**	**34.22**	**327**	*e*P	P	15 34 22.5	+10
LZH				sP	sP	15 34 27.7	+7.4
LZH				S	S	15 39 22.1	-17
LZH				SS	**SnSn**	**15 41 46.8**	**-1.2**
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
LZH				pmax	pmax		
	comp=Z,65nm,5.8s						
LZH				LR	LR		
	comp=N,260nm,18.9s						
LZH				LR	LR		
	comp=E,290nm,16.8s						
LZH				LR	LR		
	comp=Z,350nm,18.6s						
HHC	**Hu-ho-hao-te**	**34.80**	**341**	*e*P	**P**	**15 34 20.2**	**+2.5**
HHC				pmax	pmax		
	comp=Z,33nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,4.4s						
HHC				LR	LR		
	comp=Z,510nm,14.6s						
HHC				LR	LR		
	comp=Z,350nm,15.9s						
HHC				LR	LR		
	comp=Z,670nm,17.8s						
USRK	**Ussuriysk Ar.**	**36.03**	**7**	P	**P**	**15 34 28.7**	**+0.6**
	comp=Z,12nm,0.8s,baz=188,slow=7.1,SNR=36						
	comp=Z,12nm,0.8s						
SHL	**Shillong**	**36.74**	**302**	P	**P**	**15 34 35.5**	**+0.8**
SHL				IAmb	IAmb	15 34 40.8	
	comp=Z,8.9nm,0.7s						
HNR	**Honiara**	**38.09**	**117**	P	**P**	**15 34 44.9**	**-1.1**
	comp=Z,358nm,0.4s,baz=180,slow=7.1,SNR=2.3						
GTA	**Gaotai**	**38.82**	**327**	*e*P	**P**	**15 34 53.9**	**+1.9**
GTA				pP	pP	15 34 57.3	-0.1
GTA				sP	sP	15 34 59.8	+0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,28nm,6.5s						
GTA				LR	LR		
	comp=Z,99nm,14.5s						
GTA				LR	LR		
	comp=Z,140nm,14.9s						
GTA				LR	LR		
	comp=Z,170nm,13.5s						
GOMU	**GeErMu**	**39.70**	**319**	P	**P**	**15 34 57.7**	**-2.0**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,96nm,5.2s						
STKA	**Stephens Creek**	**42.70**	**160**	P	**P**	**15 35 24.5**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=337,slow=10,SNR=6.9						
STKA				LR	LR	15 55 50.8	
	comp=Z,92nm,20.5s,baz=208,slow=40						
	comp=Z,4.3nm,0.9s						
STKA	**Stephens Creek**	**42.70**	**160**	P	**P**	**15 35 23.0**	**-0.9**
SONM	**Songino Array**	**42.70**	**340**	P	**P**	**15 35 26.3**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=161,slow=11,SNR=4.4						
	comp=Z,0.5nm,0.8s						
WMQ	**Urumqi**	**48.59**	**323**	*e*P	**P**	**15 36 11.7**	**+1.2**
WMQ				LR	LR		
	comp=Z,160nm,14.3s						
WMQ				LR	LR		
	comp=Z,200nm,25.5s						
DZM	**Mont Dzumac**	**49.82**	**128**	P	**P**	**15 36 21.0**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=260,slow=6.1,SNR=2.2						
	comp=Z,3.8nm,0.6s						
PETK	**Petropavlovsk-**	**51.41**	**24**	P	**P**	**15 36 32.7**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=162,slow=2.0,SNR=12						
	comp=Z,1.3nm,0.6s						
PETK	**Petropavlovsk-**	**51.41**	**24**	P	**P**	**15 36 30.9**	**-0.8**
MK31	**Makanchi Array**	**53.41**	**324**	P	**P**	**15 36 45.5**	**-1.2**
MKAR	**Makanchi Array**	**53.41**	**324**	P	**P**	**15 36 47.4**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=128,slow=7.4,SNR=11						
MKAR				PcP	**PcP**	**15 37 53.1**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=122,slow=4.4,SNR=6.1						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**53.41**	**324**	P	**P**	**15 36 45.8**	**-0.9**
MAKZ	**Makanchi**	**53.60**	**324**	P	**P**	**15 36 48.8**	**+0.7**
MAKZ				IAmb	IAmb	15 36 50.8	
	comp=Z,8.5nm,1.4s						
KSH	**Kashi**	**54.35**	**313**	P	**P**	**15 36 57.1**	**+3.3**
KSH				pP	sP	15 37 02.6	+1.1
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MA2	**Magadan**	**54.38**	**15**	P	**P**	**15 36 54.8**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=194,slow=6.4,SNR=6.0						
	comp=Z,2.5nm,0.7s						
NIL	**Nilore**	**54.65**	**305**	P	**P**	**15 36 55.4**	**-0.5**
ZALV	**Zalesovo Beam**	**56.18**	**332**	P	**P**	**15 37 06.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=128,slow=8.7,SNR=5.4						
	comp=Z,0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**56.18**	**332**	P	**P**	**15 37 05.9**	**-0.6**
KURK	**Kurchatov**	**57.51**	**326**	P	**P**	**15 37 15.3**	**-0.7**
KURK				IAmb	IAmb	15 37 18.2	
	comp=Z,9.6nm,1.1s						
SEY	**Seymchan**	**57.67**	**14**	P	**P**	**15 37 18.4**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=216,slow=9.6,SNR=4.2						
	comp=Z,1.0nm,0.7s						
GAR	**Garm**	**58.36**	**311**	P	**P**	**15 37 21.2**	**-1.2**
KK31	**Karatay Array**	**59.44**	**315**	P	**P**	**15 37 29.0**	**-0.7**
KK31				IAmb	IAmb	15 37 31.7	
	comp=Z,13nm,1.4s						
KKAR	**Karatay Array**	**59.44**	**315**	P	**P**	**15 37 29.7**	**0.0**
BRVK	**Borovoye**	**63.17**	**326**	P	**P**	**15 37 54.5**	**-0.3**
BRVK				IAmb	IAmb	15 37 56.6	
	comp=Z,7.1nm,1.0s						
NRIK	**Noril'sk**	**65.77**	**346**	P	**P**	**15 38 11.9**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=132,slow=6.5,SNR=5.2						
	comp=Z,2.7nm,0.6s						
NRIK	**Noril'sk**	**65.77**	**346**	P	**P**	**15 38 09.6**	**-1.9**
NRIK				IAmb	IAmb	15 38 12.2	
	comp=Z,3.5nm,0.7s						
ABKAR	**Akbulak array**	**68.17**	**320**	P	**P**	**15 38 26.2**	**-0.9**
KARS	**Kars**	**79.29**	**310**	P	**P**	**15 39 31.7**	**-1.1**
BPAW	**Bear Paw Mtn.**	**79.41**	**26**	P	**P**	**15 39 33.0**	**+0.2**
MLY	**Manley**	**79.56**	**25**	P	**P**	**15 39 33.8**	**+0.2**
MLY				IAmb	IAmb	15 40 14.3	
	comp=Z,7.0nm,1.2s						
RC01	**Rabbit Creek A**	**79.89**	**29**	P	**P**	**15 39 35.4**	**0.0**
RND	**Reindeer**	**80.33**	**27**	P	**P**	**15 39 37.9**	**0.0**
RND				IAmb	IAmb	15 40 12.5	
	comp=Z,8.9nm,0.9s						
SML	**Sawmill**	**80.57**	**29**	P	**P**	**15 39 39.0**	**-0.2**
SML				IAmb	IAmb	15 40 06.1	
	comp=Z,6.6nm,0.9s						
PWL	**Port Wells**	**80.57**	**30**	P	**P**	**15 39 39.0**	**-0.1**
PWL				IAmb	IAmb	15 40 01.5	
	comp=Z,8.1nm,0.9s						
DHY	**Denali Highway**	**81.00**	**27**	P	**P**	**15 39 40.8**	**-0.8**
DHY				IAmb	IAmb	15 40 10.4	
	comp=Z,8.2nm,1.1s						
GLI	**Glacier Island**	**81.18**	**30**	P	**P**	**15 39 41.8**	**-0.5**
GLI				IAmb	IAmb	15 39 59.6	
	comp=Z,7.3nm,0.9s						
IL31		**81.20**	**26**	P	**P**	**15 39 41.6**	**-0.7**
IL31				IAmb	IAmb	15 40 10.7	
	comp=Z,9.5nm,0.9s						
ILAR	**Eielson Array**	**81.20**	**26**	P	**P**	**15 39 42.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=258,slow=4.2,SNR=9.3						
	comp=Z,0.6nm,0.6s						
J25K	**Salcha River,**	**81.85**	**26**	P	**P**	**15 39 44.1**	**-1.9**
J25K				IAmb	IAmb	15 40 08.1	
	comp=Z,6.4nm,1.3s						
RIDG	**Independent Ri**	**82.12**	**27**	P	**P**	**15 39 46.5**	**-0.9**
SCRK	**Sand Creek**	**82.49**	**26**	P	**P**	**15 39 48.7**	**-0.7**
J26L	**Joseph Creek**	**82.64**	**26**	P	**P**	**15 39 49.1**	**-1.0**
J26L				IAmb	IAmb	15 40 06.7	
	comp=Z,5.6nm,1.0s						
I26K	**Coal Creek Min**	**82.75**	**25**	P	**P**	**15 39 49.6**	**-0.9**
BCAR	**Beaver Creek A**	**83.55**	**27**	P	**P**	**15 39 53.5**	**-1.2**
M27K	**Edge Creek, AK**	**83.57**	**28**	P	**P**	**15 39 53.8**	**-1.2**
M27K				IAmb	IAmb	15 39 56.7	
	comp=Z,5.0nm,1.1s						
KEV	**Kevo**	**85.31**	**340**	P	**P**	**15 40 02.9**	**-0.6**
ARCES	**ARCESS Array B**	**85.88**	**340**	P	**P**	**15 40 06.9**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=64,slow=5.5,SNR=3.9						
	comp=Z,2.1nm,0.8s						
FIA1	**FINESS Array S**	**87.44**	**332**	P	**P**	**15 40 13.1**	**-1.0**
FINES	**FINESS Array B**	**87.44**	**332**	P	**P**	**15 40 13.2**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=86,slow=4.5,SNR=18						
	comp=Z,1.2nm,0.4s						
FINES	**FINESS Array B**	**87.44**	**332**	P	**P**	**15 40 13.0**	**-1.1**
AKASG	**Malin Array Be**	**87.89**	**321**	P	**P**	**15 40 15.6**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=61,slow=3.9,SNR=5.0						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**88.11**	**173**	P	**P**	**15 40 17.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=313,slow=4.8,SNR=6.6						
	comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**88.11**	**173**	P	**P**	**15 40 14.7**	**-2.2**
SBA	**Scott Base**	**89.02**	**172**	P	**P**	**15 40 21.1**	**0.0**
CLL	**Collm**	**97.50**	**324**	*e*P	**P**	**15 40 59.0**	**-1.9**
GERES	**GERESS Array B**	**98.05**	**322**	P	**P**	**15 41 03.6**	**0.0**
	comp=Z,0.5nm,0.8s,baz=76,slow=4.1,SNR=4.7						
	comp=Z,0.5nm,0.8s						
SUMG	**Summit**	**98.57**	**355**	*i* P	**P**	**15 41 05.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**120.77**	**291**	PKP	**PKPdf**	**15 46 18.5**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=60,slow=2.2,SNR=3.5						

*BJI **04** 15:40:16.4±0.0, 49.67N×156.36E, h68km, mb4.6/48, mB4.7/24, Ms4.5/29, Ms7 4.2/29*

*KRSC **04** 15:40:17.6±1.9, 49.61N×156.10E, h80km±25km, ML5.3*

*NEIC **04** 15:40:19.5±1.3, 49.76N±0.08×155.8E±0.1, h48km±5km, mb5.0/328, Error ellipse: s-maj=14.6km s-min=10.0km az=130.0*

*MOS **04** 15:40:19.6±1.1, 49.72N×155.90E, h68km, mb5.1/49, MS3.9/7, Error ellipse: s-maj=6.8km s-min=3.1km az=75.7*

MOS Felt (II-III) at Severo-Kuril'sk.

*GCMT **04** 15:40:19.5±0.3, 49.55N±0.02×156.38E±0.03, h46km, MW4.9/76, Moment Tensor Solution. s60,c77; s76,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.97±.13; Mθθ-0.69±.10; Mφφ-2.28±.10; Mrθ0.27±.08; Mrφ-1.62±.06; Mθφ0.89±.07; Best double couple: Mo3.26500×10^16 NP1:φs27.00000°, δs53.00000°, λs84.00000°. NP2: φs217.00000°, δs37.00000°, λs98.00000°. Principal axes: T 3.1160, Plg81.0000°, Azm270.0000°; N 0.3030, Plg5.0000°, Azm31.0000°; P -3.4140, Plg8.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **04** 15:40:22.5±1.9, 49.80N×155.80E, h75km±16km, mb4.3/31, mbtmp4.7/37, MS4.0/48 Error ellipse: s-maj=12.6km s-min=8.9km az=144.0*

ISC 04 15:40:20.1±0.4, 49.69N±0.04×156.01E±0.04, h59km±2km, h58km:pP-P, n1062, σ1$14/1089, mb4.9/261, MS4.2/65, 39C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.99**	**4**	↓*i*	**Pn**	**15 40 38.0**	**0.0**
SKR				*e*	**Sn**	**15 40 51.6**	**+0.4**
SKR				pmax	pmax		
	comp=Z,3µm,0.6s						
SKR				smax	smax		
	comp=E,11µm,0.6s						
SKR				smax	smax		
	comp=N,10µm,0.6s						
SKR	**Severo-Kuril's**	**0.99**	**4**	*e*P	**Pn**	**15 40 37.9**	**0.0**
SKR				*e*S	**Sn**	**15 40 51.8**	**+0.6**
PAU	**Pauzhetka**	**1.85**	**16**	PN	**Pn**	**15 40 49.8**	**+0.4**
PAU				S	**Sn**	**15 41 13.1**	**+1.4**
PAU	**Pauzhetka**	**1.85**	**16**	*e*P	**Pn**	**15 40 49.8**	**+0.4**
PAU				*e*S	**Sn**	**15 41 13.1**	**+1.4**
KDTR	**Khodutka, Kamc**	**2.50**	**31**	PN	**Pn**	**15 40 57.9**	**-0.3**
KDTR				S	**Sn**	**15 41 26.3**	**-1.1**
KDTR	**Khodutka, Kamc**	**2.50**	**31**	*e*P	**Pn**	**15 40 57.9**	**-0.3**
KDTR				*e*S	**Sn**	**15 41 26.3**	**-1.1**
ASAK	**Asacha**	**2.95**	**23**	PN	**Pn**	**15 41 05.9**	**+1.4**
ASAK	**Asacha**	**2.95**	**23**	*e*P	**Pn**	**15 41 05.9**	**+1.4**
MTVR	**Mutnovka**	**3.11**	**25**	PN	**Pn**	**15 41 07.4**	**+0.6**
MTVR				S	**Sn**	**15 41 44.3**	**+1.5**
MTVR	**Mutnovka**	**3.11**	**25**	*e*P	**Pn**	**15 41 07.4**	**+0.6**
MTVR				*e*S	**Sn**	**15 41 44.3**	**+1.5**
GRL	**Gorelyy**	**

TUMR Tumrok 6.14 23 PN **Pn** 15 41 50.7 +2.5
TUMR Tumrok 6.14 23 *e*P **Pn** 15 41 50.7 +2.5
ESO Esso 6.45 14 PN **Pn** 15 41 56.1 +3.7
ESO Esso 6.45 14 *e*P **Pn** 15 41 56.1 +3.7
SRDR Sredinnyy 7.00 17 PN **Pn** 15 42 02.5 +2.6
SRDR Sredinnyy 7.00 17 *e*P **Pn** 15 42 02.5 +2.6
KUR Kuril'sk 7.09 234*c i*PN **Pn** 15 42 02.5 +1.4
KUR S **Sn** 15 43 23.5 +3.3
KUR pmax pmax
comp=E,89nm,0.7s
KUR pmax pmax
comp=Z,183nm,0.7s
KUR smax smax
comp=N,206nm,0.8s
KUR smax smax
comp=E,106nm,0.6s
KUR MLR MLR
comp=Z,761nm,15.0s
BDR Baidarnaya 7.56 22 PN **Pn** 15 42 10.1 +2.5
BDR Baidarnaya 7.56 22 *e*P **Pn** 15 42 10.1 +2.5
SRKR Sorokina 7.63 22 PN **Pn** 15 42 10.1 +1.6
SRKR Sorokina 7.63 22 *e*P **Pn** 15 42 10.1 +1.6
KBTR Krutoberegovo 7.71 30 PN **Pn** 15 42 09.5 -0.1
KBTR Krutoberegovo 7.71 30 *e*P **Pn** 15 42 09.5 -0.1
KBG Krutoberegovo 7.71 29 PN **Pn** 15 42 10.1 +0.5
KBG Krutoberegovo 7.71 29 *e*P **Pn** 15 42 10.1 +0.5
BKI Bering 8.21 44 PN **Pn** 15 42 15.0 -1.4
BKI Bering 8.21 44 *e*P **Pn** 15 42 15.0 -1.4
TYV Tymovskoe 8.63 283 *e*PN **Pn** 15 42 24.5 +2.3
TYV pmax pmax
comp=Z,300nm,2.5s
TYV pmax pmax
comp=Z,73nm,0.9s
YUK Yuzh-Kuril'sk 8.96 235*c i*PN **Pn** 15 42 26.0 -0.6
YUK pmax pmax
comp=Z,647nm,0.4s
YUK pmax pmax
comp=N,61nm,0.5s
YUK pmax pmax
comp=E,84nm,0.4s
YUK pmax pmax
comp=Z,625nm,0.7s
OKH Okha 9.00 300*de*PN Pn 15 42 34.0 +6.8
OKH pmax pmax
comp=Z,100nm,11.4s
OKH MLR MLR
comp=N,700nm,18.0s
OKH MLR MLR
comp=Z,1µm,17.0s
UGL Uglegorsk 9.12 271⇑*i*PN **Pn** 15 42 33.5 +4.7
UGL *e*S **Sn** 15 44 14.7 +4.9
UGL pmax pmax
comp=Z,500nm,0.7s
UGL pmax pmax
comp=Z,600nm,0.6s
UGL smax smax
comp=E,900nm,9.0s
UGL smax smax
comp=N,500nm,11.0s
UGL MLR MLR
comp=E,700nm,11.0s
UGL MLR MLR
comp=N,400nm,10.0s
UGL MLR MLR
comp=Z,2µm,17.0s
RUSJ Misakicho 9.24 237 *e*PN **Pn** 15 42 31.7 +1.2
YSS Yuzh-Sakhalins 9.24 258⇑*e*PN **Pn** 15 42 33.9 +3.4
YSS *e*S **Sn** 15 44 15.7 +2.8
YSS pmax pmax
comp=Z,200nm,2.8s
YSS pmax pmax
comp=E,200nm,2.9s
YSS pmax pmax
comp=Z,110nm,1.1s
YSS smax smax
comp=N,40nm,0.5s
YSS smax smax
comp=E,30nm,0.4s
YSS MLR MLR
comp=Z,800nm,18.0s
NMR Nemuro--Hokkai 9.49 232⇓*i*PN **Pn** 15 42 30.4 -3.5
MA2 Magadan 10.36 345 P **Pn** 15 42 47.0 +1.3
comp=Z,75nm,0.6s,baz=159,slow=9.8,SNR=229
MA2 S **Sn** 15 44 36.6 -3.4
comp=Z,5.3nm,0.6s,baz=165,slow=19,SNR=1.0
MA2 LR LR 15 47 09.3
comp=Z,754nm,20.1s,baz=180,slow=40
MA2 Magadan 10.36 345 PN **Pn** 15 42 47.0 +1.3
SHEM Shemya Is, Ala 11.75 68 P **Pn** 15 43 03.1 -1.5
comp=Z,133nm,0.6s,baz=288,slow=5.1,SNR=8.5
SHEM S Sn 15 45 03.0 -11
comp=Z,63nm,0.5s,baz=292,slow=19,SNR=2.3
SHEM LR LR 15 47 14.3
comp=Z,484nm,21.3s,baz=275,slow=35
SMY Shemya 11.75 68 Pn **Pn** 15 43 02.7 -2.0
SMY Shemya 11.75 68 PN **Pn** 15 43 02.7 -2.0
JEW Eniwo 12.17 241 Pn **Pn** 15 43 09.3 -1.2
GRNR Gornyy 12.59 282⇑*i*PN **Pn** 15 43 20.8 +4.6
GRNR *e*S Sn 15 45 44.3 +10
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=N,4.0nm,0.5s
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR MLR MLR
comp=E,360nm,16.0s
GRNR MLR MLR
comp=N,200nm,12.0s
SEY Seymchan 13.42 353 P **Pn** 15 43 29.6 +2.1
comp=N,12nm,0.7s,baz=163,slow=13,SNR=36
SEY LR LR 15 49 46.2
comp=N,574nm,19.8s,baz=150,slow=42
SEY Seymchan 13.42 353⇑*e*PN **Pn** 15 43 30.1 +2.7
JTM Tenmabayashi 13.76 235 Pn Pn 15 43 26.6 -5.6
TEY Ternei 13.94 258⇑*e*P **Pn** 15 43 36.6 +2.1
TEY *e* 15 46 08.4
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,10.0nm,1.5s
KMSK Kamenskaya 13.99 20 P **Pn** 15 43 35.2 +0.2
KMSK Kamenskaya 13.99 20 *e*P **Pn** 15 43 35.2 +0.2
JMM Marumori 16.10 228 Pn **Pn** 15 43 56.5 -6.0
JSD Sado 17.25 234 Pn **Pn** 15 44 14.7 -2.2
USA0B Ussuriysk Arra 17.26 261 P **Pn** 15 44 16.6 -0.3
USA0B Ussuriysk Arra 17.26 261 P **Pn** 15 44 16.6 -0.3
USA0B pmax pmax
comp=Z,16nm,1.5s
USRK Ussuriysk Ar. 17.26 261 P **Pn** 15 44 17.0 +0.1
comp=Z,4.3nm,0.5s,baz=66,slow=9.7,SNR=30
USRK LR LR 15 51 19.9
comp=Z,291nm,18.1s,baz=13,slow=38
USRK Ussuriysk Ar. 17.26 261 P **Pn** 15 44 16.1 -0.7
USRK Ussuriysk Ar. 17.26 261 P **Pn** 15 44 16.2 -0.7
JYT Yasato 17.70 226 Pn **Pn** 15 44 19.7 -2.6
VLA Vladivostok 17.84 258⇑*e*P **Pn** 15 44 21.6 -2.4
VLA pmax pmax
comp=Z,16nm,1.0s
ZEA Zeya 18.21 294 *e*P **Pn** 15 44 29.9 +1.5
ZEA *e*S **Sn** 15 47 45.3 -5.4
ZEA pmax pmax
comp=Z,100nm,3.6s
ZEA pmax pmax
comp=Z,20nm,1.4s
ZEA smax smax
comp=E,100nm,9.2s
MAJO Matsushiro 18.42 231 P **P** 15 44 27.4 -3.1
MAJO Matsushiro 18.42 231*ce*P **P** 15 44 29.1 -1.4
MAJO pmax pmax
comp=Z,13nm,0.7s
MJAR Matsushiro Arr 18.42 231 P **P** 15 44 29.6 -0.9
comp=Z,12nm,0.7s,baz=35,slow=10,SNR=53
MJAR LR LR 15 52 07.0
comp=Z,450nm,19.9s,baz=47,slow=38
MDJ Mudanjiang 18.62 264 **P** 15 44 32.6 0.0
MDJ Mudanjiang 18.62 264 P **P** 15 44 32.8 +0.2
MDJ PP **PnPn** 15 44 47.4 +0.7
MDJ S **Sn** 15 47 57.7 -3.1
MDJ pmax pmax
comp=Z,23nm,0.6s
MDJ pmax pmax
comp=Z,100nm,3.5s
MDJ LR LR
comp=Z,370nm,16.3s
MDJ LR LR
comp=Z,650nm,19.2s
MDJ LR LR
comp=Z,800nm,20.1s
YAK Yakutsk 19.09 320 P **P** 15 44 37.6 +0.1
comp=Z,43nm,0.7s,baz=101,slow=3.9,SNR=16
YAK LR LR 15 51 57.8
comp=Z,716nm,21.5s,baz=90,slow=37
YAK Yakutsk 19.09 320 P **P** 15 44 37.0 -0.5
YAK IAmb IAmb 15 44 41.5
comp=Z,86nm,0.8s
YAK Yakutsk 19.09 320*c i*P **P** 15 44 37.4 -0.1
YAK *e*S **S** 15 48 09.6 -1.0
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,15nm,0.9s
YAK smax smax
comp=E,53nm,2.5s
YAK smax smax
comp=N,53nm,1.9s
BILL Bilibino 19.10 12 P **Pn** 15 44 38.4 -0.6
BILL Bilibino 19.10 12*d i*P **P** 15 44 37.0 -0.6
BILL pmax pmax
comp=Z,40nm,1.0s
BILL MLR MLR
comp=Z,557nm,16.0s
BNX BinXian 19.59 269 ⇑P **Pn** 15 44 48.4 +3.4
BNX pP **pP** 15 44 57.5 +1.7
BNX PP **sP** 15 45 04.8 +1.7
BNX pmax pmax
comp=Z,11nm,0.8s
BNX pmax pmax
comp=Z,170nm,5.7s
BNX LR LR
comp=Z,380nm,19.7s
BNX LR LR
comp=Z,550nm,16.4s
BNX LR LR
comp=Z,680nm,15.8s
INU Inuyama 19.95 231 P **P** 15 44 46.3 -0.8
JHJ Hachijo jima 2 20.47 222 P **P** 15 44 53.2 +0.4
comp=Z,132nm,0.8s,baz=351,slow=14,SNR=4.3
comp=Z,132nm,0.8s
SPIA Saint Paul Isl 21.27 56 P **P** 15 45 01.5 +0.2
baz=264
CN2 Changchun 21.66 266 *e*P **P** 15 45 03.0 -2.4
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,400nm,21.0s
NIKH Nikolski High 22.06 68 P **P** 15 45 10.0 +0.3
baz=276
JHS Saijyo 22.28 237 P **P** 15 45 11.6 -0.7
JHS IAmb IAmb 15 45 14.8
comp=Z,29nm,0.8s
GAMB Gambell 22.31 39 P **P** 15 45 12.3 0.0
baz=246
JMN Monobe 22.83 234 P **P** 15 45 17.0 -1.1
JMN IAmb IAmb 15 45 32.3
comp=Z,72nm,1.4s
SEHB SEOHWA 22.87 251 P **P** 15 45 16.3 -2.2
UNV Unalaska Valle 23.38 65 P **P** 15 45 23.7 +0.4
baz=275
KSRS Korea Array 23.59 249 P **P** 15 45 25.6 +0.2
comp=Z,27nm,0.8s,baz=45,slow=10.0,SNR=105
KSRS PcP **PcP** 15 49 09.1 +0.5
comp=Z,2.8nm,1.0s,baz=24,slow=0.8,SNR=7.1
KSRS LR LR 15 53 51.3
comp=Z,318nm,20.8s,baz=50,slow=34
comp=Z,27nm,0.8s
KS19 Wonju Array Si 23.59 250 P **P** 15 45 24.4 -0.9
KS19 IAmb IAmb 15 45 28.0
comp=Z,31nm,0.8s
KSAR Wonju Array Be 23.62 249 P **P** 15 45 25.1 -0.5
KSAR Wonju Array Be 23.62 249 P **P** 15 45 25.1 -0.5
KSCHJ Chungju 23.93 248 P **P** 15 45 27.1 -1.4
KSBUS Busan 24.36 244 P **P** 15 45 31.8 -0.6
KSBUS IAmb IAmb 15 45 34.2
comp=Z,70nm,1.3s
TNA Tin City 24.51 36 P **P** 15 45 35.0 +1.5
TNA Tin City 24.51 36 P **P** 15 45 33.6 +0.1
baz=247,SNR=6.2
TJN Taejon 24.63 248 P **P** 15 45 34.7 -0.2
TJN Taejon 24.63 248*c i*P **P** 15 45 35.3 +0.5
FALS False Pass 25.09 62 P **P** 15 45 40.2 +1.3
baz=275
ANM Nome 25.18 39 P **P** 15 45 39.5 -0.1
baz=253
NAWB Namwon 25.25 246 P **P** 15 45 40.5 0.0
TIXI Tiksi 25.27 340 P **P** 15 45 39.4 -0.9
comp=Z,33nm,0.7s,baz=90,slow=20,SNR=22
comp=Z,33nm,0.7s
TIXI Tiksi 25.27 340 P **P** 15 45 39.2 -1.1
TIXI IAmb IAmb 15 45 41.2
comp=Z,31nm,0.6s
TIXI Tiksi 25.27 340*de*P **P** 15 45 39.1 -1.2
TIXI pmax pmax
comp=Z,35nm,0.8s
BOD Bodaibo 25.76 305 *e*P **P** 15 45 44.0 -0.9
BOD pmax pmax
comp=Z,18nm,2.0s
JSU Suzuyama 26.38 236 P **P** 15 45 50.5 -0.2
JSU IAmb IAmb 15 46 21.5
comp=Z,56nm,1.3s
SDPT Sand Point 26.73 61 P **P** 15 45 54.6 +1.0
baz=276
S14K Fog Glacier 27.16 59 P **P** 15 45 58.1 +0.5
baz=275
CHNA Chernabura Isl 27.30 62 P **P** 15 45 59.3 +0.6
baz=278
RDOG Red Dog Mine 27.30 33 P **P** 15 45 59.0 +0.4
baz=249
N16K Nishlik Lake 27.48 50 P **P** 15 46 01.0 +0.6
baz=268,SNR=6.4
O16K Kokwok River B 27.80 52 P **P** 15 46 03.3 +0.1
baz=270
P16K Nushagak River 27.86 53 P **P** 15 46 03.9 +0.2
baz=271
R16K Pilot Point 28.14 56 P **P** 15 46 06.3 +0.1
baz=274
O17K Koliganek Bris 28.31 51 P **P** 15 46 07.6 -0.1
baz=270
P17K Kvichak River 28.65 52 P **P** 15 46 10.6 -0.2
baz=272
GCSA Galena City Sc 28.78 41 P **P** 15 46 11.3 -0.5
baz=262
N18K Kilae Creek 28.91 49 P **P** 15 46 13.8 +0.7
N18K Kilae Creek 28.91 49 P **P** 15 46 13.0 -0.1
baz=270,SNR=8.5
TTA Tatalina 28.95 45 P **P** 15 46 12.8 -0.7
baz=266
SVW2 Sparrevohn 29.07 48 P **P** 15 46 14.8 +0.3
P18K Big Mountain, 29.27 52 P **P** 15 46 16.3 0.0
baz=273
CHIR Chirikof Islan 29.40 59 P **P** 15 46 17.3 -0.1
baz=279
L19K White Mountain 29.44 46 P **P** 15 46 17.8 0.0
L19K White Mountain 29.44 46 P **P** 15 46 17.5 -0.3
baz=268
N19K Bonanza Creek 29.60 49 P **P** 15 46 19.8 +0.5
N19K Bonanza Creek 29.60 49 P **P** 15 46 18.5 -0.8
baz=271
M19K Big River Lodg 29.65 47 P **P** 15 46 20.5 +0.9
M19K Big River Lodg 29.65 47 P **P** 15 46 19.0 -0.6
baz=269
K20K Telida 29.86 44 P **P** 15 46 22.2 +0.7
K20K Telida 29.86 44 P **P** 15 46 20.6 -0.9
baz=267,SNR=14
J20K Nowinta River 29.89 42 P **P** 15 46 22.4 +0.7
J20K Nowinta River 29.89 42 P **P** 15 46 21.2 -0.4
baz=265,SNR=10
L20K Farewell, AK 29.91 46 P **P** 15 46 21.1 -0.8
baz=268,SNR=5.2
Q19K Cape Douglas, 30.11 53 P **P** 15 46 24.0 +0.2
baz=275
M20K Styx River 30.25 47 P **P** 15 46 24.8 -0.2
baz=270
IMAR Indian Mountai 30.25 39 P **P** 15 46 25.3 +0.4
G21K Allakaket 30.43 38 P **P** 15 46 25.9 -0.6
baz=262,SNR=15
OHAK Old Harbor 30.48 56 P **P** 15 46 27.2 +0.2
OHAK Old Harbor 30.48 56 P **P** 15 46 27.2 +0.2
baz=278
A21K Barrow 30.51 28 P **P** 15 46 27.0 -0.1
baz=250
F21K Alatna River 30.55 36 P **P** 15 46 25.8 -1.7
baz=261
O20K Slope Mountain 30.55 50 P **P** 15 46 26.6 -1.1
baz=274
H21K Melozitna Rive 30.60 39 P **P** 15 46 28.2 +0.2
H21K Melozitna Rive 30.60 39 P **P** 15 46 27.8 -0.2
baz=264,SNR=28
CHUM Lake Minchumin 30.67 43 P **P** 15 46 28.7 +0.1
baz=268
PPLA Purkeypile 30.70 45 P **P** 15 46 30.4 +1.4
PPLA IAmb IAmb 15 46 57.9
comp=Z,37nm,1.5s
PPLA Purkeypile 30.70 45 P **P** 15 46 28.8 -0.2
baz=269
N20K Mount Spurr 30.70 48 P **P** 15 46 28.5 -0.4
baz=272
SPCR Spurr Chakacha 30.70 48 P **P** 15 46 29.3 +0.3
baz=272
CAST Castle Rocks 30.75 44 P **P** 15 46 30.6 +1.2
CAST Castle Rocks 30.75 44 P **P** 15 46 29.1 -0.3
baz=268,SNR=10
KDAK Kodiak Island 30.78 55 P **P** 15 46 29.4 -0.2
KDAK Kodiak Island 30.78 55 P **P** 15 46 29.4 -0.2
KDAK pmax pmax
comp=Z,102nm,1.8s
I21K Tanana 30.90 40 P **P** 15 46 30.5 0.0
I21K Tanana 30.90 40 P **P** 15 46 30.1 -0.5
baz=266,SNR=14
SKT Skwentna 31.00 47 P **P** 15 46 31.5 -0.1
SKT Skwentna 31.00 47 P **P** 15 46 31.5 -0.1
baz=271,SNR=8.9
HOM Homer 31.07 51 P **P** 15 46 32.2 0.0
baz=275
F22K John River 31.09 36 P **P** 15 46 32.0 -0.3
baz=262,SNR=7.3
H11N2 WAKE ISLAND Hy 31.14 160 T T 16 19 24.8
baz=347,slow=76,SNR=232
H11N1 WAKE ISLAND Hy 31.15 160 T T 16 19 36.2
baz=347,slow=76,SNR=446
H11N3 WAKE ISLAND Hy 31.15 160 T T 16 19 27.9
baz=347,slow=76,SNR=567
H22K Ishtalitna Cre 31.21 39 P **P** 15 46 33.0 -0.4
baz=265
BPAW Bear Paw Mtn. 31.26 43 P **P** 15 46 34.0 +0.2
BPAW IAmb IAmb 15 46 35.9
comp=Z,14nm,0.9s
BPAW Bear Paw Mtn. 31.26 43 P **P** 15 46 33.7 -0.2
baz=268,SNR=12
G22K Bettles 31.27 37 P **P** 15 46 33.5 -0.4
baz=263
KTH Kantishna Hill 31.28 44 P **P** 15 46 34.1 0.0
KTH IAmb IAmb 15 46 36.4
comp=Z,20nm,0.9s
CNPM China Poot 31.29 51 P **P** 15 46 34.2 +0.1
E22K Anaktuvuk Pass 31.33 35 P **P** 15 46 34.6 +0.2
baz=261,SNR=24
SUA Susitna One 31.39 48 P **P** 15 46 35.2 0.0
SUA Susitna One 31.39 48 P **P** 15 46 35.1 0.0
baz=273,SNR=5.3
MLY Manley 31.41 41 P **P** 15 46 36.1 +0.9
MLY Manley 31.41 41 P **P** 15 46 34.8 -0.4
baz=267,SNR=13
BRSE Bradley Lake S 31.52 51 P **P** 15 46 36.5 +0.3
baz=276
TRF Thorofare Moun 31.56 44 P **P** 15 46 37.5 +0.8
TRF IAmb IAmb 15 46 39.7
comp=Z,12nm,0.8s
TRF Thorofare Moun 31.56 44 P **P** 15 46 36.5 -0.2
baz=270,SNR=15
CUT Chulitna 31.58 46 P **P** 15 46 37.4 +0.7
CUT IAmb IAmb 15 46 37.9
comp=Z,18nm,0.6s
CUT Chulitna 31.58 46 P **P** 15 46 36.3 -0.4
baz=272
COLD Coldfoot 31.81 37 P **P** 15 46 39.6 +0.9
COLD IAmb IAmb 15 46 41.3
comp=Z,21nm,0.8s
COLD Coldfoot 31.81 37 P **P** 15 46 38.5 -0.1
baz=264,SNR=21
G23K Bananza Creek 31.83 38 P **P** 15 46 38.5 -0.3
baz=265,SNR=14
ULN Ulaanbaatar 31.86 286⇓*e*P **P** 15 46 40.4 +1.0
ULN pmax pmax
comp=Z,2.0nm,0.7s
D23K Nanushuk River 31.87 33 P **P** 15 46 39.1 0.0
baz=261,SNR=6.7
BWN Browne 31.93 42 P **P** 15 46 41.3 +1.6
HNS HongShan 31.96 263 ⇑P **P** 15 46 40.7 +0.5
HNS S **S** 15 51 50.0 +2.9
HNS LR LR
comp=Z,240nm,16.7s
HNS LR LR
comp=Z,180nm,15.7s
HNS LR LR
comp=Z,280nm,15.7s
H23K Yukon River 31.96 39 P **P** 15 46 41.2 +1.3
H23K IAmb IAmb 15 46 42.3
comp=Z,14nm,0.8s
H23K Yukon River 31.96 39 P **P** 15 46 39.5 -0.4
baz=267,SNR=14
C23K Itkillik River 32.05 32 P **P** 15 46 40.8 +0.2
baz=259,SNR=11
HHC Hu-ho-hao-te 32.09 271 *e*P **P** 15 46 40.7 -0.8
HHC pmax pmax
comp=Z,69nm,0.8s
HHC pmax pmax
comp=Z,190nm,4.6s
HHC LR LR
comp=Z,500nm,14.6s
HHC LR LR
comp=Z,390nm,14.0s
HHC LR LR
comp=Z,610nm,15.2s
NEA2 Nenana 32.11 42 P **P** 15 46 41.9 +0.6
NEA2 IAmb IAmb 15 46 44.0
comp=Z,22nm,0.6s
NEA2 Nenana 32.11 42 P **P** 15 46 41.2 0.0
baz=269,SNR=36
SEW Seward 32.13 50 P **P** 15 46 41.3 -0.1
PMR Palmer 32.16 47 P **P** 15 46 41.4 -0.2
baz=274
MCK McKinley 32.17 43 P **P** 15 46 42.4 +0.6
MCK IAmb IAmb 15 46 43.4
comp=Z,26nm,0.9s
MCK McKinley 32.17 43 P **P** 15 46 42.4 +0.6
MCK pmax pmax
comp=Z,26nm,0.9s
MCK McKinley 32.17 43 P **P** 15 46 42.6 +0.8
baz=271,SNR=14
RND Reindeer 32.21 44 P **P** 15 46 42.6 +0.4
RND IAmb IAmb 15 46 43.4
comp=Z,29nm,0.9s
RND Reindeer 32.21 44 P **P** 15 46 42.6 +0.4
RND pmax pmax
comp=Z,29nm,0.9s
TOLK Toolik Lake Re 32.22 34 P **P** 15 46 43.1 +0.8
TOLK IAmb IAmb 15 46 44.1
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 32.22 34 P **P** 15 46 42.0 -0.2
baz=262,SNR=11
H11S1 WAKE ISLAND Hy 32.28 161 T T 16 20 47.0
baz=347,slow=76,SNR=1087
SONM Songino Array 32.28 286 P **P** 15 46 42.8 -0.3
comp=Z,0.7nm,0.5s,baz=72,slow=7.6,SNR=4.9
SONM PcP **PcP** 15 49 29.8 -0.1
comp=Z,4.0nm,0.7s,baz=102,slow=1.6,SNR=15
SONM LR LR 16 01 06.4
comp=Z,268nm,19.5s,baz=74,slow=39
comp=Z,0.7nm,0.5s
H11S3 WAKE ISLAND Hy 32.29 161 T T 16 20 50.1
baz=347,slow=76,SNR=3039
H11S2 WAKE ISLAND Hy 32.30 161 T T 16 20 56.5
baz=347,slow=76,SNR=1275
WAT1 Susitna Watana 32.36 45 P **P** 15 46 43.2 -0.4
baz=273
MDM Murphy Dome 32.48 41 P **P** 15 46 45.4 +0.9
MDM IAmb IAmb 15 46 47.0
comp=Z,14nm,0.8s
KNK Knik Glacier 32.49 48 P **P** 15 46 45.3 +0.6
KNK Knik Glacier 32.49 48 P **P** 15 46 44.9 +0.2
baz=275,SNR=9.5
SML Sawmill 32.52 47 P **P** 15 46 45.5 +0.5

SML	**Sawmill**	**32.52**	**47**	P	**P**	**15 46 45.4**	**+0.5**
	baz=274,SNR=35							
WRH	**Wood River Hil**	**32.53**	**42**	P	**P**	**15 46 45.2**	**+0.2**
WRH				IAmb	IAmb	15 46 49.7		
	comp=Z,20nm,0.9s							
E24K	**Your Creek**	**32.55**	**35**	P	**P**	**15 46 45.8**	**+0.6**
	baz=264,SNR=35							
D24K	**Happy Valley**	**32.56**	**33**	P	**P**	**15 46 45.5**	**+0.3**
	baz=262							
PWL	**Port Wells**	**32.60**	**49**	P	**P**	**15 46 45.2**	**-0.4**
PWL				IAmb	IAmb	15 46 46.4		
	comp=Z,16nm,0.6s							
PWL	**Port Wells**	**32.60**	**49**	P	**P**	**15 46 45.5**	**-0.1**
	baz=276							
TCOL	**CIGO, UAF Yank**	**32.63**	**41**	P	**P**	**15 46 46.5**	**+0.7**
TCOL	**CIGO, UAF Yank**	**32.63**	**41**	P	**P**	**15 46 46.1**	**+0.3**
	baz=270,SNR=12							
COLA	**College**	**32.64**	**41**	P	**P**	**15 46 46.7**	**+0.9**
COLA	**College**	**32.64**	**41**	*c i*P	**P**	**15 46 46.5**	**+0.7**
COLA				pmax	pmax			
	comp=Z,30nm,0.8s							
COLA	**College**	**32.64**	**41**	P	**P**	**15 46 46.6**	**+0.7**
	baz=270							
COLA	**College**	**32.64**	**41**	P	**P**	**15 46 45.9**	**+0.1**
H24K	**Noodor Dome**	**32.64**	**39**	P	**P**	**15 46 46.9**	**+0.9**
H24K	**Noodor Dome**	**32.64**	**39**	P	**P**	**15 46 47.0**	**+0.9**
	baz=268,SNR=15							
CCB	**Clear Creek Bu**	**32.66**	**42**	P	**P**	**15 46 46.5**	**+0.5**
CCB				IAmb	IAmb	15 46 47.8		
	comp=Z,15nm,0.8s							
C24K	**Franklin Bluff**	**32.69**	**32**	P	**P**	**15 46 46.4**	**+0.1**
	baz=262							
F24K	**Squaw Lake**	**32.73**	**36**	P	**P**	**15 46 47.0**	**+0.3**
	baz=266,SNR=19							
NJ2	**Nanjing**	**32.74**	**251**	*e*P	**P**	**15 46 47.5**	**+0.4**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WAT6	**Susitna Watana**	**32.75**	**45**	P	**P**	**15 46 47.4**	**+0.4**
	baz=274,SNR=5.4							
M23K	**Glacier View**	**32.81**	**47**	P	**P**	**15 46 47.8**	**+0.3**
	baz=275							
POKR	**Poker Plat Res**	**32.81**	**41**	P	**P**	**15 46 48.2**	**+0.8**
POKR				IAmb	IAmb	15 46 49.9		
	comp=Z,38nm,1.1s							
POKR	**Poker Plat Res**	**32.81**	**41**	P	**P**	**15 46 48.3**	**+0.9**
	baz=270							
G24K	**Hadweenzic Riv**	**32.84**	**38**	P	**P**	**15 46 49.0**	**+1.3**
	baz=268,SNR=46							
DHY	**Denali Highway**	**32.89**	**44**	P	**P**	**15 46 48.2**	**-0.1**
DHY				IAmb	IAmb	15 46 49.7		
	comp=Z,18nm,1.0s							
DHY	**Denali Highway**	**32.89**	**44**	P	**P**	**15 46 48.5**	**+0.3**
	baz=273,SNR=14							
SCM	**Sheep Creek Mo**	**33.00**	**47**	P	**P**	**15 46 49.4**	**+0.2**
SCM	**Sheep Creek Mo**	**33.00**	**47**	P	**P**	**15 46 49.4**	**+0.2**
SCM				pmax	pmax			
	comp=Z,30nm,0.8s							
SCM	**Sheep Creek Mo**	**33.00**	**47**	P	**P**	**15 46 49.2**	**+0.1**
	baz=275,SNR=9.8							
HDA	**Harding Lake**	**33.03**	**42**	P	**P**	**15 46 49.4**	**+0.1**
HDA				IAmb	IAmb	15 46 50.8		
	comp=Z,16nm,0.5s							
HDA	**Harding Lake**	**33.03**	**42**	P	**P**	**15 46 49.4**	**+0.1**
	baz=272,SNR=20							
IL31		**33.05**	**41**	P	**P**	**15 46 49.3**	**-0.1**
IL31				IAmb	IAmb	15 46 50.9		
	comp=Z,18nm,0.9s							
ILAR	**Eielson Array**	**33.05**	**41**	P	**P**	**15 46 49.9**	**+0.4**
	comp=Z,8.9nm,0.8s,baz=259,slow=7.7,SNR=80							
ILAR				LR	LR	16 01 17.1		
	comp=Z,121nm,20.0s,baz=232,slow=38							
	comp=Z,8.9nm,0.8s							
ILAR	**Eielson Array**	**33.05**	**41**	P	**P**	**15 46 49.4**	**-0.1**
ILAR	**Eielson Array**	**33.05**	**41**	P	**P**	**15 46 49.4**	**-0.1**
P23K	**Montague Islan**	**33.16**	**50**	P	**P**	**15 46 50.7**	**+0.2**
	baz=278							
GLI	**Glacier Island**	**33.20**	**48**	P	**P**	**15 46 50.8**	**-0.1**
GLI				IAmb	IAmb	15 46 51.8		
	comp=Z,17nm,0.8s							
GLI	**Glacier Island**	**33.20**	**48**	P	**P**	**15 46 50.9**	**0.0**
	baz=277,SNR=5.8							
ZAK	**Zakamensk**	**33.28**	**292**	*e*P	**P**	**15 46 51.4**	**-0.4**
ZAK				*e*		15 49 30.4		
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
D25K	**Kavik River**	**33.45**	**33**	P	**P**	**15 46 53.6**	**+0.7**
	baz=264,SNR=41							
H25K	**Birch Creek**	**33.49**	**39**	P	**P**	**15 46 54.0**	**+0.7**
	baz=270,SNR=14							
M24K	**Tolsona, Glenn**	**33.52**	**46**	P	**P**	**15 46 54.8**	**+1.2**
M24K				IAmb	IAmb	15 46 55.9		
	comp=Z,24nm,0.8s							
M24K	**Tolsona, Glenn**	**33.52**	**46**	P	**P**	**15 46 54.7**	**+1.0**
	baz=276,SNR=5.7							
FID	**Port Fidalgo**	**33.52**	**49**	P	**P**	**15 46 53.1**	**-0.5**
FID				IAmb	IAmb	15 46 54.5		
	comp=Z,16nm,0.9s							
HIN	**Hinchinbrook I**	**33.55**	**49**	P	**P**	**15 46 54.5**	**+0.5**
K24K	**Donnelly Dome**	**33.57**	**43**	P	**P**	**15 46 54.7**	**+0.7**
	baz=273,SNR=8.0							
F25K	**Christian Rive**	**33.60**	**36**	P	**P**	**15 46 55.0**	**+0.7**
	baz=268,SNR=11							
PRP	**Porcupine Dome**	**33.62**	**40**	P	**P**	**15 46 55.1**	**+0.5**
PRP	**Porcupine Dome**	**33.62**	**40**	P	**P**	**15 46 55.4**	**+0.9**
	baz=271,SNR=45							
E25K	**Arctic Village**	**33.65**	**35**	P	**P**	**15 46 55.8**	**+1.1**
	baz=267,SNR=18							
KLU	**Klutina**	**33.70**	**47**	P	**P**	**15 46 55.8**	**+0.5**
KLU				IAmb	IAmb	15 46 57.0		
	comp=Z,16nm,1.0s							
KLU	**Klutina**	**33.70**	**47**	P	**P**	**15 46 55.3**	**0.0**
	baz=277,SNR=7.2							
J25K	**Salcha River,**	**33.71**	**42**	P	**P**	**15 46 55.0**	**-0.3**
J25K				IAmb	IAmb	15 46 55.7		
	comp=Z,12nm,0.7s							
J25K	**Salcha River,**	**33.71**	**42**	P	**P**	**15 46 54.1**	**-1.2**
	baz=273,SNR=18							
FYU	**Fort Yukon**	**33.73**	**38**	P	**P**	**15 46 56.8**	**+1.4**
PAX	**Paxson**	**33.76**	**45**	P	**P**	**15 46 56.4**	**+0.6**
PAX	**Paxson**	**33.76**	**45**	P	**P**	**15 46 56.4**	**+0.6**
PAX				pmax	pmax			
	comp=Z,6.0nm,0.7s							
PAX	**Paxson**	**33.76**	**45**	P	**P**	**15 46 55.9**	**+0.1**
	baz=275,SNR=7.1							
DIV	**Divide**	**33.81**	**48**	P	**P**	**15 46 57.0**	**+0.7**
EYAK	**Cordova Ski Ar**	**33.90**	**49**	P	**P**	**15 46 57.8**	**+0.9**
EYAK				IAmb	IAmb	15 46 59.3		
	comp=Z,13nm,0.8s							
EYAK	**Cordova Ski Ar**	**33.90**	**49**	P	**P**	**15 46 57.8**	**+0.9**
	baz=278,SNR=5.3							
HARP	**HAARP**	**33.96**	**46**	P	**P**	**15 46 57.7**	**+0.2**
	baz=276,SNR=6.3							
RIDG	**Independent Ri**	**33.98**	**43**	P	**P**	**15 46 57.8**	**+0.1**
RIDG	**Independent Ri**	**33.98**	**43**	P	**P**	**15 46 57.7**	**+0.1**
	baz=274,SNR=31							
BMAR	**Burnt Mountain**	**34.00**	**36**	P	**P**	**15 46 59.1**	**+1.4**
F26K	**Sheenjek River**	**34.17**	**36**	P	**P**	**15 46 59.9**	**+0.7**
	baz=269,SNR=16							
G26K	**Porcupine Rive**	**34.31**	**37**	P	**P**	**15 47 01.0**	**+0.6**
	baz=270,SNR=28							
N25K	**Chitina, Valde**	**34.31**	**47**	P	**P**	**15 47 01.8**	**+1.2**
N25K				IAmb	IAmb	15 47 02.6		
	comp=Z,20nm,0.7s							
N25K	**Chitina, Valde**	**34.31**	**47**	P	**P**	**15 47 01.2**	**+0.7**
	baz=278,SNR=17							
DOT	**Dot Lake**	**34.34**	**43**	P	**P**	**15 47 00.6**	**-0.1**
DOT				IAmb	IAmb	15 47 01.8		
	comp=Z,11nm,0.7s							
SCRK	**Sand Creek**	**34.35**	**43**	P	**P**	**15 47 00.9**	**+0.1**
SCRK				IAmb	IAmb	15 47 02.5		
	comp=Z,20nm,1.0s							
SCRK	**Sand Creek**	**34.35**	**43**	P	**P**	**15 47 00.9**	**+0.1**
	baz=275,SNR=27							
BMRM	**Bremner River**	**34.40**	**48**	P	**P**	**15 47 01.8**	**+0.5**
BMRM				IAmb	IAmb	15 47 03.2		
	comp=Z,26nm,0.9s							
BMRM	**Bremner River**	**34.40**	**48**	P	**P**	**15 47 02.5**	**+1.2**
	baz=279,SNR=13							
C27K	**Jago River**	**34.41**	**33**	P	**P**	**15 47 01.9**	**+0.7**
	baz=267,SNR=7.3							
RAGM	**Ragged Mountai**	**34.45**	**49**	P	**P**	**15 47 02.9**	**+1.1**
RAGM				IAmb	IAmb	15 47 08.0		
	comp=Z,18nm,0.9s							
J26L	**Joseph Creek**	**34.49**	**42**	P	**P**	**15 47 02.1**	**0.0**
J26L	**Joseph Creek**	**34.49**	**42**	P	**P**	**15 47 04.0**	**+1.9**
	baz=274							
MENT	**Mentasta**	**34.56**	**44**	P	**P**	**15 47 03.9**	**+1.2**
MENT				IAmb	IAmb	15 47 08.5		
	comp=Z,11nm,0.8s							
I26K	**Coal Creek Min**	**34.61**	**40**	P	**P**	**15 47 02.7**	**-0.3**
	baz=274							
KAIM	**Kayak Island**	**34.66**	**50**	P	**P**	**15 47 04.3**	**+0.9**
KAIM	**Kayak Island**	**34.66**	**50**	P	**P**	**15 47 04.9**	**+1.5**
	baz=280							
GLB	**Gilahina Butte**	**34.71**	**47**	P	**P**	**15 47 04.6**	**+0.6**
L26K	**Log Cabin Wild**	**34.72**	**44**	P	**P**	**15 47 04.9**	**+0.9**
	baz=277,SNR=12							
M26K	**Nabesna, AK**	**34.96**	**45**	P	**P**	**15 47 07.8**	**+1.7**
M26K	**Nabesna, AK**	**34.96**	**45**	P	**P**	**15 47 07.2**	**+1.1**
	baz=278,SNR=31							
MCARA	**McCarthy VSAT**	**35.09**	**47**	P	**P**	**15 47 08.1**	**+0.9**
	baz=279							
E27K	**Coleen River**	**35.14**	**35**	P	**P**	**15 47 08.0**	**+0.5**
	baz=271,SNR=6.6							
G27K	**Doyon Strip**	**35.15**	**38**	P	**P**	**15 47 08.5**	**+0.9**
	baz=273,SNR=16							
K27K	**Chicken**	**35.18**	**42**	P	**P**	**15 47 08.8**	**+0.9**
K27K	**Chicken**	**35.18**	**42**	P	**P**	**15 47 09.1**	**+1.1**
	baz=276							
H27K	**Steamboat Moun**	**35.23**	**39**	P	**P**	**15 47 10.3**	**+1.9**
	baz=274,SNR=17							
I27K	**Kandik River**	**35.24**	**40**	P	**P**	**15 47 09.0**	**+0.5**
	baz=274							
TGL	**Tana Glacier**	**35.29**	**48**	P	**P**	**15 47 08.9**	**-0.1**
TGL				IAmb	IAmb	15 47 11.3		
	comp=Z,23nm,0.8s							
WAX	**Waxell Ridge**	**35.33**	**49**	P	**P**	**15 47 09.7**	**+0.3**
L27K	**Beaver Creek,**	**35.41**	**44**	P	**P**	**15 47 11.4**	**+1.5**
L27K	**Beaver Creek,**	**35.41**	**44**	P	**P**	**15 47 11.4**	**+1.5**
	baz=278,SNR=90							
BCAR	**Beaver Creek A**	**35.42**	**44**	P	**P**	**15 47 11.3**	**+1.2**
M27K	**Edge Creek, AK**	**35.48**	**45**	P	**P**	**15 47 12.0**	**+1.3**
M27K				IAmb	IAmb	15 47 13.6		
	comp=Z,25nm,0.8s							
M27K	**Edge Creek, AK**	**35.48**	**45**	P	**P**	**15 47 12.4**	**+1.7**
	baz=279,SNR=32							
EGAK	**Eagle**	**35.50**	**41**	P	**P**	**15 47 10.5**	**-0.1**
EGAK	**Eagle**	**35.50**	**41**	P	**P**	**15 47 10.8**	**+0.2**
	baz=276,SNR=26							
ISLE	**Juniper Island**	**35.56**	**48**	P	**P**	**15 47 12.0**	**+0.6**
ISLE				IAmb	IAmb	15 47 13.5		
	comp=Z,24nm,0.8s							
MESA	**MESA**	**35.83**	**49**	P	**P**	**15 47 15.2**	**+1.4**
MESA	**MESA**	**35.83**	**49**	P	**P**	**15 47 14.9**	**+1.2**
	baz=282,SNR=5.1							
YAH	**Yahtse**	**35.89**	**49**	P	**P**	**15 47 15.4**	**+1.1**
BVCY	**Beaver Creek**	**35.94**	**45**	P	**P**	**15 47 15.4**	**+0.9**
	baz=280,SNR=16							
CTG	**Chitna Glacier**	**35.97**	**48**	P	**P**	**15 47 16.5**	**+1.6**
	baz=281,SNR=27							
CTGM	**Chitina Glacie**	**35.97**	**48**	P	**P**	**15 47 16.5**	**+1.6**
LOGN	**Logan Glacier**	**36.16**	**48**	P	**P**	**15 47 17.8**	**+1.3**
LOGN				IAmb	IAmb	15 47 18.8		
	comp=Z,23nm,0.8s							
TABL	**Table Mountain**	**36.17**	**48**	P	**P**	**15 47 17.8**	**+1.2**
YUK3	**Moose Creek**	**36.24**	**46**	P	**P**	**15 47 18.3**	**+1.1**
	baz=281,SNR=24							
DAWY	**Dawson**	**36.35**	**42**	P	**P**	**15 47 19.0**	**+1.1**
DAWY	**Dawson**	**36.35**	**42**	P	**P**	**15 47 18.7**	**+0.7**
	baz=278,SNR=11							
O28M	**Mount Upton**	**36.56**	**48**	P	**P**	**15 47 21.4**	**+1.4**
	baz=282,SNR=32							
I29M	**Ogilvie Camp,**	**36.63**	**40**	P	**P**	**15 47 21.2**	**+0.8**
	baz=278,SNR=13							
PCA	**Pinnacle**	**36.67**	**49**	P	**P**	**15 47 21.7**	**+0.9**
PINM	**Pinnacle**	**36.67**	**49**	P	**P**	**15 47 21.9**	**+1.1**
	baz=283,SNR=8.5							
NACB	**Ninganchiao**	**36.97**	**239**	P	**P**	**15 47 22.1**	**-1.4**
BCPM	**Bancas Point**	**37.01**	**49**	P	**P**	**15 47 24.5**	**+0.9**
M29M	**Somme Creek**	**37.03**	**45**	P	**P**	**15 47 25.2**	**+1.3**
	baz=281,SNR=37							
GUMO	**Guam**	**37.14**	**198**	LR	LR	15 59 45.5		
	comp=Z,101nm,21.5s,baz=34,slow=31							
EPYK	**Eagle Plains**	**37.15**	**38**	P	**P**	**15 47 25.5**	**+0.8**
	baz=278							
YUK4	**Talbot Arm**	**37.17**	**46**	P	**P**	**15 47 26.1**	**+0.9**
	baz=282,SNR=13							
PNL	**Peninsula**	**37.19**	**49**	P	**P**	**15 47 25.5**	**+0.3**
	baz=284							
K29M	**Barlow Dome**	**37.20**	**42**	P	**P**	**15 47 26.5**	**+1.2**
	baz=280							
G30M	**tAoh Zraii Nji**	**37.27**	**37**	P	**P**	**15 47 26.5**	**+0.7**
	baz=277,SNR=5.9							
NRIK	**Noril'sk**	**37.29**	**327**	P	**P**	**15 47 24.6**	**-1.2**
	comp=Z,3.9nm,0.9s,baz=91,slow=9.6,SNR=4.1							
NRIK				PcP	**PcP**	**15 49 44.7**	**+0.8**
	comp=Z,3.3nm,0.4s,baz=100,slow=2.0,SNR=4.3							
NRIK				LR	LR	16 04 13.2		
	comp=Z,291nm,18.1s,baz=75,slow=38							
	comp=Z,3.9nm,0.9s							
NRIK	**Noril'sk**	**37.29**	**327**	*ll e*P	**P**	**15 47 24.8**	**-1.0**
NRIK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
YUK6	**Outpost Mounta**	**37.40**	**47**	P	**P**	**15 47 27.8**	**+0.7**
	baz=283							
O29M	**Mount Kennedy**	**37.44**	**48**	P	**P**	**15 47 28.2**	**+0.8**
	baz=284							
M30M	**Minto, Yukon**	**37.77**	**44**	P	**P**	**15 47 30.5**	**+0.5**
M30M	**Minto, Yukon**	**37.77**	**44**	P	**P**	**15 47 31.3**	**+1.3**
	baz=282,SNR=6.0							
HYT	**Haines Junctio**	**37.83**	**47**	P	**P**	**15 47 32.2**	**+1.5**
HYT				IAmb	IAmb	15 47 33.6		
	comp=Z,22nm,0.9s							
HYT	**Haines Junctio**	**37.83**	**47**	P	**P**	**15 47 32.1**	**+1.5**
	baz=284,SNR=36							
N30M	**Aishikik Lake**	**37.88**	**46**	P	**P**	**15 47 32.2**	**+1.2**
	baz=284,SNR=8.4							
MAYO	**Mayo, Yukon**	**37.96**	**42**	P	**P**	**15 47 33.6**	**+2.0**
	baz=282,SNR=9.8							
P29M	**Windy Craggy**	**38.02**	**49**	P	**P**	**15 47 33.4**	**+1.3**
	baz=285,SNR=7.9							
INK	**Inuvik**	**38.13**	**35**	P	**P**	**15 47 33.9**	**+1.0**
	comp=Z,15nm,0.9s,baz=284,slow=5.9							
	comp=Z,15nm,0.9s							
INK	**Inuvik**	**38.13**	**35**	P	**P**	**15 47 34.0**	**+1.2**
INK				IAmb	IAmb	15 47 49.1		
	comp=Z,14nm,0.8s							
INK	**Inuvik**	**38.13**	**35**	P	**P**	**15 47 33.8**	**+1.0**
	baz=278,SNR=7.0							
F31M	**Tsiigehtchic**	**38.17**	**36**	P	**P**	**15 47 34.3**	**+1.1**
	baz=279,SNR=6.3							
TPUB	**Ta-pu**	**38.19**	**239**	P	**P**	**15 47 33.8**	**-0.2**
P30M	**Million Dollar**	**38.27**	**48**	P	**P**	**15 47 35.6**	**+1.4**
	baz=285							
N31M	**Braeburn, Yuko**	**38.48**	**46**	P	**P**	**15 47 37.7**	**+1.7**
	baz=284,SNR=8.0							
O30N	**Mendenhall**	**38.52**	**47**	P	**P**	**15 47 37.7**	**+1.4**
	baz=285,SNR=18							
PLBC	**Pleasant Camp**	**38.74**	**49**	P	**P**	**15 47 39.8**	**+1.6**
	baz=287,SNR=5.8							
M31M	**Drury Creek, Y**	**38.94**	**44**	P	**P**	**15 47 41.6**	**+1.7**
M31M				IAmb	IAmb	15 47 43.1		
	comp=Z,19nm,1.0s							
M31M	**Drury Creek, Y**	**38.94**	**44**	P	**P**	**15 47 41.0**	**+1.2**
	baz=285,SNR=20							
WHY	**Whitehorse**	**39.12**	**47**	P	**P**	**15 47 43.3**	**+1.8**
WHY				IAmb	IAmb	15 47 44.7		
	comp=Z,13nm,0.8s							
WHY	**Whitehorse**	**39.12**	**47**	P	**P**	**15 47 43.2**	**+1.8**
	baz=286,SNR=8.4							
SKAG	**Skagway**	**39.24**	**49**	P	**P**	**15 47 44.0**	**+1.6**
	baz=287,SNR=7.6							
FARO	**Faro, Yukon**	**39.41**	**44**	P	**P**	**15 47 45.2**	**+1.4**
FARO				IAmb	IAmb	15 47 46.5		
	comp=Z,13nm,1.0s							
FARO	**Faro, Yukon**	**39.41**	**44**	P	**P**	**15 47 45.7**	**+1.9**
	baz=285,SNR=16							
LZH	**Lanzhou**	**39.77**	**270**	*e*P	**P**	**15 47 48.0**	**+0.8**
LZH				pP	sP	15 48 06.2	-2.6
LZH				sP	pP	15 48 12.4	+10
LZH				pmax	pmax		
	comp=Z,24nm,1.1s							
LZH				LR	LR			
	comp=Z,460nm,18.2s							
LZH				LR	LR			
	comp=Z,400nm,16.1s							
LZH				LR	LR			
	comp=Z,490nm,19.6s							
N32M	**Quiet Lake**	**39.83**	**46**	P	**P**	**15 47 48.5**	**+1.3**
	baz=287							
P32M	**Atlin**	**39.99**	**48**	P	**P**	**15 47 50.0**	**+1.3**
	baz=288							
SIT	**Sitka**	**40.01**	**52**	P	**P**	**15 47 49.6**	**+0.9**
	baz=290							
R32K	**Eaglecrest**	**40.01**	**50**	P	**P**	**15 47 49.9**	**+1.1**
	baz=289,SNR=6.7							
P33M	**Teslin, Yukon**	**40.23**	**47**	P	**P**	**15 47 51.2**	**+0.6**
P33M				IAmb	IAmb	15 48 06.4		
	comp=Z,18nm,1.0s							
P33M	**Teslin, Yukon**	**40.23**	**47**	P	**P**	**15 47 51.7**	**+1.1**
	baz=288,SNR=22							
MMPY	**Sheldon Lake,**	**40.23**	**43**	P	**P**	**15 47 51.5**	**+0.9**
	baz=286,SNR=14							
A36M	**Sachs Harbour**	**40.35**	**28**	P	**P**	**15 47 51.9**	**+0.6**
	baz=280							
GTA	**Gaotai**	**40.47**	**277**	*e*P	**P**	**15 47 53.6**	**+0.7**
GTA				pP	pP	15 48 08.1	+0.4
GTA				sP	sP	15 48 14.6	+0.1
GTA				PcP	**PcP**	**15 49 55.4**	**+0.8**
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,52nm,5.6s							
GTA				LR	LR			
	comp=Z,160nm,16.0s							
GTA				LR	LR			
	comp=Z,460nm,15.6s							
GTA				LR	LR			
	comp=Z,540nm,16.4s							
C36M	**Paulatuk**	**41.30**	**32**	P	**P**	**15 47 59.9**	**+0.7**
C36M	**Paulatuk**	**41.30**	**32**	P	**P**	**15 48 00.1**	**+1.0**
	baz=285							
R33M	**Jennings River**	**41.38**	**48**	P	**P**	**15 48 01.5**	**+1.4**
	baz=290,SNR=13							
WRAK	**Wrangell Islan**	**41.77**	**52**	P	**P**	**15 48 05.6**	**+2.5**
	baz=292							
S34M	**Telegraph Cree**	**41.83**	**50**	P	**P**	**15 48 05.9**	**+2.2**
	baz=292							
TGTN	**Hyland Airport**	**41.91**	**44**	P	**P**	**15 48 06.6**	**+2.2**
	baz=290,SNR=7.0							
WTLY	**Watson Lake, Y**	**42.16**	**46**	P	**P**	**15 48 08.4**	**+2.0**
	baz=291,SNR=8.8							
DLBC	**Dease Lake**	**42.18**	**49**	LR	LR	16 07 41.3		
	comp=Z,119nm,18.9s,baz=306,slow=39							
DLBC	**Dease Lake**	**42.18**	**49**	P	**P**	**15 48 08.7**	**+2.1**
	baz=292							
ZAA0	**Zalesovo Array**	**42.51**	**304**	P	**P**	**15 48 08.3**	**-1.0**
ZALV	**Zalesovo Beam**	**42.51**	**304**	P	**P**	**15 48 08.3**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=61,slow=7.5,SNR=12							
ZALV				PcP	**PcP**	**15 50 01.2**	**+0.3**
	comp=Z,5.0nm,0.7s,baz=46,slow=4.0,SNR=10							
ZALV				LR	LR	16 06 41.0		
	comp=Z,166nm,19.0s,baz=84,slow=37							
	comp=Z,1.9nm,0.4s							
ZALV	**Zalesovo Beam**	**42.51**	**304**	P	**P**	**15 48 08.2**	**-1.1**
V35K	**Ketchikan**	**42.58**	**54**	P	**P**	**15 48 12.1**	**+2.3**
	baz=294							
T35M	**Bob Quinn**	**42.62**	**51**	P	**P**	**15 48 12.5**	**+2.3**
	baz=293,SNR=5.2							
DGZ	**Jazzator, Alta**	**42.91**	**297**	*ll e*P	**P**	**15 48 12.5**	**-0.3**
DGZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CD2	**Chengdu**	**43.08**	**264**	*e*P	**P**	**15 48 12.5**	**-1.7**
CD2				S	**S**	**15 54 33.6**	**-2.3**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				LR	LR			
	comp=Z,210nm,18.2s							
CD2				LR	LR			
	comp=Z,250nm,18.6s							
WRGLY	**Wrigley**	**43.42**	**41**	P	**P**	**15 48 18.3**	**+1.9**
	baz=292,SNR=6.3							
GRNB	**Grenville Isla**	**44.08**	**55**	P	**P**	**15 48 22.5**	**+0.6**
GOMU	**GeErMu**	**45.55**	**277**	P	**P**	**15 48 33.9**	**-0.4**
GOMU				pP	pP	15 48 51.3	+1.9
GOMU				sP	sP	15 48 56.7	+0.6
GOMU				PcP	**PcP**	**15 50 13.6**	**+1.6**
GOMU				pmax	pmax			
	comp=Z,2.0nm,0.7s							
WMQ	**Urumqi**	**45.70**	**290**	*e*P	**P**	**15 48 36.2**	**+1.2**
WMQ				LR	LR			
	comp=Z,290nm,15.7s							
WMQ				LR	LR			
	comp=Z,280nm,23.1s							
BBB	**Bella Bella**	**45.83**	**56**	LR	LR	16 06 25.2		
	comp=Z,72nm,20.7s,baz=289,slow=34							
EUNU	**Eureka**	**45.85**	**12**	P	**P**	**15 48 36.7**	**+1.0**
ALE	**Alert**	**46.61**	**6**	P	**P**	**15 48 41.2**	**-0.4**
ALE				pP	**pP**	**15 48 58.7**	**+1.9**
MK31	**Makanchi Array**	**47.34**	**296**	P	**P**	**15 48 46.9**	**-0.9**
MK31	**Makanchi Array**	**47.34**	**296**	*ce*P	**P**	**15 48 46.7**	**-1.1**
MKAR	**Makanchi Array**	**47.34**	**296**	P	**P**	**15 48 47.0**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=61,slow=7.1,SNR=45							
MKAR				PcP	**PcP**	**15 50 17.5**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=48,slow=5.4,SNR=4.9							
MKAR				LR	LR	16 10 01.5		
	comp=Z,779nm,19.2s,baz=62,slow=38							
	comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**47.34**	**296**	P	**P**	**15 48 46.5**	**-1.3**
PZH	**PanZhiHua**	**47.36**	**261**	P	**P**	**15 48 46.4**	**-1.9**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,140nm,5.3s							
KURK	**Kurchatov**	**47.38**	**303**	P	**P**	**15 48 47.4**	**-0.5**
KURK				IAmb	IAmb	15 48 48.8

comp=Z,7,1nm,0.8s
EDM Edmonton 52.90 49 P **P 15 49 30.7 +1.0**
EDM Edmonton 52.90 49 P **P 15 49 30.7 +1.0**
EDM pmax pmax
comp=Z,30nm,0.8s
H04D Lebanon 52.99 62 P **P 15 49 32.1 +1.6**
baz=307
I03D Drain, OR 53.13 63 P **P 15 49 33.3 +1.9**
baz=307
G05D Wamic, OR 53.37 61 P **P 15 49 34.9 +1.6**
baz=307
DBO Dodson Butte 53.54 64 P **P 15 49 36.5 +1.8**
DBO IAmb IAmb 15 50 08.9
comp=Z,40nm,1.8s
SMPI Sarmi 53.60 202 P **P 15 49 36.4 +1.2**
comp=Z,23nm,0.9s
I04A Tendick Farm, 53.61 63 P **P 15 49 35.5 +0.4**
baz=307
NEW Newport 53.88 56 LR LR 16 10 55.3
comp=Z,83nm,21.3s,baz=300,slow=34
NEW Newport 53.88 56 P **P 15 49 37.9 +0.9**
baz=307
I05D Terrebonne, OR 53.90 62 P **P 15 49 38.3 +1.0**
baz=307
L02F Cave Junction 53.95 65 P **P 15 49 38.6 +1.0**
baz=308
J04D Umpqua Nationa 54.12 63 P **P 15 49 39.8 +0.7**
baz=308
ARU Arti 54.16 317 LR LR 16 15 19.7
comp=Z,220nm,20.2s,baz=48,slow=39
ARU Arti 54.16 317 P **P 15 49 36.5 -2.3**
ARU IAmb IAmb 15 49 38.5
comp=Z,13nm,1.0s
ARU Arti 54.16 317 *c iP* **P 15 49 36.6 -2.3**
ARU *PP **pP 15 49 52.2 -2.1**
ARU 15 50 36.3
ARU 15 51 38.0
ARU S **S 15 57 08.5 -2.5**
ARU SS **SS 16 00 49.1 -3.5**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU MLR MLR
comp=Z,231nm,20.0s
ARU Arti 54.16 317 P **P 15 49 37.5 -1.4**
ARU pP **pP 15 49 52.9 -1.4**
AAK Ala-Archa 54.27 296 LR LR 16 14 31.0
comp=Z,631nm,18.2s,baz=60,slow=38
AAK Ala-Archa 54.27 296 *eP* **P 15 49 39.2 -0.9**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 54.27 296 P **P 15 49 40.4 +0.3**
J05D Fort Rock, OR 54.60 63 P **P 15 49 43.1 +0.6**
baz=308,SNR=11
L04D Klamath Falls 54.63 64 P **P 15 49 43.9 +1.2**
L04D IAmb IAmb 15 49 45.8
comp=Z,15nm,0.8s
L04D Klamath Falls 54.63 64 P **P 15 49 43.7 +1.0**
baz=308,SNR=6.2
SWI Sorong 54.66 211 P **P 15 49 43.7 +0.8**
comp=Z,38nm,0.7s
CHTO Chiang Mai 54.67 257 P **P 15 49 44.0 +0.9**
CHTO Chiang Mai 54.67 257 P **P 15 49 44.0 +0.9**
CHTO pmax pmax
comp=Z,1.0nm,0.8s
CHTO Chiang Mai 54.67 257 P **P 15 49 43.2 +0.2**
YBH Yreka Blue Hor 54.70 65 P **P 15 49 45.2 +2.1**
YBH Yreka Blue Hor 54.70 65 P **P 15 49 45.2 +2.1**
YBH pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 54.94 257 P **P 15 49 46.4 +1.4**
comp=Z,12nm,0.8s,baz=30,slow=6.9,SNR=86
CMAR PcP **PcP 15 50 47.1 +0.8**
comp=Z,2.5nm,0.7s,baz=7.9,slow=2.7,SNR=4.5
CMAR LR LR 16 15 01.3
comp=Z,84nm,19.9s,baz=290,slow=38
comp=Z,12nm,0.8s
WALA Waterton Lakes 55.10 53 P **P 15 49 47.0 +1.0**
WALA IAmb IAmb 15 50 01.2
comp=Z,12nm,0.7s
K05A Summer Lake 55.14 63 P **P 15 49 48.2 +1.8**
K05A IAmb IAmb 15 49 49.1
comp=Z,10nm,0.8s
KSH Kashi 55.33 292 P **P 15 49 51.1 +3.4**
KSH pP pP 15 50 04.4 +1.2
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH LR LR
comp=Z,240nm,14.4s
KSH LR LR
comp=Z,150nm,11.0s
KSH LR LR
comp=Z,400nm,16.5s
ARCES ARCESS Array B 55.70 341 P **P 15 49 48.2 -1.6**
comp=Z,3.0nm,1.0s,baz=26,slow=6.7,SNR=10
ARCES PcP **PcP 15 50 49.3 +0.9**
comp=Z,5.0nm,1.0s,baz=64,slow=2.8,SNR=4.8
comp=Z,3.0nm,1.0s
JTMT Jette 55.71 55 P **P 15 49 51.4 +1.0**
JTMT IAmb IAmb 15 49 59.5
comp=Z,25nm,1.4s
PRGR Permogore 55.94 327 *eP* **P 15 49 47.8 -3.7**
PRGR *e* 15 50 48.3
MOD Modoc Plateau 56.00 64 P **P 15 49 53.5 +1.0**
MOD IAmb IAmb 15 49 55.1
comp=Z,7.3nm,0.8s
FAKI Fak Fak 56.28 209 P **P 15 49 54.4 -0.2**
FAKI Fak Fak 56.28 209 P **P 15 49 55.3 +0.8**
comp=Z,838nmcomp=Z,47nm,0.9s
KK31 Karatay Array 56.28 299 P **P 15 49 54.0 -0.4**
KK31 Karatay Array 56.28 299 P **P 15 49 54.0 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 56.28 299 P **P 15 49 53.8 -0.6**
KKAR Karatay Array 56.28 299 P **P 15 49 53.8 -0.6**
PLID Pearl Lake 56.44 58 P **P 15 49 56.5 +0.8**
PLID IAmb IAmb 15 49 58.3
comp=Z,12nm,0.8s
MSO Missoula 56.47 55 P **P 15 49 56.2 +0.5**
baz=309
BRDH Bariadhala 56.56 266 LR LR 16 15 21.6
comp=Z,216nm,21.0s,baz=94,slow=37
KIRV Kirov 56.59 323 *deP* **P 15 49 55.1 -1.1**
WVOR Wild Horse Val 56.62 62 P **P 15 49 57.6 +0.6**
WVOR Wild Horse Val 56.62 62 P **P 15 49 57.6 +0.6**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
JIRN Jiri 56.64 275 *eP* **P 15 49 58.2 +0.7**
comp=Z,3.3nm,0.3s
GUN Gumba 56.67 275 *eP* **P 15 49 59.2 +1.5**
comp=Z,9.3nm,0.3s
ORV Oroville 56.78 66 P **P 15 49 58.3 +0.4**
ORV Oroville 56.78 66 P **P 15 49 58.3 +0.4**
ORV pmax pmax
comp=Z,5.0nm,0.7s
RAMN Ramite 56.86 274 *eP* **P 15 49 59.0 +0.1**
comp=Z,17nm,0.7s
PKI Pulchoki 57.20 275 *eP* **P 15 50 02.0 +0.5**
comp=Z,6.5nm,0.6s
PKIN Phulchoki 57.21 275 *eP* **P 15 50 02.3 +0.9**
comp=Z,12nm,0.7s
BEKR Beckworth 57.25 65 P **P 15 50 02.1 +0.6**
DMN Daman 57.38 275 *eP* **P 15 50 03.6 +1.0**
comp=Z,7.7nm,0.5s
GKN Gorkha 57.41 276 *eP* **P 15 50 03.7 +1.0**
comp=Z,8.8nm,0.4s
SUMG Summit 57.61 5 P **P 15 50 03.9 +0.1**
SUMG Summit 57.61 5 P **P 15 50 03.9 +0.1**
SUMG pmax pmax
comp=Z,30nm,0.8s
SUMG Summit 57.61 5 *i* P **P 15 50 03.0 -0.8**
SUMG IAmb IAmb 15 50 04.8
comp=Z,21nm,0.9s
HRY Holter Researc 57.66 54 P **P 15 50 05.1 +0.9**
DANN Dangsing 57.74 277 *eP* **P 15 50 05.8 +0.6**
comp=Z,9.8nm,0.3s
EGMT Eagleton 57.90 52 P **P 15 50 06.4 +0.6**
EGMT IAmb IAmb 15 50 27.1
comp=Z,10nm,0.9s
EGMT Eagleton 57.90 52 P **P 15 50 06.4 +0.6**
baz=310
AB31 Akbulak array 58.03 310 *i* P **P 15 50 05.7 -0.8**
ABKAR Akbulak array 58.03 310 P **P 15 50 05.7 -0.8**
BTK Batken 58.04 296 P **P 15 50 06.7 -0.3**
BTK IAmb IAmb 15 50 08.4
comp=Z,8.4nm,0.8s
BTK Batken 58.04 296 P **P 15 50 06.7 -0.3**
BTK pmax pmax
comp=Z,8.0nm,0.9s
AKTO Aktyubinsk 58.20 312 LR LR 16 17 30.1
comp=Z,69nm,18.5s,baz=64,slow=38
PNTR Pine Nut 58.20 66 P **P 15 50 09.4 +1.2**
PNTR IAmb IAmb 15 50 11.9
comp=Z,11nm,0.7s
HLID Hailey 58.29 59 P **P 15 50 09.9 +1.2**
HLID Hailey 58.29 59 P **P 15 50 09.5 +0.8**
baz=310,SNR=6.7
MCMT McKenzie Canyo 58.33 57 P **P 15 50 09.6 +0.6**
CMB Columbia Colle 58.42 67 P **P 15 50 10.3 +0.8**
CMB Columbia Colle 58.42 67 P **P 15 50 10.3 +0.8**
CMB pmax pmax
comp=Z,9.0nm,1.4s
BOZ Bozeman (W) 58.49 55 P **P 15 50 11.0 +1.0**
BOZ IAmb IAmb 15 50 12.5
comp=Z,11nm,0.8s
BOZ Bozeman (W) 58.49 55 P **P 15 50 11.0 +1.0**
BOZ pmax pmax
comp=Z,11nm,0.8s
BOZ Bozeman (W) 58.49 55 P **P 15 50 09.9 -0.1**
baz=311,SNR=16
KLMR Klimovskoe 58.58 329 *eP* **P 15 50 05.9 -4.3**
KLMR pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 58.58 329 *eP* **P 15 50 05.9 -4.3**
KLMR AMP 15 50 09.3
comp=Z,5.0nm,0.9s
BMN Battle Mountai 58.73 63 P **P 15 50 12.6 +0.8**
BMN Battle Mountai 58.73 63 P **P 15 50 12.6 +0.8**
BMN pmax pmax
comp=Z,6.0nm,0.9s
HNR Honiara 58.97 175 P **P 15 50 13.1 -0.3**
HNR Honiara 58.97 175 P **P 15 50 13.1 -0.3**
HNR pmax pmax
comp=Z,77nm,1.1s
GAR Garm 59.03 295 P **P 15 50 13.4 -0.4**
GAR IAmb IAmb 15 50 14.8
comp=Z,14nm,0.8s
QLMT Earthquake Lak 59.09 56 P **P 15 50 15.2 +0.9**
KVN Kaiserville 59.11 65 P **P 15 50 15.5 +1.0**
KVN IAmb IAmb 15 50 16.9
comp=Z,5.7nm,0.8s
KVN Kaiserville 59.11 65 P **P 15 50 15.5 +1.0**
KVN pmax pmax
comp=Z,6.0nm,0.8s
JMIC Jan Mayen 59.12 354 LR LR 16 14 25.3
comp=Z,44nm,19.0s,baz=52,slow=35
RYN Ryan 59.14 65 P **P 15 50 15.7 +1.0**
RYN IAmb IAmb 15 50 16.9
comp=Z,5.5nm,0.8s
YHL Hebgen Lake 59.21 56 P **P 15 50 16.3 +1.1**
YHL IAmb IAmb 15 50 31.0
comp=Z,7.3nm,0.8s
LHV Little Huntoon 59.40 66 P **P 15 50 17.9 +1.7**
LHV IAmb IAmb 15 50 19.2
comp=Z,8.0nm,0.8s
GCMT Greycliff 59.40 54 P **P 15 50 17.8 +1.5**
NVAR Mina Array Bea 59.40 65 P **P 15 50 18.0 +1.4**
comp=Z,4.1nm,0.7s,baz=293,slow=7.4,SNR=42
NVAR PcP **PcP 15 51 04.3 +0.4**
comp=Z,1.2nm,0.7s,baz=302,slow=5.2,SNR=1.8
comp=Z,4.1nm,0.7s
NVAR Mina Array Bea 59.40 65 P **P 15 50 17.6 +1.0**
NV11 Mina Array Sit 59.49 65 P **P 15 50 18.1 +1.0**
ILULI Ilulissat 59.74 11 P **P 15 50 17.5 -0.6**
ILULI Ilulissat 59.74 11 P **P 15 50 17.5 -0.6**
ILULI pmax pmax
comp=Z,19nm,0.7s
ILULI Ilulissat 59.74 11 *i* P **P 15 50 17.5 -0.6**
ILULI IAmb IAmb 15 50 18.5
comp=Z,17nm,0.7s
Q09A Carvers 59.80 64 P **P 15 50 18.6 -0.6**
H17A Grant Village 59.84 56 P **P 15 50 20.5 +1.0**
baz=312
CHGR Chuyangaron 59.93 295 P **P 15 50 19.0 -1.0**
CHGR Chuyangaron 59.93 295 P **P 15 50 19.0 -1.0**
CHGR pmax pmax
comp=Z,29nm,0.8s
SBUM Sibu 59.95 233 P **P 15 50 21.4 +1.1**
SBUM IAmb IAmb 15 50 23.1
comp=Z,12nm,0.9s
IMW Indian Meadow 59.98 56 P **P 15 50 22.2 +1.7**
IMW IAmb IAmb 15 50 36.7
comp=Z,6.7nm,0.8s
RLMT Red Lodge 60.06 55 P **P 15 50 22.1 +1.1**
RLMT IAmb IAmb 15 50 37.5
comp=Z,17nm,1.1s
RLMT Red Lodge 60.06 55 P **P 15 50 21.7 +0.8**
baz=312,SNR=12
TPAW Teton Pass 60.24 57 P **P 15 50 22.9 +0.6**
TPAW IAmb IAmb 15 50 38.3
comp=Z,10nm,0.8s
TPH Tonopah 60.27 65 P **P 15 50 23.2 +0.7**
TPH Tonopah 60.27 65 P **P 15 50 23.2 +0.7**
TPH pmax pmax
comp=Z,30nm,0.9s
DSP Deep Springs 60.30 66 P **P 15 50 23.8 +1.4**
LOHW Long Hollow 60.34 57 P **P 15 50 24.2 +1.3**
LOHW IAmb IAmb 15 50 26.1
comp=Z,9.4nm,1.1s
REDW Red Top Meadow 60.38 57 P **P 15 50 24.5 +1.3**
REDW IAmb IAmb 15 50 39.5
comp=Z,9.5nm,0.8s
DGMT Dagmar 60.40 49 P **P 15 50 23.7 +0.7**
DGMT Dagmar 60.40 49 P **P 15 50 24.3 +1.3**
baz=313
DGMT Dagmar 60.40 49 P **P 15 50 23.5 +0.6**
baz=313
MZP Montezuma Peak 60.43 66 P **P 15 50 24.2 +0.6**
LCH Last Change Ra 60.58 66 P **P 15 50 25.0 +0.4**
LAO LASA Array 60.59 52 P **P 15 50 26.5 +2.2**
baz=313
LAO LASA Array 60.59 52 P **P 15 50 25.4 +1.1**
baz=313,SNR=8.2
VES Vestal, Richgr 60.65 68 P **P 15 50 26.0 +1.2**
baz=312
GMN Gold Mountain 60.77 66 P **P 15 50 26.6 +0.7**
PKM Mcpherson Peak 60.85 69 P **P 15 50 27.2 +0.8**
baz=312
CWC Cottonwood Cre 60.85 67 P **P 15 50 28.0 +1.6**
baz=312
GRAC Grapevine Rang 60.91 66 P **P 15 50 27.8 +1.1**
GRAC IAmb IAmb 15 50 29.1
comp=Z,7.8nm,0.7s
GRAC Grapevine Rang 60.91 66 P **P 15 50 27.2 +0.5**
baz=312
ICESG Greenland Ices 60.97 6 *i* P **P 15 50 26.7 -0.2**
ICESG IAmb IAmb 15 50 27.6
comp=Z,13nm,0.6s
R11A Troy Canyon, C 61.05 64 P **P 15 50 28.5 +0.7**
R11A Troy Canyon, C 61.05 64 P **P 15 50 28.1 +0.3**
baz=312,SNR=8.5
HWUT Hardware Ranch 61.16 59 P **P 15 50 29.3 +0.8**
HWUT IAmb IAmb 15 50 32.5
comp=Z,6.3nm,0.9s
SPR3 Spring Creek 3 61.34 63 P **P 15 50 31.4 +1.5**
SPR3 IAmb IAmb 15 50 32.9
comp=Z,6.7nm,0.8s
DUG Dugway, Tooele 61.41 61 P **P 15 50 31.4 +1.3**
DUG IAmb IAmb 15 50 32.7
comp=Z,6.2nm,0.9s
DUG Dugway, Tooele 61.41 61 P **P 15 50 31.4 +1.3**
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 61.41 61 P **P 15 50 31.7 +1.6**
baz=313,SNR=5.2
MPMC Manual Prospec 61.47 67 P **P 15 50 32.0 +1.4**
baz=313
BW06 Boulder Array 61.48 57 P **P 15 50 31.3 +0.6**
BW06 IAmb IAmb 15 50 33.0
comp=Z,12nm,0.9s
BW06 Boulder Array 61.48 57 P **P 15 50 32.0 +1.3**
baz=313,SNR=21
PD31 Pinedale Array 61.48 57 P **P 15 50 31.3 +0.6**
PD31 IAmb IAmb 15 50 33.0
comp=Z,11nm,0.9s
PDAR Pinedale Array 61.48 57 P **P 15 50 31.9 +1.2**
comp=Z,10nm,0.8s,baz=317,slow=2.6,SNR=70
PDAR LR LR 16 17 09.9
comp=Z,56nm,20.1s,baz=335,slow=36
comp=Z,10nm,0.8s
PDAR Pinedale Array 61.48 57 P **P 15 50 31.4 +0.8**
WCT Wildcat Mounta 61.48 66 P **P 15 50 31.2 +0.7**
FURC Furnace Creek, 61.56 66 P **P 15 50 32.5 +1.5**
baz=313,SNR=9.6
TPNV Topopah Spring 61.60 66 P **P 15 50 32.2 +0.7**
TPNV IAmb IAmb 15 50 33.6
comp=Z,6.6nm,0.9s
TPNV Topopah Spring 61.60 66 P **P 15 50 32.2 +0.7**
TPNV Topopah Spring 61.60 66 P **P 15 50 31.8 +0.4**
baz=313,SNR=7.4
BELG Belogornoye 61.61 319 *deP* **P 15 50 30.1 -0.9**
BELG pmax pmax
comp=Z,3.0nm,0.9s
FRB Frobisher Bay 61.62 21 LR LR 16 19 32.8
comp=Z,114nm,20.1s,baz=15,slow=38
LRMC Laurel Mtn Rad 61.74 68 P **P 15 50 33.0 +0.6**
baz=313
GWY Greenwater Val 61.87 66 P **P 15 50 33.8 +0.5**
GWY IAmb IAmb 15 51 02.0
comp=Z,16nm,1.4s
SFJD Kangerlussuaq 61.90 12 LR LR 16 21 07.1
comp=Z,170nm,18.1s,baz=343,slow=40
SFJD Kangerlussuaq 61.90 12 P **P 15 50 32.4 -0.3**
SFJD IAmb IAmb 15 50 33.4
comp=Z,18nm,1.0s
SFJD Kangerlussuaq 61.90 12 P **P 15 50 32.4 -0.3**
SFJD pmax pmax
comp=Z,18nm,1.0s
EDW2 Edwards Air Fo 61.96 68 P **P 15 50 34.0 +0.2**
baz=313
NLU North Lily Min 61.99 60 P **P 15 50 34.9 +0.8**
NLU IAmb IAmb 15 50 36.5
comp=Z,6.9nm,0.9s
PRN Pahroc Range 62.00 64 P **P 15 50 35.1 +1.0**
FIA1 FINESS Array S 62.18 335 P **P 15 50 33.7 -1.0**
FINES FINESS Array B 62.19 335 P **P 15 50 33.7 -1.1**
comp=Z,1.4nm,0.3s,baz=39,slow=6.9,SNR=25
comp=Z,1.4nm,0.3s
MPU Maple Canyon 62.20 60 P **P 15 50 36.7 +1.2**
MPU IAmb IAmb 15 50 37.9
comp=Z,6.7nm,0.8s
STKI Sintang 62.37 232 P **P 15 50 36.7 +0.1**
GSC Goldstone, Bar 62.38 67 P **P 15 50 37.5 +0.8**
baz=313
SHPR Sheep Range 62.55 65 P **P 15 50 38.8 +1.0**
BFSC Mount Baldy Ra 62.60 69 P **P 15 50 38.8 +0.7**
baz=313
CIS Catalina Islan 62.71 70 P **P 15 50 39.9 +1.2**
baz=314
CCUT Cedar City 62.88 63 P **P 15 50 41.2 +1.1**
TMUT Trail Mountain 62.92 61 P **P 15 50 41.2 +0.8**
TMUT IAmb IAmb 15 50 42.8
comp=Z,6.9nm,0.8s
RDMU Red Mountain 62.97 58 P **P 15 50 41.9 +1.2**
HEC Hector,Ludlow 62.99 67 P **P 15 50 41.5 +0.9**
baz=314
ULM Lac du Bonnet 63.04 43 P **P 15 50 40.6 -0.1**
comp=Z,5.3nm,0.8s,baz=295,slow=7.2,SNR=6.0
comp=Z,5.3nm,0.8s
ULM Lac du Bonnet 63.04 43 *i eP* **P 15 50 41.3 +0.6**
MDND Maddock 63.04 47 P **P 15 50 41.6 +0.9**
baz=315
ELS Elsinore Mount 63.14 69 P **P 15 50 42.2 +0.5**
ELS IAmb IAmb 15 50 45.5
comp=Z,7.1nm,0.9s
K22A Casper 63.19 55 P **P 15 50 42.7 +0.7**
baz=314
Q16A Castle Valley 63.20 61 P **P 15 50 43.3 +1.1**
MURC Murrieta 63.31 69 P **P 15 50 43.4 +0.6**
baz=314
LCMT Little Creek M 63.32 64 P **P 15 50 43.6 +0.7**
LCMT IAmb IAmb 15 50 45.5
comp=Z,7.5nm,0.8s
GMRC Granite Mounta 63.42 67 P **P 15 50 44.8 +1.2**
baz=314,SNR=6.2
RSSD Black Hills 63.47 52 P **P 15 50 44.6 +0.7**
RSSD Black Hills 63.47 52 P **P 15 50 44.6 +0.7**
RSSD pmax pmax
comp=Z,20nm,0.8s
RSSD Black Hills 63.47 52 P **P 15 50 45.2 +1.3**
baz=315
RSSD Black Hills 63.47 52 P **P 15 50 45.5 +1.6**
baz=315
RSSD Black Hills 63.47 52 P **P 15 50 44.1 +0.2**
RSSD pP **pP 15 50 57.8 -2.0**
HEL Helsinki 63.55 335 P P 15 50 30.3 -14
HEL pmax pmax
comp=Z,5.0nm,0.7s
BBKI Banjar Baru 63.74 227 P **P 15 50 47.0 +1.3**
PFO Pinyon Flats O 63.75 68 LR LR 16 14 29.2
comp=Z,78nm,20.6s,baz=264,slow=32
BELC Belle Mtn. Jos 63.76 68 P **P 15 50 46.5 +0.6**
baz=314
IRM Iron Mountain 64.16 67 P **P 15 50 49.5 +1.1**
baz=314,SNR=7.4
BC3 Big Chuckawall 64.33 68 P **P 15 50 50.4 +0.8**
baz=314
COEN Coen 64.37 194 P **P 15 50 50.0 +0.2**
AGMN Agassiz Nation 64.46 45 P **P 15 50 50.7 +0.7**
baz=317
AGMN Agassiz Nation 64.46 45 P **P 15 50 50.8 +0.7**
baz=317
IKP In-Ko-Pah, Jac 64.63 69 P **P 15 50 52.6 +1.1**
baz=314
PDMCI Parker Dam,Lak 64.66 66 P **P 15 50 52.9 +1.3**
baz=314
N23A Red Feather La 64.72 56 P **P 15 50 53.4 +1.1**
N23A IAmb IAmb 15 50 54.7
comp=Z,9.9nm,0.7s
N23A Red Feather La 64.72 56 P **P 15 50 53.9 +1.6**
baz=315,SNR=7.6
PV23 Carpenter Ridg 64.75 60 P **P 15 50 53.2 +0.8**
PV23 IAmb IAmb 15 50 54.6
comp=Z,22nm,1.3s
PV13 Radium Mtn., P 65.06 60 P **P 15 50 55.3 +0.9**
PV13 IAmb IAmb 15 50 56.6
comp=Z,14nm,0.9s
GLA Glamis 65.12 68 P **P 15 50 56.4 +1.8**
baz=314
MMRI Maumere 65.14 217 P **P 15 50 54.9 +0.1**
comp=Z,34nm,0.8s
MMRI pP pP 15 50 58.6 -12
comp=Z,34nm,0.8s
SMCO Snowmass 65.37 58 P **P 15 50 57.2 +0.6**
WUAZ Wupatki 65.44 64 P **P 15 50 58.3 +1.5**
WUAZ Wupatki 65.44 64 P **P 15 50 58.7 +1.8**
baz=315
EDFI Ende, Flores 65.46 218 P **P 15 50 55.8 -1.2**
comp=Z,6.9nm,1.3s
ISCO Idaho Springs 65.68 57 P **P 15 50 59.7 +1.3**
ISCO IAmb IAmb 15 51 01.1
comp=Z,12nm,0.8s
ISCO Idaho Springs 65.68 57 P **P 15 50 59.7 +1.3**
ISCO pmax pmax
comp=Z,12nm,0.9s
ISCO Idaho Springs 65.68 57 P **P 15 50 59.8 +1.3**
baz=315
ISCO Idaho Springs 65.68 57 P **P 15 51 00.2 +1.8**
baz=315,SNR=16
MVCO Mesa Verde 65.91 61 P **P 15 51 01.2 +1.3**
baz=315,SNR=5.4
NC204 NORSAR Array S 65.92 342 P **P 15 50 58.5 -0.8**
NB201 NORSAR Array S 66.02 342 P **P 15 50 58.8 -1.1**
NB2 NORSAR Subarra 66.04 342 P **P 15 50 58.7 -1.4**
comp=Z,1.6nm,0.7s,baz=24,slow=6.5
NOA NORSAR Array B 66.04 342 P **P 15 50 58.8 -1.3**
comp=Z,1.9nm,0.7s,baz=25,slow=6.6,SNR=10.0
comp=Z,1.9nm,0.7s
F33A 5 Mile Ranch, 66.06 47 P **P 15 51 00.1 -0.3**
baz=318
S22A 4UR Ranch, Cre 66.46 59 P **P 15 51 05.4 +1.8**
baz=316,SNR=11
DSRI Dabo 66.51 238 P **P 15 51 04.9 +1.2**
Q24A Divide 66.52 57 P **P 15 51 05.2 +1.3**
baz=316
EYMN Ely 66.68 43 P **P 15 51 04.9 +0.5**
EYMN IAmb IAmb 15 51 06.9
comp=Z,14nm,0.9s
EYMN Ely 66.68 43 P **P 15 51 04.5 +0.1**
baz=319
GEYT Alibeck 66.73 302 P **P 15 51 05.3 +0.4**
comp=Z,4.1nm,0.5s,baz=67,slow=3.9,SNR=6.4
comp=Z,4.1nm,0.5s
OGNE Ogallala 66.77 54 P **P 15 51 06.1 +0.9**
OGNE Ogallala 66.77 54 P **P 15 51 06.6 +1.5**
baz=316
OGNE Ogallala 66.77 54 P **P 15 51 06.8 +1.6**
baz=316,SNR=7.6

PPBI Pangkal Pinang 67.06 236 P **P** **15 51 08.8 +1.7**
comp=Z,31nm,0.9s
PSI Prapat 67.08 246 P **P** **15 51 08.9 +1.4**
comp=Z,10.0nm,0.9s,baz=20,slow=5.9,SNR=5.0
comp=Z,10.0nm,0.9s
RPSI Rantau Prapat 67.17 245 P **P** **15 51 08.9 +1.1**
SDCO Great Sand Dun 67.20 58 P **P** **15 51 09.8 +1.6**
baz=316
SDCO Great Sand Dun 67.20 58 P **P** **15 51 09.7 +1.5**
baz=316,SNR=5.2
F36A Milaca 67.34 45 P **P** **15 51 08.4 -0.2**
F36A IAmb IAmb 15 51 09.5
comp=Z,10nm,1.1s
F36A Milaca 67.34 45 P **P** **15 51 08.7 +0.2**
baz=319
MNK Minsk 67.43 330 *i* P **P** **15 51 07.8 -1.1**
MNK *i* *PP **pP** **15 51 24.2 -0.7**
MNK *i* *SP **sP** **15 51 31.2 -0.3**
MNK *i* 15 51 34.9
MNK *i* 15 53 36.7
MNK *i* PPP PPP 15 55 14.1
MNK *i* S **S** **15 59 59.3 -0.7**
MNK *i* *SS **sS** **16 00 27.4 +0.1**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK MLR MLR
comp=E,27nm,20.0s
MNK MLR MLR
comp=Z,232nm,20.0s
MNK Minsk 67.43 330 *i* P **P** **15 51 07.9 -1.1**
comp=E,1.0nm,0.9s
MNK *i* P **P** **15 51 07.9 -1.1**
MNK *i* P **P** **15 51 07.9 -1.1**
comp=Z,11nm,0.9s,baz=34
MNK *i* pP **pP** **15 51 24.2 -0.7**
MNK *i* sP **sP** **15 51 31.2 -0.3**
MNK *i* PP **PP** **15 53 36.7 -0.8**
MNK *i* PPP PPP 15 55 14.1
MNK *i* S **S** **15 59 59.3 -0.7**
MNK *i* sS **sS** **16 00 27.5 +0.1**
MNK *i* SS SS 16 04 01.2 -19
MNK *i* SSS SSS 16 07 06.2
MNK *i* LQ LQ 16 15 14.7
MNK *i* LR LR 16 19 26.7
MNK *i* LRM MLR 16 21 40.1
comp=E,27nm,19.5s
MNK *i* LRM MLR 16 22 09.1
comp=Z,232nm,19.6s
MNK *i* LRM MLR 16 23 16.1
ECSD EROS Data Cent 67.47 48 P **P** **15 51 09.6 +0.1**
ECSD IAmb IAmb 15 51 10.8
comp=Z,17nm,0.8s
ECSD EROS Data Cent 67.47 48 P **P** **15 51 09.7 +0.3**
baz=318
ECSD EROS Data Cent 67.47 48 P **P** **15 51 10.1 +0.7**
baz=318,SNR=16
TUC Tucson 68.06 66 P **P** **15 51 13.9 +0.5**
baz=316
TUC Tucson 68.06 66 P **P** **15 51 14.3 +0.9**
TUC pP **pP** **15 51 26.0 -3.4**
SPMN Marine on St. 68.16 45 P **P** **15 51 14.3 +0.6**
baz=320
SPMN Marine on St. 68.16 45 P **P** **15 51 14.3 +0.6**
baz=320
T25A Trinidad 68.24 58 P **P** **15 51 15.5 +0.9**
T25A IAmb IAmb 15 51 16.8
comp=Z,8.0nm,0.8s
T25A Trinidad 68.24 58 P **P** **15 51 15.6 +0.9**
baz=317
BGNE Belgrade 68.43 51 P **P** **15 51 15.5 0.0**
baz=318
ANMO Albuquerque 68.68 61 LR LR 16 20 50.6
comp=Z,36nm,20.1s,baz=328,slow=35
ANMO Albuquerque 68.68 61 P **P** **15 51 18.4 +1.0**
ANMO Albuquerque 68.68 61⇑ *eP* **P** **15 51 18.7 +1.3**
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 68.68 61 P **P** **15 51 18.7 +1.3**
baz=316,SNR=6.9
ANMO Albuquerque 68.68 61 P **P** **15 51 19.3 +1.9**
baz=316
ANMO Albuquerque 68.68 61 P **P** **15 51 18.2 +0.9**
ANMO pP **pP** **15 51 31.4 -2.1**
I37A Lemond, Waseca 68.79 46 P **P** **15 51 18.5 +0.8**
I37B Waseca 68.79 46 P **P** **15 51 19.1 +1.4**
baz=320
HYBB Hyderabad (bro 68.84 272 *eP* **P** **15 51 18.9 +0.5**
AFI Afiamalu 69.40 146 LR LR 16 14 58.8
comp=Z,218nm,21.6s,baz=169,slow=30
CBKS Cedar Bluff 69.53 54 P **P** **15 51 23.6 +1.2**
baz=318
KRJI Kerinci 69.58 240 P **P** **15 51 24.1 +1.1**
comp=Z,181nm,0.8s
319A Douglas 69.61 65 P **P** **15 51 23.7 +0.5**
319A IAmb IAmb 15 51 26.0
comp=Z,16nm,1.0s
121A Cookes Peak, D 69.66 64 P **P** **15 51 24.6 +1.2**
baz=317
SCHQ Schefferville 69.83 25 P **P** **15 51 24.7 +0.7**
comp=Z,14nm,0.8s,baz=330,slow=5.8,SNR=14
SCHQ LR LR 16 24 54.7
comp=Z,80nm,19.7s,baz=324,slow=38
comp=Z,14nm,0.8s
SCHQ Schefferville 69.83 25 P **P** **15 51 24.4 +0.5**
SCHQ IAmb IAmb 15 51 25.5
comp=Z,22nm,1.1s
CTAO Charters Tower 70.00 190 P **P** **15 51 25.6 +0.3**
CTAO IAmb IAmb 15 51 43.9
comp=Z,34nm,1.5s
CTAO Charters Tower 70.00 190 P **P** **15 51 25.6 +0.3**
CTAO pmax pmax
comp=Z,34nm,1.5s
KIV Kislovodsk 70.10 315 *i* P **P** **15 51 28.2 +2.3**
KIV *i* 15 51 46.9
KIV *i* 15 53 59.6
KIV pmax pmax
comp=Z,6.0nm,0.7s
KIV MLR MLR
comp=Z,93nm,23.0s
AKASG Malin Array Be 70.15 327 P **P** **15 51 24.7 -1.3**
comp=Z,2.3nm,0.5s,baz=33,slow=6.3,SNR=11
comp=Z,2.3nm,0.5s
AKBB Malin Array Si 70.15 327 P **P** **15 51 24.6 -1.3**
AKBB Malin Array Si 70.15 327⇓ *eP* **P** **15 51 24.9 -1.0**
KBZ Khabaz 70.18 315 P **P** **15 51 26.4 +0.2**
comp=Z,7.0nm,0.9s,baz=162,slow=3.6,SNR=10
KBZ LR LR 16 26 29.5
comp=Z,140nm,18.9s,baz=38,slow=40
comp=Z,7.0nm,0.9s
SCIA State Center 70.49 48 P **P** **15 51 29.0 +0.8**
baz=320
KSU1 Kansas State U 70.93 52 P **P** **15 51 30.9 -0.1**
baz=319
I42A Draeger Farm, 70.95 44 P **P** **15 51 30.9 -0.1**
I42A IAmb IAmb 15 51 33.7
comp=Z,11nm,1.0s
AMTX Amarillo 71.39 58 P **P** **15 51 34.9 +1.0**
baz=318
MSTX Muleshoe 71.47 59 P **P** **15 51 35.5 +1.1**
baz=318
MNTX Cornudas Mount 71.66 63 P **P** **15 51 36.3 +0.9**
MNTX Cornudas Mount 71.66 63 P **P** **15 51 36.9 +1.4**
baz=318
MNTX Cornudas Mount 71.66 63 P **P** **15 51 37.0 +1.6**
baz=318,SNR=8.5
U32A Winter Ranch, 71.73 55 P **P** **15 51 36.4 +0.5**
U32A IAmb IAmb 15 51 37.5
comp=Z,18nm,0.8s
WB0 Warramunga Arr 71.76 201 P **P** **15 51 35.9 -0.1**
WB0 IAmb IAmb 15 51 37.0
comp=Z,25nm,1.1s
GDL2 Guadalupe Moun 71.87 62 P **P** **15 51 36.6 -0.2**
WR0 Warramunga Arr 71.91 201 P **P** **15 51 36.6 -0.2**
WR0 IAmb IAmb 15 51 37.9
comp=Z,20nm,1.1s
WRAB Tennant Creek 71.93 201 P **P** **15 51 36.8 -0.2**
WRAB IAmb IAmb 15 51 38.1
comp=Z,25nm,1.1s
WRAB Tennant Creek 71.93 201⇓ *eP* **P** **15 51 37.4 +0.4**
WRAB pmax pmax
comp=Z,31nm,1.3s
WB2 Warramunga Arr 71.94 201 P **P** **15 51 36.8 -0.2**
WB2 IAmb IAmb 15 51 38.8
comp=Z,18nm,0.9s
WRA Warramunga Arr 71.94 201 P **P** **15 51 37.3 +0.2**
comp=Z,14nm,0.9s,baz=20,slow=6.7,SNR=38
comp=Z,14nm,0.9s
WRA Warramunga Arr 71.94 201 P **P** **15 51 36.2 -0.9**
WRA Warramunga Arr 71.94 201 P **P** **15 51 36.2 -0.9**
WRA pmax pmax
comp=Z,2.0nm,1.1s
CLN7 Carlsbad 7 72.03 61 P **P** **15 51 38.2 +0.5**
GNI Garni 72.07 311 LR LR 16 29 00.8
comp=Z,115nm,18.1s,baz=30,slow=41
P38A Dawn 72.08 50 P **P** **15 51 37.7 -0.2**
P38A IAmb IAmb 15 51 38.9
comp=Z,18nm,0.7s
P38A Dawn 72.08 50 P **P** **15 51 38.2 +0.4**
baz=320
VLDQ Val d'Or 72.22 34 P **P** **15 51 37.2 -1.3**
VLDQ IAmb IAmb 15 51 38.5
comp=Z,19nm,1.1s
FITZ Fitzroy Crossi 72.65 210 P **P** **15 51 41.9 +0.6**
FITZ IAmb IAmb 15 51 43.2
comp=Z,10nm,0.8s
P40A Paris 72.88 49 P **P** **15 51 42.7 +0.1**
P40A IAmb IAmb 15 51 43.9
comp=Z,15nm,0.8s
P40A Paris 72.88 49 P **P** **15 51 43.4 +0.8**
baz=321,SNR=7.0
OK029 Liberty Lake 72.99 55 P **P** **15 51 43.6 +0.3**
WMOK Wichita Mounta 73.08 56 P **P** **15 51 44.3 +0.4**
WMOK IAmb IAmb 15 51 45.9
comp=Z,14nm,0.8s
WMOK Wichita Mounta 73.08 56 P **P** **15 51 44.3 +0.4**
WMOK pmax pmax
comp=Z,14nm,0.9s
WMOK Wichita Mounta 73.08 56 P **P** **15 51 44.5 +0.6**
baz=319,SNR=9.7
WMOK Wichita Mounta 73.08 56 P **P** **15 51 44.8 +0.8**
baz=319,SNR=9.7
OK031 S. Brethren Rd 73.20 54 P **P** **15 51 44.2 -0.3**
OK031 IAmb IAmb 15 51 45.9
comp=Z,19nm,0.7s
OK034 N. Norfolk Rd. 73.22 54 P **P** **15 51 44.9 +0.2**
J47A Sunmer 73.28 42 P **P** **15 51 45.1 +0.2**
baz=324
J47A P **P** **15 51 45.1 +0.2**
baz=324
M44A Midewin, Midew 73.32 45 P **P** **15 51 45.0 -0.2**
baz=323
HDIL Hopedale 73.40 46 P **P** **15 51 45.5 -0.2**
HDIL IAmb IAmb 15 51 46.8
comp=Z,20nm,0.8s
HDIL Hopedale 73.40 46 P **P** **15 51 45.9 +0.3**
baz=322
DEOK Depew 73.46 54 P **P** **15 51 46.0 -0.1**
DEOK IAmb IAmb 15 51 47.4
comp=Z,24nm,0.7s
R40A Maddies Statio 73.73 50 P **P** **15 51 47.4 -0.2**
R40A IAmb IAmb 15 51 48.5
comp=Z,19nm,0.8s
R40A Maddies Statio 73.73 50 P **P** **15 51 48.0 +0.4**
baz=321,SNR=12
TUL1 Leonard 73.78 53 P **P** **15 51 48.0 +0.1**
TUL1 IAmb IAmb 15 51 49.3
comp=Z,18nm,0.7s
TUL1 Leonard 73.78 53 P **P** **15 51 48.4 +0.4**
baz=320,SNR=5.7
TUL1 Leonard 73.78 53 P **P** **15 51 48.8 +0.9**
baz=320,SNR=5.7
KOLS Kolonicke sedl 74.00 330 *eP* **P** **15 51 48.9 -0.1**
KOLS pmax pmax
comp=Z,5.0nm,0.6s
KOLS Kolonicke sedl 74.00 330 *eP* **P** **15 51 48.9 -0.1**
U38A Gravette 74.10 52 P **P** **15 51 49.5 -0.3**
baz=321,SNR=5.1
BUR08 Bucovina Ar. S 74.14 328 P **P** **15 51 49.3 -0.7**
BURAR Bucovina Array 74.16 328⇑ P **P** **15 51 49.9 -0.2**
BURAR Bucovina Array 74.16 328 P **P** **15 51 49.1 -1.0**
ABTX Abilene, Hawle 74.21 58 P **P** **15 51 51.4 +0.9**
baz=319
CRVS Cervenica-Dubn 74.29 331 *eP* **P** **15 51 50.7 0.0**
CRVS Cervenica-Dubn 74.29 331 *eP* **P** **15 51 50.7 0.0**
LPIG La Paz 74.30 71 LR LR 16 22 48.3
comp=Z,39nm,18.8s,baz=260,slow=34
OSTC Oso 74.38 335 AMS AMS 16 27 10.0
comp=Z,400nm,22.2s
CHVC Chvalec 74.39 335 AMS AMS 16 27 10.0
comp=Z,300nm,17.1s
TX31 Lajitas Ar. Si 74.40 63 P **P** **15 51 52.3 +0.6**
TX31 Lajitas Ar. Si 74.40 63 P **P** **15 51 53.1 +1.3**
baz=319
TX32 Lajitas Array 74.40 63 P **P** **15 51 52.5 +0.8**
TX32 IAmb IAmb 15 51 53.8
comp=Z,13nm,0.8s
TXAR Lajitas Array 74.40 63 P **P** **15 51 52.8 +1.0**
comp=Z,11nm,0.7s,baz=298,slow=4.1,SNR=144
comp=Z,11nm,0.7s
TXAR Lajitas Array 74.40 63 P **P** **15 51 52.5 +0.7**
TXAR Lajitas Array 74.40 63 P **P** **15 51 52.5 +0.7**
CCM Cathedral Cave 74.42 49 P **P** **15 51 51.5 -0.2**
CCM Cathedral Cave 74.42 49 P **P** **15 51 51.5 -0.2**
CCM pmax pmax
comp=Z,8.0nm,0.8s
CCM Cathedral Cave 74.42 49 P **P** **15 51 52.0 +0.4**
baz=322,SNR=5.9
CCM Cathedral Cave 74.42 49 P **P** **15 51 51.2 -0.5**
baz=322
HHAR Hobbs 74.45 52 P **P** **15 51 51.8 0.0**
baz=321
OKC Ostrava-Krasne 74.47 333 AMS AMS 16 26 40.0
comp=Z,400nm,24.6s
UPC Upice 74.48 335 AMS AMS 16 27 30.0
comp=Z,300nm,16.5s
L48A N Adams 74.49 42 P **P** **15 51 52.2 +0.2**
L48A IAmb IAmb 15 51 53.3
comp=Z,18nm,0.9s
DPC Dobruska-Polom 74.53 335 *eP* **P** **15 51 52.8 +0.7**
DPC *e* 15 51 59.7
DPC MLR MLR
comp=Z,300nm,16.4s
DPC Dobruska-Polom 74.53 335 *eP* **P** **15 51 52.8 +0.7**
DPC *ex* x 15 51 59.7
DPC AMS AMS 16 27 20.0
comp=Z,300nm,16.4s
AAM Ann Arbor 74.54 42 P **P** **15 51 52.9 +0.7**
baz=325
CLL Collm 74.55 337 *i* P **P** **15 51 53.2 +1.1**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 74.55 337 *i* P **P** **15 51 53.2 +1.1**
comp=Z,7.0nm,1.0s
CLL *eS* **S** **16 01 24.0 +1.4**
CLL *e*PPS PPS 16 02 18.0
CLL *ex* x 16 07 18.0
SFIN Lafayette 74.56 45 P **P** **15 51 52.3 -0.1**
baz=323
TESR Tescani 74.60 326⇑ P **P** **15 51 52.1 -0.4**
MGMO Mountain Grove 74.62 50 P **P** **15 51 52.3 -0.6**
KRLC Kraliky 74.65 334 *eP* **P** **15 51 52.8 0.0**
KRLC MLR MLR
comp=Z,300nm,18.4s
KRLC Kraliky 74.65 334 *eP* **P** **15 51 52.8 0.0**
KRLC AMS AMS 16 27 50.0
comp=Z,300nm,18.4s
LANS Liptovska Anna 74.69 332 *eP* **P** **15 51 55.3 +2.2**
LANS Liptovska Anna 74.69 332 *eP* **P** **15 51 55.3 +2.2**
MORC Moravsky Berou 74.70 334⇓ P **P** **15 51 53.3 +0.2**
MORC Moravsky Berou 74.70 334 *eP* **P** **15 51 54.3 +1.2**
PVCC Panska Ves 74.85 336 AMS AMS 16 28 20.0
comp=Z,300nm,16.9s
FVM French Village 74.88 49 P **P** **15 51 54.1 -0.2**
FVM IAmb IAmb 15 51 55.5
comp=Z,11nm,0.7s
FVM French Village 74.88 49 P **P** **15 51 54.1 -0.2**
FVM pmax pmax
comp=Z,11nm,0.7s
FVM French Village 74.88 49 P **P** **15 51 54.9 +0.6**
baz=322,SNR=5.0
TRQ Mont Tremblant 74.88 34 P **P** **15 51 53.8 -0.4**
TRQ IAmb IAmb 15 51 55.2
comp=Z,22nm,1.1s
TLCR 74.93 324⇑ P **P** **15 51 53.8 -0.7**
MAUC Maruska 74.99 333 AMS AMS 16 27 30.0
comp=Z,700nm,21.7s
X37A Clayton 75.01 54 P **P** **15 51 55.1 0.0**
X37A Clayton 75.01 54 P **P** **15 51 55.6 +0.5**
baz=321
CFR Carcaliu 75.19 325⇑ P **P** **15 51 55.5 -0.4**
COVR Voineasa-Covas 75.33 326⇑ P **P** **15 51 55.8 -1.0**
PRU Pruhonice 75.35 335 *eP* **P** **15 51 56.2 -0.6**
PRU MLR MLR
comp=Z,400nm,17.8s
PRU Pruhonice 75.35 335 *eP* **P** **15 51 56.2 -0.6**
PRU AMS AMS 16 28 30.0
comp=Z,400nm,17.8s
TPGR Topolog 75.36 324⇓ P **P** **15 51 56.9 0.0**
VRAC Vranov 75.40 334⇑ P **P** **15 51 56.4 -0.6**
VRAC Vranov 75.40 334 *eP* **P** **15 51 58.4 +1.3**
OLIL Olney 75.40 47 P **P** **15 51 58.0 +0.7**
baz=323
VYHS Vyhne 75.46 332 *eP* **P** **15 51 57.7 +0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 75.46 332 *eP* **P** **15 51 57.7 +0.2**
JAVC Velka Javorina 75.49 333 *eP* **P** **15 51 59.8 +2.1**
O48B Farmland 75.54 44 P **P** **15 51 58.2 +0.2**
baz=324,SNR=6.4
O48B Farmland 75.54 44 P **P** **15 51 58.3 +0.2**
baz=324,SNR=6.4
AS31 Alice Springs 75.63 201 P **P** **15 51 59.0 +0.4**
ASAR Alice Springs 75.63 201 P **P** **15 51 59.5 +0.9**
comp=Z,6.4nm,0.7s,baz=14,slow=5.3,SNR=42
ASAR PP **PP** **15 54 46.1 -3.0**
comp=Z,0.8nm,0.7s,baz=5.0,slow=11,SNR=4.4
ASAR LR LR 16 24 49.7
comp=Z,42nm,20.3s,baz=86,slow=35
comp=Z,6.4nm,0.7s
ASAR Alice Springs 75.63 201 P **P** **15 51 59.0 +0.5**
ASAR Alice Springs 75.63 201 P **P** **15 51 59.1 +0.5**
KRUC Moravsky 75.67 334 *eP* **P** **15 51 59.8 +1.1**
NKC Novy Kostel 75.68 337 AMS AMS 16 30 00.0
comp=Z,200nm,17.1s
FCAR Ozark Folk Cen 75.68 51 P **P** **15 51 58.5 -0.4**
FCAR IAmb IAmb 15 51 59.6
comp=Z,12nm,0.7s
HARR Harsova 75.68 325⇑ P **P** **15 51 58.3 -0.5**
TREC Trest 75.72 335 AMS AMS 16 28 30.0
comp=Z,400nm,20.8s
DRGR 75.73 329⇑ P **P** **15 51 59.0 -0.1**
MLR Muntele Rosu 75.73 326⇑ P **P** **15 51 59.2 0.0**
MLR Muntele Rosu 75.73 326 P **P** **15 51 58.9 -0.3**
MLR Muntele Rosu 75.73 326 P **P** **15 51 58.9 -0.3**
MLR pmax pmax
comp=Z,5.0nm,0.8s
JCT Junction City 75.74 60 P **P** **15 51 59.8 +0.4**
JCT IAmb IAmb 15 52 01.0
comp=Z,13nm,0.8s
JCT Junction City 75.74 60 P **P** **15 51 59.8 +0.4**
JCT pmax pmax
comp=Z,13nm,0.9s
JCT Junction City 75.74 60 P **P** **15 52 00.2 +0.8**
baz=320
JCT Junction City 75.74 60 P **P** **15 51 59.9 +0.4**
baz=320
J54A Appleton 75.82 38 P **P** **15 51 59.6 0.0**
J54A IAmb IAmb 15 52 00.4
comp=Z,16nm,0.8s
WHTX Lake Whitney, 75.89 57 P **P** **15 52 00.7 +0.5**
WHTX IAmb IAmb 15 52 01.9
comp=Z,15nm,0.8s
WHTX Lake Whitney, 75.89 57 P **P** **15 52 01.2 +1.1**
baz=320
WHTX Lake Whitney, 75.89 57 P **P** **15 52 00.9 +0.8**
baz=320
PECO Prince Edward 75.91 37 P **P** **15 52 00.0 -0.1**
PECO IAmb IAmb 15 52 25.2
comp=Z,18nm,1.1s
MIAR Mount Ida 75.98 53 P **P** **15 52 00.8 +0.2**
MIAR IAmb IAmb 15 52 02.1
comp=Z,17nm,0.7s
MIAR Mount Ida 75.98 53 P **P** **15 52 00.8 +0.2**
MIAR pmax pmax
comp=Z,17nm,0.7s
MIAR Mount Ida 75.98 53 P **P** **15 52 01.1 +0.4**
baz=321,SNR=14
MIAR Mount Ida 75.98 53 P **P** **15 52 01.6 +1.0**
baz=321,SNR=14
MEDO Medina 75.99 38 P **P** **15 52 00.3 -0.2**
MEDO IAmb IAmb 15 52 01.7
comp=Z,17nm,0.8s
D62A Allapoint, All 76.02 30 P **P** **15 52 01.0 +0.4**
D62A IAmb IAmb 15 52 02.1
comp=Z,12nm,0.9s
MODS Modra-Piesok 76.04 333 *eP* **P** **15 52 02.7 +1.9**
MODS pmax pmax
comp=Z,14nm,0.9s
MODS Modra-Piesok 76.04 333 *eP* **P** **15 52 02.7 +1.9**
P48A Milroy 76.06 44 P **P** **15 52 00.7 -0.3**
P48A IAmb IAmb 15 52 02.0
comp=Z,12nm,0.8s
P48A Milroy 76.06 44 P **P** **15 52 01.2 +0.2**
baz=324
P48A P **P** **15 52 01.2 +0.2**
baz=324
WHAR Wooly Hollow 76.06 52 P **P** **15 52 01.0 -0.1**
WHAR IAmb IAmb 15 52 02.2
comp=Z,32nm,1.4s
BMNY Brushton-Moira 76.08 34 P **P** **15 51 60.0 -1.1**
baz=329
VOIR 76.10 327⇑ P **P** **15 52 01.8 +0.5**
M52A Chesterland 76.15 41 P **P** **15 52 01.6 +0.1**
M52A Chesterland 76.15 41 P **P** **15 52 02.3 +0.8**
baz=326
M52A P **P** **15 52 02.3 +0.8**
baz=326
J55A Hilton 76.16 37 P **P** **15 52 01.2 -0.3**
J55A IAmb IAmb 15 52 02.4
comp=Z,16nm,0.8s
ERPA Erie 76.24 39 P **P** **15 52 01.8 -0.2**
baz=327
LONY Lake Ozonia 76.24 35 P **P** **15 52 01.7 -0.3**
baz=329
E62A Clayton Lake 76.27 30 P **P** **15 52 02.2 +0.1**
E62A IAmb IAmb 15 52 03.5
comp=Z,27nm,1.1s
E62A Clayton Lake 76.27 30 P **P** **15 52 01.5 -0.6**
baz=332
E62A P **P** **15 52 01.5 -0.6**
baz=332
ARR Arges 76.30 327⇑ P **P** **15 52 03.0 +0.6**
P49A Miami Univ. Ec 76.32 44 P **P** **15 52 02.6 +0.1**
baz=325
KHC Kasperske Hory 76.39 336 P **P** **15 52 02.3 -0.5**
KHC Kasperske Hory 76.39 336 *eP* **P** **15 52 02.5 -0.3**
KHC *e* 15 52 08.0
KHC MLR MLR
comp=Z,300nm,16.2s
KHC Kasperske Hory 76.39 336 *eP* **P** **15 52 02.5 -0.3**
KHC *ex* x 15 52 08.0
KHC AMS AMS 16 29 20.0
comp=Z,300nm,16.2s
CKRC Cesky Krumlov 76.48 335 *eP* **P** **15 52 04.0 +0.7**
M53A WI Miller and 76.52 40 P **P** **15 52 03.6 0.0**
M53A IAmb IAmb 15 52 05.1
comp=Z,16nm,0.9s
M53A WI Miller and 76.52 40 P **P** **15 52 03.9 +0.3**
baz=326
J56A Wolcott 76.52 37 P **P** **15 52 03.3 -0.3**
ACSO Alum Creek Sta 76.52 42 P **P** **15 52 04.2 +0.5**
baz=325
SIRR Siria 76.54 329⇑ P **P** **15 52 03.9 +0.2**
MMNY Mt. Morris Dam 76.57 38 P **P** **15 52 03.7 -0.2**
MMNY IAmb IAmb 15 52 04.7
comp=Z,14nm,0.8s
SHME Shamm 76.58 294 P **P** **15 52 04.4 +0.3**
GEC2 GERESS Array S 76.62 335 P **P** **15 52 03.6 -0.6**
GERES GERESS Array B 76.62 335 P **P** **15 52 03.9 -0.3**
comp=Z,1.6nm,0.8s,baz=40,slow=5.2,SNR=13
comp=Z,1.6nm,0.8s
GERES GERESS Array B 76.62 335 P **P** **15 52 03.4 -0.8**
GERES GERESS Array B 76.62 335 P **P** **15 52 03.4 -0.8**
WCI Wyandotte Cave 76.65 46 P **P** **15 52 04.7 +0.3**
WCI Wyandotte Cave 76.65 46 P **P** **15 52 04.7 +0.3**
WCI pmax pmax
comp=Z,22nm,0.9s
WCI Wyandotte Cave 76.65 46 P **P** **15 52 04.6 +0.3**
baz=324,SNR=8.7
WCI Wyandotte Cave 76.65 46 P **P** **15 52 04.9 +0.5**
baz=324
BATG Bathurst New B 76.78 28 P **P** **15 52 05.6 +0.6**
BATG IAmb IAmb 15 52 41.5
comp=Z,18nm,1.3s
BTNL Ternell 76.83 341 *d*P **P** **15 52 06.2 +1.0**

MEM	Membach	76.83	341	*d*P		P	15 52 06.3	+1.1
	comp=Z,8.0nm,1.0s							
CONA	Conrad Observa	76.85	334	*i* P		P	15 52 07.3	+1.9
	comp=Z,6.1nm,0.8s							
RONA	Rosalia, Austr	76.93	333	*i* P		P	15 52 07.6	+1.7
	comp=Z,6.5nm,1.1s							
N53A	Lisbon	76.97	41	P		P	15 52 06.7	+0.5
	baz=326							
N53A				P		P	15 52 06.7	+0.5
	baz=326							
J58A	Remsen	77.05	36	P		P	15 52 06.6	0.0
J58A				IAmb	IAmb		15 52 26.2	
	comp=Z,20nm,1.2s							
MSFE	Esma-Masafi	77.09	294	P		P	15 52 07.1	0.0
O52A	Adamsville	77.12	42	P		P	15 52 06.9	-0.1
O52A				IAmb	IAmb		15 52 08.1	
	comp=Z,12nm,0.8s							
BZS	Buzias	77.12	329	⇑P		P	15 52 07.5	+0.5
G62A	West of Eustis	77.16	32	P		P	15 52 07.8	+0.7
G62A				IAmb	IAmb		15 52 09.2	
	comp=Z,13nm,0.8s							
WSAR	Wadi Sarin	77.19	291	LR	LR		16 30 31.0	
	comp=Z,246nm,20.1s,baz=78,slow=39							
T47A	Sharon Grove	77.27	47	P		P	15 52 08.2	+0.4
T47A				IAmb	IAmb		15 52 09.7	
	comp=Z,13nm,0.8s							
T47A	Sharon Grove	77.27	47	P		P	15 52 08.8	+1.0
	baz=324,SNR=5.4							
O53A	New Philadelph	77.28	41	P		P	15 52 08.4	+0.5
	baz=326							
MOA	Molln	77.37	335	*e*P		P	15 52 09.8	+1.5
	comp=Z,3.6nm,0.9s							
UOSS	Minazif	77.37	294	P		P	15 52 08.3	-0.4
UOSS	Minazif	77.37	294	P		P	15 52 08.4	-0.2
BMRD	Maredsous	77.38	342	*d*P		P	15 52 09.4	+1.1
P52A	Corning	77.39	42	P		P	15 52 08.7	+0.2
	baz=326							
HATD	Hatta, Dubai	77.51	294	*i* P		P	15 52 09.7	+0.3
	SNR=6.7							
H62A	Milan	77.51	32	P		P	15 52 09.8	+0.7
H62A				IAmb	IAmb		15 52 11.0	
	comp=Z,18nm,0.8s							
H62A	Milan	77.51	32	P		P	15 52 10.0	+0.9
	baz=331							
H62A				P		P	15 52 10.0	+0.9
	baz=331							
BR131	Keskin Array S	77.53	318	P		P	15 52 09.4	-0.1
BR131	Keskin Array S	77.53	318	P		P	15 52 09.4	-0.1
BR131				pmax	pmax			
	comp=Z,8.0nm,1.1s							
BRTR	Keskin Array B	77.53	318	P		P	15 52 09.5	0.0
	comp=Z,3.1nm,0.9s,baz=50,slow=3.0,SNR=12							
BRTR				LR	LR		16 29 27.6	
	comp=Z,87nm,20.2s,baz=37,slow=38							
	comp=Z,3.1nm,0.9s							
BRTR	Keskin Array B	77.53	318	P		P	15 52 09.3	-0.2
BRTR	Keskin Array B	77.53	318	P		P	15 52 09.3	-0.2
LBNH	Lisbon	77.53	33	P		P	15 52 10.3	+1.1
LBNH	Lisbon	77.53	33	P		P	15 52 10.3	+1.1
LBNH				pmax	pmax			
	comp=Z,61nm,1.7s							
PKME	Peaks-Kenny Pk	77.54	31	P		P	15 52 09.4	+0.1
	baz=332							
ARSA	Arzberg	77.56	334	*i* P		P	15 52 10.8	+1.4
	comp=Z,4.6nm,0.9s							
NATX	Nacogdoches	77.58	55	P		P	15 52 10.6	+0.9
	baz=321							
833A	Chaparral WMA,	77.61	61	P		P	15 52 11.7	+1.7
	baz=320							
WVT	Waverly	77.61	48	P		P	15 52 10.1	+0.3
WVT	Waverly	77.61	48	P		P	15 52 10.1	+0.3
WVT				pmax	pmax			
	comp=Z,6.0nm,0.7s							
WVT	Waverly	77.61	48	P		P	15 52 10.3	+0.5
	baz=324							
WVT	Waverly	77.61	48	P		P	15 52 10.3	+0.5
	baz=324							
ASHO	Ashiyiah	77.66	293	*i* P		P	15 52 10.4	+0.1
	SNR=5.5							
BIOA	Bad Ischl, Aus	77.69	335	*i* P		P	15 52 11.6	+1.5
	comp=Z,8.7nm,1.1s							
MDVR	Moldovita	77.83	329	⇑P		P	15 52 11.1	+0.1
PSA00	Pilbara Seismi	77.87	214	P		P	15 52 11.1	-0.1
PSA00	Pilbara Seismi	77.87	214	P		P	15 52 11.1	-0.1
PSA00				IAmb	IAmb		15 52 12.6	
	comp=Z,10nm,1.4s							
Q52A	Bidwell	77.88	43	P		P	15 52 11.4	+0.1
	baz=326							
Q52A				P		P	15 52 11.4	+0.1
	baz=326							
FAQ	Al Faqa, Dubai	77.89	294	P		P	15 52 11.4	-0.1
MDUB	Mudurnu	77.94	320	P		P	15 52 11.4	-0.3
FRGS	Fruska Gora	78.13	330	⇑P		P	15 52 13.1	+0.6
OXF	Oxford	78.13	50	P		P	15 52 13.5	+0.8
	baz=323							
ASUD	Al Ashush, Dub	78.13	294	*i* P		P	15 52 13.4	+0.5
	SNR=11							
G65A	Princeton	78.17	30	P		P	15 52 13.2	+0.5
G65A				IAmb	IAmb		15 52 34.6	
	comp=Z,34nm,1.4s							
SOKA	Soboth	78.22	334	*e*P		P	15 52 14.3	+1.2
	comp=Z,18nm,0.9s,SNR=7.0							
U49A	Red Boiling Sp	78.28	46	P		P	15 52 14.1	+0.5
U49A				IAmb	IAmb		15 52 14.9	
	comp=Z,7.0nm,0.8s							
U49A	Red Boiling Sp	78.28	46	P		P	15 52 13.4	-0.1
	baz=324							
T50A	Nancy	78.31	46	P		P	15 52 14.2	+0.5
	baz=325							
T50A				P		P	15 52 14.2	+0.5
	baz=325							
KBA	Koelnbreinsper	78.33	335	*e*P		P	15 52 15.6	+1.7
	comp=Z,19nm,1.1s,SNR=9.2							
S51A	Beattyville	78.37	44	P		P	15 52 14.9	+0.9
V48A	Smith Brothers	78.41	48	P		P	15 52 14.6	+0.4
	baz=324							
PLAL	Pickwick Lake	78.41	49	P		P	15 52 14.6	+0.3
LMN	Caledonia Moun	78.44	28	P		P	15 52 14.8	+0.5
BFO	Black Forest	78.46	339	P		P	15 52 14.4	+0.1
BFO				IAmb	IAmb		15 52 39.4	
	comp=Z,14nm,1.6s							
BFO	Black Forest	78.46	339	P		P	15 52 14.4	+0.1
BFO				pmax	pmax			
	comp=Z,14nm,1.6s							
BLKB	Belogradchik	78.51	327	⇑P		P	15 52 14.0	-0.7
OBKA	Obir	78.52	334	*i* P		P	15 52 15.8	+1.1
	comp=Z,3.9nm,0.7s							
WATA	Walderalm	78.57	336	*i* P		P	15 52 16.8	+1.6
	comp=Z,9.9nm,1.0s							
Y45A	Yeager Farm, C	78.57	51	P		P	15 52 16.3	+1.1
	baz=323							
WTTA	Wattenberg	78.62	336	*e*P		P	15 52 17.0	+1.6
	comp=Z,15nm,0.7s,SNR=9.4							
RETA	Reute	78.64	337	*i* P		P	15 52 16.5	+1.1
	comp=Z,6.5nm,0.9s							
MYKA	Terra Mystica	78.66	335	*i* P		P	15 52 16.4	+0.9
	comp=Z,2.8nm,0.6s							
MOTA	Moosalm	78.69	336	*i* P		P	15 52 17.1	+1.4
	comp=Z,14nm,0.9s,SNR=6.8							
SQTA	Sankt Quirin	78.77	336	*i* P		P	15 52 17.7	+1.5
	comp=Z,12nm,0.9s							
PRED	Cave del Predi	78.85	335	P		P	15 52 16.3	-0.3
ABTA	Abfaltersbach	78.86	335	*i* P		P	15 52 17.6	+0.9
	comp=Z,5.5nm,1.0s							
DIVS	Divibare	79.01	329	P		P	15 52 16.6	-0.9
CLUD	Cludinico	79.03	335	P		P	15 52 17.0	-0.5
DAVA	Damuels	79.05	337	*i* P		P	15 52 18.9	+1.1
	comp=Z,12nm,0.9s							
FETA	Feichten	79.08	337	*i* P		P	15 52 18.4	+0.4
	comp=Z,5.1nm,0.9s							
VTS	Vitosha	79.19	327	⇑P		P	15 52 19.1	+0.5
VTS	Vitosha	79.19	327	P		P	15 52 18.2	-0.4
VTS	Vitosha	79.19	327	P		P	15 52 18.2	-0.4
VTS				pmax	pmax			
	comp=Z,7.0nm,0.7s							
SWET	Sewanee	79.26	47	P		P	15 52 19.0	+0.1
SWET				IAmb	IAmb		15 52 19.9	
	comp=Z,14nm,0.7s							
S54A	Dingess, Beckl	79.26	43	P		P	15 52 19.1	+0.1
CIMO	Cimolais	79.28	335	P		P	15 52 18.4	-0.5
CIMO				IAmb	IAmb		15 52 41.3	
	comp=Z,6.8nm,1.4s							
TZTN	Tazewell	79.29	45	P		P	15 52 19.5	+0.4
TZTN				IAmb	IAmb		15 52 32.8	
	comp=Z,34nm,1.4s							
R55A	Marlinton	79.38	42	P		P	15 52 20.1	+0.5
R55A				IAmb	IAmb		15 52 43.3	
	comp=Z,29nm,1.4s							
VBMS	Vicksburg	79.39	52	P		P	15 52 20.8	+1.2
	baz=323							
DAVOX	Davos/Dischmat	79.52	337	LR	LR		16 33 31.6	
	comp=Z,124nm,18.5s,baz=82,slow=40							
W50A	Signal Mountai	79.57	47	P		P	15 52 20.6	-0.1
W50A				IAmb	IAmb		15 52 22.3	
	comp=Z,9.6nm,0.8s							
W50A	Signal Mountai	79.57	47	P		P	15 52 21.1	+0.4
	baz=325							
FUORN	Ofenpass-Fuorn	79.57	337	P		P	15 52 20.2	-0.5
FUORN				IAmb	IAmb		15 52 25.6	
	comp=Z,8.5nm,0.8s							
RDO	Rodhopi	79.62	324	P		P	15 52 20.9	+0.2
RDO				IAmb	IAmb		15 52 21.9	
	comp=Z,7.4nm,0.7s							
CTI	Castel Tesino	79.74	336	P		P	15 52 20.9	-0.6
CTI	Castel Tesino	79.74	336	P		P	15 52 20.9	-0.6
CTI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GBN	Guysborough	79.81	26	P		P	15 52 22.8	+1.1
GBN				IAmb	IAmb		15 53 17.9	
	comp=Z,27nm,1.4s							
344A	Westbrook Farm	79.88	53	P		P	15 52 24.3	+2.0
	baz=323							
FPAL	Fort Paine	79.96	48	P		P	15 52 23.0	+0.3
FPAL				IAmb	IAmb		15 52 23.9	
	comp=Z,8.6nm,0.8s							
BLA	Blacksburg	80.14	42	P		P	15 52 24.6	+0.8
	baz=327							
TAOE	Nuku Hiva Isla	80.41	116	*e*LR	LR		16 17 36.8	
	comp=Z,348nm,23.5s							
MZR	Muzera	80.46	294	*i* P		P	15 52 25.4	-0.2
	SNR=42							
LRAL	Lakeview Retre	80.51	49	P		P	15 52 25.4	-0.3
LRAL	Lakeview Retre	80.51	49	P		P	15 52 25.6	-0.1
	baz=324							
SENIN	Lac Senin/Sane	80.55	339	P		P	15 52 26.2	+0.2
346A	Big Creek Wild	80.59	52	P		P	15 52 27.4	+1.3
346A				IAmb	IAmb		15 52 28.5	
	comp=Z,19nm,0.7s							
PDG	Podgorica	80.74	329	⇑P		P	15 52 26.8	+0.1
PDG	Podgorica	80.74	329	P		P	15 52 25.9	-0.8
PDG				IAmb	IAmb		15 52 27.0	
	comp=Z,12nm,0.7s							
RAR	Rarotonga	80.75	139	LR	LR		16 26 07.3	
	comp=Z,130nm,18.6s,baz=294,slow=34							
PMOR	Pomariorio Ree	81.12	126	*e*T		T	17 22 07.9	
	comp=Z,2.8nm,0.2s							
KMSC	Kings Mountain	81.46	44	P		P	15 52 30.7	-0.1
	baz=327							
VLC	Villacollemand	81.83	336	P		P	15 52 33.0	+0.5
VLC				IAmb	IAmb		15 52 34.4	
	comp=Z,14nm,0.9s							
GOGA	Godfrey	81.90	47	P		P	15 52 32.9	-0.1
	baz=326							
MSSA	Maissana	81.91	336	P		P	15 52 32.6	-0.4
BNI	Bardonecchia	81.93	339	P		P	15 52 33.7	+0.5
BNI	Bardonecchia	81.93	339	P		P	15 52 33.7	+0.5
BNI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
RAO	Raoul Island	81.95	157	LR	LR		16 24 58.7	
	comp=Z,171nm,19.5s,baz=350,slow=33							
FDMO	Fiordimonte	82.11	333	P		P	15 52 34.7	+0.6
AKAS	Kas	82.19	319	P		P	15 52 33.8	-0.9
SSB	Saint Sauveur	82.20	340	P		P	15 52 34.7	+0.2
SSB				IAmb	IAmb		15 52 36.1	
	comp=Z,12nm,0.8s							
SSB	Saint Sauveur	82.20	340	P		P	15 52 34.7	+0.2
SSB				pmax	pmax			
	comp=Z,12nm,0.8s							
STKA	Stephens Creek	82.21	192	P		P	15 52 34.9	+0.5
	comp=Z,2.1nm,0.8s,baz=198,slow=16,SNR=3.5							
	comp=Z,2.1nm,0.8s							
PPT2	Papeete2	82.41	129	*e*LR	LR		16 18 32.5	
	comp=Z,377nm,26.8s							
SGRT	San Giovanni R	82.48	331	P		P	15 52 35.5	-0.5
SGRT				IAmb	IAmb		15 52 36.7	
	comp=Z,18nm,0.8s							
ARG	Arkhangelos	82.83	320	P		P	15 52 37.4	-0.5
ARG	Arkhangelos	82.83	320	P		P	15 52 37.4	-0.5
ARG				pmax	pmax			
	comp=Z,75nm,1.1s							
KEK	Kerkira	82.97	327	P		P	15 52 38.1	-0.4
KEK				IAmb	IAmb		15 53 57.5	
	comp=Z,17nm,0.9s							
SCTE	Santa Cesarea	83.11	329	P		P	15 52 38.5	-0.7
TIGA	Tifton	83.47	48	P		P	15 52 42.1	+0.9
	baz=326							
FORT	Forrest	83.88	204	P		P	15 52 43.8	+0.8
ITM	Ithomi	84.45	325	P		P	15 52 45.1	-1.1
TIP	Timpagrande	84.49	329	⇓P		P	15 52 46.4	0.0
TIP	Timpagrande	84.49	329	P		P	15 52 46.5	+0.1
TIP				IAmb	IAmb		15 52 48.7	
	comp=Z,16nm,1.2s							
RAYN	Ar Rayn	84.66	300	P		P	15 52 47.6	+0.1
RAYN	Ar Rayn	84.66	300	P		P	15 52 47.6	+0.1
RAYN				pmax	pmax			
	comp=Z,19nm,0.8s							
RAYN	Ar Rayn	84.66	300	P		P	15 52 48.1	+0.6
IDI	Anoyia	84.95	322	P		P	15 52 47.3	-1.5
EIL	Elat	85.24	312	LR	LR		16 34 23.4	
	comp=Z,101nm,19.4s,baz=86,slow=38							
656A	Willston	85.69	48	P		P	15 52 53.5	+1.0
RAFF	Raffo Rosso	87.05	330	P		P	15 52 58.5	-0.5
TBI	Tubuai	87.33	131	*e*LR	LR		16 20 50.2	
ESBB	Sonseca Array	89.27	345	P		P	15 53 09.3	-0.4
ESDC	Sonseca Array	89.28	345	P		P	15 53 09.1	-0.6
	comp=Z,2.1nm,0.7s,baz=3.5,slow=4.1,SNR=22							
ESDC				LR	LR		16 39 26.3	
	comp=Z,137nm,19.0s,baz=18,slow=40							
	comp=Z,2.1nm,0.7s							
ESDC	Sonseca Array	89.28	345	P		P	15 53 09.3	-0.4
ESDC				IAmb	IAmb		15 53 10.0	
	comp=Z,6.4nm,1.2s							
PAB	San Pablo	89.47	345	P		P	15 53 10.1	-0.5
PAB				IAmb	IAmb		15 56 01.8	
	comp=Z,11nm,1.6s							
PAB	San Pablo	89.47	345	P		P	15 53 10.1	-0.5
PAB				pmax	pmax			
	comp=Z,11nm,1.6s							
KEST	Kesra	89.96	333	P		P	15 53 13.6	+0.7
	comp=Z,7.2nm,0.7s,baz=315,slow=3.2,SNR=11							
KEST				LR	LR		16 37 30.5	
	comp=Z,302nm,20.9s,baz=323,slow=38							
	comp=Z,7.2nm,0.7s							
KEST	Kesra	89.96	333	P		P	15 53 13.4	+0.5
KEST				IAmb	IAmb		15 53 15.1	
	comp=Z,8.3nm,0.8s							
ATD	Arta Tunnel	95.70	295	LR	LR		16 42 57.3	
	comp=Z,176nm,18.4s,baz=32,slow=39							
TORD	Torodi Ar. Bea	113.47	333	PKKPab	PKKPab		16 09 43.3	-2.4
	comp=Z,1.5nm,0.8s,baz=183,slow=3.8,SNR=5.8							
MALB	Monte Alegre	125.80	38	*e*P		PKiKP	15 59 17.2	+1.5
VNDA	Vanda	126.99	178	PKP		PKPdf	15 59 15.8	+0.2
	comp=Z,0.8nm,0.8s,baz=301,slow=4.9,SNR=2.3							
ETMB	Extrema	127.07	56	PKPdf		PKPdf	15 59 16.9	-0.7
ITTB	Itaituba	127.46	41	*e*P		PKiKP	15 59 21.1	+2.1
ROSB	Rosrio	130.33	27	*e*P		PKiKP	15 59 26.7	+1.9
LPAZ	La Paz	131.27	63	PKP		PKPdf	15 59 26.4	0.0
	comp=Z,2.3nm,0.8s,baz=355,slow=3.0,SNR=13							
LPAZ	La Paz	131.27	63	PKPdf		PKiKP	15 59 27.0	-0.3
CLDB	Colider	133.21	45	*e*P		PKiKP	15 59 30.8	+0.3
MAW	Mawson	135.72	213	PKP		PKPdf	15 59 32.3	0.0
	comp=Z,1.6nm,0.8s,baz=162,slow=6.4,SNR=3.6							
BOSA	Boshof	137.31	281	PKP		PKPdf	15 59 37.6	+0.9
	comp=Z,2.8nm,0.7s,baz=45,slow=2.9,SNR=5.9							
CMC01	Camacan, BA	143.50	26	*e*P		PKPdf	15 59 48.9	+0.8
DIAM	Diamantina, MG	144.91	34	*e*P		PKPdf	15 59 51.2	+0.6
CPUP	Villa Florida	145.32	60	PKPbc		PKPab	15 59 51.1	0.0
	comp=Z,11nm,0.8s,baz=321,slow=4.2,SNR=26							
CPUP	Villa Florida	145.32	60			PKPbc	15 59 50.9	0.0
CPUP	Villa Florida	145.32	60	PKIKP		PKPbc	15 59 50.9	0.0
LL04	Puerto Octay	145.36	94	PKPdf		PKPab	15 59 50.8	0.0
PLCA	Paso Flores	146.47	93	PKPbc		PKPbc	15 59 54.4	+0.3
	comp=Z,8.1nm,0.8s,baz=276,slow=4.1,SNR=20							
LL02	Futaleuf	146.86	97			PKPbc	15 59 55.4	+0.3
AY01	Puyuhuapi	146.91	100			PKPbc	15 59 55.0	-0.1
TRQA	Tornquist	150.56	81			PKPbc	16 00 04.5	-0.1
TRQA	Tornquist	150.56	81	PKIKP		PKPbc	16 00 04.6	-0.1
SMAI	San Martin Ant	151.97	147			PKiKP	16 00 07.4	+0.1
SMAI				PKPab		pPKPdf	16 00 18.2	+0.6
TROLL	Troll, Antarti	154.60	199	PKPbc		PKPbc	16 00 11.8	-1.0
SNAA	Sanae	155.92	196	PKPdf		PKPdf	16 00 03.4	-2.6
VNA2	Neumayer--Watz	157.33	194	PKPdf		PKPdf	16 00 07.3	-0.5
	baz=127,slow=2.0							
VNA3	Neumayer Olymp	157.38	192	PKPbc	PKPbc		16 00 18.7	
VNA1	Neumayer--Stat	157.71	194	PKPdf		PKPdf	16 00 06.3	-1.9

NOU ***04*** *15:42:55.7, 36˚.96S×179˚.78E, h147km, MLv5.0/8, Off E. Coast of N. Island, N.Z.*
IDC ***04*** *15:42:56.8±1.9, 36˚.68S×179˚.17E, h0km, mb4.4/2, mbtmp4.4/3, ML4.0/1, MS3.2/2, Error ellipse: s-maj=45.7km s-min=39.2km az=142.0*
NEIC ***04*** *15:42:57.4±1.1, 37˚.3S±0˚.1×179˚.3E±0˚.1, h10km±2km, mb4.4/10, Error ellipse: s-maj=20.4km s-min=12.4km az=335.0*
WEL ***04*** *15:42:59.3±1.0, 37˚S±4˚×17˚9E±˚, h10km, mb4.1/28, ML4.3/27, MLv4.1/28, Error ellipse: s-maj=0.0km s-min=0.0km az=91.6*

ISC 04 15:42:56.5±2.1, 36˚.96S±0˚.06×179˚.37E±0˚.07, h8km±10km, n112, σ1?56/123, mb4.3/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
MXZ	Matakaoa Point	1.04	235		Pg	15	43	16.9	+0.5
MXZ				Sn	Sg	15	43	27.6	-2.3
MXZ	Matakaoa Point	1.04	235	P	Pg	15	43	16.9	+0.5
MXZ				S	Sg	15	43	29.0	-0.9
WMGZ	Waiomatatini S	1.15	221	P	Pn	15	43	21.3	+2.4
WMGZ				S	Sn	15	43	36.3	+1.5
PKGZ	Pakihiroa	1.38	228	P	Pb	15	43	23.3	+0.6
PKGZ				S	Sb	15	43	41.2	+0.6
PUZ	Puketiti	1.42	218	P	Pg	15	43	24.7	+1.1
PUZ				S	Sb	15	43	42.5	+1.0
HAZ	Te Kaha	1.49	238	P	Pn	15	43	23.5	-0.1
HAZ				S	Sb	15	43	43.9	+0.3
TWGZ	Tauwhareparae	1.64	222	P	Pb	15	43	28.1	+1.0
TWGZ				S	Sn	15	43	47.9	+0.8
RUGZ	Raukumara Rang	1.68	233	P	Pb	15	43	28.3	+0.6
RUGZ				S	Sb	15	43	49.5	+0.4
CNGZ	Carnagh Statio	1.78	211	P	Pb	15	43	30.4	+1.0
CNGZ				S	Sb	15	43	53.5	+1.7
WIZ	White Island	1.83	251	P	Pn	15	43	28.0	-0.3
TKGZ	Te Karaka	1.91	219	P	Pn	15	43	31.2	+1.9
TKGZ				S	Sn	15	43	54.5	+0.9
MWZ	Matawai	2.00	226	P	Pn	15	43	32.7	+2.0
MWZ				S	Sn	15	43	56.0	0.0
WHRZ	Whale Island	2.11	244	P	Pb	15	43	34.3	-0.7
WHRZ				S	Sn	15	43	58.0	-0.6
RIGZ	Rimuhau	2.16	216	P	Pn	15	43	34.5	+1.6
RAGZ	Rawiri	2.18	225	P	Pn	15	43	35.3	+2.1
URZ	Urewera	2.21	234	Pn	Pn	15	43	35.6	+2.0
	42nm,0.3s,baz=31,slow=8.2,SNR=84								
URZ				Sn	Sn	15	44	00.4	-0.7
	214nm,0.3s,baz=211,slow=15,SNR=29								
URZ				LR	LR	15	44	37.9	
	comp=Z,226nm,21.7s,baz=30,slow=44								
	205nm,0.5s								
URZ	Urewera	2.21	234		Pn	15	43	35.2	+1.6
URZ	Urewera	2.21	234	P	Pn	15	43	35.3	+1.8
URZ				S	Sn	15	44	00.1	-1.0
URZ	Urewera	2.21	234	P	Pb	15	43	35.7	-1.1
PRGZ	Paritu Road	2.28	211	P	Pn	15	43	36.2	+1.6
EDRZ	Edgecumbe	2.38	241	P	Pn	15	43	37.8	+1.8
OPRZ	Ohinepanea	2.41	248	P	Pn	15	43	37.1	+0.8
SNGZ	Shannon Statio	2.42	221	P	Pn	15	43	38.1	+1.6
KNZ	Kokohu	2.45	213	P	Pn	15	43	37.8	+0.9
KNZ				S	Sn	15	44	06.1	-1.0
MHGZ	Mahia Peninsul	2.47	207	P	Pn	15	43	39.0	+1.8
RTZ	Ruatahuna	2.51	228	P	Pn	15	43	40.1	+2.3
MYRZ	Mayor Island	2.52	262	P	Pn	15	43	38.7	+0.8
MUGZ	Murupara	2.56	233	P	Pn	15	43	39.7	+1.4
TGRZ	Tauranga	2.59	252	P	Pn	15	43	39.9	+1.1
TARZ	Mount Tarawera	2.61	240	P	Pn	15	43	41.3	+2.2
OMRZ	Omania	2.64	244	P	Pn	15	43	40.6	+1.1
RRRZ	Republican Roa	2.65	238	P	Pn	15	43	41.5	+1.8
RAHZ	Arahi	2.66	222	P	Pn	15	43	41.4	+1.7
KARZ	Kaharoa	2.70	246	P	Pn	15	43	41.9	+1.6
WHHZ	Waihua	2.70	218	P	Pn	15	43	41.6	+1.3
HLRZ	Highlands Stat	2.72	241	P	Pn	15	43	42.7	+2.1
MTHZ	Maungataniwha	2.75	226	P	Pn	15	43	42.8	+1.8
PRRZ	Plateau Road	2.82	236	P	Pn	15	43	43.5	+1.6
HRRZ	Handcock Road	2.83	239	P	Pn	15	43	44.0	+1.8
ALRZ	Allen Road	2.88	235	P	Pn	15	43	44.4	+1.6
KUZ	Kuaotunu	2.94	273	P	Pn	15	43	42.8	-0.7
NMHZ	Naumai	2.94	223	P	Pn	15	43	45.5	+1.8
ARHZ	Aropaoanui	2.96	218	P	Pn	15	43	45.2	+1.3
MRHZ	Matea Rd	2.99	230	P	Pn	15	43	45.9	+1.6
BKZ	Black Stump Fm	3.16	225		Pn	15	43	47.2	+0.5
BKZ	Black Stump Fm	3.16	225	P	Pn	15	43	48.5	+1.9
BKZ	Black Stump Fm	3.

	comp=Z,2.7nm,0.5s						
WRA	**Warramunga Arr**	**42.65**	**281**	P	**P**	**15 50 53.0**	**-0.7**
WB0	**Warramunga Arr**	**42.70**	**281**	P	**P**	**15 50 53.5**	**-0.6**
MORW	**Morawa**	**52.84**	**259**	P	**P**	**15 52 11.7**	**-1.0**
MORW				IAmb	IAmb	15 52 35.7	
	comp=Z,8.9nm,1.1s						
H03N3	**Juan Fernandez**	**78.89**	**123**	T	T	17 21 41.5	
	baz=235,slow=72,SNR=4.5						
H03N2	**Juan Fernandez**	**78.89**	**123**	T	T	17 21 47.4	
	baz=235,slow=72,SNR=4.5						
H03N1	**Juan Fernandez**	**78.91**	**123**	T	T	17 21 43.9	
	baz=235,slow=72,SNR=3.9						
ARCES	**ARCESS Array B**	**144.43**	**345**	PKP	**PKPdf**	**16 02 32.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=0.0,slow=2.7,SNR=1.3						
FINES	**FINESS Array B**	**150.33**	**334**	PKPbc	**PKPbc**	**16 02 48.0**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=38,slow=2.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**156.19**	**186**	PKPab	**PKPab**	**16 03 21.8**	**+2.0**
	comp=Z,0.8nm,0.9s,baz=157,slow=3.3,SNR=2.6						

*INET **04** 15:48:07.5±0.9, 11°.59N×87°.44W, h19km±19km, MW3.6*
*UCR **04** 15:48:11.0±1.4, 10°.77N×87°.57W, h35km±999km, MW3.8*
ISC 04 15:48:07.8±2.2, 11°.61N±0°.07×87°.4W±0°.1, h35km, n17, σ1°22/20, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.00**	**55**	*e*P	**Pn**	**15 48 25.4**	**0.0**
TEL3	**Telica 3**	**1.12**	**31**	*e*P	**Pn**	**15 48 27.4**	**+0.3**
CNGN	**Cerro Negro**	**1.14**	**39**	*e*P	**Pn**	**15 48 27.4**	**0.0**
TELN	**Telica**	**1.15**	**30**	*e*P	**Pn**	**15 48 27.4**	**-0.2**
MOMN	**Momotombo**	**1.18**	**47**	*e*P	**Pn**	**15 48 27.8**	**-0.1**
MOMN				*e*S	**Sn**	**15 48 44.0**	**+1.2**
APYN	**Apoyeque**	**1.23**	**59**	*e*P	**Pn**	**15 48 27.4**	**-1.1**
CSGN	**Cosiguina Volc**	**1.37**	**355**	*e*P	**Pn**	**15 48 30.6**	**0.0**
BOAB	**BOACO BROADBAN**	**1.92**	**64**	*e*P	**Pn**	**15 48 37.1**	**-0.9**
MATN	**Matagalpa**	**1.97**	**48**	*e*P	**Pn**	**15 48 38.8**	**-0.1**
ACON	**Acoyapa**	**2.24**	**81**	*e*P	**Pn**	**15 48 43.3**	**+0.9**
JTS	**Las Juntas de**	**2.76**	**118**	*e*P	**Pn**	**15 48 49.6**	**0.0**
LAFE	**Finca La Fe, P**	**3.05**	**126**	*e*P	**Pn**	**15 48 52.6**	**-1.1**
LAFE				*e*S	**Sn**	**15 49 26.1**	**-2.8**
LCR2	**La Lucha 2**	**3.84**	**119**	*e*P	**Pn**	**15 49 05.8**	**+1.1**
LCR2				*e*S	**Sn**	**15 49 48.4**	**-0.4**
RIMA	**Rio Macho**	**3.95**	**117**	*e*P	**Pn**	**15 49 08.0**	**+1.8**
CDM	**Cerro de Muert**	**4.14**	**119**	*e*P	**Pn**	**15 49 10.3**	**+1.3**
MRVA	**Moravia de Chi**	**4.30**	**114**	*e*P	**Pn**	**15 49 13.0**	**+2.1**
SRBA	**San Rafael, Bu**	**4.64**	**120**	*e*P	**Pn**	**15 49 16.8**	**+1.1**

*OSPL **04** 15:57:23.4±1.4, 19°.09N×74°.16W, h31km±48km, ML2.5*
*SSNC **04** 15:57:23.4±2.4, 19°.22N×73°.87W, h7km±16km, MD3.0, ML2.5, MW2.8*
ISC 04 15:57:18.9±2.3, 19°.2N±0°.1×73°.95W±0°.05, h6km±18km, n6, σ1°10/13, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.97**	**344**	*e*P	**Pn**	**15 57 40.2**	**+1.0**
MASC				*e*S	**Sn**	**15 57 52.1**	**-1.2**
MASC				IAML		15 57 54.6	
	comp=N,88nm,0.2s						
MASC				IAML		15 57 54.6	
	comp=E,100nm,0.2s						
MASC	**Masc**	**0.97**	**344**	*i* P	**Pn**	**15 57 40.4**	**+1.2**
MASC				*e*S	**Sn**	**15 57 52.5**	**-0.8**
MASC				IAML		15 57 54.4	
	comp=Z,62nm,0.3s						
PAPH	**Port-au-Prince**	**1.71**	**114**	*i* P	**Pb**	**15 57 50.8**	**-0.1**
PAPH				*e*S	**Sn**	**15 58 10.5**	**-1.2**
PAPH				IAML		15 58 18.5	
	comp=Z,38nm,0.2s						
RCC	**Rio Carpintero**	**1.81**	**295**	*e*P	**Pb**	**15 57 52.9**	**+0.3**
RCC				*e*S	**Sb**	**15 58 15.8**	**+0.2**
RCC				*e*Sg	**Sg**	**15 58 17.5**	**+0.2**
RCC				IAML		15 58 21.4	
	comp=E,28nm,0.1s						
RCC				IAML		15 58 22.0	
	comp=N,29nm,0.1s						
SDDR	**Presa de Saban**	**2.53**	**95**	*i* P	**Pb**	**15 58 03.7**	**-1.1**
SDDR				*e*S	**Sn**	**15 58 32.7**	**+0.9**
SDDR				IAML		15 58 40.5	
	comp=Z,17nm,0.4s						
LMGC	**Las Mercedes**	**3.00**	**287**	*e*P	**Pb**	**15 58 11.1**	**-1.7**
LMGC				*e*S	**Sn**	**15 58 43.5**	**+0.2**
LMGC				IAML		15 58 51.8	
	comp=N,26nm,0.1s						
LMGC				IAML		15 58 51.8	
	comp=E,18nm,0.1s						

*MDD **04** 16:06:21.0±0.6, 41°.85N×2°.62E, h12km±1km, mb_Lg1.7/6, Error ellipse: s-maj=5.2km s-min=3.0km az=127.0*
MRB 04 16:06:20.4±0.3, 41°.84N×2°.66E, h4km±6km, ML1.1/17, 1C, Error ellipse: s-maj=1.7km s-min=1.1km az=320.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFON	**Fontmartina**	**0.18**	**246**	⇑P	Pg	16 06 24.1	+0.1
CFON				S	Sg	16 06 26.9	+0.6
	42nm,0.2s						
CCAS	**Cassa de la Se**	**0.19**	**75**	P	Pg	16 06 24.2	0.0
CCAS				S	Sg	16 06 27.1	+0.4
CBEU	**Beuda**	**0.42**	**2**	P	Pg	16 06 28.7	+0.2
CBEU				S	Sg	16 06 34.3	+0.2
	11nm,0.1s						
CORI	**Orista**	**0.47**	**287**	P	Pg	16 06 29.2	-0.3
CORI				S	Sg	16 06 35.8	+0.1
	11nm,0.2s						
CBRU	**Bruguera**	**0.57**	**322**	P	Pg	16 06 31.3	-0.1
CBRU				S	Sg	16 06 38.9	0.0
	5.3nm,0.2s						
CPAL	**Palau Saverder**	**0.61**	**38**	P	Pg	16 06 31.7	-0.4
CPAL				S	Sg	16 06 40.3	+0.3
	5.6nm,0.1s						
EJON	**La Jonquera**	**0.64**	**16**	Pg	Pg	16 06 31.9	-0.7
EJON	**La Jonquera**	**0.64**	**16**	Pg	Pg	16 06 31.4	-1.2
EJON				Sg	Sg	16 06 39.9	-1.0
EJN	**La Jonquera**	**0.64**	**16**	Pg	Pg	16 06 32.1	-0.5
EJON				Sg	Sg	16 06 41.3	+0.4
EJON				*i* Vmb_Lg		16 06 43.8	
SJAF	**Saint Jean de**	**0.67**	**14**	P	Pg	16 06 33.3	0.0
SJAF				S	Sg	16 06 42.7	+0.7
	10nm,0.1s						
FILF	**Fillols**	**0.73**	**354**	P	Pg	16 06 34.4	0.0
FILF				S	Sg	16 06 44.6	+0.7
	3.7nm,0.3s						
CGAR	**Garraf**	**0.78**	**226**	P	Pg	16 06 34.9	-0.4
CGAR				S	Sg	16 06 45.4	0.0
CLLI	**Llivia**	**0.82**	**322**	P	Pg	16 06 35.7	-0.4
CLLI				S	Sg	16 06 46.9	+0.1
EMIR	**Miracle**	**0.85**	**276**	Pg	Pg	16 06 35.2	-1.4
EMIR				Sg	Sg	16 06 44.8	-2.9
EMIR				*i* Vmb_Lg		16 06 48.6	
EMIR	**Miracle**	**0.85**	**276**	Pg	Pg	16 06 36.4	-0.3
EMIR				Sg	Sg	16 06 47.2	-0.4
EMIR				*i* Vmb_Lg		16 06 49.7	
ARBS	**La Rabassa**	**1.02**	**307**	P	Pg	16 06 39.5	-0.5
ARBS				S	Sg	16 06 53.8	+0.4
	3.2nm,0.4s						
CORG	**Organya**	**1.07**	**292**	P	Pg	16 06 40.5	-0.5
CORG				S	Sg	16 06 54.6	-0.3
	2.6nm,0.1s						
CSOR	**Sort**	**1.25**	**296**	P	Pg	16 06 43.3	-1.2
CSOR				S	Sg	16 07 00.3	-0.4
	4.4nm,0.3s						
EPOB	**Poblet**	**1.28**	**248**	P	Pg	16 06 43.9	-1.0
EPOB				S	Sg	16 07 00.9	-0.6
	2.8nm,0.3s						
EPOB	**Poblet**	**1.28**	**248**	Pg	Pg	16 06 42.5	-2.4
EPOB				Sg	Sg	16 06 58.2	-3.3
EPOB	**Poblet**	**1.28**	**248**	Pg	Pg	16 06 44.1	-0.8
EPOB				Sg	Sg	16 07 00.3	-1.2
EPOB				*i* Vmb_Lg		16 07 02.0	
CEST	**Esterri de Car**	**1.29**	**307**	P	Pg	16 06 44.3	-0.8
CEST				S	Sg	16 07 01.3	-0.6
	2.4nm,0.3s						
CAVN	**Les Avellanes**	**1.42**	**273**	P	Pn	16 06 46.4	-0.6
CAVN				S	Sb	16 07 05.5	-0.5
	8.3nm,0.3s						
CTRE	**Tremp**	**1.48**	**290**	P	Pn	16 06 47.6	-0.4
CTRE				S	Sb	16 07 07.7	-0.2
	2.2nm,0.4s						
CARA	**Val d'Aran**	**1.62**	**303**	S	Sn	16 07 11.3	+0.1
	4.0nm,0.2s						
ERTA	**Horta de San J**	**1.96**	**244**	Sg	Sb	16 07 20.7	-0.6
CMAS	**Mas de Barbera**	**2.08**	**239**	Sg	Sg	16 07 27.6	+0.3
	1.1nm,0.2s						

IDC 04 16:08:22.0±1.5, 2°.11S×23°.54W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=102.0km s-min=33.0km az=156.0, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**10.65**	**123**	T	T	16 22 51.6	
	baz=305,slow=73						
H10N2	**ASCENSION HYDR**	**10.65**	**123**	T	T	16 22 51.8	
	baz=305,slow=73						
H10N1	**ASCENSION HYDR**	**10.67**	**123**	T	T	16 22 54.1	
	baz=305,slow=73						
H10S3	**ASCENSION HYDR**	**11.14**	**128**	T	T	16 23 36.7	
	baz=311,slow=74,SNR=33						
H10S2	**ASCENSION HYDR**	**11.16**	**128**	T	T	16 23 37.2	
	baz=269,slow=74,SNR=9.6						
TORD	**Torodi Ar. Bea**	**29.27**	**58**	P	P	16 14 26.3	+0.1
	0.2nm,0.4s,baz=239,slow=9.2,SNR=1.9						
	0.2nm,0.4s						
LPAZ	**La Paz**	**46.09**	**249**	P	P	16 16 48.9	0.0
	0.8nm,0.6s,baz=52,slow=7.4,SNR=5.0						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**146.26**	**141**	PKPbc	PKPbc	16 28 05.2	-0.3
	2.0nm,0.5s,baz=209,slow=2.4,SNR=51						
WRA	**Warramunga Arr**	**149.15**	**136**	PKPbc	PKPbc	16 28 12.2	-1.3
	0.6nm,0.7s,baz=232,slow=2.1,SNR=5.8						

*PRU **04** 16:10:20.6±0.0, 42°.58N×13°.77E, h10km*
ROM 04 16:10:20.4±0.1, 42°.788N±0°.003×13°.119E±0°.005, h10km, ML2.7/45, 22C-10D, Error ellipse: s-maj=0.4km s-min=0.0km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**356**	⇓P	Pg	16 10 22.5	0.0
NRCA				S	Sg	16 10 23.5	-0.5
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,87450μm,0.5s						
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,98250μm,0.6s						
T1242	**Castelluccio d**	**0.07**	**57**	⇑P	Pg	16 10 23.0	+0.1
T1242				S	Sg	16 10 24.4	-0.2
T1242				AML	AML		
	comp=N,19700μm,1.2s						
T1242				AML	AML		
	comp=E,20850μm,0.5s						
T1242				AML	AML		
	comp=N,19750μm,1.2s						
T1242				AML	AML		
	comp=E,20950μm,0.5s						
T1202	**Accumoli, Fraz**	**0.12**	**137**	P	Pg	16 10 23.8	+0.4
T1202				AML	AML		
	comp=N,9580μm,0.2s						
T1202				AML	AML		
	comp=N,9565μm,0.2s						
T1202				AML	AML		
	comp=E,6680μm,0.4s						
T1202				AML	AML		
	comp=N,9575μm,0.2s						
T1202				AML	AML		
	comp=E,6685μm,0.4s						
MC2	**Monte Cornacci**	**0.14**	**23**	⇑P	Pg	16 10 24.2	+0.5
MC2				S	Sg	16 10 26.9	+0.9
T1244	**Arquata del Tr**	**0.14**	**103**	P	Pg	16 10 24.2	+0.6
T1244				AML	AML		
	comp=E,7735μm,0.4s						
T1244				AML	AML		
	comp=E,7555μm,0.3s						
T1244				AML	AML		
	comp=N,7030μm,0.7s						
T1244				AML	AML		
	comp=E,7750μm,0.4s						
T1244				AML	AML		
	comp=E,7560μm,0.3s						
T1244				AML	AML		
	comp=N,7050μm,0.7s						
T1244				AML	AML		
	comp=N,7265μm,0.7s						
T1244				AML	AML		
	comp=E,7550μm,0.3s						
FEMA	**Monte Fema**	**0.18**	**344**	P	Pg	16 10 25.0	+0.6
FEMA				S	Sg	16 10 28.1	+0.9
T1204	**Amatrice, Fraz**	**0.18**	**128**	P	Pg	16 10 25.1	+0.7
T1204				S	Sg	16 10 28.4	+1.3
T1204				AML	AML		
	comp=E,9740μm,0.3s						
T1204				AML	AML		
	comp=N,4640μm,0.6s						
T1204				AML	AML		
	comp=N,4630μm,0.6s						
T1204				AML	AML		
	comp=E,9755μm,0.3s						
T1215	**Vallo di Nera,**	**0.18**	**274**	⇑P	Pg	16 10 25.1	+0.7
T1215				AML	AML		
	comp=N,3020μm,0.2s						
T1215				AML	AML		
	comp=N,3125μm,0.2s						
T1215				AML	AML		
	comp=N,3025μm,0.2s						
T1215				AML	AML		
	comp=N,3120μm,0.2s						
T1215				AML	AML		
	comp=E,3340μm,0.3s						
T1215				AML	AML		
	comp=E,3365μm,0.3s						
LNSS	**Leonessa**	**0.19**	**197**	P	Pg	16 10 25.1	+0.5
LNSS				S	Sg	16 10 29.3	+1.9
LNSS				AML	AML		
	comp=N,6140μm,1.0s						
LNSS				AML	AML		
	comp=E,5125μm,1.3s						
LNSS				AML	AML		
	comp=N,6135μm,1.0s						
LNSS				AML	AML		
	comp=E,5120μm,1.3s						
SMA1	**SAN MARTINO**	**0.22**	**135**	P	Pg	16 10 25.7	+0.6
SMA1				S	Sg	16 10 29.8	+1.6
T1241	**Roccafluvione,**	**0.24**	**73**	⇑P	Pg	16 10 26.0	+0.6
T1241				S	Sg	16 10 30.2	+1.5
T1241				AML	AML		
	comp=E,3315μm,0.4s						
T1241				AML	AML		
	comp=E,3225μm,0.4s						
T1241				AML	AML		
	comp=N,2145μm,0.8s						
T1241				AML	AML		
	comp=E,3310μm,0.4s						
T1241				AML	AML		
	comp=N,2215μm,0.8s						
FDMO	**Fiordimonte**	**0.25**	**355**	⇓P	Pg	16 10 26.2	+0.6
FDMO				S	Sg	16 10 30.4	+1.5
FDMO				AML	AML		
	comp=E,2745μm,0.5s						
FDMO				AML	AML		
	comp=N,2470μm,0.4s						
T1243	**Rocca Santa Ma**	**0.26**	**111**	P	Pg	16 10 26.2	+0.4
T1243				S	Sg	16 10 30.5	+1.2
CESI	**CESI - Serrava**	**0.27**	**324**	⇑P	Pg	16 10 26.6	+0.7
CESI				S	Sb	16 10 31.1	-1.0
CESI				AML	AML		
	comp=E,3870μm,0.4s						
CESI				AML	AML		
	comp=N,5900μm,0.4s						
RM33	**Pellescritta (**	**0.29**	**166**	⇑P	Pg	16 10 26.8	+0.6
RM33				S	Sb	16 10 31.5	-1.1
RM33				AML	AML		
	comp=N,2310μm,0.3s						
RM33				AML	AML		
	comp=N,2305μm,0.3s						
RM33				AML	AML		
	comp=N,2325μm,0.3s						
RM33				AML	AML		
	comp=E,2010μm,0.3s						
RM33				AML	AML		
	comp=E,1970μm,0.3s						
CSP1	**Cessapalombo**	**0.31**	**12**	P	Pg	16 10 27.3	+0.6
CSP1				S	Sb	16 10 32.5	-0.8
CSP1				AML	AML		
	comp=N,4675μm,0.2s						
CSP1				AML	AML		
	comp=N,4680μm,0.2s						
CSP1				AML	AML		
	comp=E,4180μm,0.2s						
GUMA	**Gualdo di Mace**	**0.32**	**30**	⇑P	Pb	16 10 27.7	-0.5
GUMA				S	Sb	16 10 33.2	-0.3
GUMA				AML	AML		
	comp=E,5535μm,0.9s						
GUMA				AML	AML		
	comp=N,7140μm,1.6s						
GUMA				AML	AML		
	comp=N,7145μm,1.6s						
GUMA				AML	AML		
	comp=N,7145μm,0.4s						
GUMA				AML	AML		
	comp=N,7805μm,1.6s						
CAMP	**Campotosto**	**0.33**	**140**	P	Pg	16 10 27.5	+0.4
CAMP				S	Sb	16 10 32.9	-1.1
CAMP				AML	AML		
	comp=N,1625μm,0.4s						
CAMP				AML	AML		
	comp=E,1430μm,0.3s						
ARRO	**Arrone**	**0.33**	**231**	⇑P	Pg	16 10 27.7	+0.7
ARRO				AML	AML		
	comp=N,1590μm,0.2s						
ARRO				AML	AML		
	comp=E,1580μm,0.5s						
ARRO				AML	AML		
	comp=N,1585μm,0.2s						
TERO	**Teramo**	**0.39**	**115**	P	Pg	16 10 28.5	+0.3
TERO				S	Sb	16 10 34.8	-0.9
TERO				AML	AML		
	comp=N,1324μm,0.7s						
TERO				AML	AML		
	comp=E,1145μm,0.7s						
TERO				AML	AML		
	comp=E,1260μm,0.7s						
TERO				AML	AML		
	comp=N,1395μm,0.7s						
TERO				AML	AML		
	comp=N,1326μm,0.7s						
ASSB	**Assisi San Ben**	**0.42**	**307**	⇑P	Pg	16 10 29.2	+0.5
ASSB				AML	AML		
	comp=E,2625μm,0.5s						
ASSB				AML	AML		
	comp=N,1995μm,1.0s						
MNTP	**Montappone**	**0.43**	**36**	⇓P	Pb	16 10 30.4	+0.2
MNTP				AML	AML		
	comp=N,2005μm,0.2s						
MNTP				AML	AML		
	comp=E,2115μm,1.0s						
MNTP				AML	AML		
	comp=N,2010μm,0.2s						
CESX	**Cesi**	**0.43**	**246**	⇑P	Pg	16 10 29.4	+0.4
CESX				AML	AML		
	comp=E,1370μm,0.9s						
CESX				AML	AML		
	comp=N,1405μm,0.7s						
OFFI	**Offida**	**0.44**	**70**	P	Pb	16 10 30.4	+0.1
OFFI				AML	AML		
	comp=E,2585μm,0.4s						
OFFI				AML	AML		
	comp=N,2220μm,1.0s						
GIGS	**Gran Sasso**	**0.47**	**135**	P	Pg	16 10 29.8	+0.1
GIGS				S	Sb	16 10 37.0	-1.0
GIGS				AML	AML		
	comp=E,400μm,0.3s						
GIGS				AML	AML		
	comp=N,218μm,0.8s						
GIGS				AML	AML		
	comp=N,218μm,0.8s						
SNTG	**Esanatoglia**	**0.48**	**344**	⇑P	Pg	16 10 30.4	+0.5
SNTG				S	Sb	16 10 39.0	+0.7
SNTG				AML	AML		
	comp=N,536μm,0.6s						
SNTG				AML	AML		
	comp=N,537μm,0.6s						
SNTG				AML	AML		
	comp=E,676μm,0.3s						
FIAM	**Fiamignano**	**0.52**	**180**	⇓P	Pg	16 10 30.8	+0.3
FIAM				S	Sb	16 10 39.0	-0.4
FIAM				AML	AML		
	comp=N,458μm,0.4s						
FIAM				AML	AML		
	comp=E,538μm,0.6s						
ATCC	**AVT- Casa Cast**	**0.53**	**319**	⇑P	Pg	16 10 31.3	+0.5
ATCC				AML	AML		
	comp=N,1575μm,0.3s						
ATCC				AML	AML		
	comp=E,1940μm,0.3s						
FOSV	**Fossato di Vic**	**0.57**	**333**	⇑P	Pg	16 10 31.9	+0.4
FOSV				S	Sb	16 10 41.0	+0.2
FOSV				AML	AML		
	comp=N,674μm,0.7s						
FOSV				AML	AML		
	comp=E,656μm,0.4s						
FOSV				AML	AML		
	comp=N,675μm,0.7s						
TRTR	**Tortoreto Alta**	**0.58**	**88**	⇑P	Pb	16 10 33.4	+0.6
TRTR				AML	AML		
	comp=N,1620μm,0.7s						
TRTR				AML	AML		
	comp=E,2385μm,0.6s						
CING	**Cingoli**	**0.59**	**5**	⇓P	Pb	16 10 32.5	-0.4
CING				AML	AML		
	comp=N,448μm,1.3s						
CING				AML	AML		
	comp=E,515μm,0.9s						
FAGN	**Fagnano**	**0.62**	**146**	⇑P	Pg	16 10 32.6	+0.1
FAGN				S	Sn	16 10 44.0	-1.6
FAGN				AML	AML		
	comp=N,1305μm,0.5s						
FAGN				AML	AML		
	comp=E,1520μm,1.1s						
MURB	**Monte Urbino**	**0.64**	**318**	S	Sn	16 10 45.0	-1.1
VCEL	**Villa Celiera**	**0.66**	**126**	⇓P	Pb	16 10 33.8	-0.4
VCEL				AML	AML		
	comp=E,1265μm,0.6s						
VCEL				AML	AML		
	comp=E,1260μm,0.6s						
VCEL				AML	AML		
	comp=N,1055μm,0.5s						
SSFR	**Montelago di S**	**0.69**	**339**	⇓P	Pg	16 10 34.2	+0.4
SSFR				AML	AML		
	comp=E,1054μm,0.2s						
SSFR				AML	AML		
	comp=N,1120μm,0.2s						
SSFR				AML	AML		
	comp=N,1220μm,0.2s						
SSFR				AML	AML		
	comp=E,982μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.69**	**306**	P	Pb	16 10 34.9	+0.2
ATTE				AML	AML		
	comp=E,340μm,0.9s						
ATTE				AML	AML		
	comp=N,340μm,0.3s						
ATFO	**Monte Foce - G**	**0.70**	**325**	⇑P	Pg	16 10 34.3	+0.2
ATFO				AML	AML		
	comp=E,452μm,1.0s						
ATFO				AML	AML		
	comp=N,579μm,0.2s						
ARVD	**Arcevia**	**0.72**	**350**	P	Pg	16 10 34.7	+0.3
ARVD				S	Sn	16 10 47.0	-0.9
ARVD				AML	AML		
	comp=E,349μm,0.3s						
ARVD				AML	AML		
	comp=N,268μm,0.2s						
ARVD				AML	AML		
	comp=E,350μm,0.3s						
T0110	**Collepietro**	**0.74**	**139**	P	Pg	16 10 34.8	0.0
T0110				AML	AML		
	comp=E,1065μm,0.4s						
T0110				AML	AML		
	comp=N,1025μm,0.4s						
MGAB	**Montegabbione**	**0.75**	**280**	⇑P	Pg	16 10 35.2	+0.3
MGAB				AML	AML		
	comp=E,672μm,0.5s						
MGAB				AML	AML		
	comp=N,930μm,0.5s						
MGAB				AML	AML		
	comp=E,823μm,0.5s						
MGAB				AML	AML		
	comp=E,672μm,0.5s						

MGAB					AML	AML		
	comp=N,928µm,0.5s							
MGAB					AML	AML		
	comp=N,1012µm,0.5s							
ATVO	**AVT- Monte Val**	**0.79**	**319**	⇑P	Pg		16 10 35.7	0.0
ATVO				AML	AML			
	comp=E,346µm,0.7s							
ATVO				AML	AML			
	comp=N,317µm,0.5s							
ATMI	**Monte Miggiano**	**0.83**	**311**	⇑P	Pb		16 10 37.2	+0.2
ATMI				AML	AML			
	comp=E,934µm,0.3s							
ATMI				AML	AML			
	comp=E,934µm,0.3s							
ATMI				AML	AML			
	comp=N,858µm,0.8s							
ATPI	**Pietralunga -**	**0.84**	**322**	⇑P	Pg		16 10 36.8	+0.1
ATPI				AML	AML			
	comp=E,181µm,0.5s							
ATPI				AML	AML			
	comp=N,276µm,0.4s							
ATPI				AML	AML			
	comp=N,277µm,0.4s							
ATPI				AML	AML			
	comp=E,180µm,0.5s							
CERT	**Cerreto**	**0.84**	**187**	P	Pb		16 10 37.4	+0.2
CERT				AML	AML			
	comp=N,328µm,1.0s							
CERT				AML	AML			
	comp=E,578µm,0.4s							
MPAG	**Monte Paganucc**	**0.88**	**343**	P	Pb		16 10 37.8	-0.1
MPAG				S	Sn		16 10 53.0	+1.1
MPAG				AML	AML			
	comp=E,248µm,0.5s							
MPAG				AML	AML			
	comp=N,229µm,0.4s							
MPAG				AML	AML			
	comp=N,228µm,0.4s							
MPAG				AML	AML			
	comp=E,248µm,0.5s							
SACS	**San Casciano d**	**0.89**	**274**	⇓P	Pb		16 10 38.0	-0.1
SACS				AML	AML			
	comp=N,229µm,0.7s							
SACS				AML	AML			
	comp=E,234µm,0.3s							
NARO	**Abbazia di Nar**	**0.91**	**335**	⇑P	Pg		16 10 38.0	0.0
NARO				S	Sn		16 10 53.0	+0.4
NARO				AML	AML			
	comp=N,142µm,1.2s							
NARO				AML	AML			
	comp=E,153µm,0.4s							
FSSB	**Fossombrone**	**0.94**	**345**	⇓P	Pb		16 10 38.7	-0.1
FSSB				S	Sn		16 10 54.0	+0.7
FSSB				AML	AML			
	comp=E,752µm,0.4s							
FSSB				AML	AML			
	comp=N,782µm,0.3s							
INTR	**Introdacqua**	**0.97**	**143**	⇑P	Pg		16 10 38.5	-0.6
INTR				AML	AML			
	comp=E,289µm,1.1s							
INTR				AML	AML			
	comp=N,564µm,0.5s							
PARC	**Parchiule**	**1.07**	**323**	P	Pn		16 10 41.8	+0.2
PARC				AML	AML			
	comp=N,174µm,1.0s							
PARC				AML	AML			
	comp=E,131µm,0.5s							
ARCI	**Arcidosso**	**1.21**	**274**	⇓P	Pg		16 10 45.1	+1.4
SGTA	**Sant Agata di**	**2.35**	**134**	S	Sb		16 11 34.0	+1.9
FERS	**Ferrara-Casagl**	**2.40**	**332**	P	Pn		16 11 00.5	+0.7
GROG	**Isola di Gorgo**	**2.45**	**286**	P	Pb		16 11 03.5	-1.1
MCRV	**Calabrutti - M**	**2.52**	**142**	P	Pn		16 11 01.2	-0.4
ABTA	**Abfaltersbach**	**3.98**	**354**	*i* Pn	Pn		16 11 24.5	+2.9
	comp=E,1.9nm,0.3s							
ABTA				*i* Sn	Sn		16 12 13.3	+4.8
	comp=E,0.8nm,0.2s							
FETA	**Feichten**	**4.56**	**339**	*i* Pn	Pn		16 11 34.6	+5.0
	comp=E,0.7nm,0.3s							
FETA				*i* Sn	Sn		16 12 24.2	+1.5
	comp=E,0.4nm,0.4s							
KHC	**Kasperske Hory**	**6.35**	**3**	*e*SN	Sn		16 13 07.6	+0.9

*IDC **04** 16:25:51.8±0.8,80°.03S×42°.59E, h0km, mb4.2/5, mbtmp4.2/8, ML3.6/3, MS2.9/1, Error ellipse: s-maj=28.8km s-min=20.8km az=58.0*
*NEIC **04** 16:25:52.5±1.8, 79°.98S±0°.09×41°.8E±0°.3, h10km±1km, mb4.6/15, Error ellipse: s-maj=15.5km s-min=7.9km az=341.0*
ISC 04 16:25:52.1±0.5,**79°.97S**±0°.06×**42°.60E**±0°.06,**h10**km,**n39,** σ1ᵍ**70**/41,**mb4.5**/13,**Antarctica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**10.12**	**180**	Pn	**Pn**	**16 28 18.4**	**+1.1**
	2.6nm,0.3s,baz=257,slow=7.7,SNR=98						
QSPA				Sn	**Sn**	**16 30 07.9**	**-3.0**
	3.0nm,0.3s,baz=68,slow=13,SNR=3.7						
QSPA				Lg	Lg	16 31 08.0	
	0.9nm,0.3s,baz=41,slow=19,SNR=1.5						
	6.8nm,0.3s						
QSPA	**South Pole Qui**	**10.12**	**180**		**Pn**	**16 28 18.1**	**+0.7**
TROLL	**Troll, Antarti**	**12.19**	**289**	P	**Pn**	**16 28 44.7**	**-0.9**
SNAA	**Sanae**	**13.38**	**283**	P	**Pn**	**16 29 01.5**	**-0.2**
SNAA	**Sanae**	**13.38**	**283**	Pn	**Pn**	**16 29 01.6**	**-0.1**
	0.2nm,0.3s,baz=149,slow=15,SNR=12						
SNAA				Sn	**Sn**	**16 31 29.0**	**-1.2**
	0.4nm,0.3s,baz=146,slow=22,SNR=4.6						
SNAA				Lg	Lg	16 32 40.9	
	0.4nm,0.3s,baz=294,slow=20,SNR=5.9						
	0.7nm,0.4s						
SNAA	**Sanae**	**13.38**	**283**	Pn	**Pn**	**16 29 01.3**	**-0.4**
MAW	**Mawson**	**13.49**	**35**	Pn	**Pn**	**16 29 03.4**	**+0.2**
	1.4nm,0.3s,baz=179,slow=13,SNR=30						
MAW				Sn	**Sn**	**16 31 26.6**	**-6.3**
	0.8nm,0.3s,baz=162,slow=8.6,SNR=4.8						
MAW				Lg	Lg	16 32 51.2	
	0.5nm,0.3s,baz=66,slow=20,SNR=2.4						
MAW				LR	LR	16 34 39.6	
	comp=Z,52nm,18.6s,baz=120,slow=39						
	3.8nm,0.3s						
MAW	**Mawson**	**13.49**	**35**		**Pn**	**16 29 02.6**	**-0.6**
BELA	**Belgrano 2**	**13.96**	**239**	Pn	**Pn**	**16 29 07.9**	**-1.7**
VNA2	**Neumayer--Watz**	**14.80**	**280**	P	**Pn**	**16 29 20.7**	**-0.3**
	baz=139,slow=12						
VNA3	**Neumayer Olymp**	**14.92**	**276**	P	**Pn**	**16 29 22.7**	**0.0**
VNA1	**Neumayer--Stat**	**15.18**	**279**	P	**Pn**	**16 29 26.9**	**+0.7**
VNDA	**Vanda**	**19.56**	**145**	P	**P**	**16 30 16.6**	**-2.8**
	0.5nm,0.3s,baz=251,slow=17,SNR=7.0						
VNDA				S	S	16 33 49.2	-11
	0.8nm,0.6s,baz=287,slow=17,SNR=1.3						
VNDA				Lg	Lg	16 36 08.8	
	0.1nm,0.3s,baz=314,slow=20,SNR=1.3						
VNDA	**Vanda**	**19.56**	**145**	P	**P**	**16 30 16.7**	**-2.8**
SBA	**Scott Base**	**19.73**	**149**		**Pn**	**16 30 23.9**	**+1.2**
CASY	**Casey**	**22.03**	**92**	P	**P**	**16 30 46.5**	**+0.4**
CASY				IAmb	IAmb	16 31 00.7	
	comp=Z,4.8nm,1.1s						
SUR	**Sutherland**	**48.51**	**335**	P	**P**	**16 34 36.7**	**+1.8**
	comp=Z,5.7nm,0.9s,baz=150,slow=8.1,SNR=1.8						
	comp=Z,5.7nm,0.9s						
SUR	**Sutherland**	**48.51**	**335**	P	**P**	**16 34 36.0**	**+1.1**
BOSA	**Boshof**	**51.96**	**341**	P	**P**	**16 35 02.5**	**+1.5**
	comp=Z,2.2nm,0.6s,baz=192,slow=7.6,SNR=6.5						
	comp=Z,2.2nm,0.6s						
BOSA	**Boshof**	**51.96**	**341**	P	**P**	**16 35 01.9**	**+1.0**
BOSA				IAmb	IAmb	16 35 11.4	
	comp=Z,7.8nm,1.1s						
NWAO	**Narrogin (SRO)**	**55.13**	**81**	P	**P**	**16 35 24.3**	**+0.2**
LBTB	**Lobatse**	**55.52**	**341**	P	**P**	**16 35 28.2**	**+1.2**
LBTB				IAmb	IAmb	16 36 11.2	
	comp=Z,5.6nm,1.1s						
MBWA	**Marble Bar**	**67.06**	**81**	P	**P**	**16 36 46.3**	**+1.2**
MBWA				IAmb	IAmb	16 36 59.9	
	comp=Z,16nm,1.4s						
ASAR	**Alice Springs**	**67.09**	**96**	P	**P**	**16 36 46.8**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=190,slow=6.2,SNR=13						
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**67.09**	**96**	P	**P**	**16 36 47.1**	**+1.8**
AS31	**Alice Springs**	**67.09**	**96**	P	**P**	**16 36 47.0**	**+1.7**
AS31				IAmb	IAmb	16 36 58.9	
	comp=Z,1.7nm,1.4s						
AC01	**Pan de Azucar**	**68.32**	**243**	P	**P**	**16 36 52.1**	**-0.9**
WRA	**Warramunga Arr**	**70.80**	**95**	P	**P**	**16 37 09.7**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=193,slow=5.4,SNR=7.4						
	comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**70.80**	**95**	P	**P**	**16 37 10.0**	**+1.6**
WB2	**Warramunga Arr**	**70.81**	**95**	P	**P**	**16 37 10.1**	**+1.7**
WB2				IAmb	IAmb	16 37 46.6	
	comp=Z,13nm,1.3s						
WR0	**Warramunga Arr**	**70.82**	**96**	P	**P**	**16 37 09.7**	**+1.2**
WR0				IAmb	IAmb	16 37 28.4	
	comp=Z,6.8nm,1.3s						
WB0	**Warramunga Arr**	**70.98**	**95**	P	**P**	**16 37 10.6**	**+1.1**
WB0				IAmb	IAmb	16 37 43.6	
	comp=Z,9.6nm,1.2s						
KNRA	**Kununurra**	**74.00**	**89**	P	**P**	**16 37 27.8**	**+0.4**
KNRA				IAmb	IAmb	16 37 30.0	
	comp=Z,22nm,1.4s						
TORD	**Torodi Ar. Bea**	**95.36**	**320**	P	**P**	**16 39 18.4**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=188,slow=3.9,SNR=2.0						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**128.51**	**34**	PKP	**PKPdf**	**16 44 57.9**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=202,slow=1.4,SNR=2.1						
FINES	**FINESS Array B**	**141.50**	**347**	PKiKP	PKPpre	16 45 16.1	
	comp=Z,0.8nm,0.6s,baz=130,slow=1.6,SNR=10.0						
PETK	**Petropavlovsk-**	**146.13**	**102**	PKPbc	**PKPbc**	**16 45 31.6**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=144,slow=2.8,SNR=6.0						
ULM	**Lac du Bonnet**	**147.05**	**231**	PKPbc	**PKPbc**	**16 45 33.9**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=116,slow=3.0,SNR=2.0						
ARCES	**ARCESS Array B**	**149.62**	**348**	PKPbc	**PKiKP**	**16 45 40.9**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=195,slow=3.0,SNR=16						

*DJA **04** 16:27:01.3±0.4,1°.N±2°×12°.3E±°, h12km±2km, M4.5/24, mB5.0/13, mb4.7/24, MLv4.8/21, Mw(mB)4.3/13*
*NEIC **04** 16:27:04.0±1.6, 1°.15N±0°.08×122°.75E±0°.05, h53km±9km, mb4.4/17, Error ellipse: s-maj=11.0km s-min=7.1km az=182.0*
*IDC **04** 16:27:06.5±1.9, 1°.07N×122°.78E, h72km±18km, mb3.8/9, mbtmp4.2/12, MS3.5/15, Error ellipse: s-maj=21.4km s-min=9.5km az=92.0*
*MAN **04** 16:27:08.5, 2°.13N×122°.60E, h0km, mb5.1, ML4.0, MS4.1*
ISC 04 16:27:02.9±0.5,**1°.15N**±0°.04×**122°.80E**±0°.05,**h35**km,**n100,** σ1ᵍ**83**/97,**mb4.4**/19,**MS3.5**/13,**2D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.55**	**158**	P	**Pn**	**16 27 12.6**	**-1.7**
GTOI				S	**Sn**	**16 27 20.4**	**-1.8**
MRSI	**Marisa**	**1.09**	**232**	P	**Pn**	**16 27 20.7**	**-1.0**
MRSI				S	**Sn**	**16 27 34.4**	**-1.2**
KMSI	**Cibinong**	**1.31**	**116**	P	**Pn**	**16 27 26.6**	**+1.9**
LUWI	**Luwuk**	**2.17**	**181**	Pn	**Pn**	**16 27 38.5**	**+1.9**
LUWI	**Luwuk**	**2.17**	**181**	P	**Pn**	**16 27 38.9**	**+2.3**
LUWI	**Luwuk**	**2.17**	**181**	P	**Pn**	**16 27 39.8**	**+3.2**
APSI	**Ampana**	**2.35**	**209**	P	**Pn**	**16 27 42.8**	**+3.8**
APSI				S	**Sn**	**16 28 12.8**	**+6.2**
MPSI	**Mapaga**	**3.01**	**255**	P	**Pn**	**16 27 48.1**	**-0.1**
SGSI	**Sangihe**	**3.71**	**47**	P	**Pn**	**16 27 56.7**	**-1.1**
SANI	**Sanana**	**4.50**	**135**	P	**Pn**	**16 28 09.5**	**+0.9**
SANI	**Sanana**	**4.50**	**135**	P	**Pn**	**16 28 09.9**	**+1.3**
TNTI	**Ternate**	**4.58**	**95**	Pn	**Pn**	**16 28 10.0**	**+0.3**
LBMI	**Labuha**	**5.02**	**111**	P	**Pn**	**16 28 17.9**	**+2.1**
	0.4nm736nm85nm,0.9s						
TTSI	**Tana Toraja**	**5.12**	**216**	P	**Pn**	**16 28 18.8**	**+1.6**
	2.0nm4µm330nm,0.7s						
GSPH	**General Santos**	**5.36**	**24**	⇓*e*P	**Pn**	**16 28 21.2**	**+0.7**
MYLDM	**Lahad Datu**	**5.88**	**313**		**Pn**	**16 28 28.0**	**+0.4**
SPSI	**Sidrap Palu**	**5.91**	**211**	P	**Pn**	**16 28 30.7**	**+2.6**
	0.6nm2µm185nm,0.9s						
NLAI	**Namlea**	**6.12**	**135**	P	**Pn**	**16 28 33.6**	**+2.7**
KCP	**Kidapawan**	**6.25**	**21**	⇓*i*P	**Pn**	**16 28 33.5**	**+0.7**
KCP				*i* S	**Sn**	**16 29 41.8**	**-1.4**
BKB	**Balikpapan**	**6.37**	**248**		**Pn**	**16 28 32.7**	**-1.7**
BKB	**Balikpapan**	**6.37**	**248**	P	**Pn**	**16 28 34.7**	**+0.3**
	0.5nm2µm143nm,0.8s						
BKB	**Balikpapan**	**6.37**	**248**	P	**Pn**	**16 28 36.5**	**+2.1**
DAV	**Davao City (W)**	**6.50**	**25**	P	**Pn**	**16 28 39.4**	**+3.2**
	138nm,0.4s,baz=231,slow=18,SNR=10						
DAV				S	**Sn**	**16 29 55.1**	**+5.9**
	122nm,0.5s,baz=261,slow=16,SNR=1.6						
DAV				LR	LR	16 31 19.9	
	comp=Z,298nm,19.4s,baz=183,slow=38						
BBSI	**Bau Bau**	**6.59**	**182**	P	**Pn**	**16 28 41.2**	**+3.7**
	0.1nm155nm14nm,0.5s						
KAPI	**Kappang**	**6.84**	**206**	P	**Pn**	**16 28 44.2**	**+3.4**
	29nm,0.4s,baz=35,slow=11,SNR=17						
KAPI				S	**Sn**	**16 30 00.1**	**+2.7**
	27nm,0.6s,baz=30,slow=23,SNR=1.8						
KAPI				LR	LR	16 31 48.7	
	comp=Z,589nm,20.0s,baz=18,slow=42						
KAPI	**Kappang**	**6.84**	**206**	P	**Pn**	**16 28 44.5**	**+3.7**
BKSI	**Bulumba**	**6.96**	**203**	P	**Pn**	**16 28 44.9**	**+2.4**
	0.3nm75nm95nm,0.9s						
AAI	**Ambon**	**7.22**	**132**	P	Pn	16 28 51.0	+5.0
	0.3nm92nm,1.0s						
MSAI	**Masohi**	**7.58**	**126**	P	**Pn**	**16 28 54.3**	**+3.3**
	0.1nm293nm22nm,0.8s						
MTKI	**Muara Teweh, K**	**8.17**	**255**	P	**Pn**	**16 28 58.6**	**-0.6**
	25nm,0.9s						
KKM	**Kota Kinabalu**	**8.18**	**307**		**Pn**	**16 28 59.0**	**-0.4**
KKM	**Kota Kinabalu**	**8.18**	**307**	P	**Pn**	**16 28 59.5**	**+0.2**
BBKI	**Banjar Baru**	**9.18**	**240**	P	**Pn**	**16 29 12.9**	**-0.1**
	25nm,0.8s						
EDFI	**Ende, Flores**	**9.89**	**186**	P	**Pn**	**16 29 25.7**	**+2.9**
	13nm,0.7s						
FAKI	**Fak Fak**	**10.27**	**113**	Pn	**Pn**	**16 29 28.2**	**+0.3**
SBUM	**Sibu**	**10.66**	**277**		**Pn**	**16 29 32.5**	**-0.7**
MTN	**Manton Dam**	**16.17**	**150**		**P**	**16 30 49.6**	**-1.0**
MTN	**Manton Dam**	**16.17**	**150**	P	**P**	**16 30 49.5**	**-1.0**
KDU	**Kakadu**	**16.76**	**145**	P	**P**	**16 30 56.7**	**-0.4**
PPBI	**Pangkal Pinang**	**16.98**	**259**	P	**Pn**	**16 30 57.7**	**-0.3**
	3µm28nm,1.0s						
KNRA	**Kununurra**	**17.72**	**161**	P	**P**	**16 31 08.1**	**+0.4**
KNRA				IAmb	IAmb	16 31 20.4	
	comp=Z,39nm,1.3s						
KNRA	**Kununurra**	**17.72**	**161**	P	**P**	**16 31 08.8**	**+1.1**
DSRI	**Dabo**	**18.30**	**265**	P	**Pn**	**16 31 14.7**	**+0.5**
	comp=Z,726nmcomp=Z,10nm,1.0s						
MYKOM	**Kota Tinggi**	**18.96**	**272**	P	**P**	**16 31 18.5**	**-2.9**
MYKOM				IAmb	IAmb	16 31 22.1	
	comp=Z,17nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.32**	**172**	P	**P**	**16 31 24.7**	**-0.6**
	comp=Z,4.8nm,0.6s,baz=2.3,slow=11,SNR=21						
FITZ				S	**S**	**16 34 59.3**	**-2.9**
	comp=Z,2.3nm,0.8s,baz=162,slow=18,SNR=3.2						
FITZ	**Fitzroy Crossi**	**19.32**	**172**	P	**P**	**16 31 24.9**	**-0.5**
FITZ				IAmb	IAmb	16 31 26.6	
	comp=Z,20nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.32**	**172**	P	**P**	**16 31 25.0**	**-0.3**
MBWA	**Marble Bar**	**22.37**	**188**	P	**P**	**16 31 56.8**	**-1.4**
MBWA				IAmb	IAmb	16 32 25.7	
	comp=Z,20nm,1.5s						
MNSI	**Mandailing Nat**	**23.22**	**269**	P	**P**	**16 32 07.4**	**+0.2**
	comp=Z,21nm,0.9s						
WB0	**Warramunga Arr**	**23.69**	**152**	P	**P**	**16 32 10.1**	**-1.6**
WRAB	**Tennant Creek**	**23.81**	**152**	P	**P**	**16 32 11.8**	**-1.1**
WRAB				IAmb	IAmb	16 32 12.8	
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**23.81**	**152**	P	**P**	**16 32 12.0**	**-0.8**
WRA	**Warramunga Arr**	**23.82**	**152**	P	**P**	**16 32 11.6**	**-1.2**
	comp=Z,9.8nm,0.7s,baz=331,slow=10,SNR=80						
	comp=Z,9.8nm,0.7s						
WRA	**Warramunga Arr**	**23.82**	**152**	P	**P**	**16 32 10.7**	**-2.2**
WB2	**Warramunga Arr**	**23.82**	**152**	P	**P**	**16 32 11.8**	**-1.1**
WR0	**Warramunga Arr**	**23.93**	**152**	P	**P**	**16 32 12.6**	**-1.3**
WR0				IAmb	IAmb	16 32 14.4	
	comp=Z,15nm,0.9s						
TSI	**Tuntungan**	**24.33**	**276**	P	**P**	**16 32 18.7**	**+1.0**
	comp=Z,245nm,1.2s						
GUMO	**Guam**	**25.09**	**59**	LR	LR	16 42 34.6	
	comp=Z,30nm,19.6s,baz=221,slow=37						
KCSI	**Kotacane, Aceh**	**25.12**	**276**	P	**P**	**16 32 25.8**	**+0.9**
	comp=Z,28nm,0.9s						
COEN	**Coen**	**25.15**	**127**	P	**P**	**16 32 24.8**	**-0.3**
WRKA	**Warakurna**	**26.57**	**169**	P	**P**	**16 32 36.9**	**-1.0**
AS31	**Alice Springs**	**26.92**	**157**	P	**P**	**16 32 39.8**	**-1.3**
ASAR	**Alice Springs**	**26.92**	**157**	P	**P**	**16 32 40.1**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=338,slow=8.3,SNR=18						
ASAR				PcP	**PcP**	**16 36 01.4**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=344,slow=2.6,SNR=3.0						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**26.92**	**157**	P	**P**	**16 32 39.9**	**-1.2**
QIS	**Mount Isa**	**27.13**	**144**	P	**P**	**16 32 42.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**29.06**	**308**	LR	LR	16 46 17.1	
	comp=Z,86nm,18.3s,baz=115,slow=40						
KRVT	**Keravat (AS076**	**29.70**	**101**	P	**P**	**16 33 07.3**	**+1.3**
	comp=Z,54nm,0.9s,baz=293,slow=11,SNR=8.0						

JCJ	**Chichijima**	**31.81**	**34**	LR	LR		16 44 42.7	
	comp=Z,54nm,21.8s,baz=121,slow=33							
MULG	**Mulgathing**	**33.04**	**162**	P	**P**		**16 33 34.7**	**-0.5**
INKA	**Innaminka**	**33.50**	**150**	P	**P**		**16 33 40.8**	**+1.6**
LCRK	**Leigh Creek**	**34.68**	**156**	P	**P**		**16 33 49.2**	**-0.2**
JHJ	**Hachijo jima 2**	**35.58**	**25**	LR	LR		16 45 39.2	
	comp=Z,51nm,21.7s,baz=102,slow=31							
BBOO	**Buckleboo**	**36.02**	**161**	P	**P**		**16 33 59.6**	**-1.3**
KSRS	**Korea Array**	**36.44**	**7**	LR	LR		16 49 23.8	
	comp=Z,30nm,20.2s,baz=180,slow=37							
STKA	**Stephens Creek**	**37.36**	**153**	P	**P**		**16 34 11.8**	**-0.6**
	comp=Z,11nm,0.9s,baz=327,slow=9.5,SNR=16							
	comp=Z,11nm,0.9s							
STKA	**Stephens Creek**	**37.36**	**153**	P	**P**		**16 34 12.3**	**-0.1**
STKA				IAmb	IAmb		16 34 13.4	
	comp=Z,3.2nm,1.1s							
STKA	**Stephens Creek**	**37.36**	**153**	P	**P**		**16 34 12.5**	**+0.1**
HTT	**Hallett**	**37.60**	**158**	P	**P**		**16 34 14.7**	**+0.3**
MJAR	**Matsushiro Arr**	**38.00**	**20**	P	**P**		**16 34 17.7**	**0.0**
	comp=Z,0.7nm,0.7s,baz=191,slow=9.3,SNR=2.7							
MJAR				LR	LR		16 50 37.6	
	comp=Z,50nm,18.3s,baz=183,slow=37							
	comp=Z,0.7nm,0.7s							
CMSA	**Cobar Meteorol**	**39.09**	**148**	P	**P**		**16 34 28.2**	**+1.3**
ARPS	**Mount Arapiles**	**41.66**	**157**	P	**P**		**16 34 48.9**	**+0.8**
ARMA	**Armidale**	**41.70**	**141**	P	**P**		**16 34 48.6**	**-0.1**
ARMA				IAmb	IAmb		16 34 50.1	
	comp=Z,8.0nm,0.9s							
PALK	**Pallekele**	**42.40**	**279**	LR	LR		16 53 41.7	
	comp=Z,97nm,18.4s,baz=207,slow=38							
GTA	**Gaotai**	**43.48**	**334**	*e*P	**P**		**16 35 04.6**	**+1.5**
GTA				pP	pP		16 35 11.7	-0.9
GTA				sP	pwP		16 35 16.1	+0.2
GTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
CAN	**Canberra**	**43.76**	**149**	P	**P**		**16 35 04.5**	**-0.8**
CAN	**Canberra**	**43.76**	**149**	P	**P**		**16 35 06.5**	**+1.2**
SONM	**Songino Array**	**48.63**	**345**	P	**P**		**16 35 44.0**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=156,slow=8.1,SNR=5.4							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**57.54**	**328**	P	**P**		**16 36 48.6**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=138,slow=7.6,SNR=6.9							
MKAR				LR	LR		17 04 10.4	
	comp=Z,37nm,19.4s,baz=162,slow=39							
	comp=Z,1.1nm,0.9s							
PETK	**Petropavlovsk-**	**59.32**	**24**	P	**P**		**16 37 00.6**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=211,slow=5.0,SNR=7.2							
	comp=Z,3.0nm,0.9s							
ZALV	**Zalesovo Beam**	**61.20**	**335**	P	**P**		**16 37 13.2**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=107,slow=5.0,SNR=2.2							
	comp=Z,0.6nm,0.6s							
KURK	**Kurchatov**	**61.89**	**330**	P	**P**		**16 37 17.8**	**-1.0**
KURK				IAmb	IAmb		16 37 31.9	
	comp=Z,3.6nm,0.8s							
AKTO	**Aktyubinsk**	**73.28**	**323**	LR	LR		17 12 52.7	
	comp=Z,36nm,21.6s,baz=108,slow=38							
VNDA	**Vanda**	**81.40**	**172**	P	**P**		**16 39 15.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=312,slow=6.7,SNR=5.7							
VNDA				LR	LR		17 13 35.2	
	comp=Z,33nm,21.9s,baz=338,slow=34							
	comp=Z,1.2nm,0.7s							
VNDA	**Vanda**	**81.40**	**172**	P	**P**		**16 39 13.5**	**-2.2**
KMBO	**Kilima Mbogo**	**85.58**	**269**	LR	LR		17 19 53.7	
	comp=Z,65nm,18.2s,baz=93,slow=37							
IMAR	**Indian Mountai**	**86.28**	**24**	P	**P**		**16 39 37.5**	**-3.4**
BOSA	**Boshof**	**97.18**	**241**	LR	LR		17 23 25.8	
	comp=Z,44nm,19.4s,baz=41,slow=35							
HFS	**Hagfors**	**98.43**	**331**	LR	LR		17 28 17.5	
	comp=Z,49nm,18.1s,baz=12,slow=37							
TXAR	**Lajitas Array**	**126.27**	**52**	PKP	**PKPdf**		**16 46 02.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=318,slow=1.2,SNR=3.3							
LPAZ	**La Paz**	**161.49**	**145**	PKPab	**PKPab**		**16 47 46.5**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=216,slow=3.6,SNR=6.8							

*IDC **04** 16:38:58.1±0.7, 13°.37S×166°.58E, h0km, mb4.3/16, mbtmp4.3/17, ML3.4/1, MS3.9/14, Error ellipse: s-maj=23.2km s-min=15.7km az=105.0*
*NEIC **04** 16:39:03.9±1.7, 13°.35S±0°.08×166°.5E±0°.1, h35km±2km, mb4.9/33, Error ellipse: s-maj=23.5km s-min=14.1km az=81.0*
*NOU **04** 16:39:59.6, 17°.16S×167°.63E, h26km, mb4.4/12, Vanuatu Islands*
ISC 04 16:39:04.3±0.5,**13°.36S**±0°.06×**166°.37E**±0°.09,**h39**km,**n94,** σ1ᵍ**38**/88,**mb4.8**/31,**MS3.7**/11,**Vanuatu Islands**

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

KSRS	Korea Array	62.12	326	P		P	16 49 22.8	+1.4	
	comp=Z,0.9nm,0.8s,baz=141,slow=6.4,SNR=5.7								
	comp=Z,0.9nm,0.8s								
VNDA	Vanda	64.20	181	P		P	16 49 34.4	-0.3	
	comp=Z,1.0nm,0.7s,baz=352,slow=6.8,SNR=5.3								
	comp=Z,1.0nm,0.7s								
VNDA	Vanda	64.20	181	P		P	16 49 34.1	-0.5	
VNDA				IAmb		IAmb	16 51 25.0		
	comp=Z,15nm,1.9s								
CASY	Casey	64.46	202	P		P	16 49 35.3	-1.2	
CASY				IAmb		IAmb	16 50 05.1		
	comp=Z,14nm,1.5s								
SBA	Scott Base	64.50	180	P		P	16 49 36.6	+0.1	
SBA				IAmb		IAmb	16 49 37.2		
	comp=Z,22nm,1.7s								
SBA	Scott Base	64.50	180	P		P	16 49 35.7	-0.8	
USRK	Ussuriysk Ar.	65.28	333	P		P	16 49 43.4	+1.3	
	comp=Z,9.3nm,1.0s,baz=141,slow=5.9,SNR=14								
	comp=Z,9.3nm,1.0s								
USRK	Ussuriysk Ar.	65.28	333	P		P	16 49 43.1	+1.0	
CCD	Concordia, Ant	66.06	191	P		P	16 49 46.5	-0.7	
SHEM	Shemya Is, Ala	66.16	5	LR		LR	17 12 50.2		
	comp=Z,48nm,20.0s,baz=53,slow=31								
CMAR	Chiang Mai Arr	73.60	294	P		P	16 50 36.3	+2.3	
	comp=Z,1.2nm,0.7s,baz=127,slow=4.3,SNR=9.1								
	comp=Z,1.2nm,0.7s								
MA2	Magadan	73.78	352	LR		LR	17 19 35.8		
	comp=Z,35nm,20.1s,baz=152,slow=33								
QSPA	South Pole Qui	76.66	180	P		P	16 50 49.7	-1.3	
SEY	Seymchan	76.83	353	P		P	16 50 52.0	+0.4	
	comp=Z,2.5nm,0.6s,baz=171,slow=9.0,SNR=8.8								
	comp=Z,2.5nm,0.6s								
YAK	Yakutsk	80.48	343	P		P	16 51 11.9	+0.2	
	comp=Z,2.4nm,0.6s,baz=146,slow=3.6,SNR=4.3								
	comp=Z,2.4nm,0.6s								
ULN	Ulaanbaatar	80.52	324	P		P	16 51 13.0	+0.5	
ULN				IAmb		IAmb	16 51 14.9		
	comp=Z,9.4nm,0.8s								
SONM	Songino Array	80.88	324	P		P	16 51 15.8	+1.3	
	comp=Z,4.7nm,1.0s,baz=142,slow=5.6,SNR=18								
	comp=Z,4.7nm,1.0s								
SONM	Songino Array	80.88	324	P		P	16 51 15.1	+0.6	
SCM	Sheep Creek Mo	83.29	20	P		P	16 51 25.9	-0.8	
TRF	Thorofare Moun	83.52	18	P		P	16 51 27.9	-0.1	
BPAW	Bear Paw Mtn.	83.79	17	P		P	16 51 29.1	-0.1	
BPAW				IAmb		IAmb	16 51 36.7		
	comp=Z,11nm,1.7s								
RND	Reindeer	83.92	19	P		P	16 51 28.4	-1.4	
RND				IAmb		IAmb	16 51 30.9		
	comp=Z,10nm,1.2s								
DHY	Denali Highway	84.15	19	P		P	16 51 31.0	-0.1	
DHY				IAmb		IAmb	16 53 09.0		
	comp=Z,13nm,1.7s								
IMAR	Indian Mountai	84.48	15	P		P	16 51 32.0	-0.5	
MLY	Manley	84.56	17	P		P	16 51 33.0	-0.1	
PCA	Pinnacle	84.71	24	P		P	16 51 32.9	-1.1	
WRH	Wood River Hil	84.93	18	P		P	16 51 35.0	+0.2	
WRH				IAmb		IAmb	16 51 35.8		
	comp=Z,11nm,1.3s								
CCB	Clear Creek Bu	85.14	18	P		P	16 51 36.1	+0.2	
MDM	Murphy Dome	85.24	18	P		P	16 51 34.7	-1.8	
MDM				IAmb		IAmb	16 51 37.2		
	comp=Z,6.1nm,1.1s								
ILAR	Eielson Array	85.51	18	P		P	16 51 36.0	-1.7	
	comp=Z,1.7nm,0.4s,baz=233,slow=5.1,SNR=43								
ILAR				LR		LR	17 26 37.2		
	comp=Z,62nm,18.5s,baz=216,slow=34								
	comp=Z,1.7nm,0.4s								
J25K	Salcha River,	85.86	19	P		P	16 51 39.5	-0.2	
J25K				IAmb		IAmb	16 51 41.2		
	comp=Z,13nm,1.5s								
BBB	Bella Bella	86.14	34	LR		LR	17 24 41.9		
	comp=Z,56nm,18.9s,baz=278,slow=32								
PFO	Pinyon Flats O	86.92	55	LR		LR	17 25 07.5		
	comp=Z,82nm,18.4s,baz=219,slow=32								
EGAK	Eagle	87.33	20	P		P	16 51 45.8	-0.9	
EGAK				IAmb		IAmb	16 51 48.1		
	comp=Z,7.1nm,1.2s								
BMAR	Burnt Mountain	88.03	17	P		P	16 51 50.0	0.0	
BELA	Belgrano 2	88.14	176	P		P	16 51 48.5	-2.1	
INK	Inuvik	91.88	19	P		P	16 52 07.8	-0.1	
	comp=Z,3.1nm,1.1s,baz=328,slow=9.5,SNR=1.3								
INK				LR		LR	17 30 05.5		
	comp=Z,72nm,19.0s,baz=230,slow=33								
	comp=Z,3.1nm,1.1s								
TROLL	Troll, Antarti	94.14	185	P		P	16 52 17.2	-1.5	
SNAA	Sanae	94.86	183	P		P	16 52 19.4	-2.4	
SNAA	Sanae	94.86	183	P		P	16 52 20.0	-1.8	
SNAA				IAmb		IAmb	16 52 23.9		
	comp=Z,5.2nm,1.1s								
VNA3	Neumayer Olymp	95.56	181	P		P	16 52 23.3	-1.7	
MK31	Makanchi Array	95.61	317	P		P	16 52 25.5	-0.2	
MKAR	Makanchi Array	95.61	317	P		P	16 52 26.2	+0.6	
	comp=Z,1.7nm,0.7s,baz=93,slow=6.4,SNR=16								
	comp=Z,1.7nm,0.7s								
MKAR	Makanchi Array	95.61	317	P		P	16 52 25.6	-0.1	
ZAA0	Zalesovo Array	95.78	324	P		P	16 52 25.7	-0.5	
ZAA0				IAmb		IAmb	16 52 26.5		
	comp=Z,4.2nm,0.8s								
ZALV	Zalesovo Beam	95.78	324	P		P	16 52 26.2	0.0	
	comp=Z,2.8nm,0.7s,baz=115,slow=4.4,SNR=13								
	comp=Z,2.8nm,0.7s								
ZALV	Zalesovo Beam	95.78	324	P		P	16 52 25.2	-0.9	
VNA2	Neumayer--Watz	95.81	182	P		P	16 52 24.6	-1.6	
	baz=181,slow=6.0								
VNA1	Neumayer--Stat	96.11	182	P		P	16 52 25.9	-1.6	
ARCES	ARCESS Array B	118.72	345	PKP		PKPdf	16 57 46.6	-1.0	
	comp=Z,0.7nm,0.5s,baz=59,slow=1.7,SNR=9.9								
FINES	FINESS Array B	124.14	338	PKP		PKPdf	16 57 58.2	0.0	
	comp=Z,0.6nm,0.5s,baz=27,slow=1.6,SNR=6.6								
NOA	NORSAR Array B	129.08	345	PKP		PKPdf	16 58 07.5	-0.3	
	comp=Z,0.6nm,0.9s,baz=60,slow=2.5,SNR=2.5								
AKASG	Malin Array Be	129.12	326	PKP		PKPdf	16 58 07.4	-0.7	
	comp=Z,0.5nm,0.5s,baz=45,slow=2.5,SNR=2.2								
BRTR	Keskin Array B	130.96	311	PKP		PKiKP	16 58 12.6	-0.4	
	comp=Z,0.5nm,0.6s,baz=44,slow=3.0,SNR=2.6								
GERES	GERESS Array B	138.03	333	PKP		PKPdf	16 58 25.5	+0.5	
	comp=Z,0.9nm,1.0s,baz=169,slow=1.4,SNR=4.1								
KEST	Kesra	149.60	321	PKPbc		PKPbc	16 58 50.5	+0.3	
	comp=Z,5.3nm,0.7s,baz=296,slow=5.3,SNR=7.6								
ESDC	Sonseca Array	152.44	344	PKPbc		PKPbc	16 58 56.1	-0.5	
	comp=Z,0.4nm,0.6s,baz=18,slow=4.1,SNR=7.4								
ESDC				PKPab		PKPab	16 59 06.7	-0.1	
	comp=Z,0.8nm,0.7s,baz=6.7,slow=3.9,SNR=6.9								

*IDC **04** 16:42:45.6±1.7, 35.80N×140.36E, h89km±15km, mb3.5/10, mbtmp3.8/13, MS3.6/2, Error ellipse: s-maj=26.0km s-min=10.3km az=79.0*
*JMA **04** 16:42:45.7±0.1, 35.9N±0.4×140.3E±0.7, h90km±1km, MV3.6/40, SOUTHERN IBARAKI PREF*
JMA Felt I J1 at SOUTHERN IBARAKI PREF .
*NEIC **04** 16:42:45.3±0.8, 35.87N±0.04×140.5E±0.1, h88km±5km, mb4.4/10, Error ellipse: s-maj=12.0km s-min=5.7km az=99.0*

ISC 04 16:42:45.5±0.7, 35.85N±0.04×140.40E±0.05, h91km±5km, n60, σ1s01/64, mb3.9/16, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	Itakohorinouch	0.15	42	P	Pn	16 42 59.0	+0.6
JSMT	Sammumatsuo	0.21	169	P	Pn	16 42 59.6	+0.9
JSMT				eS	Sn	16 43 10.3	+1.9
JYT	Yasato	0.41	336		Pn	16 42 59.3	-0.3
JYT				Sn	Sn	16 43 09.3	-0.9
JYT	Yasato	0.41	336	P	Pn	16 42 59.4	-0.3
JYT				eS	Sn	16 43 09.8	-0.4
JAG	Ashikaga	0.95	307	P	Pn	16 43 04.4	-0.3
BSO3	Boso 3	1.05	175	⇓P	Pn	16 43 06.0	+0.4
BSO3				⇓eS	Sn	16 43 22.6	+1.9
JOD2	Odawara 2	1.22	242	⇓P	Pn	16 43 07.6	-0.3
JOD2				⇓S	Sn	16 43 23.5	-1.2
JRY	Ryogami san	1.23	278	P	Pn	16 43 07.9	0.0
BSO1	Boso 1	1.29	158	P	Pn	16 43 08.6	+0.5
JKT	Katashina	1.30	315	eP	Pn	16 43 08.5	-0.4
JIM2	Oshima 3	1.38	215	P	Pn	16 43 09.1	-0.8
JFNN	Fujinakano	1.54	245	P	Pn	16 43 11.7	-0.1
JFNN				eS	Sn	16 43 31.2	-0.6
JYN	Shimob	1.55	257	⇓P	Pn	16 43 12.0	0.0
JYN				⇓eS	Sn	16 43 31.4	-0.7
JFY	Yanaizu	1.65	340	⇓P	Pn	16 43 13.2	+0.1
JFY				⇓eS	Sn	16 43 34.7	+0.5
JFT	Otama	1.66	358	⇓P	Pn	16 43 13.2	-0.1
JFT				⇓eS	Sn	16 43 34.1	-0.4
MJAR	Matsushiro Arr	1.90	292	P	Pn	16 43 14.9	-1.5
	41nm,0.8s,baz=93,slow=15,SNR=90						
MJAR				S	Sn	16 43 42.3	+2.3
	15nm,0.5s,baz=310,slow=22,SNR=3.7						
MAJO	Matsushiro	1.90	292		Pn	16 43 16.6	+0.2
JMM	Marumori	2.03	9		Pn	16 43 17.7	-0.4
JGF	Kuroka	2.49	265	Pn	Pn	16 43 25.1	+1.0
JSD	Sado	2.77	322		Pn	16 43 27.3	-0.6
JHJ	Hachijo jima 2	2.77	191	P	Pn	16 43 28.0	0.0
	341nm,0.3s,baz=52,slow=23,SNR=109						
JHJ				S	Sn	16 43 60.0	-0.7
	201nm,0.3s,baz=134,slow=22,SNR=8.3						
JHJ2	Mitsune	2.78	190		Pn	16 43 27.8	-0.3
INU	Inuyama	2.80	261		Pn	16 43 28.9	+0.5
JTM	Tenmabayashi	4.95	6		Pn	16 43 56.6	-0.8
JMN	Monobe	5.77	250	Pn	Pn	16 44 09.7	+1.1
JHS	Saijyo	6.01	264		Pn	16 44 12.5	+0.7
JCJ	Chichijima	8.86	170	P	Pn	16 44 46.7	-4.0
	61nm,0.3s,baz=320,slow=10,SNR=21						
JCJ				S	Sn	16 46 18.6	-10
	26nm,0.3s,baz=257,slow=16,SNR=1.9						
KSRS	Korea Array	10.15	283	P	Pn	16 45 09.6	+1.5
	1.1nm,0.9s,baz=90,slow=13,SNR=5.3						
USRK	Ussuriysk Ar.	10.53	325	P	Pn	16 45 13.7	+0.3
	1.6nm,0.8s,baz=139,slow=13,SNR=2.7						
YSS	Yuzh-Sakhalins	11.23	8		Pn	16 45 20.2	-2.6
PETK	Petropavlovsk-	21.12	30	P	P	16 47 23.3	+0.7
	1.3nm,0.8s,baz=212,slow=7.1,SNR=4.5						
	1.3nm,0.8s						
MA2	Magadan	24.68	13	P	P	16 47 59.1	+1.5
	3.1nm,0.8s,baz=206,slow=8.9,SNR=7.2						
	3.1nm,0.8s						
MA2	Magadan	24.68	13	P	P	16 47 58.3	+0.8
SONM	Songino Array	27.79	306	P	P	16 48 27.7	+1.8
	0.5nm,0.6s,baz=98,slow=8.0,SNR=3.2						
	0.5nm,0.6s						
H11N2	WAKE ISLAND Hy	28.29	118	T	T	17 18 19.5	
	baz=314,slow=74						
H11N1	WAKE ISLAND Hy	28.30	118	T	T	17 18 22.2	
	baz=314,slow=74						
H11N3	WAKE ISLAND Hy	28.31	118	T	T	17 18 27.0	
	baz=314						
H11S3	WAKE ISLAND Hy	28.95	120	T	T	17 19 44.6	
	baz=314,slow=76,SNR=9.7						
H11S1	WAKE ISLAND Hy	28.95	120	T	T	17 19 44.0	
	baz=314,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	28.96	120	T	T	17 19 45.8	
	baz=314,slow=76,SNR=6.2						
ZALV	Zalesovo Beam	42.12	313	P	P	16 50 28.9	+0.5
	1.3nm,0.7s,baz=79,slow=7.7,SNR=5.0						
	1.3nm,0.7s						
MK31	Makanchi Array	44.06	303	P	P	16 50 44.3	+0.1
MKAR	Makanchi Array	44.06	303	P	P	16 50 44.5	+0.3
	1.4nm,0.6s,baz=89,slow=10.0,SNR=20						
	1.4nm,0.6s						
MKAR	Makanchi Array	44.06	303	P	P	16 50 44.0	-0.2
KURK	Kurchatov	46.02	309	P	P	16 50 58.6	-1.0
KURK				IAmb	IAmb	16 51 02.1	
	comp=Z,2.9nm,0.5s						
MTN	Manton Dam	49.22	192	P	P	16 51 24.8	+0.1
NEA2	Nenana	49.99	32	P	P	16 51 30.0	0.0
NEA2				IAmb	IAmb	16 51 54.7	
	comp=Z,5.6nm,1.4s						
BVAR	Borovoye Array	50.77	313	LR	LR	17 14 45.7	
	comp=Z,52nm,18.5s,baz=138,slow=38						
IL31		50.93	32	P	P	16 51 35.9	-1.1
IL31				IAmb	IAmb	16 52 05.2	
	comp=Z,5.4nm,1.2s						
ILAR	Eielson Array	50.93	32	P	P	16 51 36.9	-0.2
FITZ	Fitzroy Crossi	55.45	197	P	P	16 52 10.3	-0.4
FITZ				IAmb	IAmb	16 52 47.3	
	comp=Z,5.3nm,1.4s						
WB0	Warramunga Arr	55.61	187	P	P	16 52 11.6	-0.2
WB2	Warramunga Arr	55.78	187	P	P	16 52 12.6	-0.5
WB2				IAmb	IAmb	16 52 48.0	
	comp=Z,6.6nm,1.2s						
WRA	Warramunga Arr	55.79	187	P	P	16 52 12.9	-0.2
	comp=Z,1.3nm,0.5s,baz=1.5,slow=7.5,SNR=32						
	comp=Z,1.3nm,0.5s						
ARU	Arti	56.71	319	P	P	16 52 19.3	+0.1
ARU				IAmb	IAmb	16 52 20.2	
	comp=Z,4.0nm,1.1s						
ABKAR	Akbulak array	58.08	310	P	P	16 52 29.1	0.0
ASAR	Alice Springs	59.51	187	P	P	16 52 39.2	0.0
	comp=Z,0.4nm,0.8s,baz=17,slow=9.9,SNR=9.9						
	comp=Z,0.4nm,0.8s						
FINES	FINESS Array B	69.47	332	P	P	16 53 43.8	+0.2
	comp=Z,0.9nm,0.7s,baz=90,slow=5.7,SNR=4.6						
	comp=Z,0.9nm,0.7s						
AKASG	Malin Array Be	74.73	322	P	P	16 54 15.1	0.0
	comp=Z,0.6nm,0.5s,baz=46,slow=6.8,SNR=4.3						
AKASG				LR	LR	17 29 26.0	
	comp=Z,39nm,18.4s,baz=304,slow=38						
	comp=Z,0.6nm,0.5s						
NOA	NORSAR Array B	74.95	337	P	P	16 54 16.8	+0.4
	comp=Z,0.4nm,0.5s,baz=39,slow=5.9,SNR=3.6						
	comp=Z,0.4nm,0.5s						

*IDC **04** 16:50:56.1±0.5, 10.51N×126.76E, h0km, mb4.3/25, mbtmp4.3/27, ML4.0/2, MS3.4/6, Error ellipse: s-maj=21.0km s-min=10.0km az=88.0*
*MAN **04** 16:50:57.7, 10.61N×126.84E, h33km, mb4.9, ML3.8, MS3.8*
*DJA **04** 16:50:58.8±0.5, 11°N±5°×12°7E±°, h10km, M4.6/16, mB5.8/1, mb4.6/16, MLv4.7/1, Mw(mB)5.4/1*
*NEIC **04** 16:51:02.2±1.5, 10.51N±0.08×126.7E±0.1, h36km±7km, mb4.7/109, Error ellipse: s-maj=16.3km s-min=11.7km az=92.0*

ISC 04 16:51:01.5±0.3, 10.49N±0.04×126.74E±0.06, h35km, n309, σ0s99/313, mb4.6/84, MS3.3/7, 8C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.42	241	eP	Pn	16 51 22.9	-2.0
TASP	Talacogon, Agu	2.22	205	⇑iP	Pn	16 51 35.9	0.0
TASP				iS	Sn	16 51 40.3	-22
BIPH	Bislig	2.32	189	⇑iP	Pn	16 51 36.0	-1.2
BIPH				eS	Sn	16 52 00.5	-4.0
TABP	Talibon, Bohol	2.40	261	⇑eP	Pn	16 51 37.8	-0.6
TABP				iS	Sn	16 51 55.4	-11
GHBP	Garcia Hernand	2.53	251	⇑iP	Pn	16 51 39.7	-0.5
GHBP				iS	Sn	16 52 08.8	-1.0
LLP	Lapu-Lapu	2.74	267	⇑iP	Pn	16 51 43.1	+0.1
LLP				iS	Sn	16 52 14.9	+0.1
LSIP	Lazi, Siquijor	3.35	247	⇓eP	Pn	16 51 50.9	-0.4
LSIP				iS	Sn	16 52 34.9	+4.9
DAV	Davao City (W)	3.58	199	Pn	Pn	16 51 54.6	-0.1
	19nm,0.3s,baz=84,slow=19,SNR=1.7						
DAV				Sn	Sn	16 52 38.0	+2.2
	21nm,0.3s,baz=53,slow=21,SNR=3.6						
	79nm,0.5s						
DAV	Davao City (W)	3.58	199	Pn	Pn	16 51 55.0	+0.4
SNPH	Sibulan	3.64	252	⇓iP	Pn	16 51 56.1	+0.7
SNPH				iS	Sn	16 52 33.0	-4.2
KCP	Kidapawan	3.82	205	⇑eP	Pn	16 51 57.2	-0.7
KCP				iS	Sn	16 52 41.6	-0.1
DCPH	Dipolog City	3.84	241	eP	Pn	16 51 58.4	+0.2
RCP	Roxas	4.07	286	⇓eP	Pn	16 52 01.7	+0.4
CTBH	Cotabato--PC H	4.07	217	⇓iP	Pn	16 51 59.8	-1.6
TNTI	Ternate	9.67	176	Pn	Pn	16 53 18.0	-0.2
TNTI	Ternate	9.67	176	P	Pn	16 53 17.8	-0.5
	18nm,0.7s						
MYLDM	Lahad Datu	9.72	238	Pn	Pn	16 53 21.5	+2.6
SIJI	Sorong	12.14	158	Pn	Pn	16 53 50.9	-1.3
	0.5nm,0.3s,baz=49,slow=21,SNR=4.6						
	4.2nm,0.5s						
FAKI	Fak Fak	14.40	157	Pn	Pn	16 54 26.4	+3.4
BNDI	Bandanaira	15.24	168	P	Pn	16 54 36.5	+2.3
	142nm,1.2s						
SPSI	Sidrap Palu	15.95	206	P	P	16 54 46.2	-0.4
	20nm,0.8s						
SBUM	Sibu	16.48	242	P	Pn	16 54 51.7	+1.5
MMRI	Maumere	19.52	193	P	P	16 55 25.5	-0.5
MMRI				IAmb	IAmb	16 55 37.9	
	comp=Z,36nm,0.7s						
EDFI	Ende, Flores	19.76	195	P	P	16 55 30.2	+1.4
	comp=Z,14nm,0.7s						
BATI	Baumata	20.78	189	P	P	16 55 40.9	+1.1
	comp=Z,72nm,0.7s,baz=300,slow=1.5,SNR=12						
	comp=Z,72nm,0.7s						
BATI	Baumata	20.78	189	P	P	16 55 40.2	+0.4
	comp=Z,60nm,0.8s						

JSU	Suzuyama	21.20	9	P		P	16 55 44.0	-0.2	
JSU				IAmb		IAmb	16 55 57.7		
	comp=Z,54nm,1.3s								
SRBI	Singaraja	21.73	212	P		P	16 55 47.8	-2.1	
	comp=Z,27nm,0.8s								
JCJ	Chichijima	22.02	39	LR		LR	17 03 01.6		
	comp=Z,63nm,21.2s,baz=114,slow=33								
JNU	Nakatsue	22.85	9	P		P	16 56 00.9	-1.0	
JNU				IAmb		IAmb	16 56 02.9		
	comp=Z,18nm,0.7s								
TPI	Tanjungpandan	23.11	236	P		P	16 56 05.9	+1.3	
	comp=Z,16nm,1.0s								
MTN	Manton Dam	23.58	169	P		P	16 56 09.0	-0.2	
MTN				IAmb		IAmb	16 56 29.1		
	comp=Z,30nm,1.4s								
JMN	Monobe	24.04	15	P		P	16 56 13.6	+0.1	
PPBI	Pangkal Pinang	24.05	240	P		P	16 56 13.5	-0.2	
	comp=Z,3μmcomp=Z,40nm,1.2s								
MYKOM	Kota Tinggi	24.32	251	P		P	16 56 16.3	+0.1	
MYKOM				IAmb		IAmb	16 56 17.8		
	comp=Z,23nm,1.1s								
DSRI	Dabo	24.59	245	P		P	16 56 19.4	+0.8	
	comp=Z,13nm,1.4s								
NAWB	Namwon	24.83	1	P		P	16 56 21.0	+0.5	
NAWB				IAmb		IAmb	16 56 45.2		
	comp=Z,41nm,1.5s								
JHS	Saijyo	25.09	12	P		P	16 56 23.5	+0.5	
JHS				IAmb		IAmb	16 56 54.6		
	comp=Z,19nm,1.2s								
JHJ	Hachijo jima 2	25.52	26	LR		LR	17 05 07.8		
	comp=Z,59nm,22.0s,baz=254,slow=33								
LEM	Lembang	25.66	229	P		P	16 56 29.2	+0.7	
	comp=Z,24nm,0.8s,baz=132,slow=9.9,SNR=6.7								
	comp=Z,24nm,0.8s								
KNRA	Kununurra	26.07	176	P		P	16 56 32.3	+0.3	
KNRA				IAmb		IAmb	16 56 40.7		
	comp=Z,14nm,0.8s								
IPM	Ipoh	26.17	259	P		P	16 56 32.8	-0.2	
IPM				IAmb		IAmb	16 56 34.3		
	comp=Z,19nm,1.0s								
INU	Inuyama	26.46	19	P		P	16 56 35.1	-0.3	
KSAR	Wonju Array Be	26.86	2	P		P	16 56 37.9	-1.0	
KSRS	Korea Array	26.87	2	P		P	16 56 38.9	-0.2	
	comp=Z,2.8nm,0.8s,baz=173,slow=10,SNR=16								
KSRS				LR		LR	17 09 27.9		
	comp=Z,65nm,18.5s,baz=185,slow=41								
	comp=Z,2.8nm,0.8s								
MJAR	Matsushiro Arr	27.94	20	P		P	16 56 47.3	-1.4	
	comp=Z,1.9nm,0.8s,baz=188,slow=9.9,SNR=11								
MJAR				LR		LR	17 06 32.7		
	comp=Z,76nm,20.7s,baz=207,slow=34								
	comp=Z,1.9nm,0.8s								
CMAR	Chiang Mai Arr	28.03	290	P		P	16 56 48.1	-1.5	
	comp=Z,1.3nm,0.6s,baz=99,slow=5.4,SNR=12								
	comp=Z,1.3nm,0.6s								
CMAR	Chiang Mai Arr	28.03	290	P		P	16 56 47.5	-2.2	
FITZ	Fitzroy Crossi	28.42	182	P		P	16 56 52.9	-0.1	
	comp=Z,2.3nm,0.8s,baz=15,slow=9.2,SNR=2.1								
	comp=Z,2.3nm,0.8s								
FITZ	Fitzroy Crossi	28.42	182	P		P	16 56 52.4	-0.6	
JMM	Marumori	30.05	23	P		P	16 57 06.6	-0.7	
WB0	Warramunga Arr	30.99	166	P		P	16 57 14.5	-1.3	
WRA	Warramunga Arr	31.15	166	P		P	16 57 15.8	-1.4	
	comp=Z,1.3nm,0.7s,baz=348,slow=9.4,SNR=9.1								
WRA				PcP		PcP	17 00 12.1	+0.1	
	comp=Z,0.4nm,0.5s,baz=348,slow=3.1,SNR=2.9								
	comp=Z,1.3nm,0.7s								
WRA	Warramunga Arr	31.15	166	P		P	16 57 15.7	-1.6	
WB2	Warramunga Arr	31.15	166	P		P	16 57 15.5	-1.8	
MBWA	Marble Bar	32.19	192	P		P	16 57 26.8	+0.4	
MBWA				IAmb		IAmb	16 57 42.9		
	comp=Z,8.8nm,0.9s								
PSA00	Pilbara Seismi	32.57	192	P		P	16 57 29.5	-0.2	
PSA00				IAmb		IAmb	16 57 31.9		
	comp=Z,8.0nm,0.8s								
CN2	Changchun	33.21	358	eP		P	16 57 35.1	0.0	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
USRK	Ussuriysk Ar.	33.90	7	P		P	16 57 41.4	+0.4	
	comp=Z,7.2nm,0.8s,baz=192,slow=8.9,SNR=23								
	comp=Z,7.2nm,0.8s								
AS31	Alice Springs	34.66	168	P		P	16 57 46.8	-1.0	
ASAR	Alice Springs	34.66	168	P		P	16 57 47.2	-0.6	
	comp=Z,1.2nm,0.6s,baz=346,slow=8.2,SNR=24								
ASAR				PcP		PcP	17 00 21.9	+0.1	
	comp=Z,0.6nm,0.6s,baz=341,slow=2.6,SN

KK31				IAmb	IAmb	17 00 59.9			
	comp=Z,6.5nm,1.4s								
KKAR	**Karatay Array**	**58.43**	**314**	P	**P**	**17 00 52.9**	**-1.0**
BRVK	**Borovoye**	**61.83**	**325**	P	**P**	**17 01 15.9**	**-1.1**
BRVK				IAmb	IAmb	17 01 20.1			
	comp=Z,4.3nm,0.8s								
NRIK	**Noril'sk**	**63.92**	**346**	P	**P**	**17 01 30.2**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=106,slow=6.1,SNR=4.0								
	comp=Z,1.6nm,0.4s								
GEYT	**Alibeck**	**66.79**	**307**	P	**P**	**17 01 49.0**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**66.79**	**307**	P	**P**	**17 01 48.9**	**-1.0**
ABKAR	**Akbulak array**	**67.02**	**319**	P	**P**	**17 01 50.2**	**-0.8**
UNV	**Unalaska Valle**	**67.94**	**36**	P	**P**	**17 01 56.6**	**0.0**
ANM	**Nome**	**71.16**	**25**	P	**P**	**17 02 15.8**	**-0.6**
	baz=254								
N16K	**Nishlik Lake**	**73.30**	**30**	P	**P**	**17 02 30.3**	**+1.0**
	baz=262								
O16K	**Kokwok River B**	**73.52**	**31**	P	**P**	**17 02 31.0**	**+0.5**
	baz=262								
O17K	**Koliganek Bris**	**74.04**	**31**	P	**P**	**17 02 34.4**	**+0.8**
	baz=263								
R17K	**Ugashik Creek**	**74.18**	**33**	P	**P**	**17 02 35.1**	**+0.6**
	baz=265								
P17K	**Kvichak River**	**74.31**	**31**	P	**P**	**17 02 35.6**	**+0.5**
	baz=264								
CHIR	**Chirikof Islan**	**74.45**	**35**	P	**P**	**17 02 36.7**	**+0.6**
N18K	**Kilae Creek**	**74.74**	**30**	P	**P**	**17 02 37.9**	**+0.1**
N18K				IAmb	IAmb	17 02 40.0			
	comp=Z,7.1nm,0.9s								
N18K	**Kilae Creek**	**74.74**	**30**	P	**P**	**17 02 38.2**	**+0.4**
	baz=264								
SVW2	**Sparrevohn**	**74.93**	**29**	P	**P**	**17 02 39.7**	**+0.9**
SVW2				IAmb	IAmb	17 02 41.5			
	comp=Z,8.6nm,1.0s								
O18K	**Koktuh Hills**	**75.00**	**31**	P	**P**	**17 02 40.5**	**+1.2**
O18K	**Koktuh Hills**	**75.00**	**31**	P	**P**	**17 02 39.6**	**+0.4**
	baz=265,SNR=5.0								
L19K	**White Mountain**	**75.38**	**28**	P	**P**	**17 02 42.4**	**+1.0**
L19K				IAmb	IAmb	17 02 43.5			
	comp=Z,5.0nm,0.8s								
L19K	**White Mountain**	**75.38**	**28**	P	**P**	**17 02 41.3**	**-0.1**
	baz=265								
N19K	**Bonanza Creek**	**75.44**	**30**	P	**P**	**17 02 43.3**	**+1.5**
N19K				IAmb	IAmb	17 02 44.1			
	comp=Z,11nm,0.9s								
N19K	**Bonanza Creek**	**75.44**	**30**	P	**P**	**17 02 41.5**	**-0.4**
	baz=265								
M19K	**Big River Lodg**	**75.57**	**29**	P	**P**	**17 02 42.6**	**+0.1**
	baz=265								
OHAK	**Old Harbor**	**75.83**	**34**	P	**P**	**17 02 44.3**	**+0.3**
OHAK	**Old Harbor**	**75.83**	**34**	P	**P**	**17 02 44.7**	**+0.8**
	baz=267								
K20K	**Telida**	**75.84**	**27**	P	**P**	**17 02 45.3**	**+1.3**
	baz=265								
J20K	**Nowinta River**	**75.88**	**26**	P	**P**	**17 02 45.2**	**+1.0**
J20K				IAmb	IAmb	17 03 06.6			
	comp=Z,7.8nm,1.4s								
J20K	**Nowinta River**	**75.88**	**26**	P	**P**	**17 02 45.3**	**+1.2**
	baz=265								
P19K	**Oil Pt**	**75.98**	**31**	P	**P**	**17 02 45.0**	**+0.1**
ILSW	**Iliamna Southw**	**76.04**	**31**	P	**P**	**17 02 45.3**	**0.0**
ILSW				IAmb	IAmb	17 02 56.7			
	comp=Z,16nm,1.4s								
M20K	**Styx River**	**76.17**	**29**	P	**P**	**17 02 47.0**	**+1.1**
M20K				IAmb	IAmb	17 02 48.1			
	comp=Z,5.4nm,0.7s								
M20K	**Styx River**	**76.17**	**29**	P	**P**	**17 02 45.6**	**-0.3**
	baz=266								
IMAR	**Indian Mountai**	**76.22**	**24**	P	**P**	**17 02 47.0**	**+1.0**
KDAK	**Kodiak Island**	**76.23**	**33**	P	**P**	**17 02 46.7**	**+0.4**
KDAK	**Kodiak Island**	**76.23**	**33**	P	**P**	**17 02 46.8**	**+0.5**
	baz=268								
RSO	**Redoubt South**	**76.26**	**30**	P	**P**	**17 02 47.1**	**+0.5**
G21K	**Allakaket**	**76.36**	**24**	P	**P**	**17 02 47.4**	**+0.5**
	baz=265,SNR=5.3								
H21K	**Melozitna Rive**	**76.58**	**25**	P	**P**	**17 02 48.2**	**+0.1**
H21K	**Melozitna Rive**	**76.58**	**25**	P	**P**	**17 02 50.0**	**+1.9**
	baz=266								
PPLA	**Purkeypile**	**76.66**	**28**	P	**P**	**17 02 49.4**	**+0.6**
	baz=267								
CHUM	**Lake Minchumin**	**76.67**	**27**	P	**P**	**17 02 48.9**	**+0.3**
	baz=267								
CAST	**Castle Rocks**	**76.74**	**27**	P	**P**	**17 02 49.5**	**+0.4**
CAST				IAmb	IAmb	17 02 50.7			
	comp=Z,7.3nm,0.8s								
CAST	**Castle Rocks**	**76.74**	**27**	P	**P**	**17 02 48.8**	**-0.3**
	baz=267,SNR=5.5								
I21K	**Tanana**	**76.89**	**25**	P	**P**	**17 02 50.6**	**+0.8**
I21K				IAmb	IAmb	17 02 52.0			
	comp=Z,7.0nm,0.8s								
I21K	**Tanana**	**76.89**	**25**	P	**P**	**17 02 49.7**	**-0.2**
	baz=267,SNR=5.8								
SKT	**Skwentna**	**76.93**	**29**	P	**P**	**17 02 50.3**	**+0.1**
	baz=268								
F22K	**John River**	**76.96**	**23**	P	**P**	**17 02 50.5**	**+0.2**
	baz=266								
CNPM	**China Poot**	**76.99**	**31**	P	**P**	**17 02 50.7**	**+0.1**
E22K	**Anaktuvuk Pass**	**77.15**	**22**	P	**P**	**17 02 51.8**	**+0.5**
	baz=266								
BRLK	**Bradley Lake**	**77.17**	**31**	P	**P**	**17 02 51.6**	**0.0**
H22K	**Ishtalitna Cre**	**77.18**	**25**	P	**P**	**17 02 51.3**	**-0.2**
	baz=267,SNR=5.3								
G22K	**Bettles**	**77.19**	**24**	P	**P**	**17 02 51.8**	**+0.3**
	baz=267								
BRSE	**Bradley Lake S**	**77.25**	**31**	P	**P**	**17 02 52.4**	**+0.4**
	baz=269								
BPAW	**Bear Paw Mtn.**	**77.26**	**26**	P	**P**	**17 02 52.6**	**+0.6**
BPAW				IAmb	IAmb	17 02 53.7			
	comp=Z,8.5nm,0.8s								
BPAW	**Bear Paw Mtn.**	**77.26**	**26**	P	**P**	**17 02 52.6**	**+0.6**
	baz=268,SNR=9.7								
KTH	**Kantishna Hill**	**77.27**	**27**	P	**P**	**17 02 52.8**	**+0.7**
KTH				IAmb	IAmb	17 03 25.9			
	comp=Z,6.9nm,1.3s								
SUA	**Susitna One**	**77.28**	**29**	P	**P**	**17 02 51.3**	**-1.0**
	baz=268,SNR=5.1								
MLY	**Manley**	**77.41**	**26**	P	**P**	**17 02 53.5**	**+0.7**
MLY				IAmb	IAmb	17 02 54.6			
	comp=Z,4.7nm,0.8s								
MLY	**Manley**	**77.41**	**26**	P	**P**	**17 02 53.2**	**+0.3**
	baz=268,SNR=8.3								
TRF	**Thorofare Moun**	**77.55**	**27**	P	**P**	**17 02 53.6**	**-0.2**
TRF	**Thorofare Moun**	**77.55**	**27**	P	**P**	**17 02 53.4**	**-0.5**
	baz=268								
M22K	**Willow**	**77.59**	**29**	P	**P**	**17 02 53.5**	**-0.3**
	baz=269								
D23K	**Nanushuk River**	**77.61**	**22**	P	**P**	**17 02 54.2**	**+0.3**
	baz=267								
C23K	**Itkillik River**	**77.69**	**21**	P	**P**	**17 02 54.5**	**+0.2**
	baz=267								
COLD	**Coldfoot**	**77.71**	**23**	P	**P**	**17 02 55.2**	**+0.8**
COLD				IAmb	IAmb	17 02 56.6			
	comp=Z,5.5nm,1.0s								
COLD	**Coldfoot**	**77.71**	**23**	P	**P**	**17 02 55.2**	**+0.8**
	baz=268								
G23K	**Bananza Creek**	**77.76**	**24**	P	**P**	**17 02 55.6**	**+0.8**
	baz=268								
SEW	**Seward**	**77.90**	**31**	P	**P**	**17 02 55.5**	**0.0**
SEW	**Seward**	**77.90**	**31**	P	**P**	**17 02 55.4**	**-0.2**
	baz=270								
H23K	**Yukon River**	**77.93**	**25**	P	**P**	**17 02 56.6**	**+0.8**
H23K				IAmb	IAmb	17 02 57.5			
	comp=Z,4.3nm,0.9s								
H23K	**Yukon River**	**77.93**	**25**	P	**P**	**17 02 56.9**	**+1.1**
	baz=269								
TOLK	**Toolik Lake Re**	**78.00**	**22**	P	**P**	**17 02 57.1**	**+0.9**
TOLK				IAmb	IAmb	17 03 00.7			
	comp=Z,13nm,1.4s								
TOLK	**Toolik Lake Re**	**78.00**	**22**	P	**P**	**17 02 57.0**	**+0.9**
	baz=268								
PMR	**Palmer**	**78.06**	**29**	P	**P**	**17 02 56.5**	**0.0**
PMR				IAmb	IAmb	17 02 57.5			
	comp=Z,7.9nm,1.0s								
PMR	**Palmer**	**78.06**	**29**	P	**P**	**17 02 56.6**	**+0.2**
	baz=270								
NEA2	**Nenana**	**78.11**	**26**	P	**P**	**17 02 56.7**	**0.0**
NEA2				IAmb	IAmb	17 02 58.2			
	comp=Z,4.2nm,0.8s								
NEA2	**Nenana**	**78.11**	**26**	P	**P**	**17 02 56.9**	**+0.2**
	baz=269								
MCK	**McKinley**	**78.16**	**27**	P	**P**	**17 02 57.0**	**-0.1**
MCK	**McKinley**	**78.16**	**27**	P	**P**	**17 02 57.0**	**-0.1**
	baz=270,SNR=6.2								
RND	**Reindeer**	**78.19**	**27**	P	**P**	**17 02 57.2**	**-0.1**
RND				IAmb	IAmb	17 02 58.5			
	comp=Z,7.7nm,1.2s								
D24K	**Happy Valley**	**78.29**	**21**	P	**P**	**17 02 58.2**	**+0.6**
	baz=269								
WAT1	**Susitna Watana**	**78.33**	**28**	P	**P**	**17 02 57.7**	**-0.4**
	baz=270								
C24K	**Franklin Bluff**	**78.35**	**21**	P	**P**	**17 02 58.3**	**+0.4**
	baz=269								
KNK	**Knik Glacier**	**78.38**	**29**	P	**P**	**17 02 58.5**	**+0.2**
KNK	**Knik Glacier**	**78.38**	**29**	P	**P**	**17 02 58.8**	**+0.5**
	baz=271								
E24K	**Your Creek**	**78.39**	**22**	P	**P**	**17 02 57.1**	**-1.2**
	baz=269,SNR=6.1								
SML	**Sawmill**	**78.44**	**29**	P	**P**	**17 02 58.9**	**+0.2**
SML				IAmb	IAmb	17 02 59.8			
	comp=Z,12nm,1.0s								
SML	**Sawmill**	**78.44**	**29**	P	**P**	**17 02 59.1**	**+0.4**
	baz=271								
PWL	**Port Wells**	**78.45**	**30**	P	**P**	**17 02 58.8**	**+0.1**
PWL	**Port Wells**	**78.45**	**30**	P	**P**	**17 02 58.8**	**+0.1**
	baz=271,SNR=6.0								
MDM	**Murphy Dome**	**78.47**	**26**	P	**P**	**17 02 58.8**	**0.0**
MDM				IAmb	IAmb	17 03 01.2			
	comp=Z,6.5nm,1.2s								
WRH	**Wood River Hil**	**78.53**	**26**	P	**P**	**17 02 59.2**	**+0.1**
F24K	**Squaw Lake**	**78.61**	**23**	P	**P**	**17 03 00.3**	**+0.8**
	baz=270,SNR=7.2								
H24K	**Noodor Dome**	**78.62**	**25**	P	**P**	**17 03 00.5**	**+0.9**
H24K				IAmb	IAmb	17 03 03.0			
	comp=Z,10nm,1.4s								
H24K	**Noodor Dome**	**78.62**	**25**	P	**P**	**17 02 60.0**	**+0.4**
	baz=270								
CCB	**Clear Creek Bu**	**78.65**	**26**	P	**P**	**17 02 59.3**	**-0.4**
CCB				IAmb	IAmb	17 03 00.1			
	comp=Z,8.5nm,1.4s								
WAT6	**Susitna Watana**	**78.71**	**28**	P	**P**	**17 02 59.9**	**-0.3**
	baz=271,SNR=6.7								
M23K	**Glacier View**	**78.73**	**29**	P	**P**	**17 03 01.1**	**+0.9**
	baz=271								
G24K	**Hadweenzic Riv**	**78.78**	**24**	P	**P**	**17 03 00.8**	**+0.5**
	baz=270								
POKR	**Poker Plat Res**	**78.81**	**25**	P	**P**	**17 03 01.0**	**+0.4**
	baz=271								
DHY	**Denali Highway**	**78.86**	**28**	P	**P**	**17 03 01.6**	**+0.5**
DHY	**Denali Highway**	**78.86**	**28**	P	**P**	**17 03 01.7**	**+0.5**
	baz=271								
SCM	**Sheep Creek Mo**	**78.92**	**29**	P	**P**	**17 03 01.8**	**+0.5**
SCM	**Sheep Creek Mo**	**78.92**	**29**	P	**P**	**17 03 01.3**	**0.0**
	baz=272								
P23K	**Montague Islan**	**78.93**	**31**	P	**P**	**17 03 02.3**	**+1.0**
	baz=272								
HDA	**Harding Lake**	**79.03**	**26**	P	**P**	**17 03 01.1**	**-0.7**
HDA	**Harding Lake**	**79.03**	**26**	P	**P**	**17 03 01.0**	**-0.7**
	baz=271								
IL31		**79.05**	**26**	P	**P**	**17 03 00.8**	**-1.0**
ILAR	**Eielson Array**	**79.05**	**26**	P	**P**	**17 03 01.0**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=240,slow=5.5,SNR=13								
	comp=Z,1.4nm,0.8s								
ILAR	**Eielson Array**	**79.05**	**26**	P	**P**	**17 03 01.4**	**-0.5**
GLI	**Glacier Island**	**79.05**	**30**	P	**P**	**17 03 02.0**	**0.0**
	baz=272								
D25K	**Kavik River**	**79.16**	**21**	P	**P**	**17 03 03.1**	**+0.6**
	baz=271,SNR=5.4								
FID	**Port Fidalgo**	**79.36**	**30**	P	**P**	**17 03 03.8**	**+0.1**
FID				IAmb	IAmb	17 03 14.6			
	comp=Z,14nm,1.3s								
H25K	**Birch Creek**	**79.45**	**24**	P	**P**	**17 03 05.0**	**+1.0**
	baz=272								
M24K	**Tolsona, Glenn**	**79.45**	**29**	P	**P**	**17 03 05.5**	**+1.3**
	baz=272								
F25K	**Chistian Rive**	**79.47**	**23**	P	**P**	**17 03 05.0**	**+0.7**
	baz=272								
Q23K	**Middleton Isla**	**79.48**	**31**	P	**P**	**17 03 05.5**	**+1.2**
	baz=273								
E25K	**Arctic Village**	**79.49**	**22**	P	**P**	**17 03 05.3**	**+1.1**
	baz=272								
K24K	**Donnelly Dome**	**79.56**	**27**	P	**P**	**17 03 04.6**	**-0.2**
	baz=272								
KLU	**Klutina**	**79.60**	**29**	P	**P**	**17 03 05.3**	**+0.3**
KLU				IAmb	IAmb	17 03 19.0			
	comp=Z,8.4nm,1.3s								
KLU	**Klutina**	**79.60**	**29**	P	**P**	**17 03 05.1**	**+0.1**
	baz=273								
PRP	**Porcupine Dome**	**79.60**	**25**	P	**P**	**17 03 05.1**	**+0.1**
	baz=272								
DIV	**Divide**	**79.69**	**30**	P	**P**	**17 03 05.7**	**+0.2**
DIV				IAmb	IAmb	17 03 07.2			
	comp=Z,7.8nm,0.8s								
J25K	**Salcha River,**	**79.70**	**26**	P	**P**	**17 03 05.2**	**-0.4**
	baz=273								
PAX	**Paxson**	**79.74**	**28**	P	**P**	**17 03 06.3**	**+0.5**
PAX	**Paxson**	**79.74**	**28**	P	**P**	**17 03 06.8**	**+1.0**
	baz=273								
BMAR	**Burnt Mountain**	**79.89**	**23**	P	**P**	**17 03 07.5**	**+1.0**
HARP	**HAARP**	**79.91**	**28**	P	**P**	**17 03 07.9**	**+1.2**
	baz=273								
RIDG	**Independent Ri**	**79.98**	**27**	P	**P**	**17 03 06.9**	**-0.1**
RIDG				IAmb	IAmb	17 03 08.0			
	comp=Z,12nm,1.2s								
RIDG	**Independent Ri**	**79.98**	**27**	P	**P**	**17 03 07.6**	**+0.5**
	baz=273								
F26K	**Sheenjek River**	**80.04**	**23**	P	**P**	**17 03 08.3**	**+1.0**
	baz=273								
C27K	**Jago River**	**80.09**	**21**	P	**P**	**17 03 08.5**	**+1.0**
	baz=273								
N25K	**Chitina, Valde**	**80.22**	**29**	P	**P**	**17 03 10.3**	**+1.8**
	baz=274								
G26K	**Porcupine Rive**	**80.23**	**24**	P	**P**	**17 03 09.9**	**+1.7**
	baz=274								
BMRM	**Bremner River**	**80.26**	**30**	P	**P**	**17 03 09.2**	**+0.5**
	baz=274								
DOT	**Dot Lake**	**80.33**	**27**	P	**P**	**17 03 08.9**	**0.0**
DOT				IAmb	IAmb	17 03 10.0			
	comp=Z,7.3nm,1.3s								
SCRK	**Sand Creek**	**80.34**	**27**	P	**P**	**17 03 09.3**	**+0.2**
SCRK	**Sand Creek**	**80.34**	**27**	P	**P**	**17 03 09.6**	**+0.5**
	baz=274								
J26L	**Joseph Creek**	**80.49**	**26**	P	**P**	**17 03 09.9**	**+0.1**
J26L	**Joseph Creek**	**80.49**	**26**	P	**P**	**17 03 09.6**	**-0.2**
	baz=274								
I26K	**Coal Creek Min**	**80.60**	**25**	P	**P**	**17 03 10.4**	**+0.1**
I26K	**Coal Creek Min**	**80.60**	**25**	P	**P**	**17 03 11.0**	**+0.7**
	baz=275								
M26K	**Nabesna, AK**	**80.92**	**28**	P	**P**	**17 03 13.2**	**+1.1**
	baz=275								
E27K	**Coleen River**	**80.97**	**22**	P	**P**	**17 03 13.8**	**+1.6**
	baz=276								
G27K	**Doyon Strip**	**81.08**	**24**	P	**P**	**17 03 14.2**	**+1.3**
	baz=276								
K27K	**Chicken**	**81.18**	**26**	P	**P**	**17 03 14.7**	**+1.3**
K27K				IAmb	IAmb	17 03 15.9			
	comp=Z,10nm,1.2s								
K27K	**Chicken**	**81.18**	**26**	P	**P**	**17 03 15.1**	**+1.7**
	baz=276								
H27K	**Steamboat Moun**	**81.19**	**24**	P	**P**	**17 03 15.3**	**+1.8**
	baz=276								
I27K	**Kandik River**	**81.21**	**25**	P	**P**	**17 03 15.1**	**+1.4**
	baz=276								
L27K	**Beaver Creek,**	**81.39**	**27**	P	**P**	**17 03 15.6**	**+1.0**
L27K	**Beaver Creek,**	**81.39**	**27**	P	**P**	**17 03 15.6**	**+1.0**
	baz=276								
BCAR	**Beaver Creek A**	**81.41**	**27**	P	**P**	**17 03 15.5**	**+0.8**
M27K	**Edge Creek, AK**	**81.44**	**28**	P	**P**	**17 03 15.7**	**+0.8**
	baz=276								
EGAK	**Eagle**	**81.49**	**26**	P	**P**	**17 03 15.5**	**+0.5**
EGAK	**Eagle**	**81.49**	**26**	P	**P**	**17 03 16.0**	**+0.9**
	baz=276								
CTG	**Chitna Glacier**	**81.85**	**30**	P	**P**	**17 03 19.4**	**+2.2**
	baz=277								
CTGM	**Chitina Glacie**	**81.85**	**30**	P	**P**	**17 03 18.0**	**+0.8**
LOGN	**Logan Glacier**	**82.03**	**30**	P	**P**	**17 03 18.9**	**+0.8**
LOGN				IAmb	IAmb	17 03 22.0			
	comp=Z,12nm,1.2s								
YUK3	**Moose Creek**	**82.17**	**29**	P	**P**	**17 03 18.6**	**-0.4**
	baz=278								
DAWY	**Dawson**	**82.34**	**26**	P	**P**	**17 03 20.4**	**+0.8**
DAWY	**Dawson**	**82.34**	**26**	P	**P**	**17 03 20.2**	**+0.6**
	baz=278								
O28M	**Mount Upton**	**82.43**	**30**	P	**P**	**17 03 22.1**	**+1.7**
	baz=278								
PCA	**Pinnacle**	**82.49**	**30**	P	**P**	**17 03 21.4**	**+0.9**
PINM	**Pinnacle**	**82.49**	**30**	P	**P**	**17 03 22.0**	**+1.5**
	baz=278								
PNL	**Peninsula**	**82.98**	**31**	P	**P**	**17 03 25.3**	**+2.3**
	baz=279								
M29M	**Somme Creek**	**83.00**	**28**	P	**P**	**17 03 24.3**	**+1.1**
	baz=279								
EPYK	**Eagle Plains**	**83.09**	**24**	P	**P**	**17 03 23.7**	**+0.3**
	baz=280								
YUK4	**Talbot Arm**	**83.09**	**29**	P	**P**	**17 03 25.5**	**+1.7**
	baz=279								
K29M	**Barlow Dome**	**83.19**	**26**	P	**P**	**17 03 24.7**	**+0.6**
	baz=280								
YUK6	**Outpost Mounta**	**83.29**	**29**	P	**P**	**17 03 26.3**	**+1.5**
	baz=279								
HYT	**Haines Junctio**	**83.72**	**29**	P	**P**	**17 03 28.2**	**+1.3**
HYT				IAmb	IAmb	17 03 29.3			
	comp=Z,9.4nm,1.3s								
HYT	**Haines Junctio**	**83.72**	**29**	P	**P**	**17 03 27.8**	**+0.9**
	baz=280								
M30M	**Minto, Yukon**	**83.74**	**28**	P	**P**	**17 03 28.1**	**+1.2**
M30M				IAmb	IAmb	17 03 29.5			
	comp=Z,8.9nm,1.5s								
M30M	**Minto, Yukon**	**83.74**	**28**	P	**P**	**17 03 27.7**	**+0.8**
	baz=281								
N30M	**Aishikik Lake**	**83.81**	**29**	P	**P**	**17 03 29.0**	**+1.7**
	baz=280								
P29M	**Windy Craggy**	**83.82**	**31**	P	**P**	**17 03 29.6**	**+2.3**
	baz=280								
SPB2	**Spitsbergen Ar**	**83.90**	**349**	P	**P**	**17 03 27.2**	**-0.2**
INK	**Inuvik**	**83.91**	**22**	P	**P**	**17 03 27.7**	**+0.2**
INK				IAmb	IAmb	17 03 54.8			
	comp=Z,13nm,1.5s								
INK	**Inuvik**	**83.91**	**22**	P	**P**	**17 03 28.8**	**+1.3**
	baz=283								
P30M	**Million Dollar**	**84.12**	**30**	P	**P**	**17 03 30.7**	**+1.8**
	baz=281								
ARCES	**ARCESS Array B**	**84.16**	**340**	P	**P**	**17 03 28.8**	**0.0**
	comp=Z,9.7nm,0.9s,baz=77,slow=6.3,SNR=22								
	comp=Z,9.7nm,0.9s								
ARCES	**ARCESS Array B**	**84.16**	**340**	P	**P**	**17 03 28.5**	**-0.3**
O30N	**Mendenhall**	**84.42**	**29**	P	**P**	**17 03 31.7**	**+1.4**
	baz=281								
N31M	**Braeburn, Yuko**	**84.42**	**29**	P	**P**	**17 03 31.7**	**+1.4**
N31M	**Braeburn, Yuko**	**84.42**	**29**	P	**P**	**17 03 31.9**	**+1.6**
	baz=282								
PLBC	**Pleasant Camp**	**84.54**	**31**	P	**P**	**17 03 32.2**	**+1.3**
	baz=281								
VOI	**Vohitsoka**	**84.70**	**247**	P	**P**	**17 03 33.1**	**+0.5**
M31M	**Drury Creek, Y**	**84.92**	**28**	P	**P**	**17 03 33.6**	**+0.8**
M31M				IAmb	IAmb	17 03 34.6			
	comp=Z,2.9nm,0.8s								
M31M	**Drury Creek, Y**	**84.92**	**28**	P	**P**	**17 03 33.6**	**+0.8**
	baz=283								
WHY	**Whitehorse**	**85.02**	**29**	P	**P**	**17 03 34.3**	**+0.9**
WHY	**Whitehorse**	**85.02**	**29**	P	**P**	**17 03 34.7**	**+1.2**
	baz=282								
SKAG	**Skagway**	**85.06**	**31**	P	**P**	**17 03 34.9**	**+1.4**
SKAG				IAmb	IAmb	17 03 36.0			
	comp=Z,7.0nm,0.9s								
SKAG	**Skagway**	**85.06**	**31**	P	**P**	**17 03 35.2**	**+1.7**
	baz=282								
FARO	**Faro, Yukon**	**85.39**	**28**	P	**P**	**17 03 36.2**	**+1.0**
FARO	**Faro, Yukon**	**85.39**	**28**	P	**P**	**17 03 36.1**	**+1.0**
	baz=284								
SIT	**Sitka**	**85.57**	**33**	P	**P**	**17 03 37.0**	**+0.9**
	baz=282								
R32K	**Eaglecrest**	**85.73**	**32**	P	**P**	**17 03 37.8**	**+0.9**
	baz=283								
BRTR	**Keskin Array B**	**85.75**	**309**	P	**P**	**17 03 37.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=136,slow=3.9,SNR=4.4								
	comp=Z,0.7nm,0.7s								
N32M	**Quiet Lake**	**85.77**	**29**	P	**P**	**17 03 38.0**	**+1.0**
	baz=284								
FIA1	**FINESS Array S**	**85.92**	**332**	P	**P**	**17 03 37.5**	**-0.2**
FINES	**FINESS Array B**	**85.92**	**332**	P	**P**	**17 03 37.5**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=56,slow=4.5,SNR=25								
	comp=Z,2.4nm,0.6s								
P33M	**Teslin, Yukon**	**86.12**	**29**	P	**P**	**17 03 40.5**	**+1.6**
	baz=284								
MMPY	**Sheldon Lake,**	**86.23**	**27**	P	**P**	**17 03 40.4**	**+1.1**
	baz=285								
AKASG	**Malin Array Be**	**86.69**	**321**	P	**P**	**17 03 41.0**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=62,slow=4.9,SNR=5.3								
	comp=Z,0.6nm,0.5s								
TGTN	**Hyland Airport**	**87.89**	**28**	P	**P**	**17 03 48.2**	**+0.7**
	baz=288								
WTLY	**Watson Lake, Y**	**88.08**	**29**	P	**P**	**17 03 49.2**	**+0.9**
	baz=288								
BURAR	**Bucovina Array**	**89.99**	**318**	P	**P**	**17 03 57.5**	**-0.2**
VNDA	**Vanda**	**90.08**	**173**	P	**P**	**17 03 57.6**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=308,slow=4.8,SNR=11								
	comp=Z,3.2nm,1.0s								
VNDA	**Vanda**	**90.08**	**173**	P	**P**	**17 03 57.4**	**+0.2**
VNDA				IAmb	IAmb	17 03 58.5			
	comp=Z,3.4nm,0.9s								
NOA	**NORSAR Array B**	**92.77**	**334**	P	**P**	**17 04 09.2**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=65,slow=4.6,SNR=3.6								
	comp=Z,0.6nm,0.7s								
MBAR	**Mbarara**	**96.01**	**270**	LR	LR	17 46 52.9			
	comp=Z,35nm,19.8s,baz=106,slow=35								
GERES	**GERESS Array B**	**96.81**	**322**	P	**P**	**17 04 29.2**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=345,slow=3.2,SNR=3.6								
	comp=Z,0.3nm,0.6s								
TXAR	**L

ISC 04 17:18:21.1±2.4, 36.80S±0.07×179.34E±0.09, h3km±12km, n66, σ1°69/67, mb3.8/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.12**	**227**	P	**Pn**	**17 18 43.8**	**+0.3**
MXZ				S	**Sb**	**17 18 58.7**	**+0.8**
WMGZ	**Waiomatatini S**	**1.25**	**216**	P	**Pn**	**17 18 47.6**	**+2.2**
WMGZ				S	**Sn**	**17 19 04.1**	**+1.3**
PKGZ	**Pakihiroa**	**1.48**	**222**	P	**Pg**	**17 18 50.5**	**+1.1**
PKGZ				S	**Sn**	**17 19 08.6**	**+0.2**
PUZ	**Puketiti**	**1.53**	**214**	P	**Pg**	**17 18 51.0**	**+0.6**
PUZ				S	**Sg**	**17 19 10.8**	**+0.6**
HAZ	**Te Kaha**	**1.56**	**232**	P	**Pn**	**17 18 50.1**	**+0.5**
TWGZ	**Tauwhareparae**	**1.74**	**218**	P	**Pg**	**17 18 54.5**	**0.0**
RUGZ	**Raukumara Rang**	**1.76**	**228**	P	**Pg**	**17 18 54.8**	**0.0**
WIZ	**White Island**	**1.86**	**247**	P	**Pn**	**17 18 53.8**	**0.0**
CNGZ	**Carnagh Statio**	**1.90**	**208**	P	**Pb**	**17 18 57.0**	**+0.6**
TKGZ	**Te Karaka**	**2.02**	**215**	P	**Pb**	**17 18 57.4**	**-0.9**
WHRZ	**Whale Island**	**2.15**	**240**	P	**Pg**	**17 19 02.8**	**+0.5**
RIGZ	**Rimuhau**	**2.27**	**213**	P	**Pn**	**17 19 00.8**	**+1.3**
RAGZ	**Rawiri**	**2.27**	**221**	P	**Pb**	**17 19 01.6**	**-1.2**
URZ	**Urewera**	**2.29**	**230**	Pn	**Pb**	**17 19 01.6**	**-1.4**
	11nm,0.3s,baz=31,slow=6.0,SNR=50						
URZ				LR	LR	17 19 26.5	
	comp=Z,39nm,19.3s,baz=30,slow=28						
URZ				Sn	**Sb**	**17 19 30.8**	**-0.8**
	13nm,0.3s,baz=127,slow=20,SNR=7.4						
	37nm,0.3s						
URZ	**Urewera**	**2.29**	**230**	P	**Pb**	**17 19 01.5**	**-1.4**
OPRZ	**Ohinepanea**	**2.45**	**244**	P	**Pb**	**17 19 04.1**	**-1.5**
SNGZ	**Shannon Statio**	**2.53**	**218**	P	**Pn**	**17 19 04.2**	**+1.2**
KNZ	**Kokohu**	**2.58**	**210**	P	**Pn**	**17 19 04.1**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.60**	**205**	P	**Pn**	**17 19 04.9**	**+0.9**
TGRZ	**Tauranga**	**2.62**	**248**	P	**Pn**	**17 19 06.4**	**+2.1**
MUGZ	**Murupara**	**2.63**	**230**	P	**Pn**	**17 19 06.5**	**+2.0**
RRRZ	**Republican Roa**	**2.71**	**235**	P	**Pb**	**17 19 08.4**	**-1.9**
RAHZ	**Arahi**	**2.76**	**219**	P	**Pb**	**17 19 09.7**	**-1.4**
WHHZ	**Waihua**	**2.81**	**216**	P	**Pn**	**17 19 08.8**	**+1.9**
MTHZ	**Maungataniwha**	**2.84**	**223**	P	**Pb**	**17 19 10.2**	**-2.3**
PRRZ	**Plateau Road**	**2.88**	**233**	P	**Pn**	**17 19 10.4**	**+2.5**
KUZ	**Kuaotunu**	**2.90**	**270**	P	**Pn**	**17 19 08.6**	**+0.5**
ALRZ	**Allen Road**	**2.95**	**233**	P	**Pn**	**17 19 10.5**	**+1.7**
NMHZ	**Naumai**	**3.04**	**220**	P	**Pn**	**17 19 12.1**	**+2.0**
ARHZ	**Aropaoanui**	**3.07**	**216**	P	**Pn**	**17 19 11.6**	**+1.2**
GRZ	**Great Barrier**	**3.17**	**279**	P	**Pn**	**17 19 14.0**	**+2.2**
TOZ	**Tahuroa Road**	**3.19**	**215**	P	**Pn**	**17 19 12.8**	**+0.7**
BKZ	**Black Stump Fm**	**3.26**	**223**	P	**Pn**	**17 19 15.3**	**+2.2**
MKAZ	**Moumakai**	**3.36**	**264**	P	**Pn**	**17 19 15.5**	**+1.1**
CKHZ	**Cape Kidnapper**	**3.36**	**211**	P	**Pn**	**17 19 14.6**	**+0.2**
WIAZ	**Waiheke Island**	**3.37**	**269**	P	**Pn**	**17 19 16.8**	**+2.3**
KWHZ	**Kaweka Forest**	**3.48**	**220**	P	**Pn**	**17 19 16.8**	**+0.6**
ETAZ	**East Tamaki Re**	**3.54**	**266**	P	**Pn**	**17 19 18.7**	**+1.9**
KAHZ	**Kahuranaki**	**3.56**	**212**	P	**Pn**	**17 19 17.0**	**-0.2**
MBAZ	**Motutapu North**	**3.56**	**269**	P	**Pn**	**17 19 19.8**	**+2.6**
KRHZ	**Kereru**	**3.67**	**219**	P	**Pn**	**17 19 20.0**	**+1.2**
BHHZ	**Black Hill Sta**	**3.72**	**223**	P	**Pn**	**17 19 22.0**	**+2.5**
OTVZ	**Oturere**	**3.74**	**230**	P	**Pn**	**17 19 15.9**	**-3.9**
PXZ	**Pawanui**	**3.76**	**210**	P	**Pn**	**17 19 19.3**	**-0.6**
AWAZ	**Awhitu Peninsu**	**3.77**	**265**	P	**Pn**	**17 19 22.5**	**+2.5**
RVAZ	**Riverhead Bore**	**3.82**	**269**	P	**Pn**	**17 19 23.3**	**+2.6**
WTAZ	**Waiatarua**	**3.82**	**267**	P	**Pn**	**17 19 22.9**	**+2.1**
TWVZ	**Taurewa**	**3.82**	**233**	P	**Pn**	**17 19 23.8**	**+2.9**
MOVZ	**Moawhango**	**3.84**	**226**	P	**Pn**	**17 19 22.8**	**+1.8**
HIZ	**Hauiti**	**3.94**	**243**	P	**Pb**	**17 19 27.4**	**-3.7**
PNHZ	**Pukenui**	**3.96**	**317**	P	**Pn**	**17 19 23.2**	**+0.4**
WPHZ	**Waipukurau**	**3.97**	**214**	P	**Pn**	**17 19 22.4**	**-0.5**
WCZ	**Waipu Caves**	**4.12**	**281**	P	**Pn**	**17 19 27.4**	**+2.5**
TSZ	**Takapari Road**	**4.19**	**218**	P	**Pn**	**17 19 26.0**	**+0.1**
WAZ	**Wanganui**	**4.52**	**228**	P	**Pn**	**17 19 33.0**	**+2.7**
OUZ	**Omahuta**	**4.91**	**287**	P	**Pn**	**17 19 38.5**	**+2.8**
CTZ	**Chatham Island**	**7.58**	**157**	P	**Pn**	**17 20 13.8**	**+1.4**
RPZ	**Rata Peaks**	**9.36**	**220**	Pn	**Pn**	**17 20 35.8**	**-1.0**
	0.3nm,0.3s,baz=356,slow=22,SNR=1.8						
RPZ				Sn	Sn	17 22 09.1	-13
	0.6nm,0.3s,baz=318,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**41.02**	**276**	P	**P**	**17 26 05.2**	**-0.5**
	1.2nm,0.5s,baz=119,slow=8.0,SNR=24						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**42.59**	**281**	P	**P**	**17 26 17.9**	**-0.6**
	0.9nm,0.4s,baz=120,slow=7.7,SNR=23						
	0.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.49**	**277**	P	**P**	**17 27 20.0**	**-0.5**
	1.4nm,1.1s,baz=124,slow=7.3,SNR=2.0						
	1.4nm,1.1s						
H03N3	**Juan Fernandez**	**79.00**	**124**	T	T	18 57 16.1	
	baz=234						
H03N2	**Juan Fernandez**	**79.01**	**123**	T	T	18 57 18.4	
	baz=234						
H03N1	**Juan Fernandez**	**79.02**	**124**	T	T	18 57 07.2	
	baz=234						
LPAZ	**La Paz**	**97.42**	**117**	LR	LR	18 07 35.5	
	comp=Z,30nm,19.2s,baz=85,slow=30						
FINES	**FINESS Array B**	**150.17**	**334**	PKPbc	**PKiKP**	**17 38 13.4**	**+0.1**
	1.9nm,1.0s,baz=64,slow=3.2,SNR=1.4						

NOU 04 17:32:51.2, 13.15S×168.27E, h160km, mb4.0/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**4.55**	**181**	P	Pn	17 33 59.3	+0.4
MARNC	**Mare, Loyalty**	**8.29**	**182**	P	Pn	17 34 47.3	-1.1
YATNC	**Mamie plateau,**	**8.96**	**188**	P	Pn	17 34 56.1	-1.2
DZM	**Mont Dzumac**	**9.04**	**191**	P	Pn	17 34 58.3	-0.2
NOUC	**Port Laguerre**	**9.10**	**192**	P	Pn	17 34 59.2	+0.1
ONTNC	**Ouen Toro**	**9.27**	**190**	P	Pn	17 35 02.2	+0.8
OUENC	**Ouen Island, N**	**9.32**	**188**	P	Pn	17 35 02.5	+0.4
PINNC	**Pines Island,**	**9.44**	**185**	P	Pn	17 35 04.0	+0.3

IDC 04 17:38:24.2±68.0, 13.02S×170.66E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1175.0km s-min=131.8km az=65.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**32.60**	**230**	P	P	17 44 57.6	0.0
	0.6nm,0.4s,baz=61,slow=10,SNR=4.8						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**35.44**	**254**	P	P	17 45 22.8	+0.3
	0.5nm,0.5s,baz=85,slow=8.5,SNR=6.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**36.36**	**248**	P	P	17 45 29.9	-0.4
	0.7nm,0.4s,baz=76,slow=9.2,SNR=27						
	0.7nm,0.4s						

*NEIC **04** 17:43:35.5±2.0, 0.54N±0.10×123.48E±0.07, h264km±10km, mb4.2/19, Error ellipse: s-maj=15.0km s-min=9.2km az=151.0*
*DJA **04** 17:43:36.3±0.4, 0.7N±4°×12.3E±°, h257km±4km, M4.0/13, mb4.2/4, mB5.2/1, MLv3.9/13, Mw(mB)4.5/1*
*IDC **04** 17:43:36.1±1.9, 0.54N×123.48E, h277km±19km, mb3.3/12, mbtmp4.0/15, Error ellipse: s-maj=23.9km s-min=9.4km az=76.0*

ISC 04 17:43:35.0±0.5, 0.46N±0.06×123.47E±0.07, h264km, n50, σ1°10/55, mb3.8/20, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.52**	**78**	P	**Pn**	**17 44 11.7**	**+2.1**
KMSI				S	**S**	**17 44 38.4**	**+1.6**
MRSI	**Marisa**	**1.53**	**271**	P	**Pn**	**17 44 16.2**	**+1.3**
MRSI				S	**S**	**17 44 46.4**	**0.0**
LUWI	**Luwuk**	**1.65**	**205**	Pn	**Pn**	**17 44 17.0**	**+1.2**
LUWI	**Luwuk**	**1.65**	**205**	P	**Pn**	**17 44 16.9**	**+1.1**
LUWI				S	**S**	**17 44 47.0**	**-1.1**
APSI	**Ampana**	**2.28**	**233**	P	**Pn**	**17 44 22.6**	**+1.4**
SANI	**Sanana**	**3.54**	**135**	P	**Pn**	**17 44 34.0**	**-0.3**
SGSI	**Sangihe**	**3.80**	**33**	P	**Pn**	**17 44 38.6**	**+1.3**
TNTI	**Ternate**	**3.91**	**85**	Pn	**Pn**	**17 44 38.5**	**+0.1**
TNTI	**Ternate**	**3.91**	**85**	P	**Pn**	**17 44 38.8**	**+0.4**
LBMI	**Labuha**	**4.17**	**105**	P	**Pn**	**17 44 41.7**	**+0.2**
NLAI	**Namlea**	**5.16**	**135**	P	**Pn**	**17 44 54.4**	**+1.1**
	0.2nm4µm25nm,0.5s						
SIJI	**Serong**	**7.90**	**100**	P	**Pn**	**17 45 28.8**	**+1.6**
	6.3nm,0.7s,baz=285,slow=7.9,SNR=4.8						
MMRI	**Maumere**	**9.12**	**188**	Pn	**Pn**	**17 45 44.2**	**+1.6**
BATI	**Baumata**	**10.60**	**179**	P	**P**	**17 46 03.4**	**-2.0**
	40nm,0.5s,baz=310,slow=3.0,SNR=9.0						
BATI	**Baumata**	**10.60**	**179**	P	**Pn**	**17 46 01.2**	**+0.1**
	46nm,0.6s						
MTN	**Manton Dam**	**15.25**	**150**	P	**Pn**	**17 46 58.2**	**+0.5**
MTN				IAmb	IAmb	17 47 20.6	
	comp=Z,17nm,1.2s						
KNRA	**Kununurra**	**16.87**	**162**	P	**Pn**	**17 47 15.9**	**-0.8**
KNRA				IAmb	IAmb	17 47 30.4	
	comp=Z,16nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.57**	**174**	P	**P**	**17 47 33.0**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=350,slow=8.0,SNR=20						
FITZ	**Fitzroy Crossi**	**18.57**	**174**	P	**P**	**17 47 32.8**	**-0.2**
FITZ				IAmb	IAmb	17 47 34.1	
	comp=Z,2.4nm,0.9s						
PSA00	**Pilbara Seismi**	**22.19**	**189**	P	**P**	**17 48 09.0**	**-0.6**
PSA00				IAmb	IAmb	17 48 10.6	
	comp=Z,7.6nm,0.7s						
WB0	**Warramunga Arr**	**22.78**	**153**	P	**P**	**17 48 15.3**	**+0.2**
WB0				IAmb	IAmb	17 48 15.7	
	comp=Z,5.5nm,0.5s						
TPUB	**Ta-pu**	**22.87**	**353**	P	**P**	**17 48 18.2**	**+2.3**
WRA	**Warramunga Arr**	**22.91**	**153**	P	**P**	**17 48 16.6**	**+0.3**
	comp=Z,4.3nm,0.5s,baz=336,slow=9.7,SNR=86						
	comp=Z,4.3nm,0.5s						
WRA	**Warramunga Arr**	**22.91**	**153**	P	**P**	**17 48 15.3**	**-1.0**
WB2	**Warramunga Arr**	**22.91**	**153**	P	**P**	**17 48 16.6**	**+0.3**
WB2				IAmb	IAmb	17 48 17.2	
	comp=Z,6.1nm,0.4s						
WR0	**Warramunga Arr**	**23.01**	**152**	P	**P**	**17 48 17.7**	**+0.4**
WR0				IAmb	IAmb	17 48 19.4	
	comp=Z,7.1nm,0.8s						
SSLB	**Suanglung**	**23.32**	**354**	P	**P**	**17 48 20.1**	**+0.1**
AS31	**Alice Springs**	**26.04**	**158**	P	**P**	**17 48 45.3**	**+0.8**
ASAR	**Alice Springs**	**26.04**	**158**	P	**P**	**17 48 45.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=331,slow=8.7,SNR=22						
ASAR				ScP	**ScP**	**17 55 17.9**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=347,slow=3.1,SNR=9.8						
	comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**26.04**	**158**	P	**P**	**17 48 46.5**	**+1.9**
CMAR	**Chiang Mai Arr**	**30.00**	**308**	P	**P**	**17 49 19.9**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=129,slow=6.3,SNR=4.2						
	comp=Z,0.7nm,0.8s						
CHTO	**Chiang Mai**	**30.20**	**309**	P	**P**	**17 49 22.8**	**+1.3**
MORW	**Morawa**	**30.21**	**193**	P	**P**	**17 49 20.3**	**-1.1**
MORW				IAmb	IAmb	17 49 30.3	
	comp=Z,9.2nm,1.1s						
FORT	**Forrest**	**31.37**	**172**	P	**P**	**17 49 32.0**	**+0.5**
BBOO	**Buckleboo**	**35.16**	**161**	P	**P**	**17 50 03.9**	**-0.3**
STKA	**Stephens Creek**	**36.45**	**154**	P	**P**	**17 50 15.6**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=327,slow=9.8,SNR=7.1						
	comp=Z,1.4nm,0.4s						
STKA	**Stephens Creek**	**36.45**	**154**	P	**P**	**17 50 15.2**	**+0.1**
KSRS	**Korea Array**	**37.04**	**6**	P	**P**	**17 50 20.1**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=188,slow=9.2,SNR=6.1						
	comp=Z,0.9nm,0.5s						
MJAR	**Matsushiro Arr**	**38.41**	**19**	P	**P**	**17 50 30.4**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=189,slow=7.7,SNR=7.0						
	comp=Z,1.6nm,0.9s						
ARMA	**Armidale**	**40.75**	**141**	P	**P**	**17 50 52.5**	**+1.6**
ARMA				IAmb	IAmb	17 51 17.2	
	comp=Z,7.9nm,1.1s						
CAN	**Canberra**	**42.84**	**149**	P	**P**	**17 51 09.1**	**+1.5**
CAN				IAmb	IAmb	17 51 24.1	
	comp=Z,16nm,1.4s						
USRK	**Ussuriysk Ar.**	**44.20**	**9**	P	**P**	**17 51 16.9**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=192,slow=5.4,SNR=6.0						
	comp=Z,1.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**44.20**	**9**	P	**P**	**17 51 17.2**	**-1.0**
SONM	**Songino Array**	**49.46**	**345**	P	**P**	**17 51 57.9**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=161,slow=8.0,SNR=6.1						
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**58.47**	**328**	P	**P**	**17 53 02.9**	**-0.8**
MK31				IAmb	IAmb	17 53 05.6	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**58.47**	**328**	P	**P**	**17 53 02.8**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=125,slow=8.0,SNR=29						
MKAR				PcP	**PcP**	**17 53 50.2**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=119,slow=5.1,SNR=1.3						
	comp=Z,2.1nm,0.5s						
ZALV	**Zalesovo Beam**	**62.09**	**335**	P	**P**	**17 53 26.3**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=142,slow=5.6,SNR=3.6						
	comp=Z,0.5nm,0.4s						
MAW	**Mawson**	**79.59**	**200**	P	**P**	**17 55 13.9**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=78,slow=9.3,SNR=1.6						
	comp=Z,1.1nm,0.8s						
VNDA	**Vanda**	**80.64**	**172**	P	**P**	**17 55 18.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=337,slow=5.1,SNR=3.8						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**120.74**	**286**	PKP	**PKPdf**	**18 01 55.5**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=83,slow=2.3,SNR=1.9						

IDC 04 17:52:43.5±2.4, 55.20S×30.56W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=98.2km s-min=47.5km az=12.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**47.82**	**21**	T	T	18 52 59.8	
	baz=192						
H10S3	**ASCENSION HYDR**	**47.82**	**21**	T	T	18 53 04.4	
	baz=28						
LPAZ	**La Paz**	**48.33**	**308**	P	P	18 01 27.4	0.0
	0.7nm,0.6s,baz=148,slow=9.5,SNR=6.9						
	0.7nm,0.6s						
H10N1	**ASCENSION HYDR**	**48.93**	**21**	T	T	18 54 22.6	
	baz=192,slow=76,SNR=7.3						
H10N3	**ASCENSION HYDR**	**48.93**	**21**	T	T	18 54 26.5	
	baz=192,slow=76,SNR=18						
H10N2	**ASCENSION HYDR**	**48.95**	**21**	T	T	18 54 31.4	
	baz=192,slow=76,SNR=15						
TORD	**Torodi Ar. Bea**	**73.31**	**33**	P	P	18 04 16.8	0.0
	0.5nm,0.6s,baz=196,slow=5.9,SNR=2.2						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**148.12**	**313**	PKPbc	PKPbc	18 12 28.8	-0.9
	0.3nm,0.6s,baz=122,slow=2.4,SNR=4.2						
SONM	**Songino Array**	**152.59**	**87**	PKPbc	PKPbc	18 12 41.1	0.0
	0.2nm,0.3s,baz=247,slow=3.0,SNR=1.9						

*ATH **04** 18:04:47.7, 36.65N×27.96E, h76km±4km, ML3.1/3, Error ellipse: s-maj=4.0km s-min=2.4km az=126.0*
*ISK **04** 18:04:48.3, 36.77N×28.10E, h69km±1km, ML3.1/18*
*DDA **04** 18:04:49.2±0.0, 36.73N×28.04E, h60km, ML2.7*
*THE **04** 18:04:50.1, 36.75N×28.09E, h71km±1km, ML2.8/6, Error ellipse: s-maj=1.9km s-min=0.4km az=119.0*
*NIC **04** 18:04:50.4±0.0, 36.45N×28.34E, h77km±1km, Ml3.6/3*
ISC 04 18:04:48.3±1.2, 36.72N±0.03×28.15E±0.02, h75km±5km, n61, σ0°99/92, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.09**	**53**	PG	**Pn**	**18 04 58.9**	**-0.2**
TURN				SG	**Sn**	**18 05 06.2**	**-0.8**
TURN	**Turunc**	**0.09**	**53**	P	**Pn**	**18 04 59.1**	**-0.1**
TURN				*i* AML	AML	18 05 06.0	
	comp=E,2µm,0.3s						
TURN				*i* AML	AML	18 05 06.0	
	comp=N,2µm,0.2s						
TURN				S	**Sn**	**18 05 06.3**	**-0.8**
DALY	**Dalyan (Mula)**	**0.41**	**76**	PG	**Pn**	**18 05 01.2**	**+0.4**
DALY				SG	**Sn**	**18 05 10.4**	**+0.4**
YER	**Yerkesik**	**0.43**	**14**	PG	**Pn**	**18 05 01.4**	**+0.3**
DAT	**Datca**	**0.46**	**271**	PG	**Pn**	**18 05 01.0**	**-0.4**
DAT				SG	**Sn**	**18 05 10.0**	**-1.0**
ARG	**Arkhangelos**	**0.50**	**183**	P	**Pn**	**18 05 02.4**	**+0.8**
ARG				S	**Sn**	**18 05 12.1**	**+0.7**
	4µm,0.3s						
ARG	**Arkhangelos**	**0.50**	**183**	PG	**Pn**	**18 05 02.4**	**+0.8**
ARG				SG	**Sn**	**18 05 12.1**	**+0.7**
ARG	**Arkhangelos**	**0.50**	**183**	P	**Pn**	**18 05 02.3**	**+0.6**
ARG				S	**Sn**	**18 05 12.1**	**+0.7**
ARG	**Arkhangelos**	**0.50**	**183**	P	**Pn**	**18 05 02.3**	**+0.6**
ARG				S	**Sn**	**18 05 11.8**	**+0.4**
ARG				AML	AML	18 05 12.8	
	comp=E,12882µm,0.3s						
ARG				AML	AML	18 05 12.8	
	comp=N,4042µm,0.3s						
MULA	**Mugla, Merkez-**	**0.55**	**14**	P	**Pn**	**18 05 02.7**	**+0.5**
MULA				S	**Sn**	**18 05 12.9**	**+0.4**
MULA				*i* AML	AML	18 05 14.0	
	comp=N,620nm,0.4s						
MULA				*i* AML	AML	18 05 14.0	
	comp=N,286nm,0.5s						
BDRM	**Kayabasi**	**0.67**	**301**	P	**Pn**	**18 05 03.1**	**-0.2**
BDRM				*i* AML	AML	18 05 13.0	
	comp=N,492nm,0.2s						
BDRM				S	**Sn**	**18 05 13.3**	**-1.0**
FETY	**Fethiye**	**0.75**	**96**	PG	**Pn**	**18 05 04.2**	**0.0**
BODT	**Bodrum**	**0.76**	**297**	PG	**Pn**	**18 05 03.3**	**-1.0**
NIS1	**Nisyros Isl.**	**0.79**	**262**	P	**Pn**	**18 05 04.7**	**0.0**
NIS1				S	**Sn**	**18 05 16.2**	**-0.5**
	comp=N,762nm,0.3s						
NIS1	**Nisyros Isl.**	**0.79**	**262**	PG	**Pn**	**18 05 04.5**	**-0.1**
NIS1	**Nisyros Isl.**	**0.79**	**262**	P	**Pn**	**18 05 04.6**	**-0.1**
NIS1				S	**Sn**	**18 05 16.3**	**-0.5**
NIS1				AML	AML	18 05 18.5	
	comp=N,1695µm,0.3s						
NIS1				AML	AML	18 05 20.9	
	comp=E,1338µm,0.3s						
NISR	**Nisiros**	**0.83**	**263**	P	**Pn**	**18 05 04.0**	**-1.1**
NISR				S	**Sn**	**18 05 16.0**	**-1.5**
CAME	**Cameli-Denizli**	**0.95**	**76**	PG	**Pn**	**18 05 07.3**	**+0.7**
TAVA	**DENIZLI_Tavas**	**0.96**	**39**	P	**Pn**	**18 05 07.6**	**+0.9**
TAVA				S	**Sn**	**18 05 22.8**	**+2.4**
TAVA				*i* AML	AML	18 05 23.0	
	comp=E,181nm,0.2s						
TAVA				*i* AML	AML	18 05 23.0	
	comp=E,213nm,0.4s						
AYDN	**Tasoluk**	**0.96**	**347**	P	**Pn**	**18 05 07.4**	**+0.7**
AYDN				S	**Sn**	**18 05 19.9**	**-0.5**
AYDN				*i* AML	AML	18 05 21.0	
	comp=E,1µm,0.3s						
AYDN				*i* AML	AML	18 05 21.0	
	comp=E,765nm,0.4s						
DDIM	**Aydin, Didim**	**1.04**	**316**	P	**Pn**	**18 05 08.1**	**+0.6**
DDIM				S	**Sn**	**18 05 21.8**	**0.0**
DDIM				*i* AML	AML	18 05 22.0	
	comp=E,593nm,0.5s						
DDIM				*i* AML	AML	18 05 23.0	
	comp=E,588nm,0.7s						
APMY	**Acipayam-Deniz**	**1.19**	**50**	PN	**Pn**	**18 05 10.2**	**+0.7**
GCAM	**G?zelcaml?**	**1.22**	**323**	PN	**Pn**	**18 05 09.8**	**-0.1**
GCAM	**G?zelcaml?**	**1.22**	**323**	P	**Pn**	**18 05 10.3**	**+0.4**
GCAM				S	**Sn**	**18 05 25.6**	**-0.4**
GCAM				*i* AML	AML	18 05 26.0	
	comp=E,938nm,0.2s						
GCAM				*i* AML	AML	18 05 26.0	
	comp=E,815nm,0.2s						
GOLH	**Golhisar**	**1.24**	**65**	P	**Pn**	**18 05 11.8**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**1.24**	**350**	PN	**Pn**	**18 05 10.2**	**-0.1**
AKAS	**Kas**	**1.27**	**112**	PN	**Pn**	**18 05 10.3**	**-0.3**
AKAS	**Kas**	**1.27**	**112**	P	**Pn**	**18 05 10.1**	**-0.4**
AKAS				S	**Sn**	**18 05 27.8**	**+0.6**
AKAS				*i* AML	AML	18 05 29.0	
	comp=E,132nm,1.0s						
AKAS				*i* AML	AML	18 05 33.0	
	comp=E,162nm,0.5s						
ELL	**Elmali**	**1.41**	**88**	PN	**Pn**	**18 05 14.0**	**+1.6**
ELL	**Elmali**	**1.41**	**88**	S	**Sn**	**18 05 30.7**	**+0.2**
KARP	**Karpathos**	**1.42**	**215**	P	**Pn**	**18 05 13.2**	**+0.7**
KARP				S	**Sn**	**18 05 31.1**	**+0.5**
KARP	**Karpathos**	**1.42**	**215**	PN	**Pn**	**18 05 13.1**	**+0.7**
KARP	**Karpathos**	**1.42**	**215**	P	**Pn**	**18 05 13.1**	**+0.7**
KARP	**Karpathos**	**1.42**	**215**	P	**Pn**	**18 05 13.2**	**+0.7**
KARP				S	**Sn**	**18 05 30.7**	**+0.1**
KARP				AML	AML	18 05 32.0	
	comp=N,1224µm,0.3s						
KARP				AML	AML	18 05 32.1	
	comp=E,527µm,0.2s						
SMG	**Samos**	**1.44**	**314**	P	**Pn**	**18 05 12.8**	**+0.1**
SMG				S	**Sn**	**18 05 30.5**	**-0.6**
	comp=E,732nm,0.3s						
SMG	**Samos**	**1.44**	**314**	P	**Pn**	**18 05 13.2**	**+0.5**
KORT	**Korkueli**	**1.78**	**80**	PN	**Pn**	**18 05 18.7**	**+1.4**
MANT	**Manisa**	**1.80**	**10**	P	**Pn**	**18 05 18.0**	**+0.4**
MANT				*i* AML	AML	18 05 40.0	
	comp=E,63nm,0.5s						
MANT				*i* AML	AML	18 05 41.0	
	comp=E,40nm,0.4s						
BLCB	**Balcova**	**1.88**	**332**	PN	**Pn**	**18 05 18.8**	**+0.3**
PASA	**Karahalli, USA**	**1.94**	**33**	P	**Pn**	**18 05 20.1**	**+0.7**
PASA				S	**Sn**	**18 05 43.5**	**+0.5**
PASA				*i* AML	AML	18 05 44.0	
	comp

JMST	**Minamisoumatoc**	**1.00 291**	*i*	P		**Pb**	18 13 43.7	**-0.4**
JMST				S		**Sb**	18 13 55.6	**-1.5**
JIKH	**Ishinomakikobu**	**1.05 333**	⇓	*i*P		**Pb**	18 13 44.7	**-0.3**
JIKH			⇓	S		**Sb**	18 13 57.4	**-1.3**
JMM	**Marumori**	**1.13 297**	*i*	P		**Pn**	18 13 45.7	**-0.6**
JMM				S		**Sb**	18 13 59.2	**-1.5**
JIO	**Ouri**	**1.23 333**	⇓	P		**Pn**	18 13 47.3	**-0.3**
JIO			⇓	S		**Sb**	18 14 01.8	**-1.8**
JFT	**Otama**	**1.39 277**	*i*	P		**Pn**	18 13 50.1	**+0.2**
JFT				S		**Sn**	18 14 06.6	**-1.5**
JOU	**Okura**	**1.49 312**		P		**Pn**	18 13 52.0	**+0.6**
JOU				S		**Sn**	18 14 10.2	**-0.4**
JMK	**Ichinoseki**	**1.72 337**		P		**Pn**	18 13 55.2	**+0.8**
JMK				S		**Sn**	18 14 14.8	**-1.4**
JYS	**Shirataka**	**1.80 299**		P		**Pn**	18 13 57.3	**+1.7**
JYS				S		**Sn**	18 14 18.7	**+0.5**
JFY	**Yanaizu**	**1.88 272**	*e*	P		**Pn**	18 13 57.3	**+0.5**
JFY			*e*	S		**Sn**	18 14 19.9	**-0.5**
JYK	**Kaneyama**	**2.05 319**		P		**Pn**	18 13 59.9	**+0.9**
JYK				S		**Sn**	18 14 24.2	**-0.2**
MJAR	**Matsushiro Arr**	**3.20 256**		Pn		**Pn**	18 14 15.5	**+0.7**
	0.3nm,0.3s,baz=78,slow=11,SNR=23							
MJAR				Sn		**Sn**	18 14 55.9	**+3.1**
	0.3nm,0.3s,baz=75,slow=24,SNR=4.1							
MJAR				LR		LR	18 15 48.5	
	comp=Z,84nm,18.2s,baz=86,slow=43 1.1nm,0.3s							
JHJ	**Hachijo jima 2**	**4.63 204**		Pn		**Pn**	18 14 34.9	**+0.4**
	4.2nm,0.3s,baz=72,slow=20,SNR=1.8							
JHJ				Sn		**Sn**	18 15 24.9	**-3.2**
	5.6nm,0.3s,baz=246,slow=19,SNR=1.9 85nm,0.9s							
USRK	**Ussuriysk Ar.**	**10.24 315**		Pn		**Pn**	18 15 54.4	**+3.0**
	0.1nm,0.3s,baz=131,slow=15,SNR=1.6 1.0nm,0.7s							
KSRS	**Korea Array**	**11.25 275**		Pn		Pn	18 16 10.9	+5.6
	0.1nm,0.3s,baz=91,slow=13,SNR=2.1							
KSRS				LR		LR	18 19 58.7	
	comp=Z,21nm,18.9s,baz=145,slow=34							
H11N2	**WAKE ISLAND Hy**	**27.88 122**		T		T	18 48 45.8	
	baz=315,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.89 122**		T		T	18 48 54.3	
	baz=315							
H11N3	**WAKE ISLAND Hy**	**27.89 122**		T		T	18 48 43.4	
	baz=315,slow=75							
SONM	**Songino Array**	**28.04 303**		P		**P**	18 19 16.6	**+0.9**
	0.3nm,0.5s,baz=100,slow=8.2,SNR=2.4 0.3nm,0.5s							
H11S1	**WAKE ISLAND Hy**	**28.61 124**		T		T	18 49 41.4	
	baz=317,slow=76							
H11S3	**WAKE ISLAND Hy**	**28.61 124**		T		T	18 49 42.7	
	baz=317,slow=76							
H11S2	**WAKE ISLAND Hy**	**28.62 124**		T		T	18 49 44.6	
	baz=317,slow=76							
ZALV	**Zalesovo Beam**	**42.08 312**		P		**P**	18 21 16.4	**+0.3**
	0.5nm,0.5s,baz=93,slow=7.7,SNR=2.1 0.5nm,0.5s							
MKAR	**Makanchi Array**	**44.38 302**		P		**P**	18 21 35.2	**+0.3**
	0.3nm,0.6s,baz=84,slow=9.8,SNR=5.1 0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**46.21 308**		P		**P**	18 21 49.2	**0.0**
	0.8nm,0.5s,baz=81,slow=7.9,SNR=8.2 0.8nm,0.5s							

*NOU **04** 18:13:22.5,37˚.12S×179˚.98E,h148km,MLv5.0/8, Off E. Coast of N. Island, N.Z.*
*NEIC **04** 18:13:23.9±1.2,37˚.17S±0˚.07×179˚.76E±0˚.1,h10km±2km, mb4.5/13,Error ellipse: s-maj=18.7km s-min=6.0km az=57.0*
*IDC **04** 18:13:26.3±1.0,36˚.81S×178˚.95E,h0km,mb4.4/7, mbtmp4.4/8,ML4.3/1,Error ellipse: s-maj=32.2km s-min=22.2km az=45.0*
*WEL **04** 18:13:27.6±1.0,37˚.5S×17˚.9E±˚,h10km,M4.2/23, ML4.3/15,MLv4.2/23,Error ellipse: s-maj=0.0km s-min=0.0km az=93.5*

ISC 04 18:13:26.3±2.1,37˚.14S±0˚.06×179˚.28E±0˚.08,h12km±10km, n141,σ1§52/143,mb4.5/13,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**241**		**Pn**	**18**	**13**	**44.3**	**-0.2**
MXZ	**Matakaoa Point**	**0.88**	**241**	P	**Pn**	**18**	**13**	**44.3**	**-0.2**
MXZ				S	**Sg**	**18**	**13**	**53.8**	**-1.2**
WMGZ	**Waiomatatini S**	**0.97**	**225**	P	**Pn**	**18**	**13**	**48.0**	**+2.3**
WMGZ				S	**Sn**	**18**	**14**	**01.6**	**+2.2**
PUZ	**Puketiti**	**1.24**	**221**	P	**Pg**	**18**	**13**	**51.5**	**+1.4**
PUZ				S	**Sn**	**18**	**14**	**07.7**	**+1.7**
HAZ	**Te Kaha**	**1.34**	**242**	P	**Pg**	**18**	**13**	**51.8**	**-0.3**
HAZ				S	**Sn**	**18**	**14**	**09.7**	**+1.1**
TWGZ	**Tauwhareparae**	**1.46**	**224**	P	**Pg**	**18**	**13**	**54.8**	**+0.4**
TWGZ				S	**Sg**	**18**	**14**	**14.9**	**+1.5**
RUGZ	**Raukumara Rang**	**1.52**	**237**	P	**Pg**	**18**	**13**	**55.8**	**+0.3**
RUGZ				S	**Sg**	**18**	**14**	**15.7**	**+0.5**
CNGZ	**Carnagh Statio**	**1.59**	**212**	P	**Pg**	**18**	**13**	**56.9**	**+0.1**
WIZ	**White Island**	**1.71**	**256**	P	**Pb**	**18**	**13**	**57.1**	**-0.5**
TKGZ	**Te Karaka**	**1.72**	**221**	P	**Pb**	**18**	**13**	**58.0**	**+0.1**
MWZ	**Matawai**	**1.83**	**229**	P	**Pb**	**18**	**13**	**59.6**	**-0.1**
WHRZ	**Whale Island**	**1.97**	**248**	P	**Pb**	**18**	**14**	**01.8**	**-0.2**
RIGZ	**Rimuhau**	**1.97**	**217**	P	**Pb**	**18**	**14**	**01.4**	**-0.7**
RAGZ	**Rawiri**	**2.00**	**227**	P	**Pn**	**18**	**14**	**01.7**	**+1.7**
URZ	**Urewera**	**2.05**	**236**	Pn	**Pb**	**18**	**14**	**02.5**	**-0.9**
	111nm,0.3s,baz=31,slow=0.6,SNR=352								
URZ				Sn	**Sn**	**18**	**14**	**24.7**	**-1.4**
	105nm,0.3s,baz=31,slow=5.7,SNR=7.5 226nm,0.3s								
URZ	**Urewera**	**2.05**	**236**		**Pb**	**18**	**14**	**02.4**	**-1.1**
URZ	**Urewera**	**2.05**	**236**	P	**Pb**	**18**	**14**	**02.6**	**-0.9**
PRGZ	**Paritu Road**	**2.10**	**211**	P	**Pn**	**18**	**14**	**03.0**	**+1.7**
EDRZ	**Edgecumbe**	**2.24**	**244**	P	**Pn**	**18**	**14**	**04.8**	**+1.6**
SNGZ	**Shannon Statio**	**2.25**	**223**	P	**Pn**	**18**	**14**	**05.0**	**+1.7**
KNZ	**Kokohu**	**2.27**	**214**	P	**Pn**	**18**	**14**	**04.6**	**+1.1**
OPRZ	**Ohinepanea**	**2.28**	**251**	P	**Pn**	**18**	**14**	**04.7**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.28**	**208**	P	**Pn**	**18**	**14**	**05.8**	**+2.0**
RTZ	**Ruatahuna**	**2.34**	**230**	P	**Pn**	**18**	**14**	**06.6**	**+1.9**
MUGZ	**Murupara**	**2.40**	**235**	P	**Pn**	**18**	**14**	**06.9**	**+1.6**
MYRZ	**Mayor Island**	**2.43**	**266**	P	**Pn**	**18**	**14**	**06.6**	**+0.7**
LIRZ	**Lichensteins R**	**2.46**	**249**	P	**Pb**	**18**	**14**	**08.6**	**-1.8**
TARZ	**Mount Tarawera**	**2.46**	**243**	P	**Pb**	**18**	**14**	**09.0**	**-1.4**
TGRZ	**Tauranga**	**2.48**	**255**	P	**Pn**	**18**	**14**	**07.7**	**+1.3**
RAHZ	**Arahi**	**2.48**	**224**	P	**Pn**	**18**	**14**	**08.1**	**+1.6**
RRRZ	**Republican Roa**	**2.50**	**241**	P	**Pn**	**18**	**14**	**08.7**	**+1.9**
OMRZ	**Omania**	**2.50**	**246**	P	**Pn**	**18**	**14**	**08.8**	**+1.9**
WHHZ	**Waihua**	**2.52**	**219**	P	**Pn**	**18**	**14**	**06.6**	**-0.4**
KARZ	**Kaharoa**	**2.57**	**249**	P	**Pn**	**18**	**14**	**09.3**	**+1.6**
HLRZ	**Highlands Stat**	**2.58**	**244**	P	**Pb**	**18**	**14**	**10.3**	**-2.1**
MTHZ	**Maungataniwha**	**2.58**	**228**	P	**Pn**	**18**	**14**	**10.0**	**+2.1**
PRRZ	**Plateau Road**	**2.66**	**238**	P	**Pn**	**18**	**14**	**10.7**	**+1.8**
UTU	**Utuhina**	**2.66**	**246**	P	**Pb**	**18**	**14**	**12.9**	**-0.9**
HSRZ	**Hossack Road**	**2.68**	**243**	P	**Pn**	**18**	**14**	**11.8**	**+2.6**
HRRZ	**Handcock Road**	**2.68**	**241**	P	**Pn**	**18**	**14**	**11.0**	**+1.7**
ALRZ	**Allen Road**	**2.73**	**238**	P	**Pn**	**18**	**14**	**11.5**	**+1.6**
NMHZ	**Naumai**	**2.76**	**224**	P	**Pn**	**18**	**14**	**12.2**	**+1.7**
ARHZ	**Aropaoanui**	**2.78**	**220**	P	**Pn**	**18**	**14**	**12.0**	**+1.3**
MRHZ	**Matea Rd**	**2.83**	**232**	P	**Pn**	**18**	**14**	**12.9**	**+1.6**
WPRZ	**Whakapapatarin**	**2.83**	**240**	P	**Pb**	**18**	**14**	**14.6**	**-2.1**
KUZ	**Kuaotunu**	**2.88**	**277**	P	**Pn**	**18**	**14**	**11.4**	**-0.5**
BKZ	**Black Stump Fm**	**2.99**	**227**		**Pn**	**18**	**14**	**14.6**	**+1.1**
BKZ	**Black Stump Fm**	**2.99**	**227**	P	**Pn**	**18**	**14**	**14.8**	**+1.3**
KUTZ	**Kaahu Road**	**3.05**	**243**	P	**Pn**	**18**	**14**	**16.4**	**+2.0**
CKHZ	**Cape Kidnapper**	**3.05**	**214**	P	**Pn**	**18**	**14**	**14.9**	**+0.5**
TOZ	**Tahuroa Road**	**3.07**	**258**	P	**Pn**	**18**	**14**	**15.0**	**+0.5**
GRZ	**Great Barrier**	**3.20**	**285**	P	**Pn**	**18**	**14**	**17.2**	**+0.8**
KWHZ	**Kaweka Forest**	**3.20**	**224**	P	**Pn**	**18**	**14**	**17.2**	**+0.7**
KAHZ	**Kahuranaki**	**3.25**	**215**	P	**Pn**	**18**	**14**	**17.7**	**+0.6**
RATZ	**Rangitukua**	**3.26**	**237**	P	**Pn**	**18**	**14**	**19.4**	**+2.1**
MKAZ	**Moumakai**	**3.29**	**269**	P	**Pn**	**18**	**14**	**17.8**	**+0.2**
KRHZ	**Kereru**	**3.39**	**222**	P	**Pn**	**18**	**14**	**19.5**	**+0.5**
TMVZ	**Te Maari**	**3.44**	**234**	P	**Pn**	**18**	**14**	**21.0**	**+1.2**
ETVZ	**East Tongariro**	**3.45**	**234**	P	**Pn**	**18**	**14**	**21.5**	**+1.6**
BHHZ	**Black Hill Sta**	**3.45**	**226**	P	**Pn**	**18**	**14**	**21.2**	**+1.3**
PXZ	**Pawanui**	**3.45**	**213**	P	**Pn**	**18**	**14**	**19.4**	**-0.4**
KRVZ	**Karewarewa**	**3.47**	**235**	P	**Pn**	**18**	**14**	**21.8**	**+1.5**
ETAZ	**East Tamaki Re**	**3.49**	**272**	P	**Pn**	**18**	**14**	**21.1**	**+0.8**
NNVZ	**North Ngauruho**	**3.51**	**234**	P	**Pn**	**18**	**14**	**22.8**	**+2.0**
WTVZ	**West Tongariro**	**3.52**	**235**	P	**Pn**	**18**	**14**	**22.7**	**+1.9**
MBAZ	**Motutapu North**	**3.53**	**275**	P	**Pn**	**18**	**14**	**21.7**	**+0.9**
NGZ	**Ngauruhoe**	**3.54**	**234**	P	**Pn**	**18**	**14**	**21.4**	**+0.2**
MOVZ	**Moawhango**	**3.58**	**230**	P	**Pn**	**18**	**14**	**22.3**	**+0.6**
ABAZ	**Army Bay**	**3.61**	**277**	P	**Pn**	**18**	**14**	**23.8**	**+1.9**
FWVZ	**Far West T-bar**	**3.62**	**233**	P	**Pn**	**18**	**14**	**23.7**	**+1.3**
WNVZ	**Wahianoa**	**3.63**	**232**	P	**Pn**	**18**	**14**	**23.4**	**+0.9**
EPAZ	**Eden Park BICE**	**3.64**	**273**	P	**Pn**	**18**	**14**	**24.0**	**+1.6**
HBAZ	**Herne Bay Bore**	**3.65**	**273**	P	**Pn**	**18**	**14**	**24.5**	**+1.9**
WPHZ	**Waipukurau**	**3.67**	**216**	P	**Pn**	**18**	**14**	**22.8**	**0.0**
PNHZ	**Pukenui**	**3.68**	**220**	P	**Pn**	**18**	**14**	**22.7**	**-0.3**
AWAZ	**Awhitu Peninsu**	**3.71**	**270**	P	**Pn**	**18**	**14**	**24.3**	**+0.9**
PRHZ	**Porangahau**	**3.75**	**213**	P	**Pn**	**18**	**14**	**23.3**	**-0.6**
HIZ	**Hauiti**	**3.76**	**247**	Pn	**Pn**	**18**	**14**	**26.4**	**+2.2**
HIZ	**Hauiti**	**3.76**	**247**	P	**Pn**	**18**	**14**	**26.6**	**+2.5**
HIZ	**Hauiti**	**3.76**	**247**	P	**Pn**	**18**	**14**	**26.7**	**+2.6**
WTAZ	**Waiatarua**	**3.77**	**272**	P	**Pn**	**18**	**14**	**25.5**	**+1.2**
RVAZ	**Riverhead Bore**	**3.78**	**274**	P	**Pn**	**18**	**14**	**25.6**	**+1.2**
TSZ	**Takapari Road**	**3.91**	**221**	P	**Pn**	**18**	**14**	**25.5**	**-0.6**
WCZ	**Waipu Caves**	**4.15**	**285**	P	**Pn**	**18**	**14**	**30.5**	**+1.0**
POWZ	**Post Office Ro**	**4.25**	**219**	P	**Pn**	**18**	**14**	**30.6**	**-0.3**
BFZ	**Birch Farm**	**4.26**	**213**	Pn	**Pn**	**18**	**14**	**29.8**	**-1.1**
BFZ	**Birch Farm**	**4.26**	**213**	P	**Pn**	**18**	**14**	**29.6**	**-1.3**
BFZ	**Birch Farm**	**4.26**	**213**	P	**Pn**	**18**	**14**	**30.0**	**-0.9**
WAZ	**Wanganui**	**4.26**	**231**	P	**Pn**	**18**	**14**	**32.4**	**+1.4**
PRWZ	**Pori Road**	**4.28**	**216**	P	**Pn**	**18**	**14**	**31.0**	**-0.2**
MHEZ	**Mangahewa**	**4.36**	**242**	P	Pb	18	14	37.8	-5.0
LREZ	**Lake Rotokare**	**4.48**	**237**	P	**Pn**	**18**	**14**	**36.4**	**+2.5**
MRZ	**Mangatainoka R**	**4.55**	**218**	P	**Pn**	**18**	**14**	**33.7**	**-1.2**
KHEZ	**Kahui Hut**	**4.67**	**241**	P	**Pn**	**18**	**14**	**40.6**	**+3.9**
HOWZ	**Holdsworth Sta**	**4.76**	**217**	P	**Pn**	**18**	**14**	**37.1**	**-0.8**
OGWZ	**Otaki Gorge**	**4.87**	**220**	P	**Pn**	**18**	**14**	**38.6**	**-0.7**
OUZ	**Omahuta**	**4.98**	**291**		**Pn**	**18**	**14**	**42.7**	**+1.9**
OUZ	**Omahuta**	**4.98**	**291**	P	**Pn**	**18**	**14**	**42.2**	**+1.3**
OUZ	**Omahuta**	**4.98**	**291**	P	**Pn**	**18**	**14**	**42.4**	**+1.6**
MSWZ	**Moikau Station**	**5.29**	**215**	Pn	**Pn**	**18**	**14**	**43.8**	**-1.4**
SNZO	**South Karori**	**5.47**	**215**	P	**Pn**	**18**	**14**	**48.2**	**+0.6**
TUWZ	**Tuamarina**	**5.96**	**222**	P	**Pn**	**18**	**14**	**53.5**	**-0.8**
CMWZ	**Cape Campbell**	**6.05**	**219**	P	**Pn**	**18**	**14**	**59.6**	**+4.1**
TKNZ	**Takaka Hill**	**6.27**	**230**	P	**Pn**	**18**	**14**	**57.5**	**-1.1**
QRZ	**Quartz Range**	**6.42**	**233**	P	**Pn**	**18**	**15**	**00.5**	**-0.1**
QRZ	**Quartz Range**	**6.42**	**233**	P	**Pn**	**18**	**15**	**00.2**	**-0.4**
KHZ	**Kahutara**	**6.88**	**218**	P	**Pn**	**18**	**15**	**05.0**	**-1.9**
CTZ	**Chatham Island**	**7.29**	**156**	P	**Pn**	**18**	**15**	**16.1**	**+3.5**
RPZ	**Rata Peaks**	**9.08**	**221**	Pn	**Pn**	**18**	**15**	**33.7**	**-3.4**
	1.7nm,0.3s,baz=53,slow=2.6,SNR=10								
RPZ				Sn	Sn	18	17	08.2	-11
	7.1nm,0.3s,baz=153,slow=23,SNR=20								
RPZ	**Rata Peaks**	**9.08**	**221**	P	**Pn**	**18**	**15**	**35.2**	**-1.9**
ODZ	**Otahua Downs**	**10.23**	**217**	P	**Pn**	**18**	**15**	**50.5**	**-2.4**
BBLO	**Buckleboo**	**35.45**	**264**	P	**P**	**18**	**20**	**19.9**	**-2.6**
COEN	**Coen**	**39.56**	**296**	P	**P**	**18**	**20**	**58.0**	**+0.6**
AS31	**Alice Springs**	**41.01**	**276**	P	**P**	**18**	**21**	**09.0**	**-0.4**
ASAR	**Alice Springs**	**41.01**	**276**	P	**P**	**18**	**21**	**08.9**	**-0.5**
	3.3nm,0.5s,baz=118,slow=8.0,SNR=26								
ASAR				PcP	**PcP**	**18**	**23**	**09.7**	**+0.3**
	0.3nm,0.6s,baz=124,slow=4.0,SNR=1.6								
ASAR				ScP	**ScP**	**18**	**26**	**58.1**	**-0.7**
	0.5nm,1.0s,baz=115,slow=4.0,SNR=4.1 3.3nm,0.5s								
ASAR	**Alice Springs**	**41.01**	**276**	P	**P**	**18**	**21**	**08.5**	**-0.9**
KRVT	**Keravat (AS076**	**41.13**	**316**	P	**P**	**18**	**21**	**09.4**	**-0.9**
	19nm,0.9s,baz=163,slow=17,SNR=2.5 19nm,0.9s								
WR0	**Warramunga Arr**	**42.44**	**281**	P	**P**	**18**	**21**	**19.9**	**-1.3**
WR0				IAmb	IAmb	18	21	21.2	
	comp=Z,4.6nm,0.8s								
FORT	**Forrest**	**42.53**	**263**	P	**P**	**18**	**21**	**21.0**	**-0.8**
FORT				IAmb	IAmb	18	21	25.4	
	comp=Z,12nm,0.8s								
WB2	**Warramunga Arr**	**42.60**	**281**	P	**P**	**18**	**21**	**22.0**	**-0.4**
WB2				IAmb	IAmb	18	21	22.5	
	comp=Z,6.8nm,0.7s								
WRA	**Warramunga Arr**	**42.61**	**281**	P	**P**	**18**	**21**	**21.5**	**-1.0**
	comp=Z,4.2nm,0.6s,baz=121,slow=7.7,SNR=61								
WRA				PcP	**PcP**	**18**	**23**	**15.8**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=122,slow=2.9,SNR=1.9 comp=Z,4.2nm,0.6s								
WRA	**Warramunga Arr**	**42.61**	**281**	P	**P**	**18**	**21**	**21.6**	**-1.0**
WB0	**Warramunga Arr**	**42.67**	**281**	P	**P**	**18**	**21**	**22.3**	**-0.6**
WB0				IAmb	IAmb	18	21	22.9	
	comp=Z,6.1nm,0.6s								
MTN	**Manton Dam**	**49.25**	**286**	P	**P**	**18**	**22**	**13.0**	**-1.9**
KNRA	**Kununurra**	**49.39**	**282**	P	**P**	**18**	**22**	**15.0**	**-1.0**
KNRA				IAmb	IAmb	18	22	16.1	
	comp=Z,5.5nm,0.8s								
FITZ	**Fitzroy Crossi**	**50.49**	**277**	P	**P**	**18**	**22**	**23.5**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=141,slow=8.5,SNR=14 comp=Z,3.3nm,0.6s								
FITZ	**Fitzroy Crossi**	**50.49**	**277**	P	**P**	**18**	**22**	**23.7**	**-0.6**
FITZ				IAmb	IAmb	18	22	24.7	
	comp=Z,3.9nm,0.7s								
MORW	**Morawa**	**52.73**	**259**	P	**P**	**18**	**22**	**40.1**	**-0.9**
MORW				IAmb	IAmb	18	23	03.7	
	comp=Z,16nm,1.4s								
QSPA	**South Pole Qui**	**52.99**	**180**	P	**P**	**18**	**22**	**46.7**	**+4.2**
	comp=Z,1.7nm,0.7s,baz=29,slow=4.3,SNR=13 comp=Z,1.7nm,0.7s								
QSPA	**South Pole Qui**	**52.99**	**180**	P	**P**	**18**	**22**	**40.3**	**-2.2**
H03S2	**Juan Fernandez**	**78.62**	**124**	T	T	19	51	56.2	
	baz=231								
H03S1	**Juan Fernandez**	**78.63**	**124**	T	T	19	51	51.9	
	baz=231								
H03S3	**Juan Fernandez**	**78.64**	**124**	T	T	19	51	56.7	
	baz=231								
H03N3	**Juan Fernandez**	**78.85**	**123**	T	T	19	52	03.5	
	baz=238,slow=74								
H03N2	**Juan Fernandez**	**78.86**	**123**	T	T	19	52	04.6	
	baz=238								
H03N1	**Juan Fernandez**	**78.87**	**123**	T	T	19	52	08.0	
	baz=238,slow=74								
PLCA	**Paso Flores**	**79.55**	**134**	P	P	18	25	38.3	+5.1
	comp=Z,1.0nm,0.6s,baz=241,slow=5.7,SNR=3.9 comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**93.55**	**290**	P	**P**	**18**	**26**	**43.7**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=131,slow=2.9,SNR=7.2 comp=Z,0.7nm,0.3s								
ARCES	**ARCESS Array B**	**144.58**	**344**	PKP	**PKPdf**	**18**	**33**	**00.9**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=20,slow=2.9,SNR=5.4								
FINES	**FINESS Array B**	**150.46**	**334**	PKPbc	**PKPbc**	**18**	**33**	**17.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=43,slow=3.4,SNR=10								
TORD	**Torodi Ar. Bea**	**156.01**	**186**	PKPab	**PKPab**	**18**	**33**	**50.7**	**+2.7**
	comp=Z,0.5nm,0.7s,baz=167,slow=3.7,SNR=2.5								

*ISK **04** 18:15:41.3,39˚.30N×36˚.32E,h2km,ML4.1/36*
*DDA **04** 18:15:42.2±0.0,39˚.29N×36˚.29E,h6km±2km,MW3.8*
*IDC **04** 18:15:42.1±0.8,39˚.21N×36˚.33E,h0km,mb3.7/14, mbtmp3.7/22,ML3.5/8,MS2.9/7,Error ellipse: s-maj=13.5km s-min=8.8km az=2.0*
*NEIC **04** 18:15:43.6±2.4,39˚.32N±0˚.02×36˚.27E±0˚.02,h5km±2km, Error ellipse: s-maj=3.8km s-min=3.0km az=191.0*
*CFUSG **04** 18:15:44.5,39˚.30N×36˚.30E,h5km,mb3.3/5,Central Turkey Magtype MSH 3.2 from 5 stations*

ISC 04 18:15:42.9±1.1,39˚.30N±0˚.02×36˚.32E±0˚.02,h3km±8km, n133,σ1§18/159,mb3.8/14,MS2.9/4,16C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
CUAYA	**Sivas-Altinyay**	**0.33**	**95**	P	**Pg**	**18**	**15**	**49.5**	**+0.2**
BNN	**Bunyan**	**0.58**	**220**	PG	**Pg**	**18**	**15**	**52.5**	**-1.5**
BNN				SG	**Sg**	**18**	**16**	**02.2**	**+0.8**
BNN	**Bunyan**	**0.58**	**220**		**Pg**	**18**	**15**	**52.4**	**-1.5**
BNN					**Sg**	**18**	**16**	**01.7**	**+0.3**
GUNE	**Kayseri**	**0.67**	**234**		**Pg**	**18**	**15**	**55.6**	**0.0**
GUNE					**Sb**	**18**	**16**	**07.6**	**+0.7**
GUNE	**Kayseri**	**0.67**	**234**	P	**Pg**	**18**	**15**	**55.6**	**0.0**
GUNE				S	**Sb**	**18**	**16**	**07.6**	**+0.7**
GUNE				*i* AML	AML	18	16	18.0	
	comp=E,7μm,0.7s								
GUNE				*i* AML	AML	18	16	18.0	
	comp=N,5μm,0.7s								
SVSK	**Karacayir**	**0.81**	**40**	PG	**Pg**	**18**	**15**	**57.6**	**-0.9**
SVSK				SG	**Sg**	**18**	**16**	**09.9**	**+0.9**
SVSK	**Karacayir**	**0.81**	**40**	Pg	**Pg**	**18**	**15**	**57.6**	**-0.9**
SVSK				Sg	**Sg**	**18**	**16**	**10.3**	**+1.3**
YOZ	**Yozgat**	**0.85**	**294**	PG	**Pg**	**18**	**15**	**58.5**	**-0.6**
YOZ				SG	**Sg**	**18**	**16**	**11.0**	**+0.9**
SIRC	**Yozgat**	**0.91**	**273**	P	**Pg**	**18**	**15**	**59.1**	**-1.2**
SIRC				S	**Sg**	**18**	**16**	**12.8**	**+0.8**
SIRC				*i* AML	AML	18	16	13.0	
	comp=E,1μm,0.2s								
SIRC				*i* AML	AML	18	16	18.0	
	comp=N,996nm,0.6s								
CKRK	**Yozgat, Cekere**	**1.00**	**321**	P	**Pg**	**18**	**16**	**01.6**	**-0.4**
CKRK				S	**Sg**	**18**	**16**	**15.4**	**+0.3**
CKRK				*i* AML	AML	18	16	17.0	
	comp=N,3μm,0.4s								
TOKT	**Tokat**	**1.04**	**10**	PG	**Pg**	**18**	**16**	**01.6**	**-1.2**
TOKT				SG	**Sg**	**18**	**16**	**17.2**	**+0.9**
DARE	**Darende-Malaty**	**1.16**	**128**	PN	**Pb**	**18**	**16**	**03.9**	**-1.8**
DARE				SN	**Sg**	**18**	**16**	**21.4**	**+1.2**
SAIM	**ADANA**	**1.33**	**188**	P	**Pn**	**18**	**16**	**07.0**	**-1.5**
SAIM				S	**Sg**	**18**	**16**	**28.4**	**+2.8**
SAIM				*i* AML	AML	18	16	32.0	
	comp=N,3μm,0.4s								
SAIM				*i* AML	AML	18	16	33.0	
	comp=E,2μm,0.4s								
RSDY	**Resadiye-TOKAT**	**1.35**	**35**	PN	**Pn**	**18**	**16**	**07.4**	**-1.2**
RSDY				SN	**Sn**	**18**	**16**	**26.8**	**-0.3**
CDAG	**Cicekdag**	**1.54**	**283**	P	**Pn**	**18**	**16**	**11.0**	**-0.4**
CDAG				S	**Sg**	**18**	**16**	**33.2**	**+0.8**
CDAG				*i* AML	AML	18	16	42.0	
	comp=N,2μm,0.9s								
CORM	**Corum**	**1.57**	**305**	PN	**Pn**	**18**	**16**	**10.8**	**-1.0**
CORM				SN	**Sb**	**18**	**16**	**32.8**	**-0.2**
ARPR	**Arapgir-MALATY**	**1.58**	**97**	PN	**Pn**	**18**	**16**	**11.2**	**-0.8**
KIZO	**Buyukkizoglu-L**	**1.63**	**350**	PN	**Pn**	**18**	**16**	**11.9**	**-0.7**
YARM	**Yarimca-Ladik(**	**1.67**	**347**	PN	**Pn**	**18**	**16**	**12.4**	**-0.7**
NIDE	**Nigde/Merkez-G**	**1.77**	**223**	P	**Pn**	**18**	**16**	**15.6**	**-0.4**
NIDE				S	**Sg**	**18**	**16**	**43.2**	**+3.5**
NIDE				*i* AML	AML	18	16	46.0	
	comp=N,266nm,0.3s								
NIDE				*i* AML	AML	18	16	47.0	
	comp=E,576nm,0.4s								
KVT	**Kavak**	**1.79**	**353**	PN	**Pn**	**18**	**16**	**14.3**	**-0.5**
KMRS	**Kahramanmaras**	**1.84**	**165**	PN	**Pn**	**18**	**16**	**14.7**	**-0.8**
KAHM	**Kahramanmaras,**	**1.85**	**163**	P	**Pb**	**18**	**16**	**16.8**

comp=Z,18nm,0.3s
SIM *e*S **Sn** **18 18 19.3 +0.5**
SIM Sm 18 18 19.5
comp=N,14nm,0.5s
SIM Sm 18 18 19.5
comp=E,8.0nm,0.3s
MMAI Mount Meron Ar 6.31 187 Pn **Pn** **18 17 16.9 0.0**
comp=E,0.9nm,0.3s,baz=15,slow=12,SNR=4.7
comp=E,2.6nm,0.4s
KBZ Khabaz 6.63 46 Pn **Pn** **18 17 23.5 +2.3**
comp=E,0.3nm,0.3s,baz=216,slow=8.7,SNR=5.4
comp=E,1.6nm,0.5s
ASF Jabal al Asfar 7.12 176 Pn **Pn** **18 17 25.7 -2.4**
comp=E,0.2nm,0.3s,baz=307,slow=5.1,SNR=1.7
ASF Lg Lg 18 19 27.6
comp=E,0.2nm,0.3s,baz=9.0,slow=19,SNR=1.7
comp=E,1.4nm,0.7s
TIRR Tirgusor 7.83 314 Pn **Pn** **18 17 36.1 -1.6**
ALN Alexandroupoli 8.04 285 Pn **Pn** **18 17 40.7 +0.2**
TLCR 8.10 319 ⇑P **Pn** **18 17 41.3 0.0**
CFR Carcaliu 8.45 317 ⇑P **Pn** **18 17 46.0 -0.1**
RDO Rodhopi 8.45 286 **Pn** **18 17 44.8 -1.4**
RAZG Razgrad 8.51 303 ⇓P **Pn** **18 17 46.3 -0.7**
MILM Milestii Mici 9.38 327 ⇑P **Pn** **18 18 00.3 +1.3**
VRI Vrincioaia 9.65 316 ⇑P **Pn** **18 18 02.9 +0.4**
PLOR Plostina 9.68 316 ⇑P **Pn** **18 18 04.3 +1.3**
MLR Muntele Rosu 9.85 312 ⇑P **Pn** **18 18 06.0 +0.5**
MLR Muntele Rosu 9.85 312 Pn **Pn** **18 18 08.5 +3.0**
comp=E,0.2nm,0.3s,baz=161,slow=18,SNR=1.6
MLR Sn **Sn** **18 19 57.1 +0.4**
comp=E,0.2nm,0.3s,baz=288,slow=20,SNR=1.4
MLR LR LR 18 22 40.8
comp=E,85nm,18.1s,baz=145,slow=42
comp=E,1.1nm,0.6s
COVR Voineasa-Covas 9.92 315 ⇓P **Pn** **18 18 06.6 +0.3**
TESR Tescani 10.11 319 ⇑P **Pn** **18 18 09.0 +0.1**
VOIR 10.35 310 ⇑P **Pn** **18 18 12.1 -0.1**
VTS Vitosha 10.44 293 Pn **Pn** **18 18 14.5 +0.9**
BIZ Bicaz 10.67 319 ⇑P **Pn** **18 18 17.8 +1.1**
BURAR Bucovina Array 11.57 320 ⇑P **Pn** **18 18 30.5 +1.4**
BURAR Bucovina Array 11.57 320 Pn **Pn** **18 18 28.6 -0.5**
BUR08 Bucovina Ar. S 11.60 320 **Pn** **18 18 29.6 +0.2**
GZR Gura Zlata 11.72 306 ⇑P **Pn** **18 18 29.8 -1.2**
AKASG Malin Array Be 12.45 339 Pn **Pn** **18 18 41.5 +0.6**
comp=E,0.7nm,0.3s,baz=162,slow=12,SNR=4.8
AKASG LR LR 18 24 37.0
comp=E,34nm,19.0s,baz=180,slow=43
comp=E,0.4nm,0.5s
DIVS Divibare 13.11 297 Pn **Pn** **18 18 47.5 -2.5**
BELG Belogornoye 15.26 27 Pn **Pn** **18 19 18.3 -0.8**
comp=E,0.6nm,0.3s,baz=180,slow=20,SNR=3.4
comp=E,1.1nm,0.7s
GERES GERESS Array B 18.79 308 P **Pn** **18 20 05.6 +1.9**
comp=E,0.4nm,0.6s,baz=116,slow=14,SNR=5.6
AKTO Aktyubinsk 18.91 47 P **P** **18 20 04.2 -0.4**
comp=E,0.1nm,0.3s,baz=229,slow=9.5,SNR=4.1
comp=E,1.5nm,0.7s
WATA Walderalm 19.66 302 *i* P **Pn** **18 20 18.0 +3.8**
comp=E,2.3nm,1.0s
SQTA Sankt Quirin 19.87 302 *i* P **Pn** **18 20 17.2 +0.5**
comp=E,9.0nm,1.7s
MOTA Moosalm 19.97 302 *i* P **Pn** **18 20 20.0 +2.0**
comp=E,7.7nm,1.2s
FETA Feichten 20.14 301 *e*P Pn 18 20 22.4 +2.4
comp=E,5.0nm,1.1s
RETA Reutte 20.23 302 *i* P Pn 18 20 22.0 +1.1
comp=E,3.8nm,0.7s
DAVOX Davos/Dischmat 20.66 300 P Pn 18 20 25.5 -0.6
comp=E,0.9nm,0.5s,baz=80,slow=6.1,SNR=2.3
DAVOX LR LR 18 30 18.5
comp=E,40nm,18.8s,baz=83,slow=42
comp=E,0.9nm,0.5s
DAVA Damuels 20.76 301 *i* P Pn 18 20 28.3 +1.0
comp=E,8.0nm,0.9s
KIRV Kirov 21.06 19 P **P** **18 20 28.2 +0.4**
comp=E,5.8nm,0.5s,baz=248,slow=11,SNR=5.4
comp=E,5.8nm,0.5s
KEST Kesra 21.66 269 P **P** **18 20 34.8 +0.2**
comp=E,4.7nm,0.9s,baz=68,slow=18,SNR=6.7
comp=E,4.7nm,0.9s
KLMR Klimovskoe 21.68 4 *e* **P** **18 20 33.5 -0.9**
KLMR AMP 18 20 38.4
comp=Z,19nm,1.4s
ARU Arti 22.56 33 P **P** **18 20 44.8 +0.8**
comp=Z,1.0nm,0.4s,baz=225,slow=14,SNR=2.3
comp=Z,1.0nm,0.4s
FINES FINESS Array B 23.06 347 P **P** **18 20 48.9 -0.3**
comp=Z,7.0nm,1.1s,baz=187,slow=11,SNR=3.0
comp=Z,7.0nm,1.1s
HFS Hagfors 25.23 333 P **P** **18 21 09.7 -0.1**
comp=E,1.7nm,0.6s,baz=161,slow=9.2,SNR=7.0
HFS LR LR 18 30 40.9
comp=Z,42nm,19.6s,baz=164,slow=36
comp=Z,1.7nm,0.6s
KKAR Karatay Array 25.90 70 P **P** **18 21 14.8 -1.2**
NB2 NORSAR Subarra 26.75 333 P **P** **18 21 26.0 +2.5**
comp=Z,2.5nm,1.0s,baz=137,slow=10
NOA NORSAR Array B 26.75 333 P **P** **18 21 25.6 +2.1**
comp=Z,0.7nm,0.7s,baz=136,slow=9.4,SNR=4.9
NOA LR LR 18 32 44.4
comp=Z,25nm,20.0s,baz=165,slow=38
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 27.01 48 LR LR 18 34 06.4
comp=Z,33nm,18.4s,baz=180,slow=41
ESDC Sonseca Array 30.91 284 P **P** **18 22 00.7 -0.1**
comp=Z,0.3nm,0.6s,baz=70,slow=8.5,SNR=5.1
comp=Z,0.3nm,0.6s
KURBB Kurchatov Arra 31.53 55 P **P** **18 22 05.9 -0.1**
comp=Z,1.7nm,0.9s,baz=272,slow=8.9,SNR=12
comp=Z,1.7nm,0.9s
MK31 Makanchi Array 34.02 62 P **P** **18 22 24.7 -3.2**
MK31 IAmb IAmb 18 22 29.8
comp=Z,1.5nm,1.1s
MKAR Makanchi Array 34.02 62 P **P** **18 22 28.3 +0.4**
comp=Z,1.1nm,0.8s,baz=269,slow=7.3,SNR=10
comp=Z,1.1nm,0.8s
MKAR Makanchi Array 34.02 62 P **P** **18 22 28.4 +0.5**
ZALV Zalesovo Beam 35.64 49 P **P** **18 22 40.7 -1.1**
comp=Z,0.4nm,0.5s,baz=260,slow=8.2,SNR=2.2
comp=Z,0.4nm,0.5s
TORD Toroti Ar. Bea 40.13 239 P **P** **18 23 18.7 -1.4**
comp=Z,0.7nm,0.8s,baz=40,slow=7.8,SNR=2.5
comp=Z,0.7nm,0.8s
SONM Songino Array 49.89 56 P **P** **18 24 37.6 0.0**
comp=Z,0.2nm,0.3s,baz=282,slow=6.6,SNR=2.4
comp=Z,0.2nm,0.3s
CMAR Chiang Mai Arr 57.51 92 P **P** **18 25 33.1 -0.6**
comp=Z,0.4nm,0.4s,baz=297,slow=9.2,SNR=5.6
comp=Z,0.4nm,0.4s

DJA 04 18:16:13.0±0.4, 8˚S±4˚×10˚7E±˚, h10km, M4.0/9, mb4.5/2, MLv3.8/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.98**	**348**	P	Pg	18 16 31.1	-0.9
LEM	**Lembang**	**1.47**	**11**	P	Pn	18 16 39.4	-0.4
SKJI	**Sukabumi**	**1.48**	**329**	P	Pn	18 16 39.1	-0.6
DBJI	**Dramaga**	**1.81**	**341**	P	Pn	18 16 44.8	+0.5
PCJI	**Pacitan**	**3.81**	**89**	P	Pn	18 17 11.5	-0.3
KASI	**Kota Agung**	**3.93**	**314**	P	Pn	18 17 13.8	+0.4
MNAI	**Manna**	**5.84**	**312**	P	Pn	18 17 39.3	-0.4
	0.9nm211nm,2.2s						
JAGI	**Jajag, Banyuwa**	**6.75**	**92**	P	Pn	18 17 53.2	+0.9

*NOU **04** 18:26:54.9, 15˚.53S×168˚.41E, h0km, mb4.7/16, Vanuatu Islands*
*IDC **04** 18:26:54.4±1.3, 15˚.50S×168˚.29E, h0km, mb4.1/10, mbtmp4.1/11, ML4.3/1, MS3.6/13, Error ellipse: s-maj=37.4km s-min=21.5km az=118.0*
*NEIC **04** 18:27:00.1±1.7, 15˚.7S±0˚.1×168˚.18E±0˚.05, h29km±7km, mb4.6/11, Error ellipse: s-maj=19.5km s-min=3.5km az=162.0*

ISC 04 18:26:56.2±0.7, 15˚.55S±0˚.08×168˚.18E±0˚.10, h10km, n53, σ1s02/42, mb4.4/14, MS3.6/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.17**	**180**	P	**Pn**	**18 27 32.4**	**0.0**
RTV	**Rentapao**	**2.25**	**174**	P	**Pn**	**18 27 32.3**	**-1.1**
LIFNC	**LIFOU**	**5.28**	**190**	Pn	**Pn**	**18 28 14.6**	**-0.5**
LIFNC	**LIFOU**	**5.28**	**190**	P	**Pn**	**18 28 15.6**	**+0.4**
MARNC	**Mare, Loyalty**	**5.91**	**181**	Pn	**Pn**	**18 28 22.4**	**-1.4**
MARNC	**Mare, Loyalty**	**5.91**	**181**	P	**Pn**	**18 28 24.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**6.21**	**216**	Pn	**Pn**	**18 28 26.5**	**-1.4**
KOUNC	**Koumac, New Ca**	**6.21**	**216**	P	**Pn**	**18 28 29.8**	**+1.9**
YATNC	**Mamie plateau,**	**6.59**	**190**	P	**Pn**	**18 28 33.1**	**-0.2**
DZM	**Mont Dzumac**	**6.70**	**194**	Pn	**Pn**	**18 28 35.1**	**+0.4**
	5.5nm,0.3s,baz=63,slow=9.8,SNR=79						
DZM				Sn	**Sn**	**18 29 50.1**	**-1.1**
	4.5nm,0.3s,baz=126,slow=19,SNR=2.0						
	15nm,0.4s						
DZM	**Mont Dzumac**	**6.70**	**194**	Pn	**Pn**	**18 28 34.1**	**-0.7**
DZM	**Mont Dzumac**	**6.70**	**194**	P	**Pn**	**18 28 35.7**	**+1.0**
NOUC	**Port Laguerre**	**6.76**	**195**	P	**Pn**	**18 28 36.6**	**+1.1**
ONTNC	**Ouen Toro**	**6.92**	**193**	Pn	**Pn**	**18 28 37.9**	**+0.1**
ONTNC	**Ouen Toro**	**6.92**	**193**	P	**Pn**	**18 28 38.8**	**+1.1**
OUENC	**Ouen Island, N**	**6.95**	**190**	Pn	**Pn**	**18 28 39.3**	**+1.1**
OUENC	**Ouen Island, N**	**6.95**	**190**	P	**Pn**	**18 28 39.7**	**+1.5**
PINNC	**Pines Island,**	**7.06**	**186**	Pn	**Pn**	**18 28 40.5**	**+0.8**
PINNC	**Pines Island,**	**7.06**	**186**	P	**Pn**	**18 28 41.5**	**+1.8**
MSVF	**Nonsavu**	**9.71**	**104**	LR	LR	18 32 09.7	
	comp=Z,342nm,19.3s,baz=272,slow=33						
MSVF	**Nonsavu**	**9.71**	**104**	Pn	**Pn**	**18 29 17.1**	**+1.0**
AFI	**Afiamalu**	**19.45**	**88**	LR	LR	18 36 48.8	
	comp=Z,108nm,19.9s,baz=270,slow=31						
CTA	**Charters Tower**	**21.35**	**255**	LR	LR	18 38 18.7	
	comp=Z,122nm,20.0s,baz=114,slow=32						
PMG	**Port Moresby**	**21.41**	**284**	LR	LR	18 39 04.1	
	comp=Z,257nm,18.6s,baz=76,slow=34						
RPZ	**Rata Peaks**	**28.18**	**176**	LR	LR	18 42 26.3	
	comp=Z,146nm,18.1s,baz=288,slow=33						
STKA	**Stephens Creek**	**29.16**	**231**	P	**P**	**18 32 58.9**	**+1.2**
	4.6nm,0.8s,baz=40,slow=8.7,SNR=9.7						
	4.6nm,0.8s						
STKA	**Stephens Creek**	**29.16**	**231**	P	**P**	**18 32 57.9**	**+0.2**
RAR	**Rarotonga**	**30.89**	**105**	LR	LR	18 45 17.5	
	comp=Z,177nm,18.2s,baz=102,slow=36						
WB0	**Warramunga Arr**	**32.44**	**258**	P	**P**	**18 33 25.5**	**-1.4**
WB0				IAmb	IAmb	18 33 39.6	
	comp=Z,5.2nm,1.0s						
WB2	**Warramunga Arr**	**32.48**	**257**	P	**P**	**18 33 26.8**	**-0.4**
WB2				IAmb	IAmb	18 33 40.8	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**32.49**	**257**	P	**P**	**18 33 27.2**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=88,slow=9.1,SNR=16						
	comp=Z,1.6nm,0.7s						
AS31	**Alice Springs**	**33.22**	**250**	P	**P**	**18 33 34.1**	**+0.5**
ASAR	**Alice Springs**	**33.22**	**250**	P	**P**	**18 33 33.6**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=76,slow=8.9,SNR=34						
ASAR				LR	LR	18 46 34.9	
	comp=Z,119nm,18.6s,baz=86,slow=35						
	comp=Z,3.4nm,0.8s						
ASAR	**Alice Springs**	**33.22**	**250**	P	**P**	**18 33 32.9**	**-0.8**
BBOO	**Buckleboo**	**33.79**	**234**	P	**P**	**18 33 37.1**	**-1.4**
GUMO	**Guam**	**37.91**	**320**	LR	LR	18 47 29.0	
	comp=Z,33nm,21.0s,baz=135,slow=33						
KNRA	**Kununurra**	**37.93**	**264**	P	**P**	**18 34 14.3**	**+0.1**
KNRA				IAmb	IAmb	18 34 15.8	
	comp=Z,17nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.74**	**260**	P	**P**	**18 34 38.5**	**+0.9**
	comp=Z,8.8nm,0.7s,baz=96,slow=7.6,SNR=32						
FITZ				LR	LR	18 51 05.7	
	comp=Z,181nm,18.1s,baz=80,slow=36						
	comp=Z,8.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.74**	**260**	P	**P**	**18 34 38.6**	**+0.9**
FITZ				IAmb	IAmb	18 34 39.7	
	comp=Z,9.1nm,0.8s						
BATI	**Baumata**	**43.66**	**271**	LR	LR	18 53 29.0	
	comp=Z,331nm,18.6s,baz=256,slow=36						
KAPI	**Kappang**	**48.68**	**277**	LR	LR	18 57 28.8	
	comp=Z,98nm,18.1s,baz=208,slow=38						
YULB	**Yu-li**	**59.99**	**309**	P	**P**	**18 37 04.1**	**+0.8**
VNDA	**Vanda**	**62.07**	**182**	P	**P**	**18 37 17.3**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=5.2,slow=6.2,SNR=2.4						
	comp=Z,0.7nm,0.8s						
VNDA	**Vanda**	**62.07**	**182**	P	**P**	**18 37 16.6**	**0.0**
VNDA				IAmb	IAmb	18 37 30.3	
	comp=Z,4.5nm,1.4s						
SBA	**Scott Base**	**62.33**	**180**	P	**P**	**18 37 19.2**	**+0.9**
SBA				IAmb	IAmb	18 37 20.9	
	comp=Z,6.0nm,0.9s						
KSRS	**Korea Array**	**64.91**	**325**	LR	LR	19 05 54.4	
	comp=Z,16nm,18.4s,baz=230,slow=36						
PETK	**Petropavlovsk-**	**68.97**	**353**	P	**P**	**18 38 01.9**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=141,slow=7.3,SNR=2.8						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**74.49**	**180**	P	**P**	**18 38 34.6**	**-0.2**
QSPA				IAmb	IAmb	18 38 36.2	
	comp=Z,12nm,1.1s						
MA2	**Magadan**	**76.18**	**351**	LR	LR	19 08 33.8	
	comp=Z,13nm,18.3s,baz=151,slow=33						
SONM	**Songino Array**	**83.67**	**323**	P	**P**	**18 39 26.4**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=123,slow=5.3,SNR=6.3						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**87.03**	**18**	P	**P**	**18 39 39.3**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=232,slow=4.8,SNR=5.4						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**98.40**	**316**	P	Pdif	18 40 35.2	+0.6
	comp=Z,0.1nm,0.5s,baz=104,slow=6.1,SNR=2.2						
	comp=Z,0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**98.57**	**324**	P	**P**	**18 40 34.0**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=98,slow=4.4,SNR=1.8						
	comp=Z,0.5nm,0.5s						

*NEIC **04** 18:29:29.8±1.6, 30˚.10N±0˚.05×79˚.54W±0˚.04, h0km±2km, mb_Lg3.0/50, ML3.8/54, Error ellipse: s-maj=9.6km s-min=3.5km az=214.0*
*IDC **04** 18:29:31.7±1.1, 30˚.36N×79˚.54W, h0km, mb3.2/2, mbtmp3.7/4, ML4.2/2, Error ellipse: s-maj=25.4km s-min=4.5km az=25.0*

ISC 04 18:29:29.7±0.8, 30˚.13N±0˚.07×79˚.62W±0˚.07, h0km, n155, σ1s00/168, Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
456A	**Hilliard**	**2.16**	**287**		**Pn**	**18 30 08.6**	**+1.6**
456A				IAML		18 30 56.4	
	comp=N,560nm,0.5s						
456A				IAML		18 30 58.7	
	comp=E,697nm,0.7s						
456A	**Hilliard**	**2.16**	**287**	P	**Pb**	**18 30 09.6**	**-0.1**
	baz=106						
257A	**Skidaway Islan**	**2.20**	**327**		**Pn**	**18 30 08.3**	**+0.8**
257A				IAML		18 31 09.2	
	comp=N,544nm,0.8s						
257A				IAML		18 31 10.2	
	comp=E,559nm,0.5s						
DWPF	**Disney Wildern**	**2.56**	**219**		**Pn**	**18 30 12.7**	**+0.2**
DWPF				IAML		18 31 09.0	
	comp=E,415nm,0.6s						
DWPF	**Disney Wildern**	**2.56**	**219**	P	**Pn**	**18 30 12.7**	**+0.2**
	baz=40						
656A	**Willston**	**2.65**	**254**		**Pn**	**18 30 15.6**	**+1.9**
656A				IAML		18 31 05.6	
	comp=N,467nm,0.4s						
656A	**Willston**	**2.65**	**254**	P	**Pb**	**18 30 16.9**	**-1.1**
	baz=74,SNR=30						
CSU	**Charleston Sou**	**2.88**	**352**		**Pn**	**18 30 18.0**	**+1.2**
CSU				IAmb_Lg		18 31 03.4	
	comp=Z,38nm,0.7s						
NHSC	**New Hope**	**3.01**	**351**		**Pn**	**18 30 20.1**	**+1.5**
NHSC				IAmb_Lg		18 31 14.1	
	comp=Z,79nm,1.1s						
NHSC				IAML		18 31 24.6	
	comp=Z,209nm,0.5s						
NHSC				IAML		18 31 42.4	
	comp=Z,246nm,1.4s						
NHSC	**New Hope**	**3.01**	**351**	P	**Pn**	**18 30 20.4**	**+1.8**
	baz=169						
255A	**Hazlehurst**	**3.04**	**307**		**Pn**	**18 30 19.9**	**+0.9**
255A				IAmb_Lg		18 31 14.3	
	comp=Z,60nm,0.7s						
255A				IAML		18 31 23.1	
	comp=E,302nm,1.0s						
255A				IAML		18 31 27.6	
	comp=N,221nm,1.2s						
255A	**Hazlehurst**	**3.04**	**307**	P	**Pn**	**18 30 19.9**	**+0.9**
	baz=125						
060A	**Indiantown**	**3.15**	**192**		**Pn**	**18 30 20.3**	**-0.3**
060A				IAML		18 31 19.3	
	comp=N,218nm,0.9s						
060A				IAML		18 31 25.7	
	comp=E,247nm,0.8s						
060A	**Indiantown**	**3.15**	**192**	P	**Pn**	**18 30 20.4**	**-0.1**
	baz=14						
TIGA	**Tifton**	**3.66**	**292**	Pn	**Pn**	**18 30 28.9**	**+1.3**
Y58A	**Scranton**	**3.77**	**359**		**Pn**	**18 30 30.6**	**+1.5**
Y58A				IAML		18 32 08.6	
	comp=E,113nm,2.1s						
Y58A				IAML		18 32 16.9	
	comp=N,124nm,1.6s						
Y58A	**Scranton**	**3.77**	**359**	P	**Pn**	**18 30 30.5**	**+1.5**
	baz=178,SNR=7.7						
Y58A				P	**Pn**	**18 30 30.5**	**+1.5**
	baz=178,SNR=7.7						
154A	**Montrose**	**3.88**	**311**		**Pn**	**18 30 31.9**	**+1.3**
154A				IAML		18 31 53.2	
	comp=E,169nm,0.5s						
154A	**Montrose**	**3.88**	**311**	P	**Pn**	**18 30 32.1**	**+1.5**
	baz=128,SNR=19						
Y59A	**Loris**	**3.90**	**9**		**Pn**	**18 30 32.5**	**+1.6**
Y59A				IAmb_Lg		18 31 41.0	
	comp=Z,38nm,0.9s						
Y59A				IAML		18 31 55.0	
	comp=N,150nm,0.5s						
Y59A	**Loris**	**3.90**	**9**	P	**Pn**	**18 30 32.0**	**+1.1**
	baz=188						
Y59A				P	**Pn**	**18 30 32.0**	**+1.1**
	baz=188						
Y57A	**Sumter**	**3.93**	**351**		**Pn**	**18 30 31.8**	**+0.5**
Y57A	**Sumter**	**3.93**	**351**	P	**Pn**	**18 30 32.3**	**+0.9**
	baz=169						
Y57A				P	**Pn**	**18 30 32.3**	**+0.9**
	baz=169						
Y60A	**Bolivia**	**4.04**	**17**	Pn	**Pn**	**18 30 33.5**	**+0.7**
Y60A				IAML		18 31 31.7	
	comp=N,74nm,2.7s						
Y60A				IAML		18 32 00.5	
	comp=E,116nm,2.7s						
JSC	**Jenkinsville**	**4.37**	**342**		**Pn**	**18 30 37.9**	**+0.5**
JSC	**Jenkinsville**	**4.37**	**342**	P	**Pn**	**18 30 37.7**	**+0.4**
	baz=160						
061Z	**Ochoppi**	**4.40**	**195**	Pn	**Pn**	**18 30 37.1**	**-0.6**
061Z				IAML		18 32 41.7	
	comp=E,98nm,1.3s						
X58A	**Rowland**	**4.42**	**3**		**Pn**	**18 30 38.5**	**+0.5**
X58A				IAML		18 32 32.3	
	comp=N,106nm,1.1s						
X58A	**Rowland**	**4.42**	**3**	P	**Pn**	**18 30 39.0**	**+1.0**
	baz=182,SNR=7.8						
X58A				P	**Pn**	**18 30 39.0**	**+1.0**
	baz=182,SNR=7.8						
BIRD	**Birdtown, Kers**	**4.56**	**351**		**Pn**	**18 30 39.7**	**-0.2**
BIRD				IAML		18 31 39.5	
	comp=E,59nm,0.2s						
BIRD	**Birdtown, Kers**	**4.56**	**351**	P	**Pn**	**18 30 40.8**	**+0.8**
	baz=170,SNR=5.8						
GOGA	**Godfrey**	**4.63**	**316**	IAML		18 32 16.5	
	comp=E,50nm,0.7s						
GOGA	**Godfrey**	**4.63**	**316**	Pn	**Pn**	**18 30 41.5**	**+0.6**
GOGA					Pb	18 30 41.6	-10
GOGA				IAmb_Lg		18 32 08.3	
	comp=Z,26nm,1.2s						
GOGA	**Godfrey**	**4.63**	**316**	P	**Pn**	**18 30 41.6**	**+0.6**
	baz=134,SNR=26						
HODGE	**Hodges**	**4.66**	**332**		**Pn**	**18 30 42.3**	**+0.9**
352A	**Blakely**	**4.76**	**288**		**Pn**	**18 30 43.3**	**+0.5**
352A				IAML		18 32 11.5	
	comp=N,76nm,0.8s						
W57A	**Gilead**	**5.02**	**356**		**Pn**	**18 30 46.7**	**+0.4**
W57A				IAmb_Lg		18 32 22.1	
	comp=Z,21nm,0.8s						
W57A				IAML		18 32 47.4	
	comp=N,38nm,1.5s						
W57A				IAML		18 32 49.2	
	comp=E,60nm,1.3s						
W57A	**Gilead**	**5.02**	**356**	P	**Pn**	**18 30 46.9**	**+0.6**
	baz=175						
W57A				P	**Pn**	**18 30 46.9**	**+0.6**
	baz=175						
PAULI	**Pauline**	**5.03**	**339**		**Pn**	**18 30 47.1**	**+0.6**
PAULI				IAmb_Lg		18 32 24.2	
	comp=Z,37nm,0.9s						
PAULI				IAML		18 32 41.4	
	comp=E,35nm,1.2s						
152A	**Waverly Hall**	**5.04**	**301**	P	**Pn**	**18 30 47.5**	**+0.9**
	baz=119						
KMSC	**Kings Mountain**	**5.20**	**344**		**Pn**	**18 30 49.3**	**+0.5**
KMSC				IAML		18 32 33.3	
	comp=E,36nm,0.8s						
KMSC	**Kings Mountain**	**5.20**	**344**	P	**Pn**	**18 30 49.5**	**+0.7**
	baz=162						
Y52A	**Lilburn**	**5.30**	**316**		**Pn**	**18 30 50.9**	**+0.7**
Y52A				IAmb_Lg		18 32 29.9	
	comp=Z,31nm,0.8s						
Y52A				IAML		18 32 46.5	
	comp=N,33nm,0.9s						
Y52A	**Lilburn**	**5.30**	**316**	P	**Pn**	**18 30 51.0**	**+0.8**
	baz=133						
Y52A				P	**Pn**	**18 30 51.0**	**+0.8**
	baz=133						
451A	**Vernon**	**5.32**	**277**	Pn	**Pn**	**18 30 51.0**	**+0.6**
BG3	**Lake Jocassee**	**5.60**	**331**		**Pn**	**18 30 55.3**	**+1.0**
V58A	**Windy Hill, Pi**	**5.67**	**4**		**Pn**	**18 30 55.4**	**+0.2**
V58A	**Windy Hill, Pi**	**5.67**	**4**	P	**Pn**	**18 30 55.6**	**+0.5**
	baz=183						
V58A				P	**Pn**	**18 30 55.6**	**+0.5**
	baz=183						
Z51A	**Franklin**	**5.70**	**305**		**Pn**	**18 30 57.2**	**+1.5**
V55A	**Taylorsville**	**5.86**	**347**		**Pn**	**18 30 58.5**	**+0.7**
V55A				IAmb_Lg		18 32 52.6	
	comp=Z,18nm,0.9s						
V55A	**Taylorsville**	**5.86**	**347**	P	**Pn**	**18 30 58.7**	**+0.8**
	baz=166						
V55A				P	**Pn**	**18 30 58.7**	**+0.8**
	baz=166						
250A	**Grady**	**6.00**	**290**	Pn	**Pn**	**18 31 01.5**	**+1.8**
W52A	**Murphy**	**6.14**	**325**	Pn	**Pn**	**18 31 00.9**	**-0.9**
W52A				IAmb_Lg		18 33 03.2	
	comp=Z,22nm,1.0s						
W52A	**Murphy**	**6.14**	**325**	P	**Pn**	**18 31 03.1**	**+1.4**
	baz=142						
V53A	**Saluda**	**6.14**	**335**		**Pn**	**18 31 02.4**	**+0.6**
V53A				IAmb_Lg		18 32 58.0	
	comp=Z,17nm,0.8s						
V53A	**Saluda**	**6.14**	**335**	P	**Pn**	**18 31 02.9**	**+1.1**
	baz=153						
V53A				P	**Pn**	**18 31 02.9**	**+1.1**
	baz=153						
V61A	**Roper**	**6.20**	**24**	Pn	**Pn**	**18 31 02.3**	**-0.2**
U56A	**King**	**6.24**	**354**		**Pn**	**18 31 02.2**	**-0.8**
U56A				IAmb_Lg		18 32 59.4	
	comp=Z,17nm,0.8s						
U56A	**King**	**6.24**	**354**	P	**Pn**	**18 31 03.8**	**+0.8**
	baz=173,SNR=13						
U56A				P	**Pn**	**18 31 03.8**	**+0.8**
	baz=173,SNR=13						
X51A	**Calhoun**	**6.26**	**316**	Pn	**Pn**	**18 31 03.8**	**+0.5**
X51A	**Calhoun**	**6.26**	**316**	P	**Pn**	**18 31 04.7**	**+1.4**
	baz=133						
X51A				P	**Pn**	**18 31 04.7**	**+1.4**
	baz=133						
U59A	**Littleton**	**6.39**	**13**	Pn	**Pn**	**18 31 04.5**	**-0.6**
U59A	**Littleton**	**6.39**	**13**	P	**Pn**	**18 31 05.2**	**0.0**
	baz=193						
U59A				P	**Pn**	**18 31 05.2**	**0.0**
	baz=193						
BRAL

CPCT	Cooper Cave	6.72	323		Pn	Pb	18 31 10.9 +1.2
T57A	Hurt	6.86	2	Pn	Pn		18 31 11.7 +0.1
T57A	Hurt	6.86	2	P	Pn		18 31 12.4 +0.8
	baz=182						
T57A				P	Pn		18 31 12.4 +0.8
	baz=182						
Y49A	Blount Mountai	6.86	305	Pn	Pn		18 31 12.4 +0.8
V51A	Loudon	6.92	326		Pn		18 31 12.6 +0.3
V51A	Loudon	6.92	326	P	Pn		18 31 13.5 +1.2
	baz=143,SNR=12						
LRAL	Lakeview Retre	6.93	297	Pn	Pn		18 31 14.6 +2.0
W50A	Signal Mountai	6.97	318	Pn	Pn		18 31 14.4 +1.2
W50A				IAmb_Lg			18 33 29.3
	comp=Z,30nm,1.0s						
T59A	Double "B" Far	7.04	14	Pn	Pn		18 31 14.4 +0.4
T59A	Double "B" Far	7.04	14	P	Pn		18 31 14.4 +0.4
	baz=194						
T59A				P	Pn		18 31 14.4 +0.4
	baz=194						
BLA	Blacksburg	7.10	355	Pn	Pn		18 31 15.0 +0.1
BLA	Blacksburg	7.10	355	P	Pn		18 31 16.3 +1.4
	baz=174						
TZTN	Tazewell	7.19	334	Pn	Pn		18 31 17.4 +1.3
TZTN				IAmb_Lg			18 33 40.3
	comp=Z,21nm,0.9s						
TZTN	Tazewell	7.19	334	P	Pn		18 31 17.4 +1.3
	baz=151						
SWET	Sewanee	7.35	315	Pn	Pn		18 31 17.5 -0.8
T60A	Surry	7.39	18	Pn	Pn		18 31 20.0 +1.1
S57A	Dark Hollow, R	7.63	4	Pn	Pn		18 31 21.7 -0.5
S57A	Dark Hollow, R	7.63	4	P	Pn		18 31 22.6 +0.5
	baz=184,SNR=7.7						
S57A				P	Pn		18 31 22.6 +0.5
	baz=184,SNR=7.7						
JSRW	J. Sargeant Re	7.68	10		Pn		18 31 22.3 -0.5
S54A	Dingess, Beckl	7.78	350	Pn	Pn		18 31 25.0 +0.8
S54A				IAmb_Lg			18 33 54.5
	comp=Z,25nm,1.1s						
SOR	Soroa	7.91	203	Pn	Pn		18 31 25.2 -0.8
R58B	Mineral	7.95	10		Pn		18 31 26.7 +0.3
T50A	Nancy	8.14	329	Pn	Pn		18 31 28.9 -0.2
R55A	Marlinton	8.14	357	Pn	Pn		18 31 30.7 +1.4
R55A				IAmb_Lg			18 33 56.4
	comp=Z,25nm,1.2s						
S51A	Beattyville	8.19	337		Pn		18 31 30.2 +0.5
S51A				IAmb_Lg			18 34 04.2
	comp=Z,19nm,0.8s						
U49A	Red Boiling Sp	8.19	323		Pn		18 31 29.4 -0.5
U49A				IAmb_Lg			18 34 14.2
	comp=Z,14nm,0.8s						
U49A	Red Boiling Sp	8.19	323	P	Pn		18 31 31.4 +1.6
	baz=139						
V48A	Smith Brothers	8.24	315	Pn	Pn		18 31 31.5 +1.0
V48A				IAmb_Lg			18 34 14.5
	comp=Z,17nm,1.1s						
V48A	Smith Brothers	8.24	315	P	Pn		18 31 31.6 +1.0
	baz=131						
Q56A	Snyder Ridge,	8.90	2	Pn	Pn		18 31 40.5 +0.9
Q56A	Snyder Ridge,	8.90	2	P	Pn		18 31 40.7 +1.1
	baz=182						
Q56A				P	Pn		18 31 40.7 +1.1
	baz=182						
R61A	Willards	8.91	22	Pn	Pn		18 31 38.1 -1.6
R50A	Paris	9.02	336	Pn	Pn		18 31 42.1 +0.9
Q52A	Bidwell	9.08	347	Pn	Pn		18 31 41.8 -0.2
Q52A				IAmb_Lg			18 34 28.8
	comp=Z,22nm,1.1s						
WVT	Waverly	9.12	313		Pn		18 31 42.5 -0.1
WVT	Waverly	9.12	313	P	Pn		18 31 43.7 +1.2
	baz=129						
T47A	Sharon Grove	9.26	320	Pn	Pn		18 31 44.5 0.0
T47A	Sharon Grove	9.26	320	P	Pn		18 31 45.9 +1.4
	baz=135						
R49A	Shelbyville	9.35	332	Pn	Pn		18 31 47.2 +1.5
Q51A	Peebles	9.39	342		Pn		18 31 46.5 +0.1
Q51A				IAmb_Lg			18 34 36.8
	comp=Z,11nm,0.8s						
Q51A	Peebles	9.39	342	P	Pn		18 31 46.8 +0.5
	baz=159,SNR=7.3						
Q51A				P	Pn		18 31 46.8 +0.5
	baz=159,SNR=7.3						
P57A	Homestead Farm	9.43	8		Pn		18 31 47.4 +0.7
P57A	Homestead Farm	9.43	8	P	Pn		18 31 47.5 +0.8
	baz=188						
P57A				P	Pn		18 31 47.5 +0.8
	baz=188						
P53A	Whipple	9.45	352	Pn	Pn		18 31 47.7 +0.6
SDMD	Soldier's Deli	9.54	13	Pn	Pn		18 31 47.0 -1.3
P52A	Corning	9.71	348	Pn	Pn		18 31 50.5 -0.1
P51A	Williamsport	9.75	344	Pn	Pn		18 31 51.3 +0.1
WCI	Wyandotte Cave	9.79	327	Pn	Pn		18 31 51.9 +0.1
WCI				IAmb_Lg			18 35 08.8
	comp=Z,12nm,0.8s						
O54A	Avella	10.05	357	Pn	Pn		18 31 55.7 +0.3
O53A	New Philadelph	10.18	353	Pn	Pn		18 31 57.8 +0.7
P49A	Miami Univ. Ec	10.27	337	Pn	Pn		18 31 57.6 -0.8
P48A	Milroy	10.46	334	Pn	Pn		18 32 00.3 -0.7
SSPA	Standing Stone	10.58	7	Pn	Pn		18 32 01.3 -1.2
BLO	Bloomington	10.66	330	Pn	Pn		18 32 03.8 +0.1
O49A	Covington	10.75	340	Pn	Pn		18 32 03.7 -1.2
CGM3	Cape Girardeau	11.00	313	Pn	Pn		18 32 07.5 -0.8
OLIL	Olney	11.07	323	Pn	Pn		18 32 09.0 -0.3
BRNJ	Basking Ridge	11.30	20	Pn	Pn		18 32 13.3 +0.8
P46A	Rosedale	11.33	329		Pn		18 32 12.7 -0.2
M57A	Sunshine Farm,	11.37	10	Pn	Pn		18 32 13.5 +0.2
N49A	Columbus Grove	11.39	342	Pn	Pn		18 32 13.7 0.0
ODNJ	Ogdensburg	11.66	19	Pn	Pn		18 32 18.5 +1.1
TRNY	Table Rock, Ra	11.83	20	Pn	Pn		18 32 18.1 -1.6
L56A	Greenwood	12.10	7	Pn	Pn		18 32 22.9 -0.5
L48A	N Adams	12.41	343	Pn	Pn		18 32 26.3 -1.4
TEIG	Tepich	12.59	220		Pn		18 32 30.8 +0.6
M44A	Midewin, Midew	13.14	331	Pn	Pn		18 32 36.5 -1.1
J58A	Remsen	13.65	14	Pn	Pn		18 32 46.1 +1.5
SADO	Sadowa	14.62	1	Pn	Pn		18 32 56.3 -1.5
I63A	Otisfield	15.64	25	Pn	Pn		18 33 09.9 -1.5
CELP	Cerrillos	16.88	132		Pn		18 33 25.9 -1.6
SJG	San Juan	17.13	131	P	P		18 33 33.2 +0.8
	comp=Z,1.5nm,0.3s,baz=312,slow=18,SNR=1.7						
	comp=Z,3.7nm,0.3s						
E43A	Lone Tree Farm	17.21	343	Pn	Pn		18 33 29.8 -1.7
R32A	Long Quarter,	17.80	303	P	Pn		18 33 39.7 +0.8
TXAR	Lajitas Array	20.89	274	P	Pn		18 34 16.4 +0.2
	comp=Z,0.5nm,0.6s,baz=75,slow=10,SNR=2.6						
	comp=Z,0.5nm,0.6s						
NVAR	Mina Array Bea	32.83	295	P	P		18 36 08.3 +3.0
	comp=Z,0.2nm,0.4s,baz=94,slow=9.1,SNR=2.1						
	comp=Z,0.2nm,0.4s						
H10N3	ASCENSION HYDR	72.93	110	H	H		20 00 26.5
	baz=304,slow=75,SNR=1560						
H10N2	ASCENSION HYDR	72.94	110	H	H		20 00 26.8
	baz=304,slow=75,SNR=2611						
H10N1	ASCENSION HYDR	72.95	110	H	H		20 00 28.0
	baz=304,slow=75,SNR=2817						
H10S3	ASCENSION HYDR	73.43	111	H	H		20 01 04.8
	baz=301,slow=74,SNR=954						
H10S2	ASCENSION HYDR	73.45	111	H	H		20 01 05.7
	baz=279,slow=74,SNR=312						
WRA	Warramunga Arr	147.71	280	PKPbc	PKPbc		18 49 17.9 +0.9
	comp=Z,0.6nm,0.7s,baz=70,slow=3.4,SNR=5.0						
ASAR	Alice Springs	149.49	274	PKPbc	PKiKP		18 49 22.1 -0.5
	comp=Z,0.4nm,0.4s,baz=82,slow=1.6,SNR=11						

*RSPR **04** 18:35:17.6, 18°.99N×67°.84W, h39km±23km, MD3.0/6*
*NEIC **04** 18:35:17.1±1.1, 18°.88N±0°.10×67°.74W±0°.04, h21km±12km, Error ellipse: s-maj=13.9km s-min=5.2km az=185.0*
*OSPL **04** 18:35:20.0±1.4, 18°.88N×67°.62W, h0km±20km, ML2.2*

ISC 04 18:35:18.1±1.7, 18°.9N±0°.1×67°.68W±0°.04, h27km, n30, σ0§65/32, 7C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.55	159	iP			Pb	18 35 28.9	-0.3
IDE	Isla Desecheo	0.55	159	eS			Sb	18 35 36.3	-0.4
AGPR	Aguadilla, PR	0.69	129	eP			Pb	18 35 30.8	-0.7
AGPR	Aguadilla, PR	0.69	129	eS			Sb	18 35 40.7	0.0
AGPR	Aguadilla, PR	0.69	129				Pb	18 35 30.8	-0.7
AGPR							Sb	18 35 40.7	0.0
AGPR	Aguadilla, PR	0.69	129	IAML				18 35 41.0	
	comp=N,213nm,0.4s								
AGPR	Aguadilla, PR	0.69	129	iP			Pb	18 35 30.5	-1.0
AGPR				eS			Sb	18 35 39.8	-0.9
AGPR				IAML				18 35 40.6	
	comp=Z,103nm,0.6s								
PCDR	Punta Cana, DR	0.77	240	Pn			Pb	18 35 31.4	-1.5
PCDR				IAML				18 35 34.8	
	comp=N,132nm,2.5s								
PCDR	Punta Cana, DR	0.77	240	iP			Pn	18 35 34.0	+0.8
PCDR				eS			Sn	18 35 45.3	+1.4
PCDR				IAML				18 35 48.6	
	comp=Z,92nm,1.2s								
PRSN	Puerto Rico Se	0.85	143	Pn			Pn	18 35 33.8	-0.4
LSP	Las Mesas	0.91	142	eP			Pn	18 35 35.1	-0.2
LSP	Las Mesas	0.91	142	eS			Sb	18 35 47.4	+0.3
AOPR	Arecibo Observ	1.03	122	eP			Pn	18 35 37.1	+0.2
AOPR	Arecibo Observ	1.03	122				Pn	18 35 37.1	+0.2
AOPR	Arecibo Observ	1.03	122	IAML				18 35 56.5	
	comp=N,63nm,0.4s								
AOPR				IAML				18 36 01.4	
	comp=E,95nm,0.3s								
CRPR	Cabo Rojo, PR	1.04	149	eP			Pn	18 35 37.1	+0.2
CRPR	Cabo Rojo, PR	1.04	149				Pn	18 35 37.1	+0.2
CRPR							Sn	18 35 51.1	+0.5
CRPR	Cabo Rojo, PR	1.04	149	iP			Pb	18 35 38.2	+0.7
CRPR				eS			Sb	18 35 51.5	+0.7
CRPR				IAML				18 35 53.4	
	comp=Z,64nm,0.4s								
MLPR	Magueyes Islan	1.10	147	eP			Pn	18 35 37.1	-0.7
MLPR	Magueyes Islan	1.10	147	eS			Sn	18 35 52.3	+0.2
MLPR	Magueyes Islan	1.10	147				Pn	18 35 37.1	-0.7
MLPR							Sn	18 35 52.3	+0.2
MLPR	Magueyes Islan	1.10	147	IAML				18 35 54.5	
	comp=E,49nm,0.5s								
MLPR				IAML				18 35 54.7	
	comp=N,45nm,0.6s								
CELP	Cerrillos	1.33	128	eP			Pn	18 35 40.8	-0.1
CELP	Cerrillos	1.33	128	eS			Sn	18 35 58.2	+0.5
CELP	Cerrillos	1.33	128				Pn	18 35 40.8	-0.1
CELP							Sn	18 35 58.2	+0.5
CELP	Cerrillos	1.33	128	IAML				18 36 00.9	
	comp=N,37nm,0.2s								
CBYP	Canovanas	1.84	110	eP			Pn	18 35 48.5	+0.5
CBYP	Canovanas	1.84	110				Pn	18 35 48.5	+0.5
CBYP	Canovanas	1.84	110	IAML				18 36 19.7	
	comp=E,43nm,0.9s								
HUMP	Col San Antoni	1.89	113	Pn			Pn	18 35 49.1	+0.5
HUMP				IAML				18 36 15.3	
	comp=N,28nm,0.7s								

*IDC **04** 18:57:16.2±1.9, 15°.13S×173°.61W, h0km, mb3.9/5, mbtmp3.9/6, ML4.0/1, MS3.7/10, Error ellipse: s-maj=125.7km s-min=20.6km az=152.0*

ISC 04 18:57:18.0±1.7, 15°.0S±0°.7×173°.5W±0°.4, h10km, n23, σ1§36/9, mb3.5/5, MS3.8/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.02	58	Pn			Pn	18 57 51.6	-0.7
	48nm,0.3s,baz=272,slow=0.9,SNR=23								
AFI				Sn			Sn	18 58 16.3	-1.4
	70nm,0.3s,baz=294,slow=16,SNR=6.9								
AFI				LR			LR	18 58 47.8	
	comp=Z,554nm,19.7s,baz=278,slow=43								
	104nm,0.3s								
MSVF	Nonsavu	8.52	250	LR			LR	19 02 03.6	
	comp=Z,386nm,19.8s,baz=94,slow=34								
RAR	Rarotonga	14.46	117	LR			LR	19 04 55.8	
	comp=Z,179nm,20.4s,baz=344,slow=32								
DZM	Mont Dzumac	20.23	247	LR			LR	19 08 18.3	
	comp=Z,134nm,18.7s,baz=69,slow=33								
HNR	Honiara	26.49	279	LR			LR	19 11 11.5	
	comp=Z,975nm,18.6s,baz=158,slow=32								
RPZ	Rata Peaks	31.49	202	LR			LR	19 13 55.6	
	comp=Z,122nm,19.7s,baz=309,slow=32								
H11S2	WAKE ISLAND Hy	38.56	329	T			T	19 45 17.3	
	baz=149,slow=76,SNR=23								
H11S3	WAKE ISLAND Hy	38.58	329	T			T	19 45 14.3	
	baz=149,slow=76,SNR=18								
H11S1	WAKE ISLAND Hy	38.58	329	T			T	19 45 12.5	
	baz=149,slow=76,SNR=22								
H11N3	WAKE ISLAND Hy	39.51	330	T			T	19 46 28.3	
	baz=150,slow=76,SNR=33								
H11N1	WAKE ISLAND Hy	39.51	330	T			T	19 46 24.9	
	baz=150,slow=76,SNR=38								
H11N2	WAKE ISLAND Hy	39.53	330	T			T	19 46 29.6	
	baz=150,slow=76,SNR=35								
WRA	Warramunga Arr	49.80	256	P			P	19 06 09.8	-1.7
	2.6nm,0.9s,baz=90,slow=7.9,SNR=16								
	2.6nm,0.9s								
GUMO	Guam	50.01	303	LR			LR	19 24 00.1	
	comp=Z,18nm,19.2s,baz=140,slow=32								
ASAR	Alice Springs	50.11	252	P			P	19 06 12.7	-1.1
	12nm,0.8s,baz=86,slow=7.8,SNR=121								
	12nm,0.8s								
PFO	Pinyon Flats O	72.75	47	LR			LR	19 34 05.3	
	comp=Z,70nm,18.7s,baz=196,slow=30								
LPIG	La Paz	72.95	5	LR			LR	19 35 19.4	
	comp=Z,47nm,18.5s,baz=138,slow=31								
TXAR	Lajitas Array	80.51	56	P			P	19 09 32.7	+1.8
	0.4nm,0.9s,baz=217,slow=4.3,SNR=4.1								
	0.4nm,0.9s								
PDAR	Pinedale Array	82.06	42	P			P	19 09 39.5	+0.5
	0.1nm,0.3s,baz=232,slow=5.6,SNR=2.1								
	0.1nm,0.3s								
ILAR	Eielson Array	82.09	11	P			P	19 09 39.1	+0.8
	0.5nm,1.1s,baz=226,slow=6.1,SNR=3.0								
	0.5nm,1.1s								
MAW	Mawson	88.12	199	LR			LR	19 48 55.7	
	comp=Z,112nm,18.6s,baz=2.0,slow=35								
BRTR	Keskin Array B	145.77	321	PKPbc			PKPdf	19 16 58.0	+0.5
	1.0nm,0.8s,baz=31,slow=3.4,SNR=6.1								
ESDC	Sonseca Array	153.78	18	PKPbc			PKPbc	19 17 17.6	-0.2
	0.6nm,1.0s,baz=321,slow=3.3,SNR=3.3								

*IDC **04** 19:03:27.9±1.1, 13°.94N×92°.90E, h0km, mb3.7/11, mbtmp3.6/12, ML3.6/1, MS2.7/1, Error ellipse: s-maj=33.6km s-min=17.0km az=63.0*

ISC 04 19:03:33.0±1.0, 14°.0N±0°.1×93°.0E±0°.1, h32km, n15, σ0§86/15, mb3.7/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.23	51	Pn			Pn	19 05 17.8	+1.2
	0.3nm,0.3s,baz=240,slow=15,SNR=11								
CMAR				Sn			Sn	19 06 36.0	-1.6
	0.1nm,0.3s,baz=240,slow=31,SNR=5.0								
CMAR				LR			LR	19 08 26.8	
	comp=Z,57nm,19.7s,baz=155,slow=41								
	1.4nm,0.5s								
H08S3	Diego Garcia H	29.60	225	T			T	19 40 31.3	
	baz=43,slow=76,SNR=7.8								
H08S2	Diego Garcia H	29.61	225	T			T	19 40 25.2	
	baz=43,slow=76,SNR=12								
H08S1	Diego Garcia H	29.62	225	T			T	19 40 27.8	
	baz=43,slow=76,SNR=2.5								
MKAR	Makanchi Array	33.90	347	P			P	19 10 11.9	-1.1
	0.4nm,0.6s,baz=191,slow=13,SNR=6.5								
	0.4nm,0.6s								
SONM	Songino Array	35.53	16	P			P	19 10 27.9	+0.8
	1.0nm,0.9s,baz=197,slow=8.9,SNR=5.4								
	1.0nm,0.9s								
KURBB	Kurchatov Arra	38.37	345	P			P	19 10 50.5	-0.6
	0.5nm,0.7s,baz=159,slow=7.6,SNR=4.2								
	0.5nm,0.7s								
KSRS	Korea Array	38.84	47	P			P	19 10 54.5	-0.7
	0.6nm,0.7s,baz=240,slow=9.7,SNR=2.9								
	0.6nm,0.7s								
GEYT	Alibeck	39.02	314	P			P	19 10 56.6	-0.2
	0.8nm,0.5s,baz=138,slow=12,SNR=2.1								
	0.8nm,0.5s								
ZALV	Zalesovo Beam	40.37	353	P			P	19 11 08.2	+0.4
	0.5nm,0.5s,baz=168,slow=7.6,SNR=4.3								
	0.5nm,0.5s								
FITZ	Fitzroy Crossi	45.32	134	P			P	19 11 47.6	-0.6
	0.7nm,0.5s,baz=329,slow=5.9,SNR=1.6								
	0.7nm,0.5s								
MJAR	Matsushiro Arr	46.12	52	P			P	19 11 55.2	+0.7
	0.8nm,0.7s,baz=267,slow=7.5,SNR=5.0								
	0.8nm,0.7s								
WRA	Warramunga Arr	52.84	129	P			P	19 12 45.2	-0.7
	0.7nm,1.0s,baz=309,slow=8.4,SNR=3.2								
WRA				PcP			PcP	19 13 55.5	+0.5
	0.5nm,0.7s,baz=326,slow=3.3,SNR=5.5								
	0.7nm,1.0s								
ASAR	Alice Springs	54.79	133	P			P	19 13 00.1	-0.1
	0.4nm,0.4s,baz=309,slow=7.0,SNR=14								
ASAR				PcP			PcP	19 14 02.9	+0.6
	0.5nm,0.9s,baz=302,slow=5.3,SNR=2.9								
	0.4nm,0.4s								
ILAR	Eielson Array	89.51	22	P			P	19 16 26.9	0.0
	0.3nm,0.7s,baz=287,slow=5.1,SNR=4.5								
	0.3nm,0.7s								

*IDC **04** 19:03:56.8±3.6, 36°.90S×179°.25E, h0km, mb3.6/2, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=83.7km s-min=44.0km az=130.0*
*WEL **04** 19:03:59.8±1.0, 37°.5S±5°.×17°.9E±°, h10km, M3.8/15, ML4.0/17, MLv3.8/15, Error ellipse: s-maj=0.0km s-min=0.0km az=97.5*

ISC 04 19:03:57.5±2.1, 36°.97S±0°.05×179°.03E±0°.08, h6km±10km, n44, σ1§44/61, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.83	224	P			Pb	19 04 14.2	-0.2
MXZ				S			Sg	19 04 23.0	-1.1
WMGZ	Waiomatatini S	0.98	210	P			Pn	19 04 18.8	+0.9
WMGZ				S			Sn	19 04 32.2	+0.1
PKGZ	Pakihiroa	1.19	219	P			Pn	19 04 20.8	0.0
PKGZ				S			Sb	19 04 37.0	+0.7
PUZ	Puketiti	1.26	209	P			Pb	19 04 22.9	+1.1
PUZ				S			Sg	19 04 38.1	+0.1
HAZ	Te Kaha	1.27	231	P			Pn	19 04 21.0	-0.7
HAZ				S			Sb	19 04 39.7	+1.4
RUGZ	Raukumara Rang	1.47	227	P			Pg	19 04 25.4	-0.2
RUGZ				S			Sg	19 04 46.1	+1.5
TWGZ	Tauwhareparae	1.47	214	P			Pg	19 04 26.0	+0.4
CNGZ	Carnagh Statio	1.65	203	P			Pg	19 04 28.4	-0.6
CNGZ				S			Sb	19 04 49.3	0.0
TKGZ	Te Karaka	1.74	212	P			Pb	19 04 29.9	0.0
TKGZ				S			Sn	19 04 49.9	-0.9
MWZ	Matawai	1.81	221	P			Pb	19 04 30.9	-0.2
RAGZ	Rawiri	1.99	220	P			Pb	19 04 33.4	-0.8
URZ	Urewera	2.00	229	Pn			Pb	19 04 33.6	-0.6
	30nm,0.3s,baz=210,slow=0.3,SNR=86								
URZ				Sn			Sn	19 04 57.0	-0.1
	41nm,0.3s,baz=211,slow=20,SNR=30								
	83nm,0.4s								
URZ	Urewera	2.00	229	P			Pb	19 04 33.1	-1.1
URZ				S			Sn	19 04 57.1	0.0
RIGZ	Rimuhau	2.00	210	P			Pn	19 04 33.1	-1.3
PRGZ	Paritu Road	2.15	205	P			Pn	19 04 34.6	+0.6
OPRZ	Ohinepanea	2.16	245	P			Pb	19 04 36.5	-0.5
SNGZ	Shannon Statio	2.25	216	P			Pn	19 04 36.5	+1.1
KNZ	Kokohu	2.31	207	P			Pn	19 04 36.2	0.0
KNZ				S			Sn	19 05 02.1	-2.8
MUGZ	Murupara	2.34	229	P			Pb	19 04 38.9	-1.2
RAHZ	Arahi	2.48	218	P			Pn	19 04 39.5	+1.0
RAHZ				S			Sn	19 05 08.1	-1.0
MTHZ	Maungataniwha	2.56	222	P			Pn	19 04 41.2	+1.6
MTHZ				S			Sn	19 05 10.4	-0.7
KUZ	Kuaotunu	2.66	274	P			Pn	19 04 41.6	+0.6
KUZ				S			Sn	19 05 09.7	-3.9
NMHZ	Naumai	2.76	219	P			Pn	19 04 43.9	+1.6
NMHZ				S			Sn	19 05 15.6	-0.4
ARHZ	Aropaoanui	2.80	214	P			Pn	19 04 43.7	+0.8
ARHZ				S			Sn	19 05 15.1	-1.8
TOZ	Tahuroa Road	2.91	254	P			Pn	19 04 46.7	+2.3
GRZ	Great Barrier	2.96	283	P			Pb	19 04 49.2	-1.5
BKZ	Black Stump Fm	2.97	222	P			Pn	19 04 46.4	+1.1
BKZ				S			Sn	19 05 19.3	-1.9
CKHZ	Cape Kidnapper	3.09	209	P			Pn	19 04 46.1	-0.8
MKAZ	Moumakai	3.10	266	P			Pn	19 04 47.9	+0.9
KWHZ	Kaweka Forest	3.20	219	P			Pn	19 04 48.6	+0.1
ETAZ	East Tamaki Re	3.29	269	P			Pb	19 04 53.8	-2.4
KAHZ	Kahuranaki	3.29	210	P			Pn	19 04 49.1	-0.6
MBAZ	Motutapu North	3.32	272	P			Pb	19 04 54.1	-2.7
TMVZ	Te Maari	3.39	230	P			Pn	19 04 52.6	+1.5
MOVZ	Moawhango	3.55	226	P			Pn	19 04 54.3	+1.0
HIZ	Hauiti	3.65	244	P			Pn	19 04 58.0	+3.4
PNHZ	Pukenui	3.69	216	P			Pn	19 04 54.3	-0.7
WCZ	Waipu Caves	3.91	284	P			Pn	19 05 00.9	+2.7
OUZ	Omahuta	4.73	290	P			Pn	19 05 12.2	+2.8
MSWZ	Moikau Station	5.32	212	P			Pn	19 05 16.7	-0.9
CTZ	Chatham Island	7.53	155	P			Pn	19 05 48.3	+0.5
ASAR	Alice Springs	40.79	276	P			P	19 11 41.5	+1.7
	0.6nm,0.6s,baz=122,slow=8.3,SNR=7.9								
	0.6nm,0.6s								
WRA	Warramunga Arr	42.38	281	P			P	19 11 54.3	+1.4
	0.5nm,0.5s,baz=122,slow=7.8,SNR=14								
	0.5nm,0.5s								
FINES	FINESS Array B	150.22	334	PKPbc			PKiKP	19 23 48.3	-1.1
	0.7nm,0.7s,baz=52,slow=9.0,SNR=1.1								

*IDC **04** 19:05:20.7±0.5, 12°.55N×48°.08E, h0km, mb4.1/27, mbtmp4.1/28, ML4.4/2, MS4.0/62, Error ellipse: s-maj=15.7km s-min=11.1km az=113.0*
*NEIC **04** 19:05:22.7±2.0, 12°.60N±0°.10×48°.00E±0°.08, h10km±1

comp=Z,15nm,0.9s
GEVA Gevas 25.91 351 P **P** **19 10 55.8 +0.8**
GEVA IAmb IAmb 19 11 00.4
comp=Z,23nm,1.1s
GURO Guroymak-BITLI 26.31 350 P **P** **19 11 01.2 +2.7**
GEYT Alibeck 26.75 18 P **P** **19 11 02.9 +0.4**
comp=Z,6.4nm,1.0s,baz=201,slow=7.9,SNR=11
GEYT LR LR 19 23 07.1
comp=Z,393nm,19.0s,baz=215,slow=40
comp=Z,6.4nm,1.0s
GEYT Alibeck 26.75 18 P **P** **19 11 02.4 0.0**
GEYT IAmb IAmb 19 11 09.5
comp=Z,31nm,1.4s
GYA0B ALIBECK ARRAY 26.75 18 P **P** **19 11 02.6 +0.1**
GYA0B IAmb IAmb 19 11 22.5
comp=Z,24nm,1.3s
GNI Garni 27.52 355 LR LR 19 23 35.4
comp=Z,533nm,20.0s,baz=160,slow=40
GNI Garni 27.52 355 P **P** **19 11 08.9 -0.6**
GNI IAmb IAmb 19 11 43.4
comp=Z,32nm,1.4s
ELL Elmali 28.94 329 P **P** **19 11 22.4 +0.3**
KARP Karpathos 29.52 324 P **P** **19 11 28.0 +0.8**
BR131 Keskin Array S 29.77 337 P **P** **19 11 26.6 -2.9**
BR131 IAmb IAmb 19 11 35.4
comp=Z,9.6nm,1.1s
BRTR Keskin Array B 29.77 337 P **P** **19 11 31.4 +1.9**
comp=Z,2.9nm,0.9s,baz=158,slow=10,SNR=12
BRTR LR LR 19 23 19.9
comp=Z,441nm,19.4s,baz=164,slow=36
comp=Z,2.9nm,0.9s
BRTR Keskin Array B 29.77 337 P **P** **19 11 30.8 +1.4**
ANTO Ankara 30.22 336 P **P** **19 11 32.7 -0.7**
ILGA Ilgaz 30.91 339 P **P** **19 11 39.9 +0.3**
OPO Ambohidratompo 31.05 181 LR LR 19 22 22.2
comp=Z,222nm,21.7s,baz=173,slow=33
KBZ Khabaz 31.26 353 P **P** **19 11 44.4 +2.0**
comp=Z,0.7nm,0.5s,baz=170,slow=14,SNR=2.2
KBZ LR LR 19 25 49.0
comp=Z,275nm,18.9s,baz=155,slow=39
comp=Z,0.7nm,0.5s
KVAR Kislovodsk Arr 31.51 353 LR LR 19 25 14.5
comp=Z,175nm,19.9s,baz=54,slow=38
CHGR Chuyangaron 32.02 32 P **P** **19 11 49.4 +0.1**
PALK Pallekele 32.69 96 LR LR 19 21 59.7
comp=Z,271nm,19.9s,baz=22,slow=31
GAR Garm 32.88 33 P **P** **19 11 58.4 +1.5**
BTK Batken 33.92 32 P **P** **19 12 07.0 +1.0**
BTK IAmb IAmb 19 12 14.2
comp=Z,11nm,1.1s
LSZ Lusaka 33.95 216 LR LR 19 24 30.6
comp=Z,269nm,19.3s,baz=49,slow=34
LIT Litokhoron 35.34 325 P **P** **19 12 17.6 -0.5**
TIRR Tirgusor 35.83 336 ⇑P **P** **19 12 22.7 +0.5**
KK31 Karatay Array 36.06 29 P **P** **19 12 27.4 +3.1**
KKAR Karatay Array 36.06 29 P **P** **19 12 26.1 +1.9**
CFR Carcaliu 36.54 336 ⇑P **P** **19 12 29.4 +1.2**
VTS Vitosha 36.73 329 P **P** **19 12 30.7 +0.6**
MLR Muntele Rosu 37.69 334 ⇑P **P** **19 12 40.0 +1.8**
MLR Muntele Rosu 37.69 334 LR LR 19 28 39.9
comp=Z,249nm,21.7s,baz=161,slow=37
MLR Muntele Rosu 37.69 334 P **P** **19 12 39.8 +1.6**
MLR IAmb IAmb 19 12 49.5
comp=Z,17nm,1.4s
PLOR Plostina 37.69 335 ⇑P **P** **19 12 41.0 +2.9**
AAK Ala-Archa 37.70 33 LR LR 19 31 15.6
comp=Z,198nm,19.1s,baz=229,slow=41
AAK Ala-Archa 37.70 33 P **P** **19 12 40.7 +2.3**
AAK IAmb IAmb 19 12 47.6
comp=Z,13nm,1.2s
NRN Naryn 37.70 35 P **P** **19 12 38.8 +0.2**
NRN IAmb IAmb 19 12 47.5
comp=Z,7.4nm,1.0s
BLKB Belogradchik 37.75 330 ⇑P **P** **19 12 39.8 +1.2**
ABKAR Akbulak array 37.81 13 P **P** **19 12 39.6 +0.6**
VOIR 38.03 334 ⇑P **P** **19 12 41.4 +0.4**
MATP Matopo 38.04 210 P **P** **19 12 41.0 -0.4**
comp=Z,4.7nm,0.7s,baz=29,slow=9.0,SNR=14
comp=Z,4.7nm,0.7s
AKTO Aktyubinsk 38.56 10 P **P** **19 12 46.4 +1.1**
comp=Z,2.7nm,1.0s,baz=212,slow=12,SNR=7.0
AKTO LR LR 19 30 21.2
comp=Z,257nm,20.8s,baz=175,slow=39
comp=Z,2.7nm,1.0s
GZR Gura Zlata 39.01 332 ⇑P **P** **19 12 51.0 +1.7**
CUC Castrocucco 39.25 320 P **P** **19 12 50.9 -0.4**
BELG Belogornoye 39.63 360 LR LR 19 32 43.1
comp=Z,413nm,20.8s,baz=156,slow=41
BURAR Bucovina Array 39.69 336 ⇑P **P** **19 12 56.0 +1.1**
BURAR Bucovina Array 39.69 336 P **P** **19 12 55.2 +0.3**
BUR08 Bucovina Ar. S 39.72 336 P **P** **19 12 55.9 +0.7**
BZS Buzias 39.73 331 ⇑P **P** **19 12 57.1 +2.0**
DRGR 40.10 333 ⇑P **P** **19 13 00.2 +1.8**
AKASG Malin Array Be 40.89 342 P **P** **19 13 04.6 -0.1**
comp=Z,0.6nm,0.5s,baz=151,slow=7.2,SNR=12
AKASG PP **PP** **19 14 42.2 +3.1**
comp=Z,0.5nm,0.6s,baz=144,slow=10,SNR=4.4
AKASG PcP **PcP** **19 15 08.2 +3.0**
comp=Z,1.1nm,0.6s,baz=137,slow=2.7,SNR=6.4
AKASG LR LR 19 31 35.2
comp=Z,145nm,18.0s,baz=164,slow=38
comp=Z,0.6nm,0.5s
AKBB Malin Array Si 40.89 342 P **P** **19 13 04.9 +0.2**
AKBB IAmb IAmb 19 13 12.4
comp=Z,7.9nm,0.8s
MORH Mrgy, Hungar 41.60 329 ⇑P **P** **19 13 10.3 -0.3**
MORH Mrgy, Hungar 41.60 329 P **P** **19 13 10.5 -0.1**
KEST Kesra 41.65 310 PcP **PcP** **19 15 10.7 +2.5**
comp=Z,5.4nm,1.0s,baz=127,slow=5.1,SNR=5.4
KEST LR LR 19 31 10.5
comp=Z,402nm,18.3s,baz=310,slow=37
KOVH Kovagotottos 41.79 329 P **P** **19 13 12.1 0.0**
KOLS Kolonicke sedl 41.94 335 *eP* **P** **19 13 15.4 +2.0**
PSZ Piszkesteto 42.22 332 P **P** **19 13 18.1 +2.4**
CRVS Cervenica-Dubn 42.26 334 *eP* **P** **19 13 17.8 +1.8**
CSKK Cskako 42.59 330 P **P** **19 13 22.9 +4.2**
BRDH Bariadhala 42.68 70 LR LR 19 30 36.4
comp=Z,357nm,19.2s,baz=337,slow=36
MPLH Magyarpolny 42.81 329 P **P** **19 13 21.9 +1.4**
VYHS Vyhne 43.12 332 *eP* **P** **19 13 24.2 +1.2**
OBN Obninsk 43.28 350 LR LR 19 34 10.3
comp=Z,34nm,19.2s,baz=180,slow=40
LBTB Lobatse 43.33 210 P **P** **19 13 23.9 -1.1**
comp=Z,8.7nm,1.0s,baz=34,slow=8.8,SNR=7.7
LBTB LR LR 19 32 21.6
comp=Z,152nm,19.5s,baz=35,slow=37
comp=Z,8.7nm,1.0s
LBTB Lobatse 43.33 210 P **P** **19 13 24.1 -0.9**
LBTB IAmb IAmb 19 13 25.8
comp=Z,12nm,1.0s
TSUM Tsumeb 43.56 224 LR LR 19 32 52.3
comp=Z,328nm,18.7s,baz=56,slow=38
SOP Sopron 43.65 329 P **P** **19 13 30.6 +3.3**
SOKA Soboth 43.77 327 *eP* **P** **19 13 30.2 +1.8**
comp=Z,9.9nm,1.6s
RONA Rosalia, Austr 43.79 329 *eP* **P** **19 13 30.1 +1.7**
comp=Z,11nm,1.0s
ARSA Arzberg 43.88 328 *eP* **P** **19 13 29.5 +0.3**
comp=Z,6.0nm,1.1s
OBKA Obir 43.92 327 *eP* **P** **19 13 31.4 +1.9**
comp=Z,7.6nm,1.1s
BRVK Borovoye 44.07 19 P **P** **19 13 30.2 -0.3**
BVAR Borovoye Array 44.07 19 P **P** **19 13 30.8 +0.2**
comp=Z,1.2nm,0.9s,baz=227,slow=7.4,SNR=6.3
BVAR LR LR 19 35 10.0
comp=Z,194nm,18.2s,baz=209,slow=40
comp=Z,1.2nm,0.9s
CONA Conrad Observa 44.16 329 *eP* **P** **19 13 33.1 +1.7**
comp=Z,9.7nm,1.4s
MAUC Maruska 44.21 332 *eP* **P** **19 13 34.2 +2.4**
ARU Arti 44.44 8 LR LR 19 37 01.9
comp=Z,156nm,19.2s,baz=188,slow=43
ARU Arti 44.44 8 P **P** **19 13 31.9 -1.6**
ARU IAmb IAmb 19 13 35.0
comp=Z,5.7nm,0.9s
MAKZ Makanchi 44.45 33 P **P** **19 13 33.8 0.0**
MAKZ IAmb IAmb 19 13 41.3
comp=Z,11nm,1.2s
MYKA Terra Mystica 44.48 326 *eP* **P** **19 13 33.5 -0.5**
comp=Z,4.7nm,1.0s
MK31 Makanchi Array 44.61 34 P **P** **19 13 34.8 -0.3**
MK31 IAmb IAmb 19 13 42.4
comp=Z,6.8nm,1.1s
MKAR Makanchi Array 44.61 34 P **P** **19 13 35.0 0.0**
comp=Z,0.8nm,0.5s,baz=227,slow=6.9,SNR=12
MKAR LR LR 19 34 44.0
comp=Z,175nm,18.0s,baz=246,slow=40
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 44.61 34 P **P** **19 13 34.2 -0.8**
MNK Minsk 44.63 343 *i* P **P** **19 13 32.2 -2.7**
comp=E,1.0nm,0.8s
MNK *i* P **P** **19 13 32.2 -2.7**
MNK *i* P **P** **19 13 32.2 -2.7**
comp=Z,4.0nm,0.8s,baz=152
MNK *i* PcP **PcP** **19 15 14.1 -3.5**
MNK *i* PP **PP** **19 15 16.9 -2.3**
MNK *i* PPP PPP 19 15 54.0
MNK *i* S **S** **19 20 10.1 -0.7**
MNK *i* SS **SS** **19 23 32.3 +1.3**
MNK *i* LQ LQ 19 29 01.1
MNK *i* LR LR 19 32 25.6
MNK *i* LRM MLR 19 34 10.0
MNK *i* LRM MLR 19 34 29.0
comp=E,18nm,18.6s
MNK *i* LRM MLR 19 35 03.4
comp=Z,161nm,18.3s
MORC Moravsky Berou 44.63 332 P **P** **19 13 34.3 -0.9**
MORC Moravsky Berou 44.63 332 *eP* **P** **19 13 34.9 -0.3**
KRUC Moravsky 44.67 331 *eP* **P** **19 13 38.4 +3.0**
VRAC Vranov 44.75 331 LR LR 19 33 18.3
comp=Z,109nm,18.0s,baz=126,slow=37
VRAC Vranov 44.75 331 *eP* **P** **19 13 36.4 +0.4**
CLUD Cludinico 44.79 326 P **P** **19 13 37.0 +0.5**
CLUD IAmb IAmb 19 13 43.9
comp=Z,13nm,0.9s
KBA Koelnbreinsper 44.92 327 *eP* **P** **19 13 38.1 +0.5**
comp=Z,8.2nm,1.1s
MOA Molln 44.92 328 *eP* **P** **19 13 38.7 +1.2**
comp=Z,9.1nm,1.3s
CIMO Cimolais 44.95 325 P **P** **19 13 37.5 -0.2**
CIMO IAmb IAmb 19 13 44.8
comp=Z,6.2nm,0.9s
TORD Torodi Ar. Bea 45.03 276 P **P** **19 13 40.7 +1.9**
comp=Z,3.1nm,1.1s,baz=224,slow=5.3,SNR=8.0
TORD PcP **PcP** **19 15 20.5 +0.7**
comp=Z,0.6nm,0.9s,baz=95,slow=4.0,SNR=1.7
TORD LR LR 19 31 52.9
comp=Z,122nm,21.4s,baz=208,slow=35
comp=Z,3.1nm,1.1s
BIOA Bad Ischl, Aus 45.15 328 *eP* **P** **19 13 38.6 -0.7**
comp=Z,7.4nm,1.0s
ABTA Abfaltersbach 45.17 326 *eP* **P** **19 13 39.4 -0.2**
comp=Z,3.5nm,1.1s
KURBB Kurchatov Arra 45.33 27 P **P** **19 13 41.1 +0.5**
comp=Z,2.8nm,0.9s,baz=228,slow=7.8,SNR=20
comp=Z,2.8nm,0.9s
KURK Kurchatov 45.43 27 P **P** **19 13 42.4 +0.9**
KURK IAmb IAmb 19 13 49.1
comp=Z,8.4nm,1.0s
CKRC Cesky Krumlov 45.53 329 *eP* **P** **19 13 41.9 -0.4**
DPC Dobruska-Polom 45.60 332 *eP* **P** **19 13 44.8 +2.0**
OSTC Ostas 45.79 332 *eP* **P** **19 13 44.1 -0.2**
KIRV Kirov 45.85 1 LR LR 19 35 43.6
comp=Z,342nm,21.2s,baz=168,slow=40
GEC2 GERESS Array S 45.85 329 P **P** **19 13 44.9 0.0**
GERES GERESS Array B 45.85 329 P **P** **19 13 45.0 0.0**
comp=Z,1.1nm,0.7s,baz=133,slow=9.3,SNR=7.4
GERES PcP **PcP** **19 15 22.0 -0.1**
comp=Z,0.7nm,0.8s,baz=80,slow=8.1,SNR=2.0
comp=Z,1.1nm,0.7s
GERES GERESS Array B 45.85 329 P **P** **19 13 44.1 -0.8**
WTTA Wattenberg 45.96 326 *eP* **P** **19 13 46.7 +0.8**
comp=Z,8.0nm,1.4s
WATA Walderalm 46.03 326 *eP* **P** **19 13 47.0 +0.6**
comp=Z,4.9nm,1.0s
KHC Kasperske Hory 46.10 329 *eP* **P** **19 13 48.9 +2.1**
WMQ Urumqi 46.10 40 *eP* **P** **19 13 49.1 +2.2**
SQTA Sankt Quirin 46.17 326 *eP* **P** **19 13 49.0 +1.6**
comp=Z,2.0nm,0.7s
MOTA Moosalm 46.30 326 *eP* **P** **19 13 47.7 -0.9**
comp=Z,5.4nm,0.9s
FETA Feichten 46.32 325 *eP* **P** **19 13 49.3 +0.6**
comp=Z,4.2nm,1.2s
BOSA Boshof 46.53 208 P **P** **19 13 49.8 -0.7**
comp=Z,4.3nm,0.7s,baz=20,slow=6.7,SNR=8.7
BOSA LR LR 19 33 07.8
comp=Z,122nm,18.4s,baz=36,slow=36
comp=Z,4.3nm,0.7s
RETA Reutte 46.57 326 *eP* **P** **19 13 52.2 +1.6**
comp=Z,2.8nm,1.0s
DAVOX Davos/Dischmat 46.66 324 LR LR 19 34 44.4
comp=Z,143nm,21.6s,baz=87,slow=38
DAVA Damuels 46.95 325 *eP* **P** **19 13 53.8 +0.2**
comp=Z,6.6nm,1.5s
CLL Collm 47.80 331 *eP* **P** **19 14 01.0 +1.0**
CLL *ex* x 19 14 10.0
CLL LmV 19 34 00.0
comp=Z,100nm,21.3s
SENIN Lac Senin/Sane 47.93 323 P **P** **19 14 04.5 +3.1**
SENIN IAmb IAmb 19 14 14.9
comp=Z,11nm,1.2s
GOMU GeErMu 48.11 52 P **P** **19 14 01.9 -1.2**
KLMR Klimovskoe 48.50 355 *eP* **P** **19 14 02.0 -3.3**
KLMR AMP 19 14 09.6
comp=Z,26nm,1.4s
KLMR *e*PP **PP** **19 15 54.1 -3.9**
CMAR Chiang Mai Arr 49.34 77 P **P** **19 14 11.2 -1.2**
comp=Z,4.5nm,0.8s,baz=274,slow=8.4,SNR=16
CMAR LR LR 19 33 12.9
comp=Z,56nm,21.6s,baz=270,slow=34
comp=Z,4.5nm,0.8s
CMAR Chiang Mai Arr 49.34 77 P **P** **19 14 10.2 -2.2**
ZAA0 Zalesovo Array 50.42 27 P **P** **19 14 18.8 -1.3**
ZAA0 IAmb IAmb 19 14 25.8
comp=Z,6.0nm,1.0s
ZALV Zalesovo Beam 50.42 27 P **P** **19 14 19.4 -0.6**
comp=Z,2.5nm,0.7s,baz=238,slow=8.3,SNR=12
ZALV LR LR 19 39 23.8
comp=Z,123nm,18.5s,baz=238,slow=40
comp=Z,2.5nm,0.7s
ZALV Zalesovo Beam 50.42 27 P **P** **19 14 18.6 -1.4**
FINES FINESS Array B 51.23 347 P **P** **19 14 25.6 -0.4**
comp=Z,4.2nm,1.1s,baz=157,slow=10,SNR=7.0
FINES LR LR 19 38 05.8
comp=Z,159nm,18.3s,baz=146,slow=38
comp=Z,4.2nm,1.1s
PSI Prapat 51.37 97 LR LR 19 34 14.9
comp=Z,239nm,18.2s,baz=224,slow=34
SUR Sutherland 51.77 209 LR LR 19 38 32.2
comp=Z,96nm,19.2s,baz=46,slow=38
MDT Midelt 51.88 302 LR LR 19 36 31.4
comp=Z,274nm,18.1s,baz=100,slow=36
PZH PanZhiHua 52.18 66 P **P** **19 14 34.3 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,160nm,4.6s
DBIC Dimbokro 52.32 269 LR LR 19 38 34.9
comp=Z,110nm,21.8s,baz=107,slow=38
GTA Gaotai 52.80 50 *eP* **P** **19 14 40.0 +1.7**
GTA pP pwP 19 14 44.1 0.0
GTA sP sP 19 14 47.1 +4.3
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA pmax pmax
comp=Z,72nm,6.0s
GTA LR LR
comp=N,58nm,15.3s
GTA LR LR
comp=E,71nm,14.9s
GTA LR LR
comp=Z,130nm,18.5s
ESDC Sonseca Array 52.90 310 P **P** **19 14 38.1 -0.8**
comp=Z,1.0nm,1.0s,baz=110,slow=7.0,SNR=5.7
ESDC LR LR 19 38 12.2
comp=Z,71nm,19.4s,baz=107,slow=37
comp=Z,1.0nm,1.0s
HFS Hagfors 53.67 340 LR LR 19 40 42.0
comp=Z,115nm,18.8s,baz=134,slow=39
NB2 NORSAR Subarra 55.18 339 P **P** **19 14 54.5 -0.7**
comp=Z,6.0nm,1.7s,baz=136,slow=7.4
NOA NORSAR Array B 55.18 339 P **P** **19 14 54.5 -0.7**
comp=Z,0.9nm,0.8s,baz=136,slow=7.6,SNR=3.8
NOA LR LR 19 41 47.0
comp=Z,92nm,18.9s,baz=140,slow=40
comp=Z,0.9nm,0.8s
LZH Lanzhou 55.19 55 *eP* **P** **19 14 58.6 +2.8**
LZH pP pwP 19 15 03.4 +1.8
LZH sP sP 19 15 06.0 +5.7
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=N,270nm,16.3s
LZH LR LR
comp=E,290nm,17.9s
LZH LR LR
comp=Z,220nm,18.3s
GYA Guiyang 56.58 67 ⇑P **P** **19 15 06.6 +0.7**
GYA sP pwP 19 15 11.3 -0.3
GYA pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 58.59 351 LR LR 19 42 43.3
comp=Z,95nm,19.2s,baz=140,slow=38
SONM Songino Array 59.67 42 P **P** **19 15 27.1 -0.1**
comp=Z,1.2nm,0.9s,baz=245,slow=6.4,SNR=7.2
SONM LR LR 19 43 46.3
comp=Z,89nm,19.0s,baz=259,slow=39
comp=Z,1.2nm,0.9s
HHC Hu-ho-hao-te 61.91 50 *eP* **P** **19 15 40.5 -2.1**
HHC pmax pmax
comp=Z,81nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.1s
NRIK Noril'sk 61.93 15 P **P** **19 15 42.0 -0.1**
comp=Z,1.4nm,0.3s,baz=214,slow=4.7,SNR=4.3
NRIK LR LR 19 48 10.1
comp=Z,191nm,18.5s,baz=218,slow=41
comp=Z,1.4nm,0.3s
NRIK Noril'sk 61.93 15 P **P** **19 15 42.9 +0.8**
NRIK IAmb IAmb 19 15 49.6
comp=Z,5.8nm,0.9s
LEM Lembang 62.38 105 LR LR 19 38 15.1
comp=Z,126nm,18.3s,baz=232,slow=32
BBTS Babate 62.49 280 LR LR 19 44 30.4
comp=Z,246nm,19.2s,baz=68,slow=38
NJ2 Nanjing 67.29 60 *eP* **P** **19 16 18.6 +0.9**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
SPITS Spitsbergen Ar 67.38 353 LR LR 19 49 20.1
comp=Z,93nm,19.0s,baz=96,slow=39
BORG Borgarnes 69.82 335 LR LR 19 48 57.0
comp=Z,50nm,19.0s,baz=109,slow=37
KAPI Kappang 73.47 99 LR LR 19 49 38.1
comp=Z,80nm,18.2s,baz=259,slow=36
KSRS Korea Array 74.51 54 LR LR 19 53 51.2
comp=Z,34nm,19.1s,baz=245,slow=39
YAK Yakutsk 75.04 29 P **P** **19 17 05.5 +1.4**
TIXI Tiksi 75.20 19 LR LR 19 56 33.0
comp=Z,150nm,18.4s,baz=187,slow=41
DAV Davao City (W) 76.47 86 LR LR 19 51 58.0
comp=Z,34nm,18.3s,baz=292,slow=37
MAW Mawson 80.78 174 P **P** **19 17 35.2 -0.6**
comp=Z,0.9nm,0.6s,baz=309,slow=7.5,SNR=2.3
comp=Z,0.9nm,0.6s
MJAR Matsushiro Arr 82.79 54 LR LR 19 57 19.2
comp=Z,84nm,19.1s,baz=282,slow=38
JHJ Hachijo jima 2 84.71 57 LR LR 19 58 44.4
comp=Z,42nm,18.0s,baz=266,slow=38
RCBR Riachuelo 85.29 263 LR LR 19 52 39.2
comp=Z,68nm,19.2s,baz=164,slow=33
MA2 Magadan 85.57 30 LR LR 19 58 52.5
comp=Z,69nm,20.3s,baz=292,slow=38
JCJ Chichijima 88.03 63 LR LR 19 56 31.2
comp=Z,31nm,21.1s,baz=164,slow=35
TROLL Troll, Antarti 89.66 193 P **P** **19 18 21.5 +1.1**
RES Resolute Bay 89.81 351 LR LR 20 03 24.4
comp=Z,66nm,18.4s,baz=76,slow=39
SNAA Sanae 90.65 194 P **P** **19 18 25.2 +0.3**
SNAA Sanae 90.65 194 LR LR 19 54 25.3
comp=Z,48nm,19.6s,baz=182,slow=32
WRA Warramunga Arr 90.93 110 P **P** **19 18 25.9 -1.3**
comp=Z,0.5nm,0.8s,baz=298,slow=3.5,SNR=6.5
comp=Z,0.5nm,0.8s
WR0 Warramunga Arr 91.11 110 P **P** **19 18 28.4 +0.3**
VNA2 Neumayer--Watz 91.33 196 P **P** **19 18 28.5 +0.6**
baz=22,slow=4.0
ASAR Alice Springs 91.37 114 P **P** **19 18 28.2 -1.0**
comp=Z,0.4nm,0.5s,baz=300,slow=4.8,SNR=4.8
comp=Z,0.4nm,0.5s
VNA3 Neumayer Olymp 92.12 196 P **P** **19 18 31.7 +0.1**
MDP Montagnes des 99.17 277 LR LR 20 01 53.4
comp=Z,40nm,21.1s,baz=77,slow=34
INK Inuvik 99.24 1 LR LR 20 13 06.2
comp=Z,48nm,19.4s,baz=360,slow=41
PDAR Pinedale Array 121.11 341 PKP **PKPdf** **19 24 16.2 0.0**
comp=Z,0.2nm,0.5s,baz=78,slow=5.6,SNR=1.8
NVAR Mina Array Bea 127.57 346 PKP **PKiKP** **19 24 30.7 +1.5**
comp=Z,1.1nm,1.0s,baz=17,slow=0.9,SNR=1.9

IDC 04 19:15:40.0±4.3, 17°37S×179°15W, h568km±18km, mb3.1/4, mbtmp4.0/5, Error ellipse: s-maj=108.5km s-min=78.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.69**	**262**	P	P	19 16 54.9	0.0
	22nm,0.6s,baz=54,slow=19,SNR=16						
STKA	**Stephens Creek**	**38.27**	**240**	P	P	19 22 12.9	+0.3
	1.1nm,0.6s,baz=97,slow=9.6,SNR=4.4						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**44.03**	**259**	P	P	19 22 57.6	-0.7
	0.8nm,0.5s,baz=96,slow=7.1,SNR=21						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**44.26**	**254**	P	P	19 22 59.9	-0.2
	9.0nm,0.6s,baz=88,slow=8.0,SNR=198						
ASAR				PcP	PcP	19 24 31.7	-0.3
	0.4nm,0.8s,baz=107,slow=4.7,SNR=2.5						
	9.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.42**	**260**	P	P	19 24 00.8	+0.2
	1.2nm,0.8s,baz=76,slow=5.4,SNR=10						
	1.2nm,0.8s						

---

*NEIC **04** 19:24:01.1±0.9, 15°.23S±0°.04×168°.2E±0°.2, h143km±11km, mb4.3/15, Error ellipse: s-maj=25.3km s-min=1.5km az=104.0*

*IDC **04** 19:24:04.3±6.1, 15°.37S×167°.55E, h121km±54km, mb4.1/5, mbtmp4.5/6, Error ellipse: s-maj=44.5km s-min=41.0km az=43.0*

*NOU **04** 19:24:12.0, 16°.02S×167°.33E, h10km, mb4.4/10, Vanuatu Islands*

ISC 04 19:24:04.2±1.5, 15°.4S±0°.1×167°.6E±0°.2, h124km, n37, σ1°.907/36, mb4.3/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.42**	**166**	P	**Pn**	**19 24 45.1**	**+2.0**
LIFNC	**LIFOU**	**5.40**	**184**	Pn	**Pn**	**19 25 22.1**	**-0.4**
LIFNC	**LIFOU**	**5.40**	**184**	P	**Pn**	**19 25 22.0**	**-0.6**
KOUNC	**Koumac, New Ca**	**6.04**	**211**		**Pn**	**19 25 32.1**	**+0.8**
KOUNC	**Koumac, New Ca**	**6.04**	**211**	P	**Pn**	**19 25 32.1**	**+0.8**
MARNC	**Mare, Loyalty**	**6.10**	**176**	Pn	**Pn**	**19 25 30.4**	**-1.6**
YATNC	**Mamie plateau,**	**6.69**	**186**	P	**Pn**	**19 25 40.6**	**+0.5**
DZM	**Mont Dzumac**	**6.76**	**189**	P	**Pn**	**19 25 41.4**	**+0.4**
	20nm,0.3s,baz=325,slow=22,SNR=95						
DZM				S	**Sn**	**19 26 56.2**	**-0.5**
	24nm,0.4s,baz=129,slow=22,SNR=13						
NOUC	**Port Laguerre**	**6.81**	**190**	P	**Pn**	**19 25 43.4**	**+1.7**
ONTNC	**Ouen Toro**	**6.99**	**189**		**Pn**	**19 25 44.5**	**+0.4**
OUENC	**Ouen Island, N**	**7.05**	**186**	Pn	**Pn**	**19 25 45.1**	**+0.1**
OUENC	**Ouen Island, N**	**7.05**	**186**	P	**Pn**	**19 25 47.0**	**+2.1**
PINNC	**Pines Island,**	**7.21**	**181**	Pn	**Pn**	**19 25 48.4**	**+1.4**
EIDS	**Eidsvold**	**18.39**	**235**	P	**P**	**19 28 10.6**	**+0.9**
EIDS				IAmb	IAmb	19 28 12.8	
	comp=Z,11nm,0.7s						
CTAO	**Charters Tower**	**20.86**	**254**	P	**P**	**19 28 37.8**	**+1.3**
CTAO				IAmb	IAmb	19 28 51.3	
	comp=Z,12nm,1.1s						
COEN	**Coen**	**23.66**	**270**	P	**P**	**19 29 05.9**	**+1.2**
STKA	**Stephens Creek**	**28.83**	**231**	P	**P**	**19 29 51.9**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=70,slow=9.8,SNR=7.9						
	comp=Z,1.6nm,0.5s						
STKA	**Stephens Creek**	**28.83**	**231**	P	**P**	**19 29 51.3**	**+0.4**
WR0	**Warramunga Arr**	**31.79**	**257**	P	**P**	**19 30 16.3**	**-0.9**
WB0	**Warramunga Arr**	**31.92**	**257**	P	**P**	**19 30 17.4**	**-0.9**
WB0				IAmb	IAmb	19 30 26.4	
	comp=Z,4.8nm,1.1s						
WB2	**Warramunga Arr**	**31.97**	**257**	P	**P**	**19 30 18.0**	**-0.8**
WB2				IAmb	IAmb	19 30 18.8	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**31.98**	**257**	P	**P**	**19 30 17.9**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=86,slow=8.5,SNR=22						
	comp=Z,1.9nm,0.7s						
AS31	**Alice Springs**	**32.75**	**250**	P	**P**	**19 30 25.1**	**-0.5**
AS31				IAmb	IAmb	19 30 26.2	
	comp=Z,2.9nm,0.5s						
ASAR	**Alice Springs**	**32.75**	**250**	P	**P**	**19 30 25.1**	**-0.4**
	comp=Z,5.7nm,0.6s,baz=76,slow=9.1,SNR=114						

comp=Z,5.7nm,0.6s
ASAR Alice Springs 32.75 250 P **P** **19 30 24.4 -1.2**
BBOO Buckleboo 33.45 233 P **P** **19 30 31.5 0.0**
KNRA Kununurra 37.38 264 P **P** **19 31 05.2 -0.1**
SIJI Sorong 38.64 288 P **P** **19 31 16.5 +0.6**
comp=Z,5.6nm,0.7s,baz=90,slow=8.1,SNR=7.1
comp=Z,5.6nm,0.7s
FORT Forrest 39.25 240 P **P** **19 31 19.6 -1.2**
FITZ Fitzroy Crossi 40.21 260 P **P** **19 31 28.9 0.0**
comp=Z,5.3nm,0.5s,baz=85,slow=7.9,SNR=42
comp=Z,5.3nm,0.5s
FITZ Fitzroy Crossi 40.21 260 P **P** **19 31 28.6 -0.3**
FITZ IAmb IAmb 19 31 29.9
comp=Z,6.6nm,0.5s
PSA00 Pilbara Seismi 45.57 255 P **P** **19 32 11.8 -0.4**
PSA00 IAmb IAmb 19 32 16.6
comp=Z,7.4nm,1.1s
MBWA Marble Bar 45.69 255 P **P** **19 32 11.6 -1.5**
MBWA IAmb IAmb 19 32 14.8
comp=Z,4.5nm,0.8s
MORW Morawa 49.28 245 P **P** **19 32 38.4 -2.3**
MORW IAmb IAmb 19 32 41.2
comp=Z,5.5nm,0.8s
VNDA Vanda 62.24 181 P P 19 34 07.9 -4.5
QSPA South Pole Qui 74.67 180 P P 19 35 25.7 -4.3
ARCES ARCESS Array B 120.94 345 PKP **PKPdf** **19 42 41.3 -0.1**
comp=Z,2.8nm,0.9s,baz=19,slow=3.3,SNR=4.8

*NEIC **04** 19:24:17.1±1.8, 19°.06N±0°.03×65°.34W±0°.02, h28km±5km, mb4.5/80, ML4.3/34, ML4.3/24(RSPR), Error ellipse: s-maj=5.0km s-min=2.5km az=199.0*
*IDC **04** 19:24:17.0±4.7, 19°.09N×65°.30W, h33km±35km, mb3.9/15, mbtmp4.1/16, ML2.8/1, MS3.4/18, Error ellipse: s-maj=19.2km s-min=13.9km az=76.0*
*RSPR **04** 19:24:18.2, 19°.10N×65°.33W, h10km±3km, MD3.6/24*
ISC 04 19:24:15.7±0.4, **19°.12N**±0°.04×**65°.32W**±0°.03, **h26**km, **n324**, σ1**9S05**/316, **mb4.5**/51, **MS3.4**/15, **21C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CUPR	**Culebra, Puert**	**0.81**	**177**	**eP**		**Pn**	**19 24 32.4**	**+1.0**
CUPR	**Culebra, Puert**	**0.81**	**177**	**eS**		**Sn**	**19 24 43.2**	**+0.7**
CUPR	**Culebra, Puert**	**0.81**	**177**			**Pn**	**19 24 32.2**	**+0.8**
CUPR				Sn		**Sn**	**19 24 42.9**	**+0.4**
CUPR				IAML			19 24 44.1	
	comp=N,14μm,0.5s							
STVI	**Saint Thomas**	**0.84**	**155**	**eP**		**Pn**	**19 24 32.7**	**+0.8**
STVI	**Saint Thomas**	**0.84**	**155**	**eS**		**Sn**	**19 24 43.9**	**+0.6**
STVI	**Saint Thomas**	**0.84**	**155**			**Pn**	**19 24 32.4**	**+0.5**
STVI				Sn		**Sn**	**19 24 43.5**	**+0.2**
SJVI	**Gifft Hill Sch**	**0.94**	**146**	**eP**		**Pb**	**19 24 34.1**	**+0.8**
SJVI	**Gifft Hill Sch**	**0.94**	**146**	**eS**		**Sn**	**19 24 46.3**	**+0.5**
SJVI	**Gifft Hill Sch**	**0.94**	**146**			**Pb**	**19 24 34.1**	**+0.8**
SJVI						**Sn**	**19 24 46.3**	**+0.5**
TBVI	**Tortola**	**0.97**	**136**	**eP**		**Pb**	**19 24 34.1**	**+0.3**
TBVI	**Tortola**	**0.97**	**136**	**eS**		**Sn**	**19 24 46.7**	**+0.2**
TBVI	**Tortola**	**0.97**	**136**			**Pb**	**19 24 34.1**	**+0.3**
TBVI						**Sn**	**19 24 46.7**	**+0.2**
CBYP	**Canovanas**	**0.98**	**211**	**eP**		**Pn**	**19 24 34.1**	**+0.2**
CBYP	**Canovanas**	**0.98**	**211**	**eS**		**Sb**	**19 24 46.7**	**0.0**
CBYP	**Canovanas**	**0.98**	**211**	Pn		**Pn**	**19 24 34.1**	**+0.2**
CBYP				Sn		**Sb**	**19 24 46.6**	**0.0**
CBYP				IAML			19 24 55.2	
	comp=E,15μm,0.2s							
MTP	**Monte Pirata**	**1.04**	**192**	**eP**		**Pb**	**19 24 35.6**	**+0.5**
MTP	**Monte Pirata**	**1.04**	**192**	**eS**		**Sn**	**19 24 49.1**	**+0.8**
MTP	**Monte Pirata**	**1.04**	**192**			**Pn**	**19 24 35.3**	**+0.7**
MTP				Sn		**Sn**	**19 24 48.1**	**-0.1**
GCPR	**Guaynabo City**	**1.08**	**222**	**eP**		**Pn**	**19 24 35.3**	**+0.2**
GCPR	**Guaynabo City**	**1.08**	**222**	**eS**		**Sn**	**19 24 49.3**	**+0.1**
GCPR	**Guaynabo City**	**1.08**	**222**	Pn		**Pn**	**19 24 35.1**	**0.0**
GCPR				IAML			19 24 51.5	
	comp=E,7μm,0.7s							
GCPR	**Guaynabo City**	**1.08**	**222**			**Sn**	**19 24 49.3**	**+0.1**
HUMP	**Col San Antoni**	**1.09**	**207**	**eP**		**Pn**	**19 24 35.8**	**+0.4**
HUMP	**Col San Antoni**	**1.09**	**207**	**eS**		**Sn**	**19 24 49.6**	**+0.1**
HUMP	**Col San Antoni**	**1.09**	**207**	Pn		**Pn**	**19 24 35.8**	**+0.4**
HUMP				IAML			19 24 51.9	
	comp=N,6μm,0.3s							
HUMP	**Col San Antoni**	**1.09**	**207**			**Sn**	**19 24 49.6**	**+0.1**
SJG	**San Juan**	**1.27**	**218**	Pn		**Pn**	**19 24 38.2**	**+0.5**
	comp=N,95nm,0.3s,baz=52,slow=10,SNR=99							
SJG				Sn		**Sn**	**19 24 53.2**	**-0.8**
	comp=N,751nm,0.3s,baz=53,slow=17,SNR=21							
SJG				LR		LR	19 24 55.1	
	comp=N,170nm,18.7s,baz=52,slow=30							
SJG	**San Juan**	**1.27**	**218**	Pn		**Pn**	**19 24 38.0**	**+0.2**
SJG				IAML			19 24 59.7	
	comp=N,5μm,0.6s							
EMPR	**Esperanza - Ma**	**1.31**	**241**	**eP**		**Pn**	**19 24 39.5**	**+1.2**
EMPR	**Esperanza - Ma**	**1.31**	**241**	**eS**		**Sn**	**19 24 55.9**	**+1.0**
EMPR	**Esperanza - Ma**	**1.31**	**241**			**Sn**	**19 24 55.9**	**+1.0**
EMPR	**Esperanza - Ma**	**1.31**	**241**			**Pn**	**19 24 39.2**	**+0.9**
EMPR	**Esperanza - Ma**	**1.31**	**241**	IAML			19 24 58.6	
	comp=E,22μm,0.6s							
EMPR				IAML			19 25 02.2	
	comp=N,12μm,0.7s							
IGPR	**InterUniversit**	**1.36**	**213**	**eP**		**Pn**	**19 24 39.7**	**+0.6**
IGPR	**InterUniversit**	**1.36**	**213**	**eS**		**Sn**	**19 24 56.3**	**0.0**
IGPR	**InterUniversit**	**1.36**	**213**			**Sn**	**19 24 56.3**	**0.0**
CDVI	**St. Croix**	**1.46**	**159**	**eP**		**Pb**	**19 24 42.8**	**+0.6**
CDVI	**St. Croix**	**1.46**	**159**	Pn		**Pb**	**19 24 42.1**	**-0.1**
AOPR	**Arecibo Observ**	**1.56**	**241**	**eP**		**Pn**	**19 24 42.5**	**+0.7**
AOPR	**Arecibo Observ**	**1.56**	**241**	**eS**		**Sn**	**19 25 01.7**	**+0.6**
AOPR	**Arecibo Observ**	**1.56**	**241**			**Pn**	**19 24 42.4**	**+0.7**
AOPR	**Arecibo Observ**	**1.56**	**241**			**Sn**	**19 25 01.7**	**+0.6**
AOPR	**Arecibo Observ**	**1.56**	**241**	IAML			19 25 06.3	
	comp=E,19μm,0.4s							
AOPR				IAML			19 25 12.4	
	comp=N,10μm,0.7s							
CELP	**Cerrillos**	**1.58**	**229**	**eP**		**Pn**	**19 24 43.0**	**+1.0**
CELP	**Cerrillos**	**1.58**	**229**	**eS**		**Sn**	**19 25 01.8**	**+0.1**
CELP	**Cerrillos**	**1.58**	**229**			**Pn**	**19 24 43.0**	**+1.0**
CELP						**Sn**	**19 25 01.8**	**+0.1**
CELP	**Cerrillos**	**1.58**	**229**	IAML			19 25 06.1	
	comp=N,4μm,0.5s							
OBIP	**Obispado Ponce**	**1.62**	**229**	**eP**		**Pn**	**19 24 42.7**	**+0.1**
OBIP	**Obispado Ponce**	**1.62**	**229**	**eS**		**Sn**	**19 25 01.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.62**	**229**			**Pn**	**19 24 42.5**	**-0.1**
OBIP				IAML			19 25 07.3	
	comp=N,3μm,0.5s							
OBIP	**Obispado Ponce**	**1.62**	**229**			**Sn**	**19 25 01.9**	**-0.7**
ICMP	**Isla Caja de M**	**1.67**	**223**	**eP**		**Pn**	**19 24 44.8**	**+1.5**
ICMP	**Isla Caja de M**	**1.67**	**223**	**eS**		**Sn**	**19 25 05.0**	**+1.0**
ICMP	**Isla Caja de M**	**1.67**	**223**			**Pn**	**19 24 44.8**	**+1.5**
ICMP	**Isla Caja de M**	**1.67**	**223**			**Sn**	**19 25 05.0**	**+1.0**
ICMP	**Isla Caja de M**	**1.67**	**223**	IAML			19 25 09.1	
	comp=N,3μm,0.4s							
ICMP				IAML			19 25 09.5	
	comp=E,3μm,0.4s							
AGPR	**Aguadilla, PR**	**1.81**	**249**	**eP**		**Pn**	**19 24 46.4**	**+1.1**
AGPR	**Aguadilla, PR**	**1.81**	**249**	**eS**		**Sn**	**19 25 07.5**	**+0.1**
AGPR	**Aguadilla, PR**	**1.81**	**249**			**Pn**	**19 24 45.7**	**+0.4**
AGPR	**Aguadilla, PR**	**1.81**	**249**			**Sn**	**19 25 07.5**	**+0.1**
AGPR	**Aguadilla, PR**	**1.81**	**249**	IAML			19 25 10.6	
	comp=N,4μm,0.6s							
AGPR				IAML			19 25 13.8	
	comp=E,3μm,0.3s							
GBPR	**Guanica, Bosqu**	**1.86**	**233**	**eP**		**Pn**	**19 24 47.5**	**+1.6**
GBPR	**Guanica, Bosqu**	**1.86**	**233**	**eS**		**Sn**	**19 25 09.7**	**+1.1**
LSP	**Las Mesas**	**1.91**	**241**	**eP**		**Pn**	**19 24 48.0**	**+1.3**
LSP	**Las Mesas**	**1.91**	**241**	**eS**		**Sn**	**19 25 12.3**	**+2.3**
PRSN	**Puerto Rico Se**	**1.94**	**243**	**eP**		**Pn**	**19 24 48.9**	**+1.8**
PRSN	**Puerto Rico Se**	**1.94**	**243**	**eS**		**Sn**	**19 25 11.9**	**+1.3**
PRSN	**Puerto Rico Se**	**1.94**	**243**			**Pn**	**19 24 47.9**	**+0.8**
PRSN	**Puerto Rico Se**	**1.94**	**243**			**Sn**	**19 25 11.9**	**+1.3**
MLPR	**Magueyes Islan**	**1.99**	**235**	**eP**		**Pn**	**19 24 48.9**	**+1.2**
MLPR	**Magueyes Islan**	**1.99**	**235**	**eS**		**Sn**	**19 25 14.1**	**+2.3**
MLPR	**Magueyes Islan**	**1.99**	**235**			**Pn**	**19 24 48.9**	**+1.2**
MLPR				IAML			19 25 15.3	
	comp=N,2μm,0.5s							
MLPR	**Magueyes Islan**	**1.99**	**235**			**Sn**	**19 25 14.1**	**+2.3**
CRPR	**Cabo Rojo, PR**	**2.02**	**237**	**eP**		**Pn**	**19 24 49.2**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.02**	**237**	**eS**		**Sn**	**19 25 14.4**	**+1.9**
CRPR	**Cabo Rojo, PR**	**2.02**	**237**			**Pn**	**19 24 49.2**	**+1.1**
CRPR	**Cabo Rojo, PR**	**2.02**	**237**			**Sn**	**19 25 14.4**	**+1.9**
CRPR	**Cabo Rojo, PR**	**2.02**	**237**	IAML			19 25 19.1	
	comp=E,2μm,0.7s							
CRPR				IAML			19 25 24.3	
	comp=N,1μm,0.7s							
IDE	**Isla Desecheo**	**2.16**	**251**	**eP**		**Pn**	**19 24 50.9**	**+0.8**
IDE	**Isla Desecheo**	**2.16**	**251**	**eS**		**Sn**	**19 25 17.0**	**+1.0**
SMRT	**St. Maarten**	**2.38**	**116**			**Pn**	**19 24 54.5**	**+1.4**
SMRT				IAML			19 25 41.4	
	comp=E,1μm,0.5s							
SMRT				IAML			19 25 41.5	
	comp=N,1μm,0.8s							
PCDR	**Punta Cana, DR**	**2.96**	**259**	**eP**		**Pn**	**19 25 03.0**	**+2.0**
PCDR	**Punta Cana, DR**	**2.96**	**259**		Pn	**Pn**	**19 25 01.4**	**+0.4**
PCDR				IAML			19 26 10.5	
	comp=N,1μm,0.8s							
DR12	**Loma Pena Alta**	**3.85**	**266**	**eP**		**Pn**	**19 25 14.5**	**+1.1**
DR12				eS		**Sn**	**19 25 59.9**	**+2.0**
DR12	**Loma Pena Alta**	**3.85**	**266**	Pn		**Pn**	**19 25 14.1**	**+0.7**
SC01	**Santiago de lo**	**5.11**	**274**			**Pn**	**19 25 33.2**	**+2.5**
SDDR	**Presa de Saban**	**5.64**	**270**			**Pn**	**19 25 39.9**	**+1.9**
GRTK	**Grand Turk**	**5.95**	**295**	Pn		**Pn**	**19 25 41.1**	**-1.0**
BIRV	**Birongo**	**8.64**	**186**	Pn		**Pn**	**19 26 19.6**	**+0.5**
PCRV	**Puerto La Cruz**	**8.91**	**176**	Pn		**Pn**	**19 26 26.3**	**+3.4**
	comp=N,0.8nm,0.3s,baz=358,slow=3.1,SNR=2.1							
PCRV					Sn	**Sn**	**19 28 02.6**	**+0.1**
	comp=N,2.3nm,0.3s,baz=18,slow=22,SNR=2.2							
PCRV					LR	LR	19 29 48.8	
	comp=N,268nm,20.1s,slow=37							
BAUV	**El Baul**	**10.45**	**195**	Pn		**Pn**	**19 26 44.1**	**+0.2**
SDV	**Santo Domingo**	**11.40**	**208**	Pn		**Pn**	**19 26 59.5**	**+2.3**
	comp=N,0.6nm,0.3s,baz=7.6,slow=15,SNR=1.7							
SDV					Sn	**Sn**	**19 29 00.0**	**-3.8**
	comp=N,0.9nm,0.3s,baz=16,slow=16,SNR=1.2							
SDV					LR	LR	19 31 44.5	
	comp=N,156nm,20.6s,baz=6.5,slow=39							
	comp=N,2.9nm,0.3s							
BBSR	**BB Station**	**13.21**	**2**	Pn		**Pn**	**19 27 20.1**	**-1.6**
ROSC	**El Rosal**	**16.68**	**213**	Pn		**Pn**	**19 28 11.2**	**+0.8**
	comp=N,2.0nm,0.3s,baz=232,slow=22,SNR=11							
ROSC	**El Rosal**	**16.68**	**213**	Pn		**Pn**	**19 28 08.7**	**+0.4**
ROSC				IAml		IAmb	19 28 18.8	
	comp=Z,24nm,0.7s							
DWPF	**Disney Wildern**	**17.25**	**304**	P		**Pn**	**19 28 10.6**	**-4.3**
	baz=118							
BOAV	**Boa Vista**	**17.27**	**164**			**Pn**	**19 28 15.6**	**+0.3**
BOAV				IAmb		IAmb	19 28 29.0	
	comp=Z,5.6nm,0.8s							
MDP	**Montagnes des**	**18.63**	**137**	LR		LR	19 35 51.0	
	comp=Z,68nm,21.5s,baz=258,slow=37							
Y60A	**Bolivia**	**18.76**	**325**	P		**Pn**	**19 28 33.6**	**+0.3**
Y60A				IAmb		IAmb	19 28 36.1	
	comp=Z,46nm,0.9s							
NHSC	**New Hope**	**19.26**	**319**	P		**P**	**19 28 36.4**	**-1.8**
	baz=133							
W57A	**Gilead**	**20.59**	**324**	P		Pn	19 28 54.2	-0.9
W57A				IAmb		IAmb	19 29 35.5	
	comp=Z,10nm,0.7s							
V58A	**Windy Hill, Pi**	**20.59**	**327**	P		Pn	19 28 54.7	-0.5
JSC	**Jenkinsville**	**20.71**	**320**	P		Pn	19 28 56.1	-0.5
T59A	**Double "B" Far**	**20.77**	**331**	P		Pn	19 28 56.6	-0.6
T59A				IAmb		IAmb	19 29 18.4	
	comp=Z,16nm,1.0s							
154A	**Montrose**	**20.86**	**314**	P		Pn	19 28 57.4	-0.8
HODGE	**Hodges**	**21.30**	**318**	P		**P**	**19 29 01.9**	**+1.5**
HODGE				IAmb		IAmb	19 29 14.4	
	comp=Z,12nm,0.8s							
ORTG	**Ortega, Santa**	**21.31**	**249**	P		**P**	**19 28 59.2**	**-1.6**
ORTG				IAmb		IAmb	19 29 21.8	
	comp=Z,20nm,1.2s							
GOGA	**Godfrey**	**21.57**	**315**	P		**P**	**19 29 03.3**	**-0.1**
GOGA	**Godfrey**	**21.57**	**315**	P		**P**	**19 29 03.5**	**+0.2**
	baz=127							
T57A	**Hurt**	**21.60**	**328**	P		**P**	**19 29 04.6**	**+0.9**
T57A				IAmb		IAmb	19 29 39.5	
	comp=Z,14nm,0.9s							
CBN	**Corbin Frederi**	**21.72**	**334**	P		**P**	**19 29 07.0**	**+2.0**
CBN	**Corbin Frederi**	**21.72**	**334**	P		**P**	**19 29 05.4**	**+0.4**
	baz=148							
R58B	**Mineral**	**21.74**	**332**	P		**P**	**19 29 06.7**	**+1.6**
R58B				IAmb		IAmb	19 29 21.9	
	comp=Z,13nm,0.5s							
451A	**Vernon**	**21.74**	**306**	P		**P**	**19 29 04.9**	**-0.3**
V55A	**Taylorsville**	**21.78**	**323**	P		**P**	**19 29 06.6**	**+1.0**
S57A	**Dark Hollow, R**	**22.06**	**330**	P		**P**	**19 29 09.7**	**+1.1**
S57A				IAmb		IAmb	19 29 28.8	
	comp=Z,28nm,1.3s							
BG3	**Lake Jocassee**	**22.21**	**319**	P		**P**	**19 29 11.8**	**+1.5**
BG3				IAmb		IAmb	19 29 31.0	
	comp=Z,16nm,0.5s							
Y52A	**Lilburn**	**22.24**	**315**	P		**P**	**19 29 11.9**	**+1.3**
Y52A				IAmb		IAmb	19 29 26.5	
	comp=Z,12nm,0.6s							
BLA	**Blacksburg**	**22.36**	**327**	P		**P**	**19 29 13.4**	**+1.6**
BLA	**Blacksburg**	**22.36**	**327**	P		**P**	**19 29 11.8**	**0.0**
	baz=140							
V53A	**Saluda**	**22.59**	**320**	P		**P**	**19 29 15.7**	**+1.3**
OTAV	**Otavalo**	**22.76**	**216**	P		**P**	**19 29 16.3**	**-0.4**
BRNJ	**Basking Ridge**	**22.91**	**342**	P		**P**	**19 29 18.4**	**+0.8**
BRAL	**Brewton**	**22.99**	**306**	P		**P**	**19 29 16.1**	**-2.4**
	baz=116							
TKL	**Tuckaleechee C**	**23.17**	**319**	P		**P**	**19 29 22.6**	**+2.3**
	comp=Z,2.6nm,0.8s,baz=123,slow=17,SNR=2.3							
TKL					S	**S**	**19 33 27.4**	**-3.1**
	comp=Z,2.2nm,0.7s,baz=134,slow=17,SNR=1.8							
TKL					LR	LR	19 39 58.6	
	comp=Z,61nm,19.0s,baz=118,slow=41							
	comp=Z,2.6nm,0.8s							
ODNJ	**Ogdensburg**	**23.29**	**342**	P		**P**	**19 29 23.5**	**+2.1**
ODNJ				IAmb		IAmb	19 30 00.5	
	comp=Z,23nm,1.1s							
MTO3	**Montecristo**	**23.48**	**262**	P		**P**	**19 29 25.0**	**+1.2**
CPCT	**Cooper Cave**	**23.51**	**318**	P		**P**	**19 29 25.2**	**+1.5**
CPCT				IAmb		IAmb	19 29 44.0	
	comp=Z,14nm,0.8s							
FPAL	**Fort Paine**	**23.67**	**315**	P		**P**	**19 29 26.5**	**+1.2**
FPAL				IAmb		IAmb	19 29 48.4	
	comp=Z,9.7nm,0.8s							
LRAL	**Lakeview Retre**	**23.83**	**310**	P		**P**	**19 29 27.9**	**+1.0**
LRAL				IAmb		IAmb	19 29 30.3	
	comp=Z,22nm,1.3s							
LRAL	**Lakeview Retre**	**23.83**	**310**	P		**P**	**19 29 26.1**	**-0.7**
	baz=120							
W50A	**Signal Mountai**	**23.86**	**316**	P		**P**	**19 29 28.2**	**+1.0**
S51A	**Beattyville**	**24.39**	**323**	P		**P**	**19 29 33.1**	**+1.2**
T50A	**Nancy**	**24.71**	**320**	P		**P**	**19 29 36.4**	**+1.5**
T50A				IAmb		IAmb	19 29 37.4	
	comp=Z,9.6nm,0.8s							
P52A	**Corning**	**25.07**	**328**	P		**P**	**19 29 38.1**	**+0.1**
	baz=140							
O53A	**New Philadelph**	**25.10**	**330**	P		**P**	**19 29 39.2**	**+0.9**
	baz=142							
R50A	**Paris**	**25.26**	**323**	P		**P**	**19 29 41.3**	**+1.5**
R50A				IAmb		IAmb	19 29 43.6	
	comp=Z,17nm,1.1s							
ACSO	**Alum Creek Sta**	**25.95**	**328**	P		**P**	**19 29 46.4**	**+0.3**
	baz=139							
WVT	**Waverly**	**26.07**	**315**	P		**P**	**19 29 47.4**	**+0.3**
	baz=125							
OXF	**Oxford**	**26.31**	**311**	P		**P**	**19 29 48.3**	**-1.0**
	baz=120							
WCI	**Wyandotte Cave**	**26.37**	**321**	P		**P**	**19 29 50.6**	**+0.7**
WCI				IAmb		IAmb	19 29 52.6	
	comp=Z,10nm,1.0s							
WCI	**Wyandotte Cave**	**26.37**	**321**	P		**P**	**19 29 49.9**	**0.0**
	baz=130							
N47A	**Urbana**	**27.83**	**326**	P		**P**	**19 30 02.7**	**-0.2**
SADO	**Sadowa**	**28.06**	**339**	LR		LR	19 40 13.3	
	comp=Z,74nm,22.0s,baz=182,slow=34							
ATAH	**Atahualpa**	**29.09**	**207**	LR		LR	19 43 40.6	
	comp=Z,88nm,20.8s,baz=11,slow=40							
P43A	**Skaggs, Pawnee**	**29.21**	**320**	P		**P**	**19 30 16.0**	**+0.7**
MIAR	**Mount Ida**	**29.39**	**307**	P		**P**	**19 30 15.3**	**-1.7**
	baz=114							
CCM	**Cathedral Cave**	**29.41**	**315**	P		**P**	**19 30 16.1**	**-0.9**
	baz=123							
L44A	**Lake County Fo**	**29.93**	**325**	P		**P**	**19 30 22.0**	**+0.4**
	baz=133							
TUL1	**Leonard**	**31.61**	**308**	P		**P**	**19 30 36.2**	**-0.3**
	baz=114							
NNA	**Nana**	**32.93**	**201**	LR		LR	19 46 54.2	
	comp=Z,63nm,18.4s,baz=26,slow=41							
JCT	**Junction City**	**33.16**	**297**	P		**P**	**19 30 50.0**	**-0.2**
	baz=102							
SIV	**San Ignacio**	**35.14**	**173**	LR		LR	19 45 26.9	
	comp=Z,114nm,19.7s,baz=146,slow=36							
LPAZ	**La Paz**	**35.29**	**185**	P		**P**	**19 31 10.8**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=343,slow=5.8,SNR=5.2							
	comp=Z,0.7nm,0.5s							
LPAZ	**La Paz**	**35.29**	**185**	P		**P**	**19 31 08.7**	**-0.7**
ECSD	**EROS Data Cent**	**35.91**	**320**	P		**P**	**19 31 13.3**	**-0.5**
	baz=123							
TX31	**Lajitas Ar. Si**	**36.27**	**294**	P		**P**	**19 31 18.7**	**+1.5**
TX32	**Lajitas Array**	**36.27**	**294**	P		**P**	**19 31 18.4**	**+1.1**
TX32				IAmb		IAmb	19 31 19.5	
	comp=Z,3.9nm,0.8s							
TXAR	**Lajitas Array**	**36.27**	**294**	P		**P**	**19 31 18.3**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=116,slow=11,SNR=30							
TXAR				PcP		**PcP**	**19 33 43.7**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=108,slow=4.1,SNR=4.6							
TXAR				LR		LR	19 51 15.4	
	comp=Z,25nm,18.9s,baz=148,slow=45							
	comp=Z,2.5nm,0.8s							
B35A	**Bob, Littlefor**	**37.13**	**328**	P		**P**	**19 31 24.6**	**+0.4**
PB16	**IPOC Station P**	**37.44**	**187**	P		**P**	**19 31 26.4**	**-1.3**
MNTX	**Cornudas Mount**	**38.09**	**297**	P		**P**	**19 31 33.1**	**+0.6**
MNTX	**Cornudas Mount**	**38.09**	**297**	P		**P**	**19 31 31.8**	**-0.7**
	baz=100							
AGMN	**Agassiz Nation**	**38.18**	**327**	P		**P**	**19 31 32.7**	**-0.3**
	baz=129							
T25A	**Trinidad**	**38.54**	**306**	P		**P**	**19 31 35.9**	**-0.6**
	baz=107							
ULM	**Lac du Bonnet**	**39.44**	**329**	P		**P**	**19 31 42.5**	**-1.0**
	comp=Z,4.3nm,0.6s,baz=131,slow=9.0,SNR=12							
	comp=Z,4.3nm,0.6s							
SDCO	**Great Sand Dun**	**39.55**	**307**	P		**P**	**19 31 45.9**	**+0.9**
SDCO	**Great Sand Dun**	**39.55**	**307**	P		**P**	**19 31 45.0**	**0.0**
	baz=107							
ANMO	**Albuquerque**	**39.59**	**302**	P		**P**	**19 31 44.9**	**-0.4**
	baz=103							
ISCO	**Idaho Springs**	**40.26**	**310**	P		**P**	**19 31 51.9**	**+1.0**
ISCO	**Idaho Springs**	**40.26**	**310**	P		**P**	**19 31 51.4**	**+0.5**
	baz=109							
PHWY	**Pilot Hill**	**40.65**	**312**	P		**P**	**19 31 53.4**	**-0.8**
PHWY				IAmb		IAmb	19 32 11.7	
	comp=Z,15nm,0.9s							
LPIG	**La Paz**	**41.98**	**285**	LR		LR	19 57 03.0	
	comp=Z,22nm,18.0s,baz=64,slow=47							
WUAZ	**Wupatki**	**43.65**	**302**	P		**P**	**19 32 18.8**	**+0.3**
	baz=100							
PD31	**Pinedale Array**	**44.02**	**312**	P		**P**	**19 32 21.9**	**+0.4**
PDAR	**Pinedale Array**	**44.02**	**312**	P		**P**	**19 32 22.3**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=114,slow=9.0,SNR=17							
PDAR				PcP		**PcP**	**19 34 07.2**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=110,slow=5.2,SNR=4.9							
	comp=Z,2.4nm,0.8s							
PDAR	**Pinedale Array**	**44.02**	**312**	P		**P**	**19 32 20.5**	**-1.0**
BW06	**Boulder Array**	**44.02**	**312**	P		**P**	**19 32 21.6**	**+0.1**
BW06	**Boulder Array**	**44.02**	**312**	P		**P**	**19 32 22.3**	**+0.8**
	baz=108							
NRS	**Narsarsuaq**	**44.29**	**14**	P		**P**	**19 32 24.6**	**+1.5**
RLMT	**Red Lodge**	**44.61**	**316**	P		**P**	**19 32 25.9**	**-0.2**
RLMT				IAmb		IAmb	19 32 28.2	
	comp=Z,17nm,1.5s							
RLMT	**Red Lodge**	**44.61**	**316**	P		**P**	**19 32 26.5**	**+0.4**
	baz=111							
LOHW	**Long Hollow**	**45.01**	**313**	P		**P**	**19 32 28.8**	**-0.5**
LOHW				IAmb		IAmb	19 32 31.4	
	comp=Z,6.2nm,0.9s							
REDW	**Red Top Meadow**	**45.10**	**313**	P		**P**	**19 32 30.7**	**+0.5**
REDW				IAmb		IAmb	19 32 32.3	
	comp=Z,13nm,1.2s							
GCMT	**Greycliff**	**45.11**	**316**	P		**P**	**19 32 29.6**	**-0.5**
MOOW	**Moose Ponds**	**45.15**	**313**	P		**P**	**19 32 30.5**	**0.0**
MOOW				IAmb		IAmb	19 32 33.3	
	comp=Z,5.3nm,0.9s							
TPAW	**Teton Pass**	**45.21**	**313**	P		**P**	**19 32

baz=99
M29M Somme Creek 65.44 331 P P 19 34 54.1 -2.1
baz=96
I29M Ogilvie Camp, 65.70 334 P P 19 34 57.9 +0.1
baz=97
DAWY Dawson 66.02 332 P P 19 35 00.2 +0.3
DAWY Dawson 66.02 332 P P 19 34 59.1 -0.8
baz=96
YUK3 Moose Creek 66.32 330 P P 19 35 00.4 -1.7
baz=94
CTG Chitna Glacier 66.69 329 P P 19 35 03.4 -1.0
baz=92
NOA NORSAR Array B 66.95 31 LR LR 19 59 56.0
comp=Z,25nm,20.6s,baz=265,slow=32
BCAR Beaver Creek A 67.01 331 P P 19 35 06.5 +0.3
M27K Edge Creek, AK 67.02 330 P P 19 35 05.9 -0.5
M27K IAmb IAmb 19 35 08.4
comp=Z,8.5nm,1.2s
M27K Edge Creek, AK 67.02 330 P P 19 35 05.5 -0.8
baz=93
L27K Beaver Creek, 67.03 331 P P 19 35 06.6 +0.3
L27K IAmb IAmb 19 35 08.3
comp=Z,6.4nm,1.0s
L27K Beaver Creek, 67.03 331 P P 19 35 05.1 -1.2
baz=93,SNR=7.4
I27K Kandik River 67.10 334 P P 19 35 06.0 -0.7
baz=94
H27K Steamboat Moun 67.11 335 P P 19 35 06.5 -0.3
baz=95
K27K Chicken 67.19 332 P P 19 35 06.8 -0.5
baz=93
G27K Doyon Strip 67.21 335 P P 19 35 07.2 -0.2
baz=95
E27K Coleen River 67.31 337 P P 19 35 07.2 -0.8
baz=95
MCARA McCarthy VSAT 67.53 329 P P 19 35 09.0 -0.5
baz=91
L26K Log Cabin Wild 67.72 331 P P 19 35 11.2 +0.5
L26K Log Cabin Wild 67.72 331 P P 19 35 11.4 +0.7
baz=92
I26K Coal Creek Min 67.72 334 P P 19 35 10.6 0.0
baz=93
J26L Joseph Creek 67.86 333 P P 19 35 11.2 -0.4
J26L IAmb IAmb 19 35 13.6
comp=Z,2.5nm,0.7s
J26L Joseph Creek 67.86 333 P P 19 35 11.7 +0.1
baz=92
SCRK Sand Creek 68.03 332 P P 19 35 12.3 -0.4
SCRK Sand Creek 68.03 332 P P 19 35 12.6 -0.2
baz=91,SNR=8.6
DOT Dot Lake 68.06 332 P P 19 35 12.5 -0.3
DOT IAmb IAmb 19 35 15.0
comp=Z,5.9nm,1.0s
G26K Porcupine Rive 68.06 335 P P 19 35 12.1 -0.6
baz=93
HFS Hagfors 68.16 32 LR LR 19 59 50.9
comp=Z,54nm,21.9s,baz=288,slow=31
C27K Jago River 68.19 338 P P 19 35 12.8 -0.7
baz=94
F26K Sheenjek River 68.23 336 P P 19 35 13.3 -0.6
baz=93
RIDG Independent Ri 68.41 332 P P 19 35 15.0 0.0
baz=91
J25K Salcha River, 68.64 333 P P 19 35 16.6 +0.1
baz=90
PAX Paxson 68.69 331 P P 19 35 17.0 +0.2
baz=90
PRP Porcupine Dome 68.72 334 P P 19 35 17.7 +0.7
PRP IAmb IAmb 19 35 18.5
comp=Z,5.6nm,1.0s
PRP Porcupine Dome 68.72 334 P P 19 35 16.9 -0.2
baz=91,SNR=6.9
E25K Arctic Village 68.79 337 P P 19 35 15.7 -1.6
baz=92
F25K Christian Rive 68.80 336 P P 19 35 17.1 -0.3
baz=91,SNR=5.8
H25K Birch Creek 68.85 335 P P 19 35 18.0 +0.4
baz=91
D25K Kavik River 69.11 338 P P 19 35 18.1 -1.2
baz=91
IL31 69.29 333 P P 19 35 20.7 +0.3
IL31 IAmb IAmb 19 35 21.5
comp=Z,9.0nm,1.3s
ILAR Eielson Array 69.29 333 P P 19 35 20.4 0.0
comp=Z,2.9nm,1.0s,baz=108,slow=3.9,SNR=16
comp=Z,2.9nm,1.0s
ILAR Eielson Array 69.29 333 P P 19 35 20.6 +0.1
HDA Harding Lake 69.33 333 P P 19 35 20.4 -0.3
baz=89
G24K Hadweenzic Riv 69.51 335 P P 19 35 22.1 +0.3
baz=89
F24K Squaw Lake 69.66 336 P P 19 35 23.1 +0.3
baz=89
H24K Noodor Dome 69.69 334 P P 19 35 24.0 +1.0
H24K IAmb IAmb 19 35 24.5
comp=Z,6.5nm,0.9s
H24K Noodor Dome 69.69 334 P P 19 35 22.3 -0.7
baz=89,SNR=7.8
WAT6 Susitna Watana 69.74 331 P P 19 35 23.4 0.0
baz=88
MDM Murphy Dome 69.86 333 P P 19 35 24.8 +0.8
E24K Your Creek 69.88 337 P P 19 35 24.1 0.0
baz=89
C24K Franklin Bluff 69.93 338 P P 19 35 24.2 -0.1
baz=89
WAT1 Susitna Watana 70.10 331 P P 19 35 23.5 -2.0
baz=87
MCK McKinley 70.22 332 P P 19 35 24.7 -1.5
baz=87
NEA2 Nenana 70.24 333 P P 19 35 25.7 -0.6
baz=87,SNR=5.8
TOLK Toolik Lake Re 70.27 337 P P 19 35 24.7 -1.8
baz=88
I23K Minto, Yukon-K 70.33 333 P P 19 35 26.9 +0.1
baz=87
H23K Yukon River 70.38 334 P P 19 35 28.5 +1.4
H23K IAmb IAmb 19 35 29.6
comp=Z,10nm,1.4s
H23K Yukon River 70.38 334 P P 19 35 26.5 -0.6
baz=87
G23K Bananza Creek 70.52 335 P P 19 35 27.5 -0.5
baz=87
C23K Itkillik River 70.59 339 P P 19 35 27.5 -0.9
baz=88
D23K Nanushuk River 70.66 338 P P 19 35 28.9 +0.1
baz=87
TRF Thorofare Moun 70.85 332 P P 19 35 28.8 -1.4
baz=86
MLY Manley 70.92 333 P P 19 35 30.5 0.0
MLY IAmb IAmb 19 35 31.6
comp=Z,2.8nm,0.8s
MLY Manley 70.92 333 P P 19 35 28.7 -1.8
baz=86
G22K Bettles 71.10 335 P P 19 35 30.2 -1.2
baz=86
BPAW Bear Paw Mtn. 71.10 332 P P 19 35 31.4 -0.1
BPAW IAmb IAmb 19 35 32.5
comp=Z,6.4nm,1.0s
BPAW Bear Paw Mtn. 71.10 332 P P 19 35 30.5 -1.1
baz=85,SNR=5.5
KTH Kantishna Hill 71.12 332 P P 19 35 32.3 +0.6
H22K Ishtalitna Cre 71.12 334 P P 19 35 31.0 -0.6
baz=86
E22K Anaktuvuk Pass 71.12 337 P P 19 35 31.9 +0.3
baz=86
I21K Tanana 71.44 334 P P 19 35 32.5 -1.1
baz=85
CAST Castle Rocks 71.65 332 P P 19 35 33.5 -1.4
baz=84
CHUM Lake Minchumin 71.71 332 P P 19 35 34.3 -0.8
baz=84
H21K Melozitna Rive 71.73 334 P P 19 35 35.9 +0.6
H21K IAmb IAmb 19 35 36.6
comp=Z,8.0nm,1.2s
H21K Melozitna Rive 71.73 334 P P 19 35 35.0 -0.4
baz=84,SNR=5.4
G21K Allakaket 71.92 335 P P 19 35 36.2 -0.3
baz=84,SNR=7.1
Q20K Shuyak Island 72.38 327 P P 19 35 35.6 -3.7
baz=82
J20K Nowinta River 72.47 333 P P 19 35 37.1 -2.7
baz=82
ARCES ARCESS Array B 72.55 22 P P 19 35 40.4 +0.2
comp=Z,1.7nm,0.7s,baz=282,slow=4.4,SNR=4.9
comp=Z,1.7nm,0.7s
K20K Telida 72.55 332 P P 19 35 38.5 -1.7
baz=82
M19K Big River Lodg 72.90 330 P P 19 35 40.5 -1.9
baz=82
AKASG Malin Array Be 78.26 40 LR LR 20 07 26.5
comp=Z,41nm,20.3s,baz=306,slow=33
BRTR Keskin Array B 84.63 50 P P 19 36 47.7 +0.2
comp=Z,1.2nm,1.0s,baz=40,slow=2.1,SNR=4.7
comp=Z,1.2nm,1.0s
BELG Belogornoye 88.20 34 LR LR 20 12 50.3
comp=Z,23nm,20.4s,baz=24,slow=33
TSUM Tsumeb 89.78 110 LR LR 20 12 34.4
comp=Z,44nm,18.5s,baz=15,slow=32
AKTO Aktyubinsk 94.71 32 LR LR 20 19 08.3
comp=Z,9.2nm,20.0s,baz=294,slow=35
STKA Stephens Creek 152.67 237 PKPbc PKPbc 19 44 10.7 +0.1
comp=Z,3.2nm,0.9s,baz=74,slow=7.0,SNR=5.9
WRA Warramunga Arr 161.45 264 PKP PKPdf 19 44 13.3 -1.7
comp=Z,0.5nm,0.8s,baz=109,slow=0.2,SNR=3.1
WRA PKPab PKPab 19 44 58.9 -0.5
comp=Z,0.7nm,0.8s,baz=86,slow=4.3,SNR=6.1
ASAR Alice Springs 161.53 252 PKP PKPdf 19 44 14.8 -0.3
comp=Z,0.5nm,0.9s,baz=151,slow=2.1,SNR=3.2
ASAR PKPab PKPab 19 44 59.5 -0.3
comp=Z,0.7nm,0.6s,baz=113,slow=4.8,SNR=9.9

GUC ***04*** *19:24:29.3±0.6,24.°15S×67.°33W,h233km±10km,ML3.7*
IDC ***04*** *19:24:33.4±11.0,23.°50S×65.°67W,h193km±77km,mb2.8/1, mbtmp3.4/2,Error ellipse: s-maj=133.1km s-min=69.8km az=36.0*
ISC 04 19:24:30.9±1.9,24°08S±0°07×67°3W±0°1,h200km,n14, σ1§12/25,4C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.11**	**314**	*i* P		**Pn**		**19 25 11.3**	**+0.2**
LVC				*e*S		**Sn**		**19 25 43.8**	**+1.6**
LVC				IAML				19 25 45.1	
	249nm,0.3s								
PB15	**IPOC Station P**	**2.21**	**293**	⇑*e*P		**Pn**		**19 25 12.5**	**+0.6**
PB15				*e*S		**Sn**		**19 25 44.9**	**+1.1**
GO02	**Mina Guanaco**	**2.38**	**243**	⇑*e*P		**Pn**		**19 25 13.6**	**-0.2**
GO02				*e*S		**Sn**		**19 25 47.8**	**+0.5**
GO02				IAML				19 25 48.6	
	comp=N,146nm,0.2s								
PB06	**IPOC Station P**	**2.53**	**302**	⇑*e*P		**Pn**		**19 25 15.9**	**+0.5**
PB06				*e*S		**Sn**		**19 25 50.3**	**+0.3**
PB06				IAML				19 25 52.7	
	comp=N,152nm,0.2s								
PB09	**IPOC Station P**	**2.92**	**321**	*e*P		**Pn**		**19 25 20.5**	**+0.6**
PB09				*e*S		**Sn**		**19 25 59.9**	**+1.8**
PB10	**IPOC Station P**	**3.08**	**280**	⇑*e*P		**Pn**		**19 25 22.1**	**+0.6**
PB10				*e*S		**Sn**		**19 26 00.9**	**-0.1**
PB04	**IPOC Station P**	**3.18**	**303**	*e*P		**Pn**		**19 25 23.3**	**+0.4**
PB04				*e*S		**Sn**		**19 26 03.5**	**0.0**
PB07	**IPOC Station P**	**3.38**	**313**	*e*P		**Pn**		**19 25 25.2**	**0.0**
PB07				*e*S		**Sn**		**19 26 07.0**	**-0.7**
PB01	**IPOC Station P**	**3.66**	**325**	*e*P		**Pn**		**19 25 28.1**	**-0.6**
PB01				*e*S		**Sn**		**19 26 12.7**	**-1.3**
AC01	**Pan de Azucar**	**3.67**	**235**	*e*P		**Pn**		**19 25 27.1**	**-1.5**
AC01				*e*S		**Sn**		**19 26 11.7**	**-2.1**
PB02	**IPOC Station P**	**3.68**	**318**	*e*P		**Pn**		**19 25 28.4**	**-0.4**
PB02				*e*S		**Sn**		**19 26 14.1**	**-0.1**
LPAZ	**La Paz**	**7.80**	**354**	P		**Pn**		**19 26 21.2**	**-1.0**
	comp=N,1.5nm,0.4s,baz=142,slow=8.5,SNR=17								
LPAZ				*L*S		**Sn**		**19 27 47.8**	**-2.8**
	comp=N,0.5nm,0.6s,baz=220,slow=3.6,SNR=1.7								
TXAR	**Lajitas Array**	**63.61**	**325**	P		P		19 34 46.3	+5.5
	comp=N,0.2nm,0.8s,baz=133,slow=9.1,SNR=2.1								
	comp=N,0.2nm,0.8s								
MKAR	**Makanchi Array**	**146.73**	**39**	PKPbc		**PKPdf**		**19 43 47.8**	**+0.6**
	comp=N,0.3nm,0.6s,baz=325,slow=2.3,SNR=3.9								

IDC ***04*** *19:37:54.2±2.3,43.°51N×105.°27W,h0km,mbtmp3.2/2, ML3.8/1,Error ellipse: s-maj=55.7km s-min=9.9km az=152.0*
NEIC ***04*** *19:37:55.6±1.6,43.°63N±0.°04×105.°09W±0.°04,h0km±2km, ML2.9/21,Error ellipse: s-maj=8.3km s-min=3.1km az=37.0*
ISC 04 19:37:51.8±1.0,43°45N±0°06×105°11W±0°05,h0km,n17, σ1§84/17,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**49**	Pg		**Pn**		**19 38 13.9**	**+0.2**
K22A	**Casper**	**1.31**	**233**			**Pn**		**19 38 20.4**	**+2.9**
K22A				IAML				19 38 43.2	
	comp=N,194nm,0.5s								
K22A				IAML				19 38 49.6	
	comp=E,144nm,0.5s								
PHWY	**Pilot Hill**	**2.16**	**187**	Pn		**Pg**		**19 38 33.6**	**+0.3**
PHWY				IAML				19 39 10.7	
	comp=E,104nm,0.6s								
PHWY				IAML				19 39 17.0	
	comp=E,60nm,0.5s								
RWWY	**Rawlins**	**2.35**	**222**	Pn		**Pg**		**19 38 37.7**	**+0.9**
RWWY				IAML				19 39 13.2	
	comp=E,82nm,0.7s								
N23A	**Red Feather La**	**2.63**	**194**	Pn		**Pg**		**19 38 42.0**	**-0.3**
BW06	**Boulder Array**	**3.33**	**260**	Pn		**Pb**		**19 38 50.4**	**-1.5**
BW06				IAML				19 39 39.5	
	comp=E,22nm,0.5s								
BW06				IAML				19 39 39.9	
	comp=E,27nm,0.5s								
PD31	**Pinedale Array**	**3.33**	**260**	Pn		**Pb**		**19 38 49.6**	**-2.3**
PDAR	**Pinedale Array**	**3.33**	**260**	Pn		**Pb**		**19 38 49.3**	**-2.6**
	comp=E,1.3nm,0.3s,baz=83,slow=16,SNR=23								
PDAR				Sn		**Sn**		**19 39 26.0**	**+0.3**
	comp=E,1.3nm,0.3s,baz=70,slow=18,SNR=4.0								
PDAR				Lg		Lg		19 39 35.4	
	comp=E,6.9nm,0.3s,baz=77,slow=32,SNR=2.6								
	comp=E,1.4nm,0.4s								
PDAR	**Pinedale Array**	**3.33**	**260**	Pn		**Pb**		**19 38 49.7**	**-2.2**
LAO	**LASA Array**	**3.33**	**347**	Pn		**Pn**		**19 38 45.5**	**+0.2**
OGNE	**Ogallala**	**3.39**	**137**	Pn		**Pb**		**19 38 51.4**	**-1.4**
RLMT	**Red Lodge**	**3.42**	**301**	Pn		**Pn**		**19 38 48.9**	**+2.2**
RLMT				IAML				19 39 54.1	
	comp=E,28nm,0.5s								
RLMT				IAML				19 39 55.5	
	comp=E,25nm,0.5s								
ISCO	**Idaho Springs**	**3.67**	**186**	Pn		**Pb**		**19 38 56.5**	**-1.2**
ISCO				IAML				19 40 01.7	
	comp=E,14nm,0.6s								
ISCO				IAML				19 41 05.2	
	comp=E,14nm,4.3s								
YMP	**Mirror Lake PI**	**3.86**	**291**	Pn		**Pn**		**19 38 53.8**	**+1.1**
GCMT	**Greycliff**	**4.01**	**307**			**Pn**		**19 38 57.6**	**+3.0**
ULM	**Lac du Bonnet**	**9.28**	**40**	Pn		**Pn**		**19 40 07.5**	**+0.6**
	comp=E,1.3nm,0.4s,baz=232,slow=11								
ULM				Lg		Lg		19 42 41.1	
	comp=E,0.2nm,0.3s,baz=205,slow=3.9,SNR=1.7								
I56US	**NEWPORT INFRAS**	**9.66**	**304**	*i*				20 35 00.0	
	baz=114,slow=320,SNR=1.5								

IDC ***04*** *19:41:22.3±6.2,36.°28N×70.°67E,h86km±54km,mb3.4/1, mbtmp3.6/7,ML3.3/6,Error ellipse: s-maj=69.5km s-min=21.0km az=155.0*
NNC ***04*** *19:41:27.6±8.0,36.°90N×70.°86E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=63.0km s-min=59.2km az=143.0*
ISC 04 19:41:23.7±2.3,36°4N±0°2×70°6E±0°1,h100km,n15, σ1§52/20,3C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.20**	**22**	P		**Pn**		**19 42 54.6**	**+1.6**
	SNR=38								
UCH	**Uchtor**	**6.56**	**26**	P		**Pn**		**19 42 59.1**	**+1.2**
	SNR=8.7								
KK31	**Karatay Array**	**6.71**	**359**	⇑Pn		**Pn**		**19 43 00.9**	**+1.3**
	2.0nm,0.3s,baz=187,slow=13,SNR=6.0								
KK31				⇓Sn		**Sn**		**19 44 13.9**	**-0.5**
	4.9nm,0.5s,baz=194,slow=27,SNR=14								
EKS2	**Erkin-Say**	**6.71**	**20**	P		**Pn**		**19 43 01.9**	**+2.1**
	SNR=13								
AAK	**Ala-Archa**	**6.91**	**24**	P		**Pn**		**19 43 03.9**	**+1.4**
	2.2nm,0.3s,baz=174,slow=5.3,SNR=7.8								
AAK				S		**Sn**		**19 44 19.4**	**-0.3**
	3.2nm,0.3s,baz=337,slow=22,SNR=16								
	4.1nm,0.3s								
CHMS	**Chumysh**	**7.32**	**24**	⇑Pn		**Pn**		**19 43 07.8**	**-0.1**
	2.4nm,0.5s								
CHMS				⇑Sn		**Sn**		**19 44 27.8**	**-1.6**
	4.9nm,0.6s								
USP	**Ospenovka**	**7.48**	**22**	P		**Pn**		**19 43 11.6**	**+1.5**
	SNR=8.1								
TKM2	**Tokmak 2**	**7.56**	**29**	P		**Pn**		**19 43 12.7**	**+1.4**
	SNR=7.0								
TKM2	**Tokmak 2**	**7.56**	**29**	⇓Pn		**Pn**		**19 43 12.4**	**+1.1**
	3.5nm,0.6s								
TKM2				⇓Sn		**Sn**		**19 44 32.3**	**-3.2**
	1.1nm,0.4s								
GEYT	**Alibeck**	**10.11**	**282**	P		**Pn**		**19 43 45.0**	**-0.9**
	0.2nm,0.3s,baz=120,slow=10,SNR=2.9								
GEYT				S		**Sn**		**19 45 36.2**	**-1.3**
	1.2nm,0.3s,baz=112,slow=20,SNR=2.4								
	0.7nm,0.4s								
MKAR	**Makanchi Array**	**13.55**	**36**	P		**Pn**		**19 44 31.4**	**-0.3**
	0.1nm,0.3s,baz=223,slow=15,SNR=7.8								
	0.7nm,0.8s								
KURBB	**Kurchatov Arra**	**15.32**	**19**	P		**P**		**19 44 56.5**	**-0.3**
	baz=208,slow=10,SNR=12								
	1.2nm,0.7s								
BVAR	**Borovoye Array**	**16.63**	**359**	P		**P**		**19 45 12.8**	**+1.4**
	0.1nm,0.3s,baz=160,slow=13,SNR=3.0								
	0.3nm,0.4s								
AKTO	**Aktyubinsk**	**16.73**	**331**	P		**P**		**19 45 14.5**	**+2.1**
	0.3nm,0.3s,baz=137,slow=12,SNR=4.2								
	0.9nm,0.4s								
ZALV	**Zalesovo Beam**	**20.14**	**25**	P		**P**		**19 45 49.3**	**-0.3**
	1.9nm,0.5s,baz=223,slow=10,SNR=10								
	1.9nm,0.5s								

IDC ***04*** *19:45:45.4±1.2,54.°90S×31.°04W,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=62.5km s-min=28.0km az=43.0*
NEIC ***04*** *19:45:48.6±2.5,55.°1S±0.°1×31.°4W±0.°1,h10km±2km, mb4.1/5,Error ellipse: s-maj=19.0km s-min=9.4km az=337.0*
ISC 04 19:45:47.1±0.8,54°9S±0°1×31°5W±0°1,h10km,n20, σ1§35/17,mb4.0/7,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.96**	**279**	Pn		**Pb**		**19 46 37.9**	**-2.0**
ORCD	**Orcadas**	**9.19**	**225**	Pn		**Pn**		**19 47 59.8**	**+0.4**
VNA3	**Neumayer Olymp**	**18.97**	**158**	P		**Pn**		**19 50 09.2**	**+0.3**
VNA2	**Neumayer--Watz**	**19.25**	**156**	P		**P**		**19 50 11.5**	**+0.2**
	baz=318,slow=11								
SNAA	**Sanae**	**20.85**	**155**	P		**P**		**19 50 27.9**	**-0.8**
SNAA	**Sanae**	**20.85**	**155**			**P**		**19 50 27.7**	**-1.0**
TROLL	**Troll, Antarti**	**22.42**	**153**	P		**P**		**19 50 45.9**	**+0.3**
BELA	**Belgrano 2**	**23.14**	**182**	P		**P**		**19 50 53.6**	**+0.6**
BELA				IAmb	IAmb			19 51 04.0	
	comp=Z,5.6nm,0.9s								
PLCA	**Paso Flores**	**29.36**	**282**	P		**P**		**19 51 50.0**	**-0.1**
PLCA				IAmb	IAmb			19 52 19.2	
	comp=Z,6.3nm,1.5s								
CPUP	**Villa Florida**	**34.21**	**316**	P		**P**		**19 52 32.5**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=162,slow=9.6,SNR=3.2								
	comp=Z,0.8nm,0.6s								
QSPA	**South Pole Qui**	**35.39**	**180**	P		**P**		**19 52 44.2**	**+1.5**
QSPA				IAmb	IAmb			19 52 46.5	
	comp=Z,1.5nm,0.7s								
MAW	**Mawson**	**42.54**	**146**	P		**P**		**19 53 40.3**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=264,slow=9.2,SNR=2.1								
	comp=Z,1.3nm,0.7s								
LPAZ	**La Paz**	**47.70**	**309**	P		**P**		**19 54 27.1**	**+2.6**
	comp=Z,1.3nm,0.6s,baz=113,slow=2.8,SNR=9.1								
	comp=Z,1.3nm,0.6s								
LPAZ	**La Paz**	**47.70**	**309**	P		**P**		**19 54 26.9**	**+2.3**
H10N1	**ASCENSION HYDR**	**48.83**	**23**	T		T		20 46 48.7	
	baz=192,slow=75,SNR=4.0								
H10N3	**ASCENSION HYDR**	**48.83**	**23**	T		T		20 46 54.5	
	baz=192,slow=75,SNR=5.4								
H10N2	**ASCENSION HYDR**	**48.84**	**23**	T		T		20 46 56.9	
	baz=192,slow=75,SNR=7.0								
TORD	**Torodi Ar. Bea**	**73.33**	**34**	P		**P**		**19 57 18.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=195,slow=6.4,SNR=1.8								
	comp=Z,0.4nm,0.6s								
ILAR	**Eielson Array**	**147.50**	**314**	PKPbc		**PKPbc**		**20 05 30.0**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=138,slow=1.5,SNR=4.9								
SONM	**Songino Array**	**153.12**	**88**	PKPbc		**PKPbc**		**20 05 43.4**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=272,slow=3.9,SNR=2.2								

WEL ***04*** *20:00:00,37.°41S×178.°96E,h7km,ML5.1,Mw5.1, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁶ Nm; Mrr0.86; Mθθ-1.48; Mϕϕ0.61; Mrθ3.24; Mrϕ-0.20; Mθϕ3.86; Fault plane solution: M₀5.20000×10¹⁶ NP1: ϕs294.00000°,δ13.00000°,λ161.00000°. NP2: ϕs42.00000°,δ86.00000°,λ78.00000°. Principal axes: T -5022.9900, Plg48.0000°, Azm300.0000°; N -357.2500, Plg12.0000°, Azm43.0000°; P 5380.2400, Plg40.0000°, Azm143.0000°;*
WEL 04 19:59:46.1±1.0,37°S±6′×17°9E±′,h15km,M3.5/12, ML5.4/13,MLv3.5/12 Error ellipse: s-maj=0.0km s-min=0.0km az=107.4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.45**	**243**	P		P	Pb	19 59 55.6	-0.1
MXZ				S		S	Sb	20 00 02.1	-0.1
WMGZ	**Waiomatatini S**	**0.55**	**214**	P		P	Pb	19 59 58.2	+0.7
WMGZ				S		S	Sn	20 00 07.2	-1.3
PKGZ	**Pakihiroa**	**0.78**	**228**	P		P	Pb	20 00 01.5	0.0
PKGZ				S		S	Sb	20 00 12.5	+0.5
PUZ	**Puketiti**	**0.83**	**211**	P		P	Pg	20 00 02.1	-0.2
PUZ				S		S	Sb	20 00 13.9	+0.5
HAZ	**Te Kaha**	**0.90**	**244**	P		P	Pb	20 00 03.5	0.0
HAZ				S		S	Sn	20 00 16.6	-0.5
TWGZ	**Tauwhareparae**	**1.04**	**219**	P		P	Pb	20 00 05.8	-0.2
RUGZ	**Raukumara Rang**	**1.08**	**236**	P		P	Pb	20 00 06.6	0.0
RUGZ				S		S	Sn	20 00 21.7	0.0
CNGZ	**Carnagh Statio**	**1.22**	**203**	P		P	Pn	20 00 07.9	-0.7
MWZ	**Matawai**	**1.40**	**226**	P		P	Pn	20 00 10.4	-0.8
RIGZ	**Rimuhau**	**1.57**	**211**	P		P	Pn	20 00 13.8	+0.2
RAGZ	**Rawiri**	**1.58**	**224**	P		P	Pn	20 00 13.0	-0.6
URZ	**Urewera**	**1.61**	**236**	P		P	Pn	20 00 13.9	-0.1
PRGZ	**Paritu Road**	**1.72**	**205**	P		P	Pn	20 00 13.9	-1.6
MARZ	**Manawahe**	**1.80**	**249**	P		P	Pn	20 00 12.3	-4.4
SNGZ	**Shannon Statio**	**1.83**	**219**	P		P	Pn	20 00 15.9	-1.2
KNZ	**Kokohu**	**1.88**	**208**	P		P	Pn	20 00 15.5	-2.3
RTZ	**Ruatahuna**	**1.91**	**229**	P		P	Pn	20 00 17.9	-0.4
MHGZ	**Mahia Peninsul**	**1.92**	**201**	P		P	Pn	20 00 16.6	-1.7
MUGZ	**Murupara**	**1.96**	**235**	P		P	Pn	20 00 18.4	-0.5
RAHZ	**Arahi**	**2.06**	**221**	P		P	Pn	20 00 19.2	-1.0
MTHZ	**Maungataniwha**	**2.15**	**226**	P		P	Pn	20 00 20.0	-0.6
NMHZ	**Naumai**	**2.34**	**222**	P		P	Pn	20 00 23.5	-0.7
KUZ	**Kuaotunu**	**2.54**	**283**	P		P	Pn	20 00 26.9	0.0
CKHZ	**Cape Kidnapper**	**2.66**	**210**	P		P	Pn	20 00 25.8	-2.7
GRZ	**Great Barrier**	**2.91**	**291**	P		P	Pn	20 00 32.7	+0.9
MKAZ	**Moumakai**	**2.92**	**274**	P		P	Pn	20 00 32.2	+0.2
ETVZ	**East Tongariro**	**3.01**	**233**	P		P	Pn	20 00 32.6	-0.9
PXZ	**Pawanui**	**3.07**	**209**	P		P	Pn	20 00 25.1	-9.0
MOVZ	**Moawhango**	**3.15**	**229**	P		P	Pn	20 00 33.5	-1.8
PNHZ	**Pukenui**	**3.26**	**218**	P		P	Pn	20 00 33.6	-3.2
WPHZ	**Waipukurau**	**3.27**	**214**	P		P	Pn	20 00 34.1	-2.8
TSZ	**Takapari Road**	**3.49**	**219**	P		P	Pn	20 00 36.5	-3.4
WAZ	**Wanganui**	**3.83**	**230**	P		P	Pn	20 00 43.8	-0.8
WCZ	**Waipu Caves**	**3.86**	**290**	P		P	Pn	20 00 45.4	+0.4
MRZ	**Mangatainoka R**	**4.14**	**216**	P		P	Pn	20 00 45.1	-3.7
OUZ	**Omahuta**	**4.72**	**295**	P		P	Pn	20 00 57.4	+0.7
CTZ	**Chatham Island**	**7.26**	**153**	P		P	Pn	20 01 30.5	-1.1

NEIC ***04*** *20:00:26.8±2.6,37.°33S±0.°09×178.°97E±0.°06,h10km±1km, mb5.0/38,Error ellipse: s-maj=15.6km s-min=5.9km az=335.0*
BJI ***04*** *20:00:29.6±0.0,37.°27S×178.°92E,h30km,mb5.0/10, mB5.6/7,Ms4.9/2,Ms7 4.7/2*
WEL ***04*** *20:00:29.7±0.9,37°S±4′×17°9E±′,h15km,M5.1/90, MLv5.1/90,Error ellipse: s-maj=0.0km s-min=0.0km az=97.4*
GCMT ***04*** *20:00:30.8±0.5,37.°40S±0.°03×178.°93E±0.°04,h28km±2km, MW4.9/60,Moment Tensor Solution. s19,c21; s60,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.03±.22; Mθθ-0.63±.12; Mϕϕ1.66±.14; Mrθ2.14±.31; M

moment-rate function
IDC ***04*** *20:00:36.1±1.3,37.35S×178.50E,h68km,9km,mb4.4/13, mbtmp4.6/14,MS4.2/44 Error ellipse: s-maj=14.0km s-min=10.4km az=171.0*

ISC 04 20:00:30.4±0.8,37.40S±0.04×178.86E±0.05,h33km,4km, n323,σ1952/287,mb5.1/46,MS4.2/44,1D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.47**	**249**	**P**	**Pb**	**20 00 39.3**	**-1.3**
MXZ				Sg	**Sb**	**20 00 45.8**	**-1.7**
MXZ	**Matakaoa Point**	**0.47**	**249**	P	**Pb**	**20 00 39.2**	**-1.3**
MXZ				S	**Sb**	**20 00 46.1**	**-1.3**
WMGZ	**Waiomatatini S**	**0.55**	**220**	P	**Pb**	**20 00 41.9**	**+0.1**
WMGZ				S	**Sn**	**20 00 51.0**	**+0.9**
PKGZ	**Pakihiroa**	**0.79**	**231**	P	**Pn**	**20 00 45.2**	**-0.2**
PKGZ				S	**Sb**	**20 00 56.4**	**+0.1**
PUZ	**Puketiti**	**0.83**	**215**	P	**Pn**	**20 00 45.7**	**-0.1**
PUZ				S	**Sb**	**20 00 57.9**	**+0.6**
HAZ	**Te Kaha**	**0.93**	**247**	P	**Pn**	**20 00 47.4**	**+0.3**
HAZ				S	**Sn**	**20 01 00.4**	**+1.1**
TWGZ	**Tauwhareparae**	**1.05**	**222**	P	**Pn**	**20 00 49.1**	**+0.2**
TWGZ				S	**Sb**	**20 01 04.1**	**+0.6**
RUGZ	**Raukumara Rang**	**1.10**	**238**	P	**Pn**	**20 00 50.0**	**+0.4**
RUGZ				S	**Sn**	**20 01 05.0**	**+1.2**
CNGZ	**Carnagh Statio**	**1.20**	**205**	P	**Pn**	**20 00 51.6**	**+0.7**
CNGZ				S	**Sb**	**20 01 09.5**	**+1.5**
TKGZ	**Te Karaka**	**1.31**	**217**	P	**Pn**	**20 00 52.6**	**+0.2**
WIZ	**White Island**	**1.34**	**264**	P	**Pn**	**20 00 52.7**	**0.0**
WSRZ	**White Island S**	**1.35**	**264**	P	**Pb**	**20 00 55.0**	**0.0**
MWZ	**Matawai**	**1.41**	**228**	P	**Pn**	**20 00 53.8**	**0.0**
WHRZ	**Whale Island**	**1.57**	**252**	P	**Pn**	**20 00 56.9**	**+1.0**
RIGZ	**Rimuhau**	**1.57**	**213**	P	**Pn**	**20 00 56.0**	**-0.1**
RAGZ	**Rawiri**	**1.59**	**226**	P	**Pn**	**20 00 56.5**	**+0.2**
URZ	**Urewera**	**1.63**	**238**	P	**Pn**	**20 00 57.7**	**+0.9**
	3μm,0.4s,baz=211,slow=1.8,SNR=148						
URZ				S	**Sn**	**20 01 18.2**	**+1.5**
	5μm,0.5s,baz=211,slow=22,SNR=21						
URZ				LR	LR	20 01 47.9	
	comp=Z,6μm,19.8s,baz=31,slow=50						
URZ	**Urewera**	**1.63**	**238**	Pn	**Pn**	**20 00 57.9**	**+1.0**
URZ	**Urewera**	**1.63**	**238**	P	**Pn**	**20 00 57.4**	**+0.5**
URZ				S	**Sn**	**20 01 18.2**	**+1.5**
PRGZ	**Paritu Road**	**1.71**	**207**	P	**Pn**	**20 00 57.6**	**-0.4**
PRGZ				S	**Sn**	**20 01 19.8**	**+1.2**
EDRZ	**Edgecumbe**	**1.83**	**246**	P	**Pn**	**20 01 00.5**	**+0.9**
MARZ	**Manawahe**	**1.83**	**251**	P	**Pn**	**20 01 00.3**	**+0.7**
SNGZ	**Shannon Statio**	**1.83**	**220**	P	**Pn**	**20 00 59.8**	**+0.2**
KNZ	**Kokohu**	**1.87**	**210**	P	**Pn**	**20 00 59.2**	**-1.0**
OPRZ	**Ohinepanea**	**1.89**	**256**	P	**Pn**	**20 01 00.6**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.91**	**203**	P	**Pn**	**20 00 59.9**	**-0.8**
RTZ	**Ruatahuna**	**1.92**	**230**	P	**Pn**	**20 01 01.7**	**+0.7**
MUGZ	**Murupara**	**1.98**	**236**	P	**Pn**	**20 01 02.0**	**+0.5**
MKRZ	**Makatiti**	**2.04**	**248**	P	**Pn**	**20 01 04.7**	**+2.2**
TARZ	**Mount Tarawera**	**2.05**	**245**	P	**Pn**	**20 01 03.6**	**+1.0**
LIRZ	**Lichensteins R**	**2.06**	**252**	P	**Pn**	**20 01 04.1**	**+1.4**
RAHZ	**Arahi**	**2.06**	**223**	P	**Pn**	**20 01 03.0**	**+0.2**
RRRZ	**Republican Roa**	**2.08**	**242**	P	**Pn**	**20 01 03.9**	**+0.9**
MYRZ	**Mayor Island**	**2.09**	**272**	P	**Pn**	**20 01 03.8**	**+0.6**
TGRZ	**Tauranga**	**2.09**	**260**	P	**Pn**	**20 01 03.8**	**+0.6**
OMRZ	**Omania**	**2.10**	**249**	P	**Pn**	**20 01 04.3**	**+1.0**
WHHZ	**Waihua**	**2.11**	**217**	P	**Pn**	**20 01 03.3**	**-0.2**
MTHZ	**Maungataniwha**	**2.16**	**227**	P	**Pn**	**20 01 04.6**	**+0.5**
HLRZ	**Highlands Stat**	**2.16**	**246**	P	**Pn**	**20 01 05.2**	**+1.1**
KARZ	**Kaharoa**	**2.17**	**252**	P	**Pn**	**20 01 05.0**	**+0.7**
NGRZ	**Ngongotaha**	**2.23**	**251**	P	**Pn**	**20 01 05.9**	**+0.7**
PRRZ	**Plateau Road**	**2.24**	**240**	P	**Pn**	**20 01 05.9**	**+0.7**
UTU	**Utuhina**	**2.25**	**249**	P	**Pn**	**20 01 07.2**	**+1.8**
HSRZ	**Hossack Road**	**2.27**	**245**	P	**Pn**	**20 01 06.9**	**+1.4**
HRRZ	**Handcock Road**	**2.27**	**243**	P	**Pn**	**20 01 06.8**	**+1.2**
ALRZ	**Allen Road**	**2.31**	**239**	P	**Pn**	**20 01 06.7**	**+0.5**
NMHZ	**Naumai**	**2.35**	**223**	P	**Pn**	**20 01 06.9**	**+0.2**
KMRZ	**Kaimai**	**2.36**	**258**	P	**Pn**	**20 01 07.3**	**+0.4**
ARHZ	**Aropaoanui**	**2.37**	**218**	P	**Pn**	**20 01 06.8**	**-0.3**
GRRZ	**Galatos Road**	**2.38**	**246**	P	**Pn**	**20 01 08.4**	**+1.3**
MRHZ	**Matea Rd**	**2.40**	**233**	P	**Pn**	**20 01 07.8**	**+0.3**
WPRZ	**Whakapapatarin**	**2.41**	**241**	P	**Pn**	**20 01 08.8**	**+1.2**
BKZ	**Black Stump Fm**	**2.57**	**226**	Pn	**Pn**	**20 01 09.6**	**-0.2**
BKZ	**Black Stump Fm**	**2.57**	**226**	P	**Pn**	**20 01 09.7**	**0.0**
KUZ	**Kuaotunu**	**2.59**	**284**	P	**Pn**	**20 01 09.4**	**-0.7**
WHTZ	**Whakaora**	**2.62**	**240**	P	**Pn**	**20 01 12.1**	**+1.6**
KUTZ	**Kaahu Road**	**2.64**	**245**	P	**Pn**	**20 01 11.7**	**+1.0**
HATZ	**Hinemaiaia**	**2.65**	**235**	P	**Pn**	**20 01 11.0**	**+0.2**
CKHZ	**Cape Kidnapper**	**2.66**	**211**	P	**Pn**	**20 01 09.5**	**-1.4**
TOZ	**Tahuroa Road**	**2.69**	**262**	P	**Pn**	**20 01 11.6**	**+0.3**
KWHZ	**Kaweka Forest**	**2.79**	**223**	P	**Pn**	**20 01 12.0**	**-0.8**
WATZ	**Wairara**	**2.80**	**241**	P	**Pn**	**20 01 14.2**	**+1.4**
RATZ	**Rangitukua**	**2.84**	**238**	P	**Pn**	**20 01 14.2**	**+0.6**
KAHZ	**Kahuranaki**	**2.86**	**212**	P	**Pn**	**20 01 12.3**	**-1.4**
KATZ	**Kakaramea**	**2.95**	**237**	P	**Pn**	**20 01 15.8**	**+0.7**
GRZ	**Great Barrier**	**2.96**	**292**	P	**Pn**	**20 01 15.1**	**0.0**
MKAZ	**Moumakai**	**2.97**	**275**	P	**Pn**	**20 01 15.4**	**+0.2**
KRHZ	**Kereru**	**2.98**	**220**	P	**Pn**	**20 01 14.0**	**-1.3**
TMVZ	**Te Maari**	**3.02**	**234**	P	**Pn**	**20 01 16.2**	**+0.1**
ETVZ	**East Tongariro**	**3.03**	**234**	P	**Pn**	**20 01 16.2**	**+0.1**
NTVZ	**North Tongarir**	**3.03**	**235**	P	**Pn**	**20 01 16.4**	**+0.2**
BHHZ	**Black Hill Sta**	**3.03**	**226**	P	**Pn**	**20 01 15.6**	**-0.5**
WIAZ	**Waiheke Island**	**3.04**	**280**	P	**Pn**	**20 01 17.5**	**+1.3**
KRVZ	**Karewarewa**	**3.05**	**235**	P	**Pn**	**20 01 16.9**	**+0.4**
PXZ	**Pawanui**	**3.06**	**210**	P	**Pn**	**20 01 14.4**	**-2.1**
OTVZ	**Oturere**	**3.07**	**234**	P	**Pn**	**20 01 16.9**	**+0.1**
NNVZ	**North Ngauruho**	**3.09**	**235**	P	**Pn**	**20 01 17.5**	**+0.5**
WTVZ	**West Tongariro**	**3.10**	**235**	P	**Pn**	**20 01 17.6**	**+0.5**
SNVZ	**South Ngauruho**	**3.10**	**234**	P	**Pn**	**20 01 17.4**	**+0.2**
NGZ	**Ngauruhoe**	**3.12**	**234**	P	**Pn**	**20 01 17.7**	**+0.2**
TUVZ	**Tukino**	**3.14**	**232**	P	**Pn**	**20 01 17.9**	**+0.2**
MOVZ	**Moawhango**	**3.16**	**230**	P	**Pn**	**20 01 17.3**	**-0.6**
ETAZ	**East Tamaki Re**	**3.17**	**277**	P	**Pn**	**20 01 18.8**	**+0.8**
TWVZ	**Taurewa**	**3.17**	**237**	P	**Pn**	**20 01 18.9**	**+0.8**
WHVZ	**Whangaehu Hut**	**3.19**	**233**	P	**Pn**	**20 01 18.3**	**-0.2**
FWVZ	**Far West T-bar**	**3.20**	**233**	P	**Pn**	**20 01 18.4**	**-0.1**
DRZ	**Dome Shelter**	**3.20**	**233**	P	**Pn**	**20 01 19.0**	**+0.3**
WNVZ	**Wahianoa**	**3.21**	**232**	P	**Pn**	**20 01 18.4**	**-0.3**
TRVZ	**Turoa**	**3.23**	**233**	P	**Pn**	**20 01 18.7**	**-0.2**
MBAZ	**Motutapu North**	**3.23**	**280**	P	**Pn**	**20 01 19.6**	**+0.7**
PNHZ	**Pukenui**	**3.27**	**219**	P	**Pn**	**20 01 17.3**	**-2.1**
WPHZ	**Waipukurau**	**3.27**	**215**	P	**Pn**	**20 01 17.5**	**-1.9**
ABAZ	**Army Bay**	**3.32**	**283**	P	**Pn**	**20 01 21.0**	**+0.9**
MTVZ	**Mangateitei**	**3.32**	**232**	P	**Pn**	**20 01 20.0**	**-0.1**
EPAZ	**Eden Park BICE**	**3.33**	**278**	P	**Pn**	**20 01 22.1**	**+1.9**
HBAZ	**Herne Bay Bore**	**3.35**	**278**	P	**Pn**	**20 01 22.1**	**+1.8**
PKVZ	**Pokaka**	**3.35**	**235**	P	**Pn**	**20 01 20.8**	**+0.3**
PRHZ	**Porangahau**	**3.35**	**211**	P	**Pn**	**20 01 18.1**	**-2.4**
HIZ	**Hauiti**	**3.36**	**249**		**Pn**	**20 01 22.2**	**+1.6**
HIZ	**Hauiti**	**3.36**	**249**	P	**Pn**	**20 01 22.1**	**+1.6**
AWAZ	**Awhitu Peninsu**	**3.38**	**274**	P	**Pn**	**20 01 22.0**	**+1.1**
WTAZ	**Waiatarua**	**3.46**	**278**	P	**Pn**	**20 01 23.7**	**+1.8**
RVAZ	**Riverhead Bore**	**3.48**	**279**	P	**Pn**	**20 01 23.7**	**+1.3**
TSZ	**Takapari Road**	**3.50**	**220**	P	**Pn**	**20 01 20.2**	**-2.3**
ANWZ	**Angora Road**	**3.58**	**211**	P	**Pn**	**20 01 21.2**	**-2.5**
DVHZ	**Dannevirke**	**3.58**	**215**	P	**Pn**	**20 01 21.5**	**-2.2**
POWZ	**Post Office Ro**	**3.84**	**218**	P	**Pn**	**20 01 24.8**	**-2.5**
WAZ	**Wanganui**	**3.84**	**231**	P	**Pn**	**20 01 27.5**	**+0.2**
BFZ	**Birch Farm**	**3.86**	**211**	Pn	**Pn**	**20 01 24.3**	**-3.2**
PRWZ	**Pori Road**	**3.88**	**215**	P	**Pn**	**20 01 25.7**	**-2.0**
WCZ	**Waipu Caves**	**3.91**	**290**	P	**Pn**	**20 01 28.7**	**+0.5**
MHEZ	**Mangahewa**	**3.95**	**243**	P	**Pn**	**20 01 31.4**	**+2.7**
LREZ	**Lake Rotokare**	**4.06**	**238**	P	**Pn**	**20 01 31.2**	**+1.0**
DREZ	**Durham Road**	**4.08**	**243**	P	**Pn**	**20 01 31.7**	**+1.2**
TIWZ	**Tintock**	**4.09**	**214**	P	**Pn**	**20 01 28.1**	**-2.6**
PREZ	**Palmer Road**	**4.18**	**241**	P	**Pn**	**20 01 34.3**	**+2.4**
NEZ	**North Egmont**	**4.19**	**242**	P	**Pn**	**20 01 34.3**	**+2.2**
PKE	**Pukeiti**	**4.24**	**243**	P	**Pn**	**20 01 35.5**	**+2.9**
KHEZ	**Kahui Hut**	**4.26**	**242**	P	**Pn**	**20 01 35.1**	**+2.1**
NBEZ	**Newall Road No**	**4.35**	**243**	P	**Pn**	**20 01 36.4**	**+2.2**
NMEZ	**Namu Road**	**4.40**	**241**	P	**Pn**	**20 01 37.7**	**+2.8**
OUZ	**Omahuta**	**4.78**	**295**	Pn	**Pn**	**20 01 40.8**	**+0.7**
OUZ	**Omahuta**	**4.78**	**295**	P	**Pn**	**20 01 41.0**	**+1.0**
MSWZ	**Moikau Station**	**4.89**	**214**		Pn	20 01 36.9	-4.8
PLWZ	**Palliser**	**5.02**	**213**		Pn	20 01 38.5	-4.9
SNZO	**South Karori**	**5.07**	**218**	Pn	Pn	20 01 39.5	-4.5
TUWZ	**Tuamarina**	**5.54**	**222**	Pn	Pn	20 01 45.8	-4.8
CMWZ	**Cape Campbell**	**5.64**	**218**	Pn	**Pn**	**20 01 48.7**	**-3.2**
NNZ	**Nelson**	**5.71**	**226**		**Pn**	**20 01 49.6**	**-3.3**
BSWZ	**Blackbirch Sta**	**5.78**	**220**		Pn	20 01 49.6	-4.3
QRZ	**Quartz Range**	**6.00**	**233**	Pn	**Pn**	**20 01 53.4**	**-3.5**
THZ	**Tophouse**	**6.34**	**225**	Pn	**Pn**	**20 01 57.5**	**-4.1**
KHZ	**Kahutara**	**6.47**	**218**	Pn	Pn	20 01 58.0	-5.3
LTZ	**Lake Taylor**	**7.38**	**221**	Pn	Pn	20 02 10.8	-5.0
MQZ	**McQueen's Vall**	**7.88**	**215**		Pn	20 02 16.3	-6.3
OXZ	**Oxford**	**7.89**	**219**	Pn	Pn	20 02 17.6	-5.2
RAO	**Raoul Island**	**8.56**	**19**	S	**Sn**	**20 04 03.6**	**-3.7**
	78nm,0.3s,baz=252,slow=20,SNR=1.8						
RPZ	**Rata Peaks**	**8.67**	**221**	P	Pn	20 02 28.8	-4.7
	26nm,0.3s,baz=93,slow=2.8,SNR=49						
RPZ				S	Sn	20 03 58.7	-11
	224nm,0.7s,baz=128,slow=21,SNR=20						
RPZ				LR	LR	20 06 40.7	
	comp=Z,4μm,21.3s,baz=44,slow=43						
RPZ	**Rata Peaks**	**8.67**	**221**	Pn	Pn	20 02 28.6	-4.8
LBZ	**Lake Benmore**	**9.58**	**221**		Pn	20 02 40.5	-5.5
ODZ	**Otahua Downs**	**9.83**	**216**	Pn	Pn	20 02 43.6	-5.7
WHZ	**Wether Hill Ro**	**11.77**	**220**	Pn	**Pn**	**20 03 12.4**	**-3.5**
OUENC	**Ouen Island, N**	**18.18**	**322**		**Pn**	**20 04 39.3**	**-1.0**
DZM	**Mont Dzumac**	**18.67**	**321**	*eP*	**Pn**	**20 04 47.7**	**+1.4**
	82nm,1.3s						
DZM				*e*LR	LR	20 09 09.3	
	comp=Z,3μm,24.5s						
DZM	**Mont Dzumac**	**18.67**	**321**	P	**Pn**	**20 04 47.3**	**+1.0**
	3.7nm,0.7s,baz=150,slow=17,SNR=2.4						
DZM				LR	LR	20 10 44.1	
	comp=Z,2μm,21.3s,baz=152,slow=33						
MSVF	**Nonsavu**	**19.60**	**358**	LR	LR	20 11 04.5	
	comp=Z,886nm,18.9s,baz=181,slow=32						
MSVF	**Nonsavu**	**19.60**	**358**	P	**Pn**	**20 04 57.9**	**+0.4**
ARMA	**Armidale**	**23.60**	**279**	P	**P**	**20 05 36.7**	**-1.8**
ARMA				IAmb	IAmb	20 05 42.6	
	comp=Z,40nm,1.5s						
CNB	**Canberra Magne**	**23.81**	**266**	P	**P**	**20 05 41.8**	**+1.4**
	baz=23,SNR=5.3						
CAN	**Canberra**	**24.09**	**266**	P	**P**	**20 05 43.2**	**+0.2**
CAN				IAmb	IAmb	20 05 46.6	
	comp=Z,32nm,1.1s						
RAR	**Rarotonga**	**24.55**	**55**	LR	LR	20 13 37.8	
	comp=Z,179nm,19.8s,baz=222,slow=32						
TOO	**Toolangi**	**26.41**	**259**	P	**P**	**20 06 04.2**	**+0.2**
	baz=26,SNR=4.4						
TOO	**Toolangi**	**26.41**	**259**	P	**P**	**20 06 03.1**	**-0.9**
EIDS	**Eidsvold**	**26.47**	**289**	P	**P**	**20 06 03.2**	**-1.4**
	baz=26,SNR=3.1						
EIDS	**Eidsvold**	**26.47**	**289**	P	**P**	**20 06 04.8**	**+0.2**
EIDS				IAmb	IAmb	20 06 10.7	
	comp=Z,31nm,1.4s						
RMQ	**Roma**	**27.66**	**284**	P	**P**	**20 06 17.0**	**+1.8**
	baz=27,SNR=8.1						
CMSA	**Cobar Meteorol**	**27.87**	**272**	P	**P**	**20 06 18.6**	**+1.5**
	baz=28,SNR=34						
TBI	**Tubuai**	**30.54**	**72**	*e*LR	LR	20 14 42.6	
	comp=Z,417nm,23.5s						
TBI	**Tubuai**	**30.54**	**72**	*e*T	T	20 38 37.2	
	comp=Z,34nm,0.3s						
STKA	**Stephens Creek**	**31.01**	**269**	P	**P**	**20 06 46.1**	**+1.1**
	baz=31,SNR=17						
STKA	**Stephens Creek**	**31.01**	**269**	P	**P**	**20 06 45.9**	**+0.9**
	comp=Z,14nm,0.7s,baz=99,slow=11,SNR=27						
STKA				ScP	**ScP**	**20 13 16.9**	**-3.9**
	comp=Z,1.7nm,0.8s,baz=98,slow=14,SNR=1.9						
STKA				LR	LR	20 18 33.3	
	comp=Z,868nm,19.9s,baz=122,slow=35						
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**31.01**	**269**	P	**P**	**20 06 45.5**	**+0.5**
HTT	**Hallett**	**32.62**	**265**	P	**P**	**20 07 00.2**	**+1.0**
	baz=32,SNR=4.4						
HNR	**Honiara**	**32.67**	**324**	LR	LR	20 19 29.5	
	comp=Z,3μm,19.7s,baz=172,slow=35						
CTA	**Charters Tower**	**33.17**	**292**	LR	LR	20 19 44.2	
	comp=Z,712nm,20.4s,baz=130,slow=35						
CTAO	**Charters Tower**	**33.17**	**292**	P	**P**	**20 07 04.5**	**+0.5**
CTAO				IAmb	IAmb	20 07 10.8	
	comp=Z,28nm,1.0s						
PAE	**Paea**	**33.96**	**63**	*e*T	T	20 42 34.2	
	comp=Z,2.9nm,0.2s						
PPT2	**Papeete2**	**34.01**	**63**	*e*LR	LR	20 16 19.5	
	comp=Z,304nm,23.0s						
PPT2	**Papeete2**	**34.01**	**63**	*e*T	T	20 42 48.6	
	comp=Z,5.7nm,0.3s						
PPT	**Papeete**	**34.03**	**63**	LR	LR	20 17 51.9	
	comp=Z,212nm,20.8s,baz=228,slow=30						
BBOO	**Buckleboo**	**35.09**	**264**	P	**P**	**20 07 20.3**	**-0.3**
	baz=35,SNR=6.9						
BBOO	**Buckleboo**	**35.09**	**264**	P	**P**	**20 07 19.0**	**-1.6**
BBOO				IAmb	IAmb	20 07 31.9	
	comp=Z,28nm,1.2s						
MTSU	**Mount Surprise**	**35.82**	**293**	P	**P**	**20 07 27.3**	**+0.4**
	baz=36,SNR=5.1						
PMOR	**Pomariorio Ree**	**36.94**	**62**	*e*T	T	20 46 43.1	
	comp=Z,8.3nm,0.3s						
QIS	**Mount Isa**	**37.91**	**285**	P	**P**	**20 07 45.0**	**+0.3**
	baz=38,SNR=8.3						
COEN	**Coen**	**39.38**	**297**	P	**P**	**20 07 57.7**	**+0.6**
	baz=39,SNR=25						
COEN	**Coen**	**39.38**	**297**	P	**P**	**20 07 57.5**	**+0.4**
COEN				IAmb	IAmb	20 08 11.4	
	comp=Z,43nm,0.8s						
PMG	**Port Moresby**	**39.93**	**306**	LR	LR	20 24 13.3	
	comp=Z,529nm,18.2s,baz=136,slow=36						
AS31	**Alice Springs**	**40.70**	**277**	P	**P**	**20 08 07.5**	**-0.6**
ASAR	**Alice Springs**	**40.70**	**277**	P	**P**	**20 08 07.6**	**-0.5**
	comp=Z,23nm,0.7s,baz=122,slow=8.2,SNR=260						
ASAR				PcP	**PcP**	**20 10 08.9**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=115,slow=4.0,SNR=1.8						
ASAR				ScP	**ScP**	**20 13 52.1**	**-4.2**
	comp=Z,1.0nm,0.9s,baz=122,slow=3.8,SNR=3.5						
ASAR				S	**S**	**20 14 10.8**	**-5.5**
	comp=Z,4.1nm,1.0s,baz=129,slow=16,SNR=17						
ASAR				LR	LR	20 25 32.9	
	comp=Z,506nm,18.3s,baz=100,slow=37						
	comp=Z,23nm,0.7s						
ASAR	**Alice Springs**	**40.70**	**277**	P	**P**	**20 08 07.5**	**-0.6**
VNDA	**Vanda**	**40.89**	**186**	P	**P**	**20 08 11.3**	**+2.4**
	comp=Z,0.8nm,0.9s,baz=357,slow=5.5,SNR=3.9						
VNDA				ScP	**ScP**	**20 13 52.8**	**-3.3**
	comp=Z,0.5nm,0.9s,baz=339,slow=4.0,SNR=1.9						
VNDA				LR	LR	20 21 32.0	
	comp=Z,266nm,21.4s,baz=20,slow=31						
VNDA	**Vanda**	**40.89**	**186**	P	**P**	**20 08 07.6**	**-1.3**
WR0	**Warramunga Arr**	**42.17**	**282**	P	**P**	**20 08 18.9**	**-1.2**
WR0				IAmb	IAmb	20 08 20.2	
	comp=Z,19nm,0.9s						
FORT	**Forrest**	**42.17**	**263**	P	**P**	**20 08 19.4**	**-0.6**
	baz=42,SNR=19						
FORT	**Forrest**	**42.17**	**263**	P	**P**	**20 08 19.2**	**-0.8**
WB2	**Warramunga Arr**	**42.33**	**282**	P	**P**	**20 08 20.5**	**-0.9**
WB2				IAmb	IAmb	20 08 21.5	
	comp=Z,24nm,0.7s						
WRAB	**Tennant Creek**	**42.33**	**282**	P	**P**	**20 08 20.8**	**-0.6**
WRAB				IAmb	IAmb	20 08 21.5	
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**42.33**	**282**	P	**P**	**20 08 20.9**	**-0.6**
	comp=Z,19nm,0.7s,baz=121,slow=7.8,SNR=140						
WRA				PcP	**PcP**	**20 10 15.6**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=113,slow=3.2,SNR=3.3						
WRA				ScP	**ScP**	**20 13 58.3**	**-4.5**
	comp=Z,2.3nm,1.1s,baz=116,slow=4.0,SNR=2.1						
WRA				S	**S**	**20 14 35.9**	**-4.6**
	comp=Z,3.1nm,0.9s,baz=40,slow=29,SNR=9.1						
WRA				LR	LR	20 26 18.1	
	comp=Z,757nm,18.6s,baz=146,slow=37						
	comp=Z,19nm,0.7s						
WRA	**Warramunga Arr**	**42.33**	**282**	P	**P**	**20 08 20.1**	**-1.3**
WB0	**Warramunga Arr**	**42.39**	**282**	P	**P**	**20 08 20.8**	**-1.1**
WB0				IAmb	IAmb	20 08 22.0	
	comp=Z,26nm,0.7s						
WRKA	**Warakurna**	**44.49**	**271**	P	**P**	**20 08 36.8**	**-2.0**
	baz=44,SNR=38						
TAOE	**Nuku Hiva Isla**	**46.64**	**63**	*e*LR	LR	20 22 10.0	
	comp=Z,390nm,24.0s						
KDU	**Kakadu**	**48.08**	**288**	P	**P**	**20 09 06.3**	**-0.8**
	baz=48,SNR=9.6						
MTN	**Manton Dam**	**49.00**	**287**	P	**P**	**20 09 13.5**	**-0.7**
	baz=49,SNR=28						
MTN	**Manton Dam**	**49.00**	**287**	P	**P**	**20 09 13.5**	**-0.7**
KNRA	**Kununurra**	**49.12**	**282**	P	**P**	**20 09 14.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**49.80**	**256**	LR	LR	20 29 33.9	
	comp=Z,322nm,19.0s,baz=299,slow=35						
KNRA	**Kununurra**	**49.12**	**282**	P	**P**	**20 09 14.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**49.80**	**256**	LR	LR	20 29 33.9	
	comp=Z,322nm,19.0s,baz=299,slow=35						
KLBR	**Kellerberrin**	**49.94**	**257**	P	**P**	**20 09 20.2**	**-1.0**
	baz=50,SNR=7.5						
FITZ	**Fitzroy Crossi**	**50.19**	**277**	P	**P**	**20 09 22.8**	**-0.4**
	baz=50,SNR=25						
FITZ	**Fitzroy Crossi**	**50.19**	**277**	LR	LR	20 32 12.4	
	comp=Z,204nm,18.1s,baz=120,slow=38						
FITZ	**Fitzroy Crossi**	**50.19**	**277**	P	**P**	**20 09 22.6**	**-0.5**
FITZ				IAmb	IAmb	20 09 23.6	
	comp=Z,21nm,0.8s						
MUN	**Mundaring**	**50.98**	**256**	P	**P**	**20 09 28.5**	**-0.5**
	baz=50,SNR=4.2						
BLDU	**Ballidu**	**51.16**	**258**	P	**P**	**20 09 29.6**	**-0.8**
	baz=51,SNR=6.6						
MEEK	**Meekatharra**	**51.43**	**264**	P	**P**	**20 09 31.0**	**-1.6**
	baz=51,SNR=19						
MORW	**Morawa**	**52.36**	**260**	P	**P**	**20 09 38.0**	**-1.4**
	baz=52,SNR=5.1						
MORW	**Morawa**	**52.36**	**260**	P	**P**	**20 09 36.9**	**-2.4**
MORW				IAmb	IAmb	20 09 39.4	
	comp=Z,17nm,0.9s						
QSPA	**South Pole Qui**	**52.73**	**180**	P	**P**	**20 09 44.4**	**+2.7**
	comp=Z,15nm,1.1s,baz=13,slow=1.6,SNR=36						
QSPA				LR	LR	20 28 05.2	
	comp=Z,389nm,22.0s,baz=37,slow=31						
	comp=Z,15nm,1.1s						
QSPA	**South Pole Qui**	**52.73**	**180**	P	**P**	**20 09 43.4**	**+1.6**
QSPA				IAmb	IAmb	20 09 45.1	
	comp=Z,13nm,0.9s						
PSA00	**Pilbara Seismi**	**52.94**	**270**	P	**P**	**20 09 42.2**	**-1.5**
MBWA	**Marble Bar**	**53.24**	**270**	P	**P**	**20 09 44.0**	**-2.0**
MBWA				IAmb	IAmb	20 09 45.1	
	comp=Z,15nm,0.8s						
FAKI	**Fak Fak**	**54.76**	**297**	P	**P**	**20 09 55.0**	**-2.1**
FAKI				IAmb	IAmb	20 09 56.8	
	comp=Z,17nm,0.7s						
BATI	**Baumata**	**56.37**	**284**	LR	LR	20 34 36.0	
	comp=Z,597nm,20.5s,baz=344,slow=36						
BATI	**Baumata**	**56.37**	**284**	P	**P**	**20 10 09.9**	**+1.2**
	comp=Z,28nm,1.2s						
GIRL	**Giralia**	**56.85**	**266**	P	**P**	**20 10 12.1**	**+0.1**
	baz=56,SNR=4.0						
GIRL	**Giralia**	**56.85**	**266**	P	**P**	**20 10 11.2**	**-0.8**
SIJI	**Sorong**	**56.90**	**298**	LR	LR	20 35 12.3	
	comp=Z,244nm,19.9s,baz=158,slow=37						
SWI	**Sorong**	**56.91**	**298**	P	**P**	**20 10 11.9**	**-0.6**
	comp=Z,54nm,1.2s						
MMRI	**Maumere**	**58.44**	**284**	P	**P**	**20 10 22.4**	**-0.9**
MMRI	**Maumere**	**58.44**	**284**	P	**P**	**20 10 22.8**	**-0.5**
EDFI

ATAH	**Atahualpa**	**95.72**	**103**	LR	LR	20	47	04.6	
	comp=Z,206nm,22.0s,baz=241,slow=29								
PZH	**PanZhiHua**	**96.28**	**298**	P	**P**	**20**	**13**	**57.2**	**+1.4**
PZH				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PZH				pmax	pmax				
	comp=Z,120nm,6.8s								
CMIG	**Matias Romero**	**97.29**	**74**	LR	LR	20	49	47.7	
	comp=Z,38nm,20.1s,baz=204,slow=30								
LPAZ	**La Paz**	**97.49**	**117**	P	Pdif	20	14	05.1	+2.9
	comp=Z,0.8nm,0.7s,baz=212,slow=4.0,SNR=5.7								
LPAZ				LR	LR	20	48	40.3	
	comp=Z,80nm,21.6s,baz=230,slow=30								
	comp=Z,0.8nm,0.7s								
CPUP	**Villa Florida**	**97.52**	**131**	LR	LR	20	51	03.2	
	comp=Z,254nm,20.1s,baz=218,slow=31								
CD2	**Chengdu**	**97.65**	**303**	*e*P	Pdif	20	14	02.0	+0.2
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
TXAR	**Lajitas Array**	**98.27**	**59**	LR	LR	20	53	14.9	
	comp=Z,39nm,18.0s,baz=232,slow=32								
ELK	**Elko**	**98.40**	**45**	LR	LR	20	52	45.3	
	comp=Z,80nm,19.5s,baz=251,slow=32								
XLT	**XiLinHaoTe**	**98.89**	**319**	*e*P	P	20	13	58.3	-8.8
XLT				pP	Pdif	20	14	09.1	+2.0
XLT				pmax	pmax				
	comp=Z,12nm,0.8s								
XLT				pmax	pmax				
	comp=Z,190nm,5.6s								
HHC	**Hu-ho-hao-te**	**99.26**	**315**	*e*P	**Pdif**	**20**	**14**	**11.6**	**+2.8**
HHC				pmax	pmax				
	comp=Z,92nm,4.6s								
GTA	**Gaotai**	**105.38**	**308**	*e*P	**PP**	**20**	**18**	**59.7**	**+1.2**
GTA				pP	PKiKP	20	19	05.6	+16
GTA				sP		20	19	08.8	
GTA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
WMQ	**Urumqi**	**115.40**	**307**	*e*PKP	**PKiKP**	**20**	**19**	**09.9**	**+1.4**
MKAR	**Makanchi Array**	**120.13**	**308**	PKP	**PKPdf**	**20**	**19**	**16.9**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=88,slow=3.1,SNR=5.6								
MKAR				PKKPbc	**PKKPbc**	**20**	**29**	**28.2**	**+2.7**
	comp=Z,0.6nm,0.7s,baz=299,slow=3.1,SNR=7.7								
ZALV	**Zalesovo Beam**	**121.40**	**316**	PKP	**PKiKP**	**20**	**19**	**19.7**	**0.0**
	comp=Z,0.3nm,0.4s,baz=354,slow=1.4,SNR=1.8								
KURBB	**Kurchatov Arra**	**123.86**	**311**	PKP	**PKPdf**	**20**	**19**	**23.7**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=108,slow=1.9,SNR=10								
NRIK	**Noril'sk**	**124.88**	**334**	PKP	**PKiKP**	**20**	**19**	**25.9**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=118,slow=3.9,SNR=3.5								
KMBO	**Kilima Mbogo**	**127.76**	**232**	PKP	**PKPdf**	**20**	**19**	**33.5**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=30,slow=4.7,SNR=5.8								
BVAR	**Borovoye Array**	**129.37**	**312**	PKP	**PKiKP**	**20**	**19**	**35.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=90,slow=4.4,SNR=7.0								
BVAR				SKP		20	22	58.1	
	comp=Z,0.9nm,0.8s,baz=132,slow=4.3,SNR=5.0								
GEYT	**Alibeck**	**133.80**	**290**	PKP	**PKiKP**	**20**	**19**	**45.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=201,slow=5.2,SNR=1.4								
GEYT				SKPbc	**SKPbc**	**20**	**23**	**08.0**	**-2.3**
	comp=Z,2.6nm,0.8s,baz=132,slow=2.1,SNR=5.4								
ARU	**Arti**	**136.56**	**316**	PKP	**PKPdf**	**20**	**19**	**48.0**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=18,slow=3.2,SNR=1.9								
SPITS	**Spitsbergen Ar**	**138.45**	**355**	SKPbc	**SKPbc**	**20**	**23**	**19.7**	**-3.5**
	comp=Z,0.9nm,0.3s,baz=148,slow=1.4,SNR=9.2								
ARCES	**ARCESS Array B**	**144.73**	**344**	PKP	**PKPdf**	**20**	**20**	**02.5**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=57,slow=2.6,SNR=12								
KLMR	**Klimovskoe**	**145.40**	**326**	*e*	**PKPbc**	**20**	**20**	**01.1**	**-2.9**
KLMR				AMP		20	20	17.6	
	comp=Z,34nm,1.2s								
KBZ	**Khabaz**	**146.27**	**295**	PKPbc	**PKPbc**	**20**	**20**	**07.5**	**+0.3**
	comp=Z,7.8nm,1.0s,baz=96,slow=3.2,SNR=8.7								
OBN	**Obninsk**	**148.98**	**317**	PKPbc	**PKPbc**	**20**	**20**	**14.2**	**0.0**
	comp=Z,1.9nm,0.4s,baz=135,slow=7.1,SNR=3.2								
DBIC	**Dimbokro**	**149.23**	**173**	PKPbc	**PKiKP**	**20**	**20**	**17.3**	**0.0**
	comp=Z,8.3nm,0.7s,baz=22,slow=2.8,SNR=3.2								
DBIC	**Dimbokro**	**149.23**	**173**		**PKiKP**	**20**	**20**	**18.1**	**+0.7**
MMAI	**Mount Meron Ar**	**149.95**	**273**	PKPbc	**PKiKP**	**20**	**20**	**18.5**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=71,slow=5.4,SNR=11								
BORG	**Borgarnes**	**150.10**	**17**	PKPbc	**PKiKP**	**20**	**20**	**18.5**	**+1.0**
	comp=Z,13nm,1.0s,baz=340,slow=2.6,SNR=3.9								
FINES	**FINESS Array B**	**150.54**	**333**	PKPbc	**PKPbc**	**20**	**20**	**17.9**	**+0.1**
	comp=Z,11nm,0.8s,baz=40,slow=3.2,SNR=25								
FINES	**FINESS Array B**	**150.54**	**333**		**PKPbc**	**20**	**20**	**17.7**	**-0.1**
BRTR	**Keskin Array B**	**152.81**	**286**	PKPbc	**PKiKP**	**20**	**20**	**25.0**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=125,slow=3.7,SNR=13								
NACGM	**Naroch**	**154.17**	**322**	*e*PKP	**PKPbc**	**20**	**20**	**25.2**	**-1.0**
	comp=Z,11nm,0.9s,baz=60								
AKASG	**Malin Array Be**	**154.65**	**311**	PKPbc	**PKiKP**	**20**	**20**	**27.4**	**0.0**
	comp=Z,1.6nm,0.7s,baz=55,slow=2.8,SNR=6.9								
NB2	**NORSAR Subarra**	**155.08**	**346**	PKP	PKPdf	20	20	27.4	+8.2
	comp=Z,0.8nm,0.8s,baz=41,slow=2.9								
NOA	**NORSAR Array B**	**155.08**	**346**	PKPbc	PKPdf	20	20	27.5	+8.3
	comp=Z,1.2nm,0.8s,baz=31,slow=2.0,SNR=5.7								
HFS	**Hagfors**	**155.35**	**342**	PKP	**PKPdf**	**20**	**20**	**21.9**	**+2.4**
	comp=Z,1.3nm,0.9s,baz=111,slow=3.2,SNR=1.6								
TORD	**Torodi Ar. Bea**	**155.72**	**187**	PKP	**PKPdf**	**20**	**20**	**23.7**	**+2.3**
	comp=Z,1.6nm,1.0s,baz=219,slow=4.4,SNR=4.5								
TORD				PKPab	**PKPab**	**20**	**20**	**47.5**	**-0.2**
	comp=Z,5.8nm,0.9s,baz=180,slow=3.4,SNR=12								
DPC	**Dobruska-Polom**	**162.00**	**322**	*e*PKPAB	**PKPab**	**20**	**21**	**14.8**	**+0.6**
EKA	**Eskdalemuir Ar**	**162.00**	**4**	PKPab	**PKPab**	**20**	**21**	**15.1**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=353,slow=3.6,SNR=3.7								
CLL	**Collm**	**162.85**	**329**	*e*(PKPab)	**PKPab**	**20**	**21**	**22.0**	**+4.2**
CLL				LmV		21	42	00.0	
	comp=Z,100nm,20.8s								
PRU	**Pruhonice**	**163.10**	**323**	*e*PKPAB	**PKPab**	**20**	**21**	**17.2**	**-1.8**
KHC	**Kasperske Hory**	**164.15**	**322**	*e*PKPAB	**PKPab**	**20**	**21**	**24.5**	**+0.9**
KHC				*e*pPKP	**pPKPab**	**20**	**21**	**33.7**	**-0.1**
GERES	**GERESS Array B**	**164.27**	**321**	PKPab	**PKPab**	**20**	**21**	**24.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=46,slow=4.2,SNR=2.2								
DAVOX	**Davos/Dischmat**	**167.57**	**322**	PKPab	**PKPab**	**20**	**21**	**41.0**	**+2.0**
	comp=Z,0.5nm,0.4s,baz=84,slow=7.9,SNR=1.9								
ESDC	**Sonseca Array**	**176.82**	**43**	PKP	**PKPdf**	**20**	**20**	**38.6**	**+1.4**
	comp=Z,0.8nm,1.0s,baz=252,slow=2.4,SNR=3.6								
ESDC				PKPab	**pPKPab**	**20**	**22**	**24.6**	**-5.8**
	comp=Z,0.3nm,0.7s,baz=317,slow=3.9,SNR=2.0								

WEL 04 20:14:36.1±1.1,37°S±7°×17°9E±°,h15km,M3.4/11, ML3.7/10,MLv3.4/11,Error ellipse: s-maj=0.0km s-min=0.0km az=123.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.47**	**242**	P	Pb	20 14 45.9	-0.2
MXZ				S	Sb	20 14 52.5	-0.4
WMGZ	**Waiomatatini S**	**0.58**	**215**	P	Pb	20 14 48.6	+0.7
WMGZ				S	Sn	20 14 58.0	-1.0
PKGZ	**Pakihiroa**	**0.81**	**228**	P	Pb	20 14 52.0	+0.1
PKGZ				S	Sb	20 15 03.5	+0.7
HAZ	**Te Kaha**	**0.93**	**243**	P	Pn	20 14 54.4	-0.2
HAZ				S	Sn	20 15 07.2	-0.5
TWGZ	**Tauwhareparae**	**1.07**	**219**	S	Sg	20 15 10.8	-0.1
CNGZ	**Carnagh Statio**	**1.24**	**203**	P	Pn	20 14 58.5	-0.5
RAGZ	**Rawiri**	**1.61**	**224**	P	Pn	20 15 03.8	-0.3
URZ	**Urewera**	**1.65**	**236**	P	Pn	20 15 04.6	+0.2
PRGZ	**Paritu Road**	**1.75**	**205**	P	Pn	20 15 04.4	-1.4
EDRZ	**Edgecumbe**	**1.83**	**245**	P	Pn	20 15 07.2	+0.2
MARZ	**Manawahe**	**1.83**	**249**	P	Pn	20 15 07.1	+0.1
SNGZ	**Shannon Statio**	**1.86**	**219**	P	Pn	20 15 06.4	-1.0
KNZ	**Kokohu**	**1.91**	**208**	P	Pn	20 15 05.9	-2.1
RTZ	**Ruatahuna**	**1.94**	**228**	P	Pn	20 15 08.7	+0.2
MHGZ	**Mahia Peninsul**	**1.95**	**202**	P	Pn	20 15 07.2	-1.4
RAHZ	**Arahi**	**2.09**	**221**	P	Pn	20 15 09.9	-0.7
KARZ	**Kaharoa**	**2.16**	**251**	P	Pn	20 15 11.8	+0.2
MTHZ	**Maungataniwha**	**2.18**	**226**	P	Pn	20 15 11.5	-0.3
ARHZ	**Aropaoanui**	**2.40**	**216**	P	Pn	20 15 13.6	-1.2
MRHZ	**Matea Rd**	**2.42**	**231**	P	Pn	20 15 14.7	-0.4
BKZ	**Black Stump Fm**	**2.59**	**225**	P	Pn	20 15 16.5	-1.0
TOZ	**Tahuroa Road**	**2.68**	**261**	P	Pn	20 15 18.4	-0.2
CKHZ	**Cape Kidnapper**	**2.69**	**210**	P	Pn	20 15 16.4	-2.4
KWHZ	**Kaweka Forest**	**2.81**	**222**	P	Pn	20 15 18.8	-1.8
KAHZ	**Kahuranaki**	**2.89**	**211**	P	Pn	20 15 19.3	-2.3
MKAZ	**Moumakai**	**2.94**	**273**	P	Pn	20 15 22.8	+0.6
KRHZ	**Kereru**	**3.00**	**219**	P	Pn	20 15 21.1	-2.1
TMVZ	**Te Maari**	**3.04**	**233**	P	Pn	20 15 23.1	-0.5
ETVZ	**East Tongariro**	**3.04**	**233**	P	Pn	20 15 23.2	-0.6
BHHZ	**Black Hill Sta**	**3.06**	**225**	P	Pn	20 15 22.5	-1.4
PNHZ	**Pukenui**	**3.29**	**218**	P	Pn	20 15 24.2	-2.9
WPHZ	**Waipukurau**	**3.30**	**214**	P	Pn	20 15 24.6	-2.6
TSZ	**Takapari Road**	**3.52**	**219**	P	Pn	20 15 27.4	-2.8
WCZ	**Waipu Caves**	**3.87**	**290**	P	Pn	20 15 35.3	+0.3
BFZ	**Birch Farm**	**3.90**	**210**	P	Pn	20 15 31.5	-3.9
MRZ	**Mangatainoka R**	**4.17**	**216**	P	Pn	20 15 35.9	-3.2
TMWZ	**Te Maipa**	**4.40**	**210**	P	Pn	20 15 37.7	-4.6
MTW	**Mount Morrison**	**4.61**	**213**	P	Pn	20 15 40.0	-5.2
OUZ	**Omahuta**	**4.73**	**295**	P	Pn	20 15 47.8	+0.9
MRNZ	**Matariki Terra**	**6.21**	**227**	P	Pn	20 16 02.9	-4.3

*IDC **04** 20:18:59.7±1.1,5.4°S×153.19°E,h0km,mb3.7/10, mbtmp3.7/11,ML1.8/1,Error ellipse: s-maj=30.0km s-min=17.7km az=105.0*

ISC 04 20:19:05.4±1.0,5°50S±0.08×153.1°E±0.1,h37km,n13, σ0.994/15,mb3.6/10,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.59**	**318**	Pn	**Pn**	**20 19 30.6**	**-0.4**
	168nm,0.3s,baz=286,slow=0.9,SNR=96						
KRVT				Sn	**Sn**	20 19 51.2	+0.9
	190nm,0.3s,baz=99,slow=9.1,SNR=11						
PMG	**Port Moresby**	**7.04**	**236**	Pn	**Pn**	20 20 46.2	+0.2
	1.0nm,0.3s,baz=27,slow=11,SNR=1.0						
PMG				Sn	**Sn**	**20 22 03.1**	**-1.7**
	1.2nm,0.3s,baz=86,slow=12,SNR=1.6						
	6.2nm,0.6s						
WRA	**Warramunga Arr**	**23.21**	**230**	P	**P**	20 24 09.4	+0.2
	1.0nm,0.8s,baz=54,slow=9.6,SNR=6.9						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**25.83**	**224**	P	**P**	20 24 34.2	+0.7
	0.7nm,0.8s,baz=56,slow=9.1,SNR=8.5						
	0.7nm,0.8s						
STKA	**Stephens Creek**	**28.36**	**201**	P	**P**	**20 24 57.2**	**+1.1**
	1.5nm,1.0s,baz=42,slow=14,SNR=1.5						
	1.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**29.58**	**243**	P	**P**	20 25 07.7	+0.5
	1.0nm,0.8s,baz=84,slow=9.2,SNR=1.7						
	1.0nm,0.8s						
PETK	**Petropavlovsk-**	**58.52**	**3**	P	**P**	20 28 58.5	+0.6
	1.6nm,0.5s,baz=176,slow=7.5,SNR=12						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**81.04**	**319**	P	**P**	20 31 16.2	-0.4
	0.2nm,0.5s,baz=97,slow=6.7,SNR=2.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**81.89**	**326**	P	**P**	20 31 19.9	-1.0
	0.4nm,0.4s,baz=123,slow=5.3,SNR=1.8						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**82.70**	**22**	P	**P**	**20 31 23.5**	**-1.4**
	0.3nm,0.8s,baz=250,slow=6.6,SNR=2.5						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**84.52**	**322**	P	**P**	20 31 35.0	+0.5
	0.4nm,0.7s,baz=93,slow=7.6,SNR=7.0						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**89.97**	**323**	P	**P**	20 31 60.0	-0.9
	0.4nm,0.7s,baz=98,slow=7.6,SNR=4.0						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.79**	**287**	PKPbc	**PKiKP**	**20 38 55.5**	**0.0**
	0.5nm,0.7s,baz=105,slow=2.0,SNR=2.9						

*IDC **04** 20:35:20.2±1.3,49.53°S×121.46°E,h0km,mb3.6/6, mbtmp3.7/7,ML2.2/1,MS3.8/10,Error ellipse: s-maj=48.9km s-min=21.5km az=95.0*

ISC 04 20:35:21.1±0.8,49.5°S±0.1×121.2°E±0.3,h10km,n24, σ1.905/12,mb3.6/6,MS3.7/10,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.53**	**338**	T	T	20 55 07.9	
	baz=161,slow=74,SNR=157						
H01W2	**Cape Leeuwin H**	**15.53**	**338**	T	T	20 55 06.1	
	baz=161,slow=74,SNR=191						
H01W3	**Cape Leeuwin H**	**15.55**	**338**	T	T	20 55 06.3	
	baz=161,slow=74,SNR=194						
NWAO	**Narrogin (SRO)**	**16.86**	**348**	Pn	**P**	**20 39 19.3**	**0.0**
	0.4nm,0.3s,baz=28,slow=8.8,SNR=2.7						
	6.4nm,0.7s						
STKA	**Stephens Creek**	**23.32**	**48**	P	**P**	**20 40 29.2**	**0.0**
	1.8nm,0.8s,baz=214,slow=12,SNR=3.0						
STKA				LR	LR	20 47 53.4	
	comp=Z,228nm,20.6s,baz=207,slow=32						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**27.68**	**26**	P	**P**	**20 41 09.0**	**-0.3**
	1.0nm,0.9s,baz=200,slow=8.2,SNR=5.9						
ASAR				LR	LR	20 50 38.2	
	comp=Z,196nm,21.6s,baz=251,slow=33						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**31.34**	**24**	P	**P**	**20 41 40.8**	**-0.9**
	0.6nm,0.7s,baz=198,slow=8.1,SNR=2.7						
WRA				LR	LR	20 52 53.7	
	comp=Z,147nm,21.6s,baz=186,slow=34						
	0.6nm,0.7s						
VNDA	**Vanda**	**32.00**	**164**	P	**P**	**20 41 47.5**	**+0.6**
	0.4nm,0.6s,baz=312,slow=9.8,SNR=2.4						
VNDA				LR	LR	20 53 50.6	
	comp=Z,145nm,18.1s,baz=327,slow=35						
	0.4nm,0.6s						
RPZ	**Rata Peaks**	**34.19**	**100**	LR	LR	20 52 25.3	
	comp=Z,232nm,20.0s,baz=256,slow=30						
CTA	**Charters Tower**	**35.53**	**43**	LR	LR	20 56 02.4	
	comp=Z,110nm,19.7s,baz=211,slow=35						
QSPA	**South Pole Qui**	**40.58**	**180**	P	**P**	**20 43 01.1**	**+0.6**
	0.9nm,0.9s,baz=2.7,slow=3.9,SNR=2.0						
	0.9nm,0.9s						
KAPI	**Kapaang**	**44.39**	**358**	LR	LR	21 01 07.7	
	comp=Z,150nm,18.2s,baz=194,slow=35						
PMG	**Port Moresby**	**45.47**	**37**	LR	LR	21 01 25.8	
	comp=Z,76nm,19.5s,baz=224,slow=34						
TROLL	**Troll, Antarti**	**51.40**	**200**	P	**P**	**20 44 23.6**	**-2.0**
SNAA	**Sanae**	**52.82**	**199**	P	**P**	**20 44 34.6**	**-1.5**
SNAA	**Sanae**	**52.82**	**199**	LR	LR	21 05 02.6	
	comp=Z,105nm,19.2s,baz=192,slow=34						
VNA2	**Neumayer--Watz**	**54.35**	**198**	P	**P**	**20 44 47.6**	**+0.3**
	baz=147,slow=5.0						
VNA3	**Neumayer Olymp**	**54.55**	**197**	P	**P**	**20 44 48.0**	**-0.8**
VNA1	**Neumayer--Stat**	**54.74**	**198**	P	**P**	**20 44 50.3**	**+0.2**
H08S2	**Diego Garcia H**	**58.25**	**299**	T	T	21 48 27.3	
	baz=144						
H08S1	**Diego Carcia H**	**58.26**	**299**	T	T	21 48 30.2	
	baz=144						
H08S3	**Diego Garcia H**	**58.27**	**299**	T	T	21 48 28.9	
	baz=144						
CMAR	**Chiang Mai Arr**	**70.52**	**338**	P	**P**	**20 46 37.0**	**+1.0**
	0.7nm,0.8s,baz=187,slow=4.9,SNR=5.2						
	0.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**93.83**	**8**	LR	LR	21 36 26.4	
	comp=Z,36nm,18.0s,baz=177,slow=39						

*GII **04** 20:36:34.9±0.1,33.17°N×34.49°E,h20km,MD1.2/3, Mm1.8/4*
*NIC **04** 20:36:34.3±0.0,33.18°N×34.45°E,h33km±32km,Ml2.3/5*
*GRAL **04** 20:36:37.6±0.3,33.25°N×34.67°E,h28km±1km,MD3.1*

ISC 04 20:36:34.3±1.2,33.20°N±0.03×34.47°E±0.03,h30km±12km, n31,σ0.968/50,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.60**	**101**	Pg	**Pb**	**20 36 46.4**	**+0.1**
HNTI				Sg	**Sn**	20 36 55.7	+0.3
OFRI	**`Ofer**	**0.72**	**143**	Pg	**Pb**	**20 36 47.8**	**-0.6**
OFRI				Sg	**Sb**	20 36 58.0	+0.1
BLGI	**Bet Lehem HaGe**	**0.76**	**127**	Pg	**Pb**	**20 36 48.6**	**-0.4**
BLGI				Sg	**Sb**	20 36 59.2	+0.1
MMA0B	**Mount Meron ar**	**0.80**	**103**	Pg	**Pb**	**20 36 49.5**	**-0.3**
MMA0B				Sg	**Sn**	20 37 00.7	+0.2
GEM	**Giv'at Ha'Em**	**1.00**	**89**	Pg	**Pn**	**20 36 53.0**	**+0.8**
GEM				Sg	**Sn**	20 37 05.4	+0.1
DQRL	**Deir Qamar**	**1.05**	**61**	*e*P	**Pn**	**20 36 53.3**	**+0.3**
DQRL				*e*S	**Sn**	20 37 04.8	-1.9
NATI	**Neve Ativ**	**1.06**	**86**	Pg	**Pn**	**20 36 53.5**	**+0.5**
NATI				Sg	**Sb**	20 37 07.7	+0.1
SLTI	**Sal'it**	**1.07**	**153**	Pg	**Pb**	**20 36 54.3**	**+0.1**
MMLI	**Mount Malkishu**	**1.10**	**133**	P	**Pn**	**20 36 53.7**	**0.0**
MMLI				S	**Sn**	20 37 07.7	-0.2
MMLI	**Mount Malkishu**	**1.10**	**133**	Pg	**Pn**	**20 36 53.5**	**-0.2**
MMLI				Sg	**Sn**	20 37 07.3	-0.6
KSHT	**Keshet**	**1.14**	**101**	Pg	**Pb**	**20 36 56.3**	**+0.8**
RCY	**Rachaya**	**1.18**	**75**	*e*P	**Pn**	**20 36 55.1**	**+0.3**
RCY				*e*S	**Sn**	20 37 08.0	-1.9
BHL	**Bhannes**	**1.21**	**54**	*e*P	**Pn**	**20 36 55.7**	**+0.4**
BHL				*e*S	**Sn**	20 37 09.0	-1.7
HMDT	**Nahal Hemdat**	**1.29**	**136**	Pg	**Pn**	**20 36 56.4**	**+0.1**
HMDT				Sg	**Sn**	20 37 13.0	+0.4
HWQ	**Hawqa**	**1.63**	**48**	*e*P	**Pn**	20 37 01.6	+0.5
AMAZ	**Amatzia**	**1.70**	**167**	P	**Pn**	20 37 01.8	-0.1
AMAZ				S	**Sn**	20 37 22.9	+0.2
AMAZ				AML	AML	20 37 23.7	
	0.1nm,0.3s						
AMAZ				AML	AML	20 37 23.7	
	0.1nm,0.3s						
AMAZ				AML	AML	20 37 24.4	
	0.1nm,0.4s						
AMAZ				AML	AML	20 37 24.4	
	0.1nm,0.4s						
AMAZ	**Amatzia**	**1.70**	**167**	Pn	**Pn**	**20 37 02.1**	**+0.2**
AMAZ				Sn	**Sn**	**20 37 23.6**	**+0.9**
DSI	**Dead Sea**	**1.80**	**154**	Pn	**Pn**	**20 37 03.8**	**+0.6**
DSI				Sn	**Sn**	**20 37 25.2**	**+0.2**
OSC2	**CSNet OBS 4**	**1.86**	**267**	P	**Pn**	**20 37 03.1**	**-0.9**
ASGA	**Asgata**	**1.88**	**328**	P	**Pn**	**20 37 05.5**	**+1.1**
ASGA				AML	AML	20 37 26.3	
	0.1nm,0.5s						
ASGA				AML	AML	20 37 26.7	
YTIR	**Yattir**	**1.91**	**163**	Pn	**Pn**	**20 37 05.0**	**+0.2**
YTIR				Sn	**Sn**	**20 37 28.4**	**+0.5**
MVOU	**Mavrovouni**	**1.94**	**339**	P	**Pn**	**20 37 04.7**	**-0.5**
MVOU				AML	AML	20 37 31.0	
	0.1nm,0.7s						
MVOU				AML	AML	20 37 34.0	
	0.1nm,0.7s						
SZAC	**Souni**	**2.04**	**320**	P	**Pn**	**20 37 06.5**	**-0.1**
SZAC				S	**Sn**	**20 37 31.6**	**+0.6**
SZAC				AML	AML	20 37 32.5	
	0.1nm,0.4s						
SZAC				AML	AML	20 37 32.5	
	0.1nm,0.4s						
SZAC				AML	AML	20 37 32.9	
	0.2nm,0.4s						
SZAC				AML	AML	20 37 32.9	
	0.2nm,0.4s						
NATA	**Nata**	**2.23**	**315**	P	**Pn**	**20 37 09.8**	**+0.6**
NATA				S	**Sn**	**20 37 36.7**	**+0.9**
KZIT	**Kziot**	**2.29**	**182**	P	**Pn**	**20 37 09.2**	**-0.3**
KZIT				S	**Sn**	**20 37 35.7**	**-1.4**
KZIT				AML	AML	20 37 36.6	
	0.1nm,0.4s						
KZIT				AML	AML	20 37 36.6	
	0.1nm,0.4s						
KZIT				AML	AML	20 37 36.9	
	0.1nm,0.4s						
KZIT				AML	AML	20 37 36.9	
	0.1nm,0.4s						
KZIT	**Kziot**	**2.29**	**182**	Pn	**Pn**	**20 37 10.0**	**0.0**
ALFC	**Alefka**	**2.50**	**322**	P	**Pn**	**20 37 12.8**	**0.0**
OSC1	**CSNet OBS 1**	**2.69**	**277**	S	**Sn**	**20 37 47.0**	**-0.1**
PRNI	**Paran**	**2.87**	**171**	Pn	**Pn**	**20 37 18.4**	**+0.3**
KRMI	**Paran Flat**	**3.08**	**176**	Pn	**Pn**	**20 37 21.1**	**+0.2**
HRFI	**Mount Harif**	**3.19**	**171**	Pn	**Pn**	**20 37 22.4**	**0.0**

*NOU **04** 20:37:41.6,37.18°S×179.55°W,h130km,ML4.9/9,East of North Island, N.Z.*
*NEIC **04** 20:37:45.7±2.3,37.19°S±0.09×179.81°E±0.08,h10km±2km, mb4.2/10,Error ellipse: s-maj=18.1km s-min=5.1km az=144.0*
*IDC **04** 20:37:49.6±1.3,36.83°S×179.07°E,h0km,mb4.0/4, mbtmp4.1/5,ML4.7/1,Error ellipse: s-maj=36.4km s-min=29.8km az=59.0*
*WEL **04** 20:37:52.6±1.1,37°S±5°×17°9E±°,h5km,M4.1/15, ML4.1/12,MLv4.1/15,Error ellipse: s-maj=0.0km s-min=0.0km az=101.6*

ISC 04 20:37:48.4±2.1,37.08S±0.05×179.20E±0.07,h4km±11km, n134,σ1.999/136,mb4.1/9,Off east coast of North Island

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

RVAZ	Riverhead Bore	3.71 273	P	Pn	20 38 49.3	+2.9
HIZ	Hauiti	3.73 246	Pn	Pn	20 38 49.9	+3.3
HIZ	Hauiti	3.73 246	P	Pb	20 38 50.2	-4.6
HIZ	Hauiti	3.73 246	P	Pb	20 38 50.1	-4.6
PKVZ	Pokaka	3.75 233	P	Pn	20 38 49.0	+1.9
PRHZ	Porangahau	3.77 211	P	Pn	20 38 46.4	-0.8
TSZ	Takapari Road	3.91 219	P	Pn	20 38 49.0	-0.3
DVHZ	Dannevirke	4.00 215	P	Pn	20 38 49.7	-0.7
WCZ	Waipu Caves	4.07 285	P	Pn	20 38 54.5	+3.2
WAZ	Wanganui	4.25 230	P	Pn	20 38 56.1	+2.2
POWZ	Post Office Ro	4.26 218	P	Pn	20 38 53.5	-0.4
BFZ	Birch Farm	4.28 212	Pn	Pn	20 38 52.7	-1.5
LREZ	Lake Rotokare	4.46 236	P	Pn	20 38 59.6	+2.9
NEZ	North Egmont	4.58 240	P	Pn	20 39 02.6	+4.2
OUZ	Omahuta	4.90 291	Pn	Pn	20 39 06.5	+3.8
OUZ	Omahuta	4.90 291	P	Pn	20 39 06.4	+3.6
OUZ	Omahuta	4.90 291	P	Pn	20 39 06.3	+3.6
MSWZ	Moikau Station	5.31 214	Pn	Pn	20 39 05.9	-2.4
PLWZ	Palliser	5.43 213	Pn	Pn	20 39 07.4	-2.7
SNZO	South Karori	5.48 218	P	Pn	20 39 08.3	-2.4
QRZ	Quartz Range	6.41 232	P	Pn	20 39 22.9	-0.5
KHZ	Kahutara	6.89 218	P	Pn	20 39 27.8	-2.2
CTZ	Chatham Island	7.38 156	P	Pn	20 39 39.3	+2.5
RPZ	Rata Peaks	9.08 221	Pn	Pn	20 39 57.3	-2.9
	2.4nm,0.3s,baz=244,slow=2.0,SNR=14					
RPZ			Sn	Sn	20 41 30.6	-12
	4.4nm,0.3s,baz=297,slow=23,SNR=18					
RPZ	Rata Peaks	9.08 221	P	Pn	20 39 57.5	-2.7
ODZ	Otahua Downs	10.24 216	P	Pn	20 40 12.5	-3.6
STKA	Stephens Creek	31.29 268	P	P	20 44 06.5	-3.0
STKA			IAmb	IAmb	20 44 26.8	
	comp=Z,2.4nm,1.4s					
AS31	Alice Springs	40.93 276	P	P	20 45 32.9	+0.8
ASAR	Alice Springs	40.93 276	P	P	20 45 33.0	+0.9
	comp=Z,2.0nm,0.7s,baz=120,slow=8.1,SNR=24					
ASAR			PcP	PcP	20 47 33.9	+1.3
	comp=Z,0.1nm,0.5s,baz=111,slow=5.1,SNR=1.5 comp=Z,2.0nm,0.7s					
ASAR	Alice Springs	40.93 276	P	P	20 45 32.5	+0.4
VNDA	Vanda	41.24 186	P	P	20 45 29.1	-4.8
VNDA			IAmb	IAmb	20 46 07.7	
	comp=Z,2.7nm,1.4s					
WB2	Warramunga Arr	42.52 281	P	P	20 45 44.8	-0.3
WB2			IAmb	IAmb	20 45 46.2	
	comp=Z,4.6nm,0.8s					
WRAB	Tennant Creek	42.53 281	P	P	20 45 44.2	-0.9
WRAB			IAmb	IAmb	20 45 46.2	
	comp=Z,4.7nm,0.8s					
WRA	Warramunga Arr	42.53 281	P	P	20 45 45.7	+0.5
	comp=Z,1.9nm,0.5s,baz=121,slow=7.7,SNR=23					
WRA			PcP	PcP	20 47 39.2	+1.3
	comp=Z,0.4nm,0.7s,baz=104,slow=3.5,SNR=2.1 comp=Z,1.9nm,0.5s					
WRA	Warramunga Arr	42.53 281	P	P	20 45 44.8	-0.5
WB0	Warramunga Arr	42.59 281	P	P	20 45 44.9	-0.7
WB0			IAmb	IAmb	20 45 58.7	
	comp=Z,12nm,1.4s					
KNRA	Kununurra	49.31 282	P	P	20 46 39.0	+0.2
FITZ	Fitzroy Crossi	50.41 277	P	P	20 46 47.2	+0.1
QSPA	South Pole Qui	53.05 180	P	P	20 47 10.7	+4.3
	comp=Z,1.3nm,0.8s,baz=10,slow=1.4,SNR=8.7 comp=Z,1.3nm,0.8s					
QSPA	South Pole Qui	53.05 180	P	P	20 47 02.2	-4.1
QSPA			IAmb	IAmb	20 47 32.6	
	comp=Z,5.0nm,1.3s					
H03S2	Juan Fernandez	78.71 124	T	T	22 16 14.8	
	baz=231,SNR=5.7					
H03S1	Juan Fernandez	78.72 124	T	T	22 16 15.4	
	baz=231,SNR=5.3					
H03S3	Juan Fernandez	78.73 124	T	T	22 16 15.4	
	baz=231,SNR=6.4					
H03N3	Juan Fernandez	78.94 124	T	T	22 16 28.0	
	baz=234,slow=72,SNR=64					
H03N2	Juan Fernandez	78.95 124	T	T	22 16 20.8	
	baz=234,slow=72,SNR=44					
H03N1	Juan Fernandez	78.96 124	T	T	22 16 28.2	
	baz=234,slow=72,SNR=50					
CMAR	Chiang Mai Arr	93.46 290	P	P	20 51 07.1	+1.8
	comp=Z,0.2nm,0.5s,baz=150,slow=2.7,SNR=1.9 comp=Z,0.2nm,0.5s					
ARCES	ARCESS Array B	144.50 344	PKP	PKPdf	20 57 24.7	-0.2
	comp=Z,3.6nm,0.9s,baz=29,slow=2.8,SNR=9.7					
FINES	FINESS Array B	150.37 334	PKPbc	PKiKP	20 57 41.1	+0.3
	comp=Z,0.6nm,0.3s,baz=50,slow=3.2,SNR=13					
TORD	Torodi Ar. Bea	156.07 186	PKPab	PKPab	20 58 13.0	+1.4
	comp=Z,0.5nm,0.7s,baz=174,slow=4.7,SNR=2.5					

NIED ***04*** *20:51:36.4, 37.26N×142.50E, h14km, MW3.6, Moment Tension Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.37; $M_{\theta\theta}$1.32; $M_{\phi\phi}$1.06; $M_{r\theta}$1.30; $M_{\theta\phi}$0.22; $M_{\phi r}$1.18; Fault plane solution: $M_0$2.59000×10^{14} NP1:ϕ_s57.00000°, δ24.00000°, λ-84.00000°. NP2:ϕ_s231.00000°, δ66.00000°, λ-92.00000°.*

JMA ***04*** *20:51:36.4±0.2, 37.3N±0.5×14.3E±, h14km±3km, MV3.7/36, E OFF FUKUSHIMA PREF*

IDC ***04*** *20:51:42.4±4.5, 36.97N×142.68E, h68km±36km, mb3.4/4, mbtmp3.7/8, ML2.8/4, Error ellipse: s-maj=37.7km s-min=22.1km az=76.0*

ISC 04 20:51:40.1±3.4, 37.28N±0.04×142.49E±0.08, h27km±29km, n28, σ1s63/30, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	Kawauchi	1.29	274	*e*P		Pn	20 51 59.9	-2.5
JFK				*e*S		Sn	20 52 17.0	-1.7
JIKH	Ishinomakikobu	1.31	322	*i* P		Pn	20 52 00.2	-2.4
JIKH				*e*S		Sn	20 52 17.4	-1.8
JMST	Minamisoumatoc	1.35	290	*i* P		Pn	20 52 00.5	-2.6
JMST				S		Sn	20 52 18.4	-1.7
JMM	Marumori	1.47	294	*i* P		Pn	20 52 02.5	-2.3
JMM				S		Sn	20 52 21.8	-1.3
JIO	Ouri	1.48	323	*i* P		Pn	20 52 02.9	-2.0
JIO				S		Sn	20 52 22.3	-1.0
JFT	Otama	1.73	279	*e*P		Pn	20 52 07.3	-1.1
JFT				S		Sn	20 52 29.4	-0.2
JOU	Okura	1.81	307	P		Pn	20 52 08.2	-1.2
JOU				S		Sn	20 52 30.9	-0.5
JMK	Ichinoseki	1.94	329	P		Pn	20 52 10.4	-0.9
JMK				S		Sn	20 52 34.9	+0.1
JYS	Shirataka	2.14	297	P		Pn	20 52 13.2	-0.8
JYS				S		Sn	20 52 39.6	0.0
JFY	Yanaizu	2.22	274	*e*P		Pn	20 52 14.4	-0.7
JFY				*e*S		Sn	20 52 41.9	+0.2
JYK	Kaneyama	2.34	315	P		Pn	20 52 16.1	-0.7
JYK				S		Sn	20 52 45.2	+0.5
JOM	Ohasama	2.38	337	P		Pn	20 52 16.6	-0.8
JOM				S		Sn	20 52 46.1	+0.5
JYA	Atsumi	2.55	302	*e*P		Pn	20 52 19.2	-0.5
JAG	Ashikaga	2.58	252	P		Pn	20 52 18.5	-1.6
MJAR	Matsushiro Arr	3.51	259	P		Pn	20 52 34.5	+1.6
	0.2nm,0.3s,baz=301,slow=28,SNR=8.8							
MJAR				S			20 53 17.6	+4.2
	3.6nm,0.5s,baz=72,slow=14,SNR=4.5 1.3nm,0.3s							
JHJ	Hachijo jima 2	4.71	209	P		Pn	20 52 49.2	-0.1
	5.0nm,0.3s,baz=35,slow=14,SNR=1.5							
JHJ				S		Sn	20 53 39.6	-3.3
	150nm,1.0s,baz=248,slow=22,SNR=1.8 113nm,1.0s							
USRK	Ussuriysk Ar.	10.54	314	P		Pn	20 54 15.4	+6.1
	0.2nm,0.3s,baz=136,slow=14,SNR=8.9 3.5nm,0.7s							
KSRS	Korea Array	11.59	275	P		Pn	20 54 27.6	+3.9
	0.1nm,0.3s,baz=77,slow=13,SNR=3.2 0.6nm,0.5s							
H11N2	WAKE ISLAND Hy	27.55	123	T		T	21 26 15.8	
	baz=315,slow=75,SNR=63							
H11N1	WAKE ISLAND Hy	27.56	123	T		T	21 26 17.0	
	baz=315,slow=75,SNR=51							
H11N3	WAKE ISLAND Hy	27.57	123	T		T	21 26 17.6	
	baz=315,slow=75,SNR=36							
H11S1	WAKE ISLAND Hy	28.28	125	T		T	21 27 13.0	
	baz=317,slow=76,SNR=24							
H11S3	WAKE ISLAND Hy	28.29	125	T		T	21 27 10.7	
	baz=317,slow=76,SNR=23							
H11S2	WAKE ISLAND Hy	28.30	125	T		T	21 27 12.0	
	baz=317,slow=76,SNR=23							
SONM	Songino Array	28.36	303	P		P	20 57 32.3	+0.3
	0.9nm,0.7s,baz=98,slow=8.0,SNR=7.5 0.9nm,0.7s							
ZALV	Zalesovo Beam	42.38	312	P		P	20 59 32.5	+0.7
	0.5nm,0.5s,baz=121,slow=7.6,SNR=2.2 0.5nm,0.5s							
MKAR	Makanchi Array	44.72	302	P		P	20 59 51.5	+0.7
	0.3nm,0.6s,baz=86,slow=9.6,SNR=5.1 0.3nm,0.6s							
KURBB	Kurchatov Arra	46.53	308	P		P	21 00 05.0	0.0
	1.2nm,0.4s,baz=81,slow=8.0,SNR=7.0 1.2nm,0.4s							

NOU ***04*** *20:54:58.7, 19.62S×168.79E, h86km, MLv3.3/7, Vanuatu Islands*

IDC 04 20:54:41.4±9.2, 19.52S×170.02E, h245km±47km, mb3.3/4, mbtmp3.8/5, Error ellipse: s-maj=114.1km s-min=87.2km az=122.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MARNC	Mare, Loyalty	2.70	223	P		Pn	20 55 31.1	+0.8
LIFNC	LIFOU	2.89	244	P		Pn	20 55 28.8	-3.5
YATNC	Mamie plateau,	3.86	229	P		Pn	20 55 43.0	-0.3
OUENC	Ouen Island, N	4.14	225	P		Pn	20 55 48.3	+1.8
DZM	Mont Dzumac	4.20	232	P		Pn	20 55 47.6	+0.3
	2.4nm,0.3s,baz=123,slow=7.2,SNR=3.2							
DZM				S		S	20 56 40.0	+0.3
	1.5nm,0.3s,baz=325,slow=19,SNR=0.9							
DZM	Mont Dzumac	4.20	232	P		Pn	20 55 49.2	+1.8
NOUC	Port Laguerre	4.32	233	P		Pn	20 55 49.6	+0.9
STKA	Stephens Creek	28.32	239	P		P	21 00 11.4	-1.2
	0.8nm,0.6s,baz=88,slow=9.2,SNR=1.5 0.8nm,0.6s							
WRA	Warramunga Arr	33.55	263	P		P	21 00 58.0	-0.6
	0.3nm,0.4s,baz=89,slow=8.4,SNR=9.3 0.3nm,0.4s							
ASAR	Alice Springs	33.77	256	P		P	21 01 00.8	+0.4
	1.6nm,0.4s,baz=84,slow=7.9,SNR=41 1.6nm,0.4s							
FITZ	Fitzroy Crossi	41.94	264	P		P	21 02 09.4	+0.8
	1.3nm,0.8s,baz=72,slow=6.4,SNR=1.8 1.3nm,0.8s							

IDC ***04*** *20:55:13.9±0.7, 8.41N×126.18E, h0km, mb3.8/12, mbtmp3.8/13, ML3.9/1, Error ellipse: s-maj=27.9km s-min=10.9km az=94.0*

MAN ***04*** *20:55:16.4, 8.28N×125.91E, h1km, mb4.9, ML3.8, MS3.7*

ISC 04 20:55:15.2±1.4, 8.35N±0.03×126.10E±0.04, h10km±8km, n28, σ1s35/38, mb3.8/12, 7C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BIPH	Bislig	0.30	123	⇓*e*P		Pn	20 55 25.6	-0.2
TASP	Talacogon, Agu	0.31	289	⇑*i*P		Pg	20 55 21.6	+0.1
TASP				*i* S		Sg	20 55 26.7	+1.1
CDOP	Cateel, Davao	0.65	149	⇓*i*P		Pn	20 55 30.3	-0.3
CDOP				*i* S		Sn	20 55 41.2	+0.2
BUKP	Musuan	1.13	246	⇓*e*P		Pg	20 55 35.1	-1.9
BUKP				*i* S		Sg	20 55 51.9	+0.2
DAV	Davao City (W)	1.37	202	Pg		Pb	20 55 41.2	+0.2
	139nm,0.3s,baz=73,slow=3.4,SNR=24							
DAV				LR		LR	20 55 58.2	
	comp=Z,106nm,20.8s,baz=76,slow=30							
DAV				Lg		Lg	20 56 01.1	
	108nm,0.3s,baz=23,slow=20,SNR=7.4							
SCPH	Surigao	1.55	337	⇑*e*P		Pb	20 55 43.9	-0.1
KCP	Kidapawan	1.67	217	⇓*i*P		Pn	20 55 43.9	-0.7
KCP				*i* S		Sn	20 56 06.8	+0.7
CTBH	Cotabato--PC H	2.15	239	⇑*i*P		Pn	20 55 51.8	+0.5
CTBH				*i* S		Sb	20 56 20.2	-1.0
TABP	Talibon, Bohol	2.46	315	⇑*e*P		Pn	20 55 55.7	+0.3
TABP				*i* S		Sn	20 56 20.8	-4.8
GSPH	General Santos	2.52	207	⇑*e*P		Pn	20 55 58.1	+1.7
GSPH				*i* S		Sn	20 56 28.7	+1.3
LSIP	Lazi, Siquijor	2.56	288	⇓*e*P		Pn	20 55 56.9	0.0
LSIP				*i* S		Sn	20 56 27.7	-0.5
DCPH	Dipolog City	2.73	275	⇑*e*P		Pn	20 56 01.7	+2.5
PAGZ	Pagadian	2.74	260	⇑*e*P		Pb	20 56 02.9	-1.5
LLP	Lapu-Lapu	2.88	313	*e*P		Pn	20 56 03.3	+2.1
LLP				*i* S		Sn	20 56 37.5	+1.6
SNPH	Sibulan	3.00	289	⇓*i*P		Pn	20 56 03.6	+0.7
SNPH				*i* S		Sn	20 56 39.5	+0.5
SIJI	Sorong	10.51	150	Pn		Pn	20 57 46.4	+0.3
	1.0nm,0.3s,baz=332,slow=14,SNR=5.1 6.2nm,0.8s							
FITZ	Fitzroy Crossi	26.28	181	P		P	21 00 50.4	-0.7
	1.9nm,0.9s,baz=359,slow=6.0,SNR=6.2 1.9nm,0.9s							
WRA	Warramunga Arr	29.26	164	P		P	21 01 18.1	+0.3
	0.4nm,1.0s,baz=343,slow=8.8,SNR=1.4 0.4nm,1.0s							
ASAR	Alice Springs	32.72	167	P		P	21 01 49.6	+1.3
	0.3nm,0.8s,baz=344,slow=6.9,SNR=7.2 0.3nm,0.6s							
USRK	Ussuriysk Ar.	36.08	7	P		P	21 02 18.0	+0.9
	5.8nm,0.6s,baz=185,slow=7.0,SNR=29 5.8nm,0.6s							
STKA	Stephens Creek	42.65	160	P		P	21 03 12.8	+0.6
	2.2nm,1.0s,baz=0.0,slow=10,SNR=2.0 2.2nm,1.0s							
SONM	Songino Array	42.76	340	P		P	21 03 11.9	-1.1
	0.2nm,0.5s,baz=160,slow=9.0,SNR=2.1 0.2nm,0.5s							
MKAR	Makanchi Array	53.46	324	P		P	21 04 37.1	+1.5
	0.5nm,0.6s,baz=124,slow=7.8,SNR=8.7 0.5nm,0.6s							
ZALV	Zalesovo Beam	56.23	332	P		P	21 04 56.2	+0.6
	0.5nm,0.4s,baz=124,slow=9.4,SNR=2.2 0.5nm,0.4s							
ARU	Arti	70.73	327	P		P	21 06 31.1	-0.4
	1.2nm,0.5s,baz=146,slow=3.6,SNR=4.3 1.2nm,0.5s							
ILAR	Eielson Array	81.23	26	P		P	21 07 31.2	0.0
	0.3nm,0.7s,baz=247,slow=4.9,SNR=5.4 0.3nm,0.7s							
FINES	FINESS Array B	87.49	332	P		P	21 08 02.1	-1.0
	1.2nm,0.8s,baz=68,slow=5.1,SNR=11 1.2nm,0.8s							
HFS	Hagfors	93.66	332	P		P	21 08 30.5	-1.4
	0.9nm,0.7s,baz=77,slow=6.5,SNR=1.7 0.9nm,0.7s							

RSNC 04 20:56:01.5±1.2, 7.73N×73.94W, h62km±7km, ML3.4, Mw3.6, 4C-2D, Fault plane solution: NP1:ϕ_s63.00000°, δ11.00000°, λ-122.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BRRC	Barranca, Sant	0.66	160	⇑*i*P		Pn	20 56 14.6	-0.8
BRRC					IAML		20 56 25.6	
	comp=Z,643nm,0.2s							
BRRC				*e*S		Sn	20 56 26.2	+0.6
OCAC	Ocana	0.79	51	⇓*i*P		Pn	20 56 16.1	-1.1
OCAC				*e*S		Sn	20 56 28.3	-0.3
OCAC					IAML		20 56 29.1	
	comp=Z,3μm,0.3s							
ZARC	Zaragoza, Cauc	0.95	255	*e*P		Pn	20 56 17.9	-1.1
ZARC				*e*S		Sn	20 56 31.9	0.0
ZARC					IAML		20 56 34.0	
	comp=Z,793nm,0.3s							
PAMC	Pamplona, Colo	1.29	108	⇑*i*P		Pn	20 56 23.1	-0.7
PAMC				*e*S		Sn	20 56 40.8	+0.3
PAMC					IAML		20 56 43.4	
	comp=Z,320nm,0.1s							
PTBC	PUERTO BERRIO,	1.29	204	*i* P		Pn	20 56 22.2	-1.4
PTBC				*e*S		Sn	20 56 39.4	-0.6
PTBC					IAML		20 56 42.9	
	comp=Z,711nm,0.3s							
BARC	Barichara	1.36	147	*e*P		Pn	20 56 23.5	-1.1
	comp=Z,427nm,0.3s							
BARC				*e*S		Sn	20 56 41.6	-0.3
BARC					IAML		20 56 52.6	
	comp=Z,427nm,0.3s							
UREC	San Jos de Ur	1.58	271	*e*P		Pn	20 56 26.5	-0.9
UREC				*e*S		Sn	20 56 47.3	+0.4
UREC					IAML		20 56 51.4	
	comp=Z,470nm,0.4s							
LL1C	La Loma 1 Cana	1.83	12	⇓*i*P		Pn	20 56 30.6	-0.2
LL1C				*e*S		Sn	20 56 54.3	+1.3
LL5C	La Loma 5 El P	2.01	6	*e*P		Pn	20 56 31.4	-1.8
LL5C				*e*S		Sn	20 56 57.2	-0.1
LL5C					IAML		20 56 59.1	
	comp=Z,645nm,0.3s							
RUSC	La Rusia	2.02	155	*e*P		Pn	20 56 33.0	-0.7
RUSC				*e*S		Sn	20 56 58.1	+0.1
RUSC					IAML		20 56 58.6	
	comp=Z,369nm,0.7s							
SPBC	San Pablo de B	2.07	184	*e*P		Pn	20 56 32.8	-1.3
SPBC				*e*S		Sn	20 56 58.7	-0.2
SPBC					IAML		20 57 03.9	
	comp=Z,411nm,0.3s							
LL6C	La Loma 6 Bece	2.09	18	*i* P		Pn	20 56 33.1	-1.3
LL6C				*e*S		Sn	20 56 59.3	0.0
LL6C					IAML		20 57 07.4	
	comp=Z,247nm,0.2s							
ARGC	Ariguani, Magd	2.13	352	*e*P		Pn	20 56 34.5	-0.4
ARGC				*e*S		Sn	20 57 02.4	+2.1
ARGC					IAML		20 57 07.5	
	comp=Z,193nm,0.2s							
HELC	Santa Helena	2.20	226	*e*P		Pn	20 56 35.6	-0.5
HELC				*e*S		Sn	20 57 04.6	+2.2
HELC					IAML		20 57 06.2	
	comp=Z,347nm,0.3s							
NORC	Norcasia	2.35	203	*e*P		Pn	20 56 37.0	-0.8
NORC				*e*S		Sn	20 57 04.8	-0.7
NORC					IAML		20 57 11.0	
	comp=Z,268nm,0.2s							
SJCC	San Jacinto, C	2.48	330	*e*P		Pn	20 56 38.3	-1.3
SJCC				*e*S		Sn	20 57 07.9	-0.8
SJCC					IAML		20 57 22.4	
	comp=Z,149nm,0.7s							
TAMC	Tame, Arauca	2.49	121	*e*P		Pn	20 56 39.0	-0.8
TAMC				*e*S		Sn	20 57 09.3	+0.3
TAMC					IAML		20 57 14.9	
	comp=Z,76nm,0.2s							
LCBC	Los crdobas,	2.65	295	*e*P		Pn	20 56 41.0	-1.0
LCBC				*e*S		Sn	20 57 16.2	+3.2
LCBC					IAML		20 57 29.4	
	comp=Z,76nm,0.5s							
CBOC	Ciudad Bolivar	2.78	228	*i* P		Pn	20 56 43.7	0.0
CBOC				*e*S		Sn	20 57 20.1	+3.9
CBOC					IAML		20 57 31.6	
	comp=Z,135nm,1.3s							
GUY2C	Guyana, Caldas	2.87	210	*e*P		Pn	20 56 45.2	-0.1
GUY2C				*e*S		Sn	20 57 19.9	+1.0
GUY2C					IAML		20 57 32.6	
	comp=Z,142nm,0.5s							
ROSC	El Rosal	2.90	188	*e*P		Pn	20 56 45.9	+0.3
ROSC				*e*S		Sn	20 57 20.7	+1.1
ROSC					IAML		20 57 30.6	
	comp=Z,126nm,0.3s							
CHIC	Chingaza	3.09	176	⇑*i*P		Pn	20 56 49.4	+1.2
CHIC				*e*S		Sn	20 57 27.8	+3.6
CHIC					IAML		20 57 33.7	
	comp=Z,119nm,0.4s							
SOCV	Socops	3.10	80	*e*P		Pn	20 56 47.7	-0.3
SOCV				*e*S		Sn	20 57 22.7	-1.2
SOCV					IAML		20 57 26.0	
	comp=Z,31nm,0.4s							
SMRC	Santa Marta, M	3.42	355	*e*P		Pn	20 56 51.7	-0.7
SMRC				*e*S		Sn	20 57 31.7	0.0
SMRC				*e*S			20 57 33.3	
SMRC					IAML		20 57 40.6	
	comp=Z,122nm,0.4s							
CRJC	Cerrejon, Guaj	3.43	18	*e*P		Pn	20 56 49.9	-2.6
CRJC				*e*S		Sn	20 57 29.1	-2.9
CRJC				*e*S			20 57 29.2	
CAPC	Capurgana	3.50	285	*e*P		Pn	20 56 50.9	-2.6
CAPC				*e*S		Sn	20 57 27.5	-6.2
CAPC					IAML		20 57 34.2	
	comp=Z,29nm,0.3s							
ANIL	Santa Ana	3.54	204	*e*P		Pn	20 56 55.7	+1.4
ANIL				*e*S		Sn	20 57 40.5	+5.4
ANIL					IAML		20 57 44.8	
	comp=Z,213nm,0.3s							
VILC	Villavicencio,	3.61	176	*e*P		Pn	20 56 55.8	+0.7
VILC				*e*S		Sn	20 57 40.3	+3.8
VILC					IAML		20 57 44.0	
	comp=Z,150nm,0.5s							
VILC					IAML		20 57 44.5	
	comp=Z,156nm,0.4s							
PLMC	San Jos del P	3.65	220	*e*P		Pn	20 56 55.3	-0.4
PLMC				*e*S		Sn	20 57 38.6	+1.0
PLMC					IAML		20 57 52.5	
	comp=Z,56nm,0.5s							
PTGC	Puerto Gaitan,	3.94	153	*e*P		Pn	20 56 58.6	-1.0
PTGC				*e*S		Sn	20 57 43.6	-1.0
PTGC					IAML		20 57 49.8	
	comp=Z,82nm,0.3s							
URIC	Uribia, Colomb	4.38	26	*e*P		Pn	20 57 04.9	-0.7
URIC				*e*S		Sn	20 57 54.4	-1.0
URIC					IAML		20 58 00.7	
	comp=Z,73nm,0.4s							
YOTC	Yotoco, Valle	4.43	213	*e*P		Pn	20 57 05.2	-1.1
YOTC				*e*S		Sn	20 57 55.6	-1.1
DABV	Dabajuro	4.54	46	⇑*e*P		Pn	20 57 06.6	-1.2
DABV				*e*S		Sn	20 57 56.2	-3.1
GUVC	San Jose del G	5.32	166	*e*P		Pn	20 57 17.4	-1.0
GUVC				*e*S		Sn	20 58 17.5	-0.9
GUVC					IAML		20 58 22.4	
	comp=Z,56nm,0.2s							
MACC	Macarena, Meta	5.55	179	*e*P		Pn	20 57 19.3	-2.4
MACC				*e*S		Sn	20 58 20.4	-3.8
MACC				*e*S			20 58 21.1	
MACC					IAML		20 58 25.4	
	comp=Z,39nm,1.3s							
GARC	Garzon, Huila	5.72	196	*e*P		Pn	20 57 20.7	-3.5
GARC				*e*S		Sn	20 58 29.2	+0.4
GARC					IAML		20 58 35.3	
	comp=Z,28nm,0.3s							
FLOC	Florencia	6.35	196	*e*P		Pn	20 57 31.5	-1.0
FLOC				*e*S		Sn	20 58 44.4	+0.7
FLOC					IAML		20 58 46.6	
	comp=Z,11nm,0.9s							

IDC ***04*** *21:14:10.7±0.7, 19.79S×177.50E, h0km, mb4.3/16, mbtmp4.4/17, ML4.4/1, MS4.0/47, Error ellipse: s-maj=22.8km s-min=17.3km az=135.0*

GCMT ***04*** *21:14:15.9±0.2, 19.74S±0.01×177.52E±0.01, h20km±1km, MW5.0/109, Moment Tensor Solution. s32,c38; s109,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.84±.15; $M_{\theta\theta}$-3.15±.12; $M_{\phi\phi}$3.98±.13; $M_{r\theta}$0.27±.23; $M_{\theta\phi}$1.09±.10; $M_{\phi r}$1.77±

HNR	Honiara	19.86	298	LR	LR	21 25 00.7		
	comp=Z,6µm,21.9s,baz=131,slow=33							
RAR	Rarotonga	21.26	98	LR	LR	21 25 22.6		
	comp=Z,304nm,21.5s,baz=278,slow=32							
RPZ	Rata Peaks	24.62	191	P	P	21 19 31.5	-0.8	
	comp=Z,18nm,1.0s,baz=284,slow=8.3,SNR=2.2							
RPZ				LR	LR	21 27 27.9		
	comp=Z,374nm,21.0s,baz=1.0,slow=33							
	comp=Z,18nm,1.0s							
EIDS	Eidsvold	25.13	252	P	P	21 19 36.4	-0.7	
KRVT	Keravat (AS076	29.22	298	LR	LR	21 30 53.2		
	comp=Z,244nm,21.3s,baz=258,slow=34							
CTA	Charters Tower	29.46	264	P	P	21 20 16.5	+0.4	
	comp=Z,6.6nm,0.9s,baz=104,slow=3.6,SNR=2.5							
CTA				LR	LR	21 30 29.1		
	comp=Z,345nm,20.3s,baz=94,slow=33							
	comp=Z,6.6nm,0.9s							
TBI	Tubuai	30.83	103	eS	S	21 25 27.4	-2.9	
	comp=Z,162nm,26.0s							
TBI				eLR	LR	21 28 19.4		
	comp=Z,1µm,30.5s							
PMG	Port Moresby	31.12	285	LR	LR	21 31 22.2		
	comp=Z,374nm,19.4s,baz=118,slow=33							
PPT2	Papeete2	31.15	92	eS	S	21 25 34.2	-1.3	
	comp=Z,143nm,23.2s							
PPT2				eLR	LR	21 28 31.2		
	comp=Z,1µm,28.8s							
PPT	Papeete	31.15	92	LR	LR	21 29 46.2		
	comp=Z,247nm,20.6s,baz=290,slow=30							
STKA	Stephens Creek	34.48	242	P	P	21 20 59.0	-1.1	
	comp=Z,8.6nm,0.9s,baz=81,slow=8.7,SNR=13							
STKA				LR	LR	21 32 52.9		
	comp=Z,196nm,19.0s,baz=69,slow=33							
	comp=Z,8.6nm,0.9s							
STKA	Stephens Creek	34.48	242	P	P	21 20 59.6	-0.4	
WR0	Warramunga Arr	40.43	262	P	P	21 21 51.1	+0.5	
H11N1	WAKE ISLAND Hy	40.50	344	T	T	22 05 13.0		
	baz=169							
H11N3	WAKE ISLAND Hy	40.50	344	T	T	22 05 11.2		
	baz=169							
H11N2	WAKE ISLAND Hy	40.52	344	T	T	22 05 11.2		
	baz=169							
WB0	Warramunga Arr	40.59	262	P	P	21 21 50.4	-1.5	
WB0				IAmb	IAmb	21 21 54.2		
	comp=Z,13nm,0.9s							
WB2	Warramunga Arr	40.61	262	P	P	21 21 51.5	-0.6	
WB2				IAmb	IAmb	21 21 58.6		
	comp=Z,18nm,1.1s							
WRAB	Tennant Creek	40.61	262	P	P	21 21 48.3	-3.8	
WRA	Warramunga Arr	40.62	262	P	P	21 21 50.1	-2.1	
	comp=Z,10nm,1.1s,baz=94,slow=8.7,SNR=18							
WRA				LR	LR	21 36 55.9		
	comp=Z,288nm,21.5s,baz=14,slow=34							
	comp=Z,10nm,1.1s							
WRA	Warramunga Arr	40.62	262	P	P	21 21 52.6	+0.5	
AS31	Alice Springs	40.70	256	P	P	21 21 51.8	-0.9	
ASAR	Alice Springs	40.70	256	P	P	21 21 50.9	-1.9	
	comp=Z,28nm,0.8s,baz=86,slow=8.3,SNR=57							
ASAR				LR	LR	21 37 36.7		
	comp=Z,418nm,20.6s,baz=94,slow=35							
	comp=Z,28nm,0.8s							
ASAR	Alice Springs	40.70	256	P	P	21 21 51.2	-1.5	
TAOE	Nuku Hiva Isla	42.22	81	eLR	LR	21 33 42.0		
	comp=Z,601nm,29.6s							
GUMO	Guam	46.14	313	LR	LR	21 41 08.5		
	comp=Z,64nm,18.6s,baz=138,slow=35							
SIJI	Sorong	49.03	287	LR	LR	21 42 34.8		
	comp=Z,194nm,21.7s,baz=186,slow=35							
SWI	Sorong	49.04	287	P	P	21 22 57.8	-1.4	
	comp=Z,23nm,0.8s							
SWI				pP	pP	21 23 01.3	-5.4	
	comp=Z,23nm,0.8s							
FITZ	Fitzroy Crossi	49.04	263	LR	LR	21 41 55.6		
	comp=Z,308nm,20.7s,baz=108,slow=34							
FITZ	Fitzroy Crossi	49.04	263	P	P	21 22 58.8	-0.4	
FITZ				IAmb	IAmb	21 23 07.9		
	comp=Z,14nm,0.9s							
BATI	Baumata	52.77	272	LR	LR	21 45 04.2		
	comp=Z,383nm,18.6s,baz=250,slow=35							
PSA00	Pilbara Seismi	53.83	257	P	P	21 23 34.5	-0.5	
PSA00				IAmb	IAmb	21 23 41.0		
	comp=Z,23nm,1.9s							
MBWA	Marble Bar	54.00	258	P	P	21 23 36.9	+0.5	
MBWA	Marble Bar	54.00	258	P	P	21 23 36.7	+0.3	
DAV	Davao City (W)	57.57	292	LR	LR	21 48 11.7		
	comp=Z,65nm,18.7s,baz=114,slow=35							
KAPI	Kappang	58.09	276	LR	LR	21 50 33.9		
	comp=Z,204nm,18.2s,baz=116,slow=38							
VNDA	Vanda	58.43	184	LR	LR	21 45 23.0		
	comp=Z,115nm,20.6s,baz=6.5,slow=32							
CCD	Concordia, Ant	62.28	194	P	P	21 24 29.8	-4.1	
JHJ	Hachijo jima 2	63.70	325	LR	LR	21 48 12.5		
	comp=Z,50nm,19.0s,baz=332,slow=32							
UGM	Wanagama	65.84	270	P	P	21 24 54.6	-3.2	
	comp=Z,143nm,2.1s							
RPN	Rapa Nui	66.66	112	LR	LR	21 47 04.2		
	comp=Z,44nm,21.7s,baz=262,slow=30							
MJAR	Matsushiro Arr	67.14	326	P	P	21 25 08.0	+2.4	
MJAR				LR	LR	21 49 31.0		
	comp=Z,33nm,21.2s,baz=145,slow=32							
	comp=Z,3.3nm,0.9s							
LEM	Lembang	68.91	270	LR	LR	21 56 06.3		
	comp=Z,222nm,18.2s,baz=120,slow=37							
QSPA	South Pole Qui	70.42	180	LR	LR	21 53 16.5		
	comp=Z,123nm,19.0s,baz=24,slow=33							
QSPA	South Pole Qui	70.42	180	P	P	21 25 25.3	-0.5	
QSPA				IAmb	IAmb	21 25 37.2		
	comp=Z,18nm,1.2s							
QSPA	South Pole Qui	70.42	180	P	P	21 25 23.7	-2.1	
QSPA				pP	pP	21 25 34.6	+1.1	
SHEM	Shemya Is, Ala	72.13	358	LR	LR	21 56 00.1		
	comp=Z,35nm,18.1s,baz=86,slow=35							
KSRS	Korea Array	73.56	321	P	P	21 25 46.2	+1.4	
	comp=Z,0.4nm,0.3s,baz=132,slow=6.7,SNR=1.9							
	comp=Z,0.4nm,0.3s							
PEA0B	Petropavlovsk-	74.47	348	P	P	21 25 50.8	+0.9	
PETK	Petropavlovsk-	74.47	348	P	P	21 25 52.0	+2.1	
	comp=Z,1.4nm,0.3s,baz=127,slow=3.8,SNR=2.1							
PETK				LR	LR	21 54 01.2		
	comp=Z,33nm,21.4s,baz=151,slow=32							
	comp=Z,1.4nm,0.3s							
PETK	Petropavlovsk-	74.47	348	P	P	21 25 50.1	+0.3	
USRK	Ussuriysk Ar.	76.00	328	P	P	21 26 00.4	+1.6	
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=4.6							
	comp=Z,0.4nm,0.4s							
CN2	Changchun	79.15	324	eP	P	21 26 21.8	+5.4	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PSI	Prapat	80.29	276	LR	LR	22 03 12.9		
	comp=Z,280nm,18.0s,baz=160,slow=37							
MAW	Mawson	80.93	201	P	P	21 26 26.6	+0.8	
	comp=Z,1.5nm,0.9s,baz=150,slow=5.3,SNR=2.3							
MAW				LR	LR	21 58 47.4		
	comp=Z,137nm,19.5s,baz=106,slow=33							
	comp=Z,1.5nm,0.9s							
KDAK	Kodiak Island	81.03	16	LR	LR	21 55 09.0		
	comp=Z,132nm,21.3s,baz=207,slow=30							
MA2	Magadan	81.93	347	LR	LR	21 58 00.3		
	comp=Z,39nm,20.5s,baz=151,slow=32							
PFO	Pinyon Flats O	82.15	50	LR	LR	21 58 27.3		
	comp=Z,68nm,18.9s,baz=215,slow=32							
LPIG	La Paz	82.58	61	LR	LR	21 55 23.0		
	comp=Z,67nm,19.0s,baz=240,slow=30							
NVAR	Mina Array Bea	83.31	45	P	P	21 26 40.8	+1.8	
	comp=Z,0.2nm,0.3s,baz=219,slow=10,SNR=8.1							
	comp=Z,0.2nm,0.3s							
NVAR	Mina Array Bea	83.31	45	P	P	21 26 39.8	+0.8	
NV11	Mina Array Sit	83.41	45	P	P	21 26 39.8	+0.4	
NV11				IAmb	IAmb	21 26 50.5		
	comp=Z,8.8nm,1.2s							
KVN	Kaiserville	83.77	45	P	P	21 26 42.1	+0.9	
KVN				IAmb	IAmb	21 26 56.3		
	comp=Z,7.3nm,1.1s							
TPH	Tonopah	83.85	46	P	P	21 26 40.1	-1.6	
MOD	Modoc Plateau	83.86	42	P	P	21 26 40.9	-0.7	
L19K	White Mountain	84.44	13	P	P	21 26 44.3	+0.3	
L19K				IAmb	IAmb	21 26 49.8		
	comp=Z,11nm,1.1s							
PINE	Pine Mountain	84.51	40	P	P	21 26 45.2	+0.2	
PINE				IAmb	IAmb	21 27 00.2		
	comp=Z,9.0nm,1.0s							
PRN	Pahroc Range	85.01	48	P	P	21 26 47.6	0.0	
PRN				IAmb	IAmb	21 27 07.6		
	comp=Z,6.4nm,1.0s							
WVOR	Wild Horse Val	85.19	42	P	P	21 26 48.2	-0.1	
I07A	Izee	85.54	40	P	P	21 26 50.8	+0.8	

BBB	Bella Bella	85.67	30	LR	LR	22 04 04.8		
	comp=Z,35nm,18.3s,baz=235,slow=35							
TUC	Tucson	85.76	54	P	P	21 26 51.8	+0.5	
TUC				IAmb	IAmb	21 27 00.9		
	comp=Z,8.5nm,1.4s							
CMAR	Chiang Mai Arr	85.94	291	P	P	21 26 53.9	+1.5	
	comp=Z,2.7nm,1.0s,baz=130,slow=3.8,SNR=8.3							
CMAR				LR	LR	22 06 05.8		
	comp=Z,17nm,18.1s,baz=205,slow=36							
	comp=Z,2.7nm,1.0s							
CMAR	Chiang Mai Arr	85.94	291	P	P	21 26 53.1	+0.7	
CAST	Castle Rocks	86.12	13	P	P	21 26 53.3	+1.0	
CAST				IAmb	IAmb	21 26 56.3		
	comp=Z,8.7nm,1.2s							
G08A	Pilot Rock	86.52	39	P	P	21 26 55.2	+0.4	
G08A				IAmb	IAmb	21 27 06.4		
	comp=Z,15nm,1.8s							
ELK	Elko	86.52	45	LR	LR	22 03 51.4		
	comp=Z,77nm,18.1s,baz=248,slow=34							
DOT	Dot Lake	88.23	16	P	P	21 27 03.0	+0.4	
HLID	Hailey	88.43	42	P	P	21 27 04.1	-0.1	
IL31		88.46	14	P	P	21 27 04.1	+0.7	
ILAR	Eielson Array	88.46	14	P	P	21 27 03.6	+0.1	
	comp=Z,1.3nm,0.8s,baz=231,slow=5.0,SNR=11							
ILAR				LR	LR	21 59 18.0		
	comp=Z,101nm,21.5s,baz=246,slow=30							
	comp=Z,1.3nm,0.8s							
ILAR	Eielson Array	88.46	14	P	P	21 27 04.0	+0.5	
SNAA	Sanae	88.92	180	P	P	21 27 07.0	+1.1	
SNAA	Sanae	88.92	180	LR	LR	22 06 16.8		
	comp=Z,75nm,18.2s,baz=214,slow=35							
DLBC	Dease Lake	88.94	25	LR	LR	21 58 22.6		
	comp=Z,130nm,22.0s,baz=266,slow=30							
J26L	Joseph Creek	89.05	16	P	P	21 27 08.1	+1.6	
J26L				IAmb	IAmb	21 27 17.7		
	comp=Z,3.2nm,0.8s							
NEW	Newport	89.15	37	LR	LR	22 01 29.3		
	comp=Z,50nm,18.2s,baz=152,slow=32							
VNA3	Neumayer Olymp	89.21	178	P	P	21 27 08.4	+1.1	
VNA2	Neumayer--Watz	89.60	178	P	P	21 27 10.8	+1.8	
	baz=175,slow=4.0							
MNTX	Cornudas Mount	89.67	56	P	P	21 27 10.3	+0.3	
MNTX				IAmb	IAmb	21 27 18.3		
	comp=Z,4.7nm,1.1s							
YAK	Yakutsk	89.82	340	P	P	21 27 10.6	+0.7	
VNA1	Neumayer--Stat	89.85	178	P	P	21 27 11.8	+1.6	
TX31	Lajitas Ar. Si	90.12	59	P	P	21 27 12.2	-0.1	
TX32	Lajitas Array	90.12	59	P	P	21 27 12.4	+0.1	
TX32				IAmb	IAmb	21 27 25.3		
	comp=Z,5.0nm,0.9s							
TXAR	Lajitas Array	90.12	59	P	P	21 27 13.2	+0.9	
	comp=Z,2.0nm,0.9s,baz=226,slow=5.5,SNR=18							
TXAR				LR	LR	22 01 03.0		
	comp=Z,93nm,18.0s,baz=228,slow=31							
	comp=Z,2.0nm,0.9s							
TXAR	Lajitas Array	90.12	59	P	P	21 27 12.6	+0.3	
ANMO	Albuquerque	90.14	53	LR	LR	21 59 25.2		
	comp=Z,72nm,20.9s,baz=255,slow=30							
ANMO	Albuquerque	90.14	53	P	P	21 27 13.3	+0.9	
ANMO				IAmb	IAmb	21 27 20.3		
	comp=Z,19nm,2.0s							
GDL2	Guadalupe Moun	90.66	56	P	P	21 27 14.8	0.0	
O20A	White River Ci	90.99	48	P	P	21 27 16.8	+0.5	
PDAR	Pinedale Array	91.22	45	P	P	21 27 17.4	+0.1	
	comp=Z,0.3nm,0.6s,baz=204,slow=2.0,SNR=3.9							
PDAR				LR	LR	22 04 52.3		
	comp=Z,40nm,18.5s,baz=264,slow=33							
	comp=Z,0.3nm,0.6s							
SMCO	Snowmass	91.48	49	P	P	21 27 18.5	-0.3	
SMCO				IAmb	IAmb	21 27 27.0		
	comp=Z,6.2nm,1.1s							
PLCA	Paso Flores	92.83	135	P	P	21 27 26.2	+1.5	
	comp=Z,3.0nm,1.0s,baz=208,slow=6.3,SNR=4.5							
PLCA				LR	LR	21 59 14.9		
	comp=Z,42nm,19.4s,baz=231,slow=29							
	comp=Z,3.0nm,1.0s							
GTA	Gaotai	93.26	311	eP	P	21 27 31.1	+4.4	
GTA				pP	pP	21 27 34.9	+0.2	
GTA				sP	sP	21 27 37.3	-0.3	
GTA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CMIG	Matias Romero	93.36	73	LR	LR	22 00 39.2		
	comp=Z,71nm,19.7s,baz=211,slow=30							
INK	Inuvik	94.57	16	LR	LR	22 02 43.2		
	comp=Z,56nm,21.9s,baz=216,slow=31							
TIXI	Tiksi	96.90	346	LR	LR	22 09 12.2		
	comp=Z,20nm,18.8s,baz=182,slow=34							
CROK	Carrier	97.12	54	P	P	21 27 44.4	+0.1	
CROK				IAmb	IAmb	21 27 46.7		
	comp=Z,35nm,1.0s							
KAN05	Kluff City Nor	97.41	53	P	P	21 27 45.6	+0.1	
FINES	FINESS Array B	133.72	342	PKP	PKiKP	21 33 29.6	+0.3	
	comp=Z,1.9nm,0.8s,baz=48,slow=4.1,SNR=2.5							
AKASG	Malin Array Be	140.20	329	PKP	PKiKP	21 33 42.1	-0.7	
	comp=Z,0.2nm,0.4s,baz=48,slow=2.1,SNR=1.9							
BRTR	Keskin Array B	143.18	311	PKP	PKPdf	21 33 47.2	+1.0	
	comp=Z,1.2nm,0.8s,baz=116,slow=2.9,SNR=4.7							
GHRR		144.03	324	⇓P	PKPdf	21 33 48.3	+1.1	
CFR	Carcaliu	144.14	322	⇑P	PKPdf	21 33 48.6	+1.1	
TPGR	Topolog	144.16	322	⇑P	PKPdf	21 33 48.0	+0.4	
TESR	Tescani	144.17	325	⇑P	PKiKP	21 33 49.9	-1.2	
BIZ	Bicaz	144.19	326	⇑P	PKiKP	21 33 52.2	+1.1	
BURAR	Bucovina Array	144.21	328	⇑P	PKPab	21 33 43.9	-1.6	
VRI	Vrincioaia	144.53	324	⇑P	PKiKP	21 33 51.3	-0.5	
HARR	Harsova	144.54	322	⇑P	PKiKP	21 33 52.3	+0.4	
PLOR	Plostina	144.58	324	⇑P	PKPdf	21 33 49.1	+0.7	
KOLS	Kolonicke sedl	144.69	332	ePKP	PKiKP	21 33 53.6	+1.5	
OZUR		144.90	325	⇓P	PKiKP	21 33 52.3	-0.4	
ARCR	ARCALIA	145.00	328	⇓P	PKPdf	21 33 51.1	+2.1	
BMR	Baia Mare	145.02	329	⇑P	PKPdf	21 33 51.0	+2.0	
CRVS	Cervenica-Dubn	145.07	332	ePKP	PKiKP	21 33 53.5	+0.6	
MLR	Muntele Rosu	145.19	324	⇑P	PKPdf	21 33 51.2	+1.7	
DOPR	Dopca	145.19	325	⇑P	PKiKP	21 33 51.7	-1.5	
VOIR		145.71	325	⇑P	PKiKP	21 33 56.5	+2.1	
OSTC	Ostas	145.80	339	ePKP	PKiKP	21 33 55.2	+0.8	
OSTC				ex	x	21 34 00.1		
CHVC	Chvalec	145.83	339	ePKP	PKiKP	21 33 57.1	+2.7	
CHVC				ex	x	21 34 02.9		
UPC	Upice	145.91	339	ePKP	PKiKP	21 33 57.7	+3.1	
DPC	Dobruska-Polom	145.94	338	ePKP	PKPdf	21 33 51.3	+0.8	
DPC				ex	x	21 33 57.4		
MORC	Moravsky Berou	145.98	337	⇑P	PKiKP	21 33 54.7	-0.1	
MORC	Moravsky Berou	145.98	337	ePKP	PKiKP	21 33 57.6	+2.8	
ARR	Arges	145.98	325	⇑P	PKiKP	21 33 55.2	+0.2	
LTVH	Ltavrtes, Hu	145.99	330	⇑P	PKiKP	21 33 56.5	+1.8	
KRLC	Kraliky	146.01	338	ePKP	PKPab	21 33 53.8	+1.8	
KRLC				ex	x	21 33 57.5		
DRGR		146.02	329	⇑P	PKiKP	21 33 56.3	+1.3	
CLL	Collm	146.15	343	ePKPbc	PKPbc	21 33 52.0	+0.2	
	comp=Z,5.0nm,1.0s							
CLL				⇑iPKPbc(2)		21 33 58.1		
	comp=Z,36nm,0.8s							
MAUC	Maruska	146.21	336	ePKP	PKiKP	21 33 58.2	+2.9	
BRG	Berggiesshubel	146.26	341	ePKP	PKiKP	21 33 54.8	-0.5	
BRG				Amp		21 33 59.4		
	comp=Z,17nm,1.0s							
PVCC	Panska Ves	146.37	340	ePKP	PKiKP	21 33 58.4	+2.9	
PSZ	Piszkesteto	146.50	332	⇑P	PKPab	21 33 54.6	+0.7	
VYHS	Vyhne	146.50	334	ePKP	PKiKP	21 33 59.3	+3.4	
JAVC	Velka Javorina	146.68	336	ePKP	PKiKP	21 33 59.7	+3.4	
VRAC	Vranov	146.72	337	ePKP	PKiKP	21 33 58.4	+2.1	
PRU	Pruhonice	146.85	340	ePKP	PKiKP	21 33 59.2	+2.7	
SIRR	Siria	146.90	329	⇑P	PKiKP	21 33 58.7	+2.0	
GZR	Gura Zlata	146.95	327	⇑P	PKiKP	21 33 58.6	+1.6	
KRUC	Moravsky	146.99	337	ePKP	PKiKP	21 33 59.4	+2.6	
MODS	Modra-Piesok	147.22	336	ePKP	PKiKP	21 33 59.1	+1.7	
NKC	Novy Kostel	147.27	342	ePKP	PKiKP	21 34 01.2	+3.8	
NKC				ex	x	21 34 03.1		
BZS	Buzias	147.38	328	⇓P	PKiKP	21 34 00.6	+2.9	
HERR	Herculane	147.48	326	⇑P	PKiKP	21 34 00.8	+2.9	
KHC	Kasperske Hory	147.90	340	ePKP	PKPab	21 34 02.9	+3.5	
MDVR	Moldovita	147.91	327	⇑P	PKPab	21 34 01.1	+1.5	
CKRC	Cesky Krumlov	147.93	339	ePKP	PKiKP	21 33 58.7	-0.1	
CKRC				ex	x	21 34 03.2		
GERES	GERESS Array B	148.11	340	PKPbc	PKPbc	21 33 58.1	+0.6	
	comp=Z,1.0nm,0.8s,baz=35,slow=3.6,SNR=4.4							
CONA	Conrad Observa	148.13	336	eP	PKPab	21 34 02.5	+2.1	
	comp=Z,11nm,1.0s							
RONA	Rosalia, Austr	148.16	336	eP	PKPab	21 34 02.8	+2.3	
	comp=Z,7.8nm,1.0s							
BLKB	Belogradchik	148.18	324	⇓P	PKPab	21 34 02.9	+2.2	
MORH	Mrgy, Hungar	148.35	332	⇑P	PKiKP	21 34 00.8	+1.1	
VTS	Vitosha	148.51	322	⇓P	PKPbc	21 33 57.7	-1.1	
FRGS	Fruska Gora	148.60	329	⇑P	PKPab	21 34 02.4	+0.1	

BOVS	Bovan	148.70	325	⇓P	PKiKP	21 34 00.5	0.0	
MOA	Molln	148.78	338	eP	PKPab	21 34 03.8	+0.8	
	comp=Z,3.4nm,1.1s							
ARSA	Arzberg	148.82	336	eP	PKPab	21 34 04.2	+1.1	
	comp=Z,4.2nm,0.9s							
BIOA	Bad Ischl, Aus	149.13	339	eP	PKPab	21 34 04.2	-0.2	
	comp=Z,7.6nm,1.4s							
SOKA	Soboth	149.49	336	eP	PKPab	21 34 04.7	-1.2	
	comp=Z,10nm,1.2s							
KBA	Koelnbreinsper	149.76	338	iP	PKPab	21 34 05.5	-1.6	
	comp=Z,16nm,1.6s							
OBKA	Obir	149.81	336	iP	PKPab	21 34 05.7	-1.6	
	comp=Z,5.3nm,1.0s							
MYKA	Terra Mystica	150.04	338	iP	PKPab	21 34 06.6	-1.6	
	comp=Z,7.9nm,0.9s							
WATA	Walderalm	150.12	341	eP	PKPab	21 34 06.8	-1.8	
	comp=Z,9.3nm,0.9s,SNR=4.4							
WTTA	Wattenberg	150.16	341	eP	PKPab	21 34 07.0	-1.9	
	comp=Z,13nm,0.9s							
RETA	Reutte	150.23	342	eP	PKPab	21 34 06.9	-2.1	
	comp=Z,14nm,1.2s							
MOTA	Moosalm	150.26	341	eP	PKPab	21 34 07.2	-1.9	
	comp=Z,18nm,1.0s,SNR=6.9							
ABTA	Abfaltersbach	150.33	339	eP	PKiKP	21 34 06.6	+2.7	
	comp=Z,16nm,1.0s							
SQTA	Sankt Quirin	150.34	341	eP	PKPab	21 34 07.3	-2.1	
	comp=Z,15nm,1.0s,SNR=5.4							
FETA	Feichten	150.66	342	eP	PKiKP	21 34 06.8	+2.1	
	comp=Z,11nm,0.9s							
DAVA	Damuels	150.66	343	eP	PKPab	21 34 08.3	-2.6	
	comp=Z,11nm,1.2s							
PDG	Podgorica	150.83	326	⇑P	PKiKP	21 34 08.1	+3.2	

JMA 04 21:18:51.0±0.3, 37.3N±0.8×14.4E±, h51km, MV3.6/29,
FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	Ishinomakikobu	2.02	302	iP	Pn	21 19 23.5	+0.9
JIKH				S	Sn	21 19 47.4	+0.8
JIO	Ouri	2.17	304	P	Pn	21 19 25.7	+1.1
JIO				S	Sn	21 19 51.2	+0.8
JFK	Kawauchi	2.21	274	P	Pn	21 19 26.2	+1.0
JFK				eS	Sn	21 19 52.3	+1.0
JMST	Minamisoumatoc	2.24	283	P	Pn	21 19 26.3	+0.8
JKMT	Kesennumamotoy	2.31	313	P	Pn	21 19 27.6	+1.1
JKMT				eS	Sn	21 19 54.9	+1.1
JMK	Ichinoseki	2.55	312	P	Pn	21 19 31.0	+1.1
JMK				eS	Sn	21 20 00.6	+0.9
JFT	Otama	2.64	277	P	Pn	21 19 33.3	+2.2
JFT				eS	Sn	21 20 04.3	+2.3
JOM	Ohasama	2.88	321	P	Pn	21 19 35.8	+1.4
JOM				eS	Sn	21 20 08.7	+0.9
JYK	Kaneyama	3.08	304	P	Pn	21 19 39.5	+2.5
JYK				S	Sn	21 20 14.4	+1.8
BSO1	Boso 1	3.37	221	eP	Pn	21 19 40.3	-0.3
BSO1				eS	Sn	21 20 19.7	+0.6
JAG	Ashikaga	3.46	257	iP	Pn	21 19 43.5	+1.3
JAG				S	Sn	21 20 22.3	+0.3
JANG	Nango	3.53	333	P	Pn	21 19 44.1	+0.8
JANG				eS	Sn	21 20 23.8	0.0
JRY	Ryogami san	4.00	253	P	Pn	21 19 50.7	+0.9
JRY				eS	Sn	21 20 34.8	-0.6
JOD2	Odawara 2	4.18	243	P	Pn	21 19 53.1	+0.9
JOD2				S	Sn	21 20 38.2	-1.6
JCH	Churui	5.36	358	P	Pn	21 20 07.4	-0.9
JCH				eS	Sn	21 21 04.6	-4.1
NEM2	Nemuro 2	6.32	14	eP	Pn	21 20 17.9	-3.5
NEM2				S	Sn	21 21 25.5	-6.6

*IDC **04** 22:28:32.7±0.7, 13.40N×92.65E, h0km, mb3.7/15, mbtmp3.8/17, ML3.9/2, MS3.5/15, Error ellipse: s-maj=22.8km s-min=16.4km az=52.0*
*DJA **04** 22:28:36.7±0.5, 14.7N±9.3E±, h10km, M4.5/5, mb4.4/5, ML4.5/4*
*NEIC **04** 22:28:36.6±1.2, 13.51N±0.04×92.7E±0.1, h31km±6km, mb4.2/7, Error ellipse: s-maj=17.2km s-min=3.8km az=102.0*
*NDI **04** 22:

baz=43,slow=76,SNR=17
MK31 Makanchi Array 34.22 347 P P 22 35 21.5 +0.2
MK31 IAmb IAmb 22 35 29.1
comp=Z,2.2nm,0.9s
MKAR Makanchi Array 34.22 347 P P 22 35 22.3 +1.0
comp=Z,0.7nm,0.8s,baz=169,slow=8.0,SNR=8.9
MKAR LR LR 22 51 56.5
comp=Z,32nm,18.2s,baz=141,slow=41
comp=Z,0.7nm,0.8s
MKAR Makanchi Array 34.22 347 P P 22 35 21.8 +0.4
MAKZ Makanchi 34.30 347 P P 22 35 23.2 +1.2
MAKZ IAmb IAmb 22 35 30.6
comp=Z,1.8nm,0.8s
SONM Songino Array 35.92 16 P P 22 35 36.5 +0.4
comp=Z,0.3nm,0.6s,baz=202,slow=11,SNR=1.6
comp=Z,0.3nm,0.6s
GEYT Alibeck 39.16 315 LR LR 22 54 10.0
comp=Z,52nm,18.3s,baz=178,slow=39
KSRS Korea Array 39.21 46 P P 22 36 04.3 +0.5
comp=Z,0.7nm,0.5s,baz=238,slow=7.6,SNR=1.5
KSRS LR LR 22 55 06.9
comp=Z,42nm,19.1s,baz=255,slow=40
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 40.71 353 P P 22 36 17.0 +0.9
comp=Z,0.7nm,0.5s,baz=176,slow=8.9,SNR=4.5
ZALV LR LR 22 56 45.2
comp=Z,66nm,18.0s,baz=194,slow=41
comp=Z,0.7nm,0.5s
MJAR Matsushiro Arr 46.47 52 LR LR 22 58 21.2
comp=Z,52nm,18.7s,baz=254,slow=38
JHJ Hachijo jima 2 46.82 57 LR LR 22 58 29.9
comp=Z,20nm,18.1s,baz=46,slow=38
GNI Garni 49.59 311 LR LR 23 02 57.0
comp=Z,34nm,18.2s,baz=90,slow=42
KBZ Khabaz 52.05 315 P P 22 37 44.5 -0.8
comp=Z,0.5nm,0.6s,baz=124,slow=7.3,SNR=1.8
comp=Z,0.5nm,0.6s
WB0 Warramunga Arr 52.68 128 P P 22 37 49.5 -0.9
WB0 IAmb IAmb 22 38 03.5
comp=Z,5.6nm,1.1s
WRA Warramunga Arr 52.74 128 P P 22 37 49.5 -1.2
comp=Z,1.4nm,0.8s,baz=282,slow=8.6,SNR=16
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 52.74 128 P P 22 37 50.1 -0.7
WB2 Warramunga Arr 52.75 128 P P 22 37 50.0 -0.8
ASAR Alice Springs 54.66 132 P P 22 38 03.8 -1.0
comp=Z,0.8nm,0.5s,baz=310,slow=7.5,SNR=9.1
comp=Z,0.8nm,0.5s
YAK Yakutsk 55.02 20 LR LR 23 04 59.1
comp=Z,38nm,18.2s,baz=260,slow=40
BRTR Keskin Array B 57.78 308 P P 22 38 27.6 +0.5
comp=Z,0.5nm,0.7s,baz=120,slow=8.7,SNR=3.8
comp=Z,0.5nm,0.7s
TIXI Tiksi 61.89 12 LR LR 23 09 30.2
comp=Z,37nm,18.0s,baz=181,slow=40
STKA Stephens Creek 65.04 135 P P 22 39 15.5 -0.5
comp=Z,0.6nm,0.4s,baz=326,slow=15,SNR=1.5
comp=Z,0.6nm,0.4s
FINES FINESS Array B 67.06 331 P P 22 39 29.3 +0.8
comp=Z,1.8nm,0.9s,baz=133,slow=6.1,SNR=2.0
comp=Z,1.8nm,0.9s
ARCES ARCESS Array B 69.44 340 P P 22 39 42.6 -0.8
comp=Z,1.3nm,0.8s,baz=91,slow=7.2,SNR=1.2
comp=Z,1.3nm,0.8s
GERES GERESS Array B 72.72 317 P P 22 40 01.7 -2.0
comp=Z,0.1nm,0.3s,baz=87,slow=7.0,SNR=1.7
comp=Z,0.1nm,0.3s
SPITS Spitsbergen Ar 73.97 348 LR LR 23 19 29.9
comp=Z,54nm,18.2s,baz=106,slow=41
NB2 NORSAR Subarra 74.12 330 P P 22 40 17.3 +5.6
comp=Z,1.3nm,0.8s,baz=89,slow=6.2
NOA NORSAR Array B 74.12 330 P P 22 40 11.4 -0.2
comp=Z,0.2nm,0.6s,baz=90,slow=5.6,SNR=3.0
NOA LR LR 23 15 28.3
comp=Z,18nm,18.4s,baz=195,slow=38
comp=Z,0.2nm,0.6s
LBTB Lobatse 75.95 240 LR LR 23 09 31.2
comp=Z,41nm,18.5s,baz=53,slow=32
BOSA Boshof 77.61 236 P P 22 40 28.4 -3.9
comp=Z,2.1nm,1.1s,baz=49,slow=3.2,SNR=1.6
comp=Z,2.1nm,1.1s
TORD Torodi Ar. Bea 88.04 283 P P 22 41 26.8 +0.3
comp=Z,0.4nm,1.0s,baz=88,slow=5.8,SNR=3.5
comp=Z,0.4nm,1.0s
RPZ Rata Peaks 91.00 135 LR LR 23 25 01.9
comp=Z,54nm,18.5s,baz=244,slow=37
VNDA Vanda 98.80 168 LR LR 23 22 26.2
comp=Z,61nm,19.0s,baz=342,slow=33

*NEIC **04** 22:34:52.9±2.0, 54.°4N±0.°1×160.°34W±0.°06, h24km±16km, Error ellipse: s-maj=17.5km s-min=4.4km az=189.0*
AEIC 04 22:34:53±1.9, **54.°41N**±0.°08×**160.°3W**±0.°2, **h19**km±8km, **ML2.7, Error ellipse: s-maj=16.7km s-min=6.2km az=129.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.57**	**44**		Pg	22 35 05.0	+0.5
CNBA					Sn	22 35 14.9	-0.2
SDPT	**Sand Point**	**0.95**	**353**		Pb	22 35 09.9	-0.9
SDPT				Sn	Sg	22 35 23.5	-0.5
HAG	**Hague Volcano**	**1.31**	**315**		Pn	22 35 16.2	-0.1
PS4A	**Pavlof South-4**	**1.31**	**316**		Pn	22 35 16.1	-0.2
DT1	**Dutton Round H**	**1.36**	**302**		Pn	22 35 15.9	-1.1

*IDC **04** 22:36:26.9±0.7, 55.°05S×31.°63W, h0km, mb4.0/12, mbtmp4.0/12, MS3.7/19, Error ellipse: s-maj=24.9km s-min=16.0km az=50.0*
*NEIC **04** 22:36:29.2±1.9, 55.°2S±0.°1×31.°9W±0.°2, h10km±1km, mb4.5/15, Error ellipse: s-maj=24.3km s-min=13.9km az=203.0*
ISC 04 22:36:28.9±0.5, **55.°05S**±0.°09×**31.°81W**±0.°09, **h10**km, **n56,** σ1°23/39, **mb4.3**/16, **MS3.8**/18, **South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.82**	**284**	Pn	**Pn**	**22 37 14.2**	**+0.2**
HOPE				Sn	**Sn**	**22 37 46.3**	**-1.6**
PMSA	**Palmer Station**	**18.65**	**226**	LR	LR	22 46 21.7	
	comp=Z,220nm,20.4s,baz=30,slow=32						
VNA1	**Neumayer--Stat**	**18.76**	**156**	P	**Pn**	**22 40 50.6**	**+2.5**
VNA3	**Neumayer Olymp**	**18.87**	**158**	P	**Pn**	**22 40 50.2**	**+0.7**
VNA2	**Neumayer--Watz**	**19.16**	**156**	P	**Pn**	**22 40 56.3**	**+3.4**
	baz=316,slow=11						
SNAA	**Sanae**	**20.76**	**154**	P	**P**	**22 41 09.1**	**-0.4**
SNAA	**Sanae**	**20.76**	**154**	P	**P**	**22 41 08.1**	**-1.4**
	2.5nm,0.8s,baz=312,slow=7.4,SNR=13						
SNAA				LR	LR	22 47 07.6	
	comp=Z,134nm,21.1s,baz=303,slow=31						
	2.5nm,0.8s						
SNAA	**Sanae**	**20.76**	**154**	P	**P**	**22 41 08.4**	**-1.2**
TROLL	**Troll, Antarti**	**22.34**	**153**	P	**P**	**22 41 26.2**	**-0.3**
PLCA	**Paso Flores**	**29.23**	**283**	P	**P**	**22 42 29.8**	**-0.9**
	0.9nm,0.8s,baz=68,slow=8.0,SNR=3.1						
PLCA				LR	LR	22 54 00.6	
	comp=Z,75nm,21.1s,baz=138,slow=36						
	0.9nm,0.8s						
GO05	**Hualа**	**34.07**	**289**	P	**P**	**22 43 12.7**	**-0.5**
CPUP	**Villa Florida**	**34.22**	**317**	P	**P**	**22 43 15.3**	**+0.8**
	1.7nm,0.6s,baz=129,slow=8.6,SNR=6.5						
	1.7nm,0.6s						
CPUP	**Villa Florida**	**34.22**	**317**	P	**P**	**22 43 15.5**	**+0.9**
MT09	**Talagante**	**34.50**	**292**	P	**P**	**22 43 16.7**	**-0.4**
MT09				IAmb	IAmb	22 43 18.2	
	comp=Z,17nm,1.4s						
MT01	**Popeta**	**34.57**	**291**	P	**P**	**22 43 17.5**	**-0.1**
MT01				IAmb	IAmb	22 43 55.0	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**22 43 22.9**	**0.0**
	comp=Z,1.6nm,0.7s,baz=203,slow=5.6,SNR=4.0						
QSPA				LR	LR	22 56 44.6	
	comp=Z,161nm,18.0s,baz=190,slow=35						
	comp=Z,1.6nm,0.7s						
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**22 43 22.7**	**-0.3**
QSPA				IAmb	IAmb	22 43 50.9	
	comp=Z,9.8nm,1.4s						
CO01	**Juntas del Tor**	**37.01**	**297**	P	**P**	**22 43 40.2**	**+1.4**
CO01				IAmb	IAmb	22 44 15.7	
	comp=Z,7.6nm,1.2s						
AC05	**El Transito**	**38.02**	**298**	P	**P**	**22 43 47.9**	**+0.6**
AC05				IAmb	IAmb	22 43 51.1	
	comp=Z,19nm,1.4s						
BDFB	**Brasilia**	**41.27**	**336**	P	**P**	**22 44 14.0**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=139,slow=9.3,SNR=2.3						

comp=Z,1.1nm,0.3s
MAW Mawson 42.49 146 P P 22 44 22.8 -0.8
comp=Z,2.1nm,0.8s,baz=253,slow=6.1,SNR=3.5
comp=Z,2.1nm,0.8s
LVC Limon Verde 42.54 304 P P 22 44 25.8 +0.8
comp=Z,2.0nm,0.5s,baz=146,slow=3.6,SNR=2.6
LVC LR LR 23 05 06.6
comp=Z,32nm,18.4s,baz=175,slow=40
comp=Z,2.0nm,0.5s
LVC Limon Verde 42.54 304 P P 22 44 27.3 +2.3
LVC IAmb IAmb 22 44 32.4
comp=Z,6.8nm,1.1s
SIV San Ignacio 45.02 318 LR LR 23 02 22.6
comp=Z,36nm,19.4s,baz=233,slow=34
VNDA Vanda 47.42 184 P P 22 45 02.5 -0.4
comp=Z,0.7nm,0.8s,baz=169,slow=6.8,SNR=2.5
VNDA LR LR 23 02 59.4
comp=Z,55nm,19.1s,baz=144,slow=34
comp=Z,0.7nm,0.8s
VNDA Vanda 47.42 184 P P 22 45 02.4 -0.4
LPAZ La Paz 47.68 310 P P 22 45 06.7 +0.6
comp=Z,2.0nm,0.5s,baz=132,slow=5.7,SNR=14
comp=Z,2.0nm,0.5s
LPAZ La Paz 47.68 310 P P 22 45 07.1 +0.9
LPAZ IAmb IAmb 22 45 17.4
comp=Z,3.1nm,0.7s
H10S2 ASCENSION HYDR 47.95 23 T T 23 36 46.0
baz=27,slow=74,SNR=3.8
H10S3 ASCENSION HYDR 47.95 23 T T 23 36 43.3
baz=193,slow=74,SNR=8.4
BOSA Boshof 48.34 81 P P 22 45 10.0 -0.7
comp=Z,3.3nm,1.1s,baz=210,slow=6.7,SNR=2.2
comp=Z,3.3nm,1.1s
BOSA Boshof 48.34 81 P P 22 45 10.2 -0.5
H10N3 ASCENSION HYDR 49.06 23 T T 23 38 27.3
baz=193,slow=75,SNR=14
H10N1 ASCENSION HYDR 49.06 23 T T 23 38 36.9
baz=193,slow=75,SNR=14
H10N2 ASCENSION HYDR 49.08 23 T T 23 38 45.3
baz=193,slow=75,SNR=14
RCBR Riachuelo 49.19 355 LR LR 23 02 04.6
comp=Z,54nm,21.0s,baz=318,slow=31
LBTB Lobatse 51.31 78 P P 22 45 31.9 -1.3
comp=Z,2.4nm,0.9s,baz=194,slow=12,SNR=2.7
comp=Z,2.4nm,0.9s
LBTB Lobatse 51.31 78 P P 22 45 34.9 +1.6
LBTB IAmb IAmb 22 45 54.9
comp=Z,12nm,1.4s
LSZ Lusaka 60.54 74 LR LR 23 10 52.1
comp=Z,73nm,18.0s,baz=285,slow=34
BOAV Boa Vista 61.94 327 P P 22 46 48.5 -0.2
BOAV IAmb IAmb 22 46 50.0
comp=Z,3.3nm,0.9s
MDP Montagnes des 62.38 336 LR LR 23 11 45.6
comp=Z,50nm,21.9s,baz=147,slow=34
DBIC Dimbokro 65.47 30 LR LR 23 10 11.8
comp=Z,106nm,18.5s,baz=158,slow=31
DBIC Dimbokro 65.47 30 P P 22 47 12.2 +0.2
SDV Santo Domingo 71.48 319 LR LR 23 21 45.5
comp=Z,32nm,18.8s,baz=115,slow=38
KOWA Kowa 73.16 28 LR LR 23 13 46.0
comp=Z,95nm,19.4s,baz=178,slow=31
TORD Torodi Ar. Bea 73.58 34 P P 22 48 01.3 -0.8
comp=Z,0.8nm,0.8s,baz=193,slow=5.9,SNR=6.3
TORD LR LR 23 14 58.8
comp=Z,129nm,18.3s,baz=218,slow=31
comp=Z,0.8nm,0.8s
MBAR Mbarara 74.11 67 LR LR 23 18 06.7
comp=Z,56nm,18.4s,baz=199,slow=34
KMBO Kilima Mbogo 77.20 73 LR LR 23 21 44.2
comp=Z,52nm,18.1s,baz=232,slow=35
STKA Stephens Creek 93.25 174 LR LR 23 28 15.9
comp=Z,104nm,20.3s,baz=206,slow=33
KEST Kesra 97.06 33 LR LR 23 29 32.2
comp=Z,96nm,18.8s,baz=238,slow=33
ESDC Sonseca Array 97.31 21 LR LR 23 29 47.9
comp=Z,56nm,18.3s,baz=179,slow=33
FINES FINESS Array B 124.76 30 PKP PKPdf 22 55 26.3 -1.0
comp=Z,0.7nm,0.6s,baz=242,slow=3.0,SNR=4.1
MKAR Makanchi Array 139.09 73 PKP PKPdf 22 55 55.0 +0.2
comp=Z,0.1nm,0.5s,baz=242,slow=3.1,SNR=2.1
ZALV Zalesovo Beam 144.30 65 PKP PKPbc 22 56 02.0 -0.2
comp=Z,0.7nm,0.5s,baz=224,slow=4.0,SNR=3.7
ILAR Eielson Array 147.50 314 PKPbc PKPbc 22 56 10.7 -0.9
comp=Z,1.2nm,0.7s,baz=120,slow=1.8,SNR=17
ILAR PP PP 22 59 41.6 +2.8
comp=Z,0.4nm,0.9s,baz=87,slow=6.6,SNR=4.7
SONM Songino Array 153.31 88 PKPbc PKPbc 22 56 25.2 -1.1
comp=Z,0.3nm,0.4s,baz=259,slow=1.5,SNR=4.0

*DJA **04** 22:56:07.8±0.3, 8.°S±3.°×12.°0E±.°, h17.3km±4.4km, M4.0/13, mb4.5/4, MLv3.8/13*
*IDC **04** 22:56:09.0±1.7, 8.°14S×119.°86E, h194km±14km, mb3.4/6, mbtmp3.9/11, Error ellipse: s-maj=35.2km s-min=8.2km az=57.0*
*NEIC **04** 22:56:09.4±1.8, 8.°25S±0.°10×119.°8E±0.°1, h201km±8km, mb4.1/10, Error ellipse: s-maj=17.7km s-min=13.5km az=67.0*
ISC 04 22:56:07.9±0.6, **8.°36S**±0.°05×**119.°62E**±0.°05, **h200**km, **n43,** σ1°98/50, **mb3.8/6, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.30**	**190**	P	**Pn**	**22 56 37.9**	**-2.1**
WBSI				S	**Sn**	**22 57 00.4**	**-4.6**
PLAI	**Plampang**	**1.89**	**256**	P	**Pn**	**22 56 44.0**	**-1.3**
PLAI				S	**Sn**	**22 57 10.6**	**-3.7**
BASI	**Baing, Sumba**	**2.08**	**153**	P	**Pn**	**22 56 46.2**	**-1.0**
EDFI	**Ende, Flores**	**2.08**	**101**	P	**Pn**	**22 56 45.4**	**-2.0**
BSSI	**Bau Bau, Buton**	**2.36**	**21**	P	**Pn**	**22 56 48.5**	**-1.8**
MMRI	**Maumere**	**2.60**	**96**		**Pn**	**22 56 52.1**	**-0.8**
MMRI	**Maumere**	**2.60**	**96**	P	**Pn**	**22 56 52.3**	**-0.7**
TWSI	**Taliwang, Sumb**	**2.74**	**262**	P	**Pn**	**22 56 53.4**	**-1.1**
TWSI				S	**Sn**	**22 57 28.1**	**-2.8**
BKSI	**Bulukumba**	**3.06**	**9**	P	**Pn**	**22 56 57.0**	**-1.3**
KAPI	**Kappang**	**3.32**	**2**	P	**Pn**	**22 57 00.6**	**-0.9**
	33nm,0.4s,baz=175,slow=8.9,SNR=20						
KAPI				S	**Sn**	**22 57 39.4**	**-4.0**
	6.0nm,0.5s,baz=142,slow=19,SNR=1.4						
KAPI	**Kappang**	**3.32**	**2**	Pn	**Pn**	**22 57 00.2**	**-1.3**
SPSI	**Sidrap Palu**	**4.37**	**2**	P	**Pn**	**22 57 14.9**	**+0.6**
BATI	**Baumata**	**4.39**	**115**	P	**Pn**	**22 57 15.1**	**+0.4**
	59nm,0.4s,baz=324,slow=14,SNR=8.8						
BATI				S	**Sn**	**22 58 04.5**	**-2.7**
	48nm,0.3s,baz=316,slow=19,SNR=6.3						
BATI	**Baumata**	**4.39**	**115**	P	**Pn**	**22 57 14.9**	**+0.2**
GMJI	**Gumukmas**	**6.12**	**270**	P	**Pn**	**22 57 35.8**	**-0.9**
PCJI	**Pacitan**	**8.36**	**270**	P	**Pn**	**22 58 05.6**	**-0.3**
	59nm,1.4s						
UGM	**Wanagama**	**9.02**	**272**	P	**Pn**	**22 58 14.2**	**-0.4**
	109nm,2.0s						
FITZ	**Fitzroy Crossi**	**11.31**	**149**	P	**Pn**	**22 58 45.1**	**+1.0**
	1.8nm,0.6s,baz=323,slow=8.6,SNR=33						
FITZ				S	**Sn**	**23 00 44.1**	**-6.2**
	4.4nm,0.4s,baz=49,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.31**	**149**	Pn	**Pn**	**22 58 44.8**	**+0.7**
KNRA	**Kununurra**	**11.52**	**130**	Pn	**Pn**	**22 58 45.4**	**-1.4**
MTN	**Manton Dam**	**12.16**	**112**	Pn	**Pn**	**22 58 54.2**	**-0.7**
MBWA	**Marble Bar**	**12.73**	**180**	Pn	**Pn**	**22 59 03.6**	**+1.5**
FAKI	**Fak Fak**	**13.67**	**67**	Pn	**Pn**	**22 59 11.8**	**-2.1**
SIJI	**Sorong**	**13.78**	**58**	P	**Pn**	**22 59 14.0**	**-1.2**
	4.3nm,0.6s,baz=247,slow=15,SNR=2.6						
WB0	**Warramunga Arr**	**18.25**	**130**		**P**	**23 00 07.5**	**+0.8**
WB0				IAmb	IAmb	23 00 10.4	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**18.32**	**131**	P	**P**	**23 00 08.7**	**+1.4**
	comp=Z,1.1nm,0.5s,baz=302,slow=12,SNR=37						
WRA				S	**S**	**23 03 27.9**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=306,slow=24,SNR=6.1						
WRA	**Warramunga Arr**	**18.32**	**131**		**P**	**23 00 07.9**	**+0.6**
WB2	**Warramunga Arr**	**18.33**	**130**		**P**	**23 00 08.4**	**+1.0**
WB2				IAmb	IAmb	23 00 20.2	
	comp=Z,7.2nm,1.1s						
WR0	**Warramunga Arr**	**18.48**	**130**	P	**P**	**23 00 10.7**	**+1.6**
WR0				IAmb	IAmb	23 00 13.1	
	comp=Z,4.7nm,0.6s						
AS31	**Alice Springs**	**20.47**	**140**		**P**	**23 00 31.9**	**+1.5**
ASAR	**Alice Springs**	**20.47**	**140**	P	**P**	**23 00 32.2**	**+1.8**
	comp=Z,1.7nm,0.5s,baz=316,slow=9.5,SNR=23						
ASAR				S	S	23 04 21.3	+13
	comp=Z,0.5nm,0.7s,baz=313,slow=23,SNR=2.3						
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**20.47**	**140**	P	**P**	**23 00 31.6**	**+1.1**
FORT	**Forrest**	**23.66**	**162**	P	**P**	**23 01 02.6**	**+1.3**
COEN	**Coen**	**23.76**	**106**	P	**P**	**23 01 02.9**	**+0.5**

BBOO Buckleboo 28.70 150 P P 23 01 48.0 +1.5
BBOO IAmb IAmb 23 02 05.8
comp=Z,26nm,1.4s
STKA Stephens Creek 31.06 142 P P 23 02 10.1 +2.7
comp=Z,1.4nm,0.4s,baz=310,slow=7.4,SNR=5.9
comp=Z,1.4nm,0.4s
STKA Stephens Creek 31.06 142 P P 23 02 08.3 +1.0
STKA IAmb IAmb 23 02 43.4
comp=Z,2.7nm,1.4s
SONM Songino Array 57.16 349 P P 23 05 34.8 +0.8
comp=Z,0.8nm,0.7s,baz=164,slow=8.0,SNR=4.9
comp=Z,0.8nm,0.7s
MKAR Makanchi Array 64.17 332 P P 23 06 22.1 +1.0
comp=Z,0.5nm,0.6s,baz=154,slow=7.3,SNR=6.1
comp=Z,0.5nm,0.6s
ZALV Zalesovo Beam 68.67 339 P P 23 06 49.4 -0.1
comp=Z,1.2nm,0.4s,baz=115,slow=4.2,SNR=7.3
comp=Z,1.2nm,0.4s
VNDA Vanda 72.52 171 P P 23 07 15.5 +3.0
comp=Z,0.3nm,0.7s,baz=314,slow=7.2,SNR=1.6
comp=Z,0.3nm,0.7s
VNDA Vanda 72.52 171 P P 23 07 14.7 +2.2
VNDA IAmb IAmb 23 07 29.7
comp=Z,3.7nm,1.5s
ABKAR Akbulak array 77.40 325 P P 23 07 41.6 +0.9

*NOU **04** 22:58:45.9, 21.°26S×169.°22E, h0km, MLv4.1/7, Southeast of Loyalty Islands*
*IDC **04** 22:58:48.4±6.3, 22.°93S×169.°27E, h0km, mb3.7/3, mbtmp3.7/3, MS3.3/2, Error ellipse: s-maj=287.7km s-min=54.5km az=156.0*
ISC 04 22:58:57.1±2.4, **21.°4S**±0.°1×**168.°4E**±0.°2, **h20**km, **n13,** σ0°54/11, **mb3.6/3, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.33**	**263**	P	**Pn**	**22 59 07.2**	**+0.4**
LIFNC	**LIFOU**	**1.25**	**301**	P	**Pb**	**22 59 19.5**	**-0.6**
YATNC	**Mamie plateau,**	**1.52**	**246**	P	**Pn**	**22 59 23.5**	**+0.3**
OUENC	**Ouen Island, N**	**1.73**	**235**	P	**Pb**	**22 59 27.7**	**-0.6**
DZM	**Mont Dzumac**	**1.91**	**250**	LR	LR	22 59 57.4	
	comp=Z,84nm,20.9s,baz=45,slow=25						
DZM	**Mont Dzumac**	**1.91**	**250**	P	**Pb**	**22 59 31.1**	**-0.2**
ONTNC	**Ouen Toro**	**1.99**	**244**	P	**Pb**	**22 59 31.7**	**-0.9**
NOUC	**Port Laguerre**	**2.04**	**251**	P	**Pb**	**22 59 33.4**	**-0.1**
WRA	**Warramunga Arr**	**31.85**	**266**	P	**P**	**23 05 21.0**	**0.0**
	0.6nm,0.7s,baz=102,slow=8.2,SNR=2.0						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**31.88**	**259**	P	**P**	**23 05 21.2**	**0.0**
	0.5nm,0.6s,baz=97,slow=7.7,SNR=2.3						
	0.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.27**	**267**	P	**P**	**23 06 33.7**	**+0.6**
	1.7nm,0.6s,baz=108,slow=7.1,SNR=3.9						
	1.7nm,0.6s						
KAPI	**Kappang**	**49.84**	**282**	LR	LR	23 32 43.2	
	comp=Z,165nm,18.5s,baz=244,slow=40						
GERES	**GERESS Array B**	**146.01**	**330**	PKPbc	**PKPdf**	**23 18 34.4**	**-0.4**
	1.2nm,0.7s,baz=19,slow=3.3,SNR=6.8						

*UPA **04** 23:07:15.5±1.6, 9.°35N×83.°89W, h6km±6km, MW3.9*
*UCR **04** 23:07:17.5±1.6, 9.°42N×83.°84W, h25km±2km, MW3.8*
*INET **04** 23:07:18.0±0.9, 9.°47N×83.°83W, h21km±3km, MW3.1*
ISC 04 23:07:17.6±0.9, **9.°39N**±0.°03×**83.°86W**±0.°03, **h30**km±5km, **n66,** σ0°83/93, **4C-2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEZE	**Perez Zeledon,**	**0.18**	**92**	eP	**Pb**	**23 07 23.3**	**-0.3**
PEZE				eS	**Sb**	**23 07 28.2**	**+0.4**
PEZE	**Perez Zeledon,**	**0.18**	**92**	eP	**Pb**	**23 07 23.3**	**-0.3**
PEZE				eS	**Sb**	**23 07 28.2**	**+0.4**
CDM	**Cerro de Muert**	**0.19**	**30**	eP	**Pb**	**23 07 23.7**	**-0.5**
CDM				eS	**Sb**	**23 07 28.9**	**+0.3**
CDM	**Cerro de Muert**	**0.19**	**30**	eP	**Pb**	**23 07 23.7**	**-0.5**
CDM				eS	**Sb**	**23 07 28.9**	**+0.3**
RIMA	**Rio Macho**	**0.38**	**360**	eP	**Pb**	**23 07 25.4**	**-0.9**
RIMA				eS	**Sb**	**23 07 31.9**	**-0.3**
RIMA	**Rio Macho**	**0.38**	**360**	eP	**Pb**	**23 07 25.4**	**-0.9**
RIMA				eS	**Sb**	**23 07 32.0**	**-0.2**
LCR2	**La Lucha 2**	**0.38**	**338**	eP	**Pb**	**23 07 24.8**	**-1.5**
LCR2				eS	**Sb**	**23 07 31.2**	**-1.0**
OCM	**Ochomogo**	**0.51**	**349**	eP	**Pb**	**23 07 27.4**	**-1.0**
SRBA	**San Rafael, Bu**	**0.52**	**107**	eP	**Pb**	**23 07 27.4**	**-0.9**
SRBA				eS	**Sb**	**23 07 35.3**	**-0.5**
RAFA	**San Farael, Vo**	**0.57**	**5**	eP	**Pb**	**23 07 28.6**	**-0.7**
SJS	**Escuela Geolog**	**0.58**	**341**	eP	**Pb**	**23 07 28.6**	**-0.8**
EDPN	**Palmar Norte**	**0.58**	**137**	eP	**Pb**	**23 07 28.5**	**-0.8**
MRVA	**Moravia de Chi**	**0.60**	**44**	eP	**Pb**	**23 07 28.9**	**-0.7**
VTCV	**VTCV, Calle Va**	**0.60**	**13**	eP	**Pb**	**23 07 29.1**	**-0.8**
VTRT	**Volcan Turrial**	**0.61**	**6**	eP	**Pb**	**23 07 29.2**	**-0.8**
DRK0	**Durika**	**0.62**	**102**	eP	**Pb**	**23 07 29.0**	**-0.1**
DRK0	**Durika**	**0.62**	**102**	eP	**Pb**	**23 07 30.0**	**-0.1**
DRK0				eS	**Sn**	**23 07 39.2**	**-0.4**
DRK0	**Durika**	**0.62**	**102**	eP	**Pb**	**23 07 29.9**	**-0.1**
EDBA	**Buenos Aires**	**0.62**	**111**	eP	**Pb**	**23 07 28.5**	**-1.5**
CVTR	**Volcan Turrial**	**0.64**	**9**	eP	**Pb**	**23 07 29.6**	**-0.9**
VTUN	**Crater Central**	**0.64**	**9**	eP	**Pb**	**23 07 29.7**	**-0.9**
VTUC	**Crater, Volcan**	**0.64**	**9**	eP	**Pb**	**23 07 29.6**	**-0.9**
HDC	**Heredia**	**0.66**	**338**	eP	**Pb**	**23 07 29.9**	**-0.8**
HDC				eS	**Sb**	**23 07 39.6**	**0.0**
HDC	**Heredia**	**0.66**	**338**	‖ *i* P	**Pb**	**23 07 29.9**	**-0.8**
HDC				*i* S	**Sb**	**23 07 39.7**	**0.0**
HDC3	**Heredia 3**	**0.66**	**338**	eP	**Pb**	**23 07 29.9**	**-0.9**
HDC3	**Heredia 3**	**0.66**	**338**	eP	**Pb**	**23 07 29.8**	**-0.9**
HDC3				eS	**Sb**	**23 07 39.7**	**0.0**
POTG	**Potrero Grande**	**0.81**	**114**	eP	**Pb**	**23 07 31.8**	**-1.3**
JACO	**JACO, Garabito**	**0.83**	**289**	eP	**Pb**	**23 07 32.3**	**-1.3**
JACO				eS	**Sb**	**23 07 44.7**	**+0.3**
JACO	**JACO, Garabito**	**0.83**	**289**	eP	**Pb**	**23 07 32.2**	**-1.3**
JACO				eS	**Sb**	**23 07 44.7**	**+0.3**
BATAN	**Batan**	**0.85**	**34**	‖ eP	**Pb**	**23 07 33.0**	**-0.9**
BATAN				eS	**Sn**	**23 07 46.0**	**+1.0**
EDSV	**San Vito**	**1.04**	**123**	eP	**Pb**	**23 07 36.3**	**-0.8**
LAFE	**Finca La Fe, P**	**1.12**	**292**	eP	**Pn**	**23 07 37.2**	**0.0**
LAFE	**Finca La Fe, P**	**1.12**	**292**	eP	**Pn**	**23 07 37.1**	**0.0**
LAFE				eS	**Sn**	**23 07 53.8**	**+2.3**
BRU2	**Volcan**	**1.30**	**117**	eP	**Pn**	**23 07 39.0**	**-0.8**
BRU2	**Volcan**	**1.30**	**117**	eP	**Pn**	**23 07 38.9**	**-0.9**
BRU2				eS	**Sb**	**23 07 58.3**	**+0.5**
FORC	**Fortuna**	**1.33**	**323**	‖ eP	**Pn**	**23 07 40.2**	**0.0**
FORC				eS	**Sn**	**23 07 57.7**	**+0.7**
CASO	**Castillo**	**1.35**	**320**	eP	**Pn**	**23 07 40.6**	**+0.1**
BC3P	**Paso Ancho**	**1.36**	**115**	eP	**Pn**	**23 07 40.1**	**-0.7**
BC3P				eS	**Sn**	**23 07 58.3**

IDC ***05*** *00:22:56.4±0.5,0.01N×78.08W, h0km, mb4.1/15, mbtmp4.2/17, ML4.4/2, MS3.5/20, Error ellipse: s-maj=25.7km s-min=12.2km az=65.0*
VAO ***05*** *00:22:57.9±0.3, 0.01S×78.28W, h14km, mb4.5*
IGQ ***05*** *00:22:57±0.1, 0.25S±0.7×7.8W±1, h6km*
NEIC ***05*** *00:22:59.1±1.7, 0.15S±0.03×78.33W±0.07, h10km±1km, mb4.7/286, Error ellipse: s-maj=11.6km s-min=3.6km az=103.0*

ISC 05 00:22:58.1±0.7,**0.15S**±0.01×**78.36W**±0.02,**h12**km±4km, **n653**, σ0.99/637,**mb4.7**/146,**MS3.6**/18,**Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AV11	**Acelerografo,**	**0.08**	**350**	P	**Pg**	**00 23 01.0**	**+0.1**
CRPG	**Carapungo - Pi**	**0.11**	**296**	P	**Pg**	**00 23 01.0**	**-0.3**
C24MA	**Colegio 24 de**	**0.12**	**258**	P	**Pg**	**00 23 01.0**	**-0.5**
CIRC	**Crculo Milita**	**0.14**	**251**	P	**Pg**	**00 23 01.0**	**-0.7**
CIVI	**Edificio de In**	**0.15**	**246**	P	**Pg**	**00 23 02.0**	**+0.1**
EPNL	**EPN Laboratori**	**0.15**	**246**	P	**Pg**	**00 23 02.0**	**+0.1**
TING	**Casa Alexandra**	**0.16**	**215**	P	**Pg**	**00 23 01.0**	**-1.0**
SANF	**Convento San F**	**0.17**	**247**	P	**Pg**	**00 23 02.0**	**-0.2**
VIFL	**Administracin**	**0.19**	**240**	P	**Pg**	**00 23 03.0**	**+0.4**
LILI	**Casa Paps Lil**	**0.21**	**236**	P	**Pg**	**00 23 02.0**	**-0.8**
YANA	**Yana**	**0.22**	**279**	P	**Pg**	**00 23 02.0**	**-1.0**
LLOA	**Lloa**	**0.22**	**248**	P	**Pg**	**00 23 02.0**	**-1.0**
PULU	**Pululahua**	**0.23**	**320**	Pg	**Pg**	**00 23 02.8**	**-0.3**
PULU				Sg	**Sg**	**00 23 06.9**	**+0.3**
PULU	**Pululahua**	**0.23**	**320**	P	**Pg**	**00 23 02.0**	**-1.1**
PULU				S	**Sg**	**00 23 06.0**	**-0.5**
QUIB	**Administracin**	**0.24**	**233**	P	**Pg**	**00 23 03.0**	**-0.3**
GGPC	**Guagua Pichinc**	**0.24**	**264**	P	**Pg**	**00 23 03.0**	**-0.5**
GGPC				S	**Sg**	**00 23 06.0**	**-1.1**
PINO	**Pino**	**0.25**	**269**	P	**Pg**	**00 23 03.0**	**-0.6**
APR1	**Acelerografo,**	**0.28**	**292**	P	**Pg**	**00 23 03.0**	**-1.0**
TOMA	**Boca Toma-Volc**	**0.35**	**193**	P	**Pg**	**00 23 05.0**	**-0.4**
ANTI	**Antisana**	**0.35**	**146**	P	**Pg**	**00 23 05.0**	**-0.5**
ANTG	**Antisana-Guama**	**0.36**	**164**	P	**Pg**	**00 23 05.0**	**-0.6**
ANTG				S	**Sg**	**00 23 10.0**	**-0.6**
CAYR	**Refugio Cayamb**	**0.39**	**65**	P	**Pg**	**00 23 06.0**	**0.0**
ANTS	**Antisana-Sarah**	**0.39**	**151**	P	**Pg**	**00 23 05.0**	**-1.1**
OTAV	**Otavalo**	**0.40**	**346**	Pg	**Pg**	**00 23 05.8**	**-0.4**
OTAV				Sg	**Sg**	**00 23 09.9**	**-1.7**
OTAV	**Otavalo**	**0.40**	**346**	P	**Pg**	**00 23 05.0**	**-1.2**
OTAV				S	**Sg**	**00 23 11.0**	**-0.6**
OTAV	**Otavalo**	**0.40**	**346**	*eP*	**Pg**	**00 23 05.7**	**-0.4**
ANGU	**Angureal**	**0.40**	**61**	P	**Pg**	**00 23 06.0**	**-0.3**
ANTM	**Antisana-La Mi**	**0.41**	**161**	P	**Pg**	**00 23 05.0**	**-1.3**
ANTM				S	**Sg**	**00 23 11.0**	**-0.8**
CAYA	**Cayambe**	**0.43**	**59**	P	**Pb**	**00 23 07.0**	**-1.0**
CAYA				S	**Sb**	**00 23 13.0**	**-1.6**
CUSW	**Cuicocha Oeste**	**0.43**	**1**	P	**Pg**	**00 23 06.0**	**-0.8**
AMAC	**Ecuador-Machac**	**0.45**	**210**	P	**Pg**	**00 23 06.0**	**-1.0**
AMAC				S	**Sg**	**00 23 12.0**	**-1.1**
CUIC	**Cuicocha-Domo**	**0.45**	**359**	P	**Pg**	**00 23 06.0**	**-1.1**
CUIC				S	**Sg**	**00 23 13.0**	**-0.2**
IMBA	**Imbabura, San**	**0.45**	**20**	Pg	**Pb**	**00 23 08.2**	**-0.1**
IMBA				Sg	**Sb**	**00 23 14.3**	**-0.9**
IMBA	**Imbabura, San**	**0.45**	**20**	P	**Pb**	**00 23 08.0**	**-0.3**
CUSE	**Cuicocha Este**	**0.46**	**355**	P	**Pg**	**00 23 06.0**	**-1.2**
COTA	**Cotacachi**	**0.48**	**2**	P	**Pg**	**00 23 07.0**	**-0.7**
VC1	**Cotopaxi 1**	**0.49**	**185**	P	**Pg**	**00 23 07.0**	**-0.8**
NAS2	**Nasa**	**0.50**	**193**	P	**Pg**	**00 23 07.0**	**-1.1**
SUCR	**Mariscal Sucre**	**0.50**	**196**	P	**Pg**	**00 23 07.0**	**-1.1**
BVC2	**Cotopaxi Volca**	**0.51**	**186**	P	**Pg**	**00 23 08.0**	**-0.2**
ISUC	**Cotopaxi Ecuad**	**0.51**	**196**	P	**Pg**	**00 23 08.0**	**-0.2**
BREF	**Cotopaxi Volca**	**0.52**	**189**	P	**Pg**	**00 23 08.0**	**-0.5**
BTAM	**Cotopaxi Volca**	**0.52**	**184**	P	**Pg**	**00 23 08.0**	**-0.5**
BNAS	**Cotopaxi Volca**	**0.53**	**193**	P	**Pg**	**00 23 08.0**	**-0.6**
TAMB	**Tambo**	**0.54**	**181**	P	**Pg**	**00 23 08.0**	**-0.8**
CAMI	**Rancho Maria**	**0.54**	**196**	P	**Pg**	**00 23 08.0**	**-0.8**
BMOR	**Cotopaxi Volca**	**0.58**	**190**	P	**Pg**	**00 23 09.0**	**-0.7**
SLOR	**San Lorenzo -**	**0.59**	**194**	Pg	**Pg**	**00 23 09.6**	**-0.2**
SLOR	**San Lorenzo -**	**0.59**	**194**	P	**Pg**	**00 23 09.0**	**-0.8**
YAHU	**Yahuarcocha**	**0.59**	**29**	P	**Pg**	**00 23 09.0**	**-0.7**
URCU	**Urcuqui**	**0.59**	**10**	P	**Pg**	**00 23 09.0**	**-0.8**
PAST	**Pastocalle**	**0.61**	**208**	P	**Pg**	**00 23 09.0**	**-1.1**
SRAM	**San Ramn-Vol**	**0.63**	**199**	P	**Pg**	**00 23 10.0**	**-0.5**
SRAM				S	**Sg**	**00 23 19.0**	**+0.1**
VCES	**Cotopaxi**	**0.65**	**183**	P	**Pg**	**00 23 10.0**	**-0.8**
APR2	**Miler**	**0.65**	**290**	P	**Pg**	**00 23 09.0**	**-1.8**
AV05	**Acelerografo,**	**0.67**	**94**	P	**Pg**	**00 23 10.0**	**-1.2**
ILLI	**Illinizas Sur**	**0.67**	**214**	P	**Pg**	**00 23 10.0**	**-1.3**
CONE	**Cono NE Rev Vo**	**0.72**	**84**	P	**Pg**	**00 23 12.0**	**-0.1**
APSY	**Ecuador-Napo A**	**0.83**	**173**	P	**Pg**	**00 23 12.0**	**-2.2**
PIAT	**Ana Tenorio**	**0.84**	**174**	P	**Pg**	**00 23 12.0**	**-2.5**
BV15	**Puerto Quito-O**	**0.92**	**290**	P	**Pg**	**00 23 14.0**	**-1.9**
ALIT	**Ecuador-Imbabu**	**0.94**	**360**	P	**Pg**	**00 23 15.0**	**-1.3**
LNGL	**El Angel-Carch**	**0.95**	**22**	P	**Pg**	**00 23 16.0**	**-0.6**
ARDO	**Archidona, Ten**	**1.00**	**146**	P	**Pg**	**00 23 16.0**	**-1.5**
ARDO				S	**Sg**	**00 23 30.0**	**-0.6**
BONI	**La Bonita**	**1.02**	**54**	P	**Pg**	**00 23 17.0**	**-0.9**
CHL1	**Volc¡n Chiles**	**1.02**	**24**	P	**Pg**	**00 23 17.0**	**-0.9**
TULM	**Tulcn-Chalpat**	**1.03**	**33**		**Pg**	**00 23 17.5**	**-0.6**
TULM				Sg	**Sb**	**00 23 31.4**	**-0.6**
TULM	**Tulcn-Chalpat**	**1.03**	**33**	P	**Pg**	**00 23 17.0**	**-1.1**
CHL2	**Volc¡n Chiles**	**1.04**	**25**	P	**Pg**	**00 23 17.0**	**-1.3**
CASC	**Dorado de Casc**	**1.06**	**74**	P	**Pg**	**00 23 18.0**	**-0.5**
AV03	**Acelerografo,**	**1.06**	**79**	P	**Pb**	**00 23 17.0**	**-1.4**
CMBC	**Cumbal**	**1.21**	**26**	P	**Pn**	**00 23 21.0**	**-0.3**
AV18	**Acelerografo,**	**1.21**	**292**	P	**Pn**	**00 23 20.0**	**-0.9**
BRUN	**Tungurahua Vol**	**1.26**	**183**	P	**Pn**	**00 23 20.0**	**-1.9**
POND	**Pondoa**	**1.27**	**184**	P	**Pn**	**00 23 20.0**	**-2.0**
JUI6	**Juive**	**1.27**	**185**	P	**Pn**	**00 23 20.0**	**-2.0**
RETU	**Refugio**	**1.29**	**184**	P	**Pn**	**00 23 21.0**	**-1.5**
BBIL	**Ulba Tungurahu**	**1.30**	**186**	P	**Pn**	**00 23 21.0**	**-1.4**
BIL2	**Estacion Bilba**	**1.30**	**186**	P	**Pn**	**00 23 22.0**	**-0.5**
BPAT	**Tungurahua Vol**	**1.34**	**183**	P	**Pn**	**00 23 22.0**	**-1.2**
APUY	**Puyo**	**1.35**	**164**	P	**Pn**	**00 23 23.0**	**+0.1**
BMAS	**Trigal station**	**1.35**	**185**	P	**Pn**	**00 23 22.0**	**-1.1**
ARRY	**Arrayan**	**1.35**	**184**	P	**Pn**	**00 23 21.0**	**-2.2**
IGUA	**Igualata**	**1.36**	**192**	P	**Pn**	**00 23 23.0**	**-0.5**
PORT	**Chimborazo Vol**	**1.37**	**198**		**Pn**	**00 23 23.2**	**-0.4**
PORT				Sg	**Sb**	**00 23 42.1**	**+0.4**
PORT	**Chimborazo Vol**	**1.37**	**198**	P	**Pn**	**00 23 22.0**	**-1.6**
PUYO	**Puyo, Santa Ro**	**1.37**	**166**	P	**Pn**	**00 23 23.0**	**-0.3**
MAG1	**Magdalena**	**1.42**	**273**	P	**Pn**	**00 23 23.0**	**-0.8**
CHSH	**Refugio Sur-Vo**	**1.43**	**201**		**Pn**	**00 23 24.0**	**-0.4**
CHSH	**Refugio Sur-Vo**	**1.43**	**201**	P	**Pn**	**00 23 24.0**	**-0.4**
AV21	**Acelerografo,**	**1.44**	**304**	P	**Pn**	**00 23 23.0**	**-1.0**
TAMH	**Tambohuasha Ch**	**1.45**	**197**	P	**Pn**	**00 23 24.0**	**-0.6**
APS1	**Acelerografo,**	**1.46**	**80**	P	**Pb**	**00 23 25.0**	**-0.3**
FLF1	**Flavio Alfaro-**	**1.50**	**262**	P	**Pn**	**00 23 24.0**	**-0.9**
AE32	**Ecuador-Puerto**	**1.72**	**311**	P	**Pn**	**00 23 28.0**	**+0.1**
AMA1	**Acelerografo,**	**1.74**	**308**	P	**Pn**	**00 23 28.0**	**-0.2**
ATON	**Ecuador-Tonsup**	**1.79**	**305**	P	**Pn**	**00 23 29.0**	**+0.2**
AATC	**Ecuador-Atacam**	**1.81**	**304**	P	**Pn**	**00 23 29.0**	**-0.2**
PTGL	**Punta Galera**	**1.91**	**299**	P	**Pn**	**00 23 30.0**	**-0.6**
TUMC	**Tumaco**	**2.00**	**349**	P	**Pb**	**00 23 33.0**	**-1.4**
CABP	**Cabo Pasado**	**2.08**	**264**	P	**Pn**	**00 23 32.0**	**-0.9**
BBAC	**Balboa, Cauca**	**2.43**	**27**	P	**Pb**	**00 23 40.0**	**-1.9**
MILO	**Milagro-Astudi**	**2.43**	**210**	P	**Pn**	**00 23 39.0**	**+1.3**
COHC	**Cochancay**	**2.47**	**201**		**Pn**	**00 23 40.5**	**+2.3**
COHC	**Cochancay**	**2.47**	**201**	P	**Pb**	**00 23 41.0**	**-1.5**
BOSC	**San Juan Bosco**	**2.98**	**183**		**Pn**	**00 23 48.5**	**+3.0**
PTLC	**Puerto Leguiza**	**3.57**	**85**	P	**Pn**	**00 23 54.0**	**+0.5**
ARNL	**Arenillas**	**3.78**	**207**		**Pn**	**00 23 59.5**	**+3.2**
ROSC	**El Rosal**	**6.39**	**39**	Pn	Pn	00 24 37.7	+5.2
	4.5nm,0.3s,baz=225,slow=17,SNR=4.9						
ROSC				Lg	Lg	00 26 20.7	
	0.2nm,0.3s,baz=262,slow=23,SNR=1.3						
ROSC	**El Rosal**	**6.39**	**39**	Pn	**Pn**	**00 24 36.1**	**+3.5**
ATAH	**Atahualpa**	**6.94**	**180**	Pn	**Pn**	**00 24 43.8**	**+3.7**
	5.8nm,0.3s,baz=8.8,slow=7.9,SNR=51						
ATAH				Sn	**Sn**	**00 26 05.1**	**+5.9**
	0.7nm,0.3s,baz=104,slow=15,SNR=1.1						
ATAH				Lg	Lg	00 26 47.0	
	1.0nm,0.3s,baz=58,slow=18,SNR=1.0						
	53nm,0.6s						
TBTG	**Tabatinga, AM**	**9.34**	**116**		**Pn**	**00 25 13.1**	**+0.3**
TBTG	**Tabatinga, AM**	**9.34**	**116**	*eP*	**Pn**	**00 25 13.4**	**+0.6**
BCIP	**Isla Barro Col**	**9.37**	**351**	Pn	**Pn**	**00 25 15.2**	**+2.1**
CZSB	**Cruzeiro do Su**	**9.40**	**143**	Pn	**Pn**	**00 25 14.2**	**+0.6**
CZSB	**Cruzeiro do Su**	**9.40**	**143**	*eP*	**Pn**	**00 25 14.3**	**+0.8**
CDITO	**Canoas**	**9.77**	**333**		**Pn**	**00 25 20.0**	**+1.5**
BRU2	**Volcan**	**9.88**	**334**		**Pn**	**00 25 23.4**	**+3.2**
DRK0	**Durika**	**10.54**	**333**		**Pn**	**00 25 30.1**	**+0.7**
SRBA	**San Rafael, Bu**	**10.57**	**332**		**Pn**	**00 25 31.3**	**+1.6**
PEZE	**Perez Zeledon,**	**10.85**	**331**	Pn	**Pn**	**00 25 33.6**	**0.0**
RIMA	**Rio Macho**	**11.28**	**331**		**Pn**	**00 25 40.5**	**+1.1**
CVTR	**Volcan Turrial**	**11.45**	**332**	Pn	**Pn**	**00 25 40.9**	**-1.0**
SDV	**Santo Domingo**	**11.82**	**40**	Pn	**Pn**	**00 25 47.7**	**+0.8**
	1.1nm,0.3s,baz=214,slow=15,SNR=5.5						
SDV				Lg	Lg	00 29 08.4	
	1.2nm,0.3s,baz=339,slow=14,SNR=2.1						
SDV				LR	LR	00 30 04.6	
	comp=Z,60nm,18.9s,baz=218,slow=37						
NNA	**Nana**	**11.86**	**173**	Pn	Pn	00 25 52.2	+5.0
	1.6nm,0.3s,baz=336,slow=15,SNR=2.4						
NNA				LR	LR	00 30 26.6	
	comp=Z,288nm,18.0s,baz=338,slow=38						
BAUV	**El Baul**	**13.68**	**48**	Pn	**Pn**	**00 26 12.3**	**+0.1**
MATN	**Matagalpa**	**15.01**	**330**		**Pn**	**00 26 31.4**	**+1.1**
HATO	**Hato, Curacao**	**15.40**	**37**	Pn	**Pn**	**00 26 36.4**	**+1.0**
ETMB	**Extrema**	**15.43**	**129**	Pn	**Pn**	**00 26 34.7**	**-1.2**
ETMB				IAmb	IAmb	00 26 47.1	
	comp=Z,10nm,0.8s						
ETMB	**Extrema**	**15.43**	**129**	*eP*	**Pn**	**00 26 34.4**	**-1.5**
BIRV	**Birongo**	**16.00**	**48**	P	**Pn**	**00 26 42.8**	**-0.5**
TGUH	**Tegucigalpa,Un**	**16.65**	**328**	Pn	**Pn**	**00 26 51.8**	**+0.2**
TGUH				IAmb	IAmb	00 27 03.3	
	comp=Z,60nm,1.2s						
PCRV	**Puerto La Cruz**	**17.08**	**53**	Pn	**Pn**	**00 26 57.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=234,slow=8.7,SNR=2.5						
MACA	**Manacapuru-AM**	**17.91**	**100**		**Pn**	**00 27 07.4**	**0.0**
MACA				IAmb	IAmb	00 27 16.0	
	comp=Z,30nm,0.7s						
MACA	**Manacapuru-AM**	**17.91**	**100**	*eP*	**Pn**	**00 27 06.1**	**-1.3**
BOAV	**Boa Vista**	**18.01**	**82**	P	**P**	**00 27 08.6**	**-0.5**
BOAV				IAmb	IAmb	00 27 37.4	
	comp=Z,6.3nm,0.8s						
BOAV	**Boa Vista**	**18.01**	**82**	*eP*	**P**	**00 27 08.5**	**-0.5**
MTO3	**Montecristo**	**18.10**	**323**	P	**P**	**00 27 11.5**	**+1.3**
ESQI	**Esquipulas**	**18.21**	**324**		**P**	**00 27 11.8**	**+0.4**
ESQI				IAmb	IAmb	00 27 27.6	
	comp=Z,116nm,1.5s						
LPAZ	**La Paz**	**18.94**	**148**	P	**Pn**	**00 27 20.7**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=340,slow=12,SNR=27						
LPAZ				Lg	Lg	00 33 12.1	
	comp=Z,0.1nm,0.3s,baz=352,slow=24,SNR=0.7						
	comp=Z,8.3nm,0.8s						
LPAZ	**La Paz**	**18.94**	**148**		**Pn**	**00 27 20.7**	**+0.2**
LPAZ	**La Paz**	**18.94**	**148**	*eP*	**P**	**00 27 19.9**	**0.0**
PB12	**IPOC Station P**	**19.97**	**157**	P	**P**	**00 27 30.9**	**+0.3**
PB12				IAmb	IAmb	00 27 32.2	
	comp=Z,24nm,0.8s						
PB16	**IPOC Station P**	**20.05**	**155**		Pn	00 27 33.0	-0.7
PB16				IAmb	IAmb	00 27 35.1	
	comp=Z,34nm,0.7s						
HUEH	**Huehuetenango**	**20.12**	**320**	P	Pn	00 27 34.3	+0.1
SDDR	**Presa de Saban**	**20.24**	**20**	P	Pn	00 27 34.9	-0.6
SDDR				IAmb	IAmb	00 27 51.2	
	comp=Z,29nm,1.2s						
PETF	**Flores**	**20.40**	**327**	P	Pn	00 27 36.8	-0.5
PETF				IAmb	IAmb	00 27 47.1	
	comp=Z,36nm,1.2s						
DR12	**Loma Pena Alta**	**20.78**	**25**	P	Pn	00 27 41.2	-0.6
SC01	**Santiago de lo**	**20.85**	**21**	P	**P**	**00 27 39.8**	**-0.2**
TOSP	**Speyside**	**21.05**	**57**	P	**P**	**00 27 43.0**	**+0.8**
CCIG	**Comitan**	**21.25**	**321**	P	**P**	**00 27 44.5**	**-0.1**
GO01	**Chusmiza**	**21.37**	**156**	P	**P**	**00 27 47.1**	**+0.9**
GO01				IAmb	IAmb	00 27 53.4	
	comp=Z,25nm,0.8s						
TA02	**Huaiquique**	**21.55**	**159**	P	**P**	**00 27 48.6**	**+1.0**
TA02				IAmb	IAmb	00 27 53.5	
	comp=Z,35nm,0.8s						
SJG	**San Juan**	**21.76**	**33**	P	**P**	**00 27 47.7**	**-2.1**
	comp=Z,12nm,0.7s,baz=212,slow=19,SNR=2.6						
SJG				LR	LR	00 36 56.9	
	comp=Z,157nm,20.7s,baz=228,slow=39						
	comp=Z,12nm,0.7s						
SJG	**San Juan**	**21.76**	**33**	P	**P**	**00 27 48.8**	**-1.0**
SJG				IAmb	IAmb	00 27 55.4	
	comp=Z,32nm,0.9s						
EMPR	**Esperanza - Ma**	**21.86**	**31**	P	**P**	**00 27 51.4**	**+0.5**
HUMP	**Col San Antoni**	**21.95**	**33**	P	**P**	**00 27 51.6**	**-0.2**
HUMP				IAmb	IAmb	00 28 09.4	
	comp=Z,36nm,0.8s						
GCPR	**Guaynabo City**	**21.96**	**33**	P	**P**	**00 27 52.3**	**+0.3**
GCPR				IAmb	IAmb	00 27 55.0	
	comp=Z,32nm,0.9s						
VILB	**Vilhena**	**22.04**	**126**	P	**P**	**00 27 53.3**	**+0.4**
VILB				IAmb	IAmb	00 28 04.7	
	comp=Z,30nm,0.8s						
VILB	**Vilhena**	**22.04**	**126**	*eP*	**P**	**00 27 53.0**	**+0.1**
CBYP	**Canovanas**	**22.05**	**33**	P	**P**	**00 27 54.3**	**+1.3**
MTP	**Monte Pirata**	**22.08**	**34**	P	**P**	**00 27 54.1**	**+0.8**
MTP				IAmb	IAmb	00 27 57.5	
	comp=Z,26nm,0.9s						
CUPR	**Culebra, Puert**	**22.40**	**34**	P	**P**	**00 27 55.4**	**-1.3**
CUPR				IAmb	IAmb	00 28 08.1	
	comp=Z,24nm,0.8s						
PB01	**IPOC Station P**	**22.50**	**158**	P	**P**	**00 27 58.2**	**+0.4**
PB01				IAmb	IAmb	00 28 02.1	
	comp=Z,19nm,1.0s						
PB02	**IPOC Station P**	**22.60**	**159**	P	**P**	**00 28 00.1**	**+1.1**
PB02				IAmb	IAmb	00 28 32.3	
	comp=Z,23nm,0.9s						
TDBA	**Terre de Bas,**	**22.92**	**45**	P	**P**	**00 28 03.4**	**+1.1**
PB07	**IPOC Station P**	**22.98**	**159**	P	**P**	**00 28 04.2**	**+1.2**
PB07				IAmb	IAmb	00 28 16.2	
	comp=Z,47nm,1.3s						
ITTB	**Itaituba**	**22.98**	**101**	*eP*	**P**	**00 28 02.8**	**-0.2**
SIV	**San Ignacio**	**23.21**	**134**	P	**P**	**00 28 04.7**	**-0.6**
	comp=Z,11nm,0.8s,baz=317,slow=11,SNR=51						
SIV				LR	LR	00 37 53.0	
	comp=Z,253nm,20.1s,baz=294,slow=39						
	comp=Z,11nm,0.8s						
PB09	**IPOC Station P**	**23.28**	**158**	P	**P**	**00 28 07.5**	**+1.5**
PB09				IAmb	IAmb	00 28 27.9	
	comp=Z,19nm,0.9s						
CMIG	**Matias Romero**	**23.64**	**317**	P	**P**	**00 28 11.1**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=150,slow=9.6,SNR=3.2						
CMIG				LR	LR	00 35 35.6	
	comp=Z,57nm,20.4s,baz=150,slow=32						
	comp=Z,1.9nm,0.6s						
NPGB	**Novo Progresso**	**23.94**	**107**	*eP*	**P**	**00 28 10.6**	**-1.9**
LVC	**Limon Verde**	**24.14**	**158**	P	**P**	**00 28 15.6**	**+0.9**
	comp=Z,7.9nm,0.8s,baz=347,slow=11,SNR=5.0						
LVC				LR	LR	00 40 01.7	
	comp=Z,180nm,18.5s,baz=322,slow=42						
	comp=Z,7.9nm,0.8s						
LVC	**Limon Verde**	**24.14**	**158**	P	**P**	**00 28 15.8**	**+1.1**
LVC				IAmb	IAmb	00 28 39.4	
	comp=Z,21nm,0.9s						
LVC	**Limon Verde**	**24.14**	**158**	*eP*	**P**	**00 28 15.4**	**+0.7**
MALB	**Monte Alegre**	**24.15**	**94**	*eP*	**P**	**00 28 14.2**	**-0.2**
PDRB	**Porto dos Gac**	**24.31**	**119**	*eP*	**P**	**00 28 15.5**	**-0.4**
PTLB	**Pontes e Lacer**	**24.32**	**130**	IAmb	IAmb	00 28 17.1	
	comp=Z,23nm,1.3s						
PTLB	**Pontes e Lacer**	**24.32**	**130**	*eP*	**P**	**00 28 15.7**	**-0.2**
AF01	**San Pedro de A**	**24.73**	**157**	P	**P**	**00 28 20.1**	**+0.1**
CLDB	**Colider**	**24.82**	**116**	*eP*	**P**	**00 28 20.0**	**-0.6**
PB14	**IPOC Station P**	**25.52**	**163**	P	**P**	**00 28 26.5**	**-0.6**
PB14				IAmb	IAmb	00 28 31.5	
	comp=Z,21nm,1.0s						
061Z	**Ochoppi**	**25.98**	**355**	P	**P**	**00 28 31.1**	**+0.2**
MDP	**Montagnes des**	**26.21**	**78**	P	**P**	**00 28 33.8**	**+0.6**
	comp=Z,13nm,0.9s,baz=246,slow=8.7,SNR=4.7						
MDP				LR	LR	00 39 48.1	
	comp=Z,60nm,18.8s,baz=254,slow=39						
060A	**Indiantown**	**27.10**	**356**		**P**	**00 28 42.2**	**+1.2**
SALV	**Santo Antonio**	**27.30**	**126**	*eP*	**P**	**00 28 42.6**	**-0.3**
AC05	**El Transito**	**29.55**	**166**	P	**P**	**00 29 03.5**	**+0.4**
AC05				IAmb	IAmb	00 29 10.8	
	comp=Z,14nm,1.0s						
656A	**Willston**	**29.62**	**353**	P	**P**	**00 29 04.6**	**+1.1**
AQDB	**Aquidauana**	**29.99**	**134**	IAmb	IAmb	00 29 14.5	
	comp=Z,10.0nm,0.9s						
AQDB	**Aquidauana**	**29.99**	**134**	*eP*	**P**	**00 29 06.8**	**0.0**
CO02	**Combarbal**	**31.66**	**168**	P	**P**	**00 29 22.5**	**+0.9**
CO02				IAmb	IAmb	00 29 32.0	
	comp=Z,9.3nm,0.8s						
TIGA	**Tifton**	**31.81**	**351**	P	**P**	**00 29 23.7**	**+1.0**
SMTB	**Santa Maria do**	**31.84**	**107**	*eP*	**P**	**00 29 20.8**	**-2.5**
257A	**Skidaway Islan**	**32.05**	**356**	P	**P**	**00 29 25.4**	**+0.5**
CPUP	**Villa Florida**	**32.98**	**144**	P	**P**	**00 29 32.6**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=326,slow=15,SNR=3.1						
	comp=Z,1.3nm,0.7s						
NHSC	**New Hope**	**33.13**	**357**	P	**P**	**00 29 34.6**	**+0.3**
	baz=177						
ROC1	**El Roble**	**33.37**	**169**	P	**P**	**00 29 37.0**	**+0.2**
ROC1				IAmb	IAmb	00 29 44.2	
	comp=Z,9.6nm,0.8s						
344A	**Westbrook Farm**	**33.55**	**341**	P	**P**	**00 29 38.7**	**+0.7**
PEL	**Peldehue**	**33.60**	**168**	P	**P**	**00 29 39.9**	**+1.4**
BDFB	**Brasilia**	**33.68**	**119**	LR	LR	00 43 58.8	
	comp=Z,297nm,20.1s,baz=326,slow=38						
BDFB	**Brasilia**	**33.68**	**119**	*eP*	**P**	**00 29 39.5**	**0.0**
GOGA	**Godfrey**	**33.73**	**352**	P	**P**	**00 29 39.1**	**-0.4**
	baz=171						
PCMB	**Pacaembu**	**33.96**	**131**	*eP*	**P**	**00 29 41.3**	**-0.5**
Y59A	**Loris**	**33.97**	**359**	P	**P**	**00 29 43.3**	**+1.7**
LRAL	**Lakeview Retre**	**34.00**	**347**	P	**P**	**00 29 42.0**	**+0.1**
LRAL				IAmb	IAmb	00 29 53.9	
	comp=Z,18nm,1.4s						
LRAL	**Lakeview Retre**	**34.00**	**347**	P	**P**	**00 29 41.3**	**-0.6**
	baz=164						
342A	**Flagon Creek P**	**34.04**	**338**	P	**P**	**00 29 43.1**	**+0.8**
VBMS	**Vicksburg**	**34.19**	**341**	P	**P**	**00 29 45.6**	**+2.1**
LMEL	**Las Melosas**	**34.38**	**168**	P	**P**	**00 29 46.5**	**+1.1**
LMEL				IAmb	IAmb	00 29 56.4	
	comp=Z,11nm,1.1s						
IPMB	**Ipameri, GO**	**34.53**	**123**	*eP*	**P**	**00 29 44.4**	**-2.4**
833A	**Chaparral WMA,**	**34.75**	**326**	P	**P**	**00 29 49.5**	**+0.9**
833A				IAmb	IAmb	00 30 01.8	
	comp=Z,13nm,1.4s						
833A	**Chaparral WMA,**	**34.75**	**326**	P	**P**	**00 29 48.7**	**+0.2**
	baz=141						
KMSC	**Kings Mountain**	**35.22**	**356**	P	**P**	**00 29 52.1**	**-0.3**
	baz=175						
PTGB	**Pitanga**	**35.27**	**136**	*eP*	**P**	**00 29 53.5**	**+0.4**
SDBA	**SAO DESIDERIO**	**35.35**	**111**	*eP*	**P**	**00 29 52.6**	**-1.3**
FRBT	**Francisco Belt**	**35.41**	**138**	*eP*	**P**	**00 29 54.5**	**+0.2**
Y45A	**Yeager Farm, C**	**35.43**	**344**	P	**P**	**00 29 54.4**	**+0.1**
BB19B	**Bebedouro**	**35.79**	**127**	*eP*	**P**	**00 29 57.0**	**-0.6**
V53A	**Saluda**	**35.88**	**354**	P	**P**	**00 29 58.2**	**0.0**
V53A				IAmb	IAmb	00 30 03.2	
	comp=Z,18nm,1.4s						
CPCT	**Cooper Cave**	**35.88**	**351**	P	**P**	**00 29 58.7**	**+0.5**
CPCT				IAmb	IAmb	00 29

PLCA IAmb IAmb 00 30 48.9
comp=Z,15nm,1.3s
PLCA Paso Flores 41.01 171 *e*P **P 00 30 42.4 +1.1**
ELIS Ellis County 41.01 334 P **P 00 30 41.7 +0.3**
ELIS IAmb IAmb 00 30 43.5
comp=Z,48nm,1.4s
U32A Winter Ranch, 41.09 334 P **P 00 30 42.4 +0.3**
U32A IAmb IAmb 00 31 12.0
comp=Z,14nm,0.6s
CMC01 Camacan, BA 41.22 113 *e*P **P 00 30 42.8 -0.5**
KAN01 Argonia South 41.23 336 P **P 00 30 44.8 +1.7**
M57A Sunshine Farm, 41.31 1 P **P 00 30 44.4 +0.7**
M57A IAmb IAmb 00 30 46.0
comp=Z,17nm,0.9s
HDIL Hopedale 41.72 347 P **P 00 30 45.0 -2.0**
NBLA Lagarto - SE 41.72 106 *e*P **P 00 30 45.9 -1.6**
BINY Binghamton 42.21 3 P **P 00 30 51.2 +0.1**
baz=184
HQIL Hanson Quary C 42.63 350 P **P 00 30 54.8 +0.3**
HQIL IAmb IAmb 00 30 56.5
comp=Z,19nm,0.8s
MMNY Mt. Morris Dam 42.69 0 P **P 00 30 55.8 +0.9**
K57A Scipio Center 42.72 2 P **P 00 30 56.0 +0.8**
K57A IAmb IAmb 00 30 56.4
comp=Z,18nm,1.0s
121A Cookes Peak, D 42.75 322 P **P 00 30 57.6 +1.8**
121A IAmb IAmb 00 31 08.8
comp=Z,9.0nm,0.8s
121A Cookes Peak, D 42.75 322 P **P 00 30 57.7 +1.8**
baz=134
RCBR Riachuelo 42.75 98 LR LR 00 48 12.2
comp=Z,75nm,18.8s,baz=56,slow=36
319A Douglas 42.91 320 P **P 00 30 56.5 -0.6**
CRNM Carthage 43.12 325 P **P 00 30 58.7 -0.1**
BNM Barren Site 43.20 325 P **P 00 31 00.1 +0.6**
LL02 Futaleuf 43.24 173 P **P 00 30 59.9 +0.5**
J56A Wolcott 43.26 2 P **P 00 30 59.8 +0.3**
J56A IAmb IAmb 00 31 00.8
comp=Z,17nm,0.8s
SBM South Baldy 43.40 324 P **P 00 31 01.4 +0.1**
L40A Anamosa 43.60 346 P **P 00 31 01.1 -1.2**
L40A IAmb IAmb 00 31 01.8
comp=Z,14nm,1.1s
ANMO Albuquerque 43.68 326 P **P 00 31 04.6 +1.2**
ANMO Albuquerque 43.68 326 P **P 00 31 05.5 +2.2**
baz=137
NBRF Rio Formoso - 43.88 102 *e*P **P 00 31 01.8 -3.2**
SCIA State Center 43.97 344 P **P 00 31 04.3 -0.9**
I49A Point Hope 44.08 355 P **P 00 31 05.7 -0.4**
JFWS Jewell Farm 44.19 347 IAmb IAmb 00 31 06.4
comp=Z,12nm,0.7s
T25A Trinidad 44.25 330 P **P 00 31 09.2 +1.3**
T25A Trinidad 44.25 330 P **P 00 31 09.5 +1.6**
baz=141
AY01 Puyuhuapi 44.37 174 P **P 00 31 07.1 -1.3**
AY01 IAmb IAmb 00 31 15.0
comp=Z,8.4nm,1.1s
DELO Deloro Mine 44.48 1 P **P 00 31 10.7 +1.4**
DELO IAmb IAmb 00 31 10.8
comp=Z,10nm,0.9s
TUC Tucson 44.49 320 P **P 00 31 10.8 +1.0**
TUC Tucson 44.49 320 P **P 00 31 11.0 +1.2**
baz=130
LBNH Lisbon 44.57 7 P **P 00 31 10.4 +0.4**
baz=189
LONY Lake Ozonia 44.70 4 P **P 00 31 11.6 +0.5**
baz=185
SADO Sadowa 44.73 359 LR LR 00 50 51.9
comp=Z,64nm,19.0s,baz=190,slow=38
KSCO Kaye Shedlock' 44.88 333 P **P 00 31 13.5 +0.7**
KSCO IAmb IAmb 00 31 14.7
comp=Z,12nm,0.9s
L34A Svendsen Farm, 44.97 341 P **P 00 31 12.1 -1.3**
SDCO Great Sand Dun 45.27 329 P **P 00 31 17.2 +1.2**
SDCO IAmb IAmb 00 31 19.5
comp=Z,8.7nm,1.0s
SDCO Great Sand Dun 45.27 329 P **P 00 31 17.2 +1.2**
baz=140
X18A Snowflake 45.43 323 P **P 00 31 17.4 0.0**
214A Organ Pipe Nat 45.61 318 P **P 00 31 19.3 +0.7**
214A IAmb IAmb 00 31 33.1
comp=Z,9.3nm,1.2s
214A Organ Pipe Nat 45.61 318 P **P 00 31 20.2 +1.6**
baz=128
S22A 4UR Ranch, Cre 45.95 328 P **P 00 31 22.4 +0.8**
S22A 4UR Ranch, Cre 45.95 328 P **P 00 31 22.5 +1.0**
baz=139
Q24A Divide 46.03 331 P **P 00 31 21.9 -0.2**
Q24A IAmb IAmb 00 31 24.6
comp=Z,7.5nm,1.2s
OGNE Ogallala 46.21 335 P **P 00 31 23.3 +0.1**
OGNE Ogallala 46.21 335 P **P 00 31 23.8 +0.6**
baz=146
X16A Lo Mia Camp, P 46.28 321 P **P 00 31 23.9 -0.1**
K31A O'Neill 46.37 339 P **P 00 31 24.1 -0.3**
F42A Maple Grove Fa 46.52 351 P **P 00 31 26.5 +1.0**
ECSD EROS Data Cent 46.64 342 P **P 00 31 25.2 -1.3**
baz=154
113A Mohawk Valley, 46.74 318 P **P 00 31 28.4 +1.0**
113A IAmb IAmb 00 31 30.9
comp=Z,7.9nm,1.4s
ISCO Idaho Springs 46.91 331 P **P 00 31 29.8 +0.8**
baz=141
WUAZ Wupatki 46.96 323 P **P 00 31 29.5 +0.2**
WUAZ Wupatki 46.96 323 P **P 00 31 29.7 +0.4**
baz=132
Y14A Wickenburg 46.96 320 P **P 00 31 30.4 +1.2**
SMCO Snowmass 47.10 329 P **P 00 31 30.8 +0.1**
PV15 Paradox Valley 47.27 328 P **P 00 31 33.0 +1.2**
PV15 IAmb IAmb 00 31 34.5
comp=Z,5.8nm,0.9s
PV07 Paradox Valley 47.43 327 P **P 00 31 33.6 +0.7**
PV07 IAmb IAmb 00 31 34.8
comp=Z,8.5nm,1.4s
PV10 Paradox Valley 47.60 327 P **P 00 31 33.7 -0.6**
N23A Red Feather La 47.92 332 P **P 00 31 38.0 +1.2**
baz=142
W13A Hualapai Mount 48.26 320 P **P 00 31 40.0 +0.6**
IRM Iron Mountain 48.50 318 P **P 00 31 42.5 +1.4**
baz=127
KNB Kanab 48.83 323 P **P 00 31 45.0 +1.2**
TJX Tijuana 48.85 315 P **P 00 31 42.4 -1.4**
SRU San Rafael Swe 48.94 327 P **P 00 31 46.0 +1.5**
SRU IAmb IAmb 00 31 46.9
comp=Z,6.6nm,1.0s
PMD Palm Desert 49.03 317 P **P 00 31 45.0 -0.2**
PMD IAmb IAmb 00 31 58.9
comp=Z,8.8nm,1.3s
PFO Pinyon Flats O 49.06 317 LR LR 00 51 12.3
comp=Z,44nm,18.0s,baz=96,slow=34
LCMT Little Creek M 49.08 323 P **P 00 31 46.2 +0.6**
LCMT IAmb IAmb 00 32 03.6
comp=Z,4.9nm,1.0s
RWWY Rawlins 49.14 331 P **P 00 31 47.3 +1.1**
RWWY IAmb IAmb 00 31 49.0
comp=Z,8.1nm,1.1s
Q16A Castle Valley 49.16 326 P **P 00 31 47.0 +0.7**
V12A Nelson 49.26 320 P **P 00 31 47.5 +0.4**
V12A IAmb IAmb 00 31 56.9
comp=Z,6.1nm,1.1s
P17A Butcher Ranch, 49.31 327 P **P 00 31 48.0 +0.6**
P17A IAmb IAmb 00 31 52.3
comp=Z,4.6nm,0.8s
SZCU Shurtz Canyon 49.37 323 P **P 00 31 49.2 +1.3**
MSU Marysvale 49.46 325 P **P 00 31 49.3 +0.8**
MVU Marysvale 49.46 325 P **P 00 31 49.6 +0.9**
RDMU Red Mountain 49.47 329 P **P 00 31 49.7 +0.9**
RDMU IAmb IAmb 00 31 50.6
comp=Z,5.1nm,0.9s
CCUT Cedar City 49.50 323 P **P 00 31 50.2 +1.2**
RSSD Black Hills 49.67 336 P **P 00 31 51.4 +1.3**
RSSD IAmb IAmb 00 31 52.5
comp=Z,10.0nm,0.8s
RSSD Black Hills 49.67 336 P **P 00 31 51.1 +1.0**
baz=145
PSUT Pine Spring 50.44 324 P **P 00 31 56.7 +0.6**
E28A Huff 50.49 340 P **P 00 31 56.6 +0.5**
QSM Queen of Sheba 50.71 319 P **P 00 31 58.9 +0.9**
GWY Greenwater Val 50.71 320 P **P 00 31 58.9 +0.8**
TCUT Toone Canyon 50.84 328 P **P 00 32 00.5 +1.4**
TPNV Topopah Spring 50.90 321 P **P 00 32 00.5 +1.0**
DUG Dugway, Tooele 50.96 326 P **P 00 32 00.2 +0.3**
DUG Dugway, Tooele 50.96 326 P **P 00 32 01.0 +1.1**
baz=133

CCAC Calif City Air 51.00 318 P **P 00 32 00.9 +0.7**
CCAC IAmb IAmb 00 32 02.5
comp=Z,9.6nm,1.1s
FURC Furnace Creek, 51.01 320 P **P 00 32 01.9 +1.8**
baz=127
SPR3 Spring Creek 3 51.03 324 P **P 00 32 01.7 +1.1**
SPR3 IAmb IAmb 00 32 02.3
comp=Z,3.1nm,0.9s
WCT Wildcat Mounta 51.05 320 P **P 00 32 01.8 +1.2**
WCT IAmb IAmb 00 32 05.1
comp=Z,9.6nm,1.4s
BW06 Boulder Array 51.09 331 P **P 00 32 01.6 +0.6**
BW06 Boulder Array 51.09 331 P **P 00 32 01.8 +0.9**
baz=138
PD31 Pinedale Array 51.09 331 P **P 00 32 01.7 +0.7**
PDAR Pinedale Array 51.09 331 P **P 00 32 01.1 +0.1**
comp=Z,1.5nm,0.9s,baz=133,slow=8.8,SNR=10
PDAR PcP **PcP 00 33 15.8 -0.9**
comp=Z,0.4nm,0.7s,baz=140,slow=4.7,SNR=1.9
comp=Z,1.5nm,0.9s
PDAR Pinedale Array 51.09 331 P **P 00 32 01.4 +0.5**
MDND Maddock 51.26 342 P **P 00 32 01.6 -0.1**
MDND Maddock 51.26 342 P **P 00 32 01.7 -0.1**
baz=152
HWUT Hardware Ranch 51.27 328 P **P 00 32 02.2 -0.1**
R11A Troy Canyon, C 51.36 322 P **P 00 32 04.4 +1.4**
baz=129
GMN Gold Mountain 51.76 320 P **P 00 32 07.2 +1.2**
SBC Santa Barbara 51.77 316 P **P 00 32 07.7 +1.8**
baz=123
CWC Cottonwood Cre 51.78 319 P **P 00 32 07.4 +1.2**
baz=126
BCW Bitter Crk WRg 51.83 317 P **P 00 32 07.1 +0.7**
LCH Last Change Ra 51.97 320 P **P 00 32 08.6 +1.1**
HVU Hansel Valley 52.03 328 P **P 00 32 08.9 +1.0**
PKM Mcpherson Peak 52.08 316 P **P 00 32 10.0 +1.6**
baz=123
VES Vestal, Richgr 52.11 318 P **P 00 32 10.2 +1.8**
baz=124
REDW Red Top Meadow 52.17 330 P **P 00 32 09.5 +0.5**
REDW IAmb IAmb 00 32 12.6
comp=Z,7.9nm,1.2s
SNOW Snow King Moun 52.19 330 P **P 00 32 10.1 +0.8**
TPH Tonopah 52.20 321 P **P 00 32 10.7 +1.4**
LOHW Long Hollow 52.23 331 P **P 00 32 10.2 +0.8**
ULM Lac du Bonnet 52.40 346 P **P 00 32 09.1 -1.2**
comp=Z,4.3nm,0.6s,baz=145,slow=8.3,SNR=6.0
comp=Z,4.3nm,0.6s
MOOW Moose Ponds 52.40 331 P **P 00 32 11.3 +0.6**
FXWY Fox Creek 52.46 330 P **P 00 32 11.2 +0.1**
IMW Indian Meadow 52.60 331 P **P 00 32 13.5 +1.2**
LAO LASA Array 52.65 336 P **P 00 32 12.6 +0.3**
LAO IAmb IAmb 00 32 15.8
comp=Z,18nm,1.4s
ELK Elko 52.70 325 P **P 00 32 13.5 +0.5**
RLMT Red Lodge 52.73 333 P **P 00 32 14.2 +1.0**
baz=140
YFT Old Faithful 52.96 331 P **P 00 32 15.6 +0.7**
YFT IAmb IAmb 00 32 20.7
comp=Z,12nm,1.5s
NV11 Mina Array Sit 53.00 321 P **P 00 32 15.9 +0.7**
NV11 IAmb IAmb 00 32 18.1
comp=Z,10nm,1.2s
OMMB Old Mammoth Mi 53.06 320 P **P 00 32 16.9 +1.1**
OMMB IAmb IAmb 00 32 18.5
comp=Z,8.0nm,1.3s
YNR Norris Junctio 53.08 332 P **P 00 32 16.7 +1.0**
NVAR Mina Array Bea 53.09 321 P **P 00 32 17.4 +1.5**
comp=Z,3.2nm,0.8s,baz=129,slow=7.1,SNR=16
NVAR PcP **PcP 00 33 24.4 +0.1**
comp=Z,0.6nm,0.5s,baz=125,slow=4.7,SNR=2.0
comp=Z,3.2nm,0.8s
NVAR Mina Array Bea 53.09 321 P **P 00 32 17.3 +1.4**
LHV Little Huntoon 53.12 321 P **P 00 32 17.7 +2.0**
LHV IAmb IAmb 00 33 02.4
comp=Z,9.4nm,0.7s
MDPB Devils Postpil 53.12 320 P **P 00 32 17.5 +1.3**
MDPB IAmb IAmb 00 32 19.0
comp=Z,8.4nm,1.2s
KVN Kaiserville 53.34 322 P **P 00 32 18.9 +1.2**
RYN Ryan 53.35 321 P **P 00 32 18.7 +1.0**
RYN IAmb IAmb 00 32 52.3
comp=Z,12nm,1.4s
YHL Hebgen Lake 53.42 331 P **P 00 32 19.5 +1.2**
YHL IAmb IAmb 00 32 21.3
comp=Z,14nm,1.1s
QLMT Earthquake Lak 53.53 331 P **P 00 32 20.9 +1.9**
BMN Battle Mountai 53.66 324 P **P 00 32 21.0 +1.1**
BMN IAmb IAmb 00 32 22.2
comp=Z,5.7nm,0.9s
BBGB Big Mountain B 53.83 317 P **P 00 32 22.6 +1.3**
YERR Yerington 54.01 321 P **P 00 32 23.9 +1.3**
HLID Hailey 54.14 328 P **P 00 32 24.5 +1.0**
HLID Hailey 54.14 328 P **P 00 32 24.7 +1.2**
baz=134,SNR=6.6
BOZ Bozeman (W) 54.19 332 P **P 00 32 24.7 +0.9**
baz=138
LRM Limekiln Ridge 54.74 331 P **P 00 32 28.6 +0.7**
MFID Camas Ranch 54.79 327 P **P 00 32 28.8 +0.7**
MFID IAmb IAmb 00 32 30.7
comp=Z,13nm,1.1s
AFDM Forest Hills D 55.10 320 P **P 00 32 31.1 +0.8**
HRY Holter Researc 55.10 332 P **P 00 32 31.0 +0.6**
EGMT Eagleton 55.18 335 P **P 00 32 30.7 -0.1**
EGMT IAmb IAmb 00 32 53.1
comp=Z,16nm,1.4s
EGMT Eagleton 55.18 335 P **P 00 32 31.1 +0.3**
baz=141
BEKR Beckworth 55.23 321 P **P 00 32 32.6 +1.2**
BEKR IAmb IAmb 00 32 33.4
comp=Z,6.7nm,1.4s
SCHQ Schefferville 55.62 8 P **P 00 32 32.8 -1.0**
comp=Z,5.7nm,0.9s,baz=225,slow=11,SNR=2.7
comp=Z,5.7nm,0.9s
WVOR Wild Horse Val 55.74 325 P **P 00 32 35.3 +0.3**
WVOR IAmb IAmb 00 32 37.1
comp=Z,12nm,1.1s
ORV Oroville 55.78 320 P **P 00 32 36.0 +0.8**
ORV IAmb IAmb 00 32 38.1
comp=Z,10nm,1.1s
MSO Missoula 56.19 331 P **P 00 32 38.4 +0.3**
MSO IAmb IAmb 00 32 40.1
comp=Z,9.9nm,1.2s
MSO Missoula 56.19 331 P **P 00 32 39.0 +0.9**
baz=136,SNR=5.4
J08A Circle Bar Ran 56.22 326 P **P 00 32 38.4 -0.1**
J08A IAmb IAmb 00 32 40.3
comp=Z,7.9nm,1.2s
MOD Modoc Plateau 56.39 323 P **P 00 32 40.0 +0.3**
F10A Beach Ranch, E 57.24 329 IAmb IAmb 00 32 46.9
comp=Z,5.6nm,1.1s
I07A Izee 57.26 326 P **P 00 32 47.2 +1.4**
I07A IAmb IAmb 00 32 49.0
comp=Z,4.9nm,1.0s
G08A Pilot Rock 57.72 327 P **P 00 32 50.0 +1.0**
G08A IAmb IAmb 00 32 51.2
comp=Z,10nm,1.0s
YBH Yreka Blue Hor 57.76 322 LR LR 00 59 39.1
comp=Z,33nm,18.8s,baz=169,slow=38
J05D Fort Rock, OR 57.77 324 P **P 00 32 50.8 +1.3**
baz=126
WALA Waterton Lakes 57.78 333 P **P 00 32 50.2 +0.8**
WALA IAmb IAmb 00 32 51.1
comp=Z,6.3nm,0.9s
L04D Klamath Falls 57.79 322 P **P 00 32 50.9 +1.4**
baz=125
PINE Pine Mountain 57.90 325 P **P 00 32 51.9 +1.4**
KHMM Horse Mountain 57.93 320 P **P 00 32 51.7 +1.1**
E09A Wood Farm, Sta 58.08 329 P **P 00 32 52.4 +1.1**
E09A IAmb IAmb 00 32 54.3
comp=Z,8.3nm,1.2s
J04D Umpqua Nationa 58.26 324 P **P 00 32 53.4 +0.5**
J04D Umpqua Nationa 58.26 324 P **P 00 32 53.4 +0.5**
baz=126
I05D Terrebonne, OR 58.46 325 P **P 00 32 55.4 +1.3**
baz=127
L02F Cave Junction 58.51 322 P **P 00 32 55.1 +0.6**
baz=124
E08A Dider Farm, El 58.54 328 P **P 00 32 55.0 +0.4**
E08A IAmb IAmb 00 32 56.0
comp=Z,4.1nm,0.9s
F07A Phinny Hill Vi 58.63 327 P **P 00 32 56.3 +1.1**
HAWA Hanford 58.73 328 P **P 00 32 56.6 +0.6**
HAWA IAmb IAmb 00 32 57.3
comp=Z,5.3nm,1.1s

NEW Newport 58.73 331 P **P 00 32 57.1 +1.2**
NEW IAmb IAmb 00 32 57.5
comp=Z,12nm,1.3s
NEW Newport 58.73 331 P **P 00 32 56.4 +0.4**
baz=133
I04A Tendick Farm, 58.76 324 P **P 00 32 56.8 +0.6**
baz=126
D08A Wollman Farm, 58.84 329 P **P 00 32 57.7 +1.1**
D08A IAmb IAmb 00 33 00.7
comp=Z,3.8nm,0.8s
K02D Willamette Mer 58.89 322 P **P 00 32 58.2 +1.0**
baz=124
G05D Wamic, OR 58.99 326 P **P 00 32 59.4 +1.6**
baz=127
H04A Detroit Lake 59.15 325 P **P 00 32 59.9 +1.0**
H04A IAmb IAmb 00 33 06.3
comp=Z,9.4nm,1.1s
HOOD Mount Hood Mea 59.23 326 P **P 00 33 01.1 +1.5**
I03D Drain, OR 59.26 323 P **P 00 33 01.2 +1.6**
baz=125
J01E Myrtle Point 59.31 323 P **P 00 33 01.8 +1.8**
baz=124
H04D Lebanon 59.38 324 P **P 00 33 01.1 +0.7**
baz=126
I02E Swisshome, OR 59.79 324 P **P 00 33 04.2 +0.9**
I02E Swisshome, OR 59.79 324 P **P 00 33 04.9 +1.6**
baz=124
LTY Liberty 59.88 328 P **P 00 33 04.6 +0.7**
LTY IAmb IAmb 00 33 06.2
comp=Z,5.3nm,0.8s
B08A Colville Reser 59.90 330 P **P 00 33 04.5 +0.5**
B08A IAmb IAmb 00 33 05.3
comp=Z,6.5nm,1.1s
G03D McMinnville, O 60.08 325 P **P 00 33 06.9 +1.6**
baz=126
D05A Enumclaw 60.55 327 P **P 00 33 09.1 +0.7**
EDM Edmonton 60.63 337 P **P 00 33 09.3 +0.4**
E03A Lebam 61.03 326 P **P 00 33 13.0 +1.3**
NLWA Neilton Lookou 61.69 327 P **P 00 33 16.8 +0.5**
LLLB Lillooet 62.62 330 P **P 00 33 23.3 +0.9**
BBTS Babate 62.85 74 LR LR 00 59 39.7
comp=Z,50nm,18.4s,baz=195,slow=35
OZB Mount Ozzard 63.49 327 P **P 00 33 29.4 +1.1**
CBB Campbell River 64.04 328 P **P 00 33 33.4 +1.7**
FRB Frobisher Bay 64.16 5 LR LR 01 02 35.4
comp=Z,38nm,19.4s,baz=285,slow=37
TLCB Telegraph Cove 65.11 328 P **P 00 33 39.5 +0.8**
ORCD Orcadas 65.71 163 P **P 00 33 42.8 +0.4**
YKA Yellowknife Ar 68.15 343 P **P 00 33 57.4 -0.6**
comp=Z,1.5nm,0.7s,baz=138,slow=6.6,SNR=3.3
comp=Z,1.5nm,0.7s
SFJD Kangerlussuaq 69.79 11 LR LR 01 07 38.8
comp=Z,21nm,18.1s,baz=193,slow=38
T35M Bob Quinn 70.39 333 P **P 00 34 13.4 +1.4**
baz=123
WRAK Wrangell Islan 71.06 332 P **P 00 34 17.6 +1.6**
WRAK IAmb IAmb 00 34 25.2
comp=Z,9.9nm,1.4s
DLBC Dease Lake 71.10 334 P **P 00 34 17.4 +1.1**
DLBC IAmb IAmb 00 34 24.1
comp=Z,6.2nm,1.1s
DLBC Dease Lake 71.10 334 P **P 00 34 16.8 +0.5**
baz=124
S34M Telegraph Cree 71.30 333 P **P 00 34 18.2 +0.8**
baz=123
WRGLY Wrigley 71.50 340 P **P 00 34 19.1 +0.5**
baz=132
R33M Jennings River 72.03 335 P **P 00 34 22.4 +0.4**
baz=123
TGTN Hyland Airport 72.17 337 P **P 00 34 23.7 +1.1**
baz=126
SIT Sitka 72.80 331 P **P 00 34 27.4 +1.0**
baz=119
R32K Eaglecrest 73.02 333 P **P 00 34 28.4 +0.6**
baz=120
P33M Teslin, Yukon 73.26 335 IAmb IAmb 00 34 36.7
comp=Z,9.0nm,1.4s
P33M Teslin, Yukon 73.26 335 P **P 00 34 29.7 +0.4**
baz=122
BESE Bessie Mountai 73.33 333 P **P 00 34 30.6 +0.9**
BESE IAmb IAmb 00 34 31.8
comp=Z,12nm,1.3s
DBIC Dimbokro 73.63 83 LR LR 01 04 07.3
comp=Z,46nm,19.2s,baz=186,slow=34
MMPY Sheldon Lake, 73.95 337 P **P 00 34 33.9 +0.7**
baz=124,SNR=7.7
FARO Faro, Yukon 74.55 337 P **P 00 34 37.4 +0.7**
FARO IAmb IAmb 00 34 44.6
comp=Z,5.8nm,1.1s
FARO Faro, Yukon 74.55 337 P **P 00 34 37.5 +0.7**
baz=122
KOWA Kowa 74.88 75 LR LR 01 07 13.9
comp=Z,38nm,19.8s,baz=198,slow=36
O30N Mendenhall 74.95 335 P **P 00 34 39.4 +0.3**
baz=119
M31M Drury Creek, Y 74.95 336 P **P 00 34 40.1 +1.0**
M31M IAmb IAmb 00 34 51.2
comp=Z,9.9nm,1.4s
M31M Drury Creek, Y 74.95 336 P **P 00 34 39.4 +0.3**
baz=121
P29M Windy Craggy 75.14 333 P **P 00 34 41.0 +0.9**
P29M IAmb IAmb 00 34 45.1
comp=Z,6.8nm,1.1s
P29M Windy Craggy 75.14 333 P **P 00 34 40.4 +0.3**
baz=117
N31M Braeburn, Yuko 75.16 335 P **P 00 34 41.1 +0.8**
baz=119
PESTR Estremoz 75.20 50 P **P 00 34 40.3 -0.6**
PESTR IAmb IAmb 00 34 41.8
comp=Z,10nm,1.3s
HYT Haines Junctio 75.58 334 P **P 00 34 43.6 +0.8**
baz=118
N30M Aishikik Lake 75.70 335 P **P 00 34 44.3 +0.9**
baz=118
C36M Paulatuk 75.80 345 P **P 00 34 44.2 +0.5**
baz=132
YUK6 Outpost Mounta 76.01 334 P **P 00 34 45.7 +0.3**
baz=117
M30M Minto, Yukon 76.11 336 P **P 00 34 46.5 +0.8**
M30M IAmb IAmb 00 34 52.9
comp=Z,7.4nm,1.1s
M30M Minto, Yukon 76.11 336 P **P 00 34 46.3 +0.6**
baz=119
YUK4 Talbot Arm 76.31 334 P **P 00 34 47.4 +0.3**
baz=117
BORG Borgarnes 76.64 22 LR LR 01 08 06.9
comp=Z,28nm,18.0s,baz=221,slow=36
M29M Somme Creek 76.73 336 P **P 00 34 50.2 +0.9**
baz=117
SUMG Summit 76.78 11 P **P 00 34 49.9 +0.1**
K29M Barlow Dome 77.01 337 P **P 00 34 51.2 +0.4**
baz=118,SNR=7.4
YUK3 Moose Creek 77.28 334 P **P 00 34 53.0 +0.4**
baz=115
MESA MESA 77.29 333 P **P 00 34 53.0 +0.4**
baz=113
CTG Chitna Glacier 77.33 334 P **P 00 34 52.6 -0.1**
baz=114
DAWY Dawson 77.84 337 P **P 00 34 55.8 +0.4**
DAWY IAmb IAmb 00 34 56.6
comp=Z,5.6nm,1.1s
DAWY Dawson 77.84 337 P **P 00 34 55.4 0.0**
baz=116
INK Inuvik 77.88 342 P **P 00 34 56.0 +0.6**
INK Inuvik 77.88 342 P **P 00 34 55.2 -0.2**
baz=123
EPYK Eagle Plains 77.93 339 P **P 00 34 56.4 +0.6**
EPYK Eagle Plains 77.93 339 P **P 00 34 55.8 -0.1**
baz=120
I29M Ogilvie Camp, 78.02 338 P **P 00 34 56.8 +0.4**
I29M IAmb IAmb 00 35 01.9
comp=Z,5.3nm,1.0s
I29M Ogilvie Camp, 78.02 338 P **P 00 34 57.1 +0.7**
baz=118
ESDC Sonseca Array 78.11 49 P **P 00 34 57.1 -0.3**
comp=Z,1.1nm,0.8s,baz=270,slow=5.6,SNR=14
comp=Z,1.1nm,0.8s
ESDC Sonseca Array 78.11 49 P **P 00 34 57.5 0.0**
M27K Edge Creek, AK 78.13 335 P **P 00 34 58.1 +0.9**
M27K IAmb IAmb 00 34 58.9
comp=Z,6.5nm,1.0s
M27K Edge Creek, AK 78.13 335 P **P 00 34 57.5 +0.3**
baz=114
BCAR Beaver Creek A 78.38 335 P **P 00 34 58.9 +0.5**
L27K Beaver Creek, 78.40 335 P **P 00 34 59.6 +1.1**
L27K IAmb IAmb 00 35 06.2
comp=Z,8.4nm,1.2s

L27K	Beaver Creek, baz=114	78.40 335	P	P	00 34 59.1	+0.6
M26K	Nabesna, AK baz=113	78.63 335	P	P	00 34 60.0	+0.2
BMRM	Bremner River baz=111	78.80 333	P	P	00 35 01.1	+0.3
EGAK	Eagle	78.84 337	P	P	00 35 01.2	+0.3
EGAK	Eagle baz=115,SNR=7.2	78.84 337	P	P	00 35 01.5	+0.6
K27K	Chicken comp=Z,9.1nm,1.3s	78.90 336	IAmb	IAmb	00 35 03.5	
K27K	Chicken baz=114	78.90 336	P	P	00 35 02.1	+0.9
N25K	Chitina, Valde baz=111	79.03 334	P	P	00 35 02.9	+0.8
EYAK	Cordova Ski Ar baz=110	79.18 332	P	P	00 35 03.3	+0.6
I27K	Kandik River baz=115	79.37 338	P	P	00 35 04.2	+0.4
DOT	Dot Lake	79.56 336	P	P	00 35 05.7	+0.8
DOT	comp=Z,12nm,1.5s		IAmb	IAmb	00 35 10.7	
H27K	Steamboat Moun baz=115	79.60 338	P	P	00 35 04.8	-0.2
SCRK	Sand Creek baz=112	79.65 336	P	P	00 35 05.5	+0.1
J26L	Joseph Creek	79.68 336	P	P	00 35 06.2	+0.6
J26L	Joseph Creek baz=113,SNR=6.5	79.68 336	P	P	00 35 06.0	+0.4
I26K	Coal Creek Min baz=113	79.83 337	P	P	00 35 06.1	-0.2
G27K	Doyon Strip baz=115	79.89 339	P	P	00 35 06.2	-0.4
PAX	Paxson baz=111	79.90 335	P	P	00 35 07.0	+0.2
RIDG	Independent Ri baz=111	79.92 336	P	P	00 35 07.1	+0.2
SCM	Sheep Creek Mo baz=109	80.33 333	P	P	00 35 09.1	-0.1
TORD	Torodi Ar. Bea comp=Z,0.9nm,0.8s,baz=287,slow=5.3,SNR=5.2	80.35 77	P	P	00 35 08.7	-1.4
J25K	comp=Z,0.9nm,0.8s Salcha River, baz=111	80.45 336	P	P	00 35 10.0	+0.3
E27K	Coleen River baz=115	80.45 340	P	P	00 35 09.6	0.0
G26K	Porcupine Rive baz=113	80.72 339	P	P	00 35 11.1	+0.1
WAT6	Susitna Watana baz=108	80.75 334	P	P	00 35 12.1	+0.6
SEW	Seward baz=107	80.79 331	P	P	00 35 12.3	+0.8
HDA	Harding Lake	81.02 336	P	P	00 35 12.9	+0.3
HDA	comp=Z,6.8nm,1.2s		IAmb	IAmb	00 35 19.0	
HDA	Harding Lake baz=110	81.02 336	P	P	00 35 13.0	+0.3
BELA	Belgrano 2	81.06 171	P	P	00 35 13.2	+0.5
BELA	comp=Z,5.0nm,0.8s		IAmb	IAmb	00 35 19.5	
FYU	Fort Yukon	81.10 338	P	P	00 35 13.5	+0.5
IL31		81.11 336	P	P	00 35 12.8	-0.3
IL31	comp=Z,5.5nm,1.1s		IAmb	IAmb	00 35 13.9	
ILAR	Eielson Array comp=Z,1.9nm,0.9s,baz=117,slow=3.5,SNR=15	81.11 336	P	P	00 35 12.9	-0.3
ILAR	comp=Z,1.9nm,0.9s Eielson Array	81.11 336	P	P	00 35 12.5	-0.7
F26K	Sheenjek River baz=113	81.13 339	P	P	00 35 13.6	+0.4
BMAR	Burnt Mountain	81.19 339	P	P	00 35 13.6	0.0
RC01	Rabbit Creek A baz=106	81.21 332	P	P	00 35 14.2	+0.5
H25K	Birch Creek baz=111	81.22 338	P	P	00 35 14.3	+0.7
F25K	Christian Rive baz=111	81.63 339	P	P	00 35 16.5	+0.5
MCK	McKinley baz=108	81.63 335	P	P	00 35 16.4	+0.5
MDM	Murphy Dome	81.72 336	P	P	00 35 16.7	+0.3
MDM	comp=Z,9.1nm,1.3s		IAmb	IAmb	00 35 23.0	
C27K	Jago River baz=113	81.75 341	P	P	00 35 16.6	+0.1
KDAK	Kodiak Island comp=Z,22nm,18.8s,baz=188,slow=38	81.75 329	LR	LR	01 15 08.0	
SUA	Susitna One	81.78 332	P	P	00 35 17.4	+0.5
SUA	comp=Z,9.3nm,1.0s		IAmb	IAmb	00 35 17.5	
SUA	Susitna One baz=106	81.78 332	P	P	00 35 17.0	+0.1
E25K	Arctic Village baz=111	81.79 340	P	P	00 35 17.1	+0.4
H24K	Noodor Dome	81.86 337	P	P	00 35 17.3	+0.1
H24K	Noodor Dome baz=109	81.86 337	P	P	00 35 17.7	+0.5
NEA2	Nenana comp=Z,5.1nm,0.7s	81.94 336	IAmb	IAmb	00 35 18.3	
NEA2	Nenana baz=108,SNR=5.3	81.94 336	P	P	00 35 17.2	-0.4
BWN	Browne	81.98 335	P	P	00 35 17.2	-0.6
G24K	Hadweenzic Riv baz=109	81.99 338	P	P	00 35 17.7	-0.1
OHAK	Old Harbor baz=103	82.00 328	P	P	00 35 19.2	+1.2
TRF	Thorofare Moun baz=106	82.12 334	P	P	00 35 18.2	-0.6
I23K	Minto, Yukon-K	82.23 336	P	P	00 35 19.0	0.0
I23K	comp=Z,8.9nm,1.2s		IAmb	IAmb	00 35 26.6	
I23K	Minto, Yukon-K baz=107	82.23 336	P	P	00 35 19.2	+0.2
SKT	Skwentna	82.28 333	P	P	00 35 19.7	+0.3
SKT	comp=Z,5.3nm,0.8s		IAmb	IAmb	00 35 19.8	
SKT	Skwentna baz=105	82.28 333	P	P	00 35 19.4	0.0
N20K	Mount Spurr baz=104	82.39 332	P	P	00 35 20.3	+0.3
F24K	Squaw Lake baz=109	82.41 339	P	P	00 35 20.8	+0.8
RSO	Redoubt South	82.47 331	P	P	00 35 20.4	-0.2
D25K	Kavik River baz=111	82.50 341	P	P	00 35 20.8	+0.3
H23K	Yukon River baz=107	82.51 337	P	P	00 35 20.4	-0.1
BPAW	Bear Paw Mtn.	82.60 335	P	P	00 35 20.5	-0.6
BPAW	Bear Paw Mtn. baz=106	82.60 335	P	P	00 35 20.9	-0.2
MLY	Manley	82.76 336	P	P	00 35 22.4	+0.5
MLY	comp=Z,2.9nm,0.7s		IAmb	IAmb	00 35 22.7	
MLY	Manley baz=106,SNR=5.1	82.76 336	P	P	00 35 21.7	-0.1
E24K	Your Creek baz=109	82.81 339	P	P	00 35 22.6	+0.5
PPLA	Purkeypile baz=104	82.81 334	P	P	00 35 22.1	-0.2
CAST	Castle Rocks comp=Z,4.9nm,0.7s	82.89 334	IAmb	IAmb	00 35 22.9	
CAST	Castle Rocks baz=105,SNR=5.0	82.89 334	P	P	00 35 22.2	-0.4
G23K	Bananza Creek baz=107	82.95 338	P	P	00 35 23.1	+0.3
CHIR	Chirikof Islan baz=101	82.98 326	P	P	00 35 24.0	+0.9
M20K	Styx River baz=104	82.99 333	P	P	00 35 23.9	+0.7
VNA3	Neumayer Olymp	83.10 162	P	P	00 35 23.3	-0.2
COLD	Coldfoot	83.17 338	P	P	00 35 25.9	+2.0
COLD	comp=Z,9.6nm,1.3s		IAmb	IAmb	00 35 31.0	
I21K	Tanana baz=105	83.30 336	P	P	00 35 24.5	-0.1
VNA1	Neumayer--Stat	83.34 162	P	P	00 35 25.1	+0.4
TOLK	Toolik Lake Re baz=108	83.37 340	P	P	00 35 25.2	+0.2
C24K	Franklin Bluff baz=108	83.41 341	P	P	00 35 25.2	+0.2
L20K	Farewell, AK baz=103	83.47 333	P	P	00 35 25.1	-0.5
M19K	Big River Lodg	83.57 332	P	P	00 35 26.6	+0.4
M19K	comp=Z,4.4nm,0.8s		IAmb	IAmb	00 35 26.7	
M19K	Big River Lodg baz=102	83.57 332	P	P	00 35 26.1	0.0
G22K	Bettles	83.58 338	P	P	00 35 26.5	+0.6
	baz=106					
VNA2	Neumayer--Watz baz=302,slow=9.0	83.70 162	P	P	00 35 26.4	-0.1
R17K	Ugashik Creek baz=100	83.72 328	P	P	00 35 27.9	+1.0
K20K	Telida	83.75 334	P	P	00 35 26.9	0.0
K20K	comp=Z,6.0nm,1.1s		IAmb	IAmb	00 35 33.2	
K20K	Telida baz=103	83.75 334	P	P	00 35 26.5	-0.4
H21K	Melozitna Rive baz=104	83.76 336	P	P	00 35 26.4	-0.6
L19K	White Mountain baz=102	83.84 333	P	P	00 35 27.2	-0.3
D23K	Nanushuk River baz=107	83.85 340	P	P	00 35 28.1	+0.7
J20K	Nowinta River comp=Z,6.1nm,1.1s	83.96 335	P	P	00 35 28.6	+0.6
J20K			IAmb	IAmb	00 35 34.1	
J20K	Nowinta River baz=103	83.96 335	P	P	00 35 27.6	-0.4
F22K	John River baz=105	83.99 338	P	P	00 35 28.4	+0.3
E22K	Anaktuvuk Pass baz=106	84.02 339	P	P	00 35 28.8	+0.5
N18K	Kilae Creek baz=101	84.03 331	P	P	00 35 28.2	-0.3
C23K	Itkillik River baz=107	84.08 341	P	P	00 35 29.3	+0.8
IMAR	Indian Mountai	84.21 337	P	P	00 35 29.1	-0.2
G21K	Allakaket baz=104	84.24 337	P	P	00 35 29.9	+0.5
R16K	Pilot Point baz=99	84.34 328	P	P	00 35 30.8	+0.8
F21K	Alatna River baz=104	84.40 338	P	P	00 35 30.6	+0.4
O17K	Koliganek Bris baz=100	84.46 330	P	P	00 35 31.6	+1.0
SNAA	Sanae	85.32 162	P	P	00 35 34.6	-0.3
SNAA	Sanae	85.32 162	P	P	00 35 34.4	-0.5
N16K	Nishlik Lake baz=98	85.40 331	P	P	00 35 35.7	+0.3
TROLL	Troll, Antarti	87.04 162	P	P	00 35 43.4	0.0
QSPA	South Pole Qui	89.90 180	P	P	00 35 57.8	+0.7
QSPA	comp=Z,6.6nm,1.1s		IAmb	IAmb	00 36 00.2	
ZALV	Zalesovo Beam comp=Z,0.8nm,0.6s,baz=299,slow=3.0,SNR=4.7	124.61 12	PKP	PKPdf	00 41 55.9	-1.7
GEYT	Alibeck comp=Z,0.8nm,0.7s,baz=204,slow=3.2,SNR=2.9	125.10 42	PKP	PKPdf	00 41 57.3	-1.8
KURBB	Kurchatov Arra comp=Z,1.1nm,0.7s,baz=323,slow=2.4,SNR=12	126.01 18	PKP	PKPdf	00 41 59.2	-1.2
USRK	Ussuriysk Ar. comp=Z,1.2nm,0.7s,baz=96,slow=2.9,SNR=2.6	128.50 332	PKhKP	PKPpre	00 41 59.7	
SONM	Songino Array comp=Z,0.6nm,0.6s,baz=72,slow=0.7,SNR=5.4	132.33 356	PKP	PKPdf	00 42 11.5	-1.2
KSRS	Korea Array comp=Z,1.0nm,0.4s,baz=8.5,slow=0.8,SNR=6.4	135.66 330	PKP	PKPdf	00 42 17.9	-1.2
ASAR	Alice Springs comp=Z,0.4nm,0.6s,baz=138,slow=4.0,SNR=5.1	140.74 231	PKhKP	PKPpre	00 42 21.9	
WRA	Warramunga Arr comp=Z,0.6nm,0.6s,baz=117,slow=2.5,SNR=5.0	142.26 236	PKhKP	PKPpre	00 42 25.6	
WRA			PKP	PKPdf	00 42 31.1	-0.5
LZH	comp=Z,0.6nm,0.6s,baz=110,slow=2.7,SNR=3.9 Lanzhou	144.19 357	*e*PKP	PKPdf	00 42 34.9	+0.1
LZH			sPKP		00 42 50.1	
PZH	PanZhiHua	153.80 360	PKPbc	PKPdf	00 42 50.6	+0.2
CMAR	Chiang Mai Arr comp=Z,1.3nm,0.3s,baz=316,slow=5.0,SNR=5.0	161.62 8	PKPab	PKPab	00 43 43.3	-1.4

*IDC **05** 00:26:57.1±2.8,36°.85S×178°.93E,h0km,mb3.6/2, mbtmp3.6/3,ML3.3/1,Error ellipse: s-maj=52.0km s-min=37.1km az=108.0*
*WEL **05** 00:26:58.9±1.5,37°.S±7°×17°.9E±1°.4,h10km,M3.5/9, ML3.7/12,MLv3.5/9,Error ellipse: s-maj=0.0km s-min=0.0km az=98.4*

ISC 05 00:26:57.5±2.6,36°.94S±0°.06×179°.0E±0°.1,h4km±12km, n27,σ1°.9±12°.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.84	222	P	Pg	00 27 14.2	+0.5
WMGZ	Waiomatatini S	1.00	208	P	Pb	00 27 18.6	+1.2
WMGZ				S	Sb	00 27 31.8	+0.8
PKGZ	Pakihiroa	1.21	218	P	Pg	00 27 20.5	-0.2
PKGZ				S	Sg	00 27 36.9	+0.5
HAZ	Te Kaha	1.28	230	P	Pg	00 27 21.1	-1.0
HAZ				S	Sn	00 27 39.7	0.0
PUZ	Puketiti	1.28	208	P	Pn	00 27 20.5	-1.8
RUGZ	Raukumara Rang	1.48	226	P	Pn	00 27 25.3	+0.3
TWGZ	Tauwhareparae	1.49	213	P	Pn	00 27 25.5	+0.4
TWGZ				S	Sn	00 27 45.3	+0.3
MWZ	Matawai	1.83	220	P	Pn	00 27 30.2	+0.4
RAGZ	Rawiri	2.01	219	P	Pn	00 27 33.2	+1.0
URZ	Urewera 10nm,0.3s,baz=31,slow=5.5,SNR=36	2.01	228	Pn	Pn	00 27 32.8	+0.7
URZ				Sn	Sn	00 27 57.7	0.0
	18nm,0.3s,baz=32,slow=15,SNR=14 27nm,0.3s						
URZ	Urewera	2.01	228	P	Pn	00 27 32.9	+0.7
EDRZ	Edgecumbe	2.16	236	P	Pb	00 27 37.3	+0.1
MTHZ	Maungataniwha	2.57	221	P	Pn	00 27 40.6	+0.6
KUZ	Kuaotunu	2.65	273	P	Pn	00 27 41.5	+0.5
NMHZ	Naumai	2.78	218	P	Pn	00 27 43.3	+0.5
NMHZ				S	Sn	00 28 15.8	-1.0
TOZ	Tahuroa Road	2.91	253	P	Pn	00 27 44.7	+0.1
GRZ	Great Barrier	2.94	282	P	Pb	00 27 48.0	-2.6
BKZ	Black Stump Fm	2.99	221	P	Pn	00 27 44.4	-1.3
MKAZ	Moumakai	3.09	266	P	Pn	00 27 47.7	+0.7
WCZ	Waipu Caves	3.90	283	P	Pn	00 28 00.3	+2.2
OUZ	Omahuta	4.71	290	P	Pn	00 28 12.1	+2.8
ASAR	Alice Springs 0.5nm,0.8s,baz=115,slow=7.7,SNR=4.7 0.5nm,0.8s	40.78	276	P	P	00 34 39.6	-0.3
WRA	Warramunga Arr 0.5nm,0.4s,baz=122,slow=7.8,SNR=12 0.5nm,0.4s	42.37	281	P	P	00 34 52.4	-0.6
H03N3	Juan Fernandez baz=234	79.14	124	T	T	02 05 44.2	
H03N2	Juan Fernandez baz=234	79.14	124	T	T	02 05 41.7	
H03N1	Juan Fernandez baz=234	79.16	124	T	T	02 05 34.1	
TORD	Torodi Ar. Bea 0.5nm,0.9s,baz=177,slow=4.4,SNR=1.8	156.19	186	PKPab	PKPab	00 47 21.3	-0.1

IDC 05 00:37:44.1±2.7,27°.74N×86°.10E,h0km,mb3.4/3, mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=92.2km s-min=26.6km az=68.0,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array 0.2nm,0.3s,baz=176,slow=12,SNR=9.3 1.0nm,0.7s	19.25	352	P	P	00 42 09.4	-0.7
KURBB	Kurchatov Arra 0.5nm,0.5s,baz=166,slow=10,SNR=7.3 0.5nm,0.5s	23.57	348	P	P	00 42 56.5	+0.4
SONM	Songino Array 0.3nm,0.4s,baz=218,slow=9.1,SNR=2.5 0.3nm,0.4s	25.55	33	P	P	00 43 15.0	+0.3
WRA	Warramunga Arr 0.2nm,0.4s,baz=323,slow=6.4,SNR=7.9 0.2nm,0.4s	66.53	130	P	P	00 48 36.0	-0.1

*IDC **05** 01:09:26.3±0.9,19°.20N×65°.82W,h0km,mb3.7/8, mbtmp3.7/9,ML3.5/1,MS3.4/22,Error ellipse: s-maj=24.9km s-min=15.1km az=87.0*
*NEIC **05** 01:09:28.7±1.8,19°.10N±0°.05×65°.35W±0°.03,h33km±4km, Error ellipse: s-maj=6.7km s-min=4.3km az=193.0*
*RSPR **05** 01:09:29.4,19°.13N×65°.29W,h48km±9km,MD4.0/18*
*OSPL **05** 01:09:30.2±2.4,19°.24N×65°.35W,h37km±73km,ML4.0*

ISC 05 01:09:27.2±1.3,19°.15N±0°.04×65°.32W±0°.04,h28km±10km, n160,σ1°.47/165,mb4.4/29,MS3.4/19,15C-9D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUPR	Culebra, Puert	0.84	178	P	Pn	01 09 43.7	+0.5
CUPR	Culebra, Puert	0.84	178	*e*S	Sn	01 09 55.0	+0.4
CUPR	Culebra, Puert	0.84	178		Pb	01 09 43.4	+0.2
CUPR					Sn	01 09 55.0	+0.4
STVI	Saint Thomas	0.87	156	*e*P	Pn	01 09 43.9	+0.3
STVI	Saint Thomas	0.87	156	*e*S	Sb	01 09 55.5	+0.5
STVI	Saint Thomas	0.87	156		Pn	01 09 43.9	+0.3
STVI				Sn	Sb	01 09 55.3	+0.3
SJVI	Gifft Hill Sch	0.97	147	*e*P	Pn	01 09 45.3	+0.4
SJVI	Gifft Hill Sch	0.97	147	*e*S	Sb	01 09 57.8	0.0
SJVI	Gifft Hill Sch	0.97	147		Pn	01 09 45.3	+0.4
SJVI					Sb	01 09 57.8	0.0
TBVI	Tortola	0.99	138	*e*P	Pn	01 09 45.3	+0.1
TBVI	Tortola	0.99	138	*e*S	Sb	01 09 58.5	+0.1
TBVI	Tortola	0.99	138		Pn	01 09 45.3	+0.1
TBVI					Sb	01 09 58.5	+0.1
CBYP	Canovanas	1.01	210	*e*P	Pn	01 09 45.4	-0.3
CBYP	Canovanas	1.01	210	*e*S	Sb	01 09 57.9	-1.3
CBYP	Canovanas	1.01	210		Pn	01 09 45.3	-0.3
CBYP				Sn	Sb	01 09 57.6	-1.5
MTP	Monte Pirata	1.07	192	*e*P	Pn	01 09 46.9	+0.5
MTP	Monte Pirata	1.07	192	*e*S	Sn	01 10 00.7	+0.3
MTP	Monte Pirata	1.07	192		Pn	01 09 46.6	+0.2
MTP				Sn	Sn	01 10 00.3	0.0
GCPR	Guaynabo City	1.11	221	*e*P	Pn	01 09 46.7	-0.1
GCPR	Guaynabo City	1.11	221	*e*S	Sn	01 10 00.5	-0.7
GCPR	Guaynabo City	1.11	221	Pn	Pn	01 09 46.3	-0.5
GCPR				Sn	Sn	01 10 00.1	-1.2
HUMP	Col San Antoni	1.12	207	*e*P	Pn	01 09 47.1	+0.1
HUMP	Col San Antoni	1.12	207	*e*S	Sn	01 10 01.7	+0.1
HUMP	Col San Antoni	1.12	207		Pn	01 09 46.9	-0.1
HUMP				Sn	Sn	01 10 01.5	-0.1
SJG	San Juan 88nm,0.3s,baz=54,slow=9.9,SNR=199	1.30	217	Pn	Pn	01 09 49.6	+0.1
SJG				Sn	Sn	01 10 05.7	-0.3
	384nm,0.3s,baz=264,slow=17,SNR=16						
SJG				LR	LR	01 10 18.4	
	comp=Z,530nm,18.9s,baz=339,slow=46						
SJG	San Juan 2μm,0.5s	1.30	217	IAML		01 10 08.8	
SJG				IAML		01 10 09.3	
	2μm,0.3s						
SJG	San Juan	1.30	217		Pn	01 09 49.4	-0.1
EMPR	Esperanza - Ma	1.33	240	*e*P	Pn	01 09 50.5	+0.6
EMPR	Esperanza - Ma	1.33	240	*e*S	Sn	01 10 07.3	+0.7
EMPR	Esperanza - Ma	1.33	240		Pn	01 09 49.7	-0.1
EMPR				Sn	Sn	01 10 07.0	+0.4
IGPR	InterUniversit	1.40	212	*e*P	Pn	01 09 51.2	+0.4
IGPR	InterUniversit	1.40	212	*e*S	Sn	01 10 08.3	0.0
CDVI	St. Croix	1.49	159	*e*P	Pb	01 09 54.3	+0.1
CDVI	St. Croix	1.49	159	Pn	Pb	01 09 54.1	-0.1
AOPR	Arecibo Observ	1.58	240	*e*P	Pn	01 09 53.7	+0.4
AOPR	Arecibo Observ	1.58	240	*e*S	Sn	01 10 13.2	+0.3
AOPR	Arecibo Observ	1.58	240		Pn	01 09 53.5	+0.1
AOPR				Sn	Sn	01 10 12.9	0.0
CELP	Cerrillos	1.60	228	*e*P	Pn	01 09 54.3	+0.6
CELP	Cerrillos	1.60	228	*e*S	Sn	01 10 13.4	-0.1
CELP	Cerrillos	1.60	228		Pn	01 09 53.8	+0.1
CELP				Sn	Sn	01 10 12.6	-0.9
CELP				IAML		01 10 19.0	
	comp=N,2μm,0.5s						
CELP				IAML		01 10 22.0	
	comp=E,2μm,0.6s						
OBIP	Obispado Ponce	1.65	228	*e*P	Pn	01 09 53.9	-0.3
OBIP	Obispado Ponce	1.65	228	*e*S	Sn	01 10 13.5	-1.0
OBIP	Obispado Ponce	1.65	228	Pn	Pn	01 09 53.7	-0.5
OBIP				Sn	Sn	01 10 13.1	-1.4
OBIP				IAML		01 10 15.9	
	comp=N,1μm,0.8s						
ICMP	Isla Caja de M	1.70	222	*e*P	Pn	01 09 56.1	+1.1
ICMP	Isla Caja de M	1.70	222	*e*S	Sn	01 10 16.4	+0.5
ICMP	Isla Caja de M	1.70	222	Pn	Pn	01 09 55.7	+0.7
ICMP				Sn	Sn	01 10 15.9	+0.1
ICMP				IAML		01 10 26.3	
	comp=E,2μm,0.7s						
ICMP				IAML		01 10 29.2	
	comp=N,1μm,0.5s						
AGPR	Aguadilla, PR	1.83	248	*e*P	Pn	01 09 57.5	+0.7
AGPR	Aguadilla, PR	1.83	248	*e*S	Sn	01 10 19.6	+0.6
AGPR	Aguadilla, PR	1.83	248	Pn	Pn	01 09 56.7	-0.1
AGPR				Sn	Sn	01 10 18.2	-0.8
AGPR				IAML		01 10 24.5	
	comp=E,2μm,0.6s						
AGPR				IAML		01 10 25.4	
	comp=N,2μm,0.7s						
AGPR	Aguadilla, PR	1.83	248	*i* P	Pn	01 09 57.8	+1.1
AGPR				*e*S	Sn	01 10 18.6	-0.4
AGPR				IAML		01 10 22.3	
	comp=Z,723nm,0.7s						
GBPR	Guanica, Bosqu	1.89	232	*e*P	Pn	01 09 58.8	+1.3
GBPR	Guanica, Bosqu	1.89	232	*e*S	Sn	01 10 21.5	+1.1
LSP	Las Mesas	1.94	240	*e*P	Pn	01 09 58.9	+0.6
PRSN	Puerto Rico Se	1.96	242	*e*P	Pn	01 10 00.2	+1.6
PRSN	Puerto Rico Se	1.96	242	*e*S	Sn	01 10 23.5	+1.2
PRSN	Puerto Rico Se	1.96	242	Pn	Pn	01 09 59.3	+0.7
PRSN				Sn	Sn	01 10 22.8	+0.5
MLPR	Magueyes Islan	2.02	235	*e*P	Pn	01 10 00.3	+0.9
MLPR	Magueyes Islan	2.02	235	*e*S	Sn	01 10 25.9	+2.3
MLPR	Magueyes Islan	2.02	235	Pn	Pn	01 09 59.7	+0.3
MLPR				Sn	Sn	01 10 23.7	+0.1
MLPR				IAML		01 10 33.2	
	comp=N,1μm,0.5s						
CRPR	Cabo Rojo, PR	2.04	236	*e*P	Pn	01 10 00.6	+0.8
CRPR	Cabo Rojo, PR	2.04	236	*e*S	Sn	01 10 26.0	+1.6
CRPR	Cabo Rojo, PR	2.04	236	Pn	Pn	01 09 59.8	+0.1
CRPR				Sn	Sn	01 10 25.5	+1.2
CRPR				IAML		01 10 39.1	
	comp=N,854nm,0.5s						
CRPR	Cabo Rojo, PR	2.04	236	*i* P	Pn	01 10 00.6	+0.8
CRPR				*e*S	Sn	01 10 24.6	+0.3
CRPR				IAML		01 10 35.5	
	comp=Z,1μm,0.7s						
IDE	Isla Desecheo	2.18	250	*e*P	Pn	01 10 02.1	+0.5
IDE	Isla Desecheo	2.18	250	*e*S	Sn	01 10 29.2	+1.5
PCDR	Punta Cana, DR	2.97	258	*e*P	Pn	01 10 14.3	+1.9
PCDR	Punta Cana, DR	2.97	258	*e*S	Sn	01 10 48.6	+1.5
PCDR	Punta Cana, DR	2.97	258	Pn	Pn	01 10 13.3	+0.9
PCDR				Sn	Sn	01 10 48.4	+1.2
PCDR	Punta Cana, DR	2.97	258	*i* P	Pn	01 10 14.5	+2.1
PCDR				*e*S	Sn	01 10 47.7	+0.5
PCDR				IAML		01 11 00.4	
	comp=Z,290nm,0.5s						
ANWB	Willy Bob	3.67	113	Pn	Pn	01 10 21.9	-0.2
ANWB				IAML		01 11 25.1	
	comp=Z,224nm,1.9s						
ANWB				IAML		01 11 44.1	
	comp=Z,261nm,1.1s						
DR12	Loma Pena Alta	3.86	265	*e*P	Pn	01 10 25.7	+1.0
DR12	Loma Pena Alta	3.86	265	Pn	Pn	01 10 25.1	+0.3
SC01	Santiago de lo	5.12	274	Pn	Pn	01 10 44.0	+2.0
SC01	Santiago de lo	5.12	274	*i* P	Pn	01 10 43.5	+1.5
SC01				IAML		01 11 56.7	
	comp=Z,106nm,0.6s						
SDDR	Presa de Saban	5.65	269	Pn	Pn	01 10 51.1	+1.8
SDDR	Presa de Saban	5.65	269	*i* P	Pn	01 10 51.3	+2.0
SDDR				IAML		01 11 56.8	
	comp=Z,62nm,0.4s						
SVN	Savane Anatole	5.84	137	Pn	Pn	01 10 54.8	+2.7
GRTK	Grand Turk	5.94	294	Pn	Pn	01 10 53.0	-0.2
GRTK	Grand Turk	5.94	294	*i* P	Pn	01 10 53.4	+0.1
GRTK				*e*S	Sn	01 11 53.3	-7.1
GRTK				IAML		01 12 01.7	
	comp=Z,78nm,0.7s						
BIM	Bigot	6.15	138	Pn	Pn	01 10 57.4	+1.2
MPOM	Morne Pois Mar	6.34	137	Pn	Pn	01 11 00.1	+1.3
MASC	Masc	8.46	278	*i* P	Pn	01 11 25.6	-2.3
MASC				IAML		01 12 59.1	
	comp=Z,20nm,1.4s						
BIRV	Birongo	8.68	186	Pn	Pn	01 11 29.8	-1.2
PCRV	Puerto La Cruz comp=Z,0.6nm,0.3s,baz=356,slow=2.7,SNR=9.4	8.95	176	Pn	Pn	01 11 38.0	+3.2
PCRV				Sn	Sn	01 13 08.2	-6.4
	comp=Z,0.3nm,0.3s,baz=38,slow=8.8,SNR=1.6						
PCRV				LR	LR	01 15 07.1	
	comp=Z,182nm,18.4s,slow=38 comp=Z,9.0nm,0.7s						
BAUV	El Baul	10.49	195	Pn	Pn	01 11 56.1	+0.4
SDV	Santo Domingo comp=Z,1.9nm,0.3s,baz=54,slow=9.5,SNR=7.9	11.43	207	Pn	Pn	01 12 13.4	+4.5
SDV				Sn	Sn	01 14 12.3	-3.6
	comp=Z,0.8nm,0.3s,baz=81,slow=23,SNR=1.4						
SDV

060A	**Indiantown**	**15.90 302**	P	**P**	**01 13 13.2 +0.8**	
ROSC	**El Rosal**	**16.72 213**	Pn	**P**	**01 13 23.1 +1.1**	
	comp=Z,2.4nm,0.3s,baz=60,slow=6.1,SNR=9.1					
ROSC			LR	LR	01 20 26.8	
	comp=Z,154nm,18.1s,baz=52,slow=40					
ROSC	**El Rosal**	**16.72 213**	P	**P**	**01 13 22.7 +0.7**	
ROSC			IAmb	IAmb	01 13 28.8	
	comp=Z,15nm,0.6s					
BOAV	**Boa Vista**	**17.30 164**	P	**P**	**01 13 28.2 0.0**	
BOAV			IAmb	IAmb	01 13 53.2	
	comp=Z,4.0nm,0.8s					
V55A	**Taylorsville**	**21.75 323**	P	**P**	**01 14 17.0 +0.4**	
BG3	**Lake Jocassee**	**22.19 319**	P	**P**	**01 14 20.8 -0.5**	
BG3			IAmb	IAmb	01 14 38.5	
	comp=Z,16nm,0.7s					
V53A	**Saluda**	**22.56 320**	P	**P**	**01 14 28.0 +2.7**	
TKL	**Tuckaleechee C**	**23.14 319**	LR	LR	01 24 28.7	
	comp=Z,34nm,19.4s,baz=147,slow=40					
TKL	**Tuckaleechee C**	**23.14 319**	P	**P**	**01 14 32.5 +1.2**	
TKL			IAmb	IAmb	01 14 51.1	
	comp=Z,11nm,0.7s					
TZTN	**Tazewell**	**23.59 321**	P	**P**	**01 14 38.4 +2.7**	
V51A	**Loudon**	**23.60 319**	P	**P**	**01 14 38.3 +2.5**	
LRAL	**Lakeview Retre**	**23.81 310**	P	**P**	**01 14 38.6 +0.8**	
SSPA	**Standing Stone**	**23.97 336**	P	**P**	**01 14 40.7 +1.5**	
SSPA			IAmb	IAmb	01 15 03.9	
	comp=Z,14nm,0.9s					
M57A	**Sunshine Farm,**	**24.30 338**	P	**P**	**01 14 43.2 +0.9**	
S51A	**Beattyville**	**24.37 323**	P	**P**	**01 14 44.3 +1.4**	
S51A			IAmb	IAmb	01 15 10.2	
	comp=Z,8.0nm,0.8s					
M55A	**Ridgway**	**25.03 336**	P	**P**	**01 14 50.3 +1.4**	
M55A			IAmb	IAmb	01 15 24.6	
	comp=Z,24nm,1.2s					
PLAL	**Pickwick Lake**	**25.58 313**	P	**P**	**01 14 54.5 +0.5**	
PLAL			IAmb	IAmb	01 15 23.9	
	comp=Z,5.3nm,0.6s					
NCB	**Newcomb**	**25.85 345**	P	**P**	**01 14 56.8 +0.5**	
WVT	**Waverly**	**26.05 315**	P	**P**	**01 14 58.9 +0.7**	
F63A	**Nahmakanta, Br**	**26.66 354**	P	**P**	**01 15 04.9 +1.3**	
F63A			IAmb	IAmb	01 15 10.5	
	comp=Z,17nm,1.4s					
E62A	**Clayton Lake**	**27.61 354**	P	**P**	**01 15 13.4 +1.3**	
E62A			IAmb	IAmb	01 15 24.1	
	comp=Z,17nm,1.3s					
CZSB	**Cruzeiro do Su**	**27.69 196**	P	**P**	**01 15 12.5 -0.6**	
CZSB			IAmb	IAmb	01 15 13.6	
	comp=Z,23nm,0.8s					
SADO	**Sadowa**	**28.02 339**	LR	LR	01 26 30.1	
	comp=Z,38nm,20.3s,baz=190,slow=37					
ETMB	**Extrema**	**28.80 182**	P	**P**	**01 15 21.5 -1.5**	
ETMB			IAmb	IAmb	01 16 04.0	
	comp=Z,2.2nm,1.0s					
ATAH	**Atahualpa**	**29.13 207**	LR	LR	01 28 58.5	
	comp=Z,105nm,20.8s,baz=7.6,slow=40					
NNA	**Nana**	**32.96 201**	LR	LR	01 31 51.3	
	comp=Z,73nm,18.7s,baz=344,slow=41					
PTLB	**Pontes e Lacer**	**34.92 170**	P	**P**	**01 16 17.5 +0.9**	
PTLB			IAmb	IAmb	01 16 57.5	
	comp=Z,1.3nm,1.0s					
SIV	**San Ignacio**	**35.17 173**	LR	LR	01 31 08.7	
	comp=Z,82nm,18.5s,baz=252,slow=37					
LPAZ	**La Paz**	**35.33 185**	P	**P**	**01 16 24.1 +3.2**	
	comp=Z,1.1nm,0.7s,baz=349,slow=5.2,SNR=2.6					
	comp=Z,1.1nm,0.7s					
LPAZ	**La Paz**	**35.33 185**	P	**P**	**01 16 19.5 -1.3**	
ECSD	**EROS Data Cent**	**35.88 320**	P	**P**	**01 16 24.8 0.0**	
ECSD			IAmb	IAmb	01 16 55.5	
	comp=Z,3.2nm,0.9s					
TXAR	**Lajitas Array**	**36.26 294**	P	**P**	**01 16 28.5 +0.1**	
	comp=Z,0.3nm,0.6s,baz=121,slow=14,SNR=6.5					
	comp=Z,0.3nm,0.6s					
TXAR	**Lajitas Array**	**36.26 294**	P	**P**	**01 16 30.3 +2.0**	
TX32	**Lajitas Array**	**36.26 294**	P	**P**	**01 16 28.1 -0.2**	
B35A	**Bob, Littlefor**	**37.10 328**	P	**P**	**01 16 36.1 +1.0**	
B35A			IAmb	IAmb	01 16 37.0	
	comp=Z,4.3nm,0.8s					
PB16	**IPOC Station P**	**37.48 187**	P	**P**	**01 16 36.8 -2.4**	
PB16			IAmb	IAmb	01 16 39.9	
	comp=Z,3.7nm,0.9s					
GO01	**Chusmiza**	**38.77 186**	P	**P**	**01 16 46.4 -3.6**	
ULM	**Lac du Bonnet**	**39.41 329**	P	**P**	**01 16 54.2 -0.2**	
	comp=Z,3.5nm,0.9s,baz=138,slow=8.6,SNR=4.8					
	comp=Z,3.5nm,0.9s					
ULM	**Lac du Bonnet**	**39.41 329**	P	**P**	**01 16 55.0 +0.5**	
PB01	**IPOC Station P**	**40.16 186**	P	**P**	**01 16 58.5 -2.6**	
PB01			IAmb	IAmb	01 17 06.5	
	comp=Z,11nm,1.2s					
PB02	**IPOC Station P**	**40.47 187**	P	**P**	**01 17 01.2 -2.5**	
PB02			IAmb	IAmb	01 17 41.6	
	comp=Z,12nm,1.0s					
PB07	**IPOC Station P**	**40.87 186**	P	**P**	**01 17 04.4 -2.7**	
PB07			IAmb	IAmb	01 17 24.9	
	comp=Z,12nm,1.0s					
LVC	**Limon Verde**	**41.66 185**	LR	LR	01 36 19.5	
	comp=Z,66nm,18.4s,baz=15,slow=39					
LVC	**Limon Verde**	**41.66 185**	P	**P**	**01 17 12.6 -1.1**	
LVC			IAmb	IAmb	01 17 49.1	
	comp=Z,14nm,1.4s					
PDAR	**Pinedale Array**	**44.00 312**	P	**P**	**01 17 33.6 +1.1**	
	comp=Z,0.8nm,0.8s,baz=106,slow=8.6,SNR=6.3					
	comp=Z,0.8nm,0.8s					
FRB	**Frobisher Bay**	**44.61 358**	LR	LR	01 34 26.4	
	comp=Z,36nm,19.6s,baz=202,slow=34					
CPUP	**Villa Florida**	**45.87 170**	P	**P**	**01 17 45.5 -1.7**	
CPUP			IAmb	IAmb	01 17 47.1	
	comp=Z,3.7nm,0.8s					
SFJD	**Kangerlussuaq**	**48.76 8**	LR	LR	01 38 55.3	
	comp=Z,28nm,18.4s,baz=174,slow=36					
ITQB	**Itaqui**	**49.26 170**	P	**P**	**01 18 12.9 -0.5**	
NVAR	**Mina Array Bea**	**49.54 304**	P	**P**	**01 18 17.0 +1.0**	
	comp=Z,0.2nm,0.5s,baz=110,slow=11,SNR=1.6					
	comp=Z,0.2nm,0.5s					
I02E	**Swisshome, OR**	**54.43 311**	P	**P**	**01 18 51.8 -0.2**	
YKA	**Yellowknife Ar**	**54.89 335**	LR	LR	01 43 51.2	
	comp=Z,34nm,18.2s,baz=48,slow=38					
MDT	**Midelt**	**55.58 63**	LR	LR	01 39 04.1	
	comp=Z,31nm,20.5s,baz=258,slow=32					
ESDC	**Sonseca Array**	**56.14 55**	P	P	01 19 11.4 +7.0	
	comp=Z,0.6nm,1.0s,baz=282,slow=6.4,SNR=2.5					
ESDC			LR	LR	01 38 00.5	
	comp=Z,26nm,20.9s,baz=238,slow=30					
	comp=Z,0.6nm,1.0s					
TORD	**Torodi Ar. Bea**	**64.32 84**	P	P	01 20 07.4 +6.6	
	comp=Z,0.6nm,0.9s,baz=298,slow=6.2,SNR=2.1					
	comp=Z,0.6nm,0.9s					
INK	**Inuvik**	**64.33 337**	LR	LR	01 48 04.4	
	comp=Z,32nm,20.6s,baz=200,slow=36					
NOA	**NORSAR Array B**	**66.92 31**	LR	LR	01 45 43.2	
	comp=Z,17nm,20.6s,baz=290,slow=32					
BCAR	**Beaver Creek A**	**66.98 331**	P	**P**	**01 20 18.3 +1.1**	
K27K	**Chicken**	**67.16 332**	P	**P**	**01 20 20.1 +1.9**	
K27K			IAmb	IAmb	01 20 35.9	
	comp=Z,8.8nm,1.5s					
GLB	**Gilahina Butte**	**67.87 329**	P	**P**	**01 20 23.4 +0.5**	
GLB			IAmb	IAmb	01 20 51.1	
	comp=Z,4.6nm,1.0s					
HFS	**Hagfors**	**68.13 32**	LR	LR	01 45 04.9	
	comp=Z,46nm,21.1s,baz=335,slow=31					
ILAR	**Eielson Array**	**69.26 333**	P	**P**	**01 20 32.0 +0.6**	
	comp=Z,1.3nm,1.0s,baz=100,slow=4.1,SNR=6.5					
ILAR			LR	LR	01 52 24.8	
	comp=Z,31nm,18.9s,baz=313,slow=37					
	comp=Z,1.3nm,1.0s					
ILAR	**Eielson Array**	**69.26 333**	P	**P**	**01 20 31.4 -0.1**	
MDM	**Murphy Dome**	**69.83 333**	P	**P**	**01 20 35.9 +1.0**	
MDM			IAmb	IAmb	01 20 37.2	
	comp=Z,7.5nm,1.3s					
I23K	**Minto, Yukon-K**	**70.30 333**	P	**P**	**01 20 38.9 +1.1**	
I23K			IAmb	IAmb	01 21 02.3	
	comp=Z,4.6nm,1.2s					
VRAC	**Vranov**	**70.51 43**	LR	LR	01 48 56.1	
	comp=Z,22nm,19.3s,baz=342,slow=34					
IMAR	**Indian Mountai**	**72.05 335**	P	**P**	**01 20 49.0 +0.6**	
J20K	**Nowinta River**	**72.44 333**	P	**P**	**01 20 50.0 -0.8**	
J20K			IAmb	IAmb	01 21 17.8	
	comp=Z,5.3nm,1.5s					
FINES	**FINESS Array B**	**74.04 30**	LR	LR	01 49 24.9	
	comp=Z,33nm,20.7s,baz=266,slow=32					
ARU	**Arti**	**91.24 27**	LR	LR	02 03 28.4	
	comp=Z,29nm,18.2s,baz=252,slow=36					
AKTO	**Aktyubinsk**	**94.67 32**	LR	LR	02 02 31.8	
	comp=Z,14nm,20.2s,baz=30,slow=34					

NEIC ***05*** *01:50:56.9±2.7, 26.8S±0.2×178.92W±0.06, h365km±10km,*
mb4.1/13, Error ellipse: s-maj=31.1km s-min=7.2km az=182.0
IDC ***05*** *01:51:19.8±7.0, 24.29S×179.27E, h541km±72km, mb3.2/4, mbtmp4.1/5, Error ellipse: s-maj=110.5km s-min=38.0km az=155.0*

ISC 05 01:50:57.6±0.9, 26.9S±0.2×178.9W±0.1, h400km, n27, σ2s16/24, mb4.1/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.52**	**161**	P	**Pn**	**01 51 53.6**	**-3.4**
MSVF	**Nonsavu**	**9.52**	**342**	P	**Pn**	**01 53 09.8**	**-0.5**
MARNC	**Mare, Loyalty**	**13.09**	**291**	P	**P**	**01 53 48.4**	**-1.0**
PINNC	**Pines Island,**	**13.12**	**286**	P	**Pn**	**01 53 50.4**	**-1.5**
DZM	**Mont Dzumac**	**14.19**	**287**	P	**P**	**01 53 57.7**	**-3.8**
	2.6nm,0.6s,baz=25,slow=20,SNR=1.9						
DZM	**Mont Dzumac**	**14.19**	**287**	P	**P**	**01 54 02.0**	**+0.5**
ARMA	**Armidale**	**26.09**	**255**	P	**P**	**01 56 02.5**	**+5.5**
EIDS	**Eidsvold**	**26.98**	**266**	P	**P**	**01 56 07.2**	**+2.3**
EIDS				IAmb	IAmb	01 56 07.9	
	comp=Z,7.2nm,0.7s						
PPTF	**Pamatai, Papee**	**28.61**	**77**	P	**P**	**01 56 20.8**	**+1.4**
CTAO	**Charters Tower**	**32.61**	**274**	P	**P**	**01 56 54.8**	**+0.7**
STKA	**Stephens Creek**	**34.67**	**252**	P	P	01 57 16.9	+5.3
	comp=Z,0.9nm,0.3s,baz=90,slow=9.1,SNR=4.2						
	comp=Z,0.9nm,0.3s						
COEN	**Coen**	**37.66**	**282**	P	**P**	**01 57 35.7**	**-1.0**
COEN				IAmb	IAmb	01 58 09.6	
	comp=Z,18nm,1.2s						
BBOO	**Buckleboo**	**39.31**	**250**	P	P	01 57 54.1	+4.1
BBOO				IAmb	IAmb	01 57 56.8	
	comp=Z,17nm,1.1s						
AS31	**Alice Springs**	**42.63**	**264**	P	**P**	**01 58 19.6**	**+2.6**
AS31				IAmb	IAmb	01 58 20.5	
	comp=Z,3.6nm,0.3s						
ASAR	**Alice Springs**	**42.63**	**264**	P	**P**	**01 58 18.6**	**+1.7**
	comp=Z,2.2nm,0.3s,baz=88,slow=6.8,SNR=52						
	comp=Z,2.2nm,0.3s						
ASAR	**Alice Springs**	**42.63**	**264**	P	**P**	**01 58 18.6**	**+1.6**
WR0	**Warramunga Arr**	**43.10**	**269**	P	**P**	**01 58 20.4**	**-0.2**
WR0				IAmb	IAmb	01 58 43.0	
	comp=Z,14nm,1.5s						
WB2	**Warramunga Arr**	**43.28**	**269**	P	**P**	**01 58 22.3**	**+0.2**
WB2				IAmb	IAmb	01 58 23.6	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**43.29**	**269**	P	**P**	**01 58 22.4**	**+0.3**
	comp=Z,3.1nm,0.5s,baz=100,slow=6.7,SNR=32						
	comp=Z,3.1nm,0.5s						
WRA	**Warramunga Arr**	**43.29**	**269**	P	**P**	**01 58 22.2**	**0.0**
WB0	**Warramunga Arr**	**43.30**	**269**	P	**P**	**01 58 22.3**	**+0.1**
KNRA	**Kununurra**	**49.74**	**272**	P	**P**	**01 59 11.9**	**+0.3**
KNRA				IAmb	IAmb	01 59 13.5	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.66**	**268**	P	**P**	**01 59 27.1**	**+1.4**
TXAR	**Lajitas Array**	**91.15**	**58**	P	P	02 03 28.1	+10
	comp=Z,2.0nm,0.8s,baz=214,slow=6.2,SNR=2.6						
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra1**	**45.15**	**351**	PKP	**PKiKP**	**02 09 49.9**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=17,slow=3.4						
NOA	**NORSAR Array B**	**145.15**	**351**	PKP	**PKPab**	**02 09 49.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=24,slow=1.9,SNR=3.9						
CLL	**Collm**	**153.97**	**343**	*i* PKPbc	**PKiKP**	**02 10 13.7**	**+3.6**

JMA ***05*** *02:02:00.2±0.1, 24.7N±0.3×121.5E±0.6, h77km±1km, MV3.1/10, TAIWAN REGION*
TAP ***05*** *02:02:00.8, 24.74N×121.58E, h78km, ML3.7, B*

ISC 05 02:02:00.7±1.3, 24.77N±0.03×121.56E±0.02, h79km±5km, n111, σ0s78/185, 34C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUSB	**Fushanzhiwuyua**	**0.03**	**109**	⇑*i*P	**Pn**	**02 02 12.1**	**+0.2**
	baz=12						
FUSB				S	**Sn**	**02 02 19.6**	**-0.6**
	baz=12						
TWE	**Neicheng**	**0.11**	**115**	⇑*i*P	**Pn**	**02 02 12.4**	**+0.5**
	baz=105						
TWE				S	**Sn**	**02 02 20.6**	**+0.3**
	baz=105						
ENTT	**Nioudou**	**0.13**	**176**	⇑*i*P	**Pn**	**02 02 11.5**	**-0.6**
	baz=183						
ENTT				*i* S	**Sn**	**02 02 19.4**	**-1.0**
	baz=183						
NDT	**Datong Townshi**	**0.17**	**193**	⇑*i*P	**Pn**	**02 02 12.7**	**+0.5**
	baz=211						
NDT				*i* S	**Sn**	**02 02 20.7**	**0.0**
	baz=211						
ILA	**Ilan**	**0.17**	**91**	P	**Pn**	**02 02 12.6**	**+0.4**
	baz=83						
ILA				*e*S	**Sn**	**02 02 21.6**	**+1.0**
	baz=83						
YHNB	**Yeheng**	**0.19**	**239**	P	**Pn**	**02 02 12.6**	**+0.3**
YHNB	**Yeheng**	**0.19**	**239**	⇑*i*P	**Pn**	**02 02 12.4**	**0.0**
	baz=242						
YHNB				S	**Sn**	**02 02 20.1**	**-0.8**
	baz=242						
NDS	**Dongshan**	**0.20**	**133**	⇑*i*P	**Pn**	**02 02 11.7**	**-0.5**
	baz=131						
NDS				*i* S	**Sn**	**02 02 19.8**	**-1.0**
	baz=131						
NSK	**Sanguang**	**0.20**	**243**	⇑*i*P	**Pn**	**02 02 11.4**	**-1.0**
	baz=250						
NSK				S	**Sn**	**02 02 19.2**	**-1.8**
	baz=250						
TWA	**Mucha**	**0.21**	**7**	P	**Pn**	**02 02 12.7**	**+0.3**
	baz=3.0						
TWA				*i* S	**Sn**	**02 02 21.0**	**0.0**
	baz=3.0						
LATG	**Datong**	**0.23**	**186**	⇑*i*P	**Pn**	**02 02 13.1**	**+0.5**
	baz=194						
LATG				S	**Sn**	**02 02 21.6**	**+0.3**
	baz=194						
NTC	**Toucheng**	**0.26**	**71**	⇑*i*P	**Pn**	**02 02 12.8**	**+0.3**
	baz=58						
NTC				*e*S	**Sn**	**02 02 21.0**	**-0.3**
	baz=58						
TAP	**Taipei**	**0.27**	**351**	*e*P	**Pn**	**02 02 12.9**	**+0.2**
	baz=347						
TAP				*e*S	**Sn**	**02 02 21.1**	**-0.3**
	baz=347						
TWC	**Suao**	**0.31**	**121**	⇑*i*P	**Pn**	**02 02 13.3**	**+0.5**
	baz=118						
TWC				S	**Sn**	**02 02 22.3**	**+0.5**
	baz=118						
TIPB	**Shuangxi**	**0.32**	**51**	⇑*i*P	**Pn**	**02 02 13.3**	**+0.4**
	baz=43						
TIPB				S	**Sn**	**02 02 21.9**	**0.0**
	baz=43						
EGS		**0.35**	**78**	P	**Pn**	**02 02 13.8**	**+0.8**
	baz=69						
EGS				*e*S	**Sn**	**02 02 23.1**	**+0.9**
	baz=69						
TWS1	**Kuangyinshan**	**0.35**	**339**	⇑*i*P	**Pn**	**02 02 13.8**	**+0.6**
	baz=329						
TWS1				*e*S	**Sn**	**02 02 22.9**	**+0.7**
	baz=329						
NWF	**Wu-fen Shan**	**0.36**	**34**	⇑*i*P	**Pn**	**02 02 13.7**	**+0.4**
	baz=25						
NWF				S	**Sn**	**02 02 22.6**	**0.0**
	baz=25						
NNS	**Nan Shan**	**0.37**	**207**	⇑*i*P	**Pn**	**02 02 12.7**	**-0.7**
	baz=211						
NNS				*e*S	**Sn**	**02 02 22.6**	**-0.1**
	baz=211						
NNSB	**Datong**	**0.37**	**205**	⇑*i*P	**Pn**	**02 02 13.8**	**+0.4**
	baz=210						
NNSB				*e*S	**Sn**	**02 02 22.9**	**+0.1**
	baz=210						
YM01	**YM01**	**0.38**	**2**	⇑*i*P	**Pn**	**02 02 13.7**	**+0.3**
	baz=359						
ENA	**Nanau**	**0.38**	**154**	P	**Pn**	**02 02 13.3**	**-0.1**
	baz=161						
ENA				*e*S	**Sn**	**02 02 22.4**	**-0.2**
	baz=161						
EWUT	**Wuta**	**0.38**	**148**	*e*P	**Pn**	**02 02 12.4**	**-0.9**
	baz=153						
EWUT				*e*S	**Sn**	**02 02 21.6**	**-1.0**
	baz=153						
NCU	**National Centr**	**0.39**	**301**	*e*P	**Pn**	**02 02 13.8**	**+0.4**
	baz=302						
NCU				S	**Sn**	**02 02 23.3**	**+0.6**
	baz=302						
NCUH	**Zhongli**	**0.39**	**300**	*e*P	**Pn**	**02 02 13.9**	**+0.5**
	baz=302						
NCUH				*e*S	**Sn**	**02 02 23.2**	**+0.4**
	baz=302						
NTST	**Danshui**	**0.41**	**346**	*e*P	**Pn**	**02 02 14.0**	**+0.5**
	baz=343						
NTST				*e*S	**Sn**	**02 02 23.4**	**+0.4**
	baz=343						
ANP	**Anpu**	**0.42**	**356**	*e*P	**Pn**	**02 02 13.7**	**0.0**
	baz=359						
ANP				*e*S	**Sn**	**02 02 21.4**	**-1.9**
	baz=359						
NFF	**Wufeng Townshi**	**0.42**	**251**	⇑*i*P	**Pn**	**02 02 12.9**	**-0.7**
	baz=255						
NFF				*i* S	**Sn**	**02 02 21.9**	**-1.4**
	baz=255						
SXI1	**Grass Mountain**	**0.43**	**42**	⇑*i*P	**Pn**	**02 02 14.0**	**+0.2**
	baz=31						
SXI1				*e*S	**Sn**	**02 02 22.5**	**-1.0**
	baz=31						
TWB1	**Santiao Chiao**	**0.46**	**59**	*i* P	**Pn**	**02 02 14.4**	**+0.5**
	baz=52						
TWB1				S	**Sn**	**02 02 23.6**	**0.0**
	baz=52						
LIOB	**Emei**	**0.51**	**256**	⇑*i*P	**Pn**	**02 02 14.8**	**+0.5**
	baz=255						
LIOB				*e*S	**Sn**	**02 02 24.9**	**+0.4**
	baz=255						
TWY	**Chenhua**	**0.51**	**5**	*e*P	**Pn**	**02 02 14.8**	**+0.5**
	baz=357						
TWY				*e*S	**Sn**	**02 02 25.0**	**+0.6**
	baz=357						
SBCB	**Hsinchu**	**0.52**	**273**	*e*P	**Pn**	**02 02 14.9**	**+0.5**
	baz=275						
SBCB				*e*S	**Sn**	**02 02 25.1**	**+0.5**
	baz=275						
NSTT	**Nanjuang**	**0.52**	**255**	⇑*i*P	**Pn**	**02 02 14.9**	**+0.4**
	baz=253						
NSTT				*i* S	**Sn**	**02 02 24.6**	**0.0**
	baz=253						
HSN	**Hsinchu**	**0.53**	**274**	P	**Pn**	**02 02 14.8**	**+0.2**
	baz=279						
HSN				S	**Sn**	**02 02 24.8**	**0.0**
	baz=279						
ETLH	**Xiulin Townshi**	**0.56**	**187**	⇑P	**Pn**	**02 02 15.1**	**+0.1**
	baz=181						
ETLH				*e*S	**Sn**	**02 02 25.4**	**-0.1**
	baz=181						
FUSS	**Fushou**	**0.59**	**209**	⇑*i*P	**Pn**	**02 02 16.3**	**+0.9**
	baz=217						
FUSS				*e*S	**Sn**	**02 02 26.6**	**+0.3**
	baz=217						
NACB	**Ninganchiao**	**0.59**	**177**	⇑*i*P	**Pn**	**02 02 14.3**	**-0.9**
	baz=172						
NACB				*e*S	**Sn**	**02 02 25.2**	**-0.7**
	baz=172						
ETL	**Fush Village**	**0.61**	**174**	*e*P	**Pn**	**02 02 14.4**	**-0.9**
	baz=176						
ETL				*e*S	**Sn**	**02 02 25.2**	**-1.0**
	baz=176						
TWT	**Tachien**	**0.62**	**214**	⇑*i*P	**Pn**	**02 02 16.5**	**+0.9**
	baz=226						
TWT				*e*S	**Sn**	**02 02 27.2**	**+0.6**
	baz=226						
TDCB	**Techi**	**0.63**	**215**	⇑*i*P	**Pn**	**02 02 16.4**	**+0.8**
	baz=226						
TDCB				*e*S	**Sn**	**02 02 26.9**	**+0.2**
	baz=226						
WHF	**Hehuan Shan**	**0.68**	**203**	⇑*i*P	**Pn**	**02 02 17.2**	**+0.8**
	baz=200						
WHF				*e*S	**Sn**	**02 02 29.1**	**+1.1**
	baz=200						
TWD	**Chiawan**	**0.69**	**177**	*e*P	**Pn**	**02 02 15.1**	**-1.0**
	baz=170						
TWD				*e*S	**Sn**	**02 02 26.6**	**-0.9**
	baz=170						
NMLH	**Miaoli**	**0.73**	**252**	*e*P	**Pn**	**02 02 17.0**	**+0.5**
	baz=254						
NMLH				*e*S	**Sn**	**02 02 28.6**	**+0.2**
	baz=254						
WHP	**Taichung City**	**0.74**	**229**	P	**Pn**	**02 02 17.6**	**+0.8**
	baz=237						
WHP				*e*S	**Sn**	**02 02 28.8**	**+0.2**
	baz=237						
CHGB	**Renai**	**0.79**	**206**	P	**Pn**	**02 02 18.3**	**+0.9**
	baz=216						
CHGB				*e*S	**Sn**	**02 02 31.2**	**+1.4**
	baz=216						
TWQ1	**Liyutan**	**0.83**	**240**	P	**Pn**	**02 02 18.0**	**+0.4**
	baz=250						
TWQ1				*e*S	**Sn**	**02 02 30.6**	**+0.3**
	baz=250						
WUSB	**Renai**	**0.87**	**207**	⇑*i*P	**Pn**	**02 02 19.3**	**+1.1**
	baz=219						
WUSB				*e*S	**Sn**	**02 02 32.1**	**+0.8**
	baz=219						
OWD	**Renai**	**0.88**	**203**	P	**Pn**	**02 02 19.4**	**+1.0**
	baz=212						
OWD				*e*S	**Sn**	**02 02 32.3**	**+0.7**
	baz=212						
WCS	**Beigang Elemen**	**0.92**	**220**	⇑*i*P	**Pn**	**02 02 18.5**	**-0.2**
	baz=228						
WCS				*e*S	**Sn**	**02 02 31.0**	**-1.1**
	baz=228						
WDJ	**Dajia District**	**0.93**	**243**	*e*P	**Pn**	**02 02 19.6**	**+0.8**
	baz=252						
WDJ				*e*S	**Sn**	**02 02 33.2**	**+0.8**
	baz=252						
ESL	**Shilin**	**0.96**	**187**	*e*P	**Pn**	**02 02 17.9**	**-1.2**
	baz=181						
TCU	**Taichung**	**1.01**	**232**	*e*P	**Pn**	**02 02 19.8**	**0.0**
	baz=235						
TCU				*e*S	**Sn**	**02 02 35.0**	**+1.0**
	baz=235						
SMLT	**Sun Moon Lake**	**1.07**	**214**	⇑*i*P	**Pn**	**02 02 21.3**	**+0.7**
	baz=223						
SMLT				*e*S	**Sn**	**02 02 36.8**	**+1.4**
	baz=223						
TYC	**Yuchr**	**1.07**	**217**	⇑*i*P	**Pn**	**02 02 21.1**	**+0.6**
	baz=228						
TYC				*e*S	**Sn**	**02 02 36.0**	**+0.7**
	baz=228						
VWDT	**VWDT**	**1.08**	**201**	⇑P	**Pn**	**02 02 21.7**	**+1.1**
	baz=203						
VWDT				*e*S	**Sn**	**02 02 37.0**	**+1.5**
	baz=203						
EGFH	**Guangfu**	**1.10**	**186**	*e*P	**Pn**	**02 02 20.9**	**0.0**
	baz=181						
SSLB	**Suanglung**	**1.12**	**209**	P	**Pn**	**02 02 22.0**	**+0.8**
SSLB	**Suanglung**	**1.12**	**209**	⇑*i*P	**Pn**	**02 02 21.8**	**+0.6**
	baz=211						
SSLB				*e*S	**Sn**	**02 02 36.8**	**+0.3**
	baz=211						
WCHH	**Zhanghua**	**1.14**	**233**	*e*P	**Pn**	**02 02 21.6**	**+0.3**
	baz=235						
WCHH				*e*S	**Sn**	**02 02 36.9

	baz=223								
WDLH					*e*S		**Sn**	**02 02 44.2**	**+1.1**
	baz=223								
ALS	**Alishan**	**1.43**	**209**	⇑*i*	P		**Pn**	**02 02 26.1**	**+0.8**
	baz=210								
ALS					*e*S		**Sn**	**02 02 44.6**	**+0.8**
	baz=210								
EYUL	**Yuli**	**1.43**	**189**		*e*P		**Pn**	**02 02 24.0**	**-1.1**
	baz=184								
FULB	**Fuli**	**1.58**	**189**		*e*P		**Pn**	**02 02 27.0**	**0.0**
	baz=185								
WCKO	**Fanlu**	**1.58**	**213**		*e*P		**Pn**	**02 02 27.1**	**0.0**
	baz=224								
WCKO					*e*S		**Sn**	**02 02 47.0**	**0.0**
	baz=224								
CHY	**Chiayi**	**1.64**	**219**		*e*P		**Pn**	**02 02 28.1**	**+0.4**
	baz=229								
CHY					*e*S		**Sn**	**02 02 48.6**	**+0.5**
	baz=229								
ELDTW	**Lidau**	**1.65**	**197**		*e*P		**Pn**	**02 02 27.6**	**-0.4**
	baz=189								
ELDTW					*e*S		**Sn**	**02 02 47.9**	**-0.7**
	baz=189								
TPUB	**Ta-pu**	**1.69**	**210**		P		**Pn**	**02 02 29.1**	**+0.7**
TPUB	**Ta-pu**	**1.69**	**210**		*e*P		**Pn**	**02 02 28.9**	**+0.5**
	baz=211								
WSL	**Shuilin Townsh**	**1.74**	**225**		*e*P		**Pn**	**02 02 28.1**	**-0.9**
	baz=226								
WSL					*e*S		**Sn**	**02 02 51.2**	**+0.7**
	baz=226								
STYH	**Taoyuan**	**1.74**	**204**		*e*P		**Pn**	**02 02 28.5**	**-0.6**
	baz=205								
WTP	**Ta-pu**	**1.74**	**210**		*e*P		**Pn**	**02 02 29.5**	**+0.3**
	baz=211								
TWK	**Hsinying**	**1.79**	**213**		*e*P		**Pn**	**02 02 30.1**	**+0.4**
	baz=214								
EDH	**Donghe**	**1.80**	**187**		*e*P		**Pn**	**02 02 28.4**	**-1.5**
	baz=189								
EDH					*e*S		**Sn**	**02 02 51.2**	**-0.9**
	baz=189								
ICHU	**Yijhu**	**1.82**	**220**		*e*P		**Pn**	**02 02 30.7**	**+0.5**
	baz=231								
CHN1	**Nanshi**	**1.84**	**211**		*e*P		**Pn**	**02 02 31.0**	**+0.6**
	baz=212								
SGST	**Jiashian**	**1.90**	**208**		*e*P		**Pn**	**02 02 30.7**	**-0.5**
	baz=209								
VWUC	**VWUC**	**1.93**	**277**		*e*P		**Pn**	**02 02 30.9**	**-0.5**
	baz=277								
MATB	**Ma-tsu**	**2.00**	**314**		*e*P		**Pn**	**02 02 31.8**	**-0.8**
	baz=313								
IRIF	**Iriomote-Funau**	**2.03**	**102**		P		**Pn**	**02 02 32.9**	**0.0**
IRIF					S		**Sn**	**02 02 57.3**	**-0.1**
LDUT	**Ludao**	**2.09**	**182**		*e*P		**Pn**	**02 02 31.9**	**-1.8**
	baz=179								
PNG	**Penghu**	**2.18**	**237**		*e*P		**Pn**	**02 02 34.6**	**-0.4**
	baz=238								
SSD	**Sandimen**	**2.19**	**203**		*e*P		**Pn**	**02 02 35.5**	**+0.5**
	baz=212								
PHUB	**P'eng-hu**	**2.20**	**236**		*e*P		**Pn**	**02 02 33.9**	**-1.3**
	baz=237								
ECL	**Taimali**	**2.23**	**194**		*e*P		**Pn**	**02 02 34.9**	**-0.8**
	baz=186								
WDGT	**Dungji**	**2.29**	**229**		*e*P		**Pn**	**02 02 36.1**	**-0.4**
	baz=230								
JKRS	**Kuro-shima**	**2.30**	**103**		P		**Pn**	**02 02 37.2**	**+0.7**
JKRS					*e*S		**Sn**	**02 03 03.3**	**-0.6**
MASBT	**Mashibuluo**	**2.31**	**202**		*e*P		**Pn**	**02 02 37.2**	**+0.5**
	baz=212								
JIJ	**Ishigaki jima**	**2.39**	**99**		P		**Pn**	**02 02 38.0**	**+0.2**
JIJ					*e*S		**Sn**	**02 03 05.3**	**-0.8**
LYJJ	**Jianjiangzhen**	**2.40**	**318**		*e*P		**Pn**	**02 02 37.0**	**-0.9**
	baz=318								
EAST	**Anshuo**	**2.46**	**195**		*e*P		**Pn**	**02 02 40.8**	**+2.0**
	baz=186								
XPSS	**Dashiqiu**	**2.48**	**331**		*e*P		**Pn**	**02 02 38.1**	**-0.8**
	baz=325								
JISG	**Ishigakijimahi**	**2.51**	**94**		P		**Pn**	**02 02 40.0**	**+0.6**
MHZQ	**Yeshan**	**2.64**	**301**		*e*P		**Pn**	**02 02 40.1**	**-1.0**
	baz=300								
KNM	**Kinmen**	**2.86**	**264**		*e*P		**Pn**	**02 02 45.0**	**+0.9**
	baz=262								
JTJ	**Tarama**	**2.87**	**92**		P		**Pn**	**02 02 45.1**	**+1.0**
JTJ					S		**Sn**	**02 03 19.6**	**+2.0**
KNMB	**Chin-men Tao**	**2.90**	**265**		*e*P		**Pn**	**02 02 43.8**	**-0.8**
	baz=263								
AXDP	**Jialang**	**3.26**	**273**		*e*P		**Pn**	**02 02 48.9**	**-0.6**
	baz=271								
ZPLA	**Ao Xicun**	**3.57**	**257**		*e*P		**Pn**	**02 02 53.2**	**-0.5**
	baz=256								
DSXP	**Dongshan**	**3.92**	**255**		*e*P		**Pn**	**02 02 57.9**	**-0.5**
	baz=253								

*CNRM **05** 02:02:31.9, 35.°01N×14.°85W, h70km, ml3.4*
*MDD **05** 02:02:31.8±1.0, 35.°07N×14.°71W, h29km±15km, Mb4.1/6, M_mb3.4/6, Error ellipse: s-maj=10.3km s-min=7.6km az=97.0*
*IGIL **05** 02:02:32.5, 34.°94N×14.°71W, h22km, ML2.4*
*INMG **05** 02:02:35.9±1.0, 34.°93N×14.°69W, h10km, ML2.3, Error ellipse: s-maj=8.2km s-min=1.4km az=133.0*

ISC 05 02:02:30.0±1.2, 35.°18N±0.°05×14.°82W±0.°07, h35km, n41, σ2s93/75, 6C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMPST	**Porto Santo, M**	**2.44**	**211**	*e*P	**Pn**	**02 03 08.0**	**+0.6**
PMPST				*e*S	**Sn**	**02 03 31.5**	**-4.5**
PMPST				A	A	02 03 34.4	
	26nm,0.6s						
PMPS	**Porto Santo**	**2.46**	**211**	*e*P	**Pn**	**02 03 08.3**	**+0.7**
PMPS				*e*S	**Sn**	**02 03 32.0**	**-4.5**
PMPS				A	A	02 03 35.8	
	12nm,0.3s						
PMAR	**Madeira**	**3.00**	**216**	*e*P	**Pn**	**02 03 16.2**	**+0.9**
PMAR				*e*S	**Sn**	**02 03 46.7**	**-3.5**
PMAR				A	A	02 03 53.4	
	17nm,0.3s						
PMAR	**Madeira**	**3.00**	**216**	P	**Pn**	**02 03 15.1**	**-0.2**
PMAR				S	**Sn**	**02 03 49.8**	**-0.4**
FUL	**Funchal**	**3.06**	**215**	*e*P	**Pn**	**02 03 16.8**	**+1.0**
FUL				*e*S	**Sn**	**02 03 47.1**	**-4.1**
FUL				A	A	02 03 50.6	
	16nm,0.2s						
PMOZ	**Porto Moniz, M**	**3.07**	**221**	*e*P	**Pn**	**02 03 17.4**	**+1.3**
PMOZ				*e*S	**Sn**	**02 03 48.3**	**-3.4**
PMOZ	**Porto Moniz, M**	**3.07**	**221**	P	**Pn**	**02 03 15.8**	**-0.3**
PMOZ				S	**Sn**	**02 03 50.0**	**-1.7**
PFVI	**Vila Bisbo**	**5.22**	**66**	*e*P	**Pn**	**02 03 47.7**	**+2.1**
PFVI				*e*S	**Sn**	**02 04 40.3**	**-4.3**
PFVI				A	A	02 04 41.9	
	4.7nm,0.8s						
PFVI	**Vila Bisbo**	**5.22**	**66**	P	**Pn**	**02 03 47.8**	**+2.1**
PFVI				S	**Sn**	**02 04 49.4**	**+4.7**
MORF	**Marmelete**	**5.42**	**65**	*e*P	**Pn**	**02 03 50.4**	**+2.2**
MORF				*e*S	**Sn**	**02 04 47.4**	**-2.0**
MORF				IAML		02 04 50.7	
	comp=N,4.4nm,0.3s						
MORF	**Marmelete**	**5.42**	**65**	*e*P	**Pn**	**02 03 50.5**	**+2.2**
MORF				*e*S	**Sn**	**02 04 47.3**	**-2.1**
MORF				A	A	02 04 51.0	
	comp=N,2.6nm,0.3s						
PTEO	**Sao Teotonio**	**5.46**	**63**	*e*P	**Pn**	**02 03 51.5**	**+2.7**
PTEO				*e*S	**Sn**	**02 04 48.1**	**-2.2**
PMST	**Lisbon--Monsan**	**5.74**	**50**	*e*S	**Sn**	**02 04 56.6**	**-0.8**
PMAFR	**Mafra**	**5.81**	**48**	*e*S	**Sn**	**02 04 56.2**	**-2.9**
PMAFR				A	A	02 05 10.8	
	comp=N,7.6nm,0.4s						
PNCL	**Nicolau / Gran**	**5.84**	**58**	*e*P	**Pn**	**02 03 57.5**	**+3.4**
PNCL				*e*S	**Sn**	**02 04 58.0**	**-1.8**
PNCL				A	A	02 05 02.3	
	comp=N,1.7nm,0.8s						
PACT	**Alcochete**	**5.98**	**51**	*e*S	**Sn**	**02 05 01.6**	**-1.6**
PCVE	**Castro Verde**	**5.99**	**64**	*e*P	**Pn**	**02 03 58.7**	**+2.6**
PCVE				*e*S	**Sn**	**02 05 00.5**	**-3.0**
PCVE				A	A	02 05 05.1	
	comp=N,0.8nm,0.4s						
PVAQ	**Vaqueiros**	**6.15**	**67**	*e*P	**Pn**	**02 04 00.7**	**+2.4**
PVAQ				*e*S	**Sn**	**02 05 04.1**	**-3.3**
PVAQ				A	A	02 05 07.0	
	comp=N,1.1nm,0.3s						
PVAQ	**Vaqueiros**	**6.15**	**67**	P	**Pn**	**02 04 01.2**	**+2.9**
PVAQ				S	**Sn**	**02 05 12.0**	**+4.6**
SRHM	**Skhour des Reh**	**6.36**	**113**	P	**Pn**	**02 04 02.0**	**+0.7**
SRHM				S	**Sn**	**02 05 13.7**	**+1.0**
EGRO	**El Granado**	**6.37**	**66**	P	**Pn**	**02 04 01.9**	**+0.6**
EGRO				⇑*i*Vmb_V		02 04 04.6	
	comp=N,86nm,SNR=1.2						
EGRO				S	**Sn**	**02 05 08.8**	**-4.0**
AVE	**Averroes**	**6.41**	**105**	P	**Pn**	**02 04 04.2**	**+2.2**
AVE				S	**Sn**	**02 05 14.9**	**+1.0**
PSBE	**So Bento**	**6.46**	**46**	*e*P	**Pn**	**02 04 07.3**	**+4.7**
PSBE				*e*S	**Sn**	**02 05 13.9**	**-1.2**
PSBE				A	A	02 05 26.4	
	comp=N,1.8nm,0.6s						
PMTG	**Montargil**	**6.54**	**52**	*e*P	Pn	02 04 08.8	+5.1
PMTG				*e*S	**Sn**	**02 05 16.1**	**-1.0**
PMTG				A	A	02 05 20.6	
	comp=N,0.8nm,0.3s						
PESTR	**Estremoz**	**6.85**	**55**	*e*P	**Pn**	**02 04 11.7**	**+3.7**
PESTR				*e*S	**Sn**	**02 05 22.5**	**-2.3**
PESTR	**Estremoz**	**6.85**	**55**	P	**Pn**	**02 04 11.4**	**+3.3**
PESTR				S	**Sn**	**02 05 30.2**	**+5.4**
PBAR	**Barrancos**	**6.93**	**62**	*e*P	**Pn**	**02 04 11.9**	**+2.9**
PBAR				*e*S	**Sn**	**02 05 23.4**	**-3.2**
PBAR				A	A	02 05 31.9	
	comp=N,0.5nm,0.4s						
PCAS	**Casmilo, Conde**	**6.99**	**44**	*e*P	**Pn**	**02 04 14.2**	**+4.4**
PCAS				*e*S	**Sn**	**02 05 26.5**	**-1.5**
OUK	**Oukaimeden**	**7.04**	**122**	P	**Pn**	**02 04 12.7**	**+1.7**
OUK				S	**Sn**	**02 05 31.7**	**+1.7**
EBAD	**Badajoz**	**7.20**	**58**	P	**Pn**	**02 04 14.1**	**+1.4**
EBAD				⇑*i*Vmb_V		02 04 18.2	
	comp=N,78nm,SNR=1.6						
EBAD				S	**Sn**	**02 05 29.9**	**-3.2**
PMRV	**Marv??o**	**7.28**	**52**	*e*P	**Pn**	**02 04 16.5**	**+2.6**
PMRV				*e*S	**Sn**	**02 05 31.1**	**-4.2**
PMRV				A	A	02 05 36.0	
	comp=N,1.2nm,0.7s						
ESPR	**Espera**	**7.46**	**74**	P	**Pn**	**02 04 16.6**	**+0.4**
ESPR				⇑*i*Vmb_V		02 04 19.3	
	comp=N,133nm,SNR=2.6						
ESPR				S	**Sn**	**02 05 35.2**	**-4.4**
MTE	**Manteigas**	**7.76**	**46**	*e*P	**Pn**	**02 04 23.9**	**+3.3**
MTE				*e*S	**Sn**	**02 05 45.0**	**-2.3**
ECAB	**El Cabril**	**8.09**	**66**	P	**Pn**	**02 04 26.4**	**+1.4**
ECAB				⇑*i*Vmb_V		02 04 28.3	
	comp=N,37nm,SNR=1.2						
ECAB				S	**Sn**	**02 05 49.8**	**-5.4**
POLO	**Lamas de Olo**	**8.29**	**40**	*e*S	**Sn**	**02 05 57.4**	**-2.8**
PGAV	**Gavieira, Arco**	**8.50**	**35**	*e*S	**Sn**	**02 06 01.7**	**-3.6**
ELOB	**Lobios**	**8.52**	**36**	P	**Pn**	**02 04 33.2**	**+2.3**
ELOB				⇑*i*Vmb_V		02 04 34.4	
	comp=N,64nm,SNR=0.8						
ELOB				S	**Sn**	**02 05 60.0**	**-5.9**
MVO	**Moncorvo**	**8.56**	**43**	*e*S	**Sn**	**02 06 04.2**	**-2.6**
MVO				A	A	02 06 04.8	
	comp=N,0.5nm,0.2s						
EADA	**Adamuz**	**8.75**	**67**	P	**Pn**	**02 04 34.3**	**+0.2**
EADA				⇑*i*Vmb_V		02 04 37.9	
	comp=N,28nm,SNR=0.8						
EADA				S	**Sn**	**02 06 05.7**	**-5.8**
MDT	**Midelt**	**8.80**	**103**	P	**Pn**	**02 04 36.6**	**+1.8**
MDT				S	**Sn**	**02 06 13.3**	**+0.5**
AKLM	**AKL**	**9.03**	**91**	P	**Pn**	**02 04 38.8**	**+0.8**
AKLM				S	**Sn**	**02 06 17.8**	**-0.6**

*IDC **05** 02:04:13.0±1.1, 27.°72N×86.°50E, h0km, mb3.7/8, mbtmp3.7/11, ML4.2/3, MS3.4/2, Error ellipse: s-maj=39.5km s-min=18.4km az=57.0*
*DMN **05** 02:04:14.4±0.1, 27.°78N×86.°35E, h2km, Ml5.0/8, Error ellipse: s-maj=4.1km s-min=1.4km az=21.0*
*NDI **05** 02:04:15.1±3.9, 27.°75N×86.°25E, h10km, ML4.1*

ISC 05 02:04:14.4±0.9, 27.°74N±0.°04×86.°34E±0.°02, h17km±6km, n42, σ2s10/63, mb3.7/8, Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIRN	**Jiri**	**0.16**	**238**	*e*Pg	**Pb**	**02 04 19.5**	**+0.3**
JIRN				*e*Sg	**Sg**	**02 04 22.3**	**+0.3**
GUN	**Gumba**	**0.44**	**292**	*e*Pg	**Pb**	**02 04 23.7**	**-0.3**
GUN				*e*Sg	**Sg**	**02 04 29.6**	**0.0**
RAMN	**Ramite**	**0.82**	**164**	*e*Pg	**Pg**	**02 04 30.4**	**-0.2**
RAMN				*e*Sg	**Sg**	**02 04 41.6**	**+0.1**
	7µm,0.4s						
PKI	**Pulchoki**	**0.84**	**258**	*e*Pg	**Pg**	**02 04 30.9**	**0.0**
PKI				*e*Sg	**Sg**	**02 04 41.8**	**-0.3**
	3µm,0.3s						
PKIN	**Phulchoki**	**0.85**	**259**	*e*Pg	**Pg**	**02 04 30.9**	**-0.2**
PKIN				*e*Sg	**Sg**	**02 04 42.2**	**-0.2**
	4µm,0.2s						
KKN	**Kakani**	**0.94**	**273**	*e*Pg	**Pb**	**02 04 32.5**	**0.0**
KKN				*e*Sg	**Sb**	**02 04 45.0**	**+0.3**
DMN	**Daman**	**1.10**	**263**	*e*Pg	**Pb**	**02 04 35.3**	**+0.1**
DMN				*e*Sg	**Sb**	**02 04 50.4**	**+1.0**
	6µm,0.3s						
TAPN	**Taplejung**	**1.28**	**108**	*e*Pg	**Pg**	**02 04 38.7**	**-0.5**
TAPN				*e*Sg	**Sg**	**02 04 54.9**	**-1.1**
	2µm,0.3s						
ODAN	**Odare**	**1.28**	**133**	*e*Pg	**Pg**	**02 04 39.2**	**-0.1**
ODAN				*e*Sg	**Sg**	**02 04 56.4**	**+0.3**
	3µm,0.3s						
GKN	**Gorkha**	**1.53**	**280**	*e*Pg	**Pb**	**02 04 42.8**	**+0.3**
GKN				*e*Sg	**Sb**	**02 05 03.1**	**+1.5**
	7µm,0.3s						
GTK	**Tadong**	**2.05**	**101**	*e*P	**Pg**	**02 04 51.9**	**-2.0**
GTK				*e*S	**Sg**	**02 05 19.3**	**-1.3**
GTK				IAML		02 05 21.8	
	comp=E,2µm,0.3s						
DANN	**Dangsing**	**2.36**	**285**	*e*Pg	**Pb**	**02 04 58.2**	**+1.5**
DANN				*e*Sg	**Sg**	**02 05 28.6**	**-1.8**
	comp=E,3µm,0.5s						
KOLN	**Koldanda**	**2.43**	**271**	*e*Pn	**Pn**	**02 04 55.1**	**+1.5**
KOLN	**Koldanda**	**2.43**	**271**	*e*Pg	**Pg**	**02 05 00.6**	**-0.4**
KOLN				*e*Sg	**Sb**	**02 05 30.2**	**+2.6**
	comp=E,3µm,0.5s						
KOLN				*e*Sg	**Sb**	**02 05 30.2**	**+2.6**
BOK	**Bokaro**	**3.95**	**186**	*e*P	**Pn**	**02 05 17.0**	**+2.6**
BOK				*e*S	**Sn**	**02 06 01.8**	**+1.3**
BOK				IAML		02 06 05.0	
	comp=E,1µm,0.2s						
TURI	**Tura**	**4.19**	**121**	*e*P	**Pn**	**02 05 16.2**	**-1.5**
GUWA	**GUWAHATI**	**5.02**	**107**	*e*P	**Pn**	**02 05 31.3**	**+2.2**
GUWA				*e*S	**Sn**	**02 06 28.1**	**+1.4**
GUWA				IAML		02 06 32.4	
	comp=N,115nm,0.4s						
GUWA				IAML		02 06 32.7	
	comp=E,87nm,0.4s						
SHL	**Shillong**	**5.42**	**112**	*e*P	**Pn**	**02 05 32.4**	**-2.2**
SHL				*e*S	**Sn**	**02 06 36.1**	**-0.7**
SHL				IAML		02 06 37.6	
	comp=N,718nm,0.3s						
LGTI	**Lohaghat**	**5.62**	**289**	*e*P	Pn	02 05 29.7	-7.6
LGTI				*e*S	**Sn**	**02 06 35.8**	**-5.7**
TEZP	**TEZPUR**	**5.86**	**100**	*e*P	**Pn**	**02 05 41.8**	**+1.1**
TEZP				*e*S	**Sn**	**02 06 47.6**	**+0.1**
ZIRO	**ZIRO**	**6.67**	**90**	*e*S	**Sn**	**02 07 07.7**	**+0.2**
KOHI	**KOHIMA**	**7.23**	**104**	*e*P	**Pn**	**02 05 58.5**	**-1.1**
KOHI				*e*S	**Sn**	**02 07 20.7**	**-0.8**
JBP	**Jabalpur**	**7.33**	**233**	*e*P	**Pn**	**02 06 01.3**	**+0.5**
JBP				*e*S	**Sn**	**02 07 18.4**	**-5.3**
IMP	**Imphal**	**7.42**	**111**	*e*P	**Pn**	**02 06 04.6**	**+2.5**
MOKO	**MOKOCHONG**	**7.43**	**99**	*e*P	**Pn**	**02 06 03.5**	**+1.2**
MOKO				*e*S	**Sn**	**02 07 25.1**	**-1.2**
SMLA	**Simla**	**8.68**	**295**	*e*P	**Pn**	**02 06 19.1**	**-0.2**
SMLA				*e*S	**Sn**	**02 07 52.0**	**-4.8**
SMLA				IAML		02 07 56.1	
	comp=N,65nm,0.6s						
BHPL	**Bhopal**	**9.22**	**243**	*e*P	**Pn**	**02 06 25.5**	**-1.2**
BHPL				*e*S	**Sn**	**02 08 02.5**	**-7.6**
BHPL				IAML		02 08 08.1	
	comp=E,651nm,0.3s						
HYBB	**Hyderabad (bro**	**12.54**	**217**	*e*P	**Pn**	**02 07 10.6**	**-1.6**
HYBB				*e*		02 09 24.2	
KSH	**Kashi**	**14.56**	**326**	P	**Pn**	**02 07 35.8**	**-4.1**
KSH				pmax	pmax		
	comp=Z,15nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.82**	**126**	Pn	**Pn**	**02 07 41.4**	**-2.0**
	comp=Z,2.0nm,0.3s,baz=304,slow=13,SNR=5.3						
	comp=Z,3.1nm,0.3s						
AAK	**Ala-Archa**	**17.71**	**330**	P	**P**	**02 08 22.2**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=165,slow=11,SNR=6.2						
	comp=Z,2.5nm,0.5s						
MKAR	**Makanchi Array**	**19.28**	**352**	P	**Pn**	**02 08 39.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=7.8						
	comp=Z,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**23.61**	**348**	P	**P**	**02 09 25.3**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=168,slow=9.5,SNR=6.0						
	comp=Z,0.6nm,0.3s						
SONM	**Songino Array**	**25.43**	**33**	P	**P**	**02 09 42.1**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=221,slow=9.3,SNR=1.8						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**26.20**	**358**	P	**P**	**02 09 50.5**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=187,slow=10.0,SNR=1.5						
	comp=Z,0.3nm,0.3s						
AKTO	**Aktyubinsk**	**31.25**	**324**	P	**P**	**02 10 33.2**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=129,slow=6.5,SNR=3.7						
	comp=Z,0.8nm,0.6s						
BELG	**Belogornoye**	**37.84**	**321**	LR	LR	02 28 06.0	
	comp=Z,54nm,19.0s,baz=356,slow=38						
AKASG	**Malin Array Be**	**48.44**	**314**	LR	LR	02 35 09.1	
	comp=Z,32nm,20.1s,baz=321,slow=38						
FINES	**FINESS Array B**	**51.88**	**328**	P	**P**	**02 13 25.2**	**+3.5**
	comp=Z,2.1nm,0.9s,baz=116,slow=9.4,SNR=2.5						
	comp=Z,2.1nm,0.9s						
WRA	**Warramunga Arr**	**66.36**	**130**	P	**P**	**02 15 03.1**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=323,slow=6.6,SNR=6.9						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**68.69**	**133**	P	**P**	**02 15 17.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=313,slow=6.1,SNR=1.9						
	comp=Z,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**79.32**	**279**	P	**P**	**02 16 22.4**	**+2.6**
	comp=Z,0.3nm,0.9s,baz=44,slow=5.9,SNR=1.5						
	comp=Z,0.3nm,0.9s						

*IDC **05** 02:11:46.2±0.6, 29.°22S×61.°10E, h0km, mb4.1/12, mbtmp4.1/13, ML4.4/1, MS3.6/11, Error ellipse: s-maj=24.1km s-min=18.7km az=63.0*
*NEIC **05** 02:11:47.7±2.0, 29.°16S±0.°07×61.°2E±0.°1, h10km±1km, mb4.5/11, Error ellipse: s-maj=20.5km s-min=10.9km az=83.0*

ISC 05 02:11:47.7±0.5, 29.°21S±0.°10×61.°08E±0.°10, h10km, n52, σ1s16/35, mb4.3/16, MS3.5/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.36**	**328**	Pn	**Pn**	**02 13 60.0**	**-2.8**
FOMA	**Nahampoana Res**	**13.25**	**285**	Pn	**Pn**	**02 14 53.0**	**-2.9**
VOI	**Vohitsoka**	**14.80**	**296**	Pn	**Pn**	**02 15 16.1**	**-1.1**
OPO	**Ambohidratompo**	**16.52**	**307**	Pn	**Pn**	**02 15 39.3**	**-0.5**
	0.1nm,0.3s,baz=124,slow=13,SNR=9.4						
	4.1nm,0.5s						
H08S1	**Diego Carcia H**	**23.98**	**29**	T	T	02 41 46.0	
	baz=204,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**23.99**	**29**	T	T	02 41 48.1	
	baz=204,slow=76,SNR=8.3						
H08S3	**Diego Garcia H**	**24.00**	**29**	T	T	02 41 47.3	
	baz=204,slow=76,SNR=17						
BOSA	**Boshof**	**31.29**	**262**	LR	LR	02 29 01.5	
	comp=Z,100nm,18.4s,baz=138,slow=33						
BOSA	**Boshof**	**31.29**	**262**	P	**P**	**02 18 10.0**	**+1.8**
BOSA				IAmb	IAmb	02 18 45.0	
	comp=Z,14nm,1.4s						
LBTB	**Lobatse**	**31.79**	**269**	LR	LR	02 28 16.0	
	comp=Z,65nm,19.0s,baz=100,slow=31						
LSZ	**Lusaka**	**33.32**	**287**	LR	LR	02 29 37.0	
	comp=Z,65nm,21.5s,baz=176,slow=32						
LSZ	**Lusaka**	**33.32**	**287**	P	**P**	**02 18 26.0**	**-0.1**
LSZ				IAmb	IAmb	02 18 29.3	
	comp=Z,5.5nm,0.9s						
SUR	**Sutherland**	**34.60**	**254**	LR	LR	02 30 53.8	
	comp=Z,40nm,18.4s,baz=136,slow=33						
KMBO	**Kilima Mbogo**	**36.00**	**317**	LR	LR	02 30 56.2	
	comp=Z,97nm,19.5s,baz=92,slow=32						
MAW	**Mawson**	**38.44**	**179**	LR	LR	02 31 20.2	
	comp=Z,37nm,18.4s,baz=5.0,slow=31						
MBAR	**Mbarara**	**40.58**	**309**	LR	LR	02 34 01.4	
	comp=Z,80nm,21.6s,baz=122,slow=33						
TSUM	**Tsumeb**	**40.71**	**274**	LR	LR	02 34 07.2	
	comp=Z,49nm,20.9s,baz=118,slow=33						
PALK	**Pallekele**	**40.90**	**31**	LR	LR	02 31 22.5	
	comp=Z,88nm,18.6s,baz=0.2,slow=29						
ATD	**Arta Tunnel**	**44.16**	**334**	LR	LR	02 35 30.4	
	comp=Z,121nm,20.2s,baz=208,slow=32						
H01W2	**Cape Leeuwin H**	**44.89**	**111**	T	T	03 07 42.8	
	baz=261,slow=75,SNR=29						
H01W3	**Cape Leeuwin H**	**44.90**	**111**	T	T	03 07 42.4	
	baz=261,slow=75,SNR=25						
H01W1	**Cape Leeuwin H**	**44.91**	**111**	T	T	03 07 44.1	
	baz=261,slow=75,SNR=26						
SNAA	**Sanae**	**54.40**	**200**	P	**P**	**02 21 14.7**	**+0.2**
	comp=Z,1.6nm,1.1s,baz=82,slow=10,SNR=3.6						
	comp=Z,1.6nm,1.1s						
SNAA	**Sanae**	**54.40**	**200**	P	**P**	**02 21 14.6**	**+0.1**
SNAA				IAmb	IAmb	02 21 19.5	
	comp=Z,3.6nm,1.2s						
CMAR	**Chiang Mai Arr**	**59.84**	**42**	P	**P**	**02 21 53.7**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=242,slow=5.7,SNR=2.1						
	comp=Z,1.7nm,0.4s						
QSPA	**South Pole Qui**	**60.95**	**180**	P	**P**	**02 22 00.1**	**-0.6**
	com

ILAR	**Eielson Array**	**85.46**	**13**	P	**P**	**02 23 51.6**	**+0.1**
	0.2nm,0.4s,baz=217,slow=5.3,SNR=5.4							
	0.2nm,0.4s							
TXAR	**Lajitas Array**	**85.61**	**58**	P	**P**	**02 23 53.2**	**+0.1**
	0.2nm,0.7s,baz=218,slow=4.2,SNR=3.9							
	0.2nm,0.7s							
BRTR	**Keskin Array B**	**144.65**	**315**	PKP	PKPbc	02 30 46.3	-0.5	
	0.5nm,0.8s,baz=90,slow=2.9,SNR=2.2							
GERES	**GERESS Array B**	**147.28**	**345**	PKPbc	**PKPbc**	**02 30 53.2**	**-0.5**	
	0.2nm,0.4s,baz=47,slow=4.3,SNR=1.5							

MAN 05 02:31:18.9, 10.67N×124.96E, h1km, mb4.1, ML2.9, MS2.6, 2C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.51**	**317**	*e*P	Pg	02 31 29.4	+0.7
OCLP				*e*S	Sb	02 31 37.9	-0.7
MSLP	**Maasin**	**0.55**	**190**	*e*P	Pb	02 31 30.7	-0.6
MSLP				*e*S	Sb	02 31 41.2	+1.5
SCPH	**Surigao**	**1.03**	**149**	*e*P	Pb	02 31 39.8	+0.2
SCPH				*i* S	Sg	02 31 52.6	+0.6
BESP	**Borongan**	**1.03**	**27**	*e*P	Pg	02 31 38.4	-0.4
BESP				*e*S	Sn	02 31 56.1	+0.4
LLP	**Lapu-Lapu**	**1.04**	**250**	*e*P	Pg	02 31 38.7	-0.2
LLP				*i* S	Sg	02 31 53.1	+0.7
TBP	**Tagbilaran**	**1.46**	**228**	*e*P	Pn	02 31 45.7	-0.7
TBP				*i* S	Sn	02 32 06.7	+0.6
CNP	**Catarman**	**1.85**	**351**	*e*P	Pn	02 31 51.8	0.0
CNP				*e*S	Sn	02 32 14.4	-1.4
BIPH	**Bislig**	**2.83**	**151**	*e*P	Pb	02 32 08.0	-2.3
BIPH				*i* S	Sb	02 32 45.1	-0.5

*IDC **05** 02:35:23.4±0.4, 54.67S×119.09W, h0km, mb4.6/14, mbtmp4.5/14, MS4.8/41, Error ellipse: s-maj=20.8km s-min=15.2km az=137.0*

*MOS **05** 02:35:23.5±1.1, 54.87S×118.83W, h9km, mb5.4/25, Error ellipse: s-maj=22.7km s-min=11.0km az=74.8*

*NEIC **05** 02:35:25.6±1.7, 54.85S±0.1×119.0W±0.2, h16km±3km, mb5.3/129, Error ellipse: s-maj=19.0km s-min=15.0km az=143.0*

*BJI **05** 02:35:26.0±0.0, 54.90S×119.00W, h15km, mB5.3/5, Ms5.3/12, Ms7 5.0/12*

*GCMT **05** 02:35:28.6±0.1, 54.80S±0.01×118.94W±0.01, h17km, MW5.4/151, Moment Tensor Solution. s116,c198; s151,c276; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.11±.02; Mθθ0.57±.02; Mϕϕ-0.46±.02; Mrθ-0.43±.05; Mθϕ1.26±.02; Mϕr-0.42±.05; Best double couple: Mo1.47100×10^17 NP1:ϕs190.00000°, δ81.00000°, λ162.00000°. NP2:ϕs283.00000°, δ72.00000°, λ10.00000°. Principal axes: T 1.6230, Plg19.0000°, Azm145.0000°; N -0.3030, Plg70.0000°, Azm344.0000°; P -1.3200, Plg6.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 02:35:24.6±0.3, 54.76S±0.07×118.99W±0.06, h10km, n412, σ1831/365, mb5.2/83, MS4.9/64, 16C-13D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAI	**San Martin Ant**	**27.18**	**140**	P	**P**	**02 41 06.9**	**-0.9**
PMSA	**Palmer Station**	**28.48**	**133**	P	**P**	**02 41 21.2**	**+1.8**
PMSA	**Palmer Station**	**28.48**	**133**	*e*P	**P**	**02 41 22.6**	**+3.2**
RPN	**Rapa Nui**	**28.49**	**18**	LR	LR	02 49 59.8	
	comp=Z,1μm,19.0s,baz=200,slow=31						
USHA	**Ushuaia**	**28.63**	**111**	LR	LR	02 49 36.4	
	comp=Z,3μm,20.8s,baz=244,slow=30						
COYC	**Coyhaique**	**30.89**	**92**	P	**P**	**02 41 39.8**	**-1.2**
AY01	**Puyuhuapi**	**31.22**	**90**	P	**P**	**02 41 42.8**	**-1.1**
GO07	**Milladeo Hill,**	**31.42**	**87**	P	**P**	**02 41 45.5**	**-0.2**
LL02	**Futaleuf**	**32.42**	**89**	P	**P**	**02 41 54.3**	**-0.3**
SBA	**Scott Base**	**33.94**	**201**	P	**P**	**02 42 07.2**	**-0.1**
SBA				IAmb	IAmb	02 42 18.8	
	comp=Z,56nm,1.9s						
SBA	**Scott Base**	**33.94**	**201**	P	**P**	**02 42 07.2**	**-0.1**
SBA				pmax	pmax		
	comp=Z,56nm,2.0s						
LR03	**Panguipulli**	**34.41**	**84**	P	**P**	**02 42 11.9**	**+0.1**
PLCA	**Paso Flores**	**34.72**	**87**	LR	LR	02 53 04.3	
	comp=Z,1μm,20.1s,baz=228,slow=30						
PLCA	**Paso Flores**	**34.72**	**87**	P	**P**	**02 42 15.5**	**+0.8**
PLCA				IAmb	IAmb	02 42 20.2	
	comp=Z,49nm,1.9s						
PLCA	**Paso Flores**	**34.72**	**87**	P	**P**	**02 42 15.5**	**+0.8**
PLCA				pmax	pmax		
	comp=Z,49nm,1.9s						
PLCA	**Paso Flores**	**34.72**	**87**	*e*P	**P**	**02 42 16.2**	**+1.5**
H03S2	**Juan Fernandez**	**34.82**	**70**	T	T	03 19 05.8	
	baz=218,SNR=937						
H03S1	**Juan Fernandez**	**34.83**	**70**	T	T	03 19 07.1	
	baz=218,SNR=969						
H03S3	**Juan Fernandez**	**34.84**	**70**	T	T	03 19 06.3	
	baz=218,SNR=809						
GO06	**Curarrehue**	**34.94**	**84**	P	**P**	**02 42 17.4**	**+0.7**
GO06				IAmb	IAmb	02 42 20.6	
	comp=Z,80nm,1.9s						
VNDA	**Vanda**	**35.01**	**202**	P	**P**	**02 42 20.6**	**+4.0**
	comp=Z,3,4nm,1.0s,baz=97,slow=7.1,SNR=12						
VNDA				PcP	**PcP**	**02 44 48.9**	**+0.6**
	comp=Z,1.7nm,1.1s,baz=180,slow=4.0,SNR=2.4						
VNDA				LR	LR	02 53 52.9	
	comp=Z,748nm,19.3s,baz=95,slow=32						
VNDA	**Vanda**	**35.01**	**202**	P	**P**	**02 42 16.0**	**-0.6**
VNDA	**Vanda**	**35.01**	**202**	P	**P**	**02 42 16.0**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,14nm,1.1s						
H03N3	**Juan Fernandez**	**35.11**	**69**	T	T	03 19 20.3	
	baz=221,slow=72,SNR=68						
H03N2	**Juan Fernandez**	**35.12**	**69**	T	T	03 19 20.4	
	baz=221,slow=72,SNR=135						
H03N1	**Juan Fernandez**	**35.13**	**69**	T	T	03 19 20.0	
	baz=221,slow=72,SNR=57						
QSPA	**South Pole Qui**	**35.43**	**180**	P	**P**	**02 42 23.7**	**+3.0**
	comp=Z,9.2nm,1.0s,baz=101,slow=4.2,SNR=15						
QSPA				PcP	**PcP**	**02 44 50.6**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=75,slow=1.3,SNR=1.8						
QSPA				LR	LR	02 55 41.1	
	comp=Z,2μm,19.0s,baz=100,slow=34						
	comp=Z,9.2nm,1.0s						
QSPA	**South Pole Qui**	**35.43**	**180**	P	**P**	**02 42 22.9**	**+2.2**
QSPA				IAmb	IAmb	02 42 26.8	
	comp=Z,56nm,1.4s						
BI05	**Punta Hualpn**	**35.90**	**79**	P	**P**	**02 42 25.2**	**+0.5**
BELA	**Belgrano 2**	**36.05**	**159**	P	**P**	**02 42 26.6**	**+1.0**
BELA				IAmb	IAmb	02 42 29.6	
	comp=Z,78nm,1.8s						
GO05	**Huala**	**37.85**	**78**	P	**P**	**02 42 42.0**	**+0.6**
GO05				IAmb	IAmb	02 42 44.4	
	comp=Z,107nm,1.9s						
BO02	**Sierra Bellavi**	**38.66**	**79**	P	**P**	**02 42 47.4**	**-0.9**
TBI	**Tubuai**	**38.71**	**312**	*e*S	**S**	**02 48 47.8**	**+2.3**
TBI	comp=Z,224nm,42.8s			*e*LR	LR	02 53 23.2	
	comp=Z,4μm,26.8s						
TBI	**Tubuai**	**38.71**	**312**	*e*T	T	03 23 31.7	
	comp=Z,18nm,0.3s						
MT01	**Popeta**	**39.07**	**78**	P	**P**	**02 42 51.3**	**-0.3**
MT01				IAmb	IAmb	02 42 58.7	
	comp=Z,110nm,1.8s						
MT09	**Talagante**	**39.28**	**78**	P	**P**	**02 42 53.5**	**-0.1**
VA01	**Torpederas**	**39.47**	**76**	P	**P**	**02 42 54.4**	**-0.5**
MT02	**Curacav**	**39.58**	**77**	P	**P**	**02 42 56.5**	**+0.6**
MT02				IAmb	IAmb	02 42 58.2	
	comp=Z,69nm,1.6s						
LMEL	**Las Melosas**	**39.68**	**79**	P	**P**	**02 42 57.2**	**+0.4**
MT05	**Renca**	**39.71**	**78**	P	**P**	**02 42 56.5**	**-0.5**
VA06	**Catapilco**	**40.01**	**76**	P	**P**	**02 42 57.9**	**-1.5**
VA06				IAmb	IAmb	02 43 06.3	
	comp=Z,99nm,1.7s						
VA03	**San Esteban**	**40.28**	**77**	P	**P**	**02 43 00.8**	**-0.9**
VA03				IAmb	IAmb	02 43 09.8	
	comp=Z,70nm,1.8s						
CO02	**Combarbal**	**41.19**	**75**	P	**P**	**02 43 09.4**	**+0.1**
CO02				IAmb	IAmb	02 43 16.9	
	comp=Z,146nm,1.7s						
TRQA	**Tornquist**	**41.46**	**90**	P	**P**	**02 43 10.9**	**-0.5**
TRQA				IAmb	IAmb	02 43 18.2	
	comp=Z,63nm,1.6s						
TRQA	**Tornquist**	**41.46**	**90**	P	**P**	**02 43 10.9**	**-0.5**
TRQA				pmax	pmax		
	comp=Z,63nm,1.7s						
GO04	**Tololo Observa**	**42.08**	**74**	P	**P**	**02 43 15.7**	**-1.2**
ZON	**Zonda**	**42.24**	**78**	P	**P**	**02 43 17.6**	**-0.3**
ZON				IAmb	IAmb	02 43 21.2	
	comp=Z,68nm,1.8s						
ZON	**Zonda**	**42.24**	**78**	P	**P**	**02 43 17.6**	**-0.3**
ZON				pmax	pmax		
	comp=Z,68nm,1.8s						
AC05	**El Transito**	**43.40**	**74**	P	**P**	**02 43 26.9**	**-0.5**
PPT2	**Papeete2**	**43.89**	**316**	*e*S	**S**	**02 50 04.3**	**+1.8**
	comp=Z,438nm,27.2s						
PPT2				*e*LR	LR	02 55 47.4	
	comp=Z,6μm,26.0s						
PPT	**Papeete**	**43.91**	**316**	LR	LR	02 57 14.6	
	comp=Z,2μm,19.8s,baz=146,slow=30						
VNA3	**Neumayer Olymp**	**44.84**	**154**	pP	**P**	**02 43 39.4**	**+1.0**
RPZ	**Rata Peaks**	**45.16**	**254**	LR	LR	02 57 47.9	
	comp=Z,3μm,21.6s,baz=124,slow=30						
VAH	**Vaihoa**	**45.26**	**319**	*e*T	T	03 31 39.6	
	comp=Z,34nm,0.3s						
RAR	**Rarotonga**	**45.36**	**301**	LR	LR	02 57 54.1	
	comp=Z,651nm,20.6s,baz=146,slow=30						
PMOR	**Pomariorio Ree**	**45.58**	**319**	*e*T	T	03 32 17.8	
	comp=Z,20nm,0.2s						
VNA1	**Neumayer--Stat**	**45.58**	**154**	pP	pP	02 43 45.5	-0.8
AC02	**Maricunga**	**45.59**	**73**	P	**P**	**02 43 45.1**	**-0.3**
AC02				IAmb	IAmb	02 43 57.1	
	comp=Z,62nm,1.8s						
VNA2	**Neumayer--Watz**	**45.62**	**155**	pP	pP	02 43 46.0	-0.7
	baz=229,slow=8.0						
SNAA	**Sanae**	**46.20**	**157**	pP	pP	02 43 50.2	-1.1
SNAA	**Sanae**	**46.20**	**157**	P	**P**	**02 43 50.5**	**+1.4**
	comp=Z,4.7nm,1.1s,baz=220,slow=8.0,SNR=11						
SNAA				LR	LR	03 03 11.4	
	comp=Z,3μm,19.1s,baz=252,slow=36						
	comp=Z,4.7nm,1.1s						
SNAA	**Sanae**	**46.20**	**157**	P	**P**	**02 43 49.1**	**0.0**
SNAA				IAmb	IAmb	02 43 52.1	
	comp=Z,70nm,1.9s						
SNAA	**Sanae**	**46.20**	**157**	P	**P**	**02 43 49.1**	**0.0**
SNAA				pmax	pmax		
	comp=Z,70nm,1.9s						
TROLL	**Troll, Antarti**	**47.13**	**159**	pP	pP	02 43 58.2	-0.4
PB15	**IPOC Station P**	**48.27**	**70**	P	**P**	**02 44 05.0**	**-1.0**
TAOE	**Nuku Hiva Isla**	**48.79**	**332**	*e*S	**S**	**02 51 13.8**	**+0.9**
	comp=Z,358nm,24.3s						
TAOE				*e*LR	LR	02 58 04.2	
	comp=Z,3μm,25.0s						
LVC	**Limon Verde**	**49.06**	**70**	LR	LR	02 59 38.9	
	comp=Z,1μm,20.0s,baz=222,slow=30						
LVC	**Limon Verde**	**49.06**	**70**	P	**P**	**02 44 11.4**	**-0.8**
LVC				IAmb	IAmb	02 44 19.5	
	comp=Z,59nm,1.6s						
LVC	**Limon Verde**	**49.06**	**70**	P	**P**	**02 44 11.5**	**-0.8**
LVC				pmax	pmax		
	comp=Z,59nm,1.6s						
LVC	**Limon Verde**	**49.06**	**70**	*e*P	**P**	**02 44 12.9**	**+0.6**
PB07	**IPOC Station P**	**49.25**	**68**	P	**P**	**02 44 12.4**	**-1.1**
PB07				IAmb	IAmb	02 44 16.3	
	comp=Z,62nm,1.5s						
NVL	**N'lazarevskaya**	**49.97**	**161**	*e*P	P	02 44 12.4	-5.7
NVL				*e*S	**S**	**02 51 28.3**	**+0.3**
NVL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NVL				MLR	MLR		
	comp=Z,2μm,18.0s						
PB01	**IPOC Station P**	**50.02**	**68**	P	**P**	**02 44 18.8**	**-0.4**
ITQB	**Itaqui**	**50.55**	**87**	P	**P**	**02 44 22.2**	**-0.9**
ITQB	**Itaqui**	**50.55**	**87**	*e*P	**P**	**02 44 23.9**	**+0.8**
GO01	**Chusmiza**	**51.30**	**67**	P	**P**	**02 44 27.1**	**-2.2**
PB16	**IPOC Station P**	**52.23**	**66**	P	**P**	**02 44 35.8**	**-0.7**
CPUP	**Villa Florida**	**52.67**	**83**	P	**P**	**02 44 38.4**	**-0.5**
	comp=Z,10nm,1.3s,baz=245,slow=8.2,SNR=3.7						
	comp=Z,10nm,1.3s						
CPUP	**Villa Florida**	**52.67**	**83**	P	**P**	**02 44 37.8**	**-1.1**
CPUP				IAmb	IAmb	02 44 39.5	
	comp=Z,41nm,1.6s						
CPUP	**Villa Florida**	**52.67**	**83**	P	**P**	**02 44 37.8**	**-1.1**
CPUP				pmax	pmax		
	comp=Z,41nm,1.7s						
CASY	**Casey**	**53.63**	**202**	P	**P**	**02 44 45.0**	**-0.5**
CASY				IAmb	IAmb	02 44 55.2	
	comp=Z,41nm,1.9s						
NNA	**Nana**	**53.93**	**54**	LR	LR	03 01 34.3	
	comp=Z,706nm,18.9s,baz=198,slow=29						
NNA	**Nana**	**53.93**	**54**	*e*P	**P**	**02 44 51.2**	**+2.8**
NNA				pmax	pmax		
	comp=Z,67nm,1.4s						
LPAZ	**La Paz**	**54.65**	**66**	P	**P**	**02 44 54.8**	**+0.5**
	comp=Z,27nm,1.2s,baz=204,slow=6.1,SNR=32						
LPAZ				LR	LR	03 02 30.4	
	comp=Z,932nm,18.8s,baz=201,slow=30						
	comp=Z,27nm,1.2s						
LPAZ	**La Paz**	**54.65**	**66**	P	**P**	**02 44 53.8**	**-0.5**
LPAZ	**La Paz**	**54.65**	**66**	P	**P**	**02 44 53.8**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,63nm,1.5s						
LPAZ	**La Paz**	**54.65**	**66**	*e*P	**P**	**02 44 54.6**	**+0.3**
ATAH	**Atahualpa**	**57.49**	**50**	P	**P**	**02 45 15.2**	**+0.8**
	comp=Z,5.2nm,1.0s,baz=233,slow=11,SNR=4.3						
ATAH				LR	LR	03 03 56.8	
	comp=Z,1μm,19.9s,baz=226,slow=30						
	comp=Z,5.2nm,1.0s						
AFI	**Afiamalu**	**57.66**	**294**	LR	LR	03 04 32.6	
	comp=Z,824nm,18.7s,baz=152,slow=30						
MAW	**Mawson**	**57.95**	**181**	P	**P**	**02 45 16.8**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=159,slow=7.6,SNR=8.9						
	comp=Z,2.0nm,0.5s						
MAW	**Mawson**	**57.95**	**181**	P	**P**	**02 45 15.6**	**-0.8**
MAW	**Mawson**	**57.95**	**181**	P	**P**	**02 45 15.6**	**-0.8**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.2s						
AQDB	**Aquidauana**	**58.15**	**80**	P	**P**	**02 45 16.8**	**-1.7**
AQDB				IAmb	IAmb	02 45 20.0	
	comp=Z,35nm,1.6s						
AQDB	**Aquidauana**	**58.15**	**80**	*e*P	**P**	**02 45 17.9**	**-0.6**
TIJ01	**Guaruva-PR**	**58.25**	**90**	*e*P	**P**	**02 45 19.6**	**+0.4**
SIV	**San Ignacio**	**58.72**	**72**	LR	LR	03 06 14.1	
	comp=Z,764nm,21.2s,baz=250,slow=32						
CZSB	**Cruzeiro do Su**	**59.61**	**56**	P	**P**	**02 45 27.8**	**-0.8**
CZSB				IAmb	IAmb	02 45 35.4	
	comp=Z,80nm,1.5s						
CZSB	**Cruzeiro do Su**	**59.61**	**56**	*e*P	**P**	**02 45 28.6**	**-0.1**
PCMB	**Pacaembu**	**59.81**	**85**	*e*P	**P**	**02 45 31.9**	**+1.9**
PTLB	**Pontes e Lacer**	**60.23**	**74**	P	**P**	**02 45 31.2**	**-1.7**
PTLB				IAmb	IAmb	02 45 39.4	
	comp=Z,48nm,1.6s						
PTLB	**Pontes e Lacer**	**60.23**	**74**	*e*P	**P**	**02 45 32.3**	**-0.6**
BOSC	**San Juan Bosco**	**61.01**	**48**	P	**P**	**02 45 37.1**	**-1.3**
ETMB	**Extrema**	**61.08**	**64**	P	**P**	**02 45 37.4**	**-1.3**
ETMB				IAmb	IAmb	02 45 41.0	
	comp=Z,46nm,1.7s						
ETMB	**Extrema**	**61.08**	**64**	*e*P	**P**	**02 45 38.3**	**-0.4**
C2SB	**Chapadao do Su**	**61.14**	**82**	*e*P	**P**	**02 45 40.1**	**+1.0**
COHC	**Cochancay**	**61.30**	**47**	P	**P**	**02 45 39.5**	**-0.7**
VILB	**Vilhena**	**61.68**	**71**	P	**P**	**02 45 40.4**	**-2.4**
VILB				IAmb	IAmb	02 45 45.3	
	comp=Z,100nm,1.8s						
SALV	**Santo Antonio**	**61.80**	**77**	*e*P	**P**	**02 45 43.5**	**-0.1**
CHSH	**Refugio Sur-Vo**	**62.34**	**47**	P	**P**	**02 45 48.1**	**+0.2**
CHSH				IAmb	IAmb	02 45 56.2	
	comp=Z,142nm,1.8s						
PORT	**Chimborazo Vol**	**62.41**	**47**	P	**P**	**02 45 48.2**	**-0.2**
PORT				IAmb	IAmb	02 45 56.3	
	comp=Z,41nm,1.4s						
OUENC	**Ouen Island, N**	**62.92**	**269**	P	**P**	**02 45 50.9**	**-0.1**
OUENC				IAmb	IAmb	02 45 52.3	
	comp=Z,32nm,1.1s						
MARNC	**Mare, Loyalty**	**62.96**	**271**	P	**P**	**02 45 50.0**	**-1.3**
ONTNC	**Ouen Toro**	**63.23**	**269**	P	**P**	**02 45 52.7**	**-0.4**
DZM	**Mont Dzumac**	**63.42**	**269**	*e*P	**P**	**02 45 53.6**	**-0.9**
	comp=Z,56nm,1.6s						
DZM				*e*S	**S**	**02 54 26.3**	**-1.0**
	comp=Z,188nm,24.2s						
DZM	**Mont Dzumac**	**63.42**	**269**	*e*LR	LR	03 04 47.9	
	comp=Z,1μm,22.6s						
DZM	**Mont Dzumac**	**63.42**	**269**	P	**P**	**02 45 54.7**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=166,slow=3.3,SNR=5.2						
DZM				LR	LR	03 07 23.7	
	comp=Z,905nm,21.7s,baz=194,slow=30						
	comp=Z,7.0nm,0.8s						
TBTG	**Tabatinga, AM**	**64.04**	**57**	P	**P**	**02 45 57.5**	**-1.0**
TBTG				IAmb	IAmb	02 46 03.7	
	comp=Z,59nm,1.4s						
TBTG	**Tabatinga, AM**	**64.04**	**57**	*e*P	**P**	**02 45 57.2**	**-1.2**
TBTG				pmax	pmax		
	comp=Z,59nm,1.7s						
GO04	**Tololo Observa**	**42.08**	**74**	P	**P**	**02 43 15.7**	**-1.2**
ZON	**Zonda**	**42.24**	**78**	P	**P**	**02 43 17.6**	**-0.3**
ZON				IAmb	IAmb	02 43 21.2	
	comp=Z,68nm,1.8s						
ZON	**Zonda**	**42.24**	**78**	P	**P**	**02 43 17.6**	**-0.3**
ZON				pmax	pmax		
	comp=Z,68nm,1.8s						
AC05	**El Transito**	**43.40**	**74**	P	**P**	**02 43 26.9**	**-0.5**
PPT2	**Papeete2**	**43.89**	**316**	*e*S	**S**	**02 50 04.3**	**+1.8**
	comp=Z,438nm,27.2s						
PPT2				*e*LR	LR	02 55 47.4	
	comp=Z,6μm,26.0s						
PPT	**Papeete**	**43.91**	**316**	LR	LR	02 57 14.6	
	comp=Z,2μm,19.8s,baz=146,slow=30						
VNA3	**Neumayer Olymp**	**44.84**	**154**	pP	**P**	**02 43 39.4**	**+1.0**
RPZ	**Rata Peaks**	**45.16**	**254**	LR	LR	02 57 47.9	
	comp=Z,3μm,21.6s,baz=124,slow=30						
VAH	**Vaihoa**	**45.26**	**319**	*e*T	T	03 31 39.6	
	comp=Z,34nm,0.3s						
RAR	**Rarotonga**	**45.36**	**301**	LR	LR	02 57 54.1	
	comp=Z,651nm,20.6s,baz=146,slow=30						
PMOR	**Pomariorio Ree**	**45.58**	**319**	*e*T	T	03 32 17.8	
	comp=Z,20nm,0.2s						
VNA1	**Neumayer--Stat**	**45.58**	**154**	pP	pP	02 43 45.5	-0.8
AC02	**Maricunga**	**45.59**	**73**	P	**P**	**02 43 45.1**	**-0.3**
AC02				IAmb	IAmb	02 43 57.1	
	comp=Z,62nm,1.8s						
VNA2	**Neumayer--Watz**	**45.62**	**155**	pP	pP	02 43 46.0	-0.7
	baz=229,slow=8.0						
SNAA	**Sanae**	**46.20**	**157**	pP	pP	02 43 50.2	-1.1
SNAA	**Sanae**	**46.20**	**157**	P	**P**	**02 43 50.5**	**+1.4**
	comp=Z,4.7nm,1.1s,baz=220,slow=8.0,SNR=11						
SNAA				LR	LR	03 03 11.4	
	comp=Z,3μm,19.1s,baz=252,slow=36						
	comp=Z,4.7nm,1.1s						
SNAA	**Sanae**	**46.20**	**157**	P	**P**	**02 43 49.1**	**0.0**
SNAA				IAmb	IAmb	02 43 52.1	
	comp=Z,70nm,1.9s						
SNAA	**Sanae**	**46.20**	**157**	P	**P**	**02 43 49.1**	**0.0**
SNAA				pmax	pmax		
	comp=Z,70nm,1.9s						
TROLL	**Troll, Antarti**	**47.13**	**159**	pP	pP	02 43 58.2	-0.4
PB15	**IPOC Station P**	**48.27**	**70**	P	**P**	**02 44 05.0**	**-1.0**
TAOE	**Nuku Hiva Isla**	**48.79**	**332**	*e*S	**S**	**02 51 13.8**	**+0.9**
	comp=Z,358nm,24.3s						
TAOE				*e*LR	LR	02 58 04.2	
	comp=Z,3μm,25.0s						
LVC	**Limon Verde**	**49.06**	**70**	LR	LR	02 59 38.9	
	comp=Z,1μm,20.0s,baz=222,slow=30						
LVC	**Limon Verde**	**49.06**	**70**	P	**P**	**02 44 11.4**	**-0.8**
LVC				IAmb	IAmb	02 44 19.5	
	comp=Z,59nm,1.6s						
LVC	**Limon Verde**	**49.06**	**70**	P	**P**	**02 44 11.5**	**-0.8**
LVC				pmax	pmax		
	comp=Z,59nm,1.6s						
LVC	**Limon Verde**	**49.06**	**70**	*e*P	**P**	**02 44 12.9**	**+0.6**
PB07	**IPOC Station P**	**49.25**	**68**	P	**P**	**02 44 12.4**	**-1.1**
PB07				IAmb	IAmb	02 44 16.3	
	comp=Z,62nm,1.5s						
NVL	**N'lazarevskaya**	**49.97**	**161**	*e*P	P	02 44 12.4	-5.7
NVL				*e*S	**S**	**02 51 28.3**	**+0.3**
NVL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NVL				MLR	MLR		
	comp=Z,2μm,18.0s						
PB01	**IPOC Station P**	**50.02**	**68**	P	**P**	**02 44 18.8**	**-0.4**
ITQB	**Itaqui**	**50.55**	**87**	P	**P**	**02 44 22.2**	**-0.9**
ITQB	**Itaqui**	**50.55**	**87**	*e*P	**P**	**02 44 23.9**	**+0.8**
GO01	**Chusmiza**	**51.30**	**67**	P	**P**	**02 44 27.1**	**-2.2**
PB16	**IPOC Station P**	**52.23**	**66**	P	**P**	**02 44 35.8**	**-0.7**
CPUP	**Villa Florida**	**52.67**	**83**	P	**P**	**02 44 38.4**	**-0.5**
	comp=Z,10nm,1.3s,baz=245,slow=8.2,SNR=3.7						
	comp=Z,10nm,1.3s						
CPUP	**Villa Florida**	**52.67**	**83**	P	**P**	**02 44 37.8**	**-1.1**
CPUP				IAmb	IAmb	02 44 39.5	
	comp=Z,41nm,1.6s						
CPUP	**Villa Florida**	**52.67**	**83**	P	**P**	**02 44 37.8**	**-1.1**
CPUP				pmax	pmax		
	comp=Z,41nm,1.7s						
CASY	**Casey**	**53.63**	**202**	P	**P**	**02 44 45.0**	**-0.5**
CASY				IAmb	IAmb	02 44 55.2	
	comp=Z,41nm,1.9s						
NNA	**Nana**	**53.93**	**54**	LR	LR	03 01 34.3	
	comp=Z,706nm,18.9s,baz=198,slow=29						
NNA	**Nana**	**53.93**	**54**	*e*P	**P**	**02 44 51.2**	**+2.8**
NNA				pmax	pmax		
	comp=Z,67nm,1.4s						
LPAZ	**La Paz**	**54.65**	**66**	P	**P**	**02 44 54.8**	**+0.5**
	comp=Z,27nm,1.2s,baz=204,slow=6.1,SNR=32						
LPAZ				LR	LR	03 02 30.4	
	comp=Z,932nm,18.8s,baz=201,slow=30						
	comp=Z,27nm,1.2s						
LPAZ	**La Paz**	**54.65**	**66**	P	**P**	**02 44 53.8**	**-0.5**
LPAZ	**La Paz**	**54.65**	**66**	P	**P**	**02 44 53.8**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,63nm,1.5s						
LPAZ	**La Paz**	**54.65**	**66**	*e*P	**P**	**02 44 54.6**	**+0.3**
ATAH	**Atahualpa**	**57.49**	**50**	P	**P**	**02 45 15.2**	**+0.8**
	comp=Z,5.2nm,1.0s,baz=233,slow=11,SNR=4.3						
ATAH				L

121A Cookes Peak, D 87.47 9 P **P** 02 48 13.5 +1.4
121A IAmb IAmb 02 48 20.5
comp=Z,23nm,1.4s
GDL2 Guadalupe Moun 87.51 12 P **P** 02 48 13.1 +0.8
CLN7 Carlsbad 7 87.79 13 P **P** 02 48 14.5 +1.0
HTMS Hat Mesa 87.87 13 P **P** 02 48 15.2 +1.2
PFO Pinyon Flats O 88.03 2 LR LR 03 18 31.7
comp=Z,628nm,20.0s,baz=190,slow=29
PFO Pinyon Flats O 88.03 2⇑ *e*P **P** 02 48 16.5 +1.8
BC3 Big Chuckawall 88.10 3 P **P** 02 48 17.8 +2.8
baz=182
BLYC Blythe 88.23 4 P **P** 02 48 16.3 +0.8
BLYC IAmb IAmb 02 48 23.2
comp=Z,25nm,1.6s
BELC Belle Mtn. Jos 88.43 2 P **P** 02 48 19.6 +3.0
baz=182
Y14A Wickenburg 88.48 5 P **P** 02 48 17.3 +0.6
SBM South Baldy 88.95 10 P **P** 02 48 20.0 +0.6
CRNM Carthage 88.98 10 P **P** 02 48 20.6 +1.4
X16A Lo Mia Camp, P 89.05 6 P **P** 02 48 20.3 +0.7
X16A IAmb IAmb 02 48 27.1
comp=Z,21nm,1.8s
FITZ Fitzroy Crossi 89.12 239 P **P** 02 48 18.8 -1.5
FITZ IAmb IAmb 02 48 20.9
comp=Z,14nm,0.9s
X18A Snowflake 89.26 7 P **P** 02 48 22.1 +1.5
MSTX Muleshoe 89.46 13 P **P** 02 48 22.0 +0.6
MSTX IAmb IAmb 02 48 29.1
comp=Z,16nm,1.2s
W13A Hualapai Mount 89.60 4 P **P** 02 48 22.4 +0.3
W13A IAmb IAmb 02 48 29.8
comp=Z,31nm,1.9s
ANMO Albuquerque 89.99 10 LR LR 03 21 60.0
comp=Z,248nm,18.1s,baz=194,slow=31
ANMO Albuquerque 89.99 10 P **P** 02 48 24.8 +0.9
ANMO Albuquerque 89.99 10⇑ *e*P **P** 02 48 25.1 +1.1
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 89.99 10 P **P** 02 48 25.3 +1.3
baz=187
V12A Nelson 90.19 3 P **P** 02 48 26.0 +1.2
QSM Queen of Sheba 90.37 2 P **P** 02 48 26.8 +1.4
QSM IAmb IAmb 02 48 37.8
comp=Z,24nm,1.6s
GWY Greenwater Val 90.60 2 P **P** 02 48 26.8 +0.1
GWY IAmb IAmb 02 48 42.7
comp=Z,30nm,1.8s
WMOK Wichita Mounta 90.81 17 P **P** 02 48 28.0 +0.4
WMOK Wichita Mounta 90.81 17 P **P** 02 48 28.0 +0.4
WMOK pmax pmax
comp=Z,7.0nm,1.0s
SHPR Sheep Range 90.95 3 P **P** 02 48 28.5 +0.1
SHPR IAmb IAmb 02 48 37.1
comp=Z,17nm,1.4s
U15A North Rim 91.00 5 P **P** 02 48 30.0 +1.3
WCT Wildcat Mounta 91.20 2 P **P** 02 48 29.2 -0.2
WCT IAmb IAmb 02 48 42.3
comp=Z,32nm,1.8s
TPNV Topopah Spring 91.37 2 P **P** 02 48 29.6 -0.7
TPNV IAmb IAmb 02 48 39.3
comp=Z,33nm,1.7s
TPNV Topopah Spring 91.37 2 P **P** 02 48 29.6 -0.7
TPNV pmax pmax
comp=Z,33nm,1.7s
TPNV Topopah Spring 91.37 2 P **P** 02 48 33.2 +2.9
baz=182
GRAC Grapevine Rang 91.39 1 P **P** 02 48 30.4 +0.1
GRAC IAmb IAmb 02 48 56.9
comp=Z,35nm,1.8s
BOSA Boshof 91.45 149 LR LR 03 23 37.4
comp=Z,776nm,19.8s,baz=192,slow=32
LCMT Little Creek M 91.53 5 P **P** 02 48 30.8 -0.3
Z47A Carrollton 91.55 26 P **P** 02 48 31.3 +0.3
KNB Kanab 91.56 5 P **P** 02 48 32.2 +1.0
KNB IAmb IAmb 02 48 39.4
comp=Z,16nm,1.5s
KNB Kanab 91.56 5 P **P** 02 48 32.2 +1.0
KNB pmax pmax
comp=Z,16nm,1.5s
LCH Last Change Ra 91.63 1 P **P** 02 48 31.1 -0.4
LCH IAmb IAmb 02 48 39.1
comp=Z,25nm,1.7s
DSP Deep Springs 91.76 1 P **P** 02 48 32.8 +0.9
DSP IAmb IAmb 02 48 40.7
comp=Z,28nm,1.7s
PRN Pahroc Range 91.86 3 P **P** 02 48 32.9 +0.4
PRN IAmb IAmb 02 48 46.2
comp=Z,21nm,1.4s
MVCO Mesa Verde 92.04 8 P **P** 02 48 33.2 -0.3
MVCO Mesa Verde 92.04 8 P **P** 02 48 35.5 +2.0
baz=186
CCUT Cedar City 92.06 4 P **P** 02 48 34.7 +1.1
CCUT IAmb IAmb 02 48 42.3
comp=Z,23nm,1.6s
S11A Rachel 92.07 3 P **P** 02 48 35.0 +1.5
SZCU Shurtz Canyon 92.12 5 P **P** 02 48 35.2 +1.4
SZCU IAmb IAmb 02 48 42.5
comp=Z,30nm,1.7s
T25A Trinidad 92.38 12 P **P** 02 48 36.0 +0.9
T25A IAmb IAmb 02 48 42.0
comp=Z,13nm,1.2s
TPH Tonopah 92.47 1 P **P** 02 48 35.9 +0.5
TPH Tonopah 92.47 1 P **P** 02 48 35.9 +0.5
TPH pmax pmax
comp=Z,156nm,1.9s
MTPU Mount Pierson 92.61 5 P **P** 02 48 35.6 -0.7
R11A Troy Canyon, C 92.78 3 P **P** 02 48 38.3 +1.5
R11A IAmb IAmb 02 48 45.5
comp=Z,17nm,1.5s
R11A Troy Canyon, C 92.78 3 P **P** 02 48 39.0 +2.2
baz=182
NVAR Mina Array Bea 92.82 1 P **P** 02 48 37.5 +0.5
comp=Z,1.5nm,0.9s,baz=182,slow=5.4,SNR=8.3
NVAR LR LR 03 21 56.9
comp=Z,661nm,18.7s,baz=163,slow=30
comp=Z,1.5nm,0.9s
NV11 Mina Array Sit 92.82 1 P **P** 02 48 37.3 +0.3
NV11 IAmb IAmb 02 48 44.7
comp=Z,30nm,1.9s
SDCO Great Sand Dun 92.86 11 P **P** 02 48 37.2 -0.1
PV13 Radium Mtn., P 92.96 8 P **P** 02 48 37.6 -0.1
PSUT Pine Spring 93.02 4 P **P** 02 48 37.8 -0.2
MVU Marysvale 93.07 5 P **P** 02 48 39.1 +0.8
MSU Marysvale 93.08 5 P **P** 02 48 39.1 +0.8
MSU Marysvale 93.08 5 P **P** 02 48 39.1 +0.8
KVN Kaiserville 93.44 1 P **P** 02 48 40.2 +0.4
KVN Kaiserville 93.44 1 P **P** 02 48 40.2 +0.4
KVN pmax pmax
comp=Z,10.0nm,1.3s
SPR3 Spring Creek 3 93.47 4 P **P** 02 48 39.7 -0.5
SPR3 IAmb IAmb 02 48 47.6
comp=Z,8.8nm,1.4s
SRU San Rafael Swe 93.78 7 P **P** 02 48 40.8 -0.6
SRU San Rafael Swe 93.78 7 P **P** 02 48 40.8 -0.6
SRU pmax pmax
comp=Z,8.0nm,1.3s
TMUT Trail Mountain 93.92 6 P **P** 02 48 41.9 -0.3
TMUT IAmb IAmb 02 48 53.0
comp=Z,28nm,2.0s
BEKR Beckworth 94.26 359 P **P** 02 48 42.0 -1.6
NLU North Lily Min 94.53 5 P **P** 02 48 44.0 -0.9
NLU IAmb IAmb 02 48 53.1
comp=Z,21nm,1.5s
DUG Dugway, Tooele 94.73 5 P **P** 02 48 44.9 -0.8
DUG IAmb IAmb 02 48 57.6
comp=Z,26nm,2.0s
DUG Dugway, Tooele 94.73 5 P **P** 02 48 44.9 -0.8
DUG pmax pmax
comp=Z,26nm,2.0s
LBTB Lobatse 94.93 148 LR LR 03 27 08.5
comp=Z,473nm,18.5s,baz=204,slow=33
TKL Tuckaleechee C 95.00 28 LR LR 03 27 07.9
comp=Z,119nm,18.8s,baz=182,slow=33
ELK Elko 95.18 3 LR LR 03 23 19.4
comp=Z,432nm,18.6s,baz=218,slow=30
YBH Yreka Blue Hor 96.17 357 LR LR 03 23 14.3
comp=Z,493nm,19.2s,baz=174,slow=30
WVOR Wild Horse Val 96.82 0 P **P** 02 48 55.8 +0.7
WVOR Wild Horse Val 96.82 0 P **P** 02 48 55.8 +0.7
WVOR pmax pmax
comp=Z,7.0nm,1.3s
BATI Baumata 96.82 242 LR LR 03 28 41.9
comp=Z,794nm,19.9s,baz=204,slow=33
H11N3 WAKE ISLAND Hy 97.11 294 T T 04 36 56.8
baz=145,slow=76,SNR=114
H11N1 WAKE ISLAND Hy 97.11 294 T T 04 36 59.5
baz=145,slow=76,SNR=183
H11N2 WAKE ISLAND Hy 97.13 294 T T 04 36 58.1
baz=145,slow=76,SNR=128
PDAR Pinedale Array 97.48 7 P **P** 02 48 58.2 -0.1
comp=Z,0.7nm,1.0s,baz=120,slow=3.6,SNR=3.7
PDAR LR LR 03 24 54.7
comp=Z,375nm,20.7s,baz=193,slow=30
comp=Z,0.7nm,1.0s
TSUM Tsumeb 97.55 139 LR LR 03 25 47.2
comp=Z,344nm,20.9s,baz=190,slow=31
TORD Torodi Ar. Bea 118.18 108 PP **PP** 02 55 27.8 +0.7
comp=Z,1.3nm,1.1s,baz=193,slow=6.1,SNR=4.6
ILAR Eielson Array 121.11 346 PKP **PKiKP** 02 54 17.5 +1.4
comp=Z,1.3nm,1.0s,baz=192,slow=1.4,SNR=9.5
ILAR Eielson Array 121.11 346 **PKPdf** 02 54 15.6 -0.4
CCB Clear Creek Bu 121.12 346 **PKiKP** 02 54 16.6 +0.6
PETK Petropavlovsk- 127.55 311 PKP **PKiKP** 02 54 29.3 +0.1
comp=Z,3.3nm,1.1s,baz=38,slow=6.1,SNR=5.0
PETK Petropavlovsk- 127.55 311 PKPdf **PKPdf** 02 54 28.4 -0.3
CMAR Chiang Mai Arr 133.66 234 PKP **PKPdf** 02 54 41.7 +0.3
comp=Z,0.7nm,0.3s,baz=198,slow=2.6,SNR=1.5
NJ2 Nanjing 133.82 265 *e*PKP **PKiKP** 02 54 43.4 +0.9
ESDC Sonseca Array 135.02 82 PKP **PKPdf** 02 54 43.2 -0.2
comp=Z,0.5nm,1.0s,baz=196,slow=0.3,SNR=3.6
ESDC PP **PP** 02 57 21.2 +2.2
comp=Z,0.7nm,1.1s,baz=247,slow=7.9,SNR=4.0
SEY Seymchan 135.91 319 *i* PKiKP **PKPdf** 02 54 44.1 0.0
PZH PanZhiHua 139.05 243 PKP **PKPdf** 02 54 51.9 +0.6
CD2 Chengdu 141.48 250 PKP **PKPdf** 02 54 54.7 -0.8
XLT XiLinHaoTe 143.42 276 *e*PKP **PKPdf** 02 55 00.1 +1.5
XLT AMB AMB
comp=Z,100nm,5.8s
XLT LR LR
comp=Z,210nm,18.2s
XLT LR LR
comp=Z,220nm,19.6s
HHC Hu-ho-hao-te 144.13 269 *e*PKP PKPbc 02 54 58.8 +0.7
HHC LR LR
comp=Z,290nm,17.7s
HHC LR LR
comp=Z,300nm,21.2s
HHC LR LR
comp=Z,530nm,19.0s
YAK Yakutsk 144.89 310 *i* PKP2 **PKPab** 02 54 59.1 -0.5
LZH Lanzhou 145.31 255 ⇑PKPbc **PKPdf** 02 55 03.2 +1.0
LZH pPKP PKiKP 02 55 12.8 +6.7
LZH LR LR
comp=Z,210nm,17.2s
LZH LR LR
comp=Z,190nm,16.8s
LZH LR LR
comp=Z,210nm,16.1s
CASP Castiglione de 145.59 89 PKPdf **PKPdf** 02 55 02.0 -0.3
SENIN Lac Senin/Sane 145.63 81 PKPdf **PKPdf** 02 55 01.9 -0.5
LATE Laterza 146.02 90 **PKPdf** 02 55 03.0 -0.1
DOU Dourbes 146.08 74 *dp*PKP **PKiKP** 02 55 09.6 +2.5
BMRD Maredsous 146.28 74 *dP*KP **PKiKP** 02 55 06.5 -0.9
BMRD *dp*PKP sPKPab 02 55 09.8 +1.4
RCHB Rochefort 146.47 74 *dP*KP **PKPdf** 02 55 03.8 +0.4
CESX Cesi 146.47 91 **PKPdf** 02 55 03.5 -0.3
PAOL Paolisi 146.62 95 PKPdf **PKPdf** 02 55 02.9 -1.2
BCLA Clavier 146.64 74 *dp*PKP **PKiKP** 02 55 11.0 +2.9
TIP Timpagrande 146.66 99 ⇓P **PKPdf** 02 55 03.7 -0.6
TIP Timpagrande 146.66 99 PKPdf **PKPdf** 02 55 03.6 -0.7
CUC Castrocucco 146.66 97 **PKPdf** 02 55 02.5 -1.7
RAYN Ar Rayn 146.73 153 ⇑PKHKP PKPpre 02 54 54.1
MEM Membach 147.12 74 *dp*PKP **PKiKP** 02 55 12.2 +3.1
BTNL Ternell 147.18 74 *dp*PKP **PKiKP** 02 55 10.9 +1.6
TIXI Tiksi 147.37 327 *i* PKIKP **PKPdf** 02 55 04.5 +0.2
DAVA Damuels 147.62 82 *eP* **PKPbc** 02 55 08.5 +0.1
comp=Z,21nm,1.4s
FETA Feichten 147.96 83 *eP* **PKPbc** 02 55 09.9 +0.5
comp=Z,22nm,1.5s,SNR=6.9
RETA Reutte 148.23 82 *eP* **PKPbc** 02 55 10.5 +0.5
comp=Z,25nm,1.6s
SQTA Sankt Quirin 148.34 83 *eP* **PKPbc** 02 55 11.0 +0.6
comp=Z,20nm,1.3s
MOTA Moosalm 148.35 83 *i* P **PKPbc** 02 55 10.8 +0.4
comp=Z,27nm,1.4s
WSAR Wadi Sarin 148.48 176 PKPbc **PKiKP** 02 55 12.6 -0.3
comp=Z,9.5nm,0.9s,baz=186,slow=5.3,SNR=3.1
CIMO Cimolais 148.56 85 PKPdf **PKPdf** 02 55 05.3 -1.8
WTTA Wattenberg 148.61 83 *i* P **PKPbc** 02 55 11.7 +0.6
comp=Z,24nm,1.3s
WTTA *eS* **SKPbc** 02 58 42.0 -6.5
comp=Z,11nm,1.4s
WATA Walderalm 148.62 83 *eP* **PKiKP** 02 55 13.5 +0.9
comp=Z,26nm,1.5s
KEK Kerkira 148.75 102 PKPdf **PKPdf** 02 55 07.6 0.0
ABTA Abfaltersbach 148.84 85 *eP* **PKiKP** 02 55 13.6 +0.7
comp=Z,43nm,1.5s,SNR=7.4
CLUD Cludinico 148.89 85 PKPdf **PKPdf** 02 55 06.8 -0.8
MYKA Terra Mystica 149.43 86 *eP* **PKiKP** 02 55 13.9 -0.3
comp=Z,16nm,1.1s
TIR Tirane 149.87 99 ⇑P **PKiKP** 02 55 16.3 +1.2
TIR Tirane 149.87 99 ⇑PKP2 **PKiKP** 02 55 16.3 +1.2
OBKA Obir 149.89 86 *eP* **PKiKP** 02 55 15.0 -0.1
comp=Z,43nm,1.4s
GTA Gaotai 149.91 256 *e*PKPbc **PKPbc** 02 55 15.0 +0.5
GTA pPKP PKPab 02 55 20.3 +0.1
GTA LR LR
comp=Z,120nm,20.9s
GTA LR LR
comp=Z,460nm,23.3s
GTA LR LR
comp=Z,100nm,19.6s
KBN Korca 149.92 101 PKPdf **PKPdf** 02 55 09.4 -0.2
KBN Korca 149.92 101 PKHKP PKPpre 02 55 09.4
BIOA Bad Ischl, Aus 149.99 84 *eP* **PKiKP** 02 55 15.8 +0.6
comp=Z,30nm,1.5s,SNR=5.9
BIOA *i* P **PP** 02 58 50.7 +1.2
comp=Z,10nm,1.8s
SOKA Soboth 150.26 86 *eP* **PKiKP** 02 55 16.7 +0.8
comp=Z,22nm,1.5s
GOMU GeErMu 150.31 245 PKPbc **PKPdf** 02 55 11.3 +0.6
GOMU sPKP 02 55 16.4
GOMU PKPab **PKPab** 02 55 22.9 +0.6
GOMU SS SS 03 18 13.3 +3.1
GOMU AMB AMB
comp=Z,88nm,4.7s
GOMU LR LR
comp=Z,86nm,14.5s
GOMU LR LR
comp=Z,88nm,16.5s
GOMU LR LR
comp=Z,160nm,18.3s
MOA Molln 150.44 84 *eP* **PKiKP** 02 55 17.1 +0.9
comp=Z,22nm,1.2s,SNR=7.2
MOA *i* S **PKSdf** 02 58 45.1 +0.4
comp=Z,8.5nm,1.1s
NKC Novy Kostel 150.57 78 *e*PKPAB **PKPab** 02 55 22.7 +0.2
NKC AMS AMS 04 01 00.0
comp=Z,300nm,25.9s
GERES GERESS Array B 150.62 82 PKPbc **PKPbc** 02 55 14.4 -1.4
comp=Z,2.5nm,1.0s,baz=282,slow=0.9,SNR=9.7
KHC Kasperske Hory 150.69 81 PKPdf **PKPdf** 02 55 10.9 +0.5
KHC Kasperske Hory 150.69 81 *e*PKIKP **PKiKP** 02 55 17.0 +0.4
KHC *e* 02 55 22.1
KHC MLR MLR
comp=Z,200nm,17.9s
KHC Kasperske Hory 150.69 81⇑ *e*PKIKP **PKiKP** 02 55 17.0 +0.4
KHC *ep*PKP **PKPab** 02 55 22.1 -0.9
KHC AMS AMS 03 57 20.0
comp=Z,200nm,17.9s
ARG Arkhangelos 150.81 116 PKPdf **PKPdf** 02 55 11.5 +0.5
ARG Arkhangelos 150.81 116 PKIKP **PKPdf** 02 55 11.5 +0.5
ARSA Arzberg 150.85 86 *eP* **PKiKP** 02 55 18.4 +1.4
comp=Z,25nm,1.4s,SNR=5.5
ARSA *eS* **PKSdf** 02 58 43.1 -2.2
comp=Z,8.5nm,1.2s
ULN Ulaanbaatar 150.86 276 ⇑PKIKP **PKPbc** 02 55 16.6 0.0
CKRC Cesky Krumlov 150.95 82 *e*PKPAB **PKPab** 02 55 22.3 -1.8
CKRC AMS AMS 03 56 10.0
comp=Z,200nm,20.0s
BOD Bodaibo 151.06 298 *e*PKIKP **PKPbc** 02 55 14.6 -1.9
BOD pmax pmax
comp=Z,38nm,1.3s
SONM Songino Array 151.22 275 PKPbc **PKPbc** 02 55 17.1 -0.3
comp=Z,1.8nm,1.0s,baz=106,slow=1.7,SNR=10
CLL Collm 151.37 77 *e*PKIKP **PKiKP** 02 55 18.0 +0.1
CLL *i* 02 55 23.1
CLL pmax pmax
comp=Z,11nm,1.2s
CLL Collm 151.37 77 LmV 04 00 00.0
comp=Z,200nm,20.4s
CLL Collm 151.37 77 *e*PKPbc **PKiKP** 02 55 18.0 +0.1
comp=Z,11nm,1.2s
CLL Collm 151.37 77 *i* pPKPbc **PKPab** 02 55 23.1 -2.6
comp=Z,30nm,1.3s
CLL Collm 151.37 77 *i* PKPab **PKPab** 02 55 27.8 +2.1
CONA Conrad Observa 151.40 85 *eP* **PKPbc** 02 55 17.8 +0.1
comp=Z,20nm,1.5s
CONA *eS* **PKSdf** 02 58 43.2 -2.9
comp=Z,7.8nm,1.2s
CONA *i* P **PP** 02 58 57.8 +0.1
comp=Z,7.3nm,1.1s
RONA Rosalia, Austr 151.53 86 *eP* **PKPbc** 02 55 17.9 -0.1
comp=Z,18nm,1.6s
RONA *eS* **PKSdf** 02 58 42.2 -4.1
comp=Z,11nm,1.7s
PRU Pruhonice 151.65 80 AMS AMS 03 50 10.0
comp=Z,300nm,39.9s
BRG Berggiesshubel 151.71 78 *e*PKP **PKiKP** 02 55 20.6 +2.0
BRG Amp 02 55 21.7
comp=Z,14nm,1.6s
BRG *ex* x 02 55 24.7
BRG Amp 02 55 27.2
comp=Z,26nm,1.6s
BRG *ex* x 02 55 45.3
BRG Amp 02 55 47.2
comp=Z,24nm,1.7s
BRG Berggiesshubel 151.71 78 *e*PKIKP **PKiKP** 02 55 20.6 +2.0
BRG *e* 02 55 24.6
BRG pmax pmax
comp=Z,14nm,1.6s
BRG pmax pmax
comp=Z,26nm,1.6s
BRG pmax pmax
comp=Z,24nm,1.7s
TREC Trest 151.86 82 AMS AMS 04 00 20.0
comp=Z,200nm,20.2s
PVCC Panska Ves 151.91 79 AMS AMS 03 56 00.0
comp=Z,200nm,18.5s
SPITS Spitsbergen Ar 151.93 18 PKPbc **PKiKP** 02 55 18.9 +0.5
comp=Z,38nm,1.1s,baz=258,slow=7.2,SNR=4.9
MORH Mrgy, Hungar 152.10 90 ⇑P **PKPbc** 02 55 17.9 -1.4
FRGS Fruska Gora 152.18 93 ⇑P **PKiKP** 02 55 22.4 +2.6
KRUC Moravsky 152.27 83 *e*PKP **PKPbc** 02 55 19.5 -0.1
BOVS Bovan 152.37 97 ⇓P **PKPbc** 02 55 19.6 -0.4
VRAC Vranov 152.50 83 *e*PKP **PKPbc** 02 55 20.2 +0.1
VTS Vitosha 152.61 101 PKPdf **PKPdf** 02 55 12.9 -0.8
VTS Vitosha 152.61 101 PKIKP **PKPdf** 02 55 12.9 -0.8
UPC Upice 152.72 80 AMS AMS 03 59 20.0
comp=Z,200nm,20.1s
CHVC Chvalec 152.79 80 AMS AMS 03 50 40.0
comp=Z,300nm,30.1s
DPC Dobruska-Polom 152.83 81 *ep*PKP **PKPab** 02 55 27.2 -4.8
DPC AMS AMS 03 51 10.0
comp=Z,400nm,39.2s
OSTC Ostas 152.86 80 *e*PKPAB **PKPab** 02 55 27.9 -4.2
OSTC AMS AMS 03 51 30.0
comp=Z,300nm,18.0s
JAVC Velka Javorina 152.91 84 *e*PKP **PKPbc** 02 55 20.5 -0.6
KRLC Kraliky 152.97 82 AMS AMS 04 02 40.0
comp=Z,200nm,22.5s
MAUC Maruska 153.24 84 AMS AMS 04 01 30.0
comp=Z,600nm,23.6s
MORC Moravsky Berou 153.27 83 *e*PKP **PKiKP** 02 55 22.3 +0.4
NB2 NORSAR Subarra 153.37 56 PKPdf **PKPbc** 02 55 20.3 -1.4
comp=Z,25nm,1.7s,baz=261,slow=1.5
NB2 NORSAR Subarra 153.37 56 PKPdf **PKPbc** 02 55 20.3 -1.4
baz=261,slow=1.5
NOA NORSAR Array B 153.37 56 PKPbc **PKPbc** 02 55 20.4 -1.3
comp=Z,0.8nm,0.9s,baz=265,slow=2.0,SNR=2.9
VYHS Vyhne 153.40 86 *e*PKIKP **PKPbc** 02 55 20.4 -1.7
VYHS Vyhne 153.40 86 *e*PKP **PKPbc** 02 55 20.4 -1.7
OKC Ostrava-Krasne 153.65 83 AMS AMS 04 01 20.0
comp=Z,200nm,15.4s
ZAK Zakamensk 154.24 278 *e*PKIKP **PKiKP** 02 55 25.1 +1.1
ZAK pmax pmax
comp=Z,10.0nm,1.6s
CRVS Cervenica-Dubn 155.12 87 *e*PKIKP PKPdf 02 55 27.9 +11
CRVS Cervenica-Dubn 155.12 87 *e*PKP PKPdf 02 55 27.9 +11
CRVS *e* 02 55 45.1
UZH Uzhgorod 155.47 88⇑ *e*PKIKP **PKPdf** 02 55 23.0 +5.7
UZH *e* 02 55 25.6
DOPR Dopca 155.86 97 ⇓P PKPdf 02 55 27.0 +9.0
MLR Muntele Rosu 155.91 98 PKPdf **PKPdf** 02 55 18.1 -0.1
MLR Muntele Rosu 155.91 98 PKIKP **PKPdf** 02 55 18.1 -0.1
BR131 Keskin Array S 156.30 118 PKPdf **PKPdf** 02 55 17.9 -1.1
BR131 Keskin Array S 156.30 118 PKIKP **PKPdf** 02 55 17.9 -1.1
BRTR Keskin Array B 156.30 118 PKPbc PKPdf 02 55 27.8 +8.8
comp=Z,0.4nm,0.4s,baz=217,slow=3.9,SNR=5.6
BRTR PKPab **PKPab** 02 55 47.2 +0.1
comp=Z,2.0nm,0.9s,baz=185,slow=5.8,SNR=8.5
BRTR Keskin Array B 156.30 118 PKPdf **PKPdf** 02 55 18.7 -0.3
BRTR Keskin Array B 156.30 118 PKIKP **PKPdf** 02 55 18.7 -0.3
WMQ Urumqi 159.58 249 *e*PKP **PKPdf** 02 55 22.7 0.0
WMQ LR LR
comp=Z,300nm,17.7s
WMQ LR LR
comp=Z,230nm,20.1s
AKASG Malin Array Be 160.42 89 PKP **PKPdf** 02 55 23.3 0.0
comp=Z,0.4nm,0.4s,baz=253,slow=3.1,SNR=2.8
GAR Garm 163.03 206 PKPdf **PKPdf** 02 55 24.6 -2.0
GEYT Alibeck 163.05 172 PKPab **PKPab** 02 56 16.2 -0.1
comp=Z,1.2nm,0.3s,baz=230,slow=5.4,SNR=2.4
BTNK Botanikuri 163.09 134 P **PKPab** 02 56 11.1 -5.4
MK31 Makanchi Array 164.41 248 PKPab **PKPab** 02 56 21.1 -1.1
MK31 Makanchi Array 164.41 248 PKP2 **PKPab** 02 56 21.1 -1.1
MKAR Makanchi Array 164.41 248 PKP **PKPdf** 02 55 28.8 +1.3
comp=Z,0.6nm,0.8s,baz=144,slow=4.5,SNR=4.3
MKAR PKPab **PKPab** 02 56 21.6 -0.6
comp=Z,3.1nm,1.0s,baz=123,slow=4.5,SNR=11
MKAR PP **PP** 03 00 08.2 -0.6
comp=Z,1.4nm,0.8s,baz=119,slow=7.1,SNR=6.7
MKAR Makanchi Array 164.41 248 PKPab **PKPab** 02 56 21.1 -1.1
MAKZ Makanchi 164.58 248 **PKPab** 02 56 21.0 -2.0
MAKZ Makanchi 164.58 248 ⇑PKP2 **PKPab** 02 56 22.4 -0.6
ZALV Zalesovo Beam 166.11 276 PKP **PKPdf** 02 55 29.3 +0.6
comp=Z,0.5nm,0.4s,baz=171,slow=3.9,SNR=1.5
ZALV PKPab **PKPab** 02 56 29.2 -0.2
comp=Z,0.6nm,0.4s,baz=83,slow=6.0,SNR=1.8
KKAR Karatay Array 166.79 212 PKPdf **PKPdf** 02 55 28.1 -1.5
KKAR PKPab **PKPab** 02 56 31.3 -1.4
KKAR Karatay Array 166.79 212 PKIKP **PKPdf** 02 55 28.1 -1.5
KKAR 02 56 31.3
KURK Kurchatov 168.59 256 PKPab **PKPab** 02 56 38.0 -2.5
KURK Kurchatov 168.59 256 PKP2 **PKPab** 02 56 38.0 -2.5
BRVK Borovoye 174.26 257 PKPdf **PKPdf** 02 55 32.3 -1.0
BRVK PKPab **PKPab** 02 57 04.4 -1.2
BRVK Borovoye 174.26 257 PKP2 **PKPab** 02 57 04.4 -1.2
BRVK 03 55 32.3

IDC ***05*** *02:46:29.6±0.8, 17°.21S×66°.86E, h0km, mb4.2/16, mbtmp4.2/16, MS4.3/35, Error ellipse: s-maj=26.1km s-min=18.3km az=45.0*

GCMT ***05*** *02:46:35.0±0.2, 17°.15S±0°.01×66°.49E±0°.01, h12km, MW5.1/122, Moment Tensor Solution. s41,c47; s122,c189; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43±.12; $M_{\theta\theta}$-3.88±.10; $M_{\phi\phi}$4.31±.11; $M_{r\theta}$-0.20±.30; $M_{\theta\phi}$2.15±.10; $M_{\phi r}$-1.73±.31; Best double couple: M_o4.89000×10^{16} NP1:ϕ_s148.00000°, δ81.00000°, λ166.00000°. NP2:ϕ_s240.00000°, δ76.00000°, λ9.00000°. Principal axes: T 5.3560, Plg17.0000°, Azm103.0000°; N -0.9330, Plg73.0000°, Azm296.0000°; P -4.4240, Plg3.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 05 02:46:30.4±0.6, 17.4S±0.1×66.7E±0.1, h10km, n67, σ1.1§53/29, mb4.3/18, MS4.4/35, 6C, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**11.20**	**31**	T	T	03 00 24.0	
	baz=210,slow=75,SNR=9156						
H08S2	**Diego Garcia H**	**11.21**	**31**	T	T	03 00 33.1	
	baz=210,slow=75,SNR=3171						
H08S3	**Diego Garcia H**	**11.22**	**31**	T	T	03 00 25.6	
	baz=210,slow=75,SNR=9894						
OPO	**Ambohidratompo**	**18.60**	**263**	P	**P**	**02 50 47.0**	**-1.2**
	1.5nm,0.5s,baz=94,slow=15,SNR=1.7						
PALK	**Pallekele**	**28.14**	**31**	LR	LR	03 01 21.5	
	comp=Z,467nm,18.7s,baz=314,slow=32						
KMBO	**Kilima Mbogo**	**33.16**	**296**	LR	LR	03 04 35.8	

comp=Z,796nm,18.1s,baz=97,slow=33
LSZ Lusaka 36.98 268 P **P** 02 53 38.0 -2.4
0.9nm,0.2s,baz=162,slow=3.2,SNR=1.3
LSZ LR LR 03 07 01.4
comp=Z,332nm,19.6s,baz=123,slow=33
ATD Arta Tunnel 37.16 319 LR LR 03 06 12.3
comp=Z,410nm,21.6s,baz=157,slow=32
PSI Prapat 37.59 61 LR LR 03 06 34.7
comp=Z,329nm,18.9s,baz=222,slow=32
LBTB Lobatse 38.95 252 P P 02 53 51.5 -5.5
7.4nm,0.9s,baz=59,slow=18,SNR=4.5
MBAR Mbarara 39.11 291 LR LR 03 08 09.2
comp=Z,962nm,18.2s,baz=107,slow=33
WSAR Wadi Sarin 41.14 349 LR LR 03 09 02.3
comp=Z,104nm,18.1s,baz=184,slow=33
LEM Lembang 41.27 80 LR LR 03 08 16.5
comp=Z,613nm,19.9s,baz=189,slow=32
H01W3 Cape Leeuwin H 45.56 122 T T 03 43 38.5
baz=280,slow=75,SNR=5274
H01W2 Cape Leeuwin H 45.57 122 T T 03 43 39.1
baz=280,slow=75,SNR=5946
H01W1 Cape Leeuwin H 45.58 122 T T 03 43 39.0
baz=280,slow=75,SNR=5863
BRDH Bariadhala 46.70 32 LR LR 03 14 50.3
comp=Z,317nm,18.2s,baz=355,slow=37
CMAR Chiang Mai Arr 47.69 43 P **P** **02 55 06.3 -1.1**
1.0nm,0.3s,baz=237,slow=9.4,SNR=10.0
CMAR LR LR 03 12 23.2
comp=Z,150nm,19.9s,baz=230,slow=33
1.0nm,0.3s
NWAO Narrogin (SRO) 47.84 119 LR LR 03 12 08.9
comp=Z,528nm,19.2s,baz=84,slow=32
MAW Mawson 50.25 182 P **P** **02 55 27.0 +0.6**
2.2nm,0.8s,baz=288,slow=12,SNR=5.0
2.2nm,0.8s
GEYT Alibeck 55.61 352 LR LR 03 18 16.8
comp=Z,91nm,18.4s,baz=161,slow=34
EIL Elat 55.92 326 LR LR 03 16 33.9
comp=Z,303nm,20.0s,baz=142,slow=32
AAK Ala-Archa 60.15 7 LR LR 03 20 32.4
comp=Z,334nm,21.9s,baz=204,slow=34
GNI Garni 60.79 341 LR LR 03 22 12.5
comp=Z,102nm,19.8s,baz=222,slow=35
ASAR Alice Springs 62.76 108 P **P** **02 56 57.0 +0.7**
2.2nm,0.6s,baz=271,slow=5.8,SNR=30
ASAR LR LR 03 21 24.3
comp=Z,1μm,18.6s,baz=268,slow=33
2.2nm,0.6s
WRA Warramunga Arr 63.74 104 P **P** **02 57 03.5 +0.7**
2.6nm,0.7s,baz=266,slow=6.0,SNR=28
2.6nm,0.7s
KBZ Khabaz 64.61 341 LR LR 03 26 11.3
comp=Z,74nm,18.3s,baz=164,slow=37
BRTR Keskin Array B 64.65 332 P **P** **02 57 09.1 +0.5**
0.9nm,0.8s,baz=140,slow=6.3,SNR=2.1
0.9nm,0.8s
MKAR Makanchi Array 65.41 12 P **P** **02 57 11.7 -1.5**
1.9nm,0.9s,baz=203,slow=7.0,SNR=4.6
MKAR LR LR 03 25 05.4
comp=Z,137nm,19.4s,baz=226,slow=36
1.9nm,0.9s
TROLL Troll, Antarti 65.70 198 P **P** **02 57 13.0 -1.9**
SNAA Sanae 67.21 199 P **P** **02 57 24.9 +0.4**
SNAA Sanae 67.21 199 LR LR 03 20 27.8
comp=Z,252nm,20.5s,baz=84,slow=30
AKTO Aktyubinsk 67.96 354 LR LR 03 26 19.0
comp=Z,92nm,18.8s,baz=117,slow=35
STKA Stephens Creek 68.42 118 P **P** **02 57 33.1 +0.3**
0.7nm,0.2s,baz=264,slow=9.2,SNR=1.9
0.7nm,0.2s
VNA2 Neumayer--Watz 68.50 200 P P 02 57 23.2 -9.4
baz=84,slow=6.0
KURBB Kurchatov Arra 68.51 8 LR LR 03 25 47.3
comp=Z,285nm,19.1s,baz=164,slow=34
VNA3 Neumayer Olymp 69.28 200 P P 02 57 32.7 -4.7
BVAR Borovoye Array 70.19 2 LR LR 03 26 09.0
comp=Z,143nm,21.7s,baz=182,slow=34
TORD Torodi Ar. Bea 70.98 291 P **P** **02 57 50.6 +1.9**
1.7nm,1.0s,baz=91,slow=2.5,SNR=4.4
1.7nm,1.0s
BELG Belogornoye 71.44 348 LR LR 03 28 00.9
comp=Z,92nm,18.9s,baz=129,slow=35
VTS Vitosha 71.87 328 ⇑P **P** **02 57 55.7 +1.9**
VRI Vrincioaia 72.61 332 ⇑P **P** **02 57 57.3 -0.6**
PLOR Plostina 72.64 332 ⇑P **P** **02 57 59.1 +1.0**
QSPA South Pole Qui 72.71 180 LR LR 03 25 03.1
comp=Z,227nm,21.9s,baz=278,slow=32
ZALV Zalesovo Beam 72.73 11 P **P** **02 57 57.3 -1.1**
2.2nm,0.6s,baz=201,slow=5.9,SNR=6.5
ZALV LR LR 03 27 42.4
comp=Z,170nm,21.0s,baz=209,slow=34
2.2nm,0.6s
ARR Arges 73.20 330 ⇑P **P** **02 58 01.5 0.0**
SONM Songino Array 74.00 27 P **P** **02 58 05.9 -0.3**
2.3nm,0.8s,baz=215,slow=6.3,SNR=6.0
2.3nm,0.8s
GZR Gura Zlata 74.11 329 ⇑P **P** **02 58 11.2 +4.4**
VNDA Vanda 74.26 167 LR LR 03 27 25.3
comp=Z,196nm,18.6s,baz=259,slow=33
DBIC Dimbokro 74.59 282 LR LR 03 29 33.2
comp=Z,390nm,20.0s,baz=178,slow=35
BZS Buzias 74.83 329 ⇑P **P** **02 58 13.6 +2.7**
AKASG Malin Array Be 75.36 336 P **P** **02 58 13.9 0.0**
1.5nm,0.7s,baz=137,slow=4.9,SNR=10
1.5nm,0.7s
KIRV Kirov 77.02 351 LR LR 03 32 01.6
comp=Z,140nm,19.9s,baz=166,slow=36
KSRS Korea Array 79.28 45 P **P** **02 58 34.4 -1.8**
0.5nm,0.3s,baz=243,slow=7.4,SNR=1.8
KSRS LR LR 03 31 26.6
comp=Z,77nm,20.8s,baz=100,slow=34
0.5nm,0.3s
USRK Ussuriysk Ar. 85.37 41 P **P** **02 59 07.3 -0.6**
1.0nm,0.7s,baz=230,slow=8.9,SNR=3.5
1.0nm,0.7s
JCJ Chichijima 85.48 60 LR LR 03 32 20.6
comp=Z,158nm,21.3s,baz=118,slow=32
MJAR Matsushiro Ant 86.11 50 P **P** **02 59 12.2 +0.4**
1.5nm,0.6s,baz=232,slow=4.5,SNR=5.3
1.5nm,0.6s
ESDC Sonseca Array 86.84 313 P **P** **02 59 17.1 +1.7**
0.9nm,1.0s,baz=128,slow=3.4,SNR=4.3
0.9nm,1.0s
BBTS Babate 88.04 286 LR LR 03 37 40.8
comp=Z,428nm,18.0s,baz=206,slow=35
RPZ Rata Peaks 88.11 135 LR LR 03 31 10.9
comp=Z,158nm,18.4s,baz=263,slow=30
PMSA Palmer Station 89.93 199 LR LR 03 30 00.8
comp=Z,154nm,21.8s,baz=100,slow=29
ARCES ARCESS Array B 91.45 347 P **P** **02 59 37.0 +0.6**
1.5nm,0.9s,baz=145,slow=5.0,SNR=6.0
1.5nm,0.9s
DZM Mont Dzumac 92.23 114 LR LR 03 38 42.5
comp=Z,426nm,20.1s,baz=227,slow=34
URZ Urewera 94.53 132 LR LR 03 34 46.5
comp=Z,142nm,19.0s,baz=275,slow=31
PDAR Pinedale Array 154.50 354 PKPbc **PKiKP** **03 06 32.5 +0.6**
0.5nm,0.8s,baz=48,slow=1.3,SNR=4.1
NVAR Mina Array Bea 158.58 11 PKPab **PKPab** **03 07 04.4 +0.7**
0.8nm,0.8s,baz=311,slow=1.9,SNR=4.7
TXAR Lajitas Array 165.19 325 PKPab **PKPab** **03 07 33.3 +0.5**
0.3nm,0.9s,baz=41,slow=2.9,SNR=2.0

ROM 05 02:52:33.4±0.1, 42.767N±0.005×13.202E±0.007, h11km, ML1.0/4.2D, Error ellipse: s-maj=0.6km s-min=0.6km az=318.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.06**	**2**	P	Pg	02 52 36.3	+0.4
T1242				S	Sg	02 52 37.4	-0.2
T1242				AML	AML		
	comp=N,175μm,0.5s						
T1242				AML	AML		
	comp=E,172μm,0.3s						
T1242				AML	AML		
	comp=N,185μm,0.4s						
T1202	**Accumoli, Fraz**	**0.07**	**165**	P	Pg	02 52 36.3	+0.5
T1202				S	Sg	02 52 38.1	+0.5
NRCA	**Norcia**	**0.09**	**316**	P	Pg	02 52 36.6	+0.5
NRCA				S	Sg	02 52 38.8	+0.7
NRCA				AML	AML		
	comp=E,620μm,0.1s						
NRCA				AML	AML		
	comp=N,524μm,0.6s						
T1204	**Amatrice, Fraz**	**0.12**	**137**	P	Pg	02 52 37.1	+0.5
T1204				S	Sg	02 52 39.4	+0.5
T1241	**Roccafluvione,**	**0.19**	**62**	P	Pg	02 52 38.0	+0.5
T1241				S	Sg	02 52 41.0	+0.6
T1241				AML	AML		
	comp=N,38μm,0.8s						
T1241				AML	AML		
	comp=E,40μm,0.2s						
T1243	**Rocca Santa Ma**	**0.20**	**111**	P	Pg	02 52 38.2	+0.6
T1243				S	Sg	02 52 41.5	+1.0
LNSS	**Leonessa**	**0.20**	**216**	P	Pg	02 52 37.9	+0.2
LNSS				S	Sg	02 52 41.4	+0.7
T1215	**Vallo di Nera,**	**0.25**	**278**	S	Sg	02 52 40.0	-2.0
FDMO	**Fiordimonte**	**0.28**	**343**	⇓P	Pg	02 52 38.6	-0.5
FDMO				AML	AML		
	comp=N,34μm,0.8s						
FDMO				AML	AML		
	comp=E,22μm,0.1s						
CSP1	**Cessapalombo**	**0.33**	**0**	⇓P	Pg	02 52 39.5	-0.4
TERO	**Teramo**	**0.33**	**116**	P	Pg	02 52 38.5	-1.5
MMUR	**Monte Murano**	**0.69**	**348**	P	Pb	02 52 47.2	-0.3

*TIF **05** 02:55:59.2, 41.07N×43.65E, h17km±1km*
DDA 05 02:56:01.4±0.0, 41.03N×43.47E, h7km±4km, ML2.0, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGD	**Bogdanovka**	**0.25**	**22**	P	Pg	02 56 04.7	-1.7
BGD				S	Sg	02 56 08.2	-1.6
BGD	**Bogdanovka**	**0.25**	**22**	P	Pg	02 56 04.8	-1.7
BGD				S	Sg	02 56 08.0	-1.8
AZMN	**Azmana**	**0.32**	**334**	P	Pg	02 56 05.6	-2.1
AZMN				S	Sg	02 56 11.2	-0.7
AZMN	**Azmana**	**0.32**	**334**	P	Pg	02 56 05.7	-2.0
AZMN				S	Sg	02 56 11.4	-0.5
EAK	**Akyaka**	**0.36**	**164**	P	Pg	02 56 07.4	-1.1
EAK				*i* AML	AML	02 56 13.0	
	comp=N,235nm,0.2s						
EAK				*i* AML	AML	02 56 13.0	
	comp=E,362nm,0.3s						
EAK				S	Sg	02 56 13.6	+0.3
AKH	**Akhalkalaki**	**0.38**	**2**	P	Pg	02 56 07.3	-1.5
AKH				S	Sg	02 56 12.3	-1.5
AKH	**Akhalkalaki**	**0.38**	**2**	P	Pg	02 56 07.3	-1.5
AKH				S	Sg	02 56 11.9	-1.9
AKH	**Akhalkalaki**	**0.38**	**2**	PKP2	Pg	02 56 07.3	-1.5
DMNI	**Dmanisi**	**0.62**	**61**	P	Pg	02 56 09.0	-4.3
DMNI				S	Sg	02 56 15.2	-6.2
DMNI	**Dmanisi**	**0.62**	**61**	P	Pg	02 56 09.0	-4.3
DMNI				S	Sg	02 56 15.1	-6.2
DIGO	**Kars**	**0.62**	**187**	P	Pg	02 56 13.5	+0.1
DIGO				S	Sb	02 56 23.3	-0.5
DIGO				*i* AML	AML	02 56 24.0	
	comp=E,63nm,0.3s						
DIGO				*i* AML	AML	02 56 25.0	
	comp=N,69nm,0.4s						
BRNG	**Burnasheti**	**0.65**	**24**	P	Pg	02 56 11.1	-2.8
BRNG				S	Sg	02 56 19.0	-3.3
BRNG	**Burnasheti**	**0.65**	**24**	P	Pg	02 56 11.0	-2.9
BRNG				S	Sg	02 56 19.2	-3.2
EPOS	**Posof**	**0.73**	**310**	P	Pg	02 56 15.5	0.0
EPOS				S	Sb	02 56 27.0	+0.1
EPOS				*i* AML	AML	02 56 27.0	
	comp=N,65nm,0.3s						
ABS	**Abastumani**	**0.88**	**326**	P	Pg	02 56 14.2	-4.1
ABS				S	Sg	02 56 27.0	-2.7
ABS	**Abastumani**	**0.88**	**326**	P	Pg	02 56 14.1	-4.2
ABS				S	Sg	02 56 27.1	-2.6
ALIG	**Mtskhetisjvari**	**1.08**	**7**	P	Pg	02 56 19.3	-2.8
ALIG				S	Sg	02 56 33.7	-2.4
ALIG	**Mtskhetisjvari**	**1.08**	**7**	P	Pg	02 56 19.2	-2.9
ALIG				S	Sg	02 56 33.0	-3.1
BTNK	**Botanikuri**	**1.19**	**56**	S	Pg	02 56 25.6	+1.4
TKB	**Tkibuli**	**1.36**	**345**	P	Pn	02 56 25.7	-1.2
TKB				S	Sb	02 56 44.0	-1.0
PNSH	**Pansheti**	**1.81**	**28**	P	Pn	02 56 32.1	-1.1
PNSH				S	Sn	02 56 54.4	-2.2

*IDC **05** 03:06:44.9±1.4, 11.72N×87.26W, h0km, mb3.8/6, mbtmp3.8/7, ML3.5/1, MS4.4/4, Error ellipse: s-maj=52.0km s-min=20.2km az=38.0*
*INET **05** 03:06:49.0±0.4, 11.57N×87.45W, h23km, MW3.7*
*UCR **05** 03:06:49.5±1.6, 11.62N×87.44W, h36km±19km, ML3.7, MW3.9, mb4.3(NEIC)*
*SNET **05** 03:06:50.8±1.3, 11.79N×87.58W, h13km±11km, ML3.7*
*NEIC **05** 03:06:50.3±1.4, 11.65N±0.07×87.37W±0.07, h36km±12km, mb4.3/46, Error ellipse: s-maj=11.4km s-min=7.5km az=225.0*
ISC 05 03:06:49.7±0.6, 11.61N±0.05×87.42W±0.06, h37km, n112, σ0s82/116, mb4.3/26, MS4.4/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.99**	**55**	*e*P	**Pn**	**03 07 07.1**	**0.0**
CRIN	**San Cristobal**	**1.14**	**18**		**Pn**	**03 07 09.5**	**+0.3**
MOMN	**Momotombo**	**1.17**	**47**	*e*P	**Pn**	**03 07 09.4**	**-0.1**
TISN	**Laguna Tiscapa**	**1.24**	**65**	*e*P	**Pn**	**03 07 10.3**	**-0.2**
MGAN	**Managua**	**1.27**	**65**	*e*P	**Pn**	**03 07 10.6**	**-0.2**
WILN	**Americas 2**	**1.32**	**66**	*e*P	**Pn**	**03 07 11.5**	**-0.2**
CSGN	**Cosiguina Volc**	**1.36**	**354**	*e*P	**Pn**	**03 07 12.0**	**-0.3**
HUEN		**1.42**	**59**	*e*P	**Pn**	**03 07 13.0**	**0.0**
BRAN	**Las Pilas**	**1.52**	**43**	*e*P	Pn	03 07 09.7	-4.6
CNCH	**Conchagua**	**1.70**	**346**	*e*P	**Pn**	**03 07 16.7**	**-0.3**
CNCH				*e*S	**Sn**	**03 07 38.3**	**+0.7**
CNCH				IAML		03 07 39.6	
	comp=Z,1μm,0.5s						
CNCH	**Conchagua**	**1.70**	**346**	*e*P	**Pn**	**03 07 16.7**	**-0.3**
CNCH				*e*S	**Sn**	**03 07 38.3**	**+0.7**
CNCH				IAML		03 07 39.6	
	comp=Z,1μm,0.5s						
BOAB	**BOACO BROADBAN**	**1.91**	**64**		**Pn**	**03 07 18.7**	**-0.9**
MATN	**Matagalpa**	**1.96**	**48**	Pn	**Pn**	**03 07 20.1**	**-0.4**
MATN	**Matagalpa**	**1.96**	**48**	*e*P	**Pn**	**03 07 20.4**	**-0.1**
HZTE	**Horizontes, Gu**	**2.00**	**116**	Pn	**Pn**	**03 07 19.9**	**-1.1**
PACA	**Pacayal**	**2.04**	**335**	*e*P	**Pn**	**03 07 21.8**	**+0.1**
PACA				*e*S	**Sn**	**03 07 45.9**	**-0.1**
PACA				IAML		03 08 00.8	
	comp=Z,4μm,0.3s						
PACA	**Pacayal**	**2.04**	**335**	*e*P	**Pn**	**03 07 21.8**	**+0.1**
PACA				*e*S	**Sn**	**03 07 45.9**	**-0.1**
PACA				IAML		03 08 00.8	
	comp=Z,4μm,0.3s						
GBS3	**Finca Las Img**	**2.10**	**113**	*e*P	**Pn**	**03 07 22.1**	**-0.3**
LAPC	**Finca la Perla**	**2.12**	**113**	*e*P	**Pn**	**03 07 23.4**	**+0.7**
BUEV	**Buena Vista**	**2.13**	**112**	*e*P	**Pn**	**03 07 22.4**	**-0.5**
GB1A	**Borinquen Arri**	**2.13**	**111**	*e*P	**Pn**	**03 07 22.4**	**-0.5**
COEB	**Comit de Eme**	**2.17**	**330**	*e*P	**Pn**	**03 07 24.1**	**+0.7**
COEB				IAML		03 07 53.4	
	comp=Z,163nm,0.3s						
COEB	**Comit de Eme**	**2.17**	**330**	*e*P	**Pn**	**03 07 24.1**	**+0.7**
COEB				IAML		03 07 53.4	
	comp=Z,163nm,0.3s						
ACON	**Acoyapa**	**2.23**	**81**		**Pn**	**03 07 23.2**	**-0.9**
ORTG	**Ortega, Santa**	**2.29**	**123**	Pn	**Pn**	**03 07 23.4**	**-1.7**
CUI	**Cuipilapa**	**2.41**	**113**	*e*P	**Pn**	**03 07 27.2**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.43**	**3**		**Pn**	**03 07 27.4**	**+0.3**
TGUH	**Tegucigalpa,Un**	**2.43**	**3**	*e*P	**Pn**	**03 07 27.8**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.43**	**3**	*e*P	**Pn**	**03 07 27.8**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.43**	**3**	*e*P	**Pn**	**03 07 27.5**	**+0.5**
SCLA	**Alcaldia de Sa**	**2.44**	**329**	*e*P	**Pn**	**03 07 27.0**	**-0.1**
SCLA				*e*S	**Sn**	**03 07 55.0**	**-0.6**
SCLA	**Alcaldia de Sa**	**2.44**	**329**	*e*P	**Pn**	**03 07 27.0**	**-0.1**
SCLA				*e*S	**Sn**	**03 07 55.0**	**-0.6**
COEG	**Centro de Oper**	**2.45**	**325**	*e*P	**Pn**	**03 07 27.6**	**+0.4**
COEG				*e*S	**Sn**	**03 07 56.1**	**+0.1**
COEG				IAML		03 08 06.0	
	comp=Z,212nm,0.3s						
COEG	**Centro de Oper**	**2.45**	**325**	*e*P	**Pn**	**03 07 27.6**	**+0.4**
COEG				*e*S	**Sn**	**03 07 56.1**	**+0.1**
COEG				IAML		03 08 06.0	
	comp=Z,212nm,0.3s						
ACAL	**Aguas Claras**	**2.54**	**112**	*e*P	**Pn**	**03 07 29.0**	**+0.6**
LFRS	**El Faro**	**2.56**	**321**	*e*P	**Pn**	**03 07 28.5**	**-0.2**
LFRS				IAML		03 08 01.6	
	comp=Z,883nm,0.3s						
LFRS	**El Faro**	**2.56**	**321**	*e*P	**Pn**	**03 07 28.5**	**-0.2**
LFRS				IAML		03 08 01.6	
	comp=Z,883nm,0.3s						
SNET	**Serv Nac Est T**	**2.72**	**320**	Pn	**Pn**	**03 07 31.2**	**+0.3**
JTS	**Las Juntas de**	**2.76**	**118**		**Pn**	**03 07 31.4**	**+0.1**
COVE	**Coope Vega, Sa**	**3.09**	**106**	Pn	**Pn**	**03 07 34.0**	**-2.0**
JACO	**JACO, Garabito**	**3.33**	**125**		**Pn**	**03 07 39.1**	**-0.2**
MTO3	**Montecristo**	**3.35**	**326**	Pn	**Pn**	**03 07 39.2**	**-0.6**
LCR2	**La Lucha 2**	**3.84**	**119**	*e*P	**Pn**	**03 07 47.2**	**+0.8**
RIMA	**Rio Macho**	**3.95**	**117**		**Pn**	**03 07 49.5**	**+1.5**
CDM	**Cerro de Muert**	**4.14**	**119**	*e*P	**Pn**	**03 07 52.3**	**+1.5**
MRVA	**Moravia de Chi**	**4.29**	**114**	*e*P	**Pn**	**03 07 54.8**	**+2.1**
PEZE	**Perez Zeledon,**	**4.30**	**121**	Pn	**Pn**	**03 07 52.9**	**+0.3**
SRBA	**San Rafael, Bu**	**4.64**	**120**	Pn	**Pn**	**03 07 57.8**	**+0.4**
DRK0	**Durika**	**4.72**	**119**	Pn	**Pn**	**03 07 59.8**	**+1.2**
CDITO	**Canoas**	**5.40**	**124**	Pn	**Pn**	**03 08 06.2**	**-1.6**
BRU2	**Volcan**	**5.43**	**121**	Pn	**Pn**	**03 08 08.0**	**-0.3**
CMIG	**Matias Romero**	**9.05**	**308**	Pn	**Pn**	**03 08 58.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=112,slow=14,SNR=6.6						
CMIG				Sn	**Sn**	**03 10 36.4**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=354,slow=22,SNR=1.2						
	comp=Z,1.0nm,0.3s						
HATO	**Hato, Curacao**	**18.08**	**86**		**Pn**	**03 10 59.3**	**+1.2**
344A	**Westbrook Farm**	**19.98**	**352**	P	**P**	**03 11 18.5**	**-0.4**
344A				IAmb	IAmb	03 11 21.6	
	comp=Z,12nm,0.8s						
833A	**Chaparral WMA,**	**20.05**	**328**	P	**P**	**03 11 19.8**	**+0.1**
833A				IAmb	IAmb	03 11 20.9	
	comp=Z,10nm,0.8s						
BIRV	**Birongo**	**20.79**	**91**	P	**P**	**03 11 25.0**	**-2.9**
BIRV				IAmb	IAmb	03 11 30.3	
	comp=Z,12nm,1.0s						
152A	**Waverly Hall**	**21.10**	**6**	P	**P**	**03 11 31.3**	**+0.2**
LRAL	**Lakeview Retre**	**21.33**	**1**	P	**P**	**03 11 35.1**	**+1.6**
GOGA	**Godfrey**	**22.00**	**9**	P	**P**	**03 11 41.4**	**+0.7**
GOGA				IAmb	IAmb	03 11 43.4	
	comp=Z,8.0nm,0.8s						
Y49A	**Blount Mountai**	**22.16**	**2**	P	**P**	**03 11 43.0**	**+0.6**
Y49A				IAmb	IAmb	03 11 43.7	
	comp=Z,6.9nm,0.5s						
PCRV	**Puerto La Cruz**	**22.42**	**91**	P	**P**	**03 11 45.0**	**-0.4**
	comp=Z,7.6nm,0.8s,baz=350,slow=9.2,SNR=1.9						
	comp=Z,7.6nm,0.8s						
Z38A	**Mt. Pleasant**	**22.64**	**343**	P	**P**	**03 11 48.5**	**+1.0**
Z38A				IAmb	IAmb	03 11 50.3	
	comp=Z,11nm,0.8s						
X48A	**Hartselle**	**22.74**	**1**	P	**P**	**03 11 48.0**	**-0.6**
X48A				IAmb	IAmb	03 12 13.0	
	comp=Z,14nm,1.5s						
HODGE	**Hodges**	**23.00**	**11**	P	**P**	**03 11 51.3**	**-0.1**
HODGE				IAmb	IAmb	03 12 26.7	
	comp=Z,14nm,1.4s						
TXAR	**Lajitas Array**	**23.24**	**322**	P	**P**	**03 11 53.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=133,slow=10.0,SNR=20						
	comp=Z,1.2nm,0.6s						
TX31	**Lajitas Ar. Si**	**23.24**	**322**	P	**P**	**03 11 53.4**	**-0.5**
TX31				IAmb	IAmb	03 11 55.8	
	comp=Z,6.5nm,0.8s						
TX32	**Lajitas Array**	**23.24**	**322**	P	**P**	**03 11 53.2**	**-0.7**
MIAR	**Mount Ida**	**23.51**	**347**	P	**P**	**03 11 55.0**	**-1.3**
W50A	**Signal Mountai**	**23.56**	**4**	P	**P**	**03 11 57.0**	**+0.2**
W50A				IAmb	IAmb	03 12 09.8	
	comp=Z,7.1nm,0.8s						
W52A	**Murphy**	**23.59**	**7**	P	**P**	**03 11 57.1**	**-0.1**
W52A				IAmb	IAmb	03 11 58.7	
	comp=Z,9.4nm,0.8s						
BG3	**Lake Jocassee**	**23.63**	**9**	P	**P**	**03 11 58.2**	**+0.7**
BG3				IAmb	IAmb	03 12 04.5	
	comp=Z,14nm,1.4s						
CPCT	**Cooper Cave**	**23.88**	**6**	P	**P**	**03 11 59.7**	**-0.1**
CPCT				IAmb	IAmb	03 12 01.4	
	comp=Z,7.0nm,1.0s						
WHAR	**Wooly Hollow**	**23.98**	**350**	P	**P**	**03 12 01.0**	**+0.2**
X37A	**Clayton**	**23.99**	**344**	P	**P**	**03 12 01.3**	**+0.4**
X37A				IAmb	IAmb	03 12 03.2	
	comp=Z,12nm,0.9s						
LOOK	**Love County**	**24.00**	**340**	P	**P**	**03 12 01.5**	**+0.6**
LOOK				IAmb	IAmb	03 12 04.9	
	comp=Z,14nm,1.0s						
TKL	**Tuckaleechee C**	**24.17**	**7**	P	**P**	**03 12 02.2**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=184,slow=13,SNR=6.1						
	comp=Z,3.2nm,0.6s						
TKL	**Tuckaleechee C**	**24.17**	**7**	P	**P**	**03 12 02.6**	**+0.1**
TKL				IAmb	IAmb	03 12 23.6	
	comp=Z,13nm,1.4s						
V53A	**Saluda**	**24.31**	**9**	P	**P**	**03 12 04.1**	**+0.2**
V53A				IAmb	IAmb	03 12 16.4	
	comp=Z,17nm,1.5s						
CLTN	**Cedars of Leba**	**24.39**	**2**	P	**P**	**03 12 04.6**	**+0.1**
CLTN				IAmb	IAmb	03 12 06.1	
	comp=Z,7.4nm,0.7s						
FCAR	**Ozark Folk Cen**	**24.54**	**351**	P	**P**	**03 12 05.3**	**-0.6**
LCAR	**Lake Charles**	**24.58**	**353**	P	**P**	**03 12 05.2**	**-1.1**
LCAR				IAmb	IAmb	03 12 06.2	
	comp=Z,4.7nm,0.8s						
U49A	**Red Boiling Sp**	**24.84**	**3**	P	**P**	**03 12 07.9**	**-0.7**
TZTN	**Tazewell**	**25.07**	**7**	P	**P**	**03 12 09.7**	**-1.0**
HHAR	**Hobbs**	**25.26**	**348**	P	**P**	**03 12 12.0**	**-0.5**
T47A	**Sharon Grove**	**25.27**	**1**	P	**P**	**03 12 12.2**	**-0.3**
T47A				IAmb	IAmb	03 12 13.8	
	comp=Z,9.6nm,1.0s						
TUL1	**Leonard**	**25.35**	**344**	P	**P**	**03 12 14.0**	**+0.7**
CGM3	**Cape Girardeau**	**25.65**	**356**	P	**P**	**03 12 14.9**	**-1.1**
CGM3				IAmb	IAmb	03 12 40.6	
	comp=Z,2.9nm,0.8s						
S51A	**Beattyville**	**26.14**	**7**	P	**P**	**03 12 20.3**	**-0.1**
S51A				IAmb	IAmb	03 12 28.0	
	comp=Z,12nm,1.3s						
S39A	**Bolivar**	**26.50**	**349**	P	**P**	**03 12 22.9**	**-0.8**
S39A				IAmb	IAmb	03 12 23.6	
	comp=Z,6.2nm,0.8s						
R40A	**Maddies Statio**	**26.92**	**352**	P	**P**	**03 12 26.4**	**-1.0**
Q51A	**Peebles**	**27.54**	**7**	P	**P**	**03 12 33.0**	**0.0**
P53A	**Whipple**	**28.27**	**10**	P	**P**	**03 12 39.4**	**-0.2**
O53A	**New Philadelph**	**29.05**	**10**	P	**P**	**03 12 46.4**	**0.0**
O53A				IAmb	IAmb	03 13 24.8	
	comp=Z,15nm,1.4s						
N53A	**Lisbon**	**29.65**	**10**	P	**P**	**03 12 51.3**	**-0.4**
ETMB	**Extrema**	**29.96**	**134**	P	**P**	**03 12 55.4**	**+0.7**
ETMB				IAmb	IAmb	03 12 58.9	
	comp=Z,4.5nm,0.7s						
SSPA	**Standing Stone**	**30.11**	**15**	P	**P**	**03 12 55.4**	**-0.4**
MACA	**Manacapuru-AM**	**30.37**	**117**	P	**P**	**03 12 58.0**	**-0.4**
MACA				IAmb	IAmb	03 12 59.6	
	comp=Z,12nm,0.6s						
J56A	**Wolcott**	**32.85**	**14**	P	**P**	**03 13 19.4**	**-0.5**
LONY	**Lake Ozonia**	**34.69**	**16**	P	**P**	**03 13 34.6**	**-1.3**
PDAR	**Pinedale Array**	**36.52**	**332**	P	**P**	**03 13 51.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=133,slow=10,SNR=3.5						
	comp=Z,0.3nm,0.6s						
REDW	**Red Top Meadow**	**37.58**	**332**	P	**P**	**03 14 00.6**

*DJA **05** 03:41:07.1±1.1,3°S×4°×14°0E±°, h10km,M3.8/3,MLv3.8/3*
*IDC **05** 03:41:09.2±1.6,2°.75S×140°.78E, h0km,mb3.5/4, mbtmp3.5/5,ML3.6/1,Error ellipse: s-maj=64.2km s-min=25.0km az=105.0*
ISC 05 03:41:13.5±1.3,2.7S±0°.1×140°.3E±0°.1, h24km, n8, σ1§56/9, mb3.6/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.13**	**300**	P	**Pb**	**03 41 17.1**	**-1.2**
GENI				S	**Sb**	**03 41 22.6**	**+1.1**
SMPI	**Sarmi**	**1.70**	**293**	P	**Pn**	**03 41 40.1**	**-1.6**
SMPI				S	**Sn**	**03 42 03.2**	**+0.5**
WAMI	**Wamena**	**1.98**	**232**	P	Pn	03 41 35.6	-10
WRA	**Warramunga Arr**	**18.13**	**198**	P	**Pn**	**03 45 23.1**	**-0.7**
	0.2nm,0.3s,baz=22,slow=12,SNR=11						
	0.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.01**	**222**	P	**P**	**03 45 57.5**	**+2.0**
	1.5nm,0.7s,baz=50,slow=12,SNR=3.2						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**21.78**	**196**	P	**P**	**03 46 03.0**	**-0.7**
	0.7nm,0.5s,baz=28,slow=11,SNR=13						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**70.71**	**322**	P	**P**	**03 52 29.6**	**+2.0**
	0.4nm,0.8s,baz=134,slow=4.2,SNR=3.8						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**85.14**	**24**	P	**P**	**03 53 46.8**	**-0.5**
	0.2nm,0.4s,baz=246,slow=5.8,SNR=4.7						
	0.2nm,0.4s						

*IDC **05** 03:42:04.6±1.6,17°.71N×81°.62W,h0km,mb3.5/4, mbtmp3.6/6,ML3.4/2,Error ellipse: s-maj=42.3km s-min=29.7km az=5.0*
*SSNC **05** 03:42:07.3±2.9,17°.96N×81°.43W,h5km±69km,MD3.9, ML3.4*
ISC 05 03:42:06.8±1.0,17°.9N±0°.1×81°.49W±0°.07, h18km, n14, σ1§98/15, mb3.5/4, 1D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGV	**Manicaragua**	**4.44**	**18**	*e*P	**Pn**	**03 43 14.2**	**+0.9**
MGV				*e*S	**Sn**	**03 44 01.2**	**-3.3**
MGV				IAML		03 44 07.8	
	comp=E,22nm,0.3s						
MGV				IAML		03 44 08.8	
	comp=N,18nm,0.3s						
LMGC	**Las Mercedes**	**4.76**	**62**	*e*P	**Pn**	**03 43 18.9**	**+1.1**
LMGC				*e*S	**Sn**	**03 44 09.6**	**-2.9**
LMGC				IAML		03 44 15.8	
	comp=E,10nm,0.1s						
LMGC				IAML		03 44 16.1	
	comp=N,9.4nm,0.1s						
CCCC	**Cccc**	**4.81**	**46**	*e*P	Pn	03 43 24.3	+5.9
SOR	**Soroa**	**5.09**	**344**	*e*P	**Pn**	**03 43 24.4**	**+2.1**
RCC	**Rio Carpintero**	**5.87**	**68**	⇓*e*P	**Pn**	**03 43 33.9**	**+0.9**
MASC	**Masc**	**7.23**	**70**	*e*P	**Pn**	**03 43 52.9**	**+1.2**
CMIG	**Matias Romero**	**12.81**	**268**	Pn	**Pn**	**03 45 05.2**	**-2.9**
	comp=N,0.1nm,0.3s,baz=81,slow=13,SNR=1.9						
	comp=N,1.1nm,0.6s						
TKL	**Tuckaleechee C**	**17.82**	**354**	P	**P**	**03 46 14.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=184,slow=12,SNR=5.4						
	comp=N,5.5nm,1.0s						
TXAR	**Lajitas Array**	**23.26**	**303**	P	**P**	**03 47 13.0**	**-0.6**
	comp=N,2.2nm,1.0s,baz=122,slow=9.7,SNR=13						
	comp=N,2.2nm,1.0s						
PDAR	**Pinedale Array**	**34.39**	**322**	P	**P**	**03 48 55.0**	**+1.8**
	comp=N,0.2nm,0.6s,baz=112,slow=9.8,SNR=2.1						
	comp=N,0.2nm,0.6s						
NVAR	**Mina Array Bea**	**38.03**	**310**	P	**P**	**03 49 26.1**	**+1.7**
	comp=N,0.6nm,0.8s,baz=118,slow=7.5,SNR=3.8						
	comp=N,0.6nm,0.8s						
ESDC	**Sonseca Array**	**69.34**	**54**	P	**P**	**03 53 15.5**	**+1.9**
	comp=N,0.8nm,0.9s,baz=283,slow=6.4,SNR=5.3						
	comp=N,0.8nm,0.9s						
WRA	**Warramunga Arr**	**146.09**	**261**	PKPbc	**PKPbc**	**04 01 46.1**	**-0.6**
	comp=N,0.3nm,0.6s,baz=87,slow=3.8,SNR=4.5						
ASAR	**Alice Springs**	**146.47**	**254**	PKPbc	**PKPbc**	**04 01 47.1**	**-0.6**
	comp=N,0.8nm,0.9s,baz=116,slow=4.2,SNR=4.5						

*IDC **05** 03:44:36.7±0.9, 11°.72N×145°.13E, h0km,mb3.8/9, mbtmp3.8/9,Error ellipse: s-maj=30.3km s-min=19.7km az=92.0*
*NEIC **05** 03:44:38.8±1.0, 11°.75N±0°.09×145°.0E±0°.2, h10km±2km, mb4.5/8,Error ellipse: s-maj=36.2km s-min=15.6km az=92.0*
ISC 05 03:44:39.2±0.8, 11°.76N±0°.08×145°.1E±0°.2, h16km, n31, σ1§10/26, mb4.0/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.83**	**354**	Pn	**Pn**	**03 45 10.2**	**+0.2**
	242nm,0.3s,baz=193,slow=19,SNR=38						
GUMO				Sn	**Sn**	**03 45 31.7**	**-1.1**
	151nm,0.3s,baz=24,slow=21,SNR=5.1						
GUMO	**Guam**	**1.83**	**354**	Pn	**Pn**	**03 45 10.1**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**21.92**	**70**	T	T	04 12 53.8	
	baz=254,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**21.93**	**70**	T	T	04 13 09.8	
	baz=254,slow=75,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**21.93**	**70**	T	T	04 12 45.4	
	baz=254,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**22.44**	**67**	T	T	04 13 51.6	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**22.45**	**67**	T	T	04 13 37.4	
	baz=254,slow=74,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**22.46**	**67**	T	T	04 13 55.5	
	baz=254,slow=74,SNR=3.1						
MJAR	**Matsushiro Arr**	**25.43**	**347**	P	**P**	**03 50 03.4**	**-2.9**
	3.0nm,0.6s,baz=167,slow=8.9,SNR=10						
MAJO	**Matsushiro**	**25.43**	**347**	P	**P**	**03 50 06.5**	**+0.2**
MAJO				IAmb	IAmb	03 50 06.7	
	comp=Z,8.1nm,0.7s						
JSD	**Sado**	**26.86**	**348**	P	**P**	**03 50 20.3**	**+1.1**
KSRS	**Korea Array**	**29.84**	**332**	P	**P**	**03 50 45.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=128,slow=16,SNR=2.0						
	comp=Z,0.4nm,0.3s						
WB0	**Warramunga Arr**	**33.04**	**199**	P	**P**	**03 51 13.1**	**-1.0**
WB0				IAmb	IAmb	03 51 23.3	
	comp=Z,8.1nm,1.2s						
WR0	**Warramunga Arr**	**33.18**	**198**	P	**P**	**03 51 15.0**	**-0.3**
WR0				IAmb	IAmb	03 51 37.7	
	comp=Z,8.3nm,1.4s						
WB2	**Warramunga Arr**	**33.22**	**199**	P	**P**	**03 51 15.3**	**-0.4**
WB2				IAmb	IAmb	03 51 40.4	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**33.22**	**199**	P	**P**	**03 51 14.5**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=21,slow=9.6,SNR=3.4						
	comp=Z,0.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**34.23**	**343**	P	**P**	**03 51 23.9**	**-0.3**
ASAR	**Alice Springs**	**36.86**	**197**	P	**P**	**03 51 46.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=17,slow=9.7,SNR=4.7						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.92**	**284**	P	**P**	**03 52 55.5**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=97,slow=7.4,SNR=1.8						
	comp=Z,1.3nm,0.3s						
SONM	**Songino Array**	**48.33**	**326**	P	**P**	**03 53 21.6**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=147,slow=8.6,SNR=1.8						
	comp=Z,0.4nm,0.3s						
MORW	**Morawa**	**49.32**	**214**	P	**P**	**03 53 27.1**	**-0.7**
MK31	**Makanchi Array**	**62.93**	**317**	P	**P**	**03 55 03.8**	**-1.2**
MKAR	**Makanchi Array**	**62.93**	**317**	P	**P**	**03 55 05.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=98,slow=8.7,SNR=5.9						
	comp=Z,0.6nm,0.7s						
KURK	**Kurchatov**	**66.09**	**320**	P	**P**	**03 55 25.4**	**-0.2**
ILAR	**Eielson Array**	**70.14**	**25**	P	**P**	**03 55 49.5**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=253,slow=5.8,SNR=6.8						
	comp=Z,0.5nm,0.6s						
BMAR	**Burnt Mountain**	**71.71**	**23**	P	**P**	**03 56 01.8**	**+1.5**
ABKAR	**Akbulak array**	**78.01**	**318**	P	**P**	**03 56 36.6**	**-0.4**
YKA	**Yellowknife Ar**	**84.39**	**27**	P	**P**	**03 57 10.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=292,slow=5.3,SNR=1.4						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**87.92**	**51**	P	**P**	**03 57 30.0**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=275,slow=4.4,SNR=5.6						
	comp=Z,0.4nm,0.5s						
DBIC	**Dimbokro**	**144.91**	**300**	PKPbc	**PKPab**	**04 04 15.1**	**-0.8**
	comp=Z,1.2nm,1.1s,baz=32,slow=1.5,SNR=4.6						
LPAZ	**La Paz**	**147.52**	**102**	PKPbc	**PKPbc**	**04 04 25.1**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=270,slow=2.0,SNR=5.1						

MAN 05 03:49:58.5,9°.73N×124°.00E, h30km, mb4.0, ML2.8, MS2.4, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.58**	**356**	⇓*i*P	Pb	03 50 07.7	-2.6
LLP				*i* S	Sb	03 50 14.9	-3.5
SNPH	**Sibulan**	**0.85**	**243**	*i* P	Pn	03 50 14.3	-0.2
SNPH				*i* S	Sn	03 50 26.1	+0.1
MSLP	**Maasin**	**0.93**	**65**	⇓*e*P	Pb	03 50 17.0	+0.8
MSLP				*e*S	Sb	03 50 32.8	+4.5
CGP	**Cagayan de Oro**	**1.44**	**152**	*e*P	Pb	03 50 33.1	+8.3
CGP				*e*S	Sb	03 50 45.5	+2.7
GUIM	**Jordan**	**1.65**	**303**	⇓*e*P	Pn	03 50 25.5	0.0
GUIM				*e*S	Sn	03 50 46.0	+0.3
PAGZ	**Pagadian**	**1.97**	**198**	⇓*e*P	Pb	03 50 34.3	+0.5
PAGZ				*e*S	Sb	03 50 59.7	+1.7
RCP	**Roxas**	**2.20**	**326**	⇑*e*P	Pn	03 50 33.9	+0.9
RCP				*e*S	Sn	03 51 00.4	+1.2

*NEIC **05** 04:08:23.1±1.7,37°.6S±0°.1×179°.37E±0°.07, h10km,2km, mb4.0/8,Error ellipse: s-maj=17.0km s-min=9.3km az=2.0*
*WEL **05** 04:08:29.6±0.9,37°.5S×17°.9E±°, h20km±4km, M3.9/77, ML4.1/28, MLv3.9/77,Error ellipse: s-maj=0.0km s-min=0.0km az=116.7*
*IDC **05** 04:08:31.9±8.7,37°.04S×177°.84E, h0km, mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=154.8km s-min=25.6km az=87.0*
ISC 05 04:08:26.2±2.2, 37°.43S±0°.05×179°.12E±0°.09, h27km±12km, n104, σ1§67/116, mb3.9/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.66**	**258**	Pg	**Pn**	**04 08 39.2**	**-0.7**
MXZ	**Matakaoa Point**	**0.66**	**258**	P	**Pn**	**04 08 39.1**	**-0.7**
MXZ				S	**Sb**	**04 08 45.9**	**-2.1**
WMGZ	**Waiomatatini S**	**0.68**	**235**	P	**Pn**	**04 08 42.0**	**+1.8**
WMGZ				S	**Sn**	**04 08 51.1**	**+1.3**
PUZ	**Puketiti**	**0.94**	**227**	P	**Pn**	**04 08 45.8**	**+2.1**
PUZ				S	**Sn**	**04 08 58.1**	**+1.9**
PKGZ	**Pakihiroa**	**0.95**	**241**	P	**Pn**	**04 08 44.7**	**+0.9**
PKGZ				S	**Sn**	**04 08 56.6**	**+0.1**
HAZ	**Te Kaha**	**1.11**	**253**	P	**Pb**	**04 08 47.2**	**+0.4**
HAZ				S	**Sn**	**04 09 00.8**	**+0.3**
TWGZ	**Tauwhareparae**	**1.17**	**230**	P	**Pb**	**04 08 49.4**	**+1.5**
TWGZ				S	**Sn**	**04 09 04.2**	**+2.2**
RUGZ	**Raukumara Rang**	**1.26**	**245**	P	**Pb**	**04 08 50.3**	**+0.8**
RUGZ				S	**Sb**	**04 09 05.5**	**+0.2**
CNGZ	**Carnagh Statio**	**1.28**	**214**	P	**Pb**	**04 08 51.7**	**+2.2**
CNGZ				S	**Sb**	**04 09 09.6**	**+4.1**
TKGZ	**Te Karaka**	**1.42**	**225**	P	**Pb**	**04 08 52.5**	**+0.4**
TKGZ				S	**Sb**	**04 09 09.8**	**0.0**
WIZ	**White Island**	**1.54**	**266**	P	**Pb**	**04 08 53.9**	**-0.1**
MWZ	**Matawai**	**1.55**	**234**	P	**Pb**	**04 08 53.9**	**-0.4**
RIGZ	**Rimuhau**	**1.67**	**220**	P	**Pb**	**04 08 55.9**	**-0.3**
RIGZ				S	**Sn**	**04 09 15.9**	**+1.7**
WHRZ	**Whale Island**	**1.76**	**255**	P	**Pb**	**04 08 57.4**	**-0.3**
PRGZ	**Paritu Road**	**1.78**	**213**	P	**Pb**	**04 08 57.8**	**-0.4**
URZ	**Urewera**	**1.79**	**242**	Pn	**Pb**	**04 08 57.8**	**-0.5**
	39nm,0.3s,baz=211,slow=2.8,SNR=88						
URZ				Sn	**Sn**	**04 09 17.6**	**+0.3**
	87nm,0.3s,baz=211,slow=22,SNR=33						
URZ	**Urewera**	**1.79**	**242**		**Pb**	**04 08 57.6**	**-0.7**
URZ	**Urewera**	**1.79**	**242**	P	**Pb**	**04 08 57.7**	**-0.7**
URZ				S	**Sb**	**04 09 19.0**	**-1.4**
SNGZ	**Shannon Statio**	**1.95**	**226**	P	**Pb**	**04 08 59.7**	**-1.3**
SNGZ				S	**Sn**	**04 09 22.1**	**+0.9**
KNZ	**Kokohu**	**1.96**	**215**	P	**Pn**	**04 08 59.3**	**+1.7**
MHGZ	**Mahia Peninsul**	**1.97**	**209**	P	**Pb**	**04 09 00.5**	**-0.8**
EDRZ	**Edgecumbe**	**2.01**	**250**	P	**Pb**	**04 09 00.6**	**-1.4**
EDRZ				S	**Sn**	**04 09 23.2**	**+0.5**
RTZ	**Ruatahuna**	**2.06**	**234**	P	**Pb**	**04 09 01.7**	**-1.3**
OPRZ	**Ohinepanea**	**2.08**	**258**	P	**Pb**	**04 09 00.8**	**-2.4**
OPRZ				S	**Sn**	**04 09 23.2**	**-1.2**
MUGZ	**Murupara**	**2.13**	**240**	P	**Pb**	**04 09 02.3**	**-1.9**
RAHZ	**Arahi**	**2.19**	**227**	P	**Pn**	**04 09 00.9**	**+0.1**
WHHZ	**Waihua**	**2.22**	**222**	P	**Pn**	**04 09 03.3**	**+2.1**
WHHZ				S	**Sn**	**04 09 29.4**	**+1.7**
TARZ	**Mount Tarawera**	**2.22**	**248**	P	**Pb**	**04 09 04.0**	**-1.7**
RRRZ	**Republican Roa**	**2.25**	**246**	P	**Pb**	**04 09 04.3**	**-1.9**
MTHZ	**Maungataniwha**	**2.29**	**231**	P	**Pb**	**04 09 04.8**	**-2.1**
HLRZ	**Highlands Stat**	**2.34**	**249**	P	**Pb**	**04 09 05.4**	**-2.3**
KARZ	**Kaharoa**	**2.36**	**255**	P	**Pb**	**04 09 05.2**	**-2.8**
HSRZ	**Hossack Road**	**2.44**	**248**	P	**Pb**	**04 09 11.5**	**+2.2**
NMHZ	**Naumai**	**2.47**	**227**	P	**Pb**	**04 09 07.5**	**-2.4**
ARHZ	**Aropaoanui**	**2.48**	**222**	P	**Pn**	**04 09 06.9**	**+2.0**
MRHZ	**Matea Rd**	**2.55**	**236**	P	**Pn**	**04 09 07.9**	**+2.0**
BKZ	**Black Stump Fm**	**2.70**	**229**	Pn	**Pn**	**04 09 09.6**	**+1.7**
BKZ	**Black Stump Fm**	**2.70**	**229**	P	**Pn**	**04 09 09.8**	**+1.9**
CKHZ	**Cape Kidnapper**	**2.74**	**215**	P	**Pn**	**04 09 09.7**	**+1.3**
KUZ	**Kuaotunu**	**2.81**	**283**	P	**Pn**	**04 09 09.3**	**0.0**
TOZ	**Tahuroa Road**	**2.89**	**263**	P	**Pn**	**04 09 11.8**	**+1.3**
KAHZ	**Kahuranaki**	**2.94**	**216**	P	**Pn**	**04 09 12.4**	**+1.1**
RITZ	**Rihia Road**	**3.00**	**238**	P	**Pn**	**04 09 14.3**	**+2.3**
RATZ	**Rangitukua**	**3.00**	**241**	P	**Pn**	**04 09 14.5**	**+2.4**
KRHZ	**Kereru**	**3.09**	**224**	P	**Pn**	**04 09 13.3**	**+0.1**
KATZ	**Kakaramea**	**3.11**	**239**	P	**Pn**	**04 09 16.0**	**+2.4**
PXZ	**Pawanui**	**3.14**	**214**	P	**Pn**	**04 09 14.6**	**+0.7**
BHHZ	**Black Hill Sta**	**3.16**	**229**	P	**Pn**	**04 09 15.6**	**+1.4**
GRZ	**Great Barrier**	**3.17**	**291**	P	**Pn**	**04 09 16.3**	**+2.0**
TMVZ	**Te Maari**	**3.17**	**237**	P	**Pn**	**04 09 16.1**	**+1.7**
MKAZ	**Moumakai**	**3.18**	**275**	P	**Pn**	**04 09 16.1**	**+1.7**
ETVZ	**East Tongariro**	**3.18**	**237**	P	**Pn**	**04 09 16.2**	**+1.6**
NTVZ	**North Tongariro**	**3.18**	**237**	P	**Pn**	**04 09 16.4**	**+1.8**
OTVZ	**Oturere**	**3.22**	**237**	P	**Pn**	**04 09 17.1**	**+1.9**
NNVZ	**North Ngauruho**	**3.24**	**237**	P	**Pn**	**04 09 17.6**	**+2.2**
WTVZ	**West Tongariro**	**3.25**	**238**	P	**Pn**	**04 09 17.7**	**+2.1**
SNVZ	**South Ngauruho**	**3.25**	**236**	P	**Pn**	**04 09 17.5**	**+1.9**
NGZ	**Ngauruhoe**	**3.27**	**237**	P	**Pn**	**04 09 17.8**	**+1.9**
TUVZ	**Tukino**	**3.29**	**235**	P	**Pn**	**04 09 17.8**	**+1.7**
MOVZ	**Moawhango**	**3.30**	**232**	P	**Pn**	**04 09 17.4**	**+1.2**
TWVZ	**Taurewa**	**3.33**	**239**	P	**Pn**	**04 09 18.9**	**+2.2**
WHVZ	**Whangaehu Hut**	**3.34**	**235**	P	**Pn**	**04 09 18.2**	**+1.3**
FWVZ	**Far West T-bar**	**3.35**	**236**	P	**Pn**	**04 09 18.6**	**+1.7**
WNVZ	**Wahianoa**	**3.35**	**235**	P	**Pn**	**04 09 18.4**	**+1.4**
TRVZ	**Turoa**	**3.37**	**235**	P	**Pn**	**04 09 18.9**	**+1.6**
PNHZ	**Pukenui**	**3.37**	**222**	P	**Pn**	**04 09 17.5**	**+0.3**
ETAZ	**East Tamaki Re**	**3.38**	**277**	P	**Pn**	**04 09 19.7**	**+2.4**
PRHZ	**Porangahau**	**3.43**	**214**	P	**Pn**	**04 09 18.0**	**+0.1**
MBAZ	**Motutapu North**	**3.44**	**280**	P	**Pn**	**04 09 20.7**	**+2.6**
MTVZ	**Mangateitei**	**3.47**	**235**	P	**Pn**	**04 09 20.2**	**+1.7**
PKVZ	**Pokaka**	**3.50**	**237**	P	**Pn**	**04 09 20.9**	**+2.0**
HIZ	**Hauiti**	**3.54**	**251**	Pn	**Pn**	**04 09 21.4**	**+2.0**
HIZ	**Hauiti**	**3.54**	**251**	P	**Pn**	**04 09 22.2**	**+2.8**
AWAZ	**Awhitu Peninsu**	**3.59**	**275**	P	**Pn**	**04 09 22.7**	**+2.5**
TSZ	**Takapari Road**	**3.60**	**222**	P	**Pn**	**04 09 20.3**	**-0.1**
DVHZ	**Dannevirke**	**3.68**	**218**	P	**Pn**	**04 09 21.6**	**+0.3**
POWZ	**Post Office Ro**	**3.95**	**220**	P	**Pn**	**04 09 25.7**	**+0.6**
PRWZ	**Pori Road**	**3.97**	**217**	P	**Pn**	**04 09 25.9**	**+0.6**
WAZ	**Wanganui**	**3.99**	**233**	P	**Pn**	**04 09 27.8**	**+2.3**
CPWZ	**Castlepoint**	**4.15**	**212**	P	**Pn**	**04 09 28.1**	**+0.3**
OUZ	**Omahuta**	**4.98**	**295**		**Pn**	**04 09 41.0**	**+1.8**
OUZ	**Omahuta**	**4.98**	**295**	P	**Pn**	**04 09 41.2**	**+2.0**
MSWZ	**Moikau Station**	**4.98**	**216**	Pn	**Pn**	**04 09 37.3**	**-1.9**
PLWZ	**Palliser**	**5.10**	**215**	Pn	**Pn**	**04 09 38.7**	**-2.2**
THZ	**Tophouse**	**6.46**	**226**	Pn	**Pn**	**04 09 58.0**	**-1.6**
CTZ	**Chatham Island**	**7.08**	**154**	P	Pn	04 10 13.1	+5.1
RPZ	**Rata Peaks**	**8.78**	**222**	Pn	**Pn**	**04 10 28.5**	**-2.8**
	0.8nm,0.3s,baz=220,slow=5.8,SNR=1.1						
RPZ				Sn	Sn	04 11 58.8	-11
	2.7nm,0.3s,baz=105,slow=22,SNR=12						
ODZ	**Otahua Downs**	**9.93**	**217**		**Pn**	**04 10 44.0**	**-3.0**
ARMA	**Armidale**	**23.81**	**279**	P	**P**	**04 13 34.5**	**-2.5**
STKA	**Stephens Creek**	**31.22**	**269**	P	**P**	**04 14 42.7**	**-0.7**
	1.4nm,0.7s,baz=102,slow=9.3,SNR=3.2						
	1.4nm,0.7s						
STKA	**Stephens Creek**	**31.22**	**269**	P	**P**	**04 14 43.1**	**-0.3**
PMG	**Port Moresby**	**40.12**	**306**	P	**P**	**04 16 00.5**	**+0.6**
AS31	**Alice Springs**	**40.91**	**276**	P	**P**	**04 16 06.8**	**+0.4**
AS31				IAmb	IAmb	04 16 09.6	
	comp=Z,2.9nm,1.5s						
ASAR	**Alice Springs**	**40.91**	**276**	P	**P**	**04 16 07.8**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=123,slow=8.2,SNR=10						
	comp=Z,1.3nm,0.8s						
WR0	**Warramunga Arr**	**42.38**	**282**	P	**P**	**04 16 19.5**	**+1.1**
WR0				IAmb	IAmb	04 16 25.0	
	comp=Z,6.1nm,1.2s						
WB2	**Warramunga Arr**	**42.53**	**281**	P	**P**	**04 16 20.6**	**+0.9**
WB2				IAmb	IAmb	04 16 21.1	
	comp=Z,1.9nm,0.7s						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**04 16 20.7**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=122,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**04 16 20.8**	**+1.0**
WB0	**Warramunga Arr**	**42.60**	**282**	P	**P**	**04 16 21.1**	**+0.9**
WB0				IAmb	IAmb	04 17 02.0	
	comp=Z,5.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.40**	**277**	P	**P**	**04 17 23.4**	**+2.0**
MAW	**Mawson**	**64.91**	**202**	P	**P**	**04 19 00.5**	**-2.2**
H03N3	**Juan Fernandez**	**78.80**	**124**	T	T	05 47 06.8	
	baz=234,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**78.80**	**123**	T	T	05 47 08.2	
	baz=234,slow=72,SNR=8.6						
H03N1	**Juan Fernandez**	**78.81**	**124**	T	T	05 46 59.9	
	baz=234,slow=72,SNR=9.6						

*ROM **05** 04:22:20.4±0.1, 42°.849N±0°.003×13°.215E±0°.005, h9km, ML3.2/61,Error ellipse: s-maj=0.3km s-min=0.3km az=65.0*
*LDG **05** 04:22:20.0±0.1, 42°.81N×13°.22E, h9km, Md3.1/2, Ml3.0/18, Error ellipse: s-maj=2.4km s-min=1.6km az=43.0*
*IDC **05** 04:22:22.4±2.0, 43°.05N×12°.98E, h0km, mb3.5/1, mbtmp3.4/4, ML3.3/3,Error ellipse: s-maj=43.4km s-min=19.7km az=93.0*
*PRU **05** 04:22:23.7±0.0, 43°.06N×14°.18E, h0km*
ISC 05 04:22:20.9±0.7, 42°.83N±0°.01×13°.18E±0°.02, h10km±4km, n161, σ2§23/221, 51C-51D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.02**	**90**	P	**Pg**	**04 22 21.9**	**-1.0**
T1242				S	**Sg**	**04 22 22.7**	**-1.6**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
NRCA	**Norcia**	**0.05**	**275**	⇑P	**Pg**	**04 22 22.8**	**-0.1**
NRCA				S	**Sg**	**04 22 24.5**	**+0.1**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
MC2	**Monte Cornacci**	**0.08**	**7**	P	**Pg**	**04 22 22.6**	**-0.9**
MC2				S	**Sg**	**04 22 24.6**	**-0.7**
T1244	**Arquata del Tr**	**0.12**	**129**	⇓P	**Pg**	**04 22 23.5**	**-0.3**
T1244				S	**Sg**	**04 22 25.8**	**0.0**
T1244				AML	AML		
	comp=E,90500μm,0.7s						
T1244				AML	AML		
	comp=N,93650μm,1.1s						
T1244				AML	AML		
	comp=E,86500μm,0.7s						
T1244				AML	AML		
	comp=E,90450μm,0.7s						
T1244				AML	AML		
	comp=E,86150μm,0.7s						
T1244				AML	AML		
	comp=N,92850μm,1.1s						
T1244				AML	AML		
	comp=E,90400μm,0.7s						
T1244				AML	AML		
	comp=N,93700μm,1.1s						
T1244				AML	AML		
	comp=E,86250μm,0.7s						
T1244				AML	AML		
	comp=N,93050μm,1.1s						
T1244				AML	AML		
	comp=N,93700μm,1.1s						
T1244				AML	AML		
	comp=E,86400μm,0.7s						
T1202	**Accumoli, Fraz**	**0.13**	**164**	P	**Pg**	**04 22 24.2**	**+0.2**
T1202				S	**Sg**	**04 22 27.2**	**+1.0**
T1202				AML	AML		
	comp=E,72950μm,0.3s						
T1202				AML	AML		
	comp=N,77950μm,0.6s						
T1202				AML	AML		
	comp=N,78050μm,0.6s						
T1202				AML	AML		
	comp=E,72900μm,0.3s						
FEMA	**Monte Fema**	**0.16**	**325**	P	**Pg**	**04 22 24.5**	**0.0**
FEMA				S	**Sg**	**04 22 27.8**	**+0.7**
FEMA				AML	AML		
	comp=E,29350μm,0.9s			

CSP1	**Cessapalombo**	**0.26**	**5**	⇓	P	**Pg**	**04 22 25.7**	**-0.6**
CSP1					S	**Sg**	**04 22 30.1**	**+0.1**
CSP1					AML	AML		
	comp=E,32950µm,1.2s							
CSP1					AML	AML		
	comp=N,27050µm,0.3s							
CESI	**CESI - Serrava**	**0.27**	**311**	⇓	P	**Pg**	**04 22 26.5**	**+0.1**
CESI					S	**Sb**	**04 22 31.5**	**-1.0**
CESI					AML	AML		
	comp=N,27150µm,0.3s							
CESI					AML	AML		
	comp=E,16550µm,1.6s							
RM33	**Pellescritta (**	**0.32**	**175**	⇓	P	**Pg**	**04 22 27.6**	**+0.3**
RM33					S	**Sb**	**04 22 33.4**	**-0.7**
RM33					AML	AML		
	comp=N,10090µm,0.8s							
RM33					AML	AML		
	comp=E,20250µm,0.3s							
RM33					AML	AML		
	comp=N,10750µm,1.5s							
RM33					AML	AML		
	comp=N,10065µm,0.8s							
RM33					AML	AML		
	comp=E,20500µm,0.3s							
CAMP	**Campotosto**	**0.34**	**150**	⇓	P	**Pg**	**04 22 27.4**	**-0.3**
CAMP					S	**Sg**	**04 22 33.1**	**+0.9**
CAMP					AML	AML		
	comp=N,9590µm,1.6s							
CAMP					AML	AML		
	comp=E,11300µm,0.2s							
SEF1	**Sefro**	**0.36**	**332**	⇑	P	**Pg**	**04 22 27.8**	**-0.2**
SEF1					AML	AML		
	comp=N,11950µm,0.7s							
SEF1					AML	AML		
	comp=E,17150µm,0.2s							
MNTP	**Montappone**	**0.38**	**35**	⇑	P	**Pg**	**04 22 28.2**	**-0.1**
MNTP					S	**Sb**	**04 22 34.6**	**-1.0**
MNTP					AML	AML		
	comp=E,25350µm,0.5s							
MNTP					AML	AML		
	comp=E,25400µm,0.5s							
MNTP					AML	AML		
	comp=N,22150µm,0.5s							
PIO1	**Pioraco**	**0.38**	**338**	⇓	P	**Pg**	**04 22 28.2**	**-0.1**
PIO1					AML	AML		
	comp=E,6420µm,0.4s							
PIO1					AML	AML		
	comp=N,8715µm,0.6s							
PIO1					AML	AML		
	comp=N,8710µm,0.6s							
PIO1					AML	AML		
	comp=E,6425µm,0.4s							
TERO	**Teramo**	**0.38**	**123**	⇓	P	**Pg**	**04 22 27.8**	**-0.6**
TERO					AML	AML		
	comp=E,19550µm,0.3s							
TERO					AML	AML		
	comp=N,25500µm,0.4s							
TERO					AML	AML		
	comp=N,26950µm,0.4s							
TERO					AML	AML		
	comp=E,18500µm,0.3s							
OFFI	**Offida**	**0.39**	**74**	⇑	P	**Pg**	**04 22 28.6**	**0.0**
OFFI					AML	AML		
	comp=E,20100µm,0.5s							
OFFI					AML	AML		
	comp=N,22100µm,0.6s							
ARRO	**Arrone**	**0.39**	**231**	⇑	P	**Pg**	**04 22 29.1**	**+0.5**
ARRO					S	**Sb**	**04 22 36.4**	**+0.3**
ARRO					AML	AML		
	comp=E,3835µm,1.6s							
ARRO					AML	AML		
	comp=N,4000µm,1.0s							
SSM1	**San Severino M**	**0.40**	**0**	⇓	P	**Pg**	**04 22 28.4**	**-0.4**
FIU1	**Fiuminata**	**0.40**	**334**	⇑	P	**Pg**	**04 22 28.9**	**+0.1**
FIU1					AML	AML		
	comp=N,5040µm,0.9s							
FIU1					AML	AML		
	comp=E,4230µm,1.1s							
GAG1	**Gagliole**	**0.42**	**349**	⇑	P	**Pg**	**04 22 28.8**	**-0.3**
GAG1					AML	AML		
	comp=E,18500µm,0.9s							
GAG1					AML	AML		
	comp=N,23750µm,0.3s							
GAG1					AML	AML		
	comp=E,18450µm,0.9s							
ASSB	**Assisi San Ben**	**0.44**	**299**	⇓	P	**Pg**	**04 22 29.5**	**+0.1**
ASSB					S	**Sb**	**04 22 37.0**	**-0.4**
SNTG	**Esanatoglia**	**0.46**	**338**	⇓	P	**Pg**	**04 22 29.4**	**-0.5**
SNTG					S	**Sb**	**04 22 38.0**	**-0.1**
SNTG					AML	AML		
	comp=E,423µm,0.7s							
SNTG					AML	AML		
	comp=E,3540µm,0.4s							
SNTG					AML	AML		
	comp=N,3405µm,0.9s							
SNTG					AML	AML		
	comp=N,437µm,1.6s							
SNTG					AML	AML		
	comp=E,422µm,0.7s							
GIGS	**Gran Sasso**	**0.48**	**142**	⇓	P	**Pg**	**04 22 29.4**	**-0.8**
GIGS					AML	AML		
	comp=E,1760µm,0.4s							
GIGS					AML	AML		
	comp=N,2260µm,1.0s							
CESX	**Cesi**	**0.49**	**244**	⇑	P	**Pg**	**04 22 30.7**	**+0.2**
CESX					AML	AML		
	comp=E,2970µm,0.5s							
CESX					AML	AML		
	comp=N,3340µm,0.4s							
TRE1	**Treia**	**0.49**	**12**	⇓	P	**Pb**	**04 22 30.8**	**-0.8**
TRE1					AML	AML		
	comp=N,12900µm,0.4s							
TRE1					AML	AML		
	comp=E,18750µm,0.7s							
EL6	**Elcito**	**0.50**	**354**	⇓	P	**Pg**	**04 22 30.5**	**-0.2**
EL6					S	**Sb**	**04 22 39.0**	**-0.4**
ATCC	**AVT- Casa Cast**	**0.53**	**312**	⇓	P	**Pg**	**04 22 31.2**	**-0.1**
ATCC					AML	AML		
	comp=N,7675µm,0.5s							
ATCC					AML	AML		
	comp=E,6400µm,0.7s							
TRTR	**Tortoreto Alta**	**0.54**	**92**	⇑	P	**Pb**	**04 22 31.9**	**-0.6**
TRTR					AML	AML		
	comp=N,24700µm,1.2s							
TRTR					AML	AML		
	comp=E,18800µm,0.8s							
CING	**Cingoli**	**0.55**	**1**	⇓	P	**Pg**	**04 22 30.7**	**-0.8**
CING					AML	AML		
	comp=E,5580µm,0.2s							
CING					AML	AML		
	comp=N,3645µm,0.9s							
FOSV	**Fossato di Vic**	**0.56**	**327**	⇓	P	**Pg**	**04 22 31.3**	**-0.4**
FOSV					S	**Sb**	**04 22 41.0**	**+0.2**
FOSV					AML	AML		
	comp=E,5830µm,0.3s							
FOSV					AML	AML		
	comp=N,11850µm,0.3s							
FIAM	**Fiamignano**	**0.56**	**184**	⇓	P	**Pg**	**04 22 31.4**	**-0.4**
FIAM					S	**Sb**	**04 22 41.0**	**0.0**
FIAM					AML	AML		
	comp=E,6055µm,0.4s							
FIAM					AML	AML		
	comp=N,4300µm,0.6s							
PP3	**Marolino**	**0.63**	**30**	⇑	P	**Pb**	**04 22 33.5**	**-0.6**
PP3					AML	AML		
	comp=E,12990µm,0.4s							
PP3					AML	AML		
	comp=N,8290µm,0.4s							
PP3					AML	AML		
	comp=E,12725µm,0.4s							
PP3					AML	AML		
	comp=N,8190µm,0.8s							
PP3					AML	AML		
	comp=E,12995µm,0.4s							
PP3					AML	AML		
	comp=N,8220µm,0.8s							
PP3					AML	AML		
	comp=N,8290µm,0.4s							
PP3					AML	AML		
	comp=E,12735µm,0.4s							
FAGN	**Fagnano**	**0.64**	**152**	⇑	P	**Pg**	**04 22 32.1**	**-1.2**
FAGN					AML	AML		
	comp=N,8310µm,0.4s							
FAGN					AML	AML		
	comp=E,10115µm,0.4s							
MURB	**Monte Urbino**	**0.65**	**312**		P	**Pg**	**04 22 33.3**	**-0.1**
MURB					AML	AML		
	comp=E,9850µm,0.3s							
MURB					AML	AML		
	comp=N,7960µm,0.9s							
MURB					AML	AML		
	comp=N,7875µm,0.3s							
MURB					AML	AML		
	comp=E,9860µm,0.3s							
MURB					AML	AML		
	comp=E,10750µm,0.3s							
MURB					AML	AML		
	comp=N,7955µm,0.9s							
VCEL	**Villa Celiera**	**0.66**	**131**	⇓	P	**Pg**	**04 22 33.1**	**-0.5**
VCEL					AML	AML		
	comp=E,6155µm,0.5s							
VCEL					AML	AML		
	comp=N,6640µm,0.6s							
VCEL					AML	AML		
	comp=E,6150µm,0.5s							
VCEL					AML	AML		
	comp=N,6635µm,0.6s							
SSFR	**Montelago di S**	**0.67**	**335**	⇑	P	**Pg**	**04 22 33.7**	**-0.2**
SSFR					S	**Sb**	**04 22 45.0**	**+0.8**
SSFR					AML	AML		
	comp=E,7035µm,0.2s							
SSFR					AML	AML		
	comp=N,7030µm,0.2s							
SSFR					AML	AML		
	comp=E,7035µm,0.2s							
SSFR					AML	AML		
	comp=E,6670µm,0.2s							
SSFR					AML	AML		
	comp=N,7035µm,0.2s							
SSFR					AML	AML		
	comp=N,7230µm,0.2s							
ARVD	**Arcevia**	**0.69**	**346**	⇓	P	**Pg**	**04 22 33.5**	**-0.8**
ARVD					S	**Sb**	**04 22 45.0**	**+0.3**
ARVD					AML	AML		
	comp=N,1475µm,0.5s							
ARVD					AML	AML		
	comp=E,2325µm,0.8s							
ATFO	**Monte Foce - G**	**0.70**	**321**	⇓	P	**Pg**	**04 22 33.9**	**-0.4**
ATFO					AML	AML		
	comp=N,2065µm,0.9s							
ATFO					AML	AML		
	comp=E,2835µm,0.7s							
ATTE	**AVT- Monte Tez**	**0.71**	**302**	⇑	P	**Pg**	**04 22 34.5**	**-0.1**
ATTE					AML	AML		
	comp=N,2115µm,0.9s							
ATTE					AML	AML		
	comp=E,2040µm,0.4s							
T0110	**Collepietro**	**0.75**	**143**		P	**Pg**	**04 22 34.2**	**-1.1**
T0110					AML	AML		
	comp=N,5985µm,0.4s							
T0110					AML	AML		
	comp=E,5595µm,0.5s							
FRON	**Frontone**	**0.76**	**335**	⇓	P	**Pg**	**04 22 34.8**	**-0.8**
FRON					AML	AML		
	comp=E,1440µm,0.7s							
FRON					AML	AML		
	comp=N,2455µm,0.3s							
SRES	**S.Oreste - Sor**	**0.77**	**220**	⇓	P	**Pg**	**04 22 35.8**	**+0.1**
SRES					AML	AML		
	comp=N,1136µm,0.4s							
SRES					AML	AML		
	comp=E,1120µm,1.1s							
AOI	**Ancona**	**0.79**	**23**	⇓	P	**Pg**	**04 22 35.6**	**-0.4**
AOI					AML	AML		
	comp=N,2525µm,0.4s							
AOI					AML	AML		
	comp=E,2430µm,1.6s							
MGAB	**Montegabbione**	**0.79**	**276**	⇑	P	**Pg**	**04 22 36.1**	**0.0**
MGAB					AML	AML		
	comp=E,3080µm,1.6s							
MGAB					AML	AML		
	comp=N,5125µm,0.5s							
MGAB					AML	AML		
	comp=E,3325µm,0.3s							
MGAB					AML	AML		
	comp=E,3085µm,1.6s							
MGAB					AML	AML		
	comp=N,5130µm,0.5s							
MGAB					AML	AML		
	comp=N,5070µm,1.0s							
ATVO	**AVT- Monte Val**	**0.79**	**315**	⇓	P	**Pg**	**04 22 35.6**	**-0.5**
ATVO					AML	AML		
	comp=E,1585µm,0.4s							
ATVO					AML	AML		
	comp=N,1545µm,1.3s							
ATVO					AML	AML		
	comp=N,1540µm,1.3s							
COR1	**Corinaldo**	**0.81**	**351**	⇓	P	**Pg**	**04 22 36.2**	**-0.4**
COR1					AML	AML		
	comp=E,4250µm,0.6s							
COR1					AML	AML		
	comp=N,3985µm,0.6s							
COR1					AML	AML		
	comp=E,2220µm,0.8s							
COR1					AML	AML		
	comp=N,3785µm,0.4s							
COR1					AML	AML		
	comp=N,3985µm,0.6s							
PTQR	**Pietraquaria**	**0.82**	**168**		P	**Pg**	**04 22 35.7**	**-1.1**
PTQR					AML	AML		
	comp=E,1150µm,0.8s							
PTQR					AML	AML		
	comp=N,1058µm,0.4s							
ATMI	**Monte Miggiano**	**0.83**	**307**	⇑	P	**Pb**	**04 22 37.2**	**-0.3**
ATMI					AML	AML		
	comp=E,5965µm,0.6s							
ATMI					AML	AML		
	comp=N,5080µm,0.4s							
ATPI	**Pietralunga -**	**0.84**	**318**	⇓	P	**Pg**	**04 22 36.5**	**-0.6**
ATPI					AML	AML		
	comp=N,1505µm,0.6s							
ATPI					AML	AML		
	comp=E,1650µm,0.6s							
MTCE	**Montecelio**	**0.87**	**202**	⇑	P	**Pg**	**04 22 37.5**	**-0.1**
MTCE					AML	AML		
	comp=E,1800µm,0.3s							
MTCE					AML	AML		
	comp=N,1008µm,1.1s							
CERT	**Cerreto**	**0.89**	**189**	⇓	P	**Pg**	**04 22 37.2**	**-0.9**
CERT					AML	AML		
	comp=E,3000µm,0.4s							
CERT					AML	AML		
	comp=N,2475µm,0.6s							
FSSB	**Fossombrone**	**0.91**	**341**	⇓	P	**Pg**	**04 22 37.6**	**-0.9**
FSSB					AML	AML		
	comp=E,4915µm,0.4s							
FSSB					AML	AML		
	comp=N,5325µm,0.3s							
APEC	**Apecchio**	**0.92**	**323**	⇑	P	**Pg**	**04 22 38.4**	**-0.1**
SACS	**San Casciano d**	**0.93**	**272**	⇑	P	**Pb**	**04 22 39.1**	**-0.1**
SACS					AML	AML		
	comp=E,1124µm,0.6s							
SACS					AML	AML		
	comp=N,1220µm,1.0s							
SACS					AML	AML		
	comp=N,1208µm,1.0s							
SACS					AML	AML		
	comp=E,1074µm,0.5s							
INTR	**Introdacqua**	**0.98**	**146**	⇓	P	**Pg**	**04 22 38.1**	**-1.6**
INTR					AML	AML		
	comp=E,2µm,1.1s							
INTR					AML	AML		
	comp=N,2µm,0.6s							
INTR					AML	AML		
	comp=N,3480µm,0.6s							
INTR					AML	AML		
	comp=E,1745µm,1.1s							
INTR					AML	AML		
	comp=E,2µm,1.1s							
RCAV	**Rocca di Cave**	**1.00**	**190**	⇓	P	**Pn**	**04 22 41.8**	**+0.8**
PE3	**Peglio**	**1.00**	**330**		P	**Pg**	**04 22 39.4**	**-0.7**
PE3					AML	AML		
	comp=N,10µm,0.3s							
PE3					AML	AML		
	comp=E,11µm,0.3s							
VVLD	**Villa Vallelon**	**1.01**	**161**	⇑	P	**Pg**	**04 22 39.4**	**-1.0**
VVLD					AML	AML		
	comp=E,1140µm,1.2s							
VVLD					AML	AML		
	comp=N,1835µm,0.6s							
CAFI	**Castiglion Fio**	**1.02**	**300**	⇓	P	**Pg**	**04 22 40.0**	**-0.5**
CAFI					AML	AML		
	comp=E,1120µm,1.0s							
CAFI					AML	AML		
	comp=N,918µm,0.8s							
CAFI					AML	AML		
	comp=E,1170µm,1.0s							
CAFI					AML	AML		
	comp=N,974µm,0.8s							
LATE	**Laterza**	**1.03**	**258**	⇑	P	**Pn**	**04 22 42.7**	**+1.2**
PARC	**Parchiule**	**1.07**	**320**		P	**Pb**	**04 22 40.4**	**-1.1**
PARC					AML	AML		
	comp=E,1515µm,0.6s							
PARC					AML	AML		
	comp=N,985µm,0.7s							
RMP	**Rome, Mte Porz**	**1.08**	**199**	⇓	P	**Pn**	**04 22 42.8**	**+0.7**
RMP					AML	AML		
	comp=E,2115µm,0.7s							
RMP					AML	AML		
	comp=N,2350µm,1.1s							
LPEL	**Lama dei Pelig**	**1.08**	**136**	⇓	P	**Pb**	**04 22 40.7**	**-1.0**
LPEL					AML	AML		
	comp=N,1420µm,0.5s							
LPEL					AML	AML		
	comp=E,2020µm,0.6s							
SF04	**Casetta**	**1.11**	**271**	⇑	P	**Pn**	**04 22 42.7**	**+0.1**
SF04					S	**Sn**	**04 23 01.0**	**+2.9**
PESA	**Pesaro**	**1.14**	**348**	⇑	P	**Pb**	**04 22 42.5**	**-0.2**
PESA					AML	AML		
	comp=E,2495µm,0.4s							
PESA					AML	AML		
	comp=N,2275µm,1.3s							
TOLF	**Tolfa**	**1.16**	**229**	⇑	P	**Pb**	**04 22 42.6**	**-0.4**
TOLF					AML	AML		
	comp=N,535µm,0.5s							
TOLF					AML	AML		
	comp=E,736µm,0.9s							
POFI	**Posta Fibreno**	**1.18**	**160**	⇑	P	**Pb**	**04 22 42.0**	**-1.5**
POFI					AML	AML		
	comp=E,618µm,0.9s							
POFI					AML	AML		
	comp=N,537µm,1.3s							
SF01	**Poggio Pratacc**	**1.19**	**270**	⇓	P	**Pg**	**04 22 44.9**	**+1.2**
SF01					AML	AML		
	comp=E,744µm,0.9s							
SF01					AML	AML		
	comp=N,815µm,0.7s							
CRE	**Caprese Michel**	**1.19**	**312**	⇑	P	**Pb**	**04 22 43.4**	**-0.3**
CRE					AML	AML		
	comp=E,690µm,0.6s							
CRE					AML	AML		
	comp=N,678µm,0.7s							
GIUL	**Giuliano Di Ro**	**1.27**	**177**	⇓	P	**Pg**	**04 22 45.8**	**+0.5**
GIUL					AML	AML		
	comp=N,778µm,0.8s							
GIUL					AML	AML		
	comp=E,792µm,0.5s							
RNI2	**Rionero Sannit**	**1.34**	**147**	⇑	P	**Pn**	**04 22 43.0**	**-2.7**
RNI2					AML	AML		
	comp=N,1020µm,0.9s							
RNI2					AML	AML		
	comp=N,1024µm,0.9s							
RNI2					AML	AML		
	comp=E,1115µm,0.7s							
RNI2					AML	AML		
	comp=E,1085µm,0.7s							
CERA	**Filignano**	**1.38**	**153**	⇑	P	**Pn**	**04 22 45.4**	**-0.9**
CERA					AML	AML		
	comp=E,854µm,1.3s							
CERA					AML	AML		
	comp=N,833µm,0.5s							
CERA					AML	AML		
	comp=E,892µm,1.3s							
CERA					AML	AML		
	comp=N,872µm,0.5s							
FRES	**Fresagrandinar**	**1.40**	**127**	⇑	P	**Pg**	**04 22 47.8**	**+0.1**
FRES					AML	AML		
	comp=E,795µm,0.4s							
FRES					AML	AML		
	comp=N,768µm,0.8s							
ASQU	**Asqua**	**1.40**	**314**	⇑	P	**Pg**	**04 22 49.1**	**+1.4**
BLLA	**Bellaria**	**1.41**	**339**	⇓	P	**Pg**	**04 22 48.5**	**+0.6**
MIDA	**Miranda**	**1.43**	**146**	⇓	P	**Pn**	**04 22 46.3**	**-0.7**
MIDA					AML	AML		
	comp=E,728µm,0.8s							
MIDA					AML	AML		
	comp=N,587µm,1.2s							
TRIV	**Trivento**	**1.47**	**136**	⇓	P	**Pg**	**04 22 49.3**	**+0.2**
TRIV					AML	AML		
	comp=E,1112µm,0.7s							
TRIV					AML	AML		
	comp=N,1140µm,0.8s							
TRIV					AML	AML		
	comp=N,1114µm,0.8s							
TRIV					AML	AML		
	comp=E,1280µm,0.7s							
CSNT	**Castellina Chi**	**1.52**	**296**	⇑	P	**Pb**	**04 22 49.2**	**0.0**
CSNT					AML	AML		
	comp=N,280µm,0.9s							
CSNT					AML	AML		
	comp=E,252µm,1.4s							
RUFI	**Rufina**	**1.58**	**310**	⇑	P	**Pb**	**04 22 50.3**	**+0.1**
RUFI					AML	AML		
	comp=N,502µm,0.8s							
RUFI					AML	AML		
	comp=E,345µm,0.7s							
VAGA	**Valle Agricola**	**1.62**	**151**	⇑	P	**Pg**	**04 22 51.6**	**-0.3**
VAGA					AML	AML		
	comp=N,454µm,0.4s							
VAGA					AML	AML		
	comp=E,302µm,1.2s							
VAGA					AML	AML		
	comp=E,288µm,1.2s							
VAGA					AML	AML		
	comp=N,465µm,0.4s							
LMD	**Lutirano**	**1.64**	**320**		P	**Pg**	**04 22 52.6**	**+0.2**
TRIF	**Trifonti**	**1.69**	**280**	⇑	P	**Pb**	**04 22 51.4**	**-0.8**
TRIF					AML	AML		
	comp=E,220µm,0.4s							
TRIF					AML	AML		
	comp=N,225µm,0.6s							
CASP	**Castiglione de**	**1.70**	**269**	⇓	P	**Pn**	**04 22 51.0**	**+0.4**
CASP					AML	AML		
	comp=N,67µm,0.9s							
CASP					AML	AML		
	comp=E,60µm,0.8s							
CIGN	**Sant'Elia a Pi**	**1.74**	**132**		P	**Pg**	**04 22 54.5**	**+0.2**
MELA	**Melanico ??? S**	**1.83**	**127**	⇓	P	**Pb**	**04 22 53.7**	**-0.8**
MELA					AML	AML		
	comp=E,1330µm,0.6s							
MELA					AML	AML		
	comp=N,1223µm,0.6s							
MELA					AML	AML		
	comp=E,1295µm,0.6s							
MELA					AML	AML		
	comp=N,1169µm,1.0s							
APRC	**Apricena**	**2.06**	**121**	⇓	P	**Pb**	**04 22 57.3**	**-1.0**
APRC					AML	AML		
	comp=E,587µm,0.8s							
APRC					AML	AML		
	comp=N,864µm,1.2s							
BRJN	**Brijuni**	**2.12**	**11**	⇑	P	**Pn**	**04 22 56.6**	**+0.3**
CELB	**S.Piero in Cam**	**2.19**	**269**	⇓	P	**Pn**	**04 22 57.8**	**+0.4**
SGRT	**San Giovanni R**	**2.19**	**119**	⇑	P	**Pn**	**04 22 58.3**	**+0.9**
SGRT					AML	AML		
	comp=N,654µm,0.6s							
SGRT					AML	AML		
	comp=E,574µm,0.5s							
MSAG	**Monte S. Angel**	**2.31**	**118**		P	**Pn**	**04 23 00.6**	**+1.5**
MSAG					AML	AML		
	comp=E,634µm,1.0s							
MSAG					AML	AML		
	comp=E,698µm,1.0s							
MSAG					AML	AML		
	comp=N,1145µm,0.3s							
MSAG					AML	AML		
	comp=N,1105µm,0.3s							
HVAR	**Hvar**	**2.43**	**81**	⇓	P	**Pn**	**04 23 01.0**	**+0.4**
MNTV	**Mantova**	**2.89**	**324**		S	**Sb**	**04 23 47.0**	**-0.9**
BOJS	**Bojanci**	**3.06**	**28**	⇓	P	**Pn**	**04 23 10.2**	**+0.8**
BOJS					AML	AML		
	comp=E,450µm,1.3s							
BOJS					AML	AML		
	comp=N,272µm,0.7s							
PGF	**Pioggiola**	**3.09**	**266**		*e*P	**Pn**	**04 23 10.9**	**+1.0**
PGF					*e*Sn	**Sn**	**04 23 43.3**	**-3.6**
	comp=N,17nm,0.8s							
STON	**Ston**	**3.33**	**88**	⇑	P	**Pn**	**04 23 11.9**	**-1.1**
STON					AML	AML		

comp=E,62µm,0.7s
STON AML AML
comp=N,68µm,0.7s
DOSS Dosso del Somm 3.37 336 ⇑P Pn 04 23 16.1 +2.3
SALO Salr 3.38 327 ⇓P Pn 04 23 16.0 +2.3
CTI Castel Tesino 3.40 342 ⇑P Pn 04 23 16.9 +2.8
MPRI Monte Prat 3.42 358 ⇑P Pn 04 23 14.8 +0.6
MPRI AML AML
comp=E,200µm,0.6s
MPRI AML AML
comp=N,260µm,0.5s
MAGA Magasa 3.47 329 ⇑P Pn 04 23 16.0 +0.9
MAGA S Sb 04 24 01.0 -3.7
MAGA AML AML
comp=E,342µm,0.6s
MAGA AML AML
comp=N,164µm,0.4s
LUSI Trento, Gardas 3.52 334 ⇑P Pn 04 23 17.5 +1.9
LTRZ Laterza 3.52 128 ⇑P Pn 04 23 18.0 +2.3
CIMO Cimolais 3.52 352 ⇑P Pn 04 23 15.8 +0.1
CIMO AML AML
comp=E,50µm,0.6s
CIMO AML AML
comp=N,43µm,0.6s
PTCC Patocco-Chiusa 3.58 2 ⇑P Pn 04 23 16.5 0.0
PTCC AML AML
comp=E,71µm,0.4s
PTCC AML AML
comp=N,70µm,1.2s
CLUD Cludinico 3.63 357 ⇑P Pn 04 23 17.5 +0.2
CLUD AML AML
comp=E,121µm,0.7s
CLUD AML AML
comp=N,110µm,0.7s
CLUD AML AML
comp=N,171µm,0.8s
CLUD AML AML
comp=E,103µm,0.7s
ACOM Acomizza, Ital 3.73 4 ⇑P Pn 04 23 19.7 +1.1
ZOU Zoufplan 3.73 358 P Pn 04 23 19.1 +0.4
ZOU AML AML
comp=N,100µm,1.2s
ZOU AML AML
comp=E,104µm,0.7s
MABI Malga Bissina 3.75 330 ⇓P Pn 04 23 20.3 +1.4
MABI AML AML
comp=E,39µm,0.5s
MABI AML AML
comp=N,44µm,0.5s
EUCT Pavia 3.76 311 P Pg 04 23 31.1 -1.7
MYKA Terra Mystica 3.81 5 ePn Pn 04 23 20.4 +0.6
comp=N,2.8nm,0.2s,SNR=5.7
MYKA *i* Sn **Sn 04 24 06.4 +1.7**
comp=N,8.1nm,0.3s
KOSI Kohlern 3.85 341 P Pn 04 23 21.5 +1.1
ABTA Abfaltersbach 3.95 353 ePn Pn 04 23 22.5 +0.9
comp=N,24nm,0.5s,SNR=36
ABTA *e*Sn **Sn 04 24 08.3 +0.4**
comp=N,9.9nm,0.3s
RISI Rein 4.19 350 ⇓P Pn 04 23 26.5 +1.5
KBA Koelnbreinsper 4.25 2 *i* Pn Pn 04 23 26.8 +0.9
comp=N,12nm,0.4s
MUGIO Muggio 4.28 318 P Pn 04 23 27.2 +1.0
MUGIO AML AML
comp=E,34µm,0.4s
MUGIO AML AML
comp=N,29µm,0.5s
SBF Sospel 4.31 286 *e*P Pn 04 23 28.3 +1.7
SBF *e*Sn **Sn 04 24 12.3 -4.7**
comp=N,15nm,0.5s
VSL Villasalto 4.39 222 ⇑P Pn 04 23 29.5 +1.8
FETA Feichten 4.54 338 ePn Pn 04 23 32.0 +2.2
comp=N,3.1nm,0.3s,SNR=7.6
FETA *e*Sn **Sn 04 24 25.7 +3.1**
comp=N,6.8nm,0.6s
WTTA Wattenberg 4.57 347 *i* Pn Pn 04 23 32.5 +2.3
comp=N,2.7nm,0.3s
WTTA *e*Sn **Sn 04 24 26.2 +2.8**
comp=N,19nm,0.5s
DAVOX Davos/Dischmat 4.59 330 Pn Pn 04 23 31.7 +1.1
comp=N,1.7nm,0.3s,baz=157,slow=18,SNR=17
DAVOX Sn **Sn 04 24 27.8 +3.7**
comp=N,1.8nm,0.3s,baz=314,slow=8.0,SNR=5.1
comp=N,4.5nm,0.4s
SQTA Sankt Quirin 4.61 343 ePn Pn 04 23 32.7 +2.0
comp=N,3.7nm,0.2s,SNR=9.0
SQTA *i* Sn **Sn 04 24 26.7 +2.4**
comp=N,11nm,0.4s
WATA Walderalm 4.65 346 *i* Pn Pn 04 23 33.7 +2.5
comp=N,2.7nm,0.2s
WATA *i* Sn **Sn 04 24 28.7 +3.4**
comp=N,7.6nm,0.3s
ARSA Arzberg 4.72 20 *e*Sn Sn 04 24 25.1 -1.9
comp=N,6.0nm,0.3s,SNR=5.4
MOTA Moosalm 4.75 343 *i* Pn Pn 04 23 34.7 +2.0
comp=N,3.4nm,0.4s
MOTA *i* Sn **Sn 04 24 31.3 +3.5**
comp=N,7.5nm,0.4s
BIOA Bad Ischl, Aus 4.87 4 ePn Pn 04 23 35.4 +1.1
comp=N,7.9nm,0.3s,SNR=9.0
BIOA *i* Sn **Sn 04 24 31.3 +0.5**
comp=N,18nm,0.5s
LMR La Mourre 4.91 278 *e*P Pn 04 23 36.1 +1.4
LMR *e*Sn **Sn 04 24 26.8 -4.8**
comp=N,2.5nm,0.5s
RETA Reutte 4.96 341 *i* Pn Pn 04 23 38.2 +2.7
comp=N,1.9nm,0.2s,SNR=6.3
RETA *e*Sn **Sn 04 24 34.2 +1.3**
comp=N,5.0nm,0.4s
MBDF Montbardon 5.01 294 *e*P Pn 04 23 38.2 +1.9
MBDF *e*Sn **Sn 04 24 28.9 -5.4**
comp=N,4.2nm,0.5s
DAVA Damuels 5.03 333 *e*Sn Sn 04 24 37.4 +2.6
comp=N,24nm,0.6s
MOA Molln 5.08 8 *i* Pn Pn 04 23 38.3 +1.2
comp=N,1.2nm,0.2s
MOA *i* Sn **Sn 04 24 36.5 +0.7**
comp=N,6.0nm,0.5s
LPG La Plagne 5.34 302 *e*P Pn 04 23 43.1 +2.2
LPG *e*Sn **Sn 04 24 36.9 -5.6**
comp=N,7.0nm,0.6s
CONA Conrad Observa 5.44 19 *i* Pn Pn 04 23 42.7 +0.6
comp=N,1.5nm,0.3s
CONA *e*Sn **Sn 04 24 43.1 -1.6**
comp=N,4.0nm,0.4s
SMRF Simiane la Rot 5.66 284 *e*P Pn 04 23 47.4 +2.4
SMRF *e*Sn **Sn 04 24 44.4 -5.6**
comp=N,1.6nm,0.6s
ORIF Oris-en-Rattie 5.67 294 *e*P Pn 04 23 48.0 +2.7
ORIF *e*Sn **Sn 04 24 44.8 -5.7**
comp=N,4.3nm,0.5s
GERES GERESS Array B 6.03 3 Pn Pn 04 23 49.8 -0.4
comp=N,0.5nm,0.3s,baz=175,slow=13,SNR=11
GERES Sn **Sn 04 24 57.8 -1.4**
comp=N,1.3nm,0.3s,baz=187,slow=25,SNR=7.4
comp=N,0.7nm,0.3s
CABF La Chapelle 6.31 309 *e*P Pn 04 23 56.1 +2.1
CABF *e*Sn **Sn 04 24 59.7 -6.5**
comp=N,5.0nm,0.7s
KHC Kasperske Hory 6.31 2 *e*PN Pn 04 23 52.6 -1.4
KHC x x 04 24 04.0
KHC *e*SN **Sn 04 25 02.3 -3.8**
KHC x x 04 25 36.0
VIVF Saint-Julien-l 6.47 291 *e*P Pn 04 23 59.4 +3.1
HINF Hinteralfeld 6.69 320 *e*P Pn 04 24 00.0 +0.8
HINF *e*Sn **Sn 04 25 08.6 -6.8**
comp=N,4.3nm,0.3s
LASF Ste Croix 6.90 284 *e*P Pn 04 24 04.0 +2.0
CDF Champ du Feu 6.95 326 *e*P Pn 04 24 03.5 +0.7
CDF *e*Sn **Sn 04 25 14.5 -7.4**
comp=N,2.5nm,0.3s
HAU Haudompre 7.06 319 *e*P Pn 04 24 05.3 +1.0
HAU *e*Sn **Sn 04 25 17.4 -7.2**
comp=N,17nm,0.5s
SMF Signal de Mont 7.66 303 *e*P Pn 04 24 15.1 +2.6
SMF *e*Sn **Sn 04 25 31.9 -7.5**
comp=N,4.3nm,0.6s
KEST Kesra 7.68 204 Pn Pn 04 24 17.7 +4.7
comp=N,0.3nm,0.3s,baz=68,slow=16,SNR=4.4
comp=N,0.9nm,0.5s
SFTF Sexfontaines 7.84 316 *e*P Pn 04 24 17.3 +2.3
SFTF *e*Sn **Sn 04 25 36.1 -7.7**
comp=N,3.2nm,0.4s
LOR Lormes 7.95 307 *e*P Pn 04 24 19.1 +2.6
baz=124
LOR *e*Sn **Sn 04 25 39.0 -7.5**
comp=N,1.5nm,0.3s

AVF Avril sur Loir 8.03 303 *e*P Pn 04 24 20.3 +2.8
AVF *e*Sn **Sn 04 25 40.7 -7.6**
comp=N,0.6nm,0.4s
SSF Saint Saulge 8.06 305 *e*P Pn 04 24 20.8 +2.9
SSF *e*Sn **Sn 04 25 41.4 -7.7**
comp=N,2.6nm,0.6s
SAVF Savonnieres en 8.07 319 *e*P Pn 04 24 20.9 +2.8
BGF Bois d'Agland 8.25 300 *e*P Pn 04 24 23.6 +3.0
CAF Calviac 8.30 288 *e*P Pn 04 24 23.9 +2.6
CLL Collm 8.48 359 e(Pn) Pn 04 24 22.0 -1.7
CLL *ex* x 04 26 06.0
CLL *e*Sg **Sg 04 26 57.0 +4.1**
CLL Lm MLR 07 19 00.0
comp=Z,100nm,20.4s
MKAR Makanchi Array 47.75 60 P P 04 31 01.6 +3.6
comp=Z,0.6nm,0.8s,baz=284,slow=5.8,SNR=3.0
comp=Z,0.6nm,0.8s

*IDC **05** 04:38:37.6±0.7,59°.13N×137°.54W,h0km,mb3.6/11, mbtmp3.7/16,ML3.6/5,MS3.4/4,Error ellipse: s-maj=18.0km s-min=10.2km az=43.0*
*NEIC **05** 04:38:37.6±1.8,58°.99N±0°.03×137°.44W±0°.05,h10km±2km, Error ellipse: s-maj=5.4km s-min=4.3km az=25.0*
*AEIC **05** 04:38:37±1.7,59°.00N±0°.03×137°.43W±0°.05,h5km±2km, ML3.8,ML4.0/80(NEIC),Mwr3.8/40(NEIC),Error ellipse: s-maj=5.7km s-min=4.4km az=210.0*
*NEIC **05** 04:38:37,59°.00N×137°.38W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr5.92; Mθθ-5.14; Mφφ-0.78; Mrθ-1.16; Mθφ2.26; Mφr0.19; Fault plane solution: M0 6.13000×10^14^ NP1:ϕ1115.72000°, δ39.67000°, λ94.18000°. NP2:ϕ2290.30000°,δ50.46000°, λ86.54000°. Principal axes: T 6.0445, Plg84.0000°, Azm176.0000°; N 0.1619, Plg3.0000°, Azm293.0000°; P -6.2064, Plg5.0000°, Azm23.0000°;*
*ANF **05** 04:38:37.5±0.2,59°.00N×137°.41W,h0km,ML4.3/46 Error ellipse: s-maj=2.8km s-min=1.7km az=5.0*
ISC 05 04:38:37.5±1.2,59°.02N±0°.03×137°.42W±0°.02,h4km±8km, n338,σ1s07/358,mb3.9/12,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
P29M	**Windy Craggy**	**0.64**	**345**	Op	ISC		
P29M				Pg	**Pg**	**04 38 49.0**	**-0.6**
P29M				Sg	**Sg**	**04 38 57.6**	**-0.3**
	comp=E,7µm,0.6s			IAML		04 39 01.9	
P29M				IAML		04 39 03.4	
	comp=N,6µm,0.5s						
P29M	**Windy Craggy**	**0.64**	**345**	P	**Pg**	**04 38 49.1**	**-0.6**
	baz=166,SNR=1000						
P29M				S	**Sg**	**04 38 58.2**	**+0.3**
	baz=166						
PLBC	**Pleasant Camp**	**0.70**	**50**		**Pg**	**04 38 50.4**	**-0.4**
PLBC					**Sg**	**04 39 00.3**	**+0.4**
PLBC	**Pleasant Camp**	**0.70**	**50**	P	**Pg**	**04 38 50.5**	**-0.4**
	baz=230,SNR=1000						
PLBC				S	**Sg**	**04 38 59.8**	**-0.1**
	baz=230						
P30M	**Million Dollar**	**1.13**	**12**		**Pg**	**04 38 58.1**	**-1.0**
P30M	**Million Dollar**	**1.13**	**12**	P	**Pg**	**04 38 58.1**	**-1.0**
	baz=192						
P30M				S	**Sg**	**04 39 14.1**	**+0.4**
	baz=192						
SKAG	**Skagway**	**1.16**	**67**		**Pg**	**04 38 58.5**	**-1.1**
SKAG				Sn	**Sg**	**04 39 13.9**	**-0.8**
SKAG				IAML		04 39 19.7	
	comp=N,4µm,0.4s						
SKAG	**Skagway**	**1.16**	**67**	P	**Pg**	**04 38 58.6**	**-1.1**
	baz=248,SNR=472						
SKAG				S	**Sg**	**04 39 14.2**	**-0.5**
	baz=248						
PNL	**Peninsula**	**1.21**	**304**		**Pg**	**04 38 58.1**	**-2.4**
PNL					**Sb**	**04 39 16.7**	**-0.1**
PNL	**Peninsula**	**1.21**	**304**	P	**Pg**	**04 38 58.9**	**-1.7**
	baz=123,SNR=237						
PNL				S	**Sg**	**04 39 16.6**	**+0.4**
	baz=123						
YKU2	**Yakutat**	**1.26**	**294**	Pn	**Pg**	**04 39 00.8**	**-0.8**
YKU2				IAML		04 39 25.9	
	comp=N,4µm,1.1s						
BESE	**Bessie Mountai**	**1.41**	**107**		**Sb**	**04 39 21.9**	**-0.7**
BESE	**Bessie Mountai**	**1.41**	**107**		**Pn**	**04 39 02.7**	**-1.2**
O29M	**Mount Kennedy**	**1.42**	**336**		**Pn**	**04 39 02.1**	**-2.0**
O29M	**Mount Kennedy**	**1.42**	**336**	P	**Pn**	**04 39 02.3**	**-1.9**
	baz=156,SNR=357						
O29M				S	**Sb**	**04 39 21.3**	**-1.6**
	baz=156						
BCPM	**Bancas Point**	**1.47**	**311**	Pn	**Pn**	**04 39 02.6**	**-2.2**
BCPM				IAML		04 39 25.5	
	comp=N,2µm,0.8s						
YUK7	**Dusty Glacier**	**1.56**	**347**		**Pn**	**04 39 05.2**	**-1.0**
R32K	**Eaglecrest**	**1.69**	**115**	P	**Pn**	**04 39 06.5**	**-1.3**
	baz=297,SNR=581						
R32K				S	**Sn**	**04 39 30.0**	**+0.1**
	baz=297						
JIS	**Juneau Island**	**1.75**	**114**		**Pn**	**04 39 07.6**	**-1.0**
JIS				IAML		04 39 35.8	
	comp=E,2µm,0.3s						
PINM	**Pinnacle**	**1.80**	**308**	P	**Pn**	**04 39 08.6**	**-0.8**
	baz=126,SNR=86						
PINM				S	**Sn**	**04 39 33.4**	**+0.7**
	baz=126						
PCA	**Pinnacle**	**1.81**	**308**		**Pn**	**04 39 07.1**	**-2.3**
HYT	**Haines Junctio**	**1.81**	**359**	Pn	**Pn**	**04 39 09.3**	**-0.2**
HYT					**Sn**	**04 39 32.7**	**-0.3**
HYT				IAML		04 39 43.7	
	comp=N,1µm,0.8s						
HYT	**Haines Junctio**	**1.81**	**359**	P	**Pn**	**04 39 09.8**	**+0.2**
	baz=179,SNR=909						
HYT				S	**Sb**	**04 39 34.7**	**+0.3**
	baz=179						
O30N	**Mendenhall**	**1.88**	**20**		**Pn**	**04 39 11.1**	**+0.7**
O30N	**Mendenhall**	**1.88**	**20**	P	**Pn**	**04 39 11.2**	**+0.8**
	baz=201,SNR=1000						
O30N				S	**Sb**	**04 39 36.5**	**+0.3**
	baz=201						
P32M	**Atlin**	**1.98**	**72**		**Pn**	**04 39 12.0**	**+0.2**
P32M	**Atlin**	**1.98**	**72**	P	**Pn**	**04 39 12.2**	**+0.3**
	baz=254,SNR=228						
P32M				S	**Sb**	**04 39 38.5**	**-0.7**
	baz=254						
YUK6	**Outpost Mounta**	**1.99**	**347**		**Pn**	**04 39 12.3**	**+0.2**
YUK6	**Outpost Mounta**	**1.99**	**347**	P	**Pn**	**04 39 12.1**	**0.0**
	baz=166,SNR=398						
YUK6				Sb	**Sg**	**04 39 41.4**	**+0.1**
	baz=166						
SAMH	**Samovar Hills**	**2.04**	**304**		**Pn**	**04 39 12.2**	**-0.5**
WHY	**Whitehorse**	**2.08**	**37**	Pn	**Pn**	**04 39 13.4**	**0.0**
WHY				IAML		04 39 50.9	
	comp=N,989nm,0.6s						
WHY	**Whitehorse**	**2.08**	**37**	P	**Pn**	**04 39 13.8**	**+0.5**
	baz=219,SNR=287						
WHY				Sb	**Sb**	**04 39 43.5**	**+1.3**
	baz=219						
CHX	**Chaix Hills**	**2.16**	**301**		**Pn**	**04 39 14.0**	**-0.2**
O28M	**Mount Upton**	**2.25**	**323**		**Pn**	**04 39 15.3**	**-0.4**
O28M	**Mount Upton**	**2.25**	**323**	P	**Pn**	**04 39 15.5**	**-0.2**
	baz=141,SNR=120						
SIT	**Sitka**	**2.26**	**150**	Pn	**Pn**	**04 39 15.1**	**-0.5**
SIT				IAML		04 39 55.8	
	comp=N,690nm,0.8s						
SIT	**Sitka**	**2.26**	**150**	P	**Pn**	**04 39 14.0**	**-1.6**
	baz=331,SNR=88						
SIT				Sb	**Sb**	**04 39 46.3**	**-0.8**
	baz=331						
TABL	**Table Mountain**	**2.37**	**309**		**Pn**	**04 39 15.7**	**-1.5**
TABL				IAML		04 39 49.5	
	comp=E,728nm,1.0s						
TABL				IAML		04 39 56.1	
	comp=N,634nm,1.4s						
YUK4	**Talbot Arm**	**2.41**	**346**	P	**Pn**	**04 39 19.8**	**+1.9**
	baz=167,SNR=369						
N30M	**Aishikik Lake**	**2.45**	**4**		**Pn**	**04 39 18.9**	**+0.6**
N30M	**Aishikik Lake**	**2.45**	**4**	P	**Pn**	**04 39 19.0**	**+0.6**
	baz=184,SNR=366						
N30M				S	**Sn**	**04 39 50.4**	**+1.6**
	baz=184						
LOGN	**Logan Glacier**	**2.56**	**317**	Pn	**Pn**	**04 39 18.8**	**-1.1**
YAH	**Yahtse**	**2.58**	**303**		**Pn**	**04 39 19.5**	**-0.7**
YAH				IAML		04 40 03.1	
	comp=N,652nm,0.8s						
MESA	**MESA**	**2.58**	**299**	Pn	**Pn**	**04 39 18.4**	**-1.8**
MESA				IAML		04 40 11.1	
	comp=E,650nm,1.0s						
MESA				IAML		04 40 15.0	
	comp=N,577nm,1.0s						
MESA	**MESA**	**2.58**	**299**	P	**Pn**	**04 39 19.8**	**-0.4**
	baz=115,SNR=27						
N31M	**Braeburn, Yuko**	**2.61**	**18**	Pn	**Pn**	**04 39 20.6**	**+0.2**
N31M	**Braeburn, Yuko**	**2.61**	**18**	P	**Pn**	**04 39 21.4**	**+1.0**
	baz=199,SNR=259						
P33M	**Teslin, Yukon**	**2.62**	**61**	Pn	**Pn**	**04 39 20.4**	**-0.3**
P33M				IAML		04 40 03.7	
	comp=N,559nm,0.7s						
P33M				IAML		04 40 07.2	
	comp=E,487nm,0.8s						
P33M	**Teslin, Yukon**	**2.62**	**61**	P	**Pn**	**04 39 21.1**	**+0.4**
	baz=244,SNR=391						
CTGM	**Chitina Glacie**	**2.77**	**316**	Pn	**Pn**	**04 39 22.3**	**-0.5**
CTG	**Chitna Glacier**	**2.77**	**316**	P	**Pn**	**04 39 23.2**	**+0.4**
	baz=133,SNR=110						
BAGL	**Bagley Icefiel**	**2.79**	**304**		**Pn**	**04 39 22.4**	**-0.4**
BARK	**Barkley Ridge**	**2.92**	**301**		**Pn**	**04 39 23.9**	**-0.9**
ISLE	**Juniper Island**	**2.95**	**305**	Pn	**Pn**	**04 39 24.5**	**-0.8**
ISLE				IAML		04 40 15.8	
	comp=E,432nm,1.0s						
ISLE				IAML		04 40 27.0	
	comp=N,460nm,1.2s						
SNH	**Sunshine Point**	**2.99**	**295**	Pn	**Pn**	**04 39 24.6**	**-1.1**
SNH				IAML		04 40 21.9	
	comp=E,527nm,1.3s						
N32M	**Quiet Lake**	**3.05**	**44**	P	**Pn**	**04 39 26.9**	**+0.4**
	baz=227						
WAX	**Waxell Ridge**	**3.10**	**300**	Pn	**Pn**	**04 39 26.1**	**-1.1**
WAX				IAML		04 40 40.7	
	comp=E,465nm,0.9s						
YUK3	**Moose Creek**	**3.15**	**333**	P	**Pn**	**04 39 28.1**	**+0.1**
	baz=150,SNR=23						
BGLC	**Bering Glacier**	**3.18**	**293**	Pb	**Pb**	**04 39 35.9**	**+1.3**
	baz=108						
TGL	**Tana Glacier**	**3.24**	**305**	Pn	**Pn**	**04 39 28.9**	**-0.2**
TGL				IAML		04 40 17.8	
	comp=E,275nm,0.8s						
T33K	**Petersburg**	**3.25**	**131**	Pb	**Pb**	**04 39 36.0**	**+0.3**
	baz=314,SNR=14						
GRIN	**Grindle Hills**	**3.25**	**295**		**Pn**	**04 39 29.2**	**-0.1**
YUK2	**White River**	**3.25**	**330**		**Pn**	**04 39 30.4**	**+1.0**
KHIT	**Khitrov Hills**	**3.28**	**298**		**Pn**	**04 39 29.3**	**-0.4**
PTPK	**Patty Peak**	**3.33**	**313**		**Pn**	**04 39 30.9**	**+0.3**
R33M	**Jennings River**	**3.34**	**81**		**Pn**	**04 39 30.7**	**+0.2**
R33M	**Jennings River**	**3.34**	**81**	P	**Pn**	**04 39 30.4**	**-0.1**
	baz=266,SNR=93						
SUCK	**Suckling Hills**	**3.41**	**291**	Pn	**Pn**	**04 39 31.3**	**-0.1**
SUCK				IAML		04 40 47.3	
	comp=E,320nm,0.9s						
SUCK				IAML		04 40 58.3	
	comp=N,259nm,1.2s						
BERG	**Berg Lake**	**3.47**	**296**		**Pn**	**04 39 31.8**	**-0.4**
M29M	**Somme Creek**	**3.47**	**352**		**Pn**	**04 39 33.3**	**+0.9**
M29M	**Somme Creek**	**3.47**	**352**	P	**Pn**	**04 39 33.2**	**+0.9**
	baz=171,SNR=49						
S34M	**Telegraph Cree**	**3.48**	**106**		**Pn**	**04 39 33.0**	**+0.6**
S34M	**Telegraph Cree**	**3.48**	**106**	P	**Pn**	**04 39 32.3**	**-0.1**
	baz=291,SNR=21						
M31M	**Drury Creek, Y**	**3.52**	**24**	Pn	**Pn**	**04 39 33.5**	**+0.5**
M31M				IAML		04 40 34.1	
	comp=N,322nm,0.6s						
M31M	**Drury Creek, Y**	**3.52**	**24**	P	**Pn**	**04 39 34.1**	**+1.1**
	baz=206,SNR=150						
M30M	**Minto, Yukon**	**3.58**	**5**	Pn	**Pn**	**04 39 34.0**	**+0.2**
M30M				IAML		04 40 35.2	
	comp=E,406nm,0.9s						
M30M				IAML		04 40 38.7	
	comp=N,242nm,1.2s						
M30M	**Minto, Yukon**	**3.58**	**5**	P	**Pn**	**04 39 34.3**	**+0.5**
	baz=185,SNR=100						
MCARA	**McCarthy VSAT**	**3.67**	**313**	Pn	**Pn**	**04 39 33.8**	**-1.2**
MCARA				IAML		04 40 28.8	
	comp=E,306nm,0.9s						
MCARA				IAML		04 40 36.7	
	comp=N,298nm,0.9s						
MCARA	**McCarthy VSAT**	**3.67**	**313**	P	**Pn**	**04 39 35.4**	**+0.5**
	baz=128,SNR=26						
KAIM	**Kayak Island**	**3.69**	**287**	Pn	**Pn**	**04 39 33.3**	**-1.9**
KAIM				IAML		04 40 53.8	
	comp=E,308nm,1.0s						
KAIM	**Kayak Island**	**3.69**	**287**	P	**Pn**	**04 39 35.2**	**0.0**
	baz=102						
HMT	**Hamilton**	**3.71**	**294**	Pn	**Pn**	**04 39 34.1**	**-1.5**
WRAK	**Wrangell Islan**	**3.77**	**132**	Pn	**Pn**	**04 39 33.5**	**-2.8**
WRAK	**Wrangell Islan**	**3.77**	**132**	P	**Pn**	**04 39 36.1**	**-0.2**
	baz=316,SNR=22						
FARO	**Faro, Yukon**	**3.79**	**30**	P	**Pn**	**04 39 38.3**	**+1.6**
	baz=214,SNR=114						
BVCY	**Beaver Creek**	**3.80**	**335**	Pb	**Pb**	**04 39 45.3**	**+0.1**
	baz=152,SNR=6.0						
DLBC	**Dease Lake**	**3.90**	**95**	Pn	**Pn**	**04 39 38.3**	**+0.2**
	comp=E,8.3nm,0.3s,baz=272,slow=9.8,SNR=103						
DLBC				Sn	**Sn**	**04 40 19.7**	**-4.6**
	comp=E,14nm,0.3s,baz=253,slow=15,SNR=4.4						
DLBC				Lg	Lg	04 40 36.1	
	comp=E,22nm,0.3s,baz=154,slow=19,SNR=4.4						
DLBC				LR	LR	04 41 20.0	
	comp=E,201nm,18.7s,baz=330,slow=41						
DLBC	**Dease Lake**	**3.90**	**95**	Pn	**Pn**	**04 39 37.4**	**-0.7**
DLBC				IAML		04 40 42.9	
	comp=E,289nm,0.7s						
DLBC	**Dease Lake**	**3.90**	**95**	P	**Pn**	**04 39 37.5**	**-0.7**
	baz=281,SNR=57						
RAGM	**Ragged Mountai**	**3.92**	**294**	Pn	**Pn**	**04 39 37.3**	**-1.2**
M27K	**Edge Creek, AK**	**4.00**	**329**		**Pn**	**04 39 40.2**	**+0.5**
M27K				IAML		04 40 47.4	
	comp=N,187nm,1.0s						
M27K				IAML		04 40 57.8	
	comp=E,157nm,1.2s						
M27K	**Edge Creek, AK**	**4.00**	**329**	P	**Pn**	**04 39 40.8**	**+1.1**
	baz=145,SNR=15						
GLB	**Gilahina Butte**	**4.01**	**310**	Pn	**Pn**	**04 39 38.9**	**-0.8**
GOAT	**Goat Mountain**	**4.01**	**296**		**Pn**	**04 39 38.4**	**-1.4**
BMRM	**Bremner River**	**4.11**	**301**	Pn	**Pn**	**04 39 40.1**	**-0.9**
BMRM	**Bremner River**	**4.11**	**301**	P	**Pn**	**04 39 41.7**	**+0.7**
	baz=116,SNR=13						
CRAG	**Craig**	**4.25**	**145**	P	**Pn**	**04 39 44.4**	**+1.4**
	baz=328,SNR=8.9						
T35M	**Bob Quinn**	**4.33**	**115**	P	**Pn**	**04 39 44.2**	**+0.2**
	baz=331,SNR=7.9						
M26K	**Nabesna, AK**	**4.36**	**323**	P	**Pn**	**04 39 46.3**	**+1.8**
	baz=139,SNR=6.3						
N25K	**Chitina, Valde**	**4.41**	**309**	Pn	**Pn**	**04 39 45.3**	**0.0**
N25K	**Chitina, Valde**	**4.41**	**309**	P	**Pn**	**04 39 45.3**	**0.0**
	baz=123						
EYAK	**Cordova Ski Ar**	**4.48**	**294**	Pn	**Pn**	**04 39 45.2**	**-0.9**
EYAK	**Cordova Ski Ar**	**4.48**	**294**	P	**Pn**	**04 39 46.0**	**-0.1**
	baz=107						
WTLY	**Watson Lake, Y**	**4.52**	**72**	Pn	**Pn**	**04 39 47.0**	**+0.4**
WTLY	**Watson Lake, Y**	**4.52**	**72**	P	**Pn**	**04 39 46.8**	**+0.1**
	baz=259,SNR=11						
BC03		**4.58**	**334**		**Pn**	**04 39 48.0**	**+0.6**
BCAR	**Beaver Creek A**	**4.58**	**334**	Pn	**Pn**	**04 39 46.3**	**-1.2**
L27K	**Beaver Creek,**	**4.59**	**334**	Pn	**Pn**	**04 39 47.5**	**-0.1**
L27K	**Beaver Creek,**	**4.59**	**334**	P	**Pn**	**04 39 47.6**	**0.0**
	baz=150,SNR=5.0						
MAYO	**Mayo, Yukon**	**4.65**	**8**	Pn	**Pn**	**04 39 49.4**	**+0.9**
MAYO	**Mayo, Yukon**	**4.65**	**8**	P	**Pn**	**04 39 50.1**	**+1.7**
	baz=190,SNR=9.6						
DIV	**Divide**	**4.69**	**300**	Pn	**Pn**	**04 39 49.2**	**+0.2**
MMPY	**Sheldon Lake,**	**4.70**	**37**	P	**Pn**	**04 39 50.4**	**+1.2**
	baz=225,SNR=53						
HIN	**Hinchinbrook I**	**4.80**	**291**	Pn	**Pn**	**04 39 49.5**	**-1.1**
HIN				IAML		04 41 11.2	
	comp=E,164nm,0.8s						
HIN				IAML		04 41 32.9	
	comp=N,148nm,0.9s						
K29M	**Barlow Dome**	**4.84**	**359**	P	**Pn**	**04 39 52.5**	**+1.3**
	baz=179,SNR=77						
V35K	**Ketchikan**	**4.86**	**137**	P	**Pn**	**04 39 51.5**	**+0.1**
	baz=322						
FID	**Port Fidalgo**	**4.88**	**295**	Pn	**Pn**	**04 39 51.7**	**+0.1**
KLU	**Klutina**	**4.91**	**304**	Pn	**Pn**	**04 39 51.5**	**-0.5**
KLU				IAML		04 41 02.7	
	comp=N,115nm,0.7s						
KLU	**Klutina**	**4.91**	**304**	P	**Pn**	**04 39 52.2**	**+0.1**
	baz=117,SNR=16						
L26K	**Log Cabin Wild**	**4.95**	**327**	Pn	**Pn**	**04 39 52.4**	**-0.1**
L26K				IAML		04 41 29.4	
	comp=E,82nm,0.8s						
L26K	**Log Cabin Wild**	**4.95**	**327**	P	**Pn**	**04 39 53.2**	**+0.7**
	baz=142,SNR=13						
JPK	**Jack Peak**	**5.04**	**298**		**Pn**	**04 39 54.5**	**+0.7**

HARP HAARP 5.09 315 P Pn 04 39 55.4 +0.9
baz=129
DAWY Dawson 5.15 350 Pn Pn 04 39 55.8 +0.4
DAWY IAML 04 41 29.1
comp=E,122nm,1.2s
DAWY IAML 04 41 31.2
comp=N,95nm,1.0s
DAWY Dawson 5.15 350 P Pn 04 39 56.6 +1.2
baz=169,SNR=178
P23K Montague Islan 5.18 285 P Pn 04 39 56.2 +0.5
baz=97
TGTN Hyland Airport 5.20 57 P Pn 04 39 57.5 +1.5
baz=245,SNR=20
GLI Glacier Island 5.21 295 Pn Pn 04 39 55.4 -0.8
GLI Glacier Island 5.21 295 P Pn 04 39 55.7 -0.4
baz=107,SNR=10
M24K Tolsona, Glenn 5.31 309 Pn 04 39 58.0 +0.4
M24K IAML 04 41 54.4
comp=E,85nm,1.4s
M24K IAML 04 42 16.2
comp=N,73nm,1.7s
M24K Tolsona, Glenn 5.31 309 P Pn 04 39 59.1 +1.5
baz=122,SNR=15
J29M Klondike Camp 5.47 356 Pn Pn 04 39 59.0 -0.7
J29M Klondike Camp 5.47 356 P Pn 04 40 00.2 +0.5
baz=176
K27K Chicken 5.50 338 Pn Pn 04 40 00.3 +0.2
K27K Chicken 5.50 338 P Pn 04 40 01.4 +1.4
baz=154
PAX Paxson 5.57 319 Pn Pn 04 40 01.3 +0.1
PAX Paxson 5.57 319 P Pn 04 40 02.6 +1.4
baz=132
DOT Dot Lake 5.64 328 Pn Pn 04 40 01.4 -0.6
SCM Sheep Creek Mo 5.66 304 Pn Pn 04 40 03.0 +0.6
SCM Sheep Creek Mo 5.66 304 P Pn 04 40 03.3 +0.9
baz=116
PWL Port Wells 5.79 293 Pn Pn 04 40 02.4 -1.7
PWL Port Wells 5.79 293 P Pn 04 40 03.4 -0.7
baz=104,SNR=12
M23K Glacier View 5.82 303 P Pn 04 40 05.4 +1.0
baz=114,SNR=24
SCRK Sand Creek 5.88 331 Pn Pn 04 40 04.9 -0.6
SCRK Sand Creek 5.88 331 P Pn 04 40 05.6 +0.1
baz=145,SNR=8.1
RIDG Independent Ri 5.93 326 Pn 04 40 05.5 -0.5
RIDG Independent Ri 5.93 326 P Pn 04 40 07.0 +1.0
baz=140
KNK Knik Glacier 6.00 298 Pn 04 40 07.1 0.0
KNK Knik Glacier 6.00 298 P Pn 04 40 07.6 +0.5
baz=109,SNR=12
EGAK Eagle 6.04 345 Pn Pn 04 40 08.2 +0.6
EGAK Eagle 6.04 345 P Pn 04 40 08.5 +1.0
baz=161,SNR=68
SML Sawmill 6.09 302 Pn Pn 04 40 08.0 -0.2
SML Sawmill 6.09 302 P Pn 04 40 08.7 +0.5
baz=113,SNR=9.4
RUBB Prince Rupert 6.14 137 Pn Pn 04 40 09.1 +0.3
WAT6 Susitna Watana 6.18 310 P Pn 04 40 09.8 +0.1
baz=121,SNR=13
SEW Seward 6.21 285 Pn Pn 04 40 07.7 -2.2
SEW Seward 6.21 285 P Pn 04 40 08.6 -1.3
baz=95
J26L Joseph Creek 6.22 335 Pn Pn 04 40 09.3 -0.8
J26L Joseph Creek 6.22 335 P Pn 04 40 10.9 +0.7
baz=149,SNR=10
K24K Donnelly Dome 6.25 324 P Pn 04 40 11.6 +1.1
baz=136
DHY Denali Highway 6.32 314 Pn Pn 04 40 11.3 -0.2
DHY Denali Highway 6.32 314 P Pn 04 40 11.8 +0.3
baz=126,SNR=6.9
GHO Glory Hole Cre 6.33 301 Pn Pn 04 40 11.4 -0.2
PMR Palmer 6.37 299 P Pn 04 40 13.2 +1.3
baz=109,SNR=17
I29M Ogilvie Camp, 6.38 357 P Pn 04 40 14.0 +1.8
baz=176,SNR=22
O22K Cooper Landing 6.39 289 Pn Pn 04 40 11.4 -0.8
O22K Cooper Landing 6.39 289 P Pn 04 40 11.9 -0.4
baz=98
DIB Dawson Inlet, 6.45 153 Pn Pn 04 40 12.4 -0.7
RC01 Rabbit Creek A 6.51 294 Pn Pn 04 40 12.9 -1.0
RC01 Rabbit Creek A 6.51 294 P Pn 04 40 14.7 +0.8
baz=103,SNR=7.0
GRNB Grenville Isla 6.63 138 Pn 04 40 14.4 -1.2
WAT1 Susitna Watana 6.63 310 P Pn 04 40 17.0 +1.3
baz=120
SLKM Skilak Lake 6.64 288 Pn 04 40 14.7 -1.1
J25K Salcha River, 6.75 330 Pn Pn 04 40 16.5 -0.9
J25K Salcha River, 6.75 330 P Pn 04 40 17.9 +0.5
baz=143,SNR=11
BRSE Bradley Lake S 6.85 282 Pn 04 40 19.1 +0.5
BRSE Bradley Lake S 6.85 282 P Pn 04 40 19.0 +0.4
baz=90
I26K Coal Creek Min 6.86 339 Pn Pn 04 40 19.6 +0.9
I26K Coal Creek Min 6.86 339 P Pn 04 40 19.6 +0.9
baz=154
M22K Willow 6.87 299 Pn 04 40 17.4 -1.4
M22K Willow 6.87 299 P Pn 04 40 19.7 +1.0
baz=108,SNR=12
I27K Kandik River 6.89 345 Pn 04 40 20.6 +1.4
I27K Kandik River 6.89 345 P Pn 04 40 19.8 +0.6
baz=162,SNR=11
BRLK Bradley Lake 6.92 282 Pn Pn 04 40 19.5 -0.1
HDA Harding Lake 7.05 324 Pn Pn 04 40 21.3 0.0
HDA Harding Lake 7.05 324 P Pn 04 40 21.7 +0.3
baz=136
RND Reindeer 7.06 313 Pn 04 40 22.1 +0.6
SUA Susitna One 7.07 296 Pn 04 40 21.6 -0.2
SUA Susitna One 7.07 296 P Pn 04 40 22.6 +0.9
baz=105,SNR=19
CNPM China Poot 7.10 280 Pn Pn 04 40 20.2 -1.9
CUT Chulitna 7.16 304 Pn 04 40 22.9 +0.1
CUT Chulitna 7.16 304 P Pn 04 40 24.0 +1.2
baz=113
FLDN Fort Liard 7.17 74 P Pn 04 40 24.4 +1.3
baz=266
MCK McKinley 7.27 315 Pn Pn 04 40 26.0 +1.6
MCK McKinley 7.27 315 P Pn 04 40 26.3 +1.9
baz=126
IL31 7.29 326 Pn Pn 04 40 24.6 -0.1
ILAR Eielson Array 7.29 326 Pn Pn 04 40 22.9 -1.7
comp=N,0.3nm,0.3s,baz=154,slow=11,SNR=39
ILAR Lg Lg 04 42 29.4
comp=N,0.6nm,0.3s,baz=124,slow=27,SNR=7.6
comp=N,2.5nm,0.7s
ILAR Eielson Array 7.29 326 Pn Pn 04 40 23.1 -1.7
HOM Homer 7.30 281 Pn Pn 04 40 23.9 -0.9
HOM Homer 7.30 281 P Pn 04 40 26.1 +1.2
baz=89,SNR=8.6
EPYK Eagle Plains 7.39 2 Pn Pn 04 40 26.5 +0.5
EPYK Eagle Plains 7.39 2 P Pn 04 40 27.5 +1.5
baz=183,SNR=11
WRH Wood River Hil 7.45 322 Pn Pn 04 40 26.4 -0.4
CCB Clear Creek Bu 7.48 323 Pn Pn 04 40 27.2 0.0
H27K Steamboat Moun 7.48 347 P Pn 04 40 27.7 +0.4
baz=164
PRP Porcupine Dome 7.53 333 Pn Pn 04 40 27.2 -0.8
PRP Porcupine Dome 7.53 333 P Pn 04 40 29.2 +1.1
baz=146
SKT Skwentna 7.57 299 Pn 04 40 28.2 -0.3
SKT Skwentna 7.57 299 P Pn 04 40 28.4 -0.1
baz=107,SNR=11
STLK Strandline Lak 7.59 295 Pn 04 40 29.3 +0.5
SPU Mount Spurr 7.63 293 Pn Pn 04 40 29.3 -0.1
TRF Thorofare Moun 7.63 311 Pn 04 40 30.7 +1.2
TRF Thorofare Moun 7.63 311 P Pn 04 40 31.1 +1.7
baz=120,SNR=30
COLA College 7.65 325 Pn Pn 04 40 29.1 -0.5
TCOL CIGO, UAF Yank 7.66 324 Pn Pn 04 40 29.0 -0.7
N20K Mount Spurr 7.71 293 P Pn 04 40 30.4 0.0
baz=100
SPCR Spurr Chakacha 7.71 293 P Pn 04 40 30.2 -0.2
baz=100
POKR Poker Plat Res 7.71 327 Pn Pn 04 40 29.4 -1.0
BWN Browne 7.72 317 Pn 04 40 28.8 -1.7
O20K Slope Mountain 7.80 284 Pn 04 40 32.3 +0.5
O20K Slope Mountain 7.80 284 P Pn 04 40 32.4 +0.7
baz=91
MDM Murphy Dome 7.83 324 Pn 04 40 32.8 +0.7
NEA2 Nenana 7.85 320 Pn 04 40 33.1 +0.9
NEA2 Nenana 7.85 320 P Pn 04 40 33.6 +1.3
baz=130,SNR=6.0
DFR Drift River 7.86 288 Pn 04 40 31.9 -0.7
RSO Redoubt South 7.88 287 Pn Pn 04 40 31.5 -1.4
KTH Kantishna Hill 7.93 311 Pn Pn 04 40 34.3 +0.9
WRGLY Wrigley 7.96 52 P Pn 04 40 35.2 +1.5
baz=244,SNR=5.0
G27K Doyon Strip 8.05 348 P Pn 04 40 36.6 +1.4
baz=164,SNR=6.8
ILSW Iliamna Southw 8.06 284 Pn Pn 04 40 34.3 -1.0
KDAK Kodiak Island 8.06 268 Pn Pn 04 40 33.5 -1.7
comp=N,1.7nm,0.3s,baz=69,slow=6.1,SNR=34
KDAK Sn Sn 04 42 03.8 -2.9
baz=307,slow=22
comp=N,14nm,0.6s
KDAK Kodiak Island 8.06 268 Pn Pn 04 40 34.3 -1.0
KDAK Kodiak Island 8.06 268 P Pn 04 40 34.8 -0.5
baz=75
P19K Oil Pt 8.11 281 Pn Pn 04 40 35.0 -0.9
P19K Oil Pt 8.11 281 P Pn 04 40 36.8 +0.8
baz=88,SNR=7.5
PPLA Purkeypile 8.16 305 Pn Pn 04 40 37.0 +0.2
PPLA Purkeypile 8.16 305 P Pn 04 40 37.5 +0.7
baz=112
H25K Birch Creek 8.23 336 P Pn 04 40 38.5 +1.0
baz=148
BPAW Bear Paw Mtn. 8.23 314 Pn Pn 04 40 38.3 +0.8
BPAW Bear Paw Mtn. 8.23 314 P Pn 04 40 38.0 +0.4
baz=122
M20K Styx River 8.28 297 Pn Pn 04 40 37.9 -0.4
M20K Styx River 8.28 297 P Pn 04 40 38.9 +0.6
baz=104
I23K Minto, Yukon-K 8.31 323 Pn 04 40 40.1 +1.6
I23K Minto, Yukon-K 8.31 323 P Pn 04 40 40.4 +1.8
baz=132
CAST Castle Rocks 8.33 308 Pn 04 40 39.2 +0.2
CAST Castle Rocks 8.33 308 P Pn 04 40 39.6 +0.7
baz=116,SNR=10
FYU Fort Yukon 8.37 338 Pn 04 40 39.0 -0.4
H24K Noodor Dome 8.38 329 Pn Pn 04 40 40.3 +0.8
H24K Noodor Dome 8.38 329 P Pn 04 40 41.4 +1.8
baz=140
Q19K Cape Douglas, 8.39 276 Pn Pn 04 40 39.7 0.0
Q19K Cape Douglas, 8.39 276 P Pn 04 40 41.3 +1.6
baz=83
G26K Porcupine Rive 8.47 343 P Pn 04 40 42.3 +1.6
baz=157
OHAK Old Harbor 8.59 265 Pn Pn 04 40 41.1 -1.3
OHAK Old Harbor 8.59 265 P Pn 04 40 41.4 -1.1
baz=71
F31M Tsiigehtchic 8.61 10 P Pn 04 40 44.4 +1.7
baz=193,SNR=8.7
CHUM Lake Minchumin 8.63 311 P Pn 04 40 43.9 +0.9
baz=118,SNR=28
BBB Bella Bella 8.63 138 Pn Pn 04 40 45.2 +2.2
comp=N,0.4nm,0.3s,baz=325,slow=13,SNR=8.2
BBB Sn Sn 04 42 20.4 -0.4
comp=N,0.2nm,0.3s,baz=335,slow=19,SNR=1.0
BBB Lg Lg 04 43 05.0
comp=N,0.3nm,0.3s,baz=66,slow=12,SNR=3.4
comp=N,3.2nm,0.6s
MLY Manley 8.68 320 Pn Pn 04 40 44.0 +0.3
MLY Manley 8.68 320 P Pn 04 40 45.0 +1.3
baz=128,SNR=5.5
N19K Bonanza Creek 8.76 289 Pn Pn 04 40 43.7 -1.1
N19K Bonanza Creek 8.76 289 P Pn 04 40 44.2 -0.6
baz=94,SNR=6.9
L20K Farewell, AK 8.77 300 P Pn 04 40 44.9 -0.1
baz=106,SNR=12
H23K Yukon River 8.83 326 Pn Pn 04 40 46.3 +0.5
H23K Yukon River 8.83 326 P Pn 04 40 48.2 +2.4
baz=135
M19K Big River Lodg 8.87 296 Pn Pn 04 40 45.4 -0.9
M19K Big River Lodg 8.87 296 P Pn 04 40 45.8 -0.4
baz=102
G24K Hadweenzic Riv 8.96 334 P Pn 04 40 47.7 +0.2
baz=145
BMAR Burnt Mountain 9.03 342 Pn Pn 04 40 48.9 +0.3
O18K Koktuh Hills 9.10 283 Pn Pn 04 40 48.5 -1.0
O18K Koktuh Hills 9.10 283 P Pn 04 40 49.5 0.0
baz=88
K20K Telida 9.13 305 Pn Pn 04 40 49.0 -0.8
K20K Telida 9.13 305 P Pn 04 40 50.0 +0.1
baz=111
L19K White Mountain 9.14 298 Pn Pn 04 40 48.6 -1.4
L19K White Mountain 9.14 298 P Pn 04 40 49.6 -0.3
baz=103,SNR=9.8
I21K Tanana 9.19 318 Pn Pn 04 40 50.9 +0.3
I21K Tanana 9.19 318 P Pn 04 40 52.0 +1.3
baz=126,SNR=17
F26K Sheenjek River 9.21 344 P Pn 04 40 52.1 +1.1
baz=158
SII Sitkinak Islan 9.29 262 P Pn 04 40 53.3 +1.3
baz=68
SVW2 Sparrevohn 9.31 291 Pn Pn 04 40 51.0 -1.4
F25K Christian Rive 9.36 340 P Pn 04 40 53.2 +0.2
baz=92
E27K Coleen River 9.39 350 P Pn 04 40 55.1 +1.7
baz=167,SNR=8.4
H22K Ishtalitna Cre 9.43 323 P Pn 04 40 56.1 +2.1
baz=130
N18K Kilae Creek 9.44 288 Pn Pn 04 40 52.0 -2.1
N18K Kilae Creek 9.44 288 P Pn 04 40 53.5 -0.7
baz=92
INK Inuvik 9.48 9 Pn Pn 04 40 53.7 -0.9
comp=N,0.3nm,0.3s,baz=193,slow=10,SNR=10.0
INK Sn Sn 04 42 39.2 -2.3
comp=N,0.1nm,0.3s,baz=283,slow=32,SNR=0.7
INK Lg Lg 04 43 34.0
comp=N,0.2nm,0.3s,baz=268,slow=21,SNR=4.1
INK LR LR 04 45 06.4
comp=N,188nm,18.7s,baz=242,slow=41
comp=N,5.1nm,0.9s
INK Inuvik 9.48 9 Pn Pn 04 40 53.6 -1.0
INK Inuvik 9.48 9 P Pn 04 40 55.5 +0.9
baz=192,SNR=6.0
J20K Nowinta River 9.48 310 Pn Pn 04 40 54.1 -0.6
J20K Nowinta River 9.48 310 P Pn 04 40 55.1 +0.5
baz=116,SNR=20
G23K Bananza Creek 9.61 329 P Pn 04 40 57.9 +1.5
baz=138
F24K Squaw Lake 9.73 336 P Pn 04 40 59.1 +1.0
baz=146
H21K Melozitna Rive 9.75 319 Pn 04 40 57.5 -0.9
H21K Melozitna Rive 9.75 319 P Pn 04 40 59.6 +1.3
baz=126,SNR=13
P17K Kvichak River 9.78 279 P Pn 04 40 59.0 +0.3
baz=83
E25K Arctic Village 9.82 342 P Pn 04 40 59.6 +0.3
baz=155
TTA Tatalina 9.84 301 Pn Pn 04 40 58.3 -1.3
TTA Tatalina 9.84 301 P Pn 04 40 59.0 -0.6
baz=105,SNR=5.6
Q16K King Salmon 9.97 276 P Pn 04 41 01.6 +0.2
baz=80
COLD Coldfoot 10.04 330 Pn Pn 04 41 01.8 -0.6
COLD Coldfoot 10.04 330 P Pn 04 41 04.0 +1.7
baz=139,SNR=5.8
O17K Koliganek Bris 10.06 283 P Pn 04 41 02.1 -0.4
baz=86,SNR=6.4
G22K Bettles 10.17 327 P Pn 04 41 05.6 +1.6
baz=135
IMAR Indian Mountai 10.26 320 Pn Pn 04 41 05.6 +0.4
E24K Your Creek 10.32 336 P Pn 04 41 07.3 +1.1
baz=146
G21K Allakaket 10.50 322 P Pn 04 41 11.2 +2.6
baz=128,SNR=7.9
O16K Kokwok River B 10.58 282 P Pn 04 41 09.1 -0.6
baz=84
R16K Pilot Point 10.70 271 P Pn 04 41 10.0 -1.4
baz=74
F22K John River 10.77 328 P Pn 04 41 13.3 +1.1
baz=135
GCSA Galena City Sc 10.80 310 P Pn 04 41 13.0 +0.4
baz=113
N16K Nishlik Lake 10.86 287 P Pn 04 41 13.2 -0.4
baz=88,SNR=6.8
F21K Alatna River 10.94 325 P Pn 04 41 15.9 +1.2
baz=131
C27K Jago River 10.98 348 P Pn 04 41 17.3 +2.1
baz=163,SNR=13
TOLK Toolik Lake Re 11.02 336 Pn Pn 04 41 15.3 -0.4
TOLK Toolik Lake Re 11.02 336 P Pn 04 41 17.6 +1.9
baz=145
D25K Kavik River 11.04 343 P Pn 04 41 15.9 -0.1
baz=155
E22K Anaktuvuk Pass 11.13 331 P Pn 04 41 17.1 -0.2
baz=138
YKA Yellowknife Ar 11.66 63 Pn Pn 04 41 22.9 -1.5
comp=N,0.8nm,0.3s,baz=262,slow=13,SNR=27
YKA Sn Sn 04 43 30.7 -4.2
comp=N,0.3nm,0.3s,baz=311,slow=30,SNR=6.1
YKA Lg Lg 04 44 42.5
baz=259,slow=30
comp=N,6.5nm,0.6s
YKA Yellowknife Ar 11.66 63 Pn Pn 04 41 22.5 -1.9
C36M Paulatuk 11.85 24 P Pn 04 41 27.2 +0.3
baz=216
ANM Nome 14.25 305 P 04 42 08.1 +0.8
EDM Edmonton 14.57 103 Pn 04 42 03.9 -0.4
RES Resolute Bay 22.12 28 LR LR 04 52 55.6
comp=N,97nm,19.1s,baz=263,slow=39
PDAR Pinedale Array 23.68 121 P P 04 43 50.3 +0.1
comp=N,0.2nm,0.6s,baz=354,slow=6.4,SNR=1.9
comp=N,0.2nm,0.6s
NVAR Mina Array Bea 23.99 141 P P 04 43 55.9 +2.7
comp=N,0.9nm,0.8s,baz=333,slow=8.4,SNR=6.5
comp=N,0.9nm,0.8s
SFJD Kangerlussuaq 37.03 41 LR LR 05 00 31.5
comp=N,97nm,18.0s,baz=318,slow=36
TXAR Lajitas Array 37.56 127 P P 04 45 54.3 +1.5
comp=N,0.1nm,0.4s,baz=342,slow=8.7,SNR=1.9
comp=N,0.1nm,0.4s
H11S1 WAKE ISLAND Hy 56.95 250 T T 05 49 08.3
baz=31,slow=75,SNR=15
H11S2 WAKE ISLAND Hy 56.96 250 T T 05 49 08.3
baz=31,slow=75,SNR=6.7
H11S3 WAKE ISLAND Hy 56.97 250 T T 05 49 08.0
baz=31,slow=75,SNR=8.8
KSRS Korea Array 61.00 295 P P 04 48 52.4 +0.7
comp=N,1.1nm,0.7s,baz=32,slow=7.2,SNR=6.5
comp=N,1.1nm,0.7s
SONM Songino Array 61.41 316 P P 04 48 55.4 +0.8
comp=N,1.0nm,0.8s,baz=24,slow=8.1,SNR=5.7
comp=N,1.0nm,0.8s
ZALV Zalesovo Beam 62.36 333 P P 04 49 00.2 -0.4
comp=N,0.9nm,0.5s,baz=355,slow=8.7,SNR=2.0
comp=N,0.9nm,0.5s
KURBB Kurchatov Arra 66.86 336 P P 04 49 29.6 -0.5
comp=N,0.7nm,0.8s,baz=25,slow=6.0,SNR=3.7
comp=N,0.7nm,0.8s
MKAR Makanchi Array 69.61 332 P P 04 49 46.8 -0.7
comp=N,0.3nm,0.7s,baz=20,slow=4.6,SNR=3.6
comp=N,0.3nm,0.7s
AKASG Malin Array Be 70.10 9 P P 04 49 49.7 -0.6
comp=N,0.3nm,0.4s,baz=0.0,slow=6.5,SNR=2.0
comp=N,0.3nm,0.4s
AKTO Aktyubinsk 70.18 350 P P 04 49 50.2 -0.6
comp=N,1.2nm,0.8s,baz=76,slow=4.2,SNR=2.1
comp=N,1.2nm,0.8s
ESDC Sonseca Array 74.36 36 P P 04 50 16.0 -0.1
comp=N,0.7nm,0.8s,baz=339,slow=4.6,SNR=5.2
comp=N,0.7nm,0.8s
CMAR Chiang Mai Arr 90.15 308 P P 04 51 39.8 +0.9
comp=N,2.5nm,0.4s,baz=4.1,slow=5.8,SNR=19

*IDC **05** 04:45:38.8±1.2,55.°12S×30.°86W,h0km,mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=57.0km s-min=27.8km az=48.0*

ISC 05 04:45:40.3±0.9,55.°1S±0.°2×30.°9W±0.°3, h10km, n12, σ1s20/9, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	Neumayer Olymp	18.65	159	P	Pn	04 49 59.3	+1.1
SNAA	Sanae	20.51	155	P	P	04 50 17.2	-1.1
SNAA	Sanae	20.51	155	P	P	04 50 16.6	-1.7
	0.8nm,1.0s,baz=321,slow=18,SNR=6.5						
	0.8nm,1.0s						
TROLL	Troll, Antarti	22.07	153	P	P	04 50 35.0	-0.2
CPUP	Villa Florida	34.61	315	P	P	04 52 28.6	-0.8
	1.5nm,1.0s,baz=165,slow=9.9,SNR=3.4						
	1.5nm,1.0s						
LPAZ	La Paz	48.11	309	P	P	04 54 21.6	+0.7
	1.2nm,0.4s,baz=123,slow=5.0,SNR=9.4						
	1.2nm,0.4s						
H10N1	ASCENSION HYDR	48.87	22	T	T	05 47 14.9	
	baz=192,slow=76,SNR=4.1						
H10N3	ASCENSION HYDR	48.87	22	T	T	05 47 13.8	
	baz=192,slow=76,SNR=9.8						
H10N2	ASCENSION HYDR	48.89	22	T	T	05 47 14.9	
	baz=192,slow=76,SNR=7.5						
TORD	Torodi Ar. Bea	73.30	33	P	P	04 57 11.6	-0.3
	0.6nm,0.8s,baz=194,slow=7.1,SNR=2.6						
	0.6nm,0.8s						
ILAR	Eielson Array	147.90	314	PKPbc	PKPbc	05 05 23.9	-0.3
	0.6nm,0.5s,baz=113,slow=1.8,SNR=9.2						
SONM	Songino Array	152.77	87	PKPbc	PKiKP	05 05 38.2	+1.4
	0.3nm,0.3s,baz=224,slow=4.0,SNR=1.6						

*TAP **05** 04:48:35.9,24.°87N×122.°39E,h8km±1km,ML2.5,C JMA **05** 04:48:36.4±0.4,25.°N±2.°×122.°4E±0.°7,h6km,MV2.4/7, TAIWAN REGION*

ISC 05 04:48:36.3±1.1,24.°86N±0.°03×122.°39E±0.°03, h9km±10km, n40, σ0s49/68, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao	0.39	293	P	Pg	04 48 44.5	+0.6
	baz=291						
TWB1				S	Sb	04 48 50.6	-1.0
	baz=291						
EGS		0.41	269	eP	Pb	04 48 45.2	-0.6
	baz=266						
EGS				eS	Sb	04 48 51.8	-0.4
	baz=266						
NTC	Toucheng	0.51	270	eP	Pb	04 48 47.3	-0.1
	baz=267						
NTC				eS	Sb	04 48 55.0	+0.1
	baz=267						
SXI1	Grass Mountain	0.52	297	P	Pb	04 48 47.3	-0.4
	baz=288						
SXI1				S	Sb	04 48 54.9	-0.5
	baz=288						
TIPB	Shuangxi	0.52	283	eP	Pb	04 48 47.4	-0.2
	baz=281						
TIPB				eS	Sb	04 48 55.3	-0.1
	baz=281						
TWC	Suao	0.55	243	eP	Pb	04 48 47.6	-0.5
	baz=239						
NWF	Wu-fen Shan	0.59	291	eP	Pb	04 48 48.6	-0.3
	baz=290						
NWF				eS	Sb	04 48 57.0	-0.4
	baz=290						
JYNG	Yonagunijimaku	0.65	128	P	Pg	04 48 49.0	+0.2
JYNG				eS	Sg	04 48 57.6	+0.4
NDS	Dongshan	0.65	250	eP	Pg	04 48 48.4	-0.4
	baz=238						
NDS				eS	Sb	04 48 58.6	-0.4
	baz=238						
TWE	Neicheng	0.67	259	P	Pb	04 48 50.1	0.0
	baz=256						
TWE				eS	Sb	04 49 00.3	+0.8
	baz=256						
EWUT	Wuta	0.69	234	eP	Pg	04 48 49.6	+0.1
	baz=231						
EWUT				eS	Sb	04 48 59.9	-0.2
	baz=231						
YOJ	Yonaguni jima	0.69	125	eP	Pg	04 48 49.4	-0.2
	baz=125						
YOJ	Yonaguni jima	0.69	125	P	Pg	04 48 49.1	-0.4
YOJ				S	Sg	04 48 58.2	-0.4
ENA	Nanau	0.73	234	eP	Pg	04 48 50.3	0.0
	baz=231						
FUSB	Fushanzhiwuyua	0.73	263	eP	Pb	04 48 50.9	-0.4
	baz=248						
TWA	Mucha	0.74	280	eP	Pb	04 48 51.0	-0.4
	baz=279						
ENTT	Nioudou	0.78	254	eP	Pb	04 48 51.6	-0.4
	baz=252						
ENTT				eS	Sb	04 49 03.4	+0.7
	baz=252						
YM01	YM01	0.80	291	eP	Pb	04 48 52.2	-0.1
	baz=291						
YM01				eS	Sb	04 49 03.5	+0.3
	baz=291						
PCYT	Pengchaiyu	0.82	340	eP	Pg	04 48 51.9	-0.2
	baz=341						
TWY	Chenhua	0.83	301	eP	Pg	04 48 52.5	+0.3
	baz=300						
TWY				eS	Sb	04 49 04.3	+0.2
	baz=300						
NDT	Datong Townshi	0.83	253	eP	Pb	04 48 53.1	+0.2
	baz=250						
NDT				eS	Sn	04 49 05.7	-1.0
	baz=250						
LATG	Datong	0.84	248	P	Pb	04 48 53.1	-0.1
	baz=246						
LATG				eS	Sb	04 49 05.1	+0.4

	baz=246								
YHNB	**Yeheng**	**0.94**	**259**	*e*P		**Pb**	**04 48 54.5**	**-0.2**
	baz=250								
YHNB				*e*S		**Sn**	**04 49 08.3**	**-1.1**
	baz=250								
NSK	**Sanguang**	**0.95**	**259**	*e*P		**Pg**	**04 48 53.9**	**-0.7**
	baz=250								
NSK				*e*S		**Sb**	**04 49 08.4**	**+0.6**
	baz=250								
NACB	**Ninganchiao**	**0.99**	**227**	*e*P		**Pg**	**04 48 55.0**	**-0.3**
	baz=237								
NACB				*e*S		**Sb**	**04 49 08.7**	**-0.2**
	baz=237								
NNSB	**Datong**	**1.01**	**245**	*e*P		**Pb**	**04 48 55.7**	**-0.3**
	baz=243								
NNSB				*e*S		**Sn**	**04 49 10.6**	**-0.6**
	baz=243								
ETLH	**Xiulin Townshi**	**1.05**	**232**	*e*P		**Pb**	**04 48 56.4**	**-0.3**
	baz=229								
ETLH				*e*S		**Sb**	**04 49 10.3**	**-0.3**
	baz=229								
FUSS	**Fushou**	**1.20**	**240**	*e*P		**Pn**	**04 48 59.6**	**+0.1**
	baz=237								
FUSS				*e*S		**Sn**	**04 49 16.7**	**+0.6**
	baz=237								
WHF	**Hehuan Shan**	**1.24**	**236**	*e*P		**Pb**	**04 49 00.0**	**-0.2**
	baz=232								
WHF				*e*S		**Sn**	**04 49 17.2**	**-0.2**
	baz=232								
TWT	**Tachien**	**1.26**	**242**	*e*P		**Pn**	**04 49 00.8**	**+0.6**
	baz=239								
TWT				*e*S		**Sn**	**04 49 18.8**	**+1.5**
	baz=239								
TDCB	**Techi**	**1.27**	**242**	*e*P		**Pg**	**04 49 00.5**	**-0.2**
	baz=239								
TDCB				*e*S		**Sn**	**04 49 19.0**	**+1.4**
	baz=239								
IRIF	**Iriomote-Funau**	**1.33**	**113**	*e*P		**Pb**	**04 49 01.4**	**0.0**
OWD	**Renai**	**1.42**	**231**	*e*P		**Pb**	**04 49 03.0**	**-0.1**
	baz=228								
OWD				*e*S		**Sg**	**04 49 22.3**	**+0.2**
	baz=228								
WHP	**Taichung City**	**1.43**	**247**	*e*P		**Pb**	**04 49 03.2**	**0.0**
	baz=244								
WUSB	**Renai**	**1.44**	**234**	*e*P		**Pb**	**04 49 03.4**	**0.0**
	baz=230								
WUSB				*e*S		**Sg**	**04 49 22.9**	**+0.2**
	baz=230								
VWDT	**VWDT**	**1.58**	**226**	*e*P		**Pb**	**04 49 05.5**	**-0.1**
	baz=223								
HGSD	**Ruisui**	**1.62**	**213**	*e*P		**Pb**	**04 49 05.5**	**-0.8**
	baz=195								
JIJ	**Ishigaki jima**	**1.67**	**107**	*e*P		**Pb**	**04 49 07.2**	**-0.1**
SSLB	**Suanglung**	**1.69**	**231**	*e*P		**Pb**	**04 49 06.9**	**-0.6**
	baz=236								
SSLB				*e*S		**Sb**	**04 49 29.2**	**+0.4**
	baz=236								
YULB	**Yu-li**	**1.77**	**215**	*e*P		**Pn**	**04 49 07.3**	**+0.2**
	baz=211								

KRNET ***05*** *04:49:50.4±0.1, 41°.20N×73°.43E, h14km, mb3.1*
SOME ***05*** *04:49:50.9, 41°.30N×73°.38E, h10km*
ISU ***05*** *04:49:51, 41°.09N×73°.48E, h7km*
NNC ***05*** *04:49:51.6±1.2, 41°.32N×73°.33E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=10.2km s-min=4.8km az=173.0*
KNET ***05*** *04:49:52.7±0.5, 41°.34N×73°.51E, h8km±2km, ml2.8, Error ellipse: s-maj=4.1km s-min=2.6km az=103.0*

ISC 05 04:49:50.0±1.1, 41°.24N±0°.03×73°.42E±0°.02, h4km±10km, n61, σ1§30/102, 26C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.86**	**214**	⇑*i*	P		**Pg**	**04 50 06.3**	**-0.3**
	baz=16								
OHH				⇑*i*	S		**Sg**	**04 50 17.7**	**-0.1**
	baz=16								
OHH	**Osh**	**0.86**	**214**	P			**Pg**	**04 50 05.9**	**-0.7**
OHH				S			**Sg**	**04 50 17.6**	**-0.2**
AML	**Almayashu**	**0.91**	**13**	⇓P			**Pb**	**04 50 08.5**	**-0.1**
	100nm,0.2s,SNR=288								
AML				⇓S			**Sb**	**04 50 20.9**	**-0.3**
	282nm,0.3s								
ARLS	**Aral**	**0.92**	**47**	⇑*i*	P		**Pg**	**04 50 08.2**	**+0.6**
	baz=46								
ARLS				⇑*i*	S		**Sb**	**04 50 20.9**	**-0.2**
	baz=46								
ANR	**Andizhan**	**0.94**	**239**	S			**Sn**	**04 50 23.4**	**-0.4**
TSTA	**Tashata**	**0.97**	**227**	P			**Pn**	**04 50 10.1**	**-0.3**
TSTA				S			**Sn**	**04 50 23.8**	**-0.9**
ARK	**Arkit**	**1.23**	**297**	⇑*i*	P		**Pg**	**04 50 13.8**	**+0.3**
	baz=99								
ARK				⇑*i*	S		**Sn**	**04 50 31.2**	**+0.2**
	baz=99								
UCH	**Uchtor**	**1.28**	**39**	⇓P			**Pb**	**04 50 15.1**	**+0.1**
	20nm,0.2s,SNR=30								
UCH				⇓S			**Sn**	**04 50 32.5**	**-0.3**
	58nm,0.2s								
UCH	**Uchtor**	**1.28**	**39**	⇑*i*	P		**Pb**	**04 50 15.0**	**+0.1**
	baz=38								
UCH				⇑*i*	S		**Sn**	**04 50 32.8**	**0.0**
	baz=38								
EKS2	**Erkin-Say**	**1.44**	**11**	⇓P			**Pg**	**04 50 17.9**	**+0.3**
	17nm,0.2s,SNR=32								
EKS2				⇓S			**Sg**	**04 50 38.0**	**+1.6**
	43nm,0.3s								
EKS2	**Erkin-Say**	**1.44**	**11**	⇓*i*	P		**Pg**	**04 50 17.9**	**+0.3**
	baz=10.0								
EKS2				⇓*i*	S		**Sg**	**04 50 38.1**	**+1.7**
	baz=10.0								
MRKS	**Merke**	**1.51**	**355**	*e*P			**Pg**	**04 50 18.8**	**-0.1**
	35nm,0.2s								
MRKS				*e*S			**Sg**	**04 50 38.6**	**+0.1**
	217nm,0.3s								
MRKS	**Merke**	**1.51**	**355**	P			**Pg**	**04 50 18.8**	**-0.1**
	35nm,0.2s								
MRKS				S			**Sg**	**04 50 38.6**	**+0.1**
	217nm,0.3s								
FRG	**Fergana**	**1.52**	**236**	P			**Pg**	**04 50 19.4**	**+0.4**
FRG				S			**Sg**	**04 50 40.2**	**+1.6**
AAK	**Ala-Archa**	**1.61**	**30**	⇑P			**Pg**	**04 50 20.9**	**+0.1**
	19nm,0.2s,SNR=15								
AAK				⇓S			**Sg**	**04 50 42.4**	**+0.7**
	56nm,0.2s								
AAK	**Ala-Archa**	**1.61**	**30**	⇑*i*	P		**Pb**	**04 50 20.6**	**+0.3**
	baz=29								
AAK				⇑*i*	S		**Sg**	**04 50 42.7**	**+1.0**
	baz=29								
CHMI	**Chimion**	**1.74**	**237**	S			**Sg**	**04 50 46.8**	**+1.0**
TRKS	**Terek-Say**	**1.74**	**280**	⇑*i*	P		**Pb**	**04 50 22.3**	**-0.2**
	baz=79								
TRKS				⇑*i*	S		**Sg**	**04 50 45.4**	**-0.5**
	baz=79								
FRU1	**Bishkek**	**1.81**	**30**	⇑*i*	P		**Pg**	**04 50 24.5**	**-0.1**
	baz=29								
FRU1				⇑*i*	S		**Sg**	**04 50 49.5**	**+1.5**
	baz=29								
KBK	**Karagaybulak**	**1.81**	**38**	⇑P			**Pg**	**04 50 24.9**	**+0.1**
	12nm,0.1s,SNR=8.1								
KBK				⇑S			**Sg**	**04 50 49.8**	**+1.5**
	99nm,0.2s								
KBK	**Karagaybulak**	**1.81**	**38**	⇓*i*	P		**Pb**	**04 50 24.3**	**+0.5**
	baz=37								
KBK				⇓*i*	S		**Sg**	**04 50 49.2**	**+0.9**
	baz=37								
CHMS	**Chumysh**	**2.02**	**29**	⇓P			**Pg**	**04 50 28.2**	**-0.4**
	20nm,0.5s,SNR=8.3								
CHMS				⇑S			**Sg**	**04 50 54.9**	**+0.1**
	38nm,0.2s								
CHMS	**Chumysh**	**2.02**	**29**	⇑Pn			**Pg**	**04 50 28.2**	**-0.4**
	12nm,0.5s								
CHMS				⇓Sn			**Sg**	**04 50 54.4**	**-0.3**
	43nm,0.5s								
CHMS	**Chumysh**	**2.02**	**29**	⇑*i*	P		**Pb**	**04 50 27.4**	**+0.2**
	baz=28								
CHMS				⇑*i*	S		**Sg**	**04 50 54.3**	**-0.4**
	baz=28								
USP	**Ospenovka**	**2.18**	**21**	⇓P			**Pb**	**04 50 30.5**	**+0.6**
	17nm,0.2s,SNR=19								
USP				⇓S			**Sg**	**04 51 00.4**	**+0.5**
	133nm,0.4s								
USP	**Ospenovka**	**2.18**	**21**	⇑*i*	P		**Pb**	**04 50 29.6**	**-0.3**
	baz=21								
USP				⇑*i*	S		**Sb**	**04 50 58.4**	**+1.2**
	baz=21								
DZA	**Taraz**	**2.27**	**317**	*e*P			**Pb**	**04 50 31.8**	**+0.3**
	122nm,0.1s								
DZA				*e*S			**Sb**	**04 51 00.8**	**+0.9**
	352nm,0.2s								
DZA	**Taraz**	**2.27**	**317**	Pg			**Pb**	**04 50 31.7**	**+0.3**
	122nm,0.1s								
DZA				Lg			Lg	04 51 00.8	
	352nm,0.2s								
TKM2	**Tokmak 2**	**2.33**	**43**	⇑P			**Pb**	**04 50 32.7**	**+0.1**
	21nm,0.3s,SNR=12								
TKM2				⇓S			**Sg**	**04 51 04.1**	**-0.8**
	56nm,0.3s								
TKM2	**Tokmak 2**	**2.33**	**43**	⇓Pn			**Pb**	**04 50 32.5**	**-0.2**
TKM2				⇓Lg			Lg	04 51 05.5	
	54nm,0.6s								
TKM2	**Tokmak 2**	**2.33**	**43**	⇓*e*P			**Pb**	**04 50 32.0**	**-0.7**
	baz=42								
TKM2				⇓*i*S			**Sb**	**04 51 02.0**	**+0.1**
	baz=42								
ULHL	**Ulahol**	**2.34**	**64**	⇑*e*P			**Pb**	**04 50 31.6**	**-1.2**
	baz=63								
ULHL				⇑*i*S			**Sb**	**04 51 02.0**	**0.0**
	baz=63								
SGDS	**Sogindy**	**2.38**	**22**	*e*P			**Pb**	**04 50 34.4**	**+0.9**
	8.8nm,0.1s								
SGDS				*e*S			**Sb**	**04 51 04.9**	**+1.7**
	61nm,0.3s								
SGDS	**Sogindy**	**2.38**	**22**	Pg			**Pb**	**04 50 34.4**	**+0.9**
	8.8nm,0.1s								
SGDS				Lg			Lg	04 51 04.9	
	61nm,0.3s								
KST	**Kastek**	**2.61**	**46**	*e*P			**Pb**	**04 50 39.0**	**+1.6**
	10nm,0.4s								
KST				*e*S			**Sg**	**04 51 13.3**	**-0.5**
	61nm,0.6s								
KST	**Kastek**	**2.61**	**46**	Pg			**Pb**	**04 50 39.0**	**+1.6**
	10nm,0.4s								
KST				Lg			Lg	04 51 13.3	
	61nm,0.6s								
DGS	**Degeres**	**2.65**	**40**	*e*P			**Pb**	**04 50 39.8**	**+1.7**
	21nm,0.6s								
DGS				*e*S			**Sg**	**04 51 14.6**	**-0.6**
	58nm,0.5s								
DGS	**Degeres**	**2.65**	**40**	Pg			**Pb**	**04 50 39.8**	**+1.7**
	21nm,0.6s								
DGS				Lg			Lg	04 51 14.6	
	58nm,0.5s								
IUG	**Iuzhnay**	**2.69**	**291**	*e*P			**Pg**	**04 50 40.3**	**-1.3**
	791nm,0.3s								
IUG				*e*S			**Sg**	**04 51 15.5**	**-1.0**
	166nm,0.7s								
IUG	**Iuzhnay**	**2.69**	**291**	Pg			**Pg**	**04 50 40.3**	**-1.3**
	791nm,0.3s								
IUG				Lg			Lg	04 51 15.5	
	166nm,0.7s								
SUKO	**Sukok**	**2.71**	**271**	P			**Pb**	**04 50 39.9**	**+0.8**
KK31	**Karatay Array**	**2.85**	**312**	Pg			**Pb**	**04 50 42.0**	**+0.6**
	6.5nm,0.4s,baz=129,slow=18,SNR=75								
KK31				⇓Lg			Lg	04 51 19.7	
	9.7nm,0.3s,baz=137,slow=29,SNR=7.2								
MTBS	**Maitube**	**2.92**	**49**	*e*P			**Pg**	**04 50 44.9**	**-1.1**
	4.2nm,0.1s								
MTBS				*e*S			**Sg**	**04 51 23.1**	**-0.8**
	33nm,0.5s								
MTBS	**Maitube**	**2.92**	**49**	Pg			**Pg**	**04 50 44.9**	**-1.1**
	4.2nm,0.1s								
MTBS				Lg			Lg	04 51 23.1	
	33nm,0.5s								
KRBS	**Karabastau**	**2.96**	**33**	*e*P			**Pb**	**04 50 45.3**	**+1.9**
	7.2nm,0.3s								
KRBS				*e*S			**Sg**	**04 51 24.0**	**-1.2**
	30nm,0.4s								
KRBS	**Karabastau**	**2.96**	**33**	Pg			**Pb**	**04 50 45.3**	**+1.9**
	7.2nm,0.3s								
KRBS				Lg			Lg	04 51 24.0	
	30nm,0.4s								
IZV	**Izvestkoviy**	**2.98**	**52**	*e*P			**Pg**	**04 50 45.9**	**-1.1**
	4.3nm,0.1s								
IZV				*e*S			**Sg**	**04 51 24.8**	**-0.8**
	40nm,0.4s								
IZV	**Izvestkoviy**	**2.98**	**52**	Pg			**Pg**	**04 50 45.8**	**-1.1**
	4.3nm,0.1s								
IZV				Lg			Lg	04 51 24.7	
	40nm,0.4s								
TNSS	**Tian-Shan**	**3.18**	**54**	Pg			**Pg**	**04 50 49.6**	**-1.3**
	3.0nm,0.1s								
TNSS				Lg			Lg	04 51 31.4	
	35nm,0.4s								
MDOK	**Medeo**	**3.31**	**53**	*e*P			**Pb**	**04 50 51.4**	**+2.1**
	3.0nm,0.3s								
MDOK				*e*S			**Sg**	**04 51 34.7**	**-1.5**
	21nm,0.5s								
MDOK	**Medeo**	**3.31**	**53**	Pg			**Pb**	**04 50 51.4**	**+2.1**
	3.0nm,0.3s								
MDOK				Lg			Lg	04 51 34.7	
	21nm,0.5s								
MDOK				⇓Lg			Lg	04 51 36.5	
	22nm,0.7s								
KUU	**Kurty**	**3.42**	**38**	⇓*i*	P		**Pb**	**04 50 53.2**	**+2.2**
	5.6nm,0.2s								
KUU				⇓*i*	S		**Sg**	**04 51 37.8**	**-1.9**
	19nm,0.5s								
KUU	**Kurty**	**3.42**	**38**	Pg			**Pb**	**04 50 53.2**	**+2.2**
	5.6nm,0.2s								
KUU				Lg			Lg	04 51 37.8	
	19nm,0.5s								
KTBS	**Karatobe**	**3.45**	**43**	*e*P			**Pb**	**04 50 54.0**	**+2.4**
	3.8nm,0.4s								
KTBS				*e*S			**Sg**	**04 51 39.0**	**-1.8**
	49nm,0.3s								
KTBS	**Karatobe**	**3.45**	**43**	Pg			**Pb**	**04 50 54.0**	**+2.4**
	3.8nm,0.4s								
KTBS				Lg			Lg	04 51 39.0	
	49nm,0.3s								
CHKK	**Chushkaly**	**3.71**	**44**	*e*P			**Pb**	**04 50 58.4**	**+2.4**
	3.4nm,0.2s								
CHKK				*e*S			**Sg**	**04 51 47.0**	**-2.1**
	15nm,0.2s								
CHKK	**Chushkaly**	**3.71**	**44**	Pg			**Pb**	**04 50 58.4**	**+2.4**
	3.4nm,0.2s								
CHKK				Lg			Lg	04 51 47.0	
	15nm,0.2s								
BTLS	**Baital**	**3.82**	**7**	*e*P			**Pg**	**04 51 00.8**	**-2.5**
	6.2nm,0.3s								
BTLS				*e*S			**Sg**	**04 51 50.6**	**-2.2**
	20nm,0.4s								
BTLS	**Baital**	**3.82**	**7**	Pg			**Pg**	**04 51 00.8**	**-2.5**
	6.2nm,0.3s								
BTLS				Lg			Lg	04 51 50.6	
	20nm,0.4s								
ARXS	**Arharly**	**4.40**	**46**	*e*P			**Pb**	**04 51 11.3**	**+3.5**
	2.7nm,0.4s								
ARXS				*e*S			**Sg**	**04 52 08.7**	**-2.6**
	13nm,0.6s								
ARXS	**Arharly**	**4.40**	**46**	Pg			**Pb**	**04 51 11.3**	**+3.5**
	2.7nm,0.4s								
ARXS				Lg			Lg	04 52 08.7	
	13nm,0.6s								

IDC ***05*** *04:50:09.9±0.5, 34°.69N×73°.01E, h0km, mb4.5/30, mbtmp4.5/36, ML4.1/6, MS3.6/38, Error ellipse: s-maj=12.3km s-min=10.2km az=31.0*
MOS ***05*** *04:50:13.0±1.1, 34°.75N×73°.04E, h30km, mb4.6/22, Error ellipse: s-maj=7.8km s-min=4.4km az=91.5*
NEIC ***05*** *04:50:14.4±1.8, 34°.74N±0°.06×73°.10E±0°.08, h26km±5km, mb4.7/86, Error ellipse: s-maj=9.4km s-min=9.1km az=101.0*
BJI ***05*** *04:50:15.0±0.0, 34°.80N×73°.00E, h33km, mb4.7/45, mB4.7/24, ML4.5/3, Ms4.0/19, Ms7 3.8/19*
NNC ***05*** *04:50:18.9±2.4, 34°.93N×73°.12E, h81km±25km, mb4.5, mpv4.7, Error ellipse: s-maj=20.5km s-min=19.5km az=171.0*

ISC 05 04:50:13.1±0.3, 34°.67N±0°.03×73°.07E±0°.03, h21km, n417, σ1§42/433, mb4.7/96, MS3.7/38, 19C-13D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.02**	**171**	P			**Pn**	**04 50 33.5**	**+1.3**
NIL	**Nilore**	**1.03**	**172**				**Pn**	**04 50 33.3**	**+1.0**
NIL	**Nilore**	**1.03**	**172**	P			**Pn**	**04 50 33.3**	**+1.0**
CEP	**Cherat**	**1.28**	**229**	P			**Pb**	**04 50 36.5**	**-0.1**
CEP				S			**Sb**	**04 50 56.0**	**+3.4**
THW	**Thamme Wali**	**2.17**	**211**	P			**Pb**	**04 50 51.4**	**-0.3**
JMU	**Jammu**	**2.47**	**141**	*e*P			**Pb**	**04 50 56.6**	**-0.2**
JMU				*e*S			**Sb**	**04 51 31.1**	**+4.2**
SARP	**Sargodha**	**2.76**	**187**	P			**Pb**	**04 50 59.1**	**-2.6**
THN	**Thein Dam**	**3.14**	**135**	*e*P			**Pb**	**04 51 06.6**	**-1.5**
THN				*e*PN			**Pb**	**04 51 07.0**	**-1.2**
THN				*e*SN			**Sb**	**04 51 47.5**	**+1.5**
THN				*e*S			Sn	04 51 48.4	+10
KBL	**Kabul**	**3.32**	**269**	Pn			**Pn**	**04 51 06.2**	**+2.1**
KBL	**Kabul**	**3.32**	**269**	P			**Pn**	**04 51 06.2**	**+2.1**
BHK	**Bhakra**	**4.29**	**138**	*e*PN			**Pn**	**04 51 15.8**	**-1.4**
BHK				*e*P			Pb	04 51 21.9	-6.0
BHK				*e*SN			**Sn**	**04 52 07.2**	**+0.6**
BHK				*e*S			**Sb**	**04 52 13.6**	**-5.6**
GAR	**Garm**	**4.85**	**334**	Pn			**Pn**	**04 51 26.6**	**+1.6**
SMLA	**Simla**	**4.93**	**135**	*e*P			**Pn**	**04 51 29.2**	**+3.3**
SMLA				*e*S			**Sn**	**04 52 27.8**	**+5.4**
SMLA				IAML				04 52 56.6	
	comp=E,2μm,0.6s								
CHGR	**Chuyangaron**	**5.07**	**323**	Pn			**Pn**	**04 51 29.4**	**+1.4**
CHGR	**Chuyangaron**	**5.07**	**323**	P			**Pn**	**04 51 29.4**	**+1.4**
KSH	**Kashi**	**5.37**	**25**	Pn			**Pn**	**04 51 31.1**	**-0.9**
BTK	**Batken**	**5.67**	**342**	Pn			**Pn**	**04 51 38.7**	**+2.6**
BTK	**Batken**	**5.67**	**342**	P			**Pn**	**04 51 38.7**	**+2.6**
NDI	**New Delhi**	**6.94**	**148**	*e*P			**Pn**	**04 51 57.6**	**+4.1**
NDI				*e*P			Pn	04 51 59.0	+5.5
NDI				*e*S			**Sn**	**04 53 14.0**	**+2.2**
NDI				*e*S			**Sn**	**04 53 16.0**	**+4.2**
KHET	**Khetri**	**6.98**	**160**	*e*P			**Pn**	**04 51 56.0**	**+1.9**
KHET				*e*S			**Sn**	**04 53 12.2**	**-0.7**
AYAN	**Aya Nagar**	**7.07**	**150**	*e*S			**Sn**	**04 53 19.5**	**+4.4**
KUDL	**Kundal**	**7.13**	**155**	*e*P			**Pn**	**04 51 58.1**	**+2.0**
KUDL				*e*S			**Sn**	**04 53 16.4**	**-0.1**
NRN	**Naryn**	**7.14**	**18**	Pn			**Pn**	**04 51 58.3**	**+1.8**
NRN	**Naryn**	**7.14**	**18**	P			**Pn**	**04 51 58.3**	**+1.8**
SONA	**Sohna**	**7.26**	**151**	*e*P			**Pn**	**04 52 00.5**	**+2.6**
SONA				*e*S			**Sn**	**04 53 20.8**	**+1.1**
PTH	**Pithoragarh**	**7.92**	**128**	*e*P			**Pn**	**04 52 09.2**	**+1.9**
PTH				*e*S			**Sn**	**04 53 37.0**	**+0.6**
LGTI	**Lohaghat**	**8.01**	**129**	*e*P			**Pn**	**04 52 10.0**	**+1.8**
LGTI				*e*S			**Sn**	**04 53 37.2**	**-0.9**
AAK	**Ala-Archa**	**8.03**	**8**	Pn			**Pn**	**04 52 12.4**	**+3.7**
	comp=E,4.0nm,0.3s,baz=204,slow=14,SNR=5.3								
AAK				Sn			**Sn**	**04 53 36.8**	**-2.1**
	comp=E,2.1nm,0.3s,baz=221,slow=16,SNR=3.2								
AAK				LR			LR	04 55 26.7	
	comp=E,468nm,21.5s,baz=188,slow=40								
	comp=E,20nm,0.4s								
AAK	**Ala-Archa**	**8.03**	**8**	Pn			**Pn**	**04 52 10.7**	**+2.0**
AAK				Sn			**Sn**	**04 53 38.4**	**-0.6**
AAK	**Ala-Archa**	**8.03**	**8**	*de*P			**Pn**	**04 52 08.9**	**+0.2**
MRKS	**Merke**	**8.06**	**1**	Lg			Lg	04 53 37.0	
	comp=E,120nm,0.3s								
AJM	**Ajmer**	**8.28**	**170**	*e*P			**Pn**	**04 52 13.8**	**+1.8**
AJM				*e*S			**Sn**	**04 53 44.5**	**-0.3**
TKM2	**Tokmak 2**	**8.47**	**13**	⇑P			**Pn**	**04 52 15.8**	**+1.1**
	comp=E,67nm,1.2s								
TKM2				⇑S			**Sn**	**04 53 48.5**	**-1.2**
	comp=E,37nm,0.6s								
KK31	**Karatay Array**	**8.65**	**347**	Pn			**Pn**	**04 52 17.6**	**+0.6**
KK31	**Karatay Array**	**8.65**	**347**	P			**Pn**	**04 52 17.7**	**+0.6**
KK31	**Karatay Array**	**8.65**	**347**	P			**Pn**	**04 52 18.2**	**+1.2**
	comp=E,46nm,0.6s,baz=161,slow=12,SNR=37								
KK31				S			**Sn**	**04 53 51.2**	**-2.7**
	comp=E,50nm,0.6s,baz=257,slow=66,SNR=10								
KKAR	**Karatay Array**	**8.65**	**347**	Pn			**Pn**	**04 52 17.7**	**+0.7**
KKAR	**Karatay Array**	**8.65**	**347**	P			**Pn**	**04 52 17.7**	**+0.7**
KST	**Kastek**	**8.66**	**14**	P			**Pn**	**04 52 18.5**	**+1.3**
	comp=E,33nm,0.9s								
DGS	**Degeres**	**8.81**	**13**	P			**Pn**	**04 52 21.2**	**+1.8**
	comp=E,40nm,0.9s								
SGDS	**Sogindy**	**8.85**	**7**	P			**Pn**	**04 52 21.2**	**+1.4**
	comp=E,13nm,0.8s								
HRA	**Herat**	**8.94**	**271**	Pn			**Pn**	**04 52 22.0**	**+0.8**
MDOK	**Medeo**	**9.03**	**19**	⇑P			**Pn**	**04 52 20.7**	**-1.7**
	comp=E,30nm,1.2s								
KRBS	**Karabastau**	**9.24**	**12**	P			**Pn**	**04 52 26.5**	**+1.4**
	comp=E,11nm,0.7s								
KURS	**Kuram**	**9.65**	**23**	P			**Pn**	**04 52 32.6**	**+1.8**
	comp=E,34nm,1.2s								
PDGK	**Podgornoye**	**9.98**	**28**	*i* P			**Pn**	**04 52 35.9**	**+0.6**
PDGK				pmax			pmax		
	comp=Z,63nm,0.8s								
PDGK	**Podgornoye**	**9.98**	**28**	⇑P			**Pn**	**04 52 36.0**	**+0.6**
	comp=E,63nm,0.8s								
PDGK				⇓S			**Sn**	**04 54 24.3**	**-2.5**
	comp=Z,41nm,0.9s								
JHNI	**Jhansi**	**10.32**	**151**	*e*P			**Pn**	**04 52 41.1**	**+1.2**
JHNI				*e*S			**Sn**	**04 54 31.9**	**-3.1**
BTLS	**Baital**	**10.38**	**4**	P			**Pn**	**04 52 41.7**	**+1.0**
	comp=Z,9.0nm,0.6s								
DANN	**Dangsing**	**11.08**	**122**	*e*P			**Pn**	**04 52 50.4**	**-0.2**
	comp=Z,147nm,0.3s								
GKN	**Gorkha**	**11.91**	**121**	*e*P			**Pn**	**04 53 01.5**	**-0.3**
	comp=Z,157nm,0.4s								
BHPL	**Bhopal**	**12.01**	**160**	*e*P			**Pn**	**04 53 03.8**	**+0.7**
BHPL				IAmb			IAmb	04 53 04.6	
	comp=Z,30nm,1.0s								
BHPL				*e*S			**Sn**	**04 55 12.3**	**-4.1**
BHPL				IAML				04 55 16.9	
	comp=E,117nm,0.4s								
ALBI	**Allahabad**	**12.01**	**139**	*e*P			**Pn**	**04 53 03.8**	**+0.8**
ALBI				*e*S			**Sn**	**04 55 12.0**	**-4.3**
DMN	**Daman**	**12.48**	**121**	*e*P			**Pn**	**04 53 09.0**	**-0.7**
	comp=E,60nm,0.2s								
KKN	**Kakani**	**12.49**

comp=Z,3.0nm,0.8s
KURBB **Kurchatov Arra** 16.43 12 ⇓P Pn 04 53 58.2 -4.0
comp=Z,16nm,1.1s
KURK **Kurchatov** 16.54 12 Pn Pn 04 54 00.9 -2.7
KURK **Kurchatov** 16.54 12⇑ *e*P P 04 54 05.7 -0.4
WSAR **Wadi Sarin** 16.99 232 Pn P 04 54 11.1 -0.2
comp=Z,0.8nm,0.3s,baz=85,slow=11,SNR=8.1
AB31 **Akbulak array** 17.50 330 *e*P Pn 04 54 13.2 -2.4
AB31 **Akbulak array** 17.50 330 ⇓P Pn 04 54 13.3 -2.4
comp=Z,10.0nm,0.8s,baz=143,slow=12,SNR=52
AB31 S Sn 04 57 17.0 -13
comp=Z,5.7nm,0.6s,baz=147,slow=24,SNR=5.5
ABKAR **Akbulak array** 17.50 330 Pn 04 54 13.9 -1.8
GOMU **GeErMu** 17.79 79 P Pn 04 54 18.1 -1.6
GOMU pP sP 04 54 30.6 +0.6
GOMU pmax pmax
comp=Z,7.0nm,1.0s
HYBB **Hyderabad (bro** 17.87 163 *e*P Pn 04 54 20.2 -0.3
DGZ **Jazzator, Alta** 18.36 31 *de*P P 04 54 25.7 -0.7
BVA0 **Borovoye Array** 18.45 355 P P 04 54 26.5 -0.6
BVA0 **Borovoye Array** 18.45 355 ⇑P P 04 54 26.6 -0.6
comp=Z,28nm,1.1s,baz=167,slow=12,SNR=114
BVAR **Borovoye Array** 18.45 355 P P 04 54 25.3 -1.9
comp=Z,4.2nm,0.3s,baz=160,slow=13,SNR=57
BVAR LR LR 05 01 49.0
comp=Z,357nm,21.3s,baz=171,slow=38
comp=Z,9.5nm,0.4s
BRVK **Borovoye** 18.49 355 P P 04 54 26.8 -0.8
BRVK **Borovoye** 18.49 355 *de*P P 04 54 26.4 -1.2
BRVK pmax pmax
comp=Z,26nm,0.9s
SHL **Shillong** 18.61 114 P P 04 54 26.9 -2.4
SHL IAmb IAmb 04 54 33.4
comp=Z,25nm,0.6s
SHL **Shillong** 18.61 114 P P 04 54 26.9 -2.4
SHL pmax pmax
comp=Z,25nm,0.6s
TEZP **TEZPUR** 18.76 110 *e*P Pn 04 54 33.3 +2.0
AKTO **Aktyubinsk** 19.21 330 P P 04 54 35.4 -0.1
comp=Z,3.2nm,0.3s,baz=137,slow=8.6,SNR=53
AKTO LR LR 05 01 30.8
comp=Z,95nm,18.5s,baz=142,slow=36
comp=Z,19nm,0.5s
AKTO **Aktyubinsk** 19.21 330 ⇑P P 04 54 35.1 -0.4
comp=Z,38nm,1.1s
ZAA0 **Zalesovo Array** 20.98 20 P P 04 54 53.6 -1.0
ZAA0 IAmb IAmb 04 54 58.8
comp=Z,34nm,0.7s
ZALV **Zalesovo Beam** 20.98 20 P P 04 54 53.8 -0.9
comp=Z,21nm,0.4s,baz=215,slow=9.7,SNR=37
ZALV LR LR 05 03 37.3
comp=Z,215nm,20.1s,baz=222,slow=38
comp=Z,21nm,0.4s
GTA **Gaotai** 21.83 70 *e*P P 04 55 04.9 +0.7
GTA pmax pmax
comp=Z,11nm,0.8s
GNI **Garni** 23.11 292 P P 04 55 18.9 +1.1
comp=Z,14nm,0.8s,baz=115,slow=5.3,SNR=6.6
comp=Z,14nm,0.8s
GNI **Garni** 23.11 292 P P 04 55 18.8 +1.1
GNI IAmb IAmb 04 55 30.2
comp=Z,27nm,0.8s
GNI **Garni** 23.11 292 P P 04 55 18.8 +1.1
GNI pmax pmax
comp=Z,27nm,0.9s
KNGR **Kungurtug, Tuv** 23.86 41 *de*P P 04 55 26.7 +1.7
KNGR pmax pmax
comp=Z,15nm,0.8s
ARU **Arti** 23.92 340 P P 04 55 25.3 0.0
comp=Z,10nm,0.5s,baz=154,slow=7.5,SNR=15
ARU LR LR 05 05 32.5
comp=Z,216nm,20.0s,baz=150,slow=39
comp=Z,10nm,0.5s
ARU **Arti** 23.92 340 P P 04 55 24.5 -0.8
ARU IAmb IAmb 04 55 27.4
comp=Z,25nm,1.2s
ARU **Arti** 23.92 340 *c i*P P 04 55 25.2 -0.1
ARU S S 04 59 41.6 +1.2
ARU SS SnSn 05 00 20.7 +0.2
ARU pmax pmax
comp=Z,39nm,1.7s
ZEI **Tsey** 24.07 298 *e*P P 04 55 32.5 +5.4
ZEI pmax pmax
comp=Z,7.0nm,0.8s
KBZ **Khabaz** 24.96 300 P P 04 55 34.9 0.0
comp=Z,2.4nm,0.9s,baz=129,slow=6.5,SNR=2.4
comp=Z,2.4nm,0.9s
KBZ **Khabaz** 24.96 300⇑ *e*P P 04 55 35.3 +0.4
KBZ pmax pmax
comp=Z,7.0nm,1.6s
LZH **Lanzhou** 25.08 78 ⇑P P 04 55 37.8 +1.4
LZH pP sP 04 55 45.8 -0.7
LZH sP pP 04 55 51.0 +7.5
LZH pmax pmax
comp=Z,26nm,1.4s
LZH pmax pmax
comp=Z,150nm,5.2s
LZH LR LR
comp=Z,200nm,12.4s
LZH LR LR
comp=Z,180nm,11.0s
LZH LR LR
comp=Z,170nm,11.3s
GURO **Guroymak-BITLI** 25.15 288 P P 04 55 37.1 +0.2
KIV **Kislovodsk** 25.15 301 *i* P P 04 55 43.6 +6.8
KIV *i* 04 56 21.5
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV MLR MLR
comp=Z,51nm,20.0s
BELG **Belogornoye** 25.37 322 P P 04 55 38.3 -0.2
comp=Z,42nm,0.9s,baz=66,slow=2.5,SNR=12
BELG LR LR 05 07 02.8
comp=Z,38nm,19.5s,baz=147,slow=40
comp=Z,42nm,0.9s
BELG **Belogornoye** 25.37 322 *ce*P P 04 55 39.1 +0.6
BELG pmax pmax
comp=Z,9.0nm,0.9s
PZH **PanZhiHua** 25.93 100 P P 04 55 46.6 +2.6
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,70nm,3.5s
MARD **Mardin** 26.19 285 P P 04 55 46.8 +0.4
MARD IAmb IAmb 04 55 52.2
comp=Z,12nm,0.6s
RAYN **Ar Rayn** 26.44 253 P P 04 55 49.1 +0.4
RAYN pmax pmax
comp=Z,5.0nm,1.1s
ZAK **Zakamensk** 27.00 45 *e*P P 04 55 53.9 +0.4
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KMI **Kunming** 27.34 102 ⇑P P 04 55 59.7 +2.8
KMI pmax pmax
comp=Z,10.0nm,0.8s
CHTO **Chiang Mai** 27.87 118 P P 04 56 02.5 +1.0
CHTO **Chiang Mai** 27.87 118 P P 04 56 02.5 +1.0
CHTO pmax pmax
comp=Z,1.0nm,0.8s
SONM **Songino Array** 28.06 52 P P 04 56 04.1 +1.0
comp=Z,2.9nm,0.8s,baz=246,slow=9.5,SNR=12
SONM LR LR 05 08 38.3
comp=Z,278nm,20.1s,baz=262,slow=40
comp=Z,2.9nm,0.8s
SONM **Songino Array** 28.06 52 P P 04 56 03.8 +0.8
SONM **Songino Array** 28.06 52 P P 04 56 03.8 +0.8
SONM pmax pmax
comp=Z,3.0nm,1.0s
CM31 **Chiang Mai Arr** 28.10 118 P P 04 56 05.5 +2.0
CM31 IAmb IAmb 04 56 09.9
comp=Z,22nm,0.9s
CMAR **Chiang Mai Arr** 28.10 118 P P 04 56 05.0 +1.6
comp=Z,7.7nm,0.6s,baz=304,slow=9.9,SNR=22
CMAR LR LR 05 10 57.8
comp=Z,58nm,19.3s,baz=320,slow=44
comp=Z,7.7nm,0.6s
PALK **Pallekele** 28.16 164 P P 04 56 04.8 +0.8
comp=Z,6.9nm,0.7s,baz=356,slow=7.5,SNR=2.3
comp=Z,6.9nm,0.7s
PALK **Pallekele** 28.16 164 P P 04 56 05.8 +1.7
ULN **Ulaanbaatar** 28.50 52 P P 04 56 07.1 +0.2
ULN **Ulaanbaatar** 28.50 52⇑ *e*P P 04 56 09.8 +2.8
ULN pmax pmax
comp=Z,3.0nm,1.0s
KIRV **Kirov** 28.62 334 P P 04 56 07.7 0.0
comp=Z,13nm,0.5s,baz=122,slow=1.9,SNR=4.0
KIRV LR LR 05 08 06.2
comp=Z,84nm,20.1s,baz=140,slow=38
comp=Z,13nm,0.5s
KIRV **Kirov** 28.62 334 *de*P P 04 56 07.8 +0.1
XAN **Xi'an** 29.51 81 P P 04 56 16.5 +0.5
XAN pP sP 04 56 27.0 +0.8
XAN pmax pmax
comp=Z,7.0nm,0.7s
VORR **Voronezh** 29.62 315 *e*P P 04 56 16.2 -0.5
VORR pmax pmax
comp=Z,90nm,0.4s
HHC **Hu-ho-hao-te** 30.87 67 *e*P P 04 56 25.5 -2.5
HHC pmax pmax
comp=Z,55nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.0s
ENH **Enshi** 30.93 88 P P 04 56 29.2 +0.6
ENH IAmb IAmb 04 56 36.3
comp=Z,13nm,0.7s
MMAI **Mount Meron Ar** 31.21 278 PcP PcP 04 59 27.5 +2.0
comp=Z,0.6nm,0.3s,baz=116,slow=3.4,SNR=3.6
BRTR **Keskin Array B** 31.63 291 P P 04 56 35.4 +0.6
comp=Z,1.1nm,0.7s,baz=95,slow=9.2,SNR=6.8
BRTR PcP PcP 04 59 27.4 +0.8
comp=Z,1.0nm,0.8s,baz=104,slow=3.5,SNR=3.7
comp=Z,1.1nm,0.7s
BRTR **Keskin Array B** 31.63 291 P P 04 56 35.2 +0.4
PRGR **Permogore** 32.13 336 *e*P P 04 56 37.1 -1.6
LYN **LuoYang** 32.28 79 ⇑P P 04 56 41.7 +1.3
LYN pmax pmax
comp=Z,20nm,0.4s
LYN pmax pmax
comp=Z,80nm,3.7s
LYN LR LR
comp=Z,110nm,15.8s
LYN LR LR
comp=Z,90nm,15.4s
EIL **Elat** 32.52 272 LR LR 05 09 53.5
comp=Z,58nm,18.5s,baz=89,slow=36
KLMR **Klimovskoe** 33.90 331 *e*P P 04 56 52.7 -1.4
KLMR pmax pmax
comp=Z,8.0nm,0.8s
KLMR **Klimovskoe** 33.90 331 *e*P P 04 56 52.7 -1.4
KLMR AMP 04 56 56.4
comp=Z,8.0nm,0.8s
XLT **XiLinHaoTe** 34.21 61⇑ *i*P P 04 57 03.3 +6.1
XLT pmax pmax
comp=Z,13nm,0.9s
XLT pmax pmax
comp=Z,59nm,3.6s
XLT LR LR
comp=Z,140nm,17.5s
XLT LR LR
comp=Z,160nm,18.7s
BJI **Beijing** 34.43 68 P P 04 57 01.4 +2.4
BJI pP sP 04 57 11.0 +1.4
BJI PcP PcP 04 59 35.2 +1.0
BJI pmax pmax
comp=Z,8.0nm,0.8s
ELL **Elmali** 34.89 286 P P 04 57 03.2 0.0
ELL **Elmali** 34.89 286 P P 04 57 03.2 0.0
ELL pmax pmax
comp=Z,31nm,0.6s
UBPT **Khong Chiam** 34.92 115 P P 04 57 02.8 -0.6
UBPT IAmb IAmb 04 57 05.8
comp=Z,10nm,0.8s
AKASG **Malin Array Be** 35.41 311 P P 04 57 05.7 -1.6
comp=Z,0.8nm,0.5s,baz=80,slow=7.0,SNR=5.1
AKASG PcP PcP 04 59 36.3 -0.6
comp=Z,0.6nm,0.6s,baz=78,slow=3.5,SNR=2.0
AKASG LR LR 05 12 02.6
comp=Z,36nm,20.5s,baz=326,slow=37
comp=Z,0.8nm,0.5s
NRIK **Noril'sk** 35.65 9 P P 04 57 09.4 +0.3
comp=Z,3.5nm,0.4s,baz=156,slow=5.5,SNR=2.8
NRIK LR LR 05 13 35.7
comp=Z,136nm,18.1s,baz=173,slow=39
comp=Z,3.5nm,0.4s
NRIK **Noril'sk** 35.65 9 P P 04 57 09.5 +0.3
NRIK **Noril'sk** 35.65 9⇓ *e*P P 04 57 09.8 +0.7
NRIK pmax pmax
comp=Z,6.0nm,0.9s
ATD **Arta Tunnel** 35.86 237 LR LR 05 12 15.8
comp=Z,96nm,19.5s,baz=18,slow=37
MLR **Muntele Rosu** 37.16 301 P P 04 57 22.9 +0.4
MLR **Muntele Rosu** 37.16 301 P P 04 57 22.9 +0.4
MLR pmax pmax
comp=Z,7.0nm,1.0s
NJ2 **Nanjing** 38.08 81 *e*P P 04 57 29.8 -0.5
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
IDI **Anoyia** 39.17 285 P P 04 57 39.5 0.0
comp=Z,8.6nm,0.9s,baz=63,slow=9.0,SNR=2.2
comp=Z,8.6nm,0.9s
IPM **Ipoh** 39.66 133 P P 04 57 43.7 0.0
IPM IAmb IAmb 04 57 45.7
comp=Z,32nm,1.3s
PSI **Prapat** 39.80 137 P P 04 57 44.7 -0.2
comp=Z,5.5nm,0.5s,baz=329,slow=10.0,SNR=6.9
PSI LR LR 05 15 30.5
comp=Z,234nm,18.0s,baz=244,slow=38
comp=Z,5.5nm,0.5s
RPSI **Rantau Prapat** 39.88 137 P P 04 57 44.7 -0.8
FINES **FINESS Array B** 39.94 327 P P 04 57 44.8 -0.7
comp=Z,1.7nm,0.5s,baz=112,slow=9.8,SNR=14
FINES LR LR 05 15 21.9
comp=Z,60nm,20.9s,baz=86,slow=38
comp=Z,1.7nm,0.5s
FINES **FINESS Array B** 39.94 327 *i* P P 04 57 44.9 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.4s
GSI **Gunungsitoli** 40.31 140 P P 04 57 49.6 +0.6
ZEA **Zeya** 42.09 46 *e*P P 04 58 06.0 +2.7
ZEA MLR MLR
comp=Z,100nm,17.0s
ARA0 **ARCESS Array S** 43.47 338 *e*P P 04 58 14.6 +0.2
ARA0 IAmb IAmb 04 58 15.2
comp=Z,17nm,0.6s
ARCES **ARCESS Array B** 43.47 338 P P 04 58 14.4 0.0
comp=Z,8.1nm,0.4s,baz=114,slow=8.0,SNR=137
ARCES LR LR 05 17 28.2
comp=Z,210nm,19.0s,baz=118,slow=38
comp=Z,8.1nm,0.4s
ARCES **ARCESS Array B** 43.47 338 P P 04 58 13.7 -0.7
ARCES IAmb IAmb 04 58 15.1
comp=Z,12nm,0.7s
KS19 **Wonju Array Si** 43.85 70 P 04 58 18.1 +0.4
KS19 IAmb IAmb 04 58 19.8
comp=Z,12nm,1.1s
KSAR **Wonju Array Be** 43.88 70 P P 04 58 16.9 -1.1
KSAR **Wonju Array Be** 43.88 70 P P 04 58 16.9 -1.1
KSRS **Korea Array** 43.90 70 P P 04 58 18.9 +0.7
comp=Z,4.5nm,0.5s,baz=272,slow=7.4,SNR=17
KSRS LR LR 05 19 22.1
comp=Z,63nm,18.1s,baz=230,slow=40
comp=Z,4.5nm,0.5s
KTK1 **Kautokeino** 43.96 337 *e*P P 04 58 17.9 -0.3
SEHB **SEOHWA** 43.97 69 P P 04 58 19.0 +0.2
SEHB IAmb IAmb 04 58 20.9
comp=Z,18nm,1.1s
YAK **Yakutsk** 44.50 34 LR LR 05 18 01.3
comp=Z,105nm,20.0s,baz=268,slow=38
HAMF **Hammerfest** 44.54 339 *e*P P 04 58 23.2 +0.4
HAMF IAmb IAmb 04 58 24.0
comp=Z,22nm,0.6s
JETT **Jettan, Norway** 45.10 337 *e*P P 04 58 27.6 +0.1
GERES **GERESS Array B** 45.37 307 P P 04 58 31.0 +1.1
comp=Z,0.4nm,0.7s,baz=101,slow=10,SNR=1.8
GERES **GERESS Array B** 45.37 307 P P 04 58 31.0 +1.1
TRO **Tromso** 45.62 337 *e*P P 04 58 31.2 -0.1
TRO IAmb IAmb 04 58 32.7
comp=Z,128nm,1.6s
USRK **Ussuriysk Ar.** 45.62 60 P P 04 58 32.4 +0.7
comp=Z,1.2nm,0.5s,baz=284,slow=7.1,SNR=7.1
USRK LR LR 05 18 28.2
comp=Z,65nm,20.7s,baz=26,slow=37
comp=Z,1.2nm,0.5s
FAUS **Fauske** 46.20 333 *e*P P 04 58 35.7 -0.3
NC602 **NORSAR Array S** 46.66 324 *e*P P 04 58 38.8 -1.0
NB2 **NORSAR Subarra** 46.85 324 P P 04 58 40.1 -1.2
comp=Z,2.5nm,0.7s,baz=96,slow=7.9
NB2 **NORSAR Subarra** 46.85 324 P P 04 58 40.1 -1.2
baz=96,slow=7.9
NOA **NORSAR Array B** 46.85 324 P P 04 58 40.3 -1.0
comp=Z,2.1nm,0.7s,baz=96,slow=7.7,SNR=15
NOA LR LR 05 19 49.2
comp=Z,43nm,18.4s,baz=80,slow=38
comp=Z,2.1nm,0.7s
TIXI **Tiksi** 46.85 21 LR LR 05 19 27.8
comp=Z,215nm,19.7s,baz=183,slow=38
KONO **Kongsberg** 47.56 322 *e*P P 04 58 46.1 -0.7
DOMB **Dombas** 47.96 325 *e*P P 04 58 48.7 -1.2
SKAR **Skarslia** 48.25 323 *e*P P 04 58 51.8 -0.4
SBUM **Sibu** 48.50 123 P P 04 58 54.7 +0.2
SBUM IAmb IAmb 04 58 59.5
comp=Z,7.4nm,1.0s
KMBO **Kilima Mbogo** 48.92 231 P P 04 58 57.0 -1.1
comp=Z,0.7nm,0.4s,baz=46,slow=18,SNR=2.3
KMBO LR LR 05 22 13.4
comp=Z,36nm,18.2s,baz=40,slow=39
comp=Z,0.7nm,0.4s
SPA0 **Spitsbergen Ar** 49.65 347 *e*P P 04 59 03.8 +1.1
SPITS **Spitsbergen Ar** 49.65 347 LR LR 05 23 46.7
comp=Z,81nm,18.6s,baz=82,slow=41
KBS **Kingsbay** 50.76 347 *e*P P 04 59 11.0 -0.1
JSD **Sado** 51.64 66 P P 04 59 16.7 -1.6
MAJO **Matsushiro** 52.06 68 P P 04 59 20.6 -0.8
MAJO **Matsushiro** 52.06 68 P P 04 59 20.6 -0.8
MAJO pmax pmax
comp=Z,19nm,0.7s
MJAR **Matsushiro Arr** 52.07 68 P P 04 59 22.1 +0.7
comp=Z,7.9nm,0.7s,baz=293,slow=9.1,SNR=20
MJAR LR LR 05 22 07.4
comp=Z,39nm,20.8s,baz=251,slow=37
comp=Z,7.9nm,0.7s
YSS **Yuzh-Sakhalins** 52.52 54 P P 04 59 24.5 0.0
YSS **Yuzh-Sakhalins** 52.52 54⇑ *e*P P 04 59 25.7 +1.1
YSS pmax pmax
comp=Z,11nm,0.6s
MBAR **Mbarara** 52.89 238 LR LR 05 26 03.1
comp=Z,38nm,18.4s,baz=360,slow=41
MA2 **Magadan** 54.77 37 LR LR 05 24 16.2
comp=Z,67nm,18.5s,baz=344,slow=37
MA2 **Magadan** 54.77 37⇑ *e*P P 04 59 41.1 +0.2
MA2 pmax pmax
comp=Z,5.0nm,1.0s
JMIC **Jan Mayen** 54.93 337 LR LR 05 22 59.0
comp=Z,54nm,19.4s,baz=238,slow=36
SEY **Seymchan** 55.01 33⇓ *e*P P 04 59 43.8 +1.2
SEY pmax pmax
comp=Z,6.0nm,1.3s
BILL **Bilibino** 59.51 26 *de*P P 05 00 16.1 +1.8
BILL pmax pmax
comp=Z,3.0nm,0.4s
ESDC **Sonseca Array** 59.81 300 P P 05 00 16.1 -0.9
comp=Z,1.4nm,0.9s,baz=66,slow=7.0,SNR=8.7
comp=Z,1.4nm,0.9s
PETK **Petropavlovsk-** 60.11 44 LR LR 05 27 43.1
comp=Z,61nm,20.9s,baz=274,slow=38
SUMG **Summit** 63.33 342 P P 05 00 40.1 -0.5
SUMG IAmb IAmb 05 00 48.3
comp=Z,9.8nm,1.0s
SUMG **Summit** 63.33 342 P P 05 00 40.1 -0.5
SUMG pmax pmax
comp=Z,10.0nm,1.0s
TOA0 **Torodi Ar. Sit** 67.39 271 P P 05 01 05.7 -1.6
TORD **Torodi Ar. Bea** 67.39 271 P P 05 01 06.6 -0.6
comp=Z,8.6nm,0.7s,baz=48,slow=5.8,SNR=71
TORD LR LR 05 35 35.6
comp=Z,67nm,19.2s,baz=264,slow=40
comp=Z,8.6nm,0.7s
TORD **Torodi Ar. Bea** 67.39 271 P P 05 01 05.7 -1.6
C23K **Itkillik River** 71.07 15 P P 05 01 29.7 +0.5
baz=323
KOWA **Kowa** 71.38 275 P P 05 01 31.4 -0.5
C24K **Franklin Bluff** 71.56 14 P P 05 01 32.5 +0.4
baz=325
D23K **Nanushuk River** 71.75 15 P P 05 01 33.7 +0.4
baz=323
E22K **Anaktuvuk Pass** 72.17 16 P P 05 01 36.4 +0.6
baz=322
TOLK **Toolik Lake Re** 72.25 15 P P 05 01 35.9 -0.5
TOLK IAmb IAmb 05 01 38.4
comp=Z,7.8nm,1.1s
TOLK **Toolik Lake Re** 72.25 15 P P 05 01 36.7 +0.4
baz=324
D25K **Kavik River** 72.35 14 P P 05 01 37.5 +0.6
baz=327
FITZ **Fitzroy Crossi** 72.44 128 LR LR 05 40 48.5
comp=Z,77nm,18.3s,baz=335,slow=42
F21K **Alatna River** 72.49 17 P P 05 01 37.8 0.0
baz=321,SNR=5.2
F22K **John River** 72.58 17 P P 05 01 38.7 +0.4
baz=322
C27K **Jago River** 72.59 13 P P 05 01 38.8 +0.5
baz=329
KNRA **Kununurra** 72.82 124 P P 05 01 41.1 +0.8
E24K **Your Creek** 72.95 15 P P 05 01 41.0 +0.5
baz=325
G21K **Allakaket** 73.04 18 P P 05 01 41.3 +0.3
baz=321
COLD **Coldfoot** 73.26 16 P P 05 01 43.1 +0.7
COLD IAmb IAmb 05 01 43.9
comp=Z,14nm,1.4s
COLD **Coldfoot** 73.26 16 P P 05 01 43.0 +0.7
baz=324
IMAR **Indian Mountai** 73.39 18 P P 05 01 42.5 -0.6
E25K **Arctic Village** 73.52 14 P P 05 01 44.2 +0.3
baz=328
F24K **Squaw Lake** 73.54 15 P P 05 01 44.5 +0.5
baz=326
G23K **Bananza Creek** 73.72 16 P P 05 01 45.4 +0.3
baz=324
H21K **Melozitna Rive** 73.89 18 P P 05 01 46.2 +0.2
H21K IAmb IAmb 05 01 51.5
comp=Z,9.3nm,1.4s
H21K **Melozitna Rive** 73.89 18 P P 05 01 46.5 +0.4
baz=322
F25K **Christian Rive** 73.95 14 P P 05 01 47.4 +1.0
baz=328
H22K **Ishtalitna Cre** 74.06 17 P P 05 01 47.9 +0.9
baz=323
F26K **Sheenjek River** 74.17 14 P P 05 01 48.5 +0.8
baz=329
E27K **Coleen River** 74.22 13 P P 05 01 48.8 +0.8
baz=331
BMAR **Burnt Mountain** 74.31 14 P P 05 01 49.2 +0.7
G24K **Hadweenzic Riv** 74.31 16 P P 05 01 49.3 +0.8
baz=326
I21K **Tanana** 74.48 18 P P 05 01 50.3 +0.8
baz=323
H23K **Yukon River** 74.56 17 P P 05 01 50.3 +0.3
H23K **Yukon River** 74.56 17 P P 05 01 50.8 +0.8
baz=325
J20K **Nowinta River** 74.70 19 P P 05 01 51.2 +0.5
J20K IAmb IAmb 05 01 59.7
comp=Z,6.7nm,1.1s
J20K **Nowinta River** 74.70 19 P P 05 01 51.6 +0.9
baz=321
G26K **Porcupine Rive** 74.88 14 P P 05 01 52.3 +0.6
baz=329
FYU **Fort Yukon** 74.91 15 P P 05 01 52.6 +0.7
MLY **Manley** 74.92 18 P P 05 01 51.9 -0.2
MLY IAmb IAmb 05 01 56.8
comp=Z,10nm,1.4s
MLY **Manley** 74.92 18 P P 05 01 52.4 +0.3
baz=324,SNR=5.6
H24K **Noodor Dome** 74.94 16 P P 05 01 52.1 -0.1
H24K IAmb IAmb 05 01 57.3
comp=Z,13nm,1.4s
H24K **Noodor Dome** 74.94 16 P P 05 01 52.9 +0.6
baz=326
H25K **Birch Creek** 75.04 15 P P 05 01 53.5 +0.8
baz=328
TTA **Tatalina** 75.14 21 P P 05 01 53.8 +0.4
baz=320
TSUM **Tsumeb** 75.16 234 LR LR 05 38 16.3
comp=Z,50nm,19.6s,baz=50,slow=38
I23K **Minto, Yukon-K** 75.16 17 P P 05 01 53.2 -0.2
I23K **Minto, Yukon-K** 75.16 17 P P 05 01 53.8 +0.4
baz=325
K20K **Telida** 75.36 20 P P 05 01 54.2 -0.4
K20K IAmb IAmb 05 01 56.9
comp=Z,5.4nm,0.6s
K20K **Telida** 75.36 20 P P 05 01 55.4 +0.7
baz=321
G27K **Doyon Strip** 75.42 13 P P 05 01 55.8 +0.9
baz=331
INK **Inuvik** 75.42 10 P P 05 01 55.1 +0.3
comp=Z,9.0nm,0.5s,baz=338,slow=4.6,SNR=38
comp=Z,9.0nm,0.5s
INK **Inuvik** 75.42 10 P P 05 01 54.9 0.0
INK **Inuvik** 75.42 10 P P 05 01 55.2 +0.3
baz=338

CHUM	**Lake Minchumin**	**75.43**	**19**	P	**P**	**05 01 55.6**	**+0.7**
	baz=323						
C36M	**Paulatuk**	**75.52**	**6**	P	**P**	**05 01 55.2**	**-0.2**
	baz=346						
MDM	**Murphy Dome**	**75.59**	**17**	P	**P**	**05 01 56.5**	**+0.5**
MDM				IAmb	IAmb	05 01 57.4	
	comp=Z,9.6nm,1.1s						
BPAW	**Bear Paw Mtn.**	**75.61**	**18**	P	**P**	**05 01 55.4**	**-0.7**
BPAW				IAmb	IAmb	05 01 57.2	
	comp=Z,9.8nm,1.2s						
BPAW	**Bear Paw Mtn.**	**75.61**	**18**	P	**P**	**05 01 56.1**	**0.0**
	baz=324						
POKR	**Poker Plat Res**	**75.64**	**16**	P	**P**	**05 01 56.3**	**+0.1**
POKR				IAmb	IAmb	05 01 58.1	
	comp=Z,10nm,1.0s						
POKR	**Poker Plat Res**	**75.64**	**16**	P	**P**	**05 01 57.0**	**+0.7**
	baz=326						
NEA2	**Nenana**	**75.69**	**17**	P	**P**	**05 01 56.0**	**-0.5**
NEA2				IAmb	IAmb	05 01 57.7	
	comp=Z,7.9nm,0.9s						
NEA2	**Nenana**	**75.69**	**17**	P	**P**	**05 01 56.6**	**+0.1**
	baz=325,SNR=11						
PRP	**Porcupine Dome**	**75.74**	**16**	P	**P**	**05 01 55.9**	**-1.0**
TCOL	**CIGO, UAF Yank**	**75.75**	**17**	P	**P**	**05 01 57.1**	**+0.4**
TCOL				IAmb	IAmb	05 01 58.1	
	comp=Z,12nm,0.9s						
TCOL	**CIGO, UAF Yank**	**75.75**	**17**	P	**P**	**05 01 57.2**	**+0.4**
	baz=326						
COLA	**College**	**75.75**	**17**	P	**P**	**05 01 57.0**	**+0.2**
COLA				IAmb	IAmb	05 01 58.1	
	comp=Z,10.0nm,0.8s						
COLA	**College**	**75.75**	**17**	P	**P**	**05 01 57.0**	**+0.2**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLA	**College**	**75.75**	**17**	P	**P**	**05 01 57.1**	**+0.4**
	baz=326						
CAST	**Castle Rocks**	**75.86**	**19**	P	**P**	**05 01 57.9**	**+0.4**
CAST	**Castle Rocks**	**75.86**	**19**	P	**P**	**05 01 57.9**	**+0.4**
	baz=323						
CCB	**Clear Creek Bu**	**75.95**	**17**	P	**P**	**05 01 58.8**	**+0.9**
H27K	**Steamboat Moun**	**75.96**	**14**	P	**P**	**05 01 58.6**	**+0.6**
	baz=331						
L19K	**White Mountain**	**76.06**	**21**	P	**P**	**05 01 59.4**	**+0.7**
	baz=321						
IL31		**76.06**	**16**	P	**P**	**05 01 57.8**	**-0.7**
ILAR	**Eielson Array**	**76.06**	**16**	P	**P**	**05 01 58.1**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=298,slow=4.5,SNR=22						
ILAR				LR	LR	05 39 42.8	
	comp=Z,46nm,19.2s,baz=6.0,slow=39						
	comp=Z,2.7nm,0.9s						
ILAR	**Eielson Array**	**76.06**	**16**	P	**P**	**05 01 58.0**	**-0.6**
L20K	**Farewell, AK**	**76.11**	**20**	P	**P**	**05 01 59.6**	**+0.6**
	baz=322						
N16K	**Nishlik Lake**	**76.13**	**24**	P	**P**	**05 01 59.4**	**+0.3**
	baz=318						
F31M	**Tsiigehtchic**	**76.20**	**10**	P	**P**	**05 01 59.7**	**+0.4**
	baz=338						
PPLA	**Purkeypile**	**76.25**	**20**	P	**P**	**05 01 59.8**	**-0.1**
	baz=329						
DBIC	**Dimbokro**	**76.31**	**269**	P	**P**	**05 02 00.7**	**-0.2**
	comp=Z,7.1nm,0.8s,baz=75,slow=4.4,SNR=5.1						
	comp=Z,7.1nm,0.8s						
HDA	**Harding Lake**	**76.35**	**17**	P	**P**	**05 02 00.4**	**+0.1**
	baz=327						
M19K	**Big River Lodg**	**76.41**	**21**	P	**P**	**05 02 00.9**	**+0.2**
	baz=321						
MCK	**McKinley**	**76.43**	**18**	P	**P**	**05 02 01.3**	**+0.5**
	baz=326						
I26K	**Coal Creek Min**	**76.44**	**15**	P	**P**	**05 02 01.3**	**+0.6**
I26K				IAmb	IAmb	05 02 02.3	
	comp=Z,5.1nm,0.8s						
I26K	**Coal Creek Min**	**76.44**	**15**	P	**P**	**05 02 00.9**	**+0.2**
	baz=330						
I27K	**Kandik River**	**76.49**	**14**	P	**P**	**05 02 01.4**	**+0.3**
	baz=331						
J25K	**Salcha River,**	**76.55**	**16**	P	**P**	**05 02 00.8**	**-0.6**
J25K	**Salcha River,**	**76.55**	**16**	P	**P**	**05 02 01.3**	**-0.2**
	baz=328						
EPYK	**Eagle Plains**	**76.71**	**12**	P	**P**	**05 02 02.2**	**-0.1**
	baz=335						
M20K	**Styx River**	**76.80**	**21**	P	**P**	**05 02 03.2**	**+0.3**
	baz=322						
N18K	**Kilae Creek**	**76.91**	**22**	P	**P**	**05 02 03.7**	**+0.3**
	baz=320						
O16K	**Kokwok River B**	**77.02**	**24**	P	**P**	**05 02 04.3**	**+0.3**
	baz=319						
J26L	**Joseph Creek**	**77.05**	**15**	P	**P**	**05 02 04.1**	**-0.2**
J26L				IAmb	IAmb	05 02 05.5	
	comp=Z,6.1nm,0.8s						
J26L	**Joseph Creek**	**77.05**	**15**	P	**P**	**05 02 04.2**	**-0.1**
	baz=330,SNR=7.5						
K24K	**Donnelly Dome**	**77.14**	**17**	P	**P**	**05 02 04.9**	**+0.1**
	baz=328						
SKT	**Skwentna**	**77.17**	**20**	P	**P**	**05 02 04.9**	**0.0**
SKT				IAmb	IAmb	05 02 12.5	
	comp=Z,14nm,1.4s						
SKT	**Skwentna**	**77.17**	**20**	P	**P**	**05 02 05.0**	**0.0**
	baz=324						
O17K	**Koliganek Bris**	**77.21**	**23**	P	**P**	**05 02 06.3**	**+1.1**
	baz=320						
N19K	**Bonanza Creek**	**77.24**	**22**	P	**P**	**05 02 06.2**	**+0.8**
	baz=322						
WAT1	**Susitna Watana**	**77.28**	**18**	P	**P**	**05 02 04.4**	**-1.2**
	baz=326						
FRB	**Frobisher Bay**	**77.30**	**344**	LR	LR	05 39 50.9	
	comp=Z,42nm,18.9s,baz=26,slow=39						
EGAK	**Eagle**	**77.31**	**14**	P	**P**	**05 02 05.1**	**-0.5**
EGAK	**Eagle**	**77.31**	**14**	P	**P**	**05 02 05.8**	**+0.2**
	baz=332						
I29M	**Ogilvie Camp,**	**77.34**	**13**	P	**P**	**05 02 04.9**	**-0.9**
I29M				IAmb	IAmb	05 02 06.2	
	comp=Z,5.8nm,0.8s						
I29M	**Ogilvie Camp,**	**77.34**	**13**	P	**P**	**05 02 06.0**	**+0.1**
	baz=334						
DHY	**Denali Highway**	**77.37**	**18**	P	**P**	**05 02 06.2**	**0.0**
DHY				IAmb	IAmb	05 02 08.3	
	comp=Z,4.6nm,0.8s						
DHY	**Denali Highway**	**77.37**	**18**	P	**P**	**05 02 06.6**	**+0.4**
	baz=327						
SCRK	**Sand Creek**	**77.41**	**16**	P	**P**	**05 02 06.0**	**-0.4**
SCRK				IAmb	IAmb	05 02 11.0	
	comp=Z,10nm,1.4s						
SCRK	**Sand Creek**	**77.41**	**16**	P	**P**	**05 02 06.6**	**+0.3**
	baz=329						
RIDG	**Independent Ri**	**77.41**	**16**	P	**P**	**05 02 05.2**	**-1.1**
RIDG				IAmb	IAmb	05 02 38.0	
	comp=Z,11nm,1.4s						
RIDG	**Independent Ri**	**77.41**	**16**	P	**P**	**05 02 06.4**	**+0.1**
	baz=329						
BOSA	**Boshof**	**77.47**	**222**	P	**P**	**05 02 07.5**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=51,slow=5.2,SNR=8.8						
BOSA				LR	LR	05 37 36.5	
	comp=Z,31nm,18.8s,baz=14,slow=37						
	comp=Z,5.3nm,0.7s						
DOT	**Dot Lake**	**77.67**	**16**	P	**P**	**05 02 07.2**	**-0.6**
WAT6	**Susitna Watana**	**77.69**	**18**	P	**P**	**05 02 07.9**	**-0.2**
	baz=327						
M22K	**Willow**	**77.75**	**19**	P	**P**	**05 02 08.0**	**0.0**
	baz=325						
O18K	**Koktuh Hills**	**77.76**	**23**	P	**P**	**05 02 08.8**	**+0.6**
O18K				IAmb	IAmb	05 02 13.9	
	comp=Z,9.4nm,0.8s						
O18K	**Koktuh Hills**	**77.76**	**23**	P	**P**	**05 02 09.6**	**+1.3**
	baz=321						
K27K	**Chicken**	**77.78**	**15**	P	**P**	**05 02 09.0**	**+0.7**
K27K				IAmb	IAmb	05 02 10.1	
	comp=Z,6.5nm,0.9s						
K27K	**Chicken**	**77.78**	**15**	P	**P**	**05 02 08.8**	**+0.5**
	baz=331						
SUA	**Susitna One**	**77.81**	**20**	P	**P**	**05 02 08.5**	**-0.1**
	baz=324						
P17K	**Kvichak River**	**77.87**	**24**	P	**P**	**05 02 08.7**	**-0.1**
	baz=320						
PAX	**Paxson**	**77.93**	**17**	P	**P**	**05 02 08.8**	**-0.4**
PAX				IAmb	IAmb	05 02 10.3	
	comp=Z,5.3nm,0.9s						
PAX	**Paxson**	**77.93**	**17**	P	**P**	**05 02 08.8**	**-0.4**
PAX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PAX	**Paxson**	**77.93**	**17**	P	**P**	**05 02 09.0**	**-0.3**
	baz=328,SNR=5.2						
J29M	**Klondike Camp**	**78.18**	**13**	P	**P**	**05 02 10.5**	**-0.1**
SML	**Sawmill**	**78.19**	**19**	P	**P**	**05 02 10.8**	**+0.2**
	baz=326						
Q16K	**King Salmon**	**78.20**	**24**	P	**P**	**05 02 11.6**	**+0.9**
	baz=320						
DAWY	**Dawson**	**78.30**	**14**	P	**P**	**05 02 10.9**	**-0.3**
DAWY				IAmb	IAmb	05 02 12.3	
	comp=Z,7.4nm,0.7s						
DAWY	**Dawson**	**78.30**	**14**	P	**P**	**05 02 11.4**	**+0.1**
	baz=333,SNR=11						
M23K	**Glacier View**	**78.36**	**18**	P	**P**	**05 02 12.2**	**+0.6**
	baz=327						
L26K	**Log Cabin Wild**	**78.38**	**16**	P	**P**	**05 02 12.1**	**+0.5**
	baz=330						
SCM	**Sheep Creek Mo**	**78.43**	**18**	P	**P**	**05 02 12.3**	**+0.3**
	baz=327						
KNK	**Knik Glacier**	**78.48**	**19**	P	**P**	**05 02 12.5**	**+0.2**
	baz=326						
M24K	**Tolsona, Glenn**	**78.49**	**18**	P	**P**	**05 02 13.0**	**+0.7**
	baz=328						
HARP	**HAARP**	**78.49**	**17**	P	**P**	**05 02 13.2**	**+0.9**
	baz=329						
L27K	**Beaver Creek,**	**78.68**	**15**	P	**P**	**05 02 13.3**	**-0.1**
L27K				IAmb	IAmb	05 02 15.2	
	comp=Z,4.4nm,0.8s						
L27K	**Beaver Creek,**	**78.68**	**15**	P	**P**	**05 02 14.1**	**+0.8**
	baz=331,SNR=7.6						
BCAR	**Beaver Creek A**	**78.69**	**15**	P	**P**	**05 02 13.6**	**+0.2**
K29M	**Barlow Dome**	**78.86**	**13**	P	**P**	**05 02 15.0**	**+0.6**
	baz=335,SNR=13						
PWL	**Port Wells**	**78.98**	**19**	P	**P**	**05 02 15.7**	**+0.8**
PWL	**Port Wells**	**78.98**	**19**	P	**P**	**05 02 15.8**	**+0.8**
	baz=326						
M26K	**Nabesna, AK**	**79.00**	**16**	P	**P**	**05 02 16.0**	**+0.9**
	baz=330						
KLU	**Klutina**	**79.08**	**18**	P	**P**	**05 02 14.8**	**-0.8**
	baz=328						
GLI	**Glacier Island**	**79.29**	**19**	P	**P**	**05 02 16.6**	**0.0**
	baz=327						
M27K	**Edge Creek, AK**	**79.29**	**16**	P	**P**	**05 02 17.2**	**+0.3**
M27K				IAmb	IAmb	05 02 18.9	
	comp=Z,11nm,1.1s						
M27K	**Edge Creek, AK**	**79.29**	**16**	P	**P**	**05 02 17.5**	**+0.6**
	baz=331,SNR=6.7						
N25K	**Chitina, Valde**	**79.31**	**17**	P	**P**	**05 02 17.1**	**+0.2**
	baz=329						
MAYO	**Mayo, Yukon**	**79.39**	**13**	P	**P**	**05 02 16.5**	**-0.7**
BVCY	**Beaver Creek**	**79.47**	**15**	P	**P**	**05 02 18.4**	**+0.8**
	baz=332						
WRA	**Warramunga Arr**	**79.59**	**123**	P	**P**	**05 02 19.5**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=322,slow=5.0,SNR=52						
WRA				PKKPbc	**PKKPbc**	**05 21 07.1**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=130,slow=2.3,SNR=4.7						
	comp=Z,1.9nm,0.6s						
WRA	**Warramunga Arr**	**79.59**	**123**	*i* P	**P**	**05 02 20.0**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WB2	**Warramunga Arr**	**79.60**	**123**	P	**P**	**05 02 19.0**	**+0.1**
WB2				IAmb	IAmb	05 02 22.0	
	comp=Z,6.5nm,0.9s						
Q20K	**Shuyak Island**	**79.63**	**22**	P	**P**	**05 02 19.8**	**+1.2**
	baz=323						
BMRM	**Bremner River**	**79.86**	**18**	P	**P**	**05 02 20.2**	**+0.4**
	baz=329						
MCARA	**McCarthy VSAT**	**79.88**	**17**	P	**P**	**05 02 19.8**	**-0.1**
	baz=330						
EYAK	**Cordova Ski Ar**	**79.92**	**18**	P	**P**	**05 02 20.1**	**0.0**
	baz=328						
M29M	**Somme Creek**	**79.95**	**14**	P	**P**	**05 02 21.1**	**+0.8**
	baz=334,SNR=7.2						
P23K	**Montague Islan**	**79.95**	**19**	P	**P**	**05 02 20.8**	**+0.6**
	baz=327						
CHNA	**Chernabura Isl**	**80.06**	**28**	P	**P**	**05 02 21.5**	**+0.6**
	baz=318						
YUK3	**Moose Creek**	**80.12**	**15**	P	**P**	**05 02 21.5**	**0.0**
	baz=332						
M30M	**Minto, Yukon**	**80.16**	**14**	P	**P**	**05 02 21.8**	**+0.4**
	baz=335						
KDAK	**Kodiak Island**	**80.24**	**23**	LR	LR	05 39 53.9	
	comp=Z,62nm,19.4s,baz=355,slow=37						
KDAK	**Kodiak Island**	**80.24**	**23**	P	**P**	**05 02 22.7**	**+0.9**
	baz=323						
YUK4	**Talbot Arm**	**80.90**	**15**	P	**P**	**05 02 26.0**	**+0.4**
	baz=334,SNR=6.6						
M31M	**Drury Creek, Y**	**80.95**	**13**	P	**P**	**05 02 24.8**	**-0.9**
M31M	**Drury Creek, Y**	**80.95**	**13**	P	**P**	**05 02 25.8**	**+0.2**
	baz=337,SNR=5.1						
O28M	**Mount Upton**	**81.08**	**16**	P	**P**	**05 02 26.7**	**+0.1**
	baz=333						
MMPY	**Sheldon Lake,**	**81.09**	**11**	P	**P**	**05 02 26.5**	**+0.1**
	baz=340						
FARO	**Faro, Yukon**	**81.11**	**12**	P	**P**	**05 02 26.0**	**-0.5**
FARO	**Faro, Yukon**	**81.11**	**12**	P	**P**	**05 02 26.7**	**+0.2**
	baz=338						
N30M	**Aishikik Lake**	**81.12**	**14**	P	**P**	**05 02 26.5**	**0.0**
	baz=335						
N31M	**Braeburn, Yuko**	**81.35**	**14**	P	**P**	**05 02 27.8**	**+0.1**
N31M				IAmb	IAmb	05 02 29.6	
	comp=Z,6.1nm,0.7s						
N31M	**Braeburn, Yuko**	**81.35**	**14**	P	**P**	**05 02 28.0**	**+0.2**
	baz=336						
WRGLY	**Wrigley**	**81.54**	**7**	P	**P**	**05 02 29.0**	**+0.3**
	baz=346						
HYT	**Haines Junctio**	**81.61**	**15**	P	**P**	**05 02 29.9**	**+0.6**
HYT				IAmb	IAmb	05 02 31.1	
	comp=Z,10.0nm,1.0s						
HYT	**Haines Junctio**	**81.61**	**15**	P	**P**	**05 02 30.1**	**+0.8**
	baz=335,SNR=7.9						
ASAR	**Alice Springs**	**81.82**	**126**	P	**P**	**05 02 31.1**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=312,slow=5.2,SNR=18						
	comp=Z,1.4nm,0.5s						
O29M	**Mount Kennedy**	**81.86**	**15**	P	**P**	**05 02 30.8**	**+0.2**
	baz=334						
O30N	**Mendenhall**	**81.95**	**14**	P	**P**	**05 02 30.9**	**0.0**
	baz=336						
N32M	**Quiet Lake**	**82.16**	**12**	P	**P**	**05 02 31.5**	**-0.5**
	baz=338						
WHY	**Whitehorse**	**82.28**	**13**	P	**P**	**05 02 32.7**	**-0.1**
	baz=337						
SUR	**Sutherland**	**82.81**	**222**	LR	LR	05 37 42.6	
	comp=Z,37nm,21.8s,baz=42,slow=34						
YKA	**Yellowknife Ar**	**82.98**	**4**	P	**P**	**05 02 36.0**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=347,slow=5.4,SNR=47						
	comp=Z,2.3nm,0.5s						
YKA	**Yellowknife Ar**	**82.98**	**4**	P	**P**	**05 02 36.0**	**-0.2**
P33M	**Teslin, Yukon**	**83.09**	**13**	P	**P**	**05 02 36.3**	**-0.7**
P33M	**Teslin, Yukon**	**83.09**	**13**	P	**P**	**05 02 37.0**	**0.0**
	baz=339,SNR=10						
PLBC	**Pleasant Camp**	**83.09**	**15**	P	**P**	**05 02 36.5**	**-0.3**
	baz=336						
FORT	**Forrest**	**83.19**	**135**	P	**P**	**05 02 38.0**	**+0.4**
SKAG	**Skagway**	**83.30**	**14**	P	**P**	**05 02 37.4**	**-0.6**
SKAG	**Skagway**	**83.30**	**14**	P	**P**	**05 02 37.6**	**-0.3**
	baz=337						
WTLY	**Watson Lake, Y**	**83.85**	**11**	P	**P**	**05 02 40.8**	**-0.1**
	baz=342						
R33M	**Jennings River**	**84.18**	**12**	P	**P**	**05 02 42.9**	**+0.3**
	baz=340,SNR=5.8						
DLBC	**Dease Lake**	**85.25**	**12**	P	**P**	**05 02 47.5**	**-0.5**
	baz=341						
S34M	**Telegraph Cree**	**85.55**	**13**	P	**P**	**05 02 49.6**	**+0.2**
	baz=340						
T35M	**Bob Quinn**	**86.59**	**13**	P	**P**	**05 02 53.9**	**-0.7**
	baz=341						
WRAK	**Wrangell Islan**	**86.73**	**14**	P	**P**	**05 02 54.9**	**-0.3**
	baz=339						
TXAR	**Lajitas Array**	**116.27**	**357**	PKKPbc	PKKPbc	05 19 24.4	+0.3
	comp=Z,0.3nm,0.8s,baz=172,slow=7.3,SNR=3.9						
PLCA	**Paso Flores**	**150.73**	**247**	PKPbc	**PKiKP**	**05 10 04.4**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=90,slow=3.1,SNR=4.0						

*IDC **05** 05:42:38.7±1.2,19°.47N×109°.22W,h0km,mb3.8/6, mbtmp3.8/10,ML3.6/4,MS4.0/42,Error ellipse: s-maj=23.4km s-min=16.6km az=127.0*
*MEX **05** 05:42:39.9±0.8,19°.82N×109°.12W,h10km,MD4.0*
*NEIC **05** 05:42:39.7±2.1, 19°.33N±0°.08×109°.09W±0°.06,h10km±2km, mb4.0/90,Md4.0/12(MEX),Error ellipse: s-maj=13.9km s-min=8.9km az=164.0*
*GCMT **05** 05:42:43.7±0.3, 19°.72N±0°.01×108°.98W±0°.01,h21km±1km, MW5.0/103,Moment Tensor Solution. s34,c36; s103,c147; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.44±.14; Mθθ-3.16±.11; Mϕϕ3.60±.12; Mrθ-0.60±.18; Mθϕ-1.45±.09; Mrϕ0.60±.19; Best double couple: M○3.77200×10^16^ NP1:ϕs304.00000°,δ90.00000°, λ167.00000°. NP2:ϕs34.00000°,δ77.00000°,λ0.00000°. Principal axes: T 4.0130, Plg9.0000°, Azm258.0000°; N -0.4790, Plg77.0000°, Azm122.0000°; P -3.5310, Plg9.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function
ISC 05 05:42:41.8±0.7,19°.41N±0°.08×109°.11W±0°.05,h26km, n171,σ1§32/142,mb4.0/21,MS4.0/37,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time ISC	h m s	Res ISC
H06E		**1.82**	**250**		**Pn**	**05 43 11.2**		**-0.2**
H06E					**Sn**	**05 43 33.2**		**-0.5**
H06E		**1.82**	**250**	*e*P	**Pn**	**05 43 11.2**		**-0.2**
H06E				*i* S	**Sn**	**05 43 33.2**		**-0.5**
H06E1	**SOCORRO T-PHAS**	**1.82**	**250**	Pn	**Pn**	**05 43 10.9**		**-0.7**
H06E1				T	T	05 45 27.6		
	SNR=1021							
H06N1	**SOCORRO T-PHAS**	**1.85**	**253**	Pn	**Pn**	**05 43 09.9**		**-1.9**
H06N	**Isla Socorro**	**1.86**	**253**		**Pn**	**05 43 09.1**		**-2.8**
H06N					**Sn**	**05 43 33.9**		**-0.7**
H06N	**Isla Socorro**	**1.86**	**253**	*e*P	**Pn**	**05 43 09.1**		**-2.8**
H06N				*e*S	**Sn**	**05 43 33.9**		**-0.7**
H06S1	**SOCORRO T**	**1.87**	**249**	Pn	**Pn**	**05 43 10.1**		**-2.0**
H06S		**1.87**	**249**		**Pn**	**05 43 10.4**		**-1.7**
H06S					**Sn**	**05 43 34.9**		**-0.1**
H06S		**1.87**	**249**	*e*P	**Pn**	**05 43 10.4**		**-1.7**
H06S				*i* S	**Sn**	**05 43 34.9**		**-0.1**
SLBS	**Sierra La Lagu**	**4.32**	**350**		**Pn**	**05 43 44.1**		**-1.8**
LPIG	**La Paz**	**4.80**	**347**	Pn	**Pn**	**05 43 50.7**		**-1.7**
	7.9nm,0.3s,baz=120,slow=1.3,SNR=13							
LPIG				LR	LR	05 44 58.5		
	comp=Z,231nm,22.0s,baz=122,slow=30							
	59nm,0.6s							
R15V		**4.85**	**92**		**Pn**	**05 43 50.9**		**-2.3**
R15V		**4.85**	**92**	*e*P	**Pn**	**05 43 50.9**		**-2.3**
COIG	**Colima**	**5.13**	**92**	*e*P	**Pn**	**05 43 55.1**		**-1.9**
MNGA	**Volcan de Coli**	**5.18**	**89**	*e*P	**Pn**	**05 43 57.5**		**-0.4**
INCO	**Volcan de Coli**	**5.20**	**88**	*e*P	**Pn**	**05 43 57.8**		**-0.5**
EZ5V		**5.20**	**88**		**Pn**	**05 43 57.9**		**-0.3**
EZ5V		**5.20**	**88**	*e*P	**Pn**	**05 43 57.9**		**-0.3**
JUBC	**Volcan de Coli**	**5.23**	**88**	*e*P	**Pn**	**05 43 58.4**		**-0.3**
ZAIG	**Zacatecas**	**6.96**	**60**		**Pn**	**05 44 20.9**		**-1.5**
MOIG	**Morelia**	**7.48**	**87**	Pn	**Pn**	**05 44 26.4**		**-3.1**
HPIG		**8.13**	**22**	Pn	**Pn**	**05 44 37.7**		**-0.6**
SRIG	**Santa Rosalia**	**8.38**	**341**	Pn	**Pn**	**05 44 42.6**		**+1.1**
TLIG	**Tlapa**	**10.18**	**99**	Pn	**Pn**	**05 45 06.7**		**+0.3**
TX31	**Lajitas Ar. Si**	**11.05**	**26**		**Pn**	**05 45 17.0**		**-1.3**
TX32	**Lajitas Array**	**11.05**	**26**		**Pn**	**05 45 17.9**		**-0.4**
TXAR	**Lajitas Array**	**11.05**	**26**	Pn	**Pn**	**05 45 17.6**		**-0.7**
	0.1nm,0.3s,baz=216,slow=13,SNR=10							
TXAR				LR	LR	05 49 03.3		
	comp=Z,797nm,20.0s,baz=206,slow=35							
	0.7nm,0.6s							
TXAR	**Lajitas Array**	**11.05**	**26**	Pn	**Pn**	**05 45 18.0**		**-0.3**
319A	**Douglas**	**11.91**	**359**	Pn	**Pn**	**05 45 31.9**		**+1.8**
MNTX	**Cornudas Mount**	**12.69**	**15**	Pn	**Pn**	**05 45 41.1**		**+0.5**
214A	**Organ Pipe Nat**	**12.93**	**346**	Pn	**Pn**	**05 45 45.8**		**+1.9**
TUC	**Tucson**	**12.93**	**354**	Pn	**Pn**	**05 45 46.2**		**+2.2**
121A	**Cookes Peak, D**	**13.12**	**5**	Pn	**Pn**	**05 45 49.3**		**+2.7**
CMIG	**Matias Romero**	**13.71**	**97**	Pn	**Pn**	**05 45 55.5**		**+0.8**
	0.6nm,0.3s,baz=269,slow=11,SNR=7.9							
CMIG				LR	LR	05 50 56.4		
	comp=Z,627nm,18.6s,baz=278,slow=36							
	3.1nm,0.6s							
JCT	**Junction City**	**13.87**	**36**	Pn	**Pn**	**05 45 57.7**		**+0.9**
CPBX	**Cerro Prieto**	**14.09**	**338**		**Pn**	**05 46 00.2**		**+0.5**
GLA	**Glamis**	**14.51**	**341**		**Pn**	**05 46 07.1**		**+1.6**
SBM	**South Baldy**	**14.61**	**6**		**Pn**	**05 46 07.0**		**-0.1**
CRNM	**Carthage**	**14.64**	**8**		**Pn**	**05 46 08.7**		**+1.4**
TKX	**Tecate**	**14.72**	**334**	Pn	**Pn**	**05 46 10.6**		**+2.2**
BNM	**Barren Site**	**14.85**	**8**	Pn	**Pn**	**05 46 12.1**		**+1.9**
Y14A	**Wickenburg**	**14.88**	**347**		**Pn**	**05 46 12.0**		**+1.5**
BLYC	**Blythe**	**15.07**	**342**	Pn	**Pn**	**05 46 14.0**		**+1.0**
BLYC				IAmb	IAmb	05 46 21.7		
	comp=Z,10.0nm,1.0s							
X18A	**Snowflake**	**15.08**	**357**	Pn	**Pn**	**05 46 14.8**		**+1.5**
X16A	**Lo Mia Camp, P**	**15.09**	**353**		**Pn**	**05 46 14.9**		**+1.5**
X16A				IAmb	IAmb	05 46 22.6		
	comp=Z,14nm,1.5s							
PFO	**Pinyon Flats O**	**15.59**	**337**	LR	LR	05 51 58.6		
	comp=Z,736nm,18.0s,baz=152,slow=36							
ANMO	**Albuquerque**	**15.65**	**8**	Pn	**Pn**	**05 46 20.6**		**-0.2**
	comp=Z,0.1nm,0.3s,baz=173,slow=16,SNR=1.6							
ANMO				LR	LR	05 52 03.6		
	comp=Z,748nm,18.1s,baz=188,slow=36							
	comp=Z,0.5nm,0.5s							
ANMO	**Albuquerque**	**15.65**	**8**	Pn	**Pn**	**05 46 21.2**		**+0.4**
W18A	**Petrified Fore**	**15.65**	**358**	Pn	**Pn**	**05 46 22.7**		**+1.9**
W18A				IAmb	IAmb	05 46 27.2		
	comp=Z,14nm,1.2s							
ELS	**Elsinore Mount**	**16.00**	**334**		**Pn**	**05 46 26.4**		**+1.3**
ELS				IAmb	IAmb	05 46 35.6		
	comp=Z,12nm,1.2s							
WHTX	**Lake Whitney,**	**16.33**	**38**		**P**	**05 46 31.3**		**-0.8**
WHTX				IAmb	IAmb	05 46 36.1		
	comp=Z,10nm,1.0s							
CCIG	**Comitan**	**16.46**	**98**	Pn	**Pn**	**05 46 29.5**		**-1.8**
CCIG				IAmb	IAmb	05 46 35.0		
	comp=Z,24nm,1.3s							
V12A	**Nelson**	**17.02**	**344**		**P**	**05 46 40.2**		**+0.4**
V12A				I

P17A	**Butcher Ranch,**	**20.04**	**356**	P	**P**	**05 47 13.8**	**+0.8**
P17A				IAmb	IAmb	05 47 17.6	
	comp=Z,6.7nm,1.0s						
OMMB	**Old Mammoth Mi**	**20.08**	**337**	P	**P**	**05 47 13.3**	**-0.4**
OMMB				IAmb	IAmb	05 47 22.9	
	comp=Z,5.9nm,1.1s						
MDPB	**Devils Postpil**	**20.13**	**336**	P	**P**	**05 47 15.1**	**+1.0**
MDPB				IAmb	IAmb	05 47 21.8	
	comp=Z,11nm,1.2s						
344A	**Westbrook Farm**	**20.44**	**51**	P	**P**	**05 47 17.7**	**+0.5**
LHV	**Little Huntoon**	**20.47**	**338**	P	**P**	**05 47 17.5**	**0.0**
NV11	**Mina Array Sit**	**20.52**	**339**	P	**P**	**05 47 17.6**	**-0.6**
NV11				IAmb	IAmb	05 47 24.2	
	comp=Z,10nm,1.1s						
ISCO	**Idaho Springs**	**20.54**	**8**	P	**P**	**05 47 19.3**	**+0.7**
ISCO				IAmb	IAmb	05 47 27.5	
	comp=Z,6.4nm,1.2s						
NVAR	**Mina Array Bea**	**20.56**	**339**	P	**P**	**05 47 20.2**	**+1.4**
	comp=Z,6.4nm,1.0s,baz=166,slow=12,SNR=17						
NVAR				LR	LR	05 54 25.7	
	comp=Z,413nm,21.9s,baz=149,slow=35						
	comp=Z,6.4nm,1.0s						
NVAR	**Mina Array Bea**	**20.56**	**339**	P	**P**	**05 47 19.3**	**+0.5**
MPU	**Maple Canyon**	**20.65**	**355**	P	**P**	**05 47 20.8**	**+1.2**
O20A	**White River Ci**	**20.67**	**2**	P	**P**	**05 47 21.1**	**+1.3**
DUG	**Dugway, Tooele**	**20.96**	**352**	P	**P**	**05 47 22.9**	**0.0**
CMB	**Columbia Colle**	**20.99**	**334**	P	**P**	**05 47 24.8**	**+1.6**
CMB				IAmb	IAmb	05 47 30.8	
	comp=Z,10nm,1.4s						
VBMS	**Vicksburg**	**21.00**	**49**	P	**P**	**05 47 24.8**	**+1.4**
KVN	**Kaiserville**	**21.06**	**340**	P	**P**	**05 47 26.3**	**+2.2**
KVN				IAmb	IAmb	05 47 28.9	
	comp=Z,6.2nm,0.8s						
RDMU	**Red Mountain**	**21.09**	**359**	P	**P**	**05 47 25.2**	**+0.7**
JLU	**Jordanelle**	**21.21**	**355**	P	**P**	**05 47 25.2**	**-0.6**
JLU				IAmb	IAmb	05 47 58.5	
	comp=Z,8.2nm,1.2s						
CTU	**Camp Tracy**	**21.33**	**354**	P	**P**	**05 47 26.4**	**-0.6**
CTU				IAmb	IAmb	05 47 50.5	
	comp=Z,8.7nm,1.2s						
YERR	**Yerington**	**21.39**	**338**	P	**P**	**05 47 27.9**	**+0.3**
N23A	**Red Feather La**	**21.58**	**7**	P	**P**	**05 47 27.1**	**-2.7**
N23A				IAmb	IAmb	05 47 57.2	
	comp=Z,7.6nm,1.1s						
VCNR	**Virginia City**	**21.81**	**338**	P	**P**	**05 47 31.7**	**-0.4**
ELK	**Elko**	**21.90**	**347**	P	**P**	**05 47 33.0**	**-0.1**
	comp=Z,3.5nm,1.0s,baz=186,slow=10,SNR=8.9						
ELK				LR	LR	05 55 49.5	
	comp=Z,188nm,18.1s,baz=158,slow=36						
	comp=Z,3.5nm,1.0s						
ELK	**Elko**	**21.90**	**347**	P	**P**	**05 47 33.1**	**0.0**
ELK				IAmb	IAmb	05 47 39.1	
	comp=Z,5.1nm,1.1s						
HWUT	**Hardware Ranch**	**22.22**	**355**	P	**P**	**05 47 36.2**	**-0.4**
HWUT				IAmb	IAmb	05 47 55.6	
	comp=Z,5.7nm,1.1s						
HVU	**Hansel Valley**	**22.51**	**353**	P	**P**	**05 47 40.6**	**+0.9**
HVU				IAmb	IAmb	05 47 44.0	
	comp=Z,5.7nm,1.2s						
BEKR	**Beckworth**	**22.57**	**337**	P	**P**	**05 47 40.3**	**0.0**
BEKR				IAmb	IAmb	05 47 46.5	
	comp=Z,7.5nm,1.1s						
K22A	**Casper**	**23.27**	**5**	P	**P**	**05 47 47.7**	**+0.2**
PD31	**Pinedale Array**	**23.29**	**359**	P	**P**	**05 47 47.6**	**-0.1**
PDAR	**Pinedale Array**	**23.29**	**359**	P	**P**	**05 47 47.3**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=166,slow=10,SNR=7.9						
PDAR				LR	LR	05 56 06.0	
	comp=Z,207nm,21.6s,baz=186,slow=35						
	comp=Z,0.9nm,0.7s						
BOAB	**BOACO BROADBAN**	**23.57**	**104**	P	**P**	**05 47 47.6**	**-2.8**
REDW	**Red Top Meadow**	**23.92**	**357**	P	**P**	**05 47 52.7**	**-1.1**
REDW				IAmb	IAmb	05 48 02.9	
	comp=Z,6.3nm,1.2s						
SNOW	**Snow King Moun**	**24.02**	**357**	P	**P**	**05 47 54.9**	**+0.1**
SNOW				IAmb	IAmb	05 47 57.1	
	comp=Z,5.3nm,0.9s						
250A	**Grady**	**24.03**	**54**	P	**P**	**05 47 54.4**	**-0.3**
TPAW	**Teton Pass**	**24.05**	**357**	P	**P**	**05 47 55.6**	**+0.4**
LOHW	**Long Hollow**	**24.16**	**357**	P	**P**	**05 47 55.6**	**-0.5**
LOHW				IAmb	IAmb	05 47 58.6	
	comp=Z,2.7nm,0.7s						
FXWY	**Fox Creek**	**24.21**	**357**	P	**P**	**05 47 56.9**	**+0.3**
FXWY				IAmb	IAmb	05 47 59.3	
	comp=Z,3.6nm,0.8s						
MOOW	**Moose Ponds**	**24.30**	**357**	P	**P**	**05 47 57.8**	**+0.4**
MOOW				IAmb	IAmb	05 48 09.2	
	comp=Z,3.0nm,1.1s						
WVOR	**Wild Horse Val**	**24.33**	**343**	P	**P**	**05 47 57.9**	**+0.4**
WVOR				IAmb	IAmb	05 48 03.4	
	comp=Z,6.3nm,1.1s						
MOD	**Modoc Plateau**	**24.35**	**339**	P	**P**	**05 47 58.3**	**+0.5**
IMW	**Indian Meadow**	**24.46**	**357**	P	**P**	**05 47 58.4**	**-0.5**
IMW				IAmb	IAmb	05 48 01.2	
	comp=Z,2.7nm,0.9s						
HLID	**Hailey**	**24.49**	**351**	P	**P**	**05 48 00.1**	**+1.1**
HLID				IAmb	IAmb	05 48 01.3	
	comp=Z,2.5nm,0.8s						
YBH	**Yreka Blue Hor**	**25.07**	**335**	LR	LR	05 57 16.9	
	comp=Z,21nm,21.6s,baz=157,slow=35						
J08A	**Circle Bar Ran**	**25.14**	**344**	P	**P**	**05 48 05.2**	**+0.4**
J08A				IAmb	IAmb	05 48 13.0	
	comp=Z,3.6nm,0.9s						
HOOD	**Mount Hood Mea**	**27.85**	**341**	P	**P**	**05 48 29.9**	**+0.6**
G03D	**McMinnville, O**	**28.28**	**339**	P	**P**	**05 48 33.5**	**+0.6**
ULM	**Lac du Bonnet**	**32.53**	**16**	LR	LR	06 02 31.3	
	comp=Z,355nm,18.0s,baz=186,slow=37						
SADO	**Sadowa**	**35.48**	**38**	LR	LR	06 02 52.9	
	comp=Z,236nm,20.3s,baz=214,slow=34						
BBB	**Bella Bella**	**35.92**	**340**	LR	LR	06 03 48.8	
	comp=Z,172nm,21.6s,baz=160,slow=35						
SDV	**Santo Domingo**	**38.66**	**100**	LR	LR	06 06 28.2	
	comp=Z,141nm,21.9s,baz=270,slow=37						
DLBC	**Dease Lake**	**41.86**	**344**	LR	LR	06 08 51.4	
	comp=Z,330nm,18.0s,baz=160,slow=38						
YKA	**Yellowknife Ar**	**43.21**	**356**	P	**P**	**05 50 40.3**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=166,slow=13,SNR=4.1						
YKA				LR	LR	06 09 10.0	
	comp=Z,192nm,19.9s,baz=172,slow=37						
	comp=Z,1.0nm,0.8s						
PCRV	**Puerto La Cruz**	**43.86**	**96**	LR	LR	06 09 52.6	
	comp=Z,79nm,20.9s,slow=37						
NNA	**Nana**	**44.55**	**132**	LR	LR	06 05 30.9	
	comp=Z,158nm,20.5s,baz=324,slow=31						
SCHQ	**Schefferville**	**47.66**	**32**	LR	LR	06 10 59.2	
	comp=Z,104nm,19.0s,baz=274,slow=36						
KDAK	**Kodiak Island**	**49.77**	**331**	LR	LR	06 09 13.2	
	comp=Z,109nm,20.1s,baz=130,slow=32						
INK	**Inuvik**	**51.23**	**349**	LR	LR	06 12 13.5	
	comp=Z,58nm,21.8s,baz=197,slow=35						
ILAR	**Eielson Array**	**51.81**	**340**	P	**P**	**05 51 47.7**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=156,slow=6.8,SNR=8.3						
ILAR				LR	LR	06 12 05.0	
	comp=Z,86nm,18.7s,baz=130,slow=34						
	comp=Z,1.3nm,0.9s						
FRB	**Frobisher Bay**	**52.06**	**22**	LR	LR	06 14 41.1	
	comp=Z,166nm,18.8s,baz=200,slow=37						
LPAZ	**La Paz**	**53.69**	**129**	P	**P**	**05 52 04.7**	**+2.2**
	comp=Z,2.3nm,1.1s,baz=340,slow=8.8,SNR=3.7						
LPAZ				LR	LR	06 11 59.8	
	comp=Z,148nm,21.2s,baz=280,slow=33						
	comp=Z,2.3nm,1.1s						
PPT	**Papeete**	**54.13**	**230**	LR	LR	06 08 60.0	
	comp=Z,126nm,18.4s,baz=100,slow=29						
RES	**Resolute Bay**	**55.83**	**5**	LR	LR	06 16 36.9	
	comp=Z,359nm,18.6s,baz=210,slow=36						
MDP	**Montagnes des**	**56.74**	**97**	LR	LR	06 18 18.1	
	comp=Z,44nm,19.8s,baz=284,slow=38						
SIV	**San Ignacio**	**58.90**	**123**	LR	LR	06 15 20.7	
	comp=Z,107nm,19.1s,baz=294,slow=33						
H03N2	**Juan Fernandez**	**59.93**	**151**	T	T	06 57 55.4	
	baz=329,slow=78,SNR=105						
H03N1	**Juan Fernandez**	**59.94**	**151**	T	T	06 57 58.7	
	baz=329,slow=78,SNR=83						
H03N3	**Juan Fernandez**	**59.95**	**151**	T	T	06 57 57.5	
	baz=329,slow=78,SNR=73						
RAR	**Rarotonga**	**63.93**	**233**	LR	LR	06 14 08.6	
	comp=Z,163nm,20.1s,baz=70,slow=30						
PLCA	**Paso Flores**	**69.75**	**150**	LR	LR	06 18 04.5	
	comp=Z,188nm,18.2s,baz=324,slow=30						
AFI	**Afiamalu**	**70.00**	**247**	LR	LR	06 16 15.0	
	comp=Z,191nm,20.7s,baz=6.0,slow=29						
RCBR	**Riachuelo**	**76.24**	**101**	LR	LR	06 29 42.2	
	comp=Z,41nm,18.9s,baz=100,slow=37						
SPITS	**Spitsbergen Ar**	**77.86**	**10**	LR	LR	06 30 02.3	
	comp=Z,153nm,18.9s,baz=266,slow=36						
EKA	**Eskdalemuir Ar**	**82.94**	**34**	LR	LR	06 29 00.5	
	comp=Z,59nm,18.2s,baz=301,slow=34						
ARCES	**ARCESS Array B**	**85.63**	**15**	LR	LR	06 34 08.8	
	comp=Z,108nm,20.5s,baz=307,slow=36						
NOA	**NORSAR Array B**	**86.75**	**25**	LR	LR	06 34 51.7	
	comp=Z,40nm,18.2s,baz=305,slow=36						
BBTS	**Babate**	**87.59**	**75**	LR	LR	06 36 09.6	
	comp=Z,76nm,18.2s,baz=292,slow=37						
ESDC	**Sonseca Array**	**88.87**	**48**	LR	LR	06 34 47.2	
	comp=Z,36nm,19.9s,baz=288,slow=35						
MDT	**Midelt**	**91.20**	**55**	LR	LR	06 35 37.9	
	comp=Z,44nm,18.9s,baz=306,slow=35						
DZM	**Mont Dzumac**	**92.22**	**248**	LR	LR	06 31 07.3	
	comp=Z,130nm,18.1s,baz=37,slow=32						
DAVOX	**Davos/Dischmat**	**94.27**	**37**	LR	LR	06 37 06.5	
	comp=Z,95nm,19.8s,baz=271,slow=35						
GERES	**GERESS Array B**	**95.16**	**34**	LR	LR	06 37 22.8	
	comp=Z,165nm,20.3s,baz=58,slow=34						
KOWA	**Kowa**	**96.97**	**71**	LR	LR	06 37 15.9	
	comp=Z,53nm,21.1s,baz=266,slow=33						
WRA	**Warramunga Arr**	**120.59**	**258**	PKP	**PKiKP**	**06 01 36.1**	**+4.0**
	comp=Z,0.4nm,0.8s,baz=72,slow=2.7,SNR=1.9						
ASAR	**Alice Springs**	**121.64**	**254**	PKP	**PKiKP**	**06 01 39.1**	**+5.0**
	comp=Z,0.2nm,0.6s,baz=82,slow=1.4,SNR=1.9						

*ATH **05** 05:43:05.7,35.04N×25.57E,h53km±3km, ML2.4/4, Error ellipse: s-maj=4.2km s-min=1.5km az=171.0*
*HLW **05** 05:43:08.0,34.36N×26.08E,h10km±14km, Md3.1*

ISC 05 05:43:03.9±1.4, 34.77N±0.05×25.56E±0.05, h56km±13km, n16, σ2s45/23, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.29**	**31**	P	**Pn**	**05 43 14.0**	**+0.6**
FRMA				S	**Sn**	**05 43 21.3**	**+0.9**
FRMA				AML	AML	05 43 22.0	
	comp=N,2482μm,0.9s						
FRMA				AML	AML	05 43 22.4	
	comp=E,984μm,0.3s						
STIA	**Sitia Lasithi**	**0.62**	**45**	P	**Pn**	**05 43 17.5**	**+0.6**
STIA				S	**Sn**	**05 43 26.1**	**-0.3**
STIA				AML	AML	05 43 30.1	
	comp=E,1048μm,0.5s						
STIA				AML	AML	05 43 30.4	
	comp=N,1133μm,0.9s						
ZKR	**Zakros**	**0.65**	**57**	P	**Pn**	**05 43 18.9**	**+1.6**
ZKR				S	**Sn**	**05 43 27.7**	**+0.8**
ZKR				AML	AML	05 43 33.2	
	comp=N,477μm,0.5s						
ZKR				AML	AML	05 43 34.3	
	comp=E,736μm,0.4s						
HRKL	**Herakleio**	**0.66**	**326**	P	**Pn**	**05 43 18.2**	**+0.8**
SIVA	**Sivas**	**0.66**	**292**	P	**Pn**	**05 43 18.9**	**+1.5**
KSTL	**Kastelli Herak**	**0.67**	**324**	P	**Pn**	**05 43 15.1**	**-2.4**
KSTL				S	**Sn**	**05 43 22.3**	**-5.1**
IDI	**Anoyia**	**0.75**	**314**	P	**Pn**	**05 43 19.3**	**+0.6**
IDI				S	**Sn**	**05 43 29.7**	**+0.3**
IDI				AML	AML	05 43 31.9	
	comp=N,617μm,0.7s						
IDI				AML	AML	05 43 32.6	
	comp=E,428μm,0.5s						
GVD	**Gavdhos**	**1.21**	**274**	P	**Pn**	**05 43 29.1**	**+4.6**
IMMV	**Iera Moni Meta**	**1.47**	**299**	P	**Pn**	**05 43 31.4**	**+3.4**
KARP	**Karpathos**	**1.53**	**59**	P	**Pn**	**05 43 31.8**	**+2.9**
SANT	**Santorini**	**1.60**	**357**	P	**Pn**	**05 43 30.0**	**+0.1**
THR3	**Thira Island,**	**1.64**	**356**	P	**Pn**	**05 43 30.7**	**+0.3**
THR5	**Thira Island,**	**1.66**	**354**	P	**Pn**	**05 43 30.5**	**-0.1**
SLUM	**Salum**	**3.28**	**185**	P	**Pn**	**05 43 54.3**	**+1.5**
	baz=195						
SLUM				S	**Sn**	**05 44 28.4**	**-2.1**
	baz=195						
SWA2		**5.51**	**181**	P	**Pn**	**05 44 24.7**	**+1.4**
	baz=187						
SWA2				S	**Sn**	**05 45 20.4**	**-4.9**
	baz=187						
GLL	**Jalalah**	**7.34**	**133**	P	**Pn**	**05 44 48.6**	**+0.1**
	baz=133						

ROM 05 05:43:16.9±0.8, 42.63N±0.03×13.35E±0.03, h6km±2km, Md0.5/2, 1C-2D, Error ellipse: s-maj=3.5km s-min=1.5km az=166.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.01**	**286**	⇑P	Pg	05 43 18.0	-0.2
SMA1				S	Sg	05 43 19.1	0.0
SMA1				AML	AML		
	comp=E,138μm,0.2s						
SMA1				AML	AML		
	comp=N,67μm,0.5s						
SMA1				END			
T1204	**Amatrice, Fraz**	**0.05**	**335**	P	Pg	05 43 18.4	-0.2
T1204				S	Sg	05 43 19.9	0.0
T1204				AML	AML		
	comp=E,182μm,1.1s						
T1204				AML	AML		
	comp=N,112μm,1.0s						
T1204				END			
T1204	**Amatrice, Fraz**	**0.05**	**335**	AML	AML		
	comp=N,110μm,0.2s						
T1204				AML	AML		
	comp=E,182μm,1.1s						
T1204				AML	AML		
	comp=E,179μm,1.1s						
T1243	**Rocca Santa Ma**	**0.10**	**48**	⇓P	Pg	05 43 19.4	+0.2
T1243				S	Sg	05 43 21.8	+0.9
T1202	**Accumoli, Fraz**	**0.12**	**310**	P	Pg	05 43 20.7	+1.2
T1244	**Arquata del Tr**	**0.13**	**344**	S	Sg	05 43 23.0	+1.3
T1242	**Castelluccio d**	**0.23**	**333**	P	Pg	05 43 21.5	+0.1
T1242				AML	AML		
	comp=E,85μm,0.2s						
T1242				AML	AML		
	comp=N,112μm,1.1s						
T1242	**Castelluccio d**	**0.23**	**333**	⇓P	Pg	05 43 21.2	-0.2
T1242				AML	AML		
	comp=N,158μm,0.4s						
T1242				AML	AML		
	comp=E,139μm,0.7s						
T1241	**Roccafluvione,**	**0.24**	**15**	S	Sg	05 43 27.0	+2.2
T1241	**Roccafluvione,**	**0.24**	**15**	P	Pg	05 43 27.0	+5.4
T1241				S	Sg	05 43 29.7	+4.9
T1241				AML	AML		
	comp=E,92μm,0.3s						
T1241				AML	AML		
	comp=N,79μm,0.1s						
MC2	**Monte Cornacci**	**0.31**	**338**	P	Pn	05 43 26.6	-1.5
MC2				S	Sb	05 43 29.2	-1.0
T1215	**Vallo di Nera,**	**0.39**	**296**	S	Sg	05 43 30.0	+0.3
FDMO	**Fiordimonte**	**0.45**	**335**	P	Pn	05 43 28.7	-1.2
FDMO				S	Sb	05 43 32.9	-1.3
CSP1	**Cessapalombo**	**0.47**	**347**	P	Pg	05 43 26.7	+0.6

*IDC **05** 06:06:42.9±3.4, 36.97S×178.33E, h0km, mb3.6/2, mbtmp3.6/2, MS4.5/1, Error ellipse: s-maj=70.0km s-min=29.4km az=107.0*
*WEL **05** 06:06:42.3±1.0, 37.5±5.5°×17.9E±°, h15km, M3.6/16, ML3.7/15, MLv3.6/16, Error ellipse: s-maj=0.0km s-min=0.0km az=101.2*

ISC 05 06:06:41.8±2.4, 37.34S±0.07×179.02E±0.10, h16km±10km, n72, σ0s87/75, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.61**	**248**	P	**Pg**	**06 06 53.7**	**-0.2**
MXZ				S	**Sg**	**06 07 01.2**	**-0.9**
WMGZ	**Waiomatatini S**	**0.68**	**225**	P	**Pn**	**06 06 57.1**	**+0.2**
WMGZ				S	**Sn**	**06 07 07.8**	**+0.6**
PKGZ	**Pakihiroa**	**0.93**	**233**	P	**Pg**	**06 07 00.4**	**+0.5**
PKGZ				S	**Sn**	**06 07 13.6**	**+0.1**
PUZ	**Puketiti**	**0.95**	**219**	P	**Pn**	**06 07 01.1**	**+0.4**
PUZ				S	**Sn**	**06 07 14.4**	**+0.5**
HAZ	**Te Kaha**	**1.07**	**247**	P	**Pb**	**06 07 01.0**	**-1.0**
TWGZ	**Tauwhareparae**	**1.18**	**224**	P	**Pb**	**06 07 04.4**	**+0.5**
TWGZ				S	**Sg**	**06 07 20.9**	**+0.9**
RUGZ	**Raukumara Rang**	**1.24**	**239**	P	**Pn**	**06 07 05.2**	**+0.6**
CNGZ	**Carnagh Statio**	**1.31**	**209**	P	**Pb**	**06 07 06.7**	**+0.6**
TKGZ	**Te Karaka**	**1.44**	**220**	P	**Pn**	**06 07 07.5**	**+0.2**
WIZ	**White Island**	**1.47**	**262**	P	**Pn**	**06 07 08.1**	**+0.4**
MWZ	**Matawai**	**1.55**	**229**	P	**Pn**	**06 07 09.0**	**+0.2**
RIGZ	**Rimuhau**	**1.69**	**216**	P	**Pn**	**06 07 10.9**	**+0.1**
WHRZ	**Whale Island**	**1.71**	**252**	P	**Pn**	**06 07 11.9**	**+0.9**
RAGZ	**Rawiri**	**1.72**	**227**	P	**Pn**	**06 07 12.1**	**+0.9**
URZ	**Urewera**	**1.77**	**238**	Pn	**Pn**	**06 07 12.5**	**+0.7**
	74nm,0.3s,baz=31,slow=3.5,SNR=375						
URZ				Sn	**Sn**	**06 07 34.6**	**+0.6**
	76nm,0.3s,baz=31,slow=2.3,SNR=27						
URZ	**Urewera**	**1.77**	**238**	P	**Pn**	**06 07 12.6**	**+0.7**
PRGZ	**Paritu Road**	**1.82**	**209**	P	**Pn**	**06 07 12.9**	**+0.3**
SNGZ	**Shannon Statio**	**1.96**	**222**	P	**Pn**	**06 07 14.4**	**-0.1**
EDRZ	**Edgecumbe**	**1.97**	**246**	P	**Pn**	**06 07 15.2**	**+0.6**
KNZ	**Kokohu**	**1.99**	**212**	P	**Pn**	**06 07 14.3**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.02**	**206**	P	**Pn**	**06 07 16.0**	**+0.8**
OPRZ	**Ohinepanea**	**2.02**	**255**	P	**Pn**	**06 07 15.4**	**+0.1**
RTZ	**Ruatahuna**	**2.06**	**231**	P	**Pn**	**06 07 16.6**	**+0.7**
MUGZ	**Murupara**	**2.12**	**237**	P	**Pn**	**06 07 16.9**	**+0.3**
TARZ	**Mount Tarawera**	**2.19**	**245**	P	**Pn**	**06 07 18.6**	**+1.0**
RAHZ	**Arahi**	**2.20**	**223**	P	**Pn**	**06 07 18.3**	**+0.6**
RRRZ	**Republican Roa**	**2.22**	**242**	P	**Pn**	**06 07 18.9**	**+0.7**
MTHZ	**Maungataniwha**	**2.29**	**228**	P	**Pn**	**06 07 19.7**	**+0.7**
KARZ	**Kaharoa**	**2.31**	**252**	P	**Pn**	**06 07 19.6**	**+0.4**
HSRZ	**Hossack Road**	**2.41**	**245**	P	**Pn**	**06 07 21.8**	**+1.2**
ALRZ	**Allen Road**	**2.45**	**239**	P	**Pn**	**06 07 21.5**	**+0.3**
NMHZ	**Naumai**	**2.48**	**224**	P	**Pn**	**06 07 22.6**	**+0.9**
ARHZ	**Aropaoanui**	**2.50**	**219**	P	**Pn**	**06 07 22.0**	**+0.1**
MRHZ	**Matea Rd**	**2.54**	**233**	P	**Pn**	**06 07 22.8**	**+0.3**
BKZ	**Black Stump Fm**	**2.70**	**227**	P	**Pn**	**06 07 24.7**	**0.0**
BKZ				S	**Sn**	**06 07 55.8**	**-1.4**
KUZ	**Kuaotunu**	**2.71**	**282**	P	**Pn**	**06 07 22.7**	**-2.0**
CKHZ	**Cape Kidnapper**	**2.78**	**213**	P	**Pn**	**06 07 24.7**	**-1.0**
KUTZ	**Kaahu Road**	**2.78**	**245**	P	**Pn**	**06 07 26.8**	**+1.1**
TOZ	**Tahuroa Road**	**2.83**	**261**	P	**Pn**	**06 07 26.2**	**-0.2**
KAHZ	**Kahuranaki**	**2.98**	**214**	P	**Pn**	**06 07 27.2**	**-1.2**
GRZ	**Great Barrier**	**3.06**	**290**	P	**Pn**	**06 07 30.0**	**+0.4**
MKAZ	**Moumakai**	**3.09**	**273**	P	**Pn**	**06 07 28.8**	**-1.1**
KRHZ	**Kereru**	**3.10**	**221**	P	**Pn**	**06 07 29.3**	**-0.9**
TMVZ	**Te Maari**	**3.16**	**235**	P	**Pn**	**06 07 31.1**	**+0.1**
BHHZ	**Black Hill Sta**	**3.17**	**226**	P	**Pn**	**06 07 30.8**	**-0.3**
ETVZ	**East Tongariro**	**3.17**	**234**	P	**Pn**	**06 07 31.2**	**0.0**
NNVZ	**North Ngauruho**	**3.23**	**235**	P	**Pn**	**06 07 32.5**	**+0.5**
SNVZ	**South Ngauruho**	**3.24**	**234**	P	**Pn**	**06 07 32.1**	**-0.1**
TUVZ	**Tukino**	**3.28**	**233**	P	**Pn**	**06 07 32.9**	**+0.2**
ETAZ	**East Tamaki Re**	**3.29**	**275**	P	**Pn**	**06 07 33.5**	**+0.7**
MOVZ	**Moawhango**	**3.30**	**230**	P	**Pn**	**06 07 32.6**	**-0.3**
MBAZ	**Motutapu North**	**3.35**	**278**	P	**Pn**	**06 07 34.4**	**+0.9**
WNVZ	**Wahianoa**	**3.35**	**233**	P	**Pn**	**06 07 33.8**	**+0.1**
WPHZ	**Waipukurau**	**3.39**	**216**	P	**Pn**	**06 07 32.8**	**-1.3**
PNHZ	**Pukenui**	**3.39**	**220**	P	**Pn**	**06 07 32.5**	**-1.6**
EPAZ	**Eden Park BICE**	**3.45**	**276**	P	**Pn**	**06 07 36.6**	**+1.6**
HIZ	**Hauiti**	**3.50**	**249**	P	**Pn**	**06 07 36.8**	**+1.2**
AWAZ	**Awhitu Peninsu**	**3.51**	**273**	P	**Pn**	**06 07 36.8**	**+1.1**
RVAZ	**Riverhead Bore**	**3.60**	**278**	P	**Pn**	**06 07 38.2**	**+1.3**
TSZ	**Takapari Road**	**3.62**	**220**	P	**Pn**	**06 07 35.6**	**-1.8**
WCZ	**Waipu Caves**	**4.01**	**289**	P	**Pn**	**06 07 42.1**	**-0.6**
DREZ	**Durham Road**	**4.22**	**243**	P	**Pn**	**06 07 45.0**	**-0.5**
PREZ	**Palmer Road**	**4.32**	**241**	P	**Pn**	**06 07 45.9**	**-1.0**
OUZ	**Omahuta**	**4.87**	**294**	P	**Pn**	**06 07 54.9**	**+0.5**
CTZ	**Chatham Island**	**7.20**	**154**	P	**Pn**	**06 08 27.6**	**+1.1**
RPZ	**Rata Peaks**	**8.79**	**221**	Sn	Sn	06 10 15.5	-12
	1.7nm,0.3s,baz=318,slow=21,SNR=8.1						
ASAR	**Alice Springs**	**40.82**	**276**	P	**P**	**06 14 21.8**	**-1.1**
	0.5nm,0.7s,baz=115,slow=7.6,SNR=5.7						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**42.45**	**281**	P	**P**	**06 14 34.6**	**-1.6**
	0.5nm,0.4s,baz=122,slow=7.9,SNR=14						
WRA				LR	LR	06 33 57.1	
	comp=Z,530nm,18.2s,baz=358,slow=39						
	0.5nm,0.4s						
H03N3	**Juan Fernandez**	**78.92**	**124**	T	T	07 45 27.0	
	baz=234,slow=72,SNR=8.0						
H03N2	**Juan Fernandez**	**78.92**	**124**	T	T	07 45 25.7	
	baz=234,slow=72,SNR=4.9						
H03N1	**Juan Fernandez**	**78.93**	**124**	T	T	07 45 26.2	
	baz=234,slow=72,SNR=7.2						
MKAR	**Makanchi Array**	**120.20**	**308**	PKP	**PKiKP**	**06 25 33.9**	**+2.1**
	1.3nm,0.5s,baz=119,slow=5.1,SNR=0.7						

*MOS **05** 06:14:05.8±1.1, 3.63N×126.78E, h26km, mb5.3/54, Error ellipse: s-maj=8.7km s-min=4.4km az=113.9*
*NEIC **05** 06:14:09.4±2.2, 3.67N±0.06×126.93E±0.07, h44km±4km, mb5.2/143, Error ellipse: s-maj=10.7km s-min=8.0km az=66.0*
*IDC **05** 06:14:10.6±1.3, 3.53N×126.80E, h47km±12km, mb4.6/30, mbtmp4.9/33, ML4.8/3, MS4.2/42, Error ellipse: s-maj=13.4km s-min=6.7km az=76.0*
*GCMT **05** 06:14:10.4±0.2, 3

PLAI Plampang 15.26 216 P **P** **06 17 45.8 -1.1**
4µm539nm,0.9s
MTN Manton Dam 16.84 165 P **Pn** **06 18 03.2 +0.1**
baz=17,SNR=15
MTN Manton Dam 16.84 165 **Pn** **06 18 01.6 -1.5**
KDU Kakadu 17.08 161 P **Pn** **06 18 06.2 +0.2**
baz=17,SNR=8.8
KDU Kakadu 17.08 161 P **Pn** **06 18 06.4 +0.3**
JAGI Jajag, Banyuwa 17.40 227 P **Pn** **06 18 10.3 +0.3**
JAGI IAmb IAmb 06 18 15.4
comp=Z,83nm,0.7s
JAGI Jajag, Banyuwa 17.40 227 P **P** **06 18 11.8 +1.2**
comp=Z,143nm,0.9s
KNRA Kununurra 19.21 174 P **Pn** **06 18 31.1 -0.7**
baz=19,SNR=64
KNRA Kununurra 19.21 174 P **P** **06 18 29.2 -1.2**
KNRA IAmb IAmb 06 18 37.4
comp=Z,73nm,0.7s
KNRA Kununurra 19.21 174 P **Pn** **06 18 31.7 -0.1**
UGM Wanagama 19.87 235 P **Pn** **06 18 39.4 -0.3**
comp=Z,92nm,1.8s
TWG Pinlang 19.95 344 P **P** **06 18 35.7 -2.7**
GUMO Guam 20.41 60 LR LR 06 25 04.3
comp=Z,324nm,21.0s,baz=242,slow=32
TPUB Ta-pu 20.52 344 P **P** **06 18 41.4 -3.4**
TPUB Ta-pu 20.52 344 P **P** **06 18 43.0 -1.8**
SSLB Suanglung 20.90 345 P **P** **06 18 47.0 -1.8**
comp=Z,84nm,0.7s
SSLB Suanglung 20.90 345 P **P** **06 18 47.0 -1.8**
YOJ Yonaguni jima 21.11 350 P **P** **06 18 48.0 -3.0**
YOJ Yonaguni jima 21.11 350 P **P** **06 18 48.0 -3.0**
YOJ pmax pmax
comp=Z,255nm,0.8s
YOJ Yonaguni jima 21.11 350 P **P** **06 18 52.1 +1.1**
NACB Ninganchiao 21.11 347 P **P** **06 18 46.6 -4.5**
JMJ Miyako jima 2 21.19 356 P **P** **06 18 51.2 -0.6**
FITZ Fitzroy Crossi 21.55 183 P **P** **06 18 56.1 +0.3**
baz=22,SNR=34
FITZ Fitzroy Crossi 21.55 183 P **P** **06 18 55.1 -0.7**
comp=Z,26nm,0.8s,baz=20,slow=9.2,SNR=36
FITZ S **S** **06 22 50.4 -1.4**
comp=Z,9.2nm,0.9s,baz=20,slow=21,SNR=8.3
comp=Z,26nm,0.8s
FITZ Fitzroy Crossi 21.55 183 P **P** **06 18 53.8 -2.0**
FITZ Fitzroy Crossi 21.55 183 P **P** **06 18 56.3 +0.5**
YHNB Yeheng 21.64 346 P **P** **06 18 53.6 -3.2**
YHNB IAmb IAmb 06 19 12.0
comp=Z,48nm,0.6s
LEM Lembang 21.78 242 P **P** **06 18 59.2 +0.7**
comp=Z,55nm,0.3s,baz=122,slow=12,SNR=6.3
LEM LR LR 06 29 34.5
comp=Z,784nm,18.6s,baz=75,slow=42
comp=Z,55nm,0.3s
TATO Taipei 21.91 347 P **P** **06 18 56.3 -3.3**
TATO IAmb IAmb 06 19 14.8
comp=Z,165nm,1.4s
QIZ Qiongzhong 22.63 314 P **P** **06 19 07.0 -0.5**
QIZ S **S** **06 23 09.5 -2.1**
QIZ pmax pmax
comp=Z,260nm,6.4s
QIZ LR LR
comp=Z,400nm,19.1s
QIZ LR LR
comp=Z,530nm,14.3s
QIZ LR LR
comp=Z,540nm,15.9s
QZH Quanzhou 22.70 340 P **P** **06 19 05.3 -2.7**
QZH S **S** **06 23 10.2 -2.3**
QZH LR LR
comp=Z,760nm,17.4s
QZH LR LR
comp=Z,500nm,16.5s
QZH LR LR
comp=Z,970nm,16.6s
MYKOM Kota Tinggi 23.03 266 P **P** **06 19 12.1 +0.5**
MYKOM IAmb IAmb 06 19 14.6
comp=Z,55nm,0.9s
JOW Kunigami 23.18 3 P **P** **06 19 11.1 -1.8**
JOW IAmb IAmb 06 19 16.1
comp=Z,56nm,0.6s
JOW Kunigami 23.18 3 P **P** **06 19 13.8 +0.8**
PMG Port Moresby 24.00 123 LR LR 06 28 54.4
comp=Z,693nm,22.0s,baz=302,slow=37
WB0 Warramunga Arr 24.34 163 P **P** **06 19 23.1 -0.6**
WB0 IAmb IAmb 06 19 33.5
comp=Z,82nm,0.8s
WRAB Tennant Creek 24.48 163 P **P** **06 19 24.7 -0.4**
WRAB Tennant Creek 24.48 163 *ce*P **P** **06 19 25.3 +0.3**
WRAB pmax pmax
comp=Z,175nm,1.7s
WRAB Tennant Creek 24.48 163 P **P** **06 19 25.0 0.0**
WRA Warramunga Arr 24.49 163 P **P** **06 19 24.7 -0.4**
comp=Z,56nm,1.0s,baz=341,slow=10,SNR=89
WRA PcP **PcP** **06 23 03.7 +1.0**
comp=Z,2.4nm,0.9s,baz=330,slow=2.0,SNR=2.5
comp=Z,56nm,1.0s
WRA Warramunga Arr 24.49 163 P **P** **06 19 23.9 -1.2**
WB2 Warramunga Arr 24.49 163 P **P** **06 19 24.1 -1.1**
WR0 Warramunga Arr 24.57 162 P **P** **06 19 24.9 -0.9**
WR0 IAmb IAmb 06 19 32.8
comp=Z,69nm,0.8s
MBWA Marble Bar 25.53 196 P **P** **06 19 34.7 +0.2**
MBWA IAmb IAmb 06 19 59.1
comp=Z,51nm,1.0s
MBWA Marble Bar 25.53 196 P **P** **06 19 35.8 +1.3**
IPM Ipoh 25.76 273 P **P** **06 19 35.0 -1.8**
IPM Ipoh 25.76 273 P **P** **06 19 40.0 +3.2**
PSA00 Pilbara Seismi 25.90 195 P **P** **06 19 36.2 -1.6**
PSA00 IAmb IAmb 06 20 02.6
comp=Z,43nm,0.9s
PSA00 Pilbara Seismi 25.90 195 P **P** **06 19 37.9 0.0**
PSA00 IAmb IAmb 06 20 02.5
comp=Z,20nm,1.1s
PSA00 Pilbara Seismi 25.90 195 P **P** **06 19 38.9 +1.1**
BKNI Bangkinang 25.98 263 P **P** **06 19 39.1 +0.4**
KULM Kulim 26.16 275 P **P** **06 19 39.9 -0.5**
KRVT Keravat (AS076 26.36 107 LR LR 06 28 50.5
comp=Z,867nm,19.5s,baz=72,slow=33
QIS Mount Isa 27.05 153 P **P** **06 19 48.4 +0.2**
baz=27,SNR=9.1
QIS Mount Isa 27.05 153 P **P** **06 19 48.6 +0.4**
JCJ Chichijima 27.63 31 P **P** **06 19 50.9 -2.5**
comp=Z,28nm,0.5s,baz=270,slow=16,SNR=4.7
JCJ LR LR 06 28 59.5
comp=Z,307nm,21.1s,baz=258,slow=32
JCJ Chichijima 27.63 31 P **P** **06 19 51.6 -1.8**
PSI Prapat 27.88 269 P **P** **06 19 55.6 -0.3**
comp=Z,17nm,0.9s,baz=84,slow=2.8,SNR=15
PSI LR LR 06 33 03.8
comp=Z,525nm,19.2s,baz=106,slow=41
comp=Z,17nm,0.9s
AS31 Alice Springs 27.92 166 P **P** **06 19 55.2 -0.9**
ASAR Alice Springs 27.92 166 P **P** **06 19 55.8 -0.3**
comp=Z,5.8nm,0.7s,baz=342,slow=6.7,SNR=35
ASAR PcP **PcP** **06 23 12.2 +1.6**
comp=Z,5.4nm,0.8s,baz=343,slow=2.7,SNR=4.8
ASAR S **S** **06 24 34.7 -1.5**
comp=Z,0.6nm,0.7s,baz=322,slow=12,SNR=1.3
ASAR LR LR 06 32 29.0
comp=Z,314nm,19.8s,baz=50,slow=39
comp=Z,5.8nm,0.7s
JSU Suzuyama 28.01 7 P **P** **06 19 54.1 -2.6**
WRKA Warakurna 28.46 177 P **P** **06 20 01.7 +0.8**
baz=29,SNR=12
WRKA Warakurna 28.46 177 P **P** **06 20 02.0 +1.1**
GIRL Giralia 28.80 205 P **P** **06 20 06.9 +3.0**
baz=29,SNR=5.3
GIRL Giralia 28.80 205 P **P** **06 20 03.7 -0.1**
GIRL Giralia 28.80 205 P **P** **06 20 06.7 +2.8**
NJ2 Nanjing 29.32 346 *e*P **P** **06 20 09.4 +1.1**
NJ2 pmax pmax
comp=Z,28nm,0.9s
NJ2 LR LR
comp=Z,290nm,20.8s
NJ2 LR LR
comp=Z,490nm,19.9s
NJ2 LR LR
comp=Z,440nm,23.7s
WHN Wuhan 29.32 338 ⇓P **P** **06 20 08.8 +0.4**
WHN pP **sP** **06 20 28.2 -0.7**
WHN S **S** **06 24 52.1 -5.8**
WHN pmax pmax
comp=Z,40nm,0.7s
WHN LR LR
comp=Z,2µm,21.2s
WHN LR LR
comp=Z,1µm,16.2s
WHN LR LR
comp=Z,2µm,20.5s
GYA Guiyang 29.87 322 ⇓P **P** **06 20 14.2 +0.7**
GYA S **S** **06 25 08.1 +1.2**
GYA pmax pmax
comp=Z,26nm,0.7s
GYA LR LR
comp=Z,580nm,13.2s
GYA LR LR
comp=Z,520nm,19.6s
GYA LR LR
comp=Z,580nm,23.1s
CTA Charters Tower 30.27 142 P **P** **06 20 16.1 -0.9**
comp=Z,6.9nm,1.1s,baz=293,slow=18,SNR=2.0
CTA LR LR 06 35 05.6
comp=Z,767nm,18.1s,baz=320,slow=42
comp=Z,6.9nm,1.1s
CTAO Charters Tower 30.27 142 P **P** **06 20 15.8 -1.1**
CTAO Charters Tower 30.27 142 P **P** **06 20 15.8 -1.1**
CTAO pmax pmax
comp=Z,22nm,1.1s
CRAI Chiangrai 30.65 305 P **P** **06 20 20.4 0.0**
JMN Monobe 30.73 12 P **P** **06 20 19.1 -1.8**
CM31 Chiang Mai Arr 31.05 301 P **P** **06 20 23.4 -0.5**
CMAR Chiang Mai Arr 31.05 301 P **P** **06 20 24.1 +0.3**
comp=Z,5.7nm,0.6s,baz=110,slow=7.1,SNR=17
CMAR LR LR 06 35 02.1
comp=Z,350nm,18.5s,baz=110,slow=40
comp=Z,5.7nm,0.6s
CMAR Chiang Mai Arr 31.05 301 P **P** **06 20 21.4 -2.5**
MEEK Meekatharra 31.05 194 P **P** **06 20 24.8 +1.0**
baz=31,SNR=12
MEEK Meekatharra 31.05 194 P **P** **06 20 25.2 +1.4**
CHTO Chiang Mai 31.20 301 P **P** **06 20 23.8 -1.4**
CHTO Chiang Mai 31.20 301 P **P** **06 20 23.8 -1.4**
CHTO pmax pmax
comp=Z,1.0nm,1.0s
CHTO Chiang Mai 31.20 301 P **P** **06 20 25.4 +0.2**
comp=Z,8.7nm,0.9s
ENH Enshi 31.23 330 P **P** **06 20 24.5 -0.8**
ENH IAmb IAmb 06 20 31.5
comp=Z,21nm,0.6s
NAWB Namwon 31.71 1 P **P** **06 20 27.1 -2.3**
NAWB IAmb IAmb 06 20 31.1
comp=Z,44nm,0.8s
JHJ Hachijo jima 2 31.80 21 LR LR 06 32 50.1
comp=Z,632nm,19.9s,baz=212,slow=35
OOD Oodnadatta 32.32 165 P **P** **06 20 35.9 +1.1**
TJN Taejon 32.66 1 P **P** **06 20 36.4 -1.4**
TJN Taejon 32.66 1 *ce*P **P** **06 20 38.2 +0.4**
TJN Taejon 32.66 1 P **P** **06 20 39.4 +1.6**
comp=Z,131nm,0.8s
PZH PanZhiHua 33.14 316 P **P** **06 20 44.1 +1.9**
PZH S **S** **06 25 59.4 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,5.1s
PZH LR LR
comp=Z,870nm,20.2s
PZH LR LR
comp=Z,640nm,18.4s
PZH LR LR
comp=Z,820nm,16.8s
KSCHJ Chungju 33.17 2 P **P** **06 20 42.5 +0.2**
KSCHJ IAmb IAmb 06 20 46.8
comp=Z,37nm,0.9s
LYN LuoYang 33.61 338 ⇑*i*P **P** **06 20 45.0 -1.0**
LYN pP sP 06 21 04.1 -2.6
LYN S S 06 25 54.3 -10
LYN PcS **PcS** **06 27 11.7 +0.4**
LYN SS **SnSn** **06 28 10.5 -2.1**
LYN pmax pmax
comp=Z,10.0nm,0.4s
LYN pmax pmax
comp=Z,100nm,4.7s
LYN LR LR
comp=Z,460nm,23.5s
LYN LR LR
comp=Z,610nm,21.1s
TIA Tai'an 33.71 346 ⇓P **P** **06 20 47.2 +0.3**
TIA S **S** **06 26 09.5 +3.2**
TIA pmax pmax
comp=Z,31nm,1.0s
TIA pmax pmax
comp=Z,180nm,6.9s
TIA LR LR
comp=Z,190nm,17.1s
TIA LR LR
comp=Z,360nm,19.4s
TIA LR LR
comp=Z,360nm,18.8s
KSAR Wonju Array Be 33.74 2 P **P** **06 20 44.8 -2.3**
KSAR Wonju Array Be 33.74 2 P **P** **06 20 44.8 -2.3**
KSRS Korea Array 33.75 2 P **P** **06 20 47.3 +0.1**
comp=Z,5.6nm,0.4s,baz=184,slow=10,SNR=28
KSRS PcP **PcP** **06 23 27.9 +2.2**
comp=Z,2.8nm,0.6s,baz=190,slow=2.5,SNR=7.4
KSRS LR LR 06 36 24.1
comp=Z,293nm,18.7s,baz=180,slow=40
comp=Z,5.6nm,0.4s
KS19 Wonju Array Si 33.80 1 P **P** **06 20 46.3 -1.4**
KS19 IAmb IAmb 06 20 53.8
comp=Z,80nm,1.9s
MORW Morawa 34.05 197 P **P** **06 20 50.4 +0.4**
baz=34,SNR=5.9
MORW Morawa 34.05 197 P **P** **06 20 50.4 +0.4**
MORW IAmb IAmb 06 20 54.7
comp=Z,31nm,1.2s
MORW Morawa 34.05 197 P **P** **06 20 51.5 +1.5**
FORT Forrest 34.16 178 P **P** **06 20 51.8 +0.8**
baz=34,SNR=16
FORT Forrest 34.16 178 P **P** **06 20 51.7 +0.8**
FORT Forrest 34.16 178 P **P** **06 20 51.7 +0.8**
MULG Mulgathing 34.35 169 P **P** **06 20 53.5 +1.0**
QLP Quilpie 34.37 152 P **P** **06 20 52.8 +0.1**
MAJO Matsushiro 34.46 16 *i*P **P** **06 20 55.5 +2.1**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 34.46 16 P **P** **06 20 52.5 -0.9**
comp=Z,1.8nm,0.5s,baz=189,slow=9.8,SNR=5.8
MJAR PcP **PcP** **06 23 29.4 +1.6**
comp=Z,2.3nm,0.6s,baz=188,slow=3.1,SNR=4.5
MJAR PKKP **PKKPdf** **06 45 46.5 -0.1**
comp=Z,1.9nm,0.4s,baz=110,slow=6.5,SNR=5.4
comp=Z,1.8nm,0.5s
SEHB SEOHWA 34.57 2 P **P** **06 20 55.0 +0.7**
SEHB IAmb IAmb 06 21 07.8
comp=Z,22nm,1.1s
XAN Xi'an 34.62 333 P **P** **06 20 53.7 -1.2**
XAN S **S** **06 26 20.4 -0.1**
XAN PcS **PcS** **06 27 15.3 +0.3**
XAN pmax pmax
comp=Z,48nm,0.6s
XAN pmax pmax
comp=Z,130nm,3.8s
XAN LR LR
comp=Z,650nm,16.3s
XAN LR LR
comp=Z,280nm,17.1s
XAN LR LR
comp=Z,940nm,18.4s
XAN Xi'an 34.62 333 P **P** **06 20 51.1 -3.8**
CD2 Chengdu 34.84 324 P **P** **06 20 55.7 -1.2**
CD2 S **S** **06 26 23.0 -1.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,680nm,18.9s
CD2 LR LR
comp=Z,580nm,16.1s
CD2 LR LR
comp=Z,560nm,17.1s
BLDU Ballidu 35.33 195 P **P** **06 21 01.8 +0.8**
baz=35,SNR=3.9
BLDU Ballidu 35.33 195 P **P** **06 21 01.4 +0.4**
HNR Honiara 35.43 112 LR LR 06 36 23.4
comp=Z,2µm,19.7s,baz=280,slow=38
HNS HongShan 35.47 343 ⇑P **P** **06 21 02.1 0.0**
HNS *e*S **S** **06 26 36.2 +2.8**
HNS pmax pmax
comp=Z,44nm,0.7s
HNS LR LR
comp=Z,560nm,17.6s
HNS LR LR
comp=Z,300nm,17.6s
HNS LR LR
comp=Z,820nm,18.0s
LCRK Leigh Creek 35.52 163 P **P** **06 21 03.3 +0.7**
KLBR Kellerberrin 36.01 193 P **P** **06 21 07.6 +0.8**
baz=36,SNR=9.3
KLBR Kellerberrin 36.01 193 P **P** **06 21 07.4 +0.6**
MUN Mundaring 36.76 195 P **P** **06 21 14.1 +1.0**
baz=37,SNR=4.1
MUN Mundaring 36.76 195 P **P** **06 21 14.8 +1.6**
EIDS Eidsvold 37.15 142 P **P** **06 21 19.1 +2.5**
baz=37,SNR=4.0
EIDS Eidsvold 37.15 142 P **P** **06 21 16.4 -0.3**
EIDS IAmb IAmb 06 21 25.9
comp=Z,20nm,1.1s
BBOO Buckleboo 37.21 167 P **P** **06 21 17.6 +0.6**
baz=37,SNR=11
BBOO Buckleboo 37.21 167 P **P** **06 21 17.1 0.0**
BBOO IAmb IAmb 06 21 28.8
comp=Z,39nm,1.1s
BBOO Buckleboo 37.21 167 P **P** **06 21 17.8 +0.8**
NWAO Narrogin (SRO) 37.41 193 P **P** **06 21 20.4 +1.7**
BJT Baijiatuan 37.56 347 P **P** **06 21 19.5 -0.3**
BJT Baijiatuan 37.56 347 P **P** **06 21 19.5 -0.3**
BJT pmax pmax
comp=Z,177nm,0.8s
BJT Baijiatuan 37.56 347 P **P** **06 21 19.7 -0.1**
BJI Beijing 37.58 347 P **P** **06 21 21.0 +1.0**
BJI S **S** **06 27 06.8 +1.4**
BJI pmax pmax
comp=Z,370nm,5.7s
BJI LR LR
comp=Z,33nm,18.8s
BJI LR LR
comp=Z,240nm,18.4s
BJI LR LR
comp=Z,230nm,20.2s
STKA Stephens Creek 37.93 159 P **P** **06 21 23.7 +0.6**
baz=38,SNR=42
STKA Stephens Creek 37.93 159 P **P** **06 21 23.4 +0.2**
comp=Z,17nm,0.6s,baz=336,slow=8.6,SNR=55
STKA PcP **PcP** **06 23 40.2 +2.0**
comp=Z,3.5nm,0.5s,baz=322,slow=8.6,SNR=1.9
STKA S **S** **06 27 11.3 +0.2**
comp=Z,2.4nm,0.7s,baz=315,slow=17,SNR=2.5
STKA LR LR 06 37 45.6
comp=Z,195nm,19.4s,baz=328,slow=37
comp=Z,17nm,0.6s
STKA Stephens Creek 37.93 159 P **P** **06 21 23.5 +0.4**
STKA Stephens Creek 37.93 159 P **P** **06 21 23.7 +0.6**
comp=Z,10.0nm,0.8s
HTT Hallett 38.52 164 P **P** **06 21 29.6 +1.5**
baz=39,SNR=6.2
HTT Hallett 38.52 164 P **P** **06 21 28.3 +0.2**
LZH Lanzhou 38.70 330 ⇑P **P** **06 21 29.8 0.0**
LZH pP sP 06 21 47.4 -2.8
LZH pmax pmax
comp=Z,35nm,1.3s
LZH pmax pmax
comp=Z,170nm,5.5s
LZH LR LR
comp=Z,570nm,16.5s
LZH LR LR
comp=Z,760nm,16.8s
LZH LR LR
comp=Z,1µm,16.8s
BRDH Bariadhala 39.02 302 LR LR 06 40 19.4
comp=Z,339nm,18.1s,baz=65,slow=40
CMSA Cobar Meteorol 39.25 154 P **P** **06 21 35.6 +1.4**
baz=39,SNR=6.2
CMSA Cobar Meteorol 39.25 154 P **P** **06 21 35.7 +1.5**
HHC Hu-ho-hao-te 39.59 342 ⇓P **P** **06 21 39.1 +2.0**
HHC S **S** **06 27 41.4 +5.3**
HHC pmax pmax
comp=Z,47nm,0.9s
HHC pmax pmax
comp=Z,290nm,6.6s
HHC LR LR
comp=Z,390nm,17.5s
HHC LR LR
comp=Z,570nm,15.9s
HHC LR LR
comp=Z,810nm,16.5s
TWOA Tennyson Woods 39.94 165 P **P** **06 21 40.1 +0.2**
SHL Shillong 40.06 306 P **P** **06 21 40.3 -1.0**
SHL Shillong 40.06 306 P **P** **06 21 40.3 -1.0**
SHL pmax pmax
comp=Z,65nm,0.7s
CN2 Changchun 40.09 358 *e*P **P** **06 21 40.8 -0.2**
CN2 *e*S **S** **06 27 45.4 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,200nm,17.2s
USRK Ussuriysk Ar. 40.73 6 P **P** **06 21 47.2 +0.9**
comp=Z,9.8nm,0.6s,baz=188,slow=7.4,SNR=29
comp=Z,9.8nm,0.6s
USRK Ussuriysk Ar. 40.73 6 P **P** **06 21 45.8 -0.5**
MDJ Mudanjiang 40.96 3 P **P** **06 21 48.1 0.0**
MDJ IAmb IAmb 06 21 50.9
comp=Z,50nm,1.1s
MDJ Mudanjiang 40.96 3 P **P** **06 21 49.8 +1.6**
MDJ pP pP 06 22 02.5 +0.1
MDJ S **S** **06 27 58.0 +1.8**
MDJ pmax pmax
comp=Z,48nm,0.9s
MDJ pmax pmax
comp=Z,90nm,4.3s
MDJ LR LR
comp=Z,250nm,18.8s
MDJ LR LR
comp=Z,220nm,16.1s
MDJ LR LR
comp=Z,440nm,18.0s
MDJ Mudanjiang 40.96 3 P **P** **06 21 47.0 -1.1**
ARMA Armidale 41.27 147 P **P** **06 21 52.6 +1.6**
baz=41,SNR=12
ARMA Armidale 41.27 147 P **P** **06 21 52.1 +1.1**
ARMA Armidale 41.27 147 P **P** **06 21 52.5 +1.5**
XLT XiLinHaoTe 41.29 348 ⇑*i*P **P** **06 21 51.8 +0.8**
XLT S **S** **06 28 01.3 +0.1**
XLT sS sS 06 28 26.2 +1.2
XLT pmax pmax
comp=Z,210nm,0.8s
XLT pmax pmax
comp=Z,190nm,3.7s
XLT LR LR
comp=Z,240nm,16.9s
XLT LR LR
comp=Z,270nm,18.9s
H11S3 WAKE ISLAND Hy 41.70 66 T T 07 06 19.4
baz=253,slow=75,SNR=33
H11S1 WAKE ISLAND Hy 41.72 66 T T 07 06 20.5
baz=253,slow=75,SNR=24
H11S2 WAKE ISLAND Hy 41.72 66 T T 07 06 21.0
baz=253,slow=75,SNR=49
BNX BinXian 42.02 1 ⇓P **P** **06 21 56.9 +0.1**
BNX pP **sP** **06 22 16.0 -1.4**
BNX PP **PP** **06 23 35.3 +0.3**
BNX S **S** **06 28 12.0 +0.2**
BNX sS sS 06 28 43.4 +7.8
BNX pmax pmax
comp=Z,13nm,1.1s
BNX pmax pmax
comp=Z,120nm,10.8s
BNX LR LR
comp=Z,240nm,16.3s
BNX LR LR
comp=Z,200nm,15.6s
BNX LR LR
comp=Z,360nm,19.9s
ARPS Mount Arapiles 42.49 162 P **P** **06 22 02.4 +1.7**
baz=43,SNR=6.6
ARPS Mount Arapiles 42.49 162 P **P** **06 22 02.3 +1.5**
LSA Lhasa 42.63 311 P **P** **06 22 03.0 +0.4**
LSA IAmb IAmb 06 22 11.0
comp=Z,22nm,0.7s
LSA Lhasa 42.63 311 P **P** **06 22 03.0 +0.4**
LSA pmax pmax
comp=Z,22nm,0.7s

LSA Lhasa 42.63 311 P **P** **06 21 58.7 -3.9**
GTA Gaotai 43.30 329 *e*P **P** **06 22 07.6 +0.1**
GTA pmax pmax
comp=Z,9.0nm,0.6s
GTA pmax pmax
comp=Z,58nm,4.3s
GTA LR LR
comp=Z,440nm,18.9s
GTA LR LR
comp=Z,560nm,19.6s
GTA LR LR
comp=Z,810nm,17.1s
CAN Canberra 43.91 154 P **P** **06 22 12.6 +0.2**
TAPN Taplejung 44.20 306 *e*P **P** **06 22 14.5 -0.7**
comp=Z,15nm,0.4s
RAMN Ramite 44.93 305 *e*P **P** **06 22 20.4 -0.5**
YSS Yuzh-Sakhalins 45.38 15 *e*P **P** **06 22 23.9 +0.1**
YSS *e*S **S** **06 29 01.4 +0.6**
YSS *e*SS **ScS** **06 32 15.0 -0.3**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,100nm,4.4s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS MLR MLR
comp=E,300nm,19.0s
JIRN Jiri 45.56 306 *e*P **P** **06 22 25.2 -0.8**
GUN Gumba 45.91 306 *e*P **P** **06 22 28.2 -0.6**
HIA Hailar 45.94 354 P **P** **06 22 29.4 +1.1**
HIA IAmb IAmb 06 22 30.5
comp=Z,29nm,1.0s
HIA Hailar 45.94 354 P **P** **06 22 29.4 +1.1**
HIA pmax pmax
comp=Z,29nm,1.0s
PKI Pulchoki 46.15 305 *e*P **P** **06 22 29.4 -1.3**
PKIN Phulchoki 46.17 305 *e*P **P** **06 22 29.7 -1.0**
DZM Mont Dzumac 46.35 125 LR LR 06 41 47.2
comp=Z,220nm,21.0s,baz=320,slow=36
DZM Mont Dzumac 46.35 125 P **P** **06 22 33.6 +1.6**
YATNC Mamie plateau, 46.71 125 P **P** **06 22 36.0 +1.3**
GKN Gorkha 46.95 306 *e*P **P** **06 22 36.1 -0.6**
comp=Z,12nm,0.4s
ULN Ulaanbaatar 47.31 342 P **P** **06 22 40.3 +1.1**
ULN IAmb IAmb 06 22 41.3
comp=Z,17nm,0.7s
ULN Ulaanbaatar 47.31 342*ce*P **P** **06 22 39.6 +0.4**
ULN pmax pmax
comp=Z,48nm,1.6s
ULN Ulaanbaatar 47.31 342 P **P** **06 22 40.4 +1.1**
SONM Songino Array 47.49 341 P **P** **06 22 40.7 +0.2**
comp=Z,14nm,0.6s,baz=159,slow=8.8,SNR=45
SONM PcP **PcP** **06 24 11.1 +1.1**
comp=Z,4.8nm,0.8s,baz=158,slow=4.6,SNR=3.9
SONM LR LR 06 46 18.8
comp=Z,230nm,19.5s,baz=156,slow=41
comp=Z,14nm,0.6s
SONM Songino Array 47.49 341 P **P** **06 22 39.8 -0.7**
SONM IAmb IAmb 06 22 44.2
comp=Z,15nm,0.6s
SONM Songino Array 47.49 341 P **P** **06 22 39.8 -0.7**
SONM pmax pmax
comp=Z,15nm,0.6s
KOLN Koldanda 47.71 305 *e*P **P** **06 22 41.3 -1.4**
comp=Z,6.1nm,0.5s
GRNR Gornyy 47.73 8⇑ *i*P **P** **06 22 42.8 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
DANN Dangsing 47.80 306 *e*P **P** **06 22 42.4 -1.1**
comp=Z,68nm,0.5s
PYUN Piuthan 48.33 305 *e*P **P** **06 22 46.5 -1.0**
comp=Z,51nm,0.7s
TYV Tymovskoe 48.98 13 *e*P **P** **06 22 53.2 +1.4**
TYV *e*S **S** **06 29 56.3 +4.3**
TYV pmax pmax
comp=Z,100nm,2.2s
TYV pmax pmax
comp=Z,11nm,1.0s
TYV smax smax
comp=N,300nm,4.8s
HYBB Hyderabad (bro 49.27 290 *e*P **P** **06 22 54.5 -0.2**
CIT Chita 49.55 349 *e*P **P** **06 22 57.7 +1.5**
CIT *e* 06 23 04.9
CIT *e* 06 23 10.8
CIT *e* 06 24 43.9
CIT pmax pmax
comp=Z,146nm,1.8s
ZEA Zeya 50.02 0 *e*P **P** **06 23 00.0 +0.3**
ZEA *e* 06 23 03.9
ZEA *e* 06 25 02.2
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=N,200nm,19.0s
ZEA MLR MLR
comp=Z,100nm,19.0s
ZAK Zakamensk 50.72 341 *e*P **P** **06 23 05.2 +0.1**
ZAK *e* 06 24 22.2
ZAK pmax pmax
comp=Z,5.0nm,1.5s
ZAK pmax pmax
comp=Z,5.0nm,0.9s
MOY Mondy 52.58 340 *e*P **P** **06 23 19.8 +0.8**
MOY pmax pmax
comp=Z,55nm,2.2s
WMQ Urumqi 52.92 325 *e*P **P** **06 23 22.7 +1.0**
WMQ pP pP 06 23 36.4 0.0
WMQ PcP **PcP** **06 24 26.3 -3.7**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.1s
WMQ LR LR
comp=Z,760nm,20.9s
WMQ LR LR
comp=Z,260nm,19.3s
WMQ LR LR
comp=Z,290nm,20.3s
KNGR Kungurtug, Tuv 52.98 337 *i*P **P** **06 23 21.3 -0.7**
BOD Bodaibo 55.05 352 *e*P **P** **06 23 37.2 +0.4**
BOD pmax pmax
comp=Z,23nm,1.3s
PEA0B Petropavlovsk- 55.55 22 P **P** **06 23 39.7 -0.8**
PEA0B IAmb IAmb 06 24 00.6
comp=Z,57nm,1.6s
PEA0B Petropavlovsk- 55.55 22 P **P** **06 23 39.7 -0.8**
PEA0B pmax pmax
comp=Z,57nm,1.6s
PETK Petropavlovsk- 55.55 22 P **P** **06 23 40.9 +0.4**
comp=Z,4.2nm,0.5s,baz=190,slow=5.9,SNR=14
comp=Z,4.2nm,0.5s
PETK Petropavlovsk- 55.55 22 P **P** **06 23 37.9 -2.6**
ZSN Zaisan 56.71 327 *e*P **P** **06 23 48.8 -0.1**
ZSN Zaisan 56.71 327 *e*P **P** **06 23 48.8 -0.1**
baz=327
DGZ Jazzator, Alta 56.79 330 *i*P **P** **06 23 50.6 +1.0**
DGZ pmax pmax
comp=Z,10.0nm,0.5s
SHLS Shalkode 57.55 320 *e*P **P** **06 23 52.9 -2.1**
SHLS Shalkode 57.55 320 *e*P **P** **06 23 53.0 -2.1**
baz=321
PDGK Podgornoye 57.61 321 *i*P **P** **06 23 54.4 -1.1**
PDGK pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 57.76 325 P **P** **06 23 55.7 -0.7**
MK31 IAmb IAmb 06 23 58.5
comp=Z,14nm,0.6s
MK31 Makanchi Array 57.76 325 *i*P **P** **06 23 55.6 -0.7**
MK31 pmax pmax
comp=Z,10.0nm,0.4s
MKAR Makanchi Array 57.76 325 P **P** **06 23 56.3 0.0**
comp=Z,20nm,0.5s,baz=118,slow=7.7,SNR=168
MKAR LR LR 06 50 34.4
comp=Z,300nm,18.7s,baz=94,slow=38
comp=Z,20nm,0.5s
MKAR Makanchi Array 57.76 325 P **P** **06 23 55.6 -0.7**
MKAR Makanchi Array 57.76 325 P **P** **06 23 55.6 -0.7**
UZB Uzynbulak 57.82 320 *e*P **P** **06 23 56.4 -0.6**
UZB Uzynbulak 57.82 320 *e*P **P** **06 23 56.5 -0.6**
baz=320
MAKZ Makanchi 57.94 325 P **P** **06 23 56.8 -0.8**
MAKZ Makanchi 57.94 325 *i*P **P** **06 23 56.4 -1.2**
MAKZ pmax pmax
comp=Z,16nm,0.5s
MAKZ Makanchi 57.94 325 P **P** **06 23 55.8 -1.8**
NIL Nilore 58.11 308 P **P** **06 23 58.3 -0.8**
NIL IAmb IAmb 06 24 08.2
comp=Z,23nm,0.8s
NIL Nilore 58.11 308 P **P** **06 23 58.3 -0.8**
NIL pmax pmax
comp=Z,23nm,0.9s
NIL Nilore 58.11 308 P **P** **06 24 01.0 +1.9**
SATY Saty 58.17 320 *e*P **P** **06 23 59.2 -0.2**
SATY pmax pmax
comp=Z,9.0nm,0.6s
SATY Saty 58.17 320 *e*P **P** **06 23 59.2 -0.2**
comp=Z,8.6nm,0.6s,baz=320
KPKS Kokpek 58.19 320 *e*P **P** **06 23 58.9 -0.6**
KPKS pmax pmax
comp=Z,7.0nm,0.6s
KPKS Kokpek 58.19 320 *e*P **P** **06 23 58.9 -0.6**
comp=Z,7.0nm,0.6s,baz=320
KSH Kashi 58.24 315 P **P** **06 24 01.5 +1.5**
KSH pmax pmax
comp=Z,10.0nm,1.1s
YAK Yakutsk 58.38 2 LR LR 06 51 48.7
comp=Z,118nm,18.7s,baz=267,slow=39
YAK Yakutsk 58.38 2 P **P** **06 23 59.5 -0.8**
YAK Yakutsk 58.38 2 *e*P **P** **06 24 00.8 +0.5**
YAK *e**PP **pP** **06 24 14.9 -0.2**
YAK *e* 06 24 49.1
YAK *e* 06 26 13.4
YAK *e*S **S** **06 32 01.1 +2.4**
YAK *e* 06 33 47.1
YAK *e*SS **SS** **06 35 55.4 +3.7**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,22nm,0.5s
YAK smax smax
comp=E,85nm,13.6s
YAK smax smax
comp=N,253nm,18.4s
MA2 Magadan 58.84 14 P **P** **06 24 01.2 -2.4**
MA2 IAmb IAmb 06 24 06.6
comp=Z,27nm,1.4s
MA2 Magadan 58.84 14*ce*P **P** **06 24 05.2 +1.6**
MA2 pmax pmax
comp=Z,22nm,1.4s
NRN Naryn 59.03 317 P **P** **06 24 04.8 -0.9**
NRN Naryn 59.03 317 P **P** **06 24 04.8 -0.9**
NRN pmax pmax
comp=Z,8.0nm,0.9s
ARXS Arharly 59.09 321 *e*P **P** **06 24 04.8 -1.0**
MDOK Medeo 59.10 319 *e*P **P** **06 24 05.7 -0.2**
MDOK Medeo 59.10 319 *e*P **P** **06 24 05.7 -0.2**
baz=320
ULHL Ulahol 59.22 318 P **P** **06 24 07.2 +0.3**
SNR=6.2
CHKK Chushkaly 59.46 320 *e*P **P** **06 24 07.4 -0.8**
CHKK Chushkaly 59.46 320 *e*P **P** **06 24 07.5 -0.8**
baz=320
KUU Kurty 59.89 320 *e*P **P** **06 24 10.8 -0.4**
KUU pmax pmax
comp=Z,23nm,0.7s
KUU Kurty 59.89 320 *e*P **P** **06 24 10.8 -0.4**
comp=Z,23nm,0.7s,baz=320
TKM2 Tokmak 2 59.94 319 P **P** **06 24 11.7 -0.1**
SNR=15
TKM2 Tokmak 2 59.94 319 *i*P **P** **06 24 11.2 -0.6**
TKM2 pmax pmax
comp=Z,10.0nm,0.7s
UCH Uchtor 60.37 317 P **P** **06 24 15.1 +0.1**
SNR=24
AAK Ala-Archa 60.55 318 LR LR 06 52 16.2
comp=Z,384nm,21.1s,baz=97,slow=38
AAK Ala-Archa 60.55 318 P **P** **06 24 14.9 -1.0**
AAK Ala-Archa 60.55 318*ce*P **P** **06 24 15.7 -0.2**
AAK pmax pmax
comp=Z,18nm,2.1s
ZAA0 Zalesovo Array 60.79 333 P **P** **06 24 15.6 -1.4**
ZAA0 IAmb IAmb 06 24 22.2
comp=Z,6.2nm,0.6s
ZALV Zalesovo Beam 60.79 333 P **P** **06 24 16.8 -0.2**
comp=Z,4.9nm,0.4s,baz=118,slow=6.2,SNR=13
ZALV LR LR 06 52 22.0
comp=Z,276nm,18.9s,baz=140,slow=38
comp=Z,4.9nm,0.4s
ZALV Zalesovo Beam 60.79 333 P **P** **06 24 15.6 -1.4**
ZALV Zalesovo Beam 60.79 333 *i*P **P** **06 24 16.6 -0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
SGDS Sogindy 60.81 319 *e*P **P** **06 24 16.7 -0.8**
SGDS Sogindy 60.81 319 *e*P **P** **06 24 16.8 -0.8**
baz=319
USP Ospenovka 60.82 319 P **P** **06 24 17.6 +0.1**
SNR=14
AML Almayashu 60.89 317 P **P** **06 24 19.0 +0.6**
SNR=25
SEM Semipalatinsk 60.90 328 *e*P **P** **06 24 17.0 -1.2**
SEM Semipalatinsk 60.90 328 *e*P **P** **06 24 17.0 -1.2**
baz=328
EKS2 Erkin-Say 61.05 318 P **P** **06 24 19.5 +0.3**
SNR=16
RPZ Rata Peaks 61.56 145 LR LR 06 51 35.9
comp=Z,367nm,18.3s,baz=314,slow=36
KBL Kabul 61.71 308 P **P** **06 24 22.5 -1.5**
KBL Kabul 61.71 308 P **P** **06 24 22.5 -1.5**
KBL pmax pmax
comp=Z,11nm,1.1s
BTLS Baital 61.87 320 *e*P **P** **06 24 23.9 -0.7**
BTLS Baital 61.87 320 *e*P **P** **06 24 23.9 -0.7**
baz=320
KURBB Kurchatov Arra 61.94 327 LR LR 06 52 38.7
comp=Z,221nm,20.6s,baz=115,slow=37
KURK Kurchatov 61.94 328 P **P** **06 24 24.6 -0.3**
KURK Kurchatov 61.94 328 *i*P **P** **06 24 24.4 -0.5**
KURK pmax pmax
comp=Z,42nm,0.7s
KURK Kurchatov 61.94 328 P **P** **06 24 23.1 -1.8**
BTK Batken 62.12 314 P **P** **06 24 25.3 -1.1**
BTK IAmb IAmb 06 24 36.7
comp=Z,17nm,0.9s
BTK Batken 62.12 314 P **P** **06 24 25.3 -1.1**
BTK pmax pmax
comp=Z,17nm,1.0s
GAR Garm 62.12 313 P **P** **06 24 25.7 -0.8**
RAO Raoul Island 62.15 126 LR LR 06 49 09.1
comp=Z,98nm,21.1s,baz=304,slow=34
SEY Seymchan 62.17 13*ce*P **P** **06 24 28.1 +1.9**
SEY pmax pmax
comp=Z,17nm,1.3s
KHZ Kahutara 62.26 142 P **P** **06 24 27.6 +0.4**
URZ Urewera 62.34 137 LR LR 06 52 37.9
comp=Z,526nm,19.1s,baz=95,slow=37
SNZO South Karori 62.36 141 P **P** **06 24 28.0 +0.1**
BKZ Black Stump Fm 62.39 138 P **P** **06 24 29.4 +1.2**
SHEM Shemya Is, Ala 62.56 30 LR LR 06 50 29.0
comp=Z,92nm,19.2s,baz=272,slow=35
DZA Taraz 62.79 317 *e*P **P** **06 24 30.7 -0.1**
DZA pmax pmax
comp=Z,9.0nm,0.6s
DZA Taraz 62.79 317 *e*P **P** **06 24 30.8 -0.1**
comp=Z,9.1nm,0.6s,baz=317
CHGR Chuyangaron 62.86 312 P **P** **06 24 29.8 -1.6**
CHGR IAmb IAmb 06 24 32.2
comp=Z,24nm,1.0s
CHGR Chuyangaron 62.86 312 P **P** **06 24 29.8 -1.6**
CHGR pmax pmax
comp=Z,24nm,1.0s
AFI Afiamalu 63.29 107 LR LR 06 49 26.2
comp=Z,125nm,19.5s,baz=296,slow=33
IUG Iuzhnay 63.41 316 *e*P **P** **06 24 35.3 +0.3**
KK31 Karatay Array 63.43 317 P **P** **06 24 34.3 -0.7**
KK31 IAmb IAmb 06 24 36.2
comp=Z,10nm,0.8s
KK31 Karatay Array 63.43 317 *i*P **P** **06 24 34.5 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 63.43 317 P **P** **06 24 34.4 -0.6**
KKAR Karatay Array 63.43 317 P **P** **06 24 34.4 -0.6**
OTUK Ortayu 64.32 323 *i*P **P** **06 24 40.2 -0.6**
OTUK pmax pmax
comp=Z,18nm,0.9s
BRZS Berezniki 64.89 325 *e*P **P** **06 24 44.3 -0.1**
BRZS Berezniki 64.89 325 *e*P **P** **06 24 44.2 -0.3**
baz=325
BVA0 Borovoye Array 67.52 327 *i*P **P** **06 25 00.6 -0.6**
BVAR Borovoye Array 67.52 327 LR LR 06 55 34.9
comp=Z,167nm,21.2s,baz=105,slow=37
BRVK Borovoye 67.59 327 P **P** **06 25 01.4 -0.3**
BRVK IAmb IAmb 06 25 04.3
comp=Z,22nm,0.8s
BRVK Borovoye 67.59 327 *i*P **P** **06 25 00.7 -1.0**
BRVK pmax pmax
comp=Z,20nm,0.7s
BRVK Borovoye 67.59 327 P **P** **06 25 00.8 -0.8**
TIXI Tiksi 68.01 1 P **P** **06 25 02.7 -1.2**
TIXI Tiksi 68.01 1*ce*P **P** **06 25 04.9 +1.0**
TIXI pmax pmax
comp=Z,52nm,2.5s
WSAR Wadi Sarin 68.59 293 LR LR 06 55 43.5
comp=Z,59nm,21.7s,baz=103,slow=36
NRIK Noril'sk 70.62 346 P **P** **06 25 21.2 +1.1**
comp=Z,21nm,0.6s,baz=126,slow=6.0,SNR=34
NRIK LR LR 06 59 32.7
comp=Z,297nm,19.2s,baz=154,slow=38
comp=Z,21nm,0.6s
NRIK Noril'sk 70.62 346 P **P** **06 25 18.5 -1.6**
NRIK IAmb IAmb 06 25 22.2
comp=Z,24nm,0.7s
NRIK Noril'sk 70.62 346*ce*P **P** **06 25 21.0 +0.9**
NRIK pmax pmax
comp=Z,20nm,0.6s
CASY Casey 70.66 187 P **P** **06 25 22.1 +1.7**
CASY IAmb IAmb 06 25 28.9
comp=Z,16nm,0.9s
DRV Dumont d'Urvil 70.70 174 P **P** **06 25 19.1 -1.5**
GEYT Alibeck 71.08 309 P **P** **06 25 23.9 +0.3**
comp=Z,3.6nm,0.5s,baz=137,slow=2.8,SNR=5.2
GEYT LR LR 07 01 18.4
comp=Z,100nm,18.8s,baz=78,slow=40
comp=Z,3.6nm,0.5s
GEYT Alibeck 71.08 309 P **P** **06 25 21.3 -2.4**
GYA0B ALIBECK ARRAY 71.08 309 P **P** **06 25 21.3 -2.4**
AB31 Akbulak array 72.35 321 *i*P **P** **06 25 30.2 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 72.35 321 P **P** **06 25 30.0 -0.9**
AKTO Aktyubinsk 73.86 322 LR LR 07 02 55.8
comp=Z,300nm,18.4s,baz=102,slow=40
AKTO Aktyubinsk 73.86 322 *i*P **P** **06 25 38.7 -1.1**
AKTO pmax pmax
comp=Z,30nm,0.8s
ARU Arti 75.14 328 LR LR 07 02 29.2
comp=Z,135nm,20.1s,baz=100,slow=39
ARU Arti 75.14 328 P **P** **06 25 46.8 -0.3**
ARU IAmb IAmb 06 25 48.0
comp=Z,15nm,0.6s
ARU Arti 75.14 328*c* *i*P **P** **06 25 46.4 -0.7**
ARU S **S** **06 35 23.8 +2.5**
ARU pmax pmax
comp=Z,13nm,0.6s
ARU MLR MLR
comp=Z,151nm,18.0s
RAR Rarotonga 75.88 113 LR LR 06 58 02.1
comp=Z,58nm,18.3s,baz=260,slow=35
N16K Nishlik Lake 79.25 29 P **P** **06 26 11.0 +0.9**
baz=258
P16K Nushagak River 79.35 31 P **P** **06 26 10.9 +0.3**
baz=259
O16K Kokwok River B 79.41 30 P **P** **06 26 11.9 +1.0**
baz=259
R17K Ugashik Creek 79.94 32 P **P** **06 26 14.5 +0.7**
baz=261
O17K Koliganek Bris 79.94 30 P **P** **06 26 15.0 +1.2**
baz=260
P17K Kvichak River 80.17 31 P **P** **06 26 15.3 +0.3**
baz=260
KIRV Kirov 80.42 329*ce*P **P** **06 26 16.4 0.0**
BELG Belogornoye 80.61 322 LR LR 07 04 40.1
comp=Z,98nm,20.3s,baz=150,slow=38
BELG Belogornoye 80.61 322 *i*P **P** **06 26 17.4 -0.1**
BELG pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 80.65 293 P **P** **06 26 17.0 -1.5**
RAYN Ar Rayn 80.65 293 ⇑P **P** **06 26 18.2 -0.3**
N18K Kilae Creek 80.68 29 P **P** **06 26 17.9 0.0**
baz=260
P18K Big Mountain, 80.81 30 P **P** **06 26 18.0 -0.6**
baz=261
O18K Koktuh Hills 80.89 30 P **P** **06 26 19.3 +0.3**
baz=261
GCSA Galena City Sc 80.95 25 P **P** **06 26 20.2 +1.0**
baz=259
SII Sitkinak Islan 80.97 33 P **P** **06 26 19.6 +0.1**
baz=263
TTA Tatalina 81.00 27 P **P** **06 26 20.8 +1.2**
baz=260
OPO Ambohidratompo 81.34 251 P **P** **06 26 22.4 +0.1**
comp=Z,8.4nm,0.6s,baz=94,slow=7.5,SNR=10
comp=Z,8.4nm,0.6s
N19K Bonanza Creek 81.39 29 P **P** **06 26 22.6 +0.8**
N19K IAmb IAmb 06 26 35.1
comp=Z,40nm,1.6s
N19K Bonanza Creek 81.39 29 P **P** **06 26 22.8 +1.1**
baz=262
L19K White Mountain 81.41 28 P **P** **06 26 21.8 +0.1**
L19K White Mountain 81.41 28 P **P** **06 26 23.0 +1.3**
baz=261
OHAK Old Harbor 81.54 33 P **P** **06 26 22.8 +0.4**
baz=263
Q19K Cape Douglas, 81.55 31 P **P** **06 26 20.2 -2.4**
Q19K Cape Douglas, 81.55 31 P **P** **06 26 23.1 +0.5**
baz=263
M19K Big River Lodg 81.59 28 P **P** **06 26 22.1 -0.5**
M19K Big River Lodg 81.59 28 P **P** **06 26 23.0 +0.4**
baz=262
P19K Oil Pt 81.85 30 P **P** **06 26 22.3 -1.8**
P19K IAmb IAmb 06 26 58.3
comp=Z,38nm,1.4s
L20K Farewell, AK 81.91 27 P **P** **06 26 25.4 +1.1**
baz=262
K20K Telida 81.94 27 P **P** **06 26 22.8 -1.7**
K20K Telida 81.94 27 P **P** **06 26 26.2 +1.7**
baz=262
KDAK Kodiak Island 81.98 32 P **P** **06 26 23.7 -1.0**
KDAK Kodiak Island 81.98 32 P **P** **06 26 23.7 -1.0**
KDAK pmax pmax
comp=Z,246nm,2.0s
KDAK Kodiak Island 81.98 32 P **P** **06 26 25.9 +1.2**
baz=264
J20K Nowinta River 82.03 26 P **P** **06 26 23.4 -1.5**
J20K IAmb IAmb 06 26 29.3
comp=Z,64nm,2.0s
J20K Nowinta River 82.03 26 P **P** **06 26 25.8 +0.9**
baz=262
VOI Vohitsoka 82.10 247 P **P** **06 26 25.5 -0.8**
VOI IAmb IAmb 06 26 31.4
comp=Z,27nm,0.8s
VOI Vohitsoka 82.10 247 P **P** **06 26 27.4 +1.1**
Q20K Shuyak Island 82.17 31 P **P** **06 26 26.8 +1.1**
baz=264
M20K Styx River 82.18 28 P **P** **06 26 24.1 -1.7**
M20K Styx River 82.18 28 P **P** **06 26 26.4 +0.6**
baz=263
A21K Barrow 82.35 18 P **P** **06 26 27.6 +1.2**
baz=258
ZEI Tsey 82.41 313 *e*P **P** **06 26 26.9 -0.7**
ZEI pmax pmax
comp=Z,19nm,1.3s
IMAR Indian Mountai 82.46 24 P **P** **06 26 25.8 -1.3**
G21K Allakaket 82.63 23 P **P** **06 26 29.4 +1.4**
baz=262
HOM Homer 82.66 30 P **P** **06 26 28.4 +0.2**
baz=264
PRGR Permogore 82.70 332 *e*P **P** **06 26 27.9 -0.5**
PRGR pmax pmax
comp=Z,79nm,0.6s
PPLA Purkeypile 82.73 27 P **P** **06 26 29.9 +1.1**
baz=264
F21K Alatna River 82.74 23 P **P** **06 26 29.6 +1.1**
baz=262
CHUM Lake Minchumin 82.79 26 P **P** **06 26 30.3 +1.5**
baz=263
H21K Melozitna Rive 82.80 24 P **P** **06 26 30.0 +1.2**
baz=263,SNR=10
CAST Castle Rocks 82.84 27 P **P** **06 26 28.5 -0.7**
CAST Castle Rocks 82.84 27 P **P** **06 26 30.2 +1.1**
baz=264,SNR=6.9
GEVA Gevas 82.92 308 P **P** **06 26 29.3 -1.1**

GEVA IAmb IAmb 06 26 32.1
comp=Z,11nm,0.8s
SKT Skwentna 82.94 28 P **P** **06 26 29.4 -0.3**
SKT IAmb IAmb 06 26 59.2
comp=Z,24nm,1.4s
SKT Skwentna 82.94 28 P **P** **06 26 29.6 -0.1**
baz=264,SNR=6.0
CAPN Captain Cook N 83.00 29 P **P** **06 26 31.1 +1.1**
baz=265
I21K Tanana 83.08 25 P **P** **06 26 31.0 +0.6**
I21K IAmb IAmb 06 26 39.7
comp=Z,15nm,0.9s
I21K Tanana 83.08 25 P **P** **06 26 32.0 +1.6**
baz=263,SNR=9.3
KBZ Khabaz 83.17 313 P **P** **06 26 32.1 +0.9**
comp=Z,2.2nm,0.8s,baz=230,slow=12,SNR=2.9
comp=Z,2.2nm,0.8s
VNDA Vanda 83.24 173 P **P** **06 26 31.4 +0.5**
comp=Z,4.0nm,0.9s,baz=318,slow=5.5,SNR=18
comp=Z,4.0nm,0.9s
VNDA Vanda 83.24 173 P **P** **06 26 30.3 -0.6**
SUA Susitna One 83.26 29 P **P** **06 26 30.7 -0.8**
SUA IAmb IAmb 06 26 42.0
comp=Z,39nm,1.4s
SUA Susitna One 83.26 29 P **P** **06 26 31.8 +0.3**
baz=265
F22K John River 83.28 22 P **P** **06 26 32.4 +1.1**
baz=263
BPAW Bear Paw Mtn. 83.39 26 P **P** **06 26 33.4 +1.4**
baz=264
H22K Ishtalitna Cre 83.41 24 P **P** **06 26 33.8 +1.7**
baz=264,SNR=12
ATD Arta Tunnel 83.41 281 P **P** **06 26 34.4 +1.2**
comp=Z,7.2nm,0.5s,baz=122,slow=8.1,SNR=3.6
comp=Z,7.2nm,0.5s
E22K Anaktuvuk Pass 83.49 22 P **P** **06 26 33.6 +1.2**
baz=263
CUT Chulitna 83.57 28 P **P** **06 26 33.9 +1.0**
baz=265
M22K Willow 83.58 28 P **P** **06 26 34.0 +1.0**
M22K IAmb IAmb 06 26 40.7
comp=Z,28nm,1.1s
M22K Willow 83.58 28 P **P** **06 26 33.7 +0.8**
baz=266,SNR=9.0
MLY Manley 83.59 25 P **P** **06 26 31.7 -1.3**
MLY IAmb IAmb 06 26 36.0
comp=Z,15nm,1.1s
MLY Manley 83.59 25 P **P** **06 26 34.0 +0.9**
baz=264,SNR=15
MAW Mawson 83.63 200 P **P** **06 26 35.2 +2.1**
comp=Z,1.9nm,0.7s,baz=75,slow=14,SNR=7.0
comp=Z,1.9nm,0.7s
MAW Mawson 83.63 200 P **P** **06 26 33.0 -0.1**
TRF Thorofare Moun 83.64 27 P **P** **06 26 34.1 +0.6**
baz=265
O22K Cooper Landing 83.68 30 P **P** **06 26 30.9 -2.6**
RC01 Rabbit Creek A 83.72 29 P **P** **06 26 34.2 +0.4**
baz=266
SEW Seward 83.79 30 P **P** **06 26 34.8 +0.7**
baz=266
D23K Nanushuk River 83.99 21 P **P** **06 26 36.1 +1.1**
baz=264,SNR=7.0
COLD Coldfoot 84.01 23 P **P** **06 26 33.4 -1.6**
COLD IAmb IAmb 06 26 48.1
comp=Z,19nm,1.2s
COLD Coldfoot 84.01 23 P **P** **06 26 36.5 +1.4**
baz=265,SNR=7.9
G23K Bananza Creek 84.03 23 P **P** **06 26 36.6 +1.3**
baz=265,SNR=13
PMR Palmer 84.04 29 P **P** **06 26 33.5 -1.8**
PMR IAmb IAmb 06 26 37.9
comp=Z,21nm,1.2s
PMR Palmer 84.04 29 P **P** **06 26 33.5 -1.8**
PMR pmax pmax
comp=Z,21nm,1.2s
PMR Palmer 84.04 29 P **P** **06 26 36.3 +1.0**
baz=266,SNR=6.3
BWN Browne 84.06 26 P **P** **06 26 34.2 -1.2**
BWN IAmb IAmb 06 26 41.4
comp=Z,17nm,0.9s
C23K Itkillik River 84.11 20 P **P** **06 26 36.5 +1.1**
baz=264
SBA Scott Base 84.15 172 P **P** **06 26 35.1 -0.4**
SBA IAmb IAmb 06 26 56.3
comp=Z,42nm,2.0s
SBA Scott Base 84.15 172 P **P** **06 26 35.1 -0.4**
SBA pmax pmax
comp=Z,42nm,2.0s
GHO Glory Hole Cre 84.15 28 P **P** **06 26 33.3 -2.7**
GHO IAmb IAmb 06 27 00.5
comp=Z,20nm,1.1s
H23K Yukon River 84.15 24 P **P** **06 26 34.0 -1.8**
H23K IAmb IAmb 06 26 48.7
comp=Z,14nm,0.9s
H23K Yukon River 84.15 24 P **P** **06 26 37.3 +1.4**
baz=266,SNR=14
VRH Novokhopyorsk 84.18 321 *e*P **P** **06 26 35.4 -0.8**
VRH pmax pmax
comp=Z,20nm,0.8s
NEA2 Nenana 84.27 26 P **P** **06 26 37.5 +1.1**
baz=266
MCK McKinley 84.27 26 P **P** **06 26 35.3 -1.2**
MCK IAmb IAmb 06 26 59.1
comp=Z,14nm,1.0s
MCK McKinley 84.27 26 P **P** **06 26 35.3 -1.2**
MCK pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 84.27 26 P **P** **06 26 37.0 +0.5**
baz=266,SNR=6.1
RND Reindeer 84.28 27 P **P** **06 26 35.6 -1.0**
RND IAmb IAmb 06 26 47.8
comp=Z,13nm,0.9s
RND Reindeer 84.28 27 P **P** **06 26 35.6 -1.0**
RND pmax pmax
comp=Z,13nm,0.9s
KNK Knik Glacier 84.36 29 P **P** **06 26 36.3 -0.7**
KNK IAmb IAmb 06 26 45.5
comp=Z,30nm,1.0s
KNK Knik Glacier 84.36 29 P **P** **06 26 38.0 +1.0**
baz=267,SNR=8.2
TOLK Toolik Lake Re 84.37 21 P **P** **06 26 35.0 -1.9**
TOLK IAmb IAmb 06 26 40.6
comp=Z,20nm,1.2s
TOLK Toolik Lake Re 84.37 21 P **P** **06 26 38.3 +1.4**
baz=265,SNR=5.5
PWL Port Wells 84.39 29 P **P** **06 26 35.6 -1.6**
PWL IAmb IAmb 06 26 40.1
comp=Z,36nm,1.1s
PWL Port Wells 84.39 29 P **P** **06 26 37.9 +0.7**
baz=267,SNR=7.0
WAT1 Susitna Watana 84.39 27 P **P** **06 26 37.7 +0.5**
baz=267
SML Sawmill 84.44 28 P **P** **06 26 35.6 -1.8**
SML Sawmill 84.44 28 P **P** **06 26 38.4 +0.9**
baz=267,SNR=11
MDM Murphy Dome 84.65 25 P **P** **06 26 37.3 -1.0**
D24K Happy Valley 84.68 21 P **P** **06 26 38.8 +0.4**
baz=266
WRH Wood River Hil 84.68 26 P **P** **06 26 36.7 -1.8**
WRH IAmb IAmb 06 27 00.5
comp=Z,30nm,1.6s
M23K Glacier View 84.72 28 P **P** **06 26 39.4 +0.5**
baz=268,SNR=6.2
E24K Your Creek 84.73 22 P **P** **06 26 40.3 +1.6**
baz=266
WAT6 Susitna Watana 84.75 28 P **P** **06 26 39.7 +0.6**
baz=268,SNR=8.6
C24K Franklin Bluff 84.76 20 P **P** **06 26 40.7 +2.0**
baz=266
COLA College 84.80 25 ⇑P **P** **06 26 40.1 +1.0**
COLA 06 26 50.4
CCB Clear Creek Bu 84.81 26 P **P** **06 26 38.2 -1.0**
H24K Noodor Dome 84.84 24 P **P** **06 26 41.0 +1.6**
baz=267,SNR=8.8
SCM Sheep Creek Mo 84.91 28 P **P** **06 26 41.0 +1.1**
baz=268,SNR=7.1
F24K Squaw Lake 84.92 23 P **P** **06 26 41.6 +1.9**
baz=267,SNR=6.6
DHY Denali Highway 84.94 27 P **P** **06 26 40.9 +0.8**
baz=268
PPT2 Papeete2 84.96 108 *e*S **S** **06 37 03.2 -3.0**
comp=Z,95nm,25.0s
PPT2 Papeete2 84.96 108 *e*LR LR 06 53 29.3
comp=Z,310nm,29.0s
GLI Glacier Island 85.00 29 P **P** **06 26 41.3 +1.1**
baz=268,SNR=5.7
G24K Hadweenzic Riv 85.04 23 P **P** **06 26 41.6 +1.2**
baz=267,SNR=6.6
HDA Harding Lake 85.17 26 P **P** **06 26 38.8 -2.2**
HDA Harding Lake 85.17 26 P **P** **06 26 42.4 +1.4**
baz=268
IL31 85.21 25 P **P** **06 26 39.5 -1.6**
ILAR Eielson Array 85.21 25 P **P** **06 26 41.5 +0.4**
comp=Z,1.1nm,0.6s,baz=244,slow=6.3,SNR=12
comp=Z,1.1nm,0.6s
ILAR Eielson Array 85.21 25 P **P** **06 26 37.2 -4.0**
M24K Tolsona, Glenn 85.47 28 P **P** **06 26 40.2 -2.4**
M24K Tolsona, Glenn 85.47 28 P **P** **06 26 43.7 +1.1**
baz=269,SNR=6.2
D25K Kavik River 85.56 21 P **P** **06 26 44.5 +1.6**
baz=268
KLU Klutina 85.58 29 P **P** **06 26 42.1 -1.0**
KLU IAmb IAmb 06 26 52.6
comp=Z,31nm,1.4s
KLU Klutina 85.58 29 P **P** **06 26 43.9 +0.8**
baz=269,SNR=5.5
KLMR Klimovskoe 85.61 331 *e*P **P** **06 26 41.6 -1.6**
KLMR pmax pmax
comp=Z,68nm,1.0s
KLMR Klimovskoe 85.61 331 *e*P **P** **06 26 41.7 -1.5**
KLMR AMP 06 26 44.9
comp=Z,68nm,1.0s
DIV Divide 85.64 29 P **P** **06 26 40.8 -2.7**
EYAK Cordova Ski Ar 85.65 30 P **P** **06 26 44.5 +1.1**
baz=269
K24K Donnelly Dome 85.67 26 P **P** **06 26 44.3 +0.8**
baz=269
H25K Birch Creek 85.69 24 P **P** **06 26 44.3 +0.8**
baz=269
VORR Voronezh 85.76 321 *e*P **P** **06 26 43.7 -0.4**
VORR pmax pmax
comp=Z,90nm,0.4s
F25K Christian Rive 85.79 23 P **P** **06 26 44.8 +0.7**
baz=269
VSR Storozhevoye 85.79 321 *e*P **P** **06 26 44.1 -0.2**
VSR pmax pmax
comp=Z,30nm,0.9s
PAX Paxson 85.80 27 P **P** **06 26 42.3 -2.0**
PAX IAmb IAmb 06 26 53.6
comp=Z,17nm,1.4s
PAX Paxson 85.80 27 P **P** **06 26 42.3 -2.0**
PAX pmax pmax
comp=Z,17nm,1.4s
PAX Paxson 85.80 27 P **P** **06 26 45.5 +1.2**
baz=270
PRP Porcupine Dome 85.80 25 P **P** **06 26 46.2 +1.9**
baz=269
E25K Arctic Village 85.82 22 P **P** **06 26 45.8 +1.6**
baz=269
J25K Salcha River, 85.86 26 P **P** **06 26 46.2 +1.7**
baz=269
LPSR Galich'ya Gora 85.92 322 *e*P **P** **06 26 45.4 +0.5**
LPSR pmax pmax
comp=Z,30nm,0.6s
HARP HAARP 85.94 28 P **P** **06 26 46.2 +1.3**
baz=270
RIDG Independent Ri 86.09 26 P **P** **06 26 45.8 +0.2**
RIDG Independent Ri 86.09 26 P **P** **06 26 46.7 +1.1**
baz=270
BMAR Burnt Mountain 86.19 23 P **P** **06 26 45.5 -0.6**
N25K Chitina, Valde 86.21 29 P **P** **06 26 47.4 +1.1**
baz=270
BMRM Bremner River 86.21 29 P **P** **06 26 43.0 -3.3**
BMRM IAmb IAmb 06 26 52.3
comp=Z,19nm,1.1s
BMRM Bremner River 86.21 29 P **P** **06 26 47.5 +1.2**
baz=270
F26K Sheenjek River 86.36 22 P **P** **06 26 48.6 +1.8**
baz=270
DOT Dot Lake 86.44 27 **P** **06 26 47.9 +0.6**
DOT IAmb IAmb 06 26 56.4
comp=Z,14nm,1.6s
SCRK Sand Creek 86.47 26 P **P** **06 26 48.7 +1.1**
baz=271
C27K Jago River 86.50 21 P **P** **06 26 49.1 +1.6**
baz=271
G26K Porcupine Rive 86.51 23 P **P** **06 26 48.8 +1.3**
baz=271
MOS Moscow 86.64 325 *e*P **P** **06 26 47.0 -1.4**
MOS *e* 06 26 57.1
MOS pmax pmax
comp=Z,58nm,0.9s
J26L Joseph Creek 86.64 26 P **P** **06 26 46.2 -2.2**
J26L Joseph Creek 86.64 26 P **P** **06 26 50.1 +1.7**
baz=271
L26K Log Cabin Wild 86.77 27 P **P** **06 26 47.4 -1.6**
L26K Log Cabin Wild 86.77 27 P **P** **06 26 50.5 +1.5**
baz=271
I26K Coal Creek Min 86.80 25 P **P** **06 26 50.6 +1.6**
baz=271
MCARA McCarthy VSAT 86.97 29 P **P** **06 26 51.2 +1.3**
baz=272
ANN Anapa 87.09 315 *e*P P 06 26 44.5 -6.3
ANN *e*S **SKSac** **06 37 07.9 -5.7**
ANN pmax pmax
comp=Z,60nm,1.2s
OBN Obninsk 87.26 325 ⇑P **P** **06 26 52.4 +1.0**
OBN Obninsk 87.26 325 LR LR 07 08 08.4
comp=Z,41nm,20.1s,baz=176,slow=37
OBN Obninsk 87.26 325 ⇓*i*P **P** **06 26 52.0 +0.6**
OBN *i* 06 26 56.6
OBN *e* 06 30 15.0
OBN pmax pmax
comp=Z,90nm,1.8s
OBN MLR MLR
comp=Z,146nm,18.0s
K27K Chicken 87.31 26 P **P** **06 26 52.3 +0.8**
baz=272
E27K Coleen River 87.31 22 P **P** **06 26 53.0 +1.5**
baz=273
G27K Doyon Strip 87.35 23 P **P** **06 26 53.0 +1.3**
baz=273
K27K Kandik River 87.43 25 P **P** **06 26 53.2 +1.1**
baz=273
H27K Steamboat Moun 87.43 24 P **P** **06 26 53.5 +1.4**
baz=273
L27K Beaver Creek, 87.46 27 P **P** **06 26 53.8 +1.5**
baz=273
BCAR Beaver Creek A 87.48 27 **P** **06 26 52.5 0.0**
EGAK Eagle 87.67 25 P **P** **06 26 54.8 +1.6**
baz=273
CTG Chitna Glacier 87.80 29 P **P** **06 26 55.3 +1.2**
baz=273
APA Apatity 88.05 337 ⇑*i*P **P** **06 26 56.5 +1.5**
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,700nm,19.0s
YUK3 Moose Creek 88.17 28 P **P** **06 26 57.0 +1.0**
baz=274
O28M Mount Upton 88.38 29 P **P** **06 26 57.9 +0.9**
baz=274
PINM Pinnacle 88.40 30 P **P** **06 26 59.0 +2.2**
baz=274
DAWY Dawson 88.48 26 P **P** **06 26 58.0 +0.8**
baz=275
I29M Ogilvie Camp, 88.82 25 P **P** **06 26 59.6 +0.9**
baz=276
KIBK Kibwezi 88.94 268 P **P** **06 26 59.0 -1.4**
KIBK IAmb IAmb 06 27 03.1
comp=Z,18nm,1.1s
M29M Somme Creek 89.05 28 P **P** **06 27 00.9 +0.9**
baz=276
YUK6 Outpost Mounta 89.25 29 P **P** **06 27 01.9 +0.8**
baz=276
K29M Barlow Dome 89.33 26 P **P** **06 27 02.7 +1.5**
baz=276
KMBO Kilima Mbogo 89.65 269 P **P** **06 27 05.0 +1.0**
comp=Z,11nm,1.1s,baz=43,slow=7.4,SNR=11
comp=Z,11nm,1.1s
KMBO Kilima Mbogo 89.65 269 P **P** **06 27 01.2 -2.7**
KMBO IAmb IAmb 06 27 06.7
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 89.65 269 *i*P **P** **06 27 05.6 +1.6**
KMBO pmax pmax
comp=Z,11nm,1.1s
HYT Haines Junctio 89.68 29 P **P** **06 27 04.0 +1.0**
baz=277
P29M Windy Craggy 89.70 30 P **P** **06 27 04.2 +1.3**
baz=276
M30M Minto, Yukon 89.81 27 P **P** **06 27 04.6 +1.2**
baz=277
N30M Aishikik Lake 89.81 29 P **P** **06 27 04.6 +1.1**
baz=277
EIL Elat 89.90 300 LR LR 07 13 32.7
comp=Z,31nm,18.2s,baz=82,slow=40
BR131 Keskin Array S 90.21 310 P **P** **06 27 03.7 -2.2**
BR131 IAmb IAmb 06 27 07.4
comp=Z,15nm,1.1s
BR131 Keskin Array S 90.21 310 P **P** **06 27 03.7 -2.2**
BR131 pmax pmax
comp=Z,15nm,1.2s
BRTR Keskin Array B 90.21 310 P **P** **06 27 05.5 -0.4**
comp=Z,5.0nm,0.8s,baz=130,slow=4.2,SNR=18
BRTR LR LR 07 13 50.3
comp=Z,71nm,20.4s,baz=68,slow=40
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 90.21 310 P **P** **06 27 04.8 -1.1**
BRTR Keskin Array B 90.21 310 *i*P **P** **06 27 05.6 -0.3**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
ARA0 ARCESS Array S 90.64 340 *e*P **P** **06 27 07.3 +0.2**
ARA0 IAmb IAmb 06 27 08.8
comp=Z,17nm,0.8s
ARCES ARCESS Array B 90.64 340 P **P** **06 27 07.1 0.0**
comp=Z,13nm,0.6s,baz=83,slow=6.5,SNR=60
ARCES LR LR 07 13 38.2
comp=Z,109nm,18.7s,baz=106,slow=39
comp=Z,13nm,0.6s
ARCES ARCESS Array B 90.64 340 P **P** **06 27 07.4 +0.3**
ARCES ARCESS Array B 90.64 340 P **P** **06 27 07.4 +0.3**
ARCES pmax pmax
comp=Z,50nm,1.4s
SKAG Skagway 90.94 30 P **P** **06 27 10.0 +1.3**
baz=278
M31M Drury Creek, Y 90.97 28 P **P** **06 27 10.1 +1.3**
baz=279
WHY Whitehorse 90.98 29 P **P** **06 27 10.4 +1.4**
baz=279
HAMF Hammerfest 91.01 341 *e*P **P** **06 27 08.7 0.0**
HAMF IAmb IAmb 06 27 10.8
comp=Z,26nm,0.8s
FARO Faro, Yukon 91.45 27 P **P** **06 27 12.2 +1.1**
FARO IAmb IAmb 06 27 23.1
comp=Z,6.4nm,0.8s
FARO Faro, Yukon 91.45 27 P **P** **06 27 12.4 +1.4**
baz=280
KTK1 Kautokeino 91.55 339 *e*P **P** **06 27 11.3 -0.1**
KTK1 IAmb IAmb 06 27 12.0
comp=Z,11nm,0.9s
N32M Quiet Lake 91.77 29 P **P** **06 27 13.5 +1.0**
baz=280
MDUB Mudurnu 92.00 311 P **P** **06 27 13.7 -0.5**
FINES FINESS Array B 92.03 332 P **P** **06 27 13.4 -0.2**
comp=Z,2.7nm,0.4s,baz=64,slow=4.6,SNR=31
FINES LR LR 07 13 01.5
comp=Z,176nm,19.0s,baz=74,slow=38
comp=Z,2.7nm,0.4s
FINES FINESS Array B 92.03 332 P **P** **06 27 13.2 -0.5**
FINES FINESS Array B 92.03 332 *i*P **P** **06 27 13.3 -0.4**
FINES pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 92.09 321 P **P** **06 27 13.6 -0.6**
comp=Z,3.5nm,0.7s,baz=65,slow=4.7,SNR=4.7
comp=Z,3.5nm,0.7s
MMPY Sheldon Lake, 92.32 27 P **P** **06 27 15.7 +0.6**
baz=282
JETT Jettan, Norway 92.38 340 *e*P **P** **06 27 15.7 +0.6**
JETT IAmb IAmb 06 27 16.4
comp=Z,34nm,0.6s
NACGM Naroch 92.88 325⇑*e*P **P** **06 27 14.5 -3.2**
baz=80
WRAK Wrangell Islan 93.03 33 P **P** **06 27 19.0 +0.6**
baz=281
R33M Jennings River 93.15 30 P **P** **06 27 19.3 +0.2**
baz=282
QSPA South Pole Qui 93.47 180 P **P** **06 27 22.0 +1.7**
baz=55,slow=4.8
QSPA South Pole Qui 93.47 180 P **P** **06 27 21.8 +1.5**
QSPA IAmb IAmb 06 27 44.8
comp=Z,14nm,1.4s
TAOE Nuku Hiva Isla 93.52 99 *e*LR LR 06 57 25.3
comp=Z,261nm,24.6s
TIRR Tirgusor 93.53 315 ⇑P **P** **06 27 21.5 +0.5**
TIRR Tirgusor 93.53 315 ⇑P **P** **06 27 21.5 +0.5**
DLBC Dease Lake 93.83 31 P **P** **06 27 21.8 -0.3**
baz=283
WTLY Watson Lake, Y 94.05 29 P **P** **06 27 23.7 +0.6**
baz=284
TESR Tescani 94.44 317 ⇑P **P** **06 27 25.2 +0.1**
VRI Vrincioaia 94.49 316 ⇑P **P** **06 27 25.8 +0.4**
VRI Vrincioaia 94.49 316 ⇑P **P** **06 27 25.8 +0.4**
PLOR Plostina 94.55 316 ⇑P **P** **06 27 26.1 +0.4**
PLOR Plostina 94.55 316 ⇑P **P** **06 27 26.1 +0.4**
STEI Steigen 94.69 339 *e*P **P** **06 27 25.5 -0.2**
BIZ Bicaz 94.73 318 ⇑P **P** **06 27 27.6 +1.2**
FAUS Fauske 94.87 339 *e*P **P** **06 27 26.1 -0.5**
MLR Muntele Rosu 95.10 316 ⇑P **P** **06 27 28.4 +0.1**
MLR Muntele Rosu 95.10 316 LR LR 07 15 16.7
comp=Z,108nm,21.3s,baz=62,slow=39
MLR Muntele Rosu 95.10 316 P **P** **06 27 28.0 -0.3**
MLR IAmb IAmb 06 27 29.6
comp=Z,10nm,1.0s
MLR Muntele Rosu 95.10 316 ⇑P **P** **06 27 28.5 +0.1**
BURAR Bucovina Array 95.20 318 ⇑P **P** **06 27 29.4 +0.7**
BURAR Bucovina Array 95.20 318 P **P** **06 27 26.4 -2.3**
BURAR IAmb IAmb 06 27 31.1
comp=Z,12nm,1.1s
BURAR Bucovina Array 95.20 318 ⇑P **P** **06 27 29.4 +0.7**
BUR08 Bucovina Ar. S 95.20 318 P **P** **06 27 28.0 -0.7**
BUR08 IAmb IAmb 06 27 30.8
comp=Z,12nm,1.1s
LOF Lofoten 95.20 340 *e*P **P** **06 27 26.7 -1.4**
MBAR Mbarara 96.12 270 P **P** **06 27 34.1 +0.4**
comp=Z,2.9nm,0.2s,baz=305,slow=3.6,SNR=2.1
comp=Z,2.9nm,0.2s
UZH Uzhgorod 96.90 320 *e*P **P** **06 27 32.7 -3.6**
UZH *i* 06 27 43.5
NSS Namsos 97.23 337 *e*P **P** **06 27 37.1 -0.2**
GZR Gura Zlata 97.30 316 ⇑P Pdif 06 27 38.7 +0.3
GZR Gura Zlata 97.30 316 ⇑P Pdif 06 27 38.7 +0.4
CRVS Cervenica-Dubn 97.37 320 *e*P Pdif 06 27 39.2 +0.7
CRVS Cervenica-Dubn 97.37 320 *e*PDIFF Pdif 06 27 39.2 +0.7
HERR Herculane 97.66 316 ⇑P Pdif 06 27 40.0 +0.1
IDI Anoyia 97.67 306 ⇑P **P** **06 27 40.1 -0.1**
BLKB Belogradchik 97.75 315 ⇑P Pdif 06 27 40.5 +0.1
SIRR Siria 97.87 317 ⇑P Pdif 06 27 41.1 +0.3
RES Resolute Bay 97.96 10 LR LR 07 14 58.6
comp=Z,39nm,20.4s,baz=30,slow=37
MDVR Moldovita 98.17 316 ⇑P Pdif 06 27 43.1 +0.9
NC405 NORSAR Array S 98.73 334 P **P** **06 27 41.4 -2.9**
NC303 NORSAR Array S 98.84 334 P **P** **06 27 42.6 -2.1**
NC602 NORSAR Array S 98.97 333 *e*Pdif **P** **06 27 43.8 -1.5**
NB2 NORSAR Subarra 98.99 334 P **P** **06 27 44.5 -0.9**
comp=Z,3.2nm,0.7s,baz=68,slow=4.6
NB2 NORSAR Subarra 98.99 334 P **P** **06 27 44.5 -0.9**
baz=68,slow=4.6
NOA NORSAR Array B 98.99 334 P **P** **06 27 45.0 -0.5**
comp=Z,3.0nm,0.8s,baz=66,slow=4.5,SNR=16
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 98.99 334 P **P** **06 27 45.0 -0.5**
NC204 NORSAR Array S 99.09 334 P **Pdif** **06 27 44.7 -1.2**
NBO00 NORSAR Array S 99.18 334 P **Pdif** **06 27 45.2 -1.0**
NAO01 NORSAR Array S 99.21 334 P **Pdif** **06 27 44.9 -1.6**
LSZ Lusaka 99.26 255 P **Pdif** **06 27 45.7 -2.0**
LSZ Lusaka 99.26 255 P **Pdif** **06 27 45.7 -2.0**
LSZ pmax pmax
comp=Z,12nm,0.9s
YKA Yellowknife Ar 99.61 24 P **Pdif** **06 27 44.4 -3.7**
YKA Yellowknife Ar 99.61 24 P **Pdif** **06 27 44.4 -3.7**
MORH Mrgy, Hungar 99.91 318 ⇑P **Pdif** **06 27 49.0 -0.8**
F04A Amboy 101.69 42 Pdif **Pdif** **06 27 56.4 -1.4**
GERES GERESS Array B 102.28 322 P **Pdif** **06 28 00.8 +0.3**
comp=Z,0.2nm,0.3s,baz=64,slow=7.7,SNR=1.6
NVAR Mina Array Bea 106.94 48 PKKP 06 44 05.4
comp=Z,0.5nm,0.7s,baz=143,slow=4.8,SNR=4.4
PDAR Pinedale Array 111.41 41 PKKPbc PKKPbc 06 43 33.5 -2.5
comp=Z,0.5nm,0.8s,baz=63,slow=4.2,SNR=4.2
ANMO Albuquerque 117.06 48 P **PKPdf** **06 32 50.2 -0.3**
baz=296
ECSD EROS Data Cent 118.87 35 P **PKiKP** **06 32 54.2 +0.7**
baz=308
MNTX Cornudas Mount 119.28 51 P **PKiKP** **06 32 54.9 +0.2**
baz=295
MSTX Muleshoe 120.21 47 P **PKiKP** **06 32 56.5 0.0**
baz=298
SCHQ Schefferville 120.72 9 PKP **PKiKP** **06 32 58.4 +1.5**
comp=Z,1.9nm,0.5s,baz=292,slow=5.4,SNR=1.4
TXAR Lajitas Array 121.62 52 PKP **PKiKP** **06 33 00.2 +0.8**

comp=Z,1.2nm,0.7s,baz=222,slow=0.8,SNR=18
KSU1 Kansas State U 121.68 39 P PKiKP 06 32 59.3 +0.2
baz=306
WMOK Wichita Mounta 122.68 44 P PKPdf 06 33 00.8 -0.3
baz=302
JFWS Jewell Farm 122.90 32 P PKPdf 06 33 00.9 -0.3
baz=314
TORD Torodi Ar. Bea 123.07 288 PKP PKiKP 06 33 03.4 +0.9
comp=Z,4.2nm,0.7s,baz=74,slow=1.7,SNR=20
JCT Junction City 124.09 49 P PKPdf 06 33 03.5 -0.5
baz=299
HDIL Hopedale 125.05 33 P PKPdf 06 33 04.9 -0.5
baz=314
833A Chaparral WMA, 125.42 51 P PKPdf 06 33 05.6 -0.9
baz=298
435B Jarrell 125.60 48 P PKPdf 06 33 05.7 -1.1
baz=301
CCM Cathedral Cave 125.62 37 P PKPdf 06 33 06.2 -0.4
baz=311
MIAR Mount Ida 126.33 42 P PKPdf 06 33 07.7 -0.3
baz=307
P49A Miami Univ. Ec 128.22 31 P PKPdf 06 33 11.7 +0.2
baz=318
WCI Wyandotte Cave 128.34 33 P PKPdf 06 33 11.2 -0.5
baz=316
ACSO Alum Creek Sta 128.56 29 P PKPdf 06 33 11.2 -1.0
baz=321
M53A WI Miller and 128.68 26 P PKPdf 06 33 11.9 -0.5
baz=324
WVT Waverly 128.93 36 P PKPdf 06 33 12.2 -0.8
baz=313
P52A Corning 129.43 29 P PKPdf 06 33 13.1 -0.8
baz=321
LBNH Lisbon 129.53 17 P PKPdf 06 33 13.3 -0.5
baz=335
MCWV Mont Chateau 130.49 27 P PKPdf 06 33 15.7 -0.1
baz=324
SSPA Standing Stone 130.54 25 P PKPdf 06 33 15.4 -0.5
baz=327
DBIC Dimbokro 130.72 282 PKP PKiKP 06 33 18.3 +0.5
comp=Z,9.0nm,1.1s,baz=117,slow=2.3,SNR=3.8
L61B Northampton 130.91 19 P PKPdf 06 33 17.0 +0.4
baz=334
LRAL Lakeview Retre 131.53 39 P PKPdf 06 33 17.7 -0.2
baz=312
BLA Blacksburg 132.16 30 P PKPdf 06 33 19.5 +0.3
baz=322
KMSC Kings Mountain 133.30 32 P PKPdf 06 33 21.8 +0.5
baz=320
PLCA Paso Flores 139.81 159 PKP PKPdf 06 33 33.7 +0.4
comp=Z,3.3nm,0.8s,baz=239,slow=3.3,SNR=5.4
ZON Zonda 148.56 154 PKPab PKiKP 06 33 54.4 +0.5
ZON Zonda 148.56 154 PKP2 PKiKP 06 33 54.4 +0.5
CO05 La Serena 148.69 149 PKPab PKiKP 06 33 54.3 +0.2
GO04 Tololo Observa 148.71 150 PKPdf PKPdf 06 33 47.6 -1.6
GO04 PKPbc 06 33 53.1 0.0
CO01 Juntas del Tor 149.22 150 PKPdf PKPdf 06 33 45.7 -4.3
CO01 PKPab PKiKP 06 33 56.6 +1.0
AC05 El Transito 150.06 149 PKPdf PKPdf 06 33 46.9 -4.4
AC05 PKPab PKiKP 06 33 58.7 +1.5
PB07 IPOC Station P 155.71 139 PKPdf PKPdf 06 33 55.9 -3.9
PB07 pPKPbc 06 34 25.1 -0.2
AF01 San Pedro de A 155.85 144 PKPdf PKPdf 06 33 58.2 -1.9
PB02 IPOC Station P 155.99 139 PKPdf PKPdf 06 33 55.8 -4.3
PB02 pPKPbc 06 34 25.1 -0.7
CPUP Villa Florida 157.01 170 PKPab PKPab 06 34 33.2 +1.9
comp=Z,4.3nm,1.0s,baz=195,slow=3.3,SNR=5.5
LPAZ La Paz 160.60 132 PKP PKPdf 06 34 08.2 +1.8
comp=Z,3.2nm,1.0s,baz=212,slow=2.1,SNR=8.2

TAP 05 06:18:06.4,21°.35N×121°.26E,h137km,ML3.5,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.64**	**329**	*eP*		Pn	06 18 27.7	+0.6
	baz=322							
TSEB				*eS*		Sn	06 18 43.5	+0.6
	baz=322							
LYUB	**Lan-yu**	**0.72**	**25**	*eP*		Pn	06 18 27.4	-0.3
	baz=19							
LYUB				*eS*		Sn	06 18 43.8	-0.1
	baz=19							
TWKBT	**Hengchun**	**0.72**	**325**	*eP*		Pn	06 18 28.0	+0.3
	baz=321							
TWK1	**Hengchun**	**0.72**	**325**	*eP*		Pn	06 18 28.5	+0.8
	baz=321							
LAY	**Lan-yu**	**0.74**	**22**	*eP*		Pn	06 18 27.7	-0.2
	baz=22							
LAY				*eS*		Sn	06 18 43.4	-0.8
	baz=22							
TAWH	**Dawu Township**	**1.04**	**341**	*eP*		Pn	06 18 30.8	+0.4
	baz=347							
TAW	**Tawu**	**1.06**	**342**	*eP*		Pn	06 18 30.3	-0.2
	baz=348							
EAST	**Anshuo**	**1.10**	**340**	*eP*		Pn	06 18 33.1	+2.2
	baz=345							
SCZT	**Fangliau**	**1.18**	**330**	*eP*		Pn	06 18 31.5	-0.1
	baz=330							
ECL	**Taimali**	**1.27**	**347**	*eP*		Pn	06 18 33.1	+0.5
	baz=353							
LDUT	**Ludao**	**1.33**	**9**	*eP*		Pn	06 18 33.1	-0.1
	baz=13							
MASBT	**Mashibuluo**	**1.38**	**335**	*eP*		Pn	06 18 34.4	+0.6
	baz=339							
TWGBT	**Beinan**	**1.47**	**354**	*eP*		Pn	06 18 34.7	0.0
	baz=354							
SSD	**Sandimen**	**1.51**	**338**	*eP*		Pn	06 18 36.9	+1.8
	baz=343							
LONT	**Longtian**	**1.55**	**356**	*eP*		Pn	06 18 35.7	0.0
	baz=350							
WSSB	**Gushan**	**1.58**	**325**	*eP*		Pn	06 18 37.4	+1.4
	baz=325							
EDH	**Donghe**	**1.62**	**2**	*eP*		Pn	06 18 36.2	-0.1
	baz=356							
FULB	**Fuli**	**1.84**	**1**	*eP*		Pn	06 18 39.6	+0.7
	baz=354							
STYH	**Taoyuan**	**1.87**	**346**	*eP*		Pn	06 18 39.6	+0.4
	baz=340							
CHN3	**Shinhua**	**1.91**	**335**	*eP*		Pn	06 18 40.2	+0.5
	baz=327							
CHN1	**Nanshi**	**1.95**	**340**	*eP*		Pn	06 18 41.4	+1.2
	baz=347							
WTP	**Ta-pu**	**1.98**	**343**	*eP*		Pn	06 18 41.1	+0.5
	baz=343							
EYUL	**Yuli**	**1.99**	**2**	*eP*		Pn	06 18 40.6	-0.1
	baz=357							
TPUB	**Ta-pu**	**2.03**	**343**	*eP*		Pn	06 18 42.2	+1.1
	baz=343							
YULB	**Yu-li**	**2.03**	**1**	*eP*		Pn	06 18 40.9	-0.3
	baz=358							
YULB	**Yu-li**	**2.03**	**1**	P		Pn	06 18 40.7	-0.5
TWK	**Hsinying**	**2.04**	**340**	*eP*		Pn	06 18 42.8	+1.5
	baz=347							
HGSD	**Ruisui**	**2.14**	**4**	*eP*		Pn	06 18 42.7	+0.2
	baz=9.0							
EHY	**Hungye**	**2.15**	**2**	*eP*		Pn	06 18 41.8	-0.8
	baz=2.0							
YUS	**Yu-Shan**	**2.15**	**353**	*eP*		Pn	06 18 44.4	+1.3
	baz=345							
ALS	**Alishan**	**2.19**	**349**	*eP*		Pn	06 18 43.2	-0.2
	baz=349							
CHN5	**Tsauling**	**2.30**	**347**	*eP*		Pn	06 18 45.0	+0.5
	baz=347							
WSL	**Shuilin Townsh**	**2.36**	**336**	*eP*		Pn	06 18 46.5	+1.3
	baz=343							
VWDT	**VWDT**	**2.40**	**357**	P		Pn	06 18 46.0	+0.4
	baz=349							
WDGT	**Dungji**	**2.41**	**322**	*eP*		Pn	06 18 47.2	+1.4
	baz=322							
WDLH	**Douliu**	**2.42**	**344**	*eP*		Pn	06 18 46.4	+0.4
	baz=344							
SSLB	**Suanglung**	**2.44**	**353**	*eP*		Pn	06 18 44.7	-1.6
	baz=353							
SSLB	**Suanglung**	**2.44**	**353**	P		Pn	06 18 45.1	-1.2
VCHM	**Qimei**	**2.51**	**318**	*eP*		Pn	06 18 49.2	+2.1
	baz=324							
SMLT	**Sun Moon Lake**	**2.54**	**353**	*eP*		Pn	06 18 48.2	+0.6
	baz=353							
TYC	**Yuchr**	**2.57**	**352**	*eP*		Pn	06 18 47.9	+0.1
	baz=352							
WNT	**Mingjian**	**2.57**	**348**	*eP*		Pn	06 18 48.5	+0.7
	baz=348							
OWD	**Renai**	**2.59**	**358**	*eP*		Pn	06 18 48.2	-0.1
	baz=358							
WUSB	**Renai**	**2.63**	**357**	*eP*		Pn	06 18 48.9	+0.1
	baz=357							
PHUB	**P'eng-hu**	**2.66**	**324**	*eP*		Pn	06 18 50.2	+1.3
	baz=320							
WRL	**Guolierlin Hig**	**2.67**	**342**	*eP*		Pn	06 18 49.2	+0.1
	baz=336							
CHGB	**Renai**	**2.70**	**358**	*eP*		Pn	06 18 49.4	-0.3
	baz=358							
WCS	**Beigang Elemen**	**2.71**	**353**	*eP*		Pn	06 18 48.4	-1.3
	baz=353							
WHF	**Hehuan Shan**	**2.78**	**0**	*eP*		Pn	06 18 50.2	-0.8
NACB	**Ninganchiao**	**2.83**	**6**	*eP*		Pn	06 18 48.8	-2.3
	baz=358							
FUSS	**Fushou**	**2.88**	**360**	*eP*		Pn	06 18 51.6	-0.4
	baz=353							
NNSB	**Datong**	**3.07**	**2**	*eP*		Pn	06 18 53.1	-1.2
	baz=2.0							
LATG	**Datong**	**3.18**	**4**	*eP*		Pn	06 18 54.4	-1.4
	baz=10.0							
NDT	**Datong Townshi**	**3.25**	**4**	*eP*		Pn	06 18 55.9	-0.6
	baz=10.0							
YHNB	**Yeheng**	**3.31**	**2**	P		Pn	06 18 57.3	-0.1
YHNB	**Yeheng**	**3.31**	**2**	*eP*		Pn	06 18 55.9	-1.5
	baz=11							

IDC 05 06:18:18.0±1.4,3°.84N×127°.48E,h0km,mb4.0/5, mbtmp4.0/5,Error ellipse: s-maj=132.8km s-min=23.9km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.58**	**164**	P		P	06 23 39.2	-0.7
	2.9nm,1.0s,baz=345,slow=10,SNR=3.3							
	2.9nm,1.0s							
ASAR	**Alice Springs**	**28.05**	**167**	P		P	06 24 12.2	+0.9
	0.6nm,0.5s,baz=344,slow=7.8,SNR=1.3							
	0.6nm,0.5s							
SONM	**Songino Array**	**47.44**	**341**	P		P	06 26 56.0	+1.5
	0.5nm,0.4s,baz=148,slow=8.5,SNR=1.8							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**57.89**	**325**	P		P	06 28 11.0	-0.9
	0.6nm,0.5s,baz=121,slow=7.8,SNR=4.1							
	0.6nm,0.5s							
ARCES	**ARCESS Array B**	**90.60**	**340**	P		P	06 31 21.2	-0.8
	2.5nm,0.9s,baz=79,slow=6.7,SNR=1.5							
	2.5nm,0.9s							

IDC 05 06:20:36.2±1.8,4°.00N×127°.61E,h0km,mb4.0/4, mbtmp4.0/4,Error ellipse: s-maj=171.2km s-min=26.4km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.69**	**165**	P		P	06 25 59.2	0.0
	3.6nm,0.9s,baz=345,slow=9.8,SNR=3.0							
	3.6nm,0.9s							
ASAR	**Alice Springs**	**28.17**	**168**	P		P	06 26 30.7	+0.1
	0.6nm,0.8s,baz=340,slow=11,SNR=1.2							
	0.6nm,0.8s							
MKAR	**Makanchi Array**	**57.84**	**325**	P		P	06 30 29.7	0.0
	0.6nm,0.5s,baz=121,slow=8.0,SNR=5.1							
	0.6nm,0.5s							
ARCES	**ARCESS Array B**	**90.50**	**340**	P		P	06 33 39.5	-0.2
	1.4nm,0.8s,baz=81,slow=5.6,SNR=3.6							
	1.4nm,0.8s							

*IDC **05** 06:22:48.4±1.5,29°.62S×27°.73E,h0km,mb3.7/3, mbtmp3.9/8,ML3.4/3,Error ellipse: s-maj=21.2km s-min=17.6km az=57.0*
*EAF **05** 06:22:49.7±2.1,29°.88S×27°.82E,h10km,MD4.7*
*NEIC **05** 06:22:49.7±0.4,29°.66S±0°.09×27°.74E±0°.10,h5km±2km, mb4.3/2,Error ellipse: s-maj=16.2km s-min=12.0km az=317.0*
*PRE **05** 06:22:49.3±2.2,29°.68S×27°.76E,h10km,ML3.4,Fault plane solution: NP1:φs117.32000°,δ77.30000°, λ-38.26000°*

ISC 05 06:22:49.4±1.5,29°.70S±0°.04×27°.79E±0°.04,h12km±11km, n63,σ1s97/102,mb3.9/4,9C-8D,Lesotho

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNKL	**Senekal, Frees**	**1.42**	**359**	*i*	*P*	**Pn**	**06 23 16.7**	**+1.5**
SNKL				*eS*		**Sn**	**06 23 34.7**	**+0.7**
SNKL				IAML			06 23 36.4	
	comp=Z,1μm,0.2s							
KSTD	**Kokstad**	**1.60**	**125**	*i*	*P*	**Pg**	**06 23 19.1**	**-1.2**
KSTD				*eS*		**Sg**	**06 23 39.2**	**-1.9**
KSTD				IAML			06 23 40.7	
	comp=Z,169nm,0.6s							
HVD	**Gariep Dam**	**2.18**	**245**	*i*	*P*	**Pb**	**06 23 28.6**	**-0.3**
HVD				*eS*		**Sb**	**06 23 54.4**	**-1.6**
HVD				IAML			06 23 56.4	
	comp=Z,590nm,0.6s							
BOSA	**Boshof**	**2.46**	**295**	Pn		**Pn**	**06 23 29.5**	**0.0**
	comp=Z,1.6nm,0.3s,baz=117,slow=17,SNR=21							
BOSA				Pg		**Pb**	**06 23 31.9**	**-1.8**
	comp=Z,11nm,0.3s,baz=118,slow=17,SNR=24							
BOSA				Lg		Lg	06 24 04.3	
	comp=Z,80nm,0.3s,baz=210,slow=20,SNR=17							
BOSA	**Boshof**	**2.46**	**295**			**Pn**	**06 23 29.7**	**+0.1**
BOSA	**Boshof**	**2.46**	**295**	*i*	*P*	**Pn**	**06 23 29.6**	**0.0**
BOSA				*eS*		**Sn**	**06 24 01.5**	**+1.8**
BOSA				IAML			06 24 08.8	
	comp=Z,232nm,0.4s							
BOSA	**Boshof**	**2.46**	**295**	*i*	Pg	**Pb**	**06 23 36.4**	**+2.7**
BOSA				*i*	Sg	**Sb**	**06 24 08.2**	**+4.1**
BOSA	**Boshof**	**2.46**	**295**	*i*	Pg	**Pb**	**06 23 36.4**	**+2.7**
BOSA				*i*	Sg	**Sb**	**06 24 08.2**	**+4.1**
NWCL	**Newcastle**	**2.69**	**44**	*eP*		**Pn**	**06 23 35.0**	**+2.3**
NWCL				*eS*		**Sn**	**06 24 05.8**	**+0.4**
NWCL				IAML			06 24 12.8	
	comp=Z,539nm,0.4s							
PRYS	**Parys**	**2.79**	**352**	*i*	*P*	**Pn**	**06 23 34.8**	**+0.7**
PRYS				*eS*		**Sn**	**06 24 08.9**	**+1.1**
PRYS				IAML			06 24 21.1	
	comp=Z,343nm,0.3s							
WDLM	**Western Deep L**	**3.28**	**354**	*eP*		**Pn**	**06 23 42.3**	**+1.5**
WDLM				*eS*		**Sn**	**06 24 19.7**	**-0.3**
WDLM				IAML			06 24 37.4	
	comp=Z,257nm,0.4s							
SWZ	**Schweizer**	**3.31**	**319**	*eP*		**Pn**	**06 23 41.9**	**+0.7**
SWZ				*eS*		**Sn**	**06 24 22.0**	**+1.3**
SWZ				IAML			06 24 32.6	
	comp=Z,186nm,0.4s							
SOE	**Somerset East**	**3.56**	**212**	Pn		**Pn**	**06 23 45.6**	**+1.0**
SOE	**Somerset East**	**3.56**	**212**	*eP*		**Pn**	**06 23 45.7**	**+1.2**
SOE				*eS*		**Sn**	**06 24 27.5**	**+0.9**
SOE				IAML			06 24 44.7	
	comp=Z,135nm,0.4s							
GRAF	**Camdeboo Natio**	**3.82**	**227**	*i*	*P*	**Pn**	**06 23 49.5**	**+1.3**
GRAF				*eS*		**Sn**	**06 24 33.5**	**+0.3**
GRAF				IAML			06 24 57.9	
	comp=Z,136nm,0.6s							
SLR	**Silverton**	**3.97**	**6**	*eP*		**Pn**	**06 23 51.1**	**+0.7**
SLR				*eS*		**Sn**	**06 24 36.3**	**-0.7**
SLR				IAML			06 24 56.8	
	comp=Z,143nm,0.5s							
BFON	**Badsfontein, M**	**4.10**	**238**	*eP*		**Pn**	**06 23 53.6**	**+1.5**
BFON				*eS*		**Sn**	**06 24 39.7**	**-0.4**
BFON				IAML			06 24 56.6	
	comp=Z,192nm,0.3s							
POGA	**Pongola**	**4.17**	**57**	Pn		**Pn**	**06 23 53.9**	**+1.0**
POGA	**Pongola**	**4.17**	**57**	*eP*		**Pn**	**06 23 54.1**	**+1.1**
POGA				*eS*		**Sn**	**06 24 40.8**	**-0.8**
POGA				IAML			06 24 58.7	
	comp=Z,130nm,0.4s							
CRLN	**Carolina, Mapu**	**4.19**	**29**	*eP*		**Pn**	**06 23 53.6**	**+0.3**
CRLN				*eS*		**Sn**	**06 24 41.4**	**-1.0**
CRLN				IAML			06 25 08.1	
	comp=Z,47nm,0.4s							
PKA	**Prieska**	**4.38**	**269**	*eP*		**Pn**	**06 23 55.1**	**-0.8**
PKA				*eS*		**Sn**	**06 24 45.2**	**-1.7**
PKA				IAML			06 25 05.5	
	comp=Z,72nm,0.5s							
ROOI	**Rooidraai Farm**	**4.58**	**231**	*i*	*P*	**Pn**	**06 24 00.1**	**+1.5**
ROOI				*eS*		**Sn**	**06 24 52.0**	**+0.2**
ROOI				IAML			06 25 15.7	
	comp=Z,106nm,0.6s							
BRAK	**Brakfontein**	**4.70**	**243**	*i*	*P*	**Pn**	**06 24 01.6**	**+1.4**
BRAK				*eS*		**Sn**	**06 24 54.8**	**+0.1**
BRAK				IAML			06 25 18.9	
	comp=Z,158nm,0.4s							
LBTB	**Lobatse**	**5.06**	**337**	Pn		**Pn**	**06 24 05.3**	**+0.1**
	comp=Z,44nm,0.5s,baz=162,slow=12,SNR=173							
LBTB				Sn		**Sn**	**06 24 59.8**	**-3.9**
	comp=Z,16nm,0.3s,baz=254,slow=18,SNR=11							
LBTB				Lg		Lg	06 25 25.1	
	comp=Z,46nm,0.3s,baz=235,slow=22,SNR=34							
LBTB	**Lobatse**	**5.06**	**337**	*i*	*P*	**Pn**	**06 24 05.7**	**+0.4**
LBTB				*eS*		**Sn**	**06 25 02.1**	**-1.5**
LBTB				IAML			06 25 31.6	
	comp=Z,111nm,0.4s							
LBTB	**Lobatse**	**5.06**	**337**	*i*	S	**Sn**	**06 25 05.3**	**+1.6**
LBTB	**Lobatse**	**5.06**	**337**	*i*	S	**Sn**	**06 25 05.3**	**+1.6**
BUFB	**Buffelsbos**	**5.14**	**209**	*eP*		**Pn**	**06 24 06.2**	**+0.1**
BUFB				*eS*		**Sn**	**06 25 05.0**	**-0.5**
BUFB				IAML			06 25 38.3	
	comp=Z,57nm,0.8s							
KROM	**Kromhout**	**5.18**	**210**	*eP*		**Pn**	**06 24 06.2**	**-0.6**
KROM				*eS*		**Sn**	**06 25 06.1**	**-0.5**
KROM				IAML			06 25 31.8	
	comp=Z,86nm,0.5s							
ROSN	**Rosenhof**	**5.19**	**211**	*eP*		**Pn**	**06 24 07.2**	**+0.3**
ROSN				*eS*		**Sn**	**06 25 04.6**	**-2.1**
ROSN				IAML			06 25 32.9	
	comp=Z,81nm,0.7s							
GRAN	**Grantham**	**5.47**	**240**	*i*	*P*	**Pn**	**06 24 12.2**	**+1.3**
GRAN				*eS*		**Sn**	**06 25 11.8**	**-2.1**
GRAN				IAML			06 25 47.4	
	comp=Z,114nm,0.3s							
LEPH	**Lephalale, Lim**	**5.82**	**0**	*i*	*P*	**Pn**	**06 24 15.8**	**+0.1**
LEPH				*eS*		**Sn**	**06 25 21.3**	**-1.1**
LEPH				IAML			06 25 57.8	
	comp=Z,56nm,0.5s							
UPI	**Upington**	**5.87**	**282**	*eP*		**Pn**	**06 24 17.0**	**+0.6**
UPI				*eS*		**Sn**	**06 25 18.7**	**-5.0**
UPI				IAML			06 25 54.2	
	comp=Z,27nm,0.4s							
FRAZ	**Fraserburg**	**5.92**	**246**	*i*	*P*	**Pn**	**06 24 17.9**	**+0.8**
FRAZ				*eS*		**Sn**	**06 25 22.3**	**-2.6**
FRAZ				IAML			06 25 58.5	
	comp=Z,58nm,0.3s							
KEIM	**Keimoes**	**6.04**	**278**	*i*	*P*	**Pn**	**06 24 19.1**	**+0.4**
KEIM				*eS*		**Sn**	**06 25 21.8**	**-6.2**
KEIM				IAML			06 25 57.7	
	comp=Z,49nm,0.5s							
MERW	**Merweville**	**6.13**	**240**	*i*	*P*	**Pn**	**06 24 20.8**	**+0.8**
MERW				*eS*		**Sn**	**06 25 27.8**	**-2.3**
MERW				IAML			06 26 09.8	
	comp=Z,67nm,0.5s							
SUR	**Sutherland**	**6.55**	**244**	Pn		**Pn**	**06 24 26.7**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=74,slow=16,SNR=57							
SUR				Pg		**Pb**	**06 24 46.9**	**+3.4**
	comp=Z,4.7nm,0.3s,baz=69,slow=16,SNR=9.7							
SUR				Sn		**Sn**	**06 25 37.2**	**-3.5**
	comp=Z,5.3nm,0.3s,baz=136,slow=21,SNR=6.7							
SUR				Lg		Lg	06 26 09.3	
	comp=Z,22nm,0.3s,baz=164,slow=20,SNR=18							
	comp=Z,5.0nm,0.3s							
SUR	**Sutherland**	**6.55**	**244**	Pn		**Pn**	**06 24 26.8**	**+0.9**
AUGR	**Augrabies**	**6.61**	**278**	*eS*		**Sn**	**06 25 37.9**	**-3.9**
AUGR				IAML			06 26 14.6	
	comp=Z,55nm,0.4s							
MOPA	**Mopani**	**6.95**	**29**	*i*	*P*	**Pn**	**06 24 32.3**	**+1.1**
MOPA				*eS*		**Sn**	**06 25 47.1**	**-3.2**
MOPA				IAML			06 26 29.7	
	comp=Z,4.8nm,0.7s							
MOPA	**Mopani**	**6.95**	**29**	*i*	*P*	**Pn**	**06 24 32.5**	**+1.3**
MOPA				*i*	S	Sn	06 25 44.6	-5.7
MOPA	**Mopani**	**6.95**	**29**	*i*	*P*	**Pn**	**06 24 32.5**	**+1.3**
MOPA				*i*	S	Sn	06 25 44.6	-5.7
CVNA	**Calvinia**	**7.14**	**254**	*eP*		**Pn**	**06 24 33.9**	**0.0**
CVNA				*eS*		**Sn**	**06 25 52.1**	**-2.9**
CVNA				IAML			06 26 33.9	
	comp=Z,90nm,0.6s							
ARMS	**Ukamas**	**7.25**	**281**	*eP*		**Pn**	**06 24 35.4**	**+0.1**
ARMS				*eS*		**Sn**	**06 25 50.9**	**-6.7**
ARMS				IAML			06 26 44.8	
	comp=Z,65nm,0.6s							
MUSN	**Musina, Limpop**	**7.61**	**15**	*i*	*P*	**Pn**	**06 24 42.9**	**+2.6**
MUSN				*i*	S	**Sn**	**06 26 03.7**	**-2.9**
MUSN	**Musina, Limpop**	**7.61**	**15**	*i*	*P*	**Pn**	**06 24 42.9**	**+2.6**
MUSN				*i*	S	**Sn**	**06 26 03.7**	**-2.9**
ELIM	**Elim**	**8.38**	**232**	*eP*		**Pn**	**06 24 50.9**	**+0.1**
ELIM				*eS*		**Sn**	**06 26 21.8**	**-3.7**
ELIM				IAML			06 27 25.4	
	comp=Z,20nm,0.4s							
MATP	**Matopo**	**9.26**	**4**	Pn		**Pn**	**06 25 02.2**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=184,slow=15,SNR=11							
MATP				Sn		Sn	06 26 39.5	-7.6
	comp=Z,2.4nm,0.3s,baz=98,slow=19,SNR=6.0							
MATP				Lg		Lg	06 27 32.7	
	comp=Z,1.9nm,0.3s,baz=246,slow=18,SNR=5.0							
	comp=Z,2.6nm,0.4s							
MATP	**Matopo**	**9.26**	**4**	*i*	*P*	**Pn**	**06 25 03.1**	**+0.2**
MATP				*eS*		Sn	06 26 42.5	-4.7
MATP				IAML			06 27 46.8	
	comp=Z,45nm,0.5s							
MATP	**Matopo**	**9.26**	**4**	*i*	*P*	**Pn**	**06 25 04.3**	**+1.3**
MATP				*i*	S	Sn	06 26 42.2	-4.9
MATP	**Matopo**	**9.26**	**4**	*i*	*P*	**Pn**	**06 25 04.3**	**+1.3**
MATP				*i*	S	Sn	06 26 42.2	-4.9
BLWY	**Bulawayo**	**9.55**	**5**	*i*	*P*	**Pn**	**06 25 07.0**	**0.0**
BLWY				*eS*		Sn	06 26 49.5	-4.8
BLWY				IAML			06 27 51.8	
	comp=Z,78nm,0.5s							
BLWY	**Bulawayo**	**9.55**	**5**	*i*	*P*	**Pn**	**06 25 07.5**	**+0.6**
BLWY				*i*	S	Sn	06 26 48.6	-5.7
BLWY	**Bulawayo**	**9.55**	**5**	*i*	*P*	**Pn**	**06 25 07.5**	**+0.6**
BLWY				*i*	S	Sn	06 26 48.6	-5.7
AUSN	**Aus**	**10.61**	**284**	*eP*		**Pn**	**06 25 21.3**	**-0.2**
AUSN				*eS*		Sn	06 27 11.9	-8.4
AUSN				IAML			06 28 39.5	
	comp=Z,10nm,0.7s							
TSUM	**Tsumeb**	**13.97**	**316**	Pn		**Pn**	**06 26 05.3**	**-2.2**
	comp=Z,1.2nm,0.3s,baz=143,slow=16,SNR=3.9							
TSUM				Sn		Sn	06 28 30.0	-13
	comp=Z,0.4nm,0.3s,baz=102,slow=11,SNR=2.0							
TSUM				Lg		Lg	06 30 02.1	
	comp=Z,0.3nm,0.3s,baz=237,slow=20,SNR=2.8							
TSUM	**Tsumeb**	**13.97**	**316**	Pn		**Pn**	**06 26 05.6**	**-1.9**
LSZ	**Lusaka**	**14.36**	**2**	Pn		Pn	06 26 10.5	-2.3
	comp=Z,3.0nm,0.5s,baz=186,slow=10,SNR=3.8							
LSZ				Sn		Sn	06 28 41.8	-10
	comp=Z,0.3nm,0.3s,baz=111,slow=13,SNR=3.8							
LSZ				Lg		Lg	06 30 14.1	
	comp=Z,0.5nm,0.3s,baz=268,slow=13,SNR=4.5							
SNAA	**Sanae**	**45.21**	**193**	P		**P**	**06 31 06.8**	**+0.7**
	comp=Z,0

0.7nm,0.8s
ASAR **Alice Springs** **27.83 166** P P 06 41 58.7 -0.2
0.3nm,0.7s,baz=345,slow=9.6,SNR=2.2
0.3nm,0.7s
MKAR **Makanchi Array** **57.79 325** P P 06 46 00.5 -0.3
0.4nm,0.5s,baz=111,slow=7.9,SNR=4.6
0.4nm,0.5s

IDC ***05*** *06:37:39.9±0.7, 63.81N×150.96W, h0km, mb3.9/8, mbtmp3.8/13, ML3.3/5, Error ellipse: s-maj=14.3km s-min=10.8km az=140.0*
AEIC ***05*** *06:37:39±1.7, 63.58N±0.03×150.76W±0.04, h10km±5km, ML3.6, ML3.8/152(NEIC), Mwr3.6/101(NEIC), Error ellipse: s-maj=4.2km s-min=2.3km az=179.0*
ANF ***05*** *06:37:39.3±0.2, 63.59N×150.72W, h1km±2km, ML4.0/101, ML4.0/100, Error ellipse: s-maj=1.5km s-min=1.3km az=117.0*
NEIC ***05*** *06:37:39, 63.57N×150.75W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr2.99; Mθθ-2.50; Mϕϕ-0.49; Mrθ0.59; Mrϕ-1.58; Mθϕ0.18; Fault plane solution: M03.26000×10^14 NP1:ϕ238.46000°, δ39.68000°, λ85.81000°. NP2:ϕ63.89000°, δ50.45000°, λ93.47000°. Principal axes: T 3.0548, Plg84.0000°, Azm358.0000°; N 0.3753, Plg3.0000°, Azm242.0000°; P -3.4301, Plg5.0000°, Azm151.0000°;*
NEIC ***05*** *06:37:40.2±1.7, 63.57N±0.02×150.74W±0.04, h13km±4km Error ellipse: s-maj=3.5km s-min=2.4km az=179.0*

ISC 05 06:37:40.0±0.8, **63.59N**±0.02×**150.73W**±0.02, **h9**km±5km, **n292**,σ1s**07**/319, **mb4.0**/8, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.09**	**244**			**Pg**	**06 37 42.3**	**-0.1**
KTH						**Sg**	**06 37 44.5**	**+0.3**
TRF	**Thorofare Moun**	**0.25**	**126**			**Pg**	**06 37 44.9**	**-0.2**
TRF						**Sg**	**06 37 48.8**	**+0.4**
TRF	**Thorofare Moun**	**0.25**	**126**	P		**Pg**	**06 37 45.2**	**+0.2**
	baz=303,SNR=1000							
TRF				S		**Sg**	**06 37 48.4**	**0.0**
	baz=303							
BPAW	**Bear Paw Mtn.**	**0.52**	**348**			**Pb**	**06 37 50.9**	**-0.4**
BPAW				IAML			06 38 02.7	
	comp=E,4μm,0.3s							
BPAW	**Bear Paw Mtn.**	**0.52**	**348**	P		**Pb**	**06 37 50.9**	**-0.4**
	baz=169,SNR=1000							
CAST	**Castle Rocks**	**0.63**	**254**			**Pg**	**06 37 51.6**	**-0.6**
CAST						**Sg**	**06 37 59.6**	**-0.8**
CAST	**Castle Rocks**	**0.63**	**254**	IAML			06 38 00.4	
	comp=N,2μm,0.2s							
CAST				IAML			06 38 04.7	
	comp=E,2μm,0.3s							
CAST	**Castle Rocks**	**0.63**	**254**	P		**Pg**	**06 37 51.6**	**-0.6**
	baz=74,SNR=792							
CAST				S		**Sg**	**06 37 59.4**	**-1.0**
	baz=74							
CHUM	**Lake Minchumin**	**0.76**	**293**			**Pb**	**06 37 54.9**	**-0.5**
CHUM						**Sb**	**06 38 05.1**	**-0.7**
CHUM	**Lake Minchumin**	**0.76**	**293**	P		**Pb**	**06 37 55.0**	**-0.5**
	baz=113,SNR=1000							
CHUM				S		**Sg**	**06 38 04.6**	**+0.1**
	baz=113							
BWN	**Browne**	**0.81**	**43**			**Pn**	**06 37 56.8**	**-0.8**
BWN	**Browne**	**0.81**	**43**	IAML			06 38 11.7	
	comp=E,4μm,0.8s							
BWN				IAML			06 38 14.3	
	comp=N,2μm,0.8s							
MCK	**McKinley**	**0.81**	**79**			**Pg**	**06 37 55.6**	**-0.1**
MCK						**Sg**	**06 38 06.0**	**-0.3**
MCK	**McKinley**	**0.81**	**79**	P		**Pg**	**06 37 55.4**	**-0.3**
	baz=260,SNR=208							
MCK				S		**Sg**	**06 38 05.9**	**-0.3**
	baz=260							
RND	**Reindeer**	**0.86**	**102**			**Pg**	**06 37 56.1**	**-0.5**
RND	**Reindeer**	**0.86**	**102**	IAML			06 38 08.1	
	comp=N,2μm,0.3s							
PPLA	**Purkeypile**	**0.96**	**224**			**Pg**	**06 37 57.2**	**-1.3**
PPLA	**Purkeypile**	**0.96**	**224**	P		**Pg**	**06 37 57.5**	**-0.9**
	baz=42,SNR=358							
PPLA				S		**Sg**	**06 38 10.8**	**-0.2**
	baz=42							
WAT7	**Susitna Watana**	**1.15**	**131**			**Pb**	**06 38 00.9**	**-1.1**
CUT	**Chulitna**	**1.21**	**170**			**Pn**	**06 38 02.3**	**-0.8**
CUT						**Sb**	**06 38 17.5**	**-1.3**
CUT	**Chulitna**	**1.21**	**170**	P		**Pn**	**06 38 02.3**	**-0.8**
	baz=349,SNR=220							
CUT				S		**Sb**	**06 38 17.2**	**-1.6**
	baz=349							
NEA2	**Nenana**	**1.24**	**35**			**Pn**	**06 38 02.6**	**-1.0**
NEA2	**Nenana**	**1.24**	**35**	P		**Pn**	**06 38 02.5**	**-1.0**
	baz=217,SNR=211							
NEA2				S		**Sg**	**06 38 19.9**	**0.0**
	baz=217							
WAT1	**Susitna Watana**	**1.25**	**127**			**Pn**	**06 38 03.0**	**-0.7**
WAT1	**Susitna Watana**	**1.25**	**127**	P		**Pn**	**06 38 03.1**	**-0.7**
	baz=308							
WAT1				S		**Sb**	**06 38 18.9**	**-1.1**
	baz=308							
MLY	**Manley**	**1.44**	**360**			**Pn**	**06 38 06.2**	**-0.2**
MLY				IAML			06 38 27.7	
	comp=N,1μm,0.5s							
MLY	**Manley**	**1.44**	**360**	P		**Pn**	**06 38 06.2**	**-0.2**
	baz=180,SNR=754							
MLY				S		**Sg**	**06 38 26.4**	**+0.1**
	baz=180							
WRH	**Wood River Hil**	**1.46**	**52**			**Pn**	**06 38 05.7**	**-0.8**
K20K	**Telida**	**1.52**	**262**			**Pn**	**06 38 06.0**	**-1.3**
K20K	**Telida**	**1.52**	**262**	IAML			06 38 30.0	
	comp=E,1μm,0.4s							
K20K	**Telida**	**1.52**	**262**	P		**Pn**	**06 38 06.1**	**-1.3**
	baz=80,SNR=524							
K20K				S		**Sb**	**06 38 27.5**	**-0.1**
	baz=80							
DHY	**Denali Highway**	**1.60**	**107**			**Pn**	**06 38 08.8**	**+0.1**
DHY	**Denali Highway**	**1.60**	**107**	IAML			06 38 33.5	
	comp=E,1μm,0.7s							
DHY	**Denali Highway**	**1.60**	**107**	P		**Pn**	**06 38 08.8**	**+0.1**
	baz=290,SNR=375							
DHY				S		**Sb**	**06 38 30.2**	**0.0**
	baz=290							
J20K	**Nowinta River**	**1.62**	**293**			**Pn**	**06 38 08.3**	**-0.5**
J20K				IAML			06 38 32.1	
	comp=N,2μm,0.5s							
J20K	**Nowinta River**	**1.62**	**293**	P		**Pn**	**06 38 08.2**	**-0.5**
	baz=110,SNR=677							
J20K				S		**Sb**	**06 38 30.8**	**+0.3**
	baz=110							
SKT	**Skwentna**	**1.66**	**193**			**Pn**	**06 38 08.9**	**-0.4**
SKT	**Skwentna**	**1.66**	**193**	P		**Pn**	**06 38 09.4**	**+0.1**
	baz=12,SNR=238							
SKT				S		**Sb**	**06 38 30.9**	**-0.9**
	baz=12							
CCB	**Clear Creek Bu**	**1.66**	**49**			**Pn**	**06 38 08.5**	**-0.8**
I21K	**Tanana**	**1.68**	**342**			**Pn**	**06 38 09.7**	**+0.1**
I21K	**Tanana**	**1.68**	**342**	IAML			06 38 35.7	
	comp=N,803nm,0.8s							
I21K				IAML			06 38 38.5	
	comp=E,654nm,0.7s							
I21K	**Tanana**	**1.68**	**342**	P		**Pn**	**06 38 09.7**	**+0.1**
	baz=161,SNR=708							
I21K				S		**Sb**	**06 38 31.8**	**-0.6**
	baz=161							
WAT6	**Susitna Watana**	**1.70**	**125**			**Pn**	**06 38 09.7**	**-0.3**
WAT6	**Susitna Watana**	**1.70**	**125**	P		**Pn**	**06 38 09.7**	**-0.3**
	baz=308,SNR=196							
WAT6				S		**Sb**	**06 38 32.2**	**-0.8**
	baz=308							
MDM	**Murphy Dome**	**1.75**	**37**			**Pn**	**06 38 09.9**	**-0.7**
TCOL	**CIGO, UAF Yank**	**1.80**	**43**			**Pn**	**06 38 10.6**	**-0.6**
TCOL	**CIGO, UAF Yank**	**1.80**	**43**	P		**Pn**	**06 38 10.5**	**-0.6**
	baz=226,SNR=94							
TCOL				Sb		**Sg**	**06 38 36.9**	**-0.8**
	baz=226							
COLA	**College**	**1.80**	**43**			**Pn**	**06 38 10.5**	**-0.7**
COLA	**College**	**1.80**	**43**	P		**Pn**	**06 38 10.5**	**-0.7**
	baz=226							
COLA				Sb		**Sg**	**06 38 37.2**	**-0.6**
	baz=226							
L20K	**Farewell, AK**	**1.82**	**233**			**Pn**	**06 38 09.9**	**-1.6**
L20K	**Farewell, AK**	**1.82**	**233**	P		**Pn**	**06 38 09.9**	**-1.6**
	baz=51,SNR=289							
L20K				S		**Sb**	**06 38 35.7**	**-0.6**
	baz=51							
HDA	**Harding Lake**	**1.86**	**62**			**Pn**	**06 38 11.3**	**-0.8**
	comp=E,971nm,0.4s							
HDA	**Harding Lake**	**1.86**	**62**	IAML			06 38 40.0	
	baz=245,SNR=244							
HDA				P		**Pn**	**06 38 11.2**	**-0.8**
	baz=245			Sb		**Sg**	**06 38 38.7**	**-1.0**
HDA				Sb		**Sg**	**06 38 38.7**	**-1.0**
	baz=245							
M22K	**Willow**	**1.87**	**171**			**Pn**	**06 38 11.4**	**-0.7**
M22K	**Willow**	**1.87**	**171**	P		**Pn**	**06 38 11.3**	**-0.8**
	baz=351,SNR=176							
M22K				S		**Sb**	**06 38 36.7**	**-0.9**
	baz=351							
PS08	**TAPS Pump Stn8**	**1.97**	**59**			**Pn**	**06 38 12.7**	**-0.7**
GHO	**Glory Hole Cre**	**2.01**	**155**			**Pn**	**06 38 13.6**	**-0.5**
GHO	**Glory Hole Cre**	**2.01**	**155**	IAML			06 38 46.6	
	comp=E,810nm,0.6s							
GHO				IAML			06 38 48.1	
	comp=N,1μm,0.7s							
M20K	**Styx River**	**2.04**	**214**			**Pn**	**06 38 14.5**	**-0.1**
M20K	**Styx River**	**2.04**	**214**	IAML			06 38 48.3	
	comp=E,440nm,0.6s							
M20K				IAML			06 38 50.9	
	comp=N,527nm,0.7s							
M20K	**Styx River**	**2.04**	**214**	P		**Pn**	**06 38 13.9**	**-0.7**
	baz=32,SNR=261							
M20K				S		**Sb**	**06 38 41.7**	**-1.0**
	baz=32							
IL31		**2.06**	**53**			**Pn**	**06 38 14.0**	**-0.7**
ILAR	**Eielson Array**	**2.06**	**53**	Pn		**Pn**	**06 38 13.9**	**-0.8**
	comp=N,4.4nm,0.3s,baz=235,slow=14,SNR=152							
ILAR				Lg		Lg	06 38 43.6	
	comp=N,62nm,0.3s,baz=233,slow=28,SNR=5.2							
	comp=N,17nm,0.3s							
POKR	**Poker Plat Res**	**2.10**	**42**			**Pn**	**06 38 14.8**	**-0.5**
POKR				IAML			06 38 48.3	
	comp=N,426nm,0.6s							
POKR				IAML			06 38 51.0	
	comp=E,435nm,0.7s							
POKR	**Poker Plat Res**	**2.10**	**42**	P		**Pn**	**06 38 14.8**	**-0.5**
	baz=225,SNR=14							
POKR				Sb		**Sg**	**06 38 46.0**	**-1.4**
	baz=225							
SML	**Sawmill**	**2.11**	**147**			**Pn**	**06 38 14.9**	**-0.5**
SML				IAML			06 38 50.5	
	comp=N,656nm,0.6s							
SML				IAML			06 38 52.8	
	comp=E,773nm,0.9s							
SML	**Sawmill**	**2.11**	**147**	P		**Pn**	**06 38 14.9**	**-0.5**
	baz=329,SNR=141							
SML				S		**Sn**	**06 38 41.9**	**+0.1**
	baz=329							
SUA	**Susitna One**	**2.14**	**180**			**Pn**	**06 38 15.7**	**-0.2**
SUA				IAML			06 38 51.1	
	comp=E,561nm,1.0s							
SUA				IAML			06 38 53.4	
	comp=N,736nm,0.6s							
SUA	**Susitna One**	**2.14**	**180**	P		**Pn**	**06 38 15.9**	**-0.1**
	baz=360,SNR=156							
SUA				S		**Sn**	**06 38 43.5**	**+0.9**
	baz=360							
PMR	**Palmer**	**2.14**	**159**			**Pn**	**06 38 15.7**	**-0.1**
PMR				IAML			06 38 55.9	
	comp=E,453nm,0.7s							
PMR	**Palmer**	**2.14**	**159**	P		**Pn**	**06 38 15.6**	**-0.3**
	baz=340,SNR=113							
PMR				S		**Sn**	**06 38 43.3**	**+0.8**
	baz=340							
STLK	**Strandline Lak**	**2.16**	**194**			**Pn**	**06 38 16.4**	**+0.2**
K24K	**Donnelly Dome**	**2.22**	**82**			**Pn**	**06 38 16.7**	**-0.3**
K24K	**Donnelly Dome**	**2.22**	**82**	P		**Pn**	**06 38 16.9**	**0.0**
	baz=266,SNR=91							
K24K				Sb		**Sg**	**06 38 49.6**	**-1.5**
	baz=266							
H21K	**Melozitna Rive**	**2.26**	**338**			**Pn**	**06 38 17.4**	**-0.1**
H21K				IAML			06 38 52.5	
	comp=E,694nm,0.6s							
H21K	**Melozitna Rive**	**2.26**	**338**	P		**Pn**	**06 38 17.4**	**-0.1**
	baz=156,SNR=320							
H21K				Sb		**Sg**	**06 38 51.3**	**-1.1**
	baz=156							
M23K	**Glacier View**	**2.28**	**141**			**Pn**	**06 38 17.4**	**-0.4**
M23K	**Glacier View**	**2.28**	**141**	P		**Pn**	**06 38 17.3**	**-0.4**
	baz=324,SNR=194							
M23K				S		**Sb**	**06 38 47.4**	**-2.1**
	baz=324							
H23K	**Yukon River**	**2.30**	**12**			**Pn**	**06 38 18.1**	**0.0**
H23K				IAML			06 39 01.4	
	comp=N,375nm,1.0s							
H23K				IAML			06 39 02.6	
	comp=E,390nm,0.8s							
H23K	**Yukon River**	**2.30**	**12**	P		**Pn**	**06 38 18.1**	**0.0**
	baz=194,SNR=202							
H23K				S		**Sn**	**06 38 47.3**	**+0.8**
	baz=194							
PS06	**TAPS Pump Stn6**	**2.31**	**10**			**Pn**	**06 38 18.6**	**+0.4**
H22K	**Ishtalitna Cre**	**2.33**	**353**			**Pn**	**06 38 18.7**	**+0.3**
H22K	**Ishtalitna Cre**	**2.33**	**353**	P		**Pn**	**06 38 18.7**	**+0.3**
	baz=173,SNR=173							
H22K				Sb		**Sg**	**06 38 53.3**	**-1.3**
	baz=173							
L19K	**White Mountain**	**2.36**	**235**			**Pn**	**06 38 16.9**	**-2.0**
L19K				IAML			06 38 57.6	
	comp=N,382nm,1.1s							
L19K				IAML			06 39 01.0	
	comp=E,433nm,0.6s							
L19K	**White Mountain**	**2.36**	**235**	P		**Pn**	**06 38 17.6**	**-1.3**
	baz=51,SNR=83							
SCM	**Sheep Creek Mo**	**2.36**	**137**			**Pn**	**06 38 18.2**	**-0.8**
SCM				IAML			06 38 54.5	
	comp=N,725nm,0.9s							
SCM				IAML			06 38 55.5	
	comp=E,585nm,0.8s							
SCM	**Sheep Creek Mo**	**2.36**	**137**	P		**Pn**	**06 38 18.7**	**-0.3**
	baz=320,SNR=134							
SCM				Sb		**Sb**	**06 38 53.4**	**+1.4**
	baz=320							
M19K	**Big River Lodg**	**2.39**	**226**			**Pn**	**06 38 18.1**	**-1.2**
M19K				IAML			06 38 55.6	
	comp=N,383nm,0.4s							
M19K				IAML			06 38 57.6	
	comp=E,491nm,0.7s							
M19K	**Big River Lodg**	**2.39**	**226**	P		**Pn**	**06 38 18.2**	**-1.1**
	baz=43,SNR=52							
M19K				Sb		**Sb**	**06 38 54.3**	**+1.6**
	baz=43							
SPNN	**North Nagishla**	**2.41**	**203**			**Pn**	**06 38 20.1**	**+0.4**
SPCP	**Crater Peak Br**	**2.43**	**196**			**Pn**	**06 38 20.5**	**+0.5**
KNK	**Knik Glacier**	**2.43**	**153**			**Pn**	**06 38 19.9**	**0.0**
KNK				IAML			06 39 02.1	
	comp=N,631nm,0.9s							
KNK	**Knik Glacier**	**2.43**	**153**	P		**Pn**	**06 38 20.1**	**+0.2**
	baz=335,SNR=146							
PAX	**Paxson**	**2.46**	**102**			**Pn**	**06 38 19.7**	**-0.7**
PAX	**Paxson**	**2.46**	**102**	P		**Pn**	**06 38 20.8**	**+0.4**
	baz=287,SNR=125							
FIS	**Fire Island**	**2.47**	**174**	Pn		**Pn**	**06 38 21.4**	**+1.0**
SPCN	**Chakachatna No**	**2.47**	**196**			**Pn**	**06 38 21.5**	**+1.1**
TTA	**Tatalina**	**2.48**	**257**			**Pn**	**06 38 19.6**	**-1.0**
TTA	**Tatalina**	**2.48**	**257**	P		**Pn**	**06 38 19.0**	**-1.6**
	baz=72,SNR=20							
TT01	**Tatalina**	**2.49**	**256**			**Pn**	**06 38 19.1**	**-1.6**
SPU	**Mount Spurr**	**2.50**	**195**			**Pn**	**06 38 19.4**	**-1.4**
N20K	**Mount Spurr**	**2.50**	**197**	P		**Pn**	**06 38 20.9**	**+0.1**
	baz=15,SNR=34							
SPCR	**Spurr Chakacha**	**2.50**	**197**			**Pn**	**06 38 21.5**	**+0.6**
SPCR	**Spurr Chakacha**	**2.50**	**197**			**Pn**	**06 38 21.4**	**+0.5**
SPCR	**Spurr Chakacha**	**2.50**	**197**	P		**Pn**	**06 38 21.1**	**+0.2**
	baz=15,SNR=32							
CKL	**Chakachamna La**	**2.52**	**198**			**Pn**	**06 38 22.3**	**+1.1**
RC01	**Rabbit Creek A**	**2.56**	**169**			**Pn**	**06 38 20.7**	**-0.8**
RC01				IAML			06 38 58.0	
	comp=N,351nm,0.5s							
RC01				IAML			06 39 05.0	
	comp=E,325nm,0.6s							
RC01	**Rabbit Creek A**	**2.56**	**169**	P		**Pn**	**06 38 22.0**	**+0.4**
	baz=350,SNR=28							
H24K	**Noodor Dome**	**2.56**	**27**			**Pn**	**06 38 21.2**	**-0.6**
H24K	**Noodor Dome**	**2.56**	**27**	IAML			06 39 06.1	
	comp=N,281nm,0.7s							
H24K	**Noodor Dome**	**2.56**	**27**	P		**Pn**	**06 38 21.1**	**-0.6**
	baz=210,SNR=46							
J25K	**Salcha River,**	**2.57**	**64**			**Pn**	**06 38 21.2**	**-0.6**
J25K	**Salcha River,**	**2.57**	**64**	P		**Pn**	**06 38 21.2**	**-0.6**
	baz=249,SNR=33							
M24K	**Tolsona, Glenn**	**2.57**	**123**			**Pn**	**06 38 21.2**	**-0.6**
M24K				IAML			06 39 03.3	
	comp=E,603nm,0.9s							
M24K	**Tolsona, Glenn**	**2.57**	**123**	P		**Pn**	**06 38 22.6**	**+0.8**
	baz=307,SNR=125							
RIDG	**Independent Ri**	**2.63**	**84**			**Pn**	**06 38 21.7**	**-0.9**
RIDG				IAML			06 39 04.6	
	comp=E,318nm,0.8s							
RIDG				IAML			06 39 04.7	
	comp=N,299nm,0.6s							
RIDG	**Independent Ri**	**2.63**	**84**	P		**Pn**	**06 38 22.3**	**-0.4**
	baz=269,SNR=85							
IM03		**2.73**	**333**			**Pn**	**06 38 24.2**	**+0.4**
IMAR	**Indian Mountai**	**2.73**	**333**	Pn		**Pn**	**06 38 24.0**	**+0.1**
HARP	**HAARP**	**2.81**	**113**			**Pn**	**06 38 27.0**	**+1.9**
HARP	**HAARP**	**2.81**	**113**	P		**Pn**	**06 38 26.8**	**+1.7**
	baz=297,SNR=39							
CAPN	**Captain Cook N**	**2.84**	**184**	Pn		**Pn**	**06 38 27.5**	**+2.0**
CAPN	**Captain Cook N**	**2.84**	**184**	P		**Pn**	**06 38 27.8**	**+2.3**
	baz=3.6,SNR=19							
GCSA	**Galena City Sc**	**2.93**	**296**	P		**Pn**	**06 38 27.9**	**+1.2**
	baz=111,SNR=18							
PRP	**Porcupine Dome**	**2.96**	**47**			**Pn**	**06 38 27.2**	**-0.2**
PRP	**Porcupine Dome**	**2.96**	**47**	IAML			06 39 16.6	
	comp=E,212nm,0.5s							
PRP				IAML			06 39 18.4	
	comp=N,190nm,0.4s							
PRP	**Porcupine Dome**	**2.96**	**47**	P		**Pn**	**06 38 27.2**	**-0.2**
	baz=232,SNR=35							
PWL	**Port Wells**	**2.96**	**157**			**Pn**	**06 38 28.5**	**+1.3**
PWL	**Port Wells**	**2.96**	**157**	IAML			06 39 11.0	
	comp=E,365nm,0.7s							
PWL	**Port Wells**	**2.96**	**157**	P		**Pn**	**06 38 28.3**	**+1.1**
	baz=339,SNR=65							
DOT	**Dot Lake**	**2.98**	**86**			**Pn**	**06 38 26.9**	**-0.5**
SCRK	**Sand Creek**	**3.02**	**80**			**Pn**	**06 38 27.2**	**-0.8**
SCRK	**Sand Creek**	**3.02**	**80**	P		**Pn**	**06 38 27.3**	**-0.8**
	baz=266							
KLU	**Klutina**	**3.07**	**131**			**Pn**	**06 38 27.7**	**-1.0**
KLU				IAML			06 39 12.5	
	comp=N,262nm,0.7s							
KLU				IAML			06 39 16.8	
	comp=E,247nm,1.0s							
KLU	**Klutina**	**3.07**	**131**	P		**Pn**	**06 38 30.1**	**+1.4**
	baz=315,SNR=94							
SLKM	**Skilak Lake**	**3.11**	**175**			**Pn**	**06 38 30.5**	**+1.4**
G23K	**Bananza Creek**	**3.15**	**5**			**Pn**	**06 38 30.1**	**+0.4**
G23K	**Bananza Creek**	**3.15**	**5**	P		**Pn**	**06 38 30.1**	**+0.4**
	baz=186,SNR=41							
DFR	**Drift River**	**3.15**	**198**			**Pn**	**06 38 30.6**	**+0.8**
O22K	**Cooper Landing**	**3.16**	**171**			**Pn**	**06 38 29.1**	**-0.7**
O22K	**Cooper Landing**	**3.16**	**171**	P		**Pn**	**06 38 31.4**	**+1.6**
	baz=352,SNR=23							
G21K	**Allakaket**	**3.16**	**339**			**Pn**	**06 38 30.4**	**+0.5**
G21K	**Allakaket**	**3.16**	**339**	P		**Pn**	**06 38 30.3**	**+0.5**
	baz=157,SNR=31							
RDJH	**Redoubt Jeurge**	**3.17**	**199**			**Pn**	**06 38 31.1**	**+1.0**
JPK	**Jack Peak**	**3.20**	**141**			**Pn**	**06 38 31.9**	**+1.5**
GLI	**Glacier Island**	**3.21**	**146**	P		**Pn**	**06 38 31.7**	**+1.1**
	baz=329,SNR=12							
NCT	**North Crescent**	**3.21**	**200**			**Pn**	**06 38 32.0**	**+1.3**
MENT	**Mentasta**	**3.24**	**99**			**Pn**	**06 38 31.2**	**+0.2**
MENT				IAML			06 39 25.7	
	comp=E,324nm,0.6s							
J26L	**Joseph Creek**	**3.28**	**71**			**Pn**	**06 38 31.5**	**-0.2**
J26L	**Joseph Creek**	**3.28**	**71**	IAML			06 39 24.4	
	comp=N,161nm,0.6s							
J26L	**Joseph Creek**	**3.28**	**71**	P		**Pn**	**06 38 31.4**	**-0.2**
	baz=257,SNR=50							
RSO	**Redoubt South**	**3.28**	**198**			**Pn**	**06 38 31.4**	**-0.3**
N19K	**Bonanza Creek**	**3.30**	**214**			**Pn**	**06 38 30.5**	**-1.3**
N19K				IAML			06 39 29.5	
	comp=E,163nm,0.8s							
N19K	**Bonanza Creek**	**3.30**	**214**	P		**Pn**	**06 38 32.2**	**+0.4**
	baz=30,SNR=39							
G22K	**Bettles**	**3.36**	**355**	P		**Pn**	**06 38 33.4**	**+0.8**
	baz=174							
SVW2	**Sparrevohn**	**3.37**	**224**			**Pn**	**06 38 31.8**	**-1.1**
SVW2				IAML			06 39 29.1	
	comp=E,195nm,0.6s							
SVW2				IAML			06 39 32.0	
	comp=N,280nm,0.7s							
L26K	**Log Cabin Wild**	**3.38**	**96**			**Pn**	**06 38 33.7**	**+0.7**
L26K				IAML			06 39 39.8	
	comp=E,294nm,0.5s							
L26K	**Log Cabin Wild**	**3.38**	**96**	P		**Pn**	**06 38 33.7**	**+0.7**
	baz=283,SNR=56							
DIV	**Divide**	**3.38**	**135**			**Pn**	**06 38 33.5**	**+0.4**
H25K	**Birch Creek**	**3.40**	**36**			**Pn**	**06 38 33.3**	**+0.1**
H25K	**Birch Creek**	**3.40**	**36**	P		**Pn**	**06 38 33.0**	**-0.1**
	baz=220,SNR=10							
G24K	**Hadweenzic Riv**	**3.41**	**22**			**Pn**	**06 38 33.0**	**-0.3**
G24K	**Hadweenzic Riv**	**3.41**	**22**	P		**Pn**	**06 38 33.0**	**-0.3**
	baz=205,SNR=11							
N25K	**Chitina, Valde**	**3.47**	**122**	Pn		**Pn**	**06 38 34.4**	**+0.2**
N25K				IAML			06 39 22.4	
	comp=N,211nm,1.1s							
N25K	**Chitina, Valde**	**3.47**	**122**	P		**Pn**	**06 38 36.4**	**+2.2**
	baz=308,SNR=30							
FID	**Port Fidalgo**	**3.48**	**143**			**Pn**	**06 38 34.9**	**+0.6**
FID				IAML			06 39 20.1	
	comp=N,176nm,0.5s							
FID				IAML			06 39 25.9	
	comp=E,182nm,0.7s							
SEW	**Seward**	**3.55**	**170**			**Pn**	**06 38 34.9**	**-0.4**
SEW	**Seward**	**3.55**	**170**	P		**Pn**	**06 38 37.0**	**+1.7**
	baz=350							
O20K	**Slope Mountain**	**3.64**	**195**	P		**Pn**	**06 38 37.3**	**+0.8**
	baz=13,SNR=19							
COLD	**Coldfoot**	**3.66**	**3**	Pn		**Pn**	**06 38 37.1**	**+0.4**
COLD	**Coldfoot**	**3.66**	**3**	P		**Pn**	**06 38 37.1**	**+0.4**
	baz=184,SNR=25							
I26K	**Coal Creek Min**	**3.71**	**59**			**Pn**	**06 38 36.5**	**-0.9**
I26K				IAML			06 39 44.1	
	comp=N,227nm,0.8s							
I26K	**Coal Creek Min**	**3.71**	**59**	P		**Pn**	**06 38 37.1**	**-0.2**
	baz=246							
M26K

comp=E,157nm,0.9s
CNPM IAML 06 39 42.1
comp=N,117nm,0.6s
F24K Squaw Lake 4.12 15 P Pn **06 38 43.2 +0.2**
baz=198,SNR=15
P19K Oil Pt 4.13 198 Pn Pn **06 38 43.3 +0.1**
P19K IAML 06 39 53.1
comp=E,155nm,0.5s
P19K IAML 06 40 00.3
comp=N,120nm,0.8s
P19K Oil Pt 4.13 198 P Pn **06 38 45.0 +1.8**
baz=16,SNR=9.3
MCARA McCarthy VSAT 4.21 118 Pn **06 38 44.0 -0.2**
MCARA IAML 06 39 56.9
comp=E,140nm,0.8s
MCARA McCarthy VSAT 4.21 118 P Pn **06 38 46.7 +2.4**
baz=305,SNR=11
M27K Edge Creek, AK 4.23 103 P Pn **06 38 46.5 +1.9**
baz=291,SNR=6.9
O18K Koktuh Hills 4.31 212 Pn **06 38 44.2 -1.5**
O18K IAML 06 39 60.0
comp=N,85nm,0.7s
O18K IAML 06 40 03.5
comp=E,92nm,0.8s
O18K Koktuh Hills 4.31 212 P Pn **06 38 46.0 +0.3**
baz=28
EGAK Eagle 4.35 70 Pn **06 38 45.2 -1.0**
EGAK Eagle 4.35 70 P Pn **06 38 46.0 -0.3**
baz=258,SNR=17
I27K Kandik River 4.42 59 P Pn **06 38 46.4 -0.8**
baz=247
G26K Porcupine Rive 4.46 38 P Pn **06 38 47.3 -0.4**
baz=224,SNR=9.0
HMT Hamilton 4.47 134 Pn **06 38 49.1 +1.1**
F25K Christian Rive 4.54 25 P Pn **06 38 48.4 -0.4**
baz=210
E22K Anaktuvuk Pass 4.58 355 P Pn **06 38 50.2 +0.8**
baz=174
E24K Your Creek 4.59 11 P Pn **06 38 50.5 +0.8**
baz=193,SNR=19
BERG Berg Lake 4.62 131 Pn **06 38 50.3 +0.5**
BMAR Burnt Mountain 4.62 31 Pn Pn **06 38 49.4 -0.6**
BVCY Beaver Creek 4.65 100 P Pn **06 38 51.6 +1.2**
baz=289
H27K Steamboat Moun 4.73 52 P Pn **06 38 50.8 -0.6**
baz=240,SNR=10
O17K Koliganek Bris 4.88 221 P Pn **06 38 53.6 +0.1**
baz=36
Q19K Cape Douglas, 4.89 198 P Pn **06 38 55.9 +2.3**
baz=15
N16K Nishlik Lake 4.91 234 P Pn **06 38 54.5 +0.6**
baz=47
F26K Sheenjek River 4.94 31 P Pn **06 38 54.1 -0.1**
baz=217,SNR=7.3
ISLE Juniper Island 4.95 123 Pn **06 38 54.7 +0.1**
ISLE IAML 06 39 58.8
comp=N,89nm,1.0s
ISLE IAML 06 40 21.7
comp=E,81nm,1.2s
G27K Doyon Strip 5.00 46 P Pn **06 38 54.4 -0.8**
baz=234,SNR=9.3
E25K Arctic Village 5.02 23 P Pn **06 38 55.2 -0.1**
baz=208
DAWY Dawson 5.04 80 Pn **06 38 55.7 -0.1**
DAWY IAML 06 40 23.4
comp=N,68nm,0.8s
DAWY IAML 06 40 27.2
comp=E,52nm,0.6s
DAWY Dawson 5.04 80 P Pn **06 38 55.4 -0.4**
baz=270,SNR=11
Q20K Shuyak Island 5.07 190 P Pn **06 38 58.0 +2.0**
baz=8.3
SNH Sunshine Point 5.07 129 Pn Pn **06 38 55.3 -0.8**
SNH IAML 06 40 12.9
comp=E,53nm,1.5s
SNH IAML 06 40 58.8
comp=N,75nm,2.0s
YUK3 Moose Creek 5.07 106 P Pn **06 38 59.2 +2.9**
baz=296,SNR=11
TOLK Toolik Lake Re 5.09 5 Pn Pn **06 38 58.3 +1.9**
TOLK Toolik Lake Re 5.09 5 P Pn **06 38 58.2 +1.7**
baz=186,SNR=35
CTG Chitna Glacier 5.12 117 P Pn **06 38 59.3 +2.5**
baz=305
CTGM Chitina Glacie 5.12 117 Pn Pn **06 38 57.1 +0.2**
P17K Kvichak River 5.19 214 P Pn **06 38 57.9 +0.2**
baz=29
O16K Kokwok River B 5.33 225 P Pn **06 38 59.3 -0.3**
baz=38
YAH Yahtse 5.33 123 Pn Pn **06 38 58.6 -1.4**
YAH IAML 06 40 30.5
comp=N,65nm,0.9s
YAH IAML 06 42 18.1
comp=E,46nm,1.1s
MESA MESA 5.38 126 P Pn **06 39 01.5 +0.9**
baz=313
D23K Nanushuk River 5.40 0 P Pn **06 39 01.8 +1.2**
baz=180
D24K Happy Valley 5.64 7 P Pn **06 39 04.7 +0.8**
baz=189
I29M Ogilvie Camp, 5.66 66 Pn **06 39 04.1 -0.1**
I29M Ogilvie Camp, 5.66 66 P Pn **06 39 04.4 +0.2**
baz=257,SNR=16
O28M Mount Upton 5.69 115 P Pn **06 39 07.7 +2.8**
baz=304
Q16K King Salmon 5.70 213 P Pn **06 39 05.2 +0.4**
baz=28
M29M Somme Creek 5.71 96 P Pn **06 39 05.0 +0.1**
baz=287,SNR=7.1
K29M Barlow Dome 5.88 82 P Pn **06 39 07.0 -0.2**
baz=273
KDAK Kodiak Island 5.90 190 Pn Pn **06 39 07.3 -0.1**
comp=E,1.2nm,0.3s,baz=53,slow=7.7,SNR=67
KDAK Sn Sn **06 40 15.5 +0.4**
comp=E,2.3nm,0.3s,baz=316,slow=21,SNR=6.8
comp=E,2.5nm,0.3s
KDAK Kodiak Island 5.90 190 P Pn **06 39 10.2 +2.7**
baz=8.0
E27K Coleen River 5.94 35 P Pn **06 39 07.4 -0.5**
baz=223,SNR=6.6
D25K Kavik River 6.01 15 P Pn **06 39 10.4 +1.4**
baz=199,SNR=14
YUK4 Talbot Arm 6.04 106 P Pn **06 39 11.1 +1.5**
baz=296
PINM Pinnacle 6.07 121 P Pn **06 39 10.8 +0.9**
baz=310
C24K Franklin Bluff 6.21 7 P Pn **06 39 11.7 +0.1**
baz=188
C23K Itkillik River 6.27 0 P Pn **06 39 13.4 +0.8**
baz=181
YUK6 Outpost Mounta 6.36 109 P Pn **06 39 15.7 +1.8**
baz=300
BCPM Bancas Point 6.41 120 Pn **06 39 13.9 -0.5**
M30M Minto, Yukon 6.41 93 P Pn **06 39 15.8 +1.3**
baz=285
OHAK Old Harbor 6.52 192 P Pn **06 39 18.1 +2.2**
baz=10.0
EPYK Eagle Plains 6.56 59 Pn **06 39 16.0 -0.6**
EPYK Eagle Plains 6.56 59 P Pn **06 39 15.8 -0.8**
baz=251
R17K Ugashik Creek 6.59 208 P Pn **06 39 20.9 +4.0**
baz=22
O29M Mount Kennedy 6.61 114 P Pn **06 39 19.6 +2.2**
baz=305
N30M Aishikik Lake 6.67 103 P Pn **06 39 19.7 +1.7**
baz=295
C27K Jago River 6.67 22 P Pn **06 39 19.1 +1.2**
baz=208
PNL Peninsula 6.68 121 P Pn **06 39 19.1 +0.9**
baz=311
HYT Haines Junctio 6.78 108 P Pn **06 39 21.7 +2.0**
baz=300
N31M Braeburn, Yuko 7.23 100 P Pn **06 39 26.9 +1.2**
baz=293
P29M Windy Craggy 7.36 117 P Pn **06 39 28.8 +1.3**
baz=308
P30M Million Dollar 7.38 112 P Pn **06 39 29.8 +1.9**
baz=304
O30N Mendenhall 7.41 106 P Pn **06 39 30.1 +1.9**
baz=299
M31M Drury Creek, Y 7.59 93 P Pn **06 39 32.4 +1.7**
baz=288
PLBC Pleasant Camp 8.02 115 P Pn **06 39 37.5 +1.0**
baz=307
FARO Faro, Yukon 8.05 92 P Pn **06 39 37.5 +0.5**
baz=287
SKAG Skagway 8.44 112 P Pn **06 39 43.0 +0.8**
baz=306

INK Inuvik 8.45 48 Pn Pn **06 39 41.6 -0.7**
comp=E,0.9nm,0.3s,baz=227,slow=18,SNR=22
INK Sn Sn **06 41 14.2 -3.5**
comp=E,0.2nm,0.3s,baz=156,slow=22,SNR=1.0
INK Lg Lg 06 42 07.5
comp=E,0.1nm,0.3s,baz=325,slow=16,SNR=2.2
comp=E,3.6nm,0.4s
INK Inuvik 8.45 48 Pn **06 39 42.3 -0.1**
INK Inuvik 8.45 48 P Pn **06 39 42.2 -0.1**
baz=244
MMPY Sheldon Lake, 8.87 88 P Pn **06 39 49.7 +1.4**
baz=285
JIS Juneau Island 9.56 116 Pn Pn **06 39 55.6 -2.0**
SIT Sitka 10.04 124 P Pn **06 40 05.1 +0.8**
baz=317
DLBC Dease Lake 11.27 108 Lg Lg 06 43 43.9
comp=E,0.1nm,0.3s,baz=202,slow=19,SNR=3.3
WRAK Wrangell Islan 11.64 120 P Pn **06 40 26.8 +0.7**
baz=316
C36M Paulatuk 12.03 50 P Pn **06 40 30.5 -0.8**
baz=254
YKA Yellowknife Ar 16.28 78 Pn Pn **06 41 27.0 -1.5**
comp=E,0.1nm,0.3s,baz=284,slow=10,SNR=2.4
comp=E,0.9nm,0.8s
BBB Bella Bella 16.47 123 Pn P **06 41 38.2 +4.4**
comp=E,0.1nm,0.3s,baz=231,slow=18,SNR=2.0
comp=E,2.5nm,0.8s
TXAR Lajitas Array 45.42 116 P P **06 46 00.3 +1.4**
comp=E,0.4nm,0.7s,baz=320,slow=5.2,SNR=4.9
comp=E,0.4nm,0.7s
SONM Songino Array 53.57 305 P P **06 47 01.9 +1.0**
comp=E,0.6nm,0.4s,baz=32,slow=8.5,SNR=1.8
comp=E,0.6nm,0.4s
ZALV Zalesovo Beam 55.11 324 P P **06 47 11.2 -0.6**
comp=E,0.9nm,0.4s,baz=72,slow=1.9,SNR=4.2
comp=E,0.9nm,0.4s
FINES FINESS Array B 55.26 2 P P **06 47 12.1 -0.6**
comp=E,1.4nm,0.8s,baz=262,slow=9.7,SNR=1.8
comp=E,1.4nm,0.8s
BVAR Borovoye Array 59.38 333 P P **06 47 42.0 0.0**
comp=E,1.6nm,0.7s,baz=36,slow=7.8,SNR=7.0
comp=E,1.6nm,0.7s
KURBB Kurchatov Arra 59.76 326 P P **06 47 44.0 -0.6**
comp=E,0.7nm,0.6s,baz=28,slow=7.2,SNR=5.3
comp=E,0.7nm,0.6s
MKAR Makanchi Array 62.28 322 P P **06 48 01.0 -0.9**
comp=E,0.6nm,0.5s,baz=46,slow=6.9,SNR=5.1
comp=E,0.6nm,0.5s
ESDC Sonseca Array 73.73 26 P P **06 49 14.2 +0.2**
comp=E,1.2nm,0.8s,baz=346,slow=5.8,SNR=9.6
comp=E,1.2nm,0.8s

*IDC **05** 06:37:44.9±9.3,3°.53N×126°.71E,h67km±90km,mb3.6/10, mbtmp3.9/10,Error ellipse: s-maj=65.2km s-min=18.9km az=74.0*

ISC 05 06:37:43.0±0.8,**3°.6N**±0°.1×**126°.8E**±0°.4,**h48**km,**n11, σ0s89/11,mb4.0/10,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.57**	**183**	P	**P**	**06 42 28.9**	**+0.3**
	0.7nm,0.6s,baz=18,slow=9.6,SNR=1.9						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**24.52**	**163**	P	**P**	**06 42 57.4**	**-0.8**
	1.7nm,0.8s,baz=335,slow=11,SNR=6.7						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**27.95**	**166**	P	**P**	**06 43 30.4**	**+1.3**
	0.4nm,0.7s,baz=331,slow=5.2,SNR=3.0						
	0.4nm,0.7s						
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**06 44 55.6**	**-0.6**
	1.4nm,0.5s,baz=340,slow=4.8,SNR=4.4						
	1.4nm,0.5s						
USRK	**Ussuriysk Ar.**	**40.72**	**6**	P	**P**	**06 45 19.3**	**+0.3**
	1.1nm,0.6s,baz=178,slow=11,SNR=2.5						
	1.1nm,0.6s						
SONM	**Songino Array**	**47.47**	**341**	P	**P**	**06 46 14.6**	**+1.4**
	0.9nm,0.5s,baz=155,slow=8.6,SNR=3.6						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**57.72**	**325**	P	**P**	**06 47 28.3**	**-0.7**
	0.9nm,0.5s,baz=124,slow=8.3,SNR=10						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	**P**	**06 47 56.7**	**-0.8**
	1.3nm,0.6s,baz=130,slow=6.4,SNR=8.9						
	1.3nm,0.6s						
AKTO	**Aktyubinsk**	**73.82**	**322**	P	**P**	**06 49 12.3**	**-0.3**
	1.7nm,0.7s,baz=92,slow=10.0,SNR=4.2						
	1.7nm,0.7s						
ARCES	**ARCESS Array B**	**90.62**	**340**	P	**P**	**06 50 39.4**	**-0.5**
	1.6nm,0.7s,baz=80,slow=7.7,SNR=4.9						
	1.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP	**PKPdf**	**06 56 35.2**	**0.0**
	0.6nm,1.0s,baz=91,slow=5.4,SNR=2.9						

ROM 05 06:39:29.7±0.1,**42°.681N**±0°.003×**13°.268E**±0°.004, **h10km,ML1.7/10,3C,Error ellipse: s-maj=0.3km s-min=0.3km az=205.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1201	**Domo (RI)**	**0.03**	**208**	P	Pg	06 39 31.7	+0.1
T1201				S	Sg	06 39 33.0	0.0
T1204	**Amatrice, Fraz**	**0.04**	**98**	P	Pg	06 39 31.9	+0.1
T1204				S	Sg	06 39 33.2	-0.1
T1204				AML	AML		
	comp=E,2125μm,1.0s						
T1204				AML	AML		
	comp=N,1305μm,0.3s						
T1204				AML	AML		
	comp=E,2135μm,1.0s						
T1204				AML	AML		
	comp=N,1306μm,0.3s						
T1204				AML	AML		
	comp=N,1308μm,0.3s						
T1204				AML	AML		
	comp=E,2132μm,1.0s						
T1202	**Accumoli, Fraz**	**0.04**	**305**	P	Pg	06 39 31.8	0.0
T1202				S	Sg	06 39 33.2	-0.1
SMA1	**SAN MARTINO**	**0.07**	**136**	P	Pg	06 39 32.5	+0.5
SMA1				AML	AML		
	comp=N,818μm,1.2s						
SMA1				AML	AML		
	comp=E,684μm,0.3s						
T1244	**Arquata del Tr**	**0.08**	**16**	P	Pg	06 39 32.5	+0.3
T1244				S	Sg	06 39 34.4	+0.5
T1244				AML	AML		
	comp=E,1370μm,0.2s						
T1244				AML	AML		
	comp=E,1360μm,0.2s						
T1244				AML	AML		
	comp=N,1115μm,0.2s						
T1244				AML	AML		
	comp=E,1364μm,0.2s						
T1244				AML	AML		
	comp=N,1120μm,0.2s						
T1244				AML	AML		
	comp=N,1160μm,0.3s						
T1244				AML	AML		
	comp=E,1368μm,0.2s						
T1243	**Rocca Santa Ma**	**0.13**	**83**	P	Pg	06 39 33.3	+0.4
T1243				S	Sg	06 39 35.9	+0.8
T1242	**Castelluccio d**	**0.15**	**342**	⇑P	Pg	06 39 33.9	+0.6
T1242				AML	AML		
	comp=E,410μm,0.3s						
T1242				AML	AML		
	comp=N,536μm,0.4s						
T1242				AML	AML		
	comp=N,544μm,0.8s						
T1242				AML	AML		
	comp=E,378μm,0.3s						
RM33	**Pellescritta (**	**0.18**	**193**	P	Pg	06 39 34.2	+0.6
RM33				AML	AML		
	comp=E,171μm,0.5s						
RM33				AML	AML		
	comp=N,156μm,0.6s						
CAMP	**Campotosto**	**0.18**	**144**	P	Pg	06 39 34.2	+0.6
CAMP				S	Sg	06 39 37.5	+1.2
CAMP				AML	AML		
	comp=N,99μm,0.6s						
CAMP				AML	AML		
	comp=E,78μm,0.3s						
LNSS	**Leonessa**	**0.18**	**245**	P	Pg	06 39 34.2	+0.5
LNSS				S	Sg	06 39 37.8	+1.3
LNSS				AML	AML		
	comp=E,264μm,0.3s						
LNSS				AML	AML		
	comp=N,437μm,0.3s						

NRCA Norcia 0.19 323 ⇑P Pg 06 39 34.4 +0.6
NRCA AML AML
comp=N,3550μm,0.1s
NRCA AML AML
comp=N,4000μm,0.1s
NRCA AML AML
comp=E,4025μm,0.8s
NRCA AML AML
comp=E,3630μm,0.2s
T1241 Roccafluvione, 0.21 34 ⇑P Pg 06 39 34.8 +0.6
T1241 AML AML
comp=E,250μm,0.2s
T1241 AML AML
comp=N,96μm,0.4s
T1241 AML AML
comp=N,96μm,0.4s
T1241 AML AML
comp=E,251μm,0.2s
MC2 Monte Cornacci 0.24 346 P Pg 06 39 35.5 +0.7
TERO Teramo 0.26 103 P Pg 06 39 35.5 +0.5
TERO S Sb 06 39 39.8 -1.1
TERO AML AML
comp=E,172μm,0.2s
TERO AML AML
comp=N,150μm,0.1s
TERO AML AML
comp=E,171μm,0.2s
TERO AML AML
comp=N,150μm,0.1s

ROM 05 06:39:41.2±0.1,**42°.820N**±0°.004×**13°.162E**±0°.004,**h11**km, **ML2.2/2,1C,Error ellipse: s-maj=0.4km s-min=0.3km az=341.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**73**	P	Pg	06 39 43.6	+0.1
T1242				S	Sg	06 39 45.0	-0.1
T1242				AML	AML		
	comp=E,378μm,0.3s						
T1242				AML	AML		
	comp=N,544μm,0.8s						
NRCA Norcia		**0.04**	**291**	⇑P	Pg	06 39 43.7	+0.3
NRCA				S	Sg	06 39 45.0	0.0
NRCA				AML	AML		
	comp=E,3630μm,0.2s						
NRCA				AML	AML		
	comp=N,3545μm,0.1s						
NRCA				AML	AML		
	comp=E,4025μm,0.8s						
NRCA				AML	AML		
	comp=N,4000μm,0.1s						
NRCA				AML	AML		
	comp=N,3550μm,0.1s						
MC2	**Monte Cornacci**	**0.10**	**13**	P	Pg	06 39 44.6	+0.5
MC2				S	Sg	06 39 46.7	+0.5
T1244	**Arquata del Tr**	**0.12**	**122**	P	Pg	06 39 44.8	+0.5
T1244				S	Sg	06 39 47.2	+0.7
T1202	**Accumoli, Fraz**	**0.12**	**158**	P	Pg	06 39 44.8	+0.4
T1202				S	Sg	06 39 47.4	+0.8
T1204	**Amatrice, Fraz**	**0.18**	**142**	P	Pg	06 39 45.7	+0.5
T1241	**Roccafluvione,**	**0.20**	**80**	P	Pg	06 39 46.0	+0.5
T1241				S	Sg	06 39 49.5	+1.0
T1215	**Vallo di Nera,**	**0.22**	**265**	P	Pg	06 39 46.4	+0.6
T1215				AML	AML		
	comp=E,90μm,1.1s						
T1215				AML	AML		
	comp=N,94μm,0.3s						
T1215				AML	AML		
	comp=E,90μm,1.1s						
T1215				AML	AML		
	comp=N,94μm,0.3s						
T1215	**Vallo di Nera,**	**0.22**	**265**	P	Pg	06 39 46.4	+0.6
LNSS	**Leonessa**	**0.23**	**202**	P	Pg	06 39 46.7	+0.5
LNSS				S	Sg	06 39 50.6	+1.1
T1243	**Rocca Santa Ma**	**0.24**	**120**	P	Pg	06 39 46.6	+0.3
T1243				S	Sg	06 39 50.7	+0.9
CESI	**CESI - Serrava**	**0.26**	**314**	AML	AML		
	comp=E,170μm,0.5s						
CESI				AML	AML		
	comp=N,201μm,0.3s						
TERO	**Teramo**	**0.38**	**121**	P	Pg	06 39 49.0	+0.3
SENI	**Senigallia**	**0.89**	**3**	S	Sn	06 40 12.0	-0.4

*NOU **05** 06:42:11.3,37°.33S×179°.94E,h107km,ML4.8/9,Off E. Coast of N. Island, N.Z.*
*IDC **05** 06:42:16.5±2.6,37°.04S×178°.75E,h0km,mb3.7/2, mbtmp3.7/2,MS3.6/2,Error ellipse: s-maj=66.0km s-min=29.3km az=128.0*
*WEL **05** 06:42:19.1±0.8,37°.5±5°×17°.9E±°,h15km,M4.0/32, ML4.2/33,MLv4.0/32,Error ellipse: s-maj=0.0km s-min=0.0km az=99.4*

ISC 05 06:42:15.1±2.2,**37°.36S**±0°.06×**179°.07E**±0°.08,**h2**km±12km, **n110,σ1s35/109,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.64**	**251**	P	**Pn**	**06 42 30.7**	**-0.6**
MXZ				S	**Sb**	**06 42 38.1**	**-0.3**
WMGZ	**Waiomatatini S**	**0.69**	**228**	P	**Pn**	**06 42 33.8**	**+1.8**
WMGZ				S	**Sn**	**06 42 44.0**	**+0.7**
PKGZ	**Pakihiroa**	**0.95**	**236**	P	**Pn**	**06 42 36.9**	**+1.3**
PUZ	**Puketiti**	**0.96**	**222**	P	**Pn**	**06 42 37.6**	**+2.0**
PUZ				S	**Sn**	**06 42 50.6**	**+0.6**
HAZ	**Te Kaha**	**1.10**	**248**	P	**Pn**	**06 42 38.1**	**+0.6**
HAZ				S	**Sn**	**06 42 53.0**	**-0.2**
TWGZ	**Tauwhareparae**	**1.19**	**226**	P	**Pn**	**06 42 41.0**	**+2.2**
TWGZ				S	**Sn**	**06 42 57.1**	**+1.5**
RUGZ	**Raukumara Rang**	**1.26**	**241**	P	**Pn**	**06 42 41.9**	**+2.0**
RUGZ				S	**Sn**	**06 42 58.2**	**+0.8**
CNGZ	**Carnagh Statio**	**1.31**	**211**	P	**Pb**	**06 42 42.0**	**+1.5**
TKGZ	**Te Karaka**	**1.45**	**221**	P	**Pg**	**06 42 44.1**	**+1.3**
WIZ	**White Island**	**1.50**	**263**	P	**Pg**	**06 42 44.9**	**+1.0**
MWZ	**Matawai**	**1.56**	**231**	P	**Pg**	**06 42 45.6**	**+0.6**
RIGZ	**Rimuhau**	**1.70**	**217**	P	**Pg**	**06 42 47.6**	**0.0**
RAGZ	**Rawiri**	**1.73**	**228**	P	**Pg**	**06 42 48.3**	**0.0**
RAGZ				S	**Sn**	**06 43 08.6**	**-0.5**
WHRZ	**Whale Island**	**1.73**	**253**	P	**Pg**	**06 42 48.6**	**+0.3**
URZ	**Urewera**	**1.79**	**239**	Pn	**Pg**	**06 42 49.0**	**-0.4**
	96nm,0.3s,baz=31,slow=0.7,SNR=167						
URZ				Sn	**Sn**	**06 43 11.2**	**+0.8**
	280nm,0.3s,baz=30,slow=20,SNR=12						
URZ	**Urewera**	**1.79**	**239**	P	**Pg**	**06 42 49.1**	**-0.4**
URZ	**Urewera**	**1.79**	**239**	P	**Pg**	**06 42 49.4**	**0.0**
PRGZ	**Paritu Road**	**1.82**	**210**	P	**Pb**	**06 42 49.4**	**+0.2**
SNGZ	**Shannon Statio**	**1.97**	**223**	P	**Pb**	**06 42 51.1**	**-0.7**
EDRZ	**Edgecumbe**	**1.99**	**247**	P	**Pb**	**06 42 51.9**	**-0.2**
KNZ	**Kokohu**	**1.99**	**213**	P	**Pb**	**06 42 50.8**	**-1.3**
MARZ	**Manawahe**	**2.00**	**251**	P	**Pb**	**06 42 51.6**	**-0.6**
MHGZ	**Mahia Peninsul**	**2.01**	**207**	P	**Pb**	**06 42 52.0**	**-0.4**
OPRZ	**Ohinepanea**	**2.05**	**256**	P	**Pb**	**06 42 51.7**	**-1.5**
RTZ	**Ruatahuna**	**2.07**	**232**	P	**Pb**	**06 42 53.1**	**-0.4**
MUGZ	**Murupara**	**2.13**	**238**	P	**Pb**	**06 42 53.8**	**-0.7**
RAHZ	**Arahi**	**2.21**	**225**	P	**Pb**	**06 42 54.7**	**-1.0**
TARZ	**Mount Tarawera**	**2.21**	**246**	P	**Pb**	**06 42 55.2**	**-0.6**
WHHZ	**Waihua**	**2.24**	**220**	P	**Pb**	**06 42 55.0**	**-1.4**
RRRZ	**Republican Roa**	**2.25**	**243**	P	**Pb**	**06 42 55.6**	**-0.8**
TGRZ	**Tauranga**	**2.26**	**260**	P	**Pb**	**06 42 54.7**	**-2.0**
OMRZ	**Omania**	**2.26**	**250**	P	**Pb**	**06 42 56.0**	**-0.8**
MTHZ	**Maungataniwha**	**2.31**	**229**	P	**Pb**	**06 42 56.2**	**-1.3**
HLRZ	**Highlands Stat**	**2.33**	**247**	P	**Pn**	**06 42 55.1**	**+0.6**
KARZ	**Kaharoa**	**2.33**	**253**	P	**Pb**	**06 42 56.2**	**-1.7**
UTU	**Utuhina**	**2.42**	**249**	P	**Pb**	**06 42 59.0**	**-0.3**
HSRZ	**Hossack Road**	**2.43**	**246**	P	**Pb**	**06 42 58.4**	**-1.2**
ALRZ	**Allen Road**	**2.47**	**240**	P	**Pb**	**06 42 58.2**	**-2.0**
NMHZ	**Naumai**	**2.49**	**225**	P	**Pb**	**06 42 58.6**	**-2.0**
ARHZ	**Aropaoanui**	**2.50**	**220**	P	**Pn**	**06 42 58.4**	**+1.5**
MRHZ	**Matea Rd**	**2.56**	**234**	P	**Pn**	**06 42 59.4**	**+1.8**
BKZ	**Black Stump Fm**	**2.71**	**228**	P	**Pn**	**06 43 01.3**	**+1.5**
BKZ	**Black Stump Fm**	**2.71**	**228**	P	**Pn**	**06 43 01.5**	**+1.7**
KUZ	**Kuaotunu**	**2.75**	**282**	P	**Pn**	**06 42 59.8**	**-0.4**
CKHZ	**Cape Kidnapper**	**2.78**	**214**	P	**Pn**	**06 43 01.6**	**+1.0**
KUTZ	**Kaahu Road**	**2.80**	**245**	P	**Pn**	**06 43 03.1**	**+2.1**
TOZ	**Tahuroa Road**	**2.86**	**261**	P	**Pn**	**06 43 03.0**	**+1.3**
KWHZ	**Kaweka Forest**	**2.93**	**224**	P	**Pn**	**06 43 03.7**	**+0.9**
KAHZ	**Kahuranaki**	**2.98**	**215**	P	**Pn**	**06 43 03.8**	**+0.4**
GRZ	**Great Barrier**	**3.10**	**290**	P	**Pn**	**06 43 06.7**	**+1.6**
KRHZ	**Kereru**	**3.11**	**222**	P	**Pn**	**06 43 06.1**	**+0.8**
MKAZ	**Moumakai**	**3.13**	**273**	P	**Pn**	**06 43 05.9**	**+0.5**
TMVZ	**Te Maari**	**3.18**	**235**	P	**Pn**	**06 43 07.7**	**+1.5**

BHHZ	Black Hill Sta	3.18 227	P	Pn	06 43 07.6	+1.4
PXZ	Pawanui	3.18 212	P	Pn	06 43 06.1	0.0
ETVZ	East Tongariro	3.18 235	P	Pn	06 43 07.9	+1.5
KRVZ	Karewarewa	3.21 236	P	Pn	06 43 07.9	+1.3
OTVZ	Oturere	3.23 235	P	Pn	06 43 08.6	+1.6
SNVZ	South Ngauruho	3.26 235	P	Pn	06 43 08.7	+1.3
NGZ	Ngauruhoe	3.28 235	P	Pn	06 43 09.4	+1.7
TUVZ	Tukino	3.29 234	P	Pn	06 43 09.3	+1.5
MOVZ	Moawhango	3.31 231	P	Pn	06 43 09.1	+1.1
ETAZ	East Tamaki Re	3.33 276	P	Pn	06 43 09.3	+1.0
TWVZ	Taurewa	3.33 238	P	Pn	06 43 10.7	+2.4
FWVZ	Far West T-bar	3.35 235	P	Pn	06 43 10.4	+1.6
WNVZ	Wahianoa	3.36 233	P	Pn	06 43 10.3	+1.4
MBAZ	Motutapu North	3.39 279	P	Pn	06 43 10.5	+1.5
WPHZ	Waipukurau	3.40 216	P	Pn	06 43 09.3	+0.2
PNHZ	Pukenui	3.40 220	P	Pn	06 43 09.6	+0.4
ABAZ	Army Bay	3.47 281	P	Pn	06 43 12.7	+2.5
EPAZ	Eden Park BICE	3.49 277	P	Pn	06 43 12.1	+1.7
HBAZ	Herne Bay Bore	3.50 277	P	Pn	06 43 13.1	+2.5
PKVZ	Pokaka	3.50 235	P	Pn	06 43 12.9	+2.2
HIZ	Hauiti	3.52 250	P	Pn	06 43 13.1	+2.2
HIZ	Hauiti	3.52 250	P	Pn	06 43 13.1	+2.2
AWAZ	Awhitu Peninsu	3.54 273	P	Pn	06 43 13.5	+2.3
WTAZ	Waiatarua	3.62 275	P	Pn	06 43 14.6	+2.4
RVAZ	Riverhead Bore	3.64 278	P	Pn	06 43 13.5	+1.1
ANWZ	Angora Road	3.70 212	P	Pn	06 43 14.0	+0.7
DVHZ	Dannevirke	3.71 217	P	Pn	06 43 13.2	-0.3
POWZ	Post Office Ro	3.98 219	P	Pn	06 43 17.3	+0.2
BFZ	Birch Farm	3.98 213	P	Pn	06 43 16.1	-1.0
BFZ	Birch Farm	3.98 213	P	Pn	06 43 15.8	-1.4
WAZ	Wanganui	4.00 232	P	Pn	06 43 19.6	+2.2
WCZ	Waipu Caves	4.05 289	P	Pn	06 43 19.2	+1.1
TIWZ	Tintock	4.22 315	P	Pn	06 43 21.6	+1.2
MRZ	Mangatainoka R	4.27 218	P	Pn	06 43 20.9	-0.3
KHEZ	Kahui Hut	4.42 243	P	Pn	06 43 28.0	+4.7
OUZ	Omahuta	4.91 294	P	Pn	06 43 31.6	+1.7
OUZ	Omahuta	4.91 294	P	Pn	06 43 31.4	+1.5
SNZO	South Karori	5.20 219	P	Pn	06 43 33.2	-0.7
BSWZ	Blackbirch Sta	5.92 221	P	Pn	06 43 43.3	-0.5
QRZ	Quartz Range	6.15 234	P	Pn	06 43 46.9	-0.1
QRZ	Quartz Range	6.15 234	P	Pn	06 43 47.4	+0.4
KHZ	Kahutara	6.60 218	P	Pn	06 43 52.2	-0.9
CTZ	Chatham Island	7.17 154	P	Pn	06 44 04.3	+3.4
RPZ	Rata Peaks	8.80 221	Pn	Pn	06 44 22.0	-1.3
	1.0nm,0.3s,baz=226,slow=18,SNR=1.6					
RPZ			Sn	Sn	06 45 51.0	-12
	4.3nm,0.3s,baz=323,slow=22,SNR=11					
ODZ	Otahua Downs	9.96 217	P	Pn	06 44 37.3	-1.9
DZM	Mont Dzumac	18.74 321	LR	LR	06 51 48.4	
	comp=Z,116nm,18.0s,baz=210,slow=31					
ASAR	Alice Springs	40.86 276	P	P	06 49 57.5	-1.2
	0.8nm,0.8s,baz=115,slow=7.2,SNR=5.5					
	0.8nm,0.8s					
WRA	Warramunga Arr	42.49 281	P	P	06 50 11.0	-1.0
	0.8nm,0.6s,baz=123,slow=7.0,SNR=13					
	0.8nm,0.6s					
H03S2	Juan Fernandez	78.64 124	T	T	08 20 43.6	
	baz=248					
H03S1	Juan Fernandez	78.65 124	T	T	08 20 44.7	
	baz=248					
H03S3	Juan Fernandez	78.66 124	T	T	08 20 43.4	
	baz=248					
H03N3	Juan Fernandez	78.88 124	T	T	08 20 52.2	
	baz=239,slow=71					
H03N2	Juan Fernandez	78.88 124	T	T	08 20 50.5	
	baz=239,slow=71					
H03N1	Juan Fernandez	78.89 124	T	T	08 20 55.3	
	baz=239,slow=71					
NNA	Nana	93.73 108	LR	LR	07 30 28.4	
	comp=Z,44nm,19.9s,baz=257,slow=31					
MKAR	Makanchi Array	120.24 308	PKP	PKiKP	07 01 08.6	+1.1
	0.2nm,0.5s,baz=108,slow=3.2,SNR=2.1					
FINES	FINESS Array B	150.57 334	PKPbc	PKiKP	07 02 08.0	-0.4
	1.7nm,1.0s,baz=24,slow=4.1,SNR=1.7					

IDC 05 06:50:19.2±2.8, 53.72N×86.78E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.7km s-min=14.4km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.19 282	*i*			06 58 20.0	
	baz=99,slow=318,SNR=0.7						
ZALV	Zalesovo Beam	1.19 282		Pg	Pg	06 50 41.9	0.0
	0.9nm,0.3s,baz=100,slow=13,SNR=12						
ZALV				Lg	Lg	06 50 57.9	
	1.6nm,0.3s,baz=99,slow=26,SNR=6.7						
KURBB	Kurchatov Arra	5.95 242		Pn	Pn	06 51 49.4	+0.9
	0.1nm,0.3s,baz=58,slow=14,SNR=4.2						
KURBB				Lg	Lg	06 53 27.2	
	baz=61,slow=34,SNR=1.6						
	0.5nm,0.4s						
MKAR	Makanchi Array	7.51 204		Pn	Pn	06 52 11.0	+1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=7.0						
MKAR				Lg	Lg	06 54 17.3	
	0.1nm,0.3s,baz=14,slow=37,SNR=3.7						
	0.2nm,0.3s						

*IDC **05** 06:55:53.9±3.2, 54.52N×86.22E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=23.9km s-min=14.5km az=51.0*

NNC 05 06:55:50.0±0.6, 54.43N×86.58E, h0km, mb2.7, mpv2.6, 7C-2D, Error ellipse: s-maj=7.8km s-min=3.0km az=163.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.14 246	*i*			07 02 50.0	
	baz=56,slow=312,SNR=0.8						
ZAA0	Zalesovo Array	1.14 246	⇑	P	Pg	06 56 11.6	-0.2
	0.2nm,0.3s						
ZAA0			⇓	S	Sb	06 56 27.3	-0.6
	10.0nm,1.1s						
ZAA0			⇑	Rg	Rg	06 56 32.6	
ZALV	Zalesovo Beam	1.14 246		Pg	Pg	06 56 11.5	-0.3
	1.3nm,0.3s,baz=56,slow=17,SNR=8.3						
ZALV				Lg	Lg	06 56 26.9	
	2.7nm,0.3s,baz=56,slow=27,SNR=14						
KURBB	Kurchatov Arra	6.21 235		Pn	Pn	06 57 26.2	+3.3
	0.3nm,0.3s,baz=50,slow=14,SNR=7.5						
	1.4nm,0.2s						
KURBB	Kurchatov Arra	6.21 235	⇓	Pn	Pn	06 57 22.7	-0.2
	1.5nm,0.5s						
KURBB			⇑	Lg	Lg	06 59 06.3	
	9.9nm,0.8s						
MK31	Makanchi Array	8.11 201	⇑	Pn	Pn	06 57 48.9	-0.1
	0.3nm,0.6s,baz=357,slow=9.1,SNR=4.1						
MK31			⇑	Sn	Sn	06 59 22.9	+1.5
	0.6nm,0.7s,baz=49,slow=12,SNR=4.1						
MK31			⇑	Lg	Lg	07 00 07.3	
	2.5nm,0.8s,baz=13,slow=28,SNR=5.0						
MKAR	Makanchi Array	8.11 201		Pn	Pn	06 57 53.5	+4.5
	0.1nm,0.3s,baz=18,slow=13,SNR=3.3						
MKAR				Sn	Sn	06 59 25.9	+4.6
	0.1nm,0.3s,baz=21,slow=28,SNR=6.2						
MKAR				Lg	Lg	07 00 12.3	
	baz=21,slow=28,SNR=3.0						
	0.1nm,0.3s						
MAKZ	Makanchi	8.17 203	⇑	Lg	Lg	07 00 09.4	
	2.6nm,1.1s						

IDC 05 07:12:44.9±3.2, 53.56N×87.56E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=32.1km s-min=18.2km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.67 284	*i*			07 23 10.0	
	baz=103,slow=318,SNR=1.5						
ZALV	Zalesovo Beam	1.67 284		Pn	Pn	07 13 15.2	-0.1
	1.0nm,0.3s,baz=104,slow=12,SNR=8.3						
ZALV				Lg	Lg	07 13 37.5	
	0.6nm,0.3s,baz=101,slow=27,SNR=2.1						
KURBB	Kurchatov Arra	6.29 246		Pn	Pn	07 14 19.6	+0.8
	baz=62,slow=14,SNR=2.2						
	0.4nm,0.6s						
MKAR	Makanchi Array	7.57 209		Pn	Pn	07 14 37.5	+1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=4.7						
	0.2nm,0.4s						

IDC 05 07:12:46.8±2.4, 3.66N×127.14E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=182.4km s-min=29.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.50 163		P	P	07 18 08.4	+0.4
	0.8nm,0.9s,baz=343,slow=10,SNR=3.8						
	0.8nm,0.9s						
ASAR	Alice Springs	27.95 167		P	P	07 18 38.9	-0.4
	0.3nm,0.9s,baz=357,slow=8.4,SNR=1.9						
	0.3nm,0.9s						
MKAR	Makanchi Array	57.84 325		P	P	07 22 40.3	-0.1
	0.3nm,0.6s,baz=120,slow=8.6,SNR=3.9						
	0.3nm,0.6s						

IDC 05 07:14:51.8±2.5, 54.15N×86.39E, h0km, mbtmp3.2/2, ML3.4/1, Error ellipse: s-maj=19.9km s-min=12.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.95 258	*i*			07 21 20.0	
	baz=78,slow=319,SNR=0.9						
ZALV	Zalesovo Beam	0.95 258		Pg	Pg	07 15 08.4	-1.5
	1.5nm,0.3s,baz=77,slow=17,SNR=9.8						
ZALV				Lg	Lg	07 15 23.6	
	2.9nm,0.3s,baz=78,slow=27,SNR=13						
KURBB	Kurchatov Arra	5.97 237		Pn	Pn	07 16 21.9	+0.6
	1.2nm,0.4s,baz=54,slow=13,SNR=0.5						
KURBB				Lg	Lg	07 18 03.2	
	0.2nm,0.3s,baz=50,slow=29,SNR=1.2						
MKAR	Makanchi Array	7.82 201		Pn	Pn	07 16 48.2	+1.5
	0.6nm,0.3s,baz=19,slow=9.9,SNR=11						
MKAR				Lg	Lg	07 18 59.7	
	baz=24,slow=32,SNR=3.2						
	0.8nm,0.5s						

IDC 05 07:26:09.5±3.2, 53.54N×87.65E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=30.6km s-min=17.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.73 285	*i*			07 37 10.0	
	baz=100,slow=319,SNR=1.2						
ZALV	Zalesovo Beam	1.73 285		Pn	Pn	07 26 40.9	+0.2
	0.6nm,0.3s,baz=102,slow=16,SNR=3.4						
ZALV				Lg	Lg	07 27 03.9	
	1.5nm,0.3s,baz=102,slow=27,SNR=8.9						
KURBB	Kurchatov Arra	6.33 246		Pn	Pn	07 27 44.7	+0.7
	baz=63,slow=15,SNR=3.0						
	0.4nm,0.2s						
MKAR	Makanchi Array	7.58 209		Pn	Pn	07 28 02.4	+1.3
	0.1nm,0.3s,baz=31,slow=13,SNR=4.5						
MKAR				Lg	Lg	07 30 06.7	
	baz=28,slow=31,SNR=3.6						
	0.2nm,0.4s						

*AEIC **05** 07:38:15±1.3, 57.83N×133.04W×0.04, h15km±7km, Error ellipse: s-maj=6.2km s-min=3.0km az=189.0*
*NEIC **05** 07:38:17.6±1.8, 57.84N×133.13W×0.06, h10km±2km, Error ellipse: s-maj=5.3km s-min=3.1km az=294.0*
*PGC **05** 07:38:18.3±0.0, 57.88N×133.12W, h8km, ML2.5, ML2.8/9, 89km Ese of Juneau, Ak Southeastern Alaska*

ISC 05 07:38:16.4±0.8, 57.86N±0.03×133.05W±0.03, h10km, n48, σ1°89/70, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIS	Juneau Island	0.82 301			Pg	07 38 32.0	-0.2
JIS				Sg	Sg	07 38 42.6	-0.4
JIS				IAML		07 38 42.9	
	comp=N,221nm,0.3s						
BESE	Bessie Mountai	1.20 308		Pg	Pg	07 38 39.5	+0.1
BESE	Bessie Mountai	1.20 308		P	Pg	07 38 39.1	-0.3
BESE				S	Sg	07 38 54.6	-0.3
SIT	Sitka	1.47 238			Pg	07 38 43.8	-0.8
SIT				IAML		07 39 04.7	
	comp=E,108nm,0.3s						
SIT				IAML		07 39 04.7	
	comp=N,92nm,0.3s						
WRAK	Wrangell Islan	1.50 165			Pb	07 38 43.7	-0.5
WRAK				IAML		07 39 06.3	
	comp=N,93nm,0.3s						
DLBC	Dease Lake	1.70 69			Pn	07 38 47.1	+0.9
DLBC				IAML		07 39 14.1	
	comp=N,66nm,0.3s						
DLBC	Dease Lake	1.70 69		P	Pn	07 38 47.2	+1.0
DLBC				Sn	Sb	07 39 09.9	+0.6
P32M	Atlin	1.77 349		P	Pn	07 38 47.9	+0.8
P32M				Sn	Sn	07 39 10.4	+0.7
SKAG	Skagway	2.00 324			Pb	07 38 51.6	-1.2
SKAG				IAML		07 39 20.3	
	comp=N,77nm,0.3s						
PLBC	Pleasant Camp	2.36 314		Pn	Pn	07 38 56.0	+0.8
PLBC				Sn	Sn	07 39 24.3	+0.2
P33M	Teslin, Yukon	2.36 3		Pn	Pn	07 38 56.4	+1.1
P33M	Teslin, Yukon	2.36 3		Pn	Pn	07 38 56.4	+1.1
P33M				Sn	Sn	07 39 25.2	+0.9
P33M				Sg	Sb	07 39 29.8	+1.6
CRAG	Craig	2.40 181		Pn	Pn	07 38 55.7	0.0
CRAG				IAML		07 39 39.2	
	comp=N,27nm,0.6s						
WHY	Whitehorse	2.96 342		Pn	Pn	07 39 05.3	+1.7
WHY				IAML		07 39 50.1	
	comp=E,26nm,0.3s						
WHY	Whitehorse	2.96 342		Pn	Pn	07 39 05.3	+1.7
WHY				Sg	Sb	07 39 48.2	+2.7
P29M	Windy Craggy	3.02 308		Pn	Pn	07 39 05.5	+1.1
P29M				IAML		07 39 54.3	
	comp=N,19nm,0.3s						
P29M				IAML		07 39 57.4	
	comp=E,21nm,0.3s						
P29M	Windy Craggy	3.02 308		Pn	Pn	07 39 04.9	+0.6
P29M				Sg	Sg	07 39 50.8	-2.6
P30M	Million Dollar	3.04 320		Pn	Pn	07 39 06.7	+2.1
P30M				Sg	Sb	07 39 50.3	+2.6
WTLY	Watson Lake, Y	3.15 42		Pn	Pn	07 39 07.5	+1.3
WTLY	Watson Lake, Y	3.15 42		Pn	Pn	07 39 07.5	+1.3
WTLY				Sg	Sg	07 39 55.6	-2.0
N32M	Quiet Lake	3.30 360		Pn	Pn	07 39 09.8	+1.6
N32M				Sg	Sg	07 39 59.6	-2.8
HYT	Haines Junctio	3.75 324		Pn	Pn	07 39 15.3	+0.9
HYT				IAML		07 40 34.2	
	comp=E,9.4nm,3.5s						
HYT	Haines Junctio	3.75 324		Pn	Pn	07 39 14.8	+0.4
HYT				Pg	Pb	07 39 24.8	+2.1
HYT				Sg	Sg	07 40 13.4	-3.3
O29M	Mount Kennedy	3.76 313		Pn	Pn	07 39 15.8	+1.2
O29M				Pg	Pb	07 39 23.8	+0.9
RUBB	Prince Rupert	3.87 155		Pn	Pn	07 39 17.1	+1.2
RUBB				IAML		07 40 21.9	
	comp=E,7.6nm,3.1s						
RUBB	Prince Rupert	3.87 155		Pn	Pn	07 39 17.5	+1.5
RUBB				Sg	Sg	07 40 18.5	-2.2
N31M	Braeburn, Yuko	3.89 340		Pn	Pn	07 39 17.9	+1.7
N31M	Braeburn, Yuko	3.89 340		Pn	Pn	07 39 17.0	+0.8
N31M				Pg	Pg	07 39 28.0	-2.9
N31M				Sg	Sg	07 40 18.0	-3.2
LIRD	Liard River Hi	3.95 64		Sg	Sg	07 40 22.5	-0.6
N30M	Aishikik Lake	4.15 332		Pn	Pn	07 39 21.7	+1.8
N30M				Sg	Sg	07 40 24.9	-4.6
PCA	Pinnacle	4.35 304		Pn	Pn	07 39 21.5	-1.1
GRNB	Grenville Isla	4.38 155		Pn	Pn	07 39 24.9	+1.9
GRNB				IAML		07 40 08.6	
	comp=E,7.3nm,4.2s						
GRNB				IAML		07 41 24.2	
	comp=N,8.2nm,4.2s						
FARO	Faro, Yukon	4.39 358		Pn	Pn	07 39 25.2	+2.2
FARO				IAML		07 40 46.2	
	comp=N,7.5nm,0.7s						
FARO	Faro, Yukon	4.39 358		Pn	Pn	07 39 24.1	+1.1
FARO				Sg	Sg	07 40 32.9	-4.2
TGTN	Hyland Airport	4.40 31		Pn	Pn	07 39 25.4	+2.2
TGTN				Sg	Sg	07 40 36.0	-1.6
M31M	Drury Creek, Y	4.41 352		Pn	Pn	07 39 24.6	+1.3
M31M				IAML		07 40 40.4	
	comp=N,9.0nm,2.1s						
M31M				IAML		07 40 42.7	
	comp=E,8.1nm,0.7s						
M31M	Drury Creek, Y	4.41 352		Sg	Sg	07 40 34.2	-3.6
YUK4	Talbot Arm	4.50 323		Pn	Pn	07 39 26.8	+1.9
DIB	Dawson Inlet,	4.68 176		Pn	Pn	07 39 28.8	+1.8
MMPY	Sheldon Lake,	4.86 10		Pn	Pn	07 39 31.6	+2.1
M30M	Minto, Yukon	5.09 340		Pn	Pn	07 39 33.8	+1.1
M30M				IAML		07 41 23.3	
	comp=E,5.9nm,3.6s						
M30M	Minto, Yukon	5.09 340		Pn	Pn	07 39 34.0	+1.3
M30M				Sg	Sg	07 40 55.2	-4.3
M29M	Somme Creek	5.33 332		Pn	Pn	07 39 37.2	+1.1
FNBB	Fort Nelson	5.38 75		Pn	Pn	07 39 38.7	+2.0
HG4B	Hotspring	5.68 168		Pn	Pn	07 39 42.7	+1.9
SUCK	Suckling Hills	5.98 296		Pn	Pn	07 39 47.1	+2.3
K29M	Barlow Dome	6.39 342		Pn	Pn	07 39 52.5	+1.9
BCAR	Beaver Creek A	6.77 324		Pn	Pn	07 39 57.1	+1.3

NOU 05 07:44:24.3, 13.87S×170.35E, h226km, mb3.6/9, Vanuatu Islands Region, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTV	Rentapao	4.32 205		P	Pn	07 45 30.4	-0.5
DVP	Devils Point	4.36 208		P	Pn	07 45 31.4	-0.1
YATNC	Mamie plateau,	8.78 202		P	Pn	07 46 27.7	+0.1
DZM	Mont Dzumac	8.96 204		P	Pn	07 46 29.6	-0.4
NOUC	Port Laguerre	9.05 205		P	Pn	07 46 31.1	+0.1

*IDC **05** 07:51:42.6±4.9, 37.50N×71.70E, h134km±31km, mb3.2/4, mbtmp3.8/9, MS3.4/1, Error ellipse: s-maj=59.7km s-min=18.6km az=150.0*
*NNC **05** 07:51:45.1±2.9, 37.61N×71.93E, h129km±47km, mb3.5, mpv4.1, Error ellipse: s-maj=25.3km s-min=17.8km az=5.0*

ISC 05 07:51:42.3±0.7, 37.45N±0.05×71.75E±0.07, h130km, n31, σ1°58/37, mb3.4/4, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	3.62 178		P	Pn	07 52 38.5	+1.3
CEP				S	Sn	07 53 20.0	+0.3
CHCP	Chirah Chowk	3.98 162		P	Pn	07 52 41.7	-0.2
THW	Thamme Wali	4.65 180		P	Pn	07 52 50.0	-0.7
AML	Almayashu	4.91 17		P	Pn	07 52 55.2	+0.8
	SNR=61						
UCH	Uchtor	5.22 23		P	Pn	07 52 59.3	+0.6
	SNR=33						
EKS2	Erkin-Say	5.43 16		P	Pn	07 53 02.5	+1.3
	SNR=14						
AAK	Ala-Archa	5.59 21		P	Pn	07 53 04.6	+1.3
	SNR=11						
AAK	Ala-Archa	5.59 21		P	Pn	07 53 04.2	+0.9
	11nm,0.3s,baz=182,slow=6.6,SNR=14						
AAK				S	Sn	07 54 06.7	+0.1
	35nm,0.7s,baz=331,slow=19,SNR=22						
KK31	Karatay Array	5.72 351		P	Pn	07 53 06.9	+1.9
	20nm,0.3s,baz=160,slow=9.3,SNR=179						
KK31			⇓	S	Sn	07 54 09.2	-0.4
	15nm,0.5s,baz=166,slow=21,SNR=10						
ULHL	Ulahol	5.90 34		P	Pn	07 53 07.2	-0.4
	SNR=9.2						
CHMS	Chumysh	6.00 22		P	Pn	07 53 09.3	+0.6
	SNR=11						
CHMS	Chumysh	6.00 22	⇑	P	Pn	07 53 09.1	+0.4
	26nm,0.9s						
CHMS			⇓	S	Sn	07 54 15.1	-1.1
	12nm,0.6s						
USP	Opsenovka	6.17 19		P	Pn	07 53 11.8	+0.7
	SNR=8.8						
TKM2	Tokmak 2	6.20 27		P	Pn	07 53 12.4	+0.8
	SNR=9.4						
TKM2	Tokmak 2	6.20 27	⇓	P	Pn	07 53 12.0	+0.4
	6.4nm,0.7s						
TKM2			⇓	S	Sn	07 54 20.3	-1.1
	5.5nm,0.5s						
MDOK	Medeo	6.99 34	⇑	P	Pn	07 53 20.7	-1.5
	8.0nm,0.7s						
GEYT	Alibeck	10.82 277		P	Pn	07 54 13.6	0.0
	3.9nm,0.3s,baz=108,slow=7.8,SNR=14						
GEYT				S	Sn	07 56 11.1	-1.7
	6.3nm,0.6s,baz=150,slow=22,SNR=6.0						
MAKZ	Makanchi	12.03 36	⇓	P	Pn	07 54 28.1	-1.3
	6.1nm,0.9s						
MK31	Makanchi Array	12.17 37	⇑	P	Pn	07 54 30.9	-0.3
	3.1nm,0.9s,baz=215,slow=9.9,SNR=11						
MKAR	Makanchi Array	12.17 37		P	Pn	07 54 31.2	0.0
	2.4nm,0.9s,baz=225,slow=16,SNR=18						
KURBB	Kurchatov Arra	14.03 18		P	Pn	07 54 53.4	-1.8
	1.9nm,0.2s,baz=206,slow=12,SNR=4.4						
KURK	Kurchatov	14.14 18	⇑	P	P	07 54 60.0	-0.1
	6.8nm,0.9s						
AB31	Akbulak array	14.57 328		P	Pn	07 55 03.7	+1.7
	0.4nm,0.3s,baz=133,slow=15,SNR=28						
BVAR	Borovoye Array	15.60 357		P	Pn	07 55 14.8	-0.1
	0.5nm,0.4s,baz=165,slow=11,SNR=4.0						
AKTO	Aktyubinsk	16.28 327		P	P	07 55 27.9	+4.1
	1.3nm,0.4s,baz=128,slow=14,SNR=5.6						
AKTO				S	Sn	07 58 18.1	-6.1
	0.6nm,0.3s,baz=211,slow=12,SNR=2.1						
ZALV	Zalesovo Beam	18.80 24		P	Pn	07 55 53.5	+0.2
	3.3nm,0.5s,baz=217,slow=10,SNR=11						
FINES	FINESS Array B	37.04 325		P	P	07 58 39.6	+0.5
	1.5nm,1.0s,baz=105,slow=11,SNR=1.3						
	1.5nm,1.0s						
ARCES	ARCESS Array B	40.50 337		LR	LR	08 17 03.9	
	comp=Z,46nm,18.2s,baz=218,slow=38						
ESDC	Sonseca Array	57.55 298		P	P	08 01 17.0	-1.2
	0.1nm,0.4s,baz=54,slow=8.6,SNR=1.5						
	0.1nm,0.4s						
TORD	Torodi Ar. Bea	66.34 269		P	P	08 02 17.0	-0.2
	0.2nm,0.5s,baz=38,slow=4.3,SNR=2.2						
	0.2nm,0.5s						
YKA	Yellowknife Ar	80.27 3		P	P	08 03 37.7	-0.4
	0.6nm,0.7s,baz=30,slow=5.8,SNR=2.2						
	0.6nm,0.7s						

IDC 05 07:53:25.3±1.9, 4.24N×124.86E, h0km, mb3.5/5, mbtmp3.5/5, MS3.4/1, Error ellipse: s-maj=138.2km s-min=25.0km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.20 178		P	P	07 58 24.1	+0.6
	0.9nm,0.8s,baz=355,slow=11,SNR=1.7						
	0.9nm,0.8s						
WRA	Warramunga Arr	25.77 159		P	P	07 58 58.3	+0.3
	0.4nm,0.4s,baz=336,slow=9.7,SNR=8.7						
	0.4nm,0.4s						
ASAR	Alice Springs	29.10 163		P	P	07 59 27.8	-0.1
	0.2nm,0.5s,baz=334,slow=7.2,SNR=7.1						
	0.2nm,0.5s						
STKA	Stephens Creek	39.29 157		P	P	08 00 55.2	-0.8
	1.2nm,0.6s,baz=331,slow=10,SNR=2.8

OUENC	Ouen Island, N	13.14	157	Pn	Pn	08 13 57.6	+1.7
PMG	Port Moresby	14.05	272	LR	LR	08 19 01.7	
	comp=Z,50nm,20.5s,baz=248,slow=35						
CTA	Charters Tower	17.54	235	P	P	08 14 51.9	+0.7
	12nm,0.8s,baz=68,slow=11,SNR=8.7						
CTA				LR	LR	08 20 13.4	
	comp=Z,99nm,18.1s,baz=108,slow=32						
CTAO	Charters Tower	17.54	235	P	P	08 14 52.1	+1.0
CTAO				IAmb	IAmb	08 14 53.6	
	comp=Z,25nm,1.1s						
FUNA	Funafuti	17.65	86	P	P	08 14 48.9	-3.6
FUNA				IAmb	IAmb	08 15 08.9	
	comp=Z,347nm,1.5s						
EIDS	Eidsvold	17.90	212	P	P	08 14 56.0	+0.9
COEN	Coen	18.18	257	P	P	08 14 56.0	-2.2
COEN				IAmb	IAmb	08 15 37.7	
	comp=Z,22nm,1.1s						
ARMA	Armidale	21.99	203	P	P	08 15 39.1	-0.3
WR0	Warramunga Arr	27.61	246	P	P	08 16 30.1	-1.3
WB0	Warramunga Arr	27.69	247	P	P	08 16 30.9	-1.2
WB0				IAmb	IAmb	08 16 57.4	
	comp=Z,7.3nm,0.6s						
WRA	Warramunga Arr	27.78	247	P	P	08 16 32.4	-0.7
	comp=Z,3.3nm,0.7s,baz=77,slow=9.0,SNR=27						
WRA				pP	pP	08 16 56.3	+2.6
	comp=Z,4.0nm,0.6s,baz=76,slow=9.5,SNR=10						
WRA				PcP	PcP	08 19 46.0	-1.2
	comp=Z,0.7nm,1.1s,baz=76,slow=3.8,SNR=2.3						
WRA				LR	LR	08 26 07.7	
	comp=Z,75nm,18.4s,baz=215,slow=33						
	comp=Z,3.3nm,0.7s						
WRA	Warramunga Arr	27.78	247	P	P	08 16 30.8	-2.2
H11S2	WAKE ISLAND Hy	29.08	10	T	T	08 46 07.1	
	baz=193,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	29.08	10	T	T	08 46 07.6	
	baz=193,slow=76,SNR=10						
H11S1	WAKE ISLAND Hy	29.09	10	T	T	08 45 48.8	
	baz=193,slow=76,SNR=10						
ASAR	Alice Springs	29.39	240	P	P	08 16 45.5	-1.8
	comp=Z,1.2nm,0.8s,baz=70,slow=9.5,SNR=12						
ASAR				pP	pP	08 17 10.4	+2.3
	comp=Z,1.2nm,0.7s,baz=66,slow=9.7,SNR=5.1						
	comp=Z,1.2nm,0.8s						
MTN	Manton Dam	29.74	262	P	P	08 16 49.4	-1.0
MTN				IAmb	IAmb	08 16 58.5	
	comp=Z,18nm,1.4s						
H11N1	WAKE ISLAND Hy	30.31	10	T	T	08 47 39.4	
	baz=192,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	30.31	10	T	T	08 47 40.2	
	baz=192,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	30.32	10	T	T	08 47 41.7	
	baz=192,slow=76,SNR=18						
BKZ	Black Stump Fm	31.75	157	P	P	08 17 08.5	+0.6
BKZ				IAmb	IAmb	08 17 12.0	
	comp=Z,47nm,1.5s						
KNRA	Kununurra	32.22	257	P	P	08 17 11.1	-1.1
KNRA				IAmb	IAmb	08 17 12.7	
	comp=Z,11nm,0.7s						
NNZ	Nelson	32.57	163	P	P	08 17 14.5	-0.4
TUWZ	Tuamarina	32.92	163	P	P	08 17 17.2	-0.9
BFZ	Birch Farm	33.00	159	P	P	08 17 18.8	+0.1
MQZ	McQueen's Vall	34.70	166	P	P	08 17 34.2	+0.9
MQZ				IAmb	IAmb	08 17 39.0	
	comp=Z,116nm,1.3s						
FITZ	Fitzroy Crossi	35.47	253	P	P	08 17 39.5	-0.8
FITZ				IAmb	IAmb	08 17 40.2	
	comp=Z,6.1nm,0.8s						
SOEI	Soe	36.55	267	P	P	08 17 50.0	+0.2
SOEI				IAmb	IAmb	08 18 18.8	
	comp=Z,36nm,1.4s						
MBWA	Marble Bar	41.41	250	P	P	08 18 29.0	-1.1
MBWA				IAmb	IAmb	08 18 55.7	
	comp=Z,6.7nm,1.1s						
VNDA	Vanda	67.21	180	P	P	08 21 35.7	-0.5
	comp=Z,0.7nm,0.8s,baz=336,slow=6.6,SNR=4.3						
	comp=Z,0.7nm,0.8s						
SONM	Songino Array	75.57	325	P	P	08 22 28.3	+1.2
	comp=Z,0.8nm,0.7s,baz=142,slow=4.9,SNR=3.6						
	comp=Z,0.8nm,0.7s						
MAW	Mawson	83.79	202	P	P	08 23 10.2	-0.9
	comp=Z,1.0nm,0.6s,baz=352,slow=4.9,SNR=1.7						
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	84.21	20	P	P	08 23 13.5	+0.3
	comp=Z,0.3nm,0.4s,baz=241,slow=4.9,SNR=9.1						
ILAR				pP	pP	08 23 40.5	+1.8
	comp=Z,0.5nm,0.8s,baz=250,slow=6.0,SNR=3.7						
	comp=Z,0.3nm,0.4s						
NVAR	Mina Array Bea	88.84	51	P	P	08 23 38.0	+1.4
	comp=Z,0.4nm,0.8s,baz=226,slow=7.4,SNR=3.6						
	comp=Z,0.4nm,0.8s						
MKAR	Makanchi Array	90.07	318	P	P	08 23 41.7	-0.2
	comp=Z,0.5nm,0.5s,baz=96,slow=6.0,SNR=6.1						
MKAR				pP	pwP	08 24 10.8	+0.8
	comp=Z,0.3nm,0.7s,baz=103,slow=6.2,SNR=3.0						
	comp=Z,0.5nm,0.5s						

*IDC **05** 08:19:47.1±0.9,55°.12S×30°.52W, h0km, mb4.1/6, mbtmp4.1/6, Error ellipse: s-maj=41.0km s-min=19.0km az=68.0*

*NEIC **05** 08:19:49.5±2.3,55°.0S±0°.1×30°.7W±0°.2, h10km±2km, mb4.6/21, Error ellipse: s-maj=25.6km s-min=17.4km az=29.0*

ISC 05 08:19:48.8±0.7, 55°.1S±0°.1×30°.7W±0°.1, h10km, n40, σ0s83/35, mb4.5/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	Hope Point	3.46	281			Pn	08 20 41.4	-1.1
VNA1	Neumayer--Stat	18.47	156	P		Pn	08 24 05.3	+0.9
VNA3	Neumayer Olymp	18.60	159	P		Pn	08 24 06.3	+0.2
SNAA	Sanae	20.46	155	P		P	08 24 26.5	+0.3
SNAA	Sanae	20.46	155	P		P	08 24 25.4	-0.8
	1.6nm,0.6s,baz=287,slow=8.8,SNR=12							
	1.6nm,0.6s							
SNAA	Sanae	20.46	155	P		P	08 24 26.6	+0.4
TROLL	Troll, Antarti	22.02	153	P		P	08 24 42.6	-0.4
MG02	Cerro Sombrero	22.61	260	P		P	08 24 49.6	+0.3
MG05	Puerto Natales	24.90	260	P		P	08 25 10.1	-1.4
TRQA	Tornquist	27.11	296	P		P	08 25 31.6	0.0
CPUP	Villa Florida	34.69	315	P		P	08 26 38.8	+0.3
	3.0nm,0.6s,baz=141,slow=7.2,SNR=13							
	3.0nm,0.6s							
CPUP	Villa Florida	34.69	315	P		P	08 26 39.0	+0.5
CPUP				IAmb		IAmb	08 26 41.1	
	comp=Z,14nm,1.4s							
QSPA	South Pole Qui	35.18	180	P		P	08 26 41.9	-0.7
	comp=Z,4.8nm,1.1s,baz=204,slow=3.6,SNR=12							
	comp=Z,4.8nm,1.1s							
QSPA	South Pole Qui	35.18	180	P		P	08 26 42.3	-0.3
QSPA				IAmb		IAmb	08 26 45.3	
	comp=Z,11nm,1.4s							
MT02	Curacav	35.58	291	P		P	08 26 46.0	-0.2
MT02				IAmb		IAmb	08 27 11.0	
	comp=Z,16nm,1.5s							
VA06	Catapilco	36.21	291	P		P	08 26 51.9	+0.4
CO02	Combarbal	37.10	293	P		P	08 26 59.9	+0.5
CO01	Juntas del Tor	37.60	295	P		P	08 27 04.9	+1.3
AC05	El Transito	38.61	296	P		P	08 27 13.7	+1.6
AC05				IAmb		IAmb	08 27 40.8	
	comp=Z,15nm,1.4s							
GO02	Mina Guanaco	41.28	300	P		P	08 27 35.2	+0.8
GO02				IAmb		IAmb	08 27 51.9	
	comp=Z,20nm,1.2s							
PB01	IPOC Station P	44.70	304	P		P	08 28 02.7	+0.7
PB01				IAmb		IAmb	08 28 20.1	
	comp=Z,9.1nm,1.3s							
PTLB	Pontes e Lacer	45.23	320	IAmb		IAmb	08 28 06.7	
	comp=Z,2.8nm,0.7s							
PTLB				P		P	08 28 06.8	+0.7
GO01	Chusmiza	45.74	305	P		P	08 28 11.9	+1.2
GO01				IAmb		IAmb	08 28 12.6	
	comp=Z,6.5nm,1.1s							
SBA	Scott Base	46.90	185	P		P	08 28 19.7	+1.1
SBA				IAmb		IAmb	08 28 37.1	
	comp=Z,8.4nm,1.4s							
PB16	IPOC Station P	47.04	306	P		P	08 28 20.6	-0.4
PB16				IAmb		IAmb	08 28 30.5	
	comp=Z,9.5nm,1.5s							
VNDA	Vanda	47.44	184	P		P	08 28 22.2	-0.6
	comp=Z,1.2nm,0.8s,baz=196,slow=5.3,SNR=8.4							
	comp=Z,1.2nm,0.8s							
VNDA	Vanda	47.44	184	P		P	08 28 24.1	+1.3
H10S2	ASCENSION HYDR	47.73	22	T		T	09 20 08.3	
	baz=192,slow=74,SNR=4.4							
H10S3	ASCENSION HYDR	47.73	22	T		T	09 20 14.5	
	baz=28,slow=74,SNR=12							
LPAZ	La Paz	48.20	308	P		P	08 28 31.1	+1.0
	comp=Z,2.1nm,0.5s,baz=123,slow=4.0,SNR=11							
	comp=Z,2.1nm,0.5s							
LPAZ	La Paz	48.20	308	P		P	08 28 30.9	+0.8
LPAZ				IAmb		IAmb	08 28 45.4	
	comp=Z,3.0nm,0.7s							
H10N1	ASCENSION HYDR	48.84	22	T		T	09 21 31.2	
	baz=192,slow=75,SNR=13							
H10N3	ASCENSION HYDR	48.84	22	T		T	09 21 30.5	
	baz=192,slow=75,SNR=30							
H10N2	ASCENSION HYDR	48.86	22	T		T	09 21 33.0	
	baz=192,slow=75,SNR=30							
TOA0	Torodi Ar. Sit	73.25	33	P		P	08 31 18.8	-1.2
TOA0				IAmb		IAmb	08 31 41.3	
	comp=Z,6.9nm,1.2s							
TORD	Torodi Ar. Bea	73.25	33	P		P	08 31 20.1	+0.1
	comp=Z,1.3nm,0.8s,baz=202,slow=6.0,SNR=3.9							
	comp=Z,1.3nm,0.8s							
TORD	Torodi Ar. Bea	73.25	33	P		P	08 31 19.1	-0.8
ILAR	Eielson Array	147.99	313	PKPbc		PKPbc	08 39 32.3	-0.5
	comp=Z,3.1nm,0.9s,baz=133,slow=1.6,SNR=19							
KDAK	Kodiak Island	148.60	299	PKPbc		PKPbc	08 39 34.5	-0.1
	comp=Z,17nm,1.3s,baz=122,slow=6.1,SNR=4.8							
SONM	Songino Array	152.66	87	PKPbc		PKPbc	08 39 43.9	-0.9
	comp=Z,0.5nm,0.4s,baz=250,slow=3.4,SNR=3.6							

WEL 05 08:28:24.1±0.8, 37°S±4°×17°9E±°, h20km, M3.4/20, ML3.7/25, MLv3.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=104.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	Matakaoa Point	0.54	249	P		Pb	08 28 34.8	-0.2
MXZ				S		Sb	08 28 41.4	-1.8
MXZ				Sg		Sn	08 28 41.4	-3.8
WMGZ	Waiomatatini S	0.62	223	P		Pn	08 28 37.4	-0.3
WMGZ				Sg		Sn	08 28 46.7	-0.3
WMGZ				S		Sb	08 28 46.8	+2.3
PKGZ	Pakihiroa	0.86	233	P		Pb	08 28 40.7	+0.3
PKGZ				S		Sb	08 28 52.0	+0.4
PUZ	Puketiti	0.89	218	P		Pn	08 28 41.2	-0.3
PUZ				S		Sn	08 28 53.5	-0.3
HAZ	Te Kaha	1.00	247	P		Pb	08 28 42.7	0.0
HAZ				S		Sn	08 28 56.1	-0.4
TWGZ	Tauwhareparae	1.11	223	P		Pb	08 28 44.7	+0.1
TWGZ				S		Sn	08 28 59.7	+0.4
RUGZ	Raukumara Rang	1.17	239	P		Pb	08 28 45.6	0.0
CNGZ	Carnagh Statio	1.26	207	P		Pb	08 28 47.1	0.0
CNGZ				S		Sb	08 29 04.8	+1.9
TKGZ	Te Karaka	1.38	219	P		Pn	08 28 47.8	-0.3
TKGZ				S		Sb	08 29 06.4	+0.2
MWZ	Matawai	1.48	229	P		Pn	08 28 49.3	-0.3
RIGZ	Rimuhau	1.63	215	P		Pn	08 28 51.5	-0.1
RIGZ				S		Sn	08 29 11.5	-0.6
RAGZ	Rawiri	1.65	227	P		Pn	08 28 51.9	-0.1
URZ	Urewera	1.70	238	P		Pn	08 28 53.2	+0.6
PRGZ	Paritu Road	1.76	208	P		Pn	08 28 53.0	-0.6
SNGZ	Shannon Statio	1.90	221	P		Pn	08 28 55.0	-0.3
EDRZ	Edgecumbe	1.90	246	P		Pn	08 28 56.0	+0.6
KNZ	Kokohu	1.93	211	P		Pn	08 28 53.3	-2.4
OPRZ	Ohinepanea	1.96	255	P		Pn	08 28 56.2	0.0
MHGZ	Mahia Peninsul	1.96	204	P		Pn	08 28 55.6	-0.6
RTZ	Ruatahuna	1.99	231	P		Pn	08 28 57.0	+0.4
MUGZ	Murupara	2.04	237	P		Pn	08 28 57.6	+0.2
RAHZ	Arahi	2.13	223	P		Pn	08 28 58.3	-0.2
RRRZ	Republican Roa	2.15	243	P		Pn	08 28 59.5	+0.6
MTHZ	Maungataniwha	2.23	228	P		Pn	08 28 59.3	-0.6
ALRZ	Allen Road	2.38	239	P		Pn	08 29 02.7	+0.7
NMHZ	Naumai	2.41	224	P		Pn	08 29 01.8	-1.7
ARHZ	Arahaeanui	2.44	218	P		Pn	08 29 02.0	-0.7
KUZ	Kuaotunu	2.65	283	P		Pn	08 29 04.7	-1.0
CKHZ	Cape Kidnapper	2.71	212	P		Pn	08 29 04.7	-1.9
TOZ	Tahuroa Road	2.76	261	P		Pn	08 29 07.7	+0.6
KWHZ	Kaweka Forest	2.85	223	P		Pn	08 29 07.7	-0.8
KAHZ	Kahuranaki	2.91	213	P		Pn	08 29 07.7	-1.6
GRZ	Great Barrier	3.01	291	P		Pn	08 29 11.6	+0.9
MKAZ	Moumakai	3.03	274	P		Pn	08 29 11.5	+0.6
KRHZ	Kereru	3.04	221	P		Pn	08 29 09.4	-1.6
TMVZ	Te Maari	3.09	235	P		Pn	08 29 11.6	-0.3
ETVZ	East Tongariro	3.10	234	P		Pn	08 29 11.7	-0.3
BHHZ	Black Hill Sta	3.10	226	P		Pn	08 29 11.2	-0.7
NTVZ	North Tongarir	3.10	235	P		Pn	08 29 11.8	-0.2
PXZ	Pawanui	3.12	211	P		Pn	08 29 09.8	-2.3
NNVZ	North Ngauruho	3.16	235	P		Pn	08 29 12.9	+0.1
SNVZ	South Ngauruho	3.17	234	P		Pn	08 29 12.7	-0.3
NGZ	Ngauruhoe	3.19	235	P		Pn	08 29 13.0	-0.3
TUVZ	Tukino	3.21	233	P		Pn	08 29 13.0	-0.3
MOVZ	Moawhango	3.23	230	P		Pn	08 29 13.2	-0.6
ETAZ	East Tamaki Re	3.24	276	P		Pn	08 29 14.7	+1.0
WHVZ	Whangaehu Hut	3.26	233	P		Pn	08 29 13.9	-0.3
FWVZ	Far West T-bar	3.27	234	P		Pn	08 29 14.0	-0.3
WNVZ	Wahianoa	3.28	232	P		Pn	08 29 14.1	-0.4
PNHZ	Pukenui	3.33	219	P		Pn	08 29 12.8	-2.2
WPHZ	Waipukurau	3.33	215	P		Pn	08 29 13.2	-1.9
MTVZ	Mangateitei	3.39	233	P		Pn	08 29 15.8	-0.1
PRHZ	Porangahau	3.41	211	P		Pn	08 29 13.7	-2.4
HIZ	Hauiti	3.43	249	P		Pn	08 29 17.5	+1.1
RVAZ	Riverhead Bore	3.54	278	P		Pn	08 29 19.3	+1.4
TSZ	Takapari Road	3.56	220	P		Pn	08 29 15.8	-2.3
ANWZ	Angora Road	3.64	211	P		Pn	08 29 16.5	-2.7
DVHZ	Dannevirke	3.64	216	P		Pn	08 29 16.5	-2.8
POWZ	Post Office Ro	3.91	218	P		Pn	08 29 20.3	-2.7
WAZ	Wanganui	3.91	231	P		Pn	08 29 23.2	+0.1
PRWZ	Pori Road	3.94	215	P		Pn	08 29 21.2	-2.2
WCZ	Waitomo Caves	3.96	290	P		Pn	08 29 24.1	+0.4
TIWZ	Tintock	4.15	214	P		Pn	08 29 23.3	-3.0
MRZ	Mangatainoka R	4.21	218	P		Pn	08 29 24.4	-2.6
OUZ	Omahuta	4.82	295	P		Pn	08 29 36.5	+1.0
CTZ	Chatham Island	7.20	153	P		Pn	08 30 09.3	+1.2

*MAN **05** 08:33:49.9, 3°.40N×126°.90E, h24km, mb4.5, ML3.4, MS3.2*

*IDC **05** 08:33:59.7±8.3, 3°.43N×126°.67E, h114km±80km, mb3.6/9, mbtmp4.0/9, MS3.1/2, Error ellipse: s-maj=68.4km s-min=17.2km az=74.0*

ISC 05 08:33:52.8±0.8, 3°.6N±0°.1×127°.2E±0°.3, h48km, n17, σ1s53/12, mb4.0/9, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSPH	General Santos	3.37	317	⇑eP		Pn	08 34 45.2	+2.2
KCP	Kidapawan	4.01	328	⇓eP		Pn	08 34 51.5	-0.2
SIJI	Sorong	5.99	138	LR		LR	08 38 16.8	
	comp=Z,116nm,18.3s,baz=297,slow=41							
KAPI	Kappang	11.37	221	LR		LR	08 41 03.4	
	comp=Z,113nm,18.2s,baz=360,slow=39							
FITZ	Fitzroy Crossi	21.62	184	P		P	08 38 38.5	-0.4
	0.5nm,0.3s,baz=17,slow=9.4,SNR=1.8							
	0.5nm,0.3s							
WRA	Warramunga Arr	24.41	164	P		P	08 39 07.0	+0.1
	2.1nm,0.8s,baz=338,slow=11,SNR=25							
	2.1nm,0.8s							
ASAR	Alice Springs	27.87	167	P		P	08 39 39.1	+0.9
	0.2nm,0.4s,baz=335,slow=7.0,SNR=9.4							
	0.2nm,0.4s							
KSRS	Korea Array	33.70	1	P		P	08 40 31.5	+2.1
	0.6nm,0.5s,baz=187,slow=10,SNR=2.0							
	0.6nm,0.5s							
STKA	Stephens Creek	37.83	160	P		P	08 41 05.9	+1.0
	1.6nm,0.4s,baz=357,slow=7.0,SNR=6.6							
	1.6nm,0.4s							
H11S3	WAKE ISLAND Hy	41.31	66	T		T	09 26 03.9	
	baz=253,slow=74,SNR=11							
H11S2	WAKE ISLAND Hy	41.33	66	T		T	09 26 03.0	
	baz=253,slow=74,SNR=9.5							
H11S1	WAKE ISLAND Hy	41.33	66	T		T	09 26 01.6	
	baz=253,slow=74,SNR=6.4							
SONM	Songino Array	47.59	341	P		P	08 42 24.1	+0.2
	0.6nm,0.4s,baz=168,slow=8.8,SNR=2.1							
	0.6nm,0.4s							
MKAR	Makanchi Array	57.95	325	P		P	08 43 38.9	-1.5
	0.8nm,0.5s,baz=118,slow=7.4,SNR=15							
	0.8nm,0.5s							
NRIK	Noril'sk	70.68	346	P		P	08 45 02.7	-0.4
	1.8nm,0.5s,baz=147,slow=5.9,SNR=4.4							
	1.8nm,0.5s							
ARCES	ARCESS Array B	90.75	340	P		P	08 46 48.9	-1.5
	3.0nm,0.9s,baz=76,slow=7.6,SNR=5.2							
	3.0nm,0.9s							
TORD	Torodi Ar. Bea	123.45	288	PKP		PKPdf	08 52 43.6	-2.2
	0.5nm,0.7s,baz=50,slow=1.7,SNR=2.3							

IDC 05 08:37:13.6±1.8, 2°.65N×125°.00E, h0km, mb3.6/4, mbtmp3.6/4, MS3.7/1, Error ellipse: s-maj=188.9km s-min=24.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	Warramunga Arr	24.26	158	P		P	08 42 32.3	-0.3
	1.1nm,0.8s,baz=338,slow=11,SNR=5.9							
	1.1nm,0.8s							
PSI	Prapat	26.04	271	LR		LR	08 56 25.1	
	comp=Z,162nm,18.0s,baz=209,slow=44							
ASAR	Alice Springs	27.56	162	P		P	08 43 02.3	-0.2
	0.3nm,0.9s,baz=340,slow=11,SNR=2.3							
	0.3nm,0.9s							
STKA	Stephens Creek	37.79	157	P		P	08 44 32.4	+0.7
	1.2nm,0.6s,baz=334,slow=11,SNR=5.2							
	1.2nm,0.6s							
MKAR	Makanchi Array	57.47	326	P		P	08 47 04.1	-0.4
	0.4nm,0.5s,baz=122,slow=8.2,SNR=6.4							
	0.4nm,0.5s							

*MEX **05** 08:40:08.5±0.3, 32°.39N×115°.61W, h20km, MD3.9*

ECX 05 08:40:08.8±0.5, 30°.56N×114°.21W, h18km±4km, MD2.8, ML2.9, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFX	San Felipe	0.73	311	eP		Pb	08 40 21.6	-1.4
SFX				eS		Sb	08 40 31.9	-0.8
SFX				IAML			08 40 33.8	
	comp=E,505nm,0.3s							
SFX				e			08 40 33.8	
SFX				⇑e			08 40 34.0	
SFX				IAML			08 40 34.0	
	comp=N,663nm,0.6s							
PPXB	Puerto Peasco	0.92	32	eP		Pb	08 40 24.8	-1.4
PPXB				eS		Sb	08 40 37.2	-0.9
ECBX	El Chinero	1.16	322	eP		Pn	08 40 27.8	-2.4
ECBX				eS		Sb	08 40 42.9	-2.2
SPIG	San Pedro Mart	1.19	294	eP		Pn	08 40 29.3	-1.5
SPIG				i S		Sb	08 40 45.5	-0.6
SPIG	San Pedro Mart	1.19	294	eP		Pn	08 40 29.3	-1.5
SPIG				eS		Sb	08 40 45.6	-0.6
SPIG				⇑e			08 40 55.2	
SPIG				IAML			08 40 55.2	
	comp=N,182nm,0.9s							
SQX	San Quintin	1.44	271	eP		Pn	08 40 32.9	-1.1
SQX				eS		Sn	08 40 51.9	-0.6
VTX	Valle De La Tr	1.59	302	eP		Pn	08 40 34.8	-1.4
VTX				eS		Sn	08 40 56.8	+0.6
VTX				IAML			08 41 07.1	
	comp=E,128nm,0.4s							
VTX				⇓e			08 41 07.1	
LAPR	La Primavera	1.63	92	eP		Pn	08 40 36.5	-0.1
214A	Organ Pipe Nat	1.83	40	eP		Pn	08 40 38.3	-1.1
214A				i S		Sg	08 41 06.3	-1.6
214A	Organ Pipe Nat	1.83	40	eP		Pn	08 40 38.5	-1.0
TJIG	Tijuana	2.82	312	eP		Pb	08 40 56.3	-2.3
TJIG				eS		Sb	08 41 30.3	-2.5

*JMA **05** 08:43:31.0±0.1, 38°.4N±0°.2×141°.8E±0°.5, h56km, MV3.8/40, KINKAZAN REGION*

JMA Felt I J1 at KINKAZAN REGION .

*IDC **05** 08:43:33.8±4.6, 38°.35N×141°.45E, h85km±37km, mb3.2/5, mbtmp3.4/7, MS1.8/1, Error ellipse: s-maj=51.2km s-min=22.0km az=74.0*

ISC 05 08:43:30.3±1.1, 38°.38N±0°.05×141°.82E±0°.09, h56km±8km, n26, σ0s66/32, mb3.4/5, 17D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIKH	Ishinomakikobu	0.29	255	i P		Pn	08 43 40.4	+0.5
JIKH				i S		Sn	08 43 46.9	+0.1
JIO	Ouri	0.38	281	⇓iP		Pn	08 43 41.0	+0.3
JIO				⇓S		Sn	08 43 48.0	-0.2
JKMT	Kesennumamotoy	0.51	328	⇓iP		Pn	08 43 42.3	+0.3
JKMT				⇓S		Sn	08 43 50.3	-0.2
OFUJ	Ofunato	0.70	350	⇓iP		Pn	08 43 44.7	+0.2
OFUJ				⇓S		Sn	08 43 54.3	-0.4
JMK	Ichinoseki	0.74	321	⇓iP		Pn	08 43 45.2	+0.4
JMK				⇓S		Sn	08 43 55.1	-0.3
JOU	Okura	0.91	269	⇓iP		Pn	08 43 47.3	+0.2
JOU				⇓S		Sn	08 43 59.4	0.0
JMM	Marumori	0.96	238	⇓iP		Pn	08 43 47.9	+0.2
JMM				⇓S		Sn	08 44 00.1	-0.4
JOM	Ohasama	1.16	339	⇓iP		Pn	08 43 50.8	+0.4
JOM				⇓S		Sn	08 44 05.5	+0.1
JFK	Kawauchi	1.26	217	i P		Pn	08 43 52.3	+0.5
JFK				S		Sn	08 44 07.8	+0.1
JYK	Kaneyama	1.26	295	⇓iP		Pn	08 43 52.1	+0.3
JRG	Rokugo	1.37	318	i P		Pn	08 43 53.7	+0.5
JRG				S		Sn	08 44 11.6	+1.2
J

VNA1	**Neumayer--Stat**	**18.58**	**157**	P	**P**	**08 54 46.4**	**+1.6**
VNA3	**Neumayer Olymp**	**18.72**	**159**	P	**P**	**08 54 45.2**	**-1.2**
SNAA	**Sanae**	**20.56**	**155**	P	**P**	**08 55 09.0**	**+2.5**
TROLL	**Troll, Antarti**	**22.11**	**153**	P	**P**	**08 55 20.6**	**-2.7**
CPUP	**Villa Florida**	**34.66**	**315**	P	**P**	**08 57 17.1**	**-0.4**
	0.9nm,0.6s,baz=170,slow=7.0,SNR=4.5						
	0.9nm,0.6s						
LPAZ	**La Paz**	**48.20**	**308**	P	**P**	**08 59 10.0**	**+0.6**
	0.9nm,0.5s,baz=150,slow=8.3,SNR=3.2						
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.03**	**33**	P	**P**	**09 01 58.2**	**+0.2**
	0.4nm,0.6s,baz=210,slow=5.8,SNR=1.7						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**147.97**	**314**	PKPbc	**PKPbc**	**09 10 11.5**	**-0.6**
	1.2nm,0.9s,baz=132,slow=2.0,SNR=8.7						

WEL 05 08:50:31.4±1.1,37°S±8°×18°0E±°, h20km, M3.3/12, ML3.6/13, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=142.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.25**	**254**	P	Pn	08 50 53.6	0.0
WMGZ				S	Sn	08 51 10.6	+0.8
MXZ	**Matakaoa Point**	**1.29**	**266**	P	Pn	08 50 53.6	-0.6
MXZ				S	Sn	08 51 10.8	-0.1
PUZ	**Puketiti**	**1.45**	**246**	P	Pn	08 50 56.2	-0.2
PUZ				S	Sn	08 51 15.0	+0.1
PKGZ	**Pakihiroa**	**1.52**	**254**	P	Pn	08 50 57.2	-0.2
PKGZ				S	Sn	08 51 17.2	+0.5
CNGZ	**Carnagh Statio**	**1.68**	**233**	P	Pn	08 51 00.4	+0.8
TWGZ	**Tauwhareparae**	**1.69**	**245**	P	Pn	08 51 00.1	+0.3
HAZ	**Te Kaha**	**1.72**	**260**	P	Pn	08 51 00.4	+0.2
RUGZ	**Raukumara Rang**	**1.85**	**254**	P	Pn	08 51 02.4	+0.4
TKGZ	**Te Karaka**	**1.90**	**239**	P	Pn	08 51 02.8	+0.2
MWZ	**Matawai**	**2.08**	**245**	P	Pn	08 51 04.7	-0.4
RIGZ	**Rimuhau**	**2.10**	**234**	P	Pn	08 51 05.6	+0.3
RIGZ				S	Sn	08 51 31.8	+0.9
PRGZ	**Paritu Road**	**2.15**	**228**	P	Pn	08 51 06.2	0.0
MHGZ	**Mahia Peninsul**	**2.30**	**223**	P	Pn	08 51 08.4	+0.3
KNZ	**Kokohu**	**2.34**	**228**	P	Pn	08 51 08.2	-0.5
URZ	**Urewera**	**2.36**	**250**	P	Pn	08 51 09.4	+0.5
WHRZ	**Whale Island**	**2.37**	**260**	P	Pn	08 51 10.1	+0.9
SNGZ	**Shannon Statio**	**2.42**	**237**	P	Pn	08 51 09.9	+0.1
RTZ	**Ruatahuna**	**2.58**	**243**	P	Pn	08 51 12.8	+0.7
EDRZ	**Edgecumbe**	**2.60**	**255**	P	Pn	08 51 12.7	+0.4
WHHZ	**Waihua**	**2.65**	**232**	P	Pn	08 51 13.4	+0.5
WHHZ				S	Sn	08 51 45.0	+0.6
RAHZ	**Arahi**	**2.65**	**237**	P	Pn	08 51 13.1	+0.1
MUGZ	**Murupara**	**2.68**	**247**	P	Pn	08 51 14.0	+0.6
OPRZ	**Ohinepanea**	**2.70**	**261**	P	Pn	08 51 13.3	-0.3
MTHZ	**Maungataniwha**	**2.79**	**240**	P	Pn	08 51 15.0	+0.1
RRRZ	**Republican Roa**	**2.83**	**251**	P	Pn	08 51 16.1	+0.6
ARHZ	**Aropaoanui**	**2.91**	**232**	P	Pn	08 51 17.0	+0.5
NMHZ	**Naumai**	**2.93**	**236**	P	Pn	08 51 17.4	+0.4
ALRZ	**Allen Road**	**3.03**	**248**	P	Pn	08 51 18.3	+0.2
MRHZ	**Matea Rd**	**3.08**	**243**	P	Pn	08 51 18.8	-0.1
CKHZ	**Cape Kidnapper**	**3.11**	**225**	P	Pn	08 51 18.9	-0.4
BKZ	**Black Stump Fm**	**3.18**	**237**	P	Pn	08 51 19.9	-0.3
KAHZ	**Kahuranaki**	**3.32**	**225**	P	Pn	08 51 21.4	-0.8
KUZ	**Kuaotunu**	**3.44**	**281**	P	Pn	08 51 23.4	-0.4
KRHZ	**Kereru**	**3.52**	**231**	P	Pn	08 51 24.0	-1.0
BHHZ	**Black Hill Sta**	**3.63**	**235**	P	Pn	08 51 26.0	-0.5
WPHZ	**Waipukurau**	**3.75**	**226**	P	Pn	08 51 26.6	-1.5
NNVZ	**North Ngauruho**	**3.77**	**243**	P	Pn	08 51 29.6	+1.2
PNHZ	**Pukenui**	**3.79**	**229**	P	Pn	08 51 27.5	-1.2
MOVZ	**Moawhango**	**3.80**	**238**	P	Pn	08 51 29.4	+0.6
MKAZ	**Moumakai**	**3.82**	**274**	P	Pn	08 51 28.9	-0.1
TSZ	**Takapari Road**	**4.02**	**229**	P	Pn	08 51 30.2	-1.7
DVHZ	**Dannevirke**	**4.06**	**225**	P	Pn	08 51 31.0	-1.4
BFZ	**Birch Farm**	**4.29**	**221**	P	Pn	08 51 33.2	-2.3
MRZ	**Mangatainoka R**	**4.63**	**226**	P	Pn	08 51 38.2	-2.1
WCZ	**Waipu Caves**	**4.74**	**287**	P	Pn	08 51 42.3	+0.6
TMWZ	**Te Maipa**	**4.78**	**220**	P	Pn	08 51 39.7	-2.6
OUZ	**Omahuta**	**5.59**	**292**	P	Pn	08 51 54.3	+1.0
CTZ	**Chatham Island**	**6.77**	**158**	P	Pn	08 52 13.6	+4.0

*IDC **05** 08:50:49.6±1.2,54°.98S×30°.27W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=63.1km s-min=30.1km az=56.0*
*NEIC **05** 08:50:52.2±1.6,54°.7S±0°.2×30°.26W±0°.07, h10km±2km, mb4.5/10, Error ellipse: s-maj=32.3km s-min=6.5km az=183.0*

ISC 05 08:50:50.8±1.0,55°.0S±0°.2×30°.2W±0°.1, h10km, n22, σ0s73/16, mb4.5/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.71**	**278**	Pn	**Pn**	**08 51 48.6**	**+0.5**
SNAA	**Sanae**	**20.45**	**155**	P	Pn	08 55 32.3	+2.2
CPUP	**Villa Florida**	**34.81**	**314**	P	**P**	**08 57 41.3**	**-0.2**
	5.9nm,0.9s,baz=149,slow=7.6,SNR=10.0						
	5.9nm,0.9s						
CPUP	**Villa Florida**	**34.81**	**314**	P	**P**	**08 57 41.5**	**0.0**
CPUP				IAmb	IAmb	08 57 42.4	
	comp=Z,4.7nm,0.8s						
VA03	**San Esteban**	**35.86**	**291**	P	**P**	**08 57 50.1**	**-0.6**
VA03				IAmb	IAmb	08 57 54.8	
	comp=Z,6.6nm,0.8s						
VA06	**Catapilco**	**36.42**	**291**	P	**P**	**08 57 53.4**	**-2.0**
CO02	**Combarbal**	**37.31**	**293**	P	**P**	**08 58 02.3**	**-0.8**
CO02				IAmb	IAmb	08 58 04.2	
	comp=Z,11nm,1.1s						
CO01	**Juntas del Tor**	**37.80**	**295**	P	**P**	**08 58 06.5**	**-0.9**
CO01				IAmb	IAmb	08 58 10.9	
	comp=Z,4.9nm,1.0s						
CO06	**Fray Jorge**	**38.06**	**292**	P	**P**	**08 58 09.3**	**0.0**
CO06				IAmb	IAmb	08 58 19.1	
	comp=Z,13nm,1.4s						
AC02	**Maricunga**	**39.84**	**299**	P	**P**	**08 58 24.8**	**-0.1**
H10S2	**ASCENSION HYDR**	**47.53**	**21**	T	T	09 51 15.5	
	baz=191						
H10S3	**ASCENSION HYDR**	**47.53**	**21**	T	T	09 51 10.6	
	baz=29						
VNDA	**Vanda**	**47.57**	**184**	P	**P**	**08 59 25.9**	**0.0**
	comp=Z,0.8nm,0.9s,baz=162,slow=12,SNR=3.2						
	comp=Z,0.8nm,0.9s						
LPAZ	**La Paz**	**48.34**	**308**	P	**P**	**08 59 33.6**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=154,slow=5.1,SNR=9.1						
	comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**48.34**	**308**	P	**P**	**08 59 34.0**	**+0.8**
LPAZ				IAmb	IAmb	08 59 34.9	
	comp=Z,7.8nm,1.1s						
H10N1	**ASCENSION HYDR**	**48.64**	**21**	T	T	09 52 12.6	
	baz=192,slow=75,SNR=7.8						
H10N3	**ASCENSION HYDR**	**48.64**	**21**	T	T	09 52 07.1	
	baz=192,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**48.66**	**21**	T	T	09 52 08.5	
	baz=192,slow=75,SNR=14						
TORD	**Torodi Ar. Bea**	**73.01**	**33**	P	**P**	**09 02 20.5**	**0.0**
ILAR	**Eielson Array**	**148.11**	**314**	PKPbc	**PKPbc**	**09 10 35.0**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=121,slow=1.5,SNR=14						
NRIK	**Noril'sk**	**149.22**	**38**	PKPbc	**PKPbc**	**09 10 38.0**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=74,slow=6.0,SNR=1.9						
SONM	**Songino Array**	**152.38**	**87**	PKPbc	**PKPbc**	**09 10 46.5**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=222,slow=1.9,SNR=1.6						

IDC 05 08:53:25.3±3.5,54°.22N×87°.38E, h0km, mbtmp2.8/2, ML2.5/2, 2C, Error ellipse: s-maj=30.5km s-min=19.6km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**261**	*i*		09 02 40.0	
	baz=80,slow=316,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.53**	**261**	Pg	Pn	08 53 53.0	-0.9
	2.1nm,0.3s,baz=75,slow=15,SNR=15						
ZALV				Lg	Lg	08 54 14.2	
	1.6nm,0.3s,baz=81,slow=25,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.50**	**240**	Pn	Pn	08 55 02.3	+0.2
	0.1nm,0.3s,baz=54,slow=13,SNR=6.2						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**6.50**	**240**	⇑Pn	Pn	08 55 04.3	+2.2
	0.4nm,0.3s,baz=58,slow=15						
KURBB				⇑Lg	Lg	08 56 29.1	
	1.5nm,0.6s						
MK31	**Makanchi Array**	**8.11**	**206**	Pn	Pn	08 55 26.6	+2.4
	0.4nm,0.7s,baz=28,slow=15,SNR=6.1						
MK31				Sn	Sn	08 56 51.3	-5.1
	0.1nm,0.2s,baz=24,slow=14,SNR=28						
MKAR	**Makanchi Array**	**8.11**	**206**	Pn	Pn	08 55 25.7	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=2.8						
MKAR				Lg	Lg	08 57 43.3	
	baz=27,slow=20						
	0.1nm,0.2s						

IDC 05 08:54:56.3±2.4,54°.30N×86°.16E, h0km, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=18.9km s-min=12.2km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**247**	*i*		09 00 20.0	
	baz=66,slow=319,SNR=0.7						
ZALV	**Zalesovo Beam**	**0.86**	**247**	Pg	Pg	08 55 10.8	-1.9
	3.8nm,0.3s,baz=68,slow=17,SNR=9.0						
ZALV				Lg	Lg	08 55 25.6	
	7.8nm,0.3s,baz=63,slow=28,SNR=4.8						
KURBB	**Kurchatov Arra**	**5.94**	**235**	Pn	Pn	08 56 26.5	+1.2
	0.2nm,0.3s,baz=51,slow=13,SNR=16						
KURBB				Sn	Sn	08 57 34.2	+0.1
	baz=56,slow=24,SNR=0.7						
KURBB				Lg	Lg	08 58 02.4	
	baz=52,slow=33,SNR=1.2						
MKAR	**Makanchi Array**	**7.91**	**200**	Pn	Pn	08 56 53.3	+0.9
	0.5nm,0.3s,baz=24,slow=11,SNR=17						
MKAR				Lg	Lg	08 59 06.4	
	0.1nm,0.3s,baz=18,slow=28,SNR=2.3						
	0.6nm,0.2s						

*IDC **05** 08:59:11.5±0.7,55°.08S×31°.84W, h0km, mb4.1/10, mbtmp4.2/10, MS3.3/3, Error ellipse: s-maj=24.3km s-min=17.5km az=69.0*
*NEIC **05** 08:59:14.1±1.4,55°.1S±0°.2×32°.1W±0°.2, h10km±2km, mb4.5/17, Error ellipse: s-maj=30.3km s-min=16.9km az=206.0*

ISC 05 08:59:13.0±0.5,55°.08S±0°.10×31°.91W±0°.09, h10km, n43, σ0s82/36, mb4.5/16, MS3.3/3, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.78**	**285**		**Pn**	**08 59 56.5**	**-0.9**
VNA3	**Neumayer Olymp**	**18.86**	**158**	P	**P**	**09 03 32.1**	**-0.8**
SNAA	**Sanae**	**20.75**	**154**	P	**P**	**09 03 53.2**	**-0.3**
SNAA	**Sanae**	**20.75**	**154**	P	**P**	**09 03 53.2**	**-0.3**
	1.1nm,0.5s,baz=292,slow=16,SNR=9.7						
	1.1nm,0.5s						
SNAA	**Sanae**	**20.75**	**154**	P	**P**	**09 03 54.6**	**+1.1**
MG02	**Cerro Sombrero**	**21.92**	**261**	P	**P**	**09 04 05.8**	**-0.3**
TROLL	**Troll, Antarti**	**22.33**	**152**	P	**P**	**09 04 10.5**	**-0.1**
BELA	**Belgrano 2**	**22.92**	**181**	P	**P**	**09 04 17.6**	**+1.0**
MG05	**Puerto Natales**	**24.21**	**261**	P	**P**	**09 04 29.3**	**-0.1**
TRQA	**Tornquist**	**26.48**	**298**	P	**P**	**09 04 50.1**	**-0.2**
PLCA	**Paso Flores**	**29.18**	**283**	LR	LR	09 16 40.3	
	comp=Z,64nm,18.2s,baz=164,slow=36						
PLCA	**Paso Flores**	**29.18**	**283**	P	**P**	**09 05 13.7**	**-0.7**
PLCA				IAmb	IAmb	09 05 39.7	
	comp=Z,4.4nm,1.1s						
LL04	**Puerto Octay**	**30.10**	**281**	P	**P**	**09 05 22.1**	**-0.4**
LL04				IAmb	IAmb	09 05 33.1	
	comp=Z,4.7nm,0.9s						
CPUP	**Villa Florida**	**34.21**	**317**	P	**P**	**09 05 58.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=144,slow=5.7,SNR=6.1						
CPUP				LR	LR	09 22 02.5	
	comp=Z,22nm,18.5s,baz=186,slow=40						
	comp=Z,1.7nm,0.8s						
CPUP	**Villa Florida**	**34.21**	**317**	P	**P**	**09 05 58.8**	**+0.3**
MT09	**Talagante**	**34.46**	**292**	P	**P**	**09 06 01.3**	**+0.4**
MT09				IAmb	IAmb	09 06 02.6	
	comp=Z,5.4nm,0.6s						
VA05	**Santo Domingo**	**34.88**	**291**	P	**P**	**09 06 04.8**	**+0.4**
VA03	**San Esteban**	**35.01**	**293**	P	**P**	**09 06 06.9**	**+1.4**
VA03				IAmb	IAmb	09 06 11.4	
	comp=Z,6.6nm,0.8s						
QSPA	**South Pole Qui**	**35.17**	**180**	P	**P**	**09 06 07.0**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=225,slow=18,SNR=11						
	comp=Z,1.8nm,0.8s						
VA06	**Catapilco**	**35.56**	**293**	P	**P**	**09 06 11.8**	**+1.6**
MAW	**Mawson**	**42.49**	**146**	P	**P**	**09 07 07.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=269,slow=5.1,SNR=4.2						
	comp=Z,0.9nm,0.3s						
PTLB	**Pontes e Lacer**	**44.80**	**321**	P	**P**	**09 07 27.2**	**+0.4**
PTLB				IAmb	IAmb	09 07 31.4	
	comp=Z,3.8nm,0.9s						
PB16	**IPOC Station P**	**46.48**	**307**	P	**P**	**09 07 40.9**	**0.0**
PB16				IAmb	IAmb	09 07 58.1	
	comp=Z,5.8nm,0.7s						
VNDA	**Vanda**	**47.39**	**184**	P	**P**	**09 07 47.5**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=188,slow=5.8,SNR=2.3						
	comp=Z,0.6nm,0.9s						
LPAZ	**La Paz**	**47.66**	**310**	P	**P**	**09 07 50.5**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=193,slow=5.7,SNR=12						
	comp=Z,4.2nm,0.8s						
LPAZ	**La Paz**	**47.66**	**310**	P	**P**	**09 07 51.4**	**+1.3**
LPAZ				IAmb	IAmb	09 07 55.6	
	comp=Z,3.8nm,0.8s						
H10S2	**ASCENSION HYDR**	**48.01**	**23**	T	T	09 59 57.6	
	baz=193,slow=74,SNR=17						
H10S3	**ASCENSION HYDR**	**48.01**	**23**	T	T	09 59 57.8	
	baz=27,slow=74,SNR=32						
BOSA	**Boshof**	**48.40**	**81**	P	**P**	**09 07 55.0**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=215,slow=5.4,SNR=4.4						
	comp=Z,3.0nm,0.8s						
H10N1	**ASCENSION HYDR**	**49.12**	**23**	T	T	10 01 24.3	
	baz=193,slow=75,SNR=25						
H10N3	**ASCENSION HYDR**	**49.12**	**23**	T	T	10 01 21.2	
	baz=193,slow=75,SNR=37						
H10N2	**ASCENSION HYDR**	**49.13**	**23**	T	T	10 01 22.4	
	baz=193,slow=75,SNR=25						
LBTB	**Lobatse**	**51.37**	**78**	P	**P**	**09 08 17.7**	**-0.1**
	comp=Z,5.7nm,0.7s,baz=193,slow=7.5,SNR=7.2						
	comp=Z,5.7nm,0.7s						
TSUM	**Tsumeb**	**51.65**	**66**	LR	LR	09 26 48.4	
	comp=Z,35nm,18.7s,baz=146,slow=32						
DBIC	**Dimbokro**	**65.53**	**30**	P	**P**	**09 09 56.5**	**+0.1**
	comp=Z,5.6nm,1.0s,baz=213,slow=8.4,SNR=1.8						
	comp=Z,5.6nm,1.0s						
TOA0	**Torodi Ar. Sit**	**73.64**	**34**	P	**P**	**09 10 47.1**	**+0.6**
TOA0				IAmb	IAmb	09 10 48.8	
	comp=Z,9.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.64**	**34**	P	**P**	**09 10 46.9**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=199,slow=6.5,SNR=21						
	comp=Z,4.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.64**	**34**	P	**P**	**09 10 47.0**	**+0.5**
TORD				IAmb	IAmb	09 11 01.0	
	comp=Z,5.3nm,0.8s						
ASAR	**Alice Springs**	**100.64**	**167**	P	**Pdif**	**09 12 59.1**	**-2.1**
	comp=Z,0.2nm,0.8s,baz=174,slow=4.5,SNR=1.4						
MKAR	**Makanchi Array**	**139.15**	**73**	PKP	**PKPdf**	**09 18 37.1**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=229,slow=3.3,SNR=2.2						
ZALV	**Zalesovo Beam**	**144.37**	**65**	PKP	**PKPab**	**09 18 46.2**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=261,slow=4.1,SNR=6.6						
ILAR	**Eielson Array**	**147.49**	**314**	PKPbc	**PKPbc**	**09 18 55.4**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=131,slow=1.7,SNR=16						
SONM	**Songino Array**	**153.36**	**88**	PKPbc	**PKPbc**	**09 19 10.1**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=232,slow=1.8,SNR=6.0						

*AUST **05** 09:46:55.9±1.5, 16°.57S×123°.57E, h0km, Error ellipse: s-maj=22.4km s-min=12.5km az=156.0*
*IDC **05** 09:46:58.9±1.9, 16°.43S×123°.87E, h0km, mb3.3/2, mbtmp3.4/5, ML3.5/3, Error ellipse: s-maj=61.3km s-min=15.9km az=46.0*

ISC 05 09:46:57.7±1.0,16°.77S±0°.07×123°.71E±0°.06, h10km, n17, σ3s28/27, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**2.27**	**126**	P	**Pb**	**09 47 38.7**	**0.0**
	baz=2.5,SNR=29						
FITZ				S	**Sg**	**09 48 10.5**	**-0.1**
	baz=2.5,SNR=5.5						
FITZ	**Fitzroy Crossi**	**2.27**	**126**	Pn	**Pb**	**09 47 38.7**	**0.0**
	6.6nm,0.3s,baz=309,slow=12,SNR=56						
FITZ				Pg	**Pg**	**09 47 43.4**	**+2.2**
	15nm,0.3s,baz=316,slow=9.8,SNR=92						
FITZ				Sn	**Sb**	**09 48 08.6**	**+1.7**
	14nm,0.3s,baz=351,slow=13,SNR=2.9						
FITZ				Lg	Lg	09 48 14.9	
	21nm,0.3s,baz=108,slow=17,SNR=13						
	10nm,0.4s						
KNRA	**Kununurra**	**4.98**	**78**	P	**Pn**	**09 48 13.7**	**+1.3**
	baz=5.1,SNR=51						
KNRA				S	**Sn**	**09 49 09.8**	**-0.3**
	baz=5.1						
MTN	**Manton Dam**	**8.17**	**62**	P	**Pn**	**09 48 56.4**	**0.0**
	baz=8.2,SNR=15						
WRKA	**Warakurna**	**9.27**	**153**	P	**Pn**	**09 49 14.1**	**+2.6**
	baz=9.6,SNR=11						
WRKA				S	**Sn**	**09 50 57.2**	**+1.2**
	baz=9.6						
KDU	**Kakadu**	**9.40**	**66**	P	**Pn**	**09 49 13.1**	**-0.1**
	baz=9.4,SNR=7.9						
KDU				S	**Sn**	**09 50 52.8**	**-6.3**
	baz=9.4						
WRA	**Warramunga Arr**	**10.57**	**109**	Pn	**Pn**	**09 49 29.4**	**0.0**
	0.4nm,0.3s,baz=288,slow=14,SNR=31						
WRA				Sn	**Sn**	**09 51 21.0**	**-7.0**
	0.5nm,0.3s,baz=283,slow=25,SNR=3.5						
WRA				Lg	Lg	09 52 33.6	
	0.7nm,0.3s,baz=282,slow=27,SNR=3.7						
	0.6nm,0.3s						
WB2	**Warramunga Arr**	**10.59**	**109**	P	**Pn**	**09 49 30.0**	**+0.4**
	baz=11						
WB2				S	**Sn**	**09 51 21.2**	**-7.0**
	baz=11						
GIRL	**Giralia**	**10.66**	**235**	P	**Pn**	**09 49 29.8**	**-0.7**
	baz=11						
MEEK	**Meekatharra**	**10.90**	**205**	P	**Pn**	**09 49 35.4**	**+1.6**
	baz=11,SNR=4.4						
MEEK				S	**Sn**	**09 51 29.4**	**-6.5**
	baz=11						
ASAR	**Alice Springs**	**11.77**	**127**	Pn	**Pn**	**09 49 48.2**	**+2.4**
	0.4nm,0.3s,baz=303,slow=12,SNR=24						
ASAR				Sn	**Sn**	**09 51 53.1**	**-4.2**
	0.4nm,0.3s,baz=301,slow=22,SNR=7.4						
ASAR				Lg	Lg	09 53 15.7	
	0.2nm,0.3s,baz=308,slow=22,SNR=4.6						
	0.8nm,0.4s						
MORW	**Morawa**	**14.12**	**209**	P	**Pn**	**09 50 17.0**	**-0.9**
	baz=14						
FORT	**Forrest**	**14.50**	**165**	P	**Pn**	**09 50 22.6**	**-0.4**
	baz=15						
BLDU	**Ballidu**	**15.19**	**204**	P	**Pn**	**09 50 30.7**	**-1.7**
	baz=15						
OOD	**Oodnadatta**	**15.58**	**137**	P	**Pn**	**09 50 37.8**	**+0.3**
	baz=16,SNR=16						
STKA	**Stephens Creek**	**22.13**	**136**	P	**P**	**09 51 58.7**	**+5.2**
	1.0nm,0.7s,baz=325,slow=12,SNR=4.0						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**73.43**	**332**	P	**P**	**09 58 31.8**	**+1.7**
	0.1nm,0.4s,baz=127,slow=6.1,SNR=1.5						
	0.1nm,0.4s						

*IDC **05** 09:53:53.2±0.6,55°.04S×31°.66W, h0km, mb4.4/10, mbtmp4.4/10, MS3.8/19, Error ellipse: s-maj=23.5km s-min=16.1km az=59.0*
*NEIC **05** 09:53:55.7±1.6,55°.03S±0°.10×31°.9W±0°.2, h10km±1km, mb4.8/29, Error ellipse: s-maj=17.6km s-min=14.9km az=35.0*

ISC 05 09:53:54.8±0.4,55°.00S±0°.08×31°.76W±0°.08, h10km, n173, σ0s56/150, mb4.8/19, MS3.8/18, 1C, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.84**	**283**	Pn	**Pn**	**09 54 39.2**	**-0.9**
ORCD	**Orcadas**	**8.99**	**225**	Pn	**Pn**	**09 56 04.5**	**+0.1**
PMSA	**Palmer Station**	**18.70**	**226**	LR	LR	10 04 05.2	
	comp=Z,267nm,18.6s,baz=62,slow=33						
PMSA	**Palmer Station**	**18.70**	**226**	P	**P**	**09 58 12.9**	**0.0**
PMSA				IAmb	IAmb	09 58 16.2	
	comp=Z,35nm,0.9s						
VNA1	**Neumayer--Stat**	**18.79**	**156**	P	**Pn**	**09 58 15.7**	**+1.4**
VNA3	**Neumayer Olymp**	**18.90**	**158**	P	**Pn**	**09 58 16.5**	**+0.8**
VNA2	**Neumayer--Watz**	**19.19**	**156**	P	**Pn**	**09 58 19.8**	**+0.7**
	baz=309,slow=7.0						
SNAA	**Sanae**	**20.79**	**154**	P	**P**	**09 58 35.4**	**-0.4**
SNAA	**Sanae**	**20.79**	**154**	P	**P**	**09 58 35.0**	**-0.7**
	comp=Z,6.9nm,0.9s,baz=317,slow=12,SNR=19						
	comp=Z,6.9nm,0.9s						
SNAA	**Sanae**	**20.79**	**154**	P	**P**	**09 58 35.5**	**-0.2**
SMAI	**San Martin Ant**	**20.96**	**217**	P	Pn	09 58 39.7	-0.3
MG02	**Cerro Sombrero**	**22.02**	**260**	P	**P**	**09 58 49.3**	**+0.2**
TROLL	**Troll, Antarti**	**22.36**	**153**	P	**P**	**09 58 53.0**	**+0.3**
TRQA	**Tornquist**	**26.52**	**297**	P	**P**	**09 59 33.0**	**+0.6**
TRQA				IAmb	IAmb	09 59 55.0	
	comp=Z,37nm,1.6s						
AY01	**Puyuhuapi**	**28.09**	**275**	P	**P**	**09 59 46.0**	**-0.3**
PLCA	**Paso Flores**	**29.25**	**283**	P	**P**	**09 59 56.4**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=160,slow=7.7,SNR=6.1						
PLCA				LR	LR	10 12 05.2	
	comp=Z,160nm,18.3s,baz=157,slow=37						
	comp=Z,3.3nm,0.9s						
PLCA	**Paso Flores**	**29.25**	**283**	P	**P**	**09 59 56.9**	**+0.1**
LR04	**Corral**	**31.44**	**281**	P	**P**	**10 00 15.2**	**-0.8**
CPUP	**Villa Florida**	**34.21**	**316**	P	**P**	**10 00 40.6**	**+0.2**
	comp=Z

comp=Z,74nm,18.2s,baz=318,slow=33
LBTB Lobatse 51.27 78 P **P** **10 02 59.4 +0.6**
LBTB IAmb IAmb 10 03 00.3
comp=Z,15nm,0.9s
TSUM Tsumeb 51.54 66 LR LR 10 19 29.2
comp=Z,37nm,20.5s,baz=151,slow=30
ETMB Extrema 52.65 315 P **P** **10 03 09.6 +0.6**
ETMB IAmb IAmb 10 03 10.6
comp=Z,7.6nm,1.4s
NNA Nana 55.48 303 LR LR 10 30 00.6
comp=Z,21nm,18.1s,baz=126,slow=39
MACA Manacapuru-AM 56.75 325 P **P** **10 03 38.5 -0.3**
MACA IAmb IAmb 10 03 39.1
comp=Z,10nm,0.6s
LSZ Lusaka 60.49 74 LR LR 10 26 48.4
comp=Z,91nm,18.5s,baz=148,slow=33
BOAV Boa Vista 61.92 327 P **P** **10 04 14.3 -0.1**
BOAV IAmb IAmb 10 04 16.0
comp=Z,25nm,1.5s
DBIC Dimbokro 65.41 30 P **P** **10 04 36.4 -1.1**
comp=Z,13nm,1.0s,baz=236,slow=4.7,SNR=3.9
comp=Z,13nm,1.0s
KOWA Kowa 73.10 28 LR LR 10 30 34.7
comp=Z,91nm,21.0s,baz=215,slow=30
TOA0 Torodi Ar. Sit 73.53 34 P **P** **10 05 29.1 +1.5**
TOA0 IAmb IAmb 10 05 29.6
comp=Z,8.3nm,0.8s
TORD Torodi Ar. Bea 73.53 34 P **P** **10 05 27.7 +0.1**
comp=Z,8.9nm,0.9s,baz=202,slow=6.4,SNR=3.5
TORD LR LR 10 30 44.6
comp=Z,94nm,21.5s,baz=210,slow=30
comp=Z,8.9nm,0.9s
KMBO Kilima Mbogo 77.15 73 LR LR 10 37 07.4
comp=Z,91nm,19.1s,baz=92,slow=34
RPZ Rata Peaks 79.76 197 LR LR 10 35 58.6
comp=Z,300nm,21.4s,baz=50,slow=32
MDT Midelt 90.52 23 LR LR 10 41 29.7
comp=Z,82nm,20.9s,baz=174,slow=32
ATD Arta Tunnel 90.71 71 LR LR 10 43 59.5
comp=Z,40nm,21.5s,baz=20,slow=33
STKA Stephens Creek 93.29 174 LR LR 10 47 48.2
comp=Z,82nm,19.8s,baz=197,slow=35
ESDC Sonseca Array 97.26 21 LR LR 10 47 09.2
comp=Z,56nm,18.7s,baz=150,slow=33
ASAR Alice Springs 100.70 167 P **Pdif** **10 07 41.0 -2.3**
comp=Z,0.2nm,0.6s,baz=172,slow=4.2,SNR=5.7
NVAR Mina Array Bea 118.60 297 PKP **PKiKP** **10 12 42.7 +0.3**
comp=Z,0.4nm,0.8s,baz=140,slow=3.5,SNR=2.6
FINES FINESS Array B 124.71 30 PKP **PKPdf** **10 12 53.1 0.0**
comp=Z,1.6nm,0.7s,baz=194,slow=2.9,SNR=2.0
CMAR Chiang Mai Arr 127.87 114 PKP **PKPdf** **10 13 00.1 -0.4**
comp=Z,2.3nm,0.8s,baz=235,slow=4.1,SNR=7.5
ARCES ARCESS Array B 130.96 23 PKP **PKiKP** **10 13 05.8 +0.1**
comp=Z,4.0nm,1.0s,baz=225,slow=1.1,SNR=4.1
YKA Yellowknife Ar 133.68 320 PKP **PKPdf** **10 13 09.7 -0.4**
comp=Z,1.0nm,0.7s,baz=123,slow=2.3,SNR=3.4
PZH PanZhiHua 135.90 111 PKP **PKPdf** **10 13 16.2 +0.5**
MKAR Makanchi Array 139.04 73 PKhKP PKPpre 10 13 09.4
comp=Z,0.2nm,0.7s,baz=222,slow=1.9,SNR=1.5
MKAR PKP **PKPdf** **10 13 18.0 -2.7**
comp=Z,0.4nm,0.6s,baz=243,slow=1.4,SNR=3.0
ZALV Zalesovo Beam 144.25 65 PKP PKPbc 10 13 28.3 +0.3
comp=Z,5.5nm,0.6s,baz=233,slow=4.0,SNR=18
LZH Lanzhou 144.37 103 ⇑PKP PKPbc 10 13 29.8 +0.6
GTA Gaotai 144.39 95 *e*PKPbc PKPbc 10 13 30.0 +0.9
M27K Edge Creek, AK 144.63 311 P **PKPab** **10 13 29.1 +0.1**
baz=111,SNR=9.4
MCARA McCarthy VSAT 144.78 309 P PKPbc 10 13 29.8 +0.3
baz=112
L27K Beaver Creek, 144.85 312 P **PKPab** **10 13 29.8 +0.1**
baz=110,SNR=23
M26K Nabesna, AK 145.13 311 P **PKPbc** **10 13 30.3 -0.3**
baz=110
EGAK Eagle 145.13 315 P **PKPbc** **10 13 30.0 -0.5**
baz=108,SNR=11
K27K Chicken 145.28 314 P **PKPab** **10 13 31.4 +0.2**
baz=109
BMRM Bremner River 145.35 308 P **PKPbc** **10 13 31.3 -0.1**
baz=111
L26K Log Cabin Wild 145.50 312 P **PKPdf** **10 13 31.7 +0.1**
baz=109
I27K Kandik River 145.57 316 P **PKPbc** **10 13 32.4 +0.4**
baz=107,SNR=21
N25K Chitina, Valde 145.57 309 P **PKPdf** **10 13 32.1 +0.2**
baz=110
XAN Xi'an 145.64 111 PKPbc **PKPdf** **10 13 33.0 +0.2**
XAN sPKP 10 13 45.4
H27K Steamboat Moun 145.71 317 P **PKPbc** **10 13 32.4 +0.1**
baz=106,SNR=16
EYAK Cordova Ski Ar 145.72 307 P **PKPbc** **10 13 32.7 +0.2**
baz=111
G27K Doyon Strip 145.91 318 P **PKPbc** **10 13 33.0 0.0**
baz=105,SNR=10
J26L Joseph Creek 146.04 314 P **PKPbc** **10 13 33.6 +0.1**
baz=107,SNR=17
SCRK Sand Creek 146.06 313 P **PKPbc** **10 13 33.5 -0.1**
baz=107,SNR=11
HARP HAARP 146.08 310 P **PKPbc** **10 13 34.0 +0.4**
baz=109
I26K Coal Creek Min 146.10 315 P **PKPbc** **10 13 33.4 -0.1**
baz=106
KLU Klutina 146.13 308 P **PKPbc** **10 13 34.1 +0.3**
baz=110,SNR=6.1
E27K Coleen River 146.22 321 P **PKPbc** **10 13 34.5 +0.6**
baz=103,SNR=6.5
RIDG Independent Ri 146.36 312 P **PKPbc** **10 13 34.8 +0.3**
baz=107,SNR=16
PAX Paxson 146.40 311 P **PKPbc** **10 13 34.6 0.0**
baz=108,SNR=12
M24K Tolsona, Glenn 146.44 309 P **PKPbc** **10 13 34.8 +0.1**
baz=108
GLI Glacier Island 146.46 307 P **PKPbc** **10 13 34.8 +0.1**
baz=110
G26K Porcupine Rive 146.76 318 P **PKPbc** **10 13 35.4 +0.1**
baz=103
K24K Donnelly Dome 146.77 312 P **PKPbc** **10 13 35.9 +0.3**
baz=106,SNR=5.5
J25K Salcha River, 146.82 314 P **PKPbc** **10 13 35.9 +0.1**
baz=105
SCM Sheep Creek Mo 146.87 308 P **PKPbc** **10 13 36.0 0.0**
baz=108
PWL Port Wells 147.03 306 P **PKPbc** **10 13 36.6 +0.3**
baz=109
M23K Glacier View 147.04 308 P **PKPbc** **10 13 36.6 +0.2**
baz=108,SNR=5.3
F26K Sheenjek River 147.06 320 P **PKPbc** **10 13 36.8 +0.6**
baz=102,SNR=8.0
PRP Porcupine Dome 147.11 315 P **PKPbc** **10 13 36.5 -0.2**
baz=104
C27K Jago River 147.25 323 P **PKPbc** **10 13 37.1 +0.4**
baz=99
KNK Knik Glacier 147.26 307 P **PKPbc** **10 13 37.0 0.0**
baz=108
DHY Denali Highway 147.26 311 P **PKPbc** **10 13 37.4 +0.2**
baz=106,SNR=8.3
WAT6 Susitna Watana 147.28 310 P **PKPbc** **10 13 37.3 +0.1**
baz=107
SEW Seward 147.30 305 P **PKPbc** **10 13 37.0 -0.1**
baz=109
SML Sawmill 147.32 308 P **PKPbc** **10 13 37.5 +0.3**
baz=108
H25K Birch Creek 147.40 317 P **PKPbc** **10 13 37.7 +0.6**
baz=103
HDA Harding Lake 147.43 313 P **PKPbc** **10 13 37.9 +0.6**
baz=104
ILAR Eielson Array 147.49 314 PKPbc **PKPbc** **10 13 37.5 -0.1**
comp=Z,8.3nm,0.9s,baz=127,slow=1.9,SNR=19
F25K Christian Rive 147.60 319 P **PKPbc** **10 13 38.0 +0.1**
baz=101,SNR=6.7
PMR Palmer 147.62 308 P **PKPbc** **10 13 38.0 +0.1**
baz=107
E25K Arctic Village 147.66 320 P **PKPbc** **10 13 38.3 +0.3**
baz=100,SNR=10
WAT1 Susitna Watana 147.71 310 P **PKPbc** **10 13 38.2 0.0**
baz=106
RC01 Rabbit Creek A 147.75 306 P **PKPbc** **10 13 38.4 +0.1**
baz=108
COLA College 147.92 314 P **PKPbc** **10 13 38.2 -0.4**
baz=103
TCOL CIGO, UAF Yank 147.92 314 P **PKPbc** **10 13 38.4 -0.3**
baz=103
MCK McKinley 148.11 311 P **PKPbc** **10 13 40.0 +0.8**
baz=104,SNR=12
M22K Willow 148.12 308 P **PKPbc** **10 13 39.2 0.0**
baz=106,SNR=8.5
D25K Kavik River 148.13 322 P **PKPbc** **10 13 39.1 -0.1**
baz=97,SNR=7.5
H24K Noodor Dome 148.13 316 P **PKPbc** **10 13 39.4 +0.1**
baz=102
G24K Hadweenzic Riv 148.14 317 P **PKPbc** **10 13 39.9 +0.7**
baz=101
HOM Homer 148.20 303 P **PKPbc** **10 13 39.0 -0.5**
baz=109
SUA Susitna One 148.32 307 P **PKPbc** **10 13 40.0 0.0**
baz=106
CUT Chulitna 148.36 309 P **PKPbc** **10 13 39.8 0.0**
baz=105
NEA2 Nenana 148.37 313 P **PKPbc** **10 13 39.4 -0.5**
baz=103
F24K Squaw Lake 148.44 319 P **PKPbc** **10 13 40.1 +0.1**
baz=99,SNR=6.2
TRF Thorofare Moun 148.63 311 P **PKPbc** **10 13 40.9 +0.1**
baz=104
E24K Your Creek 148.74 320 P **PKPbc** **10 13 41.3 +0.5**
baz=98,SNR=8.0
O20K Slope Mountain 148.80 304 P **PKPbc** **10 13 40.4 -0.8**
baz=107
H23K Yukon River 148.81 315 P **PKPbc** **10 13 40.7 -0.3**
baz=100
SKT Skwentna 148.82 308 P **PKPbc** **10 13 40.8 -0.3**
baz=105,SNR=8.1
D24K Happy Valley 148.98 322 P **PKPbc** **10 13 41.2 -0.1**
baz=95
C24K Franklin Bluff 148.99 323 P **PKPbc** **10 13 41.8 +0.5**
baz=95
BPAW Bear Paw Mtn. 149.08 312 P **PKPbc** **10 13 41.8 +0.1**
baz=102,SNR=19
G23K Bananza Creek 149.14 317 P **PKPbc** **10 13 42.1 +0.3**
baz=98
MLY Manley 149.15 314 P **PKPbc** **10 13 41.2 -0.7**
baz=101
TOLK Toolik Lake Re 149.20 321 P **PKPbc** **10 13 42.1 +0.2**
baz=96,SNR=13
COLD Coldfoot 149.28 318 P **PKPbc** **10 13 42.4 +0.3**
baz=98,SNR=6.8
PPLA Purkeypile 149.34 309 P **PKPbc** **10 13 42.8 +0.2**
baz=103
CAST Castle Rocks 149.41 310 P **PKPbc** **10 13 42.8 +0.2**
baz=102,SNR=8.9
M20K Styx River 149.53 307 P **PKPbc** **10 13 43.1 +0.2**
baz=104
H22K Ishtatna Cre 149.56 315 P **PKPbc** **10 13 43.5 +0.6**
baz=99
CHUM Lake Minchumin 149.61 311 P **PKPbc** **10 13 42.8 -0.1**
baz=101,SNR=5.4
D23K Nanushuk River 149.63 321 P **PKPbc** **10 13 43.1 +0.2**
baz=94
C23K Itkillik River 149.66 323 P **PKiKP** **10 13 43.8 -0.2**
baz=93,SNR=5.3
I21K Tanana 149.70 314 P **PKPbc** **10 13 43.7 +0.5**
baz=100
G22K Bettles 149.75 317 P **PKiKP** **10 13 44.0 -0.2**
baz=97
NRIK Noril'sk 149.79 38 PKPbc **PKPbc** **10 13 43.7 +0.4**
comp=Z,2.0nm,0.4s,baz=240,slow=5.4,SNR=3.8
N19K Bonanza Creek 149.89 305 P **PKPbc** **10 13 43.4 -0.5**
baz=105
R17K Ugashik Creek 149.90 298 P **PKPbc** **10 13 43.4 -0.5**
baz=109
O18K Koktuh Hills 149.98 303 P **PKPbc** **10 13 43.8 -0.3**
baz=106
E22K Anaktuvuk Pass 149.99 320 P **PKPbc** **10 13 43.9 0.0**
baz=94
L20K Farewell, AK 150.01 308 P **PKPbc** **10 13 43.7 -0.4**
baz=103
F22K John River 150.07 318 P **PKPbc** **10 13 44.4 +0.3**
baz=95,SNR=9.5
H21K Melozitna Rive 150.11 315 P **PKPbc** **10 13 44.2 0.0**
baz=98,SNR=11
M19K Big River Lodg 150.12 307 P **PKPbc** **10 13 44.2 -0.1**
baz=103
K20K Telida 150.27 310 P **PKPbc** **10 13 44.3 -0.3**
baz=101,SNR=7.2
L19K White Mountain 150.39 307 P **PKPbc** **10 13 44.7 -0.2**
baz=102
P17K Kvichak River 150.40 301 P **PKPbc** **10 13 44.7 -0.2**
baz=107
J20K Nowinta River 150.45 311 P **PKPbc** **10 13 45.1 +0.1**
baz=100
G21K Allakaket 150.50 316 P **PKPbc** **10 13 45.0 0.0**
baz=96
N18K Kilae Creek 150.53 304 P **PKPbc** **10 13 45.2 -0.1**
baz=104
F21K Alatna River 150.55 318 P **PKPbc** **10 13 45.8 +0.6**
baz=95,SNR=6.5
TTA Tatalina 151.06 309 P **PKPbc** **10 13 47.0 +0.4**
baz=100,SNR=6.5
GCSA Galena City Sc 151.70 312 P **PKiKP** **10 13 48.8 +0.5**
N16K Nishlik Lake 151.86 303 P **PKPbc** **10 13 48.9 +0.4**
baz=103
SONM Songino Array 153.27 88 PKPbc **PKPbc** **10 13 51.1 -1.1**
comp=Z,4.0nm,0.8s,baz=225,slow=2.3,SNR=12

NEIC ***05*** *10:02:55.4±0.5, 53.55N±0.09×161.5W±0.2, h5km±19km, Error ellipse: s-maj=16.4km s-min=8.3km az=134.0*
AEIC 05 10:02:57±1.3, 53.55N±0.05×161.6W±0.1, h12km±5km, ML2.5/10, Error ellipse: s-maj=9.5km s-min=7.3km az=83.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.69**	**322**			Pn	10 03 26.1	-0.2
FALS						Sb	10 03 48.8	-0.5
ISLZ	**Isanotski Laza**	**1.72**	**314**			Pn	10 03 26.6	-0.1
ISLZ						Sn	10 03 48.7	0.0
ISNN	**Isanotski Nort**	**1.82**	**316**			Pn	10 03 28.6	+0.5
ISNN						Sb	10 03 52.6	-0.3
SDPT	**Sand Point**	**1.92**	**19**	Pn		Pn	10 03 28.4	-1.1
SSBA	**Shishaldin**	**1.93**	**311**			Pn	10 03 29.9	+0.3
AKUT	**Akutan**	**2.54**	**285**	Pn		Pn	10 03 39.0	+1.0
UNV	**Unalaska Valle**	**2.93**	**278**	Pn		Pn	10 03 43.5	+0.2

IDC ***05*** *10:21:45.0±0.5, 13.12N×145.62E, h0km, mb4.2/23, mbtmp4.2/23, MS3.7/29, Error ellipse: s-maj=15.6km s-min=12.9km az=76.0*
BJI ***05*** *10:21:50.0±0.0, 13.10N×145.40E, h40km, mb4.5/20, mB4.9/11, Ms4.1/8, Ms7 3.9/8*
NEIC ***05*** *10:21:52.7±1.2, 13.07N±0.08×145.28E±0.10, h43km±7km, mb4.6/44, Error ellipse: s-maj=13.7km s-min=12.2km az=79.0*
ISC 05 10:21:51.6±0.5, 13.05N±0.08×145.43E±0.08, h43km, n118, σ1s28/92, mb4.5/47, MS3.9/36, 4C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.77**	**314**			Pn	**10 22 05.9**	**0.0**
	1μm,0.3s,baz=148,slow=10,SNR=523							
GUMO						Sn	**10 22 18.7**	**+2.3**
	1μm,0.3s,baz=330,slow=20,SNR=9.6							
GUMO	**Guam**	**0.77**	**314**			Pn	**10 22 06.1**	**+0.1**
SIJI	**Sorong**	**19.72**	**226**	LR		LR	10 35 25.9	
	comp=Z,166nm,18.7s,baz=36,slow=41							
DAV	**Davao City (W)**	**20.43**	**255**	LR		LR	10 34 26.5	
	comp=Z,106nm,20.2s,baz=88,slow=37							
FAKI	**Fak Fak**	**20.57**	**220**			Pn	10 26 27.9	-1.5
JHJ	**Hachijo jima 2**	**20.63**	**346**	LR		LR	10 33 28.2	
	comp=Z,94nm,18.7s,baz=210,slow=34							
H11S3	**WAKE ISLAND Hy 21.15**	**72**		T		T	10 48 36.3	
	baz=260,slow=71,SNR=9.5							
H11S1	**WAKE ISLAND Hy 21.16**	**72**		T		T	10 48 35.4	
	baz=260,slow=71,SNR=7.3							
H11S2	**WAKE ISLAND Hy 21.16**	**72**		T		T	10 48 35.3	
	baz=260,slow=71,SNR=7.0							
H11N1	**WAKE ISLAND Hy 21.61**	**69**		T		T	10 49 32.6	
	baz=256,slow=73,SNR=12							
H11N2	**WAKE ISLAND Hy 21.62**	**69**		T		T	10 49 31.5	
	baz=256,slow=73,SNR=12							
H11N3	**WAKE ISLAND Hy 21.63**	**69**		T		T	10 49 33.2	
	baz=256,slow=73,SNR=13							
PMG	**Port Moresby**	**22.38**	**176**	P		**P**	**10 26 45.7**	**-0.6**
	23nm,0.8s,baz=52,slow=5.7,SNR=3.0							
	23nm,0.8s							
INU	**Inuyama**	**23.47**	**343**	P		**P**	**10 26 56.0**	**-1.2**
INU						IAmb	IAmb	10 26 58.7
	comp=Z,18nm,1.0s							
MJAR	**Matsushiro Arr**	**24.27**	**346**	P		**P**	**10 27 02.3**	**-2.5**
	comp=Z,2.0nm,0.6s,baz=177,slow=10,SNR=9.0							
MJAR						LR	LR	10 36 08.6
	comp=Z,173nm,18.2s,baz=158,slow=36							
	comp=Z,2.0nm,0.6s							
MAJO	**Matsushiro**	**24.27**	**346**	P		**P**	**10 27 04.5**	**-0.3**
JHS	**Saijyo**	**24.53**	**335**	P		**P**	**10 27 07.1**	**-0.1**
JHS						IAmb	IAmb	10 27 14.2
	comp=Z,32nm,1.3s							
JMM	**Marumori**	**25.05**	**351**	P		**P**	**10 27 11.9**	**+0.1**
SSLB	**Suanglung**	**25.52**	**298**	P		**P**	**10 27 16.6**	**+0.3**
SSLB						IAmb	IAmb	10 27 59.8
	comp=Z,29nm,1.2s							
HNR	**Honiara**	**26.59**	**146**	LR		LR	10 38 18.6	
	comp=Z,2μm,19.4s,baz=125,slow=37							
COEN	**Coen**	**26.93**	**185**	P		**P**	**10 27 29.1**	**+0.1**
COEN						IAmb	IAmb	10 28 10.7
	comp=Z,28nm,1.4s							
KSRS	**Korea Array**	**28.90**	**330**	P		**P**	**10 27 46.2**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=145,slow=9.4,SNR=9.6							
KSRS						PcP	**PcP**	**10 30 54.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=147,slow=2.5,SNR=2.7							
	comp=Z,1.4nm,0.7s							
NJ2	**Nanjing**	**30.84**	**312**	*e*P		**P**	**10 28 01.4**	**-2.3**
NJ2						pmax	pmax	
	comp=Z,12nm,0.5s							
KNRA	**Kununurra**	**32.97**	**211**	P		**P**	**10 28 23.1**	**+0.6**
USRK	**Ussuriysk Ar.**	**33.11**	**342**	P		**P**	**10 28 21.4**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=163,slow=10,SNR=4.6							
USRK						LR	LR	10 39 26.6
	comp=Z,84nm,20.1s,baz=220,slow=32							
	comp=Z,1.3nm,0.7s							
WB0	**Warramunga Arr**	**34.38**	**199**	P		**P**	**10 28 34.3**	**-0.4**
WB0						IAmb	IAmb	10 28 35.9
	comp=Z,4.9nm,0.6s							
WR0	**Warramunga Arr**	**34.51**	**198**	P		**P**	**10 28 35.9**	**0.0**
WR0						IAmb	IAmb	10 29 11.3
	comp=Z,10nm,1.2s							
WRAB	**Tennant Creek**	**34.55**	**199**	P		**P**	**10 28 35.1**	**-1.1**
WRAB						IAmb	IAmb	10 28 37.5
	comp=Z,6.1nm,0.6s							
WB2	**Warramunga Arr**	**34.55**	**199**	P		**P**	**10 28 35.4**	**-0.9**
WB2						IAmb	IAmb	10 28 37.6
	comp=Z,6.7nm,0.6s							
WRA	**Warramunga Arr**	**34.56**	**199**	P		**P**	**10 28 36.2**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=22,slow=9.8,SNR=73							
	comp=Z,4.0nm,0.6s							
WRA	**Warramunga Arr**	**34.56**	**199**	P		**P**	**10 28 36.0**	**-0.3**
QIZ	**Qiongzhong**	**34.67**	**285**	P		**P**	**10 28 36.1**	**-1.3**
QIZ				PP		**PnPn**	**10 29 52.6**	**-1.5**
QIZ				S		**S**	**10 34 08.2**	**+3.7**
QIZ				sS		**sS**	**10 34 22.5**	**+1.1**
QIZ				pmax		pmax		
	comp=Z,130nm,11.2s							
QIZ				LR		LR		
	comp=Z,150nm,12.7s							
QIZ				LR		LR		
	comp=Z,240nm,15.9s							
QIZ				LR		LR		
	comp=Z,190nm,17.5s							
HNS	**HongShan**	**36.60**	**317**	⇑P		**P**	**10 28 53.8**	**+0.2**
HNS				*e*S		**S**	**10 34 31.7**	**-1.8**
HNS				LR		LR		
	comp=Z,210nm,15.4s							
HNS				LR		LR		
	comp=Z,210nm,17.9s							
FITZ	**Fitzroy Crossi**	**36.60**	**213**	P		**P**	**10 28 54.5**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=33,slow=14,SNR=6.2							
	comp=Z,1.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**36.60**	**213**	P		**P**	**10 28 54.8**	**+1.0**
AS31	**Alice Springs**	**38.20**	**197**	P		**P**	**10 29 07.4**	**0.0**
ASAR	**Alice Springs**	**38.20**	**197**	P		**P**	**10 29 07.7**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=24,slow=9.6,SNR=73							
	comp=Z,2.7nm,0.6s							
ASAR	**Alice Springs**	**38.20**	**197**	P		**P**	**10 29 07.4**	**0.0**
XAN	**Xi'an**	**39.16**	**309**	*e*P		**P**	**10 29 12.6**	**-2.8**
XAN				pP		pP	10 29 24.5	-1.8
XAN				pmax		pmax		
	comp=Z,5.0nm,1.2s							
XAN				LR		LR		
	comp=Z,150nm,19.2s							
XAN				LR		LR		
	comp=Z,160nm,19.9s							
XAN				LR		LR		
	comp=Z,230nm,18.6s							
HHC	**Hu-ho-hao-te**	**40.53**	**319**	*e*P		**P**	**10 29 24.0**	**-2.8**
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,130nm,5.4s							
HHC				LR		LR		
	comp=Z,180nm,19.2s							
HHC				LR		LR		
	comp=Z,260nm,14.9s							
HHC				LR		LR		
	comp=Z,260nm,17.5s							
DZM	**Mont Dzumac**	**40.54**	**149**	*e*LR		LR	10 40 41.2	
	comp=Z,130nm,23.4s							
MBWA	**Marble Bar**	**42.35**	**217**	P		**P**	**10 29 42.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**44.97**	**283**	P		**P**	**10 30 03.3**	**+0.3**
	comp=Z,3.8nm,0.6s,baz=82,slow=6.6,SNR=22							
CMAR				LR		LR	10 50 05.3	
	comp=Z,51nm,18.4s,baz=75,slow=38							
	comp=Z,3.8nm,0.6s							
SONM	**Songino Array**	**47.48**	**325**	P		**P**	**10 30 23.1**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=131,slow=8.1,SNR=1.8							
SONM				PcP		**PcP**	**10 31 53.1**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=143,slow=3.3,SNR=4.7							
SONM				LR		LR	10 50 28.5	
	comp=Z,114nm,19.6s,baz=101,slow=36							
	comp=Z,0.6nm,0.3s							
SEY	**Seymchan**	**50.05**	**4**	P		**P**	**10 30 40.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=102,slow=3.0,SNR=3.8							
	comp=Z,1.1nm,0.6s							
AFI	**Afiamalu**	**50.15**	**121**	LR		LR	10 49 27.1	
	comp=Z,124nm,18.9s,baz=40,slow=33							
YAK	**Yakutsk**	**50.20**	**350**	LR		LR	10 52 06.6	
	comp=Z,46nm,21.1s,baz=90,slow=36							
MORW	**Morawa**	**50.59**	**214**	P		**P**	**10 30 46.5**	**+0.2**
RAO	**Raoul Island**	**54.96**	**140**	LR		LR	10 52 06.8	
	comp=Z,80nm,20.4s,baz=292,slow=33							
WMQ	**Urumqi**	**57.90**	**314**	*e*P		**P**	**10 31 42.3**	**+2.8**
RPZ	**Rata Peaks**	**61.15**	**159**	LR		LR	10 59 31.4	
	comp=Z,55nm,18.4s,baz=318,slow=37							
MK31	**Makanchi Array**	**62.26**	**316**	P		**P**	**10 32 08.8**	**-0.4**
MKAR	**Makanchi Array**	**62.26**	**316**	P		**P**	**10 32 09.3**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=91,slow=7.9,SNR=21							
MKAR				LR		LR	11 00 55.6	
	comp=Z,47nm,19.0s,baz=193,slow=38							
	comp=Z,1.5nm,0.5s							
ZALV	**Zalesovo Beam**	**62.38**	**324**	P		**P**	**10 32 09.8**	**0.0**
	comp=Z,0.8nm,0.4s,baz=101,slow=7.5,SNR=2.5							
ZALV				PcP		**PcP**	**10 32 49.2**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=108,slow=4.4,SNR=4.8							
ZALV				LR		LR	10 59 51.8	
	comp=Z,74nm,19.8s,baz=80,slow=37							
	comp=Z,0.8nm,0.4s							
RAR	**Rarotonga**	**63.67**	**122**	LR		LR	10 52 32.2	
	comp=Z,45nm,21.4s,baz=288,slow=29							
KDAK	**Kodiak Island**	**64.23**	**32**	P		**P**	**10 32 21.6**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=220,slow=20,SNR=1.1							
KDAK				LR		LR	11 01 18.7	
	comp=Z,61nm,19.0s,baz=274,slow=37							
	comp=Z,3.1nm,0.6s							
KDAK	**Kodiak Island**	**64.23**	**32**	P		**P**	**10 32 25.0**	**+3.0**
KURK	**Kurchatov**	**65.35**	**320**	P		**P**	**10 32 29.4**	**0.0**
K20K	**Telida**	**65.38**	**26**	P		**P**	**10 32 31.3**	**+1.9**
K20K				IAmb		IAmb	10 32 40.4	
	comp=Z,7.0nm,0.8s							
KURBB	**Kurchatov Arra**	**65.39**	**320**	LR		LR	11 02 24.9	
	comp=Z,90nm,18.2s,baz=83,slow=37							
J20K	**Nowinta River**	**65.64**	**25**	P		**P**	**10 32 32.1**	**+1.0**
CAST	**Castle Rocks**	**66.23**	**26**	P		**P**	**10 32 35.0**	**+0.1**
IMAR	**Indian Mountai**	**66.47**	**23**	P		**P**	**10 32 37.2**	**+0.9**
H21K	**Melozitna Rive**	**66.71**	**23**	P		**P**	**10 32 37.7**	**-0.3**
H21K				IAmb		IAmb	10 32 52.2	
	comp=Z,7.8nm,1.1s							
NRIK	**Noril'sk**	**66.81**	**341**	P		**P**	**10 32 37.9**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=102,slow=8.4,SNR=3.8							
	comp=Z,3.0nm,0.5s							
I21K	**Tanana**	**66.87**	**24**	P		**P**	**10 32 40.0**	**+1.2**
I21K				IAmb		IAmb	10 33 02.3	
	comp=Z,9.5nm,1.2s							
BPAW	**Bear Paw Mtn.**	**66.92**	**25**	P		**P**	**10 32 40.5**	**+1.2**
BPAW				IAmb		IAmb	10 32 52.5	
	comp=Z,6.6nm,1.1s							
AAK	**Ala-Archa**	**67.28**	**311**	LR		LR	11 03 11.4	
	comp=Z,67nm,19.8s,baz=99,slow=37							
MLY	**Manley**	**67.32**	**24**	P		**P**	**10 32 42.9**	**+1.1**
MLY				IAmb		IAmb	10 32 51.5	
	comp=Z,7.5nm,1.0s							
H23K	**Yukon River**	**68.04**	**24**	P		**P**	**10 32 47.5**	**+1.1**
DHY	**Denali Highway**	**68.17**	**27**	P		**P**	**10 32 47.9**	**+0.5**

DHY					IAmb	IAmb	10 32 60.0		
	comp=Z,3.7nm,0.8s								
IL31		**68.81**	**25**	P		**P**	**10 32 50.6**	**-0.5**	
ILAR	**Eielson Array**	**68.81**	**25**	P		**P**	**10 32 49.8**	**-1.4**	
	comp=Z,1.8nm,0.6s,baz=248,slow=5.6,SNR=31								
	comp=Z,1.8nm,0.6s								
ILAR	**Eielson Array**	**68.81**	**25**	P		**P**	**10 32 50.6**	**-0.6**	
TOLK	**Toolik Lake Re**	**68.92**	**21**	P		**P**	**10 32 52.9**	**+1.1**	
TOLK					IAmb	IAmb	10 33 14.8		
	comp=Z,6.0nm,0.9s								
DOT	**Dot Lake**	**69.76**	**27**	P		**P**	**10 32 57.4**	**+0.3**	
DOT					IAmb	IAmb	10 33 06.4		
	comp=Z,5.1nm,0.8s								
J26L	**Joseph Creek**	**70.15**	**26**	P		**P**	**10 33 00.1**	**+0.6**	
J26L					IAmb	IAmb	10 33 08.3		
	comp=Z,6.0nm,1.1s								
BMAR	**Burnt Mountain**	**70.38**	**23**	P		**P**	**10 33 02.3**	**+1.5**	
L27K	**Beaver Creek,**	**70.64**	**27**	P		**P**	**10 33 02.8**	**+0.3**	
BCAR	**Beaver Creek A**	**70.66**	**27**	P		**P**	**10 33 03.8**	**+1.1**	
BVAR	**Borovoye Array**	**70.69**	**322**	LR		LR	11 05 41.1		
	comp=Z,83nm,19.2s,baz=96,slow=37								
BRVK	**Borovoye**	**70.75**	**322**	P		**P**	**10 33 03.6**	**+0.3**	
BRVK					IAmb	IAmb	10 33 04.4		
	comp=Z,7.5nm,0.7s								
PPT	**Papeete**	**70.99**	**114**	LR		LR	10 59 12.3		
	comp=Z,103nm,21.1s,baz=298,slow=32								
PPT2	**Papeete2**	**71.00**	**114**	*e*LR		LR	10 54 50.0		
	comp=Z,138nm,26.2s								
EGAK	**Eagle**	**71.22**	**26**	P		**P**	**10 33 07.5**	**+1.6**	
EGAK					IAmb	IAmb	10 33 27.5		
	comp=Z,9.2nm,1.3s								
DAWY	**Dawson**	**71.87**	**27**	P		**P**	**10 33 11.0**	**+1.1**	
DAWY					IAmb	IAmb	10 33 31.2		
	comp=Z,7.5nm,1.2s								
TBI	**Tubuai**	**73.23**	**119**	*e*LR		LR	10 55 51.3		
	comp=Z,50nm,24.5s								
INK	**Inuvik**	**74.65**	**22**	P		**P**	**10 33 25.2**	**-0.9**	
	comp=Z,3.3nm,0.9s,baz=234,slow=8.8,SNR=4.8								
	comp=Z,3.3nm,0.9s								
INK	**Inuvik**	**74.65**	**22**	P		**P**	**10 33 27.5**	**+1.4**	
INK					IAmb	IAmb	10 33 51.1		
	comp=Z,17nm,1.5s								
DLBC	**Dease Lake**	**76.13**	**33**	P		**P**	**10 33 37.0**	**+2.1**	
DLBC					IAmb	IAmb	10 33 49.9		
	comp=Z,6.3nm,0.8s								
ABKAR	**Akbulak array**	**77.31**	**318**	P		**P**	**10 33 41.7**	**0.0**	
ARU	**Arti**	**77.52**	**325**	LR		LR	11 10 24.4		
	comp=Z,49nm,18.3s,baz=156,slow=38								
BBB	**Bella Bella**	**77.65**	**39**	LR		LR	11 01 44.3		
	comp=Z,60nm,20.1s,baz=274,slow=31								
HOLB	**Holberg**	**77.78**	**41**	P		**P**	**10 33 46.6**	**+2.3**	
AKTO	**Aktyubinsk**	**78.43**	**319**	LR		LR	11 09 14.7		
	comp=Z,81nm,19.7s,baz=93,slow=36								
NLWA	**Neilton Lookou**	**80.99**	**43**	P		**P**	**10 34 04.1**	**+2.2**	
YBH	**Yreka Blue Hor**	**82.81**	**49**	LR		LR	11 03 40.0		
	comp=Z,56nm,21.4s,baz=306,slow=30								
YKA	**Yellowknife Ar**	**83.08**	**27**	P		**P**	**10 34 12.0**	**-0.4**	
	comp=Z,3.0nm,0.8s,baz=283,slow=4.9,SNR=7.8								
	comp=Z,3.0nm,0.8s								
EUNU	**Eureka**	**83.32**	**8**	P		**P**	**10 34 14.7**	**+1.1**	
NVAR	**Mina Array Bea**	**86.82**	**51**	P		**P**	**10 34 32.3**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=256,slow=6.5,SNR=9.0								
	comp=Z,0.6nm,0.7s								
WALA	**Waterton Lakes**	**87.10**	**40**	P		**P**	**10 34 36.0**	**+2.9**	
ARCES	**ARCESS Array B**	**87.76**	**342**	P		**P**	**10 34 35.6**	**-0.1**	
	comp=Z,1.7nm,0.6s,baz=76,slow=5.1,SNR=6.7								
ARCES					LR	LR	11 16 19.5		
	comp=Z,44nm,20.4s,baz=276,slow=37								
	comp=Z,1.7nm,0.6s								
ARCES	**ARCESS Array B**	**87.76**	**342**	P		**P**	**10 34 35.2**	**-0.5**	
ELK	**Elko**	**88.52**	**49**	P		**P**	**10 34 38.9**	**-1.3**	
	comp=Z,2.1nm,0.7s,baz=232,slow=11,SNR=7.3								
ELK					LR	LR	11 10 15.3		
	comp=Z,39nm,18.3s,baz=274,slow=33								
	comp=Z,2.1nm,0.7s								
PFO	**Pinyon Flats O**	**89.49**	**56**	LR		LR	11 10 53.0		
	comp=Z,62nm,19.6s,baz=246,slow=33								
FINES	**FINESS Array B**	**91.88**	**335**	P		**P**	**10 34 53.2**	**-1.9**	
	comp=Z,1.3nm,0.5s,baz=85,slow=4.2,SNR=11								
	comp=Z,1.3nm,0.5s								
PDAR	**Pinedale Array**	**91.95**	**45**	P		**P**	**10 34 55.8**	**-0.4**	
	comp=Z,0.3nm,0.6s,baz=202,slow=1.6,SNR=4.3								
	comp=Z,0.3nm,0.6s								
AKASG	**Malin Array Be**	**95.77**	**325**	LR		LR	11 20 55.1		
	comp=Z,58nm,18.1s,baz=39,slow=37								
HFS	**Hagfors**	**97.49**	**338**	LR		LR	11 22 45.4		
	comp=Z,31nm,19.8s,baz=24,slow=38								
NOA	**NORSAR Array B**	**97.74**	**339**	LR		LR	11 22 57.3		
	comp=Z,27nm,19.0s,baz=30,slow=38								
BRTR	**Keskin Array B**	**97.83**	**314**	P		**P**	**10 35 21.1**	**-1.8**	
	comp=Z,0.4nm,0.4s,baz=62,slow=3.4,SNR=4.7								
	comp=Z,0.4nm,0.4s								
TORD	**Torodi Ar. Bea**	**135.62**	**305**	PKP		**PKPdf**	**10 41 07.2**	**-1.1**	
	comp=Z,0.7nm,0.7s,baz=77,slow=1.9,SNR=1.3								
PLCA	**Paso Flores**	**138.17**	**139**	PKP		**PKPdf**	**10 41 11.8**	**-0.5**	
	comp=Z,1.0nm,0.8s,baz=234,slow=16,SNR=3.6								
DBIC	**Dimbokro**	**144.57**	**302**	PKP		PKPbc	10 41 24.0	+0.8	
	comp=Z,10nm,0.6s,baz=70,slow=3.0,SNR=14								
KIC	**Kosan Boka**	**144.65**	**301**	⇑*i*PKP1		PKPbc	10 41 24.2	+0.7	
	comp=Z,16nm,0.5s								
TIC	**Toumodi**	**144.72**	**302**	⇑*i*PKP1		PKPbc	10 41 24.4	+0.7	
	comp=Z,21nm,0.7s								
LIC	**Lamto**	**144.96**	**301**	⇑*i*PKP1		**PKPab**	**10 41 25.1**	**+0.7**	
	comp=Z,46nm,0.6s								
LPAZ	**La Paz**	**147.39**	**100**	PKPbc		**PKPdf**	**10 41 31.1**	**+1.1**	
	comp=Z,0.6nm,0.6s,baz=101,slow=3.1,SNR=2.7								

*IDC **05** 10:23:12.9±5.6, 19°.52N×108°.92W, h0km, mb3.7/5, mbtmp3.7/8, ML3.4/3, MS3.3/15, Error ellipse: s-maj=88.9km s-min=61.7km az=144.0*

*NEIC **05** 10:23:15.7±2.5, 19°.42N±0°.09×109°.23W±0°.03, h10km±2km, mb4.0/61, Error ellipse: s-maj=15.6km s-min=3.0km az=164.0*

*MEX **05** 10:23:18.1±0.3, 19°.69N×109°.35W, h10km, MD4.0*

ISC 05 10:23:14.8±0.8, 19°.47N±0°.07×109°.24W±0°.07, h10km, n89, σ1§19°/77, mb4.0/15, MS3.2/11, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H06E		**1.73**	**247**			**Pn**	**10 23 44.5**	**-0.4**
H06E						**Sn**	**10 24 06.0**	**-1.1**
H06E		**1.73**	**247**	*e*P		**Pn**	**10 23 44.5**	**-0.4**
H06E				*e*S		**Sn**	**10 24 06.0**	**-1.1**
H06E1	**SOCORRO T-PHAS**	**1.74**	**247**	Pn		**Pn**	**10 23 44.9**	**-0.1**
H06E1				T		T	10 26 05.3	
	SNR=230							
H06N1	**SOCORRO T-PHAS**	**1.76**	**250**	Pn		**Pn**	**10 23 43.7**	**-1.6**
H06N	**Isla Socorro**	**1.76**	**250**			**Pn**	**10 23 45.3**	**0.0**
H06N						**Sn**	**10 24 06.2**	**-1.7**
H06N	**Isla Socorro**	**1.76**	**250**	*e*P		**Pn**	**10 23 45.3**	**0.0**
H06N				*e*S		**Sn**	**10 24 06.2**	**-1.7**
H06S1	**SOCORRO T**	**1.78**	**246**	Pn		**Pn**	**10 23 46.8**	**+1.2**
H06S		**1.79**	**246**			**Pn**	**10 23 45.9**	**+0.2**
H06S						**Sn**	**10 24 07.4**	**-1.1**
H06S		**1.79**	**246**	*e*P		**Pn**	**10 23 45.9**	**+0.2**
H06S				*e*S		**Sn**	**10 24 07.4**	**-1.1**
SLBS	**Sierra La Lagu**	**4.25**	**351**	Pn		**Pn**	**10 24 17.8**	**-1.9**
LPIG	**La Paz**	**4.72**	**348**	Pn		**Pn**	**10 24 24.7**	**-1.3**
	5.4nm,0.3s,baz=284,slow=1.4,SNR=8.3							
LPIG						Sn		**Sn**	**10 25 18.6**	**-2.2**
	6.2nm,0.3s,baz=180,slow=13,SNR=5.7							
LPIG						LR	LR	10 25 55.6		
	comp=Z,320nm,20.2s,baz=180,slow=34								
	30nm,0.5s								
ZAIG	**Zacatecas**	**7.04**	**61**			Pn	10 24 54.4	-3.8
TLIG	**Tlapa**	**10.30**	**99**			**Pn**	**10 25 42.4**	**-0.4**
TXAR	**Lajitas Array**	**11.05**	**26**	Pn		**Pn**	**10 25 51.5**	**-1.6**
	0.1nm,0.3s,baz=205,slow=11,SNR=8.8							
TXAR						LR	LR	10 28 50.8		
	comp=Z,39nm,18.1s,baz=206,slow=31								
	0.8nm,0.8s								
319A	**Douglas**	**11.86**	**360**	Pn		**Pn**	**10 26 05.7**	**+1.5**
833A	**Chaparral WMA,**	**12.59**	**44**	Pn		**Pn**	**10 26 13.0**	**-1.1**
TUC	**Tucson**	**12.87**	**354**	Pn		**Pn**	**10 26 19.8**	**+2.0**
121A	**Cookes Peak, D**	**13.08**	**5**	Pn		**Pn**	**10 26 20.8**	**0.0**
Y14A	**Wickenburg**	**14.80**	**348**			**Pn**	**10 26 45.4**	**+1.2**
BNM	**Barren Site**	**14.81**	**8**	Pn		**Pn**	**10 26 44.0**	**-0.5**
BLYC	**Blythe**	**14.99**	**343**	Pn		**Pn**	**10 26 48.3**	**+1.6**
X18A	**Snowflake**	**15.02**	**358**	Pn		**Pn**	**10 26 47.8**	**+0.4**
X16A	**Lo Mia Camp, P**	**15.02**	**353**			**Pn**	**10 26 49.0**	**+1.6**
X16A						IAmb	IAmb	10 27 01.3		
	comp=Z,8.2nm,1.5s								
PFO	**Pinyon Flats O**	**15.49**	**337**	LR		LR	10 32 21.0		
	comp=Z,168nm,19.0s,baz=160,slow=35								
ANMO	**Albuquerque**	**15.62**	**9**	Pn		**Pn**	**10 26 53.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=1.8								
ANMO						LR	LR	10 32 09.5		
	comp=Z,74nm,19.5s,baz=192,slow=35								
	comp=Z,0.3nm,0.3s								
WUAZ	**Wupatki**	**16.10**	**354**	P		**Pn**	**10 27 02.4**	**+1.0**
V12A	**Nelson**	**16.94**	**344**			**Pn**	**10 27 12.7**	**+0.7**
V12A						IAmb	IAmb	10 27 15.1		
	comp=Z,12nm,1.3s								
QSM	**Queen of Sheba**	**17.76**	**339**	IAmb		IAmb	10 27 24.9		
	comp=Z,8.4nm,1.1s								
LCMT	**Little Creek M**	**17.83**	**349**	IAmb		IAmb	10 27 26.4		
	comp=Z,9.9nm,1.2s								
GWY	**Greenwater Val**	**17.89**	**340**	P		**P**	**10 27 25.9**	**+1.2**
CCUT	**Cedar City**	**18.38**	**350**			**Pn**	**10 27 32.9**	**+3.0**
CCUT						IAmb	IAmb	10 27 33.8		
	comp=Z,13nm,1.3s								
TPNV	**Topopah Spring**	**18.47**	**342**	P		**P**	**10 27 32.0**	**+1.0**
SDCO	**Great Sand Dun**	**18.50**	**9**	P		**P**	**10 27 32.5**	**+1.0**
SDCO						IAmb	IAmb	10 27 34.8		
	comp=Z,9.4nm,1.4s								
PRN	**Pahroc Range**	**18.58**	**345**	P		**P**	**10 27 33.2**	**+1.1**
PV07	**Paradox Valley**	**18.91**	**1**	P		**P**	**10 27 36.1**	**+0.2**
PV07						IAmb	IAmb	10 27 39.0		
	comp=Z,9.9nm,1.3s								
S11A	**Rachel**	**18.98**	**344**	IAmb		IAmb	10 28 02.7		
	comp=Z,15nm,1.4s								
DSP	**Deep Springs**	**19.40**	**339**	P		**Pn**	**10 27 44.6**	**+2.5**
DSP						IAmb	IAmb	10 27 45.9		
	comp=Z,10nm,1.5s								
PSUT	**Pine Spring**	**19.42**	**349**	P		**P**	**10 27 41.6**	**+0.2**
PSUT						IAmb	IAmb	10 27 46.1		
	comp=Z,14nm,1.2s								
R11A	**Troy Canyon, C**	**19.61**	**345**	P		**P**	**10 27 44.2**	**+0.7**
SRU	**San Rafael Swe**	**19.61**	**357**	P		**P**	**10 27 43.6**	**+0.2**
SMCO	**Snowmass**	**19.74**	**5**	IAmb		IAmb	10 28 28.3		
	comp=Z,10nm,1.2s								
TPH	**Tonopah**	**19.80**	**341**	P		**P**	**10 27 47.6**	**+2.0**
SPR3	**Spring Creek 3**	**19.96**	**348**			**P**	**10 27 47.6**	**+0.2**
SPR3						IAmb	IAmb	10 27 50.9		
	comp=Z,7.4nm,1.0s								
OMMB	**Old Mammoth Mi**	**19.99**	**337**	P		**P**	**10 27 49.6**	**+1.8**
LHV	**Little Huntoon**	**20.38**	**339**	P		Pn	10 27 54.2	+0.5
NV11	**Mina Array Sit**	**20.43**	**340**	P		**P**	**10 27 53.2**	**+0.9**
NV11						IAmb	IAmb	10 27 58.2		
	comp=Z,12nm,1.3s								
NVAR	**Mina Array Bea**	**20.47**	**339**	P		**P**	**10 27 54.2**	**+1.3**
	comp=Z,3.7nm,0.9s,baz=160,slow=12,SNR=14								
NVAR						LR	LR	10 35 07.5		
	comp=Z,103nm,18.1s,baz=158,slow=35								
	comp=Z,3.7nm,0.9s								
NVAR	**Mina Array Bea**	**20.47**	**339**	P		**P**	**10 27 53.8**	**+0.9**
O20A	**White River Ci**	**20.62**	**2**	P		**P**	**10 27 55.0**	**+0.6**
O20A						IAmb	IAmb	10 27 55.7		
	comp=Z,10.0nm,1.1s								
RYN	**Ryan**	**20.73**	**339**	P		**P**	**10 27 56.4**	**+0.8**
RYN						IAmb	IAmb	10 28 04.0		
	comp=Z,7.0nm,1.3s								
DUG	**Dugway, Tooele**	**20.89**	**352**	P		**P**	**10 27 58.2**	**+0.8**
DUG						IAmb	IAmb	10 28 03.3		
	comp=Z,8.1nm,1.2s								
KVN	**Kaiserville**	**20.97**	**340**	P		**P**	**10 27 59.1**	**+0.8**
KVN						IAmb	IAmb	10 28 00.8		
	comp=Z,5.4nm,0.8s								
RDMU	**Red Mountain**	**21.04**	**359**	P		**P**	**10 27 59.6**	**+0.6**
JLU	**Jordanelle**	**21.15**	**355**	P		**P**	**10 28 01.4**	**+1.1**
JLU						IAmb	IAmb	10 28 04.6		
	comp=Z,4.7nm,0.9s								
YERR	**Yerington**	**21.29**	**338**	P		**P**	**10 28 03.6**	**+1.8**
YERR						IAmb	IAmb	10 28 04.4		
	comp=Z,7.9nm,0.9s								
PNTR	**Pine Nut**	**21.51**	**338**	P		**P**	**10 28 06.0**	**+1.9**
VCNR	**Virginia City**	**21.71**	**338**	P		**P**	**10 28 08.1**	**+1.8**
VCNR						IAmb	IAmb	10 28 10.8		
	comp=Z,7.3nm,0.9s								
ELK	**Elko**	**21.82**	**348**	P		**P**	**10 28 07.0**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=155,slow=8.1,SNR=6.4								
	comp=Z,2.5nm,1.0s								
ELK	**Elko**	**21.82**	**348**	P		**P**	**10 28 08.3**	**+0.9**
HVU	**Hansel Valley**	**22.45**	**353**	P		**P**	**10 28 15.3**	**+1.2**
HVU						IAmb	IAmb	10 28 16.5		
	comp=Z,4.8nm,0.9s								
K22A	**Casper**	**23.23**	**5**	P		**P**	**10 28 21.2**	**-1.1**
PD31	**Pinedale Array**	**23.23**	**359**	P		**P**	**10 28 20.6**	**-1.7**
PD31						IAmb	IAmb	10 28 56.1		
	comp=Z,6.0nm,1.5s								
PDAR	**Pinedale Array**	**23.23**	**359**	P		**P**	**10 28 21.6**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=164,slow=10,SNR=9.8								
PDAR						LR	LR	10 38 07.3		
	comp=Z,26nm,19.6s,baz=168,slow=39								
	comp=Z,1.2nm,0.8s								
SNOW	**Snow King Moun**	**23.96**	**357**	P		**P**	**10 28 28.7**	**-0.8**
TPAW	**Teton Pass**	**24.00**	**357**	P		**P**	**10 28 29.1**	**-0.8**
LOHW	**Long Hollow**	**24.10**	**358**	P		**P**	**10 28 30.0**	**-0.9**
LOHW						IAmb	IAmb	10 28 31.2		
	comp=Z,2.1nm,0.8s								
FXWY	**Fox Creek**	**24.15**	**357**	P		**P**	**10 28 30.2**	**-1.1**
FXWY						IAmb	IAmb	10 28 32.6		
	comp=Z,5.3nm,0.9s								
WVOR	**Wild Horse Val**	**24.24**	**343**	P		**P**	**10 28 32.7**	**+0.6**
WVOR						IAmb	IAmb	10 28 34.2		
	comp=Z,3.4nm,0.9s								
MOOW	**Moose Ponds**	**24.24**	**357**	P		**P**	**10 28 31.7**	**-0.5**
MOOW						IAmb	IAmb	10 28 35.0		
	comp=Z,2.7nm,1.1s								
MOD	**Modoc Plateau**	**24.26**	**340**	P		**P**	**10 28 33.0**	**+0.7**
IMW	**Indian Meadow**	**24.40**	**357**	P		**P**	**10 28 33.2**	**-0.5**
IMW						IAmb	IAmb	10 28 34.4		
	comp=Z,6.3nm,1.2s								
HLID	**Hailey**	**24.42**	**351**	P		**P**	**10 28 33.0**	**-0.6**
HLID						IAmb	IAmb	10 28 34.7		
	comp=Z,4.3nm,1.1s								
YBH	**Yreka Blue Hor**	**24.98**	**336**	LR		LR	10 38 11.6		
	comp=Z,78nm,19.7s,baz=32,slow=36								
J08A	**Circle Bar Ran**	**25.06**	**344**	P		**P**	**10 28 39.7**	**+0.3**
PINE	**Pine Mountain**	**26.17**	**341**	P		**P**	**10 28 49.9**	**+0.3**
PINE						IAmb	IAmb	10 28 50.7		
	comp=Z,4.0nm,1.0s								
NEW	**Newport**	**29.43**	**349**	LR		LR	10 39 29.7		
	comp=Z,37nm,20.2s,baz=188,slow=33								
SADO	**Sadowa**	**35.51**	**38**	LR		LR	10 44 49.2		
	comp=Z,70nm,18.5s,baz=236,slow=37								
OTAV	**Otavalo**	**35.71**	**119**	P		**P**	**10 30 15.8**	**+1.5**
BBB	**Bella Bella**	**35.83**	**340**	LR		LR	10 44 19.5		
	comp=Z,43nm,18.1s,baz=162,slow=35								
DLBC	**Dease Lake**	**41.78**	**344**	LR		LR	10 47 57.6		
	comp=Z,84nm,18.3s,baz=179,slow=36								
YKA	**Yellowknife Ar**	**43.15**	**356**	LR		LR	10 48 01.7		
	comp=Z,25nm,20.0s,baz=308,slow=34								
SCHQ	**Schefferville**	**47.68**	**32**	LR		LR	10 51 40.3		
	comp=Z,46nm,19.7s,baz=54,slow=36								
INK	**Inuvik**	**51.15**	**349**	P		**P**	**10 32 17.1**	**-0.5**
	comp=Z,3.8nm,1.1s,baz=197,slow=9.4,SNR=3.9								
	comp=Z,3.8nm,1.1s								
ILAR	**Eielson Array**	**51.72**	**341**	P		**P**	**10 32 21.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=143,slow=7.2,SNR=8.4								
	comp=Z,0.5nm,0.6s								
H03N2	**Juan Fernandez**	**60.04**	**151**	T		T	11 38 29.9		
	baz=329,slow=77,SNR=18								
H03N1	**Juan Fernandez**	**60.05**	**151**	T		T	11 38 31.3		
	baz=329,slow=77,SNR=23								
H03N3	**Juan Fernandez**	**60.05**	**151**	T		T	11 38 30.3		
	baz=329,slow=77,SNR=23								
SPITS	**Spitsbergen Ar**	**77.83**	**10**	LR		LR	11 09 45.2		
	comp=Z,42nm,18.6s,baz=328,slow=36								
FINES	**FINESS Array B**	**91.82**	**20**	LR		LR	11 18 58.9		
	comp=Z,49nm,18.2s,baz=37,slow=36								

*IDC **05** 10:28:59.0±1.2, 36°.59S×179°.23E, h0km, mb4.1/5, mbtmp4.1/6, ML4.5/1, MS3.7/9, Error ellipse: s-maj=33.5km s-min=25.7km az=56.0*

*WEL **05** 10:29:00.6±1.0, 37°.5±5°.×17°.9E±°, h10km, M4.3/29, MLv4.3/29, Error ellipse: s-maj=0.0km s-min=0.0km az=89.6*

*NEIC **05** 10:29:00.5±1.9, 36°.93S±0°.07×179°.3E±0°.1, h10km±2km, mb4.5/9, ML4.3(WEL), Error ellipse: s-maj=19.5km s-min=9.6km az=70.0*

*NOU **05** 10:29:07.6, 37°.37S×179°.17E, h117km, mb4.5/8, Off E. Coast of N. Island, N.Z.*

ISC 05 10:29:02.2±1.4, 36°.91S±0°.09×179°.3E±0°.1, h22km±8km, n163, σ1§48/160, mb4.4/8, MS3.8/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.04**	**231**			**Pn**	**10 29 20.1**	**-1.5**
MXZ	**Matakaoa Point**	**1.04**	**231**	P		**Pn**	**10 29 19.8**	**-1.7**
MXZ				S		**Sb**	**10 29 37.2**	**+2.4**
WMGZ	**Waiomatatini S**	**1.17**	**218**	P		**Pb**	**10 29 24.5**	**+0.9**
WMGZ				S		**Sb**	**10 29 40.4**	**+2.1**
PKGZ	**Pakihiroa**	**1.40**	**225**	P		**Pn**	**10 29 26.2**	**-0.3**
PUZ	**Puketiti**	**1.44**	**216**	P		**Pb**	**10 29 27.9**	**-0.5**
PUZ				S		**Sb**	**10 29 47.4**	**+1.2**
HAZ	**Te Kaha**	**1.49**	**235**	P		**Pn**	**10 29 26.4**	**-1.3**
HAZ				S		**Sb**	**10 29 48.0**	**+0.2**
TWGZ	**Tauwhareparae**	**1.66**	**220**	P		**Pb**	**10 29 31.1**	**-0.9**
RUGZ	**Raukumara Rang**	**1.68**	**231**	P		**Pn**	**10 29 30.7**	**+0.3**
CNGZ	**Carnagh Statio**	**1.81**	**209**	P		**Pb**	**10 29 33.7**	**-0.9**
WIZ	**White Island**	**1.81**	**249**	P		**Pn**	**10 29 31.2**	**-0.9**
TKGZ	**Te Karaka**	**1.93**	**217**	P		**Pn**	**10 29 34.2**	**+0.5**
MWZ	**Matawai**	**2.02**	**224**	P		**Pn**	**10 29 35.7**	**+0.8**
WHRZ	**Whale Island**	**2.10**	**242**	P		**Pb**	**10 29 37.8**	**-1.8**
RIGZ	**Rimuhau**	**2.18**	**214**	P		**Pn**	**10 29 37.5**	**+0.3**
RAGZ	**Rawiri**	**2.19**	**223**	P		**Pn**	**10 29 38.2**	**+0.7**
URZ	**Urewera**	**2.22**	**232**	Pn		**Pn**	**10 29 38.2**	**+0.5**
	127nm,0.3s,baz=31,slow=2.4,SNR=103							
URZ						Sn		**Sn**	**10 30 03.1**	**-1.3**
	98nm,0.3s,baz=211,slow=23,SNR=18							
URZ						LR	LR	10 30 52.3		
	comp=Z,692nm,20.8s,baz=28,slow=48								
	252nm,0.3s								
URZ	**Urewera**	**2.22**	**232**			**Pn**	**10 29 38.3**	**+0.7**
URZ	**Urewera**	**2.22**	**232**	P		**Pn**	**10 29 38.2**	**+0.5**
URZ	**Urewera**	**2.22**	**232**	P		**Pn**	**10 29 38.5**	**+0.8**
PRGZ	**Paritu Road**	**2.31**	**209**	P		**Pn**	**10 29 39.3**	**+0.3**
MARZ	**Manawahe**	**2.37**	**242**	P		**Pn**	**10 29 40.8**	**+1.0**
EDRZ	**Edgecumbe**	**2.38**	**239**	P		**Pn**	**10 29 41.7**	**+1.8**
OPRZ	**Ohinepanea**	**2.40**	**246**	P		**Pn**	**10 29 39.6**	**-0.6**
SNGZ	**Shannon Statio**	**2.44**	**219**	P		**Pn**	**10 29 41.1**	**+0.3**
KNZ	**Kokohu**	**2.48**	**211**	P		**Pn**	**10 29 40.9**	**-0.4**
MYRZ	**Mayor Island**	**2.49**	**260**	P		**Pn**	**10 29 41.2**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.51**	**206**	P		**Pn**	**10 29 41.9**	**+0.2**
RTZ	**Ruatahuna**	**2.52**	**227**	P		**Pn**	**10 29 42.4**	**+0.5**
MUGZ	**Murupara**	**2.56**	**231**	P		**Pn**	**10 29 43.1**	**+0.7**
TGRZ	**Tauranga**	**2.58**	**250**	P		**Pn**	**10 29 42.9**	**+0.3**
LIRZ	**Lichensteins R**	**2.58**	**244**	P		**Pb**	**10 29 45.1**	**-2.7**
TARZ	**Mount Tarawera**	**2.60**	**238**	P		**Pn**	**10 29 45.0**	**+2.0**
OMRZ	**Omania**	**2.64**	**242**	P		**Pn**	**10 29 44.6**	**+1.2**
RRRZ	**Republican Roa**	**2.65**	**236**	P		**Pn**	**10 29 44.4**	**+0.7**
RAHZ	**Arahi**	**2.68**	**221**	P		**Pn**	**10 29 45.0**	**+1.0**
KARZ	**Kaharoa**	**2.69**	**245**	P		**Pn**	**10 29 44.8**	**+0.6**
HLRZ	**Highlands Stat**	**2.72**	**239**	P		**Pn**	**10 29 46.5**	**+1.9**
WHHZ	**Waihua**	**2.73**	**217**	P		**Pn**	**10 29 45.8**	**+1.1**
MTHZ	**Maungataniwha**	**2.76**	**225**	P		**Pn**	**10 29 45.9**	**+0.6**
UTU	**Utuhina**	**2.79**	**242**	P		**Pb**	**10 29 49.4**	**-1.9**
PRRZ	**Plateau Road**	**2.82**	**235**	P

ASAR	**Alice Springs**	**41.02**	**276**	P	**P**	**10 36 42.3**	**-1.7**
VNDA	**Vanda**	**41.42**	**186**	P	**P**	**10 36 49.3**	**+2.8**
	0.4nm,0.9s,baz=314,slow=7.0,SNR=1.9						
	0.4nm,0.9s						
WR0	**Warramunga Arr**	**42.43**	**281**	P	**P**	**10 36 53.8**	**-1.7**
WB2	**Warramunga Arr**	**42.59**	**281**	P	**P**	**10 36 55.8**	**-1.0**
WB2				IAmb	IAmb	10 37 02.6	
	comp=E,15nm,1.5s						
WRAB	**Tennant Creek**	**42.60**	**281**	P	**P**	**10 36 54.0**	**-2.9**
WRAB				IAmb	IAmb	10 36 58.1	
	comp=E,6.4nm,0.8s						
WRA	**Warramunga Arr**	**42.60**	**281**	P	**P**	**10 36 55.8**	**-1.1**
	comp=E,1.4nm,0.4s,baz=121,slow=7.7,SNR=45						
WRA				PcP	**PcP**	**10 38 48.6**	**-0.4**
	comp=E,0.7nm,0.9s,baz=119,slow=3.4,SNR=3.0						
WRA				LR	LR	10 54 28.7	
	comp=E,147nm,18.2s,baz=168,slow=36						
	comp=E,1.4nm,0.4s						
WB0	**Warramunga Arr**	**42.65**	**281**	P	**P**	**10 36 56.3**	**-1.1**
WB0				IAmb	IAmb	10 36 56.8	
	comp=E,13nm,1.2s						
KNRA	**Kununurra**	**49.38**	**281**	P	**P**	**10 37 49.3**	**-1.1**
NWAO	**Narrogin (SRO)**	**50.28**	**255**	P	**P**	**10 37 56.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.49**	**277**	P	**P**	**10 37 58.9**	**0.0**
QSPA	**South Pole Qui**	**53.22**	**180**	P	**P**	**10 38 21.6**	**+3.0**
	comp=E,3.5nm,1.0s,baz=334,slow=2.3,SNR=7.8						
QSPA				LR	LR	10 57 51.9	
	comp=E,70nm,20.0s,baz=37,slow=32						
	comp=E,3.5nm,1.0s						
QSPA	**South Pole Qui**	**53.22**	**180**	P	**P**	**10 38 21.1**	**+2.4**
QSPA				IAmb	IAmb	10 38 35.8	
	comp=E,6.4nm,0.8s						
BATI	**Baumata**	**56.61**	**283**	LR	LR	11 04 53.7	
	comp=E,305nm,18.2s,baz=248,slow=38						
SIJI	**Sorong**	**57.00**	**298**	LR	LR	11 02 47.5	
	comp=E,34nm,21.7s,baz=183,slow=36						
H03N3	**Juan Fernandez**	**78.95**	**123**	T	T	12 08 04.4	
	baz=234,slow=72,SNR=19						
H03N2	**Juan Fernandez**	**78.96**	**123**	T	T	12 08 02.7	
	baz=234,slow=72,SNR=17						
H03N1	**Juan Fernandez**	**78.97**	**123**	T	T	12 08 03.2	
	baz=234,slow=72,SNR=22						
SHEM	**Shemya Is, Ala**	**89.38**	**357**	LR	LR	11 14 57.4	
	comp=E,33nm,20.1s,baz=340,slow=31						
LVC	**Limon Verde**	**92.64**	**121**	LR	LR	11 15 54.4	
	comp=E,46nm,18.1s,baz=212,slow=30						
CMIG	**Matias Romero**	**96.80**	**74**	LR	LR	11 16 33.9	
	comp=E,28nm,20.0s,baz=275,slow=30						
MKAR	**Makanchi Array**	**120.12**	**308**	PKP	**PKPdf**	**10 47 49.6**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=98,slow=2.0,SNR=1.4						
ARCES	**ARCESS Array B**	**144.36**	**345**	PKP	**PKPdf**	**10 48 34.8**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=30,slow=1.4,SNR=4.4						
FINES	**FINESS Array B**	**150.26**	**334**	PKPbc	**PKPbc**	**10 48 50.1**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=42,slow=3.1,SNR=8.4						
BRTR	**Keskin Array B**	**153.02**	**287**	PKPbc	**PKiKP**	**10 48 59.0**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=70,slow=4.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**156.25**	**186**	PKPab	**PKPab**	**10 49 23.7**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=190,slow=4.3,SNR=3.7						

*MDD **05** 10:33:04.7±1.1,37.32N×14.21W,h0km,Mb4.0/7, M_mb3.4/7,Error ellipse: s-maj=8.8km s-min=7.1km az=60.0*
*IGIL **05** 10:33:06.4,37.28N×14.28W,h16km,ML2.3*
*INMG **05** 10:33:06.8±1.1,37.12N×14.55W,h10km,ML2.3,Error ellipse: s-maj=6.6km s-min=5.4km az=80.0*

ISC 05 10:33:04.6±3.9,37.4N±0.1×14.1W±0.2,h10km,n25, σ1§78/46,7C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.14**	**66**	*e*Pn		**Pn**	**10 34 09.5**	**+1.6**
PMAFR				*e*Sn		**Sn**	**10 34 59.5**	**+3.2**
PMAFR				A		A	10 35 05.4	
	10nm,0.4s							
PFVI	**Vila Bisbo**	**4.24**	**91**	*e*Pn		**Pn**	**10 34 09.9**	**+0.7**
PFVI				*e*Sn		**Sn**	**10 34 56.2**	**-2.5**
PFVI				A		A	10 35 04.1	
	2.7nm,0.1s							
MORF	**Marmelete**	**4.37**	**89**	*e*P		**Pn**	**10 34 12.0**	**+0.9**
MORF				*e*S		**Sn**	**10 34 60.0**	**-2.1**
MORF				IAML			10 35 02.2	
	comp=E,5.2nm,0.3s							
MORF	**Marmelete**	**4.37**	**89**	*e*Pn		**Pn**	**10 34 12.0**	**+0.9**
MORF				*e*Sn		**Sn**	**10 34 59.9**	**-2.1**
MORF				A		A	10 35 05.6	
	comp=E,3.9nm,0.2s							
PACT	**Alcochete**	**4.41**	**70**	*e*Pn		**Pn**	**10 34 13.7**	**+2.1**
PACT				*e*Sn		**Sn**	**10 35 05.0**	**+2.0**
PNCL	**Nicolau / Gran**	**4.50**	**79**	*e*Pn		**Pn**	**10 34 13.7**	**+0.9**
PNCL				*e*Sn		**Sn**	**10 35 04.7**	**-0.6**
PNCL				A		A	10 35 09.6	
	comp=E,2.0nm,0.1s							
MESJ	**Messejana**	**4.72**	**82**	*e*Pn		**Pn**	**10 34 17.7**	**+1.9**
MESJ				*e*Sn		**Sn**	**10 35 09.9**	**-0.6**
MESJ				A		A	10 35 27.1	
	comp=E,1.8nm,0.3s							
PCVE	**Castro Verde**	**4.85**	**85**	*e*Pn		**Pn**	**10 34 18.7**	**+1.1**
PCVE				*e*Sn		**Sn**	**10 35 12.2**	**-1.7**
PCVE				A		A	10 35 24.5	
	comp=E,2.1nm,0.2s							
PMTG	**Montargil**	**4.95**	**68**	*e*Pn		**Pn**	**10 34 20.3**	**+1.3**
PMTG				*e*Sn		**Sn**	**10 35 16.3**	**-0.1**
PMTG				A		A	10 35 21.9	
	comp=E,1.3nm,0.1s							
PVAQ	**Vaqueiros**	**5.11**	**88**	*e*Pn		**Pn**	**10 34 22.2**	**+1.0**
PVAQ				*e*Sn		**Sn**	**10 35 19.0**	**-1.2**
PVAQ				A		A	10 35 25.1	
	comp=E,2.7nm,0.2s							
PCAS	**Casmilo, Conde**	**5.16**	**57**	*e*Sn		**Sn**	**10 35 23.6**	**+2.1**
PCAS				A		A	10 35 26.1	
	comp=E,2.0nm,0.2s							
EGRO	**El Granado**	**5.29**	**86**	P		**Pn**	**10 34 24.4**	**+0.7**
EGRO				⇑*i*Vmb_V			10 34 26.7	
	comp=E,63nm,SNR=1.2							
EGRO				S		**Sn**	**10 35 22.9**	**-1.8**
PESTR	**Estremoz**	**5.37**	**72**	*e*Sn		**Sn**	**10 35 26.1**	**-0.6**
PBAR	**Barrancos**	**5.68**	**80**	*e*Pn		**Pn**	**10 34 30.7**	**+1.7**
PBAR				*e*Sn		**Sn**	**10 35 31.8**	**-2.4**
PBAR				A		A	10 35 37.5	
	comp=E,1.3nm,0.3s							
PMRV	**Marv??o**	**5.68**	**67**	*e*Pn		**Pn**	**10 34 29.9**	**+0.8**
PMRV				*e*Sn		**Sn**	**10 35 33.6**	**-0.8**
PMRV				A		A	10 35 35.9	
	comp=E,2.1nm,0.2s							
EBAD	**Badajoz**	**5.79**	**74**	P		**Pn**	**10 34 32.0**	**+1.5**
EBAD				⇑*i*Vmb_V			10 34 32.2	
	comp=E,158nm,SNR=3.6							
EBAD				S		**Sn**	**10 35 35.8**	**-1.1**
EMIN	**Mina Concepcio**	**5.94**	**84**	P		**Pn**	**10 34 33.6**	**+1.1**
EMIN				⇑*i*Vmb_V			10 34 38.4	
	comp=E,70nm,SNR=1.3							
EMIN				S		**Sn**	**10 35 39.3**	**-1.4**
POLO	**Lamas de Olo**	**6.34**	**49**	*e*Pn		**Pn**	**10 34 39.9**	**+1.7**
PGAV	**Gavieira, Arco**	**6.45**	**43**	*e*Pn		**Pn**	**10 34 41.2**	**+1.5**
PGAV				*e*Sn		**Sn**	**10 35 52.4**	**-1.0**
PGAV				A		A	10 35 59.1	
	comp=E,1.4nm,0.1s							
ELOB	**Lobios**	**6.50**	**44**	P		**Pn**	**10 34 41.3**	**+0.9**
ELOB				⇑*i*Vmb_V			10 34 43.2	
	comp=E,88nm,SNR=1.2							
ELOB				S		**Sn**	**10 35 52.4**	**-2.1**
MVO	**Moncorvo**	**6.69**	**53**	*e*Pn		**Pn**	**10 34 44.3**	**+1.3**
MVO				*e*Sn		**Sn**	**10 35 58.5**	**-0.8**
MVO				A		A	10 35 59.0	
	comp=E,2.1nm,0.6s							
EMAZ	**Mazaricos**	**6.84**	**34**	S		**Sn**	**10 35 58.3**	**-4.6**
ECAB	**El Cabril**	**6.94**	**81**	P		**Pn**	**10 34 47.1**	**+0.7**
ECAB				⇑*i*Vmb_V			10 34 48.0	
	comp=E,45nm,SNR=1.1							
ECAB				S		**Sn**	**10 36 03.3**	**-2.1**
EAGO	**Agolada(Pontev**	**7.14**	**39**	P		**Pn**	**10 34 50.3**	**+1.1**
EAGO				⇑*i*Vmb_V			10 34 53.6	
	comp=E,90nm,SNR=0.8							
EAGO				S		**Sn**	**10 36 06.7**	**-3.7**
ECAL	**Calabor**	**7.31**	**49**	P		**Pn**	**10 34 52.8**	**+1.3**
ECAL				⇑*i*Vmb_V			10 34 54.5	
	comp=E,49nm,SNR=3.1							
ECAL				S		**Sn**	**10 36 12.8**	**-1.8**

*IDC **05** 10:40:51.9±0.6,50.63N×101.83W,h0km,mb3.6/5, mbtmp3.7/12,ML4.3/5,Error ellipse: s-maj=12.1km s-min=6.6km az=2.0*

*OTT **05** 10:40:51.6±0.1,50.71N×101.92W,h1km,MN3.8/14*
OTT 14km northeast from Esterhazy, Sk. Felt Felt at Yorkton, Sk.
*NEIC **05** 10:40:51.0±2.5,50.68N±0.07×101.8W±0.1,h2km±7km, Error ellipse: s-maj=10.2km s-min=8.8km az=137.0*

ISC 05 10:40:50.6±0.6,50.68N±0.05×101.83W±0.04,h10km, n111,σ2§12/134,mb3.6/5,Manitoba

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DGMT	**Dagmar**	**2.69**	**216**			**Pn**	**10 41 36.0**	**+2.0**
DGMT	**Dagmar**	**2.69**	**216**	P		**Pn**	**10 41 36.1**	**+2.1**
	baz=33,SNR=42							
DGMT				S		**Sn**	**10 42 09.0**	**+2.3**
	baz=33							
MDND	**Maddock**	**3.18**	**152**	Pn		**Pn**	**10 41 44.1**	**+3.3**
MDND	**Maddock**	**3.18**	**152**	P		**Pn**	**10 41 40.9**	**+0.1**
	baz=333,SNR=26							
MDND				Sb		**Sb**	**10 42 26.0**	**-0.1**
	baz=333							
ULM	**Lac du Bonnet**	**3.83**	**94**	Pn		**Pn**	**10 41 51.8**	**+2.2**
	6.6nm,0.3s,baz=280,slow=12,SNR=24							
ULM				Pg		**Pb**	**10 42 00.3**	**+2.1**
	10nm,0.3s,baz=275,slow=16,SNR=18							
ULM				Sn		**Sn**	**10 42 36.5**	**+1.9**
	13nm,0.3s,baz=289,slow=13,SNR=3.7							
ULM				Lg		Lg	10 42 49.2	
	23nm,0.3s,baz=21,slow=21,SNR=5.6							
ULM	**Lac du Bonnet**	**3.83**	**94**	PN		**Pn**	**10 41 51.8**	**+2.2**
ULM				SN		**Sn**	**10 42 36.5**	**+1.9**
ULM				LG		Lg	10 42 51.0	
ULM				Trac			10 42 53.3	
	comp=Z,266nm,0.6s							
FFC	**Flin Flon**	**4.06**	**359**	Pn		**Pn**	**10 41 55.3**	**+2.6**
FFC	**Flin Flon**	**4.06**	**359**	PN		**Pn**	**10 41 53.9**	**+1.2**
FFC				SN		**Sn**	**10 42 40.5**	**+0.3**
E28A	**Huff**	**4.17**	**169**			**Pn**	**10 41 57.0**	**+2.6**
AGMN	**Agassiz Nation**	**4.56**	**119**	Pn		**Pn**	**10 42 01.8**	**+2.1**
AGMN	**Agassiz Nation**	**4.56**	**119**	P		**Pn**	**10 41 58.7**	**-0.9**
	baz=304,SNR=5.5							
D32A	**Dogwood Acres,**	**4.75**	**136**			**Pn**	**10 42 04.4**	**+2.0**
LAO	**LASA Array**	**4.94**	**218**			**Pn**	**10 42 07.7**	**+2.7**
LAO	**LASA Array**	**4.94**	**218**	P		**Pn**	**10 42 06.4**	**+1.5**
	baz=34							
EPLO	**Experimental L**	**5.30**	**98**	PN		**Pn**	**10 42 11.6**	**+1.7**
EPLO				SN		**Sn**	**10 43 11.8**	**+0.8**
EPLO				Trac			10 43 41.6	
	comp=Z,125nm,0.3s							
B35A	**Bob, Littlefor**	**5.76**	**111**			**Pn**	**10 42 17.5**	**+1.3**
EGMT	**Eagleton**	**5.82**	**246**			**Pn**	**10 42 19.2**	**+2.2**
EGMT	**Eagleton**	**5.82**	**246**	P		**Pn**	**10 42 19.0**	**+1.9**
	baz=59,SNR=22							
F33A	**5 Mile Ranch,**	**6.09**	**141**			**Pn**	**10 42 22.2**	**+1.6**
SOLO	**Sioux Lookout**	**6.27**	**92**	PN		**Pn**	**10 42 24.1**	**+0.9**
SOLO				SN		**Sn**	**10 43 34.5**	**-0.4**
SOLO				Trac			10 44 21.2	
	comp=Z,85nm,0.6s							
SUSD	**Miller**	**6.53**	**162**			**Pn**	**10 42 28.3**	**+1.6**
SUSD	**Miller**	**6.53**	**162**	P		**Pn**	**10 42 28.1**	**+1.3**
	baz=343,SNR=8.5							
RSSD	**Black Hills**	**6.73**	**194**			**Pn**	**10 42 32.1**	**+2.5**
RSSD	**Black Hills**	**6.73**	**194**	P		**Pn**	**10 42 31.0**	**+1.3**
	baz=12							
ATKO	**Atikokan Iron**	**6.88**	**102**	PN		**Pn**	**10 42 33.4**	**+1.9**
ATKO				SN		**Sn**	**10 43 49.1**	**-0.7**
ATKO				LG		Lg	10 44 27.8	
ATKO				Trac			10 44 28.4	
	comp=Z,33nm,0.4s							
PKLO	**Pickle Lake**	**7.28**	**79**	PN		**Pn**	**10 42 37.9**	**+1.0**
PKLO				SN		**Sn**	**10 43 55.4**	**-4.1**
PKLO				Trac			10 44 42.8	
	comp=Z,43nm,0.3s							
EYMN	**Ely**	**7.29**	**108**	Pn		**Pn**	**10 42 38.3**	**+1.2**
EYMN	**Ely**	**7.29**	**108**	PN		**Pn**	**10 42 38.3**	**+1.2**
EYMN				SN		**Sn**	**10 43 58.6**	**-1.2**
EYMN	**Ely**	**7.29**	**108**	P		**Pn**	**10 42 38.0**	**+0.9**
	baz=296							
EYMN				S		**Sn**	**10 43 57.5**	**-2.3**
	baz=296							
F36A	**Milaca**	**7.34**	**128**	Pn		**Pn**	**10 42 39.5**	**+1.7**
RLMT	**Red Lodge**	**7.47**	**225**	P		**Pn**	**10 42 41.4**	**+1.5**
	baz=39							
EDM	**Edmonton**	**7.56**	**294**	Pn		**Pn**	**10 42 42.0**	**+1.1**
EDM	**Edmonton**	**7.56**	**294**	PN		**Pn**	**10 42 41.0**	**+0.1**
EDM				SN		**Sn**	**10 44 01.6**	**-5.1**
EDM				Trac			10 44 30.9	
	comp=Z,27nm,0.5s							
HRY	**Holter Researc**	**7.72**	**243**			**Pn**	**10 42 43.9**	**+0.8**
ECSD	**EROS Data Cent**	**7.80**	**151**	Pn		**Pn**	**10 42 44.9**	**+0.8**
ECSD	**EROS Data Cent**	**7.80**	**151**	P		**Pn**	**10 42 44.9**	**+0.8**
	baz=335,SNR=50							
ECSD				S		**Sn**	**10 44 10.6**	**-1.8**
	baz=335							
PRDA	**Priddis**	**7.91**	**276**	PN		**Pn**	**10 42 46.5**	**+0.8**
PRDA				SN		**Sn**	**10 44 09.9**	**-5.3**
PRDA				Trac			10 45 13.2	
	comp=Z,18nm,0.4s							
WALA	**Waterton Lakes**	**7.98**	**263**	Pn		**Pn**	**10 42 47.0**	**+0.3**
WALA	**Waterton Lakes**	**7.98**	**263**	PN		**Pn**	**10 42 46.6**	**0.0**
WALA				SN		**Sn**	**10 44 12.1**	**-4.8**
WALA				Trac			10 45 13.2	
	comp=Z,44nm,0.8s							
SPMN	**Marine on St.**	**8.15**	**129**			**Pn**	**10 42 50.1**	**+1.2**
SPMN	**Marine on St.**	**8.15**	**129**	P		**Pn**	**10 42 48.7**	**-0.2**
	baz=315,SNR=9.9							
BOZ	**Bozeman (W)**	**8.29**	**236**			**Pn**	**10 42 51.4**	**+0.4**
BOZ	**Bozeman (W)**	**8.29**	**236**	P		**Pn**	**10 42 51.5**	**+0.5**
	baz=48							
TBO	**Thunder Bay**	**8.31**	**99**	PN		**Pn**	**10 42 51.8**	**+0.6**
TBO				SN		**Sn**	**10 44 23.1**	**-1.9**
TBO				Trac			10 45 12.4	
	comp=Z,72nm,0.6s							
K31A	**O'Neill**	**8.33**	**164**	Pn		**Pn**	**10 42 52.3**	**+0.9**
YHL	**Hebgen Lake**	**8.58**	**231**			**Pn**	**10 42 56.4**	**+1.3**
LRM	**Limekiln Ridge**	**8.59**	**240**	Pn		**Pn**	**10 42 55.5**	**+0.3**
YMR	**Madison River**	**8.61**	**229**			**Pn**	**10 42 56.4**	**+1.0**
K22A	**Casper**	**8.65**	**204**			**Pn**	**10 42 57.3**	**+1.3**
K22A	**Casper**	**8.65**	**204**	P		**Pn**	**10 42 56.6**	**+0.6**
	baz=20							
I37A	**Lemond, Waseca**	**8.78**	**136**	Pn		**Pn**	**10 42 57.8**	**+0.2**
MSO	**Missoula**	**8.88**	**249**	Pn		**Pn**	**10 42 59.5**	**+0.4**
MSO	**Missoula**	**8.88**	**249**	P		**Pn**	**10 42 58.9**	**-0.1**
	baz=60,SNR=9.6							
IMW	**Indian Meadow**	**9.18**	**226**	Pn		**Pn**	**10 43 04.7**	**+1.3**
D41A	**Chassel**	**9.46**	**107**			**Pn**	**10 43 07.0**	**+0.1**
G40A	**Rib Lake**	**9.49**	**120**			**Pn**	**10 43 09.0**	**+1.8**
L34A	**Svendsen Farm,**	**9.49**	**155**	Pn		**Pn**	**10 43 07.3**	**0.0**
BW06	**Boulder Array**	**9.52**	**217**			**Pn**	**10 43 09.2**	**+1.3**
BW06	**Boulder Array**	**9.52**	**217**	P		**Pn**	**10 43 08.0**	**0.0**
	baz=31							
PD31	**Pinedale Array**	**9.52**	**217**			**Pn**	**10 43 09.2**	**+1.2**
PDAR	**Pinedale Array**	**9.52**	**217**	Pn		**Pn**	**10 43 08.5**	**+0.6**
	0.4nm,0.3s,baz=49,slow=16,SNR=13							
PDAR				Lg		Lg	10 45 39.1	
	0.7nm,0.3s,baz=45,slow=31,SNR=2.2							
	0.6nm,0.5s							
GTO	**Geraldton**	**9.58**	**90**	PN		**Pn**	**10 43 08.6**	**+0.1**
GTO				SN		**Sn**	**10 44 50.5**	**-5.7**
GTO				Trac			10 45 56.4	
	comp=Z,50nm,0.6s							
COWI	**Conover**	**9.60**	**114**			**Pn**	**10 43 09.8**	**+1.0**
BGNE	**Belgrade**	**9.61**	**163**			**Pn**	**10 43 07.2**	**-1.8**
BGNE	**Belgrade**	**9.61**	**163**	P		**Pn**	**10 43 08.2**	**-0.8**
	baz=346							
RWWY	**Rawlins**	**9.73**	**205**			**Pn**	**10 43 12.9**	**+2.0**
I40A	**Norwalk**	**10.19**	**127**			**Pn**	**10 43 17.4**	**+0.5**
N23A	**Red Feather La**	**10.19**	**198**	P		**Pn**	**10 43 16.7**	**-0.5**
	baz=14							
NEW	**Newport**	**10.25**	**262**	Pn		**Pn**	**10 43 17.2**	**-0.4**
	0.4nm,0.3s,baz=30,slow=7.6,SNR=5.0							
NEW				Sn		**Sn**	**10 45 09.5**	**-3.1**
	0.7nm,0.3s,baz=53,slow=10,SNR=2.6							
NEW				Lg		Lg	10 46 03.7	
	0.3nm,0.3s,baz=160,slow=22,SNR=1.0							
	0.9nm,0.4s							
NEW	**Newport**	**10.25**	**262**	P		**Pn**	**10 43 17.5**	**-0.2**
	baz=70							
PNPO	**Pukaskwa Natio**	**10.30**	**96**	PN		**Pn**	**10 43 17.6**	**-0.7**
PNPO				SN		**Sn**	**10 45 10.0**	**-3.7**
PNPO				LG		Lg	10 46 15.4	
PNPO				Trac			10 46 16.6	
	comp=Z,54nm,0.6s							
SLEB	**Sale Mountain**	**10.31**	**279**	PN		**Pn**	**10 43 19.5**	**+0.8**
SLEB				SN		**Sn**	**10 45 08.6**	**-5.8**
SLEB				Trac			10 46 26.4	
	comp=Z,38nm,0.8s							
MNB	**Mounoet Dainar**	**10.45**	**285**	PN		**Pn**	**10 43 21.3**	**+0.6**
MNB				SN		Sn	10 45 10.3	-7.6
MNB				Trac			10 45 15.2	
	comp=Z,13nm,0.3s							
SCIA	**State Center**	**10.60**	**143**	S		**Sn**	**10 45 19.8**	**-1.3**
	baz=329							
E43A	**Lone Tree Farm**	**10.73**	**108**	Pn		**Pn**	**10 43 24.1**	**-0.2**
JFWS	**Jewell Farm**	**11.09**	**130**			**Pn**	**10 43 29.1**	**-0.1**
JFWS	**Jewell Farm**	**11.09**	**130**	PN		**Pn**	**10 43 30.1**	**+0.9**
JFWS				SN		**Sn**	**10 45 28.1**	**-5.1**
JFWS	**Jewell Farm**	**11.09**	**130**	P		**Pn**	**10 43 29.1**	**-0.1**
	baz=318,SNR=19							
JFWS				S		**Sn**	**10 45 31.3**	**-2.0**
	baz=318							
ISCO	**Idaho Springs**	**11.20**	**195**	P		**Pn**	**10 43 30.9**	**-0.1**
	baz=12							
L40A	**Anamosa**	**11.30**	**136**			**Pn**	**10 43 31.4**	**-0.7**
VIMO	**Victor Mine**	**11.41**	**72**	PN		**Pn**	**10 43 32.4**	**-1.1**
VIMO				SN		**Sn**	**10 45 33.8**	**-7.1**
VIMO				Trac			10 47 00.0	
	comp=Z,89nm,0.6s							
O20A	**White River Ci**	**11.46**	**206**	P		**Pn**	**10 43 35.0**	**+0.5**
	baz=21,SNR=7.0							
N38A	**Joes South For**	**11.55**	**146**			**Pn**	**10 43 35.7**	**+0.1**
KSCO	**Kaye Shedlock'**	**11.68**	**183**	P		**Pn**	**10 43 36.9**	**-0.5**
	baz=2.2							
KSU1	**Kansas State U**	**12.15**	**160**	P		**Pn**	**10 43 43.2**	**-0.4**
	baz=344,SNR=18							
G45A	**Suttons Bay**	**12.23**	**111**			**Pn**	**10 43 43.9**	**-0.8**
E46A	**Sault Ste Mari**	**12.38**	**104**	Pn		**Pn**	**10 43 45.8**	**-1.1**
P38A	**Dawn**	**12.49**	**149**	Pn		**Pn**	**10 43 47.3**	**-1.1**
N41A	**Harden Midland**	**12.56**	**138**	Pn		**Pn**	**10 43 48.4**	**-1.0**
L44A	**Lake County Fo**	**12.80**	**126**	P		**Pn**	**10 43 51.6**	**-1.0**
	baz=316							
GLMI	**Grayling**	**12.96**	**110**	P		**Pn**	**10 43 52.9**	**-1.9**
	baz=303							
HDIL	**Hopedale**	**13.37**	**134**	Pn		**Pn**	**10 43 59.1**	**-1.2**
HDIL	**Hopedale**	**13.37**	**134**	P		**Pn**	**10 43 58.5**	**-1.9**
	baz=323							
ELK	**Elko**	**13.63**	**228**	Lg		Lg	10 47 49.4	
	0.1nm,0.3s,baz=135,slow=5.5,SNR=3.2							
YKA	**Yellowknife Ar**	**13.74**	**334**	Pn		**Pn**	**10 44 04.2**	**-1.1**
	2.1nm,0.3s,baz=137,slow=12,SNR=54							
YKA				Sn		Sn	10 46 27.9	-10
	1.0nm,0.3s,baz=143,slow=23,SNR=7.3							
YKA				Lg		Lg	10 47 51.5	
	baz=143,slow=27							
	9.7nm,0.7s							
CCM	**Cathedral Cave**	**14.69**	**145**	P		**Pn**	**10 44 15.6**	**-2.8**
	baz=333							
TUL1	**Leonard**	**15.39**	**161**	P		**Pn**	**10 44 24.4**	**-3.4**
	baz=345,SNR=14							
O48B	**Farmland**	**15.63**	**125**	P		**Pn**	**10 44 28.4**	**-2.5**
	baz=317							
SADO	**Sadowa**	**16.34**	**102**	Pn		**Pn**	**10 44 34.8**	**-5.2**
	1.0nm,0.3s,baz=285,slow=13,SNR=9.3							
SADO				Sn		Sn	10 47 26.1	-15
	0.7nm,0.3s,baz=70,slow=5.4,SNR=5.1							
	2.9nm,0.5s							
P49A	**Miami Univ. Ec**	**16.39**	**126**	P		**Pn**	**10 44 37.0**	**-3.6**
	baz=318							
NVAR	**Mina Array Bea**	**16.92**	**230**	Pn		**Pn**	**10 44 49.4**	**+1.9**
	0.1nm,0.3s,baz=31,slow=13,SNR=1.7							
MIAR	**Mount Ida**	**17.21**	**156**	P		**Pn**	**10 44 47.8**	**-3.2**
	baz=342							
WVT	**Waverly**	**17.70**	**140**	P		**Pn**	**10 44 53.8**	**-3.3**
	baz=330							
WTLY	**Watson Lake, Y**	**17.87**	**312**	P		**Pn**	**10 44 57.3**	**-1.8**
	baz=110							
DLBC	**Dease Lake**	**18.00**	**306**	P		**Pn**	**10 45 01.3**	**+0.6**
	1.7nm,0.6s,baz=128,slow=16,SNR=6.6							
TKL	**Tuckaleechee C**	**19.89**	**132**	P		**Pn**	**10 45 24.6**	**+0.9**
	1.3nm,0.3s,baz=349,slow=1.6,SNR=30							
	7.1nm,0.6s							
TXAR	**Lajitas Array**	**21.36**	**184**	P		**P**	**10 45 40.2**	**+2.1**
	1.1nm,0.5s,baz=12,slow=10,SNR=20							
	1.1nm,0.5s							
INK	**Inuvik**	**23.45**	**331**	P		**P**	**10 46 03.2**	**+3.5**
	3.1nm,0.8s,baz=74,slow=18,SNR=3.5							
	3.1nm,0.8s							
ILAR	**Eielson Array**	**27.17**	**318**	P		**P**	**10 46 37.0

H03S1 Juan Fernandez 81.06 124 T T 12 44 30.1
baz=241
H03S3 Juan Fernandez 81.06 124 T T 12 44 31.1
baz=241
H10N3 ASCENSION HYDR 140.39 152 T T 13 59 04.0
baz=208
H10N1 ASCENSION HYDR 140.39 153 T T 13 59 05.3
baz=208
H10N2 ASCENSION HYDR 140.40 152 T T 13 59 04.2
baz=208
FINES FINESS Array B 143.39 341 PKP **PKiKP 11 22 19.9 -0.3**
comp=Z,0.6nm,0.4s,baz=64,slow=3.2,SNR=5.4

*IDC **05** 11:05:14.0±1.2,20.90S×178.57W,h530km±12km, mb3.7/16,mbtmp4.6/18,Error ellipse: s-maj=13.9km s-min=10.5km az=112.0*
*NEIC **05** 11:05:15.0±2.2,21.05S×178.4W±0.1,h547km±7km, mb4.5/58,Error ellipse: s-maj=15.6km s-min=14.2km az=159.0*
*NOU **05** 11:05:15.3,20.91S×178.42W,h562km,mb4.7/63,Fiji Islands Region*
ISC 05 11:05:17.3±0.4,21.09S±0.06×178.55W±0.07,h579km, n241,σ1≤40/258,mb4.5/49,25C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.86**	**355**	P	**P**	**11 06 30.3**	**-3.7**
TAVE	**Taveuni**	**4.55**	**343**	P	**P**	**11 06 42.4**	**-3.0**
MSVF	**Nonsavu**	**4.63**	**316**	P	**P**	**11 06 43.1**	**-3.1**
	207nm,0.8s,baz=121,slow=3.4,SNR=91						
MSVF	**Nonsavu**	**4.63**	**316**	P	**P**	**11 06 43.2**	**-3.0**
MSVF	**Nonsavu**	**4.63**	**316**	P	**P**	**11 06 43.2**	**-3.0**
DGTI	**Dogotuki**	**5.04**	**341**	P	**P**	**11 06 46.0**	**-3.3**
RAO	**Raoul Island**	**8.14**	**176**	S	**S**	**11 08 49.3**	**-6.2**
	179nm,0.8s,baz=84,slow=21,SNR=1.9						
NIUE	**Niue**	**8.35**	**78**	P	**P**	**11 07 14.7**	**-4.6**
	baz=8.1,SNR=4.7						
NIUE	**Niue**	**8.35**	**78**	P	**P**	**11 07 15.5**	**-3.9**
NIUE	**Niue**	**8.35**	**78**	P	**P**	**11 07 15.5**	**-3.9**
AFI	**Afiamalu**	**9.63**	**43**	P	P	11 07 25.8	-6.3
	18nm,0.3s,baz=214,slow=1.9,SNR=9.5						
AFI				S	S	11 09 09.9	-13
	36nm,0.5s,baz=200,slow=18,SNR=3.0						
AFI	**Afiamalu**	**9.63**	**43**	P	P	11 07 27.3	-4.9
AFI	**Afiamalu**	**9.63**	**43**	P	P	11 07 26.5	-5.7
MARNC	**Mare, Loyalty**	**12.52**	**266**	P	**P**	**11 07 58.7**	**-2.5**
MARNC	**Mare, Loyalty**	**12.52**	**266**	P	**P**	**11 07 59.7**	**-1.5**
PINNC	**Pines Island,**	**13.09**	**261**	P	**P**	**11 08 06.4**	**-0.7**
PINNC	**Pines Island,**	**13.09**	**261**	P	**P**	**11 08 06.4**	**-0.7**
YATNC	**Mamie plateau,**	**13.58**	**263**	P	**P**	**11 08 10.6**	**-1.6**
DZM	**Mont Dzumac**	**13.99**	**263**	P	**P**	**11 08 14.6**	**-1.9**
	23nm,0.7s,baz=85,slow=18,SNR=22						
DZM	**Mont Dzumac**	**13.99**	**263**	P	**P**	**11 08 14.8**	**-1.7**
DZM	**Mont Dzumac**	**13.99**	**263**	P	**P**	**11 08 15.0**	**-1.5**
NOUC	**Port Laguerre**	**14.13**	**263**	P	**P**	**11 08 16.2**	**-1.5**
NFK	**Norfolk Island**	**14.57**	**234**	P	**P**	**11 08 24.1**	**+2.2**
	baz=15,SNR=3.4						
OUZ	**Omahuta**	**15.67**	**204**	P	**P**	**11 08 33.1**	**+0.7**
OUZ	**Omahuta**	**15.67**	**204**	P	**P**	**11 08 34.4**	**+2.0**
KOUNC	**Koumac, New Ca**	**16.06**	**269**	P	**P**	**11 08 37.2**	**+1.0**
KOUNC	**Koumac, New Ca**	**16.06**	**269**	P	**P**	**11 08 35.7**	**-0.5**
URZ	**Urewera**	**17.51**	**191**	P	**P**	**11 08 46.8**	**-2.3**
	11nm,0.4s,baz=31,slow=11,SNR=6.7						
URZ				S	**S**	**11 11 36.3**	**-5.2**
	4.9nm,0.8s,baz=307,slow=20,SNR=1.0						
URZ	**Urewera**	**17.51**	**191**	P	**P**	**11 08 47.2**	**-1.9**
BKZ	**Black Stump Fm**	**18.51**	**192**	P	**P**	**11 08 56.0**	**-2.3**
BKZ				IAmb	IAmb	11 08 56.8	
	comp=Z,38nm,1.5s						
BFZ	**Birch Farm**	**20.02**	**192**	P	**P**	**11 09 11.1**	**-0.8**
QRZ	**Quartz Range**	**21.08**	**199**	P	**P**	**11 09 20.0**	**-1.5**
QRZ	**Quartz Range**	**21.08**	**199**	P	**P**	**11 09 21.9**	**+0.4**
LTZ	**Lake Taylor**	**22.95**	**198**	P	**P**	**11 09 36.4**	**-1.9**
HNR	**Honiara**	**23.73**	**296**	P	**P**	**11 09 42.9**	**-2.6**
	comp=Z,1μm,0.8s,baz=135,slow=4.3,SNR=2.4						
RPZ	**Rata Peaks**	**24.16**	**199**	P	**P**	**11 09 48.2**	**-0.7**
	comp=Z,6.9nm,0.7s,baz=15,slow=7.7,SNR=1.1						
	comp=Z,6.9nm,0.7s						
EIDS	**Eidsvold**	**28.20**	**255**	P	**P**	**11 10 24.8**	**+0.1**
	baz=28,SNR=6.7						
EIDS	**Eidsvold**	**28.20**	**255**	P	**P**	**11 10 24.2**	**-0.4**
EIDS				IAmb	IAmb	11 10 56.5	
	comp=Z,29nm,1.4s						
EIDS	**Eidsvold**	**28.20**	**255**	P	**P**	**11 10 24.7**	**+0.1**
ARMA	**Armidale**	**28.35**	**245**	P	**P**	**11 10 27.1**	**+1.1**
	baz=29,SNR=19						
ARMA	**Armidale**	**28.35**	**245**	P	**P**	**11 10 26.6**	**+0.6**
ARMA				IAmb	IAmb	11 10 27.9	
	comp=Z,13nm,0.7s						
ARMA	**Armidale**	**28.35**	**245**	P	**P**	**11 10 27.0**	**+1.0**
RMQ	**Roma**	**30.34**	**253**	P	**P**	**11 10 44.3**	**+1.2**
	baz=31,SNR=9.2						
RMQ	**Roma**	**30.34**	**253**	P	**P**	**11 10 44.1**	**+0.9**
CNB	**Canberra Magne**	**31.47**	**236**	P	**P**	**11 10 53.9**	**+1.1**
	baz=32,SNR=43						
CNB	**Canberra Magne**	**31.47**	**236**	P	**P**	**11 10 53.9**	**+1.1**
CAN	**Canberra**	**31.75**	**236**	P	**P**	**11 10 56.0**	**+0.9**
CAN				IAmb	IAmb	11 10 57.0	
	comp=Z,16nm,0.9s						
CAN	**Canberra**	**31.75**	**236**	P	**P**	**11 10 56.1**	**+0.9**
CTA	**Charters Tower**	**32.92**	**265**	P	**P**	**11 11 05.4**	**+0.2**
CTAO	**Charters Tower**	**32.92**	**265**	P	**P**	**11 11 05.4**	**+0.2**
CTAO	**Charters Tower**	**32.92**	**265**	P	**P**	**11 11 05.5**	**+0.3**
CMSA	**Cobar Meteorol**	**33.56**	**244**	P	**P**	**11 11 10.9**	**+0.5**
	baz=34,SNR=49						
CMSA	**Cobar Meteorol**	**33.56**	**244**	P	**P**	**11 11 10.9**	**+0.5**
QLP	**Quilpie**	**34.39**	**253**	P	**P**	**11 11 17.6**	**+0.1**
	baz=35,SNR=13						
QLP	**Quilpie**	**34.39**	**253**	P	**P**	**11 11 17.5**	**+0.1**
PMG	**Port Moresby**	**34.98**	**284**	P	**P**	**11 11 22.0**	**-0.5**
PMG	**Port Moresby**	**34.98**	**284**	P	**P**	**11 11 22.3**	**-0.1**
PMG	**Port Moresby**	**34.98**	**284**	P	**P**	**11 11 22.4**	**0.0**
MTSU	**Mount Surprise**	**35.05**	**268**	P	**P**	**11 11 23.2**	**+0.2**
	baz=35,SNR=16						
MTSU	**Mount Surprise**	**35.05**	**268**	P	**P**	**11 11 23.3**	**+0.2**
TOO	**Toolangi**	**35.13**	**234**	P	**P**	**11 11 24.4**	**+0.9**
	baz=35,SNR=12						
TOO	**Toolangi**	**35.13**	**234**	P	**P**	**11 11 24.4**	**+0.9**
TOO				IAmb	IAmb	11 11 25.1	
	comp=Z,15nm,0.7s						
TOO	**Toolangi**	**35.13**	**234**	P	**P**	**11 11 24.4**	**+0.9**
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**11 11 40.2**	**+0.8**
	baz=37,SNR=24						
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**11 11 40.2**	**+0.8**
	comp=Z,12nm,0.4s,baz=93,slow=10,SNR=52						
STKA				PcP	**PcP**	**11 13 45.4**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=34,slow=7.3,SNR=2.3						
STKA				ScP	**S**	**11 16 42.2**	**-2.8**
	comp=Z,0.9nm,0.5s,baz=350,slow=6.1,SNR=3.3						
	comp=Z,12nm,0.4s						
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**11 11 40.3**	**+0.9**
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**11 11 40.4**	**+0.9**
COEN	**Coen**	**37.11**	**275**	P	**P**	**11 11 40.4**	**+0.4**
	baz=37,SNR=16						
COEN	**Coen**	**37.11**	**275**	P	**P**	**11 11 40.1**	**+0.1**
COEN	**Coen**	**37.11**	**275**	P	**P**	**11 11 40.3**	**+0.4**
INKA	**Innaminka**	**37.52**	**252**	P	**P**	**11 11 44.5**	**+1.3**
ARPS	**Mount Arapiles**	**37.73**	**237**	P	**P**	**11 11 45.4**	**+0.6**
	baz=38,SNR=5.5						
ARPS	**Mount Arapiles**	**37.73**	**237**	P	**P**	**11 11 45.3**	**+0.6**
QIS	**Mount Isa**	**39.03**	**263**	P	**P**	**11 11 55.0**	**-0.5**
	baz=39,SNR=3.4						
QIS	**Mount Isa**	**39.03**	**263**	P	**P**	**11 11 55.0**	**-0.5**
HTT	**Hallett**	**39.49**	**243**	P	**P**	**11 11 59.5**	**+0.4**
	baz=40,SNR=16						
HTT	**Hallett**	**39.49**	**243**	P	**P**	**11 11 59.5**	**+0.4**
LCRK	**Leigh Creek**	**39.83**	**247**	P	**P**	**11 12 02.5**	**+0.7**
TWOA	**Tennyson Woods**	**40.00**	**240**	P	**P**	**11 12 03.3**	**+0.3**
BBOO	**Buckleboo**	**41.82**	**244**	P	**P**	**11 12 17.6**	**+0.1**
	baz=42,SNR=49						
BBOO	**Buckleboo**	**41.82**	**244**	P	**P**	**11 12 17.4**	**-0.1**
BBOO	**Buckleboo**	**41.82**	**244**	P	**P**	**11 12 17.8**	**+0.3**
OOD	**Oodnadatta**	**42.00**	**252**	P	**P**	**11 12 20.1**	**+1.1**
MULG	**Mulgathing**	**43.42**	**248**	P	**P**	**11 12 30.2**	**+0.2**
WR0	**Warramunga Arr**	**43.82**	**263**	P	**P**	**11 12 32.9**	**-0.4**
WR0				IAmb	IAmb	11 12 34.2	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**43.88**	**257**	P	**P**	**11 12 34.2**	**+0.4**
AS31				IAmb	IAmb	11 12 34.4	
	comp=Z,9.2nm,0.7s						
ASAR	**Alice Springs**	**43.88**	**257**	P	**P**	**11 12 33.8**	**0.0**
	comp=Z,29nm,0.5s,baz=96,slow=7.9,SNR=554						
ASAR				PcP	**PcP**	**11 14 07.8**	**+0.8**
	comp=Z,5.0nm,0.6s,baz=109,slow=3.7,SNR=13						
ASAR				ScP	**ScP**	**11 17 09.7**	**+5.6**
	comp=Z,1.5nm,0.8s,baz=110,slow=4.3,SNR=7.4						
ASAR				S	**S**	**11 18 22.0**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=95,slow=17,SNR=4.7						
	comp=Z,29nm,0.5s						
ASAR	**Alice Springs**	**43.88**	**257**	P	**P**	**11 12 34.0**	**+0.2**
WB0	**Warramunga Arr**	**43.99**	**263**	P	**P**	**11 12 34.2**	**-0.4**
WB0				IAmb	IAmb	11 12 34.7	
	comp=Z,26nm,0.9s						
WB2	**Warramunga Arr**	**44.00**	**263**	P	**P**	**11 12 34.5**	**-0.1**
WB2				IAmb	IAmb	11 12 35.0	
	comp=Z,29nm,0.9s						
WRAB	**Tennant Creek**	**44.00**	**263**	P	**P**	**11 12 33.6**	**-1.1**
WRAB				IAmb	IAmb	11 12 35.0	
	comp=Z,26nm,0.9s						
WRAB	**Tennant Creek**	**44.00**	**263**	P	**P**	**11 12 34.1**	**-0.6**
WRA	**Warramunga Arr**	**44.01**	**263**	P	**P**	**11 12 34.2**	**-0.5**
	comp=Z,6.5nm,0.3s,baz=96,slow=7.4,SNR=416						
WRA				PcP	**PcP**	**11 14 08.3**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=89,slow=3.6,SNR=4.4						
WRA				ScP	**ScP**	**11 17 09.8**	**+5.2**
	comp=Z,0.3nm,0.6s,baz=88,slow=3.5,SNR=1.8						
	comp=Z,6.5nm,0.3s						
WRA	**Warramunga Arr**	**44.01**	**263**	P	**P**	**11 12 33.7**	**-1.0**
KDU	**Kakadu**	**47.45**	**272**	P	**P**	**11 13 00.5**	**-0.3**
	baz=48,SNR=12						
KDU	**Kakadu**	**47.45**	**272**	P	**P**	**11 13 00.6**	**-0.3**
FORT	**Forrest**	**48.59**	**247**	P	**P**	**11 13 09.0**	**-0.2**
	baz=49,SNR=32						
FORT	**Forrest**	**48.59**	**247**	P	**P**	**11 13 08.6**	**-0.6**
FORT	**Forrest**	**48.59**	**247**	P	**P**	**11 13 08.9**	**-0.2**
MTN	**Manton Dam**	**48.66**	**271**	P	**P**	**11 13 09.6**	**-0.2**
	baz=49,SNR=5.7						
MTN	**Manton Dam**	**48.66**	**271**	P	**P**	**11 13 09.4**	**-0.4**
WRKA	**Warakurna**	**48.81**	**255**	P	**P**	**11 13 10.9**	**0.0**
	baz=49,SNR=140						
WRKA	**Warakurna**	**48.81**	**255**	P	**P**	**11 13 10.9**	**0.0**
GUMO	**Guam**	**49.79**	**311**	P	**P**	**11 13 18.2**	**+0.1**
KNRA	**Kununurra**	**50.11**	**267**	P	**P**	**11 13 20.3**	**-0.2**
	baz=50,SNR=42						
KNRA	**Kununurra**	**50.11**	**267**	P	**P**	**11 13 20.2**	**-0.2**
KNRA				IAmb	IAmb	11 13 21.2	
	comp=Z,19nm,0.6s						
KNRA	**Kununurra**	**50.11**	**267**	P	**P**	**11 13 20.4**	**-0.2**
FAKI	**Fak Fak**	**51.14**	**284**	P	**P**	**11 13 27.5**	**-0.5**
FAKI				IAmb	IAmb	11 13 28.5	
	comp=Z,27nm,1.3s						
FAKI	**Fak Fak**	**51.14**	**284**	P	**P**	**11 13 27.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.44**	**263**	P	**P**	**11 13 37.6**	**+0.3**
	baz=53,SNR=56						
FITZ	**Fitzroy Crossi**	**52.44**	**263**	P	**P**	**11 13 37.7**	**+0.4**
FITZ				IAmb	IAmb	11 13 38.8	
	comp=Z,25nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.44**	**263**	P	**P**	**11 13 37.6**	**+0.3**
PSA00	**Pilbara Seismi**	**57.03**	**257**	P	**P**	**11 14 09.1**	**-0.3**
PSA00				IAmb	IAmb	11 14 10.0	
	comp=Z,25nm,0.8s						
PSA00	**Pilbara Seismi**	**57.03**	**257**	P	**P**	**11 14 08.4**	**-0.9**
PSA00				IAmb	IAmb	11 14 10.0	
	comp=Z,13nm,0.9s						
PSA00	**Pilbara Seismi**	**57.03**	**257**	P	**P**	**11 14 09.4**	**+0.1**
MBWA	**Marble Bar**	**57.22**	**258**	P	**P**	**11 14 10.4**	**-0.2**
MBWA				IAmb	IAmb	11 14 11.2	
	comp=Z,29nm,0.7s						
MBWA	**Marble Bar**	**57.22**	**258**	P	**P**	**11 14 10.5**	**-0.1**
MEEK	**Meekatharra**	**57.24**	**251**	P	**P**	**11 14 10.3**	**-0.4**
	baz=57,SNR=7.0						
MEEK	**Meekatharra**	**57.24**	**251**	P	**P**	**11 14 10.4**	**-0.3**
SBA	**Scott Base**	**57.25**	**184**	P	**P**	**11 14 13.4**	**+3.6**
VNDA	**Vanda**	**57.28**	**185**	P	**P**	**11 14 12.5**	**+2.5**
	comp=Z,1.0nm,0.5s,baz=1.8,slow=6.8,SNR=20						
VNDA				ScP	**ScP**	**11 18 05.8**	**+5.1**
	comp=Z,2.2nm,0.9s,baz=327,slow=4.6,SNR=9.3						
	comp=Z,1.0nm,0.5s						
VNDA	**Vanda**	**57.28**	**185**	P	**P**	**11 14 12.5**	**+2.5**
KLBR	**Kellerberrin**	**57.34**	**245**	P	**P**	**11 14 11.5**	**+0.2**
	baz=58,SNR=7.5						
KLBR	**Kellerberrin**	**57.34**	**245**	P	**P**	**11 14 11.5**	**+0.2**
BLDU	**Ballidu**	**58.34**	**246**	P	**P**	**11 14 18.3**	**+0.2**
	baz=58,SNR=13						
BLDU	**Ballidu**	**58.34**	**246**	P	**P**	**11 14 18.4**	**+0.3**
MORW	**Morawa**	**59.13**	**248**	P	**P**	**11 14 23.5**	**+0.1**
	baz=59,SNR=4.8						
MORW	**Morawa**	**59.13**	**248**	P	**P**	**11 14 23.7**	**+0.4**
MORW				IAmb	IAmb	11 14 24.3	
	comp=Z,11nm,0.9s						
MORW	**Morawa**	**59.13**	**248**	P	**P**	**11 14 23.7**	**+0.4**
LUWI	**Luwuk**	**60.54**	**281**	P	**P**	**11 14 32.1**	**-0.8**
	comp=Z,75nm,0.4s						
GIRL	**Giralia**	**61.90**	**255**	P	**P**	**11 14 40.7**	**-1.0**
	baz=62,SNR=5.0						
GIRL	**Giralia**	**61.90**	**255**	P	**P**	**11 14 42.5**	**+0.9**
GIRL	**Giralia**	**61.90**	**255**	P	**P**	**11 14 42.6**	**+1.0**
CASY	**Casey**	**63.21**	**205**	P	**P**	**11 14 49.7**	**+0.5**
TOLI2	**Tolitoli**	**63.23**	**282**	P	**P**	**11 14 50.9**	**+0.6**
TOLI2				IAmb	IAmb	11 14 52.3	
	comp=Z,12nm,0.7s						
TOLI2	**Tolitoli**	**63.23**	**282**	P	**P**	**11 14 50.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**65.87**	**270**	P	**P**	**11 15 07.7**	**+0.7**
	comp=Z,32nm,1.0s						
JHJ2	**Mitsune**	**66.97**	**323**	P	**P**	**11 15 13.5**	**+0.2**
QSPA	**South Pole Qui**	**68.98**	**180**	P	**P**	**11 15 27.0**	**+1.8**
	comp=Z,6.0nm,0.7s,baz=11,slow=1.7,SNR=56						
	comp=Z,6.0nm,0.7s						
QSPA	**South Pole Qui**	**68.98**	**180**	P	**P**	**11 15 26.3**	**+1.1**
QSPA				IAmb	IAmb	11 15 27.9	
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**70.38**	**324**	P	**P**	**11 15 33.7**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=120,slow=7.3,SNR=9.2						
	comp=Z,1.4nm,0.4s						
KIWB	**Kanaga Island**	**72.64**	**1**	P	**P**	**11 15 45.9**	**-0.6**
ADK	**Adak**	**72.68**	**1**	P	**P**	**11 15 45.5**	**-1.2**
ADK				IAmb	IAmb	11 15 46.7	
	comp=Z,22nm,0.7s						
ADK	**Adak**	**72.68**	**1**	P	**P**	**11 15 46.2**	**-0.6**
PEA0B	**Petropavlovsk-**	**76.71**	**346**	P	**P**	**11 16 09.3**	**0.0**
PEA0B				IAmb	IAmb	11 16 10.2	
	comp=Z,12nm,0.7s						
PETK	**Petropavlovsk-**	**76.71**	**346**	P	**P**	**11 16 08.9**	**-0.4**
	comp=Z,5.6nm,0.6s,baz=121,slow=8.0,SNR=19						
	comp=Z,5.6nm,0.6s						
KSRS	**Korea Array**	**76.99**	**319**	P	**P**	**11 16 11.8**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=133,slow=6.4,SNR=6.7						
	comp=Z,1.1nm,0.7s						
BELA	**Belgrano 2**	**79.04**	**173**	P	**P**	**11 16 22.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**79.17**	**326**	P	**P**	**11 16 24.1**	**+1.4**
	comp=Z,3.6nm,0.6s,baz=138,slow=3.2,SNR=14						
	comp=Z,3.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**79.17**	**326**	P	**P**	**11 16 23.9**	**+1.2**
NJ2	**Nanjing**	**79.86**	**310**	*e*P	**P**	**11 16 26.6**	**0.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
MAW	**Mawson**	**80.83**	**200**	P	**P**	**11 16 32.8**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=69,slow=6.2,SNR=2.1						
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**81.81**	**44**	P	**P**	**11 16 38.0**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=227,slow=8.4,SNR=14						
	comp=Z,1.1nm,0.6s						
NVAR	**Mina Array Bea**	**81.81**	**44**	P	**P**	**11 16 37.5**	**+0.6**
NV11	**Mina Array Sit**	**81.91**	**44**	P	**P**	**11 16 37.1**	**-0.1**
KVN	**Kaiserville**	**82.29**	**43**	P	**P**	**11 16 39.6**	**+0.3**
BNX	**BinXian**	**82.61**	**325**	⇑P	**P**	**11 16 40.9**	**+0.5**
BNX				pmax	pmax		
	comp=Z,12nm,0.6s						
BNX				pmax	pmax		
	comp=Z,34nm,3.7s						
O18K	**Koktuh Hills**	**82.89**	**12**	P	**P**	**11 16 41.4**	**-0.1**
O18K				IAmb	IAmb	11 16 42.1	
	comp=Z,10nm,0.7s						
PINE	**Pine Mountain**	**83.37**	**38**	P	**P**	**11 16 45.4**	**+0.8**
N18K	**Kilae Creek**	**83.53**	**11**	P	**P**	**11 16 44.2**	**-0.5**
N19K	**Bonanza Creek**	**83.91**	**12**	P	**P**	**11 16 45.4**	**-1.3**
N19K				IAmb	IAmb	11 16 46.8	
	comp=Z,9.3nm,1.1s						
SVW2	**Sparrevohn**	**83.98**	**11**	P	**P**	**11 16 46.2**	**-0.7**
U15A	**North Rim**	**84.74**	**48**	P	**P**	**11 16 52.7**	**+1.2**
M19K	**Big River Lodg**	**84.94**	**11**	P	**P**	**11 16 51.5**	**0.0**
TXAR	**Lajitas Array**	**87.81**	**58**	P	**P**	**11 17 07.2**	**+1.1**
	comp=Z,0.9nm,1.0s,baz=219,slow=5.3,SNR=7.2						
	comp=Z,0.9nm,1.0s						
XAN	**Xi'an**	**88.08**	**308**	P	**P**	**11 17 08.6**	**+1.5**
XAN				pP	PcP	11 17 18.1	+10
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
M27K	**Edge Creek, AK**	**88.12**	**16**	P	**P**	**11 17 07.4**	**+0.6**
M27K				IAmb	IAmb	11 17 08.4	
	comp=Z,9.1nm,1.1s						
IMAR	**Indian Mountai**	**88.83**	**10**	P	**P**	**11 17 09.2**	**-0.5**
IL31		**89.00**	**13**	P	**P**	**11 17 10.1**	**-0.4**
IL31				IAmb	IAmb	11 17 11.8	
	comp=Z,7.2nm,1.4s						
ILAR	**Eielson Array**	**89.00**	**13**	P	**P**	**11 17 10.1**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=218,slow=5.3,SNR=39						
	comp=Z,1.5nm,0.5s						
ILAR	**Eielson Array**	**89.00**	**13**	P	**P**	**11 17 09.7**	**-0.9**
J25K	**Salcha River,**	**89.19**	**14**	P	**P**	**11 17 11.7**	**+0.1**
J25K				IAmb	IAmb	11 17 12.1	
	comp=Z,1.8nm,0.6s						
M30M	**Minto, Yukon**	**89.69**	**18**	P	**P**	**11 17 14.4**	**+0.5**
M30M				IAmb	IAmb	11 17 15.2	
	comp=Z,8.7nm,1.2s						
BW06	**Boulder Array**	**89.75**	**43**	P	**P**	**11 17 15.5**	**+0.6**
BW06				IAmb	IAmb	11 17 16.0	
	comp=Z,2.4nm,0.8s						
PD31	**Pinedale Array**	**89.75**	**43**	P	**P**	**11 17 15.3**	**+0.4**
PDAR	**Pinedale Array**	**89.75**	**43**	P	**P**	**11 17 15.5**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=211,slow=3.4,SNR=17						
	comp=Z,1.3nm,0.6s						
PDAR	**Pinedale Array**	**89.75**	**43**	P	**P**	**11 17 15.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**11 17 16.8**	**+1.3**
	comp=Z,3.6nm,0.6s,baz=125,slow=3.1,SNR=25						
	comp=Z,3.6nm,0.6s						
DAWY	**Dawson**	**90.17**	**16**	P	**P**	**11 17 16.5**	**+0.4**
DAWY				IAmb	IAmb	11 17 17.3	
	comp=Z,4.9nm,1.1s						
EGAK	**Eagle**	**90.31**	**15**	P	**P**	**11 17 17.1**	**+0.5**
EGAK				IAmb	IAmb	11 17 17.6	
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**110.63**	**321**	PKiKP	**PKiKP**	**11 22 43.7**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=126,slow=1.3,SNR=4.4						
MKAR	**Makanchi Array**	**111.23**	**313**	PKiKP	**PKiKP**	**11 22 45.2**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=117,slow=0.9,SNR=11						
ARCES	**ARCESS Array B**	**129.41**	**349**	PKP	**PKPdf**	**11 23 20.0**	**0.0**
	comp=Z,1.8nm,0.5s,baz=45,slow=1.4,SNR=14						
FINES	**FINESS Array B**	**136.19**	**343**	PKhKP	PKPpre	11 23 25.8	
	comp=Z,0.6nm,0.4s,baz=83,slow=6.0,SNR=1.5						
FINES				PKP	**PKiKP**	**11 23 34.4**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=29,slow=3.2,SNR=8.5						
FINES				SKPbc	**SKiKP**	**11 26 15.1**	**-1.2**
	comp=Z,2.5nm,0.8s,baz=90,slow=2.8,SNR=5.4						
NB2	**NORSAR Subarra**	**139.50**	**353**	PKP	**PKPdf**	**11 23 32.7**	**-6.4**
	comp=Z,0.6nm,0.5s,baz=8.7,slow=3.1						
NOA	**NORSAR Array B**	**139.50**	**353**	PKhKP	PKPpre	11 23 31.1	
	comp=Z,1.1nm,0.6s,baz=11,slow=2.3,SNR=5.5						
NOA				PKP	**PKPdf**	**11 23 39.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=18,slow=4.2,SNR=1.8						
AKASG	**Malin Array Be**	**143.28**	**330**	PKhKP	PKPpre	11 23 44.1	
	comp=Z,22nm,0.5s,baz=42,slow=4.5,SNR=94						
AKASG				SKPbc	**SKiKP**	**11 26 33.5**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=51,slow=1.7,SNR=4.5						
AKBB	**Malin Array Si**	**143.28**	**330**		PKPab	11 23 44.1	-0.2
BR131	**Keskin Array S**	**146.85**	**311**		**PKPbc**	**11 23 56.0**	**+0.3**
BRTR	**Keskin Array B**	**146.85**	**311**	PKPbc	**PKPbc**	**11 23 56.0**	**+0.3**
	comp=Z,5.2nm,0.6s,baz=72,slow=4.7,SNR=26						
BRTR	**Keskin Array B**	**146.85**	**311**		**PKPbc**	**11 23 55.6**	**0.0**
TLCR		**147.08**	**323**	⇑P	**PKiKP**	**11 23 56.5**	**+0.7**
GHRR		**147.29**	**326**	⇑P	**PKiKP**	**11 23 58.1**	**0.0**
BUR08	**Bucovina Ar. S**	**147.31**	**330**		**PKPbc**	**11 23 57.3**	**+0.8**
BURAR	**Bucovina Array**	**147.32**	**330**	⇑P	**PKiK

baz=282
ENTT eS Sn 11 15 51.8 +1.3
baz=282
LATG Datong 0.51 276 eP Pn 11 15 43.1 +0.5
baz=270
LATG eS Sn 11 15 52.5 +1.6
baz=270
FUSB Fushanzhiwuyua 0.52 302 P Pn 11 15 43.8 +1.0
baz=310
FUSB S Sn 11 15 53.0 +1.8
baz=310
NDT Datong Townshi 0.53 283 eP Pn 11 15 43.6 +0.9
baz=280
NDT eS Sn 11 15 52.9 +1.7
baz=280
TIPB Shuangxi 0.54 335 eP Pn 11 15 42.9 0.0
baz=346
TIPB eS Sn 11 15 51.9 +0.5
baz=346
NACB Ninganchiao 0.54 235 eS Sn 11 15 52.1 +0.7
baz=227
ETLH Xiulin Townshi 0.61 243 eP Pn 11 15 43.9 +0.1
baz=234
ETLH eS Sn 11 15 53.5 +0.4
baz=234
SXI1 Grass Mountain 0.63 343 eP Pn 11 15 43.8 -0.3
baz=352
SXI1 eS Sn 11 15 54.0 +0.4
baz=352
NNSB Datong 0.64 265 eP Pn 11 15 44.5 +0.3
baz=256
NNSB eS Sn 11 15 54.5 +0.8
baz=256
NNS Nan Shan 0.64 266 eS Sn 11 15 54.0 +0.1
baz=257
YHNB Yeheng 0.67 286 P Pn 11 15 45.0 +0.5
baz=286
YHNB eS Sn 11 15 55.5 +1.2
baz=286
NSK Sanguang 0.68 286 eS Sn 11 15 54.6 0.0
baz=278
WHF Hehuan Shan 0.81 246 eP Pn 11 15 46.8 +0.1
baz=244
WHF eS Sn 11 15 58.4 +0.2
baz=244
NFF Wufeng Townshi 0.89 280 eP Pn 11 15 46.8 -0.4
baz=289
NFF eS Sn 11 15 59.6 +0.4
baz=289
CHGB Renai 0.93 243 eP Pn 11 15 48.2 +0.3
baz=233
CHGB eS Sn 11 16 01.2 +0.7
baz=233
OWD Renai 0.98 238 eP Pn 11 15 48.7 +0.1
baz=228
OWD eS Sn 11 16 01.4 -0.2
baz=228
LIOB Emei 0.98 280 eP Pn 11 15 49.0 +0.5
baz=279
NSTT Nanjuang 0.99 279 eP Pn 11 15 49.0 +0.4
baz=278
NSTT eS Sn 11 16 02.7 +1.0
baz=278
WUSB Renai 1.00 241 eP Pn 11 15 49.2 +0.3
baz=232
WUSB eS Sn 11 16 03.1 +0.9
baz=232
VWDT VWDT 1.12 230 eS Sn 11 16 05.1 +0.3
baz=220
SSLB Suanglung 1.24 236 P Pn 11 15 53.7 +1.7
SSLB Suanglung 1.24 236 eP Pn 11 15 53.6 +1.7
baz=235
WHYT Xinyi Township 1.37 235 eS Sn 11 16 13.5 +2.7
baz=226

*SOME **05** 11:26:13.6, 39°.33N × 73°.10E, h0km*
*NNC **05** 11:26:17.7 ± 1.7, 39°.38N × 73°.44E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=12.3km s-min=6.9km az=173.0*
*KRNET **05** 11:26:21.9 ± 0.1, 39°.47N × 73°.39E, mb2.7*
*ISU **05** 11:26:22, 40°.01N × 73°.56E, h9km*

ISC 05 11:26:24.7 ± 2.2, 39°.68N ± 0°.07 × 73°.40E ± 0°.05, h7km ± 14km, n21, σ1§14/35, 10C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.97**	**331**	⇑*i*P	**Pb**	**11 26 43.8**	**-0.1**
	baz=36						
OHH				⇑*i*S	**Sn**	**11 27 00.0**	**+1.0**
	baz=36						
FRG	**Fergana**	**1.42**	**300**	P	**Pb**	**11 26 52.5**	**+0.8**
FRG				S	**Sg**	**11 27 11.8**	**+1.3**
CHMI	**Chimion**	**1.56**	**293**	S	**Sb**	**11 27 14.1**	**+0.1**
BTK	**Batken**	**2.02**	**282**	P	**Pn**	**11 27 00.1**	**+0.7**
BTK				S	**Sg**	**11 27 29.2**	**-0.6**
ARLS	**Aral**	**2.29**	**18**	⇑*e*P	**Pb**	**11 27 05.6**	**-0.9**
	baz=16						
ARLS				⇑*i*S	**Sg**	**11 27 37.6**	**-0.7**
	baz=16						
GAR	**Garm**	**2.49**	**255**	⇓*i*P	**Pn**	**11 27 05.1**	**-0.7**
	baz=60						
GAR				⇓*i*S	**Sn**	**11 27 36.4**	**-0.1**
	baz=60						
UCH	**Uchtor**	**2.68**	**18**	⇑*i*P	**Pb**	**11 27 11.4**	**-2.0**
	baz=17						
UCH				⇑*i*S	**Sb**	**11 27 47.3**	**+0.6**
	baz=17						
MRKS	**Merke**	**3.06**	**358**	*e*P	**Pb**	**11 27 17.6**	**-2.1**
	1.2nm,0.3s						
MRKS				*e*S	**Sg**	**11 28 03.8**	**+0.6**
	11nm,0.6s						
MRKS	**Merke**	**3.06**	**358**	Pg	**Pb**	**11 27 17.6**	**-2.1**
	1.2nm,0.3s						
MRKS				Lg	Lg	11 28 04.7	
	11nm,0.6s						
IUG	**luzhnay**	**3.55**	**315**	*e*P	**Pn**	**11 27 20.2**	**-0.2**
	97nm,0.4s						
IUG				*e*S	**Sb**	**11 28 08.8**	**-2.5**
	14nm,0.6s						
IUG	**luzhnay**	**3.55**	**315**	Pg	**Pn**	**11 27 20.2**	**-0.2**
	97nm,0.4s						
IUG				Lg	Lg	11 28 08.8	
	14nm,0.6s						
TKM2	**Tokmak 2**	**3.64**	**26**	⇓Pg	**Pb**	**11 27 28.3**	**-1.2**
	2.8nm,1.2s						
TKM2				⇑Lg	Lg	11 28 21.1	
	2.1nm,0.5s						
KST	**Kastek**	**3.87**	**29**	*e*P	**Pb**	**11 27 33.4**	**-0.2**
	1.0nm,0.3s						
KST				*e*S	**Sg**	**11 28 30.9**	**+1.8**
	5.8nm,0.6s						
KST	**Kastek**	**3.87**	**29**	Pg	**Pb**	**11 27 33.3**	**-0.2**
	1.0nm,0.3s						
KST				Lg	Lg	11 28 30.9	
	5.8nm,0.6s						
DGS	**Degeres**	**3.98**	**26**	*e*P	**Pb**	**11 27 34.8**	**-0.5**
	1.2nm,0.4s						
DGS				*e*S	**Sg**	**11 28 33.8**	**+1.2**
	5.9nm,0.5s						
DGS	**Degeres**	**3.98**	**26**	Pg	**Pb**	**11 27 34.8**	**-0.5**
	1.2nm,0.4s						
DGS				Lg	Lg	11 28 33.8	
	5.9nm,0.5s						
KK31	**Karatay Array**	**4.05**	**329**	⇑Pn	**Pn**	**11 27 25.8**	**-1.4**
	0.6nm,0.5s,baz=136,slow=13,SNR=8.4						
KK31				⇓Pg	**Pb**	**11 27 36.4**	**-0.1**
	0.5nm,0.5s						
KK31				⇑Sn	**Sn**	**11 28 17.1**	**+2.1**
	0.7nm,0.5s						
KK31				⇑Lg	Lg	11 28 35.0	
	0.6nm,0.3s,baz=148,slow=15,SNR=4.4						
KRBS	**Karabastau**	**4.36**	**22**	*e*P	**Pb**	**11 27 41.6**	**-0.2**
	0.5nm,0.4s						
KRBS				*e*S	**Sg**	**11 28 45.4**	**+0.7**
	2.7nm,0.7s						
KRBS	**Karabastau**	**4.36**	**22**	Pg	**Pb**	**11 27 41.6**	**-0.2**
	0.5nm,0.4s						
KRBS				Lg	Lg	11 28 45.4	
	2.7nm,0.7s						
KTBS	**Karatobe**	**4.72**	**30**	*e*P	**Pb**	**11 27 48.4**	**+0.6**
	0.6nm,0.4s						
KTBS				*e*S	**Sg**	**11 28 56.7**	**+0.5**
	5.0nm,0.6s						
KTBS	**Karatobe**	**4.72**	**30**	Pg	**Pb**	**11 27 48.4**	**+0.6**
	0.6nm,0.4s						
KTBS				Lg	Lg	11 28 56.7	
	5.0nm,0.6s						

*NOU **05** 11:27:57.7, 37°.19S × 179°.89E, h0km, MLv4.5/4, Off E. Coast of N. Island, N.Z.*
*WEL **05** 11:28:20.0, 38°.53 ± 21°.× 17°.8E ± 1°.2, h38km ± 14km, M2.3/10, ML2.5/6, MLv2.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=7.3*

ISC 05 11:28:03.6 ± 6.0, 37°.1S ± 0°.2 × 179°.4E ± 0°.3, h33km, n25, σ1§28/25, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKGZ	**Pakihiroa**	**1.33**	**234**	P	**Pn**	**11 28 26.9**	**+0.9**
PUZ	**Puketiti**	**1.34**	**224**	P	**Pb**	**11 28 27.3**	**-0.9**
HAZ	**Te Kaha**	**1.47**	**243**	P	**Pn**	**11 28 27.8**	**0.0**
TWGZ	**Tauwhareparae**	**1.57**	**227**	P	**Pb**	**11 28 30.9**	**-1.3**
RUGZ	**Raukumara Rang**	**1.64**	**238**	P	**Pb**	**11 28 31.9**	**-1.4**
CNGZ	**Carnagh Statio**	**1.69**	**215**	P	**Pb**	**11 28 33.2**	**-0.8**
TKGZ	**Te Karaka**	**1.83**	**223**	P	**Pn**	**11 28 34.2**	**+1.4**
MWZ	**Matawai**	**1.95**	**230**	P	**Pn**	**11 28 35.6**	**+1.2**
RIGZ	**Rimuhau**	**2.08**	**219**	P	**Pn**	**11 28 37.4**	**+1.3**
RAGZ	**Rawiri**	**2.12**	**228**	P	**Pn**	**11 28 37.9**	**+1.1**
URZ	**Urewera**	**2.17**	**237**	P	**Pn**	**11 28 38.5**	**+1.0**
URZ	**Urewera**	**2.17**	**237**	P	**Pn**	**11 28 38.5**	**+1.0**
PRGZ	**Paritu Road**	**2.19**	**214**	P	**Pn**	**11 28 39.0**	**+1.2**
SNGZ	**Shannon Statio**	**2.35**	**224**	P	**Pn**	**11 28 40.9**	**+0.8**
KNZ	**Kokohu**	**2.37**	**216**	P	**Pn**	**11 28 40.5**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.37**	**210**	P	**Pn**	**11 28 41.5**	**+1.3**
OPRZ	**Ohinepanea**	**2.41**	**251**	P	**Pn**	**11 28 40.9**	**+0.2**
RTZ	**Ruatahuna**	**2.46**	**231**	P	**Pn**	**11 28 42.6**	**+1.1**
MUGZ	**Murupara**	**2.52**	**236**	P	**Pn**	**11 28 42.9**	**+0.6**
MTHZ	**Maungataniwha**	**2.69**	**229**	P	**Pn**	**11 28 46.1**	**+1.4**
KUZ	**Kuaotunu**	**3.00**	**276**	P	**Pn**	**11 28 49.0**	**+0.2**
BKZ	**Black Stump Fm**	**3.10**	**228**	P	**Pn**	**11 28 51.1**	**+0.8**
TLZ	**Tolley Road**	**3.32**	**247**	P	**Pn**	**11 28 56.4**	**+3.1**
HIZ	**Hauiti**	**3.89**	**247**	P	**Pn**	**11 29 03.0**	**+1.9**
BFZ	**Birch Farm**	**4.35**	**214**	P	**Pn**	**11 29 06.9**	**-0.5**

*IDC **05** 11:38:14.9 ± 2.5, 18°.23N × 146°.09E, h228km ± 23km, mb3.0/5, mbtmp3.6/6, Error ellipse: s-maj=91.9km s-min=19.5km az=110.0*

ISC 05 11:38:12.1 ± 1.1, 18°.5N ± 0°.2 × 145°.7E ± 0°.5, h200km, n6, σ1§56/7, mb3.2/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.94**	**189**	P	**Pn**	**11 39 26.7**	**+1.0**
	33nm,0.8s,baz=15,slow=17,SNR=1.3						
GUMO				S	**Sn**	**11 40 24.9**	**+1.1**
	26nm,0.8s,baz=17,slow=19,SNR=1.1						
PETK	**Petropavlovsk-**	**35.80**	**12**	P	**P**	**11 44 53.9**	**+1.8**
	3.4nm,1.0s,baz=207,slow=9.3,SNR=2.7						
	3.4nm,1.0s						
WRA	**Warramunga Arr**	**39.78**	**197**	P	**P**	**11 45 25.1**	**-0.7**
	0.2nm,0.3s,baz=21,slow=8.7,SNR=8.7						
	0.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.34**	**210**	P	**P**	**11 45 37.9**	**-0.8**
	0.4nm,0.3s,baz=42,slow=8.5,SNR=1.7						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**43.45**	**196**	P	**P**	**11 45 54.3**	**-1.3**
	0.4nm,0.9s,baz=8.9,slow=6.6,SNR=2.4						
	0.4nm,0.9s						
NVAR	**Mina Array Bea**	**83.29**	**52**	P	**P**	**11 50 15.7**	**-1.3**
	0.3nm,0.7s,baz=266,slow=5.4,SNR=3.9						
	0.3nm,0.7s						

*NEIC **05** 11:40:49.5 ± 1.4, 37°.00S ± 0°.10 × 179°.5E ± 0°.1, h10km ± 2km, mb4.4/9, Error ellipse: s-maj=18.6km s-min=15.9km az=119.0*
*NOU **05** 11:40:49.5, 37°.03S × 179°.83E, h110km, MLv4.8/9, Off E. Coast of N. Island, N.Z.*
*IDC **05** 11:40:52.1 ± 2.5, 36°.72S × 178°.82E, h0km, mb4.2/3, mbtmp4.2/4, ML4.2/1, MS2.7/1, Error ellipse: s-maj=58.2km s-min=30.8km az=120.0*
*WEL **05** 11:40:53.8 ± 1.3, 37°.S ± 6°.× 17°.9E ± 1°.1, h10km, M3.9/17, ML4.2/16, MLv3.9/17, Error ellipse: s-maj=0.0km s-min=0.0km az=90.8*

ISC 05 11:40:55.1 ± 1.2, 37°.01S ± 0°.10 × 179°.2E ± 0°.2, h37km ± 3km, n136, σ1§27/140, mb4.2/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.91**	**233**		**Pn**	**11 41 10.0**	**-1.3**
MXZ	**Matakaoa Point**	**0.91**	**233**	P	**Pn**	**11 41 10.0**	**-1.3**
MXZ				S	**Sn**	**11 41 21.9**	**-1.3**
WMGZ	**Waiomatatini S**	**1.03**	**218**	P	**Pn**	**11 41 14.1**	**+2.2**
WMGZ				S	**Sn**	**11 41 28.7**	**+2.7**
PKGZ	**Pakihiroa**	**1.26**	**226**	P	**Pn**	**11 41 16.0**	**-0.2**
PUZ	**Puketiti**	**1.30**	**216**	P	**Pn**	**11 41 16.7**	**0.0**
PUZ				S	**Sn**	**11 41 35.4**	**+2.5**
TWGZ	**Tauwhareparae**	**1.52**	**220**	P	**Pn**	**11 41 21.1**	**+1.3**
RUGZ	**Raukumara Rang**	**1.55**	**232**	P	**Pn**	**11 41 21.2**	**+1.0**
CNGZ	**Carnagh Statio**	**1.67**	**208**	P	**Pn**	**11 41 23.4**	**+1.7**
WIZ	**White Island**	**1.70**	**252**	P	**Pn**	**11 41 20.9**	**-1.2**
TKGZ	**Te Karaka**	**1.79**	**217**	P	**Pn**	**11 41 24.2**	**+0.8**
MWZ	**Matawai**	**1.88**	**225**	P	**Pn**	**11 41 25.7**	**+1.0**
WHRZ	**Whale Island**	**1.97**	**244**	P	**Pn**	**11 41 27.0**	**+1.1**
RIGZ	**Rimuhau**	**2.04**	**214**	P	**Pn**	**11 41 27.4**	**+0.5**
RAGZ	**Rawiri**	**2.06**	**223**	P	**Pn**	**11 41 28.1**	**+1.0**
URZ	**Urewera**	**2.08**	**233**	Pn	**Pn**	**11 41 28.3**	**+0.9**
	87nm,0.3s,baz=31,slow=15,SNR=152						
URZ				Sn	**Sn**	**11 41 53.2**	**+1.1**
	44nm,0.3s,baz=210,slow=20,SNR=16						
URZ				LR	LR	11 42 29.1	
	comp=Z,175nm,21.6s,baz=31,slow=47						
	183nm,0.3s						
URZ	**Urewera**	**2.08**	**233**		**Pn**	**11 41 28.6**	**+1.1**
URZ	**Urewera**	**2.08**	**233**	P	**Pn**	**11 41 28.5**	**+1.1**
URZ	**Urewera**	**2.08**	**233**	P	**Pn**	**11 41 28.7**	**+1.3**
PRGZ	**Paritu Road**	**2.18**	**209**	P	**Pn**	**11 41 29.1**	**+0.4**
MARZ	**Manawahe**	**2.24**	**244**	P	**Pn**	**11 41 30.0**	**+0.4**
EDRZ	**Edgecumbe**	**2.25**	**240**	P	**Pn**	**11 41 30.5**	**+0.8**
OPRZ	**Ohinepanea**	**2.28**	**248**	P	**Pn**	**11 41 30.1**	**+0.1**
SNGZ	**Shannon Statio**	**2.31**	**220**	P	**Pn**	**11 41 31.1**	**+0.5**
KNZ	**Kokohu**	**2.35**	**211**	P	**Pn**	**11 41 30.7**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.37**	**205**	P	**Pn**	**11 41 31.7**	**+0.3**
RTZ	**Ruatahuna**	**2.39**	**227**	P	**Pn**	**11 41 32.4**	**+0.8**
MYRZ	**Mayor Island**	**2.39**	**263**	P	**Pn**	**11 41 32.2**	**+0.6**
MUGZ	**Murupara**	**2.43**	**232**	P	**Pn**	**11 41 32.7**	**+0.6**
TGRZ	**Tauranga**	**2.46**	**252**	P	**Pn**	**11 41 33.0**	**+0.4**
TARZ	**Mount Tarawera**	**2.48**	**240**	P	**Pn**	**11 41 34.2**	**+1.3**
RRRZ	**Republican Roa**	**2.52**	**238**	P	**Pn**	**11 41 34.4**	**+1.0**
RAHZ	**Arahi**	**2.54**	**221**	P	**Pn**	**11 41 34.6**	**+0.9**
KARZ	**Kaharoa**	**2.57**	**246**	P	**Pn**	**11 41 34.7**	**+0.6**
WHHZ	**Waihua**	**2.59**	**217**	P	**Pn**	**11 41 35.2**	**+0.8**
HLRZ	**Highlands Stat**	**2.59**	**241**	P	**Pn**	**11 41 35.4**	**+1.0**
MTHZ	**Maungataniwha**	**2.63**	**225**	P	**Pn**	**11 41 35.7**	**+0.7**
NGRZ	**Ngongotaha**	**2.64**	**245**	P	**Pn**	**11 41 37.0**	**+1.9**
UTU	**Utuhina**	**2.67**	**243**	P	**Pn**	**11 41 37.9**	**+2.4**
PRRZ	**Plateau Road**	**2.69**	**236**	P	**Pn**	**11 41 36.3**	**+0.6**
HSRZ	**Hossack Road**	**2.69**	**240**	P	**Pn**	**11 41 37.3**	**+1.5**
HRRZ	**Handcock Road**	**2.70**	**239**	P	**Pn**	**11 41 37.9**	**+2.0**
KMRZ	**Kaimai**	**2.74**	**251**	P	**Pn**	**11 41 37.0**	**+0.5**
ALRZ	**Allen Road**	**2.75**	**235**	P	**Pn**	**11 41 37.2**	**+0.5**
GRRZ	**Galatos Road**	**2.80**	**241**	P	**Pn**	**11 41 38.5**	**+1.2**
KUZ	**Kuaotunu**	**2.82**	**274**	P	**Pn**	**11 41 36.5**	**-1.0**
KUZ				S	**Sn**	**11 42 07.0**	**-3.1**
NMHZ	**Naumai**	**2.82**	**222**	P	**Pn**	**11 41 38.4**	**+0.8**
ARHZ	**Aropaoanui**	**2.85**	**217**	P	**Pn**	**11 41 38.4**	**+0.4**
MRHZ	**Matea Rd**	**2.86**	**230**	P	**Pn**	**11 41 38.7**	**+0.5**
BKZ	**Black Stump Fm**	**3.04**	**224**		**Pn**	**11 41 41.6**	**+1.0**
BKZ	**Black Stump Fm**	**3.04**	**224**	P	**Pn**	**11 41 40.7**	**+0.1**
BKZ	**Black Stump Fm**	**3.04**	**224**	P	**Pn**	**11 41 40.5**	**-0.1**
TOZ	**Tahuroa Road**	**3.04**	**255**	P	**Pn**	**11 41 40.0**	**-0.6**
KUTZ	**Kaahu Road**	**3.07**	**240**	P	**Pn**	**11 41 42.0**	**+1.0**
GRZ	**Great Barrier**	**3.12**	**283**	P	**Pn**	**11 41 42.1**	**+0.4**
CKHZ	**Cape Kidnapper**	**3.13**	**212**	P	**Pn**	**11 41 41.2**	**-0.6**
TLZ	**Tolley Road**	**3.20**	**245**	P	**Pn**	**11 41 43.8**	**+1.0**
MKAZ	**Moumakai**	**3.25**	**267**	P	**Pn**	**11 41 43.0**	**-0.4**
KWHZ	**Kaweka Forest**	**3.26**	**222**	P	**Pn**	**11 41 43.9**	**+0.3**
WIAZ	**Waiheke Island**	**3.28**	**273**	P	**Pn**	**11 41 43.4**	**-0.5**
RATZ	**Rangitukua**	**3.29**	**235**	P	**Pn**	**11 41 45.8**	**+1.7**
KAHZ	**Kahuranaki**	**3.33**	**213**	P	**Pn**	**11 41 43.7**	**-0.9**
ETAZ	**East Tamaki Re**	**3.44**	**270**	P	**Pn**	**11 41 46.1**	**+0.2**
KRHZ	**Kereru**	**3.45**	**220**	P	**Pn**	**11 41 45.9**	**-0.3**
MBAZ	**Motutapu North**	**3.47**	**273**	P	**Pn**	**11 41 46.8**	**+0.4**
TMVZ	**Te Maari**	**3.48**	**232**	P	**Pn**	**11 41 47.4**	**+0.7**
ETVZ	**East Tongariro**	**3.48**	**232**	P	**Pn**	**11 41 47.1**	**+0.3**
NTVZ	**North Tongarir**	**3.48**	**232**	P	**Pn**	**11 41 47.2**	**+0.4**
BHHZ	**Black Hill Sta**	**3.50**	**224**	P	**Pn**	**11 41 47.0**	**0.0**
KRVZ	**Karewarewa**	**3.50**	**233**	P	**Pn**	**11 41 47.8**	**+0.8**
OTVZ	**Oturere**	**3.53**	**231**	P	**Pn**	**11 41 48.1**	**+0.7**
PXZ	**Pawanui**	**3.53**	**211**	P	**Pn**	**11 41 45.9**	**-1.5**
ABAZ	**Army Bay**	**3.54**	**275**	P	**Pn**	**11 41 48.5**	**+1.1**
NNVZ	**North Ngauruho**	**3.54**	**232**	P	**Pn**	**11 41 48.8**	**+1.2**
WTVZ	**West Tongariro**	**3.55**	**233**	P	**Pn**	**11 41 49.1**	**+1.4**
SNVZ	**South Ngauruho**	**3.56**	**231**	P	**Pn**	**11 41 48.3**	**+0.4**
NGZ	**Ngauruhoe**	**3.58**	**232**	P	**Pn**	**11 41 48.4**	**+0.3**
EPAZ	**Eden Park BICE**	**3.59**	**271**	P	**Pn**	**11 41 48.8**	**+0.7**
HBAZ	**Herne Bay Bore**	**3.60**	**271**	P	**Pn**	**11 41 49.2**	**+1.0**
TUVZ	**Tukino**	**3.60**	**230**	P	**Pn**	**11 41 48.9**	**+0.5**
TWVZ	**Taurewa**	**3.62**	**234**	P	**Pn**	**11 41 49.8**	**+1.1**
MOVZ	**Moawhango**	**3.63**	**228**	P	**Pn**	**11 41 48.5**	**-0.2**
WHVZ	**Whangaehu Hut**	**3.65**	**231**	P	**Pn**	**11 41 49.6**	**+0.5**
FWVZ	**Far West T-bar**	**3.65**	**231**	P	**Pn**	**11 41 49.9**	**+0.7**
AWAZ	**Awhitu Peninsu**	**3.66**	**268**	P	**Pn**	**11 41 49.6**	**+0.6**
WNVZ	**Wahianoa**	**3.67**	**230**	P	**Pn**	**11 41 49.4**	**+0.1**
WTAZ	**Waiatarua**	**3.72**	**270**	P	**Pn**	**11 41 50.6**	**+0.6**
RVAZ	**Riverhead Bore**	**3.73**	**272**	P	**Pn**	**11 41 50.6**	**+0.6**
PNHZ	**Pukenui**	**3.74**	**218**	P	**Pn**	**11 41 49.2**	**-1.0**
WPHZ	**Waipukurau**	**3.74**	**215**	P	**Pn**	**11 41 49.4**	**-0.9**
HIZ	**Hauiti**	**3.77**	**245**	Pn	**Pn**	**11 41 52.0**	**+1.5**
HIZ	**Hauiti**	**3.77**	**245**	P	**Pn**	**11 41 52.3**	**+1.7**
HIZ	**Hauiti**	**3.77**	**245**	P	**Pn**	**11 41 52.3**	**+1.7**
MTVZ	**Mangateitei**	**3.78**	**230**	P	**Pn**	**11 41 50.7**	**-0.1**
PKVZ	**Pokaka**	**3.80**	**232**	P	**Pn**	**11 41 51.9**	**+0.8**
PRHZ	**Porangahau**	**3.83**	**211**	P	**Pn**	**11 41 49.7**	**-1.6**
TSZ	**Takapari Road**	**3.97**	**219**	P	**Pn**	**11 41 52.1**	**-1.3**
ANWZ	**Angora Road**	**4.05**	**211**	P	**Pn**	**11 41 53.0**	**-1.5**
DVHZ	**Dannevirke**	**4.06**	**215**	P	**Pn**	**11 41 53.1**	**-1.4**
WCZ	**Waipu Caves**	**4.07**	**284**	P	**Pn**	**11 41 55.2**	**+0.5**
WAZ	**Wanganui**	**4.31**	**229**	P	**Pn**	**11 41 58.5**	**+0.5**
POWZ	**Post Office Ro**	**4.32**	**218**	P	**Pn**	**11 41 57.1**	**-1.1**
BFZ	**Birch Farm**	**4.33**	**211**	Pn	**Pn**	**11 41 56.6**	**-1.8**
BFZ	**Birch Farm**	**4.33**	**211**	P	**Pn**	**11 41 56.4**	**-2.0**
PRWZ	**Pori Road**	**4.35**	**215**	P	**Pn**	**11 41 58.0**	**-0.6**
LREZ	**Lake Rotokare**	**4.51**	**236**	P	**Pn**	**11 42 02.1**	**+1.4**
DREZ	**Durham Road**	**4.51**	**240**	P	**Pn**	**11 42 04.1**	**+3.2**
NEZ	**North Egmont**	**4.62**	**239**	P	**Pn**	**11 42 05.1**	**+2.7**
KHEZ	**Kahui Hut**	**4.69**	**239**	P	**Pn**	**11 42 06.7**	**+3.3**
OUZ	**Omahuta**	**4.89**	**290**	Pn	**Pn**	**11 42 07.0**	**+1.0**
OUZ	**Omahuta**	**4.89**	**290**	P	**Pn**	**11 42 07.0**	**+1.0**
OUZ	**Omahuta**	**4.89**	**290**	P	**Pn**	**11 42 07.0**	**+1.0**
	44nm,1.7s						
TUWZ	**Tuamarina**	**6.02**	**221**		**Pn**	**11 42 19.1**	**-2.3**
TKNZ	**Takaka Hill**	**6.31**	**229**	P	**Pn**	**11 42 23.9**	**-1.6**
QRZ	**Quartz Range**	**6.46**	**232**	P	**Pn**	**11 42 26.0**	**-1.5**
	138nm,2.2s						
KHZ	**Kahutara**	**6.95**	**217**	P	**Pn**	**11 42 32.9**	**-1.3**
RPZ	**Rata Peaks**	**9.14**	**220**	Pn	**Pn**	**11 43 00.8**	**-3.5**
	0.5nm,0.3s,baz=31,slow=18,SNR=2.1						
RPZ				Sn	Sn	11 44 34.8	-11
	1.8nm,0.3s,baz=114,slow=18,SNR=9.2						
RPZ	**Rata Peaks**	**9.14**	**220**	Pn	**Pn**	**11 43 04.0**	**-0.3**
RPZ	**Rata Peaks**	**9.14**	**220**	P	**Pn**	**11 43 02.4**	**-1.9**
ODZ	**Otahua Downs**	**10.30**	**216**	P	**Pn**	**11 43 18.1**	**-2.1**
AS31	**Alice Springs**	**40.94**	**276**	P	**P**	**11 48 33.5**	**-0.6**
ASAR	**Alice Springs**	**40.94**	**276**	P	**P**	**11 48 33.9**	**-0.3**
	2.3nm,0.6s,baz=119,slow=7.6,SNR=58						
ASAR				PcP	**PcP**	**11 50 34.5**	**+0.4**
	0.2nm,0.6s,baz=120,slow=3.8,SNR=1.4						
	2.3nm,0.6s						
ASAR	**Alice Springs**	**40.94**	**276**	P	**P**	**11 48 33.3**	**-0.8**
WR0	**Warramunga Arr**	**42.37**	**281**	P	**P**	**11 48 45.1**	**-0.7**
WR0				IAmb	IAmb	11 49 24.1	
	comp=Z,7.9nm,1.3s						
FORT	**Forrest**	**42.50**	**263**	P	**P**	**11 48 45.4**	**-1.4**
WB2	**Warramunga Arr**	**42.53**	**281**	P	**P**	**11 48 45.7**	**-1.4**
WB2				IAmb	IAmb	11 48 59.5	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**42.54**	**281**	P	**P**	**11 48 46.9**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=120,slow=7.8,SNR=42						
WRA				PcP	**PcP**	**11 50 41.0**	**+1.6**
	comp=Z,0.6nm,1.1s,baz=130,slow=2.7,SNR=2.4						
	comp=Z,2.2nm,0.6s						
WRA	**Warramunga Arr**	**42.54**	**281**	P	**P**	**11 48 45.8**	**-1.4**
WB0	**Warramunga Arr**	**42.59**	**281**	P	**P**	**11 48 46.7**	**-0.9**
WB0				IAmb	IAmb	11 48 52.6	
	comp=Z,13nm,1.4s						
KNRA	**Kununurra**	**49.32**	**282**	P	**P**	**11 49 39.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**50.42**	**277**	P	**P**	**11 49 48.4**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=126,slow=6.4,SNR=10						
	comp=Z,2.4nm,0.9s						
MORW	**Morawa**	**52.70**	**259**	P	**P**	**11 50 04.8**	**-1.3**
MORW				IAmb	IAmb	11 50 44.5	
	comp=Z,10nm,1.2s						
QSPA	**South Pole Qui**	**53.11**	**180**	P	**P**	**11 50 11.9**	**+3.3**
QSPA				IAmb	IAmb	11 50 38.2	
	comp=Z,2.3nm,1.1s						
H03N3	**Juan Fernandez**	**78.97**	**124**	T	T	13 19 42.2	
	baz=234,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**78.97**	**124**	T	T	13 19 37.6	
	baz=234,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**78.98**	**124**	T	T	13 19 41.9	
	baz=234,slow=72,S

WR0	**Warramunga Arr**	**39.62**	**200**	P	**P**	**11 54 05.1 -0.5**
WR0				IAmb	IAmb	11 54 33.1
	comp=Z,9.3nm,1.4s					
WB2	**Warramunga Arr**	**39.67**	**200**	P	**P**	**11 54 06.7 +0.7**
WB2				IAmb	IAmb	11 54 43.3
	comp=Z,7.1nm,1.2s					
WRA	**Warramunga Arr**	**39.67**	**200**	P	**P**	**11 54 06.0 0.0**
	comp=Z,0.6nm,0.6s,baz=23,slow=8.8,SNR=12 comp=Z,0.6nm,0.6s					
WRA	**Warramunga Arr**	**39.67**	**200**	P	**P**	**11 54 07.1 +1.1**
AS31	**Alice Springs**	**43.30**	**199**	P	**P**	**11 54 36.7 +1.0**
ASAR	**Alice Springs**	**43.30**	**199**	P	**P**	**11 54 36.0 +0.3**
	comp=Z,0.3nm,0.7s,baz=9.9,slow=7.0,SNR=9.9 comp=Z,0.3nm,0.7s					
ASAR	**Alice Springs**	**43.30**	**199**	P	**P**	**11 54 36.2 +0.5**
SONM	**Songino Array**	**45.07**	**321**	P	**P**	**11 54 50.1 +0.3**
	comp=Z,0.8nm,0.6s,baz=136,slow=9.2,SNR=4.1 comp=Z,0.8nm,0.6s					
CMAR	**Chiang Mai Arr**	**46.23**	**279**	P	**P**	**11 54 58.9 -0.4**
	comp=Z,0.9nm,0.7s,baz=66,slow=7.0,SNR=6.6 comp=Z,0.9nm,0.7s					
BBOO	**Buckleboo**	**51.48**	**193**	P	**P**	**11 55 39.1 -0.1**
BBOO				IAmb	IAmb	11 55 39.8
	comp=Z,17nm,1.4s					
FORT	**Forrest**	**51.80**	**202**	P	**P**	**11 55 42.3 +0.7**
NWAO	**Narrogin (SRO)**	**58.19**	**210**	P	**P**	**11 56 27.6 -0.2**
ZALV	**Zalesovo Beam**	**59.92**	**323**	P	**P**	**11 56 40.0 +0.3**
	comp=Z,3.1nm,0.6s,baz=102,slow=8.3,SNR=10 comp=Z,3.1nm,0.6s					
ZALV	**Zalesovo Beam**	**59.92**	**323**	P	**P**	**11 56 39.1 -0.5**
MKAR	**Makanchi Array**	**60.49**	**314**	P	**P**	**11 56 44.0 +0.4**
	comp=Z,0.3nm,0.5s,baz=98,slow=7.4,SNR=5.7 comp=Z,0.3nm,0.5s					
MKAR	**Makanchi Array**	**60.49**	**314**	P	**P**	**11 56 43.9 +0.2**
KURK	**Kurchatov**	**63.24**	**318**	P	**P**	**11 57 02.3 +0.2**
KURK				IAmb	IAmb	11 57 17.4
	comp=Z,1.4nm,0.7s					
ILAR	**Eielson Array**	**63.67**	**26**	P	**P**	**11 57 03.8 -0.9**
	comp=Z,0.4nm,0.9s,baz=256,slow=7.3,SNR=3.2 comp=Z,0.4nm,0.9s					
KKAR	**Karatay Array**	**68.83**	**310**	P	**P**	**11 57 38.3 +0.1**
ABKAR	**Akbulak array**	**75.33**	**317**	P	**P**	**11 58 16.9 -0.1**

*JMA **05** 12:05:37.7±0.4,34°N±1°×14°2E±°, h35km±2km, MV3.1/29, FAR SE OFF BOSO PEN*
*IDC **05** 12:05:38.1±1.4,34.41N×141.67E, h0km, mb3.4/3, mbtmp3.4/5, ML2.7/2, MS2.5/1, Error ellipse: s-maj=28.1km s-min=22.3km az=104.0*
ISC 05 12:05:41.6±1.2,34°44N±0°06×141°70E±0°08, h27km, n22, σ0s86/19, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.64**	**290**	P	**Pb**	**12 05 53.0**	**-0.8**
BSO1				X		12 06 04.8	
BSO3	**Boso 3**	**1.05**	**291**	*eP*	**Pn**	**12 05 59.7**	**-0.7**
BSO4	**Boso 4**	**1.25**	**297**	*eS*	**Sb**	**12 06 21.3**	**+1.0**
JKUC	**kamogawauchiur**	**1.43**	**301**	*eP*	**Pn**	**12 06 05.2**	**-0.6**
CHOJ	**Chosi**	**1.44**	**332**	*eP*	**Pn**	**12 06 04.7**	**-1.2**
JMKN	**Mikurajimanish**	**1.83**	**253**	*eP*	**Pn**	**12 06 10.1**	**-1.3**
JMKN				*eS*	**Sn**	**12 06 33.3**	**-0.4**
JHJ	**Hachijo jima 2**	**2.07**	**231**	Pn	**Pn**	**12 06 14.3**	**-0.3**
	12nm,0.3s,baz=49,slow=14,SNR=20						
JHJ				Sn	**Sn**	**12 06 40.0**	**+0.5**
	25nm,0.3s,baz=52,slow=19,SNR=9.8 34nm,0.3s						
JOD2	**Odawara 2**	**2.31**	**292**	*eP*	**Pn**	**12 06 17.3**	**-0.6**
JOD2				*eS*	**Sn**	**12 06 47.1**	**+1.7**
JAG	**Ashikaga**	**2.71**	**318**	*eP*	**Pn**	**12 06 22.8**	**-0.6**
JRY	**Ryogami san**	**2.79**	**305**	*eP*	**Pn**	**12 06 23.9**	**-0.5**
JYN	**Shimob**	**2.80**	**293**	*eP*	**Pn**	**12 06 24.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.54**	**307**	Pn	**Pn**	**12 06 34.7**	**-0.2**
	0.4nm,0.3s,baz=121,slow=9.1,SNR=16						
MJAR				Sn	**Sn**	**12 07 15.1**	**-0.8**
	0.3nm,0.3s,baz=125,slow=22,SNR=5.4 2.1nm,0.3s						
KSRS	**Korea Array**	**11.57**	**289**	LR	LR	12 12 37.8	
	comp=Z,22nm,18.6s,baz=225,slow=36						
H11N2	**WAKE ISLAND Hy**	**26.69**	**117**	T	T	12 39 19.5	
	baz=307						
H11N1	**WAKE ISLAND Hy**	**26.70**	**117**	T	T	12 39 20.1	
	baz=307						
H11N3	**WAKE ISLAND Hy**	**26.71**	**117**	T	T	12 39 18.9	
	baz=307						
H11S3	**WAKE ISLAND Hy**	**27.32**	**119**	T	T	12 40 11.3	
	baz=308						
H11S1	**WAKE ISLAND Hy**	**27.32**	**119**	T	T	12 40 13.0	
	baz=308						
H11S2	**WAKE ISLAND Hy**	**27.34**	**119**	T	T	12 40 14.1	
	baz=308						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**12 14 00.8**	**+0.3**
	0.3nm,0.6s,baz=94,slow=8.4,SNR=4.6 0.3nm,0.6s						
ILAR	**Eielson Array**	**51.57**	**31**	P	**P**	**12 14 45.9**	**+0.9**
	0.5nm,0.9s,baz=256,slow=5.5,SNR=3.4 0.5nm,0.9s						
WRA	**Warramunga Arr**	**54.53**	**189**	P	**P**	**12 15 07.1**	**-0.2**
	0.3nm,0.5s,baz=1.5,slow=7.6,SNR=13 0.3nm,0.5s						

*JMA **05** 12:16:37.7±0.6,34°N±2°×14°2E±°, h25km±3km, MV2.4/17, FAR SE OFF BOSO PEN*
*IDC **05** 12:16:45.7±1.8,33.57N×138.01E, h0km, mb3.2/2, mbtmp3.0/3, ML1.9/1, Error ellipse: s-maj=30.0km s-min=28.7km az=2.0*
ISC 05 12:16:38.4±2.4,34°40N±0°06×141°8E±0°1, h12km±13km, n10, σ1s14/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.68**	**292**	P	**Pg**	**12 16 52.1**	**+0.6**
BSO3	**Boso 3**	**1.09**	**292**	*eP*	**Pn**	**12 16 59.2**	**0.0**
BSO4	**Boso 4**	**1.30**	**297**	*eP*	**Pn**	**12 17 02.5**	**+0.3**
BSO4				*eS*	**Sb**	**12 17 20.3**	**+1.1**
JKUC	**kamogawauchiur**	**1.48**	**301**	*eP*	**Pn**	**12 17 04.4**	**-0.4**
JKUC				*eS*	**Sn**	**12 17 23.2**	**-0.8**
CHOJ	**Chosi**	**1.49**	**331**	*eP*	**Pn**	**12 17 03.9**	**-1.0**
CHOJ				*eS*	**Sn**	**12 17 23.2**	**-1.0**
JMKN	**Mikurajimanish**	**1.86**	**255**	*eP*	**Pn**	**12 17 09.5**	**-0.5**
JMKN				*eS*	**Sn**	**12 17 33.3**	**-0.1**
JHJ	**Hachijo jima 2**	**2.08**	**232**	Pn	**Pb**	**12 17 14.4**	**-1.5**
	5.5nm,0.3s,baz=270,slow=20,SNR=5.2						
JHJ				Sn	**Sn**	**12 17 38.2**	**-0.5**
	12nm,0.3s,baz=252,slow=19,SNR=8.4						
MJAR	**Matsushiro Arr**	**3.59**	**307**	Pn	**Pn**	**12 17 34.0**	**+0.1**
	0.2nm,0.3s,baz=153,slow=12,SNR=9.9 0.9nm,0.3s						
WRA	**Warramunga Arr**	**54.50**	**189**	P	**P**	**12 26 05.5**	**-0.5**
	0.2nm,0.5s,baz=4.0,slow=7.6,SNR=6.5 0.2nm,0.5s						
ASAR	**Alice Springs**	**58.23**	**188**	P	**P**	**12 26 35.1**	**+2.6**
	0.1nm,0.5s,baz=13,slow=8.6,SNR=1.6 0.1nm,0.5s						

IDC 05 12:17:50.1±1.1,9°24S×158°86E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=36.8km s-min=17.6km az=2.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.09**	**100**	Pn	Pn	12 18 12.9	+0.2
	2μm,0.3s,baz=213,slow=7.8,SNR=69						
HNR				Sn	Sn	12 18 29.0	+0.5
	8μm,0.3s,baz=345,slow=20,SNR=33						
WRA	**Warramunga Arr**	**25.97**	**243**	P	P	12 23 24.4	-0.4
	0.8nm,0.9s,baz=71,slow=9.6,SNR=3.1 0.8nm,0.9s						
ASAR	**Alice Springs**	**27.83**	**236**	P	P	12 23 41.6	+0.1
	0.2nm,0.8s,baz=62,slow=9.9,SNR=4.0 0.2nm,0.8s						
SONM	**Songino Array**	**73.30**	**326**	P	P	12 29 24.3	+0.6
	0.7nm,0.4s,baz=116,slow=4.4,SNR=3.4 0.7nm,0.4s						
ILAR	**Eielson Array**	**84.09**	**20**	P	P	12 30 22.0	-0.5
	0.2nm,0.4s,baz=239,slow=4.9,SNR=5.2 0.2nm,0.4s						

*IDC **05** 12:23:23.7±1.5,21.60N×143.07E, h294km±14km, mb3.6/24, mbtmp4.3/28, Error ellipse: s-maj=14.0km s-min=9.8km az=82.0*
*NEIC **05** 12:23:24.0±1.6,21.59N±0.09×143.1E±0.1, h294km±8km, mb4.1/46, Error ellipse: s-maj=19.3km s-min=12.4km az=88.0*
ISC 05 12:23:25.4±0.5,21°66N±0°06×143°0E±0°1, h311km, n91, σ1s21/97, mb4.0/43, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.47**	**352**	P	**Pn**	**12 24 46.7**	**-2.0**
	100nm,0.5s,baz=288,slow=22,SNR=32						
JCJ				S	**S**	**12 25 51.2**	**-4.7**
	104nm,0.5s,baz=252,slow=23,SNR=9.7						
GUMO	**Guam**	**8.21**	**167**	P	**Pn**	**12 25 20.5**	**-1.3**
	76nm,0.7s,baz=315,slow=11,SNR=7.2						
GUMO	**Guam**	**8.21**	**167**	Pn	**Pn**	**12 25 21.2**	**-0.6**
JHJ	**Hachijo jima 2**	**11.77**	**347**	P	**Pn**	**12 26 03.7**	**-1.2**
	29nm,0.3s,baz=72,slow=19,SNR=6.5						
JHJ				S	**S**	**12 28 11.6**	**-4.5**
	36nm,0.5s,baz=233,slow=20,SNR=2.1						
INU	**Inuyama**	**14.62**	**340**	P	**P**	**12 26 39.0**	**+1.4**
MJAR	**Matsushiro Arr**	**15.41**	**345**	P	**P**	**12 26 45.8**	**-0.5**
	1.8nm,0.5s,baz=275,slow=16,SNR=12						
MAJO	**Matsushiro**	**15.41**	**345**	P	**Pn**	**12 26 48.8**	**+0.6**
MAJO				IAmb	IAmb	12 26 49.7	
	comp=Z,6.1nm,0.4s						
JMM	**Marumori**	**16.27**	**354**	P	**Pn**	**12 26 58.3**	**+0.2**
KSRS	**Korea Array**	**20.45**	**324**	P	**P**	**12 27 40.5**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=146,slow=8.9,SNR=24 comp=Z,3.1nm,0.6s						
KSAR	**Wonju Array Be**	**20.46**	**324**	P	**P**	**12 27 40.3**	**0.0**
KS19	**Wonju Array Si**	**20.52**	**324**	P	**P**	**12 27 40.2**	**-0.6**
KS19				IAmb	IAmb	12 27 42.9	
	comp=Z,6.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**24.27**	**340**	P	**P**	**12 28 16.0**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=167,slow=13,SNR=2.4 comp=Z,1.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**24.27**	**340**	P	**P**	**12 28 19.1**	**+4.1**
MTN	**Manzhouli**	**36.21**	**200**	P	**P**	**12 29 57.2**	**-2.3**
SONM	**Songino Array**	**39.27**	**321**	P	**P**	**12 30 25.6**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=129,slow=8.9,SNR=4.6 comp=Z,1.0nm,0.5s						
KNRA	**Kununurra**	**39.64**	**202**	P	**P**	**12 30 27.1**	**-0.9**
KNRA				IAmb	IAmb	12 30 27.6	
	comp=Z,5.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.41**	**274**	P	**P**	**12 30 43.8**	**+1.3**
	comp=Z,1.8nm,0.5s,baz=81,slow=6.3,SNR=11 comp=Z,1.8nm,0.5s						
WB0	**Warramunga Arr**	**42.02**	**192**	P	**P**	**12 30 46.2**	**-1.0**
WR0	**Warramunga Arr**	**42.18**	**192**	P	**P**	**12 30 47.1**	**-1.4**
WRAB	**Tennant Creek**	**42.19**	**192**	P	**P**	**12 30 47.2**	**-1.4**
WRAB				IAmb	IAmb	12 30 48.2	
	comp=Z,5.4nm,0.7s						
WB2	**Warramunga Arr**	**42.20**	**192**	P	**P**	**12 30 47.7**	**-1.0**
WB2				IAmb	IAmb	12 30 56.9	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**42.20**	**192**	P	**P**	**12 30 47.6**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=15,slow=9.8,SNR=64						
WRA				ScP	**ScP**	**12 35 59.0**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=4.6,slow=4.1,SNR=2.2 comp=Z,2.4nm,0.6s						
WRA	**Warramunga Arr**	**42.20**	**192**	P	**P**	**12 30 46.8**	**-1.9**
FITZ	**Fitzroy Crossi**	**43.01**	**205**	P	**P**	**12 30 54.0**	**-1.2**
KULM	**Kulim**	**44.10**	**255**	P	**P**	**12 31 04.7**	**+0.8**
KULM				IAmb	IAmb	12 31 06.1	
	comp=Z,12nm,0.6s						
AS31	**Alice Springs**	**45.91**	**192**	P	**P**	**12 31 16.5**	**-1.4**
ASAR	**Alice Springs**	**45.91**	**192**	P	**P**	**12 31 16.6**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=12,slow=8.2,SNR=36 comp=Z,0.7nm,0.4s						
ASAR	**Alice Springs**	**45.91**	**192**	P	**P**	**12 31 16.1**	**-1.8**
GSI	**Gunungsitoli**	**48.63**	**252**	P	**P**	**12 31 38.6**	**-0.3**
TIXI	**Tiksi**	**50.67**	**354**	P	**P**	**12 31 53.5**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=304,slow=7.9,SNR=2.0 comp=Z,1.4nm,0.4s						
FORT	**Forrest**	**54.07**	**196**	P	**P**	**12 32 17.4**	**-1.3**
ZALV	**Zalesovo Beam**	**54.14**	**322**	P	**P**	**12 32 19.4**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=108,slow=9.5,SNR=6.8						
ZALV				PcP	**PcP**	**12 33 18.9**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=121,slow=4.3,SNR=9.6 comp=Z,1.3nm,0.5s						
MK31	**Makanchi Array**	**54.61**	**313**	P	**P**	**12 32 23.0**	**+0.5**
MKAR	**Makanchi Array**	**54.61**	**313**	P	**P**	**12 32 23.0**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=89,slow=8.9,SNR=15						
MKAR				PcP	**PcP**	**12 33 21.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=84,slow=4.3,SNR=6.4 comp=Z,0.9nm,0.4s						
MKAR	**Makanchi Array**	**54.61**	**313**	P	**P**	**12 32 23.0**	**+0.6**
KURK	**Kurchatov**	**57.40**	**317**	P	**P**	**12 32 41.3**	**-0.6**
KURBB	**Kurchatov Arra**	**57.44**	**317**	P	**P**	**12 32 42.6**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=96,slow=7.7,SNR=4.2 comp=Z,3.2nm,0.5s						
KDAK	**Kodiak Island**	**58.33**	**35**	P	**P**	**12 32 48.9**	**+0.7**
	comp=Z,4.6nm,0.9s,baz=224,slow=3.0,SNR=5.8 comp=Z,4.6nm,0.9s						
KDAK	**Kodiak Island**	**58.33**	**35**	P	**P**	**12 32 48.9**	**+0.7**
J20K	**Nowinta River**	**58.95**	**27**	P	**P**	**12 32 53.2**	**+0.9**
BOOM	**Boomskoye usch**	**59.00**	**307**	P	**P**	**12 32 54.3**	**+0.9**
IMAR	**Indian Mountai**	**59.59**	**25**	P	**P**	**12 32 56.8**	**+0.1**
SKT	**Skwentna**	**59.61**	**30**	P	**P**	**12 32 56.9**	**-0.1**
SKT				IAmb	IAmb	12 33 22.7	
	comp=Z,7.2nm,1.3s						
CAST	**Castle Rocks**	**59.66**	**28**	P	**P**	**12 32 57.6**	**+0.4**
H21K	**Melozitna Rive**	**59.88**	**26**	P	**P**	**12 32 59.8**	**+1.1**
H21K				IAmb	IAmb	12 33 30.2	
	comp=Z,5.3nm,1.4s						
I21K	**Tanana**	**60.10**	**26**	P	**P**	**12 33 00.6**	**+0.5**
I21K				IAmb	IAmb	12 33 02.5	
	comp=Z,3.9nm,1.1s						
BPAW	**Bear Paw Mtn.**	**60.28**	**28**	P	**P**	**12 33 01.4**	**0.0**
BPAW				IAmb	IAmb	12 33 04.1	
	comp=Z,5.2nm,1.3s						
TOLK	**Toolik Lake Re**	**61.82**	**23**	P	**P**	**12 33 13.3**	**+1.6**
TOLK				IAmb	IAmb	12 33 54.1	
	comp=Z,10.0nm,1.2s						
H24K	**Noodor Dome**	**61.91**	**26**	P	**P**	**12 33 12.5**	**+0.2**
H24K				IAmb	IAmb	12 33 43.4	
	comp=Z,4.8nm,1.4s						
IL31		**62.15**	**27**	P	**P**	**12 33 12.8**	**-1.0**
IL31				IAmb	IAmb	12 33 51.2	
	comp=Z,4.7nm,1.4s						
ILAR	**Eielson Array**	**62.15**	**27**	P	**P**	**12 33 13.2**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=261,slow=5.3,SNR=13 comp=Z,0.9nm,0.6s						
ILAR	**Eielson Array**	**62.15**	**27**	P	**P**	**12 33 12.4**	**-1.5**
KLU	**Klutina**	**62.18**	**31**	P	**P**	**12 33 13.4**	**-0.8**
KLU				IAmb	IAmb	12 33 29.4	
	comp=Z,11nm,1.4s						
BVAR	**Borovoye Array**	**62.60**	**320**	P	**P**	**12 33 17.6**	**+0.6**
	comp=Z,5.9nm,0.3s,baz=98,slow=7.7,SNR=50						
BVAR				PcP	**PcP**	**12 33 52.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=90,slow=5.9,SNR=4.2 comp=Z,5.9nm,0.3s						
BRVK	**Borovoye**	**62.66**	**320**	P	**P**	**12 33 17.7**	**+0.3**
BRVK				IAmb	IAmb	12 33 18.7	
	comp=Z,5.0nm,0.9s						
BMRM	**Bremner River**	**62.77**	**32**	P	**P**	**12 33 19.2**	**+1.1**
J25K	**Salcha River,**	**62.78**	**27**	P	**P**	**12 33 17.1**	**-0.9**
KKAR	**Karatay Array**	**62.95**	**308**	P	**P**	**12 33 19.6**	**+0.1**
BMAR	**Burnt Mountain**	**63.45**	**24**	P	**P**	**12 33 23.7**	**+1.3**
J26L	**Joseph Creek**	**63.54**	**28**	P	**P**	**12 33 23.0**	**-0.1**
J26L				IAmb	IAmb	12 33 24.0	
	comp=Z,2.3nm,0.9s						
BCAR	**Beaver Creek A**	**64.23**	**29**	P	**P**	**12 33 28.3**	**+0.8**
CHGR	**Chuyangaron**	**64.48**	**304**	P	**P**	**12 33 30.8**	**+1.2**
EGAK	**Eagle**	**64.59**	**27**	P	**P**	**12 33 29.2**	**-0.6**
EGAK				IAmb	IAmb	12 33 58.4	
	comp=Z,5.5nm,1.4s						
DAWY	**Dawson**	**65.33**	**28**	P	**P**	**12 33 35.0**	**+0.4**
DAWY				IAmb	IAmb	12 34 17.1	
	comp=Z,4.6nm,1.5s						
HYT	**Haines Junctio**	**66.24**	**32**	P	**P**	**12 33 41.3**	**+0.8**
HYT				IAmb	IAmb	12 34 14.8	
	comp=Z,7.8nm,1.4s						
EPYK	**Eagle Plains**	**66.48**	**26**	P	**P**	**12 33 42.5**	**+0.7**
EPYK				IAmb	IAmb	12 33 45.6	
	comp=Z,4.3nm,1.1s						
M30M	**Minto, Yukon**	**66.52**	**30**	P	**P**	**12 33 42.2**	**+0.2**
M30M				IAmb	IAmb	12 33 56.8	
	comp=Z,6.8nm,1.4s						
INK	**Inuvik**	**67.67**	**24**	P	**P**	**12 33 49.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=348,slow=9.3,SNR=6.5 comp=Z,1.7nm,0.8s						
INK	**Inuvik**	**67.67**	**24**	P	**P**	**12 33 48.9**	**-0.2**
INK				IAmb	IAmb	12 34 11.6	
	comp=Z,9.3nm,1.5s						
ARU	**Arti**	**69.20**	**324**	P	**P**	**12 34 00.3**	**+1.5**
	comp=Z,5.0nm,0.3s,baz=62,slow=15,SNR=4.7 comp=Z,5.0nm,0.3s						

ABKAR	**Akbulak array**	**69.47**	**316**	P	**P**	**12 34 00.7**	**+0.2**
AKTO	**Aktyubinsk**	**70.49**	**317**	P	**P**	**12 34 06.6**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=88,slow=12,SNR=3.9 comp=Z,1.1nm,0.6s						
EUNU	**Eureka**	**75.16**	**8**	P	**P**	**12 34 33.2**	**-0.3**
BELG	**Belogornoye**	**76.32**	**321**	P	**P**	**12 34 41.0**	**+0.6**
	comp=Z,9.9nm,0.6s,baz=45,slow=20,SNR=2.7 comp=Z,9.9nm,0.6s						
NLWA	**Neilton Lookou**	**76.42**	**44**	P	**P**	**12 34 42.6**	**+1.5**
YKA	**Yellowknife Ar**	**76.57**	**28**	P	**P**	**12 34 41.8**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=293,slow=6.3,SNR=6.9 comp=Z,1.5nm,0.5s						
ARCES	**ARCESS Array B**	**78.91**	**341**	P	**P**	**12 34 55.1**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=74,slow=8.4,SNR=24 comp=Z,3.0nm,0.5s						
ARCES	**ARCESS Array B**	**78.91**	**341**	P	**P**	**12 34 55.0**	**+0.6**
KBZ	**Khabaz**	**82.28**	**314**	P	**P**	**12 35 13.1**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=67,slow=3.9,SNR=7.1 comp=Z,4.1nm,0.8s						
FIA1	**FINESS Array S**	**83.15**	**334**	P	**P**	**12 35 15.9**	**-0.7**
FINES	**FINESS Array B**	**83.15**	**334**	P	**P**	**12 35 16.0**	**-0.6**
	comp=Z,4.1nm,0.5s,baz=67,slow=4.9,SNR=35 comp=Z,4.1nm,0.5s						
FINES	**FINESS Array B**	**83.15**	**334**	P	**P**	**12 35 16.1**	**-0.5**
NVAR	**Mina Array Bea**	**83.30**	**51**	P	**P**	**12 35 18.7**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=278,slow=4.9,SNR=9.9 comp=Z,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**83.30**	**51**	P	**P**	**12 35 18.4**	**+0.2**
LRM	**Limekiln Ridge**	**84.32**	**43**	P	**P**	**12 35 23.8**	**+0.6**
HRY	**Holter Researc**	**84.33**	**42**	P	**P**	**12 35 23.2**	**+0.1**
BOZ	**Bozeman (W)**	**84.94**	**43**	P	**P**	**12 35 26.7**	**+0.5**
BOZ				IAmb	IAmb	12 35 30.7	
	comp=Z,4.1nm,1.4s						
NOA	**NORSAR Array B**	**88.92**	**339**	P	**P**	**12 35 43.6**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=42,slow=4.7,SNR=3.8 comp=Z,0.4nm,0.6s						
BRTR	**Keskin Array B**	**90.25**	**313**	P	**P**	**12 35 50.7**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=82,slow=5.3,SNR=2.5 comp=Z,0.6nm,0.6s						
PLCA	**Paso Flores**	**145.85**	**132**	PKPbc	**PKPbc**	**12 42 28.9**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=292,slow=1.3,SNR=7.8						
LPAZ	**La Paz**	**150.10**	**85**	PKPbc	**PKiKP**	**12 42 41.7**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=296,slow=3.4,SNR=8.5						

*JMA **05** 12:31:08.6±0.7,34°N±2°×14°2E±°, h24km, MV2.7/27, FAR SE OFF BOSO PEN*
*IDC **05** 12:31:15.1±2.6,33.81N×139.86E, h0km, mb3.6/4, mbtmp3.5/5, ML2.3/1, Error ellipse: s-maj=99.1km s-min=21.4km az=71.0*
ISC 05 12:31:12.4±1.4,34°51N±0°07×141°7E±0°1, h27km, n20, σ1s04/18, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.58**	**285**	*eP*	**Pb**	**12 31 22.6**	**-1.1**
BSO3	**Boso 3**	**1.00**	**287**	*eP*	**Pn**	**12 31 30.2**	**-0.1**
BSO4	**Boso 4**	**1.19**	**294**	*eP*	**Pn**	**12 31 33.4**	**+0.2**
CHOJ	**Chosi**	**1.36**	**331**	*eP*	**Pn**	**12 31 34.9**	**-0.7**
JKUC	**kamogawauchiur**	**1.37**	**299**	*eP*	**Pn**	**12 31 35.3**	**-0.4**
JKUC				*eS*	**Sb**	**12 31 54.4**	**0.0**
JMKN	**Mikurajimanish**	**1.82**	**251**	*eP*	**Pn**	**12 31 40.1**	**-1.8**
JHJ2	**Mitsune**	**2.08**	**228**	*eP*	**Pn**	**12 31 44.8**	**-0.6**
JHJ2				*eS*	**Sn**	**12 32 10.6**	**+0.3**
JOD2	**Odawara 2**	**2.25**	**290**	*eP*	**Pn**	**12 31 47.3**	**-0.5**
JIZS	**Izushimoda**	**2.31**	**276**	*eP*	**Pn**	**12 31 49.3**	**+0.7**
JIZS				*eS*	**Sn**	**12 32 18.2**	**+2.1**
MJAR	**Matsushiro Arr**	**3.47**	**307**	Pn	**Pn**	**12 32 04.7**	**+0.1**
	0.4nm,0.3s,baz=150,slow=13,SNR=24						
MJAR				Sn	**Sn**	**12 32 43.9**	**-1.0**
	0.1nm,0.3s,baz=152,slow=19,SNR=4.2 3.6nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.75**	**117**	T	T	13 04 55.6	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**26.76**	**117**	T	T	13 04 56.7	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**26.77**	**117**	T	T	13 04 56.9	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	13 05 47.0	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	13 05 44.7	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.40**	**119**	T	T	13 05 44.7	
	baz=312						
MKAR	**Makanchi Array**	**45.67**	**304**	P	**P**	**12 39 31.3**	**+0.7**
	0.4nm,0.7s,baz=88,slow=7.5,SNR=2.8 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**47.74**	**310**	P	**P**	**12 39 46.6**	**-0.2**
	0.9nm,0.2s,ba

	baz=222								
ETLH	**Xiulin Townshi**	**0.47**	**234**	*e*P		Pb	12 54 37.8	-0.3	
	baz=234								
ETLH				*e*S		Sb	12 54 45.1	+0.2	
	baz=234								
NNSB	**Datong**	**0.47**	**264**	P		Pb	12 54 38.5	+0.3	
	baz=263								
NNSB				S		Sb	12 54 45.4	+0.3	
	baz=263								
NNS	**Nan Shan**	**0.48**	**265**	*e*P		Pg	12 54 37.8	0.0	
	baz=264								
NNS				*e*S		Sg	12 54 44.7	+0.5	
	baz=264								
TIPB	**Shuangxi**	**0.49**	**352**	*e*P		Pb	12 54 38.5	0.0	
	baz=352								
TIPB				*e*S		Sb	12 54 45.7	+0.2	
	baz=352								
YHNB	**Yeheng**	**0.51**	**291**	*e*P		Pb	12 54 39.4	+0.5	
	baz=291								
YHNB				*e*S		Sb	12 54 46.9	+0.7	
	baz=291								
NSK	**Sanguang**	**0.53**	**291**	*e*P		Pb	12 54 39.2	0.0	
	baz=291								
NSK				*e*S		Sb	12 54 46.8	+0.1	
	baz=291								
FUSS	**Fushou**	**0.64**	**249**	*e*P		Pb	12 54 41.3	+0.1	
	baz=248								
FUSS				*e*S		Sb	12 54 51.0	+1.0	
	baz=248								
WHF	**Hehuan Shan**	**0.67**	**240**	*e*S		Sb	12 54 51.6	+0.6	
	baz=239								

JMA 05 12:54:54.6±0.5, 24°N±2°×123.5E±0.9, h41km±3km, MV1.2/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.39**	**55**	*i* P	Pn	12 55 03.6	-0.2
HATJ				S	Sn	12 55 10.7	+0.4
IRIF	**Iriomote-Funau**	**0.55**	**27**	P	Pn	12 55 05.7	-0.4
JKRS	**Kuro-shima**	**0.64**	**52**	*e*P	Pn	12 55 07.6	+0.4
YOJ	**Yonaguni jima**	**0.74**	**327**	*e*P	Pn	12 55 08.9	+0.3
YOJ				S	Sn	12 55 19.1	+0.4
JYNG	**Yonagunijimaku**	**0.77**	**323**	*e*P	Pn	12 55 09.1	+0.2
JYNG				*e*S	Sn	12 55 19.4	+0.1
JIJ	**Ishigaki jima**	**0.82**	**50**	*e*P	Pn	12 55 09.9	+0.3
JISG	**Ishigakijimahi**	**1.08**	**46**	*e*S	Sn	12 55 31.0	+4.0

IDC 05 13:00:09.2±8.2, 7.68N×94.78E, h120km±9km, mb3.0/4, mbtmp3.4/4, Error ellipse: s-maj=464.0km s-min=17.7km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.93**	**236**	T	T	13 32 29.5	
	baz=56						
H08S2	**Diego Garcia H**	**26.94**	**236**	T	T	13 32 28.5	
	baz=56						
H08S1	**Diego Carcia H**	**26.95**	**236**	T	T	13 32 29.5	
	baz=56						
MKAR	**Makanchi Array**	**40.42**	**347**	P	P	13 07 34.4	-1.3
	0.4nm,0.7s,baz=163,slow=8.5,SNR=5.0						
MKAR				pP	pP	13 08 02.4	+0.3
	0.5nm,0.6s,baz=159,slow=7.3,SNR=4.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**44.89**	**345**	P	P	13 08 11.8	+0.2
	0.6nm,0.8s,baz=169,slow=7.4,SNR=9.9						
KURBB				pP	pwP	13 08 40.2	-1.2
	0.6nm,0.7s,baz=170,slow=8.1,SNR=5.1						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**47.63**	**126**	P	P	13 08 34.3	+0.7
	1.2nm,1.2s,baz=309,slow=7.5,SNR=2.5						
	1.2nm,1.2s						
ASAR	**Alice Springs**	**49.31**	**130**	P	P	13 08 46.4	0.0
	0.1nm,0.6s,baz=303,slow=8.1,SNR=4.4						
ASAR				pP	pP	13 09 13.0	-0.7
	0.1nm,0.8s,baz=312,slow=8.3,SNR=1.4						
	0.1nm,0.6s						

*IDC **05** 13:07:35.3±1.3, 9.41S×150.01E, h0km, mb3.7/6, mbtmp3.7/9, ML3.5/2, MS3.4/7, Error ellipse: s-maj=36.7km s-min=18.8km az=126.0*

ISC 05 13:07:40.2±1.1, 9.5S±0.1×150.0E±0.1, h35km, n16, σ0.973/12, mb3.7/5, MS3.2/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.84**	**271**	Pn	**Pn**	**13 08 22.0**	**-1.2**
	10nm,0.4s,baz=84,slow=9.2,SNR=14						
PMG				Sn	**Sn**	**13 08 57.3**	**+1.1**
	4.8nm,0.3s,baz=120,slow=20,SNR=1.9						
PMG				LR	LR	13 09 39.0	
	comp=Z,452nm,20.8s,baz=100,slow=44						
KRVT	**Keravat (AS076**	**5.48**	**21**	Pn	**Pn**	**13 08 58.7**	**-0.7**
	2.9nm,0.3s,baz=219,slow=14,SNR=9.8						
KRVT				Sn	**Sn**	**13 10 01.5**	**+0.3**
	1.5nm,0.3s,baz=120,slow=20,SNR=1.9						
	18nm,0.5s						
HNR	**Honiara**	**9.77**	**91**	LR	LR	13 13 36.2	
	comp=Z,1μm,18.6s,baz=252,slow=37						
CTA	**Charters Tower**	**11.19**	**199**	LR	LR	13 13 35.7	
	comp=Z,141nm,18.8s,baz=300,slow=32						
WRA	**Warramunga Arr**	**18.41**	**234**	P	**P**	**13 11 52.0**	**-0.6**
	0.1nm,0.3s,baz=48,slow=12,SNR=9.4						
	2.2nm,0.9s						
DZM	**Mont Dzumac**	**20.14**	**130**	LR	LR	13 19 01.4	
	comp=Z,96nm,19.0s,baz=18,slow=34						
ASAR	**Alice Springs**	**20.92**	**226**	P	**P**	**13 12 20.6**	**+0.6**
	3.1nm,0.8s,baz=60,slow=10,SNR=30						
	3.1nm,0.8s						
GUMO	**Guam**	**23.46**	**347**	LR	LR	13 21 08.7	
	comp=Z,24nm,21.1s,baz=109,slow=35						
STKA	**Stephens Creek**	**23.65**	**198**	P	**P**	**13 12 48.5**	**+0.1**
	2.0nm,0.7s,baz=20,slow=11,SNR=5.8						
	2.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.18**	**247**	P	**P**	**13 13 01.9**	**-0.7**
	1.3nm,0.7s,baz=56,slow=7.3,SNR=2.6						
	1.3nm,0.7s						
JCJ	**Chichijima**	**37.12**	**348**	LR	LR	13 27 10.4	
	comp=Z,48nm,19.9s,baz=238,slow=32						
AFI	**Afiamalu**	**37.62**	**100**	LR	LR	13 29 16.5	
	comp=Z,95nm,18.8s,baz=82,slow=35						
MKAR	**Makanchi Array**	**82.06**	**320**	P	**P**	**13 19 57.1**	**+0.1**
	0.3nm,0.7s,baz=102,slow=6.1,SNR=1.7						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**83.52**	**327**	P	**P**	**13 20 04.9**	**+0.5**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=1.9						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**87.47**	**22**	P	**P**	**13 20 24.1**	**+0.3**
	0.4nm,0.9s,baz=235,slow=6.4,SNR=2.6						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.76**	**280**	PKPbc	**PKPbc**	**13 27 25.3**	**+0.3**
	0.4nm,0.5s,baz=70,slow=3.2,SNR=2.1						

*JMA **05** 13:13:18.2±0.4, 34.1°N×14.2°E±, h37km±2km, MV2.5/16, FAR SE OFF BOSO PEN*

*IDC **05** 13:13:19.2±2.6, 34.39°N×141.53E, h0km, mb3.2/2, mbtmp3.0/3, ML2.1/1, Error ellipse: s-maj=42.5km s-min=28.2km az=59.0*

ISC 05 13:13:20.7±1.8, 34.36N±0.06×141.6E±0.1, h27km, n9, σ1.991/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.59**	**300**	P	**Pn**	**13 13 32.6**	**-0.2**
BSO3	**Boso 3**	**1.00**	**297**	P	**Pb**	**13 13 39.3**	**+0.1**
JKUC	**kamogawauchiur**	**1.40**	**305**	*i* P	**Pb**	**13 13 44.7**	**-1.5**
JKUC				*e*S	**Sb**	**13 14 03.9**	**+0.2**
CHOJ	**Chosi**	**1.47**	**336**	P	**Pb**	**13 13 44.3**	**-3.1**
JMKN	**Mikurajimanish**	**1.73**	**255**	P	**Pb**	**13 13 49.6**	**-2.1**
JHJ	**Hachijo jima 2**	**1.95**	**231**	Pn	**Pb**	**13 13 53.5**	**-2.1**
	4.8nm,0.3s,baz=48,slow=9.3,SNR=2.6						
JHJ				Sn	**Sb**	**13 14 18.7**	**-0.8**
	16nm,0.3s,baz=53,slow=20,SNR=7.3						
MJAR	**Matsushiro Arr**	**3.52**	**309**	Pn	**Pn**	**13 14 14.0**	**+0.4**
	0.2nm,0.3s,baz=148,slow=13,SNR=9.2						
MJAR				Sn	**Sn**	**13 14 55.9**	**+1.5**
	0.1nm,0.3s,baz=200,slow=16,SNR=2.3						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**54.44**	**188**	P	**P**	**13 22 48.0**	**+2.2**
	0.5nm,1.0s,baz=4.0,slow=7.6,SNR=1.4						
	0.5nm,1.0s						

ASAR	**Alice Springs**	**58.16**	**188**	P		P	13 23 15.3	+3.1	
	0.2nm,0.8s,baz=359,slow=5.6,SNR=1.3								
	0.2nm,0.8s								

*IDC **05** 13:25:36.2±0.6, 41.58N×143.63E, h0km, mb3.9/18, mbtmp3.9/22, ML2.8/3, MS3.3/19, Error ellipse: s-maj=18.1km s-min=13.8km az=113.0*

*NEIC **05** 13:25:41.6±1.6, 41.46N±0.05×143.7E±0.1, h37km±8km, mb4.5/23, Error ellipse: s-maj=15.7km s-min=6.6km az=76.0*

*JMA **05** 13:25:41.9±0.2, 42.2°N±1°×143.6E±0.9, h46km±2km, MD4.0/38, MV4.0/38, SE OFF ERIMOMISAKI*

*NIED **05** 13:25:41.9, 41.62N×143.63E, h46km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.42; Mθθ=0.43; Mφφ=-0.01; Mrθ=0.94; Mφθ=-0.45; Mrφ=0.35; Fault plane solution: M0=1.17000×10^15 NP1: φs=152.00000°, δ=29.00000°, λ=-23.00000°. NP2: φs=262.00000°, δ=79.00000°, λ=-117.00000°.*

ISC 05 13:25:40.0±1.7, 41.54N±0.06×143.71E±0.07, h26km±12km, n98, σ0.986/79, mb4.3/30, MS3.4/14, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.63**	**319**	⇓*e*P	**Pb**	**13 25 52.8**	**+0.3**
JEM				⇓*e*S	**Sb**	**13 26 01.1**	**+0.1**
JEM	**Erimo**	**0.63**	**319**	A	A	13 25 52.8	
	comp=E,8.0nm,2.9s,comp=E,9.0nm,0.6s						
JTHR	**Tokachihiroo**	**0.81**	**338**	*e*P	**Pb**	**13 25 55.9**	**+0.4**
JTHR				*e*S	**Sb**	**13 26 06.7**	**+0.6**
JTHR	**Tokachihiroo**	**0.81**	**338**	A	A	13 25 55.9	
	comp=E,12nm,2.2s,comp=E,13nm,0.3s						
JNBK	**Urakawa-nobuka**	**1.03**	**316**	*e*P	**Pn**	**13 25 59.2**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.03**	**316**	A	A	13 25 59.2	
	comp=E,15nm,1.3s,comp=E,10.0nm,0.7s						
JCH	**Churui**	**1.11**	**347**	*e*P	**Pn**	**13 25 59.8**	**0.0**
JCH	**Churui**	**1.11**	**347**	A	A	13 25 59.8	
	comp=E,5.0nm,2.4s,comp=E,5.0nm,2.2s						
JSHD	**Hidakashinhida**	**1.27**	**314**	*e*P	**Pb**	**13 26 03.3**	**0.0**
JOB	**Onbets**	**1.37**	**4**	*e*P	**Pn**	**13 26 03.9**	**+0.5**
JOB	**Onbets**	**1.37**	**4**	A	A	13 26 03.9	
	comp=E,4.0nm,1.3s,comp=E,5.0nm,3.3s						
JAK	**Akkeshi**	**1.63**	**26**	*e*P	**Pn**	**13 26 07.5**	**+0.5**
JAK				*e*S	**Sn**	**13 26 26.8**	**-0.3**
JIAM	**Iburiatsuma**	**1.72**	**310**	*e*P	**Pb**	**13 26 10.5**	**-0.4**
JIAM	**Iburiatsuma**	**1.72**	**310**	A	A	13 26 10.5	
	comp=E,9.0nm,1.3s,comp=E,9.0nm,1.3s						
JAR	**Ashorobuto**	**1.76**	**1**	*e*P	**Pn**	**13 26 08.7**	**-0.1**
JAR				*e*S	**Sn**	**13 26 29.6**	**-0.7**
JFR	**Furan**	**1.82**	**333**	*e*P	**Pn**	**13 26 09.5**	**-0.2**
JARK	**Aomorirokkasho**	**1.85**	**254**	*e*P	**Pn**	**13 26 10.2**	**+0.3**
JARK				*e*S	**Sn**	**13 26 31.0**	**-1.4**
JKHN	**Kushirohamanak**	**1.88**	**34**	*e*P	**Pn**	**13 26 11.4**	**+0.9**
JKHN				*e*S	**Sn**	**13 26 33.9**	**+0.6**
JEW	**Eniwo**	**2.13**	**309**		**Pn**	**13 26 15.1**	**+1.2**
JTM	**Tenmabayashi**	**2.13**	**250**		**Pn**	**13 26 14.3**	**+0.4**
JMM	**Marumori**	**4.30**	**212**		**Pn**	**13 26 43.0**	**-0.8**
JSD	**Sado**	**5.46**	**232**		**Pn**	**13 26 58.1**	**-1.6**
JYT	**Yasato**	**5.97**	**208**		**Pn**	**13 27 05.4**	**-1.3**
MJAR	**Matsushiro Arr**	**6.57**	**222**	Pn	**Pn**	**13 27 14.8**	**-0.2**
	0.2nm,0.3s,baz=31,slow=12,SNR=12						
MJAR				Sn	**Sn**	**13 28 31.0**	**+1.9**
	baz=51,slow=17						
MJAR				LR	LR	13 30 10.4	
	comp=Z,169nm,20.4s,baz=347,slow=42						
	2.5nm,0.4s						
MAJO	**Matsushiro**	**6.57**	**222**		Pn	13 27 10.5	-4.5
INU	**Inuyama**	**8.11**	**223**	Pn	**Pn**	**13 27 38.8**	**+2.8**
JHJ2	**Mitsune**	**8.96**	**201**	Pn	**Pn**	**13 27 46.9**	**-0.9**
JHJ	**Hachijo jima 2**	**8.96**	**202**	Pn	**Pn**	**13 27 46.9**	**-0.9**
	75nm,0.9s,baz=73,slow=19,SNR=1.8						
JHJ				Sn	Sn	13 29 19.4	-8.4
	14nm,0.3s,baz=307,slow=20,SNR=7.3						
USRK	**Ussuriysk Ar.**	**9.01**	**291**	Pn	**Pn**	**13 27 47.7**	**-0.7**
	baz=108,slow=14,SNR=1.3						
USRK				LR	LR	13 30 26.4	
	comp=Z,33nm,20.5s,baz=193,slow=32						
KSRS	**Korea Array**	**12.86**	**257**	Pn	**Pn**	**13 28 40.3**	**-0.6**
	0.1nm,0.3s,baz=66,slow=14,SNR=1.6						
KSRS				LR	LR	13 33 34.2	
	comp=Z,39nm,19.7s,baz=140,slow=37						
	0.3nm,0.4s						
PETK	**Petropavlovsk-**	**14.93**	**34**	Pn	**Pn**	**13 29 08.7**	**-0.5**
	0.1nm,0.3s,baz=210,slow=6.7,SNR=2.3						
PETK				LR	LR	13 34 28.6	
	comp=Z,47nm,19.9s,baz=216,slow=36						
	3.1nm,1.0s						
MA2	**Magadan**	**18.59**	**11**	LR	LR	13 36 12.7	
	comp=Z,54nm,19.9s,baz=176,slow=34						
SEY	**Seymchan**	**22.04**	**11**	P	**P**	**13 30 30.4**	**-1.9**
	4.5nm,0.8s,baz=208,slow=11,SNR=12						
	4.5nm,0.8s						
YAK	**Yakutsk**	**22.19**	**342**	LR	LR	13 39 51.8	
	comp=Z,56nm,19.7s,baz=89,slow=39						
SONM	**Songino Array**	**27.07**	**296**	P	**P**	**13 31 20.8**	**+0.4**
	0.5nm,0.4s,baz=88,slow=10,SNR=2.5						
SONM				LR	LR	13 42 55.4	
	comp=Z,91nm,18.1s,baz=88,slow=38						
	0.5nm,0.4s						
GUMO	**Guam**	**27.86**	**178**	LR	LR	13 41 51.2	
	comp=Z,30nm,20.2s,baz=24,slow=35						
H11N2	**WAKE ISLAND Hy**	**29.33**	**131**	T	T	14 02 51.3	
	baz=323,slow=76,SNR=432						
H11N1	**WAKE ISLAND Hy**	**29.34**	**131**	T	T	14 02 52.1	
	baz=323,slow=76,SNR=512						
H11N3	**WAKE ISLAND Hy**	**29.35**	**131**	T	T	14 02 52.3	
	baz=323,slow=76,SNR=335						
H11S1	**WAKE ISLAND Hy**	**30.20**	**133**	T	T	14 03 55.6	
	baz=325,slow=76,SNR=484						
H11S3	**WAKE ISLAND Hy**	**30.21**	**133**	T	T	14 03 55.9	
	baz=325,slow=76,SNR=526						
H11S2	**WAKE ISLAND Hy**	**30.22**	**133**	T	T	14 03 50.7	
	baz=325,slow=76,SNR=319						
TIXI	**Tiksi**	**31.08**	**351**	LR	LR	13 45 57.6	
	comp=Z,50nm,19.2s,baz=181,slow=39						
ZALV	**Zalesovo Beam**	**40.35**	**309**	P	**P**	**13 33 14.1**	**-1.1**
	0.6nm,0.3s,baz=74,slow=6.3,SNR=4.5						
ZALV				LR	LR	13 51 24.3	
	comp=Z,40nm,18.6s,baz=91,slow=38						
	0.6nm,0.3s						
J20K	**Nowinta River**	**41.62**	**36**	P	**P**	**13 33 26.7**	**+1.2**
J20K				IAmb	IAmb	13 33 28.5	
	comp=Z,6.0nm,1.1s						
IMAR	**Indian Mountai**	**41.89**	**33**	P	**P**	**13 33 28.0**	**+0.3**
CAST	**Castle Rocks**	**42.53**	**37**	P	**P**	**13 33 34.8**	**+1.8**
CAST				IAmb	IAmb	13 33 35.6	
	comp=Z,6.1nm,1.2s						
MLY	**Manley**	**43.11**	**34**	P	**P**	**13 33 38.8**	**+1.1**
MK31	**Makanchi Array**	**43.39**	**299**	P	**P**	**13 33 39.8**	**-0.3**
MKAR	**Makanchi Array**	**43.39**	**299**	P	**P**	**13 33 39.4**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=80,slow=8.5,SNR=6.5						
MKAR				LR	LR	13 53 08.8	
	comp=Z,60nm,18.0s,baz=149,slow=38						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**43.39**	**299**	P	**P**	**13 33 39.7**	**-0.4**
H23K	**Yukon River**	**43.61**	**33**	P	**P**	**13 33 43.0**	**+1.4**
H23K				IAmb	IAmb	13 33 45.2	
	comp=Z,8.2nm,1.3s						
MDM	**Murphy Dome**	**44.18**	**35**	P	**P**	**13 33 47.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**44.46**	**253**	LR	LR	13 54 24.4	
	comp=Z,24nm,18.5s,baz=200,slow=39						
DHY	**Denali Highway**	**44.67**	**37**	P	**P**	**13 33 51.5**	**+1.1**
DHY				IAmb	IAmb	13 34 05.6	
	comp=Z,6.0nm,1.4s						
ILAR	**Eielson Array**	**44.76**	**35**	P	**P**	**13 33 51.2**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=279,slow=8.1,SNR=13						
	comp=Z,1.3nm,0.9s						
SCM	**Sheep Creek Mo**	**44.81**	**39**	P	**P**	**13 33 50.3**	**-1.2**
SCM				IAmb	IAmb	13 34 23.0	
	comp=Z,16nm,1.3s						
FYU	**Fort Yukon**	**45.34**	**32**	P	**P**	**13 33 56.7**	**+1.3**
FAKI	**Fak Fak**	**45.46**	**196**	P	**P**	**13 33 57.0**	**+0.1**
FAKI				IAmb	IAmb	13 34 31.8	
	comp=Z,11nm,1.1s						
K27K	**Chicken**	**46.92**	**35**	P	**P**	**13 34 08.3**	**+0.4**
L27K	**Beaver Creek,**	**47.18**	**37**	P	**P**	**13 34 10.9**	**+0.9**
L27K				IAmb	IAmb	13 34 23.7	
	comp=Z,6.4nm,1.4s						
BCAR	**Beaver Creek A**	**47.20**	**37**	P	**P**	**13 34 10.9**	**+0.7**
BVAR	**Borovoye Array**	**48.96**	**310**	P	**P**	**13 34 24.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=84,slow=9.3,SNR=6.1						
BVAR				LR	LR	13 56 42.8	
	comp=Z,46nm,18.4s,baz=81,slow=38						
	comp=Z,0.5nm,0.4s						

INK	**Inuvik**	**49.58**	**29**	P	**P**	**13 34 28.7**	**+0.4**		
	comp=Z,1.8nm,0.8s,baz=280,slow=4.8,SNR=5.2								
INK				LR	LR	13 57 20.8			
	comp=Z,38nm,18.3s,baz=224,slow=38								
	comp=Z,1.8nm,0.8s								
INK	**Inuvik**	**49.58**	**29**	P	**P**	**13 34 27.4**	**-0.9**		
INK				IAmb	IAmb	13 34 53.1			
	comp=Z,7.8nm,1.2s								
ARU	**Arti**	**54.23**	**317**	LR	LR	14 01 39.8			
	comp=Z,39nm,20.4s,baz=92,slow=40								
BATI	**Baumata**	**54.70**	**204**	LR	LR	14 01 58.3			
	comp=Z,168nm,18.3s,baz=276,slow=40								
ABKAR	**Akbulak array**	**56.47**	**309**	P	**P**	**13 35 19.8**	**+0.5**		
KNRA	**Kununurra**	**58.58**	**197**	P	**P**	**13 35 35.2**	**+0.7**		
ARCES	**ARCESS Array B**	**60.42**	**339**	P	**P**	**13 35 46.7**	**0.0**		
	comp=Z,3.7nm,1.0s,baz=45,slow=9.0,SNR=5.4								
	comp=Z,3.7nm,1.0s								
WB0	**Warramunga Arr**	**61.60**	**190**	P	**P**	**13 35 55.0**	**-0.2**		
WB0				IAmb	IAmb	13 36 36.7			
	comp=Z,10nm,1.4s								
FITZ	**Fitzroy Crossi**	**61.65**	**200**	P	**P**	**13 35 56.4**	**+0.9**		
FITZ				IAmb	IAmb	13 36 27.2			
	comp=Z,8.1nm,1.5s								
BELG	**Belogornoye**	**61.76**	**316**	LR	LR	14 05 54.1			
	comp=Z,70nm,19.3s,baz=133,slow=39								
WR0	**Warramunga Arr**	**61.77**	**190**	P	**P**	**13 35 56.0**	**-0.3**		
WR0				IAmb	IAmb	13 36 34.0			
	comp=Z,8.4nm,1.3s								
WB2	**Warramunga Arr**	**61.78**	**190**	P	**P**	**13 35 56.0**	**-0.4**		
WRA	**Warramunga Arr**	**61.78**	**190**	P	**P**	**13 35 56.3**	**-0.1**		
	comp=Z,2.2nm,0.9s,baz=6.2,slow=6.8,SNR=20								
	comp=Z,2.2nm,0.9s								
AS31	**Alice Springs**	**65.50**	**190**	P	**P**	**13 36 20.0**	**-1.0**		
ASAR	**Alice Springs**	**65.51**	**190**	P	**P**	**13 36 21.4**	**+0.5**		
	comp=Z,0.8nm,0.6s,baz=12,slow=6.5,SNR=17								
	comp=Z,0.8nm,0.6s								
ASAR	**Alice Springs**	**65.51**	**190**	P	**P**	**13 36 20.4**	**-0.5**		
FIA1	**FINESS Array S**	**65.67**	**332**	P	**P**	**13 36 21.2**	**-0.4**		
FIA1				IAmb	IAmb	13 36 21.6			
	comp=Z,7.4nm,1.1s								
FINES	**FINESS Array B**	**65.67**	**332**	P	**P**	**13 36 21.4**	**-0.1**		
	comp=Z,3.0nm,0.5s,baz=53,slow=7.0,SNR=47								
	comp=Z,3.0nm,0.5s								
FINES	**FINESS Array B**	**65.67**	**332**	P	**P**	**13 36 21.1**	**-0.4**		
GNI	**Garni**	**70.45**	**307**	LR	LR	14 11 39.7			
	comp=Z,19nm,18.6s,baz=59,slow=39								
NC405	**NORSAR Array S**	**70.51**	**337**	P	**P**	**13 36 52.1**	**0.0**		
NC405				IAmb	IAmb	13 37 04.5			
	comp=Z,5.7nm,1.1s								
NC204	**NORSAR Array S**	**70.65**	**338**	P	**P**	**13 36 53.0**	**+0.1**		
NB201	**NORSAR Array S**	**70.69**	**338**	P	**P**	**13 36 53.6**	**+0.5**		
HFS	**Hagfors**	**70.71**	**336**	P	**P**	**13 36 53.0**	**-0.3**		
	comp=Z,1.2nm,0.5s,baz=51,slow=7.6,SNR=11								
	comp=Z,1.2nm,0.5s								
NB2	**NORSAR Subarra**	**70.72**	**338**	P	**P**	**13 36 52.9**	**-0.4**		
	comp=Z,0.3nm,0.4s,baz=34,slow=6.5								
NOA	**NORSAR Array B**	**70.72**	**338**	P	**P**	**13 36 53.1**	**-0.2**		
	comp=Z,0.4nm,0.5s,baz=35,slow=6.2,SNR=4.2								
	comp=Z,0.4nm,0.5s								
NVAR	**Mina Array Bea**	**70.91**	**55**	P	**P**	**13 36 56.7**	**+1.5**		
	comp=Z,0.6nm,0.8s,baz=302,slow=5.1,SNR=4.9								
	comp=Z,0.6nm,0.8s								
AKASG	**Malin Array Be**	**71.82**	**322**	P	**P**	**13 36 60.0**	**-0.1**		
	comp=Z,0.5nm,0.4s,baz=43,slow=6.6,SNR=5.1								
	comp=Z,0.5nm,0.4s								
PDAR	**Pinedale Array**	**73.27**	**47**	P	**P**	**13 37 09.7**	**+0.5**		
	comp=Z,0.3nm,0.6s,baz=308,slow=4.5,SNR=2.6								
	comp=Z,0.3nm,0.6s								
EKA	**Eskdalemuir Ar**	**79.46**	**341**	P	**P**	**13 37 43.3**	**-0.5**		
	comp=Z,1.4nm,0.8s,baz=27,slow=4.8,SNR=2.0								
	comp=Z,1.4nm,0.8s								
DAVOX	**Davos/Dischmat**	**82.96**	**330**	LR	LR	14 17 43.4			
	comp=Z,35nm,18.3s,baz=84,slow=38								
TXAR	**Lajitas Array**	**86.00**	**54**	P	**P**	**13 38 18.9**	**+0.6**		
	comp=Z,0.5nm,0.8s,baz=297,slow=4.0,SNR=5.7								
	comp=Z,0.5nm,0.8s								
H03N2	**Juan Fernandez**	**145.50**	**91**	T	T	16 28 10.1			
	baz=300,slow=76,SNR=24								
H03N3	**Juan Fernandez**	**145.51**	**91**	T	T	16 28 14.3			
	baz=300,slow=76,SNR=35								
H03N1	**Juan Fernandez**	**145.51**	**91**	T	T	16 28 11.1			
	baz=300,slow=76,SNR=36								

*IDC **05** 14:02:25.6±1.9, 5.97S×130.77E, h126km±19km, mb3.8/7, mbtmp4.3/10, Error ellipse: s-maj=27.5km s-min=13.5km az=86.0*

*NEIC **05** 14:02:25.6±2.0, 6.10S±0.07×130.66E±0.09, h122km±8km, mb4.3/13, Error ellipse: s-maj=13.8km s-min=9.6km az=75.0*

*DJA **05** 14:02:26.4±0.4, 6°S±2°×13°1E±°, h144km±7km, M4.6/13, mb4.5/7, mB5.3/6, MLv4.6

TOO	Toolangi	34.11	159	P	P	14 08 59.8	+1.7
CMAR	Chiang Mai Arr	39.68	309	P	P	14 09 45.3	-0.1
	comp=Z,0.8nm,0.5s,baz=138,slow=6.9,SNR=6.6						
	comp=Z,0.8nm,0.5s						
SONM	Songino Array	57.81	341	P	P	14 12 03.3	-0.4
	comp=Z,0.6nm,0.5s,baz=165,slow=8.5,SNR=2.3						
	comp=Z,0.6nm,0.5s						
PET	Petropavlovsk	63.50	18	P	P	14 12 42.5	+0.6
MK31	Makanchi Array	67.85	326	P	P	14 13 09.6	-0.5
MK31				IAmb	IAmb	14 13 10.8	
	comp=Z,4.5nm,0.9s						
MKAR	Makanchi Array	67.85	326	P	P	14 13 10.1	+0.1
	comp=Z,5.1nm,0.5s,baz=118,slow=8.5,SNR=54						
	comp=Z,5.1nm,0.5s						
MKAR	Makanchi Array	67.85	326	P	P	14 13 09.6	-0.4
MAKZ	Makanchi	68.03	326	P	P	14 13 10.9	-0.3
MAKZ				IAmb	IAmb	14 13 11.8	
	comp=Z,4.6nm,0.9s						
ZAA0	Zalesovo Array	71.08	333	P	P	14 13 28.2	-1.5
ZAA0				IAmb	IAmb	14 13 29.5	
	comp=Z,1.9nm,0.9s						
ZALV	Zalesovo Beam	71.08	333	P	P	14 13 28.9	-0.8
	comp=Z,1.1nm,0.6s,baz=122,slow=5.6,SNR=5.2						
	comp=Z,1.1nm,0.6s						
ZALV	Zalesovo Beam	71.08	333	P	P	14 13 28.3	-1.4
KKAR	Karatay Array	73.11	318	P	P	14 13 41.2	-0.9
MAW	Mawson	76.02	201	P	P	14 13 59.4	+1.0
	comp=Z,2.3nm,1.1s,baz=77,slow=5.9,SNR=2.8						
	comp=Z,2.3nm,1.1s						
VOI	Vohitsoka	82.08	249	P	P	14 14 31.9	-0.6
ABKAR	Akbulak array	82.22	321	P	P	14 14 31.2	-1.2
QSPA	South Pole Qui	83.86	180	P	P	14 14 40.5	-0.3
QSPA				IAmb	IAmb	14 15 20.2	
	comp=Z,7.7nm,1.5s						

*IDC **05** 14:15:39.9±1.3, 67.69N×20.88E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=20.0km s-min=9.3km az=109.0*

*HEL **05** 14:15:39.1±0.4, 67.79N×20.28E, h0km, ML2.0, Explosion*

ISC 05 14:15:37.5±0.9, 67.75N±0.03×20.41E±0.04, h0km, n21, σ1s35/35, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	Lannavaara	0.67	62	PG	Pb	14 15 51.8	-0.4
LANU				SG	Sg	14 15 58.4	-0.7
PAJU	Pajala	1.27	123	PG	Pn	14 16 02.5	-0.1
	baz=306						
PAJU				SB	Sn	14 16 21.8	+1.5
KIF	Kilpisjarvi	1.27	6	*e*P	Pg	14 16 01.3	-0.6
KIF	Kilpisjarvi	1.27	6	PG	Pb	14 16 02.5	+0.1
KIF				MSG		14 16 17.7	
	comp=Z,15nm,0.2s						
KIF				SG	Sg	14 16 17.9	-0.5
HEF	Hetta	1.39	60	*e*P	Pg	14 16 03.5	-0.7
HEF	Hetta	1.39	60	PG	Pn	14 16 04.1	-0.1
HEF				SG	Sg	14 16 20.0	-2.1
HEF				MSG		14 16 21.6	
	comp=Z,9.7nm,0.2s						
KLF	Kolari	1.46	109	PG	Pb	14 16 06.4	+0.8
KLF				SN	Sn	14 16 28.7	+3.7
I37NO	I37NO	1.49	334	*i*		14 22 10.0	
	baz=148,slow=333,SNR=4.0						
KTK1	Kautokeino	1.65	38	PN	Pg	14 16 09.1	0.0
KTK1				SN	Sg	14 16 31.1	+0.6
TRO	Tromso	1.97	345	PG	Pn	14 16 12.8	+0.6
TRO				SG	Sn	14 16 38.3	+0.8
TOF	Tornio	2.28	135	PG	Pg	14 16 20.3	-0.8
TOF				MSG		14 16 48.5	
	comp=Z,8.0nm,0.2s						
TOF				SG	Sg	14 16 52.0	+1.4
SGF	Sodankyl	2.37	95	PG	Pg	14 16 21.8	-1.0
	baz=281						
SGF				SG	Sg	14 16 53.8	+0.3
RNF	Rovaniemi	2.47	115	PG	Pb	14 16 23.0	+0.3
RNF				SG	Sg	14 16 56.6	-0.1
ARA0	ARCESS Array S	2.59	44	PG	Pg	14 16 25.9	-1.3
ARCES	ARCESS Array B	2.59	44	Pn	Pn	14 16 22.1	+1.4
	comp=Z,0.4nm,0.3s,baz=227,slow=15,SNR=31						
ARCES				Sn	Sb	14 16 55.2	-2.0
	comp=Z,1.9nm,0.3s,baz=225,slow=27,SNR=26						
	comp=Z,0.8nm,0.2s						
KEV	Kevo	3.14	47	PG	Pb	14 16 34.5	+0.4
KEV				SN	Sn	14 17 08.7	+2.4
KEV				MSG		14 17 11.3	
	comp=Z,4.4nm,0.2s						
BURU	Burvik	3.20	172	PG	Pb	14 16 34.1	-1.1
	baz=355						
BURU				SB	Sb	14 17 13.5	-1.1
VRF	Varrio	3.50	86	PG	Pg	14 16 44.0	-0.6
VRF				SG	Sg	14 17 28.2	-1.7
KU6	Riekki	4.12	110	PG	Pg	14 16 55.0	-1.4
FINES	FINESS Array B	6.78	156	Pn	Pn	14 17 18.3	+0.2
	comp=Z,1.0nm,0.3s,baz=345,slow=16,SNR=2.0						
FINES				Sn	Sn	14 18 34.2	-1.6
	comp=Z,0.1nm,0.3s,baz=342,slow=25,SNR=2.0						
FINES				Lg	Lg	14 19 10.3	
	comp=Z,0.3nm,0.3s,baz=343,slow=28,SNR=6.3						
	comp=Z,2.1nm,1.0s						
NOA	NORSAR Array B	7.81	215	Pn	Pn	14 17 34.7	+2.4
	baz=24,slow=11,SNR=2.0						
NOA				Lg	Lg	14 19 46.4	
	baz=46,slow=26,SNR=3.2						
	comp=Z,0.3nm,0.6s						

*NEIC **05** 14:29:41.2±0.7, 53.8N±0.1×164.4W±0.1, h31km±20km, Error ellipse: s-maj=21.9km s-min=6.0km az=155.0*

AEIC 05 14:29:40±0.7, 53.69N±0.08×164.30W±0.09, h27km±8km, ML3.4, ML3.4/6(NEIC), Error ellipse: s-maj=12.9km s-min=6.2km az=154.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WECS	Westdahl Cape	0.89	342		Pn	14 29 56.7	0.0
WESN	West Dahl Nort	0.90	349		Pb	14 29 57.0	+0.1
AKSA	Akutan Strait	0.94	299		Pn	14 29 57.2	-0.2
AKUT	Akutan	0.98	298		Pn	14 29 57.9	0.0
AKUT	Akutan	0.98	298	IAML		14 30 11.3	
	comp=N,3µm,0.3s						
BRPK	Brown Peak	1.01	19		Pn	14 29 58.0	-0.5
SSLS	Shishaldin Sou	1.04	10		Pn	14 29 58.5	-0.3
AKBBA	Akutan Broad B	1.05	294		Pn	14 29 58.9	0.0
SSBA	Shishaldin	1.09	5		Pn	14 29 59.8	+0.2
AKLV	Akutan Long Va	1.09	296		Pn	14 29 59.4	-0.1
AKMO	Akutan Morgan	1.09	292		Pn	14 29 59.6	+0.1
ISLZ	Isanotski Laza	1.09	18		Pn	14 29 59.1	-0.5
AKGG	Akutan Green G	1.12	298		Pn	14 29 59.1	-0.9
SSLN	Shishaldin Nor	1.14	9		Pn	14 30 00.4	+0.2
AKRB	Akutan Reef Bi	1.14	293		Pn	14 30 00.3	+0.1
FALS	False Pass	1.28	23		Pn	14 30 02.0	0.0
UNV	Unalaska Valle	1.32	278		Pn	14 30 02.0	-0.6
MNAT	Makushin Natee	1.43	279		Pn	14 30 04.0	-0.2
MGOD	Makushin Gods	1.53	275		Pn	14 30 05.7	+0.1
MAPS	Pakushin South	1.57	275		Pn	14 30 06.4	+0.2
SDPT	Sand Point	2.78	52	Pn	Pn	14 30 23.3	+0.6
SDPT				IAML		14 31 12.8	
	comp=E,111nm,1.5s						
SDPT				IAML		14 31 15.6	
	comp=N,121nm,1.5s						
NIKH	Nikolski High	2.83	257	Pn	Pn	14 30 23.6	+0.2
CHGN	Chignik	4.28	50	Pn	Pn	14 30 44.1	+0.9
CHGN				IAML		14 31 23.2	
	comp=E,35nm,0.1s						
OHAK	Old Harbor	7.19	56	Pn	Pn	14 31 22.4	-0.8
KDAK	Kodiak Island	7.78	53	Pn	Pn	14 31 31.1	-0.1

*JMA **05** 14:33:24.0±0.3, 34.4N±0.9×14.2E±, h19km±1km, MV2.9/28, FAR SE OFF BOSO PEN*

*IDC **05** 14:33:33.7±1.2, 33.55N×138.22E, h0km, mb3.2/3, mbtmp3.1/4, ML2.2/1, Error ellipse: s-maj=25.8km s-min=19.6km az=49.0*

ISC 05 14:33:27.3±1.5, 34.45N±0.06×141.6E±0.1, h27km, n12, σ1s57/16, mb3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.57	291	P	Pb	14 33 38.3	-0.1
BSO3	Boso 3	0.98	291	P	Pb	14 33 45.5	0.0
JKUC	kamogawauchiur	1.37	302	P	Pn	14 33 51.1	+0.4
JKUC				*e*S	Sb	14 34 11.3	+1.9
CHOJ	Chosi	1.40	334	P	Pn	14 33 50.9	-0.1
CHOJ				S	Sb	14 34 10.3	+0.1
JMKN	Mikurajimanish	1.78	252	P	Pn	14 33 56.4	+0.2
JHJ	Hachijo jima 2	2.03	230	Pn	Pn	14 34 00.3	+0.6
	8.5nm,0.3s,baz=294,slow=10.0,SNR=17						
JHJ				Sn	Sn	14 34 22.0	-2.1
	21nm,0.3s,baz=284,slow=18,SNR=8.0						
JOD2	Odawara 2	2.24	292	P	Pn	14 34 03.7	+1.1
JAG	Ashikaga	2.65	319	P	Pn	14 34 09.0	+0.7
MJAR	Matsushiro Arr	3.48	308	Pn	Pn	14 34 21.2	+1.5
	0.4nm,0.3s,baz=152,slow=13,SNR=25						
MJAR				Sn	Sn	14 34 59.3	-0.7
	0.1nm,0.3s,baz=315,slow=26,SNR=4.6						
	1.4nm,0.3s						
MKAR	Makanchi Array	45.67	304	P	P	14 41 42.6	-3.1
	0.1nm,0.5s,baz=96,slow=9.5,SNR=1.5						
	0.1nm,0.5s						
WRA	Warramunga Arr	54.53	188	P	P	14 42 53.6	+0.6
	0.6nm,1.1s,baz=1.9,slow=7.5,SNR=9.5						
	0.6nm,1.1s						
ASAR	Alice Springs	58.26	188	P	P	14 43 22.5	+3.0
	0.2nm,0.9s,baz=15,slow=9.0,SNR=1.5						
	0.2nm,0.9s						

MAN 05 14:37:19.0, 7.32N×125.39E, h12km, mb4.5, ML3.4, MS3.2, 4C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.43	223	*e*P	Pg	14 37 27.5	0.0
KCP				*i* S	Sb	14 37 34.5	-0.5
BUKP	Musuan	0.64	330	*e*P	Pg	14 37 31.4	-0.1
BUKP				*e*S	Sb	14 37 41.1	0.0
MATI	Mati	0.94	113	*e*P	Pg	14 37 36.1	-1.1
MATI				*e*S	Sg	14 37 47.8	-1.7
CTBH	Cotabato--PC H	1.14	265	*i*P	Pb	14 37 39.5	-1.1
CTBH				*i* S	Sg	14 37 56.0	+0.3
SKMP	Bagumbayan, Su	1.16	226	*e*P	Pg	14 37 42.1	+0.8
DDMP	Don Marcelino,	1.25	165	*e*P	Pn	14 37 41.1	-1.3
DDMP				*e*S	Sg	14 37 59.8	+0.3
BIPH	Bislig	1.29	48	*e*P	Pn	14 37 41.7	-1.2
BIPH				*i* S	Sg	14 38 00.6	-0.1
CGP	Cagayan de Oro	1.32	329	*i*P	Pn	14 37 42.6	-0.7
CGP				*i* S	Sb	14 37 59.6	-1.0
BUTP	Butuan	1.65	8	*e*P	Pb	14 37 48.8	-0.6
BUTP				*e*S	Sg	14 38 20.6	+8.4
PAGZ	Pagadian	2.05	285	*e*P	Pb	14 37 57.0	+0.7
PAGZ				*e*S	Sb	14 38 21.4	-0.5
PVCP	Virac	6.35	349	*e*P	Pg	14 39 28.5	+7.8
PVCP				*e*S	Sg	14 40 38.3	-4.7

*IDC **05** 14:43:36.0±1.6, 33.05N×138.65E, h0km, mb3.3/2, mbtmp3.2/3, ML2.1/1, Error ellipse: s-maj=33.3km s-min=19.9km az=151.0*

*JMA **05** 14:43:41.3±0.1, 33.8N±0.3×140.3E±0.7, h83km±1km, MV2.8/30, FAR S OFF BOSO PENINSULA*

ISC 05 14:43:41.2±1.2, 33.74N±0.05×140.29E±0.07, h85km±9km, n20, σ0s68/23, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	Mikurajimanish	0.60	285	P	Pn	14 43 55.8	-0.5
JMKN				*e*S	Sn	14 44 07.3	-0.2
JHJ2	Mitsune	0.74	213	P	Pn	14 43 57.9	+0.3
JHJ2				S	Sn	14 44 10.6	+0.8
JHJ	Hachijo jima 2	0.74	215	Pn	Pn	14 43 58.0	+0.3
	61nm,0.3s,baz=242,slow=18,SNR=93						
JHJ				Sn	Sn	14 44 10.6	+0.6
	134nm,0.3s,baz=120,slow=20,SNR=13						
JHCJ	Hachijojimakas	0.78	212	P	Pn	14 43 58.3	+0.2
JSKK	Shikinejimakit	1.08	304	P	Pn	14 44 01.3	-0.1
BSO1	Boso 1	1.08	32	P	Pn	14 44 01.4	+0.5
BSO3	Boso 3	1.08	10	P	Pn	14 44 01.9	+0.7
BSO3				S	Sn	14 44 16.8	+0.5
JTHY	Toshimahigashi	1.14	314	P	Pn	14 44 01.8	-0.4
JTHY				S	Sn	14 44 17.9	-0.2
JIM2	Oshima 3	1.21	324	P	Pn	14 44 02.9	-0.2
JIM2				S	Sn	14 44 19.0	-0.6
JIZS	Izushimoda	1.53	310	P	Pn	14 44 07.4	+0.4
JOD2	Odawara 2	1.82	327	P	Pn	14 44 11.3	+0.4
TK04	Tokai 4	2.11	289	P	Pn	14 44 15.6	+1.1
TK02	Tokai 2	2.12	276	P	Pn	14 44 15.4	+0.9
SHZ3	Shizuoka 3	2.17	308	P	Pn	14 44 16.9	+1.4
MJAR	Matsushiro Arr	3.28	329	Pn	Pn	14 44 31.0	+0.6
	0.2nm,0.3s,baz=155,slow=11,SNR=6.9						
	1.6nm,0.5s						
H11N2	WAKE ISLAND Hy	27.45	114	T	T	15 18 16.1	
	baz=306,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	27.46	114	T	T	15 18 12.4	
	baz=306,slow=75,SNR=10						
H11N3	WAKE ISLAND Hy	27.47	114	T	T	15 18 17.0	
	baz=306,slow=75,SNR=11						
WRA	Warramunga Arr	53.68	187	P	P	14 52 53.2	-1.0
	0.2nm,0.3s,baz=5.1,slow=7.6,SNR=17						
	0.2nm,0.3s						
ASAR	Alice Springs	57.41	187	P	P	14 53 20.5	-0.4
	0.2nm,0.6s,baz=7.5,slow=7.9,SNR=7.0						
	0.2nm,0.6s						

*IDC **05** 14:54:47.7±1.1, 53.0N±0.3×35.2W±0.1, h13km, n13, σ0s49/11, mb3.6/6, MS3.0/4, Reykjanes Ridge*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	18.66	288	LR	LR	15 04 55.1	
	comp=Z,59nm,19.4s,baz=13,slow=33						
EKA	Eskdalemuir Ar	18.82	70	P	Pn	14 59 09.5	+0.2
	baz=282,slow=8.6						
	2.9nm,0.8s						
ESDC	Sonseca Array	25.10	109	P	P	15 00 14.1	+0.2
	1.5nm,1.0s,baz=314,slow=9.7,SNR=8.9						
	1.5nm,1.0s						
NOA	NORSAR Array B	26.02	53	LR	LR	15 09 53.5	
	comp=Z,26nm,19.5s,baz=0.0,slow=35						
SADO	Sadowa	29.65	272	LR	LR	15 11 09.4	
	comp=Z,44nm,19.1s,baz=254,slow=33						
FINES	FINESS Array B	33.06	51	P	P	15 01 24.1	-0.4
	3.1nm,1.0s,baz=291,slow=12,SNR=2.6						
FINES				LR	LR	15 13 06.1	
	comp=Z,43nm,19.6s,baz=286,slow=33						
	3.1nm,1.0s						
AKASG	Malin Array Be	38.67	67	LR	LR	15 16 57.0	
	comp=Z,21nm,18.3s,baz=4.0,slow=34						
BRTR	Keskin Array B	47.51	77	P	P	15 03 24.8	+0.3
	0.4nm,0.6s,baz=325,slow=12,SNR=1.7						
	0.4nm,0.6s						
ILAR	Eielson Array	51.42	329	P	P	15 03 54.4	+0.6
	0.5nm,0.8s,baz=45,slow=6.3,SNR=6.0						
ILAR				PcP	PcP	15 05 07.8	-0.3
	0.1nm,0.6s,baz=11,slow=3.8,SNR=4.4						
	0.5nm,0.8s						
TXAR	Lajitas Array	54.42	273	P	P	15 04 16.4	-0.1
	0.5nm,1.1s,baz=38,slow=4.6,SNR=2.3						
TXAR				PcP	PcP	15 05 20.4	+0.3
	0.2nm,0.6s,baz=77,slow=4.0,SNR=2.7						
	0.5nm,1.1s						
MKAR	Makanchi Array	67.24	41	P	P	15 05 43.4	-0.1
	0.1nm,0.4s,baz=333,slow=4.2,SNR=2.5						
	0.1nm,0.4s						
WRA	Warramunga Arr	146.05	18	PKPbc	PKPbc	15 14 28.6	-0.6
	0.7nm,0.7s,baz=354,slow=3.0,SNR=8.5						
ASAR	Alice Springs	149.59	20	PKPbc	PKPbc	15 14 37.9	-0.8
	0.3nm,0.5s,baz=355,slow=2.2,SNR=15						

*DDA **05** 14:56:56.0±0.0, 38.67N×44.69E, h6km±2km, ML3.0*
*AZER **05** 14:56:56.7±0.2, 38.59N×44.52E, h8km±2km, Error ellipse: s-maj=4.1km s-min=2.5km az=20.0*
*TEH **05** 14:56:57.9, 38.56N×44.55E, h6km, ML3.0*
*ISK **05** 14:56:58.4, 38.61N×44.41E, h5km, ML3.1/11*

ISC 05 14:56:58.0±1.2, 38.61N±0.02×44.57E±0.02, h3km±11km, n58, σ1s16/80, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.45	277	P	Pg	14 57 06.8	+0.1
OZAP				S	Sb	14 57 15.3	-0.7
OZAP				*i* AML	AML	14 57 18.0	
	comp=E,1µm,0.9s						
OZAP				*i* AML	AML	14 57 24.0	
	comp=N,897nm,1.0s						
CLDR	Caldiran	0.74	317	PG	Pg	14 57 10.6	-1.6
CLDR				SG	Sb	14 57 22.6	-1.6
CLDR	Caldiran	0.74	317	*e*Pg	Pg	14 57 10.5	-1.6
CLDR	Caldiran	0.74	317	P	Pg	14 57 11.0	-1.1
CLDR				S	Sg	14 57 22.0	+0.3
CLDR				*i* AML	AML	14 57 23.0	
	comp=E,982nm,0.4s						
CLDR				*i* AML	AML	14 57 23.0	
	comp=N,903nm,0.5s						
MAKU	Maku	0.75	7	*e*Pg	Pb	14 57 13.1	-0.8
ISHB	Shabestar	0.89	111	*e*Pg	Pg	14 57 14.6	-0.3
ISHB				*e*		14 57 32.1	
	comp=Z,10µm,0.5s						
IMRD	Marand	0.90	83	*e*Pg	Pg	14 57 15.7	+0.6
IMRD				*e*Sg	Sb	14 57 28.2	-0.5
IMRD				*e*		14 57 36.7	
	comp=Z,16µm,0.4s						
NAX	Nakhchivan	0.92	52	*e*Pn	Pb	14 57 16.9	+0.3
NAX	Nakhchivan	0.92	52	P	Pb	14 57 16.9	+0.3
	SNR=13						
NAX				S	Sn	14 57 31.5	-0.2
VANB	Van	0.92	270	PG	Pg	14 57 14.8	-0.8
VANB				SG	Sg	14 57 27.1	-0.5
VANB	Van	0.92	270	*e*Pn	Pg	14 57 14.8	-0.8
YOVA	Hakkari_Yksek	1.04	192	P	Pg	14 57 17.7	-0.2
YOVA				S	Sn	14 57 34.1	-0.8
SBZ	Shahbuz	1.10	44	*e*Pn	Pn	14 57 20.1	-0.4
SBZ	Shahbuz	1.10	44	P	Pn	14 57 20.1	-0.4
	SNR=33						
SBZ				S	Sn	14 57 37.2	+1.0
HYR	Heyderabad	1.13	11	S	Sn	14 57 38.1	+1.1
ORD	Ordubad	1.16	73	P	Pn	14 57 21.0	-0.2
	SNR=33						
ORD				S	Sn	14 57 37.8	+0.2
AKDM	Akdamar-Van	1.28	258	PN	Pg	14 57 21.0	-1.4
AKDM				SN	Sb	14 57 38.7	-0.9
ITBZ	Tabriz	1.30	106	*e*Pg	Pn	14 57 21.7	-1.5
ITBZ				*e*Sg	Sb	14 57 40.4	+0.2
IGDI	IGDIR	1.32	343	*e*Pn	Pg	14 57 24.2	+1.0
IGDI	IGDIR	1.32	343	P	Pg	14 57 24.2	+1.0
IGDI				S	Sn	14 57 43.1	+1.6
TASB	TASBURUN-IGDIR	1.40	350	PN	Pg	14 57 25.9	+1.1
TASB	TASBURUN-IGDIR	1.40	350	*e*Pn	Pg	14 57 26.2	+1.4
IAZR	Azarshahr	1.45	129	*e*Pn	Pb	14 57 25.4	-0.4
IAZR				*e*		14 57 55.6	
	comp=Z,4µm,0.8s						
ADCV	BITLIS_Adilcev	1.46	279	*e*Pn	Pb	14 57 25.3	-0.5
ADCV	BITLIS_Adilcev	1.46	279	P	Pb	14 57 25.3	-0.5
ADCV				*i* AML	AML	14 57 50.0	
	comp=Z,89nm,0.9s						
ADCV				*i* AML	AML	14 57 50.0	
	comp=Z,160nm,0.7s						
GNI	Garni	1.55	5	PN	Pg	14 57 28.5	+0.9
CUKT	Cukurca	1.55	210	PN	Pg	14 57 27.5	-0.2
CUKT				SN	Sg	14 57 48.8	+0.9
CUKT	Cukurca	1.55	210	*e*Pn	Pb	14 57 27.2	-0.3
CUKT	Cukurca	1.55	210	P	Pg	14 57 28.5	+0.7
CUKT				S	Sg	14 57 50.2	+2.4
AGRB	Hanur-Agry	1.56	309	PN	Pb	14 57 27.2	-0.5
AGRB	Hanur-Agry	1.56	309	*e*Pn	Pg	14 57 27.6	-0.3
KOTA	Agri, Merkez-K	1.59	319	P	Pg	14 57 28.7	+0.2
MLAZ	Malazgirt-MUS	1.66	289	PN	Pb	14 57 28.4	-0.9
MLAZ	Malazgirt-MUS	1.66	289	*e*Pn	Pb	14 57 28.8	+0.6
PERV	Siirt/Pervari-	1.73	248	P	Pg	14 57 32.4	+1.4
PERV				S	Sg	14 57 56.2	+2.8
IHRS	Heris	1.96	98	*e*Pn	Pb	14 57 34.3	-0.2
IHRS				*e*		14 58 18.3	
	comp=Z,2µm,0.3s						
GURO	Guroymak-BITLI	1.99	269	PN	Pn	14 57 32.9	+0.3
GURO	Guroymak-BITLI	1.99	269	*e*Pn	Pb	14 57 33.3	-1.6
IBST	Bostanabad	2.04	116	*e*Pg	Pb	14 57 34.8	-1.1
GDB	GEDABAY	2.30	23	*e*Pn	Pb	14 57 38.9	-1.3
GDB	GEDABAY	2.30	23	P	Pb	14 57 39.0	-1.3
	SNR=22						
GDB				S	Sg	14 58 12.1	+0.2
QRD	Qoradiz	2.31	67	*e*Pn	Pn	14 57 38.2	+1.3
QRD	Qoradiz	2.31	67	P	Pn	14 57 38.2	+1.3
QRD				S	Sb	14 58 09.6	+0.4
GANJ	Ganja	2.45	33	*e*Pn	Pb	14 57 41.0	-1.6
GANJ	Ganja	2.45	33	P	Pb	14 57 41.1	-1.6
	SNR=10						
GANJ				S	Sg	14 58 15.4	-1.1
VRTB	Varto-Mus	2.49	284	PN	Pn	14 57 39.9	+0.3
VRTB	Varto-Mus	2.49	284	*e*Pn	Pn	14 57 40.1	+0.5
IHSH	Hashtrud	2.50	121	*e*Pn	Pb	14 57 42.9	-0.7
QZX	Qazax, Azerbai	2.53	14	*e*Pn	Pb	14 57 42.6	-1.4
QZX	Qazax, Azerbai	2.53	14	P	Pb	14 57 43.9	-0.1
	SNR=5.1						
QZX				S	Sb	14 58 16.0	+0.5
ISRB	Sarab	2.56	107	*e*Pn	Pb	14 57 43.5	-1.2
ISRB				*e*		14 58 36.4	
	comp=Z,1µm,0.6s						
SENK	Senkaya-Erzuru	2.60	319	PN	Pn	14 57 42.1	+0.9
SENK	Senkaya-Erzuru	2.60	319	*e*Pn	Pn	14 57 42.0	+0.9
SENK				*e*Pn	Pn	14 57 42.0	+0.9
GRMI	Germi	2.61	85	*e*Pn	Pb	14 57 44.1	-1.4
GRMI				*e*		14 58 25.5	
	comp=Z,99nm,0.7s						
YRD	Yardimli	2.89	83	*e*Pn	Pb	14 57 47.8	-2.5
YRD	Yardimli	2.89	83	P	Pb	14 57 47.8	-2.5
	SNR=21						
YRD				S	Sb	14 58 25.7	-0.4
LRK	Lerik	2.96	88	P	Pb	14 57 49.2	-2.1
	SNR=18						
ASTR	Astara	3.31	89	P	Pn	14 57 53.1	+2.4
ASTR				S	Sb	14 58 36.0	-2.1

*DDA **05** 14:57:35.6±0.0, 38.69N×44.71E, h7km±4km, ML3.0*
*ISK **05** 14:57:36.8, 38.66N×44.58E, h6km, ML3.1/8*
*TEH **05** 14:57:38.0, 38.56N×44.59E, h18km, ML3.0*

ISC 05 14:57:37.3±1.1, 38.66N±0.03×44.60E±0.03, h10km±10km, n18, σ0s73/29, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.47	271	P	Pg

TASB	TASBURUN-IGDIR	1.35 348	PN	Pg	14 58 03.0	-0.3
ADCV	BITLIS_Adilcev	1.47 276	P	Pg	14 58 06.1	+0.5
ADCV			S	Sg	14 58 26.3	+1.7
GNI	Garni	1.50 4	PN	Pb	14 58 04.9	-0.4
AGRB	Hanur-Agry	1.55 307	PN	Pb	14 58 05.5	-0.7
CUKT	Cukurca	1.61 209	PN	Pb	14 58 06.4	-0.8
GRMI	Germi	2.58 86	*e*Sg	Sg	14 59 01.6	+1.4
SVAN	Silvan-Diyarba	2.72 260	PN	Pn	14 58 21.8	+0.7

IDC ***05*** *15:04:02.9±0.5,55°.22S×30°.00W,h0km,mb4.4/13, mbtmp4.5/14,ML4.1/1,MS3.9/6,Error ellipse: s-maj=18.7km s-min=15.3km az=56.0*

NEIC ***05*** *15:04:04.2±1.4,55°.23S±0°.09×30°.3W±0°.2,h10km±1km, mb4.9/39,Error ellipse: s-maj=16.8km s-min=14.8km az=43.0*

ISC 05 15:04:04.1±0.3,55°20S±0°.07×30°25W±0°.07,h10km,n234, σ0s76/229,mb4.8/31,MS3.8/6,1C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.73	282	Pn	Pn	15 05 00.6	-1.0
ORCD	Orcadas	9.48	228	Pn	Pn	15 06 19.3	-1.1
VNA1	Neumayer--Stat	18.25	157	P	P	15 08 19.4	+2.1
VNA3	Neumayer Olymp	18.39	159	P	P	15 08 20.3	+1.5
VNA2	Neumayer--Watz	18.65	156	P	Pn	15 08 22.7	+0.7
	baz=310,slow=6.0						
PMSA	Palmer Station	19.19	226	P	Pn	15 08 29.6	+1.2
	0.6nm,0.3s,baz=87,slow=11,SNR=2.0						
	23nm,0.9s						
SNAA	Sanae	20.24	155	P	P	15 08 38.9	-0.1
SNAA	Sanae	20.24	155	P	P	15 08 39.3	+0.3
	16nm,1.0s,baz=294,slow=10,SNR=26						
SNAA				PcP	PcP	15 12 51.6	-0.7
	0.7nm,0.7s,baz=239,slow=22,SNR=1.6						
SNAA				LR	LR	15 14 52.9	
	comp=Z,294nm,22.0s,baz=292,slow=32						
	16nm,1.0s						
SNAA	Sanae	20.24	155	P	P	15 08 39.0	0.0
USHA	Ushuaia	21.72	255	P	P	15 08 57.0	+2.0
	27nm,0.8s,baz=162,slow=10,SNR=3.1						
	27nm,0.8s						
TROLL	Troll, Antarti	21.79	153	P	P	15 08 55.5	-0.3
BELA	Belgrano 2	22.83	182	P	P	15 09 06.8	+0.1
MG02	Cerro Sombrero	22.84	260	P	P	15 09 05.1	-1.9
GO10	Punta Arenas	23.73	258	P	P	15 09 15.9	-0.2
MG05	Puerto Natales	25.13	260	P	P	15 09 27.3	-1.5
GO09	Cerro Castillo	25.21	261	P	P	15 09 28.9	-0.7
TRQA	Tornquist	27.39	296	P	P	15 09 48.8	-0.6
TRQA				IAmb	IAmb	15 10 23.2	
	comp=Z,35nm,1.7s						
PLTB	Pedras Altas	28.65	315	P	P	15 10 01.1	+0.4
PLCA	Paso Flores	30.14	282	P	P	15 10 15.7	+1.8
	comp=Z,2.1nm,0.9s,baz=126,slow=5.5,SNR=3.8						
PLCA				PcP	PcP	15 13 14.7	-0.3
	comp=Z,1.9nm,0.9s,baz=79,slow=2.2,SNR=3.1						
PLCA				LR	LR	15 23 15.9	
	comp=Z,175nm,18.2s,baz=130,slow=38						
	comp=Z,2.1nm,0.9s						
PLCA	Paso Flores	30.14	282	P	P	15 10 13.2	-0.7
CPUP	Villa Florida	34.96	315	P	P	15 10 57.1	+1.0
	comp=Z,3.7nm,0.8s,baz=144,slow=7.9,SNR=5.8						
CPUP				LR	LR	15 24 07.3	
	comp=Z,152nm,19.7s,baz=143,slow=34						
	comp=Z,3.7nm,0.8s						
CPUP	Villa Florida	34.96	315	P	P	15 10 56.4	+0.3
QSPA	South Pole Qui	35.05	180	P	P	15 10 58.1	+1.3
QSPA				IAmb	IAmb	15 11 00.7	
	comp=Z,23nm,0.9s						
MT09	Talagante	35.39	290	P	P	15 10 59.9	0.0
MT09				IAmb	IAmb	15 11 03.8	
	comp=Z,8.3nm,0.6s						
MT01	Popeta	35.47	290	P	P	15 10 59.8	-0.7
MT01				IAmb	IAmb	15 11 04.2	
	comp=Z,7.7nm,0.7s						
VA03	San Esteban	35.93	292	P	P	15 11 04.5	-0.1
VA03				IAmb	IAmb	15 11 25.6	
	comp=Z,18nm,0.9s						
ROC1	El Roble	36.02	291	P	P	15 11 04.9	-0.6
ROC1				IAmb	IAmb	15 11 25.5	
	comp=Z,14nm,0.7s						
CO02	Combarbal	37.39	293	P	P	15 11 16.2	-0.8
CO02				IAmb	IAmb	15 11 40.1	
	comp=Z,14nm,0.8s						
CO06	Fray Jorge	38.14	293	P	P	15 11 23.6	+0.3
CO06				IAmb	IAmb	15 11 37.9	
	comp=Z,20nm,1.2s						
AC05	El Transito	38.89	296	P	P	15 11 30.1	+0.4
AQDB	Aquidauana	39.62	321	P	P	15 11 35.7	+0.1
AC02	Maricunga	39.94	299	P	P	15 11 38.5	-0.4
AC01	Pan de Azucar	41.25	298	P	P	15 11 50.0	+0.8
AC01				IAmb	IAmb	15 11 51.9	
	comp=Z,31nm,1.1s						
GO02	Mina Guanaco	41.56	300	P	P	15 11 52.9	+0.8
GO02				IAmb	IAmb	15 11 55.3	
	comp=Z,22nm,0.7s						
BDFB	Brasilia	41.80	334	P	P	15 11 55.3	+1.5
	comp=Z,1.2nm,0.3s,baz=166,slow=12,SNR=1.7						
BDFB				LR	LR	15 27 04.9	
	comp=Z,181nm,21.1s,baz=166,slow=33						
	comp=Z,1.2nm,0.3s						
MAW	Mawson	41.85	145	P	P	15 11 53.0	-0.6
	comp=Z,3.0nm,0.7s,baz=237,slow=9.2,SNR=13						
MAW				PcP	PcP	15 13 47.8	-1.3
	comp=Z,2.3nm,0.9s,baz=301,slow=5.9,SNR=2.7						
MAW				LR	LR	15 27 09.8	
	comp=Z,266nm,19.1s,baz=295,slow=33						
	comp=Z,3.0nm,0.7s						
MAW	Mawson	41.85	145	P	P	15 11 53.0	-0.6
PB01	IPOC Station P	44.99	303	P	P	15 12 18.6	-0.9
PB01				IAmb	IAmb	15 12 23.1	
	comp=Z,13nm,0.7s						
PTLB	Pontes e Lacer	45.50	319	P	P	15 12 22.9	-0.6
PTLB				IAmb	IAmb	15 12 33.2	
	comp=Z,11nm,0.9s						
SIV	San Ignacio	45.75	317	LR	LR	15 29 56.3	
	comp=Z,102nm,20.6s,baz=87,slow=34						
SBA	Scott Base	46.79	185	P	P	15 12 33.6	+0.6
SBA				IAmb	IAmb	15 12 42.0	
	comp=Z,19nm,1.4s						
PB16	IPOC Station P	47.33	305	P	P	15 12 38.4	-0.2
PB16				IAmb	IAmb	15 12 52.4	
	comp=Z,6.9nm,1.0s						
VNDA	Vanda	47.33	184	P	P	15 12 38.7	+1.5
	comp=Z,5.1nm,0.8s,baz=188,slow=6.2,SNR=29						
	comp=Z,5.1nm,0.8s						
VNDA	Vanda	47.33	184	P	P	15 12 37.8	+0.6
VNDA				IAmb	IAmb	15 12 39.3	
	comp=Z,7.8nm,1.1s						
BOSA	Boshof	47.48	79	P	P	15 12 38.8	-0.4
	comp=Z,2.8nm,0.9s,baz=216,slow=6.6,SNR=5.9						
	comp=Z,2.8nm,0.9s						
BOSA	Boshof	47.48	79	P	P	15 12 38.9	-0.3
LPAZ	La Paz	48.48	308	P	P	15 12 49.0	+1.6
	comp=Z,13nm,0.7s,baz=169,slow=6.1,SNR=32						
	comp=Z,13nm,0.7s						
LPAZ	La Paz	48.48	308	P	P	15 12 47.8	+0.3
LPAZ				IAmb	IAmb	15 12 51.1	
	comp=Z,13nm,0.7s						
H10N1	ASCENSION HYDR	48.87	21	T	T	16 05 33.3	
	baz=191,slow=75						
H10N3	ASCENSION HYDR	48.87	21	T	T	16 05 27.0	
	baz=191,slow=75						
H10N2	ASCENSION HYDR	48.89	21	T	T	16 05 30.5	
	baz=191,slow=75						
LBTB	Lobatse	50.46	77	P	P	15 13 01.7	-0.3
TSUM	Tsumeb	50.83	65	P	P	15 13 05.3	+0.4
SAML	Samuel	52.99	318	P	P	15 13 18.6	-2.2
SAML				IAmb	IAmb	15 13 23.2	
	comp=Z,12nm,0.9s						
CASY	Casey	55.28	162	P	P	15 13 34.9	-2.0
CASY				IAmb	IAmb	15 13 37.7	
	comp=Z,16nm,1.6s						
BOAV	Boa Vista	62.57	325	P	P	15 14 27.3	-0.8
BOAV				IAmb	IAmb	15 14 30.0	
	comp=Z,5.9nm,0.9s						
DBIC	Dimbokro	65.17	28	P	P	15 14 45.4	+0.2
	comp=Z,5.4nm,0.9s,baz=216,slow=8.7,SNR=2.0						
	comp=Z,5.4nm,0.9s						
BAUV	El Baul	71.27	320	P	P	15 15 23.2	-0.3
SDV	Santo Domingo	72.19	318	P	P	15 15 28.4	-0.8
SDV				IAmb	IAmb	15 15 30.6	
	comp=Z,8.8nm,0.9s						
TOA0	Torodi Ar. Sit	73.22	33	P	P	15 15 35.3	+0.3
TOA0				IAmb	IAmb	15 15 38.5	
	comp=Z,7.2nm,0.7s						
TORD	Torodi Ar. Bea	73.22	33	P	P	15 15 35.5	+0.4
	comp=Z,7.9nm,0.8s,baz=199,slow=6.6,SNR=21						
	comp=Z,7.9nm,0.8s						
TEIG	Tepich	89.80	307	P	P	15 17 02.8	+0.2
MDT	Midelt	90.38	21	P	P	15 17 05.7	+0.5
	comp=Z,2.3nm,1.0s,baz=250,slow=6.4,SNR=5.6						
	comp=Z,2.3nm,1.0s						
STKA	Stephens Creek	92.99	173	P	P	15 17 15.9	-1.6
	comp=Z,1.3nm,0.8s,baz=187,slow=8.1,SNR=3.7						
	comp=Z,1.3nm,0.8s						
ASAR	Alice Springs	100.29	165	P	Pdif	15 17 49.0	-1.7
	comp=Z,0.8nm,0.8s,baz=175,slow=3.8,SNR=9.9						
PFO	Pinyon Flats O	114.82	293	P	PKiKP	15 22 45.5	+1.0
	baz=141						
HEC	Hector,Ludlow	115.70	294	P	PKiKP	15 22 46.6	+0.6
	baz=141						
TUQ	Turquoise Moun	115.95	295	P	PKiKP	15 22 47.4	+0.9
	baz=141						
GSC	Goldstone, Bar	116.31	294	P	PKiKP	15 22 48.0	+0.8
	baz=140						
EDW2	Edwards Air Fo	116.61	293	P	PKiKP	15 22 48.2	+0.4
	baz=140						
RSSD	Black Hills	116.95	309	P	PKiKP	15 22 49.0	+0.7
	baz=142						
MPMC	Manual Prospec	117.24	294	P	PKiKP	15 22 49.9	+0.8
	baz=140						
TPNV	Topopah Spring	117.28	296	P	PKiKP	15 22 50.3	+1.2
	baz=140						
ISA	Isabella, Lake	117.46	293	P	PKiKP	15 22 50.8	+1.4
	baz=140						
PKM	Mcpherson Peak	117.58	292	P	PKiKP	15 22 50.8	+0.9
	baz=140						
CWC	Cottonwood Cre	117.84	294	P	PKiKP	15 22 51.4	+1.1
	baz=140						
GRAC	Grapevine Rang	117.89	295	P	PKiKP	15 22 51.3	+1.1
	baz=140						
R11A	Troy Canyon, C	118.01	297	P	PKiKP	15 22 51.5	+1.0
	baz=140						
DUG	Dugway, Tooele	118.03	301	P	PKiKP	15 22 51.2	+0.8
	baz=140						
NVAR	Mina Array Bea	119.47	296	PKP	PKPdf	15 22 53.2	-0.1
	comp=Z,1.1nm,0.8s,baz=157,slow=2.7,SNR=7.5						
HLID	Hailey	121.35	302	P	PKiKP	15 22 57.6	+0.7
	baz=138						
MSO	Missoula	123.53	305	P	PKiKP	15 23 01.7	+0.7
	baz=137						
L04D	Klamath Falls	124.32	296	P	PKiKP	15 23 03.3	+0.6
	baz=136						
FINES	FINESS Array B	124.46	29	PKP	PKPdf	15 23 01.3	-0.6
	comp=Z,2.9nm,0.8s,baz=117,slow=2.6,SNR=8.0						
J05D	Fort Rock, OR	124.54	298	P	PKiKP	15 23 04.1	+0.9
	baz=136						
J04D	Umpqua Nationa	124.95	297	P	PKiKP	15 23 05.2	+1.1
	baz=136						
I05D	Terrebonne, OR	125.34	298	P	PKiKP	15 23 06.1	+1.5
	baz=136						
I04A	Tendick Farm,	125.50	297	P	PKiKP	15 23 05.6	+0.6
	baz=135						
NEW	Newport	126.06	304	P	PKiKP	15 23 06.8	+0.9
	baz=135						
H04D	Lebanon	126.18	298	P	PKiKP	15 23 07.7	+1.5
	baz=135						
I02E	Swisshome, OR	126.46	297	P	PKiKP	15 23 08.3	+1.6
	baz=135						
CMAR	Chiang Mai Arr	126.99	113	PKP	PKiKP	15 23 08.7	0.0
	comp=Z,2.9nm,0.9s,baz=235,slow=3.9,SNR=17						
AKTO	Aktyubinsk	128.23	54	PKP	PKiKP	15 23 10.0	-0.1
	comp=Z,1.8nm,0.7s,baz=199,slow=2.7,SNR=8.2						
KSH	Kashi	130.03	76	PKP	PKiKP	15 23 13.8	-0.4
ARCES	ARCESS Array B	130.81	23	PKP	PKPdf	15 23 13.8	0.0
	comp=Z,5.6nm,0.9s,baz=40,slow=2.1,SNR=5.8						
YKA	Yellowknife Ar	134.39	320	PKP	PKPdf	15 23 21.1	+0.4
	comp=Z,1.8nm,0.7s,baz=125,slow=2.5,SNR=3.3						
PZH	PanZhiHua	135.02	110	PKP	PKPdf	15 23 23.4	+0.1
BVAR	Borovoye Array	135.80	58	PKP	PKPdf	15 23 24.0	+0.3
	comp=Z,2.3nm,0.8s,baz=252,slow=1.4,SNR=15						
MKAR	Makanchi Array	138.27	72	PKhKP	PKPpre	15 23 20.1	
	comp=Z,0.3nm,0.7s,baz=207,slow=1.0,SNR=4.2						
MKAR				PKP	pPKPdf	15 23 29.4	-1.0
	comp=Z,0.6nm,0.7s,baz=253,slow=1.3,SNR=5.9						
KURBB	Kurchatov Arra	138.52	66	PKhKP	PKPpre	15 23 22.8	
	comp=Z,0.5nm,0.7s,baz=224,slow=2.6,SNR=5.9						
KURBB				PKP	PKPdf	15 23 28.9	+0.2
	comp=Z,1.3nm,0.8s,baz=233,slow=2.4,SNR=10						
M31M	Drury Creek, Y	142.13	312	P	PKiKP	15 23 39.4	+1.4
	baz=115						
O30N	Mendenhall	142.25	310	P	PKiKP	15 23 40.3	+2.0
	baz=116						
N31M	Raebaum, Yuko	142.42	311	P	PKiKP	15 23 40.6	+1.9
	baz=115						
P29M	Windy Craggy	142.49	307	P	PKiKP	15 23 40.4	+1.6
	baz=116						
YUK6	Outpost Mounta	143.33	309	P	PKiKP	15 23 42.1	+1.4
	baz=114						
LZH	Lanzhou	143.48	102	*e*PKP	PKPdf	15 23 38.2	-0.2
LZH				sPKP		15 23 51.5	
GTA	Gaotai	143.51	94	*e*PKPbc	PKPdf	15 23 37.3	-1.0
GTA				pPKP	PKiKP	15 23 48.8	+7.1
GTA				sPKP		15 23 53.6	
ZALV	Zalesovo Beam	143.56	64	PKP	PKPbc	15 23 35.2	0.0
	comp=Z,3.1nm,0.7s,baz=252,slow=3.7,SNR=15						
F31M	Tsiigehtchic	143.85	321	P	PKiKP	15 23 44.2	+2.9
	baz=109						
YUK3	Moose Creek	144.59	310	P	PKPab	15 23 38.4	+0.2
	baz=112						
EPYK	Eagle Plains	144.62	318	P	PKPbc	15 23 38.8	+0.6
	baz=108						
MESA	MESA	144.65	307	P	PKPbc	15 23 38.9	+0.3
	baz=113						
CTG	Chitna Glacier	144.67	308	P	PKPbc	15 23 39.0	+0.4
	baz=112						
XAN	Xi'an	144.76	110	PKP	PKPab	15 23 39.3	-0.2
XAN				pPKP	PKiKP	15 23 49.5	+5.2
I29M	Ogilvie Camp,	144.92	316	P	PKPdf	15 23 39.6	-0.2
	baz=109						
DAWY	Dawson	144.94	314	P	PKPab	15 23 39.5	+0.2
	baz=110,SNR=12						
BVCY	Beaver Creek	145.00	311	P	PKPdf	15 23 40.0	-0.1
	baz=111						
M27K	Edge Creek, AK	145.42	310	P	PKPab	15 23 41.4	+0.2
	baz=110,SNR=6.2						
MCARA	McCarthy VSAT	145.59	308	P	PKPab	15 23 41.9	+0.2
	baz=111						
L27K	Beaver Creek,	145.63	311	P	PKPbc	15 23 41.7	+0.3
	baz=109,SNR=8.8						
EGAK	Eagle	145.89	314	P	PKPbc	15 23 42.2	0.0
	baz=107						
M26K	Nabesna, AK	145.93	310	P	PKPbc	15 23 42.2	-0.2
	baz=109						
K27K	Chicken	146.05	313	P	PKPab	15 23 43.3	+0.1
	baz=108						
BMRM	Bremner River	146.16	307	P	PKPbc	15 23 43.1	-0.1
	baz=110						
L26K	Log Cabin Wild	146.28	311	P	PKPbc	15 23 43.8	+0.4
	baz=108,SNR=8.0						
I27K	Kandik River	146.31	316	P	PKPbc	15 23 43.8	+0.3
	baz=106,SNR=12						
H27K	Steamboat Moun	146.44	317	P	PKPbc	15 23 44.0	+0.2
	baz=105,SNR=15						
EYAK	Cordova Ski Ar	146.54	306	P	PKPbc	15 23 44.3	+0.1
	baz=110						
G27K	Doyon Strip	146.64	318	P	PKPbc	15 23 44.6	+0.2
	baz=104,SNR=9.2						
J26L	Joseph Creek	146.81	313	P	PKPbc	15 23 45.4	+0.4
	baz=106,SNR=19						
SCRK	Sand Creek	146.84	312	P	PKPbc	15 23 45.5	+0.3
	baz=106,SNR=12						
I26K	Coal Creek Min	146.85	315	P	PKPbc	15 23 45.5	+0.5
	baz=105						
E27K	Coleen River	146.93	320	P	PKPbc	15 23 46.0	+0.8
	baz=102						
KLU	Klutina	146.94	308	P	PKPbc	15 23 46.1	+0.6
	baz=109,SNR=17						
LYN	LuoYang	147.04	113	⇑PKPbc	PKPbc	15 23 45.6	-0.9
LYN				pmax	pmax		
	comp=Z,20nm,0.7s						
P23K	Montague Islan	147.12	305	P	PKPbc	15 23 45.7	-0.2
	baz=110						
RIDG	Independent Ri	147.14	312	P	PKPbc	15 23 46.4	+0.5
	baz=106,SNR=35						
PAX	Paxson	147.19	310	P	PKPbc	15 23 46.1	0.0
	baz=107,SNR=18						
M24K	Tolsona, Glenn	147.24	309	P	PKPbc	15 23 46.9	+0.6
	baz=108,SNR=5.7						
GLI	Glacier Island	147.28	306	P	PKPbc	15 23 46.8	+0.5
	baz=109						
G26K	Porcupine Rive	147.49	318	P	PKPbc	15 23 47.5	+0.8
	baz=102,SNR=12						
K24K	Donnelly Dome	147.55	312	P	PKPbc	15 23 47.3	+0.3
	baz=106						
J25K	Salcha River,	147.59	313	P	PKPbc	15 23 47.5	+0.3
	baz=104,SNR=6.9						
SCM	Sheep Creek Mo	147.68	308	P	PKPbc	15 23 48.1	+0.6
	baz=107,SNR=6.6						
F26K	Sheenjek River	147.77	319	P	PKPbc	15 23 48.4	+0.8
	baz=101,SNR=13						
PWL	Port Wells	147.84	306	P	PKPbc	15 23 48.6	+0.7
	baz=108						
M23K	Glacier View	147.85	308	P	PKPbc	15 23 48.3	+0.5
	baz=107,SNR=9.0						
PRP	Porcupine Dome	147.87	315	P	PKPbc	15 23 48.4	+0.5
	baz=103,SNR=22						
C27K	Jago River	147.93	323	P	PKPbc	15 23 48.8	+1.0
	baz=98						
DHY	Denali Highway	148.05	310	P	PKPbc	15 23 49.5	+0.9
	baz=106,SNR=8.0						
KNK	Knik Glacier	148.07	307	P	PKPbc	15 23 49.4	+0.9
	baz=107						
WAT6	Susitna Watana	148.08	309	P	PKiKP	15 23 50.0	-0.4
	baz=106,SNR=7.9						
SML	Sawmill	148.13	307	P	PKPbc	15 23 49.0	+0.4
	baz=107,SNR=6.7						
SEW	Seward	148.13	304	P	PKPbc	15 23 49.0	+0.4
	baz=109						
H25K	Birch Creek	148.15	316	P	PKPbc	15 23 49.3	+0.8
	baz=102,SNR=6.3						
HDA	Harding Lake	148.20	313	P	PKiKP	15 23 49.9	-0.4
	baz=104						
ILAR	Eielson Array	148.26	313	PKPbc	PKPbc	15 23 49.1	+0.3
	comp=Z,22nm,0.8s,baz=132,slow=1.9,SNR=150						
F25K	Christian Rive	148.32	319	P	PKiKP	15 23 50.2	-0.4
	baz=100,SNR=10						
E25K	Arctic Village	148.38	320	P	PKiKP	15 23 50.2	-0.5
	baz=99,SNR=20						
PMR	Palmer	148.43	307	P	PKPbc	15 23 50.2	+0.9
	baz=107						
WAT1	Susitna Watana	148.50	309	P	PKPbc	15 23 49.6	+0.1
	baz=105						
POKR	Poker Plat Res	148.56	314	P	PKPbc	15 23 49.8	+0.2
	baz=102						
RC01	Rabbit Creek A	148.56	306	P	PKPbc	15 23 50.3	+0.6
	baz=107						
BRSE	Bradley Lake S	148.63	303	P	PKPbc	15 23 50.2	+0.2
	baz=108						
COLA	College	148.69	313	P	PKPbc	15 23 50.6	+0.7
	baz=102						
TCOL	CIGO, UAF Yank	148.69	313	P	PKPbc	15 23 49.9	0.0
	baz=102,SNR=8.0						
D25K	Kavik River	148.82	322	P	PKPbc	15 23 50.5	+0.3
	baz=96						
G24K	Hadweenzic Riv	148.88	317	P	PKPbc	15 23 50.9	+0.5
	baz=100,SNR=22						
KDAK	Kodiak Island	148.88	299	P	PKPbc	15 23 51.0	+0.4
	baz=110						
H24K	Noodor Dome	148.89	315	P	PKPbc	15 23 51.0	+0.6
	baz=101,SNR=11						
MCK	McKinley	148.89	311	P	PKPbc	15 23 51.0	+0.5
	baz=103,SNR=14						
M22K	Willow	148.93	307	P	PKPbc	15 23 51.2	+0.6
	baz=106,SNR=7.6						
OHAK	Old Harbor	149.04	298	P	PKiKP	15 23 52.2	-0.1
	baz=111						
Q20K	Shuyak Island	149.07	300	P	PKPbc	15 23 51.8	+0.7
	baz=109						
NEA2	Nenana	149.14	313	P	PKPbc	15 23 51.1	0.0
	baz=102,SNR=26						
SUA	Susitna One	149.14	306	P	PKiKP	15 23 52.2	-0.3
	baz=106						
F24K	Squaw Lake	149.16	318	P	PKiKP	15 23 52.3	0.0
	baz=98,SNR=11						
CUT	Chulitna	149.17	308	P	PKPbc	15 23 51.8	+0.6
	baz=104,SNR=5.8						
SII	Sitkinak Islan	149.26	296	P	PKiKP	15 23 52.5	-0.3
	baz=112						
NRIK	Noril'sk	149.42	38	PKPbc	PKPbc	15 23 51.6	0.0
	comp=Z,5.8nm,1.0s,baz=308,slow=0.5,SNR=8.4						
TRF	Thorofare Moun	149.42	310	P	PKPbc	15 23 52.2	+0.2
	baz=103,SNR=5.3						
E24K	Your Creek	149.46	319	P	PKiKP	15 23 52.7	-0.2
	baz=96,SNR=10.0						
H23K	Yukon River	149.56	315	P	PKPbc	15 23 52.6	+0.4
	baz=99						
SKT	Skwentna	149.63	307	P	PKPbc	15 23 52.8	+0.4
	baz=104,SNR=12						
C24K	Franklin Bluff	149.67	323	P	PKPbc	15 23 52.8	+0.5
	baz=94						
D24K	Happy Valley	149.68	321	P	PKPbc	15 23 52.6	+0.4
	baz=94						
CHIR	Chirikof Islan	149.74	294	P	PKPbc	15 23 53.1	+0.4
	baz=112						
N20K	Mount Spurr	149.75	305	P	PKPbc	15 23 53.2	+0.4
	baz=105						
SPCR	Spurr Chakacha	149.75	305	P	PKiKP	15 23 53.5	-0.2
	baz=105						
Q19K	Cape Douglas,	149.79	301	P	PKPbc	15 23 53.1	+0.2
	baz=108						
P19K	Oil Pt	149.81	302	P	PKPbc	15 23 53.4	+0.5
	baz=107						
BPAW	Bear Paw Mtn.	149.86	311	P	PKPbc	15 23 52.9	0.0
	baz=101,SNR=28						
G23K	Bananza Creek	149.88	317	P	PKiKP	15 23 53.7	-0.1
	baz=98,SNR=21						
TOLK	Toolik Lake Re	149.91	320	P	PKiKP	15 23 53.7	-0.2
	baz=95						
MLY	Manley	149.92	313	P	PKiKP	15 23 52.9	-0.2
	baz=100,SNR=16						
COLD	Coldfoot	150.01	318	P	PKiKP	15 23 53.8	-0.2
	baz=96,SNR=12						
PPLA	Purkeypile	150.14	309	P	PKiKP	15 23 54.5	-0.1
	baz=102						
CAST	Castle Rocks	150.20	310	P	PKPbc	15 23 53.6	-0.2
	baz=102,SNR=14						
H22K	Ishtalitna Cre	150.32	315	P	PKiKP	15 23 54.6	-0.1
	baz=98,SNR=9.1						
D23K	Nanushuk River	150.33	321	P	PKiKP	15 23 55.1	+0.5
	baz=93						
C23K	Itkillik River	150.34	323	P	PKiKP	15 23 54.9	+0

baz=112
TTA Tatalina 151.87 308 P PKiKP 15 23 58.2 +0.2
baz=100,SNR=5.2
S14K Fog Glacier 151.96 293 P PKPbc 15 23 57.9 -0.2
baz=109
SDPT Sand Point 152.13 291 P PKPbc 15 23 58.0 -0.4
baz=111
O16K Kokwok River B 152.17 301 P PKPbc 15 23 58.0 -0.4
baz=104
SONM Songino Array 152.41 87 PKP PKPdf 15 23 52.8 +0.2
comp=Z,0.7nm,0.7s,baz=197,slow=4.6,SNR=3.7
SONM PKPbc PKPbc 15 23 59.5 0.0
comp=Z,5.8nm,0.7s,baz=221,slow=2.7,SNR=27
GCSA Galena City Sc 152.48 312 P PKPbc 15 23 58.8 -0.1
baz=95
N16K Nishlik Lake 152.70 302 P PKiKP 15 24 00.1 +0.3
baz=102
KSRS Korea Array 156.88 131 PKPab PKPab 15 24 28.8 -0.1
comp=Z,2.6nm,0.8s,baz=212,slow=4.7,SNR=11
PETK Petropavlovsk- 174.88 249 PKP PKPdf 15 24 11.6 -1.2
comp=Z,1.3nm,0.8s,baz=157,slow=8.0,SNR=3.8

*BER **05** 15:10:11.6±1.7,58.22N×21.25E,h0km,ML1.9,Suspected explosion*
*UPP **05** 15:10:32.7±0.1,58.99N×18.21E,h0km,ML2.5,Explosion*
*DNK **05** 15:10:33.2±1.2,59.00N×18.21E,h0km,Explosion*
*HEL **05** 15:10:33.8±0.1,59.01N×18.17E,h0km,ML2.0, ML2.5(UPP),Explosion*
*IDC **05** 15:10:34.1±2.1,58.94N×18.34E,h0km,mbtmp3.0/4, ML1.9/4,Error ellipse: s-maj=26.3km s-min=7.6km az=176.0*

ISC 05 15:10:32.5±0.8,59.00N±0.02×18.21E±0.02,h0km,n78, σ1§13/106,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.11	275	P		Pg	15 10 35.0	+0.4
NYNU				S		Sg	15 10 36.4	+0.4
NYNU	Nynaeshamn	0.11	275	P		Pg	15 10 35.0	+0.4
NYNU				S		Sg	15 10 36.4	+0.4
NYNU	Nynaeshamn	0.11	275	*i* P		Pg	15 10 35.0	+0.4
NYNU				*i* S		Sg	15 10 36.4	+0.4
NRTU	Norrtaelje	0.72	17	P		Pg	15 10 46.2	-0.1
NRTU				S		Sg	15 10 55.4	-0.2
NRTU	Norrtaelje	0.72	17	P		Pg	15 10 46.2	-0.1
NRTU				S		Sg	15 10 55.4	-0.2
NRTU	Norrtaelje	0.72	17	*i* P		Pg	15 10 46.2	-0.1
NRTU				*i* S		Sg	15 10 55.4	-0.2
UPP	Uppsala	0.92	341	P		Pg	15 10 50.3	+0.3
UPP				S		Sg	15 11 02.0	+0.1
UPP	Uppsala	0.92	341	*eP*		Pg	15 10 50.3	+0.3
UPP				*eS*		Sg	15 11 02.0	+0.1
VIKU	Vikbolandet	0.93	238	P		Pg	15 10 50.3	0.0
VIKU	Vikbolandet	0.93	238	P		Pg	15 10 50.3	0.0
VIKU	Vikbolandet	0.93	238	*eP*		Pg	15 10 50.3	0.0
ESKU	Eskilstuna	0.97	285	P		Pg	15 10 50.5	-0.5
ESKU				S		Sg	15 11 02.9	-0.7
ESKU	Eskilstuna	0.97	285	P		Pg	15 10 50.5	-0.5
ESKU				S		Sg	15 11 02.9	-0.7
ESKU	Eskilstuna	0.97	285	*eP*		Pg	15 10 50.5	-0.5
ESKU				*eS*		Sg	15 11 02.9	-0.7
FIBU	Brunna	1.01	335	P		Pg	15 10 51.5	-0.4
FIBU	Brunna	1.01	335	P		Pg	15 10 51.5	-0.4
BACU	Backbrunna	1.03	327	P		Pg	15 10 51.9	-0.4
BACU	Backbrunna	1.03	327	P		Pg	15 10 51.9	-0.4
BACU	Backbrunna	1.03	327	*eP*		Pg	15 10 51.9	-0.4
FLYU	Flymyra	1.15	352	P		Pg	15 10 54.1	-0.4
FLYU	Flymyra	1.15	352	P		Pg	15 10 54.1	-0.4
FLYU	Flymyra	1.15	352	*eP*		Pg	15 10 54.1	-0.4
GOTU	Gotland	1.33	172	P		Pg	15 10 56.9	-1.0
GOTU	Gotland	1.33	172	P		Pg	15 10 56.9	-1.0
GOTU	Gotland	1.33	172	*eP*		Pg	15 10 56.9	-1.0
GRAU	Graesoe	1.35	7	P		Pg	15 10 57.9	-0.6
GRAU	Graesoe	1.35	7	P		Pg	15 10 57.9	-0.6
GRAU	Graesoe	1.35	7	*eP*		Pg	15 10 57.9	-0.6
OSTU	Oestervaala	1.35	337	P		Pg	15 10 57.8	-0.7
OSTU	Oestervaala	1.35	337	P		Pg	15 10 57.8	-0.7
OSTU	Oestervaala	1.35	337	*eP*		Pg	15 10 57.8	-0.7
FORU	Forsmark	1.40	359	P		Pg	15 10 58.6	-0.6
FORU	Forsmark	1.40	359	P		Pg	15 10 58.6	-0.6
FORU	Forsmark	1.40	359	*eP*		Pg	15 10 58.6	-0.6
AAL	Aland	1.49	37	P		Pn	15 11 00.2	-0.4
AAL	Aland	1.49	37	*eP*		Pn	15 11 00.1	-0.5
AAL				*eS*		Sg	15 11 19.3	-1.1
VSTU	Vaestervik	1.60	214	P		Pn	15 11 02.2	+0.1
VSTU	Vaestervik	1.60	214	P		Pn	15 11 02.2	+0.1
VSTU	Vaestervik	1.60	214	*eP*		Pn	15 11 02.2	+0.1
LNKU	Linkoeping	1.61	242	P		Pn	15 11 02.3	+0.1
LNKU	Linkoeping	1.61	242	P		Pn	15 11 02.3	+0.1
LNKU	Linkoeping	1.61	242	*eP*		Pn	15 11 02.3	+0.1
NRAU	Nora	1.73	291	P		Pn	15 11 04.2	+0.4
NRAU	Nora	1.73	291	P		Pn	15 11 04.2	+0.4
NRAU	Nora	1.73	291	*eP*		Pn	15 11 04.2	+0.4
ASKU	Askersund	1.75	268	P		Pn	15 11 04.5	+0.4
ASKU	Askersund	1.75	268	P		Pn	15 11 04.5	+0.4
ASKU	Askersund	1.75	268	*eP*		Pn	15 11 04.5	+0.4
FALU	Falun	1.93	322	P		Pb	15 11 07.8	-0.7
FALU	Falun	1.93	322	P		Pb	15 11 07.8	-0.7
FALU	Falun	1.93	322	*eP*		Pb	15 11 07.8	-0.7
HFS	Hagfors	2.57	298	Pn		Pn	15 11 16.8	+1.4
	0.5nm,0.3s,baz=111,slow=17,SNR=33							
HFS				Sn		Sb	15 11 50.5	-0.9
	2.0nm,0.3s,baz=116,slow=30,SNR=24 1.2nm,0.2s							
RAF	Rauma	2.71	40	*eP*		Pn	15 11 18.3	+1.1
RAF				*eS*		Sn	15 11 51.8	+1.2
RAF				MSG			15 11 58.3	
	comp=Z,4.7nm,0.1s							
BLEU	Blekinge	2.99	207	*i* P		Pn	15 11 21.7	+0.6
BORU	Boraas	3.18	247	*i* P		Pn	15 11 25.2	+1.5
MEF	Metsahovi	3.38	66	*eP*		Pn	15 11 28.3	+1.9
MEF				*eS*		Sn	15 12 08.0	+0.9
MEF				MSG			15 12 21.9	
	comp=Z,3.7nm,0.1s							
DEL	Delary	3.44	224	*i* P		Pn	15 11 28.6	+1.3
FABU	Falkenberg	3.54	238	*i* P		Pn	15 11 29.5	+0.9
NUR	Nurmijrvi	3.59	62	*eP*		Pn	15 11 30.5	+1.1
NUR				*eS*		Sn	15 12 13.5	+1.0
STRU	Stroemstad	3.63	274	*i* P		Pn	15 11 31.2	+1.3
STRU	Stroemstad	3.63	274	*eP*		Pn	15 11 31.2	+1.3
STRU				*eS*		Sg	15 12 27.6	-1.5
ONAU	Onsala	3.70	247	*i* P		Pn	15 11 33.8	+3.0
NC602	NORSAR Array S	3.79	300	*eP*		Pn	15 11 32.8	+0.7
NC602				IAML			15 12 32.8	
	comp=Z,3.0nm,0.2s							
NB201	NORSAR Array S	4.04	304	*eP*		Pn	15 11 36.4	+0.9
NB201				*eS*		Sg	15 12 39.3	-2.7
NB201				IAML			15 12 40.9	
	comp=Z,3.1nm,0.3s							
NOA	NORSAR Array B	4.07	303	Pn		Pn	15 11 36.5	+0.5
	baz=127,slow=11,SNR=8.5							
NOA				Sn		Sn	15 12 26.0	+1.8
	baz=139,slow=20,SNR=1.4							
NOA				Lg		Lg	15 12 44.2	
	comp=Z,0.1nm,0.3s,baz=102,slow=9.6,SNR=6.5 comp=Z,0.1nm,0.2s							
NC303	NORSAR Array S	4.09	306	*eP*		Pn	15 11 37.2	+1.0
NC303				IAML			15 12 41.7	
	comp=Z,3.4nm,0.5s							
NAO01	NORSAR Array S	4.13	300	*eP*		Pn	15 11 36.5	-0.2
NAO01				*eS*		Sg	15 12 40.8	-4.2
NAO01				IAML			15 12 42.8	
	comp=Z,3.3nm,0.6s							
PVF	Pernaja	4.17	65	*eS*		Sn	15 12 27.4	+0.8
NBO00	NORSAR Array S	4.25	302	*eP*		Pn	15 11 38.6	+0.1
NBO00				*eS*		Sg	15 12 45.3	-3.7
NBO00				IAML			15 12 45.6	
	comp=Z,2.4nm,0.3s							
BSD	Bornholm Skovb	4.29	206	*i* P		Pn	15 11 39.0	+0.1
NC204	NORSAR Array S	4.37	305	*eP*		Pn	15 11 41.9	+1.8
NC204				*eS*		Sb	15 12 47.0	+3.6
NC204				IAML			15 12 48.8	
	comp=Z,2.2nm,0.3s							
KEF	Keuruu	4.57	43	*eP*		Pn	15 11 44.9	+2.0
KEF				*eS*		Sn	15 12 36.4	-0.2
VAF	Ylistaro	4.60	26	*eP*		Pn	15 11 44.9	+1.6
VAF				*eS*		Sn	15 12 36.5	-0.9
FIA0	FINESS Array S	4.63	55	*eP*		Pn	15 11 45.4	+1.8
FIA0				*eS*		Sn	15 12 37.8	-0.2
FINES	FINESS Array B	4.63	55	Pn		Pn	15 11 45.2	+1.6
	comp=Z,0.2nm,0.3s,baz=248,slow=13,SNR=13							
FINES				Sn		Sn	15 12 39.0	+1.0
	comp=Z,0.7nm,0.3s,baz=250,slow=20,SNR=13							
FINES				Lg		Lg	15 12 55.2	
	comp=Z,0.9nm,0.3s,baz=241,slow=26,SNR=8.5 comp=Z,0.5nm,0.2s							
FIA1	FINESS Array S	4.63	55	*eP*		Pn	15 11 45.4	+1.8
FIA1				*eS*		Sn	15 12 38.3	+0.3
KAF	Kangasniemi	5.07	49	*eP*		Pn	15 11 50.8	+1.1
KAF				*eS*		Sn	15 12 48.5	-0.4
ARCES	ARCESS Array B	11.03	13	Pn		Pn	15 13 09.3	-2.1
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=8.7 comp=Z,3.6nm,1.0s							

*NEIC **05** 15:17:15.8±2.8,33.59S±0.09×180.0E±0.2,h10km±1km, mb4.8/22,Error ellipse: s-maj=24.2km s-min=12.7km az=110.0*
*IDC **05** 15:17:16.7±0.7,33.58S×179.90E,h0km,mb4.1/11, mbtmp4.2/14,ML4.9/3,Error ellipse: s-maj=20.9km s-min=17.8km az=75.0*
*WEL **05** 15:18:02.9±1.1,37.58S±8.8×17.9E±1.2,h15km,M3.9/79, MLv3.9/79,Error ellipse: s-maj=0.0km s-min=0.0km az=110.5*

ISC 05 15:17:16.7±0.5,33.61S±0.05×179.86E±0.07,h10km,n158, σ2§40/147,mb4.6/22,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.14	197			Pn	15 18 17.8	-2.3
MXZ	Matakaoa Point	4.14	197	P		Pn	15 18 17.9	-2.2
MXZ				S		Pb	15 18 29.7	0.0
WMGZ	Waiomatatini S	4.37	195	P		Pn	15 18 21.7	-1.3
WMGZ				S		Pb	15 18 35.7	+2.2
HAZ	Te Kaha	4.47	202	Pg		Pn	15 18 27.0	+2.5
HAZ				S		Pg	15 18 44.0	+1.6
GRZ	Great Barrier	4.47	233	P		Pg	15 18 50.8	+8.4
WIZ	White Island	4.47	208	P		Pn	15 18 27.6	+3.1
PKGZ	Pakihiroa	4.51	198	P		Pn	15 18 24.2	-0.9
PUZ	Puketiti	4.64	196	P		Pn	15 18 25.3	-1.6
RUGZ	Raukumara Rang	4.70	202	P		Pn	15 18 29.1	+1.3
RUGZ				Pg		Pb	15 18 29.8	-9.4
RUGZ				S		Pb	15 18 48.9	+10
MYRZ	Mayor Island	4.71	218	P		Pb	15 18 36.4	-3.0
RAO	Raoul Island	4.74	24	Pn		Pn	15 18 29.3	+1.0
	46nm,0.3s,baz=83,slow=14,SNR=5.6							
RAO				Sn		Sn	15 19 20.8	-2.5
	58nm,0.3s,baz=118,slow=22,SNR=1.9 183nm,0.4s							
RAO	Raoul Island	4.74	24	Pn		Pn	15 18 27.5	-0.7
TWGZ	Tauwhareparae	4.81	198	P		Pn	15 18 28.6	-0.7
WHRZ	Whale Island	4.84	208	P		Pn	15 18 35.3	+5.6
WIAZ	Waiheke Island	5.00	229	P		Pg	15 18 51.8	-0.7
CNGZ	Carnagh Statio	5.05	195	P		Pn	15 18 31.0	-1.5
MARZ	Manawahe	5.08	210	P		Pn	15 18 37.3	+4.4
MWZ	Matawai	5.08	201	P		Pn	15 18 33.2	+0.2
MWZ				S		Pg	15 18 55.6	+1.5
ABAZ	Army Bay	5.09	233	P		Pg	15 18 56.2	+2.1
TKGZ	Te Karaka	5.09	198	P		Pn	15 18 31.6	-1.4
MBAZ	Motutapu North	5.14	231	P		Pg	15 18 55.3	+0.1
URZ	Urewera	5.15	205	Pn		Pn	15 18 36.0	+2.1
	25nm,0.3s,baz=211,slow=1.4,SNR=292 135nm,0.6s							
URZ	Urewera	5.15	205	Pn		Pn	15 18 34.7	+0.8
URZ	Urewera	5.15	205	P		Pn	15 18 35.4	+1.6
ETAZ	East Tamaki Re	5.23	229	P		Pg	15 18 54.0	-3.0
RAGZ	Rawiri	5.26	201	P		Pn	15 18 35.9	+0.3
RAGZ				S		Pg	15 18 60.0	+2.4
KARZ	Kaharoa	5.29	213	P		Pn	15 18 40.5	+4.7
HBAZ	Herne Bay Bore	5.30	231	P		Pg	15 18 58.2	0.0
EPAZ	Eden Park BICE	5.30	231	P		Pg	15 18 57.2	-1.1
OMRZ	Omania	5.31	211	P		Pn	15 18 40.9	+4.8
RVAZ	Riverhead Bore	5.35	232	P		Pg	15 18 58.6	-0.6
TARZ	Mount Tarawera	5.36	210	P		Pn	15 18 42.1	+5.3
NGRZ	Ngongotaha	5.38	213	P		Pn	15 18 45.3	-5.6
HLRZ	Highlands Stat	5.44	211	P		Pn	15 18 43.9	+6.1
RRRZ	Republican Roa	5.45	209	P		Pn	15 18 42.0	+4.1
WTAZ	Waiatarua	5.45	231	P		Pg	15 18 59.6	-1.5
MUGZ	Murupara	5.47	206	P		Pn	15 18 39.6	+1.3
AWAZ	Awhitu Peninsu	5.48	230	P		Pg	15 18 57.8	-3.9
RTZ	Ruatahuna	5.51	204	P		Pn	15 18 40.1	+1.1
RTZ				S		Pg	15 19 08.6	+6.3
HSRZ	Hossack Road	5.53	211	P		Pn	15 18 43.7	+4.5
HRRZ	Handcock Road	5.58	210	P		Pn	15 18 44.9	+5.0
PRRZ	Plateau Road	5.63	209	P		Pn	15 18 44.2	+3.7
KNZ	Kokohu	5.69	197	P		Pn	15 18 38.5	-2.7
ALRZ	Allen Road	5.71	209	P		Pn	15 18 44.5	+3.0
RAHZ	Arahi	5.75	202	P		Pn	15 18 42.0	-0.2
MTHZ	Maungataniwha	5.78	204	P		Pn	15 18 43.7	+1.2
WHHZ	Waihua	5.86	200	P		Pn	15 18 42.4	-1.2
KUTZ	Kaahu Road	5.87	213	P		Pn	15 18 49.2	+5.5
TLZ	Tolley Road	5.87	215	P		Pn	15 18 44.9	+4.7
MRHZ	Matea Rd	5.91	207	P		Pn	15 18 45.9	+1.5
NMHZ	Naumai	6.01	203	P		Pn	15 18 46.0	+0.2
ARHZ	Aropaoanui	6.10	201	P		Pn	15 18 45.8	-1.1
BKZ	Black Stump Fm	6.18	205			Pn	15 18 47.8	-0.2
BKZ	Black Stump Fm	6.18	205	P		Pn	15 18 48.6	+0.6
RATZ	Rangitukua	6.20	211	P		Pn	15 18 52.6	+4.3
HIZ	Hauiti	6.35	218	Pn		Pn	15 18 51.1	+0.7
KWHZ	Kaweka Forest	6.43	204	P		Pn	15 18 51.0	-0.5
NTVZ	North Tongarir	6.43	210	P		Pn	15 18 53.9	+2.2
TMVZ	Te Maari	6.44	210	P		Pn	15 18 54.7	+3.0
CKHZ	Cape Kidnapper	6.44	199	P		Pn	15 18 48.8	-2.8
KRVZ	Karewarewa	6.45	211	P		Pn	15 18 55.4	+3.6
ETVZ	East Tongariro	6.45	210	P		Pn	15 18 54.3	+2.4
WTVZ	West Tongariro	6.49	211	P		Pn	15 18 56.1	+3.8
NNVZ	North Ngauruho	6.49	211	P		Pn	15 18 56.1	+3.7
OTVZ	Oturere	6.49	210	P		Pn	15 18 55.9	+3.4
TWVZ	Taurewa	6.51	212	P		Pn	15 18 56.3	+3.6
SNVZ	South Ngauruho	6.52	210	P		Pn	15 18 56.1	+3.2
NGZ	Ngauruhoe	6.53	210	P		Pn	15 18 56.0	+3.0
TUVZ	Tukino	6.59	210	P		Pn	15 18 56.6	+2.8
BHHZ	Black Hill Sta	6.62	206	P		Pn	15 18 54.5	+0.4
FWVZ	Far West T-bar	6.62	210	P		Pn	15 18 57.4	+3.2
KAHZ	Kahuranaki	6.62	200	P		Pn	15 18 51.5	-2.7
KRHZ	Kereru	6.64	204	P		Pn	15 18 53.2	-1.3
WNVZ	Wahianoa	6.66	210	P		Pn	15 18 56.7	+2.0
MOVZ	Moawhango	6.67	209	P		Pn	15 18 56.2	+1.4
PKVZ	Pokaka	6.74	211	P		Pn	15 18 59.3	+3.6
PXZ	Pawanui	6.85	200	P		Pn	15 18 53.5	-3.6
PNHZ	Pukenui	6.95	204	P		Pn	15 18 56.9	-1.7
WPHZ	Waipukurau	7.00	202	P		Pn	15 18 56.7	-2.6
PRHZ	Porangahau	7.13	200	P		Pn	15 18 57.3	-3.8
TSZ	Takapari Road	7.16	205	P		Pn	15 18 59.2	-2.2
WAZ	Wanganui	7.28	211	P		Pn	15 19 05.4	+2.3
DVHZ	Dannevirke	7.30	203	P		Pn	15 19 00.5	-3.0
LREZ	Lake Rotokare	7.31	215	P		Pn	15 19 11.3	+7.9
NEZ	North Egmont	7.31	218	P		Pn	15 19 13.0	+9.4
ANWZ	Angora Road	7.36	201	P		Pn	15 19 00.8	-3.4
POWZ	Post Office Ro	7.52	205	P		Pn	15 19 04.9	-1.5
PRWZ	Pori Road	7.60	203	P		Pn	15 19 05.1	-2.4
BFZ	Birch Farm	7.63	201	Pn		Pn	15 19 02.8	-5.1
BFZ	Birch Farm	7.63	201	P		Pn	15 19 03.4	-4.5
TIWZ	Tintock	7.83	203	P		Pn	15 19 07.6	-3.1
HOWZ	Holdsworth Sta	8.06	204	P		Pn	15 19 10.5	-3.3
OGWZ	Otaki Gorge	8.11	206	P		Pn	15 19 12.2	-2.3
MSWZ	Moikau Station	8.61	204	Pn		Pn	15 19 16.5	-4.9
SNZO	South Karori	8.71	207	Pn		Pn	15 19 17.9	-4.8
PLWZ	Palliser	8.75	203	Pn		Pn	15 19 16.7	-6.6
TUWZ	Tuamarina	9.11	209	Pn		Pn	15 19 25.6	-2.6
NNZ	Nelson	9.18	212	Pn		Pn	15 19 27.1	-2.0
QRZ	Quartz Range	9.27	217	Pn		Pn	15 19 28.8	-1.7
BSWZ	Blackbirch Sta	9.38	209	Pn		Pn	15 19 28.7	-3.2
BSWZ	Blackbirch Sta	9.38	209	P		Pn	15 19 30.9	-1.0
THZ	Tophouse	9.83	212	Pn		Pn	15 19 35.8	-2.3
KHZ	Kahutara	10.11	208	Pn		Pn	15 19 38.0	-3.8
KHZ	Kahutara	10.11	208	P		Pn	15 19 39.4	-2.4
CTZ	Chatham Island	10.48	166	P		Pn	15 19 48.3	+1.3
LTZ	Lake Taylor	10.93	211	Pn		Pn	15 19 49.1	-4.1
OXZ	Oxford	11.47	210	Pn		Pn	15 19 54.9	-5.6
RPZ	Rata Peaks	12.21	212	Pn		Pn	15 20 06.7	-3.9
	0.9nm,0.3s,baz=8.8,slow=4.5,SNR=5.6							
ODZ	Otahua Downs	13.45	209	Pn		Pn	15 20 21.8	-5.9
WHZ	Wether Hill Ro	15.29	213	Pn		Pn	15 20 46.6	-6.0
WHZ				IAmb		IAmb	15 21 16.9	
	comp=Z,54nm,1.4s							
MSVF	Nonsavu	15.89	354	Pn		Pn	15 20 59.5	-1.1
	comp=Z,0.3nm,0.3s,baz=138,slow=14,SNR=5.1 comp=Z,5.1nm,0.7s							
MSVF	Nonsavu	15.89	354	P		P	15 21 03.6	-0.7
MSVF				IAmb		IAmb	15 21 18.7	
	comp=Z,65nm,1.2s							
STKA	Stephens Creek	32.11	262	P		P	15 23 47.1	+2.9
	comp=Z,0.8nm,0.7s,baz=90,slow=10,SNR=1.7 comp=Z,0.8nm,0.7s							
STKA	Stephens Creek	32.11	262	P		P	15 23 43.6	-0.6
CTA	Charters Tower	32.71	286	P		P	15 23 51.3	+1.8
	comp=Z,5.5nm,1.0s,baz=106,slow=13,SNR=1.9 comp=Z,5.5nm,1.0s							
CTAO	Charters Tower	32.71	286	P		P	15 23 50.8	+1.2
CTAO				IAmb		IAmb	15 23 53.9	
	comp=Z,20nm,1.3s							
BBOO	Buckleboo	36.45	259	P		P	15 24 20.2	-1.6
BBOO				IAmb		IAmb	15 24 31.9	
	comp=Z,11nm,1.1s							
COEN	Coen	38.57	292	P		P	15 24 39.9	0.0
KRVT	Keravat (AS076	39.01	312	P		P	15 24 45.2	+1.7
	comp=Z,58nm,1.1s,baz=129,slow=14,SNR=3.3							
RABL	Rabaul	39.01	313	P		P	15 24 40.1	-3.5
AS31	Alice Springs	41.24	272	P		P	15 25 01.4	-0.8
ASAR	Alice Springs	41.24	272	P		P	15 25 03.6	+1.5
	comp=Z,3.8nm,0.7s,baz=112,slow=7.5,SNR=38 comp=Z,3.8nm,0.7s							
ASAR	Alice Springs	41.24	272	P		P	15 25 01.1	-1.0
WR0	Warramunga Arr	42.35	277	P		P	15 25 10.0	-1.2
WB2	Warramunga Arr	42.52	277	P		P	15 25 10.2	-2.4
WB2				IAmb		IAmb	15 25 23.0	
	comp=Z,10nm,0.8s							
WRAB	Tennant Creek	42.52	277	P		P	15 25 11.6	-1.0
WRAB				IAmb		IAmb	15 25 22.0	
	comp=Z,22nm,1.2s							
WRA	Warramunga Arr	42.53	277	P		P	15 25 13.8	+1.1
	comp=Z,2.6nm,0.8s,baz=120,slow=7.2,SNR=15 comp=Z,2.6nm,0.8s							
WRA	Warramunga Arr	42.53	277	P		P	15 25 10.1	-2.6
WB0	Warramunga Arr	42.57	277	P		P	15 25 13.0	0.0
WB0				IAmb		IAmb	15 25 23.3	
	comp=Z,11nm,0.8s							
FORT	Forrest	43.55	259	P		P	15 25 18.7	-2.2
SBA	Scott Base	44.72	184	P		P	15 25 26.3	-3.3
SBA				IAmb		IAmb	15 25 40.1	
	comp=Z,16nm,1.3s							
VNDA	Vanda	44.74	185	P		P	15 25 32.1	+2.4
	comp=Z,0.3nm,0.8s,baz=352,slow=11,SNR=1.8 comp=Z,0.3nm,0.8s							
VNDA	Vanda	44.74	185	P		P	15 25 28.5	-1.2
MTN	Manton Dam	48.80	283	P		P	15 26 02.1	-0.2
KNRA	Kununurra	49.24	278	P		P	15 26 06.2	+0.5
KNRA				IAmb		IAmb	15 26 10.1	
	comp=Z,14nm,1.1s							
FITZ	Fitzroy Crossi	50.63	274	P		P	15 26 15.3	-1.0
FAKI	Fak Fak	53.85	294	P		P	15 26 38.7	-1.5
FAKI				IAmb		IAmb	15 26 48.4	
	comp=Z,11nm,0.9s							
PSA00	Pilbara Seismi	53.87	267	P		P	15 26 38.5	-1.8
PSA00				IAmb		IAmb	15 27 00.9	
	comp=Z,15nm,1.3s							
QSPA	South Pole Qui	56.51	180	P		P	15 27 00.6	+1.7
	comp=Z,4.7nm,0.8s,baz=4.0,slow=2.3,SNR=15 comp=Z,4.7nm,0.8s							
TROLL	Troll, Antarti	74.66	181	P		P	15 28 55.9	-0.2
SNAA	Sanae	75.00	179	P		P	15 28 57.0	-1.0
SNAA	Sanae	75.00	179	P		P	15 28 59.4	+1.5
	comp=Z,1.7nm,0.8s,baz=234,slow=3.3,SNR=4.0 comp=Z,1.7nm,0.8s							
SNAA	Sanae	75.00	179	P		P	15 28 56.6	-1.3
SNAA				IAmb		IAmb	15 29 06.1	
	comp=Z,11nm,1.1s							
VNA3	Neumayer Olymp	75.23	177	P		P	15 28 58.8	-0.4
VNA2	Neumayer--Watz	75.64	178	P		P	15 29 00.6	-0.9
	baz=175,slow=4.0							
PLCA	Paso Flores	81.64	134	P		P	15 29 36.3	+1.1
	comp=Z,2.5nm,0.9s,baz=192,slow=3.4,SNR=5.2 comp=Z,2.5nm,0.9s							
PETK	Petropavlovsk-	88.48	347	P		P	15 30 09.1	+0.3
	comp=Z,2.7nm,0.9s,baz=130,slow=6.6,SNR=3.2 comp=Z,2.7nm,0.9s							
NVAR	Mina Array Bea	91.81	44	P		P	15 30 26.2	+1.2
	comp=Z,0.4nm,0.7s,baz=209,slow=7.2,SNR=2.8 comp=Z,0.4nm,0.7s							
PZH	PanZhiHua	95.19	298	P		P	15 30 44.2

M_T-0.40; M_{0B}0.03; $M_{0\phi}$0.37; M_{T0}2.15; M_{0B}0.16; M_{B7}2.82;
Fault plane solution: $M_0$8.12000×10^{17} NP1:$\theta_0$29.00000°, δ1.00000°,λ-76.00000°. NP2:$\theta_0$195.00000°, δ88.00000°, λ-90.00000°. Principal axes: T 8.1402, Plg44.0000°, Azm286.0000°; N -0.0326, Plg0.0000°, Azm195.0000°; P -8.1076, Plg46.0000°, Azm105.0000°;

ISC 05 15:19:05.5±0.4,37.17S±0.03×178.81E±0.03,h44km,s3km, n1453,σ1.979/1373,mb5.8/201,MS5.6/259,57C-31D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.56**	**225**	Pn		**Pn**		**15 19 15.2**	**-1.9**
MXZ						**Sn**		**15 19 21.9**	**-3.6**
MXZ	**Matakaoa Point**	**0.56**	**225**	P		**Pn**		**15 19 15.6**	**-1.5**
MXZ				S		**Sn**		**15 19 24.8**	**-0.6**
WMGZ	**Waiomatatini S**	**0.72**	**206**	P		**Pn**		**15 19 20.3**	**+1.1**
PKGZ	**Pakihiroa**	**0.92**	**219**	P		**Pn**		**15 19 22.3**	**+0.2**
PKGZ				S		**Sn**		**15 19 38.8**	**+4.6**
PUZ	**Puketiti**	**1.00**	**206**	P		**Pn**		**15 19 24.3**	**+1.2**
PUZ				S		**Sn**		**15 19 40.5**	**+4.5**
HAZ	**Te Kaha**	**1.00**	**234**	P		**Pn**		**15 19 23.0**	**-0.1**
HAZ				S		**Sn**		**15 19 41.9**	**+5.8**
RUGZ	**Raukumara Rang**	**1.20**	**228**	P		**Pn**		**15 19 27.1**	**+1.2**
RUGZ				S		**Sn**		**15 19 46.8**	**+5.7**
TWGZ	**Tauwhareparae**	**1.20**	**213**	P		**Pn**		**15 19 27.6**	**+1.7**
TWGZ				S		**Sn**		**15 19 47.9**	**+6.9**
WIZ	**White Island**	**1.33**	**254**	P		**Pn**		**15 19 26.8**	**-0.9**
WIZ				S		**Sn**		**15 19 47.0**	**+2.7**
WSRZ	**White Island S**	**1.34**	**255**	P		**Pn**		**15 19 27.4**	**-0.4**
CNGZ	**Carnagh Statio**	**1.39**	**200**	P		**Pn**		**15 19 29.9**	**+1.4**
TKGZ	**Te Karaka**	**1.48**	**211**	P		**Pn**		**15 19 30.7**	**+1.1**
TKGZ				S		**Sn**		**15 19 52.8**	**+5.1**
MWZ	**Matawai**	**1.54**	**221**	P		**Pn**		**15 19 32.2**	**+1.6**
WHRZ	**Whale Island**	**1.61**	**244**	P		**Pn**		**15 19 33.4**	**+2.0**
RAGZ	**Rawiri**	**1.72**	**219**	P		**Pn**		**15 19 34.6**	**+1.6**
RAGZ				S		**Sn**		**15 19 58.9**	**+5.0**
URZ	**Urewera**	**1.73**	**231**	P		**Pn**		**15 19 34.9**	**+1.9**
	15µm,0.8s,baz=31,slow=5.8,SNR=157								
URZ					LR	LR		15 20 00.7	
	comp=Z,22µm,18.5s,baz=28,slow=32								
URZ	**Urewera**	**1.73**	**231**	Pn		**Pn**		**15 19 33.2**	**+0.2**
URZ	**Urewera**	**1.73**	**231**	P		**Pn**		**15 19 35.0**	**+1.9**
URZ				S		**Sn**		**15 19 58.7**	**+4.8**
RIGZ	**Rimuhau**	**1.74**	**208**	P		**Pn**		**15 19 34.0**	**+0.8**
MAMZ	**Manawahe**	**1.88**	**244**	P		**Pn**		**15 19 36.2**	**+1.1**
EDRZ	**Edgecumbe**	**1.89**	**240**	P		**Pn**		**15 19 37.0**	**+1.7**
PRGZ	**Paritu Road**	**1.89**	**202**	P		**Pn**		**15 19 35.7**	**+0.4**
OPRZ	**Ohinepanea**	**1.91**	**249**	P		**Pn**		**15 19 36.1**	**+0.6**
SNGZ	**Shannon Statio**	**1.98**	**215**	P		**Pn**		**15 19 37.6**	**+1.1**
SNGZ				S		**Sn**		**15 20 05.2**	**+5.1**
RTZ	**Ruatahuna**	**2.04**	**224**	P		**Pn**		**15 19 38.9**	**+1.5**
MYRZ	**Mayor Island**	**2.05**	**266**	P		**Pn**		**15 19 37.4**	**-0.1**
KNZ	**Kokohu**	**2.05**	**205**	P		**Pn**		**15 19 37.3**	**-0.2**
MUGZ	**Murupara**	**2.07**	**230**	P		**Pn**		**15 19 39.3**	**+1.5**
MUGZ				S		**Sn**		**15 20 07.1**	**+4.7**
MKRZ	**Makatiti**	**2.09**	**242**	P		**Pn**		**15 19 40.4**	**+2.3**
LIRZ	**Lichensteins R**	**2.09**	**246**	P		**Pn**		**15 19 40.3**	**+2.2**
MHGZ	**Mahia Peninsul**	**2.10**	**199**	P		**Pn**		**15 19 38.4**	**+0.2**
TGRZ	**Tauranga**	**2.10**	**254**	P		**Pn**		**15 19 38.2**	**+0.1**
TARZ	**Mount Tarawera**	**2.11**	**239**	P		**Pn**		**15 19 40.6**	**+2.2**
OMRZ	**Omania**	**2.15**	**243**	P		**Pn**		**15 19 40.5**	**+1.6**
RRRZ	**Republican Roa**	**2.16**	**237**	P		**Pn**		**15 19 40.8**	**+1.9**
KARZ	**Kaharoa**	**2.20**	**247**	P		**Pn**		**15 19 40.2**	**+1.0**
RAHZ	**Arahi**	**2.21**	**217**	P		**Pn**		**15 19 41.0**	**+1.3**
RAHZ				S		**Sn**		**15 20 10.5**	**+4.7**
HLRZ	**Highlands Stat**	**2.22**	**240**	P		**Pn**		**15 19 41.8**	**+1.9**
WHHZ	**Waihua**	**2.27**	**213**	P		**Pn**		**15 19 41.3**	**+0.8**
WHHZ				S		**Sn**		**15 20 11.7**	**+4.4**
NGRZ	**Ngongotaha**	**2.28**	**245**	P		**Pn**		**15 19 42.4**	**+1.7**
MTHZ	**Maungataniwha**	**2.29**	**222**	P		**Pn**		**15 19 42.5**	**+1.7**
UTU	**Utuhina**	**2.30**	**243**	P		**Pn**		**15 19 43.4**	**+2.5**
PRRZ	**Plateau Road**	**2.32**	**235**	P		**Pn**		**15 19 42.8**	**+1.5**
HSRZ	**Hossack Road**	**2.33**	**240**	P		**Pn**		**15 19 43.8**	**+2.5**
HRRZ	**Handcock Road**	**2.34**	**238**	P		**Pn**		**15 19 43.6**	**+2.1**
KMRZ	**Kaimai**	**2.37**	**253**	P		**Pn**		**15 19 42.4**	**+0.5**
ALRZ	**Allen Road**	**2.39**	**234**	P		**Pn**		**15 19 43.7**	**+1.5**
GRRZ	**Galatos Road**	**2.44**	**240**	P		**Pn**		**15 19 45.0**	**+2.1**
NMHZ	**Naumai**	**2.48**	**219**	P		**Pn**		**15 19 45.0**	**+1.5**
WPRZ	**Whakapapatarin**	**2.49**	**236**	P		**Pn**		**15 19 45.8**	**+2.3**
KUZ	**Kuaotunu**	**2.51**	**279**	P		**Pn**		**15 19 42.6**	**-1.1**
MRHZ	**Matea Rd**	**2.51**	**228**	P		**Pn**		**15 19 45.2**	**+1.3**
ARHZ	**Aropaoanui**	**2.53**	**214**	P		**Pn**		**15 19 44.9**	**+0.8**
TOZ	**Tahuroa Road**	**2.69**	**257**	P		**Pn**		**15 19 46.1**	**-0.1**
BKZ	**Black Stump Fm**	**2.70**	**222**	Pn		**Pn**		**15 19 46.8**	**+0.3**
BKZ	**Black Stump Fm**	**2.70**	**222**	P		**Pn**		**15 19 47.5**	**+1.1**
BKZ	**Black Stump Fm**	**2.70**	**222**	P		**Pn**		**15 19 47.8**	**+1.3**
WHTZ	**Whakaora**	**2.70**	**236**	P		**Pn**		**15 19 49.3**	**+2.8**
KUTZ	**Kaahu Road**	**2.70**	**240**	P		**Pn**		**15 19 48.5**	**+2.0**
HATZ	**Hinemaiaia**	**2.75**	**230**	P		**Pn**		**15 19 48.6**	**+1.6**
CKHZ	**Cape Kidnapper**	**2.83**	**208**	P		**Pn**		**15 19 47.8**	**-0.3**
TLZ	**Tolley Road**	**2.83**	**245**	P		**Pn**		**15 19 49.9**	**+1.6**
GRZ	**Great Barrier**	**2.84**	**288**	P		**Pn**		**15 19 48.1**	**-0.3**
WATZ	**Wairara**	**2.87**	**237**	P		**Pn**		**15 19 51.1**	**+2.3**
MKAZ	**Moumakai**	**2.91**	**270**	P		**Pn**		**15 19 49.3**	**0.0**
KWHZ	**Kaweka Forest**	**2.93**	**219**	P		**Pn**		**15 19 50.2**	**+0.6**
RATZ	**Rangitukua**	**2.93**	**234**	P		**Pn**		**15 19 51.6**	**+2.0**
WIAZ	**Waiheke Island**	**2.96**	**276**	P		**Pn**		**15 19 50.0**	**-0.1**
KAHZ	**Kahuranaki**	**3.02**	**249**	P		**Pn**		**15 19 50.6**	**-0.3**
KATZ	**Kakaramea**	**3.04**	**233**	P		**Pn**		**15 19 53.3**	**+2.0**
ETAZ	**East Tamaki Re**	**3.11**	**273**	P		**Pn**		**15 19 52.5**	**+0.5**
TMVZ	**Te Maari**	**3.12**	**231**	P		**Pn**		**15 19 53.7**	**+1.4**
KRHZ	**Kereru**	**3.12**	**217**	P		**Pn**		**15 19 52.1**	**-0.2**
NTVZ	**North Tongariro**	**3.13**	**231**	P		**Pn**		**15 19 53.9**	**+1.5**
ETVZ	**East Tongariro**	**3.13**	**230**	P		**Pn**		**15 19 53.8**	**+1.3**
KRVZ	**Karewarewa**	**3.15**	**231**	P		**Pn**		**15 19 54.1**	**+1.5**
MBAZ	**Motutapu North**	**3.15**	**276**	P		**Pn**		**15 19 53.0**	**+0.4**
BHHZ	**Black Hill Sta**	**3.16**	**222**	P		**Pn**		**15 19 53.7**	**+0.9**
OTVZ	**Oturere**	**3.17**	**230**	P		**Pn**		**15 19 54.4**	**+1.4**
NNVZ	**North Ngauruho**	**3.19**	**231**	P		**Pn**		**15 19 54.7**	**+1.5**
WTVZ	**West Tongariro**	**3.19**	**232**	P		**Pn**		**15 19 54.7**	**+1.4**
SNVZ	**South Ngauruho**	**3.20**	**230**	P		**Pn**		**15 19 54.7**	**+1.2**
NGZ	**Ngauruhoe**	**3.22**	**231**	P		**Pn**		**15 19 55.1**	**+1.4**
ABAZ	**Army Bay**	**3.24**	**279**	P		**Pn**		**15 19 54.4**	**+0.6**
TUVZ	**Tukino**	**3.25**	**229**	P		**Pn**		**15 19 55.2**	**+1.2**
TWVZ	**Taurewa**	**3.26**	**233**	P		**Pn**		**15 19 55.1**	**+1.9**
EPAZ	**Eden Park BICE**	**3.26**	**274**	P		**Pn**		**15 19 55.3**	**+1.1**
HBAZ	**Herne Bay Bore**	**3.28**	**274**	P		**Pn**		**15 19 55.4**	**+1.1**
MOVZ	**Moawhango**	**3.28**	**226**	P		**Pn**		**15 19 54.8**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.29**	**229**	P		**Pn**		**15 19 55.8**	**+1.0**
FWVZ	**Far West T-bar**	**3.30**	**230**	P		**Pn**		**15 19 55.9**	**+1.1**
DRZ	**Dome Shelter**	**3.31**	**230**	P		**Pn**		**15 19 56.2**	**+1.2**
WNVZ	**Wahianoa**	**3.32**	**229**	P		**Pn**		**15 19 55.8**	**+0.7**
AWAZ	**Awhitu Peninsu**	**3.33**	**271**	P		**Pn**		**15 19 55.8**	**+0.8**
TRVZ	**Turoa**	**3.33**	**229**	P		**Pn**		**15 19 56.3**	**+1.0**
WTAZ	**Waiatarua**	**3.39**	**273**	P		**Pn**		**15 19 56.9**	**+1.0**
HIZ	**Hauiti**	**3.40**	**246**	Pn		**Pn**		**15 19 57.3**	**+1.3**
HIZ	**Hauiti**	**3.40**	**246**	P		**Pn**		**15 19 58.7**	**+2.6**
HIZ	**Hauiti**	**3.40**	**246**	P		**Pn**		**15 19 58.8**	**+2.8**
RVAZ	**Riverhead Bore**	**3.41**	**275**	P		**Pn**		**15 19 56.6**	**+0.5**
PNHZ	**Pukenui**	**3.42**	**216**	P		**Pn**		**15 19 55.5**	**-0.8**
MTVZ	**Mangateitei**	**3.43**	**229**	P		**Pn**		**15 19 57.8**	**+1.3**
WPHZ	**Waipukurau**	**3.43**	**212**	P		**Pn**		**15 19 55.6**	**-0.8**
PKVZ	**Pokaka**	**3.45**	**231**	P		**Pn**		**15 19 58.5**	**+1.7**
TSZ	**Takapari Road**	**3.64**	**217**	P		**Pn**		**15 19 58.3**	**+1.1**
WCZ	**Waipu Caves**	**3.80**	**288**	P		**Pn**		**15 20 01.4**	**0.0**
WAZ	**Wanganui**	**3.95**	**228**	P		**Pn**		**15 20 05.0**	**+1.4**
MHEZ	**Mangahewa**	**4.01**	**240**	P		**Pn**		**15 20 08.1**	**+3.6**
BFZ	**Birch Farm**	**4.03**	**209**	P		**Pn**		**15 20 02.6**	**-2.1**
PRWZ	**Pori Road**	**4.04**	**212**	P		**Pn**		**15 20 03.8**	**-1.0**
OHWZ	**Ohakea**	**4.08**	**221**	P		**Pn**		**15 20 05.7**	**+0.4**
LREZ	**Lake Rotokare**	**4.15**	**235**	P		**Pn**		**15 20 07.8**	**+1.5**
DREZ	**Durham Road**	**4.15**	**240**	P		**Pn**		**15 20 09.8**	**+3.5**
PREZ	**Palmer Road**	**4.25**	**238**	P		Pn		15 20 11.6	+3.9
NEZ	**North Egmont**	**4.26**	**239**	P		**Pn**		**15 20 11.0**	**+3.1**
PKE	**Pukeiti**	**4.30**	**241**	P		**Pn**		**15 20 11.8**	**+3.4**
KHEZ	**Kahui Hut**	**4.33**	**239**	P		**Pn**		**15 20 11.8**	**+3.0**
NBEZ	**Newall Road No**	**4.42**	**240**	P		**Pn**		**15 20 13.1**	**+3.1**
NMEZ	**Namu Road**	**4.48**	**239**	P		**Pn**		**15 20 13.8**	**+3.1**
OUZ	**Omahuta**	**4.64**	**293**	P		**Pn**		**15 20 13.4**	**+0.4**
OUZ	**Omahuta**	**4.64**	**293**	P		**Pn**		**15 20 14.0**	**+0.9**
MSWZ	**Moikau Station**	**5.06**	**212**			**Pn**		**15 20 14.2**	**-4.6**
PLWZ	**Palliser**	**5.18**	**211**			**Pn**		**15 20 15.7**	**-4.8**
SNZO	**South Karori**	**5.22**	**216**	Pn		**Pn**		**15 20 16.7**	**-4.2**
SNZO	**South Karori**	**5.22**	**216**	P		**Pn**		**15 20 18.8**	**-2.1**
TUWZ	**Tuamarina**	**5.68**	**220**			**Pn**		**15 20 23.9**	**-3.4**
CMWZ	**Cape Campbell**	**5.79**	**216**			**Pn**		**15 20 25.9**	**-2.9**
BSWZ	**Blackbirch Sta**	**5.93**	**219**			**Pn**		**15 20 27.3**	**-3.4**
QRZ	**Quartz Range**	**6.10**	**231**			**Pn**		**15 20 30.3**	**-2.7**
QRZ	**Quartz Range**	**6.10**	**231**	P		**Pn**		**15 20 31.0**	**-2.1**
THZ	**Tophouse**	**6.47**	**223**	Pn		**Pn**		**15 20 34.5**	**-3.7**
KHZ	**Kahutara**	**6.62**	**216**	Pn		**Pn**		**15 20 36.4**	**-3.8**
KHZ	**Kahutara**	**6.62**	**216**	P		**Pn**		**15 20 37.0**	**-3.2**
CTZ	**Chatham Island**	**7.43**	**153**	P		**Pn**		**15 20 49.6**	**-1.6**
LTZ	**Lake Taylor**	**7.52**	**220**			**Pn**		**15 20 48.0**	**-4.5**
OXZ	**Oxford**	**8.03**	**218**			Pn		15 20 54.6	-4.9
MQZ	**McQueen's Vall**	**8.04**	**214**			Pn		15 20 54.4	-5.2
RAO	**Raoul Island**	**8.36**	**20**	P		Pn		15 20 58.0	-6.2
	201nm,0.5s,baz=101,slow=21,SNR=2.9								
RAO				S		**Sn**		**15 22 30.1**	**-7.1**
	2µm,0.5s,baz=206,slow=24,SNR=9.4								
RAO	**Raoul Island**	**8.36**	**20**			Pn		15 20 56.6	-7.5
RAO	**Raoul Island**	**8.36**	**20**	P		Pn		15 20 56.6	-7.5
RAO	**Raoul Island**	**8.36**	**20**	P		**Pn**		**15 21 07.5**	**+3.4**
RPZ	**Rata Peaks**	**8.81**	**220**	P		**Pn**		**15 21 07.2**	**-2.9**
	59nm,0.3s,baz=121,slow=4.0,SNR=43								
RPZ				S		**Sn**		**15 22 40.5**	**-7.6**
	281nm,0.3s,baz=336,slow=8.4,SNR=21								
RPZ				LR		LR		15 25 19.9	
	comp=Z,81µm,21.6s,baz=46,slow=42								
RPZ	**Rata Peaks**	**8.81**	**220**			**Pn**		**15 21 05.8**	**-4.4**
RPZ	**Rata Peaks**	**8.81**	**220**	P		**Pn**		**15 21 07.3**	**-2.9**
FOZ	**Fox Glacier**	**9.35**	**224**			**Pn**		**15 21 13.3**	**-4.3**
LBZ	**Lake Benmore**	**9.72**	**220**	Pn		**Pn**		**15 21 18.4**	**-4.3**
ODZ	**Otahua Downs**	**9.98**	**215**	P		**Pn**		**15 21 22.4**	**-3.9**
NFK	**Norfolk Island**	**12.19**	**309**	P		**Pn**		**15 21 58.8**	**+2.4**
	baz=12								
NFK	**Norfolk Island**	**12.19**	**309**	P		**Pn**		**15 21 59.8**	**+3.3**
LHI	**Lord Howe Isla**	**17.24**	**283**	P		**Pn**		**15 23 03.9**	**-0.2**
	baz=17								
LHI	**Lord Howe Isla**	**17.24**	**283**			**Pn**		**15 22 58.3**	**-4.7**
LHI	**Lord Howe Isla**	**17.24**	**283**	P		**P**		**15 23 04.8**	**+0.7**
PINNC	**Pines Island,**	**17.51**	**323**	P		**P**		**15 23 09.4**	**+2.3**
OUENC	**Ouen Island, N**	**17.97**	**322**	P		**Pn**		**15 23 10.4**	**-1.8**
OUENC	**Ouen Island, N**	**17.97**	**322**	P		**P**		**15 23 16.0**	**+3.8**
MARNC	**Mare, Loyalty**	**18.22**	**326**	P		**Pn**		**15 23 18.0**	**+2.9**
YATNC	**Mamie plateau,**	**18.25**	**322**	P		**Pn**		**15 23 19.6**	**+4.1**
ONTNC	**Ouen Toro**	**18.26**	**321**			**P**		**15 23 12.8**	**-2.5**
ONTNC	**Ouen Toro**	**18.26**	**321**	P		**Pn**		**15 23 18.5**	**+2.9**
DZM	**Mont Dzumac**	**18.46**	**321**	*e*P		**P**		**15 23 17.6**	**-0.1**
	1µm,1.4s								
DZM					*e*LR	LR		15 27 32.8	
	comp=Z,60µm,24.1s								
DZM	**Mont Dzumac**	**18.46**	**321**	P		**Pn**		**15 23 18.4**	**+0.2**
	35nm,1.1s,baz=155,slow=8.5,SNR=20								
DZM					LR	LR		15 29 19.7	
	comp=Z,32µm,20.3s,baz=138,slow=34								
DZM	**Mont Dzumac**	**18.46**	**321**			**P**		**15 23 14.1**	**-3.6**
DZM	**Mont Dzumac**	**18.46**	**321**	P		**Pn**		**15 23 22.4**	**+4.2**
	413nm,1.5s								
NOUC	**Port Laguerre**	**18.51**	**321**	P		**Pn**		**15 23 21.5**	**+2.9**
LKBA	**Tubou, Lakemba**	**18.98**	**7**	P		**Pn**		**15 23 24.6**	**+0.3**
LIFNC	**LIFOU**	**19.19**	**325**	P		**Pn**		**15 23 30.3**	**+3.5**
MSVF	**Nonsavu**	**19.38**	**358**	P		**P**		**15 23 26.7**	**-1.0**
	92nm,0.7s,baz=163,slow=8.8,SNR=13								
MSVF					LR	LR		15 29 15.3	
	comp=Z,13µm,20.5s,baz=185,slow=32								
MSVF	**Nonsavu**	**19.38**	**358**	P		**P**		**15 23 25.8**	**-1.9**
MSVF					IAmb	IAmb		15 23 37.9	
	comp=Z,334nm,0.9s								
MSVF	**Nonsavu**	**19.38**	**358**	P		**P**		**15 23 27.3**	**-0.4**
TAVE	**Taveuni**	**20.42**	**4**	P		**P**		**15 23 40.0**	**+1.0**
NIUE	**Niue**	**20.55**	**32**	P		**P**		**15 23 39.7**	**-0.7**
	baz=21,SNR=5.0								
NIUE	**Niue**	**20.55**	**32**	P		Pn		15 23 44.2	+1.2
	comp=Z,693nm,1.4s								
DGTI	**Dogotuki**	**20.81**	**3**	P		**P**		**15 23 43.9**	**+0.7**
KOUNC	**Koumac, New Ca**	**20.84**	**319**	P		**P**		**15 23 40.8**	**-2.7**
KOUNC					IAmb	IAmb		15 23 53.9	
	comp=Z,820nm,1.4s								
KOUNC	**Koumac, New Ca**	**20.84**	**319**	P		Pn		15 23 45.6	-0.7
RTV	**Rentapao**	**21.36**	**332**	P		**P**		**15 23 51.9**	**+2.8**
DVP	**Devils Point**	**21.51**	**331**	P		**P**		**15 23 51.1**	**+0.4**
NTLH	**Newcastle Hard**	**22.57**	**273**	P		**P**		**15 24 03.0**	**+1.0**
RIV	**Riverview**	**22.72**	**270**	P		**P**		**15 24 04.5**	**+0.9**
	baz=23,SNR=5.8								
SYDH	**Sydney Hard Ro**	**23.07**	**270**	P		**P**		**15 24 08.9**	**+1.7**
ARMA	**Armidale**	**23.52**	**279**	P		**P**		**15 24 13.6**	**+1.8**
	baz=24,SNR=30								
ARMA	**Armidale**	**23.52**	**279**	P		**P**		**15 24 09.6**	**-2.2**
ARMA					IAmb	IAmb		15 24 20.4	
	comp=Z,548nm,1.4s								
ARMA	**Armidale**	**23.52**	**279**	P		**P**		**15 24 15.4**	**+3.6**
MILA	**Mila**	**23.61**	**261**	P		**P**		**15 24 14.0**	**+1.5**
	baz=24,SNR=16								
CNB	**Canberra Magne**	**23.78**	**266**	P		**P**		**15 24 16.2**	**+2.1**
	baz=24,SNR=38								
CNB	**Canberra Magne**	**23.78**	**266**	P		**P**		**15 24 16.2**	**+2.1**
CAN	**Canberra**	**24.07**	**265**	P		**P**		**15 24 16.9**	**+0.2**
CAN					IAmb	IAmb		15 24 26.1	
	comp=Z,347nm,1.2s								
CAN					IAMs_20	IAMs_20		15 31 59.3	
	comp=Z,22µm,21.0s								
CAN	**Canberra**	**24.07**	**265**	P		**P**		**15 24 16.9**	**+0.2**
CAN					pmax	pmax			
	comp=Z,347nm,1.2s								
CAN					MLR	MLR			
	comp=Z,22µm,21.0s								
CAN	**Canberra**	**24.07**	**265**	P		**P**		**15 24 18.5**	**+1.7**
GLAD	**Gladstone**	**24.14**	**251**	P		**P**		**15 24 19.9**	**+2.6**
RAR	**Rarotonga**	**24.46**	**55**	P		**P**		**15 24 20.5**	**+0.1**
	comp=Z,40nm,1.0s,baz=224,slow=2.4,SNR=3.8								
RAR				S		**S**		**15 28 41.5**	**+3.9**
	comp=Z,21nm,1.0s,baz=75,slow=13,SNR=1.0								
RAR				LR		LR		15 31 43.8	
	comp=Z,9µm,20.9s,baz=221,slow=31								
	comp=Z,40nm,1.0s								
RAR	**Rarotonga**	**24.46**	**55**	P		**P**		**15 24 20.7**	**+0.3**
AFI	**Afiamalu**	**24.64**	**22**	P		**P**		**15 24 21.0**	**-1.1**
	comp=Z,236nm,1.2s,baz=70,slow=11,SNR=8.8								
AFI				S		**S**		**15 28 41.9**	**+1.2**
	comp=Z,23nm,0.8s,baz=237,slow=22,SNR=1.9								
	comp=Z,236nm,1.2s								
AFI	**Afiamalu**	**24.64**	**22**	P		**P**		**15 24 20.2**	**-1.9**
AFI					IAmb	IAmb		15 24 31.0	
	comp=Z,561nm,1.0s								
AFI	**Afiamalu**	**24.64**	**22**	P		**P**		**15 24 24.2**	**+2.1**
TAU	**Tasmania Unive**	**24.69**	**247**	P		**P**		**15 24 21.6**	**-0.7**
TAU					IAmb	IAmb		15 24 25.9	
	comp=Z,334nm,1.2s								
TAU	**Tasmania Unive**	**24.69**	**247**		IAMs_20	IAMs_20		15 32 44.0	
	comp=Z,20µm,20.0s								
TAU	**Tasmania Unive**	**24.69**	**247**	P		**P**		**15 24 21.6**	**-0.7**
TAU					pmax	pmax			
	comp=Z,335nm,1.3s								
TAU					MLR	MLR			
	comp=Z,20µm,20.0s								
TAU	**Tasmania Unive**	**24.69**	**247**	P		**P**		**15 24 23.3**	**+1.1**
MOO	**Moorlands**	**24.77**	**248**	P		**P**		**15 24 24.0**	**+1.0**
	baz=25,SNR=14								
MOO	**Moorlands**	**24.77**	**248**	P		**P**		**15 24 23.7**	**+0.7**
CORO	**Coronation Par**	**24.79**	**250**	P		**P**		**15 24 25.4**	**+2.2**
	comp=Z,54nm,1.3s								
EIDS	**Eidsvold**	**26.36**	**289**	P		**P**		**15 24 39.4**	**+1.8**
	baz=26,SNR=16								
EIDS	**Eidsvold**	**26.36**	**289**	P		**P**		**15 24 36.0**	**-1.6**
EIDS					IAmb	IAmb		15 24 48.0	
	comp=Z,508nm,1.4s								
EIDS	**Eidsvold**	**26.36**	**289**	P		**P**		**15 24 39.5**	**+1.9**
TOO	**Toolangi**	**26.40**	**259**	P		**P**		**15 24 39.1**	**+1.2**
	baz=26,SNR=20								
TOO	**Toolangi**	**26.40**	**259**	P		**P**		**15 24 36.4**	**-1.5**
TOO					IAmb	IAmb		15 24 47.0	
	comp=Z,223nm,1.2s								
TOO	**Toolangi**	**26.40**	**259**	P		**P**		**15 24 36.4**	**-1.5**
TOO					pmax	pmax			
	comp=Z,223nm,1.3s								
TOO	**Toolangi**	**26.40**	**259**	P		**P**		**15 24 39.3**	**+1.4**
GEXS	**Deakin Univers**	**27.24**	**257**	P		**P**		**15 24 45.6**	**+0.2**
RMQ	**Roma**	**27.56**	**284**	P		**P**		**15 24 50.6**	**+2.2**
	baz=28,SNR=117								
RMQ	**Roma**	**27.56**	**284**	P		**P**		**15 24 51.8**	**+3.5**
BRAT	**Ballarat**	**27.63**	**258**	P		**P**		**15 24 50.0**	**+1.1**
CMSA	**Cobar Meteorol**	**27.82**	**272**	P		**P**		**15 24 51.6**	**+1.0**
	baz=28,SNR=122								
CMSA	**Cobar Meteorol**	**27.82**	**272**	P		**P**		**15 24 52.6**	**+2.0**
RK1H	**Rockhampton Ha**	**27.92**	**291**	P		**P**		**15 24 53.9**	**+2.3**
FUNA	**Funafuti**	**28.52**	**1**	P		**P**		**15 24 59.1**	**+2.2**
ARPS	**Mount Arapiles**	**29.42**	**259**	P		**P**		**15 25 06.3**	**+1.5**
	baz=29,SNR=15								
ARPS	**Mount Arapiles**	**29.42**	**259**	P		**P**		**15 25 05.8**	**+1.0**
TBI	**Tubuai**	**30.52**	**72**	*e*P		**P**		**15 25 14.2**	**-0.4**
	comp=Z,423nm,1.2s								
TBI					*e*S	**S**		**15 30 13.2**	**0.0**
	comp=Z,1µm,27.2s								
TBI					*e*LR	LR		15 33 04.3	
	comp=Z,23µm,27.0s								
TBI	**Tubuai**	**30.52**	**72**	*e*T		T		15 56 58.0	
	comp=Z,84nm,0.3s								
STKA	**Stephens Creek**	**30.97**	**269**	P		**P**		**15 25 19.4**	**+0.8**
	baz=31,SNR=77								
STKA	**Stephens Creek**	**30.97**	**269**	P		**P**		**15 25 19.3**	**+0.8**
	comp=Z,111nm,1.0s,baz=99,slow=10,SNR=81								
STKA					ScP	**ScP**		**15 31 52.2**	**-0.9**
	comp=Z,11nm,1.0s,baz=83,slow=5.1,SNR=4.1								
STKA					LR	LR		15 37 33.2	
	comp=Z,16µm,18.6s,baz=101,slow=36								
	comp=Z,111nm,1.0s								
STKA	**Stephens Creek**	**30.97**	**269**	P		**P**		**15 25 17.8**	**-0.8**
STKA					IAmb	IAmb		15 25 26.6	
	comp=Z,124nm,1.4s								
STKA	**Stephens Creek**	**30.97**	**269

WRA LR LR 15 44 01.2
comp=Z,13µm,21.8s,baz=112,slow=36
comp=Z,96nm,0.6s
WB0 Warramunga Arr 42.30 282 P **P** **15 26 53.7 -1.4**
WRKA Warakurna 44.44 271 P **P** **15 27 10.9 -1.4**
baz=44,SNR=60
WRKA Warakurna 44.44 271 P **P** **15 27 10.9 -1.4**
XMAS Kiritimati 44.82 35 P **P** **15 27 17.0 +1.7**
comp=Z,144nm,1.1s
PTCN Pitcairn Islan 44.89 90 IAMs_20 IAMs_20 15 40 52.4
comp=Z,9µm,21.0s
MANU Manus Island 45.38 313 P **P** **15 27 18.6 -1.2**
MANU IAmb IAmb 15 27 25.8
comp=Z,315nm,1.5s
TAOE Nuku Hiva Isla 46.58 63 *e*P **P** **15 27 28.0 -1.4**
comp=Z,657nm,28.7s
TAOE *e*S **S** **15 34 15.4 0.0**
TAOE comp=Z,1µm,24.8s *e*LR LR 15 40 31.0
comp=Z,16µm,27.3s
KMBL Kambalda 46.80 259 P P 15 27 24.0 -6.9
baz=47,SNR=32
KWAJ Kwajalein Atol 46.92 345 P **P** **15 27 34.9 +3.1**
comp=Z,458nm,1.3s
PATS Pohnpei 47.79 332 P **P** **15 27 37.9 -0.7**
baz=48,SNR=9.0
CASY Casey 47.95 210 P **P** **15 27 38.5 -0.7**
CASY IAmb IAmb 15 27 41.9
comp=Z,168nm,0.9s
CASY Casey 47.95 210 IAMs_20 IAMs_20 15 45 58.5
comp=Z,6µm,22.0s
KDU Kakadu 47.97 288 P **P** **15 27 39.1 -1.0**
baz=48,SNR=17
KDU Kakadu 47.97 288 P **P** **15 27 39.1 -1.0**
MTN Manton Dam 48.89 287 P **P** **15 27 46.1 -1.0**
baz=49,SNR=10
MTN Manton Dam 48.89 287 P **P** **15 27 45.7 -1.5**
MTN Manton Dam 48.89 287 P **P** **15 27 46.7 -0.5**
KNRA Kununurra 49.03 282 P **P** **15 27 47.8 -0.4**
baz=49,SNR=43
KNRA Kununurra 49.03 282 P **P** **15 27 47.0 -1.2**
KNRA Kununurra 49.03 282 P **P** **15 27 47.8 -0.4**
GENI Genyem 49.43 305 P **P** **15 27 50.8 -0.5**
comp=Z,4µmcomp=Z,4µmcomp=Z,325nm,1.5s
GENI Genyem 49.43 305 P **P** **15 27 51.2 -0.1**
comp=Z,326nm,1.5s
NWAO Narrogin (SRO) 49.81 256 P **P** **15 27 53.0 -1.1**
baz=50,SNR=5.8
NWAO P **P** **15 27 53.0 -1.1**
baz=50,SNR=5.8
NWAO Narrogin (SRO) 49.81 256 P **P** **15 27 52.7 -1.3**
NWAO IAmb IAmb 15 28 00.5
comp=Z,234nm,1.8s
NWAO Narrogin (SRO) 49.81 256 IAMs_20 IAMs_20 15 48 10.8
comp=Z,5µm,18.0s
NWAO Narrogin (SRO) 49.81 256 P **P** **15 27 52.7 -1.3**
NWAO pmax pmax
comp=Z,234nm,1.8s
NWAO Narrogin (SRO) 49.81 256 P **P** **15 27 53.1 -1.0**
KLBR Kellerberrin 49.94 257 P **P** **15 27 53.8 -1.3**
baz=50,SNR=45
KLBR Kellerberrin 49.94 257 P **P** **15 27 54.5 -0.6**
FITZ Fitzroy Crossi 50.12 277 P **P** **15 27 55.8 -0.7**
baz=50,SNR=166
FITZ Fitzroy Crossi 50.12 277 P **P** **15 27 56.4 -0.1**
comp=Z,151nm,0.8s,baz=131,slow=10,SNR=3.1
FITZ S **S** **15 35 03.0 -2.1**
comp=Z,5.9nm,0.9s,baz=29,slow=23,SNR=13
FITZ LR LR 15 49 04.8
comp=Z,5µm,18.9s,baz=122,slow=36
comp=Z,151nm,0.8s
FITZ Fitzroy Crossi 50.12 277 P **P** **15 27 55.3 -1.2**
FITZ Fitzroy Crossi 50.12 277 P **P** **15 27 56.2 -0.3**
SMPI Sarmi 50.84 304 P **P** **15 28 00.9 -1.1**
comp=Z,3µmcomp=Z,1µmcomp=Z,89nm,1.5s
MUN Mundaring 50.99 256 P **P** **15 28 02.2 -0.7**
baz=51,SNR=22
MUN Mundaring 50.99 256 P **P** **15 28 02.5 -0.4**
BLDU Ballidu 51.16 258 P **P** **15 28 03.1 -1.2**
baz=51,SNR=30
BLDU Ballidu 51.16 258 P **P** **15 28 03.0 -1.2**
MTKN Mount Kenneth 51.34 256 P **P** **15 28 06.1 +0.5**
H01W1 Cape Leeuwin H 51.41 252 P **P** **15 28 06.2 +0.4**
baz=122,slow=10,SNR=5.1
MEEK Meekatharra 51.41 263 P **P** **15 28 04.6 -1.6**
baz=51,SNR=50
MEEK Meekatharra 51.41 263 P **P** **15 28 04.6 -1.6**
H01W2 Cape Leeuwin H 51.42 252 P **P** **15 28 06.2 +0.3**
baz=122,slow=10,SNR=5.1
H01W3 Cape Leeuwin H 51.43 252 P **P** **15 28 07.9 +2.0**
baz=122,slow=10,SNR=4.1
SAUI Saumlaki 51.87 292 P **P** **15 28 08.8 -0.9**
comp=Z,807nm,1.2s
SAUI Saumlaki 51.87 292 P **P** **15 28 10.0 +0.3**
MORW Morawa 52.35 259 P **P** **15 28 11.9 -1.3**
baz=52,SNR=29
MORW Morawa 52.35 259 P **P** **15 28 11.4 -1.8**
MORW IAmb IAmb 15 28 19.0
comp=Z,172nm,1.1s
MORW Morawa 52.35 259 P **P** **15 28 12.3 -0.9**
SRPI Serui, Papua 52.59 302 P **P** **15 28 15.4 +0.4**
comp=Z,2µmcomp=Z,3µmcomp=Z,192nm,1.2s
PSA00 Pilbara Seismi 52.89 270 P **P** **15 28 15.0 -2.3**
PSA00 Pilbara Seismi 52.89 270 P **P** **15 28 14.9 -2.3**
PSA00 IAmb IAmb 15 28 23.6
comp=Z,186nm,1.1s
PSA00 Pilbara Seismi 52.89 270 P **P** **15 28 15.8 -1.5**
QSPA South Pole Qui 52.95 180 P **P** **15 28 20.1 +2.8**
comp=Z,92nm,0.8s,baz=18,slow=1.7,SNR=56
QSPA LR LR 15 47 30.3
comp=Z,8µm,20.7s,baz=40,slow=32
comp=Z,92nm,0.8s
QSPA South Pole Qui 52.95 180 IAMs_20 IAMs_20 15 47 28.7
comp=Z,7µm,20.0s
BAKI Biak 53.18 302 P **P** **15 28 20.1 +0.7**
comp=Z,6µmcomp=Z,486nm,1.4s
MBWA Marble Bar 53.20 270 P **P** **15 28 17.5 -2.0**
MBWA IAmb IAmb 15 28 25.1
comp=Z,261nm,1.1s
MBWA Marble Bar 53.20 270 IAMs_20 IAMs_20 15 50 10.7
comp=Z,8µm,20.0s
MBWA Marble Bar 53.20 270 P **P** **15 28 18.2 -1.3**
FAKI Fak Fak 54.62 297 P **P** **15 28 27.1 -2.8**
FAKI IAmb IAmb 15 28 35.0
comp=Z,215nm,1.2s
FAKI Fak Fak 54.62 297 P **P** **15 28 28.7 -1.2**
comp=Z,4µmcomp=Z,2µmcomp=Z,153nm,1.1s
FAKI Fak Fak 54.62 297 P **P** **15 28 28.3 -1.6**
BNDI Bandanaira 55.21 294 P **P** **15 28 33.5 -0.7**
comp=Z,689nm,1.2s
BNDI Bandanaira 55.21 294 P **P** **15 28 37.0 +2.8**
BATI Baumata 56.27 284 LR LR 15 52 52.9
comp=Z,17µm,21.6s,baz=138,slow=36
BATI Baumata 56.27 284 P **P** **15 28 42.9 +1.1**
comp=Z,2µmcomp=Z,223nm,1.4s
MSAI Masohi 56.72 294 P **P** **15 28 45.4 +0.4**
comp=Z,327nmcomp=Z,34nm,0.9s
SIJI Sorong 56.75 298 P **P** **15 28 44.4 -0.9**
comp=Z,86nm,0.9s,baz=102,slow=3.7,SNR=39
SIJI LR LR 15 53 20.0
comp=Z,4µm,21.3s,baz=123,slow=36
comp=Z,86nm,0.9s
SWI Sorong 56.76 298 P **P** **15 28 45.5 +0.2**
comp=Z,3µmcomp=Z,6µmcomp=Z,669nm,1.3s
GIRL Giralia 56.83 265 P **P** **15 28 45.9 +0.2**
baz=57,SNR=11
GIRL Giralia 56.83 265 P **P** **15 28 44.9 -0.8**
GIRL Giralia 56.83 265 P **P** **15 28 46.1 +0.4**
AAI Ambon 57.02 293 P **P** **15 28 46.7 -0.4**
comp=Z,2µmcomp=Z,124nm,1.2s
WAKE Wake Island 57.31 346 P **P** **15 28 51.8 +2.9**
comp=Z,182nm,1.2s
NLAI Namlea 58.13 293 P **P** **15 28 53.7 -1.2**
comp=Z,6µmcomp=Z,154nm,1.3s
MMRI Maumere 58.34 284 P **P** **15 28 55.2 -1.2**
MMRI Maumere 58.34 284 P **P** **15 28 56.6 +0.2**
comp=Z,4µmcomp=Z,9µmcomp=Z,956nm,1.2s
MMRI Maumere 58.34 284 P **P** **15 28 56.8 +0.4**
BASI Baing, Sumba 58.66 282 P **P** **15 28 59.4 +0.7**
comp=Z,3µmcomp=Z,8µmcomp=Z,800nm,1.3s
EDFI Ende, Flores 58.69 284 P **P** **15 28 58.1 -0.9**
comp=Z,2µmcomp=Z,2µmcomp=Z,169nm,1.5s
LBMI Labuha 59.60 295 P **P** **15 29 06.1 +1.0**
comp=Z,2µmcomp=Z,3µmcomp=Z,260nm,1.3s
GUMO Guam 59.74 321 LR LR 15 51 41.9
comp=Z,1µm,21.9s,baz=153,slow=33
SANI Sanana 59.75 293 P **P** **15 29 05.1 -1.0**
comp=Z,3µmcomp=Z,3µmcomp=Z,408nm,1.2s
SANI Sanana 59.75 293 P **P** **15 29 04.6 -1.5**
WBSI Waikabubak, Su 59.94 281 P **P** **15 29 06.7 -0.9**
comp=Z,4µmcomp=Z,392nm,1.3s
BBSI Bau Bau 60.06 287 P **P** **15 29 09.5 +1.2**
comp=Z,185nmcomp=Z,15nm,1.1s
TNTI Ternate 60.67 296 P **P** **15 29 10.2 -2.2**
TNTI Ternate 60.67 296 P **P** **15 29 11.1 -1.3**
comp=Z,2µmcomp=Z,2µmcomp=Z,132nm,1.8s
TNTI Ternate 60.67 296 P **P** **15 29 16.0 +3.6**
BSSI Bau Bau, Buton 61.24 285 P **P** **15 29 17.8 +1.4**
comp=Z,108nm,1.2s
KHLU Kahalu`u 61.29 27 P **P** **15 29 14.9 -1.6**
POHA Pohakuloa 61.58 28 IAMs_20 IAMs_20 15 51 13.2
comp=Z,4µm,21.0s
POHA Pohakuloa 61.58 28 P **P** **15 29 20.6 +1.9**
comp=Z,261nm,1.3s
PLAI Plampang 61.70 281 P **P** **15 29 19.4 0.0**
comp=Z,3µmcomp=Z,308nm,1.2s
PLAI Plampang 61.70 281 P **P** **15 29 20.0 +0.6**
BKSI Bulukumba 62.04 286 P **P** **15 29 20.6 -1.1**
comp=Z,3µmcomp=Z,2µmcomp=Z,126nm,1.3s
KEKH Kekaha 62.23 23 P **P** **15 29 21.2 -1.5**
KIP Kipapa 62.24 24 P **P** **15 29 20.7 -2.1**
KIP Kipapa 62.24 24 *ce*P **P** **15 29 22.6 -0.2**
KIP pmax pmax
comp=Z,175nm,1.1s
KIP Kipapa 62.24 24 P **P** **15 29 24.4 +1.6**
comp=Z,256nm,1.2s
TWSI Taliwang, Sumb 62.45 280 P **P** **15 29 23.2 -1.3**
comp=Z,3µmcomp=Z,292nm,1.2s
KAPI Kappang 62.52 286 LR LR 15 57 37.7
comp=Z,4µm,18.9s,baz=134,slow=37
KAPI Kappang 62.52 286 P **P** **15 29 24.0 -1.0**
KAPI IAmb IAmb 15 29 34.2
comp=Z,152nm,1.1s
KAPI Kappang 62.52 286 IAMs_20 IAMs_20 15 57 36.1
comp=Z,4µm,19.0s
KAPI Kappang 62.52 286 *i*P **P** **15 29 24.6 -0.3**
KAPI pmax pmax
comp=Z,174nm,1.7s
KAPI MLR MLR
comp=Z,4µm,17.0s
KAPI Kappang 62.52 286 P **P** **15 29 26.2 +1.3**
comp=Z,130nm,1.2s
LUWI Luwuk 62.80 291 P **P** **15 29 25.8 -1.0**
LUWI IAMs_20 IAMs_20 15 57 59.7
comp=Z,3µm,19.0s
LUWI Luwuk 62.80 291 P **P** **15 29 27.3 +0.5**
comp=Z,4µmcomp=Z,6µmcomp=Z,324nm,1.3s
LUWI Luwuk 62.80 291 P **P** **15 29 28.0 +1.2**
KMSI Cibinong 62.99 293 P **P** **15 29 29.2 +1.2**
comp=Z,232nm,1.0s
SPSI Sidrap Palu 63.17 287 P **P** **15 29 28.9 -0.4**
comp=Z,2µmcomp=Z,167nm,1.2s
BELA Belgrano 2 63.44 173 P **P** **15 29 29.8 -0.4**
BELA IAmb IAmb 15 29 49.8
comp=Z,113nm,1.0s
TTSI Tana Toraja 63.72 287 P **P** **15 29 32.4 -0.5**
comp=Z,2µmcomp=Z,157nm,1.2s
APSI Ampana 63.73 290 P **P** **15 29 33.0 +0.1**
comp=Z,2µmcomp=Z,3µmcomp=Z,307nm,1.4s
DNP Denpasar 63.81 279 P **P** **15 29 34.9 +1.4**
comp=Z,21µmcomp=Z,921nm,1.4s
SGSI Sangihe 64.01 297 P **P** **15 29 36.2 +1.4**
comp=Z,2µmcomp=Z,126nm,1.2s
SRBI Singaraja 64.16 280 P **P** **15 29 35.2 -0.6**
comp=Z,4µmcomp=Z,514nm,1.1s
JAGI Jajag, Banyuwa 64.77 279 P **P** **15 29 37.7 -2.1**
JAGI Jajag, Banyuwa 64.77 279 P **P** **15 29 38.7 -1.1**
comp=Z,4µmcomp=Z,374nm,1.3s
JAGI Jajag, Banyuwa 64.77 279 P **P** **15 29 39.9 +0.1**
comp=Z,374nm,1.4s
MAW Mawson 65.05 202 P **P** **15 29 42.5 +1.7**
baz=65,SNR=12
MAW Mawson 65.05 202 P **P** **15 29 42.4 +1.6**
comp=Z,27nm,0.9s,baz=126,slow=10,SNR=21
comp=Z,27nm,0.9s
MAW Mawson 65.05 202 P **P** **15 29 40.5 -0.3**
MAW Mawson 65.05 202 P **P** **15 29 40.5 -0.3**
MAW pmax pmax
comp=Z,20nm,1.1s
ABJI Asem Bagus 65.11 279 P **P** **15 29 40.9 -1.1**
comp=Z,308nm,1.2s
GMJI Gumukmas 65.44 278 P **P** **15 29 43.1 -1.1**
comp=Z,4µmcomp=Z,471nm,1.1s
BLJI Banyuglugur 65.64 279 P **P** **15 29 45.0 -0.4**
comp=Z,242nm,1.3s
TOLI2 Tolitoli 65.71 291 P **P** **15 29 44.6 -1.2**
TOLI2 IAmb IAmb 15 29 52.7
comp=Z,95nm,1.0s
TOLI2 Tolitoli 65.71 291 P **P** **15 29 45.5 -0.4**
KMMI Kalianget 65.77 280 P **P** **15 29 46.6 +0.4**
comp=Z,4µmcomp=Z,370nm,1.2s
MPSI Mapaga 65.86 290 P **P** **15 29 46.0 -0.8**
comp=Z,3µmcomp=Z,1µmcomp=Z,131nm,1.1s
DAV Davao City (W) 66.36 300 LR LR 16 00 38.1
comp=Z,809nm,19.3s,baz=138,slow=38
DAV Davao City (W) 66.36 300 P **P** **15 29 48.9 -1.1**
DAV Davao City (W) 66.36 300 P **P** **15 29 51.7 +1.7**
comp=Z,1µm,1.3s
PWJI Pagerwojo 66.89 278 P **P** **15 29 53.3 -0.1**
comp=Z,4µmcomp=Z,490nm,1.1s
BKB Balikpapan 67.10 287 IAMs_20 IAMs_20 16 00 12.9
comp=Z,4µm,20.0s
BKB Balikpapan 67.10 287 P **P** **15 29 56.1 +1.4**
comp=Z,5µmcomp=Z,5µmcomp=Z,389nm,1.4s
BKB Balikpapan 67.10 287 P **P** **15 29 56.9 +2.2**
PMSA Palmer Station 67.21 156 LR LR 15 53 48.4
comp=Z,5µm,20.7s,baz=229,slow=31
PMSA Palmer Station 67.21 156 *e*P **P** **15 29 55.5 +0.9**
PCJI Pacitan 67.28 277 P **P** **15 29 56.1 +0.2**
comp=Z,12µmcomp=Z,1µm,1.2s
BBKI Banjar Baru 67.29 284 P **P** **15 29 56.4 +0.4**
comp=Z,4µmcomp=Z,301nm,1.2s
NGJI Ngawi 67.55 278 P **P** **15 29 59.0 +1.4**
comp=Z,340nm,1.1s
UGM Wanagama 67.97 277 P **P** **15 29 58.9 -1.4**
UGM Wanagama 67.97 277 P **P** **15 29 59.6 -0.7**
comp=Z,451nm,1.2s
UGM Wanagama 67.97 277 P **P** **15 30 00.9 +0.6**
YOGI Yogyakarta 68.21 277 P **P** **15 30 03.1 +1.3**
comp=Z,332nm,1.2s
SMRI Semarang 68.55 278 IAMs_20 IAMs_20 16 01 04.7
comp=Z,5µm,20.0s
SMRI Semarang 68.55 278 P **P** **15 30 03.7 -0.2**
comp=Z,315nm,1.0s
SMRI Semarang 68.55 278 P **P** **15 30 04.8 +0.9**
MTKI Ina Teweh, K 68.83 286 P **P** **15 30 05.9 +0.2**
comp=Z,2µmcomp=Z,2µmcomp=Z,60nm,0.9s
MYLDM Lahad Datu 70.11 293 P **P** **15 30 12.9 -0.7**
MYLDM IAMs_20 IAMs_20 16 04 13.7
comp=Z,3µm,19.0s
PBKI Pangkalan Bun 70.23 282 P **P** **15 30 14.8 +0.5**
comp=Z,359nm,1.3s
XMIS Christmas Isla 70.34 272 P **P** **15 30 13.2 -1.8**
XMIS Christmas Isla 70.34 272 P **P** **15 30 16.4 +1.4**
LEM Lembang 70.92 276 P **P** **15 30 18.0 -0.7**
comp=Z,2µmcomp=Z,192nm,1.1s
CNJI Cibinong 71.03 275 P **P** **15 30 18.6 -0.5**
comp=Z,10µmcomp=Z,1µm,1.1s
TROLL Troll, Antarti 71.09 181 P **P** **15 30 19.7 +0.9**
SNAA Sanae 71.45 179 P **P** **15 30 21.6 +0.7**
SNAA Sanae 71.45 179 P **P** **15 30 21.9 +1.0**
comp=Z,18nm,1.0s,baz=194,slow=6.3,SNR=18
comp=Z,18nm,1.0s
SNAA Sanae 71.45 179 P **P** **15 30 20.5 -0.4**
SNAA IAmb IAmb 15 30 39.4
comp=Z,120nm,1.1s
SNAA IAMs_20 IAMs_20 15 59 01.4
comp=Z,4µm,20.0s
SNAA Sanae 71.45 179 *ce*P **P** **15 30 21.7 +0.8**
SNAA pmax pmax
comp=Z,59nm,1.8s
SNAA MLR MLR
comp=Z,3µm,17.0s
SKJI Sukabumi 71.66 275 P **P** **15 30 22.7 -0.3**
comp=Z,2µmcomp=Z,286nm,1.1s
VNA3 Neumayer Olymp 71.72 177 P **P** **15 30 23.3 +0.8**
DBJI Dramaga 71.78 276 P **P** **15 30 23.7 0.0**
comp=Z,7µmcomp=Z,732nm,1.1s
MG05 Puerto Natales 71.86 142 P **P** **15 30 22.3 -1.2**
MG05 IAmb IAmb 15 30 53.8
comp=Z,125nm,1.4s
NVL N'lazarevskaya 71.96 185 ⇓ *i*P **P** **15 30 24.1 +0.3**
NVL pmax pmax
comp=Z,37nm,0.9s
TNG Tangerang 72.09 276 P **P** **15 30 25.1 -0.4**
comp=Z,601nm,1.2s
STKI Sintang 72.11 284 P **P** **15 30 26.2 +0.5**
comp=Z,78nm,1.4s
VNA2 Neumayer--Watz 72.11 178 P **P** **15 30 26.2 +1.3**
baz=178,slow=6.0
VNA1 Neumayer--Stat 72.36 178 P **P** **15 30 27.4 +1.2**
KKM Kota Kinabalu 72.38 292 P **P** **15 30 25.7 -1.7**
KKM IAmb IAmb 15 30 33.6
comp=Z,153nm,1.1s
KKM Kota Kinabalu 72.38 292 P **P** **15 30 26.6 -0.7**
SBJI Serang 72.53 276 P **P** **15 30 27.6 -0.6**
comp=Z,6µmcomp=Z,459nm,1.2s
JCJ Chichijima 72.61 326 P **P** **15 30 25.9 -2.3**
comp=Z,64nm,0.7s,baz=190,slow=3.4,SNR=5.9
JCJ LR LR 15 57 06.0
comp=Z,868nm,21.8s,baz=169,slow=32
comp=Z,64nm,0.7s
JCJ Chichijima 72.61 326 P **P** **15 30 27.2 -1.0**
SBUM Sibu 73.05 287 P **P** **15 30 29.7 -1.5**
SBUM IAmb IAmb 15 30 38.6
comp=Z,137nm,1.3s
SBUM IAMs_20 IAMs_20 16 05 36.3
comp=Z,4µm,20.0s
TPI Tanjungpandan 73.35 279 P **P** **15 30 32.5 -0.5**
comp=Z,870nmcomp=Z,94nm,1.2s
BLSI Bandar Lampung 73.68 276 P **P** **15 30 35.9 +0.9**
comp=Z,3µmcomp=Z,316nm,1.1s
KASI Kota Agung 74.18 275 P **P** **15 30 38.6 +0.7**
comp=Z,219nm,1.2s
KLI Kotabumi 74.29 276 P **P** **15 30 39.2 +0.7**
comp=Z,517nm,1.1s
LWLI Liwa 74.83 275 P **P** **15 30 41.4 -0.4**
comp=Z,3µmcomp=Z,337nm,1.1s
PPBI Pangkal Pinang 74.91 279 P **P** **15 30 40.9 -1.2**
comp=Z,18µmcomp=Z,247nm,1.2s
MNAI Manna 76.10 275 IAMs_20 IAMs_20 16 07 45.8
comp=Z,3µm,19.0s
COCO West Island 76.39 265 IAMs_20 IAMs_20 16 03 48.1
comp=Z,4µm,18.0s
KSI Kapahiang 76.82 275 P **P** **15 30 52.2 -0.9**
comp=Z,342nm,1.0s
DSRI Dabo 77.17 279 P **P** **15 30 54.6 -0.4**
comp=Z,70nm,1.1s
MASI Maura Aman, Be 77.41 276 P **P** **15 30 56.8 +0.4**
comp=Z,8µmcomp=Z,819nm,1.1s
EFI East Falkland 78.53 148 IAMs_20 IAMs_20 16 03 53.2
comp=Z,3µm,18.0s
EFI East Falkland 78.53 148 *ce*P **P** **15 31 03.2 +1.3**
EFI pmax pmax
comp=Z,95nm,0.9s
KRJI Kerinci 78.66 276 P **P** **15 31 02.5 -0.9**
comp=Z,8µmcomp=Z,1µm,1.1s
JHJ Hachijo jima 2 78.84 327 LR LR 16 05 19.3
comp=Z,614nm,18.2s,baz=155,slow=35
H03S2 Juan Fernandez 78.92 124 T T 16 57 48.4
baz=232,SNR=69
H03S1 Juan Fernandez 78.93 124 T T 16 57 48.4
baz=232,SNR=86
H03S3 Juan Fernandez 78.94 124 T T 16 57 47.3
baz=232,SNR=96
MYKOM Kota Tinggi 79.13 281 P **P** **15 31 03.6 -2.2**
MYKOM IAmb IAmb 15 31 12.6
comp=Z,112nm,1.3s
H03N3 Juan Fernandez 79.15 124 T T 16 57 47.9
baz=236,slow=72,SNR=281
H03N2 Juan Fernandez 79.16 124 T T 16 57 42.3
baz=236,slow=72,SNR=103
H03N1 Juan Fernandez 79.17 124 T T 16 57 56.7
baz=236,slow=72,SNR=321
PPSI Pulau Pagai 79.41 275 P **P** **15 31 07.5 +0.1**
comp=Z,375nm,1.1s
PLCA Paso Flores 79.80 134 P **P** **15 31 11.1 +1.8**
comp=Z,23nm,0.8s,baz=229,slow=6.0,SNR=41
comp=Z,23nm,0.8s
PLCA Paso Flores 79.80 134 P **P** **15 31 07.9 -1.3**
PLCA Paso Flores 79.80 134 *e*P **P** **15 31 10.2 +0.9**
BKNI Bangkinang 80.45 278 P **P** **15 31 14.2 +1.2**
comp=Z,2µmcomp=Z,262nm,1.1s
YOJ Yonaguni jima 80.71 310 P **P** **15 31 16.6 +2.6**
TWG Pinlang 80.71 308 P **P** **15 31 12.3 -1.8**
TWG IAmb IAmb 15 31 27.0
comp=Z,66nm,0.8s
YULB Yu-li 80.98 308 P **P** **15 31 13.2 -2.4**
YULB IAmb IAmb 15 31 30.2
comp=Z,61nm,0.9s
YULB IAMs_20 IAMs_20 16 01 29.3
comp=Z,3µm,20.0s
SISI Saibi 81.00 275 P **P** **15 31 16.4 +0.4**
comp=Z,64nm,1.3s
TPUB Ta-pu 81.34 308 IAMs_20 IAMs_20 16 01 11.6
comp=Z,3µm,22.0s
TPUB Ta-pu 81.34 308 P **P** **15 31 19.2 +1.7**
NACB Ninganchiao 81.37 309 P **P** **15 31 15.8 -1.8**
NACB IAmb IAmb 15 31 22.4
comp=Z,116nm,1.2s
NACB IAMs_20 IAMs_20 16 01 31.5
comp=Z,3µm,21.0s
SSLB Suanglung 81.49 308 IAMs_20 IAMs_20 16 01 12.6
comp=Z,4µm,22.0s
SSLB Suanglung 81.49 308 P **P** **15 31 17.1 -1.2**
YHNB Yeheng 81.86 309 IAMs_20 IAMs_20 16 01 47.7
comp=Z,3µm,22.0s
YHNB Yeheng 81.86 309 P **P** **15 31 22.3 +2.0**
MNSI Mandailing Nat 81.89 277 P **P** **15 31 19.6 -1.1**
comp=Z,115nm,1.1s
JSU Suzuyama 81.92 320 P **P** **15 31 18.4 -2.0**
JSU IAmb IAmb 15 31 21.5
comp=Z,194nm,2.0s
INU Inuyama 81.93 327 P **P** **15 31 17.7 -2.6**
INU IAmb IAmb 15 31 26.9
comp=Z,100nm,1.3s
INU Inuyama 81.93 327 P **P** **15 31 19.3 -1.0**
DLV T Lat 81.98 291 P **P** **15 31 21.4 +0.1**
TATO Taipei 82.02 310 IAMs_20 IAMs_20 16 02 04.6
comp=Z,3µm,22.0s
MJAR Matsushiro Arr 82.43 328 P **P** **15 31 20.7 -2.2**
comp=Z,15nm,1.2s,baz=167,slow=5.1,SNR=16
MJAR LR LR 16 06 04.3
comp=Z,423nm,19.8s,baz=150,slow=34
comp=Z,15nm,1.2s
MAJO Matsushiro 82.43 328 P **P** **15 31 21.5 -1.4**
MAJO Matsushiro 82.43 328 *i*P **P** **15 31 21.6 -1.3**
MAJO pmax pmax
comp=Z,59nm,1.2s
MAJO MLR MLR
comp=Z,947nm,20.0s
MAJO Matsushiro 82.43 328 P **P** **15 31 21.7 -1.2**
GO05 Huala 82.69 129 *i*P **P** **15 31 25.8 +1.2**
IPM Ipoh 83.00 281 P **P** **15 31 24.2 -2.3**
IPM IAmb IAmb 15 31 32.1
comp=Z,96nm,1.1s
IPM Ipoh 83.00 281 P **P** **15 31 25.5 -1.0**
JSD Sado 83.68 329 P **P** **15 31 27.5 -1.7**
JSD IAmb IAmb 15 31 35.4
comp=Z,110nm,1.3s
GSI Gunungsitoli 83.79 276 P **P** **15 31 28.9 -1.7**
GSI Gunungsitoli 83.79 276 P **P** **15 31 29.4 -1.1**
comp=Z,414nm,1.0s
GSI Gunungsitoli 83.79 276 P **P** **15 31 30.8 +0.3**
KULM Kulim 83.79 281 P **P** **15 31 28.8 -1.7**
KULM IAmb IAmb 15 31 36.9
comp=Z,109nm,1.1s
KULM IAMs_20 IAMs_20 16 11 09.8
comp=Z,3µm,20.0s
QZH Quanzhou 83.81 308 ⇑ *i*P **P** **15 31 30.1 -0.1**
QZH S **S** **15 41 49.3 -0.9**
QZH pmax pmax
comp=Z,45nm,1.0s
QZH pmax pmax
comp=Z,470nm,3.9s
QZH LR LR
comp=Z,1µm,18.4s
QZH LR LR
comp=Z,580nm,21.3s
QZH LR LR
comp=Z,1µm,17.4s
CRZF Crozet Islands 84.12 214 IAMs_20 IAMs_20 16 02 15.0
comp=Z,3µm,22.0s
MT02 Curacav 84.33 128 P **P** **15 31 31.9 -1.1**
MT02 IAmb IAmb 15 31 35.9
comp=Z,51nm,1.3s
TSI Tuntungan 84.34 279 P **P** **15 31 32.0 -1.3**
comp=Z,187nm,1.1s
MT05 Renca 84.49 128 P **P** **15 31 35.0 +1.0**
ROC1 El Roble 84.59 128 P **P** **15 31 34.9 +0.2**
ROC1 IAmb IAmb 15 32 10.5

comp=Z,36nm,1.0s
ROC1 El Roble 84.59 128 *i* P **P** **15 31 35.8 +1.1**
PEL Peldehue 84.69 128 IAMs_20 IAMs_20 16 00 21.1
comp=Z,3μm,20.0s
PEL Peldehue 84.69 128 *i* P **P** **15 31 35.9 +0.9**
KCSI Kotacane, Aceh 84.98 278 P **P** **15 31 36.4 -0.1**
comp=Z,61nm,1.1s
RFA San Rafael 84.98 130 *i* P **P** **15 31 38.2 +1.8**
QIZ Qiongzhong 85.62 298 P **P** **15 31 38.9 +0.2**
QIZ PP **PP** **15 34 58.6 -0.5**
QIZ SKS **SKSac** **15 41 57.4 -4.2**
QIZ S **SKKSac** **15 42 11.8 +3.2**
QIZ pmax pmax
comp=Z,33nm,1.3s
QIZ LR LR
comp=Z,550nm,25.5s
QIZ LR LR
comp=Z,760nm,25.5s
QIZ LR LR
comp=Z,2μm,26.3s
QIZ Qiongzhong 85.62 298 P **P** **15 31 40.1 +0.5**
AAGR Agrelo 85.89 129 *i* P **P** **15 31 43.0 +2.0**
ARCO CERRO ARCO 85.99 129 *i* P **P** **15 31 43.4 +1.8**
ASAL Salagasta 86.22 129 *i* P **P** **15 31 43.2 +0.6**
RTLS Leoncito 86.46 128 *i* P **P** **15 31 45.9 +1.9**
TRQA Tornquist 86.47 136 P **P** **15 31 41.5 -2.2**
TRQA IAMs_20 IAMs_20 16 01 55.7
comp=Z,3μm,22.0s
TRQA Tornquist 86.47 136 P **P** **15 31 41.5 -2.2**
TRQA pmax pmax
comp=Z,36nm,1.2s
GO04 Tololo Observa 86.57 126 P **P** **15 31 42.3 -2.3**
GO04 IAmb IAmb 15 31 46.0
comp=Z,44nm,1.0s
NAWB Namwon 86.57 320 P **P** **15 31 42.7 -1.1**
NAWB IAmb IAmb 15 31 51.8
comp=Z,52nm,1.1s
SRIT Nakonsritamara 86.64 283 P **P** **15 31 43.2 -1.5**
SRIT IAmb IAmb 15 31 51.6
comp=Z,60nm,0.9s
SSE Sheshan 86.69 313 P **P** **15 31 44.3 -0.2**
SSE pmax pmax
comp=Z,40nm,0.8s
SSE pmax pmax
comp=Z,150nm,4.4s
SSE LR LR
comp=Z,340nm,19.8s
SSE LR LR
comp=Z,440nm,19.6s
TJN Taejon 87.33 321 *ce* P **P** **15 31 47.5 0.0**
TJN Taejon 87.33 321 P **P** **15 31 49.0 +1.5**
comp=Z,203nm,1.2s
ACCO Cerro Coronel 87.41 127 *i* P **P** **15 31 50.3 +1.5**
KSCHJ Chungju 87.41 322 P **P** **15 31 46.8 -1.1**
KSCHJ IAmb IAmb 15 32 32.1
comp=Z,63nm,1.4s
AROD Rodeo 87.43 126 *i* P **P** **15 31 50.6 +1.7**
ACDV Cuesta del Vie 87.66 127 *i* P **P** **15 31 51.5 +1.8**
KSRS Korea Array 87.89 322 P **P** **15 31 50.5 +0.3**
comp=Z,12nm,0.9s,baz=141,slow=5.2,SNR=36
KSRS PP **PP** **15 35 18.7 +1.5**
comp=Z,12nm,1.2s,baz=149,slow=8.1,SNR=6.9
KSRS LR LR 16 09 37.5
comp=Z,505nm,18.7s,baz=140,slow=35
comp=Z,12nm,0.9s
KSAR Wonju Array Be 87.90 322 P **P** **15 31 49.5 -0.7**
KSAR Wonju Array Be 87.90 322 P **P** **15 31 49.5 -0.7**
AMKA Amchitka 88.18 0 P **P** **15 31 51.0 -0.2**
MRA San Martin 88.26 130 *i* P **P** **15 31 52.9 +0.4**
AVFE Valle Fertil 88.39 128 *i* P **P** **15 31 54.5 +1.4**
ACHE Chepes 88.54 129 *i* P **P** **15 31 54.2 +0.3**
INCN Inchon 88.56 321 P **P** **15 31 55.7 +2.3**
NJ2 Nanjing 88.74 313 ⇑*i* P **P** **15 31 53.8 -0.5**
NJ2 SKS **SKSac** **15 42 19.0 -1.0**
NJ2 S **SKKSac** **15 42 31.8 +0.4**
NJ2 sS **pS** **15 42 51.2 -2.5**
NJ2 pmax pmax
comp=Z,30nm,1.8s
NJ2 pmax pmax
comp=Z,440nm,4.3s
NJ2 LR LR
comp=Z,1μm,23.7s
NJ2 LR LR
comp=Z,860nm,20.8s
NJ2 LR LR
comp=Z,2μm,23.4s
ADK Adak 88.77 3 P **P** **15 31 52.5 -1.4**
ADK Adak 88.77 3 IAMs_20 IAMs_20 16 04 01.9
comp=Z,2μm,22.0s
ADK Adak 88.77 3 P **P** **15 31 52.5 -1.4**
ADK pmax pmax
comp=Z,169nm,1.1s
ADK Adak 88.77 3 P **P** **15 31 55.1 +1.2**
APLL PUNTA DE LOS L 89.15 128 *i* P **P** **15 31 57.5 +0.9**
VCA Vinchina 89.21 126 *i* P **P** **15 31 58.7 +1.6**
HJU Haeju 89.45 321 P **P** **15 31 56.8 -0.7**
HJU pP sP 15 32 31.5 +17
HJU S **SKSac** **15 42 19.3 -4.6**
HJU AmB
comp=Z,134nm,1.2s
HJU AMS AMS
comp=N,76nm,5.9s
HJU AMS AMS
comp=E,42nm,3.3s
HJU AMS AMS
comp=Z,25nm,2.0s
ACLC CERRO LA CRUZ 89.55 127 *i* P **P** **15 31 59.1 +0.4**
SHEM Shemya Is, Ala 89.62 357 P **P** **15 31 58.1 +0.2**
comp=Z,68nm,1.0s,baz=259,slow=10.0,SNR=2.1
SHEM LR LR 16 06 22.0
comp=Z,2μm,21.8s,baz=138,slow=32
comp=Z,68nm,1.0s
TCA Tanti 89.69 130 *i* P **P** **15 31 59.7 +0.4**
SKR Severo-Kuril's 89.73 346 *e* P P 15 32 03.3 +4.8
SKR pmax pmax
comp=Z,172nm,1.2s
SKR MLR MLR
comp=Z,600nm,19.0s
YSS Yuzh-Sakhalins 89.77 336 P **P** **15 31 57.7 -1.0**
YSS IAmb IAmb 15 32 06.5
comp=Z,60nm,1.2s
YSS IAMs_20 IAMs_20 16 05 44.0
comp=Z,2μm,22.0s
YSS Yuzh-Sakhalins 89.77 336 *c* *i* P **P** **15 31 58.1 -0.6**
YSS *e**SP **sP** **15 32 16.1 +0.3**
YSS *e* 15 42 24.0
YSS *e*S **S** **15 42 46.0 -0.9**
YSS *e*PS **PnS** **15 43 49.0 -9.4**
YSS *e*SS **SS** **15 48 41.9 -3.7**
YSS pmax pmax
comp=Z,300nm,3.1s
YSS pmax pmax
comp=Z,40nm,1.3s
YSS pmax pmax
comp=E,20nm,1.1s
YSS smax smax
comp=N,600nm,5.5s
YSS MLR MLR
comp=N,400nm,22.0s
YSS MLR MLR
comp=Z,800nm,22.0s
YSS Yuzh-Sakhalins 89.77 336 P **P** **15 32 01.9 +3.2**
comp=Z,44nm,1.3s
HHU Hamhung 90.02 323 P **P** **15 31 59.5 -0.5**
PYAG Pyongyang 90.21 322 P **P** **15 32 00.8 -0.1**
SLBS Sierra La Lagu 90.28 60 IAMs_20 IAMs_20 16 04 24.1
comp=Z,3μm,19.0s
PAYG Puerto Ayora 90.32 91 IAMs_20 IAMs_20 16 03 05.2
comp=Z,3μm,21.0s
WHN Wuhan 90.40 309 ⇑P **P** **15 32 03.0 +0.9**
WHN SKS **SKSac** **15 42 32.1 +2.3**
WHN S **S** **15 42 54.2 +0.6**
WHN pmax pmax
comp=Z,44nm,0.8s
WHN LR LR
comp=Z,2μm,18.5s
WHN LR LR
comp=Z,3μm,23.3s
WHN LR LR
comp=Z,4μm,23.3s
NIKH Nikolski High 90.41 7 P **P** **15 32 03.7 +2.1**
baz=190
MSHR Mys Shultsa 90.47 327 *ce* P **P** **15 32 03.4 +1.3**
MSHR pmax pmax
comp=Z,60nm,1.5s
VLA Vladivostok 90.59 328 *i* P **P** **15 31 59.0 -3.7**
VLA pmax pmax
comp=Z,76nm,1.5s
SCI2 San Clemente I 91.00 48 P **P** **15 32 05.9 +1.0**
baz=225
SRIG Santa Rosalia 91.11 56 P **P** **15 32 06.3 +0.8**
SRIG IAmb IAmb 15 32 08.8
comp=Z,146nm,1.6s
CIS Catalina Islan 91.38 48 P **P** **15 32 08.0 +1.4**
baz=225
USRK Ussuriysk Ar. 91.42 328 P **P** **15 32 07.1 +0.5**
comp=Z,24nm,1.0s,baz=146,slow=4.4,SNR=20
USRK PP **PP** **15 35 47.3 +2.1**
comp=Z,8.7nm,1.1s,baz=126,slow=9.7,SNR=4.4
USRK LR LR 16 12 24.6
comp=Z,463nm,19.5s,baz=223,slow=35
comp=Z,24nm,1.0s
USRK Ussuriysk Ar. 91.42 328 P **P** **15 32 05.2 -1.3**
USRK Ussuriysk Ar. 91.42 328 P **P** **15 32 05.3 -1.3**
PET Petropavlovsk 91.52 348 P **P** **15 32 06.3 -0.4**
PET IAmb IAmb 15 32 14.1
comp=Z,73nm,1.1s
PET Petropavlovsk 91.52 348 *e*P **P** **15 32 06.7 0.0**
PET *e*S **S** **15 43 02.4 -0.2**
PET *e*PS **PS** **15 44 18.3 +0.6**
PET *e*SS **SS** **15 49 12.6 +1.9**
PET *e*SSS SSS 15 52 51.3
PET pmax pmax
comp=Z,200nm,15.4s
PET pmax pmax
comp=Z,88nm,1.1s
PET MLR MLR
comp=Z,1μm,20.0s
PET MLR MLR
comp=Z,1μm,17.0s
PET Petropavlovsk 91.52 348 P **P** **15 32 07.7 +1.0**
PKM Mcpherson Peak 91.61 46 P **P** **15 32 09.0 +1.1**
baz=224
SUJ Sinuiju 91.64 321 P **P** **15 32 06.8 -0.8**
SUJ pP sP 15 32 41.7 +17
SUJ S **SKSac** **15 42 38.5 +2.1**
SUJ AmB
comp=Z,263nm,1.7s
SUJ AMS AMS
comp=N,413nm,6.1s
SUJ AMS AMS
comp=E,322nm,4.7s
SUJ AMS AMS
comp=Z,313nm,4.6s
FMP Fort Macarthur 91.67 48 P **P** **15 32 09.3 +1.3**
baz=225
CBX Cerro Bola 91.67 50 P **P** **15 32 09.2 +1.0**
PEA0B Petropavlovsk- 91.76 347 *ce* P **P** **15 32 08.9 +1.0**
PETK Petropavlovsk- 91.76 347 P **P** **15 32 08.4 +0.5**
comp=Z,11nm,0.7s,baz=90,slow=40,SNR=18
PETK PP **PP** **15 35 46.8 -1.0**
comp=Z,1.9nm,0.9s,baz=99,slow=32,SNR=7.5
PETK LR LR 16 08 21.8
comp=Z,1μm,20.6s,baz=162,slow=32
comp=Z,11nm,0.7s
PETK Petropavlovsk- 91.76 347 P **P** **15 32 08.7 +0.8**
109C Camp Elliot, M 91.80 49 P **P** **15 32 09.4 +0.8**
109C IAmb IAmb 15 32 11.8
comp=Z,69nm,1.3s
109C Camp Elliot, M 91.80 49 P **P** **15 32 09.9 +1.3**
baz=226
SMMC Simmler 91.81 46 P **P** **15 32 10.3 +1.7**
baz=224
BCW Bitter Crk WRg 91.88 46 P **P** **15 32 10.6 +1.6**
BCW IAmb IAmb 15 32 12.4
comp=Z,55nm,1.1s
ESJX Sierra Juarez 91.90 51 P **P** **15 32 11.4 +2.1**
ESJX IAmb IAmb 15 32 13.2
comp=Z,78nm,1.3s
PAGB Antelope Grade 91.96 45 P **P** **15 32 10.2 +0.9**
PMPB Monarch Peak 91.99 45 P **P** **15 32 10.3 +0.8**
PMPB IAmb IAmb 15 32 20.5
comp=Z,86nm,1.3s
DECC Green Verdugo 92.02 48 P **P** **15 32 10.7 +1.1**
baz=225
SAO San Andreas Ge 92.03 44 IAMs_20 IAMs_20 16 03 21.4
comp=Z,2μm,22.0s
OSI Osito Audit: C 92.05 47 P **P** **15 32 11.4 +1.6**
baz=225
PASC Pasadena Art C 92.05 48 IAMs_20 IAMs_20 16 05 05.3
comp=Z,2μm,20.0s
DL2 Dalian 92.21 319 P **P** **15 32 08.8 -1.5**
DL2 PP **PP** **15 35 49.1 -2.4**
DL2 SKS **SKSac** **15 42 35.5 -4.2**
DL2 S **ScS** **15 43 14.1 +2.3**
DL2 pmax pmax
comp=Z,40nm,1.1s
DL2 pmax pmax
comp=Z,150nm,5.0s
DL2 LR LR
comp=Z,600nm,20.5s
DL2 LR LR
comp=Z,610nm,27.7s
DL2 LR LR
comp=Z,1μm,22.2s
MONP2 Monument Peak 92.22 50 P **P** **15 32 12.6 +1.8**
baz=226,SNR=18
MURC Murrieta 92.24 49 P **P** **15 32 12.6 +1.9**
baz=226,SNR=18
IKP In-Ko-Pah, Jac 92.25 50 P **P** **15 32 12.7 +1.9**
baz=226,SNR=14
MCCM Marconi Confer 92.25 42 IAMs_20 IAMs_20 16 04 53.2
comp=Z,3μm,22.0s
ARVC Arvin 92.34 47 P **P** **15 32 12.4 +1.4**
baz=225
BFSC Mount Baldy Ra 92.41 48 P **P** **15 32 13.2 +1.6**
baz=226,SNR=25
SWSC Sam W. Stewart 92.64 50 P **P** **15 32 14.2 +1.7**
baz=227,SNR=9.6
EDW2 Edwards Air Fo 92.66 47 P **P** **15 32 14.4 +1.8**
baz=226,SNR=20
TPFO Pinon Flats 92.69 49 P **P** **15 32 14.7 +1.8**
baz=226,SNR=14
PFO Pinyon Flats O 92.69 49 LR LR 16 05 07.5
comp=Z,2μm,20.9s,baz=231,slow=30
PFO Pinyon Flats O 92.69 49 IAMs_20 IAMs_20 16 05 04.4
comp=Z,2μm,21.0s
PFO Pinyon Flats O 92.69 49 *i* P **P** **15 32 14.6 +1.7**
PFO pmax pmax
comp=Z,105nm,1.5s
PFO Pinyon Flats O 92.69 49 P **P** **15 32 14.6 +1.7**
baz=226,SNR=12
GYA Guiyang 92.69 301 ⇓P **P** **15 32 14.7 +1.6**
GYA PP **PP** **15 35 58.1 +2.4**
GYA SKS **SKSac** **15 42 42.0 -1.3**
GYA S **S** **15 43 15.1 +0.3**
GYA SS **SS** **15 49 34.2 +5.4**
GYA pmax pmax
comp=Z,19nm,1.3s
GYA LR LR
comp=Z,810nm,20.5s
GYA LR LR
comp=Z,540nm,20.6s
GYA LR LR
comp=Z,1μm,26.2s
VES Vestal, Richgr 92.70 46 P **P** **15 32 13.8 +1.1**
baz=225,SNR=6.9
TIA Tai'an 92.72 315 ⇓P **P** **15 32 12.6 -0.2**
TIA S **S** **15 43 16.5 +2.2**
TIA pmax pmax
comp=Z,33nm,1.5s
TIA pmax pmax
comp=Z,240nm,5.7s
TIA LR LR
comp=Z,720nm,24.3s
TIA LR LR
comp=Z,710nm,26.7s
TIA LR LR
comp=Z,2μm,25.0s
MDJ Mudanjiang 92.78 327 P **P** **15 32 12.9 +0.1**
MDJ IAmb IAmb 15 32 20.5
comp=Z,30nm,1.1s
MDJ Mudanjiang 92.78 327 P **P** **15 32 13.8 +1.0**
MDJ pmax pmax
comp=Z,17nm,1.3s
MDJ pmax pmax
comp=Z,160nm,4.3s
MDJ LR LR
comp=Z,890nm,24.2s
MDJ LR LR
comp=Z,820nm,23.9s
MDJ LR LR
comp=Z,2μm,24.1s
GDXM Geysers 92.78 42 P **P** **15 32 14.2 +1.2**
GDXM IAmb IAmb 15 32 16.1
comp=Z,40nm,1.3s
CCAC Calif City Air 92.84 47 P **P** **15 32 14.7 +1.2**
CCAC IAmb IAmb 15 32 28.1
comp=Z,42nm,1.2s
LVC Limon Verde 92.86 121 LR LR 16 04 58.3
comp=Z,5μm,20.9s,baz=186,slow=30
LVC Limon Verde 92.86 121 *e*P **P** **15 32 13.9 -0.5**
BBRC Big Bear Solar 92.87 48 P **P** **15 32 15.3 +1.5**
baz=226
ISA Isabella, Lake 92.93 46 P **P** **15 32 15.6 +1.7**
baz=225,SNR=16
CM31 Chiang Mai Arr 93.20 291 P **P** **15 32 14.4 -1.0**
CMAR Chiang Mai Arr 93.20 291 P **P** **15 32 14.9 -0.5**
comp=Z,13nm,0.7s,baz=149,slow=3.3,SNR=60
CMAR PP **PP** **15 35 59.4 -0.2**
comp=Z,23nm,1.2s,baz=136,slow=6.2,SNR=6.6
CMAR PKKPbc **PKKPbc** **15 49 25.1 +2.5**
comp=Z,0.7nm,0.6s,baz=273,slow=3.4,SNR=6.8
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 93.20 291 P **P** **15 32 14.8 -0.6**
CRAI Chiangrai 93.23 293 P **P** **15 32 15.2 -0.3**
CRAI IAmb IAmb 15 32 24.3
comp=Z,40nm,1.2s
BELC Belle Mtn. Jos 93.24 49 P **P** **15 32 17.6 +2.2**
baz=226,SNR=24
TYV Tymovskoe 93.25 338 *e*P **P** **15 32 18.3 +3.5**
TYV pmax pmax
comp=Z,100nm,4.0s
TYV pmax pmax
comp=Z,17nm,1.2s
LRMC Laurel Mtn Rad 93.26 47 P **P** **15 32 17.2 +1.8**
baz=226,SNR=13
GLA Glamis 93.31 50 P **P** **15 32 16.1 +0.5**
GLA Glamis 93.31 50 P **P** **15 32 16.1 +0.5**
GLA pmax pmax
comp=Z,164nm,1.6s
GLA Glamis 93.31 50 P **P** **15 32 17.9 +2.3**
baz=227,SNR=9.4
ENH Enshi 93.31 306 P **P** **15 32 14.8 -0.9**
ENH IAmb IAmb 15 32 27.0
comp=Z,37nm,1.1s
ENH IAMs_20 IAMs_20 16 09 10.6
comp=Z,2μm,22.0s
BC3 Big Chuckawall 93.33 50 P **P** **15 32 17.7 +1.9**
baz=227,SNR=36
SNY Shenyang 93.40 322 ⇑P **P** **15 32 16.0 +0.3**
SNY S **S** **15 43 24.0 +4.1**
SNY SS **SS** **15 49 33.2 -4.9**
SNY pmax pmax
comp=Z,18nm,1.4s
SNY LR LR
comp=Z,760nm,24.9s
SNY LR LR
comp=Z,770nm,23.6s
SNY LR LR
comp=Z,2μm,23.7s
CHTO Chiang Mai 93.42 291 P **P** **15 32 14.9 -1.5**
CHTO Chiang Mai 93.42 291 IAMs_20 IAMs_20 16 15 38.2
comp=Z,2μm,22.0s
CHTO Chiang Mai 93.42 291 P **P** **15 32 14.9 -1.5**
CHTO pmax pmax
comp=Z,3.0nm,1.0s
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO Chiang Mai 93.42 291 P **P** **15 32 16.5 +0.1**
CNBA Chernabura Isl 93.49 12 IAMs_20 IAMs_20 16 13 49.4
comp=Z,2μm,19.0s
CMB Columbia Colle 93.53 44 P **P** **15 32 14.8 -1.7**
CMB IAmb IAmb 15 32 18.8
comp=Z,25nm,1.1s
CMB IAMs_20 IAMs_20 16 05 14.1
comp=Z,2μm,22.0s
CMB Columbia Colle 93.53 44 P **P** **15 32 14.8 -1.7**
CMB pmax pmax
comp=Z,25nm,1.1s
HEC Hector,Ludlow 93.61 48 P **P** **15 32 18.4 +1.4**
baz=226,SNR=11
GSC Goldstone, Bar 93.65 48 P **P** **15 32 18.6 +1.4**
baz=226,SNR=8.1
CWC Cottonwood Cre 93.70 46 P **P** **15 32 18.6 +1.1**
baz=226
113A Mohawk Valley, 93.77 51 P **P** **15 32 18.2 +0.6**
113A IAmb IAmb 15 32 21.2
comp=Z,102nm,2.0s
MPMC Manual Prospec 93.78 47 P **P** **15 32 19.1 +1.2**
baz=226,SNR=7.2
214A Organ Pipe Nat 93.83 52 P **P** **15 32 19.9 +1.9**
baz=228
SDPT Sand Point 93.85 12 P **P** **15 32 18.8 +1.4**
baz=196
AFDM Forest Hills D 93.86 43 P **P** **15 32 18.5 +0.5**
IRM Iron Mountain 93.86 49 P **P** **15 32 20.1 +2.0**
baz=227,SNR=30
BLYC Blythe 93.97 50 P **P** **15 32 19.3 +0.8**
BLYC IAmb IAmb 15 32 22.3
comp=Z,62nm,1.5s
GMRC Granite Mounta 93.98 49 P **P** **15 32 20.7 +1.9**
baz=227,SNR=8.7
NNA Nana 93.99 108 LR LR 16 06 25.7
comp=Z,4μm,19.4s,baz=229,slow=30
CN2 Changchun 94.00 324 *e*P **P** **15 32 18.5 0.0**
CN2 *e*S **S** **15 43 19.6 -5.6**
CN2 SS **SS** **15 49 48.4 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,700nm,21.3s
ORV Oroville 94.01 42 IAMs_20 IAMs_20 16 05 58.9
comp=Z,2μm,21.0s
QSM Queen of Sheba 94.07 47 P **P** **15 32 19.1 +0.1**
MLAC Mammoth, Mammo 94.10 45 P **P** **15 32 20.5 +1.1**
baz=225
TUQ Turquoise Moun 94.27 48 P **P** **15 32 21.7 +1.6**
baz=227,SNR=5.7
LYN LuoYang 94.30 311 ⇓P **P** **15 32 20.1 0.0**
LYN SKS **SKSac** **15 42 50.4 -1.1**
LYN S **S** **15 43 25.7 -2.6**
LYN pmax pmax
comp=Z,190nm,4.1s
LYN LR LR
comp=Z,1μm,21.6s
LYN LR LR
comp=Z,620nm,20.0s
LYN LR LR
comp=Z,2μm,23.1s
SHOC Shoshone, Teco 94.38 48 P **P** **15 32 21.7 +1.3**
baz=226,SNR=7.9
FURC Furnace Creek, 94.42 47 P **P** **15 32 22.2 +1.6**
baz=226
GRAC Grapevine Rang 94.50 46 P **P** **15 32 22.0 +1.0**
GRAC IAmb IAmb 15 32 24.0
comp=Z,37nm,1.3s
GRAC Grapevine Rang 94.50 46 P **P** **15 32 22.5 +1.5**
baz=226,SNR=9.8
KMI Kunming 94.57 298 ⇑P **P** **15 32 22.0 +0.2**
KMI PP **PP** **15 36 09.5 -1.0**
KMI SKS **SKSac** **15 42 52.2 -1.7**
KMI S **ScS** **15 43 33.7 +1.1**
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,180nm,3.6s
KMI LR LR
comp=Z,630nm,21.5s
KMI LR LR
comp=Z,950nm,30.1s
KMI LR LR
comp=Z,2μm,29.5s
PDMCI Parker Dam,Lak 94.57 50 P **P** **15 32 23.3 +1.9**
baz=228,SNR=6.7
NEE2 Needles Airpor 94.59 49 P **P** **15 32 23.4 +1.9**
baz=227
BNX BinXian 94.61 327 ⇑P **P** **15 32 22.6 +1.4**
BNX pmax pmax
comp=Z,7.0nm,1.1s
BNX pmax pmax
comp=Z,63nm,11.1s

BEKR	**Beckworth**	**94.85**	**42**	P	**P**	**15 32 22.2**	**-0.6**		
S14K	**Fog Glacier** baz=197	**94.90**	**12**	P	**P**	**15 32 23.4**	**+1.1**		
HNS	**HongShan**	**94.93**	**314**	⇑P	**P**	**15 32 24.2**	**+1.3**		
HNS				PP	**PP**	**15 36 09.4**	**-3.5**		
HNS				SKS	**SKSac**	**15 42 55.5**	**+0.8**		
HNS				S	**ScS**	**15 43 36.9**	**+2.3**		
HNS				SS	**SS**	**15 49 59.9**	**-0.2**		
HNS	comp=Z,300nm,20.1s			LR	LR				
HNS	comp=Z,1μm,22.5s			LR	LR				
HNS	comp=Z,2μm,24.5s			LR	LR				
YBH	**Yreka Blue Hor** comp=Z,3μm,21.0s,baz=222,slow=30	**94.96**	**40**	LR	LR	16 07 22.2			
YBH	**Yreka Blue Hor** comp=Z,3μm,21.0s	**94.96**	**40**	IAMs_20	IAMs_20	16 07 20.8			
NVAR	**Mina Array Bea** comp=Z,5.6nm,1.0s,baz=218,slow=7.7,SNR=28	**94.96**	**45**	P	**P**	**15 32 24.3**	**+0.9**		
NVAR	comp=Z,0.6nm,0.8s,baz=149,slow=1.9,SNR=5.0			PKKPbc	**PKKPdf**	**15 49 21.1**	**+1.5**		
NVAR	comp=Z,2μm,21.6s,baz=226,slow=30 comp=Z,5.6nm,1.0s			LR	LR	16 06 48.9			
NVAR	**Mina Array Bea**	**94.96**	**45**	P	**P**	**15 32 23.4**	**0.0**		
Y14A	**Wickenburg**	**95.03**	**51**	P	**P**	**15 32 24.7**	**+1.2**		
V12A	**Nelson**	**95.10**	**48**	P	**P**	**15 32 24.8**	**+0.9**		
CHGN	**Chignik** baz=198	**95.11**	**13**	P	**P**	**15 32 25.3**	**+2.1**		
TPNV	**Topopah Spring** comp=Z,2μm,20.0s	**95.11**	**47**	IAMs_20	IAMs_20	16 07 25.3			
TPNV	**Topopah Spring** baz=227,SNR=11	**95.11**	**47**	P	**P**	**15 32 25.4**	**+1.5**		
CHIR	**Chirikof Islan** comp=Z,2μm,20.0s	**95.17**	**14**	IAMs_20	IAMs_20	16 12 52.6			
GRNR	**Gornyy**	**95.17**	**335**	⇓*i*P	**P**	**15 32 24.2**	**+0.5**		
GRNR	comp=Z,5.0nm,1.3s			pmax	pmax				
GRNR	comp=N,410nm,19.0s			MLR	MLR				
GRNR	comp=E,190nm,19.0s			MLR	MLR				
GRNR	comp=Z,660nm,20.0s			MLR	MLR				
UNM	**Universidad Na** comp=Z,3μm,20.0s	**95.35**	**70**	IAMs_20	IAMs_20	16 06 03.5			
TUC	**Tucson**	**95.35**	**53**	P	**P**	**15 32 25.6**	**+0.5**		
TUC	**Tucson**	**95.35**	**53**	P	**P**	**15 32 25.6**	**+0.5**		
TUC	comp=Z,24nm,1.5s			pmax	pmax				
TUC	**Tucson** baz=229	**95.35**	**53**	P	**P**	**15 32 25.9**	**+0.9**		
J01E	**Myrtle Point** baz=222	**95.39**	**38**	P	**P**	**15 32 26.7**	**+1.9**		
SHPR	**Sheep Range**	**95.45**	**48**	P	**P**	**15 32 27.0**	**+1.5**		
ITQB	**Itaqui**	**95.63**	**134**	*e*P	**P**	**15 32 26.9**	**+0.3**		
ATAH	**Atahualpa** comp=Z,5μm,21.9s,baz=253,slow=29	**95.82**	**103**	LR	LR	16 05 37.8			
BJI	**Beijing**	**95.95**	**317**	P	**P**	**15 32 27.7**	**+0.3**		
BJI				pP	**PcP**	**15 32 32.2**	**+4.6**		
BJI				SKS	**SKSac**	**15 42 56.6**	**-3.3**		
BJI				S	**S**	**15 43 36.8**	**-5.5**		
BJI	comp=Z,7.0nm,1.3s			pmax	pmax				
BJI	comp=Z,150nm,5.3s			pmax	pmax				
BJI	comp=Z,140nm,22.4s			LR	LR				
BJI	comp=Z,600nm,21.8s			LR	LR				
BJI	comp=Z,1μm,23.9s			LR	LR				
I03D	**Drain, OR** baz=223	**96.08**	**38**	P	**P**	**15 32 29.8**	**+1.9**		
PZH	**PanZhiHua**	**96.13**	**299**	P	**P**	**15 32 28.4**	**-0.4**		
PZH				PP	**PP**	**15 36 19.2**	**-3.3**		
PZH				SKS	**SKSac**	**15 43 03.9**	**+2.0**		
PZH				S	**S**	**15 43 43.6**	**-1.2**		
PZH	comp=Z,10.0nm,1.1s			pmax	pmax				
PZH	comp=Z,80nm,6.4s			pmax	pmax				
PZH	comp=Z,870nm,18.6s			LR	LR				
PZH	comp=Z,660nm,18.6s			LR	LR				
PZH	comp=Z,1μm,18.2s			LR	LR				
SII	**Sitkinak Islan** comp=Z,2μm,20.0s	**96.14**	**15**	IAMs_20	IAMs_20	16 11 56.5			
SII	**Sitkinak Islan** baz=202	**96.14**	**15**	P	**P**	**15 32 29.9**	**+2.0**		
XAN	**Xi'an**	**96.15**	**308**	P	**P**	**15 32 28.2**	**-0.4**		
XAN				pP	PcP	15 32 33.0	+4.2		
XAN				PP	**PP**	**15 36 25.3**	**+2.9**		
XAN				SKS	**SKSac**	**15 43 00.9**	**-0.6**		
XAN				S	**ScS**	**15 43 47.6**	**+2.6**		
XAN	comp=Z,16nm,1.2s			pmax	pmax				
XAN	comp=Z,230nm,8.2s			pmax	pmax				
XAN	comp=Z,900nm,20.6s			LR	LR				
XAN	comp=Z,980nm,19.6s			LR	LR				
XAN	comp=Z,1μm,21.4s			LR	LR				
X16A	**Lo Mia Camp, P**	**96.31**	**51**	P	**P**	**15 32 29.9**	**+0.3**		
MOD	**Modoc Plateau**	**96.33**	**41**	P	**P**	**15 32 28.6**	**-0.8**		
MOD	comp=Z,23nm,1.1s			IAmb	IAmb	15 32 43.3			
J04D	**Umpqua Nationa** comp=Z,2μm,20.0s	**96.36**	**39**	IAMs_20	IAMs_20	16 07 53.8			
R11A	**Troy Canyon, C** baz=227	**96.45**	**46**	P	**P**	**15 32 31.1**	**+1.0**		
TIY	**Taiyuan**	**96.46**	**313**	*e*P	**P**	**15 32 30.6**	**+0.6**		
TIY				PP	**PP**	**15 36 25.6**	**+0.7**		
TIY				SKS	**SKSac**	**15 43 00.5**	**-2.5**		
TIY				S	**S**	**15 43 45.8**	**-1.3**		
TIY	comp=Z,170nm,5.7s			pmax	pmax				
TIY	comp=Z,450nm,23.4s			LR	LR				
TIY	comp=Z,650nm,21.3s			LR	LR				
TIY	comp=Z,1μm,26.1s			LR	LR				
K05A	**Summer Lake**	**96.61**	**40**	P	**P**	**15 32 30.1**	**-0.6**		
K05A	comp=Z,37nm,1.2s			IAmb	IAmb	15 32 36.5			
R17K	**Ugashik Creek** baz=200	**96.73**	**13**	P	**P**	**15 32 32.6**	**+2.0**		
J05D	**Fort Rock, OR** baz=224	**96.84**	**40**	P	**P**	**15 32 32.6**	**+0.9**		
CPSB	**Cacapava Do Su**	**96.87**	**137**	*e*P	**P**	**15 32 32.0**	**-0.2**		
LCMT	**Little Creek M**	**96.93**	**48**	P	**P**	**15 32 33.4**	**+1.1**		
OHAK	**Old Harbor** baz=202	**96.94**	**15**	P	**P**	**15 32 33.5**	**+2.0**		
UNIS	**Unistalda (Bra**	**96.97**	**135**	*e*P	**P**	**15 32 33.6**	**+0.9**		
H04D	**Lebanon** baz=223	**96.98**	**38**	P	**P**	**15 32 32.7**	**+0.7**		
WUAZ	**Wupatki**	**97.08**	**50**	P	Pdif	15 32 34.3	+1.3		
WUAZ	comp=Z,2μm,21.0s			IAMs_20	IAMs_20	16 07 03.5			
WUAZ	**Wupatki** baz=229	**97.08**	**50**	P	Pdif	15 32 34.2	+1.2		
U15A	**North Rim**	**97.11**	**49**	P	Pdif	15 32 34.7	+1.4		
KNB	**Kanab**	**97.18**	**49**	P	Pdif	15 32 34.4	+0.9		
KNB	**Kanab**	**97.18**	**49**	P	Pdif	15 32 34.4	+0.9		
KNB	comp=Z,20nm,1.3s			pmax	pmax				
G03D	**McMinnville, O** baz=223	**97.22**	**37**	P	Pdif	15 32 35.3	+2.1		
CD2	**Chengdu**	**97.49**	**303**	P	**P**	**15 32 34.1**	**-0.7**		
CD2				PP	**PP**	**15 36 30.5**	**-2.4**		
CD2				SKS	**SKSac**	**15 43 05.2**	**-3.4**		
CD2				SS	**SS**	**15 50 37.6**	**+0.8**		
CD2	comp=Z,1μm,20.8s			LR	LR				
CD2	comp=Z,1μm,20.8s			LR	LR				
CD2	comp=Z,1μm,20.8s			LR	LR				
I05D	**Terrebonne, OR** baz=224	**97.54**	**39**	P	Pdif	15 32 35.8	+1.1		
WVOR	**Wild Horse Val**	**97.58**	**42**	P	**P**	**15 32 34.8**	**-0.2**		
WVOR	**Wild Horse Val**	**97.58**	**42**	P	**P**	**15 32 34.8**	**-0.2**		
WVOR	comp=Z,17nm,1.3s			pmax	pmax				
KDAK	**Kodiak Island** comp=Z,2μm,20.9s,baz=231,slow=32	**97.61**	**15**	LR	LR	16 10 20.5			
KDAK	**Kodiak Island** comp=Z,2μm,20.0s	**97.61**	**15**	IAMs_20	IAMs_20	16 12 19.2			
KDAK	**Kodiak Island** baz=203	**97.61**	**15**	P	Pdif	15 32 37.0	+2.5		
SPR3	**Spring Creek 3**	**97.61**	**46**	P	**P**	**15 32 33.5**	**-2.0**		
SPR3	comp=Z,5.6nm,1.2s			IAmb	IAmb	15 33 04.8			
LPAZ	**La Paz** comp=Z,2.7nm,0.7s,baz=191,slow=4.0,SNR=9.4	**97.63**	**117**	P	Pdif	15 32 38.2	+1.6		
LPAZ	comp=Z,2.3nm,1.1s,baz=228,slow=9.1,SNR=6.6 comp=Z,2.7nm,0.7s			PP	**PP**	**15 36 36.8**	**+2.7**		
LPAZ	**La Paz**	**97.63**	**117**	*e*P	**P**	**15 32 34.1**	**-2.4**		
Q16K	**King Salmon** baz=200	**97.67**	**13**	P	Pdif	15 32 37.3	+2.5		
CPUP	**Villa Florida** comp=Z,1.8nm,0.7s,baz=244,slow=9.7,SNR=4.4	**97.70**	**131**	P	**P**	**15 32 36.2**	**+0.3**		
CPUP	comp=Z,6μm,19.8s,baz=232,slow=31 comp=Z,1.8nm,0.7s			LR	LR	16 09 50.9			
CPUP	**Villa Florida**	**97.70**	**131**	*e*P	**P**	**15 32 36.5**	**+0.5**		
EPT	**El Paso** comp=Z,2μm,19.0s	**97.79**	**56**	IAMs_20	IAMs_20	16 10 18.8			
P17K	**Kvichak River** baz=200	**98.19**	**13**	P	Pdif	15 32 40.0	+2.8		
TX31	**Lajitas Ar. Si** baz=232	**98.20**	**59**	P	Pdif	15 32 39.7	+1.6		
TXAR	**Lajitas Array** comp=Z,2.8nm,1.2s,baz=227,slow=6.6,SNR=10	**98.20**	**59**	P	Pdif	15 32 39.7	+1.6		
TXAR	comp=Z,1.6nm,1.0s,baz=206,slow=5.4,SNR=5.3 comp=Z,2.8nm,1.2s			PP	**PP**	**15 36 39.1**	**+0.7**		
ELK	**Elko** comp=Z,2μm,21.6s,baz=228,slow=30	**98.27**	**45**	LR	LR	16 07 56.6			
ELK	**Elko** comp=Z,2μm,22.0s	**98.27**	**45**	IAMs_20	IAMs_20	16 07 56.8			
I07A	**Izee**	**98.28**	**40**	P	**P**	**15 32 37.1**	**-1.0**		
Q19K	**Cape Douglas,** comp=Z,2μm,20.0s	**98.46**	**14**	IAMs_20	IAMs_20	16 15 09.6			
MNTX	**Cornudas Mount** comp=Z,2μm,20.0s	**98.50**	**57**	IAMs_20	IAMs_20	16 10 15.4			
MNTX	**Cornudas Mount** baz=232	**98.50**	**57**	P	Pdif	15 32 40.4	+1.2		
MNTX	**Cornudas Mount** baz=232	**98.50**	**57**	P	Pdif	15 32 40.0	+0.7		
MVU	**Marysvale**	**98.53**	**48**		Pdif	15 32 40.6	+1.1		
MVU	comp=Z,107nm,1.8s			IAmb	IAmb	15 32 53.7			
P18K	**Big Mountain,** baz=201	**98.59**	**13**	P	Pdif	15 32 40.3	+1.3		
O17K	**Koliganek Bris** baz=199	**98.63**	**12**	P	Pdif	15 32 40.7	+1.7		
XLT	**XiLinHaoTe**	**98.69**	**319**	⇓*i*P	Pdif	15 32 48.6	+8.7		
XLT				pP	pwP	15 32 53.4	-1.5		
XLT	**XiLinHaoTe**	**98.69**	**319**	S	**S**	**15 44 09.2**	**+3.4**		
XLT	**XiLinHaoTe**	**98.69**	**319**	sS	S	15 44 15.1	+9.3		
N16K	**Nishlik Lake** baz=198	**99.03**	**11**	P	**Pdif**	**15 32 43.4**	**+2.5**		
O18K	**Koktuh Hills** baz=201	**99.03**	**13**	P	**Pdif**	**15 32 42.8**	**+1.9**		
HHC	**Hu-ho-hao-te**	**99.07**	**315**	*e*P	**Pdif**	**15 32 40.2**	**-1.5**		
HHC				PP	**PP**	**15 36 40.6**	**-4.2**		
HHC				SKS	**SKSac**	**15 43 14.8**	**-1.4**		
HHC				S	**S**	**15 44 08.9**	**-0.3**		
HHC	comp=Z,46nm,0.8s			pmax	pmax				
HHC	comp=Z,280nm,5.9s			pmax	pmax				
HHC	comp=Z,1μm,19.2s			LR	LR				
HHC	comp=Z,2μm,21.2s			LR	LR				
HHC	comp=Z,3μm,21.7s			LR	LR				
P19K	**Oil Pt** comp=Z,2μm,20.0s	**99.21**	**14**	IAMs_20	IAMs_20	16 14 07.5			
DUG	**Dugway, Tooele** comp=Z,2μm,20.0s	**99.28**	**46**	IAMs_20	IAMs_20	16 11 34.7			
CNPM	**China Poot** comp=Z,2μm,20.0s	**99.49**	**15**	IAMs_20	IAMs_20	16 13 09.0			
HOM	**Homer** comp=Z,2μm,20.0s	**99.53**	**15**	IAMs_20	IAMs_20	16 13 22.0			
O20K	**Slope Mountain** baz=203	**99.72**	**14**	P	**Pdif**	**15 32 44.7**	**+0.6**		
MFID	**Camas Ranch** comp=Z,2μm,22.0s	**99.75**	**42**	IAMs_20	IAMs_20	16 09 02.8			
ANMO	**Albuquerque** comp=Z,2μm,20.0s	**99.81**	**54**	IAMs_20	IAMs_20	16 10 15.0			
ANMO	**Albuquerque**	**99.81**	**54**	*ce*P	**Pdif**	**15 32 46.0**	**+0.8**		
ANMO	comp=Z,6.0nm,1.3s			pmax	pmax				
ANMO	**Albuquerque** baz=231	**99.81**	**54**	P	**Pdif**	**15 32 46.6**	**+1.3**		
ANMO	**Albuquerque** baz=231	**99.81**	**54**	P	**Pdif**	**15 32 45.3**	**0.0**		
MVCO	**Mesa Verde** comp=Z,2μm,21.0s	**99.94**	**51**	IAMs_20	IAMs_20	16 08 33.2			
N19K	**Bonanza Creek** comp=Z,2μm,20.0s	**100.06**	**13**	IAMs_20	IAMs_20	16 18 13.9			
N19K	**Bonanza Creek** baz=202	**100.06**	**13**	P	**Pdif**	**15 32 47.9**	**+2.3**		
OTAV	**Otavalo** comp=Z,2μm,20.0s	**100.29**	**98**	IAMs_20	IAMs_20	16 08 02.2			
HLID	**Hailey** baz=228	**100.62**	**43**	P	**Pdif**	**15 32 49.4**	**+0.8**		
CAPN	**Captain Cook N** comp=Z,3μm,21.0s	**100.65**	**14**	IAMs_20	IAMs_20	16 14 10.6			
LZH	**Lanzhou**	**100.66**	**307**	*e*P	**Pdif**	**15 32 46.5**	**-2.5**		
LZH				PP	**PP**	**15 36 56.6**	**-0.5**		
LZH				SKS	**SKSac**	**15 43 21.2**	**-3.2**		
LZH				S	**Sdif**	**15 44 26.2**	**+3.4**		
LZH	comp=Z,15nm,1.5s			pmax	pmax				
LZH	comp=Z,90nm,5.2s			pmax	pmax				
LZH	comp=Z,450nm,18.2s			LR	LR				
LZH	comp=Z,780nm,18.6s			LR	LR				
LZH	comp=Z,1μm,17.9s			LR	LR				
GAMB	**Gambell** comp=Z,2μm,20.0s	**100.89**	**4**	IAMs_20	IAMs_20	16 10 59.5			
HWUT	**Hardware Ranch** comp=Z,2μm,19.0s	**100.92**	**46**	IAMs_20	IAMs_20	16 15 47.0			
M19K	**Big River Lodg** baz=202	**101.09**	**13**	P	**Pdif**	**15 32 52.5**	**+2.5**		
FIS	**Fire Island** comp=Z,2μm,21.0s	**101.18**	**15**	IAMs_20	IAMs_20	16 14 12.6			
KVTX	**Kingsville** comp=Z,2μm,21.0s	**101.19**	**64**	IAMs_20	IAMs_20	16 10 08.1			
L19K	**White Mountain** baz=201	**101.27**	**12**	P	**Pdif**	**15 32 52.4**	**+1.6**		
M20K	**Styx River** comp=Z,2μm,20.0s	**101.30**	**13**	IAMs_20	IAMs_20	16 18 53.7			
M20K	**Styx River** baz=203	**101.30**	**13**	P	**Pdif**	**15 32 53.1**	**+2.0**		
HIN	**Hinchinbrook I** comp=Z,1μm,19.0s	**101.31**	**17**	IAMs_20	IAMs_20	16 21 43.2			
PWL	**Port Wells** baz=206	**101.32**	**16**	P	**Pdif**	**15 32 52.9**	**+1.8**		
SUA	**Susitna One** comp=Z,2μm,20.0s	**101.36**	**14**	IAMs_20	IAMs_20	16 14 33.5			
TGUH	**Tegucigalpa,Un** comp=Z,2μm,22.0s	**101.43**	**81**	IAMs_20	IAMs_20	16 08 18.0			
SUCK	**Suckling Hills** comp=Z,2μm,19.0s	**101.68**	**18**	IAMs_20	IAMs_20	16 21 39.0			
SKT	**Skwentna** comp=Z,2μm,20.0s	**101.69**	**14**	IAMs_20	IAMs_20	16 16 43.0			
RAGM	**Ragged Mountai** comp=Z,2μm,18.0s	**101.73**	**18**	IAMs_20	IAMs_20	16 22 11.5			
HMT	**Hamilton** comp=Z,2μm,19.0s	**101.79**	**18**	IAMs_20	IAMs_20	16 22 11.9			
AHID	**Auburn Hatcher** comp=Z,2μm,22.0s	**101.93**	**45**	IAMs_20	IAMs_20	16 10 13.7			
BERG	**Berg Lake** comp=Z,2μm,18.0s	**101.98**	**18**	IAMs_20	IAMs_20	16 21 58.9			
SNH	**Sunshine Point** comp=Z,2μm,20.0s	**102.01**	**18**	IAMs_20	IAMs_20	16 13 11.7			
SMCO	**Snowmass** comp=Z,2μm,20.0s	**102.11**	**50**	IAMs_20	IAMs_20	16 10 59.6			
SDCO	**Great Sand Dun** comp=Z,2μm,21.0s	**102.14**	**52**	IAMs_20	IAMs_20	16 12 25.6			
ANM	**Nome** comp=Z,2μm,21.0s	**102.17**	**7**	IAMs_20	IAMs_20	16 13 18.3			
MESA	**MESA** comp=Z,2μm,20.0s	**102.23**	**19**	IAMs_20	IAMs_20	16 17 33.8			
WAX	**Waxell Ridge** comp=Z,2μm,20.0s	**102.24**	**18**	IAMs_20	IAMs_20	16 19 37.8			
CUT	**Chulitna** comp=Z,2μm,21.0s	**102.32**	**14**	IAMs_20	IAMs_20	16 15 02.8			
YAH	**Yahtse** comp=Z,2μm,20.0s	**102.44**	**19**	IAMs_20	IAMs_20	16 15 30.2			
REDW	**Red Top Meadow** comp=Z,3μm,22.0s	**102.45**	**45**	IAMs_20	IAMs_20	16 10 52.4			
TPAW	**Teton Pass** comp=Z,2μm,22.0s	**102.48**	**45**	IAMs_20	IAMs_20	16 10 53.0			
ISLE	**Juniper Island** comp=Z,2μm,20.0s	**102.50**	**18**	IAMs_20	IAMs_20	16 13 58.7			
TGL	**Tana Glacier** comp=Z,2μm,20.0s	**102.51**	**18**	IAMs_20	IAMs_20	16 14 00.9			
FXWY	**Fox Creek** comp=Z,2μm,21.0s	**102.53**	**44**	IAMs_20	IAMs_20	16 10 55.5			
SNOW	**Snow King Moun** comp=Z,2μm,22.0s	**102.57**	**45**	IAMs_20	IAMs_20	16 10 34.5			
TABL	**Table Mountain** comp=Z,2μm,20.0s	**102.67**	**19**	IAMs_20	IAMs_20	16 17 48.2			
IMW	**Indian Meadow** comp=Z,2μm,21.0s	**102.75**	**44**	IAMs_20	IAMs_20	16 10 51.0			
LOHW	**Long Hollow** comp=Z,3μm,22.0s	**102.75**	**45**	IAMs_20	IAMs_20	16 11 03.3			
MOOW	**Moose Ponds** comp=Z,3μm,22.0s	**102.76**	**44**	IAMs_20	IAMs_20	16 11 02.5			
BW06	**Boulder Array** comp=Z,2μm,22.0s	**102.81**	**46**	IAMs_20	IAMs_20	16 10 32.0			
PDAR	**Pinedale Array** comp=Z,0.5nm,0.7s,baz=174,slow=1.5,SNR=4.9	**102.81**	**46**	P	**Pdif**	**15 32 59.3**	**+0.9**		
PDAR	comp=Z,0.8nm,0.7s,baz=224,slow=8.3,SNR=3.9			PP	**PP**	**15 37 13.1**	**-0.2**		
PDAR	comp=Z,0.3nm,0.4s,baz=55,slow=11,SNR=3.8			PKKP	**PKKPdf**	**15 49 03.3**	**-2.0**		
JIS	**Juneau Island** comp=Z,2μm,20.0s	**102.82**	**23**	IAMs_20	IAMs_20	16 13 07.6			
AMTX	**Amarillo** comp=Z,2μm,20.0s	**102.89**	**56**	IAMs_20	IAMs_20	16 12 08.6			
AMTX	**Amarillo** baz=234	**102.89**	**56**	P	**Pdif**	**15 32 59.7**	**+0.9**		
CAST	**Castle Rocks** comp=Z,2μm,19.0s	**102.91**	**13**	IAMs_20	IAMs_20	16 25 31.2			
CAST	**Castle Rocks** baz=204	**102.91**	**13**	P	**Pdif**	**15 32 59.6**	**+1.5**		
WAT6	**Susitna Watana** baz=207	**102.99**	**15**	P	**Pdif**	**15 33 00.8**	**+2.2**		
LOGN	**Logan Glacier** comp=Z,2μm,20.0s	**103.03**	**19**	IAMs_20	IAMs_20	16 15 48.8			
CTGM	**Chitina Glacie** comp=Z,2μm,20.0s	**103.07**	**19**	IAMs_20	IAMs_20	16 18 01.7			
KTH	**Kantishna Hill** comp=Z,2μm,20.0s	**103.24**	**13**	IAMs_20	IAMs_20	16 15 58.1			
J20K	**Nowinta River** comp=Z,2μm,20.0s	**103.25**	**12**	IAMs_20	IAMs_20	16 18 15.3			
TRF	**Thorofare Moun** comp=Z,3μm,20.0s	**103.27**	**14**	IAMs_20	IAMs_20	16 15 45.7			
ISCO	**Idaho Springs** comp=Z,2μm,20.0s	**103.32**	**50**	IAMs_20	IAMs_20	16 11 39.7			
FOMA	**Nahampoana Res** comp=Z,2μm,20.0s	**103.34**	**224**	IAMs_20	IAMs_20	16 12 16.0			
BOZ	**Bozeman (W)** comp=Z,2μm,21.0s	**103.45**	**43**	IAMs_20	IAMs_20	16 11 56.7			
BOZ	**Bozeman (W)** baz=230	**103.45**	**43**	P	**Pdif**	**15 33 02.5**	**+1.4**		
RWWY	**Rawlins** comp=Z,2μm,21.0s	**103.51**	**48**	IAMs_20	IAMs_20	16 12 08.6			
BPAW	**Bear Paw Mtn.** comp=Z,2μm,20.0s	**103.73**	**13**	IAMs_20	IAMs_20	16 16 23.9			
MCK	**McKinley** comp=Z,2μm,21.0s	**103.78**	**14**	IAMs_20	IAMs_20	16 13 26.4			
HKT	**Hockley** comp=Z,3μm,21.0s	**104.05**	**63**	IAMs_20	IAMs_20	16 12 20.9			
BWN	**Browne** comp=Z,2μm,20.0s	**104.08**	**14**	IAMs_20	IAMs_20	16 16 32.1			
PHWY	**Pilot Hill** comp=Z,1μm,20.0s	**104.32**	**49**	IAMs_20	IAMs_20	16 14 08.1			
L26K	**Log Cabin Wild** baz=210	**104.35**	**17**	P	**Pdif**	**15 33 05.7**	**+1.2**		
DLBC	**Dease Lake** baz=220	**104.37**	**25**	P	**Pdif**	**15 33 04.2**	**-0.6**		
RLMT	**Red Lodge** comp=Z,2μm,21.0s	**104.45**	**44**	IAMs_20	IAMs_20	16 11 58.1			
K22A	**Casper** baz=233	**104.50**	**47**	P	**Pdif**	**15 33 05.3**	**-0.6**		
NEA2	**Nenana** comp=Z,2μm,20.0s	**104.53**	**14**	IAMs_20	IAMs_20	16 16 45.2			
I21K	**Tanana** baz=204	**104.55**	**12**	P	**Pdif**	**15 33 06.3**	**+1.0**		
MLY	**Manley** comp=Z,2μm,20.0s	**104.62**	**13**	IAMs_20	IAMs_20	16 17 32.6			
MLY	**Manley** baz=205	**104.62**	**13**	P	**Pdif**	**15 33 07.2**	**+1.5**		
RIDG	**Independent Ri** comp=Z,1μm,21.0s	**104.63**	**16**	IAMs_20	IAMs_20	16 15 50.0			
HDA	**Harding Lake** baz=208	**104.78**	**15**	P	**PKiKP**	**15 37 22.2**	**+0.8**		
R33M	**Jennings River** baz=220	**104.80**	**24**	P	**PKiKP**	**15 37 21.6**	**-0.1**		
H21K	**Melozitna Rive** baz=203	**104.85**	**12**	P	**PKiKP**	**15 37 21.4**	**0.0**		
ILAR	**Eielson Array** comp=Z,0.2nm,0.5s,baz=315,slow=35,SNR=3.6	**105.12**	**14**	Pdiff	**Pdif**	**15 33 10.4**	**+2.5**		
ILAR	comp=Z,2.0nm,0.9s,baz=232,slow=1.8,SNR=6.1			PP	**PKiKP**	**15 37 23.4**	**+1.4**		
ILAR	comp=Z,1.4nm,0.8s,baz=223,slow=3.6,SNR=4.0			SKP		15 40 55.6			
ILAR	comp=Z,0.6nm,0.6s,baz=9.0,slow=2.0,SNR=4.1			PKKP	**PKKPdf**	**15 49 00.5**	**-1.0**		
J25K	**Salcha River,** baz=209	**105.29**	**15**	P	**PKiKP**	**15 37 22.8**	**+0.4**		
H22K	**Ishtalitna Cre** baz=204	**105.30**	**12**	P	**PKiKP**	**15 37 23.4**	**+1.1**		
K27K	**Chicken** comp=Z,2μm,19.0s	**105.50**	**17**	IAMs_20	IAMs_20	16 24 09.1			
H23K	**Yukon River** comp=Z,2μm,20.0s	**105.56**	**13**	IAMs_20	IAMs_20	16 17 51.3			
J26L	**Joseph Creek** baz=210	**105.58**	**16**	P	**PKiKP**	**15 37 23.4**	**+0.4**		
M30M	**Minto, Yukon** comp=Z,2μm,20.0s	**105.61**	**20**	IAMs_20	IAMs_20	16 19 03.0			
OK038	**West end E0370** comp=Z,2μm,19.0s	**105.76**	**56**	IAMs_20	IAMs_20	16 16 00.7			
VOI	**Vohitsoka** comp=Z,2μm,20.0s	**105.86**	**226**	IAMs_20	IAMs_20	16 13 30.6			
H24K	**Noodor Dome** comp=Z,2μm,21.0s	**105.88**	**14**	IAMs_20	IAMs_20	16 17 26.7			
H24K	**Noodor Dome** baz=207	**105.88**	**14**	P	**PKiKP**	**15 37 24.8**	**+1.4**		
OK035	**E0210 Rd and N** comp=Z,2μm,20.0s	**105.91**	**56**	IAMs_20	IAMs_20	16 15 45.7			
M31M	**Drury Creek, Y** comp=Z,1μm,19.0s	**105.97**	**21**	IAMs_20	IAMs_20	16 20 55.6			
PRP	**Porcupine Dome** baz=209	**106.05**	**15**	P	**PKiKP**	**15 37 23.9**	**+0.1**		
DAWY	**Dawson** baz=214	**106.17**	**18**	P	**PKiKP**	**15 37 24.7**	**+0.7**		
F21K	**Alatna River** baz=203	**106.19**	**11**	P	**PKiKP**	**15 37 24.5**	**+0.6**		
OK025	**Westminster Rd** comp=Z,3μm,22.0s	**106.19**	**58**	IAMs_20	IAMs_20	16 11 52.2			
OGNE	**Ogallala** comp=Z,2μm,20.0s	**106.20**	**51**	IAMs_20	IAMs_20	16 15 19.0			
OGNE	**Ogallala** baz=235	**106.20**	**51**	P	**PKiKP**	**15 37 24.9**	**0.0**		
G22K	**Bettles** baz=204	**106.22**	**12**	P	**PKiKP**	**15 37 24.0**	**0.0**		
OK029	**Liberty Lake** comp=Z,2μm,20.0s	**106.23**	**57**	IAMs_20	IAMs_20	16 12 47.3			
G23K	**Bananza Creek** baz=206	**106.28**	**12**	P	**PKiKP**	**15 37 25.8**	**+1.7**		
FARO	**Faro, Yukon** baz=218	**106.29**	**21**	P	**PKiKP**	**15 37 25.5**	**+1.2**		
OK032	**Salt Plains WL** comp=Z,2μm,21.0s	**106.29**	**56**

SONM PKKP **PKKPab** **15 48 59.6 +0.7**
comp=Z,1.2nm,0.6s,baz=285,slow=3.0,SNR=5.1
CBKS **Cedar Bluff** **106.43 54** IAMs_20 IAMs_20 16 12 34.3
comp=Z,2µm,22.0s
K29M **Barlow Dome** **106.45 19** P **PKiKP** **15 37 25.3 +0.6**
baz=215
GOMU **GeErMu** **106.63 303** Pdif **Pdif** **15 33 15.5 -0.3**
GOMU PP **PP** **15 37 38.3 -3.6**
GOMU SKS **SKSac** **15 43 50.1 -2.4**
GOMU SS **SS** **15 52 45.4 +1.7**
GOMU LR LR
comp=Z,430nm,20.3s
GOMU LR LR
comp=Z,890nm,22.1s
GOMU LR LR
comp=Z,1µm,24.1s
H25K **Birch Creek** **106.65 14** P **PKiKP** **15 37 25.6 +0.9**
baz=209
F22K **John River** **106.65 11** P **PKiKP** **15 37 26.2 +1.5**
baz=204
OK031 **S. Brethren Rd** **106.73 57** IAMs_20 IAMs_20 16 12 59.6
comp=Z,3µm,20.0s
OK030 **Cody Creek RV** **106.76 58** IAMs_20 IAMs_20 16 14 24.2
comp=Z,2µm,20.0s
RSSD **Black Hills** **106.83 47** IAMs_20 IAMs_20 16 16 42.4
comp=Z,2µm,20.0s
LAO **LASA Array** **107.09 44** IAMs_20 IAMs_20 16 13 42.0
comp=Z,2µm,22.0s
MMPY **Sheldon Lake,** **107.20 22** P **PKiKP** **15 37 27.5 +1.5**
baz=220
F24K **Squaw Lake** **107.38 13** P **PKiKP** **15 37 27.0 +0.8**
baz=208
TUL1 **Leonard** **107.42 58** P **PKiKP** **15 37 27.1 -0.1**
baz=236
I29M **Ogilvie Camp,** **107.51 17** P **PKiKP** **15 37 25.8 -0.7**
baz=215
G26K **Porcupine Rive** **107.65 15** P **PKiKP** **15 37 28.1 +1.5**
baz=211
F25K **Christian Rive** **107.85 14** P **PKiKP** **15 37 28.4 +1.4**
baz=209
G27K **Doyon Strip** **107.97 15** P **PKiKP** **15 37 28.1 +0.8**
baz=212
TOLK **Toolik Lake Re** **108.10 12** IAMs_20 IAMs_20 16 17 42.3
comp=Z,1µm,21.0s
TOLK **Toolik Lake Re** **108.10 12** P **PKiKP** **15 37 28.0 +0.6**
baz=206
MIAR **Mount Ida** **108.19 60** IAMs_20 IAMs_20 16 17 18.4
comp=Z,2µm,19.0s
D23K **Nanushuk River** **108.22 11** P **PKiKP** **15 37 27.1 -0.5**
baz=205
F26K **Sheenjek River** **108.22 14** P **PKiKP** **15 37 27.4 -0.3**
baz=210
KSU1 **Kansas State U** **108.62 55** IAMs_20 IAMs_20 16 16 09.3
comp=Z,2µm,20.0s
D24K **Happy Valley** **108.68 12** P **PKiKP** **15 37 29.7 +1.2**
baz=207
EPYK **Eagle Plains** **108.71 17** P **PKiKP** **15 37 28.9 +0.2**
baz=216
VBMS **Vicksburg** **109.10 64** IAMs_20 IAMs_20 16 14 43.6
comp=Z,2µm,22.0s
E27K **Coleen River** **109.15 15** P **PKiKP** **15 37 31.4 +2.0**
baz=213
C24K **Franklin Bluff** **109.21 11** P **PKiKP** **15 37 31.3 +1.9**
baz=207
D25K **Kavik River** **109.24 12** P **PKiKP** **15 37 30.7 +1.1**
baz=209
ZAK **Zakamensk** **109.53 319** *e*P **Pdif** **15 33 34.4 +6.4**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
A21K **Barrow** **109.60 8** IAMs_20 IAMs_20 16 18 19.9
comp=Z,2µm,21.0s
BOSA **Boshof** **110.01 205** PKKPbc PKKPbc 15 48 34.4 +0.4
comp=Z,1.7nm,0.7s,baz=307,slow=10,SNR=1.2
F31M **Tsiigehtchic** **110.28 18** P **PKiKP** **15 37 31.2 -0.3**
baz=219
INK **Inuvik** **111.01 17** PKiKP **PKiKP** **15 37 32.5 -0.4**
comp=Z,10nm,1.2s,baz=222,slow=10,SNR=3.8
BRAL **Brewton** **111.06 66** IAMs_20 IAMs_20 16 18 03.6
comp=Z,2µm,21.0s
ECSD **EROS Data Cent** **111.09 51** IAMs_20 IAMs_20 16 16 26.3
comp=Z,2µm,21.0s
ECSD **EROS Data Cent** **111.09 51** P **PKiKP** **15 37 32.9 -1.0**
baz=238
OXF **Oxford** **111.09 62** IAMs_20 IAMs_20 16 16 01.2
comp=Z,2µm,21.0s
BDFB **Brasilia** **111.43 131** PKiKP **PKiKP** **15 37 36.0 +0.5**
comp=Z,0.8nm,0.3s,baz=258,slow=8.1,SNR=1.3
SDV **Santo Domingo** **111.69 95** IAMs_20 IAMs_20 16 16 06.2
comp=Z,3µm,22.0s
LRAL **Lakeview Retre** **112.06 65** IAMs_20 IAMs_20 16 17 59.0
comp=Z,2µm,21.0s
SCIA **State Center** **112.29 54** IAMs_20 IAMs_20 16 19 51.5
comp=Z,2µm,20.0s
YKA **Yellowknife Ar** **112.67 28** PKiKP **PKiKP** **15 37 36.2 0.0**
comp=Z,2.8nm,0.9s,baz=252,slow=2.0,SNR=3.7
YKA SKP 15 41 09.5
comp=Z,2.6nm,0.8s,baz=240,slow=2.1,SNR=4.7
YKA PKKPbc **PKKPbc** **15 48 28.2 +2.2**
comp=Z,1.5nm,0.8s,baz=45,slow=4.4,SNR=2.4
MSEY **Mahe Island** **112.87 245** IAMs_20 IAMs_20 16 17 07.3
comp=Z,2µm,19.0s
WVT **Waverly** **113.03 61** P **PKiKP** **15 37 37.7 -0.1**
baz=240
FFC **Flin Flon** **113.79 39** IAMs_20 IAMs_20 16 19 24.8
comp=Z,2µm,21.0s
AGMN **Agassiz Nation** **113.86 47** IAMs_20 IAMs_20 16 20 58.3
comp=Z,2µm,21.0s
TIXI **Tiksi** **114.07 345** PKiKP PKPdf 15 37 37.6 -1.0
comp=Z,2.5nm,0.5s,baz=268,slow=23,SNR=4.3
TIXI **Tiksi** **114.07 345** IAMs_20 IAMs_20 16 21 13.8
comp=Z,1µm,21.0s
TIXI **Tiksi** **114.07 345** ⇓PKiKP PKPdf 15 37 37.2 -1.4
C36M **Paulatuk** **114.12 19** IAMs_20 IAMs_20 16 27 07.0
comp=Z,1µm,19.0s
C36M **Paulatuk** **114.12 19** P PKPdf 15 37 38.2 -0.5
baz=227
HDIL **Hopedale** **114.19 57** IAMs_20 IAMs_20 16 20 37.0
comp=Z,2µm,20.0s
JFWS **Jewell Farm** **114.70 54** IAMs_20 IAMs_20 16 23 30.2
comp=Z,1µm,19.0s
JFWS **Jewell Farm** **114.70 54** P PKPdf 15 37 39.7 -1.0
baz=242
GOGA **Godfrey** **114.81 66** IAMs_20 IAMs_20 16 22 18.8
comp=Z,2µm,20.0s
HATO **Hato, Curacao** **114.94 93** IAMs_20 IAMs_20 16 22 47.6
comp=Z,2µm,20.0s
WCI **Wyandotte Cave** **115.12 60** P **PKPdf** **15 37 42.0 +0.3**
baz=242
WMQ **Urumqi** **115.23 307** *e*PKP **PKPdf** **15 37 40.8 -1.0**
WMQ AMB AMB
comp=Z,220nm,5.1s
WMQ LR LR
comp=Z,590nm,21.3s
WMQ LR LR
comp=Z,640nm,21.3s
WMQ LR LR
comp=Z,960nm,22.9s
A36M **Sachs Harbour** **115.63 17** P **PKiKP** **15 37 42.3 +0.7**
baz=227
HQIL **Hanson Quary C** **115.74 56** IAMs_20 IAMs_20 16 27 54.9
comp=Z,2µm,20.0s
L44A **Lake County Fo** **115.88 56** IAMs_20 IAMs_20 16 20 36.5
comp=Z,2µm,20.0s
EYMN **Ely** **116.27 49** IAMs_20 IAMs_20 16 20 45.2
comp=Z,2µm,21.0s
EYMN **Ely** **116.27 49** P **PKPdf** **15 37 43.6 0.0**
baz=243
P49A **Miami Univ. Ec** **116.82 59** P **PKPdf** **15 37 44.6 -0.3**
baz=243
O48B **Farmland** **116.84 59** P **PKPdf** **15 37 44.1 -0.8**
baz=243
SDDR **Presa de Saban** **116.86 86** IAMs_20 IAMs_20 16 19 45.7
comp=Z,1µm,20.0s
NHSC **New Hope** **117.08 68** IAMs_20 IAMs_20 16 24 12.0
comp=Z,1µm,20.0s
ACSO **Alum Creek Sta** **118.32 59** P **PKPdf** **15 37 47.5 -0.3**
baz=244
GRTK **Grand Turk** **118.33 84** IAMs_20 IAMs_20 16 18 17.6
comp=Z,2µm,21.0s
ZSN **Zaisan** **118.63 310** *e*PKIKP **PKPdf** **15 37 46.1 -2.1**
ZSN **Zaisan** **118.63 310** *e*PKP **PKPdf** **15 37 46.1 -2.1**
baz=310
P52A **Corning** **118.65 60** **PKPdf** **15 37 47.1 -1.3**
P52A **Corning** **118.65 60** P **PKPdf** **15 37 48.7 +0.3**
baz=244
AAM **Ann Arbor** **118.76 57** IAMs_20 IAMs_20 16 21 24.9
comp=Z,2µm,20.0s
AAM **Ann Arbor** **118.76 57** P **PKPdf** **15 37 48.3 -0.2**
baz=245
GLMI **Grayling** **119.19 54** IAMs_20 IAMs_20 16 22 13.2
comp=Z,2µm,21.0s
GLMI **Grayling** **119.19 54** P **PKPdf** **15 37 48.3 -1.0**
baz=245
O53A **New Philadelph** **119.55 60** P **PKPdf** **15 37 49.5 -0.6**
baz=245
MK31 **Makanchi Array** **119.96 308** PKPdf **PKPdf** **15 37 48.6 -2.1**
MK31 **Makanchi Array** **119.96 308** *i* PKIKP **PKPdf** **15 37 48.9 -1.9**
MKAR **Makanchi Array** **119.96 308** Pdiff **Pdif** **15 34 19.6 +5.3**
comp=Z,0.3nm,0.8s,baz=108,slow=4.7,SNR=2.1
MKAR PKP **PKPdf** **15 37 48.7 -2.0**
comp=Z,2.6nm,0.7s,baz=64,slow=2.8,SNR=15
MKAR PP **PP** **15 39 14.7 -1.4**
comp=Z,13nm,1.1s,baz=106,slow=6.4,SNR=5.5
MKAR PKKPbc **PKKPbc** **15 48 01.3 +1.4**
comp=Z,1.1nm,0.7s,baz=307,slow=3.1,SNR=11
N53A **Lisbon** **120.04 60** **PKPdf** **15 37 50.6 -0.4**
MAKZ **Makanchi** **120.16 308** **PKPdf** **15 37 49.4 -1.8**
MAKZ **Makanchi** **120.16 308** ⇑PKIKP **PKPdf** **15 37 49.4 -1.8**
MCWV **Mont Chateau** **120.25 61** IAMs_20 IAMs_20 16 23 14.6
comp=Z,2µm,20.0s
MCWV **Mont Chateau** **120.25 61** P **PKPdf** **15 37 51.8 +0.2**
baz=245
SHLS **Shalkode** **120.33 303** *e*PKIKP **PKPdf** **15 37 49.7 -2.0**
SHLS **Shalkode** **120.33 303** *e*PKP **PKPdf** **15 37 49.8 -2.0**
baz=303
PDGK **Podgornoye** **120.38 303** PKIKP **PKPdf** **15 37 49.8 -2.0**
M53A **WI Miller and** **120.42 59** P **PKPdf** **15 37 51.5 -0.3**
baz=246
SJG **San Juan** **120.50 90** IAMs_20 IAMs_20 16 24 12.8
comp=Z,1µm,19.0s
UZB **Uzunbulak** **120.62 303** *e*PKIKP **PKPdf** **15 37 50.7 -1.6**
UZB **Uzunbulak** **120.62 303** *e*PKP **PKPdf** **15 37 50.8 -1.6**
baz=303
NIL **Nilore** **120.70 291** IAMs_20 IAMs_20 16 32 13.3
comp=Z,1µm,20.0s
KPKS **Kokpek** **120.97 303** *e*PKIKP **PKPdf** **15 37 50.4 -2.5**
KPKS *e* 15 39 20.1
KPKS **Kokpek** **120.97 303** *e*PKP **PKPdf** **15 37 50.4 -2.5**
baz=303
KPKS *e*PP **PP** **15 39 20.1 -3.1**
baz=303
SATY **Saty** **121.00 303** *e*PKIKP **PKPdf** **15 37 51.3 -1.7**
SATY *e* 15 39 20.5
SATY **Saty** **121.00 303** *e*PKP **PKPdf** **15 37 51.3 -1.7**
baz=303
SATY *e*PP **PP** **15 39 20.6 -2.8**
baz=303
ERPA **Erie** **121.16 59** P **PKPdf** **15 37 53.5 +0.3**
baz=246
ZAA0 **Zalesovo Array** **121.20 316** **PKPdf** **15 37 51.2 -1.7**
ZALV **Zalesovo Beam** **121.20 316** PKP **PKPdf** **15 37 51.2 -1.6**
comp=Z,4.7nm,0.8s,baz=82,slow=1.6,SNR=6.8
ZALV **Zalesovo Beam** **121.20 316** PKPdf **PKPdf** **15 37 50.8 -2.0**
KSH **Kashi** **121.23 298** PKP **PKPdf** **15 37 53.1 -0.5**
KSH AMB AMB
comp=Z,250nm,7.9s
KSH LR LR
comp=Z,590nm,17.9s
KSH LR LR
comp=Z,1µm,24.7s
KSH LR LR
comp=Z,2µm,24.7s
TMAB **Tom-Au,PA,Br** **121.37 121** *e*P **PKPdf** **15 37 52.9 -1.6**
TDK **Taldyqorghan** **121.75 305** *e*PKIKP **PKPdf** **15 37 52.8 -1.4**
TDK **Taldyqorghan** **121.75 305** *e*PKP **PKPdf** **15 37 52.9 -1.4**
baz=305
MDOK **Medeo** **121.95 302** PKIKP **PKiKP** **15 37 55.7 +0.7**
MDOK **Medeo** **121.95 302** *e*PKP **PKPdf** **15 37 53.0 -1.9**
baz=302
SSPA **Standing Stone** **122.02 61** IAMs_20 IAMs_20 16 21 29.4
comp=Z,2µm,22.0s
SSPA **Standing Stone** **122.02 61** P **PKPdf** **15 37 54.2 -0.6**
baz=246
CHKK **Chushkaly** **122.26 303** *e*PKIKP **PKPdf** **15 37 53.4 -1.8**
CHKK **Chushkaly** **122.26 303** *e*PKP **PKPdf** **15 37 53.5 -1.8**
baz=303
BIM **Bigot** **122.56 96** IAMs_20 IAMs_20 16 24 26.3
comp=Z,1µm,20.0s
SEM **Semipalatinsk** **122.57 311** *e*PKIKP **PKPdf** **15 37 54.1 -1.8**
SEM **Semipalatinsk** **122.57 311** *e*PKP **PKPdf** **15 37 54.1 -1.8**
baz=311
KUU **Kurty** **122.70 303** *e*PKIKP **PKPdf** **15 37 54.1 -2.0**
KUU **Kurty** **122.70 303** *e*PKP **PKPdf** **15 37 54.1 -2.0**
baz=303
SADO **Sadowa** **122.76 56** **PKPdf** **15 37 55.0 -1.1**
M57A **Sunshine Farm,** **122.82 60** **PKPdf** **15 37 56.1 -0.3**
TKM2 **Tokmak 2** **122.84 302** PKIKP **PKPdf** **15 37 54.2 -2.5**
ILAM **Ilet Lapin Mar** **122.86 96** IAMs_20 IAMs_20 16 27 24.2
comp=Z,1µm,20.0s
SMRT **St. Maarten** **122.92 92** IAMs_20 IAMs_20 16 31 59.0
comp=Z,1µm,18.0s
NBAN **Anadia - AL** **122.97 138** *e*P **PKPdf** **15 37 56.6 -1.0**
ABD **La Joyeuse, An** **123.32 94** IAMs_20 IAMs_20 16 24 20.6
comp=Z,2µm,20.0s
AAK **Ala-Archa** **123.49 301** PKP **PKPdf** **15 37 56.6 -1.3**
comp=Z,2.4nm,0.6s,baz=245,slow=3.7,SNR=5.3
AAK PP **PP** **15 39 38.5 -1.8**
comp=Z,8.8nm,1.1s,baz=44,slow=5.3,SNR=4.3
AAK **Ala-Archa** **123.49 301** PKPdf **PKPdf** **15 37 56.8 -1.0**
AAK **Ala-Archa** **123.49 301** PKIKP **PKPdf** **15 37 56.8 -1.0**
AAK MLR MLR
comp=Z,800nm,20.0s
GDSD **La Dsirade Is** **123.57 95** IAMs_20 IAMs_20 16 29 54.2
comp=Z,1µm,20.0s
ROSB **Rosrio** **123.64 125** *e*P **PKPdf** **15 37 57.2 -1.6**
KURK **Kurchatov** **123.66 311** **PKPdf** **15 37 55.9 -1.8**
KURK **Kurchatov** **123.66 311** PKIKP **PKPdf** **15 37 55.9 -1.8**
KURK MLR MLR
comp=Z,800nm,21.0s
KURBB **Kurchatov Arra** **123.68 311** PKP **PKPdf** **15 37 56.1 -1.6**
comp=Z,6.0nm,0.6s,baz=118,slow=2.0,SNR=29
KURBB PP **PP** **15 39 35.6 -5.6**
comp=Z,5.0nm,1.1s,baz=113,slow=6.5,SNR=4.3
KURBB PKKPbc **PKKPbc** **15 47 46.9 +1.2**
comp=Z,1.1nm,0.2s,baz=277,slow=4.3,SNR=4.8
KURBB **Kurchatov Arra** **123.68 311** PKIKP **PKPdf** **15 37 54.3 -3.4**
SGDS **Sogindy** **123.69 302** *e*PKIKP **PKPdf** **15 37 56.2 -1.9**
SGDS **Sogindy** **123.69 302** *e*PKP **PKPdf** **15 37 56.3 -1.9**
baz=302
J56A **Wolcott** **123.74 58** **PKPdf** **15 37 56.5 -1.5**
ANWB **Willy Bob** **123.74 93** IAMs_20 IAMs_20 16 26 03.8
comp=Z,1µm,19.0s
K57A **Scipio Center** **123.77 59** PKPdf **PKPdf** **15 37 56.6 -1.6**
BINY **Binghamton** **123.94 60** **PKPdf** **15 37 57.8 -0.7**
BINY **Binghamton** **123.94 60** P **PKPdf** **15 37 57.3 -1.2**
baz=248
KBL **Kabul** **124.23 290** **PKPdf** **15 37 58.5 -1.1**
KBL **Kabul** **124.23 290** PKIKP **PKPdf** **15 37 58.5 -1.1**
J57A **Williamstown** **124.37 58** **PKPdf** **15 37 59.1 -0.1**
NBRF **Rio Formoso -** **124.41 138** *e*P **PKPdf** **15 37 58.5 -1.9**
BTLS **Baital** **124.65 304** *e*PKIKP **PKPdf** **15 37 57.8 -2.0**
BTLS **Baital** **124.65 304** *e*PKP **PKPdf** **15 37 57.9 -2.0**
baz=304
NRIK **Noril'sk** **124.66 334** PKP **PKPdf** **15 37 58.6 -0.5**
comp=Z,9.8nm,0.6s,baz=95,slow=3.1,SNR=18
NRIK **Noril'sk** **124.66 334** PKPdf **PKPdf** **15 37 58.2 -0.8**
NRIK **Noril'sk** **124.66 334** PKIKP **PKPdf** **15 37 58.2 -0.8**
J58A **Remsen** **124.84 59** **PKPdf** **15 37 59.8 -0.4**
SOCY **Socotra** **124.90 258** IAMs_20 IAMs_20 16 27 50.8
comp=Z,2µm,20.0s
PAL **Palisades** **124.95 62** **PKPdf** **15 38 00.5 +0.1**
PAL IAMs_20 IAMs_20 16 27 09.1
comp=Z,2µm,20.0s
PAL **Palisades** **124.95 62** PKIKP **PKPdf** **15 38 00.5 +0.1**
PAL MLR MLR
comp=Z,2µm,20.0s
PAL **Palisades** **124.95 62** P **PKPdf** **15 38 00.4 0.0**
baz=248
VLDQ **Val d'Or** **125.01 53** PKPdf **PKPdf** **15 37 59.4 -0.9**
GAR **Garm** **125.06 295** **PKPdf** **15 38 00.1 -0.9**
J59A **Piesco** **125.41 59** **PKPdf** **15 38 00.7 -0.6**
TRY **Troy** **125.73 60** **PKPdf** **15 38 02.3 +0.4**
YLE **Yale** **125.75 62** IAMs_20 IAMs_20 16 27 50.5
comp=Z,2µm,20.0s
LONY **Lake Ozonia** **125.75 57** PKPdf **PKPdf** **15 38 01.5 -0.4**
LONY **Lake Ozonia** **125.75 57** P **PKPdf** **15 38 01.9 0.0**
baz=251
NCB **Newcomb** **125.78 58** **PKPdf** **15 38 02.0 0.0**
TRQ **Mont Tremblant** **126.28 56** PKPdf **PKPdf** **15 38 02.1 -0.9**
L61B **Northampton** **126.32 61** **PKPdf** **15 38 03.2 +0.1**
L61B **Northampton** **126.32 61** P **PKPdf** **15 38 03.0 -0.1**
baz=250
RCBR **Riachuelo** **126.34 135** *e*P **PKPdf** **15 38 02.6 -1.5**
KK31 **Karatay Array** **126.39 300** **PKPdf** **15 38 01.3 -1.9**
KK31 **Karatay Array** **126.39 300** PKIKP **PKPdf** **15 38 01.3 -1.9**
KKAR **Karatay Array** **126.39 300** PKPdf **PKPdf** **15 38 01.1 -2.1**
KKAR **Karatay Array** **126.39 300** PKIKP **PKPdf** **15 38 01.1 -2.1**
IUG **luzhnay** **126.40 299** *e*PKIKP **PKPdf** **15 38 01.6 -1.7**
IUG **luzhnay** **126.40 299** *e*PKP **PKPdf** **15 38 01.7 -1.7**
baz=299
UCCT **U. Connecticut** **126.41 61** **PKPdf** **15 38 03.3 +0.1**
KIBK **Kibwezi** **126.42 232** PKPdf **PKPdf** **15 38 04.5 +0.2**
J61A **Chester** **126.71 60** **PKPdf** **15 38 04.0 +0.2**
CHM **Chimkent** **126.76 299** PKIKP PKPdf 15 37 55.2 -8.7
OTUK **Ortayu** **126.79 307** PKIKP **PKPdf** **15 38 01.4 -2.4**
BRZS **Berezniki** **127.06 309** *e*PKIKP **PKPdf** **15 38 02.8 -1.4**
BRZS **Berezniki** **127.06 309** *e*PKP **PKPdf** **15 38 02.9 -1.4**
baz=309
EUNU **Eureka** **127.16 13** **PKPdf** **15 38 02.6 -1.1**
LBNH **Lisbon** **127.43 59** P **PKPdf** **15 38 05.4 +0.3**
baz=252
KMBO **Kilima Mbogo** **127.86 232** PKP **PKPdf** **15 38 07.6 +0.3**
comp=Z,11nm,1.0s,baz=39,slow=1.9,SNR=15
H62A **Milan** **128.06 59** **PKPdf** **15 38 07.2 +0.9**
I63A **Otisfield** **128.29 59** PKPdf **PKPdf** **15 38 07.2 +0.5**
BVA0 **Borovoye Array** **129.19 312** *i* PKIKP **PKPdf** **15 38 06.9 -1.3**
BVAR **Borovoye Array** **129.19 312** PKP **PKPdf** **15 38 08.2 0.0**
comp=Z,2.5nm,0.5s,baz=101,slow=1.5,SNR=18
BVAR SKPbc SKPbc 15 41 26.5 +0.5
comp=Z,6.8nm,1.0s,baz=92,slow=4.9,SNR=4.4
BRVK **Borovoye** **129.26 312** **PKPdf** **15 38 07.4 -0.9**
BRVK **Borovoye** **129.26 312** PKIKP **PKPdf** **15 38 07.4 -0.9**
BRVK MLR MLR
comp=Z,900nm,21.0s
LMQ **La Malbaie** **129.44 55** **PKPdf** **15 38 08.3 -0.5**
PKME **Peaks-Kenny Pk** **129.52 58** P **PKPdf** **15 38 09.6 +0.6**
baz=254
TULEG **Thule** **131.00 17** IAMs_20 IAMs_20 16 37 17.9
comp=Z,1µm,20.0s
GGN **Saint George** **131.15 59** **PKPdf** **15 38 11.8 -0.4**
LODK **Lodwar** **132.54 234** PKPdf **PKPdf** **15 38 15.5 -0.4**
LODK IAMs_20 IAMs_20 16 31 07.1
comp=Z,1µm,19.0s
SCHQ **Schefferville** **132.95 46** PKP **PKPdf** **15 38 14.2 -1.1**
comp=Z,9.7nm,1.0s,baz=59,slow=15,SNR=3.0
SCHQ SKPbc **SKPbc** **15 41 40.7 +1.4**
comp=Z,18nm,0.8s,baz=318,slow=2.4,SNR=6.9
GEYT **Alibeck** **133.68 290** PKHKP PKPpre 15 38 09.6
comp=Z,3.3nm,0.8s,baz=255,slow=5.7,SNR=3.5
GEYT PKP **PKPdf** **15 38 16.3 -1.0**
comp=Z,6.1nm,0.8s,baz=251,slow=4.5,SNR=6.5
GEYT SKPbc **SKPbc** **15 41 42.2 -0.2**
comp=Z,15nm,0.8s,baz=153,slow=1.0,SNR=5.8
GBN **Guysborough** **134.88 60** **PKPdf** **15 38 20.1 +0.9**
AB31 **Akbulak array** **135.00 306** PKIKP **PKPdf** **15 38 18.7 -0.6**
ARU **Arti** **136.37 316** PKPdf **PKPdf** **15 38 21.9 +0.3**
ARU IAMs_20 IAMs_20 16 51 02.9
comp=Z,1µm,19.0s
ARU **Arti** **136.37 316** *i* PKIKP **PKPdf** **15 38 22.4 +0.8**
ARU 15 41 00.7
ARU PPP PPP 15 44 00.6
ARU SS SS 15 58 54.8 -7.0
AKTO **Aktyubinsk** **136.39 307** PKHKP PKPpre 15 38 14.0
RAYN **Ar Rayn** **137.87 265** ⇑PKIKP **PKiKP** **15 38 28.7 +1.2**
SPA0 **Spitsbergen Ar** **138.22 355** *e*PKPdf **PKPdf** **15 38 23.5 -1.0**
SPA0 IAmb IAmb 15 38 27.1
comp=Z,83nm,1.2s
SPITS **Spitsbergen Ar** **138.22 355** PKhKP PKPpre 15 38 16.7
comp=Z,1.1nm,0.5s,baz=76,slow=7.0,SNR=1.8
SPITS PKP **PKPdf** **15 38 24.3 -0.2**
comp=Z,11nm,0.6s,baz=78,slow=4.6,SNR=12
SPITS SKPbc **SKPbc** **15 41 52.5 -2.6**
comp=Z,30nm,0.9s,baz=118,slow=11,SNR=10.0
SPB2 **Spitsbergen Ar** **138.22 355** **PKPdf** **15 38 25.0 +0.5**
SUMG **Summit** **139.93 16** IAMs_20 IAMs_20 16 41 16.6
comp=Z,1µm,20.0s
KIRV **Kirov** **141.08 320** PKhKP PKPpre 15 38 25.7
comp=Z,23nm,1.1s,baz=26,slow=3.2,SNR=1.7
KIRV SKPbc **SKPbc** **15 42 02.7 -0.5**
comp=Z,14nm,0.8s,baz=63,slow=3.5,SNR=5.9
PRGR **Permogore** **142.15 325** *e*PKIKP **PKPdf** **15 38 29.2 -2.7**
MAK **Makhachkala** **142.71 294** *e*P **Pdif** **15 35 46.4 -9.1**
MAK *i* 15 38 31.0
MAK *e* 15 45 43.0
MAK pmax pmax
comp=Z,183nm,1.4s
BELG **Belogornoye** **142.91 310** PKhKP PKPpre 15 38 29.7
baz=311,slow=1.8
BELG SKPbc **SKPbc** **15 42 05.9 -2.1**
comp=Z,50nm,0.9s,baz=157,slow=3.1,SNR=4.5
LVZ **Lovozero** **143.31 338** IAMs_20 IAMs_20 16 46 18.3
comp=Z,1µm,21.0s
APA **Apatity** **143.89 338** ⇑PKIKP PKPab 15 38 32.7 +0.6
APA *i* 15 41 58.0
APA pmax pmax
comp=Z,22nm,1.1s
APA MLR MLR
comp=Z,1µm,20.0s
GROC **Groznyy** **143.98 295** *e*PKIKP PKPab 15 38 33.3 +0.1
GROC pmax pmax
comp=Z,611nm,1.2s
KEV **Kevo** **144.00 344** PKPbc 15 38 33.5 +0.5
KEV IAMs_20 IAMs_20 16 38 40.1
comp=Z,1µm,21.0s
KEV **Kevo** **144.00 344** PKIKP PKPbc 15 38 33.5 +0.5
KEV MLR MLR
comp=Z,1µm,21.0s
GNI **Garni** **144.31 289** *e*P **PKPab** **15 38 33.3 -1.5**
GNI **Garni** **144.31 289** **PKPab** **15 38 34.9 +0.1**
GNI **Garni** **144.31 289** IAMs_20 IAMs_20 16 45 05.8
comp=Z,920nm,21.0s
GNI **Garni** **144.31 289** PKIKP **PKPab** **15 38 34.9 +0.1**
GNI MLR MLR
comp=Z,900nm,21.0s
ANGG **Ammassalik, Gr** **144.50 25** **PKPab** **15 38 33.3 -1.1**
ANGG IAMs_20 IAMs_20 16 45 00.3
comp=Z,1µm,20.0s
ARA0 **ARCESS Array S** **144.50 344** *e*PKPab **PKPab** **15 38 33.8 -0.6**
ARA0 IAmb IAmb 15 38 38.4
comp=Z,35nm,0.9s
ARCES **ARCESS Array B** **144.50 344** PKP **PKPab** **15 38 33.8 -0.6**
comp=Z,18nm,0.7s,baz=48,slow=2.8,SNR=36
ARCES SKPbc **SKPbc** **15 42 10.9 -0.4**
comp=Z,21nm,0.9s,baz=90,slow=1.2,SNR=6.0
CUKT **Cukurca** **144.57 284** *e*P **PKPab** **15 38 33.4 -2.4**
TASB **TASBURUN-IGDIR** **144.66 289** *e*P **PKPab** **15 38 34.9 -1.1**
CLDR **Caldiran** **144.75 287** *e*P **PKPab** **15 38 34.4 -2.2**
SCO **Scoresbysund** **144.85 12** **PKPab** **15 38 35.8 +0.2**
SCO IAMs_20 IAMs_20 16 49 53.4
comp=Z,846nm,19.0s
SCO **Scoresbysund** **144.85 12** PKIKP **PKPab** **15 38 35.8 +0.2**
SCO MLR MLR
comp=Z,800nm,19.0s
VANB **Van** **145.04 286** *e*P **PKPbc** **15 38 36.4 -1.1**
KLMR **Klimovskoe** **145.19 326** *e*PKHKP PKPpre 15 38 33.8
KLMR pmax pmax
comp=Z,217nm,1.3s
KLMR **Klimovskoe** **145.19 326** *e*PKPdf **PKPbc** **15 38 33.9 -3.1**
KLMR AMP 15 38 43.9
comp=Z,217nm,1.3s
KLMR *e*SKP 15 42 10.8
KLMR LQ LQ 16 30 15.8
KLMR LQ LQ 16 30 15.8
KLMR LR LR 16 36 12.7
GEVA **Gevas** **145.24 286** **PKPbc** **15 38 36.5 -1.7**
AKDM **Akdamar-Van** **145.30 286** *e*P **PKPbc** **15 38 37.1 -1.3**
ZEI **Tsey** **145.31 294** *i* PKP2 **PKPbc** **15 38 35.7 -2.6**
ZEI pmax pmax
comp=Z,242nm,1.4s
KTK1 **Kautokeino** **145.41 345** *e*PKPdf **PKPdf** **15 38 36.1 -1.4**
KTK1 IAmb IAmb 15 38 40.6
comp=Z,122nm,1.5s
JETT **Jettan, Norway** **145.51 347** *e*PKPbc **PKPbc** **15 38 36.5 -1.2**
JETT IAmb IAmb 15 38 44.5
comp=Z,76nm,1.2s
AGRB **Hanur-Agry** **145.53 288** *e*P **PKPdf** **15 38 38.1 -0.8**
KARS **Kars** **145.64 290** *e*P **PKPdf** **15 38 38.4 -0.6**
TRO **Tromso** **145.70 348** *e*PKPbc **PKPdf** **15 38 37.2 -0.8**
TRO IAmb IAmb 15 38 45.6
comp=Z,429nm,1.6s
MLAZ **Malazgirt-MUS** **145.79 287** *e*P **PKPdf** **15 38 39.3 0.0**
JMIC **Jan Mayen** **145.90 4** PKPbc **PKPab** **15 38 40.8 +1.2**
comp=Z,52nm,0.8s,baz=96,slow=12,SNR=3.1
GURO **Guroymak-BITLI** **146.07 286** *e*P **PKPdf** **15 38 39.5 -0.3**
GURO **Guroymak-BITLI** **146.07 286** **PKPdf** **15 38 39.9 +0.1**
GOF **Gofitskoye** **146.10 298** ⇑*e*PKP2 **PKPbc** **15 38 40.4 0.0**
GOF pmax pmax

comp=Z,258nm,1.2s
KBZ Khabaz 146.13 295 PKPbc **PKPdf** **15 38 39.5 0.0**
comp=Z,17nm,0.9s,baz=85,slow=3.4,SNR=30
SENK Senkaya-Erzuru 146.18 289 *e*P **PKPdf** **15 38 39.9 -0.1**
KIV Kislovodsk 146.30 296 ⇑P **PKPbc** **15 38 41.4 +0.2**
KIV Kislovodsk 146.30 296 *e*P **PKPdf** **15 38 38.6 -1.3**
KIV Kislovodsk 146.30 296 PKPbc **PKPdf** **15 38 40.2 +0.3**
KIV Kislovodsk 146.30 296 *d* iPKP2 **PKPdf** **15 38 40.4 +0.5**
KIV pmax pmax
comp=Z,95nm,1.1s
KOPR Koprukoy-ERZUR 146.47 288 *e*P **PKPdf** **15 38 40.5 +0.1**
VRTB Varto-Mus 146.63 287 *e*P **PKPab** **15 38 44.2 +0.6**
SVAN Silvan-Diyarba 146.64 285 *e*P **PKPdf** **15 38 39.6 -1.0**
VRH Novokhopyorsk 146.69 309 *e*PKP2 **PKPdf** **15 38 40.2 0.0**
VRH pmax pmax
comp=Z,370nm,1.5s
MARD Mardin 146.78 283 **PKPdf** **15 38 41.3 +0.3**
MAZI Mazidag 147.07 283 *e*P **PKPdf** **15 38 40.2 -1.3**
BNGB Bingl 147.19 286 *e*P **PKPdf** **15 38 42.7 +1.1**
DYBB Diyarbakir 147.41 284 *e*P **PKPdf** **15 38 43.5 +1.5**
CHOM Cayeli-Rize 147.45 290 *e*P **PKPbc** **15 38 44.5 +0.1**
STEI Steigen 147.84 348 *e*PKPbc **PKPdf** **15 38 43.5 +1.9**
STEI IAmb IAmb 15 38 57.3
comp=Z,202nm,1.1s
LOF Lofoten 147.91 350 *e*PKPbc **PKPdf** **15 38 42.5 +0.8**
LOF IAmb IAmb 15 38 54.2
comp=Z,154nm,1.2s
MOS Moscow 148.01 318 *i* PKP2 **PKPdf** **15 38 44.2 +2.0**
MOS *e* 15 42 11.5
MOS pmax pmax
comp=Z,311nm,1.4s
LPSR Galich'ya Gora 148.14 312 *e*PKP2 **PKPdf** **15 38 44.1 +1.6**
LPSR pmax pmax
comp=Z,160nm,0.9s
VORR Voronezh 148.16 310 *e*PKIKP **PKPdf** **15 38 42.2 -0.4**
VORR pmax pmax
comp=Z,250nm,1.4s
PTK Pertek 148.17 286 *e*P **PKPdf** **15 38 41.4 -1.9**
KTUT Trabzon 148.18 290 ⇑P **PKPbc** **15 38 47.2 +0.9**
KTUT Trabzon 148.18 290 *e*P **PKPbc** **15 38 45.4 -0.9**
VSR Storozhevoye 148.27 309 *e*PKIKP **PKPdf** **15 38 43.5 +0.7**
VSR pmax pmax
comp=Z,90nm,1.0s
FAUS Fauske 148.33 348 *e*PKPbc **PKPbc** **15 38 44.9 -1.0**
FAUS IAmb IAmb 15 38 56.1
comp=Z,142nm,1.0s
URFA Urfa 148.34 283 *e*P **PKPdf** **15 38 37.9 -5.6**
SOC Sochi 148.43 295 *i* PKIKP **PKPdf** **15 38 43.8 +0.5**
SOC *e*SS SS 16 02 00.3 +38
SOC pmax pmax
comp=Z,92nm,1.1s
OBN Obninsk 148.78 317 ⇑P **PKPdf** **15 38 45.0 +1.5**
OBN Obninsk 148.78 317 PKPdf **PKPdf** **15 38 43.1 -0.3**
OBN IAMs_20 IAMs_20 16 50 38.3
comp=Z,1μm,22.0s
OBN Obninsk 148.78 317 ⇑ *e*PKIKP **PKPdf** **15 38 43.4 -0.1**
OBN *i* 15 38 52.3
OBN *e*SS SS 16 01 21.9 -3.3
OBN pmax pmax
comp=Z,136nm,1.5s
OBN pmax pmax
comp=Z,185nm,1.2s
LIC Lamto 149.00 173 ⇑ *e*PKIKP **PKPbc** **15 38 49.1 -0.1**
comp=Z,149nm,0.8s
ARPR Arapgir-MALATY 149.01 286 *e*P **PKPbc** **15 38 47.9 -0.9**
EIL Elat 149.06 267 *e*P **PKPdf** **15 38 43.4 -1.4**
KIC Kosan Boka 149.16 173 ⇑ *e*PKIKP **PKPbc** **15 38 49.5 -0.2**
comp=Z,61nm,0.8s
TIC Toumodi 149.41 173 ⇑ *e*PKIKP **PKPbc** **15 38 49.9 -0.4**
comp=Z,79nm,0.8s
DBIC Dimbokro 149.46 173 PKPbc **PKPbc** **15 38 50.8 +0.4**
comp=Z,36nm,0.9s,baz=169,slow=3.3,SNR=20
DBIC Dimbokro 149.46 173 PKPbc **PKPbc** **15 38 49.7 -0.7**
DBIC Dimbokro 149.46 173 ⇑PKP2 **PKPbc** **15 38 51.1 +0.7**
KONS Konsvik 149.49 349 *e*PKPbc **PKPbc** **15 38 47.9 -0.9**
KONS IAmb IAmb 15 38 49.9
comp=Z,125nm,1.5s
MOR8 Moi Rana 149.57 348 *e*PKPbc **PKPbc** **15 38 47.5 -1.6**
MOR8 IAmb IAmb 15 38 49.3
comp=Z,204nm,2.0s
DARE Darende-Malaty 149.58 285 *e*P **PKPbc** **15 38 48.6 -1.5**
STOK Stokkvaagen 149.66 349 *e*PKPbc **PKPbc** **15 38 47.9 -1.3**
MMLI Mount Malkishu 149.69 272 *e*P **PKPdf** **15 38 45.3 -0.5**
QRWL Qaraoun 149.83 274 *e*P **PKiKP** **15 38 52.2 +0.4**
KMRS Kahramanmaras 149.84 282 *e*P **PKPbc** **15 38 49.5 -1.2**
BORG Borgarnes 149.90 17 PKPbc **PKiKP** **15 38 50.9 +0.1**
comp=Z,60nm,1.1s,baz=258,slow=2.5,SNR=7.2
BORG Borgarnes 149.90 17 **PKPbc** **15 38 50.8 +0.9**
BORG Borgarnes 149.90 17 IAMs_20 IAMs_20 16 44 02.3
comp=Z,2μm,22.0s
BORG Borgarnes 149.90 17 PKP2 **PKPbc** **15 38 50.8 +0.9**
BORG MLR MLR
comp=Z,2μm,22.0s
BHL Bhannes 149.96 275 *e*P **PKPbc** **15 38 51.4 +0.2**
RSDY Resadiye-TOKAT 149.96 288 *e*P **PKPdf** **15 38 48.8 +2.8**
DQRL Deir Qamar 149.97 275 *e*P **PKPbc** **15 38 51.9 +0.7**
ANN Anapa 150.08 297 *i* PKP2 **PKPbc** **15 38 51.1 +0.1**
ANN pmax pmax
comp=Z,68nm,0.9s
SVSK Karacayir 150.15 287 *e*P **PKPbc** **15 38 50.5 -0.8**
TAHT Tahtakopru-Hat 150.17 280 *e*P **PKPbc** **15 38 50.8 -0.7**
FIA1 FINESS Array S 150.31 334 **PKPdf** **15 38 45.5 -0.3**
FINES FINESS Array B 150.32 334 PKPbc **PKPbc** **15 38 50.0 -1.0**
comp=Z,47nm,0.7s,baz=62,slow=3.1,SNR=37
FINES FINESS Array B 150.32 334 PKPdf **PKPdf** **15 38 45.4 -0.3**
SARI SarD1z-Kayseri 150.38 284 *e*P **PKPdf** **15 38 46.8 -0.1**
TOKT Tokat 150.54 288 *e*P **PKiKP** **15 38 53.2 +0.2**
CEYT Ceyhan 150.65 281 *e*P **PKPbc** **15 38 53.3 +0.7**
KOZT Kozan 150.68 282 *e*P **PKPdf** **15 38 46.2 -0.9**
BNN Bunyan 150.89 285 *e*P **PKPdf** **15 38 44.8 -2.8**
BNN Bunyan 150.89 285 PKPdf **PKPdf** **15 38 46.1 -1.5**
KVT Kavak 150.99 289 *e*P **PKPbc** **15 38 53.9 +0.6**
YOZ Yozgat 151.40 286 *e*P **PKPdf** **15 38 44.5 -3.9**
NSS Namsos 151.50 348 *e*PKPbc **PKPbc** **15 38 52.7 -1.0**
NSS IAmb IAmb 15 39 01.5
comp=Z,130nm,1.2s
MERS Mersin 151.58 280 *e*P **PKPdf** **15 38 45.6 -3.0**
DIKM Dikmen 151.62 290 ⇓P **PKiKP** **15 38 55.7 +0.6**
MEF Metsahovi 151.76 333 *e*P **PKPbc** **15 38 53.6 -0.7**
KIZK Mersin 151.80 279 *e*P **PKPbc** **15 38 53.9 -1.4**
VSU Vasula 151.98 328 *e*P **PKPbc** **15 38 53.1 -1.8**
CORM Corum 151.99 287 *e*P **PKPdf** **15 38 47.6 -1.6**
RAF Rauma 152.08 336 *e*P **PKPbc** **15 38 55.3 +0.2**
CSS Mathiatis 152.09 276 *e*P **PKPbc** **15 38 54.7 -1.3**
CSS Mathiatis 152.09 276 PKPdf **PKPdf** **15 38 48.4 -0.9**
CSS PKPbc **PKPbc** **15 38 55.1 -1.0**
IKL Isikli 152.11 279 *e*P **PKPbc** **15 38 54.0 -2.0**
SIM Simferopol' 152.43 298 *e*PKIKP **PKPbc** **15 38 54.9 -1.5**
SIM 15 39 01.8
SIM pmax pmax
comp=Z,31nm,0.8s
YAYX Yaylak 152.48 284 *e*P **PKPdf** **15 38 47.9 -2.1**
LEF Lefka 152.48 276 *e*P **PKPdf** **15 38 50.7 +0.8**
BERE Bereket-Mersin 152.50 279 *e*P **PKPbc** **15 38 55.2 -1.9**
TEKE Tekeli-Mersin 152.54 278 *e*P **PKPbc** **15 38 54.5 -2.5**
BRTR Keskin Array B 152.70 286 PKP **PKPdf** **15 38 50.5 +0.2**
comp=Z,2.1nm,0.9s,baz=142,slow=4.7,SNR=9.1
BRTR PKPbc **PKPbc** **15 38 55.9 -1.5**
comp=Z,13nm,0.9s,baz=139,slow=3.6,SNR=32
BRTR Keskin Array B 152.70 286 PKPdf **PKPdf** **15 38 49.1 -1.2**
BRTR PKPbc **PKPbc** **15 38 56.0 -1.5**
ILGA Ilgaz 152.75 289 PKPdf **PKPdf** **15 38 49.5 -1.0**
ILGA **PKPbc** **15 38 56.2 -1.4**
CANT Cankiri 152.79 288 *e*P **PKPbc** **15 38 57.4 -0.1**
MTSE Matsula 153.00 331 *e*P **PKiKP** **15 38 58.1 +0.8**
GAZI Gazipasa 153.19 278 *e*P **PKPbc** **15 38 58.1 -0.3**
ANTO Ankara 153.36 286 ⇓P **PKiKP** **15 38 59.9 +1.0**
ANTO Ankara 153.36 286 *e*P **PKPbc** **15 38 58.3 -0.5**
ANTO Ankara 153.36 286 **PKPbc** **15 38 59.1 +0.3**
ANTO Ankara 153.36 286 IAMs_20 IAMs_20 16 51 31.5
comp=Z,1μm,19.0s
ANTO Ankara 153.36 286 PKIKP **PKPbc** **15 38 59.1 +0.3**
ANTO MLR MLR
comp=Z,1μm,19.0s
LOD Lodumlu 153.39 286 *e*P **PKPbc** **15 38 58.0 -0.8**
MNK Minsk 153.62 320 *i* PKIKP **PKPdf** **15 38 51.0 +0.1**
MNK *i* 15 42 46.4
MNK *i* 15 45 54.8
MNK *i* PPP PPP 15 46 14.0
MNK *i* SS SS 16 02 21.5 +3.0
MNK *i* SSS SSS 16 08 13.2
MNK pmax pmax
comp=E,13nm,1.0s
MNK pmax pmax
comp=Z,149nm,1.0s
MNK Minsk 153.62 320 *i* PKP **PKPdf** **15 38 51.1 +0.1**
comp=E,13nm,1.0s
MNK *i* PKP **PKPdf** **15 38 51.1 +0.1**
MNK *i* PKP **PKPdf** **15 38 51.1 +0.1**
comp=Z,149nm,1.0s,baz=61
MNK *i* PP **PP** **15 42 46.5 +0.5**
MNK *i* SKS **SKSdf** **15 45 54.8 +0.9**
MNK *i* PPP PPP 15 46 14.1
MNK *i* SKKS **SKKSdf** **15 54 38.9 +2.6**
MNK *i* SS **SS** **16 02 21.6 +3.1**
MNK *i* SSS SSS 16 08 13.3
MNK *i* LR LR 16 52 11.6
MNK *i* LRM MLR 16 57 06.8
comp=E,116nm,20.6s
MNK *i* LRM MLR 16 58 21.0
comp=Z,777nm,20.6s
ISAL Salakas 153.93 324 *e*P **PKiKP** **15 39 00.5 +1.1**
NACGM Naroch 153.97 322 ‖ *e*PKP **PKPdf** **15 38 50.1 -1.3**
baz=59
IIGN Ignalina 154.00 323 *e*P **PKiKP** **15 39 00.9 +1.3**
MOL Molde 154.01 351 *e*PKPbc **PKPbc** **15 38 58.2 -1.1**
DOMB Dombas 154.30 349 *e*PKPbc **PKPbc** **15 38 59.4 -0.7**
DOMB IAmb IAmb 15 39 07.5
comp=Z,66nm,1.4s
SLIT Slitere, Latvi 154.33 330 *e*P **PKPbc** **15 39 00.5 +0.4**
AKN Aaknes 154.46 351 *e*pPKPdf **PKPbc** **15 38 59.9 -0.5**
AKN IAmb IAmb 15 39 02.3
comp=Z,654nm,2.3s
AKASG Malin Array Be 154.47 312 PKP **PKPdf** **15 38 51.5 -0.8**
comp=Z,0.5nm,0.3s,baz=49,slow=1.4,SNR=14
AKASG PKPbc **PKPbc** **15 38 60.0 -0.7**
comp=Z,10nm,0.7s,baz=54,slow=3.0,SNR=16
NC303 NORSAR Array S 154.66 346 **PKPdf** **15 38 52.4 +0.2**
NB201 NORSAR Array S 154.83 346 **PKPdf** **15 38 51.0 -1.5**
NB2 NORSAR Subarra 154.86 346 PKP **PKPdf** **15 38 51.7 -0.8**
comp=Z,1.4nm,0.8s,baz=36,slow=2.9
NOA NORSAR Array B 154.86 346 PKP **PKPdf** **15 38 51.4 -1.1**
comp=Z,17nm,1.3s,baz=24,slow=1.7,SNR=8.4
NOA PKPbc **PKPbc** **15 39 00.7 -0.6**
comp=Z,9.0nm,1.1s,baz=31,slow=1.7,SNR=9.3
NBO00 NORSAR Array S 154.95 346 **PKPdf** **15 38 52.3 -0.3**
SHUT Suhut-Afyon 154.96 283 *e*P **PKPdf** **15 38 52.3 -1.2**
PABE Paberze 154.97 325 IAMs_20 IAMs_20 17 00 41.6
comp=Z,1μm,21.0s
PABE Paberze 154.97 325 *e*P **PKiKP** **15 39 05.3 +3.7**
NAO01 NORSAR Array S 155.10 346 **PKPdf** **15 38 52.8 0.0**
HFS Hagfors 155.12 342 PKPbc PKPdf 15 39 01.1 +8.3
ELL Elmali 155.19 279 *e*P **PKPdf** **15 38 52.2 -1.7**
HYA Hoyanger 155.54 351 *e*pPKPdf pPKPdf 15 39 00.8 -5.6
PBUR Paburge 155.54 328 *e*P PKPdf 15 39 06.4 +13
MILM Milestii Mici 155.81 303 ⇑P PKPdf 15 39 01.3 +7.1
MILM Milestii Mici 155.81 303 ⇑PKIKP PKPdf 15 39 01.3 +7.1
TORD Torodi Ar. Bea 155.94 187 PKP **PKPdf** **15 38 56.5 +1.2**
comp=Z,9.2nm,1.0s,baz=142,slow=0.2,SNR=12
TORD PKPab **PKPab** **15 39 22.6 +0.3**
comp=Z,40nm,0.9s,baz=170,slow=3.2,SNR=22
KONO Kongsberg 156.45 346 IAMs_20 IAMs_20 16 59 18.2
comp=Z,1μm,20.0s
KONO Kongsberg 156.45 346 ⇑PKIKP **PKPdf** **15 38 54.8 +0.2**
KONO Kongsberg 156.45 346 *e*pPKPdf **pPKPdf** **15 39 02.5 -5.1**
KONO *e* 15 39 12.3
TIRR Tirgusor 156.53 297 ⇑P **PKPdf** **15 39 01.7 +6.5**
TIRR Tirgusor 156.53 297 ⇑PKIKP **PKPdf** **15 39 01.7 +6.5**
CFR Carcaliu 156.61 299 ⇑P **PKPdf** **15 38 59.7 +4.4**
CFR Carcaliu 156.61 299 ⇑PKIKP **PKPdf** **15 38 59.7 +4.4**
PSN Preselentsi 156.79 295 P **PKPab** **15 39 30.7 +5.3**
HARR Harsova 156.84 298 ⇑P PKPdf 15 39 06.7 +11
KARP Karpathos 157.14 275 **PKPab** **15 39 25.8 -1.5**
KARP IAMs_20 IAMs_20 17 02 15.6
comp=Z,1μm,21.0s
BLS5 Blasjo 157.19 350 *e*pPKPdf **PKPdf** **15 39 01.8 +6.1**
TESR Tescani 157.35 303 ⇑P **PKPdf** **15 38 53.6 -2.6**
PRD Provadia 157.40 294 P **PKPab** **15 39 28.2 +0.1**
VRI Vrincioaia 157.45 301 ⇓P PKPdf 15 39 08.1 +12
BIZ Bicaz 157.60 304 ⇑P **PKPdf** **15 38 57.7 +1.1**
LVV L'vov 157.88 313 *e*PKP2 **PKPab** **15 39 30.8 +0.8**
LVV MLR MLR
comp=E,300nm,24.0s
LVV MLR MLR
comp=N,300nm,23.0s
LVV MLR MLR
comp=Z,600nm,24.0s
HOMB Homborsund 157.95 346 *e*pPKPdf pPKPdf 15 39 04.5 -5.1
BURAR Bucovina Array 157.98 307 ⇓P PKPdf 15 39 07.4 +10
BURAR Bucovina Array 157.98 307 PKPdf **PKPdf** **15 38 56.2 -0.9**
BURAR PKPab **PKPab** **15 39 30.4 -0.2**
BURAR Bucovina Array 157.98 307 ⇓PKIKP PKPdf 15 39 07.4 +10
JMB Yambol 158.07 293 P **PKPab** **15 39 28.4 -2.6**
MLR Muntele Rosu 158.07 301 ⇑P **PKPdf** **15 38 57.5 +0.1**
MLR Muntele Rosu 158.07 301 PKPdf **PKPdf** **15 38 56.5 -0.9**
MLR Muntele Rosu 158.07 301 ⇑PKIKP **PKPdf** **15 38 57.5 +0.1**
DOPR Dopca 158.34 302 ⇑P **PKPdf** **15 38 58.8 +1.3**
SANT Santorini 158.65 276 IAMs_20 IAMs_20 17 04 04.7
comp=Z,763nm,20.0s
BEL Belsk 158.65 320 *e*PKPab **PKPab** **15 39 34.0 +0.8**
KWP Kalwaria Pacla 158.74 313 *e*PKPab **PKPab** **15 39 34.1 +0.4**
IDI Anoyia 158.89 273 ⇑P **PKPdf** **15 38 57.0 -1.5**
IDI Anoyia 158.89 273 IAMs_20 IAMs_20 17 02 27.1
comp=Z,1μm,21.0s
KDZ Kurdzhali 158.99 291 *e*P **PKPdf** **15 38 56.3 -2.1**
UZH Uzhgorod 159.42 311 *e*PKIKP **PKPdf** **15 39 03.3 +4.7**
UZH *e* 15 39 11.9
UZH *e* 15 39 20.3
UZH *i* 15 39 36.5
UZH *e* 15 43 23.5
UZH *e* 15 47 06.7
UZH MLR MLR
comp=N,180nm,22.0s
UZH MLR MLR
comp=E,180nm,22.0s
UZH MLR MLR
comp=Z,120nm,22.0s
RZN Rozhen 159.51 291 P **PKPab** **15 39 36.9 -0.7**
CRVS Cervenica-Dubn 159.79 313 *e*PKP2 **PKPab** **15 39 39.1 +0.8**
DRGR 159.86 306 ⇓P **PKPdf** **15 38 58.3 -1.0**
DRGR 159.86 306 ⇓PKIKP **PKPdf** **15 38 58.3 -1.0**
OJC Ojcow 160.07 318 *e*PKPdf **PKPdf** **15 39 00.4 +1.0**
OJC *e*PKPab **PKPab** **15 39 39.0 -0.5**
NIE Niedzica 160.22 315 *e*PKPdf **PKPdf** **15 39 00.8 +1.2**
NIE *e*PKPab **PKPab** **15 39 41.2 +1.1**
GZR Gura Zlata 160.25 302 ⇑P **PKPdf** **15 38 59.4 -0.4**
GZR Gura Zlata 160.25 302 ⇑PKIKP **PKPdf** **15 38 59.4 -0.4**
MMB Musomiste 160.26 291 P **PKPab** **15 39 39.8 -0.9**
VTS Vitosha 160.51 294 ⇑P **PKPdf** **15 39 00.9 +0.6**
VTS Vitosha 160.51 294 ⇑PKIKP **PKPdf** **15 39 00.9 +0.6**
VTS Vitosha 160.51 294 P **PKPab** **15 39 41.6 -0.3**
HERR Herculane 160.64 301 ⇑P **PKPdf** **15 38 58.9 -1.2**
KKB Krupnik 160.72 292 P **PKPab** **15 39 41.8 -0.8**
BLKB Belogradchik 160.75 297 ⇑P **PKPdf** **15 39 00.3 -0.1**
LANS Liptovska Anna 160.82 315 *e*PKP2 **PKPab** **15 39 46.4 +3.6**
BZS Buzias 160.97 303 ⇓P **PKPdf** **15 38 59.9 -0.6**
BZS Buzias 160.97 303 *e*P **PKPdf** **15 38 59.5 -1.0**
BZS Buzias 160.97 303 ⇓PKIKP **PKPdf** **15 38 59.9 -0.6**
MDVR Moldovita 161.15 301 ⇑P **PKPdf** **15 38 57.5 -3.3**
OKC Ostrava-Krasne 161.17 318 *e*PKP2 **PKPab** **15 39 46.5 +2.3**
OKC MLR MLR
comp=Z,1μm,24.1s
OKC Ostrava-Krasne 161.17 318 *e*PKPab **PKPab** **15 39 46.5 +2.3**
OKC AMS AMS 16 49 20.0
comp=Z,1μm,24.1s
PSZ Piszkesteto 161.17 311 ⇓P **PKPdf** **15 38 59.7 -1.0**
PSZ Piszkesteto 161.17 311 PKPdf **PKPdf** **15 38 59.7 -1.0**
PSZ Piszkesteto 161.17 311 ⇓PKIKP **PKPdf** **15 38 59.7 -1.0**
BOVS Bovan 161.43 297 ⇑P **PKPdf** **15 39 00.6 -0.4**
KSP Ksiaz 161.49 323 *e*PKPdf **PKPdf** **15 39 00.9 0.0**
KSP *e*PKPab **PKPab** **15 39 46.1 +0.5**
VYHS Vyhne 161.52 314 *e*PKIKP **PKPdf** **15 39 00.9 -0.1**
VYHS Vyhne 161.52 314 *e*PKP **PKPdf** **15 39 00.9 -0.1**
VYHS *e* 15 39 47.6
MORC Moravsky Berou 161.53 319 PKPdf **PKPdf** **15 38 59.9 -1.1**
MORC Moravsky Berou 161.53 319 *e*PKP **PKPdf** **15 39 00.5 -0.5**
MORC *e* 15 39 46.5
MORC Moravsky Berou 161.53 319 PKIKP **PKPdf** **15 38 59.9 -1.1**
MAUC Maruska 161.61 318 *e*PKPDF **PKPdf** **15 39 01.0 -0.1**
MAUC *e*PKPAB **PKPab** **15 39 48.1 +1.9**
MAUC AMS AMS 16 50 30.0
comp=Z,3μm,22.4s
OSTC Ostas 161.72 323 *e*PKPDF **PKPdf** **15 39 00.5 -0.6**
OSTC *e*PKPAB **PKPab** **15 39 48.1 +1.5**
OSTC AMS AMS 16 50 00.0
comp=Z,2μm,26.1s
KRLC Kraliky 161.74 321 *e*PKIKP **PKPdf** **15 39 00.7 -0.5**
KRLC MLR MLR
comp=Z,1μm,24.2s
KRLC Kraliky 161.74 321 *e*PKPDF **PKPdf** **15 39 00.7 -0.5**
KRLC *e*PKPAB **PKPab** **15 39 50.1 +3.3**
KRLC *ex* x 15 43 51.4
KRLC AMS AMS 16 48 50.0
comp=Z,1μm,24.2s
CHVC Chvalec 161.77 323 *e*PKPDF **PKPdf** **15 39 00.5 -0.7**
CHVC *e*PKPAB **PKPab** **15 39 48.6 +1.7**
CHVC AMS AMS 16 50 20.0
comp=Z,2μm,24.2s
DPC Dobruska-Polom 161.80 322 *e*PKP2 **PKPab** **15 39 48.2 +1.2**
DPC MLR MLR
comp=Z,1μm,22.8s
DPC Dobruska-Polom 161.80 322 *e*PKPAB **PKPab** **15 39 48.2 +1.2**
DPC *ex* x 15 43 53.1
DPC AMS AMS 16 59 30.0
comp=Z,1μm,22.8s
UPC Upice 161.85 323 *e*PKIKP **PKPdf** **15 39 05.3 +4.0**
UPC MLR MLR
comp=Z,2μm,24.9s
UPC Upice 161.85 323 *e*PKPDF **PKPdf** **15 39 05.3 +4.0**
UPC *e*PKPAB **PKPab** **15 39 51.4 +4.2**
UPC *ex* x 15 43 49.3
UPC AMS AMS 16 50 30.0
comp=Z,2μm,24.9s
JAVC Velka Javorina 161.98 316 *e*PKP **PKPdf** **15 39 01.7 +0.2**
JAVC *e* 15 39 49.4
VRAC Vranov 162.30 319 ⇑P **PKPdf** **15 38 59.1 -2.7**
VRAC Vranov 162.30 319 PKP **PKPdf** **15 39 00.8 -0.9**
comp=Z,3.0nm,0.7s,baz=249,slow=0.8,SNR=2.5
VRAC PKPab **PKPab** **15 39 50.5 +1.3**
comp=Z,27nm,1.1s,baz=51,slow=4.3,SNR=8.0
VRAC Vranov 162.30 319 *e*PKP **PKPdf** **15 39 00.9 -0.9**
VRAC *e* 15 39 50.0
VRAC Vranov 162.30 319 ⇑PKIKP **PKPdf** **15 38 59.1 -2.7**
SMOL Smolenice 162.30 316 *e*PKP2 **PKPab** **15 39 51.2 +1.9**
FRGS Fruska Gora 162.32 303 ⇑P **PKPdf** **15 39 02.2 +0.3**
MODS Modra-Piesok 162.46 315 *e*PKIKP **PKPdf** **15 39 02.1 +0.1**
MODS Modra-Piesok 162.46 315 *e*PKP **PKPdf** **15 39 02.1 +0.1**
MODS *e* 15 39 50.7
PVCC Panska Ves 162.51 325 *e*PKP2 **PKPab** **15 39 52.1 +2.0**
PVCC MLR MLR
comp=Z,1μm,19.2s
PVCC Panska Ves 162.51 325 *e*PKPAB **PKPab** **15 39 52.1 +2.0**
PVCC AMS AMS 17 01 20.0
comp=Z,1μm,19.2s
BRG Berggiesshubel 162.55 327 ⇓ *e*PKPf 15 39 00.8
BRG Amp 15 39 04.0
comp=Z,20nm,1.4s
BRG PKPab **PKPab** **15 39 50.6 +0.4**
BRG Amp 15 39 53.7
comp=Z,53nm,1.4s
BRG Berggiesshubel 162.55 327 PP PP 15 43 37.0 +2.3
BRG Berggiesshubel 162.55 327 PKP2 **PKPab** **15 39 50.6 +0.4**
BRG 15 43 37.0
BRG SS SS 16 03 54.0 +0.7
BRG pmax pmax
comp=Z,53nm,1.4s
BRG pmax pmax
comp=E,840nm,23.3s
BRG MLR MLR
comp=Z,2μm,22.3s
BRG MLR MLR
comp=N,724nm,18.9s
KRUC Moravsky 162.55 318 *e*PKP **PKPdf** **15 39 01.1 -0.9**
KRUC *e* 15 39 50.6
CLL Collm 162.63 329 PKPdf **PKPdf** **15 39 01.4 -0.5**
CLL Collm 162.63 329 PKIKP **PKPdf** **15 39 01.5 -0.5**
CLL Collm 162.63 329 *e*PKPdf **PKPdf** **15 39 01.0 -1.0**
comp=Z,32nm,1.8s
CLL *ex* x 15 39 48.0
CLL *i* PKPab **PKPab** **15 39 50.7 +0.2**
comp=Z,89nm,2.2s
CLL *e*(pPKPab) 15 39 55.0
comp=Z,50nm,1.3s
CLL *es*PKPab **pPKPab** **15 40 02.0 -1.1**
CLL *e*SKPdf **SKPdf** **15 42 33.0 +2.8**
CLL *es*SKPdf 15 42 48.0
CLL *e*PP **PP** **15 43 36.0 +0.9**
CLL *e*SKSdf **SKSdf** **15 46 00.0 -2.9**
CLL *e*PPP PPP 15 47 18.0
CLL *e*SKKSac **SKKSac** **15 50 18.0 -1.4**
CLL *ex* x 15 51 12.0
CLL *e*SKSP 15 53 52.0
CLL *e*PPS PPS 15 57 00.0
CLL *e*SS **SS** **16 03 54.0 0.0**
CLL *e*PSPS 16 05 30.0
CLL *ex* x 16 08 00.0
CLL *e*(SSrev) 16 09 00.0
CLL *e*SSS SSS 16 10 18.0
CLL *e*PSSrev 16 11 12.0
CLL *e*(SSSS) 16 15 12.0
CLL *e*SSSrev 16 17 54.0
CLL Lm MLR 16 55 00.0
comp=Z,1μm,21.5s
CLL LmV 17 04 00.0
comp=Z,1μm,18.9s
ZST Bratislava 162.66 315 *e*PKIKP **PKPdf** **15 39 02.8 +0.7**
ZST *e* 15 39 49.6
ZST Bratislava 162.66 315 *e*PKP **PKPdf** **15 39 02.8 +0.7**
ZST *e* 15 39 49.6
MORH Mrgy, Hungar 162.68 308 ⇑P **PKPdf** **15 39 01.6 -0.6**
TREC Trest 162.88 320 *ex* x 15 43 56.7
TREC AMS AMS 16 55 40.0
comp=Z,2μm,20.8s
PRU Pruhonice 162.90 323 *e*PKP2 **PKPab** **15 39 53.0 +1.2**
PRU MLR MLR
comp=Z,2μm,23.2s
PRU Pruhonice 162.90 323 *e*PKPAB **PKPab** **15 39 53.0 +1.2**
PRU *ex* x 15 43 56.1
PRU AMS AMS 16 49 20.0
comp=Z,2μm,23.2s
RONA Rosalia, Austr 163.38 315 *i* P **PKPdf** **15 39 02.3 -0.6**
comp=Z,20nm,1.8s
RONA *i* P **PKPab** **15 39 54.0 -0.1**
comp=Z,32nm,1.4s
CONA Conrad Observa 163.50 316 *e*P **PKPdf** **15 39 02.4 -0.7**
comp=Z,12nm,1.6s
CONA *i* P **PKPab** **15 39 54.8 +0.1**
comp=Z,41nm,1.0s,SNR=12
NKC Novy Kostel 163.67 327 *e*PKIKP **PKPdf** **15 39 09.0 +5.9**
NKC MLR MLR
comp=Z,2μm,24.8s
NKC Novy Kostel 163.67 327 *e*PKPDF **PKPdf** **15 39 09.0 +5.9**
NKC *e*PKPAB **PKPab** **15 39 56.5 +1.3**
NKC *ex* x 15 43 56.7
NKC AMS AMS 16 53 50.0
comp=Z,2μm,24.8s
CKRC Cesky Krumlov 163.78 321 *e*PKPDF **PKPdf** **15 39 02.9 -0.3**
CKRC *e*PKPAB **PKPab** **15 39 57.4 +1.6**
CKRC *ex* x 15 43 59.1
CKRC AMS AMS 16 55 50.0
comp=Z,2μm,22.0s
KHC Kasperske Hory 163.94 323 **PKPdf** **15 39 01.9 -1.5**
KHC **PKPab** **15 39 56.3 -0.2**
KHC Kasperske Hory 163.94 323 *e*PKIKP **PKPdf** **15 39 03.6 +0.2**
KHC MLR MLR
comp=Z,2μm,24.2s
KHC Kasperske Hory 163.94 323 *e*PKPDF **PKPdf** **15 39 03.6 +0.2**
KHC *e*PKPAB **PKPab** **15 39 57.7 +1.2**
KHC *ep*PKP PP 15 44 00.6 +18
KHC AMS AMS 16 55 10.0
comp=Z,2μm,24.2s
ARSA Arzberg 164.07 314 *e*P **PKPdf** **15 39 02.7 -0.8**
comp=Z,9.1nm,1.4s
ARSA *e*P **PKPab** **15 39 56.8 -0.3**
comp=Z,34nm,1.3s,SNR=10
GEC2 GERESS Array S 164.07 322 **PKPdf** **15 39 01.2 -2.3**
GEC2 PKPab **PKPab** **15 39 56.5 -0.6**
GERES GERESS Array B 164.07 322 PKP **PKPdf** **15 39 02.3 -1.3**
comp=Z,0.4nm,0.3s,baz=329,slow=0.8,SNR=10
GERES PKPab **PKPab** **15 39 57.4 +0.3**
comp=Z,9.0nm,0.9s,baz=52,slow=5.1,SNR=12
GERES PP **PP** **15 43 46.3 +3.3**
comp=Z,0.3nm,0.2s,baz=66,slow=7.6,SNR=1.5
GERES GERESS Array B 164.07 322 PKPdf **PKPdf** **15 39 03.5 -0.1**
GERES **PKPab** **15 39 55.4 -1.7**
GERES GERESS Array B 164.07 322 PKIKP **PKPdf** **15 39 03.5 -0.1**
GERES 15 39 55.4
MOA Molln 164.42 318 *i* P **PKPdf** **15 39 02.9 -0.9**
comp=Z,5.5nm,1.2s

MOA				*i* P	**PKPab**	**15 39 58.0**	**-0.6**
	comp=Z,21nm,1.8s							
SOKA	**Soboth**	**164.66**	**313**	*e*P	**PKPdf**	**15 39 03.9**	**-0.3**
	comp=Z,12nm,1.3s							
SOKA				*i* P	**PKPab**	**15 39 59.3**	**-0.5**
	comp=Z,48nm,1.2s,SNR=9.3							
BIOA	**Bad Ischl, Aus**	**164.85**	**319**	*i* P	**PKPdf**	**15 39 03.4**	**-0.8**
	comp=Z,15nm,1.3s							
OBKA	**Obir**	**165.03**	**313**	*e*P	**PKPab**	**15 40 00.9**	**-0.5**
	comp=Z,22nm,1.1s							
KBA	**Koelnbreinsper**	**165.38**	**317**	*e*P	**PKPab**	**15 40 01.3**	**-1.8**
	comp=Z,9.9nm,1.0s							
MYKA	**Terra Mystica**	**165.48**	**315**	*e*P	**PKPdf**	**15 39 04.4**	**-0.4**
	comp=Z,11nm,1.6s							
MYKA				*e*P	**PKPab**	**15 40 01.7**	**-1.7**
	comp=Z,25nm,1.6s							
BTNL	**Ternell**	**165.60**	**341**	*d*PKPdf	**PKPdf**	**15 39 03.4**	**-1.3**
BTNL				*d*PKP	**PKPab**	**15 40 07.8**	**+4.2**
MEM	**Membach**	**165.61**	**341**	*d*PKP	**PKPab**	**15 40 07.8**	**+4.2**
BHOU	**Houvegnez**	**165.84**	**341**	*d*PKP	**PKPab**	**15 40 09.3**	**+4.6**
BCLA	**Clavier**	**165.96**	**343**	*d*PKP	**PKPab**	**15 40 08.7**	**+3.6**
ABTA	**Abfaltersbach**	**166.03**	**318**	*e*P	**PKPdf**	**15 39 05.4**	**+0.1**
	comp=Z,11nm,1.3s							
ABTA				*e*P	**PKPab**	**15 40 06.3**	**+0.5**
	comp=Z,8.1nm,0.9s							
WATA	**Walderalm**	**166.14**	**321**	*i* P	**PKPdf**	**15 39 03.1**	**-2.4**
	comp=Z,16nm,1.3s							
WATA				*e*P	**PKPab**	**15 40 05.2**	**-1.2**
	comp=Z,9.1nm,1.2s							
WTTA	**Wattenberg**	**166.16**	**321**	*i* P	**PKPdf**	**15 39 03.6**	**-1.9**
	comp=Z,19nm,1.1s							
WTTA				*e*P	**PKPab**	**15 40 06.7**	**+0.2**
	comp=Z,9.4nm,0.9s							
PMOZ	**Porto Moniz, M**	**166.19**	**104**	*e*LR	LR	16 37 33.6		
	comp=Z,977nm,24.0s							
BMRD	**Maredsous**	**166.19**	**344**	*d*PKPdf	**PKPdf**	**15 39 04.0**	**-1.1**
BMRD				*d*PKP	**PKPab**	**15 40 05.4**	**-0.8**
RCHB	**Rochefort**	**166.22**	**342**	*d*PKP	**PKPab**	**15 40 09.7**	**+3.4**
MOTA	**Moosalm**	**166.37**	**322**	*i* P	**PKPdf**	**15 39 04.7**	**-0.9**
	comp=Z,22nm,1.6s							
MOTA				*i* P	**PKPab**	**15 40 06.1**	**-1.3**
	comp=Z,15nm,1.1s							
SQTA	**Sankt Quirin**	**166.40**	**321**	*e*P	**PKPdf**	**15 39 06.4**	**+0.7**
	comp=Z,14nm,1.1s							
SQTA				*e*P	**PKPab**	**15 40 06.2**	**-1.3**
	comp=Z,18nm,1.2s							
DOU	**Dourbes**	**166.42**	**344**	*d*PKP	**PKPab**	**15 40 08.5**	**+1.3**
WLF	**Walferdange**	**166.43**	**339**	*d*PKP	**PKPab**	**15 40 08.3**	**+1.1**
RETA	**Reutte**	**166.44**	**323**	*e*P	**PKPdf**	**15 39 03.6**	**-2.0**
	comp=Z,9.2nm,1.6s							
RETA				*e*P	**PKPab**	**15 40 06.2**	**-1.3**
	comp=Z,26nm,2.0s							
FETA	**Feichten**	**166.78**	**322**	*e*P	**PKPdf**	**15 39 03.4**	**-2.6**
	comp=Z,10nm,1.1s							
FETA				*i* P	**PKPab**	**15 40 08.8**	**-0.3**
	comp=Z,19nm,1.8s							
BFO	**Black Forest**	**166.85**	**331**		**PKPab**	**15 40 06.9**	**-2.3**
BFO	**Black Forest**	**166.85**	**331**	PKP2	**PKPab**	**15 40 06.9**	**-2.3**
DAVA	**Damuels**	**167.00**	**324**	*i* P	**PKPdf**	**15 39 05.6**	**-0.5**
	comp=Z,12nm,1.1s							
DAVA				*e*P	**PKPab**	**15 40 09.2**	**-0.9**
	comp=Z,35nm,1.7s,SNR=6.2							
DAVOX	**Davos/Dischmat**	**167.36**	**323**	PKP	**PKPdf**	**15 39 07.0**	**+0.6**
	comp=Z,4.1nm,0.7s,baz=145,slow=11,SNR=6.3							
DAVOX				PKPab	**PKPab**	**15 40 13.1**	**+1.4**
	comp=Z,10nm,0.9s,baz=26,slow=7.0,SNR=5.2							
ECH	**Echery**	**167.38**	**334**		**PKPab**	**15 40 11.2**	**-0.4**
ECH	**Echery**	**167.38**	**334**	PKP2	**PKPab**	**15 40 11.2**	**-0.4**
NRCA	**Norcia**	**167.66**	**302**		**PKPab**	**15 40 12.0**	**-1.2**
SENIN	**Lac Senin/Sane**	**168.85**	**328**	PKPdf	**PKPdf**	**15 39 07.3**	**-0.2**
BNI	**Bardonecchia**	**170.14**	**325**		**PKPdf**	**15 39 07.5**	**-0.7**
BNI	**Bardonecchia**	**170.14**	**325**	PKIKP	**PKPdf**	**15 39 07.6**	**-0.7**
SSB	**Saint Sauveur**	**170.82**	**334**		**PKPdf**	**15 39 07.4**	**-1.1**
SSB	**Saint Sauveur**	**170.82**	**334**	PKIKP	**PKPdf**	**15 39 07.4**	**-1.1**
KEST	**Kesra**	**171.38**	**264**	PKP	**PKPdf**	**15 39 09.9**	**+0.8**
	comp=Z,4.9nm,1.1s,baz=207,slow=5.0,SNR=3.7							
KEST				PKPab	**PKPab**	**15 40 30.8**	**+0.8**
	comp=Z,40nm,1.0s,baz=57,slow=2.0,SNR=7.3							
PGAV	**Gavieira, Arco**	**172.74**	**47**	*e*PKPdf	**PKPdf**	**15 39 10.5**	**+0.9**
PGAV	**Gavieira, Arco**	**172.74**	**47**	*e*PKPab	**PKPab**	**15 40 35.4**	**-0.3**
PGAV	**Gavieira, Arco**	**172.74**	**47**	*e*SS	SS	16 05 50.5	+14
PGAV	**Gavieira, Arco**	**172.74**	**47**	*e*LR	LR	16 39 19.2	
	comp=Z,3µm,20.0s							
PCAB	**Cabril**	**173.04**	**47**	*e*PKPdf	**PKPdf**	**15 39 11.6**	**+2.0**
PCAB	**Cabril**	**173.04**	**47**	*e*PKPab	**PKPab**	**15 40 37.1**	**+0.2**
PCAB	**Cabril**	**173.04**	**47**	*e*PP	**PP**	**15 44 29.1**	**+0.4**
PMAFR	**Mafra**	**173.38**	**72**	*e*PP	**PP**	**15 44 32.2**	**+1.2**
POLO	**Lamas de Olo**	**173.38**	**49**	*e*PKPdf	**PKPdf**	**15 39 09.3**	**-0.5**
POLO	**Lamas de Olo**	**173.38**	**49**	*e*PKPab	**PKPab**	**15 40 38.4**	**-0.2**
PVRL	**Vila Real**	**173.49**	**49**	*e*PKPab	**PKPab**	**15 40 39.2**	**+0.2**
LIS	**Lisbon**	**173.53**	**74**	*e*PKPdf	**PKPdf**	**15 39 08.2**	**-1.6**
LIS				*e*PP	**PP**	**15 44 28.8**	**-2.9**
LIS				IAMs_20	IAMs_20	16 50 41.5	
	comp=E,3µm,16.7s							
LIS	**Lisbon**	**173.53**	**74**	*e*PKIKP	**PKPdf**	**15 39 08.2**	**-1.6**
LIS				*e*		15 44 28.8	
PSBE	**So Bento**	**173.59**	**66**	*e*PKPdf	PKPdf	15 39 17.5	+7.6
PSBE	**So Bento**	**173.59**	**66**	*e*PP	**PP**	**15 44 28.1**	**-3.8**
COI	**Coimbra**	**173.59**	**60**	*e*PP	**PP**	**15 44 33.4**	**+1.7**
PCAS	**Casmilo, Conde**	**173.60**	**61**	*e*PKPdf	**PKPdf**	**15 39 09.7**	**-0.1**
PCAS	**Casmilo, Conde**	**173.60**	**61**	*e*PKPab	**PKPab**	**15 40 39.7**	**+0.2**
PCAS	**Casmilo, Conde**	**173.60**	**61**	*e*PP	**PP**	**15 44 33.5**	**+1.7**
PBRG	**Braganca**	**173.69**	**41**	*e*PKPab	**PKPab**	**15 40 40.1**	**+0.3**
PVIS	**Viseu**	**173.69**	**54**	*e*PKPdf	**PKPdf**	**15 39 12.9**	**+3.0**
PVIS	**Viseu**	**173.69**	**54**	*e*PKPab	**PKPab**	**15 40 40.2**	**+0.3**
PFVI	**Vila Bisbo**	**173.90**	**88**	*e*PKPab	**PKPab**	**15 40 41.5**	**+0.5**
PFVI	**Vila Bisbo**	**173.90**	**88**	*e*PP	**PP**	**15 44 35.2**	**+1.5**
MVO	**Moncorvo**	**173.96**	**47**	*e*PKPdf	**PKPdf**	**15 39 11.2**	**+1.2**
MVO	**Moncorvo**	**173.96**	**47**	*e*PKPab	**PKPab**	**15 40 41.1**	**0.0**
MVO	**Moncorvo**	**173.96**	**47**	*e*PP	PP	15 44 42.6	+9.3
MVO	**Moncorvo**	**173.96**	**47**	*e*SS	SS	16 06 05.0	+16
MVO	**Moncorvo**	**173.96**	**47**	*e*LR	LR	16 41 02.2	
	comp=E,2µm,20.0s							
MORF	**Marmelete**	**174.05**	**86**	*e*PKPdf	**PKPdf**	**15 39 08.3**	**-1.9**
MORF				*e*PP	**PP**	**15 44 31.1**	**-3.3**
MORF				*e*SS	SS	16 05 51.0	+0.3
MORF				IAMs_20	IAMs_20	16 53 41.0	
	comp=Z,3µm,25.8s							
MORF	**Marmelete**	**174.05**	**86**	*e*PKPdf	**PKPdf**	**15 39 11.5**	**+1.4**
MORF	**Marmelete**	**174.05**	**86**	*e*PKIKP	**PKPdf**	**15 39 08.3**	**-1.9**
MORF				*e*		15 44 31.1	
MORF				*e*SS	SS	16 05 51.1	+0.4
MTE	**Manteigas**	**174.09**	**55**	*e*PKPab	**PKPab**	**15 40 41.6**	**-0.1**
MTE	**Manteigas**	**174.09**	**55**	*e*PP	**PP**	**15 44 38.1**	**+4.0**
MTE	**Manteigas**	**174.09**	**55**	*e*SS	SS	16 05 52.5	+2.4
MTE	**Manteigas**	**174.09**	**55**	*e*LR	LR	16 42 45.1	
	comp=Z,3µm,22.0s							
MTE	**Manteigas**	**174.09**	**55**	PKPab	**PKPab**	**15 40 41.0**	**-0.7**
PNCL	**Nicolau / Gran**	**174.10**	**79**	*e*PKPdf	**PKPdf**	**15 39 12.7**	**+2.6**
PNCL	**Nicolau / Gran**	**174.10**	**79**	*e*PP	**PP**	**15 44 35.2**	**+0.6**
PMTG	**Montargil**	**174.14**	**69**	*e*PKPab	**PKPab**	**15 40 43.3**	**+1.3**
PMTG	**Montargil**	**174.14**	**69**	*e*PP	**PP**	**15 44 35.8**	**+1.2**
MESJ	**Messejana**	**174.38**	**81**	*e*PKPdf	**PKPdf**	**15 39 08.6**	**-1.6**
MESJ				*e*PP	**PP**	**15 44 33.0**	**-2.9**
MESJ				*e*SS	SS	16 05 53.9	+0.2
MESJ				IAMs_20	IAMs_20	16 49 43.1	
	comp=Z,2µm,16.2s							
MESJ	**Messejana**	**174.38**	**81**	*e*PP	**PP**	**15 44 34.0**	**-2.0**
MESJ	**Messejana**	**174.38**	**81**	*e*PKIKP	**PKPdf**	**15 39 08.6**	**-1.6**
MESJ				*e*		15 44 33.0	
MESJ				*e*SS	SS	16 05 53.9	+0.2
PCBR	**Castelo Branco**	**174.40**	**60**	*e*PKPdf	**PKPdf**	**15 39 11.8**	**+1.7**
PCBR	**Castelo Branco**	**174.40**	**60**	*e*PKPab	**PKPab**	**15 40 43.0**	**0.0**
EVO	**Evora**	**174.44**	**74**	*e*PKPdf	**PKPdf**	**15 39 10.8**	**+0.6**
EVO	**Evora**	**174.44**	**74**	*e*PKPab	**PKPab**	**15 40 42.9**	**-0.4**
EVO	**Evora**	**174.44**	**74**	*e*PP	**PP**	**15 44 36.6**	**+0.4**
PCVE	**Castro Verde**	**174.53**	**83**	*e*PKPdf	**PKPdf**	**15 39 12.7**	**+2.5**
PCVE	**Castro Verde**	**174.53**	**83**	*e*PKPab	**PKPab**	**15 40 43.2**	**-0.6**
PCVE	**Castro Verde**	**174.53**	**83**	*e*PP	**PP**	**15 44 35.4**	**-1.3**
PMRV	**Marv??o**	**174.63**	**63**	*e*PKPdf	**PKPdf**	**15 39 14.3**	**+4.1**
PMRV	**Marv??o**	**174.63**	**63**	*e*PKPab	**PKPab**	**15 40 43.6**	**-0.5**
PMRV	**Marv??o**	**174.63**	**63**	*e*PP	**PP**	**15 44 38.7**	**+1.8**
PMRV	**Marv??o**	**174.63**	**63**	*e*LR	LR	16 40 58.8	
	comp=Z,2µm,20.0s							
PBEJ	**Beja**	**174.63**	**79**	*e*PKPdf	**PKPdf**	**15 39 12.7**	**+2.4**
PESTR	**Estremoz**	**174.67**	**70**	*e*PKPdf	**PKPdf**	**15 39 12.0**	**+1.7**
PESTR	**Estremoz**	**174.67**	**70**	*e*PP	**PP**	**15 44 35.0**	**-2.3**
PESTR	**Estremoz**	**174.67**	**70**	A	A	16 52 27.4	
	comp=Z,2µm,20.0s							
PVAQ	**Vaqueiros**	**174.79**	**85**	*e*PKPdf	**PKPdf**	**15 39 12.7**	**+2.4**
PVAQ	**Vaqueiros**	**174.79**	**85**	*e*PKPab	**PKPab**	**15 40 45.3**	**+0.3**
PVAQ	**Vaqueiros**	**174.79**	**85**	*e*PP	**PP**	**15 44 37.0**	**-1.0**
PVAQ	**Vaqueiros**	**174.79**	**85**	*e*LR	LR	16 41 03.8	
	comp=Z,2µm,12.6s							
MDT	**Midelt**	**174.83**	**146**	PKP	**PKPdf**	**15 39 12.3**	**+1.7**
	comp=Z,6.4nm,1.1s,baz=60,slow=1.3,SNR=7.2							
MDT				PKPab	**PKPab**	**15 40 47.3**	**+2.2**
	comp=Z,7.6nm,1.2s,baz=213,slow=7.5,SNR=3.8							
PBAR	**Barrancos**	**175.26**	**76**	*e*PKPdf	**PKPdf**	**15 39 12.3**	**+1.9**
PBAR	**Barrancos**	**175.26**	**76**	*e*PP	**PP**	**15 44 39.9**	**-0.2**
PAB	**San Pablo**	**176.57**	**45**	‖PKIKP	**PKPdf**	**15 39 12.2**	**+1.4**
ESDC	**Sonseca Array**	**176.69**	**40**	PKP	**PKPdf**	**15 39 11.6**	**+0.8**
	comp=Z,3.8nm,1.0s,baz=336,slow=2.3,SNR=19							
ESDC				PKPab	**PKPab**	**15 40 53.0**	**-0.2**
	comp=Z,14nm,1.3s,baz=328,slow=4.1,SNR=6.2							
ESDC				PP	**PP**	**15 44 46.7**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=18,slow=39,SNR=3.8							

WEL 05 15:47:07.3±1.3, 37°S±5′×17°9E±1′0, h10km, M3.0/22, ML3.5/11, MLv3.0/22, Error ellipse: s-maj=0.0km s-min=0.0km az=104.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.52**	**236**	P	Pg	15 47 17.9	+0.5
MXZ				S	Sg	15 47 25.1	+0.8
WMGZ	**Waiomatatini S**	**0.65**	**212**	P	Pb	15 47 21.1	+0.3
PKGZ	**Pakihiroa**	**0.87**	**225**	P	Pg	15 47 24.2	0.0
PKGZ				S	Sb	15 47 36.9	+0.6
PUZ	**Puketiti**	**0.93**	**210**	P	Pg	15 47 25.0	-0.2
PUZ				S	Sb	15 47 38.0	0.0
HAZ	**Te Kaha**	**0.98**	**240**	P	Pg	15 47 25.5	-0.6
HAZ				S	Sb	15 47 40.1	+0.8
TWGZ	**Tauwhareparae**	**1.14**	**217**	P	Pb	15 47 28.4	-0.8
TWGZ				S	Sg	15 47 44.2	+0.2
RUGZ	**Raukumara Rang**	**1.16**	**233**	P	Pb	15 47 29.0	-0.5
CNGZ	**Carnagh Statio**	**1.32**	**203**	P	Pn	15 47 30.6	-1.1
TKGZ	**Te Karaka**	**1.41**	**214**	P	Pn	15 47 31.4	-1.6
MWZ	**Matawai**	**1.49**	**224**	P	Pn	15 47 33.1	-1.1
RAGZ	**Rawiri**	**1.67**	**222**	P	Pn	15 47 35.7	-1.0
RIGZ	**Rimuhau**	**1.67**	**211**	P	Pn	15 47 35.0	-1.7
URZ	**Urewera**	**1.70**	**234**	P	Pn	15 47 36.3	-0.7
PRGZ	**Paritu Road**	**1.82**	**204**	P	Pn	15 47 36.8	-1.9
EDRZ	**Edgecumbe**	**1.87**	**243**	P	Pn	15 47 38.7	-0.8
OPRZ	**Ohinepanea**	**1.91**	**252**	P	Pn	15 47 38.9	-1.0
SNGZ	**Shannon Statio**	**1.93**	**218**	P	Pn	15 47 38.7	-1.5
KNZ	**Kokohu**	**1.98**	**208**	P	Pn	15 47 38.1	-2.7
RTZ	**Ruatahuna**	**2.00**	**227**	P	Pn	15 47 40.2	-1.0
MUGZ	**Murupara**	**2.04**	**233**	P	Pn	15 47 38.6	-3.1
RRRZ	**Republican Roa**	**2.14**	**239**	P	Pn	15 47 42.5	-0.6
KARZ	**Kaharoa**	**2.20**	**249**	P	Pn	15 47 43.3	-0.6
MTHZ	**Maungataniwha**	**2.24**	**224**	P	Pn	15 47 43.4	-1.1
NMHZ	**Naumai**	**2.44**	**221**	P	Pn	15 47 46.2	-1.0
ARHZ	**Aropaoanui**	**2.47**	**216**	P	Pn	15 47 45.7	-1.9
MRHZ	**Matea Rd**	**2.48**	**230**	P	Pn	15 47 46.6	-1.2
KUZ	**Kuaotunu**	**2.56**	**281**	P	Pn	15 47 47.0	-1.8
TOZ	**Tahuroa Road**	**2.70**	**259**	P	Pn	15 47 50.1	-0.7
GRZ	**Great Barrier**	**2.91**	**289**	P	Pn	15 47 53.9	+0.3
MKAZ	**Moumakai**	**2.95**	**272**	P	Pn	15 47 54.0	-0.1
KAHZ	**Kahuranaki**	**2.96**	**211**	P	Pn	15 47 51.6	-2.8
NTVZ	**North Tongarir**	**3.10**	**233**	P	Pn	15 47 55.2	-1.2
BHHZ	**Black Hill Sta**	**3.12**	**224**	P	Pn	15 47 54.6	-1.9
ETAZ	**East Tamaki Re**	**3.15**	**275**	P	Pn	15 47 57.1	+0.1
MBAZ	**Motutapu North**	**3.20**	**278**	P	Pn	15 47 58.2	+0.5
RVAZ	**Riverhead Bore**	**3.45**	**277**	P	Pn	15 48 00.4	-0.7
WCZ	**Waipu Caves**	**3.86**	**289**	P	Pn	15 48 06.4	-0.3
MRZ	**Mangatainoka R**	**4.24**	**216**	P	Pn	15 48 08.3	-3.6
OUZ	**Omahuta**	**4.71**	**294**	P	Pn	15 48 18.8	+0.4
CTZ	**Chatham Island**	**7.32**	**153**	P	Pn	15 48 52.5	-1.8

*IDC **05** 16:19:08.8±2.6, 2°.70S×137°.32E, h0km, mb3.5/3, mbtmp3.6/6, ML3.7/3, Error ellipse: s-maj=59.3km s-min=24.9km az=76.0*

ISC 05 16:19:14.5±1.9, 3°.0S±0°.1×137°.0E±0°.2, h32km, n6, σ2≥85/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.13**	**290**	Pn	**Pn**	**16 20 45.1**	**+2.1**
	1.4nm,0.3s,baz=270,slow=20,SNR=15						
SIJI				Sn	**Sn**	**16 21 50.0**	**-2.0**
	0.5nm,0.3s,baz=136,slow=24,SNR=1.5						
	2.5nm,0.3s						
WRA	**Warramunga Arr**	**17.00**	**189**	P	**Pn**	**16 23 11.9**	**+1.9**
	0.3nm,0.3s,baz=9.8,slow=12,SNR=20						
WRA				S	**Sn**	**16 26 14.8**	**-3.4**
	0.4nm,0.6s,baz=11,slow=23,SNR=5.0						
	2.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.66**	**216**	P	**Pn**	**16 23 33.0**	**+2.5**
	0.2nm,0.3s,baz=34,slow=8.4,SNR=14						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**20.72**	**188**	P	Pn	16 23 55.6	+0.6
	1.4nm,0.5s,baz=17,slow=9.9,SNR=40						
	1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**43.14**	**301**	P	**P**	**16 27 11.7**	**-0.7**
	0.4nm,0.7s,baz=125,slow=5.7,SNR=4.3						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**69.02**	**323**	P	**P**	**16 30 15.8**	**-1.3**
	0.2nm,0.5s,baz=101,slow=7.5,SNR=2.8						
	0.2nm,0.5s						

MAN 05 16:20:28.5, 6°.18N×125°.87E, h140km, mb4.3, ML3.1, MS2.8, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.17**	**243**	‖*e*P	Pn	16 20 47.0	-0.5
DDMP				*e*S	Sn	16 21 02.5	+0.7
MATI	**Mati**	**0.85**	**27**	‖*e*P	Pn	16 20 52.1	+1.0
MATI				*e*S	Sn	16 21 10.2	+1.9
GSPH	**General Santos**	**0.92**	**264**	‖*e*P	Pn	16 20 52.0	+0.2
GSPH				*i* S	Sn	16 21 09.1	-0.3
KCP	**Kidapawan**	**1.13**	**317**	‖*i* P	Pn	16 20 55.6	+2.0
CTBH	**Cotabato--PC H**	**1.91**	**303**	‖*i* P	Pn	16 21 03.0	+1.0
BIPH	**Bislig**	**2.05**	**14**	‖*e*P	Pn	16 21 03.8	+0.2
BIPH				*i* S	Sn	16 21 30.9	+0.3

*IDC **05** 16:23:36.1±2.6, 32°.15S×122°.27E, h0km, mbtmp4.0/5, ML3.9/4, Error ellipse: s-maj=57.3km s-min=21.1km az=155.0*

*NOU **05** 16:23:36.7, 32°.33S×122°.39E, h0km, mb4.4/19, Western Australia*

*AUST **05** 16:23:37.0±1.5, 32°.42S×122°.22E, h0km, Error ellipse: s-maj=24.9km s-min=11.3km az=157.0*

*CUPWA **05** 16:23:39.7±6.8, 32°.57S×122°.27E, h1km±57km, ML4.3, Region: WESTERN AUSTRALIA*

ISC 05 16:23:37.5±0.8, 32°29S±0°.06×122°36E±0°.05, h19km, n48, σ2≥17/66, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUKUL	**Kulin High Sch**	**3.58**	**263**	P	Pn	16 24 23.9	-8.2
KLBR	**Kellerberrin**	**3.98**	**279**	P	**Pn**	**16 24 38.9**	**+1.5**
	baz=3.9,SNR=24						
KLBR				S	**Sn**	**16 25 23.4**	**-0.2**
	baz=3.9,SNR=5.8						
KLBR	**Kellerberrin**	**3.98**	**279**	P	**Pn**	**16 24 39.8**	**+2.3**
KLBR	**Kellerberrin**	**3.98**	**279**	P	**Pn**	**16 24 39.7**	**+2.2**
KLBR				S	**Sn**	**16 25 23.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**4.37**	**260**	P	**Pn**	**16 24 43.7**	**+0.8**
	baz=4.2,SNR=16						
NWAO				P	**Pn**	**16 24 43.7**	**+0.8**
	baz=4.2,SNR=16						
NWAO				S	**Sn**	**16 25 33.1**	**-0.2**
	baz=4.2						
NWAO	**Narrogin (SRO)**	**4.37**	**260**	Pn	**Pn**	**16 24 43.5**	**+0.6**
	11nm,0.3s,baz=317,slow=12,SNR=22						
NWAO				Sn	**Sn**	**16 25 32.9**	**-0.4**
	28nm,0.3s,baz=327,slow=20,SNR=8.0						
NWAO				Lg	Lg	16 25 46.3	
	63nm,0.3s,baz=15,slow=19,SNR=9.0						
NWAO	**Narrogin (SRO)**	**4.37**	**260**	P	**Pn**	**16 24 43.9**	**+1.0**
NWAO	**Narrogin (SRO)**	**4.37**	**260**	P	**Pn**	**16 24 45.7**	**+2.8**
NWAO				S	**Sn**	**16 25 33.7**	**+0.3**
RKGY	**Rocky Gully**	**5.06**	**241**	P	**Pn**	**16 24 53.0**	**+0.6**
	baz=4.9,SNR=31						
RKGY				S	**Sn**	**16 25 49.3**	**-1.0**
	baz=4.9						
RKGY	**Rocky Gully**	**5.06**	**241**	P	**Pn**	**16 24 53.7**	**+1.3**
RKGY	**Rocky Gully**	**5.06**	**241**	P	**Pn**	**16 24 49.8**	**-2.6**
RKGY				S	**Sn**	**16 25 49.7**	**-0.6**
FORT	**Forrest**	**5.09**	**74**	P	**Pn**	**16 24 55.0**	**+2.2**
	baz=5.2,SNR=12						
FORT				S	**Sn**	**16 25 52.3**	**+1.1**
	baz=5.2						
FORT	**Forrest**	**5.09**	**74**	P	**Pn**	**16 24 55.9**	**+3.1**
FORT	**Forrest**	**5.09**	**74**	P	**Pn**	**16 24 56.7**	**+3.9**
BLDU	**Ballidu**	**5.11**	**288**	P	**Pn**	**16 24 53.4**	**+0.4**
	baz=5.0,SNR=16						
BLDU				S	**Sn**	**16 25 50.0**	**-1.5**
	baz=5.0,SNR=7.7						
BLDU	**Ballidu**	**5.11**	**288**	P	**Pn**	**16 24 54.0**	**+1.0**
BLDU	**Ballidu**	**5.11**	**288**	P	**Pn**	**16 24 54.7**	**+1.7**
MUN	**Mundaring**	**5.23**	**272**	P	**Pn**	**16 24 55.2**	**+0.5**
	baz=5.1,SNR=17						
MUN				S	**Sn**	**16 25 52.3**	**-2.1**
	baz=5.1						
MUN	**Mundaring**	**5.23**	**272**	P	**Pn**	**16 24 55.7**	**+1.0**
MUN	**Mundaring**	**5.23**	**272**	P	**Pn**	**16 24 55.7**	**+1.0**
MORW	**Morawa**	**6.32**	**299**	P	**Pn**	**16 25 11.4**	**+1.7**
	baz=6.3,SNR=14						
MORW				S	**Sn**	**16 26 21.3**	**-0.1**
	baz=6.3,SNR=10						
MORW	**Morawa**	**6.32**	**299**	P	**Pn**	**16 25 12.5**	**+2.8**
MORW	**Morawa**	**6.32**	**299**	P	**Pn**	**16 25 12.7**	**+3.0**
MEEK	**Meekatharra**	**6.51**	**329**	P	**Pn**	**16 25 15.6**	**+3.3**
	baz=6.6,SNR=40						
MEEK				S	**Sn**	**16 26 25.8**	**-0.2**
	baz=6.6,SNR=8.1						
MEEK	**Meekatharra**	**6.51**	**329**	P	**Pn**	**16 25 16.1**	**+3.8**
MEEK	**Meekatharra**	**6.51**	**329**	P	**Pn**	**16 25 16.7**	**+4.4**
WRKA	**Warakurna**	**8.91**	**37**	P	**Pn**	**16 25 49.8**	**+4.5**
	baz=9.1,SNR=8.6						
WRKA				S	**Sn**	**16 27 27.7**	**+2.5**
	baz=9.1,SNR=5.5						
MULG	**Mulgathing**	**10.21**	**82**	P	**Pn**	**16 26 02.9**	**-0.2**
	baz=10,SNR=5.1						
MULG				S	**Sn**	**16 27 57.3**	**+0.3**
	baz=10						
MULG	**Mulgathing**	**10.21**	**82**	P	**Pn**	**16 26 04.5**	**+1.4**
PSA00	**Pilbara Seismi**	**10.90**	**348**	P	**Pn**	**16 26 14.8**	**+2.2**
MBWA	**Marble Bar**	**11.33**	**347**	P	**Pn**	**16 26 20.1**	**+1.7**
BBOO	**Buckleboo**	**11.57**	**96**	P	**Pn**	**16 26 23.2**	**+1.4**
	12nm,1.0s						
GIRL	**Giralia**	**12.01**	**321**	P	**Pn**	**16 26 28.6**	**+1.0**
	baz=12						
GIRL	**Giralia**	**12.01**	**321**	P	**Pn**	**16 26 29.8**	**+2.1**
OOD	**Oodnadatta**	**12.38**	**72**	P	**Pn**	**16 26 32.5**	**-0.3**
	baz=12,SNR=12						
OOD				S	**Sn**	**16 28 44.3**	**-6.0**
	baz=12						
OOD	**Oodnadatta**	**12.38**	**72**	P	**Pn**	**16 26 32.9**	**+0.1**
**

0.1nm,0.3s,baz=133,slow=12,SNR=11
4.5nm,0.8s
USRK Ussuriysk Ar. 12.25 325 Pn **Pn 16 27 08.9 -0.5**
YSS Yuzh-Sakhalins 12.51 4 Pn **Pn 16 27 10.0 -2.9**
BNX BinXian 15.63 320 ⇓P **Pn 16 27 52.5 -2.8**
BNX pmax pmax
comp=Z,6.0nm,1.0s
NJ2 Nanjing 19.20 269 *e*P **P 16 28 38.6 -0.2**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
NJ2 LR LR
comp=N,530nm,16.6s
NJ2 LR LR
comp=E,310nm,13.7s
NJ2 LR LR
comp=Z,680nm,17.1s
PETK Petropavlovsk- 21.86 27 P **P 16 29 09.3 +1.8**
comp=Z,1.6nm,0.8s,baz=190,slow=4.4,SNR=1.8
MA2 Magadan 25.83 11 P **P 16 29 46.5 +0.4**
comp=Z,6.2nm,0.9s,baz=164,slow=9.7,SNR=5.0
comp=Z,6.2nm,0.9s
MA2 Magadan 25.83 11 P **P 16 29 46.3 +0.2**
MA2 IAmb IAmb 16 29 49.3
comp=Z,11nm,1.0s
H11N2 WAKE ISLAND Hy 26.76 117 T T 16 58 06.1
baz=309,slow=75,SNR=26
H11N1 WAKE ISLAND Hy 26.77 117 T T 16 57 56.2
baz=309,slow=75,SNR=20
H11N3 WAKE ISLAND Hy 26.78 117 T T 16 58 07.4
baz=309,slow=75,SNR=17
XAN Xi'an 26.98 278 P **P 16 30 02.4 +5.6**
XAN pP pwP 16 30 10.5 +2.1
XAN pmax pmax
comp=Z,7.0nm,1.1s
H11S3 WAKE ISLAND Hy 27.39 119 T T 16 58 53.8
baz=312,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 27.39 119 T T 16 58 44.0
baz=312,slow=75,SNR=21
H11S2 WAKE ISLAND Hy 27.40 119 T T 16 58 54.9
baz=312,slow=75,SNR=12
ENH Enshi 27.41 270 P **P 16 29 58.3 -2.3**
ENH IAmb IAmb 16 30 01.6
comp=Z,8.2nm,0.6s
YAK Yakutsk 28.61 348 P **P 16 30 11.2 +0.2**
comp=Z,5.7nm,0.8s,baz=330,slow=10,SNR=9.3
comp=Z,5.7nm,0.8s
YAK Yakutsk 28.61 348 P **P 16 30 08.6 -2.4**
YAK IAmb IAmb 16 30 11.9
comp=Z,14nm,1.0s
ULN Ulaanbaatar 29.01 308 P **P 16 30 14.6 -0.3**
SEY Seymchan 29.28 10 P **P 16 30 18.4 +1.5**
comp=Z,1.5nm,0.7s,baz=185,slow=5.7,SNR=4.6
comp=Z,1.5nm,0.7s
SONM Songino Array 29.43 308 P **P 16 30 19.5 +0.9**
comp=Z,4.1nm,0.9s,baz=104,slow=8.6,SNR=16
comp=Z,4.1nm,0.9s
SONM Songino Array 29.43 308 P 16 30 19.2 +0.6
GTA Gaotai 33.57 291 *e*P **P 16 30 55.0 -0.1**
GTA pP pwP 16 31 03.9 -3.1
GTA sP sP 16 31 08.2 +8.8
GTA PcP **PcP 16 33 36.2 +0.8**
GTA pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 37.86 353 P **P 16 31 31.4 +0.1**
comp=Z,6.3nm,1.0s,baz=270,slow=20,SNR=2.7
comp=Z,6.3nm,1.0s
TIXI Tiksi 37.86 353 P **P 16 31 31.4 +0.1**
GOMU GeErMu 37.95 286 P **P 16 31 30.1 -2.9**
GOMU pP pP 16 31 32.9 -3.3
GOMU PcP **PcP 16 33 47.6 -1.1**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
FAKI Fak Fak 38.22 195 P **P 16 31 34.2 -0.7**
FAKI IAmb IAmb 16 31 37.2
comp=Z,6.2nm,0.9s
CRAI Chiangrai 39.02 260 P **P 16 31 40.5 -1.3**
CHTO Chiang Mai 40.90 259 P **P 16 31 55.8 -1.6**
CM31 Chiang Mai Arr 41.08 258 P **P 16 31 57.1 -1.8**
CMAR Chiang Mai Arr 41.08 258 P **P 16 31 58.0 -0.8**
comp=Z,2.5nm,0.7s,baz=47,slow=7.8,SNR=29
comp=Z,2.5nm,0.7s
CMAR Chiang Mai Arr 41.08 258 P **P 16 31 56.8 -2.1**
ZAA0 Zalesovo Array 43.80 314 P **P 16 32 20.0 -0.6**
ZALV Zalesovo Beam 43.80 314 P **P 16 32 20.8 +0.2**
comp=Z,4.6nm,0.7s,baz=86,slow=6.6,SNR=20
ZALV PcP **PcP 16 34 06.7 -0.3**
comp=Z,2.8nm,0.6s,baz=90,slow=2.6,SNR=5.8
comp=Z,4.6nm,0.7s
ZALV Zalesovo Beam 43.80 314 P **P 16 32 20.1 -0.5**
ZSN Zaisan 43.86 305 *e*P **P 16 32 21.1 -0.1**
baz=305
MK31 Makanchi Array 45.67 304 P **P 16 32 35.4 -0.3**
MK31 IAmb IAmb 16 32 39.9
comp=Z,5.2nm,0.8s
MKAR Makanchi Array 45.67 304 P **P 16 32 36.1 +0.5**
comp=Z,4.3nm,0.6s,baz=90,slow=9.6,SNR=29
comp=Z,4.3nm,0.6s
MKAR Makanchi Array 45.67 304 P **P 16 32 35.5 -0.1**
NRIK Noril'sk 45.68 336 P **P 16 32 35.9 +0.6**
comp=Z,8.4nm,1.0s,baz=110,slow=8.4,SNR=9.6
comp=Z,8.4nm,1.0s
NRIK Noril'sk 45.68 336 P **P 16 32 35.1 -0.2**
NRIK IAmb IAmb 16 32 37.2
comp=Z,7.6nm,0.9s
MAKZ Makanchi 45.88 304 P **P 16 32 37.2 -0.1**
MAKZ IAmb IAmb 16 32 41.8
comp=Z,4.2nm,0.8s
BATI Baumata 47.59 204 P **P 16 32 51.8 +0.9**
comp=Z,17nm,0.7s,baz=319,slow=15,SNR=2.2
comp=Z,17nm,0.7s
KURK Kurchatov 47.68 310 P **P 16 32 50.9 -0.4**
SHLS Shalkode 48.23 300 *e*P **P 16 32 52.8 -3.0**
baz=300
J20K Nowinta River 48.41 32 P **P 16 32 57.8 +1.0**
J20K IAmb IAmb 16 32 59.8
comp=Z,12nm,1.2s
UZB Uzynbulak 48.54 300 *e*P **P 16 32 57.5 -0.8**
baz=300
KPKS Kokpek 48.72 300 *e*P **P 16 32 59.2 -0.3**
baz=300
IMAR Indian Mountai 48.78 29 P **P 16 33 00.3 +0.7**
SATY Saty 49.00 300 *e*P **P 16 33 01.9 +0.2**
baz=300
CHKK Chushkaly 49.84 301 *e*P **P 16 33 07.7 -0.4**
baz=301
MDOK Medeo 49.95 300 *e*P **P 16 33 08.5 -0.6**
baz=300
AAA Alma-Ata 50.03 300 *e*P **P 16 33 07.2 -2.4**
baz=300
KUU Kurty 50.29 301 *e*P **P 16 33 10.8 -0.6**
baz=301
NEA2 Nenana 50.64 31 P **P 16 33 14.5 +0.8**
NEA2 IAmb IAmb 16 33 16.4
comp=Z,9.1nm,1.0s
TOLK Toolik Lake Re 50.68 26 P **P 16 33 14.7 +0.7**
TOLK IAmb IAmb 16 33 28.0
comp=Z,11nm,1.2s
BOOM Boomskoye usch 50.90 300 P **P 16 33 16.2 -0.1**
BRZS Berezniki 51.55 310 *e*P **P 16 33 19.7 -1.1**
baz=310
HDA Harding Lake 51.56 32 P **P 16 33 20.2 -0.4**
HDA IAmb IAmb 16 33 33.3
comp=Z,4.3nm,0.7s
IL31 51.58 31 P **P 16 33 20.9 +0.1**
IL31 IAmb IAmb 16 33 22.3
comp=Z,3.8nm,0.8s
ILAR Eielson Array 51.58 31 P **P 16 33 21.5 +0.7**
comp=Z,3.3nm,0.9s,baz=269,slow=6.5,SNR=28
comp=Z,3.3nm,0.9s
ILAR Eielson Array 51.58 31 P **P 16 33 21.0 +0.2**
SGDS Sogindy 51.60 301 *e*P **P 16 33 20.7 -0.7**
baz=301
BTLS Baital 51.64 303 *e*P **P 16 33 20.5 -1.1**
baz=303
KSH Kashi 51.65 296 P **P 16 33 25.8 +3.9**
KSH pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 51.90 300 P **P 16 33 23.6 -0.1**
LEM Lembang 52.15 225 P **P 16 33 25.6 -0.2**
comp=Z,13nm,0.6s,baz=321,slow=14,SNR=3.6
comp=Z,13nm,0.6s
BMAR Burnt Mountain 52.50 28 P **P 16 33 29.7 +2.0**
BRVK Borovoye 52.51 314 P **P 16 33 27.9 0.0**
BRVK IAmb IAmb 16 33 29.2
comp=Z,6.2nm,0.8s
GSI Gunungsitoli 52.67 241 P **P 16 33 28.6 -0.9**
DOT Dot Lake 52.85 33 P **P 16 33 30.4 0.0**
SCRK Sand Creek 52.87 32 P **P 16 33 31.1 +0.6**
SCRK IAmb IAmb 16 33 32.4
comp=Z,4.4nm,0.8s
J26L Joseph Creek 53.02 32 P **P 16 33 32.5 +0.9**
K27K Chicken 53.70 32 P **P 16 33 37.8 +1.3**
K27K IAmb IAmb 16 33 50.4
comp=Z,4.2nm,0.9s
L27K Beaver Creek, 53.91 33 P **P 16 33 39.2 +1.1**
L27K IAmb IAmb 16 33 41.4
comp=Z,5.8nm,1.1s
BCAR Beaver Creek A 53.93 33 P **P 16 33 39.4 +1.2**
DZA Taraz 54.08 301 *e*P **P 16 33 39.5 -0.1**
baz=301
WRA Warramunga Arr 54.55 188 P **P 16 33 43.4 +0.3**
comp=Z,2.8nm,0.5s,baz=4.7,slow=7.5,SNR=2.7
comp=Z,2.8nm,0.5s
KK31 Karatay Array 54.59 302 P **P 16 33 43.5 +0.2**
KKAR Karatay Array 54.59 302 P **P 16 33 43.2 -0.1**
IUG Iuzhnay 55.21 301 *e*P **P 16 33 47.3 -0.6**
baz=301
BTK Batken 55.28 298 P **P 16 33 49.5 +1.0**
BTK IAmb IAmb 16 33 50.0
comp=Z,3.7nm,0.7s
GAR Garm 55.99 297 P **P 16 33 53.3 -0.3**
GAR IAmb IAmb 16 34 00.7
comp=Z,6.8nm,0.7s
INK Inuvik 56.60 26 P **P 16 33 58.5 +1.2**
comp=Z,5.3nm,0.9s,baz=308,slow=3.9,SNR=4.6
comp=Z,5.3nm,0.9s
INK Inuvik 56.60 26 P **P 16 33 58.0 +0.7**
INK IAmb IAmb 16 33 59.5
comp=Z,5.1nm,0.9s
CHGR Chuyangaron 56.96 297 P **P 16 34 00.0 -0.5**
ASAR Alice Springs 58.27 188 P **P 16 34 10.0 +0.4**
comp=Z,1.2nm,0.7s,baz=14,slow=12,SNR=2.8
comp=Z,1.2nm,0.7s
ARU Arti 58.41 320 P **P 16 34 10.2 -0.1**
comp=Z,8.5nm,0.5s,baz=84,slow=6.3,SNR=7.0
comp=Z,8.5nm,0.5s
ARU Arti 58.41 320 P **P 16 34 09.6 -0.7**
ABKAR Akbulak array 59.75 311 P **P 16 34 19.2 -0.4**
AKTO Aktyubinsk 60.54 313 P **P 16 34 24.9 -0.2**
comp=Z,7.6nm,0.7s
comp=Z,7.6nm,0.7s
PALK Pallekele 62.02 259 P **P 16 34 35.5 -0.2**
KIRV Kirov 62.41 324 P **P 16 34 38.2 +0.7**
comp=Z,14nm,0.7s,baz=320,slow=14,SNR=5.3
comp=Z,14nm,0.7s
EUNU Eureka 62.70 8 P **P 16 34 40.0 +0.7**
SPB2 Spitsbergen Ar 63.07 349 P **P 16 34 43.3 +1.5**
GEYT Alibeck 65.25 300 P **P 16 34 56.5 -0.2**
comp=Z,3.2nm,0.7s,baz=46,slow=4.3,SNR=7.1
comp=Z,3.2nm,0.7s
BELG Belogornoye 65.81 318 P **P 16 35 00.0 +0.1**
comp=Z,13nm,0.7s,baz=187,slow=20,SNR=3.6
comp=Z,13nm,0.7s
FINES FINESS Array B 71.17 333 P **P 16 35 33.2 -0.1**
comp=Z,3.3nm,0.9s,baz=54,slow=10,SNR=8.1
comp=Z,3.3nm,0.9s
FINES FINESS Array B 71.17 333 P **P 16 35 33.5 +0.2**
PINE Pine Mountain 71.87 49 P **P 16 35 38.0 -0.1**
KBZ Khabaz 72.72 311 P **P 16 35 43.6 +0.7**
comp=Z,4.5nm,0.8s,baz=343,slow=1.6,SNR=9.6
comp=Z,4.5nm,0.8s
KIV Kislovodsk 72.73 312 P **P 16 35 43.9 +0.8**
KIV IAmb IAmb 16 35 45.1
comp=Z,8.2nm,0.9s
BEKR Beckworth 74.27 52 P **P 16 35 52.7 +0.3**
BEKR IAmb IAmb 16 35 55.1
comp=Z,4.3nm,0.9s
EMB Emerald Bay 74.91 53 P **P 16 35 54.9 -1.3**
MFID Camas Ranch 75.22 47 P **P 16 35 58.6 +0.8**
LRM Limekiln Ridge 75.86 44 P **P 16 36 01.8 +0.2**
NVAR Mina Array Bea 76.39 53 P **P 16 36 06.4 +1.7**
comp=Z,2.0nm,0.7s,baz=284,slow=6.3,SNR=22
comp=Z,2.0nm,0.7s
NVAR Mina Array Bea 76.39 53 P **P 16 36 05.7 +1.0**
NC405 NORSAR Array S 76.41 337 P **P 16 36 04.3 +0.3**
AKASG Malin Array Bx 76.44 323 P **P 16 36 04.2 -0.2**
comp=Z,3.5nm,0.8s,baz=46,slow=6.5,SNR=10
comp=Z,3.5nm,0.8s
HFS Hagfors 76.50 336 P **P 16 36 04.6 0.0**
comp=Z,1.3nm,0.6s,baz=116,slow=3.4,SNR=7.2
comp=Z,1.3nm,0.6s
NC204 NORSAR Array S 76.58 338 P **P 16 36 05.1 0.0**
NB201 NORSAR Array S 76.59 338 P **P 16 36 04.9 -0.2**
NB2 NORSAR Subarra 76.62 338 P **P 16 36 05.7 +0.4**
comp=Z,1.4nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 76.62 338 P **P 16 36 05.8 +0.4**
comp=Z,3.3nm,0.9s,baz=39,slow=5.7,SNR=9.9
comp=Z,3.3nm,0.9s
MOOW Moose Ponds 78.06 45 P **P 16 36 12.5 -1.5**
HWUT Hardware Ranch 78.84 47 P **P 16 36 16.8 -1.5**
HWUT IAmb IAmb 16 36 21.1
comp=Z,9.0nm,1.1s
DUG Dugway, Tooele 78.91 49 P **P 16 36 18.5 -0.1**
DUG IAmb IAmb 16 36 20.9
comp=Z,5.2nm,0.8s
PSUT Pine Spring 79.22 51 P **P 16 36 18.6 -1.8**
PSUT IAmb IAmb 16 36 36.8
comp=Z,4.0nm,1.0s
PDAR Pinedale Array 79.34 45 P **P 16 36 22.1 +1.0**
comp=Z,1.1nm,0.8s,baz=270,slow=3.0,SNR=8.4
comp=Z,1.1nm,0.8s
MSU Marysvale 80.30 50 P **P 16 36 24.9 -1.4**
BURAR Bucovina Array 80.44 322 P **P 16 36 26.8 +0.1**
RDMU Red Mountain 80.67 47 P **P 16 36 28.1 -0.1**
BR131 Keskin Array S 80.69 312 P **P 16 36 28.5 +0.2**
BR131 IAmb IAmb 16 36 31.4
comp=Z,4.2nm,0.8s
BRTR Keskin Array B 80.69 312 P **P 16 36 29.1 +0.9**
comp=Z,2.5nm,0.8s,baz=97,slow=3.2,SNR=14
comp=Z,2.5nm,0.8s
BRTR Keskin Array B 80.69 312 P **P 16 36 28.4 +0.2**
RAYN Ar Rayn 81.80 293 P **P 16 36 33.8 -0.5**
RAYN IAmb IAmb 16 36 35.5
comp=Z,6.6nm,1.0s
PV15 Paradox Valley 82.70 48 P **P 16 36 38.2 -0.9**
PV15 IAmb IAmb 16 36 43.0
comp=Z,5.7nm,1.0s
CSS Mathiatis 83.78 308 P **P 16 36 44.1 -0.3**
KHC Kasperske Hory 84.82 329 P **P 16 36 49.6 +0.2**
KHC IAmb IAmb 16 36 50.7
comp=Z,2.2nm,0.9s
VTS Vitosha 84.84 319 P **P 16 36 50.4 +0.6**
VTS IAmb IAmb 16 36 52.2
comp=Z,5.0nm,0.9s
GERES GERESS Array B 84.99 328 P **P 16 36 50.5 +0.2**
comp=Z,0.7nm,0.7s,baz=72,slow=4.3,SNR=6.1
comp=Z,0.7nm,0.7s
DAVOX Davos/Dischmat 88.22 329 P **P 16 37 06.4 +0.1**
comp=Z,1.2nm,0.5s,baz=12,slow=23,SNR=3.7
comp=Z,1.2nm,0.5s
TXAR Lajitas Array 91.54 53 P **P 16 37 22.8 +0.7**
comp=Z,1.0nm,0.9s,baz=299,slow=3.0,SNR=8.7
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 119.25 314 PKP **PKPdf 16 43 04.3 -0.5**
comp=Z,0.2nm,0.4s,baz=115,slow=1.0,SNR=1.6
LPAZ La Paz 147.76 63 PKPbc **PKPbc 16 44 02.1 +1.1**
comp=Z,2.8nm,0.6s,baz=336,slow=4.0,SNR=11

*IDC **05** 16:33:11.6±0.8, 44.°60S×36.°13E, h0km, mb4.0/9, mbtmp4.0/11, ML3.6/2, MS4.3/4, Error ellipse: s-maj=29.0km s-min=17.4km az=67.0*
*NEIC **05** 16:33:12.0±0.2, 44.°6S±0.°2×35.°6E±0.°3, h10km±1km, mb4.1/8, Error ellipse: s-maj=49.7km s-min=6.9km az=236.0*
ISC 05 16:33:12.9±0.7, 44.°6S±0.°1×36.°0E±0.°2, h10km, n24, σ1§18/22, mb4.1/11, MS4.3/3, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**14.35**	**322**	Pn		**Pn**	**16 36 33.1**	**-3.0**
SUR	**Sutherland**	**16.96**	**311**	P		**Pn**	**16 37 09.8**	**-0.7**
	0.3nm,0.3s,baz=34,slow=6.9,SNR=1.5							
	3.7nm,0.8s							
SUR	**Sutherland**	**16.96**	**311**			**Pn**	**16 37 09.2**	**-1.3**
POGA	**Pongola**	**17.53**	**347**			**Pn**	**16 37 17.1**	**-0.2**
POGA					IAmb	IAmb	16 37 43.3	
	comp=Z,9.9nm,1.0s							
BOSA	**Boshof**	**18.07**	**328**	P		**Pn**	**16 37 24.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=2.5							
BOSA				LR		LR	16 43 22.0	
	comp=Z,460nm,18.5s,baz=143,slow=34							
	comp=Z,4.6nm,1.1s							
MAW	**Mawson**	**27.09**	**158**	P		**P**	**16 38 55.8**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=339,slow=10,SNR=4.0							
	comp=Z,2.1nm,0.9s							
TSUM	**Tsumeb**	**29.58**	**323**	LR		LR	16 50 18.7	
	comp=Z,653nm,19.0s,baz=76,slow=35							
LSZ	**Lusaka**	**29.94**	**345**	P		**P**	**16 39 22.3**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=175,slow=8.6,SNR=5.7							
	comp=Z,1.4nm,0.3s							
SNAA	**Sanae**	**32.89**	**201**	P		**P**	**16 39 47.8**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=116,slow=7.8,SNR=5.3							
	comp=Z,1.5nm,0.8s							
CASY	**Casey**	**44.23**	**146**	P		**P**	**16 41 21.9**	**0.0**
CASY					IAmb	IAmb	16 41 33.2	
	comp=Z,4.4nm,1.3s							
QSPA	**South Pole Qui**	**45.64**	**180**	P		**P**	**16 41 31.6**	**-1.7**
	comp=Z,2.6nm,0.7s,baz=72,slow=1.8,SNR=19							
QSPA				LR		LR	16 58 58.4	
	comp=Z,220nm,20.8s,baz=290,slow=34							
	comp=Z,2.6nm,0.7s							
QSPA	**South Pole Qui**	**45.64**	**180**	P		**P**	**16 41 31.5**	**-1.8**
QSPA					IAmb	IAmb	16 41 37.9	
	comp=Z,3.1nm,0.8s							
VNDA	**Vanda**	**53.73**	**167**	P		**P**	**16 42 33.8**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=240,slow=6.8,SNR=3.5							
	comp=Z,0.6nm,0.7s							
VNDA	**Vanda**	**53.73**	**167**	P		**P**	**16 42 33.8**	**-0.8**
VNDA					IAmb	IAmb	16 42 54.5	
	comp=Z,3.0nm,1.4s							
SBA	**Scott Base**	**54.22**	**169**	P		**P**	**16 42 37.7**	**-0.4**
PMSA	**Palmer Station**	**54.64**	**211**	P		**P**	**16 42 42.8**	**+1.5**
	comp=Z,19nm,0.5s,baz=130,slow=20,SNR=5.3							
TORD	**Torodi Ar. Bea**	**65.34**	**323**	P		**P**	**16 43 56.9**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=160,slow=5.7,SNR=4.5							
	comp=Z,1.0nm,0.8s							
STKA	**Stephens Creek**	**78.24**	**123**	P		**P**	**16 45 13.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=166,slow=7.6,SNR=4.4							
	comp=Z,1.3nm,0.6s							
STKA	**Stephens Creek**	**78.24**	**123**	P		**P**	**16 45 12.6**	**-0.3**
ASAR	**Alice Springs**	**79.12**	**112**	P		**P**	**16 45 17.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=224,slow=5.3,SNR=28							
	comp=Z,0.9nm,0.6s							
AS31	**Alice Springs**	**79.13**	**112**	P		**P**	**16 45 17.5**	**-0.4**
WRA	**Warramunga Arr**	**82.00**	**110**	P		**P**	**16 45 32.8**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=219,slow=4.4,SNR=6.1							
	comp=Z,0.7nm,0.8s							
MKAR	**Makanchi Array**	**99.73**	**30**	LR		LR	17 30 12.2	
	comp=Z,333nm,19.0s,baz=306,slow=34							
TXAR	**Lajitas Array**	**144.72**	**258**	PKP		**PKPab**	**16 52 48.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=140,slow=5.6,SNR=11							

*IDC **05** 16:34:16.4±0.9, 44.°72S×35.°97E, h0km, mb4.0/6, mbtmp4.0/7, ML3.7/1, Error ellipse: s-maj=48.9km s-min=21.4km az=64.0*
*NEIC **05** 16:34:17.2±1.2, 44.°7S±0.°1×35.°7E±0.°3, h10km±1km, mb4.3/8, Error ellipse: s-maj=36.1km s-min=20.7km az=249.0*
ISC 05 16:34:17.5±0.7, 44.°7S±0.°1×35.°8E±0.°2, h10km, n18, σ1§01/18, mb4.1/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**14.37**	**323**	Pn		**Pn**	**16 37 40.0**	**-1.0**
SUR	**Sutherland**	**16.96**	**311**	P		**Pn**	**16 38 14.5**	**-0.5**
	0.3nm,0.3s,baz=139,slow=9.3,SNR=1.7							
	2.8nm,0.6s							
SUR	**Sutherland**	**16.96**	**311**	Pn		**Pn**	**16 38 13.8**	**-1.1**
SUR					IAmb	IAmb	16 38 34.5	
	comp=Z,37nm,1.4s							
POGA	**Pongola**	**17.60**	**348**	Pn		**Pn**	**16 38 21.2**	**-1.6**
BOSA	**Boshof**	**18.11**	**329**			**Pn**	**16 38 28.2**	**-0.9**
LSZ	**Lusaka**	**30.01**	**345**	P		**P**	**16 40 27.2**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=175,slow=8.3,SNR=6.0							
	comp=Z,2.0nm,0.3s							
BELA	**Belgrano 2**	**42.67**	**197**	P		**P**	**16 42 13.4**	**-0.4**
QSPA	**South Pole Qui**	**45.55**	**180**	P		**P**	**16 42 36.8**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=144,slow=1.0,SNR=6.6							
	comp=Z,1.7nm,0.6s							
QSPA	**South Pole Qui**	**45.55**	**180**	P		**P**	**16 42 36.6**	**-0.6**
QSPA					IAmb	IAmb	16 43 15.3	
	comp=Z,5.3nm,1.3s							
VNDA	**Vanda**	**53.66**	**167**	P		**P**	**16 43 38.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=252,slow=7.7,SNR=4.8							
	comp=Z,1.2nm,0.8s							
VNDA	**Vanda**	**53.66**	**167**	P		**P**	**16 43 38.6**	**0.0**
VNDA					IAmb	IAmb	16 43 39.4	
	comp=Z,3.6nm,1.1s							
SBA	**Scott Base**	**54.15**	**169**	P		**P**	**16 43 43.4**	**+1.3**
SBA					IAmb	IAmb	16 43 44.8	
	comp=Z,3.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**65.36**	**323**	P		**P**	**16 45 02.2**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=153,slow=7.2,SNR=4.4							
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**79.17**	**112**	P		**P**	**16 46 22.6**	**-0.1**
	comp=Z,0.9nm,1.1s,baz=225,slow=5.5,SNR=4.1							
	comp=Z,0.9nm,1.1s							
ASAR	**Alice Springs**	**79.17**	**112**	P		**P**	**16 46 21.5**	**-1.2**
KNRA	**Kununurra**	**81.20**	**103**	P		**P**	**16 46 33.2**	**-0.5**
WRA	**Warramunga Arr**	**82.05**	**110**	P		**P**	**16 46 38.4**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=230,slow=5.2,SNR=2.7							
	comp=Z,0.7nm,0.9s							
TXAR	**Lajitas Array**	**144.62**	**258**	PKP		**PKPdf**	**16 53 54.1**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=134,slow=5.2,SNR=2.8							

*IDC **05** 16:42:06.6±1.9, 14.°08N×119.°85E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=39.4km s-min=20.8km az=176.0*
*MAN **05** 16:42:07.5, 14.°96N×120.°21E, h9km, mb4.4, ML3.2, MS3.0*
ISC 05 16:42:05.6±1.4, 14.°97N±0.°03×120.°10E±0.°06, h7km±11km, n19, σ1§80/31, 3C-12D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MACP	**Maragondon, Ca**	**0.93**	**139**	⇓*e*P		**Pg**	**16 42 23.6**	**+0.2**
MACP				*e*S		**Sb**	**16 42 37.1**	**+0.6**
PCPH	**Palayan**	**1.13**	**58**	⇑*e*P		**Pg**	**16 42 26.1**	**-1.3**
PCPH				*e*S		**Sg**	**16 42 40.5**	**-1.6**
TGY	**Tagaytay City**	**1.19**	**136**	Pn		**Pg**	**16 42 28.5**	**+0.1**
	baz=90,slow=6.2							
TGY				Sn		**Sn**	**16 42 45.7**	**+0.6**
	baz=90,slow=20							
TGY	**Tagaytay City**	**1.19**	**136**	⇑*e*P		**Pn**	**16 42 30.5**	**+1.9**
TGY				*e*S		**Sn**	**16 42 46.4**	**+1.3**
LUBP	**Lubang**	**1.24**	**173**	⇓*e*P		**Pn**	**16 42 26.8**	**-2.5**
LUBP				*e*S		**Sg**	**16 42 46.9**	**+1.5**
SMPP	**San Manuel, Pa**	**1.30**	**26**	⇓*e*P		**Pn**	**16 42 28.9**	**-1.4**
SMPP				*e*S		**Sb**	**16 42 45.6**	**-1.8**
BALP	**Baler**	**1.62**	**62**	⇓*e*P		**Pn**	**16 42 34.3**	**-0.3**
BALP				*e*S		**Sn**	**16 42 53.9**	**-1.9**
LQP	**Lukban**	**1.64**	**121**	⇑*e*P		**Pn**	**16 42 35.3**	**+0.3**
LQP				*e*S		**Sg**	**16 42 59.6**	**+1.3**
PGP	**Puerto Galera**	**1.68**	**150**	⇓*e*P		**Pn**	**16 42 34.6**	**-0.8**
PGP				*i* S		**Sb**	**16 42 58.3**	**+0.1**
SAMP	**Sagada Mountai**	**2.24**	**20**	⇓*e*P		**Pn**	**16 42 44.8**	**+1.6**
SAMP				*e*S		**Sn**	**16 43 13.1**	**+2.1**
CAUP	**Cauayan**	**2.57**	**40**	⇓*e*P		**Pn**	**16 42 49.2**	**+1.5**
CAUP				*e*S		**Sg**	**16 43 32.6**	**+4.2**
SJMP	**San Jose**	**2.68**	**158**	⇓*e*P		**Pn**	**16 42 49.3**	**+0.1**
SJMP				*e*S		**Sn**	**16 43 24.0**	**+2.0**
BUSP	**Coron**	**2.95**	**178**	⇓*e*P		**Pn**	**16 42 51.9**	**-1.0**
BUSP				*e*S		**Sn**	**16 43 25.9**	**-2.6**
SIPP	**Brgy, Tapao**	**2.96**	**7**	⇓*i*P		**Pb**	**16 42 58.0**	**-0.6**
SIPP				*e*S		**Sg**	**16 43 42.7**	**+1.9**
PALP	**Palanan**	**3.06**	**47**	⇓*e*P		**Pb**	**16 42 58.7**	**-1.7**
SGCP	**Gonzaga**	**3.75**	**30**	⇓*e*P		**Pb**	**16 43 09.4**	**-2.9**
CMAR	**Chiang Mai Arr**	**20.55**	**283**	P		**P**	**16 46 46.8**	**+1.9**
	0.7nm,0.7s,baz=94,slow=8.5,SNR=6.5							
	0.7nm,0.7s							
WRA	**Warramunga Arr**	**37.41**	**158**	P		P	16 49 15.1	-4.4
	0.6nm,0.6s,baz=336,slow=9.8,SNR=14							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**40.70**	**160**	P		P	16 49 43.0	-4.0
	0.4nm,0.4s,baz=336,slow=8.2,SNR=15							
	0.4nm,0.4s							

*TEH **05** 16:42:41.6, 37.°49N×54.°37E, h7km, ML3.5*
*AZER **05** 16:42:48.3±1.1, 37.°49N×53.°92E, h10km, Error ellipse: s-maj=15.3km s-min=5.6km az=57.0*
ISC 05 16:42:45.0±1.2, 37.°48N±0.°05×54.°44E±0.°04, h30km, n67, σ1§30/85, 1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.81**	**106**	*e*Pg	**Pn**	**16 42 57.7**	**-2.6**
IGLO	**Ghaloghah**	**1.09**	**207**	*e*Sg	**Sn**	**16 43 17.7**	**-1.0**
IGLO				*e*Pg	**Pn**	**16 43 02.9**	**-1.6**
MRVT	**Maraveh tapeh**	**1.32**	**82**	*e*Pg	**Pn**	**16 43 08.2**	**+0.7**
ISHM	**Shahmirzad**	**1.91**	**209**	*e*Pn	**Pn**	**16 43 16.8**	**+1.0**
ISHM				*e*		16 43 43.9	
	comp=Z,6μm,0.3s						
SHRO	**Shahrood**	**1.95**	**139**	*e*Pn	**Pn**	**16 43 17.1**	**+0.9**
IANJ	**Anjilo**	**2.06**	**192**	*e*Pn	**Pn**	**16 43 18.7**	**+1.0**
IANJ				*e*		16 43 45.9	
	comp=Z,3μm,0.3s						
IPRN	**Peran**	**2.09**	**234**	*e*Pn	**Pn**	**16 43 18.0**	**-0.1**
IPRN				*e*		16 44 01.7	
	comp=Z,5μm,0.5s						
IFIR	**Firoozkooh**	**2.28**	**217**	*e*Pn	**Pn**	**16 43 21.8**	**+0.9**
IFIR				*e*		16 43 52.0	
	comp=Z,3μm,0.4s						
BJRD	**Bojnurd**	**2.37**	**84**	*e*Pn	**Pn**	**16 43 23.7**	**+1.7**
ILAS	**Lasjerd**	**2.41**	**210**	*e*Pn	**Pn**	**16 43 23.3**	**+0.7**
ILAS				*e*		16 43 40.4	
	comp=Z,1μm,0.3s						
DAMV	**Damavand**	**2.71**	**228**	*e*Pn	**Pn**	**16 43 28.5**	**+1.7**
IDMV	**Damavand**	**2.71**	**226**	*e*Pn	**Pn**	**16 43 28.4**	**+1.6**
IDMV				*e*		16 43 49.7	
	comp=Z,2μm,0.5s						
SBZV	**Sabzevar**	**2.77**	**112**	*e*Pn	**Pn**	**16 43 28.9**	**+1.4**
ISFR	**Sfrayin**	**2.88**	**97**	*e*Pn	**Pn**	**16 43 30.7**	**+1.7**
ISFR				*e*		16 44 24.5	
	comp=Z,788nm,0.6s						
CHTH	**Charan**	**3.09**	**240**	*e*Pn	**Pn**	**16 43 33.7**	**+1.7**
QALM	**Alamut, Qazvin**	**3.21**	**252**	*e*Pn	**Pn**	**16 43 33.3**	**-0.3**
QALM				*e*		16 44 36.2	
	comp=Z,887nm,0.4s						
IVRN	**Varamin**	**3.31**	**222**	*e*Pn	**Pn**	**16 43 35.8**	**+1.0**
IVRN				*e*		16 44 36.2	
	comp=Z,715nm,0.4s						
IEMG	**Emamgholi**	**3.36**	**90**	*e*Pn	**Pn**	**16 43 37.3**	**+1.6**
IAKL	**Akhelmad**	**3.57**	**103**	*e*Pn	**Pn**	**16 43 40.3**	**+1.7**
ISFB	**Sefidab**	**3.60**	**210**	*e*Pn	**Pn**	**16 43 39.5**	**+0.7**
GIDE	**GILAN DEYLAMAN**	**3.66**	**263**	*e*Pn	**Pn**	**16 43 41.0**	**+1.3**
IQOM	**Qom**	**3.79**	**227**	*e*Pn	**Pn**	**16 43 42.7**	**+1.1**
IQOM				*e*		16 44 45.2	
	comp=Z,443nm,0.4s						
IPAY	**Payeh**	**3.79**	**104**	*e*Pn	**Pn**	**16 43 43.8**	**+2.2**
TNSJ	**Nastanj**	**3.93**	**153**	*e*Pn	**Pn**	**16 43 45.1**	**+1.7**
TNSJ				*e*		16 44 48.0	
	comp=Z,837nm,0.5s						
GHVR	**GHOM**	**3.93**	**221**	*e*Pn	**Pn**	**16 43 45.0**	**+1.6**
KRSH	**Karshahi**	**3.97**	**209**	*e*Pn	**Pn**	**16 43 44.9**	**+0.8**
IKRD	**Kardeh**	**4.12**	**98**	*e*Pn	**Pn**	**16 43 48.6**	**+2.5**
ANAR	**Anarak**	**4.32**	**188**	*e*Pn	**Pn**	**16 43 49.5**	**+0.7**
TABS	**Tabas**	**4.41**	**149**	*e*Pn	**Pn**	**16 43 51.7**	**+1.8**
TKDS	**Koohdasht(Taba**	**4.44**	**150**	*e*Pn	**Pn**	**16 43 51.9**	**+1.5**
GAS1	**Astara - Iran**	**4.51**	**283**	*e*Pn	**Pn**	**16 43 50.9**	**-0.4**
ASTR	**Astara**	**4.58**	**285**	P	**Pn**	**16 43 51.6**	**-0.7**
ASTR				S	**Sn**	**16 44 42.9**	**-1.6**
ASAO	**Ashtian**	**4.62**	**232**	*e*Pn	**Pn**	**16 43 54.4**	**+1.4**
LKRN	**Lenkeran, Azer**	**4.63**	**287**	P	**Pn**	**16 43 52.0**	**-0.8**
LKRN				S	**Sn**	**16 44 45.1**	**-0.4**
NDR	**Nardaran**	**4.64**	**313**	P	**Pn**	**16 43 54.2**	**+1.1**
NDR				S	**Sn**	**16 44 48.0**	**+2.0**
ZNJK	**Zanjan**	**4.67**	**262**	*e*Pn	**Pn**	**16 43 54.9**	**+1.2**
TPRV	**Parvadeh(Tabas**	**4.81**	**157**	*e*Pn	**Pn**	**16 43 56.9**	**+1.4**
TPRV				*e*		16 45 22.4	
	comp=Z,333nm,0.5s						
NASN	**Na'in**	**4.86**	**196**	*e*Pn	**Pn**	**16 43 57.7**	**+1.3**
ALIB	**Äli-Bayra**	**4.91**	**302**	S	**Sn**	**16 44 54.0**	**+1.4**
LRK	**Lerik**	**4.95**	**285**	P	**Pn**	**16 43 56.8**	**-0.7**
LRK				S	**Sn**	**16 44 50.8**	**-2.9**
GLBA	**Clilabad**	**5.06**	**292**	P	**Pn**	**16 43 59.0**	**+0.1**
GLBA				S	**Sn**	**16 44 55.5**	**-0.8**
YZKH	**Yazd**	**5.08**	**179**	*e*Pn	**Pn**	**16 44 00.5**	**+1.3**
YRD	**Yardimli**	**5.08**	**288**	P	**Pn**	**16 43 59.2**	**-0.2**
YRD				S	**Sn**	**16 44 53.7**	**-3.4**
GBS	**Qobustan**	**5.25**	**307**	P	**Pn**	**16 44 02.2**	**+0.7**
GBS				S	**Sn**	**16 45 01.5**	**+0.4**
GRMI	**Germi**	**5.32**	**286**	*e*Pn	**Pn**	**16 44 02.8**	**+0.2**
ISRB	**Sarab**	**5.38**	**276**	*e*		16 44 05.5	
	comp=Z,358nm,0.2s						
ISRB				*e*Pn	**Pn**	**16 44 04.1**	**+0.7**
ATGJ	**Altiaghaj**	**5.44**	**310**	S	**Sn**	**16 45 06.6**	**+0.7**
AFRZ	**Afriz**	**5.51**	**136**	*e*Pn	**Pn**	**16 44 06.7**	**+1.6**
SIZA	**Siyzn**	**5.60**	**312**	S	**Sn**	**16 45 10.6**	**+1.0**
PQL	**Pirkuli**	**5.62**	**308**	P	**Pn**	**16 44 06.8**	**+0.3**
PQL				S	**Sn**	**16 45 09.8**	**-0.3**
BLQ	**Beylaqan**	**5.83**	**295**	P	**Pn**	**16 44 08.9**	**-0.5**
BLQ				S	**Sn**	**16 45 13.9**	**-1.3**
IML	**Ismayilli**	**5.88**	**306**	P	**Pn**	**16 44 10.6**	**+0.5**
IML				S	**Sn**	**16 45 16.4**	**0.0**
IHRS	**Heris**	**5.91**	**280**	*e*Pn	**Pn**	**16 44 11.0**	**+0.3**
QRD	**Qoradiz**	**5.92**	**292**	⇓P	**Pn**	**16 44 09.9**	**-0.8**
QRD				S	**Sn**	**16 45 16.4**	**-1.1**
ZRD	**Zardab**	**5.96**	**300**	S	**Sn**	**16 45 18.8**	**+0.4**
QUBA	**Quba, Azerbaij**	**6.01**	**312**	S	**Sn**	**16 45 19.7**	**0.0**
XNQ	**Khinaliq**	**6.11**	**309**	S	**Sn**	**16 44 13.9**	**+0.4**
XNQ				S	**Sn**	**16 45 21.9**	**-0.7**
SHRT	**Shahrakht**	**6.12**	**127**	*e*Pn	**Pn**	**16 44 15.2**	**+1.8**
QBL	**Gabala**	**6.18**	**306**	S	**Sn**	**16 45 22.1**	**-1.8**
QSAR	**Qusar**	**6.24**	**312**	P	**Pn**	**16 44 16.1**	**+1.0**
QSAR				S	**Sn**	**16 45 25.7**	**+0.3**
AGDM	**Agdam**	**6.29**	**297**	P	**Pn**	**16 44 16.1**	**+0.3**
AGDM				S	**Sn**	**16 45 26.3**	**-0.4**
SEKA	**Sheki**	**6.73**	**306**	S	**Sn**	**16 45 36.3**	**-1.2**
ORD	**Ordubad**	**6.80**	**285**	P	**Pn**	**16 44 22.5**	**-0.3**
ORD				S	**Sn**	**16 45 38.4**	**-0.9**
GANJ	**Ganja**	**7.06**	**299**	S	**Sn**	**16 45 42.8**	**-2.7**
ZKTA	**Zakatala**	**7.32**	**307**	P	**Pn**	**16 44 30.5**	**+0.6**
ZKTA				S	**Sn**	**16 45 51.6**	**-0.4**
GDB	**GEDABAY**	**7.49**	**298**	P	**Pn**	**16 44 31.9**	**-0.4**
GDB				S	**Sn**	**16 45 54.4**	**-1.8**
QZX	**Qazax, Azerbai**	**7.88**	**300**	S	**Sn**	**16 46 04.3**	**-1.5**

WEL 05 16:47:29.3±0.8, 37°S±5°×17°9E±°, h15km, M3.4/24, ML3.7/30, MLv3.4/24, Error ellipse: s-maj=0.0km s-min=0.0km az=105.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.47**	**238**	P	Pb	16 47 39.8	+0.5
MXZ				S	Sb	16 47 46.4	+0.3
WMGZ	**Waiomatatini S**	**0.60**	**211**	S	Sn	16 47 42.4	-0.8
WMGZ				S	Sn	16 47 51.9	-0.8
PKGZ	**Pakihiroa**	**0.82**	**225**	P	Pb	16 47 45.8	+0.5
PKGZ				S	Sb	16 47 57.2	+1.0
PUZ	**Puketiti**	**0.88**	**210**	P	Pb	16 47 46.2	0.0
PUZ				S	Sg	16 47 58.5	+0.7
HAZ	**Te Kaha**	**0.93**	**241**	P	Pn	16 47 47.7	-0.1
HAZ				S	Sn	16 48 01.3	+0.5
TWGZ	**Tauwhareparae**	**1.09**	**217**	P	Pb	16 47 49.8	0.0
TWGZ				S	Sn	16 48 04.8	0.0
RUGZ	**Raukumara Rang**	**1.11**	**234**	P	Pg	16 47 50.7	0.0
CNGZ	**Carnagh Statio**	**1.26**	**202**	P	Pn	16 47 52.1	-0.3
CNGZ				S	Sg	16 48 10.1	-0.1
WIZ	**White Island**	**1.31**	**260**	P	Pb	16 47 53.9	+0.4
TKGZ	**Te Karaka**	**1.36**	**214**	P	Pn	16 47 52.9	-0.9
TKGZ				S	Sn	16 48 11.5	0.0
MWZ	**Matawai**	**1.44**	**224**	P	Pn	16 47 54.5	-0.3
WHRZ	**Whale Island**	**1.56**	**249**	P	Pb	16 47 58.4	+0.7
RAGZ	**Rawiri**	**1.62**	**223**	P	Pn	16 47 57.1	-0.3
RIGZ	**Rimuhau**	**1.62**	**210**	P	Pn	16 47 56.3	-1.0
RIGZ				S	Sn	16 48 16.9	-1.1
URZ	**Urewera**	**1.65**	**234**	P	Pn	16 47 58.4	+0.7
URZ				S	Sb	16 48 19.3	-0.6
PRGZ	**Paritu Road**	**1.77**	**204**	P	Pn	16 47 57.9	-1.4
EDRZ	**Edgecumbe**	**1.82**	**244**	P	Pb	16 48 01.3	-1.1
OPRZ	**Ohinepanea**	**1.87**	**253**	P	Pn	16 48 01.4	+0.7
OPRZ				S	Sn	16 48 24.0	0.0
SNGZ	**Shannon Statio**	**1.87**	**218**	P	Pn	16 47 59.8	-1.0
KNZ	**Kokohu**	**1.93**	**207**	P	Pn	16 47 59.8	-1.7
RTZ	**Ruatahuna**	**1.94**	**227**	P	Pn	16 48 02.1	+0.3
MHGZ	**Mahia Peninsul**	**1.97**	**201**	P	Pn	16 48 00.6	-1.5
MUGZ	**Murupara**	**1.99**	**234**	P	Pn	16 48 02.6	+0.2
TARZ	**Mount Tarawera**	**2.04**	**242**	P	Pb	16 48 04.8	-1.4
RRRZ	**Republican Roa**	**2.09**	**240**	P	Pn	16 48 04.6	+0.8
OMRZ	**Omania**	**2.09**	**247**	P	Pb	16 48 05.4	-1.5
RAHZ	**Arahi**	**2.10**	**220**	P	Pn	16 48 03.4	-0.5
KARZ	**Kaharoa**	**2.15**	**250**	P	Pn	16 48 05.6	+0.9
WHHZ	**Waihua**	**2.16**	**215**	P	Pn	16 48 03.7	-1.0
MTHZ	**Maungataniwha**	**2.19**	**225**	P	Pn	16 48 05.2	0.0
HSRZ	**Hossack Road**	**2.26**	**243**	P	Pb	16 48 08.7	-1.1
ALRZ	**Allen Road**	**2.31**	**237**	P	Pn	16 48 07.0	+0.2
NMHZ	**Naumai**	**2.38**	**221**	P	Pn	16 48 07.4	-0.4
NMHZ				S	Sn	16 48 36.3	-0.5
ARHZ	**Aropaoanui**	**2.42**	**216**	P	Pn	16 48 07.3	-0.9
MRHZ	**Matea Rd**	**2.42**	**230**	P	Pn	16 48 08.3	-0.1
KUZ	**Kuaotunu**	**2.53**	**282**	P	Pn	16 48 09.7	-0.2
BKZ	**Black Stump Fm**	**2.60**	**224**	P	Pn	16 48 10.2	-0.6
KUTZ	**Kaahu Road**	**2.64**	**243**	P	Pn	16 48 12.4	+1.0
TOZ	**Tahuroa Road**	**2.66**	**260**	P	Pn	16 48 12.4	+0.8
CKHZ	**Cape Kidnapper**	**2.71**	**210**	P	Pn	16 48 10.3	-2.0
KWHZ	**Kaweka Forest**	**2.82**	**221**	P	Pn	16 48 12.7	-1.3
RATZ	**Rangitukua**	**2.85**	**236**	P	Pn	16 48 14.8	+0.5
GRZ	**Great Barrier**	**2.89**	**290**	P	Pn	16 48 17.0	+2.2
KAHZ	**Kahuranaki**	**2.91**	**211**	P	Pn	16 48 12.8	-2.3
MKAZ	**Moumakai**	**2.92**	**273**	P	Pn	16 48 15.7	+0.5
WIAZ	**Waiheke Island**	**2.98**	**279**	P	Pn	16 48 16.6	+0.6
KRHZ	**Kereru**	**3.01**	**219**	P	Pn	16 48 14.5	-2.0
TMVZ	**Te Maari**	**3.04**	**233**	P	Pn	16 48 16.6	-0.3
ETVZ	**East Tongariro**	**3.04**	**232**	P	Pn	16 48 16.6	-0.4
NTVZ	**North Tongarir**	**3.04**	**233**	P	Pn	16 48 16.8	-0.3
BHHZ	**Black Hill Sta**	**3.06**	**224**	P	Pn	16 48 16.1	-1.1
NNVZ	**North Ngauruho**	**3.10**	**233**	P	Pn	16 48 17.9	+0.1
WTVZ	**West Tongariro**	**3.11**	**234**	P	Pn	16 48 18.2	+0.3
PXZ	**Pawanui**	**3.11**	**209**	P	Pn	16 48 14.8	-3.0
SNVZ	**South Ngauruho**	**3.12**	**232**	P	Pn	16 48 17.8	-0.3
ETAZ	**East Tamaki Re**	**3.12**	**275**	P	Pn	16 48 20.1	+2.2
NGZ	**Ngauruhoe**	**3.14**	**233**	P	Pn	16 48 17.9	-0.4
TUVZ	**Tukino**	**3.16**	**231**	P	Pn	16 48 18.3	-0.3
MBAZ	**Motutapu North**	**3.17**	**279**	P	Pn	16 48 20.3	+1.6
TWVZ	**Taurewa**	**3.18**	**235**	P	Pn	16 48 19.1	+0.1
MOVZ	**Moawhango**	**3.19**	**228**	P	Pn	16 48 18.1	-0.8
WHVZ	**Whangaehu Hut**	**3.21**	**231**	P	Pn	16 48 18.9	-0.5
FWVZ	**Far West T-bar**	**3.21**	**232**	P	Pn	16 48 19.0	-0.4
WNVZ	**Wahianoa**	**3.23**	**230**	P	Pn	16 48 18.9	-0.7
PNHZ	**Pukenui**	**3.31**	**217**	P	Pn	16 48 17.9	-2.7
WPHZ	**Waipukurau**	**3.32**	**213**	P	Pn	16 48 18.2	-2.5
MTVZ	**Mangateitei**	**3.34**	**231**	P	Pn	16 48 20.4	-0.6
HIZ	**Hauiti**	**3.35**	**248**	P	Pn	16 48 22.9	+1.8
PRHZ	**Porangahau**	**3.41**	**209**	P	Pn	16 48 18.7	-3.1
RVAZ	**Riverhead Bore**	**3.43**	**278**	P	Pn	16 48 23.4	+1.3
TSZ	**Takapari Road**	**3.53**	**218**	P	Pn	16 48 20.7	-3.0
DVHZ	**Dannevirke**	**3.63**	**214**	P	Pn	16 48 22.1	-2.9
ANWZ	**Angora Road**	**3.63**	**209**	P	Pn	16 48 21.5	-3.4
WCZ	**Waipu Caves**	**3.84**	**290**	P	Pn	16 48 29.1	+1.3
WAZ	**Wanganui**	**3.87**	**230**	P	Pn	16 48 28.0	-0.1
POWZ	**Post Office Ro**	**3.89**	**217**	P	Pn	16 48 25.6	-2.8
PRWZ	**Pori Road**	**3.92**	**213**	P	Pn	16 48 26.3	-2.7
NEZ	**North Egmont**	**4.19**	**241**	P	Pn	16 48 35.0	+2.2
OUZ	**Omahuta**	**4.70**	**295**	P	Pn	16 48 41.5	+1.9
CTZ	**Chatham Island**	**7.30**	**153**	P	Pn	16 49 13.8	-1.6

KRSC 05 16:47:30.7±1.3, 48°04N×156°21E, h31km±38km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.64**	**359**	*e*P	Pn	16 48 13.9	+2.8
SKR				*e*S	Sn	16 48 45.3	+3.3
PAU	**Pauzhetka**	**3.45**	**6**	*e*P	Pn	16 48 25.8	+3.6
PAU				*e*S	Sn	16 49 05.9	+4.0
KDTR	**Khodutka, Kamc**	**3.96**	**17**	*e*P	Pn	16 48 33.6	+4.4
KDTR				*e*S	Sn	16 49 19.7	+5.2
ASAK	**Asacha**	**4.48**	**13**	*e*P	Pn	16 48 41.1	+4.7
MTVR	**Mutnovka**	**4.62**	**15**	*e*P	Pn	16 48 43.3	+4.9
MTVR				*e*S	Sn	16 49 36.3	+5.2
RUS	**Russkaya**	**4.64**	**18**	*e*P	Pn	16 48 42.5	+4.0
RUS				*e*S	Sn	16 49 35.5	+4.3
GRL	**Gorelyy**	**4.67**	**14**	*e*P	Pn	16 48 44.3	+5.2
GRL				*e*S	Sn	16 49 38.6	+6.4
PET	**Petropavlovsk**	**5.23**	**16**	*e*P	Pn	16 48 51.8	+5.3
PET				*e*S	Sn	16 49 50.8	+5.1
DALK	**Dalny**	**5.25**	**17**	*e*P	Pn	16 48 51.5	+4.6
DALK				*e*S	Sn	16 49 50.9	+4.6
UGLR	**Uglovaya**	**5.43**	**17**	*e*P	Pn	16 48 54.7	+5.2
KOK	**Koryaka**	**5.48**	**15**	*e*P	Pn	16 48 55.6	+5.5
SDLR	**Sedlovina**	**5.51**	**17**	*e*P	Pn	16 48 55.0	+4.4
KRX	**Arik**	**5.54**	**15**	*e*P	Pn	16 48 56.0	+4.9
SPN	**Mys Shipunski**	**5.62**	**24**	*e*P	Pn	16 48 57.4	+5.5
SPN				*e*S	Sn	16 50 00.7	+5.4
KBTR	**Krutoberegovo**	**9.13**	**24**	*e*P	Pn	16 49 43.5	+3.4

ROM 05 16:50:23.2±0.1, 42°638N±0°005×13°301E±0°006, h10km, ML1.5/6, 1C-1D, Error ellipse: s-maj=0.6km s-min=0.4km az=203.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.03**	**107**	P	Pg	16 50 25.4	+0.2
SMA1				S	Sg	16 50 26.8	+0.2
SMA1				AML	AML		
	comp=N,814μm,1.0s						
SMA1				AML	AML		
	comp=N,814μm,1.0s						
SMA1				AML	AML		
	comp=E,1655μm,0.2s						
T1202	**Accumoli, Fraz**	**0.09**	**320**	⇓P	Pg	16 50 26.3	+0.5
T1202				S	Sg	16 50 28.2	+0.5
T1244	**Arquata del Tr**	**0.12**	**359**	P	Pg	16 50 26.7	+0.5
T1243	**Rocca Santa Ma**	**0.12**	**62**	⇑P	Pg	16 50 26.8	+0.5
RM33	**Pellescritta (**	**0.14**	**206**	P	Pg	16 50 27.1	+0.6
RM33				S	Sg	16 50 30.0	+1.1
RM33				AML	AML		
	comp=E,75μm,0.6s						
RM33				AML	AML		
	comp=N,58μm,1.4s						
RM33				AML	AML		
	comp=N,58μm,1.4s						
RM33				AML	AML		
	comp=E,75μm,0.6s						
LNSS	**Leonessa**	**0.20**	**260**	P	Pg	16 50 27.9	+0.6
TERO	**Teramo**	**0.22**	**94**	P	Pg	16 50 28.5	+0.7
TERO				S	Sg	16 50 32.3	+1.3
TERO				AML	AML		
	comp=N,114μm,0.4s						
TERO				AML	AML		
	comp=N,114μm,0.4s						
TERO				AML	AML		
	comp=E,90μm,0.8s						
NRCA	**Norcia**	**0.24**	**325**	P	Pg	16 50 28.7	+0.6
NRCA				S	Sg	16 50 32.6	+1.1
NRCA				AML	AML		
	comp=E,166μm,0.1s						
NRCA				AML	AML		
	comp=N,90μm,1.2s						
T1215	**Vallo di Nera,**	**0.36**	**297**	P	Pg	16 50 30.6	+0.3
T1215				S	Sb	16 50 36.5	-0.8
T1215				AML	AML		
	comp=E,78μm,1.6s						
T1215				AML	AML		
	comp=N,73μm,1.6s						
FDMO	**Fiordimonte**	**0.43**	**339**	S	Sb	16 50 40.0	+0.7

*IDC **05** 16:51:45.7±1.7, 37°.05S×179°.06E, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=44.0km s-min=28.6km az=145.0*

*NEIC **05** 16:51:48.9±0.7, 37°.1S±0°.1×179°.0E±0°.1, h16km±6km, mb4.6/14, Error ellipse: s-maj=20.1km s-min=5.5km az=142.0*

*WEL **05** 16:51:49.6±1.0, 37°S±5°×17°9E±°, h15km, M4.1/75, MLv4.1/75, Error ellipse: s-maj=0.0km s-min=0.0km az=77.9*

ISC 05 16:51:49.9±2.1, 37°24S±0°06×179°05E±0°09, h31km±11km, n119, σ1°39/120, mb4.4/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.67**	**242**		**Pb**	**16 52 02.4**	**-0.9**
MXZ				Sg	**Sb**	**16 52 10.9**	**-1.4**
MXZ	**Matakaoa Point**	**0.67**	**242**	P	**Pb**	**16 52 05.5**	**-0.7**
MXZ				S	**Sb**	**16 52 11.1**	**-1.2**
WMGZ	**Waiomatatini S**	**0.77**	**221**	P	**Pb**	**16 52 05.9**	**+1.1**
WMGZ				S	**Sn**	**16 52 17.4**	**+2.4**
PKGZ	**Pakihiroa**	**1.01**	**230**	P	**Pb**	**16 52 08.9**	**0.0**
PKGZ				S	**Sb**	**16 52 23.1**	**+1.3**
PUZ	**Puketiti**	**1.04**	**217**	P	**Pb**	**16 52 09.7**	**+0.3**
HAZ	**Te Kaha**	**1.13**	**243**	P	**Pn**	**16 52 09.5**	**-0.1**
HAZ				S	**Sb**	**16 52 26.5**	**+1.3**
TWGZ	**Tauwhareparae**	**1.26**	**222**	P	**Pb**	**16 52 12.9**	**-0.2**
TWGZ				S	**Sb**	**16 52 31.1**	**+2.1**
RUGZ	**Raukumara Rang**	**1.31**	**236**	P	**Pb**	**16 52 13.7**	**-0.3**
CNGZ	**Carnagh Statio**	**1.41**	**208**	P	**Pb**	**16 52 15.3**	**-0.3**
WIZ	**White Island**	**1.51**	**259**	P	**Pn**	**16 52 13.9**	**-0.9**
WSRZ	**White Island S**	**1.52**	**259**	P	**Pb**	**16 52 16.3**	**-1.2**
TKGZ	**Te Karaka**	**1.53**	**218**	P	**Pn**	**16 52 16.1**	**+1.1**
MWZ	**Matawai**	**1.63**	**228**	P	**Pn**	**16 52 17.7**	**+1.3**
WHRZ	**Whale Island**	**1.76**	**249**	P	**Pn**	**16 52 19.6**	**+1.3**
RIGZ	**Rimuhau**	**1.78**	**215**	P	**Pn**	**16 52 19.5**	**+0.9**
RAGZ	**Rawiri**	**1.80**	**226**	P	**Pn**	**16 52 20.2**	**+1.3**
URZ	**Urewera**	**1.84**	**236**	Pn	**Pn**	**16 52 20.6**	**+1.3**
	212nm,0.3s,baz=211,slow=0.5,SNR=386						
URZ				Sn	**Sb**	**16 52 44.4**	**-1.2**
	132nm,0.3s,baz=31,slow=19,SNR=22						
URZ				LR	LR	16 53 23.4	
	comp=Z,545nm,20.1s,baz=36,slow=50						
URZ	**Urewera**	**1.84**	**236**		**Pn**	**16 52 20.5**	**+1.1**
URZ	**Urewera**	**1.84**	**236**	P	**Pn**	**16 52 20.7**	**+1.3**
URZ				S	**Sb**	**16 52 43.8**	**-1.7**
PRGZ	**Paritu Road**	**1.91**	**208**	P	**Pn**	**16 52 21.4**	**+1.0**
EDRZ	**Edgecumbe**	**2.03**	**244**	P	**Pn**	**16 52 23.4**	**+1.4**
MARZ	**Manawahe**	**2.03**	**248**	P	**Pn**	**16 52 23.0**	**+1.1**
SNGZ	**Shannon Statio**	**2.05**	**221**	P	**Pn**	**16 52 23.1**	**+0.9**
OPRZ	**Ohinepanea**	**2.07**	**252**	P	**Pn**	**16 52 23.1**	**+0.6**
KNZ	**Kokohu**	**2.08**	**211**	P	**Pn**	**16 52 22.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.11**	**205**	P	**Pn**	**16 52 23.9**	**+0.9**
RTZ	**Ruatahuna**	**2.13**	**229**	P	**Pn**	**16 52 24.7**	**+1.2**
MUGZ	**Murupara**	**2.19**	**235**	P	**Pn**	**16 52 25.1**	**+1.0**
MKRZ	**Makatiti**	**2.24**	**246**	P	**Pn**	**16 52 26.7**	**+1.9**
MYRZ	**Mayor Island**	**2.24**	**268**	P	**Pn**	**16 52 25.3**	**+0.4**
TARZ	**Mount Tarawera**	**2.25**	**243**	P	**Pn**	**16 52 26.6**	**+1.6**
LIRZ	**Lichensteins R**	**2.25**	**250**	P	**Pn**	**16 52 26.5**	**+1.5**
TGRZ	**Tauranga**	**2.27**	**257**	P	**Pn**	**16 52 26.0**	**+0.8**
RAHZ	**Arahi**	**2.28**	**222**	P	**Pn**	**16 52 26.6**	**+1.2**
RRRZ	**Republican Roa**	**2.29**	**241**	P	**Pn**	**16 52 27.0**	**+1.4**
OMRZ	**Omania**	**2.29**	**247**	P	**Pn**	**16 52 27.2**	**+1.6**
WHHZ	**Waihua**	**2.32**	**218**	P	**Pn**	**16 52 26.8**	**+0.8**
KARZ	**Kaharoa**	**2.36**	**250**	P	**Pn**	**16 52 27.6**	**+1.1**
HLRZ	**Highlands Stat**	**2.37**	**244**	P	**Pn**	**16 52 28.2**	**+1.6**
MTHZ	**Maungataniwha**	**2.37**	**227**	P	**Pn**	**16 52 28.0**	**+1.3**
NGRZ	**Ngongotaha**	**2.43**	**248**	P	**Pn**	**16 52 29.2**	**+1.7**
PRRZ	**Plateau Road**	**2.45**	**238**	P	**Pn**	**16 52 28.7**	**+0.9**
UTU	**Utuhina**	**2.45**	**247**	P	**Pn**	**16 52 30.3**	**+2.6**
HSRZ	**Hossack Road**	**2.47**	**244**	P	**Pn**	**16 52 29.8**	**+1.8**
HRRZ	**Handcock Road**	**2.47**	**242**	P	**Pn**	**16 52 30.9**	**+2.8**
ALRZ	**Allen Road**	**2.52**	**238**	P	**Pn**	**16 52 29.7**	**+1.1**
NMHZ	**Naumai**	**2.56**	**223**	P	**Pn**	**16 52 30.9**	**+1.6**
GRRZ	**Galatos Road**	**2.58**	**244**	P	**Pn**	**16 52 31.3**	**+1.8**
ARHZ	**Aropaoanui**	**2.58**	**218**	P	**Pn**	**16 52 30.2**	**+0.7**
MRHZ	**Matea Rd**	**2.62**	**232**	P	**Pn**	**16 52 31.1**	**+1.0**
WPRZ	**Whakapapatarin**	**2.62**	**240**	P	**Pn**	**16 52 31.5**	**+1.5**
KUZ	**Kuaotunu**	**2.71**	**280**	P	**Pn**	**16 52 30.5**	**-0.8**
BKZ	**Black Stump

WEL 05 16:52:21.4,39°S±6°×17°5E±°, h25km±8km, M1.9/12, ML2.1/12, MLv1.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=44.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	Pokaka	0.03	17	P	Pb	16 52 26.0	+0.1
MTVZ	Mangateitei	0.12	124	P	Pb	16 52 26.5	+0.1
TRVZ	Turoa	0.17	85	P	Pb	16 52 27.3	+0.4
FWVZ	Far West T-bar	0.18	71	P	Pb	16 52 27.5	+0.4
DRZ	Dome Shelter	0.18	78	P	Pb	16 52 28.0	+0.8
WHVZ	Whangaehu Hut	0.20	81	P	Pb	16 52 27.6	+0.2
NGZ	Ngauruhoe	0.25	56	P	Pb	16 52 28.2	+0.3
TUVZ	Tukino	0.25	79	P	Pb	16 52 28.4	+0.5
TWVZ	Taurewa	0.26	18	P	Pb	16 52 27.9	0.0
WTVZ	West Tongariro	0.28	45	P	Pb	16 52 28.5	+0.3
NNVZ	North Ngauruho	0.28	50	P	Pb	16 52 28.7	+0.3
OTVZ	Oturere	0.30	59	P	Pb	16 52 28.9	+0.4
KRVZ	Karewarewa	0.32	47	P	Pb	16 52 29.0	+0.1
MOVZ	Moawhango	0.34	106	P	Pb	16 52 29.0	-0.1
NTVZ	North Tongarir	0.34	51	P	Pb	16 52 29.4	+0.2
WAZ	Wanganui	0.52	212	P	Pb	16 52 30.2	-1.8
BHHZ	Black Hill Sta	0.59	107	P	Pb	16 52 32.6	-0.6
HIZ	Hauiti	0.88	335	P	Pb	16 52 36.5	-1.6
HIZ				P	Pn	16 52 36.5	-1.7
TSZ	Takapari Road	0.89	147	P	Pb	16 52 36.6	-1.5
PNHZ	Pukenui	0.90	132	P	Pb	16 52 37.1	-1.3
NEZ	North Egmont	0.96	272	P	Pn	16 52 37.8	-1.6
POWZ	Post Office Ro	1.13	163	P	Pn	16 52 40.4	-1.2
DVHZ	Dannevirke	1.17	147	P	Pn	16 52 42.6	+0.4
MRZ	Mangatainoka R	1.36	172	P	Pn	16 52 43.6	-1.1
PRHZ	Porangahau	1.38	134	P	Pn	16 52 41.9	-3.2
OGWZ	Otaki Gorge	1.51	185	P	Pn	16 52 45.9	-0.9
TIWZ	Tintock	1.52	164	P	Pb	16 52 51.9	+3.0
CAW	Cannon Point	1.80	187	P	Pn	16 52 47.5	-3.4
TMWZ	Te Maipa	1.84	167	P	Pb	16 52 54.7	+0.3

*WEL **05** 17:01:00,37°.00S×179°.08E, h16km, ML5.3, Mw5.3, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17} Nm; M_{rr}0.17; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-0.08; $M_{r\theta}$0.36; $M_{\theta\phi}$-0.01; $M_{\phi r}$1.07; Fault plane solution: $M_0$1.14000×10^{17} NP1: ϕ_s212.00000°, δ3.00000°, λ103.00000°. NP2:ϕ_s19.00000°, δ87.00000°, λ89.00000°. Principal axes: T 11828.2300, Plg48.0000°, Azm289.0000°; N -864.1700, Plg0.0000°, Azm19.0000°; P -10964.0600, Plg42.0000°, Azm110.0000°;*

*BJI **05** 17:01:53.6±0.0, 37°.36S×179°.01E, h9km, mb5.1/22, mB5.7/10, Ms5.1/13, Ms7 4.9/13*

*NEIC **05** 17:01:56, 37°.11S×179°.33E, h24km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.50; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$0.76; $M_{r\theta}$4.43; $M_{\theta\phi}$0.29; $M_{\phi r}$8.66; Fault plane solution: $M_0$9.76000×10^{16} NP1: ϕ_s349.00000°, δ2.00000°, λ-127.00000°. NP2: ϕ_s207.00000°, δ88.00000°, λ-88.00000°. Principal axes: T 9.8992, Plg43.0000°, Azm296.0000°; N -0.2844, Plg1.0000°, Azm27.0000°; P -9.6148, Plg47.0000°, Azm119.0000°;*

*NEIC **05** 17:01:56.9±2.7, 36°.96S±0°.06×178°.99E±0°.08, h10km±1km, mb5.3/55, Mww5.3 Error ellipse: s-maj=12.5km s-min=8.3km az=130.0*

*WEL **05** 17:01:58.3±1.3, 37°.5±6°×17°9E±°, h19km±13km, M5.3/114, ML5.6/33, MLv5.3/114, Error ellipse: s-maj=0.0km s-min=0.0km az=93.7*

*NOU **05** 17:01:59.2, 37°.63S×179°.60E, h64km, mb5.2/63, Off E. Coast of N. Island, N.Z.*

*GCMT **05** 17:02:01.9±0.2, 37°.07S±0°.01×178°.85E±0°.02, h12km, MW5.4/106, Moment Tensor Solution. s65,c93; s106,c153; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.01±.01; $M_{\theta\theta}$0.08±.01; $M_{\phi\phi}$-0.08±.01; $M_{r\theta}$0.57±.03; $M_{\theta\phi}$-0.04±.01; $M_{\phi r}$1.31±.03; Best double couple: $M_0$1.43100×10^{17} NP1:ϕ_s24.00000°, δ89.00000°, λ91.00000°. NP2:ϕ_s148.00000°, δ2.00000°, λ34.00000°. Principal axes: T 1.3920, Plg46.0000°, Azm295.0000°; N 0.0770, Plg1.0000°, Azm204.0000°; P -1.4690, Plg44.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **05** 17:02:04.7±1.1, 37°.02S×178°.63E, h67km±8km, mb4.7/24, mbtmp4.9/26, MS4.7/45 Error ellipse: s-maj=10.4km s-min=8.9km az=142.0*

*MOS **05** 17:02:04.8±1.1, 36°.96S×178°.52E, h73km, mb5.3/6, MS4.8/5, Error ellipse: s-maj=14.4km s-min=10.7km az=27.4*

ISC 05 17:02:02.0±0.8, 37°.06S±0°.04×178°.95E±0°.05, h51km±6km, n562, σ1§55/520, mb5.3/104, MS4.8/52, 9C-5D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.72	226		Pn	17 02 13.1	-3.0
MXZ	Matakaoa Point	0.72	226	P	Pn	17 02 13.0	-3.0
MXZ				S	Sn	17 02 22.1	-4.1
WMGZ	Waiomatatini S	0.87	209	P	Pn	17 02 17.3	-0.7
WMGZ				S	Sn	17 02 31.6	+1.9
PKGZ	Pakihiroa	1.08	220	P	Pn	17 02 19.3	-1.6
PKGZ				S	Sn	17 02 34.3	-0.5
PUZ	Puketiti	1.15	209	P	Pn	17 02 21.1	-0.7
PUZ				S	Sn	17 02 37.4	+1.0
HAZ	Te Kaha	1.16	233	P	Pn	17 02 19.6	-2.3
HAZ				S	Sn	17 02 38.7	+2.0
TWGZ	Tauwhareparae	1.35	214	P	Pn	17 02 24.2	-0.4
TWGZ				S	Sn	17 02 46.1	+4.7
RUGZ	Raukumara Rang	1.35	228	P	Pn	17 02 23.8	-0.9
RUGZ				S	Sn	17 02 43.5	+1.9
WIZ	White Island	1.48	251	P	Pn	17 02 23.7	-2.5
WIZ				S	Sn	17 02 41.3	-3.2
WSRZ	White Island S	1.49	252	P	Pn	17 02 24.3	-2.1
CNGZ	Carnagh Statio	1.54	202	P	Pn	17 02 26.5	-0.5
TKGZ	Te Karaka	1.63	212	P	Pn	17 02 27.3	-1.0
TKGZ				S	Sn	17 02 49.2	+1.2
MWZ	Matawai	1.70	221	P	Pn	17 02 28.8	-0.5
WHRZ	Whale Island	1.76	243	P	Pn	17 02 29.8	-0.3
RAGZ	Rawiri	1.88	220	P	Pn	17 02 31.2	-0.5
RAGZ				S	Sn	17 02 54.8	+0.5
URZ	Urewera	1.89	230	P	Pn	17 02 31.3	-0.5
	5µm,0.3s,baz=31,slow=4.5,SNR=2127						
URZ				S	Sn	17 02 53.9	-0.5
	21µm,0.8s,baz=211,slow=23,SNR=49						
URZ				LR	LR	17 03 32.5	
	comp=Z,19µm,21.9s,baz=32,slow=51						
URZ	Urewera	1.89	230	P	Pn	17 02 31.3	-0.5
RIGZ	Rimuhau	1.89	209	P	Pn	17 02 30.6	-1.2
MARZ	Manawahe	2.03	242	P	Pn	17 02 33.3	-0.4
PRGZ	Paritu Road	2.04	204	P	Pn	17 02 32.8	-1.1
EDRZ	Edgecumbe	2.04	239	P	Pn	17 02 33.8	-0.2
OPRZ	Ohinepanea	2.06	247	P	Pn	17 02 32.5	-1.7
SNGZ	Shannon Statio	2.14	216	P	Pn	17 02 34.1	-1.1
MYRZ	Mayor Island	2.18	263	P	Pn	17 02 34.6	-1.1
RTZ	Ruatahuna	2.20	225	P	Pn	17 02 35.5	-0.6
KNZ	Kokohu	2.20	207	P	Pn	17 02 34.2	-1.8
MUGZ	Murupara	2.23	230	P	Pn	17 02 35.8	-0.7
MHGZ	Mahia Peninsul	2.24	201	P	Pn	17 02 35.2	-1.5
TGRZ	Tauranga	2.24	252	P	Pn	17 02 35.0	-1.7
LIRZ	Lichensteins R	2.25	245	P	Pn	17 02 36.9	+0.2
MKRZ	Makatiti	2.25	241	P	Pn	17 02 37.3	+0.5
TARZ	Mount Tarawera	2.27	238	P	Pn	17 02 37.1	+0.1
OMRZ	Omania	2.30	242	P	Pn	17 02 37.1	-0.4
RRRZ	Republican Roa	2.31	236	P	Pn	17 02 37.6	-0.1
KARZ	Kaharoa	2.35	245	P	Pn	17 02 37.5	-0.7
RAHZ	Arahi	2.37	218	P	Pn	17 02 37.5	-0.9
HLRZ	Highlands Stat	2.38	239	P	Pn	17 02 38.5	-0.1
WHHZ	Waihua	2.42	213	P	Pn	17 02 37.9	-1.2
NGRZ	Ngongotaha	2.43	244	P	Pn	17 02 39.3	0.0
MTHZ	Maungataniwha	2.44	222	P	Pn	17 02 38.8	-0.6
UTU	Utuhina	2.46	242	P	Pn	17 02 40.2	+0.6
HSRZ	Hossack Road	2.48	239	P	Pn	17 02 40.3	+0.3
PRRZ	Plateau Road	2.48	234	P	Pn	17 02 39.5	-0.4
HRRZ	Handcock Road	2.50	237	P	Pn	17 02 40.2	0.0
KMRZ	Kaimai	2.52	251	P	Pn	17 02 39.6	-0.9
ALRZ	Allen Road	2.55	233	P	Pn	17 02 40.4	-0.5
GRRZ	Galatos Road	2.59	239	P	Pn	17 02 41.7	+0.2
KUZ	Kuaotunu	2.61	276	P	Pn	17 02 39.6	-2.0
NMHZ	Naumai	2.64	219	P	Pn	17 02 41.5	-0.8
WPRZ	Whakapapatarin	2.65	236	P	Pn	17 02 42.4	+0.2
MRHZ	Matea Rd	2.67	228	P	Pn	17 02 41.6	-1.0
ARHZ	Aropaoanui	2.68	214	P	Pn	17 02 41.4	-1.3
TOZ	Tahuroa Road	2.83	255	P	Pn	17 02 43.1	-1.5
BKZ	Black Stump Fm	2.86	222		Pn	17 02 43.8	-1.4
BKZ	Black Stump Fm	2.86	222	P	Pn	17 02 43.9	-1.2
BKZ	Black Stump Fm	2.86	222	P	Pn	17 02 44.2	-0.9
KUTZ	Kaahu Road	2.86	239	P	Pn	17 02 45.2	+0.1
WHTZ	Whakaora	2.86	235	P	Pn	17 02 45.7	+0.5
HATZ	Hinemaiaia	2.90	230	P	Pn	17 02 45.3	-0.4
GRZ	Great Barrier	2.92	285	P	Pn	17 02 45.0	-1.0
CKHZ	Cape Kidnapper	2.98	209	P	Pn	17 02 44.4	-2.3
TLZ	Tolley Road	2.99	244	P	Pn	17 02 46.6	-0.4
WATZ	Wairara	3.03	236	P	Pn	17 02 47.5	0.0
MKAZ	Moumakai	3.03	268	P	Pn	17 02 46.2	-1.3
WIAZ	Waiheke Island	3.07	274	P	Pn	17 02 46.9	-1.1
KWHZ	Kaweka Forest	3.08	219	P	Pn	17 02 46.7	-1.6
RATZ	Rangitukua	3.09	233	P	Pn	17 02 48.2	-0.2
KAHZ	Kahuranaki	3.18	210	P	Pn	17 02 47.1	-2.4
KATZ	Kakaramea	3.20	232	P	Pn	17 02 50.0	0.0
ETAZ	East Tamaki Re	3.22	271	P	Pn	17 02 49.4	-0.6
MBAZ	Motutapu North	3.26	274	P	Pn	17 02 50.0	-0.6
KRHZ	Kereru	3.28	217	P	Pn	17 02 48.6	-2.3
TMVZ	Te Maari	3.28	230	P	Pn	17 02 50.0	-1.0
NTVZ	North Tongarir	3.29	231	P	Pn	17 02 50.1	-1.0
ETVZ	East Tongariro	3.29	230	P	Pn	17 02 50.0	-1.2
BHHZ	Black Hill Sta	3.32	222	P	Pn	17 02 50.0	-1.5
OTVZ	Oturere	3.33	230	P	Pn	17 02 51.0	-0.8
ABAZ	Army Bay	3.34	277	P	Pn	17 02 51.4	-0.2
NNVZ	North Ngauruho	3.34	231	P	Pn	17 02 51.3	-0.7
WTVZ	West Tongariro	3.35	231	P	Pn	17 02 51.2	-0.7
SNVZ	South Ngauruho	3.36	230	P	Pn	17 02 51.2	-1.0
EPAZ	Eden Park BICE	3.38	274	P	Pn	17 02 52.3	+0.2
NGZ	Nguruhoe	3.38	230	P	Pn	17 02 51.3	-1.1
HBAZ	Herne Bay Bore	3.39	272	P	Pn	17 02 52.6	+0.3
TUVZ	Tukino	3.41	229	P	Pn	17 02 51.6	-1.2
TWVZ	Taurewa	3.42	233	P	Pn	17 02 52.5	-0.4
MOVZ	Moawhango	3.44	226	P	Pn	17 02 51.4	-1.7
AWAZ	Awhitu Peninsu	3.45	269	P	Pn	17 02 52.7	-0.4
WHVZ	Whangaehu Hut	3.45	229	P	Pn	17 02 52.4	-1.1
FWVZ	Far West T-bar	3.46	230	P	Pn	17 02 52.5	-1.0
DRZ	Dome Shelter	3.46	229	P	Pn	17 02 53.0	-0.7
WNVZ	Wahianoa	3.48	228	P	Pn	17 02 52.4	-1.4
TRVZ	Turoa	3.49	229	P	Pn	17 02 52.8	-1.2
WTAZ	Waiatarua	3.51	271	P	Pn	17 02 54.0	0.0
RVAZ	Riverhead Bore	3.52	273	P	Pn	17 02 53.8	-0.3
HIZ	Hauiti	3.55	245	Pn	Pn	17 02 55.1	+0.5
HIZ	Hauiti	3.55	245	P	Pn	17 02 54.7	+0.1
HIZ	Hauiti	3.55	245	P	Pn	17 02 54.9	+0.3
PNHZ	Pukenui	3.57	216	P	Pn	17 02 52.0	-2.9
WPHZ	Waipukurau	3.58	213	P	Pn	17 02 52.3	-2.8
MTVZ	Mangateitei	3.59	229	P	Pn	17 02 53.9	-1.3
PKVZ	Pokaka	3.61	231	P	Pn	17 02 54.9	-0.5
WCZ	Waipu Caves	3.88	285	P	Pn	17 02 58.7	-0.3
WAZ	Wanganui	4.11	228	P	Pn	17 03 01.1	-1.2
MHEZ	Mangahewa	4.17	240	P	Pn	17 03 04.9	+1.8
BFZ	Birch Farm	4.18	209		Pn	17 02 59.1	-4.2
BFZ	Birch Farm	4.18	209	P	Pn	17 02 59.5	-3.8
PRWZ	Pori Road	4.19	213	P	Pn	17 03 00.7	-2.7
OHWZ	Ohakea	4.24	221	P	Pn	17 03 02.2	-1.7
DREZ	Durham Road	4.30	239	P	Pn	17 03 06.4	+1.4
LREZ	Lake Rotokare	4.31	235	P	Pn	17 03 04.8	-0.2
PREZ	Palmer Road	4.41	237	P	Pn	17 03 08.0	+1.6
NEZ	North Egmont	4.42	239	P	Pn	17 03 07.4	+0.9
PKE	Pukeiti	4.46	240	P	Pn	17 03 08.8	+1.8
KHEZ	Kahui Hut	4.48	239	P	Pn	17 03 09.3	+1.9
NBEZ	Newall Road No	4.57	240	P	Pn	17 03 11.0	+2.4
NMEZ	Namu Road	4.63	238	P	Pn	17 03 11.6	+1.2
OUZ	Omahuta	4.71	291	Pn	Pn	17 03 10.6	+0.2
OUZ	Omahuta	4.71	291	P	Pn	17 03 10.6	+0.2
MSWZ	Moikau Station	5.21	212		Pn	17 03 12.6	-4.7
PLWZ	Palliser	5.33	211		Pn	17 03 14.1	-4.9
SNZO	South Karori	5.37	217	Pn	Pn	17 03 14.1	-5.4
SNZO	South Karori	5.37	217	P	Pn	17 03 16.7	-2.8
TUWZ	Tuamarina	5.84	220		Pn	17 03 21.2	-4.7
CMWZ	Cape Campbell	5.95	217		Pn	17 03 24.5	-3.0
NNZ	Nelson	6.00	225		Pn	17 03 24.1	-4.0
BSWZ	Blackbirch Sta	6.08	219		Pn	17 03 24.4	-4.9
QRZ	Quartz Range	6.26	231	Pn	Pn	17 03 28.4	-3.3
QRZ	Quartz Range	6.26	231	P	Pn	17 03 28.2	-3.5
THZ	Tophouse	6.63	223	Pn	Pn	17 03 31.6	-5.2
KHZ	Kahutara	6.78	216	Pn	Pn	17 03 33.6	-5.2
KHZ	Kahutara	6.78	216	P	Pn	17 03 33.0	-5.8
LTZ	Lake Taylor	7.68	220	Pn	Pn	17 03 45.3	-5.9
OXZ	Oxford	8.19	218	Pn	Pn	17 03 51.6	-6.5
MQZ	McQueen's Vall	8.19	214		Pn	17 03 51.7	-6.5
RAO	Raoul Island	8.22	19	P	Pn	17 03 56.2	-2.4
	61nm,0.3s,baz=73,slow=22,SNR=1.7						
RAO				S	Sn	17 05 25.9	-4.2
	299nm,0.3s,baz=265,slow=23,SNR=6.8						
RAO				LR	LR	17 06 37.4	
	comp=Z,1µm,21.0s,baz=192,slow=33						
RPZ	Rata Peaks	8.96	220	P	Pn	17 04 03.7	-5.1
	31nm,0.3s,baz=27,slow=2.0,SNR=35						
RPZ				S	Sn	17 05 36.1	-12
	150nm,0.3s,baz=146,slow=23,SNR=29						
RPZ				LR	LR	17 08 15.8	
	comp=Z,8µm,21.4s,baz=46,slow=42						
RPZ	Rata Peaks	8.96	220	Pn	Pn	17 04 03.8	-5.0
RPZ	Rata Peaks	8.96	220	P	Pn	17 04 03.7	-5.1
LBZ	Lake Benmore	9.88	220	Pn	Pn	17 04 15.7	-5.6
ODZ	Otahua Downs	10.14	216		Pn	17 04 18.6	-6.2
ODZ	Otahua Downs	10.14	216	P	Pn	17 04 18.7	-6.1
PINNC	Pines Island,	17.50	322		Pn	17 05 59.4	-2.9
PINNC	Pines Island,	17.50	322	P	P	17 06 08.8	+5.9
OUENC	Ouen Island, N	17.96	321	P	P	17 06 05.9	-2.1
OUENC	Ouen Island, N	17.96	321	P	Pn	17 06 14.0	+5.9
MARNC	Mare, Loyalty	18.19	326		P	17 06 09.0	-1.6
MARNC	Mare, Loyalty	18.19	326	P	Pn	17 06 14.6	+3.7
YATNC	Mamie plateau,	18.24	322	P	Pn	17 06 16.0	+4.6
ONTNC	Ono Toro	18.25	320	P	Pn	17 06 17.6	+6.0
DZM	Mont Dzumac	18.45	321	*e*Pn	P	17 06 14.3	+0.7
	186nm,1.6s						
DZM				*e*LR	LR	17 10 33.3	
	comp=Z,9µm,24.4s						
DZM	Mont Dzumac	18.45	321	P	P	17 06 13.6	+0.1
	7.4nm,0.8s,baz=141,slow=13,SNR=3.7						
DZM				LR	LR	17 12 05.7	
	comp=Z,5µm,21.6s,baz=135,slow=33						
DZM	Mont Dzumac	18.45	321		P	17 06 14.1	+0.5
DZM	Mont Dzumac	18.45	321	P	Pn	17 06 18.1	+4.0
NOUC	Port Laguerre	18.50	320	P	Pn	17 06 18.9	+4.3
MSVF	Nonsavu	19.27	357	P	P	17 06 21.7	-0.9
	16nm,0.8s,baz=174,slow=12,SNR=3.3						
MSVF				LR	LR	17 12 12.0	
	comp=Z,3µm,20.6s,baz=189,slow=32						
MSVF	Nonsavu	19.27	357	P	P	17 06 19.7	-2.8
MSVF	Nonsavu	19.27	357	P	P	17 06 19.7	-2.8
MSVF				pmax	pmax		
	comp=Z,31nm,0.7s						
MSVF	Nonsavu	19.27	357	P	P	17 06 23.9	+1.4
TAVE	Taveuni	20.30	3	P	Pn	17 06 28.7	+2.7
DGTI	Dogotuki	20.69	2	P	P	17 06 40.0	+2.1
KOUNC	Koumac, New Ca	20.83	318	P	P	17 06 40.8	+1.4
KOUNC				IAmb	IAmb	17 06 45.3	
	comp=Z,174nm,1.5s						
KOUNC	Koumac, New Ca	20.83	318	P	P	17 06 41.2	+1.8
SYDH	Sydney Hard Ro	23.19	270	P	P	17 07 05.2	+0.9
ARMA	Armidale	23.62	278	P	P	17 07 07.5	-1.1
	baz=23,SNR=19						
ARMA	Armidale	23.62	278	P	P	17 07 11.2	+2.7
ARMA				IAmb	IAmb	17 07 16.8	
	comp=Z,236nm,1.6s						
ARMA	Armidale	23.62	278	P	P	17 07 10.5	+2.0
MILA	Mila	23.74	261	P	P	17 07 07.2	-2.3
	baz=23,SNR=4.3						
CNB	Canberra Magne	23.90	265	P	P	17 07 10.4	-0.7
	baz=23,SNR=13						
CNB	Canberra Magne	23.90	265	P	P	17 07 12.7	+1.6
CAN	Canberra	24.19	265	P	P	17 07 13.7	0.0
CAN				IAmb	IAmb	17 07 33.8	
	comp=Z,67nm,1.2s						
CAN	Canberra	24.19	265	P	P	17 07 13.7	0.0
CAN				pmax	pmax		
	comp=Z,67nm,1.2s						
CAN	Canberra	24.19	265	P	P	17 07 15.1	+1.4
RAR	Rarotonga	24.30	55	LR	LR	17 14 40.9	
	comp=Z,1µm,20.9s,baz=220,slow=31						
AFI	Afiamalu	24.50	22	P	P	17 07 17.3	+0.7
	comp=Z,22nm,0.8s,baz=46,slow=17,SNR=2.3						
	comp=Z,22nm,0.8s						
AFI	Afiamalu	24.50	22	P	P	17 07 17.4	+0.7
AFI				IAmb	IAmb	17 07 26.9	
	comp=Z,91nm,0.8s						
TAU	Tasmania Unive	24.84	247	P	P	17 07 18.6	-0.7
TAU				IAmb	IAmb	17 07 20.3	
	comp=Z,53nm,1.0s						
TAU	Tasmania Unive	24.84	247	P	P	17 07 18.7	-0.7
TAU				pmax	pmax		
	comp=Z,53nm,1.0s						
MOO	Moorlands	24.91	248	P	P	17 07 19.0	-1.1
	baz=24,SNR=7.3						
MOO	Moorlands	24.91	248	P	P	17 07 19.4	-0.7
CORO	Coronation Par	24.94	250	P	P	17 07 19.9	-0.4
EIDS	Eidsvold	26.44	288	P	P	17 07 38.6	+4.6
	baz=26,SNR=5.8						
EIDS	Eidsvold	26.44	288	P	P	17 07 34.5	+0.4
EIDS				IAmb	IAmb	17 07 43.8	
	comp=Z,104nm,1.4s						
TOO	Toolangi	26.54	259	P	P	17 07 35.2	+0.3
	baz=26,SNR=9.8						
TOO	Toolangi	26.54	259	P	P	17 07 34.7	-0.3
TOO	Toolangi	26.54	259	P	P	17 07 34.7	-0.3
TOO				pmax	pmax		
	comp=Z,32nm,1.0s						
TOO	Toolangi	26.54	259	P	P	17 07 35.2	+0.3
RMQ	Roma	27.64	284	P	P	17 07 46.7	+1.7
	baz=27,SNR=20						
RMQ	Roma	27.64	284	P	P	17 07 46.6	+1.7
BRAT	Ballarat	27.77	258	P	P	17 07 47.2	+1.3
CMSA	Cobar Meteorol	27.93	271	P	P	17 07 48.3	+0.9
	baz=27,SNR=42						
CMSA	Cobar Meteorol	27.93	271	P	P	17 07 48.6	+1.1
ARPS	Mount Arapiles	29.55	259	P	P	17 08 02.6	+0.8
	baz=29,SNR=8.2						
ARPS	Mount Arapiles	29.55	259	P	P	17 08 02.2	+0.4
TBI	Tubuai	30.37	72	*e*LR	LR	17 15 50.8	
	comp=Z,3µm,27.2s						
TBI	Tubuai	30.37	72	*e*T	T	17 39 38.8	
	comp=Z,45nm,0.3s						
STKA	Stephens Creek	31.09	268	P	P	17 08 15.8	+0.4
	baz=30,SNR=24						
STKA	Stephens Creek	31.09	268	P	P	17 08 14.8	-0.6
	comp=Z,29nm,1.0s,baz=99,slow=10,SNR=43						
STKA				LR	LR	17 19 21.7	
	comp=Z,2µm,21.5s,baz=97,slow=34						
	comp=Z,29nm,1.0s						
STKA	Stephens Creek	31.09	268	P	P	17 08 15.2	-0.2
STKA	Stephens Creek	31.09	268	P	P	17 08 16.0	+0.6
	comp=Z,12nm,1.4s						
QLP	Quilpie	31.14	280	P	P	17 08 17.4	+1.5
	baz=31,SNR=5.9						
QLP	Quilpie	31.14	280	P	P	17 08 17.4	+1.5
HNR	Honiara	32.44	323	P	P	17 08 27.0	-0.4
	comp=Z,1µm,0.8s,baz=209,slow=13,SNR=6.1						
HNR				LR	LR	17 20 30.3	
	comp=Z,10µm,18.8s,baz=154,slow=34						
HNR	Honiara	32.44	323	P	P	17 08 27.0	-0.4
HNR	Honiara	32.44	323	P	P	17 08 27.0	-0.4
HNR				pmax	pmax		
	comp=Z,119nm,0.8s						
TWOA	Tennyson Woods	32.54	261	P	P	17 08 28.9	+0.8
	comp=Z,38nm,0.9s						
HTT	Hallett	32.73	264	P	P	17 08 30.4	+0.6
	baz=32,SNR=21						
HTT	Hallett	32.73	264	P	P	17 08 30.4	+0.6
CTA	Charters Tower	33.11	292	P	P	17 08 33.7	+0.4
	comp=Z,12nm,0.9s,baz=123,slow=12,SNR=4.1						
	comp=Z,12nm,0.9s						
CTA	Charters Tower	33.11	292	P	P	17 08 36.1	+2.8
CTAO	Charters Tower	33.11	292	P	P	17 08 34.1	+0.8
CTAO				IAmb	IAmb	17 08 39.6	
	comp=Z,43nm,1.1s						
CTAO	Charters Tower	33.11	292	P	P	17 08 34.1	+0.8
CTAO				pmax	pmax		
	comp=Z,43nm,1.2s						
CTAO	Charters Tower	33.11	292	P	P	17 08 36.0	+2.8
INKA	Innaminka	33.38	275	P	P	17 08 36.7	+1.2
PPT2	Papeete2	33.80	64	*e*LR	LR	17 17 27.0	
	comp=Z,3µm,27.0s						
PPT	Papeete	33.81	64	LR	LR	17 19 07.6	
	comp=Z,834nm,21.6s,baz=234,slow=30						
WHYH	Whyalla	33.92	264	P	P	17 08 40.6	+0.4
TIAR	Tiarei	33.99	64	*e*T	T	17 44 14.7	
	comp=Z,1.8nm,0.3s						
LCRK	Leigh Creek	34.31	269	P	P

KDU **Kakadu** 48.05 288 P **P** 17 10 35.5 -0.9
CASY **Casey** 48.10 210 P **P** 17 10 34.6 -1.5
CASY IAmb IAmb 17 10 52.5
comp=Z,37nm,0.9s
MTN **Manton Dam** 48.97 287 P **P** 17 10 42.8 -0.7
baz=48,SNR=11
MTN **Manton Dam** 48.97 287 P **P** 17 10 42.5 -1.0
MTN **Manton Dam** 48.97 287 P **P** 17 10 42.9 -0.6
KNRA **Kununurra** 49.12 282 P **P** 17 10 44.1 -0.5
baz=49,SNR=22
KNRA **Kununurra** 49.12 282 P **P** 17 10 44.1 -0.5
KNRA **Kununurra** 49.12 282 P **P** 17 10 44.3 -0.3
GENI **Genyem** 49.47 305 P **P** 17 10 47.4 +0.1
comp=Z,2µmcomp=Z,56nm,1.0s
GENI **Genyem** 49.47 305 P **P** 17 10 47.4 +0.1
NWAO **Narrogin (SRO)** 49.95 255 P **P** 17 10 50.0 -0.9
baz=49,SNR=8.0
NWAO P **P** 17 10 50.0 -0.9
baz=49,SNR=8.0
NWAO **Narrogin (SRO)** 49.95 255 P **P** 17 10 49.7 -1.2
comp=Z,12nm,0.6s,baz=51,slow=6.5,SNR=10
NWAO LR LR 17 31 47.2
comp=Z,776nm,18.2s,baz=314,slow=36
comp=Z,12nm,0.6s
NWAO **Narrogin (SRO)** 49.95 255 P **P** 17 10 49.4 -1.5
NWAO IAmb IAmb 17 10 50.1
comp=Z,26nm,0.9s
KLBR **Kellerberrin** 50.08 257 P **P** 17 10 50.6 -1.3
baz=49,SNR=31
KLBR **Kellerberrin** 50.08 257 P **P** 17 10 50.8 -1.0
FITZ **Fitzroy Crossi** 50.22 277 P **P** 17 10 52.2 -0.7
baz=50,SNR=91
FITZ **Fitzroy Crossi** 50.22 277 P **P** 17 10 52.3 -0.7
comp=Z,80nm,0.8s,baz=142,slow=6.9,SNR=155
FITZ S **S** 17 17 57.5 -4.1
comp=Z,2.5nm,0.7s,baz=62,slow=19,SNR=9.5
FITZ LR LR 17 32 01.0
comp=Z,661nm,19.0s,baz=120,slow=36
comp=Z,80nm,0.8s
FITZ **Fitzroy Crossi** 50.22 277 P **P** 17 10 52.5 -0.5
FITZ **Fitzroy Crossi** 50.22 277 P **P** 17 10 52.8 -0.2
SMPI **Sarmi** 50.88 304 P **P** 17 10 57.6 -0.4
comp=Z,22nm,1.2s
MUN **Mundaring** 51.12 256 P **P** 17 10 58.4 -1.3
baz=50,SNR=21
MUN **Mundaring** 51.12 256 P **P** 17 10 59.4 -0.3
BLDU **Ballidu** 51.30 258 P **P** 17 10 59.7 -1.3
baz=51,SNR=8.2
BLDU **Ballidu** 51.30 258 P **P** 17 10 59.6 -1.4
MEEK **Meekatharra** 51.54 263 P **P** 17 11 01.3 -1.6
baz=51,SNR=20
MEEK **Meekatharra** 51.54 263 P **P** 17 11 01.4 -1.5
MORW **Morawa** 52.49 259 P **P** 17 11 08.4 -1.4
baz=52,SNR=22
MORW **Morawa** 52.49 259 P **P** 17 11 08.5 -1.4
MORW IAmb IAmb 17 11 09.5
comp=Z,35nm,0.8s
MORW **Morawa** 52.49 259 P **P** 17 11 08.3 -1.6
SRPI **Serui, Papua** 52.63 301 P **P** 17 11 11.5 +0.4
comp=Z,52nm,1.1s
PSA00 **Pilbara Seismi** 53.01 270 P **P** 17 11 11.9 -1.9
PSA00 IAmb IAmb 17 11 18.7
comp=Z,32nm,1.1s
PSA00 **Pilbara Seismi** 53.01 270 P **P** 17 11 12.4 -1.4
QSPA **South Pole Qui** 53.06 180 P **P** 17 11 16.2 +2.4
comp=Z,22nm,0.9s,baz=25,slow=2.0,SNR=48
QSPA LR LR 17 30 16.9
comp=Z,1µm,21.1s,baz=40,slow=32
comp=Z,22nm,0.9s
QSPA **South Pole Qui** 53.06 180 P **P** 17 11 15.4 +1.7
QSPA IAmb IAmb 17 11 31.6
comp=Z,50nm,0.8s
MBWA **Marble Bar** 53.31 270 P **P** 17 11 14.1 -2.0
MBWA IAmb IAmb 17 11 20.9
comp=Z,61nm,1.1s
MBWA **Marble Bar** 53.31 270 P **P** 17 11 14.6 -1.5
FAKI **Fak Fak** 54.67 297 P **P** 17 11 23.9 -2.1
FAKI IAmb IAmb 17 11 41.3
comp=Z,25nm,0.8s
FAKI **Fak Fak** 54.67 297 P **P** 17 11 24.2 -1.8
comp=Z,540nmcomp=Z,35nm,0.8s
FAKI **Fak Fak** 54.67 297 P **P** 17 11 24.7 -1.3
BATI **Baumata** 56.35 284 P **P** 17 11 37.7 -0.5
comp=Z,42nm,0.8s,baz=171,slow=2.3,SNR=6.8
BATI LR LR 17 36 10.7
comp=Z,2µm,21.2s,baz=135,slow=36
comp=Z,42nm,0.8s
BATI **Baumata** 56.35 284 P **P** 17 11 38.9 +0.8
comp=Z,42nm,1.3s
MSAI **Masohi** 56.78 294 P **P** 17 11 40.4 -0.7
comp=Z,690nmcomp=Z,16nm,0.7s
SIJI **Sorong** 56.81 298 P **P** 17 11 40.6 -0.7
comp=Z,28nm,0.7s,baz=107,slow=3.8,SNR=21
SIJI LR LR 17 36 16.5
comp=Z,656nm,21.4s,baz=129,slow=36
comp=Z,28nm,0.7s
SWI **Sorong** 56.81 298 P **P** 17 11 40.9 -0.4
comp=Z,1µmcomp=Z,94nm,1.6s
GIRL **Giralia** 56.95 265 P **P** 17 11 42.3 0.0
baz=56,SNR=3.7
NLAI **Namlea** 58.20 292 P **P** 17 11 50.1 -1.0
comp=Z,32nm,1.7s
MMRI **Maumere** 58.42 284 P **P** 17 11 51.8 -0.9
MMRI **Maumere** 58.42 284 P **P** 17 11 52.4 -0.3
comp=Z,2µmcomp=Z,210nm,1.4s
EDFI **Ende, Flores** 58.78 284 P **P** 17 11 54.4 -0.9
comp=Z,37nm,1.2s
LBMI **Labuha** 59.66 295 P **P** 17 12 02.0 +0.7
comp=Z,571nmcomp=Z,58nm,1.3s
GUMO **Guam** 59.73 321 LR LR 17 36 57.1
comp=Z,162nm,18.7s,baz=142,slow=35
SANI **Sanana** 59.81 293 P **P** 17 12 00.9 -1.4
comp=Z,879nmcomp=Z,88nm,1.2s
WBSI **Waikabubak, Su** 60.04 281 P **P** 17 12 03.1 -0.8
comp=Z,73nm,1.7s
RPN **Rapa Nui** 60.27 103 LR LR 17 31 15.1
comp=Z,710nm,20.1s,baz=215,slow=29
PLAI **Plampang** 61.79 281 P **P** 17 12 15.7 -0.1
comp=Z,85nm,1.1s
BKSI **Bulukumba** 62.12 285 P **P** 17 12 17.4 -0.6
comp=Z,437nmcomp=Z,37nm,1.4s
TWSI **Taliwang, Sumb** 62.55 280 P **P** 17 12 20.4 -0.4
comp=Z,49nm,1.3s
KAPI **Kappang** 62.60 285 P **P** 17 12 21.0 -0.2
comp=Z,5.6nm,0.3s,baz=104,slow=9.4,SNR=3.8
KAPI LR LR 17 40 23.9
comp=Z,491nm,19.7s,baz=140,slow=37
comp=Z,5.6nm,0.3s
KAPI **Kappang** 62.60 285 *i* P **P** 17 12 20.5 -0.7
KAPI pmax pmax
comp=Z,43nm,1.8s
LUWI **Luwuk** 62.87 291 P **P** 17 12 22.8 -0.2
comp=Z,72nm,0.8s
KMSI **Cibinong** 63.05 293 P **P** 17 12 23.8 -0.4
comp=Z,74nm,1.3s
SPSI **Sidrap Palu** 63.25 286 P **P** 17 12 23.8 -1.7
comp=Z,33nm,1.2s
BELA **Belgrano 2** 63.53 172 P **P** 17 12 26.2 -0.3
BELA IAmb IAmb 17 12 42.8
comp=Z,31nm,1.0s
APSI **Ampana** 63.80 290 P **P** 17 12 29.7 +0.6
comp=Z,614nmcomp=Z,55nm,1.3s
TTSI **Tana Toraja** 63.80 287 P **P** 17 12 28.3 -0.8
comp=Z,25nm,0.9s
SMAI **San Martin Ant** 64.23 158 P **P** 17 12 33.8 +2.7
SMAI IAmb IAmb 17 12 35.4
comp=Z,26nm,0.9s
SRBI **Singaraja** 64.26 280 P **P** 17 12 31.9 -0.2
comp=Z,2µmcomp=Z,76nm,1.1s
MRSI **Marisa** 64.50 292 P **P** 17 12 32.0 -1.7
comp=Z,17nm,0.9s
JAGI **Jajag, Banyuwa** 64.87 279 P **P** 17 12 34.5 -1.6
comp=Z,68nm,1.4s
MAW **Mawson** 65.19 202 P **P** 17 12 40.3 +2.9
baz=64,SNR=5.9
MAW **Mawson** 65.19 202 P **P** 17 12 38.6 +1.2
comp=Z,16nm,1.0s,baz=123,slow=4.9,SNR=23
MAW LR LR 17 40 16.6
comp=Z,583nm,20.4s,baz=106,slow=35
comp=Z,16nm,1.0s
MAW **Mawson** 65.19 202 P **P** 17 12 37.6 +0.2
MAW **Mawson** 65.19 202 P **P** 17 12 37.6 +0.2
MAW pmax pmax
comp=Z,9.0nm,1.4s
ABJI **Asem Bagus** 65.20 279 P P 17 12 50.1 +12
GMJI **Gumukmas** 65.54 278 P **P** 17 12 40.4 -0.1
comp=Z,94nm,1.0s

TOLI2 **Tolitoli** 65.78 291 P **P** 17 12 39.7 -2.3
TOLI2 IAmb IAmb 17 12 47.9
comp=Z,19nm,1.0s
KMMI **Kalianget** 65.86 280 P **P** 17 12 41.2 -1.4
comp=Z,71nm,1.0s
MPSI **Mapaga** 65.93 290 P **P** 17 12 42.0 -1.0
comp=Z,32nm,1.1s
DAV **Davao City (W)** 66.41 300 LR LR 17 41 42.4
comp=Z,143nm,22.0s,baz=122,slow=36
DAV **Davao City (W)** 66.41 300 P **P** 17 12 44.1 -1.9
PWJI **Pagerwojo** 66.99 277 P **P** 17 12 48.4 -1.4
comp=Z,105nm,1.2s
PMSA **Palmer Station** 67.26 156 LR LR 17 34 57.5
comp=Z,1µm,20.8s,baz=230,slow=29
BBKI **Banjar Baru** 67.38 283 P **P** 17 12 52.1 -0.1
comp=Z,76nm,0.9s
PCJI **Pacitan** 67.39 277 P **P** 17 12 52.6 +0.3
comp=Z,201nm,1.2s
NGJI **Ngawi** 67.66 278 P P 17 13 06.6 +13
UGM **Wanagama** 68.07 277 P **P** 17 12 56.1 -0.6
comp=Z,184nm,2.1s
YOGI **Yogyakarta** 68.31 277 P **P** 17 12 57.8 -0.3
comp=Z,149nm,1.3s
SMRI **Semarang** 68.65 277 P **P** 17 13 00.7 +0.4
comp=Z,105nm,1.0s
MTKI **Muara Teweh, K** 68.92 286 P **P** 17 13 01.6 -0.3
comp=Z,22nm,0.8s
MYLDM **Lahad Datu** 70.18 293 P **P** 17 13 09.6 0.0
MYLDM IAmb IAmb 17 13 37.7
comp=Z,39nm,1.0s
LEM **Lembang** 71.03 276 P **P** 17 13 14.1 -1.0
comp=Z,31nm,0.8s,baz=115,slow=8.4,SNR=9.6
LEM LR LR 17 46 33.8
comp=Z,754nm,19.2s,baz=134,slow=38
comp=Z,31nm,0.8s
LEM **Lembang** 71.03 276 P **P** 17 13 14.2 -0.8
comp=Z,7nm,0.9s
CNJI **Cibinong** 71.13 275 P **P** 17 13 15.1 -0.3
comp=Z,159nm,1.1s
SNAA **Sanae** 71.56 179 LR LR 17 41 27.9
comp=Z,589nm,21.2s,baz=234,slow=33
SNAA **Sanae** 71.56 179 P **P** 17 13 17.7 +0.5
SNAA IAmb IAmb 17 13 34.3
comp=Z,36nm,1.1s
SNAA **Sanae** 71.56 179 *i* P **P** 17 13 15.6 -1.6
SNAA pmax pmax
comp=Z,26nm,1.8s
DBJI **Dramaga** 71.88 276 P **P** 17 13 19.8 -0.2
comp=Z,104nm,1.3s
NVL **N'lazarevskaya** 72.07 184 *e*P P 17 13 32.9 +13
NVL pmax pmax
comp=Z,19nm,0.8s
STKI **Sintang** 72.20 284 P **P** 17 13 21.8 0.0
comp=Z,2µmcomp=Z,19nm,1.0s
KKM **Kota Kinabalu** 72.44 292 P **P** 17 13 22.4 -1.0
KKM IAmb IAmb 17 13 23.6
comp=Z,36nm,0.8s
TPI **Tanjungpandan** 73.45 279 P **P** 17 13 28.6 -0.7
comp=Z,10nm,1.3s
LWLI **Liwa** 74.94 275 P **P** 17 13 38.0 -0.1
comp=Z,36nm,0.9s
PPBI **Pangkal Pinang** 75.01 279 P **P** 17 13 37.8 -0.6
comp=Z,33nm,1.3s
LL02 **Futaleuf** 77.47 135 P **P** 17 13 53.1 +1.2
LL02 IAmb IAmb 17 13 55.5
comp=Z,23nm,0.9s
LL04 **Puerto Octay** 78.60 133 P **P** 17 14 00.6 +2.4
JHJ **Hachijo jima 2** 78.81 327 LR LR 17 45 13.3
comp=Z,106nm,21.7s,baz=65,slow=33
H03S2 **Juan Fernandez** 78.88 124 T T 18 40 47.2
baz=230,SNR=33
H03S1 **Juan Fernandez** 78.89 124 T T 18 40 48.5
baz=230,SNR=28
H03S3 **Juan Fernandez** 78.90 124 T T 18 40 51.1
baz=230,SNR=32
H03N3 **Juan Fernandez** 79.11 124 T T 18 40 47.2
baz=234,slow=72,SNR=132
H03N2 **Juan Fernandez** 79.12 124 T T 18 40 48.5
baz=234,slow=72,SNR=69
H03N1 **Juan Fernandez** 79.13 124 T T 18 40 47.2
baz=234,slow=72,SNR=103
PLCA **Paso Flores** 79.79 134 P **P** 17 14 05.4 +0.6
comp=Z,12nm,0.9s,baz=226,slow=5.5,SNR=27
PLCA LR LR 17 42 59.2
comp=Z,198nm,19.3s,baz=265,slow=31
comp=Z,12nm,0.9s
PLCA **Paso Flores** 79.79 134 P **P** 17 14 07.5 +2.6
PLCA **Paso Flores** 79.79 134 P **P** 17 14 07.5 +2.6
PLCA pmax pmax
comp=Z,18nm,0.9s
GO06 **Curarrehue** 79.99 132 P **P** 17 14 07.8 +1.8
MJAR **Matsushiro Arr** 82.40 328 P **P** 17 14 16.6 -1.8
comp=Z,2.4nm,1.1s,baz=158,slow=6.8,SNR=3.0
comp=Z,2.4nm,1.1s
MAJO **Matsushiro** 82.40 328 *i* P **P** 17 14 17.2 -1.2
MAJO pmax pmax
comp=Z,6.0nm,1.1s
GO05 **Huala** 82.66 129 P **P** 17 14 22.4 +2.2
GO05 IAmb IAmb 17 14 23.5
comp=Z,47nm,1.4s
RPSI **Rantau Prapat** 83.67 278 P **P** 17 14 23.6 -1.9
PSI **Prapat** 83.73 278 P **P** 17 14 23.6 -2.3
comp=Z,4.1nm,0.4s,baz=203,slow=7.7,SNR=1.7
PSI LR LR 17 51 37.3
comp=Z,832nm,21.9s,baz=135,slow=36
comp=Z,4.1nm,0.4s
GSI **Gunungsitoli** 83.89 276 P **P** 17 14 26.4 -0.3
GSI **Gunungsitoli** 83.89 276 P **P** 17 14 27.1 +0.4
comp=Z,34nm,0.8s
QIZ **Qiongzhong** 85.68 298 P **P** 17 14 36.7 +1.2
QIZ S **S** 17 25 10.1 +6.0
QIZ LR LR
comp=Z,310nm,12.7s
QIZ LR LR
comp=Z,220nm,22.3s
QIZ LR LR
comp=Z,460nm,19.1s
CO02 **Combarbal** 85.73 126 P **P** 17 14 38.0 +2.1
CO02 IAmb IAmb 17 14 39.3
comp=Z,30nm,0.8s
UBPT **Khong Chiam** 86.43 292 P **P** 17 14 40.2 +1.0
AC05 **El Transito** 87.76 125 P **P** 17 14 47.5 +1.6
AC05 IAmb IAmb 17 15 11.2
comp=Z,21nm,0.9s
KSRS **Korea Array** 87.88 322 P **P** 17 14 46.5 +0.8
comp=Z,3.2nm,0.7s,baz=138,slow=5.3,SNR=20
KSRS PP **PP** 17 18 13.9 +1.1
comp=Z,1.4nm,0.9s,baz=148,slow=8.0,SNR=4.0
KSRS LR LR 17 53 55.4
comp=Z,46nm,18.1s,baz=150,slow=36
comp=Z,3.2nm,0.7s
KSAR **Wonju Array Be** 87.89 322 P **P** 17 14 45.6 -0.2
KSAR **Wonju Array Be** 87.89 322 P **P** 17 14 45.6 -0.2
NJ2 **Nanjing** 88.76 313 *e*P **P** 17 14 53.7 +3.7
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
SHEM **Shemya Is, Ala** 89.52 357 LR LR 17 48 02.3
comp=Z,288nm,21.7s,baz=194,slow=31
YSS **Yuzh-Sakhalins** 89.71 336 *e*P **P** 17 14 56.2 +2.1
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,300nm,21.0s
AC02 **Maricunga** 89.85 124 P **P** 17 14 57.0 +0.8
AC02 IAmb IAmb 17 15 00.8
comp=Z,28nm,1.6s
LPIG **La Paz** 90.15 60 LR LR 17 46 53.5
comp=Z,363nm,21.3s,baz=308,slow=30
USRK **Ussuriysk Ar.** 91.39 328 P **P** 17 15 01.4 -0.7
comp=Z,1.5nm,0.6s,baz=104,slow=4.6,SNR=6.0
comp=Z,1.5nm,0.6s
USRK **Ussuriysk Ar.** 91.39 328 P **P** 17 15 02.7 +0.6
PETK **Petropavlovsk-** 91.68 347 P **P** 17 15 04.1 +0.9
comp=Z,4.0nm,0.8s,baz=147,slow=8.2,SNR=6.6
PETK LR LR 17 51 48.7
comp=Z,288nm,20.1s,baz=173,slow=33
comp=Z,4.0nm,0.8s
PFO **Pinyon Flats O** 92.53 49 LR LR 17 48 25.3
comp=Z,358nm,20.7s,baz=320,slow=30
PFO **Pinyon Flats O** 92.53 49 *i* P **P** 17 15 04.5 -3.3
PFO pmax pmax
comp=Z,9.0nm,0.9s
GYA **Guiyang** 92.74 301 ⇓P **P** 17 15 11.2 +2.3
GYA pmax pmax
comp=Z,6.0nm,0.8s
MDJ **Mudanjiang** 92.75 327 P P 17 15 13.1 +4.8
MDJ pmax pmax
comp=Z,7.0nm,1.3s
LVC **Limon Verde** 92.82 121 LR LR 17 48 05.3
comp=Z,582nm,20.4s,baz=245,slow=30
CMAR **Chiang Mai Arr** 93.28 291 P **P** 17 15 11.3 0.0
comp=Z,7.6nm,0.7s,baz=144,slow=3.6,SNR=33
CMAR PP **PP** 17 18 53.1 -2.8
comp=Z,1.3nm,0.6s,baz=136,slow=5.4,SNR=5.8
CMAR LR LR 17 59 00.9
comp=Z,184nm,21.6s,baz=125,slow=37
comp=Z,7.6nm,0.7s
CMAR **Chiang Mai Arr** 93.28 291 P **P** 17 15 10.2 -1.2
CRAI **Chiangrai** 93.30 293 P **P** 17 15 12.8 +1.4
CHTO **Chiang Mai** 93.49 291 P **P** 17 15 11.5 -0.9
CHTO **Chiang Mai** 93.49 291 P **P** 17 15 11.5 -0.9
CHTO pmax pmax
comp=Z,1.0nm,1.1s
NNA **Nana** 93.91 108 LR LR 17 49 23.3
comp=Z,500nm,19.3s,baz=220,slow=30
CN2 **Changchun** 93.98 324 *e*P **P** 17 15 13.5 -0.5
CN2 *e*S **S** 17 26 21.5 +1.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,300nm,19.2s
KMI **Kunming** 94.62 298 ⇓P **P** 17 15 17.7 0.0
KMI pP PcP 17 15 19.0 +0.9
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI LR LR
comp=Z,260nm,19.9s
KMI LR LR
comp=Z,220nm,23.7s
KMI LR LR
comp=Z,520nm,24.7s
YBH **Yreka Blue Hor** 94.80 40 LR LR 17 49 06.4
comp=Z,393nm,21.9s,baz=146,slow=30
NVAR **Mina Array Bea** 94.81 44 P **P** 17 15 20.9 +2.6
comp=Z,1.2nm,0.8s,baz=212,slow=7.6,SNR=6.6
NVAR LR LR 17 50 19.3
comp=Z,344nm,21.3s,baz=254,slow=30
comp=Z,1.2nm,0.8s
ATAH **Atahualpa** 95.73 103 LR LR 17 49 55.8
comp=Z,616nm,20.1s,baz=251,slow=30
XAN **Xi'an** 96.17 308 *e*P **P** 17 15 22.4 -2.0
XAN pP PcP 17 15 26.7 +2.2
XAN pmax pmax
comp=Z,7.0nm,1.1s
PZH **PanZhiHua** 96.18 298 P **P** 17 15 23.9 -0.8
PZH S **S** 17 26 44.3 +4.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,70nm,4.7s
PZH LR LR
comp=Z,500nm,17.7s
PZH LR LR
comp=Z,400nm,19.4s
PZH LR LR
comp=Z,590nm,18.8s
CMIG **Matias Romero** 97.13 74 LR LR 17 49 14.5
comp=Z,269nm,21.5s,baz=350,slow=29
KDAK **Kodiak Island** 97.47 15 LR LR 17 53 16.5
comp=Z,266nm,20.7s,baz=121,slow=32
LPAZ **La Paz** 97.58 117 P Pdif 17 15 34.4 +2.4
comp=Z,1.3nm,0.7s,baz=309,slow=6.5,SNR=5.4
LPAZ LR LR 17 53 14.4
comp=Z,200nm,18.4s,baz=223,slow=31
comp=Z,1.3nm,0.7s
CPUP **Villa Florida** 97.69 131 LR LR 17 52 28.0
comp=Z,855nm,20.1s,baz=239,slow=31
TXAR **Lajitas Array** 98.04 59 P Pdif 17 15 34.7 +1.7
comp=Z,0.4nm,0.9s,baz=207,slow=12,SNR=3.9
TXAR LR LR 17 52 41.4
comp=Z,227nm,19.1s,baz=0.5,slow=31
comp=Z,0.4nm,0.9s
XLT **XiLinHaoTe** 98.69 319 ⇑*i*P Pdif 17 15 37.1 +1.6
XLT pP PcP 17 15 41.8 +6.3
XLT S **S** 17 27 05.2 +4.5
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,170nm,5.1s
XLT LR LR
comp=Z,16nm,15.8s
XLT LR LR
comp=Z,150nm,17.8s
XLT LR LR
comp=Z,240nm,17.4s
HHC **Hu-ho-hao-te** 99.07 315 *e*P **Pdif** 17 15 35.2 -2.1
HHC pmax pmax
comp=Z,210nm,6.5s
HHC LR LR
comp=Z,370nm,16.3s
HHC LR LR
comp=Z,270nm,19.8s
HHC LR LR
comp=Z,970nm,20.1s
MA2 **Magadan** 99.08 346 LR LR 17 53 48.3
comp=Z,286nm,21.3s,baz=206,slow=31
ILAR **Eielson Array** 104.98 14 PKiKP **PKiKP** 17 20 17.5 +0.2
comp=Z,0.8nm,0.8s,baz=243,slow=4.0,SNR=6.5
SONM **Songino Array** 106.38 318 PKKPbc PKKPbc 17 31 43.5 +1.7
comp=Z,0.2nm,0.3s,baz=259,slow=2.3,SNR=4.2
WMQ **Urumqi** 115.26 307 *e*PKP **PKPdf** 17 20 37.4 -0.1
DGZ **Jazzator, Alta** 118.05 313 *i* PKIKP **PKPdf** 17 20 41.8 -0.9
MK31 **Makanchi Array** 119.99 308 *i* PKIKP **PKPdf** 17 20 45.2 -1.2
MKAR **Makanchi Array** 119.99 308 PKP **PKPdf** 17 20 45.8 -0.6
comp=Z,2.3nm,0.8s,baz=93,slow=2.9,SNR=6.9
MKAR PKKPbc **PKKPbc** 17 30 56.7 +1.3
comp=Z,0.5nm,0.7s,baz=303,slow=5.2,SNR=6.2
MAKZ **Makanchi** 120.19 308 PKPdf **PKPdf** 17 20 46.9 +0.1
MAKZ **Makanchi** 120.19 308 PKIKP **PKPdf** 17 20 46.9 +0.1
ZALV **Zalesovo Beam** 121.21 316 PKP **PKPdf** 17 20 47.9 -0.6
comp=Z,1.1nm,0.5s,baz=125,slow=1.9,SNR=1.7
SADO **Sadowa** 122.60 56 PKP **PKiKP** 17 20 52.0 +0.4
comp=Z,3.2nm,0.6s,baz=264,slow=7.9,SNR=2.4
KURK **Kurchatov** 123.67 311 PKPdf **PKPdf** 17 20 51.0 -2.3
KURK **Kurchatov** 123.67 311 *i* PKIKP **PKPdf** 17 20 52.4 -0.9
NRIK **Noril'sk** 124.61 334 PKP **PKPdf** 17 20 54.2 -0.3
comp=Z,5.3nm,0.9s,baz=92,slow=4.2,SNR=6.9
NRIK **Noril'sk** 124.61 334 PKPdf **PKPdf** 17 20 53.9 -0.6
KK31 **Karatay Array** 126.44 300 PKPdf **PKPdf** 17 20 58.0 -0.9
KK31 **Karatay Array** 126.44 300 PKIKP **PKPdf** 17 20 58.0 -0.9
KKAR **Karatay Array** 126.44 300 PKPdf **PKPdf** 17 20 57.6 -1.3
KKAR **Karatay Array** 126.44 300 PKIKP **PKPdf** 17 20 57.6 -1.3
KMBO **Kilima Mbogo** 128.02 232 PKP **PKiKP** 17 21 04.5 +0.7
comp=Z,2.7nm,1.0s,baz=162,slow=1.9,SNR=4.8
BRVK **Borovoye** 129.27 312 *c* PKIKP **PKiKP** 17 21 04.5 -0.1
BRVK pmax pmax
comp=Z,9.0nm,1.3s
GEYT **Alibeck** 133.75 290 PKP **PKPdf** 17 21 12.8 -0.1
comp=Z,3.1nm,0.9s,baz=229,slow=5.7,SNR=5.1
GEYT SKPbc **SKPbc** 17 24 34.6 -2.9
comp=Z,2.0nm,0.8s,baz=245,slow=6.1,SNR=4.5
ARU **Arti** 136.37 316 PKP **PKPdf** 17 21 15.7 -1.5
comp=Z,3.3nm,0.5s,baz=174,slow=5.2,SNR=5.5
ARU SKPbc **SKPbc** 17 24 41.0 -4.0
comp=Z,0.9nm,0.3s,baz=108,slow=19,SNR=2.2
ARU **Arti** 136.37 316 *c* PKIKP **PKPdf** 17 21 15.8 -1.4
ARU pmax pmax
comp=Z,20nm,2.5s
AKTO **Aktyubinsk** 136.41 307 PKP **PKPdf** 17 21 17.1 -0.3
comp=Z,1.7nm,0.6s,baz=130,slow=3.2,SNR=4.2
AKTO SKPbc **SKPbc** 17 24 42.8 -2.6
comp=Z,3.2nm,0.9s,baz=115,slow=4.1,SNR=4.8
RAYN **Ar Rayn** 138.00 265 PKIKP **PKPdf** 17 21 21.6 +0.3
SPITS **Spitsbergen Ar** 138.12 355 PKP **PKPdf** 17 21 20.0 +0.1
comp=Z,8.0nm,0.7s,baz=88,slow=10,SNR=7.8
SPITS SKPbc **SKPbc** 17 24 47.3 -2.4
comp=Z,8.8nm,0.9s,baz=89,slow=13,SNR=3.6
BELG **Belogornoye** 142.93 310 PKhKP PKPpre 17 21 23.9
comp=Z,11nm,0.7s,baz=21,slow=8.2,SNR=3.6
GNI **Garni** 144.39 289 PKP **PKPab** 17 21 30.5 -0.2
comp=Z,36nm,1.3s,baz=188,slow=11,SNR=3.1
GNI **Garni** 144.39 289 PKPdf PKPbc 17 21 31.1 +0.1
GNI **Garni** 144.39 289 *c* PKIKP **PKPdf** 17 21 32.5 +0.1
GNI pmax pmax
comp=Z,35nm,1.3s
ARA0 **ARCESS Array S** 144.43 344 *e*PKPdf **PKPab** 17 21 30.0 +0.3
ARCES **ARCESS Array B** 144.43 344 PKP **PKPab** 17 21 29.3 -0.4
comp=Z,5.2nm,0.7s,baz=40,slow=4.0,SNR=17

ARCES	**ARCESS Array B**	**144.43 344**		PKPdf	PKPbc	17 21 30.7	+0.7
KLMR	**Klimovskoe**	**145.16 326**		*e*PKHKP	PKPpre	17 21 28.3	
KLMR				pmax	pmax		
	comp=Z,95nm,1.5s						
KLMR	**Klimovskoe**	**145.16 326**		*e*PKPdf	**PKPbc**	**17 21 28.4**	**-4.1**
KLMR				AMP		17 21 33.9	
	comp=Z,95nm,1.5s						
KLMR				*e*SKP		17 25 05.3	
KTK1	**Kautokeino**	**145.34 345**		*e*PKPab	**PKPdf**	**17 21 32.5**	**-0.5**
ZEI	**Tsey**	**145.38 294**		*i* PKIKP	**PKPdf**	**17 21 33.7**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,46nm,1.5s						
TRO	**Tromso**	**145.62 348**		*e*PKPab	**PKPdf**	**17 21 33.5**	**+0.1**
KARS	**Kars**	**145.72 290**		PKPab	**PKPbc**	**17 21 35.5**	**+0.3**
KARS	**Kars**	**145.72 290**		PKIKP	**PKPbc**	**17 21 35.5**	**+0.3**
GOF	**Gofitskoye**	**146.16 298**↑↑		*e*PKP2	**PKPbc**	**17 21 36.2**	**0.0**
GOF				pmax	pmax		
	comp=Z,52nm,1.1s						
GURO	**Guroymak-BITLI**	**146.16 286**		PKPdf	**PKPbc**	**17 21 36.5**	**-0.1**
KBZ	**Khabaz**	**146.19 295**		PKPbc	**PKPdf**	**17 21 35.4**	**+0.3**
	comp=Z,12nm,1.1s,baz=32,slow=1.3,SNR=14						
KVAR	**Kislovodsk Arr**	**146.35 296**		PKPbc	**PKPab**	**17 21 37.9**	**0.0**
	comp=Z,5.2nm,0.8s,baz=315,slow=13,SNR=3.1						
KIV	**Kislovodsk**	**146.36 296**	*d*	*i* PKP2	**PKPdf**	**17 21 36.2**	**+0.6**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
VRH	**Novokhopyorsk**	**146.71 309**		*e*PKIKP	**PKPdf**	**17 21 36.3**	**+0.5**
VRH				pmax	pmax		
	comp=Z,30nm,0.7s						
MARD	**Mardin**	**146.87 283**		PKPdf	**PKPdf**	**17 21 37.3**	**+0.6**
KOPT	**Kop Dagi**	**147.58 288**			**PKPbc**	**17 21 41.8**	**+1.1**
STEI	**Steigen**	**147.75 349**		*e*PKPbc	**PKPbc**	**17 21 39.5**	**-0.4**
LOF	**Lofoten**	**147.83 350**		*e*PKPbc	**PKPbc**	**17 21 39.4**	**-0.7**
MOS	**Moscow**	**148.01 318**		*e*PKP2	**PKPbc**	**17 21 39.9**	**-1.1**
MOS				pmax	pmax		
	comp=Z,67nm,1.3s						
LPSR	**Galich'ya Gora**	**148.15 312**		*e*PKP2	**PKPbc**	**17 21 40.8**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,40nm,1.3s						
VORR	**Voronezh**	**148.18 310**		*e*PKIKP	**PKPdf**	**17 21 38.7**	**+0.5**
VORR				pmax	pmax		
	comp=Z,50nm,0.4s						
FAUS	**Fauske**	**148.25 348**		*e*PKPdf	**PKPdf**	**17 21 37.3**	**-0.5**
VSR	**Storozhevoye**	**148.29 309**		*e*PKIKP	**PKPbc**	**17 21 40.6**	**-1.3**
VSR				pmax	pmax		
	comp=Z,30nm,1.7s						
ASF	**Jabal al Asfar**	**148.54 272**		PKPbc	**PKPbc**	**17 21 43.5**	**+0.3**
	comp=Z,14nm,1.0s,baz=152,slow=4.5,SNR=15						
OBN	**Obninsk**	**148.78 317**↓↓		*e*PKIKP	**PKPdf**	**17 21 39.4**	**+0.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
OBN				pmax	pmax		
	comp=Z,67nm,1.7s						
OBN				MLR	MLR		
	comp=Z,163nm,21.0s						
LIC	**Lamto**	**149.09 172**↑↑		*i* PKP1	**PKiKP**	**17 21 46.3**	**0.0**
	comp=Z,36nm,0.6s						
EIL	**Elat**	**149.18 267**		PKPbc	**PKPbc**	**17 21 45.1**	**+0.3**
	comp=Z,23nm,0.8s,baz=85,slow=6.1,SNR=20						
KIC	**Kosan Boka**	**149.25 173**↑↑		*e*PKP1	**PKiKP**	**17 21 46.6**	**-0.1**
	comp=Z,11nm,0.6s						
KONS	**Konsvik**	**149.40 349**		*e*PKPbc	**PKPbc**	**17 21 43.8**	**-0.4**
MOR8	**Moi Rana**	**149.49 348**		*e*PKPbc	**PKPbc**	**17 21 43.5**	**-1.0**
TIC	**Toumodi**	**149.51 172**↑↑		*e*PKP1	**PKiKP**	**17 21 47.3**	**+0.1**
	comp=Z,34nm,1.1s						
DBIC	**Dimbokro**	**149.55 173**		PKPbc	**PKPbc**	**17 21 46.5**	**+0.3**
	comp=Z,15nm,0.9s,baz=223,slow=4.2,SNR=5.2						
MMAI	**Mount Meron Ar**	**150.00 273**		PKPbc	**PKPbc**	**17 21 46.5**	**-0.4**
	comp=Z,18nm,0.6s,baz=88,slow=5.7,SNR=41						
BHL	**Bhannes**	**150.06 275**		*e*P	**PKiKP**	**17 21 48.6**	**+0.7**
DQRL	**Deir Qamar**	**150.07 275**		*e*P	**PKiKP**	**17 21 49.0**	**+1.1**
ANN	**Anapa**	**150.14 297**		*i* PKP2	**PKPab**	**17 21 52.5**	**-0.4**
ANN				pmax	pmax		
	comp=Z,44nm,1.0s						
FINES	**FINESS Array B**	**150.27 334**		PKPbc	**PKPbc**	**17 21 45.8**	**-0.6**
	comp=Z,26nm,0.7s,baz=64,slow=4.4,SNR=43						
FINES	**FINESS Array B**	**150.27 334**			**PKPbc**	**17 21 45.2**	**-1.3**
BNN	**Bunyan**	**150.98 285**			**PKPdf**	**17 21 46.3**	**+3.0**
NSS	**Namsos**	**151.42 348**		*e*PKPbc	**PKPbc**	**17 21 48.8**	**-0.2**
MEF	**Metsahovi**	**151.71 333**		*e*P	**PKPbc**	**17 21 49.4**	**-0.4**
VSU	**Vasula**	**151.95 329**		*e*P	**PKPbc**	**17 21 50.4**	**-0.1**
RAF	**Rauma**	**152.03 336**		*e*P	**PKPbc**	**17 21 49.7**	**-0.9**
CSS	**Mathiatis**	**152.20 276**			**PKiKP**	**17 21 52.4**	**+0.2**
SIM	**Simferopol'**	**152.49 298**		*e*PKIKP	**PKiKP**	**17 21 52.5**	**+0.1**
SIM						17 22 01.4	
SIM				pmax	pmax		
	comp=Z,26nm,1.2s						
BRTR	**Keskin Array B**	**152.78 286**		PKPbc	**PKPbc**	**17 21 51.5**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=108,slow=4.0,SNR=3.5						
BRTR	**Keskin Array B**	**152.78 286**		PKPdf	**PKPdf**	**17 21 46.6**	**+0.6**
MTSE	**Matsula**	**152.96 331**		*e*P	**PKPdf**	**17 21 49.4**	**-3.3**
NACGM	**Naroch**	**153.96 322**↑↑		*e*PKP	PKPdf	17 21 38.9	-8.1
	baz=58						
DOMB	**Dombas**	**154.21 349**		*e*PKPbc	**PKPbc**	**17 21 54.9**	**-0.6**
AKASG	**Malin Array Be**	**154.48 312**		PKP	**PKPdf**	**17 21 48.9**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=60,slow=2.6,SNR=2.7						
AKASG	**Malin Array Be**	**154.48 312**		PKPdf	**PKPdf**	**17 21 45.9**	**-2.0**
AKBB	**Malin Array Si**	**154.48 312**			**PKPbc**	**17 21 54.9**	**-1.3**
AKBB	**Malin Array Si**	**154.48 312**		PKIKP	**PKPbc**	**17 21 54.9**	**-1.3**
NB2	**NORSAR Subarra**	**154.78 346**		PKP	**PKPdf**	**17 21 48.3**	**+0.3**
	comp=Z,13nm,1.2s,baz=25,slow=2.1						
NB2	**NORSAR Subarra**	**154.78 346**		PKP	**PKPdf**	**17 21 48.3**	**+0.3**
	comp=Z,13nm,1.2s,baz=25,slow=2.1						
NOA	**NORSAR Array B**	**154.78 346**		PKP	**PKPdf**	**17 21 47.5**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=26,slow=1.8,SNR=8.1						
PABE	**Paberze**	**154.95 325**		*e*P	**PKiKP**	**17 21 57.3**	**+0.2**
NC602	**NORSAR Array S**	**155.00 345**		*e*PKPbc	PKPdf	17 21 56.8	+8.6
HFS	**Hagfors**	**155.06 342**		PKP	**PKPdf**	**17 21 48.4**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=66,slow=8.1,SNR=2.8						
TOA0	**Torodi Ar. Sit**	**156.06 187**			**PKPdf**	**17 21 52.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**156.06 187**		PKP	**PKPdf**	**17 21 51.8**	**+0.7**
	comp=Z,3.6nm,1.0s,baz=175,slow=3.9,SNR=8.2						
TORD				PKPab	**PKPab**	**17 22 18.1**	**-0.4**
	comp=Z,9.8nm,0.9s,baz=153,slow=3.0,SNR=5.6						
LVV	**L'vov**	**157.89 313**		*e*PKP2	**PKPab**	**17 22 29.2**	**+3.6**
BURAR	**Bucovina Array**	**158.01 307**			**PKPdf**	**17 21 51.6**	**-1.2**
UZH	**Uzhgorod**	**159.44 312**		*e*PKP2	**PKPab**	**17 22 32.2**	**-0.1**
CRVS	**Cervenica-Dubn**	**159.81 313**		*e*PKP2	**PKPab**	**17 22 34.4**	**+0.4**
VTS	**Vitosha**	**160.57 294**			**PKPdf**	**17 21 55.8**	**-0.1**
VTS	**Vitosha**	**160.57 294**		PKIKP	**PKPdf**	**17 21 55.8**	**-0.1**
OKC	**Ostrava-Krasne**	**161.17 319**		AMS	AMS	18 32 10.0	
	comp=Z,200nm,24.9s						
MORC	**Moravsky Berou**	**161.52 319**		*e*PKP	**PKPdf**	**17 21 55.9**	**-0.7**
MORC				*e*		17 22 42.3	
VYHS	**Vyhne**	**161.53 314**		*e*PKP2	**PKPab**	**17 22 41.6**	**+0.1**
MAUC	**Maruska**	**161.61 318**		AMS	AMS	18 33 00.0	
	comp=Z,500nm,19.8s						
OSTC	**Ostas**	**161.70 323**		AMS	AMS	18 33 10.0	
	comp=Z,300nm,23.1s						
KRLC	**Kraliky**	**161.73 321**		AMS	AMS	18 34 00.0	
	comp=Z,200nm,21.2s						
CHVC	**Chvalec**	**161.76 323**		AMS	AMS	18 33 10.0	
	comp=Z,300nm,25.9s						
DPC	**Dobruska-Polom**	**161.78 322**		*e*PKP2	**PKPab**	**17 22 43.4**	**+0.8**
DPC				MLR	MLR		
	comp=Z,200nm,17.5s						
DPC	**Dobruska-Polom**	**161.78 322**		*e*PKPAB	**PKPab**	**17 22 43.4**	**+0.8**
DPC				AMS	AMS	18 42 20.0	
	comp=Z,200nm,17.5s						
UPC	**Upice**	**161.83 323**		AMS	AMS	18 33 20.0	
	comp=Z,300nm,26.1s						
JAVC	**Velka Javorina**	**161.98 317**		*e*PKP	**PKPdf**	**17 21 58.2**	**+1.1**
JAVC				*e*		17 22 45.6	
VRAC	**Vranov**	**162.30 319**		PKP	**PKPdf**	**17 21 58.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=50,slow=7.9,SNR=3.4						
VRAC				PKPab	**PKPab**	**17 22 44.5**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=112,slow=8.0,SNR=5.7						
VRAC	**Vranov**	**162.30 319**		*e*PKP	**PKPdf**	**17 21 56.9**	**-0.4**
VRAC				*e*		17 22 45.3	
MODS	**Modra-Piesok**	**162.47 316**		*e*PKP2	**PKPab**	**17 22 44.6**	**-1.0**
PVCC	**Panska Ves**	**162.49 325**		AMS	AMS	18 39 10.0	
	comp=Z,200nm,16.9s						
BRG	**Berggiesshubel**	**162.53 327**		Amp		17 22 50.2	
	comp=Z,5.5nm,1.1s						
BRG	**Berggiesshubel**	**162.53 327**		PKP2	**PKPab**	**17 22 46.7**	**+1.0**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,161nm,20.0s						
BRG				MLR	MLR		
	comp=E,207nm,22.1s						
BRG				MLR	MLR		
	comp=Z,262nm,19.0s						
BRG	**Berggiesshubel**	**162.53 327**↓↓		*e*PKPf		17 22 06.6	
BRG	**Berggiesshubel**	**162.53 327**		Amp		17 22 10.0	
	comp=Z,3.5nm,1.0s						
BRG	**Berggiesshubel**	**162.53 327**		PKPab	**PKPab**	**17 22 46.7**	**+1.0**
KRUC	**Moravsky**	**162.55 319**		*e*PKP	**PKPdf**	**17 21 57.1**	**-0.5**
KRUC				*e*		17 22 46.6	
CLL	**Collm**	**162.60 329**		*e*PKIKP	**PKPdf**	**17 21 59.0**	**+1.5**
CLL				*e*		17 22 46.0	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.4s						
CLL	**Collm**	**162.60 329**		*e*PKPdf	**PKPdf**	**17 21 59.0**	**+1.5**
CLL				*e*PKPab	**PKPab**	**17 22 46.0**	**0.0**
	comp=Z,6.0nm,1.4s						
CLL				*e*pPKPab	pPKPab	17 22 51.0	-9.4
	comp=Z,13nm,1.7s						
TREC	**Trest**	**162.88 321**		AMS	AMS	18 38 30.0	
	comp=Z,300nm,20.4s						
PRU	**Pruhonice**	**162.88 324**		AMS	AMS	18 32 00.0	
	comp=Z,200nm,21.6s						
RONA	**Rosalia, Austr**	**163.39 315**		*i* P	**PKPab**	**17 22 49.7**	**0.0**
	comp=Z,6.7nm,1.2s						
CONA	**Conrad Observa**	**163.50 316**		*e*P	**PKPab**	**17 22 50.6**	**+0.3**
	comp=Z,9.6nm,1.0s						
NKC	**Novy Kostel**	**163.64 328**		AMS	AMS	18 36 50.0	
	comp=Z,300nm,15.2s						
CKRC	**Cesky Krumlov**	**163.77 321**		*e*PKPAB	**PKPab**	**17 22 52.5**	**+1.2**
CKRC				AMS	AMS	18 38 50.0	
	comp=Z,300nm,23.8s						
KHC	**Kasperske Hory**	**163.92 323**		*e*PKP2	**PKPab**	**17 22 52.6**	**+0.6**
KHC				MLR	MLR		
	comp=Z,300nm,20.8s						
KHC	**Kasperske Hory**	**163.92 323**		*e*PKPAB	**PKPab**	**17 22 52.6**	**+0.6**
KHC				AMS	AMS	18 38 20.0	
	comp=Z,300nm,20.8s						
GERES	**GERESS Array B**	**164.06 322**		PKP	**PKPdf**	**17 22 00.6**	**+1.5**
	comp=Z,0.2nm,0.2s,baz=83,slow=4.2,SNR=4.2						
GERES				PKPab	**PKPab**	**17 22 50.3**	**-2.4**
	comp=Z,2.0nm,0.7s,baz=64,slow=3.1,SNR=10.0						
GERES	**GERESS Array B**	**164.06 322**			**PKPdf**	**17 21 58.2**	**-1.0**
ARSA	**Arzberg**	**164.07 315**		*i* P	**PKPab**	**17 22 51.8**	**-1.0**
	comp=Z,7.0nm,1.0s						
SOKA	**Soboth**	**164.67 314**		*e*P	**PKPab**	**17 22 56.8**	**+1.3**
	comp=Z,7.5nm,1.3s						
OBKA	**Obir**	**165.04 314**		*e*P	**PKPab**	**17 22 55.1**	**-2.0**
	comp=Z,8.0nm,1.3s						
ABTA	**Abfaltersbach**	**166.03 318**		*e*P	**PKPab**	**17 22 59.8**	**-1.7**
	comp=Z,5.2nm,1.2s						
DAVA	**Damuels**	**166.97 325**		*e*P	**PKPab**	**17 23 05.0**	**-0.6**
	comp=Z,8.7nm,1.2s						
DAVOX	**Davos/Dischmat**	**167.34 324**		PKPab	**PKPab**	**17 23 08.2**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=56,slow=16,SNR=4.7						
KEST	**Kesra**	**171.51 264**		PKPab	**PKPab**	**17 23 23.7**	**-2.5**
	comp=Z,4.0nm,0.9s,baz=314,slow=1.1,SNR=3.2						
MDT	**Midelt**	**174.85 144**		PKP	**PKPdf**	**17 22 08.9**	**+2.7**
	comp=Z,2.5nm,1.0s,baz=267,slow=2.2,SNR=4.7						
MDT				PKPab	**PKPab**	**17 23 42.3**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=230,slow=5.6,SNR=4.1						
ESDC	**Sonseca Array**	**176.53 40**		PKP	**PKPdf**	**17 22 08.7**	**+2.4**
	comp=Z,1.4nm,0.9s,baz=348,slow=2.4,SNR=9.3						
ESDC				PKPab	**PKPab**	**17 23 46.9**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=330,slow=5.3,SNR=4.4						

ROM 05 17:10:59.1±0.1, 42.505N±0.008×13.435E±0.009, h14km±1km, ML1.6/7, 3C-7D, Error ellipse: s-maj=0.9km s-min=0.4km az=34.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GIGS	**Gran Sasso**	**0.11**	**119**	P	Pg	17 11 02.9	+0.3
GIGS				S	Sg	17 11 05.2	+0.4
GIGS				AML	AML		
	comp=N,58μm,0.3s						
GIGS				AML	AML		
	comp=E,42μm,0.2s						
RM33	**Pellescritta (**	**0.16**	**271**	↓↓P	Pg	17 11 03.6	+0.3
RM33				S	Sg	17 11 06.5	+0.5
RM33				AML	AML		
	comp=E,83μm,1.1s						
RM33				AML	AML		
	comp=N,81μm,1.4s						
TERO	**Teramo**	**0.17**	**47**	P	Pb	17 11 03.8	-0.4
TERO				AML	AML		
	comp=E,302μm,0.1s						
TERO				AML	AML		
	comp=N,322μm,0.1s						
T1243	**Rocca Santa Ma**	**0.19**	**3**	↑↑P	Pg	17 11 04.1	+0.4
T1243				S	Sb	17 11 07.6	-0.5
T1244	**Arquata del Tr**	**0.27**	**338**	↓↓P	Pg	17 11 05.4	+0.4
LNSS	**Leonessa**	**0.31**	**289**	↓↓P	Pg	17 11 05.8	+0.2
LNSS				AML	AML		
	comp=E,58μm,1.5s						
LNSS				AML	AML		
	comp=N,62μm,0.1s						
LNSS				AML	AML		
	comp=E,58μm,1.5s						
T1241	**Roccafluvione,**	**0.35**	**360**	↓↓P	Pg	17 11 06.6	+0.3
T1241				AML	AML		
	comp=E,106μm,0.5s						
T1241				AML	AML		
	comp=N,115μm,0.6s						
T1242	**Castelluccio d**	**0.37**	**332**	P	Pg	17 11 06.8	+0.2
T1242				AML	AML		
	comp=E,444μm,0.7s						
T1242				AML	AML		
	comp=N,714μm,0.1s						
T0110	**Collepietro**	**0.38**	**137**	↓↓P	Pg	17 11 07.1	+0.3
NRCA	**Norcia**	**0.41**	**324**	P	Pb	17 11 07.9	-0.3
NRCA				AML	AML		
	comp=N,415μm,0.1s						
NRCA				AML	AML		
	comp=E,652μm,0.5s						
MC2	**Monte Cornacci**	**0.45**	**336**	↓↓P	Pg	17 11 07.2	-0.9
T1215	**Vallo di Nera,**	**0.51**	**306**	↑↑P	Pg	17 11 09.2	-0.1
FDMO	**Fiordimonte**	**0.59**	**334**	↑↑P	Pg	17 11 09.6	-1.1
FDMO				AML	AML		
	comp=E,64μm,0.3s						
FDMO				AML	AML		
	comp=N,85μm,0.2s						
CSP1	**Cessapalombo**	**0.61**	**344**	↓↓P	Pg	17 11 10.0	-1.1
PP3	**Marolino**	**0.88**	**8**	S	Sb	17 11 25.0	-2.8

DDA 05 17:11:11.8±0.0, 38.07N×29.32E, h7km±2km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PASA	**Karahalli, USA**	**0.31**	**25**	P	Pg	17 11 17.1	-0.7
PASA				S	Sg	17 11 22.7	+0.7
KZIL	**AFYON_Kizioren**	**0.67**	**74**	P	Pg	17 11 24.9	+0.1
KZIL				S	Sg	17 11 32.2	-1.3
USAK	**Uak-Merkez**	**0.69**	**340**	P	Pg	17 11 24.6	-0.4
USAK				*i* AML	AML	17 11 34.0	
	comp=N,33nm,1.1s						
USAK				*i* AML	AML	17 11 34.0	
	comp=E,102nm,1.5s						
USAK				S	Sg	17 11 34.9	+0.9
USAK				*i* AML	AML	17 11 35.0	
	comp=Z,7.9nm,0.3s						
MANT	**Manisa**	**0.73**	**305**	P	Pb	17 11 26.7	-0.3
MANT				S	Sg	17 11 35.9	+0.4
MANT				*i* AML	AML	17 11 57.0	
	comp=N,12nm,1.5s						

MOS ***05*** *17:11:13.0±1.1, 36.26N×21.26E, h21km, mb4.7/15, Error ellipse: s-maj=6.7km s-min=3.8km az=68.3*
NEIC ***05*** *17:11:14.3±2.3, 36.29N±0.08×21.35E±0.07, h10km±1km, Error ellipse: s-maj=13.1km s-min=9.7km az=197.0*
ATH ***05*** *17:11:14.3, 36.35N×21.29E, h72km±8km, ML3.8/9, Error ellipse: s-maj=10.0km s-min=1.8km az=51.0*
THE ***05*** *17:11:14.4, 36.23N×21.21E, h0km±3km, ML3.8/4, Error ellipse: s-maj=3.8km s-min=1.8km az=219.0*
IDC ***05*** *17:11:16.1±3.3, 36.32N×21.41E, h30km±24km, mb4.0/22, mbtmp4.1/35, ML3.7/12, MS4.3/2, Error ellipse: s-maj=15.1km s-min=11.8km az=3.0*

ISC 05 17:11:16.2±1.0, 36.30N±0.04×21.27E±0.03, h33km±5km, n315,σ1870/322, mb4.3/38, 39C-9D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.71**	**33**	P	**Pb**	**17 11 28.2**	**-2.0**
PYL				S	**Sn**	**17 11 41.2**	**+1.4**
	7μm,0.5s						
ITM	**Ithomi**	**1.03**	**31**	P	**Pn**	**17 11 35.2**	**+0.8**
ITM	**Ithomi**	**1.03**	**31**	P	**Pn**	**17 11 35.2**	**+0.8**
ITM				S			
	4μm,0.9s						
ITM	**Ithomi**	**1.03**	**31**		**Pn**	**17 11 34.5**	**+0.2**
ITM	**Ithomi**	**1.03**	**31**	P	**Pn**	**17 11 34.2**	**-0.1**
ITM				S	**Sn**	**17 11 48.8**	**+1.1**
ITM				AML	AML	17 11 54.2	
	comp=E,6638μm,0.6s						
ITM				AML	AML	17 12 00.0	
	comp=N,10098μm,1.0s						
KTHR	**Kythira**	**1.40**	**91**	P	**Pb**	**17 11 41.2**	**-0.7**
VLI	**Veliai**	**1.41**	**72**	P	**Pn**	**17 11 41.0**	**+1.4**
VLI				S	**Sb**	**17 12 03.7**	**+4.1**
VLI	**Veliai**	**1.41**	**72**	P	**Pn**	**17 11 40.9**	**+1.3**
VLI				AML	AML	17 12 09.0	
	comp=E,6605μm,0.8s						
VLI				AML	AML	17 12 13.0	
	comp=N,7830μm,0.8s						
LTHK	**Lithakia**	**1.45**	**346**	P	**Pb**	**17 11 41.7**	**-1.0**
LTHK				S	**Sb**	**17 12 02.0**	**+1.2**
	comp=N,2μm,0.6s						
KTHA	**Kythira Island**	**1.45**	**91**	P	**Pn**	**17 11 41.2**	**+1.0**
KTHA	**Kythira Island**	**1.45**	**91**	P	**Pn**	**17 11 41.7**	**+1.5**
KTHA	**Kythira Island**	**1.45**	**91**	P	**Pb**	**17 11 41.8**	**-0.8**
KTHA				AML	AML	17 12 15.8	
	comp=N,3660μm,0.7s						
KTHA				AML	AML	17 12 18.9	
	comp=E,8446μm,1.1s						
MNVA	**Monemvasia**	**1.48**	**74**	P	**Pn**	**17 11 41.8**	**+1.3**
MNVA				S	**Sb**	**17 12 02.3**	**+0.7**
MNVA				AML	AML	17 12 14.4	
	comp=E,3167μm,0.9s						
MNVA				AML	AML	17 12 15.7	
	comp=N,4100μm,1.3s						
DRO	**Drossia**	**1.69**	**12**	P	**Pb**	**17 11 45.5**	**-1.2**
ANKY	**Antikythira Is**	**1.70**	**104**	P	**Pn**	**17 11 45.4**	**+1.7**
ANKY	**Antikythira Is**	**1.70**	**104**	P	**Pn**	**17 11 45.3**	**+1.7**
ANKY				AML	AML	17 12 22.6	
	comp=N,3574μm,1.3s						
ANKY				AML	AML	17 12 26.2	
	comp=E,4719μm,1.0s						
RLS	**Riolos of Patr**	**1.76**	**5**	P	**Pb**	**17 11 46.9**	**-1.0**
RLS				AML	AML	17 12 35.6	
	comp=E,2544μm,0.9s						
RLS				AML	AML	17 12 42.4	
	comp=N,2877μm,0.9s						
KRND	**KRANIDI**	**1.86**	**54**	P	**Pn**	**17 11 46.9**	**+1.1**
KRND	**KRANIDI**	**1.86**	**54**	P	**Pn**	**17 11 46.8**	**+1.0**
KLV	**Kalavryta, Ach**	**1.88**	**22**	P	**Pb**	**17 11 48.6**	**-1.4**
KLV				AML	AML	17 12 24.4	
	comp=N,1724μm,1.5s						
KLV				AML	AML	17 12 28.1	
	comp=E,3545μm,0.7s						
PSDA	**Pessada-Kefalo**	**1.89**	**343**	P	**Pb**	**17 11 48.8**	**-1.3**
VLS	**Valsamata**	**1.95**	**344**	P	**Pn**	**17 11 48.5**	**+1.4**
VLS				AML	AML	17 12 48.8	
	comp=N,1980μm,0.9s						
VLS				AML	AML	17 12 50.6	
	comp=E,1343μm,0.8s						
EPID	**Epidavros**	**1.98**	**48**	P	**Pn**	**17 11 48.9**	**+1.4**
LAKA	**Lakka**	**2.02**	**16**	P	**Pb**	**17 11 50.6**	**-1.7**
LAKA	**Lakka**	**2.02**	**16**	P	**Pb**	**17 11 50.7**	**-1.6**
LAKA				AML	AML	17 12 39.5	
	comp=E,2787μm,0.9s						
LAKA				AML	AML	17 12 52.7	
	comp=N,2347μm,1.1s						
KEF3	**Kipouria, Keph**	**2.04**	**339**	P	**Pn**	**17 11 50.1**	**+1.9**
THAL	**Thalero**	**2.06**	**32**	P	**Pn**	**17 11 50.1**	**+1.5**
THAL	**Thalero**	**2.06**	**32**	P	**Pn**	**17 11 50.5**	**+1.9**
LOUT	**Loutraki**	**2.17**	**38**	P	**Pn**	**17 11 51.1**	**+1.0**
LOUT				S	**Sb**	**17 12 20.6**	**-0.7**
	comp=N,1μm,0.8s						
LOUT	**Loutraki**	**2.17**	**38**	P	**Pn**	**17 11 51.6**	**+1.5**
EFP	**Efpalio**	**2.19**	**13**	P	**Pb**	**17 11 53.4**	**-1.7**
LTK	**Loutraki**	**2.19**	**38**	P	**Pn**	**17 11 51.8**	**+1.4**
SERG	**Sergoula**	**2.20**	**16**	P	**Pb**	**17 11 53.7**	**-1.7**
SERG				S	**Sb**	**17 12 24.2**	**+1.9**
IMMV	**Iera Moni Meta**	**2.36**	**110**	*e*P	**Pn**	**17 11 54.0**	**+1.4**
IMMV	**Iera Moni Meta**	**2.36**	**110**	P	**Pn**	**17 11 54.0**	**+1.4**
IMMV	**Iera Moni Meta**	**2.36**	**110**	P	**Pb**	**17 11 56.3**	**-1.7**
EVGI	**Lefkada island**	**2.37**	**348**	P	**Pn**	**17 11 54.9**	**+2.1**
TSLK	**Tsoukalades, L**	**2.57**	**349**	P	**Pb**	**17 11 59.0**	**-2.6**
EVR	**Evrytania**	**2.65**	**9**	P	**Pb**	**17 12 00.3**	**-2.7**
GVD	**Gavdhos**	**2.72**	**122**	*e*P	**Pn**	**17 11 59.4**	**+1.8**
GVD	**Gavdhos**	**2.72**	**122**	P	**Pb**	**17 12 03.4**	**-0.8**
GVDS	**Gavdos**	**2.72**	**121**	*e*P	**Pb**	**17 12 01.2**	**-3.0**
MAKR	**Makrakomi, Fth**	**2.80**	**14**	P	**Pb**	**17 12 02.5**	**-3.0**
IDI	**Anoyia**	**3.11**	**108**	↑↑P	**Pn**	**17 12 04.6**	**+1.5**
IDI	**Anoyia**	**3.11**	**108**	Pn	**Pn**	**17 12 02.7**	**-0.4**
	comp=N,3.3nm,0.3s,baz=294,slow=16,SNR=16						
IDI				LR	LR	17 13 45.1	
	comp=N,1μm,19.6s,baz=288,slow=50 comp=N,7.8nm,0.5s						
IDI	**Anoyia**	**3.11**

PAOL Paolisi 7.06 314 Pn **Pn** 17 12 58.1 +0.8
STON Ston 7.12 338 *e*Pn **Pn** 17 12 56.5 -1.5
BOVS Bovan 7.34 2 ⇑P **Pn** 17 13 00.7 -0.3
BLKB Belogradchik 7.39 8 ⇑P **Pn** 17 13 03.6 +1.7
RUDO Rudo 7.46 349 *e*Pn **Pn** 17 12 59.5 -3.2
ISP Isparta 7.55 76 *i* P **Pn** 17 13 06.7 +2.5
DIVS Divibare 7.85 353 **Pn** 17 13 08.0 -0.2
DIVS Divibare 7.85 353 *e*Pn **Pn** 17 13 07.2 -1.0
SRKY Kupres RS 8.37 339 *e*Pn **Pn** 17 13 16.9 +1.6
HERR Herculane 8.62 5 ⇓P **Pn** 17 13 18.8 +0.2
CAMP Campotosto 8.70 318 Pn **Pn** 17 13 20.3 +0.4
MGRS Mrkonjic Grad 8.71 340 *e*Pn **Pn** 17 13 20.4 +0.4
FRGS Fruska Gora 8.92 353 ⇑P **Pn** 17 13 22.6 -0.2
FRGS Fruska Gora 8.92 353 *e*Pn **Pn** 17 13 21.1 -1.7
A050A Klekovaca 8.94 338 *e*Pn **Pn** 17 13 24.2 +1.2
BLY Banja Luka 8.99 341 *e*Pn Pn 17 13 29.1 +5.3
NRCA Norcia 9.06 319 **Pn** 17 13 22.0 -2.8
GZR Gura Zlata 9.16 7 ⇑P **Pn** 17 13 26.6 +0.6
GZR Gura Zlata 9.16 7 ⇑P **Pn** 17 13 26.7 +0.6
CESX Cesi 9.21 316 **Pn** 17 13 28.3 +1.6
FDMO Fiordimonte 9.22 319 **Pn** 17 13 28.1 +1.2
A051A Mrakovica 9.31 341 *e*Pn **Pn** 17 13 27.5 -0.7
BZS Buzias 9.31 2 ⇑P **Pn** 17 13 27.8 -0.3
VOIR 9.57 16 ⇑P **Pn** 17 13 33.6 +1.9
VOIR 9.57 16 ⇑P **Pn** 17 13 33.6 +1.9
MURB Monte Urbino 9.67 319 Pn Pn 17 13 37.6 +4.4
KEST Kesra 9.68 270 Pn **Pn** 17 13 35.6 +2.4
comp=N,0.2nm,0.3s,baz=102,slow=4.5,SNR=5.2
KEST Sn **Sn** 17 15 18.4 -2.4
comp=N,0.2nm,0.3s,baz=95,slow=6.4,SNR=1.2
comp=N,2.4nm,0.6s
HARR Harsova 9.79 29 ⇓P **Pn** 17 13 35.1 +0.4
HARR Harsova 9.79 29 ⇓P **Pn** 17 13 35.1 +0.4
MLR Muntele Rosu 9.84 20 ⇓P **Pn** 17 13 36.9 +1.4
MLR Muntele Rosu 9.84 20 Pn **Pn** 17 13 35.3 -0.1
comp=N,0.3nm,0.3s,baz=210,slow=7.7,SNR=6.0
comp=N,3.5nm,0.8s
MLR Muntele Rosu 9.84 20 Pn **Pn** 17 13 36.6 +1.1
MLR Muntele Rosu 9.84 20 ⇓P **Pn** 17 13 36.9 +1.4
KOVH Kovagotottos 10.07 347 P Pn 17 13 38.1 -0.3
MORH Mrgy, Hungar 10.10 350 ⇑P **Pn** 17 13 39.3 +0.4
MORH Mrgy, Hungar 10.10 350 P **Pn** 17 13 39.2 +0.3
DOPR Dopca 10.15 17 ⇑P **Pn** 17 13 41.3 +1.8
COVR Voineasa-Covas 10.24 20 ⇑P **Pn** 17 13 42.4 +1.6
BOJS Bojanci 10.26 336 *e*Pn **Pn** 17 13 40.7 -0.4
CFR Carcaliu 10.28 28 ⇑P **Pn** 17 13 41.7 +0.3
CFR Carcaliu 10.28 28 ⇑P **Pn** 17 13 41.7 +0.3
BR131 Keskin Array S 10.34 67 **Pn** 17 13 42.5 +0.1
BR131 Keskin Array S 10.34 67 *i* P **Pn** 17 13 44.7 +2.3
BRTR Keskin Array B 10.34 67 Pn **Pn** 17 13 44.9 +2.5
comp=N,0.1nm,0.3s,baz=245,slow=14,SNR=8.9
BRTR Keskin Array B 10.34 67 Pn **Pn** 17 13 41.7 -0.7
BRTR Keskin Array B 10.34 67 *ce*P **Pn** 17 13 44.9 +2.5
BRTR pmax pmax
comp=Z,2.0nm,0.8s
OZUR 10.36 18 ⇓P **Pn** 17 13 44.5 +1.9
PLOR Plostina 10.37 21 ⇓P **Pn** 17 13 44.8 +2.2
VRI Vrincioaia 10.40 22 ⇓P **Pn** 17 13 44.8 +1.7
VRI Vrincioaia 10.40 22 ⇓P **Pn** 17 13 44.8 +1.7
CRES Cresnjev 10.48 337 *e*Pn **Pn** 17 13 44.0 -0.1
CEY Cerknica 10.75 333 *e*Pn **Pn** 17 13 49.1 +1.3
MPLH Magyarpolny 11.21 347 P Pn 17 14 00.8 +6.7
SOKA Soboth 11.37 338 *e*Pn **Pn** 17 13 56.4 +0.1
comp=Z,2.8nm,0.5s
SOKA *e*Sn Sn 17 15 53.1 -9.1
comp=Z,3.7nm,0.6s
OBKA Obir 11.38 336 *e*Pn **Pn** 17 13 57.6 +1.2
OBKA Obir 11.38 336 *e*Pn **Pn** 17 13 59.4 +2.9
comp=Z,4.5nm,0.5s
OBKA *e*Sn Sn 17 15 52.1 -10
comp=Z,9.5nm,0.7s
PSZ Piszkesteto 11.66 355 **Pn** 17 13 59.5 -0.7
PSZ Piszkesteto 11.66 355 ⇑P **Pn** 17 13 59.8 -0.5
PSZ Piszkesteto 11.66 355 P **Pn** 17 14 00.8 +0.5
BURAR Bucovina Array 11.68 13 ⇑P **Pn** 17 14 02.3 +1.7
BURAR Bucovina Array 11.68 13 Pn **Pn** 17 14 02.1 +1.4
BUR08 Bucovina Ar. S 11.71 13 Pn **Pn** 17 14 02.1 +1.2
CLUD Cludinico 11.94 331 **Pn** 17 14 04.5 +0.5
CIMO Cimolais 11.99 329 Pn **Pn** 17 14 04.4 -0.5
MMAI Mount Meron Ar 12.09 102 Pn **Pn** 17 14 03.2 -3.1
comp=Z,0.8nm,0.3s,baz=279,slow=13,SNR=2.3
MMAI Sn Sn 17 16 10.6 -9.4
comp=Z,0.8nm,0.3s,baz=304,slow=26,SNR=1.9
comp=Z,0.7nm,0.3s
CTI Castel Tesino 12.13 326 **Pn** 17 14 07.3 +0.5
CTI Castel Tesino 12.13 326 P **Pn** 17 14 07.3 +0.5
VYHS Vyhne 12.32 352 *e*P Pn 17 14 14.5 +5.2
VYHS *e* 17 16 21.8
VYHS Vyhne 12.32 352 *e*PN Pn 17 14 14.5 +5.2
VYHS Vyhne 12.32 352 *e*SN **Sn** 17 16 21.8 -3.5
SALO Salr 12.34 322 Pn **Pn** 17 14 10.4 +0.8
BIOA Bad Ischl, Aus 12.71 336 *e*Pn **Pn** 17 14 17.8 +3.1
comp=Z,2nm,0.3s
WTTA Wattenberg 13.09 330 *e*Sn **Sn** 17 16 39.2 -5.2
comp=Z,13nm,0.8s
FUORN Ofenpass-Fuorn 13.19 325 Pn **Pn** 17 14 22.7 +1.2
EIL Elat 13.25 116 Pn **Pn** 17 14 20.4 -1.6
comp=Z,0.3nm,0.3s,baz=347,slow=18,SNR=1.8
EIL Sn Sn 17 16 38.1 -10
comp=Z,0.4nm,0.3s,baz=233,slow=23,SNR=1.8
comp=Z,1.5nm,0.5s
FETA Feichten 13.28 327 *e*Pn **Pn** 17 14 24.4 +1.8
comp=Z,0.9nm,0.4s
FETA *i* Sn **Sn** 17 16 45.4 -3.7
comp=Z,0.8nm,0.5s
VRAC Vranov 13.44 347 Pn **Pn** 17 14 23.5 -1.1
comp=Z,0.3nm,0.3s,baz=96,slow=10,SNR=1.9
comp=Z,2.5nm,0.8s
DAVOX Davos/Dischmat 13.49 324 Pn **Pn** 17 14 27.7 +2.2
comp=Z,0.4nm,0.3s,baz=154,slow=17,SNR=8.7
DAVOX Sn **Sn** 17 16 51.9 -2.3
comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=5.3
comp=Z,3.8nm,0.7s
CKRC Cesky Krumlov 13.52 340 *e*PN **Pn** 17 14 27.3 +1.7
ASF Jabal al Asfar 13.57 103 Pn **Pn** 17 14 24.3 -2.2
comp=Z,0.4nm,0.3s,baz=299,slow=13,SNR=1.9
ASF Sn **Sn** 17 16 53.6 -2.6
comp=Z,0.2nm,0.3s,baz=277,slow=8.1,SNR=1.6
comp=Z,1.2nm,0.4s
GEC2 GERESS Array S 13.71 338 Pn **Pn** 17 14 28.3 -0.1
GERES GERESS Array B 13.71 338 Pn **Pn** 17 14 29.9 +1.6
comp=Z,0.3nm,0.3s,baz=150,slow=14,SNR=10.0
GERES Sn Sn 17 16 50.5 -9.0
comp=Z,0.2nm,0.3s,baz=150,slow=24,SNR=2.0
comp=Z,0.9nm,0.5s
GERES GERESS Array B 13.71 338 Pn **Pn** 17 14 30.2 +1.9
GERES GERESS Array B 13.71 338 P **Pn** 17 14 30.2 +1.9
DAVA Damuels 13.86 326 *i* Pn **Pn** 17 14 33.5 +3.0
comp=Z,1.5nm,0.5s
DAVA *i* Sn **Sn** 17 16 58.9 -4.4
comp=Z,1.5nm,0.3s
KHC Kasperske Hory 14.00 339 *e*P **Pn** 17 14 35.9 +3.6
KHC Kasperske Hory 14.00 339 *e*PN **Pn** 17 14 35.9 +3.6
KHC *e*SN Sn 17 16 54.7 -12
AKASG Malin Array Be 15.50 19 Pn **Pn** 17 14 49.2 -2.9
comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=12
comp=Z,3.2nm,0.8s
AKASG Malin Array Be 15.50 19 **Pn** 17 14 54.8 +2.6
AKASG Malin Array Be 15.50 19 P **Pn** 17 14 54.8 +2.6
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 15.50 19 Pn **Pn** 17 14 49.9 -2.3
AKBB Malin Array Si 15.50 19 *ce*P **Pn** 17 14 49.5 -2.7
MARD Mardin 15.66 80 **Pn** 17 14 54.6 0.0
MARD IAmb IAmb 17 14 59.5
comp=Z,11nm,0.7s
MOX Moxa 15.94 337 P **P** 17 15 00.2 -1.0
KIV Kislovodsk 18.05 58 *ce*P **Pn** 17 15 25.0 +0.6
KIV pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 18.12 59 P **Pn** 17 15 23.8 -1.4
comp=Z,0.3nm,0.3s,baz=275,slow=8.7,SNR=17
comp=Z,8.1nm,0.9s
KBZ Khabaz 18.12 59 *ce*P **P** 17 15 26.1 +0.7
KBZ pmax pmax
comp=Z,10.0nm,0.9s
NCK Nalchik 18.55 60 *i* P **Pn** 17 15 31.9 +1.4
NCK pmax pmax
comp=Z,5.0nm,0.7s
ZEI Tsey 18.59 63 *e*P **Pn** 17 15 31.8 +0.6
ZEI pmax pmax
comp=Z,7.0nm,0.7s
MNK Minsk 18.77 12 *i* P **P** 17 15 30.8 -1.6
MNK *i* S **S** 17 19 04.2 +0.2
MNK pmax pmax
comp=Z,25nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=Z,316nm,14.0s
MNK MLR MLR
comp=E,26nm,14.0s
MNK Minsk 18.77 12 *i* P **P** 17 15 30.8 -1.6
comp=E,2.0nm,0.7s
MNK *i* P **P** 17 15 30.8 -1.6
MNK *i* P **P** 17 15 30.8 -1.6
comp=Z,25nm,0.7s,baz=197
MNK *i* PP **pP** 17 15 39.5 -0.4
MNK *i* S **S** 17 19 04.3 +0.2
MNK *i* SS **SnSn** 17 19 29.5 +13
MNK *i* LR LR 17 21 34.8
MNK *i* LRM MLR 17 23 45.2
comp=Z,316nm,14.1s
MNK *i* LRM MLR 17 23 49.6
comp=E,26nm,14.1s
GNI Garni 18.83 71 P **P** 17 15 33.6 +0.2
comp=E,5.2nm,0.6s,baz=166,slow=11,SNR=2.6
NACGM Naroch 18.99 10⇑ *e*P **P** 17 15 35.0 +0.2
baz=194
PABE Paberze 19.30 5 P **P** 17 15 38.5 +0.3
PABE Paberze 19.30 5 *e*P **P** 17 15 38.7 +0.5
IIGN Ignalina 19.36 9 *e*P **P** 17 15 39.2 +0.4
IIGN IAmb IAmb 17 15 51.2
comp=Z,5.0nm,0.6s
NAX Nakhchivan 19.36 74 P **Pn** 17 15 41.1 +0.7
ISAL Salakas 19.56 8 IAmb IAmb 17 15 45.4
comp=Z,6.0nm,0.8s
VSR Storozhevoye 19.66 35 *e*P **P** 17 15 40.5 -1.6
VSR pmax pmax
comp=Z,5.0nm,0.8s
VORR Voronezh 19.99 34 *e*P **P** 17 15 42.1 -3.6
VORR pmax pmax
comp=Z,40nm,0.4s
GANJ Ganja 20.07 70 P **P** 17 15 48.2 +1.4
ESBB Sonseca Array 20.15 287 P Pn 17 15 48.9 -0.8
ESDC Sonseca Array 20.15 287 P Pn 17 15 49.7 0.0
comp=Z,2.5nm,0.8s,baz=82,slow=10,SNR=22
comp=Z,2.5nm,0.8s
ESDC Sonseca Array 20.15 287 P Pn 17 15 49.1 -0.6
PAB San Pablo 20.45 287 P Pn 17 15 53.5 +0.3
PAB San Pablo 20.45 287 P Pn 17 15 53.5 +0.3
PAB pmax pmax
comp=Z,7.0nm,1.0s
LPSR Galich'ya Gora 20.52 32 *e*P **P** 17 15 50.8 -0.6
LPSR pmax pmax
comp=Z,50nm,1.0s
MNGR Mingechevir, A 20.66 70 P **P** 17 15 54.8 +1.7
SEKA Sheki 20.78 68 P Pn 17 15 57.3 +0.3
VRH Novokhopyorsk 20.88 38 *e*P **P** 17 15 54.1 -1.3
VRH pmax pmax
comp=Z,30nm,0.6s
OBN Obninsk 21.55 24 P **P** 17 16 01.7 -0.8
comp=Z,4.1nm,0.4s,baz=119,slow=3.6,SNR=6.9
comp=Z,4.1nm,0.4s
OBN Obninsk 21.55 24 P **P** 17 16 01.6 -0.9
OBN IAmb IAmb 17 16 02.5
comp=Z,26nm,0.6s
OBN Obninsk 21.55 24⇑ *i* P **P** 17 16 02.0 -0.5
OBN *i* 17 16 07.6
OBN *e* 17 16 20.7
OBN pmax pmax
comp=Z,26nm,0.7s
MDT Midelt 21.57 268 P **P** 17 16 04.0 +0.8
comp=Z,5.2nm,0.8s,baz=87,slow=11,SNR=19
comp=Z,5.2nm,0.8s
LKRN Lenkeran, Azer 21.93 75 P **P** 17 16 08.8 +2.0
PBRG Braganca 22.38 293 *e*P **P** 17 16 13.2 +1.5
MOS Moscow 22.41 25 *e*P **P** 17 16 11.3 -0.5
MOS pmax pmax
comp=Z,41nm,0.8s
VSU Vasula 22.47 8 *i* P **P** 17 16 11.9 -0.5
VSU pmax pmax
comp=Z,34nm,0.4s
VSU Vasula 22.47 8 *e*P **P** 17 16 13.2 +0.8
MTSE Matsula 22.49 3 *e*P **P** 17 16 12.2 -0.4
PBAR Barrancos 22.58 283 *e*P **P** 17 16 17.1 +3.3
PESTR Estremoz 22.97 285 *e*P **P** 17 16 21.1 +3.2
POLO Lamas de Olo 23.14 292 *e*P **P** 17 16 22.6 +2.9
PBEJ Beja 23.24 283 *e*P **P** 17 16 23.3 +2.6
MESJ Messejana 23.54 283 *e*P **P** 17 16 25.6 +2.1
PACT Alcochete 23.95 285 *e*P **P** 17 16 31.0 +3.6
MEF Metsahovi 24.02 4 *e*P **P** 17 16 28.4 +0.6
HFS Hagfors 24.35 351 P **P** 17 16 31.2 +0.3
comp=Z,2.3nm,0.4s,baz=154,slow=11,SNR=17
comp=Z,2.3nm,0.4s
BELG Belogornoye 24.58 41 P **P** 17 16 32.4 -0.7
comp=Z,43nm,0.9s,baz=229,slow=1.4,SNR=14
comp=Z,43nm,0.9s
BELG Belogornoye 24.58 41 *i* P **P** 17 16 32.6 -0.4
BELG pmax pmax
comp=Z,6.0nm,0.8s
NC602 NORSAR Array S 25.23 349 P **P** 17 16 39.0 +0.1
FINES FINESS Array B 25.35 5 P **P** 17 16 39.3 -0.6
comp=Z,2.8nm,0.6s,baz=163,slow=10,SNR=18
comp=Z,2.8nm,0.6s
FINES FINESS Array B 25.35 5 P **P** 17 16 40.0 +0.1
FINES FINESS Array B 25.35 5 *i* P **P** 17 16 40.2 +0.3
FINES pmax pmax
comp=Z,3.0nm,0.6s
NAO01 NORSAR Array S 25.44 348 P **P** 17 16 41.2 +0.4
NAO01 IAmb IAmb 17 16 42.7
comp=Z,16nm,0.8s
NB2 NORSAR Subarra 25.57 349 P **P** 17 16 42.4 +0.4
comp=Z,2.3nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 25.57 349 P **P** 17 16 41.4 -0.6
comp=Z,2.0nm,0.6s,baz=158,slow=9.1,SNR=21
comp=Z,2.0nm,0.6s
NBO00 NORSAR Array S 25.64 348 P **P** 17 16 43.7 +1.1
NC303 NORSAR Array S 25.73 349 P **P** 17 16 43.6 +0.3
NC303 IAmb IAmb 17 17 10.4
comp=Z,18nm,1.4s
NC204 NORSAR Array S 25.87 348 P **P** 17 16 45.4 +0.6
NC204 IAmb IAmb 17 16 53.3
comp=Z,22nm,1.4s
KLMR Klimovskoe 27.19 20 *e*P **P** 17 16 56.9 +0.5
KLMR pmax pmax
comp=Z,25nm,1.3s
KLMR Klimovskoe 27.19 20 *e*P **P** 17 16 57.0 +0.5
KLMR AMP 17 17 06.4
comp=Z,25nm,1.3s
TORD Torodi Ar. Bea 28.99 222 P **P** 17 17 13.9 +0.9
comp=Z,1.4nm,0.7s,baz=34,slow=8.3,SNR=6.1
comp=Z,1.4nm,0.7s
GEYT Alibeck 29.31 76 P **P** 17 17 16.1 +0.3
comp=Z,2.4nm,0.6s,baz=274,slow=11,SNR=5.2
comp=Z,2.4nm,0.6s
AKTO Aktyubinsk 29.88 50 P **P** 17 17 19.6 -1.0
comp=Z,1.4nm,0.6s,baz=278,slow=7.2,SNR=4.7
comp=Z,1.4nm,0.6s
ARU Arti 32.10 39 P **P** 17 17 40.2 +0.1
comp=Z,2.3nm,0.5s,baz=262,slow=7.1,SNR=5.4
comp=Z,2.3nm,0.5s
ARU Arti 32.10 39 P **P** 17 17 40.6 +0.5
ARU IAmb IAmb 17 17 41.6
comp=Z,3.8nm,0.9s
ARU Arti 32.10 39 *ce*P **P** 17 17 40.8 +0.7
ARU pmax pmax
comp=Z,16nm,2.7s
ARCES ARCESS Array B 33.38 3 P **P** 17 17 51.5 +0.4
comp=Z,1.8nm,0.7s,baz=191,slow=9.2,SNR=6.1
comp=Z,1.8nm,0.7s
CHGR Chuyangaron 37.74 72 P **P** 17 18 29.3 +0.2
CHGR IAmb IAmb 17 18 30.5
comp=Z,8.2nm,0.7s
CHGR Chuyangaron 37.74 72 P **P** 17 18 29.3 +0.2
CHGR pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 37.84 48 P **P** 17 18 29.1 -0.5
BRVK Borovoye 37.84 48 *ce*P **P** 17 18 29.8 +0.2
BRVK pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 38.04 64 P **P** 17 18 31.4 -0.1
KK31 IAmb IAmb 17 18 32.3
comp=Z,2.8nm,0.6s
KK31 Karatay Array 38.04 64 P **P** 17 18 31.4 -0.1
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 38.04 64 P **P** 17 18 30.9 -0.6
KKAR Karatay Array 38.04 64 P **P** 17 18 30.9 -0.6
GAR Garm 38.56 71 P **P** 17 18 37.0 +1.0
GAR IAmb IAmb 17 18 37.9
comp=Z,5.5nm,0.6s
SPITS Spitsbergen Ar 42.04 358 P **P** 17 19 04.8 +0.6
comp=Z,3.2nm,0.7s,baz=154,slow=17,SNR=1.7
comp=Z,3.2nm,0.7s
BOOM Boomskoye usch 42.08 64 P **P** 17 19 05.6 +0.4
BOOM IAmb IAmb 17 19 07.3
comp=Z,4.6nm,0.6s
BOOM Boomskoye usch 42.08 64 P **P** 17 19 05.6 +0.4
BOOM pmax pmax
comp=Z,5.0nm,0.6s
NIL Nilore 42.26 78 P **P** 17 19 07.2 +0.6
NIL IAmb IAmb 17 19 08.8
comp=Z,7.2nm,0.8s
NIL Nilore 42.26 78 P **P** 17 19 07.2 +0.6
NIL pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 42.94 52 P **P** 17 19 11.0 -0.8
KURK Kurchatov 42.94 52 *ce*P **P** 17 19 10.8 -1.0
KURK pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 45.80 57 P **P** 17 19 34.0 -0.8
MK31 IAmb IAmb 17 19 34.8
comp=Z,2.5nm,0.6s
MK31 Makanchi Array 45.80 57 P **P** 17 19 34.0 -0.8
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 45.80 57 P **P** 17 19 34.2 -0.6
comp=Z,2.4nm,0.4s,baz=272,slow=7.0,SNR=45
comp=Z,2.4nm,0.4s
ZAA0 Zalesovo Array 46.52 47 P **P** 17 19 39.4 -0.9
ZALV Zalesovo Beam 46.52 47 P **P** 17 19 39.4 -0.9
comp=Z,6.2nm,0.6s,baz=270,slow=8.9,SNR=22
comp=Z,6.2nm,0.6s
ZALV Zalesovo Beam 46.52 47 P **P** 17 19 39.1 -1.2
SUMG Summit 46.79 339 P **P** 17 19 41.8 -0.8
SUMG Summit 46.79 339 P **P** 17 19 41.8 -0.8
SUMG pmax pmax
comp=Z,6.0nm,0.6s
NRIK Noril'sk 48.22 26 P **P** 17 19 51.9 -1.4
comp=Z,1.1nm,0.4s,baz=226,slow=5.7,SNR=2.4
comp=Z,1.1nm,0.4s
NRIK Noril'sk 48.22 26 *ce*P **P** 17 19 54.5 +1.3
NRIK pmax pmax
comp=Z,1.0nm,0.4s
DGZ Jazzator, Alta 48.68 52 *i* P **P** 17 19 56.6 -0.7
DGZ pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 61.20 50 P **P** 17 21 27.1 -0.7
comp=Z,1.3nm,0.6s,baz=279,slow=8.2,SNR=6.4
comp=Z,1.3nm,0.6s
SONM Songino Array 61.20 50 P **P** 17 21 27.5 -0.3
SONM IAmb IAmb 17 21 28.3
comp=Z,3.3nm,1.3s
SONM Songino Array 61.20 50 P **P** 17 21 27.5 -0.3
SONM pmax pmax
comp=Z,3.0nm,1.3s
ULN Ulaanbaatar 61.59 50 *ce*P **P** 17 21 30.5 0.0
ULN pmax pmax
comp=Z,2.0nm,0.6s
DGAR Diego Garcia 64.75 121 P **P** 17 21 51.4 -0.2
DGAR Diego Garcia 64.75 121 P **P** 17 21 51.4 -0.2
DGAR pmax pmax
comp=Z,159nm,1.2s
YAK Yakutsk 66.45 29 P **P** 17 22 01.4 -0.6
comp=Z,5.4nm,0.7s,baz=237,slow=2.0,SNR=6.5
comp=Z,5.4nm,0.7s
YAK Yakutsk 66.45 29 P **P** 17 22 01.6 -0.4
YAK Yakutsk 66.45 29 *ce*P **P** 17 22 02.1 +0.1
YAK pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 69.56 82 P **P** 17 22 21.4 -0.8
comp=Z,0.9nm,0.4s,baz=298,slow=7.5,SNR=5.8
comp=Z,0.9nm,0.4s
CMAR Chiang Mai Arr 69.56 82 *ce*P **P** 17 22 22.8 +0.6
CMAR pmax pmax
comp=Z,1.0nm,0.4s
MA2 Magadan 75.77 24 P **P** 17 22 58.4 -0.1
comp=Z,2.0nm,0.6s,baz=326,slow=15,SNR=4.1
comp=Z,2.0nm,0.6s
ILAR Eielson Array 78.83 355 P **P** 17 23 16.8 +1.3
comp=Z,0.2nm,0.6s,baz=355,slow=3.3,SNR=2.2
comp=Z,0.2nm,0.6s
KSRS Korea Array 80.06 51 P **P** 17 23 23.1 +0.5
comp=Z,0.9nm,0.6s,baz=313,slow=4.4,SNR=7.7
comp=Z,0.9nm,0.6s
BDFB Brasilia 83.26 245 LR LR 18 00 40.3
comp=Z,814nm,21.8s,baz=170,slow=36
WRA Warramunga Arr 119.85 94 PKP **PKPdf** 17 30 02.2 -1.3
comp=Z,0.4nm,0.9s,baz=312,slow=2.1,SNR=1.7
ASAR Alice Springs 121.36 98 PKP **PKiKP** 17 30 07.2 +0.7
comp=Z,0.3nm,0.9s,baz=307,slow=1.7,SNR=1.8
PMG Port Moresby 124.27 75 PKP **PKPdf** 17 30 10.1 -2.0
comp=Z,31nm,1.0s,baz=312,slow=2.7,SNR=3.6

LJU 05 17:11:29.1, 45.71N×13.84E, h0km, ML0.4, Suspected explosion, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKDS	**Skadanscina**	**0.21**	**143**	*i* Pg	Pg	Pg	17 11 33.1	0.0
SKDS				*i* Sg	Sg	Sg	17 11 36.8	+1.0
SKDS				IAML			17 11 37.9	
comp=Z,9.6nm,0.1s								
JAVS	**Javornik**	**0.24**	**41**	*i* Pg	Pg	Pg	17 11 33.8	+0.1
JAVS				IAML			17 11 39.2	
comp=Z,2.4nm,0.1s								
VOJS	**Vojsko**	**0.32**	**6**	*i* Pg	Pg	Pg	17 11 35.1	-0.1
VOJS				*i* Sg	Sg	Sg	17 11 41.2	+1.9
VOJS				IAML			17 11 41.6	
comp=Z,0.3nm,0.1s								
CEY	**Cerknica**	**0.41**	**86**	*i* Pg	Pg	Pg	17 11 36.9	-0.1
CEY				IAML			17 11 45.5	
comp=Z,2.8nm,0.1s								
A253A	**Karojba, Istri**	**0.42**	**182**	*e*Pg	Pg	Pg	17 11 37.6	+0.4
A253A				Sg	Sg	Sg	17 11 44.1	+1.5
KNDS	**Knezji Dol**	**0.42**	**116**	*i* Pg	Pg	Pg	17 11 37.1	-0.1
KNDS				IAML			17 11 45.4	
comp=Z,1.2nm,0.1s								
SMRN	**Sveta Marina**	**0.71**	**162**	*e*Pg	Pg	Pb	17 11 44.8	+0.4
SMRN				Sg	Sb	Sb	17 11 53.5	-1.2
BRJN	**Brijuni**	**0.81**	**184**	*e*Pg	Pg	Pg	17 11 44.9	+0.3
BRJN				Sg	Sg	Sg	17 11 53.4	-1.7

ROM 05 17:12:54.1±0.1, 42.628N±0.004×13.329E±0.005, h10km, ML1.4/5, 2C-3D, Error ellipse: s-maj=0.4km s-min=0.3km az=322.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.05**	**350**	⇓P	Pg	Pg	17 12 56.6	+0.2
T1204				S	Sg	Sg	17 12 58.0	-0.1
T1202	**Accumoli, Fraz**	**0.11**	**315**	⇓P	Pg	Pg	17 12 57.4	+0.3
T1202				AML	AML			
comp=E,1685μm,0.8s								
T1202				AML	AML			
comp=N,2935μm,0.8s								
T1202				AML	AML			
comp=E,1695μm,0.8s								
T1202				AML	AML			
comp=N,2930μm,0.8s								
T1243	**Rocca Santa Ma**	**0.11**	**52**	P	Pg	Pg	17 12 57.6	+0.5
T1243				S	Sg	Sg	17 12 59.9	+0.8
T1244	**Arquata del Tr**	**0.13**	**350**	⇑P	Pg	Pg	17 12 57.8	+0.5
T1244				S	Sg	Sg	17 12 59.9	+0.4
RM33	**Pellescritta (**	**0.15**	**215**	P	Pg	Pg	17 12 58.0	+0.5
RM33				S	Sg	Sg	17 13 00.7	+0.8
RM33				AML	AML			
comp=E,109μm,1.1s								
RM33				AML	AML			
comp=N,83μm,0.7s								
TERO	**Teramo**	**0.20**	**91**	P	Pg	Pg	17 12 59.1	+0.6
TERO				S	Sg	Sg	17 13 02.6	+1.2
TERO				AML	AML			
comp=N,107μm,1.1s								
TERO				AML	AML			
comp=N,107μm,1.1s								
TERO				AML	AML			
comp=E,76μm,1.4s								
LNSS	**Leonessa**	**0.21**	**263**	⇑P	Pg	Pg	17 12 58.9	+0.2
LNSS				AML	AML			
comp=N,440μm,0.3s								
LNSS				AML	AML			
comp=N,439μm,0.3s								

LNSS				AML	AML			
	comp=E,268μm,0.2s							
T1241	**Roccafluvione,**	**0.24**	**18**	⇓P	Pg	17 12 59.5	+0.4	
GIGS	**Gran Sasso**	**0.25**	**135**	P	Pg	17 13 00.0	+0.7	
GIGS				S	Sg	17 13 04.0	+1.2	

ROM 05 17:13:17.9±0.0, 42°57′N±0′.003×13°17′5E±0′.005, h11km, ML1.8/6, 3C-5D, Error ellipse: s-maj=0.4km s-min=0.3km az=91.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.07**	**146**	P	Pg	17 13 20.6	+0.3
T1202				S	Sg	17 13 22.4	+0.3
T1202				AML	AML		
	comp=E,1685μm,0.8s						
T1202				AML	AML		
	comp=N,2935μm,0.8s						
T1202				AML	AML		
	comp=E,1695μm,0.8s						
T1202				AML	AML		
	comp=N,2930μm,0.8s						
T1242	**Castelluccio d**	**0.07**	**17**	⇓P	Pg	17 13 20.8	+0.3
T1242				S	Sg	17 13 22.5	+0.1
T1242				AML	AML		
	comp=E,598μm,0.5s						
T1242				AML	AML		
	comp=N,742μm,0.8s						
T1242				AML	AML		
	comp=N,742μm,0.8s						
NRCA	**Norcia**	**0.09**	**330**	⇓P	Pg	17 13 20.9	+0.3
NRCA				S	Sg	17 13 22.7	+0.2
NRCA				AML	AML		
	comp=N,2415μm,1.0s						
NRCA				AML	AML		
	comp=E,2395μm,0.1s						
NRCA				AML	AML		
	comp=N,2610μm,1.0s						
NRCA				AML	AML		
	comp=E,2125μm,0.1s						
NRCA				AML	AML		
	comp=N,2410μm,1.0s						
T1244	**Arquata del Tr**	**0.09**	**90**	P	Pg	17 13 21.0	+0.4
T1244				S	Sg	17 13 23.1	+0.5
T1204	**Amatrice, Fraz**	**0.13**	**128**	⇓P	Pg	17 13 21.7	+0.5
MC2	**Monte Cornacci**	**0.16**	**4**	P	Pg	17 13 22.1	+0.5
MC2				S	Sg	17 13 25.2	+1.0
LNSS	**Leonessa**	**0.18**	**213**	⇑P	Pg	17 13 22.5	+0.6
LNSS				S	Sg	17 13 25.9	+1.2
LNSS				AML	AML		
	comp=E,268μm,0.2s						
LNSS				AML	AML		
	comp=N,440μm,0.3s						
LNSS				AML	AML		
	comp=N,439μm,0.3s						
LNSS				AML	AML		
	comp=E,268μm,0.2s						
T1243	**Rocca Santa Ma**	**0.21**	**107**	P	Pg	17 13 22.7	+0.3
T1241	**Roccafluvione,**	**0.21**	**62**	P	Pg	17 13 22.9	+0.4
T1241				S	Sg	17 13 26.8	+1.2
T1215	**Vallo di Nera,**	**0.23**	**281**	⇑P	Pg	17 13 23.3	+0.6
RM33	**Pellescritta (**	**0.25**	**173**	P	Pg	17 13 23.7	+0.6
RM33				S	Sg	17 13 27.8	+1.2
FDMO	**Fiordimonte**	**0.29**	**347**	P	Pb	17 13 24.5	-0.7
CESI	**CESI - Serrava**	**0.32**	**321**	P	Pb	17 13 25.4	-0.3
CESI				AML	AML		
	comp=E,56μm,1.0s						
CESI				AML	AML		
	comp=N,99μm,0.5s						
CSP1	**Cessapalombo**	**0.34**	**4**	⇑P	Pb	17 13 25.4	-0.6
TERO	**Teramo**	**0.34**	**113**	⇓P	Pg	17 13 25.0	+0.2
TERO				AML	AML		
	comp=E,76μm,1.4s						
TERO				AML	AML		
	comp=N,107μm,1.1s						
TERO				AML	AML		
	comp=N,107μm,1.1s						
ARRO	**Arrone**	**0.35**	**240**	⇓P	Pb	17 13 25.7	-0.5
GIGS	**Gran Sasso**	**0.42**	**136**	P	Pg	17 13 26.6	+0.3
SNTG	**Esanatoglia**	**0.53**	**341**	P	Pg	17 13 28.3	+0.1

*NEIC **05** 17:31:02.6±1.4, 37°.07′S±0°.07×179°.34′E±0°.10, h10km±1km, mb4.3/8, Error ellipse: s-maj=14.7km s-min=10.6km az=133.0*
*IDC **05** 17:31:03.2±2.7, 36°.69×178°.88′E, h0km, mb4.0/3, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=63.1km s-min=40.6km az=123.0*
*WEL **05** 17:31:08.5±1.2, 37°.5±7°.×17°.9E±°, h15km, M3.6/25, ML3.9/27, MLv3.6/25, Error ellipse: s-maj=0.0km s-min=0.0km az=72.9*

ISC 05 17:31:06.0±1.3, 37°.09S±0°.08×179°.1E±0°.1, h21km±6km, n121, σ1$39/127, mb4.2/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.76**	**232**	P	**Pb**	**17 31 21.1**	**+0.4**
MXZ	**Matakaoa Point**	**0.76**	**232**	P	**Pb**	**17 31 21.0**	**+0.4**
MXZ				S	**Sb**	**17 31 30.5**	**-0.1**
WMGZ	**Waiomatatini S**	**0.89**	**215**	P	**Pn**	**17 31 25.3**	**+1.9**
WMGZ				S	**Sn**	**17 31 38.4**	**+2.8**
PKGZ	**Pakihiroa**	**1.12**	**224**	P	**Pb**	**17 31 27.3**	**+0.7**
PKGZ				S	**Sn**	**17 31 43.3**	**+2.0**
PUZ	**Puketiti**	**1.17**	**213**	P	**Pb**	**17 31 28.9**	**+1.4**
HAZ	**Te Kaha**	**1.22**	**236**	P	**Pn**	**17 31 27.6**	**-0.1**
TWGZ	**Tauwhareparae**	**1.38**	**218**	P	**Pb**	**17 31 32.0**	**+0.8**
RUGZ	**Raukumara Rang**	**1.41**	**231**	P	**Pb**	**17 31 32.0**	**+0.4**
CNGZ	**Carnagh Statio**	**1.55**	**206**	P	**Pb**	**17 31 34.5**	**+0.6**
WIZ	**White Island**	**1.55**	**253**	P	**Pn**	**17 31 31.8**	**-0.6**
TKGZ	**Te Karaka**	**1.66**	**215**	P	**Pb**	**17 31 35.4**	**-0.4**
MWZ	**Matawai**	**1.74**	**224**	P	**Pb**	**17 31 36.5**	**-0.7**
WHRZ	**Whale Island**	**1.83**	**245**	P	**Pb**	**17 31 37.9**	**-0.8**
RIGZ	**Rimuhau**	**1.91**	**212**	P	**Pn**	**17 31 38.8**	**+1.4**
RAGZ	**Rawiri**	**1.92**	**222**	P	**Pb**	**17 31 39.2**	**-1.1**
URZ	**Urewera**	**1.94**	**232**	Pn	**Pb**	**17 31 39.3**	**-1.3**
	35nm,0.3s,baz=31,slow=1.3,SNR=73						
URZ				Sn	**Sn**	**17 32 02.6**	**+1.2**
	59nm,0.3s,baz=211,slow=19,SNR=35						
	102nm,0.4s						
URZ	**Urewera**	**1.94**	**232**	P	**Pb**	**17 31 39.4**	**-1.2**
PRGZ	**Paritu Road**	**2.05**	**207**	P	**Pn**	**17 31 40.5**	**+1.2**
OPRZ	**Ohinepanea**	**2.13**	**248**	P	**Pn**	**17 31 40.9**	**+0.6**
OPRZ				S	**Sn**	**17 32 05.8**	**-0.4**
SNGZ	**Shannon Statio**	**2.17**	**218**	P	**Pn**	**17 31 42.1**	**+1.2**
SNGZ				S	**Sn**	**17 32 09.0**	**+1.8**
KNZ	**Kokohu**	**2.22**	**209**	P	**Pn**	**17 31 42.1**	**+0.6**
RTZ	**Ruatahuna**	**2.24**	**227**	P	**Pn**	**17 31 43.4**	**+1.4**
MHGZ	**Mahia Peninsul**	**2.25**	**203**	P	**Pn**	**17 31 43.1**	**+1.0**
MYRZ	**Mayor Island**	**2.26**	**264**	P	**Pn**	**17 31 43.2**	**+1.1**
MUGZ	**Murupara**	**2.28**	**232**	P	**Pn**	**17 31 43.4**	**+0.9**
TGRZ	**Tauranga**	**2.32**	**253**	P	**Pn**	**17 31 43.8**	**+0.9**
TARZ	**Mount Tarawera**	**2.33**	**240**	P	**Pb**	**17 31 45.7**	**-1.6**
OMRZ	**Omania**	**2.36**	**244**	P	**Pn**	**17 31 45.8**	**+2.1**
RRRZ	**Republican Roa**	**2.37**	**237**	P	**Pn**	**17 31 45.0**	**+1.3**
RAHZ	**Arahi**	**2.40**	**220**	P	**Pn**	**17 31 45.4**	**+1.3**
KARZ	**Kaharoa**	**2.42**	**247**	P	**Pn**	**17 31 45.6**	**+1.2**
HLRZ	**Highlands Stat**	**2.44**	**241**	P	**Pn**	**17 31 46.5**	**+1.8**
WHHZ	**Waihua**	**2.45**	**215**	P	**Pn**	**17 31 46.0**	**+1.2**
MTHZ	**Maungataniwha**	**2.48**	**224**	P	**Pn**	**17 31 46.9**	**+1.6**
PRRZ	**Plateau Road**	**2.54**	**236**	P	**Pn**	**17 31 47.5**	**+1.5**
KMRZ	**Kaimai**	**2.59**	**252**	P	**Pn**	**17 31 47.8**	**+1.0**
ALRZ	**Allen Road**	**2.61**	**235**	P	**Pn**	**17 31 48.4**	**+1.5**
GRRZ	**Galatos Road**	**2.66**	**241**	P	**Pn**	**17 31 49.6**	**+2.0**
NMHZ	**Naumai**	**2.68**	**221**	P	**Pn**	**17 31 50.1**	**+2.1**
KUZ	**Kuaotunu**	**2.70**	**276**	P	**Pn**	**17 31 47.8**	**-0.3**
ARHZ	**Aropaoanui**	**2.71**	**216**	P	**Pn**	**17 31 49.2**	**+0.9**
MRHZ	**Matea Rd**	**2.72**	**229**	P	**Pn**	**17 31 49.7**	**+1.2**
BKZ	**Black Stump Fm**	**2.90**	**224**		**Pn**	**17 31 51.9**	**+0.9**
BKZ	**Black Stump Fm**	**2.90**	**224**	P	**Pn**	**17 31 51.9**	**+0.9**
TOZ	**Tahuroa Road**	**2.90**	**256**	P	**Pn**	**17 31 50.9**	**0.0**
KUTZ	**Kaahu Road**	**2.92**	**240**	P	**Pn**	**17 31 52.9**	**+1.7**
CKHZ	**Cape Kidnapper**	**3.00**	**211**	P	**Pn**	**17 31 52.3**	**0.0**
GRZ	**Great Barrier**	**3.01**	**285**	P	**Pn**	**17 31 53.6**	**+1.1**
TLZ	**Tolley Road**	**3.06**	**245**	P	**Pn**	**17 31 54.7**	**+1.6**
MKAZ	**Moumakai**	**3.12**	**269**	P	**Pn**	**17 31 53.9**	**0.0**
KWHZ	**Kaweka Forest**	**3.12**	**221**	P	**Pn**	**17 31 54.6**	**+0.6**
WIAZ	**Waiheke Island**	**3.16**	**274**	P	**Pn**	**17 31 55.0**	**+0.5**
KAHZ	**Kahuranaki**	**3.20**	**212**	P	**Pn**	**17 31 55.0**	**-0.1**
ETAZ	**East Tamaki Re**	**3.31**	**271**	P	**Pn**	**17 31 57.3**	**+0.7**
KRHZ	**Kereru**	**3.31**	**219**	P	**Pn**	**17 31 57.0**	**+0.3**
TMVZ	**Te Maari**	**3.33**	**232**	P	**Pn**	**17 31 58.0**	**+1.0**
NTVZ	**North Tongarir**	**3.34**	**232**	P	**Pn**	**17 31 58.2**	**+1.0**
ETVZ	**East Tongariro**	**3.34**	**231**	P	**Pn**	**17 31 58.2**	**+1.0**
MBAZ	**Motutapu North**	**3.35**	**274**	P	**Pn**	**17 31 58.4**	**+1.3**
KRVZ	**Karewarewa**	**3.36**	**232**	P	**Pn**	**17 31 58.5**	**+1.2**
BHHZ	**Black Hill Sta**	**3.36**	**224**	P	**Pn**	**17 31 58.2**	**+0.9**
NNVZ	**North Ngauruho**	**3.40**	**232**	P	**Pn**	**17 31 59.3**	**+1.3**
WTVZ	**West Tongariro**	**3.40**	**232**	P	**Pn**	**17 32 00.7**	**+2.7**
PXZ	**Pawanui**	**3.41**	**210**	P	**Pn**	**17 31 57.0**	**-0.9**
SNVZ	**South Ngauruho**	**3.41**	**231**	P	**Pn**	**17 31 59.2**	**+1.0**
ABAZ	**Army Bay**	**3.42**	**277**	P	**Pn**	**17 31 59.2**	**+1.1**
NGZ	**Ngauruhoe**	**3.43**	**232**	P	**Pn**	**17 31 59.5**	**+1.1**
TUVZ	**Tukino**	**3.45**	**230**	P	**Pn**	**17 31 59.6**	**+0.9**
EPAZ	**Eden Park BICE**	**3.46**	**272**	P	**Pn**	**17 32 00.9**	**+2.3**
HBAZ	**Herne Bay Bore**	**3.48**	**273**	P	**Pn**	**17 32 01.2**	**+2.3**
TWVZ	**Taurewa**	**3.48**	**234**	P	**Pn**	**17 32 01.0**	**+2.1**
MOVZ	**Moawhango**	**3.48**	**227**	P	**Pn**	**17 31 59.7**	**+0.7**
WNVZ	**Wahianoa**	**3.52**	**230**	P	**Pn**	**17 32 00.6**	**+0.9**
AWAZ	**Awhitu Peninsu**	**3.53**	**269**	P	**Pn**	**17 32 00.8**	**+1.2**
WTAZ	**Waiatarua**	**3.59**	**271**	P	**Pn**	**17 32 01.8**	**+1.3**
PNHZ	**Pukenui**	**3.60**	**218**	P	**Pn**	**17 32 00.4**	**-0.3**
RVAZ	**Riverhead Bore**	**3.60**	**274**	P	**Pn**	**17 32 01.8**	**+1.2**
WPHZ	**Waipukurau**	**3.61**	**214**	P	**Pn**	**17 32 00.1**	**-0.7**
HIZ	**Hauiti**	**3.62**	**246**	Pn	**Pn**	**17 32 01.8**	**+1.0**
HIZ	**Hauiti**	**3.62**	**246**	P	**Pn**	**17 32 02.5**	**+1.6**
TSZ	**Takapari Road**	**3.83**	**218**	P	**Pn**	**17 32 03.4**	**-0.4**
DVHZ	**Dannevirke**	**3.92**	**214**	P	**Pn**	**17 32 04.3**	**-0.7**
WCZ	**Waipu Caves**	**3.97**	**285**	P	**Pn**	**17 32 06.6**	**+1.0**
WAZ	**Wanganui**	**4.16**	**229**	P	**Pn**	**17 32 09.4**	**+1.1**
POWZ	**Post Office Ro**	**4.18**	**217**	P	**Pn**	**17 32 08.5**	**0.0**
BFZ	**Birch Farm**	**4.21**	**211**	Pn	**Pn**	**17 32 07.3**	**-1.6**
BFZ					**Sn**	**17 32 54.4**	**-3.0**
LREZ	**Lake Rotokare**	**4.36**	**236**	P	**Pn**	**17 32 13.5**	**+2.4**
NEZ	**North Egmont**	**4.48**	**239**	P	**Pn**	**17 32 16.4**	**+3.7**
OUZ	**Omahuta**	**4.80**	**291**	Pn	**Pn**	**17 32 17.5**	**+0.5**
OUZ	**Omahuta**	**4.80**	**291**	P	**Pn**	**17 32 18.5**	**+1.5**
PLWZ	**Palliser**	**5.36**	**212**	Pn	**Pn**	**17 32 24.4**	**-0.4**
SNZO	**South Karori**	**5.40**	**217**	Pn	**Pn**	**17 32 22.3**	**-3.0**
TUWZ	**Tuamarina**	**5.88**	**221**	Pn	**Pn**	**17 32 30.2**	**-1.6**
CMWZ	**Cape Campbell**	**5.98**	**217**	Pn	**Pn**	**17 32 32.4**	**-0.8**
NNZ	**Nelson**	**6.04**	**225**	Pn	**Pn**	**17 32 33.1**	**-1.0**
BSWZ	**Blackbirch Sta**	**6.12**	**219**	Pn	**Pn**	**17 32 36.0**	**+0.9**
QRZ	**Quartz Range**	**6.31**	**232**	Pn	**Pn**	**17 32 36.4**	**-1.4**
THZ	**Tophouse**	**6.67**	**224**	Pn	**Pn**	**17 32 42.8**	**0.0**
THZ					**Sn**	**17 33 55.1**	**-3.0**
KHZ	**Kahutara**	**6.81**	**217**	Pn	**Pn**	**17 32 43.5**	**-1.2**
KHZ	**Kahutara**	**6.81**	**217**	P	**Pn**	**17 32 44.3**	**-0.3**
CTZ	**Chatham Island**	**7.41**	**155**	P	**Pn**	**17 32 54.1**	**+1.2**
LTZ	**Lake Taylor**	**7.71**	**220**	Pn	**Pn**	**17 32 56.2**	**-0.9**
MQZ	**McQueen's Vall**	**8.22**	**214**	Pn	**Pn**	**17 33 03.1**	**-0.8**
RPZ	**Rata Peaks**	**9.00**	**220**	Pn	**Pn**	**17 33 11.8**	**-2.9**
	0.3nm,0.3s,baz=213,slow=22,SNR=1.9						
RPZ				Sn	Sn	17 34 44.2	-11
	3.6nm,0.3s,baz=160,slow=15,SNR=16						
ODZ	**Otahua Downs**	**10.17**	**216**	Pn	**Pn**	**17 33 29.7**	**-1.0**
AS31	**Alice Springs**	**40.82**	**276**	P	**P**	**17 38 44.3**	**-2.0**
ASAR	**Alice Springs**	**40.83**	**276**	P	**P**	**17 38 44.9**	**-1.4**
	0.8nm,0.5s,baz=119,slow=7.9,SNR=9.5						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**40.83**	**276**	P	**P**	**17 38 44.5**	**-1.8**
WR0	**Warramunga Arr**	**42.26**	**281**		**P**	**17 38 56.7**	**-1.4**
WR0				IAmb	IAmb	17 39 05.8	
	comp=Z,7.0nm,1.2s						
WB2	**Warramunga Arr**	**42.42**	**281**	P	**P**	**17 38 58.4**	**-0.9**
WB2				IAmb	IAmb	17 39 07.1	
	comp=Z,10nm,1.3s						
WRAB	**Tennant Creek**	**42.42**	**281**		**P**	**17 38 57.9**	**-1.5**
WRAB				IAmb	IAmb	17 39 04.4	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**42.43**	**281**	P	**P**	**17 38 58.3**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=121,slow=7.9,SNR=17						
WRA				PcP	**PcP**	**17 40 52.4**	**0.0**
	comp=Z,0.3nm,0.8s,baz=125,slow=3.2,SNR=2.0						
	comp=Z,1.4nm,0.4s						
WRA	**Warramunga Arr**	**42.43**	**281**	P	**P**	**17 38 58.3**	**-1.1**
WB0	**Warramunga Arr**	**42.48**	**281**	P	**P**	**17 38 58.9**	**-1.0**
WB0				IAmb	IAmb	17 39 23.7	
	comp=Z,9.1nm,1.4s						
KNRA	**Kununurra**	**49.21**	**282**		**P**	**17 39 52.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.31**	**277**	P	**P**	**17 40 00.5**	**-0.8**
	comp=Z,3.7nm,1.2s,baz=150,slow=9.8,SNR=2.2						
	comp=Z,3.7nm,1.2s						
QSPA	**South Pole Qui**	**53.04**	**180**	P	**P**	**17 40 24.1**	**+2.8**
H03N3	**Juan Fernandez**	**79.03**	**124**	T	T	19 09 46.2	
	baz=234,slow=72,SNR=5.9						
H03N2	**Juan Fernandez**	**79.03**	**124**	T	T	19 09 42.4	
	baz=234,slow=72,SNR=6.7						
H03N1	**Juan Fernandez**	**79.05**	**124**	T	T	19 09 54.3	
	baz=234,slow=72,SNR=6.0						
FINES	**FINESS Array B**	**150.33**	**334**	PKPbc	**PKPbc**	**17 50 53.8**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=46,slow=8.1,SNR=4.2						

*IDC **05** 17:40:36.3±0.9, 21°.04S×68°.25W, h122km±11km, mb4.3/1, mbtmp4.1/6, Error ellipse: s-maj=25.7km s-min=9.8km az=107.0*
*VAO **05** 17:40:36.1±0.4, 20°.91S×68°.60W, h131km, mb4.2*
*GUC **05** 17:40:37.2±0.6, 21°.05S×68°.57W, h135km±4km, ML3.9*

ISC 05 17:40:36.0±0.6, 20°.99S±0°.04×68°.53W±0°.06, h135km±8km, n59, σ1$34/75, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.90**	**266**	⇑*i*P	**Pn**	**17 40 58.7**	**+0.1**
PB01				*i* S	**Sn**	**17 41 15.1**	**-0.5**
PB01				IAML		17 41 17.1	
	comp=E,1μm,0.3s						
PB09	**IPOC Station P**	**1.04**	**219**	⇑*i*P	**Pn**	**17 41 00.5**	**+0.5**
PB09				*i* S	**Sn**	**17 41 18.2**	**+0.1**
PB09				IAML		17 41 19.3	
	comp=N,2μm,0.4s						
PB02	**IPOC Station P**	**1.32**	**255**	⇑*i*P	**Pn**	**17 41 02.9**	**+0.3**
PB02				*i* S	**Sn**	**17 41 22.2**	**-0.6**
PB02				IAML		17 41 24.9	
	comp=N,3μm,0.3s						
GO01	**Chusmiza**	**1.45**	**335**	⇑*i*P	**Pn**	**17 41 05.6**	**+1.1**
GO01				*i* S	**Sn**	**17 41 27.5**	**+1.4**
GO01				IAML		17 41 31.0	
	comp=N,2μm,0.2s						
PB07	**IPOC Station P**	**1.46**	**240**	⇑*i*P	**Pn**	**17 41 04.3**	**+0.1**
PB07				*i* S	**Sn**	**17 41 24.6**	**-1.1**
PB07				IAML		17 41 25.7	
	comp=N,2μm,0.7s						
TA01	**Diego Aracena**	**1.60**	**285**	⇑*i*P	**Pn**	**17 41 05.5**	**-0.1**
TA01				*i* S	**Sn**	**17 41 27.5**	**-0.6**
TA01				IAML		17 41 29.9	
	comp=N,789nm,0.3s						
LVC	**Limon Verde**	**1.65**	**192**	P	**Pn**	**17 41 06.9**	**+0.3**
	comp=N,49nm,0.4s,baz=10,slow=11,SNR=67						
LVC				S	**Sn**	**17 41 29.1**	**-0.8**
	comp=N,224nm,0.4s,baz=97,slow=23,SNR=9.5						
LVC	**Limon Verde**	**1.65**	**192**	⇑*i*P	**Pn**	**17 41 06.8**	**+0.3**
LVC				*i* S	**Sn**	**17 41 29.1**	**-0.8**
LVC	**Limon Verde**	**1.65**	**192**	*e*P	**Pn**	**17 41 06.8**	**+0.2**
TA02	**Huaiquique**	**1.66**	**295**	*e*P	**Pn**	**17 41 06.3**	**+0.1**
TA02				*i* S	**Sn**	**17 41 29.0**	**-0.3**
TA02				IAML		17 41 30.2	
	comp=N,2μm,0.3s						
PB06	**IPOC Station P**	**1.96**	**209**	⇑*i*P	**Pn**	**17 41 10.1**	**+0.1**
PB06				*i* S	**Sn**	**17 41 34.8**	**-1.3**
PB06				IAML		17 41 36.4	
	comp=E,2μm,0.5s						
PB04	**IPOC Station P**	**2.01**	**228**	*e*P	**Pn**	**17 41 10.3**	**-0.4**
PB04				*i* S	**Sn**	**17 41 35.3**	**-1.8**
PB04				IAML		17 41 37.0	
	comp=E,1μm,0.4s						
PB15	**IPOC Station P**	**2.38**	**201**	*e*P	**Pn**	**17 41 15.3**	**+0.3**
PB15				*i* S	**Sn**	**17 41 44.2**	**-0.9**
PB16	**IPOC Station P**	**2.79**	**341**	⇑*i*P	**Pn**	**17 41 22.3**	**+1.5**
PB16				*i* S	**Sn**	**17 41 57.5**	**+2.3**
PB16				IAML		17 42 01.7	
	comp=E,176nm,0.6s						
PB12	**IPOC Station P**	**2.91**	**324**	*e*P	**Pn**	**17 41 20.6**	**-1.2**
PB12				IAML		17 41 58.4	
	comp=N,220nm,0.2s						
PB10	**IPOC Station P**	**3.13**	**216**	*e*P	**Pn**	**17 41 23.7**	**-0.8**
PB10				*i* S	**Sn**	**17 41 56.5**	**-5.5**
PB10				IAML		17 42 01.0	
	comp=N,233nm,0.2s						
LPAZ	**La Paz**	**4.69**	**5**	P	**Pn**	**17 41 47.8**	**+2.0**
	comp=N,11nm,0.6s,baz=178,slow=8.1,SNR=46						
LPAZ				S	**Sn**	**17 42 40.2**	**+0.5**
	comp=N,4.5nm,0.5s,baz=195,slow=12,SNR=1.4						
SIV	**San Ignacio**	**8.65**	**56**	P	**Pn**	**17 42 36.1**	**-2.2**
	comp=N,9.1nm,0.4s,baz=249,slow=11,SNR=45						
SIV				S	**Sn**	**17 44 07.8**	**-6.5**
	comp=N,4.3nm,0.9s,baz=238,slow=15,SNR=6.4						
PTLB	**Pontes e Lacer**	**10.49**	**60**	*e*P	**Pn**	**17 43 02.7**	**-0.1**
VILB	**Vilhena**	**11.28**	**46**	*e*P	**Pn**	**17 43 14.0**	**+0.6**
ETMB	**Extrema**	**11.33**	**12**	*e*P	**Pn**	**17 43 12.7**	**-1.3**
CPUP	**Villa Florida**	**11.56**	**120**	P	**Pn**	**17 43 14.7**	**-2.3**
	comp=N,1.1nm,0.5s,baz=299,slow=10,SNR=3.3						
AQDB	**Aquidauana**	**12.02**	**90**	*e*P	**Pn**	**17 43 24.7**	**+1.6**
ITQB	**Itaqui**	**13.80**	**131**	*e*P	**Pn**	**17 43 46.4**	**+0.4**
UNIS	**Unistalda (Bra**	**14.60**	**126**	*e*P	**P**	**17 43 58.3**	**-0.6**
CRSM	**Crissiumal (Br**	**14.71**	**119**	*e*P	**P**	**17 44 00.7**	**+0.5**
FRBT	**Francisco Belt**	**15.03**	**112**	*e*P	**P**	**17 44 04.5**	**+0.8**
RODS	**Rosario do Sul**	**15.20**	**130**	*e*P	**P**	**17 44 05.8**	**+0.3**
PTGB	**Pitanga**	**15.62**	**107**	*e*P	**P**	**17 44 11.3**	**+0.9**
CLDB	**Colider**	**15.84**	**53**	*e*P	**Pn**	**17 44 12.5**	**+0.8**
ALGR	**Alto Alegre (B**	**16.06**	**122**	*e*P	**P**	**17 44 15.9**	**+0.7**
PCMB	**Pacaembu**	**16.11**	**95**	*e*P	**P**	**17 44 16.4**	**+0.7**
ITAB	**Concordia**	**16.21**	**116**	*e*P	**P**	**17 44 17.4**	**+0.8**
CPSB	**Cacapava Do Su**	**16.51**	**128**	*e*P	**Pn**	**17 44 19.9**	**+0.1**
ITRB	**Iturama**	**17.09**	**89**	*e*P	**P**	**17 44 27.4**	**+0.9**
BB19B	**Bebedouro**	**18.68**	**94**	*e*P	**P**	**17 44 43.9**	**0.0**
SNDB	**Serra Nova Dou**	**18.79**	**64**	*e*P	**P**	**17 44 45.1**	**-0.1**
IPMB	**Ipameri, GO**	**19.39**	**85**	*e*P	**P**	**17 44 52.0**	**+0.3**
PLCA	**Paso Flores**	**19.76**	**185**	P	**P**	**17 44 56.0**	**+0.5**
	comp=N,2.1nm,0.7s,baz=356,slow=8.6,SNR=7.7						
PLCA	**Paso Flores**	**19.76**	**185**	*e*P	**P**	**17 44 56.2**	**+0.7**
PET01	**Itanhaem-SP**	**19.89**	**104**	*e*P	**P**	**17 44 57.4**	**+0.3**
VAO	**Valinhos**	**20.10**	**100**	*e*P	**P**	**17 44 59.1**	**-0.2**
BDFB	**Brasilia**	**20.18**	**78**	P	**P**	**17 45 00.5**	**+0.1**
	comp=N,3.7nm,0.4s,baz=262,slow=8.9,SNR=6.0						
BDFB	**Brasilia**	**20.18**	**78**	*e*P	**P**	**17 45 01.2**	**+0.9**
ITTB	**Itaituba**	**20.68**	**39**	*e*P	**P**	**17 45 04.8**	**-0.7**
SMTB	**Santa Maria do**	**23.52**	**62**	*e*P	**P**	**17 45 34.9**	**+0.7**
DIAM	**Diamantina, MG**	**23.56**	**88**	*e*P	**P**	**17 45 34.9**	**+0.2**
MALB	**Monte Alegre**	**23.57**	**38**	*e*P	**P**	**17 45 34.7**	**+0.2**
MC01	**Montes Claros**	**23.65**	**84**	*e*P	**P**	**17 45 35.8**	**+0.5**
JANB	**Januaria**	**23.76**	**80**	*e*P	**P**	**17 45 36.3**	**0.0**
SDBA	**SAO DESIDERIO**	**24.16**	**73**	*e*P	**P**	**17 45 40.7**	**+0.7**
BOAV	**Boa Vista**	**24.53**	**20**	*e*P	**P**	**17 45 44.4**	**+1.1**
NAN01	**Guarapari, ES**	**26.96**	**88**	*e*P	**P**	**17 46 05.5**	**+0.3**
GUA01	**Guaratinga, BA**	**27.53**	**86**	*e*P	**P**	**17 46 10.8**	**+0.5**
GDU01	**Guandu, BA**	**28.53**	**80**	*e*P	**P**	**17 46 19.6**	**+0.4**
SDV	**Santo Domingo**	**29.76**	**356**	*e*P	**P**	**17 46 30.5**	**+0.2**
NBLA	**Lagarto - SE**	**31.12**	**76**	*e*P	**P**	**17 46 42.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.85**	**70**	P	**P**	**17 52 13.8**	**+0.1**
	comp=N,4.3nm,0.6s,baz=255,slow=5.3,SNR=21						
	comp=N,4.3nm,0.6s						
MKAR	**Makanchi Array**	**145.01**	**36**	PKP	**PKPdf**	**17 59 58.5**	**+1.1**
	comp=N,1.2nm,0.5s,baz=318,slow=2.9,SNR=20						

*NOU **05** 17:40:54.8, 37°.04S×179°.72W, h125km, ML4.7/8, East of North Island, N.Z.*
*WEL **05** 17:41:07.4±1.3, 37°.5±5°.×17°.9E±1°.1, h15km, M3.7/14, ML4.0/17, MLv3.7/14, Error ellipse: s-maj=0.0km s-min=0.0km az=83.5*
*IDC **05** 17:41:

POWZ	Post Office Ro	4.29	218	P	Pn	17 42 06.3	-0.6
BFZ	Birch Farm	4.31	212	P	Pn	17 42 05.5	-1.5
PRWZ	Pori Road	4.33	215	P	Pn	17 42 07.3	0.0
LREZ	Lake Rotokare	4.50	236	P	Pn	17 42 11.6	+1.9
NEZ	North Egmont	4.62	240	P	Pn	17 42 14.1	+2.7
KHEZ	Kahui Hut	4.69	240	P	Pn	17 42 15.5	+3.1
OGWZ	Otaki Gorge	4.91	219	P	Pn	17 42 14.5	-0.9
OUZ	Omahuta	4.93	290	P	Pn	17 42 17.5	+2.0
OUZ	Omahuta	4.93	290	P	Pn	17 42 17.4	+1.8
KHZ	Kahutara	6.92	218	P	Pn	17 42 40.9	-2.0
CTZ	Chatham Island	7.38	156	P	Pn	17 42 53.0	+3.8
RPZ	Rata Peaks	9.12	221	P	Pn	17 43 09.8	-3.3
	9.1nm,0.9s,baz=110,slow=3.5,SNR=1.4						
RPZ				S	Sn	17 44 42.0	-13
	9.2nm,0.3s,baz=162,slow=22,SNR=18						
RPZ	Rata Peaks	9.12	221	P	Pn	17 43 10.7	-2.4
ODZ	Otahua Downs	10.28	216	P	Pn	17 43 25.8	-3.2
ASAR	Alice Springs	40.97	276	P	P	17 48 43.8	-0.6
	0.7nm,0.6s,baz=122,slow=7.8,SNR=22						
	0.7nm,0.6s						
WRA	Warramunga Arr	42.57	281	P	P	17 48 57.1	-0.4
	0.6nm,0.4s,baz=123,slow=7.0,SNR=27						
	0.6nm,0.4s						
H03N3	Juan Fernandez	78.92	124	T	T	19 19 41.1	
	baz=234,slow=72,SNR=7.8						
H03N2	Juan Fernandez	78.92	123	T	T	19 19 40.2	
	baz=234,slow=72,SNR=7.1						
H03N1	Juan Fernandez	78.94	124	T	T	19 19 48.2	
	baz=234,slow=72,SNR=7.6						
FINES	FINESS Array B	150.37	334	PKPbc	PKPbc	18 00 51.2	-0.7
	1.5nm,0.9s,baz=56,slow=5.2,SNR=1.5						

*AEIC **05** 17:49:17.7±1.8, 55°.39N±0°.07×158°.43W±0°.09, h10km±7km, Error ellipse: s-maj=10.9km s-min=6.8km az=154.0*
*NEIC **05** 17:49:18.2±1.6, 55°.38N±0°.04×158°.40W±0°.09, h35km±45km, ML3.3/22, ML3.1(AEIC), Error ellipse: s-maj=8.8km s-min=4.6km az=126.0*

ISC 05 17:49:17.7±1.5, 55°.33N±0°.07×158°.38W±0°.07, h52km±43km, n68, σ0s73/71, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNA	Chernabura Isl	0.86	235	P	Pn	17 49 33.5	0.0
	baz=50						
CHNA				S	Sn	17 49 45.8	+0.7
	baz=50						
CNBA	Chernabura Isl	0.86	234		Pn	17 49 33.5	-0.1
CHGN	Chignik	0.97	359	Pn	Pn	17 49 33.5	-1.6
CHGN	Chignik	0.97	359	P	Pn	17 49 33.5	-1.6
	baz=181						
VNHG	Veniaminof 1	1.00	334		Pn	17 49 34.4	-1.1
S14K	Fog Glacier	1.17	326	P	Pn	17 49 37.4	-0.4
	baz=144						
S14K				S	Sn	17 49 52.3	-0.3
	baz=144						
VNFG	Fog Glacier, M	1.17	326		Pn	17 49 37.4	-0.4
SDPT	Sand Point	1.20	272		Pn	17 49 37.7	-0.3
SDPT	Sand Point	1.20	272	IAML		17 49 54.5	
	comp=N,627nm,0.7s						
SDPT				IAML		17 49 56.8	
	comp=E,541nm,0.7s						
SDPT	Sand Point	1.20	272	P	Pn	17 49 37.7	-0.3
	baz=87						
SDPT				S	Sn	17 49 53.4	+0.1
	baz=87						
ANPB	Aniakchak Plen	1.48	2		Pn	17 49 41.7	-0.2
ANPK	Aniakchak Peak	1.52	5		Pn	17 49 42.6	+0.1
AZAC	Aniakchak	1.57	3		Pn	17 49 43.6	+0.4
CHIR	Chirikof Islan	1.64	71		Pn	17 49 44.4	+0.4
CHIR	Chirikof Islan	1.64	71	IAML		17 50 14.2	
	comp=N,503nm,0.7s						
CHIR				IAML		17 50 14.6	
	comp=E,499nm,0.9s						
CHIR	Chirikof Islan	1.64	71	P	Pn	17 49 44.4	+0.4
	baz=256						
PS4A	Pavlof South-4	1.99	272		Pn	17 49 49.2	+0.4
R16K	Pilot Point	2.29	11		Pn	17 49 53.2	+0.4
R16K	Pilot Point	2.29	11	P	Pn	17 49 53.2	+0.4
	baz=193						
R16K				S	Sn	17 50 19.7	-0.1
	baz=193						
R17K	Ugashik Creek	2.57	25		Pn	17 49 57.6	+1.0
R17K	Ugashik Creek	2.57	25	P	Pn	17 49 57.6	+1.0
	baz=207						
R17K				S	Sn	17 50 27.6	+0.9
	baz=207						
SII	Sitkinak Islan	2.66	61	Pn	Pn	17 49 57.9	-0.2
SII				IAML		17 50 58.9	
	comp=E,129nm,2.0s						
SII				IAML		17 51 06.2	
	comp=N,169nm,0.9s						
FALS	False Pass	2.94	263	Pn	Pn	17 50 02.8	+1.0
OHAK	Old Harbor	3.41	54		Pn	17 50 07.8	-0.5
OHAK				IAML		17 51 41.6	
	comp=N,53nm,2.8s						
KDAK	Kodiak Island	4.04	50	Pn	Pn	17 50 16.1	-0.8
KDAK				IAML		17 51 29.1	
	comp=N,38nm,2.4s						
KDAK				IAML		17 51 38.4	
	comp=N,45nm,2.6s						
P18K	Big Mountain,	4.42	21	Pn	Pn	17 50 22.1	0.0
Q19K	Cape Douglas,	4.43	34	Pn	Pn	17 50 23.5	+1.2
O18K	Koktuh Hills	4.85	19	Pn	Pn	17 50 28.0	+0.1
O18K				IAML		17 51 53.2	
	comp=E,13nm,2.5s						
O18K				IAML		17 51 56.5	
	comp=N,14nm,2.5s						
P19K	Oil Pt	5.15	30	Pn	Pn	17 50 33.8	+1.7
P19K				IAML		17 53 26.3	
	comp=N,28nm,2.5s						
ILSW	Iliamna Southw	5.45	29	Pn	Pn	17 50 36.4	+0.1
N18K	Kilae Creek	5.53	13	Pn	Pn	17 50 38.0	+0.8
CNPM	China Poot	5.71	40	Pn	Pn	17 50 39.1	-0.7
N19K	Bonanza Creek	5.87	19	Pn	Pn	17 50 41.6	-0.5
RSO	Redoubt South	5.96	28	Pn	Pn	17 50 43.3	0.0
SVW2	Sparrevohn	5.97	13	Pn	Pn	17 50 44.0	+0.6
SEW	Seward	6.76	41	Pn	Pn	17 50 54.3	+0.2
SPIA	Saint Paul Isl	6.87	290	Pn	Pn	17 50 56.7	+1.1
M19K	Big River Lodg	6.91	16	Pn	Pn	17 50 57.1	+0.9
L19K	White Mountain	7.11	13	Pn	Pn	17 50 58.8	-0.2
M20K	Styx River	7.12	20		Pn	17 50 59.7	+0.6
SUA	Susitna One	7.34	30	Pn	Pn	17 51 02.1	0.0
RC01	Rabbit Creek A	7.36	35	Pn	Pn	17 51 01.9	-0.4
SKT	Skwentna	7.56	25	Pn	Pn	17 51 05.6	+0.5
PWL	Port Wells	7.68	40	Pn	Pn	17 51 05.9	-0.8
TTA	Tatalina	7.72	8	Pn	Pn	17 51 05.3	-2.0
HIN	Hinchinbrook I	8.11	46	Pn	Pn	17 51 11.7	-0.9
GHO	Glory Hole Cre	8.13	34	Pn	Pn	17 51 11.9	-1.0
PPLA	Purkeypile	8.23	20	Pn	Pn	17 51 15.7	+1.3
FID	Port Fidalgo	8.32	44	Pn	Pn	17 51 14.8	-0.7
SML	Sawmill	8.34	35	Pn	Pn	17 51 15.8	-0.1
K20K	Telida	8.35	13	Pn	Pn	17 51 15.7	-0.2
SCM	Sheep Creek Mo	8.70	37	Pn	Pn	17 51 21.0	+0.3
CAST	Castle Rocks	8.72	19	Pn	Pn	17 51 21.9	+0.9
KAIM	Kayak Island	8.79	53	Pn	Pn	17 51 22.7	+0.9
RAGM	Ragged Mountai	8.88	50	Pn	Pn	17 51 23.0	-0.2
KLU	Klutina	8.98	41	Pn	Pn	17 51 24.2	-0.4
HMT	Hamilton	9.04	51	Pn	Pn	17 51 24.9	-0.5
TRF	Thorofare Moun	9.12	23	Pn	Pn	17 51 25.5	-1.1
BMRM	Bremner River	9.21	47	Pn	Pn	17 51 27.5	-0.1
M24K	Tolsona, Glenn	9.29	38	Pn	Pn	17 51 29.6	+0.9
BPAW	Bear Paw Mtn.	9.55	20	Pn	Pn	17 51 32.0	-0.3
N25K	Chitina, Valde	9.56	43	Pn	Pn	17 51 32.0	-0.6
DHY	Denali Highway	9.59	31	Pn	Pn	17 51 32.3	-0.6
WAX	Waxell Ridge	9.72	52	Pn	Pn	17 51 34.2	-0.5
YAH	Yahtse	10.19	54	Pn	Pn	17 51 40.7	-0.5
CCB	Clear Creek Bu	10.72	25	Pn	Pn	17 51 48.3	0.0
J25K	Salcha River,	11.34	30	Pn	Pn	17 51 56.3	-0.4
SIT	Sitka	12.94	73	Pn	Pn	17 52 18.2	-0.3

*IDC **05** 18:06:52.1±2.3, 6°.47S×147°.35E, h79km±25km, mb3.4/5, mbtmp3.7/8, Error ellipse: s-maj=37.3km s-min=14.1km az=111.0*

ISC 05 18:06:49.6±1.0, 6°.34S±0°.09×147°.2E±0°.1, h49km, n19, σ1s98/21, mb3.5/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.04	180	P	Pn	18 07 36.3	+1.0
	24nm,0.5s,baz=8.3,slow=16,SNR=41						
PMG				S	Sn	18 08 11.3	+0.8
	62nm,0.3s,baz=254,slow=17,SNR=11						
PMG	Port Moresby	3.04	180	P	Pn	18 07 36.6	+1.3
PMG	Port Moresby	3.04	180	P	Pn	18 07 36.7	+1.4
KRVT	Keravat (AS076	5.26	68	P	Pn	18 08 04.8	-0.9
	21nm,0.7s,baz=214,slow=3.6,SNR=3.6						
COEN	Coen	8.52	207	P	Pn	18 08 52.6	+2.2
KDU	Kakadu	15.79	245	P	P	18 10 33.6	+1.7
WRAB	Tennant Creek	18.36	221	P	Pn	18 11 01.9	+1.1
WRA	Warramunga Arr	18.38	221	P	Pn	18 11 01.5	+0.5
	0.6nm,0.3s,baz=51,slow=11,SNR=23						
WRA				S	Sn	18 14 18.9	-6.6
	0.4nm,0.6s,baz=41,slow=23,SNR=2.3						
KNRA	Kununurra	20.28	241	P	Pn	18 11 23.0	-0.7
ASAR	Alice Springs	21.43	215	P	P	18 11 34.4	+0.7
	1.2nm,0.5s,baz=51,slow=8.5,SNR=36						
ASAR				S	S	18 15 26.9	-2.1
	0.3nm,0.6s,baz=36,slow=22,SNR=2.3						
	1.2nm,0.5s						
OOD	Oodnadatta	23.95	206	P	P	18 11 59.6	+0.2
FITZ	Fitzroy Crossi	24.02	239	P	P	18 12 01.3	+1.2
	4.1nm,0.3s,baz=60,slow=10,SNR=71						
	4.1nm,0.3s						
FITZ	Fitzroy Crossi	24.02	239	P	P	18 12 01.3	+1.2
LCRK	Leigh Creek	25.41	198	P	P	18 12 12.2	-0.4
WRKA	Warakurna	25.92	222	P	P	18 12 17.5	+0.1
CMAR	Chiang Mai Arr	53.54	298	P	P	18 16 07.0	+1.1
	0.2nm,0.4s,baz=123,slow=6.1,SNR=2.4						
	0.2nm,0.4s						
VNDA	Vanda	71.56	177	P	P	18 18 04.0	-1.1
	0.3nm,0.5s,baz=334,slow=4.7,SNR=2.1						
	0.3nm,0.5s						
MKAR	Makanchi Array	77.86	320	P	P	18 18 41.3	-0.9
	0.1nm,0.5s,baz=98,slow=6.7,SNR=2.1						
	0.1nm,0.5s						
TORD	Torodi Ar. Bea	145.32	284	PKPbc	PKPbc	18 26 22.7	-0.3
	1.5nm,0.5s,baz=78,slow=4.2,SNR=23						
TORD				pPKPbc	sPKPab	18 26 44.2	-0.2
	1.4nm,0.8s,baz=76,slow=4.2,SNR=4.9						

*IDC **05** 18:08:47.6±1.7, 3°.40S×128°.96E, h0km, mb3.3/2, mbtmp3.4/4, ML3.1/2, MS4.1/1, Error ellipse: s-maj=42.4km s-min=25.4km az=97.0*
*DJA **05** 18:08:48.6±0.2, 3°.3S±3°×12°.9E±°, h10km, M3.4/12, MLv3.4/12*

ISC 05 18:08:48.8±0.9, 3°.38S±0°.06×128°.88E±0°.04, h11km±6km, n14, σ0s67/17, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.06	52	P	Pg	18 08 51.1	0.0
MSAI				S	Sg	18 08 52.9	+0.2
AAI	Ambon	0.75	246	P	Pg	18 09 04.0	+0.1
AAI				S	Sg	18 09 13.6	+0.4
BNDI	Bandanaira	1.52	138	P	Pg	18 09 16.4	-0.7
BNDI				S	Sg	18 09 37.3	-0.6
NLAI	Namlea	1.79	274	P	Pn	18 09 20.2	+0.6
LBMI	Labuha	3.06	333	P	Pn	18 09 36.0	-1.1
SANI	Sanana	3.18	295	P	Pn	18 09 37.7	-1.1
FAKI	Fak Fak	3.39	82	P	Pn	18 09 42.5	+0.8
SIJI	Sorong	3.45	44	Pn	Pn	18 09 42.8	+0.3
	6.7nm,0.3s,baz=246,slow=19,SNR=42						
SIJI				Sn	Sn	18 10 23.2	-0.2
	4.1nm,0.3s,baz=246,slow=19,SNR=8.4						
	14nm,0.3s						
SWI	Sorong	3.45	44	P	Pn	18 09 42.8	+0.3
TNTI	Ternate	4.39	340	P	Pn	18 09 55.2	-0.3
WRA	Warramunga Arr	17.30	162	P	Pn	18 12 49.9	-0.6
	baz=345,slow=12,SNR=2.5						
	0.5nm,0.8s						
ASAR	Alice Springs	20.74	167	P	P	18 13 29.8	+0.1
	1.9nm,0.9s,baz=352,slow=11,SNR=10						
	1.9nm,0.9s						
BRDH	Bariadhala	44.64	307	LR	LR	18 39 08.1	
	comp=Z,191nm,18.0s,baz=101,slow=41						
MKAR	Makanchi Array	64.61	326	P	P	18 19 27.3	+0.9
	0.2nm,0.5s,baz=119,slow=5.6,SNR=2.4						
	0.2nm,0.5s						

*NEIC **05** 18:35:53.0±1.3, 17°.81N±0°.03×65°.63W±0°.02, h17km±4km, Error ellipse: s-maj=4.5km s-min=2.4km az=191.0*
*RSPR **05** 18:35:54.9, 17°.89N×65°.65W, h7km±1km, MD3.5/18*
*OSPL **05** 18:35:55.0±1.2, 17°.72N×65°.61W, h13km±999km, ML3.8*

ISC 05 18:35:52.9±1.0, 17°.82N±0°.04×65°.64W±0°.02, h17km±8km, n104, σ0s71/111, 10C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	0.29	17	↑eP	Pb	18 35 59.9	+0.2
MTP	Monte Pirata	0.29	17	eS	Sb	18 36 04.1	-0.2
MTP	Monte Pirata	0.29	17		Pb	18 35 59.9	+0.2
MTP				Sg	Sb	18 36 04.0	-0.2
HUMP	Col San Antoni	0.38	329	↑eP	Pb	18 36 01.4	+0.2
HUMP	Col San Antoni	0.38	329	eS	Sb	18 36 06.6	-0.1
HUMP	Col San Antoni	0.38	329		Pb	18 36 01.4	+0.2
HUMP				Sg	Sb	18 36 06.6	-0.1
HUMP				IAML		18 36 06.9	
	comp=E,16μm,0.4s						
HUMP				IAML		18 36 07.5	
	comp=N,18μm,0.2s						
IGPR	InterUniversit	0.47	289	↑eP	Pb	18 36 03.2	+0.6
IGPR	InterUniversit	0.47	289	eS	Sb	18 36 10.0	+0.7
CBYP	Canovanas	0.50	336	↑eP	Pb	18 36 03.2	0.0
CBYP	Canovanas	0.50	336	eS	Sb	18 36 10.2	0.0
CBYP	Canovanas	0.50	336		Pb	18 36 03.2	0.0
CBYP				Sg	Sb	18 36 10.7	+0.5
CBYP				IAML		18 36 12.3	
	comp=N,17μm,0.2s						
CBYP				IAML		18 36 14.8	
	comp=E,10μm,0.2s						
SJG	San Juan	0.56	301		Pb	18 36 04.4	+0.1
SJG				Sg	Sg	18 36 11.9	+0.2
CUPR	Culebra, Puert	0.60	35	Pg	Pg	18 36 04.7	-0.1
CUPR				Sg	Sb	18 36 12.8	-0.2
CUPR				IAML		18 36 13.5	
	comp=E,15μm,0.5s						
GCPR	Guaynabo City	0.64	320	↑eP	Pb	18 36 05.8	+0.1
GCPR	Guaynabo City	0.64	320	eS	Sb	18 36 14.4	0.0
GCPR	Guaynabo City	0.64	320		Pb	18 36 05.8	+0.1
GCPR				Sg	Sg	18 36 14.0	-0.2
CDVI	St. Croix	0.84	94	‖eP	Pn	18 36 09.9	-0.1
CDVI	St. Croix	0.84	94	eS	Sn	18 36 22.2	+0.4
CDVI	St. Croix	0.84	94		Pn	18 36 09.7	-0.2
CDVI	St. Croix	0.84	94		Sn	18 36 22.2	+0.4
CDVI	St. Croix	0.84	94	eP	Pn	18 36 09.7	-0.2
CDVI	St. Croix	0.84	94	e	Pn	18 36 22.7	+13
ICMP	Isla Caja de M	0.84	275	‖eP	Pn	18 36 10.1	+0.1
ICMP	Isla Caja de M	0.84	275	eS	Sg	18 36 21.3	+0.7
ICMP	Isla Caja de M	0.84	275		Pn	18 36 09.9	-0.1
ICMP				IAML		18 36 25.1	
	comp=N,4μm,0.8s						
ICMP				IAML		18 36 26.1	
	comp=E,6μm,0.5s						
ICMP	Isla Caja de M	0.84	275		Sg	18 36 21.3	+0.7
CELP	Cerrillos	0.93	286	↑eP	Pg	18 36 11.0	0.0
CELP	Cerrillos	0.93	286	eS	Sg	18 36 23.3	+0.2
CELP	Cerrillos	0.93	286		Pg	18 36 10.8	-0.2
CELP	Cerrillos	0.93	286		Sg	18 36 23.3	+0.2
OBIP	Obispado Ponce	0.94	284	‖eP	Pb	18 36 10.5	-0.3
OBIP	Obispado Ponce	0.94	284	eS	Sg	18 36 23.5	-0.2
OBIP	Obispado Ponce	0.94	284	Pg	Pb	18 36 10.0	-0.8
OBIP	Obispado Ponce	0.94	284		Sg	18 36 23.5	-0.2
SJVI	Gifft Hill Sch	0.97	58	‖eP	Pb	18 36 11.1	-0.2
SJVI	Gifft Hill Sch	0.97	58	eS	Sb	18 36 23.8	-0.2
SJVI	Gifft Hill Sch	0.97	58		Pb	18 36 11.1	-0.2
SJVI					Sb	18 36 23.8	-0.2
EMPR	Esperanza - Ma	1.07	308	↑eP	Pb	18 36 13.0	0.0
EMPR	Esperanza - Ma	1.07	308	eS	Sn	18 36 27.2	-0.4
EMPR	Esperanza - Ma	1.07	308	Pg	Pg	18 36 13.4	-0.2
EMPR	Esperanza - Ma	1.07	308		Sn	18 36 27.2	-0.4
TBVI	Tortola	1.15	58	↑eP	Pn	18 36 13.9	-0.2
TBVI	Tortola	1.15	58	eS	Sb	18 36 28.1	-0.8
TBVI	Tortola	1.15	58		Pn	18 36 13.9	-0.2
TBVI					Sb	18 36 28.1	-0.8
AOPR	Arecibo Observ	1.18	297	↑eP	Pn	18 36 14.4	-0.2
AOPR	Arecibo Observ	1.18	297	eS	Sb	18 36 28.8	-1.1
AOPR	Arecibo Observ	1.18	297		Pb	18 36 14.8	-0.1
AOPR				IAML		18 36 38.6	
	comp=N,7μm,0.4s						
AOPR	Arecibo Observ	1.18	297		Sb	18 36 28.8	-1.1
AOPR	Arecibo Observ	1.18	297	eP	Pb	18 36 14.9	0.0
AOPR				eS	Sn	18 36 30.7	+0.3
GBPR	Guanica, Bosqu	1.19	278	↑eP	Pg	18 36 15.4	-0.4
GBPR	Guanica, Bosqu	1.19	278	eS	Sg	18 36 32.6	+1.2
MLPR	Magueyes Islan	1.34	277	‖eP	Pn	18 36 16.4	-0.4
MLPR	Magueyes Islan	1.34	277	eS	Sb	18 36 35.1	+0.6
MLPR	Magueyes Islan	1.34	277		Pb	18 36 17.6	0.0
MLPR	Magueyes Islan	1.34	277		Sb	18 36 35.1	+0.6
CRPR	Cabo Rojo, PR	1.41	278	‖eP	Pn	18 36 17.6	-0.1
CRPR	Cabo Rojo, PR	1.41	278	eS	Sg	18 36 37.8	-0.6
CRPR	Cabo Rojo, PR	1.41	278		Pb	18 36 18.5	-0.2
CRPR	Cabo Rojo, PR	1.41	278		Sg	18 36 37.8	-0.6
CRPR	Cabo Rojo, PR	1.41	278	*i* P	Pb	18 36 18.7	0.0
CRPR				IAML		18 36 45.9	
	comp=Z,1μm,0.8s						
PRSN	Puerto Rico Se	1.48	286		Pb	18 36 20.0	0.0
AGPR	Aguadilla, PR	1.54	295	‖eP	Pb	18 36 20.8	-0.2
AGPR	Aguadilla, PR	1.54	295	eS	Sn	18 36 38.9	-0.3
AGPR	Aguadilla, PR	1.54	295		Pb	18 36 20.9	0.0
AGPR				IAML		18 36 43.7	
	comp=E,3μm,0.5s						
AGPR				IAML		18 36 51.8	
	comp=N,3μm,0.9s						
AGPR	Aguadilla, PR	1.54	295		Sn	18 36 38.9	-0.3
AGPR	Aguadilla, PR	1.54	295	*i* P	Pb	18 36 21.1	+0.1
AGPR				eS	Sb	18 36 40.9	+0.7
AGPR				IAML		18 36 47.2	
	comp=Z,1μm,0.6s						
IDE	Isla Desecheo	1.83	288	‖eP	Pb	18 36 25.5	-0.4
IDE	Isla Desecheo	1.83	288	eS	Sb	18 36 48.4	-0.2
SMRT	St. Maarten	2.46	84	Pn	Pn	18 36 33.2	+1.0
SMRT				IAML		18 37 18.6	
	comp=E,1μm,0.3s						
SMRT				IAML		18 37 19.4	
	comp=N,1μm,0.2s						
SMRT	St. Maarten	2.46	84	eP	Pn	18 36 33.2	+1.0
PCDR	Punta Cana, DR	2.69	285		Pn	18 36 37.2	+1.7
PCDR				IAML		18 37 23.0	
	comp=N,840nm,1.0s						
PCDR				IAML		18 37 26.7	
	comp=E,525nm,0.9s						
MBFL	Flemmings, Mon	3.45	107	eP	Pn	18 36 47.4	+1.5
MLYT	Lee's Yard	3.47	108	eP	Pn	18 36 49.1	+2.9
DR12	Loma Pena Alta	3.68	286		Pn	18 36 49.1	0.0
ANWB	Willy Bob	3.68	92	Pn	Pn	18 36 50.0	+0.9
ANWB				IAML		18 38 11.5	
	comp=E,160nm,1.5s						
ANWB				IAML		18 38 11.7	
	comp=E,178nm,1.5s						
ANWB	Willy Bob	3.68	92	eP	Pn	18 36 49.9	+0.9
GDHS	Morne Mazeau,	4.01	112		Pn	18 36 53.5	-0.3
ABD	La Joyeuse, An	4.19	108	Pn	Pn	18 36 55.5	-0.5
ABD				IAML		18 38 53.6	
	comp=E,230nm,2.9s						
ABD				IAML		18 39 01.6	
	comp=N,175nm,2.1s						
ABD	La Joyeuse, An	4.19	108	eP	Pn	18 36 57.7	+1.6
TBG	Guadaloupe-3	4.30	116	eP	Pn	18 36 58.5	+1.0
TDBA	Terre de Bas,	4.31	116	Pn	Pn	18 36 56.2	-1.5
TDBA				IAML		18 39 12.3	
	comp=N,185nm,0.9s						
TDBA				IAML		18 39 22.7	
	comp=E,128nm,2.0s						
TDBA	Terre de Bas,	4.31	116	eP	Pn	18 36 58.2	+0.5
MDCT	Cottage Hill,	4.56	118	eP	Pn	18 37 02.1	+0.9
MAGL	Barre de l'ile	4.57	113	Pn	Pn	18 37 02.2	+0.9
MAGL				IAML		18 37 57.6	
	comp=N,237nm,1.6s						
MAGL	Barre de l'ile	4.57	113	eP	Pn	18 37 02.5	+1.2
GDSD	La Dsirade Is	4.63	108	Pn	Pn	18 37 01.5	-0.6
GDSD				IAML		18 39 32.8	
	comp=N,92nm,3.2s						
DSLB	Salisbury	4.69	120	eP	Pn	18 37 03.3	+0.4
MDN	Morne-Daniel	4.77	121	eP	Pn	18 37 03.2	-0.9
SVN	Savane Anatole	5.22	124		Pn	18 37 10.7	+0.5
SDDR	Presa de Saban	5.48	283		Pn	18 37 20.0	+6.1
SDDR	Presa de Saban	5.48	283	eP	Pb	18 37 21.8	-6.5
SDDR	Presa de Saban	5.48	283	eS	Sb	18 38 33.6	-0.2
BIM	Bigot	5.48	126	Pn	Pn	18 37 13.6	-0.3
BIM	Bigot	5.48	126	eP	Pn	18 37 12.9	-1.0
BIM	Bigot	5.48	126	*e*	Pg	18 37 38.0	+0.1
ILAM	Ilet Lapin Mar	5.49	123	Pn	Pn	18 37 13.1	-0.8
MPOM	Morne Pois Mar	5.69	125	Pn	Pn	18 37 15.7	-1.0
MPOM	Morne Pois Mar	5.69	125	eP	Pn	18 37 18.1	+1.5
SLBI	Saint Lucia, B	5.87	129	eP	Pn	18 37 20.2	+1.1
SVB	Belmont	6.19	136	Pn	Pn	18 37 21.4	-2.2
SVB	Belmont	6.19	136	*e*	Pn	18 37 22.8	-0.8
GRTK	Grand Turk	6.34	306	Pn	Pn	18 37 26.6	+0.9
TOSP	Speyside	8.15	142	Pn	Pn	18 37 51.0	+0.6
BAUV	El Baul	9.12	195		Pn	18 38 02.8	-1.1

RSPR 05 18:39:52.2, 17°.90N×65°.66W, h13km, 7C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	0.22	27	↑eP	Pg	18 39 56.8	-0.3
MTP	Monte Pirata	0.22	27	eS	Sg	18 40 01.1	+0.7
HUMP

ASAR	**Alice Springs**	**59.19**	**187**	P		**P**		**19 07 02.8**	**+0.3**
	0.2nm,0.7s,baz=22,slow=10,SNR=5.3								
	0.2nm,0.7s								

*NOU **05** 19:06:01.2, 37.˝32S×179.˚89E, h85km, MLv4.5/6, Off E. Coast of N. Island, N.Z.*
*WEL **05** 19:06:09.6±1.3, 37˚S±6˝×17˚9E±1˚0, h15km, M3.4/13, ML3.7/13, MLv3.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=87.9*

ISC 05 19:06:08.2±2.8, 37.˝32S±0.˚08×179.˚1E±0.˚1, h17km±12km, n69, σ0⁹96/74, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.64**	**247**	P	**Pg**		**19 06 19.9**	**-0.9**
MXZ				S	**Sg**		**19 06 27.3**	**-1.9**
WMGZ	**Waiomatatini S**	**0.71**	**225**	P	**Pg**		**19 06 23.1**	**+1.1**
WMGZ				S	**Sg**		**19 06 33.4**	**+1.9**
PKGZ	**Pakihiroa**	**0.96**	**233**	P	**Pb**		**19 06 26.3**	**-0.1**
PKGZ				S	**Sb**		**19 06 39.1**	**+0.3**
PUZ	**Puketiti**	**0.98**	**220**	P	**Pb**		**19 06 27.2**	**+0.5**
PUZ				S	**Sb**		**19 06 40.1**	**+0.8**
HAZ	**Te Kaha**	**1.10**	**246**	P	**Pn**		**19 06 27.1**	**-1.6**
HAZ				S	**Sb**		**19 06 42.6**	**0.0**
TWGZ	**Tauwhareparae**	**1.20**	**224**	P	**Pn**		**19 06 30.3**	**0.0**
TWGZ				S	**Sb**		**19 06 46.1**	**+0.3**
RUGZ	**Raukumara Rang**	**1.26**	**239**	P	**Pn**		**19 06 31.2**	**0.0**
CNGZ	**Carnagh Statio**	**1.34**	**209**	P	**Pn**		**19 06 32.6**	**+0.5**
TKGZ	**Te Karaka**	**1.47**	**220**	P	**Pn**		**19 06 33.4**	**-0.4**
WIZ	**White Island**	**1.49**	**261**	P	**Pn**		**19 06 34.3**	**+0.1**
MWZ	**Matawai**	**1.57**	**229**	P	**Pn**		**19 06 34.9**	**-0.4**
RIGZ	**Rimuhau**	**1.72**	**216**	P	**Pn**		**19 06 36.9**	**-0.4**
WHRZ	**Whale Island**	**1.73**	**251**	P	**Pn**		**19 06 38.0**	**+0.5**
RAGZ	**Rawiri**	**1.75**	**227**	P	**Pn**		**19 06 37.4**	**-0.4**
URZ	**Urewera**	**1.80**	**238**	P	**Pn**		**19 06 38.6**	**+0.2**
URZ	**Urewera**	**1.80**	**238**	P	**Pn**		**19 06 38.0**	**-0.4**
PRGZ	**Paritu Road**	**1.85**	**209**	P	**Pn**		**19 06 39.2**	**+0.1**
SNGZ	**Shannon Statio**	**1.99**	**222**	P	**Pn**		**19 06 40.5**	**-0.5**
KNZ	**Kokohu**	**2.02**	**212**	P	**Pn**		**19 06 40.4**	**-1.0**
MHGZ	**Mahia Peninsul**	**2.04**	**206**	P	**Pn**		**19 06 41.7**	**0.0**
OPRZ	**Ohinepanea**	**2.05**	**254**	P	**Pn**		**19 06 41.3**	**-0.6**
RTZ	**Ruatahuna**	**2.08**	**231**	P	**Pn**		**19 06 42.4**	**0.0**
MUGZ	**Murupara**	**2.14**	**237**	P	**Pn**		**19 06 42.7**	**-0.4**
TARZ	**Mount Tarawera**	**2.21**	**245**	P	**Pn**		**19 06 44.5**	**+0.3**
RAHZ	**Arahi**	**2.22**	**224**	P	**Pn**		**19 06 44.2**	**0.0**
OMRZ	**Omania**	**2.26**	**249**	P	**Pn**		**19 06 45.3**	**+0.5**
MTHZ	**Maungataniwha**	**2.32**	**228**	P	**Pn**		**19 06 45.6**	**0.0**
HLRZ	**Highlands Stat**	**2.33**	**246**	P	**Pn**		**19 06 46.1**	**+0.4**
KARZ	**Kaharoa**	**2.33**	**252**	P	**Pn**		**19 06 45.7**	**-0.1**
ALRZ	**Allen Road**	**2.47**	**239**	P	**Pn**		**19 06 47.6**	**-0.1**
NMHZ	**Naumai**	**2.50**	**224**	P	**Pn**		**19 06 48.3**	**+0.1**
ARHZ	**Aropaoanui**	**2.52**	**219**	P	**Pn**		**19 06 47.8**	**-0.6**
MRHZ	**Matea Rd**	**2.57**	**233**	P	**Pn**		**19 06 48.7**	**-0.3**
KUZ	**Kuaotunu**	**2.72**	**281**	P	**Pn**		**19 06 48.8**	**-2.3**
BKZ	**Black Stump Fm**	**2.73**	**227**	P	**Pn**		**19 06 50.7**	**-0.6**
BKZ	**Black Stump Fm**	**2.73**	**227**	P	**Pn**		**19 06 50.6**	**-0.7**
TOZ	**Tahuroa Road**	**2.85**	**261**	P	**Pn**		**19 06 52.5**	**-0.4**
KWHZ	**Kaweka Forest**	**2.94**	**224**	P	**Pn**		**19 06 53.1**	**-1.2**
KAHZ	**Kahuranaki**	**3.00**	**214**	P	**Pn**		**19 06 53.5**	**-1.5**
GRZ	**Great Barrier**	**3.07**	**289**	P	**Pn**		**19 06 56.2**	**+0.3**
MKAZ	**Moumakai**	**3.11**	**273**	P	**Pn**		**19 06 54.9**	**-1.5**
KRHZ	**Kereru**	**3.13**	**221**	P	**Pn**		**19 06 55.1**	**-1.7**
WIAZ	**Waiheke Island**	**3.17**	**278**	P	**Pn**		**19 06 55.8**	**-1.5**
TMVZ	**Te Maari**	**3.19**	**235**	P	**Pn**		**19 06 57.0**	**-0.6**
BHHZ	**Black Hill Sta**	**3.19**	**226**	P	**Pn**		**19 06 56.8**	**-0.9**
ETVZ	**East Tongariro**	**3.19**	**234**	P	**Pn**		**19 06 57.1**	**-0.6**
NTVZ	**North Tongarir**	**3.19**	**235**	P	**Pn**		**19 06 57.2**	**-0.6**
KRVZ	**Karewarewa**	**3.22**	**236**	P	**Pn**		**19 06 57.6**	**-0.4**
NNVZ	**North Ngauruho**	**3.25**	**235**	P	**Pn**		**19 06 58.2**	**-0.4**
SNVZ	**South Ngauruho**	**3.27**	**234**	P	**Pn**		**19 06 58.2**	**-0.5**
NGZ	**Ngauruhoe**	**3.29**	**235**	P	**Pn**		**19 06 58.4**	**-0.6**
TUVZ	**Tukino**	**3.30**	**233**	P	**Pn**		**19 06 58.4**	**-0.9**
MOVZ	**Moawhango**	**3.32**	**230**	P	**Pn**		**19 06 58.3**	**-1.1**
MBAZ	**Motutapu North**	**3.37**	**278**	P	**Pn**		**19 07 00.8**	**+0.9**
WPHZ	**Waipukurau**	**3.42**	**216**	P	**Pn**		**19 06 58.7**	**-2.0**
PNHZ	**Pukenui**	**3.42**	**220**	P	**Pn**		**19 06 58.3**	**-2.4**
MTVZ	**Mangateitei**	**3.49**	**233**	P	**Pn**		**19 07 01.1**	**-0.6**
PRHZ	**Porangahau**	**3.50**	**212**	P	**Pn**		**19 06 59.3**	**-2.4**
HIZ	**Hauiti**	**3.52**	**249**	P	**Pn**		**19 07 02.9**	**+0.8**
HIZ	**Hauiti**	**3.52**	**249**	P	**Pn**		**19 07 02.9**	**+0.8**
AWAZ	**Awhitu Peninsu**	**3.53**	**273**	P	**Pn**		**19 07 02.9**	**+0.8**
BFZ	**Birch Farm**	**4.00**	**212**	P	Pn		19 07 05.6	-3.1
WAZ	**Wanganui**	**4.01**	**231**	P	**Pn**		**19 07 08.7**	**-0.1**
WCZ	**Waipu Caves**	**4.03**	**289**	P	**Pn**		**19 07 08.3**	**-0.7**
NEZ	**North Egmont**	**4.36**	**242**	P	**Pn**		**19 07 15.2**	**+1.6**
OUZ	**Omahuta**	**4.88**	**294**	P	**Pn**		**19 07 20.7**	**0.0**
OUZ	**Omahuta**	**4.88**	**294**	P	**Pn**		**19 07 20.6**	**-0.1**
QRZ	**Quartz Range**	**6.16**	**233**	P	**Pn**		**19 07 36.6**	**-1.8**
CTZ	**Chatham Island**	**7.21**	**154**	P	**Pn**		**19 07 53.4**	**+0.7**

*IDC **05** 19:46:23.9±1.2, 30.˚95N×41.˚42W, h0km, mb3.7/12, mbtmp3.7/12, Error ellipse: s-maj=41.2km s-min=18.0km az=10.0*

ISC 05 19:46:25.9±1.3, 31.˚0N±0.˚3×41.˚4W±0.˚1, h13km, n15, σ0⁹80/12, mb3.8/12, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ESDC	**Sonseca Array**	**31.58**	**64**	P	**P**		**19 52 47.6**	**-0.7**
	0.5nm,1.0s,baz=261,slow=2.5,SNR=1.7							
	0.5nm,1.0s							
KOWA	**Kowa**	**37.95**	**107**	P	**P**		**19 53 44.0**	**+0.5**
	1.8nm,0.6s,baz=298,slow=13,SNR=2.1							
	1.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**43.38**	**104**	P	**P**		**19 54 28.1**	**-0.2**
	1.3nm,0.8s,baz=310,slow=7.6,SNR=12							
	1.3nm,0.8s							
GERES	**GERESS Array B**	**44.85**	**50**	P	**P**		**19 54 38.8**	**-1.1**
	0.4nm,0.6s,baz=273,slow=9.2,SNR=4.6							
	0.4nm,0.6s							
H10N2	**ASCENSION HYDR**	**46.39**	**142**	T	T		20 44 16.2	
	baz=327,slow=75,SNR=365							
H10N3	**ASCENSION HYDR**	**46.42**	**142**	T	T		20 44 31.4	
	baz=327,slow=75,SNR=260							
H10N1	**ASCENSION HYDR**	**46.41**	**142**	T	T		20 44 32.6	
	baz=327,slow=75,SNR=371							
FINES	**FINESS Array B**	**52.63**	**34**	P	**P**		**19 55 40.4**	**+1.1**
	4.0nm,1.1s,baz=313,slow=9.2,SNR=3.9							
	4.0nm,1.1s							
TXAR	**Lajitas Array**	**53.23**	**285**	P	**P**		**19 55 44.8**	**+0.4**
	0.2nm,0.6s,baz=69,slow=4.9,SNR=2.1							
	0.2nm,0.6s							
PDAR	**Pinedale Array**	**54.43**	**303**	P	**P**		**19 55 53.0**	**-0.2**
	2.3nm,1.1s,baz=82,slow=6.5,SNR=7.5							
	2.3nm,1.1s							
AKASG	**Malin Array Be**	**54.81**	**47**	P	**P**		**19 55 55.5**	**0.0**
	0.4nm,0.5s,baz=293,slow=5.5,SNR=4.2							
	0.4nm,0.5s							
BRTR	**Keskin Array B**	**60.21**	**59**	P	**P**		**19 56 34.8**	**+0.9**
	0.4nm,0.5s,baz=282,slow=7.2,SNR=4.9							
	0.4nm,0.5s							
NVAR	**Mina Array Bea**	**61.99**	**300**	P	**P**		**19 56 45.0**	**-1.1**
	0.1nm,0.3s,baz=59,slow=4.3,SNR=1.9							
	0.1nm,0.3s							
ILAR	**Eielson Array**	**68.65**	**334**	P	**P**		**19 57 28.9**	**+0.4**
	1.5nm,1.1s,baz=53,slow=4.6,SNR=7.1							
	1.5nm,1.1s							
ZALV	**Zalesovo Beam**	**83.52**	**29**	P	**P**		**19 58 53.1**	**-0.3**
	0.3nm,0.4s,baz=292,slow=4.5,SNR=1.6							
	0.3nm,0.4s							

IDC 05 19:56:17.8±2.1, 30.˝82N×41.˚55W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=131.8km s-min=26.7km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**43.47**	**104**	P	P		20 04 22.9	-0.1
	0.4nm,0.5s,baz=309,slow=7.8,SNR=12							
	0.4nm,0.5s							
H10N2	**ASCENSION HYDR**	**46.36**	**141**	T	T		20 54 08.4	
	baz=326							
H10N3	**ASCENSION HYDR**	**46.37**	**142**	T	T		20 54 08.6	
	baz=326							
H10N1	**ASCENSION HYDR**	**46.38**	**141**	T	T		20 54 09.8	
	baz=326							
PDAR	**Pinedale Array**	**54.40**	**303**	P	P		20 05 46.6	-0.2
	0.6nm,0.8s,baz=93,slow=9.5,SNR=4.3							
	0.6nm,0.8s							
NVAR	**Mina Array Bea**	**61.94**	**300**	P	P		20 06 39.9	+0.1
	0.2nm,0.6s,baz=82,slow=6.6,SNR=2.7							
	0.2nm,0.6s							
ILAR	**Eielson Array**	**68.71**	**334**	P	P		20 07 22.9	0.0
	0.4nm,0.8s,baz=57,slow=4.8,SNR=4.8							
	0.4nm,0.8s							

*IDC **05** 19:57:17.3±0.7, 31.˚02N×41.˚43W, h0km, mb4.2/39, mbtmp4.2/39, Error ellipse: s-maj=20.8km s-min=10.4km az=179.0*
*NEIC **05** 19:57:19.5±1.5, 31.˚0N±0.˚1×41.˚4W±0.˚1, h10km±1km, mb4.7/134, Error ellipse: s-maj=21.0km s-min=16.3km az=152.0*
*GCMT **05** 19:57:23.5±0.3, 31.˚33N±0.˚03×41.˚40W±0.˚02, h12km, MW5.0/96, Moment Tensor Solution. s32,c37; s96,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~3.00±.11; Mθθ0.40±.13; Mφφ2.60±.09; Mrθ2.16±.45; Mrφ0.46±.10; Mθφ~1.87±.32; Best double couple: Mo3.86600×10¹⁶ NP1:φs337.00000°, δ57.00000°, λ-113.00000°. NP2: φs205.00000°, δ32.00000°, λ-48.00000°. Principal axes: T 3.1850, Plg19.0000°, Azm84.0000°; N 1.3580, Plg21.0000°, Azm347.0000°; P -4.5470, Plg61.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 19:57:19.2±0.4, 30.˝98N±0.˚09×41.˚40W±0.˚06, h13km, n238, σ1⁹27/243, mb4.7/119, 7C-5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BBSR	**BB Station**	**19.87**	**280**	P	**P**		**20 01 50.1**	**0.0**
PMOZ	**Porto Moniz, M**	**20.62**	**79**	*e*P	**P**		**20 01 54.8**	**-3.6**
PMOZ				*e*S	Sn		20 05 55.2	+1.9
PMOZ				*e*LR	LR		20 06 37.7	
	458nm,20.0s							
LMN	**Caledonia Moun**	**23.48**	**316**	P	**P**		**20 02 28.1**	**-0.4**
LMN				IAmb	IAmb		20 02 29.3	
	comp=Z,48nm,1.4s							
GGN	**Saint George**	**24.38**	**313**	P	**P**		**20 02 36.4**	**-0.6**
GGN				IAmb	IAmb		20 02 40.9	
	comp=Z,27nm,1.4s							
PVAQ	**Vaqueiros**	**28.49**	**68**	*e*S	**S**		**20 08 00.2**	**-1.2**
PVAQ				*e*LR	LR		20 10 25.2	
	comp=Z,871nm,20.0s							
PGAV	**Gavieira, Arco**	**28.64**	**58**	*e*S	**S**		**20 08 10.8**	**+6.8**
PGAV				*e*LR	LR		20 10 30.8	
	comp=Z,335nm,18.0s							
PMRV	**Marv??o**	**28.91**	**64**	*e*LR	LR		20 10 19.9	
	comp=Z,261nm,22.0s							
MTE	**Manteigas**	**28.91**	**62**	*e*S	**S**		**20 08 13.4**	**+5.2**
MTE				*e*LR	LR		20 10 35.4	
	comp=Z,300nm,20.0s							
MVO	**Moncorvo**	**29.41**	**60**	*e*S	**S**		**20 08 22.2**	**+6.1**
MVO				*e*LR	LR		20 10 41.6	
	comp=Z,262nm,20.0s							
MDT	**Midelt**	**31.20**	**77**	P	**P**		**20 03 38.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=262,slow=7.4,SNR=2.5							
	comp=Z,1.0nm,0.7s							
ESDC	**Sonseca Array**	**31.57**	**64**	P	**P**		**20 03 41.2**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=262,slow=7.8,SNR=8.0							
	comp=Z,1.4nm,1.0s							
ESDC	**Sonseca Array**	**31.57**	**64**	P	**P**		**20 03 40.2**	**-1.2**
BAUV	**El Baul**	**33.12**	**234**	P	**P**		**20 03 53.0**	**-2.1**
SDV	**Santo Domingo**	**34.99**	**237**	P	**P**		**20 04 13.3**	**+1.6**
SDV				IAmb	IAmb		20 04 15.3	
	comp=Z,18nm,1.1s							
TKL	**Tuckaleechee C**	**35.51**	**289**	P	**P**		**20 04 15.9**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=87,slow=12,SNR=4.3							
	comp=Z,4.6nm,0.8s							
KOWA	**Kowa**	**37.97**	**107**	P	**P**		**20 04 36.6**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=292,slow=9.7,SNR=8.2							
	comp=Z,5.6nm,0.8s							
BNI	**Bardonecchia**	**39.82**	**55**	P	**P**		**20 04 52.8**	**+0.5**
BNI				IAmb	IAmb		20 05 09.5	
	comp=Z,19nm,1.3s							
WLF	**Walferdange**	**40.01**	**48**	P	**P**		**20 04 54.5**	**+0.9**
WLF				IAmb	IAmb		20 04 55.8	
	comp=Z,18nm,1.1s							
SENIN	**Lac Senin/Sane**	**40.35**	**53**	P	**P**		**20 04 58.1**	**+1.3**
ECH	**Echery**	**40.45**	**51**	P	**P**		**20 04 57.7**	**+0.4**
BFO	**Black Forest**	**41.24**	**51**	P	**P**		**20 05 03.8**	**-0.1**
BFO				IAmb	IAmb		20 05 06.1	
	comp=Z,16nm,1.2s							
LCAR	**Lake Charles**	**41.42**	**291**	P	**P**		**20 05 05.9**	**+0.5**
DAVOX	**Davos/Dischmat**	**42.16**	**53**	P	**P**		**20 05 11.4**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=298,slow=17,SNR=4.9							
	comp=Z,3.3nm,0.8s							
DAVA	**Damuels**	**42.19**	**52**	*e*P	**P**		**20 05 12.9**	**+1.1**
	comp=Z,14nm,1.1s							
FCAR	**Ozark Folk Cen**	**42.23**	**291**	P	**P**		**20 05 12.1**	**0.0**
KEST	**Kesra**	**42.27**	**69**	P	**P**		**20 05 12.2**	**-0.4**
	comp=Z,4.8nm,1.1s,baz=273,slow=18,SNR=2.4							
	comp=Z,4.8nm,1.1s							
TAM	**Tamanrasset**	**42.39**	**89**	P	P		20 05 05.8	-7.9
WHAR	**Wooly Hollow**	**42.45**	**290**	P	**P**		**20 05 13.2**	**-0.7**
UALR	**University of**	**42.58**	**289**	P	**P**		**20 05 15.4**	**+0.5**
UALR				IAmb	IAmb		20 05 16.3	
	comp=Z,16nm,0.8s							
FETA	**Feichten**	**42.75**	**53**	*e*P	**P**		**20 05 17.4**	**+1.0**
	comp=Z,8.7nm,1.2s							
RETA	**Reutte**	**42.80**	**52**	*e*P	**P**		**20 05 16.3**	**-0.4**
	comp=Z,7.2nm,0.9s							
ZCCA	**Zocca**	**42.86**	**57**	P	**P**		**20 05 18.7**	**+1.5**
ZCCA				IAmb	IAmb		20 05 28.0	
	comp=Z,19nm,0.9s							
MOTA	**Moosalm**	**43.02**	**52**	*e*P	**P**		**20 05 19.6**	**+1.1**
	comp=Z,7.4nm,1.0s							
OSSC	**Osservatorio P**	**43.07**	**58**	P	**P**		**20 05 19.5**	**+0.7**
OSSC				IAmb	IAmb		20 05 27.3	
	comp=Z,24nm,1.0s							
SQTA	**Sankt Quirin**	**43.09**	**52**	*i* P	**P**		**20 05 19.9**	**+0.8**
	comp=Z,16nm,1.0s							
WATA	**Walderalm**	**43.35**	**52**	*i* P	**P**		**20 05 20.9**	**-0.3**
	comp=Z,10nm,1.2s							
CTI	**Castel Tesino**	**43.35**	**54**	P	**P**		**20 05 22.0**	**+0.8**
CTI				IAmb	IAmb		20 05 29.4	
	comp=Z,18nm,1.2s							
WTTA	**Wattenberg**	**43.38**	**52**	*e*P	**P**		**20 05 21.4**	**-0.1**
	comp=Z,11nm,1.1s							
TORD	**Torodi Ar. Bea**	**43.39**	**104**	P	**P**		**20 05 21.1**	**-0.6**
	comp=Z,5.6nm,0.9s,baz=300,slow=7.2,SNR=16							
	comp=Z,5.6nm,0.9s							
U38A	**Gravette**	**43.95**	**292**	P	**P**		**20 05 26.0**	**0.0**
ABTA	**Abfaltersbach**	**43.97**	**53**	*i* P	**P**		**20 05 26.4**	**+0.3**
	comp=Z,18nm,1.2s							
NKC	**Novy Kostel**	**44.11**	**48**	*e*P	**P**		**20 05 29.0**	**+1.9**
RLO	**Rose Lookout**	**44.51**	**292**	P	**P**		**20 05 30.0**	**-0.5**
RLO				IAmb	IAmb		20 05 49.6	
	comp=Z,30nm,1.5s							
CLL	**Collm**	**44.56**	**47**	P	**P**		**20 05 30.1**	**-0.5**
CLL				IAmb	IAmb		20 05 32.7	
	comp=Z,9.5nm,1.0s							
CLL	**Collm**	**44.56**	**47**	*e*P	**P**		**20 05 31.0**	**+0.4**
	comp=Z,13nm,1.2s							
CLL				*i* pP	**pP**		**20 05 34.2**	**+0.4**
CLL				ePPPP			20 08 02.0	
CLL				*e*S	**S**		**20 12 04.0**	**-1.9**
CLL				*e*SS	**ScS**		**20 15 30.0**	**+1.8**
CLL				*e*SSS	SSS		20 16 11.0	
MYKA	**Terra Mystica**	**44.74**	**53**	*e*P	**P**		**20 05 32.6**	**+0.4**
	comp=Z,9.7nm,1.4s							
BIOA	**Bad Ischl, Aus**	**44.76**	**52**	*i* P	**P**		**20 05 32.3**	**0.0**
	comp=Z,7.4nm,0.9s							
KHC	**Kasperske Hory**	**44.77**	**50**	P	**P**		**20 05 32.1**	**-0.3**
KHC				IAmb	IAmb		20 05 34.7	
	comp=Z,11nm,1.2s							
KHC	**Kasperske Hory**	**44.77**	**50**	*e*P	**P**		**20 05 33.8**	**+1.4**
GEC2	**GERESS Array S**	**44.84**	**50**	P	**P**		**20 05 33.6**	**+0.5**
GEC2				IAmb	IAmb		20 05 36.8	
	comp=Z,14nm,1.5s							
GERES	**GERESS Array B**	**44.84**	**50**	P	**P**		**20 05 32.6**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=264,slow=6.7,SNR=12							
	comp=Z,1.8nm,0.9s							
GERES	**GERESS Array B**	**44.84**	**50**	P	**P**		**20 05 31.9**	**-1.1**
SAML	**Samuel**	**44.86**	**211**	P	**P**		**20 05 33.8**	**+0.4**
BRG	**Berggiesshubel**	**45.11**	**47**	*e*P	**P**		**20 05 36.8**	**+1.7**
BRG				Amp			20 05 38.5	
	comp=Z,12nm,1.3s							
MOA	**Molln**	**45.18**	**52**	*i* P	**P**		**20 05 36.1**	**+0.4**
	comp=Z,8.2nm,1.4s							
CKRC	**Cesky Krumlov**	**45.24**	**50**	*e*P	**P**		**20 05 36.8**	**+0.7**
OBKA	**Obir**	**45.37**	**54**	*i* P	**P**		**20 05 37.4**	**+0.1**
	comp=Z,20nm,1.1s							
PRU	**Pruhonice**	**45.44**	**49**	*e*P	**P**		**20 05 39.6**	**+1.9**
NOA	**NORSAR Array B**	**45.47**	**33**	P	**P**		**20 05 37.9**	**+0.1**
	comp=Z,3.2nm,1.1s,baz=254,slow=8.3,SNR=7.2							
	comp=Z,3.2nm,1.1s							
SOKA	**Soboth**	**45.70**	**53**	*e*P	**P**		**20 05 39.3**	**-0.6**
	comp=Z,7.5nm,1.1s							
ARSA	**Arzberg**	**46.03**	**52**	*e*P	**P**		**20 05 42.6**	**+0.1**
	comp=Z,7.8nm,0.9s							
CONA	**Conrad Observa**	**46.26**	**52**	*e*P	**P**		**20 05 43.9**	**-0.4**
	comp=Z,4.9nm,1.2s							
UPC	**Upice**	**46.41**	**48**	*e*P	**P**		**20 05 47.1**	**+1.8**
H10N2	**ASCENSION HYDR**	**46.41**	**142**	T	T		20 55 25.5	
	baz=327,slow=75,SNR=38							
H10N3	**ASCENSION HYDR**	**46.42**	**142**	T	T		20 55 17.6	
	baz=327,slow=75,SNR=35							
HFS	**Hagfors**	**46.42**	**35**	P	**P**		**20 05 45.0**	**-0.2**
	comp=Z,6.2nm,1.1s,baz=191,slow=4.5,SNR=4.4							
	comp=Z,6.2nm,1.1s							
H10N1	**ASCENSION HYDR**	**46.43**	**142**	T	T		20 55 28.1	
	baz=327,slow=75,SNR=109							
CHVC	**Chvalec**	**46.44**	**48**	*e*P	**P**		**20 05 47.2**	**+1.6**
OSTC	**Ostas**	**46.54**	**48**	*e*P	**P**		**20 05 48.3**	**+1.9**
RONA	**Rosalia, Austr**	**46.55**	**52**	*i* P	**P**		**20 05 46.6**	**0.0**
	comp=Z,12nm,1.1s							
OTAV	**Otavalo**	**46.56**	**236**	P	**P**		**20 05 47.7**	**+0.2**
OTAV				IAmb	IAmb		20 05 51.0	
	comp=Z,5.5nm,0.9s							
DPC	**Dobruska-Polom**	**46.60**	**48**	*e*P	**P**		**20 05 48.6**	**+1.7**
KRUC	**Moravsky**	**46.62**	**50**	*e*P	**P**		**20 05 47.8**	**+0.8**
VRAC	**Vranov**	**46.75**	**50**	P	**P**		**20 05 47.8**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=277,slow=9.3,SNR=5.6							
	comp=Z,1.7nm,0.7s							
VRAC	**Vranov**	**46.75**	**50**	*e*P	**P**		**20 05 47.8**	**-0.2**
MTO3	**Montecristo**	**46.85**	**261**	P	**P**		**20 05 50.1**	**+0.6**
KRLC	**Kraliky**	**46.88**	**49**	*e*P	**P**		**20 05 51.0**	**+1.9**
MODS	**Modra-Piesok**	**47.20**	**51**	*e*P	**P**		**20 05 52.0**	**+0.4**
WHTX	**Lake Whitney,**	**47.34**	**287**	P	**P**		**20 05 53.6**	**+0.7**
MORC	**Moravsky Berou**	**47.37**	**49**	*e*P	**P**		**20 05 53.0**	**+0.1**
MPLH	**Magyarpolny**	**47.41**	**53**	P	**P**		**20 05 51.7**	**-1.4**
435B	**Jarrell**	**47.76**	**285**	P	**P**		**20 05 56.9**	**+0.7**
WMOK	**Wichita Mounta**	**47.79**	**291**	P	**P**		**20 05 55.6**	**-0.8**
WMOK				IAmb	IAmb		20 06 14.5	
	comp=Z,6.5nm,0.7s							
KOVH	**Kovagotottos**	**47.84**	**54**	P	**P**		**20 05 55.8**	**-0.8**
MORH	**Mrgy, Hungar**	**48.21**	**54**	P	**P**		**20 06 00.3**	**+0.9**
VYHS	**Vyhne**	**48.24**	**51**	*e*P	**P**		**20 05 59.7**	**+0.1**
PSZ	**Piszkesteto**	**48.97**	**51**	P	**P**		**20 06 05.2**	**-0.1**
PSZ				IAmb	IAmb		20 06 07.5	
	comp=Z,9.6nm,1.2s							
PSZ	**Piszkesteto**	**48.97**	**51**	P	**P**		**20 06 04.7**	**-0.6**
BOSC	**San Juan Bosco**	**49.00**	**233**	P	**P**		**20 06 05.7**	**-0.4**
DIVS	**Divibare**	**49.35**	**56**	P	**P**		**20 06 08.6**	**+0.3**
DIVS				IAmb	IAmb		20 06 17.5	
	comp=Z,14nm,1.1s							
JCT	**Junction City**	**49.68**	**285**	P	**P**		**20 06 11.2**	**+0.2**
JCT				IAmb	IAmb		20 06 12.2	
	comp=Z,7.5nm,0.9s							
SIRR	**Siria**	**50.29**	**54**	⇓P	**P**		**20 06 15.7**	**+0.3**
BZS	**Buzias**	**50.33**	**54**	⇓P	**P**		**20 06 16.6**	**+1.0**
BOVS	**Bovan**	**50.63**	**57**	⇑P	**P**		**20 06 18.2**	**+0.3**
KWP	**Kalwaria Pacla**	**50.73**	**49**		**P**		**20 06 20.0**	**+1.4**
DRGR		**50.96**	**53**	⇑P	**P**		**20 06

SRU				IAmb	IAmb	20 06 58.7		
	comp=Z,6.9nm,0.9s							
HWUT	**Hardware Ranch**	**56.12**	**302**	P	**P**	**20 06 58.9**	**+0.3**	
HWUT				IAmb	IAmb	20 06 59.6		
	comp=Z,6.3nm,0.9s							
JLU	**Jordanelle**	**56.27**	**301**	P	**P**	**20 07 00.3**	**+0.5**	
JLU				IAmb	IAmb	20 07 01.0		
	comp=Z,7.5nm,0.9s							
Q16A	**Castle Valley**	**56.48**	**299**	P	**P**	**20 07 01.0**	**-0.3**	
Q16A				IAmb	IAmb	20 07 19.7		
	comp=Z,13nm,1.4s							
NLU	**North Lily Min**	**56.90**	**300**	P	**P**	**20 07 04.5**	**+0.3**	
NLU				IAmb	IAmb	20 07 05.8		
	comp=Z,7.0nm,1.1s							
GO01	**Chusmiza**	**57.00**	**212**	P	**P**	**20 07 05.2**	**-0.1**	
GO01				IAmb	IAmb	20 07 06.7		
	comp=Z,11nm,1.1s							
MSU	**Marysvale**	**57.35**	**298**	P	**P**	**20 07 08.2**	**+0.8**	
BGU	**Big Grassy Mou**	**57.36**	**301**	P	**P**	**20 07 07.4**	**+0.1**	
MVU	**Marysvale**	**57.38**	**298**	P	**P**	**20 07 08.8**	**+1.2**	
DUG	**Dugway, Tooele**	**57.38**	**300**	P	**P**	**20 07 07.9**	**+0.4**	
DUG				IAmb	IAmb	20 07 09.1		
	comp=Z,7.5nm,1.0s							
U15A	**North Rim**	**58.02**	**296**	P	**P**	**20 07 13.5**	**+1.3**	
MDUB	**Mudurnu**	**58.19**	**59**	P	**P**	**20 07 13.7**	**+0.6**	
NEW	**Newport**	**58.49**	**311**	P	**P**	**20 07 14.2**	**-0.9**	
	comp=Z,2.6nm,0.9s,baz=75,slow=9.4,SNR=4.2							
	comp=Z,2.6nm,0.9s							
NEW	**Newport**	**58.49**	**311**	P	**P**	**20 07 15.0**	**0.0**	
CCUT	**Cedar City**	**58.52**	**298**	P	**P**	**20 07 15.4**	**-0.2**	
CCUT				IAmb	IAmb	20 07 17.6		
	comp=Z,7.3nm,1.1s							
OBN	**Obninsk**	**58.53**	**41**	P	**P**	**20 07 15.6**	**+0.6**	
	comp=Z,2.2nm,0.4s,baz=342,slow=3.2,SNR=6.8							
	comp=Z,2.2nm,0.4s							
OBN	**Obninsk**	**58.53**	**41**	P	**P**	**20 07 15.6**	**+0.6**	
PSUT	**Pine Spring**	**58.61**	**299**	P	**P**	**20 07 17.6**	**+1.4**	
PSUT				IAmb	IAmb	20 07 18.5		
	comp=Z,6.5nm,1.2s							
MFID	**Camas Ranch**	**58.75**	**305**	P	**P**	**20 07 17.7**	**+0.7**	
MFID				IAmb	IAmb	20 07 18.4		
	comp=Z,7.7nm,1.1s							
SPR3	**Spring Creek 3**	**58.84**	**299**	P	**P**	**20 07 18.8**	**+0.8**	
SPR3				IAmb	IAmb	20 07 20.3		
	comp=Z,7.2nm,1.1s							
ELK	**Elko**	**59.02**	**302**	P	**P**	**20 07 17.8**	**-1.4**	
	comp=Z,0.4nm,0.5s,baz=100,slow=6.9,SNR=3.4							
	comp=Z,0.4nm,0.5s							
PRN	**Pahroc Range**	**59.84**	**298**	P	**P**	**20 07 25.6**	**+0.9**	
PRN				IAmb	IAmb	20 07 27.2		
	comp=Z,4.6nm,0.9s							
R11A	**Troy Canyon, C**	**59.96**	**299**	P	**P**	**20 07 26.2**	**+0.6**	
BR131	**Keskin Array S**	**60.20**	**59**	P	**P**	**20 07 28.1**	**+1.1**	
BRTR	**Keskin Array B**	**60.20**	**59**	P	**P**	**20 07 26.9**	**-0.2**	
	comp=Z,2.7nm,0.9s,baz=275,slow=5.8,SNR=13							
	comp=Z,2.7nm,0.9s							
BRTR	**Keskin Array B**	**60.20**	**59**	P	**P**	**20 07 27.6**	**+0.5**	
V12A	**Nelson**	**60.21**	**296**	P	**P**	**20 07 28.0**	**+0.8**	
BMN	**Battle Mountai**	**60.56**	**302**	P	**P**	**20 07 29.5**	**-0.1**	
J08A	**Circle Bar Ran**	**60.62**	**305**	P	**P**	**20 07 30.6**	**+0.7**	
J08A				IAmb	IAmb	20 07 31.6		
	comp=Z,11nm,1.2s							
TPNV	**Topopah Spring**	**60.89**	**298**	P	**P**	**20 07 33.2**	**+1.3**	
TPNV				IAmb	IAmb	20 07 34.4		
	comp=Z,8.5nm,1.1s							
WCT	**Wildcat Mounta**	**61.23**	**298**	P	**P**	**20 07 33.8**	**-0.3**	
WCT				IAmb	IAmb	20 07 36.4		
	comp=Z,8.3nm,1.3s							
TPH	**Tonopah**	**61.27**	**299**	P	**P**	**20 07 35.0**	**+0.4**	
MZP	**Montezuma Peak**	**61.51**	**299**	P	**P**	**20 07 36.7**	**+0.5**	
GMN	**Gold Mountain**	**61.55**	**298**	P	**P**	**20 07 36.5**	**+0.1**	
KVN	**Kaiserville**	**61.62**	**301**	P	**P**	**20 07 36.2**	**-0.7**	
KVN				IAmb	IAmb	20 07 37.9		
	comp=Z,5.9nm,1.1s							
QSM	**Queen of Sheba**	**61.68**	**297**	P	**P**	**20 07 38.6**	**+1.5**	
QSM				IAmb	IAmb	20 07 53.3		
	comp=Z,9.6nm,1.5s							
NV11	**Mina Array Sit**	**61.86**	**300**	P	**P**	**20 07 38.1**	**-0.3**	
NV11				IAmb	IAmb	20 07 40.7		
	comp=Z,7.0nm,1.5s							
LCH	**Last Change Ra**	**61.86**	**298**	P	**P**	**20 07 39.4**	**+0.9**	
LCH				IAmb	IAmb	20 07 40.3		
	comp=Z,6.8nm,1.3s							
NVAR	**Mina Array Bea**	**61.97**	**300**	P	**P**	**20 07 38.5**	**-0.7**	
	comp=Z,2.0nm,0.8s,baz=76,slow=6.3,SNR=15							
	comp=Z,2.0nm,0.8s							
NVAR	**Mina Array Bea**	**61.97**	**300**	P	**P**	**20 07 38.3**	**-1.0**	
BNN	**Bunyan**	**62.09**	**60**	P	**P**	**20 07 40.9**	**+0.9**	
MOD	**Modoc Plateau**	**62.34**	**304**	P	**P**	**20 07 42.0**	**+0.4**	
MOD				IAmb	IAmb	20 07 43.1		
	comp=Z,4.6nm,1.1s							
PAHR	**Pah Rah Range**	**62.36**	**302**	P	**P**	**20 07 41.7**	**-0.1**	
PAHR				IAmb	IAmb	20 07 42.7		
	comp=Z,5.4nm,1.1s							
INK	**Inuvik**	**62.37**	**335**	P	**P**	**20 07 40.6**	**-0.5**	
	comp=Z,5.0nm,0.8s,baz=50,slow=11,SNR=5.5							
	comp=Z,5.0nm,0.8s							
NLWA	**Neilton Lookou**	**63.10**	**311**	P	**P**	**20 07 46.6**	**+0.2**	
M31M	**Drury Creek, Y**	**64.44**	**329**	P	**P**	**20 07 55.8**	**+0.8**	
M31M				IAmb	IAmb	20 07 56.5		
	comp=Z,6.1nm,1.1s							
EIL	**Elat**	**64.62**	**69**	P	**P**	**20 07 56.8**	**+0.1**	
	comp=Z,2.9nm,0.8s,baz=327,slow=5.9,SNR=3.9							
	comp=Z,2.9nm,0.8s							
ASF	**Jabal al Asfar**	**65.22**	**66**	P	**P**	**20 08 01.2**	**+0.6**	
	comp=Z,0.5nm,0.3s,baz=323,slow=8.8,SNR=3.0							
	comp=Z,0.5nm,0.3s							
KVAR	**Kislovodsk Arr**	**65.29**	**52**	P	**P**	**20 08 02.7**	**+1.8**	
	comp=Z,0.9nm,0.5s,baz=321,slow=16,SNR=1.1							
	comp=Z,0.9nm,0.5s							
KBZ	**Khabaz**	**65.50**	**52**	P	**P**	**20 08 03.3**	**+1.2**	
	comp=Z,4.0nm,1.0s,baz=303,slow=8.8,SNR=6.1							
	comp=Z,4.0nm,1.0s							
BELG	**Belogornoye**	**65.56**	**42**	P	**P**	**20 08 03.6**	**+1.3**	
	comp=Z,18nm,0.9s,baz=300,slow=20,SNR=7.6							
	comp=Z,18nm,0.9s							
DAWY	**Dawson**	**65.95**	**332**	P	**P**	**20 08 04.4**	**-0.4**	
DAWY				IAmb	IAmb	20 08 06.0		
	comp=Z,7.8nm,1.2s							
KARS	**Kars**	**66.73**	**56**	P	**P**	**20 08 09.7**	**-0.6**	
GURO	**Guroymak-BITLI**	**66.74**	**58**	P	**P**	**20 08 10.7**	**+0.3**	
GURO				IAmb	IAmb	20 08 20.1		
	comp=Z,6.7nm,1.1s							
I26K	**Coal Creek Min**	**66.96**	**333**	P	**P**	**20 08 11.3**	**+0.1**	
I26K				IAmb	IAmb	20 08 23.4		
	comp=Z,11nm,1.4s							
BCAR	**Beaver Creek A**	**67.32**	**331**	P	**P**	**20 08 14.0**	**+0.4**	
PRP	**Porcupine Dome**	**67.77**	**334**	P	**P**	**20 08 16.8**	**+0.4**	
GNI	**Garni**	**68.08**	**56**	P	**P**	**20 08 20.6**	**+1.7**	
	comp=Z,5.5nm,0.8s,baz=344,slow=18,SNR=3.0							
	comp=Z,5.5nm,0.8s							
J25K	**Salcha River,**	**68.11**	**333**	P	**P**	**20 08 19.1**	**+0.6**	
J25K				IAmb	IAmb	20 08 20.0		
	comp=Z,5.7nm,1.1s							
IL31		**68.62**	**334**	P	**P**	**20 08 22.2**	**+0.6**	
IL31				IAmb	IAmb	20 08 23.1		
	comp=Z,8.3nm,1.1s							
ILAR	**Eielson Array**	**68.62**	**334**	P	**P**	**20 08 22.0**	**+0.4**	
	comp=Z,4.4nm,0.9s,baz=59,slow=4.1,SNR=33							
	comp=Z,4.4nm,0.9s							
HDA	**Harding Lake**	**68.81**	**333**	P	**P**	**20 08 23.4**	**+0.5**	
COLA	**College**	**68.94**	**334**	P	**P**	**20 08 23.9**	**+0.4**	
TCOL	**CIGO, UAF Yank**	**68.94**	**334**	P	**P**	**20 08 23.9**	**+0.3**	
CCB	**Clear Creek Bu**	**69.03**	**334**	P	**P**	**20 08 24.0**	**-0.1**	
MDM	**Murphy Dome**	**69.04**	**334**	P	**P**	**20 08 24.5**	**+0.2**	
MDM				IAmb	IAmb	20 08 60.0		
	comp=Z,8.2nm,1.4s							
H23K	**Yukon River**	**69.10**	**335**	P	**P**	**20 08 25.5**	**+0.8**	
H23K				IAmb	IAmb	20 08 26.0		
	comp=Z,9.4nm,1.4s							
WRH	**Wood River Hil**	**69.22**	**334**	P	**P**	**20 08 25.5**	**+0.1**	
NEA2	**Nenana**	**69.53**	**334**	P	**P**	**20 08 27.7**	**+0.4**	
NEA2				IAmb	IAmb	20 08 30.3		
	comp=Z,6.0nm,1.1s							
BWN	**Browne**	**69.89**	**334**	P	**P**	**20 08 30.1**	**+0.6**	
MCK	**McKinley**	**69.90**	**333**	P	**P**	**20 08 30.3**	**+0.7**	
ARU	**Arti**	**69.92**	**36**	P	**P**	**20 08 30.5**	**+0.7**	
ARU				IAmb	IAmb	20 08 32.0		
	comp=Z,8.6nm,1.2s							
RND	**Reindeer**	**70.03**	**333**	P	**P**	**20 08 30.2**	**-0.3**	
RND				IAmb	IAmb	20 08 31.7		
	comp=Z,5.9nm,1.0s							
I21K	**Tanana**	**70.31**	**335**	P	**P**	**20 08 32.6**	**+0.5**	
I21K				IAmb	IAmb	20 08 33.6		
	comp=Z,5.9nm,0.9s							
IMAR	**Indian Mountai**	**70.50**	**336**	P	**P**	**20 08 34.6**	**+1.4**	
TRF	**Thorofare Moun**	**70.57**	**333**	P	**P**	**20 08 34.2**	**+0.3**	
TRF				IAmb	IAmb	20 08 43.3		
	comp=Z,8.7nm,1.2s							
KTH	**Kantishna Hill**	**70.76**	**333**	P	**P**	**20 08 34.8**	**-0.2**	
CUT	**Chulitna**	**71.10**	**332**	P	**P**	**20 08 37.1**	**+0.2**	
M20K	**Styx River**	**72.51**	**333**	P	**P**	**20 08 45.5**	**-0.1**	
NRIK	**Noril'sk**	**73.31**	**17**	P	**P**	**20 08 50.7**	**+0.7**	
	comp=Z,4.9nm,0.7s,baz=297,slow=12,SNR=7.2							
	comp=Z,4.9nm,0.7s							
NRIK	**Noril'sk**	**73.31**	**17**	P	**P**	**20 08 51.0**	**+1.1**	
NRIK				IAmb	IAmb	20 08 55.3		
	comp=Z,7.9nm,1.0s							
N19K	**Bonanza Creek**	**73.65**	**332**		**P**	**20 08 51.7**	**-0.6**	
N19K				IAmb	IAmb	20 09 25.2		
	comp=Z,9.7nm,1.2s							
ABKAR	**Akbulak array**	**73.96**	**42**	P	**P**	**20 08 54.0**	**-0.2**	
BRVK	**Borovoye**	**77.47**	**35**	P	**P**	**20 09 14.8**	**+0.6**	
GEYT	**Alibeck**	**78.39**	**53**	P	**P**	**20 09 21.0**	**+1.3**	
	comp=Z,0.8nm,0.5s,baz=309,slow=9.1,SNR=1.8							
	comp=Z,0.8nm,0.5s							
KURK	**Kurchatov**	**82.98**	**34**	P	**P**	**20 09 44.5**	**+0.5**	
KURK				IAmb	IAmb	20 09 46.4		
	comp=Z,7.5nm,1.1s							
ZAA0	**Zalesovo Array**	**83.50**	**29**	P	**P**	**20 09 46.7**	**+0.2**	
ZAA0				IAmb	IAmb	20 09 49.0		
	comp=Z,6.1nm,1.1s							
ZALV	**Zalesovo Beam**	**83.50**	**29**	P	**P**	**20 09 47.0**	**+0.5**	
	comp=Z,1.9nm,0.8s,baz=306,slow=5.2,SNR=8.8							
	comp=Z,1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**83.50**	**29**	P	**P**	**20 09 46.0**	**-0.5**	
CHGR	**Chuyangaron**	**85.27**	**47**	P	**P**	**20 09 56.2**	**+0.2**	
SEY	**Seymchan**	**85.76**	**354**	P	**P**	**20 09 57.8**	**0.0**	
	comp=Z,2.5nm,1.0s,baz=17,slow=11,SNR=4.2							
	comp=Z,2.5nm,1.0s							
GAR	**Garm**	**85.79**	**47**	P	**P**	**20 09 57.9**	**-0.7**	
YAK	**Yakutsk**	**87.03**	**4**	P	**P**	**20 10 03.7**	**-0.3**	
	comp=Z,1.9nm,0.4s,baz=341,slow=6.2,SNR=2.2							
	comp=Z,1.9nm,0.4s							
MKAR	**Makanchi Array**	**87.43**	**35**	P	**P**	**20 10 05.8**	**-0.5**	
	comp=Z,0.4nm,0.8s,baz=349,slow=2.9,SNR=3.0							
	comp=Z,0.4nm,0.8s							
TROLL	**Troll, Antarti**	**107.14**	**167**	P	**Pdif**	**20 11 29.8**	**-5.4**	
NJ2	**Nanjing**	**114.58**	**18**	*e*P	**PKiKP**	**20 15 54.6**	**-4.8**	
NJ2				pmax	pmax			
	comp=Z,3.0nm,0.6s							

*LDG **05** 19:59:36.9±0.1, 42°.84N×13°.27E, h9km, Md3.2/1, Ml2.8/17, Error ellipse: s-maj=2.4km s-min=1.4km az=58.0*
*ROM **05** 19:59:37.7±0.1, 42°.856N±0°.004×13°.236E±0°.007, h9km, ML3.2/59, Error ellipse: s-maj=0.6km s-min=0.4km az=52.0*
*PRU **05** 19:59:38.7±0.0, 42°.85N×13°.69E, h0km*
*IDC **05** 19:59:39.5±1.5, 43°.00N×13°.33E, h0km, mb3.4/2, mbtmp3.3/5, ML3.0/3, MS2.6/1, Error ellipse: s-maj=37.6km s-min=15.3km az=95.0*

ISC 05 19:59:38.6±0.7, 42°.85N±0°.02×13°.20E±0°.02, h8km±4km, n112, r2°35/158, 33C-20D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**178**	⇑P	**Pg**	**19 59 39.4**	**-0.8**
T1242				S	**Sg**	**19 59 40.4**	**-1.0**
MC2	**Monte Cornacci**	**0.06**	**351**	⇓P	**Pg**	**19 59 40.1**	**-0.6**
MC2				S	**Sg**	**19 59 41.7**	**-0.4**
NRCA	**Norcia**	**0.07**	**253**	⇑P	**Pg**	**19 59 40.5**	**-0.1**
NRCA				AML	AML		
	comp=N,50900µm,0.1s						
NRCA				AML	AML		
	comp=E,67450µm,0.4s						
NRCA				AML	AML		
	comp=N,45900µm,0.1s						
NRCA				AML	AML		
	comp=N,45850µm,0.1s						
NRCA				AML	AML		
	comp=E,71050µm,0.4s						
T1244	**Arquata del Tr**	**0.12**	**144**	P	**Pg**	**19 59 40.9**	**-0.4**
T1244				S	**Sg**	**19 59 43.2**	**0.0**
T1244				AML	AML		
	comp=E,63600µm,0.2s						
T1244				AML	AML		
	comp=N,43050µm,0.5s						
T1244				AML	AML		
	comp=E,63600µm,0.2s						
T1244				AML	AML		
	comp=N,43000µm,0.5s						
T1244				AML	AML		
	comp=E,63550µm,0.2s						
T1244				AML	AML		
	comp=N,42100µm,0.5s						
T1202	**Accumoli, Fraz**	**0.15**	**174**	P	**Pg**	**19 59 41.7**	**-0.2**
T1202				S	**Sg**	**19 59 44.9**	**+0.8**
T1202				AML	AML		
	comp=E,29900µm,1.1s						
T1202				AML	AML		
	comp=N,31950µm,0.4s						
FEMA	**Monte Fema**	**0.16**	**314**	P	**Pg**	**19 59 42.2**	**+0.3**
FEMA				S	**Sg**	**19 59 45.6**	**+1.3**
FEMA				AML	AML		
	comp=E,24600µm,0.8s						
FEMA				AML	AML		
	comp=N,19100µm,0.5s						
FEMA				AML	AML		
	comp=N,19100µm,0.5s						
T1241	**Roccafluvione,**	**0.17**	**89**	⇑P	**Pg**	**19 59 41.5**	**-0.7**
T1241				S	**Sg**	**19 59 44.4**	**-0.1**
T1241				AML	AML		
	comp=E,22050µm,0.9s						
T1241				AML	AML		
	comp=E,22050µm,0.9s						
T1241				AML	AML		
	comp=N,16750µm,0.5s						
T1241				AML	AML		
	comp=N,16050µm,0.5s						
T1241				AML	AML		
	comp=E,21900µm,0.9s						
T1241				AML	AML		
	comp=E,22000µm,0.9s						
T1204	**Amatrice, Fraz**	**0.20**	**155**	⇓P	**Pg**	**19 59 42.3**	**-0.3**
T1204				S	**Sg**	**19 59 45.9**	**+0.5**
T1204				AML	AML		
	comp=E,8140µm,1.5s						
T1204				AML	AML		
	comp=N,7095µm,0.5s						
FDMO	**Fiordimonte**	**0.20**	**335**	⇑P	**Pg**	**19 59 42.5**	**-0.2**
FDMO				AML	AML		
	comp=E,6645µm,0.8s						
FDMO				AML	AML		
	comp=N,9065µm,1.1s						
GUMA	**Gualdo di Mace**	**0.23**	**25**	⇑P	**Pg**	**19 59 43.0**	**-0.2**
GUMA				AML	AML		
	comp=N,65350µm,0.4s						
GUMA				AML	AML		
	comp=N,72050µm,0.4s						
GUMA				AML	AML		
	comp=E,51550µm,0.7s						
GUMA				AML	AML		
	comp=E,68100µm,0.4s						
GUMA				AML	AML		
	comp=N,65400µm,0.4s						
CSP1	**Cessapalombo**	**0.24**	**0**	⇑P	**Pg**	**19 59 43.2**	**-0.2**
CSP1				AML	AML		
	comp=E,18850µm,1.0s						
CSP1				AML	AML		
	comp=E,18800µm,1.0s						
CSP1				AML	AML		
	comp=N,13850µm,1.1s						
T1243	**Rocca Santa Ma**	**0.24**	**131**	P	**Pg**	**19 59 42.7**	**-0.7**
T1243				S	**Sg**	**19 59 46.5**	**-0.1**
SMA1	**SAN MARTINO**	**0.24**	**156**	⇓P	**Pg**	**19 59 43.0**	**-0.5**
SMA1				S	**Sg**	**19 59 47.3**	**+0.5**
SMA1				AML	AML		
	comp=N,10200µm,0.8s						
SMA1				AML	AML		
	comp=E,10600µm,0.7s						
SMA1				AML	AML		
	comp=N,10170µm,0.8s						
T1215	**Vallo di Nera,**	**0.25**	**258**	⇑P	**Pg**	**19 59 43.8**	**+0.2**
T1215				AML	AML		
	comp=N,4260µm,0.7s						
T1215				AML	AML		
	comp=E,4265µm,1.1s						
T1215				AML	AML		
	comp=E,3890µm,1.2s						
T1215				AML	AML		
	comp=E,4260µm,1.1s						
T1215				AML	AML		
	comp=N,4325µm,0.6s						
CESI	**CESI - Serrava**	**0.27**	**305**	⇑P	**Pg**	**19 59 44.1**	**+0.2**
CESI				AML	AML		
	comp=E,10615µm,0.3s						
CESI				AML	AML		
	comp=N,16450µm,0.5s						
LNSS	**Leonessa**	**0.28**	**206**	P	**Pg**	**19 59 43.9**	**-0.3**
LNSS				S	**Sg**	**19 59 49.4**	**+1.5**
LNSS				AML	AML		
	comp=E,17050µm,0.8s						
LNSS				AML	AML		
	comp=N,15200µm,0.3s						
MNTP	**Montappone**	**0.34**	**34**	⇑P	**Pg**	**19 59 45.7**	**+0.3**
MNTP				AML	AML		
	comp=E,9760µm,0.5s						
MNTP				AML	AML		
	comp=N,7120µm,1.6s						
MNTP				AML	AML		
	comp=N,7115µm,1.6s						
MNTP				AML	AML		
	comp=E,9800µm,0.5s						
RM33	**Pellescritta (**	**0.34**	**179**	⇓P	**Pg**	**19 59 45.1**	**-0.3**
RM33				S	**Sg**	**19 59 50.7**	**+0.8**
RM33				AML	AML		
	comp=E,4760µm,0.5s						
RM33				AML	AML		
	comp=N,4935µm,0.4s						
RM33				AML	AML		
	comp=E,4765µm,0.5s						
RM33				AML	AML		
	comp=E,4665µm,0.5s						
RM33				AML	AML		
	comp=N,4935µm,1.0s						
SEF1	**Sefro**	**0.35**	**327**	S	**Sb**	**19 59 52.0**	**-0.8**
CAMP	**Campotosto**	**0.35**	**154**	P	**Pg**	**19 59 44.8**	**-0.8**
CAMP				S	**Sg**	**19 59 50.5**	**+0.3**
CAMP				AML	AML		
	comp=N,2575µm,0.4s						
CAMP				AML	AML		
	comp=E,2330µm,0.9s						
OFFI	**Offida**	**0.36**	**77**	⇑P	**Pg**	**19 59 45.9**	**+0.2**
OFFI				AML	AML		
	comp=N,10100µm,0.7s						
OFFI				AML	AML		
	comp=E,6645µm,0.6s						
SSM1	**San Severino M**	**0.38**	**357**	⇓P	**Pg**	**19 59 46.2**	**+0.2**
TERO	**Teramo**	**0.38**	**128**	⇓P	**Pg**	**19 59 45.0**	**-0.9**
TERO				S	**Sg**	**19 59 50.9**	**0.0**
TERO				AML	AML		
	comp=N,5685µm,0.5s						
TERO				AML	AML		
	comp=E,4590µm,0.7s						
TERO				AML	AML		
	comp=N,6095µm,0.5s						
TERO				AML	AML		
	comp=E,4875µm,0.8s						
ARRO	**Arrone**	**0.42**	**230**	⇑P	**Pg**	**19 59 46.7**	**-0.1**
ARRO				AML	AML		
	comp=E,2015µm,0.8s						
ARRO				AML	AML		
	comp=N,2200µm,0.8s						
ASSB	**Assisi San Ben**	**0.44**	**295**	⇑P	**Pg**	**19 59 47.1**	**-0.1**
ASSB				AML	AML		
	comp=N,7005µm,0.4s						
ASSB				AML	AML		
	comp=E,4640µm,1.4s						
SNTG	**Esanatoglia**	**0.45**	**334**	⇑P	**Pg**	**19 59 47.0**	**-0.2**
SNTG				AML	AML		
	comp=N,2340µm,1.3s						
SNTG				AML	AML		
	comp=E,2865µm,0.1s						
EL6	**Elcito**	**0.48**	**351**	⇑P	**Pg**	**19 59 47.6**	**-0.4**
EL6				S	**Sb**	**19 59 57.0**	**+0.3**
EL6				AML	AML		
	comp=E,4315µm,0.8s						
EL6				AML	AML		
	comp=N,7125µm,0.5s						
GIGS	**Gran Sasso**	**0.49**	**146**	P	**Pg**	**19 59 46.9**	**-1.1**
GIGS				S	**Sg**	**19 59 55.0**	**+0.6**
GIGS				AML	AML		
	comp=N,514µm,0.5s						
GIGS				AML	AML		
	comp=E,538µm,1.0s						
GIGS				AML	AML		
	comp=N,515µm,0.5s						
CESX	**Cesi**	**0.52**	**242**	⇑P	**Pg**	**19 59 48.3**	**-0.4**
CESX				S	**Sb**	**19 59 58.0**	**+0.3**
CESX				AML	AML		
	comp=E,2090µm,0.7s						
CESX				AML	AML		
	comp=N,1925µm,0.7s						
AQU	**L'Aquila**	**0.52**	**164**	P	**Pg**	**19 59 47.8**	**-0.9**
AQU				S	**Sg**	**19 59 56.4**	**+0.9**
AQU				AML	AML		
	comp=N,1900µm,0.8s						
AQU				AML	AML		
	comp=E,1900µm,1.2s						
AQU				AML	AML		
	comp=E,1790µm,1.4s						
AQU				AML	AML		
	comp=N,1800µm,0.8s						
AQU				AML	AML		
	comp=N,1895µm,0.8s						
CING	**Cingoli**	**0.52**	**359**	⇑P	**Pg**	**19 59 48.2**	**-0.5**
CING				AML	AML		
	comp=E,3215µm,0.6s						
CING				AML	AML		
	comp=N,2705µm,0.4s						
TRTR	**Tortoreto Alta**	**0.53**	**95**	⇑P	**Pg**	**19 59 49.3**	**+0.5**
TRTR				AML	AML		
	comp=E,7035µm,0.5s						
TRTR				AML	AML		
	comp=N,8075µm,1.1s						
TRTR				AML	AML		
	comp=N,8070µm,1.1s						
ATCC	**AVT- Casa Cast**	**0.53**	**309**	P	**Pg**	**19 59 47.9**	**-0.9**
ATCC				S	**Sb**	**19 59 58.0**	**0.0**
ATCC				AML	AML		
	comp=E,4450µm,0.3s						
ATCC				AML	AML		
	comp=E,4455µm,0.3s						
ATCC				AML	AML		
	comp=N,3770µm,0.4s						
FOSV	**Fossato di Vic**	**0.55**	**324**	⇑P	**Pg**	**19 59 49.1**	**-0.1**
FOSV				S	**Sb**	**19 59 59.0**	**+0.4**
FOSV				AML	AML		
	comp=N,8510µm,0.2s						
FOSV				AML	AML		
	comp=E,5695µm,0.2s						
FOSV				AML	AML		
	comp=N,8515µm,0.2s						
FIAM	**Fiamignano**	**0.59**	**186**	⇓P	**Pg**	**19 59 49.2**	**-0.8**
FIAM				S	**Sg**	**19 59 58.7**	**+1.0**
FIAM				AML	AML		
	comp=N,1230µm,0.8s						
FIAM				AML	AML		
	comp=E,1780µm,1.1s						
PP3	**Marolino**	**0.60**	**29**	⇓P	**Pg**	**19 59 50.5**	**+0.3**
PP3				AML	AML		
	comp=E,8455µm,0.5s						
PP3				AML	AML		
	comp=E,8645µm,0.5s						
PP3				AML	AML		
	comp=N,5720µm,0.5s						
PP3				AML	AML		
	comp=E,8450µm,0.5s						
PP3				AML	AML		
	comp=N,6340µm,0.5s						
PP3				AML	AML		
	comp=E,8670µm,0.5

comp=E,2715μm,0.5s
FAGN AML AML
comp=N,1855μm,0.3s
FAGN AML AML
comp=E,2710μm,0.5s
VCEL Villa Celiera 0.66 134 ⇑P **Pg 19 59 50.5 -0.8**
VCEL AML AML
comp=E,1545μm,1.0s
VCEL AML AML
comp=N,2175μm,0.9s
SSFR Montelago di S 0.66 332 ⇑P **Pg 19 59 51.0 -0.3**
SSFR S **Sb 20 00 03.0 +1.2**
SSFR AML AML
comp=E,4165μm,1.5s
SSFR AML AML
comp=N,5590μm,0.3s
SSFR AML AML
comp=N,4640μm,0.3s
SSFR AML AML
comp=E,4180μm,0.2s
ARVD Arcevia 0.67 344 ⇑P **Pg 19 59 51.0 -0.6**
ARVD S **Sb 20 00 03.0 +0.9**
ARVD AML AML
comp=E,1310μm,0.7s
ARVD AML AML
comp=N,964μm,0.5s
ATFO Monte Foce - G 0.69 318 ⇓P **Pg 19 59 51.8 -0.1**
ATFO S **Sb 20 00 04.0 +1.3**
ATFO AML AML
comp=E,1460μm,0.3s
ATFO AML AML
comp=N,1440μm,0.8s
ATTE AVT- Monte Tez 0.71 299 P **Pg 19 59 51.6 -0.7**
ATTE S **Sb 20 00 05.0 +1.7**
ATTE AML AML
comp=E,1121μm,1.0s
ATTE AML AML
comp=N,918μm,0.9s
FRON Frontone 0.75 332 P **Pg 19 59 52.5 -0.6**
FRON AML AML
comp=N,1790μm,0.3s
FRON AML AML
comp=E,1215μm,0.5s
AOI Ancona 0.75 23 ⇑P **Pg 19 59 52.9 -0.2**
AOI AML AML
comp=N,1180μm,1.1s
AOI AML AML
comp=E,1255μm,0.3s
T0110 Collepietro 0.76 146 ⇓P **Pg 19 59 51.8 -1.4**
T0110 AML AML
comp=N,1675μm,1.0s
T0110 AML AML
comp=E,1720μm,0.6s
ATVO AVT- Monte Val 0.79 312 ⇓P **Pg 19 59 53.3 -0.4**
ATVO S **Sb 20 00 07.0 +1.5**
ATVO AML AML
comp=E,1091μm,0.4s
ATVO AML AML
comp=N,946μm,1.4s
ATVO AML AML
comp=N,946μm,1.4s
COR1 Corinaldo 0.79 349 ⇓P **Pb 19 59 54.3 -0.4**
COR1 AML AML
comp=E,3205μm,0.7s
COR1 AML AML
comp=N,2445μm,1.1s
COR1 AML AML
comp=E,1547μm,0.7s
COR1 AML AML
comp=N,2065μm,0.6s
COR1 AML AML
comp=E,3200μm,0.8s
SRES S.Oreste - Sor 0.80 220 ⇑P **Pg 19 59 54.0 0.0**
SRES AML AML
comp=N,477μm,0.6s
SRES AML AML
comp=E,590μm,0.8s
MGAB Montegabbione 0.80 275 ⇑P **Pg 19 59 53.9 -0.2**
MGAB AML AML
comp=E,2100μm,0.8s
MGAB AML AML
comp=N,2325μm,0.4s
MGAB AML AML
comp=E,2095μm,0.8s
MGAB AML AML
comp=E,2090μm,0.4s
MGAB AML AML
comp=N,2450μm,0.5s
MGAB AML AML
comp=N,2330μm,0.4s
ATMI Monte Miggiano 0.84 305 ⇑P **Pg 19 59 55.0 +0.3**
ATMI S **Sb 20 00 09.0 +2.1**
ATMI AML AML
comp=E,2700μm,0.5s
ATMI AML AML
comp=N,3185μm,1.1s
ATPI Pietralunga - 0.84 316 ⇓P **Pg 19 59 54.4 -0.3**
ATPI S **Sn 20 00 09.0 -0.3**
ATPI AML AML
comp=N,794μm,0.6s
ATPI AML AML
comp=E,934μm,0.8s
PIEI Pieia 0.84 325 ⇓P **Pg 19 59 54.1 -0.6**
PIEI S **Sn 20 00 09.0 -0.4**
PIEI AML AML
comp=E,1010μm,1.0s
PIEI AML AML
comp=N,659μm,0.2s
MPAG Monte Paganucc 0.84 337 ⇓P **Pg 19 59 54.4 -0.4**
MPAG S **Sn 20 00 09.0 -0.5**
MPAG AML AML
comp=E,990μm,0.4s
MPAG AML AML
comp=N,1130μm,0.7s
MPAG AML AML
comp=E,990μm,0.4s
MPAG AML AML
comp=N,1135μm,0.7s
NARO Abbazia di Nar 0.88 329 ⇑P **Pg 19 59 54.8 -0.8**
NARO S **Sb 20 00 10.0 +1.8**
NARO AML AML
comp=E,693μm,0.4s
NARO AML AML
comp=N,592μm,0.8s
NARO AML AML
comp=E,692μm,0.4s
FSSB Fossombrone 0.89 340 P **Pg 19 59 55.5 -0.3**
FSSB AML AML
comp=N,3660μm,0.5s
FSSB AML AML
comp=E,3185μm,0.4s
MTCE Montecelio 0.90 202 P **Pg 19 59 55.1 -0.7**
MTCE AML AML
comp=E,671μm,0.7s
MTCE AML AML
comp=N,680μm,1.3s
APEC Apecchio 0.91 321 S **Sn 20 00 11.0 -0.1**
CERT Cerreto 0.92 190 ⇓P **Pg 19 59 55.1 -1.2**
CERT AML AML
comp=N,742μm,1.0s
CERT AML AML
comp=E,780μm,1.1s
CERT AML AML
comp=N,743μm,1.0s
PE3 Peglio 0.99 329 ⇑P **Pg 19 59 55.5 -2.1**
INTR Introdacqua 0.99 148 ⇓P **Pg 19 59 55.5 -2.1**
INTR AML AML
comp=E,560μm,1.0s
INTR AML AML
comp=N,1230μm,0.9s
CAFI Castiglion Fio 1.02 298 ⇑P **Pg 19 59 57.8 -0.5**
CAFI AML AML
comp=N,654μm,0.8s
CAFI AML AML
comp=E,600μm,0.7s
LPEL Lama dei Pelig 1.08 138 ⇓P **Pg 19 59 58.1 -1.3**
LPEL AML AML
comp=E,551μm,1.3s
LPEL AML AML
comp=N,676μm,0.6s
PESA Pesaro 1.12 346 ⇓P **Pb 20 00 00.2 0.0**
PESA AML AML
comp=E,1445μm,0.8s
PESA AML AML
comp=N,1275μm,1.2s
LRP Arpino 1.24 167 P **Pg 20 00 00.1 -2.2**
LRP AML AML
comp=N,306μm,1.1s
LRP AML AML
comp=E,237μm,1.0s
GIUL Giuliano Di Ro 1.29 178 ⇑P **Pb 20 00 03.8 +0.5**
CERA Filignano 1.39 154 ⇓P **Pg 20 00 05.3 0.0**
ASQU Asqua 1.40 313 P **Pn 20 00 04.2 -0.3**
ASQU AML AML
comp=N,337μm,0.6s
ASQU AML AML
comp=E,274μm,0.9s
MIDA Miranda 1.44 147 ⇑P **Pb 20 00 06.2 +0.4**
CSNT Castellina Chi 1.53 294 ⇑P **Pn 20 00 07.2 +0.9**
RUFI Rufina 1.58 309 ⇑P **Pg 20 00 08.8 -0.1**
MSAG Monte S. Angel 2.31 119 S **Sg 20 00 54.0 +1.2**
GSCL Gusciola 2.42 309 P **Pn 20 00 21.0 +2.5**
PGF Pioggiola 3.11 266 *e*P **Pn 20 00 28.6 +0.5**
PGF *e*Sn **Sn 20 01 01.0 -4.6**
comp=E,4.1nm,0.5s
SABO M.te Sabotino 3.14 5 ⇑P **Pn 20 00 28.3 -0.1**
SABO AML AML
comp=E,660μm,0.7s
SABO AML AML
comp=N,1050μm,0.7s
SABO AML AML
comp=E,152μm,0.7s
SABO AML AML
comp=N,244μm,0.7s
MPRI Monte Prat 3.39 357 P **Pn 20 00 32.3 +0.4**
MYKA Terra Mystica 3.79 5 *e*Pn **Pn 20 00 37.1 -0.2**
comp=N,1.6nm,0.2s
ABTA Abfaltersbach 3.92 353 *e*P **Pn 20 00 40.3 +1.1**
comp=N,7.4nm,0.3s,SNR=7.6
KBA Koelnbreinsper 4.22 1 *e*Pn **Pb 20 00 49.3 -4.0**
comp=N,6.7nm,0.4s
SBF Sospel 4.33 285 *e*P **Pn 20 00 45.8 +1.1**
SBF *e*Sn **Sn 20 01 30.0 -5.4**
comp=N,6.7nm,0.5s
FETA Feichten 4.52 338 *e*P **Pn 20 00 50.0 +2.5**
comp=N,2.1nm,0.3s,SNR=8.3
WTTA Wattenberg 4.55 346 *i* Pn **Pn 20 00 51.1 +3.2**
comp=N,2.7nm,0.3s
DAVOX Davos/Dischmat 4.58 330 Pn **Pn 20 00 50.8 +2.4**
comp=N,1.8nm,0.3s,baz=152,slow=18,SNR=18
DAVOX Sn **Sn 20 01 44.7 +2.8**
comp=N,0.4nm,0.3s,baz=331,slow=22,SNR=2.0
comp=N,9.5nm,0.6s
SQTA Sankt Quirin 4.59 343 *e*Pn **Pn 20 00 52.1 +3.6**
comp=N,7.8nm,0.4s,SNR=6.8
WATA Walderalm 4.63 346 *i* Pn **Pn 20 00 52.0 +3.0**
comp=N,5.3nm,0.4s
MOTA Moosalm 4.73 342 *e*Pn **Pn 20 00 53.4 +3.0**
comp=N,1.0nm,0.2s,SNR=5.4
BIOA Bad Ischl, Aus 4.85 3 *i* Pn **Pn 20 00 54.3 +2.4**
comp=N,3.6nm,0.2s
LMR La Mourre 4.93 278 *e*P **Pn 20 00 53.4 +0.5**
LMR *e*Sn **Sn 20 01 44.3 -5.8**
comp=N,1.7nm,0.5s
DAVA Damuels 5.02 333 *e*Pn **Pn 20 00 57.6 +3.2**
comp=N,6.7nm,0.6s,SNR=5.4
MBDF Montbardon 5.02 294 *e*P **Pn 20 00 55.6 +1.3**
MBDF *e*Sn **Sn 20 01 46.5 -6.1**
comp=N,2.1nm,0.6s
LPG La Plagne 5.34 302 *e*P **Pn 20 01 00.2 +1.3**
LPG *e*Sn **Sn 20 01 54.2 -6.5**
comp=N,1.5nm,0.4s
LPL La Plagne 5.36 302 *e*P **Pn 20 01 00.2 +1.1**
SMRF Simiane la Rot 5.67 284 *e*P **Pn 20 01 04.7 +1.5**
SMRF *e*Sn **Sn 20 02 00.9 -7.6**
comp=N,0.4nm,0.2s
ORIF Oris-en-Rattie 5.68 294 *e*P **Pn 20 01 06.5 +3.1**
ORIF *e*Sn **Sn 20 02 02.2 -6.6**
comp=N,2.6nm,0.6s
GERES GERESS Array B 6.00 3 Pn **Pn 20 01 07.4 -0.4**
comp=N,0.2nm,0.3s,baz=179,slow=13,SNR=3.7
GERES Sn **Sn 20 02 14.5 -2.2**
comp=N,0.8nm,0.3s,baz=176,slow=23,SNR=6.5
comp=N,0.6nm,0.4s
CKRC Cesky Krumlov 6.02 7 *e*PN **Pn 20 01 05.9 -2.0**
CKRC *e*SN **Sn 20 02 14.1 -2.9**
KHC Kasperske Hory 6.28 2 *e*PN **Pn 20 01 11.4 -0.2**
KHC *e*SN **Sn 20 02 20.4 -3.2**
CABF La Chapelle 6.31 309 *e*P **Pn 20 01 13.5 +1.5**
CABF *e*Sn **Sn 20 02 17.2 -7.1**
comp=N,1.3nm,0.4s
VIVF Saint-Julien-l 6.48 291 *e*Pn **Pn 20 01 13.0 -1.4**
HINF Hinteralfeld 6.68 320 *e*P **Pn 20 01 18.7 +1.6**
HINF *e*Sn **Sn 20 02 25.9 -7.5**
comp=N,5.0nm,0.4s
CDF Champ du Feu 6.94 325 *e*P **Pn 20 01 21.5 +0.9**
CDF *e*Sn **Sn 20 02 31.9 -7.9**
comp=N,5.0nm,0.5s
HAU Haudompre 7.05 319 *e*P **Pn 20 01 23.7 +1.5**
HAU *e*Sn **Sn 20 02 34.8 -7.8**
comp=N,4.0nm,0.3s
SMF Signal de Mont 7.67 303 *e*P **Pn 20 01 32.7 +2.1**
KEST Kesra 7.71 204 Pn **Pn 20 01 35.4 +4.1**
comp=N,0.1nm,0.3s,baz=18,slow=15,SNR=1.5
comp=N,1.7nm,0.8s
PAGF Fort de Pagny 7.74 320 *e*P **Pn 20 01 33.5 +2.0**
PAGF *e*Sn Sn 20 02 51.0 -8.3
comp=N,3.1nm,0.5s
LOR Lormes 7.95 307 *e*P **Pn 20 01 36.6 +2.1**
baz=121
LOR *e*Sn Sn 20 02 56.4 -8.2
comp=N,1.5nm,0.3s
MEZF Maizieres J'vi 8.03 318 *e*Pn **Pn 20 01 31.5 -4.0**
MEZF *e*Sn **Sn 20 02 59.5 -6.9**
comp=N,2.4nm,0.4s
SAVF Savonnieres en 8.07 318 *e*P **Pn 20 01 38.4 +2.4**
BGF Bois d'Agland 8.25 300 *e*P **Pn 20 01 43.2 +4.6**
MLR Muntele Rosu 9.53 70 LR LR 20 06 43.5
comp=N,35nm,19.6s,baz=333,slow=45
TORD Torodi Ar. Bea 31.23 202 P **P 20 06 01.4 +2.7**
comp=N,0.4nm,0.5s,baz=26,slow=7.9,SNR=0.9
comp=N,0.4nm,0.5s
MKAR Makanchi Array 47.72 60 P **P 20 08 17.8 +2.1**
comp=N,0.2nm,0.7s,baz=297,slow=6.3,SNR=2.3
comp=N,0.2nm,0.7s

ISC 05 20:01:21.5±1.9, 14°.12N±0°.07×89°.8W±0°.1, h12km, n8, σ0s17/10, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLOZ	**Alcaldia de Sa**	**0.10**	**195**	*e*P	**Pg**	**20 01 24.2**	**-0.2**
LOAL	**Lomas de Alarc**	**0.13**	**190**	*e*P	**Pg**	**20 01 24.7**	**0.0**
NUBE	**Las Nubes**	**0.22**	**186**	⇓*i*P	**Pg**	**20 01 26.4**	**+0.1**
NUBE				*e*S	**Sg**	**20 01 29.8**	**+0.1**
RTR	**El Retiro**	**0.25**	**154**	*e*P	**Pg**	**20 01 26.9**	**+0.1**
SNJE	**San Jose**	**0.29**	**150**	*e*P	**Pg**	**20 01 27.5**	**-0.2**
SBLS	**San Blas**	**0.31**	**155**	*e*P	**Pg**	**20 01 27.7**	**-0.2**
CEVE	**Cerro Verde**	**0.32**	**156**	*e*P	**Pg**	**20 01 28.1**	**-0.1**
MTO3	**Montecristo**	**0.47**	**55**	*e*P	**Pg**	**20 01 30.8**	**-0.1**
MTO3				*e*S	**Sg**	**20 01 37.4**	**+0.2**

IDC 05 20:06:10.1±2.5, 24°.54N×142°.72E, h199km±74km, mb2.6/3, mbtmp3.2/4, Error ellipse: s-maj=324.6km s-min=28.6km az=72.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.59**	**349**	P	Pn	20 06 55.3	+0.4
JCJ	6.5nm,0.3s,baz=20,slow=5.6,SNR=40			S	Sn	20 07 30.4	+0.3
WRA	19nm,0.3s,baz=292,slow=23,SNR=13 **Warramunga Arr**	**44.96**	**191**	P	P	20 14 04.5	-1.1
ASAR	0.2nm,0.4s,baz=12,slow=8.4,SNR=1.5 0.2nm,0.4s **Wice Springs**	**48.67**	**191**	P	P	20 14 35.2	+0.8
MKAR	0.3nm,0.9s,baz=28,slow=8.6,SNR=1.7 0.3nm,0.9s **Makanchi Array**	**52.49**	**311**	P	P	20 15 02.6	-0.1
	0.1nm,0.4s,baz=88,slow=7.7,SNR=2.3 0.1nm,0.4s						

*MOS **05** 20:06:21.9±0.9, 31°.12N×41°.44W, h9km, mb5.3/44, MS4.7/11, Error ellipse: s-maj=5.8km s-min=4.0km az=135.7*
*IDC **05** 20:06:21.9±0.3, 31°.08N×41°.35W, h0km, mb4.7/49, mbtmp4.7/49, MS4.6/65, Error ellipse: s-maj=10.7km s-min=8.4km az=161.0*

*BJI **05** 20:06:22.3±0.0, 31°.29N×42°.04W, h15km, mb4.8/13, mB5.7/4, Ms5.1/10, MS7 4.9/12*
*NEIC **05** 20:06:24.1±1.3, 31°.11N±0°.09×41°.4W±0°.1, h10km±1km, mb5.2/525, Error ellipse: s-maj=15.9km s-min=14.8km az=167.0*
*GCMT **05** 20:06:26.1±0.1, 31°.21N±0°.01×41°.47W±0°.01, h12km, MW5.2/141, Moment Tensor Solution. s54,c67; s141,c255; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.91±.01; $M_{\theta\theta}$0.13±.02; $M_{\phi\phi}$0.77±.01; $M_{r\theta}$0.39±.06; $M_{\theta\phi}$0.22±.01; $M_{r\phi}$-0.05±.04; Best double couple: $M_0$0.94800×10^{17} NP1:ϕ_s216.00000°, δ50.00000°, λ-65.00000°. NP2:ϕ_s360.00000°, δ46.00000°, λ-117.00000°. Principal axes: T 0.8500, Plg2.0000°, Azm288.0000°; N 0.1970, Plg19.0000°, Azm19.0000°; P -1.0470, Plg71.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 20:06:24.4±0.2, 31°.12N±0°.05×41°.47W±0°.04, h13km, n1393, σ1s12/1412, mb5.1/398, MS4.7/92, 49C-35D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**12.85**	**51**	*e*LR	LR	20 12 19.8	
	2μm,15.8s						
PICO	**Pico**	**12.99**	**52**	*e*LR	LR	20 12 27.6	
	2μm,17.4s						
ROSA	**Rosais**	**13.23**	**51**	*e*LR	LR	20 12 26.5	
	3μm,16.3s						
PGRA	**Graciosa**	**13.56**	**51**	*e*LR	LR	20 12 35.4	
	3μm,17.4s						
PAGU	**Agualva, Azore**	**13.97**	**53**	*e*LR	LR	20 13 03.2	
	2μm,15.3s						
PSET	**Sete Cidades**	**14.60**	**59**	*e*LR	LR	20 12 54.3	
	2μm,16.9s						
PSMN	**Pico do Norte,**	**14.80**	**62**	*e*LR	LR	20 12 58.8	
	2μm,15.8s						
BART	**Pico Bartolome**	**14.99**	**59**	*e*LR	LR	20 13 06.6	
	2μm,15.8s						
BBSR	**BB Station**	**19.79**	**280**	P	**Pn**	**20 10 55.4**	**-0.5**
BBSR				IAmb	IAmb	20 11 06.7	
	comp=Z,139nm,1.3s						
PMOZ	**Porto Moniz, M**	**20.66**	**79**	*e*P	**P**	**20 11 02.9**	**-1.0**
	comp=Z,243nm,1.6s						
PMOZ				*e*S	Sn	20 15 00.4	+1.2
PMOZ				*e*LR	LR	20 15 37.2	
	comp=Z,2μm,20.0s						
PMOZ	**Porto Moniz, M**	**20.66**	**79**	P	**P**	**20 11 01.7**	**-2.2**
PMAR	**Madeira**	**20.90**	**79**	*e*P	**P**	**20 11 05.8**	**-0.8**
	comp=Z,292nm,1.8s						
FUL	**Funchal**	**20.92**	**79**	*e*P	**P**	**20 11 06.8**	**+0.1**
	comp=Z,133nm,2.1s						
GBN	**Guysborough**	**21.16**	**318**	P	**P**	**20 11 09.7**	**+0.6**
GBN				IAmb	IAmb	20 11 20.5	
	comp=Z,112nm,1.3s						
PMPST	**Porto Santo, M**	**21.37**	**78**	*e*P	**P**	**20 11 10.7**	**-0.9**
	comp=Z,412nm,1.9s						
PMPS	**Porto Santo**	**21.38**	**78**	*e*P	**P**	**20 11 10.6**	**-1.0**
	comp=Z,386nm,1.9s						
HAL	**Halifax**	**21.98**	**314**	P	**P**	**20 11 17.9**	**0.0**
HAL				IAmb	IAmb	20 11 34.4	
	comp=Z,91nm,1.4s						
HAL	**Halifax**	**21.98**	**314**	P	**P**	**20 11 17.9**	**0.0**
HAL				pmax	pmax		
	comp=Z,91nm,1.4s						
SACV	**Santiago Islan**	**22.94**	**130**	P	**P**	**20 11 27.3**	**-1.1**
LMN	**Caledonia Moun**	**23.33**	**316**	P	**P**	**20 11 32.3**	**0.0**
GGN	**Saint George**	**24.24**	**312**	P	**P**	**20 11 40.9**	**+0.1**
GGN				IAmb	IAmb	20 11 45.9	
	comp=Z,65nm,1.3s						
G65A	**Princeton**	**24.73**	**312**	P	**P**	**20 11 45.9**	**+0.5**
G65A				IAmb	IAmb	20 11 49.2	
	comp=Z,96nm,1.4s						
G65A	**Princeton**	**24.73**	**312**	P	**P**	**20 11 45.8**	**+0.5**
	baz=115,SNR=5.9						
G65A				P	**P**	**20 11 45.8**	**+0.5**
	baz=115,SNR=5.9						
BATG	**Bathurst New B**	**24.81**	**318**	P	**P**	**20 11 46.5**	**+0.4**
F64A	**Sherman**	**25.52**	**313**	P	**P**	**20 11 52.6**	**+0.2**
F64A				IAmb	IAmb	20 12 01.0	
	comp=Z,43nm,1.1s						
F64A	**Sherman**	**25.52**	**313**	P	**P**	**20 11 52.8**	**+0.3**
	baz=116						
F64A				P	**P**	**20 11 52.8**	**+0.3**
	baz=116						
GCPR	**Guaynabo City**	**25.67**	**246**	P	**P**	**20 11 53.9**	**-0.2**
GCPR				IAmb	IAmb	20 11 59.1	
	comp=Z,82nm,1.4s						
E63A	**Oxbow**	**25.81**	**314**	P	**P**	**20 11 56.0**	**+0.9**
	baz=116						
E63A				P	**P**	**20 11 56.0**	**+0.9**
	baz=116						
SJG	**San Juan**	**25.84**	**246**	P	**P**	**20 11 55.4**	**-0.2**
	comp=Z,5.1nm,0.3s,baz=3.5,slow=19,SNR=3.3						
SJG				LR	LR	20 21 48.3	
	comp=Z,865nm,19.6s,baz=342,slow=36						
	comp=Z,5.1nm,0.3s						
PKME	**Peaks-Kenny Pk**	**25.87**	**311**	P	**P**	**20 11 55.6**	**-0.1**
	baz=113						
I63A	**Otisfield**	**26.28**	**308**	P	**P**	**20 12 00.9**	**+1.5**
	baz=109						
I63A				P	**P**	**20 12 00.9**	**+1.5**
	baz=109						
D62A	**Allapoint, All**	**26.50**	**315**	P	**P**	**20 12 00.5**	**-0.8**
D62A				IAmb	IAmb	20 12 08.2	
	comp=Z,65nm,1.4s						
D62A	**Allapoint, All**	**26.50**	**315**	P	**P**	**20 12 01.6**	**+0.2**
	baz=117						
D62A				P	**P**	**20 12 01.6**	**+0.2**
	baz=117						
HRV	**Adam Dziewonsk**	**26.50**	**304**	P	**P**	**20 12 02.7**	**+1.3**
	baz=105						
LBNH	**Lisbon**	**27.26**	**307**	P	**P**	**20 12 09.6**	**+1.3**
	baz=108						
J61A	**Chester**	**27.43**	**305**	P	**P**	**20 12 10.8**	**+1.0**
	baz=106						
J61A				P	**P**	**20 12 10.8**	**+1.0**
	baz=106						
MORF	**Marmelete**	**27.74**	**68**	*e*P	**P**	**20 12 12.3**	**-0.4**
MORF				IAmb	IAmb	20 12 12.8	
	comp=Z,67nm,1.5s						
MORF				*e*S	**S**	**20 16 56.4**	**+1.5**
MORF	**Marmelete**	**27.74**	**68**	*e*P	**P**	**20 12 12.0**	**-0.7**
	comp=Z,81nm,1.8s						
MORF	**Marmelete**	**27.74**	**68**	*e*P	**P**	**20 12 12.3**	**-0.4**
MORF				*e*S	**S**	**20 16 56.4**	**+1.5**
PAL	**Palisades**	**27.88**	**300**	P	**P**	**20 12 13.9**	**+0.1**
	baz=100						
PNCL	**Nicolau / Gran**	**27.89**	**66**	*e*P	**P**	**20 12 14.5**	**+0.5**
	comp=Z,38nm,2.1s						
MDP	**Montagnes des**	**27.93**	**204**	P	**P**	**20 12 13.9**	**-0.6**
	comp=Z,11nm,0.9s,baz=14,slow=11,SNR=4.1						
	comp=Z,11nm,0.9s						
MESJ	**Messejana**	**28.11**	**67**	*e*P	**P**	**20 12 15.8**	**-0.2**
MESJ				IAmb	IAmb	20 12 16.7	
	comp=Z,45nm,1.4s						
MESJ				*e*S	**S**	**20 17 02.2**	**+1.5**
MESJ	**Messejana**	**28.11**	**67**	*e*P	**P**	**20 12 15.6**	**-0.4**
	comp=Z,50nm,1.7s						
MESJ	**Messejana**	**28.11**	**67**	*e*P	**P**	**20 12 15.8**	**-0.2**
MESJ				*e*S	**S**	**20 17 02.2**	**+1.5**
BBTS	**Babate**	**28.12**	**120**	P	**P**	**20 12 15.7**	**-0.5**
	comp=Z,19nm,0.5s,baz=321,slow=13,SNR=3.7						
BBTS				LR	LR	20 20 35.8	
	comp=Z,4μm,21.2s,baz=252,slow=30						
	comp=Z,19nm,0.5s						
PCAS	**Casmilo, Conde**	**28.13**	**62**	*e*P	**P**	**20 12 16.5**	**+0.4**
	comp=Z,45nm,1.7s						
PCVE	**Castro Verde**	**28.25**	**68**	*e*P	**P**	**20 12 16.1**	**-1.1**
	comp=Z,43nm,1.7s						
TTIG	**Tnine Tigouga,**	**28.31**	**83**	P	**P**	**20 12 20.0**	**+2.0**
PBEJ	**Beja**	**28.41**	**67**	*e*P	**P**	**20 12 19.1**	**+0.5**
	comp=Z,53nm,1.5s						
PVAQ	**Vaqueiros**	**28.49**	**68**	*e*P	**P**	**20 12 18.7**	**-0.6**
	comp=Z,40nm,1.9s						
PVAQ				*e*S	**S**	**20 17 13.6**	**+7.0**
PVAQ				*e*LR	LR	20 19 21.8	
	comp=Z,3μm,20.0s						
PGAV	**Gavieira, Arco**	**28.62**	**58**	*e*S	**S**	**20 17 13.4**	**+4.6**
PGAV				*e*LR	LR	20 19 30.8	
	comp=Z,1μm,18.0s						
AVE	**Averroes**	**28.83**	**77**	P	**P**	**20 12 20.0**	**-2.3**
AVE				IAmb	IAmb	20 12 34.0	
	comp=Z,60nm,1.2s						

POLO Lamas de Olo 28.86 60 *e*P **P 20 12 23.0 +0.3**
comp=Z,24nm,1.9s
PCBR Castelo Branco 28.88 63 *e*P **P 20 12 22.0 -0.7**
comp=Z,25nm,1.5s
PMRV Marv??o 28.90 64 *e*P **P 20 12 21.3 -1.7**
comp=Z,46nm,1.8s
PMRV *e*S **S 20 17 19.0 +5.9**
PMRV *e*LR LR 20 19 26.5
comp=Z,819nm,22.0s
MTE Manteigas 28.90 62 *e*S **S 20 17 16.9 +3.7**
MTE *e*LR LR 20 19 30.5
comp=Z,1µm,20.0s
PVRL Vila Real 28.90 60 *e*P **P 20 12 22.1 -0.9**
comp=Z,47nm,1.8s
PBAR Barrancos 29.07 67 *e*P **P 20 12 25.8 +1.4**
comp=Z,24nm,1.3s
LONY Lake Ozonia 29.19 307 P **P 20 12 26.5 +1.0**
baz=106
J58A Remsen 29.36 304 P **P 20 12 29.3 +2.3**
baz=103
J58A P **P 20 12 29.3 +2.3**
baz=103
MVO Moncorvo 29.40 60 *e*P **P 20 12 27.1 -0.3**
comp=Z,37nm,1.8s
MVO *e*S **S 20 17 28.1 +7.1**
MVO *e*LR LR 20 19 47.2
comp=Z,788nm,22.0s
ZHG ZHG 29.46 76 P **P 20 12 28.1 0.0**
BINY Binghamton 29.62 302 P **P 20 12 31.2 +1.8**
baz=100
BINY Binghamton 29.62 302 P **P 20 12 30.4 +1.0**
baz=100
PBRG Braganca 29.71 59 *e*P **P 20 12 29.7 -0.5**
comp=Z,41nm,1.8s
SCHQ Schefferville 29.79 330 P **P 20 12 30.7 0.0**
comp=Z,9.2nm,0.9s,baz=122,slow=6.9,SNR=3.8
SCHQ LR LR 20 23 45.2
comp=Z,2µm,19.5s,baz=152,slow=35
comp=Z,9.2nm,0.9s
SDMD Soldier's Deli 29.89 296 P **P 20 12 31.9 +0.2**
K57A Scipio Center 30.11 303 P **P 20 12 34.3 +0.6**
K57A IAmb IAmb 20 12 36.0
comp=Z,49nm,1.2s
K57A Scipio Center 30.11 303 P **P 20 12 35.1 +1.5**
baz=101
M57A Sunshine Farm, 30.33 300 P **P 20 12 36.9 +1.3**
baz=98
M57A P **P 20 12 36.9 +1.3**
baz=98
T59A Double "B" Far 30.34 291 P **P 20 12 35.5 -0.2**
T59A IAmb IAmb 20 12 38.0
comp=Z,33nm,1.4s
CHEFC Chefchaouen 30.42 73 P **P 20 12 38.0 +1.4**
R58B Mineral 30.61 293 P **P 20 12 39.2 +1.1**
R58B IAmb IAmb 20 12 40.6
comp=Z,38nm,1.4s
R58B Mineral 30.61 293 P **P 20 12 39.2 +1.1**
baz=92,SNR=6.4
R58B P **P 20 12 39.2 +1.1**
baz=92,SNR=6.4
SSPA Standing Stone 30.81 298 P **P 20 12 40.9 +1.1**
baz=96
CZD Col de Zad 30.83 77 P **P 20 12 41.0 +0.5**
MDT Midelt 31.22 77 P **P 20 12 41.6 -2.1**
comp=Z,6.4nm,1.0s,baz=271,slow=8.7,SNR=10
MDT LR LR 20 22 14.2
comp=Z,2µm,21.7s,baz=302,slow=31
comp=Z,6.4nm,1.0s
MDT Midelt 31.22 77 P **P 20 12 43.0 -0.7**
PAB San Pablo 31.25 64 P **P 20 12 41.4 -2.4**
PAB San Pablo 31.25 64 ǁP **P 20 12 42.9 -1.0**
PAB 20 12 45.0
PAB San Pablo 31.25 64 P **P 20 12 43.3 -0.6**
PALE Palemas 31.56 72 P **P 20 12 47.0 +0.4**
ESDC Sonseca Array 31.56 64 P **P 20 12 44.6 -1.9**
comp=Z,5.5nm,1.1s,baz=265,slow=8.2,SNR=23
ESDC PcP **PcP 20 15 38.0 -1.0**
comp=Z,0.1nm,0.6s,baz=260,slow=3.3,SNR=3.2
comp=Z,5.5nm,1.1s
ESDC Sonseca Array 31.56 64 P **P 20 12 44.6 -1.9**
ESBB Sonseca Array 31.56 64 P **P 20 12 45.5 -1.0**
V58A Windy Hill, Pi 31.62 289 P **P 20 12 48.2 +1.2**
V58A IAmb IAmb 20 12 50.0
comp=Z,33nm,1.2s
V58A Windy Hill, Pi 31.62 289 P **P 20 12 48.6 +1.5**
baz=87
V58A P **P 20 12 48.6 +1.5**
baz=87
T57A Hurt 31.70 291 P **P 20 12 49.3 +1.6**
baz=89
T57A P **P 20 12 49.3 +1.6**
baz=89
MCWV Mont Chateau 32.23 296 P **P 20 12 54.3 +2.0**
baz=93
MCWV Mont Chateau 32.23 296 P **P 20 12 53.5 +1.1**
baz=93
W57A Gilead 32.37 288 P **P 20 12 55.6 +2.0**
baz=86,SNR=6.9
W57A P **P 20 12 55.6 +2.0**
baz=86,SNR=6.9
SADO Sadowa 32.38 306 P **P 20 12 54.1 +0.5**
comp=Z,14nm,1.1s,baz=94,slow=7.3,SNR=3.6
SADO LR LR 20 24 24.8
comp=Z,1µm,20.2s,baz=164,slow=33
comp=Z,14nm,1.1s
SADO Sadowa 32.38 306 P **P 20 12 54.1 +0.5**
SADO IAmb IAmb 20 12 56.5
comp=Z,39nm,1.4s
UPAO U. Pittsburgh 32.41 298 P **P 20 12 55.9 +1.9**
baz=94
ERPA Erie 32.55 301 P **P 20 12 56.0 +0.9**
baz=97
BLA Blacksburg 32.63 291 P **P 20 12 56.9 +1.0**
baz=89
O54A Avella 32.66 297 P **P 20 12 58.1 +1.9**
baz=94
O54A P **P 20 12 58.1 +1.9**
baz=94
JBK JBK 32.75 74 P **P 20 12 56.1 -1.1**
TAF Taforalt 32.84 73 P **P 20 12 58.1 +0.3**
Q54A Coxs Mills 32.96 295 P **P 20 12 59.9 +1.1**
baz=91
Q54A P **P 20 12 59.9 +1.1**
baz=91
M53A WI Miller and 32.99 299 P **P 20 13 00.4 +1.4**
baz=95
N53A Lisbon 33.06 298 P **P 20 13 00.6 +0.9**
N53A IAmb IAmb 20 13 03.5
comp=Z,47nm,1.2s
N53A Lisbon 33.06 298 P **P 20 13 01.2 +1.6**
baz=94,SNR=6.5
N53A P **P 20 13 01.2 +1.6**
baz=94,SNR=6.5
BAUV El Baul 33.15 234 P **P 20 13 00.5 -0.2**
O53A New Philadelph 33.31 297 P **P 20 13 03.3 +1.4**
O53A New Philadelph 33.31 297 P **P 20 13 03.2 +1.4**
baz=93
KMSC Kings Mountain 33.47 288 P **P 20 13 04.5 +1.2**
KMSC Kings Mountain 33.47 288 P **P 20 13 04.4 +1.2**
baz=85
JSC Jenkinsville 33.48 286 P **P 20 13 03.7 +0.3**
JSC Jenkinsville 33.48 286 P **P 20 13 03.7 +0.3**
JSC pmax pmax
comp=Z,23nm,1.3s
JSC Jenkinsville 33.48 286 P **P 20 13 04.7 +1.4**
baz=84
BOAV Boa Vista 33.77 216 P **P 20 13 05.9 -0.1**
BOAV IAmb IAmb 20 13 13.7
comp=Z,29nm,1.3s
BOAV Boa Vista 33.77 216 *e*P **P 20 13 06.7 +0.6**
U54A Nelsons Funny 33.77 290 P **P 20 13 07.6 +1.6**
U54A IAmb IAmb 20 13 09.7
comp=Z,36nm,1.2s
O52A Adamsville 33.78 297 P **P 20 13 07.4 +1.5**
O52A IAmb IAmb 20 13 08.6
comp=Z,45nm,1.2s
O52A Adamsville 33.78 297 P **P 20 13 07.7 +1.8**
baz=92,SNR=6.2
O52A P **P 20 13 07.7 +1.8**
baz=92,SNR=6.2
CART Cartagena 33.83 68 P **P 20 13 04.8 -1.6**
CART Cartagena 33.83 68 P **P 20 13 05.3 -1.0**
PAULI Pauline 33.89 287 P **P 20 13 07.9 +1.0**
PAULI IAmb IAmb 20 13 11.5
comp=Z,46nm,1.4s
PAULI Pauline 33.89 287 P **P 20 13 08.7 +1.8**
baz=84,SNR=5.6

TMAB Tom-Au,PA,Br 33.90 192 *e*P **P 20 13 07.7 +0.6**
ROSB Rosrio 33.92 185 *e*P **P 20 13 07.5 +0.2**
P52A Corning 33.99 296 P **P 20 13 08.8 +1.0**
baz=92
Q52A Bidwell 34.08 295 P **P 20 13 09.5 +1.0**
Q52A IAmb IAmb 20 13 10.7
comp=Z,52nm,1.2s
Q52A Bidwell 34.08 295 P **P 20 13 09.7 +1.2**
baz=90,SNR=7.6
Q52A P **P 20 13 09.7 +1.2**
baz=90,SNR=7.6
060A Indiantown 34.11 273 P **P 20 13 10.9 +2.0**
060A Indiantown 34.11 273 P **P 20 13 10.9 +2.0**
FIGM Figuig 34.12 78 P **P 20 13 09.0 -0.1**
N51A Ashland 34.23 298 P **P 20 13 09.2 -0.6**
N51A IAmb IAmb 20 13 34.4
comp=Z,26nm,1.2s
HODGE Hodges 34.31 286 P **P 20 13 11.6 +1.0**
HODGE Hodges 34.31 286 P **P 20 13 11.9 +1.4**
baz=84
V53A Saluda 34.63 289 P **P 20 13 13.7 +0.3**
V53A Saluda 34.63 289 P **P 20 13 15.2 +1.8**
baz=85
V53A P **P 20 13 15.2 +1.8**
baz=85
ACSO Alum Creek Sta 34.66 297 P **P 20 13 14.8 +1.2**
ACSO IAmb IAmb 20 13 15.9
comp=Z,38nm,1.1s
ACSO Alum Creek Sta 34.66 297 P **P 20 13 14.2 +0.7**
baz=92
P51A Williamsport 34.70 296 P **P 20 13 13.3 -0.6**
P51A IAmb IAmb 20 13 16.1
comp=Z,68nm,1.4s
DWPF Disney Wildern 34.74 275 P **P 20 13 15.8 +1.4**
DWPF Disney Wildern 34.74 275 P **P 20 13 15.8 +1.4**
DWPF Disney Wildern 34.74 275 P **P 20 13 15.4 +1.1**
baz=75
BG3 Lake Jocassee 34.78 288 P **P 20 13 16.1 +1.4**
BG3 IAmb IAmb 20 13 17.4
comp=Z,34nm,1.3s
CASEE Lake Jocassee 34.78 288 P **P 20 13 16.4 +1.7**
baz=84,SNR=5.6
Q51A Peebles 34.92 295 P **P 20 13 16.8 +1.0**
Q51A IAmb IAmb 20 13 19.9
comp=Z,32nm,1.4s
Q51A Peebles 34.92 295 P **P 20 13 17.4 +1.6**
baz=90
Q51A P **P 20 13 17.4 +1.6**
baz=90
MALB Monte Alegre 34.98 203 *e*P **P 20 13 16.4 0.0**
SDV Santo Domingo 35.02 237 P **P 20 13 18.6 +1.5**
comp=Z,28nm,0.9s,baz=52,slow=5.7,SNR=24
comp=Z,28nm,0.9s
SDV Santo Domingo 35.02 237 P **P 20 13 18.5 +1.5**
SDV IAmb IAmb 20 13 26.9
comp=Z,50nm,1.1s
SDV Santo Domingo 35.02 237 *e*P **P 20 13 18.9 +1.8**
S51A Beattyville 35.14 292 P **P 20 13 19.1 +1.4**
baz=88
S51A P **P 20 13 19.1 +1.4**
baz=88
TZTN Tazewell 35.16 290 P **P 20 13 19.3 +1.4**
TZTN IAmb IAmb 20 13 25.6
comp=Z,40nm,1.3s
TZTN Tazewell 35.16 290 P **P 20 13 19.3 +1.4**
baz=86
TZTN Tazewell 35.16 290 P **P 20 13 17.7 -0.2**
baz=86
V52A Sevierville 35.25 289 P **P 20 13 19.5 +0.8**
V52A Sevierville 35.25 289 P **P 20 13 20.1 +1.4**
baz=85
AAM Ann Arbor 35.28 300 P **P 20 13 20.0 +1.1**
AAM IAmb IAmb 20 13 21.5
comp=Z,57nm,1.4s
AAM Ann Arbor 35.28 300 P **P 20 13 20.0 +1.1**
AAM pmax pmax
comp=Z,57nm,1.5s
AAM Ann Arbor 35.28 300 P **P 20 13 18.8 0.0**
baz=94
TKL Tuckaleechee C 35.41 289 P **P 20 13 21.4 +1.3**
comp=Z,14nm,1.1s,baz=116,slow=9.8,SNR=6.3
TKL LR LR 20 24 51.0
comp=Z,2µm,21.6s,baz=70,slow=31
comp=Z,14nm,1.1s
TKL Tuckaleechee C 35.41 289 P **P 20 13 19.3 -0.8**
TKL Tuckaleechee C 35.41 289 P **P 20 13 20.6 +0.6**
baz=85
GOGA Godfrey 35.41 285 P **P 20 13 20.1 0.0**
GOGA Godfrey 35.41 285 P **P 20 13 20.1 0.0**
GOGA pmax pmax
comp=Z,25nm,1.4s
GOGA Godfrey 35.41 285 P **P 20 13 22.1 +2.0**
baz=82
GOGA Godfrey 35.41 285 P **P 20 13 21.0 +0.9**
baz=82
W52A Murphy 35.59 288 P **P 20 13 22.2 +0.5**
O49A Covington 35.70 297 P **P 20 13 22.3 -0.1**
O49A IAmb IAmb 20 13 24.4
comp=Z,36nm,1.4s
O49A Covington 35.70 297 P **P 20 13 23.5 +1.0**
baz=91
O49A P **P 20 13 23.5 +1.0**
baz=91
R50A Paris 35.70 293 P **P 20 13 22.6 +0.1**
R50A Paris 35.70 293 P **P 20 13 23.5 +1.0**
baz=88
R50A P **P 20 13 23.5 +1.0**
baz=88
L48A N Adams 35.84 300 P **P 20 13 24.6 +1.0**
L48A IAmb IAmb 20 13 25.8
comp=Z,40nm,1.2s
TIGA Tifton 35.84 282 P **P 20 13 24.7 +0.9**
baz=79
Y52A Lilburn 35.84 286 P **P 20 13 23.7 -0.1**
Y52A Lilburn 35.84 286 P **P 20 13 24.8 +1.0**
baz=82
Y52A P **P 20 13 24.8 +1.0**
baz=82
V51A Loudon 35.87 289 P **P 20 13 24.7 +0.7**
V51A IAmb IAmb 20 13 26.4
comp=Z,32nm,1.1s
V51A Loudon 35.87 289 P **P 20 13 25.2 +1.3**
baz=85,SNR=9.1
BORG Borgarnes 35.91 15 LR LR 20 24 15.8
comp=Z,482nm,21.1s,baz=239,slow=30
P49A Miami Univ. Ec 35.98 296 P **P 20 13 25.5 +0.5**
P49A IAmb IAmb 20 13 28.8
comp=Z,65nm,1.4s
P49A Miami Univ. Ec 35.98 296 P **P 20 13 25.9 +1.0**
baz=90
P49A Miami Univ. Ec 35.98 296 P **P 20 13 25.5 +0.5**
baz=90,SNR=5.9
CPCT Cooper Cave 36.04 289 P **P 20 13 26.7 +1.2**
T50A Nancy 36.16 291 P **P 20 13 27.8 +1.2**
T50A IAmb IAmb 20 13 29.3
comp=Z,38nm,1.3s
T50A Nancy 36.16 291 P **P 20 13 28.1 +1.6**
baz=86
T50A P **P 20 13 28.1 +1.6**
baz=86
J47A Sunmer 36.21 302 P **P 20 13 27.5 +0.6**
J47A IAmb IAmb 20 13 31.0
comp=Z,62nm,1.2s
GLMI Grayling 36.23 305 P **P 20 13 27.7 +0.7**
baz=97
SFJD Kangerlussuaq 36.32 354 LR LR 20 25 07.6
comp=Z,503nm,20.8s,baz=198,slow=31
O48B Farmland 36.32 297 P **P 20 13 28.5 +0.6**
baz=90,SNR=6.8
R49A Shelbyville 36.36 294 P **P 20 13 29.2 +1.0**
R49A Shelbyville 36.36 294 P **P 20 13 29.5 +1.3**
baz=88
R49A P **P 20 13 29.5 +1.3**
baz=88
X51A Calhoun 36.41 287 P **P 20 13 29.6 +1.0**
X51A IAmb IAmb 20 13 52.0
comp=Z,35nm,1.3s
P48A Milroy 36.53 295 P **P 20 13 29.5 -0.1**
P48A Milroy 36.53 295 P **P 20 13 30.2 +0.6**
baz=89
P48A P **P 20 13 30.2 +0.6**
baz=89
152A Waverly Hall 36.56 284 P **P 20 13 30.4 +0.4**
W50A Signal Mountai 36.70 288 P **P 20 13 31.7 +0.5**
W50A Signal Mountai 36.70 288 P **P 20 13 31.4 +0.2**
baz=84

N47A Urbana 36.74 298 P **P 20 13 31.9 +0.4**
U49A Red Boiling Sp 36.95 291 P **P 20 13 33.8 +0.6**
U49A Red Boiling Sp 36.95 291 P **P 20 13 34.7 +1.5**
baz=85,SNR=8.6
FPAL Fort Paine 37.03 287 P **P 20 13 33.6 -0.3**
RCBR Riachuelo 37.13 171 LR LR 20 24 46.4
comp=Z,714nm,20.7s,baz=108,slow=30
CLF Chambon-Foret 37.14 50 P **P 20 13 35.2 +0.6**
CLF IAmb IAmb 20 13 37.5
comp=Z,72nm,1.3s
SWET Sewanee 37.21 288 P **P 20 13 36.2 +0.7**
L46A Eue Claire 37.23 300 P **P 20 13 36.1 +0.6**
L46A IAmb IAmb 20 13 39.4
comp=Z,65nm,1.4s
WCI Wyandotte Cave 37.25 293 P **P 20 13 37.0 +1.2**
WCI IAmb IAmb 20 13 38.3
comp=Z,41nm,1.4s
WCI Wyandotte Cave 37.25 293 P **P 20 13 37.0 +1.2**
WCI pmax pmax
comp=Z,41nm,1.5s
WCI Wyandotte Cave 37.25 293 P **P 20 13 36.3 +0.5**
baz=87
WCI Wyandotte Cave 37.25 293 P **P 20 13 36.7 +1.0**
baz=87
BLO Bloomington 37.39 295 P **P 20 13 37.5 +0.6**
BLO Bloomington 37.39 295 P **P 20 13 37.5 +0.6**
BLO pmax pmax
comp=Z,33nm,1.4s
CLTN Cedars of Leba 37.44 290 P **P 20 13 38.6 +1.2**
CLTN IAmb IAmb 20 13 40.0
comp=Z,48nm,1.2s
Y49A Blount Mountai 37.78 286 P **P 20 13 41.1 +0.8**
Y49A IAmb IAmb 20 13 43.0
comp=Z,35nm,1.2s
Y49A Blount Mountai 37.78 286 P **P 20 13 40.8 +0.4**
baz=81
SFIN Lafayette 37.81 297 P **P 20 13 40.8 +0.3**
SFIN IAmb IAmb 20 13 42.6
comp=Z,39nm,1.1s
SFIN Lafayette 37.81 297 P **P 20 13 41.5 +1.1**
baz=89,SNR=6.5
SFIN Lafayette 37.81 297 P **P 20 13 41.0 +0.6**
baz=89,SNR=6.5
ITTB Itaituba 37.83 204 *e*P **P 20 13 41.5 +0.8**
V48A Smith Brothers 37.87 289 P **P 20 13 41.6 +0.5**
V48A IAmb IAmb 20 13 45.6
comp=Z,47nm,1.4s
V48A Smith Brothers 37.87 289 P **P 20 13 42.5 +1.5**
baz=84,SNR=10
P46A Rosedale 37.91 296 P **P 20 13 42.1 +0.9**
P46A Rosedale 37.91 296 P **P 20 13 43.0 +1.7**
baz=88
PRPB Parauapebas 37.93 194 *e*P **P 20 13 42.1 +0.5**
T47A Sharon Grove 37.98 292 P **P 20 13 43.0 +1.1**
T47A Sharon Grove 37.98 292 P **P 20 13 43.8 +1.9**
baz=85
ICESG Greenland Ices 38.02 1 *i* P **P 20 13 40.5 -1.8**
ICESG IAmb IAmb 20 13 42.1
comp=Z,5.1nm,0.7s
KOWA Kowa 38.06 107 P **P 20 13 41.2 -1.7**
comp=Z,12nm,0.7s,baz=304,slow=8.5,SNR=22
KOWA LR LR 20 27 03.7
comp=Z,1µm,21.9s,baz=300,slow=33
comp=Z,12nm,0.7s
KOWA Kowa 38.06 107 P **P 20 13 41.0 -1.8**
KOWA IAmb IAmb 20 13 43.3
comp=Z,50nm,1.2s
KOWA Kowa 38.06 107 P **P 20 13 41.2 -1.7**
E43A Lone Tree Farm 38.08 307 P **P 20 13 43.3 +0.6**
E43A Lone Tree Farm 38.08 307 P **P 20 13 43.6 +0.9**
baz=97
X48A Hartselle 38.21 287 P **P 20 13 45.1 +1.1**
X48A Hartselle 38.21 287 P **P 20 13 45.4 +1.5**
baz=82
USIN University of 38.34 293 P **P 20 13 43.9 -1.1**
USIN IAmb IAmb 20 13 47.1
comp=Z,60nm,1.4s
LRAL Lakeview Retre 38.39 285 P **P 20 13 45.7 +0.3**
LRAL Lakeview Retre 38.39 285 P **P 20 13 46.7 +1.2**
baz=80
LRAL Lakeview Retre 38.39 285 P **P 20 13 46.2 +0.7**
baz=80,SNR=7.4
L44A Lake County Fo 38.43 300 P **P 20 13 46.0 +0.3**
L44A IAmb IAmb 20 13 47.8
comp=Z,76nm,1.2s
L44A Lake County Fo 38.43 300 P **P 20 13 46.6 +0.9**
baz=91
M44A Midewin, Midew 38.52 299 P **P 20 13 46.9 +0.4**
OLIL Olney 38.64 294 P **P 20 13 48.2 +0.7**
OLIL Olney 38.64 294 P **P 20 13 49.0 +1.5**
baz=87
WVT Waverly 38.64 290 P **P 20 13 48.1 +0.6**
WVT Waverly 38.64 290 P **P 20 13 48.1 +0.6**
WVT pmax pmax
comp=Z,22nm,1.1s
WVT Waverly 38.64 290 P **P 20 13 48.6 +1.1**
baz=84,SNR=12
WVT Waverly 38.64 290 P **P 20 13 48.2 +0.7**
baz=84
MACA Manacapuru-AM 38.70 212 P **P 20 13 48.4 +0.3**
MACA IAmb IAmb 20 13 56.0
comp=Z,66nm,0.9s
MACA Manacapuru-AM 38.70 212 *e*P **P 20 13 48.8 +0.7**
BRAL Brewton 38.79 282 **P 20 13 50.1 +1.3**
BRAL Brewton 38.79 282 P **P 20 13 49.6 +0.7**
baz=78
F42A Maple Grove Fa 38.80 306 P **P 20 13 49.2 +0.4**
F42A IAmb IAmb 20 13 50.8
comp=Z,64nm,1.4s
O44A Mansfield 38.86 297 P **P 20 13 49.8 +0.4**
O44A IAmb IAmb 20 13 51.4
comp=Z,64nm,1.4s
PLAL Pickwick Lake 38.98 288 P **P 20 13 51.8 +1.4**
PLAL IAmb IAmb 20 13 52.9
comp=Z,47nm,1.1s
DOU Dourbes 39.04 47 κP **P 20 13 51.7 +1.0**
BMRD Maredsous 39.19 47 *d*P **P 20 13 52.9 +1.0**
BMRD *d*x x 20 13 57.4
I42A Draeger Farm, 39.22 303 P **P 20 13 53.4 +1.1**
I42A Draeger Farm, 39.22 303 P **P 20 13 53.6 +1.3**
baz=92
D41A Chassel 39.24 308 P **P 20 13 53.7 +1.3**
baz=97
Z47A Carrollton 39.25 286 P **P 20 13 53.6 +0.9**
Z47A IAmb IAmb 20 13 55.2
comp=Z,76nm,1.3s
Z47A Carrollton 39.25 286 P **P 20 13 54.4 +1.8**
baz=80
Q44A Meyer Farm, Va 39.34 295 P **P 20 13 54.6 +1.2**
RCHB Rochefort 39.45 47 *d*P **P 20 13 53.2 -0.9**
comp=Z,6.7nm,1.2s
HDIL Hopedale 39.48 297 P **P 20 13 55.2 +0.7**
baz=88
BCLA Clavier 39.55 47 κP **P 20 13 55.9 +0.9**
SIUC Southern Illin 39.59 293 P **P 20 13 56.7 +1.2**
S44A Carbondale 39.62 293 P **P 20 13 56.8 +1.1**
S44A IAmb IAmb 20 13 58.0
comp=Z,54nm,1.4s
S44A Carbondale 39.62 293 P **P 20 13 57.4 +1.7**
baz=85,SNR=5.9
P43A Skaggs, Pawnee 39.69 296 P **P 20 13 56.8 +0.5**
P43A IAmb IAmb 20 13 58.2
comp=Z,67nm,1.5s
L42A Oliver, Polo 39.74 300 P **P 20 13 57.0 +0.4**
L42A Oliver, Polo 39.74 300 P **P 20 13 57.3 +0.7**
baz=90,SNR=5.3
BSTI Sart Tilman 39.75 47 κP **P 20 13 57.1 +0.5**
BNI Bardonecchia 39.79 56 P **P 20 13 56.3 -0.9**
BNI Bardonecchia 39.79 56 P **P 20 13 56.3 -0.9**
BNI pmax pmax
comp=Z,41nm,1.4s
W45A Hickory Valley 39.86 289 P **P 20 13 58.9 +1.2**
W45A Hickory Valley 39.86 289 P **P 20 13 59.5 +1.8**
baz=82
WLF Walferdange 39.96 48 P **P 20 13 57.1 -1.2**
WLF IAmb IAmb 20 14 00.7
comp=Z,56nm,1.5s
WLF Walferdange 39.96 48 P **P 20 13 57.1 -1.2**
WLF pmax pmax
comp=Z,57nm,1.5s
WLF Walferdange 39.96 48 *d*P **P 20 13 59.4 +1.1**
comp=Z,12nm,1.3s
BHOU Houvegnez 39.98 47 κP **P 20 14 00.1 +1.5**
MEM Membach 40.03 47 κP **P 20 14 00.2 +1.3**
BTNL Ternell 40.10 47 κP **P 20 14 00.5 +0.9**

comp=Z,8.4nm,1.2s
OXF Oxford 40.14 288 P P 20 14 00.8 +0.8
OXF IAmb IAmb 20 14 01.9
comp=Z,63nm,1.1s
OXF Oxford 40.14 288 P P 20 14 00.8 +0.8
OXF pmax pmax
comp=Z,63nm,1.1s
OXF Oxford 40.14 288 P P 20 14 01.1 +1.1
baz=81
OXF Oxford 40.14 288 P P 20 14 00.5 +0.5
baz=81
JFWS Jewell Farm 40.17 301 P P 20 14 00.6 +0.4
JFWS Jewell Farm 40.17 301 P P 20 14 00.6 +0.4
JFWS pmax pmax
comp=Z,25nm,1.0s
JFWS Jewell Farm 40.17 301 P P 20 14 00.6 +0.4
baz=90
SMTB Santa Maria do 40.19 189 *e*P **P 20 14 02.6 +2.1**
NPGB Novo Progresso 40.21 202 *e*P **P 20 14 00.6 -0.2**
G40A Rib Lake 40.21 305 P **P 20 14 01.9 +1.3**
G40A Rib Lake 40.21 305 P **P 20 14 02.3 +1.8**
baz=93
SENIN Lac Senin/Sane 40.32 54 P **P 20 14 01.6 -0.1**
Y45A Yeager Farm, C 40.35 287 P **P 20 14 03.2 +1.4**
Y45A Yeager Farm, C 40.35 287 P **P 20 14 03.2 +1.4**
baz=80
ECH Echery 40.41 51 P **P 20 14 02.3 +0.2**
ECH Echery 40.41 51 P **P 20 14 02.3 +0.2**
ECH pmax pmax
comp=Z,12nm,1.1s
GNAR Gosnell 40.42 290 P **P 20 14 03.7 +1.4**
ROSC El Rosal 40.44 236 LR LR 20 29 33.7
comp=Z,1µm,21.4s,baz=37,slow=34
ROSC El Rosal 40.44 236 P **P 20 14 03.8 +0.6**
ROSC IAmb IAmb 20 14 29.1
comp=Z,52nm,1.2s
ROSC El Rosal 40.44 236 P **P 20 14 03.8 +0.6**
ROSC pmax pmax
comp=Z,52nm,1.3s
I40A Norwalk 40.45 303 P **P 20 14 03.3 +0.8**
MET Memphis--Engin 40.47 289 P **P 20 14 04.0 +1.2**
FVM French Village 40.52 293 P **P 20 14 03.4 +0.2**
FVM French Village 40.52 293 P **P 20 14 03.4 +0.2**
FVM pmax pmax
comp=Z,17nm,1.1s
FVM French Village 40.52 293 P **P 20 14 04.2 +1.0**
baz=84,SNR=7.2
N41A Harden Midland 40.66 298 P **P 20 14 04.5 +0.2**
N41A IAmb IAmb 20 14 06.3
comp=Z,40nm,1.1s
NBAN Anadia - AL 40.86 172 *e*P **P 20 14 07.9 +1.7**
SCO Scoresbysund 40.88 10 P **P 20 14 06.1 +0.4**
SCO IAmb IAmb 20 14 19.0
comp=Z,58nm,1.3s
SCO Scoresbysund 40.88 10 P **P 20 14 06.1 +0.4**
SCO pmax pmax
comp=Z,58nm,1.3s
L40A Anamosa 40.90 300 P **P 20 14 06.7 +0.5**
L40A IAmb IAmb 20 14 08.4
comp=Z,65nm,1.4s
L40A Anamosa 40.90 300 P **P 20 14 07.1 +0.9**
baz=89,SNR=6.9
CCM Cathedral Cave 41.15 294 P **P 20 14 09.0 +0.6**
CCM Cathedral Cave 41.15 294 P **P 20 14 09.0 +0.6**
CCM pmax pmax
comp=Z,14nm,1.2s
CCM Cathedral Cave 41.15 294 P **P 20 14 09.2 +0.8**
baz=84,SNR=5.5
CCM Cathedral Cave 41.15 294 P **P 20 14 08.8 +0.4**
baz=84
BFO Black Forest 41.20 51 P **P 20 14 07.9 -0.8**
BFO IAmb IAmb 20 14 10.8
comp=Z,46nm,1.3s
BFO Black Forest 41.20 51 P **P 20 14 07.9 -0.8**
BFO pmax pmax
comp=Z,46nm,1.3s
E38A The Farm, Brul 41.24 307 P **P 20 14 09.1 +0.1**
EYMN Ely 41.31 309 P **P 20 14 09.9 +0.4**
baz=95
LCAR Lake Charles 41.32 291 P **P 20 14 10.1 +0.4**
VBMS Vicksburg 41.47 285 P **P 20 14 11.5 +0.5**
baz=78
SUMG Summit 41.54 1 P **P 20 14 11.2 -0.4**
SUMG Summit 41.54 1 P **P 20 14 11.2 -0.4**
SUMG pmax pmax
comp=Z,27nm,1.1s
SUMG Summit 41.54 1 *i* P **P 20 14 09.7 -1.9**
SUMG IAmb IAmb 20 14 20.8
comp=Z,10nm,0.8s
P40A Paris 41.65 296 P **P 20 14 13.2 +0.8**
P40A IAmb IAmb 20 14 14.2
comp=Z,39nm,1.1s
P40A Paris 41.65 296 P **P 20 14 13.2 +0.8**
baz=85,SNR=9.2
R40A Maddies Statio 41.93 294 P **P 20 14 15.0 +0.2**
R40A Maddies Statio 41.93 294 P **P 20 14 14.9 +0.2**
baz=84
DBIC Dimbokro 42.00 118 P **P 20 14 14.1 -1.4**
comp=Z,8.8nm,0.8s,baz=307,slow=7.3,SNR=4.7
DBIC LR LR 20 29 02.1
comp=Z,2µm,21.0s,baz=324,slow=32
comp=Z,8.8nm,0.8s
DBIC Dimbokro 42.00 118 ⇓P **P 20 14 14.3 -1.3**
DBIC 20 14 16.2
NBLA Lagarto - SE 42.02 175 *e*P **P 20 14 17.0 +1.4**
K38A Parkersburg 42.03 301 P **P 20 14 16.0 +0.5**
K38A IAmb IAmb 20 14 17.4
comp=Z,71nm,1.4s
SPMN Marine on St. 42.05 305 P **P 20 14 16.0 +0.4**
SPMN IAmb IAmb 20 14 17.5
comp=Z,48nm,1.5s
SPMN Marine on St. 42.05 305 P **P 20 14 17.0 +1.3**
baz=91
SPMN Marine on St. 42.05 305 P **P 20 14 16.0 +0.4**
baz=91
MGMO Mountain Grove 42.06 292 P **P 20 14 16.5 +0.6**
DAVOX Davos/Dischmat 42.12 53 P **P 20 14 15.7 -0.8**
comp=Z,4.4nm,0.7s,baz=260,slow=4.1,SNR=9.3
comp=Z,4.4nm,0.7s
FCAR Ozark Folk Cen 42.12 291 P **P 20 14 16.7 +0.3**
DAVA Damuels 42.15 52 *e*P **P 20 14 16.7 +0.1**
comp=Z,33nm,1.6s,SNR=11
CCAR Cane Creek 42.17 288 P **P 20 14 17.8 +1.1**
KEST Kesra 42.28 70 P **P 20 14 17.1 -0.6**
comp=Z,28nm,1.3s,baz=300,slow=6.9,SNR=9.0
KEST LR LR 20 28 43.2
comp=Z,518nm,21.9s,baz=252,slow=32
comp=Z,28nm,1.3s
KEST Kesra 42.28 70 P **P 20 14 17.9 +0.1**
KEST IAmb IAmb 20 14 19.4
comp=Z,47nm,1.4s
WHAR Wooly Hollow 42.35 290 P **P 20 14 18.7 +0.5**
WHAR IAmb IAmb 20 14 22.7
comp=Z,73nm,1.5s
SCIA State Center 42.38 300 P **P 20 14 19.1 +0.6**
baz=87
TAM Tamanrasset 42.45 89 P P 20 14 11.9 -7.5
TAM Tamanrasset 42.45 89 P P 20 14 11.9 -7.4
TAM pmax pmax
comp=Z,25nm,1.3s
N38A Joes South For 42.46 298 P **P 20 14 19.7 +0.6**
N38A IAmb IAmb 20 14 20.9
comp=Z,54nm,1.2s
I37A Lemond, Waseca 42.47 303 P **P 20 14 19.9 +0.8**
I37A IAmb IAmb 20 14 21.2
comp=Z,71nm,1.4s
I37B Waseca 42.47 303 P **P 20 14 20.4 +1.3**
baz=89
UALR University of 42.48 289 P **P 20 14 19.9 +0.6**
UALR IAmb IAmb 20 14 21.1
comp=Z,81nm,1.2s
SALO Salr 42.53 55 P **P 20 14 18.6 -1.0**
F36A Milaca 42.57 305 P **P 20 14 20.5 +0.6**
F36A Milaca 42.57 305 P **P 20 14 20.1 +0.2**
baz=91
FETA Feichten 42.72 53 *e*P **P 20 14 21.8 +0.6**
comp=Z,28nm,1.2s,SNR=12
RETA Reutte 42.76 52 *e*P **P 20 14 21.9 +0.4**
comp=Z,34nm,1.5s,SNR=12
P38A Dawn 42.78 296 P **P 20 14 22.4 +0.8**
P38A IAmb IAmb 20 14 23.6
comp=Z,47nm,1.3s
P38A Dawn 42.78 296 P **P 20 14 22.5 +0.8**
baz=85,SNR=8.5
S39A Bolivar 42.83 293 P **P 20 14 21.2 -0.9**
ZCCA Zocca 42.84 57 P **P 20 14 22.2 +0.1**

MOTA Moosalm 42.99 52 *e*P **P 20 14 22.7 -0.7**
comp=Z,45nm,1.7s,SNR=15
OSSC Osservatorio P 43.05 58 P **P 20 14 23.1 -0.7**
OSSC IAmb IAmb 20 14 32.3
comp=Z,55nm,1.1s
SQTA Sankt Quirin 43.05 53 *e*P **P 20 14 23.6 -0.3**
comp=Z,64nm,2.0s,SNR=13
GRFO Grafenberg 43.22 49 P **P 20 14 25.1 0.0**
GRFO Grafenberg 43.22 49 P **P 20 14 25.1 0.0**
GRFO pmax pmax
comp=Z,33nm,1.2s
GRA1 Grafenberg Arr 43.23 49 P **P 20 14 24.7 -0.4**
GRF Grafenberg Arr 43.23 49 P **P 20 14 24.7 -0.4**
GRF pmax pmax
comp=Z,28nm,1.1s
WLAR White Oak Lake 43.30 288 P **P 20 14 27.3 +1.3**
WATA Walderalm 43.31 52 *e*P **P 20 14 25.2 -0.8**
comp=Z,28nm,1.3s,SNR=11
CTI Castel Tesino 43.32 54 P **P 20 14 24.9 -1.2**
CTI Castel Tesino 43.32 54 P **P 20 14 24.9 -1.2**
CTI pmax pmax
comp=Z,42nm,1.5s
WTTA Wattenberg 43.34 53 *e*P **P 20 14 26.0 -0.4**
comp=Z,67nm,1.8s,SNR=16
SDBA SAO DESIDERIO 43.41 185 *e*P **P 20 14 27.3 +0.4**
TOA0 Torodi Ar. Sit 43.48 104 P **P 20 14 25.6 -2.1**
TOA0 IAmb IAmb 20 14 28.6
comp=Z,55nm,1.3s
TORD Torodi Ar. Bea 43.48 104 P **P 20 14 25.4 -2.3**
comp=Z,25nm,1.1s,baz=302,slow=5.7,SNR=16
TORD LR LR 20 31 31.6
comp=Z,551nm,18.1s,baz=315,slow=35
comp=Z,25nm,1.1s
TORD Torodi Ar. Bea 43.48 104 P **P 20 14 25.6 -2.1**
TORD IAmb IAmb 20 14 28.6
comp=Z,36nm,1.1s
LATE Laterza 43.49 59 P **P 20 14 26.3 -1.1**
HHAR Hobbs 43.52 291 P **P 20 14 28.0 +0.3**
HHAR Hobbs 43.52 291 P **P 20 14 28.4 +0.7**
baz=81
MIAR Mount Ida 43.52 289 P **P 20 14 28.6 +0.9**
MIAR IAmb IAmb 20 14 32.8
comp=Z,54nm,1.5s
MIAR Mount Ida 43.52 289 P **P 20 14 28.6 +0.9**
MIAR pmax pmax
comp=Z,54nm,1.5s
MIAR Mount Ida 43.52 289 P **P 20 14 28.4 +0.7**
baz=79,SNR=10
U38A Gravette 43.85 292 P **P 20 14 30.1 -0.2**
U38A Gravette 43.85 292 P **P 20 14 30.9 +0.5**
baz=81
CIMO Cimolais 43.87 54 P **P 20 14 29.4 -1.1**
CIMO IAmb IAmb 20 14 48.8
comp=Z,8.9nm,1.1s
SNDB Serra Nova Dou 43.88 194 *e*P **P 20 14 31.6 +0.9**
ABTA Abfaltersbach 43.93 53 *e*P **P 20 14 30.0 -0.9**
comp=Z,32nm,1.1s,SNR=10
CLDB Colider 43.96 200 *e*P **P 20 14 31.2 -0.2**
MURB Monte Urbino 43.99 58 P **P 20 14 30.8 -0.7**
MURB IAmb IAmb 20 14 48.5
comp=Z,58nm,1.4s
CESX Cesi 44.06 59 P **P 20 14 32.0 0.0**
NKC Novy Kostel 44.06 48 *e*P **P 20 14 31.9 0.0**
NKC *e*S **S 20 21 09.1 +5.2**
NKC MLR MLR
comp=Z,1µm,17.7s
NKC Novy Kostel 44.06 48 *e*P **P 20 14 31.9 0.0**
NKC *e*S **S 20 21 09.1 +5.2**
NKC AMS AMS 20 30 30.0
comp=Z,1µm,17.7s
BATAN Batan 44.10 251 P **P 20 14 32.1 -0.4**
CLUD Cludinico 44.18 54 P **P 20 14 31.6 -1.4**
CLUD IAmb IAmb 20 14 44.4
comp=Z,37nm,1.0s
KONO Kongsberg 44.21 35 P **P 20 14 34.1 +1.2**
KONO IAmb IAmb 20 14 36.2
comp=Z,37nm,1.2s
KONO Kongsberg 44.21 35 *ce*P **P 20 14 35.0 +2.1**
KONO pmax pmax
comp=Z,49nm,1.7s
AGMN Agassiz Nation 44.25 309 P **P 20 14 34.2 +0.8**
AGMN IAmb IAmb 20 14 35.3
comp=Z,41nm,1.4s
AGMN Agassiz Nation 44.25 309 P **P 20 14 34.4 +0.9**
baz=92,SNR=7.0
AGMN Agassiz Nation 44.25 309 P **P 20 14 33.8 +0.4**
baz=92,SNR=7.0
TBTG Tabatinga, AM 44.37 223 P **P 20 14 34.4 -0.3**
TBTG IAmb IAmb 20 14 42.3
comp=Z,38nn,0.7s
TBTG Tabatinga, AM 44.37 223 *e*P **P 20 14 34.8 +0.1**
ULM Lac du Bonnet 44.37 312 P **P 20 14 34.0 -0.4**
comp=Z,17nm,1.1s,baz=73,slow=7.5,SNR=6.9
comp=Z,17nm,1.1s
ULM Lac du Bonnet 44.37 312 P **P 20 14 34.1 -0.3**
ULM IAmb IAmb 20 14 36.9
comp=Z,29nm,1.2s
ULM Lac du Bonnet 44.37 312 ⇓*i*P **P 20 14 34.3 0.0**
RLO Rose Lookout 44.40 292 P **P 20 14 35.6 +0.8**
RLO IAmb IAmb 20 14 36.6
comp=Z,58nm,1.2s
FDMO Fiordimonte 44.41 59 P **P 20 14 33.3 -1.5**
FDMO IAmb IAmb 20 14 57.1
comp=Z,63nm,1.5s
CLL Collm 44.51 47 P **P 20 14 34.5 -0.9**
CLL IAmb IAmb 20 14 37.5
comp=Z,19nm,0.8s
CLL Collm 44.51 47 *e*P **P 20 14 35.0 -0.4**
CLL *e*S **S 20 21 10.0 -0.3**
CLL pmax pmax
comp=Z,54nm,1.5s
CLL Collm 44.51 47 *e*P **P 20 14 35.0 -0.4**
CLL ⇓*i*Pmax 20 14 36.8
comp=Z,54nm,1.5s
CLL *i* x x 20 14 40.4
CLL *e*S **S 20 21 10.0 -0.3**
CLL *e*SS **ScS 20 24 38.0 +5.0**
CLL *e*SSS SSS 20 25 14.0
CLL Lmax 20 29 00.0
CLL LmH 20 30 00.0
comp=N,300nm,20.4s
CLL LmH 20 30 00.0
comp=E,700nm,21.7s
F33A 5 Mile Ranch, 44.51 305 P **P 20 14 35.5 0.0**
F33A IAmb IAmb 20 14 36.8
comp=Z,40nm,1.4s
F33A 5 Mile Ranch, 44.51 305 P **P 20 14 36.0 +0.5**
baz=89,SNR=5.7
GDU01 Guandu, BA 44.62 177 *e*P **P 20 14 38.5 +1.9**
PRED Cave del Predi 44.65 54 P **P 20 14 34.9 -1.8**
SABO M.te Sabotino 44.68 54 P **P 20 14 36.4 -0.5**
SABO IAmb IAmb 20 14 42.9
comp=Z,64nm,1.4s
MYKA Terra Mystica 44.71 53 *e*P **P 20 14 36.9 -0.2**
comp=Z,16nm,1.1s,SNR=6.3
BIOA Bad Ischl, Aus 44.72 52 *e*P **P 20 14 36.0 -1.1**
comp=Z,24nm,1.0s,SNR=9.5
KHC Kasperske Hory 44.72 50 P **P 20 14 36.1 -1.2**
KHC Kasperske Hory 44.72 50 *e*P **P 20 14 36.8 -0.4**
KHC *e*S **S 20 21 17.6 +4.0**
KHC MLR MLR
comp=Z,400nm,20.7s
KHC Kasperske Hory 44.72 50 *e*P **P 20 14 36.8 -0.4**
KHC *e*S **S 20 21 17.6 +4.0**
KHC AMS AMS 20 30 20.0
comp=Z,400nm,20.7s
L34A Svendsen Farm, 44.73 300 P **P 20 14 37.6 +0.2**
L34A Svendsen Farm, 44.73 300 P **P 20 14 37.3 -0.1**
baz=85
CADS Cadrg 44.77 54 *i* P **P 20 14 37.7 0.0**
GEC2 GERESS Array S 44.79 50 P **P 20 14 36.8 -1.1**
GERES GERESS Array B 44.79 50 P **P 20 14 37.1 -0.7**
comp=Z,3.3nm,0.7s,baz=252,slow=8.3,SNR=30
GERES PcP **PcP 20 16 18.2 -1.6**
comp=Z,1.3nm,1.0s,baz=235,slow=3.2,SNR=3.0
GERES LR LR 20 31 45.8
comp=Z,306nm,18.0s,baz=244,slow=34
comp=Z,3.3nm,0.7s
GERES GERESS Array B 44.79 50 P **P 20 14 36.8 -1.1**
ECSD EROS Data Cent 44.80 302 P **P 20 14 37.8 -0.1**
ECSD IAmb IAmb 20 14 38.7
comp=Z,34nm,1.5s
ECSD EROS Data Cent 44.80 302 P **P 20 14 38.1 +0.2**
baz=87,SNR=8.9
ECSD EROS Data Cent 44.80 302 P **P 20 14 38.4 +0.5**
baz=87,SNR=8.9
PDRB Porto dos Gac 44.95 201 *e*P **P 20 14 40.5 +1.3**
SAML Samuel 44.95 211 P **P 20 14 38.8 -0.5**
SAML IAmb IAmb 20 14 46.5
comp=Z,31nm,1.0s
SAML Samuel 44.95 211 P **P 20 14 38.8 -0.5**
SAML pmax pmax
comp=Z,31nm,1.0s
X37A Clayton 44.97 289 P **P 20 14 40.2 +0.9**
X37A IAmb IAmb 20 14 41.5
comp=Z,53nm,1.4s
X37A Clayton 44.97 289 P **P 20 14 40.5 +1.2**
baz=78
D32A Dogwood Acres, 45.00 307 P **P 20 14 39.5 +0.1**
D32A IAmb IAmb 20 14 53.5
comp=Z,20nm,0.7s
TUL1 Leonard 45.06 291 P **P 20 14 40.2 +0.2**
TUL1 IAmb IAmb 20 14 42.3
comp=Z,38nm,1.1s
TUL1 Leonard 45.06 291 P **P 20 14 40.5 +0.5**
baz=80
TUL1 Leonard 45.06 291 P **P 20 14 40.5 +0.5**
baz=80,SNR=8.2
BRG Berggiesshubel 45.06 47 *e*P **P 20 14 40.8 +0.9**
BRG Amp 20 14 43.2
comp=Z,16nm,1.1s
BRG *ex* x 20 14 50.5
BRG Amp 20 14 53.0
comp=Z,30nm,1.6s
BRG *ex* x 20 16 30.7
BRG Amp 20 16 32.5
comp=Z,24nm,1.8s
BRG Amp 20 30 53.0
comp=N,0.3nm,16.4s
BRG Amp 20 30 54.0
comp=E,0.8nm,20.2s
BRG Amp 20 30 58.0
comp=Z,1.3nm,16.9s
BRG Berggiesshubel 45.06 47 *e*P **P 20 14 40.7 +0.9**
BRG *e* 20 16 30.6
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,31nm,1.6s
BRG pmax pmax
comp=Z,24nm,1.8s
BRG MLR MLR
comp=N,259nm,16.4s
BRG MLR MLR
comp=E,797nm,20.2s
BRG MLR MLR
comp=Z,1µm,16.9s
MOA Molln 45.14 52 *e*P **P 20 14 40.0 -0.5**
comp=Z,18nm,1.4s,SNR=7.5
CKRC Cesky Krumlov 45.19 50 *e*P **P 20 14 40.4 -0.5**
CKRC *e*S **S 20 21 22.2 +1.8**
CKRC AMS AMS 20 32 50.0
comp=Z,500nm,18.9s
KSU1 Kansas State U 45.21 296 P **P 20 14 40.5 -0.7**
KSU1 IAmb IAmb 20 14 42.2
comp=Z,19nm,0.8s
KSU1 Kansas State U 45.21 296 P **P 20 14 41.4 +0.2**
baz=82
KSU1 Kansas State U 45.21 296 P **P 20 14 40.9 -0.3**
baz=82
LJU Ljubljana 45.33 54 *i* P **P 20 14 42.9 +0.8**
OBKA Obir 45.33 54 *e*P **P 20 14 41.2 -1.0**
comp=Z,32nm,0.8s,SNR=12
NB2 NORSAR Subarra 45.39 33 P **P 20 14 43.0 +0.7**
comp=Z,76nm,1.7s,baz=256,slow=8.6
NB2 NORSAR Subarra 45.39 33 P **P 20 14 43.0 +0.7**
baz=256,slow=8.6
NOA NORSAR Array B 45.39 33 P **P 20 14 42.5 +0.2**
comp=Z,10nm,1.2s,baz=254,slow=8.4,SNR=7.3
NOA LR LR 20 31 15.7
comp=Z,159nm,18.9s,baz=255,slow=33
comp=Z,10nm,1.2s
PRU Pruhonice 45.39 49 *e*P **P 20 14 42.8 +0.3**
PRU *e*S **S 20 21 25.7 +2.6**
PRU MLR MLR
comp=Z,800nm,16.5s
PRU Pruhonice 45.39 49 *e*P **P 20 14 42.8 +0.3**
PRU *e*S **S 20 21 25.7 +2.6**
PRU AMS AMS 20 31 50.0
comp=Z,800nm,16.5s
NB201 NORSAR Array S 45.43 33 P **P 20 14 44.1 +1.5**
PVCC Panska Ves 45.44 48 AMS AMS 20 30 50.0
comp=Z,1µm,18.9s
NC602 NORSAR Array S 45.45 33 P **P 20 14 44.8 +2.0**
T35B Sooner Cattle 45.46 293 P **P 20 14 43.5 +0.3**
baz=80
T35A Sooner Cattle 45.46 293 P **P 20 14 43.1 -0.1**
T35A IAmb IAmb 20 14 44.6
comp=Z,54nm,1.4s
NC303 NORSAR Array S 45.51 33 P **P 20 14 45.4 +2.1**
DEOK Depew 45.63 291 P **P 20 14 44.0 -0.7**
DEOK IAmb IAmb 20 14 45.8
comp=Z,65nm,1.5s
N33A J Bar K, Exete 45.66 298 P **P 20 14 42.4 -2.3**
SOKA Soboth 45.66 53 *e*P **P 20 14 44.3 -0.4**
comp=Z,23nm,1.7s,SNR=7.7
PERS Pernice 45.72 53 *i* P **P 20 14 44.8 -0.4**
QUOK Quay 45.74 292 P **P 20 14 45.5 +0.1**
QUOK IAmb IAmb 20 14 47.5
comp=Z,14nm,1.0s
TULM Tulcn-Chalpat 45.78 236 **P 20 14 42.9 -3.7**
TREC Trest 45.98 50 AMS AMS 20 34 20.0
comp=Z,500nm,17.7s
ARSA Arzberg 45.99 53 *e*P **P 20 14 45.6 -1.7**
comp=Z,19nm,1.0s,SNR=9.4
JANB Januaria 46.00 184 *e*P **P 20 14 49.0 +1.4**
VAE Valguarnera 46.03 66 LR LR 20 32 20.1
comp=Z,1µm,18.7s,baz=138,slow=34
BLOK Blackwell 46.04 293 P **P 20 14 47.4 -0.4**
BLOK IAmb IAmb 20 14 49.5
comp=Z,88nm,1.5s
BGNE Belgrade 46.11 299 P **P 20 14 47.8 -0.5**
BGNE Belgrade 46.11 299 P **P 20 14 47.7 -0.6**
baz=84
CONA Conrad Observa 46.22 52 *e*P **P 20 14 47.5 -1.6**
comp=Z,21nm,1.7s,SNR=6.5
CMC01 Camacan, BA 46.25 177 *e*P **P 20 14 51.6 +2.1**
HFS Hagfors 46.33 35 LR LR 20 30 50.4
comp=Z,393nm,21.9s,baz=227,slow=32
OK025 Westminster Rd 46.35 291 P **P 20 14 50.5 +0.2**
OK025 IAmb IAmb 20 14 59.7
comp=Z,50nm,1.5s
UPC Upice 46.35 48 *e*P **P 20 14 50.2 +0.1**
UPC *e*S **S 20 21 41.4 +4.4**
UPC MLR MLR
comp=Z,1µm,16.5s
UPC Upice 46.35 48 *e*P **P 20 14 50.2 +0.1**
UPC *e*S **S 20 21 41.4 +4.4**
UPC AMS AMS 20 31 40.0
comp=Z,1µm,16.5s
CHVC Chvalec 46.38 48 *e*P **P 20 14 50.4 +0.1**
CHVC AMS AMS 20 31 40.0
comp=Z,1µm,16.5s
OK029 Liberty Lake 46.41 292 P **P 20 14 50.4 -0.3**
HKT Hockley 46.44 283 *i* P **P 20 14 52.5 +1.6**
HKT pmax pmax
comp=Z,52nm,1.2s
K31A O'Neill 46.44 301 P **P 20 14 49.6 -1.3**
SUSD Miller 46.44 304 P **P 20 14 51.1 +0.3**
SUSD IAmb IAmb 20 14 51.9
comp=Z,35nm,1.1s
SUSD Miller 46.44 304 P **P 20 14 50.5 -0.3**
baz=86
FNO Franklin 46.47 291 P **P 20 14 51.3 +0.1**
FNO IAmb IAmb 20 14 52.1
comp=Z,28nm,1.1s
OSTC Ostas 46.49 48 *e*P **P 20 14 51.3 +0.2**
OSTC *e*S **S 20 21 44.1 +5.2**
OSTC AMS AMS 20 31 50.0
comp=Z,1µm,16.5s
RONA Rosalia, Austr 46.51 52 *e*P **P 20 14 50.1 -1.3**
comp=Z,32nm,1.6s,SNR=6.6
KSP Ksiaz 46.55 48 *e*P **P 20 14 51.6 0.0**
DPC Dobruska-Polom 46.55 48 *e*P **P 20 14 51.5 -0.2**
DPC *e*S **S 20 21 44.2 +4.3**
DPC MLR MLR
comp=Z,1µm,18.3s
DPC Dobruska-Polom 46.55 48 *e*P **P 20 14 51.5 -0.2**
DPC *e*S **S 20 21 44.2 +4.3**
DPC AMS AMS 20 31 30.0
comp=Z,1µm,18.3s

LOOK **Love County** 46.55 289 P 20 14 53.0 +1.1
LOOK IAmb IAmb 20 15 18.7
comp=Z,112nm,0.9s
H10N2 **ASCENSION HYDR** 46.56 142 T T 21 04 12.2
baz=327,slow=75,SNR=1443
H10N3 **ASCENSION HYDR** 46.56 142 T T 21 04 12.4
baz=327,slow=75,SNR=1477
KRUC **Moravsky** 46.57 50 eP P 20 14 51.0 -0.8
H10N1 **ASCENSION HYDR** 46.58 142 T T 21 04 13.6
baz=327,slow=75,SNR=734
OTAV **Otavalo** 46.59 236 P P 20 14 53.6 +0.8
OTAV IAmb IAmb 20 15 02.0
comp=Z,30nm,1.1s
OTAV **Otavalo** 46.59 236 P P 20 14 53.7 +0.8
OTAV pmax pmax
comp=Z,30nm,1.1s
OTAV **Otavalo** 46.59 236 eP P 20 14 51.6 -1.2
NEEM **North Greenlan** 46.62 357 iP P 20 14 50.6 -1.5
NEEM IAmb IAmb 20 14 53.1
comp=Z,8.5nm,0.7s
SOP **Sopron** 46.69 52 P P 20 14 53.3 +0.6
CROK **Carrier** 46.69 293 P P 20 14 53.1 +0.1
CROK IAmb IAmb 20 14 55.4
comp=Z,28nm,1.0s
VRAC **Vranov** 46.70 50 ⇑P P 20 14 52.6 -0.3
VRAC **Vranov** 46.70 50 P P 20 14 51.8 -1.1
comp=Z,3.8nm,0.7s,baz=277,slow=8.6,SNR=10.0
comp=Z,3.8nm,0.7s
VRAC **Vranov** 46.70 50 eP P 20 14 52.4 -0.4
VRAC **Vranov** 46.70 50 ⇑P P 20 14 52.6 -0.3
CUC **Castrocucco** 46.74 63 P P 20 14 52.3 -1.0
CUC IAmb IAmb 20 15 01.8
comp=Z,48nm,1.5s
MDND **Maddock** 46.75 308 P P 20 14 53.6 +0.3
MDND IAmb IAmb 20 15 07.7
comp=Z,22nm,0.8s
MDND **Maddock** 46.75 308 P P 20 14 52.7 -0.6
baz=89
KRLC **Kraliky** 46.84 49 eP P 20 14 53.9 0.0
KRLC eS S 20 21 59.5 +15
KRLC MLR MLR
comp=Z,600nm,19.4s
KRLC **Kraliky** 46.84 49 eP P 20 14 53.9 0.0
KRLC ex x 20 21 59.5
KRLC AMS AMS 20 31 40.0
comp=Z,600nm,19.4s
BDFB **Brasilia** 46.92 189 P P 20 14 54.3 -0.6
comp=Z,8.3nm,0.8s,baz=18,slow=9.3,SNR=9.4
comp=Z,8.3nm,0.8s
BDFB **Brasilia** 46.92 189 P P 20 14 54.8 -0.1
BDFB **Brasilia** 46.92 189 P P 20 14 54.8 -0.1
BDFB pmax pmax
comp=Z,8.0nm,0.7s
R32A **Long Quarter,** 46.94 295 P P 20 14 55.2 +0.4
R32A IAmb IAmb 20 14 56.1
comp=Z,24nm,1.0s
X34A **Smith Ranch, M** 46.95 290 P P 20 14 55.6 +0.7
ZST **Bratislava** 47.05 51 eP P 20 14 56.7 +1.2
ZST pmax pmax
comp=Z,258nm,2.0s
ZST **Bratislava** 47.05 51 eP P 20 14 56.7 +1.2
ETMB **Extrema** 47.12 214 P P 20 14 55.3 -1.1
ETMB IAmb IAmb 20 15 02.8
comp=Z,19nm,1.2s
ETMB **Extrema** 47.12 214 eP P 20 14 55.3 -1.1
MODS **Modra-Piesok** 47.16 51 eP P 20 14 56.7 +0.3
MODS pmax pmax
comp=Z,71nm,1.4s
MODS **Modra-Piesok** 47.16 51 eP P 20 14 56.7 +0.3
EGYH **Egyhazaskeszo** 47.22 52 P P 20 14 58.0 +1.1
SMOL **Smolenice** 47.26 51 eP P 20 14 57.6 +0.4
SMOL pmax pmax
comp=Z,6.0nm,0.9s
SLOR **San Lorenzo -** 47.30 235 P P 20 14 57.5 -0.9
SLOR IAmb IAmb 20 15 03.0
comp=Z,20nm,0.7s
MORC **Moravsky Berou** 47.33 49 P P 20 14 57.5 -0.3
MORC IAmb IAmb 20 15 04.0
comp=Z,23nm,1.4s
MORC **Moravsky Berou** 47.33 49 eP P 20 14 57.2 -0.5
MORC **Moravsky Berou** 47.33 49 ⇑P P 20 14 58.8 +1.1
MPLH **Magyarpolny** 47.37 53 P P 20 14 57.1 -0.9
VILB **Vilhena** 47.37 205 P P 20 14 58.8 +0.5
VILB IAmb IAmb 20 15 06.1
comp=Z,36nm,0.9s
VILB **Vilhena** 47.37 205 eP P 20 14 58.7 +0.4
JAVC **Velka Javorina** 47.41 50 eP P 20 14 58.4 0.0
H10S3 **ASCENSION HYDR** 47.41 143 T T 21 05 26.0
baz=254,slow=74
NOKA **Waynoka** 47.42 293 P P 20 14 59.1 +0.5
NOKA IAmb IAmb 20 15 17.9
comp=Z,48nm,1.2s
CSTR **Hydro, Custer** 47.42 292 P P 20 14 59.0 +0.3
CSTR IAmb IAmb 20 15 02.9
comp=Z,3.6nm,1.2s
H10S2 **ASCENSION HYDR** 47.43 143 T T 21 05 27.1
baz=326,slow=74
MAUC **Maruska** 47.51 50 eP P 20 15 00.9 +1.7
MAUC AMS AMS 20 34 20.0
comp=Z,800nm,14.8s
U32A **Winter Ranch,** 47.52 293 P P 20 14 59.8 +0.4
E28A **Huff** 47.54 307 P P 20 14 58.7 -0.7
MC01 **Montes Claros** 47.61 183 eP P 20 15 01.6 +1.3
CBKS **Cedar Bluff** 47.66 296 P P 20 15 00.8 +0.2
CBKS **Cedar Bluff** 47.66 296 P P 20 15 00.8 +0.2
CBKS pmax pmax
comp=Z,47nm,1.2s
CBKS **Cedar Bluff** 47.66 296 P P 20 14 59.8 -0.8
baz=80
WMOK **Wichita Mounta** 47.69 290 P P 20 15 00.9 +0.2
WMOK IAmb IAmb 20 15 30.1
comp=Z,31nm,1.2s
WMOK **Wichita Mounta** 47.69 290 P P 20 15 00.9 +0.2
WMOK pmax pmax
comp=Z,31nm,1.2s
WMOK **Wichita Mounta** 47.69 290 P P 20 15 01.2 +0.5
baz=77,SNR=7.1
OKC **Ostrava-Krasne** 47.72 49 AMS AMS 20 33 50.0
comp=Z,400nm,14.1s
KOVH **Kovagotottos** 47.81 54 P P 20 15 01.2 -0.3
CSKK **Cskako** 47.85 52 P P 20 15 03.1 +1.3
ELIS **Ellis County** 47.92 292 P P 20 15 03.1 +0.6
ELIS IAmb IAmb 20 15 12.1
comp=Z,23nm,0.7s
PORT **Chimborazo Vol** 48.02 235 P P 20 15 03.6 -0.5
PORT IAmb IAmb 20 15 06.6
comp=Z,33nm,1.1s
CHSH **Refugio Sur-Vo** 48.11 235 P P 20 15 03.9 -0.9
CHSH IAmb IAmb 20 15 07.7
comp=Z,52nm,1.1s
MORH **Mrgy, Hungar** 48.18 54 ⇓P P 20 15 03.5 -0.8
MORH **Mrgy, Hungar** 48.18 54 P P 20 15 03.0 -1.3
VYHS **Vyhne** 48.19 51 eP P 20 15 04.4 -0.1
VYHS pmax pmax
comp=Z,121nm,2.6s
VYHS **Vyhne** 48.19 51 eP P 20 15 04.4 -0.1
FFC **Flin Flon** 48.40 318 P P 20 15 05.7 -0.2
FFC IAmb IAmb 20 15 07.7
comp=Z,34nm,1.1s
FFC **Flin Flon** 48.40 318 P P 20 15 05.7 -0.2
FFC pmax pmax
comp=Z,34nm,1.2s
LANS **Liptovska Anna** 48.59 50 eP P 20 15 10.0 +2.5
LANS pmax pmax
comp=Z,5.0nm,1.2s
LANS **Liptovska Anna** 48.59 50 eP P 20 15 10.0 +2.5
SALV **Santo Antonio** 48.71 198 eP P 20 15 09.4 +0.8
OJC **Ojcow** 48.78 48 eP P 20 15 08.8 -0.1
OJC **Ojcow** 48.78 48 P P 20 15 08.2 -0.7
OJC IAmb IAmb 20 15 10.2
comp=Z,19nm,1.1s
OJC **Ojcow** 48.78 48 P P 20 15 08.2 -0.7
OJC pmax pmax
comp=Z,19nm,1.1s
CZSB **Cruzeiro do Su** 48.85 223 P P 20 15 08.7 -1.2
CZSB IAmb IAmb 20 15 10.1
comp=Z,43nm,1.2s
CZSB **Cruzeiro do Su** 48.85 223 eP P 20 15 09.7 -0.2
ABTX **Abilene, Hawle** 48.88 288 P P 20 15 10.2 +0.2
ABTX IAmb IAmb 20 15 19.0
comp=Z,33nm,1.0s
ABTX **Abilene, Hawle** 48.88 288 P P 20 15 09.9 -0.1
baz=75
PSZ **Piszkesteto** 48.93 52 ⇑P P 20 15 11.5 +1.3
PSZ **Piszkesteto** 48.93 52 P P 20 15 10.5 +0.4
PSZ IAmb IAmb 20 15 16.4
comp=Z,18nm,1.1s
PSZ **Piszkesteto** 48.93 52 ⇑P P 20 15 11.5 +1.3
PSZ **Piszkesteto** 48.93 52 P P 20 15 10.8 +0.7
BOSC **San Juan Bosco** 49.04 233 P P 20 15 10.2 -1.3
BOSC IAmb IAmb 20 15 11.4
comp=Z,32nm,1.0s
OGNE **Ogallala** 49.08 299 P P 20 15 11.3 -0.1
OGNE **Ogallala** 49.08 299 P P 20 15 12.8 +1.3
baz=81,SNR=6.9
OGNE **Ogallala** 49.08 299 P P 20 15 11.4 -0.1
baz=81,SNR=6.9
NIE **Niedzica** 49.12 50 eP P 20 15 11.8 +0.1
DIAM **Diamantina, MG** 49.18 183 eP P 20 15 14.2 +1.8
IPMB **Ipameri, GO** 49.25 188 eP P 20 15 15.0 +2.2
DIVS **Divibare** 49.32 57 P P 20 15 12.1 -1.2
DIVS IAmb IAmb 20 15 22.4
comp=Z,23nm,1.1s
PTLB **Pontes e Lacer** 49.32 203 P P 20 15 13.5 +0.2
PTLB IAmb IAmb 20 15 24.5
comp=Z,7.9nm,1.1s
PTLB **Pontes e Lacer** 49.32 203 eP P 20 15 13.8 +0.5
DGMT **Dagmar** 49.80 309 P P 20 15 17.4 +0.6
DGMT IAmb IAmb 20 15 17.9
comp=Z,47nm,1.4s
DGMT **Dagmar** 49.80 309 P P 20 15 16.9 +0.1
baz=86
KSCO **Kaye Shedlock'** 49.85 297 P P 20 15 18.1 +0.6
KSCO IAmb IAmb 20 15 20.1
comp=Z,58nm,1.5s
KSCO **Kaye Shedlock'** 49.85 297 P P 20 15 17.7 +0.2
baz=79
CRVS **Cervenica-Dubn** 49.91 50 eP P 20 15 18.4 +0.8
CRVS pmax pmax
comp=Z,92nm,1.9s
CRVS **Cervenica-Dubn** 49.91 50 eP P 20 15 18.4 +0.8
AMTX **Amarillo** 49.98 291 P P 20 15 18.4 0.0
AMTX IAmb IAmb 20 15 38.2
comp=Z,22nm,0.8s
AMTX **Amarillo** 49.98 291 P P 20 15 18.5 +0.1
baz=76
RSSD **Black Hills** 50.10 304 P P 20 15 19.0 -0.4
RSSD **Black Hills** 50.10 304 P P 20 15 19.0 -0.4
RSSD pmax pmax
comp=Z,8.0nm,1.3s
RSSD **Black Hills** 50.10 304 P P 20 15 18.8 -0.6
baz=83
PBUR **Paburge** 50.12 41 eP P 20 15 20.0 +1.0
SIRR **Siria** 50.26 54 ⇑P P 20 15 19.7 -0.6
CMIG **Matias Romero** 50.27 267 LR LR 20 34 54.4
comp=Z,546nm,21.3s,baz=35,slow=34
BZS **Buzias** 50.30 54 ⇓P P 20 15 20.7 +0.2
BZS **Buzias** 50.30 54 ⇓P P 20 15 20.7 +0.2
RAF **Rauma** 50.41 34 eP P 20 15 22.1 +1.0
KOLS **Kolonicke sedl** 50.44 50 eP P 20 15 21.8 +0.2
KOLS pmax pmax
comp=Z,9.0nm,0.7s
KOLS **Kolonicke sedl** 50.44 50 eP P 20 15 21.8 +0.2
MDVR **Moldovita** 50.46 56 ⇑P P 20 15 21.8 -0.1
UZH **Uzhgorod** 50.48 50 ⇓eP P 20 15 22.8 +0.9
UZH e 20 15 27.9
BOVS **Bovan** 50.61 57 ⇓P P 20 15 21.9 -1.0
KWP **Kalwaria Pacla** 50.68 49 eP P 20 15 23.4 0.0
KWP **Kalwaria Pacla** 50.68 49 P P 20 15 23.4 0.0
KWP **Kalwaria Pacla** 50.68 49 P P 20 15 23.4 0.0
KWP pmax pmax
comp=Z,249nm,1.1s
RES **Resolute Bay** 50.83 344 LR LR 20 35 14.4
comp=Z,449nm,20.9s,baz=150,slow=34
DRGR 50.93 53 ⇑P P 20 15 24.7 -0.7
DRGR 50.93 53 ⇑P P 20 15 24.7 -0.7
MSTX **Muleshoe** 51.07 290 P P 20 15 27.1 +0.4
MSTX **Muleshoe** 51.07 290 P P 20 15 27.1 +0.4
baz=75
MSTX **Muleshoe** 51.07 290 P P 20 15 26.9 +0.2
baz=75
GZR **Gura Zlata** 51.13 55 ⇑P P 20 15 27.0 +0.1
GZR **Gura Zlata** 51.13 55 ⇑P P 20 15 27.0 +0.1
DEV **Deva** 51.16 54 ⇑P P 20 15 27.2 +0.2
DEV **Deva** 51.16 54 ⇑P P 20 15 27.2 +0.2
DEV 20 15 29.6
PABE **Paberze** 51.26 42 P P 20 15 27.1 -0.5
PABE IAmb IAmb 20 15 29.5
comp=Z,35nm,1.0s
PABE **Paberze** 51.26 42 eP P 20 15 27.8 +0.2
LAO **LASA Array** 51.33 307 P P 20 15 28.6 +0.2
LAO **LASA Array** 51.33 307 P P 20 15 28.7 +0.3
baz=83
LAO **LASA Array** 51.33 307 P P 20 15 28.5 +0.1
baz=83
ALF01 **Guarapari-ES** 51.45 179 eP P 20 15 30.7 +1.4
LVV **L'vov** 51.52 49 eP P 20 15 29.3 -0.4
LVV e 20 17 28.4
LVV eS S 20 22 45.3 -4.4
LVV ePS PKiKP 20 23 00.8 -25
LVV eSS SS 20 26 24.0 -1.4
LVV eSSS SSS 20 27 59.8
PHWY **Pilot Hill** 51.57 300 P P 20 15 30.6 0.0
T25A **Trinidad** 51.61 295 P P 20 15 32.2 +1.3
T25A **Trinidad** 51.61 295 P P 20 15 31.8 +0.9
baz=77,SNR=6.8
MEF **Metsahovi** 51.63 36 eP P 20 15 31.5 +1.2
Q24A **Divide** 51.79 297 P P 20 15 33.1 +0.8
Q24A IAmb IAmb 20 15 34.5
comp=Z,44nm,1.4s
Q24A **Divide** 51.79 297 P P 20 15 31.8 -0.5
baz=78,SNR=7.9
LOT **Lotru** 51.82 54 ⇑P P 20 15 32.8 +0.7
VTS **Vitosha** 51.87 58 ⇑P P 20 15 31.9 -0.8
VTS **Vitosha** 51.87 58 P P 20 15 31.8 -0.8
VTS **Vitosha** 51.87 58 ⇑P P 20 15 31.9 -0.8
VTS **Vitosha** 51.87 58 P P 20 15 35.4 +2.8
KKB **Krupnik** 51.89 59 P P 20 15 34.4 +1.8
ATAH **Atahualpa** 51.91 229 P P 20 15 33.5 0.0
comp=Z,12nm,1.0s,baz=348,slow=2.2,SNR=5.5
ATAH LR LR 20 37 13.0
comp=Z,540nm,21.4s,baz=355,slow=36
comp=Z,12nm,1.0s
ITM **Ithomi** 51.96 65 P P 20 15 32.8 -0.4
ITM IAmb IAmb 20 15 54.3
comp=Z,26nm,1.3s
ISCO **Idaho Springs** 51.97 298 P P 20 15 33.9 +0.3
ISCO **Idaho Springs** 51.97 298 P P 20 15 33.9 +0.3
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 51.97 298 P P 20 15 34.5 +0.9
baz=78,SNR=8.3
N23A **Red Feather La** 52.01 300 P P 20 15 34.3 +0.5
N23A IAmb IAmb 20 15 36.1
comp=Z,45nm,1.4s
N23A **Red Feather La** 52.01 300 P P 20 15 34.0 +0.2
baz=79,SNR=8.2
K22A **Casper** 52.12 302 P P 20 15 34.4 -0.1
K22A **Casper** 52.12 302 P P 20 15 34.0 -0.5
baz=80
EUNU **Eureka** 52.26 351 P P 20 15 35.0 +0.1
EUNU IAmb IAmb 20 15 56.7
comp=Z,44nm,1.4s
SDCO **Great Sand Dun** 52.32 296 P P 20 15 36.5 +0.2
baz=77
MMB **Musomiste** 52.41 59 P P 20 15 37.8 +1.3
ARR **Arges** 52.43 54 ⇑P P 20 15 36.9 +0.2
BUR08 **Bucovina Ar. S** 52.52 51 P P 20 15 37.5 +0.2
BUR08 IAmb IAmb 20 15 40.0
comp=Z,33nm,1.4s
FINES **FINESS Array B** 52.52 34 P P 20 15 36.4 -0.5
comp=Z,11nm,0.8s,baz=262,slow=5.4,SNR=24
comp=Z,11nm,0.8s
FINES **FINESS Array B** 52.52 34 P P 20 15 36.2 -0.8
FINES **FINESS Array B** 52.52 34 P P 20 15 36.2 -0.8
FIA1 **FINESS Array S** 52.52 34 P P 20 15 36.8 -0.2
FIA1 IAmb IAmb 20 15 39.3
comp=Z,28nm,1.0s
BURAR **Bucovina Array** 52.53 52 ⇑P P 20 15 37.9 +0.5
BURAR **Bucovina Array** 52.53 52 P P 20 15 36.9 -0.5
BURAR **Bucovina Array** 52.53 52 ⇑P P 20 15 37.9 +0.5
VOIR 52.71 54 ⇑P P 20 15 38.4 -0.3
VOIR 52.71 54 ⇑P P 20 15 38.4 -0.3
VSU **Vasula** 52.78 38 iP P 20 15 37.9 -1.0
VSU pmax pmax
comp=Z,75nm,0.8s
VSU **Vasula** 52.78 38 eP P 20 15 38.8 -0.1
RWWY **Rawlins** 52.79 301 P P 20 15 40.4 +0.7
RWWY IAmb IAmb 20 15 41.3
comp=Z,39nm,1.4s
DOPR **Dopca** 52.87 54 ⇑P P 20 15 39.6 -0.3
NACGM **Naroch** 52.89 42 ⇑eP P 20 15 33.0 -6.8
baz=273
AQDB **Aquidauana** 53.09 197 P P 20 15 41.8 +0.2
AQDB **Aquidauana** 53.09 197 eP P 20 15 43.3 +1.7
OZUR 53.12 53 ⇑P P 20 15 42.7 +1.0
SMCO **Snowmass** 53.13 298 P P 20 15 43.3 +1.0
TXAR **Lajitas Array** 53.13 285 LR LR 20 37 25.7
comp=Z,512nm,18.9s,baz=88,slow=35
BIZ **Bicaz** 53.22 52 ⇑P P 20 15 43.1 +0.7
PCMB **Pacaembu** 53.26 191 eP P 20 15 45.3 +2.5
MLR **Muntele Rosu** 53.33 54 ⇑P P 20 15 43.2 -0.1
MLR **Muntele Rosu** 53.33 54 LR LR 20 37 23.0
comp=Z,293nm,20.0s,baz=262,slow=35
MLR **Muntele Rosu** 53.33 54 P P 20 15 41.6 -1.7
MLR IAmb IAmb 20 15 53.0
comp=Z,32nm,1.0s
MLR **Muntele Rosu** 53.33 54 ⇑P P 20 15 43.2 -0.1
S22A **4UR Ranch, Cre** 53.34 296 P P 20 15 44.0 +0.2
baz=76
COVR **Voineasa-Covas** 53.45 54 ⇓P P 20 15 45.1 +0.9
EGMT **Eagleton** 53.54 309 P P 20 15 45.1 +0.3
EGMT **Eagleton** 53.54 309 P P 20 15 45.0 +0.3
baz=82,SNR=12
MNK **Minsk** 53.55 43 iP P 20 15 43.9 -0.7
MNK i 20 16 50.9
MNK i 20 17 45.0
MNK iPPP PPP 20 18 49.7
MNK iS S 20 23 15.6 -1.6
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,51nm,0.9s
MNK **Minsk** 53.55 43 iP P 20 15 43.9 -0.7
comp=E,4.0nm,0.9s
MNK iP P 20 15 43.9 -0.7
MNK iP P 20 15 43.9 -0.7
comp=Z,51nm,0.9s,baz=274
MNK iPcP PcP 20 16 50.9 -0.3
MNK iPP PP 20 17 45.1 0.0
MNK iPPP PPP 20 18 49.7
MNK iS S 20 23 15.6 -1.6
MNK iSS ScS 20 26 09.7 +36
MNK iSSS SSS 20 28 59.0
MNK iLQ LQ 20 31 29.4
MNK iLR LR 20 33 34.0
MNK iLRM MLR 20 36 39.3
comp=Z,915nm,18.4s
MNK iLRM MLR 20 36 59.1
comp=E,134nm,18.4s
NEHR **Nehoiu** 53.58 54 ⇑P P 20 15 45.2 +0.1
KDZ **Kurdzhali** 53.64 59 P P 20 15 46.4 +0.8
LPAZ **La Paz** 53.65 212 P P 20 15 46.1 -0.4
comp=E,8.4nm,0.8s,baz=14,slow=7.6,SNR=30
LPAZ LR LR 20 37 19.0
comp=E,623nm,19.7s,baz=338,slow=35
comp=E,8.4nm,0.8s
LPAZ **La Paz** 53.65 212 P P 20 15 46.2 -0.3
LPAZ **La Paz** 53.65 212 P P 20 15 46.2 -0.3
LPAZ pmax pmax
comp=Z,17nm,1.1s
LPAZ **La Paz** 53.65 212 eP P 20 15 46.7 +0.2
RLMT **Red Lodge** 53.65 306 P P 20 15 46.2 +0.4
RLMT IAmb IAmb 20 15 47.9
comp=Z,30nm,1.4s
RLMT **Red Lodge** 53.65 306 P P 20 15 45.9 +0.1
baz=80,SNR=7.9
TESR **Tescani** 53.65 53 ⇑P P 20 15 45.0 -0.5
PLOR **Plostina** 53.76 54 ⇓P P 20 15 46.8 +0.4
PLOR **Plostina** 53.76 54 ⇓P P 20 15 46.8 +0.4
ANMO **Albuquerque** 53.76 293 P P 20 15 47.7 +0.9
comp=Z,2.8nm,0.9s,baz=106,slow=8.9,SNR=11
ANMO LR LR 20 36 23.2
comp=Z,2μm,20.9s,baz=103,slow=33
comp=Z,2.8nm,0.9s
ANMO **Albuquerque** 53.76 293 P P 20 15 48.0 +1.2
ANMO **Albuquerque** 53.76 293 eP P 20 15 48.4 +1.6
ANMO pmax pmax
comp=Z,29nm,2.5s
ANMO **Albuquerque** 53.76 293 P P 20 15 48.0 +1.2
baz=74
ANMO **Albuquerque** 53.76 293 P P 20 15 47.6 +0.9
baz=74
VRI **Vrincioaia** 53.81 54 ⇓P P 20 15 46.8 0.0
VRI **Vrincioaia** 53.81 54 ⇓P P 20 15 46.8 0.0
MNTX **Cornudas Mount** 53.81 288 P P 20 15 47.4 +0.4
baz=72
GCMT **Greycliff** 53.82 306 P P 20 15 47.2 +0.2
RDO **Rodhopi** 53.84 59 P P 20 15 46.2 -0.4
RDO IAmb IAmb 20 15 56.3
comp=Z,28nm,1.1s
O20A **White River Ci** 53.87 299 P P 20 15 47.9 +0.4
O20A IAmb IAmb 20 16 02.7
comp=Z,23nm,1.1s
O20A **White River Ci** 53.87 299 P P 20 15 48.0 +0.5
baz=77,SNR=8.6
BNM **Barren Site** 54.11 292 P P 20 15 49.8 +0.4
CRNM **Carthage** 54.25 292 P P 20 15 51.0 +0.6
ALN **Alexandroupoli** 54.26 60 P P 20 15 48.5 -1.6
ALN **Alexandroupoli** 54.26 60 P P 20 15 48.5 -1.6
ALN pmax pmax
comp=Z,13nm,1.0s
BW06 **Boulder Array** 54.29 303 P P 20 15 50.0 -0.6
BW06 **Boulder Array** 54.29 303 P P 20 15 50.2 -0.4
baz=78,SNR=44
PD31 **Pinedale Array** 54.29 303 P P 20 15 49.8 -0.8
PDAR **Pinedale Array** 54.29 303 P P 20 15 50.5 0.0
comp=Z,17nm,1.0s,baz=79,slow=7.7,SNR=80
PDAR LR LR 20 38 06.9
comp=Z,2μm,18.6s,baz=119,slow=35
comp=Z,17nm,1.0s
PDAR **Pinedale Array** 54.29 303 P P 20 15 50.1 -0.5
PV15 **Paradox Valley** 54.47 297 P P 20 15 52.3 +0.4
YUF **Upper Falls** 54.59 305 P P 20 15 53.5 +0.7
YUF IAmb IAmb 20 16 18.5
comp=Z,9.6nm,0.6s
SBM **South Baldy** 54.60 292 P P 20 15 53.6 +0.4
TRCB **Terra Rica** 54.67 193 P P 20 15 53.2 +0.1
TRCB **Terra Rica** 54.67 193 eP P 20 15 54.2 +1.1
YNR **Norris Junctio** 54.71 305 P P 20 15 53.6 0.0
AK05 **Malin Array Si** 54.74 47 P P 20 15 51.5 -1.9
AK05 IAmb IAmb 20 15 54.8
comp=Z,45nm,1.3s
AKASG **Malin Array Be** 54.74 47 P P 20 15 52.2 -1.2
comp=Z,9.1nm,0.9s,baz=274,slow=6.3,SNR=40
AKASG LR LR 20 37 39.7
comp=Z,761nm,18.1s,baz=275,slow=34
comp=Z,9.1nm,0.9s
AKASG **Malin Array Be** 54.74 47 P P 20 15 52.6 -0.8
AKBB **Malin Array Si** 54.74 47 P P 20 15 53.3 -0.1
AKBB IAmb IAmb 20 15 58.9
comp=Z,39nm,1.4s
AKBB **Malin Array Si** 54.74 47 ceP P 20 15 53.2 -0.2
IDI **Anoyia** 54.75 67 P P 20 15 53.2 -0.6
IDI IAmb IAmb 20 16 07.5
comp=Z,26nm,1.1s
MVCO **Mesa Verde** 54.76 296 P P 20 15 55.0 +0.9
MVCO IAmb IAmb 20 16 03.3
comp=Z,28nm,1.4s
MVCO **Mesa Verde** 54.76 296 P P 20 15 55.1 +1.0
baz=75,SNR=7.0
RDMU **Red Mountain** 54.77 300 P P 20 15 54.3 +0.3
PV20 **West Nyswonger** 54.84 297 P P 20 15 54.6 0.0
PV23 **Carpenter Ridg** 54.85 297 P P 20 15 55.1 +0.3
YFT **Old Faithful** 54.87 305 P P 20 15 56.0 +1.3
YFT IAmb IAmb 20 15 57.9
comp=Z,24nm,1.4s
LOHW **Long Hollow** 54.87 304 P P 20 15 55.4 +0.6
LOHW IAmb IAmb 20 15 56.5
comp=Z,24nm,1.4s
CFR **Carcaliu** 54.90 54 ⇑P P 20 15 54.4 -0.2
CFR **Carcaliu** 54.90 54 ⇑P P 20 15 54.4 -0.2
SANT **Santorini** 54.91 65 P P 20 15 53.6 -1.3
YMR **Madison River** 54.92 305 P P 20 15 56.3 +1.2
MOOW **Moose Ponds** 54.95 304 P P 20 15 55.6 +0.3
SNOW **Snow King Moun** 55.01 304 P P 20 15 56.2 +0.4
SNOW IAmb IAmb 20 15 57.7
comp=Z,29nm,1.0s
YHL **Hebgen Lake** 55.04 306 P P 20 15 57.0 +0.9
YHL IAmb IAmb 20 15 58.4
comp=Z,19nm,1.2s
IMW **Indian Meadow** 55.05 304 P P 20 15 56.4 +0.2
IMW IAmb IAmb 20 15 58.1

comp=Z,29nm,1.1s
REDW Red Top Meadow 55.10 304 P P 20 15 56.9 +0.4
REDW IAmb IAmb 20 15 58.1
comp=Z,42nm,1.4s
HRY Holter Researc 55.14 308 P P 20 15 56.6 0.0
TPAW Teton Pass 55.14 304 P P 20 15 56.4 -0.4
TPAW IAmb IAmb 20 15 57.7
comp=Z,37nm,1.2s
EDM Edmonton 55.16 316 P P 20 15 56.1 -0.3
EDM Edmonton 55.16 316 P P 20 15 56.1 -0.3
EDM pmax pmax
comp=Z,85nm,1.3s
FXWY Fox Creek 55.17 304 P P 20 15 56.6 -0.3
FXWY IAmb IAmb 20 15 58.6
comp=Z,24nm,1.3s
YKA Yellowknife Ar 55.17 327 P P 20 15 55.9 -0.5
comp=Z,12nm,1.1s,baz=90,slow=7.3,SNR=16
YKA LR LR 20 38 37.3
comp=Z,1µm,20.7s,baz=98,slow=35
comp=Z,12nm,1.1s
YKA Yellowknife Ar 55.17 327 P P 20 15 56.0 -0.3
YKA Yellowknife Ar 55.17 327 P P 20 15 56.0 -0.3
BOZ Bozeman (W) 55.21 306 P P 20 15 56.5 -0.6
BOZ Bozeman (W) 55.21 306 P P 20 15 56.5 -0.6
BOZ pmax pmax
comp=Z,13nm,1.5s
BOZ Bozeman (W) 55.21 306 P P 20 15 56.6 -0.4
baz=79,SNR=8.3
TIRR Tirgusor 55.23 55 P P 20 15 55.7 -1.4
TIRR Tirgusor 55.23 55 P P 20 15 55.7 -1.4
TIRR pmax pmax
comp=Z,40nm,1.0s
AHID Auburn Hatcher 55.40 303 P P 20 15 58.8 +0.2
121A Cookes Peak, D 55.51 290 P P 20 16 00.8 +1.3
121A Cookes Peak, D 55.51 290 P P 20 16 01.0 +1.6
baz=72,SNR=28
121A Cookes Peak, D 55.51 290 P P 20 16 00.1 +0.6
baz=72,SNR=28
ECR Eagle Creek 55.53 303 P P 20 16 00.1 +0.6
SRU San Rafael Swe 55.83 299 P P 20 16 01.9 +0.2
SRU San Rafael Swe 55.83 299 P P 20 16 01.9 +0.2
SRU pmax pmax
comp=Z,46nm,1.3s
APA Apatity 55.89 27⇑ *i*P P 20 16 00.8 -0.6
APA *i* S S 20 23 45.0 -3.3
APA pmax pmax
comp=Z,23nm,1.0s
APA MLR MLR
comp=Z,400nm,13.0s
P17A Butcher Ranch, 55.90 299 P P 20 16 02.1 -0.1
HWUT Hardware Ranch 56.00 302 P P 20 16 03.3 +0.5
HWUT IAmb IAmb 20 16 04.4
comp=Z,28nm,1.1s
PB16 IPOC Station P 56.07 213 P P 20 16 02.3 -1.7
WALA Waterton Lakes 56.11 311 P P 20 16 02.7 -0.8
WALA IAmb IAmb 20 16 04.4
comp=Z,26nm,1.3s
JLU Jordanelle 56.15 301 P P 20 16 04.6 +0.5
JLU IAmb IAmb 20 16 05.8
comp=Z,44nm,1.3s
TMUT Trail Mountain 56.30 299 P P 20 16 05.6 +0.4
TMUT IAmb IAmb 20 16 07.2
comp=Z,25nm,1.3s
CTU Camp Tracy 56.35 301 P P 20 16 05.3 -0.1
CTU IAmb IAmb 20 16 06.8
comp=Z,20nm,1.2s
Q16A Castle Valley 56.37 299 P P 20 16 05.8 +0.3
Q16A IAmb IAmb 20 16 08.3
comp=Z,24nm,1.1s
MPU Maple Canyon 56.43 300 P P 20 16 06.7 +0.7
MPU IAmb IAmb 20 16 07.8
comp=Z,31nm,1.3s
MSO Missoula 56.54 308 P P 20 16 06.7 +0.1
MSO IAmb IAmb 20 16 08.2
comp=Z,32nm,1.5s
MSO Missoula 56.54 308 P P 20 16 07.2 +0.6
baz=78,SNR=7.8
X18A Snowflake 56.64 293 P P 20 16 07.2 -0.3
MANT Manisa 56.73 62 P P 20 16 07.2 -0.9
MANT IAmb IAmb 20 16 17.2
comp=Z,45nm,1.4s
NLU North Lily Min 56.78 300 P P 20 16 09.0 +0.5
NLU IAmb IAmb 20 16 10.6
comp=Z,41nm,1.3s
HVU Hansel Valley 56.84 302 P P 20 16 08.3 -0.5
HVU IAmb IAmb 20 16 10.2
comp=Z,28nm,1.5s
HVU Hansel Valley 56.84 302 P P 20 16 08.3 -0.5
HVU pmax pmax
comp=Z,28nm,1.5s
319A Douglas 57.08 289 P P 20 16 07.0 -3.7
GO01 Chusmiza 57.09 211 P P 20 16 10.2 -0.9
MSU Marysvale 57.23 298 P P 20 16 13.0 +1.2
MSU Marysvale 57.23 298 P P 20 16 13.0 +1.2
BGU Big Grassy Mou 57.23 301 P P 20 16 11.5 -0.1
BGU IAmb IAmb 20 16 13.3
comp=Z,31nm,1.4s
BGU ScP **ScP 20 20 56.2 -9.3**
MVU Marysvale 57.26 298 P P 20 16 12.7 +0.7
DUG Dugway, Tooele 57.26 300 P P 20 16 12.3 +0.5
DUG IAmb IAmb 20 16 13.9
comp=Z,44nm,1.2s
DUG Dugway, Tooele 57.26 300 P P 20 16 12.3 +0.5
DUG pmax pmax
comp=Z,44nm,1.3s
DUG Dugway, Tooele 57.26 300 P P 20 16 12.6 +0.7
baz=75,SNR=35
MTPU Mount Pierson 57.37 298 P P 20 16 14.3 +1.4
TCRU Three Creeks R 57.41 298 P P 20 16 13.5 +0.4
TCRU IAmb IAmb 20 16 15.7
comp=Z,41nm,1.3s
WUAZ Wupatki 57.46 295 P P 20 16 13.6 +0.2
WUAZ IAmb IAmb 20 16 16.1
comp=Z,47nm,1.5s
WUAZ Wupatki 57.46 295 P P 20 16 14.1 +0.8
baz=73,SNR=7.3
HLID Hailey 57.58 305 P P 20 16 14.7 +0.6
HLID Hailey 57.58 305 P P 20 16 14.5 +0.4
baz=76,SNR=8.1
PKCU Pink Cliffs 57.63 297 P P 20 16 15.6 +0.9
PKCU IAmb IAmb 20 16 17.5
comp=Z,28nm,1.3s
BORA Eskisehir 57.78 60 P P 20 16 12.3 -3.1
X16A Lo Mia Camp, P 57.84 293 P P 20 16 17.1 +1.0
U15A North Rim 57.91 296 P P 20 16 17.4 +0.8
U15A IAmb IAmb 20 16 20.1
comp=Z,20nm,1.3s
TUC Tucson 57.99 291 P P 20 16 18.1 +1.1
TUC IAmb IAmb 20 16 25.8
comp=Z,15nm,0.9s
TUC Tucson 57.99 291 P P 20 16 18.1 +1.1
TUC pmax pmax
comp=Z,15nm,1.0s
TUC Tucson 57.99 291 P P 20 16 17.8 +0.8
baz=71
KNB Kanab 58.14 297 P P 20 16 18.5 +0.4
KNB IAmb IAmb 20 16 19.7
comp=Z,20nm,1.4s
KNB Kanab 58.14 297 P P 20 16 18.5 +0.4
KNB pmax pmax
comp=Z,20nm,1.4s
MDUB Mudurnu 58.17 59 P P 20 16 17.0 -1.1
SZCU Shurtz Canyon 58.18 297 P P 20 16 18.0 -0.4
ELL Elmali 58.24 64 P P 20 16 18.5 -0.2
ELL Elmali 58.24 64 P P 20 16 18.5 -0.2
ELL pmax pmax
comp=Z,126nm,1.3s
PLID Pearl Lake 58.33 307 P P 20 16 19.3 0.0
PLID IAmb IAmb 20 16 21.0
comp=Z,26nm,1.3s
NEW Newport 58.35 310 P P 20 16 18.9 -0.3
comp=Z,14nm,1.1s,baz=70,slow=6.3,SNR=15
NEW LR LR 20 42 00.6
comp=Z,715nm,18.1s,baz=104,slow=37
comp=Z,14nm,1.1s
NEW Newport 58.35 310 P P 20 16 18.8 -0.5
NEW IAmb IAmb 20 16 20.6
comp=Z,32nm,1.2s
NEW Newport 58.35 310 P P 20 16 19.4 +0.1
baz=77,SNR=16
CCUT Cedar City 58.40 298 P P 20 16 21.2 +1.3
CCUT IAmb IAmb 20 16 22.5
comp=Z,39nm,1.3s
PB01 IPOC Station P 58.42 211 P P 20 16 18.9 -1.1
PB01 IAmb IAmb 20 16 28.4
comp=Z,19nm,0.9s
OBN Obninsk 58.46 41 P P 20 16 18.9 -0.9
baz=224,slow=6.0
OBN LR LR 20 40 06.8
comp=Z,168nm,18.7s,baz=308,slow=35
OBN Obninsk 58.46 41 P P 20 16 18.4 -1.4
OBN Obninsk 58.46 41⇑ *i*P **P 20 16 19.6 -0.2**
OBN *i* 20 16 25.2
OBN *e* 20 18 25.8
OBN *e*S **S 20 24 29.4 +6.9**
OBN pmax pmax
comp=Z,99nm,1.7s
LCMT Little Creek M 58.47 297 P P 20 16 19.8 -0.6
PSUT Pine Spring 58.49 299 P P 20 16 21.7 +1.2
MFID Camas Ranch 58.62 305 P P 20 16 22.0 +0.8
MFID IAmb IAmb 20 16 23.2
comp=Z,32nm,1.1s
C36M Paulatuk 58.66 336 P P 20 16 21.8 +0.8
baz=84
SPR3 Spring Creek 3 58.71 299 P P 20 16 23.2 +0.9
SPR3 IAmb IAmb 20 16 25.1
comp=Z,53nm,1.3s
A36M Sachs Harbour 58.82 339 P P 20 16 22.5 +0.5
baz=85
PB02 IPOC Station P 58.85 211 P P 20 16 21.1 -1.8
ELK Elko 58.90 302 LR LR 20 41 25.4
comp=Z,2µm,18.5s,baz=104,slow=36
ELK Elko 58.90 302 P P 20 16 23.4 +0.1
ELK Elko 58.90 302 P P 20 16 23.5 +0.1
ELK pmax pmax
comp=Z,15nm,1.4s
ITAB Concordia 58.92 191 *e*P **P 20 16 24.1 +0.9**
MOS Moscow 58.94 40 *e*P **P 20 16 21.2 -1.9**
MOS pmax pmax
comp=Z,51nm,1.3s
F10A Beach Ranch, E 58.95 308 P P 20 16 22.9 -0.6
KLMR Klimovskoe 59.05 34 *e*P **P 20 16 22.6 -1.2**
KLMR pmax pmax
comp=Z,53nm,1.5s
KLMR Klimovskoe 59.05 34 *e*P **P 20 16 22.6 -1.2**
KLMR AMP 20 16 40.0
comp=Z,53nm,1.5s
SIM Simferopol' 59.09 53 *e*P **P 20 16 22.4 -1.9**
SIM pmax pmax
comp=Z,30nm,1.3s
CPUP Villa Florida 59.11 197 P P 20 16 23.2 -1.3
comp=Z,2.8nm,0.9s,baz=325,slow=8.9,SNR=4.5
CPUP LR LR 20 39 46.4
comp=Z,264nm,22.0s,baz=337,slow=34
comp=Z,2.8nm,0.9s
CPUP Villa Florida 59.11 197 *e*P **P 20 16 24.1 -0.4**
WRGLY Wrigley 59.16 329 P P 20 16 24.7 +0.3
baz=81
C09A Chrisman Ranch 59.21 310 P P 20 16 25.1 0.0
Y14A Wickenburg 59.23 293 P P 20 16 26.4 +0.9
BMO Blue Mountains 59.28 307 P P 20 16 25.5 -0.3
BMO Blue Mountains 59.28 307 P P 20 16 25.5 -0.3
BMO pmax pmax
comp=Z,12nm,1.4s
E09A Wood Farm, Sta 59.44 309 P P 20 16 25.7 -1.0
E09A IAmb IAmb 20 16 30.1
comp=Z,23nm,1.5s
BR231 Keskin MP Arra 59.51 59 P P 20 16 26.3 -1.1
BR231 IAmb IAmb 20 16 35.5
comp=Z,15nm,1.0s
ANTO Ankara 59.51 59 P P 20 16 24.5 -2.9
ANTO IAmb IAmb 20 16 35.5
comp=Z,38nm,1.5s
ANTO Ankara 59.51 59 P P 20 16 24.5 -2.9
ANTO pmax pmax
comp=Z,38nm,1.5s
W13A Hualapai Mount 59.54 295 P P 20 16 29.3 +1.4
LVC Limon Verde 59.56 210 P P 20 16 26.9 -1.2
comp=Z,5.9nm,0.6s,baz=32,slow=8.8,SNR=3.9
LVC LR LR 20 41 19.2
comp=Z,539nm,18.2s,baz=338,slow=35
comp=Z,5.9nm,0.6s
LVC Limon Verde 59.56 210 P P 20 16 27.8 -0.4
LVC IAmb IAmb 20 16 34.9
comp=Z,19nm,1.1s
LVC Limon Verde 59.56 210 P P 20 16 27.8 -0.4
LVC pmax pmax
comp=Z,19nm,1.1s
LVC Limon Verde 59.56 210 *e*P **P 20 16 27.7 -0.4**
FLDN Fort Liard 59.65 325 P P 20 16 28.4 +0.5
baz=80
PRN Pahroc Range 59.72 298 P P 20 16 29.4 +0.4
214A Organ Pipe Nat 59.73 291 P P 20 16 29.9 +0.9
214A Organ Pipe Nat 59.73 291 P P 20 16 29.2 +0.2
baz=70
D08A Wollman Farm, 59.82 309 P P 20 16 29.2 -0.2
D08A IAmb IAmb 20 16 30.9
comp=Z,39nm,1.5s
R11A Troy Canyon, C 59.84 299 P P 20 16 30.0 +0.1
R11A IAmb IAmb 20 16 32.0
comp=Z,28nm,1.4s
R11A Troy Canyon, C 59.84 299 P P 20 16 30.7 +0.8
baz=72,SNR=21
ILGA Ilgaz 59.85 58 P P 20 16 30.7 +0.7
PB06 IPOC Station P 59.92 210 P P 20 16 28.9 -1.5
PB06 IAmb IAmb 20 16 37.1
comp=Z,25nm,0.9s
PDMCI Parker Dam,Lak 60.00 294 P P 20 16 31.5 +0.7
baz=71
E08A Dider Farm, El 60.05 309 P P 20 16 31.4 +0.4
E08A IAmb IAmb 20 16 53.9
comp=Z,14nm,1.1s
WTNK Soaring Height 60.07 296 P P 20 16 30.3 -1.0
WTNK IAmb IAmb 20 16 50.7
comp=Z,3.8nm,1.2s
SHPR Sheep Range 60.09 297 P P 20 16 32.6 +1.0
V12A Nelson 60.09 296 P P 20 16 33.0 +1.4
V12A IAmb IAmb 20 16 34.1
comp=Z,25nm,1.2s
BR131 Keskin Array S 60.17 59 P P 20 16 30.7 -1.4
BR131 IAmb IAmb 20 16 41.0
comp=Z,17nm,0.9s
BR131 Keskin Array S 60.17 59⇓ *i*P **P 20 16 31.4 -0.7**
BRTR Keskin Array B 60.17 59 P P 20 16 31.5 -0.7
comp=Z,3.3nm,1.0s,baz=276,slow=4.8,SNR=13
BRTR LR LR 20 42 04.4
comp=Z,246nm,18.6s,baz=292,slow=36
comp=Z,3.3nm,1.0s
BRTR Keskin Array B 60.17 59 P P 20 16 30.0 -2.2
S11A Rachel 60.18 298 P P 20 16 33.4 +1.2
113A Mohawk Valley, 60.21 292 P P 20 16 33.7 +1.4
113A IAmb IAmb 20 16 34.6
comp=Z,29nm,1.5s
G08A Pilot Rock 60.30 308 P P 20 16 32.5 -0.3
G08A IAmb IAmb 20 16 34.7
comp=Z,16nm,1.2s
PB15 IPOC Station P 60.32 210 P P 20 16 31.5 -1.7
LPSR Galich'ya Gora 60.34 44 *e*P **P 20 16 33.1 +0.3**
LPSR pmax pmax
comp=Z,60nm,1.0s
HAWA Hanford 60.40 309 P P 20 16 33.6 +0.2
HAWA IAmb IAmb 20 16 34.4
comp=Z,19nm,1.2s
SLBS Sierra La Lagu 60.40 281 P P 20 16 33.1 -0.6
BMN Battle Mountai 60.44 302 P P 20 16 34.2 +0.3
BMN IAmb IAmb 20 16 35.5
comp=Z,19nm,1.3s
BMN Battle Mountai 60.44 302 P P 20 16 34.2 +0.3
BMN pmax pmax
comp=Z,19nm,1.3s
BLYC Blythe 60.48 294 P P 20 16 34.5 +0.4
J08A Circle Bar Ran 60.49 305 P P 20 16 34.7 +0.5
LPIG La Paz 60.54 282 P P 20 16 34.8 +0.2
comp=Z,28nm,0.3s,baz=25,slow=8.2,SNR=7.5
LPIG LR LR 20 40 58.8
comp=Z,435nm,21.2s,baz=68,slow=34
comp=Z,28nm,0.3s
VORR Voronezh 60.73 45 *e*P **P 20 16 37.1 +1.6**
VORR pmax pmax
comp=Z,42nm,1.4s
TPNV Topopah Spring 60.78 298 P P 20 16 37.2 +0.9
TPNV Topopah Spring 60.78 298 P P 20 16 37.2 +0.9
TPNV pmax pmax
comp=Z,53nm,1.4s
TPNV Topopah Spring 60.78 298 P P 20 16 37.3 +1.1
baz=71,SNR=26
F07A Phinny Hill Vi 60.79 308 P P 20 16 36.7 +0.7
F07A IAmb IAmb 20 16 37.9
comp=Z,23nm,1.4s
VSR Storozhevoye 60.82 45 *e*P **P 20 16 35.8 -0.3**
VSR pmax pmax
comp=Z,20nm,1.0s
LLLB Lillooet 60.83 314 P P 20 16 35.9 -0.3
IRM Iron Mountain 60.83 294 P P 20 16 37.3 +0.7
baz=70,SNR=5.8
WVOR Wild Horse Val 60.87 304 P P 20 16 36.4 -0.4
WVOR IAmb IAmb 20 17 04.3
comp=Z,25nm,1.3s
WVOR Wild Horse Val 60.87 304 P P 20 16 36.4 -0.4
WVOR pmax pmax
comp=Z,25nm,1.3s
LTY Liberty 60.92 310 P P 20 16 36.6 -0.4
GLA Glamis 60.95 293 P P 20 16 36.9 -0.5
GLA IAmb IAmb 20 16 40.5
comp=Z,11nm,0.9s
GLA Glamis 60.95 293 P P 20 16 36.9 -0.5
GLA pmax pmax
comp=Z,11nm,0.9s
GLA Glamis 60.95 293 P P 20 16 38.4 +0.9
baz=70
I07A Izee 61.01 306 P P 20 16 38.0 +0.3
TUQ Turquoise Moun 61.01 296 P P 20 16 38.9 +1.0
baz=71
GMRC Granite Mounta 61.02 295 P P 20 16 38.4 +0.5
baz=70,SNR=6.2
WCT Wildcat Mounta 61.11 298 P P 20 16 39.4 +0.9
WCT IAmb IAmb 20 16 41.2
comp=Z,37nm,1.4s
SHOC Shoshone, Teco 61.13 297 P P 20 16 39.6 +1.0
baz=71
TPH Tonopah 61.15 299 P P 20 16 38.5 -0.4
TPH Tonopah 61.15 299 P P 20 16 38.5 -0.4
TPH pmax pmax
comp=Z,115nm,1.3s
BC3 Big Chuckawall 61.24 294 P P 20 16 40.2 +0.7
baz=70
GWY Greenwater Val 61.34 297 P P 20 16 41.5 +1.3
MZP Montezuma Peak 61.39 299 P P 20 16 40.4 -0.2
FURC Furnace Creek, 61.40 297 P P 20 16 41.3 +1.1
baz=71,SNR=11
GMN Gold Mountain 61.43 298 P P 20 16 41.5 +0.7
KVN Kaiserville 61.50 300 P P 20 16 40.7 -0.5
KVN Kaiserville 61.50 300 P P 20 16 40.7 -0.5
KVN pmax pmax
comp=Z,30nm,1.2s
HEC Hector,Ludlow 61.53 295 P P 20 16 42.3 +1.0
baz=70
BELC Belle Mtn. Jos 61.55 294 P P 20 16 42.4 +0.8
baz=70
QSM Queen of Sheba 61.57 297 P P 20 16 42.9 +1.4
QSM IAmb IAmb 20 16 50.9
comp=Z,11nm,1.0s
GRAC Grapevine Rang 61.61 298 P P 20 16 43.0 +1.2
GRAC Grapevine Rang 61.61 298 P P 20 16 42.7 +1.0
baz=71,SNR=7.8
TGTN Hyland Airport 61.68 327 P P 20 16 42.6 +0.7
baz=76,SNR=6.1
NV11 Mina Array Sit 61.74 300 P P 20 16 42.7 0.0
NV11 IAmb IAmb 20 16 44.2
comp=Z,22nm,1.4s
GSC Goldstone, Bar 61.74 296 P P 20 16 43.5 +0.7
GSC Goldstone, Bar 61.74 296 P P 20 16 43.5 +0.7
GSC pmax pmax
comp=Z,11nm,1.2s
GSC Goldstone, Bar 61.74 296 P P 20 16 43.5 +0.7
baz=70
LCH Last Change Ra 61.74 298 P P 20 16 43.2 +0.4
SWSC Sam W. Stewart 61.76 293 P P 20 16 43.6 +0.8
baz=69
PRGR Permogore 61.80 33 *e*P **P 20 16 40.7 -1.8**
NVAR Mina Array Bea 61.85 300 P P 20 16 43.7 +0.1
comp=Z,4.3nm,0.8s,baz=77,slow=5.9,SNR=34
NVAR LR LR 20 42 44.8
comp=Z,3µm,19.3s,baz=94,slow=35
comp=Z,4.3nm,0.8s
NVAR Mina Array Bea 61.85 300 P P 20 16 42.9 -0.7
G05D Wamic, OR 61.91 308 P P 20 16 44.3 +0.6
baz=73
DSP Deep Springs 61.94 299 P P 20 16 44.8 +0.9
DSP IAmb IAmb 20 16 46.6
comp=Z,22nm,1.4s
RYN Ryan 61.95 300 P P 20 16 44.0 -0.2
RYN IAmb IAmb 20 16 45.6
comp=Z,26nm,1.4s
MPMC Manual Prospec 62.01 297 P P 20 16 45.7 +1.0
baz=70,SNR=20
TPFO Pinon Flats 62.04 294 P P 20 16 45.8 +0.9
baz=70
PFO Pinyon Flats O 62.05 294 P P 20 16 46.1 +1.2
comp=Z,2.1nm,0.8s,baz=59,slow=12,SNR=3.8
PFO LR LR 20 41 51.6
comp=Z,1µm,21.3s,baz=102,slow=34
comp=Z,2.1nm,0.8s
PFO Pinyon Flats O 62.05 294 *i*P **P 20 16 45.9 +1.0**
PFO pmax pmax
comp=Z,9.0nm,1.3s
PFO Pinyon Flats O 62.05 294 P P 20 16 46.0 +1.2
baz=70
BNN Bunyan 62.07 60 P P 20 16 43.0 -2.0
PINE Pine Mountain 62.08 306 P P 20 16 46.0 +0.9
IKP In-Ko-Pah, Jac 62.11 293 P P 20 16 46.5 +1.2
baz=69
ITQB Itaqui 62.15 195 *e*P **P 20 16 47.6 +2.4**
I05D Terrebonne, OR 62.19 307 P P 20 16 46.9 +1.3
baz=72,SNR=8.5
MOD Modoc Plateau 62.21 304 P P 20 16 45.9 0.0
INK Inuvik 62.22 335 P P 20 16 45.4 +0.1
comp=Z,33nm,1.1s,baz=71,slow=8.1,SNR=18
INK LR LR 20 43 03.1
comp=Z,878nm,18.9s,baz=86,slow=35
comp=Z,33nm,1.1s
INK Inuvik 62.22 335 P P 20 16 45.0 -0.3
INK Inuvik 62.22 335 P P 20 16 45.0 -0.3
INK pmax pmax
comp=Z,52nm,1.2s
INK Inuvik 62.22 335 P P 20 16 45.0 -0.3
baz=76,SNR=17
PAHR Pah Rah Range 62.24 302 P P 20 16 46.1 0.0
TIN Tinemaha, Big 62.24 298 P P 20 16 47.7 +1.6
baz=70
MONP2 Monument Peak 62.27 293 P P 20 16 47.1 +0.6
baz=69
WTLY Watson Lake, Y 62.27 326 P P 20 16 46.3 +0.4
WTLY IAmb IAmb 20 16 47.6
comp=Z,24nm,1.5s
WTLY Watson Lake, Y 62.27 326 P P 20 16 46.2 +0.4
baz=75,SNR=5.5
CWC Cottonwood Cre 62.33 298 P P 20 16 47.9 +1.0
baz=70
LRMC Laurel Mtn Rad 62.35 297 P P 20 16 48.0 +1.1
baz=70
YERR Yerington 62.36 301 P P 20 16 45.9 -1.1
VRH Novokhopyorsk 62.37 45 *e*P **P 20 16 46.4 -0.2**
VRH pmax pmax
comp=Z,40nm,0.9s
K05A Summer Lake 62.37 305 P P 20 16 47.9 +0.9
J05D Fort Rock, OR 62.44 306 P P 20 16 48.0 +0.6
baz=72,SNR=11
F31M Tsiigehtchic 62.52 334 P P 20 16 47.4 +0.1
baz=75
VCNR Virginia City 62.56 301 P P 20 16 48.1 -0.3
VCNR IAmb IAmb 20 16 50.5
comp=Z,14nm,1.0s
PNTR Pine Nut 62.59 301 P P 20 16 47.9 -0.7
PNTR IAmb IAmb 20 16 51.6
comp=Z,17nm,1.3s
MURC Murrieta 62.62 294 P P 20 16 49.7 +1.0
baz=69
OMMB Old Mammoth Mi 62.63 299 P P 20 16 49.6 +0.6
H04A Detroit Lake 62.67 308 P P 20 16 48.9 +0.1
H04A IAmb IAmb 20 16 50.3
comp=Z,27nm,1.4s
MDPB Devils Postpil 62.69 299 P P 20 16 50.3 +1.0
MDPB IAmb IAmb 20 16 51.8
comp=Z,16nm,1.2s
CCAC Calif City Air 62.72 296 P P 20 16 50.3 +1.0
BFSC Mount Baldy Ra 62.76 295 P P 20 16 50.6 +0.9
baz=69
MMPY Sheldon Lake, 62.77 329 P P 20 16 50.0 +0.8
baz=74,SNR=10
EDW2 Edwards Air Fo 62.80 296 P P 20 16 50.8 +1.0
baz=70,SNR=7.6
109C Camp Elliot, M 62.81 294 P P 20 16 50.3 +0.5
baz=69
ISA Isabella, Lake 62.90 297 P P 20 16 51.3 +0.8
ISA Isabella, Lake 62.90 297 P P 20 16 51.3 +0.8

ISA pmax pmax
comp=Z,44nm,1.4s
ISA Isabella, Lake 62.90 297 P P 20 16 51.2 +0.7
baz=70,SNR=12
BEKR Beckworth 62.90 302 P P 20 16 50.3 -0.2
NLWA Neilton Lookou 62.97 311 P P 20 16 50.9 +0.2
WISH Wishkah 62.99 311 P P 20 16 51.6 +0.8
K04D Chiloquin, OR 63.01 305 P P 20 16 51.8 +0.7
baz=71
E03A Lebam 63.02 310 P P 20 16 51.1 +0.1
J04D Umpqua Nationa 63.06 306 P P 20 16 51.8 +0.2
baz=72
H04D Lebanon 63.09 308 P P 20 16 50.5 -1.0
baz=72
I04A Tendick Farm, 63.09 307 P P 20 16 51.6 -0.1
baz=72
G03D McMinnville, O 63.23 308 P P 20 16 52.8 +0.3
baz=72
DECC Green Verdugo 63.28 295 P P 20 16 53.8 +0.8
baz=69
VES Vestal, Richgr 63.30 297 P P 20 16 53.8 +0.7
baz=70
DLBC Dease Lake 63.33 324 P P 20 16 53.8 +0.8
comp=Z,9.1nm,1.2s,baz=113,slow=3.9,SNR=4.7
comp=Z,9.1nm,1.2s
DLBC Dease Lake 63.33 324 P P 20 16 52.6 -0.3
DLBC Dease Lake 63.33 324 P P 20 16 52.9 -0.1
baz=73
ARVC Arvin 63.35 297 P P 20 16 54.8 +1.4
baz=69
VOG Valley Oaks Go 63.36 298 P P 20 16 53.3 -0.1
baz=70
AC02 Maricunga 63.40 208 P P 20 16 54.2 0.0
AC02 IAmb IAmb 20 17 01.5
comp=Z,15nm,1.1s
OSI Osito Audit: C 63.45 296 P P 20 16 54.7 +0.5
baz=69
L04D Klamath Falls 63.52 305 P P 20 16 54.6 -0.1
baz=71,SNR=6.7
CMB Columbia Colle 63.53 300 P P 20 16 54.9 +0.3
CMB IAmb IAmb 20 16 56.8
comp=Z,26nm,1.4s
CMB Columbia Colle 63.53 300 P P 20 16 54.9 +0.3
CMB pmax pmax
comp=Z,26nm,1.4s
R33M Jennings River 63.53 325 P P 20 16 55.0 +0.7
baz=73,SNR=9.5
VSLR Vesyoloye 63.59 54 *i* P **P 20 16 55.5 +0.7**
CIS Catalina Islan 63.65 295 P P 20 16 55.8 +0.4
baz=69
I03D Drain, OR 63.77 307 P P 20 16 55.3 -0.7
baz=71
FARO Faro, Yukon 63.81 329 P P 20 16 56.8 +0.7
FARO Faro, Yukon 63.81 329 P P 20 16 56.2 +0.1
baz=73,SNR=16
ORV Oroville 63.83 302 P P 20 16 56.6 +0.1
ORV IAmb IAmb 20 16 58.0
comp=Z,30nm,1.4s
ORV Oroville 63.83 302 P P 20 16 56.6 +0.1
ORV pmax pmax
comp=Z,29nm,1.4s
T35M Bob Quinn 63.87 322 P P 20 16 57.2 +0.7
baz=73
DBO Dodson Butte 63.88 306 P P 20 16 56.7 -0.2
DBO IAmb IAmb 20 16 58.1
comp=Z,17nm,1.3s
SCI2 San Clemente I 63.90 294 P P 20 16 56.9 -0.2
baz=68
EPYK Eagle Plains 63.95 333 P P 20 16 57.2 +0.3
baz=72
YBH Yreka Blue Hor 63.97 305 P P 20 16 56.5 -1.0
comp=Z,4.2nm,1.0s,baz=147,slow=5.5,SNR=3.6
YBH LR LR 20 44 21.7
comp=Z,634nm,18.6s,baz=90,slow=36
comp=Z,4.2nm,1.0s
YBH Yreka Blue Hor 63.97 305 P P 20 16 57.0 -0.5
YBH IAmb IAmb 20 16 58.9
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 63.97 305 P P 20 16 57.0 -0.5
YBH pmax pmax
comp=Z,16nm,1.5s
I02E Swisshome, OR 63.98 307 P P 20 16 58.1 +0.7
baz=71
N32M Quiet Lake 64.02 327 P P 20 16 57.3 -0.1
baz=72
S34M Telegraph Cree 64.05 324 P P 20 16 57.6 0.0
baz=72
P33M Teslin, Yukon 64.18 326 P P 20 16 58.6 +0.1
P33M IAmb IAmb 20 16 60.0
comp=Z,21nm,1.2s
P33M Teslin, Yukon 64.18 326 P P 20 16 58.3 -0.3
baz=72,SNR=6.6
PKM Mcpherson Peak 64.19 297 P P 20 16 58.6 -0.6
baz=69
PAGB Antelope Grade 64.23 298 P P 20 16 59.4 +0.2
M31M Drury Creek, Y 64.29 329 P P 20 16 59.8 +0.6
M31M Drury Creek, Y 64.29 329 P P 20 16 59.5 +0.3
baz=72,SNR=18
K02D Willamette Mer 64.32 306 P P 20 16 59.6 -0.1
baz=70
J01E Myrtle Point 64.35 306 P P 20 16 59.5 -0.3
baz=70
SCZ2 Santa Cruz Isl 64.38 296 P P 20 16 59.9 -0.3
baz=68
L02F Cave Junction 64.44 305 P P 20 17 00.4 -0.1
baz=70
KIRV Kirov 64.46 35 P P 20 16 58.6 -1.6
comp=Z,5.3nm,0.5s,baz=317,slow=4.7,SNR=7.3
KIRV LR LR 20 43 24.4
comp=Z,236nm,18.8s,baz=288,slow=34
comp=Z,5.3nm,0.5s
KIRV Kirov 64.46 35 *ce* P **P 20 16 59.9 -0.3**
PMPB Monarch Peak 64.47 298 P P 20 17 01.7 +0.8
SNCC San Nicolas Is 64.57 295 P P 20 17 02.1 +0.6
baz=68
P32M Atlin 64.80 326 P P 20 17 02.7 +0.1
baz=71
I29M Ogilvie Camp, 64.90 333 P P 20 17 03.6 +0.5
I29M IAmb IAmb 20 17 11.2
comp=Z,20nm,1.1s
I29M Ogilvie Camp, 64.90 333 P P 20 17 03.2 +0.1
baz=70,SNR=13
WHY Whitehorse 65.01 327 P P 20 17 04.4 +0.5
baz=71
K29M Barlow Dome 65.10 331 P P 20 17 04.5 0.0
baz=70,SNR=8.3
GOF Gofitskoye 65.11 51 *i e* P **P 20 17 06.2 +1.5**
V35K Ketchikan 65.11 321 P P 20 17 04.2 -0.3
baz=71
E27K Coleen River 65.12 336 P P 20 17 04.7 +0.2
baz=68,SNR=5.8
N31M Braeburn, Yuko 65.14 328 P P 20 17 05.2 +0.4
N31M Braeburn, Yuko 65.14 328 P P 20 17 04.9 +0.1
baz=70,SNR=12
WRAK Wrangell Islan 65.14 322 P P 20 17 05.3 +0.6
baz=71
J29M Klondike Camp 65.18 332 P P 20 17 04.8 -0.2
M30M Minto, Yukon 65.22 329 P P 20 17 05.6 +0.3
M30M IAmb IAmb 20 17 07.1
comp=Z,22nm,1.4s
M30M Minto, Yukon 65.22 329 P P 20 17 05.4 +0.1
baz=70,SNR=7.2
KIV Kislovodsk 65.24 52 P P 20 17 05.4 -0.4
KIV IAmb IAmb 20 17 12.9
comp=Z,23nm,1.3s
KIV Kislovodsk 65.24 52 *c i* P **P 20 17 06.3 +0.5**
KIV *i* 20 17 38.6
KIV *i* S **S 20 25 51.8 +2.9**
KIV pmax pmax
comp=Z,24nm,1.4s
KIV MLR MLR
comp=Z,140nm,17.0s
KVAR Kislovodsk Arr 65.25 52 LR LR 20 45 07.0
comp=Z,156nm,18.4s,baz=314,slow=36
C27K Jago River 65.29 338 P P 20 17 06.2 +0.6
baz=67
KBZ Khabaz 65.46 52 P P 20 17 07.1 0.0
comp=Z,5.4nm,0.9s,baz=279,slow=3.1,SNR=10
KBZ LR LR 20 45 12.7
comp=Z,107nm,18.0s,baz=310,slow=36
comp=Z,5.4nm,0.9s
KBZ Khabaz 65.46 52 *ce* P **P 20 17 08.9 +1.9**
KBZ pmax pmax
comp=Z,16nm,1.4s
BELG Belogornoye 65.50 42 P P 20 17 05.9 -1.2
comp=Z,52nm,1.0s,baz=61,slow=3.4,SNR=18
BELG LR LR 20 44 32.5
comp=Z,675nm,18.2s,baz=317,slow=35
comp=Z,52nm,1.0s
BELG Belogornoye 65.50 42 *i* P **P 20 17 08.6 +1.5**
BELG pmax pmax
comp=Z,13nm,1.0s
O30N Mendenhall 65.53 327 P P 20 17 07.7 +0.4
baz=70,SNR=10.0
C26K Camden Bay 65.55 338 P P 20 17 07.3 +0.1
baz=66
SKAG Skagway 65.62 326 P P 20 17 08.2 +0.4
SKAG IAmb IAmb 20 17 09.4
comp=Z,17nm,1.2s
SKAG Skagway 65.62 326 P P 20 17 08.2 +0.4
baz=70
R32K Eaglecrest 65.63 325 P P 20 17 08.3 +0.4
baz=70
G27K Doyon Strip 65.66 335 P P 20 17 08.7 +0.7
baz=68,SNR=14
N30M Aishikik Lake 65.74 328 P P 20 17 08.8 +0.2
baz=69,SNR=11
DAWY Dawson 65.80 331 P P 20 17 09.0 0.0
DAWY Dawson 65.80 331 P P 20 17 09.3 +0.4
baz=68,SNR=15
H27K Steamboat Moun 65.83 334 P P 20 17 09.1 0.0
baz=68,SNR=24
CRAG Craig 65.88 321 P P 20 17 08.8 -0.7
baz=70
M29M Somme Creek 66.00 330 P P 20 17 10.7 +0.3
baz=68,SNR=10
I27K Kandik River 66.10 333 P P 20 17 11.0 +0.1
baz=67,SNR=25
PLBC Pleasant Camp 66.12 326 P P 20 17 11.8 +0.7
baz=69
HYT Haines Junctio 66.16 328 P P 20 17 11.9 +0.4
HYT IAmb IAmb 20 17 13.4
comp=Z,26nm,1.4s
HYT Haines Junctio 66.16 328 P P 20 17 11.5 +0.1
baz=69
P30M Million Dollar 66.16 327 P P 20 17 12.1 +0.7
baz=69
F26K Sheenjek River 66.20 336 P P 20 17 12.2 +0.7
baz=66,SNR=6.2
EGAK Eagle 66.24 333 P P 20 17 12.1 +0.4
EGAK IAmb IAmb 20 17 19.8
comp=Z,15nm,1.0s
EGAK Eagle 66.24 333 P P 20 17 11.7 0.0
baz=67,SNR=8.4
MARD Mardin 66.26 60 P P 20 17 11.6 -0.9
MARD IAmb IAmb 20 17 21.8
comp=Z,24nm,1.3s
D25K Kavik River 66.27 338 P P 20 17 11.6 -0.3
baz=65
G26K Porcupine Rive 66.37 335 P P 20 17 13.2 +0.7
baz=66,SNR=8.5
BMAR Burnt Mountain 66.46 336 P P 20 17 14.0 +0.9
ZEI Tsey 66.48 53 *e* P **P 20 17 15.1 +1.2**
ZEI pmax pmax
comp=Z,26nm,1.6s
YUK4 Talbot Arm 66.48 329 P P 20 17 13.2 -0.4
baz=68
YUK6 Outpost Mounta 66.51 328 P P 20 17 14.4 +0.6
baz=68,SNR=6.2
E25K Arctic Village 66.51 337 P P 20 17 14.1 +0.6
baz=65,SNR=7.0
CO01 Juntas del Tor 66.58 207 P P 20 17 14.9 +0.3
CO01 IAmb IAmb 20 17 16.5
comp=Z,20nm,1.1s
KARS Kars 66.70 56 P P 20 17 14.2 -1.0
KARS Kars 66.70 56 P P 20 17 14.3 -1.0
KARS pmax pmax
comp=Z,101nm,1.2s
P29M Windy Craggy 66.71 327 P P 20 17 15.7 +0.8
P29M IAmb IAmb 20 17 18.6
comp=Z,27nm,1.2s
P29M Windy Craggy 66.71 327 P P 20 17 15.5 +0.7
baz=68
GURO Guroymak-BITLI 66.72 58 P P 20 17 14.9 -0.5
F25K Christian Rive 66.76 336 P P 20 17 16.2 +1.1
baz=65,SNR=7.6
I26K Coal Creek Min 66.81 333 P P 20 17 15.6 +0.2
I26K IAmb IAmb 20 17 24.0
comp=Z,25nm,1.1s
I26K Coal Creek Min 66.81 333 P P 20 17 15.8 +0.4
baz=66
C24K Franklin Bluff 66.83 339 P P 20 17 16.0 +0.7
baz=63
O29M Mount Kennedy 66.84 327 P P 20 17 16.1 +0.3
baz=68
K27K Chicken 66.90 332 P P 20 17 16.4 +0.5
K27K IAmb IAmb 20 17 32.4
comp=Z,18nm,1.4s
K27K Chicken 66.90 332 P P 20 17 17.0 +1.0
baz=66
GO04 Tololo Observa 67.03 207 P P 20 17 17.3 -0.1
BVCY Beaver Creek 67.04 330 P P 20 17 17.4 +0.5
baz=67
FYU Fort Yukon 67.06 335 P P 20 17 17.4 +0.5
YUK3 Moose Creek 67.12 329 P P 20 17 17.5 -0.2
baz=67,SNR=5.3
D24K Happy Valley 67.13 338 P P 20 17 17.5 +0.2
baz=62
BCAR Beaver Creek A 67.17 331 P P 20 17 17.9 +0.1
L27K Beaver Creek, 67.19 331 P P 20 17 18.1 +0.3
L27K IAmb IAmb 20 17 19.8
comp=Z,26nm,1.3s
L27K Beaver Creek, 67.19 331 P P 20 17 18.0 +0.1
baz=66,SNR=12
J26L Joseph Creek 67.30 333 P P 20 17 19.1 +0.5
J26L IAmb IAmb 20 17 19.9
comp=Z,18nm,1.4s
J26L Joseph Creek 67.30 333 P P 20 17 18.8 +0.2
baz=65,SNR=10
C23K Itkillik River 67.36 339 P P 20 17 18.1 -0.6
baz=61
O28M Mount Upton 67.40 328 P P 20 17 18.8 -0.7
baz=66
H25K Birch Creek 67.40 335 P P 20 17 19.2 +0.1
baz=64,SNR=6.4
ZON Zonda 67.45 205 P P 20 17 19.5 -0.4
ZON IAmb IAmb 20 17 27.9
comp=Z,32nm,1.4s
ZON Zonda 67.45 205 P P 20 17 19.5 -0.4
ZON pmax pmax
comp=Z,31nm,1.4s
PNL Peninsula 67.47 327 P P 20 17 19.9 +0.2
baz=67
M27K Edge Creek, AK 67.50 330 P P 20 17 19.6 -0.4
M27K IAmb IAmb 20 17 28.2
comp=Z,22nm,1.1s
M27K Edge Creek, AK 67.50 330 P P 20 17 20.0 0.0
baz=66,SNR=6.1
E24K Your Creek 67.52 337 P P 20 17 20.6 +0.8
baz=62,SNR=9.5
F24K Squaw Lake 67.57 336 P P 20 17 21.2 +1.0
baz=63,SNR=6.0
TOLK Toolik Lake Re 67.61 338 P P 20 17 21.6 +1.1
TOLK IAmb IAmb 20 17 22.4
comp=Z,26nm,1.4s
TOLK Toolik Lake Re 67.61 338 P P 20 17 20.1 -0.4
baz=62
PRP Porcupine Dome 67.62 334 P P 20 17 21.4 +0.7
PRP Porcupine Dome 67.62 334 P P 20 17 21.7 +1.0
baz=64,SNR=26
GROC Groznyy 67.62 52 *e* P **P 20 17 23.8 +2.9**
GROC *e* 20 17 51.0
GROC pmax pmax
comp=Z,63nm,1.0s
SCRK Sand Creek 67.69 332 P P 20 17 21.8 +0.6
SCRK Sand Creek 67.69 332 P P 20 17 21.7 +0.6
baz=65,SNR=6.7
PINM Pinnacle 67.70 328 P P 20 17 21.1 -0.1
baz=66
G24K Hadweenzic Riv 67.80 336 P P 20 17 22.9 +1.3
baz=63,SNR=8.7
D23K Nanushuk River 67.80 338 P P 20 17 22.3 +0.7
baz=61
CO06 Fray Jorge 67.81 208 P P 20 17 20.7 -1.3
CTG Chitna Glacier 67.83 329 P P 20 17 22.6 +0.5
baz=66
L26K Log Cabin Wild 67.84 331 P P 20 17 21.8 -0.1
L26K IAmb IAmb 20 17 23.9
comp=Z,16nm,1.1s
L26K Log Cabin Wild 67.84 331 P P 20 17 22.2 +0.3
baz=65
DOT Dot Lake 67.86 332 P P 20 17 22.3 +0.2
DOT IAmb IAmb 20 17 23.8
comp=Z,14nm,1.2s
M26K Nabesna, AK 67.95 331 P P 20 17 23.1 +0.4
M26K IAmb IAmb 20 17 24.2
comp=Z,19nm,1.4s
M26K Nabesna, AK 67.95 331 P P 20 17 22.4 -0.3
baz=65
J25K Salcha River, 67.96 333 P P 20 17 22.7 0.0
J25K Salcha River, 67.96 333 P P 20 17 23.6 +0.9
baz=64,SNR=16
GNI Garni 68.05 56 LR LR 20 47 17.6
comp=Z,160nm,20.1s,baz=280,slow=36
GNI Garni 68.05 56 P P 20 17 23.0 -0.9
GNI Garni 68.05 56 P P 20 17 23.0 -0.9
GNI pmax pmax
comp=Z,34nm,1.1s
RIDG Independent Ri 68.14 332 P P 20 17 24.0 +0.1
RIDG IAmb IAmb 20 17 25.7
comp=Z,24nm,1.2s
RIDG Independent Ri 68.14 332 P P 20 17 24.0 +0.1
baz=64,SNR=7.6
H24K Noodor Dome 68.34 335 P P 20 17 25.7 +0.6
H24K IAmb IAmb 20 17 33.4
comp=Z,16nm,1.1s
H24K Noodor Dome 68.34 335 P P 20 17 26.0 +0.9
baz=62,SNR=8.4
MCARA McCarthy VSAT 68.40 330 P P 20 17 25.6 +0.2
MCARA IAmb IAmb 20 17 27.4
comp=Z,33nm,1.4s
MCARA McCarthy VSAT 68.40 330 P P 20 17 25.6 +0.1
baz=64
ISLE Juniper Island 68.43 329 P P 20 17 26.4 +0.6
ISLE IAmb IAmb 20 17 29.2
comp=Z,25nm,1.1s
IL31 68.47 334 P P 20 17 26.0 +0.3
ILAR Eielson Array 68.47 334 P P 20 17 26.5 +0.7
comp=Z,20nm,1.0s,baz=56,slow=4.5,SNR=91
ILAR PP **PP 20 19 57.2 +0.7**
comp=Z,2.9nm,1.3s,baz=64,slow=4.8,SNR=4.4
ILAR LR LR 20 47 42.5
comp=Z,1µm,18.4s,baz=78,slow=36
comp=Z,20nm,1.0s
ILAR Eielson Array 68.47 334 P P 20 17 26.0 +0.2
K24K Donnelly Dome 68.48 332 P P 20 17 26.4 +0.5
baz=63
COLD Coldfoot 68.50 337 P P 20 17 26.9 +0.9
COLD Coldfoot 68.50 337 P P 20 17 26.8 +0.9
baz=61
POKR Poker Plat Res 68.52 334 P P 20 17 27.2 +1.0
POKR Poker Plat Res 68.52 334 P P 20 17 26.7 +0.6
baz=62
TGL Tana Glacier 68.58 329 P P 20 17 26.5 -0.2
HDA Harding Lake 68.66 333 P P 20 17 27.4 +0.3
HDA Harding Lake 68.66 333 P P 20 17 27.2 +0.2
baz=62,SNR=27
G23K Bananza Creek 68.69 336 P P 20 17 28.1 +0.9
baz=61,SNR=12
GLB Gilahina Butte 68.72 330 P P 20 17 27.9 +0.4
GLB IAmb IAmb 20 17 29.1
comp=Z,28nm,1.4s
PAX Paxson 68.73 332 P P 20 17 27.8 +0.2
PAX IAmb IAmb 20 17 29.2
comp=Z,15nm,1.3s
PAX Paxson 68.73 332 P P 20 17 27.8 +0.2
PAX pmax pmax
comp=Z,15nm,1.3s
PAX Paxson 68.73 332 P P 20 17 27.3 -0.3
baz=63,SNR=6.2
COLA College 68.79 334 P P 20 17 28.3 +0.6
COLA College 68.79 334 *i* P **P 20 17 28.9 +1.1**
COLA pmax pmax
comp=Z,33nm,1.2s
COLA College 68.79 334 P P 20 17 28.3 +0.6
baz=62
TCOL CIGO, UAF Yank 68.79 334 P P 20 17 28.3 +0.5
TCOL CIGO, UAF Yank 68.79 334 P P 20 17 28.0 +0.2
baz=62
HARP HAARP 68.86 331 P P 20 17 29.1 +0.7
baz=63
MAK Makhachkala 68.87 52 *d i* P **P 20 17 24.1 -4.6**
MAK *e* PPP PPP 20 21 34.9
MAK *e* S **S 20 26 25.0 -7.5**
MAK pmax pmax
comp=Z,126nm,1.2s
MAK MLR MLR
comp=Z,309nm,18.0s
CCB Clear Creek Bu 68.88 334 P P 20 17 28.3 0.0
MDM Murphy Dome 68.89 334 P P 20 17 28.8 +0.3
MDM IAmb IAmb 20 17 30.6
comp=Z,28nm,1.3s
H23K Yukon River 68.95 335 P P 20 17 29.9 +1.1
H23K IAmb IAmb 20 17 31.5
comp=Z,19nm,1.1s
H23K Yukon River 68.95 335 P P 20 17 30.2 +1.4
baz=61,SNR=10
GANJ Ganja 68.97 55 P P 20 17 29.9 +0.5
NAX Nakhchivan 68.97 56 P P 20 17 30.4 +0.9
N25K Chitina, Valde 68.98 330 P P 20 17 29.8 +0.6
N25K IAmb IAmb 20 17 39.6
comp=Z,23nm,1.4s
N25K Chitina, Valde 68.98 330 P P 20 17 29.4 +0.2
baz=63
F22K John River 69.02 337 P P 20 17 29.2 0.0
baz=59
WRH Wood River Hil 69.07 334 P P 20 17 29.5 -0.1
G22K Bettles 69.09 337 P P 20 17 30.1 +0.4
baz=59,SNR=5.3
BMRM Bremner River 69.27 329 P P 20 17 30.6 -0.3
baz=63
SEKA Sheki 69.36 54 P P 20 17 32.8 +0.9
NEA2 Nenana 69.38 334 P P 20 17 31.9 +0.3
NEA2 IAmb IAmb 20 17 34.3
comp=Z,28nm,1.2s
NEA2 Nenana 69.38 334 P P 20 17 32.2 +0.7
baz=61,SNR=22
M24K Tolsona, Glenn 69.42 331 P P 20 17 32.1 +0.2
baz=62
MNGR Mingechevir, A 69.45 54 P P 20 17 33.2 +0.9
DHY Denali Highway 69.45 332 P P 20 17 32.2 0.0
DHY IAmb IAmb 20 17 44.2
comp=Z,24nm,1.3s
DHY Denali Highway 69.45 332 P P 20 17 32.3 0.0
baz=62,SNR=5.2
RAGM Ragged Mountai 69.57 329 P P 20 17 32.8 0.0
H22K Ishtalitna Cre 69.57 336 P P 20 17 33.3 +0.6
baz=59,SNR=8.7
KLU Klutina 69.60 330 P P 20 17 32.7 -0.3
KLU IAmb IAmb 20 17 34.4
comp=Z,31nm,1.2s
KLU Klutina 69.60 330 P P 20 17 32.7 -0.3
baz=62,SNR=7.8
F21K Alatna River 69.60 337 P P 20 17 32.4 -0.5
baz=58
KAIM Kayak Island 69.66 328 P P 20 17 33.9 +0.5
baz=63
BWN Browne 69.74 334 P P 20 17 33.4 -0.3
MCK McKinley 69.75 333 P P 20 17 34.6 +0.7
MCK McKinley 69.75 333 P P 20 17 34.6 +0.7
MCK pmax pmax
comp=Z,55nm,1.2s
MCK McKinley 69.75 333 P P 20 17 34.2 +0.3
baz=60,SNR=15
MLY Manley 69.78 335 P P 20 17 34.3 +0.3
MLY IAmb IAmb 20 17 35.3
comp=Z,17nm,1.4s
MLY Manley 69.78 335 P P 20 17 34.8 +0.7
baz=60,SNR=6.9
WAT6 Susitna Watana 69.84 332 P P 20 17 34.2 -0.4
baz=61
ARU Arti 69.84 36 P P 20 17 33.9 -0.6
ARU IAmb IAmb 20 17 37.0
comp=Z,27nm,1.3s
ARU Arti 69.84 36 *c i* P **P 20 17 34.9 +0.4**
ARU S **S 20 26 43.7 +0.2**
ARU SS **SS 20 31 05.8 -5.7**
ARU pmax pmax
comp=Z,31nm,1.5s
MT03 Universidad Ad 69.88 206 P P 20 17 34.5 -0.4
RND Reindeer 69.88 333 P P 20 17 34.7 0.0
RND Reindeer 69.88 333 P P 20 17 34.7 0.0
RND pmax pmax
comp=Z,39nm,1.3s
MT02 Curacav 69.90 206 P P 20 17 35.1 +0.1
MT02 IAmb IAmb 20 17 36.3
comp=Z,26nm,1.1s
EYAK Cordova Ski Ar 69.96 329 P P 20 17 35.0 -0.1
baz=62
G21K Allakaket 69.98 337 P P 20 17 36.1 +0.9

baz=58,SNR=6.7
SCM Sheep Creek Mo 70.03 331 P P 20 17 34.9 -0.7
baz=61
WAT1 Susitna Watana 70.04 332 P P 20 17 36.5 +0.8
baz=60
LMEL Las Melosas 70.08 205 P P 20 17 35.2 -1.1
LMEL IAmb IAmb 20 17 46.5
comp=Z,21nm,1.1s
I21K Tanana 70.16 335 P P 20 17 37.3 +1.1
I21K Tanana 70.16 335 P P 20 17 36.6 +0.4
baz=58,SNR=20
H21K Melozitna Rive 70.20 336 P P 20 17 37.3 +0.7
H21K Melozitna Rive 70.20 336 P P 20 17 37.0 +0.4
baz=58,SNR=6.9
MT09 Talagante 70.31 206 P P 20 17 36.9 -0.8
MT09 IAmb IAmb 20 17 38.6
comp=Z,28nm,1.2s
BPAW Bear Paw Mtn. 70.35 334 P P 20 17 37.8 +0.3
BPAW Bear Paw Mtn. 70.35 334 P P 20 17 37.8 +0.3
baz=59,SNR=9.6
IMAR Indian Mountai 70.35 336 P P 20 17 38.1 +0.6
TRF Thorofare Moun 70.42 333 P P 20 17 37.7 -0.5
TRF IAmb IAmb 20 17 39.3
comp=Z,22nm,1.1s
TRF Thorofare Moun 70.42 333 P P 20 17 38.8 +0.7
baz=59,SNR=8.9
SML Sawmill 70.46 331 P P 20 17 38.6 +0.4
SML IAmb IAmb 20 17 39.7
comp=Z,34nm,1.4s
SML Sawmill 70.46 331 P P 20 17 37.6 -0.6
baz=60,SNR=5.2
KTH Kantishna Hill 70.61 333 P P 20 17 39.4 +0.2
KNK Knik Glacier 70.70 331 P P 20 17 40.4 +0.7
KNK IAmb IAmb 20 17 41.5
comp=Z,30nm,1.2s
KNK Knik Glacier 70.70 331 P P 20 17 40.1 +0.3
baz=60
PMR Palmer 70.89 331 P P 20 17 41.7 +0.9
PMR IAmb IAmb 20 17 42.6
comp=Z,22nm,1.2s
PMR Palmer 70.89 331 P P 20 17 41.7 +0.9
PMR pmax pmax
comp=Z,23nm,1.2s
PMR Palmer 70.89 331 P P 20 17 40.8 0.0
baz=60
PWL Port Wells 70.93 330 P P 20 17 41.1 0.0
PWL IAmb IAmb 20 17 42.7
comp=Z,34nm,1.3s
PWL Port Wells 70.93 330 P P 20 17 41.3 +0.2
baz=60
CUT Chulitna 70.94 332 P P 20 17 40.9 -0.2
CUT Chulitna 70.94 332 P P 20 17 41.4 +0.3
baz=59
P23K Montague Islan 70.95 329 P P 20 17 40.8 -0.4
baz=61
CHUM Lake Minchumin 70.96 334 P P 20 17 40.9 -0.3
baz=58,SNR=6.4
CAST Castle Rocks 71.12 334 P P 20 17 41.7 -0.6
CAST IAmb IAmb 20 17 42.7
comp=Z,17nm,1.4s
CAST Castle Rocks 71.12 334 P P 20 17 42.0 -0.3
baz=58,SNR=6.3
BO02 Sierra Bellavi 71.14 205 P P 20 17 41.8 -0.8
BO02 IAmb IAmb 20 17 50.3
comp=Z,18nm,1.1s
RC01 Rabbit Creek A 71.40 331 P P 20 17 44.2 +0.3
RC01 Rabbit Creek A 71.40 331 P P 20 17 44.6 +0.7
baz=59
PPLA Purkeypile 71.44 333 P P 20 17 44.7 +0.4
PPLA Purkeypile 71.44 333 P P 20 17 43.9 -0.4
baz=58,SNR=9.6
J20K Nowinta River 71.48 335 P P 20 17 44.7 +0.3
J20K IAmb IAmb 20 17 46.0
comp=Z,23nm,1.2s
J20K Nowinta River 71.48 335 P P 20 17 44.0 -0.3
baz=56,SNR=10
LKRN Lenkeran, Azer 71.49 56 P P 20 17 45.9 +1.0
SUA Susitna One 71.63 331 P P 20 17 44.8 -0.6
baz=58
SKT Skwentna 71.67 332 P P 20 17 46.1 +0.5
SKT IAmb IAmb 20 17 47.3
comp=Z,36nm,1.4s
SKT Skwentna 71.67 332 P P 20 17 45.7 +0.1
baz=58,SNR=9.2
GO05 Huala 71.76 206 P P 20 17 45.9 -0.4
GO05 IAmb IAmb 20 17 53.8
comp=Z,12nm,0.9s
SEW Seward 71.79 330 P P 20 17 45.8 -0.4
baz=59
K20K Telida 71.91 334 P P 20 17 46.7 -0.3
baz=56
GCSA Galena City Sc 72.14 336 P P 20 17 48.7 +0.5
baz=54
ML02 Panimavida 72.24 205 P P 20 17 48.4 -0.7
AKTO Aktyubinsk 72.24 41 LR LR 20 48 12.6
comp=Z,561nm,20.0s,baz=300,slow=35
SPU Mount Spurr 72.31 332 P P 20 17 49.5 +0.1
L20K Farewell, AK 72.33 333 P P 20 17 49.2 -0.3
baz=56,SNR=13
M20K Styx River 72.36 332 P P 20 17 49.3 -0.5
M20K Styx River 72.36 332 P P 20 17 49.6 -0.2
baz=57,SNR=21
N20K Mount Spurr 72.36 332 P P 20 17 49.5 -0.3
baz=57
SPCR Spurr Chakacha 72.36 332 P P 20 17 49.7 -0.1
baz=57
BRSE Bradley Lake S 72.53 330 P P 20 17 50.9 +0.1
baz=58
M19K Big River Lodg 72.85 333 P P 20 17 52.7 +0.1
M19K IAmb IAmb 20 17 54.2
comp=Z,30nm,1.2s
M19K Big River Lodg 72.85 333 P P 20 17 52.7 +0.1
baz=56,SNR=7.4
CNPM China Poot 72.86 330 P P 20 17 53.1 +0.4
CNPM IAmb IAmb 20 17 55.1
comp=Z,35nm,1.2s
L19K White Mountain 72.87 333 P P 20 17 53.0 +0.2
L19K IAmb IAmb 20 17 53.9
comp=Z,27nm,1.2s
L19K White Mountain 72.87 333 P P 20 17 52.6 -0.2
baz=55,SNR=12
TTA Tatalina 72.88 334 P P 20 17 52.7 -0.1
baz=54
H09N1 TRISTAN DA CUN 73.12 156 T T 21 37 32.2
SNR=27
H09W1 TRISTAN DA CUN 73.14 156 T T 21 37 32.5
SNR=16
O20K Slope Mountain 73.15 331 P P 20 17 54.8 +0.4
baz=56
NRIK Noril'sk 73.19 17 P P 20 17 54.8 +0.3
comp=Z,12nm,1.0s,baz=337,slow=4.2,SNR=13
comp=Z,12nm,1.0s
NRIK Noril'sk 73.19 17 P P 20 17 55.6 +1.1
NRIK IAmb IAmb 20 18 01.4
comp=Z,19nm,1.1s
NRIK Noril'sk 73.19 17*ceP* **P 20 17 56.0 +1.5**
NRIK pmax pmax
comp=Z,18nm,1.1s
ILSW Iliamna Southw 73.42 331 P P 20 17 56.5 +0.4
ILSW IAmb IAmb 20 17 57.6
comp=Z,37nm,1.3s
N19K Bonanza Creek 73.50 332 P P 20 17 56.7 +0.2
N19K Bonanza Creek 73.50 332 P P 20 17 56.1 -0.5
baz=55
P19K Oil Pt 73.64 331 P P 20 17 57.1 -0.3
baz=56
SVW2 Sparrevohn 73.78 332 P P 20 17 58.3 +0.2
SVW2 IAmb IAmb 20 17 59.5
comp=Z,40nm,1.3s
Q20K Shuyak Island 73.86 329 P P 20 17 58.8 +0.3
baz=56
ABKAR Akbulak array 73.90 42 P P 20 17 57.5 -1.4
N18K Kilae Creek 74.14 332 P P 20 17 59.5 -0.7
baz=54
Q19K Cape Douglas, 74.22 330 P P 20 18 00.6 -0.2
baz=55
O18K Koktuh Hills 74.35 331 P P 20 18 01.7 +0.2
O18K Koktuh Hills 74.35 331 P P 20 18 01.2 -0.3
baz=54
KDAK Kodiak Island 74.41 329 P P 20 18 01.3 -0.4
baz=56
P18K Big Mountain, 74.63 331 P P 20 18 02.9 -0.2
P18K IAmb IAmb 20 18 04.1
comp=Z,42nm,1.2s
P18K Big Mountain, 74.63 331 P P 20 18 02.7 -0.4
baz=54,SNR=8.4

OHAK Old Harbor 75.03 328 P P 20 18 05.7 +0.3
baz=55
MBAR Mbarara 75.13 100 LR LR 20 50 17.5
comp=Z,1μm,19.1s,baz=292,slow=35
MBAR Mbarara 75.13 100 P P 20 18 06.2 -0.7
MBAR IAmb IAmb 20 18 09.9
comp=Z,20nm,1.3s
MBAR Mbarara 75.13 100⇓*iP* **P 20 18 07.3 +0.4**
O17K Koliganek Bris 75.17 332 P P 20 18 06.0 -0.1
baz=53
TNA Tin City 75.18 340 P P 20 18 05.7 -0.4
baz=45
P17K Kvichak River 75.25 331 P P 20 18 05.2 -1.3
baz=53
N16K Nishlik Lake 75.40 333 P P 20 18 08.7 +1.2
baz=52,SNR=14
TSUM Tsumeb 75.61 123 LR LR 20 46 45.6
comp=Z,333nm,20.1s,baz=312,slow=32
GO06 Curarrehue 75.67 204 P P 20 18 09.3 +0.1
O16K Kokwok River B 75.68 332 P P 20 18 09.2 +0.1
baz=52
SII Sitkinak Islan 75.82 328 P P 20 18 10.1 +0.1
baz=54
P16K Nushagak River 75.98 332 P P 20 18 10.8 0.0
baz=52
R17K Ugashik Creek 76.15 330 P P 20 18 12.5 +0.7
baz=53,SNR=6.7
PLCA Paso Flores 76.39 202 P P 20 18 12.9 -0.4
comp=Z,6.1nm,1.0s,baz=26,slow=5.4,SNR=10.0
PLCA LR LR 20 51 48.8
comp=Z,230nm,20.2s,baz=358,slow=36
comp=Z,6.1nm,1.0s
PLCA Paso Flores 76.39 202 P P 20 18 13.5 +0.1
PLCA Paso Flores 76.39 202 P P 20 18 13.5 +0.1
PLCA pmax pmax
comp=Z,14nm,1.2s
PLCA Paso Flores 76.39 202 *eP* **P 20 18 13.9 +0.5**
LODK Lodwar 76.97 94 P P 20 18 17.7 +0.4
LODK IAmb IAmb 20 18 21.2
comp=Z,19nm,1.2s
LL04 Puerto Octay 77.17 204 P P 20 18 17.2 -0.4
TIXI Tiksi 77.29 3 P P 20 18 18.6 +0.6
comp=Z,9.4nm,1.0s,baz=13,slow=5.3,SNR=10
comp=Z,9.4nm,1.0s
TIXI Tiksi 77.29 3 P P 20 18 18.5 +0.6
TIXI IAmb IAmb 20 18 19.8
comp=Z,23nm,1.2s
TIXI Tiksi 77.29 3*ceP* **P 20 18 19.3 +1.3**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 77.39 35 P P 20 18 19.3 +0.4
BRVK Borovoye 77.39 35*ceP* **P 20 18 19.5 +0.6**
BRVK pmax pmax
comp=Z,16nm,1.7s
BVAR Borovoye Array 77.47 35 LR LR 20 51 15.1
comp=Z,224nm,18.3s,baz=310,slow=35
CHGN Chignik 77.85 329 P P 20 18 21.4 0.0
CHGN Chignik 77.85 329 P P 20 18 21.4 0.0
baz=51
GEYT Alibeck 78.35 53 P P 20 18 24.4 -0.2
comp=Z,1.8nm,0.8s,baz=299,slow=3.0,SNR=5.8
GEYT PP **PP 20 21 20.4 -1.0**
comp=Z,0.5nm,0.4s,baz=289,slow=4.4,SNR=1.6
comp=Z,1.8nm,0.8s
GEYT Alibeck 78.35 53 P P 20 18 23.0 -1.7
GYA0B ALIBECK ARRAY 78.35 53 P P 20 18 23.5 -1.1
S14K Fog Glacier 78.36 330 P P 20 18 24.2 -0.2
baz=50
BILL Bilibino 78.98 350*ceP* **P 20 18 27.7 +0.2**
BILL pmax pmax
comp=Z,10.0nm,0.4s
BILL MLR MLR
comp=Z,1μm,18.0s
CHNA Chernabura Isl 79.30 329 P P 20 18 29.7 +0.3
baz=50
ATD Arta Tunnel 79.32 83 LR LR 20 53 06.0
comp=Z,650nm,19.2s,baz=326,slow=35
BRZS Berezniki 80.43 37 *eP* **P 20 18 35.5 -0.2**
BRZS Berezniki 80.43 37 *eP* **P 20 18 35.0 -0.6**
baz=37
KMBO Kilima Mbogo 80.93 97 P P 20 18 41.0 +1.8
comp=Z,1.3nm,0.9s,baz=308,slow=5.1,SNR=6.4
KMBO LR LR 20 54 00.3
comp=Z,1μm,19.5s,baz=276,slow=35
KMBO Kilima Mbogo 80.93 97 P P 20 18 39.1 -0.2
KMBO Kilima Mbogo 80.93 97 *iP* **P 20 18 41.2 +2.0**
KMBO pmax pmax
comp=Z,1.0nm,0.9s
LSZ Lusaka 81.20 114 LR LR 20 52 41.7
comp=Z,535nm,21.5s,baz=320,slow=34
KIBK Kibwezi 82.24 97 P P 20 18 46.4 +0.5
KIBK IAmb IAmb 20 18 58.9
comp=Z,34nm,1.4s
KURK Kurchatov 82.90 34 P P 20 18 47.9 -0.7
KURK IAmb IAmb 20 18 51.3
comp=Z,24nm,1.2s
KURK Kurchatov 82.90 34*ceP* **P 20 18 48.9 +0.2**
KURK pmax pmax
comp=Z,17nm,1.0s
KURBB Kurchatov Arra 82.92 34 LR LR 20 55 48.4
comp=Z,131nm,18.3s,baz=298,slow=36
KKAR Karatay Array 83.39 43 P P 20 18 50.5 -0.9
KKAR Karatay Array 83.39 43 P P 20 18 50.5 -0.9
ZAA0 Zalesovo Array 83.41 29 P P 20 18 51.3 +0.1
ZAA0 IAmb IAmb 20 18 59.8
comp=Z,22nm,1.4s
ZALV Zalesovo Beam 83.41 29 P P 20 18 51.1 -0.1
comp=Z,6.4nm,1.0s,baz=316,slow=6.2,SNR=16
ZALV PP **PP 20 22 01.9 -0.6**
comp=Z,0.5nm,0.5s,baz=297,slow=9.5,SNR=1.9
comp=Z,6.4nm,1.0s
ZALV Zalesovo Beam 83.41 29 *iP* **P 20 18 51.4 +0.2**
ZALV pmax pmax
comp=Z,9.0nm,1.1s
IUG Iuzhnay 83.68 44 *eP* **P 20 18 52.5 -0.5**
IUG Iuzhnay 83.68 44 *eP* **P 20 18 52.6 -0.5**
baz=44
DZA Taraz 84.00 43 *eP* **P 20 18 54.0 -0.5**
DZA Taraz 84.00 43 *eP* **P 20 18 54.1 -0.5**
baz=43
BTLS Baital 84.21 40 *eP* **P 20 18 55.5 0.0**
BTLS pmax pmax
comp=Z,18nm,1.7s
BTLS Baital 84.21 40 *eP* **P 20 18 55.6 0.0**
comp=Z,18nm,1.7s,baz=40
MATP Matopo 84.43 118 LR LR 20 56 45.2
comp=Z,365nm,18.2s,baz=241,slow=36
NIKH Nikolski High 84.56 331 P P 20 18 57.0 -0.2
baz=43
LBTB Lobatse 85.02 123 LR LR 20 50 35.7
comp=Z,398nm,21.5s,baz=302,slow=31
CHGR Chuyangaron 85.22 47 P P 20 19 01.2 +0.3
CHGR Chuyangaron 85.22 47 P P 20 19 01.2 +0.3
CHGR pmax pmax
comp=Z,54nm,1.2s
SGDS Sogindy 85.54 41 *eP* **P 20 19 00.9 -1.4**
SGDS pmax pmax
comp=Z,13nm,2.1s
SGDS Sogindy 85.54 41 *eP* **P 20 19 01.0 -1.4**
comp=Z,13nm,2.1s,baz=41
SEY Seymchan 85.61 354 P P 20 19 01.8 -0.4
comp=Z,7.5nm,1.1s,baz=356,slow=3.7,SNR=8.9
comp=Z,7.5nm,1.1s
SEY Seymchan 85.61 354*ceP* **P 20 19 03.0 +0.8**
SEY pmax pmax
comp=Z,32nm,2.5s
GAR Garm 85.74 47 P P 20 19 04.1 +0.6
AAK Ala-Archa 85.98 42 LR LR 20 57 08.5
comp=Z,366nm,19.7s,baz=320,slow=35
AAK Ala-Archa 85.98 42 P P 20 19 06.2 +1.5
AAK IAmb IAmb 20 19 08.3
comp=Z,14nm,1.2s
AAK Ala-Archa 85.98 42*ceP* **P 20 19 05.8 +1.1**
AAK pmax pmax
comp=Z,30nm,2.5s
KUU Kurty 86.21 40 *eP* **P 20 19 05.1 -0.5**
KUU pmax pmax
comp=Z,20nm,1.2s
KUU Kurty 86.21 40 *eP* **P 20 19 05.1 -0.5**
comp=Z,20nm,1.2s,baz=40
SUR Sutherland 86.37 131 LR LR 20 49 50.5
comp=Z,314nm,20.6s,baz=310,slow=30
CHKK Chushkaly 86.59 40 *eP* **P 20 19 07.6 +0.1**
CHKK Chushkaly 86.59 40 *eP* **P 20 19 07.6 +0.1**
baz=40
TDK Taldyqorghan 86.59 38 *eP* **P 20 19 07.1 -0.4**

TDK pmax pmax
comp=Z,18nm,1.6s
TDK Taldyqorghan 86.59 38 *eP* **P 20 19 07.1 -0.4**
comp=Z,18nm,1.6s,baz=38
ARXS Arharly 86.81 39 *eP* **P 20 19 08.1 -0.5**
RPN Rapa Nui 86.86 236 LR LR 20 54 19.2
comp=Z,48nm,18.7s,baz=14,slow=33
YAK Yakutsk 86.90 4 P P 20 19 08.5 0.0
comp=Z,28nm,1.2s,baz=308,slow=0.7,SNR=12
YAK LR LR 20 55 22.9
comp=Z,91nm,18.4s,baz=87,slow=34
comp=Z,28nm,1.2s
YAK Yakutsk 86.90 4 P P 20 19 08.0 -0.6
YAK Yakutsk 86.90 4 *eP* **P 20 19 07.9 -0.6**
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
BOSA Boshof 86.97 126 LR LR 20 51 45.6
comp=E,321nm,21.2s,baz=313,slow=31
AAA Alma-Ata 86.97 40 *eP* **P 20 19 09.4 0.0**
AAA Alma-Ata 86.97 40 *eP* **P 20 19 09.5 0.0**
baz=40
MDOK Medeo 87.08 40 *eP* **P 20 19 09.9 -0.2**
MDOK Medeo 87.08 40 *eP* **P 20 19 09.9 -0.2**
baz=40
MAKZ Makanchi 87.19 35 P P 20 19 09.9 -0.5
MAKZ Makanchi 87.19 35 ⇓*iP* **P 20 19 09.3 -1.0**
MK31 Makanchi Array 87.35 35 *iP* **P 20 19 10.6 -0.5**
MKAR Makanchi Array 87.35 35 P P 20 19 10.3 -0.8
comp=E,1.8nm,1.1s,baz=318,slow=3.4,SNR=8.0
MKAR LR LR 20 57 29.0
comp=E,482nm,20.1s,baz=319,slow=35
comp=E,1.8nm,1.1s
MKAR Makanchi Array 87.35 35 P P 20 19 10.5 -0.6
MKAR Makanchi Array 87.35 35 *iP* **P 20 19 10.8 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,1.1s
NRN Naryn 87.62 42 P P 20 19 12.3 -0.6
NRN IAmb IAmb 20 19 16.6
comp=Z,14nm,1.2s
NRN Naryn 87.62 42 P P 20 19 12.3 -0.6
NRN pmax pmax
comp=Z,14nm,1.2s
DGZ Jazzator, Alta 87.62 30 *iP* **P 20 19 13.1 +0.5**
DGZ pmax pmax
comp=Z,13nm,2.3s
KPKS Kokpek 87.77 39 *eP* **P 20 19 12.4 -0.9**
KPKS pmax pmax
comp=Z,25nm,1.7s
KPKS Kokpek 87.77 39 *eP* **P 20 19 12.5 -0.9**
comp=Z,25nm,1.7s,baz=39
SATY Saty 87.89 39 *eP* **P 20 19 13.5 -0.4**
SATY pmax pmax
comp=Z,9.0nm,1.5s
SATY Saty 87.89 39 *eP* **P 20 19 13.5 -0.4**
comp=Z,9.3nm,1.5s,baz=40
UZB Uzynbulak 88.17 39 *eP* **P 20 19 14.2 -1.0**
UZB Uzynbulak 88.17 39 *eP* **P 20 19 14.3 -1.0**
baz=39
SHLS Shalkode 88.40 39 *eP* **P 20 19 16.6 +0.3**
SHLS pmax pmax
comp=Z,13nm,1.7s
SHLS Shalkode 88.40 39 *eP* **P 20 19 16.6 +0.3**
comp=Z,13nm,1.7s,baz=39
KSH Kashi 88.84 43 P P 20 19 21.4 +2.9
KSH pP pwP 20 19 25.6 -0.4
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,700nm,21.3s
BOD Bodaibo 89.03 13 *eP* **P 20 19 17.4 -1.4**
BOD pmax pmax
comp=Z,14nm,1.4s
MA2 Magadan 89.07 354 LR LR 20 57 03.2
comp=Z,133nm,19.6s,baz=58,slow=34
WMQ Urumqi 92.13 34 *eP* **P 20 19 34.1 +0.4**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,280nm,20.9s
WMQ LR LR
comp=Z,400nm,21.9s
WMQ LR LR
comp=Z,310nm,21.9s
PETK Petropavlovsk- 94.47 349 LR LR 21 01 09.8
comp=Z,160nm,21.2s,baz=49,slow=35
SONM Songino Array 96.27 21 P P 20 19 52.1 -0.5
comp=Z,0.7nm,0.9s,baz=306,slow=3.5,SNR=4.6
comp=Z,0.7nm,0.9s
OPO Ambohidratompo 98.27 107 LR LR 21 02 29.0
comp=Z,254nm,20.6s,baz=121,slow=34
GTA Gaotai 101.14 30 *eP* **Pdif 20 20 16.9 +2.3**
GTA pP pwP 20 20 25.0 +2.7
GTA sP sPdif 20 20 28.7 +10
GTA pmax pmax
comp=Z,3.0nm,2.0s
GTA pmax pmax
comp=Z,79nm,5.4s
GTA LR LR
comp=Z,96nm,19.6s
GTA LR LR
comp=Z,150nm,20.0s
GTA LR LR
comp=Z,130nm,22.2s
TAOE Nuku Hiva Isla 101.92 267 *e*LR LR 20 53 42.3
comp=Z,469nm,24.2s
XAN Xi'an 109.42 26 *e*Pdif **Pdif 20 20 49.6 -1.9**
XAN LR LR
comp=Z,200nm,15.7s
XAN LR LR
comp=Z,270nm,17.5s
XAN LR LR
comp=Z,300nm,18.6s
CD2 Chengdu 110.03 31 Pdif Pdif 20 20 51.9 -2.4
PZH PanZhiHua 112.78 36 PKP PKiKP 20 25 02.8 +1.3
PPT2 Papeete2 114.12 263 *e*LR LR 20 59 19.3
comp=Z,472nm,33.2s
NJ2 Nanjing 114.46 18 *e*PKP **PKiKP 20 25 03.2 -1.2**
TBI Tubuai 116.50 258 *e*LR LR 21 00 25.4
comp=Z,272nm,24.5s
CMAR Chiang Mai Arr 117.74 43 PKP PKPdf 20 25 11.0 0.0
comp=Z,0.8nm,0.8s,baz=315,slow=3.0,SNR=4.5
CMAR PP **PP 20 26 22.2 -1.0**
comp=Z,0.4nm,0.3s,baz=301,slow=6.2,SNR=4.3
MAW Mawson 123.81 153 PKP PKPdf 20 25 20.6 -0.4
comp=Z,2.1nm,0.9s,baz=289,slow=8.0,SNR=3.9
VNDA Vanda 132.32 187 PKP PKPdf 20 25 37.1 0.0
comp=Z,2.6nm,1.0s,baz=161,slow=4.8,SNR=9.3
URZ Urewera 147.66 247 PKPbc PKPdf 20 26 06.7 +0.8
comp=Z,13nm,0.8s,baz=186,slow=0.6,SNR=4.3
KRVT Keravat (AS076 150.45 332 PKPbc PKPbc 20 26 16.2 -0.2
comp=Z,26nm,0.8s,baz=344,slow=4.9,SNR=4.4
DZM Mont Dzumac 153.52 283 *e*LR LR 21 17 35.3
comp=Z,528nm,30.1s
PMG Port Moresby 156.95 338 PP PP 20 30 27.8 +0.5
comp=Z,15nm,1.0s,baz=34,slow=3.6,SNR=3.3
FITZ Fitzroy Crossi 162.54 45 PKPab PKPab 20 27 13.8 -0.7
baz=311,slow=9.3
WRA Warramunga Arr 168.24 20 PKP PKPdf 20 26 31.2 -0.1
comp=Z,1.8nm,1.1s,baz=322,slow=1.4,SNR=4.7
WRA PKPab **PKPab 20 27 39.6 +0.2**
comp=Z,2.0nm,1.3s,baz=2.0,slow=4.3,SNR=2.6
WRA PP **PP 20 31 26.3 -1.0**
comp=Z,2.0nm,1.1s,baz=347,slow=6.0,SNR=5.3
ASAR Alice Springs 171.51 30 PKP PKPdf 20 26 31.9 -1.2
comp=Z,2.7nm,1.1s,baz=58,slow=0.5,SNR=11
ASAR PKPab **PKPab 20 27 53.4 -0.5**
comp=Z,3.8nm,1.1s,baz=334,slow=4.4,SNR=9.6
ASAR PP **PP 20 31 43.8 -0.2**
comp=Z,2.0nm,1.1s,baz=6.8,slow=4.4,SNR=5.5

---

*IDC **05** 20:10:29.9±0.8, 16.°85N×85.°40W, h0km, mb4.4/19, mbtmp4.4/23, ML4.1/4, MS4.3/26, Error ellipse: s-maj=24.1km s-min=15.6km az=34.0*
*NEIC **05** 20:10:31.6±2.6, 16.°98N±0.°06×85.°49W±0.°07, h10km±1km, mb4.9/182, Error ellipse: s-maj=10.7km s-min=10.1km az=65.0*
*GCMT **05** 20:10:36.6±0.2, 17.°16N±0.°01×85.°47W±0.°01, h29km±1km, MW5.2/124, Moment Tensor Solution. s66,c93; s124,c197; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.06±.03; $M_{\theta\theta}$-0.51±.02; $M_{\phi\phi}$0.45±.02;*

M_{f0}-0.04±.03; M_{b0}.76±.02; M_{b0}.12±.04; Best double couple: M_0.91200×10^{17} NP1:ϑ=344.00000°, δ90.00000°, λ172.00000°. NP2:ϑ=74.00000°, δ82.00000°, λ0.00000°. Principal axes: T 0.8820, Plg6.0000°, Azm299.0000°; N 0.0600, Plg82.0000°, Azm163.0000°; P -0.9420, Plg5.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 05 20:10:33.1±0.4, 16°.95N±0°.06, 85°.62W±0°.05, h28km, n423, σ1§57/395, mb4.8/85, MS4.3/28, 1C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.29**	**209**	Pn	**Pn**	**20 11 24.4**	**+1.5**
MATN	**Matagalpa**	**4.01**	**184**		**Pn**	**20 11 33.0**	**+0.2**
PETF	**Flores**	**4.06**	**270**	Pn	**Pn**	**20 11 34.5**	**+1.1**
TEIG	**Tepich**	**4.12**	**323**	Pn	**Pn**	**20 11 35.6**	**+1.4**
ESQI	**Esquipulas**	**4.30**	**237**		**Pn**	**20 11 38.3**	**+1.5**
MTO3	**Montecristo**	**4.41**	**235**		**Pn**	**20 11 40.2**	**+1.8**
BOAB	**BOACO BROADBAN**	**4.47**	**181**	Pn	**Pn**	**20 11 39.7**	**+0.6**
ACON	**Acoyapa**	**4.97**	**175**		**Pn**	**20 11 46.7**	**+0.8**
HUEH	**Huehuetenango**	**5.88**	**255**		**Pn**	**20 11 58.1**	**-0.5**
LCCY	**Blossom Villag**	**5.92**	**62**		**Pn**	**20 11 57.2**	**-1.6**
HZTE	**Horizontes, Gu**	**6.20**	**180**		**Pn**	**20 12 03.4**	**+0.5**
CCIG	**Comitan**	**6.28**	**265**		**Pn**	**20 12 05.8**	**+1.7**
COVE	**Coope Vega, Sa**	**6.30**	**169**	Pn	**Pn**	**20 12 00.9**	**-3.4**
SOR	**Soroa**	**6.31**	**23**	Pn	**Pn**	**20 12 03.8**	**-0.5**
ORTG	**Ortega, Santa**	**6.55**	**179**	Pn	**Pn**	**20 12 07.4**	**-0.4**
JTS	**Las Juntas de**	**6.65**	**174**	Pn	**Pn**	**20 12 08.8**	**-0.2**
CVTR	**Volcan Turrial**	**7.12**	**165**	Pn	**Pn**	**20 12 15.5**	**-0.4**
RIMA	**Rio Macho**	**7.34**	**166**		**Pn**	**20 12 17.8**	**-0.9**
MTDJ	**Mount Denham**	**7.82**	**79**		**Pn**	**20 12 23.4**	**-1.7**
SRBA	**San Rafael, Bu**	**7.98**	**164**		**Pn**	**20 12 26.3**	**-1.1**
DRU0	**Durika**	**7.98**	**163**	Pn	**Pn**	**20 12 26.5**	**-1.0**
BRU2	**Volcan**	**8.60**	**160**	Pn	**Pn**	**20 12 34.5**	**-1.4**
CMIG	**Matias Romero**	**8.86**	**272**	Pn	**Pn**	**20 12 40.5**	**+1.1**
	3.9nm,0.3s,baz=86,slow=13,SNR=22						
CMIG				Sn	**Sn**	**20 14 12.2**	**-6.2**
	4.1nm,0.3s,baz=64,slow=21,SNR=1.5						
CMIG				LR	LR	20 16 22.3	
	comp=Z,4μm,19.5s,baz=96,slow=39 4.8nm,0.3s						
BCIP	**Isla Barro Col**	**9.57**	**143**	Pn	**Pn**	**20 12 48.3**	**-0.8**
061Z	**Ochoppi**	**9.90**	**26**	Pn	**Pn**	**20 12 53.0**	**-0.5**
TLIG	**Tiapa**	**12.38**	**275**	Pn	**Pn**	**20 13 28.6**	**+0.8**
656A	**Willston**	**12.68**	**12**		**Pn**	**20 13 29.8**	**-1.8**
451A	**Vernon**	**13.61**	**360**	Pn	**Pn**	**20 13 40.3**	**-4.0**
SDDR	**Presa de Saban**	**13.79**	**79**	Pn	**Pn**	**20 13 44.8**	**-2.1**
456A	**Hilliard**	**14.10**	**13**	Pn	**Pn**	**20 13 48.8**	**-2.2**
GRTK	**Grand Turk**	**14.41**	**69**	Pn	**Pn**	**20 13 51.1**	**-4.2**
352A	**Blakely**	**14.48**	**2**		**Pn**	**20 13 54.7**	**-1.5**
TIGA	**Tifton**	**14.54**	**7**	P	**Pn**	**20 13 55.3**	**-1.8**
	baz=187						
250A	**Grady**	**14.97**	**358**		**Pn**	**20 14 00.7**	**-2.2**
344A	**Westbrook Farm**	**15.17**	**343**		**Pn**	**20 14 04.2**	**-1.2**
344A				IAmb	IAmb	20 14 09.7	
	comp=Z,73nm,1.7s						
255A	**Hazlehurst**	**15.18**	**10**		**Pn**	**20 14 02.6**	**-3.0**
441A	**DeRidder**	**15.38**	**335**		**Pn**	**20 14 07.8**	**-0.3**
KVTX	**Kingsville**	**15.49**	**315**	Pn	**Pn**	**20 14 09.7**	**+0.1**
KVTX				P	**P**	**20 14 13.1**	**-0.7**
DR12	**Loma Pena Alta**	**15.57**	**81**		**Pn**	**20 14 09.6**	**-1.3**
342A	**Flagon Creek P**	**15.60**	**338**		**Pn**	**20 14 11.1**	**0.0**
152A	**Waverly Hall**	**15.67**	**3**		**Pn**	**20 14 10.7**	**-1.3**
154A	**Montrose**	**15.76**	**8**		**Pn**	**20 14 12.3**	**-0.8**
HKT	**Hockley**	**15.96**	**326**	Pn	**Pn**	**20 14 16.3**	**+0.6**
HKT				IAmb	IAmb	20 14 22.0	
	comp=Z,87nm,0.9s						
LRAL	**Lakeview Retre**	**16.06**	**356**	Pn	**Pn**	**20 14 16.1**	**-1.0**
LRAL	**Lakeview Retre**	**16.06**	**356**	P	**Pn**	**20 14 15.4**	**-1.7**
	baz=175						
Z51A	**Franklin**	**16.30**	**1**	P	**Pn**	**20 14 20.4**	**+0.3**
735A	**Kenedy**	**16.31**	**319**		**Pn**	**20 14 20.6**	**+0.4**
Z47A	**Carrollton**	**16.33**	**353**	P	**Pn**	**20 14 21.2**	**+0.8**
Z47A				IAmb	IAmb	20 14 26.3	
	comp=Z,54nm,0.6s						
ROSC	**El Rosal**	**16.36**	**136**	Pn	**Pn**	**20 14 20.5**	**-0.8**
	comp=Z,5.4nm,0.3s,baz=340,slow=14,SNR=4.7 comp=Z,9.5nm,0.3s						
GOGA	**Godfrey**	**16.51**	**6**	Pn	**Pn**	**20 14 20.7**	**-1.9**
GOGA	**Godfrey**	**16.51**	**6**	P	**Pn**	**20 14 21.4**	**-1.3**
	baz=187,SNR=5.3						
SDV	**Santo Domingo**	**16.65**	**117**	Pn	**Pn**	**20 14 23.4**	**-1.5**
	comp=Z,3.7nm,0.3s,baz=331,slow=9.3,SNR=10 comp=Z,24nm,0.5s						
SDV	**Santo Domingo**	**16.65**	**117**	P	**Pn**	**20 14 24.9**	**+0.1**
SDV				IAmb	IAmb	20 14 28.4	
	comp=Z,130nm,1.6s						
NHSC	**New Hope**	**16.82**	**16**		**Pn**	**20 14 25.9**	**-0.7**
NHSC				IAmb	IAmb	20 14 32.9	
	comp=Z,162nm,1.2s						
NHSC	**New Hope**	**16.82**	**16**	P	**Pn**	**20 14 24.4**	**-2.2**
	baz=198						
Y49A	**Blount Mountai**	**16.85**	**358**		**Pn**	**20 14 27.3**	**+0.2**
NATX	**Nacogdoches**	**16.88**	**333**	P	**Pn**	**20 14 28.1**	**+0.8**
NATX				IAmb	IAmb	20 14 34.4	
	comp=Z,149nm,1.1s						
NATX	**Nacogdoches**	**16.88**	**333**	P	**Pn**	**20 14 26.3**	**-1.0**
	baz=148,SNR=9.0						
Y52A	**Lilburn**	**16.90**	**4**	P	**Pn**	**20 14 27.4**	**-0.3**
833A	**Chaparral WMA,**	**17.00**	**314**	Pn	**Pn**	**20 14 27.6**	**-1.4**
833A	**Chaparral WMA,**	**17.00**	**314**	P	**Pn**	**20 14 29.2**	**+0.2**
	baz=128,SNR=55						
HODGE	**Hodges**	**17.47**	**9**	P	**Pn**	**20 14 32.0**	**-2.7**
X48A	**Hartselle**	**17.48**	**356**	P	**P**	**20 14 35.8**	**0.0**
FPAL	**Fort Paine**	**17.52**	**0**	P	**Pn**	**20 14 34.1**	**-1.3**
X51A	**Calhoun**	**17.56**	**2**	P	**Pn**	**20 14 34.4**	**-1.5**
435B	**Jarrell**	**17.57**	**324**		**Pn**	**20 14 35.8**	**-0.3**
435B	**Jarrell**	**17.57**	**324**	P	**Pn**	**20 14 35.6**	**-0.4**
	baz=139						
237A	**Washetta, Mont**	**17.60**	**330**	P	**P**	**20 14 38.0**	**+0.7**
Y57A	**Sumter**	**17.63**	**14**		**Pn**	**20 14 34.5**	**-2.3**
JSC	**Jenkinsville**	**17.70**	**12**	P	**P**	**20 14 38.2**	**0.0**
Y58A	**Scranton**	**17.71**	**16**	P	**P**	**20 14 40.0**	**+1.6**
Y58A				IAmb	IAmb	20 14 42.7	
	comp=Z,58nm,0.6s						
OXF	**Oxford**	**17.82**	**350**	P	**Pn**	**20 14 38.5**	**-0.6**
	baz=168						
TULM	**Tulcn-Chalpat**	**17.88**	**154**		**P**	**20 14 42.3**	**+1.4**
TULM				IAmb	IAmb	20 14 48.6	
	comp=Z,66nm,1.2s						
PLAL	**Pickwick Lake**	**18.09**	**353**	P	**Pn**	**20 14 40.6**	**-1.8**
PAULI	**Pauline**	**18.12**	**10**		**Pn**	**20 14 40.6**	**-2.2**
BG3	**Lake Jocassee**	**18.13**	**7**		**Pn**	**20 14 40.8**	**-2.1**
W52A	**Murphy**	**18.13**	**4**	P	**P**	**20 14 45.9**	**+2.7**
W50A	**Signal Mountai**	**18.18**	**1**	P	**Pn**	**20 14 42.2**	**-1.3**
SWET	**Sewanee**	**18.19**	**359**	P	**Pn**	**20 14 40.7**	**-3.0**
BIRD	**Birdtown, Kers**	**18.22**	**14**		**Pn**	**20 14 42.2**	**-1.7**
Z38A	**Mt. Pleasant**	**18.30**	**334**		**P**	**20 14 40.2**	**-4.7**
WHTX	**Lake Whitney,**	**18.42**	**327**	P	**Pn**	**20 14 48.6**	**+2.1**
WHTX	**Lake Whitney,**	**18.42**	**327**	P	**P**	**20 14 46.6**	**+0.3**
	baz=141,SNR=23						
CPCT	**Cooper Cave**	**18.45**	**3**		**Pn**	**20 14 49.0**	**+2.2**
KMSC	**Kings Mountain**	**18.52**	**11**	P	**Pn**	**20 14 48.8**	**+1.2**
KMSC	**Kings Mountain**	**18.52**	**11**	P	**P**	**20 14 46.0**	**-1.3**
	baz=193						
JCT	**Junction City**	**18.68**	**319**		**P**	**20 14 49.8**	**+0.6**
JCT				IAmb	IAmb	20 14 58.2	
	comp=Z,49nm,1.1s						
JCT	**Junction City**	**18.68**	**319**	P	**P**	**20 14 49.2**	**0.0**
	baz=133,SNR=14						
TKL	**Tuckaleechee C**	**18.71**	**5**	P	**Pn**	**20 14 50.9**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=178,slow=2.8,SNR=18						
TKL				S	Sn	20 18 06.2	-12
	comp=Z,35nm,0.9s,baz=20,slow=7.0,SNR=10 comp=Z,6.1nm,0.4s						
TKL	**Tuckaleechee C**	**18.71**	**5**	P	**Pn**	**20 14 50.7**	**+0.8**
V48A	**Smith Brothers**	**18.75**	**357**	P	**P**	**20 14 48.5**	**-1.3**
V53A	**Saluda**	**18.81**	**7**	P	**P**	**20 14 50.4**	**-0.2**
V51A	**Loudon**	**18.81**	**3**	P	**P**	**20 14 50.3**	**-0.3**
W57A	**Gilead**	**18.81**	**14**	P	**Pn**	**20 14 50.8**	**-0.4**
W57A				IAmb	IAmb	20 14 53.8	
	comp=Z,57nm,1.2s						
BAUV	**El Baul**	**18.88**	**113**	P	**P**	**20 14 50.1**	**-1.3**
BAUV				IAmb	IAmb	20 14 55.3	
	comp=Z,139nm,1.6s						
V52A	**Sevierville**	**18.90**	**5**	P	**P**	**20 14 50.0**	**-1.5**
MIAR	**Mount Ida**	**18.92**	**339**	P	**P**	**20 14 50.2**	**-1.5**
	baz=156						
WVT	**Waverly**	**19.20**	**355**	P	**P**	**20 14 54.1**	**-0.7**
WVT				IAmb	IAmb	20 15 01.2	
	comp=Z,64nm,1.4s						
WVT	**Waverly**	**19.20**	**355**	P	**P**	**20 14 53.6**	**-1.2**
	baz=173						
V55A	**Taylorsville**	**19.23**	**11**		**P**	**20 14 54.0**	**-1.2**
V55A				IAmb	IAmb	20 15 02.5	
	comp=Z,92nm,1.9s						
Z35A	**Perchaven, San**	**19.39**	**329**	P	**P**	**20 14 57.0**	**+0.1**
U49A	**Red Boiling Sp**	**19.49**	**360**	P	**P**	**20 14 56.7**	**-1.2**
TZTN	**Tazewell**	**19.60**	**5**	P	**P**	**20 14 56.9**	**-2.3**
TZTN				IAmb	IAmb	20 15 05.9	
	comp=Z,156nm,2.0s						
TZTN	**Tazewell**	**19.60**	**5**	P	**P**	**20 14 58.5**	**-0.7**
	baz=186						
V58A	**Windy Hill, Pi**	**19.64**	**16**	P	**P**	**20 14 58.8**	**-0.8**
HICK	**Hickman**	**19.77**	**351**	P	**P**	**20 15 00.8**	**-0.2**
U54A	**Nelsons Funny**	**19.78**	**9**	P	**P**	**20 14 59.8**	**-1.5**
U54A				IAmb	IAmb	20 15 07.8	
	comp=Z,105nm,1.9s						
U56A	**King**	**19.87**	**13**	P	**P**	**20 15 01.4**	**-0.8**
T47A	**Sharon Grove**	**20.00**	**357**	P	Pn	20 15 06.1	+0.7
U59A	**Littleton**	**20.54**	**18**	P	**P**	**20 15 09.2**	**-0.2**
CGM3	**Cape Girardeau**	**20.58**	**351**	P	**P**	**20 15 09.9**	**+0.1**
CGM3				IAmb	IAmb	20 15 22.2	
	comp=Z,18nm,0.8s						
TX32	**Lajitas Array**	**20.64**	**310**	P	Pn	20 15 13.7	+0.7
TX32				IAmb	IAmb	20 15 24.5	
	comp=Z,32nm,0.8s						
TXAR	**Lajitas Array**	**20.64**	**310**	P	Pn	20 15 13.9	+0.9
	comp=Z,19nm,0.9s,baz=126,slow=9.3,SNR=120						
TXAR				S	**S**	**20 18 51.4**	**-8.7**
	comp=Z,2.0nm,0.5s,baz=125,slow=17,SNR=4.4						
TXAR				LR	LR	20 26 48.1	
	comp=Z,307nm,18.1s,baz=122,slow=47 comp=Z,19nm,0.9s						
TXAR	**Lajitas Array**	**20.64**	**310**	P	Pn	20 15 13.4	+0.4
TX31	**Lajitas Ar. Si**	**20.64**	**310**	P	Pn	20 15 13.6	+0.5
S51A	**Beattyville**	**20.69**	**5**	P	**P**	**20 15 10.8**	**-0.1**
S51A				IAmb	IAmb	20 15 18.1	
	comp=Z,40nm,1.1s						
BLA	**Blacksburg**	**20.70**	**12**	P	**P**	**20 15 09.4**	**-1.8**
BLA				IAmb	IAmb	20 15 21.1	
	comp=Z,78nm,1.6s						
BLA	**Blacksburg**	**20.70**	**12**	P	**P**	**20 15 10.9**	**-0.3**
	baz=194						
T57A	**Hurt**	**20.75**	**15**	P	**P**	**20 15 10.7**	**-0.9**
S44A	**Carbondale**	**20.91**	**352**	P	Pn	20 15 15.0	-1.0
S44A				IAmb	IAmb	20 15 26.8	
	comp=Z,58nm,0.9s						
SIUC	**Southern Illin**	**20.93**	**352**	P	**P**	**20 15 14.0**	**+0.4**
SIUC				IAmb	IAmb	20 15 26.6	
	comp=Z,51nm,0.8s						
TUL1	**Leonard**	**20.94**	**336**		Pn	20 15 15.8	-0.6
TUL1				IAmb	IAmb	20 15 31.6	
	comp=Z,32nm,0.9s						
MGMO	**Mountain Grove**	**20.96**	**345**		Pn	20 15 15.9	-0.8
USIN	**University of**	**21.01**	**355**		**P**	**20 15 15.4**	**+1.0**
FNO	**Franklin**	**21.05**	**332**		**P**	**20 15 16.1**	**+1.2**
FNO				IAmb	IAmb	20 15 33.3	
	comp=Z,42nm,1.0s						
HPIG		**21.05**	**302**	P	**P**	**20 15 17.8**	**+2.5**
HPIG				IAmb	IAmb	20 15 21.2	
	comp=Z,38nm,0.9s						
DEOK	**Depew**	**21.16**	**335**		**P**	**20 15 15.6**	**-0.5**
DEOK				IAmb	IAmb	20 15 23.2	
	comp=Z,40nm,1.0s						
T59A	**Double "B" Far**	**21.18**	**18**	P	**P**	**20 15 15.5**	**-0.8**
T59A				IAmb	IAmb	20 15 21.4	
	comp=Z,43nm,1.2s						
WCI	**Wyandotte Cave**	**21.21**	**359**	P	**P**	**20 15 16.2**	**-0.4**
WCI				IAmb	IAmb	20 15 21.9	
	comp=Z,49nm,1.0s						
WCI	**Wyandotte Cave**	**21.21**	**359**	P	**P**	**20 15 17.7**	**+1.1**
	baz=178						
R49A	**Shelbyville**	**21.27**	**1**	P	**P**	**20 15 16.9**	**-0.3**
R49A				IAmb	IAmb	20 15 25.7	
	comp=Z,80nm,1.8s						
WMOK	**Wichita Mounta**	**21.27**	**329**	P	**P**	**20 15 17.7**	**+0.3**
	baz=143						
R50A	**Paris**	**21.28**	**3**	P	**P**	**20 15 17.0**	**-0.3**
FVM	**French Village**	**21.38**	**350**	P	**P**	**20 15 18.2**	**-0.2**
BCOK	**Bluff Creek, N**	**21.47**	**332**	P	**P**	**20 15 19.0**	**-0.5**
BCOK				IAmb	IAmb	20 15 36.7	
	comp=Z,46nm,0.7s						
QUOK	**Quay**	**21.53**	**335**		**P**	**20 15 21.5**	**+1.4**
QUOK				IAmb	IAmb	20 15 40.4	
	comp=Z,25nm,0.8s						
R53A	**Hurricane**	**21.54**	**8**	P	**P**	**20 15 22.1**	**+1.9**
R53A				IAmb	IAmb	20 15 26.6	
	comp=Z,20nm,0.7s						
S57A	**Dark Hollow, R**	**21.55**	**15**	P	**P**	**20 15 22.4**	**+2.2**
CCM	**Cathedral Cave**	**21.60**	**348**	P	**P**	**20 15 18.7**	**-2.1**
CCM				IAmb	IAmb	20 15 37.1	
	comp=Z,38nm,0.9s						
S39A	**Bolivar**	**21.75**	**343**	P	**P**	**20 15 21.8**	**-0.6**
JSRW	**J. Sargeant Re**	**21.76**	**17**		**P**	**20 15 20.4**	**-2.1**
R55A	**Marlinton**	**21.79**	**12**	P	**P**	**20 15 20.8**	**-2.2**
R55A				IAmb	IAmb	20 15 29.5	
	comp=Z,31nm,0.9s						
OLIL	**Olney**	**21.81**	**355**	P	**P**	**20 15 23.2**	**+0.2**
OLIL				IAmb	IAmb	20 15 41.7	
	comp=Z,76nm,1.0s						
R40A	**Maddies Statio**	**22.05**	**346**	P	**P**	**20 15 26.2**	**+0.6**
Q44A	**Meyer Farm, Va**	**22.07**	**353**	P	**P**	**20 15 26.9**	**+1.0**
Q44A				IAmb	IAmb	20 15 44.2	
	comp=Z,38nm,0.8s						
Q51A	**Peebles**	**22.09**	**5**	P	**P**	**20 15 23.4**	**-2.6**
Q51A				IAmb	IAmb	20 15 32.2	
	comp=Z,37nm,0.8s						
Q52A	**Bidwell**	**22.13**	**7**	P	**P**	**20 15 28.9**	**+2.5**
Q52A				IAmb	IAmb	20 15 44.8	
	comp=Z,53nm,1.0s						
BLO	**Bloomington**	**22.16**	**358**	P	**P**	**20 15 29.3**	**+2.6**
BLO				IAmb	IAmb	20 15 31.9	
	comp=Z,66nm,1.1s						
Q54A	**Coxs Mills**	**22.35**	**10**	P	**P**	**20 15 31.1**	**+2.3**
Q54A				IAmb	IAmb	20 15 34.5	
	comp=Z,43nm,0.9s						
CROK	**Carrier**	**22.35**	**333**	P	**P**	**20 15 29.9**	**+1.0**
CROK				IAmb	IAmb	20 15 47.9	
	comp=Z,32nm,0.8s						
CBN	**Corbin Frederi**	**22.38**	**17**	P	**P**	**20 15 28.4**	**-0.7**
CBN				IAmb	IAmb	20 15 35.0	
	comp=Z,43nm,1.2s						
P48A	**Milroy**	**22.43**	**0**	P	**P**	**20 15 31.3**	**+1.6**
P48A				IAmb	IAmb	20 15 34.2	
	comp=Z,105nm,1.8s						
HTMS	**Hat Mesa**	**22.45**	**317**	P	**P**	**20 15 31.5**	**+1.3**
P49A	**Miami Univ. Ec**	**22.52**	**2**	P	**P**	**20 15 29.6**	**-1.1**
P49A	**Miami Univ. Ec**	**22.52**	**2**	P	**P**	**20 15 31.3**	**+0.7**
	baz=182						
CLN7	**Carlsbad 7**	**22.53**	**316**	P	**P**	**20 15 32.6**	**+1.6**
P51A	**Williamsport**	**22.56**	**5**	P	**P**	**20 15 31.5**	**+0.4**
P51A				IAmb	IAmb	20 15 48.0	
	comp=Z,21nm,0.8s						
OK038	**West end E0370**	**22.66**	**332**	P	**P**	**20 15 34.0**	**+1.7**
OK038				IAmb	IAmb	20 15 54.3	
	comp=Z,47nm,0.8s						
P53A	**Whipple**	**22.76**	**8**	P	**P**	**20 15 34.9**	**+1.7**
P53A				IAmb	IAmb	20 15 49.0	
	comp=Z,38nm,1.1s						
GDL2	**Guadalupe Moun**	**22.77**	**315**	P	**P**	**20 15 33.5**	**0.0**
P52A	**Corning**	**22.80**	**7**	P	**P**	**20 15 36.1**	**+2.5**
P52A				IAmb	IAmb	20 15 46.3	
	comp=Z,36nm,0.9s						
P52A	**Corning**	**22.80**	**7**	P	**P**	**20 15 33.3**	**-0.4**
	baz=188,SNR=9.0						
P43A	**Skaggs, Pawnee**	**22.86**	**352**	P	**P**	**20 15 32.8**	**-1.5**
P43A				IAmb	IAmb	20 15 53.7	
	comp=Z,31nm,0.7s						
MSTX	**Muleshoe**	**22.90**	**321**	P	**P**	**20 15 34.8**	**-0.1**
	baz=133,SNR=8.9						
MNTX	**Cornudas Mount**	**23.18**	**313**	P	**P**	**20 15 38.4**	**+0.8**
MNTX				IAmb	IAmb	20 15 40.9	
	comp=Z,28nm,1.0s						
MNTX	**Cornudas Mount**	**23.18**	**313**	P	**P**	**20 15 37.9**	**+0.2**
	baz=124,SNR=41						
MCWV	**Mont Chateau**	**23.18**	**11**	P	**P**	**20 15 38.3**	**+0.8**
MCWV				IAmb	IAmb	20 15 43.3	
	comp=Z,41nm,1.1s						
MCWV	**Mont Chateau**	**23.18**	**11**	P	**P**	**20 15 37.1**	**-0.4**
	baz=194,SNR=5.1						
P40A	**Paris**	**23.18**	**347**	P	**P**	**20 15 39.5**	**+1.9**
O48B	**Farmland**	**23.23**	**1**	P	**P**	**20 15 38.9**	**+0.9**
	baz=181						
ACSO	**Alum Creek Sta**	**23.31**	**5**	P	**P**	**20 15 37.5**	**-1.3**
ACSO				IAmb	IAmb	20 15 43.4	
	comp=Z,19nm,0.7s						
ACSO	**Alum Creek Sta**	**23.31**	**5**	P	**P**	**20 15 39.4**	**+0.5**
	baz=186						
SFIN	**Lafayette**	**23.38**	**357**	P	**P**	**20 15 37.8**	**-1.7**
SFIN				IAmb	IAmb	20 16 02.9	
	comp=Z,50nm,1.3s						
SFIN	**Lafayette**	**23.38**	**357**	P	**P**	**20 15 39.3**	**-0.2**
	baz=176						
O53A	**New Philadelph**	**23.53**	**8**	P	**P**	**20 15 43.9**	**+2.9**
O53A	**New Philadelph**	**23.53**	**8**	P	**P**	**20 15 40.8**	**-0.2**
	baz=190,SNR=5.9						
O54A	**Avella**	**23.59**	**10**	P	**P**	**20 15 40.5**	**-1.1**
O54A				IAmb	IAmb	20 15 46.3	
	comp=Z,39nm,0.8s						
P38A	**Dawn**	**23.62**	**345**	P	**P**	**20 15 42.5**	**+0.6**
N47A	**Urbana**	**23.85**	**360**	P	**P**	**20 15 44.8**	**+0.8**
N47A				IAmb	IAmb	20 15 48.1	
	comp=Z,26nm,1.1s						
N49A	**Columbus Grove**	**23.92**	**3**	P	**P**	**20 15 47.4**	**+2.7**
N49A				IAmb	IAmb	20 15 49.5	
	comp=Z,38nm,0.8s						
N51A	**Ashland**	**24.05**	**6**	P	**P**	**20 15 48.6**	**+2.7**
KSU1	**Kansas State U**	**24.07**	**339**	P	**P**	**20 15 46.4**	**+0.3**
KSU1				IAmb	IAmb	20 16 00.6	
	comp=Z,27nm,0.8s						
KSU1	**Kansas State U**	**24.07**	**339**	P	**P**	**20 15 46.3**	**+0.3**
	baz=153						
N53A	**Lisbon**	**24.13**	**9**	P	**P**	**20 15 47.5**	**+0.8**
N53A				IAmb	IAmb	20 15 51.4	
	comp=Z,24nm,0.9s						
LPIG	**La Paz**	**24.17**	**291**	LR	LR	20 26 05.3	
	comp=Z,892nm,18.7s,baz=88,slow=38						
M50A	**Fremont**	**24.47**	**5**	P	**P**	**20 15 49.5**	**-0.2**
SSPA	**Standing Stone**	**24.53**	**14**	P	**P**	**20 15 51.5**	**+1.1**
SSPA				IAmb	IAmb	20 15 55.7	
	comp=Z,17nm,0.8s						
SSPA	**Standing Stone**	**24.53**	**14**	P	**P**	**20 15 50.0**	**-0.4**
	baz=198						
M53A	**WI Miller and**	**24.77**	**9**	P	**P**	**20 15 54.6**	**+2.1**
M53A	**WI Miller and**	**24.77**	**9**	P	**P**	**20 15 52.1**	**-0.4**
	baz=191,SNR=9.6						
M52A	**Chesterland**	**24.78**	**8**	P	**P**	**20 15 54.5**	**+2.0**
M52A				IAmb	IAmb	20 15 56.4	
	comp=Z,25nm,0.8s						
L48A	**N Adams**	**24.93**	**2**	P	**P**	**20 15 55.3**	**+1.4**
L48A				IAmb	IAmb	20 16 10.7	
	comp=Z,54nm,1.4s						
ATAH	**Atahualpa**	**24.98**	**163**	LR	LR	20 24 55.7	
	comp=Z,811nm,18.2s,baz=336,slow=35						
M55A	**Ridgway**	**25.14**	**12**	P	**P**	**20 15 53.6**	**-2.3**
M55A				IAmb	IAmb	20 15 60.0	
	comp=Z,25nm,0.9s						
LUPA	**Lehigh Univers**	**25.18**	**19**	P	**P**	**20 15 56.7**	**+0.5**
LUPA				IAmb	IAmb	20 16 02.2	
	comp=Z,30nm,1.1s						
L42A	**Oliver, Polo**	**25.21**	**353**	P	**P**	**20 15 55.1**	**-1.3**
L40A	**Anamosa**	**25.49**	**350**	P	**P**	**20 15 58.9**	**0.0**
L40A				IAmb	IAmb	20 16 27.4	
	comp=Z,31nm,0.8s						
ERPA	**Erie**	**25.54**	**10**	P	**P**	**20 15 59.8**	**+0.3**
L56A	**Greenwood**	**26.04**	**14**	P	**P**	**20 16 02.0**	**-1.9**
JFWS	**Jewell Farm**	**26.18**	**352**	P	**P**	**20 16 07.1**	**+1.9**
K38A	**Parkersburg**	**26.33**	**348**	P	**P**	**20 16 04.8**	**-1.8**
K38A				IAmb	IAmb	20 16 13.7	
	comp=Z,48nm,1.4s						
SRIG	**Santa Rosalia**	**26.68**	**297**	P	**P**	**20 16 10.1**	**+0.2**
OGNE	**Ogallala**	**27.79**	**333**	P	**P**	**20 16 20.5**	**+0.6**
SADO	**Sadowa**	**28.27**	**10**	P	**P**	**20 16 25.1**	**+1.2**
	comp=Z,9.0nm,0.7s,baz=240,slow=5.4,SNR=8.6 comp=Z,9.0nm,0.7s						
EYMN	**Ely**	**31.29**	**352**	P	**P**	**20 16 51.2**	**+0.5**
	baz=169						
IRM	**Iron Mountain**	**31.51**	**309**	P	**P**	**20 16 53.1**	**+0.2**
	baz=115						
VLDQ	**Val d'Or**	**31.79**	**10**	P	**P**	**20 16 54.2**	**-0.9**
VLDQ				IAmb	IAmb	20 16 58.8	
	comp=Z,12nm,0.8s						
BELC	**Belle Mtn. Jos**	**32.09**	**308**	P	**P**	**20 16 59.1**	**+1.0**
	baz=114						
GMRC	**Granite Mounta**	**32.16**	**309**	P	**P**	**20 16 58.7**	**0.0**
	baz=116						

PNL	**Peninsula**	**57.54**	**331**	P		**P**	**20 20 20.8 +0.9**
	baz=114						
YUK6	**Outpost Mounta**	**57.61**	**333**	P		**P**	**20 20 21.9 +1.2**
	baz=115						
M30M	**Minto, Yukon**	**57.68**	**335**	P		**P**	**20 20 21.7 +0.8**
	baz=118						
YUK4	**Talbot Arm**	**57.90**	**333**	P		**P**	**20 20 21.7 -1.0**
	baz=116						
PINM	**Pinnacle**	**58.11**	**331**	P		**P**	**20 20 22.2 -1.8**
	baz=113						
M29M	**Somme Creek**	**58.31**	**334**	P		**P**	**20 20 24.4 -1.0**
	baz=116,SNR=5.4						
K29M	**Barlow Dome**	**58.57**	**336**	P		**P**	**20 20 27.3 +0.1**
	baz=118						
YUK3	**Moose Creek**	**58.87**	**333**	P		**P**	**20 20 27.8 -1.6**
	baz=114						
PLCA	**Paso Flores**	**59.07**	**167**	P		**P**	**20 20 31.2 +0.3**
	comp=Z,2.0nm,0.9s,baz=330,slow=8.1,SNR=3.6						
	comp=Z,2.0nm,0.9s						
F31M	**Tsiigehtchic**	**59.08**	**340**	P		**P**	**20 20 31.4 +0.9**
	baz=124						
DAWY	**Dawson**	**59.41**	**336**	P		**P**	**20 20 33.4 +0.5**
	baz=116						
INK	**Inuvik**	**59.50**	**341**	P		**P**	**20 20 34.9 +1.6**
	comp=Z,7.4nm,0.9s,baz=115,slow=10.0,SNR=5.8						
	comp=Z,7.4nm,0.9s						
INK	**Inuvik**	**59.50**	**341**	P		**P**	**20 20 35.1 +1.7**
INK	**Inuvik**	**59.50**	**341**	P		**P**	**20 20 33.0 -0.4**
	baz=124,SNR=6.2						
EPYK	**Eagle Plains**	**59.51**	**339**	P		**P**	**20 20 34.7 +1.1**
EPYK	**Eagle Plains**	**59.51**	**339**	P		**P**	**20 20 34.7 +1.1**
	baz=120						
TAOE	**Nuku Hiva Isla**	**59.70**	**249**	*e*LR		LR	20 38 12.8
	comp=Z,235nm,31.0s						
M27K	**Edge Creek, AK**	**59.72**	**333**	P		**P**	**20 20 37.6 +2.4**
M27K				IAmb	IAmb		20 20 39.3
	comp=Z,14nm,1.2s						
M27K	**Edge Creek, AK**	**59.72**	**333**	P		**P**	**20 20 36.8 +1.6**
	baz=113						
MCARA	**McCarthy VSAT**	**59.85**	**332**	P		**P**	**20 20 36.8 +0.8**
	baz=111						
BCAR	**Beaver Creek A**	**59.96**	**334**	P		**P**	**20 20 38.1 +1.4**
L27K	**Beaver Creek,**	**59.97**	**334**	P		**P**	**20 20 38.9 +2.1**
	baz=113						
M26K	**Nabesna, AK**	**60.22**	**333**	P		**P**	**20 20 39.9 +1.4**
	baz=112						
GLB	**Gilahina Butte**	**60.23**	**332**	P		**P**	**20 20 40.7 +2.1**
BMRM	**Bremner River**	**60.43**	**331**	P		**P**	**20 20 40.8 +0.8**
	baz=109						
K27K	**Chicken**	**60.46**	**335**	P		**P**	**20 20 42.5 +2.5**
K27K				IAmb	IAmb		20 20 44.5
	comp=Z,16nm,1.6s						
K27K	**Chicken**	**60.46**	**335**	P		**P**	**20 20 41.6 +1.5**
	baz=113						
L26K	**Log Cabin Wild**	**60.60**	**334**	P		**P**	**20 20 43.4 +2.3**
L26K				IAmb	IAmb		20 20 44.7
	comp=Z,14nm,1.2s						
L26K	**Log Cabin Wild**	**60.60**	**334**	P		**P**	**20 20 42.8 +1.8**
	baz=112						
N25K	**Chitina, Valde**	**60.64**	**332**	P		**P**	**20 20 43.8 +2.3**
	baz=110						
I27K	**Kandik River**	**60.93**	**337**	P		**P**	**20 20 44.1 +0.8**
	baz=115						
DOT	**Dot Lake**	**61.13**	**334**	P		**P**	**20 20 47.1 +2.4**
DOT				IAmb	IAmb		20 20 48.3
	comp=Z,12nm,0.9s						
H27K	**Steamboat Moun**	**61.16**	**337**	P		**P**	**20 20 44.4 -0.5**
	baz=115,SNR=5.8						
KLU	**Klutina**	**61.20**	**332**	P		**P**	**20 20 48.3 +3.0**
KLU				IAmb	IAmb		20 20 48.8
	comp=Z,12nm,1.1s						
KLU	**Klutina**	**61.20**	**332**	P		**P**	**20 20 46.0 +0.7**
	baz=108						
SCRK	**Sand Creek**	**61.22**	**335**	P		**P**	**20 20 46.7 +1.3**
	baz=112						
FID	**Port Fidalgo**	**61.23**	**331**	P		**P**	**20 20 48.3 +2.9**
J26L	**Joseph Creek**	**61.24**	**335**	P		**P**	**20 20 47.6 +2.1**
J26L				IAmb	IAmb		20 21 31.8
	comp=Z,11nm,1.6s						
J26L	**Joseph Creek**	**61.24**	**335**	P		**P**	**20 20 46.6 +1.0**
	baz=112						
I26K	**Coal Creek Min**	**61.40**	**336**	P		**P**	**20 20 48.6 +2.2**
I26K				IAmb	IAmb		20 21 15.9
	comp=Z,8.8nm,1.1s						
I26K	**Coal Creek Min**	**61.40**	**336**	P		**P**	**20 20 48.5 +2.2**
	baz=113						
G27K	**Doyon Strip**	**61.46**	**338**	P		**P**	**20 20 48.3 +1.4**
	baz=115						
PAX	**Paxson**	**61.49**	**333**	P		**P**	**20 20 48.8 +1.6**
PAX				IAmb	IAmb		20 20 50.4
	comp=Z,12nm,0.9s						
PAX	**Paxson**	**61.49**	**333**	P		**P**	**20 20 47.4 +0.3**
	baz=110,SNR=10						
RIDG	**Independent Ri**	**61.49**	**334**	P		**P**	**20 20 49.2 +2.1**
RIDG	**Independent Ri**	**61.49**	**334**	P		**P**	**20 20 46.8 -0.4**
	baz=110,SNR=11						
M24K	**Tolsona, Glenn**	**61.51**	**332**	P		**P**	**20 20 50.4 +3.1**
M24K	**Tolsona, Glenn**	**61.51**	**332**	P		**P**	**20 20 47.2 -0.1**
	baz=108,SNR=5.6						
GLI	**Glacier Island**	**61.56**	**331**	P		**P**	**20 20 49.0 +1.5**
	baz=107						
SUMG	**Summit**	**61.81**	**15**	P		**P**	**20 20 50.8 +1.2**
SUMG	**Summit**	**61.81**	**15**	*i* P		**P**	**20 20 51.0 +1.4**
K24K	**Donnelly Dome**	**61.90**	**334**	P		**P**	**20 20 50.0 +0.1**
	baz=110,SNR=7.2						
SCM	**Sheep Creek Mo**	**61.95**	**332**	P		**P**	**20 20 51.3 +1.0**
	baz=107						
J25K	**Salcha River,**	**62.01**	**335**	P		**P**	**20 20 53.0 +2.4**
J25K	**Salcha River,**	**62.01**	**335**	P		**P**	**20 20 51.1 +0.4**
	baz=110,SNR=15						
E27K	**Coleen River**	**62.04**	**339**	P		**P**	**20 20 52.2 +1.4**
	baz=116						
PWL	**Port Wells**	**62.13**	**331**	P		**P**	**20 20 52.3 +0.8**
	baz=106						
G26K	**Porcupine Rive**	**62.28**	**338**	P		**P**	**20 20 54.8 +2.5**
	baz=113						
DHY	**Denali Highway**	**62.34**	**333**	P		**P**	**20 20 52.7 -0.3**
	baz=108						
KNK	**Knik Glacier**	**62.34**	**331**	P		**P**	**20 20 54.3 +1.4**
	baz=106						
WAT6	**Susitna Watana**	**62.35**	**332**	P		**P**	**20 20 52.9 -0.2**
	baz=107,SNR=6.4						
PRP	**Porcupine Dome**	**62.39**	**336**	P		**P**	**20 20 55.6 +2.3**
PRP				IAmb	IAmb		20 20 56.5
	comp=Z,7.3nm,1.0s						
PRP	**Porcupine Dome**	**62.39**	**336**	P		**P**	**20 20 53.3 +0.1**
	baz=111,SNR=5.4						
HDA	**Harding Lake**	**62.59**	**335**	P		**P**	**20 20 55.2 +0.8**
HDA				IAmb	IAmb		20 20 57.6
	comp=Z,13nm,1.0s						
HDA	**Harding Lake**	**62.59**	**335**	P		**P**	**20 20 54.5 0.0**
	baz=109,SNR=8.4						
GHO	**Glory Hole Cre**	**62.66**	**331**	P		**P**	**20 20 57.5 +2.5**
IL31		**62.68**	**335**	P		**P**	**20 20 56.7 +1.7**
ILAR	**Eielson Array**	**62.68**	**335**	P		**P**	**20 20 57.0 +2.0**
	comp=Z,10nm,0.8s,baz=116,slow=5.3,SNR=49						
	comp=Z,10nm,0.8s						
ILAR	**Eielson Array**	**62.68**	**335**	P		**P**	**20 20 56.8 +1.8**
F26K	**Sheenjek River**	**62.70**	**339**	P		**P**	**20 20 57.3 +2.1**
	baz=113						
BMAR	**Burnt Mountain**	**62.76**	**338**	P		**P**	**20 20 57.3 +1.7**
H25K	**Birch Creek**	**62.77**	**337**	P		**P**	**20 20 56.2 +0.6**
	baz=111,SNR=5.1						
WAT1	**Susitna Watana**	**62.78**	**333**	P		**P**	**20 20 57.5 +1.7**
	baz=106						
RC01	**Rabbit Creek A**	**62.85**	**331**	P		**P**	**20 20 58.0 +1.8**
	baz=104						
POKR	**Poker Plat Res**	**63.01**	**335**	P		**P**	**20 20 58.4 +1.1**
	baz=109						
CCB	**Clear Creek Bu**	**63.01**	**335**	P		**P**	**20 20 59.0 +1.8**
CCB				IAmb	IAmb		20 21 00.0
	comp=Z,9.1nm,1.0s						
WRH	**Wood River Hil**	**63.07**	**334**	P		**P**	**20 20 59.0 +1.4**
WRH				IAmb	IAmb		20 21 30.0
	comp=Z,8.4nm,1.1s						
RND	**Reindeer**	**63.08**	**333**	P		**P**	**20 21 00.2 +2.4**
COLA	**College**	**63.10**	**335**	P		**P**	**20 20 59.2 +1.4**
COLA	**College**	**63.10**	**335**	P		**P**	**20 20 58.4 +0.6**
	baz=108						
TCOL	**CIGO, UAF Yank**	**63.11**	**335**	P		**P**	**20 20 59.6 +1.8**
F25K	**Christian Rive**	**63.20**	**338**	P		**P**	**20 20 58.3 -0.2**
	baz=112,SNR=8.1						
MCK	**McKinley**	**63.21**	**334**	P		**P**	**20 20 59.6 +1.0**
MCK				IAmb	IAmb		20 21 01.5
	comp=Z,14nm,1.2s						
MCK	**McKinley**	**63.21**	**334**	P		**P**	**20 20 59.4 +0.8**
	baz=106						
MDM	**Murphy Dome**	**63.28**	**335**	P		**P**	**20 20 59.9 +0.8**
MDM				IAmb	IAmb		20 21 02.0
	comp=Z,6.6nm,0.9s						
C27K	**Jago River**	**63.35**	**341**	P		**P**	**20 21 00.9 +1.5**
	baz=114						
E25K	**Arctic Village**	**63.37**	**339**	P		**P**	**20 20 59.2 -0.4**
	baz=112,SNR=5.1						
H24K	**Noodor Dome**	**63.42**	**336**	P		**P**	**20 21 02.4 +2.4**
H24K				IAmb	IAmb		20 21 20.4
	comp=Z,8.6nm,1.1s						
H24K	**Noodor Dome**	**63.42**	**336**	P		**P**	**20 21 00.8 +0.8**
	baz=109						
NEA2	**Nenana**	**63.52**	**334**	P		**P**	**20 21 02.5 +1.9**
NEA2				IAmb	IAmb		20 21 16.4
	comp=Z,11nm,1.2s						
NEA2	**Nenana**	**63.52**	**334**	P		**P**	**20 21 02.4 +1.8**
	baz=107						
G24K	**Hadweenzic Riv**	**63.55**	**337**	P		**P**	**20 21 02.6 +1.8**
	baz=109						
BWN	**Browne**	**63.56**	**334**	P		**P**	**20 21 02.0 +1.2**
TRF	**Thorofare Moun**	**63.71**	**333**	P		**P**	**20 21 04.0 +1.8**
TRF	**Thorofare Moun**	**63.71**	**333**	P		**P**	**20 21 01.3 -0.8**
	baz=105,SNR=8.6						
SKT	**Skwentna**	**63.90**	**331**	P		**P**	**20 21 04.6 +1.4**
	baz=103						
BORG	**Borgarnes**	**63.91**	**25**	LR		LR	20 47 43.9
	comp=Z,105nm,20.0s,baz=272,slow=35						
F24K	**Squaw Lake**	**63.98**	**338**	P		**P**	**20 21 04.4 +0.8**
	baz=109						
KTH	**Kantishna Hill**	**64.01**	**333**	P		**P**	**20 21 06.1 +2.1**
KTH				IAmb	IAmb		20 21 21.9
	comp=Z,12nm,1.0s						
O20K	**Slope Mountain**	**64.01**	**329**	P		**P**	**20 21 05.1 +1.0**
	baz=101						
SPCR	**Spurr Chakacha**	**64.05**	**330**	P		**P**	**20 21 05.3 +1.0**
	baz=102						
H23K	**Yukon River**	**64.07**	**336**	P		**P**	**20 21 06.3 +2.0**
H23K				IAmb	IAmb		20 21 07.7
	comp=Z,9.7nm,0.9s						
H23K	**Yukon River**	**64.07**	**336**	P		**P**	**20 21 04.1 -0.2**
	baz=107,SNR=5.1						
D25K	**Kavik River**	**64.09**	**340**	P		**P**	**20 21 04.3 -0.1**
	baz=112,SNR=8.5						
BPAW	**Bear Paw Mtn.**	**64.18**	**334**	P		**P**	**20 21 07.0 +2.0**
BPAW	**Bear Paw Mtn.**	**64.18**	**334**	P		**P**	**20 21 04.9 -0.1**
	baz=105,SNR=12						
MLY	**Manley**	**64.32**	**335**	P		**P**	**20 21 07.7 +1.7**
MLY	**Manley**	**64.32**	**335**	P		**P**	**20 21 06.3 +0.3**
	baz=105,SNR=14						
E24K	**Your Creek**	**64.38**	**338**	P		**P**	**20 21 06.7 +0.4**
	baz=109						
PPLA	**Purkeypile**	**64.41**	**332**	P		**P**	**20 21 07.9 +1.3**
	baz=103						
CAST	**Castle Rocks**	**64.49**	**333**	P		**P**	**20 21 07.1 +0.1**
	baz=103,SNR=5.1						
G23K	**Bananza Creek**	**64.52**	**337**	P		**P**	**20 21 08.9 +1.7**
	baz=107						
CHUM	**Lake Minchumin**	**64.70**	**333**	P		**P**	**20 21 08.8 +0.5**
	baz=103						
COLD	**Coldfoot**	**64.73**	**337**	P		**P**	**20 21 11.2 +2.6**
COLD				IAmb	IAmb		20 21 12.9
	comp=Z,7.6nm,1.0s						
COLD	**Coldfoot**	**64.73**	**337**	P		**P**	**20 21 09.7 +1.1**
	baz=107						
H22K	**Ishtalitna Cre**	**64.81**	**336**	P		**P**	**20 21 10.2 +1.1**
	baz=105						
I21K	**Tanana**	**64.87**	**335**	P		**P**	**20 21 11.5 +2.1**
I21K				IAmb	IAmb		20 21 12.6
	comp=Z,12nm,0.9s						
I21K	**Tanana**	**64.87**	**335**	P		**P**	**20 21 09.5 0.0**
	baz=104,SNR=7.6						
TOLK	**Toolik Lake Re**	**64.94**	**339**	P		**P**	**20 21 11.6 +1.7**
	baz=108						
N19K	**Bonanza Creek**	**65.06**	**330**	P		**P**	**20 21 12.4 +1.5**
N19K	**Bonanza Creek**	**65.06**	**330**	P		**P**	**20 21 11.5 +0.7**
	baz=100						
L20K	**Farewell, AK**	**65.08**	**332**	P		**P**	**20 21 12.6 +1.7**
	baz=101						
G22K	**Bettles**	**65.14**	**337**	P		**P**	**20 21 12.3 +1.1**
	baz=106						
M19K	**Big River Lodg**	**65.21**	**331**	P		**P**	**20 21 13.1 +1.4**
	baz=100						
O18K	**Koktuh Hills**	**65.25**	**329**	P		**P**	**20 21 12.5 +0.4**
	baz=99						
H21K	**Melozitna Rive**	**65.32**	**335**	P		**P**	**20 21 14.0 +1.6**
H21K				IAmb	IAmb		20 21 28.4
	comp=Z,15nm,1.4s						
H21K	**Melozitna Rive**	**65.32**	**335**	P		**P**	**20 21 13.5 +1.1**
	baz=104						
K20K	**Telida**	**65.35**	**333**	P		**P**	**20 21 13.7 +1.0**
K20K				IAmb	IAmb		20 21 15.3
	comp=Z,12nm,0.9s						
K20K	**Telida**	**65.35**	**333**	P		**P**	**20 21 12.4 -0.2**
	baz=102,SNR=8.9						
D23K	**Nanushuk River**	**65.42**	**339**	P		**P**	**20 21 14.4 +1.4**
	baz=107						
L19K	**White Mountain**	**65.48**	**331**	P		**P**	**20 21 14.2 +0.7**
	baz=100						
F22K	**John River**	**65.55**	**337**	P		**P**	**20 21 15.2 +1.4**
	baz=105						
J20K	**Nowinta River**	**65.55**	**333**	P		**P**	**20 21 15.7 +1.8**
J20K	**Nowinta River**	**65.55**	**333**	P		**P**	**20 21 15.0 +1.1**
	baz=102						
R17K	**Ugashik Creek**	**65.55**	**326**	P		**P**	**20 21 15.1 +1.1**
	baz=97						
N18K	**Kilae Creek**	**65.72**	**329**	P		**P**	**20 21 15.7 +0.6**
N18K	**Kilae Creek**	**65.72**	**329**	P		**P**	**20 21 15.8 +0.7**
	baz=99						
G21K	**Allakaket**	**65.80**	**336**	P		**P**	**20 21 16.3 +0.8**
	baz=103,SNR=11						
F21K	**Alatna River**	**65.96**	**337**	P		**P**	**20 21 19.2 +2.7**
	baz=104						
TTA	**Tatalina**	**66.13**	**332**	P		**P**	**20 21 18.9 +1.1**
TTA				IAmb	IAmb		20 21 20.1
	comp=Z,11nm,1.0s						
TTA	**Tatalina**	**66.13**	**332**	P		**P**	**20 21 18.4 +0.7**
	baz=100						
O17K	**Koliganek Bris**	**66.19**	**328**	P		**P**	**20 21 20.1 +2.1**
	baz=97						
BBTS	**Babate**	**66.20**	**81**	LR		LR	20 44 40.1
	comp=Z,338nm,20.6s,baz=256,slow=31						
JMIC	**Jan Mayen**	**69.90**	**20**	LR		LR	20 51 50.1
	comp=Z,72nm,19.6s,baz=254,slow=36						
PPT2	**Papeete2**	**71.71**	**244**	*e*LR		LR	20 43 46.7
ESDC	**Sonseca Array**	**73.06**	**53**	P		**P**	**20 22 02.4 +1.5**
	comp=Z,3.1nm,0.8s,baz=280,slow=6.0,SNR=32						
ESDC				LR		LR	20 48 16.5
	comp=Z,233nm,20.2s,baz=268,slow=31						
	comp=Z,3.1nm,0.8s						
ESDC	**Sonseca Array**	**73.06**	**53**	P		**P**	**20 22 01.9 +0.9**
MDT	**Midelt**	**73.61**	**60**	LR		LR	20 48 24.5
	comp=Z,243nm,20.2s,baz=292,slow=31						
TBI	**Tubuai**	**74.12**	**239**	*e*LR		LR	20 44 54.9
SPITS	**Spitsbergen Ar**	**75.97**	**12**	LR		LR	20 57 16.4
	comp=Z,213nm,18.1s,baz=250,slow=37						
KOWA	**Kowa**	**78.03**	**78**	P		**P**	**20 22 30.3 +0.5**
	comp=Z,2.5nm,0.7s,baz=274,slow=7.9,SNR=4.4						
KOWA				LR		LR	20 52 46.0
	comp=Z,163nm,21.5s,baz=280,slow=33						
	comp=Z,2.5nm,0.7s						
NB2	**NORSAR Subarra**	**78.60**	**30**	P		**P**	**20 22 33.1 +1.0**
	comp=Z,0.6nm,0.8s,baz=284,slow=5.6						
NOA	**NORSAR Array B**	**78.60**	**30**	P		**P**	**20 22 32.7 +0.6**
	comp=Z,0.7nm,0.8s,baz=286,slow=5.4,SNR=4.3						
NOA				LR		LR	20 55 34.6
	comp=Z,103nm,19.4s,baz=270,slow=34						
	comp=Z,0.7nm,0.8s						
HFS	**Hagfors**	**80.02**	**30**	LR		LR	20 55 37.7
	comp=Z,113nm,19.7s,baz=274,slow=34						
ARCES	**ARCESS Array B**	**81.38**	**19**	P		**P**	**20 22 49.0 +2.0**
	comp=Z,3.7nm,1.1s,baz=322,slow=6.8,SNR=1.7						
ARCES				LR		LR	20 56 47.5
	comp=Z,74nm,20.2s,baz=284,slow=34						
	comp=Z,3.7nm,1.1s						
SHEM	**Shemya Is, Ala**	**82.75**	**323**	LR		LR	21 02 06.6
	comp=Z,109nm,18.8s,baz=162,slow=37						
GERES	**GERESS Array B**	**83.39**	**41**	P		**P**	**20 22 58.2 +0.2**
	comp=Z,0.9nm,0.9s,baz=276,slow=3.6,SNR=5.6						
	comp=Z,0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.73**	**78**	P		**P**	**20 22 59.8 -0.5**
	comp=Z,1.1nm,1.0s,baz=310,slow=4.4,SNR=5.6						
	comp=Z,1.1nm,1.0s						
KEST	**Kesra**	**84.20**	**55**	LR		LR	20 57 02.7
	comp=Z,141nm,18.5s,baz=242,slow=33						
VRAC	**Vranov**	**85.04**	**40**	LR		LR	20 57 53.9
	comp=Z,124nm,18.8s,baz=292,slow=34						
FINES	**FINESS Array B**	**85.18**	**27**	P		**P**	**20 23 07.0 +0.3**
	comp=Z,3.3nm,0.8s,baz=276,slow=5.2,SNR=8.2						
	comp=Z,3.3nm,0.8s						
VAE	**Valguarnera**	**87.54**	**52**	LR		LR	20 57 18.4
	comp=Z,281nm,18.5s,baz=330,slow=32						
SEY	**Seymchan**	**88.53**	**337**	P		**P**	**20 23 24.6 +1.6**
	comp=Z,1.9nm,0.8s,baz=148,slow=19,SNR=4.8						
	comp=Z,1.9nm,0.8s						
MLR	**Muntele Rosu**	**92.38**	**41**	LR		LR	21 03 26.0
	comp=Z,134nm,18.7s,baz=286,slow=34						
NRIK	**Noril'sk**	**93.81**	**2**	LR		LR	21 08 22.2
	comp=Z,169nm,18.1s,baz=3.0,slow=37						
KIRV	**Kirov**	**96.19**	**22**	LR		LR	21 07 03.0
	comp=Z,86nm,20.4s,baz=324,slow=35						
BELG	**Belogornoye**	**99.95**	**27**	LR		LR	21 09 20.5
	comp=Z,142nm,19.6s,baz=317,slow=35						
XLT	**XiLinHaoTe**	**116.27**	**343**	⇑*i* PKP		**PKiKP**	**20 29 13.2 -1.1**
XLT				PP		**PP**	**20 30 18.5 -0.4**
XLT	**XiLinHaoTe**	**116.27**	**343**	SS		SS	20 46 17.5 -2.6
XLT				AMB	AMB		
	comp=Z,150nm,6.8s						
XLT				LR	LR		
	comp=N,17nm,20.6s						
XLT				LR	LR		
	comp=E,140nm,16.7s						
XLT				LR	LR		
	comp=Z,180nm,20.2s						
WMQ	**Urumqi**	**119.22**	**6**	*e*P		**PKPdf**	**20 29 20.1 +0.2**
WMQ				LR	LR		
	comp=N,240nm,20.7s						
WMQ				LR	LR		
	comp=E,210nm,22.5s						
WMQ				LR	LR		
	comp=Z,160nm,21.9s						
HHC	**Hu-ho-hao-te**	**120.32**	**345**	*e*P		**PKPdf**	**20 29 17.2 -5.0**
PZH	**PanZhiHua**	**136.22**	**350**	PKP		**PKPdf**	**20 29 51.0 -1.8**
WRA	**Warramunga Arr**	**142.04**	**259**	PKhKP		PKPpre	20 29 59.7
	comp=Z,1.4nm,1.2s,baz=94,slow=3.0,SNR=3.5						
WRA				PKP		**PKPdf**	**20 30 05.1 +1.7**
	comp=Z,0.7nm,0.9s,baz=74,slow=3.0,SNR=3.5						
ASAR	**Alice Springs**	**142.43**	**253**	PKhKP		PKPpre	20 30 00.6
	comp=Z,0.4nm,0.8s,baz=103,slow=3.2,SNR=2.9						
ASAR				PKP		**PKPdf**	**20 30 05.2 +1.1**
	comp=Z,0.5nm,0.7s,baz=93,slow=2.9,SNR=6.2						
CMAR	**Chiang Mai Arr**	**144.53**	**353**	PKP		**PKPdf**	**20 30 07.5 -0.4**
	comp=Z,1.7nm,0.9s,baz=342,slow=4.5,SNR=7.4						

IDC ***05*** *20:13:14.6±2.6,35°.47N×141°.19E,h0km,mb3.6/2, mbtmp3.6/4,ML2.1/3,Error ellipse: s-maj=50.5km s-min=22.1km az=68.0*
JMA ***05*** *20:13:18.3±0.2,35°.6N±0°.6×14°1E±°,h30km±1km, MV2.8/33,NEAR CHOSHI CITY*
ISC 05 20:13:16.6±4.0,35°.57N±0°.06×141°.19E±0°.09,h15km±28km, n20,σ1s11/20,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.30**	**297**	*i* P	**Pb**	**20 13 24.8**	**+1.1**
CHOJ				S	**Sb**	**20 13 28.9**	**+0.5**
JSMT	**Sammumatsuo**	**0.60**	**277**	P	**Pn**	**20 13 29.5**	**-1.1**
JSMT				*e*S	**Sb**	**20 13 37.1**	**-0.1**
JIHU	**Itakohorinouch**	**0.67**	**307**	*i* P	**Pn**	**20 13 30.8**	**-0.7**
JIHU				S	**Sb**	**20 13 39.8**	**+0.8**
JCN	**Nagara**	**0.82**	**260**	P	**Pn**	**20 13 33.5**	**-0.1**
BSO4	**Boso 4**	**0.90**	**231**	P	**Pn**	**20 13 33.9**	**-0.7**
BSO1	**Boso 1**	**0.93**	**191**	P	**Pn**	**20 13 34.2**	**-0.4**
BSO1				S	**Sn**	**20 13 46.2**	**-1.1**
BSO3	**Boso 3**	**0.94**	**216**	*i* P	**Pn**	**20 13 34.4**	**-0.7**
JYT	**Yasato**	**1.04**	**310**	*i* P	**Pb**	**20 13 35.6**	**-0.7**
JHO	**Hitachi**	**1.16**	**335**	P	**Pb**	**20 13 37.4**	**-0.9**
MJAR	**Matsushiro Arr**	**2.60**	**293**	Pn	**Pn**	**20 13 56.5**	**-1.6**
	0.3nm,0.3s,baz=124,slow=8.7,SNR=13						
MJAR				Sn	**Sb**	**20 14 32.7**	**-2.0**
	0.2nm,0.3s,baz=137,slow=12,SNR=2.3						
JHJ	**Hachijo jima 2**	**2.70**	**206**	Pn	**Pn**	**20 13 59.1**	**-0.4**
	3.8nm,0.3s,baz=81,slow=16,SNR=1.7						
JHJ				Sn	**Sn**	**20 14 31.8**	**-0.2**
	7.9nm,0.3s,baz=63,slow=23,SNR=1.7						
	55nm,0.8s						
USRK	**Ussuriysk Ar.**	**11.14**	**323**	Pn	**Pn**	**20 15 56.6**	**+1.4**
	baz=134,slow=15,SNR=4.0						
	2.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.59**	**118**	T	T	20 48 04.1	
	baz=310,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**27.60**	**118**	T	T	20 48 02.2	
	baz=310,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.61**	**118**	T	T	20 48 05.4	
	baz=310,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	20 48 55.6	
	baz=312,slow=75,SNR=50						
H11S3	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	20 48 55.6	
	baz=312,slow=75,SNR=51						
H11S2	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	20 48 56.8	
	baz=312,slow=75,SNR=37						
SONM	**Songino Array**	**28.48**	**306**	P	**P**	**20 19 12.8**	**+1.6**
	0.3nm,0.5s,baz=92,slow=9.9,SNR=3.4						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**55.59**	**188**	P	**P**	**20 22 50.9**	**-0.7**
	0.8nm,0.8s,baz=4.2,slow=7.6,SNR=6.0						
	0.8nm,0.8s						

NOU ***05*** *20:18:27.9,15°.86S×167°.35E,h19km,MLv4.5/13, Vanuatu Islands*
IDC ***05*** *20:18:34.5±7.9,16°.39S×167°.78E,h97km±77km,mb3.2/3, mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=68.1km s-min=37.3km az=160.0*
ISC 05 20:18:30.0±1.2,16°.0S±0°.1×167°.4E±0°.1,h39km,n12, σ1s78/13,mb3.3/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.88**	**156**	P	**Pn**	**20 19 01.2**	**+1.6**
RTV	**Rentapao**	**2.04**	**151**	P	**Pn**	**20 19 03.0**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.39**	**213**	P	**Pn**	**20 19 48.7**	**+0.8**
YATNC	**Mamie plateau,**	**6.04**	**184**	P	**Pn**	**20 19 57.0**	**+0.2**
DZM	**Mont D

	baz=19								
TRKS				⇑*i*S		**Sn**	**20 28 40.1**	**+1.5**	
	baz=19								
UCH	**Uchtor**	**3.03**	**16**	⇑*e*P		**Pn**	**20 28 06.7**	**-1.2**	
	baz=13								
UCH				⇑*i*S		**Sn**	**20 28 43.2**	**-1.3**	
	baz=13								
EKS2	**Erkin-Say**	**3.36**	**5**	⇑*e*P		**Pn**	**20 28 11.3**	**-0.8**	
	baz=2.0								
EKS2				⇑*i*S		**Sn**	**20 28 51.1**	**-1.0**	
	baz=2.0								
AAK	**Ala-Archa**	**3.42**	**14**	⇑*i*P		**Pn**	**20 28 11.9**	**-1.1**	
	baz=11								
AAK				⇑*i*S		**Sn**	**20 28 52.4**	**-1.3**	
	baz=11								
MRKS	**Merke**	**3.43**	**358**	*e*P		**Pb**	**20 28 15.8**	**-4.5**	
	2.5nm,0.3s								
MRKS				*e*S		**Sn**	**20 28 57.9**	**+4.0**	
	10nm,0.5s								
MRKS	**Merke**	**3.43**	**358**	Pg		**Pb**	**20 28 15.8**	**-4.5**	
	2.5nm,0.3s								
MRKS				Lg		Lg	20 28 58.9		
	10nm,0.5s								
BOOM	**Boomskoye usch**	**3.71**	**30**	⇑*e*P		**Pn**	**20 28 15.3**	**-1.6**	
	baz=29								
BOOM				⇑*i*S		**Sn**	**20 28 58.1**	**-2.7**	
	baz=29								
IUG	**Iuzhnay**	**3.82**	**319**	*e*P		**Pn**	**20 28 22.1**	**+3.7**	
	65nm,0.3s								
IUG				*e*S		**Sb**	**20 29 09.4**	**-3.9**	
	24nm,0.3s								
IUG	**Iuzhnay**	**3.82**	**319**	Pg		**Pn**	**20 28 22.1**	**+3.7**	
	65nm,0.3s								
IUG				Lg		Lg	20 29 09.4		
	24nm,0.3s								
CHMS	**Chumysh**	**3.82**	**15**	⇑Pg		**Pb**	**20 28 25.2**	**-1.7**	
	2.6nm,0.5s								
CHMS				⇓Lg		Lg	20 29 15.7		
	23nm,1.1s								
TKM2	**Tokmak 2**	**3.97**	**24**	⇑Pg		**Pb**	**20 28 28.9**	**-0.6**	
	1.8nm,0.4s								
TKM2				⇑Lg		Lg	20 29 19.5		
	11nm,0.6s								
KST	**Kastek**	**4.20**	**27**	*e*P		**Pb**	**20 28 32.4**	**-1.1**	
	2.2nm,0.7s								
KST				*e*S		**Sb**	**20 29 26.9**	**+2.6**	
	20nm,0.9s								
KST	**Kastek**	**4.20**	**27**	Pg		**Pb**	**20 28 32.3**	**-1.1**	
	2.2nm,0.7s								
KST				Lg		Lg	20 29 26.9		
	20nm,0.9s								
SGDS	**Sogindy**	**4.24**	**12**	*e*P		**Pb**	**20 28 32.2**	**-1.8**	
	3.0nm,0.5s								
SGDS				*e*S		**Sb**	**20 29 26.7**	**+1.4**	
	8.6nm,0.6s								
SGDS	**Sogindy**	**4.24**	**12**	Pg		**Pb**	**20 28 32.2**	**-1.8**	
	3.0nm,0.5s								
SGDS				Lg		Lg	20 29 26.7		
	8.6nm,0.6s								
DGS	**Degeres**	**4.31**	**24**	*e*P		**Pb**	**20 28 34.8**	**-0.6**	
	3.1nm,0.4s								
DGS				*e*S		**Sb**	**20 29 31.1**	**+3.6**	
	18nm,0.6s								
DGS	**Degeres**	**4.31**	**24**	Pg		**Pb**	**20 28 34.8**	**-0.6**	
	3.1nm,0.4s								
DGS				Lg		Lg	20 29 31.1		
	18nm,0.6s								
KK31	**Karatay Array**	**4.37**	**331**	Pn		**Pn**	**20 28 26.1**	**+0.2**	
	0.5nm,0.3s,baz=125,slow=13,SNR=20								
KK31				⇓Pg		**Pb**	**20 28 35.9**	**-0.4**	
	0.9nm,0.4s,baz=155,slow=14,SNR=13								
KK31				⇓Sn		**Sn**	**20 29 17.9**	**+1.0**	
	2.4nm,0.4s,baz=91,slow=8.1,SNR=5.6								
KK31				⇓Lg		Lg	20 29 33.5		
	5.2nm,0.6s,baz=161,slow=18,SNR=5.5								
MTBS	**Maitube**	**4.45**	**30**	*e*P		**Pb**	**20 28 36.9**	**-0.7**	
	2.9nm,0.3s								
MTBS				*e*S		**Sb**	**20 29 34.2**	**+3.0**	
	8.1nm,0.6s								
MTBS	**Maitube**	**4.45**	**30**	Pg		**Pb**	**20 28 36.9**	**-0.7**	
	2.9nm,0.3s								
MTBS				Lg		Lg	20 29 34.3		
	8.1nm,0.6s								
KRBS	**Karabastau**	**4.70**	**21**	*e*P		**Pb**	**20 28 41.2**	**-0.8**	
	3.1nm,0.6s								
KRBS				*e*S		**Sb**	**20 29 42.0**	**+3.4**	
	4.7nm,0.6s								
KRBS	**Karabastau**	**4.70**	**21**	Pg		**Pb**	**20 28 41.2**	**-0.8**	
	3.1nm,0.6s								
KRBS				Lg		Lg	20 29 42.0		
	4.7nm,0.6s								
MDOK	**Medeo**	**4.73**	**34**	*e*P		**Pb**	**20 28 42.0**	**-0.4**	
	2.3nm,0.6s								
MDOK				*e*S		**Sb**	**20 29 43.1**	**+3.6**	
	10nm,0.6s								
MDOK	**Medeo**	**4.73**	**34**	⇓Pg		**Pb**	**20 28 41.7**	**-0.8**	
	3.3nm,0.6s								
MDOK				Pg		Pg	20 28 42.0	-7.9	
	2.3nm,0.6s								
MDOK				⇑Lg		Lg	20 29 43.1		
	22nm,1.3s								
MDOK				Lg		Lg	20 29 43.1		
	10nm,0.6s								
KNDC	**Almaty**	**4.74**	**33**	⇓Lg		Lg	20 29 43.2		
	66nm,1.1s								
KTBS	**Karatobe**	**5.04**	**28**	*e*P		**Pb**	**20 28 46.9**	**-0.8**	
	0.9nm,0.7s								
KTBS				*e*S		**Sb**	**20 29 51.4**	**+3.1**	
	10nm,0.5s								
KTBS	**Karatobe**	**5.04**	**28**	Pg		**Pb**	**20 28 46.9**	**-0.8**	
	0.9nm,0.7s								
KTBS				Lg		Lg	20 29 51.4		
	10nm,0.5s								
KUU	**Kurty**	**5.08**	**25**	*e*P		**Pb**	**20 28 47.4**	**-1.0**	
	0.4nm,0.2s								
KUU				*e*S		**Sb**	**20 29 52.2**	**+2.8**	
	11nm,0.5s								
KUU	**Kurty**	**5.08**	**25**	Pg		**Pb**	**20 28 47.3**	**-1.0**	
	0.4nm,0.2s								
KUU				Lg		Lg	20 29 52.2		
	11nm,0.5s								
BTLS	**Baital**	**5.75**	**5**	*e*P		**Pb**	**20 28 58.9**	**-0.8**	
	1.4nm,0.4s								
BTLS				*e*S		**Sb**	**20 30 12.3**	**+3.8**	
	1.5nm,0.6s								
BTLS	**Baital**	**5.75**	**5**	Pg		**Pb**	**20 28 58.9**	**-0.8**	
	1.4nm,0.4s								
BTLS				Lg		Lg	20 30 12.3		
	1.5nm,0.6s								

*NOU **05** 20:28:56.8, 37°.26S × 179°.95W, h133km, MLv4.9/9, East of North Island, N.Z.*
*NEIC **05** 20:28:57.6±1.1, 37°.3S±0°.1 × 179°.8E±0°.1, h10km±2km, mb4.5/13, Error ellipse: s-maj=19.6km s-min=17.5km az=9.0*
*IDC **05** 20:29:02.7±1.6, 36°.68S × 178°.75E, h0km, mb4.4/5, mbtmp4.4/6, ML4.5/1, Error ellipse: s-maj=38.5km s-min=28.7km az=47.0*
*WEL **05** 20:29:04.5±1.0, 37°.5±5° × 17°.9E±°, h10km, M4.2/22, ML4.4/21, MLv4.2/22, Error ellipse: s-maj=0.0km s-min=0.0km az=104.9*

ISC 05 20:29:04.5±2.0, 37°.28S±0°.07 × 179°.20E±0°.08, h32km±10km, n162, σ1°69/162, mb4.4/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.76**	**248**		**Pb**	**20 29 18.5**	**-0.8**
MXZ	**Matakaoa Point**	**0.76**	**248**	P	**Pb**	**20 29 18.6**	**-0.7**
MXZ				S	**Sb**	**20 29 27.5**	**-1.9**
WMGZ	**Waiomatatini S**	**0.82**	**229**	P	**Pb**	**20 29 21.9**	**+1.5**
WMGZ				S	**Sn**	**20 29 34.0**	**+3.0**
PKGZ	**Pakihiroa**	**1.08**	**235**	P	**Pb**	**20 29 24.9**	**+0.3**
PKGZ				S	**Sn**	**20 29 38.9**	**+1.6**
PUZ	**Puketiti**	**1.09**	**223**	P	**Pb**	**20 29 25.4**	**+0.7**
HAZ	**Te Kaha**	**1.22**	**246**	P	**Pn**	**20 29 25.7**	**+0.4**
HAZ				S	**Sn**	**20 29 42.4**	**+1.7**
TWGZ	**Tauwhareparae**	**1.32**	**227**	P	**Pb**	**20 29 28.6**	**-0.1**
TWGZ				S	**Sb**	**20 29 46.5**	**+1.3**
RUGZ	**Raukumara Rang**	**1.39**	**240**	P	**Pb**	**20 29 29.6**	**-0.3**
CNGZ	**Carnagh Statio**	**1.44**	**213**	P	**Pb**	**20 29 30.9**	**+0.3**
TKGZ	**Te Karaka**	**1.58**	**222**	P	**Pn**	**20 29 31.7**	**+1.5**
WIZ	**White Island**	**1.62**	**260**	P	**Pn**	**20 29 30.7**	**-0.1**
MWZ	**Matawai**	**1.69**	**231**	P	**Pn**	**20 29 33.3**	**+1.5**
RIGZ	**Rimuhau**	**1.82**	**218**	P	**Pn**	**20 29 35.1**	**+1.5**
WHRZ	**Whale Island**	**1.86**	**251**	P	**Pn**	**20 29 35.5**	**+1.4**
RAGZ	**Rawiri**	**1.86**	**229**	P	**Pn**	**20 29 35.8**	**+1.5**
URZ	**Urewera**	**1.92**	**239**	Pn	**Pn**	**20 29 36.5**	**+1.6**
	166nm,0.3s,baz=211,slow=1.7,SNR=123						
URZ				Sn	**Sn**	**20 29 57.9**	**-0.2**
	77nm,0.3s,baz=211,slow=8.1,SNR=6.7						
	387nm,0.3s						
URZ	**Urewera**	**1.92**	**239**		**Pn**	**20 29 36.2**	**+1.2**
URZ	**Urewera**	**1.92**	**239**	P	**Pn**	**20 29 36.5**	**+1.6**
URZ				S	**Sn**	**20 30 00.1**	**+2.1**
URZ	**Urewera**	**1.92**	**239**	P	**Pn**	**20 29 36.8**	**+1.9**
PRGZ	**Paritu Road**	**1.94**	**212**	P	**Pn**	**20 29 36.9**	**+1.6**
SNGZ	**Shannon Statio**	**2.10**	**224**	P	**Pn**	**20 29 38.7**	**+1.3**
KNZ	**Kokohu**	**2.12**	**214**	P	**Pn**	**20 29 38.6**	**+1.0**
EDRZ	**Edgecumbe**	**2.12**	**246**	P	**Pn**	**20 29 39.2**	**+1.5**
MARZ	**Manawahe**	**2.12**	**250**	P	**Pn**	**20 29 38.8**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.13**	**208**	P	**Pn**	**20 29 39.6**	**+1.7**
OPRZ	**Ohinepanea**	**2.17**	**254**	P	**Pn**	**20 29 38.9**	**+0.5**
RTZ	**Ruatahuna**	**2.20**	**232**	P	**Pn**	**20 29 40.4**	**+1.5**
MUGZ	**Murupara**	**2.26**	**237**	P	**Pn**	**20 29 40.9**	**+1.2**
MKRZ	**Makatiti**	**2.33**	**247**	P	**Pb**	**20 29 43.5**	**-2.3**
RAHZ	**Arahi**	**2.33**	**225**	P	**Pn**	**20 29 42.0**	**+1.3**
TARZ	**Mount Tarawera**	**2.34**	**245**	P	**Pn**	**20 29 42.5**	**+1.7**
MYRZ	**Mayor Island**	**2.36**	**269**	P	**Pn**	**20 29 41.2**	**+0.3**
WHHZ	**Waihua**	**2.37**	**220**	P	**Pn**	**20 29 42.5**	**+1.3**
RRRZ	**Republican Roa**	**2.37**	**243**	P	**Pn**	**20 29 42.5**	**+1.3**
TGRZ	**Tauranga**	**2.38**	**258**	P	**Pn**	**20 29 41.8**	**+0.6**
OMRZ	**Omania**	**2.39**	**249**	P	**Pn**	**20 29 43.1**	**+1.7**
MTHZ	**Maungataniwha**	**2.44**	**229**	P	**Pn**	**20 29 43.7**	**+1.7**
HLRZ	**Highlands Stat**	**2.46**	**246**	P	**Pn**	**20 29 44.1**	**+1.8**
KARZ	**Kaharoa**	**2.46**	**251**	P	**Pn**	**20 29 43.2**	**+0.9**
PRRZ	**Plateau Road**	**2.53**	**240**	P	**Pn**	**20 29 44.6**	**+1.3**
HSRZ	**Hossack Road**	**2.56**	**245**	P	**Pn**	**20 29 45.6**	**+1.9**
HRRZ	**Handcock Road**	**2.56**	**243**	P	**Pn**	**20 29 45.1**	**+1.3**
ALRZ	**Allen Road**	**2.60**	**239**	P	**Pn**	**20 29 45.2**	**+1.0**
NMHZ	**Naumai**	**2.62**	**225**	P	**Pn**	**20 29 46.1**	**+1.5**
ARHZ	**Aropaoanui**	**2.63**	**220**	P	**Pn**	**20 29 46.0**	**+1.2**
KMRZ	**Kaimai**	**2.65**	**257**	P	**Pn**	**20 29 46.4**	**+1.4**
MRHZ	**Matea Rd**	**2.69**	**234**	P	**Pn**	**20 29 46.8**	**+1.2**
WPRZ	**Whakapapatarin**	**2.70**	**242**	P	**Pn**	**20 29 47.0**	**+1.3**
KUZ	**Kuaotunu**	**2.83**	**280**	P	**Pn**	**20 29 46.7**	**-0.8**
BKZ	**Black Stump Fm**	**2.84**	**228**		**Pn**	**20 29 48.4**	**+0.7**
BKZ	**Black Stump Fm**	**2.84**	**228**	P	**Pn**	**20 29 48.6**	**+0.9**
BKZ	**Black Stump Fm**	**2.84**	**228**	P	**Pn**	**20 29 48.9**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.90**	**214**	P	**Pn**	**20 29 48.7**	**+0.3**
KUTZ	**Kaahu Road**	**2.93**	**245**	P	**Pn**	**20 29 50.3**	**+1.4**
TOZ	**Tahuroa Road**	**2.97**	**260**	P	**Pn**	**20 29 49.7**	**+0.3**
KWHZ	**Kaweka Forest**	**3.06**	**225**	P	**Pn**	**20 29 51.1**	**+0.5**
KAHZ	**Kahuranaki**	**3.10**	**215**	P	**Pn**	**20 29 51.4**	**+0.2**
RATZ	**Rangitukua**	**3.13**	**239**	P	**Pn**	**20 29 53.2**	**+1.5**
GRZ	**Great Barrier**	**3.17**	**288**	P	**Pn**	**20 29 53.0**	**+0.9**
MKAZ	**Moumakai**	**3.23**	**272**	P	**Pn**	**20 29 52.7**	**-0.2**
KRHZ	**Kereru**	**3.24**	**222**	P	**Pn**	**20 29 53.1**	**-0.1**
WIAZ	**Waiheke Island**	**3.29**	**277**	P	**Pn**	**20 29 53.5**	**-0.2**
PXZ	**Pawanui**	**3.30**	**213**	P	**Pn**	**20 29 53.6**	**-0.3**
TMVZ	**Te Maari**	**3.31**	**235**	P	**Pn**	**20 29 54.9**	**+0.8**
BHHZ	**Black Hill Sta**	**3.31**	**227**	P	**Pn**	**20 29 54.8**	**+0.7**
ETVZ	**East Tongariro**	**3.31**	**235**	P	**Pn**	**20 29 54.9**	**+0.6**
NTVZ	**North Tongarir**	**3.32**	**236**	P	**Pn**	**20 29 55.0**	**+0.8**
KRVZ	**Karewarewa**	**3.34**	**236**	P	**Pn**	**20 29 55.8**	**+1.2**
OTVZ	**Oturere**	**3.36**	**235**	P	**Pn**	**20 29 55.9**	**+1.0**
NNVZ	**North Ngauruho**	**3.38**	**236**	P	**Pn**	**20 29 56.1**	**+1.0**
WTVZ	**West Tongariro**	**3.38**	**236**	P	**Pn**	**20 29 56.4**	**+1.3**
SNVZ	**South Ngauruho**	**3.39**	**235**	P	**Pn**	**20 29 56.0**	**+0.7**
NGZ	**Ngauruhoe**	**3.41**	**235**	P	**Pn**	**20 29 56.2**	**+0.7**
TUVZ	**Tukino**	**3.42**	**233**	P	**Pn**	**20 29 56.3**	**+0.6**
ETAZ	**East Tamaki Re**	**3.43**	**274**	P	**Pn**	**20 29 56.2**	**+0.5**
MOVZ	**Moawhango**	**3.44**	**231**	P	**Pn**	**20 29 56.1**	**+0.2**
TWVZ	**Taurewa**	**3.46**	**238**	P	**Pn**	**20 29 57.3**	**+1.1**
WHVZ	**Whangaehu Hut**	**3.48**	**234**	P	**Pn**	**20 29 57.3**	**+0.8**
MBAZ	**Motutapu North**	**3.48**	**277**	P	**Pn**	**20 29 56.6**	**+0.3**
FWVZ	**Far West T-bar**	**3.48**	**234**	P	**Pn**	**20 29 57.6**	**+0.9**
WNVZ	**Wahianoa**	**3.49**	**233**	P	**Pn**	**20 29 57.1**	**+0.4**
TRVZ	**Turoa**	**3.51**	**234**	P	**Pn**	**20 29 57.6**	**+0.6**
WPHZ	**Waipukurau**	**3.52**	**217**	P	**Pn**	**20 29 56.8**	**-0.2**
PNHZ	**Pukenui**	**3.53**	**221**	P	**Pn**	**20 29 56.7**	**-0.4**
ABAZ	**Army Bay**	**3.56**	**280**	P	**Pn**	**20 29 58.0**	**+0.6**
EPAZ	**Eden Park BICE**	**3.58**	**275**	P	**Pn**	**20 29 59.1**	**+1.3**
PRHZ	**Porangahau**	**3.58**	**213**	P	**Pn**	**20 29 57.2**	**-0.7**
HBAZ	**Herne Bay Bore**	**3.60**	**275**	P	**Pn**	**20 29 59.2**	**+1.3**
MTVZ	**Mangateitei**	**3.61**	**233**	P	**Pn**	**20 29 58.7**	**+0.5**
PKVZ	**Pokaka**	**3.64**	**235**	P	**Pn**	**20 29 59.7**	**+1.1**
AWAZ	**Awhitu Peninsu**	**3.64**	**272**	P	**Pn**	**20 29 59.2**	**+0.6**
HIZ	**Hauiti**	**3.65**	**249**		**Pn**	**20 30 00.7**	**+1.9**
HIZ	**Hauiti**	**3.65**	**249**	P	**Pn**	**20 30 00.6**	**+1.9**
HIZ	**Hauiti**	**3.65**	**249**	P	**Pn**	**20 30 01.0**	**+2.3**
WTAZ	**Waiatarua**	**3.71**	**274**	P	**Pn**	**20 30 00.2**	**+0.6**
TSZ	**Takapari Road**	**3.76**	**221**	P	**Pn**	**20 29 59.4**	**-0.9**
DVHZ	**Dannevirke**	**3.84**	**217**	P	**Pn**	**20 30 00.5**	**-0.8**
POWZ	**Post Office Ro**	**4.10**	**220**	P	**Pn**	**20 30 04.4**	**-0.6**
BFZ	**Birch Farm**	**4.11**	**213**	Pn	**Pn**	**20 30 03.4**	**-1.5**
BFZ	**Birch Farm**	**4.11**	**213**	P	**Pn**	**20 30 03.7**	**-1.3**
WCZ	**Waipu Caves**	**4.12**	**287**	P	**Pn**	**20 30 05.7**	**+0.5**
WAZ	**Wanganui**	**4.13**	**232**	P	**Pn**	**20 30 06.0**	**+0.7**
PRWZ	**Pori Road**	**4.13**	**217**	P	**Pn**	**20 30 04.7**	**-0.6**
MHEZ	**Mangahewa**	**4.24**	**243**	P	**Pn**	**20 30 09.8**	**+3.0**
LREZ	**Lake Rotokare**	**4.35**	**238**	P	**Pn**	**20 30 10.5**	**+2.1**
NEZ	**North Egmont**	**4.48**	**242**	P	**Pn**	**20 30 12.9**	**+2.7**
PKE	**Pukeiti**	**4.53**	**243**	P	**Pn**	**20 30 14.3**	**+3.5**
KHEZ	**Kahui Hut**	**4.55**	**242**	P	**Pn**	**20 30 14.1**	**+2.9**
OUZ	**Omahuta**	**4.97**	**293**		**Pn**	**20 30 17.7**	**+0.9**
OUZ	**Omahuta**	**4.97**	**293**	P	**Pn**	**20 30 17.7**	**+0.9**
OUZ	**Omahuta**	**4.97**	**293**	P	**Pn**	**20 30 17.9**	**+1.1**
MSWZ	**Moikau Station**	**5.14**	**215**	Pn	**Pn**	**20 30 16.8**	**-2.5**
PLWZ	**Palliser**	**5.26**	**214**	Pn	**Pn**	**20 30 17.7**	**-3.2**
SNZO	**South Karori**	**5.33**	**219**	Pn	**Pn**	**20 30 19.0**	**-2.7**
SNZO	**South Karori**	**5.33**	**219**	P	**Pn**	**20 30 20.4**	**-1.3**
	90nm,1.8s						
TUWZ	**Tuamarina**	**5.81**	**223**	Pn	**Pn**	**20 30 25.9**	**-2.5**
NNZ	**Nelson**	**5.99**	**227**	Pn	**Pn**	**20 30 28.7**	**-2.1**
BSWZ	**Blackbirch Sta**	**6.05**	**221**	Pn	**Pn**	**20 30 29.0**	**-2.6**
QRZ	**Quartz Range**	**6.28**	**234**	Pn	**Pn**	**20 30 33.1**	**-1.8**
QRZ	**Quartz Range**	**6.28**	**234**	P	**Pn**	**20 30 34.1**	**-0.8**
THZ	**Tophouse**	**6.61**	**225**	Pn	**Pn**	**20 30 36.8**	**-2.7**
KHZ	**Kahutara**	**6.73**	**219**	Pn	**Pn**	**20 30 38.0**	**-2.9**
CTZ	**Chatham Island**	**7.20**	**155**	P	**Pn**	**20 30 51.0**	**+3.6**
LTZ	**Lake Taylor**	**7.64**	**222**	Pn	**Pn**	**20 30 49.9**	**-3.7**
MQZ	**McQueen's Vall**	**8.13**	**216**	Pn	**Pn**	**20 30 56.2**	**-4.0**
OXZ	**Oxford**	**8.15**	**220**	Pn	**Pn**	**20 30 56.7**	**-3.7**
RPZ	**Rata Peaks**	**8.93**	**221**	Pn	**Pn**	**20 31 07.6**	**-3.6**
	2.8nm,0.3s,baz=305,slow=2.2,SNR=16						
RPZ				Sn	Sn	20 32 38.2	-13
	4.2nm,0.3s,baz=134,slow=23,SNR=13						
RPZ	**Rata Peaks**	**8.93**	**221**	Pn	**Pn**	**20 31 08.9**	**-2.3**
RPZ	**Rata Peaks**	**8.93**	**221**	P	**Pn**	**20 31 09.0**	**-2.2**
LBZ	**Lake Benmore**	**9.85**	**221**	Pn	**Pn**	**20 31 20.6**	**-3.2**
ODZ	**Otahua Downs**	**10.08**	**217**	Pn	**Pn**	**20 31 21.7**	**-3.5**
ODZ	**Otahua Downs**	**10.08**	**217**	P	**Pn**	**20 31 23.5**	**-3.6**
WKZ	**Wanaka**	**10.76**	**222**	Pn	Pn	20 31 29.4	-6.9
MLZ	**Mavora Lakes**	**11.60**	**222**	Pn	Pn	20 31 42.4	-5.3
STKA	**Stephens Creek**	**31.28**	**269**	P	**P**	**20 35 21.8**	**+0.2**
	2.7nm,0.6s,baz=101,slow=9.2,SNR=12						
	2.7nm,0.6s						
STKA	**Stephens Creek**	**31.28**	**269**	P	**P**	**20 35 21.9**	**+0.4**
BBOO	**Buckleboo**	**35.37**	**264**	P	**P**	**20 35 56.8**	**-0.4**
BBOO				IAmb	IAmb	20 36 36.6	
	comp=Z,18nm,1.5s						
COEN	**Coen**	**39.56**	**296**	P	**P**	**20 36 31.2**	**-1.5**
AS31	**Alice Springs**	**40.95**	**276**	P	**P**	**20 36 43.8**	**-0.5**
ASAR	**Alice Springs**	**40.95**	**276**	P	**P**	**20 36 43.9**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=120,slow=8.1,SNR=92						
ASAR				S	**S**	**20 42 50.5**	**-3.8**
	comp=Z,0.3nm,0.6s,baz=125,slow=14,SNR=5.6						
	comp=Z,5.6nm,0.7s						
ASAR	**Alice Springs**	**40.95**	**276**	P	**P**	**20 36 43.7**	**-0.6**
WR0	**Warramunga Arr**	**42.40**	**281**	P	**P**	**20 36 55.5**	**-0.7**
WR0				IAmb	IAmb	20 37 13.3	
	comp=Z,8.5nm,1.4s						
FORT	**Forrest**	**42.45**	**263**	P	**P**	**20 36 56.2**	**-0.3**
WB2	**Warramunga Arr**	**42.56**	**281**	P	**P**	**20 36 57.0**	**-0.5**
WB2				IAmb	IAmb	20 36 57.5	
	comp=Z,6.2nm,0.8s						
WRAB	**Tennant Creek**	**42.57**	**281**	P	**P**	**20 36 56.8**	**-0.7**
WRAB				IAmb	IAmb	20 36 57.5	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**42.57**	**281**	P	**P**	**20 36 56.9**	**-0.7**
	comp=Z,4.3nm,0.6s,baz=123,slow=7.0,SNR=66						
WRA				PcP	**PcP**	**20 38 50.8**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=126,slow=3.1,SNR=2.2						
	comp=Z,4.3nm,0.6s						
WRA	**Warramunga Arr**	**42.57**	**281**	P	**P**	**20 36 56.8**	**-0.7**
WB0	**Warramunga Arr**	**42.63**	**281**	P	**P**	**20 36 57.3**	**-0.7**
WB0				IAmb	IAmb	20 36 58.1	
	comp=Z,7.2nm,0.7s						
KNRA	**Kununurra**	**49.35**	**282**	P	**P**	**20 37 50.9**	**-0.1**
KNRA				IAmb	IAmb	20 38 15.7	
	comp=Z,8.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.44**	**277**	P	**P**	**20 37 59.1**	**-0.2**
	comp=Z,4.9nm,0.6s,baz=109,slow=9.7,SNR=27						
	comp=Z,4.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.44**	**277**	P	**P**	**20 37 59.2**	**0.0**
FITZ				IAmb	IAmb	20 37 59.9	
	comp=Z,5.5nm,0.7s						
MORW	**Morawa**	**52.64**	**259**	P	**P**	**20 38 14.6**	**-1.1**
QSPA	**South Pole Qui**	**52.85**	**180**	P	P	20 38 23.8	+7.0
	comp=Z,1.4nm,1.1s,baz=271,slow=4.9,SNR=2.2						
	comp=Z,1.4nm,1.1s						
H03S2	**Juan Fernandez**	**78.60**	**124**	T	T	22 07 37.1	
	baz=232						
H03S1	**Juan Fernandez**	**78.61**	**124**	T	T	22 07 39.7	
	baz=232						
H03S3	**Juan Fernandez**	**78.62**	**124**	T	T	22 07 40.7	
	baz=232						
H03N3	**Juan Fernandez**	**78.84**	**124**	T	T	22 07 46.6	
	baz=234,slow=72,SNR=38						
H03N2	**Juan Fernandez**	**78.84**	**123**	T	T	22 07 55.5	
	baz=234,slow=72,SNR=32						
H03N1	**Juan Fernandez**	**78.85**	**123**	T	T	22 07 45.0	
	baz=234,slow=72,SNR=35						
ARCES	**ARCESS Array B**	**144.69**	**344**	PKP	**PKPdf**	**20 48 37.2**	**+0.4**
	comp=Z,3.9nm,1.0s,baz=11,slow=1.8,SNR=2.6						
FINES	**FINESS Array B**	**150.55**	**334**	PKPbc	**PKiKP**	**20 48 51.8**	**-1.0**
	comp=Z,2.4nm,1.0s,baz=64,slow=3.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**155.87**	**186**	PKPab	**PKPab**	**20 49 29.9**	**+7.4**
	comp=Z,0.5nm,0.5s,baz=184,slow=3.1,SNR=8.8						

IDC 05 20:29:58.4±1.5, 7°.59S × 120°.00E, h0km, mb3.6/4, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=56.9km s-min=17.4km az=62.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.58**	**355**	Pn	Pn	20 30 42.2	+0.8
	5.2nm,0.3s,baz=144,slow=9.7,SNR=2.7						
KAPI				Sn	Sn	20 31 13.0	-0.4
	11nm,0.3s,baz=60,slow=21,SNR=5.7						
	14nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.80**	**153**	Pn	Pn	20 32 46.3	-1.7
	0.1nm,0.3s,baz=334,slow=11,SNR=2.2						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**18.54**	**133**	P	P	20 34 15.4	-1.4
	0.1nm,0.3s,baz=307,slow=12,SNR=9.1						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**20.82**	**142**	P	P	20 34 42.4	+0.8
	0.9nm,0.4s,baz=320,slow=11,SNR=26						
	0.9nm,0.4s						
PMG	**Port Moresby**	**26.92**	**96**	P	P	20 35 41.8	+0.2

KBK	**Karagaybulak** baz=17	2.73	325	⇑*e*P		**Pb**	20 48 24.5	-3.0
KBK				⇑*i*S		**Sb**	20 48 59.7	-1.4
KNDC	**Almaty** 17nm,0.4s	2.77	358	⇓Pg		**Pb**	20 48 28.2	+0.1
KNDC				⇑Lg		Lg	20 49 03.5	
SATY	**Saty** 20nm,0.2s	2.79	20	*e*P		**Pb**	20 48 26.9	-1.5
SATY				*e*S		**Sb**	20 49 03.4	+0.6
SATY	**Saty** 20nm,0.2s	2.79	20	Pg		**Pb**	20 48 26.9	-1.5
SATY				Lg		Lg	20 49 03.4	
AAK	**Ala-Archa** SNR=7.1	2.93	319	P		**Pb**	20 48 30.4	-0.5
AAK	**Ala-Archa** baz=12	2.93	319	⇑*i*P		**Pb**	20 48 27.8	-3.0
AAK				⇑*i*S		**Sb**	20 49 05.3	-1.5
DGS	**Degeres** 14nm,0.4s	2.97	341	*e*P		**Pb**	20 48 30.7	-0.7
DGS				*e*S		**Sb**	20 49 10.1	+2.3
DGS	**Degeres** 14nm,0.4s	2.97	341	Pg		**Pb**	20 48 30.7	-0.7
DGS				Lg		Lg	20 49 10.1	
AML	**Almayashu** SNR=7.2	3.06	305	P		**Pn**	20 48 29.4	+2.2
UZB	**Uzynbulak** 10nm,0.3s	3.06	27	*e*P		**Pb**	20 48 32.0	-1.0
UZB				*e*S		**Sb**	20 49 12.2	+1.7
UZB	**Uzynbulak** 10nm,0.3s	3.06	27	Pg		**Pb**	20 48 32.0	-1.0
UZB				Lg		Lg	20 49 12.3	
CHMS	**Chumysh** SNR=5.4	3.10	326	P		**Sb**	20 49 13.8	+2.5
CHMS	**Chumysh** 6.3nm,0.5s	3.10	326	⇑Pg		**Pb**	20 48 34.1	+0.5
CHMS				⇑Lg		Lg	20 49 13.6	
CHMS	**Chumysh** baz=20	3.10	326	⇓*i*P		**Pn**	20 48 29.1	+1.8
CHMS				⇓*i*S		**Sb**	20 49 07.8	-3.6
KURS	**Kuram** 14nm,0.3s	3.15	14	*e*P		**Pb**	20 48 33.2	-1.3
KURS				*e*S		**Sb**	20 49 14.1	+1.2
KURS	**Kuram** 14nm,0.3s	3.15	14	Pg		**Pb**	20 48 33.2	-1.3
KURS				Lg		Lg	20 49 14.1	
SHLS	**Shalkode** 7.7nm,0.2s	3.24	32	*e*P		**Pg**	20 48 39.6	-0.8
SHLS				*e*S		**Sg**	20 49 25.1	+2.7
SHLS	**Shalkode** 7.7nm,0.2s	3.24	32	Pg		**Pg**	20 48 39.6	-0.8
SHLS				Lg		Lg	20 49 25.1	
KPKS	**Kokpek** 22nm,0.3s	3.25	21	*e*P		**Pb**	20 48 35.3	-0.8
KPKS				*e*S		**Sb**	20 49 17.9	+2.1
KPKS	**Kokpek** 22nm,0.3s	3.25	21	Pg		**Pb**	20 48 35.3	-0.8
KPKS				Lg		Lg	20 49 17.9	
KTBS	**Karatobe** 3.8nm,0.5s	3.28	355	*e*P		**Pb**	20 48 35.9	-0.8
KTBS				*e*S		**Sb**	20 49 19.0	+2.3
KTBS	**Karatobe** 3.8nm,0.5s	3.28	355	Pg		**Pb**	20 48 35.9	-0.8
KTBS				Lg		Lg	20 49 19.0	
EKS2	**Erkin-Say** SNR=6.7	3.33	313	P		**Pb**	20 48 38.3	+0.7
PDGK	**Podgornoye** 1.7nm,0.5s	3.40	31	⇑Pn		**Pn**	20 48 30.6	-0.9
PDGK				⇑Pg		**Pb**	20 48 37.7	-1.0
PDGK				⇑Lg		Lg	20 49 20.3	
CHKK	**Chushkaly** 4.2nm,0.3s	3.41	359	*e*P		**Pb**	20 48 38.5	-0.4
CHKK				*e*S		**Sb**	20 49 23.4	+3.0
CHKK	**Chushkaly** 4.2nm,0.3s	3.41	359	Pg		**Pb**	20 48 38.5	-0.4
CHKK				Lg		Lg	20 49 23.4	
KRBS	**Karabastau** 7.7nm,0.4s	3.42	343	*e*P		**Pb**	20 48 38.3	-0.7
KRBS				*e*S		**Sb**	20 49 23.8	+3.1
KRBS	**Karabastau** 7.7nm,0.4s	3.42	343	Pg		**Pb**	20 48 38.3	-0.7
KRBS				Lg		Lg	20 49 23.8	
USP	**Ospenovka** SNR=18	3.42	326	P		**Pb**	20 48 38.5	-0.6
KUU	**Kurty** 1.7nm,0.7s	3.49	351	*e*P		**Pb**	20 48 39.6	-0.7
KUU				*e*S		**Sb**	20 49 25.1	+2.3
KUU	**Kurty** 1.7nm,0.7s	3.49	351	Pg		**Pb**	20 48 39.6	-0.7
KUU				Lg		Lg	20 49 25.1	
SGDS	**Sogindy** 11nm,0.7s	3.52	329	*e*P		**Pb**	20 48 40.5	-0.3
SGDS				*e*S		**Sb**	20 49 26.7	+3.0
SGDS	**Sogindy** 11nm,0.7s	3.52	329	Pg		**Pb**	20 48 40.5	-0.3
SGDS				Lg		Lg	20 49 26.7	
BLB	**Baldybastay** 14nm,0.2s	3.79	15	*e*P		**Pb**	20 48 44.3	-1.2
BLB				*e*S		**Sb**	20 49 33.4	+1.8
BLB	**Baldybastay** 14nm,0.2s	3.79	15	Pg		**Pb**	20 48 44.3	-1.2
BLB				Lg		Lg	20 49 33.4	
ARXS	**Arharly** 5.8nm,0.4s	3.81	8	*e*P		**Pb**	20 48 45.3	-0.4
ARXS				*e*S		**Sb**	20 49 35.0	+3.1
ARXS	**Arharly** 5.8nm,0.4s	3.81	8	Pg		**Pb**	20 48 45.3	-0.4
ARXS				Lg		Lg	20 49 35.0	
DJR	**Jarkent** 3.1nm,0.4s	4.37	26	*e*P		**Pb**	20 48 54.5	-0.8
DJR				*e*S		**Sb**	20 49 50.9	+2.8
DJR	**Jarkent** 3.1nm,0.4s	4.37	26	Pg		**Pb**	20 48 54.5	-0.8
DJR				Lg		Lg	20 49 50.9	
BTLS	**Baital** 1.6nm,0.6s	5.11	335	*e*P		**Pb**	20 49 08.7	+0.8
BTLS				*e*S		**Sb**	20 50 15.2	+5.8
BTLS	**Baital** 1.6nm,0.6s	5.11	335	Pg		**Pb**	20 49 08.7	+0.8
BTLS				Lg		Lg	20 50 15.1	
IUG	**Iuzhnay** 66nm,0.6s	5.58	290	*e*P		**Pb**	20 49 18.8	+2.8
IUG				*e*S		**Sg**	20 50 33.3	-4.3
IUG	**Iuzhnay** 66nm,0.6s	5.58	290	Pg		**Pb**	20 49 18.8	+2.8
IUG				Lg		Lg	20 50 33.3	
KK31	**Karatay Array** 2.3nm,0.6s,baz=115,slow=16,SNR=17	5.59	301	⇓Pg		**Pb**	20 49 18.8	+2.7
KK31				⇑Lg		Lg	20 50 35.9	
	1.3nm,0.4s,baz=120,slow=28,SNR=5.0							
MAKZ	**Makanchi** 3.7nm,1.5s	7.28	27	⇑Pg		**Pb**	20 49 48.9	+4.1
MAKZ				⇓Lg		Lg	20 51 27.4	
	3.6nm,1.4s							
MK31	**Makanchi Array** 0.3nm,0.4s,baz=212,slow=13,SNR=10	7.38	29	⇑Pn		**Pn**	20 49 24.9	-1.3
MK31				⇑Pg		Pb	20 49 50.6	+4.1
	0.5nm,0.5s							
MK31				⇓Lg		Lg	20 51 29.7	
	0.9nm,0.5s							
CHCP	**Chirah Chowk**	7.43	205	P		**Pn**	20 49 26.8	0.0
CEP	**Cherat**	7.79	214	P		**Pn**	20 49 30.9	-1.0

RSNC 05 21:05:38.2±1.1,**6°.83N**×**73°.08W,h154**km±4km,**ML3.5, 6C-4D,Fault plane solution: NP1:**φ108.00000°, δ36.00000°,λ155.00000°.,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**205**	⇑*i*P	Pn	21 05 58.8	-0.7
BARC				*e*S	Sn	21 06 14.8	-0.8
BARC				IAML		21 06 15.6	
	comp=Z,1μm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**36**	⇑*i*P	Pn	21 06 01.5	+0.2
PAMC				*e*S	Sn	21 06 18.8	-0.2
PAMC				IAML		21 06 21.4	
	comp=Z,446nm,0.6s						
BRRC	**Barranca, Sant**	**0.69**	**294**	⇑*i*P	Pn	21 06 00.6	-0.5
BRRC				*e*S	Sn	21 06 18.5	0.0
BRRC				IAML		21 06 21.3	
	comp=Z,236nm,0.2s						
RUSC	**La Rusia**	**0.93**	**180**	⇓*i*P	Pn	21 06 02.6	-0.8
RUSC				*e*S	Sn	21 06 21.6	-1.0
RUSC				IAML		21 06 22.6	
	comp=Z,424nm,0.3s						
TAMC	**Tame, Arauca**	**1.33**	**107**	⇓*e*P	Pn	21 06 06.9	+0.5
TAMC				*e*S	Sn	21 06 27.6	-0.4
TAMC				IAML		21 06 30.1	
	comp=Z,187nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	⇑*e*P	Pn	21 06 05.2	-1.8
PTBC				*e*S	Sn	21 06 26.8	-2.4
PTBC				IAML		21 06 34.1	
	comp=Z,806nm,0.4s						
OCAC	**Ocana**	**1.43**	**350**	*e*P	Pn	21 06 06.8	-0.7
OCAC				*e*S	Sn	21 06 29.3	-0.7
OCAC				IAML		21 06 34.8	
	comp=Z,962nm,0.3s						
SPBC	**San Pablo de B**	**1.53**	**220**	*e*P	Pn	21 06 07.8	-0.7
SPBC				*e*S	Sn	21 06 31.0	-0.7
SPBC				IAML		21 06 32.6	
	comp=Z,646nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.89**	**291**	*e*P	Pn	21 06 11.6	-0.7
ZARC				*e*S	Sn	21 06 36.7	-1.8
ZARC				IAML		21 06 43.9	
	comp=Z,612nm,0.3s						
NORC	**Norcasia**	**2.18**	**235**	*e*P	Pn	21 06 14.8	-0.9
NORC				*e*S	Sn	21 06 43.8	-0.9
NORC				IAML		21 06 47.4	
	comp=Z,185nm,0.2s						
CHIC	**Chingaza**	**2.28**	**197**	⇓*e*P	Pn	21 06 16.4	-0.9
CHIC				*e*S	Sn	21 06 47.0	-0.3
CHIC				IAML		21 06 53.9	
	comp=Z,144nm,0.5s						
ROSC	**El Rosal**	**2.33**	**212**	*e*P	Pn	21 06 18.2	+0.4
ROSC				*e*S	Sn	21 06 51.5	+3.1
ROSC				IAML		21 06 56.6	
	comp=Z,406nm,0.4s						
HELC	**Santa Helena**	**2.52**	**256**	*e*P	Pn	21 06 20.7	+0.6
HELC				*e*S	Sn	21 06 52.9	+0.5
HELC				IAML		21 06 57.3	
	comp=Z,287nm,0.3s						
UREC	**San Jos de Ur**	**2.60**	**291**	*e*P	Pn	21 06 23.1	+2.3
UREC				*e*S	Sn	21 06 50.6	-3.1
UREC				IAML		21 07 00.0	
	comp=Z,189nm,0.3s						
SOCV	**Socops**	**2.63**	**56**	⇑*e*P	Pn	21 06 21.3	+0.1
SOCV				*e*S	Sn	21 06 53.8	-0.7
LL1C	**La Loma 1 Cana**	**2.74**	**350**	*e*P	Pn	21 06 24.0	+1.5
LL1C				*e*S	Sn	21 06 56.6	-0.2
LL1C				*e*P	Sn	21 06 58.1	+1.3
VILC	**Villavicencio,**	**2.76**	**193**	*e*P	Pn	21 06 21.8	-1.1
VILC				*e*S	Sn	21 06 58.5	+0.9
PTGC	**Puerto Gaitan,**	**2.77**	**160**	⇓*i*P	Pn	21 06 21.5	-1.4
PTGC				*e*S	Sn	21 06 54.7	-2.9
PTGC				IAML		21 06 58.7	
	comp=Z,70nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.78**	**235**	*e*P	Pn	21 06 23.1	-0.3
GUY2C				*e*S	Sn	21 06 58.1	-0.1
GUY2C				IAML		21 07 03.7	
	comp=Z,159nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.90**	**356**	*e*P	Pn	21 06 23.4	-1.1
LL6C				*e*S	Sn	21 06 59.4	-0.9
LL6C				IAML		21 07 02.5	
	comp=Z,76nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.07**	**252**	*e*P	Pn	21 06 27.6	+0.8
CBOC				*e*S	Sn	21 07 03.8	-0.6
CBOC				IAML		21 07 19.1	
	comp=Z,92nm,0.6s						
DBBC	**Dabeiba**	**3.12**	**274**	*e*P	Pn	21 06 27.5	+0.2
DBBC				*e*S	Sn	21 07 04.2	-1.1
DBBC				IAML		21 07 16.8	
	comp=Z,62nm,0.7s						
ARGC	**Ariguani, Magd**	**3.23**	**339**	*e*P	Pn	21 06 28.8	+0.1
ARGC				*e*S	Sn	21 07 07.2	-0.6
ARGC				IAML		21 07 16.9	
	comp=Z,79nm,0.3s						
ANIL	**Santa Ana**	**3.28**	**225**	⇑*e*P	Pn	21 06 29.7	+0.2
ANIL				*e*S	Sn	21 07 10.4	+1.1
ANIL				IAML		21 07 21.8	
	comp=Z,331nm,0.4s						
SJCC	**San Jacinto, C**	**3.69**	**326**	*e*P	Pn	21 06 32.9	-1.8
SJCC				*e*S	Sn	21 07 14.3	-4.3
SJCC				IAML		21 07 25.6	
	comp=Z,63nm,0.4s						
PLMC	**San Jos del P**	**3.72**	**239**	*e*P	Pn	21 06 34.3	-0.6
PLMC				*e*S	Sn	21 07 20.4	+1.3
PLMC				IAML		21 07 30.0	
	comp=Z,39nm,0.3s						
LCBC	**Los crdobas,**	**3.84**	**302**	*e*P	Pn	21 06 36.0	-0.4
LCBC				*e*S	Sn	21 07 21.2	-0.5
LCBC				IAML		21 07 25.3	
	comp=Z,66nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	Pn	21 06 39.0	-1.9
CRJC				*e*S	Sn	21 07 25.0	-4.8
CRJC				IAML		21 07 32.1	
	comp=Z,78nm,0.5s						
YOTC	**Yotoco, Valle**	**4.31**	**229**	*e*P	Pn	21 06 42.2	-0.6
YOTC				*e*S	Sn	21 07 31.8	-1.2
SMRC	**Santa Marta, M**	**4.46**	**345**	*e*P	Pn	21 06 43.9	-0.7
SMRC				*e*S	Sn	21 07 32.9	-3.5
SMRC				IAML		21 07 34.6	
	comp=Z,54nm,0.4s						
DABV	**Dabajuro**	**4.73**	**30**	*e*P	Pn	21 06 47.8	-0.4
DABV				*e*S	Sn	21 07 39.5	-3.3
BETC	**Betania**	**4.74**	**210**	*e*P	Pn	21 06 47.1	-1.3
BETC				*e*S	Sn	21 07 41.2	-2.0
BETC				IAML		21 07 51.5	
	comp=Z,24nm,0.4s						
URIC	**Uribia, Colomb**	**4.96**	**12**	*e*P	Pn	21 06 49.2	-2.0
URIC				*e*S	Sn	21 07 43.3	-5.0
URIC				IAML		21 07 45.0	
	comp=Z,17nm,0.4s						
GARC	**Garzon, Huila**	**5.20**	**208**	*e*P	Pn	21 06 52.6	-2.0
GARC				*e*S	Sn	21 07 48.7	-5.5
GARC				IAML		21 07 56.8	
	comp=Z,35nm,0.3s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	*e*P	Pn	21 07 10.0	+0.4
BBAC				*e*S	Sn	21 08 19.5	-1.6
BBAC				IAML		21 08 24.2	
	comp=Z,6.3nm,0.4s						

IDC ***05*** *21:07:49.0*±*1.6, 14°.69S*×*171°.88E,h608*km±*21*km*,mb2.9/7, mbtmp4.0/8,Error ellipse: s-maj=22.6km s-min=17.7km az=141.0*

NEIC ***05*** *21:07:49.7*±*1.6, 14°.8S*±*0°.1*×*171°.9E*±*0°.1,h612*km±*8*km*, mb4.2/17,Error ellipse: s-maj=19.9km s-min=15.1km az=152.0*

ISC 05 21:07:48.6±0.6,**14°.69S**±0°.10×**171°.8E**±0°.1,**h600**km,**n36,** σ1§**16**/35,**mb4.0**/16,**Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu** 28nm,0.5s,baz=272,slow=11,SNR=37	**6.69**	**118**	P	**P**	**21 09 37.0**	**+1.1**
LIFNC	**LIFOU**	**7.47**	**215**	P	**P**	**21 09 40.3**	**-2.6**
MARNC	**Mare, Loyalty**	**7.66**	**208**	P	**P**	**21 09 45.0**	**+0.3**
OUENC	**Ouen Island, N**	**9.03**	**211**	P	**P**	**21 10 01.5**	**+3.8**
QRZ	**Quartz Range**	**26.05**	**179**	P	**P**	**21 12 37.8**	**+2.0**
BFZ	**Birch Farm**	**26.18**	**172**	P	**P**	**21 12 35.0**	**-1.9**
TUWZ	**Tuamarina**	**26.71**	**176**	P	**P**	**21 12 40.7**	**-0.8**
KHZ	**Kahutara**	**27.67**	**177**	P	**P**	**21 12 48.2**	**-1.7**
STKA	**Stephens Creek** 0.6nm,0.3s,baz=53,slow=10,SNR=1.6 0.6nm,0.3s	**32.47**	**233**	P	**P**	**21 13 32.2**	**+0.9**
WR0	**Warramunga Arr**	**35.94**	**256**	P	**P**	**21 13 59.7**	**-0.7**
WR0				IAmb	IAmb	21 14 42.2	
	comp=Z,14nm,1.5s						
WB0	**Warramunga Arr**	**36.07**	**257**	P	**P**	**21 14 01.2**	**-0.2**
WB0				IAmb	IAmb	21 14 17.1	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**36.12**	**256**	P	**P**	**21 14 01.3**	**-0.6**
WB2				IAmb	IAmb	21 14 02.0	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr** comp=Z,1.4nm,0.5s,baz=87,slow=8.4,SNR=16 comp=Z,1.4nm,0.5s	**36.13**	**256**	P	**P**	**21 14 01.7**	**-0.3**
WRA	**Warramunga Arr**	**36.13**	**256**	P	**P**	**21 14 01.1**	**-0.9**
AS31	**Alice Springs**	**36.83**	**250**	P	**P**	**21 14 07.9**	**+0.2**
AS31				IAmb	IAmb	21 14 08.3	
	comp=Z,1.5nm,0.3s						
ASAR	**Alice Springs** comp=Z,1.8nm,0.5s,baz=74,slow=9.7,SNR=47	**36.83**	**250**	P	**P**	**21 14 07.7**	**0.0**
ASAR				ScP	**ScP**	**21 19 03.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=88,slow=3.9,SNR=5.4 comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**36.83**	**250**	P	**P**	**21 14 07.8**	**+0.1**
BBOO	**Buckleboo**	**37.15**	**235**	P	**P**	**21 14 10.6**	**+0.4**
BBOO				IAmb	IAmb	21 14 11.7	
	comp=Z,19nm,1.5s						
MTN	**Manton Dam**	**39.54**	**268**	P	**P**	**21 14 30.2**	**+0.5**
FAKI	**Fak Fak**	**40.75**	**283**	P	**P**	**21 14 39.1**	**-0.2**
FAKI				IAmb	IAmb	21 14 45.6	
	comp=Z,19nm,1.3s						
KNRA	**Kununurra**	**41.53**	**263**	P	**P**	**21 14 45.5**	**+0.1**
KNRA				IAmb	IAmb	21 15 06.1	
	comp=Z,15nm,1.2s						
SIJI	**Sorong** baz=95,slow=11	**42.37**	**285**	P	**P**	**21 14 52.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**44.36**	**259**	P	**P**	**21 15 08.5**	**+1.1**
FITZ				IAmb	IAmb	21 15 15.0	
	comp=Z,6.7nm,1.2s						
RSD	**Rainshed**	**46.90**	**45**	P	**P**	**21 15 26.7**	**0.0**
VNDA	**Vanda** comp=Z,0.3nm,0.6s,baz=358,slow=6.1,SNR=5.0 comp=Z,0.3nm,0.6s	**63.05**	**182**	P	**P**	**21 17 17.4**	**-0.3**
CASY	**Casey**	**65.26**	**203**	P	**P**	**21 17 31.2**	**-0.6**
PETK	**Petropavlovsk-** comp=Z,1.3nm,0.5s,baz=172,slow=7.1,SNR=6.4 comp=Z,1.3nm,0.5s	**68.61**	**351**	P	**P**	**21 17 52.4**	**-0.1**
USRK	**Ussuriysk Ar.** comp=Z,0.9nm,0.6s,baz=176,slow=5.8,SNR=2.8 comp=Z,0.9nm,0.6s	**68.94**	**330**	P	**P**	**21 17 55.8**	**+1.1**
USRK	**Ussuriysk Ar.**	**68.94**	**330**	P	**P**	**21 17 55.0**	**+0.3**
QSPA	**South Pole Qui**	**75.34**	**180**	P	**P**	**21 18 30.6**	**-0.9**
L19K	**White Mountain**	**80.97**	**15**	P	**P**	**21 19 01.6**	**+0.3**
SML	**Sawmill**	**82.46**	**18**	P	**P**	**21 19 09.2**	**+0.3**
SML				IAmb	IAmb	21 19 21.4	
	comp=Z,6.3nm,1.0s						
ILAR	**Eielson Array** comp=Z,0.5nm,0.7s,baz=234,slow=5.3,SNR=7.2 comp=Z,0.5nm,0.7s	**85.18**	**16**	P	**P**	**21 19 20.8**	**-1.4**
BFO	**Black Forest**	**143.79**	**341**	PKPbc	PKPbc	21 26 15.4	-0.3
IDI	**Anoyia**	**143.95**	**311**	PKPbc	PKPbc	21 26 15.5	-1.1
ITM	**Ithomi**	**145.12**	**316**	PKPbc	**PKPdf**	**21 26 18.9**	**-0.2**

IDC ***05*** *21:21:32.1*±*1.6, 6°.30S*×*129°.91E,h141*km±*18*km*,mb3.7/1, mbtmp4.1/6,MS2.9/1,Error ellipse: s-maj=28.8km s-min=12.8km az=110.0*

ISC 05 21:21:32.5±0.8,**6°.35S**±0°.07×**129°.94E**±0°.09,**h146**km,**n15,** σ1§**51**/18,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.11**	**34**	P	**Pn**	**21 22 35.5**	**+1.3**
SIJI	**Sorong** 4.0nm,0.3s,baz=204,slow=23,SNR=20	**5.61**	**14**	P	**Pn**	**21 22 54.7**	**+0.7**
SIJI				S	**Sn**	**21 23 55.1**	**-2.5**
	43nm,0.2s,baz=52,slow=23,SNR=16						
SIJI				LR	LR	21 25 48.1	
	comp=Z,120nm,19.1s,baz=286,slow=46						
MTN	**Manton Dam**	**6.56**	**170**	P	**Pn**	**21 23 07.9**	**+1.2**
KDU	**Kakadu**	**6.77**	**159**	P	**Pn**	**21 23 10.5**	**+0.9**
BATI	**Baumata** 9.5nm,0.3s,baz=54,slow=5.3,SNR=4.4	**7.30**	**238**	P	**Pn**	**21 23 16.9**	**+0.3**
BATI				S	**Sn**	**21 24 38.1**	**-0.1**
	17nm,0.4s,baz=21,slow=3.4,SNR=4.2						
KNRA	**Kununurra**	**9.34**	**187**	P	**Pn**	**21 23 44.5**	**+0.6**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=15,slow=11,SNR=11	**12.41**	**199**	P	**Pn**	**21 24 24.4**	**+0.1**
FITZ				S	Sn	21 26 32.8	-8.6
	1.3nm,0.4s,baz=133,slow=18,SNR=3.0						
FITZ	**Fitzroy Crossi**	**12.41**	**199**	P	**Pn**	**21 24 24.6**	**+0.3**
WRAB	**Tennant Creek**	**14.16**	**163**	P	**Pn**	**21 24 46.7**	**-0.1**
WRA	**Warramunga Arr** 1.5nm,0.3s,baz=334,slow=13,SNR=38	**14.17**	**163**	P	**Pn**	**21 24 45.8**	**-1.0**
WRA				S	Sn	21 27 14.3	-10
	1.5nm,0.4s,baz=332,slow=25,SNR=9.5						
COEN	**Coen**	**15.05**	**121**	P	**P**	**21 25 00.5**	**+0.8**
QIS	**Mount Isa**	**16.95**	**147**	P	**P**	**21 25 21.2**	**+0.5**
ASAR	**Alice Springs** 3.5nm,0.5s,baz=349,slow=10,SNR=45	**17.63**	**168**	P	**P**	**21 25 28.8**	**+0.6**
ASAR				S	**S**	**21 28 39.7**	**-4.4**
	1.0nm,0.7s,baz=356,slow=25,SNR=4.8						
WRKA	**Warakurna**	**18.65**	**185**	P	**P**	**21 25 40.2**	**+0.9**
MKAR	**Makanchi Array** 1.0nm,0.5s,baz=122,slow=8.2,SNR=17 1.0nm,0.5s	**67.65**	**327**	P	**P**	**21 32 13.6**	**-0.2**

PRU ***05*** *21:36:08.8*±*0.0, 42°.53N*×*13°.77E,h0*km*

LDG* ***05*** *21:36:10.5*±*0.1, 42°.65N*×*13°.37E,h10*km*,Md3.5/1, Ml3.1/28,Error ellipse: s-maj=2.8km s-min=1.5km az=47.0*

STR ***05*** *21:36:11.4*±*3.2, 43°.N*±*17°*×*1°.3E*±*2°.2,h10*km*,MLv3.9/15, Error ellipse: s-maj=0.0km s-min=0.0km az=126.0, preliminary*

ROM ***05*** *21:36:11.4*±*0.0, 42°.650N*±*0°.002*×*13°.326E*±*0°.002, h10*km*,ML3.5/73,Error ellipse: s-maj=0.2km s-min=0.1km az=58.0*

IDC ***05*** *21:36:13.0*±*1.2, 42°.81N*×*13°.23E,h0*km*,mb3.5/5, mbtmp3.5/11,ML3.3/6,MS2.8/3,Error ellipse: s-maj=20.9km s-min=13.4km az=88.0*

BEO ***05*** *21:36:14.3*±*0.7, 42°.69N*×*13°.39E,h10*km*±7*km*,ML3.7/9*

ISC 05 21:36:12.6±0.7,**42°.65N**±0°.01×**13°.30E**±0°.02,**h8**km±3km, **n295,**σ2§**09**/369,**mb3.6**/4,**43C-9D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.03**	**127**	⇓P	**Pg**	**21 36 13.5**	**-0.7**
SMA1				S	**Sg**	**21 36 14.6**	**-0.7**
SMA1				AML	AML		
SMA1				AML	AML		
T1204	**Amatrice, Fraz**	**0.03**	**18**	⇓P	**Pg**	**21 36 13.4**	**-0.9**
T1204				S	**Sg**	**21 36 14.6**	**-0.9**
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
T1201	**Domo (RI)**	**0.04**	**284**	⇓P	**Pg**	**21 36 13.9**	**-0.4**
T1201				S	**Sg**	**21 36 15.6**	**+0.1**
T1202	**Accumoli, Fraz**	**0.08**	**314**	⇓P	**Pg**	**21 36 14.4**	**-0.4**
T1202				S	**Sg**	**21 36 16.6**	**+0.2**
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
	comp=N,92200μm,1.3s						
T1244	**Arquata del Tr**	**0.11**	**357**	⇑P	**Pg**	**21 36 14.4**	**-0.8**
T1244				S	**Sg**	**21 36 16.9**	**-0.1**
T1244				AML	AML		
T1244				AML	AML		
T1243	**Rocca Santa Ma**	**0.12**	**65**	⇑P	**Pg**	**21 36 14.3**	**-1.0**
T1243				S	**Sg**	**21 36 16.4**	**-0.8**
T1214	**Arquata del Tr**	**0.13**	**328**	⇑P	**Pg**	**21 36 15.0**	**-0.5**

T1214 S Sg 21 36 17.8 +0.2
CAMP Campotosto 0.14 145 ⇑P Pg 21 36 15.0 -0.6
CAMP S Sg 21 36 17.5 -0.2
CAMP AML AML
CAMP AML AML
T1218 Civita (PG) 0.14 279 ⇑P Pg 21 36 15.3 -0.4
T1218 S Sg 21 36 18.2 +0.4
T1213 Norcia, Frazio 0.15 300 ⇑P Pg 21 36 15.4 -0.4
T1213 S Sg 21 36 18.5 +0.4
T1246 Crognaleto (TE 0.15 115 ⇑P Pg 21 36 15.1 -0.7
T1246 S Sg 21 36 17.6 -0.5
RM33 Pellescritta (0.15 206 ⇑P Pg 21 36 15.6 -0.2
RM33 S Sg 21 36 18.7 +0.6
RM33 AML AML
comp=N,40200µm,1.0s
RM33 AML AML
comp=E,49950µm,0.4s
RM33 AML AML
comp=E,51550µm,0.5s
RM33 AML AML
comp=E,50000µm,0.4s
RM33 AML AML
comp=N,40200µm,1.0s
RM33 AML AML
comp=N,40350µm,1.0s
T1242 Castelluccio d 0.20 338 ⇑P Pg 21 36 15.9 -0.7
T1242 S Sg 21 36 20.0 +0.6
T1242 AML AML
comp=E,22350µm,0.9s
T1242 AML AML
comp=N,32800µm,0.6s
T1242 AML AML
comp=E,22300µm,0.9s
T1242 AML AML
comp=N,32500µm,0.6s
T1242 AML AML
comp=N,32750µm,0.6s
T1242 AML AML
comp=E,22350µm,0.9s
LNSS Leonessa 0.20 257 ⇑P Pg 21 36 16.4 -0.2
LNSS S Sg 21 36 20.5 +1.1
LNSS AML AML
comp=E,56700µm,0.6s
LNSS AML AML
comp=N,33550µm,0.4s
T1247 Pizzolo (AQ) 0.21 181 ⇑P Pg 21 36 16.4 -0.3
T1247 S Sg 21 36 20.3 +0.7
T1212 Cascia, Frazio 0.22 299 ⇑P Pg 21 36 16.5 -0.5
T1212 S Sg 21 36 20.6 +0.6
TERO Teramo 0.22 96 ⇑P Pg 21 36 16.1 -1.0
TERO S Sg 21 36 19.5 -0.6
TERO AML AML
comp=E,54600µm,0.4s
TERO AML AML
comp=E,57300µm,0.6s
TERO AML AML
comp=N,77150µm,0.5s
TERO AML AML
comp=N,80500µm,0.5s
TERO AML AML
comp=E,54550µm,0.4s
T1241 Roccafluvione, 0.23 24 ⇑P Pg 21 36 16.2 -1.0
T1241 S Sg 21 36 20.1 -0.2
T1241 AML AML
comp=N,27000µm,0.9s
T1241 AML AML
comp=E,25800µm,1.0s
T1241 AML AML
comp=N,28050µm,1.0s
T1241 AML AML
comp=E,26450µm,1.0s
NRCA Norcia 0.23 323 ⇓P Pg 21 36 16.6 -0.6
NRCA S Sg 21 36 20.9 +0.5
NRCA AML AML
comp=N,24200µm,0.6s
NRCA AML AML
comp=E,39550µm,0.2s
NRCA AML AML
comp=N,24150µm,0.6s
NRCA AML AML
comp=E,42900µm,0.2s
NRCA AML AML
comp=N,26350µm,0.7s
NRCA AML AML
comp=E,39500µm,0.2s
GIGS Gran Sasso 0.28 135 ⇑P Pg 21 36 17.1 -1.0
GIGS AML AML
comp=N,6855µm,0.2s
GIGS AML AML
comp=E,7715µm,0.5s
MC2 Monte Cornacci 0.28 342 ⇑P Pg 21 36 17.4 -0.8
MC2 S Sg 21 36 22.7 +0.8
T1217 Poggiodomo (PG 0.28 283 ⇑P Pg 21 36 17.6 -0.6
T1217 S Sg 21 36 22.7 +0.8
AQU L'Aquila 0.30 166 ⇑P Pg 21 36 17.9 -0.6
AQU S Sg 21 36 23.1 +0.5
AQU AML AML
comp=N,25950µm,1.0s
AQU AML AML
comp=N,24700µm,1.0s
AQU AML AML
comp=E,16150µm,0.6s
AQU AML AML
comp=E,16550µm,0.8s
T1216 Preci, Frazion 0.32 319 ⇑P Pg 21 36 18.1 -0.8
T1216 S Sg 21 36 23.7 +0.5
T1211 Morro Reatino 0.35 251 ⇑P Pg 21 36 18.9 -0.6
T1211 S Sg 21 36 25.1 +1.0
T1215 Vallo di Nera, 0.36 296 ⇑P Pg 21 36 18.8 -0.8
T1215 S Sg 21 36 25.1 +0.8
T1215 AML AML
comp=E,524µm,1.0s
T1215 AML AML
comp=N,416µm,1.5s
T1215 AML AML
comp=E,3710µm,0.9s
T1215 AML AML
comp=N,3715µm,1.2s
T1215 AML AML
comp=E,456µm,0.6s
T1215 AML AML
comp=N,344µm,1.4s
T1215 AML AML
comp=E,3710µm,1.3s
T1215 AML AML
comp=N,3720µm,1.2s
FEMA Monte Fema 0.37 329 P Pg 21 36 19.3 -0.5
OFFI Offida 0.40 44 ⇑P Pg 21 36 20.1 -0.3
OFFI AML AML
comp=E,32950µm,0.6s
OFFI AML AML
comp=N,32500µm,0.5s
ARRO Arrone 0.40 260 ⇑P Pg 21 36 19.8 -0.7
ARRO S Sg 21 36 26.7 +1.0
FIAM Fiamignano 0.40 200 P Pg 21 36 19.7 -0.8
FIAM AML AML
comp=N,6590µm,0.8s
FIAM AML AML
comp=E,6710µm,0.6s
GUMA Gualdo di Mace 0.41 3 P Pg 21 36 19.9 -0.7
GUMA S Sg 21 36 26.8 +0.6
GUMA AML AML
comp=E,39250µm,0.5s
GUMA AML AML
comp=N,32350µm,0.6s
GUMA AML AML
comp=E,52700µm,0.2s
GUMA AML AML
comp=N,38250µm,1.4s
FDMO Fiordimonte 0.42 338 ⇑P Pg 21 36 19.7 -1.1
FDMO S Sg 21 36 26.9 +0.6
FDMO AML AML
comp=E,11250µm,0.2s
FDMO AML AML
comp=N,17850µm,0.2s
FAGN Fagnano 0.43 151 P Pg 21 36 20.0 -1.0
FAGN AML AML
comp=E,40100µm,0.3s
FAGN AML AML
comp=N,34500µm,1.6s
CSP1 Cessapalombo 0.45 351 ⇑P Pg 21 36 20.2 -1.1
CSP1 S Sg 21 36 27.7 +0.4
CSP1 AML AML
comp=E,6965µm,1.2s
CSP1 AML AML
comp=N,16600µm,0.4s
CSP1 AML AML
comp=N,16550µm,0.4s
CSP1 AML AML
comp=E,6960µm,1.2s
CESI CESI - Serrava 0.46 321 ⇑P Pg 21 36 20.6 -0.9
CESI S Sg 21 36 28.1 +0.5
CESI AML AML
comp=N,8635µm,0.3s
CESI AML AML
comp=E,5620µm,0.6s
VCEL Villa Celiera 0.47 122 P Pg 21 36 20.7 -1.0
VCEL AML AML
comp=N,17500µm,0.8s
VCEL AML AML
comp=E,18950µm,0.6s
VCEL AML AML
comp=N,17550µm,0.8s
TRTR Tortoreto Alta 0.48 70 P Pg 21 36 21.6 -0.2
TRTR AML AML
comp=E,41150µm,0.3s
TRTR AML AML
comp=N,37250µm,0.5s
MNTP Montappone 0.50 14 P Pg 21 36 21.8 -0.6
MNTP AML AML
comp=E,47050µm,0.3s
MNTP AML AML
comp=N,30950µm,0.5s
MNTP AML AML
comp=E,47100µm,0.3s
CESX Cesi 0.54 266 ⇑P Pg 21 36 21.9 -1.1
CESX AML AML
comp=N,4770µm,0.3s
CESX AML AML
comp=E,4040µm,0.6s
T0110 Collepietro 0.55 140 P Pg 21 36 22.2 -0.9
T0110 AML AML
comp=E,21200µm,0.4s
T0110 AML AML
comp=N,18450µm,0.5s
SEF1 Sefro 0.56 332 P Pg 21 36 22.4 -1.1
SEF1 AML AML
comp=E,8925µm,0.2s
SEF1 AML AML
comp=N,10665µm,1.3s
SEF1 AML AML
comp=N,10660µm,1.4s
SEF1 AML AML
comp=E,8925µm,0.2s
SSM1 San Severino M 0.59 351 P Pg 21 36 23.1 -0.8
GAG1 Gagliole 0.61 344 P Pg 21 36 23.6 -0.8
GAG1 S Sg 21 36 32.3 -0.2
GAG1 AML AML
comp=E,11020µm,1.1s
GAG1 AML AML
comp=N,12500µm,0.4s
GAG1 AML AML
comp=E,11045µm,1.1s
ASSB Assisi San Ben 0.62 310 P Pg 21 36 23.6 -0.9
ASSB AML AML
comp=E,2995µm,1.1s
ASSB AML AML
comp=N,3400µm,1.3s
PTQR Pietraquaria 0.63 173 P Pg 21 36 23.2 -1.5
PTQR AML AML
comp=N,1655µm,0.8s
PTQR AML AML
comp=E,2315µm,0.7s
SNTG Esanatoglia 0.66 336 ⇑P Pg 21 36 23.9 -1.4
SNTG AML AML
comp=N,2705µm,0.3s
SNTG AML AML
comp=E,2625µm,0.5s
SNTG AML AML
comp=E,314µm,0.5s
SNTG AML AML
comp=N,400µm,0.3s
TRE1 Treia 0.66 1 P Pg 21 36 24.8 -0.6
TRE1 AML AML
comp=E,29500µm,0.5s
TRE1 AML AML
comp=N,15900µm,0.5s
TRE1 AML AML
comp=E,29500µm,0.5s
TRE1 AML AML
comp=N,15950µm,0.5s
EL6 Elcito 0.70 348 P Pg 21 36 24.6 -1.4
EL6 AML AML
comp=E,6640µm,0.5s
EL6 AML AML
comp=N,8760µm,0.4s
SRES S.Oreste - Sor 0.72 235 P Pg 21 36 25.2 -1.2
SRES AML AML
comp=E,2650µm,0.9s
SRES AML AML
comp=N,2275µm,0.7s
ATCC AVT- Casa Cast 0.73 318 P Pg 21 36 25.4 -1.1
ATCC AML AML
comp=E,3610µm,0.5s
ATCC AML AML
comp=N,3360µm,1.0s
CING Cingoli 0.73 354 P Pg 21 36 25.4 -1.3
CING AML AML
comp=N,5780µm,0.8s
CING AML AML
comp=E,10450µm,0.4s
CERT Cerreto 0.74 199 ⇑P Pg 21 36 25.2 -1.6
CERT AML AML
comp=E,4925µm,0.5s
CERT AML AML
comp=N,4395µm,1.0s
MTCE Montecelio 0.75 214 ⇑P Pg 21 36 25.4 -1.6
MTCE AML AML
comp=E,5335µm,0.6s
MTCE AML AML
comp=N,2975µm,0.7s
FOSV Fossato di Vic 0.76 329 P Pg 21 36 25.9 -1.3
FOSV AML AML
comp=N,2585µm,0.8s
FOSV AML AML
comp=E,2155µm,0.4s
PP3 Marolino 0.76 17 P Pg 21 36 26.6 -0.6
PP3 AML AML
comp=N,7505µm,0.4s
PP3 AML AML
comp=E,12100µm,0.6s
PP3 AML AML
comp=N,7910µm,1.1s
PP3 AML AML
comp=E,12150µm,0.6s
INTR Introdacqua 0.78 145 P Pg 21 36 25.7 -1.8
INTR AML AML
comp=E,3µm,1.1s
INTR AML AML
comp=E,3200µm,1.1s
INTR AML AML
comp=E,3µm,1.1s
INTR AML AML
comp=N,7145µm,0.5s
INTR AML AML
comp=N,5µm,0.5s
VVLD Villa Vallelon 0.81 163 P Pg 21 36 26.4 -1.8
VVLD AML AML
comp=E,3490µm,0.6s
VVLD AML AML
comp=N,3460µm,0.5s
GUAR Guarcino 0.85 180 P Pg 21 36 27.7 -1.2
GUAR AML AML
comp=E,2230µm,0.5s
GUAR AML AML
comp=N,3520µm,1.4s
GUAR AML AML
comp=N,3525µm,1.4s
SSFR Montelago di S 0.88 334 P Pg 21 36 28.2 -1.3
SSFR AML AML
comp=E,4995µm,0.3s
SSFR AML AML
comp=N,4390µm,0.6s
SSFR AML AML
comp=E,4485µm,0.2s
SSFR AML AML
comp=N,4550µm,0.3s
CAFR Castel Frentan 0.88 118 P Pg 21 36 28.2 -1.2
CAFR AML AML
comp=E,15µm,0.6s
CAFR AML AML
comp=N,1885µm,0.4s
LPEL Lama dei Pelig 0.89 132 P Pg 21 36 27.8 -1.8
LPEL AML AML
comp=E,4655µm,0.3s
LPEL AML AML
comp=N,3155µm,0.3s
ATTE AVT- Monte Tez 0.89 309 P Pg 21 36 28.8 -0.9
ATTE AML AML
comp=N,1255µm,1.5s
ATTE AML AML
comp=E,1560µm,0.6s
ARVD Arcevia 0.89 343 P Pg 21 36 28.4 -1.3
ARVD AML AML
comp=E,2320µm,1.2s
ARVD AML AML
comp=N,1405µm,1.0s
ATFO Monte Foce - G 0.90 323 P Pg 21 36 28.5 -1.3
ATFO AML AML
comp=E,2055µm,0.5s
ATFO AML AML
comp=N,2040µm,0.7s
MGAB Montegabbione 0.92 287 P Pg 21 36 29.1 -1.1
MGAB AML AML
comp=E,3850µm,1.5s
MGAB AML AML
comp=N,3625µm,1.1s
MGAB AML AML
comp=N,3905µm,1.1s
MGAB AML AML
comp=E,4315µm,1.5s
AOI Ancona 0.93 13 P Pg 21 36 29.3 -1.1
AOI AML AML
comp=N,3555µm,0.4s
AOI AML AML
comp=E,3420µm,1.0s
RMP Rome, Mte Porz 0.95 208 P Pg 21 36 29.4 -1.4
RMP AML AML
comp=N,5175µm,0.5s
RMP AML AML
comp=E,4210µm,1.0s
FRON Frontone 0.97 334 P Pg 21 36 29.7 -1.5
FRON AML AML
comp=N,2695µm,0.4s
FRON AML AML
comp=E,1710µm,0.6s
POFI Posta Fibreno 0.98 162 P Pg 21 36 29.7 -1.6
POFI AML AML
comp=N,2515µm,1.1s
POFI AML AML
comp=E,4405µm,0.7s
POFI AML AML
comp=N,2705µm,1.1s
POFI AML AML
comp=E,4170µm,0.7s
ATVO AVT- Monte Val 0.99 318 P Pg 21 36 29.9 -1.6
ATVO AML AML
comp=N,1390µm,1.0s
ATVO AML AML
comp=E,1330µm,1.4s
RDP Rocca di Papa 0.99 206 P Pg 21 36 30.4 -1.2
RDP AML AML
comp=N,9110µm,0.6s
RDP AML AML
comp=E,9775µm,0.6s
COR1 Corinaldo 1.01 347 P Pg 21 36 31.1 -0.9
COR1 AML AML
comp=N,5220µm,0.3s
COR1 AML AML
comp=N,5060µm,0.3s
COR1 AML AML
comp=E,7180µm,1.0s
COR1 AML AML
comp=E,3690µm,1.1s
LRP Arpino 1.02 168 P Pg 21 36 30.4 -1.8
LRP AML AML
comp=E,1280µm,0.7s
LRP AML AML
comp=N,3060µm,1.0s
ATMI Monte Miggiano 1.02 312 AML AML
comp=E,4230µm,0.4s
ATMI AML AML
comp=N,3040µm,0.4s
ATPI Pietralunga - 1.04 321 P Pg 21 36 31.2 -1.3
ATPI AML AML
comp=E,2205µm,0.8s
ATPI AML AML
comp=N,1030µm,1.6s
SACS San Casciano d 1.05 282 ⇓P Pg 21 36 31.5 -1.1
SACS AML AML
comp=E,1580µm,0.9s
SACS AML AML
comp=E,1600µm,0.9s
SACS AML AML
comp=N,1700µm,1.0s
SACS AML AML
comp=N,1700µm,1.0s
PIEI Pieia 1.05 328 P Pg 21 36 31.2 -1.5
PIEI AML AML
comp=E,1655µm,0.7s
PIEI AML AML
comp=N,1136µm,1.5s
SENI Senigallia 1.06 357 AML AML
comp=N,12000µm,0.4s
SENI AML AML
comp=E,18950µm,0.4s
MPAG Monte Paganucc 1.06 338 P Pg 21 36 31.5 -1.4
MPAG AML AML
comp=E,2195µm,0.5s
MPAG AML AML
comp=N,1665µm,0.6s
GIUL Giuliano Di Ro 1.09 182 P Pg 21 36 32.0 -1.4
GIUL AML AML
comp=E,1405µm,1.4s
GIUL AML AML
comp=N,1530µm,1.3s
NARO Abbazia di Nar 1.10 331 P Pg 21 36 32.0 -1.7
NARO AML AML
comp=E,1565µm,0.8s
NARO AML AML
comp=N,1190µm,1.1s
LATE Laterza 1.11 269 P Pg 21 36 32.9 -0.9
FSSB Fossombrone 1.11 340 P Pg 21 36 32.5 -1.4
FSSB AML AML
comp=E,7555µm,0.4s
FSSB AML AML
comp=N,5345µm,0.4s
TOLF Tolfa 1.13 239 P Pg 21 36 32.9 -1.4
TOLF AML AML
comp=E,1270µm,0.7s
TOLF AML AML
comp=N,1965µm,0.9s
RNI2 Rionero Sannit 1.14 146 P Pg 21 36 32.7 -1.6
RNI2 AML AML
comp=E,2460µm,0.9s
RNI2 AML AML
comp=N,2380µm,0.8s
RNI2 AML AML
comp=N,2410µm,0.8s
RNI2 AML AML
comp=E,2505µm,0.9s
CERA Filignano 1.18 153 P Pg 21 36 32.7 -2.4
CERA AML AML
comp=E,2895µm,0.7s
CERA AML AML
comp=N,3105µm,1.0s
CERA AML AML
comp=E,2975µm,0.6s
CERA AML AML
comp=N,3255µm,1.0s
CAFI Castiglion Fio 1.20 305 P Pg 21 36 34.3 -1.2
CAFI AML AML
comp=E,712µm,0.7s
CAFI AML AML
comp=N,838µm,1.4s
PE3 Peglio 1.20 331 P Pg 21 36 34.2 -1.5
MCIV Monte Civitell 1.21 277 P Pg 21 36 34.1 -1.6
MCIV AML AML
comp=E,727µm,0.7s
MCIV AML AML
comp=N,532µm,1.0s
SF04 Casetta 1.23 279 P Pb 21 36 34.5 -1.5
MIDA Miranda 1.23 145 P Pg 21 36 33.5 -2.7
MIDA AML AML
comp=N,1485µm,0.7s
MIDA AML AML
comp=N,1595µm,0.7s
MIDA AML AML
comp=E,1595µm,0.5s

MIDA				AML	AML				
	comp=E,1720µm,0.5s								
SSP9	**Sansepolcro**	**1.26**	**318**	P	**Pn**	**21**	**36**	**36.1**	**-0.5**
TRIV	**Trivento**	**1.28**	**133**	P	**Pn**	**21**	**36**	**34.8**	**-2.0**
PESA	**Pesaro**	**1.34**	**345**	P	**Pn**	**21**	**36**	**36.3**	**-1.2**
PESA				AML	AML				
	comp=N,2585µm,0.4s								
PESA				AML	AML				
	comp=E,3005µm,0.9s								
ARCI	**Arcidosso**	**1.36**	**279**	P	**Pn**	**21**	**36**	**37.1**	**-0.9**
ARCI				AML	AML				
	comp=E,316µm,0.8s								
ARCI				AML	AML				
	comp=N,265µm,1.5s								
CRE	**Caprese Michel**	**1.39**	**315**	P	**Pn**	**21**	**36**	**36.9**	**-1.4**
CRE				AML	AML				
	comp=N,786µm,1.3s								
CRE				AML	AML				
	comp=E,672µm,0.5s								
BSSO	**Busso**	**1.46**	**138**	P	**Pn**	**21**	**36**	**38.6**	**-0.7**
CIGN	**Sant'Elia a Pi**	**1.55**	**129**	P	**Pn**	**21**	**36**	**39.1**	**-1.4**
MODR	**Mondragone**	**1.56**	**164**	P	**Pn**	**21**	**36**	**40.4**	**-0.2**
MODR				AML	AML				
	comp=N,420µm,0.5s								
MODR				AML	AML				
	comp=E,462µm,1.0s								
ASQU	**Asqua**	**1.59**	**317**	P	**Pn**	**21**	**36**	**40.7**	**-0.5**
SFI	**Santa Sofia**	**1.65**	**320**	P	**Pn**	**21**	**36**	**40.9**	**-0.9**
MELA	**Melanico ??? S**	**1.65**	**124**	P	**Pn**	**21**	**36**	**41.3**	**-0.5**
CSNT	**Castellina Chi**	**1.69**	**300**	P	**Pn**	**21**	**36**	**42.1**	**-0.3**
CSNT				AML	AML				
	comp=N,267µm,0.8s								
CSNT				AML	AML				
	comp=E,306µm,0.6s								
TREM	**Isole Tremiti**	**1.72**	**107**	P	**Pn**	**21**	**36**	**42.2**	**-0.5**
VITU	**Vitulano (BN)**	**1.77**	**145**	P	**Pn**	**21**	**36**	**42.5**	**-1.0**
RUFI	**Rufina**	**1.77**	**313**	P	**Pn**	**21**	**36**	**43.2**	**-0.3**
RUFI				AML	AML				
	comp=E,415µm,1.6s								
RUFI				AML	AML				
	comp=N,586µm,1.1s								
PSB1	**Pescosannita**	**1.81**	**141**	P	**Pn**	**21**	**36**	**42.9**	**-1.3**
TRIF	**Trifonti**	**1.83**	**286**	P	**Pn**	**21**	**36**	**43.8**	**-0.5**
TRIF				AML	AML				
	comp=E,292µm,0.7s								
TRIF				AML	AML				
	comp=N,230µm,1.0s								
LMD	**Lutirano**	**1.84**	**321**	P	**Pn**	**21**	**36**	**44.6**	**+0.1**
SGRT	**San Giovanni R**	**2.02**	**115**	P	**Pn**	**21**	**36**	**45.9**	**-1.1**
SGRT				AML	AML				
	comp=E,787µm,0.7s								
SGRT				AML	AML				
	comp=N,768µm,0.8s								
MSAG	**Monte S. Angel**	**2.15**	**115**	P	**Pn**	**21**	**36**	**48.4**	**-0.4**
SGTA	**Sant Agata di**	**2.16**	**134**	P	**Pb**	**21**	**36**	**50.6**	**-1.2**
CAFE	**Carife**	**2.17**	**138**	P	**Pn**	**21**	**36**	**48.8**	**-0.3**
BRJN	**Brijuni**	**2.28**	**8**	P	**Pn**	**21**	**36**	**49.9**	**-0.6**
HVAR	**Hvar**	**2.37**	**76**	P	**Pn**	**21**	**36**	**51.2**	**-0.6**
PALZ	**Palazzo San Ge**	**2.62**	**130**	P	**Pn**	**21**	**36**	**54.2**	**-0.9**
A050A	**Klekovaca**	**2.98**	**51**	*e*Pn	**Pn**	**21**	**36**	**59.9**	**-0.3**
AMUR	**Altamura**	**3.02**	**124**	P	**Pn**	**21**	**36**	**59.6**	**-1.1**
AMUR				AML	AML				
	comp=E,387µm,0.6s								
AMUR				AML	AML				
	comp=N,223µm,0.6s								
SMPL	**Sampolo**	**3.03**	**261**	P	**Pn**	**21**	**37**	**00.4**	**-0.4**
SRKY	**Kupres RS**	**3.15**	**62**	*e*Pn	**Pn**	**21**	**37**	**03.0**	**+0.4**
PGF	**Pioggiola**	**3.18**	**270**	*e*P	**Pn**	**21**	**37**	**03.1**	**+0.1**
PGF				*e*Sn	**Sn**	**21**	**37**	**35.9**	**-5.2**
	comp=N,13nm,0.6s								
PGF	**Pioggiola**	**3.18**	**270**	P	**Pn**	**21**	**37**	**03.4**	**+0.4**
CEY	**Cerknica**	**3.19**	**14**	*e*Pn	**Pn**	**21**	**37**	**01.9**	**-1.2**
MATE	**Matera**	**3.24**	**127**	⇓P	**Pn**	**21**	**37**	**04.7**	**+1.0**
STON	**Ston**	**3.25**	**85**	*e*Pn	**Pn**	**21**	**37**	**02.0**	**-1.7**
STON	**Ston**	**3.25**	**85**	*e*Pn	**Pn**	**21**	**37**	**02.8**	**-0.9**
STON				*e*Sn	**Sn**	**21**	**37**	**40.6**	**-1.9**
STON	**Ston**	**3.25**	**85**	P	**Pn**	**21**	**37**	**02.6**	**-1.1**
STON				AML	AML				
	comp=N,164µm,0.7s								
STON				AML	AML				
	comp=E,131µm,0.4s								
MGRS	**Mrkonjic Grad**	**3.27**	**56**	*e*Pn	**Pn**	**21**	**37**	**05.2**	**+1.1**
LTRZ	**Laterza**	**3.33**	**127**	P	**Pn**	**21**	**37**	**04.7**	**-0.3**
SABO	**M.te Sabotino**	**3.34**	**4**	P	**Pn**	**21**	**37**	**04.3**	**-0.8**
SABO				AML	AML				
	comp=N,1525µm,1.5s								
SABO				AML	AML				
	comp=E,282µm,1.5s								
SABO				AML	AML				
	comp=E,1099µm,0.6s								
SABO				AML	AML				
	comp=N,402µm,0.8s								
ROVR	**Rover Verones**	**3.40**	**333**	P	**Pn**	**21**	**37**	**05.3**	**-0.7**
CGRP	**Cima Grappa**	**3.41**	**342**	P	**Pn**	**21**	**37**	**05.9**	**-0.3**
AJAC	**Base Areonaval**	**3.44**	**259**	P	**Pn**	**21**	**37**	**05.7**	**-0.8**
AJAC				AML	AML				
	comp=E,180µm,0.2s								
AJAC				AML	AML				
	comp=N,102µm,1.6s								
AJAC	**Base Areonaval**	**3.44**	**259**	P	**Pn**	**21**	**37**	**07.0**	**+0.6**
AJAC				S	**Sn**	**21**	**37**	**49.4**	**+1.9**
VARN	**Col Varnada, M**	**3.45**	**346**	P	**Pn**	**21**	**37**	**06.5**	**-0.2**
BLY	**Banja Luka**	**3.51**	**52**	*e*Pn	**Pn**	**21**	**37**	**06.8**	**-0.6**
A051A	**Mrakovica**	**3.52**	**47**	*e*Pn	**Pn**	**21**	**37**	**07.3**	**-0.3**
CRES	**Cresnjev**	**3.53**	**25**	*e*Pn	**Pn**	**21**	**37**	**06.8**	**-1.0**
DOSS	**Dosso del Somm**	**3.57**	**336**	P	**Pn**	**21**	**37**	**07.5**	**-0.9**
SALO	**Salr**	**3.58**	**327**	P	**Pn**	**21**	**37**	**07.4**	**-1.1**
CTI	**Castel Tesino**	**3.60**	**341**	P	**Pn**	**21**	**37**	**08.6**	**-0.2**
MPRI	**Monte Prat**	**3.60**	**357**	P	**Pn**	**21**	**37**	**08.3**	**-0.4**
MPRI				AML	AML				
	comp=E,224µm,0.6s								
MPRI				AML	AML				
	comp=N,272µm,0.8s								
LEOD	**Capriano del C**	**3.63**	**322**	S	**Sg**	**21**	**38**	**06.0**	**-3.0**
CIMO	**Cimolais**	**3.71**	**351**	P	**Pn**	**21**	**37**	**09.8**	**-0.4**
CIMO				AML	AML				
	comp=E,58µm,1.6s								
CIMO				AML	AML				
	comp=N,65µm,1.0s								
CIMO				AML	AML				
	comp=E,71µm,1.6s								
CIMO				AML	AML				
	comp=N,60µm,0.9s								
LUSI	**Trento, Gardas**	**3.72**	**334**	P	**Pn**	**21**	**37**	**09.5**	**-0.9**
TREB	**Trebinje**	**3.72**	**87**	*e*Pn	**Pn**	**21**	**37**	**10.3**	**0.0**
AGOR	**Agordo**	**3.74**	**347**	P	**Pn**	**21**	**37**	**08.9**	**-1.7**
GAGG	**Gaggia**	**3.83**	**335**	P	**Pn**	**21**	**37**	**10.7**	**-1.2**
HCY	**Herceg Novi**	**3.84**	**91**	*e*Pn	**Pn**	**21**	**37**	**10.6**	**-1.3**
BRY	**Bratogost**	**3.86**	**84**	*e*Pn	**Pn**	**21**	**37**	**13.9**	**+1.5**
ZONE	**Zone**	**3.87**	**325**	P	**Pn**	**21**	**37**	**11.4**	**-1.0**
ZONE				AML	AML				
	comp=N,190µm,0.2s								
ZONE				AML	AML				
	comp=E,179µm,1.0s								
ACOM	**Acomizza, Ital**	**3.90**	**2**	P	**Pn**	**21**	**37**	**12.1**	**-0.9**
A052A	**Srbac**	**3.91**	**50**	*e*Pn	Pn	21	37	07.3	-5.6
ZOU	**Zoufplan**	**3.92**	**357**	P	**Pn**	**21**	**37**	**12.7**	**-0.5**
ZOU				AML	AML				
	comp=N,132µm,1.5s								
ZOU				AML	AML				
	comp=E,152µm,1.3s								
MABI	**Malga Bissina**	**3.95**	**331**	P	**Pn**	**21**	**37**	**13.7**	**+0.1**
OBKA	**Obir**	**3.96**	**13**	*e*Pn	**Pn**	**21**	**37**	**12.3**	**-1.4**
OBKA	**Obir**	**3.96**	**13**	*i* Pn	**Pn**	**21**	**37**	**13.5**	**-0.2**
	comp=E,4.0nm,0.2s								
OBKA				*e*Sn	**Sn**	**21**	**38**	**00.8**	**+0.4**
	comp=E,89nm,0.7s								
MYKA	**Terra Mystica**	**3.99**	**3**	*e*Pn	**Pn**	**21**	**37**	**14.3**	**+0.3**
	comp=E,10nm,0.4s,SNR=7.3								
MYKA				*i* Sn	**Sn**	**21**	**38**	**00.1**	**-1.0**
	comp=E,9.6nm,0.3s								
KOSI	**Kohlern**	**4.06**	**341**	P	**Pn**	**21**	**37**	**14.4**	**-0.6**
APPI	**Appiano**	**4.11**	**340**	P	**Pn**	**21**	**37**	**15.0**	**-0.7**
ABTA	**Abfaltersbach**	**4.14**	**352**	*i* Pn	**Pn**	**21**	**37**	**16.7**	**+0.6**
	comp=E,67nm,0.6s,SNR=30								
UPM	**Unac-Piva**	**4.15**	**80**	*e*Pn	**Pn**	**21**	**37**	**15.7**	**-0.7**
SOKA	**Soboth**	**4.21**	**16**	*i* Pn	**Pn**	**21**	**37**	**17.8**	**+0.6**
	comp=E,1.4nm,0.1s								
VSL	**Villasalto**	**4.33**	**225**	P	**Pn**	**21**	**37**	**18.8**	**+0.2**
TIP	**Timpagrande**	**4.34**	**142**	⇓P	**Pn**	**21**	**37**	**20.5**	**+1.6**
DRME	**Dracevica, Mon**	**4.38**	**94**	*e*Pn	**Pn**	**21**	**37**	**19.8**	**+0.5**
RISI	**Rein**	**4.39**	**349**	P	**Pn**	**21**	**37**	**18.6**	**-1.0**
PDG	**Podgorica**	**4.40**	**91**	⇑P	**Pn**	**21**	**37**	**20.4**	**+0.7**
SAOF	**Saorge**	**4.40**	**290**	P	**Pn**	**21**	**37**	**20.4**	**+0.7**
KBA	**Koelnbreinsper**	**4.43**	**0**	*i* Pn	**Pn**	**21**	**37**	**20.7**	**+0.5**
	comp=E,6.9nm,0.3s								
KBA				*e*Sn	**Sn**	**21**	**38**	**10.5**	**-1.6**
	comp=E,23nm,0.4s								
SBF	**Sospel**	**4.46**	**288**	*e*P	**Pn**	**21**	**37**	**21.0**	**+0.5**
SBF				*e*Sn	**Sn**	**21**	**38**	**06.3**	**-6.2**
	comp=E,13nm,0.5s								
MUGIO	**Muggio**	**4.48**	**318**	P	**Pn**	**21**	**37**	**20.7**	**-0.1**
MUGIO				AML	AML				
	comp=E,42µm,0.4s								
MUGIO				AML	AML				
	comp=N,46µm,1.2s								
TURF	**col de Turini**	**4.51**	**289**	P	**Pn**	**21**	**37**	**21.7**	**+0.3**
RUDO	**Rudo**	**4.54**	**76**	*e*Pn	**Pn**	**21**	**37**	**21.5**	**-0.1**
BBLS	**Lazići**	**4.62**	**73**	*e*Pn	**Pn**	**21**	**37**	**23.3**	**+0.6**
BBLS				*e*Sn	**Sn**	**21**	**38**	**14.4**	**-2.2**
SPIF	**crte de Spivo**	**4.64**	**290**	P	**Pn**	**21**	**37**	**24.4**	**+1.3**
FETA	**Feichten**	**4.74**	**338**	*i* Pn	**Pn**	**21**	**37**	**26.3**	**+1.9**
	comp=N,2.7nm,0.2s								
WTTA	**Wattenberg**	**4.76**	**346**	*i* Pn	**Pn**	**21**	**37**	**25.9**	**+1.1**
	comp=N,2.4nm,0.2s								
WTTA				*e*Sn	**Sn**	**21**	**38**	**22.2**	**+1.9**
	comp=N,21nm,0.4s								
CALF	**Calern**	**4.79**	**285**	P	**Pn**	**21**	**37**	**25.6**	**+0.4**
DAVOX	**Davos/Dischmat**	**4.80**	**331**	Pn	**Pn**	**21**	**37**	**26.6**	**+1.3**
	comp=N,3.2nm,0.3s,baz=147,slow=17,SNR=17								
DAVOX				Sn	**Sn**	**21**	**38**	**21.8**	**+0.6**
	comp=N,1.5nm,0.3s,baz=139,slow=16,SNR=3.0								
DAVOX				LR	LR	21	39	34.3	
	comp=N,48nm,20.0s,baz=50,slow=43								
	comp=N,5.8nm,0.4s								
SQTA	**Sankt Quirin**	**4.81**	**343**	*i* Pn	**Pn**	**21**	**37**	**27.0**	**+1.6**
	comp=N,7.5nm,0.2s								
SQTA				*i* Sn	**Sn**	**21**	**38**	**24.0**	**+2.7**
	comp=N,19nm,0.4s								
WATA	**Walderalm**	**4.84**	**346**	*e*Pn	**Pn**	**21**	**37**	**27.9**	**+2.0**
	comp=N,5.6nm,0.1s,SNR=7.4								
WATA				*i* Sn	**Sn**	**21**	**38**	**24.3**	**+2.1**
	comp=N,4.9nm,0.2s								
KOVH	**Kovagotottos**	**4.86**	**43**	P	**Pn**	**21**	**37**	**24.9**	**-1.1**
KOVH				S	**Sn**	**21**	**38**	**18.4**	**-4.0**
ARSA	**Arzberg**	**4.86**	**18**	*i* Pn	**Pn**	**21**	**37**	**25.5**	**-0.6**
	comp=N,3.4nm,0.3s								
SJES	**Sjenica**	**4.93**	**81**	*e*Pn	**Pn**	**21**	**37**	**28.1**	**+1.0**
SJES				*e*Sn	**Sn**	**21**	**38**	**22.7**	**-1.7**
MOTA	**Moosalm**	**4.95**	**342**	*i* Pn	**Pn**	**21**	**37**	**29.6**	**+2.3**
	comp=N,3.3nm,0.3s,SNR=7.0								
LMR	**La Mourre**	**5.03**	**280**	*e*P	**Pn**	**21**	**37**	**28.0**	**-0.3**
LMR				*e*Sn	**Sn**	**21**	**38**	**19.9**	**-6.7**
	comp=N,1.6nm,0.4s								
BIOA	**Bad Ischl, Aus**	**5.05**	**3**	*i* Pn	**Pn**	**21**	**37**	**28.8**	**+0.2**
	comp=N,6.4nm,0.3s,SNR=7.1								
BIOA				*i* Sn	**Sn**	**21**	**38**	**29.5**	**+2.4**
	comp=N,14nm,0.4s								
SURF	**Saint Ours**	**5.06**	**293**	P	**Pn**	**21**	**37**	**30.1**	**+1.2**
DIVS	**Divibare**	**5.09**	**71**	*e*Pn	**Pn**	**21**	**37**	**28.5**	**-0.6**
DIVS	**Divibare**	**5.09**	**71**	*e*Pn	**Pn**	**21**	**37**	**29.3**	**+0.2**
DIVS				*e*Sn	**Sn**	**21**	**38**	**25.2**	**-2.9**
IVAS	**Ivanjica**	**5.10**	**77**	*e*Pn	**Pn**	**21**	**37**	**29.1**	**-0.2**
IVAS				*e*Sn	**Sn**	**21**	**38**	**25.8**	**-2.6**
RJOB	**Jochberg**	**5.10**	**356**	*e*Pn	**Pn**	**21**	**37**	**30.4**	**+1.1**
RJOB				*e*Sn	**Sn**	**21**	**38**	**29.9**	**+1.5**
TRIGF	**Trigance**	**5.16**	**285**	P	**Pn**	**21**	**37**	**31.1**	**+0.9**
RETA	**Reutte**	**5.16**	**340**	*i* Pn	**Pn**	**21**	**37**	**32.0**	**+1.8**
	comp=N,1.3nm,0.2s								
RETA				*i* Sn	**Sn**	**21**	**38**	**29.3**	**-0.7**
	comp=N,5.5nm,0.3s								
MBDF	**Montbardon**	**5.17**	**296**	*e*P	**Pn**	**21**	**37**	**31.2**	**+0.8**
MBDF				*e*Sn	**Sn**	**21**	**38**	**23.4**	**-6.9**
	comp=N,9.1nm,0.6s								
MORH	**Mrgy, Hungar**	**5.23**	**45**	⇑P	Pn	21	37	36.8	+5.8
MORH	**Mrgy, Hungar**	**5.23**	**45**	P	**Pn**	**21**	**37**	**30.3**	**-0.7**
DAVA	**Damuels**	**5.24**	**334**	*i* Pn	**Pn**	**21**	**37**	**32.3**	**+1.1**
	comp=N,6.6nm,0.3s								
DAVA				*e*Sn	**Sn**	**21**	**38**	**34.2**	**+2.3**
	comp=N,14nm,0.6s								
MOA	**Molln**	**5.25**	**7**	*e*Pn	**Pn**	**21**	**37**	**31.5**	**+0.3**
MOA				*e*Sn	**Sn**	**21**	**38**	**30.0**	**-1.9**
MOA	**Molln**	**5.25**	**7**	*i* Pn	**Pn**	**21**	**37**	**31.6**	**+0.3**
	comp=N,1.9nm,0.2s								
MOA				*i* Sn	**Sn**	**21**	**38**	**30.5**	**-1.5**
	comp=N,9.5nm,0.3s								
FRGS	**Fruska Gora**	**5.33**	**60**	⇑P	**Pn**	**21**	**37**	**35.0**	**+2.6**
FRGS	**Fruska Gora**	**5.33**	**60**	*e*Pn	**Pn**	**21**	**37**	**30.4**	**-2.0**
FRGS	**Fruska Gora**	**5.33**	**60**	*e*Pn	**Pn**	**21**	**37**	**31.4**	**-1.0**
TRUS	**Trudelj**	**5.41**	**71**	*e*Pn	**Pn**	**21**	**37**	**33.2**	**-0.3**
TRUS				*e*Sn	**Sn**	**21**	**38**	**33.7**	**-2.2**
DIX	**Grande Dixence**	**5.44**	**311**	P	**Pn**	**21**	**37**	**35.8**	**+1.6**
RONA	**Rosalia, Austr**	**5.48**	**22**	*i* Pn	**Pn**	**21**	**37**	**34.3**	**-0.2**
	comp=N,2.6nm,0.2s								
LPG	**La Plagne**	**5.51**	**303**	*e*P	**Pn**	**21**	**37**	**36.2**	**+1.0**
LPG				*e*Sn	**Sn**	**21**	**38**	**31.8**	**-7.1**
	comp=N,7.6nm,0.7s								
UBR	**Ueberruh**	**5.52**	**337**	*e*Pn	**Pn**	**21**	**37**	**38.9**	**+3.8**
LPL	**La Plagne**	**5.53**	**303**	*e*P	**Pn**	**21**	**37**	**35.0**	**-0.4**
LPL				*e*Sn	Sn	21	38	29.5	-10
	comp=N,8.6nm,0.5s								
GRUS	**Gruza**	**5.55**	**75**	*e*Pn	**Pn**	**21**	**37**	**35.9**	**+0.4**
CONA	**Conrad Observa**	**5.58**	**18**	*i* Pn	**Pn**	**21**	**37**	**35.7**	**-0.3**
	comp=N,0.9nm,0.1s								
CONA				*e*Sn	**Sn**	**21**	**38**	**36.9**	**-3.4**
	comp=N,2.6nm,0.3s								
MLYF	**Mely**	**5.66**	**286**	P	**Pn**	**21**	**37**	**38.7**	**+1.7**
RSL	**Roselend**	**5.68**	**305**	P	**Pn**	**21**	**37**	**39.2**	**+1.8**
GDM	**Grand'Maison**	**5.79**	**299**	P	**Pn**	**21**	**37**	**42.2**	**+3.4**
SMRF	**Simiane la Rot**	**5.79**	**286**	*e*P	**Pn**	**21**	**37**	**39.9**	**+1.1**
SMRF				*e*Sn	**Sn**	**21**	**38**	**38.1**	**-7.4**
	comp=N,6.7nm,0.8s								
ORIF	**Oris-en-Rattie**	**5.83**	**295**	*e*P	**Pn**	**21**	**37**	**41.6**	**+2.2**
ORIF				*e*Sn	**Sn**	**21**	**38**	**39.2**	**-7.3**
	comp=N,6.0nm,0.5s								
ORIF	**Oris-en-Rattie**	**5.83**	**295**	P	**Pn**	**21**	**37**	**42.2**	**+2.8**
AIGLE	**Aigle**	**5.85**	**311**	P	**Pn**	**21**	**37**	**42.7**	**+3.1**
SLE	**Schleitheim**	**6.14**	**328**	P	**Pn**	**21**	**37**	**43.7**	**+0.1**
BALST	**Balsthal**	**6.15**	**322**	P	**Pn**	**21**	**37**	**44.4**	**+0.7**
GEC2	**GERESS Array S**	**6.21**	**2**	*e*Pn	**Pn**	**21**	**37**	**43.9**	**-0.6**
GEC2				*e*Sn	**Sn**	**21**	**38**	**53.1**	**-2.6**
GERES	**GERESS Array B**	**6.21**	**2**	Pn	**Pn**	**21**	**37**	**44.1**	**-0.4**
	comp=N,0.9nm,0.3s,baz=188,slow=13,SNR=19								
GERES				Sn	**Sn**	**21**	**38**	**53.2**	**-2.4**
	comp=N,2.4nm,0.3s,baz=173,slow=24,SNR=9.6								
	comp=N,2.4nm,0.5s								
CKRC	**Cesky Krumlov**	**6.21**	**6**	*e*PN	**Pn**	**21**	**37**	**42.9**	**-1.7**
CKRC				*e*SN	**Sn**	**21**	**38**	**50.7**	**-5.0**
BOVS	**Bovan**	**6.22**	**78**	⇑P	**Pn**	**21**	**37**	**45.7**	**+1.0**
BOVS	**Bovan**	**6.22**	**78**	*e*Pn	**Pn**	**21**	**37**	**45.2**	**+0.5**
BARS	**Barje**	**6.27**	**86**	*e*Pn	**Pn**	**21**	**37**	**45.3**	**0.0**
BARS				*e*Sn	**Sn**	**21**	**38**	**54.3**	**-2.9**
GIMEL	**St. Georges /**	**6.35**	**310**	P	**Pn**	**21**	**37**	**47.3**	**+0.7**
MODS	**Modra-Piesok**	**6.37**	**25**	*e*PN	**Pn**	**21**	**37**	**46.5**	**-0.2**
BOURR	**Bourrignon**	**6.41**	**320**	P	**Pn**	**21**	**37**	**48.2**	**+0.9**
FELD	**Feldberg im Sc**	**6.43**	**326**	P	**Pn**	**21**	**37**	**47.4**	**-0.2**
MDVR	**Moldovita**	**6.46**	**68**	⇑P	**Pn**	**21**	**37**	**51.2**	**+3.2**
BRANT	**Les Verrieres**	**6.48**	**314**	P	**Pn**	**21**	**37**	**50.5**	**+2.2**
KHC	**Kasperske Hory**	**6.49**	**2**	*e*PN	**Pn**	**21**	**37**	**47.4**	**-0.9**
KHC				*e*SN	**Sn**	**21**	**38**	**58.9**	**-3.6**
CABF	**La Chapelle**	**6.50**	**310**	*e*P	**Pn**	**21**	**37**	**49.5**	**+1.0**
CABF				*e*Sn	**Sn**	**21**	**38**	**55.1**	**-7.7**
	comp=N,7.6nm,0.7s								
WET	**Wettzell**	**6.50**	**358**	*e*Pn	**Pn**	**21**	**37**	**47.8**	**-0.8**
WET				*e*Sn	**Sn**	**21**	**38**	**59.4**	**-3.6**
KIZ	**Kirchzarten**	**6.53**	**326**	P	**Pn**	**21**	**37**	**48.4**	**-0.5**
CHMF	**Charmoille**	**6.59**	**317**	P	**Pn**	**21**	**37**	**50.1**	**+0.3**
ZAGS	**Zajecar**	**6.62**	**77**	*e*Pn	**Pn**	**21**	**37**	**50.5**	**+0.3**
VIVF	**Saint-Julien-l**	**6.63**	**292**	*e*P	**Pn**	**21**	**37**	**51.5**	**+1.2**
VIVF				*e*Sn	**Sn**	**21**	**38**	**58.1**	**-7.9**
	comp=N,1.7nm,0.5s								
BFO	**Black Forest**	**6.67**	**330**	*e*Pn	**Pn**	**21**	**37**	**52.3**	**+1.4**
BFO				*e*Sn	**Sn**	**21**	**39**	**05.8**	**-1.3**
BZS	**Buzias**	**6.68**	**61**	⇑P	**Pn**	**21**	**37**	**53.9**	**+3.0**
VOGT	**Vogtsburg - To**	**6.73**	**326**	P	**Pn**	**21**	**37**	**51.7**	**+0.1**
KRUC	**Moravsky**	**6.77**	**18**	*e*PN	**Pn**	**21**	**37**	**51.4**	**-0.7**
KRUC				*e*SN	**Sn**	**21**	**39**	**04.1**	**-5.3**
BOSS	**Bosilegrad**	**6.78**	**88**	*e*Pn	**Pn**	**21**	**37**	**52.3**	**0.0**
MOF	**Molkenrain**	**6.78**	**322**	P	**Pn**	**21**	**37**	**52.2**	**-0.3**
ZAPS	**Zavoj**	**6.87**	**82**	*e*Pn	**Pn**	**21**	**37**	**53.8**	**+0.1**
ZAPS				*e*Sn	**Sn**	**21**	**39**	**08.6**	**-3.5**
HINF	**Hinteralfeld**	**6.89**	**321**	*e*P	**Pn**	**21**	**37**	**54.6**	**+0.8**
HINF				*e*Sn	**Sn**	**21**	**39**	**04.2**	**-8.2**
	comp=N,12nm,0.5s								
RONF	**Ronchamp**	**6.91**	**319**	P	**Pn**	**21**	**37**	**54.1**	**0.0**
BLKB	**Belogradchik**	**6.92**	**79**	⇑P	**Pn**	**21**	**37**	**56.0**	**+1.7**
HERR	**Herculane**	**6.96**	**68**	⇑P	**Pn**	**21**	**37**	**57.8**	**+2.9**
VYHS	**Vyhne**	**7.02**	**32**	*e*Pn	**Pn**	**21**	**37**	**58.4**	**+2.8**
LASF	**Ste Croix**	**7.03**	**285**	*e*P	**Pn**	**21**	**37**	**56.9**	**+1.1**
LASF				*e*Sn	**Sn**	**21**	**39**	**07.8**	**-8.1**
	comp=N,0.9nm,0.5s								
VRAC	**Vranov**	**7.04**	**18**	Pn	**Pn**	**21**	**37**	**56.3**	**+0.4**
	comp=N,0.3nm,0.3s,baz=206,slow=15,SNR=2.4								
VRAC				LR	LR	21	40	51.4	
	comp=N,41nm,18.8s,baz=89,slow=40								
	comp=N,1.4nm,0.6s								
VRAC	**Vranov**	**7.04**	**18**	*e*PN	**Pn**	**21**	**37**	**55.1**	**-0.8**
ECH	**Echery**	**7.05**	**324**	P	**Pn**	**21**	**37**	**55.6**	**-0.4**
WLS	**Welschbruch**	**7.12**	**326**	P	**Pn**	**21**	**37**	**56.8**	**-0.2**
CDF	**Champ du Feu**	**7.15**	**326**	*e*P	**Pn**	**21**	**37**	**56.9**	**-0.6**
CDF				*e*Sn	**Sn**	**21**	**39**	**10.4**	**-8.5**
	comp=N,4.2nm,0.3s								
HAU	**Haudompre**	**7.26**	**320**	*e*P	**Pn**	**21**	**37**	**59.0**	**+0.1**
HAU				*e*Sn	**Sn**	**21**	**39**	**13.2**	**-8.3**
	comp=N,12nm,0.3s								
KKB	**Krupnik**	**7.30**	**93**	P	**Pn**	**21**	**38**	**00.6**	**+1.1**
VTS	**Vitosha**	**7.32**	**87**	⇑P	**Pn**	**21**	**38**	**00.0**	**+0.1**
VTS	**Vitosha**	**7.32**	**87**	P	**Pn**	**21**	**38**	**00.3**	**+0.4**
GZR	**Gura Zlata**	**7.36**	**65**	⇑P	**Pn**	**21**	**38**	**02.1**	**+1.8**
PRU	**Pruhonice**	**7.39**	**6**	*e*PN	**Pn**	**21**	**37**	**59.7**	**-1.0**
PRU				*e*SN	**Sn**	**21**	**39**	**19.5**	**-5.2**
KEST	**Kesra**	**7.56**	**205**	Pn	**Pn**	**21**	**38**	**07.0**	**+3.9**
	comp=N,0.8nm,0.3s,baz=346,slow=8.3,SNR=12								
	comp=N,4.6nm,0.6s								
NKC	**Novy Kostel**	**7.61**	**356**	*e*SN	**Sn**	**21**	**39**	**26.2**	**-3.9**
MMB	**Musomiste**	**7.82**	**94**	P	**Pn**	**21**	**38**	**07.9**	**+1.2**
SMF	**Signal de Mont**	**7.84**	**304**	*e*P	**Pn**	**21**	**38**	**07.9**	**+1.0**
SMF				*e*Sn	**Sn**	**21**	**39**	**27.1**	**-8.7**
	comp=N,1.6nm,0.3s								
DRGR		**7.88**	**55**	⇑P	**Pn**	**21**	**38**	**11.8**	**+4.3**
PAGF	**Fort de Pagny**	**7.94**	**321

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**241**		**Pb**	**22 28 55.1**	**-0.7**
MXZ	**Matakaoa Point**	**0.90**	**241**	P	**Pb**	**22 28 55.1**	**-0.7**
MXZ				S	**Sb**	**22 29 05.4**	**-1.9**
WMGZ	**Waiomatatini S**	**0.99**	**225**	P	**Pn**	**22 28 58.9**	**+1.4**
WMGZ				S	**Sn**	**22 29 12.6**	**+1.7**
PKGZ	**Pakihiroa**	**1.23**	**231**	P	**Pb**	**22 29 01.8**	**+0.3**
PKGZ				S	**Sb**	**22 29 17.6**	**+0.7**
PUZ	**Puketiti**	**1.26**	**221**	P	**Pb**	**22 29 02.5**	**+0.6**
PUZ				S	**Sb**	**22 29 18.9**	**+1.4**
HAZ	**Te Kaha**	**1.36**	**242**	P	**Pn**	**22 29 01.9**	**-0.7**
HAZ				S	**Sb**	**22 29 20.8**	**+0.2**
TWGZ	**Tauwhareparae**	**1.48**	**224**	P	**Pb**	**22 29 05.7**	**-0.1**
TWGZ				S	**Sb**	**22 29 25.8**	**+1.7**
RUGZ	**Raukumara Rang**	**1.54**	**236**	P	**Pb**	**22 29 06.3**	**-0.4**
CNGZ	**Carnagh Statio**	**1.61**	**212**	P	**Pb**	**22 29 08.0**	**+0.2**
WIZ	**White Island**	**1.73**	**256**	P	**Pn**	**22 29 06.7**	**-1.0**
WIZ				S	**Sn**	**22 29 27.3**	**-1.7**
WSRZ	**White Island S**	**1.73**	**256**	P	**Pb**	**22 29 09.1**	**-0.9**
TKGZ	**Te Karaka**	**1.75**	**221**	P	**Pn**	**22 29 08.8**	**+0.9**
MWZ	**Matawai**	**1.85**	**229**	P	**Pn**	**22 29 10.2**	**+0.8**
WHRZ	**Whale Island**	**1.99**	**248**	P	**Pn**	**22 29 12.4**	**+1.1**
RIGZ	**Rimuhau**	**1.99**	**217**	P	**Pn**	**22 29 12.2**	**+0.8**
RAGZ	**Rawiri**	**2.02**	**227**	P	**Pn**	**22 29 12.8**	**+1.0**
RAGZ				S	**Sn**	**22 29 36.8**	**+0.3**
URZ	**Urewera**	**2.07**	**236**	Pn	**Pn**	**22 29 12.6**	**+0.2**
	118nm,0.3s,baz=31,slow=0.6,SNR=497						
URZ				Sn	**Sn**	**22 29 37.2**	**-0.4**
	180nm,0.3s,baz=31,slow=2.8,SNR=9.5 400nm,0.4s						
URZ	**Urewera**	**2.07**	**236**	Pn	**Pn**	**22 29 13.5**	**+1.1**
URZ	**Urewera**	**2.07**	**236**	P	**Pn**	**22 29 13.4**	**+1.1**
URZ				S	**Sn**	**22 29 37.4**	**-0.2**
URZ	**Urewera**	**2.07**	**236**	P	**Pn**	**22 29 13.7**	**+1.3**
PRGZ	**Paritu Road**	**2.12**	**211**	P	**Pn**	**22 29 14.0**	**+0.9**
MARZ	**Manawahe**	**2.25**	**247**	P	**Pn**	**22 29 16.6**	**+1.7**
EDRZ	**Edgecumbe**	**2.26**	**243**	P	**Pn**	**22 29 16.3**	**+1.3**
SNGZ	**Shannon Statio**	**2.27**	**222**	P	**Pn**	**22 29 15.7**	**+0.6**
KNZ	**Kokohu**	**2.29**	**214**	P	**Pn**	**22 29 15.6**	**+0.3**
OPRZ	**Ohinepanea**	**2.30**	**251**	P	**Pn**	**22 29 15.7**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.30**	**208**	P	**Pn**	**22 29 16.7**	**+1.1**
RTZ	**Ruatahuna**	**2.36**	**230**	P	**Pn**	**22 29 17.7**	**+1.2**
MUGZ	**Murupara**	**2.42**	**235**	P	**Pn**	**22 29 17.8**	**+0.6**
MYRZ	**Mayor Island**	**2.44**	**265**	P	**Pn**	**22 29 17.9**	**+0.4**
MKRZ	**Makatiti**	**2.46**	**245**	P	**Pn**	**22 29 20.1**	**+2.2**
TARZ	**Mount Tarawera**	**2.48**	**242**	P	**Pn**	**22 29 19.5**	**+1.4**
TGRZ	**Tauranga**	**2.49**	**255**	P	**Pn**	**22 29 18.9**	**+0.7**
RAHZ	**Arahi**	**2.50**	**224**	P	**Pn**	**22 29 19.1**	**+0.7**
RRRZ	**Republican Roa**	**2.52**	**240**	P	**Pn**	**22 29 19.5**	**+1.0**
OMRZ	**Omania**	**2.52**	**246**	P	**Pn**	**22 29 19.9**	**+1.3**
WHHZ	**Waihua**	**2.54**	**219**	P	**Pn**	**22 29 19.6**	**+0.7**
KARZ	**Kaharoa**	**2.58**	**249**	P	**Pn**	**22 29 20.3**	**+0.8**
HLRZ	**Highlands Stat**	**2.59**	**243**	P	**Pn**	**22 29 21.1**	**+1.5**
MTHZ	**Maungataniwha**	**2.60**	**228**	P	**Pn**	**22 29 20.6**	**+0.9**
UTU	**Utuhina**	**2.68**	**246**	P	**Pb**	**22 29 25.3**	**-0.7**
PRRZ	**Plateau Road**	**2.68**	**238**	P	**Pn**	**22 29 21.7**	**+0.9**
HSRZ	**Hossack Road**	**2.69**	**243**	P	**Pn**	**22 29 22.6**	**+1.6**
HRRZ	**Handcock Road**	**2.70**	**241**	P	**Pn**	**22 29 22.2**	**+1.1**
ALRZ	**Allen Road**	**2.74**	**238**	P	**Pn**	**22 29 22.6**	**+0.9**
KMRZ	**Kaimai**	**2.76**	**254**	P	**Pn**	**22 29 21.8**	**-0.2**
NMHZ	**Naumai**	**2.78**	**224**	P	**Pn**	**22 29 23.2**	**+0.9**
ARHZ	**Aropaoanui**	**2.80**	**220**	P	**Pn**	**22 29 23.0**	**+0.6**
GRRZ	**Galatea Road**	**2.81**	**243**	P	**Pn**	**22 29 24.0**	**+1.5**
MRHZ	**Matea Rd**	**2.84**	**232**	P	**Pn**	**22 29 23.7**	**+0.6**
WPRZ	**Whakapapatarin**	**2.85**	**240**	P	**Pn**	**22 29 24.3**	**+1.3**
KUZ	**Kuaotunu**	**2.89**	**276**	P	**Pn**	**22 29 22.5**	**-1.1**
BKZ	**Black Stump Fm**	**3.01**	**226**	Pn	**Pn**	**22 29 25.8**	**+0.4**
BKZ	**Black Stump Fm**	**3.01**	**226**	P	**Pn**	**22 29 25.7**	**+0.3**
BKZ	**Black Stump Fm**	**3.01**	**226**	P	**Pn**	**22 29 25.8**	**+0.4**
KUTZ	**Kaahu Road**	**3.07**	**243**	P	**Pn**	**22 29 27.4**	**+1.2**
CKHZ	**Cape Kidnapper**	**3.07**	**214**	P	**Pn**	**22 29 26.0**	**-0.2**
TOZ	**Tahuroa Road**	**3.08**	**257**	P	**Pn**	**22 29 25.9**	**-0.3**
GRZ	**Great Barrier**	**3.21**	**285**	P	**Pn**	**22 29 28.1**	**+0.1**
TLZ	**Tolley Road**	**3.21**	**247**	P	**Pn**	**22 29 29.3**	**+1.1**
KWHZ	**Kaweka Forest**	**3.22**	**224**	P	**Pn**	**22 29 28.1**	**-0.2**
KAHZ	**Kahuranaki**	**3.27**	**215**	P	**Pn**	**22 29 28.5**	**-0.5**
RATZ	**Rangitukua**	**3.28**	**237**	P	**Pn**	**22 29 30.4**	**+1.3**
RITZ	**Rihia Road**	**3.29**	**235**	P	**Pn**	**22 29 30.0**	**+0.8**
MKZ	**Moumakai**	**3.31**	**269**	P	**Pn**	**22 29 28.7**	**-0.8**
WIAZ	**Waiheke Island**	**3.35**	**274**	P	**Pn**	**22 29 29.7**	**-0.3**
KRHZ	**Kereru**	**3.41**	**222**	P	**Pn**	**22 29 30.3**	**-0.5**
TMVZ	**Te Maari**	**3.46**	**234**	P	**Pn**	**22 29 31.9**	**+0.3**
ETVZ	**East Tongariro**	**3.47**	**233**	P	**Pn**	**22 29 31.9**	**+0.2**
NTVZ	**North Tongariro**	**3.47**	**234**	P	**Pn**	**22 29 32.1**	**+0.3**
BHHZ	**Black Hill Sta**	**3.47**	**226**	P	**Pn**	**22 29 31.6**	**-0.1**
PXZ	**Pawanui**	**3.47**	**213**	P	**Pn**	**22 29 30.5**	**-1.2**
ETAZ	**East Tamaki Re**	**3.50**	**271**	P	**Pn**	**22 29 32.4**	**+0.4**
OTVZ	**Oturere**	**3.51**	**233**	P	**Pn**	**22 29 32.7**	**+0.4**
NNVZ	**North Ngauruho**	**3.53**	**234**	P	**Pn**	**22 29 33.4**	**+0.8**
WTVZ	**West Tongariro**	**3.54**	**235**	P	**Pn**	**22 29 33.5**	**+0.9**
MBAZ	**Motutapu North**	**3.54**	**274**	P	**Pn**	**22 29 33.0**	**+0.4**
SNVZ	**South Ngauruho**	**3.54**	**233**	P	**Pn**	**22 29 33.0**	**+0.2**
NGZ	**Ngauruhoe**	**3.56**	**234**	P	**Pn**	**22 29 33.4**	**+0.3**
TUVZ	**Tukino**	**3.58**	**232**	P	**Pn**	**22 29 33.5**	**+0.2**
MOVZ	**Moawhango**	**3.60**	**230**	P	**Pn**	**22 29 33.2**	**-0.4**
TWVZ	**Taurewa**	**3.61**	**236**	P	**Pn**	**22 29 34.6**	**+0.9**
ABAZ	**Army Bay**	**3.62**	**277**	P	**Pn**	**22 29 34.1**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.63**	**232**	P	**Pn**	**22 29 34.3**	**+0.3**
FWVZ	**Far West T-bar**	**3.64**	**233**	P	**Pn**	**22 29 35.1**	**+1.0**
WNVZ	**Wahianoa**	**3.65**	**232**	P	**Pn**	**22 29 34.3**	**0.0**
EPAZ	**Eden Park BICE**	**3.65**	**272**	P	**Pn**	**22 29 35.7**	**+1.6**
HBAZ	**Herne Bay Bore**	**3.67**	**273**	P	**Pn**	**22 29 36.0**	**+1.7**
WPHZ	**Waipukurau**	**3.69**	**216**	P	**Pn**	**22 29 33.9**	**-0.8**
PNHZ	**Pukenui**	**3.70**	**220**	P	**Pn**	**22 29 33.5**	**-1.3**
AWAZ	**Awhitu Peninsu**	**3.72**	**269**	P	**Pn**	**22 29 36.2**	**+1.1**
MTVZ	**Mangateitei**	**3.76**	**232**	P	**Pn**	**22 29 36.0**	**+0.2**
PRHZ	**Porangahau**	**3.77**	**213**	P	**Pn**	**22 29 34.2**	**-1.5**
HIZ	**Hauiti**	**3.78**	**247**	P	**Pn**	**22 29 37.4**	**+1.6**
HIZ	**Hauiti**	**3.78**	**247**	P	**Pn**	**22 29 37.7**	**+1.8**
WTAZ	**Waiatarua**	**3.78**	**271**	P	**Pn**	**22 29 36.5**	**+0.6**
PKVZ	**Pokaka**	**3.79**	**234**	P	**Pn**	**22 29 36.9**	**+0.9**
RVAZ	**Riverhead Bore**	**3.79**	**274**	P	**Pn**	**22 29 37.3**	**+1.2**
TSZ	**Takapari Road**	**3.93**	**221**	P	**Pn**	**22 29 36.5**	**-1.5**
DVHZ	**Dannevirke**	**4.01**	**217**	P	**Pn**	**22 29 37.5**	**-1.5**
WCZ	**Waipu Caves**	**4.16**	**285**	P	**Pn**	**22 29 41.3**	**+0.2**
POWZ	**Post Office Ro**	**4.27**	**219**	P	**Pn**	**22 29 41.1**	**-1.6**
BFZ	**Birch Farm**	**4.28**	**213**	P	**Pn**	**22 29 40.6**	**-2.1**
WAZ	**Wanganui**	**4.29**	**231**	P	**Pn**	**22 29 43.1**	**+0.2**
PRWZ	**Pori Road**	**4.30**	**216**	P	**Pn**	**22 29 42.0**	**-1.1**
MHEZ	**Mangahewa**	**4.38**	**242**	P	**Pn**	**22 29 48.0**	**+3.8**
LREZ	**Lake Rotokare**	**4.50**	**237**	P	**Pn**	**22 29 47.6**	**+1.8**
TIWZ	**Tintock**	**4.51**	**215**	P	**Pn**	**22 29 44.3**	**-1.7**
NEZ	**North Egmont**	**4.62**	**241**	P	**Pn**	**22 29 50.2**	**+2.6**
PKE	**Pukeiti**	**4.67**	**242**	P	**Pn**	**22 29 51.6**	**+3.5**
KHEZ	**Kahui Hut**	**4.69**	**241**	P	**Pn**	**22 29 51.1**	**+2.6**
OUZ	**Omahuta**	**4.99**	**291**	P	**Pn**	**22 29 53.2**	**+0.7**
OUZ	**Omahuta**	**4.99**	**291**	P	**Pn**	**22 29 53.6**	**+1.1**
SNZO	**South Karori**	**5.50**	**219**	P	**Pn**	**22 29 58.7**	**-0.7**
	109nm,1.6s						
BSWZ	**Blackbirch Sta**	**6.22**	**221**	Pn	**Pn**	**22 30 06.6**	**-2.8**
QRZ	**Quartz Range**	**6.44**	**233**	P	**Pn**	**22 30 11.4**	**-1.0**
KHZ	**Kahutara**	**6.90**	**218**	P	**Pn**	**22 30 15.9**	**-2.8**
CTZ	**Chatham Island**	**7.30**	**156**	P	**Pn**	**22 30 27.2**	**+2.9**
LTZ	**Lake Taylor**	**7.81**	**221**	Pn	**Pn**	**22 30 28.8**	**-2.5**
OXZ	**Oxford**	**8.32**	**220**	Pn	**Pn**	**22 30 34.8**	**-3.4**
RPZ	**Rata Peaks**	**9.10**	**221**	Pn	**Pn**	**22 30 45.0**	**-3.9**
	2.9nm,0.3s,baz=48,slow=2.6,SNR=11						
RPZ				Sn	Sn	22 32 19.4	-11
	14nm,0.3s,baz=128,slow=23,SNR=19						
RPZ	**Rata Peaks**	**9.10**	**221**	P	**Pn**	**22 30 45.8**	**-3.1**
LBZ	**Lake Benmore**	**10.02**	**221**	Pn	**Pn**	**22 30 57.6**	**-3.9**
ODZ	**Otahua Downs**	**10.25**	**217**	P	**Pn**	**22 31 01.4**	**-3.3**
DZM	**Mont Dzumac**	**18.68**	**320**	LR	LR	22 38 37.0	
	comp=Z,160nm,20.6s,baz=214,slow=33						
MSVF	**Nonsavu**	**19.35**	**356**	LR	LR	22 39 05.8	
	comp=Z,139nm,18.2s,baz=171,slow=33						
STKA	**Stephens Creek**	**31.37**	**268**	P	**P**	**22 34 58.6**	**+0.5**
	0.8nm,0.5s,baz=105,slow=11,SNR=3.7 0.8nm,0.5s						
CTA	**Charters Tower**	**33.39**	**291**	LR	LR	22 48 22.9	
	comp=Z,45nm,18.1s,baz=96,slow=36						
BBOO	**Buckleboo**	**35.47**	**264**		**P**	**22 35 32.7**	**-1.1**
BBOO				IAmb	IAmb	22 36 00.4	
	comp=Z,9.4nm,1.2s						
COEN	**Coen**	**39.57**	**296**	P	**P**	**22 36 08.8**	**+0.1**
COEN				IAmb	IAmb	22 36 37.1	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**41.02**	**276**	P	**P**	**22 36 20.2**	**-0.6**
ASAR	**Alice Springs**	**41.02**	**276**	P	**P**	**22 36 19.9**	**-0.9**
	comp=Z,4.0nm,0.6s,baz=119,slow=8.0,SNR=55						
	comp=Z,4.0nm,0.6s						
ASAR	**Alice Springs**	**41.02**	**276**	P	**P**	**22 36 19.7**	**-1.1**
WR0	**Warramunga Arr**	**42.45**	**281**	P	**P**	**22 36 31.6**	**-0.8**
FORT	**Forrest**	**42.55**	**263**	P	**P**	**22 36 32.1**	**-1.1**
FORT				IAmb	IAmb	22 36 44.6	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	**42.61**	**281**	P	**P**	**22 36 32.4**	**-1.3**
WB2				IAmb	IAmb	22 36 33.5	
	comp=Z,6.8nm,0.7s						
WRA	**Warramunga Arr**	**42.62**	**281**	P	**P**	**22 36 33.0**	**-0.9**
	comp=Z,5.4nm,0.6s,baz=121,slow=7.6,SNR=61						
	comp=Z,5.4nm,0.6s						
WRA	**Warramunga Arr**	**42.62**	**281**	P	**P**	**22 36 32.3**	**-1.5**
WB0	**Warramunga Arr**	**42.67**	**281**	P	**P**	**22 36 33.4**	**-0.8**
WB0				IAmb	IAmb	22 36 34.0	
	comp=Z,7.0nm,0.6s						
KNRA	**Kununurra**	**49.40**	**282**	P	**P**	**22 37 27.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.50**	**277**	P	**P**	**22 37 35.3**	**-0.3**
FITZ				IAmb	IAmb	22 37 35.9	
	comp=Z,4.4nm,0.7s						
MORW	**Morawa**	**52.75**	**259**	P	**P**	**22 37 51.1**	**-1.2**
QSPA	**South Pole Qui**	**53.00**	**180**	P	**P**	**22 37 57.1**	**+3.2**
	comp=Z,2.1nm,0.7s,baz=20,slow=1.8,SNR=15						
	comp=Z,2.1nm,0.7s						
QSPA	**South Pole Qui**	**53.00**	**180**	P	**P**	**22 37 57.8**	**+3.9**
QSPA				IAmb	IAmb	22 38 10.3	
	comp=Z,4.5nm,0.8s						
MBWA	**Marble Bar**	**53.59**	**270**		**P**	**22 37 57.3**	**-1.3**
H03S2	**Juan Fernandez**	**78.62**	**124**	T	T	00 07 18.4	
	SNR=5.3						
H03S1	**Juan Fernandez**	**78.63**	**124**	T	T	00 07 13.8	
	SNR=4.9						
H03S3	**Juan Fernandez**	**78.64**	**124**	T	T	00 07 07.3	
	SNR=5.4						
H03N3	**Juan Fernandez**	**78.85**	**123**	T	T	00 07 21.8	
	baz=234,slow=72,SNR=47						
H03N2	**Juan Fernandez**	**78.86**	**123**	T	T	00 07 16.5	
	baz=234,slow=72,SNR=37						
H03N1	**Juan Fernandez**	**78.87**	**123**	T	T	00 07 21.5	
	baz=234,slow=72,SNR=38						
JHJ	**Hachijo jima 2**	**79.01**	**327**	LR	LR	23 13 41.7	
	comp=Z,3μm,18.5s,baz=50,slow=34						
CMAR	**Chiang Mai Arr**	**93.55**	**290**	P	**P**	**22 41 52.7**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=133,slow=4.0,SNR=4.0						
	comp=Z,1.2nm,0.3s						
PZH	**PanZhiHua**	**96.45**	**298**	P	**P**	**22 42 09.4**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
XLT	**XiLinHaoTe**	**98.91**	**319**	i P	**P**	**22 42 15.2**	**-2.2**
XLT				pmax	pmax		
	comp=Z,16nm,0.8s						
XLT				pmax	pmax		
	comp=Z,46nm,3.6s						
HHC	**Hu-ho-hao-te**	**99.31**	**315**	eP	**Pdif**	**22 42 21.2**	**+1.9**
HHC				pmax	pmax		
	comp=Z,26nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,7.6s						
ARCES	**ARCESS Array B**	**144.56**	**344**	PKP	PKPbc	22 48 11.6	+0.2
	comp=Z,0.9nm,0.6s,baz=56,slow=3.1,SNR=7.3						
FINES	**FINESS Array B**	**150.44**	**334**	PKPbc	**PKPbc**	**22 48 27.6**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=47,slow=7.3,SNR=13						
BRTR	**Keskin Array B**	**153.06**	**286**	PKPbc	**PKPbc**	**22 48 34.6**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=89,slow=4.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**156.03**	**186**	PKPab	**PKPab**	**22 49 00.7**	**+1.5**
	comp=Z,1.1nm,1.0s,baz=239,slow=2.3,SNR=3.4						

*NEIC **05** 22:42:53.7±1.3,5.0S±0.1×151.5E±0.1,h156km±8km, mb4.2/29,Error ellipse: s-maj=23.6km s-min=12.6km az=123.0*

*IDC **05** 22:42:53.4±0.4,5.02S×151.38E,h158km±4km,mb3.6/11, mbtmp4.1/12,Error ellipse: s-maj=20.9km s-min=9.4km az=126.0*

ISC 05 22:42:53.1±0.5,**5.02S**±0.10×**151.4E**±0.1,**h150**km,**n54,** σ1§**24**/61,**mb4.0**/25,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.94**	**42**	P	**Pn**	**22 43 18.9**	**+1.4**
	335nm,0.4s,baz=80,slow=1.9,SNR=31						
KRVT				S	**Sn**	**22 43 38.2**	**+2.2**
	652nm,0.5s,baz=252,slow=23,SNR=26						
RABL	**Rabaul**	**1.12**	**43**	Pn	**Pn**	**22 43 19.9**	**+0.9**
PMG	**Port Moresby**	**6.06**	**224**	P	**Pn**	**22 44 22.3**	**+1.7**
	51nm,0.5s,baz=19,slow=11,SNR=8.8						
PMG				S	**Sn**	**22 45 31.8**	**+2.8**
	101nm,0.6s,baz=136,slow=22,SNR=12						
PMG	**Port Moresby**	**6.06**	**224**	Pn	**Pn**	**22 44 23.0**	**+2.4**
COEN	**Coen**	**12.02**	**222**	Pn	**Pn**	**22 45 41.9**	**+2.1**
MTN	**Manton Dam**	**21.46**	**247**	P	**P**	**22 47 29.6**	**-0.3**
MTN				IAmb	IAmb	22 48 09.0	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**22.11**	**227**	P	**P**	**22 47 36.6**	**-0.1**
WR0	**Warramunga Arr**	**22.13**	**226**	P	**P**	**22 47 36.8**	**0.0**
WR0				IAmb	IAmb	22 48 18.0	
	comp=Z,7.5nm,1.2s						
WB2	**Warramunga Arr**	**22.26**	**227**	P	**P**	**22 47 37.8**	**-0.2**
WB2				IAmb	IAmb	22 47 38.5	
	comp=Z,6.5nm,0.3s						
WRA	**Warramunga Arr**	**22.27**	**227**	P	**P**	**22 47 37.7**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=51,slow=9.7,SNR=40						
WRA				S	**S**	**22 51 29.7**	**-2.7**
	comp=Z,2.2nm,1.0s,baz=49,slow=16,SNR=6.1						
WRA				ScP	**ScP**	**22 54 51.0**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=56,slow=3.1,SNR=3.9 comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**22.27**	**227**	P	**P**	**22 47 37.0**	**-1.1**
DZM	**Mont Dzumac**	**22.36**	**141**	P	**P**	**22 47 39.5**	**+0.5**
	comp=Z,8.5nm,0.9s,baz=288,slow=9.4,SNR=6.4 comp=Z,8.5nm,0.9s						
DZM	**Mont Dzumac**	**22.36**	**141**	P	**P**	**22 47 39.9**	**+0.9**
KNRA	**Kununurra**	**24.62**	**243**	P	**P**	**22 48 01.4**	**+1.6**
AS31	**Alice Springs**	**25.06**	**221**	P	**P**	**22 48 03.6**	**-0.1**
ASAR	**Alice Springs**	**25.06**	**221**	P	**P**	**22 48 03.9**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=53,slow=9.0,SNR=22						
ASAR				PcP	**PcP**	**22 51 34.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=55,slow=4.9,SNR=2.1						
ASAR				S	**S**	**22 52 13.7**	**-3.5**
	comp=Z,0.3nm,0.5s,baz=36,slow=21,SNR=1.8						
ASAR				ScP	**ScP**	**22 54 59.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=40,slow=6.1,SNR=2.4 comp=Z,2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	**P**	**22 48 32.4**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=66,slow=6.0,SNR=10 comp=Z,1.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	**P**	**22 48 32.5**	**-0.5**
BBOO	**Buckleboo**	**31.14**	**206**	P	**P**	**22 48 56.5**	**-1.2**
BBOO				IAmb	IAmb	22 49 01.0	
	comp=Z,9.4nm,1.3s						
MBWA	**Marble Bar**	**34.65**	**240**	P	**P**	**22 49 27.7**	**-0.7**
PSA00	**Pilbara Seismi**	**34.72**	**239**	P	**P**	**22 49 28.5**	**-0.5**
SONM	**Songino Array**	**65.77**	**329**	P	**P**	**22 53 22.9**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=150,slow=5.1,SNR=8.4 comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**65.77**	**329**	P	**P**	**22 53 23.2**	**+1.1**
SONM				IAmb	IAmb	22 53 24.2	
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**72.67**	**178**	P	**P**	**22 54 03.3**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=325,slow=5.9,SNR=2.5 comp=Z,0.6nm,0.8s						
VNDA	**Vanda**	**72.67**	**178**	P	**P**	**22 54 03.8**	**-0.1**
M19K	**Big River Lodg**	**78.50**	**23**	P	**P**	**22 54 37.5**	**+0.1**
M19K				IAmb	IAmb	22 55 20.7	
	comp=Z,5.2nm,1.1s						
CNPM	**China Poot**	**78.52**	**26**	P	**P**	**22 54 37.4**	**-0.1**
MK31	**Makanchi Array**	**79.57**	**319**	P	**P**	**22 54 43.6**	**+0.1**
MKAR	**Makanchi Array**	**79.57**	**319**	P	**P**	**22 54 43.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=104,slow=7.5,SNR=5.7 comp=Z,0.3nm,0.5s						
MAKZ	**Makanchi**	**79.78**	**319**	P	**P**	**22 54 44.5**	**-0.1**
J20K	**Nowinta River**	**79.89**	**21**	P	**P**	**22 54 45.4**	**+0.5**
J20K				IAmb	IAmb	22 54 51.8	
	comp=Z,6.0nm,1.4s						
PPLA	**Purkeypile**	**79.91**	**23**	P	**P**	**22 54 42.5**	**-2.6**
PWL	**Port Wells**	**80.44**	**26**	P	**P**	**22 54 47.4**	**-0.5**
ZALV	**Zalesovo Beam**	**80.56**	**327**	P	**P**	**22 54 47.3**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=125,slow=4.3,SNR=4.7 comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**80.56**	**327**	P	**P**	**22 54 47.2**	**-1.4**
IMAR	**Indian Mountai**	**81.06**	**20**	P	**P**	**22 54 50.6**	**-0.4**
RND	**Reindeer**	**81.47**	**23**	P	**P**	**22 54 52.6**	**-0.8**
RND				IAmb	IAmb	22 55 23.2	
	comp=Z,6.5nm,1.3s						
MLY	**Manley**	**81.59**	**21**	P	**P**	**22 54 53.2**	**-0.7**
MLY				IAmb	IAmb	22 54 54.4	
	comp=Z,1.9nm,0.6s						
CCB	**Clear Creek Bu**	**82.48**	**22**	P	**P**	**22 54 57.1**	**-1.4**
BOOM	**Boomskoye usch**	**82.72**	**314**	P	**P**	**22 55 00.5**	**0.0**
BOOM				IAmb	IAmb	22 55 42.0	
	comp=Z,5.0nm,1.0s						
IL31		**82.89**	**22**	P	**P**	**22 54 58.9**	**-1.7**
IL31				IAmb	IAmb	22 54 59.1	
	comp=Z,1.9nm,0.8s						
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**22 54 58.6**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=248,slow=4.9,SNR=18 comp=Z,0.8nm,0.6s						
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**22 54 58.4**	**-2.2**
H24K	**Noodor Dome**	**83.03**	**21**	P	**P**	**22 55 00.9**	**-0.5**
H24K				IAmb	IAmb	22 55 26.1	
	comp=Z,3.3nm,1.3s						
RIDG	**Independent Ri**	**83.21**	**24**	P	**P**	**22 55 02.0**	**-0.4**
RIDG				IAmb	IAmb	22 55 34.8	
	comp=Z,6.4nm,1.5s						
J25K	**Salcha River,**	**83.39**	**23**	P	**P**	**22 55 02.3**	**-1.0**
J25K				IAmb	IAmb	22 55 03.0	
	comp=Z,2.4nm,0.6s						
M27K	**Edge Creek, AK**	**83.87**	**26**	P	**P**	**22 55 06.0**	**+0.1**
M27K				IAmb	IAmb	22 55 29.2	
	comp=Z,7.6nm,1.4s						
BCAR	**Beaver Creek A**	**84.19**	**25**	P	**P**	**22 55 07.6**	**+0.2**
MAW	**Mawson**	**84.83**	**203**	P	**P**	**22 55 10.0**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=108,slow=7.4,SNR=4.0 comp=Z,1.9nm,0.8s						
BMAR	**Burnt Mountain**	**84.93**	**20**	P	**P**	**22 55 11.3**	**+0.3**
NVAR	**Mina Array Bea**	**93.32**	**52**	P	**P**	**22 55 51.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=271,slow=5.6,SNR=4.8 comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	**100.03**	**48**	P	**Pdif**	**22 56 21.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=242,slow=3.9,SNR=2.8						
GERES	**GERESS Array B**	**123.50**	**328**	PKP	**PKPdf**	**23 01 32.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=98,slow=4.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**149.03**	**287**	PKPbc	**PKPbc**	**23 02 23.6**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=92,slow=1.9,SNR=12

KBG	**Krutoberegovo**	**3.79**	**300**	PN	**Pn**	**22 55 01.3**	**-2.5**
KBG				S	**Sn**	**22 55 45.7**	**-2.0**
KBG	**Krutoberegovo**	**3.79**	**300**	*eP*	**Pn**	**22 55 01.3**	**-2.5**
KBG				*eS*	**Sn**	**22 55 45.7**	**-2.0**
MKZ	**Mys Kozlova**	**3.99**	**274**	PN	**Pn**	**22 55 04.7**	**-1.9**
MKZ	**Mys Kozlova**	**3.99**	**274**	*eP*	**Pn**	**22 55 04.7**	**-1.9**
SMKR	**Semkarok**	**4.55**	**300**	PN	**Pn**	**22 55 13.8**	**-0.6**
SMKR	**Semkarok**	**4.55**	**300**	*eP*	**Pn**	**22 55 13.8**	**-0.6**
BDR	**Baidarnaya**	**4.67**	**300**	PN	**Pn**	**22 55 16.1**	**0.0**
BDR	**Baidarnaya**	**4.67**	**300**	*eP*	**Pn**	**22 55 16.1**	**0.0**
SRKR	**Sorokina**	**4.73**	**300**	PN	**Pn**	**22 55 15.9**	**-0.9**
SRKR	**Sorokina**	**4.73**	**300**	*eP*	**Pn**	**22 55 15.9**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**4.74**	**291**	PN	**Pn**	**22 55 16.8**	**-0.2**
BZGR				S	**Sn**	**22 56 11.5**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**4.74**	**291**	*eP*	**Pn**	**22 55 16.8**	**-0.2**
BZGR				*eS*	**Sn**	**22 56 11.5**	**+0.1**
BZMR	**Bezymyannaya**	**4.85**	**291**	PN	**Pn**	**22 55 19.5**	**+0.9**
BZMR	**Bezymyannaya**	**4.85**	**291**	*eP*	**Pn**	**22 55 19.5**	**+0.9**
KLY	**Klyuchi**	**4.87**	**295**	PN	**Pn**	**22 55 15.4**	**-3.3**
KLY				S	**Sn**	**22 56 12.7**	**-1.7**
KLY	**Klyuchi**	**4.87**	**295**	*eP*	**Pn**	**22 55 15.4**	**-3.3**
KLY				*eS*	**Sn**	**22 56 12.7**	**-1.7**
KRSR	**Krestovskiy**	**4.89**	**294**	PN	**Pn**	**22 55 18.7**	**-0.3**
KRSR	**Krestovskiy**	**4.89**	**294**	*eP*	**Pn**	**22 55 18.7**	**-0.3**
KRSR				*eS*	**Sn**	**22 56 13.5**	**-1.5**
TUMR	**Tumrok**	**4.93**	**283**	PN	**Pn**	**22 55 18.7**	**-0.9**
TUMR				S	**Sn**	**22 56 14.7**	**-1.4**
TUMR	**Tumrok**	**4.93**	**283**	*eP*	**Pn**	**22 55 18.7**	**-0.9**
TUMR				*eS*	**Sn**	**22 56 14.7**	**-1.4**
KIRR	**Kirishev**	**4.94**	**291**	PN	**Pn**	**22 55 20.0**	**+0.2**
KIRR				S	**Sn**	**22 56 16.4**	**+0.1**
KIRR	**Kirishev**	**4.94**	**291**	*eP*	**Pn**	**22 55 20.0**	**+0.2**
KIRR				*eS*	**Sn**	**22 56 16.4**	**+0.1**
KMNR	**Kamenistaya**	**4.95**	**288**	PN	**Pn**	**22 55 19.6**	**-0.3**
KMNR				S	**Sn**	**22 56 15.6**	**-0.9**
KMNR	**Kamenistaya**	**4.95**	**288**	*eP*	**Pn**	**22 55 19.6**	**-0.3**
KMNR				*eS*	**Sn**	**22 56 15.6**	**-0.9**
KPT	**Kopyto**	**5.00**	**291**	PN	**Pn**	**22 55 20.5**	**-0.1**
KPT				S	**Sn**	**22 56 18.1**	**+0.2**
KPT	**Kopyto**	**5.00**	**291**	*eP*	**Pn**	**22 55 20.5**	**-0.1**
KPT				*eS*	**Sn**	**22 56 18.1**	**+0.2**
KOZ	**Kozyrevsk**	**5.22**	**291**	PN	**Pn**	**22 55 23.3**	**-0.2**
KOZ				S	**Sn**	**22 56 23.6**	**+0.6**
KOZ	**Kozyrevsk**	**5.22**	**291**	*eP*	**Pn**	**22 55 23.3**	**-0.2**
KOZ				*eS*	**Sn**	**22 56 23.6**	**+0.6**
SPN	**Mys Shipunski**	**5.25**	**258**	PN	**Pn**	**22 55 21.7**	**-2.3**
SPN	**Mys Shipunski**	**5.25**	**258**	*eP*	**Pn**	**22 55 21.7**	**-2.3**
SPN				*eS*	**Sn**	**22 56 20.4**	**-3.5**
KII	**Karymskiy**	**5.37**	**269**	PN	**Pn**	**22 55 24.0**	**-1.6**
KII	**Karymskiy**	**5.37**	**269**	*eP*	**Pn**	**22 55 24.0**	**-1.6**
SRDR	**Sredinnyy**	**5.37**	**294**	PN	**Pn**	**22 55 26.3**	**+0.7**
SRDR	**Sredinnyy**	**5.37**	**294**	*eP*	**Pn**	**22 55 26.3**	**+0.7**
NLC	**Nalytchevo**	**5.62**	**260**	*eS*	**Sn**	**22 56 29.5**	**-3.4**
ESO	**Esso**	**5.83**	**288**	PN	**Pn**	**22 55 32.0**	**0.0**
ESO	**Esso**	**5.83**	**288**	*eP*	**Pn**	**22 55 32.0**	**0.0**
ESO				*eS*	**Sn**	**22 56 35.7**	**-2.5**
SDLR	**Sedlovina**	**5.86**	**262**	PN	**Pn**	**22 55 30.7**	**-1.7**
SDLR	**Sedlovina**	**5.86**	**262**	*eP*	**Pn**	**22 55 30.7**	**-1.7**
UGLR	**Uglovaya**	**5.91**	**261**	PN	**Pn**	**22 55 31.8**	**-1.3**
UGLR	**Uglovaya**	**5.91**	**261**	*eP*	**Pn**	**22 55 31.8**	**-1.3**
UGLR				*eS*	**Sn**	**22 56 39.4**	**-0.8**
KRER	**Koryakskii**	**5.93**	**262**	PN	**Pn**	**22 55 32.1**	**-1.3**
KRER	**Koryakskii**	**5.93**	**262**	*eP*	**Pn**	**22 55 32.1**	**-1.3**
AVH	**Avacha**	**5.94**	**262**	PN	**Pn**	**22 55 32.4**	**-1.1**
AVH	**Avacha**	**5.94**	**262**	*eP*	**Pn**	**22 55 32.4**	**-1.1**
KRX	**Arik**	**5.97**	**263**	PN	**Pn**	**22 55 32.5**	**-1.5**
KRX	**Arik**	**5.97**	**263**	*eP*	**Pn**	**22 55 32.5**	**-1.5**
KRX				*eS*	**Sn**	**22 56 39.4**	**-2.3**
KOK	**Koryaka**	**6.00**	**263**	PN	**Pn**	**22 55 32.9**	**-1.4**
KOK	**Koryaka**	**6.00**	**263**	*eP*	**Pn**	**22 55 32.9**	**-1.4**
DALK	**Dalny**	**6.00**	**260**	PN	**Pn**	**22 55 33.3**	**-0.9**
DALK	**Dalny**	**6.00**	**260**	*eP*	**Pn**	**22 55 33.3**	**-0.9**
DALK				*eS*	**Sn**	**22 56 39.4**	**-2.9**
PET	**Petropavlovsk**	**6.06**	**260**		**Pn**	**22 55 33.6**	**-1.4**
PET	**Petropavlovsk**	**6.06**	**260** *c i*	PN	**Pn**	**22 55 33.1**	**-2.0**
PET				pmax	pmax		
	comp=Z,26µm,14.9s						
PET				pmax	pmax		
	comp=Z,45µm,19.0s						
PET				pmax	pmax		
	comp=Z,2µm,0.7s						
PET				MLR	MLR		
	comp=Z,186µm,16.0s						
PET				MLR	MLR		
	comp=Z,156µm,15.0s						
TILK	**Tilichiki**	**6.12**	**349**	PN	**Pn**	**22 55 35.2**	**-0.6**
TILK	**Tilichiki**	**6.12**	**349**	*eP*	**Pn**	**22 55 35.2**	**-0.6**
GNL	**Ganaly**	**6.30**	**267**	PN	**Pn**	**22 55 37.6**	**-0.9**
GNL	**Ganaly**	**6.30**	**267**	*eP*	**Pn**	**22 55 37.6**	**-0.9**
RUS	**Russkaya**	**6.35**	**255**	PN	**Pn**	**22 55 37.6**	**-1.4**
RUS	**Russkaya**	**6.35**	**255**	*eP*	**Pn**	**22 55 37.6**	**-1.4**
RUS				*eS*	**Sn**	**22 56 46.4**	**-4.4**
KRMR	**Karymshinskiy**	**6.42**	**259**	PN	**Pn**	**22 55 38.7**	**-1.3**
KRMR	**Karymshinskiy**	**6.42**	**259**	*eP*	**Pn**	**22 55 38.7**	**-1.3**
KRMR				*eS*	**Sn**	**22 56 49.8**	**-2.9**
MTVR	**Mutnovka**	**6.52**	**256**	PN	**Pn**	**22 55 40.0**	**-1.5**
MTVR	**Mutnovka**	**6.52**	**256**	*eP*	**Pn**	**22 55 40.0**	**-1.5**
MTVR				*eS*	**Sn**	**22 56 51.5**	**-3.7**
GRL	**Gorelyy**	**6.55**	**257**	PN	**Pn**	**22 55 41.2**	**-0.7**
GRL	**Gorelyy**	**6.55**	**257**	*eP*	**Pn**	**22 55 41.2**	**-0.7**
I44RU	**PETROPAVLOVSK-**	**6.58**	**262**	Pn	**Pn**	**22 55 40.0**	**-2.2**
	baz=86,slow=23						
I44RU				Sn	**Sn**	**22 56 56.4**	**-0.2**
	baz=83,slow=33						
I44RU				*i*		23 31 20.0	
	baz=74,slow=317,SNR=2.0						
PEA0B	**Petropavlovsk-**	**6.59**	**262**	Pn	**Pn**	**22 55 41.4**	**-0.9**
PEA0B	**Petropavlovsk-**	**6.59**	**262** *i*	PN	**Pn**	**22 55 41.1**	**-1.2**
PETK	**Petropavlovsk-**	**6.59**	**262**	Pn	**Pn**	**22 55 41.0**	**-1.3**
	comp=Z,18nm,0.3s,baz=92,slow=19,SNR=123						
PETK				Sn	**Sn**	**22 56 54.8**	**-2.0**
	comp=Z,28nm,0.3s,baz=68,slow=21,SNR=3.6						
PETK				LR	LR	22 58 32.1	
	comp=Z,139µm,19.5s,baz=79,slow=41						
	comp=Z,45nm,0.4s						
PETK	**Petropavlovsk-**	**6.59**	**262**	Pn	**Pn**	**22 55 41.0**	**-1.3**
PALN	**Palana**	**6.60**	**318**	PN	**Pn**	**22 55 41.8**	**-0.7**
PALN	**Palana**	**6.60**	**318**	*eP*	**Pn**	**22 55 41.8**	**-0.7**
ASAK	**Asacha**	**6.71**	**256**	PN	**Pn**	**22 55 42.9**	**-1.2**
ASAK	**Asacha**	**6.71**	**256**	*eP*	**Pn**	**22 55 42.9**	**-1.2**
ASAK				*eS*	**Sn**	**22 56 56.5**	**-3.5**
KDTR	**Khodutka, Kamc**	**6.86**	**251**	PN	**Pn**	**22 55 44.1**	**-1.9**
KDTR	**Khodutka, Kamc**	**6.86**	**251**	*eP*	**Pn**	**22 55 44.1**	**-1.9**
APC	**Apacha**	**6.95**	**262**	PN	**Pn**	**22 55 46.9**	**-0.4**
APC	**Apacha**	**6.95**	**262**	*eP*	**Pn**	**22 55 46.9**	**-0.4**
APC				*eS*	**Sn**	**22 57 05.2**	**-0.5**
AMKA	**Amchitka**	**7.19**	**111**	Pn	**Pn**	**22 55 48.7**	**-1.9**
PAU	**Pauzhetka**	**7.71**	**252**	PN	**Pn**	**22 55 57.2**	**-0.5**
PAU	**Pauzhetka**	**7.71**	**252**	*eP*	**Pn**	**22 55 57.2**	**-0.5**
KMSK	**Kamenskaya**	**8.10**	**352**	PN	**Pn**	**22 56 01.7**	**-1.3**
KMSK	**Kamenskaya**	**8.10**	**352**	*eP*	**Pn**	**22 56 01.7**	**-1.3**
SKR	**Severo-Kuril's**	**8.48**	**248**	*e*PN	**Pn**	**22 56 08.8**	**+0.5**
SKR				pmax	pmax		
	comp=Z,665nm,1.1s						
SKR	**Severo-Kuril's**	**8.48**	**248**	P	**Pn**	**22 56 06.8**	**-1.5**
SKR				*eS*	**Sn**	**22 57 37.4**	**-5.9**
KIWB	**Kanaga Island**	**8.97**	**101**	Pn	**Pn**	**22 56 12.7**	**-2.4**
ADK	**Adak**	**9.23**	**100**	Pn	**Pn**	**22 56 16.7**	**-1.8**
ADK	**Adak**	**9.23**	**100**	PN	**Pn**	**22 56 16.7**	**-1.8**
GSTR	**Great Sitkin T**	**9.51**	**98**	Pn	**Pn**	**22 56 21.2**	**-1.2**
MA2	**Magadan**	**10.94**	**305**	Pn	**Pn**	**22 56 43.4**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=106,slow=12,SNR=23						
MA2				LR	LR	23 00 40.6	
	comp=Z,103µm,21.0s,baz=108,slow=37						
	comp=Z,41nm,0.8s						
MA2	**Magadan**	**10.94**	**305**	Pn	**Pn**	**22 56 41.9**	**0.0**
MA2	**Magadan**	**10.94**	**305** *ce*	PN	**Pn**	**22 56 41.6**	**-0.3**
MA2				pmax	pmax		
	comp=Z,211nm,1.7s						
SEY	**Seymchan**	**11.90**	**322**	Pn	**Pn**	**22 56 55.6**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=127,slow=12,SNR=129						
SEY				LR	LR	23 01 17.0	
	comp=Z,160µm,19.1s,baz=122,slow=37						
SPIA	**Saint Paul Isl**	**12.20**	**69**	Pn	**Pn**	**22 57 00.5**	**+1.4**
SPIA	**Saint Paul Isl**	**12.20**	**69**	P	**Pn**	**22 56 57.8**	**-1.3**
	baz=266						
SPIA				S	**Sn**	**22 59 22.4**	**+8.1**
	baz=266						
NIKH	**Nikolski High**	**13.44**	**87**	Pn	**Pn**	**22 57 15.1**	**-1.0**
NIKH	**Nikolski High**	**13.44**	**87**	P	**Pn**	**22 57 17.3**	**+1.3**
	baz=285,SNR=8.0						
NIKH				S	**Sn**	**22 59 48.4**	**+3.8**
	baz=285						
BILL	**Bilibino**	**13.64**	**356**	Pn	**Pn**	**22 57 19.6**	**+0.8**
BILL	**Bilibino**	**13.64**	**356** *ce*	P	**Pn**	**22 57 18.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,50nm,0.9s						
BILL				MLR	MLR		
	comp=Z,112µm,16.0s						
GAMB	**Gambell**	**13.69**	**39**	P	**Pn**	**22 57 19.7**	**+0.3**
	baz=236						
GAMB				S	**Sn**	**22 59 49.9**	**-0.7**
	baz=236						
UNV	**Unalaska Valle**	**14.60**	**82**	Pn	**Pn**	**22 57 31.4**	**-0.3**
UNV	**Unalaska Valle**	**14.60**	**82**	P	**Pn**	**22 57 30.9**	**-0.9**
	baz=282,SNR=14						
UNV				S	Sn	23 00 21.8	+9.1
	baz=282						
AKUT	**Akutan**	**14.96**	**81**		**Pn**	**22 57 37.6**	**+1.0**
OKH	**Okha**	**15.07**	**277** *d i*	P	**Pn**	**22 57 40.6**	**+2.4**
OKH				*i* S	**Sn**	**23 00 26.9**	**+2.5**
OKH				pmax	pmax		
	comp=Z,16µm,7.7s						
OKH				smax	smax		
	comp=N,16µm,15.1s						
OKH				MLR	MLR		
	comp=Z,76µm,13.0s						
OKH				MLR	MLR		
	comp=E,149µm,12.0s						
TNA	**Tin City**	**16.03**	**37**	P	**Pn**	**22 57 51.9**	**+1.2**
TNA	**Tin City**	**16.03**	**37**	P	**Pn**	**22 57 50.9**	**+0.3**
	baz=237						
TNA				S	**Sn**	**23 00 47.9**	**+0.4**
	baz=237						
TYV	**Tymovskoe**	**16.09**	**268**	*eP*	**P**	**22 57 57.5**	**+2.8**
TYV				pmax	pmax		
	comp=Z,577nm,1.8s						
TYV				pmax	pmax		
	comp=Z,20µm,5.0s						
TYV				MLR	MLR		
	comp=N,58µm,14.0s						
TYV				MLR	MLR		
	comp=Z,76µm,14.0s						
FALS	**False Pass**	**16.17**	**77**	P	**Pn**	**22 57 52.4**	**-0.1**
FALS	**False Pass**	**16.17**	**77**	P	**Pn**	**22 57 51.7**	**-0.7**
	baz=280						
FALS				S	**Sn**	**23 00 49.0**	**-1.9**
	baz=280						
ANM	**Nome**	**16.49**	**42**	P	**Pn**	**22 57 57.0**	**+0.5**
ANM	**Nome**	**16.49**	**42**	P	**Pn**	**22 57 57.0**	**+0.5**
ANM				pmax	pmax		
	comp=Z,99nm,1.0s						
ANM	**Nome**	**16.49**	**42**	P	**Pn**	**22 57 56.7**	**+0.1**
	baz=244						
ANM				S	**Sn**	**23 01 00.4**	**+1.6**
	baz=244						
UGL	**Uglegorsk**	**17.21**	**263**	*eP*	**P**	**22 58 08.7**	**+1.6**
UGL				pmax	pmax		
	comp=Z,2µm,0.9s						
UGL				pmax	pmax		
	comp=Z,36µm,5.9s						
UGL				MLR	MLR		
	comp=E,57µm,15.0s						
UGL				MLR	MLR		
	comp=N,85µm,13.0s						
UGL				MLR	MLR		
	comp=Z,79µm,14.0s						
SDPT	**Sand Point**	**17.75**	**75**	P	**Pn**	**22 58 11.0**	**-1.2**
SDPT	**Sand Point**	**17.75**	**75**	P	**Pn**	**22 58 10.2**	**-2.0**
	baz=280						
YSS	**Yuzh-Sakhalins**	**17.93**	**256**	P	**Pn**	**22 58 13.1**	**-1.4**
YSS				IAmb	IAmb	22 58 22.3	
	comp=Z,475nm,1.1s						
YSS	**Yuzh-Sakhalins**	**17.93**	**256** *de*	P	**P**	**22 58 16.4**	**+1.4**
YSS				*eS*	**Sn**	**23 01 35.2**	**+1.6**
YSS				pmax	pmax		
	comp=Z,380nm,1.1s						
YSS				pmax	pmax		
	comp=Z,21µm,7.0s						
YSS				pmax	pmax		
	comp=E,9µm,8.7s						
YSS				smax	smax		
	comp=N,39µm,8.7s						
YUK	**Yuzh-Kuril'sk**	**18.05**	**244**	*eP*	**P**	**22 58 18.1**	**+1.7**
YUK				pmax	pmax		
	comp=N,226nm,1.1s						
YUK				pmax	pmax		
	comp=Z,1µm,1.1s						
YUK				pmax	pmax		
	comp=E,547nm,0.9s						
YUK				pmax	pmax		
	comp=Z,2µm,2.4s						
YUK				MLR	MLR		
	comp=E,32µm,17.0s						
YUK				MLR	MLR		
	comp=Z,45µm,17.0s						
YUK				MLR	MLR		
	comp=N,21µm,15.0s						
S14K	**Fog Glacier**	**18.12**	**71**	P	**Pn**	**22 58 15.3**	**-1.6**
	baz=278						
S14K				S	**Sn**	**23 01 40.0**	**+1.7**
	baz=278						
CHNA	**Chernabura Isl**	**18.34**	**76**	P	**P**	**22 58 17.5**	**-2.0**
	baz=282						
CHNA				S	**Sn**	**23 01 39.4**	**-4.3**
	baz=282						
CNBA	**Chernabura Isl**	**18.35**	**76**		**P**	**22 58 18.2**	**-1.3**
CNBA				IAmb	IAmb	22 58 27.6	
	comp=Z,821nm,2.0s						
N16K	**Nishlik Lake**	**18.41**	**58**	P	**Pn**	**22 58 20.9**	**+0.5**
	baz=265,SNR=15						
N16K				S	**S**	**23 01 49.3**	**-0.3**
	baz=265						
O16K	**Kokwok River B**	**18.71**	**61**	P	**P**	**22 58 21.9**	**-1.6**
	baz=269,SNR=30						
O16K				S	**Sn**	**23 01 53.1**	**+0.8**
	baz=269						
CHGN	**Chignik**	**18.74**	**71**	P	**P**	**22 58 23.1**	**-0.8**
CHGN	**Chignik**	**18.74**	**71**	P	**P**	**22 58 23.0**	**-0.9**
	baz=278,SNR=24						
CHGN				S	**Sn**	**23 01 53.3**	**+0.1**
	baz=278						
P16K	**Nushagak River**	**18.76**	**62**	P	**P**	**22 58 22.4**	**-1.7**
	baz=270						
P16K				S	**S**	**23 01 55.0**	**-1.4**
	baz=270						
R16K	**Pilot Point**	**19.05**	**67**	P	**P**	**22 58 26.4**	**-0.9**
	baz=275						
R16K				S	**S**	**23 02 04.1**	**+1.8**
	baz=275						
O17K	**Koliganek Bris**	**19.22**	**60**	P	**P**	**22 58 28.4**	**-0.7**
	baz=269,SNR=31						
O17K				S	**S**	**23 02 06.1**	**+0.4**
	baz=269						
JWK2	**Keihoku**	**19.37**	**253**	P	**Pn**	**22 58 37.7**	**+5.6**
JMP	**Maruseppu**	**19.41**	**248**	P	**Pn**	**22 58 34.6**	**+2.1**
Q16K	**King Salmon**	**19.46**	**63**	P	**P**	**22 58 31.4**	**-0.4**
	baz=272,SNR=44						
Q16K				S	**Sn**	**23 02 11.4**	**+0.8**
	baz=272						
P17K	**Kvichak River**	**19.55**	**62**	P	**P**	**22 58 33.3**	**+0.6**
	baz=271						
P17K				S	**Sn**	**23 02 13.1**	**+0.3**
	baz=271						
R17K	**Ugashik Creek**	**19.68**	**66**	P	**P**	**22 58 34.9**	**+0.7**
	baz=276,SNR=70						
R17K				S	**Sn**	**23 02 15.7**	**-0.2**
	baz=276						
ASAJ	**Asahikawa**	**19.75**	**249**	P	**Pn**	**22 58 37.5**	**+0.9**
N18K	**Kilae Creek**	**19.84**	**57**	P	**P**	**22 58 35.4**	**-0.6**
N18K	**Kilae Creek**	**19.84**	**57**	P	**P**	**22 58 36.1**	**+0.1**
	baz=268,SNR=32						
N18K				S	**Sn**	**23 02 19.7**	**-0.1**
	baz=268						
GCSA	**Galena City Sc**	**19.99**	**45**	P	**P**	**22 58 37.5**	**0.0**
	baz=255,SNR=26						
GCSA				S	**Sn**	**23 02 24.2**	**+1.0**
	baz=255						
TTA	**Tatalina**	**20.00**	**51**	IAmb	IAmb	22 58 46.3	
	comp=Z,505nm,1.4s						
TTA	**Tatalina**	**20.00**	**51**	P	**P**	**22 58 38.2**	**+0.5**
	baz=261,SNR=63						
TTA				S	**S**	**23 02 22.2**	**+0.7**
	baz=261						
SVW2	**Sparrevohn**	**20.01**	**56**	P	**P**	**22 58 37.3**	**-0.5**
P18K	**Big Mountain,**	**20.17**	**61**	IAmb	IAmb	22 58 46.1	
	comp=Z,589nm,1.2s						
P18K	**Big Mountain,**	**20.17**	**61**	P	**P**	**22 58 39.7**	**+0.1**
	baz=272,SNR=63						
P18K				S	Sn	23 02 27.1	-0.6
	baz=272						
O18K	**Koktuh Hills**	**20.17**	**60**	IAmb	IAmb	22 58 46.2	
	comp=Z,403nm,1.4s						
O18K	**Koktuh Hills**	**20.17**	**60**	P	**P**	**22 58 40.1**	**+0.5**
	baz=270						
O18K				S	Sn	23 02 27.2	-0.5
	baz=270						
L19K	**White Mountain**	**20.44**	**53**	IAmb	IAmb	22 58 54.4	
	comp=Z,614nm,1.4s						
L19K	**White Mountain**	**20.44**	**53**	P	**P**	**22 58 42.9**	**+0.4**
	baz=264,SNR=81						
L19K				S	Sn	23 02 32.9	-1.3
	baz=264						
N19K	**Bonanza Creek**	**20.54**	**57**	P	**P**	**22 58 43.9**	**+0.2**
	baz=268,SNR=65						
N19K				S	Sn	23 02 37.2	+0.6
	baz=268						
O19K	**Port Alsworth**	**20.61**	**59**	IAmb	IAmb	22 58 50.8	
	comp=Z,293nm,1.1s						
O19K				IAMs_20	IAMs_20	23 06 39.7	
	comp=Z,57µm,19.0s						
O19K	**Port Alsworth**	**20.61**	**59**	P	**P**	**22 58 43.5**	**-0.8**
	baz=270						
O19K				S	Sn	23 02 37.4	-0.9
	baz=270						
M19K	**Big River Lodg**	**20.64**	**54**	P	**P**	**22 58 44.9**	**+0.4**
	baz=266,SNR=67						
M19K				S	Sn	23 02 38.4	-0.5
	baz=266						
JEM	**Erimo**	**20.88**	**244**	P	**P**	**22 58 48.8**	**+1.4**
L20K	**Farewell, AK**	**20.92**	**52**	P	**P**	**22 58 47.0**	**-0.7**
	baz=265,SNR=33						
L20K				S	**S**	**23 02 42.1**	**+2.4**
	baz=265						
K20K	**Telida**	**20.93**	**50**	P	**P**	**22 58 47.8**	**0.0**
	baz=262,SNR=55						
K20K				S	**S**	**23 02 41.0**	**+1.1**
	baz=262						
Q19K	**Cape Douglas,**	**21.01**	**62**	P	**P**	**22 58 47.7**	**-0.9**
	baz=274,SNR=59						
Q19K				S	**S**	**23 02 43.6**	**+2.1**
	baz=274						
SII	**Sitkinak Islan**	**21.02**	**69**	P	**P**	**22 58 46.4**	**-2.4**
SII				IAmb	IAmb	22 58 56.5	
	comp=Z,343nm,0.8s						
SII	**Sitkinak Islan**	**21.02**	**69**	P	**P**	**22 58 47.3**	**-1.5**
	baz=280,SNR=12						
SII				S	**S**	**23 02 42.2**	**+0.5**
	baz=280						
J20K	**Nowinta River**	**21.03**	**48**	P	**P**	**22 58 48.0**	**-0.7**
J20K				IAmb	IAmb	22 59 00.8	
	comp=Z,287nm,1.0s						
J20K	**Nowinta River**	**21.03**	**48**	P	**P**	**22 58 47.7**	**-1.0**
	baz=260,SNR=64						
J20K				S	**S**	**23 02 42.7**	**+1.0**
	baz=260						
P19K	**Oil Pt**	**21.18**	**60**		**P**	**22 58 50.1**	**-0.3**
P19K	**Oil Pt**	**21.18**	**60**	P	**P**	**22 58 51.8**	**+1.4**
	baz=273,SNR=6.2						
P19K				S	Sn	23 02 50.8	-1.1
	baz=273						
ILSW	**Iliamna Southw**	**21.21**	**59**	IAmb	IAmb	22 59 09.0	
	comp=Z,367nm,1.3s						
JEW	**Eniwo**	**21.22**	**248**	P	**P**	**22 58 49.7**	**-1.3**
JEW				IAmb	IAmb	22 58 57.9	
	comp=Z,408nm,1.1s						
M20K	**Styx River**	**21.23**	**54**	IAmb	IAmb	22 59 05.7	
	comp=Z,669nm,1.9s						
M20K	**Styx River**	**21.23**	**54**	P	**P**	**22 58 51.6**	**+0.5**
	baz=267						
M20K				S	**S**	**23 02 48.8**	**+2.8**
	baz=267						
OHAK	**Old Harbor**	**21.40**	**67**	P	**P**	**22 58 50.1**	**-2.6**
OHAK				IAmb	IAmb	22 59 08.1	
	comp=Z,295nm,0.9s						
OHAK	**Old Harbor**	**21.40**	**67**	P	**P**	**22 58 50.4**	**-2.3**
	baz=279,SNR=31						
OHAK				S	**S**	**23 02 47.0**	**-2.1**
	baz=279						
O20K	**Slope Mountain**	**21.46**	**59**	P	**P**	**22 58 52.7**	**-0.9**
	baz=272,SNR=7.7						
O20K				S	**S**	**23 02 53.2**	**+2.7**
	baz=272						
YAK	**Yakutsk**	**21.52**	**306**	P	**P**	**22 58 51.6**	**-2.3**
	comp=Z,82nm,0.7s,baz=91,slow=1.8,SNR=48						
YAK				LR	LR	23 07 14.1	
	comp=Z,58µm,19.7s,baz=108,slow=37						
	comp=Z,82nm,0.7s						
YAK	**Yakutsk**	**21.52**	**306**	P	**P**	**22 58 51.7**	**-2.3**
YAK				IAMs_20	IAMs_20	23 07 03.5	
	comp=Z,59µm,19.0s						
YAK	**Yakutsk**	**21.52**	**306**	*eP*	**P**	**22 58 53.4**	**-0.6**
YAK				*eS*	**S**	**23 02 47.1**	**-4.2**
YAK				*e*'SS	Sn	23 03 14.0	+14
YAK				*e*		23 10 14.5	
YAK				pmax	pmax		
	comp=Z,178nm,0.9s						
YAK				pmax	pmax		
	comp=N,26nm,1.2s						
YAK				pmax	pmax		
	comp=E,194nm,1.3s						
YAK				smax	smax		
	comp=E,26µm,9.1s						
YAK				smax	smax		
	comp=N,17µm,5.4s						
YAK				MLR	MLR		
	comp=Z,91µm,16.0s						
YAK				MLR	MLR		
	comp=E,52µm,17.0s						
YAK				MLR	MLR		
	comp=N,38µm,14.0s						
N20K	**Mount Spurr**	**21.65**	**56**	P	**P**	**22 58 54.7**	**-0.8**
	baz=270,SNR=18						
N20K				S	**S**	**23 02 57.3**	**+3.1**
	baz=270						
SPCR	**Spurr Chakacha**	**21.65**	**56**	P	**P**	**22 58 54.7**	**-0

Sta	Name	Dist	Az	Phase	Phase	Time	Res
SKT	Skwentna	21.99	54	IAmb	IAmb	22 59 06.5	
	comp=Z,734nm,1.7s						
SKT	Skwentna	21.99	54	P	P	22 58 59.1	0.0
	baz=268,SNR=28						
SKT				S	S	23 03 02.2	+1.6
	baz=268						
F21K	Alatna River	22.00	40	P	P	22 58 58.3	-0.9
	baz=253,SNR=17						
F21K				S	S	23 03 01.3	+0.5
	baz=253						
JSH	Shimam	22.12	249	P	P	22 59 02.7	+2.1
I21K	Tanana	22.12	45	P	P	22 58 59.9	-0.6
	baz=260,SNR=46						
I21K				S	S	23 03 03.1	+0.1
	baz=260						
CAPN	Captain Cook N	22.17	57	P	P	22 59 00.1	-0.9
CAPN	Captain Cook N	22.17	57	P	P	22 58 59.8	-1.2
	baz=272						
BRLK	Bradley Lake	22.36	60	IAmb	IAmb	22 59 20.8	
	comp=Z,644nm,2.0s						
SUA	Susitna One	22.36	55	IAmb	IAmb	22 59 09.3	
	comp=Z,216nm,1.0s						
SUA	Susitna One	22.36	55	P	P	22 59 01.8	-1.4
	baz=270,SNR=31						
SUA				S	S	23 03 10.8	+3.1
	baz=270						
KTH	Kantishna Hill	22.36	50	IAmb	IAmb	22 59 17.1	
	comp=Z,375nm,1.3s						
BPAW	Bear Paw Mtn.	22.39	48	P	P	22 59 03.3	-0.1
	baz=264,SNR=46						
BPAW				S	S	23 03 09.9	+1.8
	baz=264						
BRSE	Bradley Lake S	22.43	60	P	P	22 59 01.2	-2.7
	baz=274,SNR=14						
BRSE				S	S	23 03 04.8	-4.1
	baz=274						
JOT	Ohata	22.45	246	P	P	22 59 03.8	-0.4
H22K	Ishtalitna Cre	22.50	44	P	P	22 59 03.0	-1.5
	baz=259						
H22K				S	S	23 03 09.2	-0.9
	baz=259						
TEY	Ternei	22.53	258⇑	eP	P	22 59 07.8	+2.8
TEY				pmax	pmax		
	comp=E,40nm,0.9s						
TEY				pmax	pmax		
	comp=Z,60nm,0.9s						
F22K	John River	22.57	39	P	P	22 59 04.3	-1.0
	baz=254						
F22K				S	S	23 03 11.9	+0.7
	baz=254						
CUT	Chulitna	22.59	53	P	P	22 59 04.8	-0.7
	baz=268,SNR=9.1						
CUT				S	S	23 03 12.7	+0.9
	baz=268						
A21K	Barrow	22.61	29	P	P	22 59 05.3	-0.3
	baz=240						
A21K				S	S	23 03 11.9	0.0
	baz=240						
MLY	Manley	22.61	46	P	P	22 59 05.3	-0.5
	baz=262,SNR=70						
MLY				S	S	23 03 15.0	+2.8
	baz=262						
TRF	Thorofare Moun	22.64	50	IAmb	IAmb	22 59 17.4	
	comp=Z,218nm,0.9s						
TRF	Thorofare Moun	22.64	50	P	P	22 59 04.8	-1.4
	baz=266,SNR=123						
TRF				S	S	23 03 14.5	+1.6
	baz=266						
M22K	Willow	22.66	55	P	P	22 59 06.7	+0.5
M22K	Willow	22.66	55	P	P	22 59 03.2	-3.0
	baz=270						
M22K				S	S	23 03 15.3	+2.5
	baz=270						
G22K	Bettles	22.67	41	P	P	22 59 04.4	-1.9
	baz=256						
G22K				S	S	23 03 15.0	+2.0
	baz=256						
RC01	Rabbit Creek A	22.85	56	P	P	22 59 09.3	+1.0
RC01				IAmb	IAmb	22 59 27.9	
	comp=Z,304nm,1.8s						
RC01	Rabbit Creek A	22.85	56	P	P	22 59 05.7	-2.6
	baz=272						
RC01				S	S	23 03 14.0	-2.4
	baz=272						
JTM	Tenmabayashi	22.86	244	P	P	22 59 07.5	-1.0
JTM				IAmb	IAmb	22 59 21.6	
	comp=Z,367nm,1.0s						
O22K	Cooper Landing	22.89	58	IAmb	IAmb	22 59 33.1	
	comp=Z,237nm,0.6s						
O22K				IAMs_20	IAMs_20	23 07 43.8	
	comp=Z,58µm,20.0s						
O22K	Cooper Landing	22.89	58	P	P	22 59 06.0	-2.6
	baz=273						
O22K				S	S	23 03 13.0	-4.0
	baz=273						
SEW	Seward	23.05	59	P	P	22 59 07.7	-2.6
	baz=274,SNR=9.2						
SEW				S	S	23 03 18.1	-1.7
	baz=274						
PMR	Palmer	23.13	55	P	P	22 59 09.0	-2.1
	baz=271,SNR=31						
PMR				S	S	23 03 21.7	+0.6
	baz=271						
G23K	Bananza Creek	23.20	42	P	P	22 59 09.5	-2.3
	baz=258,SNR=24						
G23K				S	S	23 03 22.6	+0.3
	baz=258						
H23K	Yukon River	23.23	44	IAmb	IAmb	22 59 37.2	
	comp=Z,250nm,1.1s						
H23K	Yukon River	23.23	44	P	P	22 59 10.7	-1.4
	baz=261,SNR=42						
H23K				S	S	23 03 24.2	+1.4
	baz=261						
COLD	Coldfoot	23.24	41	IAmb	IAmb	22 59 26.1	
	comp=Z,435nm,1.8s						
COLD	Coldfoot	23.24	41	P	P	22 59 10.0	-2.2
	baz=257,SNR=18						
COLD				S	S	23 03 26.4	+3.5
	baz=257						
MCK	McKinley	23.26	50	P	P	22 59 11.0	-1.5
MCK				IAmb	IAmb	22 59 31.1	
	comp=Z,193nm,1.0s						
MCK	McKinley	23.26	50	P	P	22 59 11.0	-1.5
MCK				pmax	pmax		
	comp=Z,193nm,1.0s						
MCK				MLR	MLR		
	comp=Z,33µm,19.0s						
MCK	McKinley	23.26	50	P	P	22 59 11.4	-1.0
	baz=266,SNR=43						
MCK				S	S	23 03 23.1	-0.2
	baz=266						
NEA2	Nenana	23.27	47	IAmb	IAmb	22 59 26.7	
	comp=Z,711nm,2.0s						
NEA2				IAMs_20	IAMs_20	23 09 22.7	
	comp=Z,50µm,18.0s						
NEA2	Nenana	23.27	47	P	P	22 59 11.2	-1.3
	baz=264,SNR=65						
NEA2				S	S	23 03 23.9	+0.5
	baz=264						
WAT1	Susitna Watana	23.40	52	P	P	22 59 11.0	-2.9
	baz=269						
WAT1				S	S	23 03 23.8	-1.8
	baz=269						
KNK	Knik Glacier	23.46	55	P	P	22 59 12.0	-2.4
	baz=272,SNR=39						
KNK				S	S	23 03 23.1	-3.5
	baz=272						
SML	Sawmill	23.50	54	IAMs_20	IAMs_20	23 07 32.3	
	comp=Z,50µm,22.0s						
SML	Sawmill	23.50	54	P	P	22 59 11.6	-3.3
	baz=271,SNR=66						
SML				S	S	23 03 24.2	-3.2
	baz=271						
D23K	Nanushuk River	23.52	36	P	P	22 59 13.0	-2.0
	baz=253,SNR=27						
D23K				S	S	23 03 28.1	+0.6
	baz=253						
PWL	Port Wells	23.55	57	IAmb	IAmb	22 59 29.6	
	comp=Z,238nm,0.8s						
PWL				IAMs_20	IAMs_20	23 07 44.3	
	comp=Z,50µm,22.0s						
PWL	Port Wells	23.55	57	P	P	22 59 13.1	-2.3
	baz=274,SNR=39						
PWL				S	S	23 03 24.7	-3.4
	baz=274						
JOM	Ohasama	23.71	242	P	P	22 59 18.7	+1.7
WAT6	Susitna Watana	23.77	53	P	P	22 59 14.6	-3.0
	baz=270,SNR=30						
WAT6				S	S	23 03 28.1	-3.7
	baz=270						
M23K	Glacier View	23.79	54	P	P	22 59 15.2	-2.4
	baz=272,SNR=40						
M23K				S	S	23 03 29.0	-3.0
	baz=272						
TCOL	CIGO, UAF Yank	23.81	47	P	P	22 59 16.0	-1.8
	baz=265,SNR=26						
TCOL				S	S	23 03 31.3	-0.8
	baz=265						
TOLK	Toolik Lake Re	23.81	37	P	P	22 59 16.3	-1.6
TOLK	Toolik Lake Re	23.81	37	P	P	22 59 16.6	-1.3
	baz=255,SNR=105						
TOLK				S	S	23 03 31.4	-0.8
	baz=255						
C23K	Itkillik River	23.82	34	P	P	22 59 14.4	-3.4
	baz=251						
C23K				S	S	23 03 32.1	+0.1
	baz=251						
COLA	College	23.82	47	P	P	22 59 16.1	-1.7
COLA	College	23.82	47	i P	P	22 59 16.6	-1.2
COLA				pmax	pmax		
	comp=Z,168nm,0.9s						
COLA				MLR	MLR		
	comp=Z,25µm,16.0s						
COLA	College	23.82	47	P	P	22 59 15.1	-2.7
	baz=265						
COLA				S	S	23 03 33.3	+1.1
	baz=265						
CCB	Clear Creek Bu	23.82	47	IAmb	IAmb	22 59 24.9	
	comp=Z,472nm,1.4s						
H24K	Noodor Dome	23.91	44	IAmb	IAmb	22 59 35.4	
	comp=Z,221nm,1.2s						
H24K	Noodor Dome	23.91	44	P	P	22 59 16.9	-1.9
	baz=263,SNR=46						
H24K				S	S	23 03 36.2	+2.4
	baz=263						
DHY	Denali Highway	23.94	51	IAmb	IAmb	22 59 33.6	
	comp=Z,232nm,1.1s						
DHY	Denali Highway	23.94	51	P	P	22 59 17.6	-1.6
	baz=269,SNR=72						
DHY				S	S	23 03 31.0	-3.5
	baz=269						
SCM	Sheep Creek Mo	23.98	54	P	P	22 59 18.3	-1.2
SCM	Sheep Creek Mo	23.98	54	P	P	22 59 18.3	-1.2
SCM				pmax	pmax		
	comp=Z,578nm,1.4s						
SCM				MLR	MLR		
	comp=Z,40µm,22.0s						
SCM	Sheep Creek Mo	23.98	54	P	P	22 59 18.1	-1.4
	baz=272,SNR=45						
SCM				S	S	23 03 34.7	-0.3
	baz=272						
ZEA	Zeya	23.99	285	eP	P	22 59 19.1	-0.5
ZEA				eS	S	23 03 30.6	-4.5
ZEA				pmax	pmax		
	comp=E,50nm,0.8s						
ZEA				pmax	pmax		
	comp=N,40nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,100nm,1.0s						
ZEA				pmax	pmax		
	comp=E,7µm,7.7s						
ZEA				pmax	pmax		
	comp=N,2µm,4.1s						
ZEA				pmax	pmax		
	comp=Z,10µm,8.5s						
ZEA				smax	smax		
	comp=N,13µm,11.0s						
ZEA				smax	smax		
	comp=E,41µm,12.0s						
ZEA				pmax	pmax		
	comp=E,23µm,12.0s						
ZEA				pmax	pmax		
	comp=N,6µm,13.0s						
POKR	Poker Plat Res	24.02	46	P	P	22 59 18.3	-1.5
	baz=265,SNR=60						
POKR				S	S	23 03 36.5	+1.1
	baz=265						
E24K	Your Creek	24.07	39	P	P	22 59 20.2	-0.1
	baz=257						
E24K				S	S	23 03 37.0	+0.8
	baz=257						
P23K	Montague Islan	24.08	59	P	P	22 59 19.6	-0.8
	baz=276,SNR=8.7						
P23K				S	S	23 03 37.6	+1.0
	baz=276						
TIXI	Tiksi	24.15	330	P	P	22 59 18.1	-2.7
	comp=N,178nm,0.6s,baz=93,slow=22,SNR=62						
TIXI				LR	LR	23 08 49.4	
	comp=N,39µm,19.0s,baz=164,slow=37						
	comp=N,178nm,0.6s						
TIXI	Tiksi	24.15	330	P	P	22 59 18.8	-2.1
TIXI				IAMs_20	IAMs_20	23 08 39.5	
	comp=Z,43µm,18.0s						
TIXI	Tiksi	24.15	330	P	P	22 59 18.8	-2.1
TIXI				pmax	pmax		
	comp=Z,291nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,44µm,18.0s						
GLI	Glacier Island	24.15	57	IAMs_20	IAMs_20	23 08 37.2	
	comp=Z,48µm,21.0s						
GLI	Glacier Island	24.15	57	P	P	22 59 18.5	-2.6
	baz=274,SNR=47						
GLI				S	S	23 03 38.2	+0.6
	baz=274						
HDA	Harding Lake	24.17	48	IAmb	IAmb	22 59 44.5	
	comp=Z,157nm,1.0s						
HDA				IAMs_20	IAMs_20	23 09 58.5	
	comp=Z,45µm,18.0s						
HDA	Harding Lake	24.17	48	P	P	22 59 18.3	-2.9
	baz=267,SNR=70						
HDA				S	S	23 03 37.2	-0.7
	baz=267						
HDA				S	S	23 03 37.2	-0.7
	baz=267						
F24K	Squaw Lake	24.17	40	P	P	22 59 20.3	-1.0
	baz=259,SNR=47						
F24K				S	S	23 03 38.0	0.0
	baz=259						
G24K	Hadweenzic Riv	24.19	42	P	P	22 59 20.4	-1.0
	baz=261,SNR=38						
G24K				S	S	23 03 40.8	+2.6
	baz=261						
D24K	Happy Valley	24.21	36	P	P	22 59 19.3	-2.2
	baz=254,SNR=29						
D24K				S	S	23 03 38.4	-0.1
	baz=254						
IL31		24.22	47	IAmb	IAmb	22 59 31.3	
	comp=Z,118nm,0.8s						
ILAR	Eielson Array	24.22	47	P	P	22 59 19.5	-2.1
	comp=Z,25nm,0.7s,baz=250,slow=7.0,SNR=122						
ILAR				LR	LR	23 08 51.3	
	comp=Z,26µm,21.1s,baz=260,slow=37						
	comp=Z,25nm,0.7s						
C24K	Franklin Bluff	24.41	35	P	P	22 59 19.4	-4.0
	baz=253						
C24K				S	S	23 03 42.9	+1.3
	baz=253						
FID	Port Fidalgo	24.46	57	IAmb	IAmb	22 59 52.5	
	comp=Z,225nm,1.1s						
FID				IAMs_20	IAMs_20	23 08 45.0	
	comp=Z,48µm,21.0s						
HIN	Hinchinbrook I	24.49	58	IAmb	IAmb	22 59 53.3	
	comp=Z,198nm,1.1s						
HIN				IAMs_20	IAMs_20	23 09 31.0	
	comp=Z,46µm,18.0s						
M24K	Tolsona, Glenn	24.51	54	P	P	22 59 23.1	-1.3
	baz=273,SNR=84						
M24K				S	S	23 03 44.2	+0.7
	baz=273						
K24K	Donnelly Dome	24.66	50	P	P	22 59 23.7	-2.1
	baz=269,SNR=50						
K24K				S	S	23 03 46.3	+0.4
	baz=269						
KLU	Klutina	24.67	55	IAmb	IAmb	22 59 44.5	
	comp=Z,232nm,1.0s						
KLU				IAMs_20	IAMs_20	23 08 32.0	
	comp=Z,50µm,22.0s						
KLU	Klutina	24.67	55	P	P	22 59 23.6	-2.2
	baz=274,SNR=66						
KLU				S	S	23 03 45.6	-0.5
	baz=274						
Q23K	Middleton Isla	24.69	60	P	P	22 59 24.7	-1.2
	baz=278						
Q23K				S	S	23 03 45.8	-0.4
	baz=278						
DIV	Divide	24.77	56	P	P	22 59 25.4	-1.3
DIV				IAmb	IAmb	22 59 50.1	
	comp=Z,222nm,1.2s						
H25K	Birch Creek	24.79	44	P	P	22 59 25.8	-1.0
	baz=264,SNR=31						
PAX	Paxson	24.81	52	IAmb	IAmb	22 59 56.4	
	comp=Z,227nm,1.3s						
PAX	Paxson	24.81	52	P	P	22 59 25.0	-2.1
	baz=271,SNR=86						
PAX				S	S	23 03 48.3	-0.1
	baz=271						
EYAK	Cordova Ski Ar	24.84	57	IAmb	IAmb	22 59 42.8	
	comp=Z,326nm,1.6s						
EYAK	Cordova Ski Ar	24.84	57	P	P	22 59 25.2	-2.1
	baz=276,SNR=20						
EYAK				S	S	23 03 49.8	+1.2
	baz=276						
PRP	Porcupine Dome	24.85	45	P	P	22 59 25.4	-2.1
	baz=266,SNR=294						
PRP				S	S	23 03 48.7	-0.3
	baz=266						
J25K	Salcha River,	24.86	48	IAmb	IAmb	22 59 34.7	
	comp=Z,102nm,0.9s						
J25K	Salcha River,	24.86	48	P	P	22 59 25.6	-2.0
	baz=268,SNR=75						
J25K				S	S	23 03 46.8	-2.3
	baz=268						
HARP	HAARP	24.97	53	P	P	22 59 26.4	-2.1
	baz=273,SNR=19						
HARP				S	S	23 03 51.8	+0.9
	baz=273						
F25K	Christian Rive	25.04	40	P	P	22 59 28.1	-1.0
	baz=261,SNR=73						
F25K				S	S	23 03 51.2	-0.7
	baz=261						
RIDG	Independent Ri	25.08	50	IAmb	IAmb	23 00 01.7	
	comp=Z,146nm,1.0s						
RIDG				IAMs_20	IAMs_20	23 10 22.5	
	comp=Z,43µm,18.0s						
RIDG	Independent Ri	25.08	50	P	P	22 59 27.8	-1.7
	baz=270,SNR=68						
RIDG				S	S	23 03 50.8	-1.8
	baz=270						
D25K	Kavik River	25.10	36	P	P	22 59 28.6	-1.0
	baz=257,SNR=40						
D25K				S	S	23 03 51.8	-1.0
	baz=257						
E25K	Arctic Village	25.15	39	P	P	22 59 31.6	+1.5
	baz=260,SNR=31						
E25K				S	S	23 03 54.9	+1.3
	baz=260						
JMM	Marumori	25.18	240	P	P	22 59 35.2	+4.8
JYA	Atsumi	25.18	243	P	P	22 59 32.8	+2.3
N25K	Chitina, Valde	25.29	55	IAmb	IAmb	22 59 47.0	
	comp=Z,77nm,0.7s						
N25K	Chitina, Valde	25.29	55	P	P	22 59 30.5	-1.0
	baz=275,SNR=23						
N25K				S	S	23 03 56.0	-0.1
	baz=275						
BMRM	Bremner River	25.35	56	P	P	22 59 30.7	-1.3
	baz=276,SNR=29						
BMRM				S	S	23 03 57.8	+0.8
	baz=276						
RAGM	Ragged Mountai	25.39	58	IAmb	IAmb	23 00 02.7	
	comp=Z,281nm,1.1s						
RAGM				IAMs_20	IAMs_20	23 10 19.9	
	comp=Z,54µm,19.0s						
BMAR	Burnt Mountain	25.42	41	P	P	22 59 31.6	-0.9
DOT	Dot Lake	25.43	50	IAmb	IAmb	22 59 39.5	
	comp=Z,301nm,1.2s						
SCRK	Sand Creek	25.46	49	IAmb	IAmb	22 59 40.0	
	comp=Z,137nm,0.9s						
SCRK				IAMs_20	IAMs_20	23 10 41.4	
	comp=Z,35µm,18.0s						
SCRK	Sand Creek	25.46	49	P	P	22 59 31.8	-1.2
	baz=270,SNR=106						
SCRK				S	S	23 03 56.2	-2.6
	baz=270						
KAIM	Kayak Island	25.58	59	IAMs_20	IAMs_20	23 09 59.0	
	comp=Z,38µm,20.0s						
KAIM	Kayak Island	25.58	59	P	P	22 59 33.2	-0.8
	baz=279						
KAIM				S	S	23 04 00.5	0.0
	baz=279						
HMT	Hamilton	25.60	58	IAmb	IAmb	22 59 47.2	
	comp=Z,220nm,1.2s						
HMT				IAMs_20	IAMs_20	23 10 36.5	
	comp=Z,63µm,18.0s						
MENT	Mentasta	25.61	52	IAmb	IAmb	22 59 46.5	
	comp=Z,117nm,0.9s						
F26K	Sheenjek River	25.62	40	P	P	22 59 32.0	-2.3
	baz=262,SNR=17						
F26K				S	S	23 04 01.8	+0.7
	baz=262						
J26L	Joseph Creek	25.64	48	P	P	22 59 30.7	-3.9
	baz=270,SNR=84						
J26L				S	S	23 03 57.9	-3.7
	baz=270						
G26K	Porcupine Rive	25.67	42	P	P	22 59 34.2	-0.5
	baz=264,SNR=79						
G26K				S	S	23 04 00.9	-0.9
	baz=264						
USRK	Ussuriysk Ar.	25.68	262	P	P	22 59 34.4	-0.7
	comp=Z,26nm,0.9s,baz=54,slow=9.7,SNR=28						
USRK				ScP	ScP	23 06 45.4	+2.5
	comp=Z,3.1nm,0.9s,baz=11,slow=1.9,SNR=5.6						
USRK				LR	LR	23 08 30.4	
	comp=Z,95µm,21.9s,baz=259,slow=34						
	comp=Z,26nm,0.9s						
GLB	Gilahina Butte	25.68	55	IAmb	IAmb	22 59 57.9	
	comp=Z,121nm,0.9s						
C26K	Camden Bay	25.73	35	P	P	22 59 33.5	-1.7
	baz=257,SNR=6.9						
C26K				S	S	23 04 02.2	-0.5
	baz=257						
L26K	Log Cabin Wild	25.77	51	P	P	22 59 35.2	-0.5
	baz=273,SNR=38						
L26K				S	S	23 04 03.7	+0.1
	baz=273						
I26K	Coal Creek Min	25.83	46	P	P	22 59 33.3	-2.8
	baz=268						
I26K				S	S	23 04 04.3	0.0
	baz=268						
BERG	Berg Lake	25.87	57	IAmb	IAmb	22 59 52.1	
	comp=Z,126nm,1.0s						
BERG				IAMs_20	IAMs_20	23 10 44.6	
	comp=Z,52µm,18.0s						
SUCK	Suckling Hills	25.88	58	IAmb	IAmb	22 59 54.4	
	comp=Z,240nm,1.2s						
M26K	Nabesna, AK	25.98	53	IAmb	IAmb	22 59 52.5	
	comp=Z,202nm,1.4s						
M26K	Nabesna, AK	25.98	53	P	P	22 59 36.0	-1.7
	baz=275,SNR=15						
M26K				S	S	23 04 06.9	0.0
	baz=275						
MCARA	McCarthy VSAT	26.07	55	IAmb	IAmb	22 59 55.7	
	comp=Z,172nm,1.0s						
MCARA	McCarthy VSAT	26.07	55	P	P	22 59 36.7	-1.7
	baz=277,SNR=18						
MCARA				S	S	23 04 08.3	+0.1
	baz=277						
C27K	Jago River	26.08	36	P	P	22 59 38.0	-0.5
	baz=259,SNR=14						
C27K				S	S	23 04 07.4	-0.9
	baz=259						
BGLC	Bering Glacier	26.11	58	P	P	22 59 38.5	-0.3
	baz=279						
BGLC				S	S	23 04 08.7	-0.1
	baz=279						
TGL	Tana Glacier	26.24	56	P	P	22 59 40.0	-0.1
TGL				IAMs_20	IAMs_20	23 09 54.5	
	comp=Z,64µm,21.0s						
WAX	Waxell Ridge	26.27	57	IAMs_20	IAMs_20	23 10 05.4	
	comp=Z,50µm,21.0s						
K27K	Chicken	26.30	49	IAmb	IAmb	23 00 02.0	
	comp=Z,168nm,1.1s						
K27K	Chicken	26.30	49	P	P	22 59 40.7	+0.2
	baz=272						
K27K				S	S	23 04 10.5	-1.3
	baz=272						
SNH	Sunshine Point	26.32	58	P	P	22 59 41.1	+0.3
SNH				IAMs_20	IAMs_20	23 10 25.6	
	comp=Z,42µm,20.0s						
JSD	Sado	26.35	244	P	P	22 59 40.6	-0.6
JSD	Sado	26.35	244	P	P	22 59 45.1	+3.9
VLA	Vladivostok	26.40	260	i P	P	22 59 39.7	-1.8
VLA				pmax	pmax		
	comp=Z,125nm,1.1s						
VLA				MLR	MLR		

comp=Z,46µm,17.0s
L27K Beaver Creek, 26.46 51 IAmb IAmb 22 59 57.5
comp=Z,198nm,1.0s
L27K IAMs_20 IAMs_20 23 10 58.0
comp=Z,34µm,18.0s
L27K Beaver Creek, 26.46 51 P **P** **22 59 41.4 -0.6**
baz=274,SNR=171
L27K S **S** **23 04 14.0 -0.5**
baz=274
I27K Kandik River 26.48 45 P **P** **22 59 40.1 -2.0**
baz=269,SNR=8.9
I27K S **S** **23 04 14.1 -0.5**
baz=269
G27K Doyon Strip 26.50 43 P **P** **22 59 40.8 -1.5**
baz=267,SNR=38
G27K S **S** **23 04 19.8 +4.8**
baz=267
M27K Edge Creek, AK 26.50 53 P **P** **22 59 41.1 -1.4**
baz=276,SNR=33
M27K S **S** **23 04 14.9 -0.4**
baz=276
ISLE Juniper Island 26.50 57 IAmb IAmb 23 00 11.0
comp=Z,260nm,1.2s
ISLE IAMs_20 IAMs_20 23 10 23.4
comp=Z,58µm,20.0s
H27K Steamboat Moun 26.52 44 P **P** **22 59 40.5 -2.0**
baz=268,SNR=43
H27K S **S** **23 04 16.6 +1.2**
baz=268
E27K Coleen River 26.63 40 P **P** **22 59 41.5 -1.9**
baz=264,SNR=16
E27K S **S** **23 04 17.0 -0.1**
baz=264
EGAK Eagle 26.67 47 IAmb IAmb 22 59 51.9
comp=Z,158nm,0.8s
EGAK Eagle 26.67 47 P **P** **22 59 41.9 -1.9**
baz=271,SNR=64
JYT Yasato 26.75 239 P **P** **22 59 43.0 -1.7**
MESA MESA 26.76 58 P **P** **22 59 44.5 -0.5**
MESA IAmb IAmb 22 59 59.9
comp=Z,144nm,1.1s
MESA IAMs_20 IAMs_20 23 10 41.2
comp=Z,41µm,20.0s
MESA MESA 26.76 58 P **P** **22 59 44.3 -0.6**
baz=280
MESA S **S** **23 04 20.6 +1.0**
baz=280
MDJ Mudanjiang 26.82 265 IAMs_20 IAMs_20 23 10 21.1
comp=Z,53µm,19.0s
MDJ Mudanjiang 26.82 265 P **P** **22 59 45.3 -0.1**
MDJ pP pP 22 59 49.1 -2.3
MDJ S **S** **23 04 21.8 +1.4**
MDJ SS **SnSn** **23 05 30.1 +5.2**
MDJ pmax pmax
comp=Z,97nm,1.0s
MDJ pmax pmax
comp=Z,7µm,10.0s
MDJ LR LR
comp=Z,90µm,18.4s
MDJ LR LR
comp=Z,58µm,16.3s
MDJ LR LR
comp=Z,72µm,19.5s
YAH Yahtse 26.83 57 P **P** **22 59 45.1 -0.5**
YAH IAmb IAmb 23 00 00.5
comp=Z,204nm,1.0s
YAH IAMs_20 IAMs_20 23 10 44.0
comp=Z,59µm,20.0s
CTG Chitna Glacier 26.93 56 P **P** **22 59 46.3 -0.1**
baz=279,SNR=9.7
CTG S **S** **23 04 20.8 -1.3**
baz=279
CTGM Chitina Glacie 26.93 56 IAmb IAmb 23 00 22.3
comp=Z,476nm,2.0s
CTGM IAMs_20 IAMs_20 23 10 27.8
comp=Z,39µm,20.0s
BVCY Beaver Creek 26.97 52 P **P** **22 59 45.3 -1.3**
baz=276
BVCY S **S** **23 04 22.5 0.0**
baz=276
TABL Table Mountain 27.11 57 P **P** **22 59 47.6 -0.4**
TABL IAmb IAmb 23 00 20.4
comp=Z,150nm,1.1s
TABL IAMs_20 IAMs_20 23 10 53.5
comp=Z,60µm,21.0s
LOGN Logan Glacier 27.12 56 P **P** **22 59 48.5 +0.5**
LOGN IAmb IAmb 23 00 06.7
comp=Z,104nm,0.9s
LOGN IAMs_20 IAMs_20 23 10 32.6
comp=Z,40µm,20.0s
MSHR Mys Shultsa 27.15 260 *ce*P **P** **22 59 49.3 +1.0**
MSHR pmax pmax
comp=Z,117nm,1.5s
MSHR MLR MLR
comp=Z,31µm,18.0s
YUK3 Moose Creek 27.23 54 P **P** **22 59 48.5 -0.6**
baz=278,SNR=12
YUK3 S **S** **23 04 30.2 +3.2**
baz=278
BNX BinXian 27.46 269 ⇑P **P** **22 59 51.6 +0.5**
BNX pP **pP** **22 59 53.6 -3.5**
BNX sP **pwP** **22 59 56.0 -1.1**
BNX S **S** **23 04 32.2 +1.8**
BNX sS **sS** **23 04 43.5 +3.2**
BNX pmax pmax
comp=Z,93nm,1.6s
BNX pmax pmax
comp=Z,6µm,8.5s
BNX LR LR
comp=Z,69µm,14.1s
BNX LR LR
comp=Z,42µm,13.4s
BNX LR LR
comp=Z,32µm,16.0s
DAWY Dawson 27.48 49 IAmb IAmb 23 00 01.4
comp=Z,194nm,1.1s
DAWY Dawson 27.48 49 P **P** **22 59 51.0 -0.1**
baz=274,SNR=38
DAWY S **S** **23 04 31.1 +0.7**
baz=274
MAJO Matsushiro 27.51 242 P **P** **22 59 51.5 -0.1**
MAJO Matsushiro 27.51 242 ⇑P **P** **22 59 53.0 +1.4**
MAT Matsushiro 27.51 242 P **P** **22 59 55.6 +3.9**
MJAR Matsushiro Arr 27.51 242 P **P** **22 59 51.8 +0.2**
comp=Z,25nm,0.9s,baz=44,slow=7.5,SNR=39
MJAR ScP **ScP** **23 06 51.5 +3.1**
comp=Z,0.7nm,0.4s,baz=3.8,slow=1.6,SNR=3.2
MJAR LR LR 23 11 43.8
comp=Z,12µm,19.7s,baz=56,slow=38
comp=Z,25nm,0.9s
O28M Mount Upton 27.52 56 P **P** **22 59 50.6 -1.2**
baz=280,SNR=10.0
O28M S **S** **23 04 34.1 +2.4**
baz=280
JRY Ryogami san 27.57 240 P **P** **22 59 57.7 +5.6**
PCA Pinnacle 27.61 57 P **P** **22 59 52.3 -0.1**
PCA IAmb IAmb 23 00 12.9
comp=Z,139nm,1.1s
PINM Pinnacle 27.61 57 P **P** **22 59 49.7 -2.8**
baz=281
PINM S **S** **23 04 35.6 +2.8**
baz=281
I29M Ogilvie Camp, 27.86 46 P **P** **22 59 54.2 -0.3**
I29M IAmb IAmb 23 00 37.8
comp=Z,181nm,1.9s
I29M Ogilvie Camp, 27.86 46 P **P** **22 59 52.9 -1.6**
baz=273
I29M S **S** **23 04 37.9 +1.5**
baz=273
BCPM Bancas Point 27.95 58 IAmb IAmb 23 00 09.7
comp=Z,105nm,0.9s
BCPM IAMs_20 IAMs_20 23 12 12.5
comp=Z,48µm,19.0s
J29M Klondike Camp 27.96 48 IAMs_20 IAMs_20 23 12 57.6
comp=Z,31µm,18.0s
J29M Klondike Camp 27.96 48 P **P** **22 59 54.6 -0.8**
baz=274
J29M S **S** **23 04 40.8 +2.7**
baz=274
M29M Somme Creek 28.07 52 P **P** **22 59 56.5 0.0**
baz=278,SNR=15
M29M S **S** **23 04 41.0 +1.1**
baz=278
PNL Peninsula 28.12 58 P **P** **22 59 54.2 -2.7**
baz=282
PNL S **S** **23 04 40.1 -0.6**
baz=282

YUK4 Talbot Arm 28.16 54 P **P** **22 59 55.7 -1.7**
baz=280
YUK4 S **S** **23 04 43.4 +1.9**
baz=280
JGN Niukaw 28.22 243 P P 23 00 03.0 +5.0
K29M Barlow Dome 28.32 49 P **P** **22 59 56.5 -2.2**
baz=276,SNR=63
K29M S **S** **23 04 41.3 -2.6**
baz=276
YUK6 Outpost Mounta 28.37 55 P **P** **22 59 57.7 -1.6**
baz=281
YUK6 S **S** **23 04 43.6 -1.2**
baz=281
O29M Mount Kennedy 28.39 57 P **P** **22 59 57.5 -1.9**
baz=282
O29M S **S** **23 04 47.9 +2.8**
baz=282
EPYK Eagle Plains 28.47 44 IAmb IAmb 23 00 13.8
comp=Z,113nm,0.8s
EPYK Eagle Plains 28.47 44 P **P** **22 59 58.3 -1.6**
baz=272,SNR=45
EPYK S **S** **23 04 45.3 -0.6**
baz=272
JGF Kuroka 28.68 242 P **P** **23 00 00.7 -1.4**
JGF IAmb IAmb 23 00 50.5
comp=Z,120nm,1.3s
JGF Kuroka 28.68 242 P **P** **23 00 05.9 +3.9**
HYT Haines Junctio 28.80 55 IAmb IAmb 23 00 18.0
comp=Z,83nm,0.9s
HYT Haines Junctio 28.80 55 P **P** **23 00 01.1 -1.9**
baz=282,SNR=15
HYT S **S** **23 04 50.8 -0.7**
baz=282
M30M Minto, Yukon 28.82 52 P **P** **23 00 01.7 -1.3**
baz=279,SNR=12
M30M S **S** **23 04 55.7 +4.2**
baz=279
N30M Aishikik Lake 28.87 54 P **P** **23 00 00.4 -3.2**
baz=281
N30M S **S** **23 04 52.8 +0.3**
baz=281
P29M Windy Craggy 28.95 58 IAmb IAmb 23 00 25.2
comp=Z,311nm,1.7s
P29M IAMs_20 IAMs_20 23 12 42.1
comp=Z,29µm,19.0s
P29M Windy Craggy 28.95 58 P **P** **23 00 01.5 -2.8**
baz=284
P29M S **S** **23 04 55.5 +1.8**
baz=284
MAYO Mayo, Yukon 29.07 49 P **P** **23 00 01.8 -3.5**
baz=278
MAYO S **S** **23 04 57.3 +1.9**
baz=278
P30M Million Dollar 29.22 57 P **P** **23 00 05.7 -1.0**
baz=283
P30M S **S** **23 05 01.9 +3.9**
baz=283
N31M Braeburn, Yuko 29.48 54 P **P** **23 00 07.2 -1.8**
baz=282
N31M S **S** **23 05 04.9 +2.9**
baz=282
O30N Mendenhall 29.49 55 P **P** **23 00 08.1 -1.0**
baz=283,SNR=16
O30N S **S** **23 05 03.0 +0.8**
baz=283
F31M Tsiigehtchic 29.59 41 P **P** **23 00 08.3 -1.5**
baz=273,SNR=12
F31M S **S** **23 05 00.7 -2.8**
baz=273
INK Inuvik 29.64 40 P **P** **23 00 09.1 -1.1**
comp=Z,9.7nm,0.6s,baz=293,slow=5.0,SNR=12
comp=Z,9.7nm,0.6s
INK Inuvik 29.64 40 P **P** **23 00 09.1 -1.1**
INK Inuvik 29.64 40 P **P** **23 00 09.1 -1.1**
INK pmax pmax
comp=Z,79nm,1.2s
INK Inuvik 29.64 40 P **P** **23 00 09.2 -1.1**
baz=272,SNR=16
INK S **S** **23 05 03.1 -1.1**
baz=272
PLBC Pleasant Camp 29.67 58 P **P** **23 00 09.7 -0.9**
baz=285
PLBC S **S** **23 05 06.6 +1.6**
baz=285
CN2 Changchun 29.71 267 *e*P **P** **23 00 13.3 +2.2**
CN2 *e*S **S** **23 05 00.1 -5.7**
CN2 pmax pmax
comp=Z,70nm,1.4s
CN2 pmax pmax
comp=Z,3µm,11.0s
CN2 LR LR
comp=Z,53µm,15.0s
CN2 LR LR
comp=Z,46µm,15.0s
CN2 LR LR
comp=Z,53µm,16.0s
BOD Bodaibo 29.88 299 *e*P **P** **23 00 10.8 -1.7**
BOD pmax pmax
comp=Z,415nm,2.2s
JWT Wachi 29.94 244 P **P** **23 00 17.6 +4.4**
JIE Ise 29.95 241 P P 23 00 19.1 +5.7
M31M Drury Creek, Y 29.98 52 IAmb IAmb 23 00 28.8
comp=Z,109nm,1.0s
M31M Drury Creek, Y 29.98 52 P **P** **23 00 10.7 -2.7**
baz=282,SNR=57
M31M S **S** **23 05 10.7 +0.9**
baz=282
HIA Hailar 30.09 280 IAmb IAmb 23 00 18.6
comp=Z,198nm,1.5s
WHY Whitehorse 30.09 55 IAmb IAmb 23 00 50.9
comp=Z,176nm,1.8s
WHY Whitehorse 30.09 55 P **P** **23 00 12.1 -2.4**
baz=284
WHY S **S** **23 05 13.0 +1.2**
baz=284
SKAG Skagway 30.18 57 P **P** **23 00 14.2 -0.9**
baz=286
SKAG S **S** **23 05 13.1 +0.2**
baz=286
FARO Faro, Yukon 30.46 52 P **P** **23 00 15.8 -1.8**
baz=282,SNR=9.5
FARO S **S** **23 05 16.9 -0.4**
baz=282
BESE Bessie Mountai 30.67 59 IAmb IAmb 23 00 35.6
comp=Z,306nm,1.7s
N32M Quiet Lake 30.83 54 P **P** **23 00 19.9 -1.0**
baz=284
N32M S **S** **23 05 21.5 -1.7**
baz=284
JAD Aida 30.85 245 P **P** **23 00 26.0 +4.8**
SIT Sitka 30.91 62 P **P** **23 00 20.1 -1.5**
baz=289
SIT S **S** **23 05 25.4 +1.1**
baz=289
R32K Eaglecrest 30.93 59 P **P** **23 00 20.7 -1.0**
baz=288
P32M Atlin 30.94 57 P **P** **23 00 19.5 -2.4**
baz=286,SNR=7.1
P32M S **S** **23 05 26.4 +1.5**
baz=286
HHU Hamhung 30.95 259 P **P** **23 00 24.8 +2.7**
HHU pP **sP** **23 00 30.9 +0.2**
HHU S S 23 05 38.5 +13
HHU AmB
comp=Z,844nm,1.7s
HHU AMS AMS
comp=N,4µm,8.4s
HHU AMS AMS
comp=E,6µm,12.3s
HHU AMS AMS
comp=Z,8µm,15.2s
JIS Juneau Island 31.00 59 IAmb IAmb 23 00 38.0
comp=Z,130nm,1.0s
P33M Teslin, Yukon 31.20 55 IAmb IAmb 23 00 39.7
comp=Z,143nm,1.2s
P33M IAMs_20 IAMs_20 23 13 01.6
comp=Z,52µm,20.0s
P33M Teslin, Yukon 31.20 55 P **P** **23 00 22.2 -2.0**
baz=286,SNR=22
P33M S **S** **23 05 27.4 -1.7**
baz=286
MMPY Sheldon Lake, 31.32 51 P **P** **23 00 23.8 -1.4**
baz=283,SNR=26
MMPY S **S** **23 05 31.8 +1.0**
baz=283
SEHB SEOHWA 31.67 256 IAmb IAmb 23 00 41.6
comp=Z,118nm,1.1s
SNY Shenyang 32.01 266 ⇑P **P** **23 00 34.5 +3.1**

SNY S **S** **23 05 40.0 -1.7**
SNY SS **SnSn** **23 07 37.7 +6.5**
SNY pmax pmax
comp=Z,59nm,0.9s
SNY LR LR
comp=Z,37µm,14.7s
SNY LR LR
comp=Z,50µm,14.9s
SNY LR LR
comp=Z,89µm,14.5s
T33K Petersburg 32.22 62 P **P** **23 00 29.7 -3.3**
baz=291
CIT Chita 32.30 289 *e*P **P** **23 00 34.2 +0.2**
CIT *e* 23 00 46.0
CIT *e*S **S** **23 05 48.5 +2.2**
CIT *e* 23 06 07.7
CIT pmax pmax
comp=Z,848nm,2.2s
A36M Sachs Harbour 32.32 32 IAMs_20 IAMs_20 23 15 58.0
comp=Z,27µm,21.0s
A36M Sachs Harbour 32.32 32 P **P** **23 00 30.9 -2.9**
baz=273
A36M S **S** **23 05 45.4 -0.6**
baz=273
R33M Jennings River 32.33 56 P **P** **23 00 32.6 -1.7**
baz=288,SNR=23
R33M S **S** **23 05 49.4 +2.5**
baz=288
KS19 Wonju Array Si 32.42 255 IAmb IAmb 23 00 49.3
comp=Z,167nm,1.4s
KSRS Korea Array 32.42 255 P **P** **23 00 34.9 -0.1**
comp=Z,6.1nm,0.9s,baz=42,slow=9.1,SNR=21
KSRS ScP **ScP** **23 07 07.9 +3.6**
comp=Z,0.5nm,0.3s,baz=44,slow=5.2,SNR=2.4
KSRS LR LR 23 14 11.8
comp=Z,19µm,18.4s,baz=45,slow=37
comp=Z,6.1nm,0.9s
KSAR Wonju Array Be 32.45 255 P **P** **23 00 34.7 -0.6**
KSAR Wonju Array Be 32.45 255 P **P** **23 00 34.7 -0.6**
PYAG Pyongyang 32.56 260 P **P** **23 00 39.0 +2.8**
PYAG pP **sP** **23 00 47.9 +3.1**
PYAG S **S** **23 05 52.1 +1.8**
PYAG AmB
comp=Z,74nm,0.4s
PYAG AMS AMS
comp=N,64µm,12.2s
PYAG AMS AMS
comp=E,69µm,13.2s
PYAG AMS AMS
comp=Z,70µm,13.3s
SUJ Sinuiju 32.58 262 P **P** **23 00 38.0 +1.6**
SUJ pP **sP** **23 00 46.7 +1.7**
SUJ S **S** **23 05 52.4 +1.7**
SUJ AmB
comp=Z,2µm,3.0s
SUJ AMS AMS
comp=N,74µm,12.4s
SUJ AMS AMS
comp=E,80µm,13.4s
SUJ AMS AMS
comp=Z,76µm,12.8s
CRAG Craig 32.63 64 P **P** **23 00 36.5 -0.2**
baz=293
CRAG S **S** **23 05 55.9 +4.7**
baz=293
WRAK Wrangell Islan 32.67 62 IAmb IAmb 23 00 53.6
comp=Z,122nm,0.9s
WRAK Wrangell Islan 32.67 62 IAMs_20 IAMs_20 23 13 04.3
comp=Z,39µm,20.0s
WRAK Wrangell Islan 32.67 62 P **P** **23 00 36.4 -0.7**
baz=292,SNR=5.5
WRAK S **S** **23 05 55.6 +3.8**
baz=292
S34M Telegraph Cree 32.75 59 P **P** **23 00 38.5 +0.8**
baz=290,SNR=5.8
S34M S **S** **23 05 54.9 +1.9**
baz=290
TGTN Hyland Airport 32.96 52 P **P** **23 00 39.0 -0.6**
baz=287
TGTN S **S** **23 05 56.2 -0.2**
baz=287
C36M Paulatuk 32.97 37 P **P** **23 00 38.1 -1.4**
C36M IAmb IAmb 23 00 54.2
comp=Z,98nm,0.8s
C36M Paulatuk 32.97 37 P **P** **23 00 39.5 0.0**
baz=278,SNR=12
C36M S **S** **23 05 56.4 +0.2**
baz=278
DLBC Dease Lake 33.11 58 P **P** **23 00 40.9 -0.1**
comp=Z,8.3nm,0.8s,baz=281,slow=9.6,SNR=16
DLBC LR LR 23 14 29.6
comp=Z,30µm,19.9s,baz=302,slow=37
comp=Z,8.3nm,0.8s
DLBC Dease Lake 33.11 58 IAmb IAmb 23 00 57.4
comp=Z,62nm,0.9s
DLBC Dease Lake 33.11 58 P **P** **23 00 38.9 -2.1**
baz=290,SNR=9.4
DLBC S **S** **23 06 01.5 +2.6**
baz=290
WTLY Watson Lake, Y 33.15 54 P **P** **23 00 39.2 -2.0**
baz=288,SNR=9.9
WTLY S **S** **23 06 03.8 +4.5**
baz=288
HJU Haeju 33.26 258 P **P** **23 00 43.7 +1.3**
HJU pP **sP** **23 00 54.5 +3.5**
HJU S **S** **23 06 00.4 -0.9**
HJU AmB
comp=Z,3µm,4.1s
HJU AMS AMS
comp=N,25µm,12.4s
HJU AMS AMS
comp=E,25µm,12.3s
HJU AMS AMS
comp=Z,27µm,13.5s
V35K Ketchikan 33.48 64 P **P** **23 00 42.5 -1.6**
baz=294
V35K S **S** **23 06 05.3 +0.9**
baz=294
JCJ Chichijima 33.50 226 P **P** **23 00 45.3 +0.8**
comp=Z,28nm,0.9s,baz=338,slow=15,SNR=2.4
JCJ LR LR 23 12 14.1
comp=Z,8µm,21.6s,baz=11,slow=32
comp=Z,28nm,0.9s
TJN Taejon 33.50 254 *ce*P **P** **23 00 45.1 +0.6**
T35M Bob Quinn 33.53 60 P **P** **23 00 44.7 +0.1**
baz=292,SNR=8.5
T35M S **S** **23 06 09.1 +3.8**
baz=292
H02S1 DAWSON INLET T 33.93 67 P **P** **23 00 49.1 +1.1**
WRGLY Wrigley 34.60 48 P **P** **23 00 54.0 +0.4**
baz=288,SNR=8.7
WRGLY S **S** **23 06 23.1 +1.6**
baz=288
H11N2 WAKE ISLAND Hy 34.72 183 T T 23 37 35.6
baz=1.3,slow=76
H11N3 WAKE ISLAND Hy 34.73 183 T T 23 37 44.2
baz=1.3,slow=76
H11N1 WAKE ISLAND Hy 34.73 183 T T 23 37 44.6
baz=1.3,slow=76
DL2 Dalian 35.03 263 P **P** **23 00 58.0 +0.3**
DL2 S **S** **23 06 26.5 -2.2**
DL2 pmax pmax
comp=Z,140nm,1.1s
DL2 pmax pmax
comp=Z,2µm,11.9s
DL2 LR LR
comp=Z,44µm,13.5s
DL2 LR LR
comp=Z,50µm,15.9s
DL2 LR LR
comp=Z,50µm,14.4s
XLT XiLinHaoTe 35.12 275 ⇓*i*P **P** **23 00 59.5 +1.0**
XLT sP sP 23 01 07.1 0.0
XLT PP **PP** **23 02 19.3 +1.2**
XLT S **S** **23 06 29.8 -0.3**
XLT PcS **PcS** **23 07 18.7 +2.2**
XLT SS **SnSn** **23 08 40.8 -5.9**
XLT pmax pmax
comp=Z,90nm,2.3s
XLT pmax pmax
comp=Z,3µm,8.6s
XLT LR LR
comp=Z,10µm,15.6s
XLT LR LR
comp=Z,93µm,15.8s
XLT LR LR
comp=Z,34µm,19.4s

FLDN	**Fort Liard**	**35.60**	**53**	P	**P**	**23 01 01.7**	**-0.7**			
	baz=292									
FLDN				S	**S**	**23 06 41.1**	**+4.1**			
	baz=292									
H11S1	**WAKE ISLAND Hy**	**35.94**	**183**	T	T	23 39 15.0				
	baz=1.3,slow=76,SNR=6182									
H11S3	**WAKE ISLAND Hy**	**35.95**	**183**	T	T	23 39 17.8				
	baz=1.3,slow=76,SNR=3086									
H11S2	**WAKE ISLAND Hy**	**35.96**	**183**	T	T	23 39 16.3				
	baz=1.3,slow=76,SNR=9332									
BBB	**Bella Bella**	**36.75**	**67**	P	**P**	**23 01 11.8**	**-0.4**			
	comp=Z,7.9nm,0.8s,baz=339,slow=8.6,SNR=2.1									
BBB				LR	LR	23 14 59.5				
	comp=Z,32µm,20.1s,baz=302,slow=34									
	comp=Z,7.9nm,0.8s									
IRK	**Irkutsk**	**37.25**	**294**	*e*P	**P**	**23 01 18.4**	**+1.9**			
IRK				pmax	pmax					
	comp=Z,603nm,2.5s									
BJI	**Beijing**	**37.46**	**269**	P	**P**	**23 01 20.8**	**+2.3**			
BJI				pP	**pP**	**23 01 25.2**	**+0.7**			
BJI				sP	**sP**	**23 01 27.4**	**+0.3**			
BJI				PP	**PnPn**	**23 02 44.7**	**0.0**			
BJI				PcP	**PcP**	**23 03 40.3**	**+3.7**			
BJI				S	**S**	**23 07 03.0**	**-2.8**			
BJI				ScS	**ScS**	**23 11 33.3**	**+2.8**			
BJI				pmax	pmax					
	comp=Z,47nm,2.5s									
BJI				pmax	pmax					
	comp=Z,3µm,9.2s									
BJI				LR	LR					
	comp=Z,10µm,15.1s									
BJI				LR	LR					
	comp=Z,60µm,15.3s									
BJI				LR	LR					
	comp=Z,40µm,17.4s									
BJT	**Baijiatuan**	**37.48**	**269**	IAMs_20	IAMs_20	23 17 20.0				
	comp=Z,36µm,20.0s									
NRIK	**Noril'sk**	**37.67**	**325**	P	**P**	**23 01 18.6**	**-1.3**			
	comp=Z,25nm,0.8s,baz=76,slow=7.7,SNR=34									
NRIK				LR	LR	23 17 55.8				
	comp=Z,60µm,18.2s,baz=81,slow=38									
	comp=Z,25nm,0.8s									
NRIK	**Noril'sk**	**37.67**	**325**	P	**P**	**23 01 17.7**	**-2.1**			
NRIK				IAmb	IAmb	23 01 23.4				
	comp=Z,400nm,1.9s									
NRIK	**Noril'sk**	**37.67**	**325**	*ce*P	**P**	**23 01 18.0**	**-1.9**			
NRIK				pmax	pmax					
	comp=Z,206nm,1.8s									
NRIK				MLR	MLR					
	comp=Z,59µm,18.0s									
ULN	**Ulaanbaatar**	**38.02**	**286**	P	**P**	**23 01 22.6**	**-0.7**			
ULN				IAmb	IAmb	23 01 34.5				
	comp=Z,154nm,1.2s									
ULN	**Ulaanbaatar**	**38.02**	**286**	IAMs_20	IAMs_20	23 19 06.9				
	comp=Z,34µm,20.0s									
ULN	**Ulaanbaatar**	**38.02**	**286**	*ce*P	**P**	**23 01 23.0**	**-0.3**			
ULN				pmax	pmax					
	comp=Z,274nm,1.9s									
ULN				MLR	MLR					
	comp=Z,81µm,16.0s									
ULN	**Ulaanbaatar**	**38.02**	**286**	P	P	23 01 17.4	-5.9			
ULN				P	P	23 01 17.4	-5.9			
ULN				P	P	23 01 17.4	-5.9			
SONM	**Songino Array**	**38.41**	**286**	P	**P**	**23 01 25.2**	**-1.3**			
	comp=Z,42nm,0.7s,baz=58,slow=8.3,SNR=85									
SONM				ScP	**ScP**	**23 07 26.6**	**+0.6**			
	comp=Z,1.7nm,0.8s,baz=343,slow=4.5,SNR=4.4									
SONM				LR	LR	23 17 37.6				
	comp=Z,33µm,20.9s,baz=58,slow=37									
	comp=Z,42nm,0.7s									
SONM	**Songino Array**	**38.41**	**286**	P	**P**	**23 01 25.1**	**-1.5**			
SONM				IAmb	IAmb	23 01 31.2				
	comp=Z,163nm,1.2s									
SONM	**Songino Array**	**38.41**	**286**	P	**P**	**23 01 25.1**	**-1.5**			
SONM				pmax	pmax					
	comp=Z,163nm,1.2s									
YKA	**Yellowknife Ar**	**38.65**	**46**	P	**P**	**23 01 26.9**	**-1.3**			
	comp=Z,6.3nm,0.7s,baz=294,slow=7.8,SNR=13									
YKA				ScP	**ScP**	**23 07 27.9**	**+1.4**			
	comp=Z,1.5nm,0.7s,baz=292,slow=3.3,SNR=4.5									
	comp=Z,6.3nm,0.7s									
YKA	**Yellowknife Ar**	**38.65**	**46**	*i* P	**P**	**23 01 30.1**	**+1.9**			
YKA				pmax	pmax					
	comp=Z,16nm,0.8s									
ZAK	**Zakamensk**	**38.74**	**292**	*e*P	**P**	**23 01 28.7**	**-0.6**			
ZAK				pmax	pmax					
	comp=Z,104nm,1.8s									
MOY	**Mondy**	**39.28**	**295**	*e*P	**P**	**23 01 33.4**	**-0.4**			
MOY				pmax	pmax					
	comp=Z,527nm,2.5s									
TIA	**Tai'an**	**39.49**	**264**	⇑P	**P**	**23 01 38.6**	**+3.1**			
TIA				PP	**PnPn**	**23 03 14.3**	**+5.2**			
TIA				S	**S**	**23 07 32.7**	**-3.8**			
TIA				SS	**SS**	**23 10 23.1**	**-7.8**			
TIA				pmax	pmax					
	comp=Z,56nm,1.5s									
TIA				pmax	pmax					
	comp=Z,3µm,10.0s									
TIA				LR	LR					
	comp=Z,52µm,17.2s									
TIA				LR	LR					
	comp=Z,45µm,19.1s									
TIA				LR	LR					
	comp=Z,50µm,21.1s									
HHC	**Hu-ho-hao-te**	**39.63**	**274**	*e*P	**P**	**23 01 36.7**	**-0.1**			
HHC				pP	pP	23 01 41.0	-1.9			
HHC				S	**S**	**23 07 41.8**	**+3.0**			
HHC				sS	sS	23 07 49.3	+0.3			
HHC				SS	**SS**	**23 10 26.6**	**-7.2**			
HHC				pmax	pmax					
	comp=Z,130nm,1.6s									
HHC				pmax	pmax					
	comp=Z,4µm,4.7s									
HHC				LR	LR					
	comp=Z,52µm,12.9s									
HHC				LR	LR					
	comp=Z,81µm,11.9s									
HHC				LR	LR					
	comp=Z,95µm,13.0s									
RES	**Resolute Bay**	**40.07**	**24**	P	**P**	**23 01 42.4**	**+2.4**			
	comp=Z,42nm,1.0s,baz=272,slow=9.4,SNR=4.2									
RES				LR	LR	23 21 24.6				
	comp=Z,8µm,18.5s,baz=285,slow=41									
HNS	**HongShan**	**40.08**	**267**	⇓P	**P**	**23 01 40.1**	**-0.3**			
HNS				S	**S**	**23 07 49.6**	**+4.4**			
HNS				ScS	**ScS**	**23 11 50.4**	**+4.6**			
HNS				pmax	pmax					
	comp=Z,120nm,1.9s									
HNS				pmax	pmax					
	comp=Z,2µm,6.5s									
HNS				LR	LR					
	comp=Z,53µm,13.3s									
HNS				LR	LR					
	comp=Z,40µm,14.8s									
HNS				LR	LR					
	comp=Z,46µm,14.7s									
SSE	**Sheshan**	**40.86**	**255**	P	**P**	**23 01 45.0**	**-2.0**			
SSE				S	**S**	**23 07 56.5**	**-0.6**			
SSE				sS	**pS**	**23 08 05.6**	**+1.2**			
SSE				pmax	pmax					
	comp=Z,17nm,0.7s									
SSE				pmax	pmax					
	comp=Z,2µm,8.9s									
SSE				LR	LR					
	comp=Z,6µm,15.3s									
TIY	**Taiyuan**	**41.19**	**270**	⇓P	**P**	**23 01 49.7**	**0.0**			
TIY				S	**S**	**23 08 00.9**	**-1.1**			
TIY				pmax	pmax					
	comp=Z,3µm,6.5s									
TIY				LR	LR					
	comp=Z,31µm,19.2s									
TIY				LR	LR					
	comp=Z,35µm,18.6s									
TIY				LR	LR					
	comp=Z,35µm,19.2s									
JOHN	**Johnston Islan**	**41.31**	**147**	IAMs_20	IAMs_20	23 15 24.6				
	comp=Z,18µm,20.0s									
NJ2	**Nanjing**	**41.47**	**258**	*e*P	**P**	**23 01 54.3**	**+2.3**			
NJ2				sP	**sP**	**23 02 04.8**	**+4.2**			
NJ2				PP	**PnPn**	**23 03 34.0**	**+1.5**			
NJ2				PcP	**PcP**	**23 03 47.0**	**-2.4**			
NJ2				PcS	**PcS**	**23 07 45.6**	**+4.9**			
NJ2				S	**S**	**23 08 09.9**	**+3.8**			
NJ2				sS	**sS**	**23 08 16.2**	**+0.8**			
NJ2				ScS	**ScS**	**23 11 59.0**	**+4.7**			
NJ2				pmax	pmax					
	comp=Z,44nm,0.5s									
NJ2				pmax	pmax					
	comp=Z,3µm,7.6s									
NJ2				LR	LR					
	comp=Z,51µm,14.2s									
NJ2				LR	LR					
	comp=Z,20µm,13.7s									
NJ2				LR	LR					
	comp=Z,40µm,13.6s									
NLWA	**Neilton Lookou**	**41.65**	**71**	P	**P**	**23 01 53.0**	**-0.4**			
NLWA				IAMs_20	IAMs_20	23 16 09.5				
	comp=Z,30µm,22.0s									
KNGR	**Kungurtug, Tuv**	**41.70**	**295**	*i* P	**P**	**23 01 54.5**	**+0.7**			
KNGR				MLR	MLR					
	comp=Z,28µm,14.0s									
WISH	**Wishkah**	**41.87**	**71**	IAmb	IAmb	23 02 32.2				
	comp=Z,181nm,1.2s									
D05A	**Enumclaw**	**42.81**	**70**	IAmb	IAmb	23 02 41.1				
	comp=Z,137nm,1.2s									
F04D	**Rainier, OR**	**42.91**	**72**	P	**P**	**23 02 00.7**	**-2.9**			
	baz=307									
F04D				S	**S**	**23 08 28.0**	**+1.1**			
	baz=307									
G03D	**McMinnville, O**	**43.29**	**73**	IAMs_20	IAMs_20	23 16 50.0				
	comp=Z,24µm,22.0s									
G03D	**McMinnville, O**	**43.29**	**73**	P	**P**	**23 02 05.1**	**-1.5**			
	baz=308									
G03D				S	**S**	**23 08 34.6**	**+1.8**			
	baz=308									
LYN	**LuoYang**	**43.36**	**266**	*e*P	**P**	**23 02 06.2**	**-1.1**			
LYN				pP	pP	23 02 09.3	-4.1			
LYN				PP	**PP**	**23 03 47.5**	**-0.5**			
LYN				S	**S**	**23 08 30.2**	**-3.7**			
LYN				ScS	**ScS**	**23 12 02.5**	**-3.4**			
LYN				pmax	pmax					
	comp=Z,80nm,2.1s									
LYN				pmax	pmax					
	comp=Z,3µm,6.3s									
LYN				LR	LR					
	comp=Z,40µm,22.4s									
LYN				LR	LR					
	comp=Z,24µm,20.4s									
LYN				LR	LR					
	comp=Z,37µm,19.8s									
I02E	**Swisshome, OR**	**43.65**	**75**	IAMs_20	IAMs_20	23 16 26.3				
	comp=Z,17µm,22.0s									
I02E	**Swisshome, OR**	**43.65**	**75**	P	**P**	**23 02 09.4**	**-0.2**			
	baz=309									
I02E				S	**S**	**23 08 40.1**	**+2.2**			
	baz=309									
COR	**Corvallis**	**43.66**	**74**	IAMs_20	IAMs_20	23 16 49.5				
	comp=Z,20µm,21.0s									
H04D	**Lebanon**	**44.01**	**74**	IAMs_20	IAMs_20	23 17 22.0				
	comp=Z,17µm,22.0s									
H04D	**Lebanon**	**44.01**	**74**	P	**P**	**23 02 11.8**	**-0.7**			
	baz=308,SNR=5.5									
H04D				S	**S**	**23 08 44.4**	**+1.1**			
	baz=308									
NOR	**Nord**	**44.12**	**1**	*i* P	**P**	**23 02 13.4**	**+0.5**			
HOOD	**Mount Hood Mea**	**44.12**	**72**	IAmb	IAmb	23 02 36.1				
	comp=Z,124nm,1.2s									
I03D	**Drain, OR**	**44.19**	**75**	P	**P**	**23 02 13.2**	**-0.6**			
	baz=309									
I03D				S	**S**	**23 08 49.1**	**+3.3**			
	baz=309									
J01E	**Myrtle Point**	**44.20**	**76**	IAMs_20	IAMs_20	23 17 09.8				
	comp=Z,19µm,20.0s									
J01E	**Myrtle Point**	**44.20**	**76**	P	**P**	**23 02 11.5**	**-2.4**			
	baz=309									
J01E				S	**S**	**23 08 50.5**	**+4.6**			
	baz=309									
H04A	**Detroit Lake**	**44.22**	**73**	P	**P**	**23 02 13.5**	**-0.7**			
TULEG	**Thule**	**44.29**	**16**	IAMs_20	IAMs_20	23 21 26.2				
	comp=Z,31µm,21.0s									
TULEG	**Thule**	**44.29**	**16**	*i* P	**P**	**23 02 17.0**	**+2.7**			
G05D	**Wamic, OR**	**44.36**	**72**	P	**P**	**23 02 13.2**	**-2.0**			
	baz=308									
G05D				S	**S**	**23 08 50.5**	**+2.1**			
	baz=308									
HAWA	**Hanford**	**44.63**	**69**	IAMs_20	IAMs_20	23 18 21.3				
	comp=Z,22µm,21.0s									
K02D	**Willamette Mer**	**44.65**	**76**	P	**P**	**23 02 16.4**	**-1.2**			
	baz=310									
K02D				S	**S**	**23 08 56.8**	**+4.1**			
	baz=310									
I04A	**Tendick Farm,**	**44.65**	**74**	P	**P**	**23 02 15.6**	**-2.1**			
	baz=309,SNR=6.6									
I04A				S	**S**	**23 08 54.9**	**+2.2**			
	baz=309									
NEW	**Newport**	**44.79**	**66**	P	**P**	**23 02 17.4**	**-1.3**			
	comp=Z,3.1nm,0.7s,baz=309,slow=7.5,SNR=11									
NEW				LR	LR	23 18 58.8				
	comp=Z,27µm,21.6s,baz=302,slow=33									
	comp=Z,3.1nm,0.7s									
NEW	**Newport**	**44.79**	**66**	P	**P**	**23 02 17.2**	**-1.5**			
NEW	**Newport**	**44.79**	**66**	IAMs_20	IAMs_20	23 18 36.6				
	comp=Z,29µm,21.0s									
NEW	**Newport**	**44.79**	**66**	P	**P**	**23 02 17.2**	**-1.5**			
NEW				pmax	pmax					
	comp=Z,34nm,0.9s									
NEW				MLR	MLR					
	comp=Z,29µm,21.0s									
NEW	**Newport**	**44.79**	**66**	P	**P**	**23 02 18.0**	**-0.7**			
	baz=307,SNR=7.5									
NEW				S	**S**	**23 08 55.9**	**+1.3**			
	baz=307									
GUMO	**Guam**	**44.84**	**214**	LR	LR	23 18 55.8				
	comp=Z,7µm,19.3s,baz=26,slow=33									
I05D	**Terrebonne, OR**	**44.91**	**73**	P	**P**	**23 02 17.6**	**-2.1**			
	baz=309,SNR=5.5									
I05D				S	**S**	**23 08 59.6**	**+3.1**			
	baz=309									
L02F	**Cave Junction**	**45.07**	**77**	P	**P**	**23 02 20.7**	**-0.2**			
	baz=310									
HUMO	**Hull Mountain**	**45.10**	**76**	IAMs_20	IAMs_20	23 17 37.7				
	comp=Z,22µm,22.0s									
WHN	**Wuhan**	**45.17**	**261**	⇑P	**P**	**23 02 25.2**	**+3.4**			
WHN				pP	**sP**	**23 02 29.8**	**-0.7**			
WHN				PP	**PP**	**23 04 04.9**	**-2.5**			
WHN				S	**S**	**23 08 58.4**	**-1.9**			
WHN				pmax	pmax					
	comp=Z,410nm,1.7s									
WHN				pmax	pmax					
	comp=Z,5µm,8.1s									
WHN				LR	LR					
	comp=Z,26µm,13.8s									
WHN				LR	LR					
	comp=Z,62µm,13.0s									
WHN				LR	LR					
	comp=Z,54µm,13.1s									
J04D	**Umpqua Nationa**	**45.17**	**75**	IAmb	IAmb	23 02 38.0				
	comp=Z,97nm,0.7s									
J04D				IAMs_20	IAMs_20	23 17 24.7				
	comp=Z,18µm,21.0s									
J04D	**Umpqua Nationa**	**45.17**	**75**	P	**P**	**23 02 21.6**	**-0.5**			
	baz=310									
J04D				S	**S**	**23 09 00.3**	**-0.2**			
	baz=310									
G08A	**Pilot Rock**	**45.63**	**70**	P	**P**	**23 02 23.8**	**-1.7**			
J05D	**Fort Rock, OR**	**45.64**	**74**	P	**P**	**23 02 26.4**	**+0.7**			
	baz=310,SNR=38									
J05D				S	**S**	**23 09 11.4**	**+4.2**			
	baz=310									
JCC	**Jacoby Creek,**	**45.66**	**78**	IAMs_20	IAMs_20	23 17 52.0				
	comp=Z,14µm,20.0s									
L04D	**Klamath Falls**	**45.72**	**76**	IAmb	IAmb	23 02 42.2				
	comp=Z,93nm,0.8s									
L04D				IAMs_20	IAMs_20	23 18 18.7				
	comp=Z,23µm,22.0s									
L04D	**Klamath Falls**	**45.72**	**76**	P	**P**	**23 02 25.0**	**-1.3**			
	baz=310,SNR=16									
L04D				S	**S**	**23 09 10.1**	**+1.7**			
	baz=310									
K04D	**Chiloquin, OR**	**45.77**	**75**	P	**P**	**23 02 25.8**	**-0.8**			
	baz=310									
K04D				S	**S**	**23 09 11.1**	**+2.1**			
	baz=310									
XAN	**Xi'an**	**45.79**	**269**	⇓P	**P**	**23 02 25.5**	**-1.3**			
XAN				pP	sP	23 02 34.6	-0.9			
XAN				PP	**PP**	**23 04 13.8**	**-0.1**			
XAN				S	**S**	**23 09 10.2**	**+0.9**			
XAN				SS	**ScS**	**23 12 26.6**	**+5.1**			
XAN				pmax	pmax					
	comp=Z,59nm,1.8s									
XAN				pmax	pmax					
	comp=Z,3µm,7.5s									
XAN				LR	LR					
	comp=Z,46µm,19.2s									
XAN				LR	LR					
	comp=Z,61µm,19.0s									
XAN				LR	LR					
	comp=Z,70µm,13.5s									
YBH	**Yreka Blue Hor**	**45.81**	**77**	P	**P**	**23 02 26.8**	**-0.2**			
	comp=Z,5.6nm,0.6s,baz=356,slow=4.5,SNR=13									
YBH				LR	LR	23 18 59.5				
	comp=Z,17µm,20.0s,baz=318,slow=33									
	comp=Z,5.6nm,0.6s									
YBH	**Yreka Blue Hor**	**45.81**	**77**	IAMs_20	IAMs_20	23 18 18.1				
	comp=Z,18µm,20.0s									
WALA	**Waterton Lakes**	**46.00**	**63**	IAmb	IAmb	23 02 43.5				
	comp=Z,113nm,0.8s									
NACB	**Ninganchiao**	**46.03**	**248**	IAMs_20	IAMs_20	23 19 53.7				
	comp=Z,14µm,20.0s									
NEEM	**North Greenlan**	**46.04**	**11**	*i* P	**P**	**23 02 28.4**	**-0.2**			
KBS	**Kingsbay**	**46.11**	**354**	*i* P	**P**	**23 02 29.4**	**+0.6**			
KBS	**Kingsbay**	**46.11**	**354**	*e*P	**P**	**23 02 26.1**	**-2.6**			
KBS				*e*PP	**PP**	**23 04 17.2**	**+0.7**			
KBS				*e*S	**S**	**23 09 13.9**	**+1.1**			
KBS				*e*ScS	**ScS**	**23 12 25.5**	**+3.3**			
KBS				IVMs_BB	IVMs_BB	23 29 45.5				
	comp=Z,5µm,15.0s									
ZAA0	**Zalesovo Array**	**46.16**	**305**	P	**P**	**23 02 27.3**	**-2.2**			
ZALV	**Zalesovo Beam**	**46.16**	**305**	P	**P**	**23 02 27.2**	**-2.2**			
	comp=Z,11nm,0.5s,baz=43,slow=6.7,SNR=26									
ZALV				LR	LR	23 23 54.5				
	comp=Z,41µm,18.0s,baz=53,slow=39									
	comp=Z,11nm,0.5s									
K05A	**Summer Lake**	**46.19**	**74**	P	**P**	**23 02 29.7**	**-0.3**			
K05A				IAmb	IAmb	23 03 24.7				
	comp=Z,143nm,1.5s									
SPA0	**Spitsbergen Ar**	**46.51**	**352**	*e*P	**P**	**23 02 30.4**	**-1.4**			
SPA0				IVmB_BB		23 02 35.0				
	comp=Z,3µm,1.8s									
SPA0				*e*PP	**PP**	**23 04 20.8**	**-0.1**			
SPA0				*e*S	**S**	**23 09 20.8**	**+2.2**			
SPITS	**Spitsbergen Ar**	**46.51**	**352**	P	**P**	**23 02 30.3**	**-1.7**			
	comp=Z,54nm,0.8s,baz=34,slow=5.0,SNR=21									
SPITS				LR	LR	23 21 44.1				
	comp=Z,15µm,18.9s,baz=340,slow=36									
	comp=Z,54nm,0.8s									
SPITS	**Spitsbergen Ar**	**46.51**	**352**	P	**P**	**23 02 30.2**	**-1.7**			
SPITS				pmax	pmax					
	comp=Z,315nm,1.2s									
SPB2	**Spitsbergen Ar**	**46.51**	**352**	P	**P**	**23 02 30.3**	**-1.6**			
JTMT	**Jette**	**46.62**	**65**	IAmb	IAmb	23 02 48.5				
	comp=Z,78nm,0.8s									
SSLB	**Suanglung**	**46.68**	**248**	IAMs_20	IAMs_20	23 22 25.1				
	comp=Z,16µm,19.0s									
BMO	**Blue Mountains**	**46.81**	**70**	IAmb	IAmb	23 03 20.8				
	comp=Z,167nm,1.9s									
BMO				IAMs_20	IAMs_20	23 19 27.1				
	comp=Z,27µm,22.0s									
MOD	**Modoc Plateau**	**47.06**	**75**	IAmb	IAmb	23 02 52.5				
	comp=Z,48nm,0.8s									
MOD				IAMs_20	IAMs_20	23 20 07.2				
	comp=Z,20µm,20.0s									
QZH	**Quanzhou**	**47.06**	**252**	⇓*i* P	**P**	**23 02 38.8**	**+2.0**			
QZH				PP	**PP**	**23 04 27.6**	**+0.2**			
QZH				S	**S**	**23 09 35.4**	**+7.9**			
QZH				pmax	pmax					
	comp=Z,2µm,5.8s									
QZH				LR	LR					
	comp=Z,11µm,14.4s									
QZH				LR	LR					
	comp=Z,13µm,14.6s									
QZH				LR	LR					
	comp=Z,16µm,14.3s									
HOPEN	**Hopen**	**47.22**	**349**	*e*P	**P**	**23 02 38.4**	**+1.0**			
HOPEN				*e*PP	**PP**	**23 04 31.5**	**+3.5**			
HOPEN				*e*S	**S**	**23 09 28.2**	**-0.4**			
HOPEN				IVMs_BB	IVMs_BB	23 20 52.8				
	comp=Z,7µm,16.1s									
TPUB	**Ta-pu**	**47.25**	**248**	IAMs_20	IAMs_20	23 25 21.2				
	comp=Z,13µm,18.0s									
LZH	**Lanzhou**	**47.31**	**275**	⇓P	**P**	**23 02 38.8**	**0.0**			
LZH				pP	pP	23 02 43.8	-1.3			
LZH				sP	sP	23 02 47.6	0.0			
LZH				PP	**PP**	**23 04 26.2**	**-3.6**			
LZH				S	**S**	**23 09 27.3**	**-4.0**			
LZH				sS	sS	23 09 46.6	+4.9			
LZH				pmax	pmax					
	comp=Z,53nm,1.4s									
LZH				pmax	pmax					
	comp=Z,2µm,5.2s									
LZH				LR	LR					
	comp=Z,20µm,15.1s									
LZH				LR	LR					
	comp=Z,21µm,14.8s									
LZH				LR	LR					
	comp=Z,37µm,14.8s									
GTA	**Gaotai**	**47.37**	**281**	⇓P	**P**	**23 02 38.0**	**-1.2**			
GTA				pP	pP	23 02 42.2	-2.3			
GTA				sP	sP	23 02 45.3	-1.8			
GTA				PP	**PP**	**23 04 26.0**	**-4.2**			
GTA				S	**S**	**23 09 28.8**	**-3.1**			
GTA				ScS	**ScS**	**23 12 34.1**	**+2.2**			
GTA				pmax	pmax					
	comp=Z,3µm,6.9s									
GTA				LR	LR					
	comp=Z,63µm,16.0s									
GTA				LR	LR					
	comp=Z,56µm,16.0s									
GTA				LR	LR					
	comp=Z,99µm,15.3s									
MSO	**Missoula**	**47.37**	**66**	IAmb	IAmb	23 03 25.6				
	comp=Z,146nm,1.8s									
MSO				IAMs_20	IAMs_20	23 20 07.2				
	comp=Z,16µm,22.0s									
MSO	**Missoula**	**47.37**	**66**	P	**P**	**23 02 37.5**	**-1.7**			
	baz=309,SNR=6.7									
MSO				S	**S**	**23 09 30.3**	**-1.5**			
	baz=309									
PLID	**Pearl Lake**	**47.38**	**69**	IAMs_20	IAMs_20	23 20 57.1				
	comp=Z,22µm,21.0s									
HOPS	**Hopland Field**	**47.42**	**80**	IAMs_20	IAMs_20	23 19 38.4				
	comp=Z,17µm,20.0s									
DGZ	**Jazzator, Alta**	**47.47**	**299**	*d i* P	**P**	**23 02 38.8**	**-1.1**			
DGZ				pmax	pmax					
	comp=Z,160nm,1.3s									
DGZ				MLR	MLR					
	comp=Z,38µm,15.0s									
WVOR	**Wild Horse Val**	**47.64**	**73**	IAMs_20	IAMs_20	23 20 40.1				
	comp=Z,13µm,20.0s									
HSPB	**Hornsund (broa**	**47.68**	**352**	*e*P	**P**	**23 02 40.0**	**-1.0**			
HSPB				*e*pP	**pP**	**23 02 43.6

DAG	**Danmarks Havn**	**48.93**	**2**	*i*	P	**P**	**23 02 49.0**	**-1.6**
DAG					IAmb	IAmb	23 03 06.2	
	comp=Z,43nm,0.9s							
HLID	**Hailey**	**49.23**	**69**		IAMs_20	IAMs_20	23 20 43.3	
	comp=Z,26µm,22.0s							
HLID	**Hailey**	**49.23**	**69**		P	**P**	**23 02 52.7**	**-0.9**
HLID	baz=311,SNR=6.7							
					S	**S**	**23 09 58.1**	**-0.2**
	baz=311							
PNTR	**Pine Nut**	**49.34**	**77**		P	**P**	**23 02 54.0**	**-0.6**
PNTR					IAmb	IAmb	23 03 22.7	
	comp=Z,77nm,0.8s							
BOZ	**Bozeman (W)**	**49.40**	**66**		IAmb	IAmb	23 03 20.7	
	comp=Z,77nm,1.4s							
BOZ					IAMs_20	IAMs_20	23 27 43.7	
	comp=Z,15µm,18.0s							
BOZ	**Bozeman (W)**	**49.40**	**66**		P	**P**	**23 02 53.0**	**-1.8**
	baz=311,SNR=6.7							
BOZ					S	**S**	**23 09 58.7**	**-1.8**
	baz=311							
CMB	**Columbia Colle**	**49.61**	**79**		IAMs_20	IAMs_20	23 19 45.5	
	comp=Z,15µm,20.0s							
YERR	**Yerington**	**49.61**	**77**		P	**P**	**23 02 56.0**	**-0.6**
BJO1	**Bjornoya**	**49.69**	**350**		IVmBBB		23 03 02.2	
	comp=Z,2µm,2.9s							
BJO1				*e*	PP	**PP**	**23 04 50.9**	**+0.4**
BJO1				*e*	S	**S**	**23 10 03.9**	**+0.3**
BJO1					IVMs_BB	IVMs_BB	23 31 00.9	
	comp=Z,8µm,15.4s							
SAO	**San Andreas Ge**	**49.88**	**81**		IAMs_20	IAMs_20	23 19 45.6	
	comp=Z,19µm,20.0s							
ZSN	**Zaisan**	**50.22**	**299**	*e*	P	**P**	**23 02 59.1**	**-1.7**
ZSN				*e*	S	**S**	**23 10 12.2**	**+0.5**
ZSN					pmax	pmax		
	comp=Z,364nm,2.6s							
ZSN	**Zaisan**	**50.22**	**299**	*e*	P	**P**	**23 02 59.1**	**-1.7**
	comp=Z,364nm,2.6s,baz=299							
ZSN				*e*	S	**S**	**23 10 12.2**	**+0.5**
	baz=299							
YMR	**Madison River**	**50.36**	**66**		IAmb	IAmb	23 03 30.2	
	comp=Z,48nm,0.8s							
NVAR	**Mina Array Bea**	**50.53**	**77**		P	**P**	**23 03 03.1**	**-0.4**
	comp=Z,8.2nm,0.7s,baz=305,slow=7.7,SNR=28							
NVAR					ScP	**ScP**	**23 08 17.9**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=294,slow=2.9,SNR=2.6							
NVAR					LR	LR	23 21 23.4	
	comp=Z,11µm,21.5s,baz=311,slow=32							
	comp=Z,8.2nm,0.7s							
NVAR	**Mina Array Bea**	**50.53**	**77**		P	**P**	**23 03 02.3**	**-1.3**
LHV	**Little Huntoon**	**50.54**	**77**		IAmb	IAmb	23 03 21.6	
	comp=Z,73nm,1.2s							
ELK	**Elko**	**50.67**	**73**		LR	LR	23 21 51.9	
	comp=Z,23µm,21.7s,baz=320,slow=33							
ELK	**Elko**	**50.67**	**73**		IAMs_20	IAMs_20	23 21 41.1	
	comp=Z,22µm,21.0s							
YPP	**Pitchstone Pla**	**50.71**	**66**		IAmb	IAmb	23 03 51.7	
	comp=Z,119nm,1.5s							
LKWY	**Lake**	**50.73**	**66**		IAMs_20	IAMs_20	23 24 56.0	
	comp=Z,21µm,22.0s							
H17A	**Grant Village**	**50.75**	**66**		P	**P**	**23 03 01.5**	**-3.7**
	baz=312							
H17A					S	**S**	**23 10 22.4**	**+2.7**
	baz=312							
MLAC	**Mammoth, Mammo**	**50.78**	**78**		P	**P**	**23 03 05.9**	**+0.4**
	baz=314							
MLAC					S	**S**	**23 10 23.3**	**+3.2**
	baz=314							
Q09A	**Carvers**	**50.88**	**76**		IAmb	IAmb	23 03 24.0	
	comp=Z,58nm,0.9s							
IMW	**Indian Meadow**	**50.89**	**67**		P	**P**	**23 03 05.3**	**-1.0**
RLMT	**Red Lodge**	**50.96**	**65**		IAMs_20	IAMs_20	23 22 01.1	
	comp=Z,19µm,22.0s							
RLMT	**Red Lodge**	**50.96**	**65**		P	**P**	**23 03 03.1**	**-3.6**
	baz=312,SNR=31							
RLMT					S	**S**	**23 10 21.9**	**-0.5**
	baz=312							
CD2	**Chengdu**	**51.06**	**270**		P	**P**	**23 03 06.9**	**-0.5**
CD2					PP	**PP**	**23 05 05.4**	**+1.5**
CD2					S	**S**	**23 10 22.3**	**-1.4**
CD2					pmax	pmax		
	comp=Z,80nm,1.0s							
CD2					pmax	pmax		
	comp=Z,3µm,8.8s							
CD2					LR	LR		
	comp=Z,32µm,21.8s							
CD2					LR	LR		
	comp=Z,41µm,15.2s							
CD2					LR	LR		
	comp=Z,26µm,15.7s							
WMQ	**Urumqi**	**51.15**	**293**		P	**P**	**23 03 08.2**	**+0.2**
WMQ					sP	sP	23 03 16.1	-0.1
WMQ					PP	**PP**	**23 05 04.2**	**-0.2**
WMQ					S	**S**	**23 10 24.1**	**-0.6**
WMQ					sS	sS	23 10 35.5	+0.4
WMQ					pmax	pmax		
	comp=Z,91nm,1.1s							
WMQ					pmax	pmax		
	comp=Z,2µm,6.1s							
WMQ					LR	LR		
	comp=Z,103µm,21.5s							
WMQ					LR	LR		
	comp=Z,65µm,21.5s							
WMQ					LR	LR		
	comp=Z,42µm,22.7s							
KURK	**Kurchatov**	**51.16**	**305**		P	**P**	**23 03 05.5**	**-2.4**
KURK	**Kurchatov**	**51.16**	**305**	*d*	IP	**P**	**23 03 05.4**	**-2.4**
KURK					pmax	pmax		
	comp=Z,770nm,2.5s							
KURK					MLR	MLR		
	comp=Z,43µm,15.0s							
KURBB	**Kurchatov Arra**	**51.26**	**305**		P	**P**	**23 03 06.6**	**-2.0**
	comp=Z,80nm,0.8s,baz=53,slow=7.5,SNR=159							
KURBB					ScP	**ScP**	**23 08 20.9**	**+2.4**
	comp=Z,4.2nm,0.9s,baz=51,slow=4.7,SNR=4.5							
KURBB					LR	LR	23 26 29.7	
	comp=Z,24µm,18.6s,baz=32,slow=38							
	comp=Z,80nm,0.8s							
DGMT	**Dagmar**	**51.33**	**58**		IAMs_20	IAMs_20	23 24 36.9	
	comp=Z,23µm,22.0s							
DGMT	**Dagmar**	**51.33**	**58**		S	**S**	**23 10 30.0**	**+3.0**
	baz=312							
DGMT	**Dagmar**	**51.33**	**58**		P	**P**	**23 03 05.8**	**-3.4**
	baz=312							
DGMT					S	**S**	**23 10 28.0**	**+1.0**
	baz=312							
DBG	**Daneborg**	**51.35**	**3**	*i*	P	**P**	**23 03 08.1**	**-0.9**
VOG	**Valley Oaks Go**	**51.38**	**80**		P	**P**	**23 03 05.5**	**-4.2**
	baz=315							
VOG					S	**S**	**23 10 29.2**	**+1.3**
	baz=315							
GZH	**Guangzhou**	**51.46**	**255**		P	**P**	**23 03 06.7**	**-3.7**
GZH					S	**S**	**23 10 23.4**	**-5.8**
GZH					ScS	**ScS**	**23 12 57.1**	**-2.4**
GZH					SS	**SS**	**23 13 57.5**	**-7.5**
GZH					LR	LR		
	comp=Z,15µm,18.1s							
GZH					LR	LR		
	comp=Z,23µm,15.9s							
LAO	**LASA Array**	**51.49**	**61**		IAmb	IAmb	23 03 25.9	
	comp=Z,71nm,1.0s							
LAO	**LASA Array**	**51.49**	**61**		P	**P**	**23 03 09.3**	**-1.2**
	baz=312							
LAO					S	**S**	**23 10 36.0**	**+6.6**
	baz=312							
LAO	**LASA Array**	**51.49**	**61**		P	**P**	**23 03 07.1**	**-3.4**
	baz=312							
LAO					S	**S**	**23 10 28.6**	**-0.8**
	baz=312							
TIN	**Tinemaha, Big**	**51.52**	**78**		P	**P**	**23 03 09.2**	**-1.7**
	baz=314							
TIN					S	**S**	**23 10 33.6**	**+3.5**
	baz=314							
AHID	**Auburn Hatcher**	**51.57**	**68**		IAMs_20	IAMs_20	23 24 10.0	
	comp=Z,17µm,20.0s							
SMMC	**Simmler**	**51.74**	**81**		P	**P**	**23 03 09.5**	**-2.9**
	baz=315							
SMMC					S	**S**	**23 10 40.6**	**+7.6**
	baz=315							
SUMG	**Summit**	**51.85**	**10**		P	**P**	**23 03 12.4**	**-0.8**
SUMG					IAmb	IAmb	23 03 45.3	
	comp=Z,100nm,1.1s							
SUMG					IAMs_20	IAMs_20	23 27 49.9	
	comp=Z,17µm,18.0s							
SUMG	**Summit**	**51.85**	**10**		P	**P**	**23 03 12.4**	**-0.8**
SUMG					pmax	pmax		
	comp=Z,100nm,1.1s							
SUMG					MLR	MLR		
	comp=Z,17µm,18.0s							
SUMG	**Summit**	**51.85**	**10**	*i*	P	**P**	**23 03 12.0**	**-1.2**
SUMG					IAmb	IAmb	23 03 21.9	
	comp=Z,10nm,0.9s							
VES	**Vestal, Richgr**	**51.89**	**80**		P	**P**	**23 03 11.1**	**-2.4**
	baz=315							
VES					S	**S**	**23 10 39.1**	**+4.1**
	baz=315							
MK31	**Makanchi Array**	**51.97**	**299**	*i*	P	**P**	**23 03 10.9**	**-3.1**
MK31					pmax	pmax		
	comp=Z,65nm,0.9s							
MKAR	**Makanchi Array**	**51.97**	**299**		P	**P**	**23 03 11.7**	**-2.4**
	comp=Z,32nm,0.7s,baz=51,slow=6.8,SNR=77							
MKAR					LR	LR	23 25 28.6	
	comp=Z,24µm,18.4s,baz=43,slow=36							
	comp=Z,32nm,0.7s							
MKAR	**Makanchi Array**	**51.97**	**299**		P	**P**	**23 03 10.7**	**-3.4**
CWC	**Cottonwood Cre**	**52.04**	**78**		P	**P**	**23 03 12.2**	**-2.6**
	baz=315							
CWC					S	**S**	**23 10 41.5**	**+4.1**
	baz=315							
GRAC	**Grapevine Rang**	**52.06**	**77**		IAmb	IAmb	23 03 45.8	
	comp=Z,185nm,1.8s							
GRAC	**Grapevine Rang**	**52.06**	**77**		P	**P**	**23 03 14.1**	**-0.7**
	baz=315							
GRAC					S	**S**	**23 10 43.0**	**+5.6**
	baz=315							
HWUT	**Hardware Ranch**	**52.10**	**69**		IAmb	IAmb	23 04 01.6	
	comp=Z,142nm,1.9s							
HWUT					IAMs_20	IAMs_20	23 22 38.2	
	comp=Z,17µm,22.0s							
MAKZ	**Makanchi**	**52.12**	**300**		P	**P**	**23 03 12.9**	**-2.3**
MAKZ					IAmb	IAmb	23 03 16.9	
	comp=Z,87nm,1.0s							
MAKZ					IAMs_20	IAMs_20	23 26 16.1	
	comp=Z,20µm,21.0s							
MAKZ	**Makanchi**	**52.12**	**300**	*i*	P	**P**	**23 03 11.9**	**-3.2**
MAKZ					pmax	pmax		
	comp=Z,110nm,1.0s							
R11A	**Troy Canyon, C**	**52.12**	**75**		P	**P**	**23 03 13.7**	**-1.8**
	baz=314,SNR=19							
R11A					S	**S**	**23 10 38.8**	**+0.2**
	baz=314							
PKM	**Mcpherson Peak**	**52.14**	**81**		P	**P**	**23 03 15.3**	**-0.4**
	baz=316							
PKM					S	**S**	**23 10 43.0**	**+4.1**
	baz=316							
ISA	**Isabella, Lake**	**52.36**	**79**		P	**P**	**23 03 14.6**	**-2.5**
	baz=315							
ISA					S	**S**	**23 10 41.9**	**+0.3**
	baz=315							
SPR3	**Spring Creek 3**	**52.37**	**74**		IAmb	IAmb	23 03 59.3	
	comp=Z,89nm,1.3s							
DUG	**Dugway, Tooele**	**52.39**	**71**		IAMs_20	IAMs_20	23 28 04.7	
	comp=Z,12µm,19.0s							
DUG	**Dugway, Tooele**	**52.39**	**71**		P	**P**	**23 03 15.2**	**-2.2**
	baz=314,SNR=14							
DUG					S	**S**	**23 10 43.4**	**+1.3**
	baz=314							
BW06	**Boulder Array**	**52.40**	**67**		IAMs_20	IAMs_20	23 26 42.0	
	comp=Z,13µm,20.0s							
BW06	**Boulder Array**	**52.40**	**67**		P	**P**	**23 03 13.0**	**-4.5**
	baz=313,SNR=27							
BW06					S	**S**	**23 10 42.7**	**+0.4**
	baz=313							
PDAR	**Pinedale Array**	**52.40**	**67**		P	**P**	**23 03 15.6**	**-2.0**
	comp=Z,5.2nm,0.8s,baz=305,slow=3.7,SNR=30							
PDAR					ScP	**ScP**	**23 08 25.6**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=69,slow=4.9,SNR=3.4							
	comp=Z,5.2nm,0.8s							
GOMU	**GeErMu**	**52.44**	**282**		P	**P**	**23 03 17.0**	**-1.1**
GOMU					PcP	**PcP**	**23 04 33.6**	**+5.0**
GOMU					PP	**PP**	**23 05 13.4**	**-3.3**
GOMU					S	**S**	**23 10 42.2**	**-1.1**
GOMU					SS	**SS**	**23 14 21.5**	**+0.7**
GOMU					pmax	pmax		
	comp=Z,32nm,1.9s							
GOMU					pmax	pmax		
	comp=Z,2µm,7.0s							
GOMU					LR	LR		
	comp=Z,50µm,18.2s							
GOMU					LR	LR		
	comp=Z,27µm,16.8s							
GOMU					LR	LR		
	comp=Z,46µm,17.4s							
SBC	**Santa Barbara**	**52.52**	**81**		P	**P**	**23 03 14.9**	**-3.3**
	baz=316							
SBC					S	**S**	**23 10 46.5**	**+2.9**
	baz=316							
S11A	**Rachel**	**52.52**	**76**		IAmb	IAmb	23 04 05.5	
	comp=Z,246nm,1.7s							
ARVC	**Arvin**	**52.54**	**80**		P	**P**	**23 03 16.0**	**-2.4**
	baz=316							
ARVC					S	**S**	**23 10 48.0**	**+4.0**
	baz=316							
WCT	**Wildcat Mounta**	**52.62**	**77**		P	**P**	**23 03 18.2**	**-0.9**
MPMC	**Manual Prospec**	**52.65**	**78**		P	**P**	**23 03 17.2**	**-2.2**
	baz=315,SNR=14							
MPMC					S	**S**	**23 10 50.1**	**+4.3**
	baz=315							
HAMF	**Hammerfest**	**52.66**	**346**	*e*	P	**P**	**23 03 17.6**	**-1.2**
HAMF				*e*	PP	**PP**	**23 05 23.4**	**+5.9**
HAMF				*e*	S	**S**	**23 10 41.5**	**-3.1**
HAMF					IVMs_BB	IVMs_BB	23 29 56.8	
	comp=Z,7µm,17.2s							
GYA	**Guiyang**	**52.68**	**264**	⇑	P	**P**	**23 03 22.6**	**+2.9**
GYA					PcP	**PcP**	**23 04 31.0**	**+1.7**
GYA					PP	**PP**	**23 05 21.8**	**+3.1**
GYA					S	**S**	**23 10 48.9**	**+2.6**
GYA					sS	sS	23 10 59.0	+2.3
GYA					SS	**SS**	**23 14 27.4**	**+2.9**
GYA					pmax	pmax		
	comp=Z,80nm,1.6s							
GYA					pmax	pmax		
	comp=Z,3µm,8.6s							
GYA					LR	LR		
	comp=Z,6µm,16.0s							
GYA					LR	LR		
	comp=Z,20µm,22.3s							
GYA					LR	LR		
	comp=Z,22µm,24.6s							
FURC	**Furnace Creek,**	**52.72**	**78**		P	**P**	**23 03 15.9**	**-3.7**
	baz=315,SNR=39							
FURC					S	**S**	**23 10 49.9**	**+3.7**
	baz=315							
TPNV	**Topopah Spring**	**52.73**	**77**		IAMs_20	IAMs_20	23 23 44.0	
	comp=Z,19µm,21.0s							
TPNV	**Topopah Spring**	**52.73**	**77**		P	**P**	**23 03 16.4**	**-3.5**
	baz=315,SNR=28							
TPNV					S	**S**	**23 10 47.3**	**+0.5**
	baz=315							
SCZ2	**Santa Cruz Isl**	**52.88**	**82**		P	**P**	**23 03 16.3**	**-4.7**
	baz=316							
SCZ2					S	**S**	**23 10 47.8**	**-0.9**
	baz=316							
LRMC	**Laurel Mtn Rad**	**52.95**	**79**		P	P	23 03 15.8	-5.7
	baz=315							
LRMC					S	**S**	**23 10 49.0**	**-0.8**
	baz=315							
OSI	**Osito Audit: C**	**52.97**	**81**		P	P	23 03 16.9	-4.7
	baz=316							
OSI					S	**S**	**23 10 53.1**	**+3.2**
	baz=316							
KEV	**Kevo**	**52.97**	**344**		IAMs_20	IAMs_20	23 27 41.9	
	comp=Z,14µm,20.0s							
GWY	**Greenwater Val**	**53.03**	**78**		IAmb	IAmb	23 04 14.2	
	comp=Z,105nm,1.4s							
QSM	**Queen of Sheba**	**53.07**	**78**		IAmb	IAmb	23 03 51.4	
	comp=Z,133nm,1.7s							
TARA	**Tarawa**	**53.08**	**175**		IAMs_20	IAMs_20	23 20 50.2	
	comp=Z,20µm,21.0s							
PRN	**Pahroc Range**	**53.08**	**75**		IAmb	IAmb	23 03 40.3	
	comp=Z,73nm,1.1s							
MPU	**Maple Canyon**	**53.17**	**71**		IAmb	IAmb	23 04 09.9	
	comp=Z,135nm,1.6s							
EDW2	**Edwards Air Fo**	**53.20**	**80**		P	P	23 03 17.7	-5.6
	baz=316,SNR=6.5							
EDW2					S	**S**	**23 10 56.2**	**+3.1**
	baz=316							
LVZ	**Lovozero**	**53.23**	**340**		P	**P**	**23 03 23.0**	**-0.1**
LVZ					IAMs_20	IAMs_20	23 29 19.8	
	comp=Z,11µm,19.0s							
LVZ	**Lovozero**	**53.23**	**340**		P	**P**	**23 03 23.0**	**-0.1**
LVZ					pmax	pmax		
	comp=Z,249nm,1.6s							
LVZ					MLR	MLR		
	comp=Z,11µm,19.0s							
ILULI	**Ilulissat**	**53.25**	**17**		IAmb	IAmb	23 03 27.2	
	comp=Z,165nm,1.6s							
BVAR	**Borovoye Array**	**53.34**	**312**		P	**P**	**23 03 22.0**	**-2.0**
	comp=Z,114nm,0.8s,baz=55,slow=7.5,SNR=191							
BVAR					ScP	**ScP**	**23 08 30.5**	**+3.0**
	comp=Z,2.3nm,0.9s,baz=57,slow=4.7,SNR=2.8							
BVAR					LR	LR	23 28 11.8	
	comp=Z,38µm,20.8s,baz=47,slow=38							
	comp=Z,114nm,0.8s							
BRVK	**Borovoye**	**53.36**	**312**		P	**P**	**23 03 22.1**	**-2.1**
BRVK	**Borovoye**	**53.36**	**312**	*i*	P	**P**	**23 03 21.7**	**-2.5**
BRVK					pmax	pmax		
	comp=Z,202nm,0.7s							
BRVK					MLR	MLR		
	comp=Z,35µm,15.0s							
ARA0	**ARCESS Array S**	**53.40**	**345**	*e*	P	**P**	**23 03 20.8**	**-3.4**
ARA0					IVmB_BB		23 03 28.0	
	comp=Z,2µm,6.3s							
ARA0				*e*	S	**S**	**23 10 51.9**	**-2.9**
ARCES	**ARCESS Array B**	**53.40**	**345**		P	**P**	**23 03 21.8**	**-2.4**
	comp=Z,22nm,0.8s,baz=27,slow=8.7,SNR=22							
ARCES					LR	LR	23 30 17.9	
	comp=Z,12µm,18.1s,baz=24,slow=41							
	comp=Z,22nm,0.8s							
ARCES	**ARCESS Array B**	**53.40**	**345**		IAmb	IAmb	23 03 55.5	
	comp=Z,101nm,1.3s							
DECC	**Green Verdugo**	**53.45**	**81**		P	P	23 03 20.0	-5.1
	baz=316							
DECC					S	**S**	**23 10 57.4**	**+1.0**
	baz=316							
SHOC	**Shoshone, Teco**	**53.45**	**78**		P	**P**	**23 03 21.3**	**-3.8**
	baz=315							
SHOC					S	**S**	**23 10 59.4**	**+3.0**
	baz=315							
SNCC	**San Nicolas Is**	**53.49**	**82**		P	**P**	**23 03 20.7**	**-4.6**
	baz=316							
SNCC					S	**S**	**23 10 59.7**	**+2.8**
	baz=316							
GSC	**Goldstone, Bar**	**53.58**	**79**		P	**P**	**23 03 23.1**	**-3.0**
	baz=316,SNR=16							
GSC					S	**S**	**23 11 00.3**	**+2.1**
	baz=316							
PASC	**Pasadena Art C**	**53.59**	**81**		IAMs_20	IAMs_20	23 21 25.9	
	comp=Z,20µm,22.0s							
TCRU	**Three Creeks R**	**53.70**	**73**		IAmb	IAmb	23 03 55.6	
	comp=Z,152nm,1.7s							
APA	**Apatity**	**53.76**	**340**	⇑	P	**P**	**23 03 24.7**	**-2.2**
APA				*i*			23 04 36.0	
APA				*i*			23 05 28.0	
APA				*i*	PPP	PPP	23 06 41.0	
APA				*i*	S	**S**	**23 10 56.0**	**-3.7**
APA					pmax	pmax		
	comp=Z,23nm,0.8s							
RRX	**Edison Barstow**	**53.77**	**79**		P	**P**	**23 03 25.9**	**-1.5**
	baz=316							
RRX					S	**S**	**23 11 03.7**	**+3.0**
	baz=316							
BFSC	**Mount Baldy Ra**	**53.85**	**80**		P	**P**	**23 03 24.3**	**-3.9**
	baz=316							
BFSC					S	**S**	**23 11 04.3**	**+2.3**
	baz=316							
FMP	**Fort Macarthur**	**53.86**	**81**		P	**P**	**23 03 23.9**	**-4.2**
	baz=316							
FMP					S	**S**	**23 11 04.4**	**+2.5**
	baz=316							
TMUT	**Trail Mountain**	**53.90**	**71**		IAmb	IAmb	23 03 46.1	
	comp=Z,54nm,0.8s							
CCUT	**Cedar City**	**53.93**	**74**		P	**P**	**23 03 27.9**	**-0.9**
TUQ	**Turquoise Moun**	**53.98**	**78**		P	P	23 03 24.3	-4.8
	baz=316							
TUQ					S	**S**	**23 11 08.6**	**+4.8**
	baz=316							
MDND	**Maddock**	**54.01**	**56**		P	**P**	**23 03 28.5**	**-0.5**
	baz=314,SNR=29							
MDND					S	**S**	**23 11 08.0**	**+4.4**
	baz=314							
MDND	**Maddock**	**54.01**	**56**		P	**P**	**23 03 24.8**	**-4.2**
	baz=314,SNR=29							
MDND					S	**S**	**23 11 03.2**	**-0.3**
	baz=314							
CIS	**Catalina Islan**	**54.02**	**81**		P	P	23 03 24.2	-5.1
	baz=316							
CIS					S	**S**	**23 11 06.9**	**+2.8**
	baz=316							
P17A	**Butcher Ranch,**	**54.04**	**71**		IAmb	IAmb	23 04 16.3	
	comp=Z,153nm,1.5s							
FRB	**Frobisher Bay**	**54.09**	**27**		P	**P**	**23 03 28.2**	**-1.2**
	comp=Z,24nm,0.8s,baz=317,slow=8.0,SNR=4.5							
FRB					LR	LR	23 31 10.5	
	comp=Z,9µm,18.2s,baz=317,slow=41							
	comp=Z,24nm,0.8s							
K22A	**Casper**	**54.09**	**65**		P	**P**	**23 03 31.9**	**+2.0**
	baz=314,SNR=9.0							
K22A					S	**S**	**23 11 04.1**	**-1.1**
	baz=314							
K22A	**Casper**	**54.09**	**65**		P	**P**	**23 03 26.8**	**-3.1**
	baz=314,SNR=9.0							
K22A					S	**S**	**23 11 05.3**	**+0.1**
	baz=314							
ULM	**Lac du Bonnet**	**54.10**	**52**		P	**P**	**23 03 28.2**	**-1.4**
	comp=Z,8.0nm,0.8s,baz=316,slow=8.0,SNR=9.5							
ULM					LR	LR	23 27 04.3	
	comp=Z,25µm,20.3s,baz=320,slow=37							
	comp=Z,8.0nm,0.8s							
JETT	**Jettan, Norway**	**54.12**	**347**	*e*	P	**P**	**23 03 26.3**	**-3.2**
JETT					IVmBBB		23 03 33.4	
	comp=Z,3µm,2.0s							
JETT				*e*	S	**S**	**23 11 02.8**	**-1.7**
HEC	**Hector,Ludlow**	**54.18**	**79**		P	**P**	**23 03 28.5**	**-2.1**
	baz=316							
HEC					S	**S**	**23 11 08.1**	**+1.7**
	baz=316							
KTK1	**Kautokeino**	**54.22**	**345**	*e*	P	**P**	**23 03 28.4**	**-1.8**
KTK1					IVmB_BB		23 03 32.9	
	comp=Z,3µm,2.1s							
KTK1				*e*	S	**S**	**23 11 02.6**	**-3.3**
KTK1					IVMs_BB	IVMs_BB	23 28 33.6	
	comp=Z,7µm,17.2s							
TRO	**Tromso**	**54.24**	**347**	*e*	P	**P**	**23 03 28.3**	**-2.0**
TRO					IVmB_BB		23 03 34.5	
	comp=Z,3µm,8.0s							
TRO				*e*	S	**S**	**23 11 04.6**	**-1.4**
TRO					IVMs_BB	IVMs_BB	23 32 43.9	
	comp=Z,5µm,15.1s							
MTPU	**Mount Pierson**	**54.24**	**73**		IAmb	IAmb	23 04 17.6	
	comp=Z,107nm,1.5s							
SCI2	**San Clemente I**	**54.24**	**82**		P	**P**	**23 03 29.0**	**-1.9**
	baz=317							
SCI2					S	**S**	**23 11 09.9**	**+2.8**
	baz=317							
BBRC	**Big Bear Solar**	**54.26**	**80**		P	**P**	**23 03 29.0**	**-2.2**
	baz=316							
BBRC					S	**S**	**23 11 06.6**	**-1.1**
	baz=316							
E28A	**Huff**	**54.35**	**58**		S	**S**	**23 11 11.4**	**+3.1**
	baz=314							
RSSD	**Black Hills**	**54.37**	**62**		P	**P**	**23 03 30.4**	**-1.6**
RSSD					IAmb	IAmb	23 04 08.3	
	comp=Z,78nm,1.2s							
RSSD	**Black Hills**	**54.37**	**62**		P	**P**	**23 03 30.4**	**-1.6**
RSSD					pmax	pmax		
	comp=Z,78nm,1.2s							
RSSD					MLR	MLR		
	comp=Z,27µm,21.0s							
RSSD	**Black Hills**	**54.37**	**62**		P	**P**	**23 03 31.3**	**-0.7**
	baz=314,SNR=39							
RSSD					S	**S**	**23 11 09.6**	**+0.6**
	baz=314				

BRZS *i* S **S** **23 11 08.7 -0.7**
baz=308
MURC **Murrieta** **54.58 80** P **P** **23 03 31.4 -2.0**
baz=316
MURC S **S** **23 11 16.3 +4.7**
baz=316
GMRC **Granite Mounta** **54.60 78** P **P** **23 03 32.9 -0.8**
baz=316,SNR=17
GMRC S **S** **23 11 15.8 +3.7**
baz=316
KNB **Kanab** **54.61 74** IAmb IAmb 23 03 58.9
comp=Z,105nm,1.2s
JMIC **Jan Mayen** **54.81 359** LR LR 23 25 43.1
comp=Z,7µm,19.5s,baz=358,slow=35
JMIC **Jan Mayen** **54.81 359** *eP* **P** **23 03 35.7 +1.2**
JMIC *eS* **S** **23 11 16.4 +2.6**
O20A **White River Ci** **54.94 68** IAmb IAmb 23 04 22.2
comp=Z,108nm,1.1s
O20A **White River Ci** **54.94 68** P **P** **23 03 34.3 -1.8**
baz=315
O20A S **S** **23 11 17.5 +0.8**
baz=315
BELC **Belle Mtn. Jos** **54.97 79** P **P** **23 03 35.6 -0.8**
baz=316,SNR=11
BELC S **S** **23 11 17.9 +0.7**
baz=316
PFO **Pinyon Flats O** **54.99 80** P **P** **23 03 34.6 -1.9**
comp=Z,2.7nm,0.7s,baz=343,slow=14,SNR=3.2
PFO LR LR 23 22 56.8
comp=Z,21µm,21.3s,baz=306,slow=32
comp=Z,2.7nm,0.7s
PFO **Pinyon Flats O** **54.99 80** P **P** **23 03 35.9 -0.6**
PFO **Pinyon Flats O** **54.99 80** IAMs_20 IAMs_20 23 22 32.5
comp=Z,22µm,21.0s
PFO **Pinyon Flats O** **54.99 80** P **P** **23 03 34.4 -2.1**
baz=317
PFO S **S** **23 11 20.7 +3.3**
baz=317
TPFO **Pinon Flats** **55.00 80** P **P** **23 03 35.3 -1.2**
baz=317
TPFO S **S** **23 11 21.4 +3.9**
baz=317
PMD **Palm Desert** **55.01 80** IAmb IAmb 23 03 53.4
comp=Z,15nm,0.8s
SCO **Scoresbysund** **55.10 4** IAMs_20 IAMs_20 23 26 26.9
comp=Z,16µm,21.0s
SCO **Scoresbysund** **55.10 4** *i* P **P** **23 03 37.1 +0.5**
109C **Camp Elliot, M** **55.14 81** IAMs_20 IAMs_20 23 22 09.9
comp=Z,13µm,22.0s
109C **Camp Elliot, M** **55.14 81** P **P** **23 03 36.4 -1.0**
baz=317
109C S **S** **23 11 20.5 +1.3**
baz=317
TDK **Taldyqorghan** **55.17 300** *de*P **P** **23 03 35.6 -1.9**
TDK *eS* **S** **23 11 19.4 +0.1**
TDK pmax pmax
comp=Z,708nm,2.2s
TDK MLR MLR
comp=Z,33µm,15.0s
TDK **Taldyqorghan** **55.17 300** ||*e*P **P** **23 03 35.6 -1.9**
comp=Z,708nm,2.2s,baz=300
TDK *eS* **S** **23 11 19.4 +0.1**
baz=300
TDK LR LR 23 28 05.1
comp=Z,33µm,14.6s,baz=300
NEE2 **Needles Airpor** **55.21 77** P **P** **23 03 36.4 -1.5**
baz=316
NEE2 S **S** **23 11 23.6 +3.5**
baz=316
SFJD **Kangerlussuaq** **55.32 18** LR LR 23 27 39.0
comp=Z,15µm,22.0s,baz=332,slow=36
SFJD **Kangerlussuaq** **55.32 18** IAMs_20 IAMs_20 23 27 15.7
comp=Z,15µm,21.0s
IRM **Iron Mountain** **55.35 78** P **P** **23 03 38.3 -0.7**
baz=316,SNR=7.4
IRM S **S** **23 11 23.9 +1.9**
baz=316
AGMN **Agassiz Nation** **55.48 54** IAmb IAmb 23 04 08.9
comp=Z,82nm,1.2s
AGMN IAMs_20 IAMs_20 23 28 56.9
comp=Z,13µm,20.0s
AGMN **Agassiz Nation** **55.48 54** P **P** **23 03 39.1 -0.6**
baz=315,SNR=15
AGMN S **S** **23 11 22.8 -0.5**
baz=315
AGMN **Agassiz Nation** **55.48 54** P **P** **23 03 36.3 -3.3**
baz=315,SNR=15
AGMN S **S** **23 11 22.6 -0.7**
baz=315
PZH **PanZhiHua** **55.51 268** P **P** **23 03 43.3 +3.0**
PZH sP **sP** **23 03 48.0 -1.1**
PZH PP **PP** **23 05 45.8 +1.6**
PZH ScP **ScP** **23 08 35.0 -2.6**
PZH S **S** **23 11 27.3 +2.8**
PZH ScS **ScS** **23 13 27.1 -1.3**
PZH pmax pmax
comp=Z,60nm,1.7s
PZH pmax pmax
comp=Z,2µm,10.8s
PZH LR LR
comp=Z,22µm,15.3s
PZH LR LR
comp=Z,29µm,14.7s
PZH LR LR
comp=Z,25µm,19.4s
MONP2 **Monument Peak** **55.53 80** P **P** **23 03 37.4 -3.1**
baz=317
MONP2 S **S** **23 11 26.0 +1.1**
baz=317
BC3 **Big Chuckawall** **55.53 79** P **P** **23 03 37.4 -3.0**
baz=317
BC3 S **S** **23 11 23.3 -1.4**
baz=317
N23A **Red Feather La** **55.64 66** IAmb IAmb 23 04 08.4
comp=Z,58nm,1.0s
N23A **Red Feather La** **55.64 66** P **P** **23 03 38.9 -2.3**
baz=315,SNR=15
N23A S **S** **23 11 27.2 +1.0**
baz=315
ARU **Arti** **55.64 321** P **P** **23 03 38.5 -2.2**
comp=Z,48nm,0.7s,baz=12,slow=3.5,SNR=34
ARU LR LR 23 29 36.0
comp=Z,37µm,18.4s,baz=44,slow=38
comp=Z,48nm,0.7s
ARU **Arti** **55.64 321** P **P** **23 03 38.3 -2.4**
ARU IAmb IAmb 23 03 43.3
comp=Z,118nm,1.1s
ARU **Arti** **55.64 321** *d* *i*P **P** **23 03 39.0 -1.7**
ARU 23 04 37.8
ARU 23 05 45.0
ARU PPP PPP 23 06 56.9
ARU S **S** **23 11 24.5 -0.7**
ARU 23 13 26.4
ARU SS **SS** **23 15 03.0 -6.7**
ARU pmax pmax
comp=Z,135nm,1.1s
ARU pmax pmax
comp=Z,1µm,6.5s
ARU MLR MLR
comp=Z,35µm,16.0s
D32B **Dogwood Acres,** **55.76 55** S **S** **23 11 27.5 +0.5**
baz=315
PDGK **Podgornoye** **55.80 298** *i* P **P** **23 03 39.3 -2.9**
PDGK pmax pmax
comp=Z,95nm,1.2s
PRGR **Permogore** **55.81 331** *e*P **P** **23 03 40.9 -0.9**
PDMCI **Parker Dam,Lak** **55.81 77** P **P** **23 03 41.2 -1.0**
baz=317,SNR=6.9
PDMCI S **S** **23 11 30.6 +2.5**
baz=317
CBX **Cerro Bola** **55.82 81** P **P** **23 03 41.2 -1.3**
OTUK **Ortayu** **55.83 307** *i* P **P** **23 03 39.8 -2.4**
OTUK pmax pmax
comp=Z,115nm,1.2s
SWSC **Sam W. Stewart** **55.85 80** P **P** **23 03 41.5 -1.0**
baz=317
SWSC S **S** **23 11 30.9 +2.3**
baz=317
IKP **In-Ko-Pah, Jac** **55.89 80** P **P** **23 03 41.8 -1.1**
baz=317
IKP S **S** **23 11 31.9 +2.5**
baz=317
PV07 **Paradox Valley** **55.92 70** IAmb IAmb 23 04 07.4
comp=Z,58nm,0.8s
SHLS **Shalkode** **55.93 298** *de*P **P** **23 03 39.7 -3.5**
SHLS *i* S **S** **23 11 27.1 -2.7**
SHLS pmax pmax
comp=Z,148nm,1.5s
SHLS **Shalkode** **55.93 298** ||*e*P **P** **23 03 39.7 -3.5**
comp=Z,148nm,1.5s,baz=298
SHLS *i* S **S** **23 11 27.1 -2.7**
baz=298
KMI **Kunming** **55.98 266** ||P **P** **23 03 41.9 -1.9**
KMI pP pP 23 03 47.0 -3.1
KMI PcP **PcP** **23 04 38.2 -3.9**
KMI PP **PP** **23 05 46.7 -1.8**
KMI S **S** **23 11 28.0 -3.0**
KMI SS **SS** **23 15 17.6 +0.9**
KMI pmax pmax
comp=Z,51nm,1.5s
KMI pmax pmax
comp=Z,3µm,8.6s
KMI LR LR
comp=Z,27µm,19.3s
KMI LR LR
comp=Z,21µm,23.7s
KMI LR LR
comp=Z,27µm,24.9s
PV15 **Paradox Valley** **56.08 70** IAmb IAmb 23 04 08.6
comp=Z,97nm,1.0s
KPKS **Kokpek** **56.11 299** *e*P **P** **23 03 42.3 -2.1**
KPKS *i* S **S** **23 11 32.3 +0.2**
KPKS pmax pmax
comp=Z,245nm,2.2s
KPKS **Kokpek** **56.11 299** *e*P **P** **23 03 42.4 -2.1**
comp=Z,245nm,2.2s,baz=299
KPKS *i* S **S** **23 11 32.3 +0.2**
baz=299
UZB **Uzynbulak** **56.17 298** *e*P **P** **23 03 43.1 -1.7**
UZB *e*S **S** **23 11 33.0 +0.1**
UZB **Uzynbulak** **56.17 298** *e*P **P** **23 03 43.1 -1.7**
baz=298
UZB *e*S **S** **23 11 33.0 +0.1**
baz=298
STEI **Steigen** **56.30 348** *e*P **P** **23 03 45.2 0.0**
STEI IVmB_BB 23 03 47.6
comp=Z,2µm,3.1s
STEI *i* 23 07 14.6
STEI *e*S **S** **23 11 31.7 -1.9**
STEI IVMs_BB IVMs_BB 23 34 33.1
comp=Z,5µm,16.9s
LOF **Lofoten** **56.30 349** *e*P **P** **23 03 43.1 -2.1**
LOF IVmB_BB 23 03 47.7
comp=Z,2µm,2.8s
LOF *i* 23 07 17.3
LOF *e*S **S** **23 11 32.7 -1.0**
LOF IVMs_BB IVMs_BB 23 41 33.1
comp=Z,3µm,11.9s
SMCO **Snowmass** **56.30 68** IAMs_20 IAMs_20 23 28 55.1
comp=Z,16µm,21.0s
GLA **Glamis** **56.33 79** P **P** **23 03 44.9 -1.1**
baz=317
GLA S **S** **23 11 37.0 +1.9**
baz=317
B35A **Bob, Littlefor** **56.43 52** IAmb IAmb 23 04 15.6
comp=Z,66nm,1.1s
B35A **Bob, Littlefor** **56.43 52** P **P** **23 03 45.5 -1.0**
baz=316
B35A S **S** **23 11 32.6 -3.4**
baz=316
ESJX **Sierra Juarez** **56.45 81** P **P** **23 03 46.1 -0.9**
ZHN **Zhinishke** **56.45 299** *e*P **P** **23 03 45.1 -1.8**
ZHN *e*S **S** **23 11 37.1 +0.4**
ZHN **Zhinishke** **56.45 299** *e*P **P** **23 03 45.1 -1.8**
baz=299
ZHN *e*S **S** **23 11 37.1 +0.4**
baz=299
WUAZ **Wupatki** **56.50 74** IAmb IAmb 23 04 12.4
comp=Z,113nm,1.4s
WUAZ IAMs_20 IAMs_20 23 26 00.1
comp=Z,18µm,20.0s
WUAZ **Wupatki** **56.50 74** P **P** **23 03 46.1 -1.3**
baz=316,SNR=7.1
WUAZ S **S** **23 11 41.6 +4.0**
baz=316
SATY **Saty** **56.55 299** *e*P **P** **23 03 45.7 -1.8**
SATY *i* S **S** **23 11 38.5 +0.6**
SATY pmax pmax
comp=Z,317nm,2.4s
SATY **Saty** **56.55 299** *e*P **P** **23 03 45.8 -1.8**
comp=Z,316nm,2.4s,baz=299
SATY *i* S **S** **23 11 38.6 +0.6**
baz=299
ISCO **Idaho Springs** **56.59 67** IAmb IAmb 23 04 13.1
comp=Z,101nm,1.3s
ISCO IAMs_20 IAMs_20 23 27 20.1
comp=Z,15µm,21.0s
ISCO **Idaho Springs** **56.59 67** P **P** **23 03 48.5 +0.4**
baz=316,SNR=35
ISCO S **S** **23 11 40.8 +1.8**
baz=316
ISCO **Idaho Springs** **56.59 67** P **P** **23 03 47.3 -0.8**
baz=316,SNR=35
ISCO S **S** **23 11 38.8 -0.2**
baz=316
QIZ **Qiongzhong** **56.65 255** IAMs_20 IAMs_20 23 28 58.5
comp=Z,10µm,18.0s
QIZ **Qiongzhong** **56.65 255** P **P** **23 03 52.8 +4.4**
QIZ PcP **PcP** **23 04 43.5 -1.0**
QIZ S **S** **23 11 43.9 +4.4**
QIZ ScS **ScS** **23 13 30.6 -5.9**
QIZ pmax pmax
comp=Z,66nm,2.0s
QIZ pmax pmax
comp=Z,3µm,7.3s
QIZ LR LR
comp=Z,10µm,12.7s
QIZ LR LR
comp=Z,18µm,19.1s
QIZ LR LR
comp=Z,14µm,12.7s
CHKK **Chushkaly** **56.70 300** *e*P **P** **23 03 46.8 -1.7**
CHKK **Chushkaly** **56.70 300** *e*P **P** **23 03 46.8 -1.7**
baz=300
SUSD **Miller** **56.73 59** S **S** **23 11 40.0 0.0**
baz=316
SUSD **Miller** **56.73 59** P **P** **23 03 47.5 -1.1**
baz=316
SUSD S **S** **23 11 39.0 -1.1**
baz=316
FAUS **Fauske** **56.82 348** *e*P **P** **23 03 48.8 -0.1**
FAUS IVmB_BB 23 03 51.6
comp=Z,2µm,2.4s
FAUS *e*PP **PP** **23 05 56.5 +1.8**
FAUS *e*S **S** **23 11 40.7 +0.2**
FAUS IVMs_BB IVMs_BB 23 34 49.4
comp=Z,6µm,16.5s
MVCO **Mesa Verde** **56.88 71** IAmb IAmb 23 04 44.5
comp=Z,52nm,1.0s
MVCO **Mesa Verde** **56.88 71** P **P** **23 03 49.3 -0.8**
baz=316,SNR=11
MVCO S **S** **23 11 45.6 +2.9**
baz=316
KUU **Kurty** **57.00 301** *de*P **P** **23 03 47.6 -3.0**
KUU *e*S **S** **23 11 42.4 -1.2**
KUU pmax pmax
comp=Z,395nm,2.3s
KUU MLR MLR
comp=Z,15µm,14.0s
KUU **Kurty** **57.00 301** ||*e*P **P** **23 03 47.6 -3.0**
comp=Z,395nm,2.3s,baz=300
KUU *e*S **S** **23 11 42.5 -1.2**
baz=300
KUU LR LR 23 29 11.6
comp=Z,15µm,13.6s,baz=300
F33A **5 Mile Ranch,** **57.03 56** S **S** **23 11 42.7 -1.3**
baz=316
KIRV **Kirov** **57.12 327** LR LR 23 29 47.1
comp=Z,27µm,20.7s,baz=40,slow=38
KIRV **Kirov** **57.12 327** *ce*P **P** **23 03 49.8 -1.3**
MDOK **Medeo** **57.16 299** *e*P **P** **23 03 49.9 -2.0**
MDOK *i* S **S** **23 11 45.7 -0.4**
MDOK MLR MLR
comp=Z,27µm,15.0s
MDOK **Medeo** **57.16 299** *e*P **P** **23 03 50.0 -2.0**
baz=300
MDOK *i* S **S** **23 11 45.7 -0.4**
baz=300
MDOK LR LR 23 29 31.6
comp=Z,27µm,14.5s,baz=300
BTLS **Baital** **57.31 303** *de*P **P** **23 03 50.4 -2.3**
BTLS *i* S **S** **23 11 47.8 +0.2**
BTLS pmax pmax
comp=Z,182nm,2.1s
BTLS **Baital** **57.31 303** ||*e*P **P** **23 03 50.4 -2.3**
comp=Z,182nm,2.1s,baz=303
BTLS *i* S **S** **23 11 47.9 +0.2**
baz=303
S22A **4UR Ranch, Cre** **57.41 69** IAmb IAmb 23 04 11.5
comp=Z,52nm,0.9s
S22A **4UR Ranch, Cre** **57.41 69** P **P** **23 03 53.0 -1.0**
baz=316,SNR=9.1
S22A S **S** **23 11 51.3 +1.5**
baz=316
Q24A **Divide** **57.45 67** P **P** **23 03 52.3 -1.9**
baz=316
Q24A S **S** **23 11 54.2 +4.0**
baz=316
OGNE **Ogallala** **57.67 64** IAmb IAmb 23 04 31.3
comp=Z,100nm,1.1s
OGNE IAMs_20 IAMs_20 23 31 23.6
comp=Z,13µm,18.0s
OGNE **Ogallala** **57.67 64** P **P** **23 03 55.8 +0.3**
baz=316,SNR=19
OGNE S **S** **23 11 54.7 +2.0**
baz=316
OGNE **Ogallala** **57.67 64** P **P** **23 03 55.8 +0.3**
baz=316,SNR=19
OGNE S **S** **23 11 52.4 -0.3**
baz=316
W18A **Petrified Fore** **57.71 74** P **P** **23 03 55.1 -0.8**
baz=317
W18A S **S** **23 11 56.2 +2.6**
baz=317
EYMN **Ely** **57.76 52** P **P** **23 03 54.2 -1.6**
EYMN IAmb IAmb 23 04 25.1
comp=Z,89nm,1.1s
EYMN **Ely** **57.76 52** P **P** **23 03 55.1 -0.8**
baz=317
EYMN S **S** **23 11 52.2 -1.3**
baz=317
EYMN **Ely** **57.76 52** P **P** **23 03 54.3 -1.6**
baz=317
EYMN S **S** **23 11 52.3 -1.3**
baz=317
KONS **Konsvik** **57.92 349** *e*P **P** **23 03 55.5 -1.2**
TKM2 **Tokmak 2** **58.08 300** P **P** **23 03 57.0 -1.5**
SNR=35
TKM2 **Tokmak 2** **58.08 300** *i* P **P** **23 03 55.4 -3.0**
TKM2 pmax pmax
comp=Z,75nm,1.1s
MOR8 **Moi Rana** **58.08 348** *e*P **P** **23 03 56.2 -1.7**
MOR8 IVmBBB 23 04 00.8
comp=Z,2µm,2.6s
MOR8 *i* 23 07 31.3
MOR8 *e*S **S** **23 11 53.6 -3.5**
MOR8 IVMs_BB IVMs_BB 23 34 05.4
comp=Z,7µm,18.7s
KLMR **Klimovskoe** **58.12 333** *e*P **P** **23 03 56.0 -2.1**
KLMR *e*S **S** **23 11 57.4 -0.3**
KLMR *e*SS **SS** **23 15 49.6 +1.3**
KLMR pmax pmax
comp=Z,273nm,1.3s
KLMR MLR MLR
comp=Z,34µm,17.0s
KLMR **Klimovskoe** **58.12 333** *e*P **P** **23 03 56.0 -2.1**
KLMR AMP 23 04 03.0
comp=Z,273nm,1.3s
KLMR *e*S **S** **23 11 57.4 -0.3**
KLMR *e*S **S** **23 11 57.4 -0.3**
KLMR *e*SS **SS** **23 15 49.6 +1.3**
KLMR *e*SS **SS** **23 15 49.6 +1.3**
KLMR LQ LQ 23 24 20.6
KLMR LQ LQ 23 24 20.6
KLMR LR LR 23 29 43.6
KLMR AMP 23 32 01.3
comp=Z,34µm,16.9s
SDCO **Great Sand Dun** **58.14 69** IAMs_20 IAMs_20 23 30 15.9
comp=Z,13µm,20.0s
SDCO **Great Sand Dun** **58.14 69** P **P** **23 03 59.4 +0.4**
baz=317,SNR=5.1
SDCO S **S** **23 12 01.7 +2.4**
baz=317
SDCO **Great Sand Dun** **58.14 69** P **P** **23 03 57.6 -1.4**
baz=317,SNR=5.1
SDCO S **S** **23 12 01.8 +2.5**
baz=317
K31A **O'Neill** **58.14 60** S **S** **23 11 58.8 +0.1**
baz=317
SGDS **Sogindy** **58.17 301** *de*P **P** **23 03 57.1 -1.8**
SGDS *i* S **S** **23 11 59.6 +0.4**
SGDS pmax pmax
comp=Z,303nm,2.8s
SGDS **Sogindy** **58.17 301** ||*e*P **P** **23 03 57.2 -1.8**
comp=Z,303nm,2.8s,baz=301
SGDS *i* S **S** **23 11 59.6 +0.4**
baz=301
214A **Organ Pipe Nat** **58.29 78** P **P** **23 03 57.9 -2.0**
baz=318
214A S **S** **23 12 04.3 +3.4**
baz=318
LKP **Lekhapani** **58.33 273** *e*P **P** **23 04 03.3 +3.2**
F36A **Milaca** **58.34 54** IAmb IAmb 23 04 59.4
comp=Z,140nm,1.9s
F36A **Milaca** **58.34 54** P **P** **23 03 58.8 -1.2**
baz=317
F36A S **S** **23 12 00.4 -0.7**
baz=317
USP **Ospenovka** **58.37 301** P **P** **23 03 59.0 -1.4**
SNR=90
ECSD **EROS Data Cent** **58.40 58** P **P** **23 03 58.8 -1.6**
baz=317,SNR=12
ECSD S **S** **23 12 00.4 -1.7**
baz=317
ECSD **EROS Data Cent** **58.40 58** P **P** **23 03 58.9 -1.6**
baz=317,SNR=12
ECSD S **S** **23 12 00.2 -1.9**
baz=317
CHMS **Chumysh** **58.44 301** P **P** **23 04 00.8 0.0**
SNR=27
CHMS **Chumysh** **58.44 301** *i* P **P** **23 03 57.3 -3.5**
CHMS pmax pmax
comp=Z,117nm,1.3s
ANGG **Ammassalik, Gr** **58.57 12** P **P** **23 03 59.2 -2.0**
ANGG IAmb IAmb 23 04 56.7
comp=Z,52nm,1.1s
KBK **Karagaybulak** **58.59 300** P **P** **23 04 01.0 -1.1**
SNR=39
E38A **The Farm, Brul** **58.72 53** IAmb IAmb 23 04 32.1
comp=Z,68nm,0.9s
E38A **The Farm, Brul** **58.72 53** P **P** **23 04 01.3 -1.3**
baz=318
E38A S **S** **23 12 06.6 +0.6**
baz=318
KSCO **Kaye Shedlock'** **58.76 66** IAmb IAmb 23 04 19.6
comp=Z,72nm,0.8s
KSCO **Kaye Shedlock'** **58.76 66** P **P** **23 04 03.3 +0.1**
baz=317,SNR=6.8
KSCO S **S** **23 12 09.3 +2.2**
baz=317
KSCO **Kaye Shedlock'** **58.76 66** P **P** **23 04 01.5 -1.7**
baz=317,SNR=6.8
KSCO S **S** **23 12 09.5 +2.4**
baz=317
AAK **Ala-Archa** **58.84 301** P **P** **23 04 01.2 -2.5**
SNR=41
AAK **Ala-Archa** **58.84 301** P **P** **23 04 01.6 -2.1**
comp=Z,34nm,0.8s,baz=93,slow=4.6,SNR=25
AAK LR LR 23 31 48.8
comp=Z,33µm,18.4s,baz=41,slow=39
comp=Z,34nm,0.8s
AAK **Ala-Archa** **58.84 301** P **P** **23 04 02.0 -1.7**
AAK IAmb IAmb 23 04 15.0
comp=Z,85nm,0.9s
AAK **Ala-Archa** **58.84 301** *ce*P **P** **23 04 02.5 -1.2**
AAK pmax pmax
comp=Z,313nm,2.5s
AAK MLR MLR
comp=Z,33µm,17.0s
AAK **Ala-Archa** **58.84 301** P **P** **23 04 01.5 -2.1**
AAK P **P** **23 04 01.5 -2.1**
AAK P **P** **23 04 01.5 -2.1**
AAK **Ala-Archa** **58.84 301** *i* P **P** **23 04 01.5 -2.1**
SNR=58
UCH **Uchtor** **59.13 300** P **P** **23 04 06.1 0.0**
SNR=28
SPMN **Marine on St.** **59.16 54** IAmb IAmb 23 04 35.1
comp=Z,61nm,1.0s
SPMN **Marine on St.** **59.16 54** P **P** **23 04 05.5 -0.1**
baz=318

SPMN S **S** **23 12 10.8 -1.0**
baz=318
SPMN Marine on St. 59.16 54 P **P** **23 04 04.1 -1.5**
baz=318
SPMN S **S** **23 12 11.4 -0.3**
baz=318
T25A Trinidad 59.17 68 IAmb IAmb 23 04 31.6
comp=Z,67nm,1.2s
T25A Trinidad 59.17 68 P **P** **23 04 04.4 -1.8**
baz=317
T25A S **S** **23 12 14.4 +1.7**
baz=317
EKS2 Erkin-Say 59.18 301 P **P** **23 04 05.0 -0.9**
SNR=61
TUC Tucson 59.18 77 P **P** **23 04 05.3 -0.7**
TUC Tucson 59.18 77 IAMs_20 IAMs_20 23 31 37.4
comp=Z,9μm,18.0s
TUC Tucson 59.18 77 P **P** **23 04 05.4 -0.7**
TUC pmax pmax
comp=Z,34nm,1.2s
TUC MLR MLR
comp=Z,9μm,18.0s
TUC Tucson 59.18 77 P **P** **23 04 05.4 -0.7**
baz=318
TUC S **S** **23 12 17.9 +5.3**
baz=318
LSA Lhasa 59.28 279 P **P** **23 04 07.4 +0.1**
LSA S **S** **23 12 17.4 +2.8**
LSA pmax pmax
comp=Z,62nm,2.2s
LSA pmax pmax
comp=Z,1μm,6.1s
LSA LR LR
comp=Z,13μm,14.2s
LSA LR LR
comp=Z,11μm,15.7s
LSA LR LR
comp=Z,13μm,14.2s
LSA Lhasa 59.28 279 *i* P **P** **23 04 06.1 -1.1**
SNR=9.2
BGNE Belgrade 59.34 61 P **P** **23 04 07.6 +0.6**
baz=317
BGNE S **S** **23 12 14.3 +0.1**
baz=317
BGNE Belgrade 59.34 61 P **P** **23 04 05.0 -2.0**
baz=317
BGNE S **S** **23 12 12.1 -2.2**
baz=317
ZIRO ZIRO 59.34 275 *e*P **P** **23 04 10.6 +3.2**
AML Almayashu 59.61 301 P **P** **23 04 08.5 -0.8**
SNR=12
ANMO Albuquerque 59.66 71 P **P** **23 04 08.2 -1.3**
comp=Z,3.1nm,0.7s,baz=321,slow=9.6,SNR=14
ANMO LR LR 23 27 04.4
comp=Z,11μm,21.1s,baz=322,slow=33
comp=Z,3.1nm,0.7s
ANMO Albuquerque 59.66 71 P **P** **23 04 08.2 -1.3**
ANMO Albuquerque 59.66 71 IAMs_20 IAMs_20 23 27 23.9
comp=Z,11μm,21.0s
ANMO Albuquerque 59.66 71 *ce*P **P** **23 04 10.2 +0.7**
ANMO pmax pmax
comp=Z,35nm,2.5s
ANMO MLR MLR
comp=Z,7μm,20.0s
ANMO Albuquerque 59.66 71 P **P** **23 04 09.3 -0.2**
baz=318,SNR=15
ANMO S **S** **23 12 24.2 +5.2**
baz=318
ANMO Albuquerque 59.66 71 P **P** **23 04 08.3 -1.3**
baz=318
ANMO S **S** **23 12 24.5 +5.5**
baz=318
D41A Chassel 59.74 50 IAmb IAmb 23 04 38.9
comp=Z,122nm,1.2s
D41A Chassel 59.74 50 P **P** **23 04 08.8 -0.9**
baz=319
D41A S **S** **23 12 21.9 +2.7**
baz=319
VALR Valaam 59.75 338 *i* P **P** **23 04 08.6 -0.8**
VALR pmax pmax
comp=Z,219nm,0.9s
VALR MLR MLR
comp=Z,14μm,15.0s
I37B Waseca 59.77 56 P **P** **23 04 09.4 -0.5**
baz=318,SNR=18
I37B S **S** **23 12 20.5 +0.8**
baz=318
L34A Svendsen Farm, 59.82 59 P **P** **23 04 09.8 -0.5**
baz=318,SNR=5.3
L34A S **S** **23 12 21.8 +1.3**
baz=318
MOKO MOKOCHONG 59.87 274 *e*P **P** **23 04 12.6 +1.7**
MOKO IAmb IAmb 23 04 19.0
comp=Z,32nm,0.8s
NSS Namsos 59.95 349 *e*P **P** **23 04 10.9 +0.1**
NSS IVmBBB 23 04 15.0
comp=Z,2μm,3.0s
NSS *e*PP **PP** **23 06 22.8 +0.3**
NSS *i* 23 07 55.7
NSS *e*S **S** **23 12 20.6 -0.8**
NSS *e* 23 18 46.9
NSS IVMs_BB IVMs_BB 23 38 23.6
comp=Z,4μm,12.8s
Y22D IRIS PASSCAL I 60.05 72 IAMs_20 IAMs_20 23 29 43.1
comp=Z,15μm,19.0s
Y22D IRIS PASSCAL I 60.05 72 P **P** **23 04 09.6 -2.6**
baz=318
Y22D S **S** **23 12 27.9 +4.0**
baz=318
Y22A Socorro 60.13 73 P **P** **23 04 13.5 +0.8**
baz=318,SNR=7.7
Y22A S **S** **23 12 28.8 +3.8**
baz=318
KRVT Keravat (AS076 60.19 199 P **P** **23 04 12.1 -0.8**
comp=Z,40nm,0.6s,baz=311,slow=19,SNR=1.5
KRVT LR LR 23 28 52.5
comp=Z,8μm,18.5s,baz=149,slow=35
comp=Z,40nm,0.6s
N33A J Bar K, Exete 60.19 61 IAmb IAmb 23 04 48.5
comp=Z,108nm,1.1s
N33B J Bar K, Exete 60.19 61 S **S** **23 12 24.3 -0.9**
baz=318
COWI Conover 60.21 52 IAMs_20 IAMs_20 23 30 37.8
comp=Z,19μm,20.0s
COWI Conover 60.21 52 P **P** **23 04 12.6 -0.3**
baz=319
COWI S **S** **23 12 23.5 -1.8**
baz=319
DZA Taraz 60.22 303 *e*P **P** **23 04 11.0 -2.0**
DZA *e*S **S** **23 12 25.3 -0.2**
DZA pmax pmax
comp=Z,159nm,2.0s
DZA Taraz 60.22 303 *e*P **P** **23 04 11.0 -2.0**
comp=Z,159nm,2.0s,baz=303
DZA *e*S **S** **23 12 25.3 -0.2**
baz=303
G40A Rib Lake 60.35 53 IAmb IAmb 23 04 42.9
comp=Z,45nm,1.1s
G40A Rib Lake 60.35 53 S **S** **23 12 26.4 -0.7**
baz=319
KSH Kashi 60.38 297 P **P** **23 04 16.2 +1.9**
KSH pP pP 23 04 20.2 +0.3
KSH sP pwP 23 04 24.4 +1.0
KSH PP **PP** **23 06 32.1 +5.0**
KSH S **S** **23 12 30.6 +2.7**
KSH SS **SS** **23 16 32.9 +7.9**
KSH pmax pmax
comp=Z,180nm,2.0s
KSH pmax pmax
comp=Z,3μm,5.9s
KSH LR LR
comp=Z,43μm,15.5s
CBKS Cedar Bluff 60.43 64 IAmb IAmb 23 04 29.2
comp=Z,77nm,0.9s
CBKS IAMs_20 IAMs_20 23 30 03.4
comp=Z,14μm,21.0s
CBKS Cedar Bluff 60.43 64 S **S** **23 12 27.9 -0.5**
baz=318
CBKS Cedar Bluff 60.43 64 P **P** **23 04 12.5 -2.0**
baz=318
CBKS S **S** **23 12 29.0 +0.6**
baz=318
AKTO Aktyubinsk 60.44 316 LR LR 23 32 56.8
comp=Z,49μm,18.3s,baz=37,slow=39
AKTO Aktyubinsk 60.44 316 *i* P **P** **23 04 11.8 -2.6**
AKTO pmax pmax
comp=Z,122nm,1.1s

KK31 Karatay Array 60.46 304 P **P** **23 04 12.2 -2.5**
KK31 Karatay Array 60.46 304 *i* P **P** **23 04 12.5 -2.2**
KK31 pmax pmax
comp=Z,47nm,0.9s
KOHI KOHIMA 60.56 274 *e*P **P** **23 04 15.9 +0.2**
KOHI IAmb IAmb 23 04 27.1
comp=Z,183nm,1.4s
AB31 Akbulak array 60.57 315 *i* P **P** **23 04 12.6 -2.7**
AB31 pmax pmax
comp=Z,39nm,0.9s
ABKAR Akbulak array 60.57 315 P **P** **23 04 12.6 -2.7**
TEZP TEZPUR 60.64 275 *e*P **P** **23 04 17.9 +1.9**
TEZP IAmb IAmb 23 04 26.9
comp=Z,170nm,1.8s
FIA1 FINESS Array S 60.67 340 IAmb IAmb 23 04 40.2
comp=Z,70nm,0.8s
FINES FINESS Array B 60.67 340 P **P** **23 04 13.0 -2.7**
comp=Z,10nm,0.7s,baz=29,slow=7.9,SNR=26
FINES LR LR 23 36 52.3
comp=Z,14μm,18.6s,baz=34,slow=42
comp=Z,10nm,0.7s
FINES FINESS Array B 60.67 340 *i* P **P** **23 04 14.6 -1.2**
FINES pmax pmax
comp=Z,32nm,0.8s
121A Cookes Peak, D 60.71 74 S **S** **23 12 32.3 -0.2**
baz=318
121A Cookes Peak, D 60.71 74 P **P** **23 04 16.4 -0.3**
baz=318
121A S **S** **23 12 35.8 +3.3**
baz=318
BORG Borgarnes 60.85 5 LR LR 23 32 27.3
comp=Z,7μm,18.4s,baz=346,slow=38
F42A Maple Grove Fa 60.92 51 S **S** **23 12 32.5 -1.9**
baz=320
E43A Lone Tree Farm 60.97 50 S **S** **23 12 33.6 -1.4**
baz=320
N35A Tabor 61.01 60 S **S** **23 12 36.0 +0.3**
baz=318
K38A Parkersburg 61.09 56 S **S** **23 12 36.5 -0.2**
baz=319
CRAI Chiangrai 61.14 265 P **P** **23 04 19.3 -0.3**
CRAI IAmb IAmb 23 04 46.6
comp=Z,109nm,1.4s
I40A Norwalk 61.19 54 IAmb IAmb 23 04 48.5
comp=Z,51nm,1.0s
I40A Norwalk 61.19 54 S **S** **23 12 36.0 -1.9**
baz=319
R32A Long Quarter, 61.26 63 S **S** **23 12 35.8 -3.2**
baz=318
PUL Pulkovo 61.30 337 *i* P **P** **23 04 20.1 +0.1**
PUL pmax pmax
comp=Z,119nm,1.0s
PUL MLR MLR
comp=Z,17μm,21.0s
TBLU Trondheim 61.39 349 *e*P **P** **23 04 18.9 -1.7**
TBLU IVmBBB 23 04 23.0
comp=Z,2μm,2.9s
TBLU *e*S **S** **23 12 34.7 -5.1**
TBLU IVMs_BB IVMs_BB 23 36 09.6
comp=Z,4μm,19.1s
IUG luzhnay 61.41 303 *de*P **P** **23 04 19.7 -1.6**
IUG *e*S **S** **23 12 41.8 +0.8**
IUG luzhnay 61.41 303 ǁ *e*P **P** **23 04 19.7 -1.6**
baz=303
IUG *e*S **S** **23 12 41.8 +0.8**
baz=303
SCIA State Center 61.43 57 P **P** **23 04 18.9 -2.4**
baz=319
SCIA S **S** **23 12 39.2 -1.9**
baz=319
GENI Genyem 61.56 213 P **P** **23 04 26.3 +4.0**
comp=Z,5μmcomp=Z,61nm,1.8s
NRS Narsarsuaq 61.60 18 IAMs_20 IAMs_20 23 30 46.6
comp=Z,17μm,22.0s
GUWA GUWAHATI 61.60 276 *e*P **P** **23 04 22.6 0.0**
GUWA IAmb IAmb 23 04 28.5
comp=Z,38nm,0.8s
BAKI Biak 61.61 218 P **P** **23 04 24.1 +1.4**
comp=Z,3μmcomp=Z,93nm,2.3s
KSU1 Kansas State U 61.84 62 IAmb IAmb 23 04 58.0
comp=Z,37nm,0.9s
KSU1 Kansas State U 61.84 62 S **S** **23 12 45.2 -1.1**
baz=319
KSU1 Kansas State U 61.84 62 P P 23 04 18.5 -5.5
baz=319
KSU1 S **S** **23 12 43.9 -2.3**
baz=319
RAF Rauma 61.87 342 *e*P **P** **23 04 24.6 +0.8**
SCHQ Schefferville 61.92 33 P **P** **23 04 22.2 -2.2**
comp=Z,7.1nm,0.8s,baz=51,slow=0.3,SNR=3.1
SCHQ LR LR 23 34 18.4
comp=Z,14μm,18.4s,baz=328,slow=39
comp=Z,7.1nm,0.8s
SCHQ Schefferville 61.92 33 P **P** **23 04 22.9 -1.5**
SHL Shillong 61.97 275 P **P** **23 04 27.5 +2.1**
SNR=20
SHL Shillong 61.97 275 *e*P **P** **23 04 25.6 +0.3**
SHL IAmb IAmb 23 04 35.4
comp=Z,387nm,2.1s
I42A Draeger Farm, 61.99 53 IAmb IAmb 23 04 47.6
comp=Z,52nm,1.0s
I42A Draeger Farm, 61.99 53 S **S** **23 12 47.7 -0.3**
baz=320
EPT El Paso 62.00 74 IAMs_20 IAMs_20 23 33 42.0
comp=Z,9μm,19.0s
KIDD KIDD Seismic O 62.00 74 S **S** **23 12 53.6 +5.0**
baz=319
H43A Windswept, Lux 62.08 52 S **S** **23 12 48.3 -0.8**
baz=320
JFWS Jewell Farm 62.11 55 IAmb IAmb 23 04 54.1
comp=Z,72nm,1.3s
JFWS Jewell Farm 62.11 55 S **S** **23 12 48.2 -1.3**
baz=320
JFWS Jewell Farm 62.11 55 P P 23 04 19.8 -6.0
baz=320
JFWS S **S** **23 12 47.7 -1.8**
baz=320
MEF Metsahovi 62.13 341 *e*P **P** **23 04 25.2 -0.4**
UBPT Khong Chiam 62.13 257 P **P** **23 04 25.6 -0.7**
E46A Sault Ste Mari 62.16 48 IAmb IAmb 23 05 28.9
comp=Z,46nm,1.0s
E46A Sault Ste Mari 62.16 48 S **S** **23 12 49.7 -0.5**
baz=321
N38A Joes South For 62.27 58 IAmb IAmb 23 05 21.8
comp=Z,60nm,0.8s
L40A Anamosa 62.29 56 IAmb IAmb 23 04 49.3
comp=Z,30nm,0.8s
AMTX Amarillo 62.33 68 IAMs_20 IAMs_20 23 29 05.1
comp=Z,11μm,21.0s
AMTX Amarillo 62.33 68 P **P** **23 04 25.0 -2.5**
baz=319
AMTX S **S** **23 12 54.0 +1.3**
baz=319
MOL Molde 62.34 350 *e*P P 23 04 18.1 -8.9
MOL IVmB_BB 23 04 29.2
comp=Z,2μm,3.4s
MOL *e*S **S** **23 12 50.7 -1.1**
MOL *e*SS **SS** **23 16 57.0 +2.8**
MOL IVMs_BB IVMs_BB 23 37 37.3
comp=Z,3μm,17.9s
MSTX Muleshoe 62.42 70 IAmb IAmb 23 04 44.0
comp=Z,113nm,1.4s
MSTX Muleshoe 62.42 70 P **P** **23 04 28.7 +0.5**
baz=319,SNR=13
MSTX S **S** **23 12 57.5 +3.6**
baz=319
MSTX Muleshoe 62.42 70 P **P** **23 04 24.3 -3.8**
baz=319,SNR=13
MSTX S **S** **23 12 56.7 +2.8**
baz=319
NOKA Waynoka 62.48 65 IAmb IAmb 23 04 39.2
comp=Z,156nm,1.8s
CPRX Cap Rock 62.52 71 P **P** **23 04 28.4 -0.5**
GTK Tadong 62.54 279 *e*P **P** **23 04 31.9 +2.8**
GTK IAmb IAmb 23 04 36.0
comp=Z,103nm,1.4s
OK035 E0210 Rd and N 62.54 65 IAMs_20 IAMs_20 23 33 01.9
comp=Z,17μm,19.0s
G45A Suttons Bay 62.59 50 S **S** **23 12 55.3 -0.3**
baz=321
G45A S **S** **23 12 55.3 -0.3**
baz=321
U32A Winter Ranch, 62.64 65 P **P** **23 04 29.4 0.0**
U32A IAmb IAmb 23 05 09.6
comp=Z,40nm,0.9s
U32A Winter Ranch, 62.64 65 S **S** **23 12 56.7 +0.2**
baz=319

MNTX Cornudas Mount 62.68 73 IAmb IAmb 23 04 45.6
comp=Z,47nm,0.8s
MNTX IAMs_20 IAMs_20 23 28 53.4
comp=Z,13μm,21.0s
MNTX Cornudas Mount 62.68 73 P **P** **23 04 29.8 0.0**
baz=319,SNR=48
MNTX S **S** **23 13 01.8 +4.7**
baz=319
MNTX Cornudas Mount 62.68 73 P P 23 04 22.6 -7.3
baz=319,SNR=48
MNTX S **S** **23 12 58.5 +1.4**
baz=319
DOMB Dombas 62.70 349 *e*P **P** **23 04 28.7 -0.8**
DOMB IVmB_BB 23 04 32.4
comp=Z,2μm,2.2s
DOMB *e*S **S** **23 12 54.0 -2.4**
DOMB IVMs_BB IVMs_BB 23 39 50.8
comp=Z,6μm,12.1s
OK038 West end E0370 62.70 65 IAmb IAmb 23 04 45.8
comp=Z,40nm,0.8s
OK038 IAMs_20 IAMs_20 23 34 37.1
comp=Z,13μm,18.0s
OK032 Salt Plains WL 62.73 64 IAMs_20 IAMs_20 23 34 34.0
comp=Z,13μm,18.0s
BELG Belogornoye 62.75 324 LR LR 23 35 15.7
comp=Z,32μm,18.3s,baz=43,slow=40
BELG Belogornoye 62.75 324 *i* P **P** **23 04 28.1 -1.8**
BELG pmax pmax
comp=Z,13nm,1.0s
BELG MLR MLR
comp=Z,5μm,17.0s
AKN Aaknes 62.78 350 *e*P **P** **23 04 30.7 +0.7**
AKN IVmB_BB 23 04 33.5
comp=Z,2μm,2.2s
AKN *e*S **S** **23 12 57.1 -0.3**
P38A Dawn 63.00 59 P **P** **23 04 29.9 -1.9**
baz=320
P38A S **S** **23 12 58.7 -2.1**
baz=320
TAPN Taplejung 63.03 280 *e*P **P** **23 04 32.5 0.0**
MOS Moscow 63.03 331 *e*P **P** **23 04 31.4 -0.3**
MOS *e* 23 05 08.2
MOS *e* 23 06 49.0
MOS *e*PPP PPP 23 08 20.8
MOS *e*S **S** **23 12 59.2 -1.5**
MOS *e*PS PnS 23 13 35.4 +18
MOS *e* 23 14 20.8
MOS *e*SS **SS** **23 16 59.2 -6.2**
MOS pmax pmax
comp=Z,302nm,1.7s
MOS pmax pmax
comp=N,134nm,1.4s
MOS pmax pmax
comp=N,1μm,4.0s
MOS pmax pmax
comp=E,700nm,4.0s
MOS pmax pmax
comp=Z,2μm,4.0s
MOS smax smax
comp=N,2μm,6.6s
MOS smax smax
comp=E,6μm,7.4s
MOS MLR MLR
comp=Z,28μm,18.0s
MOS MLR MLR
comp=E,18μm,16.0s
L42A Oliver, Polo 63.08 55 IAmb IAmb 23 05 09.5
comp=Z,47nm,0.9s
L42A Oliver, Polo 63.08 55 S **S** **23 12 60.0 -1.7**
baz=320
CHTO Chiang Mai 63.08 265 P **P** **23 04 31.5 -1.1**
CHTO Chiang Mai 63.08 265 P **P** **23 04 31.5 -1.1**
CHTO MLR MLR
comp=Z,21μm,19.0s
I45A Fountain 63.11 51 S **S** **23 13 04.8 +2.8**
baz=321
I45A S **S** **23 13 04.8 +2.8**
baz=321
SWI Sorong 63.13 223 P **P** **23 04 33.9 +1.0**
comp=Z,2μmcomp=Z,3μmcomp=Z,131nm,2.4s
SIJI Sorong 63.14 223 P **P** **23 04 33.5 +0.6**
comp=Z,79nm,1.1s,baz=11,slow=9.4,SNR=16
comp=Z,79nm,1.1s
K43A Burlington 63.17 54 P **P** **23 04 33.3 +0.4**
baz=320
K43A S **S** **23 13 03.9 +1.0**
baz=320
GLMI Grayling 63.23 50 P P 23 04 26.8 -6.4
baz=321
GLMI S **S** **23 13 01.9 -1.7**
baz=321
NC303 NORSAR Array S 63.23 348 IAmb IAmb 23 04 56.5
comp=Z,74nm,1.0s
NC303 NORSAR Array S 63.23 348 *e*P **P** **23 04 33.0 +0.1**
NC303 IVmBBB 23 04 37.5
comp=Z,2μm,3.1s
TNTI Ternate 63.27 228 P **P** **23 04 36.3 +2.5**
comp=Z,2μmcomp=Z,2μmcomp=Z,59nm,2.0s
VSU Vasula 63.27 339 *i* P **P** **23 04 33.0 -0.3**
VSU pmax pmax
comp=Z,574nm,1.9s
VSU MLR MLR
comp=Z,35μm,16.0s
VSU Vasula 63.27 339 *e*P **P** **23 04 33.6 +0.3**
CSTR Hydro, Custer 63.36 66 P **P** **23 04 33.7 -0.6**
CSTR IAmb IAmb 23 04 50.0
comp=Z,5.1nm,0.8s
CM31 Chiang Mai Arr 63.36 265 IAmb IAmb 23 04 48.1
comp=Z,103nm,1.4s
CMAR Chiang Mai Arr 63.36 265 P **P** **23 04 34.5 +0.1**
comp=Z,5.8nm,0.5s,baz=25,slow=6.2,SNR=16
CMAR LR LR 23 33 44.0
comp=Z,16μm,19.8s,baz=35,slow=38
comp=Z,5.8nm,0.5s
CMAR Chiang Mai Arr 63.36 265 P **P** **23 04 34.2 -0.2**
CMAR Chiang Mai Arr 63.36 265 *i* P **P** **23 04 37.7 +3.3**
CMAR pmax pmax
comp=Z,23nm,0.8s
NB2 NORSAR Subarra 63.43 348 P **P** **23 04 32.8 -1.5**
comp=Z,158nm,1.1s,baz=16,slow=6.9
NB2 NORSAR Subarra 63.43 348 P **P** **23 04 32.8 -1.5**
baz=16,slow=6.9
NOA NORSAR Array B 63.43 348 P **P** **23 04 32.3 -2.0**
comp=Z,34nm,0.8s,baz=16,slow=6.7,SNR=61
NOA LR LR 23 31 41.2
comp=Z,9μm,21.5s,baz=10.0,slow=36
comp=Z,34nm,0.8s
N41A Harden Midland 63.50 57 S **S** **23 13 05.0 -2.0**
baz=320
FOO Floro 63.53 351 *e*P **P** **23 04 33.0 -1.9**
FOO IVmBBB 23 04 39.7
comp=Z,2μm,3.2s
FOO *e*S **S** **23 13 07.2 +0.4**
T35A Sooner Cattle 63.54 63 P **P** **23 04 35.3 -0.2**
T35B Sooner Cattle 63.54 63 S **S** **23 13 04.8 -2.8**
baz=320
MTSE Matsula 63.64 340 *e*P **P** **23 04 35.1 -0.5**
VLDQ Val d'Or 63.65 43 IAmb IAmb 23 04 47.9
comp=Z,45nm,0.9s
GUN Gumba 63.65 282 *e*P **P** **23 04 35.9 -0.8**
JIRN Jiri 63.66 281 *e*P **P** **23 04 36.1 -0.7**
NC602 NORSAR Array S 63.68 348 *e*P **P** **23 04 35.2 -0.8**
L44A Lake County Fo 63.78 54 IAMs_20 IAMs_20 23 34 11.8
comp=Z,16μm,20.0s
L44A Lake County Fo 63.78 54 P P 23 04 30.0 -6.8
baz=321
L44A S **S** **23 13 08.9 -1.5**
baz=321
OK044 Pawnee Station 63.80 64 IAMs_20 IAMs_20 23 33 38.0
comp=Z,13μm,20.0s
P40A Paris 63.82 58 P **P** **23 04 36.5 -0.6**
baz=320,SNR=9.5
P40A S **S** **23 13 10.4 -0.6**
baz=320
HYA Hoyanger 63.85 351 *e*P **P** **23 04 41.3 +4.3**
HYA *e*S **S** **23 13 13.6 +2.8**
HYA IVMs_BB IVMs_BB 23 43 24.1
comp=Z,3μm,14.7s
OBN Obninsk 63.87 332 LR LR 23 35 16.7
comp=Z,6μm,18.5s,baz=31,slow=39
OBN Obninsk 63.87 332 P **P** **23 04 36.4 -0.9**
OBN Obninsk 63.87 332 *de*P **P** **23 04 35.9 -1.4**
OBN *e* 23 06 57.7
OBN *i*S **S** **23 13 12.5 +1.4**
OBN *e*SS **SS** **23 17 23.6 +5.2**
OBN pmax pmax
comp=Z,74nm,1.2s

OBN MLR MLR
comp=Z,29µm,16.0s
OK029 Liberty Lake 63.89 65 IAmb IAmb 23 05 29.9
comp=Z,42nm,1.0s
OK029 IAMs_20 IAMs_20 23 33 41.7
comp=Z,12µm,20.0s
RAMN Ramite 63.97 280 *e*P **P** **23 04 37.9 -0.8**
HFS Hagfors 63.98 346 LR LR 23 31 03.2
comp=Z,13µm,21.9s,baz=17,slow=35
WMOK Wichita Mounta 63.99 66 P **P** **23 04 37.1 -1.4**
WMOK IAmb IAmb 23 04 54.6
comp=Z,47nm,0.8s
WMOK Wichita Mounta 63.99 66 IAMs_20 IAMs_20 23 32 44.4
comp=Z,10µm,20.0s
WMOK Wichita Mounta 63.99 66 P **P** **23 04 37.1 -1.4**
WMOK pmax pmax
comp=Z,47nm,0.8s
WMOK MLR MLR
comp=Z,10µm,20.0s
WMOK Wichita Mounta 63.99 66 P **P** **23 04 37.8 -0.7**
baz=320,SNR=12
WMOK S **S** **23 13 14.2 +0.8**
baz=320
WMOK Wichita Mounta 63.99 66 P **P** **23 04 34.8 -3.7**
baz=320,SNR=12
WMOK S **S** **23 13 14.5 +1.1**
baz=320
HNR Honiara 64.09 189 LR LR 23 28 43.3
comp=Z,109µm,21.5s,baz=11,slow=32
HNR Honiara 64.09 189 IAMs_20 IAMs_20 23 26 40.2
comp=Z,12µm,22.0s
SUE Sulen 64.09 351 *e*P **P** **23 04 38.8 +0.2**
SUE IVmB_BB 23 04 43.6
comp=Z,2µm,6.4s
SUE *e*S **S** **23 13 15.0 +1.4**
HQIL Hanson Quary C 64.10 54 IAMs_20 IAMs_20 23 34 30.3
comp=Z,23µm,20.0s
OK031 S. Brethren Rd 64.10 64 IAMs_20 IAMs_20 23 34 00.2
comp=Z,12µm,19.0s
SKAR Skarslia 64.11 349 *e*P **P** **23 04 38.4 -0.5**
SKAR *e*S **S** **23 13 14.5 +0.3**
SKAR *e*SS **SS** **23 17 26.7 +4.6**
SKAR IVMs_BB IVMs_BB 23 39 18.9
comp=Z,4µm,15.6s
OK025 Westminster Rd 64.12 65 IAmb IAmb 23 04 54.3
comp=Z,139nm,1.7s
OK025 IAMs_20 IAMs_20 23 35 27.7
comp=Z,11µm,18.0s
OK034 N. Norfolk Rd. 64.12 64 IAMs_20 IAMs_20 23 33 58.8
comp=Z,10µm,20.0s
OK030 Cody Creek RV 64.15 64 IAMs_20 IAMs_20 23 34 01.4
comp=Z,12µm,20.0s
PKI Pulchoki 64.18 282 *e*P **P** **23 04 39.6 -0.5**
PKIN Phulchoki 64.18 282 *e*P **P** **23 04 39.6 -0.5**
comp=Z,98nm,0.6s
GKN Gorkha 64.29 283 *e*P **P** **23 04 40.0 -0.7**
DMN Daman 64.32 282 *e*P **P** **23 04 40.5 -0.5**
M44A Midewin, Midew 64.33 54 IAmb IAmb 23 05 18.1
comp=Z,70nm,1.1s
M44A Midewin, Midew 64.33 54 S **S** **23 13 15.9 -1.3**
baz=321
BRDH Bariadhala 64.33 273 LR LR 23 36 59.7
comp=Z,16µm,18.7s,baz=50,slow=40
DEOK Depew 64.36 64 P **P** **23 04 40.9 0.0**
DEOK IAmb IAmb 23 05 03.8
comp=Z,138nm,1.8s
HDIL Hopedale 64.37 56 IAMs_20 IAMs_20 23 35 07.6
comp=Z,13µm,20.0s
HDIL Hopedale 64.37 56 P **P** **23 04 39.3 -1.6**
baz=321,SNR=9.9
HDIL S **S** **23 13 17.4 -0.5**
baz=321
HDIL Hopedale 64.37 56 P P 23 04 35.8 -5.1
baz=321,SNR=9.9
HDIL S **S** **23 13 16.2 -1.7**
baz=321
J47A Sunmer 64.38 51 IAmb IAmb 23 04 55.2
comp=Z,56nm,0.8s
J47A Sunmer 64.38 51 S **S** **23 13 15.9 -1.9**
baz=322
J47A S **S** **23 13 15.9 -1.9**
baz=322
LBMI Labuha 64.47 227 P **P** **23 04 45.2 +3.5**
comp=Z,2µmcomp=Z,1µmcomp=Z,76nm,1.5s
DANN Dangsing 64.52 284 *e*P **P** **23 04 42.1 -0.3**
OSL Oslo 64.56 348 *e*P **P** **23 04 39.6 -2.0**
OSL IVmBBB 23 04 46.0
comp=Z,2µm,1.7s
OSL *i* 23 08 50.1
OSL *e*S **S** **23 13 21.0 +1.5**
OSL *e*SS **SS** **23 17 31.4 +2.5**
OSL IVMs_BB IVMs_BB 23 40 33.2
comp=Z,7µm,14.1s
S39A Bolivar 64.59 60 S **S** **23 13 16.4 -4.2**
baz=320
ASK Askoy 64.62 351 *e*S **S** **23 13 21.7 +1.5**
FAKI Fak Fak 64.63 221 P **P** **23 04 40.8 -1.9**
FAKI IAmb IAmb 23 05 05.2
comp=Z,97nm,1.3s
FAKI Fak Fak 64.63 221 P **P** **23 04 45.7 +3.0**
comp=Z,2µmcomp=Z,59nm,1.9s
R40A Maddies Statio 64.66 59 P **P** **23 04 40.8 -1.9**
baz=320
R40A S **S** **23 13 19.0 -2.4**
baz=320
L46A Eue Claire 64.66 53 S **S** **23 13 21.1 -0.2**
baz=322
L46A S **S** **23 13 21.1 -0.2**
baz=322
TUL1 Leonard 64.68 63 IAmb IAmb 23 04 54.5
comp=Z,94nm,1.6s
TUL1 IAMs_20 IAMs_20 23 34 01.5
comp=Z,16µm,20.0s
TUL1 Leonard 64.68 63 P **P** **23 04 38.8 -4.1**
baz=320
TUL1 S **S** **23 13 19.0 -2.8**
baz=320
BER Bergen 64.70 351 *e*P **P** **23 04 40.5 -2.1**
BER IVmBBB 23 04 47.8
comp=Z,2µm,3.1s
BER *e*S **S** **23 13 23.0 +1.8**
BER IVMs_BB IVMs_BB 23 41 27.0
comp=Z,5µm,13.0s
I49A Point Hope 64.72 49 S **S** **23 13 20.9 -1.1**
baz=322
I49A S **S** **23 13 20.9 -1.1**
baz=322
SLIT Silsere, Latvi 64.94 341 *e*P **P** **23 04 44.2 0.0**
P43A Skaggs, Pawnee 64.97 56 IAmb IAmb 23 05 22.5
comp=Z,52nm,0.9s
P43A Skaggs, Pawnee 64.97 56 P **P** **23 04 43.7 -1.1**
baz=321
P43A S **S** **23 13 24.3 -0.9**
baz=321
KONO Kongsberg 64.97 348 P **P** **23 04 43.1 -1.3**
KONO IAmb IAmb 23 05 08.4
comp=Z,70nm,0.8s
KONO Kongsberg 64.97 348 IAMs_20 IAMs_20 23 37 16.2
comp=Z,9µm,20.0s
KONO Kongsberg 64.97 348 *ce*P **P** **23 04 45.1 +0.7**
KONO pmax pmax
comp=Z,111nm,1.3s
KONO MLR MLR
comp=Z,8µm,19.0s
KONO Kongsberg 64.97 348 *e*P **P** **23 04 43.1 -1.3**
KONO IVmBBB 23 04 49.1
comp=Z,2µm,2.8s
KONO *e*S **S** **23 13 22.6 -2.1**
KONO IVMs_BB IVMs_BB 23 41 07.1
comp=Z,6µm,12.7s
U38A Gravette 65.00 62 IAmb IAmb 23 05 40.4
comp=Z,65nm,1.8s
U38A Gravette 65.00 62 S **S** **23 13 24.1 -1.7**
baz=320
ODD1 Odda 65.04 350 *e*P **P** **23 04 44.5 -0.4**
ODD1 *e*S **S** **23 13 26.8 +1.2**
O44A Mansfield 65.08 55 S **S** **23 13 25.9 -0.8**
baz=321
ABTX Abilene, Hawle 65.14 68 S **S** **23 13 27.6 -0.1**
baz=320
ABTX Abilene, Hawle 65.14 68 P **P** **23 04 41.9 -4.1**
baz=320
ABTX S **S** **23 13 26.7 -0.9**
baz=320
PYUN Piuthan 65.15 284 *e*P **P** **23 04 45.5 -0.8**
GTOI Gorontalo 65.33 232 P **P** **23 04 49.8 +2.5**
comp=Z,592nmcomp=Z,18nm,1.2s

CCM Cathedral Cave 65.35 59 P **P** **23 04 45.2 -2.0**
CCM IAmb IAmb 23 04 59.3
comp=Z,34nm,0.9s
CCM Cathedral Cave 65.35 59 P **P** **23 04 45.2 -2.0**
CCM pmax pmax
comp=Z,34nm,1.0s
CCM MLR MLR
comp=Z,20µm,20.0s
CCM Cathedral Cave 65.35 59 P **P** **23 04 45.8 -1.4**
baz=321
CCM S **S** **23 13 29.0 -0.9**
baz=321
CCM Cathedral Cave 65.35 59 P P 23 04 41.3 -5.9
baz=321
CCM S **S** **23 13 26.6 -3.3**
baz=321
HHAR Hobbs 65.35 62 IAmb IAmb 23 05 04.8
comp=Z,62nm,1.4s
LPSR Galich'ya Gora 65.39 329 *e*P **P** **23 04 45.4 -1.8**
LPSR *e*S **S** **23 13 23.0 -6.9**
LPSR pmax pmax
comp=Z,250nm,1.9s
LPSR smax smax
comp=N,2µm,9.6s
LPSR MLR MLR
comp=Z,30µm,16.0s
SLM Saint Louis 65.40 58 S **S** **23 13 30.7 +0.2**
baz=321
LOOK Love County 65.42 66 IAmb IAmb 23 05 11.7
comp=Z,255nm,1.6s
TX31 Lajitas Ar. Si 65.44 74 P **P** **23 04 47.5 -0.5**
baz=320,SNR=72
TX32 Lajitas Array 65.44 74 IAmb IAmb 23 05 03.4
comp=Z,55nm,0.8s
TXAR Lajitas Array 65.44 74 P **P** **23 04 46.6 -1.4**
comp=Z,10nm,0.7s,baz=304,slow=5.0,SNR=46
TXAR LR LR 23 33 54.0
comp=Z,7µm,18.2s,baz=330,slow=37
comp=Z,10nm,0.7s
TXAR Lajitas Array 65.44 74 P **P** **23 04 47.0 -1.0**
TXAR Lajitas Array 65.44 74 P **P** **23 04 47.0 -1.0**
MGMO Mountain Grove 65.53 60 IAmb IAmb 23 04 59.5
comp=Z,147nm,1.9s
BLS5 Blasjo 65.54 350 *e*P **P** **23 04 48.9 +0.7**
BLS5 IVmBBB 23 04 52.8
comp=Z,1µm,2.3s
BLS5 *e*S **S** **23 13 32.8 +1.1**
BLS5 IVMs_BB IVMs_BB 23 38 49.1
comp=Z,4µm,16.3s
SFIN Lafayette 65.56 54 IAmb IAmb 23 05 16.4
comp=Z,88nm,1.2s
SFIN Lafayette 65.56 54 P **P** **23 04 44.9 -3.7**
baz=322
SFIN S **S** **23 13 31.3 -1.2**
baz=322
L48A N Adams 65.57 52 IAmb IAmb 23 05 02.6
comp=Z,54nm,0.8s
L48A N Adams 65.57 52 S **S** **23 13 30.1 -2.5**
baz=322
L48A S **S** **23 13 30.1 -2.5**
baz=322
AAM Ann Arbor 65.64 51 IAMs_20 IAMs_20 23 33 38.3
comp=Z,13µm,19.0s
AAM Ann Arbor 65.64 51 S **S** **23 13 31.6 -1.8**
baz=322
AAM Ann Arbor 65.64 51 P P 23 04 44.0 -5.0
baz=322
AAM S **S** **23 13 30.4 -2.9**
baz=322
SADO Sadowa 65.65 46 P **P** **23 04 47.1 -2.0**
comp=Z,6.9nm,0.7s,baz=296,slow=6.3,SNR=5.9
SADO LR LR 23 34 38.5
comp=Z,13µm,19.5s,baz=354,slow=37
comp=Z,6.9nm,0.7s
LPIG La Paz 65.67 82 LR LR 23 27 31.1
comp=Z,10µm,21.8s,baz=314,slow=31
VRH Novokhopyorsk 65.72 326 *e*P **P** **23 04 48.2 -1.2**
VRH *e*S **S** **23 13 30.6 -3.5**
VRH pmax pmax
comp=Z,180nm,1.8s
VRH smax smax
comp=N,2µm,9.8s
VRH MLR MLR
comp=Z,31µm,17.0s
Q44A Meyer Farm, Va 65.79 57 S **S** **23 13 36.2 +0.9**
baz=321
FVM French Village 65.81 58 IAmb IAmb 23 05 02.5
comp=Z,34nm,0.9s
FVM French Village 65.81 58 S **S** **23 13 35.0 -0.6**
baz=321
N47A Urbana 65.83 53 P **P** **23 04 49.0 -1.3**
N47A IAmb IAmb 23 05 00.9
comp=Z,143nm,1.8s
N47A Urbana 65.83 53 S **S** **23 13 35.9 +0.1**
baz=322
N47A S **S** **23 13 35.9 +0.1**
baz=322
KMY Karmoy 65.86 351 *e*P **P** **23 04 52.9 +2.7**
KMY *e*S **S** **23 13 36.6 +1.0**
Z35A Perchaven, San 65.89 66 S **S** **23 13 36.2 -0.4**
baz=320
X37A Clayton 65.91 64 S **S** **23 13 36.1 -0.9**
baz=321
MRSI Marisa 65.96 233 P **P** **23 04 54.6 +3.2**
comp=Z,3µmcomp=Z,2µmcomp=Z,58nm,1.1s
ISAL Salakas 66.07 338 *e*P **P** **23 04 51.5 0.0**
SMLA Simla 66.08 290 *e*P **P** **23 04 50.0 -1.9**
SMLA IAmb IAmb 23 05 04.1
comp=Z,246nm,1.3s
P46A Rosedale 66.11 55 IAmb IAmb 23 05 09.8
comp=Z,67nm,0.9s
P46A Rosedale 66.11 55 S **S** **23 13 39.9 +0.8**
baz=322
VORR Voronezh 66.11 328 *e*P **P** **23 04 50.6 -1.3**
VORR *e*S **S** **23 13 41.5 +2.7**
VORR pmax pmax
comp=Z,250nm,2.2s
VORR MLR MLR
comp=Z,44nm,19.0s
VSVD Vaisvydziai 66.16 339 *e*P **P** **23 04 52.5 +0.4**
PMG Port Moresby 66.16 203 LR LR 23 28 34.1
comp=Z,8µm,22.0s,baz=16,slow=31
PMG Port Moresby 66.16 203 IAMs_20 IAMs_20 23 28 00.5
comp=Z,10µm,22.0s
SLBS Sierra La Lagu 66.20 82 IAMs_20 IAMs_20 23 27 24.1
comp=Z,9µm,22.0s
DDI Dehra Dun 66.21 289 *e*P **P** **23 04 53.9 +0.9**
DDI IAmb IAmb 23 05 02.1
comp=Z,141nm,1.1s
NIL Nilore 66.25 295 P **P** **23 04 51.4 -1.7**
NIL Nilore 66.25 295 P **P** **23 04 51.4 -1.7**
NIL pmax pmax
comp=Z,181nm,1.0s
NIL MLR MLR
comp=Z,36µm,19.0s
IIGN Ignalina 66.25 338 *e*P **P** **23 04 52.6 -0.1**
BHK Bhakra 66.27 291 *ex* x 23 04 49.8
MSAI Masohi 66.33 224 P **P** **23 04 57.0 +3.3**
comp=Z,672nmcomp=Z,10nm,0.6s
TRQ Mont Tremblant 66.34 43 IAmb IAmb 23 05 20.2
comp=Z,80nm,1.1s
OLIL Olney 66.37 56 S **S** **23 13 45.7 +3.4**
baz=322
SANI Sanana 66.39 228 P **P** **23 04 56.4 +2.3**
comp=Z,2µmcomp=Z,1µmcomp=Z,74nm,1.3s
HOMB Homborsund 66.45 349 *e*P **P** **23 04 51.8 -2.2**
HOMB IVmB_BB 23 04 59.0
comp=Z,2µm,7.6s
HOMB *e*S **S** **23 13 43.3 +0.6**
HOMB IVMs_BB IVMs_BB 23 41 51.1
comp=Z,6µm,13.3s
DELO Deloro Mine 66.49 46 IAmb IAmb 23 05 17.3
comp=Z,45nm,1.1s
N49A Columbus Grove 66.50 52 IAmb IAmb 23 05 07.9
comp=Z,33nm,0.8s
N49A Columbus Grove 66.50 52 P **P** **23 04 53.3 -1.3**
baz=323
N49A P **P** **23 04 53.3 -1.3**
baz=323
N49A S **S** **23 13 42.6 -1.2**
baz=323
N49A S **S** **23 13 42.6 -1.2**
baz=323
PBUR Paburge 66.52 340 *e*P **P** **23 04 54.3 -0.1**
VSR Storozhevoye 66.52 328 *e*P **P** **23 04 52.7 -1.8**
VSR *e*S **S** **23 13 37.2 -6.6**
VSR pmax pmax
comp=Z,210nm,1.8s
VSR smax smax
comp=N,3µm,10.3s
VSR MLR MLR
comp=Z,24µm,16.0s
SNART Snartemo 66.53 349 *e*P **P** **23 04 53.5 -1.0**
SNART *e*S **S** **23 13 45.3 +1.7**
SNART IVMs_BB IVMs_BB 23 42 58.5
comp=Z,14µm,15.5s
NACGM Naroch 66.53 337⇑ *e*P **P** **23 04 54.0 -0.6**
baz=23
O48B Farmland 66.57 53 P **P** **23 04 55.4 +0.3**
baz=322
O48B S **S** **23 13 44.0 -0.8**
baz=322
O48B Farmland 66.57 53 P P 23 04 50.0 -5.1
baz=322
O48B S **S** **23 13 42.5 -2.3**
baz=322
PABE Paberze 66.59 339 P **P** **23 04 53.7 -1.2**
PABE IAMs_20 IAMs_20 23 34 33.9
comp=Z,17µm,22.0s
PABE Paberze 66.59 339 *e*P **P** **23 04 54.9 0.0**
S44A Carbondale 66.62 58 P **P** **23 04 53.4 -2.0**
S44A IAmb IAmb 23 05 07.7
comp=Z,44nm,0.8s
S44A Carbondale 66.62 58 S **S** **23 13 44.6 -0.8**
baz=322
M50A Fremont 66.63 51 P **P** **23 04 53.6 -1.8**
M50A IAmb IAmb 23 05 23.2
comp=Z,42nm,0.9s
MNK Minsk 66.65 336 *i* P **P** **23 04 54.7 -0.6**
MNK *i* 23 05 24.6
MNK *i* 23 07 21.1
MNK *i* PPP PPP 23 08 58.4
MNK *i* S **S** **23 13 47.1 +1.9**
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=Z,111nm,0.8s
MNK MLR MLR
comp=E,2µm,19.0s
MNK MLR MLR
comp=Z,19µm,17.0s
MNK Minsk 66.65 336 *i* P **P** **23 04 54.8 -0.6**
comp=E,5.0nm,0.8s
MNK *i* P **P** **23 04 54.8 -0.6**
MNK *i* P **P** **23 04 54.8 -0.6**
comp=Z,111nm,0.8s,baz=24
MNK *i* PcP **PcP** **23 05 24.7 +0.3**
MNK *i* PP **PP** **23 07 21.2 -0.3**
MNK *i* PPP PPP 23 08 58.4
MNK *i* S **S** **23 13 47.1 +1.9**
MNK *i* SS SS 23 17 48.7 -13
MNK *i* SSS SSS 23 21 20.1
MNK *i* LQ LQ 23 30 01.4
MNK *i* LR LR 23 33 36.1
MNK *i* LRM MLR 23 37 35.7
comp=E,2µm,19.2s
MNK *i* LRM MLR 23 37 35.7
comp=Z,19µm,17.5s
JCT Junction City 66.70 70 P **P** **23 04 55.3 -0.8**
JCT IAmb IAmb 23 05 39.4
comp=Z,58nm,1.1s
JCT IAMs_20 IAMs_20 23 37 00.9
comp=Z,11µm,19.0s
JCT Junction City 66.70 70 P **P** **23 04 55.3 -0.8**
JCT pmax pmax
comp=Z,58nm,1.1s
JCT MLR MLR
comp=Z,11µm,19.0s
JCT Junction City 66.70 70 P **P** **23 04 56.0 -0.1**
baz=321
JCT S **S** **23 13 47.8 +1.2**
baz=321
JCT Junction City 66.70 70 P P 23 04 47.5 -8.6
baz=321,SNR=7.4
JCT S **S** **23 13 46.9 +0.2**
baz=321
CGM3 Cape Girardeau 66.73 58 P **P** **23 04 56.1 0.0**
CGM3 IAmb IAmb 23 05 47.4
comp=Z,47nm,1.3s
PBMO Poplar Bluff 66.75 59 S **S** **23 13 49.0 +2.0**
baz=322
BLO Bloomington 66.78 55 P **P** **23 04 56.1 -0.3**
BLO Bloomington 66.78 55 P **P** **23 04 56.1 -0.3**
BLO pmax pmax
comp=Z,169nm,2.0s
BOK Bokaro 66.80 279 *e*P **P** **23 04 58.7 +1.9**
BOK IAmb IAmb 23 05 07.6
comp=Z,266nm,2.0s
WHTX Lake Whitney, 66.81 67 P **P** **23 04 57.1 +0.4**
WHTX IAmb IAmb 23 05 11.9
comp=Z,77nm,1.6s
WHTX Lake Whitney, 66.81 67 P P 23 04 49.9 -6.8
baz=321
WHTX S **S** **23 13 48.2 +0.4**
baz=321
LMQ La Malbaie 66.85 39 P **P** **23 04 56.7 0.0**
LMQ IAmb IAmb 23 05 19.9
comp=Z,67nm,1.1s
MIAR Mount Ida 66.88 63 IAmb IAmb 23 05 33.0
comp=Z,36nm,0.9s
MIAR Mount Ida 66.88 63 P **P** **23 04 55.6 -1.5**
baz=321,SNR=13
MIAR S **S** **23 13 46.9 -1.8**
baz=321
MIAR Mount Ida 66.88 63 P **P** **23 04 53.0 -4.1**
baz=321,SNR=13
MIAR S **S** **23 13 48.0 -0.7**
baz=321
LUWI Luwuk 66.92 231 P **P** **23 04 57.2 -0.3**
LUWI Luwuk 66.92 231 P **P** **23 05 00.4 +2.9**
comp=Z,3µmcomp=Z,2µmcomp=Z,81nm,1.0s
AAI Ambon 66.94 225 P **P** **23 04 59.4 +1.8**
comp=Z,4µmcomp=Z,3µmcomp=Z,82nm,1.0s
LCAR Lake Charles 66.94 60 S **S** **23 13 47.8 -1.5**
baz=321
WHAR Wooly Hollow 66.97 61 IAmb IAmb 23 05 09.1
comp=Z,90nm,1.3s
O49A Covington 67.01 53 P **P** **23 04 56.7 -1.1**
O49A Covington 67.01 53 P **P** **23 04 56.5 -1.4**
baz=323,SNR=8.2
O49A P **P** **23 04 56.5 -1.4**
baz=323,SNR=8.2
O49A S **S** **23 13 46.7 -3.3**
baz=323
O49A S **S** **23 13 46.7 -3.3**
baz=323
MPSI Mapaga 67.04 235 P **P** **23 05 00.4 +2.1**
comp=Z,4µmcomp=Z,2µmcomp=Z,78nm,1.8s
J54A Appleton 67.07 47 P **P** **23 04 57.6 -0.5**
J54A IAmb IAmb 23 05 07.5
comp=Z,95nm,1.3s
J54A Appleton 67.07 47 S **S** **23 13 47.6 -3.1**
baz=324
J54A S **S** **23 13 47.6 -3.1**
baz=324
P48A Milroy 67.08 54 P **P** **23 04 57.7 -0.6**
P48A IAmb IAmb 23 05 35.4
comp=Z,89nm,1.4s
P48A Milroy 67.08 54 P **P** **23 04 56.6 -1.7**
baz=322
P48A P **P** **23 04 56.6 -1.7**
baz=322
P48A S **S** **23 13 48.8 -2.1**
baz=322
P48A S **S** **23 13 48.8 -2.1**
baz=322
Z38A Mt. Pleasant 67.14 65 P **P** **23 04 57.8 -1.0**
Z38A IAmb IAmb 23 05 50.2
comp=Z,42nm,0.8s
Z38A Mt. Pleasant 67.14 65 S **S** **23 13 52.8 +0.9**
baz=321
PECO Prince Edward 67.22 46 P **P** **23 04 58.2 -0.9**
PECO IAmb IAmb 23 05 15.3
comp=Z,37nm,0.8s
MEDO Medina 67.24 47 P **P** **23 04 58.7 -0.6**
M52A Chesterland 67.28 50 IAmb IAmb 23 05 13.6
comp=Z,50nm,0.8s
M52A Chesterland 67.28 50 S **S** **23 13 51.5 -1.9**
baz=324
M52A S **S** **23 13 51.5 -1.9**
baz=324
APSI Ampana 67.31 232 P **P** **23 05 03.4 +3.4**
comp=Z,1µmcomp=Z,73nm,1.1s

N51A Ashland 67.33 51 P P 23 04 58.7 -1.1
baz=323,SNR=6.5
N51A P P 23 04 58.7 -1.1
baz=323,SNR=6.5
UALR University of 67.34 62 P P 23 04 58.4 -1.6
P49A Miami Univ. Ec 67.35 53 P P 23 04 58.7 -1.3
P49A IAmb IAmb 23 05 17.2
comp=Z,36nm,0.8s
P49A Miami Univ. Ec 67.35 53 P P 23 04 58.5 -1.5
baz=323
P49A S S 23 13 52.5 -1.7
baz=323
P49A Miami Univ. Ec 67.35 53 P P 23 04 55.9 -4.1
baz=323
P49A S S 23 13 53.5 -0.7
baz=323
ERPA Erie 67.42 49 P P 23 05 00.1 -0.4
ERPA Erie 67.42 49 P P 23 04 59.5 -1.0
baz=324
ERPA Erie 67.42 49 P P 23 04 58.1 -2.4
baz=324
ERPA S S 23 13 49.9 -5.1
baz=324
J55A Hilton 67.42 46 P P 23 04 59.6 -0.8
J55A IAmb IAmb 23 05 13.6
comp=Z,52nm,0.8s
J55A Hilton 67.42 46 P P 23 04 59.1 -1.3
baz=325
J55A P P 23 04 59.1 -1.3
baz=325
J55A S S 23 13 53.4 -1.5
baz=325
J55A S S 23 13 53.4 -1.5
baz=325
T45A Paducah 67.45 58 P P 23 05 01.0 +0.3
T45B Paducah 67.45 58 S S 23 13 55.4 0.0
baz=322
BMNY Brushton-Moira 67.50 43 P P 23 04 58.3 -2.5
baz=326
HICK Hickman 67.53 58 P P 23 05 01.5 +0.3
GOET G??ttrup 67.57 348 *i* P P 23 05 03.9 +2.8
ACSO Alum Creek Sta 67.60 52 IAmb IAmb 23 05 19.1
comp=Z,36nm,0.8s
ACSO IAMs_20 IAMs_20 23 39 17.0
comp=Z,10µm,18.0s
ACSO Alum Creek Sta 67.60 52 S S 23 13 55.4 -1.7
baz=323
ACSO Alum Creek Sta 67.60 52 P P 23 04 59.7 -1.9
baz=323
ACSO S S 23 13 54.4 -2.8
baz=323
WCI Wyandotte Cave 67.64 55 P P 23 04 59.5 -2.3
WCI Wyandotte Cave 67.64 55 IAMs_20 IAMs_20 23 34 59.0
comp=Z,10µm,20.0s
WCI Wyandotte Cave 67.64 55 P P 23 04 59.5 -2.3
WCI pmax pmax
comp=Z,244nm,1.8s
WCI MLR MLR
comp=Z,10µm,20.0s
WCI Wyandotte Cave 67.64 55 P P 23 05 00.5 -1.4
baz=322,SNR=7.4
WCI S S 23 13 56.8 -0.8
baz=322
WCI Wyandotte Cave 67.64 55 P P 23 04 57.7 -4.1
baz=322
WCI S S 23 13 55.3 -2.3
baz=322
LONY Lake Ozonia 67.65 44 IAMs_20 IAMs_20 23 37 54.5
comp=Z,11µm,19.0s
LONY Lake Ozonia 67.65 44 S S 23 13 53.3 -4.4
baz=326
M53A WI Miller and 67.67 49 P P 23 05 01.2 -0.8
M53A WI Miller and 67.67 49 P P 23 04 58.3 -3.7
baz=324,SNR=10
M53A S S 23 13 54.8 -3.2
baz=324
435B Jarrell 67.67 68 P P 23 05 01.9 -0.3
435B IAmb IAmb 23 05 45.5
comp=Z,60nm,1.1s
435B Jarrell 67.67 68 S S 23 13 59.2 +0.9
baz=321
435B Jarrell 67.67 68 P P 23 04 58.6 -3.6
baz=321
435B S S 23 13 57.1 -1.2
baz=321
237A Washetta, Mont 67.68 66 P P 23 05 02.0 -0.2
237A IAmb IAmb 23 07 22.2
comp=Z,44nm,0.9s
237A Washetta, Mont 67.68 66 S S 23 13 59.2 +0.9
baz=321
D62A Allapoint, All 67.71 39 P P 23 05 02.6 +0.5
D62A IAmb IAmb 23 05 25.5
comp=Z,89nm,1.4s
D62A Allapoint, All 67.71 39 S S 23 13 55.6 -2.6
baz=328
D62A S S 23 13 55.6 -2.6
baz=328
ALLY Alegheny Colle 67.73 49 P P 23 05 03.0 +0.6
WCNY West Carthage 67.74 45 S S 23 13 54.6 -4.2
baz=325
KBL Kabul 67.75 298 P P 23 05 00.0 -2.9
KBL IAmb IAmb 23 05 28.4
comp=Z,65nm,0.9s
KBL Kabul 67.75 298 P P 23 05 00.0 -2.9
KBL pmax pmax
comp=Z,65nm,1.0s
KBL Kabul 67.75 298 P P 23 05 01.7 -1.2
SNR=43
KBL P P 23 05 01.7 -1.2
SNR=43
KBL P P 23 05 01.7 -1.2
SNR=43
LNXT Lenox 67.75 59 P P 23 05 03.1 +0.5
WVNY West Valley, N 67.79 48 S S 23 13 55.7 -3.7
baz=324
WLAR White Oak Lake 67.79 63 P P 23 05 02.3 -0.6
WLAR IAmb IAmb 23 05 54.5
comp=Z,60nm,1.0s
J56A Wolcott 67.82 46 P P 23 05 01.5 -1.4
J56A Wolcott 67.82 46 P P 23 05 01.0 -1.9
baz=325
J56A P P 23 05 01.0 -1.9
baz=325
J56A S S 23 13 55.9 -3.8
baz=325
J56A S S 23 13 55.9 -3.8
baz=325
MMNY Mt. Morris Dam 67.82 47 IAmb IAmb 23 05 15.7
comp=Z,58nm,0.7s
E62A Clayton Lake 67.93 39 IAmb IAmb 23 05 26.2
comp=Z,85nm,1.2s
HALT Halls 67.97 59 P P 23 05 05.5 +1.5
J57A Williamstown 68.07 45 IAmb IAmb 23 05 26.6
comp=Z,106nm,1.5s
N53A Lisbon 68.11 50 P P 23 05 04.7 -0.1
N53A Lisbon 68.11 50 P P 23 05 03.6 -1.1
baz=324
N53A P P 23 05 03.6 -1.1
baz=324
N53A S S 23 13 58.3 -4.9
baz=324
N53A S S 23 13 58.3 -4.9
baz=324
R49A Shelbyville 68.12 54 P P 23 05 04.2 -0.7
baz=323
R49A P P 23 05 04.2 -0.7
baz=323
R49A S S 23 14 01.8 -1.7
baz=323
R49A S S 23 14 01.8 -1.7
baz=323
MUD Monsted U'grnd 68.15 348 *i* P P 23 05 05.0 +0.3
P51A Williamsport 68.16 52 P P 23 05 04.4 -0.7
P51A IAmb IAmb 23 05 48.9
comp=Z,27nm,0.8s
P51A Williamsport 68.16 52 S S 23 14 01.7 -2.2
baz=323
P51A S S 23 14 01.7 -2.2
baz=323
O52A Adamsville 68.21 51 P P 23 05 03.8 -1.7
baz=324,SNR=14
O52A P P 23 05 03.8 -1.7
baz=324,SNR=14
O52A S S 23 14 01.5 -3.0
baz=324
O52A S S 23 14 01.5 -3.0
baz=324

T47A Sharon Grove 68.23 57 P P 23 05 04.5 -1.1
T47A IAmb IAmb 23 05 18.3
comp=Z,60nm,0.8s
T47A Sharon Grove 68.23 57 P P 23 05 04.4 -1.1
baz=323,SNR=13
T47A S S 23 14 03.0 -1.7
baz=323
CCAR Cane Creek 68.31 62 P P 23 05 06.8 +0.7
O53A New Philadelph 68.39 51 IAmb IAmb 23 05 20.2
comp=Z,58nm,0.8s
O53A New Philadelph 68.39 51 P P 23 05 01.5 -5.0
baz=324
O53A S S 23 14 01.4 -5.2
baz=324
Q51A Peebles 68.39 53 IAmb IAmb 23 05 48.4
comp=Z,43nm,0.9s
Q51A Peebles 68.39 53 P P 23 05 05.0 -1.6
baz=323,SNR=7.6
Q51A P P 23 05 05.0 -1.6
baz=323,SNR=7.6
Q51A S S 23 14 05.1 -1.6
baz=323
Q51A S S 23 14 05.1 -1.6
baz=323
J58A Remsen 68.40 45 IAmb IAmb 23 05 29.3
comp=Z,62nm,1.1s
J58A Remsen 68.40 45 P P 23 05 05.0 -1.6
baz=326
J58A P P 23 05 05.0 -1.6
baz=326
K57A Scipio Center 68.41 46 P P 23 05 06.1 -0.6
K57A IAmb IAmb 23 06 01.2
comp=Z,54nm,1.0s
K57A Scipio Center 68.41 46 P P 23 05 06.1 -0.6
baz=325
PQI Presque Isle 68.43 38 IAMs_20 IAMs_20 23 40 38.7
comp=Z,10µm,21.0s
L56A Greenwood 68.46 47 P P 23 05 04.8 -2.2
baz=325,SNR=10
L56A P P 23 05 04.8 -2.2
baz=325,SNR=10
COP Copenhagen 68.46 346 *i* P P 23 05 06.8 +0.2
P52A Corning 68.47 52 IAmb IAmb 23 05 20.4
comp=Z,39nm,0.8s
P52A IAMs_20 IAMs_20 23 35 40.0
comp=Z,11µm,19.0s
P52A Corning 68.47 52 P P 23 05 03.8 -3.2
baz=324,SNR=7.3
P52A S S 23 14 04.5 -3.0
baz=324
NATX Nacogdoches 68.48 65 P P 23 05 07.5 +0.2
NATX IAmb IAmb 23 05 26.7
comp=Z,40nm,0.7s
NATX IAMs_20 IAMs_20 23 35 23.2
comp=Z,10µm,20.0s
NATX Nacogdoches 68.48 65 P P 23 05 05.1 -2.2
baz=322
NATX Nacogdoches 68.48 65 P P 23 05 01.0 -6.3
baz=322
NATX S S 23 14 06.8 -1.1
baz=322
M55A Ridgway 68.48 48 P P 23 05 05.2 -2.0
baz=325,SNR=7.6
M55A P P 23 05 05.2 -2.0
baz=325,SNR=7.6
M55A S S 23 14 04.0 -3.8
baz=325
M55A S S 23 14 04.0 -3.8
baz=325
R50A Paris 68.53 54 IAmb IAmb 23 05 30.3
comp=Z,34nm,0.9s
R50A Paris 68.53 54 S S 23 14 05.2 -3.2
baz=323
R50A S S 23 14 05.2 -3.2
baz=323
WVT Waverly 68.55 58 P P 23 05 06.1 -1.5
WVT IAmb IAmb 23 05 19.8
comp=Z,141nm,1.7s
WVT Waverly 68.55 58 P P 23 05 06.1 -1.5
WVT pmax pmax
comp=Z,141nm,1.7s
WVT MLR MLR
comp=Z,26µm,21.0s
WVT Waverly 68.55 58 P P 23 05 06.1 -1.5
baz=322,SNR=14
WVT S S 23 14 09.2 +0.6
baz=322
WVT Waverly 68.55 58 P P 23 05 02.6 -5.0
baz=322
WVT S S 23 14 08.5 -0.1
baz=322
833A Chaparral WMA, 68.59 71 P P 23 05 04.0 -4.0
baz=321
833A S S 23 14 11.0 +1.7
baz=321
BSD Bornholm Skovb 68.64 344 *eP* P 23 05 09.1 +1.3
BSD Bornholm Skovb 68.64 344 *i* P P 23 05 09.1 +1.3
BSD IAmb IAmb 23 05 14.8
comp=Z,13nm,0.6s
W45A Hickory Valley 68.65 59 S S 23 14 10.7 +0.9
baz=322
DRUM Mains of Drumt 68.72 355 *eP* P 23 05 08.6 +0.2
DRUM IAmb IAmb 23 05 12.0
comp=Z,138nm,1.5s
DRUM IAMs_20 IAMs_20 23 32 31.9
comp=Z,10µm,17.8s
G62A West of Eustis 68.73 41 S S 23 14 08.4 -2.1
baz=328
G62A S S 23 14 08.4 -2.1
baz=328
UPAO U. Pittsburgh 68.73 50 S S 23 14 08.3 -2.4
baz=324
PSDB Penn State Uni 68.77 48 P P 23 05 08.3 -0.6
baz=325
O54A Avella 68.82 50 IAmb IAmb 23 05 31.6
comp=Z,63nm,1.1s
O54A Avella 68.82 50 S S 23 14 09.1 -2.6
baz=324
O54A S S 23 14 09.1 -2.6
baz=324
P53A Whipple 68.92 51 P P 23 05 10.2 +0.3
P53A IAmb IAmb 23 05 21.2
comp=Z,83nm,1.4s
P53A Whipple 68.92 51 S S 23 14 10.6 -2.4
baz=324
P53A S S 23 14 10.6 -2.4
baz=324
Q52A Bidwell 68.94 52 P P 23 05 09.9 -0.1
Q52A IAmb IAmb 23 05 38.2
comp=Z,88nm,1.4s
Q52A Bidwell 68.94 52 S S 23 14 13.8 +0.6
baz=324
Q52A S S 23 14 13.8 +0.6
baz=324
LBNH Lisbon 69.02 42 IAMs_20 IAMs_20 23 36 02.7
comp=Z,12µm,21.0s
LBNH Lisbon 69.02 42 P P 23 05 03.6 -6.9
baz=327
LBNH S S 23 14 09.2 -4.7
baz=327
H62A Milan 69.04 41 IAmb IAmb 23 05 33.9
comp=Z,86nm,1.1s
OXF Oxford 69.04 60 S S 23 14 13.7 -0.8
baz=322
OXF Oxford 69.04 60 P P 23 05 02.6 -8.1
baz=322
OXF S S 23 14 13.0 -1.5
baz=322
735A Kenedy 69.05 70 S S 23 14 19.4 +4.7
baz=322
BINY Binghamton 69.07 46 IAMs_20 IAMs_20 23 39 55.1
comp=Z,12µm,18.0s
BINY Binghamton 69.07 46 P P 23 05 02.1 -8.7
baz=326
BINY S S 23 14 08.9 -5.8
baz=326
PKME Peaks-Kenny Pk 69.16 40 S S 23 14 11.4 -4.1
baz=328
U49A Red Boiling Sp 69.25 56 IAmb IAmb 23 05 24.4
comp=Z,37nm,0.8s
U49A Red Boiling Sp 69.25 56 P P 23 05 10.3 -1.7
baz=323,SNR=7.5
U49A S S 23 14 12.2 -4.7
baz=323
HKT Hockley 69.27 67 S S 23 14 18.5 +1.4
baz=322
M57A Sunshine Farm, 69.30 47 IAmb IAmb 23 05 34.1
comp=Z,49nm,0.8s

M57A Sunshine Farm, 69.30 47 P P 23 05 10.2 -2.0
baz=325
M57A P P 23 05 10.2 -2.0
baz=325
M57A S S 23 14 13.1 -4.2
baz=325
M57A S S 23 14 13.1 -4.2
baz=325
T50A Nancy 69.30 55 IAmb IAmb 23 05 24.7
comp=Z,42nm,0.9s
T50A Nancy 69.30 55 P P 23 05 10.6 -1.6
baz=323
T50A P P 23 05 10.6 -1.6
baz=323
T50A S S 23 14 18.8 +1.3
baz=323
T50A S S 23 14 18.8 +1.3
baz=323
PLAL Pickwick Lake 69.34 59 IAmb IAmb 23 05 24.8
comp=Z,38nm,0.8s
V48A Smith Brothers 69.36 57 IAmb IAmb 23 05 24.5
comp=Z,131nm,1.6s
V48A Smith Brothers 69.36 57 P P 23 05 11.9 -0.7
baz=323
V48A S S 23 14 16.4 -1.8
baz=323
S51A Beattyville 69.39 54 P P 23 05 12.6 -0.2
S51A IAmb IAmb 23 06 16.3
comp=Z,135nm,1.8s
S51A Beattyville 69.39 54 S S 23 14 16.9 -1.7
baz=324
S51A S S 23 14 16.9 -1.7
baz=324
RGN Rugen 69.43 345 P P 23 05 13.6 +0.8
RGN IAMs_20 IAMs_20 23 36 50.1
comp=Z,11µm,20.0s
143A Socs Landing, 69.45 62 P P 23 05 13.8 +0.6
L59A Walton 69.47 45 P P 23 05 12.9 -0.5
MCWV Mont Chateau 69.48 50 P P 23 05 12.6 -0.7
baz=325
MCWV S S 23 14 15.7 -3.8
baz=325
MCWV Mont Chateau 69.48 50 P P 23 05 07.4 -5.9
baz=325
MCWV S S 23 14 16.9 -2.7
baz=325
Y45A Yeager Farm, C 69.49 60 P P 23 05 12.6 -0.9
Y45A Yeager Farm, C 69.49 60 P P 23 05 13.0 -0.4
baz=322
Y45A S S 23 14 22.0 +2.2
baz=322
SSPA Standing Stone 69.55 48 P P 23 05 12.6 -1.1
SSPA IAmb IAmb 23 05 35.8
comp=Z,33nm,0.8s
SSPA Standing Stone 69.55 48 P P 23 05 11.8 -1.9
baz=325
SSPA S S 23 14 12.2 -8.0
baz=325
SSPA Standing Stone 69.55 48 P P 23 05 08.7 -5.0
baz=325
SSPA S S 23 14 15.9 -4.3
baz=325
Q54A Coxs Mills 69.58 51 P P 23 05 12.1 -1.9
baz=324
Q54A P P 23 05 12.1 -1.9
baz=324
Q54A S S 23 14 17.7 -3.0
baz=324
Q54A S S 23 14 17.7 -3.0
baz=324
R53A Hurricane 69.60 52 P P 23 05 12.7 -1.4
baz=324,SNR=12
R53A P P 23 05 12.7 -1.4
baz=324,SNR=12
R53A S S 23 14 18.7 -2.3
baz=324
R53A S S 23 14 18.7 -2.3
baz=324
SAUI Saumlaki 69.64 220 P P 23 05 10.9 -3.6
AKASG Malin Array Be 69.80 334 P P 23 05 13.2 -1.9
comp=Z,23nm,0.7s,baz=27,slow=6.4,SNR=41
AKASG LR LR 23 39 14.3
comp=Z,20µm,19.9s,baz=30,slow=39
comp=Z,23nm,0.7s
AKASG Malin Array Be 69.80 334 *i* P P 23 05 13.6 -1.5
AKASG pmax pmax
comp=Z,18nm,0.5s
AKBB Malin Array Si 69.80 334 *ce* P P 23 05 14.0 -1.1
G65A Princeton 69.85 39 S S 23 14 20.6 -3.1
baz=329
G65A S S 23 14 20.6 -3.1
baz=329
BKB Balikpapan 69.88 237 P P 23 05 16.6 +0.6
comp=Z,5µmcomp=Z,4µmcomp=Z,230nm,1.1s
N58A Sunbury 69.88 47 IAmb IAmb 23 05 29.1
comp=Z,49nm,0.8s
N58A Sunbury 69.88 47 P P 23 05 14.8 -1.0
baz=326
N58A P P 23 05 14.8 -1.0
baz=326
N58A S S 23 14 19.8 -4.4
baz=326
N58A S S 23 14 19.8 -4.4
baz=326
GKP Gorka Klasztor 70.01 342 *eP* P 23 05 15.5 -0.9
GKP *epP* pP 23 05 19.1 -2.8
GKP *eS* S 23 14 24.7 -0.6
GKP *eL* L 23 41 59.4
comp=Z,24µm,16.6s
GKP Gorka Klasztor 70.01 342 *eP* P 23 05 18.4 +2.0
KVTX Kingsville 70.02 71 P P 23 05 15.9 -0.9
KVTX IAMs_20 IAMs_20 23 32 50.9
comp=Z,11µm,21.0s
TTSI Tana Toraja 70.04 233 P P 23 05 20.1 +3.1
comp=Z,3µmcomp=Z,33nm,0.5s
AFI Afiamalu 70.15 160 LR LR 23 31 08.4
comp=Z,9µm,20.1s,baz=348,slow=32
AFI Afiamalu 70.15 160 IAMs_20 IAMs_20 23 30 16.7
comp=Z,9µm,20.0s
L61B Northampton 70.22 44 S S 23 14 23.4 -4.7
baz=327
X48A Hartselle 70.27 58 IAmb IAmb 23 05 29.7
comp=Z,172nm,2.0s
X48A Hartselle 70.27 58 P P 23 05 16.7 -1.6
baz=323
X48A S S 23 14 29.5 +0.6
baz=323
VBMS Vicksburg 70.29 62 IAMs_20 IAMs_20 23 36 44.1
comp=Z,14µm,22.0s
VBMS Vicksburg 70.29 62 P P 23 05 15.3 -3.1
baz=323
VBMS S S 23 14 25.4 -3.8
baz=323
TZTN Tazewell 70.30 54 IAmb IAmb 23 06 16.6
comp=Z,95nm,1.3s
TZTN Tazewell 70.30 54 S S 23 14 24.7 -4.6
baz=324
TZTN Tazewell 70.30 54 P P 23 05 13.4 -5.0
baz=324
TZTN S S 23 14 28.0 -1.2
baz=324
EMMW East Machias 70.31 39 IAMs_20 IAMs_20 23 38 10.5
comp=Z,13µm,20.0s
S54A Dingess, Beckl 70.33 52 IAmb IAmb 23 06 06.8
comp=Z,72nm,1.5s
S54A Dingess, Beckl 70.33 52 P P 23 05 16.9 -1.8
baz=324
S54A P P 23 05 16.9 -1.8
baz=324
S54A S S 23 14 27.6 -2.1
baz=324
S54A S S 23 14 27.6 -2.1
baz=324
ESK Eskdalemuir 70.35 355 *eP* P 23 05 17.4 -1.0
ESK IAMs_20 IAMs_20 23 33 39.4
comp=Z,10µm,19.6s
ESK Eskdalemuir 70.35 355 P P 23 05 17.1 -1.3
ESK IAmb IAmb 23 05 22.8
comp=Z,72nm,1.1s
ESK Eskdalemuir 70.35 355 IAMs_20 IAMs_20 23 33 54.5
comp=Z,10µm,20.0s
ESK Eskdalemuir 70.35 355 P P 23 05 17.1 -1.3
ESK pmax pmax
comp=Z,72nm,1.2s
ESK MLR MLR
comp=Z,10µm,20.0s
GEYT Alibeck 70.37 308 P P 23 05 16.9 -2.0
comp=Z,29nm,0.9s,baz=318,slow=2.0,SNR=34

GEYT LR LR 23 38 19.5
comp=Z,34µm,18.2s,baz=50,slow=38
comp=Z,29nm,0.9s
P57A Homestead Farm 70.44 49 IAmb IAmb 23 05 57.3
comp=Z,84nm,1.6s
R55A Marlinton 70.48 51 P **P** **23 05 19.0 -0.6**
R55A IAmb IAmb 23 05 42.9
comp=Z,99nm,1.6s
R55A Marlinton 70.48 51 S **S** **23 14 30.7 -0.8**
baz=325
R55A S **S** **23 14 30.7 -0.8**
baz=325
QUA2 Belchertown 70.50 43 IAMs_20 IAMs_20 23 39 30.8
comp=Z,13µm,19.0s
V51A Loudon 70.51 56 IAmb IAmb 23 06 02.4
comp=Z,47nm,0.8s
V51A Loudon 70.51 56 P **P** **23 05 18.2 -1.5**
baz=324
V51A S **S** **23 14 30.1 -1.6**
baz=324
W50A Signal Mountai 70.53 57 IAmb IAmb 23 05 33.9
comp=Z,37nm,0.7s
W50A Signal Mountai 70.53 57 P **P** **23 05 18.2 -1.7**
baz=324,SNR=11
W50A S **S** **23 14 30.2 -1.8**
baz=324
GOF Gofitskoye 70.57 322⇑ *e*P **P** **23 05 19.1 -0.9**
GOF *e*S **S** **23 14 34.5 +2.3**
GOF pmax pmax
comp=Z,63nm,0.8s
NEWG New Galloway 70.60 356 *e*P **P** **23 05 18.8 -1.1**
NEWG IAMs_20 IAMs_20 23 32 23.5
comp=Z,8µm,22.3s
HRV Adam Dziewonsk 70.62 43 S **S** **23 14 27.2 -5.6**
baz=328
LUPA Lehigh Univers 70.66 46 P **P** **23 05 20.1 -0.4**
LUPA IAmb IAmb 23 05 42.3
comp=Z,44nm,1.1s
MAK Makhachkala 70.70 318 *e*P P 23 05 11.9 -8.9
MAK *e*S S 23 14 20.7 -13
MAK pmax pmax
comp=Z,148nm,1.5s
MAK MLR MLR
comp=Z,26µm,15.0s
MAK MLR MLR
comp=E,25µm,16.0s
146A Union 70.71 61 P **P** **23 05 21.4 +0.5**
CLGH Cloghs, Cushen 70.71 357 *e*P **P** **23 05 20.7 +0.2**
CLGH IAmb IAmb 23 05 24.7
comp=Z,105nm,1.2s
CLGH IAMs_20 IAMs_20 23 33 19.2
comp=Z,9µm,19.6s
CPCT Cooper Cave 70.71 56 IAmb IAmb 23 05 39.5
comp=Z,110nm,1.4s
Z47A Carrollton 70.76 60 P **P** **23 05 19.9 -1.4**
baz=323,SNR=26
Z47A S **S** **23 14 32.6 -2.1**
baz=323
EDMD Edmundbyers 70.77 354 *e*P **P** **23 05 21.3 +0.3**
EDMD IAmb IAmb 23 05 24.9
comp=Z,142nm,1.5s
EDMD IAMs_20 IAMs_20 23 46 18.9
comp=Z,7µm,14.8s
V52A Sevierville 70.84 55 IAmb IAmb 23 06 03.9
comp=Z,44nm,1.1s
V52A Sevierville 70.84 55 S **S** **23 14 32.7 -2.9**
baz=324
SPSI Sidrap Palu 70.87 233 P **P** **23 05 24.5 +2.4**
comp=Z,1µmcomp=Z,53nm,1.6s
TKL Tuckaleechee C 70.90 55 P **P** **23 05 20.0 -2.1**
comp=Z,5.2nm,0.8s,baz=287,slow=2.9,SNR=8.0
TKL LR LR 23 38 38.5
comp=Z,14µm,18.4s,baz=334,slow=38
comp=Z,5.2nm,0.8s
TKL Tuckaleechee C 70.90 55 S **S** **23 14 35.3 -1.0**
baz=324
PAL Palisades 70.93 45 IAMs_20 IAMs_20 23 38 05.3
comp=Z,12µm,18.0s
BBSI Bau Bau 70.95 229 P **P** **23 05 24.7 +2.1**
comp=Z,311nmcomp=Z,9.2nm,1.6s
SDMD Soldier's Deli 71.01 48 P **P** **23 05 22.1 -0.6**
SDMD Soldier's Deli 71.01 48 S **S** **23 14 33.3 -4.1**
baz=326
Y49A Blount Mountai 71.06 58 IAmb IAmb 23 05 54.2
comp=Z,107nm,1.6s
Y49A Blount Mountai 71.06 58 P **P** **23 05 21.2 -1.9**
baz=324
Y49A S **S** **23 14 35.7 -2.5**
baz=324
GDLE Glaisdale, N Y 71.11 353 *e*P **P** **23 05 23.0 0.0**
GDLE IAMs_20 IAMs_20 23 46 47.0
comp=Z,8µm,15.3s
PANJ Princeton 71.12 46 S **S** **23 14 34.0 -4.7**
baz=327
BRYW Bryant College 71.13 43 IAMs_20 IAMs_20 23 38 29.5
comp=Z,13µm,20.0s
U54A Nelsons Funny 71.13 53 IAmb IAmb 23 05 46.9
comp=Z,159nm,1.6s
U54A Nelsons Funny 71.13 53 P **P** **23 05 22.3 -1.3**
baz=325
U54A P **P** **23 05 22.3 -1.3**
baz=325
U54A S **S** **23 14 36.6 -2.4**
baz=325
U54A S **S** **23 14 36.6 -2.4**
baz=325
ZAIG Zacatecas 71.14 77 P **P** **23 05 23.7 -0.4**
GROC Groznyy 71.16 319 *e*P **P** **23 05 23.8 +0.3**
GROC *e* 23 05 41.9
GROC *e* 23 07 59.4
GROC pmax pmax
comp=Z,79nm,1.1s
BLA Blacksburg 71.22 52 IAmb IAmb 23 05 46.5
comp=Z,58nm,1.0s
BLA IAMs_20 IAMs_20 23 38 11.8
comp=Z,14µm,20.0s
BLA Blacksburg 71.22 52 P **P** **23 05 23.8 -0.2**
baz=325
BLA S **S** **23 14 39.0 -1.0**
baz=325
BLA Blacksburg 71.22 52 P P 23 05 18.1 -6.0
baz=325
BLA S **S** **23 14 39.0 -1.0**
baz=325
X51A Calhoun 71.26 57 IAmb IAmb 23 06 09.1
comp=Z,74nm,1.1s
X51A Calhoun 71.26 57 S **S** **23 14 38.6 -1.9**
baz=324
X51A S **S** **23 14 38.6 -1.9**
baz=324
HRA Herat 71.28 303 IAmb IAmb 23 05 32.1
comp=Z,69nm,1.1s
V53A Saluda 71.35 55 P **P** **23 05 24.5 -0.4**
V53A Saluda 71.35 55 S **S** **23 14 39.6 -2.0**
baz=324
V53A S **S** **23 14 39.6 -2.0**
baz=324
RUE Ruedersdorf 71.36 344 *e*P **P** **23 05 24.6 0.0**
LRAL Lakeview Retre 71.43 59 P **P** **23 05 23.1 -2.2**
baz=324,SNR=7.6
LRAL S **S** **23 14 40.2 -2.3**
baz=324
LRAL Lakeview Retre 71.43 59 P P 23 05 20.4 -5.0
baz=324,SNR=7.6
LRAL S **S** **23 14 40.3 -2.1**
baz=324
S57A Dark Hollow, R 71.43 51 IAmb IAmb 23 05 48.6
comp=Z,55nm,1.1s
S57A Dark Hollow, R 71.43 51 S **S** **23 14 40.1 -2.3**
baz=325
S57A S **S** **23 14 40.1 -2.3**
baz=325
STKI Sintang 71.46 242 P **P** **23 05 28.4 +2.7**
comp=Z,6µmcomp=Z,29nm,1.1s
346A Big Creek Wild 71.49 62 S **S** **23 14 43.9 +0.7**
baz=323
COEN Coen 71.51 206 P **P** **23 05 24.2 -1.6**
KVAR Kislovodsk Arr 71.65 322 LR LR 23 40 19.2
comp=Z,13µm,19.0s,baz=274,slow=39
KIV Kislovodsk 71.66 322⇑ P **P** **23 05 27.6 +0.9**
KIV Kislovodsk 71.66 322 P **P** **23 05 26.3 -0.3**
KIV Kislovodsk 71.66 322 *d* P **P** **23 05 24.2 -2.5**
KIV *i* 23 05 43.3
KIV *i* 23 08 04.1
KIV *i* S **S** **23 14 39.1 -5.9**
KIV pmax pmax
comp=Z,95nm,2.2s
KIV Kislovodsk 71.66 322 *i* P **P** **23 05 25.6 -1.1**
SNR=8.9
R58B Mineral 71.75 50 S **S** **23 14 44.4 -1.5**
baz=326
R58B S **S** **23 14 44.4 -1.5**
baz=326
ILTH Belurgan, Co L 71.77 357 *e*P **P** **23 05 26.5 -0.5**
CBN Corbin Frederi 71.77 49 S **S** **23 14 44.3 -1.9**
baz=326
CBN Corbin Frederi 71.77 49 P **P** **23 05 23.2 -4.1**
baz=326
CBN S **S** **23 14 43.6 -2.6**
baz=326
KBZ Khabaz 71.78 322 P **P** **23 05 26.0 -1.2**
comp=Z,12nm,0.8s,baz=298,slow=2.8,SNR=17
KBZ LR LR 23 41 10.6
comp=Z,24µm,18.7s,baz=27,slow=40
comp=Z,12nm,0.8s
KBZ Khabaz 71.78 322 *c* e P **P** **23 05 26.7 -0.5**
KBZ pmax pmax
comp=Z,109nm,2.0s
KBZ MLR MLR
comp=Z,21µm,18.0s
M65A Busby, Falmout 71.78 43 S **S** **23 14 47.0 +0.8**
baz=328
CASEE Lake Jocassee 71.84 55 S **S** **23 14 46.5 -0.8**
baz=324
LVV L'vov 71.89 337 *e*P **P** **23 05 26.8 -1.0**
LVV *e* 23 05 44.6
LVV *e* 23 08 02.6
LVV *e*PPP PPP 23 09 50.9
LVV *i* S **S** **23 14 44.7 -2.5**
LVV *e*PS **PnS** **23 15 23.3 +5.9**
LVV *i* SS **SS** **23 19 28.2 +5.8**
LVV *e*SSS SSS 23 22 36.6
LVV MLR MLR
comp=E,11µm,18.0s
LVV MLR MLR
comp=N,12µm,19.0s
LVV MLR MLR
comp=Z,17µm,19.0s
BKSI Bulukumba 71.91 232 P **P** **23 05 31.4 +3.1**
comp=Z,2µmcomp=Z,1µmcomp=Z,41nm,1.1s
T57A Hurt 71.92 51 S **S** **23 14 48.2 +0.2**
baz=325
T57A S **S** **23 14 48.2 +0.2**
baz=325
U56A King 71.94 52 IAmb IAmb 23 05 51.5
comp=Z,90nm,1.5s
U56A King 71.94 52 S **S** **23 14 48.4 +0.1**
baz=325
U56A S **S** **23 14 48.4 +0.1**
baz=325
V55A Taylorsville 71.96 53 IAmb IAmb 23 06 50.9
comp=Z,79nm,1.6s
V55A Taylorsville 71.96 53 S **S** **23 14 47.9 -0.5**
baz=325
V55A S **S** **23 14 47.9 -0.5**
baz=325
BHPL Bhopal 72.07 285 *e*P **P** **23 05 27.6 -1.7**
BHPL IAmb IAmb 23 05 34.0
comp=Z,73nm,1.0s
Y52A Lilburn 72.21 57 IAmb IAmb 23 06 12.9
comp=Z,45nm,1.0s
Y52A Lilburn 72.21 57 P **P** **23 05 28.6 -1.4**
baz=324
Y52A P **P** **23 05 28.6 -1.4**
baz=324
Y52A S **S** **23 14 49.5 -1.9**
baz=324
Y52A S **S** **23 14 49.5 -1.9**
baz=324
ZEI Tsey 72.22 321 *e*P **P** **23 05 28.2 -2.0**
ZEI pmax pmax
comp=Z,38nm,1.4s
SEKA Sheki 72.31 317 P **P** **23 05 31.4 +0.8**
KWP Kalwaria Pacla 72.36 337 *e*P **P** **23 05 30.6 -0.1**
KWP *e*pP **pP** **23 05 34.4 -1.9**
KWP *e*S **S** **23 14 53.9 +1.1**
KWP *e*L L 23 39 49.6
comp=Z,18µm,21.6s
MSVF Nonsavu 72.38 171 LR LR 23 35 54.5
comp=Z,4µm,18.3s,baz=345,slow=35
OJC Ojcow 72.43 340 *e*P **P** **23 05 29.8 -1.3**
OJC *e*pP **pP** **23 05 33.5 -3.1**
OJC *e*S **S** **23 14 52.5 -0.9**
OJC *e*SKSac **ScS** **23 15 35.3 -1.1**
OJC *e*SS **SS** **23 19 29.6 -1.1**
OJC *e*L L 23 41 47.6
comp=Z,21µm,16.9s
OJC Ojcow 72.43 340 P **P** **23 05 28.8 -2.3**
OJC Ojcow 72.43 340 P **P** **23 05 28.8 -2.3**
OJC pmax pmax
comp=Z,477nm,1.9s
BSSI Bau Bau, Buton 72.46 231 P **P** **23 05 33.6 +1.9**
comp=Z,1µmcomp=Z,86nm,1.1s
KMSC Kings Mountain 72.48 54 IAmb IAmb 23 05 54.7
comp=Z,104nm,1.5s
KMSC Kings Mountain 72.48 54 P P 23 05 25.7 -5.9
baz=325
KSP Ksiaz 72.51 342 *e*P **P** **23 05 30.8 -0.7**
KSP *e*pP **pP** **23 05 34.5 -2.6**
KSP *e*S **S** **23 14 55.5 +1.2**
KSP *e*SS **SS** **23 19 34.1 +2.2**
KSP *e*L L 23 43 18.9
comp=Z,23µm,16.3s
PAULI Pauline 72.51 54 S **S** **23 14 54.9 0.0**
baz=325
CLL Collm 72.62 344 IAmb IAmb 23 06 11.5
comp=Z,79nm,1.3s
CLL Collm 72.62 344 *e*P **P** **23 05 31.0 -1.2**
CLL *i* 23 05 37.9
CLL *i* 23 05 41.6
CLL *e*S **S** **23 14 57.0 +1.5**
CLL pmax pmax
comp=Z,100nm,1.6s
CLL MLR MLR
comp=Z,12µm,19.7s
CLL Collm 72.62 344 *e*P **P** **23 05 31.0 -1.2**
comp=Z,100nm,1.6s
CLL *i* Pmax 23 05 34.9
comp=Z,100nm,1.6s
CLL *i* pPmax 23 05 37.9
CLL *i* x x 23 05 41.6
CLL *i* x x 23 06 00.4
CLL *e*PP **PP** **23 08 14.0 +1.0**
comp=Z,383nm,3.1s
CLL *e*PPP PPP 23 10 00.0
CLL *e*PPPP 23 11 00.0
CLL *e*S **S** **23 14 57.0 +1.5**
CLL *e*PS **PnS** **23 15 29.0 +2.1**
CLL *e*PPS PPS 23 15 39.0
CLL *e*SS **SS** **23 19 34.0 +0.5**
CLL *e*x x 23 22 18.0
CLL *e*SSS SSS 23 23 06.0
CLL LmH 23 37 00.0
comp=N,14µm,21.3s
CLL LmH 23 37 00.0
comp=E,12µm,19.5s
CLL LmV 23 39 00.0
comp=Z,12µm,19.7s
CLL Lmax 23 42 00.0
250A Grady 72.64 59 S **S** **23 14 56.6 +0.2**
baz=324
WACR West Acre 72.69 352 *e*P **P** **23 05 33.0 +0.5**
WACR IAMs_20 IAMs_20 23 48 19.9
comp=Z,8µm,14.1s
T59A Double "B" Far 72.71 50 IAmb IAmb 23 06 05.9
comp=Z,83nm,1.8s
T59A Double "B" Far 72.71 50 S **S** **23 14 57.1 +0.1**
baz=326
T59A S **S** **23 14 57.1 +0.1**
baz=326
ANN Anapa 72.72 326 *e*P **P** **23 05 30.5 -2.4**
ANN *e* 23 08 15.8
ANN *e*S **S** **23 14 54.9 -2.0**
ANN pmax pmax
comp=Z,114nm,2.3s
MNGR Mingechevir, A 72.73 317 P **P** **23 05 34.9 +1.9**
HODGE Hodges 72.78 55 IAmb IAmb 23 05 47.6
comp=Z,34nm,0.7s
HODGE Hodges 72.78 55 P **P** **23 05 32.2 -1.3**
baz=325,SNR=7.8
HODGE S **S** **23 14 56.5 -1.4**
baz=325
BBKI Banjar Baru 72.79 237 P **P** **23 05 35.8 +2.2**
comp=Z,5µmcomp=Z,110nm,1.7s
CHVC Chvalec 72.80 342 *e*P **P** **23 05 32.9 -0.4**
CHVC *e*PP **PP** **23 08 18.9 +4.3**
CHVC *e*S **SKiKP** **23 15 02.9 -2.3**
CHVC *e*SS **SS** **23 19 44.6 +8.3**
CHVC AMS AMS 23 43 00.0
comp=Z,24µm,15.7s
OSTC Ostas 72.80 342 *e*P **P** **23 05 33.7 +0.4**
OSTC *e*PP **PP** **23 08 18.6 +4.0**
OSTC *e*S **S** **23 15 00.0 +2.3**
OSTC *e*SS **SS** **23 19 38.9 +2.6**
OSTC AMS AMS 23 43 10.0
comp=Z,22µm,15.7s
CWF Charnwood Fore 72.81 354 *e*P **P** **23 05 31.4 -1.9**
CWF IAmb IAmb 23 05 36.5
comp=Z,173nm,1.7s
CWF IAMs_20 IAMs_20 23 34 57.8
comp=Z,7µm,22.3s
152A Waverly Hall 72.86 58 S **S** **23 14 56.4 -2.4**
baz=324
GOGA Godfrey 72.87 56 S **S** **23 14 58.1 -0.8**
baz=325
GOGA Godfrey 72.87 56 P P 23 05 28.5 -5.4
baz=325
GOGA S **S** **23 14 55.7 -3.3**
baz=325
UPC Upice 72.88 342 *e*P **P** **23 05 36.4 +2.6**
UPC *e* 23 08 19.1
UPC *e*S **S** **23 15 00.7 +2.1**
UPC *e*SS **SS** **23 19 38.0 +0.4**
UPC MLR MLR
comp=Z,26µm,15.7s
UPC Upice 72.88 342 *e*P **P** **23 05 36.4 +2.6**
UPC *e*PP **PP** **23 08 19.1 +3.8**
UPC *e*S **S** **23 15 00.7 +2.1**
UPC *e*SS **SS** **23 19 38.0 +0.4**
UPC AMS AMS 23 43 20.0
comp=Z,26µm,15.7s
BRG Berggiesshubel 72.89 343 *e*P **P** **23 05 33.3 -0.5**
BRG Amp 23 05 38.3
comp=Z,91nm,1.8s
BRG *e*x x 23 05 55.3
BRG Amp 23 05 56.3
comp=Z,34nm,1.4s
BRG *e*x x 23 06 04.0
BRG Amp 23 06 06.6
comp=Z,36nm,1.1s
BRG Berggiesshubel 72.89 343 SS SS 23 19 36.0 -1.6
BRG Amp 23 43 03.0
comp=N,12nm,17.9s
BRG Amp 23 43 04.0
comp=E,5.0nm,17.6s
BRG Amp 23 43 13.0
comp=Z,13nm,14.7s
BRG Berggiesshubel 72.89 343 *e*P **P** **23 05 33.2 -0.5**
BRG *e* 23 05 55.2
BRG S **S** **23 14 58.0 -0.6**
BRG 23 15 40.0
BRG SS **SS** **23 19 36.0 -1.6**
BRG pmax pmax
comp=Z,91nm,1.8s
BRG MLR MLR
comp=E,5µm,17.6s
BRG MLR MLR
comp=Z,13µm,14.7s
BRAL Brewton 72.90 60 S **S** **23 15 01.1 +1.8**
baz=324
BRAL Brewton 72.90 60 P P 23 05 28.8 -5.4
baz=324
BRAL S **S** **23 14 58.6 -0.7**
baz=324
T60A Surry 72.94 49 IAmb IAmb 23 05 48.3
comp=Z,69nm,0.8s
DPC Dobruska-Polom 72.98 342 *e*P **P** **23 05 33.9 -0.5**
DPC *e* 23 08 20.0
DPC *e*S **SKiKP** **23 15 03.4 -2.1**
DPC *e*SS **SS** **23 19 41.8 +2.7**
DPC MLR MLR
comp=Z,19µm,16.5s
DPC Dobruska-Polom 72.98 342 *e*P **P** **23 05 33.9 -0.5**
DPC *e*PP **PP** **23 08 20.0 +3.9**
DPC *e*S **SKiKP** **23 15 03.4 -2.1**
DPC *e*SS **SS** **23 19 41.8 +2.7**
DPC AMS AMS 23 43 40.0
comp=Z,19µm,16.5s
V58A Windy Hill, Pi 72.98 52 IAmb IAmb 23 05 57.2
comp=Z,48nm,1.1s
V58A Windy Hill, Pi 72.98 52 S **S** **23 14 59.0 -1.1**
baz=326
V58A S **S** **23 14 59.0 -1.1**
baz=326
SOC Sochi 73.03 324 *e*P **P** **23 05 33.7 -1.0**
SOC *e*S **S** **23 14 57.5 -2.9**
SOC *e* 23 15 33.9
SOC *e*SS **SS** **23 19 36.5 -3.6**
SOC pmax pmax
comp=Z,133nm,2.5s
SOC MLR MLR
comp=Z,25µm,19.0s
NIE Niedzica 73.09 339 *e*P **P** **23 05 35.1 +0.1**
NIE *e*pP **pP** **23 05 38.9 -1.7**
NIE *e*S **S** **23 15 02.4 +1.3**
NIE *e*SKSac **SKSac** **23 15 38.2 -1.1**
NIE *e*SS **SS** **23 19 42.3 +1.5**
NIE *e*L L 23 38 43.2
comp=Z,16µm,21.6s
W57A Gilead 73.10 53 IAmb IAmb 23 05 58.4
comp=Z,94nm,1.6s
W57A Gilead 73.10 53 S **S** **23 14 57.8 -3.7**
baz=326
W57A S **S** **23 14 57.8 -3.7**
baz=326
PVCC Panska Ves 73.11 343 *e*P **P** **23 05 38.5 +3.4**
PVCC *e* 23 08 21.4
PVCC *e*S **S** **23 15 03.2 +2.0**
PVCC *e*SS **SS** **23 19 37.1 -4.0**
PVCC MLR MLR
comp=Z,14µm,13.6s
PVCC Panska Ves 73.11 343 *e*P **P** **23 05 38.5 +3.4**
PVCC *e*PP **PP** **23 08 21.4 +4.2**
PVCC *e*S **S** **23 15 03.2 +2.0**
PVCC *e*SS **SS** **23 19 37.1 -4.0**
PVCC AMS AMS 23 45 30.0
comp=Z,14µm,13.6s
U59A Littleton 73.12 51 S **S** **23 15 00.6 -1.1**
baz=326
U59A S **S** **23 15 00.6 -1.1**
baz=326
KOLS Kolonicke sedl 73.12 338 *e*P **P** **23 05 35.3 +0.1**
KOLS *e*S **SKiKP** **23 15 05.0 -0.7**
KOLS Kolonicke sedl 73.12 338 *e*P **P** **23 05 35.3 +0.1**
KOLS *e*S **SKiKP** **23 15 05.0 -0.7**
OKC Ostrava-Krasne 73.12 340 *e*P **P** **23 05 35.7 +0.5**
OKC *e* 23 08 21.6
OKC *e*S **SKiKP** **23 15 04.8 -0.8**
OKC MLR MLR
comp=Z,15µm,15.6s
OKC Ostrava-Krasne 73.12 340 *e*P **P** **23 05 35.7 +0.5**
OKC *e*PP **PP** **23 08 21.6 +4.3**
OKC *e*S **SKiKP** **23 15 04.8 -0.8**
OKC *e*SS **SS** **23 19 50.8 +10**
OKC AMS AMS 23 43 30.0
comp=Z,15µm,15.6s
GANJ Ganja 73.14 318 P **P** **23 05 37.5 +2.0**
KRLC Kraliky 73.16 341 *e*P **P** **23 05 35.2 -0.2**
KRLC *e* 23 08 22.1
KRLC *e*S **SKiKP** **23 15 05.5 -0.3**
KRLC *e*SS **SS** **23 19 37.5 -4.3**
KRLC MLR MLR
comp=Z,12µm,15.1s
KRLC Kraliky 73.16 341 *e*P **P** **23 05 35.2 -0.2**
KRLC *e*PP **PP** **23 08 22.1 +4.4**
KRLC *e*S **SKiKP** **23 15 05.5 -0.3**
KRLC *e*SS **SS** **23 19 37.5 -4.3**
KRLC AMS AMS 23 44 50.0
comp=Z,12µm,15.1s
JSC Jenkinsville 73.22 54 IAmb IAmb 23 05 47.5
comp=Z,105nm,1.8s
MORC Moravsky Berou 73.30 341⇓ P **P** **23 05 35.4 -0.9**
MORC Moravsky Berou 73.30 341 IAmb IAmb 23 05 41.3
comp=Z,196nm,1.8s
MORC Moravsky Berou 73.30 341 *e*P **P** **23 05 36.0 -0.3**
MORC *e*PP **PP** **23 08 20.6 +1.7**
MORC *e*S **S** **23 15 03.3 -0.1**

MORC eSS SS 23 19 45.1 +1.1
MORC Moravsky Berou 73.30 341 ⇓P P 23 05 35.4 -0.9
KIS Kishinev 73.31 333 eP P 23 05 33.0 -3.3
KIS eS S 23 15 00.5 -3.0
KIS eSS SS 23 19 15.0 -29
KIS LQM 23 40 27.4
comp=Z,8µm,18.5s
KIS LRM MLR 23 41 09.7
comp=Z,10µm,17.0s
CRVS Cervenica-Dubn 73.33 338 eP P 23 05 36.6 +0.2
CRVS pmax pmax
comp=Z,454nm,2.1s
CRVS Cervenica-Dubn 73.33 338 eP P 23 05 36.6 +0.2
CRVS ePP PP 23 08 16.3 -2.8
CRVS eS S 23 15 02.8 -0.9
CRVS eL L 23 39 51.5
MILM Milestii Mici 73.38 332 eP P 23 05 34.8 -1.9
MILM eS S 23 15 03.9 -0.4
MILM eSS SS 23 19 48.3 +3.0
MILM LQM 23 40 31.6
comp=Z,20µm,19.5s
MILM LRM MLR 23 41 05.0
comp=Z,26µm,16.0s
MILM Milestii Mici 73.38 332 ⇑P P 23 05 36.3 -0.4
MILM Milestii Mici 73.38 332 eP P 23 05 34.8 -1.9
MILM eS S 23 15 04.0 -0.4
MILM eSS SS 23 19 48.3 +3.0
MILM MLR MLR
comp=E,15µm,15.0s
MILM MLR MLR
comp=Z,26µm,16.0s
UZH Uzhgorod 73.40 337 eP P 23 05 33.0 -3.8
UZH e 23 05 43.1
UZH i 23 05 46.7
UZH e 23 05 50.3
UZH e 23 10 02.8
UZH eS S 23 14 57.1 -7.4
UZH i 23 15 30.7
UZH i 23 15 42.6
UZH e 23 19 40.6
UZH e 23 22 50.8
UZH MLR MLR
comp=N,3µm,15.0s
UZH MLR MLR
comp=E,3µm,15.0s
UZH MLR MLR
comp=Z,2µm,15.0s
IWEX Carrickbyrne, 73.44 357 eP P 23 05 36.4 -0.6
IWEX IAMs_20 IAMs_20 23 35 46.5
comp=Z,9µm,19.8s
PURM Purcari 73.45 332 ⇓P P 23 05 36.9 -0.3
IAS Iasi 73.46 333 ⇓P P 23 05 36.8 -0.4
IAS Iasi 73.46 333 ⇓P P 23 05 36.8 -0.4
LANS Liptovska Anna 73.51 339 eP P 23 05 38.7 +1.1
MAUC Maruska 73.64 341 eP P 23 05 38.6 +0.3
MAUC ePP PP 23 08 26.1 +4.4
MAUC eS S 23 15 10.7 +3.4
MAUC eSS SS 23 19 54.6 +5.4
MAUC AMS AMS 23 44 30.0
comp=Z,27µm,15.5s
PRU Pruhonice 73.64 343 eP P 23 05 38.2 0.0
PRU e 23 08 26.0
PRU eS S 23 15 08.9 +1.7
PRU eSS SS 23 19 43.3 -5.8
PRU MLR MLR
comp=Z,13µm,20.4s
PRU Pruhonice 73.64 343 eP P 23 05 38.2 0.0
PRU ePP PP 23 08 26.0 +4.3
PRU eS S 23 15 08.9 +1.7
PRU ex x 23 19 43.3
PRU AMS AMS 23 39 40.0
comp=Z,13µm,20.4s
BUR08 Bucovina Ar. S 73.64 335 P P 23 05 37.4 -1.0
SIM Simferopol' 73.64 328 eP P 23 05 37.5 -0.8
SIM 23 08 16.0
SIM eS S 23 15 09.4 +2.0
SIM pmax pmax
comp=Z,83nm,1.1s
BURAR Bucovina Array 73.66 335 ⇑P P 23 05 38.3 -0.2
BURAR Bucovina Array 73.66 335 IAmb IAmb 23 06 15.5
comp=Z,47nm,0.8s
BURAR Bucovina Array 73.66 335 ⇑P P 23 05 38.3 -0.2
352A Blakely 73.72 59 S S 23 15 09.2 +0.7
baz=324
NKC Novy Kostel 73.75 344 eP P 23 05 38.5 -0.4
NKC e 23 08 27.3
NKC eS S 23 15 10.3 +1.8
NKC eSS SS 23 19 46.6 -4.2
NKC MLR MLR
comp=Z,12µm,16.2s
NKC Novy Kostel 73.75 344 eP P 23 05 38.5 -0.4
NKC ePP PP 23 08 27.3 +4.6
NKC eS S 23 15 10.3 +1.8
NKC eSS SS 23 19 46.6 -4.2
NKC AMS AMS 23 43 20.0
comp=Z,12µm,16.2s
LKRN Lenkeran, Azer 73.80 315 P P 23 05 38.9 -0.4
HAW Hawthorne Fire 73.81 55 S SKiKP 23 15 06.4 -0.7
baz=325
Y57A Sumter 73.84 54 S S 23 15 09.6 -0.3
baz=326
Y57A S S 23 15 09.6 -0.3
baz=326
X58A Rowland 73.89 53 S SKiKP 23 15 08.5 +1.3
baz=326
X58A S SKiKP 23 15 08.5 +1.3
baz=326
MMRI Maumere 73.90 228 P P 23 05 43.6 +3.5
comp=Z,78nm,0.9s
VRAC Vranov 73.93 341 ⇑P P 23 05 40.2 +0.3
VRAC Vranov 73.93 341 LR LR 23 42 49.4
comp=Z,11µm,19.0s,baz=30,slow=40
VRAC Vranov 73.93 341 eP P 23 05 39.9 0.0
VRAC ePP PP 23 08 26.4 +2.2
VRAC eS SKiKP 23 15 08.3 +1.4
VRAC eSS SS 23 19 51.8 -1.7
VRAC Vranov 73.93 341 ⇑P P 23 05 40.2 +0.3
451A Vernon 74.00 60 S S 23 15 12.1 +0.2
baz=324
BMR Baia Mare 74.02 336 ⇓P P 23 05 40.6 +0.1
BMR Baia Mare 74.02 336 ⇓P P 23 05 40.6 +0.1
BIZ Bicaz 74.07 334 ⇓P P 23 05 41.0 +0.2
TREC Trest 74.14 342 eP P 23 05 36.2 -5.0
TREC e 23 08 30.2
TREC eS S 23 15 14.4 +1.5
TREC eSS SS 23 19 57.9 +1.1
TREC MLR MLR
comp=Z,22µm,16.4s
TREC Trest 74.14 342 eP P 23 05 36.2 -5.0
TREC ePP PP 23 08 30.2 +4.2
TREC eS S 23 15 14.4 +1.5
TREC eSS SS 23 19 57.9 +1.1
TREC AMS AMS 23 44 40.0
comp=Z,22µm,16.4s
JAVC Velka Javorina 74.15 340 eP P 23 05 42.4 +1.1
JAVC eS S 23 15 16.0 +2.9
GNI Garni 74.18 319 LR LR 23 42 38.0
comp=Z,31µm,18.7s,baz=28,slow=39
GNI Garni 74.18 319 P P 23 05 41.2 -0.6
MTN Manton Dam 74.19 218 IAmb IAmb 23 05 52.2
comp=Z,55nm,0.8s
KRUC Moravsky 74.20 341 eP P 23 05 41.4 -0.1
KRUC ePP PP 23 08 28.7 +2.2
KRUC eS S 23 15 15.4 +1.9
KRUC eSS SS 23 19 58.6 +0.9
EDFI Ende, Flores 74.24 229 P P 23 05 44.0 +1.7
comp=Z,675nmcomp=Z,35nm,2.0s
MEM Membach 74.26 349 dP P 23 05 41.0 -0.8
VYHS Vyhne 74.27 340 eP P 23 05 43.0 +1.1
VYHS pmax pmax
comp=Z,372nm,2.5s
VYHS Vyhne 74.27 340 eP P 23 05 43.0 +1.1
VYHS ePP PP 23 08 25.5 -1.6
VYHS eS S 23 15 13.8 -0.5
VYHS eSS SS 23 19 57.3 -1.5
VYHS eL L 23 38 33.9
BTNL Ternell 74.27 348 dP P 23 05 41.2 -0.7
Y58A Scranton 74.28 53 IAmb IAmb 23 06 04.9
comp=Z,59nm,0.9s
Y58A Scranton 74.28 53 S S 23 15 16.3 +1.5
baz=326
Y58A S S 23 15 16.3 +1.5
baz=326

TESR Tescani 74.33 334 ⇓P P 23 05 41.5 -0.8
BSTI Sart Tilman 74.34 349 dP P 23 05 42.5 +0.2
BSTI dPcP PcP 23 05 58.5 +1.6
TIGA Tifton 74.41 58 IAmb IAmb 23 05 55.0
comp=Z,116nm,1.4s
TIGA Tifton 74.41 58 S S 23 15 16.1 -0.4
baz=325
TIGA Tifton 74.41 58 P P 23 05 38.1 -4.9
baz=325
TIGA S S 23 15 13.5 -2.9
baz=325
GRA1 Grafenberg Arr 74.46 345 IAMs_20 IAMs_20 23 44 04.2
comp=Z,9µm,19.0s
GRFO Grafenberg 74.47 345 P P 23 05 42.8 -0.3
GRFO IAMs_20 IAMs_20 23 44 05.2
comp=Z,9µm,19.0s
GRFO Grafenberg 74.47 345 P P 23 05 42.8 -0.3
GRFO pmax pmax
comp=Z,203nm,1.5s
GRFO MLR MLR
comp=Z,9µm,19.0s
BHOU Houvegnez 74.51 349 dP P 23 05 43.9 +0.6
BHOU dPcP PcP 23 05 57.7 -0.1
SMOL Smolenice 74.53 341 eP P 23 05 44.0 +0.5
SMOL pmax pmax
comp=Z,114nm,2.0s
BCLA Clavier 74.53 349 dP P 23 05 43.1 -0.3
BCLA dPcP PcP 23 05 57.3 -0.5
GHRR 74.55 333 ⇑P P 23 05 43.0 -0.6
255A Hazlehurst 74.56 57 S S 23 15 19.1 +1.1
baz=325
VLDR Vladesti 74.57 333 ⇓P P 23 05 44.6 +0.9
PSZ Piszkesteto 74.59 339 ⇑P P 23 05 44.6 +0.7
PSZ Piszkesteto 74.59 339 ⇑P P 23 05 44.6 +0.7
PSZ Piszkesteto 74.59 339 P P 23 05 45.4 +1.5
KHC Kasperske Hory 74.63 343 IAmb IAmb 23 06 24.4
comp=Z,162nm,1.5s
KHC IAMs_20 IAMs_20 23 41 19.6
comp=Z,11µm,21.0s
KHC Kasperske Hory 74.63 343 eP P 23 05 44.0 -0.1
KHC e 23 06 02.5
KHC e 23 08 35.0
KHC eS S 23 15 20.7 +2.2
KHC eSS SS 23 20 00.4 -3.9
KHC AMS AMS 23 44 20.0
comp=Z,15µm,15.1s
KHC Kasperske Hory 74.63 343 eP P 23 05 44.0 -0.1
KHC x x 23 06 02.5
KHC x x 23 06 23.0
KHC ePP PP 23 08 35.0 +4.8
KHC eS S 23 15 20.7 +2.2
KHC eSS SS 23 20 00.4 -3.9
KHC AMS AMS 23 44 20.0
comp=Z,15µm,15.1s
MESR Meseneni 74.64 336 ⇓P P 23 05 45.2 +1.1
LTVH Ltavrtes, Hu 74.66 337 P P 23 05 46.2 +2.0
MODS Modra-Piesok 74.69 341 eP P 23 05 46.2 +1.8
MODS pmax pmax
comp=Z,475nm,2.0s
MODS Modra-Piesok 74.69 341 eP P 23 05 46.2 +1.8
MODS eS S 23 15 18.5 -0.6
MODS eSS SS 23 20 03.8 -1.4
MODS eL L 23 39 59.2
NHSC New Hope 74.69 54 S S 23 15 18.7 -0.8
baz=326
NHSC New Hope 74.69 54 P P 23 05 41.5 -3.1
baz=326
NHSC S S 23 15 15.8 -3.7
baz=326
BATI Baumata 74.70 226 P P 23 05 48.4 +3.6
comp=Z,701nmcomp=Z,29nm,0.7s
BMRD Maredsous 74.70 349 dP P 23 05 44.0 -0.4
NAX Nakhchivan 74.73 318 P P 23 05 45.7 +0.8
PANC Panciu 74.79 333 ⇑P P 23 05 44.2 -0.8
RCHB Rochefort 74.80 349 dP P 23 05 46.0 +1.1
CKRC Cesky Krumlov 74.81 343 eP P 23 05 45.0 -0.1
CKRC ePP PP 23 08 35.8 +4.1
CKRC eS S 23 15 22.3 +1.9
CKRC eSS SS 23 20 03.9 -3.0
CKRC AMS AMS 23 44 30.0
comp=Z,17µm,14.7s
KOUNC Koumac, New Ca 74.82 184 IAMs_20 IAMs_20 23 45 02.3
comp=Z,8µm,18.0s
CBBR Cluj-Babes-Bol 74.86 336 ⇑P P 23 05 45.7 +0.3
GEC2 GERESS Array S 74.89 343 IAmb IAmb 23 06 25.5
comp=Z,105nm,1.6s
GERES GERESS Array B 74.89 343 P P 23 05 44.5 -1.2
comp=Z,7.7nm,0.8s,baz=35,slow=4.9,SNR=27
GERES LR LR 23 41 49.1
comp=Z,12µm,21.6s,baz=30,slow=38
comp=Z,7.7nm,0.8s
ZST Bratislava 74.90 341 eP P 23 05 47.5 +1.9
ZST pmax pmax
comp=Z,678nm,2.0s
ZST Bratislava 74.90 341 eP P 23 05 47.5 +1.9
ZST eS S 23 15 22.5 +1.2
ZST eSS SS 23 20 12.3 +4.1
CJR Cluj-Napoca 74.90 336 ⇑P P 23 05 46.2 +0.5
CJR Cluj-Napoca 74.90 336 ⇑P P 23 05 46.2 +0.5
VRI Vrincioaia 74.91 333 ⇑P P 23 05 46.2 +0.5
VRI Vrincioaia 74.91 333 ⇑P P 23 05 46.2 +0.5
DOU Dourbes 74.93 349 dP P 23 05 46.0 +0.3
DOU dPcP PcP 23 06 01.4 +1.8
IZVR Izvoarele 74.93 333 ⇑P P 23 05 46.7 +0.9
OZUR 74.94 334 ⇑P P 23 05 46.3 +0.3
PLOR Plostina 74.94 333 ⇑P P 23 05 45.7 -0.2
PLOR Plostina 74.94 333 ⇑P P 23 05 45.7 -0.2
SCHL Schela 74.95 333 ⇑P P 23 05 46.1 +0.2
TLCR 74.98 332 ⇑P P 23 05 45.6 -0.5
TLCR 74.98 332 ⇑P P 23 05 45.6 -0.5
DRGR 75.03 336 ⇑P P 23 05 46.4 -0.1
DRGR 75.03 336 ⇑P P 23 05 46.4 -0.1
COVR Voineasa-Covas 75.06 334 ⇑P P 23 05 47.2 +0.5
BSZH Besenyszg 75.10 338 P P 23 05 49.7 +3.0
LHMI Lhok Sumawe 75.12 258 IAMs_20 IAMs_20 23 39 33.2
comp=Z,6µm,19.0s
DOPR Dopca 75.16 334 ⇓P P 23 05 47.9 +0.8
CFR Carcaliu 75.17 332 ⇓P P 23 05 47.2 0.0
CFR Carcaliu 75.17 332 ⇓P P 23 05 47.2 0.0
WLF Walferdange 75.17 348 IAMs_20 IAMs_20 23 44 54.0
comp=Z,11µm,19.0s
WLF Walferdange 75.17 348 dPcP PcP 23 05 59.6 -1.0
BUD Budapest 75.19 339 P P 23 05 49.5 +2.3
DYA Yadsworthy 75.26 355 eP P 23 05 47.4 -0.2
DYA IAmb IAmb 23 05 51.5
comp=Z,256nm,1.8s
DYA IAMs_20 IAMs_20 23 51 00.5
comp=Z,7µm,15.5s
CONA Conrad Observa 75.39 341 iP P 23 05 48.3 -0.2
comp=Z,61nm,1.5s,SNR=25
TPGR Topolog 75.39 332 ⇑P P 23 05 48.2 -0.2
MLR Muntele Rosu 75.46 334 ⇓P P 23 05 50.0 +1.0
MLR Muntele Rosu 75.46 334 LR LR 23 42 22.6
comp=Z,23µm,19.9s,baz=36,slow=38
MLR Muntele Rosu 75.46 334 P P 23 05 48.2 -0.8
MLR IAmb IAmb 23 05 57.6
comp=Z,40nm,0.7s
MLR Muntele Rosu 75.46 334 P P 23 05 48.2 -0.8
MLR pmax pmax
comp=Z,40nm,0.7s
MLR MLR MLR
comp=Z,22µm,20.0s
CSKK Cskako 75.46 340 P P 23 05 49.4 +0.5
SOP Sopron 75.49 341 P P 23 05 51.2 +2.2
RONA Rosalia, Austr 75.53 341 iP P 23 05 50.1 +0.9
comp=Z,41nm,1.2s,SNR=10
CCA1 Carnmenellis 75.57 356 eP P 23 05 49.4 0.0
CCA1 IAMs_20 IAMs_20 23 36 07.8
comp=Z,8µm,19.1s
DSRI Dabo 75.58 248 P P 23 05 51.1 +1.2
comp=Z,3µmcomp=Z,21nm,1.6s
EGYH Egyhazaskeszo 75.60 340 P P 23 05 51.4 +1.8
ISR Istrita 75.65 333 ⇓P P 23 05 51.4 +1.4
STU Stuttgart 75.66 346 IAMs_20 IAMs_20 23 39 07.7
comp=Z,8µm,20.0s
HARR Harsova 75.68 332 ⇓P P 23 05 50.0 -0.1
HARR Harsova 75.68 332 ⇓P P 23 05 50.0 -0.1
VOIR 75.74 334 ⇑P P 23 05 50.4 -0.2
VOIR 75.74 334 ⇑P P 23 05 50.4 -0.2
MOA Molln 75.75 342 iP P 23 05 52.9 +2.4
comp=Z,42nm,1.4s,SNR=9.1
TIRR Tirgusor 75.76 332 ⇑P P 23 05 49.7 -0.9
TLBR Topalu 75.78 332 ⇑P P 23 05 50.8 +0.1
UNM Universidad Na 75.79 77 IAMs_20 IAMs_20 23 40 55.2
comp=Z,9µm,21.0s
MPLH Magyarpolny 75.79 340 P P 23 05 52.0 +1.2
DEV Deva 75.84 336 ⇑P P 23 05 52.8 +1.7
TPI Tanjungpandan 75.85 244 P P 23 05 53.5 +2.1
comp=Z,29nm,1.6s
KOPT Kop Dagi 75.89 321 IAmb IAmb 23 06 06.4
comp=Z,55nm,0.9s
ARR Arges 75.91 335 ⇑P P 23 05 52.3 +0.8
AMRR Amara 75.91 333 ⇓P P 23 05 52.0 +0.6
AMRR Amara 75.91 333 ⇓P P 23 05 52.0 +0.6
PSI Prapat 75.99 255 LR LR 23 43 12.0
comp=Z,7µm,18.0s,baz=16,slow=39
BIOA Bad Ischl, Aus 76.02 343 iP P 23 05 54.5 +2.5
comp=Z,54nm,1.8s,SNR=9.2
HYB Hyderabad 76.03 280 eP P 23 05 53.8 +1.3
HYB IAmb IAmb 23 05 58.7
comp=Z,27nm,0.8s
HYBB Hyderabad (bro 76.03 280 eP P 23 05 52.4 -0.2
HYBB IVmB_BB 23 05 56.1
comp=Z,969nm,8.7s
HYBB IVMs_BB IVMs_BB 23 41 59.8
comp=Z,4µm,17.4s
BASI Baing, Sumba 76.04 229 P P 23 05 56.5 +4.1
comp=Z,3µmcomp=Z,99nm,0.6s
LOT Lotru 76.05 335 ⇑P P 23 05 52.3 -0.1
KCSI Kotacane, Aceh 76.05 256 P P 23 05 55.1 +2.5
comp=Z,1µmcomp=Z,15nm,1.6s
WBSI Waikabubak, Su 76.06 230 P P 23 05 55.9 +3.3
comp=Z,79nm,1.2s
PLAI Plampang 76.07 232 P P 23 05 53.9 +1.2
comp=Z,1µmcomp=Z,88nm,1.1s
ARSA Arzberg 76.10 341 iP P 23 05 52.6 0.0
comp=Z,74nm,1.9s,SNR=11
BFO Black Forest 76.21 347 P P 23 05 52.7 -0.5
BFO IAMs_20 IAMs_20 23 38 39.3
comp=Z,11µm,22.0s
BFO Black Forest 76.21 347 P P 23 05 52.7 -0.5
BFO pmax pmax
comp=Z,32nm,1.1s
BFO MLR MLR
comp=Z,10µm,22.0s
ICOR Ion Corvin 76.24 332 ⇑P P 23 05 54.1 +0.8
DIKM Dikmen 76.25 326 ⇑P P 23 05 54.7 +1.3
DZM Mont Dzumac 76.26 182 eP P 23 05 55.9 +2.3
comp=Z,117nm,1.3s
DZM eS S 23 15 36.3 -0.6
comp=Z,3µm,23.1s
DZM Mont Dzumac 76.26 182 eLR LR 23 29 21.7
comp=Z,20µm,25.1s
DZM Mont Dzumac 76.26 182 P P 23 05 55.0 +1.4
comp=Z,11nm,1.1s,baz=340,slow=12,SNR=1.8
DZM LR LR 23 37 46.1
comp=Z,5µm,18.8s,baz=22,slow=34
comp=Z,11nm,1.1s
TAOE Nuku Hiva Isla 76.32 127 eP P 23 05 54.1 -0.1
comp=Z,1µm,24.4s
TAOE Nuku Hiva Isla 76.32 127 eLR LR 23 29 23.1
comp=Z,21µm,23.2s
KMMI Kalianget 76.32 236 P P 23 05 55.7 +1.6
comp=Z,108nm,1.5s
GZR Gura Zlata 76.33 336 ⇑P P 23 05 54.0 +0.1
GZR Gura Zlata 76.33 336 ⇑P P 23 05 54.0 +0.1
BZS Buzias 76.40 337 ⇓P P 23 05 54.2 0.0
BZS Buzias 76.40 337 ⇓P P 23 05 54.2 0.0
JSA Saint Aubin 76.41 354 eP P 23 05 53.0 -1.1
JSA IAmb IAmb 23 05 58.1
comp=Z,205nm,1.8s
TWSI Taliwang, Sumb 76.41 233 P P 23 05 57.7 +3.1
comp=Z,14nm,1.0s
ECH Echery 76.48 347 IAmb IAmb 23 06 33.5
comp=Z,78nm,1.7s
ECH IAMs_20 IAMs_20 23 42 03.4
comp=Z,12µm,20.0s
MORH Mrgy, Hungar 76.48 339 ⇓P P 23 05 54.8 +0.1
MORH Mrgy, Hungar 76.48 339 P P 23 05 55.8 +1.2
PSN Preselentsi 76.54 332 iP P 23 05 59.3 +4.3
SGRR Singureni 76.63 333 ⇑P P 23 05 56.1 +0.6
KBA Koelnbreinsper 76.66 343 iP P 23 05 55.8 -0.1
comp=Z,70nm,0.8s,SNR=10
RETA Reutte 76.68 345 iP P 23 05 56.5 +0.6
comp=Z,26nm,1.5s,SNR=7.4
CTA Charters Tower 76.70 202 P P 23 05 56.0 -0.1
comp=Z,18nm,1.1s,baz=4.4,slow=8.9,SNR=8.0
CTA LR LR 23 39 53.1
comp=Z,3µm,18.0s,baz=14,slow=36
comp=Z,18nm,1.1s
CTA Charters Tower 76.70 202 P P 23 05 56.0 -0.1
CTAO Charters Tower 76.70 202 P P 23 05 52.2 -3.8
CTAO Charters Tower 76.70 202 P P 23 05 52.2 -3.8
CTAO pmax pmax
comp=Z,40nm,1.0s
WATA Walderalm 76.70 344 iP P 23 05 56.4 +0.3
comp=Z,69nm,1.9s,SNR=9.8
KOVH Kovagotottos 76.71 339 P P 23 05 56.6 +0.6
SOKA Soboth 76.75 342 iP P 23 05 56.6 +0.4
comp=Z,89nm,1.3s,SNR=36
WTTA Wattenberg 76.76 344 iP P 23 05 56.4 -0.1
comp=Z,30nm,0.8s,SNR=21
MOTA Moosalm 76.77 344 iP P 23 05 56.8 +0.4
comp=Z,58nm,1.5s,SNR=9.1
PERS Pernice 76.77 342 eP P 23 05 57.7 +1.3
PERS iPP PP 23 08 52.1 +3.8
PERS iS S 23 15 44.8 +2.6
BKNI Bangkinang 76.84 252 IAMs_20 IAMs_20 23 43 20.5
comp=Z,5µm,18.0s
SQTA Sankt Quirin 76.87 344 iP P 23 05 56.7 -0.3
comp=Z,31nm,0.9s,SNR=26
HERR Herculane 76.90 336 ⇑P P 23 05 56.8 -0.2
OBKA Obir 77.00 342 ⇓iP P 23 05 57.1 -0.6
OBKA Obir 77.00 342 iP P 23 05 56.8 -0.9
comp=Z,78nm,1.1s,SNR=22
DAVA Damuels 77.01 345 eP P 23 05 57.0 -0.8
comp=Z,16nm,1.4s
MYKA Terra Mystica 77.04 343 iP P 23 05 57.1 -0.8
comp=Z,31nm,1.2s,SNR=8.3
RAZG Razgrad 77.10 333 ⇑P P 23 05 57.9 -0.4
ABTA Abfaltersbach 77.12 343 iP P 23 05 57.8 -0.6
comp=Z,44nm,1.0s,SNR=22
FETA Feichten 77.14 345 eP P 23 05 58.6 0.0
comp=Z,38nm,1.7s
MDVR Moldovita 77.16 336 ⇑P P 23 05 58.2 -0.4
PRD Provadia 77.20 332 iP P 23 06 03.2 +4.5
CLF Chambon-Foret 77.21 351 IAMs_20 IAMs_20 23 44 40.3
comp=Z,9µm,20.0s
PRED Cave del Predi 77.24 343 IAmb IAmb 23 06 37.9
comp=Z,52nm,0.9s
FRGS Fruska Gora 77.24 338 ⇑P P 23 05 59.0 0.0
FRGS Fruska Gora 77.24 338 ⇓iP P 23 05 58.2 -0.8
VLAD Vladila 77.25 334 ⇓P P 23 06 00.1 +1.1
MNSI Mandailing Nat 77.27 253 P P 23 06 00.7 +1.2
CLUD Cludinico 77.34 343 IAmb IAmb 23 06 43.7
comp=Z,71nm,1.3s
PUNG Punghina 77.35 335 ⇓P P 23 06 00.6 +1.1
LJU Ljubljana 77.45 342 eP P 23 06 00.5 +0.3
LJU ePP PP 23 08 56.3 +2.4
LJU eS S 23 15 49.8 +0.3
LJU eSS SS 23 20 47.8 +0.8
LJU IAMs_20 IAMs_20 23 47 08.2
comp=Z,13µm,15.9s
CRES Cresnjev 77.49 341 ⇓iP P 23 05 59.5 -0.9
DAVOX Davos/Dischmat 77.50 345 LR LR 23 40 52.5
comp=Z,12µm,21.7s,baz=23,slow=36
SZH Strazhica 77.53 333 iP P 23 06 03.9 +3.2
CIMO Cimolais 77.56 343 IAmb IAmb 23 06 40.4
comp=Z,140nm,1.9s
FUORN Ofenpass-Fuorn 77.60 345 IAmb IAmb 23 06 42.0
comp=Z,171nm,1.9s
CEY Cerknica 77.76 342 ⇓iP P 23 06 01.2 -0.7
A052A Srbac 77.78 339 eP P 23 05 59.9 -2.0
BOJS Bojanci 77.84 341 eP P 23 06 02.3 0.0
GSI Gunungsitoli 77.97 255 P P 23 06 05.5 +2.0
comp=Z,106nm,1.9s
A051A Mrakovica 77.99 340 eP P 23 06 01.4 -1.8
BLKB Belogradchik 78.03 335 ⇑P P 23 06 02.7 -0.7
JMB Yambol 78.10 332 iP P 23 06 05.0 +1.2
MARD Mardin 78.16 320 IAmb IAmb 23 06 22.1
comp=Z,93nm,1.5s
BLY Banja Luka 78.18 340 eP P 23 05 59.0 -5.2
DIVS Divibare 78.20 337 eP P 23 06 03.5 -1.0
DWPF Disney Wildern 78.21 58 P P 23 05 59.3 -5.3
baz=326
DWPF S S 23 15 57.3 -0.8
baz=326
PWJI Pagerwojo 78.22 238 P P 23 06 07.5 +2.8
comp=Z,93nm,1.2s
SENIN Lac Senin/Sane 78.28 347 IAMs_20 IAMs_20 23 43 07.0

comp=Z,10µm,20.0s
BR131 Keskin Array S 78.51 326 ⇓ *i* P **P 23 06 05.5 -0.8**
BRTR Keskin Array B 78.51 326 P **P 23 06 04.9 -1.4**
comp=Z,8.0nm,0.8s,baz=57,slow=3.8,SNR=41
BRTR LR LR 23 46 29.5
comp=Z,11µm,18.1s,baz=49,slow=40
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 78.51 326 *i* P **P 23 06 06.0 -0.3**
BRTR pmax pmax
comp=Z,12nm,0.7s
SALO Salr 78.54 344 P **P 23 06 04.1 -2.1**
SALO IAmb IAmb 23 06 35.8
comp=Z,75nm,0.9s
A050A Klekovaca 78.57 340 *e*P **P 23 06 07.0 +0.5**
KRJI Kerinci 78.61 250 P **P 23 06 09.9 +2.8**
comp=Z,6µmcomp=Z,136nm,0.9s
ANTO Ankara 78.66 327 IAMs_20 IAMs_20 23 47 08.4
comp=Z,11µm,19.0s
PGB Panagyurishte 78.66 334 *i* P **P 23 06 10.9 +3.9**
PCJI Pacitan 78.68 238 P **P 23 06 09.5 +2.2**
comp=Z,65nm,1.5s
RUDO Rudo 78.80 338 *e*P **P 23 06 07.4 -0.3**
VTS Vitosha 78.83 335 ⇑P **P 23 06 07.9 -0.2**
VTS Vitosha 78.83 335 ⇑P **P 23 06 07.9 -0.2**
VTS Vitosha 78.83 335 *i* P **P 23 06 11.7 +3.6**
SRKY Kupres RS 78.84 339 *e*P **P 23 06 07.9 -0.1**
PLD Plovdiv 78.94 333 *i* P **P 23 06 12.0 +3.6**
KDZ Kurdzhali 79.18 333 *i* P **P 23 06 14.0 +4.2**
BORA Eskisehir 79.38 328 IAmb IAmb 23 06 15.6
comp=Z,161nm,1.7s
BNI Bardonecchia 79.65 347 IAmb IAmb 23 06 53.6
comp=Z,89nm,1.3s
MMB Musomiste 79.68 334 *i* P **P 23 06 16.9 +4.4**
SSB Saint Sauveur 79.69 349 IAMs_20 IAMs_20 23 48 24.3
comp=Z,6µm,18.0s
ZCCA Zocca 79.70 344 P **P 23 06 12.8 +0.1**
WRAB Tennant Creek 79.71 213 *ce*P **P 23 06 12.7 0.0**
WRAB pmax pmax
comp=Z,28nm,1.3s
WRAB MLR MLR
comp=Z,2µm,18.0s
ALN Alexandroupoli 79.71 332 IAmb IAmb 23 06 17.2
comp=Z,160nm,1.6s
WRA Warramunga Arr 79.72 213 P **P 23 06 12.4 -0.4**
comp=Z,15nm,1.0s,baz=24,slow=6.2,SNR=27
WRA LR LR 23 41 02.2
comp=Z,2µm,20.4s,baz=4.5,slow=35
comp=Z,15nm,1.0s
WRA Warramunga Arr 79.72 213 *i* P **P 23 06 11.8 -1.0**
WRA pmax pmax
comp=Z,6.0nm,0.8s
STON Ston 79.87 339 *e*P **P 23 06 10.8 -2.7**
TREB Trebinje 79.88 338 *e*P **P 23 06 12.4 -1.2**
SKO Skopje 79.88 336 *i* P **P 23 06 17.6 +4.0**
PDG Podgorica 79.96 337 ⇓P **P 23 06 15.2 +1.2**
VLC Villacollemand 79.98 344 IAMs_20 IAMs_20 23 42 42.2
comp=Z,11µm,21.0s
CMIG Matias Romero 80.00 75 LR LR 23 40 49.9
comp=Z,6µm,19.1s,baz=311,slow=35
RAR Rarotonga 80.14 150 LR LR 23 34 16.3
comp=Z,5µm,21.8s,baz=334,slow=30
RAR Rarotonga 80.14 150 IAMs_20 IAMs_20 23 33 55.5
comp=Z,6µm,20.0s
PPT Papeete 80.16 140 LR LR 23 35 03.9
comp=Z,8µm,20.2s,baz=342,slow=31
PPT2 Papeete2 80.18 140 *e*P **P 23 06 15.2 -0.2**
comp=Z,1µm,24.2s
PPT2 Papeete2 80.18 140 *e*PP **PP 23 09 15.5 -2.6**
comp=Z,477nm,22.8s
PPT2 *e*S **S 23 16 17.4 -1.7**
comp=Z,3µm,34.5s
PPT2 *e*SS **SS 23 21 29.2 -1.3**
comp=Z,2µm,24.8s
PPT2 *e*LR LR 23 31 09.1
comp=Z,19µm,23.0s
PPTF Pamatai, Papee 80.18 140 IAMs_20 IAMs_20 23 33 51.8
comp=Z,9µm,20.0s
DRME Dracevica, Mon 80.20 337 *e*P **P 23 06 17.6 +2.3**
VAY Valandovo 80.22 335 *i* P **P 23 06 19.5 +4.0**
JASK Jask - Hormozg 80.41 301 P **P 23 06 19.2 +2.5**
OHR Ohrid 80.85 336 *i* P **P 23 06 22.7 +3.8**
FITZ Fitzroy Crossi 81.05 221 IAmb IAmb 23 06 34.8
comp=Z,130nm,1.8s
SHME Shamm 81.11 303 P **P 23 06 21.7 +1.2**
SHME P **P 23 06 21.7 +1.2**
SHME Shamm 81.11 303 *i* P **P 23 06 18.6 -1.9**
SNR=7.7
TEIG Tepich 81.12 68 IAMs_20 IAMs_20 23 43 17.8
comp=Z,11µm,22.0s
BANOM Banah 81.14 302 P **P 23 06 22.0 +1.3**
BANOM P **P 23 06 22.0 +1.3**
BANOM Banah 81.14 302 *i* P **P 23 06 20.0 -0.6**
SNR=5.9
ISP Isparta 81.24 328 IAMs_20 IAMs_20 23 47 57.4
comp=Z,10µm,19.0s
MDH Madha 81.67 302 P **P 23 06 25.1 +1.7**
MDH P **P 23 06 25.1 +1.7**
MDH Madha 81.67 302 *i* P **P 23 06 21.2 -2.2**
SNR=6.2
MASF Masafi 81.67 302 P **P 23 06 25.7 +2.2**
MASF P **P 23 06 25.7 +2.2**
MSFE Esma-Masafi 81.68 302 *i* P **P 23 06 22.6 -1.0**
SNR=7.1
UMQ Umm Al-Quwin 81.79 303 P **P 23 06 23.6 -0.4**
UOSS Minazif 82.01 302 P **P 23 06 22.6 -2.6**
UOSS IAmb IAmb 23 06 28.0
comp=Z,172nm,1.8s
UOSS Minazif 82.01 302 *i* P **P 23 06 24.3 -0.9**
SNR=7.6
HATD Hatta, Dubai 82.14 302 P **P 23 06 29.0 +3.1**
SNR=7.5
HATD P **P 23 06 29.0 +3.1**
SNR=7.5
HATD Hatta, Dubai 82.14 302 *i* P **P 23 06 25.8 -0.2**
SNR=7.0
WSAR Wadi Sarin 82.21 299 LR LR 23 45 40.2
comp=Z,24µm,21.2s,baz=78,slow=38
BIDO Bidbid 82.23 300 P **P 23 06 29.8 +3.5**
BIDO P **P 23 06 29.8 +3.5**
NAZ Nazwa, Dubai 82.24 302 P **P 23 06 29.0 +2.6**
SNR=8.4
NAZ P **P 23 06 29.0 +2.6**
SNR=8.4
NAZ Nazwa, Dubai 82.24 302 *i* P **P 23 06 25.4 -1.0**
SNR=7.3
ASHO Ashiyiah 82.30 302 P **P 23 06 30.0 +3.2**
SNR=8.5
ASHO P **P 23 06 30.0 +3.2**
SNR=8.5
ASHO Ashiyiah 82.30 302 *i* P **P 23 06 24.8 -2.0**
SNR=9.9
ELL Elmali 82.42 328 IAmb IAmb 23 07 07.0
comp=Z,90nm,1.0s
FAQ Al Faqa, Dubai 82.47 302 *i* P **P 23 06 24.8 -2.8**
SNR=5.5
WBK Wadi Bani Khal 82.56 299 P **P 23 06 31.0 +2.9**
WBK P **P 23 06 31.0 +2.9**
HOQ Hoqain 82.59 300 P **P 23 06 31.0 +2.7**
SNR=7.8
HOQ P **P 23 06 31.0 +2.7**
SNR=7.8
SMDO Samad 82.65 300 P **P 23 06 32.1 +3.4**
SNR=5.8
SMDO P **P 23 06 32.1 +3.4**
SNR=5.8
ASUD Al Ashush, Dub 82.70 303 P **P 23 06 30.8 +2.0**
ASUD P **P 23 06 30.8 +2.0**
PCHI Peechi 82.81 278 ⇓ *e*P **P 23 06 31.0 +1.5**
PALK Pallekele 82.90 273 LR LR 23 48 02.1
comp=Z,8µm,19.7s,baz=129,slow=39
PALK Pallekele 82.90 273 P P 23 06 35.9 +5.9
PALK P P 23 06 35.9 +5.9
PALK P pP 23 06 36.4 -0.2
PALK P pP 23 06 36.4 -0.2
AJN Ajban 82.93 303 P **P 23 06 33.6 +3.6**
SNR=5.6
AJN P **P 23 06 33.6 +3.6**
SNR=5.6
AJN Ajban 82.93 303 *i* P **P 23 06 29.9 -0.1**
SNR=5.9
CSS Mathiatis 82.94 324 IAmb IAmb 23 07 02.3
comp=Z,59nm,1.0s
ALNE Al Ain 82.97 302 P **P 23 06 33.6 +3.3**
SNR=10
ALNE P **P 23 06 33.6 +3.3**
SNR=10
ALNE Al Ain 82.97 302 *i* P **P 23 06 28.8 -1.5**
SNR=6.1
ARQ Araqi 83.19 301 P **P 23 06 35.0 +3.6**
SNR=9.4
ARQ P **P 23 06 35.0 +3.6**
SNR=9.4
JMDO Jabal Madar 83.20 299 P **P 23 06 35.0 +3.5**
SNR=6.2
JMDO P **P 23 06 35.0 +3.5**
SNR=6.2
BSY Bisya 83.34 300 P **P 23 06 35.0 +2.8**
SNR=13
BSY P **P 23 06 35.0 +2.8**
SNR=13
ASAR Alice Springs 83.35 212 P **P 23 06 31.8 -0.1**
comp=Z,6.2nm,0.9s,baz=17,slow=5.1,SNR=30
ASAR LR LR 23 41 47.0
comp=Z,2µm,20.5s,baz=18,slow=34
comp=Z,6.2nm,0.9s
TIP Timpagrande 83.61 338 ⇑P **P 23 06 33.6 +0.2**
JRN Qarnain Island 83.64 305 P **P 23 06 35.7 +2.0**
JRN P **P 23 06 35.7 +2.0**
SHMA Al-Shehemyia 83.76 307 P **P 23 06 35.5 +1.2**
PGAV Gavieira, Arco 83.89 358 *e*P **P 23 06 37.7 +2.9**
comp=Z,126nm,1.7s
PGAV Gavieira, Arco 83.89 358 *e*PP **PP 23 09 46.6 -0.7**
PGAV *e*S **S 23 17 00.6 +3.5**
PGAV *e*SS **SS 23 22 28.8 +5.6**
PGAV *e*LQ LQ 23 29 22.0
PGAV *e*LR LR 23 34 13.6
comp=Z,5µm,20.0s
MMAI Mount Meron Ar 83.97 322 LR LR 23 48 33.2
comp=Z,10µm,19.0s,baz=202,slow=39
PBRG Braganca 84.00 356 *e*P **P 23 06 37.6 +2.3**
comp=Z,69nm,1.6s
PCAB Cabril 84.13 357 *e*P **P 23 06 36.5 +0.5**
comp=Z,78nm,1.7s
PCAB Cabril 84.13 357 *e*PP **PP 23 09 50.3 +1.0**
ASF Jabal al Asfar 84.18 320 LR LR 23 49 57.5
comp=Z,14µm,18.1s,baz=42,slow=40
RAO Raoul Island 84.20 168 IAMs_20 IAMs_20 23 37 48.8
comp=Z,6µm,21.0s
ITM Ithomi 84.29 334 IAmb IAmb 23 07 05.7
comp=Z,45nm,0.8s
KARP Karpathos 84.37 329 IAmb IAmb 23 06 56.1
comp=Z,58nm,0.8s
POLO Lamas de Olo 84.46 357 *e*P **P 23 06 41.2 +3.5**
comp=Z,40nm,1.8s
PVRL Vila Real 84.56 357 *e*P **P 23 06 38.3 +0.1**
comp=Z,118nm,1.8s
MVO Moncorvo 84.65 357 *e*P **P 23 06 39.1 +0.5**
comp=Z,106nm,1.6s
MVO Moncorvo 84.65 357 *e*S **S 23 17 06.2 +1.5**
MVO *e*SS **SS 23 22 40.9 +6.5**
MVO *e*LQ LQ 23 29 38.1
MVO *e*LR LR 23 34 33.1
comp=Z,5µm,20.0s
CEL Celeste 84.68 339 P **P 23 06 39.5 +0.7**
CEL IAmb IAmb 23 07 19.1
comp=Z,45nm,0.9s
SMRA Abu-Samra 84.78 306 P **P 23 06 41.5 +2.1**
MZR Muzera 84.98 303 P **P 23 06 42.9 +2.4**
SNR=13
MZR P **P 23 06 42.9 +2.4**
SNR=13
MZR Muzera 84.98 303 *i* P **P 23 06 39.4 -1.1**
SNR=9.9
MAHO Mahon 85.03 348 P **P 23 06 37.8 -2.6**
MAHO S **S 23 17 03.5 -4.8**
PVIS Viseu 85.12 357 *e*P **P 23 06 41.0 0.0**
comp=Z,86nm,1.7s
PVIS Viseu 85.12 357 *e*PP **PP 23 09 59.4 +2.1**
IDI Anoyia 85.27 331 ⇓P **P 23 06 42.9 +1.0**
IDI Anoyia 85.27 331 LR LR 23 49 12.0
comp=Z,8µm,18.1s,baz=28,slow=39
IDI Anoyia 85.27 331 IAmb IAmb 23 07 34.6
comp=Z,77nm,1.5s
IDI IAMs_20 IAMs_20 23 47 32.5
comp=Z,9µm,22.0s
UCM Universidad Co 85.32 354 P **P 23 06 39.7 -2.3**
UCM S **S 23 17 04.9 -6.4**
MTE Manteigas 85.43 357 *e*P **P 23 06 43.3 +0.7**
comp=Z,109nm,1.8s
MTE Manteigas 85.43 357 *e*S **S 23 17 14.8 +2.4**
MTE *e*SS **SS 23 22 53.3 +7.4**
MTE Manteigas 85.43 357 *e*LR LR 23 35 00.6
comp=Z,6µm,18.0s
MTE Manteigas 85.43 357 IAmb IAmb 23 07 03.1
comp=Z,66nm,1.1s
MTE IAMs_20 IAMs_20 23 50 48.3
comp=Z,7µm,19.0s
TBI Tubuai 85.49 142 *e*P **P 23 06 42.6 -0.1**
comp=Z,897nm,25.0s
TBI Tubuai 85.49 142 *e*PP **PP 23 09 59.2 -2.4**
comp=Z,643nm,24.2s
TBI *e*S **S 23 17 11.7 -1.1**
comp=Z,3µm,25.5s
TBI Tubuai 85.49 142 *e*LR LR 23 33 37.7
comp=Z,11µm,24.5s
COI Coimbra 85.64 358 *e*P **P 23 06 45.5 +2.0**
comp=Z,107nm,1.7s
COI Coimbra 85.64 358 IAMs_20 IAMs_20 23 42 14.0
comp=Z,9µm,20.0s
VAE Valguarnera 85.74 340 LR LR 23 48 28.7
comp=Z,10µm,20.6s,baz=4.0,slow=38
SRBC Serra Branca 85.76 13 *e*P P 23 06 58.6 +14
comp=Z,224nm,0.5s
PGRA Graciosa 85.78 13 *e*P P 23 06 52.2 +8.0
comp=Z,185nm,1.0s
PCAS Casmilo, Conde 85.80 358 *e*P **P 23 06 45.4 +1.1**
comp=Z,132nm,1.4s
PCAS Casmilo, Conde 85.80 358 *e*PP **PP 23 10 04.6 +1.8**
SNET Serv Nac Est T 85.92 72 IAMs_20 IAMs_20 23 47 38.1
comp=Z,6µm,21.0s
PCBR Castelo Branco 85.98 357 *e*P **P 23 06 47.9 +2.7**
comp=Z,85nm,1.7s
PCBR Castelo Branco 85.98 357 *e*PP **PP 23 10 08.7 +4.4**
ESBB Sonseca Array 85.99 354 IAmb IAmb 23 07 17.3
comp=Z,42nm,1.0s
ESDC Sonseca Array 85.99 354 P **P 23 06 44.8 -0.6**
comp=Z,17nm,1.1s,baz=2.2,slow=4.5,SNR=27
comp=Z,17nm,1.1s
ESDC Sonseca Array 85.99 354 IAmb IAmb 23 07 10.4
comp=Z,41nm,1.1s
ROSA Rosais 86.05 13 *e*P P 23 06 56.1 +11
comp=Z,233nm,1.2s
PCED Cedros 86.07 13 *e*P **P 23 06 49.7 +4.0**
comp=Z,293nm,1.0s
PAGU Agualva, Azure 86.13 12 *e*P P 23 06 52.2 +6.2
comp=Z,180nm,1.2s
PAB San Pablo 86.14 355 P **P 23 06 44.8 -1.4**
PAB IAmb IAmb 23 07 07.3
comp=Z,57nm,1.4s
PAB San Pablo 86.14 355 IAMs_20 IAMs_20 23 51 23.3
comp=Z,8µm,20.0s
PAB San Pablo 86.14 355 P **P 23 06 44.8 -1.4**
PAB pmax pmax
comp=Z,57nm,1.4s
PAB MLR MLR
comp=Z,8µm,20.0s
PMAN Manadas 86.15 13 *e*P P 23 07 01.2 +15
comp=Z,159nm,1.2s
MBWA Marble Bar 86.16 225 P **P 23 06 45.8 -0.3**
PICO Pico 86.24 13 *e*P P 23 06 53.5 +6.9
comp=Z,326nm,1.5s
PSBE So Bento 86.34 358 *e*P **P 23 06 50.7 +3.6**
comp=Z,111nm,1.9s
PSBE So Bento 86.34 358 *e*PP **PP 23 10 06.9 -0.3**
PMRV Marv??o 86.39 357 *e*P **P 23 06 48.6 +1.3**
comp=Z,60nm,1.9s
PMRV Marv??o 86.39 357 *e*PP **PP 23 10 12.1 +4.5**
PMRV *e*S **S 23 17 22.2 +0.4**
PMRV *e*SS **SS 23 23 07.5 +7.6**
PMRV *e*LQ LQ 23 30 57.9
PMRV *e*LR LR 23 35 19.2
comp=Z,4µm,18.0s
PSA00 Pilbara Seismi 86.48 224 P **P 23 06 46.0 -1.7**
PSA00 IAmb IAmb 23 07 01.4
comp=Z,102nm,1.9s
TGUH Tegucigalpa,Un 86.70 70 IAMs_20 IAMs_20 23 42 24.8
comp=Z,8µm,21.0s
PMTG Montargil 86.78 358 *e*P **P 23 06 52.6 +3.5**
comp=Z,61nm,1.8s
PMAFR Mafra 86.91 358 *e*P **P 23 06 52.0 +2.2**
PESTR Estremoz 86.96 357 *e*P **P 23 06 53.1 +3.0**
comp=Z,49nm,1.7s
LIS Lisbon 87.15 358 *e*P **P 23 06 50.9 0.0**
LIS *e*SKSac **SKSac 23 17 18.3 +1.3**
LIS IAMs_20 IAMs_20 23 47 56.2
comp=N,10µm,16.1s
LIS Lisbon 87.15 358 *e*P **P 23 06 50.9 0.0**
LIS *e* 23 17 18.3
EIL Elat 87.16 321 LR LR 23 52 09.9
comp=N,22µm,18.1s,baz=44,slow=40
PSET Sete Cidades 87.24 11 *e*P **P 23 06 48.4 -3.1**
comp=N,326nm,1.3s
EVO Evora 87.31 357 P **P 23 06 50.3 -1.4**
EVO S **SKSac 23 17 14.3 -3.7**
EVO Evora 87.31 357 *e*P **P 23 06 53.4 +1.7**
comp=N,57nm,1.9s
EVO Evora 87.31 357 *e*PP **PP 23 10 15.1 +0.2**
CMLA Cha da Macela 87.32 11 IAMs_20 IAMs_20 23 46 57.0
comp=Z,5µm,19.0s
PGRON Lagoa das Cont 87.33 11 *e*P **P 23 06 52.2 +0.3**
comp=Z,195nm,1.0s
BART Pico Bartolome 87.35 11 *e*P **P 23 06 56.7 +4.6**
comp=Z,164nm,0.8s
PBAR Barrancos 87.63 357 *e*P **P 23 06 51.3 -2.0**
comp=Z,44nm,1.1s
PBAR Barrancos 87.63 357 *e*PP **PP 23 10 24.4 +6.8**
PNCL Nicolau / Gran 87.74 358 *e*P **P 23 06 58.3 +4.5**
comp=Z,40nm,1.8s
PBEJ Beja 87.81 357 *e*PP **PP 23 10 26.3 +7.3**
CART Cartagena 87.86 352 P **P 23 06 54.5 +0.1**
CART S **SKSac 23 17 19.6 -1.7**
CART Cartagena 87.86 352 IAMs_20 IAMs_20 23 51 48.6
comp=Z,5µm,19.0s
MESJ Messejana 88.00 357 *e*P **P 23 06 55.0 -0.1**
MESJ *e*SKSac **SKSac 23 17 23.4 +1.2**
MESJ IAMs_20 IAMs_20 23 53 23.4
comp=N,10µm,24.4s
MESJ Messejana 88.00 357 *e*P **P 23 06 58.6 +3.5**
comp=N,23nm,1.7s
MESJ Messejana 88.00 357 *e*PP **PP 23 10 23.1 +2.5**
MESJ Messejana 88.00 357 *e*P **P 23 06 55.0 -0.1**
MESJ *e* 23 17 23.4
PSMA Santa Maria 88.12 11 *e*P **P 23 06 52.5 -3.2**
comp=N,127nm,0.6s
PCVE Castro Verde 88.20 357 *e*P **P 23 06 58.2 +2.2**
comp=N,32nm,1.7s
RAYN Ar Rayn 88.28 310 P **P 23 06 54.9 -1.8**
RAYN Ar Rayn 88.28 310 ⇑P **P 23 06 57.0 +0.3**
RAYN Ar Rayn 88.28 310 P **P 23 06 59.4 +2.7**
RAYN Ar Rayn 88.28 310 *i* P **P 23 06 56.7 0.0**
SNR=20
KEST Kesra 88.38 343 P **P 23 06 56.2 -0.8**
comp=N,3.6nm,0.8s,baz=72,slow=3.2,SNR=3.1
KEST LR LR 23 49 05.6
comp=N,6µm,20.6s,baz=332,slow=37
comp=N,3.6nm,0.8s
MTDJ Mount Denham 88.41 60 IAMs_20 IAMs_20 23 53 32.0
comp=Z,9µm,18.0s
PVAQ Vaqueiros 88.42 357 *e*P **P 23 07 00.1 +3.0**
comp=Z,35nm,2.1s
PVAQ Vaqueiros 88.42 357 *e*PP **PP 23 10 29.3 +5.4**
PVAQ *e*S **SKSac 23 17 25.6 +0.8**
PVAQ *e*SS **SS 23 23 34.1 +4.5**
PVAQ Vaqueiros 88.42 357 *e*LR LR 23 36 37.6
comp=Z,5µm,18.0s
MORF Marmelete 88.55 358 *e*P **P 23 06 57.6 -0.1**
MORF *e*SKSac **SKSac 23 17 26.9 +1.3**
MORF IAMs_20 IAMs_20 23 43 57.8
comp=Z,10µm,16.0s
MORF Marmelete 88.55 358 *e*P **P 23 07 01.3 +3.6**
MORF Marmelete 88.55 358 *e*P **P 23 06 57.6 -0.1**
MORF *e* 23 17 26.9
DMTO DMTO 88.69 299 P P 23 07 04.3 +5.7
PFVI Vila Bisbo 88.72 358 *e*P **P 23 07 01.9 +3.4**
comp=Z,86nm,1.8s
STKA Stephens Creek 89.11 203 P **P 23 07 01.1 +1.1**
comp=Z,2.7nm,0.8s,baz=340,slow=8.6,SNR=4.2
STKA LR LR 23 41 52.5
comp=Z,5µm,21.7s,baz=6.2,slow=32
comp=Z,2.7nm,0.8s
SFS San Fernando 89.30 356 P **P 23 07 01.5 +0.3**
SFS S **SKSac 23 17 27.7 -2.3**
OUZ Omahuta 89.45 176 IAMs_20 IAMs_20 23 40 57.8
comp=Z,9µm,20.0s
CEU Ceuta 89.83 355 P **P 23 07 03.1 -0.6**
CEU S **SKSac 23 17 28.7 -4.4**
WMELI Melilla 90.26 353 P **P 23 07 04.6 -1.1**
WMELI S **SKSac 23 17 34.5 -1.1**
CHAS Isla Isabel II 90.36 353 P **P 23 07 05.6 -0.6**
CHAS S **SKSac 23 17 35.4 -0.8**
PVLZ Peæn de 90.49 354 P **P 23 07 04.5 -2.3**
PVLZ S **SKSac 23 17 31.1 -5.8**
SDDR Presa de Saban 90.84 55 IAMs_20 IAMs_20 23 49 35.5
comp=Z,7µm,20.0s
JTS Las Juntas de 91.07 71 IAMs_20 IAMs_20 23 50 13.6
comp=Z,6µm,21.0s
HDC Heredia 91.77 70 IAMs_20 IAMs_20 23 55 37.9
comp=Z,4µm,19.0s
MXZ Matakaoa Point 92.06 172 IAMs_20 IAMs_20 23 47 36.0
comp=Z,5µm,20.0s
IFR Ifrane 92.19 355 P **P 23 07 14.4 -0.5**
IFR S **SKSac 23 17 40.2 -6.9**
AVE Averroes 92.51 357 P **P 23 07 15.3 -0.8**
AVE S **SKSac 23 17 43.8 -4.7**
AVE Averroes 92.51 357 IAMs_20 IAMs_20 23 56 03.7
comp=Z,5µm,18.0s
URZ Urewera 92.67 173 LR LR 23 42 09.1
comp=Z,4µm,21.7s,baz=34,slow=31
URZ Urewera 92.67 173 IAMs_20 IAMs_20 23 41 58.0
comp=Z,5µm,22.0s
HIZ Hauiti 92.79 175 IAMs_20 IAMs_20 23 42 16.2
comp=Z,6µm,22.0s
MDT Midelt 92.86 354 LR LR 23 47 18.2
comp=Z,3µm,21.9s,baz=24,slow=34
PMOZ Porto Moniz, M 92.91 5 *e*P **P 23 07 20.3 +2.1**
PMOZ Porto Moniz, M 92.91 5 *e*PP **PP 23 11 03.4 +3.7**
PMOZ Porto Moniz, M 92.91 5 *e*SS SS 23 24 40.9 +6.3
PMOZ Porto Moniz, M 92.91 5 *e*LR LR 23 38 57.1
comp=Z,4µm,18.0s
SJG San Juan 93.99 51 LR LR 23 53 03.1
comp=Z,7µm,18.6s,baz=324,slow=38
SJG San Juan 93.99 51 IAMs_20 IAMs_20 23 52 33.0
comp=Z,7µm,19.0s
BFZ Birch Farm 95.02 174 IAMs_20 IAMs_20 23 47 41.3
comp=Z,5µm,21.0s
SMRT St. Maarten 95.42 49 IAMs_20 IAMs_20 23 49 59.7
comp=Z,8µm,21.0s
SNZO South Karori 95.57 175 IAMs_20 IAMs_20 23 45 31.7
comp=Z,8µm,20.0s
THZ Tophouse 95.95 177 IAMs_20 IAMs_20 23 42 56.8
comp=Z,8µm,22.0s
PAYG Puerto Ayora 97.02 81 IAMs_20 IAMs_20 23 42 47.9
comp=Z,6µm,22.0s
OXZ Oxford 97.48 177 IAMs_20 IAMs_20 23 47 15.4
comp=Z,6µm,20.0s
ABD La Joyeuse, An 97.50 48 IAMs_20 IAMs_20 23 50 37.0
comp=Z,9µm,21.0s
NWAO Narrogin (SRO) 97.63 221 LR LR 23 49 30.7
comp=Z,2µm,21.1s,baz=256,slow=34
FOZ Fox Glacier 97.65 179 IAMs_20 IAMs_20 23 51 18.9
comp=Z,5µm,18.0s
GDSD La Dsirade Is 97.83 48 IAMs_20 IAMs_20 23 51 50.6
comp=Z,8µm,21.0s
RPZ Rata Peaks 97.85 178 LR LR 23 48 10.9
comp=Z,3µm,19.0s,baz=346,slow=33
MQZ McQueen's Vall 97.88 177 IAMs_20 IAMs_20 23 44 15.9
comp=Z,6µm,19.0s
MAGL Barre de l'ile 98.06 48 IAMs_20 IAMs_20 23 51 58.7
comp=Z,8µm,20.0s
LBZ Lake Benmore 98.51 179 IAMs_20 IAMs_20 23 40 10.5
comp=Z,5µm,21.0s
TAU Tasmania Unive 98.71 196 IAMs_20 IAMs_20 23 46 25.3
comp=Z,6µm,22.0s
ODZ Otahua Downs 99.17 179 IAMs_20 IAMs_20 23 50 07.1
comp=Z,8µm,20.0s
ILAM Ilet Lapin Mar 99.28 48 IAMs_20 IAMs_20 23 54 45.0
comp=Z,7µm,22.0s
BIM Bigot 99.42 48 IAMs_20 IAMs_20 23 56 02.8
comp=Z,8µm,20.0s
DGAR Diego Garcia 99.54 271 IAMs_20 IAMs_20 23 52 23.4
comp=Z,7µm,22.0s
MPOM Morne Pois Mar 99.58 48 IAMs_20 IAMs_20 23 55 26.9
comp=Z,8µm,20.0s
DCZ Deep Cove 99.58 181 IAMs_20 IAMs_20 23 50 17.0
comp=Z,6µm,20.0s
SDV Santo Domingo 99.82 59 LR LR 23 53 35.0
comp=Z,6µm,21.9s,baz=340,slow=36
SDV Santo Domingo 99.82 59 *e*P **Pdif 23 07 50.7 +0.8**
ATD Arta Tunnel 99.94 306 LR LR 23 58 06.5

comp=Z,14µm,18.4s,baz=28,slow=38
GRGR Grenville 101.27 50 IAMs_20 IAMs_20 23 55 20.0
comp=Z,6µm,20.0s
TAM Tamanrasset 101.67 344 IAMs_20 IAMs_20 23 58 41.4
comp=Z,6µm,22.0s
OTAV Otavalo 102.97 71 IAMs_20 IAMs_20 23 56 44.3
comp=Z,5µm,21.0s
OTAV Otavalo 102.97 71 eP **Pdif 23 08 05.4 +1.2**
ANKE Ethiopia-Afar 103.09 308 eP **PP 23 12 15.0 -3.7**
ANKE eS SKKSac 23 19 07.8 -16
AAE Adis Abeba 104.03 309 eP **PP 23 12 21.1 -4.6**
AAE eP **PP 23 12 22.5 -3.2**
AAE Adis Abeba 104.03 309 eP PP 23 12 16.2 -9.5
FURI Furi 104.18 309 eP **PKiKP 23 12 23.5 -2.8**
FURI eS **SKKSac 23 19 24.1 -7.9**
FURI Furi 104.18 309 eP PKiKP 23 12 16.2 -10
SACV Santiago Islan 110.05 13 IAMs_20 IAMs_20 23 52 47.0
comp=Z,5µm,22.0s
LODK Lodwar 110.53 309 eP PKiKP 23 12 49.4 +12
LODK eS **SKSac 23 19 11.4 -4.4**
LODK IAML 23 20 04.2
comp=N,0.8nm,0.8s
LODK Lodwar 110.53 309 eP PKiKP 23 12 49.4 +12
LODK eS SKSac 23 18 55.1 -21
LODK IAML 23 20 04.2
comp=N,0.8nm,0.8s
KOWA Kowa 111.00 352 IAMs_20 IAMs_20 00 03 56.7
comp=Z,6µm,21.0s
MBO M'Bour 111.24 6 IAMs_20 IAMs_20 23 56 30.3
comp=Z,7µm,22.0s
TORD Torodi Ar. Bea 111.72 346 PKiKP **PKiKP 23 12 39.0 -0.9**
comp=Z,0.9nm,0.5s,baz=354,slow=2.0,SNR=10
KMBO Kilima Mbogo 113.64 305 eP PKiKP 23 12 36.2 -7.8
KMBO eS SKSac 23 19 10.2 -18
ROCAM Rodrigues Isla 114.64 270 IAMs_20 IAMs_20 00 03 11.6
comp=Z,6µm,19.0s
MBAR Mbarara 116.16 312 eP PKPdf 23 12 40.1 -8.6
MBAR eS SKSac 23 19 12.6 -25
DBIC Dimbokro 118.82 353 PKP **PKPdf 23 12 52.7 -0.9**
comp=Z,8.0nm,1.1s,baz=343,slow=2.5,SNR=5.2
NPGB Novo Progresso 121.07 54 eP **PKiKP 23 13 02.1 +4.1**
ROSB Rosrio 122.09 40 eP **PKiKP 23 13 01.2 +1.2**
LPAZ La Paz 122.28 72 PKP **PKPdf 23 12 58.6 -2.2**
comp=Z,0.8nm,0.8s,baz=31,slow=5.9,SNR=1.8
LPAZ La Paz 122.28 72 eP **PKiKP 23 13 02.1 +1.1**
PRPB Paraupebas 122.79 47 eP **PKiKP 23 13 03.0 +1.6**
VILB Vilhena 123.77 62 eP **PKiKP 23 13 05.1 +1.8**
CLDB Colider 124.19 56 eP **PKiKP 23 13 05.7 +1.5**
PDRB Porto dos Gac 124.37 58 eP **PKiKP 23 13 06.5 +2.1**
SMTB Santa Maria do 126.15 46 eP **PKiKP 23 13 09.8 +1.7**
PTLB Pontes e Lacer 126.42 62 eP **PKiKP 23 13 10.7 +2.2**
LVC Limon Verde 126.89 77 IAMs_20 IAMs_20 00 15 13.6
comp=Z,3µm,21.0s
LVC Limon Verde 126.89 77 eP **PKiKP 23 13 11.2 +1.5**
SNDB Serra Nova Dou 127.28 52 eP **PKiKP 23 13 10.9 +0.7**
RCBR Riachuelo 127.61 31 IAMs_20 IAMs_20 00 12 19.8
comp=Z,4µm,19.0s
CASY Casey 128.15 206 IAMs_20 IAMs_20 00 06 10.5
comp=Z,4µm,20.0s
FOMA Nahampoana Res 128.20 280 IAMs_20 IAMs_20 00 19 08.5
comp=Z,4µm,20.0s
SALV Santo Antonio 128.55 59 eP **PKiKP 23 13 13.6 +0.9**
SDBA SAO DESIDERIO 130.46 45 eP **PKiKP 23 13 17.4 +0.7**
NBRF Rio Formoso - 130.54 32 eP **PKiKP 23 13 17.7 +0.9**
LCO Las Campanas 130.77 84 IAMs_20 IAMs_20 00 00 56.1
comp=Z,4µm,21.0s
NBAN Anadia - AL 131.12 33 eP **PKiKP 23 13 18.9 +0.9**
VNDA Vanda 131.81 182 PKP **PKPdf 23 13 13.9 -2.5**
comp=Z,0.7nm,0.8s,baz=343,slow=6.5,SNR=2.6
VNDA SKPbc **SKPab 23 16 41.8 +0.2**
comp=Z,1.2nm,0.9s,baz=345,slow=2.9,SNR=4.1
VNDA Vanda 131.81 182 PKIKP **PKPdf 23 13 14.0 -2.5**
NBLA Lagarto - SE 131.85 36 eP **PKiKP 23 13 20.9 +1.5**
BDFB Brasilia 131.99 51 PKP **PKPdf 23 13 16.2 -2.5**
comp=Z,3.8nm,0.8s,baz=104,slow=4.2,SNR=2.6
BDFB SKPbc **SKPab 23 16 43.9 -0.5**
comp=Z,3.1nm,0.8s,baz=217,slow=10.0,SNR=1.9
BDFB Brasilia 131.99 51 eP **PKiKP 23 13 21.2 +1.5**
SBA Scott Base 132.08 181 IAMs_20 IAMs_20 00 01 40.9
comp=Z,2µm,20.0s
AQDB Aquidauana 132.39 62 eP **PKiKP 23 13 20.7 +0.3**
C2SB Chapadao do Su 132.41 58 eP **PKiKP 23 13 21.5 +1.1**
JANB Januaria 133.09 46 eP **PKiKP 23 13 22.1 +0.2**
GDU01 Guandu, BA 133.74 39 eP **PKiKP 23 13 23.9 +0.7**
PEL Peldehue 133.80 88 IAMs_20 IAMs_20 00 09 57.5
comp=Z,3µm,20.0s
IPMB Ipameri, GO 133.95 52 eP **PKiKP 23 13 23.9 +0.3**
ITRB Iturama 134.41 56 eP **PKiKP 23 13 26.2 +1.8**
PCMB Pacaembu 135.59 58 eP **PKiKP 23 13 27.7 +0.9**
TRCB Terra Rica 135.89 61 eP **PKiKP 23 13 27.4 0.0**
CPUP Villa Florida 136.28 69 PKP **PKPdf 23 13 22.9 -3.4**
comp=Z,1.5nm,0.8s,baz=1.3,slow=12,SNR=2.3
CPUP SKPbc **SKPbc 23 16 59.2 +2.1**
comp=Z,2.5nm,0.8s,baz=340,slow=3.1,SNR=5.1
CPUP Villa Florida 136.28 69 PKIKP **PKPdf 23 13 23.0 -3.4**
CPUP Villa Florida 136.28 69 eP **PKiKP 23 13 28.6 +0.6**
BB19B Bebedouro 136.46 55 eP **PKiKP 23 13 28.9 +0.3**
NAN01 Guarapari, ES 137.30 42 eP **PKiKP 23 13 31.0 +0.6**
PTGB Pitanga 137.76 62 eP **PKiKP 23 13 31.8 +0.6**
RIB01 Linhares ES 138.52 44 eP **PKiKP 23 13 33.3 +0.5**
PLCA Paso Flores 139.07 95 PKP **PKPdf 23 13 27.9 -3.2**
comp=Z,1.8nm,0.6s,baz=315,slow=5.7,SNR=1.9
PLCA SKPbc **SKPbc 23 17 05.6 +0.7**
comp=Z,4.2nm,1.0s,baz=333,slow=4.5,SNR=3.4
PLCA Paso Flores 139.07 95 PKIKP **PKPdf 23 13 28.0 -3.2**
PLCA Paso Flores 139.07 95 eP **PKiKP 23 13 32.7 -0.7**
ITAB Concordia 139.78 64 eP **PKiKP 23 13 34.2 -1.0**
DUB01 Friburgo-RJ 140.15 48 eP **PKiKP 23 13 35.4 -0.8**
CRZF Crozet Islands 140.17 255 IAMs_20 IAMs_20 00 15 46.9
comp=Z,3µm,20.0s
CAM01 Campos-RJ 140.23 47 eP **PKiKP 23 13 35.4 -0.9**
COYC Coyhaique 141.16 103 IAMs_20 IAMs_20 00 14 45.0
comp=Z,3µm,20.0s
SHEL Horse Pasture 141.30 351 IAMs_20 IAMs_20 00 26 48.6
comp=Z,3µm,19.0s
CPSB Cacapava Do Su 141.59 69 eP **PKPdf 23 13 36.8 +0.9**
CNLB Canela 142.11 65 eP **PKiKP 23 13 38.9 -1.1**
BOSA Boshof 142.97 299 PKhKP PKPpre 23 13 33.5
comp=Z,2.4nm,0.7s,baz=120,slow=17,SNR=1.5
BOSA PKP **PKPdf 23 13 37.2 -1.5**
comp=Z,4.8nm,0.7s,baz=13,slow=4.2,SNR=8.6
MAW Mawson 144.16 219 PKP PKPbc 23 13 37.7 +0.2
comp=Z,7.6nm,0.5s,baz=53,slow=4.9,SNR=4.3
QSPA South Pole Qui 144.24 180 PKP **PKPab 23 13 36.6 -0.9**
comp=Z,4.9nm,0.8s,baz=297,slow=0.5,SNR=20
QSPA South Pole Qui 144.24 180 IAMs_20 IAMs_20 00 07 43.1
comp=Z,3µm,22.0s
SMAI San Martin Ant 151.19 140 PKPdf **PKPdf 23 13 53.0 +2.1**
PMSA Palmer Station 152.32 133 PKPbc **PKPbc 23 13 58.1 -1.3**
comp=Z,12nm,0.7s,baz=0.0,slow=1.0,SNR=2.0
BELA Belgrano 2 155.11 169 PKPdf **PKPdf 23 13 56.6 +0.2**
TROLL Troll, Antarti 161.42 194 PKPab **PKPab 23 14 49.4 +0.5**
TROLL Troll, Antarti 161.42 194 sPKPdf sPKPdf 23 14 16.8 +3.6
SNAA Sanae 162.35 189 PKPab **PKPab 23 14 51.5 -1.3**
SNAA Sanae 162.35 189 sPKPdf sPKPdf 23 14 16.7 +2.6
VNA3 Neumayer Olymp 163.16 182 PKPab **PKPab 23 14 56.5 +0.2**
VNA3 Neumayer Olymp 163.16 182 sPKPdf sPKPdf 23 14 18.2 +3.4
VNA2 Neumayer--Watz 163.40 185 sPKPdf **sPKPdf 23 14 18.4 +3.4**
VNA2 x sPKPdf 23 14 18.4 +3.4
baz=293,slow=1.0

*NOU **05** 23:00:05.7, 37°.02S×179°.88W, h153km, MLv5.2/9, East of North Island, N.Z.*
*IDC **05** 23:00:11.8±0.7, 36°.74S×179°.01E, h0km, mb4.6/7, mbtmp4.5/9, ML4.8/2, MS3.4/1, Error ellipse: s-maj=24.7km s-min=21.6km az=57.0*
*NEIC **05** 23:00:12.5±2.7, 37°.19S±0°.07×179°.22E±0°.06, h12km±3km, mb5.0/24, Error ellipse: s-maj=10.8km s-min=5.9km az=158.0*
*WEL **05** 23:00:17.1±1.0, 37°S±4°×17°9E±°, h15km, M4.3/48, ML4.6/46, MLv4.3/48, Error ellipse: s-maj=0.0km s-min=0.0km az=79.9*
ISC 05 23:00:18.2±1.7, 37°.10S±0°.07×178°.92E±0°.08, h45km±13km, n200, σ1§74/205, mb5.0/18, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.67**	**227**		**Pn**	**23 00 30.3**	**-1.1**
MXZ				Sg	**Sn**	**23 00 39.2**	**-1.7**
MXZ	**Matakaoa Point**	**0.67**	**227**	P	**Pn**	**23 00 30.3**	**-1.1**
MXZ				S	**Sn**	**23 00 39.3**	**-1.6**
WMGZ	**Waiomatatini S**	**0.82**	**209**	P	**Pn**	**23 00 34.5**	**+1.0**
WMGZ				S	**Sn**	**23 00 47.5**	**+3.0**
PKGZ	**Pakihiroa**	**1.03**	**220**	P	**Pn**	**23 00 34.7**	**-1.6**
PUZ	**Puketiti**	**1.10**	**208**	P	**Pn**	**23 00 38.1**	**+0.8**
PUZ				S	**Sn**	**23 00 53.2**	**+1.8**
HAZ	**Te Kaha**	**1.12**	**234**	P	**Pn**	**23 00 36.6**	**-0.8**
HAZ				S	**Sn**	**23 00 55.4**	**+3.7**
TWGZ	**Tauwhareparae**	**1.31**	**215**	P	**Pn**	**23 00 41.3**	**+1.2**
RUGZ	**Raukumara Rang**	**1.31**	**229**	P	**Pn**	**23 00 39.6**	**-0.6**
WIZ	**White Island**	**1.45**	**252**	P	**Pn**	**23 00 40.7**	**-1.2**
WSRZ	**White Island S**	**1.45**	**253**	P	**Pn**	**23 00 41.2**	**-0.8**
CNGZ	**Carnagh Statio**	**1.49**	**202**	P	**Pn**	**23 00 44.0**	**+1.5**
CNGZ				S	**Sn**	**23 01 04.6**	**+3.7**
TKGZ	**Te Karaka**	**1.58**	**212**	P	**Pn**	**23 00 44.6**	**+0.8**
MWZ	**Matawai**	**1.66**	**222**	P	**Pn**	**23 00 45.9**	**+1.1**
WHRZ	**Whale Island**	**1.72**	**243**	P	**Pn**	**23 00 46.6**	**+0.8**
RAGZ	**Rawiri**	**1.83**	**220**	P	**Pn**	**23 00 48.3**	**+1.0**
RAGZ				S	**Sn**	**23 01 12.1**	**+2.7**
URZ	**Urewera**	**1.84**	**231**	Pn	**Pn**	**23 00 48.7**	**+1.4**
	134nm,0.3s,baz=211,slow=1.5,SNR=634						
URZ				Sn	**Sn**	**23 01 11.6**	**+2.1**
	386nm,0.3s,baz=211,slow=23,SNR=44						
URZ				LR	LR	23 01 54.7	
	comp=Z,844nm,20.4s,baz=32,slow=48						
	1µm,0.6s						
URZ	**Urewera**	**1.84**	**231**		**Pn**	**23 00 48.4**	**+1.1**
URZ				Sn	**Sn**	**23 01 10.0**	**+0.5**
URZ	**Urewera**	**1.84**	**231**	P	**Pn**	**23 00 46.2**	**-1.1**
URZ				S	**Sn**	**23 01 11.5**	**+2.0**
URZ	**Urewera**	**1.84**	**231**	P	**Pn**	**23 00 48.6**	**+1.2**
RIGZ	**Rimuhau**	**1.85**	**209**	P	**Pn**	**23 00 47.8**	**+0.4**
MARZ	**Manawahe**	**1.99**	**243**	P	**Pn**	**23 00 50.1**	**+0.7**
PRGZ	**Paritu Road**	**2.00**	**204**	P	**Pn**	**23 00 49.8**	**+0.4**
PRGZ				S	**Sn**	**23 01 15.0**	**+1.7**
EDRZ	**Edgecumbe**	**2.00**	**239**	P	**Pn**	**23 00 50.8**	**+1.1**
OPRZ	**Ohinepanea**	**2.02**	**248**	P	**Pn**	**23 00 49.6**	**-0.2**
SNGZ	**Shannon Statio**	**2.09**	**216**	P	**Pn**	**23 00 50.4**	**-0.4**
MYRZ	**Mayor Island**	**2.15**	**264**	P	**Pn**	**23 00 50.9**	**-0.6**
KNZ	**Kokohu**	**2.16**	**207**	P	**Pn**	**23 00 51.3**	**-0.4**
RTZ	**Ruatahuna**	**2.16**	**225**	P	**Pn**	**23 00 52.4**	**+0.7**
MUGZ	**Murupara**	**2.19**	**230**	P	**Pn**	**23 00 52.9**	**+0.8**
MHRZ	**Mahia Peninsul**	**2.20**	**201**	P	**Pn**	**23 00 52.0**	**-0.2**
MKRZ	**Makatiti**	**2.21**	**241**	P	**Pn**	**23 00 54.1**	**+1.0**
TGRZ	**Tauranga**	**2.21**	**253**	P	**Pn**	**23 00 52.4**	**0.0**
TARZ	**Mount Tarawera**	**2.23**	**239**	P	**Pn**	**23 00 54.3**	**+1.6**
OMRZ	**Omania**	**2.26**	**243**	P	**Pn**	**23 00 54.3**	**+1.2**
RRRZ	**Republican Roa**	**2.27**	**236**	P	**Pn**	**23 00 54.6**	**+1.3**
KARZ	**Kaharoa**	**2.32**	**246**	P	**Pn**	**23 00 54.7**	**+0.8**
RAHZ	**Arahi**	**2.32**	**218**	P	**Pn**	**23 00 54.5**	**+0.6**
HLRZ	**Highlands Stat**	**2.34**	**240**	P	**Pn**	**23 00 55.8**	**+1.6**
WHHZ	**Waihua**	**2.38**	**214**	P	**Pn**	**23 00 55.1**	**+0.4**
NGRZ	**Ngongotaha**	**2.39**	**244**	P	**Pn**	**23 00 56.4**	**+1.5**
MTHZ	**Maungataniwha**	**2.40**	**223**	P	**Pn**	**23 00 55.2**	**+0.1**
UTU	**Utuhina**	**2.42**	**243**	P	**Pn**	**23 00 58.2**	**+2.9**
PRRZ	**Plateau Road**	**2.44**	**234**	P	**Pn**	**23 00 56.5**	**+0.9**
HSRZ	**Hossack Road**	**2.44**	**240**	P	**Pn**	**23 00 57.5**	**+1.9**
HRRZ	**Handcock Road**	**2.46**	**238**	P	**Pn**	**23 00 57.3**	**+1.5**
KMRZ	**Kaimai**	**2.49**	**252**	P	**Pn**	**23 00 56.0**	**-0.2**
ALRZ	**Allen Road**	**2.51**	**234**	P	**Pn**	**23 00 57.5**	**+1.0**
GRRZ	**Galatos Road**	**2.56**	**240**	P	**Pn**	**23 00 58.3**	**+1.7**
KUZ	**Kuotunu**	**2.59**	**277**	P	**Pn**	**23 00 56.8**	**-0.8**
NMHZ	**Naumai**	**2.60**	**219**	P	**Pn**	**23 00 58.7**	**+0.9**
WPRZ	**Whakapapatarin**	**2.60**	**236**	P	**Pn**	**23 00 59.5**	**+1.7**
MRHZ	**Matea Rd**	**2.63**	**228**	P	**Pn**	**23 00 58.8**	**+0.6**
ARHZ	**Aropaoanui**	**2.64**	**215**	P	**Pn**	**23 00 58.4**	**+0.1**
TOZ	**Tahuroa Road**	**2.79**	**256**	P	**Pn**	**23 01 00.1**	**-0.3**
BKZ	**Black Stump Fm**	**2.81**	**222**		**Pn**	**23 00 60.0**	**-0.8**
BKZ	**Black Stump Fm**	**2.81**	**222**	P	**Pn**	**23 01 01.1**	**+0.4**
BKZ	**Black Stump Fm**	**2.81**	**222**	P	**Pn**	**23 01 01.2**	**+0.4**
KUTZ	**Kaahu Road**	**2.82**	**240**	P	**Pn**	**23 01 02.3**	**+1.5**
GRZ	**Great Barrier**	**2.91**	**286**	P	**Pn**	**23 01 01.9**	**-0.1**
MCHZ	**McNeill Hill**	**2.92**	**216**	P	**Pn**	**23 01 02.2**	**+0.1**
CKHZ	**Cape Kidnapper**	**2.94**	**209**	P	**Pn**	**23 01 01.5**	**-0.9**
TLZ	**Tolley Road**	**2.95**	**244**	P	**Pn**	**23 01 02.5**	**-0.1**
WATZ	**Wairara**	**2.99**	**237**	P	**Pn**	**23 01 04.8**	**+1.6**
MKAZ	**Moumakai**	**3.01**	**269**	P	**Pn**	**23 01 03.2**	**-0.1**
KWHZ	**Kaweka Forest**	**3.04**	**220**	P	**Pn**	**23 01 03.0**	**-0.8**
RATZ	**Rangitukua**	**3.05**	**234**	P	**Pn**	**23 01 05.4**	**+1.4**
WIAZ	**Waiheke Island**	**3.05**	**275**	P	**Pn**	**23 01 03.9**	**0.0**
RITZ	**Rihia Road**	**3.06**	**231**	P	**Pn**	**23 01 05.0**	**+0.9**
KAHZ	**Kahuranaki**	**3.13**	**210**	P	**Pn**	**23 01 04.2**	**-0.9**
KATZ	**Kakaramea**	**3.16**	**233**	P	**Pn**	**23 01 07.3**	**+1.7**
ETAZ	**East Tamaki Re**	**3.20**	**271**	P	**Pn**	**23 01 06.4**	**+0.5**
KRHZ	**Kereru**	**3.24**	**218**	P	**Pn**	**23 01 06.0**	**-0.5**
TMVZ	**Te Maari**	**3.24**	**231**	P	**Pn**	**23 01 07.0**	**+0.4**
MBAZ	**Motutapu North**	**3.24**	**275**	P	**Pn**	**23 01 06.9**	**+0.3**
NTVZ	**North Tongarir**	**3.25**	**231**	P	**Pn**	**23 01 07.2**	**+0.5**
ETVZ	**East Tongariro**	**3.25**	**230**	P	**Pn**	**23 01 07.1**	**+0.4**
KRVZ	**Karewarewa**	**3.27**	**231**	P	**Pn**	**23 01 07.5**	**+0.5**
BHHZ	**Black Hill Sta**	**3.28**	**222**	P	**Pn**	**23 01 07.2**	**+0.1**
OTVZ	**Oturere**	**3.29**	**230**	P	**Pn**	**23 01 07.7**	**+0.3**
NNVZ	**North Ngauruho**	**3.30**	**231**	P	**Pn**	**23 01 08.1**	**+0.5**
WTVZ	**West Tongariro**	**3.31**	**232**	P	**Pn**	**23 01 08.4**	**+0.8**
ABAZ	**Army Bay**	**3.32**	**277**	P	**Pn**	**23 01 08.2**	**+0.7**
SNNZ	**South Ngauruho**	**3.32**	**232**	P	**Pn**	**23 01 08.1**	**+0.3**
NGUZ	**Nguuhoe**	**3.34**	**231**	P	**Pn**	**23 01 08.4**	**+0.4**
EPAZ	**Eden Park BICE**	**3.35**	**273**	P	**Pn**	**23 01 09.1**	**+1.1**
TUVZ	**Tukino**	**3.36**	**229**	P	**Pn**	**23 01 08.6**	**+0.3**
HBAZ	**Herne Bay Bore**	**3.37**	**273**	P	**Pn**	**23 01 09.6**	**+1.3**
TWVZ	**Taurewa**	**3.38**	**233**	P	**Pn**	**23 01 09.4**	**+0.8**
MOVZ	**Moawhango**	**3.40**	**226**	P	**Pn**	**23 01 08.4**	**-0.4**
WHVZ	**Whangaehu Hut**	**3.41**	**229**	P	**Pn**	**23 01 09.5**	**+0.4**
FWVZ	**Far West T-bar**	**3.42**	**230**	P	**Pn**	**23 01 09.6**	**+0.5**
AWAZ	**Awhitu Peninsu**	**3.42**	**269**	P	**Pn**	**23 01 09.6**	**+0.6**
WNVZ	**Wahianoa**	**3.44**	**229**	P	**Pn**	**23 01 09.5**	**+0.1**
WTAZ	**Waiatarua**	**3.48**	**271**	P	**Pn**	**23 01 10.8**	**+0.9**
RVAZ	**Riverhead Bore**	**3.50**	**274**	P	**Pn**	**23 01 10.8**	**+0.8**
HIZ	**Hauiti**	**3.52**	**245**		**Pn**	**23 01 11.5**	**+1.2**
HIZ	**Hauiti**	**3.52**	**245**	P	**Pn**	**23 01 11.8**	**+1.5**
HIZ	**Hauiti**	**3.52**	**245**	P	**Pn**	**23 01 11.8**	**+1.5**
PNHZ	**Pukenui**	**3.53**	**216**	P	**Pn**	**23 01 09.3**	**-1.2**
WPHZ	**Waipukurau**	**3.54**	**213**	P	**Pn**	**23 01 09.4**	**-1.3**
MTVZ	**Mangateitei**	**3.55**	**229**	P	**Pn**	**23 01 10.8**	**0.0**
PKVZ	**Pokaka**	**3.57**	**231**	P	**Pn**	**23 01 11.9**	**+0.9**
TSZ	**Takapari Road**	**3.76**	**217**	P	**Pn**	**23 01 12.0**	**-1.7**
ANWZ	**Angora Road**	**3.86**	**209**	P	**Pn**	**23 01 13.7**	**-1.4**
WCZ	**Waipu Caves**	**3.87**	**286**	P	**Pn**	**23 01 15.7**	**+0.6**
WAZ	**Wanganui**	**4.07**	**228**	P	**Pn**	**23 01 18.1**	**+0.2**
POWZ	**Post Office Ro**	**4.11**	**216**	P	**Pn**	**23 01 16.7**	**-1.7**
MHEZ	**Mangahewa**	**4.13**	**240**	P	Pn	23 01 22.3	+3.6
BFZ	**Birch Farm**	**4.14**	**209**		**Pn**	**23 01 16.4**	**-2.5**
BFZ					**Sn**	**23 02 03.7**	**-2.3**
BFZ	**Birch Farm**	**4.14**	**209**	P	**Pn**	**23 01 16.0**	**-2.9**
PRWZ	**Pori Road**	**4.15**	**213**	P	**Pn**	**23 01 17.7**	**-1.3**
DREZ	**Durham Road**	**4.27**	**239**	P	**Pn**	**23 01 23.3**	**+2.7**
LREZ	**Lake Rotokare**	**4.27**	**235**	P	**Pn**	**23 01 22.3**	**+1.7**
PREZ	**Palmer Road**	**4.37**	**238**	P	**Pn**	**23 01 25.0**	**+2.9**
NEZ	**North Egmont**	**4.38**	**239**	P	**Pn**	**23 01 24.8**	**+2.6**
PKE	**Pukeiti**	**4.42**	**240**	P	**Pn**	**23 01 25.4**	**+2.7**
KHEZ	**Kahui Hut**	**4.44**	**239**	P	**Pn**	**23 01 24.1**	**+3.0**
NBEZ	**Newall Road No**	**4.53**	**240**	P	Pn	23 01 27.7	+3.5
OUZ	**Omahuta**	**4.70**	**292**		**Pn**	**23 01 27.4**	**+0.8**
OUZ	**Omahuta**	**4.70**	**292**	P	**Pn**	**23 01 27.7**	**+1.1**
MSWZ	**Moikau Station**	**5.17**	**212**	Pn	**Pn**	**23 01 29.3**	**-3.7**
MSWZ					**Sn**	**23 02 27.0**	**-4.3**
PLWZ	**Palliser**	**5.29**	**211**	Pn	**Pn**	**23 01 31.2**	**-3.5**
PLWZ					**Sn**	**23 02 30.0**	**-4.4**
SNZO	**South Karori**	**5.33**	**217**	Pn	**Pn**	**23 01 31.6**	**-3.5**
SNZO	**South Karori**	**5.33**	**217**	P	**Pn**	**23 01 31.8**	**-3.4**
TUWZ	**Tuamarina**	**5.80**	**220**		**Pn**	**23 01 39.0**	**-2.6**
NNZ	**Nelson**	**5.95**	**225**	Pn	**Pn**	**23 01 41.0**	**-2.8**
BSWZ	**Blackbirch Sta**	**6.04**	**219**	Pn	**Pn**	**23 01 41.6**	**-3.4**
TKNZ	**Takaka Hill**	**6.08**	**228**	P	**Pn**	**23 01 43.9**	**-1.6**
QRZ	**Quartz Range**	**6.22**	**231**	Pn	**Pn**	**23 01 45.3**	**-2.1**
QRZ	**Quartz Range**	**6.22**	**231**	P	**Pn**	**23 01 45.7**	**-1.7**
THZ	**Tophouse**	**6.58**	**223**	Pn	**Pn**	**23 01 49.1**	**-3.4**
KHZ	**Kahutara**	**6.74**	**216**	Pn	**Pn**	**23 01 51.6**	**-2.8**
KHZ	**Kahutara**	**6.74**	**216**	P	**Pn**	**23 01 50.3**	**-4.1**
CTZ	**Chatham Island**	**7.45**	**154**	P	**Pn**	**23 02 03.7**	**-0.5**
MQZ	**McQueen's Vall**	**8.15**	**214**	Pn	**Pn**	**23 02 09.4**	**-4.4**
RPZ	**Rata Peaks**	**8.92**	**220**	Pn	**Pn**	**23 02 19.9**	**-4.6**
	2.2nm,0.3s,baz=245,slow=0.4,SNR=11						
RPZ				Sn	Sn	23 03 52.3	-11
	6.3nm,0.3s,baz=132,slow=24,SNR=18						
RPZ	**Rata Peaks**	**8.92**	**220**	Pn	**Pn**	**23 02 20.6**	**-3.9**
RPZ	**Rata Peaks**	**8.92**	**220**	P	**Pn**	**23 02 20.7**	**-3.8**
FOZ	**Fox Glacier**	**9.46**	**224**	Pn	**Pn**	**23 02 29.8**	**-2.0**
LBZ	**Lake Benmore**	**9.84**	**220**	Pn	**Pn**	**23 02 33.1**	**-3.9**
ODZ	**Otahua Downs**	**10.10**	**216**	Pn	Pn	23 02 35.3	-5.2
ODZ	**Otahua Downs**	**10.10**	**216**	P	Pn	23 02 35.3	-5.2
WKZ	**Wanaka**	**10.75**	**221**	Pn	**Pn**	**23 02 47.0**	**-2.4**
MLZ	**Mavora Lakes**	**11.58**	**221**	Pn	**Pn**	**23 02 57.2**	**-3.6**
WHZ	**Wether Hill Ro**	**12.03**	**220**	Pn	**Pn**	**23 03 04.5**	**-2.4**
DCZ	**Deep Cove**	**12.16**	**223**	Pn	**Pn**	**23 03 06.7**	**-2.1**
MSVF	**Nonsavu**	**19.31**	**357**	P	**P**	**23 04 36.4**	**-3.2**
	0.2nm,0.3s,baz=158,slow=16,SNR=1.4						
	2.3nm,0.8s						
STKA	**Stephens Creek**	**31.07**	**268**	P	**P**	**23 06 33.2**	**+1.2**
	4.1nm,0.8s,baz=101,slow=8.9,SNR=9.8						
	4.1nm,0.8s						
BBOO	**Buckleboo**	**35.17**	**264**	P	**P**	**23 07 06.8**	**-1.0**
BBOO				IAmb	IAmb	23 07 29.5	
	comp=Z,33nm,1.4s						
TARA	**Tarawa**	**38.66**	**350**	P	P	23 07 31.2	-6.3
COEN	**Coen**	**39.29**	**296**	P	**P**	**23 07 43.9**	**+1.0**
COEN				IAmb	IAmb	23 08 05.7	
	comp=Z,80nm,1.8s						
AS31	**Alice Springs**	**40.72**	**276**	P	**P**	**23 07 54.6**	**-0.1**
ASAR	**Alice Springs**	**40.72**	**276**	P	**P**	**23 07 54.5**	**-0.1**
	comp=Z,12nm,0.6s,baz=119,slow=7.8,SNR=28						
ASAR				S	**S**	**23 13 57.2**	**-4.8**
	comp=Z,0.2nm,0.4s,baz=116,slow=15,SNR=2.0						
	comp=Z,12nm,0.6s						
WR0	**Warramunga Arr**	**42.16**	**281**	P	**P**	**23 08 06.5**	**0.0**
FORT	**Forrest**	**42.26**	**263**	P	**P**	**23 08 07.1**	**-0.1**
FORT				IAmb	IAmb	23 08 18.9	
	comp=Z,54nm,1.1s						
WB2	**Warramunga Arr**	**42.31**	**281**	P	**P**	**23 08 07.7**	**0.0**
WRAB	**Tennant Creek**	**42.32**	**281**	P	**P**	**23 08 07.5**	**-0.3**
WRAB				IAmb	IAmb	23 08 08.2	
	comp=Z,29nm,0.6s						
WRA	**Warramunga Arr**	**42.32**	**281**	P	**P**	**23 08 07.8**	**-0.1**
	comp=Z,20nm,0.5s,baz=123,slow=7.0,SNR=104						
WRA				PcP	**PcP**	**23 09 59.7**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=126,slow=2.9,SNR=1.8						
	comp=Z,20nm,0.5s						
WRA	**Warramunga Arr**	**42.32**	**281**	P	**P**	**23 08 07.4**	**-0.4**
WB0	**Warramunga Arr**	**42.38**	**282**	P	**P**	**23 08 08.1**	**-0.2**
WB0				IAmb	IAmb	23 08 08.7	
	comp=Z,37nm,0.5s						
CASY	**Casey**	**48.05**	**210**	P	**P**	**23 08 54.0**	**+1.3**
KNRA	**Kununurra**	**49.10**	**282**	P	**P**	**23 09 01.5**	**+0.1**
KNRA				IAmb	IAmb	23 09 06.4	
	comp=Z,33nm,1.4s						
NWAO	**Narrogin (SRO)**	**49.92**	**255**	P	**P**	**23 09 06.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.20**	**277**	P	**P**	**23 09 09.8**	**+0.1**
FITZ				IAmb	IAmb	23 09 10.4	
	comp=Z,12nm,0.8s						
MORW	**Morawa**	**52.46**	**259**	P	**P**	**23 09 25.2**	**-1.3**
MORW				IAmb	IAmb	23 10 58.1	
	comp=Z,30nm,1.5s						
PSA00	**Pilbara Seismi**	**52.99**	**270**	P	**P**	**23 09 29.2**	**-1.3**
PSA00				IAmb	IAmb	23 09 58.5	
	comp=Z,28nm,2.0s						
PSA00	**Pilbara Seismi**	**52.99**	**270**	P	**P**	**23 09 29.2**	**-1.3**
PSA00				IAmb

GSTD	Great Sitkin T	4.43	267			Pn	23 02 25.3 +1.5
GSCK	Great Sitkin C	4.45	267			Pn	23 02 25.1 +1.2
ADK	Adak	4.79	267	Pn		Pn	23 02 29.6 +1.0
SPIA	Saint Paul Isl	4.82	352			Pn	23 02 31.3 +2.4
KIWB	Kanaga Island	5.08	267			Pn	23 02 33.9 +1.3
SDPT	Sand Point	5.81	56	Pn		Pn	23 02 45.9 +3.3
CNBA	Chernabura Isl	6.07	63	Pn		Pn	23 02 49.6 +3.4
CHGN	Chignik	7.28	54	Pn		Pn	23 03 06.7 +4.0
SII	Sitkinak Islan	9.54	58	Pn		Pn	23 03 36.3 +2.6
OHAK	Old Harbor	10.23	56	Pn		Pn	23 03 43.6 +0.5
P18K	Big Mountain,	10.38	42	Pn		Pn	23 03 48.9 +3.6
O18K	Koktuh Hills	10.67	40	Pn		Pn	23 03 53.2 +4.0
KDAK	Kodiak Island	10.79	54	Pn		Pn	23 03 50.8 -0.1
	1.0nm,0.3s,baz=269,slow=5.7,SNR=11						
KDAK	Kodiak Island	10.79	54	Pn		Pn	23 03 51.6 +0.7
Q19K	Cape Douglas,	10.81	47	Pn		Pn	23 03 54.3 +3.2
N18K	Kilae Creek	10.96	36	Pn		Pn	23 03 56.5 +3.4
N19K	Bonanza Creek	11.56	38	Pn		Pn	23 04 05.9 +4.5
SEW	Seward	13.25	47	Pn		Pn	23 04 25.6 +1.3
RC01	Rabbit Creek A	13.61	43	Pn		Pn	23 04 30.4 +1.1
J20K	Nowinta River	14.07	27	P		P	23 04 41.4 -1.5
PWL	Port Wells	14.09	45	Pn		Pn	23 04 35.9 0.0
CAST	Castle Rocks	14.14	32	P		P	23 04 43.9 +0.2
GHO	Glory Hole Cre	14.30	41	Pn		Pn	23 04 40.2 +1.4
KNK	Knik Glacier	14.30	43	Pn		Pn	23 04 38.1 -0.7
GLI	Glacier Island	14.64	46	Pn		Pn	23 04 42.2 -1.1
HIN	Hinchinbrook I	14.71	48	Pn		Pn	23 04 44.5 +0.2
FID	Port Fidalgo	14.86	47	Pn		Pn	23 04 45.0 -1.3
BPAW	Bear Paw Mtn.	14.97	32	Pn		Pn	23 04 50.3 +2.6
SCM	Sheep Creek Mo	14.98	43	Pn		Pn	23 04 48.2 +0.3
RND	Reindeer	15.25	36	Pn		Pn	23 04 52.9 +1.4
RND				IAmb		IAmb	23 05 12.9
	comp=Z,13nm,1.2s						
DIV	Divide	15.33	46	Pn		Pn	23 04 52.7 +0.1
KLU	Klutina	15.42	45	Pn		Pn	23 04 53.2 -0.5
I21K	Tanana	15.44	28	P		P	23 04 60.0 +1.9
I21K				IAmb		IAmb	23 05 38.1
	comp=Z,18nm,1.5s						
RAGM	Ragged Mountai	15.55	50	Pn		Pn	23 04 56.0 +0.6
RAGM				IAmb		IAmb	23 05 30.7
	comp=Z,22nm,1.2s						
H21K	Melozitna Rive	15.58	25	P		P	23 05 02.5 +2.8
H21K				IAmb		IAmb	23 05 05.7
	comp=Z,22nm,1.4s						
M24K	Tolsona, Glenn	15.59	43	Pn		Pn	23 04 55.1 -0.9
DHY	Denali Highway	15.61	38	Pn		Pn	23 04 57.9 +1.7
DHY				IAmb		IAmb	23 05 07.2
	comp=Z,18nm,1.4s						
MLY	Manley	15.70	29	P		P	23 05 01.8 +0.8
HMT	Hamilton	15.73	50	Pn		Pn	23 04 58.8 +1.2
BMRM	Bremner River	15.79	48	Pn		Pn	23 04 59.8 +1.3
BERG	Berg Lake	16.01	50			Pn	23 05 01.5 +0.3
N25K	Chitina, Valde	16.04	46	Pn		Pn	23 05 01.7 0.0
PAX	Paxson	16.30	40	Pn		Pn	23 05 05.9 +0.9
PAX				IAmb		IAmb	23 05 13.6
	comp=Z,17nm,1.5s						
GLB	Gilahina Butte	16.33	47	Pn		Pn	23 05 05.7 +0.4
SNH	Sunshine Point	16.35	51	P		P	23 05 08.4 +0.1
WAX	Waxell Ridge	16.43	50	Pn		Pn	23 05 07.8 +1.1
WAX				IAmb		IAmb	23 05 31.9
	comp=Z,20nm,0.9s						
MDM	Murphy Dome	16.43	32			Pn	23 05 07.5 +0.9
TGL	Tana Glacier	16.53	49	Pn		Pn	23 05 08.1 0.0
TGL				IAmb		IAmb	23 05 37.9
	comp=Z,20nm,1.2s						
H23K	Yukon River	16.61	29	P		P	23 05 12.7 +1.6
H23K				IAmb		IAmb	23 05 14.5
	comp=Z,23nm,1.4s						
MCARA	McCarthy VSAT	16.66	47	Pn		Pn	23 05 10.5 +1.1
MCARA				IAmb		IAmb	23 05 38.4
	comp=Z,32nm,1.3s						
IL31		16.77	34	P		P	23 05 13.4 +0.8
IL31				IAmb		IAmb	23 05 37.3
	comp=Z,22nm,1.4s						
ILAR	Eielson Array	16.77	34	Pn		Pn	23 05 07.4 -3.4
	baz=230,slow=12,SNR=2.5						
	comp=Z,1.5nm,0.9s						
RIDG	Independent Ri	16.93	39	Pn		Pn	23 05 13.6 +0.7
RIDG				IAmb		IAmb	23 05 15.0
	comp=Z,24nm,1.2s						
YAH	Yahtse	16.93	51	Pn		Pn	23 05 13.0 -0.1
YAH				IAmb		IAmb	23 05 37.0
	comp=Z,19nm,0.9s						
M26K	Nabesna, AK	17.06	44	Pn		Pn	23 05 15.4 +0.9
H24K	Noodor Dome	17.12	30			P	23 05 17.4 +0.6
H24K				IAmb		IAmb	23 05 51.9
	comp=Z,20nm,1.5s						
L26K	Log Cabin Wild	17.18	42			Pn	23 05 17.7 +1.7
DOT	Dot Lake	17.18	39	Pn		Pn	23 05 16.8 +0.8
DOT				IAmb		IAmb	23 05 28.5
	comp=Z,24nm,1.5s						
J25K	Salcha River,	17.20	36	Pn		Pn	23 05 17.3 +1.0
CTGM	Chitina Glacie	17.29	50			P	23 05 19.4 +0.7
CTGM				IAmb		IAmb	23 05 36.0
	comp=Z,27nm,1.4s						
SCRK	Sand Creek	17.38	39	Pn		Pn	23 05 19.2 +0.7
M27K	Edge Creek, AK	17.52	45			Pn	23 05 21.5 +1.1
PRP	Porcupine Dome	17.68	33	Pn		Pn	23 05 21.6 -0.6
PRP				IAmb		IAmb	23 06 01.4
	comp=Z,18nm,1.4s						
J26L	Joseph Creek	17.80	37			Pn	23 05 24.5 +0.7
I26K	Coal Creek Min	18.37	35	P		P	23 05 30.1 -0.4
I26K				IAmb		IAmb	23 05 48.1
	comp=Z,23nm,1.4s						
HYT	Haines Junctio	19.07	52	P		Pn	23 05 41.6 +2.3
HYT				IAmb		IAmb	23 05 52.6
	comp=Z,12nm,0.8s						
SKAG	Skagway	19.93	56			Pn	23 05 51.2 +1.8
SKAG				IAmb		IAmb	23 05 56.0
	comp=Z,20nm,1.2s						
N31M	Braeburn, Yuko	20.02	50	P		P	23 05 50.5 +1.9
N31M				IAmb		IAmb	23 05 58.6
	comp=Z,21nm,1.3s						
M31M	Drury Creek, Y	20.82	48	P		P	23 05 59.1 +1.9
EPYK	Eagle Plains	21.21	36	P		P	23 06 01.3 0.0
H11S1	WAKE ISLAND Hy	38.84	219	T		T	23 50 13.3
	baz=23,slow=76						
H11S2	WAKE ISLAND Hy	38.86	219	T		T	23 50 15.0
	baz=23,slow=76						
H11S3	WAKE ISLAND Hy	38.86	219	T		T	23 50 14.6
	baz=23,slow=76						
KSRS	Korea Array	45.65	277	P		P	23 09 34.6 -1.4
	comp=Z,0.5nm,0.3s,baz=52,slow=7.4,SNR=1.7						
	comp=Z,0.5nm,0.3s						
TXAR	Lajitas Array	52.50	89	P		P	23 10 31.1 +2.4
	comp=Z,0.5nm,0.8s,baz=295,slow=6.2,SNR=1.2						
	comp=Z,0.5nm,0.8s						
BVAR	Borovoye Array	63.80	325	P		P	23 11 43.9 -3.4
	comp=Z,0.7nm,0.5s,baz=55,slow=7.5,SNR=4.1						
	comp=Z,0.7nm,0.5s						
MKAR	Makanchi Array	63.95	314	P		P	23 11 45.9 -2.4
	comp=Z,0.2nm,0.4s,baz=40,slow=7.4,SNR=1.1						
	comp=Z,0.2nm,0.4s						
ARU	Arti	64.68	333	P		P	23 11 50.2 -2.7
	comp=Z,2.3nm,0.4s,baz=22,slow=11,SNR=5.4						
	comp=Z,2.3nm,0.4s						
FINES	FINESS Array B	65.85	352	P		P	23 11 59.7 -0.7
	comp=Z,1.4nm,0.8s,baz=4.3,slow=7.6,SNR=4.5						
	comp=Z,1.4nm,0.8s						
WRA	Warramunga Arr	87.23	232	P		P	23 14 00.5 -1.2
	comp=Z,0.5nm,0.8s,baz=353,slow=3.4,SNR=1.7						
	comp=Z,0.5nm,0.8s						
ESDC	Sonseca Array	87.35	12	P		P	23 14 02.6 +0.3
	comp=Z,0.6nm,0.6s,baz=349,slow=4.9,SNR=8.0						
	comp=Z,0.6nm,0.6s						
ASAR	Alice Springs	90.62	230	P		P	23 14 16.7 -0.9
	comp=Z,0.7nm,0.8s,baz=33,slow=5.6,SNR=2.1						
	comp=Z,0.7nm,0.8s						
H03N2	Juan Fernandez	115.71	112	T		T	01 26 39.5
	baz=323,slow=78,SNR=8.7						
H03N1	Juan Fernandez	115.73	112	T		T	01 26 32.5
	baz=323,slow=78,SNR=9.1						
H03N3	Juan Fernandez	115.73	112	T		T	01 26 37.8
	baz=323,slow=78,SNR=9.4						

*IDC **05** 23:01:52.7±1.3,54.°66N×168.°23E,h0km,mb3.7/10, mbtmp3.8/12,ML3.8/2,Error ellipse: s-maj=44.1km s-min=16.4km az=5.0*

*MOS **05** 23:01:54.6±0.7,54.°63N×168.°23E,h23km,mb4.0/1,Error ellipse: s-maj=23.1km s-min=13.6km az=177.5*

*KRSC **05** 23:01:55.5±1.9,54.°34N×167.°77E,h15km±33km,ML4.4*

ISC 05 23:01:55.7±0.8,54.°6N±0.°1×168.°23E±0.°06,h23km,n36,
σ1s51/38,mb3.8/10,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	1.45	297	PN	Pn	23 02 19.3	-1.1
BKI				S	Sn	23 02 37.0	-1.6
BKI	Bering	1.45	297	*e*P	Pn	23 02 19.3	-1.1
BKI				*e*S	Sn	23 02 37.0	-1.6
MKZ	Mys Kozlova	3.78	272	PN	Pn	23 02 52.7	+0.2
MKZ				S	Sn	23 03 36.5	+0.3
MKZ	Mys Kozlova	3.78	272	*e*P	Pn	23 02 52.7	+0.2
MKZ				*e*S	Sn	23 03 36.5	+0.3
SHEM	Shemya Is, Ala	3.95	116	Pn	Pn	23 02 52.9	-1.9
	42nm,0.3s,baz=315,slow=8.6,SNR=6.9						
SHEM				Sn	Sn	23 03 38.2	-2.2
	17nm,0.3s,baz=201,slow=6.9,SNR=1.7						
	93nm,0.3s						
TUMR	Tumrok	4.71	282	PN	Pn	23 03 07.5	+2.1
TUMR	Tumrok	4.71	282	*e*P	Pn	23 03 07.5	+2.1
SPN	Mys Shipunski	5.08	256	*e*S	Sn	23 04 05.7	-2.5
KII	Karymskiy	5.17	268	PN	Pn	23 03 13.0	+1.4
KII	Karymskiy	5.17	268	*e*P	Pn	23 03 13.0	+1.4
NLC	Nalytchevo	5.44	259	PN	Pn	23 03 16.4	+1.2
NLC	Nalytchevo	5.44	259	P	Pn	23 03 16.4	+1.2
NLC				S	Sn	23 04 15.2	-1.9
DALK	Dalny	5.83	258	S	Sn	23 04 26.2	-0.3
GNL	Ganaly	6.11	266	PN	Pn	23 03 26.1	+1.5
GNL	Ganaly	6.11	266	P	Pn	23 03 26.1	+1.5
MTVR	Mutnovka	6.35	255	PN	Pn	23 03 29.2	+1.4
MTVR	Mutnovka	6.35	255	P	Pn	23 03 29.2	+1.4
MTVR				S	Sn	23 04 38.4	-1.2
PETK	Petropavlovsk-	6.41	261	Pn	Pn	23 03 29.3	+0.8
	1.3nm,0.3s,baz=90,slow=19,SNR=1.5						
PETK				Sn	Sn	23 04 40.2	-0.6
	0.8nm,0.3s,baz=103,slow=18,SNR=1.0						
	8.9nm,0.6s						
KDTR	Khodutka, Kamc	6.70	250	S	Sn	23 04 44.0	-4.1
KDAK	Kodiak Island	21.83	66	P	P	23 06 47.1	+1.1
	4.0nm,0.7s,baz=311,slow=11,SNR=1.7						
	4.0nm,0.7s						
ILAR	Eielson Array	24.30	47	P	P	23 07 10.7	-0.3
	1.1nm,0.7s,baz=252,slow=7.2,SNR=4.7						
	1.1nm,0.7s						
H11N2	WAKE ISLAND Hy	34.80	182	T	T	23 45 28.8	
	baz=0.9,slow=76						
H11N3	WAKE ISLAND Hy	34.82	182	T	T	23 45 27.1	
	baz=0.9,slow=76						
H11N1	WAKE ISLAND Hy	34.82	182	T	T	23 45 27.4	
	baz=0.9,slow=76						
H11S1	WAKE ISLAND Hy	36.02	182	T	T	23 46 57.1	
	baz=1.2,slow=76						
H11S3	WAKE ISLAND Hy	36.04	182	T	T	23 46 58.8	
	baz=1.2,slow=76						
H11S2	WAKE ISLAND Hy	36.04	182	T	T	23 46 58.7	
	baz=1.2,slow=76						
SONM	Songino Array	38.19	286	P	P	23 09 14.8	+1.5
	0.8nm,0.8s,baz=67,slow=7.7,SNR=2.0						
	0.8nm,0.8s						
NVAR	Mina Array Bea	50.70	77	P	P	23 10 53.7	+0.3
	0.2nm,0.5s,baz=302,slow=6.9,SNR=1.6						
	0.2nm,0.5s						
KURK	Kurchatov	50.94	305	P	P	23 10 56.0	+1.2
KURBB	Kurchatov Arra	51.04	305	P	P	23 10 56.0	+0.4
	0.5nm,0.3s,baz=58,slow=7.6,SNR=2.0						
	0.5nm,0.3s						
MKAR	Makanchi Array	51.75	299	P	P	23 10 59.2	-1.7
	0.9nm,1.0s,baz=28,slow=6.5,SNR=1.2						
	0.9nm,1.0s						
BVAR	Borovoye Array	53.13	312	P	P	23 11 11.2	+0.1
	1.2nm,0.6s,baz=63,slow=8.2,SNR=6.0						
	1.2nm,0.6s						
NOA	NORSAR Array B	63.29	348	P	P	23 12 22.6	+0.5
	0.5nm,0.8s,baz=16,slow=6.9,SNR=1.5						
	0.5nm,0.8s						
TXAR	Lajitas Array	65.60	73	P	P	23 12 38.9	+1.2
	0.6nm,0.5s,baz=305,slow=5.2,SNR=11						
	0.6nm,0.5s						
AKASG	Malin Array Be	69.63	334	P	P	23 13 01.5	-1.1
	0.3nm,0.3s,baz=16,slow=5.8,SNR=3.6						
	0.3nm,0.3s						

KRSC 05 23:05:36.2±1.6,54.°26N×167.°71E,h15km±26km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	1.38	314	P	Pn	23 05 59.4	-1.6
BKI				S	Sb	23 06 19.2	0.0
MKZ	Mys Kozlova	3.51	277	P	Pn	23 06 33.3	+3.2
TUMR	Tumrok	4.50	286	P	Pb	23 06 49.5	-5.4
SPN	Mys Shipunski	4.71	259	P	Pn	23 06 50.8	+4.1
GNL	Ganaly	5.79	268	P	Pn	23 07 06.0	+4.3
KRMR	Karymshinskiy	5.89	260	S	Sn	23 08 14.9	+4.9
MTVR	Mutnovka	5.97	257	P	Pn	23 07 08.3	+4.1
MTVR				S	Sn	23 08 17.0	+4.7
GRL	Gorelyy	6.01	257	P	Pn	23 07 09.8	+5.1
KDTR	Khodutka, Kamc	6.31	251	S	Sn	23 08 24.0	+3.7

WEL 05 23:08:01.4±0.9,37.°5S±5.°×17.°9E±.°,h15km,M3.4/22, ML3.7/25,MLv3.4/22,Error ellipse: s-maj=0.0km s-min=0.0km az=92.6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.56	236	P	Pg	23 08 12.4	0.0
MXZ				S	Sg	23 08 19.8	-0.1
WMGZ	Waiomatatini S	0.68	214	P	Pn	23 08 15.9	-0.6
WMGZ				S	Sn	23 08 26.5	-0.4
PKGZ	Pakihiroa	0.90	225	P	Pg	23 08 19.0	0.0
PKGZ				S	Sn	23 08 32.0	-0.5
PUZ	Puketiti	0.96	211	P	Pb	23 08 19.7	-0.1
PUZ				S	Sn	23 08 33.2	-0.6
HAZ	Te Kaha	1.01	240	P	Pb	23 08 19.7	-1.0
TWGZ	Tauwhareparae	1.17	218	P	Pn	23 08 23.1	-0.2
TWGZ				S	Sg	23 08 39.4	+0.1
RUGZ	Raukumara Rang	1.20	233	P	Pn	23 08 21.8	+0.1
CNGZ	Carnagh Statio	1.34	203	P	Pn	23 08 25.6	-0.1
WIZ	White Island	1.38	258	P	Pb	23 08 26.7	-0.3
TKGZ	Te Karaka	1.44	215	P	Pn	23 08 27.3	+0.3
MWZ	Matawai	1.52	225	P	Pn	23 08 28.1	-0.1
WHRZ	Whale Island	1.64	248	P	Pn	23 08 30.3	+0.6
RAGZ	Rawiri	1.70	223	P	Pn	23 08 30.6	-0.1
RIGZ	Rimuhau	1.70	211	P	Pn	23 08 29.8	-0.8
URZ	Urewera	1.73	234	P	Pn	23 08 31.2	+0.2
URZ				S	Sn	23 08 53.4	+0.7
PRGZ	Paritu Road	1.85	205	P	Pn	23 08 31.6	-1.0
MARZ	Manawahe	1.90	247	P	Pn	23 08 33.4	0.0
EDRZ	Edgecumbe	1.91	243	P	Pn	23 08 33.8	+0.3
OPRZ	Ohinepanea	1.95	252	P	Pn	23 08 33.8	-0.1
SNGZ	Shannon Statio	1.96	218	P	Pn	23 08 33.6	-0.6
RTZ	Ruatahuna	2.03	227	P	Pn	23 08 35.1	-0.1
MHGZ	Mahia Peninsul	2.05	202	P	Pn	23 08 34.1	-1.3
MUGZ	Murupara	2.07	233	P	Pn	23 08 35.7	0.0
MYRZ	Mayor Island	2.11	268	P	Pn	23 08 36.6	+0.4
TARZ	Mount Tarawera	2.13	242	P	Pn	23 08 37.2	+0.7
RAHZ	Arahi	2.19	220	P	Pn	23 08 37.1	-0.2
HLRZ	Highlands Stat	2.24	243	P	Pn	23 08 38.7	+0.6
MTHZ	Maungataniwha	2.27	225	P	Pn	23 08 38.3	-0.2
ARHZ	Aropaoanui	2.50	216	P	Pn	23 08 40.6	-1.0
MRHZ	Matea Rd	2.51	230	P	Pn	23 08 41.4	-0.3
KUZ	Kuaotunu	2.59	280	P	Pn	23 08 41.3	-1.4
BKZ	Black Stump Fm	2.69	224	P	Pn	23 08 43.5	-0.7
TOZ	Tahuroa Road	2.74	259	P	Pn	23 08 44.3	-0.5
MCHZ	McNeill Hill	2.79	218	P	Pn	23 08 44.4	-1.1
KWHZ	Kaweka Forest	2.91	221	P	Pn	23 08 46.0	-1.3
GRZ	Great Barrier	2.93	289	P	Pn	23 08 48.1	+0.6
RITZ	Rihia Road	2.94	233	P	Pn	23 08 48.2	+0.4
MKAZ	Moumakai	2.98	272	P	Pn	23 08 47.8	-0.4
KAHZ	Kahuranaki	2.99	211	P	Pn	23 08 46.1	-2.2
WIAZ	Waiheke Island	3.04	278	P	Pn	23 08 49.5	+0.5
KRHZ	Kereru	3.10	219	P	Pn	23 08 48.6	-1.2
TMVZ	Te Maari	3.12	232	P	Pn	23 08 49.8	-0.5
ETVZ	East Tongariro	3.13	232	P	Pn	23 08 49.8	-0.6
NTVZ	North Tongarir	3.13	233	P	Pn	23 08 49.9	-0.4
BHHZ	Black Hill Sta	3.15	224	P	Pn	23 08 50.0	-0.6
OTVZ	Oturere	3.17	232	P	Pn	23 08 50.5	-0.5
NNVZ	North Ngauruho	3.19	233	P	Pn	23 08 51.1	-0.1
SNVZ	South Ngauruho	3.21	232	P	Pn	23 08 50.8	-0.6
NGZ	Ngauruhoe	3.22	232	P	Pn	23 08 51.2	-0.5
MBAZ	Motutapu North	3.23	277	P	Pn	23 08 53.0	+1.4
TWVZ	Taurewa	3.27	235	P	Pn	23 08 51.5	-0.8
MOVZ	Moawhango	3.27	228	P	Pn	23 08 51.2	-1.0
PNHZ	Pukenui	3.39	218	P	Pn	23 08 51.8	-2.1
HIZ	Hauiti	3.43	247	P	Pn	23 08 55.4	+1.0
TSZ	Takapari Road	3.62	218	P	Pn	23 08 54.2	-2.8
WCZ	Waipu Caves	3.88	288	P	Pn	23 09 00.7	+0.1
WAZ	Wanganui	3.95	230	P	Pn	23 09 01.4	-0.1
OUZ	Omahuta	4.74	294	P	Pn	23 09 13.0	+0.8
CTZ	Chatham Island	7.32	154	P	Pn	23 09 46.5	-1.3

*MOS **05** 23:11:44.6±0.8,51.°75N×159.°47E,h22km,mb3.8/1,Error ellipse: s-maj=12.4km s-min=4.6km az=99.0*

*KRSC **05** 23:11:46.1±1.9,51.°91N×159.°34E,h14km±25km,ML4.2*

*IDC **05** 23:11:52.1±2.3,51.°98N×158.°99E,h75km±17km,mb3.5/15, mbtmp3.8/15,Error ellipse: s-maj=22.7km s-min=17.1km az=136.0*

ISC 05 23:11:46.3±1.4,51.°92N±0.°04×159.°35E±0.°04,h27km±9km, n78,σ1s39/95,mb3.7/15,1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	0.73	316	PN	Pn	23 12 01.2	+0.3
RUS				S	Sb	23 12 10.6	+0.6
RUS	Russkaya	0.73	316	P	Pn	23 12 01.2	+0.3
RUS				S	Sb	23 12 10.6	+0.6
KDTR	Khodutka, Kamc	0.79	263	PN	Pn	23 12 01.8	+0.1
KDTR				S	Sb	23 12 11.7	-0.1
KDTR	Khodutka, Kamc	0.79	263	P	Pn	23 12 01.8	+0.1
KDTR				S	Sb	23 12 11.7	-0.1
MTVR	Mutnovka	0.91	309	PN	Pn	23 12 04.3	+0.7
MTVR				S	Sn	23 12 16.4	+0.5
MTVR	Mutnovka	0.91	309	P	Pn	23 12 04.3	+0.7
MTVR				S	Sn	23 12 16.4	+0.5
ASAK	Asacha	1.01	298	PN	Pn	23 12 06.1	+1.3
ASAK				S	Sn	23 12 18.8	+0.7
ASAK	Asacha	1.01	298	P	Pn	23 12 06.1	+1.3
ASAK				S	Sn	23 12 18.8	+0.7
GRL	Gorelyy	1.01	310	PN	Pn	23 12 06.2	+1.4
GRL				S	Sn	23 12 19.1	+0.9
GRL	Gorelyy	1.01	310	P	Pn	23 12 06.2	+1.4
GRL				S	Sn	23 12 19.1	+0.9
DALK	Dalny	1.18	342	PN	Pn	23 12 07.5	+0.5
DALK				S	Sb	23 12 21.4	-1.3
DALK	Dalny	1.18	342	P	Pn	23 12 07.5	+0.5
DALK				S	Sb	23 12 21.4	-1.3
KRMR	Karymshinskiy	1.18	321	PN	Pn	23 12 07.3	+0.2
KRMR				S	Sb	23 12 21.5	-1.4
KRMR	Karymshinskiy	1.18	321	P	Pn	23 12 07.3	+0.2
KRMR				S	Sb	23 12 21.5	-1.4
PET	Petropavlovsk	1.19	339	i/PN	Pn	23 12 07.7	+0.5
PET				*e*S	Sb	23 12 23.3	+0.2
PET				pmax	pmax		
	comp=Z,346nm,0.6s						
PET				smax	smax		
	comp=E,892nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET	Petropavlovsk	1.19	339	P	Pb	23 12 08.0	-0.2
PET				S	Sn	23 12 22.9	+0.5
SPN	Mys Shipunski	1.25	19	PN	Pb	23 12 09.4	+0.1
SPN				S	Sb	23 12 25.7	+0.7
SPN	Mys Shipunski	1.25	19	P	Pb	23 12 09.4	+0.1
SPN				S	Sb	23 12 25.7	+0.7
NLC	Nalytchevo	1.26	360	PN	Pn	23 12 08.2	+0.1
NLC	Nalytchevo	1.26	360	P	Pn	23 12 08.2	+0.1
UGLR	Uglovaya	1.33	346	PN	Pb	23 12 10.3	-0.4
UGLR	Uglovaya	1.33	346	P	Pb	23 12 10.3	-0.4
SMAR	Somma	1.39	346	PN	Pb	23 12 11.7	0.0
SMAR	Somma	1.39	346	P	Pb	23 12 11.7	0.0
SDLR	Sedlovina	1.39	349	PN	Pn	23 12 10.9	+0.8
SDLR	Sedlovina	1.39	349	P	Pn	23 12 10.9	+0.8
AVH	Avacha	1.40	345	PN	Pb	23 12 11.3	-0.6
AVH				S	Sn	23 12 28.8	+0.9
AVH	Avacha	1.40	345	P	Pb	23 12 11.3	-0.6
AVH				S	Sn	23 12 28.8	+0.9
KOK	Koryaka	1.45	343	PN	Pb	23 12 12.0	-0.6
KOK	Koryaka	1.45	343	P	Pb	23 12 12.0	-0.6
KRX	Arik	1.51	344	PN	Pn	23 12 12.3	+0.6
KRX	Arik	1.51	344	P	Pn	23 12 12.3	+0.6
PETK	Petropavlovsk-	1.56	321	P	Pb	23 12 13.6	-0.9
	comp=N,179nm,0.5s,baz=125,slow=17,SNR=167						
PETK				S	Sb	23 12 33.5	-0.3
	comp=N,200nm,0.5s,baz=276,slow=7.3,SNR=6.8						
PAU	Pauzhetka	1.64	255	PN	Pn	23 12 14.3	+0.9
PAU	Pauzhetka	1.64	255	P	Pn	23 12 14.3	+0.9
APC	Apacha	1.68	308	PN	Pb	23 12 16.5	0.0
APC				S	Sb	23 12 37.8	+0.6
APC	Apacha	1.68	308	P	Pb	23 12 16.5	0.0
APC				S

comp=Z,0.5nm,0.6s,baz=37,slow=6.9,SNR=5.1
comp=Z,0.5nm,0.6s
ESDC Sonseca Array 87.63 347 P **P** **23 24 29.7 -2.4**
comp=Z,0.4nm,0.8s,baz=15,slow=5.3,SNR=2.8
comp=Z,0.4nm,0.8s
H03N2 Juan Fernandez 134.66 90 T T 02 01 40.4
baz=314,slow=77,SNR=39
H03N1 Juan Fernandez 134.68 90 T T 02 01 40.5
baz=314,slow=77,SNR=36
H03N3 Juan Fernandez 134.68 90 T T 02 01 41.0
baz=314,slow=77,SNR=35

---

*MOS **05** 23:15:02.7±1.1,54˚.61N×168˚.45E,h18km,mb4.0/1,Error ellipse: s-maj=14.9km s-min=8.4km az=170.0*
*IDC **05** 23:15:02.2±0.8,54˚.68N×168˚.43E,h0km,mb3.7/12, mbtmp3.8/14,ML3.7/2,Error ellipse: s-maj=28.0km s-min=15.3km az=170.0*
*KRSC **05** 23:15:04.3±1.4,54˚.42N×168˚.00E,h18km±24km,ML4.4*
ISC 05 23:15:05.3±0.7,**54˚.53N**±0˙.08×**168˚.40E**±0˙.06,**h24**km,**n60,** σ1**39**/69,**mb3.6**/12,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.56**	**297**	PN	**Pn**	**23 15 29.2**	**-2.2**
BKI				S	**Sn**	**23 15 48.3**	**-2.5**
BKI	**Bering**	**1.56**	**297**	*eP*	**Pn**	**23 15 29.2**	**-2.2**
BKI				*eS*	**Sn**	**23 15 48.3**	**-2.5**
KBTR	**Krutoberegovo**	**3.60**	**300**	PN	**Pn**	**23 15 59.3**	**-0.2**
KBTR	**Krutoberegovo**	**3.60**	**300**	*eP*	**Pn**	**23 15 59.3**	**-0.2**
KBTR				*eS*	**Sn**	**23 16 40.2**	**-1.0**
SHEM	**Shemya Is, Ala**	**3.84**	**116**	Pn	**Pn**	**23 16 02.0**	**-0.8**
	37nm,0.3s,baz=74,slow=5.7,SNR=6.6						
SHEM				Sn	**Sn**	**23 16 47.2**	**0.0**
	6.6nm,0.3s,baz=273,slow=22,SNR=1.2						
	98nm,0.3s						
MKZ	**Mys Kozlova**	**3.88**	**273**	PN	**Pn**	**23 16 03.5**	**+0.1**
MKZ	**Mys Kozlova**	**3.88**	**273**	*eP*	**Pn**	**23 16 03.5**	**+0.1**
MKZ				*eS*	**Sn**	**23 16 45.6**	**-2.6**
SMKR	**Semkarok**	**4.44**	**300**	PN	**Pn**	**23 16 13.4**	**+2.3**
SMKR	**Semkarok**	**4.44**	**300**	*eP*	**Pn**	**23 16 13.4**	**+2.3**
TUMR	**Tumrok**	**4.82**	**282**	PN	**Pn**	**23 16 18.2**	**+1.8**
TUMR	**Tumrok**	**4.82**	**282**	*eP*	**Pn**	**23 16 18.2**	**+1.8**
TUMR				*eS*	**Sn**	**23 17 12.5**	**+1.0**
KMNR	**Kamenistaya**	**4.84**	**288**	*eS*	**Sn**	**23 17 13.0**	**+1.1**
SPN	**Mys Shipunski**	**5.17**	**257**	PN	**Pn**	**23 16 20.5**	**-0.5**
SPN	**Mys Shipunski**	**5.17**	**257**	*eP*	**Pn**	**23 16 20.5**	**-0.5**
SPN				*eS*	**Sn**	**23 17 17.3**	**-2.5**
KII	**Karymskiy**	**5.27**	**268**	PN	**Pn**	**23 16 23.9**	**+1.4**
KII	**Karymskiy**	**5.27**	**268**	*eP*	**Pn**	**23 16 23.9**	**+1.4**
NLC	**Nalychevo**	**5.53**	**255**	*eS*	**Sn**	**23 17 26.3**	**-2.4**
SDLR	**Sedlovina**	**5.76**	**261**	PN	**Pn**	**23 16 29.8**	**+0.4**
SDLR	**Sedlovina**	**5.76**	**261**	*eP*	**Pn**	**23 16 29.8**	**+0.4**
SMAR	**Somma**	**5.81**	**261**	PN	**Pn**	**23 16 30.6**	**+0.4**
SMAR	**Somma**	**5.81**	**261**	*eP*	**Pn**	**23 16 30.6**	**+0.4**
SMAR				*eS*	**Sn**	**23 17 34.7**	**-1.4**
UGLR	**Uglovaya**	**5.82**	**261**	PN	**Pn**	**23 16 30.6**	**+0.5**
UGLR	**Uglovaya**	**5.82**	**261**	*eP*	**Pn**	**23 16 30.6**	**+0.5**
KRER	**Koryakskii**	**5.83**	**262**	PN	**Pn**	**23 16 31.1**	**+0.7**
KRER	**Koryakskii**	**5.83**	**262**	*eP*	**Pn**	**23 16 31.1**	**+0.7**
AVH	**Avacha**	**5.85**	**261**	*eS*	**Sn**	**23 17 36.1**	**-0.7**
KRX	**Arik**	**5.88**	**262**	PN	**Pn**	**23 16 31.8**	**+0.9**
KRX	**Arik**	**5.88**	**262**	*eP*	**Pn**	**23 16 31.8**	**+0.9**
KRX				*eS*	**Sn**	**23 17 35.9**	**-1.6**
KOK	**Koryaka**	**5.90**	**262**	PN	**Pn**	**23 16 32.0**	**+0.8**
KOK	**Koryaka**	**5.90**	**262**	*eP*	**Pn**	**23 16 32.0**	**+0.8**
KOK				*eS*	**Sn**	**23 17 36.9**	**-1.2**
GNL	**Ganaly**	**6.21**	**266**	PN	**Pn**	**23 16 36.7**	**+1.3**
GNL	**Ganaly**	**6.21**	**266**	*eP*	**Pn**	**23 16 36.7**	**+1.3**
KRMR	**Karymshinskiy**	**6.33**	**259**	PN	**Pn**	**23 16 38.0**	**+0.9**
KRMR	**Karymshinskiy**	**6.33**	**259**	*eP*	**Pn**	**23 16 38.0**	**+0.9**
KRMR				*eS*	**Sn**	**23 17 47.3**	**-1.3**
MTVR	**Mutnovka**	**6.43**	**256**	PN	**Pn**	**23 16 39.4**	**+0.9**
MTVR	**Mutnovka**	**6.43**	**256**	*eP*	**Pn**	**23 16 39.4**	**+0.9**
MTVR				*eS*	**Sn**	**23 17 48.6**	**-2.6**
GRL	**Gorelyy**	**6.47**	**256**	PN	**Pn**	**23 16 40.7**	**+1.7**
GRL	**Gorelyy**	**6.47**	**256**	*eP*	**Pn**	**23 16 40.7**	**+1.7**
GRL				*eS*	**Sn**	**23 17 51.0**	**-1.0**
PETK	**Petropavlovsk-**	**6.50**	**262**	Pn	**Pn**	**23 16 41.1**	**+1.8**
	1.3nm,0.3s,baz=90,slow=19,SNR=6.6						
PETK				Sn	**Sn**	**23 17 54.9**	**+2.3**
	2.8nm,0.3s,baz=70,slow=21,SNR=8.5						
	4.4nm,0.6s						
ASAK	**Asacha**	**6.63**	**255**	PN	**Pn**	**23 16 42.3**	**+1.1**
ASAK	**Asacha**	**6.63**	**255**	*eP*	**Pn**	**23 16 42.3**	**+1.1**
ASAK				*eS*	**Sn**	**23 17 54.4**	**-1.6**
KDAK	**Kodiak Island**	**21.76**	**65**	P	**P**	**23 19 55.1**	**+0.3**
	23nm,1.3s,baz=277,slow=5.8,SNR=4.4						
	23nm,1.3s						
ILAR	**Eielson Array**	**24.26**	**47**	P	**P**	**23 20 19.6**	**-0.5**
	0.8nm,0.6s,baz=252,slow=7.4,SNR=8.8						
	0.8nm,0.6s						
INK	**Inuvik**	**29.67**	**40**	P	**P**	**23 21 07.2**	**-1.3**
	3.3nm,1.1s,baz=248,slow=5.4,SNR=2.5						
	3.3nm,1.1s						
H11N2	**WAKE ISLAND Hy 34.76**		**182**	T	T	23 58 38.0	
	baz=1.4,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy 34.77**		**182**	T	T	23 58 40.5	
	baz=1.4,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy 34.78**		**182**	T	T	23 58 41.1	
	baz=1.4,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy 35.98**		**183**	T	T	00 00 10.9	
	baz=1.5,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy 35.99**		**183**	T	T	00 00 10.6	
	baz=1.5,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy 36.00**		**183**	T	T	00 00 10.1	
	baz=1.5,slow=76						
SONM	**Songino Array**	**38.30**	**286**	P	**P**	**23 22 25.3**	**+1.6**
	0.6nm,0.5s,baz=56,slow=7.5,SNR=3.9						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**50.61**	**77**	P	**P**	**23 24 03.6**	**+1.4**
	0.4nm,0.5s,baz=308,slow=8.2,SNR=4.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**51.86**	**299**	P	**P**	**23 24 11.1**	**-0.2**
	0.5nm,0.7s,baz=55,slow=6.2,SNR=5.1						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**52.47**	**67**	P	**P**	**23 24 15.3**	**-0.8**
	0.2nm,0.4s,baz=16,slow=2.1,SNR=3.6						
	0.2nm,0.4s						
NB2	**NORSAR Subarra**	**63.36**	**348**	P	**P**	**23 25 31.5**	**-0.5**
	comp=Z,9.2nm,1.4s,baz=17,slow=6.9						
NOA	**NORSAR Array B**	**63.36**	**348**	P	**P**	**23 25 31.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=5.4,slow=5.4,SNR=1.7						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**65.52**	**73**	P	**P**	**23 25 47.3**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=306,slow=4.2,SNR=12						
	comp=Z,0.8nm,0.6s						
BRTR	**Keskin Array B**	**78.42**	**326**	P	**P**	**23 27 02.6**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=6.6,slow=4.9,SNR=2.0						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**79.70**	**212**	P	**P**	**23 27 11.2**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=29,slow=6.4,SNR=2.7						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**83.33**	**212**	P	**P**	**23 27 32.0**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=21,slow=6.5,SNR=3.3						
	comp=Z,0.8nm,0.8s						

---

*SJA **05** 23:23:52.4±1.8,22˚.97S×64˚.01W,h588km±15km,ML4.1, MW4.0*
*IDC **05** 23:23:57.6±0.8,22˚.88S×63˚.67W,h531km±6km,mb4.0/13, mbtmp4.9/20,Error ellipse: s-maj=13.2km s-min=11.0km az=69.0*
*NEIC **05** 23:23:57.8±1.4,22˚.92S±0˙.08×63˚.8W±0˙.1,h531km±7km, mb4.5/107,Error ellipse: s-maj=13.7km s-min=11.6km az=89.0*
*VAO **05** 23:23:57.0±0.2,22˚.92S×63˚.82W,h538km,mb4.6*
ISC 05 23:23:57.6±0.3,**22˚.88S**±0˙.04×**63˚.80W**±0˙.05,**h535**km, **n317,** σ1**9**05/359,**mb4.6**/65,**17D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.52**	**257**	*iP*	**P**	**23 25 05.2**	**+0.8**
HJA				IAML		23 26 07.7	
	comp=Z,46nm,1.4s						
YJA	**Yavi**	**1.73**	**293**	*i* P	**P**	**23 25 06.2**	**+0.9**
YJA				*i* S	**S**	**23 26 03.0**	**+2.7**
YJA				IAML		23 26 04.6	
	comp=Z,41nm,0.6s						
SLA	**San Lorenzo**	**2.41**	**220**	*i* P	**P**	**23 25 08.4**	**+0.3**
SLA				*i* S	**S**	**23 26 06.3**	**+0.8**
AF01	**San Pedro de A**	**4.03**	**268**	P	**P**	**23 25 18.9**	**-0.1**
LVC	**Limon Verde**	**4.72**	**272**	P	**P**	**23 25 24.3**	**-0.3**
	comp=Z,374nm,0.3s,baz=101,slow=5.5,SNR=1300						
LVC				S	**S**	**23 26 32.1**	**-3.4**
	comp=Z,165nm,0.3s,baz=238,slow=21,SNR=22						
LVC	**Limon Verde**	**4.72**	**272**		**P**	**23 25 24.3**	**-0.3**
LVC				S	**S**	**23 26 33.1**	**-2.5**
LVC	**Limon Verde**	**4.72**	**272**	*i* P	**P**	**23 25 25.7**	**+1.0**
LVC				*eS*	**S**	**23 26 32.7**	**-2.9**
LVC				IAML		23 26 39.0	
	comp=Z,140nm,0.4s						
LVC	**Limon Verde**	**4.72**	**272**	*eP*	**P**	**23 25 24.1**	**-0.5**
LVC				*eS*	**S**	**23 26 34.0**	**-1.6**
PB09	**IPOC Station P**	**5.15**	**281**	P	**P**	**23 25 28.5**	**+0.5**
PB09				S	**S**	**23 26 41.0**	**-0.9**
PB09	**IPOC Station P**	**5.15**	**281**	*i*↓P	**P**	**23 25 28.2**	**+0.2**
PB09	**IPOC Station P**	**5.15**	**281**	*i* P	**P**	**23 25 29.7**	**+1.7**
PB09				*eP*	**S**	**23 26 42.0**	**+0.2**
PB15	**IPOC Station P**	**5.23**	**265**	P	**P**	**23 25 28.6**	**-0.2**
PB15					**S**	**23 26 42.0**	**-1.3**
PB15	**IPOC Station P**	**5.23**	**265**	*i*↓P	**P**	**23 25 28.3**	**-0.5**
PB15	**IPOC Station P**	**5.23**	**265**	*i* P	**P**	**23 25 30.2**	**+1.4**
PB15				*eP*	**S**	**23 26 41.9**	**-1.4**
PB06	**IPOC Station P**	**5.33**	**271**	P	**P**	**23 25 29.2**	**-0.3**
PB06				S	**S**	**23 26 43.4**	**-1.3**
PB06	**IPOC Station P**	**5.33**	**271**	*i*↓P	**P**	**23 25 29.0**	**-0.6**
PB06				*i* S	**S**	**23 26 42.4**	**-2.3**
PB06	**IPOC Station P**	**5.33**	**271**	*i* P	**P**	**23 25 31.1**	**+1.5**
PB06				*eS*	**S**	**23 26 42.6**	**-2.0**
PB01	**IPOC Station P**	**5.58**	**288**	P	**P**	**23 25 32.0**	**+0.1**
PB01				S	**S**	**23 26 47.7**	**-1.1**
PB07	**IPOC Station P**	**5.58**	**288**	*i*↓P	**P**	**23 25 31.7**	**-0.2**
PB07	**IPOC Station P**	**5.75**	**280**	P	**P**	**23 25 33.3**	**-0.1**
PB07	**IPOC Station P**	**5.75**	**280**	*i*↓P	**P**	**23 25 33.2**	**-0.2**
PB07				*i* S	**S**	**23 26 49.2**	**-2.4**
GO02	**Mina Guanaco**	**5.76**	**246**		**P**	**23 25 33.5**	**0.0**
GO02	**Mina Guanaco**	**5.76**	**246**	*i*↓P	**P**	**23 25 33.4**	**-0.2**
GO02				*i* S	**S**	**23 26 51.2**	**-0.8**
PB02	**IPOC Station P**	**5.86**	**284**	P	**P**	**23 25 34.3**	**0.0**
PB02				S	**S**	**23 26 52.1**	**-1.3**
PB02	**IPOC Station P**	**5.86**	**284**	*i*↓P	**P**	**23 25 34.0**	**-0.3**
PB02				*i* S	**S**	**23 26 50.6**	**-2.8**
PB04	**IPOC Station P**	**5.89**	**274**		**P**	**23 25 34.2**	**-0.5**
PB04				S	**S**	**23 26 51.4**	**-2.6**
PB04	**IPOC Station P**	**5.89**	**274**	*i*↓P	**P**	**23 25 34.2**	**-0.5**
GO01	**Chusmiza**	**5.95**	**301**	P	**P**	**23 25 36.3**	**+0.6**
GO01	**Chusmiza**	**5.95**	**301**	*i*↓P	**P**	**23 25 36.2**	**+0.6**
GO01				*i* S	**S**	**23 26 55.0**	**-0.7**
AC02	**Maricunga**	**6.24**	**230**		**P**	**23 25 36.0**	**-0.2**
PB10	**IPOC Station P**	**6.24**	**263**	P	**P**	**23 25 36.9**	**-0.8**
PB10				S	**S**	**23 26 59.9**	**+0.2**
PB10	**IPOC Station P**	**6.24**	**263**	*i*↓P	**P**	**23 25 37.5**	**-0.2**
PB10				*i* S	**S**	**23 26 58.8**	**-0.9**
PB14	**IPOC Station P**	**6.29**	**253**		**P**	**23 25 38.4**	**-0.1**
PB14				S	**S**	**23 27 01.3**	**+0.2**
PB14	**IPOC Station P**	**6.29**	**253**	*i*↓*eP*	**P**	**23 25 39.1**	**+0.5**
PB14				*i* S	**S**	**23 27 00.3**	**-0.8**
TA01	**Diego Aracena**	**6.36**	**290**		**P**	**23 25 38.9**	**0.0**
TA01				S	**S**	**23 27 01.3**	**-0.4**
TA02	**Huaiquique**	**6.43**	**293**	S	**S**	**23 27 02.2**	**-0.9**
CPUP	**Villa Florida**	**6.82**	**122**	P	**P**	**23 25 43.4**	**+0.2**
	comp=Z,87nm,0.5s,baz=313,slow=9.0,SNR=272						
CPUP				ScP	**ScP**	**23 34 09.5**	**0.0**
	comp=Z,2.7nm,0.9s,baz=135,slow=5.7,SNR=3.2						
CPUP	**Villa Florida**	**6.82**	**122**	*eP*	**P**	**23 25 43.5**	**+0.3**
AC01	**Pan de Azucar**	**6.99**	**241**	S	**S**	**23 27 12.2**	**-0.7**
AC01	**Pan de Azucar**	**6.99**	**241**	*i*↓P	**P**	**23 25 45.1**	**+0.2**
AC01				*i* S	**S**	**23 27 11.1**	**-1.7**
PB16	**IPOC Station P**	**7.00**	**309**	S	**S**	**23 27 14.4**	**+0.4**
PB16	**IPOC Station P**	**7.00**	**309**	*i*↓P	**P**	**23 25 46.8**	**+1.1**
PB16				*i* S	**S**	**23 27 13.1**	**-0.9**
ANTJ	**Antonio Joao (**	**7.27**	**85**	*eP*	**P**	**23 25 47.6**	**-0.1**
SIV	**San Ignacio**	**7.32**	**21**	P	**P**	**23 25 48.8**	**+0.5**
	comp=Z,32nm,0.6s,baz=200,slow=8.8,SNR=147						
AC06	**Mina Casimiro**	**7.42**	**232**	P	**P**	**23 25 49.1**	**0.0**
AC06				S	**S**	**23 27 19.5**	**-1.0**
PB12	**IPOC Station P**	**7.43**	**304**	S	**S**	**23 27 18.9**	**-2.1**
PB12	**IPOC Station P**	**7.43**	**304**	*i*↓*P*	**P**	**23 25 49.0**	**-0.4**
PB12				IAmb	IAmb	23 25 49.6	
	comp=Z,159nm,0.9s						
PB12				*i* S	**S**	**23 27 17.8**	**-3.2**
AP01	**Chacalluta**	**7.59**	**305**	P	**P**	**23 25 50.5**	**-0.4**
AP01				S	**S**	**23 27 23.4**	**-0.2**
AP01	**Chacalluta**	**7.59**	**305**	*eP*	**P**	**23 25 50.9**	**0.0**
AP01				*i* S	**S**	**23 27 21.3**	**-2.3**
LPAZ	**La Paz**	**7.72**	**327**	P	**P**	**23 25 53.7**	**+0.8**
	comp=Z,32nm,0.4s,baz=125,slow=5.9,SNR=119						
LPAZ				S	**S**	**23 27 24.5**	**-2.6**
	comp=Z,42nm,0.9s,baz=60,slow=20,SNR=12						
LPAZ				ScP	**ScP**	**23 34 12.1**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=72,slow=1.4,SNR=5.9						
LPAZ	**La Paz**	**7.72**	**327**	P	**P**	**23 25 53.3**	**+0.4**
LPAZ				S	**S**	**23 27 26.2**	**-0.9**
LPAZ	**La Paz**	**7.72**	**327**	*eP*	**P**	**23 25 53.5**	**+0.6**
AQDB	**Aquidauana**	**7.91**	**74**	P	**P**	**23 25 54.3**	**+0.3**
AQDB	**Aquidauana**	**7.91**	**74**	*eP*	**P**	**23 25 54.1**	**+0.1**
AC05	**El Transito**	**8.31**	**223**		**P**	**23 25 58.5**	**+0.4**
AC05				S	**S**	**23 27 37.5**	**+0.4**
AC04	**Llanos de Chal**	**8.44**	**230**	P	**P**	**23 25 59.1**	**-0.1**
AC04				S	**S**	**23 27 38.8**	**-0.3**
PTLB	**Pontes e Lacer**	**8.60**	**32**	P	**P**	**23 26 01.6**	**+0.5**
PTLB				S	**S**	**23 27 42.8**	**+0.4**
PTLB	**Pontes e Lacer**	**8.60**	**32**	*eP*	**P**	**23 26 02.0**	**+0.9**
LCO	**Las Campanas**	**8.71**	**224**	P	**P**	**23 26 02.7**	**+0.4**
CO01	**Juntas del Tor**	**9.04**	**217**	P	**P**	**23 26 06.1**	**+0.4**
CO01				S	**S**	**23 27 50.6**	**-0.2**
MCR1	**Marechal Candi**	**9.09**	**102**	*eP*	**P**	**23 26 06.6**	**+0.7**
ITQB	**Itaqui**	**9.34**	**138**	P	**P**	**23 26 08.1**	**-0.3**
ITQB	**Itaqui**	**9.34**	**138**	*eP*	**P**	**23 26 08.1**	**-0.3**
GO04	**Tololo Observa**	**9.59**	**219**	P	**P**	**23 26 10.7**	**-0.6**
GO04				S	**S**	**23 28 00.1**	**-1.0**
ZON	**Zonda**	**9.66**	**206**	S	**S**	**23 28 00.5**	**-1.6**
CO05	**La Serena**	**9.67**	**222**	S	**S**	**23 28 02.4**	**+0.3**
CRSM	**Crissiumal (Br**	**9.96**	**119**	*eP*	**P**	**23 26 14.6**	**-0.3**
UNIS	**Unistalda (Bra**	**9.98**	**130**	*eP*	**P**	**23 26 14.6**	**-0.5**
FRBT	**Francisco Belt**	**10.26**	**110**	*eP*	**P**	**23 26 17.9**	**-0.2**
TRCB	**Terra Rica**	**10.30**	**92**	P	**P**	**23 26 18.5**	**-0.1**
TRCB	**Terra Rica**	**10.30**	**92**	*eP*	**P**	**23 26 18.7**	**+0.2**
SALV	**Santo Antonio**	**10.33**	**49**	*eP*	**P**	**23 26 18.9**	**+0.1**
VILB	**Vilhena**	**10.45**	**20**	P	**P**	**23 26 20.4**	**+0.3**
VILB	**Vilhena**	**10.45**	**20**	*eP*	**P**	**23 26 20.2**	**+0.1**
RODS	**Rosario do Sul**	**10.70**	**136**	*eP*	**P**	**23 26 22.0**	**-0.5**
PTGB	**Pitanga**	**10.90**	**102**	*eP*	**P**	**23 26 24.9**	**+0.1**
C2SB	**Chapadao do Su**	**11.04**	**70**	*eP*	**P**	**23 26 26.8**	**+0.6**
ALGR	**Alto Alegre (B**	**11.35**	**124**	*eP*	**P**	**23 26 28.4**	**-1.0**
ITAB	**Concordia**	**11.44**	**115**	P	**P**	**23 26 29.4**	**-0.8**
ITAB	**Concordia**	**11.44**	**115**	*eP*	**P**	**23 26 29.3**	**-0.8**
VA03	**San Esteban**	**11.51**	**210**	P	**P**	**23 26 31.1**	**+0.1**
PCMB	**Pacaembu**	**11.69**	**86**	*eP*	**P**	**23 26 32.4**	**-0.5**
VA06	**Catapilco**	**11.70**	**213**	P	**P**	**23 26 32.2**	**-0.6**
PEL	**Peldehue**	**11.89**	**209**	P	**P**	**23 26 34.4**	**-0.5**
ROC1	**El Roble**	**11.90**	**211**	P	**P**	**23 26 34.5**	**-0.8**
CPSB	**Cacapava Do Su**	**11.92**	**131**	*eP*	**P**	**23 26 33.9**	**-1.3**
MT03	**Universidad Ad**	**12.11**	**208**	P	**P**	**23 26 36.8**	**-0.5**
MT05	**Renca**	**12.13**	**209**	P	**P**	**23 26 36.6**	**-0.7**
MT09	**Talagante**	**12.56**	**209**	P	**P**	**23 26 40.9**	**-1.1**
PLTB	**Pedras Altas**	**12.66**	**137**	P	**P**	**23 26 41.8**	**-1.2**
PLTB	**Pedras Altas**	**12.66**	**137**	*eP*	**P**	**23 26 41.7**	**-1.2**
VA05	**Santo Domingo**	**12.75**	**211**	P	**P**	**23 26 43.0**	**-0.8**
MT01	**Popeta**	**12.75**	**209**	P	**P**	**23 26 42.3**	**-1.5**
ITRB	**Iturama**	**12.92**	**78**	*eP*	**P**	**23 26 44.9**	**-0.9**
PDRB	**Porto dos Gac**	**13.08**	**32**	*eP*	**P**	**23 26 46.8**	**-0.7**
ETMB	**Extrema**	**13.19**	**350**	P	**P**	**23 26 47.8**	**-0.9**
ETMB	**Extrema**	**13.19**	**350**	*eP*	**P**	**23 26 47.7**	**-0.9**
CNLB	**Canela**	**13.28**	**122**	*eP*	**P**	**23 26 47.8**	**-1.7**
BO02	**Sierra Bellavi**	**13.35**	**206**	P	**P**	**23 26 49.4**	**-0.7**
TIJ01	**Guaruva-PR**	**13.73**	**103**	*eP*	**P**	**23 26 53.8**	**-0.5**
GO05	**Huala**	**14.02**	**209**	P	**P**	**23 26 56.6**	**-0.4**
CLDB	**Colider**	**14.18**	**34**	*eP*	**P**	**23 26 57.6**	**-1.3**
BB19B	**Bebedouro**	**14.29**	**86**	*eP*	**P**	**23 26 58.4**	**-1.6**
TER01	**Tubaro-SC**	**14.37**	**116**	*eP*	**P**	**23 26 59.2**	**-1.6**
ML02	**Panimavida**	**14.45**	**206**	P	**P**	**23 26 59.7**	**-1.7**
TRQA	**Tornquist**	**15.21**	**175**	P	**P**	**23 27 06.4**	**-3.0**
TRQA				IAmb	IAmb	23 27 47.0	
	comp=Z,7.1nm,1.1s						
PET01	**Itanhaem-SP**	**15.22**	**99**	*eP*	**P**	**23 27 08.8**	**-0.9**
IPMB	**Ipameri, GO**	**15.40**	**74**	*eP*	**P**	**23 27 09.9**	**-1.8**
VAO	**Valinhos**	**15.51**	**94**	*eP*	**P**	**23 27 10.6**	**-2.2**
BI05	**Punta Hualpn**	**16.03**	**208**	P	**P**	**23 27 17.0**	**-0.7**
SNDB	**Serra Nova Dou**	**16.11**	**50**	*eP*	**P**	**23 27 16.8**	**-2.0**
NNA	**Nana**	**16.48**	**309**	P	**P**	**23 27 23.1**	**+0.8**
	comp=Z,39nm,0.7s,baz=135,slow=10.0,SNR=12						
NNA	**Nana**	**16.48**	**309**	P	**P**	**23 27 22.7**	**+0.3**
BDFB	**Brasilia**	**16.55**	**67**	P	**P**	**23 27 21.5**	**-1.6**
	comp=Z,42nm,0.6s,baz=244,slow=10,SNR=58						
BDFB	**Brasilia**	**16.55**	**67**	P	**P**	**23 27 21.5**	**-1.6**
BDFB	**Brasilia**	**16.55**	**67**	*eP*	**P**	**23 27 21.6**	**-1.5**
PARB	**Paraibuna**	**16.74**	**95**	*eP*	**P**	**23 27 22.5**	**-2.2**
PMNB	**Patos De Minas**	**16.81**	**78**	*eP*	**P**	**23 27 23.8**	**-1.7**
CZSB	**Cruzeiro do Su**	**17.32**	**329**	P	**P**	**23 27 29.6**	**-0.6**
CZSB				IAmb	IAmb	23 27 31.0	
	comp=Z,90nm,0.7s						
CZSB	**Cruzeiro do Su**	**17.32**	**329**	*eP*	**P**	**23 27 29.6**	**-0.6**
NPGB	**Novo Progresso**	**17.72**	**29**	*eP*	**P**	**23 27 32.7**	**-1.1**
LR03	**Panguipulli**	**18.21**	**202**	P	**P**	**23 27 37.8**	**-0.2**
PLCA	**Paso Flores**	**18.69**	**196**	P	**P**	**23 27 42.5**	**+0.1**
	comp=Z,7.3nm,0.5s,baz=17,slow=11,SNR=28						
PLCA				ScP	**ScP**	**23 34 29.1**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=308,slow=12,SNR=3.7						
PLCA	**Paso Flores**	**18.69**	**196**	P	**P**	**23 27 41.9**	**-0.5**
PLCA				IAmb	IAmb	23 27 43.1	
	comp=Z,8.5nm,0.6s						
PLCA	**Paso Flores**	**18.69**	**196**	*eP*	**P**	**23 27 41.1**	**-1.3**
VAS01	**Vassouras-RJ**	**18.81**	**92**	*eP*	**P**	**23 27 44.0**	**+0.2**
DIAM	**Diamantina, MG**	**19.39**	**80**	*eP*	**P**	**23 27 49.3**	**+0.2**
TBTG	**Tabatinga, AM**	**19.50**	**341**	P	**P**	**23 27 51.0**	**+1.0**
TBTG				IAmb	IAmb	23 27 51.7	
	comp=Z,59nm,0.7s						
TBTG	**Tabatinga, AM**	**19.50**	**341**	*eP*	**P**	**23 27 51.5**	**+1.5**
LL03	**Petrohue**	**19.59**	**200**	P	**P**	**23 27 50.3**	**-0.2**
MC01	**Montes Claros**	**19.66**	**75**	*eP*	**P**	**23 27 50.8**	**-0.8**
DUB01	**Friburgo-RJ**	**19.82**	**92**	*eP*	**P**	**23 27 53.0**	**0.0**
MACA	**Manacapuru-AM**	**19.83**	**9**	*eP*	**P**	**23 27 53.1**	**0.0**
ITTB	**Itaituba**	**19.99**	**24**	*eP*	**P**	**23 27 54.2**	**-0.2**
JANB	**Januaria**	**19.99**	**71**	*eP*	**P**	**23 27 54.3**	**-0.2**
LL05	**Los Muermos**	**20.18**	**201**	P	**P**	**23 27 55.1**	**-0.7**
CAM01	**Campos-RJ**	**20.51**	**91**	*eP*	**P**	**23 27 58.3**	**-0.8**
SDBA	**SAO DESIDERIO**	**20.78**	**63**	*eP*	**P**	**23 28 01.3**	**-0.4**
SMTB	**Santa Maria do**	**20.88**	**51**	*eP*	**P**	**23 28 02.2**	**-0.4**
LL02	**Futaleuf**	**21.33**	**196**	P	**P**	**23 28 05.1**	**-1.1**
LL02				IAmb	IAmb	23 28 06.3	
	comp=Z,14nm,0.8s						
PRPB	**Parauapebas**	**21.39**	**41**	*eP*	**P**	**23 28 06.2**	**-1.0**
SJMB	**Sao Joao De Ma**	**21.54**	**83**	*eP*	**P**	**23

J59A Piesco 66.74 352 P **P** **23 33 56.3 +0.7**
J59A IAmb IAmb 23 34 05.9
comp=Z,29nm,1.5s
J58A Remsen 66.75 351 P **P** **23 33 56.1 +0.5**
I63A Otisfield 66.89 355 P **P** **23 33 57.7 +1.3**
MNTX Cornudas Mount 67.30 322 P **P** **23 33 59.6 +0.3**
QSPA South Pole Qui 67.32 180 P **P** **23 34 00.1 +1.1**
H62A Milan 67.46 354 P **P** **23 34 01.0 +1.0**
H62A IAmb IAmb 23 34 11.8
comp=Z,13nm,1.1s
PECO Prince Edward 67.58 350 P **P** **23 34 00.9 +0.3**
PECO IAmb IAmb 23 34 04.7
comp=Z,32nm,1.5s
GGN Saint George 67.72 358 P **P** **23 34 02.2 +0.8**
GGN IAmb IAmb 23 34 23.8
comp=Z,23nm,1.4s
PKME Peaks-Kenny Pk 68.00 356 P **P** **23 34 03.7 +0.5**
PKME IAmb IAmb 23 34 43.0
comp=Z,44nm,1.4s
G62A West of Eustis 68.04 355 P **P** **23 34 04.3 +0.8**
G62A IAmb IAmb 23 34 14.9
comp=Z,11nm,1.1s
DELO Deloro Mine 68.25 349 P **P** **23 34 04.6 -0.1**
DELO IAmb IAmb 23 34 38.6
comp=Z,10nm,1.2s
MACI Morro de la Ar 68.30 44 P **P** **23 34 04.5 -1.2**
LMN Caledonia Moun 68.41 359 P **P** **23 34 05.8 +0.1**
LMN IAmb IAmb 23 34 09.2
comp=Z,9.0nm,0.9s
F63A Nahmakanta, Br 68.42 356 P **P** **23 34 06.5 +0.7**
F63A IAmb IAmb 23 34 09.1
comp=Z,29nm,1.4s
F64A Sherman 68.53 357 P **P** **23 34 07.1 +0.7**
F64A IAmb IAmb 23 34 08.1
comp=Z,28nm,1.4s
KOWA Kowa 69.31 63 P **P** **23 34 11.7 -0.1**
KOWA IAmb IAmb 23 34 12.3
comp=Z,23nm,0.7s
KOWA Kowa 69.31 63 P **P** **23 34 11.5 -0.3**
PQI Presque Isle 69.32 357 P **P** **23 34 11.6 +0.4**
PQI IAmb IAmb 23 34 12.6
comp=Z,15nm,1.1s
E62A Clayton Lake 69.36 356 P **P** **23 34 12.3 +0.9**
E62A IAmb IAmb 23 34 23.3
comp=Z,31nm,1.4s
TRQ Mont Tremblant 69.46 352 P **P** **23 34 12.3 +0.2**
TRQ IAmb IAmb 23 34 12.6
comp=Z,34nm,1.5s
D62A Allapoint, All 69.79 356 P **P** **23 34 14.6 +0.7**
D62A IAmb IAmb 23 34 28.9
comp=Z,25nm,1.4s
BATG Bathurst New B 69.85 358 P **P** **23 34 14.9 +0.5**
BATG IAmb IAmb 23 34 35.4
comp=Z,22nm,1.5s
LMQ La Malbaie 70.34 355 P **P** **23 34 17.5 +0.3**
LMQ IAmb IAmb 23 34 28.7
comp=Z,30nm,1.3s
PMAR Madeira 71.14 41 *e*P **P** **23 34 22.2 -0.3**
TOA0 Torodi Ar. Sit 73.43 68 P **P** **23 34 35.5 -0.5**
TORD Torodi Ar. Bea 73.43 68 P **P** **23 34 35.2 -0.7**
comp=Z,39nm,0.5s,baz=258,slow=5.7,SNR=537
comp=Z,39nm,0.5s
TORD Torodi Ar. Bea 73.43 68 P **P** **23 34 35.5 -0.4**
ISCO Idaho Springs 73.55 328 P **P** **23 34 38.6 +2.1**
SUR Sutherland 73.78 119 P **P** **23 34 38.2 +0.2**
SUR IAmb IAmb 23 34 38.7
comp=Z,11nm,0.9s
PV07 Paradox Valley 74.08 325 P **P** **23 34 39.3 -0.1**
PV07 IAmb IAmb 23 34 41.4
comp=Z,9.2nm,0.9s
TSUM Tsumeb 75.11 105 P **P** **23 34 44.9 -0.7**
TSUM IAmb IAmb 23 34 46.3
comp=Z,18nm,0.8s
TTIG Tnine Tigouga, 75.12 47 P **P** **23 34 47.0 +1.7**
SRU San Rafael Swe 75.58 324 P **P** **23 34 48.2 +0.5**
OUK Oukaimeden 75.92 47 P **P** **23 34 51.1 +1.1**
MSU Marysvale 76.06 323 P **P** **23 34 51.3 +0.8**
CCUT Cedar City 76.06 321 P **P** **23 34 51.9 +1.4**
VNDA Vanda 76.29 189 P **P** **23 34 52.2 +1.3**
comp=Z,0.4nm,0.8s,baz=130,slow=3.9,SNR=3.9
PSUT Pine Spring 77.02 322 P **P** **23 34 55.5 -0.2**
GWY Greenwater Val 77.10 319 P **P** **23 34 56.7 +0.6**
SOE Somerset East 77.50 120 P **P** **23 34 58.5 +0.1**
SOE IAmb IAmb 23 35 24.1
comp=Z,51nm,1.3s
AVE Averroes 77.51 46 P **P** **23 34 58.5 +0.3**
AVE IAmb IAmb 23 34 59.9
comp=Z,27nm,1.2s
SPR3 Spring Creek 3 77.61 322 P **P** **23 34 59.8 +0.7**
SPR3 IAmb IAmb 23 35 01.5
comp=Z,3.2nm,0.7s
PDAR Pinedale Array 77.74 327 P **P** **23 35 00.5 +0.9**
comp=Z,0.8nm,0.6s,baz=125,slow=7.1,SNR=9.1
comp=Z,0.8nm,0.6s
PDAR Pinedale Array 77.74 327 P **P** **23 35 00.6 +1.1**
R11A Troy Canyon, C 77.89 321 P **P** **23 35 02.7 +2.3**
HWUT Hardware Ranch 77.92 325 P **P** **23 35 01.8 +1.3**
GMN Gold Mountain 78.19 319 P **P** **23 35 03.9 +1.8**
BOSA Boshof 78.61 116 P **P** **23 35 03.8 -0.7**
comp=Z,6.9nm,0.6s,baz=260,slow=3.5,SNR=32
comp=Z,6.9nm,0.6s
BOSA Boshof 78.61 116 P **P** **23 35 04.0 -0.5**
BOSA IAmb IAmb 23 35 04.2
comp=Z,8.8nm,0.6s
BOSA Boshof 78.61 116 *i* P **P** **23 35 03.9 -0.7**
BOSA Boshof 78.61 116 *i* P **P** **23 35 03.9 -0.7**
HVU Hansel Valley 78.68 325 P **P** **23 35 06.0 +1.5**
REDW Red Top Meadow 78.82 327 P **P** **23 35 06.5 +1.2**
CZD Col de Zad 78.93 47 P **P** **23 35 08.0 +1.8**
MDT Midelt 79.09 47 P **P** **23 35 07.8 +1.0**
ELK Elko 79.31 323 P **P** **23 35 08.9 +0.9**
PTEO Sao Teotonio 79.33 42 *e*P **P** **23 35 06.4 -1.5**
OMMB Old Mammoth Mi 79.45 318 P **P** **23 35 10.2 +1.3**
NVAR Mina Array Bea 79.55 319 P **P** **23 35 10.5 +1.2**
comp=Z,0.1nm,0.3s,baz=27,slow=23,SNR=4.0
PCVE Castro Verde 79.81 42 *e*P **P** **23 35 11.4 +1.0**
RYN Ryan 79.81 319 P **P** **23 35 12.1 +1.5**
PNCL Nícolau / Gran 79.81 41 *e*P **P** **23 35 11.2 +0.8**
MESJ Messejana 79.83 42 *e*P **P** **23 35 10.7 +0.2**
MESJ Messejana 79.83 42 *e*P **P** **23 35 11.3 +0.8**
KVN Kaiserville 79.83 320 P **P** **23 35 11.7 +1.0**
PVAQ Vaqueiros 79.86 42 *e*P **P** **23 35 11.3 +0.6**
PVAQ Vaqueiros 79.86 42 P **P** **23 35 11.2 +0.6**
CHEFC Chefchaouen 79.97 45 P **P** **23 35 13.0 +1.6**
LBTB Lobatse 80.14 113 P **P** **23 35 12.0 -0.6**
comp=Z,9.1nm,0.7s
comp=Z,9.1nm,0.7s
LBTB Lobatse 80.14 113 P **P** **23 35 12.3 -0.3**
LBTB IAmb IAmb 23 35 12.8
comp=Z,7.8nm,0.8s
LBTB Lobatse 80.14 113 *i* P **P** **23 35 12.1 -0.5**
LBTB Lobatse 80.14 113 *i* P **P** **23 35 12.1 -0.5**
PBEJ Beja 80.17 42 *e*P **P** **23 35 13.2 +1.0**
SMIR Smir Dam 80.29 45 P **P** **23 35 14.1 +1.2**
PMTG Montargil 80.61 41 *e*P **P** **23 35 15.6 +1.1**
PNTR Pine Nut 80.75 319 P **P** **23 35 15.7 +0.1**
PBAR Barrancos 80.77 42 *e*P **P** **23 35 15.5 +0.2**
HLID Hailey 80.79 325 P **P** **23 35 17.5 +1.9**
PALE Palemas 80.95 46 P **P** **23 35 17.0 +0.6**
FIGM Figuig 81.01 50 P **P** **23 35 18.0 +1.0**
PCAS Casmilo, Conde 81.07 40 *e*P **P** **23 35 17.6 +0.7**
PMRV Marv??o 81.33 41 *e*P **P** **23 35 20.1 +1.8**
PCBR Castelo Branco 81.54 40 *e*P **P** **23 35 19.7 +0.4**
MAW Mawson 81.61 162 P **P** **23 35 20.2 +1.0**
comp=Z,3.5nm,0.6s,baz=203,slow=7.7,SNR=6.0
comp=Z,3.5nm,0.6s
PVIS Viseu 81.85 39 *e*P **P** **23 35 22.0 +1.1**
PVRL Vila Real 82.31 39 *e*P **P** **23 35 23.7 +0.5**
POLO Lamas de Olo 82.33 39 *e*P **P** **23 35 23.8 +0.4**
PCAB Cabril 82.41 39 *e*P **P** **23 35 24.1 +0.4**
MVO Moncorvo 82.64 40 *e*P **P** **23 35 25.7 +0.7**
PBRG Braganca 83.21 39 *e*P **P** **23 35 28.5 +0.7**
PAB San Pablo 83.27 42 P **P** **23 35 28.9 +0.8**
PAB IAmb IAmb 23 35 29.5
comp=Z,11nm,0.8s
PAB San Pablo 83.27 42 P **P** **23 35 28.9 +0.8**
ESDC Sonseca Array 83.58 42 P **P** **23 35 30.1 +0.4**
comp=Z,6.4nm,0.8s,baz=241,slow=4.5,SNR=46
comp=Z,6.4nm,0.8s
ESDC Sonseca Array 83.58 42 P **P** **23 35 30.1 +0.4**
ESDC IAmb IAmb 23 35 31.2
comp=Z,6.5nm,0.9s
ESBB Sonseca Array 83.58 42 P **P** **23 35 30.4 +0.7**
ESBB IAmb IAmb 23 35 31.1
comp=Z,7.3nm,0.8s
MATP Matopo 84.30 110 P **P** **23 35 33.8 -0.1**
comp=Z,17nm,0.5s,baz=254,slow=4.8,SNR=76
comp=Z,17nm,0.5s
MATP Matopo 84.30 110 *i* P **P** **23 35 34.2 +0.4**
MATP Matopo 84.30 110 *i* P **P** **23 35 34.2 +0.4**
BLWY Bulawayo 84.50 109 *i* P **P** **23 35 35.1 +0.2**
BLWY Bulawayo 84.50 109 *i* P **P** **23 35 35.1 +0.2**
MUSN Musina, Limpop 84.77 112 *i* P **P** **23 35 37.1 +1.1**
MUSN Musina, Limpop 84.77 112 *i* P **P** **23 35 37.1 +1.1**
LSZ Lusaka 85.97 105 P **P** **23 35 43.0 +1.0**
comp=Z,3.8nm,0.5s,baz=248,slow=2.4,SNR=16
comp=Z,3.8nm,0.5s
ASAR Alice Springs 130.64 202 PKP **PKPdf** **23 42 08.7 +0.2**
comp=Z,0.5nm,0.5s,baz=131,slow=1.8,SNR=5.0
ASAR SKPbc **SKPbc** **23 44 42.7 +0.1**
comp=Z,6.4nm,0.6s,baz=147,slow=3.7,SNR=61
TIXI Tiksi 130.67 355 SKPbc **SKPbc** **23 44 41.1 0.0**
comp=Z,5.0nm,0.3s,baz=285,slow=7.0,SNR=6.3
WRA Warramunga Arr 133.90 204 PKP **PKPdf** **23 42 15.2 +0.4**
comp=Z,0.5nm,0.3s,baz=157,slow=1.8,SNR=16
WRA SKPbc **SKPbc** **23 44 54.4 +0.6**
comp=Z,5.5nm,0.8s,baz=158,slow=2.7,SNR=26
ZALV Zalesovo Beam 141.01 29 PKhKP PKPpre 23 42 21.7
comp=Z,3.2nm,0.6s,baz=305,slow=5.2,SNR=5.8
ZALV PKP **PKPdf** **23 42 25.7 -0.9**
comp=Z,2.4nm,0.4s,baz=304,slow=0.7,SNR=9.8
ZALV SKPbc **SKPbc** **23 45 11.0 -2.0**
comp=Z,2.3nm,0.8s,baz=353,slow=3.5,SNR=5.3
MAKZ Makanchi 143.59 41 PKPbc 23 42 30.5 +0.2
MKAR Makanchi Array 143.78 40 PKP PKPab 23 42 31.1 +0.3
comp=Z,14nm,0.7s,baz=304,slow=3.9,SNR=119
MKAR SKKPbc SKKPbc 23 53 29.4 -1.0
comp=Z,0.4nm,0.6s,baz=96,slow=7.4,SNR=4.6
MKAR Makanchi Array 143.78 40 PKPab 23 42 31.0 +0.1
SONM Songino Array 153.89 15 PKPbc **PKiKP** **23 42 56.5 +0.1**
comp=Z,0.9nm,0.6s,baz=24,slow=0.9,SNR=4.5
SONM PKPab **PKPab** **23 43 12.2 -0.1**
comp=Z,1.9nm,0.6s,baz=298,slow=3.2,SNR=7.7
CMAR Chiang Mai Arr 163.27 102 PKPab **PKPab** **23 43 53.0 -1.0**
comp=Z,2.5nm,0.9s,baz=256,slow=6.2,SNR=5.1
PZH PanZhiHua 166.38 72 PKP **PKPdf** **23 43 05.6 +3.4**

ROM 05 23:34:09.4±0.1, 42.779N±0.003×13.245E±0.005, h15km, ML2.6/42, 21C-18D, Error ellipse: s-maj=0.4km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
T1244	**Arquata del Tr**	**0.04**	**119**	⇑P		Pg	23 34 12.4	+0.2
T1244				S		Sg	23 34 14.5	+0.3
T1244				AML		AML		
	comp=N,8555μm,0.7s							
T1244				AML		AML		
	comp=N,8720μm,0.7s							
T1244				AML		AML		
	comp=E,14300μm,0.2s							
T1244				AML		AML		
	comp=E,14350μm,0.2s							
T1244				AML		AML		
	comp=N,8715μm,0.7s							
T1242	**Castelluccio d**	**0.06**	**329**	⇓P		Pg	23 34 12.5	0.0
T1242				S		Sg	23 34 14.5	0.0
T1242				AML		AML		
	comp=N,9570μm,0.3s							
T1242				AML		AML		
	comp=E,8125μm,0.3s							
T1242				AML		AML		
	comp=N,9545μm,0.3s							
T1242				AML		AML		
	comp=E,8130μm,0.3s							
T1242				AML		AML		
	comp=N,9560μm,0.3s							
T1242				AML		AML		
	comp=N,9560μm,0.3s							
T1242				AML		AML		
	comp=E,8155μm,0.3s							
T1202	**Accumoli, Fraz**	**0.08**	**191**	P		Pg	23 34 12.8	+0.2
T1202				S		Sg	23 34 15.3	+0.7
T1202				AML		AML		
	comp=E,10365μm,0.8s							
T1202				AML		AML		
	comp=N,7915μm,0.7s							
T1202				AML		AML		
	comp=E,10350μm,0.8s							
T1202				AML		AML		
	comp=N,7920μm,0.7s							
T1202				AML		AML		
	comp=E,10380μm,0.8s							
NRCA	**Norcia**	**0.11**	**300**	⇓P		Pg	23 34 12.9	+0.1
NRCA				S		Sg	23 34 15.3	+0.1
NRCA				AML		AML		
	comp=N,14400μm,0.1s							
NRCA				AML		AML		
	comp=E,13500μm,0.4s							
NRCA				AML		AML		
	comp=E,15300μm,0.6s							
NRCA				AML		AML		
	comp=N,15150μm,0.1s							
T1204	**Amatrice, Fraz**	**0.12**	**153**	P		Pg	23 34 13.2	+0.2
T1204				S		Sb	23 34 15.8	-0.3
T1204				AML		AML		
	comp=E,14150μm,0.2s							
T1204				AML		AML		
	comp=N,15050μm,0.1s							
T1204				AML		AML		
	comp=E,14135μm,0.2s							
MC2	**Monte Cornacci**	**0.14**	**343**	P		Pg	23 34 13.4	0.0
MC2				S		Sg	23 34 16.4	+0.4
T1241	**Roccafluvione,**	**0.16**	**60**	⇑P		Pg	23 34 13.6	+0.1
T1241				S		Sg	23 34 16.4	+0.3
T1241				AML		AML		
	comp=E,1655μm,0.4s							
T1241				AML		AML		
	comp=N,1290μm,1.0s							
T1241				AML		AML		
	comp=E,1655μm,0.4s							
T1241				AML		AML		
	comp=E,1660μm,0.4s							
T1241				AML		AML		
	comp=E,1665μm,0.4s							
T1241				AML		AML		
	comp=N,1295μm,1.0s							
T1241				AML		AML		
	comp=N,1180μm,1.0s							
SMA1	**SAN MARTINO**	**0.16**	**156**	⇓P		Pg	23 34 13.7	+0.2
SMA1				S		Sg	23 34 16.7	+0.4
SMA1				AML		AML		
	comp=E,8675μm,1.4s							
SMA1				AML		AML		
	comp=N,11205μm,0.3s							
SMA1				AML		AML		
	comp=E,8670μm,1.4s							
SMA1				AML		AML		
	comp=N,11170μm,0.3s							
T1243	**Rocca Santa Ma**	**0.17**	**119**	⇓P		Pg	23 34 13.8	+0.1
T1243				S		Sg	23 34 16.8	+0.3
LNSS	**Leonessa**	**0.23**	**221**	⇑P		Pg	23 34 14.9	+0.3
LNSS				S		Sb	23 34 19.1	-0.2
LNSS				AML		AML		
	comp=N,3595μm,1.0s							
LNSS				AML		AML		
	comp=N,3600μm,1.0s							
LNSS				AML		AML		
	comp=E,2795μm,0.2s							
FEMA	**Monte Fema**	**0.23**	**322**	⇑P		Pg	23 34 14.8	+0.2
FEMA				AML		AML		
	comp=E,1310μm,0.5s							
FEMA				AML		AML		
	comp=N,1174μm,0.3s							
RM33	**Pellescritta (**	**0.27**	**185**	⇓P		Pg	23 34 15.6	+0.4
RM33				S		Sb	23 34 20.1	-0.4
RM33				AML		AML		
	comp=E,8045μm,0.3s							
RM33				AML		AML		
	comp=E,7840μm,0.3s							
RM33				AML		AML		
	comp=N,6000μm,0.2s							
RM33				AML		AML		
	comp=N,6335μm,0.2s							
CAMP	**Campotosto**	**0.27**	**153**	⇓P		Pg	23 34 15.4	+0.2
CAMP				S		Sg	23 34 19.6	+0.4
CAMP				AML		AML		
	comp=E,3155μm,0.4s							
CAMP				AML		AML		
	comp=N,1585μm,1.0s							

T1215 Vallo di Nera, 0.28 275 ⇓P Pg 23 34 15.5 +0.2
T1215 S Sb 23 34 20.2 -0.5
T1215 AML AML
comp=E,950μm,0.6s
T1215 AML AML
comp=N,885μm,1.0s
T1215 AML AML
comp=E,952μm,0.6s
T1215 AML AML
comp=N,890μm,1.0s
FDMO Fiordimonte 0.28 336 P Pg 23 34 15.5 +0.1
FDMO S Sb 23 34 20.2 -0.6
FDMO AML AML
comp=E,592μm,0.7s
FDMO AML AML
comp=N,872μm,0.6s
GUMA Gualdo di Mace 0.29 13 ⇑P Pb 23 34 16.1 -0.3
GUMA S Sb 23 34 21.3 +0.2
GUMA AML AML
comp=N,7640μm,0.6s
GUMA AML AML
comp=E,5185μm,0.5s
GUMA AML AML
comp=E,3950μm,0.6s
GUMA AML AML
comp=N,7675μm,0.4s
GUMA AML AML
comp=N,7635μm,0.6s
TERO Teramo 0.31 120 ⇓P Pg 23 34 15.9 +0.1
TERO S Sb 23 34 20.9 -0.6
TERO AML AML
comp=N,2495μm,0.5s
TERO AML AML
comp=E,2020μm,1.1s
TERO AML AML
comp=N,2815μm,0.5s
TERO AML AML
comp=E,2245μm,1.1s
CSP1 Cessapalombo 0.31 355 ⇓P Pg 23 34 16.1 +0.1
CSP1 S Sb 23 34 21.2 -0.6
CESI CESI - Serrava 0.34 312 ⇓P Pg 23 34 16.5 +0.2
CESI AML AML
comp=N,1096μm,0.3s
CESI AML AML
comp=N,1097μm,0.3s
CESI AML AML
comp=E,482μm,0.7s
OFFI Offida 0.36 64 ⇑P Pb 23 34 17.8 +0.3
OFFI AML AML
comp=E,2400μm,0.8s
OFFI AML AML
comp=N,5470μm,0.5s
ARRO Arrone 0.41 241 ⇑P Pg 23 34 17.7 +0.2
ARRO AML AML
comp=E,700μm,0.3s
ARRO AML AML
comp=N,584μm,0.7s
GIGS Gran Sasso 0.41 144 P Pg 23 34 17.4 -0.2
GIGS AML AML
comp=E,550μm,1.0s
GIGS AML AML
comp=N,704μm,0.7s
GIGS AML AML
comp=E,550μm,1.0s
AQU L'Aquila 0.44 165 ⇑P Pg 23 34 18.3 +0.1
AQU AML AML
comp=E,1125μm,1.0s
AQU AML AML
comp=E,1120μm,1.1s
AQU AML AML
comp=N,1175μm,0.2s
AQU AML AML
comp=N,1150μm,0.1s
AQU AML AML
comp=E,1128μm,1.0s
ASSB Assisi San Ben 0.51 302 ⇓P Pg 23 34 19.3 -0.1
ASSB AML AML
comp=N,284μm,1.5s
ASSB AML AML
comp=E,320μm,0.4s
ASSB AML AML
comp=N,284μm,1.5s
CESX Cesi 0.52 251 ⇑P Pg 23 34 19.5 -0.1
CESX S Sb 23 34 28.0 +0.5
CESX AML AML
comp=E,640μm,0.5s
CESX AML AML
comp=N,645μm,0.6s
FIAM Fiamignano 0.52 191 ⇑P Pg 23 34 19.6 -0.1
FIAM AML AML
comp=N,1028μm,0.6s
FIAM AML AML
comp=E,1635μm,0.5s
FIAM AML AML
comp=N,1028μm,0.6s
SNTG Esanatoglia 0.53 335 ⇓P Pg 23 34 19.6 -0.2
SNTG AML AML
comp=N,238μm,0.8s
SNTG AML AML
comp=E,245μm,0.6s
EL6 Elcito 0.56 349 P Pg 23 34 20.4 -0.1
EL6 AML AML
comp=E,353μm,1.1s
EL6 AML AML
comp=N,548μm,0.4s
FAGN Fagnano 0.57 154 ⇑P Pg 23 34 20.3 -0.3
FAGN AML AML
comp=N,2015μm,1.3s
FAGN AML AML
comp=E,1470μm,0.3s
VCEL Villa Celiera 0.58 131 ⇓P Pg 23 34 21.0 +0.1
VCEL AML AML
comp=E,1055μm,0.3s
VCEL AML AML
comp=N,1041μm,1.1s
VCEL AML AML
comp=N,1039μm,1.1s
VCEL AML AML
comp=E,1051μm,0.3s
CING Cingoli 0.60 357 P Pg 23 34 21.1 0.0
CING AML AML
comp=E,418μm,0.3s
CING AML AML
comp=N,270μm,0.9s
ATCC AVT- Casa Cast 0.60 313 P Pg 23 34 20.7 -0.5
ATCC AML AML
comp=N,224μm,0.8s
ATCC AML AML
comp=N,224μm,0.7s
ATCC AML AML
comp=E,270μm,0.6s
FOSV Fossato di Vic 0.63 326 ⇓P Pg 23 34 21.4 -0.2
FOSV AML AML
comp=N,374μm,0.4s
FOSV AML AML
comp=E,207μm,0.4s
PP3 Marolino 0.66 24 ⇓P Pb 23 34 23.1 +0.6
PP3 AML AML
comp=E,870μm,0.4s
PP3 AML AML
comp=N,1585μm,0.5s
PP3 AML AML
comp=E,783μm,1.3s
PP3 AML AML
comp=E,872μm,0.4s
PP3 AML AML
comp=E,785μm,1.3s
PP3 AML AML
comp=N,1560μm,0.5s
PP3 AML AML
comp=N,1590μm,0.5s
T0110 Collepietro 0.68 144 P Pg 23 34 21.3 -1.4
SSFR Montelago di S 0.74 333 ⇓P Pg 23 34 23.8 -0.1
SSFR AML AML
comp=E,356μm,0.2s
SSFR AML AML
comp=N,387μm,0.7s
ARVD Arcevia 0.75 343 ⇑P Pg 23 34 23.9 -0.2
ARVD AML AML
comp=E,140μm,1.2s
ARVD AML AML
comp=E,140μm,1.2s
ARVD AML AML
comp=N,150μm,0.6s
SRES S.Oreste - Sor 0.77 225 ⇑P Pb 23 34 24.4 0.0
SRES AML AML
comp=E,122μm,0.8s

SRES				AML	AML			
	comp=N,118μm,0.4s							
FRON	**Frontone**	**0.83**	**333**	⇑P	Pg	23 34 25.1	-0.4	
FRON				AML	AML			
	comp=E,138μm,1.1s							
FRON				AML	AML			
	comp=N,264μm,1.3s							
MTCE	**Montecelio**	**0.84**	**206**	⇓P	Pg	23 34 24.9	-0.8	
MTCE				AML	AML			
	comp=E,250μm,0.5s							
MTCE				AML	AML			
	comp=N,98μm,1.6s							
MTCE				AML	AML			
	comp=N,98μm,1.6s							
MGAB	**Montegabbione**	**0.84**	**280**	⇑P	Pn	23 34 27.7	+0.9	
CERT	**Cerreto**	**0.85**	**193**	⇓P	Pg	23 34 25.1	-0.8	
CERT				AML	AML			
	comp=E,410μm,0.5s							
CERT				AML	AML			
	comp=N,242μm,1.6s							
ATVO	**AVT- Monte Val**	**0.86**	**315**	⇑P	Pb	23 34 25.7	-0.3	
ATVO				AML	AML			
	comp=E,94μm,1.6s							
ATVO				AML	AML			
	comp=E,94μm,1.6s							
ATVO				AML	AML			
	comp=N,108μm,0.6s							
COR1	**Corinaldo**	**0.87**	**348**	P	Pn	23 34 27.1	-0.1	
INTR	**Introdacqua**	**0.91**	**147**	⇑P	Pb	23 34 26.1	-0.8	
INTR				AML	AML			
	comp=N,265μm,0.4s							
INTR				AML	AML			
	comp=E,151μm,1.2s							
INTR				AML	AML			
	comp=N,264μm,0.4s							
ATPI	**Pietralunga -**	**0.91**	**318**	⇑P	Pb	23 34 26.8	-0.2	
ATPI				AML	AML			
	comp=N,88μm,0.5s							
ATPI				AML	AML			
	comp=E,144μm,0.6s							
PIEI	**Pieia**	**0.92**	**326**	S	Sn	23 34 42.0	+1.2	
MPAG	**Monte Paganucc**	**0.92**	**337**	P	Pb	23 34 26.8	-0.3	
MPAG				AML	AML			
	comp=E,103μm,1.1s							
MPAG				AML	AML			
	comp=N,100μm,0.7s							
NARO	**Abbazia di Nar**	**0.96**	**330**	⇑P	Pb	23 34 27.4	-0.4	
NARO				AML	AML			
	comp=E,71μm,1.1s							
NARO				AML	AML			
	comp=N,72μm,0.8s							
FSSB	**Fossombrone**	**0.97**	**340**	⇑P	Pb	23 34 28.0	0.0	
FSSB				AML	AML			
	comp=E,291μm,0.4s							
FSSB				AML	AML			
	comp=N,438μm,0.5s							
APEC	**Apecchio**	**0.99**	**323**	P	Pg	23 34 28.5	+0.1	
LPEL	**Lama dei Pelig**	**1.01**	**136**	S	Sn	23 34 44.0	+1.0	
CAFI	**Castiglion Fio**	**1.09**	**301**	⇑P	Pg	23 34 30.4	0.0	
CAFI				AML	AML			
	comp=N,61μm,0.8s							
CAFI				AML	AML			
	comp=E,56μm,1.2s							
CPGN	**Carpegna, Ital**	**1.23**	**327**	S	Sg	23 34 49.0	0.0	
SF01	**Poggio Pratacc**	**1.24**	**272**	P	Pg	23 34 33.0	-0.2	
CERA	**Filignano**	**1.31**	**154**	P	Pg	23 34 34.6	0.0	
MODR	**Mondragone**	**1.70**	**164**	P	Pn	23 34 36.1	-2.4	

ROM 05 23:34:51.8±0.2, 42°78.3N±0.005×13°22.2E±0.01, h15km±1km, ML2.3/1,1C-4D, Error ellipse: s-maj=0.8km s-min=0.6km az=70.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.05**	**349**	P	Pg	23 34 54.7	-0.1
T1242				S	Sg	23 34 56.8	0.0
T1242				AML	AML		
	comp=E,2395μm,0.1s						
T1242				AML	AML		
	comp=N,1860μm,0.1s						
T1242				AML	AML		
	comp=N,1815μm,0.1s						
T1242				AML	AML		
	comp=N,1810μm,0.1s						
T1242				AML	AML		
	comp=E,2375μm,0.2s						
T1244	**Arquata del Tr**	**0.07**	**113**	⇓P	Pg	23 34 54.7	-0.1
T1202	**Accumoli, Fraz**	**0.08**	**176**	⇑P	Pg	23 34 55.0	+0.1
T1202				S	Sg	23 34 57.5	+0.5
NRCA	**Norcia**	**0.09**	**304**	⇓P	Pg	23 34 55.2	+0.1
NRCA				S	Sg	23 34 57.6	+0.4
NRCA				AML	AML		
	comp=E,3635μm,0.6s						
NRCA				AML	AML		
	comp=N,3145μm,0.1s						
NRCA				AML	AML		
	comp=E,4040μm,0.6s						
NRCA				AML	AML		
	comp=N,3375μm,0.1s						
NRCA				AML	AML		
	comp=N,3145μm,0.1s						
NRCA				AML	AML		
	comp=E,3630μm,0.6s						
MC2	**Monte Cornacci**	**0.13**	**352**	⇓P	Pg	23 34 55.7	0.0
MC2				S	Sb	23 34 58.7	-0.4
T1215	**Vallo di Nera,**	**0.26**	**274**	⇓P	Pb	23 34 58.0	-0.2

ROM 05 23:35:40.8±0.2, 42°59N±0.01×13°26E±0.01, h12km±1km, ML1.7/7,4C-4D, Error ellipse: s-maj=1.2km s-min=0.3km az=338.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.07**	**49**	⇑P	Pg	23 35 43.9	+0.5
SMA1				S	Sg	23 35 45.6	+0.2
SMA1				AML	AML		
	comp=E,986μm,0.2s						
SMA1				AML	AML		
	comp=N,958μm,0.2s						
SMA1				AML	AML		
	comp=E,982μm,0.2s						
SMA1				AML	AML		
	comp=N,958μm,0.2s						
RM33	**Pellescritta (**	**0.08**	**206**	⇑P	Pg	23 35 43.9	+0.3
RM33				S	Sg	23 35 45.5	-0.1
RM33				AML	AML		
	comp=N,468μm,0.3s						
RM33				AML	AML		
	comp=N,460μm,0.3s						
RM33				AML	AML		
	comp=N,468μm,0.3s						
RM33				AML	AML		
	comp=E,356μm,0.7s						
RM33				AML	AML		
	comp=E,404μm,0.7s						
T1202	**Accumoli, Fraz**	**0.12**	**346**	P	Pb	23 35 45.0	-0.2
LNSS	**Leonessa**	**0.17**	**276**	⇑P	Pb	23 35 45.6	-0.3
LNSS				AML	AML		
	comp=E,164μm,0.8s						
LNSS				AML	AML		
	comp=N,170μm,0.2s						
T1244	**Arquata del Tr**	**0.17**	**8**	P	Pb	23 35 45.8	-0.3
T1244				AML	AML		
	comp=E,242μm,0.4s						
T1244				AML	AML		
	comp=N,306μm,0.3s						
T1243	**Rocca Santa Ma**	**0.18**	**51**	⇓P	Pb	23 35 45.5	-0.6
T1243				S	Sg	23 35 48.6	+0.9
TERO	**Teramo**	**0.25**	**81**	P	Pg	23 35 46.5	+0.4
TERO				S	Sg	23 35 50.5	+0.8
GIGS	**Gran Sasso**	**0.26**	**121**	P	Pg	23 35 46.7	+0.4
T1241	**Roccafluvione,**	**0.30**	**24**	P	Pb	23 35 48.6	+0.5
ARRO	**Arrone**	**0.37**	**269**	⇓P	Pb	23 35 49.0	-0.3
FDMO	**Fiordimonte**	**0.47**	**344**	P	Pg	23 35 49.4	-0.7
FDMO				S	Sg	23 35 54.9	-1.4
FDMO	**Fiordimonte**	**0.47**	**344**	⇓P	Pg	23 35 49.4	-0.7
FDMO				AML	AML		
	comp=N,193μm,1.4s						
FDMO				AML	AML		
	comp=E,376μm,0.3s						
GUMA	**Gualdo di Mace**	**0.48**	**6**	P	Pg	23 35 49.6	-0.7
GUMA				AML	AML		
	comp=E,1192μm,0.6s						
GUMA				AML	AML		
	comp=N,712μm,0.4s						
CESI	**CESI - Serrava**	**0.50**	**328**	⇓P	Pg	23 35 50.8	+0.2
CSP1	**Cessapalombo**	**0.51**	**355**	P	Pg	23 35 48.5	-2.3
CSP1				S	Sg	23 35 53.4	-4.2
ASSB	**Assisi San Ben**	**0.64**	**316**	⇑P	Pg	23 35 52.2	-1.0
ASSB				AML	AML		
	comp=N,108μm,0.3s						
ASSB				AML	AML		
	comp=E,94μm,0.3s						

*IDC **05** 23:38:06.9±0.7, 54°.75N×168°.33E, h0km, mb3.9/21, mbtmp3.9/23, ML3.7/2, Error ellipse: s-maj=18.9km s-min=13.7km az=170.0*
*KRSC **05** 23:38:07.8±1.7, 54°.53N×168°.14E, h33km±28km, ML4.3*
*NEIC **05** 23:38:07.9±1.5, 54°.6N±0°.1×168°.3E±0°.1, h10km±1km, mb4.3/52, Error ellipse: s-maj=18.9km s-min=11.2km az=184.0*
*MOS **05** 23:38:09.1±0.9, 54°.57N×168°.31E, h33km, mb4.0/8, Error ellipse: s-maj=8.6km s-min=6.4km az=176.2*
ISC 05 23:38:10.0±0.5, 54°.60N±0°.06×168°.33E±0°.05, h24km, n160, σ1.9 09/163, mb4.2/48, 1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.49**	**295**	PN	**Pn**	**23 38 32.9**	**-2.3**
BKI				S	**Sn**	**23 38 51.3**	**-2.5**
BKI	**Bering**	**1.49**	**295**	*e*P	**Pn**	**23 38 32.9**	**-2.3**
BKI				*e*S	**Sn**	**23 38 51.3**	**-2.5**
KBTR	**Krutoberegovo**	**3.53**	**299**	PN	**Pn**	**23 39 01.6**	**-1.6**
KBTR				S	**Sn**	**23 39 43.8**	**-0.4**
KBTR	**Krutoberegovo**	**3.53**	**299**	*e*P	**Pn**	**23 39 01.6**	**-1.6**
KBTR				*e*S	**Sn**	**23 39 43.8**	**-0.4**
MKZ	**Mys Kozlova**	**3.84**	**272**	PN	**Pn**	**23 39 07.3**	**-0.2**
MKZ	**Mys Kozlova**	**3.84**	**272**	*e*P	**Pn**	**23 39 07.3**	**-0.2**
MKZ				*e*S	**Sn**	**23 39 50.3**	**-1.5**
SHEM	**Shemya Is, Ala**	**3.91**	**116**	Pn	**Pn**	**23 39 07.6**	**-0.8**
	18nm,0.3s,baz=9.7,slow=3.7,SNR=13						
SHEM				Sn	**Sn**	**23 39 52.8**	**-0.7**
	7.9nm,0.3s,baz=269,slow=20,SNR=1.0						
	41nm,0.4s						
SMY	**Shemya**	**3.91**	**116**	Pn	**Pn**	**23 39 07.9**	**-0.5**
SMY	**Shemya**	**3.91**	**116**	PN	**Pn**	**23 39 07.9**	**-0.5**
SMKR	**Semkarok**	**4.37**	**300**	PN	**Pn**	**23 39 15.7**	**+0.9**
SMKR	**Semkarok**	**4.37**	**300**	*e*P	**Pn**	**23 39 15.7**	**+0.9**
BDR	**Baidarnaya**	**4.50**	**299**	PN	**Pn**	**23 39 17.0**	**+0.4**
BDR	**Baidarnaya**	**4.50**	**299**	*e*P	**Pn**	**23 39 17.0**	**+0.4**
SRKR	**Sorokina**	**4.55**	**300**	PN	**Pn**	**23 39 18.0**	**+0.7**
SRKR	**Sorokina**	**4.55**	**300**	*e*P	**Pn**	**23 39 18.0**	**+0.7**
TUMR	**Tumrok**	**4.77**	**282**	PN	**Pn**	**23 39 21.1**	**+0.7**
TUMR	**Tumrok**	**4.77**	**282**	*e*P	**Pn**	**23 39 21.1**	**+0.7**
TUMR				*e*S	**Sn**	**23 40 14.9**	**0.0**
SPN	**Mys Shipunski**	**5.14**	**256**	PN	**Pn**	**23 39 24.7**	**-0.7**
SPN	**Mys Shipunski**	**5.14**	**256**	*e*P	**Pn**	**23 39 24.7**	**-0.7**
SPN				*e*S	**Sn**	**23 40 21.5**	**-2.4**
SRDR	**Sredinnyy**	**5.20**	**293**	PN	**Pn**	**23 39 26.1**	**0.0**
SRDR	**Sredinnyy**	**5.20**	**293**	*e*P	**Pn**	**23 39 26.1**	**0.0**
KII	**Karymskiy**	**5.23**	**267**	PN	**Pn**	**23 39 27.1**	**+0.4**
KII	**Karymskiy**	**5.23**	**267**	*e*P	**Pn**	**23 39 27.1**	**+0.4**
ESO	**Esso**	**5.67**	**287**	PN	**Pn**	**23 39 35.0**	**+2.4**
ESO	**Esso**	**5.67**	**287**	*e*P	**Pn**	**23 39 35.0**	**+2.4**
SDLR	**Sedlovina**	**5.74**	**260**	PN	**Pn**	**23 39 33.7**	**+0.1**
SDLR	**Sedlovina**	**5.74**	**260**	*e*P	**Pn**	**23 39 33.7**	**+0.1**
SMAR	**Somma**	**5.79**	**260**	PN	**Pn**	**23 39 34.5**	**+0.1**
SMAR	**Somma**	**5.79**	**260**	*e*P	**Pn**	**23 39 34.5**	**+0.1**
SMAR				*e*S	**Sn**	**23 40 39.8**	**-0.3**
UGLR	**Uglovaya**	**5.79**	**260**	PN	**Pn**	**23 39 34.8**	**+0.4**
UGLR	**Uglovaya**	**5.79**	**260**	*e*P	**Pn**	**23 39 34.8**	**+0.4**
KRER	**Koryakskii**	**5.81**	**261**	PN	**Pn**	**23 39 35.2**	**+0.5**
KRER	**Koryakskii**	**5.81**	**261**	*e*P	**Pn**	**23 39 35.2**	**+0.5**
AVH	**Avacha**	**5.82**	**261**	PN	**Pn**	**23 39 35.4**	**+0.6**
AVH	**Avacha**	**5.82**	**261**	*e*P	**Pn**	**23 39 35.4**	**+0.6**
AVH				*e*S	**Sn**	**23 40 40.4**	**-0.4**
KRX	**Arik**	**5.85**	**262**	PN	**Pn**	**23 39 35.4**	**+0.2**
KRX	**Arik**	**5.85**	**262**	*e*P	**Pn**	**23 39 35.4**	**+0.2**
KRX				*e*S	**Sn**	**23 40 40.9**	**-0.6**
KOK	**Koryaka**	**5.87**	**261**	PN	**Pn**	**23 39 36.0**	**+0.5**
KOK	**Koryaka**	**5.87**	**261**	*e*P	**Pn**	**23 39 36.0**	**+0.5**
DALK	**Dalny**	**5.89**	**258**	PN	**Pn**	**23 39 35.6**	**0.0**
DALK	**Dalny**	**5.89**	**258**	*e*P	**Pn**	**23 39 35.6**	**0.0**
DALK				*e*S	**Sn**	**23 40 41.2**	**-1.0**
PET	**Petropavlovsk**	**5.95**	**259**		**Pn**	**23 39 34.7**	**-1.7**
PET	**Petropavlovsk**	**5.95**	**259**	*e*PN	**Pn**	**23 39 32.9**	**-3.5**
GNL	**Ganaly**	**6.17**	**266**	PN	**Pn**	**23 39 40.9**	**+1.3**
GNL	**Ganaly**	**6.17**	**266**	*e*P	**Pn**	**23 39 40.9**	**+1.3**
RUS	**Russkaya**	**6.25**	**254**	PN	**Pn**	**23 39 40.4**	**-0.1**
RUS	**Russkaya**	**6.25**	**254**	*e*P	**Pn**	**23 39 40.4**	**-0.1**
KRMR	**Karymshinskiy**	**6.31**	**258**	PN	**Pn**	**23 39 41.7**	**+0.3**
KRMR	**Karymshinskiy**	**6.31**	**258**	*e*P	**Pn**	**23 39 41.7**	**+0.3**
KRMR				*e*S	**Sn**	**23 40 51.4**	**-1.3**
MTVR	**Mutnovka**	**6.41**	**255**	PN	**Pn**	**23 39 43.7**	**+0.8**
MTVR	**Mutnovka**	**6.41**	**255**	*e*P	**Pn**	**23 39 43.7**	**+0.8**
MTVR				*e*S	**Sn**	**23 40 52.7**	**-2.6**
GRL	**Gorelyy**	**6.45**	**256**	PN	**Pn**	**23 39 44.5**	**+1.1**
GRL	**Gorelyy**	**6.45**	**256**	*e*P	**Pn**	**23 39 44.5**	**+1.1**
GRL				*e*S	**Sn**	**23 40 55.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**6.47**	**261**		**Pn**	**23 39 43.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**6.47**	**261**	PN	**Pn**	**23 39 43.8**	**+0.3**
PETK	**Petropavlovsk-**	**6.47**	**261**	Pn	**Pn**	**23 39 44.8**	**+1.2**
	2.1nm,0.3s,baz=87,slow=18,SNR=30						
PETK				Sn	**Sn**	**23 40 58.3**	**+1.8**
	1.5nm,0.3s,baz=44,slow=30,SNR=7.9						
	5.8nm,0.5s						
PETK	**Petropavlovsk-**	**6.47**	**261**	Pn	**Pn**	**23 39 44.0**	**+0.4**
ASAK	**Asacha**	**6.61**	**255**	PN	**Pn**	**23 39 46.4**	**+0.8**
ASAK	**Asacha**	**6.61**	**255**	*e*P	**Pn**	**23 39 46.4**	**+0.8**
ASAK				*e*S	**Sn**	**23 40 57.7**	**-2.4**
KDTR	**Khodutka, Kamc**	**6.76**	**250**	PN	**Pn**	**23 39 48.0**	**+0.4**
KDTR	**Khodutka, Kamc**	**6.76**	**250**	*e*P	**Pn**	**23 39 48.0**	**+0.4**
KDTR				*e*S	**Sn**	**23 41 00.2**	**-3.6**
AMKA	**Amchitka**	**7.37**	**112**	Pn	**Pn**	**23 39 55.7**	**-0.1**
ADK	**Adak**	**9.39**	**101**	Pn	**Pn**	**23 40 23.4**	**-0.2**
ADK	**Adak**	**9.39**	**101**	PN	**Pn**	**23 40 23.4**	**-0.2**
UNV	**Unalaska Valle**	**14.72**	**83**	P	**P**	**23 41 41.6**	**-0.6**
AKUT	**Akutan**	**15.07**	**81**	Pn	**Pn**	**23 41 41.4**	**+0.3**
TNA	**Tin City**	**16.02**	**37**	Pn	**Pn**	**23 41 51.1**	**-2.3**
N18K	**Kilae Creek**	**19.90**	**58**	P	**P**	**23 42 40.1**	**+0.7**
TTA	**Tatalina**	**20.04**	**51**	P	Pn	23 42 42.4	-0.4
TTA	**Tatalina**	**20.04**	**51**	P	Pn	23 42 42.4	-0.4
TTA				pmax	pmax		
	comp=Z,13nm,1.3s						
SVW2	**Sparrevohn**	**20.07**	**57**	P	**P**	**23 42 42.0**	**+0.9**
O18K	**Koktuh Hills**	**20.23**	**60**	P	**P**	**23 42 44.2**	**+1.2**
P18K	**Big Mountain,**	**20.24**	**61**	P	**P**	**23 42 44.4**	**+1.3**
P18K				lAmb	lAmb	23 42 52.3	
	comp=Z,13nm,0.8s						
L19K	**White Mountain**	**20.48**	**53**	P	**P**	**23 42 46.8**	**+1.0**
L19K				lAmb	lAmb	23 42 55.3	
	comp=Z,13nm,1.1s						
N19K	**Bonanza Creek**	**20.59**	**57**	P	**P**	**23 42 46.7**	**-0.3**
K20K	**Telida**	**20.97**	**50**	P	**P**	**23 42 52.2**	**+1.2**
K20K				lAmb	lAmb	23 43 08.8	
	comp=Z,12nm,1.3s						
J20K	**Nowinta River**	**21.05**	**48**	P	**P**	**23 42 52.5**	**+0.7**
Q19K	**Cape Douglas,**	**21.08**	**63**	P	**P**	**23 42 52.4**	**+0.2**
SII	**Sitkinak Islan**	**21.11**	**69**	P	**P**	**23 42 52.9**	**+0.3**
IMAR	**Indian Mountai**	**21.58**	**43**	P	**P**	**23 42 57.2**	**-0.2**
KDAK	**Kodiak Island**	**21.77**	**66**	P	**P**	**23 42 59.8**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=305,slow=12,SNR=2.6						
	comp=Z,5.8nm,0.8s						
KDAK	**Kodiak Island**	**21.77**	**66**	P	**P**	**23 42 59.9**	**+0.4**
KDAK	**Kodiak Island**	**21.77**	**66**	P	**P**	**23 42 59.9**	**+0.4**
KDAK				pmax	pmax		
	comp=Z,36nm,1.5s						
PPLA	**Purkeypile**	**21.77**	**52**	P	**P**	**23 43 00.3**	**+0.6**
PPLA				lAmb	lAmb	23 43 14.3	
	comp=Z,24nm,1.3s						
CAST	**Castle Rocks**	**21.86**	**50**	P	**P**	**23 43 01.2**	**+0.7**
H21K	**Melozitna Rive**	**21.89**	**44**	P	**P**	**23 43 01.7**	**+0.9**
H21K				lAmb	lAmb	23 43 11.2	
	comp=Z,12nm,1.2s						
I21K	**Tanana**	**22.14**	**46**	P	**P**	**23 43 03.8**	**+0.4**
I21K				lAmb	lAmb	23 43 27.8	
	comp=Z,9.5nm,1.2s						
CNPM	**China Poot**	**22.26**	**61**	P	**P**	**23 43 04.2**	**-0.7**
KTH	**Kantishna Hill**	**22.39**	**50**	P	**P**	**23 43 06.9**	**+0.6**
KTH				lAmb	lAmb	23 43 25.3	
	comp=Z,12nm,1.1s						
SUA	**Susitna One**	**22.41**	**56**	P	**P**	**23 43 06.7**	**+0.2**
SUA				lAmb	lAmb	23 43 15.5	
	comp=Z,14nm,1.0s						
MLY	**Manley**	**22.63**	**46**	P	**P**	**23 43 08.8**	**0.0**
TRF	**Thorofare Moun**	**22.67**	**50**	P	**P**	**23 43 08.9**	**-0.4**
TRF				lAmb	lAmb	23 43 18.5	
	comp=Z,7.8nm,0.8s						
NEA2	**Nenana**	**23.29**	**48**	P	**P**	**23 43 15.2**	**-0.3**
RND	**Reindeer**	**23.31**	**51**	P	**P**	**23 43 15.6**	**-0.2**
RND				lAmb	lAmb	23 43 24.1	
	comp=Z,7.6nm,0.9s						
RND	**Reindeer**	**23.31**	**51**	P	**P**	**23 43 15.6**	**-0.2**
RND				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SML	**Sawmill**	**23.55**	**55**	P	**P**	**23 43 18.6**	**+0.4**
SML				lAmb	lAmb	23 43 26.7	
	comp=Z,11nm,1.0s						
PWL	**Port Wells**	**23.60**	**57**	P	**P**	**23 43 17.9**	**-0.7**
MDM	**Murphy Dome**	**23.68**	**47**	P	**P**	**23 43 19.8**	**+0.4**
WRH	**Wood River Hil**	**23.70**	**48**	P	**P**	**23 43 19.7**	**+0.1**
WRH				lAmb	lAmb	23 43 28.6	
	comp=Z,11nm,1.1s						
TOLK	**Toolik Lake Re**	**23.80**	**37**	P	**P**	**23 43 20.8**	**+0.2**
TCOL	**CIGO, UAF Yank**	**23.83**	**47**	P	**P**	**23 43 20.9**	**+0.1**
TCOL				lAmb	lAmb	23 43 22.6	
	comp=Z,10nm,0.7s						
COLA	**College**	**23.84**	**47**	P	**P**	**23 43 21.6**	**+0.8**
COLA	**College**	**23.84**	**47**	P	**P**	**23 43 21.6**	**+0.8**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CCB	**Clear Creek Bu**	**23.84**	**48**	lAmb	lAmb	23 43 29.9	
	comp=Z,13nm,1.1s						
H24K	**Noodor Dome**	**23.92**	**45**	P	**P**	**23 43 22.2**	**+0.5**
DHY	**Denali Highway**	**23.97**	**51**	lAmb	lAmb	23 43 30.6	
	comp=Z,14nm,1.4s						
TIXI	**Tiksi**	**23.98**	**330**	P	**P**	**23 43 21.5**	**-0.5**
	comp=Z,3.6nm,0.4s,baz=88,slow=22,SNR=6.6						
	comp=Z,3.6nm,0.4s						
TIXI	**Tiksi**	**23.98**	**330**	P	**P**	**23 43 21.1**	**-0.9**
TIXI				lAmb	lAmb	23 43 32.2	
	comp=Z,4.7nm,0.6s						
TIXI	**Tiksi**	**23.98**	**330**	P	**P**	**23 43 21.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HDA	**Harding Lake**	**24.20**	**48**	P	**P**	**23 43 24.1**	**-0.1**
IL31		**24.24**	**47**	lAmb	lAmb	23 43 33.1	
	comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**24.24**	**47**	P	**P**	**23 43 23.9**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=248,slow=7.9,SNR=28						
	comp=Z,2.8nm,0.8s						
PRP	**Porcupine Dome**	**24.86**	**46**	P	**P**	**23 43 31.0**	**+0.6**
BMAR	**Burnt Mountain**	**25.42**	**41**	P	**P**	**23 43 35.1**	**-0.2**
SCRK	**Sand Creek**	**25.49**	**49**	lAmb	lAmb	23 43 43.2	
	comp=Z,4.8nm,0.9s						
J26L	**Joseph Creek**	**25.66**	**48**	lAmb	lAmb	23 43 49.7	
	comp=Z,7.9nm,1.2s						
K27K	**Chicken**	**26.33**	**49**	lAmb	lAmb	23 43 56.1	
	comp=Z,12nm,1.4s						
L27K	**Beaver Creek,**	**26.50**	**51**	P	**P**	**23 43 45.2**	**+0.2**
L27K				lAmb	lAmb	23 43 53.7	
	comp=Z,7.2nm,0.7s						
BCAR	**Beaver Creek A**	**26.52**	**51**	P	**P**	**23 43 45.3**	**0.0**
EGAK	**Eagle**	**26.70**	**47**	lAmb	lAmb	23 43 53.8	
	comp=Z,6.7nm,0.8s						
MJAR	**Matsushiro Arr**	**27.45**	**241**	P	**P**	**23 43 56.0**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=45,slow=12,SNR=1.5						
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**27.45**	**241**	P	**P**	**23 43 51.5**	**-2.2**
MAJO				lAmb	lAmb	23 43 56.7	
	comp=Z,8.0nm,0.8s						
MAJO	**Matsushiro**	**27.45**	**241**	P	**P**	**23 43 51.6**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
DAWY	**Dawson**	**27.50**	**49**	P	**P**	**23 43 53.8**	**-0.3**
DAWY				lAmb	lAmb	23 44 05.7	
	comp=Z,7.5nm,0.8s						
INK	**Inuvik**	**29.64**	**40**	P	**P**	**23 44 13.2**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=274,slow=4.8,SNR=5.5						
	comp=Z,1.6nm,0.5s						
M31M	**Drury Creek, Y**	**30.02**	**52**	P	**P**	**23 44 17.4**	**+0.9**
M31M				lAmb	lAmb	23 44 25.4	
	comp=Z,5.2nm,0.8s						
A36M	**Sachs Harbour**	**32.29**	**32**	P	**P**	**23 44 35.8**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**34.83**	**182**	T	T	00 21 42.0	
	baz=1.3,slow=76,SNR=72						
H11N3	**WAKE ISLAND Hy**	**34.84**	**182**	T	T	00 21 44.4	
	baz=1.3,slow=76,SNR=109						
H11N1	**WAKE ISLAND Hy**	**34.85**	**182**	T	T	00 21 45.9	
	baz=1.3,slow=76,SNR=94						
XLT	**XiLinHaoTe**	**34.97**	**274**	⇓*i*P	**P**	**23 45 02.6**	**+2.6**
XLT				sP	sP	23 45 09.8	+0.5
XLT				pmax	pmax		
	comp=Z,14nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**36.05**	**183**	T	T	00 23 12.5	
	baz=1.4,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**36.06**	**183**	T	T	00 23 16.1	
	baz=1.4,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**36.07**	**183**	T	T	00 23 16.9	
	baz=1.4,slow=76,SNR=35						
SONM	**Songino Array**	**38.24**	**286**	P	**P**	**23 45 28.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=56,slow=6.8,SNR=4.7						
	comp=Z,0.9nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.48**	**274**	*e*P	**P**	**23 45 37.8**	**-0.6**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
ZALV	**Zalesovo Beam**	**45.98**	**305**	P	**P**	**23 46 30.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=69,slow=7.9,SNR=1.7						
	comp=Z,0.3nm,0.3s						
SPITS	**Spitsbergen Ar**	**46.38**	**352**	P	**P**	**23 46 33.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=64,slow=13,SNR=7.9						
	comp=Z,0.7nm,0.3s						
NVAR	**Mina Array Bea**	**50.

KRSC 05 23:57:11.7±2.0, 54°32N×168°02E, h20km±41km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
BKI	**Bering**	**1.48**	**308**	P		Pn	23 57 37.1		0.0
BKI				S		Sb	23 57 57.9		+1.1
TUMR	**Tumrok**	**4.66**	**285**	P		Pn	23 58 25.3		+4.4
SPN	**Mys Shipunski**	**4.90**	**259**	P		Pn	23 58 29.0		+4.8
SPN				S		Sn	23 59 25.3		+5.0
UGLR	**Uglovaya**	**5.57**	**262**	P		Pn	23 58 37.5		+4.1
KOK	**Koryaka**	**5.65**	**263**	P		Pn	23 58 38.9		+4.3
GNL	**Ganaly**	**5.97**	**268**	P		Pn	23 58 44.2		+5.2
MTVR	**Mutnovka**	**6.16**	**257**	P		Pn	23 58 46.3		+4.7
MTVR				S		Sn	23 59 56.7		+5.2
GRL	**Gorelyy**	**6.20**	**257**	P		Pn	23 58 47.7		+5.6
ASAK	**Asacha**	**6.36**	**256**	P		Pn	23 58 50.0		+5.7
ASAK				S		Sn	00 00 02.8		+6.5
KDTR	**Khodutka, Kamc**	**6.50**	**251**	S		Sn	00 00 02.7		+3.2

*ZUR **06** 00:02:47.8, 47°.57N×8°.90E, h12km, MLh1.9/60, Error ellipse: s-maj=1.1km s-min=0.5km az=342.0*
*LDG **06** 00:02:48.3±0.1, 47°.57N×8°.89E, h12km, Md2.2/3, Ml2.2/18, Error ellipse: s-maj=1.2km s-min=1.0km az=153.0*
*BGR **06** 00:02:49.0±0.2, 47°.63N×8°.88E, h10km, ML1.7/8, Error ellipse: s-maj=6.7km s-min=4.4km az=14.0*
*STR **06** 00:02:48.3±0.3, 48°N±2°×°±°, h5km±4km, MLv2.1/34, Error ellipse: s-maj=0.0km s-min=0.0km az=153.3, preliminary*
*PRU **06** 00:02:52.1±0.0, 47°.23N×8°.70E, h0km*

ISC 06 00:02:48.2±0.7, 47°60N±0°.01×8°87E±0°.01, h17km±3km, n123, σ1§70/194, 43C-10D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
STEIN	**Stein am Rhein**	**0.07**	**0**	⇓P	*e*Pg	**Pg**	**00 02 51.1**		**-0.5**
STEIN					S	**Sg**	**00 02 53.4**		**-0.4**
STEIN	**Stein am Rhein**	**0.07**	**0**	⇓*i*P	*e*Pg	**Pg**	**00 02 51.1**		**-0.5**
STEIN					S	**Sg**	**00 02 53.5**		**-0.4**
WEIN	**Weingarten**	**0.11**	**132**	⇓P	g	**Pg**	**00 02 50.7**		**-1.3**
WEIN					S	**Sg**	**00 02 52.7**		**-1.7**
TRULL	**Truellikon**	**0.14**	**291**	⇑P	g	**Pg**	**00 02 52.0**		**-0.3**
TRULL					S	**Sg**	**00 02 54.8**		**-0.2**
STIEG	**Stiegenhof Hun**	**0.18**	**235**	⇑P	g	**Pg**	**00 02 52.1**		**-0.7**
STIEG					S	**Sg**	**00 02 55.1**		**-0.8**
WILA	**Wila**	**0.19**	**172**	⇓P	g	**Pg**	**00 02 51.8**		**-1.1**
WILA					S	**Sg**	**00 02 54.6**		**-1.6**
WILA	**Wila**	**0.19**	**172**	⇓*i*P	g	**Pg**	**00 02 51.8**		**-1.1**
WILA					S	**Sg**	**00 02 54.7**		**-1.5**
SCHS	**Schaffhausen,**	**0.19**	**305**	⇑P	g	**Pg**	**00 02 52.9**		**-0.1**
SCHS					S	**Sg**	**00 02 56.4**		**+0.1**
FLACH	**Flaach**	**0.21**	**262**	⇑P	g	**Pg**	**00 02 53.0**		**-0.2**
WALHA	**Wallhausen, DE**	**0.23**	**48**	⇑P	g	**Pg**	**00 02 53.2**		**-0.4**
WALHA					S	**Sg**	**00 02 56.9**		**-0.2**
WALHA	**Wallhausen, DE**	**0.23**	**48**	⇑*i*P	g	**Pg**	**00 02 53.2**		**-0.4**
WALHA					S	**Sg**	**00 02 57.0**		**-0.2**
EMING	**Emmingen-Lipti**	**0.29**	**357**	⇓P	g	**Pg**	**00 02 54.7**		**+0.1**
EMING					S	**Sb**	**00 02 59.4**		**-0.2**
EMING	**Emmingen-Lipti**	**0.29**	**357**	⇓*i*P	g	**Pg**	**00 02 54.7**		**+0.1**
EMING					S	**Sb**	**00 02 59.4**		**-0.2**
SLE	**Schleitheim**	**0.30**	**303**	⇑P	g	**Pg**	**00 02 54.8**		**0.0**
SLE	**Schleitheim**	**0.30**	**303**	⇑*i*P	g	**Pg**	**00 02 54.8**		**0.0**
SLE					S	**Sg**	**00 02 59.5**		**+0.3**
SLE	**Schleitheim**	**0.30**	**303**	⇑P	g	**Pg**	**00 02 54.7**		**0.0**
ZUR	**Degenried**	**0.30**	**220**	⇑P	g	**Pg**	**00 02 54.2**		**-0.6**
ZUR					S	**Sg**	**00 02 58.6**		**-0.6**
ZUR	**Degenried**	**0.30**	**220**	⇑P	g	**Pg**	**00 02 54.1**		**-0.6**
SGT00	**Sennhlsen**	**0.35**	**120**	⇑P	g	**Pg**	**00 02 54.6**		**-1.0**
BOBI	**Bbikon, Wasse**	**0.36**	**261**	⇑P	g	**Pg**	**00 02 55.7**		**-0.1**
EWZT2	**Wettswil, ZR**	**0.37**	**224**	⇑P	g	**Pg**	**00 02 55.4**		**-0.5**
SARE	**Arbon, Evangel**	**0.39**	**103**	⇑P	g	**Pg**	**00 02 55.5**		**-0.7**
SGT05	**Eggersriet**	**0.43**	**112**	⇑P	g	**Pg**	**00 02 56.2**		**-0.8**
METMA	**Mettma DE**	**0.43**	**285**	⇑P	g	**Pg**	**00 02 56.9**		**-0.1**
METMA	**Mettma DE**	**0.43**	**285**	⇑*i*P	g	**Pg**	**00 02 56.9**		**-0.1**
METMA					PmP		00 02 57.8		
METMA					S	**Sg**	**00 03 03.0**		**+0.1**
METMA					SmS		00 03 07.0		
GUT	**Gutenstein**	**0.50**	**19**	⇑P	g	**Pg**	**00 02 58.2**		**-0.1**
GUT	**Gutenstein**	**0.50**	**19**	⇑P	g	**Pg**	**00 02 58.2**		**-0.1**
GUT					PmP		00 03 08.1		
GUT					S	**Sb**	**00 03 05.6**		**+0.1**
GUT					SmS		00 03 08.9		
GUT	**Gutenstein**	**0.50**	**19**	⇑P	g	**Pg**	**00 02 58.1**		**-0.1**
SULZ	**Cheisacher**	**0.52**	**262**	P	g	**Pg**	**00 02 58.5**		**-0.1**
SULZ	**Cheisacher**	**0.52**	**262**	⇑P	g	**Pg**	**00 02 58.4**		**-0.1**
SULZ					SmS		00 03 09.3		
SULZ	**Cheisacher**	**0.52**	**262**	⇑P	g	**Pg**	**00 02 58.4**		**-0.1**
SULZ	**Cheisacher**	**0.52**	**262**	S	g	**Sg**	**00 03 06.1**		**+0.5**
BERGE	**Lenzkirch (DE)**	**0.54**	**300**	⇑P	g	**Pg**	**00 02 59.1**		**0.0**
BERGE	**Lenzkirch (DE)**	**0.54**	**300**	⇑*i*P	g	**Pg**	**00 02 59.0**		**0.0**
BERGE					S	**Sg**	**00 03 06.9**		**+0.6**
HAMIK	**Hmikon, Dlik**	**0.54**	**229**	⇑P	g	**Pg**	**00 02 58.5**		**-0.5**
EMMET	**Emmethof**	**0.60**	**255**	⇑P	g	**Pg**	**00 02 59.9**		**-0.2**
FELD	**Feldberg im Sc**	**0.65**	**296**	⇑P	g	**Pg**	**00 03 00.9**		**0.0**
FELD					PmP		00 03 02.3		
FELD					S	**Sg**	**00 03 10.0**		**+0.4**
FELD					SmS		00 03 12.0		
FELD	**Feldberg im Sc**	**0.65**	**296**	⇑P	g	**Pg**	**00 03 01.0**		**0.0**
PLONS	**Plons/SG**	**0.65**	**148**	*e*P	g	Pn	00 03 08.5		+5.8
PLONS					*e*Sg	**Sb**	**00 03 12.2**		**+2.2**
ROTHE	**Rothenfluh**	**0.65**	**259**	⇑P	g	**Pg**	**00 03 01.1**		**0.0**
DAGMA	**Lutertal, Dagm**	**0.69**	**238**	⇑P	g	**Pg**	**00 03 01.3**		**-0.4**
KIZ	**Kirchzarten**	**0.73**	**299**	⇑P	g	**Pg**	**00 03 02.6**		**0.0**
KIZ	**Kirchzarten**	**0.73**	**299**	⇑P	g	**Pg**	**00 03 02.6**		**0.0**
KIZ					S	**Sg**	**00 03 12.8**		**+0.5**
KIZ	**Kirchzarten**	**0.73**	**299**	⇑P	g	**Pg**	**00 03 02.5**		**0.0**
DAVA	**Damuels**	**0.76**	**114**	*e*Pn		**Pg**	**00 03 02.1**		**-0.9**
DAVA	1.2nm,0.1s				*e*Pg	**Pb**	**00 03 03.9**		**+0.9**
DAVA	2.2nm,0.1s,SNR=4.6				*e*Sg	**Sg**	**00 03 12.3**		**-0.8**
DAVA	26nm,0.2s,SNR=20 **Damuels**	**0.76**	**114**	⇑P	g	**Pg**	**00 03 02.1**		**-0.9**
DAVA					SmS		00 03 15.6		
ENDD	**Endenburg**	**0.77**	**279**	⇑P	g	**Pg**	**00 03 03.1**		**-0.2**
ENDD					PmP		00 03 04.0		
ENDD					SmS		00 03 15.4		
SFRA	**Frenkendorf**	**0.79**	**263**	⇓P	g	**Pg**	**00 03 03.9**		**+0.2**
BFO	**Black Forest**	**0.81**	**334**	⇑P	g	**Pg**	**00 03 04.2**		**0.0**
BFO					PmP		00 03 04.3		
BFO					S	**Sb**	**00 03 15.2**		**+0.7**
SBEG	**Bettingen Gewe**	**0.81**	**268**	⇑P	g	**Pg**	**00 03 03.9**		**-0.2**
BALST	**Balsthal**	**0.84**	**252**	⇑P	g	**Pg**	**00 03 04.2**		**-0.4**
BALST	**Balsthal**	**0.84**	**252**	⇑*i*P	g	**Pg**	**00 03 04.2**		**-0.4**
BALST					S	**Sg**	**00 03 15.3**		**-0.4**
BALST	**Balsthal**	**0.84**	**252**	⇑P	g	**Pg**	**00 03 04.2**		**-0.4**
UBR	**Ueberruh**	**0.84**	**84**	⇑P	g	**Pg**	**00 03 04.3**		**-0.4**
UBR	**Ueberruh**	**0.84**	**84**	⇑P	g	**Pg**	**00 03 04.2**		**-0.4**
UBR					PmP		00 03 05.3		
UBR					S	**Sg**	**00 03 15.8**		**0.0**
UBR					SmS		00 03 18.0		
MATTE	**Schuetzenmatte**	**0.88**	**267**	Pg		**Pg**	**00 03 05.5**		**+0.1**
BUCH	**Bad Urach**	**0.91**	**21**	Pn	g	**Pg**	**00 03 05.5**		**-0.4**
BUCH					PmP		00 03 06.2		
BUCH					SmS		00 03 19.0		
TUBL	**Tuebingen-Lenn**	**0.93**	**9**	Sg		**Sb**	**00 03 18.7**		**+0.8**
VOGT	**Vogtsburg - To**	**0.94**	**301**	Pg		**Pg**	**00 03 06.8**		**+0.4**
VOGT					Sg	**Sb**	**00 03 19.8**		**+1.6**
VOGT	**Vogtsburg - To**	**0.94**	**301**	Pg		**Pg**	**00 03 06.5**		**0.0**
OBER	**Oberstdorf**	**0.99**	**101**	*e*Pg		**Pg**	**00 03 06.9**		**-0.5**
OBER					*e*Sg	**Sg**	**00 03 20.2**		**-0.1**
OBER	**Oberstdorf**	**0.99**	**101**	⇓Pn		Pn	00 03 16.8		+9.5
OBER					Sn	Sn	00 03 36.1		+15
BOURR	**Bourrignon**	**1.13**	**260**	⇓Pn		**Pg**	**00 03 08.7**		**-0.6**
BOURR					Pg	**Pg**	**00 03 09.8**		**-0.3**
BOURR					Sg	**Sg**	**00 03 25.0**		**+0.1**
BOURR	**Bourrignon**	**1.13**	**260**	Sg		**Sg**	**00 03 22.9**		**-2.0**
BOURR	**Bourrignon**	**1.13**	**260**	Pg		**Pb**	**00 03 08.7**		**-0.6**
GALG	**Neuhausen (Enz**	**1.19**	**357**	Pn		**Pb**	**00 03 09.2**		**-1.1**
GALG					Sn	**Sb**	**00 03 24.1**		**-1.2**
GALG					Sg	**Sn**	**00 03 27.2**		**+1.5**
MOF	**Molkenrain**	**1.20**	**283**	Pg		**Pb**	**00 03 11.0**		**+0.5**
MOF					Sg	**Sb**	**00 03 27.2**		**+1.5**
RETA	**Reutte**	**1.29**	**94**	*e*Pg		**Pn**	**00 03 12.0**		**+0.6**
RETA	1.9nm,0.1s,SNR=15				*i* Sg	**Sb**	**00 03 29.4**		**+1.1**
RETA	3.1nm,0.2s **Reutte**	**1.29**	**94**	Pn		**Pn**	**00 03 12.0**		**+0.6**
WLS	**Welschbruch**	**1.30**	**309**	Pg		**Pn**	**00 03 12.7**		**+1.1**
WLS					Sg	**Sg**	**00 03 30.3**		**0.0**
WLS	**Welschbruch**	**1.30**	**309**	Pn		**Pn**	**00 03 12.7**		**+1.1**
WLS					Sg	**Sg**	**00 03 30.4**		**0.0**
ECH	**Echery**	**1.30**	**299**	Pg		**Pn**	**00 03 12.8**		**+1.1**
ECH					Sg	**Sb**	**00 03 30.1**		**+1.4**
ECH	**Echery**	**1.30**	**299**	Pg		**Pn**	**00 03 12.0**		**+0.4**
HDH	**Heidenheim-Cha**	**1.33**	**42**	Pg		**Pn**	**00 03 12.9**		**+0.9**
HDH					Sg	**Sg**	**00 03 31.1**		**-0.2**
CDF	**Champ du Feu**	**1.34**	**308**	*e*Pn		**Pn**	**00 03 12.7**		**+0.5**
CDF	**Champ du Feu**	**1.34**	**308**	*e*Pg		**Pg**	**00 03 14.3**		**+0.2**
CDF					*e*Sg	**Sg**	**00 03 31.6**		**0.0**
HINF	7.6nm,0.2s **Hinteralfeld**	**1.38**	**280**	*e*Pn		**Pn**	**00 03 13.2**		**+0.6**
HINF	**Hinteralfeld**	**1.38**	**280**	*e*Pg		**Pb**	**00 03 14.7**		**+1.2**
HINF					*e*Sg	**Sb**	**00 03 32.0**		**+1.2**
FETA	8.7nm,0.2s **Feichten**	**1.39**	**114**	*i* Pg		**Pn**	**00 03 13.9**		**+0.9**
FETA	0.8nm,0.2s				*e*Sg	**Sb**	**00 03 32.4**		**+1.0**
SZBH	4.1nm,0.2s,SNR=8.3 **soultz borehol**	**1.49**	**334**	Pn		**Pg**	**00 03 17.0**		**+0.1**
SZBH					Sn	**Sg**	**00 03 36.5**		**+0.1**
RONF	**Ronchamp**	**1.50**	**275**	Pn		**Pn**	**00 03 13.8**		**-0.6**
PART	**Garmisch-Parte**	**1.52**	**93**	*e*Pg		**Pn**	**00 03 16.4**		**+1.8**
PART					*e*Sg	**Sn**	**00 03 36.4**		**+2.3**
MOTA	**Moosalm**	**1.54**	**99**	*e*Pg		**Pn**	**00 03 16.4**		**+1.4**
MOTA	1.6nm,0.1s,SNR=6.5				*e*Sg	**Sb**	**00 03 37.0**		**+1.5**
TORNY	6.0nm,0.1s,SNR=5.1 **Torny/Romont**	**1.54**	**238**	Sn		**Sn**	**00 03 37.2**		**+2.7**
TORNY	**Torny/Romont**	**1.54**	**238**	Pn		**Pn**	**00 03 17.2**		**+2.3**
CHMF	**Charmoille**	**1.55**	**258**	Pn		**Pn**	**00 03 14.3**		**-0.7**
CHMF						Pg	**00 03 16.8**		**+0.4**
CHMF						Sn	**00 03 32.8**		**-1.9**
CHMF						Sb	**00 03 37.0**		**+1.3**
CHMF	**Charmoille**	**1.55**	**258**	Pn		**Pn**	**00 03 14.7**		**-0.3**
EMBD	**Embd, Matterta**	**1.56**	**208**	Pn		**Pn**	**00 03 16.7**		**+1.6**
EMBD	**Embd, Matterta**	**1.56**	**208**	Sn		**Sn**	**00 03 34.8**		**-0.1**
NORI	**Noerdlinger Ri**	**1.62**	**46**	*e*Sg		**Sb**	**00 03 39.4**		**+1.5**
SQTA	**Sankt Quirin**	**1.64**	**103**	*e*Pg		**Pn**	**00 03 17.9**		**+1.6**
SQTA	1.9nm,0.2s				*i* Sg	**Sb**	**00 03 39.8**		**+1.5**
PEB	7.4nm,0.3s **Petersbachel**	**1.66**	**333**	Pg		**Pb**	**00 03 19.2**		**+1.0**
PEB					Sg	**Sg**	**00 03 41.6**		**0.0**
HAU	**Haudompre**	**1.75**	**284**	*e*Pg		**Pb**	**00 03 21.3**		**+1.5**
HAU					*e*Sg	**Sb**	**00 03 43.5**		**+2.1**
BRANT	5.4nm,0.2s **Les Verrieres**	**1.76**	**249**	Pn		**Pn**	**00 03 18.8**		**+0.8**
BRANT	**Les Verrieres**	**1.76**	**249**	Sn		**Sb**	**00 03 43.3**		**+1.5**
BOUC	**Bouclans**	**1.81**	**260**	Pn		**Pn**	**00 03 18.1**		**-0.4**
BOUC						Pg	**00 03 22.1**		**+1.3**
SIND	**Sindeldorf**	**1.82**	**15**	Pg		**Pg**	**00 03 22.7**		**-0.4**
SIND						Sg	**00 03 46.1**		**-0.6**
AIGLE	**Aigle**	**1.82**	**227**	Pn		**Pn**	**00 03 21.6**		**+2.9**
WATA	**Walderalm**	**1.86**	**97**	*e*Pg		**Pn**	**00 03 21.9**		**+2.6**
WATA	0.4nm,0.1s				*e*Sg	**Sb**	**00 03 46.3**		**+1.7**
WTTA	1.3nm,0.1s **Wattenberg**	**1.91**	**99**	*e*Pg		**Pb**	**00 03 23.0**		**+0.4**
WTTA	0.6nm,0.2s				*e*Sg	**Sb**	**00 03 47.5**		**+1.3**
BRANT	2.1nm,0.2s **Les Verrieres**	**1.76**	**249**	Pn		**Pn**	**00 03 18.8**		**+0.8**
BRANT	**Les Verrieres**	**1.76**	**249**	Sn		**Sb**	**00 03 43.3**		**+1.5**
BOUC	**Bouclans**	**1.81**	**260**	Pn		**Pn**	**00 03 18.1**		**-0.4**
BOUC						Pg	**00 03 22.1**		**+1.3**
SIND	**Sindeldorf**	**1.82**	**15**	Pg		**Pg**	**00 03 22.7**		**-0.4**
SIND						Sg	**00 03 46.1**		**-0.6**
AIGLE	**Aigle**	**1.82**	**227**	Pn		**Pn**	**00 03 21.6**		**+2.9**
WATA	**Walderalm**	**1.86**	**97**	*e*Pg		**Pn**	**00 03 21.9**		**+2.6**
WATA	0.4nm,0.1s				*e*Sg	**Sb**	**00 03 46.3**		**+1.7**
WTTA	1.3nm,0.1s **Wattenberg**	**1.91**	**99**	*e*Pg		**Pb**	**00 03 23.0**		**+0.4**
WTTA	0.6nm,0.2s				*e*Sg	**Sb**	**00 03 47.5**		**+1.3**
GIMEL	2.1nm,0.2s **St. Georges /**	**2.07**	**240**	Pn		**Pn**	**00 03 21.3**		**-1.0**
CABF	**La Chapelle**	**2.14**	**243**	*e*Pg		**Pb**	**00 03 28.3**		**+1.8**
CABF					*e*Sn	**Sn**	**00 03 47.1**		**-2.3**
CABF					*e*Sg	**Sb**	**00 03 55.1**		**+2.3**
PAGF	3.9nm,0.2s **Fort de Pagny**	**2.31**	**296**	*e*Pg		**Pg**	**00 03 32.3**		**-0.3**
PAGF	baz=117				*e*Sg	**Sg**	**00 04 01.7**		**-0.9**
LPG	3.0nm,0.2s **La Plagne**	**2.56**	**216**	*e*Pg		**Pb**	**00 03 35.4**		**+1.6**
LPG					*e*Sn	**Sn**	**00 03 57.6**		**-2.4**
LPG					*e*Sg	**Sb**	**00 04 08.3**		**+3.2**
SFTF	2.1nm,0.3s **Sexfontaines**	**2.65**	**285**	*e*Pg		**Pg**	**00 03 38.3**		**-0.6**
SFTF					*e*Sn	**Sn**	**00 04 00.9**		**-0.8**
SFTF					*e*Sg	**Sg**	**00 04 11.7**		**-1.5**
SAVF	2.8nm,0.2s **Savonnieres en**	**2.71**	**293**	*e*Pn		**Pn**	**00 03 31.4**		**+0.6**
SAVF	**Savonnieres en**	**2.71**	**293**	*e*Pg		**Pg**	**00 03 39.2**		**-0.9**
MBDF	**Montbardon**	**3.22**	**208**	*e*Pn		**Pn**	**00 03 38.2**		**+0.1**
MBDF	**Montbardon**	**3.22**	**208**	*e*Pg		**Pb**	**00 03 47.7**		**+2.7**
MBDF	0.3nm,0.2s				*e*Sg	**Sb**	**00 04 28.4**		**+4.4**
ORIF	**Oris-en-Rattie**	**3.39**	**219**	*e*Pn		**Pn**	**00 03 39.8**		**-0.6**
ORIF	**Oris-en-Rattie**	**3.39**	**219**	*e*Pg		**Pb**	**00 03 50.7**		**+2.9**
ORIF	1.2nm,0.3s				*e*Sg	**Sb**	**00 04 33.6**		**+4.8**
LOR	**Lormes**	**3.42**	**266**	*e*Pg		**Pb**	**00 03 51.9**		**+3.7**
LOR	baz=84 1.8nm,0.2s				*e*Sg	**Sg**	**00 04 35.2**		**-2.7**
KHC	**Kasperske Hory**	**3.49**	**62**	*e*PN		**Pb**	**00 03 50.5**		**+1.0**
KHC					*e*SG	**Sb**	**00 04 36.6**		**+4.9**
SMF	**Signal de Mont**	**3.56**	**256**	*e*Pg		**Pb**	**00 03 54.1**		**+3.4**
SMF					*e*Sg	**Sb**	**00 04 39.4**		**+5.8**
SSF	1.6nm,0.2s **Saint Saulge**	**3.69**	**264**	*e*Pn		**Pn**	**00 03 44.2**		**-0.1**
SSF	**Saint Saulge**	**3.69**	**264**	*e*Pg		**Pb**	**00 03 56.6**		**+3.8**
SSF					*e*Sn	**Sn**	**00 04 24.8**		**-2.5**
SSF					*e*Sg	**Sg**	**00 04 43.4**		**-3.1**
AVF	0.8nm,0.3s **Avril sur Loir**	**3.85**	**260**	*e*Pn		**Pn**	**00 03 46.3**		**-0.2**
AVF	**Avril sur Loir**	**3.85**	**260**	*e*Pg		**Pb**	**00 03 59.8**		**+4.3**
AVF	0.5nm,0.2s				*e*Sg	**Sg**	**00 04 48.4**		**-3.3**
VIVF	**Saint-Julien-l**	**4.00**	**228**	*e*Pg		**Pb**	**00 04 01.1**		**+2.9**
VIVF					*e*Sn	**Sn**	**00 04 31.6**		**-3.6**
VIVF					*e*Sg	**Sb**	**00 04 52.6**		**+6.3**
BGF	0.9nm,0.2s **Bois d'Agland**	**4.25**	**258**	*e*Pn		**Pn**	**00 03 51.6**		**-0.4**
BGF	**Bois d'Agland**	**4.25**	**258**	*e*Pg		**Pg**	**00 04 07.2**		**-2.3**
BGF					*e*Sn	**Sn**	**00 04 37.7**		**-3.4**
BGF					*e*Sg	**Sg**	**00 05 00.8**		**-3.6**
TCF	2.2nm,0.5s **Toulx Ste Croi**	**4.75**	**256**	*e*Pn		**Pn**	**00 03 58.8**		**-0.1**
TCF	**Toulx Ste Croi**	**4.75**	**256**	*e*Pg		Pb	00 04 16.2		+5.3
TCF					*e*Sn	**Sn**	**00 04 49.7**		**-3.8**
TCF					*e*Sg	**Sb**	**00 05 15.7**		**+8.0**
	0.3nm,0.1s								

*AZER **06** 00:03:31.7±0.6, 43°.58N×45°.14E, h10km±14km, Error ellipse: s-maj=42.4km s-min=7.2km az=334.0*
*NORS **06** 00:03:32.5±0.0, 43°.46N×45°.33E, h22km, MPVA4.6*
*MOS **06** 00:03:33.5±0.0, 43°.44N×45°.07E, h7km, MPVA4.3*
*DRS **06** 00:03:36.0±0.0, 43°.62N×44°.87E, h23km*

ISC 06 00:03:33.7±1.1, 43°43N±0°.02×45°06E±0°.01, h5km±9km, n122, σ1§81/227, 6C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TRKR	**Terskaya**	**0.38**	**321**	⇑*i*PG		**Pb**	**00 03 43.3**		**+0.5**
TRKR					*e*S	**Sb**	**00 03 51.0**		**+2.0**
TRKR	**Terskaya**	**0.38**	**321**	*i* Pg		**Pb**	**00 03 43.1**		**+0.3**
TRKR					*i* Sg	**Sb**	**00 03 49.1**		**+0.2**
BTKR	**Batakoyurt**	**0.38**	**261**	*e*PG		**Pb**	**00 03 43.2**		**+0.3**
BTKR					*e*S	**Sb**	**00 03 51.4**		**+2.2**
BTKR	**Batakoyurt**	**0.38**	**261**	*e*Pg		**Pb**	**00 03 42.8**		**-0.2**
BTKR					*e*Sg	**Sb**	**00 03 49.5**		**+0.3**
KMGR	**Komgaron**	**0.40**	**201**	*e*PG		**Pb**	**00 03 43.3**		**0.0**
KMGR					*e*S	**Sb**	**00 03 51.4**		**+1.7**
KMGR	**Komgaron**	**0.40**	**201**	*i* Pg		**Pb**	**00 03 43.1**		**-0.2**
KMGR					*e*Sg	**Sb**	**00 03 50.8**		**+1.1**
VLKR	**Vladikavkaz**	**0.48**	**216**	*i* PG		**Pb**	**00 03 45.0**		**+0.4**
VLKR					*e*S	**Sb**	**00 03 53.4**		**+1.5**
VLKR	**Vladikavkaz**	**0.48**	**216**	*i* Pg		**Pb**	**00 03 45.0**		**+0.4**
VLKR					*e*Sg	**Sb**	**00 03 53.4**		**+1.5**
GROC	**Groznyy**	**0.58**	**113**	*i* PG		**Pb**	**00 03 47.0**		**+0.6**
GROC					*i* S	**Sn**	**00 03 57.2**		**-1.4**
GROC	**Groznyy**	**0.58**	**113**	*i* Pg		**Pb**	**00 03 47.0**		**+0.6**
GROC					*i* Sg	**Sn**	**00 03 57.2**		**-1.4**
ARNR	**Ardon**	**0.62**	**246**	*e*PG		**Pn**	**00 03 47.8**		**-1.3**
ARNR					*e*S	**Sn**	**00 03 58.8**		**-0.6**
ARNR	**Ardon**	**0.62**	**246**	*e*Pg		**Pn**	**00 03 47.8**		**-1.3**
ARNR					*e*Sg	**Sn**	**00 03 58.8**		**-0.6**
PRTR	**Priterechnaya**	**0.65**	**300**	*i* PG		**Pn**	**00 03 48.3**		**-1.2**
PRTR					*i* S	**Sn**	**00 03 59.6**		**-0.5**
PRTR	**Priterechnaya**	**0.65**	**300**	*i* Pg		**Pn**	**00 03 48.3**		**-1.2**
PRTR					*i* Sg	**Sn**	**00 03 59.6**		**-0.5**
STDR	**Stavd-Durt**	**0.73**	**265**	*e*PG		**Pn**	**00 03 50.6**		**0.0**
STDR					*e*S	**Sn**	**00 04 04.0**		**+1.9**
STDR	**Stavd-Durt**	**0.73**	**265**	*e*Pg		**Pn**	**00 03 50.5**		**-0.1**
STDR					*e*Sg	**Sn**	**00 04 01.9**		**-0.2**
KORR	**Kora**	**0.80**	**245**	*e*PG		**Pn**	**00 03 51.3**		**-0.4**
KORR					*e*S	**Sn**	**00 04 03.7**		**-0.3**
KORR	**Kora**	**0.80**	**245**	*e*Pg		**Pn**	**00 03 51.3**		**-0.4**
KORR					*e*Sg	**Sn**	**00 04 03.7**		**-0.3**
LACR	**Lac**	**0.82**	**223**	*e*PG		**Pn**	**00 03 51.1**		**-0.9**
LACR					*e*S	**Sn**	**00 04 06.0**		**+1.4**
LACR	**Lac**	**0.82**	**223**	*e*Pg		**Pb**	**00 03 50.9**		**+0.4**
LACR					*e*Sg	**Sn**	**00 04 04.7**		**+0.1**
PNSH	**Pansheti**	**0.86**	**202**	P		**Pb**	**00 03 51.3**		**+0.1**
PNSH				S		**Sn**	**00 04 06.0**		**+0.3**
PNSH	**Pansheti**	**0.86**	**202**	PG		**Pb**	**00 03 51.3**		**+0.1**
PNSH				S		**Sn**	**00 04 06.0**		**+0.3**
LSNR	**Lesken**	**0.91**	**261**	*e*PG		**Pn**	**00 03 53.5**		**+0.3**
LSNR					*e*S	**Sn**	**00 04 08.7**		**+2.0**
LSNR	**Lesken**	**0.91**	**261**	*e*Pg		**Pn**	**00 03 53.5**		**+0.3**
LSNR					*e*Sg	**Sn**	**00 04 08.7**		**+2.0**
DVE	**Vedeno**	**0.91**	**121**	*d* iPG		**Pb**	**00 03 51.6**		**-0.4**
DVE	**Vedeno**	**0.91**	**121**	*e*Pg		**Pn**	**00 03 54.0**		**+0.8**
DVE					*e*Sg	**Sn**	**00 04 08.8**		**+2.0**
ZEI	**Tsey**	**1.06**	**233**	*e*PG		**Pn**	**00 03 54.8**		**-0.7**
ZEI					*i* S	**Sn**	**00 04 10.9**		**+0.2**
ZEI	**Ts

	comp=Z,45nm,0.4s							
URKR				smax	smax			
	comp=N,77nm,0.6s							
URKR				smax	smax			
	comp=E,73nm,0.4s							
URKR				smax	smax			
	comp=N,91nm,0.6s							
URKR	**Urkarakh**	**2.28 123**	*e*Pn		**Pb**	**00 04 14.6**	**-0.8**	
URKR			*e*Sn		**Sb**	**00 04 43.2**	**-0.7**	
QZX	**Qazax, Azerbai**	**2.38 174**	P		**Pb**	**00 04 16.5**	**-0.6**	
QZX			S		**Sg**	**00 04 49.9**	**-0.4**	
SEKA	**Sheki**	**2.73 144**	P		**Pb**	**00 04 20.7**	**-2.3**	
	SNR=6.8							
SEKA			S		**Sb**	**00 04 56.7**	**-0.1**	
ARXR	**Arkhyz**	**2.76 274**	*i* PN		**Pn**	**00 04 19.4**	**+0.7**	
ARXR			*e*S		**Sn**	**00 04 53.9**	**+1.5**	
ARXR			pmax	pmax				
	comp=Z,113nm,1.0s							
ARXR			smax	smax				
	comp=Z,241nm,1.1s							
GDB	**GEDABAY**	**2.76 169**	P		**Pn**	**00 04 20.0**	**+1.3**	
	SNR=6.4							
GDB			S		**Sb**	**00 04 59.7**	**+2.0**	
AKT	**Akhty**	**2.78 134**	*e*PN		**Pb**	**00 04 21.2**	**-2.7**	
AKT			*e*S		**Sb**	**00 04 55.2**	**-3.0**	
AKT	**Akhty**	**2.78 134**	*e*Pn		**Pb**	**00 04 21.2**	**-2.7**	
AKT			*e*Sn		**Sb**	**00 04 55.2**	**-3.0**	
KSMR	**Kasumkent**	**2.91 128**	*e*PN		**Pn**	**00 04 22.4**	**+1.7**	
KSMR			*e*S		**Sn**	**00 04 58.6**	**+2.5**	
KSMR	**Kasumkent**	**2.91 128**	*e*Pn		**Pn**	**00 04 22.4**	**+1.7**	
KSMR			*e*Sn		**Sn**	**00 04 58.6**	**+2.5**	
GANJ	**Ganja**	**2.94 161**	P		**Pn**	**00 04 22.6**	**+1.6**	
	SNR=7.5							
GANJ			S		**Sb**	**00 05 02.4**	**-0.4**	
AHMR	**Akhmetovskaya**	**3.00 285**	*e*PN		**Pn**	**00 04 23.7**	**+1.9**	
AHMR			*e*S		**Sn**	**00 05 00.9**	**+2.8**	
AHMR	**Akhmetovskaya**	**3.00 285**	*e*Pn		**Pn**	**00 04 23.7**	**+1.9**	
AHMR			*e*Sn		**Sn**	**00 05 00.9**	**+2.8**	
QSAR	**Qusar**	**3.05 128**	P		**Pb**	**00 04 25.2**	**-3.2**	
QSAR			S		**Sb**	**00 05 04.8**	**-1.1**	
XNQ	**Khinaliq**	**3.21 134**	P		**Pn**	**00 04 27.0**	**+2.0**	
XNQ			S		**Sb**	**00 05 07.5**	**-3.3**	
QBL	**Gabala**	**3.23 139**	P		**Pb**	**00 04 28.1**	**-3.4**	
	SNR=4.6							
QBL			S		**Sb**	**00 05 08.3**	**-2.9**	
QUBA	**Quba, Azerbaij**	**3.28 128**	P		**Pn**	**00 04 28.2**	**+2.4**	
QUBA			S		**Sn**	**00 05 08.1**	**+2.9**	
GNI	**Garni**	**3.29 184**	*e*PN		**Pn**	**00 04 27.8**	**+1.8**	
GNI			*e*S		**Sn**	**00 05 08.5**	**+3.0**	
GNI			pmax	pmax				
	comp=Z,49nm,1.5s							
GNI			smax	smax				
	comp=Z,88nm,1.8s							
LABN	**Labinsk**	**3.35 293**	*i* PN		**Pn**	**00 04 27.9**	**+1.2**	
LABN			*e*S		**Sn**	**00 05 09.2**	**+2.4**	
LABN	**Labinsk**	**3.35 293**	*i* Pn		**Pn**	**00 04 27.9**	**+1.2**	
LABN			*e*Sn		**Sn**	**00 05 09.2**	**+2.4**	
IML	**Ismayilli**	**3.52 138**	S		**Sn**	**00 05 14.4**	**+3.4**	
BRDA	**Brd**	**3.54 153**	S		**Sb**	**00 05 17.4**	**-2.6**	
GUZR	**Guzeripl'**	**3.62 281**	⇑*i* PN		**Pn**	**00 04 32.0**	**+1.5**	
GUZR	**Guzeripl'**	**3.62 281**	*e*Pn		**Pn**	**00 04 32.6**	**+2.1**	
AGDM	**Agdam**	**3.66 155**	P		**Pn**	**00 04 32.5**	**+1.6**	
AGDM			S		**Sb**	**00 05 19.3**	**-4.2**	
SIZA	**Siyzn**	**3.70 128**	P		**Pn**	**00 04 32.5**	**+1.0**	
SIZA			S		**Sn**	**00 05 16.6**	**+1.1**	
HYR	**Heyderabad**	**3.71 182**	P		**Pn**	**00 04 34.8**	**+3.0**	
HYR			S		**Sb**	**00 05 20.8**	**-4.3**	
PQL	**Pirkuli**	**3.73 134**	P		**Pn**	**00 04 34.1**	**+2.1**	
PQL			S		**Sb**	**00 05 21.2**	**-4.4**	
ATGJ	**Altiaghaj**	**3.86 130**	P		**Pn**	**00 04 35.2**	**+1.4**	
ATGJ			S		**Sb**	**00 05 24.4**	**-5.0**	
ERBR	**Yeremizino-Bor**	**3.99 306**	*e*PN		**Pn**	**00 04 36.9**	**+1.5**	
ERBR			*e*S		**Sn**	**00 05 23.8**	**+1.3**	
ERBR	**Yeremizino-Bor**	**3.99 306**	*e*Pn		**Pn**	**00 04 36.9**	**+1.5**	
ERBR			*e*Sn		**Sn**	**00 05 23.8**	**+1.3**	
SBZ	**Shahbuz**	**4.05 175**	P		**Pn**	**00 04 39.7**	**+3.3**	
SBZ			S		**Sb**	**00 05 30.7**	**-4.1**	
LZRR	**Lazarevskoye**	**4.15 279**	*e*PN		**Pg**	**00 04 55.0**	**+1.8**	
LZRR			*i* S		**Sg**	**00 05 43.1**	**-3.8**	
LZRR	**Lazarevskoye**	**4.15 279**	*e*Pn		**Pg**	**00 04 55.0**	**+1.8**	
LZRR			*i* Sn		**Sg**	**00 05 43.1**	**-3.8**	
GOYR	**Goytkh**	**4.19 283**	*e*PN		**Pn**	**00 04 40.3**	**+2.1**	
GOYR			*e*S		**Sn**	**00 05 28.6**	**+1.1**	
GOYR	**Goytkh**	**4.19 283**	*e*Pn		**Pn**	**00 04 40.3**	**+2.1**	
GOYR			*e*Sn		**Sn**	**00 05 28.6**	**+1.1**	
NAX	**Nakhchivan**	**4.27 175**	P		**Pn**	**00 04 42.9**	**+3.5**	
	SNR=4.6							
NAX			S		**Sb**	**00 05 36.2**	**-4.8**	
ORD	**Ordubad**	**4.55 171**	P		**Pn**	**00 04 47.0**	**+3.7**	
ORD			S		**Sn**	**00 05 41.2**	**+4.6**	
YRD	**Yardimli**	**5.11 151**	P		**Pn**	**00 04 52.9**	**+1.8**	
YRD			S		**Sn**	**00 05 53.7**	**+3.2**	
LRK	**Lerik**	**5.39 151**	P		**Pn**	**00 04 56.7**	**+1.9**	
LRK			S		**Sn**	**00 05 59.7**	**+2.3**	
VRH	**Novokhopyorsk**	**8.10 345**	*e*P		Pn	00 05 26.6	-5.2	
VRH			pmax	pmax				
	comp=Z,20nm,1.1s							
VSR	**Storozhevoye**	**8.75 335**	*e*P		**Pn**	**00 05 40.8**	**0.0**	
VSR			pmax	pmax				
	comp=Z,1.0nm,0.8s							
VORR	**Voronezh**	**9.14 336**	*e*P		Pn	00 05 34.2	-12	
VORR			pmax	pmax				
	comp=Z,10.0nm,0.4s							
LPSR	**Galich'ya Gora**	**10.05 338**	*e*P		**Pn**	**00 05 55.5**	**-3.0**	
LPSR			pmax	pmax				
	comp=Z,9.0nm,1.0s							
KLMR	**Klimovskoe**	**17.77 351**	*e*P		**Pn**	**00 07 36.0**	**-5.4**	
KLMR			pmax	pmax				
	comp=Z,9.0nm,1.0s							
KLMR	**Klimovskoe**	**17.77 351**	*e*Pn		**Pn**	**00 07 36.1**	**-5.4**	
KLMR			AMP			00 07 47.0		
	comp=Z,9.0nm,1.0s							
KURK	**Kurchatov**	**23.83 60**	⇑*i* P		**P**	**00 08 47.4**	**-0.1**	
BFO	**Black Forest**	**25.86 294**	*i* P		**P**	**00 09 08.9**	**+2.8**	
MK31	**Makanchi Array**	**26.33 70**	*e*P		**P**	**00 09 09.7**	**-0.6**	

IDC 06 00:04:05.2±1.1, 27.10N×143.38E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=33.3km s-min=19.0km az=167.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.06**	**270**	Pn	Pn	00 04 28.1	+0.7
	30nm,0.3s,baz=86,slow=19,SNR=44						
JCJ				Sn	Sn	00 04 42.5	-0.4
	139nm,0.3s,baz=18,slow=20,SNR=14						
WRA	**Warramunga Arr**	**47.57**	**192**	P	P	00 12 42.2	-0.5
	0.9nm,1.0s,baz=12,slow=8.6,SNR=9.2						
	0.9nm,1.0s						
ILAR	**Eielson Array**	**57.20**	**29**	P	P	00 13 52.9	-0.8
	0.4nm,0.8s,baz=263,slow=6.3,SNR=4.6						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**79.68**	**52**	P	P	00 16 15.7	+0.5
	0.3nm,0.7s,baz=280,slow=7.2,SNR=2.9						
	0.3nm,0.7s						
LPAZ	**La Paz**	**148.89**	**76**	PKPbc	PKPbc	00 23 56.3	-0.1
	0.6nm,0.4s,baz=306,slow=8.7,SNR=4.4						

ROM 06 00:25:08.8±0.1, 42.842N±0.005×13.176E±0.007, h15km, ML1.5/7, 7C-2D, Error ellipse: s-maj=0.6km s-min=0.3km az=31.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**121**	P	Pg	00 25 11.7	0.0
T1242				S	Sg	00 25 13.7	0.0
T1242				AML	AML		
	comp=E,249μm,0.3s						
T1242				AML	AML		
	comp=N,288μm,0.7s						
T1242				AML	AML		
	comp=E,249μm,0.3s						
T1242				AML	AML		
	comp=N,288μm,0.7s						
T1242				AML	AML		
	comp=N,288μm,0.7s						
T1242				AML	AML		
	comp=E,249μm,0.3s						
T1242	**Castelluccio d**	**0.03**	**121**	P	Pg	00 25 11.7	0.0
T1242				S	Sg	00 25 13.7	0.0
T1242				AML	AML		
	comp=N,288μm,0.7s						
T1242				AML	AML		
	comp=E,249μm,0.3s						
NRCA	**Norcia**	**0.05**	**259**	⇓P	Pg	00 25 11.8	+0.1
NRCA				S	Sg	00 25 13.8	+0.1
NRCA				AML	AML		
	comp=E,668μm,0.1s						
NRCA				AML	AML		
	comp=N,1175μm,1.0s						
NRCA				AML	AML		
	comp=E,749μm,0.5s						
NRCA				AML	AML		
	comp=N,1290μm,0.1s						
NRCA				AML	AML		
	comp=E,749μm,0.5s						
NRCA				AML	AML		
	comp=N,1290μm,0.1s						
NRCA				AML	AML		
	comp=E,749μm,0.5s						
NRCA				AML	AML		
	comp=N,1290μm,0.1s						
NRCA	**Norcia**	**0.05**	**259**	P	Pg	00 25 11.7	0.0
NRCA				S	Sg	00 25 13.8	+0.1
NRCA				AML	AML		
	comp=E,164μm,1.5s						
NRCA				AML	AML		
	comp=N,172μm,1.5s						
NRCA				AML	AML		
	comp=E,749μm,0.5s						
NRCA				AML	AML		
	comp=N,1290μm,0.1s						
MC2	**Monte Cornacci**	**0.07**	**9**	⇑P	Pg	00 25 12.1	0.0
MC2				S	Sg	00 25 14.4	+0.1
T1244	**Arquata del Tr**	**0.12**	**133**	⇑P	Pb	00 25 12.7	-0.2
T1244				S	Sb	00 25 15.5	0.0
T1244	**Arquata del Tr**	**0.12**	**133**	P	Pb	00 25 12.7	-0.1
T1244				S	Sb	00 25 15.5	-0.1
T1244				AML	AML		
	comp=E,884μm,0.1s						
T1244				AML	AML		
	comp=N,488μm,1.2s						
T1202	**Accumoli, Fraz**	**0.14**	**165**	⇑P	Pb	00 25 13.1	-0.1
T1202				S	Sb	00 25 16.2	0.0
T1202	**Accumoli, Fraz**	**0.14**	**165**	P	Pb	00 25 13.1	-0.2
T1202				S	Sb	00 25 16.2	0.0
T1241	**Roccafluvione,**	**0.19**	**86**	⇑P	Pg	00 25 13.6	+0.3
T1241				S	Sg	00 25 16.7	+0.4
T1241	**Roccafluvione,**	**0.19**	**86**	P	Pg	00 25 13.5	+0.2
T1241				S	Sg	00 25 16.7	+0.4
T1241				AML	AML		
	comp=E,120μm,1.4s						
T1241				AML	AML		
	comp=E,120μm,1.4s						
T1241				AML	AML		
	comp=N,116μm,1.5s						
T1204	**Amatrice, Fraz**	**0.20**	**148**	P	Pg	00 25 13.7	+0.2
T1204	**Amatrice, Fraz**	**0.20**	**148**	AML	AML		
	comp=N,2165μm,0.1s						
T1204				AML	AML		
	comp=E,3170μm,0.8s						
FDMO	**Fiordimonte**	**0.20**	**342**	⇓P	Pg	00 25 13.8	+0.2
FDMO				S	Sg	00 25 17.2	+0.5
FDMO				AML	AML		
	comp=E,142μm,0.8s						
FDMO				AML	AML		
	comp=N,136μm,0.2s						
FDMO				AML	AML		
	comp=N,136μm,0.2s						
FDMO				AML	AML		
	comp=E,142μm,0.8s						
FDMO	**Fiordimonte**	**0.20**	**342**	P	Pg	00 25 13.7	+0.2
FDMO				S	Sg	00 25 17.2	+0.4
FDMO				AML	AML		
	comp=E,43μm,1.1s						
FDMO				AML	AML		
	comp=N,47μm,0.2s						
FDMO				AML	AML		
	comp=N,136μm,0.2s						
FDMO				AML	AML		
	comp=E,142μm,0.8s						
T1215	**Vallo di Nera,**	**0.23**	**260**	P	Pb	00 25 14.3	-0.3
T1215				S	Sb	00 25 18.3	-0.2
T1215	**Vallo di Nera,**	**0.23**	**260**	P	Pb	00 25 14.3	-0.3
T1215				S	Sb	00 25 18.2	-0.4
T1215				AML	AML		
	comp=E,116μm,1.6s						
T1215				AML	AML		
	comp=N,60μm,1.6s						
SMA1	**SAN MARTINO**	**0.24**	**151**	AML	AML		
	comp=E,2240μm,0.3s						
SMA1				AML	AML		
	comp=N,3335μm,0.3s						
SMA1				AML	AML		
	comp=E,2235μm,0.3s						
GUMA	**Gualdo di Mace**	**0.25**	**28**	⇑P	Pb	00 25 14.7	-0.3
GUMA				S	Sb	00 25 19.4	+0.2
GUMA				AML	AML		
	comp=E,232μm,0.3s						
GUMA				AML	AML		
	comp=N,180μm,0.4s						
GUMA				AML	AML		
	comp=N,180μm,0.4s						
GUMA				AML	AML		
	comp=E,232μm,0.3s						
GUMA	**Gualdo di Mace**	**0.25**	**28**	P	Pb	00 25 14.7	-0.3
GUMA				S	Sb	00 25 19.4	+0.2
GUMA				AML	AML		
	comp=N,180μm,0.4s						
GUMA				AML	AML		
	comp=E,232μm,0.3s						
CESI	**CESI - Serrava**	**0.26**	**309**	⇑P	Pg	00 25 14.8	+0.3
CESI				S	Sb	00 25 19.0	-0.4
LNSS	**Leonessa**	**0.26**	**203**	⇑P	Pg	00 25 14.7	+0.3
LNSS				AML	AML		
	comp=E,98μm,1.6s						
LNSS				AML	AML		
	comp=N,70μm,1.2s						
LNSS				AML	AML		
	comp=N,70μm,1.2s						
LNSS				AML	AML		
	comp=E,98μm,1.6s						
LNSS	**Leonessa**	**0.26**	**203**	P	Pg	00 25 14.7	+0.2
LNSS				S	Sb	00 25 19.2	-0.3
LNSS				AML	AML		
	comp=E,160μm,0.4s						
LNSS				AML	AML		
	comp=N,119μm,1.5s						
LNSS				AML	AML		
	comp=E,160μm,0.4s						
LNSS				AML	AML		
	comp=N,120μm,1.5s						
LNSS				AML	AML		
	comp=N,70μm,1.2s						
LNSS				AML	AML		
	comp=E,98μm,1.6s						
RM33	**Pellescritta (**	**0.33**	**175**	P	Pg	00 25 15.0	-0.7
RM33				AML	AML		
	comp=E,123μm,1.1s						
RM33				AML	AML		
	comp=N,88μm,0.3s						
RM33				AML	AML		
	comp=E,123μm,1.1s						
RM33				AML	AML		
	comp=N,88μm,0.3s						
RM33	**Pellescritta (**	**0.33**	**175**	P	Pg	00 25 15.0	-0.8
RM33				S	Sb	00 25 21.9	+0.3
RM33				AML	AML		
	comp=E,170μm,0.3s						
RM33				AML	AML		
	comp=E,170μm,0.3s						
RM33				AML	AML		
	comp=N,162μm,0.2s						
RM33				AML	AML		
	comp=E,123μm,1.1s						
RM33				AML	AML		
	comp=N,88μm,0.3s						
TERO	**Teramo**	**0.38**	**125**	P	Pg	00 25 16.6	0.0
TERO				AML	AML		
	comp=E,121μm,1.1s						
TERO				AML	AML		
	comp=N,152μm,0.1s						
TERO				AML	AML		
	comp=E,121μm,1.1s						
TERO				AML	AML		
	comp=N,152μm,0.1s						
TERO	**Teramo**	**0.38**	**125**	P	Pg	00 25 16.8	+0.2
TERO				S	Sg	00 25 22.3	+0.4
TERO				AML	AML		
	comp=E,372μm,0.6s						
TERO				AML	AML		
	comp=N,755μm,0.1s						
TERO				AML	AML		
	comp=E,121μm,1.1s						
TERO				AML	AML		
	comp=N,152μm,0.1s						
SNTG	**Esanatoglia**	**0.45**	**337**	P	Pg	00 25 18.1	+0.3
SNTG				S	Sb	00 25 25.0	+0.2
ATFO	**Monte Foce - G**	**0.69**	**320**	P	Pg	00 25 21.2	-1.0

MAN 06 00:25:09.6, 6.45N×123.81E, h12km, mb4.3, ML3.2, MS2.9, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.88**	**29**	⇓*i* P	Pg	00 25 26.4	-0.2
CTBH				*i* S	Sn	00 25 39.9	-0.6
GSPH	**General Santos**	**1.19**	**108**	⇑*e* P	Pg	00 25 33.2	+0.7
GSPH				*i* S	Sn	00 25 53.0	+4.8
KCP	**Kidapawan**	**1.38**	**66**	⇑*e* P	Pn	00 25 32.8	-2.0
KCP				*i* S	Sn	00 25 52.8	-0.3
BUKP	**Musuan**	**1.88**	**41**	⇓*e* P	Pb	00 25 43.2	-0.8
BUKP				*e*S	Sb	00 26 08.7	+1.1
CGP	**Cagayan de Oro**	**2.17**	**24**	⇑*e* P	Pb	00 25 49.7	+0.8
CGP				*e*S	Sg	00 26 18.6	-1.0
BIPH	**Bislig**	**3.06**	**56**	⇓*i* P	Pn	00 25 58.3	+0.5
BIPH				*i* S	Sn	00 26 29.2	-5.1

NOU ***06*** *00:25:56.9, 37.06S×179.77W, h139km, MLv5.0/10, East of North Island, N.Z.*
NEIC ***06*** *00:26:01.4±2.0, 37.23S±0.09×179.47E±0.07, h10km±2km, mb4.4/9, Error ellipse: s-maj=15.8km s-min=6.9km az=337.0*
IDC ***06*** *00:26:01.5±1.5, 36.82S×179.16E, h0km, mb3.9/4, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=31.2km s-min=30.2km az=50.0*
WEL ***06*** *00:26:05.4±1.3, 37.5S±5.1×17.9E±1.1, h5km, M4.1/17, ML4.2/10, MLv4.1/17, Error ellipse: s-maj=0.0km s-min=0.0km az=95.0*

ISC 06 00:26:01.8±2.0, 37.17S±0.05×179.47E±0.08, h14km±10km, n157, σ1190/163, mb4.1/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.01**	**247**		**Pn**	**00 26 21.8**	**+0.4**
MXZ					**Sg**	**00 26 32.6**	**-1.7**
MXZ	**Matakaoa Point**	**1.01**	**247**	P	**Pn**	**00 26 21.7**	**+0.2**
MXZ				S	**Sg**	**00 26 32.7**	**-1.6**
WMGZ	**Waiomatatini S**	**1.06**	**232**	P	**Pn**	**00 26 25.4**	**+3.2**
WMGZ				S	**Sn**	**00 26 40.2**	**+3.5**
PUZ	**Puketiti**	**1.32**	**227**	P	**Pg**	**00 26 29.0**	**+1.9**
PUZ				S	**Sn**	**00 26 47.2**	**+4.0**
PKGZ	**Pakihiroa**	**1.32**	**237**	P	**Pg**	**00 26 28.1**	**+0.9**
PKGZ				S	**Sn**	**00 26 45.3**	**+2.1**
HAZ	**Te Kaha**	**1.46**	**246**	P	**Pb**	**00 26 28.5**	**-0.3**
TWGZ	**Tauwhareparae**	**1.55**	**229**	P	**Pg**	**00 26 32.1**	**+0.6**
RUGZ	**Raukumara Rang**	**1.63**	**240**	P	**Pg**	**00 26 33.0**	**-0.1**
CNGZ	**Carnagh Statio**	**1.65**	**217**	P	**Pg**	**00 26 34.4**	**+1.0**
CNGZ				S	**Sg**	**00 26 58.4**	**+3.6**
TKGZ	**Te Karaka**	**1.80**	**225**	P	**Pg**	**00 26 35.5**	**-0.9**
WIZ	**White Island**	**1.85**	**258**	P	**Pn**	**00 26 32.9**	**-0.1**
MWZ	**Matawai**	**1.93**	**232**	P	**Pb**	**00 26 37.1**	**+0.4**
RIGZ	**Rimuhau**	**2.04**	**221**	P	**Pb**	**00 26 38.9**	**+0.2**
RAGZ	**Rawiri**	**2.10**	**230**	P	**Pb**	**00 26 39.5**	**-0.1**
WHRZ	**Whale Island**	**2.10**	**250**	P	**Pb**	**00 26 38.6**	**-1.0**
PRGZ	**Paritu Road**	**2.15**	**215**	P	**Pb**	**00 26 40.4**	**-0.1**
URZ	**Urewera**	**2.16**	**239**	Pn	**Pb**	**00 26 39.9**	**-0.8**
	110nm,0.3s,baz=31,slow=2.0,SNR=194						
URZ				Sn	**Sn**	**00 27 05.7**	**+1.7**
	72nm,0.3s,baz=31,slow=0.6,SNR=3.4						
	255nm,0.3s						
URZ	**Urewera**	**2.16**	**239**	P	**Pb**	**00 26 40.0**	**-0.6**
URZ	**Urewera**	**2.16**	**239**	P	**Pb**	**00 26 40.1**	**-0.6**
KNZ	**Kokohu**	**2.33**	**217**	P	**Pb**	**00 26 42.1**	**-1.4**
SNGZ	**Shannon Statio**	**2.33**	**226**	P	**Pb**	**00 26 42.3**	**-1.2**
MHGZ	**Mahia Peninsul**	**2.33**	**212**	P	**Pb**	**00 26 43.0**	**-0.5**
EDRZ	**Edgecumbe**	**2.36**	**246**	P	**Pb**	**00 26 42.4**	**-1.7**
MARZ	**Manawahe**	**2.37**	**249**	P	**Pn**	**00 26 41.9**	**+1.8**
OPRZ	**Ohinepanea**	**2.41**	**253**	P	**Pn**	**00 26 42.1**	**+1.3**
RTZ	**Ruatahuna**	**2.44**	**233**	P	**Pb**	**00 26 44.0**	**-1.5**
MUGZ	**Murupara**	**2.50**	**238**	P	**Pb**	**00 26 44.2**	**-2.3**
RAHZ	**Arahi**	**2.56**	**227**	P	**Pb**	**00 26 45.5**	**-2.0**
TARZ	**Mount Tarawera**	**2.58**	**245**	P	**Pb**	**00 26 45.8**	**-2.1**
MYRZ	**Mayor Island**	**2.58**	**267**	P	**Pn**	**00 26 44.0**	**+0.8**
WHHZ	**Waihua**	**2.59**	**222**	P	**Pb**	**00 26 46.2**	**-1.8**
TGRZ	**Tauranga**	**2.62**	**257**	P	**Pn**	**00 26 45.2**	**+1.7**
RPAZ	**Republican Roa**	**2.62**	**243**	P	**Pb**	**00 26 46.2**	**-2.2**
OMRZ	**Omania**	**2.63**	**248**	P	**Pn**	**00 26 46.1**	**+2.3**
MTHZ	**Maungataniwha**	**2.67**	**230**	P	**Pb**	**00 26 47.3**	**-2.0**
HLRZ	**Highlands Stat**	**2.70**	**246**	P	**Pb**	**00 26 47.3**	**-2.5**
KARZ	**Kaharoa**	**2.70**	**251**	P	**Pn**	**00 26 46.7**	**+1.9**
NGRZ	**Ngongotaha**	**2.77**	**249**	P	**Pb**	**00 26 48.9**	**-2.2**
PRRZ	**Plateau Road**	**2.77**	**241**	P	**Pn**	**00 26 48.0**	**+2.2**
HRRZ	**Handcock Road**	**2.80**	**243**	P	**Pn**	**00 26 48.6**	**+2.4**
ALRZ	**Allen Road**	**2.84**	**240**	P	**Pn**	**00 26 49.1**	**+2.4**
NMHZ	**Naumai**	**2.85**	**227**	P	**Pb**	**00 26 49.6**	**-2.8**
ARHZ	**Aropaoanui**	**2.85**	**222**	P	**Pb**	**00 26 49.6**	**-2.9**
KMRZ	**Kaimai**	**2.89**	**256**	P	**Pn**	**00 26 48.7**	**+1.4**
MRHZ	**Matea Rd**	**2.93**	**235**	P	**Pn**	**00 26 50.5**	**+2.5**
WPRZ	**Whakapapatarin**	**2.94**	**242**	P	**Pn**	**00 26 50.9**	**+2.7**
KUZ	**Kuaotunu**	**3.04**	**277**	P	**Pn**	**00 26 48.8**	**-0.6**
BKZ	**Black Stump Fm**	**3.08**	**229**			**00 26 52.3**	**+2.3**
BKZ				Sn	**Sn**	**00 27 27.4**	**+0.7**
BKZ	**Black Stump Fm**	**3.08**	**229**	P	**Pn**	**00 26 52.3**	**+2.3**
BKZ	**Black Stump Fm**	**3.08**	**229**	P	**Pn**	**00 26 52.4**	**+2.3**
CKHZ	**Cape Kidnapper**	**3.11**	**216**	P	**Pn**	**00 26 52.4**	**+2.0**
MCHZ	**McNeill Hill**	**3.15**	**223**	P	**Pn**	**00 26 53.2**	**+2.3**
KUTZ	**Kaahu Road**	**3.17**	**244**	P	**Pn**	**00 26 53.9**	**+2.6**
TOZ	**Tahuroa Road**	**3.21**	**259**	P	**Pn**	**00 26 51.9**	**+0.2**
KWHZ	**Kaweka Forest**	**3.29**	**226**	P	**Pn**	**00 26 54.9**	**+2.0**
KAHZ	**Kahuranaki**	**3.31**	**217**	P	**Pn**	**00 26 55.1**	**+1.8**
TLZ	**Tolley Road**	**3.32**	**249**	P	**Pn**	**00 26 55.5**	**+2.1**
WATZ	**Wairara**	**3.33**	**241**	P	**Pb**	**00 26 58.0**	**-2.6**
GRZ	**Great Barrier**	**3.35**	**285**	P	**Pn**	**00 26 54.3**	**+0.6**
RITZ	**Rihia Road**	**3.37**	**237**	P	**Pn**	**00 26 56.5**	**+2.4**
RATZ	**Rangitukua**	**3.38**	**239**	P	**Pn**	**00 26 56.9**	**+2.9**
MKAZ	**Moumakai**	**3.44**	**270**	P	**Pn**	**00 26 54.8**	**-0.2**
KRHZ	**Kereru**	**3.47**	**224**	P	**Pn**	**00 26 56.9**	**+1.5**
KATZ	**Kakaramea**	**3.48**	**238**	P	**Pn**	**00 26 58.5**	**+2.9**
WIAZ	**Waiheke Island**	**3.49**	**275**	P	**Pn**	**00 26 55.8**	**+0.1**
BHHZ	**Black Hill Sta**	**3.54**	**228**	P	**Pn**	**00 26 58.3**	**+2.0**
TMVZ	**Te Maari**	**3.55**	**236**	P	**Pn**	**00 26 58.4**	**+1.9**
ETVZ	**East Tongariro**	**3.55**	**235**	P	**Pn**	**00 26

LREZ	**Lake Rotokare**	**4.59 239**	P		**Pn**	**00 27 13.9**	**+3.1**
DREZ	**Durham Road**	**4.61 243**	P		**Pn**	**00 27 15.8**	**+4.7**
NEZ	**North Egmont**	**4.72 242**	P		**Pn**	**00 27 16.3**	**+3.6**
PKE	**Pukeiti**	**4.77 243**	P		**Pn**	**00 27 17.8**	**+4.6**
KHEZ	**Kahui Hut**	**4.79 242**	P		**Pn**	**00 27 17.7**	**+4.1**
OUZ	**Omahuta**	**5.14 291**			**Pn**	**00 27 19.9**	**+1.7**
OUZ	**Omahuta**	**5.14 291**	P		**Pn**	**00 27 19.0**	**+0.8**
OUZ	**Omahuta**	**5.14 291**	P		**Pn**	**00 27 19.1**	**+0.8**
MSWZ	**Moikau Station**	**5.35 216**	Pn		**Pn**	**00 27 20.3**	**-1.0**
MSWZ					**Sn**	**00 28 19.2**	**-3.5**
PLWZ	**Palliser**	**5.47 215**	Pn		**Pn**	**00 27 22.2**	**-0.7**
PLWZ					**Sn**	**00 28 22.3**	**-3.4**
SNZO	**South Karori**	**5.54 220**	Pn		**Pn**	**00 27 23.0**	**-0.8**
SNZO	**South Karori**	**5.54 220**	P		**Pn**	**00 27 23.9**	**+0.1**
TUWZ	**Tuamarina**	**6.04 224**	Pn		**Pn**	**00 27 29.6**	**-1.0**
TUWZ					**Sn**	**00 28 36.4**	**-3.1**
CMWZ	**Cape Campbell**	**6.12 220**	Pn		**Pn**	**00 27 31.0**	**-0.7**
NNZ	**Nelson**	**6.22 228**	Pn		**Pn**	**00 27 32.2**	**-0.9**
BSWZ	**Blackbirch Sta**	**6.27 222**	Pn		**Pn**	**00 27 33.9**	**+0.1**
BSWZ					**Sn**	**00 28 42.8**	**-2.5**
TKNZ	**Takaka Hill**	**6.36 231**	P		**Pn**	**00 27 35.4**	**+0.3**
QRZ	**Quartz Range**	**6.52 234**	Pn		**Pn**	**00 27 37.4**	**+0.2**
QRZ	**Quartz Range**	**6.52 234**	P		**Pn**	**00 27 37.3**	**0.0**
THZ	**Tophouse**	**6.84 226**	Pn		**Pn**	**00 27 41.0**	**-0.7**
THZ					**Sn**	**00 28 55.7**	**-3.7**
KHZ	**Kahutara**	**6.95 219**	Pn		**Pn**	**00 27 41.8**	**-1.2**
KHZ					**Sn**	**00 28 57.3**	**-4.5**
KHZ	**Kahutara**	**6.95 219**	P		**Pn**	**00 27 42.0**	**-1.1**
CTZ	**Chatham Island**	**7.20 157**	P		Pn	00 27 52.9	+6.3
LTZ	**Lake Taylor**	**7.87 222**	Pn		**Pn**	**00 27 55.1**	**-0.7**
MQZ	**McQueen's Vall**	**8.34 216**	Pn		**Pn**	**00 28 00.1**	**-2.1**
OXZ	**Oxford**	**8.37 220**	Pn		**Pn**	**00 28 01.2**	**-1.4**
RPZ	**Rata Peaks**	**9.15 222**	Pn		**Pn**	**00 28 11.4**	**-2.0**
	3.7nm,0.3s,baz=117,slow=2.6,SNR=16						
RPZ				Sn	Sn	00 29 46.0	-10
	4.6nm,0.3s,baz=23,slow=18,SNR=13						
RPZ	**Rata Peaks**	**9.15 222**	Pn		**Pn**	**00 28 12.6**	**-0.8**
RPZ	**Rata Peaks**	**9.15 222**	P		**Pn**	**00 28 12.6**	**-0.8**
LBZ	**Lake Benmore**	**10.07 221**	Pn		**Pn**	**00 28 24.5**	**-1.4**
ODZ	**Otahua Downs**	**10.30 217**	Pn		**Pn**	**00 28 28.1**	**-1.0**
ODZ					Sn	00 30 15.2	-9.0
ODZ	**Otahua Downs**	**10.30 217**	P		**Pn**	**00 28 27.1**	**-1.9**
MLZ	**Mavora Lakes**	**11.82 223**	Pn		**Pn**	**00 28 49.3**	**-0.6**
WHZ	**Wether Hill Ro**	**12.25 221**	Pn		**Pn**	**00 28 55.3**	**-0.5**
KOUNC	**Koumac, New Ca**	**21.19 317**	P		**P**	**00 30 45.8**	**-1.2**
KOUNC				IAmb	IAmb	00 31 10.4	
	comp=Z,16nm,0.9s						
STKA	**Stephens Creek**	**31.50 268**	P		**P**	**00 32 23.0**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=82,slow=7.1,SNR=2.9						
	comp=Z,1.1nm,0.7s						
BBOO	**Buckleboo**	**35.60 264**	P		**P**	**00 32 58.4**	**-0.6**
AS31	**Alice Springs**	**41.16 276**	P		**P**	**00 33 45.9**	**0.0**
ASAR	**Alice Springs**	**41.16 276**	P		**P**	**00 33 45.3**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=122,slow=8.2,SNR=18						
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**41.16 276**	P		**P**	**00 33 46.0**	**+0.1**
WR0	**Warramunga Arr**	**42.60 281**	P		**P**	**00 33 56.9**	**-0.7**
WR0				IAmb	IAmb	00 34 22.6	
	comp=Z,4.8nm,1.2s						
FORT	**Forrest**	**42.68 263**	P		**P**	**00 33 58.0**	**-0.2**
WB2	**Warramunga Arr**	**42.76 281**	P		**P**	**00 33 58.7**	**-0.2**
WB2				IAmb	IAmb	00 34 42.5	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**42.77 281**	P		**P**	**00 33 58.2**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=124,slow=7.2,SNR=16						
	comp=Z,0.6nm,0.4s						
WRA	**Warramunga Arr**	**42.77 281**	P		**P**	**00 33 59.0**	**0.0**
WB0	**Warramunga Arr**	**42.82 281**	P		**P**	**00 33 59.1**	**-0.4**
WB0				IAmb	IAmb	00 34 06.1	
	comp=Z,9.9nm,1.3s						
QSPA	**South Pole Qui**	**52.95 180**	P		P	00 35 22.2	+4.7
	comp=Z,0.7nm,0.7s,baz=107,slow=1.6,SNR=6.3						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**52.95 180**	P		**P**	**00 35 19.2**	**+1.7**
QSPA				IAmb	IAmb	00 35 44.8	
	comp=Z,9.3nm,1.5s						
H03S2	**Juan Fernandez**	**78.48 124**	T		T	02 04 31.5	
	baz=230						
H03S1	**Juan Fernandez**	**78.49 124**	T		T	02 04 34.3	
	baz=230						
H03S3	**Juan Fernandez**	**78.50 124**	T		T	02 04 32.9	
	baz=230						
H03N3	**Juan Fernandez**	**78.71 123**	T		T	02 04 42.6	
	baz=234						
H03N2	**Juan Fernandez**	**78.71 123**	T		T	02 04 47.0	
	baz=234						
H03N1	**Juan Fernandez**	**78.72 123**	T		T	02 04 41.2	
	baz=234						
ARCES	**ARCESS Array B**	**144.65 345**	PKP		**PKPdf**	**00 45 37.1**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=46,slow=3.5,SNR=4.7						
FINES	**FINESS Array B**	**150.55 334**	PKPbc		**PKiKP**	**00 45 53.2**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=45,slow=4.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**155.99 185**	PKPab		**PKPab**	**00 46 25.5**	**+2.4**
	comp=Z,0.4nm,0.8s,baz=164,slow=5.4,SNR=1.3						

KRSC 06 00:27:38.0±1.6,**54°66N**×**168°39E**,**h48**km±16km,**ML3.5,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.50 292**		P	Pn	00 28 04.2	+1.7
BKI				S	Sn	00 28 22.7	+1.9
KBTR	**Krutoberegovo**	**3.54 298**		P	Pn	00 28 33.1	+2.8
KBTR				S	Sn	00 29 15.1	+4.3
MKZ	**Mys Kozlova**	**3.88 271**		P	Pn	00 28 38.7	+3.7
TUMR	**Tumrok**	**4.79 281**		P	Pn	00 28 52.8	+5.1
UGLR	**Uglovaya**	**5.83 260**		P	Pn	00 29 05.8	+3.8
KRER	**Koryakskii**	**5.85 261**		P	Pn	00 29 06.8	+4.5
KOK	**Koryaka**	**5.92 261**		P	Pn	00 29 07.4	+4.3
GNL	**Ganaly**	**6.21 265**		P	Pn	00 29 12.2	+5.0
MTVR	**Mutnovka**	**6.46 254**		P	Pn	00 29 14.6	+4.0
GRL	**Gorelyy**	**6.49 255**		P	Pn	00 29 15.5	+4.5

*KRSC **06** 00:32:56.7±3.2,54°.45N×168°.40E,h20km±32km,ML3.6*
*IDC **06** 00:32:56.9±1.3,54°.49N×168°.62E,h0km,mb3.3/6,*
mbtmp3.4/8,ML3.0/2,Error ellipse: s-maj=47.2km
s-min=18.8km az=5.0

ISC 06 00:32:58.4±0.8,**54°.7N**±0°.2×**168°59E**±0°.07,**h10**km,**n22,**
σ1§**44/18,mb3.4/6,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.60 291**		P	**Pn**	**00 33 25.0**	**-1.8**
BKI				S	**Sn**	**00 33 44.9**	**-2.6**
KBTR	**Krutoberegovo**	**3.63 298**		P	**Pn**	**00 33 54.4**	**-0.3**
SHEM	**Shemya Is, Ala**	**3.80 118**		Pn	**Pn**	**00 33 55.0**	**-1.9**
	8.5nm,0.3s,baz=315,slow=5.7,SNR=6.4						
SHEM				Sn	**Sn**	**00 34 39.3**	**-2.5**
	4.2nm,0.3s,baz=288,slow=20,SNR=1.7						
	27nm,0.5s						
MKZ	**Mys Kozlova**	**3.99 271**		P	**Pn**	**00 34 00.2**	**+0.7**
TUMR	**Tumrok**	**4.90 281**		P	**Pn**	**00 34 14.0**	**+1.8**
UGLR	**Uglovaya**	**5.95 260**		P	**Pn**	**00 34 26.2**	**-0.3**
KRER	**Koryakskii**	**5.96 261**		P	**Pn**	**00 34 25.6**	**-1.2**
KOK	**Koryaka**	**6.03 261**		P	**Pn**	**00 34 27.1**	**-0.6**
GNL	**Ganaly**	**6.33 266**		P	**Pn**	**00 34 33.1**	**+1.4**
PETK	**Petropavlovsk-**	**6.62 261**		Pn	**Pn**	**00 34 35.5**	**-0.3**
	0.2nm,0.3s,baz=78,slow=15,SNR=1.6						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**24.09 47**		P	**P**	**00 38 14.2**	**+0.5**
	1.2nm,0.8s,baz=256,slow=7.8,SNR=12						
	1.2nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.89 183**		T	T	01 16 27.8	
	baz=1.5,slow=76,SNR=80						
H11N3	**WAKE ISLAND Hy**	**34.91 183**		T	T	01 16 28.8	
	baz=1.5,slow=76,SNR=80						
H11N1	**WAKE ISLAND Hy**	**34.91 183**		T	T	01 16 29.1	
	baz=1.5,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**36.11 183**		T	T	01 18 04.5	
	baz=1.4,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**36.13 183**		T	T	01 18 02.1	
	baz=1.4,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**36.13 183**		T	T	01 18 03.7	
	baz=1.4,slow=76,SNR=34						
SONM	**Songino Array**	**38.37 286**		P	**P**	**00 40 20.1**	**+0.7**
	0.3nm,0.5s,baz=63,slow=6.6,SNR=2.4						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**50.48 77**		P	**P**	**00 41 58.2**	**+1.7**
	0.3nm,0.6s,baz=304,slow=6.4,SNR=1.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**51.89 299**		P	**P**	**00 42 07.1**	**+0.4**
	0.3nm,0.7s,baz=57,slow=5.3,SNR=2.3						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**52.32 67**		P	**P**	**00 42 10.6**	**+0.3**
	0.1nm,0.3s,baz=337,slow=6.3,SNR=1.6						
	0.1nm,0.3s						
TXAR	**Lajitas Array**	**65.38 74**		P	**P**	**00 43 41.1**	**+0.1**
	0.3nm,0.7s,baz=307,slow=3.3,SNR=4.4						
	0.3nm,0.7s						

*IDC **06** 00:50:06.9±2.8,7°.98S×124°.00E,h162km±26km,mb3.2/4,*
mbtmp4.0/7,Error ellipse: s-maj=71.2km s-min=20.4km
az=63.0
*DJA **06** 00:50:07.2±0.6,8°.S±4°×12°.4E±°,h175km±6km,M3.7/10,*
MLv3.7/10
*NEIC **06** 00:50:09.2±2.1,8°.2S±0°.1×123°.89E±0°.08,h175km±8km,*
mb4.2/12,Error ellipse: s-maj=16.9km s-min=8.7km
az=205.0

ISC 06 00:50:07.9±0.8,**8°16S**±0°.06×**123°94E**±0°.07,**h176**km±7km,
n36,σ1§**69/45,mb3.7/6,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.61 168**		P	**Pn**	**00 50 41.1**	**+0.2**
SOEI				Sn	**Sn**	**00 51 06.1**	**-0.3**
SOEI	**Soe**	**1.61 168**		P	**Pn**	**00 50 41.0**	**+0.2**
SOEI				S	**Sn**	**00 51 05.8**	**-0.6**
MMRI	**Maumere**	**1.75 254**			**Pn**	**00 50 42.3**	**+0.3**
MMRI				Sn	**Sn**	**00 51 08.1**	**-0.3**
MMRI	**Maumere**	**1.75 254**		P	**Pn**	**00 50 42.7**	**+0.7**
MMRI				S	**Sn**	**00 51 09.8**	**+1.4**
BATI	**Baumata**	**2.05 188**		P	**Pn**	**00 50 45.6**	**+0.3**
	194nm,0.3s,baz=331,slow=1.6,SNR=59						
BATI				S	**Sn**	**00 51 13.6**	**-0.8**
	203nm,0.3s,baz=307,slow=20,SNR=3.2						
BATI	**Baumata**	**2.05 188**		P	**Pn**	**00 50 45.5**	**+0.2**
BATI				S	**Sn**	**00 51 14.6**	**+0.2**
EDFI	**Ende, Flores**	**2.30 255**		P	**Pn**	**00 50 48.6**	**+0.4**
EDFI				S	**Sn**	**00 51 20.4**	**+1.0**
BBSI	**Bau Bau**	**2.99 333**		P	**Pn**	**00 50 55.1**	**-1.1**
BASI	**Baing, Sumba**	**3.90 238**		P	**Pn**	**00 51 08.0**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.97 300**		P	**Pn**	**00 51 06.9**	**-1.6**
BKSI	**Bulukumba**	**4.73 306**		P	**Pn**	**00 51 17.0**	**-1.3**
WBSI	**Waikabubak, Su**	**4.73 252**		P	**Pn**	**00 51 18.3**	**-0.1**
MTN	**Manton Dam**	**8.46 124**			**Pn**	**00 52 07.4**	**-0.1**
KNRA	**Kununurra**	**8.83 148**			**Pn**	**00 52 11.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**10.01 171**		P	**Pn**	**00 52 25.5**	**-2.2**
	2.3nm,0.3s,baz=350,slow=15,SNR=38						
FITZ				S	Sn	00 54 10.9	-8.3
	16nm,0.5s,baz=308,slow=7.2,SNR=17						
FITZ	**Fitzroy Crossi**	**10.01 171**			**Pn**	**00 52 26.1**	**-1.7**
FITZ					**Sn**	**00 54 11.3**	**-7.8**
WB0	**Warramunga Arr**	**15.35 140**		P	**Pn**	**00 53 35.4**	**-0.2**
WB0				IAmb	IAmb	00 53 39.5	
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**15.45 140**		P	**Pn**	**00 53 35.8**	**-1.0**
	comp=Z,7.2nm,0.5s,baz=316,slow=12,SNR=76						
WRA				S	Sn	00 56 17.6	-12
	comp=Z,2.2nm,0.6s,baz=320,slow=24,SNR=7.4						
WRA	**Warramunga Arr**	**15.45 140**			**P**	**00 53 37.8**	**+0.4**
WRAB	**Tennant Creek**	**15.45 140**			**P**	**00 53 38.4**	**+0.9**
WRAB				IAmb	IAmb	00 53 40.6	
	comp=Z,8.4nm,0.6s						
WB2	**Warramunga Arr**	**15.45 140**		P	**P**	**00 53 38.5**	**+1.0**
WB2				IAmb	IAmb	00 53 40.6	
	comp=Z,7.8nm,0.5s						
WR0	**Warramunga Arr**	**15.59 140**		P	**P**	**00 53 40.6**	**+1.6**
WR0				IAmb	IAmb	00 53 41.8	
	comp=Z,8.8nm,0.5s						
AS31	**Alice Springs**	**18.13 149**		P	**Pn**	**00 54 09.3**	**+0.3**
ASAR	**Alice Springs**	**18.14 149**		P	**Pn**	**00 54 09.1**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=330,slow=12,SNR=41						
ASAR				S	**S**	**00 57 22.4**	**-3.3**
	comp=Z,0.6nm,0.5s,baz=314,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**18.14 149**		P	**Pn**	**00 54 09.3**	**+0.3**
COEN	**Coen**	**19.73 109**		P	**Pn**	**00 54 26.2**	**-1.7**
MORW	**Morawa**	**22.09 199**		P	**P**	**00 54 49.1**	**+0.1**
MORW				IAmb	IAmb	00 55 25.6	
	comp=Z,12nm,1.2s						
FORT	**Forrest**	**22.83 171**		P	**P**	**00 54 57.3**	**+1.4**
BBOO	**Buckleboo**	**26.98 157**		P	**P**	**00 55 34.9**	**+1.6**
STKA	**Stephens Creek**	**28.75 148**		P	**P**	**00 55 50.9**	**+1.7**
	comp=Z,3.1nm,1.0s,baz=328,slow=13,SNR=3.8						
	comp=Z,3.1nm,1.0s						
SONM	**Songino Array**	**57.88 346**		P	**P**	**00 59 40.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=141,slow=9.3,SNR=2.0						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**66.06 330**		P	**P**	**01 00 35.5**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=117,slow=8.3,SNR=2.8						
	comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**66.06 330**		P	**P**	**01 00 36.7**	**+0.7**
VNDA	**Vanda**	**72.09 172**		P	**P**	**01 01 13.8**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=318,slow=7.3,SNR=6.8						
	comp=Z,0.3nm,0.5s						
VNDA	**Vanda**	**72.09 172**		P	**P**	**01 01 14.8**	**+2.3**
QSPA	**South Pole Qui**	**81.82 180**		P	**P**	**01 02 07.7**	**+0.4**
QSPA				IAmb	IAmb	01 02 09.6	
	comp=Z,4.3nm,1.4s						

*IDC **06** 00:57:20.0±3.5,29°.98S×177°.59W,h48km±32km,mb3.8/3,*
mbtmp4.0/3,Error ellipse: s-maj=43.9km s-min=38.6km
az=178.0

ISC 06 00:57:18.6±2.1,**30°1S**±0°.1×**177°5W**±0°.3,**h35**km,**n13,**
σ0§**84/7,mb4.1/3,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.89 338**		P	**Pn**	**00 57 34.5**	**0.0**
	2µm,0.3s,baz=180,slow=19,SNR=70						
RAO				S	**Sn**	**00 57 46.6**	**+0.4**
	3µm,0.3s,baz=180,slow=20,SNR=16						
STKA	**Stephens Creek**	**34.94 256**		P	**P**	**01 04 07.8**	**+0.6**
	1.5nm,0.4s,baz=108,slow=9.6,SNR=5.7						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**43.53 266**		P	**P**	**01 05 19.1**	**0.0**
	0.3nm,0.3s,baz=110,slow=8.0,SNR=5.5						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**44.49 272**		P	**P**	**01 05 25.7**	**-1.1**
	0.9nm,0.3s,baz=111,slow=8.1,SNR=44						
	0.9nm,0.3s						
H03S2	**Juan Fernandez**	**80.31 123**		T	T	02 38 46.6	
	baz=238,SNR=8.8						
H03S1	**Juan Fernandez**	**80.32 123**		T	T	02 38 46.4	
	baz=238,SNR=9.1						
H03S3	**Juan Fernandez**	**80.32 123**		T	T	02 38 55.8	
	baz=238,SNR=12						
H03N3	**Juan Fernandez**	**80.50 123**		T	T	02 39 00.3	
	baz=241,slow=72,SNR=4.4						
H03N2	**Juan Fernandez**	**80.50 123**		T	T	02 39 01.4	
	baz=241,slow=72,SNR=4.2						
H03N1	**Juan Fernandez**	**80.51 123**		T	T	02 38 57.6	
	baz=241,slow=72,SNR=5.7						
FINES	**FINESS Array B**	**144.98 340**		PKP	PKPbc	01 16 50.7	0.0
	1.7nm,0.5s,baz=48,slow=4.1,SNR=24						
BRTR	**Keskin Array B**	**152.80 299**		PKPbc	**PKPbc**	**01 17 11.2**	**-0.8**
	0.4nm,0.7s,baz=46,slow=4.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**163.14 177**		PKPab	**PKPab**	**01 18 08.5**	**+0.7**
	0.2nm,0.6s,baz=163,slow=3.4,SNR=1.5						

*IDC **06** 01:04:34.1±17.0,12°.94S×167°.07E,h185km±151km,*
mb3.6/6,mbtmp4.0/6,Error ellipse: s-maj=79.9km
s-min=53.7km az=127.0

ISC 06 01:04:33.5±2.0,**12°9S**±0°.4×**167°1E**±0°.5,**h180**km,**n8,**
σ0§**33/8,mb3.9/6,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.05 227**		P	**P**	**01 10 26.1**	**+0.3**
	2.1nm,0.7s,baz=56,slow=10,SNR=4.6						
	2.1nm,0.7s						
WRA	**Warramunga Arr**	**32.14 253**		P	**P**	**01 10 44.1**	**-0.1**
	0.5nm,0.6s,baz=85,slow=9.3,SNR=9.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**33.19 246**		P	**P**	**01 10 53.0**	**-0.4**
	1.7nm,0.5s,baz=78,slow=9.0,SNR=20						
	1.7nm,0.5s						
ILAR	**Eielson Array**	**84.88 18**		P	**P**	**01 16 47.6**	**+0.1**
	0.5nm,0.6s,baz=227,slow=6.1,SNR=6.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**95.79 317**		P	**P**	**01 17 39.5**	**+0.2**
	0.2nm,0.5s,baz=90,slow=4.6,SNR=2.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**95.85 324**		P	**P**	**01 17 39.4**	**+0.2**
	0.4nm,0.3s,baz=131,slow=5.9,SNR=2.2						
	0.4nm,0.3s						

ARCES	**ARCESS Array B**	**118.48 346**	PKP		**PKPdf**	**01 22 58.7**	**-0.4**
	2.3nm,0.9s,baz=82,slow=1.9,SNR=13						
FINES	**FINESS Array B**	**124.00 339**	PKP		**PKPdf**	**01 23 09.7**	**-0.2**
	2.0nm,1.0s,baz=64,slow=3.2,SNR=3.4						

*IDC **06** 01:09:25.1±3.4,36°.75S×178°.87E,h0km,mb3.8/2,*
mbtmp3.8/3,ML3.6/1,Error ellipse: s-maj=73.3km
s-min=32.1km az=118.0
*NOU **06** 01:09:25.4,37°.45S×179°.54E,h0km,MLv4.3/4,Off E.*
Coast of N. Island, N.Z.
*WEL **06** 01:09:27.2±1.5,37°.S±6°×17°.9E±1°.3,h5km,M3.3/7,*
ML3.6/7,MLv3.3/7,Error ellipse: s-maj=0.0km
s-min=0.0km az=94.2

ISC 06 01:09:23.7±2.6,**36°89S**±0°.06×**179°1E**±0°.1,**h6**km±13km,
n58,σ1§**56/59,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.94 225**		P	**Pn**	**01 09 43.1**	**-0.3**
MXZ				S	**Sg**	**01 09 53.9**	**-0.1**
WMGZ	**Waiomatatini S**	**1.09 212**		P	**Pn**	**01 09 46.9**	**+1.5**
WMGZ				S	**Sn**	**01 10 01.1**	**+0.3**
PKGZ	**Pakihiroa**	**1.30 220**		P	**Pg**	**01 09 49.9**	**+1.2**
PKGZ				S	**Sg**	**01 10 06.5**	**+0.9**
PUZ	**Puketiti**	**1.37 211**		P	**Pg**	**01 09 50.8**	**+0.9**
PUZ				S	**Sg**	**01 10 08.5**	**+0.8**
HAZ	**Te Kaha**	**1.38 231**		P	**Pb**	**01 09 49.6**	**-0.3**
TWGZ	**Tauwhareparae**	**1.58 215**		P	**Pg**	**01 09 54.0**	**+0.1**
RUGZ	**Raukumara Rang**	**1.58 227**		P	**Pg**	**01 09 54.4**	**+0.4**
CNGZ	**Carnagh Statio**	**1.75 205**		P	**Pb**	**01 09 55.9**	**-0.3**
CNGZ				S	**Sb**	**01 10 18.6**	**+0.2**
TKGZ	**Te Karaka**	**1.85 213**		P	**Pb**	**01 09 56.8**	**-1.1**
MWZ	**Matawai**	**1.93 221**		P	**Pb**	**01 09 58.6**	**-0.6**
WHRZ	**Whale Island**	**1.97 240**		P	**Pb**	**01 10 00.4**	**+0.4**
RAGZ	**Rawiri**	**2.10 220**		P	**Pb**	**01 10 01.1**	**-1.2**
URZ	**Urewera**	**2.11 229**		Pn	**Pb**	**01 10 01.1**	**-1.1**
	23nm,0.3s,baz=31,slow=14,SNR=62						
URZ				Sn	**Sb**	**01 10 27.1**	**-1.6**
	16nm,0.3s,baz=307,slow=20,SNR=21						
	41nm,0.3s						
URZ	**Urewera**	**2.11 229**		P	**Pb**	**01 10 01.4**	**-0.9**
URZ	**Urewera**	**2.11 229**		P	**Pb**	**01 10 01.2**	**-1.1**
RIGZ	**Rimuhau**	**2.11 211**		P	**Pn**	**01 10 00.2**	**+0.7**
PRGZ	**Paritu Road**	**2.26 206**		P	**Pn**	**01 10 01.8**	**+0.3**
EDRZ	**Edgecumbe**	**2.26 237**		P	**Pb**	**01 10 04.8**	**-0.1**
OPRZ	**Ohinepanea**	**2.27 244**		P	**Pb**	**01 10 03.4**	**-1.5**
SNGZ	**Shannon Statio**	**2.36 217**		P	**Pb**	**01 10 04.8**	**-1.9**
KNZ	**Kokohu**	**2.42 208**		P	**Pn**	**01 10 03.4**	**-0.3**
RTZ	**Ruatahuna**	**2.42 224**		P	**Pb**	**01 10 05.4**	**-2.3**
MHGZ	**Mahia Peninsul**	**2.46 203**		P	**Pn**	**01 10 04.6**	**+0.3**
MUGZ	**Murupara**	**2.46 229**		P	**Pn**	**01 10 05.0**	**+0.7**
TARZ	**Mount Tarawera**	**2.48 237**		P	**Pb**	**01 10 08.7**	**-0.1**
RAHZ	**Arahi**	**2.59 218**		P	**Pb**	**01 10 07.7**	**-2.8**
MTHZ	**Maungataniwha**	**2.67 222**		P	**Pn**	**01 10 08.6**	**+1.4**
KUZ	**Kuaotunu**	**2.75 272**		P	**Pn**	**01 10 09.6**	**+1.4**
NMHZ	**Naumai**	**2.87 219**		P	**Pn**	**01 10 11.4**	**+1.4**
ARHZ	**Aropaoanui**	**2.91 215**		P	**Pn**	**01 10 11.0**	**+0.5**
TOZ	**Tahuroa Road**	**3.02 253**		P	**Pb**	**01 10 14.4**	**-3.3**
BKZ	**Black Stump Fm**	**3.08 222**		P	**Pn**	**01 10 13.8**	**+0.9**
BKZ	**Black Stump Fm**	**3.08 222**		P	**Pn**	**01 10 13.5**	**+0.6**
MCHZ	**McNeill Hill**	**3.19 216**		P	**Pn**	**01 10 14.4**	**+0.1**
MKAZ	**Moumakai**	**3.19 265**		P	**Pn**	**01 10 16.1**	**+1.8**
WIAZ	**Waiheke Island**	**3.21 271**		P	**Pn**	**01 10 17.1**	**+2.4**
KWHZ	**Kaweka Forest**	**3.31 219**		P	**Pn**	**01 10 16.2**	**+0.1**
KAHZ	**Kahuranaki**	**3.40 211**		P	**Pn**	**01 10 16.4**	**-0.8**
MBAZ	**Motutapu North**	**3.41 271

PKGZ S Sb 01 39 56.0 +1.2
PUZ Puketiti 1.22 212 P Pn 01 39 41.7 +1.1
PUZ S Sb 01 39 56.7 +0.2
HAZ Te Kaha 1.25 235 P Pn 01 39 39.9 -1.1
TWGZ Tauwhareparae 1.43 217 P Pn 01 39 44.9 +1.3
RUGZ Raukumara Rang 1.44 230 P Pn 01 39 44.0 +0.1
RUGZ S Sn 01 40 04.1 +1.5
WIZ White Island 1.58 251 P Pn 01 39 44.2 -1.4
WIZ S Sn 01 40 02.3 -3.4
WSRZ White Island S 1.58 252 P Pn 01 39 45.8 +0.1
CNGZ Carnagh Statio 1.60 205 P Pn 01 39 47.3 +1.4
CNGZ S Sn 01 40 08.2 +2.0
TKGZ Te Karaka 1.70 214 P Pn 01 39 48.7 +1.4
MWZ Matawai 1.78 223 P Pn 01 39 49.5 +1.1
WHRZ Whale Island 1.86 243 P Pn 01 39 49.1 -0.3
WHRZ S Sn 01 40 13.6 +0.9
RAGZ Rawiri 1.96 221 P Pn 01 39 52.3 +1.4
RIGZ Rimuhau 1.96 211 P Pn 01 39 51.5 +0.6
URZ Urewera 1.98 231 Pn Pn 01 39 52.9 +1.9
134nm,0.3s,baz=31,slow=5.3,SNR=128
URZ Sn Sn 01 40 15.6 +0.1
242nm,0.3s,baz=211,slow=21,SNR=37
URZ LR LR 01 41 04.2
comp=Z,968nm,18.4s,baz=32,slow=50
554nm,0.5s
URZ Urewera 1.98 231 Pn 01 39 51.8 +0.8
URZ Sn Sn 01 40 15.4 -0.2
URZ Urewera 1.98 231 P Pn 01 39 52.0 +0.9
URZ S Sn 01 40 14.9 -0.6
URZ Urewera 1.98 231 P Pn 01 39 52.1 +1.1
PRGZ Paritu Road 2.10 206 P Pn 01 39 53.4 +0.5
EDRZ Edgecumbe 2.14 239 P Pn 01 39 56.1 +2.7
OPRZ Ohinepanea 2.16 247 P Pn 01 39 53.3 -0.3
SNGZ Shannon Statio 2.21 218 P Pn 01 39 55.2 +0.8
KNZ Kokohu 2.27 209 P Pn 01 39 55.1 0.0
MYRZ Mayor Island 2.27 263 P Pn 01 39 55.7 +0.6
RTZ Ruatahuna 2.28 226 P Pn 01 39 56.5 +1.1
MHGZ Mahia Peninsul 2.30 203 P Pn 01 39 55.7 +0.2
MUGZ Murupara 2.32 231 P Pn 01 39 57.0 +1.2
MKRZ Makatiti 2.34 241 P Pn 01 39 59.0 +2.8
TGRZ Tauranga 2.34 252 P Pn 01 39 57.4 +1.3
TARZ Mount Tarawera 2.36 239 P Pn 01 39 58.1 +1.7
OMRZ Omania 2.39 243 P Pn 01 39 58.0 +1.2
RRRZ Republican Roa 2.41 237 P Pn 01 39 59.0 +1.9
RAHZ Arahi 2.44 219 P Pn 01 39 58.6 +1.0
KARZ Kaharoa 2.45 246 P Pn 01 39 59.6 +2.0
HLRZ Highlands Stat 2.47 240 P Pn 01 39 60.0 +2.0
WHHZ Waihua 2.50 215 P Pn 01 39 59.6 +1.4
NGRZ Ngongotaha 2.52 244 P Pn 01 40 01.4 +2.7
MTHZ Maungataniwha 2.53 224 P Pn 01 39 59.7 +1.1
PRRZ Plateau Road 2.57 235 P Pn 01 40 00.6 +1.3
HSRZ Hossack Road 2.58 240 P Pn 01 40 01.8 +2.4
HRRZ Handcock Road 2.59 238 P Pn 01 40 01.9 +2.4
KMRZ Kaimai 2.62 251 P Pn 01 40 00.6 +0.7
ALRZ Allen Road 2.64 234 P Pn 01 40 01.4 +1.2
KUZ Kuaotunu 2.70 275 P Pn 01 40 00.4 -0.6
NMHZ Naumai 2.72 220 P Pn 01 40 02.6 +1.1
WPRZ Whakapapataran 2.74 236 P Pn 01 40 03.5 +1.9
ARHZ Aropaoanui 2.76 216 P Pn 01 40 02.3 +0.4
MRHZ Matea Rd 2.76 229 P Pn 01 40 03.4 +1.3
TOZ Tahuroa Road 2.92 255 P Pn 01 40 03.4 -0.7
BKZ Black Stump Fm 2.94 223 Pn 01 40 04.6 +0.2
BKZ Black Stump Fm 2.94 223 P Pn 01 40 04.9 +0.5
BKZ Black Stump Fm 2.94 223 P Pn 01 40 05.0 +0.6
KUTZ Kaahu Road 2.95 240 P Pn 01 40 06.2 +1.7
GRZ Great Barrier 3.01 284 P Pn 01 40 05.6 +0.4
CKHZ Cape Kidnapper 3.05 210 P Pn 01 40 05.2 -0.6
TLZ Tolley Road 3.08 244 P Pn 01 40 09.1 +2.8
MKAZ Moumakai 3.13 268 P Pn 01 40 06.5 -0.4
WIAZ Waiheke Island 3.16 273 P Pn 01 40 07.4 0.0
KWHZ Kaweka Forest 3.17 220 P Pn 01 40 07.5 +0.1
RATZ Rangitukua 3.18 234 P Pn 01 40 10.8 +3.1
RITZ Rihia Road 3.19 232 P Pn 01 40 09.3 +1.5
KAHZ Kahuranaki 3.25 211 P Pn 01 40 07.7 -0.9
KATZ Kakaramea 3.29 233 P Pn 01 40 11.5 +2.2
ETAZ East Tamaki Re 3.32 270 P Pn 01 40 10.4 +1.0
MBAZ Motutapu North 3.35 273 P Pn 01 40 10.7 +0.7
KRHZ Kereru 3.36 218 P Pn 01 40 10.1 0.0
TMVZ Te Maari 3.37 231 P Pn 01 40 10.8 +0.5
NTVZ North Tongarir 3.38 231 P Pn 01 40 10.9 +0.5
KRVZ Karewarewa 3.40 232 P Pn 01 40 11.4 +0.7
BHHZ Black Hill Sta 3.41 223 P Pn 01 40 11.0 +0.2
OTVZ Oturere 3.42 231 P Pn 01 40 11.9 +0.8
ABAZ Army Bay 3.43 276 P Pn 01 40 12.4 +1.4
NNVZ North Ngauruho 3.44 231 P Pn 01 40 12.2 +0.9
WTVZ West Tongariro 3.44 232 P Pn 01 40 12.5 +1.2
SNVZ South Ngauruho 3.45 231 P Pn 01 40 11.9 +0.4
PXZ Pawanui 3.45 209 P Pn 01 40 10.0 -1.3
PXZ S Sn 01 40 48.1 -3.9
NGZ Ngauruhoe 3.47 231 P Pn 01 40 12.5 +0.8
HBAZ Herne Bay Bore 3.48 272 P Pn 01 40 13.8 +2.1
TUVZ Tukino 3.49 229 P Pn 01 40 13.0 +0.9
TWVZ Taurewa 3.51 234 P Pn 01 40 13.6 +1.3
MOVZ Moawhango 3.52 227 P Pn 01 40 12.4 0.0
AWAZ Awhitu Peninsu 3.54 229 P Pn 01 40 13.5 +1.0
WNVZ Wahianoa 3.56 229 P Pn 01 40 13.6 +0.5
WTAZ Waiatarua 3.60 270 P Pn 01 40 14.3 +0.9
RVAZ Riverhead Bore 3.61 273 P Pn 01 40 15.1 +1.6
HIZ Hauiti 3.65 245 Pn 01 40 12.4 -1.7
HIZ Hauiti 3.65 245 P Pn 01 40 15.9 +1.9
HIZ Hauiti 3.65 245 P Pn 01 40 15.5 +1.4
PNHZ Pukenui 3.65 217 P Pn 01 40 12.9 -1.2
WPHZ Waipukurau 3.66 213 P Pn 01 40 13.1 -1.1
PKVZ Pokaka 3.70 231 P Pn 01 40 15.9 +1.2
PRHZ Porangahau 3.75 210 P Pn 01 40 14.0 -1.4
TSZ Takapari Road 3.88 218 P Pn 01 40 16.1 -1.1
WCZ Waipu Caves 3.96 285 P Pn 01 40 19.1 +0.7
DVHZ Dannevirke 3.97 214 P Pn 01 40 17.1 -1.4
ANWZ Angora Road 3.97 210 P Pn 01 40 18.0 -0.6
WAZ Wanganui 4.20 229 P Pn 01 40 22.4 +0.8
POWZ Post Office Ro 4.23 217 P Pn 01 40 21.0 -1.0
BFZ Birch Farm 4.25 210 Pn 01 40 19.7 -2.7
BFZ Birch Farm 4.25 210 P Pn 01 40 20.2 -2.1
PRWZ Pori Road 4.26 214 P Pn 01 40 21.4 -1.1
NEZ North Egmont 4.51 239 P Pn 01 40 28.9 +2.9
PKE Pukeiti 4.55 240 P Pn 01 40 30.5 +4.0
KHEZ Kahui Hut 4.58 239 P Pn 01 40 30.2 +3.3
NBEZ Newall Road No 4.67 240 P Pn 01 40 32.9 +4.8
OUZ Omahuta 4.79 291 Pn 01 40 30.6 +0.9
OUZ Omahuta 4.79 291 P Pn 01 40 30.9 +1.2
MSWZ Moikau Station 5.28 213 Pn Pn 01 40 34.1 -2.4
PLWZ Palliser 5.41 212 Pn Pn 01 40 34.9 -3.4
SNZO South Karori 5.45 217 Pn Pn 01 40 36.5 -2.3
SNZO South Karori 5.45 217 P Pn 01 40 38.1 -0.7
TUWZ Tuamarina 5.92 221 Pn Pn 01 40 42.6 -2.7
CMWZ Cape Campbell 6.02 217 Pn Pn 01 40 44.4 -2.3
NNZ Nelson 6.08 225 Pn Pn 01 40 46.4 -1.0
BSWZ Blackbirch Sta 6.16 219 Pn Pn 01 40 46.0 -2.6
TKNZ Takaka Hill 6.21 228 P Pn 01 40 48.0 -1.2
QRZ Quartz Range 6.35 231 Pn Pn 01 40 48.7 -1.4
QRZ Quartz Range 6.35 231 P Pn 01 40 49.6 -1.5
THZ Tophouse 6.71 223 Pn Pn 01 40 52.8 -3.3
KHZ Kahutara 6.86 217 Pn Pn 01 40 54.6 -3.5
KHZ Kahutara 6.86 217 P Pn 01 40 56.3 -1.8
CTZ Chatham Island 7.46 155 P Pn 01 41 08.5 +2.2
LTZ Lake Taylor 7.76 220 Pn Pn 01 41 07.9 -2.6
MQZ McQueen's Vall 8.27 214 Pn Pn 01 41 15.0 -2.4
OXZ Oxford 8.27 218 Pn Pn 01 41 14.2 -3.2
RPZ Rata Peaks 9.05 220 Pn Pn 01 41 26.6 -1.7
1.3nm,0.3s,baz=7.6,slow=15,SNR=3.0
RPZ Sn Sn 01 42 58.4 -11
8.7nm,0.3s,baz=331,slow=22,SNR=27
RPZ Rata Peaks 9.05 220 Pn 01 41 26.4 -1.7
RPZ Rata Peaks 9.05 220 P Pn 01 41 26.5 -1.7
LBZ Lake Benmore 9.96 220 Pn Pn 01 41 37.0 -3.7
WKZ Wanaka 10.87 221 Pn Pn 01 41 51.8 -1.4
MLZ Mavora Lakes 11.71 221 Pn Pn 01 42 02.7 -1.9
STKA Stephens Creek 31.19 268 P P 01 45 37.4 +0.6
0.8nm,0.5s,baz=104,slow=8.3,SNR=1.8
0.8nm,0.5s
COEN Coen 39.37 296 P P 01 46 47.2 0.0
COEN IAmb IAmb 01 46 54.3
comp=Z,11nm,0.9s
AS31 Alice Springs 40.83 276 P P 01 46 58.5 -0.8
ASAR Alice Springs 40.83 276 P P 01 46 58.5 -0.8
comp=Z,2.9nm,0.5s,baz=119,slow=7.8,SNR=30
ASAR PcP PcP 01 48 59.8 -0.4
comp=Z,0.7nm,0.9s,baz=123,slow=4.5,SNR=1.8
comp=Z,2.9nm,0.5s
ASAR Alice Springs 40.83 276 P P 01 46 57.6 -1.8

VNDA Vanda 41.27 186 P P 01 47 04.3 +2.1
WR0 Warramunga Arr 42.26 281 P P 01 47 10.0 -1.0
WR0 IAmb IAmb 01 47 12.8
comp=Z,8.8nm,0.6s
FORT Forrest 42.38 263 P P 01 47 10.5 -1.4
FORT IAmb IAmb 01 47 17.6
comp=Z,13nm,0.8s
WB2 Warramunga Arr 42.42 281 P P 01 47 11.5 -0.8
WRA Warramunga Arr 42.43 281 P P 01 47 11.4 -1.0
comp=Z,6.5nm,0.5s,baz=122,slow=7.7,SNR=80
WRA PcP PcP 01 49 05.5 0.0
comp=Z,0.6nm,0.8s,baz=133,slow=2.8,SNR=2.8
comp=Z,6.5nm,0.5s
WRA Warramunga Arr 42.43 281 P P 01 47 11.6 -0.9
WB0 Warramunga Arr 42.48 281 P P 01 47 11.9 -0.9
FITZ Fitzroy Crossi 50.31 277 P P 01 48 13.3 -1.1
MORW Morawa 52.58 259 P P 01 48 29.1 -2.2
MORW IAmb IAmb 01 48 39.6
comp=Z,18nm,1.2s
QSPA South Pole Qui 53.09 180 P P 01 48 36.2 +1.5
QSPA IAmb IAmb 01 48 57.3
comp=Z,4.9nm,0.9s
MAW Mawson 65.25 202 LR LR 02 18 27.1
comp=Z,95nm,18.1s,baz=153,slow=36
SNAA Sanae 71.58 179 P P 01 50 38.5 +0.2
SNAA IAmb IAmb 01 51 08.8
comp=Z,4.9nm,1.3s
H03S2 Juan Fernandez 78.82 124 T T 03 18 03.7
baz=230
H03S1 Juan Fernandez 78.83 124 T T 03 18 04.9
baz=230
H03S3 Juan Fernandez 78.84 124 T T 03 17 58.4
baz=230
H03N3 Juan Fernandez 79.05 124 T T 03 17 53.0
baz=234,slow=72,SNR=41
H03N2 Juan Fernandez 79.06 124 T T 03 17 52.1
baz=234,slow=72,SNR=32
H03N1 Juan Fernandez 79.07 124 T T 03 17 51.2
baz=234,slow=72,SNR=31
ARCES ARCESS Array B 144.43 344 PKP **PKPab 01 58 50.9 -0.1**
comp=Z,1.6nm,0.7s,baz=35,slow=3.3,SNR=11
FINES FINESS Array B 150.29 334 PKPbc **PKPdf 01 59 06.7 +4.1**
comp=Z,2.9nm,0.8s,baz=58,slow=4.2,SNR=16
TORD Torodi Ar. Bea 156.09 186 PKP **PKPdf 01 59 09.6 -2.9**
comp=Z,0.2nm,0.6s,baz=169,slow=3.9,SNR=1.3
TORD PKPab **PKPab 01 59 39.5 -0.2**
comp=Z,1.7nm,0.9s,baz=173,slow=3.1,SNR=5.1

*MAN **06** 01:52:03.1, 12°.76N×126°.05E, h21km, mb4.9, ML3.9, MS3.9*
*IDC **06** 01:52:07.3±0.9, 12°.36N×125°.86E, h0km, mb3.8/7, mbtmp3.8/7, MS3.5/1, Error ellipse: s-maj=75.2km s-min=18.0km az=72.0*
ISC 06 01:52:12.1±0.8, 12°.33N±0°.06×125°.7E±0°.1, h33km, n17, σ2s 09/17, mb3.8/7, 2C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.76**	**197**	⇓	*eP*		**Pn**	**01 52 21.8**	**-4.7**
BESP					*eS*		**Sb**	**01 52 40.1**	**+3.2**
CNP	**Catarman**	**1.00**	**281**	⇑	*eP*		**Pn**	**01 52 26.8**	**-3.0**
LLP	**Lapu-Lapu**	**2.60**	**220**		*eP*		**Pn**	**01 52 50.0**	**-1.9**
LLP					*eS*		**Sb**	**01 53 27.4**	**-2.3**
RCP	**Roxas**	**2.96**	**255**	⇑	*eP*		**Pn**	**01 52 58.2**	**+1.4**
TBP	**Tagbilaran**	**3.16**	**214**	⇓	*eP*		**Pn**	**01 53 01.6**	**+1.9**
TBP					*i S*		Sb	01 53 55.8	+10
BIPH	**Bislig**	**4.17**	**171**	⇓	*eP*		Pn	01 53 02.2	-11
BIPH					*eS*		**Sb**	**01 54 16.3**	**+1.4**
KSRS	**Korea Array**	**25.10**	**4**		P		**P**	**01 57 33.4**	**-0.5**
	0.6nm,0.3s,baz=178,slow=9.1,SNR=6.8								
	0.6nm,0.3s								
MJAR	**Matsushiro Arr**	**26.62**	**23**		LR		LR	02 07 28.6	
	comp=Z,113nm,21.4s,baz=78,slow=35								
WRA	**Warramunga Arr**	**33.18**	**165**		P		**P**	**01 58 45.2**	**-0.7**
	0.2nm,0.6s,baz=346,slow=9.4,SNR=2.2								
WRA					PcP		**PcP**	**02 01 28.1**	**-0.3**
	0.5nm,0.6s,baz=340,slow=3.0,SNR=7.2								
	0.2nm,0.6s								
ASAR	**Alice Springs**	**36.67**	**167**		P		**P**	**01 59 15.9**	**-0.1**
	0.4nm,0.5s,baz=345,slow=7.5,SNR=5.4								
ASAR					PcP		**PcP**	**02 01 38.5**	**0.0**
	0.5nm,0.7s,baz=346,slow=3.1,SNR=3.0								
	0.4nm,0.5s								
H11N1	**WAKE ISLAND Hy**	**40.22**	**74**		T		T	02 43 04.7	
	baz=266,slow=75,SNR=8.6								
H11N2	**WAKE ISLAND Hy**	**40.22**	**74**		T		T	02 43 08.9	
	baz=266,slow=75,SNR=7.3								
H11N3	**WAKE ISLAND Hy**	**40.24**	**74**		T		T	02 43 06.5	
	baz=266,slow=75,SNR=9.0								
STKA	**Stephens Creek**	**46.53**	**161**		P		**P**	**02 00 37.0**	**+0.4**
	1.5nm,0.7s,baz=337,slow=11,SNR=4.7								
	1.5nm,0.7s								
MKAR	**Makanchi Array**	**50.05**	**322**		P		**P**	**02 01 04.4**	**+0.7**
	0.7nm,0.7s,baz=116,slow=7.7,SNR=7.4								
	0.7nm,0.7s								
BVAR	**Borovoye Array**	**59.65**	**325**		P		**P**	**02 02 14.4**	**+1.3**
	0.7nm,0.6s,baz=115,slow=6.5,SNR=5.5								
	0.7nm,0.6s								
FINES	**FINESS Array B**	**83.81**	**332**		P		**P**	**02 04 37.9**	**-0.1**
	2.3nm,1.0s,baz=56,slow=7.5,SNR=2.6								
	2.3nm,1.0s								

*IDC **06** 02:02:59.5±0.9, 21°.14S×68°.15W, h129km±16km, mb3.6/1, mbtmp3.9/5, Error ellipse: s-maj=38.9km s-min=10.8km az=102.0*
*GUC **06** 02:03:00.2±0.8, 21°.10S×68°.52W, h143km±8km, ML3.4*
*VAO **06** 02:03:47.7±1.4, 20°.16S×64°.11W, h208km, mb3.7*
ISC 06 02:02:58.3±0.7, 21°.08S±0°.03×68°.35W±0°.07, h135km±10km, n36, σ1s 72/53, 10C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**1.06**	**272**	⇑	*iP*		**Pn**	**02 03 22.5**	**+0.1**
PB01					*i S*		**Sn**	**02 03 39.8**	**-0.8**
PB01					IAML			02 03 42.4	
	comp=E,881nm,0.2s								
PB09	**IPOC Station P**	**1.10**	**229**	⇑	*iP*		**Pn**	**02 03 23.9**	**+1.1**
PB09					*i S*		**Sn**	**02 03 42.7**	**+1.3**
PB09					IAML			02 03 43.3	
	comp=N,478nm,0.4s								
PB02	**IPOC Station P**	**1.46**	**260**	⇑	*iP*		**Pn**	**02 03 26.7**	**+0.3**
PB02					*i S*		**Sn**	**02 03 47.9**	**0.0**
PB02					IAML			02 03 48.6	
	comp=N,1μm,0.2s								
PB07	**IPOC Station P**	**1.57**	**245**	⇑	*iP*		**Pn**	**02 03 27.9**	**+0.2**
PB07					*i S*		**Sn**	**02 03 49.6**	**-0.6**
PB07					IAML			02 03 50.5	
	comp=N,471nm,0.1s								
GO01	**Chusmiza**	**1.61**	**330**	⇑	*iP*		**Pn**	**02 03 29.9**	**+1.3**
GO01					*i S*		**Sn**	**02 03 54.5**	**+3.0**
LVC	**Limon Verde**	**1.61**	**199**		P		**Pn**	**02 03 29.4**	**+1.0**
	comp=N,99nm,0.4s,baz=38,slow=12,SNR=274								
LVC					S		**Sn**	**02 03 52.0**	**+0.6**
	comp=N,74nm,0.3s,baz=124,slow=21,SNR=64								
LVC	**Limon Verde**	**1.61**	**199**	⇑	*iP*		**Pn**	**02 03 29.3**	**+0.9**
LVC					*i S*		**Sn**	**02 03 52.0**	**+0.6**
TA01	**Diego Aracena**	**1.79**	**286**		*i P*		**Pn**	**02 03 29.9**	**-0.1**
TA01					*i S*		**Sn**	**02 03 52.9**	**-1.3**
TA01					IAML			02 03 54.4	
	comp=E,586nm,0.2s								
TA01					*e*			02 04 12.4	
TA02	**Huaiquique**	**1.85**	**295**	⇑	*iP*		**Pn**	**02 03 30.7**	**0.0**
TA02					*i S*		**Sn**	**02 03 54.9**	**-0.7**
PB06	**IPOC Station P**	**1.98**	**215**	⇑	*iP*		**Pn**	**02 03 33.0**	**+0.5**
PB06					*i S*		**Sn**	**02 03 58.3**	**-0.3**
PB06					IAML			02 03 58.9	
	comp=E,567nm,0.3s								
PB04	**IPOC Station P**	**2.09**	**233**	⇑	*iP*		**Pn**	**02 03 33.9**	**+0.1**
PB04					*i S*		**Sn**	**02 03 59.8**	**-1.2**
PB04					IAML			02 04 08.3	
	comp=N,338nm,0.2s								
PB15	**IPOC Station P**	**2.36**	**206**		*i P*		**Pn**	**02 03 38.0**	**+0.8**
PB15					*i S*		**Sn**	**02 04 06.8**	**-0.3**
PB16	**IPOC Station P**	**2.94**	**338**	⇓	*iP*		**Pn**	**02 03 46.7**	**+1.8**
PB16					*i S*		**Sn**	**02 04 22.2**	**+1.5**
PB16					IAML			02 04 30.3	
	comp=E,56nm,0.4s								
PB12	**IPOC Station P**	**3.08**	**322**		*i P*		**Pn**	**02 03 45.5**	**-0.8**
PB12					*i S*		**Sn**	**02 04 22.4**	**-0.8**
AP01	**Chacalluta**	**3.28**	**325**		*i P*		**Pn**	**02 03 49.6**	**+0.8**
AP01					*i S*		**Sn**	**02 04 28.6**	**+0.8**

GO02 Mina Guanaco 4.22 195 ⇑ *iP* Pn 02 04 01.5 0.0
GO02 *i* S Sn 02 04 48.1 -2.4
LPAZ La Paz 4.77 3 P Pn 02 04 12.8 +3.7
comp=E,2.0nm,0.3s,baz=194,slow=1.0,SNR=32
LPAZ S Sn 02 05 06.2 +2.3
comp=E,2.3nm,0.8s,baz=128,slow=12,SNR=1.5
SIV San Ignacio 8.56 55 P Pn 02 04 57.2 -2.1
comp=E,8.4nm,0.4s,baz=240,slow=13,SNR=43
SIV S Sn 02 06 28.1 -6.2
comp=E,0.4nm,0.3s,baz=326,slow=21,SNR=1.3
PTLB Pontes e Lacer 10.39 59 *eP* Pn 02 05 23.9 +0.1
VILB Vilhena 11.22 45 *eP* P 02 05 42.2 -1.5
CPUP Villa Florida 11.37 120 *eP* P 02 05 51.0 +5.8
ANTJ Antonio Joao (11.53 97 *eP* Pn 02 05 38.1 -0.9
SALV Santo Antonio 13.06 69 *eP* Pn 02 05 54.8 -4.1
PDRB Porto dos Gac 14.58 52 *eP* P 02 06 21.5 +0.4
PTGB Pitanga 15.44 107 *eP* P 02 06 33.7 +3.1
BB19B Bebedouro 18.50 94 *eP* P 02 07 05.3 +1.0
SNDB Serra Nova Dou 18.67 64 *eP* P 02 07 06.6 +0.4
IPMB Ipameri, GO 19.23 84 *eP* P 02 07 13.2 +1.0
PLCA Paso Flores 19.68 185 P Pn 02 07 18.5 -1.3
comp=E,1.8nm,0.6s,baz=20,slow=12,SNR=4.3
BDFB Brasilia 20.04 78 P P 02 07 22.2 +1.1
comp=E,2.7nm,0.5s,baz=240,slow=9.9,SNR=7.8
BDFB Brasilia 20.04 78 *eP* P 02 07 21.8 +0.7
PMNB Patos De Minas 20.77 87 *eP* P 02 07 29.1 +0.2
MC01 Montes Claros 23.49 83 *eP* P 02 07 58.7 +2.5
JANB Januaria 23.61 79 *eP* P 02 07 58.1 +0.9
SDBA SAO DESIDERIO 24.02 73 *eP* P 02 08 03.1 +2.1
TORD Torodi Ar. Bea 76.72 70 P P 02 14 35.9 +0.6
comp=E,1.0nm,0.6s,baz=254,slow=5.5,SNR=11
comp=E,1.0nm,0.6s

NNC 06 02:27:36.5±5.6, 36°.25N×70°.88E, h133km±72km, mb3.1, mpv3.6, 2C-3D, Error ellipse: s-maj=52.5km s-min=42.3km az=155.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.86**	**358**	⇓		P	Pn	02 29 14.1	-0.5
	1.8nm,0.3s,baz=174,slow=12,SNR=56								
KK31				⇑	S		Sn	02 30 32.6	+1.5
	1.9nm,0.4s,baz=195,slow=24,SNR=7.0								
TKM2	**Tokmak 2**	**7.59**	**27**	⇓	P		Pn	02 29 25.3	+0.7
	1.3nm,0.5s								
TKM2				⇑	S		Sn	02 30 49.4	+0.1
	0.8nm,0.5s								
AB31	**Akbulak array**	**15.26**	**332**		P		Pn	02 31 03.6	-1.2
	0.9nm,0.3s,baz=162,slow=12,SNR=60								
AKTO	**Aktyubinsk**	**16.95**	**331**	⇓	P		Pn	02 31 26.0	+0.4
	2.1nm,0.9s								

*IDC **06** 02:58:04.8±1.7, 55°.80N×162°.52W, h141km±13km, mb3.8/20, mbtmp4.2/24, MS3.1/1, Error ellipse: s-maj=18.8km s-min=9.9km az=7.0*
*NEIC **06** 02:58:04.3±2.1, 55°.40N±0°.08×162°.11W±0°.08, h152km±3km, mb4.7/35, ML4.5/14, ML4.1(AEIC), Error ellipse: s-maj=12.7km s-min=5.0km az=155.0*
*AEIC **06** 02:58:05.2±0.2, 55°.36N±0°.06×162°.13W±0°.07, h146km±4km, Error ellipse: s-maj=9.0km s-min=5.7km az=167.0*
*ANF **06** 02:58:05.2±0.2, 55°.51N×162°.18W, h138km±2km, ML4.5/19, ML4.5/19, Error ellipse: s-maj=3.7km s-min=2.9km az=120.0*
ISC 06 02:58:04.6±0.6, 55°.47N±0°.05×162°.14W±0°.04, h147km±5km, n433, σ1s 44/458, mb4.5/40, 1C, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PN7A	**Pavlof North-7**	**0.09**	**112**				**Pn**	**02 58 24.9**	**+0.4**
PN7A							**Sn**	**02 58 41.0**	**+1.4**
HAG	**Hague Volcano**	**0.20**	**138**				**Pn**	**02 58 25.1**	**+0.5**
PS4A	**Pavlof South-4**	**0.20**	**126**				**Pn**	**02 58 24.9**	**+0.3**
PVV	**Pavlof Volcano**	**0.22**	**114**				**Pn**	**02 58 24.9**	**+0.3**
PS1A	**Pavlof South-1**	**0.23**	**101**				**Pn**	**02 58 25.0**	**+0.3**
DT1	**Dutton Round H**	**0.37**	**193**				**Pn**	**02 58 25.0**	**-0.1**
FALS	**False Pass**	**0.95**	**231**				**Pn**	**02 58 28.4**	**-0.3**
FALS							**Sn**	**02 58 46.4**	**-0.6**
FALS	**False Pass**	**0.95**	**231**		P		**Pn**	**02 58 28.5**	**-0.2**
	baz=54,SNR=62								
FALS					S		**Sn**	**02 58 46.3**	**-0.6**
	baz=54								
SDPT	**Sand Point**	**0.96**	**96**				**Pn**	**02 58 28.9**	**+0.2**
SDPT							**Sn**	**02 58 47.5**	**+0.5**
SDPT	**Sand Point**	**0.96**	**96**		IAML			02 58 48.1	
	comp=N,10μm,0.2s								
SDPT	**Sand Point**	**0.96**	**96**		P		**Pn**	**02 58 28.9**	**+0.2**
	baz=273,SNR=63								
SDPT					S		**Sn**	**02 58 47.6**	**+0.5**
	baz=273								
ISNN	**Isanotski Nort**	**1.13**	**237**				**Pn**	**02 58 30.4**	**0.0**
ISNN							**Sn**	**02 58 50.2**	**+0.3**
ISLZ	**Isanotski Laza**	**1.17**	**231**				**Pn**	**02 58 30.2**	**-0.5**
ISLZ							**Sn**	**02 58 50.6**	**+0.1**
BRPK	**Brown Peak**	**1.23**	**229**				**Pn**	**02 58 30.9**	**-0.3**
BRPK							**Sn**	**02 58 51.5**	**-0.1**
SSLN	**Shishaldin Nor**	**1.25**	**239**				**Pn**	**02 58 31.5**	**0.0**
SSLS	**Shishaldin Sou**	**1.31**	**236**				**Pn**	**02 58 31.9**	**-0.1**
SSBA	**Shishaldin**	**1.33**	**239**				**Pn**	**02 58 31.8**	**-0.5**
SSBA							**Sn**	**02 58 52.6**	**-0.8**
CHNA	**Chernabura Isl**	**1.60**	**112**		P		**Pn**	**02 58 34.7**	**-0.2**
	baz=292,SNR=20								
CHNA					S		**Sn**	**02 58 57.2**	**-0.9**
	baz=292								
CNBA	**Chernabura Isl**	**1.60**	**113**				**Pn**	**02 58 34.7**	**-0.3**
CNBA							**Sn**	**02 58 57.4**	**-0.9**
WESN	**West Dahl Nort**	**1.67**	**238**				**Pn**	**02 58 35.8**	**-0.1**
S14K	**Fog Glacier**	**1.67**	**60**		P		**Pn**	**02 58 37.1**	**+1.2**
	baz=239,SNR=96								
S14K					S		**Sn**	**02 59 01.9**	**+2.0**
	baz=239								
VNFG	**Fog Glacier, M**	**1.67**	**60**				**Pn**	**02 58 37.2**	**+1.3**
WECS	**Westdahl Cape**	**1.79**	**239**				**Pn**	**02 58 36.9**	**-0.2**
WECS							**Sn**	**02 59 02.7**	**+0.7**
CHGN	**Chignik**	**2.26**	**67**				**Pn**	**02 58 43.3**	**+0.7**
CHGN	**Chignik**	**2.26**	**67**		IAML			02 59 13.2	
	comp=E,3μm,0.7s								
CHGN					IAML			02 59 13.9	
	comp=N,3μm,0.4s								
CHGN	**Chignik**	**2.26**	**67**		P		**Pn**	**02 58 43.1**	**+0.5**
	baz=248,SNR=43								
CHGN					S		**Sn**	**02 59 12.1**	**+0.3**
	baz=248								
AKSA	**Akutan Strait**	**2.45**	**239**				**Pn**	**02 58 44.9**	**-0.1**
AKUT	**Akutan**	**2.49**	**239**				**Pn**	**02 58 45.1**	**-0.3**
AKUT	**Akutan**	**2.49**	**239**		IAML	

Q16K	King Salmon	4.40	41	P		Pn	02 59 10.8	+1.0
	baz=224,SNR=14							
SII	Sitkinak Islan	4.60	73	Pn		Pn	02 59 12.2	-0.3
SII	Sitkinak Islan	4.60	73	P		Pn	02 59 12.3	-0.3
	baz=259							
SII				S		Sn	03 00 03.4	-2.1
	baz=259							
KELA	Mount Kelaz	4.60	47			Pn	02 59 13.7	+1.0
NIKH	Nikolski High	4.67	240	Pn		Pn	02 59 12.8	-0.7
NIKH	Nikolski High	4.67	240	P		Pn	02 59 12.8	-0.7
	baz=56,SNR=10							
NIKH				S		Sn	03 00 04.4	-2.6
	baz=56							
O16K	Kokwok River B	4.68	26	P		Pn	02 59 13.8	+0.2
	baz=209,SNR=45							
O16K				S		Sn	03 00 07.1	-0.2
	baz=209							
SPIA	Saint Paul Isl	4.83	294			Pn	02 59 15.3	-0.3
SPIA	Saint Paul Isl	4.83	294	P		Pn	02 59 15.2	-0.3
	baz=108							
P17K	Kvichak River	4.85	37			Pn	02 59 17.2	+1.4
P17K	Kvichak River	4.85	37	P		Pn	02 59 16.8	+1.0
	baz=221,SNR=9.3							
KAHC	Katmai Hardscr	5.03	48			Pn	02 59 20.0	+1.6
O17K	Koliganek Bris	5.10	30	P		Pn	02 59 19.5	+0.4
	baz=214,SNR=36							
OHAK	Old Harbor	5.23	67	Pn		Pn	02 59 19.8	-1.0
OHAK				IAML			03 00 19.4	
	comp=E,346nm,0.3s							
OHAK				IAML			03 00 20.1	
	comp=N,254nm,0.4s							
OHAK	Old Harbor	5.23	67	P		Pn	02 59 19.9	-1.0
	baz=253,SNR=10							
OHAK				S		Sn	03 00 16.0	-4.4
	baz=253							
N16K	Nishlik Lake	5.33	18	P		Pn	02 59 22.1	-0.2
	baz=201,SNR=24							
P18K	Big Mountain,	5.42	41	Pn		Pn	02 59 24.4	+0.9
P18K	Big Mountain,	5.42	41	P		Pn	02 59 24.4	+0.9
	baz=226							
P18K				S		Sn	03 00 25.6	+0.5
	baz=226							
O18K	Koktuh Hills	5.76	37			Pn	02 59 29.0	+1.1
O18K	Koktuh Hills	5.76	37	P		Pn	02 59 28.9	+0.9
	baz=223,SNR=24							
KDAK	Kodiak Island	5.76	62	P		Pn	02 59 27.1	-0.9
	comp=N,30nm,0.3s,baz=247,slow=6.2,SNR=107							
KDAK				S		Sn	03 00 28.2	-4.9
	comp=N,70nm,0.3s,baz=338,slow=23,SNR=25							
KDAK	Kodiak Island	5.76	62			Pn	02 59 27.0	-1.0
KDAK	Kodiak Island	5.76	62	P		Pn	02 59 27.0	-0.9
	baz=250							
KDAK				S		Sn	03 00 29.5	-3.6
	baz=250							
Q19K	Cape Douglas,	5.78	50	Pn		Pn	02 59 28.8	+0.6
Q19K	Cape Douglas,	5.78	50	P		Pn	02 59 28.7	+0.5
	baz=236,SNR=18							
Q19K				S		Sn	03 00 33.7	+0.2
	baz=236							
Q20K	Shuyak Island	6.18	55	P		Pn	02 59 33.4	-0.1
	baz=243,SNR=19							
Q20K				S		Sn	03 00 39.5	-3.6
	baz=243							
N18K	Kilae Creek	6.19	30			Pn	02 59 33.7	0.0
N18K	Kilae Creek	6.19	30	P		Pn	02 59 33.6	0.0
	baz=215,SNR=9.6							
P19K	Oil Pt	6.37	45	P		Pn	02 59 36.9	+0.8
	baz=232							
ILSW	Iliamna Southw	6.61	43			Pn	02 59 40.1	+0.7
SVW2	Sparrevohn	6.62	29			Pn	02 59 39.1	-0.3
N19K	Bonanza Creek	6.72	34			Pn	02 59 41.7	+0.9
N19K	Bonanza Creek	6.72	34	P		Pn	02 59 41.5	+0.7
	baz=220,SNR=16							
O20K	Slope Mountain	6.88	44	P		Pn	02 59 43.8	+0.9
	baz=231							
HOM	Homer	7.04	49	P		Pn	02 59 45.2	+0.3
	baz=237							
RSO	Redoubt South	7.07	41			Pn	02 59 46.7	+1.1
CNPM	China Poot	7.14	51			Pn	02 59 46.1	-0.3
BRLK	Bradley Lake	7.42	50			Pn	02 59 49.1	-1.0
BRSE	Bradley Lake S	7.47	50	P		Pn	02 59 50.2	-0.5
	baz=239							
M19K	Big River Lodg	7.61	29			Pn	02 59 52.9	+0.3
M19K	Big River Lodg	7.61	29	P		Pn	02 59 53.2	+0.6
	baz=215,SNR=9.6							
L19K	White Mountain	7.72	26			Pn	02 59 53.9	-0.2
L19K	White Mountain	7.72	26	P		Pn	02 59 54.2	+0.1
	baz=212,SNR=7.2							
N20K	Mount Spurr	7.76	38	P		Pn	02 59 54.9	+0.1
	baz=226							
SPCR	Spurr Chakacha	7.76	38	P		Pn	02 59 55.3	+0.6
	baz=226							
M20K	Styx River	7.96	32			Pn	02 59 59.0	+1.6
M20K	Styx River	7.96	32	P		Pn	02 59 58.8	+1.5
	baz=220							
TTA	Tatalina	8.12	20	P		Pn	02 59 59.3	-0.2
	baz=205							
SEW	Seward	8.21	50			Pn	02 59 59.8	-0.9
SEW	Seward	8.21	50	P		Pn	02 59 60.0	-0.7
	baz=241,SNR=10							
L20K	Farewell, AK	8.22	28	P		Pn	03 00 00.9	+0.1
	baz=215							
O22K	Cooper Landing	8.29	48			Pn	03 00 01.0	-0.7
O22K	Cooper Landing	8.29	48	P		Pn	03 00 01.1	-0.5
	baz=238,SNR=12							
SUA	Susitna One	8.47	40			Pn	03 00 04.0	-0.2
SUA	Susitna One	8.47	40	P		Pn	03 00 03.8	-0.3
	baz=229,SNR=8.7							
SKT	Skwentna	8.54	36			Pn	03 00 05.1	0.0
SKT	Skwentna	8.54	36	P		Pn	03 00 05.3	+0.2
	baz=224,SNR=7.9							
RC01	Rabbit Creek A	8.62	44			Pn	03 00 05.3	-0.9
RC01	Rabbit Creek A	8.62	44	P		Pn	03 00 05.0	-1.1
	baz=234							
M22K	Willow	8.88	40			Sn	03 01 47.2	-0.7
M22K	Willow	8.88	40	P		Pn	03 00 07.9	-1.6
	baz=230							
K20K	Telida	8.91	24			Pn	03 00 09.6	-0.4
K20K	Telida	8.91	24	P		Pn	03 00 10.0	0.0
	baz=211,SNR=13							
PPLA	Purkeypile	9.02	30	Pn		Pn	03 00 11.9	+0.3
PPLA	Purkeypile	9.02	30	P		Pn	03 00 12.9	+1.3
	baz=219							
PWL	Port Wells	9.07	48			Pn	03 00 10.1	-2.0
PWL	Port Wells	9.07	48	P		Pn	03 00 10.3	-1.8
	baz=239,SNR=21							
P23K	Montague Islan	9.09	54	P		Pn	03 00 10.9	-1.5
	baz=246							
PMR	Palmer	9.15	43			Pn	03 00 11.6	-1.5
PMR	Palmer	9.15	43	P		Pn	03 00 11.8	-1.4
	baz=233							
KNK	Knik Glacier	9.32	45			Pn	03 00 14.4	-0.9
KNK	Knik Glacier	9.32	45	P		Pn	03 00 13.4	-1.9
	baz=236,SNR=7.8							
GHO	Glory Hole Cre	9.34	42			Pn	03 00 12.9	-2.8
ADK	Adak	9.35	253	Pn		Pn	03 00 14.1	-1.7
Q23K	Middleton Isla	9.39	59	P		Pn	03 00 15.2	-1.1
	baz=251							
CAST	Castle Rocks	9.47	29			Pn	03 00 18.2	+0.9
CAST	Castle Rocks	9.47	29	P		Pn	03 00 18.3	+0.9
	baz=217							
SML	Sawmill	9.59	43			Pn	03 00 17.2	-1.8
SML	Sawmill	9.59	43	P		Pn	03 00 17.4	-1.6
	baz=234							
GLI	Glacier Island	9.61	50			Pn	03 00 17.2	-2.1
GLI	Glacier Island	9.61	50	P		Pn	03 00 17.1	-2.1
	baz=242,SNR=9.0							
J20K	Nowinta River	9.61	21	Pn		Pn	03 00 20.0	+0.8
J20K	Nowinta River	9.61	21	P		Pn	03 00 19.7	+0.4
	baz=208,SNR=8.0							
KIWB	Kanaga Island	9.62	254			Pn	03 00 18.5	-0.9
HIN	Hinchinbrook I	9.66	53	Pn		Pn	03 00 18.8	-1.2
CHUM	Lake Minchumin	9.78	26	P		Pn	03 00 22.4	+0.9
	baz=215							
M23K	Glacier View	9.82	44	P		Pn	03 00 19.7	-2.4
	baz=236,SNR=32							
FID	Port Fidalgo	9.82	51			Pn	03 00 19.6	-2.5
SCM	Sheep Creek Mo	10.00	44			Pn	03 00 21.9	-2.6
SCM	Sheep Creek Mo	10.00	44	P		Pn	03 00 22.2	-2.3
	baz=237,SNR=19							
TRF	Thorofare Moun	10.01	32			Pn	03 00 24.1	-0.5
TRF	Thorofare Moun	10.01	32	P		Pn	03 00 24.2	-0.5
	baz=222							
EYAK	Cordova Ski Ar	10.07	53			Pn	03 00 23.5	-1.8
EYAK	Cordova Ski Ar	10.07	53	P		Pn	03 00 23.4	-1.8
	baz=246							
WAT1	Susitna Watana	10.14	38	P		Pn	03 00 23.7	-2.6
	baz=229							
WAT6	Susitna Watana	10.27	40	P		Pn	03 00 24.9	-3.3
	baz=232,SNR=6.4							
DIV	Divide	10.30	50			Pn	03 00 26.9	-1.5
BPAW	Bear Paw Mtn.	10.31	28	Pn		Pn	03 00 28.9	+0.5
BPAW	Bear Paw Mtn.	10.31	28	P		Pn	03 00 29.7	+1.2
	baz=218,SNR=8.3							
KLU	Klutina	10.40	48			Pn	03 00 27.8	-2.0
KLU	Klutina	10.40	48	P		Pn	03 00 28.3	-1.5
	baz=241,SNR=60							
RAGM	Ragged Mountai	10.50	55			Pn	03 00 30.5	-0.6
M24K	Tolsona, Glenn	10.61	45			Pn	03 00 30.5	-2.0
M24K	Tolsona, Glenn	10.61	45	P		Pn	03 00 30.9	-1.6
	baz=238,SNR=14							
MCK	McKinley	10.63	33	P		Pn	03 00 32.6	-0.1
	baz=225,SNR=5.3							
HMT	Hamilton	10.68	56			Pn	03 00 32.4	-1.0
DHY	Denali Highway	10.71	39			Pn	03 00 31.4	-2.6
DHY	Denali Highway	10.71	39	P		Pn	03 00 30.6	-3.4
	baz=231							
BMRM	Bremner River	10.75	52	Pn		Pn	03 00 32.9	-1.4
BMRM	Bremner River	10.75	52	P		Pn	03 00 32.2	-2.1
	baz=247,SNR=7.9							
I21K	Tanana	10.95	23			Pn	03 00 38.0	+1.1
I21K	Tanana	10.95	23	P		Pn	03 00 37.2	+0.3
	baz=212,SNR=9.1							
BERG	Berg Lake	10.96	56			Pn	03 00 36.2	-0.9
N25K	Chitina, Valde	11.02	49			Pn	03 00 37.0	-1.0
N25K	Chitina, Valde	11.02	49	P		Pn	03 00 36.8	-1.1
	baz=244,SNR=18							
MLY	Manley	11.12	26			Pn	03 00 40.3	+1.1
MLY	Manley	11.12	26	P		Pn	03 00 39.8	+0.6
	baz=216,SNR=5.3							
HARP	HAARP	11.16	45	P		Pn	03 00 38.6	-1.2
	baz=239							
H21K	Melozitna Rive	11.19	20			Pn	03 00 41.2	+1.1
H21K	Melozitna Rive	11.19	20	P		Pn	03 00 40.4	+0.3
	baz=208							
NEA2	Nenana	11.22	30			Pn	03 00 39.0	-1.5
NEA2	Nenana	11.22	30	P		Pn	03 00 39.3	-1.1
	baz=221							
GLB	Gilahina Butte	11.29	51			Pn	03 00 40.1	-1.4
PAX	Paxson	11.35	42			Pn	03 00 39.9	-2.4
PAX	Paxson	11.35	42	P		Pn	03 00 40.1	-2.2
	baz=236,SNR=6.9							
WAX	Waxell Ridge	11.38	56			Pn	03 00 42.1	-0.5
WRH	Wood River Hil	11.42	32			Pn	03 00 42.0	-1.1
TGL	Tana Glacier	11.48	55			Pn	03 00 44.1	0.0
MCARA	McCarthy VSAT	11.62	52			Pn	03 00 45.2	-0.5
MCARA	McCarthy VSAT	11.62	52	P		Pn	03 00 43.7	-2.0
	baz=248							
CCB	Clear Creek Bu	11.63	32			Pn	03 00 43.4	-2.5
ISLE	Juniper Island	11.66	56			Pn	03 00 46.1	-0.3
H22K	Ishtalitna Cre	11.69	22	P		Pn	03 00 46.8	+0.1
	baz=212							
K24K	Donnelly Dome	11.73	38	P		Pn	03 00 46.7	-0.5
	baz=232							
HDA	Harding Lake	11.73	34			Pn	03 00 44.6	-2.5
HDA	Harding Lake	11.73	34	P		Pn	03 00 44.8	-2.4
	baz=227							
MDM	Murphy Dome	11.73	30			Pn	03 00 44.7	-2.5
AMKA	Amchitka	11.79	257	Pn		Pn	03 00 45.6	-2.5
G21K	Allakaket	11.84	17	P		Pn	03 00 48.8	+0.3
	baz=204							
YAH	Yahtse	11.88	57			Pn	03 00 49.3	0.0
IL31		12.00	33			Pn	03 00 48.0	-2.6
ILAR	Eielson Array	12.00	33	P		Pn	03 00 47.8	-2.9
	comp=N,0.7nm,0.6s,baz=201,slow=13,SNR=22							
ILAR				S		Sn	03 02 56.2	-6.8
	comp=N,1.1nm,0.4s,baz=216,slow=20,SNR=4.8							
ILAR				ScP		ScP	03 09 42.2	+0.7
	comp=N,0.3nm,0.6s,baz=251,slow=2.6,SNR=5.8							
MENT	Mentasta	12.01	44			Pn	03 00 49.5	-1.4
RIDG	Independent Ri	12.02	39			Pn	03 00 49.4	-1.6
RIDG	Independent Ri	12.02	39	P		Pn	03 00 50.6	-0.4
	baz=234,SNR=9.3							
M26K	Nabesna, AK	12.05	47			Pn	03 00 50.0	-1.4
M26K	Nabesna, AK	12.05	47	P		Pn	03 00 50.0	-1.4
	baz=243,SNR=19							
H23K	Yukon River	12.06	25			Pn	03 00 50.7	-0.7
H23K	Yukon River	12.06	25	P		Pn	03 00 51.9	+0.5
	baz=216,SNR=5.0							
POKR	Poker Plat Res	12.08	31	P		Pn	03 00 51.0	-0.7
	baz=224							
L26K	Log Cabin Wild	12.20	44			Pn	03 00 53.6	+0.3
L26K	Log Cabin Wild	12.20	44	P		Pn	03 00 52.6	-0.8
	baz=240							
CTG	Chitna Glacier	12.24	55	P		Pn	03 00 53.7	-0.2
	baz=252,SNR=6.8							
CTGM	Chitina Glacie	12.24	55			Pn	03 00 53.4	-0.6
DOT	Dot Lake	12.26	41			Pn	03 00 52.6	-1.5
LOGN	Logan Glacier	12.36	56			Pn	03 00 55.6	+0.1
J25K	Salcha River,	12.38	35			Pn	03 00 52.9	-2.8
J25K	Salcha River,	12.38	35	P		Pn	03 00 52.8	-2.8
	baz=230							
SCRK	Sand Creek	12.47	40			Pn	03 00 53.6	-3.3
SCRK	Sand Creek	12.47	40	P		Pn	03 00 54.5	-2.4
	baz=235,SNR=12							
F21K	Alatna River	12.49	16	P		Pn	03 00 57.8	+0.8
	baz=203							
H24K	Noodor Dome	12.49	28			Pn	03 00 55.7	-1.4
H24K	Noodor Dome	12.49	28	P		Pn	03 00 55.3	-1.8
	baz=220							
M27K	Edge Creek, AK	12.50	48			Pn	03 00 57.0	-0.3
M27K	Edge Creek, AK	12.50	48	P		Pn	03 00 56.3	-1.0
	baz=245,SNR=6.6							
G23K	Bananza Creek	12.68	22	P		Pn	03 01 00.8	+1.3
	baz=213,SNR=9.3							
O28M	Mount Upton	12.73	56	P		Pn	03 01 00.5	+0.1
	baz=255,SNR=16							
L27K	Beaver Creek,	12.83	45			Pn	03 01 00.1	-1.4
L27K	Beaver Creek,	12.83	45	P		Pn	03 00 58.9	-2.5
	baz=243							
BCAR	Beaver Creek A	12.85	45			Pn	03 01 00.0	-1.7
PNL	Peninsula	12.88	62	P		Pn	03 01 02.1	0.0
	baz=261,SNR=8.0							
YUK3	Moose Creek	12.90	52	P		Pn	03 01 00.6	-2.0
	baz=250							
J26L	Joseph Creek	12.93	38			Pn	03 01 00.3	-2.4
J26L	Joseph Creek	12.93	38	P		Pn	03 01 01.4	-1.3
	baz=234,SNR=13							
PRP	Porcupine Dome	12.93	32	P		Pn	03 01 00.7	-2.1
PRP	Porcupine Dome	12.93	32	P		Pn	03 01 00.3	-2.6
	baz=226							
F22K	John River	12.96	17	P		Pn	03 01 02.7	-0.3
	baz=206							
COLD	Coldfoot	13.08	21	P		Pn	03 01 03.5	-1.0
	baz=211							
K27K	Chicken	13.21	41			Pn	03 01 06.4	+0.2
K27K	Chicken	13.21	41	P		Pn	03 01 05.0	-1.2
	baz=238							
G24K	Hadweenzic Riv	13.27	26	P		Pn	03 01 06.4	-0.5
	baz=219							
H25K	Birch Creek	13.38	29	P		Pn	03 01 07.1	-1.2
	baz=224							
O29M	Mount Kennedy	13.40	59	P		Pn	03 01 09.5	+0.6
	baz=259,SNR=12							
I26K	Coal Creek Min	13.55	36	P		Pn	03 01 10.3	-0.2
	baz=232							
E22K	Anaktuvuk Pass	13.59	17	P		Pn	03 01 12.4	+1.3
	baz=206							
YUK4	Talbot Arm	13.60	55	P		Pn	03 01 11.5	0.0
	baz=254							
YUK6	Outpost Mounta	13.64	57	P		Pn	03 01 12.2	+0.3
	baz=257,SNR=12							
P29M	Windy Craggy	13.71	62			Pn	03 01 13.5	+0.8
P29M	Windy Craggy	13.71	62	P		Pn	03 01 11.8	-0.9
	baz=263							
F24K	Squaw Lake	13.82	23	P		Pn	03 01 13.9	-0.1
	baz=216							
EGAK	Eagle	13.94	40	P		Pn	03 01 13.6	-2.0
EGAK	Eagle	13.94	40	P		Pn	03 01 13.5	-2.0
	baz=238,SNR=5.0							
M29M	Somme Creek	14.01	50	P		Pn	03 01 16.2	-0.4
	baz=251,SNR=15							
HYT	Haines Junctio	14.02	57	Pn		Pn	03 01 17.6	+0.9
HYT	Haines Junctio	14.02	57	P		P	03 01 18.9	-1.1
	baz=258,SNR=11							
E24K	Your Creek	14.15	21	P		P	03 01 19.7	-1.5
	baz=213							
P30M	Million Dollar	14.17	60	P		Pn	03 01 20.0	+1.5
	baz=262							
I27K	Kandik River	14.24	36	P		Pn	03 01 20.0	+0.6
	baz=234,SNR=5.2							
DAWY	Dawson	14.26	44	P		Pn	03 01 18.6	-1.0
DAWY	Dawson	14.26	44	P		Pn	03 01 20.2	+0.7
	baz=243,SNR=12							
N30M	Aishikik Lake	14.36	55	P		Pn	03 01 21.5	+0.6
	baz=256,SNR=22							
PLBC	Pleasant Camp	14.39	63	P		Pn	03 01 21.7	+0.5
	baz=265,SNR=19							
F25K	Christian Rive	14.41	26	P		Pn	03 01 22.6	+1.0
	baz=220							
TOLK	Toolik Lake Re	14.42	19	P		Pn	03 01 22.6	+1.0
	baz=210							
G26K	Porcupine Rive	14.44	30	P		P	03 01 23.1	-1.3
	baz=226							
H27K	Steamboat Moun	14.65	34	P		Pn	03 01 25.0	+0.5
	baz=232							
O30N	Mendenhall	14.69	58	P		P	03 01 26.3	-1.0
	baz=260,SNR=9.2							
M30M	Minto, Yukon	14.79	51	P		Pn	03 01 26.2	0.0
M30M	Minto, Yukon	14.79	51	P		Pn	03 01 26.9	+0.6
	baz=252							
K29M	Barlow Dome	14.91	46	P		P	03 01 28.9	-0.9
	baz=247,SNR=10							
SKAG	Skagway	14.92	63			Pn	03 01 27.4	-0.4
SKAG	Skagway	14.92	63	P		Pn	03 01 28.0	+0.2
	baz=266,SNR=8.2							
N31M	Braeburn, Yuko	14.98	56	P		P	03 01 29.7	-0.8
	baz=258,SNR=12							
WHY	Whitehorse	15.27	59	P		P	03 01 33.5	-0.2
	baz=262,SNR=6.1							
M31M	Drury Creek, Y	15.77	53	P		P	03 01 40.5	+1.3
M31M	Drury Creek, Y	15.77	53	P		P	03 01 39.8	+0.6
	baz=257,SNR=13							
N32M	Quiet Lake	16.20	58	P		P	03 01 45.3	+1.2
	baz=262							
P33M	Teslin, Yukon	16.24	61	P		P	03 01 45.1	+0.6
P33M				IAmb		IAmb	03 01 49.3	
	comp=Z,22nm,0.7s							
P33M	Teslin, Yukon	16.24	61	P		P	03 01 46.0	+1.6
	baz=266,SNR=16							
FARO	Faro, Yukon	16.26	54	P		P	03 01 45.0	+0.4
FARO	Faro, Yukon	16.26	54	P		P	03 01 46.4	+1.9
	baz=258,SNR=12							
EPYK	Eagle Plains	16.34	38	P		Pn	03 01 44.6	-0.7
EPYK	Eagle Plains	16.34	38	P		Pn	03 01 44.2	-1.2
	baz=240							
C27K	Jago River	16.43	23	P		P	03 01 47.4	+1.0
	baz=219							
WRAK	Wrangell Islan	16.66	74	P		P	03 01 49.0	0.0
	baz=275							
S34M	Telegraph Cree	17.13	69	P		P	03 01 54.5	+0.4
	baz=275							
R33M	Jennings River	17.14	64	P		P	03 01 54.2	-0.3
	baz=270,SNR=5.8							
V35K	Ketchikan	17.27	78	P		P	03 01 56.0	+0.3
	baz=283							
MMPY	Sheldon Lake,	17.28	53	P		Pn	03 01 56.9	+0.1
	baz=259,SNR=7.1							
DLBC	Dease Lake	17.67	67	P		Pn	03 02 02.6	+1.2
	comp=Z,5.1nm,0.8s,baz=275,slow=7.9,SNR=11							
DLBC				S		Sn	03 05 18.6	-0.6
	comp=Z,3.0nm,0.6s,baz=296,slow=25,SNR=5.6							
DLBC	Dease Lake	17.67	67	P		Pn	03 02 01.6	+0.2
	baz=274							
T35M	Bob Quinn	17.71	72	P		P	03 02 01.2	+0.5
	baz=278,SNR=5.2							
WTLY	Watson Lake, Y	18.24	62	P		P	03 02 06.2	-0.2
WTLY	Watson Lake, Y	18.24	62	P		Pn	03 02 08.6	+0.5
	baz=270							
INK	Inuvik	18.39	34	P		P	03 02 06.3	-1.5
	comp=Z,1.5nm,0.3s,baz=215,slow=14,SNR=16							
INK				ScP		ScP	03 09 53.4	+0.3
	comp=Z,3.3nm,1.1s,baz=44,slow=2.7,SNR=3.5							
INK				LR		LR	03 10 09.1	
	comp=Z,56nm,20.3s,baz=238,slow=40							
INK	Inuvik	18.39	34	P		P	03 02 07.0	-0.8
	baz=240							
TGTN	Hyland Airport	18.55	57	P		Pn	03 02 11.1	-0.6
	baz=266,SNR=14							
WRGLY	Wrigley	20.90	53	P		P	03 02 34.4	-0.5
	baz=266							
PETK	Petropavlovsk-	23.34	281	P		P	03 02 57.5	-1.8
	comp=Z,1.1nm,0.4s,baz=44,slow=20,SNR=2.6							
	comp=Z,1.1nm,0.4s							
SEY	Seymchan	23.99	307	P		P	03 03 02.9	-2.3
	comp=Z,2.1nm,0.6s,baz=85,slow=11,SNR=6.4							
	comp=Z,2.7nm,0.6s							
YKA	Yellowknife Ar	24.97	54	P		P	03 03 15.1	+1.1
	comp=Z,7.1nm,0.6s,baz=272,slow=9.9,SNR=30							
	comp=Z,7.1nm,0.6s							
YKA	Yellowknife Ar	24.97	54	P		P	03 03 13.4	-0.6
I04A	Tendick Farm,	27.86	98	P		P	03 03 42.2	+2.0
	baz=309							
I05D	Terrebonne, OR	28.13	96	P		P	03 03 44.3	+1.7
	baz=308							
NEW	Newport	28.29	86	P		P	03 03 47.0	+3.1
	comp=Z,6.7nm,0.8s,baz=310,slow=7.1,SNR=11							
	comp=Z,6.7nm,0.8s							
NEW	Newport	28.29	86	P		P	03 03 45.6	+1.6
	baz=302,SNR=5.8							
J05D	Fort Rock, OR	28.85	98	P		P	03 03 52.1	+3.0
	baz=309,SNR=6.0							
YBH	Yreka Blue Hor	29.03	102	P		P	03 03 53.7	+3.0
	comp=Z,1.2nm,0.3s,baz=194,slow=23,SNR=2.4							
	comp=Z,1.2nm,0.3s							
MSO	Missoula	30.88	86	P		P	03 04 07.8	+0.9
	baz=304							
HLID	Hailey	32.55	91	P		P	03 04 23.2	+1.6
	baz=308							
EGMT	Eagleton	32.59	81	P		P	03 04 23.6	+1.9

IRM	Iron Mountain	38.60	104	P		P		03 05 14.5	+1.3
	baz=318								
ULM	Lac du Bonnet	38.98	69	P		P		03 05 17.5	+1.5
	comp=Z,4.3nm,0.4s,baz=302,slow=10								
	comp=Z,4.3nm,0.4s								
PDMCI	Parker Dam,Lak	39.05	102	P		P		03 05 18.6	+1.8
	baz=318								
N23A	Red Feather La	39.08	88	P		P		03 05 18.9	+1.5
	baz=311,SNR=7.5								
WUAZ	Wupatki	39.71	99	P		P		03 05 23.6	+1.1
	baz=316								
ISCO	Idaho Springs	40.00	89	P		P		03 05 26.0	+1.0
	baz=312								
AGMN	Agassiz Nation	40.10	72	P		P		03 05 25.0	-0.4
AGMN					IAmb	IAmb		03 05 27.6	
	comp=Z,12nm,0.8s								
AGMN	Agassiz Nation	40.10	72	P		P		03 05 26.4	+1.0
	baz=306								
MVCO	Mesa Verde	40.14	94	P		P		03 05 27.3	+1.2
	baz=315,SNR=14								
S22A	4UR Ranch, Cre	40.71	92	P		P		03 05 30.8	-0.1
	baz=314,SNR=5.6								
SUSD	Miller	40.75	78	P		P		03 05 31.5	+0.8
	baz=309								
Q24A	Divide	40.83	89	P		P		03 05 32.3	+0.4
	baz=313								
B35A	Bob, Littlefor	41.22	70	P		P		03 05 34.4	-0.1
B35A					IAmb	IAmb		03 05 36.1	
	comp=Z,9.7nm,0.5s								
OGNE	Ogallala	41.27	85	P		P		03 05 36.4	+1.3
	baz=312								
F33A	5 Mile Ranch,	41.35	75	P		P		03 05 35.6	0.0
SDCO	Great Sand Dun	41.47	91	P		P		03 05 39.4	+2.3
	baz=314,SNR=11								
214A	Organ Pipe Nat	41.54	104	P		P		03 05 39.5	+2.0
	baz=319								
KSCO	Kaye Shedlock'	42.23	87	P		P		03 05 45.0	+1.9
	baz=313								
TUC	Tucson	42.41	101	P		P		03 05 46.4	+2.0
	baz=319								
ECSD	EROS Data Cent	42.50	78	P		P		03 05 45.3	+0.3
	baz=310								
T25A	Trinidad	42.51	91	P		P		03 05 46.6	+1.1
	baz=315,SNR=8.1								
H11N2	WAKE ISLAND Hy	42.62	226	T		T		03 50 14.2	
	baz=26,slow=76,SNR=2.6								
H11N3	WAKE ISLAND Hy	42.62	226	T		T		03 50 13.4	
	baz=26,slow=76,SNR=8.0								
H11N1	WAKE ISLAND Hy	42.64	226	T		T		03 50 16.7	
	baz=26,slow=76,SNR=6.1								
EYMN	Ely	42.66	69	P		P		03 05 46.3	0.0
EYMN					IAmb	IAmb		03 05 47.9	
	comp=Z,8.2nm,0.8s								
EYMN	Ely	42.66	69	P		P		03 05 46.0	-0.2
	baz=308								
F36A	Milaca	42.85	73	P		P		03 05 47.5	-0.3
ANMO	Albuquerque	42.91	95	P		P		03 05 51.0	+2.4
	comp=Z,1.7nm,0.6s,baz=320,slow=10,SNR=11								
	comp=Z,1.7nm,0.6s								
ANMO	Albuquerque	42.91	95	P		P		03 05 49.4	+0.8
	baz=316								
BGNE	Belgrade	43.16	81	P		P		03 05 50.8	+0.5
	baz=312								
Y22D	IRIS PASSCAL I	43.28	96	P		P		03 05 50.7	-0.8
E38A	The Farm, Brul	43.46	71	P		P		03 05 53.9	+1.3
E38A					IAmb	IAmb		03 05 54.3	
	comp=Z,13nm,0.8s								
SPMN	Marine on St.	43.65	73	P		P		03 05 54.7	+0.6
SPMN					IAmb	IAmb		03 05 55.9	
	comp=Z,12nm,0.4s								
SPMN	Marine on St.	43.65	73	P		P		03 05 55.1	+0.9
	baz=309,SNR=7.4								
H11S1	WAKE ISLAND Hy	43.80	225	T		T		03 51 42.2	
	baz=26,slow=76,SNR=3.3								
H11S2	WAKE ISLAND Hy	43.81	225	T		T		03 51 33.2	
	baz=26,slow=76,SNR=2.8								
H11S3	WAKE ISLAND Hy	43.81	225	T		T		03 51 35.3	
	baz=26,slow=76,SNR=3.2								
121A	Cookes Peak, D	43.92	98	P		P		03 05 59.3	+2.5
	baz=318,SNR=7.3								
I37A	Lemond, Waseca	44.10	75	P		P		03 05 56.9	-0.9
I37A					IAmb	IAmb		03 06 00.1	
	comp=Z,14nm,0.7s								
N35A	Tabor	44.93	80	P		P		03 06 05.0	+0.5
G40A	Rib Lake	45.03	72	P		P		03 06 04.3	-0.9
G40A					IAmb	IAmb		03 06 06.6	
	comp=Z,12nm,0.3s								
AMTX	Amarillo	45.67	91	P		P		03 06 11.7	+1.3
	baz=316								
I40A	Norwalk	45.70	73	P		P		03 06 09.5	-1.0
MSTX	Muleshoe	45.71	93	P		P		03 06 11.5	+0.7
	baz=317								
MNTX	Cornudas Mount	45.90	97	P		P		03 06 15.2	+3.0
	baz=318,SNR=13								
JFWS	Jewell Farm	46.55	74	P		P		03 06 17.0	-0.1
	baz=312								
P38A	Dawn	46.95	80	P		P		03 06 19.9	-0.4
P38A					IAmb	IAmb		03 06 21.8	
	comp=Z,14nm,0.7s								
WMOK	Wichita Mounta	47.42	88	P		P		03 06 25.9	+1.8
	baz=316,SNR=11								
P40A	Paris	47.85	79	P		P		03 06 26.2	-1.0
P40A					IAmb	IAmb		03 06 28.6	
	comp=Z,14nm,0.9s								
TUL1	Leonard	48.28	85	P		P		03 06 31.2	+0.7
	baz=316								
GLMI	Grayling	48.31	68	P		P		03 06 31.0	+0.3
	baz=312								
L44A	Lake County Fo	48.32	73	P		P		03 06 31.0	+0.2
	baz=313								
ABTX	Abilene, Hawle	48.47	91	P		P		03 06 32.9	+0.8
	baz=318								
R40A	Maddies Statio	48.59	80	P		P		03 06 30.9	-2.0
TXAR	Lajitas Array	48.65	97	P		P		03 06 36.0	+2.4
	comp=Z,6.9nm,0.8s,baz=301,slow=5.9,SNR=72								
TXAR				PcP		PcP		03 07 58.1	+1.4
	comp=Z,0.5nm,0.5s,baz=265,slow=0.6,SNR=5.9								
TXAR				S		S		03 13 17.3	-7.1
	comp=Z,0.2nm,0.6s,baz=287,slow=9.3,SNR=3.5								
	comp=Z,6.9nm,0.8s								
HDIL	Hopedale	48.67	76	P		P		03 06 31.9	-1.5
HDIL					IAmb	IAmb		03 06 34.9	
	comp=Z,28nm,0.9s								
HDIL	Hopedale	48.67	76	P		P		03 06 33.7	+0.2
	baz=314								
U38A	Gravette	48.70	83	P		P		03 06 33.3	-0.5
U38A					IAmb	IAmb		03 06 34.6	
	comp=Z,8.3nm,0.4s								
HHAR	Hobbs	49.07	83	P		P		03 06 35.1	-1.5
KSRS	Korea Array	49.21	279	P		P		03 06 36.8	-0.8
	comp=Z,0.9nm,0.5s,baz=45,slow=7.3,SNR=1.8								
	comp=Z,0.9nm,0.5s								
MGMO	Mountain Grove	49.39	81	P		P		03 06 37.1	-1.9
JCT	Junction City	49.98	93	P		P		03 06 44.4	+0.9
	baz=319,SNR=8.7								
SFIN	Lafayette	50.01	74	P		P		03 06 42.6	-1.0
SFIN	Lafayette	50.01	74	P		P		03 06 43.8	+0.2
	baz=314								
WHTX	Lake Whitney,	50.19	90	P		P		03 06 45.4	+0.3
	baz=318								
SCHQ	Schefferville	50.21	49	P		P		03 06 45.2	+0.2
	comp=Z,3.2nm,0.3s,baz=324,slow=7.2,SNR=14								
	comp=Z,3.2nm,0.3s								
FCAR	Ozark Folk Cen	50.37	82	P		P		03 06 45.7	-0.7
FCAR					IAmb	IAmb		03 06 46.8	
	comp=Z,9.5nm,0.9s								
MIAR	Mount Ida	50.52	85	P		P		03 06 47.7	+0.1
	baz=317								
AAM	Ann Arbor	50.54	70	P		P		03 06 47.5	-0.1
	baz=314								
S44A	Carbondale	50.70	78	P		P		03 06 48.1	-0.7
S44A					IAmb	IAmb		03 06 49.9	
	comp=Z,8.2nm,0.7s								
SIUC	Southern Illin	50.70	78	P		P		03 06 48.4	-0.5
SIUC					IAmb	IAmb		03 06 49.8	
	comp=Z,7.7nm,0.8s								
435B	Jarrell	51.01	91	P		P		03 06 52.6	+1.3
	baz=319								
O48B	Farmland	51.15	73	P		P		03 06 51.7	-0.5
	baz=315								
P48A	Milroy	51.56	74	P		P		03 06 54.9	-0.4
P49A	Miami Univ. Ec	51.90	74	P		P		03 06 57.7	-0.1
	baz=315								
NATX	Nacogdoches	51.95	88	P		P		03 06 58.5	+0.3
	baz=318								
WCI	Wyandotte Cave	51.96	76	P		P		03 06 57.4	-0.8
	baz=316								

ACSO	Alum Creek Sta	52.35	72	P		P		03 07 00.8	-0.2
	baz=315								
WVT	Waverly	52.61	79	P		P		03 07 03.4	+0.4
WVT					IAmb	IAmb		03 07 04.5	
	comp=Z,7.7nm,0.7s								
WVT	Waverly	52.61	79	P		P		03 07 03.7	+0.7
	baz=316								
M53A	Wi Miller and	52.73	69	P		P		03 07 04.2	+0.3
	baz=315								
OXF	Oxford	52.90	81	P		P		03 07 05.8	+0.6
OXF	Oxford	52.90	81	P		P		03 07 05.9	+0.7
	baz=317								
R50A	Paris	53.00	74	P		P		03 07 05.5	-0.4
R50A					IAmb	IAmb		03 07 07.2	
	comp=Z,10nm,0.7s								
Q51A	Peebles	53.01	73	P		P		03 07 06.0	0.0
Q51A					IAmb	IAmb		03 07 07.2	
	comp=Z,11nm,0.8s								
O53A	New Philadelph	53.29	71	P		P		03 07 07.3	-0.7
	baz=316								
PLAL	Pickwick Lake	53.31	80	P		P		03 07 07.3	-0.8
PLAL					IAmb	IAmb		03 07 10.4	
	comp=Z,5.5nm,0.8s								
LONY	Lake Ozonia	53.65	62	P		P		03 07 09.5	-1.0
	baz=315								
MCWV	Mont Chateau	54.45	70	P		P		03 07 16.6	+0.2
	baz=316								
Z47A	Carrollton	54.62	81	P		P		03 07 17.0	-0.6
BINY	Binghamton	54.66	65	P		P		03 07 18.3	+0.4
	baz=316								
SSPA	Standing Stone	54.78	68	P		P		03 07 19.0	+0.2
	baz=316								
ARCES	ARCESS Array B	55.18	357	P		P		03 07 18.7	-2.5
	comp=Z,3.8nm,0.9s,baz=358,slow=7.2,SNR=2.6								
	comp=Z,3.8nm,0.9s								
HHC	Hu-ho-hao-te	55.70	294	*e*P		P		03 07 28.1	+2.6
HHC					pmax	pmax			
	comp=Z,43nm,0.7s								
HHC					pmax	pmax			
	comp=Z,180nm,5.7s								
BLA	Blacksburg	55.91	73	P		P		03 07 26.1	-0.8
	baz=317								
BRAL	Brewton	56.70	82	P		P		03 07 32.5	-0.1
	baz=319								
CBN	Corbin Frederi	56.83	70	P		P		03 07 33.1	-0.2
	baz=317								
KMSC	Kings Mountain	56.94	75	P		P		03 07 33.6	-0.6
	baz=318								
GOGA	Godfrey	57.04	78	P		P		03 07 34.6	-0.3
	baz=318								
FINES	FINESS Array B	63.25	356	P		P		03 08 15.1	-1.6
	comp=Z,1.4nm,0.9s,baz=0.0,slow=8.3,SNR=4.4								
	comp=Z,1.4nm,0.9s								
MKAR	Makanchi Array	64.64	317	P		P		03 08 24.4	-1.7
	comp=Z,0.3nm,0.5s,baz=36,slow=4.2,SNR=2.9								
	comp=Z,0.3nm,0.5s								
WMQ	Urnqi	64.84	311	*e*P		P		03 08 30.8	+3.3
KMI	Kunming	72.48	289	⇑P		P		03 09 17.6	+2.3
KMI					pmax	pmax			
	comp=Z,9.0nm,0.6s								
CLL	Collm	73.52	3	*e*P		P		03 09 21.0	+0.3
CMAR	Chiang Mai Arr	79.93	288	P		P		03 09 56.7	-0.4
	comp=Z,1.7nm,0.3s,baz=12,slow=6.4,SNR=5.5								
	comp=Z,1.7nm,0.3s								
ESDC	Sonseca Array	83.42	17	P		P		03 10 15.4	+0.2
	comp=Z,0.4nm,0.5s,baz=343,slow=5.8,SNR=6.8								
	comp=Z,0.4nm,0.5s								
WRA	Warramunga Arr	92.28	237	P		P		03 10 57.0	-0.7
	comp=Z,0.4nm,0.8s,baz=39,slow=6.1,SNR=3.4								
	comp=Z,0.4nm,0.8s								
ASAR	Alice Springs	95.67	236	P		P		03 11 14.1	+0.9
	comp=Z,0.2nm,0.5s,baz=31,slow=4.3,SNR=1.4								
	comp=Z,0.2nm,0.5s								
TUWZ	Tuamarina	98.65	198	P		Pdif		03 11 25.9	-0.3

*INET **06** 03:27:18.7±0.7, 11°.10N×86°.64W, h15km±8km, ML2.6*
*UCR **06** 03:27:18.5±2.2, 11°.15N×86°.64W, h26km±12km, MW3.6*
ISC 06 03:27:18.4±2.1, 11°.08N±0°.07×86.7W±0°.1, h31km, n13, σ0§65/16, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.10	4	*e*P		Pn		03 27 37.7	+0.1
HZTE	Horizontes, Gu	1.12	109	⇑eP		Pn		03 27 37.9	0.0
HZTE				*e*S		Sn		03 27 52.6	+0.3
MGAN	Managua	1.14	21	*e*P		Pn		03 27 38.4	+0.2
MGAN				*e*S		Sb		03 27 53.4	-0.6
MGAN					IAML			03 27 54.0	
	comp=E,90nm,0.4s								
WILN	Americas 2	1.17	24	*e*P		Pn		03 27 38.6	0.0
APYN	Apoyeque	1.19	15	*e*P		Pn		03 27 38.0	-1.0
MOMN	Momotombo	1.33	6	*e*P		Pn		03 27 40.7	-0.1
HUEN		1.34	21	*e*P		Pn		03 27 41.0	0.0
SAJU	San Juanillo,	1.38	137	*e*P		Pn		03 27 40.2	-1.3
ORTG	Ortega, Santa	1.39	121	*e*P		Pn		03 27 42.4	+0.7
VMAR	Armenia, Volca	1.55	100	*e*P		Pn		03 27 43.5	-0.4
VMAR				*i* S		Sn		03 28 03.9	+0.9
CRIN	San Cristobal	1.65	347	*e*P		Pn		03 27 45.8	+0.4
ACON	Acoyapa	1.71	59	*e*P		Pn		03 27 45.5	-0.6
JTS	Las Juntas de	1.86	115	*e*P		Pn		03 27 48.6	+0.4

*IDC **06** 03:32:00.2±3.3, 36°.76S×179°.04E, h0km, mb4.1/2, mbtmp4.1/3, ML3.6/1, Error ellipse: s-maj=73.7km s-min=42.4km az=123.0*
*NEIC **06** 03:32:00.6±1.3, 37°.1S±0°.1×179°.5E±0°.2, h22km±6km, mb4.2/6, Error ellipse: s-maj=18.9km s-min=15.6km az=57.0*
*WEL **06** 03:32:06.8±1.3, 37°S±5°×17°9E±1°, h10km, M3.5/34, MLv3.5/34, Error ellipse: s-maj=0.0km s-min=0.0km az=80.4*
ISC 06 03:32:02.0±2.3, 37°.04S±0°.06×179°.18E±0°.09, h16km±10km, n89, σ1§19/97, mb4.1/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.87	233				Pg	03 32 18.9	0.0
MXZ	Matakaoa Point	0.87	233	P			Pg	03 32 18.9	0.0
MXZ				S			Sg	03 32 28.1	-2.2
WMGZ	Waiomatatini S	0.98	218	P			Pn	03 32 23.1	+1.9
WMGZ				S			Sn	03 32 36.4	+1.6
PKGZ	Pakihiroa	1.22	226	P			Pb	03 32 25.3	+0.6
PKGZ				S			Sn	03 32 41.4	+0.8
PUZ	Puketiti	1.26	215	P			Pg	03 32 27.0	+0.6
PUZ				S			Sg	03 32 42.9	+0.1
HAZ	Te Kaha	1.32	237	P			Pg	03 32 27.9	+0.4
HAZ				S			Sg	03 32 44.2	-0.5
TWGZ	Tauwhareparae	1.48	220	P			Pb	03 32 30.1	+1.0
RUGZ	Raukumara Rang	1.51	232	P			Pn	03 32 29.8	+1.3
RUGZ				S			Sg	03 32 49.4	-1.2
CNGZ	Carnagh Statio	1.63	208	P			Pb	03 32 32.5	+0.8
CNGZ				S			Sg	03 32 54.6	0.0
WIZ	White Island	1.66	252	P			Pn	03 32 29.6	-0.8
TKGZ	Te Karaka	1.75	217	P			Pn	03 32 33.4	+1.7
MWZ	Matawai	1.84	225	P			Pn	03 32 34.5	+1.5
WHRZ	Whale Island	1.93	245	P			Pn	03 32 35.8	+1.6
RIGZ	Rimuhau	2.00	214	P			Pn	03 32 36.9	+1.6
RAGZ	Rawiri	2.01	223	P			Pn	03 32 37.0	+1.6
URZ	Urewera	2.04	233	Pn			Pn	03 32 36.8	+1.0
	17nm,0.3s,baz=31,slow=4.5,SNR=52								
URZ						Sn	Sn	03 33 00.8	-0.1
	40nm,0.3s,baz=307,slow=20,SNR=34								
	72nm,0.4s								
URZ	Urewera	2.04	233				Pn	03 32 37.1	+1.4
URZ	Urewera	2.04	233	P			Pn	03 32 37.2	+1.4
PRGZ	Paritu Road	2.14	208	P			Pn	03 32 38.5	+1.4
MARZ	Manawahe	2.20	244	P			Pn	03 32 39.3	+1.3
MARZ				S			Sn	03 33 03.3	-1.6
EDRZ	Edgecumbe	2.21	241	P			Pn	03 32 39.3	+1.2
SNGZ	Shannon Statio	2.26	219	P			Pn	03 32 40.2	+1.4
KNZ	Kokohu	2.30	211	P			Pn	03 32 40.0	+0.6
MHGZ	Mahia Peninsul	2.33	205	P			Pn	03 32 41.1	+1.4
RTZ	Ruatahuna	2.34	227	P			Pn	03 32 41.3	+1.3
MUGZ	Murupara	2.38	232	P			Pn	03 32 41.5	+1.1
TARZ	Mount Tarawera	2.43	240	P			Pn	03 32 43.0	+1.8
RAHZ	Arahi	2.50	221	P			Pn	03 32 43.6	+1.6
WHHZ	Waihua	2.54	216	P			Pn	03 32 44.1	+1.5
HLRZ	Highlands Stat	2.55	241	P			Pn	03 32 44.8	+2.1
MTHZ	Maungataniwha	2.58	225	P			Pn	03 32 44.5	+1.2
KMRZ	Kaimai	2.70	252	P			Pn	03 32 44.8	0.0
NMHZ	Naumai	2.77	222	P			Pn	03 32 47.2	+1.3
KUZ	Kuaotunu	2.79	275	P			Pn	03 32 45.6	-0.4

ARHZ	Aropaoanui	2.80	217	P			Pn	03 32 47.2	+0.9
MRHZ	Matea Rd	2.82	230	P			Pn	03 32 47.6	+1.1
BKZ	Black Stump Fm	3.00	224				Pn	03 32 50.0	+1.0
BKZ	Black Stump Fm	3.00	224	P			Pn	03 32 48.0	-1.0
TOZ	Tahuroa Road	3.01	256	P			Pn	03 32 48.8	-0.2
CKHZ	Cape Kidnapper	3.09	212	P			Pn	03 32 50.4	+0.2
MCHZ	McNeill Hill	3.09	218	P			Pn	03 32 51.1	+0.9
GRZ	Great Barrier	3.09	284	P			Pn	03 32 51.7	+1.5
MKAZ	Moumakai	3.21	268	P			Pn	03 32 51.8	0.0
KWHZ	Kaweka Forest	3.22	222	P			Pn	03 32 52.4	+0.4
WIAZ	Waiheke Island	3.25	273	P			Pn	03 32 52.5	+0.1
KAHZ	Kahuranaki	3.29	213	P			Pn	03 32 52.9	0.0
KRHZ	Kereru	3.41	220	P			Pn	03 32 54.7	+0.1
TMVZ	Te Maari	3.43	232	P			Pn	03 32 55.7	+0.7
ETVZ	East Tongariro	3.44	232	P			Pn	03 32 55.7	+0.6
NTVZ	North Tongarir	3.44	232	P			Pn	03 32 54.9	-0.3
BHHZ	Black Hill Sta	3.46	224	P			Pn	03 32 55.8	+0.4
KRVZ	Karewarewa	3.46	233	P			Pn	03 32 56.2	+0.8
OTVZ	Oturere	3.49	232	P			Pn	03 32 56.3	+0.5
PXZ	Pawanui	3.49	211	P			Pn	03 32 55.2	-0.4
NNVZ	North Ngauruho	3.50	232	P			Pn	03 32 56.8	+0.9
WTVZ	West Tongariro	3.50	233	P			Pn	03 32 57.1	+1.1
SNVZ	South Ngauruho	3.52	231	P			Pn	03 32 56.8	+0.6
NGZ	Ngauruhoe	3.53	232	P			Pn	03 32 57.2	+0.7
TWVZ	Taurewa	3.58	234	P			Pn	03 32 58.3	+1.3
MOVZ	Moawhango	3.58	228	P			Pn	03 32 57.1	+0.1
PNHZ	Pukenui	3.70	218	P			Pn	03 32 58.0	-0.6
WPHZ	Waipukurau	3.70	215	P			Pn	03 32 57.8	-0.8
HIZ	Hauiti	3.72	246	P			Pn	03 32 60.0	+1.1
MTVZ	Mangateitei	3.74	230	P			Pn	03 32 59.6	+0.4
PKVZ	Pokaka	3.76	232	P			Pn	03 33 00.7	+1.2
PRHZ	Porangahau	3.78	211	P			Pn	03 32 59.1	-0.6
TSZ	Takapari Road	3.93	219	P			Pn	03 33 00.8	-1.0
WCZ	Waipu Caves	4.05	284	P			Pn	03 33 04.4	+1.1
WAZ	Wanganui	4.26	229	P			Pn	03 33 07.0	+0.6
BFZ	Birch Farm	4.29	211	Pn			Pn	03 33 05.1	-1.6
TIWZ	Tintock	4.53	214	P			Pn	03 33 08.7	-1.2
NEZ	North Egmont	4.58	239	P			Pn	03 33 13.7	+3.0
KHEZ	Kahui Hut	4.65	240	P			Pn	03 33 14.7	+3.1
OUZ	Omahuta	4.87	290	Pn			Pn	03 33 16.3	+1.7
OUZ	Omahuta	4.87	290	P			Pn	03 33 16.3	+1.7
MSWZ	Moikau Station	5.33	214	Pn			Pn	03 33 18.6	-2.3
QRZ	Quartz Range	6.41	232	Pn			Pn	03 33 34.2	-1.6
QRZ	Quartz Range	6.41	232	P			Pn	03 33 34.1	-1.8
KHZ	Kahutara	6.90	217	Pn			Pn	03 33 42.8	+0.3
ASAR	Alice Springs	40.91	276	P			P	03 39 43.2	-0.6
	1.3nm,0.6s,baz=120,slow=7.8,SNR=18								
	1.3nm,0.6s								
WR0	Warramunga Arr	42.34	281	P			P	03 39 54.8	-0.7
WR0					IAmb	IAmb		03 40 02.2	
	comp=Z,4.4nm,1.2s								
WB2	Warramunga Arr	42.50	281	P			P	03 39 56.0	-0.9
WB2					IAmb	IAmb		03 39 56.4	
	comp=Z,13nm,1.4s								
WRA	Warramunga Arr	42.51	281	P			P	03 39 56.2	-0.6
	comp=Z,1.9nm,0.4s,baz=122,slow=7.9,SNR=56								
	comp=Z,1.9nm,0.4s								
WRA	Warramunga Arr	42.51	281	P			P	03 39 56.0	-0.9
WB0	Warramunga Arr	42.56	281	P			P	03 39 56.4	-0.9
WB0					IAmb	IAmb		03 40 14.2	
	comp=Z,6.6nm,1.4s								
KNRA	Kununurra	49.29	282	P			P	03 40 49.1	-1.3
FITZ	Fitzroy Crossi	50.40	277	P			P	03 40 58.4	-0.4
SNAA	Sanae	71.58	179	P			P	03 43 18.7	-3.4
SNAA					IAmb	IAmb		03 43 22.3	
	comp=Z,1.5nm,1.1s								
FINES	FINESS Array B	150.33	334	PKPbc			PKPbc	03 51 51.2	-0.5
	comp=Z,1.1nm,0.8s,baz=57,slow=5.1,SNR=3.5								

*IDC **06** 03:44:17.7±1.5, 54°.62N×168°.38E, h0km, mb3.3/3, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=78.8km s-min=27.4km az=150.0*
*KRSC **06** 03:44:22.0±1.5, 54°.64N×168°.07E, h61km±25km, ML3.8*
ISC 06 03:44:21.5±1.1, 54°.67N±0°.10×168°.28E±0°.08, h24km, n23, σ1§48/27, mb3.4/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	Bering	1.43	293	P		Pn		03 44 45.2	-0.8
BKI				S		Sn		03 45 03.9	-0.1
KBTR	Krutoberegovo	3.47	299	P		Pn		03 45 14.3	+0.4
KBTR				S		Sn		03 45 55.2	+1.0
MKZ	Mys Kozlova	3.81	271	P		Pn		03 45 19.6	+1.0
MKZ				S		Sn		03 46 01.1	-1.5
TUMR	Tumrok	4.73	281	P		Pn		03 45 33.6	+2.3
KRER	Koryakskii	5.79	260	P		Pn		03 45 47.0	+1.0
KRER				S		Sn		03 46 49.5	-2.1
AVH	Avacha	5.80	260	P

NEIC ***06*** *04:13:36, 10°.96S×165°.78E, h46km, Moment Tensor Solution. Duration: 20 Moment tensor: Scale 10^{17}Nm; M_{rr}3.10; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$-2.23; $M_{r\theta}$0.70; $M_{r\phi}$1.09; $M_{\theta\phi}$-1.48; Fault plane solution: $M_0$3.39000×10^{17} NP1: ϕ_s330.00000°, δ31.00000°, λ87.00000°. NP2: ϕ_s153.00000°, δ59.00000°, λ92.00000°. Principal axes: T 3.5176, Plg76.0000°, Azm67.0000°; N -0.2602, Plg1.0000°, Azm332.0000°; P -3.2574, Plg14.0000°, Azm242.0000°;*

BJI ***06*** *04:13:37.6±0.0, 10°.19S×165°.53E, h80km, mb5.3/81, mB5.4/61, Ms5.1/83, Ms7 4.9/79*

NOU ***06*** *04:13:56.0, 12°.825S×166°.03E, h7km, mb5.5/13, Santa Cruz Islands*

ISC 06 04:13:33.1±0.3, 10°.94S±0°.03×165°.96E±0°.03, h65km±2km, h65km:pP-P, n1457, σ1s17/1275, mb5.5/350, 64C-22D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.10**	**284**	P	**Pn**	**04 15 00.8**	**0.0**
	3μm,0.3s,baz=204,slow=2.0,SNR=19						
HNR				S	**Sn**	**04 16 07.2**	**-2.1**
	6μm,0.6s,baz=44,slow=22,SNR=1.1						
HNR				LR	LR	04 17 35.0	
	comp=Z,384μm,20.6s,baz=120,slow=40						
HNR	**Honiara**	**6.10**	**284**	Pn	**Pn**	**04 14 59.8**	**-1.0**
HNR	**Honiara**	**6.10**	**284**	P	**Pn**	**04 14 59.8**	**-1.0**
RTV	**Rentapao**	**7.22**	**161**	P	**Pn**	**04 15 18.0**	**+2.0**
KOUNC	**Koumac, New Ca**	**9.69**	**189**	Pn	**Pn**	**04 15 50.3**	**+0.5**
KOUNC	**Koumac, New Ca**	**9.69**	**189**	P	**Pn**	**04 15 50.6**	**+0.8**
LIFNC	**LIFOU**	**9.86**	**173**	Pn	**Pn**	**04 15 50.5**	**-1.6**
LIFNC	**LIFOU**	**9.86**	**173**	P	**Pn**	**04 15 51.0**	**-1.1**
MARNC	**Mare, Loyalty**	**10.66**	**170**	Pn	**Pn**	**04 16 02.0**	**-1.2**
MARNC	**Mare, Loyalty**	**10.66**	**170**	P	**Pn**	**04 16 02.9**	**-0.3**
DZM	**Mont Dzumac**	**11.07**	**178**	*e*Pn	**Pn**	**04 16 08.1**	**-0.8**
	508nm,1.3s						
DZM				*e*Sn	**Sn**	**04 18 07.2**	**-4.0**
	355nm,1.1s						
DZM				*e*LR	LR	04 18 41.4	
	comp=Z,16μm,24.5s						
DZM	**Mont Dzumac**	**11.07**	**178**	P	**Pn**	**04 16 08.7**	**-0.1**
	11nm,0.3s,baz=347,slow=13,SNR=71						
DZM				S	**Sn**	**04 18 08.1**	**-3.1**
	61nm,0.6s,baz=294,slow=20,SNR=3.2						
	58nm,0.5s						
DZM	**Mont Dzumac**	**11.07**	**178**	Pn	**Pn**	**04 16 08.9**	**0.0**
DZM	**Mont Dzumac**	**11.07**	**178**	P	**Pn**	**04 16 09.5**	**+0.6**
YATNC	**Mamie plateau,**	**11.09**	**175**	P	**Pn**	**04 16 09.2**	**+0.2**
NOUC	**Port Laguerre**	**11.10**	**178**	P	**Pn**	**04 16 10.1**	**+1.0**
ONTNC	**Ouen Toro**	**11.31**	**178**	Pn	**Pn**	**04 16 11.7**	**-0.3**
ONTNC	**Ouen Toro**	**11.31**	**178**	P	**Pn**	**04 16 13.3**	**+1.3**
OUENC	**Ouen Island, N**	**11.44**	**176**	Pn	**Pn**	**04 16 14.5**	**+0.7**
OUENC	**Ouen Island, N**	**11.44**	**176**	P	**Pn**	**04 16 15.2**	**+1.4**
PINNC	**Pines Island,**	**11.69**	**173**		**Pn**	**04 16 17.9**	**+0.7**
FUNA	**Funafuti**	**13.27**	**81**	Pn	**Pn**	**04 16 37.7**	**-1.1**
MSVF	**Nonsavu**	**13.52**	**121**	P	**P**	**04 16 46.4**	**-2.7**
	149nm,1.1s,baz=290,slow=12,SNR=5.7						
MSVF				S	**Sn**	**04 19 15.5**	**+4.7**
	15nm,1.0s,baz=61,slow=22,SNR=1.1						
MSVF				LR	LR	04 20 51.8	
	comp=Z,13μm,21.0s,baz=303,slow=33						
TARA	**Tarawa**	**14.05**	**30**		**Pn**	**04 16 46.1**	**-3.0**
KRVT	**Keravat (AS076**	**15.29**	**294**	P	**P**	**04 17 09.3**	**+0.5**
	88nm,0.7s,baz=234,slow=17,SNR=1.8						
KRVT				S	**S**	**04 20 04.2**	**-2.7**
	100nm,0.9s,baz=57,slow=21,SNR=1.6						
NFK	**Norfolk Island**	**18.10**	**174**	P	**Pn**	**04 17 41.7**	**+1.5**
	baz=18,SNR=3.1						
PMG	**Port Moresby**	**18.57**	**273**	P	**Pn**	**04 17 49.4**	**+3.5**
	36nm,0.8s,baz=123,slow=6.2,SNR=4.5						
PMG				S	**S**	**04 21 14.1**	**+1.0**
	6.4nm,0.5s,baz=193,slow=11,SNR=1.3						
PMG				LR	LR	04 24 51.3	
	comp=Z,11μm,19.6s,baz=110,slow=36						
PMG	**Port Moresby**	**18.57**	**273**	*i* P	**Pn**	**04 17 46.6**	**+0.7**
PMG				pmax	pmax		
	comp=Z,67nm,1.1s						
PATS	**Pohnpei**	**19.23**	**336**	P	**P**	**04 17 52.8**	**+0.6**
	baz=19,SNR=17						
KWAJ	**Kwajalein Atol**	**19.68**	**5**	P	**P**	**04 17 56.8**	**-0.4**
KWAJ				IAmb	IAmb	04 18 04.5	
	comp=Z,379nm,1.1s						
KWAJ	**Kwajalein Atol**	**19.68**	**5**	P	**P**	**04 17 56.8**	**-0.4**
KWAJ				pmax	pmax		
	comp=Z,379nm,1.1s						
EIDS	**Eidsvold**	**20.11**	**222**	P	Pn	04 18 04.2	+0.1
	baz=20,SNR=26						
EIDS	**Eidsvold**	**20.11**	**222**	P	**P**	**04 18 01.7**	**-0.1**
MANU	**Manus Island**	**20.46**	**294**	P	**P**	**04 18 05.2**	**-0.5**
MANU				IAmb	IAmb	04 18 21.5	
	comp=Z,234nm,1.2s						
CTA	**Charters Tower**	**21.03**	**242**	P	**P**	**04 18 13.0**	**+1.2**
	comp=Z,47nm,0.8s,baz=76,slow=11,SNR=27						
CTA				S	**S**	**04 22 06.2**	**+3.8**
	comp=Z,5.3nm,1.1s,baz=150,slow=13,SNR=1.4						
CTA				LR	LR	04 25 21.0	
	comp=Z,5μm,19.1s,baz=80,slow=34						
	comp=Z,47nm,0.8s						
CTA	**Charters Tower**	**21.03**	**242**	P	**P**	**04 18 13.0**	**+1.2**
CTAO	**Charters Tower**	**21.03**	**242**	P	**P**	**04 18 10.7**	**-1.1**
CTAO	**Charters Tower**	**21.03**	**242**	P	**P**	**04 18 10.7**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,63nm,0.9s						
CTAO				MLR	MLR		
	comp=Z,6μm,21.0s						
LHI	**Lord Howe Isla**	**21.45**	**196**	P	**P**	**04 18 17.7**	**+1.7**
	baz=22,SNR=5.4						
LHI	**Lord Howe Isla**	**21.45**	**196**	P	**P**	**04 18 15.2**	**-0.9**
LHI				IAmb	IAmb	04 18 20.3	
	comp=Z,194nm,1.1s						
AFI	**Afiamalu**	**21.94**	**100**	P	**P**	**04 18 22.4**	**+0.8**
	comp=Z,52nm,0.4s,baz=80,slow=12,SNR=8.3						
AFI				LR	LR	04 25 08.0	
	comp=Z,6μm,21.1s,baz=261,slow=32						
	comp=Z,52nm,0.4s						
AFI	**Afiamalu**	**21.94**	**100**	P	**P**	**04 18 20.9**	**-0.7**
AFI				IAmb	IAmb	04 18 25.8	
	comp=Z,167nm,1.1s						
AFI	**Afiamalu**	**21.94**	**100**	P	**P**	**04 18 20.9**	**-0.7**
AFI				pmax	pmax		
	comp=Z,167nm,1.1s						
MTSU	**Mount Surprise**	**22.12**	**249**	P	**P**	**04 18 24.6**	**+1.2**
	baz=22,SNR=64						
RMQ	**Roma**	**22.41**	**224**	P	**P**	**04 18 28.1**	**+1.5**
	baz=23,SNR=16						
COEN	**Coen**	**22.44**	**260**	P	**P**	**04 18 27.1**	**+0.1**
	baz=22,SNR=3.9						
COEN	**Coen**	**22.44**	**260**	P	**P**	**04 18 26.7**	**-0.3**
ARMA	**Armidale**	**23.51**	**212**	P	**P**	**04 18 38.8**	**+1.2**
	baz=24,SNR=19						
ARMA	**Armidale**	**23.51**	**212**	P	**P**	**04 18 38.2**	**+0.6**
ARMA				IAmb	IAmb	04 18 40.5	
	comp=Z,276nm,1.4s						
RAO	**Raoul Island**	**23.64**	**143**	LR	LR	04 26 11.9	
	comp=Z,2μm,18.2s,baz=315,slow=32						
NIUE	**Niue**	**24.63**	**112**	P	**P**	**04 18 48.8**	**+1.0**
NIUE				IAmb	IAmb	04 18 50.8	
	comp=Z,255nm,0.9s						
OUZ	**Omahuta**	**25.15**	**165**	P	**P**	**04 18 52.9**	**+0.6**
QLP	**Quilpie**	**25.72**	**230**	P	**P**	**04 18 58.4**	**+0.8**
	baz=26,SNR=8.0						
QIS	**Mount Isa**	**27.07**	**246**	P	**P**	**04 19 10.5**	**+0.7**
	baz=27,SNR=12						
CMSA	**Cobar Meteorol**	**27.77**	**219**	P	**P**	**04 19 16.5**	**+0.5**
	baz=28,SNR=15						
SMPI	**Sarmi**	**28.47**	**286**	P	**P**	**04 19 23.6**	**+1.2**
	comp=Z,1μmcomp=Z,65nm,1.0s						
CNB	**Canberra Magne**	**28.57**	**209**	P	**P**	**04 19 24.5**	**+1.3**
	baz=29,SNR=14						
HIZ	**Hauiti**	**28.59**	**165**	P	**P**	**04 19 24.3**	**+1.2**
HIZ				IAmb	IAmb	04 19 25.5	
	comp=Z,152nm,0.9s						
CAN	**Canberra**	**28.75**	**210**	P	**P**	**04 19 24.7**	**0.0**
CAN	**Canberra**	**28.75**	**210**	P	**P**	**04 19 24.7**	**0.0**
CAN				pmax	pmax		
	comp=Z,40nm,1.1s						
URZ	**Urewera**	**28.98**	**162**	P	**P**	**04 19 26.8**	**+0.3**
	comp=Z,49nm,0.5s,baz=30,slow=1.4,SNR=17						
URZ				PcP	**PcP**	**04 22 34.0**	**0.0**
	comp=Z,38nm,0.9s,baz=31,slow=6.2,SNR=4.6						
URZ				S	**S**	**04 24 18.2**	**+5.2**
	comp=Z,18nm,0.9s,baz=211,slow=13,SNR=3.6						
URZ				LR	LR	04 29 28.7	
	comp=Z,3μm,21.5s,baz=38,slow=33						
	comp=Z,49nm,0.5s						
URZ	**Urewera**	**28.98**	**162**	P	**P**	**04 19 25.9**	**-0.7**
RATZ	**Rangitukua**	**29.16**	**164**	P	**P**	**04 19 29.6**	**+1.4**
KATZ	**Kakaramea**	**29.24**	**164**	P	**P**	**04 19 30.8**	**+1.7**
NTVZ	**North Tongarir**	**29.35**	**164**	P	**P**	**04 19 31.3**	**+1.3**
TMVZ	**Te Maari**	**29.37**	**164**	P	**P**	**04 19 31.6**	**+1.3**
ETVZ	**East Tongariro**	**29.39**	**164**	P	**P**	**04 19 31.8**	**+1.4**
OTVZ	**Oturere**	**29.41**	**165**	P	**P**	**04 19 31.8**	**+1.3**
SNVZ	**South Ngauruho**	**29.42**	**165**	P	**P**	**04 19 32.1**	**+1.4**
BKZ	**Black Stump Fm**	**29.63**	**163**	P	**P**	**04 19 31.8**	**-0.7**
QRZ	**Quartz Range**	**30.32**	**170**	P	**P**	**04 19 39.3**	**+0.8**
H11N1	**WAKE ISLAND Hy**	**30.48**	**2**	T	T	04 51 26.1	
	baz=182,slow=76,SNR=333						
H11N3	**WAKE ISLAND Hy**	**30.48**	**2**	T	T	04 51 25.9	
	baz=182,slow=76,SNR=331						
H11N2	**WAKE ISLAND Hy**	**30.50**	**2**	T	T	04 51 27.4	
	baz=182,slow=76,SNR=341						
DUWZ	**D'Urville Isla**	**30.56**	**168**	P	**P**	**04 19 41.7**	**+1.1**
STKA	**Stephens Creek**	**30.66**	**223**	P	**P**	**04 19 42.3**	**+0.7**
	comp=Z,15nm,0.8s,baz=15,slow=8.4,SNR=20						
STKA				PcP	**PcP**	**04 22 39.7**	**+1.2**
	comp=Z,13nm,0.8s,baz=82,slow=5.4,SNR=4.4						
STKA				ScP	**ScP**	**04 26 21.4**	**+5.8**
	comp=Z,9.4nm,0.9s,baz=37,slow=3.3,SNR=6.9						
STKA				PKiKP	**PKiKP**	**04 30 09.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=290,slow=4.0,SNR=4.9						
STKA				LR	LR	04 31 45.7	
	comp=Z,5μm,18.9s,baz=39,slow=36						
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**30.66**	**223**	P	**P**	**04 19 42.2**	**+0.7**
	baz=31,SNR=24						
STKA	**Stephens Creek**	**30.66**	**223**	P	**P**	**04 19 40.8**	**-0.8**
NNZ	**Nelson**	**30.86**	**169**	P	**P**	**04 19 42.6**	**-0.6**
NNZ	**Nelson**	**30.86**	**169**	P	**P**	**04 19 43.7**	**+0.5**
MRNZ	**Matariki Terra**	**30.92**	**170**	P	**P**	**04 19 44.6**	**+0.8**
BFZ	**Birch Farm**	**30.98**	**165**	P	**P**	**04 19 43.0**	**-1.3**
BFZ				IAMs_20	IAMs_20	04 30 50.2	
	comp=Z,4μm,21.0s						
DSZ	**Denniston Nort**	**31.11**	**172**	P	**P**	**04 19 47.9**	**+2.4**
TUWZ	**Tuamarina**	**31.17**	**168**	P	**P**	**04 19 46.0**	**+0.1**
SNZO	**South Karori**	**31.21**	**167**	P	**P**	**04 19 45.7**	**-0.6**
THZ	**Tophouse**	**31.30**	**170**	P	**P**	**04 19 47.4**	**+0.3**
THZ	**Tophouse**	**31.30**	**170**	P	**P**	**04 19 47.7**	**+0.5**
BSWZ	**Blackbirch Sta**	**31.43**	**169**	P	**P**	**04 19 48.6**	**+0.3**
MSWZ	**Moikau Station**	**31.43**	**167**	P	**P**	**04 19 47.5**	**-0.8**
WR0	**Warramunga Arr**	**31.53**	**250**	P	**P**	**04 19 49.1**	**-0.3**
PLWZ	**Palliser**	**31.58**	**167**	P	**P**	**04 19 48.8**	**-0.8**
WB0	**Warramunga Arr**	**31.63**	**250**	P	**P**	**04 19 49.9**	**-0.4**
WB0				IAmb	IAmb	04 19 51.5	
	comp=Z,123nm,0.9s						
WRAB	**Tennant Creek**	**31.70**	**250**	P	**P**	**04 19 50.9**	**0.0**
WRAB				IAmb	IAmb	04 19 52.1	
	comp=Z,100nm,1.1s						
WRAB	**Tennant Creek**	**31.70**	**250**	IAMs_20	IAMs_20	04 32 40.6	
	comp=Z,5μm,19.0s						
WRAB	**Tennant Creek**	**31.70**	**250**	*ce*P	**P**	**04 19 50.3**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,51nm,0.9s						
WRAB	**Tennant Creek**	**31.70**	**250**	P	**P**	**04 19 49.1**	**-1.8**
WB2	**Warramunga Arr**	**31.70**	**250**	P	**P**	**04 19 49.8**	**-1.2**
WB2				IAmb	IAmb	04 19 52.2	
	comp=Z,111nm,1.1s						
WRA	**Warramunga Arr**	**31.71**	**250**	P	**P**	**04 19 50.5**	**-0.5**
	comp=Z,62nm,0.9s,baz=80,slow=9.1,SNR=167						
WRA				PcP	**PcP**	**04 22 42.5**	**+0.9**
	comp=Z,12nm,0.8s,baz=75,slow=2.9,SNR=9.2						
WRA				S	**S**	**04 24 56.3**	**0.0**
	comp=Z,2.4nm,1.1s,baz=78,slow=15,SNR=5.2						
WRA				ScP	**ScP**	**04 26 23.9**	**+4.5**
	comp=Z,4.4nm,1.1s,baz=79,slow=3.4,SNR=6.1						
WRA				PKiKP	**PKiKP**	**04 30 09.2**	**-1.4**
	comp=Z,3.0nm,0.8s,baz=14,slow=0.8,SNR=19						
WRA				LR	LR	04 33 01.8	
	comp=Z,5μm,18.4s,baz=60,slow=37						
	comp=Z,62nm,0.9s						
WRA	**Warramunga Arr**	**31.71**	**250**	P	**P**	**04 19 49.4**	**-1.6**
INZ	**Inchbonnie**	**32.02**	**172**	P	**P**	**04 19 54.0**	**+0.6**
KHZ	**Kahutara**	**32.05**	**169**	P	**P**	**04 19 52.6**	**-1.0**
KHZ	**Kahutara**	**32.05**	**169**	P	**P**	**04 19 53.3**	**-0.3**
GUMO	**Guam**	**32.12**	**319**	LR	LR	04 32 28.7	
	comp=Z,620nm,20.2s,baz=134,slow=35						
LTZ	**Lake Taylor**	**32.19**	**171**	P	**P**	**04 19 54.6**	**-0.3**
LTZ	**Lake Taylor**	**32.19**	**171**	P	**P**	**04 19 55.6**	**+0.6**
TOO	**Toolangi**	**32.27**	**211**	P	**P**	**04 19 56.9**	**+1.2**
	baz=32,SNR=16						
TOO	**Toolangi**	**32.27**	**211**	P	**P**	**04 19 55.6**	**-0.1**
TOO	**Toolangi**	**32.27**	**211**	P	**P**	**04 19 55.6**	**-0.1**
TOO				pmax	pmax		
	comp=Z,44nm,1.0s						
WVZ	**Waitaha Valley**	**32.28**	**173**	P	**P**	**04 19 56.3**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**32.48**	**174**	P	**P**	**04 20 00.5**	**+3.2**
GVZ	**Greta Valley S**	**32.49**	**170**	P	**P**	**04 19 57.8**	**+0.2**
AMCZ	**Amberley**	**32.64**	**171**	P	**P**	**04 19 56.7**	**-2.1**
FOZ	**Fox Glacier**	**32.64**	**175**	P	**P**	**04 19 59.3**	**+0.6**
OXZ	**Oxford**	**32.69**	**172**	P	**P**	**04 19 59.1**	**-0.1**
OXZ	**Oxford**	**32.69**	**172**	P	**P**	**04 19 59.5**	**+0.2**
KDU	**Kakadu**	**32.81**	**264**	P	**P**	**04 20 00.1**	**-0.6**
	baz=33,SNR=8.5						
RPZ	**Rata Peaks**	**32.95**	**173**	P	**P**	**04 20 01.4**	**-0.2**
	comp=Z,530nm,0.8s,baz=351,slow=1.8,SNR=123						
RPZ				PcP	**PcP**	**04 22 45.2**	**+0.8**
	comp=Z,26nm,0.7s,baz=324,slow=3.4,SNR=3.5						
RPZ				LR	LR	04 32 11.2	
	comp=Z,1μm,21.6s,baz=340,slow=34						
RPZ	**Rata Peaks**	**32.95**	**173**	P	**P**	**04 20 01.3**	**-0.2**
RPZ	**Rata Peaks**	**32.95**	**173**	P	**P**	**04 20 01.6**	**0.0**
AS31	**Alice Springs**	**33.02**	**243**	P	**P**	**04 20 01.6**	**-0.8**
ASAR	**Alice Springs**	**33.02**	**243**	P	**P**	**04 20 01.8**	**-0.8**
	comp=Z,27nm,0.9s,baz=73,slow=9.5,SNR=138						
ASAR				PcP	**PcP**	**04 22 45.5**	**+0.4**
	comp=Z,19nm,0.8s,baz=65,slow=2.6,SNR=17						
ASAR				S	**S**	**04 25 17.4**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=137,slow=7.8,SNR=2.4						
ASAR				ScP	**ScP**	**04 26 28.1**	**+4.2**
	comp=Z,4.1nm,1.0s,baz=77,slow=3.6,SNR=6.0						
ASAR				PKiKP	**PKiKP**	**04 30 10.3**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=69,slow=1.4,SNR=7.6						
ASAR				LR	LR	04 32 27.7	
	comp=Z,4μm,20.4s,baz=78,slow=34						
ASAR				P3KPbc		04 51 19.8	
	comp=Z,2.0nm,0.8s,baz=254,slow=4.6,SNR=17						
	comp=Z,27nm,0.9s						
RACZ	**Rakaia**	**33.10**	**172**	P	**P**	**04 20 04.2**	**+1.4**
MQZ	**McQueen's Vall**	**33.16**	**171**	P	**P**	**04 20 02.9**	**-0.4**
ARCZ	**Arundel**	**33.19**	**173**	P	**P**	**04 20 03.1**	**-0.6**
OKCZ	**Okains Bay**	**33.23**	**171**	P	**P**	**04 20 04.9**	**+0.9**
HTT	**Hallett**	**33.39**	**224**	P	**P**	**04 20 06.3**	**+0.7**
	baz=34,SNR=28						
LBZ	**Lake Benmore**	**33.52**	**175**	P	**P**	**04 20 05.6**	**-0.9**
ARPS	**Mount Arapiles**	**33.68**	**216**	P	**P**	**04 20 10.6**	**+2.6**
	baz=34,SNR=7.5						
WKZ	**Wanaka**	**33.87**	**176**	P	**P**	**04 20 09.7**	**+0.1**
MTN	**Manton Dam**	**34.11**	**263**	P	**P**	**04 20 12.5**	**+0.5**
	baz=34,SNR=9.6						
MTN	**Manton Dam**	**34.11**	**263**	P	**P**	**04 20 12.1**	**+0.1**
MTN				IAmb	IAmb	04 20 13.2	
	comp=Z,67nm,1.1s						
ODZ	**Otahua Downs**	**34.22**	**174**	P	**P**	**04 20 12.5**	**0.0**
MLZ	**Mavora Lakes**	**34.35**	**177**	P	**P**	**04 20 14.3**	**+0.6**
MLZ				IAmb	IAmb	04 20 29.3	
	comp=Z,53nm,0.8s						
RAR	**Rarotonga**	**34.40**	**112**	LR	LR	04 31 35.6	
	comp=Z,802nm,19.8s,baz=278,slow=32						
DCZ	**Deep Cove**	**34.42**	**179**	P	**P**	**04 20 13.8**	**-0.4**
DCZ				IAmb	IAmb	04 20 17.6	
	comp=Z,103nm,0.9s						
WHZ	**Wether Hill Ro**	**34.87**	**178**	P	**P**	**04 20 18.5**	**+0.3**
WHZ				IAmb	IAmb	04 20 20.1	
	comp=Z,56nm,0.7s						
BBOO	**Buckleboo**	**35.05**	**227**	P	**P**	**04 20 20.1**	**+0.2**
	baz=35,SNR=27						
BBOO	**Buckleboo**	**35.05**	**227**	P	**P**	**04 20 20.3**	**+0.4**
SIJI	**Sorong**	**35.88**	**284**	LR	LR	04 37 25.1	
	comp=Z,2μm,18.6s,baz=132,slow=40						
KNRA	**Kununurra**	**36.47**	**258**	P	**P**	**04 20 32.3**	**+0.1**
	baz=36,SNR=20						
KNRA	**Kununurra**	**36.47**	**258**	P	**P**	**04 20 31.8**	**-0.5**
WRKA	**Warakurna**	**38.31**	**243**	P	**P**	**04 20 47.6**	**-0.3**
	baz=38,SNR=21						
NLAI	**Namlea**	**39.27**	**278**	P	**P**	**04 20 56.7**	**+0.8**
	comp=Z,59nm,1.3s						
LBMI	**Labuha**	**39.55**	**282**	P	**P**	**04 20 59.0**	**+0.8**
	comp=Z,1μmcomp=Z,86nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.61**	**255**	LR	LR	04 36 32.8	
	comp=Z,3μm,20.5s,baz=81,slow=35						
FITZ	**Fitzroy Crossi**	**39.61**	**255**	P	**P**	**04 20 57.9**	**-0.7**
	baz=40,SNR=52						
FITZ	**Fitzroy Crossi**	**39.61**	**255**	P	**P**	**04 20 58.8**	**+0.2**
FITZ				IAmb	IAmb	04 21 00.0	
	comp=Z,95nm,1.0s						
FORT	**Forrest**	**40.27**	**235**	P	**P**	**04 21 04.6**	**+0.6**
	baz=40,SNR=10						
FORT	**Forrest**	**40.27**	**235**	P	**P**	**04 21 03.9**	**-0.1**
SANI	**Sanana**	**40.63**	**280**	P	**P**	**04 21 08.3**	**+1.1**
	comp=Z,925nmcomp=Z,56nm,1.6s						
SOEI	**Soe**	**41.01**	**268**	P	**P**	**04 21 10.0**	**-0.4**
SOEI				IAmb	IAmb	04 21 34.1	
	comp=Z,68nm,0.9s						
SOEI	**Soe**	**41.01**	**268**	P	**P**	**04 21 11.6**	**+1.2**
	comp=Z,1μmcomp=Z,88nm,1.1s						
BATI	**Baumata**	**41.56**	**267**	LR	LR	04 38 32.6	
	comp=Z,2μm,21.0s,baz=145,slow=36						
BATI	**Baumata**	**41.56**	**267**	P	**P**	**04 21 16.2**	**+1.4**
	comp=Z,2μmcomp=Z,207nm,0.9s						
MMRI	**Maumere**	**43.12**	**269**	P	**P**	**04 21 27.0**	**-0.5**
MMRI	**Maumere**	**43.12**	**269**	P	**P**	**04 21 27.7**	**+0.2**
	comp=Z,254nm,1.1s						
KMSI	**Cibinong**	**43.27**	**283**	P	**P**	**04 21 28.7**	**0.0**
	comp=Z,174nm,0.8s						
PPT	**Papeete**	**43.52**	**104**	LR	LR	04 35 15.3	
	comp=Z,2μm,21.8s,baz=258,slow=30						
PPT2	**Papeete2**	**43.52**	**104**	*e*P	**P**	**04 21 32.7**	**+1.9**
	comp=Z,306nm,26.5s						
PPT2				*e*S	**S**	**04 27 56.2**	**+0.9**
	comp=Z,1μm,27.5s						
PPT2				*e*LR	LR	04 33 44.0	
	comp=Z,4μm,24.5s						
EDFI	**Ende, Flores**	**43.64**	**269**	P	**P**	**04 21 31.3**	**-0.5**
	comp=Z,801nmcomp=Z,54nm,0.8s						
DAV	**Davao City (W)**	**43.99**	**292**	LR	LR	04 39 52.1	
	comp=Z,788nm,19.8s,baz=106,slow=36						
TBI	**Tubuai**	**44.18**	**112**	*e*P	**P**	**04 21 36.6**	**+0.7**
	comp=Z,182nm,0.9s						
TBI	**Tubuai**	**44.18**	**112**	*e*P	**P**	**04 21 37.9**	**+2.0**
	comp=Z,322nm,28.2s						
TBI				*e*S	**S**	**04 28 04.4**	**-0.2**
	comp=Z,894nm,27.8s						
TBI				*e*LR	LR	04 34 01.5	
	comp=Z,7μm,28.0s						
GTOI	**Gorontalo**	**44.21**	**282**	P	**P**	**04 21 37.9**	**+1.6**
	comp=Z,362nmcomp=Z,32nm,0.8s						
JCJ	**Chichijima**	**44.30**	**329**	LR	LR	04 37 10.5	
	comp=Z,1μm,21.9s,baz=162,slow=32						
JCJ	**Chichijima**	**44.30**	**329**	P	**P**	**04 21 34.2**	**-2.5**
APSI	**Ampana**	**45.12**	**280**	P	**P**	**04 21 44.6**	**+1.1**
	comp=Z,812nmcomp=Z,62nm,1.0s						
BSSI	**Bau Bau, Buton**	**45.18**	**272**	P	**P**	**04 21 44.9**	**+0.9**
	comp=Z,102nm,1.2s						
MRSI	**Marisa**	**45.20**	**282**	P	**P**	**04 21 44.9**	**+0.8**
	comp=Z,44nm,1.0s						
PSA00	**Pilbara Seismi**	**45.36**	**251**	P	**P**	**04 21 45.6**	**+0.3**
PSA00				IAmb	IAmb	04 21 47.7	
	comp=Z,123nm,1.3s						
PSA00	**Pilbara Seismi**	**45.36**	**251**	P	**P**	**04 21 45.2**	**-0.2**
PSA00				IAmb	IAmb	04 21 47.7	
	comp=Z,194nm,1.2s						
MBWA	**Marble Bar**	**45.42**	**251**	P	**P**	**04 21 46.3**	**+0.5**
MBWA				IAmb	IAmb	04 21 48.1	
	comp=Z,142nm,1.1s						
BKSI	**Bulukumba**	**45.68**	**273**	P	**P**	**04 21 48.1**	**+0.2**
	comp=Z,31nm,1.0s						
WBSI	**Waikabubak, Su**	**45.80**	**267**	P	**P**	**04 21 49.4**	**+0.4**
	comp=Z,162nm,0.9s						
KAPI	**Kappang**	**46.09**	**274**	P	**P**	**04 21 51.2**	**0.0**
KAPI				IAmb	IAmb	04 21 52.9	
	comp=Z,117nm,1.0s						
KAPI	**Kappang**	**46.09**	**274**	*i* P	**P**	**04 21 50.8**	**-0.4**
KAPI				pmax	pmax		
	comp=Z,70nm,0.9s						
SPSI	**Sidrap Palu**	**46.27**	**275**	P	**P**	**04 21 52.6**	**0.0**
	comp=Z,63nm,1.2

PWJI Pagerwojo 53.44 268 P **P** **04 22 47.1 +0.1**
comp=Z,147nm,0.9s
INU Inuyama 53.56 331 P **P** **04 22 47.0 -0.6**
INU IAmb IAmb 04 22 48.7
comp=Z,159nm,1.6s
JGF Kuroka 53.60 331 P **P** **04 22 46.8 -1.1**
NGJI Ngawi 53.86 269 P **P** **04 22 50.4 +0.3**
comp=Z,88nm,1.1s
JMN Monobe 53.90 327 P **P** **04 22 50.2 +0.1**
JMM Marumori 53.97 335 P **P** **04 22 50.2 -0.3**
JMM IAmb IAmb 04 22 51.8
comp=Z,67nm,1.1s
MJAR Matsushiro Arr 53.98 332 P **P** **04 22 49.5 -1.0**
comp=Z,26nm,0.9s,baz=287,slow=15,SNR=24
MJAR PcP **PcP** **04 23 55.7 +0.6**
comp=Z,3.1nm,0.6s,baz=165,slow=4.0,SNR=4.1
MJAR LR LR 04 43 31.9
comp=Z,435nm,21.8s,baz=146,slow=33
comp=Z,26nm,0.9s
MAJO Matsushiro 53.98 332 P **P** **04 22 49.9 -0.7**
MAJO IAmb IAmb 04 22 51.0
comp=Z,64nm,1.1s
MAJO Matsushiro 53.98 332 P **P** **04 22 49.9 -0.7**
MAJO pmax pmax
comp=Z,64nm,1.1s
MAJO MLR MLR
comp=Z,600nm,21.0s
PCJI Pacitan 54.03 268 P **P** **04 22 52.1 +0.8**
comp=Z,4µmcomp=Z,415nm,1.1s
JSU Suzuyama 54.21 322 P **P** **04 22 52.4 0.0**
JSU IAmb IAmb 04 22 53.6
comp=Z,82nm,1.0s
UGM Wanagama 54.71 268 P **P** **04 22 56.4 +0.1**
UGM Wanagama 54.71 268 P **P** **04 22 56.7 +0.4**
comp=Z,164nm,1.1s
SMRI Semarang 54.91 269 P **P** **04 22 57.9 +0.1**
SMRI Semarang 54.91 269 P **P** **04 22 59.0 +1.2**
comp=Z,200nm,0.9s
SBUM Sibu 55.09 281 P **P** **04 22 57.9 -1.2**
SBUM IAmb IAmb 04 23 01.1
comp=Z,59nm,1.3s
JSD Sado 55.19 333 P **P** **04 22 59.5 +0.2**
JSD IAmb IAmb 04 23 00.6
comp=Z,88nm,1.0s
STKI Sintang 55.23 278 P **P** **04 23 01.5 +1.5**
comp=Z,62nm,1.2s
JHS Saijyo 55.27 327 P **P** **04 23 00.3 +0.4**
JHS IAmb IAmb 04 23 01.1
comp=Z,55nm,0.7s
YULB Yu-li 55.44 308 P **P** **04 23 00.2 -1.2**
TPUB Ta-pu 55.90 308 P **P** **04 23 04.3 -0.4**
TPUB IAMs_20 IAMs_20 04 43 13.8
comp=Z,2µm,20.0s
YHNB Yeheng 56.08 310 P **P** **04 23 05.8 -0.2**
YHNB IAmb IAmb 04 23 06.9
comp=Z,72nm,0.9s
TATO Taipei 56.16 310 IAMs_20 IAMs_20 04 44 01.4
comp=Z,2µm,20.0s
JTM Tenmabayashi 56.38 337 P **P** **04 23 08.2 +0.5**
JTM IAmb IAmb 04 23 08.8
comp=Z,82nm,0.9s
JTU Tsushima 56.98 324 P **P** **04 23 11.8 -0.3**
JCJI Jatiwangi 57.12 269 P **P** **04 23 14.5 +0.9**
comp=Z,18µmcomp=Z,583nm,1.0s
KSBUS Busan 57.66 324 P **P** **04 23 16.9 0.0**
KSBUS IAmb IAmb 04 23 17.7
comp=Z,50nm,1.0s
LEM Lembang 57.71 269 LR LR 04 50 12.3
comp=Z,423nm,18.9s,baz=84,slow=38
CNJI Cibinong 58.12 268 P **P** **04 23 20.7 +0.1**
comp=Z,3µmcomp=Z,201nm,1.1s
DRV Dumont d'Urvil 58.35 192 P **P** **04 23 19.4 -1.8**
QZH Quanzhou 58.35 308⇑ *i*P **P** **04 23 20.0 -1.9**
QZH S **S** **04 31 18.3 -1.6**
QZH pmax pmax
comp=Z,83nm,1.3s
QZH LR LR
comp=Z,490nm,18.5s
QZH LR LR
comp=Z,460nm,21.8s
QZH LR LR
comp=Z,670nm,19.4s
TPI Tanjungpandan 58.37 274 P **P** **04 23 23.1 +0.8**
comp=Z,732nmcomp=Z,63nm,1.1s
CBJI Citeko 58.53 269 P **P** **04 23 23.6 +0.2**
DBJI Dramaga 58.61 269 P **P** **04 23 24.7 +0.7**
NAWB Namwon 58.78 323 P **P** **04 23 23.7 -1.0**
NAWB IAmb IAmb 04 23 26.0
comp=Z,66nm,0.9s
TJN Taejon 59.46 324 P **P** **04 23 29.0 -0.4**
TJN Taejon 59.46 324 *ce*P **P** **04 23 29.3 -0.1**
KSCHJ Chungju 59.47 325 P **P** **04 23 29.5 +0.1**
KSCHJ IAmb IAmb 04 23 30.4
comp=Z,54nm,0.9s
KSRS Korea Array 59.91 325 P **P** **04 23 32.5 0.0**
comp=Z,13nm,0.9s,baz=137,slow=7.2,SNR=55
KSRS PcP **PcP** **04 24 19.6 +1.3**
comp=Z,11nm,1.0s,baz=140,slow=5.2,SNR=7.5
KSRS LR LR 04 48 54.5
comp=Z,404nm,18.7s,baz=140,slow=35
KSRS PKP2bc 04 53 03.6
comp=Z,1.2nm,0.8s,baz=302,slow=2.4,SNR=5.9
comp=Z,13nm,0.9s
KSAR Wonju Array Be 59.92 325 P **P** **04 23 32.5 -0.1**
KSAR Wonju Array Be 59.92 325 P **P** **04 23 32.5 -0.1**
SSE Sheshan 59.92 316 P **P** **04 23 32.5 -0.2**
SSE pmax pmax
comp=Z,36nm,0.9s
SSE pmax pmax
comp=Z,160nm,11.3s
SSE LR LR
comp=Z,160nm,20.7s
SSE LR LR
comp=Z,230nm,18.1s
PPBI Pangkal Pinang 59.97 274 P **P** **04 23 34.4 +1.0**
comp=Z,2µmcomp=Z,102nm,1.1s
KS19 Wonju Array Si 59.98 325 P **P** **04 23 32.2 -0.7**
SEHB SEOHWA 60.31 326 P **P** **04 23 35.7 +0.4**
YSS Yuzh-Sakhalins 61.25 342 P **P** **04 23 42.1 +0.7**
YSS IAMs_20 IAMs_20 04 48 49.2
comp=Z,2µm,21.0s
YSS Yuzh-Sakhalins 61.25 342 *e*P **P** **04 23 42.1 +0.7**
YSS *e**SP **pP** **04 23 57.3 -1.4**
YSS *e*S **S** **04 31 58.5 +2.0**
YSS *e*SS **SS** **04 36 01.0 +2.9**
YSS pmax pmax
comp=Z,600nm,3.6s
YSS pmax pmax
comp=Z,50nm,1.1s
LWLI Liwa 61.49 270 P **P** **04 23 45.2 +1.3**
comp=Z,99nm,0.4s
DSRI Dabo 61.84 275 P **P** **04 23 47.0 +0.9**
comp=Z,43nm,1.1s
SKR Severo-Kuril's 61.96 353 *e*P P 04 23 40.5 -5.6
SKR *e*S **S** **04 32 03.3 -2.0**
SKR pmax pmax
comp=Z,35nm,2.4s
SKR pmax pmax
comp=Z,100nm,3.8s
MSHR Mys Shultsa 62.07 332 *ce*P **P** **04 23 47.5 +0.5**
MSHR pmax pmax
comp=Z,27nm,0.8s
NJ2 Nanjing 62.09 315⇑ *i*P **P** **04 23 47.5 +0.1**
NJ2 pP **pP** **04 24 06.1 +1.5**
NJ2 sS **sS** **04 32 38.1 +2.2**
NJ2 pmax pmax
comp=Z,80nm,0.8s
NJ2 pmax pmax
comp=Z,210nm,3.5s
NJ2 LR LR
comp=Z,550nm,21.3s
NJ2 LR LR
comp=Z,550nm,18.5s
NJ2 LR LR
comp=Z,680nm,20.8s
QIZ Qiongzhong 62.81 298 P **P** **04 23 52.6 +0.1**
QIZ IAmb IAmb 04 23 54.6
comp=Z,36nm,1.1s
QIZ Qiongzhong 62.81 298 P **P** **04 23 52.9 +0.4**
QIZ pP **sP** **04 24 13.4 -3.6**
QIZ sS **sS** **04 32 46.2 +0.8**
QIZ pmax pmax
comp=Z,28nm,1.0s
QIZ pmax pmax
comp=Z,220nm,6.0s
QIZ LR LR
comp=Z,550nm,23.9s
QIZ LR LR
comp=Z,920nm,23.9s
QIZ LR LR
comp=Z,2µm,22.3s
USA0B Ussuriysk Arra 62.95 333 P **P** **04 23 52.7 -0.2**
USA0B IAmb IAmb 04 23 54.8
comp=Z,30nm,1.0s
USA0B Ussuriysk Arra 62.95 333 P **P** **04 23 52.7 -0.2**
USA0B pmax pmax
comp=Z,30nm,1.0s
USRK Ussuriysk Ar. 62.95 333 P **P** **04 23 53.8 +0.9**
comp=Z,47nm,0.8s,baz=140,slow=6.6,SNR=56
USRK PcP **PcP** **04 24 31.1 +0.7**
comp=Z,11nm,0.8s,baz=113,slow=2.9,SNR=4.5
USRK LR LR 04 48 22.3
comp=Z,292nm,21.7s,baz=233,slow=33
comp=Z,47nm,0.8s
USRK Ussuriysk Ar. 62.95 333 P **P** **04 23 53.4 +0.6**
MYKOM Kota Tinggi 63.04 278 P **P** **04 23 54.6 +0.5**
MYKOM IAmb IAmb 04 23 55.9
comp=Z,53nm,0.9s
AMKA Amchitka 63.13 9 P **P** **04 23 54.5 +0.6**
MASI Maura Aman, Be 63.61 272 P **P** **04 23 58.5 +0.6**
comp=Z,155nm,1.2s
SHEM Shemya Is, Ala 63.80 6 LR LR 04 45 54.4
comp=Z,872nm,21.7s,baz=168,slow=30
SMY Shemya 63.80 6 P **P** **04 23 58.6 +0.3**
SMY Shemya 63.80 6 P **P** **04 23 58.6 +0.3**
SMY pmax pmax
comp=Z,133nm,0.9s
PET Petropavlovsk 64.02 355 *c i*P **P** **04 23 59.0 -0.7**
PET *e*S **S** **04 32 34.8 +3.9**
PET *e*SS **SS** **04 36 45.8 +4.7**
PET *e*SSS SSS 04 39 31.2
PET pmax pmax
comp=Z,200nm,5.9s
PET pmax pmax
comp=Z,400nm,5.3s
PET pmax pmax
comp=Z,33nm,1.7s
PET MLR MLR
comp=Z,600nm,18.0s
PET MLR MLR
comp=Z,600nm,16.0s
PEA0B Petropavlovsk- 64.19 354 P **P** **04 24 01.4 +0.6**
PEA0B IAmb IAmb 04 24 02.5
comp=Z,76nm,1.4s
PEA0B Petropavlovsk- 64.19 354 P **P** **04 24 01.4 +0.6**
PEA0B pmax pmax
comp=Z,76nm,1.4s
PETK Petropavlovsk- 64.19 354 P **P** **04 24 00.9 +0.1**
comp=Z,24nm,0.9s,baz=180,slow=11,SNR=21
PETK PcP **PcP** **04 24 35.5 +0.3**
comp=Z,17nm,0.9s,baz=140,slow=7.6,SNR=6.3
PETK LR LR 04 46 07.2
comp=Z,823nm,22.0s,baz=169,slow=30
PETK PKP2bc 04 52 56.3
comp=Z,7.4nm,1.0s,baz=52,slow=8.1,SNR=7.5
comp=Z,24nm,0.9s
PETK Petropavlovsk- 64.19 354 P **P** **04 24 00.4 -0.5**
KIWB Kanaga Island 64.22 12 P **P** **04 24 02.2 +1.1**
ADK Adak 64.34 12 P **P** **04 24 02.4 +0.5**
ADK Adak 64.34 12 IAMs_20 IAMs_20 04 45 35.2
comp=Z,2µm,21.0s
ADK Adak 64.34 12 P **P** **04 24 02.4 +0.5**
ADK pmax pmax
comp=Z,159nm,1.5s
CNSH ChangSha 64.35 309⇑ P **P** **04 24 02.6 +0.2**
CNSH S **S** **04 32 35.1 -1.0**
CNSH pmax pmax
comp=Z,37nm,1.1s
CNSH LR LR
comp=Z,650nm,18.6s
CNSH LR LR
comp=Z,680nm,20.3s
CNSH LR LR
comp=Z,770nm,20.8s
MDJ Mudanjiang 64.36 332 P **P** **04 24 02.6 +0.5**
MDJ IAmb IAmb 04 24 03.8
comp=Z,70nm,0.9s
MDJ Mudanjiang 64.36 332 P **P** **04 24 02.8 +0.7**
MDJ pP pP 04 24 21.8 +2.3
MDJ sP sP 04 24 30.5 +3.8
MDJ pmax pmax
comp=Z,91nm,1.0s
MDJ pmax pmax
comp=Z,420nm,5.5s
MDJ LR LR
comp=Z,710nm,21.5s
MDJ LR LR
comp=Z,320nm,21.8s
MDJ LR LR
comp=Z,870nm,20.3s
WHN Wuhan 64.48 311⇑ P **P** **04 24 03.1 -0.1**
WHN pP **sP** **04 24 24.6 -3.1**
WHN pmax pmax
comp=Z,160nm,1.5s
WHN LR LR
comp=Z,930nm,12.3s
WHN LR LR
comp=Z,870nm,13.3s
WHN LR LR
comp=Z,3µm,25.1s
DL2 Dalian 64.52 323 P **P** **04 24 03.2 -0.1**
DL2 pmax pmax
comp=Z,75nm,1.0s
DL2 pmax pmax
comp=Z,240nm,5.8s
DL2 LR LR
comp=Z,320nm,21.4s
DL2 LR LR
comp=Z,470nm,24.7s
DL2 LR LR
comp=Z,850nm,28.2s
TYV Tymovskoe 64.81 344 *e*P **P** **04 24 05.3 +0.4**
TYV pmax pmax
comp=Z,26nm,1.5s
TYV pmax pmax
comp=Z,400nm,4.6s
GULI GuiLin 65.02 305⇑ P **P** **04 24 06.9 0.0**
GULI S **S** **04 32 41.4 -3.0**
GULI pmax pmax
comp=Z,60nm,1.1s
GULI LR LR
comp=Z,550nm,21.7s
GULI LR LR
comp=Z,580nm,22.2s
GULI LR LR
comp=Z,1µm,22.8s
UBPT Khong Chiam 65.32 292 P **P** **04 24 09.1 +0.1**
SNY Shenyang 65.36 326⇑ P **P** **04 24 09.8 +1.1**
SNY pmax pmax
comp=Z,33nm,0.9s
SNY pmax pmax
comp=Z,170nm,3.5s
SNY LR LR
comp=Z,260nm,13.5s
SNY LR LR
comp=Z,510nm,17.3s
SNY LR LR
comp=Z,790nm,19.1s
BKNI Bangkinang 65.47 275 P **P** **04 24 10.5 +0.5**
BKNI Bangkinang 65.47 275 P **P** **04 24 11.2 +1.2**
comp=Z,350nm,1.0s
CN2 Changchun 65.76 329⇑ *i*P **P** **04 24 11.4 +0.1**
CN2 sP PcP 04 24 39.7 -2.3
CN2 S **S** **04 32 50.6 -2.1**
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,600nm,23.0s
BNX BinXian 66.22 332 ⇓P **P** **04 24 14.3 +0.1**
BNX pP **pP** **04 24 34.3 +2.8**
BNX sP **PcP** **04 24 42.5 -1.3**
BNX PP **PP** **04 26 42.8 +2.0**
BNX S **S** **04 32 58.8 +0.5**
BNX sS **sS** **04 33 27.9 +1.4**
BNX pmax pmax
comp=Z,35nm,0.8s
BNX pmax pmax
comp=Z,340nm,3.9s
BNX LR LR
comp=Z,580nm,24.5s
BNX LR LR
comp=Z,570nm,21.1s
BNX LR LR
comp=Z,670nm,27.3s
IPM Ipoh 66.41 280 P **P** **04 24 16.0 -0.1**
CASY Casey 66.55 201 P **P** **04 24 16.6 +0.7**
CASY Casey 66.55 201 P **P** **04 24 15.0 -1.0**
VNDA Vanda 66.60 181 P **P** **04 24 16.5 +0.4**
comp=Z,44nm,1.1s,baz=343,slow=7.0,SNR=99
VNDA LR LR 04 50 03.3
comp=Z,575nm,19.2s,baz=350,slow=33
comp=Z,44nm,1.1s
VNDA Vanda 66.60 181 P **P** **04 24 15.0 -1.2**
GRNR Gornyy 66.62 340⇑ *i*P **P** **04 24 17.5 +0.9**
GRNR *e*S **S** **04 33 06.2 +3.3**
GRNR *e*SS **SS** **04 37 26.4 +4.7**
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=E,7.0nm,1.2s
GRNR pmax pmax
comp=Z,30nm,1.2s
GRNR smax smax
comp=E,9.0nm,0.6s
SBA Scott Base 66.90 180 P **P** **04 24 19.4 +1.3**
SBA Scott Base 66.90 180 P **P** **04 24 19.4 +1.3**
SBA pmax pmax
comp=Z,127nm,1.0s
SBA Scott Base 66.90 180 P **P** **04 24 17.8 -0.3**
KULM Kulim 66.97 281 P **P** **04 24 19.0 -0.6**
KULM IAmb IAmb 04 24 21.0
comp=Z,98nm,1.5s
MNSI Mandailing Nat 66.99 276 P **P** **04 24 19.3 -0.5**
comp=Z,122nm,0.8s
NIKH Nikolski High 67.22 16 P **P** **04 24 20.2 -0.2**
NIKH Nikolski High 67.22 16 P **P** **04 24 19.5 -0.9**
baz=207
LYN LuoYang 67.93 314⇑ *i*P **P** **04 24 24.3 -0.9**
LYN pP sP 04 24 47.1 -2.9
LYN S **S** **04 33 17.3 -1.9**
LYN sS sS 04 33 50.5 +2.8
LYN pmax pmax
comp=Z,50nm,0.8s
LYN pmax pmax
comp=Z,240nm,7.5s
LYN LR LR
comp=Z,410nm,23.9s
LYN LR LR
comp=Z,620nm,22.4s
LYN LR LR
comp=Z,950nm,23.3s
HNS HongShan 67.95 318⇑ P **P** **04 24 25.5 +0.2**
HNS sS **sS** **04 33 48.6 +0.6**
HNS pmax pmax
comp=Z,58nm,1.2s
HNS LR LR
comp=Z,310nm,22.0s
HNS LR LR
comp=Z,620nm,21.1s
HNS LR LR
comp=Z,1µm,22.2s
ENH Enshi 68.00 309 P **P** **04 24 25.2 -0.6**
ENH IAmb IAmb 04 24 26.4
comp=Z,65nm,0.9s
ENH Enshi 68.00 309 P **P** **04 24 24.8 -1.0**
CCD Concordia, Ant 68.34 191 P **P** **04 24 26.4 -1.3**
CCD pP **pP** **04 24 44.8 +0.8**
BJT Baijiatuau 68.53 321 P **P** **04 24 28.9 0.0**
BJT Baijiatuau 68.53 321 P **P** **04 24 28.9 0.0**
BJT pmax pmax
comp=Z,38nm,1.1s
BJT MLR MLR
comp=Z,400nm,20.0s
GYA Guiyang 68.53 304 ⇓P **P** **04 24 29.9 +0.5**
GYA sP PcP 04 25 03.0 +8.9
GYA S **S** **04 33 27.3 +0.3**
GYA pmax pmax
comp=Z,48nm,1.1s
GYA pmax pmax
comp=Z,330nm,3.5s
GYA LR LR
comp=Z,520nm,19.9s
GYA LR LR
comp=Z,800nm,21.9s
GYA LR LR
comp=Z,1µm,19.4s
BJI Beijing 68.53 321 P **P** **04 24 28.8 -0.1**
BJI PcP **PcP** **04 24 53.7 +0.1**
BJI sS **sS** **04 33 57.1 +2.6**
BJI pmax pmax
comp=Z,34nm,1.1s
BJI pmax pmax
comp=Z,230nm,3.8s
BJI LR LR
comp=Z,120nm,23.0s
BJI LR LR
comp=Z,350nm,22.9s
BJI LR LR
comp=Z,880nm,23.7s
UNV Unalaska Valle 68.65 17 P **P** **04 24 28.8 -0.5**
UNV IAmb IAmb 04 24 34.9
comp=Z,52nm,1.1s
UNV Unalaska Valle 68.65 17 P **P** **04 24 28.3 -1.0**
baz=209
GSI Gunungsitoli 69.06 276 P **P** **04 24 32.7 0.0**
GSI Gunungsitoli 69.06 276 P **P** **04 24 33.4 +0.7**
comp=Z,8µmcomp=Z,135nm,0.8s
KCSI Kotacane, Aceh 69.34 278 P **P** **04 24 33.4 -1.1**
comp=Z,56nm,0.9s
TIY Taiyuan 69.63 317 *e*P **P** **04 24 36.7 +0.9**
TIY pP **pP** **04 24 53.4 0.0**
TIY sS **sS** **04 34 08.5 0.0**
TIY pmax pmax
comp=Z,33nm,1.0s
TIY pmax pmax
comp=Z,270nm,5.3s
TIY LR LR
comp=Z,460nm,20.6s
TIY LR LR
comp=Z,510nm,22.7s
TIY LR LR
comp=Z,880nm,24.0s
XAN Xi'an 70.21 312⇑ P **P** **04 24 39.1 -0.4**
XAN pP PcP 04 24 59.8 -1.1
XAN sP sP 04 25 09.0 +4.8
XAN S **S** **04 33 43.2 -3.1**
XAN sS sS 04 34 15.3 +1.1
XAN SKS **SKSac** **04 34 29.7 -5.8**
XAN SS **SS** **04 38 13.4 -4.5**
XAN pmax pmax
comp=Z,85nm,1.0s
XAN pmax pmax
comp=Z,370nm,6.5s
XAN LR LR
comp=Z,600nm,22.0s
XAN LR LR
comp=Z,970nm,22.5s
XAN LR LR
comp=Z,2µm,22.2s
XAN Xi'an 70.21 312 P **P** **04 24 38.9 -0.6**
SPIA Saint Paul Isl 70.66 13 P **P** **04 24 40.3 -1.3**
baz=205
XLT XiLinHaoTe 70.90 324⇑ *i*P **P** **04 24 44.1 +0.6**
XLT pP PcP 04 25 03.8 +0.1
XLT sP sP 04 25 12.9 +4.6
XLT S **S** **04 33 55.1 +1.0**
XLT sS sS 04 34 25.4 +2.3
XLT pmax pmax
comp=Z,110nm,1.1s
XLT pmax pmax
comp=Z,300nm,5.6s
XLT LR LR
comp=Z,410nm,17.4s
XLT LR LR
comp=Z,570nm,20.4s
KMI Kunming 71.25 301⇑ P **P** **04 24 47.2 +1.0**
KMI S **S** **04 34 00.6 +1.5**
KMI sS sS 04 34 30.4 +3.6
KMI pmax pmax
comp=Z,62nm,1.1s
KMI pmax pmax
comp=Z,330nm,3.5s

KMI LR LR
comp=Z,390nm,19.9s
KMI LR LR
comp=Z,490nm,20.1s
KMI LR LR
comp=Z,820nm,22.5s
MA2 Magadan 71.34 352 P **P** **04 24 45.0 -0.7**
comp=Z,10.0nm,0.7s,baz=160,slow=9.7,SNR=7.2
MA2 LR LR 04 51 02.7
comp=Z,1µm,21.8s,baz=172,slow=32
comp=Z,10.0nm,0.7s
MA2 Magadan 71.34 352 P **P** **04 24 45.0 -0.7**
MA2 IAMs_20 IAMs_20 04 50 18.5
comp=Z,2µm,22.0s
MA2 Magadan 71.34 352 *ce*P **P** **04 24 44.9 -0.8**
MA2 pmax pmax
comp=Z,57nm,2.0s
CRAI Chiangrai 71.56 296 P **P** **04 24 47.9 0.0**
CRAI IAmb IAmb 04 24 49.8
comp=Z,53nm,1.0s
CHNA Chernabura Isl 71.66 20 P **P** **04 24 46.0 -1.7**
baz=216
SDPT Sand Point 71.79 19 P **P** **04 24 46.7 -1.7**
baz=215
HHC Hu-ho-hao-te 71.89 320 *e*P **P** **04 24 50.2 +0.6**
HHC S **S** **04 34 05.4 -0.3**
HHC sS sS 04 34 37.1 +2.7
HHC pmax pmax
comp=Z,65nm,1.0s
HHC pmax pmax
comp=Z,500nm,6.0s
HHC LR LR
comp=Z,770nm,20.3s
HHC LR LR
comp=Z,1µm,19.0s
HHC LR LR
comp=Z,2µm,19.0s
CMAR Chiang Mai Arr 72.26 293 P **P** **04 24 53.4 +1.2**
comp=Z,36nm,0.9s,baz=114,slow=4.4,SNR=116
CMAR LR LR 04 58 26.0
comp=Z,180nm,18.8s,baz=120,slow=37
comp=Z,36nm,0.9s
CMAR Chiang Mai Arr 72.26 293 P **P** **04 24 52.7 +0.5**
CMAR Chiang Mai Arr 72.26 293 *i* P **P** **04 24 53.0 +0.9**
CMAR pmax pmax
comp=Z,35nm,0.9s
ZEA Zeya 72.33 337 *ce*P **P** **04 24 52.9 +1.1**
ZEA pmax pmax
comp=N,50nm,1.0s
ZEA pmax pmax
comp=Z,70nm,0.9s
ZEA pmax pmax
comp=E,200nm,10.1s
ZEA pmax pmax
comp=Z,200nm,8.0s
CHTO Chiang Mai 72.37 294 P **P** **04 24 53.0 +0.3**
CHTO Chiang Mai 72.37 294 P **P** **04 24 53.1 +0.3**
CHTO pmax pmax
comp=Z,2.0nm,1.2s
HIA Hailar 72.39 330 P **P** **04 24 52.3 +0.1**
HIA IAmb IAmb 04 24 53.5
comp=Z,66nm,1.3s
HIA Hailar 72.39 330 P **P** **04 24 52.3 +0.1**
HIA pmax pmax
comp=Z,66nm,1.3s
PZH PanZhiHua 72.60 302 P **P** **04 24 54.0 -0.1**
PZH sP **sP** **04 25 22.0 +3.2**
PZH S **S** **04 34 15.1 +0.7**
PZH SKS **SKSac** **04 34 50.8 -3.2**
PZH pmax pmax
comp=Z,50nm,0.8s
PZH pmax pmax
comp=Z,240nm,4.6s
PZH LR LR
comp=Z,1µm,20.6s
PZH LR LR
comp=Z,1µm,20.6s
PZH LR LR
comp=Z,2µm,19.4s
CD2 Chengdu 72.71 307 P **P** **04 24 54.8 +0.2**
CD2 sP sP 04 25 24.2 +4.7
CD2 S **S** **04 34 15.6 +0.3**
CD2 sS sS 04 34 43.5 +0.4
CD2 pmax pmax
comp=Z,90nm,1.1s
CD2 pmax pmax
comp=Z,210nm,5.7s
CD2 LR LR
comp=Z,560nm,19.9s
CD2 LR LR
comp=Z,570nm,17.1s
CD2 LR LR
comp=Z,740nm,30.3s
BTO Baotou 72.75 319 *e*P **P** **04 24 56.3 +1.6**
S14K Fog Glacier 72.85 19 P **P** **04 24 54.1 -0.9**
baz=216
CHGN Chignik 73.24 20 P **P** **04 24 55.2 -1.8**
baz=217
CHIR Chirikof Islan 73.83 21 IAMs_20 IAMs_20 04 53 31.2
comp=Z,1µm,19.0s
CHIR Chirikof Islan 73.83 21 P **P** **04 24 59.5 -1.0**
baz=219
SEY Seymchan 74.40 354 P **P** **04 25 03.7 -0.1**
comp=Z,17nm,0.9s,baz=157,slow=5.4,SNR=35
SEY LR LR 04 53 16.0
comp=Z,2µm,21.8s,baz=152,slow=32
comp=Z,17nm,0.9s
SEY Seymchan 74.40 354 *ce*P **P** **04 25 03.6 -0.1**
SEY pmax pmax
comp=Z,53nm,1.4s
LZH Lanzhou 74.84 312 ⇑P **P** **04 25 08.2 +1.1**
LZH PcP **PcP** **04 25 21.6 +0.7**
LZH pP sP 04 25 31.5 -0.6
LZH sP pP 04 25 34.8 +10
LZH SKS **SKSac** **04 35 01.9 -8.7**
LZH sS ScS 04 35 14.9 +1.0
LZH pmax pmax
comp=Z,89nm,1.4s
LZH pmax pmax
comp=Z,170nm,4.5s
LZH LR LR
comp=Z,530nm,17.5s
LZH LR LR
comp=Z,690nm,16.1s
LZH LR LR
comp=Z,1µm,16.2s
SII Sitkinak Islan 74.91 22 IAMs_20 IAMs_20 04 53 36.8
comp=Z,1µm,20.0s
SII Sitkinak Islan 74.91 22 P **P** **04 25 05.6 -1.3**
baz=221
R17K Ugashik Creek 74.98 20 P **P** **04 25 06.7 -0.6**
baz=218
P16K Nushagak River 75.57 18 P **P** **04 25 09.7 -0.8**
baz=217
Q16K King Salmon 75.71 19 P **P** **04 25 10.6 -0.7**
baz=218,SNR=7.7
OHAK Old Harbor 75.74 21 P **P** **04 25 11.4 -0.1**
OHAK Old Harbor 75.74 21 P **P** **04 25 10.9 -0.6**
baz=221,SNR=5.9
O16K Kokwok River B 76.00 18 P **P** **04 25 11.7 -1.3**
baz=216
P17K Kvichak River 76.19 19 P **P** **04 25 12.7 -1.3**
baz=218
KDAK Kodiak Island 76.41 21 LR LR 04 53 08.3
comp=Z,727nm,20.6s,baz=235,slow=31
KDAK Kodiak Island 76.41 21 P **P** **04 25 15.8 +0.4**
KDAK IAmb IAmb 04 25 16.4
comp=Z,48nm,1.1s
KDAK Kodiak Island 76.41 21 P **P** **04 25 15.8 +0.4**
KDAK pmax pmax
comp=Z,48nm,1.1s
KDAK Kodiak Island 76.41 21 P **P** **04 25 15.0 -0.4**
baz=222
GAMB Gambell 76.43 10 IAMs_20 IAMs_20 04 51 58.9
comp=Z,1µm,21.0s
GAMB Gambell 76.43 10 P **P** **04 25 13.7 -1.6**
baz=202
O17K Koliganek Bris 76.44 18 P **P** **04 25 14.5 -1.0**
baz=217,SNR=11
N16K Nishlik Lake 76.51 17 P **P** **04 25 16.4 +0.5**
baz=216,SNR=21
P18K Big Mountain, 76.73 19 P **P** **04 25 16.2 -1.1**
P18K Big Mountain, 76.73 19 P **P** **04 25 16.0 -1.2**
baz=219,SNR=30
Q19K Cape Douglas, 76.90 20 P **P** **04 25 16.8 -1.4**
Q19K IAMs_20 IAMs_20 04 56 15.4
comp=Z,958nm,20.0s
Q19K Cape Douglas, 76.90 20 P **P** **04 25 17.9 -0.3**
baz=221,SNR=18
Q20K Shuyak Island 77.09 21 P **P** **04 25 19.0 -0.2**
baz=222
O18K Koktuh Hills 77.10 19 P **P** **04 25 18.3 -0.9**
O18K IAmb IAmb 04 25 20.0
comp=Z,80nm,1.4s
O18K IAMs_20 IAMs_20 04 53 00.6
comp=Z,915nm,21.0s
O18K Koktuh Hills 77.10 19 P **P** **04 25 18.2 -1.1**
baz=219,SNR=9.8
CIT Chita 77.18 330 *e*P **P** **04 25 20.5 +0.6**
CIT *e* 04 25 27.8
CIT *e* 04 25 40.1
CIT pmax pmax
comp=Z,202nm,1.2s
N18K Kilae Creek 77.53 18 P **P** **04 25 21.1 -0.6**
N18K Kilae Creek 77.53 18 P **P** **04 25 21.3 -0.4**
baz=218,SNR=10
P19K Oil Pt 77.59 20 P **P** **04 25 20.7 -1.3**
P19K Oil Pt 77.59 20 P **P** **04 25 21.9 -0.1**
baz=221,SNR=10.0
Q19K Port Alsworth 77.65 19 P **P** **04 25 21.0 -1.2**
O19K IAmb IAmb 04 25 23.0
comp=Z,89nm,1.2s
O19K Port Alsworth 77.65 19 P **P** **04 25 21.8 -0.5**
baz=220
ILSW Iliamna Southw 77.87 20 P **P** **04 25 22.5 -1.1**
ILSW IAmb IAmb 04 25 24.0
comp=Z,78nm,1.0s
SVW2 Sparrevohn 77.95 18 P **P** **04 25 24.7 +0.7**
SVW2 IAmb IAmb 04 25 26.4
comp=Z,48nm,0.9s
YAK Yakutsk 78.06 343 P **P** **04 25 24.7 +0.3**
comp=Z,67nm,0.7s,baz=82,slow=0.5,SNR=19
YAK LR LR 05 01 11.1
comp=Z,672nm,18.1s,baz=91,slow=37
comp=Z,67nm,0.7s
YAK Yakutsk 78.06 343 P **P** **04 25 24.3 -0.2**
YAK IAMs_20 IAMs_20 04 59 37.4
comp=Z,868nm,20.0s
YAK Yakutsk 78.06 343 *c i*P **P** **04 25 24.5 0.0**
YAK *e* 04 25 33.9
YAK *e**PP **pP** **04 25 43.2 +0.9**
YAK *e* 04 28 21.8
YAK *e*PPP PPP 04 30 15.1
YAK *e*S **S** **04 35 12.5 -0.6**
YAK *e* 04 35 35.8
YAK *e*SS **SS** **04 40 16.2 +0.1**
YAK *e*SSS SSS 04 43 41.5
YAK pmax pmax
comp=Z,121nm,0.8s
YAK pmax pmax
comp=N,33nm,1.1s
YAK pmax pmax
comp=E,17nm,1.0s
YAK pmax pmax
comp=Z,15nm,0.5s
YAK pmax pmax
comp=N,3.0nm,0.5s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK smax smax
comp=N,26nm,1.8s
YAK smax smax
comp=E,17nm,1.6s
N19K Bonanza Creek 78.07 19 P **P** **04 25 23.9 -0.9**
N19K IAMs_20 IAMs_20 04 54 22.3
comp=Z,911nm,21.0s
N19K Bonanza Creek 78.07 19 P **P** **04 25 24.2 -0.5**
baz=220,SNR=11
O20K Slope Mountain 78.11 20 P **P** **04 25 24.9 -0.1**
baz=222
HOM Homer 78.13 20 P **P** **04 25 24.6 -0.3**
HOM IAMs_20 IAMs_20 04 52 35.8
comp=Z,1µm,22.0s
HOM Homer 78.13 20 P **P** **04 25 24.5 -0.4**
baz=222
CNPM China Poot 78.17 21 P **P** **04 25 24.9 -0.3**
CNPM IAMs_20 IAMs_20 04 56 27.0
comp=Z,1µm,19.0s
ULN Ulaanbaatar 78.34 324 P **P** **04 25 26.9 +0.3**
ULN IAmb IAmb 04 25 28.3
comp=Z,55nm,0.8s
ULN Ulaanbaatar 78.34 324 *ce*P **P** **04 25 26.9 +0.3**
ULN pmax pmax
comp=Z,90nm,1.3s
ANM Nome 78.35 12 IAMs_20 IAMs_20 04 53 31.5
comp=Z,1µm,21.0s
ANM Nome 78.35 12 P **P** **04 25 26.8 +0.8**
baz=209
BRLK Bradley Lake 78.47 21 P **P** **04 25 26.6 -0.3**
BRLK IAmb IAmb 04 25 27.9
comp=Z,70nm,0.8s
BRLK IAMs_20 IAMs_20 04 54 30.4
comp=Z,1µm,20.0s
BRSE Bradley Lake S 78.50 21 P **P** **04 25 27.7 +0.7**
baz=223,SNR=9.8
MOKO MOKOCHONG 78.62 300 *e*P **P** **04 25 28.0 -0.6**
MOKO IAmb IAmb 04 25 29.4
comp=Z,191nm,1.1s
IMP Imphal 78.65 298 *e*P **P** **04 25 28.2 -0.5**
IMP IAmb IAmb 04 25 29.1
comp=Z,99nm,0.9s
SONM Songino Array 78.71 324 P **P** **04 25 28.7 +0.1**
comp=Z,23nm,0.9s,baz=135,slow=5.7,SNR=61
SONM LR LR 04 58 30.8
comp=Z,156nm,22.0s,baz=122,slow=34
comp=Z,23nm,0.9s
SONM Songino Array 78.71 324 P **P** **04 25 28.6 0.0**
BILL Bilibino 78.78 0 P **P** **04 25 28.6 +0.2**
BILL Bilibino 78.78 0 *d i*P **P** **04 25 28.3 -0.1**
BILL *e* 04 28 27.7
BILL pmax pmax
comp=Z,191nm,1.3s
BILL MLR MLR
comp=Z,275nm,19.0s
KOHI KOHIMA 78.78 299 *e*P **P** **04 25 28.6 -0.9**
KOHI IAmb IAmb 04 25 31.1
comp=Z,252nm,1.3s
M19K Big River Lodg 78.94 18 P **P** **04 25 30.0 +0.6**
M19K IAmb IAmb 04 25 31.4
comp=Z,47nm,0.8s
M19K IAMs_20 IAMs_20 04 55 01.3
comp=Z,900nm,20.0s
M19K Big River Lodg 78.94 18 P **P** **04 25 29.8 +0.4**
baz=220,SNR=19
L19K White Mountain 79.02 18 P **P** **04 25 30.7 +0.9**
L19K IAmb IAmb 04 25 31.8
comp=Z,48nm,0.8s
L19K White Mountain 79.02 18 P **P** **04 25 30.2 +0.4**
baz=219,SNR=38
QSPA South Pole Qui 79.06 180 LR LR 04 58 35.2
comp=Z,772nm,18.5s,baz=16,slow=34
QSPA South Pole Qui 79.06 180 P **P** **04 25 30.6 +0.3**
QSPA South Pole Qui 79.06 180 IAMs_20 IAMs_20 04 58 25.5
comp=Z,907nm,21.0s
N20K Mount Spurr 79.09 19 P **P** **04 25 29.3 -1.0**
baz=222
SPCR Spurr Chakacha 79.09 19 P **P** **04 25 29.2 -1.1**
baz=222
GTA Gaotai 79.14 314 ⇑P **P** **04 25 31.9 +0.7**
GTA pP sP 04 25 53.0 -3.2
GTA sP pP 04 25 59.3 +10
GTA S **S** **04 35 27.4 +1.5**
GTA sS sS 04 35 57.3 +2.2
GTA pmax pmax
comp=Z,62nm,1.1s
GTA pmax pmax
comp=Z,250nm,6.5s
GTA LR LR
comp=Z,370nm,21.8s
GTA LR LR
comp=Z,640nm,21.8s
GTA LR LR
comp=Z,840nm,22.5s
SEW Seward 79.22 21 P **P** **04 25 30.7 -0.2**
SEW Seward 79.22 21 P **P** **04 25 30.1 -0.8**
baz=224,SNR=7.5
TTA Tatalina 79.27 17 P **P** **04 25 31.6 +0.3**
baz=218
M20K Styx River 79.31 18 P **P** **04 25 31.1 -0.5**
M20K Styx River 79.31 18 P **P** **04 25 31.3 -0.2**
baz=221
O22K Cooper Landing 79.39 21 P **P** **04 25 32.2 +0.4**
O22K IAMs_20 IAMs_20 04 55 58.2
comp=Z,1µm,20.0s
O22K Cooper Landing 79.39 21 P **P** **04 25 31.9 0.0**
baz=224
L20K Farewell, AK 79.54 18 P **P** **04 25 33.5 +0.8**
baz=220,SNR=49
ITAN ITANAGAR 79.55 300 *e*P **P** **04 25 33.7 +0.2**
ITAN IAmb IAmb 04 25 35.2
comp=Z,246nm,1.2s
ZIRO ZIRO 79.56 301 *e*P **P** **04 25 34.3 +0.5**
FIS Fire Island 79.70 20 IAMs_20 IAMs_20 04 53 29.4
comp=Z,1µm,21.0s
SUA Susitna One 79.76 20 P **P** **04 25 33.9 -0.1**
SUA IAmb IAmb 04 25 37.8
comp=Z,48nm,0.8s
SUA Susitna One 79.76 20 P **P** **04 25 33.3 -0.7**
baz=223,SNR=13
RC01 Rabbit Creek A 79.83 20 P **P** **04 25 34.2 0.0**
RC01 IAmb IAmb 04 25 35.4
comp=Z,180nm,1.8s
RC01 IAMs_20 IAMs_20 04 53 40.7
comp=Z,1µm,22.0s
RC01 Rabbit Creek A 79.83 20 P **P** **04 25 34.1 -0.1**
baz=224
P23K Montague Islan 79.88 22 P **P** **04 25 34.1 -0.4**
baz=226
SKT Skwentna 79.89 19 P **P** **04 25 33.5 -1.1**
SKT IAMs_20 IAMs_20 04 54 49.3
comp=Z,926nm,21.0s
SKT Skwentna 79.89 19 P **P** **04 25 33.1 -1.5**
baz=222
BRDH Bariadhala 80.04 295 LR LR 05 00 00.4
comp=Z,436nm,22.0s,baz=156,slow=35
PWL Port Wells 80.14 21 IAmb IAmb 04 25 37.0
comp=Z,79nm,0.9s
PWL Port Wells 80.14 21 P **P** **04 25 35.4 -0.5**
baz=225,SNR=20
K20K Telida 80.16 17 IAmb IAmb 04 25 37.9
comp=Z,58nm,1.3s
K20K IAMs_20 IAMs_20 04 57 11.4
comp=Z,779nm,20.0s
K20K Telida 80.16 17 P **P** **04 25 36.2 +0.2**
baz=220,SNR=21
TEZP TEZPUR 80.17 300 *e*P **P** **04 25 36.9 0.0**
TEZP IAmb IAmb 04 25 37.8
comp=Z,68nm,0.9s
PPLA Purkeypile 80.36 18 P **P** **04 25 35.8 -1.4**
baz=222
PMR Palmer 80.39 20 P **P** **04 25 36.9 -0.3**
baz=225,SNR=9.4
RPN Rapa Nui 80.43 116 LR LR 04 55 13.6
comp=Z,263nm,18.2s,baz=270,slow=31
HIN Hinchinbrook I 80.48 22 IAmb IAmb 04 25 38.8
comp=Z,60nm,0.9s
GCSA Galena City Sc 80.48 15 P **P** **04 25 37.9 +0.2**
baz=217
KNK Knik Glacier 80.49 20 IAmb IAmb 04 25 39.2
comp=Z,182nm,1.8s
KNK IAMs_20 IAMs_20 04 55 53.3
comp=Z,1µm,21.0s
KNK Knik Glacier 80.49 20 P **P** **04 25 37.9 0.0**
baz=225,SNR=10
BOD Bodaibo 80.53 335 *e*P **P** **04 25 37.4 -0.6**
BOD pmax pmax
comp=Z,41nm,1.3s
GHO Glory Hole Cre 80.59 20 IAMs_20 IAMs_20 04 54 59.8
comp=Z,2µm,22.0s
GLI Glacier Island 80.59 21 IAMs_20 IAMs_20 04 55 04.0
comp=Z,1µm,21.0s
GLI Glacier Island 80.59 21 P **P** **04 25 38.1 -0.3**
baz=227,SNR=13
CUT Chulitna 80.60 19 IAmb IAmb 04 25 41.3
comp=Z,45nm,0.8s
CUT Chulitna 80.60 19 P **P** **04 25 37.7 -0.7**
baz=223,SNR=6.6
SHL Shillong 80.65 298 IAmb IAmb 04 25 41.0
comp=Z,70nm,1.1s
FID Port Fidalgo 80.73 22 IAmb IAmb 04 25 39.9
comp=Z,50nm,0.9s
J20K Nowinta River 80.77 17 IAmb IAmb 04 25 41.0
comp=Z,85nm,1.6s
J20K IAMs_20 IAMs_20 04 55 20.6
comp=Z,1µm,22.0s
J20K Nowinta River 80.77 17 P **P** **04 25 39.7 +0.5**
baz=220,SNR=14
CAST Castle Rocks 80.79 18 IAmb IAmb 04 25 41.7
comp=Z,44nm,0.7s
CAST IAMs_20 IAMs_20 04 56 30.1
comp=Z,908nm,21.0s
CAST Castle Rocks 80.79 18 P **P** **04 25 38.6 -0.8**
baz=222,SNR=40
SML Sawmill 80.81 20 IAmb IAmb 04 25 40.8
comp=Z,61nm,1.2s
SML IAMs_20 IAMs_20 04 57 24.8
comp=Z,1µm,20.0s
SML Sawmill 80.81 20 P **P** **04 25 39.2 -0.4**
baz=225,SNR=14
EYAK Cordova Ski Ar 80.86 22 P **P** **04 25 39.5 -0.2**
baz=228,SNR=9.8
KAIM Kayak Island 80.94 23 P **P** **04 25 40.1 -0.1**
baz=229,SNR=5.5
GUWA GUWAHATI 81.00 299 *e*P **P** **04 25 40.7 -0.6**
GUWA IAmb IAmb 04 25 42.0
comp=Z,43nm,0.7s
M23K Glacier View 81.01 20 P **P** **04 25 40.2 -0.3**
baz=226,SNR=7.2
CHUM Lake Minchumin 81.07 17 P **P** **04 25 40.4 -0.4**
baz=221
RAGM Ragged Mountai 81.15 22 IAmb IAmb 04 25 42.8
comp=Z,46nm,1.1s
SCM Sheep Creek Mo 81.17 20 IAmb IAmb 04 25 42.8
comp=Z,62nm,0.9s
SCM IAMs_20 IAMs_20 04 56 04.3
comp=Z,870nm,20.0s
SCM Sheep Creek Mo 81.17 20 P **P** **04 25 41.3 -0.2**
baz=226,SNR=18
DIV Divide 81.24 21 IAmb IAmb 04 25 43.0
comp=Z,67nm,0.8s
HMT Hamilton 81.27 23 IAmb IAmb 04 25 42.9
comp=Z,76nm,1.0s
HMT IAMs_20 IAMs_20 04 53 35.9
comp=Z,2µm,22.0s
TRF Thorofare Moun 81.36 18 IAMs_20 IAMs_20 04 55 26.1
comp=Z,1µm,21.0s
TRF Thorofare Moun 81.36 18 P **P** **04 25 41.5 -1.1**
baz=223,SNR=11
KLU Klutina 81.43 21 IAmb IAmb 04 25 44.2
comp=Z,40nm,0.9s
KLU IAMs_20 IAMs_20 04 54 47.1
comp=Z,1µm,21.0s
KLU Klutina 81.43 21 P **P** **04 25 42.6 -0.3**
baz=228,SNR=16
WAT1 Susitna Watana 81.46 19 P **P** **04 25 42.4 -0.6**
baz=225
BERG Berg Lake 81.52 23 IAMs_20 IAMs_20 04 57 03.5
comp=Z,1µm,20.0s
WAT6 Susitna Watana 81.55 20 P **P** **04 25 43.2 -0.4**
baz=226,SNR=13
BMRM Bremner River 81.56 22 IAmb IAmb 04 25 44.7
comp=Z,49nm,0.9s
BMRM Bremner River 81.56 22 P **P** **04 25 43.3 -0.2**
baz=229,SNR=12
GOMU GeErMu 81.61 309 P **P** **04 25 45.4 +0.6**
GOMU S **S** **04 35 46.4 -6.1**
GOMU pmax pmax
comp=Z,20nm,1.1s
GOMU pmax pmax
comp=Z,190nm,3.8s
GOMU LR LR
comp=Z,190nm,18.4s
GOMU LR LR
comp=Z,220nm,20.3s
GOMU LR LR
comp=Z,340nm,20.8s
BPAW Bear Paw Mtn. 81.62 18 P **P** **04 25 42.4 -1.4**
baz=223,SNR=9.5
ZAK Zakamensk 81.74 325 *e*P **P** **04 25 44.1 -0.7**
ZAK pmax pmax
comp=Z,40nm,1.1s
M24K Tolsona, Glenn 81.76 21 P **P** **04 25 44.7 +0.1**
baz=227,SNR=26
RND Reindeer 81.78 19 IAmb IAmb 04 25 46.8
comp=Z,46nm,0.9s
WAX Waxell Ridge 81.88 23 IAMs_20 IAMs_20 04 56 53.0
comp=Z,1µm,19.0s
RDOG Red Dog Mine 81.88 11 IAMs_20 IAMs_20 05 02 55.0
comp=Z,967nm,22.0s
N25K Chitina, Valde 81.98 22 P **P** **04 25 46.2 +0.4**
baz=229,SNR=46

MCK	**McKinley** comp=Z,86nm,1.2s	**81.98**	**19**	IAmb	IAmb	04 25 48.3		
MCK	**McKinley** baz=225,SNR=24	**81.98**	**19**	P	**P**	**04 25 44.9**	**-0.8**	
DHY	**Denali Highway** comp=Z,1µm,20.0s	**82.02**	**20**	IAMs_20	IAMs_20	04 56 16.6		
DHY	**Denali Highway** baz=226,SNR=12	**82.02**	**20**	P	**P**	**04 25 45.5**	**-0.5**	
MESA	**MESA** comp=Z,61nm,0.8s	**82.06**	**23**	IAmb	IAmb	04 25 48.0		
MESA	**MESA** baz=231	**82.06**	**23**	P	**P**	**04 25 46.3**	**-0.1**	
TGL	**Tana Glacier** comp=Z,46nm,0.8s	**82.08**	**23**	IAmb	IAmb	04 25 47.7		
TGL	comp=Z,980nm,20.0s			IAMs_20	IAMs_20	04 56 42.4		
BWN	**Browne** comp=Z,1µm,21.0s	**82.13**	**18**	IAMs_20	IAMs_20	04 56 53.0		
I21K	**Tanana** comp=Z,42nm,0.9s	**82.14**	**17**	IAmb	IAmb	04 25 49.5		
I21K	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	04 56 12.8		
I21K	**Tanana** baz=222,SNR=28	**82.14**	**17**	P	**P**	**04 25 46.9**	**+0.4**	
GLB	**Gilahina Butte** comp=Z,62nm,0.7s	**82.16**	**22**	IAmb	IAmb	04 25 47.8		
GLB	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	04 55 06.4		
ISLE	**Juniper Island** comp=Z,63nm,0.8s	**82.17**	**23**	IAmb	IAmb	04 25 48.1		
ISLE	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	04 56 13.8		
KMPM	**Mount Pierce** comp=Z,53nm,0.9s	**82.21**	**46**	IAmb	IAmb	04 25 51.1		
H21K	**Melozitna Rive** comp=Z,1µm,21.0s	**82.27**	**16**	IAMs_20	IAMs_20	04 56 50.3		
H21K	**Melozitna Rive** baz=221,SNR=16	**82.27**	**16**	P	**P**	**04 25 47.5**	**+0.3**	
HARP	**HAARP** baz=228,SNR=17	**82.31**	**21**	P	**P**	**04 25 47.3**	**-0.2**	
KCPM	**Cahto Peak** comp=Z,76nm,0.9s	**82.33**	**47**	IAmb	IAmb	04 25 50.1		
MLY	**Manley** baz=223,SNR=29	**82.38**	**17**	P	**P**	**04 25 47.3**	**-0.5**	
MCARA	**McCarthy VSAT** comp=Z,44nm,0.9s	**82.41**	**22**	IAmb	IAmb	04 26 08.0		
MCARA	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	04 54 49.1		
MCARA	**McCarthy VSAT** baz=230,SNR=9.9	**82.41**	**22**	P	**P**	**04 25 47.8**	**-0.2**	
KMRM	**Mail Ridge** comp=Z,76nm,0.9s	**82.43**	**47**	IAmb	IAmb	04 25 50.9		
HOPS	**Hopland Field** comp=Z,120nm,1.4s	**82.45**	**48**	IAmb	IAmb	04 25 51.1		
NEA2	**Nenana** comp=Z,901nm,21.0s	**82.56**	**18**	IAMs_20	IAMs_20	04 57 25.8		
NEA2	**Nenana** baz=224,SNR=11	**82.56**	**18**	P	**P**	**04 25 47.7**	**-1.0**	
PAX	**Paxson** baz=228	**82.58**	**20**	P	**P**	**04 25 48.2**	**-0.7**	
KHMM	**Horse Mountain** comp=Z,40nm,0.9s	**82.65**	**46**	IAmb	IAmb	04 25 51.6		
PINM	**Pinnacle** baz=233,SNR=9.1	**82.68**	**24**	P	**P**	**04 25 49.6**	**+0.1**	
G21K	**Allakaket** baz=220,SNR=19	**82.75**	**15**	P	**P**	**04 25 49.6**	**0.0**	
PNL	**Peninsula** baz=234	**82.77**	**25**	P	**P**	**04 25 49.0**	**-0.9**	
WRH	**Wood River Hil** comp=Z,58nm,0.9s	**82.77**	**18**	IAmb	IAmb	04 25 51.2		
WRH	comp=Z,846nm,22.0s			IAMs_20	IAMs_20	04 55 55.5		
CTG	**Chitna Glacier** baz=232,SNR=26	**82.78**	**23**	P	**P**	**04 25 49.9**	**-0.2**	
CTGM	**Chitina Glacie** comp=Z,1µm,22.0s	**82.78**	**23**	IAMs_20	IAMs_20	04 54 59.9		
LOGN	**Logan Glacier** comp=Z,74nm,0.9s	**82.83**	**23**	IAmb	IAmb	04 25 51.7		
LOGN	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	04 56 54.0		
BCPM	**Bancas Point** comp=Z,58nm,1.0s	**82.84**	**24**	IAmb	IAmb	04 25 51.4		
H22K	**Ishtalitna Cre** baz=222	**82.84**	**16**	P	**P**	**04 25 50.0**	**-0.1**	
SAO	**San Andreas Ge** comp=Z,34nm,0.9s	**82.91**	**51**	IAmb	IAmb	04 25 52.8		
KEBM	**Edson Butte** comp=Z,36nm,0.9s	**82.96**	**44**	IAmb	IAmb	04 25 53.2		
CCB	**Clear Creek Bu** comp=Z,28nm,0.6s	**82.98**	**18**	IAmb	IAmb	04 25 52.0		
K24K	**Donnelly Creek** baz=228,SNR=23	**83.04**	**19**	P	**P**	**04 25 51.3**	**0.0**	
MDM	**Murphy Dome** comp=Z,60nm,0.9s	**83.07**	**18**	IAmb	IAmb	04 25 52.3		
MDM	comp=Z,868nm,20.0s			IAMs_20	IAMs_20	04 57 51.4		
M26K	**Nabesna, AK** comp=Z,2µm,22.0s	**83.07**	**21**	IAMs_20	IAMs_20	04 55 26.5		
M26K	**Nabesna, AK** baz=230,SNR=47	**83.07**	**21**	P	**P**	**04 25 51.2**	**-0.3**	
HDA	**Harding Lake** baz=226,SNR=72	**83.08**	**19**	P	**P**	**04 25 51.1**	**-0.3**	
O28M	**Mount Upton** baz=233,SNR=24	**83.11**	**24**	P	**P**	**04 25 52.5**	**+0.6**	
TCOL	**CIGO, UAF Yank** comp=Z,1µm,22.0s	**83.12**	**18**	IAMs_20	IAMs_20	04 57 40.8		
TCOL	**CIGO, UAF Yank** baz=226,SNR=19	**83.12**	**18**	P	**P**	**04 25 50.4**	**-1.1**	
COLA	**College**	**83.13**	**18**	P	**P**	**04 25 50.5**	**-1.1**	
COLA	**College** comp=Z,1µm,22.0s	**83.13**	**18**	IAMs_20	IAMs_20	04 57 40.8		
COLA	**College**	**83.13**	**18**	*e*P pmax	**P** pmax	**04 25 50.5**	**-1.1**	
COLA	comp=Z,72nm,0.8s							
COLA	**College** baz=226	**83.13**	**18**	P	**P**	**04 25 50.4**	**-1.1**	
MENT	**Mentasta** comp=Z,37nm,0.8s	**83.16**	**21**	IAmb	IAmb	04 25 53.0		
L02F	**Cave Junction** baz=249	**83.21**	**45**	P	**P**	**04 25 51.5**	**-1.1**	
PMPB	**Monarch Peak** comp=Z,39nm,1.0s	**83.22**	**51**	IAmb	IAmb	04 25 54.9		
F21K	**Alatna River** baz=220,SNR=8.2	**83.29**	**15**	P	**P**	**04 25 52.6**	**+0.2**	
CRAG	**Craig** baz=240	**83.30**	**30**	P	**P**	**04 25 52.7**	**+0.1**	
SNCC	**San Nicolas Is** baz=252	**83.30**	**54**	P	**P**	**04 25 52.2**	**-1.0**	
H23K	**Yukon River** comp=Z,44nm,1.0s	**83.31**	**17**	IAmb	IAmb	04 25 53.8		
H23K	comp=Z,809nm,22.0s			IAMs_20	IAMs_20	04 56 35.6		
H23K	**Yukon River** baz=224,SNR=33	**83.31**	**17**	P	**P**	**04 25 52.6**	**+0.1**	
RIDG	**Independent Ri** comp=Z,1µm,21.0s	**83.31**	**20**	IAMs_20	IAMs_20	04 56 43.7		
RIDG	**Independent Ri** baz=228,SNR=22	**83.31**	**20**	P	**P**	**04 25 52.8**	**+0.1**	
J01E	**Myrtle Point** comp=Z,42nm,0.8s	**83.35**	**44**	IAmb	IAmb	04 25 55.0		
J01E	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	04 53 54.7		
J01E	**Myrtle Point** baz=248,SNR=8.8	**83.35**	**44**	P	**P**	**04 25 53.6**	**+0.5**	
L26K	**Log Cabin Wild** comp=Z,1µm,22.0s	**83.35**	**21**	IAMs_20	IAMs_20	04 55 49.9		
L26K	**Log Cabin Wild** baz=230,SNR=46	**83.35**	**21**	P	**P**	**04 25 53.5**	**+0.7**	
IL31	comp=Z,34nm,0.8s	**83.35**	**18**	IAmb	IAmb	04 25 55.0		
ILAR	**Eielson Array** comp=Z,25nm,0.7s,baz=229,slow=6.1,SNR=204	**83.35**	**18**	P PKiKP	**P** **PKiKP**	**04 25 52.4** **04 31 09.4**	**-0.4** **-0.7**	
ILAR	comp=Z,0.7nm,0.7s,baz=278,slow=3.9,SNR=4.9			PKKP	**PKKPdf**	**04 44 08.8**	**+2.2**	
ILAR	comp=Z,1.8nm,0.8s,baz=68,slow=1.9,SNR=12			PKPPKP	**P'P'df**	**04 52 18.3**	**+2.5**	
ILAR	comp=Z,1.6nm,1.1s,baz=5.5,slow=2.8,SNR=5.4 comp=Z,340nm,21.9s,baz=236,slow=32 comp=Z,25nm,0.7s			LR	LR	04 57 40.7		
K02D	**Willamette Mer** baz=248,SNR=12	**83.36**	**44**	P	**P**	**04 25 53.7**	**+0.3**	
POKR	**Poker Plat Res** comp=Z,40nm,0.8s	**83.42**	**18**	IAmb	IAmb	04 25 55.5		
POKR	comp=Z,919nm,20.0s			IAMs_20	IAMs_20	04 57 59.8		
POKR	**Poker Plat Res**	**83.42**	**18**	P	**P**	**04 25 52.3**	**-0.8**	
P29M	**Windy Craggy** comp=Z,55nm,1.1s	**83.43**	**25**	IAmb	IAmb	04 25 54.7		
P29M	**Windy Craggy** baz=235,SNR=14	**83.43**	**25**	P	**P**	**04 25 53.2**	**-0.1**	
M27K	**Edge Creek, AK** comp=Z,2µm,22.0s	**83.45**	**22**	IAMs_20	IAMs_20	04 55 35.5		
M27K	**Edge Creek, AK** baz=231,SNR=57	**83.45**	**22**	P	**P**	**04 25 54.0**	**+0.5**	
O29M	**Mount Kennedy** baz=234,SNR=5.7	**83.48**	**24**	P	**P**	**04 25 53.7**	**0.0**	
SMMC	**Simmler** baz=252	**83.56**	**52**	P	**P**	**04 25 54.8**	**+0.3**	
PKM	**Mcpherson Peak** baz=252,SNR=7.1	**83.57**	**53**	P	**P**	**04 25 54.9**	**+0.1**	
G22K	**Bettles** baz=222	**83.57**	**16**	P	**P**	**04 25 54.6**	**+0.8**	
MOY	**Mondy**	**83.61**	**325**	*e*P pmax	**P** pmax	**04 25 54.4**	**-0.1**	
MOY	comp=Z,56nm,2.9s							
YUK3	**Moose Creek** baz=233,SNR=42	**83.61**	**23**	P	**P**	**04 25 54.7**	**+0.3**	
YBH	**Yreka Blue Hor** comp=Z,338nm,20.1s,baz=263,slow=31	**83.67**	**46**	LR	LR	04 56 56.4		
YBH	**Yreka Blue Hor** comp=Z,38nm,0.9s	**83.67**	**46**	IAmb	IAmb	04 25 57.0		
J25K	**Salcha River,** comp=Z,1µm,21.0s	**83.72**	**19**	IAMs_20	IAMs_20	04 57 43.6		
J25K	**Salcha River,** baz=228,SNR=71	**83.72**	**19**	P	**P**	**04 25 54.8**	**0.0**	
I02E	**Swisshome, OR** comp=Z,42nm,0.8s	**83.75**	**43**	IAmb	IAmb	04 25 58.6		
I02E	**Swisshome, OR** baz=248,SNR=12	**83.75**	**43**	P	**P**	**04 25 55.9**	**+0.7**	
SCRK	**Sand Creek** comp=Z,271nm,22.0s	**83.75**	**20**	IAMs_20	IAMs_20	04 55 41.4		
SCRK	**Sand Creek** baz=229,SNR=60	**83.75**	**20**	P	**P**	**04 25 55.4**	**+0.4**	
H24K	**Noodor Dome** baz=225,SNR=11	**83.80**	**17**	P	**P**	**04 25 53.8**	**-1.3**	
HUMO	**Hull Mountain** comp=Z,42nm,0.9s	**83.81**	**45**	IAmb	IAmb	04 25 57.6		
G23K	**Bananza Creek** baz=223,SNR=29	**83.82**	**16**	P	**P**	**04 25 55.8**	**+0.7**	
F22K	**John River** baz=221	**83.84**	**15**	P	**P**	**04 25 55.5**	**+0.3**	
BVCY	**Beaver Creek** baz=232,SNR=12	**83.86**	**22**	P	**P**	**04 25 56.2**	**+0.7**	
BCW	**Bitter Crk WRg** comp=Z,49nm,0.9s	**83.90**	**53**	IAmb	IAmb	04 25 58.3		
L27K	**Beaver Creek,** comp=Z,40nm,0.8s	**83.91**	**21**	IAmb	IAmb	04 25 57.3		
L27K	**Beaver Creek,** baz=231,SNR=46	**83.91**	**21**	P	**P**	**04 25 56.1**	**+0.5**	
PLBC	**Pleasant Camp** baz=236,SNR=9.3	**83.92**	**26**	P	**P**	**04 25 55.5**	**-0.2**	
YUK6	**Outpost Mounta** baz=235,SNR=5.7	**83.93**	**24**	P	**P**	**04 25 56.2**	**+0.1**	
I03D	**Drain, OR** baz=249,SNR=12	**83.94**	**44**	P	**P**	**04 25 56.9**	**+0.7**	
GTK	**Tadong**	**83.96**	**299**	*e*P IAmb	**P** IAmb	**04 25 57.6** 04 25 58.4	**+0.6**	
GTK	comp=Z,70nm,0.9s							
V35K	**Ketchikan** baz=241,SNR=12	**83.97**	**31**	P	**P**	**04 25 56.2**	**+0.1**	
AFDM	**Forest Hills D** comp=Z,55nm,1.0s	**83.98**	**49**	IAmb	IAmb	04 25 58.0		
P30M	**Million Dollar** baz=236	**84.03**	**25**	P	**P**	**04 25 56.1**	**-0.3**	
YUK4	**Talbot Arm** baz=234,SNR=17	**84.06**	**24**	P	**P**	**04 25 57.3**	**+0.6**	
R32K	**Eaglecrest** baz=238	**84.09**	**27**	P	**P**	**04 25 56.8**	**+0.2**	
BESE	**Bessie Mountai** comp=Z,64nm,1.3s	**84.10**	**27**	IAmb	IAmb	04 26 25.3		
CMB	**Columbia Colle** comp=Z,32nm,0.9s	**84.12**	**50**	IAmb	IAmb	04 25 58.6		
GRNB	**Grenville Isla** comp=Z,50nm,0.9s	**84.12**	**32**	IAmb	IAmb	04 25 58.5		
L04D	**Klamath Falls** comp=Z,43nm,0.9s	**84.13**	**45**	IAmb	IAmb	04 25 59.0		
L04D	**Klamath Falls** baz=250,SNR=15	**84.13**	**45**	P	**P**	**04 25 57.9**	**+0.5**	
COLD	**Coldfoot** comp=Z,31nm,1.0s	**84.15**	**16**	IAmb	IAmb	04 25 59.6		
COLD	**Coldfoot** baz=223,SNR=19	**84.15**	**16**	P	**P**	**04 25 57.6**	**+0.8**	
JIS	**Juneau Island** comp=Z,1µm,20.0s	**84.15**	**27**	IAMs_20	IAMs_20	04 56 13.1		
WRAK	**Wrangell Islan** comp=Z,79nm,19.0s	**84.15**	**29**	IAMs_20	IAMs_20	04 57 26.3		
WRAK	**Wrangell Islan** comp=Z,45nm,0.9s	**84.15**	**29**	IAmb	IAmb	04 25 58.1		
WRAK	**Wrangell Islan** baz=240,SNR=11	**84.15**	**29**	P	**P**	**04 25 57.1**	**+0.2**	
HYT	**Haines Junctio** comp=Z,34nm,0.9s	**84.21**	**24**	IAmb	IAmb	04 25 58.7		
HYT	**Haines Junctio** baz=235,SNR=17	**84.21**	**24**	P	**P**	**04 25 57.6**	**+0.2**	
CIS	**Catalina Islan** baz=253	**84.23**	**55**	P	**P**	**04 25 57.6**	**-0.4**	
J26L	**Joseph Creek** comp=Z,55nm,1.3s	**84.23**	**20**	IAmb	IAmb	04 25 59.3		
J26L	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	04 56 21.2		
J26L	**Joseph Creek** baz=230,SNR=24	**84.23**	**20**	P	**P**	**04 25 57.4**	**0.0**	
PRP	**Porcupine Dome** baz=228,SNR=15	**84.28**	**18**	P	**P**	**04 25 56.8**	**-0.9**	
COR	**Corvallis**	**84.29**	**43**	P IAmb	**P** IAmb	**04 25 58.6** 04 26 04.7	**+0.6**	
COR	comp=Z,29nm,0.9s							
COR	**Corvallis** comp=Z,895nm,21.0s	**84.29**	**43**	IAMs_20	IAMs_20	04 55 54.6		
COR	**Corvallis**	**84.29**	**43**	P pmax	**P** pmax	**04 25 58.6**	**+0.6**	
COR	comp=Z,29nm,0.9s							
VOG	**Valley Oaks Go** baz=252	**84.34**	**52**	P	**P**	**04 25 58.1**	**-0.3**	
BUCK	**Buck Mountain** comp=Z,42nm,0.8s	**84.36**	**43**	IAmb	IAmb	04 26 02.1		
SKAG	**Skagway** comp=Z,74nm,1.5s	**84.36**	**26**	IAmb	IAmb	04 26 00.2		
SKAG	**Skagway** baz=237,SNR=7.0	**84.36**	**26**	P	**P**	**04 25 58.4**	**+0.5**	
BBB	**Bella Bella** comp=Z,1µm,19.9s,baz=264,slow=31	**84.38**	**34**	LR	LR	04 57 06.5		
ARVC	**Arvin** baz=232,SNR=5.1	**84.41**	**53**	P	**P**	**04 25 58.4**	**-0.4**	
VES	**Vestal, Richgr** baz=252,SNR=16	**84.43**	**52**	P	**P**	**04 25 58.2**	**-0.7**	
K27K	**Chicken** baz=231	**84.43**	**20**	P	**P**	**04 25 59.4**	**+1.2**	
G24K	**Hadweenzic Riv** baz=226,SNR=31	**84.52**	**17**	P	**P**	**04 25 58.9**	**+0.2**	
G03D	**McMinnville, O** comp=Z,54nm,1.1s	**84.54**	**42**	IAmb	IAmb	04 26 01.0		
G03D	comp=Z,839nm,21.0s			IAMs_20	IAMs_20	04 55 40.3		
G03D	**McMinnville, O** baz=249,SNR=9.3	**84.54**	**42**	P	**P**	**04 25 59.9**	**+0.7**	
I04A	**Tendick Farm,** baz=249,SNR=26	**84.61**	**44**	P	**P**	**04 25 59.9**	**+0.2**	
J04D	**Umpqua Nationa** comp=Z,924nm,22.0s	**84.62**	**44**	IAMs_20	IAMs_20	04 54 45.4		
J04D	**Umpqua Nationa** baz=250,SNR=20	**84.62**	**44**	P	**P**	**04 26 00.3**	**+0.3**	
PASC	**Pasadena Art C** comp=Z,1µm,20.0s	**84.64**	**54**	IAMs_20	IAMs_20	04 56 22.4		
RADR	**Rader Ridge** comp=Z,56nm,1.0s	**84.64**	**41**	IAmb	IAmb	04 26 01.8		
H04D	**Lebanon** comp=Z,36nm,0.9s	**84.64**	**43**	IAmb	IAmb	04 26 01.5		
H04D	comp=Z,866nm,21.0s			IAMs_20	IAMs_20	04 55 57.0		
H04D	**Lebanon** baz=249,SNR=13	**84.64**	**43**	P	**P**	**04 26 00.2**	**+0.4**	
K04D	**Chiloquin, OR** baz=250,SNR=8.2	**84.65**	**45**	P	**P**	**04 26 00.5**	**+0.4**	
H25K	**Birch Creek** baz=227	**84.70**	**18**	P	**P**	**04 26 00.6**	**+1.0**	
BEKR	**Beckworth** comp=Z,30nm,0.8s	**84.73**	**48**	IAmb	IAmb	04 26 01.9		
N30M	**Aishikik Lake** baz=235,SNR=8.9	**84.74**	**24**	P	**P**	**04 25 59.8**	**-0.2**	
TAPN	**Taplejung** comp=Z,74nm,1.1s	**84.74**	**299**	*e*P	**P**	**04 26 01.1**	**+0.1**	
O30N	**Mendenhall**	**84.75**	**25**	P	**P**	**04 25 59.9**	**-0.2**	
M29M	**Somme Creek** baz=234,SNR=11	**84.77**	**23**	P	**P**	**04 26 00.1**	**-0.1**	
ISA	**Isabella, Lake** comp=Z,31nm,0.9s	**84.85**	**52**	IAmb	IAmb	04 26 02.6		
ISA	**Isabella, Lake** baz=253,SNR=23	**84.85**	**52**	P	**P**	**04 26 01.5**	**+0.4**	
I26K	**Coal Creek Min** baz=230	**84.89**	**19**	P	**P**	**04 26 01.3**	**+0.7**	
MAW	**Mawson** comp=Z,174nm,1.1s,baz=102,slow=6.3,SNR=186	**84.89**	**202**	P	**P**	**04 26 01.0**	**+0.4**	
MAW	comp=Z,277nm,21.9s,baz=110,slow=32 comp=Z,174nm,1.1s			LR	LR	04 58 04.2		
MAW	**Mawson** baz=85,SNR=94	**84.89**	**202**	P	**P**	**04 26 01.8**	**+1.2**	
MAW	**Mawson**	**84.89**	**202**	P	**P**	**04 26 02.0**	**+1.4**	
MAW	comp=Z,37nm,0.9s			IAmb	IAmb	04 26 03.2		
MAW	**Mawson**	**84.89**	**202**	P	**P**	**04 26 01.0**	**+0.4**	
WISH	**Wishkah** comp=Z,38nm,0.9s	**84.92**	**40**	IAmb	IAmb	04 26 03.3		
NLWA	**Neilton Lookou** comp=Z,818nm,22.0s	**84.96**	**40**	IAMs_20	IAMs_20	04 54 46.1		
MDPB	**Devils Postpil** comp=Z,45nm,0.8s	**84.98**	**50**	IAmb	IAmb	04 26 03.4		
F24K	**Squaw Lake** baz=225,SNR=16	**84.98**	**16**	P	**P**	**04 26 02.0**	**+0.9**	
EDW2	**Edwards Air Fo** baz=253,SNR=33	**84.99**	**53**	P	**P**	**04 26 02.2**	**+0.3**	
F04D	**Rainier, OR** baz=249	**85.02**	**41**	P	**P**	**04 26 01.8**	**+0.1**	
PNTR	**Pine Nut** comp=Z,44nm,1.0s	**85.04**	**49**	IAmb	IAmb	04 26 25.5		
CCAC	**Calif City Air** comp=Z,54nm,0.8s	**85.06**	**53**	IAmb	IAmb	04 26 03.8		
BFSC	**Mount Baldy Ra** baz=253	**85.07**	**54**	P	**P**	**04 26 02.1**	**-0.3**	
FYU	**Fort Yukon** comp=Z,48nm,1.2s	**85.08**	**18**	IAmb	IAmb	04 26 03.4		
P32M	**Atlin** baz=239,SNR=5.4	**85.13**	**26**	P	**P**	**04 26 02.2**	**+0.3**	
109C	**Camp Elliot, M** comp=Z,930nm,20.0s	**85.14**	**55**	IAMs_20	IAMs_20	04 55 14.7		
109C	**Camp Elliot, M** baz=254	**85.14**	**55**	P	**P**	**04 26 02.6**	**+0.1**	
KNGR	**Kungurtug, Tuv**	**85.15**	**324**	*i* P	**P**	**04 26 02.5**	**+0.2**	
MLAC	**Mammoth, Mammo** baz=252,SNR=8.9	**85.16**	**50**	P	**P**	**04 26 02.7**	**-0.2**	
WHY	**Whitehorse** baz=238,SNR=6.5	**85.19**	**25**	P	**P**	**04 26 01.9**	**-0.4**	
EGAK	**Eagle** baz=232,SNR=88	**85.21**	**20**	P	**P**	**04 26 02.5**	**+0.4**	
E24K	**Your Creek** baz=225	**85.21**	**16**	P	**P**	**04 26 03.2**	**+1.0**	
J05D	**Fort Rock, OR** baz=250,SNR=42	**85.23**	**44**	P	**P**	**04 26 03.2**	**+0.3**	
MURC	**Murrieta** baz=254,SNR=5.8	**85.26**	**55**	P	**P**	**04 26 02.7**	**-0.5**	
YERR	**Yerington** comp=Z,86nm,1.8s	**85.27**	**49**	IAmb	IAmb	04 26 04.8		
N31M	**Braeburn, Yuko** comp=Z,29nm,0.8s	**85.27**	**24**	IAmb	IAmb	04 26 03.9		
N31M	**Braeburn, Yuko** baz=237,SNR=10	**85.27**	**24**	P	**P**	**04 26 02.6**	**0.0**	
K05A	**Summer Lake** comp=Z,53nm,0.9s	**85.28**	**45**	IAmb	IAmb	04 26 05.1		
D23K	**Nanushuk River** baz=222	**85.30**	**14**	P	**P**	**04 26 03.9**	**+1.4**	
CLRS	**Cowichan Lake** comp=Z,49nm,0.8s	**85.33**	**39**	IAmb	IAmb	04 26 06.4		
TOLK	**Toolik Lake Re** baz=224,SNR=7.1	**85.34**	**15**	P	**P**	**04 26 03.3**	**+0.5**	
CWC	**Cottonwood Cre** baz=253	**85.38**	**52**	P	**P**	**04 26 03.9**	**0.0**	
DAWY	**Dawson** comp=Z,35nm,0.8s	**85.39**	**21**	IAmb	IAmb	04 26 04.7		
DAWY	**Dawson** baz=233,SNR=46	**85.39**	**21**	P	**P**	**04 26 03.6**	**+0.5**	
PAHR	**Pah Rah Range** comp=Z,39nm,1.1s	**85.39**	**48**	IAmb	IAmb	04 26 05.4		
LRMC	**Laurel Mtn Rad** baz=253,SNR=41	**85.41**	**53**	P	**P**	**04 26 04.5**	**+0.5**	
MOD	**Modoc Plateau** comp=Z,25nm,0.9s	**85.42**	**46**	IAmb	IAmb	04 26 05.3		
B04A	**Port Angeles** comp=Z,37nm,0.8s	**85.43**	**39**	IAmb	IAmb	04 26 05.5		
T35M	**Bob Quinn** baz=242	**85.44**	**30**	P	**P**	**04 26 03.2**	**-0.3**	
TIN	**Tinemaha, Big** baz=253,SNR=15	**85.45**	**51**	P	**P**	**04 26 04.2**	**+0.1**	
S34M	**Telegraph Cree** baz=241,SNR=11	**85.46**	**28**	P	**P**	**04 26 04.0**	**+0.5**	
M30M	**Minto, Yukon** comp=Z,1µm,20.0s	**85.48**	**23**	IAMs_20	IAMs_20	04 58 41.3		
M30M	**Minto, Yukon** baz=236,SNR=16	**85.48**	**23**	P	**P**	**04 26 03.0**	**-0.6**	
I05D	**Terrebonne, OR** baz=250,SNR=26	**85.52**	**43**	P	**P**	**04 26 04.6**	**+0.3**	
I27K	**Kandik River** baz=231,SNR=50	**85.58**	**19**	P	**P**	**04 26 04.5**	**+0.4**	
RAMN	**Ramite** comp=Z,24nm,0.7s	**85.59**	**298**	*e*P	**P**	**04 26 05.1**	**-0.1**	
LHV	**Little Huntoon** comp=Z,40nm,1.0s	**85.60**	**50**	IAmb	IAmb	04 26 06.7		
PINE	**Pine Mountain** comp=Z,45nm,0.8s	**85.61**	**44**	IAmb	IAmb	04 26 06.6		
HOOD	**Mount Hood Mea** comp=Z,36nm,1.1s	**85.65**	**42**	IAmb	IAmb	04 26 06.3		
F25K	**Christian Rive** baz=227,SNR=25	**85.66**	**17**	P	**P**	**04 26 05.4**	**+1.0**	
BBRC	**Big Bear Solar** baz=254,SNR=5.1	**85.67**	**54**	P	**P**	**04 26 05.6**	**+0.1**	
PGC	**Sidney** comp=Z,39nm,0.8s	**85.69**	**39**	IAmb	IAmb	04 26 06.3		
MONP2	**Monument Peak** baz=254,SNR=15	**85.69**	**56**	P	**P**	**04 26 06.1**	**+0.6**	
RYN	**Ryan** comp=Z,27nm,0.9s	**85.70**	**50**	IAmb	IAmb	04 26 06.9		
MPMC	**Manual Prospec** baz=253,SNR=35	**85.73**	**52**	P	**P**	**04 26 05.6**	**-0.1**	
DSP	**Deep Springs** comp=Z,48nm,0.9s	**85.74**	**51**	IAmb	IAmb	04 26 07.3		
G26K	**Porcupine Rive** baz=229,SNR=73	**85.77**	**18**	P	**P**	**04 26 06.0**	**+1.1**	
RRX	**Edison Barstow** baz=254	**85.78**	**53**	P	**P**	**04 26 05.8**	**+0.1**	
NVAR	**Mina Array Bea** comp=Z,21nm,0.8s,baz=231,slow=8.4,SNR=132	**85.80**	**50**	P PKiKP	**P** **PKiKP**	**04 26 06.2** **04 31 14.3**	**+0.2** **-0.8**	
NVAR	comp=Z,0.1nm,0.3s,baz=262,slow=1.8,SNR=2.5			PKKPbc	**PKKPbc**	**04 44 10.8**	**+2.1**	
NVAR	comp=Z,0.7nm,0.7s,baz=46,slow=2.6,SNR=6.0			PKPPKP	**P'P'df**	**04 52 15.0**	**+1.2**	
NVAR	comp=Z,0.6nm,0.7s,baz=123,slow=1.7,SNR=4.5			LR	LR	04 57 12.9		
A21K	comp=Z,1µm,20.4s,baz=268,slow=30 comp=Z,21nm,0.8s **Barrow** comp=Z,1µm,22.0s	**85.83**	**11**	IAMs_20	IAMs_20	04 58 13.3		
P33M	**Teslin, Yukon** baz=240	**85.84**	**26**	P	**P**	**04 26 04.3**	**-1.2**	
G05D	**Wamic, OR** baz=250,SNR=12	**85.84**	**43**	P	**P**	**04 26 05.9**	**+0.1**	
PFO	**Pinyon Flats O** comp=Z,885nm,20.9s,baz=262,slow=30	**85.86**	**55**	LR	LR	04 56 19.2		
PFO	**Pinyon Flats O**	**85.86**	**55**	P	**P**	**04 26 06.0**	**-0.3**	
PFO	**Pinyon Flats O** comp=Z,951nm,20.0s	**85.86**	**55**	IAMs_20	IAMs_20	04 56 05.8		
PFO	**Pinyon Flats O**	**85.86**	**55**	P pmax	**P** pmax	**04 26 06.0**	**-0.3**	
PFO	comp=Z,20nm,0.9s							
PFO	**Pinyon Flats O** baz=254,SNR=9.8	**85.86**	**55**	P	**P**	**04 26 06.6**	**+0.3**	
TPFO	**Pinon Flats** baz=254,SNR=9.0	**85.86**	**55**	P	**P**	**04 26 06.5**	**+0.2**	
IKP	**In-Ko-Pah, Jac** baz=254,SNR=6.9	**85.88**	**56**	P	**P**	**04 26 07.1**	**+0.8**	
D24K	**Happy Valley** baz=224	**85.90**	**15**	P	**P**	**04 26 06.4**	**+0.9**	
NV11	**Mina Array Sit** comp=Z,43nm,1.0s	**85.91**	**50**	IAmb	IAmb	04 26 08.0		
K29M	**Barlow Dome** baz=235,SNR=21	**85.93**	**22**	P	**P**	**04 26 06.1**	**+0.2**	
PMD	**Palm Desert** comp=Z,23nm,0.9s	**85.93**	**55**	IAmb	IAmb	04 26 07.8		
C23K	**Itkillik River** baz=222,SNR=18	**85.96**	**14**	P	**P**	**04 26 06.5**	**+0.7**	

H27K Steamboat Moun 86.00 19 P P 04 26 06.8 +0.7
baz=231,SNR=43
YUH Yuha Desert 86.03 56 IAmb IAmb 04 26 08.1
comp=Z,25nm,1.0s
TIXI Tiksi 86.03 349 P P 04 26 05.6 -0.5
comp=Z,46nm,1.1s,baz=272,slow=23,SNR=12
TIXI LR LR 05 01 09.8
comp=Z,293nm,21.2s,baz=179,slow=33
comp=Z,46nm,1.1s
TIXI Tiksi 86.03 349 P P 04 26 05.6 -0.5
TIXI Tiksi 86.03 349 *ce*P P 04 26 05.0 -1.1
TIXI pmax pmax
comp=Z,94nm,1.3s
J29M Klondike Camp 86.03 21 P P 04 26 07.0 +0.6
baz=234
E25K Arctic Village 86.03 16 P P 04 26 07.3 +1.0
baz=227,SNR=20
GSC Goldstone, Bar 86.05 53 P P 04 26 07.3 +0.2
baz=254,SNR=16
GRAC Grapevine Rang 86.09 51 IAmb IAmb 04 26 09.1
comp=Z,39nm,0.8s
GRAC Grapevine Rang 86.09 51 P P 04 26 07.7 +0.5
baz=253,SNR=20
JIRN Jiri 86.12 299 *e*P P 04 26 08.0 0.0
comp=Z,124nm,1.1s
KVN Kaiserville 86.14 49 IAmb IAmb 04 26 09.0
comp=Z,28nm,0.9s
F26K Sheenjek River 86.15 17 P P 04 26 07.5 +0.7
baz=229,SNR=11
QSM Queen of Sheba 86.18 52 IAmb IAmb 04 26 09.1
comp=Z,27nm,1.0s
N32M Quiet Lake 86.20 25 P P 04 26 06.8 -0.4
baz=239,SNR=6.8
SWSC Sam W. Stewart 86.21 56 P P 04 26 07.9 +0.1
baz=254,SNR=15
M31M Drury Creek, Y 86.22 24 P P 04 26 06.7 -0.5
baz=238,SNR=6.8
DLBC Dease Lake 86.22 28 LR LR 04 57 08.9
comp=Z,823nm,21.7s,baz=262,slow=30
DLBC Dease Lake 86.22 28 P P 04 26 07.5 +0.1
baz=242
R33M Jennings River 86.25 27 P P 04 26 07.6 +0.1
baz=241
HEC Hector,Ludlow 86.29 54 P P 04 26 08.2 -0.1
baz=254,SNR=12
G27K Doyon Strip 86.32 18 P P 04 26 08.4 +0.7
baz=231,SNR=29
FURC Furnace Creek, 86.33 52 P P 04 26 08.8 +0.5
baz=254,SNR=31
BELC Belle Mtn. Jos 86.33 55 P P 04 26 09.0 +0.3
baz=254,SNR=44
C24K Franklin Bluff 86.34 14 P P 04 26 08.5 +0.9
baz=224
MAYO Mayo, Yukon 86.39 22 P P 04 26 08.5 +0.4
baz=237,SNR=9.1
GUN Gumba 86.45 299 *e*P P 04 26 09.7 +0.1
comp=Z,129nm,1.1s
SFX San Felipe 86.49 58 IAmb IAmb 04 26 10.7
comp=Z,21nm,0.7s
I29M Ogilvie Camp, 86.53 20 IAMs_20 IAMs_20 04 58 00.9
comp=Z,1µm,22.0s
I29M Ogilvie Camp, 86.53 20 P P 04 26 09.0 +0.2
baz=234,SNR=46
WCT Wildcat Mounta 86.60 52 IAmb IAmb 04 26 11.5
comp=Z,47nm,1.4s
SHOC Shoshone, Teco 86.63 53 P P 04 26 10.1 +0.2
baz=254,SNR=11
D25K Kavik River 86.64 15 P P 04 26 09.6 +0.4
baz=227,SNR=16
BC3 Big Chuckawall 86.67 55 P P 04 26 10.9 +0.6
baz=254,SNR=28
I07A Izee 86.68 44 IAmb IAmb 04 26 13.0
comp=Z,33nm,0.8s
PALK Pallekele 86.74 278 LR LR 05 08 00.5
comp=Z,335nm,19.9s,baz=211,slow=38
PALK Pallekele 86.74 278 P P 04 26 11.2 +0.3
PALK IAmb IAmb 04 26 13.2
comp=Z,47nm,1.1s
PALK Pallekele 86.74 278 ⇑P P 04 26 12.7 +1.8
Q09A Carvers 86.76 50 IAmb IAmb 04 26 11.7
comp=Z,31nm,0.9s
WVOR Wild Horse Val 86.77 46 IAmb IAmb 04 26 12.2
comp=Z,45nm,1.2s
WVOR IAMs_20 IAMs_20 05 00 50.4
comp=Z,791nm,19.0s
PKI Pulchoki 86.77 299 *e*P P 04 26 10.8 -0.3
comp=Z,130nm,1.2s
TUQ Turquoise Moun 86.78 53 P P 04 26 11.0 +0.3
baz=254,SNR=30
PKIN Phulchoki 86.78 299 *e*P P 04 26 10.8 -0.3
comp=Z,125nm,1.1s
GMRC Granite Mounta 86.81 54 P P 04 26 11.3 +0.4
baz=254,SNR=29
TPNV Topopah Spring 86.94 52 IAmb IAmb 04 26 13.3
comp=Z,66nm,1.7s
TPNV Topopah Spring 86.94 52 P P 04 26 11.9 +0.3
baz=254,SNR=18
F07A Phinny Hill Vi 86.98 42 IAmb IAmb 04 26 12.8
comp=Z,33nm,1.0s
GLA Glamis 87.02 56 P P 04 26 12.6 +0.7
baz=255,SNR=15
DMN Daman 87.04 299 *e*P P 04 26 12.3 -0.1
comp=Z,198nm,1.1s
IRM Iron Mountain 87.06 55 P P 04 26 12.7 +0.7
baz=255,SNR=40
J08A Circle Bar Ran 87.17 45 IAmb IAmb 04 26 13.9
comp=Z,31nm,0.9s
E27K Coleen River 87.21 17 P P 04 26 13.1 +1.2
baz=231,SNR=28
HAWA Hanford 87.40 42 IAmb IAmb 04 26 14.9
comp=Z,32nm,0.9s
C26K Camden Bay 87.42 15 P P 04 26 14.2 +1.3
baz=228
G08A Pilot Rock 87.43 43 IAmb IAmb 04 26 15.0
comp=Z,36nm,1.0s
BLYC Blythe 87.45 55 IAmb IAmb 04 26 15.7
comp=Z,46nm,0.8s
S11A Rachel 87.51 51 IAmb IAmb 04 26 36.9
comp=Z,30nm,1.0s
GKN Gorkha 87.54 299 *e*P P 04 26 14.1 -0.5
comp=Z,124nm,1.1s
C27K Jago River 87.54 16 P P 04 26 14.2 +0.7
baz=229
NEE2 Needles Airpor 87.63 54 P P 04 26 15.1 +0.4
baz=255,SNR=7.2
EPYK Eagle Plains 87.64 20 IAmb IAmb 04 26 16.7
comp=Z,47nm,1.0s
EPYK IAMs_20 IAMs_20 05 00 39.4
comp=Z,728nm,20.0s
EPYK Eagle Plains 87.64 20 P P 04 26 14.5 +0.4
baz=236,SNR=25
SHPR Sheep Range 87.66 52 IAmb IAmb 04 26 17.0
comp=Z,59nm,1.5s
MMPY Sheldon Lake, 87.68 24 P P 04 26 13.8 -0.6
baz=241,SNR=7.8
WTNK Soaring Height 87.69 53 IAmb IAmb 04 26 16.0
comp=Z,47nm,1.0s
E08A Dider Farm, El 87.74 42 IAmb IAmb 04 26 16.6
comp=Z,44nm,1.0s
PIX Pinacate 87.77 57 IAmb IAmb 04 26 17.0
comp=Z,30nm,0.9s
113A Mohawk Valley, 87.81 56 IAmb IAmb 04 26 17.5
comp=Z,22nm,0.8s
R11A Troy Canyon, C 87.83 50 P P 04 26 16.0 +0.2
baz=254,SNR=31
PDMCI Parker Dam,Lak 87.90 55 P P 04 26 16.7 +0.7
baz=255,SNR=42
PRN Pahroc Range 87.98 51 IAmb IAmb 04 26 18.5
comp=Z,63nm,1.3s
W13A Hualapai Mount 88.30 54 IAmb IAmb 04 26 19.9
comp=Z,55nm,1.4s
DANN Dangsing 88.37 299 *e*P P 04 26 17.8 -1.0
comp=Z,51nm,0.7s
214A Organ Pipe Nat 88.40 57 IAmb IAmb 04 26 20.7
comp=Z,53nm,1.1s
214A Organ Pipe Nat 88.40 57 P P 04 26 19.6 +1.2
baz=256,SNR=30
BMO Blue Mountains 88.42 44 IAMs_20 IAMs_20 04 57 08.8
comp=Z,837nm,21.0s
TGTN Hyland Airport 88.42 26 P P 04 26 17.7 -0.3
baz=244
ELK Elko 88.73 48 LR LR 04 58 00.5
comp=Z,608nm,22.0s,baz=252,slow=30
ELK Elko 88.73 48 IAmb IAmb 04 26 21.8
comp=Z,49nm,1.6s
ELK IAMs_20 IAMs_20 04 58 01.3
comp=Z,731nm,22.0s
LPIG La Paz 88.78 65 LR LR 04 58 00.7
comp=Z,618nm,21.3s,baz=260,slow=30
F10A Beach Ranch, E 88.80 43 IAmb IAmb 04 26 20.6
comp=Z,23nm,0.9s
SPR3 Spring Creek 3 88.94 50 IAmb IAmb 04 26 22.8
comp=Z,35nm,1.0s
PYUN Piuthan 88.98 299 *e*P P 04 26 20.1 -1.4
comp=Z,69nm,0.9s
SLBS Sierra La Lagu 89.01 66 P P 04 26 21.0 -0.6
MFID Camas Ranch 89.03 46 IAMs_20 IAMs_20 05 03 34.2
comp=Z,618nm,19.0s
WMQ Urumqi 89.17 315 *e*P P 04 26 24.2 +2.3
WMQ LR LR
comp=Z,240nm,22.3s
WMQ LR LR
comp=Z,600nm,22.3s
WMQ LR LR
comp=Z,700nm,22.3s
PSUT Pine Spring 89.19 51 IAmb IAmb 04 26 23.9
comp=Z,22nm,0.9s
F31M Tsiigehtchic 89.21 20 P P 04 26 20.6 -0.8
baz=238
LCMT Little Creek M 89.28 52 IAmb IAmb 04 26 24.5
comp=Z,39nm,0.9s
HSIG 89.29 60 IAmb IAmb 04 26 24.4
comp=Z,51nm,1.3s
CCUT Cedar City 89.32 52 IAmb IAmb 04 26 25.0
comp=Z,38nm,0.9s
NEW Newport 89.53 41 LR LR 05 02 58.9
comp=Z,487nm,18.0s,baz=270,slow=33
NEW Newport 89.53 41 P P 04 26 23.4 -0.1
baz=253,SNR=15
SZCU Shurtz Canyon 89.54 52 IAmb IAmb 04 26 25.9
comp=Z,35nm,0.9s
INK Inuvik 89.74 19 P P 04 26 23.2 -0.6
comp=Z,13nm,1.1s,baz=269,slow=6.0,SNR=7.5
INK PKiKP PKiKP 04 31 20.1 -0.4
comp=Z,2.8nm,0.8s,baz=350,slow=7.2,SNR=3.0
INK LR LR 05 01 58.5
comp=Z,626nm,21.0s,baz=222,slow=32
comp=Z,13nm,1.1s
INK Inuvik 89.74 19 P P 04 26 24.0 +0.1
baz=239
HLID Hailey 90.06 46 IAmb IAmb 04 26 28.0
comp=Z,18nm,0.9s
HLID Hailey 90.06 46 P P 04 26 26.8 +0.6
baz=255,SNR=45
X16A Lo Mia Camp, P 90.09 55 IAmb IAmb 04 26 28.6
comp=Z,35nm,0.8s
TUC Tucson 90.16 57 P P 04 26 26.6 -0.2
TUC IAmb IAmb 04 26 28.9
comp=Z,24nm,0.8s
TUC Tucson 90.16 57 P P 04 26 26.6 -0.2
TUC pmax pmax
comp=Z,24nm,0.9s
TUC Tucson 90.16 57 P P 04 26 27.8 +1.0
baz=257
DUG Dugway, Tooele 90.38 49 IAmb IAmb 04 26 29.2
comp=Z,17nm,0.8s
DUG IAMs_20 IAMs_20 04 58 13.1
comp=Z,910nm,22.0s
DUG Dugway, Tooele 90.38 49 P P 04 26 28.1 +0.4
baz=256,SNR=24
BGU Big Grassy Mou 90.39 48 IAmb IAmb 04 26 29.3
comp=Z,23nm,0.9s
WUAZ Wupatki 90.39 54 IAMs_20 IAMs_20 05 02 05.8
comp=Z,741nm,20.0s
WUAZ Wupatki 90.39 54 P P 04 26 28.8 +0.9
baz=257,SNR=34
KOD Kodaikanal 90.45 280 *e*P P 04 26 29.3 +0.6
BELA Belgrano 2 90.57 176 IAmb IAmb 04 26 29.0
comp=Z,36nm,0.9s
HYBB Hyderabad (bro 90.78 287 *e*P P 04 26 29.9 0.0
NLU North Lily Min 90.87 50 IAmb IAmb 04 26 31.8
comp=Z,33nm,0.9s
DGZ Jazzator, Alta 90.95 320 ⇑*i*P P 04 26 29.4 -0.8
DGZ pmax pmax
comp=Z,38nm,0.8s
MPU Maple Canyon 91.21 50 IAmb IAmb 04 26 59.0
comp=Z,40nm,1.3s
MSO Missoula 91.22 43 P P 04 26 30.9 -0.5
baz=255,SNR=9.1
JTMT Jette 91.22 42 IAmb IAmb 04 26 31.9
comp=Z,16nm,0.9s
CTU Camp Tracy 91.28 49 IAmb IAmb 04 26 33.4
comp=Z,26nm,0.9s
Q16A Castle Valley 91.31 51 IAmb IAmb 04 27 05.5
comp=Z,35nm,1.2s
X18A Snowflake 91.32 55 IAmb IAmb 04 26 34.1
comp=Z,23nm,0.9s
TMUT Trail Mountain 91.37 50 IAmb IAmb 04 26 58.2
comp=Z,21nm,0.9s
JLU Jordanelle 91.48 49 IAmb IAmb 04 26 34.5
comp=Z,22nm,0.9s
W18A Petrified Fore 91.61 55 IAmb IAmb 04 26 35.3
comp=Z,31nm,0.9s
W18A Petrified Fore 91.61 55 P P 04 26 34.5 +0.8
baz=258,SNR=6.1
LGTI Lohaghat 91.61 300 *e*P P 04 26 32.2 -1.2
HWUT Hardware Ranch 91.63 48 IAmb IAmb 04 26 34.6
comp=Z,17nm,0.8s
TCUT Toone Canyon 91.63 49 IAmb IAmb 04 26 59.5
comp=Z,32nm,0.9s
PTH 91.66 300 *e*P P 04 26 32.8 -1.1
P17A Butcher Ranch, 91.77 50 IAmb IAmb 04 27 00.3
comp=Z,20nm,1.3s
WALA Waterton Lakes 91.80 40 IAmb IAmb 04 26 35.7
comp=Z,31nm,1.1s
ZSN Zaisan 92.02 318 *e*P P 04 26 34.6 -0.4
ZSN *e*S SKSac 04 37 00.9 -1.5
ZSN Zaisan 92.02 318 *e*P P 04 26 34.7 -0.4
baz=318
ZSN *e*S SKSac 04 37 01.0 -1.5
baz=318
FXWY Fox Creek 92.47 46 IAmb IAmb 04 26 38.9
comp=Z,13nm,0.8s
FXWY IAMs_20 IAMs_20 05 03 29.2
comp=Z,671nm,21.0s
BOZ Bozeman (W) 92.48 44 IAmb IAmb 04 26 40.9
comp=Z,20nm,0.9s
BOZ IAMs_20 IAMs_20 04 59 59.5
comp=Z,765nm,21.0s
BOZ Bozeman (W) 92.48 44 P P 04 26 37.5 +0.2
baz=257,SNR=31
TPAW Teton Pass 92.49 46 IAMs_20 IAMs_20 05 05 19.6
comp=Z,796nm,22.0s
REDW Red Top Meadow 92.53 46 IAmb IAmb 04 26 58.5
comp=Z,58nm,1.8s
REDW IAMs_20 IAMs_20 05 02 22.9
comp=Z,691nm,20.0s
IMW Indian Meadow 92.58 46 IAMs_20 IAMs_20 05 03 32.2
comp=Z,563nm,18.0s
SNOW Snow King Moun 92.62 46 IAMs_20 IAMs_20 05 02 16.3
comp=Z,670nm,20.0s
YHL Hebgen Lake 92.62 45 IAmb IAmb 04 26 59.5
comp=Z,30nm,1.3s
SMAI San Martin Ant 92.65 163 P P 04 26 38.5 +1.1
SMAI IAmb IAmb 04 26 39.0
comp=Z,28nm,0.8s
121A Cookes Peak, D 92.68 58 IAmb IAmb 04 26 40.7
comp=Z,25nm,0.8s
121A Cookes Peak, D 92.68 58 P P 04 26 39.4 +0.8
baz=259
121A Cookes Peak, D 92.68 58 P P 04 26 39.1 +0.5
baz=259
YMR Madison River 92.73 45 IAmb IAmb 04 26 40.6
comp=Z,13nm,0.7s
LOHW Long Hollow 92.76 46 IAmb IAmb 04 26 40.1
comp=Z,24nm,1.5s
LOHW IAMs_20 IAMs_20 05 01 40.0
comp=Z,702nm,22.0s
RDMU Red Mountain 92.88 49 IAmb IAmb 04 27 00.1
comp=Z,20nm,1.2s
H17A Grant Village 92.95 45 IAmb IAmb 04 26 42.2
comp=Z,13nm,0.8s
MVCO Mesa Verde 93.02 53 IAMs_20 IAMs_20 05 02 48.4
comp=Z,670nm,20.0s
MVCO Mesa Verde 93.02 53 P P 04 26 40.4 +0.2
baz=259,SNR=10
LKWY Lake 93.11 45 IAMs_20 IAMs_20 05 03 09.1
comp=Z,987nm,20.0s
PV07 Paradox Valley 93.15 52 IAmb IAmb 04 26 43.0
comp=Z,15nm,0.8s
EDM Edmonton 93.17 36 IAmb IAmb 04 26 41.0
comp=Z,29nm,1.1s
C36M Paulatuk 93.27 20 IAMs_20 IAMs_20 05 05 33.0
comp=Z,801nm,20.0s
BW06 Boulder Array 93.33 47 IAmb IAmb 04 27 05.9
comp=Z,22nm,1.4s
BW06 Boulder Array 93.33 47 P P 04 26 41.0 -0.4
baz=258,SNR=12
PDAR Pinedale Array 93.33 47 P P 04 26 41.0 -0.5
comp=Z,6.7nm,0.9s,baz=256,slow=2.4,SNR=45
PDAR PP PP 04 30 29.5 +3.2
comp=Z,1.0nm,0.9s,baz=246,slow=6.8,SNR=3.8
PDAR PKiKP PKiKP 04 31 28.5 +0.8
comp=Z,0.4nm,0.7s,baz=222,slow=2.4,SNR=1.6
PDAR PKKP PKKPdf 04 43 48.6 -0.1
comp=Z,0.7nm,0.8s,baz=103,slow=4.9,SNR=6.3
PDAR PKPPKP P'P'df 04 52 00.6 +1.0
comp=Z,1.2nm,1.0s,baz=62,slow=3.8,SNR=5.7
PDAR LR LR 05 01 41.7
comp=Z,267nm,21.3s,baz=262,slow=31
comp=Z,6.7nm,0.9s
MK31 Makanchi Array 93.59 317 *i*P P 04 26 42.0 -0.3
MKAR Makanchi Array 93.59 317 P P 04 26 42.0 -0.3
comp=Z,36nm,0.8s,baz=100,slow=6.3,SNR=207
MKAR PKiKP PKiKP 04 31 26.6 -1.1
comp=Z,1.4nm,0.7s,baz=59,slow=2.9,SNR=6.0
MKAR PKKP PKKPdf 04 43 46.5 -1.6
comp=Z,6.2nm,0.8s,baz=282,slow=2.6,SNR=43
MKAR LR LR 05 11 44.3
comp=Z,193nm,18.0s,baz=136,slow=37
comp=Z,36nm,0.8s
MKAR Makanchi Array 93.59 317 P P 04 26 42.0 -0.3
ZAA0 Zalesovo Array 93.59 324 IAmb IAmb 04 26 42.0
comp=Z,40nm,1.1s
ZALV Zalesovo Beam 93.59 324 P P 04 26 41.1 -0.9
comp=Z,25nm,0.9s,baz=108,slow=4.8,SNR=44
ZALV LR LR 05 08 28.3
comp=Z,281nm,20.6s,baz=84,slow=35
comp=Z,25nm,0.9s
ZALV Zalesovo Beam 93.59 324 *i*P P 04 26 41.0 -1.0
ZALV pmax pmax
comp=Z,25nm,0.9s
KIDD KIDD Seismic O 93.61 58 P P 04 26 43.1 +0.3
baz=259
Y22A Socorro 93.62 56 P P 04 26 43.0 +0.1
baz=259
Y22D IRIS PASSCAL I 93.69 56 IAMs_20 IAMs_20 04 59 52.1
comp=Z,978nm,21.0s
O20A White River Ci 93.78 50 IAmb IAmb 04 27 26.0
comp=Z,30nm,1.6s
O20A White River Ci 93.78 50 P P 04 26 43.1 -0.5
baz=259,SNR=7.5
MAKZ Makanchi 93.80 317 P P 04 26 43.3 +0.1
MAKZ Makanchi 93.80 317 P P 04 26 43.3 +0.1
MAKZ pmax pmax
comp=Z,61nm,1.1s
MAKZ MLR MLR
comp=Z,300nm,20.0s
A36M Sachs Harbour 93.94 17 IAMs_20 IAMs_20 05 03 49.7
comp=Z,742nm,22.0s
A36M Sachs Harbour 93.94 17 P P 04 26 43.1 -0.1
baz=247
RLMT Red Lodge 94.01 45 IAmb IAmb 04 27 12.0
comp=Z,31nm,1.7s
RLMT IAMs_20 IAMs_20 05 00 39.9
comp=Z,997nm,20.0s
RLMT Red Lodge 94.01 45 P P 04 26 44.6 +0.1
baz=259
ANMO Albuquerque 94.22 55 LR LR 05 01 04.1
comp=Z,496nm,21.3s,baz=270,slow=30
ANMO Albuquerque 94.22 55 P P 04 26 45.7 0.0
ANMO Albuquerque 94.22 55 IAMs_20 IAMs_20 04 59 25.2
comp=Z,725nm,22.0s
ANMO Albuquerque 94.22 55 *ce*P P 04 26 45.7 0.0
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 94.22 55 P P 04 26 45.5 -0.2
baz=260
ANMO Albuquerque 94.22 55 P P 04 26 45.4 -0.3
baz=260
EGMT Eagleton 94.25 42 IAmb IAmb 04 26 46.5
comp=Z,21nm,0.8s
EGMT Eagleton 94.25 42 P P 04 26 45.6 +0.2
baz=258,SNR=9.4
S22A 4UR Ranch, Cre 94.42 53 P P 04 26 47.0 +0.3
baz=260
MNTX Cornudas Mount 94.54 59 P P 04 26 46.3 -0.7
baz=260
MNTX Cornudas Mount 94.54 59 P P 04 26 46.8 -0.2
baz=260
KUDL Kundal 94.61 298 *e*P P 04 26 46.0 -1.3
YKA Yellowknife Ar 94.79 27 P P 04 26 46.0 -1.3
comp=Z,7.5nm,0.7s,baz=255,slow=4.7,SNR=17
YKA LR LR 05 02 25.9
comp=Z,675nm,21.2s,baz=254,slow=31
comp=Z,7.5nm,0.7s
YKA Yellowknife Ar 94.79 27 P P 04 26 46.0 -1.3
RWWY Rawlins 94.84 49 IAmb IAmb 04 27 14.8
comp=Z,96nm,1.6s
SHLS Shalkode 94.85 313 *e*P P 04 26 46.5 -1.8
SHLS pmax pmax
comp=Z,9.0nm,1.0s
SHLS Shalkode 94.85 313 *e*P P 04 26 46.6 -1.8
comp=Z,9.2nm,1.0s,baz=313
KAD Karad 94.86 287 *e*P P 04 26 48.1 -0.6
UZB Uzynbulak 95.17 313 *e*P P 04 26 48.7 -1.1
UZB Uzynbulak 95.17 313 *e*P P 04 26 48.7 -1.1
baz=313
SDCO Great Sand Dun 95.46 53 IAMs_20 IAMs_20 05 02 43.9
comp=Z,784nm,21.0s
SDCO Great Sand Dun 95.46 53 P P 04 26 51.2 -0.2
baz=260
SDCO Great Sand Dun 95.46 53 P P 04 26 51.1 -0.2
baz=260
KPKS Kokpek 95.47 313 *e*P P 04 26 50.4 -0.6
KPKS Kokpek 95.47 313 *e*P P 04 26 50.4 -0.6
baz=313
K22A Casper 95.51 48 P P 04 26 51.8 +0.5
baz=260
TX31 Lajitas Ar. Si 95.60 61 IAmb IAmb 04 30 43.9
comp=Z,42nm,1.6s
TX31 Lajitas Ar. Si 95.60 61 P P 04 26 52.0 0.0
baz=261
TXAR Lajitas Array 95.60 61 P P 04 26 52.1 +0.1
comp=Z,2.6nm,0.7s,baz=225,slow=5.6,SNR=29
TXAR PP PP 04 30 43.3 -0.8
comp=Z,4.6nm,1.2s,baz=248,slow=6.1,SNR=11
TXAR PKKP PKKPdf 04 43 44.1 0.0
comp=Z,0.7nm,0.7s,baz=93,slow=3.9,SNR=7.6
TXAR PKPPKP P'P'df 04 51 59.5 +3.3
comp=Z,0.1nm,0.3s,baz=74,slow=1.8,SNR=3.4
TXAR LR LR 05 02 25.4
comp=Z,1µm,20.4s,baz=254,slow=31
comp=Z,2.6nm,0.7s
SEM Semipalatinsk 95.62 320 *e*P P 04 26 49.6 -2.1
SEM pmax pmax
comp=Z,22nm,1.3s
SEM Semipalatinsk 95.62 320 *e*P P 04 26 49.7 -2.1
comp=Z,22nm,1.3s,baz=320
N23A Red Feather La 95.64 50 P P 04 26 52.3 +0.2
baz=260
ISCO Idaho Springs 95.71 51 P P 04 26 52.7 +0.2
baz=260
ISCO Idaho Springs 95.71 51 P P 04 26 53.0 +0.4
baz=260,SNR=6.5
PMSA Palmer Station 95.74 161 LR LR 05 05 30.3
comp=Z,396nm,19.2s,baz=235,slow=33
TDK Taldyqorghan 95.92 315 *e*P P 04 26 52.4 -0.6
TDK pmax pmax
comp=Z,19nm,0.9s
TDK Taldyqorghan 95.92 315 *e*P P 04 26 52.4 -0.6
comp=Z,20nm,0.9s,baz=315
THN Thein Dam 95.98 302 *e*P P 04 26 52.9 -0.5
PHWY Pilot Hill 96.07 49 IAMs_20 IAMs_20 05 06 53.8
comp=Z,828nm,19.0s
NRIK Noril'sk 96.10 340 P P 04 26 52.4 -0.8
comp=Z,15nm,0.8s,baz=107,slow=5.4,SNR=26
NRIK LR LR 05 07 21.0
comp=Z,536nm,21.9s,baz=104,slow=34
comp=Z,15nm,0.8s
NRIK Noril'sk 96.10 340 IAmb IAmb 04 26 53.4
comp=Z,28nm,1.0s
T25A Trinidad 96.22 53 P P 04 26 54.7 -0.1
baz=261
LAO LASA Array 96.38 44 IAmb IAmb 04 27 16.1
comp=Z,22nm,1.2s
LAO LASA Array 96.38 44 P P 04 26 55.6 +0.5
baz=261
LAO LASA Array 96.38 44 P P 04 26 55.2 +0.2
baz=261
TROLL Troll, Antarti 96.50 185 P P 04 26 54.2 -1.1
NVL N'lazarevskaya 96.59 188 *e*P P 04 26 54.3 -1.2
NVL pmax pmax
comp=Z,12nm,0.9s

MDOK **Medeo** 96.60 313 *e*P P 04 26 55.2 -1.0
MDOK **Medeo** 96.60 313 *e*P P 04 26 55.2 -1.0
baz=313
KURK **Kurchatov** 96.69 320 P P 04 26 55.2 -1.1
KURK IAmb IAmb 04 26 56.4
comp=Z,32nm,1.5s
KURK **Kurchatov** 96.69 320 IAMs_20 IAMs_20 05 08 40.8
comp=Z,820nm,22.0s
KURK **Kurchatov** 96.69 320 *c*eP P 04 26 55.0 -1.3
KURK pmax pmax
comp=Z,24nm,1.5s
KURBB **Kurchatov Arra** 96.74 320 P P 04 26 55.2 -1.2
comp=Z,2.8nm,0.8s,baz=97,slow=6.5,SNR=26
KURBB PP PP 04 30 55.2 +3.1
comp=Z,3.5nm,1.0s,baz=98,slow=7.4,SNR=4.9
KURBB PKiKP **PKiKP** 04 31 33.4 +0.4
comp=Z,1.5nm,0.8s,baz=100,slow=1.4,SNR=6.4
KURBB LR LR 05 12 41.7
comp=Z,386nm,18.4s,baz=79,slow=37
comp=Z,2.8nm,0.8s
CHKK **Chushkaly** 96.74 313 *e*P P 04 26 55.6 -1.1
CHKK **Chushkaly** 96.74 313 *e*P P 04 26 55.6 -1.1
baz=313
KSH **Kashi** 96.85 309 P P 04 26 59.0 +1.5
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH LR LR
comp=Z,630nm,19.9s
KSH LR LR
comp=Z,550nm,22.0s
KSH LR LR
comp=Z,700nm,19.9s
MSTX **Muleshoe** 97.07 57 P P 04 26 57.5 -1.1
baz=262
MSTX **Muleshoe** 97.07 57 P P 04 26 57.7 -0.8
baz=262
KUU **Kurty** 97.21 313 *e*P P 04 26 57.7 -1.1
KUU pmax pmax
comp=Z,17nm,1.0s
KUU **Kurty** 97.21 313 *e*P P 04 26 57.8 -1.1
comp=Z,17nm,1.0s,baz=313
SNAA **Sanae** 97.23 184 P P 04 26 56.9 -1.6
SNAA **Sanae** 97.23 184 PKKPbc PKKPbc 04 43 36.5 -3.5
comp=Z,1.6nm,0.8s,baz=50,slow=3.4,SNR=6.7
SNAA LR LR 05 09 23.8
comp=Z,941nm,19.9s,baz=208,slow=34
SNAA **Sanae** 97.23 184 IAmb IAmb 04 26 59.6
comp=Z,18nm,1.4s
SNAA IAMs_20 IAMs_20 05 09 02.5
comp=Z,1µm,20.0s
RSSD **Black Hills** 97.53 47 P P 04 26 59.8 -0.7
RSSD **Black Hills** 97.53 47 IAMs_20 IAMs_20 05 06 37.1
comp=Z,651nm,19.0s
RSSD **Black Hills** 97.53 47 P P 04 26 59.8 -0.7
RSSD pmax pmax
comp=Z,8.0nm,1.3s
RSSD **Black Hills** 97.53 47 P P 04 26 59.9 -0.6
baz=262
RSSD **Black Hills** 97.53 47 P P 04 26 59.5 -1.0
baz=262
VNA3 **Neumayer Olymp** 97.95 181 P P 04 26 59.9 -1.7
DGMT **Dagmar** 97.99 42 IAmb IAmb 04 27 03.1
comp=Z,16nm,0.8s
DGMT **Dagmar** 97.99 42 P P 04 27 02.0 -0.3
baz=263
DGMT **Dagmar** 97.99 42 P P 04 27 02.2 -0.1
baz=263
AMTX **Amarillo** 98.09 56 IAmb IAmb 04 27 04.8
comp=Z,17nm,0.8s
AMTX IAMs_20 IAMs_20 05 01 57.6
comp=Z,935nm,21.0s
AMTX **Amarillo** 98.09 56 P P 04 27 02.5 -0.6
baz=262
AMTX **Amarillo** 98.09 56 P P 04 27 02.0 -1.2
baz=262
VNA2 **Neumayer--Watz** 98.20 182 P P 04 27 01.1 -1.7
baz=175,slow=4.0
AAK **Ala-Archa** 98.38 312 P P 04 27 03.2 -1.2
comp=Z,3.4nm,0.7s,baz=180,slow=5.0,SNR=6.5
AAK LR LR 05 12 33.5
comp=Z,295nm,20.8s,baz=82,slow=36
comp=Z,3.4nm,0.7s
AAK **Ala-Archa** 98.38 312 P P 04 27 03.7 -0.7
AAK **Ala-Archa** 98.38 312 *c*eP P 04 27 03.5 -0.8
AAK pmax pmax
comp=Z,4.0nm,0.8s
SGDS **Sogindy** 98.38 313 *e*P P 04 27 03.1 -1.1
SGDS **Sogindy** 98.38 313 *e*P P 04 27 03.1 -1.1
baz=313
VNA1 **Neumayer--Stat** 98.50 182 P P 04 27 02.8 -1.3
OGNE **Ogallala** 98.58 50 P P 04 27 04.4 -0.8
baz=263
BTLS **Baital** 98.99 314 *e*P P 04 27 05.8 -0.9
BTLS **Baital** 98.99 314 *e*P P 04 27 05.9 -0.9
baz=314
JCT **Junction City** 99.08 61 P Pdif 04 27 06.6 -1.0
baz=263
JCT **Junction City** 99.08 61 P Pdif 04 27 06.5 -1.2
baz=263
833A **Chaparral WMA,** 99.16 63 P Pdif 04 27 06.7 -1.3
baz=262
BRZS **Berezniki** 100.39 319 *e*P Pdif 04 27 11.1 -1.8
BRZS **Berezniki** 100.39 319 *e*P Pdif 04 27 11.2 -1.8
baz=319
OK032 **Salt Plains WL** 101.11 54 IAMs_20 IAMs_20 05 05 16.5
comp=Z,958nm,21.0s
OK029 **Liberty Lake** 101.62 56 IAMs_20 IAMs_20 05 04 28.2
comp=Z,1µm,22.0s
OK025 **Westminster Rd** 101.70 56 IAMs_20 IAMs_20 05 05 54.2
comp=Z,986nm,20.0s
BVAR **Borovoye Array** 102.00 322 P Pdif 04 27 19.1 -0.9
comp=Z,4.3nm,0.9s,baz=102,slow=5.0,SNR=23
BRVK **Borovoye** 102.06 322 IAMs_20 IAMs_20 05 11 43.6
comp=Z,816nm,22.0s
BRVK **Borovoye** 102.06 322 *i* P Pdif 04 27 19.0 -1.2
BRVK pmax pmax
comp=Z,8.0nm,1.0s
OK031 **S. Brethren Rd** 102.13 55 IAMs_20 IAMs_20 05 04 20.7
comp=Z,1µm,22.0s
OK030 **Cody Creek RV** 102.18 55 IAMs_20 IAMs_20 05 04 03.9
comp=Z,1µm,22.0s
OK034 **N. Norfolk Rd.** 102.24 55 IAMs_20 IAMs_20 05 04 22.5
comp=Z,1µm,21.0s
HKT **Hockley** 102.44 62 IAMs_20 IAMs_20 05 06 09.2
comp=Z,1µm,21.0s
KSU1 **Kansas State U** 102.55 52 IAMs_20 IAMs_20 05 07 36.6
comp=Z,881nm,20.0s
ECSD **EROS Data Cent** 102.83 47 IAMs_20 IAMs_20 05 07 30.4
comp=Z,722nm,21.0s
ULM **Lac du Bonnet** 103.54 41 PKiKP **PKiKP** 04 31 43.4 -1.9
comp=Z,2.1nm,0.5s,baz=219,slow=0.9,SNR=4.3
CCM **Cathedral Cave** 106.71 53 IAMs_20 IAMs_20 05 09 02.7
comp=Z,698nm,19.0s
SNET **Serv Nac Est T** 106.76 79 IAMs_20 IAMs_20 05 04 37.8
comp=Z,955nm,22.0s
JFWS **Jewell Farm** 107.46 48 P **PKiKP** 04 31 51.2 -1.5
baz=271
OXF **Oxford** 108.14 57 IAMs_20 IAMs_20 05 13 29.8
comp=Z,771nm,19.0s
HDIL **Hopedale** 108.22 51 P **PKiKP** 04 31 52.1 -2.0
baz=271
TEIG **Tepich** 108.39 72 IAMs_20 IAMs_20 05 08 02.5
comp=Z,587nm,22.0s
ARU **Arti** 108.66 326 PKiKP **PKiKP** 04 31 54.8 +0.3
comp=Z,9.0nm,0.2s,baz=20,slow=3.4,SNR=5.9
ARU **Arti** 108.66 326 IAMs_20 IAMs_20 05 17 04.7
comp=Z,572nm,22.0s
TGUH **Tegucigalpa,Un** 108.69 79 IAMs_20 IAMs_20 05 05 49.0
comp=Z,824nm,22.0s
L44A **Lake County Fo** 109.21 49 P **PKiKP** 04 31 54.3 -1.6
baz=272
HQIL **Hanson Quary C** 109.27 50 IAMs_20 IAMs_20 05 09 22.1
comp=Z,859nm,18.0s
BOAB **BOACO BROADBAN** 110.05 81 IAMs_20 IAMs_20 05 08 48.0
comp=Z,763nm,19.0s
LRAL **Lakeview Retre** 110.13 59 P **PKiKP** 04 31 56.4 -1.6
baz=270
JTS **Las Juntas de** 110.46 83 IAMs_20 IAMs_20 05 06 49.0
comp=Z,548nm,21.0s
WCI **Wyandotte Cave** 110.61 53 P **PKiKP** 04 31 56.2 -2.6
baz=272
GEYT **Allbeck** 110.69 306 PKiKP **PKiKP** 04 31 59.2 +0.3
comp=Z,3.0nm,0.7s,baz=219,slow=11,SNR=4.1
P49A **Miami Univ. Ec** 111.77 52 P **PKiKP** 04 31 58.7 -2.2
baz=274
TZTN **Tazewell** 112.88 55 P **PKiKP** 04 32 01.3 -1.9
baz=273
KIRV **Kirov** 112.99 329 *c* iPKIKP **PKiKP** 04 32 03.1 +0.5

TIGA **Tifton** 113.03 60 P **PKiKP** 04 32 01.9 -1.6
baz=271
ACSO **Alum Creek Sta** 113.05 51 IAMs_20 IAMs_20 05 14 49.3
comp=Z,610nm,20.0s
ACSO **Alum Creek Sta** 113.05 51 P **PKiKP** 04 32 01.8 -1.5
baz=275
GOGA **Godfrey** 113.08 58 P **PKiKP** 04 32 02.3 -1.2
baz=272
P52A **Corning** 113.76 52 P **PKiKP** 04 32 03.5 -1.2
baz=275
O53A **New Philadelph** 114.40 51 P PKPdf 04 32 05.3 -0.6
baz=276
M53A **WI Miller and** 114.66 49 P PKPdf 04 32 05.2 -1.1
baz=277
KMSC **Kings Mountain** 114.76 56 P PKPdf 04 32 06.1 -0.6
baz=274
DWPF **Disney Wildern** 114.96 64 IAMs_20 IAMs_20 05 14 49.0
comp=Z,684nm,21.0s
ERPA **Erie** 115.08 49 P **PKiKP** 04 32 06.4 -0.8
baz=278
BLA **Blacksburg** 115.33 54 P **PKiKP** 04 32 06.9 -1.0
baz=276
APA **Apatity** 115.41 342 ⇓ *i* PKIKP **PKiKP** 04 32 05.8 -1.2
APA pmax pmax
comp=E,12µm,0.9s
APA MLR MLR
comp=Z,1µm,19.0s
MCWV **Mont Chateau** 115.51 51 P **PKiKP** 04 32 07.7 -0.4
baz=277
KEV **Kevo** 115.76 345 IAMs_20 IAMs_20 05 20 17.6
comp=Z,785nm,21.0s
BELG **Belogornoye** 115.76 323 *i* PKIKP **PKiKP** 04 32 08.0 -0.1
HAMF **Hammerfest** 115.90 347 *e*PKPdf **PKiKP** 04 32 07.3 -0.6
ARA0 **ARCESS Array S** 116.29 346 *e*PKPdf **PKPdf** 04 32 08.5 -0.2
ARA0 IAmb IAmb 04 32 09.1
comp=Z,25nm,0.7s
ARCES **ARCESS Array B** 116.29 346 PKP **PKPdf** 04 32 08.7 -0.1
comp=Z,14nm,0.5s,baz=74,slow=1.7,SNR=100
ARCES PKKPbc **PKKPbc** 04 42 36.7 -4.0
comp=Z,3.4nm,0.8s,baz=203,slow=2.5,SNR=13
KLMR **Klimovskoe** 116.74 334 *e*PKIKP **PKPdf** 04 32 07.8 -2.0
KLMR *e* 04 33 20.4
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR **Klimovskoe** 116.74 334 *e*PKPdf **PKPdf** 04 32 07.9 -1.9
KLMR AMP 04 32 09.9
comp=Z,14nm,0.9s
KLMR *e*PP **PP** 04 33 20.5 +2.1
SSPA **Standing Stone** 116.86 50 P **PKPdf** 04 32 10.0 -0.6
baz=279
KTK1 **Kautokeino** 117.22 346 *e*PKPdf **PKPdf** 04 32 09.9 -0.6
JETT **Jettan, Norway** 117.46 347 *e*PKPdf **PKPdf** 04 32 10.5 -0.5
JETT IAmb IAmb 04 32 11.0
comp=Z,14nm,0.7s
CBN **Corbin Frederi** 117.61 53 P **PKPdf** 04 32 11.7 -0.5
baz=278
TRO **Tromso** 117.72 348 *e*PKPdf **PKPdf** 04 32 10.7 -0.7
TRO IAmb IAmb 04 32 11.3
comp=Z,12nm,0.7s
BINY **Binghamton** 118.00 48 P **PKPdf** 04 32 12.4 -0.4
baz=281
MAK **Makhachkala** 118.13 313 *i* P **Pdif** 04 28 30.6 -1.3
MAK *i* 04 32 10.1
MAK *e* 04 33 26.7
MAK *e*PPP PPP 04 35 58.9
MAK *e* 04 38 59.8
MAK *e*PS **PS** 04 43 13.2 -2.5
MAK *e*SS SS 04 49 39.3 +0.2
MAK *e*SSS SSS 04 53 57.7
MAK pmax pmax
comp=Z,134nm,1.1s
GROC **Groznyy** 119.30 314 *i* PKIKP **PKPdf** 04 32 13.2 -2.1
GROC pmax pmax
comp=Z,110nm,1.3s
VRH **Novokhopyorsk** 119.62 323 *e*PKIKP **PKPdf** 04 32 14.0 -1.6
VRH pmax pmax
comp=Z,60nm,0.8s
PAL **Palisades** 119.76 49 P **PKPdf** 04 32 15.8 -0.4
baz=282
SCHQ **Schefferville** 119.83 32 PKP **PKPdf** 04 32 15.4 -0.6
comp=Z,6.9nm,0.9s,baz=354,slow=1.3,SNR=5.5
SCHQ PKKPab **PKKPbc** 04 42 29.2 +1.6
comp=Z,6.2nm,0.8s,baz=146,slow=0.9,SNR=4.7
STEI **Steigen** 119.89 348 *e*PKPdf **PKPdf** 04 32 15.3 -0.3
STEI IAmb IAmb 04 32 15.4
comp=Z,27nm,0.7s
LPAZ **La Paz** 120.04 116 PKP **PKPdf** 04 32 17.8 -0.4
comp=Z,6.7nm,0.7s,baz=246,slow=0.9,SNR=28
LPAZ PKKPab **PKKPab** 04 42 30.2 +1.2
comp=Z,0.8nm,0.6s,baz=265,slow=3.4,SNR=4.6
ROSC **El Rosal** 120.07 91 PKP **PKPdf** 04 32 17.4 -0.7
comp=Z,12nm,0.5s,baz=340,slow=22,SNR=9.5
FAUS **Fauske** 120.34 347 *e*PKPdf **PKPdf** 04 32 15.7 -0.8
FAUS IAmb IAmb 04 32 16.0
comp=Z,18nm,1.0s
L61B **Northampton** 120.34 47 P **PKPdf** 04 32 16.8 -0.5
baz=284
LBNH **Lisbon** 120.42 45 P **PKPdf** 04 32 17.4 0.0
baz=285
LPSR **Galich'ya Gora** 120.68 326 *e*PKIKP **PKPdf** 04 32 16.6 -1.0
LPSR pmax pmax
comp=Z,30nm,1.1s
GNI **Garni** 120.75 310 *c* iPKIKP **PKiKP** 04 32 19.2 +0.7
GNI pmax pmax
comp=Z,18nm,1.3s
ZEI **Tsey** 120.75 313 *i* PKIKP **PKPdf** 04 32 17.5 -0.8
ZEI pmax pmax
comp=Z,10.0nm,0.9s
OBN **Obninsk** 120.83 329 IAMs_20 IAMs_20 05 28 13.1
comp=Z,452nm,19.0s
OBN **Obninsk** 120.83 329 *c* iPKIKP **PKPdf** 04 32 16.8 -1.0
OBN *e* 04 33 49.1
OBN pmax pmax
comp=Z,30nm,1.3s
VORR **Voronezh** 120.89 324 *e*PKIKP **PKiKP** 04 32 18.3 +0.2
VORR pmax pmax
comp=Z,30nm,0.4s
VSR **Storozhevoye** 121.10 324 *e*PKIKP **PKPdf** 04 32 16.8 -1.6
VSR pmax pmax
comp=Z,20nm,0.8s
HRV **Adam Dziewonsk** 121.13 47 P **PKPdf** 04 32 18.7 -0.1
baz=285
KBZ **Khabaz** 121.22 315 PKP **PKiKP** 04 32 19.2 +0.2
comp=Z,4.5nm,0.8s,baz=131,slow=2.5,SNR=12
KBZ PKKPbc **PKKPbc** 04 42 23.6 +1.6
comp=Z,0.5nm,0.4s,baz=198,slow=3.5,SNR=3.8
KBZ **Khabaz** 121.22 315 *c* iPKIKP **PKiKP** 04 32 19.5 +0.5
KIV **Kislovodsk** 121.30 315 *d* iPKIKP **PKiKP** 04 32 19.3 0.0
KIV *i* 04 33 48.9
KIV *i* SS SS 04 50 31.0 +11
KIV pmax pmax
comp=Z,10.0nm,1.0s
MOR8 **Moi Rana** 121.54 347 *e*PKPdf **PKPdf** 04 32 17.4 -1.5
MOR8 IAmb IAmb 04 32 18.3
comp=Z,14nm,0.7s
KONS **Konsvik** 121.55 348 *e*PKPdf **PKPdf** 04 32 18.4 -0.4
KONS IAmb IAmb 04 32 19.1
comp=Z,18nm,0.7s
FINES **FINESS Array B** 121.75 339 PKP **PKPdf** 04 32 18.9 -0.4
comp=Z,14nm,0.8s,baz=38,slow=1.9,SNR=36
FINES PKKPbc **PKKPab** 04 42 17.8 -0.8
comp=Z,2.1nm,0.9s,baz=160,slow=6.1,SNR=4.1
FINES **FINESS Array B** 121.75 339 PKiKP **PKPdf** 04 32 19.0 -0.4
PKME **Peaks-Kenny Pk** 121.93 43 P **PKPdf** 04 32 20.0 -0.2
baz=288
RAYN **Ar Rayn** 122.12 291 PKiKP **PKPdf** 04 32 21.3 0.0
TBTG **Tabatinga, AM** 122.41 102 *e*P **PKPdf** 04 32 20.7 -1.4
ITQB **Itaqui** 122.44 136 PKPdf **PKPdf** 04 32 21.8 0.0
ITQB **Itaqui** 122.44 136 *e*P **PKiKP** 04 32 21.9 -0.1
PLTB **Pedras Altas** 123.10 140 *e*P **PKiKP** 04 32 24.2 +1.0
MEF **Metsahovi** 123.19 338 *e*P **PKPdf** 04 32 21.8 -0.4
VSU **Vasula** 123.46 336 *e*P **PKPdf** 04 32 22.6 -0.2
NSS **Namsos** 123.48 347 *e*PKPdf **PKPdf** 04 32 21.9 -0.8
NSS IAmb IAmb 04 32 22.9
comp=Z,22nm,0.9s
RAF **Rauma** 123.54 340 *e*P **PKPdf** 04 32 22.0 -0.8
CPUP **Villa Florida** 123.94 132 PKP **PKPdf** 04 32 24.1 -0.6
comp=Z,19nm,0.8s,baz=291,slow=1.8,SNR=40
CPUP **Villa Florida** 123.94 132 PKPdf **PKPdf** 04 32 23.9 -0.8
CPUP **Villa Florida** 123.94 132 PKIKP **PKPdf** 04 32 23.9 -0.8
CPUP **Villa Florida** 123.94 132 *e*P **PKPdf** 04 32 23.9 -0.8
CPSB **Cacapava Do Su** 124.10 139 *e*P **PKPdf** 04 32 19.8 -5.1
ETMB **Extrema** 124.17 110 *e*P **PKPdf** 04 32 24.8 -0.7
ATD **Arta Tunnel** 124.28 277 IAMs_20 IAMs_20 05 28 01.1
comp=Z,581nm,20.0s

SDV **Santo Domingo** 124.28 87 PKPdf **PKPdf** 04 32 24.7 -1.2
SDV **Santo Domingo** 124.28 87 *e*P **PKPdf** 04 32 25.1 -0.8
SDDR **Presa de Saban** 124.32 74 IAMs_20 IAMs_20 05 15 13.8
comp=Z,744nm,22.0s
MTSE **Matsula** 124.44 337 *e*P **PKPdf** 04 32 24.5 -0.1
ANN **Anapa** 124.61 317 *i* PKIKP **PKPdf** 04 32 24.1 -1.3
ANN *e* 04 32 43.7
ANN *e* 04 34 11.2
ANN pmax pmax
comp=Z,20nm,1.0s
LMN **Caledonia Moun** 124.69 41 PKPdf **PKPdf** 04 32 25.2 -0.3
NRS **Narsarsuaq** 124.86 18 **PKPdf** 04 32 24.5 -0.8
NRS **Narsarsuaq** 124.86 18 PKIKP **PKPdf** 04 32 24.5 -0.8
TBLU **Trondheim** 124.97 347 *e*PKPdf **PKPdf** 04 32 23.9 -1.6
BOSA **Boshof** 125.33 223 PKP **PKiKP** 04 32 28.4 +0.5
comp=Z,17nm,0.8s,baz=156,slow=2.1,SNR=26
BOSA **Boshof** 125.33 223 PKPdf **PKPdf** 04 32 26.9 -0.6
MNK **Minsk** 125.41 331 *i* PKIKP **PKiKP** 04 32 26.9 -0.1
MNK *i* 04 32 46.9
MNK *i* 04 34 18.0
MNK *i* PPP PPP 04 36 58.6
MNK *i* PS **PS** 04 44 18.8 -0.9
MNK *i* SS SS 04 51 12.0 +1.5
MNK *i* SSS SSS 04 55 50.2
MNK pmax pmax
comp=Z,43nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=E,61nm,19.0s
MNK MLR MLR
comp=Z,564nm,21.0s
MNK **Minsk** 125.41 331 *i* PKP **PKiKP** 04 32 26.9 -0.1
comp=E,2.0nm,0.8s
MNK *i* PKP **PKiKP** 04 32 26.9 -0.1
MNK *i* PKP **PKiKP** 04 32 26.9 -0.1
comp=Z,43nm,1.0s,baz=54
MNK *i* pPKP **pPKPdf** 04 32 47.0 +1.7
MNK *i* PP **PP** 04 34 18.1 +0.5
MNK *i* PPP PPP 04 36 58.7
MNK *i* PS **PS** 04 44 18.8 -0.9
MNK *i* SKKS 04 49 51.8
MNK *i* SS **SS** 04 51 12.0 +1.4
MNK *i* SSS SSS 04 55 50.2
MNK *i* LQ LQ 05 19 52.8
MNK *i* LR LR 05 24 39.6
MNK *i* LRM MLR 05 27 39.1
comp=E,61nm,19.4s
MNK *i* LRM MLR 05 27 54.9
comp=Z,564nm,20.9s
SUR **Sutherland** 125.55 216 **PKiKP** 04 32 28.3 0.0
ISAL **Salakas** 125.55 333 *e*P **PKiKP** 04 32 27.2 -0.1
NACGM **Naroch** 125.67 332 ⇑ *e*PKP **PKPdf** 04 32 26.9 -0.2
baz=52
MOL **Molde** 126.16 348 *e*PKPdf **PKPdf** 04 32 27.0 -0.8
VSVD **Vaisvydziai** 126.24 335 *e*P **PKiKP** 04 32 28.7 +0.2
DOMB **Dombas** 126.30 347 *e*PKPdf **PKPdf** 04 32 27.2 -1.0
SIV **San Ignacio** 126.31 119 PKP **PKPdf** 04 32 29.1 -0.4
comp=Z,13nm,0.9s,baz=236,slow=1.5,SNR=41
CNLB **Canela** 126.50 139 *e*P **PKiKP** 04 32 30.0 -0.1
KIBK **Kibwezi** 126.53 259 PKPdf **PKPdf** 04 32 28.9 -1.2
KIBK IAMs_20 IAMs_20 05 20 41.8
comp=Z,529nm,21.0s
PABE **Paberze** 126.53 334 IAMs_20 IAMs_20 05 26 57.5
comp=Z,634nm,22.0s
PABE **Paberze** 126.53 334 *e*P **PKPdf** 04 32 28.7 0.0
AKN **Aaknes** 126.63 348 *e*PKPdf **PKPdf** 04 32 28.7 0.0
AKN IAmb IAmb 04 32 29.9
comp=Z,36nm,0.9s
NB2 **NORSAR Subarra** 126.66 345 PKPdf **PKPdf** 04 32 28.4 -0.5
comp=Z,10nm,0.7s,baz=31,slow=1.9
NB2 **NORSAR Subarra** 126.66 345 PKPdf **PKPdf** 04 32 28.4 -0.5
baz=31,slow=1.9
NOA **NORSAR Array B** 126.66 345 PKP **PKPdf** 04 32 28.5 -0.5
comp=Z,9.7nm,0.7s,baz=34,slow=2.0,SNR=45
NOA PKKP **PKKPdf** 04 42 42.7 -3.6
comp=Z,0.7nm,0.8s,baz=208,slow=1.7,SNR=3.4
SIM **Simferopol'** 126.72 319 *e*PKIKP **PKPdf** 04 32 29.3 -0.2
SIM pmax pmax
comp=Z,21nm,0.7s
SIM pmax pmax
comp=Z,96nm,20.1s
SIM MLR MLR
comp=Z,437nm,24.4s
NC602 **NORSAR Array S** 126.83 345 *e*PKPdf **PKPdf** 04 32 28.9 -0.2
AKASG **Malin Array Be** 126.89 327 PKP **PKPdf** 04 32 29.0 -0.6
comp=Z,8.8nm,0.8s,baz=47,slow=2.3,SNR=34
AKBB **Malin Array Si** 126.89 327 *c* iPKIKP **PKPdf** 04 32 29.2 -0.4
PBUR **Paburge** 127.03 336 *e*P **PKiKP** 04 32 30.1 -0.1
ITAB **Concordia** 127.04 137 PKPdf **PKPdf** 04 32 30.6 0.0
ITAB **Concordia** 127.04 137 *e*P **PKiKP** 04 32 31.2 0.0
LBTB **Lobatse** 127.36 227 PKPdf **PKiKP** 04 32 31.7 -0.3
LBTB **Lobatse** 127.36 227 PKP **PKiKP** 04 32 31.7 -0.3
KMBO **Kilima Mbogo** 127.61 260 PKP **PKiKP** 04 32 33.6 +0.6
comp=Z,6.4nm,1.0s,baz=62,slow=3.3,SNR=12
KMBO **Kilima Mbogo** 127.61 260 IAMs_20 IAMs_20 05 22 40.5
comp=Z,448nm,21.0s
TER01 **Tubaro-SC** 128.13 140 *e*P **PKiKP** 04 32 33.2 -0.1
PTLB **Pontes e Lacer** 128.22 120 PKPdf **PKPdf** 04 32 32.7 -0.4
PTLB **Pontes e Lacer** 128.22 120 *e*P **PKPdf** 04 32 33.2 +0.1
KONO **Kongsberg** 128.27 345 *e*PKPdf **PKPdf** 04 32 32.2 +0.3
AQDB **Aquidauana** 128.49 127 *e*P **PKPdf** 04 32 33.8 +0.3
PTGB **Pitanga** 128.69 134 *e*P **PKiKP** 04 32 34.7 0.0
ODD1 **Odda** 128.75 347 *e*PKPdf **PKiKP** 04 32 33.9 +0.3
OBIP **Obispado Ponce** 128.76 76 PKPdf **PKPdf** 04 32 31.9 -2.2
BRTR **Keskin Array B** 129.05 313 PKP **PKPdf** 04 32 34.0 -0.2
comp=Z,11nm,1.0s,baz=116,slow=2.9,SNR=32
BRTR PP **PP** 04 34 40.7 -1.8
comp=Z,2.8nm,1.0s,baz=92,slow=4.9,SNR=6.0
SJG **San Juan** 129.19 76 **PKPdf** 04 32 34.5 -0.4
SJG IAMs_20 IAMs_20 05 20 08.0
comp=Z,460nm,21.0s
SJG **San Juan** 129.19 76 PKIKP **PKPdf** 04 32 34.5 -0.4
BLS5 **Blasjo** 129.22 347 *e*PKPdf **PKiKP** 04 32 34.5 0.0
TRCB **Terra Rica** 129.47 132 *e*P **PKPdf** 04 32 35.6 +0.1
ANTO **Ankara** 129.60 313 ⇓ P **PKiKP** 04 32 36.5 +0.6
ANTO **Ankara** 129.60 313 PKPdf **PKPdf** 04 32 35.6 +0.4
ANTO **Ankara** 129.60 313 PKIKP **PKPdf** 04 32 35.6 +0.4
MMAI **Mount Meron Ar** 129.70 304 PKP **PKiKP** 04 32 37.3 +0.9
comp=Z,8.3nm,0.7s,baz=49,slow=3.8,SNR=16
HOMB **Homborsund** 129.75 345 *e*PKPdf **PKiKP** 04 32 35.1 -0.4
TLCR 129.97 321 ⇑ P **PKiKP** 04 32 36.8 +0.4
LVV **L'vov** 130.12 329 *e*PKIKP **PKPdf** 04 32 35.6 -0.2
TPGR **Topolog** 130.38 321 ⇑ P **PKiKP** 04 32 37.8 +0.6
GHRR 130.38 323 ⇑ P **PKiKP** 04 32 37.8 +0.6
BSD **Bornholm Skovb** 130.40 339 *e*P **PKPdf** 04 32 36.4 +0.3
CFR **Carcaliu** 130.40 321 ⇑ P **PKPdf** 04 32 36.5 +0.1
TIJ01 **Guaruva-PR** 130.40 137 *e*P **PKPdf** 04 32 37.3 +0.1
LODK **Lodwar** 130.47 265 IAMs_20 IAMs_20 05 24 49.4
comp=Z,416nm,20.0s
CDVI **St. Croix** 130.51 76 PKPdf **PKPdf** 04 32 36.4 -1.0
TIRR **Tirgusor** 130.58 320 ⇑ P **PKiKP** 04 32 37.4 -0.3
LSZ **Lusaka** 130.72 239 **PKPdf** 04 32 38.2 +0.1
LSZ **Lusaka** 130.72 239 PKIKP **PKPdf** 04 32 38.2 +0.1
HARR **Harsova** 130.76 321 ⇑ P **PKiKP** 04 32 38.1 +0.1
BURAR **Bucovina Array** 130.79 326 ⇑ P **PKiKP** 04 32 38.5 +0.3
EIL **Elat** 130.82 300 PKP **PKiKP** 04 32 38.5 -0.1
comp=Z,25nm,0.8s,baz=5.7,slow=4.0,SNR=14
VRI **Vrincioaia** 130.89 323 ⇑ P **PKPdf** 04 32 37.8 +0.4
SALV **Santo Antonio** 130.90 122 *e*P **PKiKP** 04 32 38.8 -0.4
KWP **Kalwaria Pacla** 130.91 329 *e*PKP **PKPdf** 04 32 37.4 +0.1
KWP *e*L L 05 29 58.8
comp=Z,636nm,23.9s
PCMB **Pacaembu** 131.20 132 *e*P **PKiKP** 04 32 39.6 0.0
COVR **Voineasa-Covas** 131.21 323 ⇑ P **PKPdf** 04 32 38.2 +0.1
RGN **Rugen** 131.41 339 IAMs_20 IAMs_20 05 32 06.8
comp=Z,675nm,21.0s
MACA **Manacapuru-AM** 131.52 104 *e*P **PKiKP** 04 32 40.2 -0.3
MLR **Muntele Rosu** 131.55 323 ⇑ P **PKiKP** 04 32 39.8 0.0
MLR **Muntele Rosu** 131.55 323 PKP **PKiKP** 04 32 39.7 0.0
comp=Z,14nm,1.1s,baz=324,slow=1.1,SNR=12
MLR **Muntele Rosu** 131.55 323 IAMs_20 IAMs_20 05 32 11.6
comp=Z,349nm,20.0s
KOLS **Kolonicke sedl** 131.57 329 *e*PKIKP **PKiKP** 04 32 39.5 -0.1
KOLS **Kolonicke sedl** 131.57 329 *e*PKP **PKiKP** 04 32 39.5 -0.1
DOPR **Dopca** 131.62 324 ⇑ P **PKiKP** 04 32 39.9 +0.1
C2SB **Chapadao do Su** 131.67 127 *e*P **PKiKP** 04 32 39.9 +0.3
UZH **Uzhgorod** 131.75 328 *e*PKIKP **PKPdf** 04 32 38.4 -0.5
UZH *e* 04 32 57.1
OJC **Ojcow** 131.95 331 *e*PKP **PKPdf** 04 32 38.1 -1.1
OJC *e*L L 05 30 13.2
comp=Z,731nm,23.3s
CRVS **Cervenica-Dubn** 132.01 329 *e*PKIKP **PKiKP** 04 32 40.9 +0.5

CRVS	Cervenica-Dubn	132.01	329	*e*PKP		**PKiKP**	**04 32 40.9**	**+0.5**	
PDRB	Porto dos Gac	132.03	117	*e*P		**PKPdf**	**04 32 40.5**	**+0.1**	
NIE	Niedzica	132.25	330	*e*PKP		**PKiKP**	**04 32 40.8**	**-0.2**	
NIE				*e*L	L		05 28 50.6		
	comp=Z,404nm,24.4s								
PET01	Itanhaem-SP	132.25	137	*e*P		**PKPdf**	**04 32 40.8**	**+0.2**	
CEI	Carei	132.25	327	⇑PKiKP		**PKPdf**	**04 32 36.9**	**-3.0**	
ARR	Arges	132.40	323	⇑P		**PKPdf**	**04 32 40.8**	**+0.4**	
LANS	Liptovska Anna	132.83	330	*e*PKiKP		**PKiKP**	**04 32 42.6**	**+0.4**	
LANS	Liptovska Anna	132.83	330	*e*PKP		**PKiKP**	**04 32 42.6**	**+0.4**	
OKC	Ostrava-Krasne	132.99	332	*e*PKiKP		**PKiKP**	**04 32 43.0**	**+0.6**	
OKC				MLR	MLR				
	comp=Z,800nm,31.5s								
OKC	Ostrava-Krasne	132.99	332	*e*PKPDF		**PKiKP**	**04 32 43.0**	**+0.6**	
OKC				AMS	AMS		05 26 10.0		
	comp=Z,800nm,31.5s								
ITRB	Iturama	133.03	130	*e*P		**PKPdf**	**04 32 42.3**	**0.0**	
KSP	Ksiaz	133.10	334	*i* PKPc		**PKPdf**	**04 32 41.8**	**+0.4**	
KSP				*e*L	L		05 31 23.3		
	comp=Z,685nm,22.6s								
BOAV	Boa Vista	133.12	97	PKPdf		**PKPdf**	**04 32 41.5**	**-1.1**	
BOAV	Boa Vista	133.12	97	*e*P		**PKPdf**	**04 32 42.8**	**+0.3**	
CLDB	Colider	133.18	116	*e*P		**PKPdf**	**04 32 42.5**	**-0.1**	
MORC	Moravsky Berou	133.31	332	⇓P		**PKiKP**	**04 32 42.5**	**-0.6**	
MORC	Moravsky Berou	133.31	332	*e*PKP		**PKPdf**	**04 32 41.7**	**-0.2**	
VAO	Valinhos	133.34	136	*e*P		**PKiKP**	**04 32 43.5**	**-0.5**	
VAO	Valinhos	133.34	136	*e*P		**PKPdf**	**04 32 43.1**	**+0.3**	
OSTC	Ostas	133.34	334	*e*PKPDF		**PKiKP**	**04 32 42.7**	**-0.4**	
OSTC				*ex*	x		04 32 54.3		
OSTC				AMS	AMS		05 30 00.0		
	comp=Z,700nm,21.5s								
CHVC	Chvalec	133.39	334	*e*PKPDF		**PKiKP**	**04 32 42.7**	**-0.5**	
CHVC				AMS	AMS		05 29 30.0		
	comp=Z,700nm,26.0s								
KRLC	Kraliky	133.44	333	*e*PKHKP	PKPpre		04 32 31.1		
KRLC				*e*			04 32 42.6		
KRLC				MLR	MLR				
	comp=Z,600nm,22.4s								
KRLC	Kraliky	133.44	333	*e*PKPpre	PKPpre		04 32 31.1		
KRLC				*e*PKPDF		**PKPdf**	**04 32 42.6**	**+0.5**	
KRLC				AMS	AMS		05 30 30.0		
	comp=Z,600nm,22.4s								
PSZ	Piszkesteto	133.44	329	IAMs_20	IAMs_20		05 37 06.8		
	comp=Z,464nm,20.0s								
PSZ	Piszkesteto	133.44	329	⇓PKIKP		**PKPdf**	**04 32 40.1**	**-2.1**	
PSZ	Piszkesteto	133.44	329	PKP		**PKiKP**	**04 32 44.3**	**+0.8**	
DPC	Dobruska-Polom	133.44	334	*e*PKIKP		**PKiKP**	**04 32 43.0**	**-0.4**	
DPC				MLR	MLR				
	comp=Z,900nm,22.7s								
DPC	Dobruska-Polom	133.44	334	*e*PKPDF		**PKiKP**	**04 32 43.0**	**-0.4**	
DPC				AMS	AMS		05 30 50.0		
	comp=Z,900nm,22.7s								
GZR	Gura Zlata	133.45	324	⇑P		**PKPdf**	**04 32 42.5**	**+0.2**	
UPC	Upice	133.46	334	*e*PKIKP		**PKiKP**	**04 32 43.0**	**-0.3**	
UPC				MLR	MLR				
	comp=Z,700nm,22.5s								
UPC	Upice	133.46	334	*e*PKPDF		**PKiKP**	**04 32 43.0**	**-0.3**	
UPC				AMS	AMS		05 29 50.0		
	comp=Z,700nm,22.5s								
MAUC	Maruska	133.47	332	*e*PKPDF		**PKPdf**	**04 32 41.4**	**-0.8**	
MAUC				AMS	AMS		05 28 20.0		
	comp=Z,1μm,25.1s								
BB19B	Bebedouro	133.52	133	*e*P		**PKiKP**	**04 32 44.0**	**-0.4**	
VYHS	Vyhne	133.59	330	*e*PKIKP		**PKPdf**	**04 32 42.6**	**+0.2**	
VYHS	Vyhne	133.59	330	*e*PKP		**PKPdf**	**04 32 42.6**	**+0.2**	
JAVC	Velka Javorina	133.90	331	*e*PKP		**PKiKP**	**04 32 44.0**	**-0.3**	
HERR	Herculane	133.96	324	⇑P		**PKPdf**	**04 32 43.4**	**+0.3**	
BZS	Buzias	133.98	325	⇑P		**PKPdf**	**04 32 43.8**	**+0.6**	
PARB	Paraibuna	134.00	138	*e*P		**PKPdf**	**04 32 44.5**	**+0.5**	
PARB	Paraibuna	134.00	138	*e*P		**PKiKP**	**04 32 44.9**	**-0.5**	
MBAR	Mbarara	134.03	258	PKP		**PKiKP**	**04 32 46.4**	**+0.7**	
	comp=Z,9.8nm,0.2s,baz=100,slow=4.8,SNR=8.7								
MBAR	Mbarara	134.03	258	*c i*PKIKP		**PKiKP**	**04 32 46.5**	**+0.7**	
MBAR				pmax	pmax				
	comp=Z,19nm,1.3s								
BRG	Berggiesshubel	134.06	336	*e*PKP		**PKPdf**	**04 32 43.6**	**+0.4**	
BRG				Amp			04 32 45.4		
	comp=Z,17nm,0.9s								
BRG	Berggiesshubel	134.06	336	*e*PKIKP		**PKPdf**	**04 32 43.6**	**+0.4**	
BRG				pmax	pmax				
	comp=Z,17nm,0.9s								
PVCC	Panska Ves	134.06	335	*e*PKIKP		**PKiKP**	**04 32 44.0**	**-0.5**	
PVCC				MLR	MLR				
	comp=Z,800nm,30.7s								
PVCC	Panska Ves	134.06	335	*e*PKPDF		**PKiKP**	**04 32 44.0**	**-0.5**	
PVCC				AMS	AMS		05 25 30.0		
	comp=Z,800nm,30.7s								
VRAC	Vranov	134.08	332	PKP		**PKPdf**	**04 32 43.9**	**+0.7**	
	comp=Z,4.8nm,0.7s,baz=33,slow=1.8,SNR=5.9								
VRAC	Vranov	134.08	332	*e*PKP		**PKPdf**	**04 32 42.9**	**-0.4**	
CLL	Collm	134.09	337	IAMs_20	IAMs_20		05 32 14.1		
	comp=Z,476nm,21.0s								
CLL	Collm	134.09	337	⇑*i*PKIKP		**PKPdf**	**04 32 43.0**	**-0.2**	
CLL				pmax	pmax				
	comp=Z,19nm,0.8s								
CLL				MLR	MLR				
	comp=Z,400nm,19.5s								
CLL	Collm	134.09	337	⇑*i*PKPdf		**PKPdf**	**04 32 43.0**	**-0.2**	
	comp=Z,19nm,0.8s								
CLL				*ep*PKPdf		**pPKPdf**	**04 32 54.0**	**-7.8**	
CLL				*ex*	x		04 33 06.0		
CLL				*e*PP		**PP**	**04 35 17.0**	**+3.1**	
CLL				*i* PKSbc		**PKSbc**	**04 36 13.4**	**-0.3**	
CLL				*e*(PKSdf)			04 36 17.0		
CLL				*e*PPP	PPP		04 38 12.0		
CLL				*e*PS		**PS**	**04 45 30.0**	**-4.9**	
CLL				*e*PPS	PPS		04 47 12.0		
CLL				*e*PPprev			04 48 33.0		
CLL				*e*SS	SS		04 52 42.0	-15	
CLL				*e*SSS	SSS		04 57 36.0		
CLL				*e*SSSS			05 01 30.0		
CLL				LmV			05 36 00.0		
	comp=Z,400nm,19.5s								
KRUC	Moravsky	134.35	332	*e*PKP		**PKPdf**	**04 32 43.7**	**-0.1**	
MODS	Modra-Piesok	134.42	331	*e*PKIKP		**PKiKP**	**04 32 44.8**	**-0.6**	
MODS	Modra-Piesok	134.42	331	*e*PKP		**PKiKP**	**04 32 44.8**	**-0.6**	
MDVR	Moldovita	134.42	324	⇑P		**PKPdf**	**04 32 43.8**	**-0.4**	
PRU	Pruhonice	134.48	334	*e*PKIKP		**PKPdf**	**04 32 44.2**	**+0.2**	
PRU				MLR	MLR				
	comp=Z,800nm,26.2s								
PRU	Pruhonice	134.48	334	*e*PKPDF		**PKPdf**	**04 32 44.2**	**+0.2**	
PRU				AMS	AMS		05 29 40.0		
	comp=Z,800nm,26.2s								
BLKB	Belogradchik	134.53	322	⇑P		**PKPdf**	**04 32 45.0**	**+0.6**	
TREC	Trest	134.59	333	AMS	AMS		05 31 40.0		
	comp=Z,900nm,24.5s								
ZST	Bratislava	134.63	331	*e*PKIKP		**PKPdf**	**04 32 44.4**	**+0.1**	
ZST	Bratislava	134.63	331	*e*PKP		**PKPdf**	**04 32 44.4**	**+0.1**	
VTS	Vitosha	134.75	321	⇑P		**PKPdf**	**04 32 45.6**	**+0.7**	
VTS	Vitosha	134.75	321	PKPdf		**PKPdf**	**04 32 45.3**	**+0.3**	
VTS	Vitosha	134.75	321	PKIKP		**PKPdf**	**04 32 45.3**	**+0.3**	
BOVS	Bovan	135.10	323	⇑P		**PKPdf**	**04 32 44.8**	**-0.6**	
NKC	Novy Kostel	135.16	336	*e*PKIKP		**PKiKP**	**04 32 46.2**	**-0.6**	
NKC				MLR	MLR				
	comp=Z,600nm,20.9s								
NKC	Novy Kostel	135.16	336	*e*PKPDF		**PKiKP**	**04 32 46.2**	**-0.6**	
NKC				AMS	AMS		05 31 10.0		
	comp=Z,600nm,20.9s								
NPGB	Novo Progresso	135.16	112	*e*P		**PKPdf**	**04 32 46.6**	**+0.3**	
MORH	Mrgy, Hungar	135.21	328	⇑P		**PKPdf**	**04 32 46.1**	**+0.7**	
FRGS	Fruska Gora	135.26	326	⇓P		**PKPdf**	**04 32 46.1**	**+0.4**	
RONA	Rosalia, Austr	135.36	331	*i* P		**PKPdf**	**04 32 46.3**	**+0.5**	
	comp=Z,18nm,0.8s								
CONA	Conrad Observa	135.41	331	*e*P		**PKPdf**	**04 32 46.3**	**+0.4**	
	comp=Z,14nm,0.7s,SNR=6.2								
CKRC	Cesky Krumlov	135.46	333	*e*PKPDF		PKPpre	04 32 36.2		
CKRC				*ex*	x		04 32 45.8		
KHC	Kasperske Hory	135.54	334	*e*PKHKP		PKPpre	04 32 36.2		
KHC				*e*			04 32 46.1		
KHC				MLR	MLR				
	comp=Z,1μm,25.1s								
KHC	Kasperske Hory	135.54	334	*e*PKPpre		PKPpre	04 32 36.2		
KHC				*e*PKPDF		**PKPdf**	**04 32 46.1**	**0.0**	
KHC				AMS	AMS		05 30 50.0		
	comp=Z,1μm,25.1s								
IPMB	Ipameri, GO	135.68	130	*e*P		**PKPdf**	**04 32 46.9**	**-0.4**	
GERES	GERESS Array B	135.71	334	PKhKP		PKPpre	04 32 36.5		
	comp=Z,2.0nm,0.9s,baz=79,slow=2.9,SNR=12								
GERES				PKP		**PKiKP**	**04 32 47.6**	**-0.5**	
	comp=Z,7.1nm,0.7s,baz=80,slow=1.2,SNR=30								
ITTB	Itaituba	135.81	108	*e*P		**PKPdf**	**04 32 47.8**	**+0.2**	
GRA1	Grafenberg Arr	136.07	336	IAMs_20	IAMs_20		05 36 22.4		
	comp=Z,595nm,21.0s								
GRFO	Grafenberg	136.07	336	IAMs_20	IAMs_20		05 36 13.4		
	comp=Z,564nm,20.0s								
VAS01	Vassouras-RJ	136.17	139	*e*P		**PKiKP**	**04 32 49.2**	**-0.5**	
VAS01	Vassouras-RJ	136.17	139	*e*P		**PKPdf**	**04 32 45.2**	**-2.9**	
BSCB	Bom Sucesso	136.19	136	*e*P		**PKPdf**	**04 32 48.1**	**-0.1**	
BSCB	Bom Sucesso	136.19	136	*e*P		**PKPdf**	**04 32 49.0**	**+0.8**	
SANT	Santorini	136.30	312	PKPdf		**PKPdf**	**04 32 48.4**	**+0.5**	
SNDB	Serra Nova Dou	136.56	121	*e*P		**PKPdf**	**04 32 49.0**	**+0.1**	
PMNB	Patos De Minas	136.65	132	*e*P		**PKiKP**	**04 32 50.1**	**-0.7**	
SOKA	Soboth	136.70	331	*i* P		**PKPdf**	**04 32 48.6**	**+0.3**	
	comp=Z,19nm,1.1s								
TSUM	Tsumeb	136.77	226	PKhKP	PKPpre		04 32 39.6		
TSUM				PKP		**PKPdf**	**04 32 49.9**	**+0.6**	
	comp=Z,9.3nm,0.8s,baz=126,slow=2.5,SNR=4.8								
DUB01	Friburgo-RJ	136.99	140	*e*P		**PKPdf**	**04 32 50.2**	**+0.6**	
OBKA	Obir	137.05	331	*i* P		**PKPdf**	**04 32 49.1**	**+0.1**	
	comp=Z,6.5nm,0.5s								
BTNL	Ternell	137.13	341	*d*PKPdf		**PKPdf**	**04 32 49.2**	**+0.3**	
MEM	Membach	137.15	341	*d*PKPdf		**PKPdf**	**04 32 49.2**	**+0.3**	
IDI	Anoyia	137.17	311	PKhKP	PKPpre		04 32 39.9		
	comp=Z,5.3nm,0.9s,baz=340,slow=21,SNR=2.3								
IDI				PKP		**PKiKP**	**04 32 51.3**	**-0.1**	
	comp=Z,11nm,0.7s,baz=333,slow=11,SNR=4.2								
KBA	Koelnbreinsper	137.19	332	*e*P		**PKPdf**	**04 32 48.7**	**-0.7**	
	comp=Z,14nm,0.8s								
BDFB	Brasilia	137.23	128	PKhKP	PKPpre		04 32 41.4		
	comp=Z,3.5nm,0.6s,baz=226,slow=4.4,SNR=5.8								
BDFB				PKP		**PKPdf**	**04 32 50.4**	**+0.1**	
	comp=Z,20nm,0.9s,baz=191,slow=4.4,SNR=17								
BDFB	Brasilia	137.23	128	*e*P		**PKPdf**	**04 32 51.0**	**+0.7**	
PDG	Podgorica	137.26	323	IAMs_20	IAMs_20		05 36 51.6		
	comp=Z,369nm,22.0s								
BSTI	Sart Tilman	137.31	342	*d*PKPdf		**PKPdf**	**04 32 49.5**	**+0.3**	
BHOU	Houvegnez	137.38	341	*d*PKPdf		**PKPdf**	**04 32 49.0**	**-0.4**	
MYKA	Terra Mystica	137.39	332	*i* P		**PKPdf**	**04 32 49.4**	**-0.2**	
	comp=Z,9.1nm,0.7s								
BCLA	Clavier	137.54	342	*d*PKPdf		**PKPdf**	**04 32 49.9**	**+0.2**	
WATA	Walderalm	137.78	334	*i* P		**PKPdf**	**04 32 50.1**	**-0.3**	
	comp=Z,24nm,0.9s								
BMRD	Maredsous	137.80	342	*d*PKPdf		**PKPdf**	**04 32 49.4**	**-0.8**	
BMRD				*d*PKiKP		**PKiKP**	**04 32 52.0**	**-0.1**	
WTTA	Wattenberg	137.81	334	*i* P		**PKPdf**	**04 32 50.8**	**+0.3**	
	comp=Z,22nm,0.9s								
ABTA	Abtersbach	137.82	333	*i* P		**PKPdf**	**04 32 50.2**	**-0.2**	
	comp=Z,21nm,1.0s								
WLF	Walferdange	137.92	340	*d*PKPdf		**PKPdf**	**04 32 51.2**	**+0.8**	
WLF				*d*PKiKP		**PKiKP**	**04 32 53.1**	**+0.7**	
MOTA	Moosalm	137.97	334	*e*P		**PKPdf**	**04 32 50.9**	**+0.1**	
	comp=Z,21nm,0.7s,SNR=4.6								
RETA	Reutte	138.00	335	*i* P		**PKPdf**	**04 32 51.3**	**+0.6**	
	comp=Z,11nm,1.0s								
MALB	Monte Alegre	138.02	105	*e*P		**PKPdf**	**04 32 50.7**	**-0.9**	
SQTA	Sankt Quirin	138.03	334	*e*P		**PKPdf**	**04 32 51.3**	**+0.5**	
	comp=Z,21nm,0.7s,SNR=4.4								
DOU	Dourbes	138.04	342	*d*PKPdf		**PKPdf**	**04 32 50.6**	**0.0**	
BFO	Black Forest	138.29	338	PKPdf		**PKiKP**	**04 32 52.2**	**-1.0**	
BFO				IAMs_20	IAMs_20		05 37 18.9		
	comp=Z,377nm,20.0s								
BFO	Black Forest	138.29	338	PKIKP		**PKiKP**	**04 32 52.2**	**-1.0**	
FETA	Feichten	138.38	334	*i* P		**PKPdf**	**04 32 51.1**	**-0.4**	
	comp=Z,21nm,0.9s								
DAVA	Damuels	138.53	335	*i* P		**PKPdf**	**04 32 52.4**	**+0.6**	
	comp=Z,14nm,0.7s								
DIAM	Diamantina, MG	138.78	135	*e*P		**PKPdf**	**04 32 53.3**	**+0.2**	
ECH	Echery	138.81	338	IAMs_20	IAMs_20		05 41 11.7		
	comp=Z,448nm,20.0s								
DAVOX	Davos/Dischmat	138.93	335	PKhKP	PKPpre		04 32 44.5		
	comp=Z,13nm,0.7s,baz=168,slow=2.8,SNR=15								
DAVOX				PKP		**PKPdf**	**04 32 53.2**	**+0.5**	
	comp=Z,22nm,0.7s,baz=45,slow=2.9,SNR=14								
ALF01	Guarapari-ES	139.11	140	*e*P		**PKPdf**	**04 32 53.3**	**-0.1**	
MC01	Montes Claros	139.64	132	*e*P		**PKPdf**	**04 32 54.5**	**-0.1**	
SJMB	Sao Joao De Ma	140.19	138	*e*P		**PKPdf**	**04 32 55.4**	**-0.1**	
SJMB	Sao Joao De Ma	140.19	138	*e*P		**PKPdf**	**04 32 56.2**	**+0.8**	
RIB01	Linhares ES	140.27	139	*e*P		**PKPdf**	**04 32 48.2**	**-7.4**	
RIB01	Linhares ES	140.27	139	*e*P		**PKPdf**	**04 32 55.4**	**-0.2**	
SENIN	Lac Senin/Sane	140.31	337	IAMs_20	IAMs_20		05 41 51.5		
	comp=Z,346nm,20.0s								
JANB	Januaria	140.42	130	*e*P		**PKPdf**	**04 32 56.2**	**+0.2**	
PRPB	Parauapebas	140.54	114	*e*P		**PKPdf**	**04 32 56.7**	**+0.4**	
TIP	Timpagrande	140.74	321	IAMs_20	IAMs_20		05 43 05.0		
	comp=Z,323nm,20.0s								
VLC	Villacollemand	140.76	332	IAMs_20	IAMs_20		05 35 44.0		
	comp=Z,505nm,22.0s								
SMTB	Santa Maria do	141.26	119	*e*P		**PKPdf**	**04 32 53.6**	**-3.9**	
NAN01	Guarapari, ES	141.51	138	*e*P		**PKPdf**	**04 32 52.5**	**-5.3**	
NAN01	Guarapari, ES	141.51	138	*e*P		**PKPdf**	**04 32 53.5**	**-4.4**	
SDBA	SAO DESIDERIO	141.56	126	*e*P		**PKPdf**	**04 32 58.3**	**+0.2**	
CEL	Celeste	141.84	321	IAMs_20	IAMs_20		05 39 45.1		
	comp=Z,357nm,22.0s								
SSB	Saint Sauveur	142.26	338	IAMs_20	IAMs_20		05 43 16.9		
	comp=Z,427nm,19.0s								
GUA01	Guaratinga, BA	142.62	137	*e*P		**PKPdf**	**04 32 56.1**	**-3.8**	
GUA01	Guaratinga, BA	142.62	137	*e*P		**PKPdf**	**04 32 55.4**	**-4.4**	
RAFF	Raffo Rosso	143.43	320	PKPdf		**PKPdf**	**04 32 59.4**	**-1.3**	
TMAB	Tom-Au,PA,Br	143.63	109	*e*P		**PKPdf**	**04 33 02.4**	**+0.7**	
CMC01	Camacan, BA	143.67	136	*e*P		PKPbc	04 32 59.0	-0.3	
CMC01	Camacan, BA	143.67	136	*e*P		PKPbc	04 32 59.8	+0.5	
GDU01	Guandu, BA	144.76	133	*e*P		**PKPab**	**04 33 02.6**	**0.0**	
GDU01	Guandu, BA	144.76	133	*e*P		**PKPab**	**04 33 01.9**	**-0.7**	
ROSB	Rosrio	147.06	113	*e*P		**PKPdf**	**04 33 08.6**	**+0.9**	
KEST	Kesra	147.46	323	PKPbc		**PKPbc**	**04 33 10.8**	**+0.4**	
	comp=Z,133nm,0.9s,baz=22,slow=0.1,SNR=81								
NBLA	Lagarto - SE	147.88	132	*e*P		**PKPdf**	**04 33 09.0**	**0.0**	
NBLA	Lagarto - SE	147.88	132	*e*P		**PKPdf**	**04 33 08.6**	**-0.4**	
CMAH	Djebel Manchou	147.92	326	P		**PKPbc**	**04 33 11.4**	**-0.2**	
CKFL	Kef-Lekhel	148.46	327	P		**PKPbc**	**04 33 13.3**	**+0.2**	
PBRG	Braganca	148.60	349	*e*PKPbc		**PKPbc**	**04 33 12.9**	**-0.2**	
PBRG	Braganca	148.60	349	*e*PKPab		**PKPab**	**04 33 17.0**	**+0.3**	
PGAV	Gavieira, Arco	148.69	352	*e*PKPbc		**PKPbc**	**04 33 13.2**	**-0.2**	
PGAV	Gavieira, Arco	148.69	352	*e*LR	LR		05 23 52.8		
	comp=Z,495nm,20.0s								
CASM	Ain Smara	148.69	327	P		**PKiKP**	**04 33 14.6**	**-0.4**	
PCAB	Cabril	148.90	351	*e*PKPdf		**PKPdf**	**04 33 09.7**	**-0.2**	
PCAB	Cabril	148.90	351	*e*PKPbc		**PKPbc**	**04 33 13.7**	**-0.2**	
POLO	Lamas de Olo	149.19	351	*e*PKPdf		**PKPdf**	**04 33 10.3**	**-0.2**	
POLO	Lamas de Olo	149.19	351	*e*PKPbc		**PKPbc**	**04 33 14.9**	**+0.2**	
POLO	Lamas de Olo	149.19	351	*e*PKPab		**PKPab**	**04 33 20.3**	**+1.1**	
MVO	Moncorvo	149.27	350	*e*PKPdf		**PKPdf**	**04 33 09.7**	**-0.9**	
MVO	Moncorvo	149.27	350	*e*PKPbc		**PKPbc**	**04 33 14.9**	**0.0**	
MVO	Moncorvo	149.27	350	*e*PKPab		**PKPab**	**04 33 20.4**	**+0.9**	
MVO	Moncorvo	149.27	350	*e*LR	LR		05 24 32.5		
	comp=Z,632nm,22.0s								
PVRL	Vila Real	149.28	351	*e*PKPbc		**PKPbc**	**04 33 14.8**	**-0.1**	
SET	Setif	149.31	328	P		**PKPdf**	**04 33 12.5**	**+1.7**	
PTO	Porto	149.54	352	*e*PKPbc		**PKPbc**	**04 33 15.8**	**+0.3**	
PVIS	Viseu	149.85	351	*e*PKPbc		**PKPbc**	**04 33 16.0**	**-0.3**	
PVIS	Viseu	149.85	351	*e*PKPab		**PKPab**	**04 33 22.8**	**+0.9**	
NBAN	Anadia - AL	149.86	132	*e*P		**PKPdf**	**04 33 12.0**	**-0.2**	
NBAN	Anadia - AL	149.86	132	*e*P		**PKPdf**	**04 33 11.5**	**-0.7**	
ESDC	Sonseca Array	150.02	344	PKPbc		**PKPbc**	**04 33 17.1**	**+0.3**	
	comp=Z,26nm,0.8s,baz=9.3,slow=2.4,SNR=59								
ESDC				PKPab		**PKPab**	**04 33 23.3**	**+0.7**	
	comp=Z,33nm,0.8s,baz=15,slow=3.7,SNR=24								
MTE	Manteigas	150.10	350	*e*PKPdf		**PKPdf**	**04 33 11.6**	**-0.3**	
MTE	Manteigas	150.10	350	*e*PKPbc		**PKPbc**	**04 33 17.1**	**+0.1**	
MTE	Manteigas	150.10	350	*e*PKPab		**PKPab**	**04 33 23.2**	**+0.3**	
MTE	Manteigas	150.10	350	*e*LR	LR		05 25 54.5		
	comp=Z,607nm,22.0s								
PAB	San Pablo	150.24	345			**PKPdf**	**04 33 12.8**	**+0.6**	
PAB	San Pablo	150.24	345	PKIKP		**PKPdf**	**04 33 12.8**	**+0.6**	
PAB	San Pablo	150.24	345	P		**PKPbc**	**04 33 17.7**	**+0.3**	
COI	Coimbra	150.43	351	*e*PKPdf		**PKPdf**	**04 33 12.2**	**-0.1**	
COI	Coimbra	150.43	351	*e*PKPbc		**PKPbc**	**04 33 17.6**	**0.0**	
COI	Coimbra	150.43	351	*e*PKPab		**PKPab**	**04 33 24.6**	**+0.5**	
PCAS	Casmilo, Conde	150.59	351	*e*PKPdf		**PKPdf**	**04 33 12.8**	**+0.2**	
PCAS	Casmilo, Conde	150.59	351	*e*PKPbc		**PKPbc**	**04 33 17.9**	**-0.2**	
PCAS	Casmilo, Conde	150.59	351	*e*PKPab		**PKPab**	**04 33 25.5**	**+0.6**	
PCBR	Castelo Branco	150.64	350	*e*PKPdf		**PKPdf**	**04 33 11.9**	**-0.8**	
PCBR	Castelo Branco	150.64	350	*e*PKPbc		**PKPbc**	**04 33 18.0**	**-0.1**	
PCBR	Castelo Branco	150.64	350	*e*PKPab		**PKPab**	**04 33 26.0**	**+1.0**	
CART	Cartagena	151.00	338	IAMs_20	IAMs_20		05 41 13.1		
	comp=Z,413nm,21.0s								
PMRV	Marv??o	151.02	349	*e*PKPdf		**PKPdf**	**04 33 13.4**	**+0.1**	
PMRV	Marv??o	151.02	349	*e*PKPbc		**PKPbc**	**04 33 19.1**	**0.0**	
PMRV	Marv??o	151.02	349	*e*PKPab		**PKPab**	**04 33 27.6**	**+0.9**	
PMRV	Marv??o	151.02	349	*e*PP		**PP**	**04 37 03.1**	**+7.2**	
PMRV	Marv??o	151.02	349	*e*LR	LR		05 29 07.1		
	comp=Z,474nm,20.0s								
PSBE	So Bento	151.17	352	*e*PKPdf		**PKPdf**	**04 33 12.9**	**-0.6**	
PSBE	So Bento	151.17	352	*e*PKPbc		**PKPbc**	**04 33 19.5**	**0.0**	
PSBE	So Bento	151.17	352	*e*PKPab		**PKPab**	**04 33 28.4**	**+1.1**	
PMTG	Montargil	151.51	350	*e*PKPdf		**PKPdf**	**04 33 14.2**	**+0.2**	
PMTG	Montargil	151.51	350	*e*PKPbc		**PKPbc**	**04 33 19.9**	**-0.3**	
PMTG	Montargil	151.51	350	*e*PKPab		**PKPab**	**04 33 29.3**	**+0.6**	
PESTR	Estremoz	151.60	349	*e*PKPdf		**PKPdf**	**04 33 14.1**	**-0.1**	
PESTR	Estremoz	151.60	349	*e*PKPbc		**PKPbc**	**04 33 20.1**	**-0.4**	
PESTR	Estremoz	151.60	349	*e*PKPab		**PKPab**	**04 33 29.4**	**+0.3**	
PMAFR	Mafra	151.78	352	*e*PKPdf		**PKPdf**	**04 33 13.7**	**-0.8**	
PMAFR	Mafra	151.78	352	*e*PKPbc		**PKPbc**	**04 33 20.8**	**-0.1**	
PMAFR	Mafra	151.78	352	*e*PKPab		**PKPab**	**04 33 30.7**	**+0.9**	
PMST	Lisbon--Monsan	151.98	352	*e*PKPdf		**PKPdf**	**04 33 15.0**	**+0.3**	
PMST	Lisbon--Monsan	151.98	352	*e*PKPbc		**PKPbc**	**04 33 21.1**	**-0.2**	
PMST	Lisbon--Monsan	151.98	352	*e*PKPab		**PKPab**	**04 33 31.8**	**+1.2**	
LIS	Lisbon	152.00	352	*e*PKPbc		**PKiKP**	**04 33 21.5**	**-0.2**	
EVO	Evora	152.00	350	*e*PKPdf		**PKPdf**	**04 33 14.8**	**0.0**	
EVO	Evora	152.00	350	*e*PKPbc

WAZ	Wanganui	2.01	16	P	Pb	04 40 33.4	-0.6
TSZ	Takapari Road	2.08	39	P	Pn	04 40 30.7	-0.1
OKCZ	Okains Bay	2.22	203	P	Pn	04 40 32.3	-0.5
LREZ	Lake Rotokare	2.23	3	P	Pb	04 40 36.4	-1.3
PRHZ	Porangahau	2.29	52	P	Pn	04 40 32.5	-1.2
PNHZ	Pukenui	2.30	40	P	Pn	04 40 33.6	-0.4
WPHZ	Waipukurau	2.31	46	P	Pn	04 40 33.6	-0.4
OXZ	Oxford	2.32	225	P	Pn	04 40 33.3	-0.9
INZ	Inchbonnie	2.34	243	P	Pn	04 40 34.9	+0.5
MQZ	McQueen's Vall	2.34	210	P	Pn	04 40 33.1	-1.2
PREZ	Palmer Road	2.35	358	P	Pb	04 40 38.8	-0.9
AKCZ	Akaroa Harbour	2.40	204	P	Pn	04 40 34.7	-0.6
KHEZ	Kahui Hut	2.40	355	P	Pn	04 40 39.1	-1.6
NEZ	North Egmont	2.42	357	P	Pb	04 40 40.0	-1.1
NBEZ	Newall Road No	2.44	353	P	Pb	04 40 41.9	+0.7
MTVZ	Mangateitei	2.48	22	P	Pb	04 40 39.5	-2.5
PKE	Pukeiti	2.50	355	P	Pb	04 40 39.6	-2.8
PKVZ	Pokaka	2.54	19	P	Pn	04 40 39.6	+2.4
MOVZ	Moawhango	2.55	27	P	Pb	04 40 41.2	-2.0
RACZ	Rakaia	2.57	217	P	Pn	04 40 36.5	-1.0
WNVZ	Wahianoa	2.57	24	P	Pb	04 40 42.6	-1.1
BHHZ	Black Hill Sta	2.59	32	P	Pb	04 40 43.0	-0.9
KRHZ	Kereru	2.60	39	P	Pn	04 40 37.5	-0.5
TUVZ	Tukino	2.64	24	P	Pb	04 40 42.3	-2.5
NGZ	Ngauruhoe	2.71	22	P	Pb	04 40 44.0	-2.0
SNVZ	South Ngauruho	2.71	23	P	Pb	04 40 44.0	-2.1
KAHZ	Kahuranaki	2.74	47	P	Pn	04 40 39.2	-0.8
OTVZ	Oturere	2.74	23	P	Pn	04 40 41.5	+1.4
NNVZ	North Ngauruho	2.75	22	P	Pn	04 40 42.0	+1.7
WTVZ	West Tongariro	2.76	22	P	Pb	04 40 44.7	-2.2
TWVZ	Taurewa	2.77	19	P	Pb	04 40 43.9	-3.0
ETVZ	East Tongariro	2.78	24	P	Pb	04 40 44.7	-2.5
TMVZ	Te Maari	2.80	24	P	Pb	04 40 45.2	-2.2
KRVZ	Karewarewa	2.80	22	P	Pb	04 40 45.8	-1.6
KWHZ	Kaweka Forest	2.80	37	P	Pn	04 40 40.2	-0.5
NTVZ	North Tongarir	2.80	23	P	Pn	04 40 42.5	+1.6
WACZ	Wakanui South	2.87	218	P	Pn	04 40 41.3	-0.4
KATZ	Kakaramea	2.92	22	P	Pb	04 40 49.7	0.0
WVZ	Waitaha Valley	2.96	241	P	Pn	04 40 43.3	+0.4
RITZ	Rihia Road	2.97	25	P	Pb	04 40 49.9	-0.4
BKZ	Black Stump Fm	3.04	35	P	Pb	04 40 51.7	+0.1
RPZ	Rata Peaks	3.12	228	P	Pn	04 40 44.5	-0.5
RPZ	Rata Peaks	3.12	228	P	Pn	04 40 45.0	-0.1
ARCZ	Arundel	3.20	224	P	Pn	04 40 45.6	-0.6
HIZ	Hauiti	3.21	8	P	Pn	04 40 49.4	+3.0
MRHZ	Matea Rd	3.29	31	P	Pb	04 40 54.9	-1.0
GCSZ	Gaunt Creek Bo	3.34	240	P	Pn	04 40 49.2	+1.1
TMZ	Timaru	3.60	221	P	Pn	04 40 51.1	-0.7
MUGZ	Murupara	3.74	32	P	Pb	04 41 01.1	-2.3
FOZ	Fox Glacier	3.77	239	P	Pn	04 40 53.8	-0.2
LBZ	Lake Benmore	4.03	227	P	Pn	04 40 57.8	+0.2
ODZ	Otahua Downs	4.27	217	P	Pn	04 40 58.7	-2.2
ODZ	Otahua Downs	4.27	217	P	Pn	04 40 58.5	-2.4
JCZ	Jackson Bay	4.68	238	P	Pn	04 41 06.7	+0.1

*VAO **06** 04:56:27.1±0.3,22.°06S×68.°72W,h94km,mb3.9*
*GUC **06** 04:56:27.4±0.7,22.°18S×68.°80W,h120km±3km,ML3.5*
ISC 06 04:56:27.2±0.8,22.°19S±0.°05×68.°79W±0.°08,h116km±9km, n26,σ0.°50/36,1C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	0.43	195	eP	Pn	04 56 44.4	-0.5
LVC				eS	Sn	04 56 57.6	-0.4
LVC	**Limon Verde**	0.43	195	eP	Pn	04 56 44.2	-0.6
PB09	**IPOC Station P**	0.58	313	eP	Pn	04 56 46.1	+0.6
PB09				eS	Sn	04 56 59.6	+0.4
PB09				IAML		04 57 01.5	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	0.89	235↑	eP	Pn	04 56 48.3	+0.3
PB06				eS	Sn	04 57 04.3	+0.5
PB06				IAML		04 57 05.6	
	comp=E,801nm,0.2s						
PB07	**IPOC Station P**	1.12	294	eP	Pn	04 56 50.6	+0.2
PB07				eS	Sn	04 57 07.6	-0.3
PB07				IAML		04 57 08.3	
	comp=N,2μm,0.2s						
PB15	**IPOC Station P**	1.20	212	eP	Pn	04 56 51.6	+0.4
PB15				eS	Sn	04 57 09.9	+0.6
PB04	**IPOC Station P**	1.27	263	eP	Pn	04 56 52.0	0.0
PB04				eS	Sn	04 57 10.7	0.0
PB04				IAML		04 57 12.9	
	comp=N,706nm,0.1s						
PB01	**IPOC Station P**	1.31	330	eP	Pn	04 56 52.5	+0.1
PB01				eS	Sn	04 57 11.4	0.0
PB01				IAML		04 57 13.1	
	comp=N,839nm,0.5s						
PB02	**IPOC Station P**	1.35	310	eP	Pn	04 56 52.8	0.0
PB02				eS	Sn	04 57 11.9	-0.2
PB02				IAML		04 57 13.7	
	comp=E,1μm,0.2s						
TA01	**Diego Aracena**	2.07	321	eP	Pn	04 57 01.1	-0.3
TA01				eS	Sn	04 57 27.1	-0.5
TA01				IAML		04 57 29.1	
	comp=N,333nm,0.4s						
TA02	**Huaiquique**	2.29	326	eP	Pn	04 57 04.1	-0.1
TA02				IAML		04 57 34.9	
	comp=N,433nm,0.1s						
GO01	**Chusmiza**	2.54	351	eP	Pn	04 57 08.3	+0.5
GO01				eS	Sn	04 57 39.9	+0.9
GO01				IAML		04 57 41.2	
	comp=N,383nm,0.1s						
SALV	**Santo Antonio**	13.86	65	eP	Pn	04 59 38.6	-0.2
TRCB	**Terra Rica**	14.94	95	eP	Pn	04 59 53.2	+0.6
PDRB	**Porto dos Gac**	15.60	50	eP	Pn	05 00 01.1	+0.2
ALGR	**Alto Alegre (B**	15.67	118	eP	P	05 00 03.2	-0.1
ITAB	**Concordia**	15.94	112	eP	P	05 00 06.0	-0.3
PCMB	**Pacaembu**	16.28	91	eP	Pn	05 00 08.9	-0.3
CLDB	**Colider**	16.77	50	eP	Pn	05 00 14.7	-0.5
IPMB	**Ipameri, GO**	19.77	81	eP	P	05 00 48.8	+0.4
NPGB	**Novo Progresso**	19.86	43	eP	Pn	05 00 51.0	-1.1
ITTB	**Itaituba**	21.77	37	eP	P	05 01 09.1	-0.7
PRPB	**Parauapebas**	24.28	52	eP	P	05 01 33.2	-0.7
SMTB	**Santa Maria do**	24.30	60	eP	P	05 01 35.0	+1.0
SDBA	**SAO DESIDERIO**	24.76	71	eP	P	05 01 38.4	+0.1
ROSB	**Rosrio**	30.68	55	eP	P	05 02 31.0	0.0

IDC 06 04:59:44.5±22.0,5.°26S×146.°44E,h193km±224km, mb3.0/4,mbtmp3.5/5,ML3.6/1,Error ellipse: s-maj=90.9km s-min=64.1km az=163.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	18.75	218	P	P	05 03 49.5	+0.4
	0.2nm,0.3s,baz=44,slow=9.7,SNR=17						
	0.7nm,0.6s						
ASAR	**Alice Springs**	21.93	212	P	P	05 04 22.9	+0.2
	0.3nm,0.4s,baz=45,slow=7.5,SNR=7.3						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	23.99	236	P	P	05 04 40.7	-1.0
	1.3nm,0.8s,baz=68,slow=11,SNR=2.0						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	76.58	321	P	P	05 11 14.4	+0.7
	0.3nm,0.4s,baz=107,slow=6.2,SNR=2.9						
	0.3nm,0.4s						
ILAR	**Eielson Array**	85.03	23	P	P	05 11 57.6	-0.4
	0.2nm,0.5s,baz=264,slow=5.9,SNR=4.0						
	0.2nm,0.5s						

*EAF **06** 05:13:22.0±4.8,22.°50S×26.°70E,h10km,MD2.7*
BUL 06 05:13:27.9±0.9,19.°72S×31.°06E,h10km,MD2.5, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	**Bulawayo**	2.34	259	*i* Pg	Pb	05 14 10.3	0.0
BLWY	**Bulawayo**	2.34	259	*i* Pg	Pb	05 14 10.3	0.0
MATP	**Matopo**	2.50	253	*i* Pg	Pb	05 14 12.9	-0.2
MATP				*i* Sg	Sb	05 14 45.2	+1.2
MATP	**Matopo**	2.50	253	*i* Pg	Pb	05 14 12.9	-0.2
MATP				*i* Sg	Sb	05 14 45.2	+1.2
MUSN	**Musina, Limpop**	2.79	203	*i* P	Pn	05 14 12.9	+0.1
MUSN				*i* S	Sn	05 14 45.5	-1.0
MUSN	**Musina, Limpop**	2.79	203	*i* P	Pn	05 14 12.9	+0.1
MUSN				*i* S	Sn	05 14 45.5	-1.0
MOPA	**Mopani**	3.80	175	*i* P	Pn	05 14 30.6	+4.1
MOPA				*i* S	Sb	05 15 16.8	-4.3
MOPA	**Mopani**	3.80	175	*i* P	Pn	05 14 30.6	+4.1
MOPA				*i* S	Sb	05 15 16.8	-4.3

IDC 06 05:22:08.4±6.4,5.°47S×146.°67E,h0km,mb3.3/3, mbtmp3.3/4,ML3.5/1,MS3.5/1,Error ellipse: s-maj=186.5km s-min=32.7km az=105.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	18.73	219	P	Pn	05 26 30.1	+0.9
	0.2nm,0.3s,baz=38,slow=11,SNR=12						
	0.3nm,0.5s						
ASAR	**Alice Springs**	21.87	213	P	P	05 27 02.3	-0.8
	0.2nm,0.5s,baz=42,slow=9.9,SNR=2.7						
	0.2nm,0.5s						
FITZ	**Fitzroy Crossi**	24.07	237	P	P	05 27 25.1	-0.6
	0.8nm,0.8s,baz=53,slow=10,SNR=1.0						
	0.8nm,0.8s						
AFI	**Afiamalu**	41.75	105	LR	LR	05 46 45.1	
	comp=Z,60nm,19.1s,baz=23,slow=35						
SONM	**Songino Array**	63.78	331	P	P	05 32 42.7	+0.2
	0.8nm,0.8s,baz=134,slow=8.3,SNR=2.6						
	0.8nm,0.8s						

IDC 06 05:24:35.2±2.9,55.°50N×86.°20E,h0km,mbtmp2.9/3, ML2.7/3,Error ellipse: s-maj=26.8km s-min=18.7km az=69.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	1.75	208	*i*		05 36 30.0	
	baz=24,slow=323,SNR=1.5						
ZALV	**Zalesovo Beam**	1.75	208	Pg	Pn	05 25 06.2	-0.6
	2.9nm,0.3s,baz=26,slow=14,SNR=14						
ZALV				Lg	Lg	05 25 31.7	
	2.8nm,0.3s,baz=28,slow=29,SNR=9.7						
KURBB	**Kurchatov Arra**	6.72	227	Pn	Pn	05 26 13.9	-1.1
	0.1nm,0.3s,baz=43,slow=14,SNR=6.7						
KURBB				Lg	Lg	05 28 07.8	
	baz=50,slow=31,SNR=2.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	9.06	197	Pn	Pn	05 26 47.5	+0.5
	0.1nm,0.3s,baz=28,slow=12,SNR=2.7						
MKAR				Lg	Lg	05 29 23.9	
	0.1nm,0.3s,baz=24,slow=29,SNR=5.4						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	9.58	262	Pn	Pn	05 26 54.2	0.0
	0.2nm,0.3s,baz=71,slow=14,SNR=4.0						
	0.5nm,0.5s						

*HLW **06** 05:27:25.9,36.°28N×28.°23E,h31km±13km,Md4.4*
*IDC **06** 05:27:25.6±0.9,36.°23N×28.°25E,h47km±10km,mb3.9/20, mbtmp4.2/30,ML4.3/10,Error ellipse: s-maj=10.7km s-min=6.9km az=165.0*
*DDA **06** 05:27:25.6±0.0,36.°29N×28.°16E,h50km±1km,MW4.2*
*ISK **06** 05:27:26.2,36.°31N×28.°16E,h28km,ML4.3/21*
*ATH **06** 05:27:27.2,36.°24N×27.°98E,h51km±5km,ML4.3/8,Error ellipse: s-maj=6.5km s-min=2.2km az=63.0*
*NEIC **06** 05:27:27.4±1.5,36.°26N±0.°06×28.°24E±0.°05,h57km±11km, mb4.1/17,ML4.3(ATH),Error ellipse: s-maj=9.5km s-min=5.5km az=176.0*
*NIC **06** 05:27:28.3±0.0,36.°03N×28.°37E,h25km±1km,Ml4.4/8*
*THE **06** 05:27:29.4,36.°39N×28.°09E,h38km±1km,ML4.2/17,Error ellipse: s-maj=1.9km s-min=0.6km az=110.0*
*GII **06** 05:27:31.5±0.0,35.°88N×28.°64E,h34km,mb4.0/4, MD3.7/8,Mm3.9/6*
ISC 06 05:27:26.0±0.6,36.°26N±0.°03×28.°22E±0.°03,h47km±5km, n317,σ1.°82/417,mb4.1/24,25C-1D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	0.09	238	P	Pn	05 27 35.4	+2.0
ARG				S	Sn	05 27 41.1	+2.4
	181μm,0.4s						
ARG	**Arkhangelos**	0.09	238	PG	Pn	05 27 31.6	-1.8
ARG	**Arkhangelos**	0.09	238		Pn	05 27 35.5	+2.0
ARG	**Arkhangelos**	0.09	238	P	Pn	05 27 35.4	+2.0
ARG				S	Sn	05 27 40.3	+1.6
ARG	**Arkhangelos**	0.09	238	P	Pn	05 27 35.3	+2.0
ARG				S	Sn	05 27 41.4	+2.7
ARG				AML	AML	05 27 41.7	
ARG				AML	AML	05 27 41.8	
TURN	**Turunc**	0.51	2	PG	Pn	05 27 37.2	0.0
TURN	**Turunc**	0.51	2	P	Pn	05 27 38.2	+1.0
TURN				S	Sn	05 27 46.0	+0.8
DALY	**Dalyan (Mula)**	0.65	32	PG	Pn	05 27 39.8	+0.8
DALY				SG	Sn	05 27 49.5	+1.1
FETY	**Fethiye**	0.79	62	PG	Pn	05 27 41.4	+0.6
FETY				SG	Sn	05 27 54.0	+2.4
FETY	**Fethiye**	0.79	62	P	Pn	05 27 41.9	+1.0
FETY				S	Sn	05 27 53.5	+1.9
YER	**Yerkesik**	0.87	3	P	Pn	05 27 43.5	+1.5
YER				S	Sn	05 27 54.4	+0.7
YER	**Yerkesik**	0.87	3	PG	Pn	05 27 42.8	+0.8
YER	**Yerkesik**	0.87	3	P	Pn	05 27 43.5	+1.5
YER				S	Sn	05 27 55.5	+1.8
NIS1	**Nisyros Isl.**	0.91	292	P	Pn	05 27 43.3	+0.9
NIS1				S	Sn	05 27 54.4	0.0
	62μm,0.6s						
NIS1	**Nisyros Isl.**	0.91	292	PG	Pn	05 27 42.8	+0.4
NIS1				SG	Sn	05 27 54.4	0.0
NISR	**Nisiros**	0.95	292	P	Pn	05 27 43.7	+0.8
NISR				S	Sn	05 27 55.1	-0.2
	15μm,0.6s						
NISR	**Nisiros**	0.95	292	P	Pn	05 27 43.6	+0.6
NISR				S	Sn	05 27 54.6	-0.8
NISR				AML	AML	05 28 02.2	
	comp=E,33457μm,0.6s						
NISR				AML	AML	05 28 03.5	
	comp=N,27095μm,0.6s						
MULA	**Mugla, Merkez-**	0.99	5	P	Pn	05 27 45.5	+1.8
MULA				S	Sn	05 27 58.4	+1.7
BDRM	**Kayabasi**	1.01	322	P	Pn	05 27 44.3	+0.4
BDRM				S	Sn	05 27 57.0	-0.1
BODT	**Bodrum**	1.08	318	P	Pn	05 27 44.4	-0.4
BODT				S	Sn	05 27 57.6	-1.1
BODT	**Bodrum**	1.08	318	PG	Pn	05 27 44.4	-0.4
BODT	**Bodrum**	1.08	318	P	Pn	05 27 44.4	-0.4
BODT				S	Sn	05 27 55.2	-3.4
KOSK	**Kos Island**	1.11	296	P	Pn	05 27 45.8	+0.6
KOSK				S	Sn	05 27 58.5	-0.9
	comp=N,7μm,0.6s						
KOSK	**Kos Island**	1.11	296	PG	Pn	05 27 45.5	+0.3
KOSK				SG	Sn	05 27 59.5	+0.1
KOSK	**Kos Island**	1.11	296	P	Pn	05 27 45.4	+0.3
KOSK				S	Sn	05 27 59.0	-0.4
KOSK				AML	AML	05 28 02.1	
	comp=E,36226μm,0.5s						
KOSK				AML	AML	05 28 02.6	
	comp=N,42259μm,0.7s						
KARP	**Karpathos**	1.12	231	P	Pn	05 27 47.8	+2.5
KARP				S	Sn	05 28 02.9	+3.3
	comp=N,14μm,0.3s						
KARP	**Karpathos**	1.12	231	PN	Pn	05 27 46.4	+1.1
KARP	**Karpathos**	1.12	231	Pn	Pn	05 27 47.4	+2.1
KARP	**Karpathos**	1.12	231	P	Pn	05 27 47.5	+2.2
KARP				S	Sn	05 28 03.4	+3.9
KARP				AML	AML	05 28 06.0	
	comp=N,29nm,0.3s						
KARP				AML	AML	05 28 06.0	
	comp=N,29nm,0.3s						
KARP				AML	AML	05 28 08.0	
	comp=N,38nm,0.8s						
KARP				AML	AML	05 28 08.0	
	comp=N,38nm,0.8s						
KARP	**Karpathos**	1.12	231	P	Pn	05 27 47.3	+2.0
KARP				AML	AML	05 28 06.4	
	comp=E,29026μm,0.3s						
KARP				AML	AML	05 28 08.6	
	comp=N,30106μm,0.4s						
AKAS	**Kas**	1.12	91	PN	Pn	05 27 46.3	+0.9
AKAS	**Kas**	1.12	91		Pn	05 27 46.3	+0.9
AKAS	**Kas**	1.12	91	P	Pn	05 27 46.3	+0.9
AKAS				S	Sn	05 28 01.0	+1.2
CAEL	**Denizli, Camel**	1.23	46	P	Pn	05 27 49.1	+2.2
CAEL				S	Sn	05 28 06.3	+3.8
TAVA	**DENIZLI_Tavas**	1.32	25	P	Pn	05 27 49.7	+1.5
TAVA				S	Sn	05 28 07.2	+2.6
AYDN	**Tasoluk**	1.42	349	P	Pn	05 27 50.5	+1.1
AYDN				S	Sn	05 28 07.4	+0.3
DDIM	**Aydin, Didim**	1.43	327	P	Pn	05 27 50.2	+0.7
DDIM				S	Sn	05 28 07.2	+0.2
ELL	**Elmali**	1.44	70	PN	Pn	05 27 51.6	+1.8
ELL	**Elmali**	1.44	70		Pn	05 27 52.1	+2.3
ELL	**Elmali**	1.44	70	P	Pn	05 27 52.3	+2.5
ELL				S	Sn	05 28 12.0	+4.3
ELL	**Elmali**	1.44	70	P	Pn	05 27 52.3	+2.5
ELL				S	Sn	05 28 11.7	+4.1
GOLH	**Golhisar**	1.45	48	P	Pn	05 27 52.4	+2.5
GOLH				S	Sn	05 28 13.1	+5.3
APMY	**Acipayam-Deniz**	1.49	35	PN	Pn	05 27 51.7	+1.3
GCAM	**G?zelcaml?**	1.64	331	PN	Pn	05 27 52.9	+0.6
GCAM				SN	Sn	05 28 12.6	+0.4
GCAM	**G?zelcaml?**	1.64	331	P	Pn	05 27 52.9	+0.6
GCAM				S	Sn	05 28 11.9	-0.3
AYDB	**Zeytinkoy-Aydi**	1.70	351	PN	Pn	05 27 54.0	+0.7
SMG	**Samos**	1.82	323	P	Pn	05 27 55.1	+0.2
SMG				S	Sn	05 28 14.8	-1.9
	comp=N,4μm,0.4s						
KORT	**Korkueli**	1.86	66	PN	Pn	05 27 57.6	+2.0
KORT	**Korkueli**	1.86	66	P	Pn	05 27 58.4	+2.8
KORT				S	Sn	05 28 23.3	+5.3
ZKR	**Zakros**	1.99	235	P	Pn	05 27 59.9	+2.7
ZKR				S	Sn	05 28 24.7	+3.7
	comp=N,2μm,0.8s						
ZKR	**Zakros**	1.99	235	PN	Pn	05 27 58.9	+1.7
ZKR	**Zakros**	1.99	235	P	Pn	05 27 59.9	+2.7
ZKR				S	Sn	05 28 25.2	+4.2
ZKR	**Zakros**	1.99	235	P	Pn	05 27 59.9	+2.7
ZKR				AML	AML	05 28 35.1	
	comp=E,6371μm,0.3s						
ZKR				AML	AML	05 28 36.2	
	comp=N,3201μm,0.7s						
STIA	**Sitia Lasithi**	2.03	239	P	Pn	05 27 59.9	+2.2
STIA				S	Sn	05 28 23.6	+1.7
STIA	**Sitia Lasithi**	2.03	239	P	Pn	05 28 00.1	+2.4
STIA				S	Sn	05 28 24.1	+2.2
STIA				AML	AML	05 28 31.0	
	comp=N,9650μm,0.6s						
STIA				AML	AML	05 28 39.9	
	comp=E,9372μm,0.6s						
BRDR	**BURDUR-Merkez**	2.05	45	P	Pn	05 27 59.9	+1.8
BRDR				S	Sn	05 28 32.2	+10
ANTB	**Antalya**	2.06	71	PN	Pn	05 28 00.7	+2.6
DGB	**zmir**	2.08	330	P	Pn	05 27 58.6	+0.2
DGB				S	Sn	05 28 21.1	-1.9
BUCA	**Burdur, Bucak-**	2.16	60	P	Pn	05 28 02.0	+2.5
BUCA				S	Sn	05 28 35.3	+10
THR8	**Santorini-Mono**	2.22	275	P	Pn	05 28 01.5	+1.2
SANT	**Santorini**	2.23	274	⇑P	Pn	05 28 01.9	+1.3
SANT	**Santorini**	2.23	274	P	Pn	05 28 01.9	+1.3
SANT				S	Sn	05 28 26.7	-0.2
SANT	**Santorini**	2.23	274	PN	Pn	05 28 01.7	+1.2
SANT	**Santorini**	2.23	274	Pn	Pn	05 28 01.8	+1.3
SANT	**Santorini**	2.23	274	P	Pn	05 28 01.8	+1.3
SANT				S	Sn	05 28 25.9	-0.1
MANT	**Manisa**	2.24	7	P	Pn	05 28 01.6	+0.8
MANT	**Manisa**	2.24	7	P	Pn	05 28 01.3	+0.5
MANT				S	Sn	05 28 25.6	-1.8
BCK	**Bucak**	2.25	57	PN	Pn	05 28 02.8	+2.1
CMBO	**Columbo, Santo**	2.28	276	P	Pn	05 28 02.5	+1.4
CMBO				S	Sn	05 28 28.1	+0.1
	comp=E,3μm,0.6s						
THR3	**Thira Island,**	2.28	274	P	Pn	05 28 02.7	+1.6
THR6	**Thira Island,**	2.28	273	P	Pn	05 28 02.8	+1.6
APE	**Apeiranthos**	2.31	291	⇑P	Pn	05 28 02.5	+1.0
APE	**Apeiranthos**	2.31	291	P	Pn	05 28 02.5	+1.0
APE				S	Sn	05 28 27.8	-1.0
	comp=E,785nm,0.6s						
APE	**Apeiranthos**	2.31	291	PN	Pn	05 28 02.6	+1.0
APE	**Apeiranthos**	2.31	291	P	Pn	05 28 02.6	+1.0
APE				S	Sn	05 28 27.5	-1.3
PASA	**Karahalli, USA**	2.31	26	P	Pn	05 28 02.6	+0.9
PASA				S	Sn	05 28 28.9	0.0
THR9	**Santorini-Faro**	2.31	273	P	Pn	05 28 03.2	+1.6
BLCB	**Balcova**	2.32	336	P	Pn	05 28 01.8	+0.2
BLCB	**Balcova**	2.32	336	PN	Pn	05 28 01.9	+0.2
BLCB	**Balcova**	2.32	336	P	Pn	05 28 01.9	+0.2
BLCB				S	Sn	05 28 27.7	-1.2
THR5	**Thira Island,**	2.32	275	P	Pn	05 28 03.8	+2.1
FRMA	**Ierapetra Chan**	2.38	239	P	Pn	05 28 04.4	+1.9
FRMA				S	Sn	05 28 31.8	+1.4
FRMA	**Ierapetra Chan**	2.38	239	P	Pn	05 28 04.4	+1.9
FRMA				S	Sn	05 28 31.8	+1.4
FRMA				AML	AML	05 28 45.9	
	comp=E,8214μm,0.6s						
FRMA				AML	AML	05 28 48.1	
	comp=N,9924μm,0.5s						
ZEYE	**Izmir, Urla-Ze**	2.40	326	P	Pn	05 28 03.0	+0.2
ZEYE				S	Sn	05 28 29.2	-1.8
ISP	**Isparta**	2.41	49	PN	Pn	05 28 05.1	+2.0
ISP	**Isparta**	2.41	49	Pn	Pn	05 28 04.5	+1.4
URLA	**Izmir**	2.46	329	PN	Pn	05 28 02.9	-0.8
URLA	**Izmir**	2.46	329	P	Pn	05 28 02.9	-0.8
URLA				S	Sn	05 28 29.4	-3.1
KZIL	**AFYON_Kizioren**	2.51	37	P	Pn	05 28 05.5	+1.1
KZIL				S	Sn	05 28 42.2	+8.2
USAK	**Uak-Merkez**	2.53	14	P	Pn	05 28 05.4	+0.8
USAK				S	Sn	05 28 33.9	-0.3
AKHS	**Akhisar**	2.63	353	P	Pn	05 28 06.3	+0.4
AKHS				S	Sn	05 28 33.8	-2.9
BAIO	**Egridir - ISPA**	2.68	49	P	Pn	05 28 08.3	+1.6
HRKL	**Herakleio**	2.71	250	P	Pn	05 28 08.9	+1.9
HRKL				S	Sn	05 28 39.4	+0.9
	comp=N,8μm,0.5s						
HRKL	**Herakleio**	2.71	250	PN	Pn	05 28 08.7	+1.7
AFYN	**Afyon-Dinar

KOCA Canakkale, Ayv 3.63 334 P Pn 05 28 20.5 +0.9
KMER Konya-Meram 3.64 64 P Pn 05 28 22.8 +2.8
GVDS Gavdos 3.65 248 P Pn 05 28 23.3 +3.3
GVDS S Sn 05 29 05.3 +3.5
comp=N,955nm,0.4s
GVDS Gavdos 3.65 248 PN Pn 05 28 22.8 +2.8
GVD Gavdhos 3.66 248 P Pn 05 28 23.1 +3.1
GVD Gavdhos 3.66 248 PN Pn 05 28 22.4 +2.4
KONT Konya--Tatoy 3.71 62 P Pn 05 28 23.4 +2.6
BAYC CANAKKALE_Bayr 3.71 340 P Pn 05 28 21.3 +0.4
OSC1 CSNet OBS 1 3.73 137 P Pn 05 28 21.8 +0.7
OSC1 S Sn 05 29 02.9 -0.8
ALFC Alefka 3.73 106 P Pn 05 28 21.7 +0.6
ALFC S Sn 05 29 03.9 +0.1
ALFC AML AML 05 29 05.1
comp=N,8.9nm,0.2s
ALFC AML AML 05 29 05.1
comp=N,8.9nm,0.2s
ALFC AML AML 05 29 05.4
comp=N,11nm,0.3s
ALFC AML AML 05 29 05.4
comp=N,11nm,0.3s
KDHN Kadinhani 3.83 53 P Pn 05 28 24.1 +1.5
NATA Nata 3.84 111 P Pn 05 28 24.1 +1.4
NATA AML AML 05 29 08.8
comp=N,27nm,0.6s
NATA AML AML 05 29 08.8
comp=N,25nm,0.3s
EZN Ezine 3.86 338 P Pn 05 28 23.2 +0.4
EZN S Sn 05 29 05.2 -1.6
SGAZ Eskisehir, Sey 3.86 32 P Pn 05 28 23.8 +0.9
DION Dionisos Attik 3.87 299 P Pn 05 28 24.8 +1.8
VLY Voula,Athens 3.88 295 P Pn 05 28 24.7 +1.6
AUBOZ BOZOYUK 3.91 21 P Pn 05 28 23.6 0.0
ULDT Uludag 3.94 10 P Pn 05 28 24.9 +0.8
STBT Saitabat 3.96 11 P Pn 05 28 24.6 +0.4
BOZC Bozcaada 3.96 335 P Pn 05 28 24.7 +0.5
BOZC P 05 28 25.0
ANKY Antikythira Is 4.00 266 P Pn 05 28 27.2 +2.4
ANKY S Sn 05 29 12.1 +1.6
comp=N,778nm,0.7s
BORA Eskisehir 4.02 25 Pn Pn 05 28 25.9 +0.7
BORA Eskisehir 4.02 25 P Pn 05 28 25.8 +0.7
KNL Balıkesir 4.04 352 P Pn 05 28 25.7 +0.5
IGD Bursa 4.07 11 P Pn 05 28 26.2 +0.5
SZAC Souni 4.09 110 P Pn 05 28 27.2 +1.1
SZAC AML AML 05 29 15.2
comp=N,13nm,0.2s
SZAC AML AML 05 29 16.8
comp=N,12nm,0.8s
KTHA Kythira Island 4.17 271 P Pn 05 28 29.4 +2.3
KTHA S Sn 05 29 14.5 0.0
comp=N,778nm,0.7s
KTHA Kythira Island 4.17 271 PN Pn 05 28 29.3 +2.2
KRND KRANIDI 4.22 287 P Pn 05 28 29.8 +2.1
VLI Veliai 4.28 278 P Pn 05 28 30.5 +1.9
LIA Limnos Island 4.35 327 P Pn 05 28 30.5 +1.0
VILL Villia 4.35 297 P Pn 05 28 31.7 +2.1
ASGA Asgata 4.36 108 P Pn 05 28 30.6 +0.9
ASGA AML AML 05 29 20.0
comp=N,6.5nm,0.4s
ASGA AML AML 05 29 21.1
comp=N,5.6nm,0.3s
CSS Mathiatis 4.36 106 Pn Pn 05 28 30.3 +0.6
CSS Mathiatis 4.36 106 P Pn 05 28 30.3 +0.6
CSS AML AML 05 29 23.0
comp=N,1.3nm,0.6s
CSS AML AML 05 29 25.2
comp=N,1.6nm,0.5s
SMTH Samothraki Isl 4.70 334 P Pn 05 28 35.1 +0.7
ENEZ Enez 4.75 341 P Pn 05 28 36.0 +1.0
ENEZ S Sn 05 29 27.1 -1.7
comp=N,465nm,0.7s
ATAL Atalanti 4.79 302 P Pn 05 28 36.8 +1.2
MDUB Mudurnu 4.81 28 Pn Pn 05 28 36.6 +0.6
PARAL Paralimni 4.91 103 P Pn 05 28 39.3 +2.1
PARAL AML AML 05 29 37.7
comp=N,2.4nm,0.6s
PARAL AML AML 05 29 39.9
comp=N,3.0nm,0.7s
ALN Alexandroupoli 4.93 340 P Pn 05 28 38.3 +0.8
ALN S Sn 05 29 31.4 -1.8
ALN Alexandroupoli 4.93 340 Pn Pn 05 28 38.3 +0.8
MATC Matruh 4.97 190 P Pn 05 28 39.3 +1.2
baz=190
BR231 Keskin MP Arra 5.07 44 Pn 05 28 41.5 +1.9
ANTO Ankara 5.10 44 ⇑P Pn 05 28 41.0 +1.2
ANTO Ankara 5.10 44 Pn Pn 05 28 41.6 +1.7
THAS Thassos island 5.13 329 P Pn 05 28 40.9 +0.6
ITM Ithomi 5.14 282 PN Pn 05 28 43.1 +2.7
RDO Rodhopi 5.31 338 Pn 05 28 43.8 +1.1
SLUM Salum 5.38 209 P Pn 05 28 44.4 +0.7
baz=209
SLUM S Sn 05 29 40.9 -3.4
baz=209
BR131 Keskin Array S 5.50 49 Pn 05 28 47.0 +1.5
BRTR Keskin Array B 5.50 49 P Pn 05 28 47.0 +1.5
comp=N,6.9nm,0.3s,baz=217,slow=15,SNR=139
BRTR S Sn 05 29 48.3 +0.8
comp=N,10.0nm,0.5s,baz=214,slow=26,SNR=5.4
comp=N,16nm,0.3s
BRTR Keskin Array B 5.50 49 Pn Pn 05 28 46.8 +1.3
ILGA Ilgaz 6.43 40 Pn 05 28 59.4 +1.1
BHL Bhannes 6.53 109 eP Pn 05 28 59.2 -0.4
HNTI Hanita 6.55 117 Pn Pn 05 29 00.5 +0.8
HNTI Sn Sn 05 30 09.5 -3.6
DQRL Deir Qamar 6.55 111 eP Pn 05 28 59.3 -0.6
HWQ Hawqa 6.62 105 eP Pn 05 29 01.3 +0.4
MMA0B Mount Meron ar 6.75 117 Pn Pn 05 29 03.0 +0.4
MMA0B Sn Sn 05 30 14.7 -3.4
MMAI Mount Meron Ar 6.75 117 P Pn 05 29 02.8 +0.2
comp=N,39nm,0.3s,baz=310,slow=13,SNR=35
MMAI S Sn 05 30 13.4 -4.7
comp=N,12nm,0.3s,baz=300,slow=26,SNR=4.9
comp=N,20nm,0.3s
HMYD Mayadein 6.80 161 P Pn 05 29 04.0 +0.7
baz=160
RCY Rachaya 6.84 112 eP Pn 05 29 04.2 +0.3
GEM Giv'at Ha'Em 6.84 114 Pn Pn 05 29 04.3 +0.5
GEM Sn Sn 05 30 16.4 -3.9
NATI Neve Ativ 6.87 114 Pn Pn 05 29 04.8 +0.7
NATI Sn Sn 05 30 17.1 -3.9
HNAT Natroun 6.91 162 P Pn 05 29 05.7 +1.0
baz=162
HNAT S Sn 05 30 18.4 -3.7
baz=162
SLTI Sal'it 6.93 123 Pn Pn 05 29 05.5 +0.6
SLTI Sn Sn 05 30 18.6 -3.8
KOT Kottamia 7.00 153 P Pn 05 29 06.7 +0.6
baz=153
MMLI Mount Malkishu 7.07 121 Pn Pn 05 29 07.6 +0.6
MMLI Sn Sn 05 30 22.7 -3.3
HSAF As Saff 7.19 156 P Pn 05 29 09.4 +0.7
baz=156
BZK Bozkurt 7.25 37 ⇑P Pn 05 29 10.0 +0.7
HMDT Nahal Hemdat 7.25 121 Pn Pn 05 29 10.5 +1.1
HMDT Sn Sn 05 30 27.3 -3.0
GLL Jalalah 7.28 155 P Pn 05 29 10.2 +0.3
baz=155
AMAZ Amatzia 7.30 128 Pn Pn 05 29 10.5 +0.5
AMAZ Sn Sn 05 30 28.8 -2.7
RYAN Fayoum 7.37 166 P Pn 05 29 12.2 +1.2
baz=165
SWA2 7.38 199 P Pn 05 29 11.9 +0.8
baz=200
KZIT Kziot 7.42 134 Pn Pn 05 29 12.5 +0.8
VTS Vitosha 7.42 330 ⇑P Pn 05 29 14.0 +2.1
VTS Vitosha 7.42 330 Pn Pn 05 29 12.9 +1.0
SUZ Suez 7.48 148 P Pn 05 29 13.6 +1.1
baz=147
YTIR Yattir 7.54 128 Pn Pn 05 29 13.8 +0.4
YTIR Sn Sn 05 30 34.1 -3.4
DSI Dead Sea 7.57 126 Pn Pn 05 29 14.9 +1.1
MSBI Mazada 7.72 128 Pn Pn 05 29 16.2 +0.4
MSBI Sn Sn 05 30 38.8 -3.1
ZAF Zafarana 7.86 151 P Pn 05 29 18.7 +1.0
baz=151
NBNS Bani Suef 8.05 160 P Pn 05 29 21.0 +0.6
baz=160
NBNS S Sn 05 30 45.7 -4.3
baz=160
PRNI Paran 8.18 134 Pn Pn 05 29 21.9 -0.3
PRNI Sn Sn 05 30 49.0 -4.3

TIRR Tirgusor 8.19 1 ⇑P Pn 05 29 24.4 +2.3
TIRR Tirgusor 8.19 1 Pn Pn 05 29 22.9 +0.7
KRMI Paran Flat 8.20 137 Pn Pn 05 29 22.1 -0.3
ASF Jabal al Asfar 8.26 117 P Pn 05 29 23.9 +0.6
comp=N,4.2nm,0.3s,baz=312,slow=7.5,SNR=19
ASF S Sn 05 30 50.6 -4.8
comp=N,10nm,0.3s,baz=327,slow=15,SNR=1.7
comp=N,8.8nm,0.3s
TLBR Topalu 8.27 359 ⇑P Pn 05 29 24.8 +1.5
HARR Harsova 8.42 359 ⇑P Pn 05 29 26.7 +1.4
HRFI Mount Harif 8.44 135 Pn Pn 05 29 26.0 +0.3
HRFI Sn Sn 05 30 56.1 -3.5
BLKB Belogradchik 8.49 332 ⇑P Pn 05 29 27.7 +1.3
MBRI Mt Berech 8.55 137 Pn Pn 05 29 27.5 +0.2
MBRI Sn Sn 05 30 58.8 -3.7
SCTE Santa Cesarea 8.57 299 Pn Pn 05 29 29.9 +2.6
EIL Elat 8.67 137 P Pn 05 29 29.3 +0.4
comp=N,3.0nm,0.3s,baz=311,slow=4.1,SNR=23
EIL S Sn 05 31 00.2 -5.0
comp=N,82nm,0.4s,baz=354,slow=6.3,SNR=11
comp=N,18nm,0.5s
EIL Elat 8.67 137 Pn Pn 05 29 29.4 +0.6
EIL Sn Sn 05 31 01.7 -3.5
TAMRE El Minia 8.86 164 P Pn 05 29 32.3 +1.0
baz=164
BOVS Bovan 8.90 328 ⇑P Pn 05 29 34.2 +2.3
HBST Basata 8.91 140 P Pn 05 29 33.0 +0.8
baz=140
TLCR 8.93 3 ⇑P Pn 05 29 33.1 +0.9
NUB Nuweibaa 9.02 141 P Pn 05 29 34.8 +1.1
baz=141
HDHB Dhahab 9.26 143 P Pn 05 29 38.8 +2.0
baz=142
NEHR Nehoiu 9.27 352 ⇑P Pn 05 29 39.1 +2.1
PDG Podgorica 9.28 314 ⇑P Pn 05 29 38.1 +1.0
ASUT 9.29 161 P Pn 05 29 38.5 +1.2
baz=161
ASUT S Sn 05 31 15.0 -5.3
baz=161
MLR Muntele Rosu 9.38 350 ⇑P Pn 05 29 40.6 +2.1
MLR Muntele Rosu 9.38 350 P Pn 05 29 39.7 +1.1
comp=N,0.5nm,0.3s,baz=195,slow=12,SNR=20
MLR S Sn 05 31 22.9 +0.2
comp=N,5.8nm,0.7s,baz=284,slow=20,SNR=2.2
comp=N,16nm,0.8s
MLR Muntele Rosu 9.38 350 Pn Pn 05 29 40.3 +1.7
VOIR 9.47 346 ⇑P Pn 05 29 41.3 +1.5
TIP Timpagrande 9.54 291 Pn Pn 05 29 42.0 +1.3
PLOR Plostina 9.65 353 ⇑P Pn 05 29 44.2 +2.0
VRI Vrincioaia 9.66 354 ⇓P Pn 05 29 43.5 +1.2
COVR Voineasa-Covas 9.69 352 ⇑P Pn 05 29 45.2 +2.4
MDVR Moldovita 9.84 332 ⇑P Pn 05 29 46.7 +1.9
DOPR Dopca 9.93 348 ⇑P Pn 05 29 47.8 +1.8
GZR Gura Zlata 10.01 337 ⇑P Pn 05 29 48.1 +1.0
DIVS Divibare 10.04 324 Pn Pn 05 29 49.0 +1.5
HHRG Al Ghardaqah 10.10 152 P Pn 05 29 51.6 +3.2
baz=152
MARD Mardin 10.13 80 Pn Pn 05 29 49.8 +0.9
TESR Tescani 10.31 354 ⇑P Pn 05 29 52.9 +1.7
BZS Buzias 10.59 334 ⇑P Pn 05 29 56.0 +1.0
VAE Valguarnera 11.13 280 S Sn 05 32 03.0 -2.5
comp=N,13nm,0.5s,baz=192,slow=16,SNR=1.8
BURAR Bucovina Array 11.56 350 ⇑P Pn 05 30 10.0 +1.6
MORH Mrgy, Hungar 12.27 327 ⇑P Pn 05 30 19.7 +1.8
MORH Mrgy, Hungar 12.27 327 P Pn 05 30 18.9 +1.0
KBZ Khabaz 13.49 52 P Pn 05 30 37.0 +2.4
comp=N,1.9nm,0.9s,baz=246,slow=12,SNR=2.5
SOKA Soboth 14.33 321 *i* P P 05 30 51.6 -0.5
comp=N,1.1nm,0.2s
AKASG Malin Array Be 14.45 3 P Pn 05 30 47.9 +0.3
comp=N,0.2nm,0.3s,baz=190,slow=10,SNR=1.3
AKASG S Sn 05 33 30.6 +4.3
comp=N,0.5nm,0.4s,baz=190,slow=25,SNR=3.2
comp=N,0.2nm,0.3s
OBKA Obir 14.47 319 *eP* P 05 30 53.4 -0.3
comp=N,2.5nm,0.4s
MYKA Terra Mystica 15.03 318 *i* P P 05 31 00.5 +0.6
comp=N,7.2nm,0.5s
KEST Kesra 15.29 274 P P 05 31 00.1 -2.8
comp=N,0.4nm,0.3s,baz=45,slow=2.0,SNR=2.6
comp=N,24nm,0.9s
KEST Kesra 15.29 274 Pn P 05 30 59.9 -3.0
CLUD Cludinico 15.35 316 P P 05 31 02.7 -0.6
CLUD IAmb IAmb 05 31 06.9
comp=Z,8.7nm,0.7s
KRUC Moravsky 15.44 330 *e*PN P 05 31 05.4 +1.1
KBA Koelnbreinsper 15.47 319 *eP* P 05 31 06.2 +1.3
comp=Z,8.4nm,0.6s
CIMO Cimolais 15.51 315 P 05 31 03.5 -1.7
CIMO IAmb IAmb 05 31 11.3
comp=Z,6.1nm,0.7s
VRAC Vranov 15.56 331 P P 05 31 05.2 -0.4
comp=Z,6.1nm,0.7s,baz=144,slow=11,SNR=6.5
VRAC Vranov 15.56 331 *e*PN P 05 31 06.9 +1.3
ABTA Abfaltersbach 15.72 317 *i* P P 05 31 08.9 +1.4
comp=Z,2.3nm,0.2s
KRLC Kraliky 16.10 333 *eP* P 05 31 13.3 +1.6
CKRC Cesky Krumlov 16.17 325 *eP* P 05 31 14.4 +2.0
GERES GERESS Array B 16.47 324 P P 05 31 15.1 -0.8
comp=Z,0.8nm,0.3s,baz=143,slow=13,SNR=27
comp=Z,4.0nm,0.6s
GERES GERESS Array B 16.47 324 P P 05 31 17.3 +1.5
DPC Dobruska-Polom 16.50 332 *eP* P 05 31 16.7 +0.6
WTTA Wattenberg 16.51 317 *i* P P 05 31 18.2 +1.8
comp=Z,5.4nm,0.4s
WATA Walderalm 16.59 317 *i* P P 05 31 18.5 +1.3
comp=Z,12nm,0.6s
SQTA Sankt Quirin 16.73 316 *i* P P 05 31 19.7 +1.0
comp=Z,4.5nm,0.4s
KHC Kasperske Hory 16.73 325 *eP* P 05 31 19.3 +0.7
MOTA Moosalm 16.86 316 *eP* P 05 31 20.6 +0.5
comp=Z,7.0nm,0.6s
FETA Feichten 16.89 315 *i* P P 05 31 22.0 +1.5
comp=Z,15nm,0.7s,SNR=19
PRU Prunonice 16.93 328 *eP* P 05 31 21.6 +0.8
RETA Reutte 17.13 316 *i* P P 05 31 23.6 +0.5
comp=Z,6.3nm,0.5s
DAVOX Davos/Dischmat 17.25 313 P P 05 31 24.8 +0.2
comp=Z,0.7nm,0.3s,baz=141,slow=13,SNR=14
comp=Z,8.3nm,0.7s
PVCC Panska Ves 17.33 330 *eP* P 05 31 26.9 +1.7
DAVA Damuels 17.52 315 *eP* P 05 31 28.6 +1.1
comp=Z,9.0nm,0.5s,SNR=4.7
BRG Berggiesshubel 17.85 329 *i* P P 05 31 33.2 +2.3
BRG Amp 05 31 33.5
comp=Z,8.2nm,0.6s
BRG *ex* x 05 32 06.5
BRG Amp 05 32 08.0
comp=Z,3.0nm,0.6s
BRG Amp 05 35 57.0
comp=E,0.2nm,20.5s
BRG Amp 05 36 02.0
comp=Z,0.7nm,18.5s
BRG Amp 05 36 08.0
comp=N,0.4nm,20.0s
NKC Novy Kostel 18.03 326 *eP* P 05 31 34.2 +1.3
BNI Bardonecchia 18.51 305 P Pn 05 31 39.6 +0.6
BNI IAmb IAmb 05 31 41.9
comp=Z,6.6nm,0.6s
CLL Collm 18.57 329 P Pn 05 31 39.2 -0.2
CLL IAmb IAmb 05 31 40.8
comp=Z,14nm,0.6s
CLL Collm 18.57 329 *eP* Pn 05 31 39.0 -0.4
comp=Z,6.0nm,0.7s
CLL *i* Pmax 05 31 40.1
comp=Z,15nm,0.9s
CLL *ex* x 05 31 45.0
CLL *e*PP sP 05 31 54.0 -1.7
BFO Black Forest 18.96 316 P Pn 05 31 44.5 +0.2
BFO IAmb IAmb 05 31 48.2
comp=Z,6.6nm,0.6s
ECH Echery 19.57 314 IAmb IAmb 05 31 52.1
comp=Z,9.0nm,0.7s
BELG Belogornoye 21.17 34 P P 05 32 07.8 +0.7
comp=Z,12nm,0.8s,baz=112,slow=2.9,SNR=4.4
comp=Z,12nm,0.8s
GEYT Alibeck 23.86 77 P P 05 32 36.1 +1.1
comp=Z,10.0nm,0.5s,baz=262,slow=9.9,SNR=13
comp=Z,10.0nm,0.5s
FINES FINESS Array B 25.24 358 P P 05 32 46.4 -0.8
comp=Z,2.0nm,0.5s,baz=153,slow=12,SNR=24
comp=Z,2.0nm,0.5s
ESBB Sonseca Array 25.52 287 P P 05 32 49.8 -0.4
ESBB IAmb IAmb 05 32 52.4
comp=Z,5.2nm,0.7s
ESDC Sonseca Array 25.52 287 P P 05 32 50.0 -0.2
comp=Z,3.9nm,0.6s,baz=80,slow=9.4,SNR=37
comp=Z,3.9nm,0.6s
ESDC Sonseca Array 25.52 287 P P 05 32 49.7 -0.5
KLMR Klimovskoe 25.64 13 *eP* P 05 32 48.7 -2.2
KLMR AMP 05 32 50.4
comp=Z,12nm,1.5s
HFS Hagfors 25.66 343 P P 05 32 49.8 -1.2
comp=Z,1.8nm,0.6s,baz=165,slow=12,SNR=7.5
comp=Z,1.8nm,0.6s
AKTO Aktyubinsk 25.68 47 P P 05 32 51.4 0.0
comp=Z,4.5nm,0.7s,baz=254,slow=8.0,SNR=13
comp=Z,4.5nm,0.7s
PAB San Pablo 25.83 287 P P 05 32 53.2 +0.2
PAB IAmb IAmb 05 32 53.7
comp=Z,11nm,1.4s
NOA NORSAR Array B 27.05 342 P P 05 33 01.8 -1.9
comp=Z,1.2nm,1.0s,baz=142,slow=8.6,SNR=1.7
comp=Z,1.2nm,1.0s
MDT Midelt 27.19 272 P P 05 33 06.2 +0.9
comp=Z,2.1nm,0.7s,baz=86,slow=14,SNR=7.9
comp=Z,2.1nm,0.7s
PBRG Braganca 27.59 292 *eP* P 05 33 11.7 +3.0
MVO Moncorvo 27.81 291 *eP* P 05 33 14.3 +3.5
PBAR Barrancos 28.04 285 *eP* P 05 33 13.2 +0.4
PVAQ Vaqueiros 28.68 283 *eP* P 05 33 18.0 -0.4
PMTG Montargil 28.86 287 *eP* P 05 33 19.3 -0.8
COI Coimbra 28.91 289 *eP* P 05 33 24.8 +4.4
TORD Torodi Ar. Bea 33.12 233 P P 05 33 58.6 +0.8
comp=Z,1.8nm,0.3s,baz=32,slow=9.0,SNR=31
TORD PcP PcP 05 36 40.4 +0.3
comp=Z,0.4nm,0.6s,baz=7.5,slow=2.1,SNR=2.0
comp=Z,1.8nm,0.3s
ARCES ARCESS Array B 33.36 358 P P 05 33 57.6 -1.6
comp=Z,1.0nm,0.5s,baz=171,slow=7.1,SNR=10
comp=Z,1.0nm,0.5s
KOWA Kowa 36.04 241 P P 05 34 23.5 +0.5
comp=Z,1.1nm,0.5s,baz=52,slow=8.9,SNR=2.1
comp=Z,1.1nm,0.5s
KURBB Kurchatov Arra 38.49 52 P P 05 34 43.6 +0.3
comp=Z,2.2nm,0.6s,baz=276,slow=8.9,SNR=20
comp=Z,2.2nm,0.6s
KURK Kurchatov 38.55 52 P P 05 34 44.0 +0.1
KURK IAmb IAmb 05 34 45.3
comp=Z,2.2nm,0.7s
MK31 Makanchi Array 41.09 58 P P 05 35 05.2 +0.2
MK31 IAmb IAmb 05 35 26.0
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 41.09 58 P P 05 35 05.5 +0.4
comp=Z,1.2nm,0.6s,baz=270,slow=8.2,SNR=10
comp=Z,1.2nm,0.6s
MKAR Makanchi Array 41.09 58 P P 05 35 05.2 +0.1
DBIC Dimbokro 42.21 234 P P 05 35 14.6 0.0
comp=Z,2.8nm,0.5s,baz=49,slow=7.6,SNR=6.6
comp=Z,2.8nm,0.5s
ZALV Zalesovo Beam 42.44 47 P P 05 35 14.4 -1.5
comp=Z,1.5nm,0.5s,baz=268,slow=4.3,SNR=1.8
comp=Z,1.5nm,0.5s
SONM Songino Array 56.85 52 P P 05 37 07.1 +1.2
comp=Z,0.4nm,0.4s,baz=293,slow=7.5,SNR=2.4
comp=Z,0.4nm,0.4s
SCHQ Schefferville 63.95 320 P P 05 37 52.0 -2.1
comp=Z,2.8nm,0.7s,baz=83,slow=9.6,SNR=3.6
comp=Z,2.8nm,0.7s
INK Inuvik 74.85 353 P P 05 38 59.6 -1.4
comp=Z,1.1nm,0.5s,baz=0.0,slow=5.1,SNR=5.5
comp=Z,1.1nm,0.5s
ILAR Eielson Array 79.22 358 P P 05 39 24.9 -0.9
comp=Z,0.6nm,0.6s,baz=347,slow=4.1,SNR=8.1
comp=Z,0.6nm,0.6s
ULM Lac du Bonnet 80.75 327 P P 05 39 32.7 -1.5
comp=Z,1.9nm,0.5s,baz=59,slow=6.5,SNR=4.2
comp=Z,1.9nm,0.5s

IDC 06 05:37:51.9±8.2, 2°24N×97°91E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=403.4km s-min=30.9km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	Diego Garcia H	27.19	249	T	T	06 10 23.8	
	baz=70,slow=76,SNR=958						
H08S3	Diego Garcia H	27.19	249	T	T	06 10 27.4	
	baz=70,slow=76,SNR=654						
H08S1	Diego Garcia H	27.20	249	T	T	06 10 25.1	
	baz=70,slow=76,SNR=1100						
H01W3	Cape Leeuwin H	39.95	159	T	T	06 27 48.6	
	baz=335						
H01W2	Cape Leeuwin H	39.96	159	T	T	06 27 30.9	
	baz=335						
H01W1	Cape Leeuwin H	39.96	159	T	T	06 27 26.9	
	baz=335						
WRA	Warramunga Arr	42.00	123	P	P	05 45 45.2	-0.1
	0.4nm,0.9s,baz=301,slow=9.4,SNR=2.0						
	0.4nm,0.9s						
MKAR	Makanchi Array	46.42	345	P	P	05 46 20.3	-0.1
	0.7nm,0.6s,baz=157,slow=7.9,SNR=6.2						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	50.92	344	P	P	05 46 54.9	0.0
	0.4nm,0.7s,baz=161,slow=7.7,SNR=4.3						
	0.4nm,0.7s						
ZALV	Zalesovo Beam	52.66	350	P	P	05 47 07.6	-0.2
	0.5nm,0.3s,baz=167,slow=7.0,SNR=2.8						
	0.5nm,0.3s						

IDC 06 05:47:01.6±3.3, 54°21N×87°32E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=29.1km s-min=20.4km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.50	261	*i*		05 56 10.0	
	baz=80,slow=318,SNR=1.2						
ZALV	Zalesovo Beam	1.50	261	Pg	Pn	05 47 28.7	-1.0
	2.3nm,0.3s,baz=76,slow=20,SNR=21						
ZALV				Lg	Lg	05 47 49.5	
	1.5nm,0.3s,baz=77,slow=31,SNR=4.3						
KURBB	Kurchatov Arra	6.46	240	Pn	Pn	05 48 38.4	+0.5
	0.1nm,0.3s,baz=54,slow=13,SNR=6.1						
KURBB				Lg	Lg	05 50 25.1	
	baz=56,slow=32,SNR=2.5						
	0.5nm,0.4s						
MKAR	Makanchi Array	8.09	205	Pn	Pn	05 49 01.4	+1.2
	0.1nm,0.3s,baz=27,slow=14,SNR=2.6						
	0.1nm,0.2s						

*NNC **06** 05:49:24.9±4.0, 54°.01N×87°.34E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=32.0km s-min=20.5km az=29.0, Suspected Mining explosion.*

*IDC **06** 05:49:26.6±2.4, 54°.04N×87°.12E, h0km, mbtmp3.4/3, ML3.2/3, Error ellipse: s-maj=20.8km s-min=13.4km az=62.0*

ISC 06 05:49:26.7±4.2, 54°.1N±0°.2×87°.0E±0°.2, h0km, n9, σ1s75/15, 9C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.30	265	*i*		05 56 40.0	
	baz=86,slow=320,SNR=1.9						
ZAA0	Zalesovo Array	1.31	265	⇑P	Pg	05 49 50.8	-0.9
	0.6nm,0.2s						
ZAA0				⇑S	Sn	05 50 13.6	+3.3
	2.7nm,0.4s						
ZALV	Zalesovo Beam	1.31	265	Pg	Pg	05 49 50.6	-1.1
	7.7nm,0.3s,baz=82,slow=16,SNR=38						
ZALV				Lg	Lg	05 50 09.9	
	3.8nm,0.3s,baz=89,slow=25,SNR=5.3						
KURK	Kurchatov	6.15	240	⇑Pn	Pn	05 51 00.2	+1.5
	1.4nm,0.6s						
KURK				⇑Sn	Sn	05 52 11.1	+1.5
	0.8nm,0.4s						
KURK				⇑Lg	Lg	05 52 43.7	
	5.3nm,0.9s						
KURBB	Kurchatov Arra	6.25	240	Pn	Pn	05 51 00.4	+0.3
	0.3nm,0.3s,baz=54,slow=13,SNR=16						
KURBB				Sn	Sn	05 52 12.7	+0.6
	0.1nm,0.3s,baz=54,slow=22,SNR=3.4						
KURBB				Lg	Lg	05 52 47.0	
	0.1nm,0.3s,baz=58,slow=31,SNR=4.7						
	0.9nm,0.3s						
KURBB	Kurchatov Arra	6.25	240	⇑Pn	Pn	05 51 00.7	+0.6
	1.0nm,0.2s						
KURBB				⇓Sn	Sn	05 52 12.2	0.0
	3.4nm,0.3s						
KURBB				⇑Lg	Lg	05 52 47.4	
	10nm,0.7s						

MK31	**Makanchi Array**	**7.90**	**204**	Pn		**Pn**	**05 51 24.0**	**+1.2**
	0.2nm,0.2s,baz=29,slow=14,SNR=18							
MK31				⇑Sn		**Sn**	**05 52 52.7**	**-0.1**
	0.9nm,0.5s,baz=157,slow=18,SNR=4.9							
MK31				⇑Lg		Lg	05 53 36.0	
	3.0nm,1.0s							
MKAR	**Makanchi Array**	**7.90**	**204**	Pn		**Pn**	**05 51 23.8**	**+1.0**
	0.4nm,0.3s,baz=28,slow=14,SNR=14							
MKAR				Sn		**Sn**	**05 52 52.4**	**-0.4**
	0.3nm,0.3s,baz=29,slow=28,SNR=4.5							
MKAR				Lg		Lg	05 53 37.8	
	baz=23,slow=30							
	0.6nm,0.2s							
BVAR	**Borovoye Array**	**9.96**	**271**	Pn		**Pn**	**05 51 52.0**	**+1.1**
	0.3nm,0.3s,baz=76,slow=18,SNR=3.4							
BVAR				Sn		**Sn**	**05 53 39.4**	**-3.8**
	0.2nm,0.3s,baz=65,slow=27,SNR=2.4							
	0.6nm,0.3s							

*IDC **06** 05:55:19.7±1.0,7.20N×94.25E,h0km,mb3.8/11, mbtmp3.8/13,ML3.4/1,MS3.2/5,Error ellipse: s-maj=39.3km s-min=19.3km az=54.0*

ISC 06 05:55:21.7±0.7,7.2N±0.1×94.3E±0.1,h10km,n20, σ0§98/15,mb3.8/12,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.39**	**133**	Pn	**Pn**		**05 56 57.5**	**+1.3**
	0.9nm,0.3s,baz=315,slow=22,SNR=2.5							
PSI				Sn	**Sn**		**05 58 08.8**	**-0.5**
	1.5nm,0.3s,baz=181,slow=15,SNR=1.6							
PSI				LR	LR		05 59 36.1	
	comp=Z,254nm,19.0s,baz=246,slow=40							
	4.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**12.06**	**22**	Pn	**Pn**		**05 58 14.6**	**+0.8**
	1.0nm,0.4s,baz=208,slow=14,SNR=1.1							
CMAR				LR	LR		06 03 30.2	
	comp=Z,41nm,18.3s,baz=240,slow=41							
PALK	**Pallekele**	**13.46**	**271**	LR	LR		06 03 14.8	
	comp=Z,144nm,20.9s,baz=188,slow=35							
LEM	**Lembang**	**19.29**	**136**	LR	LR		06 08 32.1	
	comp=Z,210nm,18.3s,baz=189,slow=41							
H08S3	**Diego Garcia H**	**26.26**	**236**	T	T		06 27 43.6	
	baz=56,slow=75,SNR=165							
H08S2	**Diego Garcia H**	**26.26**	**236**	T	T		06 27 43.7	
	baz=56,slow=75,SNR=256							
H08S1	**Diego Garcia H**	**26.28**	**236**	T	T		06 27 44.9	
	baz=56,slow=75,SNR=178							
MKAR	**Makanchi Array**	**40.74**	**347**	P	**P**		**06 03 02.2**	**-0.6**
	0.8nm,0.6s,baz=165,slow=7.8,SNR=9.8							
	0.8nm,0.6s							
SONM	**Songino Array**	**41.77**	**12**	P	**P**		**06 03 11.0**	**-0.3**
	1.0nm,0.7s,baz=167,slow=7.2,SNR=4.1							
	1.0nm,0.7s							
GEYT	**Alibeck**	**44.77**	**319**	P	**P**		**06 03 35.4**	**-0.3**
	2.3nm,0.6s,baz=162,slow=10,SNR=3.1							
	2.3nm,0.6s							
ZALV	**Zalesovo Beam**	**47.21**	**352**	P	**P**		**06 03 54.4**	**-0.3**
	0.7nm,0.4s,baz=164,slow=7.0,SNR=4.7							
	0.7nm,0.4s							
WRA	**Warramunga Arr**	**47.79**	**125**	P	**P**		**06 03 58.5**	**-1.2**
	0.3nm,0.7s,baz=306,slow=8.4,SNR=2.4							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**49.41**	**130**	P	**P**		**06 04 11.4**	**-0.7**
	0.2nm,0.5s,baz=304,slow=6.6,SNR=2.5							
	0.2nm,0.5s							
GUMO	**Guam**	**50.10**	**78**	LR	LR		06 23 58.5	
	comp=Z,13nm,21.0s,baz=117,slow=34							
AKTO	**Aktyubinsk**	**52.57**	**332**	P	**P**		**06 04 35.2**	**-0.3**
	1.4nm,0.7s,baz=141,slow=7.7,SNR=2.7							
	1.4nm,0.7s							
BRTR	**Keskin Array B**	**62.95**	**311**	P	**P**		**06 05 51.2**	**+2.3**
	0.3nm,0.3s,baz=182,slow=7.2,SNR=2.1							
FINES	**FINESS Array B**	**73.34**	**332**	P	**P**		**06 06 52.7**	**-0.8**
	2.1nm,0.9s,baz=110,slow=12,SNR=2.0							
	2.1nm,0.9s							
GERES	**GERESS Array B**	**78.39**	**318**	P	**P**		**06 07 22.4**	**-0.3**
	0.2nm,0.3s,baz=112,slow=7.5,SNR=3.8							
	0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**90.87**	**283**	P	**P**		**06 08 26.4**	**0.0**
	0.8nm,1.1s,baz=77,slow=4.8,SNR=1.9							
	0.8nm,1.1s							
ESDC	**Sonseca Array**	**91.73**	**310**	P	**P**		**06 08 29.8**	**-0.2**
	0.1nm,0.2s,baz=61,slow=3.8,SNR=1.8							
	0.1nm,0.2s							

MAN 06 05:55:44.2,8.40N×125.88E,h18km,mb4.4,ML3.3,MS3.1, 3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.53**	**114**	⇑*eP*	Pg		05 55 53.0	-1.8
BIPH				*i* S	Sg		05 56 00.0	-1.9
BUTP	**Butuan**	**0.62**	**336**	⇓*eP*	Pg		05 55 56.7	+0.3
BUTP				*eS*	Sn		05 56 07.8	+0.3
BUKP	**Musuan**	**0.96**	**237**	⇓*eP*	Pb		05 56 01.5	-0.8
BUKP				*eS*	Sn		05 56 18.0	+2.0
CGP	**Cagayan de Oro**	**1.17**	**273**	⇑*iP*	Pn		05 56 04.8	-0.8
CGP				*i* S	Sg		05 56 21.7	-0.5
SCPH	**Surigao**	**1.42**	**344**	*eP*	Pg		05 56 13.7	+2.1
SCPH				*eS*	Sg		05 56 30.4	+0.2
CTBH	**Cotabato--PC H**	**2.00**	**234**	⇑*iP*	Pn		05 56 17.9	+0.8
TBP	**Tagbilaran**	**2.37**	**303**	*eP*	Pn		05 56 23.0	+0.9
TBP				*i* S	Sb		05 56 53.2	-1.9

*IDC **06** 05:56:49.2±4.9,6.02S×154.63E,h213km±40km,mb3.4/9, mbtmp4.0/10,Error ellipse: s-maj=46.8km s-min=20.8km az=114.0*

ISC 06 05:56:48.2±1.1,5.9S±0.1×154.6E±0.1,h200km,n15, σ1§05/13,mb3.7/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.98**	**301**	S	**Sn**		**05 58 14.8**	**-1.4**
	151nm,0.6s,baz=103,slow=21,SNR=2.0							
PMG	**Port Moresby**	**8.15**	**244**	P	**Pn**		**05 58 43.6**	**+0.2**
	45nm,0.7s,baz=54,slow=7.8,SNR=7.9							
PMG				S	**Sn**		**06 00 16.3**	**+1.1**
	16nm,0.4s,baz=44,slow=23,SNR=1.8							
WRA	**Warramunga Arr**	**24.14**	**233**	P	**P**		**06 01 46.1**	**+0.1**
	0.7nm,0.4s,baz=56,slow=9.7,SNR=20							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**26.62**	**226**	P	**P**		**06 02 07.5**	**-1.0**
	0.3nm,0.6s,baz=57,slow=8.4,SNR=2.4							
	0.3nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**27.00**	**26**	T	T		06 30 52.5	
	baz=203,slow=73,SNR=7.7							
H11S2	**WAKE ISLAND Hy**	**27.00**	**26**	T	T		06 30 47.8	
	baz=203,slow=73,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**27.02**	**26**	T	T		06 30 52.5	
	baz=203,slow=73,SNR=4.2							
FITZ	**Fitzroy Crossi**	**30.74**	**244**	P	**P**		**06 02 44.3**	**-0.7**
	1.4nm,0.8s,baz=64,slow=9.7,SNR=2.5							
	1.4nm,0.8s							
KSRS	**Korea Array**	**49.76**	**332**	P	**P**		**06 05 22.2**	**+1.8**
	0.5nm,0.4s,baz=155,slow=11,SNR=1.9							
	0.5nm,0.4s							
PETK	**Petropavlovsk-**	**58.82**	**2**	P	**P**		**06 06 26.5**	**+1.0**
	4.0nm,0.9s,baz=201,slow=7.7,SNR=5.0							
	4.0nm,0.9s							
SONM	**Songino Array**	**68.17**	**327**	P	**P**		**06 07 27.1**	**+0.1**
	2.4nm,1.1s,baz=116,slow=6.6,SNR=2.6							
	2.4nm,1.1s							
MKAR	**Makanchi Array**	**82.29**	**319**	P	**P**		**06 08 47.7**	**+0.2**
	1.8nm,0.8s,baz=105,slow=5.6,SNR=15							
	1.8nm,0.8s							
ZALV	**Zalesovo Beam**	**83.02**	**326**	P	**P**		**06 08 49.9**	**-1.1**
	0.7nm,0.5s,baz=97,slow=4.9,SNR=4.0							
	0.7nm,0.5s							
NVAR	**Mina Array Bea**	**91.36**	**52**	P	**P**		**06 09 31.2**	**-0.7**
	0.7nm,0.9s,baz=256,slow=5.5,SNR=4.5							
	0.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**152.31**	**287**	PKPbc	**PKPbc**		**06 16 20.9**	**-0.5**
	0.3nm,0.6s,baz=73,slow=2.5,SNR=1.6							

MAN 06 06:08:48.6,10.03N×126.06E,h16km,mb4.2,ML3.0, MS2.7,4C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.62**	**246**	⇑*iP*	Pg		06 09 00.8	0.0
SCPH				*i* S	Sg		06 09 09.0	-0.1
BIPH	**Bislig**	**1.86**	**171**	⇑*iP*	Pn		06 09 17.4	-2.5
BIPH				*i* S	Sn		06 09 42.9	-0.2
TBP	**Tagbilaran**	**2.20**	**261**	*eP*	Pn		06 09 24.6	+0.1
TBP				*i* S	Sn		06 09 52.5	+1.1
BUKP	**Musuan**	**2.36**	**205**	⇓*eP*	Pn		06 09 28.7	+1.9
BUKP				*eS*	Sb		06 09 57.6	-2.1
CNP	**Catarman**	**2.82**	**331**	⇑*eP*	Pn		06 09 34.6	+1.5
RCP	**Roxas**	**3.60**	**295**	⇑*eP*	Pn		06 09 44.6	+0.8

*NOU **06** 06:11:39.9,37.17S×179.92W,h0km,MLv4.5/4,East of North Island, N.Z.*
*WEL **06** 06:11:53.3±1.6,37.5S±11.1×177.9E±1.1,h10km,M3.2/7, ML3.4/7,MLv3.2/7,Error ellipse: s-maj=0.0km s-min=0.0km az=143.5*

ISC 06 06:11:51.1±3.0,37.3S±0.1×179.1E±0.1,h10km,n48, σ0§92/50,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.68**	**248**	P	**Pg**		**06 12 04.9**	**+0.7**
MXZ				S	**Sg**		**06 12 12.1**	**-0.9**
WMGZ	**Waiomatatini S**	**0.74**	**227**	P	**Pb**		**06 12 07.8**	**+1.7**
PKGZ	**Pakihiroa**	**0.99**	**334**	P	**Pg**		**06 12 10.9**	**+0.7**
PUZ	**Puketiti**	**1.01**	**221**	P	**Pb**		**06 12 11.5**	**+0.8**
HAZ	**Te Kaha**	**1.13**	**247**	P	**Pg**		**06 12 12.6**	**-0.3**
HAZ				S	**Sg**		**06 12 26.9**	**-0.8**
RUGZ	**Raukumara Rang**	**1.30**	**239**	P	**Pb**		**06 12 15.8**	**+0.1**
CNGZ	**Carnagh Statio**	**1.36**	**211**	P	**Pn**		**06 12 17.2**	**+1.0**
TKGZ	**Te Karaka**	**1.50**	**221**	P	**Pn**		**06 12 17.8**	**-0.2**
MWZ	**Matawai**	**1.61**	**230**	P	**Pn**		**06 12 19.7**	**+0.1**
RIGZ	**Rimuhau**	**1.75**	**217**	P	**Pn**		**06 12 21.4**	**-0.1**
RAGZ	**Rawiri**	**1.78**	**228**	P	**Pn**		**06 12 22.0**	**0.0**
URZ	**Urewera**	**1.83**	**238**	P	**Pn**		**06 12 22.6**	**-0.1**
PRGZ	**Paritu Road**	**1.87**	**210**	P	**Pn**		**06 12 23.0**	**-0.2**
SNGZ	**Shannon Statio**	**2.02**	**223**	P	**Pn**		**06 12 24.8**	**-0.4**
EDRZ	**Edgecumbe**	**2.03**	**246**	P	**Pn**		**06 12 25.5**	**+0.1**
MARZ	**Manawahe**	**2.04**	**250**	P	**Pn**		**06 12 23.7**	**-1.8**
MHGZ	**Mahia Peninsul**	**2.06**	**207**	P	**Pn**		**06 12 25.7**	**-0.1**
OPRZ	**Ohinepanea**	**2.09**	**254**	P	**Pn**		**06 12 25.5**	**-0.6**
RTZ	**Ruatahuna**	**2.12**	**231**	P	**Pn**		**06 12 26.5**	**-0.2**
TARZ	**Mount Tarawera**	**2.25**	**245**	P	**Pn**		**06 12 28.9**	**+0.5**
RAHZ	**Arahi**	**2.25**	**224**	P	**Pn**		**06 12 28.5**	**0.0**
RRRZ	**Republican Roa**	**2.29**	**243**	P	**Pn**		**06 12 29.0**	**+0.1**
MTHZ	**Maungataniwha**	**2.35**	**228**	P	**Pn**		**06 12 30.0**	**+0.2**
NMHZ	**Naumai**	**2.54**	**225**	P	**Pn**		**06 12 32.7**	**+0.3**
ARHZ	**Aropaoanui**	**2.56**	**220**	P	**Pn**		**06 12 32.2**	**-0.3**
BKZ	**Black Stump Fm**	**2.76**	**227**	P	**Pn**		**06 12 35.0**	**-0.5**
BKZ	**Black Stump Fm**	**2.76**	**227**	P	**Pn**		**06 12 35.0**	**-0.5**
MCHZ	**McNeill Hill**	**2.84**	**221**	P	**Pn**		**06 12 35.8**	**-0.7**
KWHZ	**Kaweka Forest**	**2.98**	**224**	P	**Pn**		**06 12 37.4**	**-1.0**
KAHZ	**Kahuranaki**	**3.03**	**214**	P	**Pn**		**06 12 37.8**	**-1.3**
MKAZ	**Moumakai**	**3.15**	**273**	P	**Pn**		**06 12 39.7**	**-1.0**
KRHZ	**Kereru**	**3.16**	**222**	P	**Pn**		**06 12 39.6**	**-1.4**
TMVZ	**Te Maari**	**3.22**	**235**	P	**Pn**		**06 12 41.2**	**-0.7**
BHHZ	**Black Hill Sta**	**3.23**	**227**	P	**Pn**		**06 12 41.2**	**-0.7**
ETVZ	**East Tongariro**	**3.23**	**235**	P	**Pn**		**06 12 41.3**	**-0.6**
NTVZ	**North Tongarir**	**3.23**	**235**	P	**Pn**		**06 12 41.5**	**-0.5**
KRVZ	**Karewarewa**	**3.25**	**236**	P	**Pn**		**06 12 41.6**	**-0.6**
OTVZ	**Oturere**	**3.27**	**235**	P	**Pn**		**06 12 42.0**	**-0.6**
NNVZ	**North Ngauruho**	**3.29**	**235**	P	**Pn**		**06 12 42.7**	**-0.1**
SNVZ	**South Ngauruho**	**3.30**	**234**	P	**Pn**		**06 12 42.3**	**-0.7**
NGZ	**Ngauruhoe**	**3.32**	**235**	P	**Pn**		**06 12 42.6**	**-0.7**
MOVZ	**Moawhango**	**3.36**	**230**	P	**Pn**		**06 12 42.6**	**-1.1**
PNHZ	**Pukenui**	**3.45**	**220**	P	**Pn**		**06 12 42.8**	**-2.1**
MTVZ	**Mangateitei**	**3.52**	**233**	P	**Pn**		**06 12 45.1**	**-0.9**
HIZ	**Hauiti**	**3.56**	**249**	P	**Pn**		**06 12 47.2**	**+0.8**
HIZ	**Hauiti**	**3.56**	**249**	P	**Pn**		**06 12 47.2**	**+0.8**
TSZ	**Takapari Road**	**3.68**	**221**	P	**Pn**		**06 12 45.8**	**-2.3**
BFZ	**Birch Farm**	**4.03**	**213**	P	**Pn**		**06 12 50.5**	**-2.4**

*NNC **06** 06:14:51.1±3.9,54.04N×86.48E,h0km,mb3.8,mpv3.0, Error ellipse: s-maj=32.7km s-min=18.2km az=22.0, Suspected Mining explosion.*
*IDC **06** 06:14:52.6±2.1,54.07N×86.43E,h0km,mbtmp3.5/3, ML3.3/3,Error ellipse: s-maj=17.7km s-min=11.0km az=63.0*

ISC 06 06:14:52.6±3.8,54.0N±0.2×86.4E±0.2,h0km,n9,σ2§14/14, 7C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**269**	*i*			06 20 00.0	
	baz=81,slow=318,SNR=1.1							
ZAA0	**Zalesovo Array**	**0.94**	**269**	⇑P	**Pg**		**06 15 08.9**	**-1.7**
	0.6nm,0.3s							
ZAA0				⇓S	**Sb**		**06 15 23.9**	**-0.8**
	2.8nm,0.5s							
ZALV	**Zalesovo Beam**	**0.94**	**269**	Pg	**Pg**		**06 15 09.0**	**-1.6**
	4.9nm,0.3s,baz=78,slow=17,SNR=57							
ZALV				Lg	Lg		06 15 24.4	
	6.9nm,0.3s,baz=79,slow=29,SNR=21							
KURK	**Kurchatov**	**5.78**	**239**	⇑Pn	**Pn**		**06 16 20.2**	**+0.6**
	0.8nm,0.3s							
KURK				⇑Sn	**Sn**		**06 17 27.1**	**+0.6**
	1.1nm,0.6s							
KURK				⇓Lg	Lg		06 17 59.5	
	3.1nm,0.7s							
KURBB	**Kurchatov Arra**	**5.88**	**238**	Pn	**Pn**		**06 16 22.4**	**+1.5**
	0.7nm,0.3s,baz=54,slow=13,SNR=23							
KURBB				Sn	**Sn**		**06 17 30.9**	**+1.9**
	baz=53,slow=22							
KURBB				Lg	Lg		06 18 01.5	
	0.1nm,0.3s,baz=57,slow=30,SNR=2.2							
	4.0nm,0.4s							
KURBB	**Kurchatov Arra**	**5.88**	**238**	⇓Pn	**Pn**		**06 16 22.5**	**+1.5**
	4.1nm,0.3s							
KURBB				⇑Sn	**Sn**		**06 17 31.4**	**+2.0**
	4.4nm,0.7s							
KURBB				⇓Lg	Lg		06 18 02.3	
	4.9nm,0.6s							
MK31	**Makanchi Array**	**7.65**	**202**	⇑Pn	**Pn**		**06 16 47.1**	**+1.8**
	0.3nm,0.3s,baz=27,slow=14,SNR=51							
MK31				⇑Sn	**Sn**		**06 18 08.0**	**-4.7**
	0.1nm,0.2s,baz=28,slow=28,SNR=4.5							
MK31				⇑Lg	Lg		06 18 52.9	
	1.4nm,0.6s,baz=36,slow=30,SNR=3.8							
MKAR	**Makanchi Array**	**7.65**	**202**	Pn	**Pn**		**06 16 47.3**	**+2.0**
	1.1nm,0.3s,baz=26,slow=14,SNR=49							
MKAR				Sn	**Sn**		**06 18 13.7**	**+1.0**
	0.1nm,0.3s,baz=22,slow=24,SNR=8.1							
MKAR				Lg	Lg		06 18 56.1	
	0.1nm,0.3s,baz=22,slow=28,SNR=2.0							
	1.5nm,0.3s							
BVAR	**Borovoye Array**	**9.60**	**271**	Pn	**Pn**		**06 17 13.1**	**+1.2**
	0.2nm,0.3s,baz=69,slow=16,SNR=2.4							
	0.2nm,0.3s							

*OSPL **06** 07:00:12.5±3.0,19.81N×72.77W,h9km±21km,ML2.3*
*SSNC **06** 07:00:12.5±2.4,19.38N×72.84W,h25km±18km,MD3.5, ML2.1,MW3.0*

ISC 06 07:00:10.8±1.2,19.77N±0.06×72.85W±0.03,h27km±15km, n11,σ2§02/20,1D,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LODA1	**ITESIL, Dajabo**	**1.10**	**102**	*eS*	**Sb**		**07 00 43.0**	**-2.1**
PAPH	**Port-au-Prince**	**1.35**	**157**	*i* P	**Pb**		**07 00 36.1**	**+0.7**
PAPH				*eS*	**Sb**		**07 00 53.4**	**+1.1**
PAPH				IAML			07 00 56.9	
	comp=Z,46nm,0.5s							
MASC	**Masc**	**1.36**	**287**	*eP*	**Pn**		**07 00 35.9**	**+1.8**
MASC				*eS*	**Sb**		**07 00 53.9**	**+1.1**
MASC				IAML			07 00 55.8	
	comp=N,24nm,0.1s							
MASC				IAML			07 00 55.8	
	comp=E,16nm,0.2s							
MASC	**Masc**	**1.36**	**287**	*i* P	**Pb**		**07 00 37.0**	**+1.3**
MASC				*eS*	**Sb**		**07 00 53.5**	**+0.8**
MASC				IAML			07 00 57.4	
	comp=Z,27nm,0.5s							
SDDR	**Presa de Saban**	**1.67**	**118**	*i* P	**Pn**		**07 00 39.2**	**+0.9**
SDDR				*eS*	**Sn**		**07 00 58.6**	**-0.3**
SDDR				IAML			07 01 06.4	
	comp=Z,30nm,0.3s							
LOPE2	**Hotel El Peder**	**2.02**	**149**	*i* P	**Pb**		**07 00 46.3**	**-0.6**
SC01	**Santiago de lo**	**2.02**	**99**	*i* P	**Pb**		**07 00 46.0**	**-1.0**
SC01				*eS*	**Sb**		**07 01 12.3**	**+0.5**
SC01				IAML			07 01 17.8	
	comp=Z,44nm,2.6s							
GRTK	**Grand Turk**	**2.36**	**43**	*i* P	**Pn**		**07 00 49.3**	**+1.5**
GRTK				*eS*	**Sn**		**07 01 15.8**	**-0.1**
RCC	**Rio Carpintero**	**2.69**	**275**	*eP*	**Pn**		**07 00 53.7**	**+1.3**
RCC				⇓*eS*	**Sn**		**07 01 24.8**	**+0.7**
RCC				*eSg*	**Sb**		**07 01 25.6**	**-5.4**
RCC				IAML			07 01 25.9	
	comp=N,3.5nm,0.1s							
RCC				IAML			07 01 26.3	
	comp=E,11nm,0.4s							
LMGC	**Las Mercedes**	**3.92**	**275**	*eP*	**Pn**		**07 01 11.5**	**+2.1**
LMGC				*eS*	**Sn**		**07 01 52.1**	**-2.4**
LMGC				IAML			07 01 54.5	
	comp=E,1.2nm,0.1s							
LMGC				IAML			07 01 54.5	
	comp=N,1.8nm,0.0s							
CCCC	**Cccc**	**4.83**	**288**	*eP*	**Pn**		**07 01 19.1**	**-2.6**
CCCC				*eS*	Sn		07 02 08.6	-8.2

*IDC **06** 07:08:55.2±2.9,3.30S×100.14E,h0km,mb3.6/4, mbtmp3.7/4,MS3.5/2,Error ellipse: s-maj=126.0km s-min=24.0km az=59.0*
*DJA **06** 07:08:57.4±1.5,3.3S±9.1×10.0E±.1,h34km±10km,M3.9/6, MLv3.9/6*

ISC 06 07:08:58.4±1.2,3.37S±0.09×99.8E±0.1,h35km,n18, σ1§46/13,mb3.6/4,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.63**	**17**	P	**Pn**		**07 09 10.8**	**-0.1**
PPSI				S	**Sn**		**07 09 20.2**	**+0.4**
KRJI	**Kerinci**	**2.07**	**52**	P	**Pn**		**07 09 29.7**	**-1.1**
SISI	**Saibi**	**2.16**	**340**	P	**Pn**		**07 09 30.7**	**-1.2**
SISI				S	**Sn**		**07 09 56.5**	**-1.0**
MASI	**Maura Aman, Be**	**2.42**	**85**	P	**Pn**		**07 09 34.9**	**-0.7**
MNAI	**Manna**	**3.28**	**108**	P	**Pn**		**07 09 46.9**	**-0.4**
PSI	**Prapat**	**6.20**	**352**	LR	LR		07 13 04.4	
	comp=Z,145nm,18.5s,baz=28,slow=41							
CMAR	**Chiang Mai Arr**	**21.71**	**358**	P	**P**		**07 13 47.5**	**+0.9**
	3.4nm,0.3s,baz=187,slow=9.9,SNR=8.4							
	3.4nm,0.3s							
H08S2	**Diego Garcia H**	**27.53**	**260**	T	T		07 43 43.1	
	baz=82,slow=75,SNR=40							
H08S3	**Diego Garcia H**	**27.53**	**260**	T	T		07 43 33.2	
	baz=82,slow=75,SNR=70							
H08S1	**Diego Garcia H**	**27.55**	**260**	T	T		07 43 48.1	
	baz=82,slow=75,SNR=43							
H01W3	**Cape Leeuwin H**	**34.05**	**159**	T	T		07 51 48.6	
	baz=335,slow=76,SNR=7.0							
H01W2	**Cape Leeuwin H**	**34.07**	**159**	T	T		07 51 48.4	
	baz=335,slow=76,SNR=10.0							
H01W1	**Cape Leeuwin H**	**34.07**	**159**	T	T		07 51 48.5	
	baz=335,slow=76,SNR=5.7							
WRA	**Warramunga Arr**	**37.47**	**119**	P	**P**		**07 16 07.4**	**-1.6**
	0.3nm,0.8s,baz=294,slow=8.8,SNR=2.0							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**38.61**	**125**	P	**P**		**07 16 19.9**	**+1.3**
	0.7nm,0.7s,baz=296,slow=7.9,SNR=8.6							
ASAR				PcP	**PcP**		**07 18 31.0**	**+0.4**
	0.2nm,0.6s,baz=304,slow=2.1,SNR=2.2							
	0.7nm,0.7s							
JOW	**Kunigami**	**40.71**	**41**	LR	LR		07 32 47.2	
	comp=Z,166nm,19.6s,baz=222,slow=35							
MKAR	**Makanchi Array**	**52.30**	**345**	P	**P**		**07 18 08.8**	**+2.3**
	0.4nm,0.6s,baz=144,slow=6.7,SNR=4.1							
	0.4nm,0.6s							
TXAR	**Lajitas Array**	**145.89**	**38**	PKPbc	**PKiKP**		**07 28 36.1**	**-2.4**
	0.1nm,0.3s,baz=316,slow=2.5,SNR=1.5							

KRSC 06 07:21:52.4±1.1,54.44N×168.57E,h16km±14km,ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.69**	**298**	P	**Pn**		**07 22 22.1**	**+0.9**
BKI				S	**Sb**		**07 22 43.5**	**-0.5**
KBTR	**Krutoberegovo**	**3.73**	**301**	P	**Pn**		**07 22 52.7**	**+3.4**
MKZ	**Mys Kozlova**	**3.99**	**274**	P	**Pn**		**07 22 56.4**	**+3.6**
TUMR	**Tumrok**	**4.94**	**283**	P	**Pn**		**07 23 10.9**	**+4.9**
KRER	**Koryakskii**	**5.92**	**263**	P	**Pn**		**07 23 24.0**	**+4.4**
KOK	**Koryaka**	**5.99**	**263**	P	**Pn**		**07 23 24.6**	**+4.2**
GNL	**Ganaly**	**6.30**	**268**	P	**Pn**		**07 23 29.3**	**+4.6**
ASAK	**Asacha**	**6.70**	**256**	P	**Pn**		**07 23 35.3**	**+5.1**

*IDC **06** 07:37:45.0±0.7,21.17S×67.70W,h144km±7km,mb4.6/18, mbtmp5.1/23,MS3.7/11,Error ellipse: s-maj=9.4km s-min=8.5km az=76.0*
*MOS **06** 07:37:44.6±1.2,21.17S×67.76W,h150km,mb5.1/20, Error ellipse: s-maj=12.5km s-min=6.9km az=109.9*
*NEIC **06** 07:37:45.9±2.1,21.23S±0.05×67.70W±0.08,h148km±5km, mb5.3/119,Mww5.0,Mwr5.0(GUC),Error ellipse: s-maj=11.2km s-min=7.9km az=84.0*
*VAO **06** 07

PB02 IPOC Station P 1.95 268 *e*P Pn 07 38 21.2 0.0
PB02 *e*S Sn 07 38 46.8 -1.4
PB02 IPOC Station P 1.95 268 *e*P Pn 07 38 21.0 -0.2
PB02 *e*S Sn 07 38 47.7 -0.5
PB02 IAML 07 38 53.8
comp=Z,17µm,0.6s
PB02 IPOC Station P 1.95 268 P Pn 07 38 21.4 +0.2
PB07 IPOC Station P 1.99 256⇑ *i*P Pn 07 38 21.6 -0.1
PB07 *e*S Sn 07 38 47.8 -1.4
PB07 IAML 07 38 49.2
comp=N,15µm,0.6s
PB07 IPOC Station P 1.99 256 *e*P Pn 07 38 21.6 -0.1
PB07 *e*S Sn 07 38 48.6 -0.6
PB07 IAML 07 38 50.6
comp=Z,11µm,0.4s
MOCB Mochara 2.03 90 P Pn 07 38 24.6 +2.1
GO01 Chusmiza 2.05 320 Pn 07 38 23.8 +1.0
GO01 Chusmiza 2.05 320⇑ *i*P Pn 07 38 23.6 +0.9
GO01 *e*S Sn 07 38 52.2 +1.3
GO01 IAML 07 38 57.2
comp=N,19µm,0.2s
GO01 Chusmiza 2.05 320 P Pn 07 38 24.0 +1.2
PB06 IPOC Station P 2.18 228 *e*P Pn 07 38 23.8 -0.1
PB06 *e*S Sn 07 38 52.1 -1.1
PB06 IAML 07 38 55.5
comp=E,5µm,0.2s
PB06 IPOC Station P 2.18 228 *e*P Pn 07 38 24.0 +0.1
PB06 *e*S Sn 07 38 53.3 +0.2
PB06 IAML 07 38 54.6
comp=Z,3µm,0.8s
PB06 IPOC Station P 2.18 228 P Pn 07 38 24.0 +0.1
PB06 S Sn 07 38 50.5 -2.6
PB06 IAML 07 38 55.7
comp=Z,5µm,0.3s
YJA Yavi 2.32 114 *e*P Pn 07 38 27.0 +1.1
YJA IAML 07 39 02.8
comp=Z,2µm,0.4s
YJA Yavi 2.32 114 P Pn 07 38 27.6 +1.7
TA01 Diego Aracena 2.32 287 Pn Pn 07 38 24.9 -0.5
TA01 Diego Aracena 2.32 287⇑ *i*P Pn 07 38 24.8 -0.7
TA01 *e*S Sn 07 38 53.8 -2.0
TA01 Diego Aracena 2.32 287 *e*P Pn 07 38 25.0 -0.5
TA01 *e*S Sn 07 38 54.9 -0.9
TA01 IAML 07 38 59.6
comp=Z,4µm,0.5s
TA01 Diego Aracena 2.32 287 P Pn 07 38 24.9 -0.5
TA02 Huaiquique 2.38 294 *e*P Pn 07 38 25.6 -0.6
TA02 *e*S Sn 07 38 55.4 -1.8
TA02 Huaiquique 2.38 294 *e*P Pn 07 38 25.8 -0.4
TA02 *e*P Pn 07 38 26.0 -0.2
TA02 *e*S Sn 07 38 56.2 -1.0
TA02 IAML 07 38 58.5
comp=Z,7µm,0.3s
TA02 Huaiquique 2.38 294 P Pn 07 38 26.2 0.0
PB04 IPOC Station P 2.42 243 *e*P Pn 07 38 26.3 -0.5
PB04 *e*S Sn 07 38 56.2 -2.1
PB04 IAML 07 39 04.0
comp=N,4µm,0.1s
PB04 IPOC Station P 2.42 243 *e*P Pn 07 38 26.4 -0.4
PB04 *e*S Sn 07 38 57.2 -1.0
PB04 IAML 07 39 00.2
comp=Z,4µm,0.6s
PB04 IPOC Station P 2.42 243 P Pn 07 38 26.6 -0.2
PB15 IPOC Station P 2.48 218 *e*P Pn 07 38 27.5 0.0
PB15 *e*S Sn 07 38 59.0 -0.6
PB15 IPOC Station P 2.48 218 *e*P Pn 07 38 28.0 +0.5
PB15 IAML 07 39 03.5
comp=Z,9µm,0.3s
PB15 IPOC Station P 2.48 218 P Pn 07 38 27.1 -0.4
PB15 S Sn 07 38 57.4 -2.1
PB15 IAML 07 39 05.5
comp=Z,15µm,0.3s
AOVT TarijaAcel 2.91 96 P Pn 07 38 34.3 +1.5
AOVT S Sn 07 39 07.1 -1.8
HJA Humahuaca 2.95 132 *e*P Pn 07 38 35.0 +1.5
HJA IAML 07 39 18.4
comp=Z,2µm,0.4s
PB16 IPOC Station P 3.32 331⇑ *i*P Pn 07 38 39.6 +1.1
PB16 *e*S Sn 07 39 18.8 -0.1
PB16 IPOC Station P 3.32 331 *e*P Pn 07 38 39.0 +0.6
PB16 IAML 07 39 22.4
comp=Z,1µm,0.4s
PB12 IPOC Station P 3.54 318⇑ *i*P Pn 07 38 39.2 -1.6
PB12 *e*S Sn 07 39 20.5 -2.7
PB12 IPOC Station P 3.54 318 *e*P Pn 07 38 39.0 -1.8
PB12 IAML 07 39 28.2
comp=Z,3µm,0.3s
AP01 Chacalluta 3.73 320 Pn 07 38 42.2 -0.9
AP01 Chacalluta 3.73 320 *e*P Pn 07 38 42.1 -1.2
AP01 *e*S Sn 07 39 24.7 -2.8
AP01 Chacalluta 3.73 320 *e*P Pn 07 38 43.0 -0.2
AP01 IAML 07 39 35.8
comp=Z,2µm,0.2s
AP01 Chacalluta 3.73 320 P Pn 07 38 42.2 -0.9
SLA San Lorenzo 4.05 149 *e*P Pn 07 38 49.0 +1.7
PB14 IPOC Station P 4.12 215 *e*P Pn 07 38 47.8 -0.6
PB14 IPOC Station P 4.12 215 *e*P Pn 07 38 48.0 -0.4
PB14 IAML 07 39 41.2
comp=Z,628nm,0.6s
GO02 Mina Guanaco 4.21 203 *e*P Pn 07 38 48.5 -1.1
GO02 *e*S Sn 07 39 36.3 -2.9
GO02 Mina Guanaco 4.21 203 *e*P Pn 07 38 48.0 -1.7
GO02 Mina Guanaco 4.21 203 P Pn 07 38 48.3 -1.4
BBOE La Paz, Chanca 4.43 358 P Pn 07 38 55.6 +2.9
BBOD La Paz, Gloria 4.66 351 P Pn 07 38 58.1 +2.4
LPAZ La Paz 4.96 356 P Pn 07 39 01.4 +1.7
comp=Z,401nm,0.5s,baz=167,slow=6.0,SNR=1099
LPAZ S Sn 07 39 56.0 -1.1
comp=Z,99nm,0.7s,baz=210,slow=16,SNR=0.7
LPAZ ScS ScS 07 52 48.6 -0.7
comp=Z,0.5nm,0.3s,baz=260,slow=14,SNR=7.4
LPAZ La Paz 4.96 356 P Pn 07 39 01.4 +1.7
LPAZ La Paz 4.96 356 *e*P Pn 07 39 01.0 +1.3
LPAZ La Paz 4.96 356 P Pn 07 39 01.2 +1.5
AC01 Pan de Azucar 5.50 207 Pn Pn 07 39 03.5 -2.6
AC01 Pan de Azucar 5.50 207⇑ *i*P Pn 07 39 03.5 -2.7
AC01 *e*S Sn 07 40 02.3 -6.6
AC01 Pan de Azucar 5.50 207 *e*P Pn 07 39 03.0 -3.2
AC01 IAML 07 40 08.2
comp=Z,261nm,0.4s
LCO Las Campanas 8.15 198 P Pn 07 39 37.7 -4.0
SIV San Ignacio 8.26 52 P Pn 07 39 40.8 -2.3
comp=Z,211nm,0.4s,baz=237,slow=11,SNR=437
SIV S Sn 07 41 00.9 -14
comp=Z,16nm,0.4s,baz=238,slow=15,SNR=1.0
SIV San Ignacio 8.26 52 P Pn 07 39 41.9 -1.2
CO01 Juntas del Tor 8.92 193 Pn Pn 07 39 48.7 -3.3
PTLB Pontes e Lacer 10.06 56 Pn Pn 07 40 05.2 -1.6
PTLB Pontes e Lacer 10.06 56 P Pn 07 40 05.7 -1.1
PTLB Pontes e Lacer 10.06 56 *e*P Pn 07 40 05.3 -1.6
CPUP Villa Florida 10.84 120 P Pn 07 40 15.8 -1.3
comp=Z,26nm,0.8s,baz=302,slow=12,SNR=60
CPUP Villa Florida 10.84 120 Pn Pn 07 40 15.4 -1.7
CPUP Villa Florida 10.84 120 P Pn 07 40 15.8 -1.3
CPUP Villa Florida 10.84 120 P Pn 07 40 16.7 -0.3
CPUP Villa Florida 10.84 120 *e*P Pn 07 40 15.8 -1.3
VILB Vilhena 11.00 43 Pn 07 40 18.3 -1.0
VILB Vilhena 11.00 43 *e*P Pn 07 40 18.6 -0.7
ANTJ Antonio Joao (11.01 96 *e*P Pn 07 40 18.6 -0.7
AQDB Aquidauana 11.35 88 Pn Pn 07 40 23.3 -0.5
AQDB Aquidauana 11.35 88 *e*P Pn 07 40 22.4 -1.4
ETMB Extrema 11.48 8 Pn Pn 07 40 23.5 -2.1
ETMB Extrema 11.48 8 *e*P Pn 07 40 23.5 -2.1
PEL Peldehue 12.11 192 Pn 07 40 32.1 -1.5
PEL Peldehue 12.11 192 P Pn 07 40 32.1 -1.5
MT05 Renca 12.36 192 Pn Pn 07 40 36.1 -0.8
NNA Nana 12.64 315 P Pn 07 40 40.0 -0.6
comp=Z,13nm,0.5s,baz=138,slow=13,SNR=11
NNA S Sn 07 42 43.6 -17
comp=Z,5.9nm,0.4s,baz=157,slow=15,SNR=1.7
NNA Nana 12.64 315*c* *i*P Pn 07 40 39.9 -0.7
NNA pmax pmax
comp=Z,41nm,1.0s
SALV Santo Antonio 12.66 67 *e*P Pn 07 40 39.4 -1.4
LMEL Las Melosas 12.72 189 Pn 07 40 40.8 -0.8
MCR1 Marechal Candi 13.09 107 *e*P Pn 07 40 45.5 -0.7
ITQB Itaqui 13.12 132 Pn 07 40 45.5 -1.0
ITQB Itaqui 13.12 132 *e*P Pn 07 40 45.9 -0.6
UNIS Unistalda (Bra 13.90 127 *e*P Pn 07 40 55.5 -0.9
CRSM Crissiumal (Br 13.99 119 *e*P Pn 07 40 57.5 -0.1
TRCB Terra Rica 14.16 99 *e*P Pn 07 40 59.1 -0.7
CZSB Cruzeiro do Su 14.26 340 Pn 07 40 55.7 -5.4

C2SB Chapadao do Su 14.29 83 *e*P Pn 07 41 00.0 -1.4
FRBT Francisco Belt 14.31 112 *e*P Pn 07 41 01.0 -0.6
PDRB Porto dos Gac 14.31 50 *e*P Pn 07 41 00.0 -1.7
RODS Rosario do Sul 14.51 131 *e*P Pn 07 41 03.0 -1.1
ML02 Panimavida 14.79 192 Pn 07 41 05.8 -1.8
PTGB Pitanga 14.90 106 *e*P Pn 07 41 09.3 +0.2
ALGR Alto Alegre (B 15.35 122 *e*P Pn 07 41 13.9 -0.6
PCMB Pacaembu 15.41 94 *e*P Pn 07 41 15.0 -0.4
CLDB Colider 15.48 50 *e*P Pn 07 41 16.2 0.0
ITAB Concordia 15.48 116 P Pn 07 41 16.1 0.0
ITAB Concordia 15.48 116 *e*P Pn 07 41 14.6 -1.6
H03N1 Juan Fernandez 15.62 217 P P 07 41 18.6 +0.3
baz=106,slow=15,SNR=16
H03N2 Juan Fernandez 15.63 217 P P 07 41 19.1 +0.7
baz=106,slow=15,SNR=16
H03N3 Juan Fernandez 15.64 217 P P 07 41 19.1 +0.5
baz=106,slow=15,SNR=20
CPSB Cacapava Do Su 15.81 128 *e*P Pn 07 41 18.6 -1.5
H03S3 Juan Fernandez 15.91 216 P P 07 41 22.6 +1.1
SNR=75
H03S1 Juan Fernandez 15.92 216 P P 07 41 21.8 +0.2
SNR=32
H03S2 Juan Fernandez 15.93 216 P P 07 41 22.1 +0.4
SNR=21
ITRB Iturama 16.43 88 *e*P Pn 07 41 27.9 +0.1
PLTB Pedras Altas 16.45 132 P 07 41 26.5 -1.3
PLTB Pedras Altas 16.45 132 *e*P P 07 41 25.9 -1.9
TBTG Tabatinga, AM 17.09 353 P P 07 41 34.4 -0.6
TBTG Tabatinga, AM 17.09 353 *e*P P 07 41 34.0 -1.0
CNLB Canela 17.29 121 *e*P P 07 41 36.9 -0.2
ATAH Atahualpa 17.38 322 P Pn 07 41 40.6 +1.0
comp=Z,36nm,0.9s,baz=157,slow=4.1,SNR=16
ATAH S S 07 44 51.8 -0.1
comp=Z,3.4nm,0.8s,baz=261,slow=23,SNR=1.3
TRQA Tornquist 17.48 165 P P 07 41 37.7 -1.4
TRQA Tornquist 17.48 165 P P 07 41 37.7 -1.4
TIJ01 Guaruva-PR 17.74 107 *e*P Pn 07 41 43.1 -0.5
BB19B Bebedouro 17.99 93 *e*P P 07 41 44.7 -0.1
SNDB Serra Nova Dou 18.31 62 *e*P P 07 41 47.8 -0.5
TER01 Tubaro-SC 18.42 117 *e*P P 07 41 48.5 -1.0
GO06 Curarrehue 18.53 189 P P 07 41 50.7 0.0
NPGB Novo Progresso 18.57 42 *e*P P 07 41 49.9 -1.3
IPMB Ipameri, GO 18.75 83 *e*P P 07 41 52.7 -0.4
PET01 Itanhaem-SP 19.17 103 *e*P P 07 41 57.0 -0.6
MACA Manacapuru-AM 19.28 22 P P 07 41 57.5 -1.4
MACA Manacapuru-AM 19.28 22 *e*P P 07 41 57.5 -1.4
VAO Valinhos 19.39 99 *e*P P 07 41 59.1 -1.0
PLCA Paso Flores 19.55 186 P P 07 42 01.8 +0.1
comp=Z,65nm,0.8s,baz=11,slow=12,SNR=92
PLCA S S 07 45 25.8 -8.2
comp=Z,3.1nm,1.0s,baz=3.4,slow=17,SNR=1.7
PLCA ScP ScP 07 49 37.0 +0.4
comp=Z,5.4nm,1.0s,baz=359,slow=3.7,SNR=6.3
PLCA LR LR 07 50 49.1
comp=Z,264nm,21.4s,baz=359,slow=40
PLCA Paso Flores 19.55 186 P P 07 42 01.8 +0.1
PLCA Paso Flores 19.55 186 *e*P P 07 42 01.7 +0.1
BDFB Brasilia 19.59 77 P P 07 42 02.5 +0.2
comp=Z,22nm,0.5s,baz=255,slow=10,SNR=29
BDFB S S 07 45 32.4 -2.7
comp=Z,3.1nm,0.6s,baz=270,slow=20,SNR=1.3
BDFB LR LR 07 50 18.0
comp=Z,161nm,21.1s,baz=197,slow=39
BDFB Brasilia 19.59 77 P P 07 42 02.3 0.0
BDFB Brasilia 19.59 77 P P 07 42 02.5 +0.2
BDFB S S 07 45 32.4 -2.7
BDFB Brasilia 19.59 77 *e*P P 07 42 02.3 0.0
LL04 Puerto Octay 19.97 190 P P 07 42 05.3 -0.8
PMNB Patos De Minas 20.28 86 *e*P P 07 42 09.3 -0.4
ITTB Itaituba 20.48 37 *e*P P 07 42 10.5 -1.3
PARB Paraibuna 20.63 100 *e*P P 07 42 12.0 -1.4
LL05 Los Muermos 20.65 192 P P 07 42 12.3 -1.0
BOSC San Juan Bosco 20.79 329 P P 07 42 15.5 +0.3
VAS01 Vassouras-RJ 22.65 97 *e*P P 07 42 33.0 -1.1
DIAM Diamantina, MG 22.90 87 *e*P P 07 42 35.4 -1.2
PRPB Paraupebas 22.99 52 *e*P P 07 42 35.8 -1.5
MC01 Montes Claros 23.01 83 *e*P P 07 42 36.0 -1.5
SMTB Santa Maria do 23.05 61 *e*P P 07 42 37.1 -0.8
JANB Januaria 23.15 78 *e*P P 07 42 37.7 -1.1
MALB Monte Alegre 23.38 36 *e*P P 07 42 39.6 -1.1
AY01 Puyuhuapi 23.44 189 P P 07 42 40.1 -0.9
SDBA SAO DESIDERIO 23.60 72 *e*P P 07 42 41.8 -1.1
OTAV Otavalo 23.76 333 P P 07 42 45.5 +0.7
OTAV Otavalo 23.76 333 P P 07 42 45.5 +0.7
OTAV pmax pmax
comp=Z,29nm,1.0s
CAM01 Campos-RJ 24.32 96 *e*P P 07 42 48.8 -0.5
COYC Coyhaique 24.50 187 P P 07 42 50.1 -0.5
BOAV Boa Vista 24.57 18 P P 07 42 51.7 +0.1
BOAV IAmb IAmb 07 42 53.0
comp=Z,60nm,1.6s
BOAV Boa Vista 24.57 18 *e*P P 07 42 52.0 +0.4
SJMB Sao Joao De Ma 25.14 89 *e*P P 07 42 56.2 -0.6
ALF01 Guarapari-ES 25.30 93 *e*P P 07 42 58.0 -0.1
RIB01 Linhares ES 25.78 91 *e*P P 07 43 01.1 -1.5
NAN01 Guarapari, ES 26.29 87 *e*P P 07 43 06.3 -0.9
ROSC El Rosal 26.71 345 P P 07 43 11.8 +0.5
comp=Z,19nm,0.7s,baz=164,slow=7.4,SNR=13
ROSC S S 07 47 35.6 0.0
comp=Z,2.1nm,0.3s,baz=223,slow=18,SNR=1.3
ROSC LR LR 07 56 35.4
comp=Z,169nm,19.6s,baz=152,slow=42
comp=Z,19nm,0.7s
ROSC El Rosal 26.71 345 P P 07 43 11.8 +0.5
ROSC El Rosal 26.71 345 P P 07 43 11.9 +0.5
ROSC S S 07 47 35.6 0.0
TMAB Tom-Au,PA,Br 26.86 48 *e*P P 07 43 12.3 +0.1
GUA01 Guaratinga, BA 26.88 85 *e*P P 07 43 11.6 -0.8
CMC01 Camacan, BA 27.47 82 *e*P P 07 43 17.9 +0.2
GDU01 Guandu, BA 27.92 79 *e*P P 07 43 20.4 -1.3
BAUV El Baul 30.02 360 P P 07 43 38.9 -1.3
SDV Santo Domingo 30.09 354 P P 07 43 39.8 -1.2
comp=Z,17nm,0.4s,baz=180,slow=2.0,SNR=19
comp=Z,17nm,0.4s
SDV Santo Domingo 30.09 354 P P 07 43 39.9 -1.1
SDV IAmb IAmb 07 43 40.9
comp=Z,46nm,1.0s
SDV Santo Domingo 30.09 354 *e*P P 07 43 40.0 -1.1
SDV Santo Domingo 30.09 354 P P 07 43 38.7 -2.3
MDP Montagnes des 30.13 31 P P 07 43 40.5 -0.8
comp=Z,4.6nm,0.5s,baz=217,slow=6.3,SNR=6.1
MDP LR LR 07 56 02.5
comp=Z,96nm,18.5s,baz=286,slow=37
comp=Z,4.6nm,0.5s
NBLA Lagarto - SE 30.54 75 *e*P P 07 43 43.8 -1.1
NBAN Anadia - AL 32.43 74 *e*P P 07 44 01.1 -0.5
TOSP Speyside 33.14 13 P P 07 44 07.6 +0.1
BRU2 Volcan 33.25 332 P P 07 44 10.8 +2.0
BRU2 IAmb IAmb 07 44 17.8
comp=Z,146nm,1.6s
USHA Ushuaia 33.52 181 P P 07 44 12.3 +1.9
comp=Z,12nm,0.4s,baz=356,slow=1.5,SNR=3.2
comp=Z,12nm,0.4s
POTG Potrero Grande 33.67 332 *e*P P 07 44 14.7 +2.4
SRBA San Rafael, Bu 33.94 332 *e*P P 07 44 16.9 +2.4
RCBR Riachuelo 34.50 68 P P 07 44 19.6 +0.2
comp=Z,13nm,0.7s,baz=221,slow=19,SNR=5.0
comp=Z,13nm,0.7s
RCBR Riachuelo 34.50 68 P P 07 44 19.6 +0.2
RCBR Riachuelo 34.50 68 *e*P P 07 44 20.0 +0.5
RIMA Rio Macho 34.63 331 *e*P P 07 44 22.1 +1.4
RAFA San Farael, Vo 34.78 332 *e*P P 07 44 23.8 +1.7
HDC Heredia 34.95 331 P P 07 44 25.3 +1.9
HDC Heredia 34.95 331 *e*P P 07 44 25.7 +2.4
HDC Heredia 34.95 331 P P 07 44 24.3 +0.9
HDC sP sP 07 45 14.4 -2.3
HDC3 Heredia 3 34.95 331 *e*P P 07 44 25.5 +2.1
RIFO Rio Frio, Sara 35.15 332 *e*P P 07 44 27.5 +2.6
JTS Las Juntas de 35.59 330 P P 07 44 31.4 +2.7
JTS IAmb IAmb 07 44 32.2
comp=Z,40nm,0.9s
JTS Las Juntas de 35.59 330*d* *i*P P 07 44 30.9 +2.2
JTS pmax pmax
comp=Z,83nm,1.6s
JTS Las Juntas de 35.59 330 P P 07 44 30.0 +1.3
CUI Cuipilapa 36.01 330 *e*P P 07 44 34.8 +2.5
COLC Colonia 36.04 330 *e*P P 07 44 35.0 +2.5
VERA Finca Concepci 36.05 331 *e*P P 07 44 34.4 +1.9
VMAR Armenia, Volca 36.13 330 *e*P P 07 44 35.5 +2.2
GPS2 Hotel Rincn d 36.18 330 *e*P P 07 44 36.4 +2.6
VRLE La Escondida, 36.22 330 *e*P P 07 44 36.5 +2.4
HZTE Horizontes, Gu 36.26 330 *e*P P 07 44 36.4 +2.0
MLPR Magueyes Islan 38.99 1 P P 07 44 55.8 -1.4

MLPR IAmb IAmb 07 44 56.5
comp=Z,80nm,0.9s
CRPR Cabo Rojo, PR 39.03 1 P P 07 44 56.2 -1.4
OBIP Obispado Ponce 39.08 2 P P 07 44 55.6 -2.3
OBIP IAmb IAmb 07 44 57.5
comp=Z,73nm,0.8s
CELP Cerrillos 39.11 2 P P 07 44 56.5 -1.7
SJG San Juan 39.16 3 P P 07 44 56.6 -2.0
comp=Z,50nm,0.7s,baz=187,slow=4.3,SNR=18
comp=Z,50nm,0.7s
SJG San Juan 39.16 3 P P 07 44 56.8 -1.8
SJG IAmb IAmb 07 44 57.4
comp=Z,55nm,0.7s
SJG San Juan 39.16 3 P P 07 44 56.8 -1.8
SJG pmax pmax
comp=Z,55nm,0.7s
DR12 Loma Pena Alta 39.83 358 P P 07 45 01.8 -2.4
HOPE Hope Point 40.60 152 P P 07 45 12.0 +1.8
HOPE Hope Point 40.60 152 P P 07 45 12.0 +1.8
HOPE pmax pmax
comp=Z,245nm,1.3s
MTO3 Montecristo 41.27 327 P P 07 45 17.3 +1.0
MTO3 IAmb IAmb 07 45 18.6
comp=Z,50nm,1.0s
ESQI Esquipulas 41.40 327 P P 07 45 19.2 +2.0
ESQI IAmb IAmb 07 45 19.9
comp=Z,86nm,1.2s
CMIG Matias Romero 46.45 323 P P 07 45 58.1 +0.7
comp=Z,22nm,0.9s,baz=128,slow=5.1,SNR=26
comp=Z,22nm,0.9s
060A Indiantown 49.53 345 P P 07 46 20.9 +0.1
baz=164
DWPF Disney Wildern 50.82 344 P P 07 46 30.6 +0.1
baz=164
DWPF Disney Wildern 50.82 344 P P 07 46 28.8 -1.7
baz=164
656A Willston 52.30 344 P P 07 46 42.0 +0.6
baz=162,SNR=5.5
456A Hilliard 53.46 345 P P 07 46 50.4 +0.4
baz=163
TIGA Tifton 54.54 343 P P 07 46 57.5 -0.3
baz=162
TIGA Tifton 54.54 343 P P 07 46 57.0 -0.9
baz=162
255A Hazlehurst 54.72 345 P P 07 46 59.1 +0.1
baz=163,SNR=6.2
352A Blakely 54.95 342 P P 07 47 00.3 -0.4
baz=160,SNR=23
BRAL Brewton 55.30 340 P P 07 47 03.1 -0.2
baz=158,SNR=8.8
BRAL Brewton 55.30 340 P P 07 47 01.8 -1.5
baz=158,SNR=8.8
NHSC New Hope 55.34 347 P P 07 47 04.2 +0.7
baz=166,SNR=12
NHSC New Hope 55.34 347 P P 07 47 03.4 -0.1
baz=166,SNR=12
ZAIG Zacatecas 55.35 320 P P 07 47 05.6 +1.5
ZAIG IAmb IAmb 07 47 06.8
comp=Z,42nm,0.9s
154A Montrose 55.53 344 P P 07 47 04.7 -0.2
baz=163,SNR=12
250A Grady 55.81 341 P P 07 47 06.4 -0.5
baz=159,SNR=14
Y60A Bolivia 55.84 350 P P 07 47 06.4 -0.7
baz=168,SNR=5.8
Y60A P P 07 47 06.4 -0.7
baz=168,SNR=5.8
HAW Hawthorne Fire 55.89 346 P P 07 47 07.3 -0.1
baz=164,SNR=15
152A Waverly Hall 56.01 343 P P 07 47 07.7 -0.7
baz=161,SNR=11
Y58A Scranton 56.01 348 P P 07 47 08.4 +0.1
baz=167
Y58A P P 07 47 08.4 +0.1
baz=167
Y57A Sumter 56.26 347 P P 07 47 10.3 +0.3
baz=166,SNR=5.3
Y57A P P 07 47 10.3 +0.3
baz=166,SNR=5.3
346A Big Creek Wild 56.32 338 P P 07 47 10.4 -0.1
baz=156,SNR=5.7
GOGA Godfrey 56.38 344 P P 07 47 10.3 -0.6
GOGA Godfrey 56.38 344 P P 07 47 10.3 -0.6
GOGA pmax pmax
comp=Z,23nm,1.2s
GOGA Godfrey 56.38 344 P P 07 47 10.3 -0.6
baz=162,SNR=6.6
GOGA Godfrey 56.38 344 P P 07 47 09.9 -1.0
baz=162,SNR=6.6
X58A Rowland 56.58 349 P P 07 47 12.1 -0.2
baz=167,SNR=7.9
X58A P P 07 47 12.1 -0.2
baz=167,SNR=7.9
JSC Jenkinsville 56.70 347 P P 07 47 13.2 +0.1
baz=165,SNR=8.9
344A Westbrook Farm 56.84 337 P P 07 47 14.3 +0.2
baz=154,SNR=13
HODGE Hodges 56.87 346 P P 07 47 14.4 0.0
baz=164,SNR=5.8
BIRD Birdtown, Kers 56.88 348 P P 07 47 14.8 +0.4
baz=166,SNR=15
Y52A Lilburn 56.96 344 P P 07 47 14.8 -0.3
baz=162,SNR=7.7
Y52A P P 07 47 14.8 -0.3
baz=162,SNR=7.7
LRAL Lakeview Retre 57.02 341 P P 07 47 14.7 -0.7
baz=158,SNR=18
LRAL Lakeview Retre 57.02 341 P P 07 47 13.8 -1.6
baz=158,SNR=18
441A DeRidder 57.17 334 P P 07 47 18.1 +1.6
baz=152,SNR=8.6
W57A Gilead 57.28 348 P P 07 47 16.9 -0.2
W57A IAmb IAmb 07 47 17.9
comp=Z,25nm,0.8s
W57A Gilead 57.28 348 P P 07 47 17.0 -0.2
baz=166,SNR=7.8
W57A P P 07 47 17.0 -0.2
baz=166,SNR=7.8
146A Union 57.31 339 P P 07 47 17.5 0.0
baz=156,SNR=9.9
PAULI Pauline 57.34 346 P P 07 47 17.4 -0.2
baz=164,SNR=6.5
342B Flagon Creek P 57.38 335 P P 07 47 19.1 +1.1
baz=153,SNR=19
VBMS Vicksburg 57.45 337 P P 07 47 18.0 -0.5
baz=155
Z47A Carrollton 57.51 340 P P 07 47 18.2 -0.6
baz=157,SNR=12
KMSC Kings Mountain 57.54 347 P P 07 47 19.3 +0.2
baz=165,SNR=8.9
KMSC Kings Mountain 57.54 347 P P 07 47 19.2 +0.2
baz=165,SNR=8.9
Y49A Blount Mountai 57.61 342 P P 07 47 18.9 -0.6
baz=159,SNR=13
HKT Hockley 57.62 331*d* *i*P P 07 47 20.0 +0.4
HKT pmax pmax
comp=Z,46nm,1.2s
HKT Hockley 57.62 331 P P 07 47 20.2 +0.6
baz=149
HKT Hockley 57.62 331 P P 07 47 18.2 -1.4
HKT pP pP 07 48 01.1 +3.6
735A Kenedy 57.62 329 P P 07 47 20.6 +0.9
baz=146,SNR=5.3
V58A Windy Hill, Pi 57.74 349 P P 07 47 20.5 0.0
baz=167,SNR=6.6
V58A P P 07 47 20.5 0.0
baz=167,SNR=6.6
CASEE Lake Jocassee 57.76 345 P P 07 47 21.0 +0.4
baz=163,SNR=6.2
X51A Calhoun 57.84 343 P P 07 47 20.3 -0.8
baz=161,SNR=12
X51A P P 07 47 20.3 -0.8
baz=161,SNR=12
833A Chaparral WMA, 57.97 327 P P 07 47 22.8 +0.6
baz=145,SNR=23
U59A Littleton 58.07 351 P P 07 47 22.5 -0.2
baz=169,SNR=6.3
U59A P P 07 47 22.5 -0.2
baz=169,SNR=6.3
W52A Murphy 58.10 344 P P 07 47 23.1 +0.1
baz=162,SNR=11
V55A Taylorsville 58.20 347 P P 07 47 23.9 +0.3
V55A Taylorsville 58.20 347 P P 07 47 24.1 +0.4
baz=165,SNR=16
V55A P P 07 47 24.1 +0.4
baz=165,SNR=16
X48A Hartselle 58.35 341 P P 07 47 24.1 -0.5
baz=159,SNR=43

V53A	**Saluda**	**58.38**	**346**	P	**P**	**07 47 24.7**	**-0.2**
	baz=164,SNR=7.9						
V53A				P	**P**	**07 47 24.7**	**-0.2**
	baz=164,SNR=7.9						
U56A	**King**	**58.52**	**348**	P	**P**	**07 47 26.1**	**+0.3**
	baz=166,SNR=9.5						
U56A				P	**P**	**07 47 26.1**	**+0.3**
	baz=166,SNR=9.5						
W50A	**Signal Mountai**	**58.56**	**343**	P	**P**	**07 47 25.7**	**-0.5**
	baz=161,SNR=21						
CPCT	**Cooper Cave**	**58.58**	**344**	P	**P**	**07 47 26.2**	**-0.1**
CPCT				IAmb	IAmb	07 47 26.9	
	comp=Z,35nm,1.0s						
TKL	**Tuckaleechee C**	**58.59**	**345**	P	**P**	**07 47 25.7**	**-0.7**
TKL				IAmb	IAmb	07 47 26.8	
	comp=Z,48nm,0.9s						
TKL	**Tuckaleechee C**	**58.59**	**345**	P	**P**	**07 47 25.7**	**-0.7**
TKL				pmax	pmax		
	comp=Z,49nm,1.0s						
TKL	**Tuckaleechee C**	**58.59**	**345**	P	**P**	**07 47 25.9**	**-0.5**
	baz=162,SNR=15						
Y45A	**Yeager Farm, C**	**58.60**	**339**	P	**P**	**07 47 26.1**	**-0.4**
	baz=156,SNR=19						
T59A	**Double "B" Far**	**58.64**	**351**	P	**P**	**07 47 26.0**	**-0.6**
T59A				IAmb	IAmb	07 47 27.3	
	comp=Z,27nm,0.9s						
T59A	**Double "B" Far**	**58.64**	**351**	P	**P**	**07 47 26.0**	**-0.6**
	baz=169,SNR=5.5						
T59A				P	**P**	**07 47 26.0**	**-0.6**
	baz=169,SNR=5.5						
NATX	**Nacogdoches**	**58.66**	**333**	P	**P**	**07 47 28.1**	**+1.1**
	baz=150,SNR=22						
NATX	**Nacogdoches**	**58.66**	**333**	P	**P**	**07 47 27.9**	**+0.9**
	baz=150,SNR=22						
V52A	**Sevierville**	**58.73**	**345**	P	**P**	**07 47 26.8**	**-0.5**
	baz=163,SNR=27						
SWET	**Sewanee**	**58.74**	**343**	P	**P**	**07 47 26.7**	**-0.7**
BELA	**Belgrano 2**	**58.84**	**172**	P	**P**	**07 47 28.3**	**+0.7**
V51A	**Loudon**	**58.88**	**344**	P	**P**	**07 47 27.9**	**-0.4**
	baz=162,SNR=9.6						
T57A	**Hurt**	**58.94**	**349**	P	**P**	**07 47 28.6**	**-0.2**
T57A	**Hurt**	**58.94**	**349**	P	**P**	**07 47 28.8**	**0.0**
	baz=167,SNR=8.2						
T57A				P	**P**	**07 47 28.8**	**0.0**
	baz=167,SNR=8.2						
U54A	**Nelsons Funny**	**58.97**	**347**	P	**P**	**07 47 29.1**	**0.0**
	baz=165,SNR=20						
U54A				P	**P**	**07 47 29.1**	**0.0**
	baz=165,SNR=20						
435B	**Jarrell**	**59.12**	**330**	P	**P**	**07 47 30.8**	**+0.7**
	baz=147,SNR=9.9						
435B	**Jarrell**	**59.12**	**330**	P	**P**	**07 47 30.1**	**-0.1**
	baz=147						
OXF	**Oxford**	**59.15**	**339**	P	**P**	**07 47 29.4**	**-0.8**
	baz=156,SNR=18						
OXF	**Oxford**	**59.15**	**339**	P	**P**	**07 47 28.9**	**-1.3**
	baz=156,SNR=18						
237A	**Washetta, Mont**	**59.36**	**332**	P	**P**	**07 47 33.0**	**+1.3**
	baz=149,SNR=16						
BLA	**Blacksburg**	**59.36**	**348**	P	**P**	**07 47 31.7**	**0.0**
	baz=166,SNR=6.8						
BLA	**Blacksburg**	**59.36**	**348**	P	**P**	**07 47 32.0**	**+0.3**
	baz=166,SNR=6.8						
TZTN	**Tazewell**	**59.38**	**345**	P	**P**	**07 47 31.3**	**-0.5**
	baz=163,SNR=7.4						
V48A	**Smith Brothers**	**59.48**	**342**	P	**P**	**07 47 31.9**	**-0.6**
	baz=159,SNR=33						
S57A	**Dark Hollow, R**	**59.63**	**350**	P	**P**	**07 47 33.9**	**+0.4**
	baz=168,SNR=8.2						
S57A				P	**P**	**07 47 33.9**	**+0.4**
	baz=168,SNR=8.2						
W45A	**Hickory Valley**	**59.66**	**340**	P	**P**	**07 47 33.1**	**-0.6**
	baz=157,SNR=23						
CBN	**Corbin Frederi**	**59.83**	**351**	P	**P**	**07 47 33.5**	**-1.3**
	baz=170						
U49A	**Red Boiling Sp**	**59.92**	**343**	P	**P**	**07 47 34.6**	**-0.9**
	baz=160,SNR=20						
JCT	**Junction City**	**59.93**	**328**	P	**P**	**07 47 35.9**	**+0.1**
	baz=145,SNR=36						
JCT	**Junction City**	**59.93**	**328**	P	**P**	**07 47 35.3**	**-0.4**
	baz=145,SNR=36						
VNA3	**Neumayer Olymp**	**59.98**	**161**	P	**P**	**07 47 36.4**	**+0.9**
WHTX	**Lake Whitney,**	**60.08**	**331**	P	**P**	**07 47 37.0**	**+0.3**
	baz=148,SNR=17						
WHTX	**Lake Whitney,**	**60.08**	**331**	P	**P**	**07 47 36.4**	**-0.3**
	baz=148,SNR=17						
Z38A	**Mt. Pleasant**	**60.10**	**334**	P	**P**	**07 47 37.6**	**+0.8**
	baz=151,SNR=19						
S54A	**Dingess, Beckl**	**60.10**	**348**	P	**P**	**07 47 36.8**	**0.0**
	baz=165,SNR=23						
S54A				P	**P**	**07 47 36.8**	**0.0**
	baz=165,SNR=23						
WVT	**Waverly**	**60.14**	**341**	P	**P**	**07 47 36.0**	**-1.0**
	baz=158,SNR=64						
WVT	**Waverly**	**60.14**	**341**	P	**P**	**07 47 35.7**	**-1.2**
	baz=158						
WVT	**Waverly**	**60.14**	**341**	P	**P**	**07 47 34.4**	**-2.6**
WVT				pP	**pP**	**07 48 15.7**	**+0.5**
VNA1	**Neumayer--Stat**	**60.17**	**161**	P	**P**	**07 47 38.1**	**+1.3**
R55A	**Marlinton**	**60.34**	**349**	P	**P**	**07 47 39.0**	**+0.6**
R55A	**Marlinton**	**60.34**	**349**	P	**P**	**07 47 39.0**	**+0.6**
	baz=167,SNR=10						
R55A				P	**P**	**07 47 39.0**	**+0.6**
	baz=167,SNR=10						
S51A	**Beattyville**	**60.44**	**346**	P	**P**	**07 47 38.7**	**-0.3**
S51A				IAmb	IAmb	07 47 39.4	
	comp=Z,18nm,0.8s						
S51A	**Beattyville**	**60.44**	**346**	P	**P**	**07 47 38.3**	**-0.7**
	baz=163,SNR=7.9						
S51A				P	**P**	**07 47 38.3**	**-0.7**
	baz=163,SNR=7.9						
VNA2	**Neumayer--Watz**	**60.54**	**161**	P	**P**	**07 47 40.2**	**+0.9**
	baz=291,slow=6.0						
MIAR	**Mount Ida**	**60.67**	**336**	P	**P**	**07 47 40.5**	**-0.1**
	baz=152,SNR=57						
T47A	**Sharon Grove**	**60.73**	**342**	P	**P**	**07 47 40.1**	**-0.9**
	baz=159,SNR=50						
R53A	**Hurricane**	**60.74**	**347**	P	**P**	**07 47 41.1**	**+0.1**
	baz=165,SNR=11						
R53A				P	**P**	**07 47 41.1**	**+0.1**
	baz=165,SNR=11						
TXAR	**Lajitas Array**	**61.03**	**324**	P	**P**	**07 47 43.1**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=148,slow=8.6,SNR=66						
TXAR				PcP	**PcP**	**07 48 25.5**	**+0.6**
	comp=Z,2.4nm,1.0s,baz=152,slow=8.2,SNR=4.2						
	comp=Z,4.8nm,0.7s						
TXAR	**Lajitas Array**	**61.03**	**324**	P	**P**	**07 47 43.3**	**0.0**
TXAR	**Lajitas Array**	**61.03**	**324**	P	**P**	**07 47 43.3**	**0.0**
TX31	**Lajitas Ar. Si**	**61.03**	**324**	P	**P**	**07 47 43.2**	**-0.1**
TX31				IAmb	IAmb	07 47 44.0	
	comp=Z,30nm,1.0s						
TX31	**Lajitas Ar. Si**	**61.03**	**324**	P	**P**	**07 47 43.4**	**+0.1**
	baz=141,SNR=20						
TX32	**Lajitas Array**	**61.03**	**324**	P	**P**	**07 47 43.2**	**-0.1**
Z35A	**Perchaven, San**	**61.12**	**332**	P	**P**	**07 47 44.4**	**+0.7**
	baz=148,SNR=13						
Q54A	**Coxs Mills**	**61.16**	**348**	P	**P**	**07 47 43.9**	**+0.1**
	baz=166,SNR=11						
Q54A				P	**P**	**07 47 43.9**	**+0.1**
	baz=166,SNR=11						
P57A	**Homestead Farm**	**61.17**	**351**	P	**P**	**07 47 44.6**	**+0.7**
	baz=169						
P57A				P	**P**	**07 47 44.6**	**+0.7**
	baz=169						
T45B	**Paducah**	**61.21**	**341**	P	**P**	**07 47 43.5**	**-0.6**
	baz=158,SNR=33						
R50A	**Paris**	**61.23**	**345**	P	**P**	**07 47 43.8**	**-0.5**
	baz=162,SNR=10						
R50A				P	**P**	**07 47 43.8**	**-0.5**
	baz=162,SNR=10						
X37A	**Clayton**	**61.41**	**334**	P	**P**	**07 47 46.2**	**+0.6**
	baz=151,SNR=62						
Q52A	**Bidwell**	**61.42**	**347**	P	**P**	**07 47 45.4**	**-0.1**
	baz=165,SNR=5.2						
Q52A				P	**P**	**07 47 45.4**	**-0.1**
	baz=165,SNR=5.2						
R49A	**Shelbyville**	**61.44**	**344**	P	**P**	**07 47 44.8**	**-0.9**
	baz=162,SNR=7.3						
R49A				P	**P**	**07 47 44.8**	**-0.9**
	baz=162,SNR=7.3						
TUPA	**Temple Univers**	**61.49**	**354**	P	**P**	**07 47 46.3**	**+0.2**
	baz=172,SNR=5.1						
ABTX	**Abilene, Hawle**	**61.62**	**330**	P	**P**	**07 47 46.8**	**-0.3**
	baz=146						
MCWV	**Mont Chateau**	**61.64**	**349**	P	**P**	**07 47 47.4**	**+0.4**
	baz=167,SNR=12						
MCWV	**Mont Chateau**	**61.64**	**349**	P	**P**	**07 47 46.8**	**-0.2**
	baz=167,SNR=12						
WCI	**Wyandotte Cave**	**61.67**	**344**	P	**P**	**07 47 46.6**	**-0.7**
WCI	**Wyandotte Cave**	**61.67**	**344**	P	**P**	**07 47 46.6**	**-0.7**
WCI				pmax	pmax		
	comp=Z,135nm,1.5s						
WCI	**Wyandotte Cave**	**61.67**	**344**	P	**P**	**07 47 46.1**	**-1.2**
	baz=160,SNR=23						
WCI	**Wyandotte Cave**	**61.67**	**344**	P	**P**	**07 47 46.1**	**-1.2**
	baz=160						
WCI	**Wyandotte Cave**	**61.67**	**344**	P	**P**	**07 47 45.2**	**-2.0**
WCI				pP	**pP**	**07 48 25.8**	**+0.2**
BBTS	**Babate**	**61.70**	**59**	LR	LR	08 13 41.2	
	comp=Z,50nm,19.9s,baz=224,slow=35						
Q51A	**Peebles**	**61.71**	**346**	P	**P**	**07 47 46.9**	**-0.6**
	baz=164,SNR=9.2						
Q51A				P	**P**	**07 47 46.9**	**-0.6**
	baz=164,SNR=9.2						
P53A	**Whipple**	**61.75**	**348**	P	**P**	**07 47 47.6**	**-0.1**
P53A	**Whipple**	**61.75**	**348**	P	**P**	**07 47 47.8**	**0.0**
	baz=166,SNR=25						
P53A				P	**P**	**07 47 47.8**	**0.0**
	baz=166,SNR=25						
S44A	**Carbondale**	**62.02**	**341**	P	**P**	**07 47 49.0**	**-0.6**
S44A	**Carbondale**	**62.02**	**341**	P	**P**	**07 47 48.8**	**-0.8**
	baz=157,SNR=33						
P52A	**Corning**	**62.04**	**348**	P	**P**	**07 47 48.9**	**-0.8**
P52A	**Corning**	**62.04**	**348**	P	**P**	**07 47 49.3**	**-0.4**
	baz=165						
P51A	**Williamsport**	**62.09**	**347**	P	**P**	**07 47 49.4**	**-0.6**
	baz=164,SNR=12						
P51A				P	**P**	**07 47 49.4**	**-0.6**
	baz=164,SNR=12						
SNAA	**Sanae**	**62.17**	**161**	P	**P**	**07 47 51.1**	**+0.7**
SNAA	**Sanae**	**62.17**	**161**	P	**P**	**07 47 51.0**	**+0.7**
	comp=Z,16nm,0.9s,baz=274,slow=5.6,SNR=52						
	comp=Z,16nm,0.9s						
SNAA	**Sanae**	**62.17**	**161**	P	**P**	**07 47 50.6**	**+0.3**
SNAA	**Sanae**	**62.17**	**161**	P	**P**	**07 47 51.0**	**+0.7**
PAL	**Palisades**	**62.20**	**355**	P	**P**	**07 47 50.3**	**-0.5**
	baz=174						
O54A	**Avella**	**62.24**	**349**	P	**P**	**07 47 50.8**	**-0.2**
O54A				IAmb	IAmb	07 47 51.5	
	comp=Z,27nm,0.8s						
O54A	**Avella**	**62.24**	**349**	P	**P**	**07 47 51.1**	**+0.1**
	baz=167						
O54A				P	**P**	**07 47 51.1**	**+0.1**
	baz=167						
SSPA	**Standing Stone**	**62.29**	**351**	P	**P**	**07 47 51.5**	**+0.2**
	baz=169						
SSPA	**Standing Stone**	**62.29**	**351**	P	**P**	**07 47 50.9**	**-0.4**
	baz=169						
N58A	**Sunbury**	**62.33**	**352**	P	**P**	**07 47 51.9**	**+0.3**
	baz=170						
N58A				P	**P**	**07 47 51.9**	**+0.3**
	baz=170						
HHAR	**Hobbs**	**62.34**	**336**	P	**P**	**07 47 51.4**	**-0.4**
O52A	**Adamsville**	**62.44**	**348**	P	**P**	**07 47 52.2**	**-0.2**
	baz=165,SNR=12						
O52A				P	**P**	**07 47 52.2**	**-0.2**
	baz=165,SNR=12						
O53A	**New Philadelph**	**62.45**	**348**	P	**P**	**07 47 52.3**	**-0.2**
	baz=166,SNR=9.9						
X34A	**Smith Ranch, M**	**62.46**	**332**		**P**	**07 47 53.1**	**+0.5**
P49A	**Miami Univ. Ec**	**62.51**	**345**	P	**P**	**07 47 51.6**	**-1.2**
P49A				IAmb	IAmb	07 47 52.7	
	comp=Z,53nm,1.0s						
P49A	**Miami Univ. Ec**	**62.51**	**345**	P	**P**	**07 47 51.8**	**-1.1**
	baz=162,SNR=12						
P49A	**Miami Univ. Ec**	**62.51**	**345**	P	**P**	**07 47 51.3**	**-1.5**
	baz=162,SNR=12						
MGMO	**Mountain Grove**	**62.51**	**338**	P	**P**	**07 47 52.4**	**-0.5**
MGMO				IAmb	IAmb	07 47 53.5	
	comp=Z,46nm,0.8s						
P48A	**Milroy**	**62.61**	**345**	P	**P**	**07 47 52.2**	**-1.3**
	baz=161,SNR=11						
P48A				P	**P**	**07 47 52.2**	**-1.3**
	baz=161,SNR=11						
OLIL	**Olney**	**62.64**	**342**	P	**P**	**07 47 52.3**	**-1.4**
	baz=159,SNR=10.0						
U38A	**Gravette**	**62.65**	**336**		**P**	**07 47 53.5**	**-0.3**
U38A				IAmb	IAmb	07 47 55.3	
	comp=Z,25nm,0.6s						
U38A	**Gravette**	**62.65**	**336**	P	**P**	**07 47 53.4**	**-0.5**
	baz=152,SNR=24						
FVM	**French Village**	**62.65**	**340**	P	**P**	**07 47 53.5**	**-0.3**
FVM	**French Village**	**62.65**	**340**	P	**P**	**07 47 53.5**	**-0.3**
FVM				pmax	pmax		
	comp=Z,161nm,1.0s						
FVM	**French Village**	**62.65**	**340**	P	**P**	**07 47 53.4**	**-0.5**
	baz=156,SNR=28						
RLO	**Rose Lookout**	**62.65**	**335**		**P**	**07 47 53.9**	**+0.1**
RLO				IAmb	IAmb	07 47 54.9	
	comp=Z,95nm,0.7s						
TUL1	**Leonard**	**62.73**	**335**	P	**P**	**07 47 54.3**	**-0.1**
	baz=150,SNR=16						
TUL1	**Leonard**	**62.73**	**335**	P	**P**	**07 47 54.0**	**-0.3**
	baz=150,SNR=16						
ACSO	**Alum Creek Sta**	**62.79**	**347**	P	**P**	**07 47 54.1**	**-0.5**
	baz=164,SNR=19						
ACSO	**Alum Creek Sta**	**62.79**	**347**	P	**P**	**07 47 53.7**	**-1.0**
	baz=164,SNR=19						
M57A	**Sunshine Farm,**	**62.88**	**352**	P	**P**	**07 47 56.0**	**+0.7**
M57A				IAmb	IAmb	07 47 56.2	
	comp=Z,18nm,0.7s						
N53A	**Lisbon**	**62.93**	**349**	P	**P**	**07 47 55.7**	**+0.1**
	baz=166,SNR=6.0						
N53A				P	**P**	**07 47 55.7**	**+0.1**
	baz=166,SNR=6.0						
KSPA	**Keystone Colle**	**62.93**	**353**	P	**P**	**07 47 56.1**	**+0.5**
	baz=172						
DEOK	**Depew**	**62.96**	**334**		**P**	**07 47 56.3**	**+0.4**
DEOK				IAmb	IAmb	07 47 56.8	
	comp=Z,198nm,0.7s						
CCM	**Cathedral Cave**	**62.98**	**339**	P	**P**	**07 47 55.5**	**-0.5**
CCM	**Cathedral Cave**	**62.98**	**339**	P	**P**	**07 47 55.5**	**-0.5**
CCM				pmax	pmax		
	comp=Z,91nm,0.7s						
CCM	**Cathedral Cave**	**62.98**	**339**	P	**P**	**07 47 55.3**	**-0.7**
	baz=155,SNR=68						
CCM	**Cathedral Cave**	**62.98**	**339**	P	**P**	**07 47 55.2**	**-0.8**
	baz=155						
CCM	**Cathedral Cave**	**62.98**	**339**	P	**P**	**07 47 53.6**	**-2.3**
CCM				pP	**PcP**	**07 48 32.7**	**+0.2**
WMOK	**Wichita Mounta**	**62.99**	**332**		**P**	**07 47 55.8**	**-0.3**
WMOK	**Wichita Mounta**	**62.99**	**332**	P	**P**	**07 47 55.8**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMOK	**Wichita Mounta**	**62.99**	**332**	P	**P**	**07 47 55.7**	**-0.5**
	baz=147,SNR=11						
WMOK	**Wichita Mounta**	**62.99**	**332**	P	**P**	**07 47 55.0**	**-1.1**
	baz=147,SNR=11						
O49A	**Covington**	**63.04**	**346**	P	**P**	**07 47 55.5**	**-0.9**
	baz=163,SNR=13						
O49A				P	**P**	**07 47 55.5**	**-0.9**
	baz=163,SNR=13						
Q44A	**Meyer Farm, Va**	**63.06**	**342**	P	**P**	**07 47 55.3**	**-1.2**
	baz=158,SNR=22						
OK025	**Westminster Rd**	**63.08**	**333**		**P**	**07 47 56.5**	**-0.2**
P46A	**Rosedale**	**63.22**	**343**	P	**P**	**07 47 56.5**	**-1.0**
P46A				IAmb	IAmb	07 47 57.2	
	comp=Z,85nm,1.4s						
P46A	**Rosedale**	**63.22**	**343**	P	**P**	**07 47 55.7**	**-1.8**
	baz=160,SNR=9.7						
M55A	**Ridgway**	**63.23**	**351**	P	**P**	**07 47 57.8**	**+0.2**
	baz=168,SNR=8.3						
M55A				P	**P**	**07 47 57.8**	**+0.2**
	baz=168,SNR=8.3						
O48B	**Farmland**	**63.30**	**345**	P	**P**	**07 47 56.7**	**-1.3**
	baz=162,SNR=18						
O48B	**Farmland**	**63.30**	**345**	P	**P**	**07 47 57.0**	**-1.0**
	baz=162,SNR=18						
N51A	**Ashland**	**63.33**	**348**	P	**P**	**07 47 57.7**	**-0.5**
	baz=165,SNR=7.3						
N51A				P	**P**	**07 47 57.7**	**-0.5**
	baz=165,SNR=7.3						
S39A	**Bolivar**	**63.36**	**338**	P	**P**	**07 47 58.2**	**-0.3**
	baz=153,SNR=65						
L59A	**Walton**	**63.48**	**354**	P	**P**	**07 47 59.6**	**+0.3**
	baz=172,SNR=8.1						
L59A				P	**P**	**07 47 59.6**	**+0.3**
	baz=172,SNR=8.1						
M53A	**WI Miller and**	**63.51**	**349**	P	**P**	**07 47 59.0**	**-0.4**
	baz=166,SNR=7.1						
R40A	**Maddies Statio**	**63.53**	**339**	P	**P**	**07 47 59.0**	**-0.6**
	baz=154,SNR=59						
HRV	**Adam Dziewonsk**	**63.54**	**357**	P	**P**	**07 47 59.0**	**-0.6**
	baz=176						
L61B	**Northampton**	**63.55**	**356**	P	**P**	**07 47 59.0**	**-0.6**
	baz=175						
BINY	**Binghamton**	**63.59**	**353**	P	**P**	**07 48 00.6**	**+0.7**
	baz=171,SNR=5.8						
BINY	**Binghamton**	**63.59**	**353**	P	**P**	**07 47 59.9**	**-0.1**
	baz=171,SNR=5.8						
ALLY	**Alegheny Colle**	**63.63**	**350**	P	**P**	**07 48 00.4**	**+0.2**
	baz=167,SNR=6.3						
N49A	**Columbus Grove**	**63.71**	**346**	P	**P**	**07 47 60.0**	**-0.7**
N49A	**Columbus Grove**	**63.71**	**346**	P	**P**	**07 48 00.1**	**-0.7**
	baz=163,SNR=21						
N49A				P	**P**	**07 48 00.1**	**-0.7**
	baz=163,SNR=21						
L56A	**Greenwood**	**63.72**	**352**	P	**P**	**07 48 00.8**	**0.0**
L56A				IAmb	IAmb	07 48 01.7	
	comp=Z,28nm,0.9s						
L56A	**Greenwood**	**63.72**	**352**	P	**P**	**07 48 00.8**	**0.0**
	baz=170,SNR=5.4						
L56A				P	**P**	**07 48 00.8**	**0.0**
	baz=170,SNR=5.4						
M52A	**Chesterland**	**63.73**	**349**	P	**P**	**07 48 01.0**	**+0.1**
	baz=166,SNR=5.1						
M52A				P	**P**	**07 48 01.0**	**+0.1**
	baz=166,SNR=5.1						
MNTX	**Cornudas Mount**	**63.79**	**325**	P	**P**	**07 48 00.9**	**-0.6**
	baz=141,SNR=26						
TROLL	**Troll, Antarti**	**63.88**	**161**	P	**P**	**07 48 02.8**	**+1.1**
T35B	**Sooner Cattle**	**63.89**	**335**	P	**P**	**07 48 02.0**	**0.0**
	baz=150,SNR=31						
P43A	**Skaggs, Pawnee**	**63.89**	**341**	P	**P**	**07 48 01.1**	**-0.8**
	baz=157						
SFIN	**Lafayette**	**63.90**	**344**	P	**P**	**07 48 00.4**	**-1.5**
	baz=160,SNR=13						
N47A	**Urbana**	**64.02**	**345**	P	**P**	**07 48 01.6**	**-1.1**
N47A				IAmb	IAmb	07 48 02.6	
	comp=Z,51nm,0.8s						
N47A	**Urbana**	**64.02**	**345**	P	**P**	**07 48 01.8**	**-1.0**
	baz=161,SNR=15						
N47A				P	**P**	**07 48 01.8**	**-1.0**
	baz=161,SNR=15						
ERPA	**Erie**	**64.06**	**350**	P	**P**	**07 48 02.9**	**0.0**
ERPA	**Erie**	**64.06**	**350**	P	**P**	**07 48 03.0**	**+0.1**
	baz=167,SNR=16						
O44A	**Mansfield**	**64.06**	**343**	P	**P**	**07 48 01.8**	**-1.2**
	baz=158,SNR=6.5						
WVNY	**West Valley, N**	**64.13**	**351**	P	**P**	**07 48 03.8**	**+0.3**
	baz=169,SNR=7.3						
MSTX	**Muleshoe**	**64.23**	**328**	P	**P**	**07 48 04.3**	**-0.1**
	baz=144,SNR=39						
MSTX	**Muleshoe**	**64.23**	**328**	P	**P**	**07 48 03.5**	**-0.9**
	baz=144,SNR=39						
AMTX	**Amarillo**	**64.44**	**329**	P	**P**	**07 48 05.8**	**0.0**
	baz=145,SNR=8.9						
AMTX	**Amarillo**	**64.44**	**329**	P	**P**	**07 48 05.1**	**-0.6**
	baz=145						
U32A	**Winter Ranch,**	**64.47**	**332**	P	**P**	**07 48 05.9**	**+0.1**
	baz=148,SNR=7.6						
P40A	**Paris**	**64.58**	**339**	P	**P**	**07 48 05.8**	**-0.7**
	baz=155,SNR=31						
HDIL	**Hopedale**	**64.67**	**342**	P	**P**	**07 48 06.1**	**-0.9**
	baz=158,SNR=5.6						
HDIL	**Hopedale**	**64.67**	**342**	P	**P**	**07 48 05.4**	**-1.6**
	baz=158,SNR=5.6						
J59A	**Piesco**	**64.70**	**355**	P	**P**	**07 48 07.8**	**+0.7**
	baz=173,SNR=8.1						
J59A				P	**P**	**07 48 07.8**	**+0.7**
	baz=173,SNR=8.1						
L48A	**N Adams**	**64.74**	**346**	P	**P**	**07 48 06.7**	**-0.7**
L48A	**N Adams**	**64.74**	**346**	P	**P**	**07 48 06.5**	**-1.0**
	baz=163,SNR=12						
L48A				P	**P**	**07 48 06.5**	**-1.0**
	baz=163,SNR=12						
J56A	**Wolcott**	**64.75**	**353**	P	**P**	**07 48 07.3**	**-0.1**
	baz=171,SNR=5.6						
J56A				P	**P**	**07 48 07.3**	**-0.1**
	baz=171,SNR=5.6						
J57A	**Williamstown**	**64.79**	**353**	P	**P**	**07 48 07.8**	**+0.2**
	baz=172,SNR=5.3						
J57A				P	**P**	**07 48 07.8**	**+0.2**
	baz=172,SNR=5.3						
K50A	**Casco**	**65.16**	**348**	P	**P**	**07 48 09.3**	**-0.8**
	baz=165,SNR=11						
K50A				P	**P**	**07 48 09.3**	**-0.8**
	baz=165,SNR=11						
P38A	**Dawn**	**65.16**	**338**	P	**P**	**07 48 09.8**	**-0.4**
	baz=154,SNR=22						
L46A	**Eue Claire**	**65.24**	**345**	P	**P**	**07 48 09.6**	**-1.1**
	baz=161,SNR=7.6						
L46A				P	**P**	**07 48 09.6**	**-1.1**
	baz=161,SNR=7.6						
N41A	**Harden Midland**	**65.27**	**341**	P	**P**	**07 48 09.9**	**-0.9**
	baz=156,SNR=9.6						
121A	**Cookes Peak, D**	**65.74**	**323**	P	**P**	**07 48 15.5**	**+1.2**
	baz=139,SNR=19						
121A	**Cookes Peak, D**	**65.74**	**323**	P	**P**	**07 48 15.2**	**+0.9**
	baz=139,SNR=19						
L44A	**Lake County Fo**	**65.80**	**344**	P	**P**	**07 48 12.6**	**-1.6**
	baz=159						
KSU1	**Kansas State U**	**65.82**	**336**	P	**P**	**07 48 14.1**	**-0.3**
	baz=150,SNR=26						
KSU1	**Kansas State U**	**65.82**	**336**	P	**P**	**07 48 13.7**	**-0.7**
	baz=150,SNR=26						
LONY	**Lake Ozonia**	**65.85**	**355**	P	**P**	**07 48 14.6**	**+0.1**
LONY				IAmb	IAmb	07 48 15.7	
	comp=Z,87nm,1.6s						
LONY	**Lake Ozonia**	**65.85**	**355**	P	**P**	**07 48 14.0**	**-0.5**
	baz=173						
J47A	**Sunmer**	**66.06**	**346**	P	**P**	**07 48 15.2**	**-0.7**
	baz=163,SNR=11						
J47A				P	**P**	**07 48 15.2**	**-0.7**
	baz=163,SNR=11						
BMNY	**Brushton-Moira**	**66.06**	**355**	P	**P**	**07 48 16.3**	**+0.5**
	baz=173,SNR=6.6						
GGN	**Saint George**	**66.06**	**1**	P	**P**	**07 48 16.3**	**+0.5**
GGN				IAmb	IAmb	07 48 17.2	
	comp=Z,30nm,0.8s						
R32A	**Long Quarter,**	**66.07**	**334**	P	**P**	**07 48 16.4**	**+0.2**
	baz=148,SNR=35						
N38A	**Joes South For**	**66.11**	**339**	P	**P**	**07 48 15.7**	**-0.6**
	baz=154,SNR=11						
L42A	**Oliver, Polo**	**66.11**	**342**	P	**P**	**07 48 15.3**	**-1.0**
	baz=158,SNR=6.1						
G62A	**West of Eustis**	**66.20**	**358**	P	**P**

ANMO **Albuquerque** 66.87 326 P P 07 48 22.2 +0.8
baz=141,SNR=38
ANMO **Albuquerque** 66.87 326 P P 07 48 22.1 +0.7
baz=141
ANMO **Albuquerque** 66.87 326 P P 07 48 20.6 -0.9
ANMO pP pP 07 49 03.3 +2.9
N35A **Tabor** 67.00 337 P P 07 48 21.8 -0.1
N35A **Tabor** 67.00 337 P P 07 48 21.9 -0.1
baz=152,SNR=6.3
SCIA **State Center** 67.11 340 P P 07 48 22.3 -0.2
baz=154
SCIA **State Center** 67.11 340 P P 07 48 21.8 -0.7
baz=154
JFWS **Jewell Farm** 67.12 342 P P 07 48 22.1 -0.6
baz=157,SNR=20
JFWS **Jewell Farm** 67.12 342 P P 07 48 21.8 -0.8
baz=157,SNR=20
TUC **Tucson** 67.29 321 P P 07 48 25.1 +1.1
TUC **Tucson** 67.29 321 P P 07 48 25.1 +1.1
TUC pmax pmax
comp=Z,26nm,1.2s
TUC **Tucson** 67.29 321 P P 07 48 24.7 +0.7
baz=136
TUC **Tucson** 67.29 321 P P 07 48 23.3 -0.7
TUC pP pP 07 49 02.9 -0.2
LIC **Lamto** 67.34 73⇑*iP* P 07 48 24.2 -0.4
comp=Z,3.7nm,0.2s
E63A **Oxbow** 67.36 360 P P 07 48 24.7 +0.7
baz=179,SNR=5.4
E63A P P 07 48 24.7 +0.7
baz=179,SNR=5.4
TRQ **Mont Tremblant** 67.44 355 P P 07 48 24.9 +0.2
TRQ IAmb IAmb 07 48 25.4
comp=Z,93nm,1.2s
TIC **Toumodi** 67.53 73⇑*iP* P 07 48 25.5 -0.3
comp=Z,2.1nm,0.2s
GLMI **Grayling** 67.53 347 P P 07 48 25.0 -0.2
baz=163
GLMI **Grayling** 67.53 347 P P 07 48 24.4 -0.7
baz=163
N33B **J Bar K, Exete** 67.56 336 P P 07 48 25.6 +0.1
baz=150,SNR=16
T25A **Trinidad** 67.56 329 P P 07 48 26.8 +1.0
baz=143,SNR=15
E62A **Clayton Lake** 67.58 359 P P 07 48 25.6 +0.2
E62A IAmb IAmb 07 48 26.8
comp=Z,48nm,0.8s
E62A **Clayton Lake** 67.58 359 P P 07 48 25.8 +0.4
baz=178,SNR=9.0
E62A P P 07 48 25.8 +0.4
baz=178,SNR=9.0
K38A **Parkersburg** 67.63 340 P P 07 48 25.1 -0.7
baz=155,SNR=11
KIC **Kosan Boka** 67.65 73⇑*iP* P 07 48 26.3 -0.3
comp=Z,15nm,0.4s
I42A **Draeger Farm,** 67.66 344 P P 07 48 25.4 -0.5
baz=159,SNR=14
DBIC **Dimbokro** 67.69 73 P P 07 48 26.2 -0.6
comp=Z,16nm,0.8s,baz=240,slow=6.3,SNR=14
comp=Z,16nm,0.8s
DBIC **Dimbokro** 67.69 73 P P 07 48 26.2 -0.6
H43A **Windswept, Lux** 67.91 345 P P 07 48 26.5 -1.1
baz=160
D62A **Allapoint, All** 68.03 359 P P 07 48 28.6 +0.4
D62A IAmb IAmb 07 48 29.4
comp=Z,55nm,0.8s
D62A **Allapoint, All** 68.03 359 P P 07 48 28.6 +0.4
baz=179,SNR=14
D62A P P 07 48 28.6 +0.4
baz=179,SNR=14
I40A **Norwalk** 68.12 342 P P 07 48 28.2 -0.7
baz=157,SNR=15
BATG **Bathurst New B** 68.23 1 P P 07 48 30.2 +0.7
BATG IAmb IAmb 07 48 30.7
comp=Z,49nm,0.8s
214A **Organ Pipe Nat** 68.24 320 P P 07 48 31.6 +1.6
baz=135,SNR=15
L34A **Svendsen Farm,** 68.24 337 P P 07 48 29.2 -0.4
L34A **Svendsen Farm,** 68.24 337 P P 07 48 29.2 -0.4
baz=151,SNR=20
KSCO **Kaye Shedlock'** 68.25 331 P P 07 48 31.0 +1.0
baz=145,SNR=11
KSCO **Kaye Shedlock'** 68.25 331 P P 07 48 30.2 +0.2
baz=145,SNR=11
BGNE **Belgrade** 68.41 336 P P 07 48 30.9 +0.2
baz=150,SNR=86
LMQ **La Malbaie** 68.53 358 P P 07 48 31.5 +0.2
SDCO **Great Sand Dun** 68.57 329 P P 07 48 33.1 +0.9
baz=142,SNR=83
W18A **Petrified Fore** 68.75 324 P P 07 48 34.0 +0.8
baz=138,SNR=19
QSPA **South Pole Qui** 68.93 180 P P 07 48 34.7 +0.8
E46A **Sault Ste Mari** 68.95 348 P P 07 48 33.5 -0.4
baz=163,SNR=10
I37B **Waseca** 69.06 341 P P 07 48 34.5 -0.2
baz=154,SNR=6.8
S22A **4UR Ranch, Cre** 69.22 328 P P 07 48 37.1 +0.9
baz=141,SNR=17
G40A **Rib Lake** 69.28 343 P P 07 48 35.7 -0.3
baz=158,SNR=7.9
Q24A **Divide** 69.37 330 P P 07 48 38.6 +1.5
Q24A IAmb IAmb 07 48 39.1
comp=Z,49nm,0.8s
Q24A **Divide** 69.37 330 P P 07 48 38.0 +0.9
baz=143,SNR=27
E43A **Lone Tree Farm** 69.52 346 P P 07 48 37.1 -0.3
baz=161,SNR=5.9
OGNE **Ogallala** 69.58 333 P P 07 48 39.2 +1.1
baz=146,SNR=8.2
OGNE **Ogallala** 69.58 333 P P 07 48 38.4 +0.3
baz=146,SNR=8.2
VLDQ **Val d'Or** 69.59 353 P P 07 48 38.0 +0.1
VLDQ IAmb IAmb 07 48 39.0
comp=Z,60nm,0.8s
MVCO **Mesa Verde** 69.66 326 P P 07 48 39.6 +0.8
baz=140,SNR=27
K31A **O'Neill** 69.68 336 P P 07 48 38.9 +0.3
baz=149,SNR=19
ECSD **EROS Data Cent** 69.87 338 P P 07 48 39.2 -0.4
ECSD IAmb IAmb 07 48 40.3
comp=Z,93nm,1.4s
ECSD **EROS Data Cent** 69.87 338 P P 07 48 39.3 -0.4
baz=151,SNR=31
WUAZ **Wupatki** 69.95 323 P P 07 48 41.7 +1.2
baz=137,SNR=32
SPMN **Marine on St.** 69.98 341 P P 07 48 39.8 -0.5
baz=155,SNR=15
SPMN **Marine on St.** 69.98 341 P P 07 48 39.6 -0.7
baz=155,SNR=15
GLA **Glamis** 70.22 319 P P 07 48 42.7 +0.6
baz=134
ISCO **Idaho Springs** 70.25 330 P P 07 48 43.2 +0.8
ISCO **Idaho Springs** 70.25 330 P P 07 48 43.2 +0.8
ISCO pmax pmax
comp=Z,22nm,0.9s
ISCO **Idaho Springs** 70.25 330 P P 07 48 43.4 +0.9
baz=143,SNR=31
ISCO **Idaho Springs** 70.25 330 P P 07 48 43.1 +0.7
baz=143,SNR=31
D41A **Chassel** 70.53 345 P P 07 48 43.1 -0.5
baz=159,SNR=7.0
PDMCI **Parker Dam,Lak** 70.67 321 P P 07 48 45.7 +1.0
baz=134,SNR=6.1
IKP **In-Ko-Pah, Jac** 70.74 318 P P 07 48 45.9 +0.6
baz=132,SNR=5.8
SWSC **Sam W. Stewart** 70.74 319 P P 07 48 46.4 +1.2
baz=133
F36A **Milaca** 70.77 341 P P 07 48 44.5 -0.6
baz=155,SNR=32
E38A **The Farm, Brul** 70.88 343 P P 07 48 45.0 -0.7
baz=156,SNR=18
BC3 **Big Chuckawall** 71.02 319 P P 07 48 48.1 +1.1
baz=133,SNR=22
MONP2 **Monument Peak** 71.09 318 P P 07 48 49.1 +1.5
baz=132,SNR=6.3
IRM **Iron Mountain** 71.17 320 P P 07 48 49.1 +1.2
baz=134,SNR=22
N23A **Red Feather La** 71.27 330 P P 07 48 49.2 +0.6
baz=142,SNR=22
NEE2 **Needles Airpor** 71.28 321 P P 07 48 49.3 +0.9
baz=134
SUSD **Miller** 71.32 337 P P 07 48 48.5 0.0
baz=149,SNR=9.2
SUSD **Miller** 71.32 337 P P 07 48 48.0 -0.5
baz=149,SNR=9.2
109C **Camp Elliot, M** 71.52 318 P P 07 48 50.3 +0.4
baz=132

BELC **Belle Mtn. Jos** 71.58 319 P P 07 48 51.8 +1.4
baz=133,SNR=12
TPFO **Pinon Flats** 71.59 319 P P 07 48 51.1 +0.6
baz=132,SNR=12
PFO **Pinyon Flats O** 71.60 319*diP* P 07 48 51.6 +1.1
PFO pmax pmax
comp=Z,35nm,1.1s
PFO **Pinyon Flats O** 71.60 319 P P 07 48 51.5 +1.0
baz=132,SNR=11
F33A **5 Mile Ranch,** 71.62 339 P P 07 48 49.8 -0.4
baz=152,SNR=9.1
O20A **White River Ci** 71.77 328 P P 07 48 52.5 +1.1
O20A IAmb IAmb 07 48 53.7
comp=Z,59nm,0.9s
O20A **White River Ci** 71.77 328 P P 07 48 52.6 +1.1
baz=140,SNR=39
KNB **Kanab** 71.84 323 P P 07 48 53.8 +1.9
KNB IAmb IAmb 07 48 55.1
comp=Z,80nm,1.1s
KNB **Kanab** 71.84 323 P P 07 48 53.8 +1.9
KNB pmax pmax
comp=Z,80nm,1.1s
PKCU **Pink Cliffs** 71.86 324 P P 07 48 54.2 +1.9
GMRC **Granite Mounta** 71.91 320 P P 07 48 53.7 +1.3
baz=133,SNR=20
KOWA **Kowa** 71.98 66 LR LR 08 19 35.3
comp=Z,38nm,18.6s,baz=163,slow=35
KOWA **Kowa** 71.98 66 P P 07 48 52.8 -0.2
MURC **Murrieta** 72.05 318 P P 07 48 54.1 +1.1
baz=132,SNR=5.1
EYMN **Ely** 72.10 344 P P 07 48 52.3 -0.7
EYMN IAmb IAmb 07 48 53.4
comp=Z,33nm,0.8s
EYMN **Ely** 72.10 344 P P 07 48 52.4 -0.6
baz=157,SNR=18
EYMN **Ely** 72.10 344 P P 07 48 52.2 -0.8
baz=157,SNR=18
SRU **San Rafael Swe** 72.14 326 P P 07 48 54.6 +0.9
SRU IAmb IAmb 07 48 55.7
comp=Z,41nm,0.8s
SRU **San Rafael Swe** 72.14 326 P P 07 48 54.6 +0.9
SRU pmax pmax
comp=Z,41nm,0.8s
BBRC **Big Bear Solar** 72.32 319 P P 07 48 56.3 +1.4
baz=132,SNR=7.2
Q16A **Castle Valley** 72.33 326 P P 07 48 56.0 +1.1
HEC **Hector,Ludlow** 72.35 320 P P 07 48 56.1 +1.2
baz=133
SCI2 **San Clemente I** 72.49 317 P P 07 48 56.8 +1.2
baz=131
TUQ **Turquoise Moun** 72.51 320 P P 07 48 56.6 +0.7
baz=133,SNR=14
CCUT **Cedar City** 72.52 323 P P 07 48 58.1 +2.1
CCUT IAmb IAmb 07 48 59.3
comp=Z,40nm,0.9s
CIS **Catalina Islan** 72.68 317 P P 07 48 57.3 +0.5
baz=131
BFSC **Mount Baldy Ra** 72.76 318 P P 07 48 58.5 +1.1
baz=132,SNR=9.3
RRX **Edison Barstow** 72.78 319 P P 07 48 58.9 +1.6
baz=132
FMP **Fort Macarthur** 72.81 318 P P 07 48 58.0 +0.5
baz=131
K22A **Casper** 72.93 331 P P 07 48 58.8 +0.6
baz=142,SNR=20
K22A **Casper** 72.93 331 P P 07 48 59.1 +0.9
baz=142,SNR=20
GSC **Goldstone, Bar** 72.95 320 P P 07 48 59.6 +1.2
baz=133,SNR=14
D32A **Dogwood Acres,** 73.00 340 P P 07 48 58.3 0.0
D32B **Dogwood Acres,** 73.00 340 P P 07 48 58.3 0.0
baz=152,SNR=9.5
RSSD **Black Hills** 73.03 334 P P 07 49 00.1 +1.2
RSSD IAmb IAmb 07 49 00.7
comp=Z,47nm,0.9s
RSSD **Black Hills** 73.03 334 P P 07 49 00.1 +1.2
RSSD pmax pmax
comp=Z,47nm,1.0s
RSSD **Black Hills** 73.03 334 P P 07 48 59.8 +0.9
baz=145,SNR=34
RSSD **Black Hills** 73.03 334 P P 07 48 59.4 +0.5
baz=145
SHOC **Shoshone, Teco** 73.04 321 P P 07 48 59.7 +0.8
baz=133,SNR=8.0
B35A **Bob, Littlefor** 73.09 342 P P 07 48 58.3 -0.6
B35A IAmb IAmb 07 48 59.3
comp=Z,61nm,0.7s
B35A **Bob, Littlefor** 73.09 342 P P 07 48 58.5 -0.3
baz=155,SNR=36
DECC **Green Verdugo** 73.19 318 P P 07 49 01.2 +1.4
baz=131,SNR=8.4
SNCC **San Nicolas Is** 73.29 317 P P 07 49 01.3 +0.9
baz=130
EDW2 **Edwards Air Fo** 73.39 319 P P 07 49 01.6 +0.6
baz=132,SNR=12
PSUT **Pine Spring** 73.50 324 P P 07 49 03.4 +1.7
LRMC **Laurel Mtn Rad** 73.60 319 P P 07 49 03.7 +1.4
baz=132,SNR=13
AGMN **Agassiz Nation** 73.66 341 P P 07 49 01.9 -0.2
AGMN IAmb IAmb 07 49 02.9
comp=Z,40nm,0.8s
AGMN **Agassiz Nation** 73.66 341 P P 07 49 02.0 -0.2
baz=153,SNR=26
TPNV **Topopah Spring** 73.74 321 P P 07 49 05.0 +1.9
baz=133,SNR=27
FURC **Furnace Creek,** 73.77 321 P P 07 49 04.5 +1.5
baz=133,SNR=29
E28A **Huff** 73.78 337 P P 07 49 03.6 +0.6
baz=148,SNR=26
MPMC **Manual Prospec** 73.87 320 P P 07 49 05.0 +1.0
baz=132,SNR=13
ARVC **Arvin** 74.07 318 P P 07 49 06.1 +1.2
baz=131
DUG **Dugway, Tooele** 74.13 326 P P 07 49 06.4 +1.1
baz=137,SNR=23
SBC **Santa Barbara** 74.18 317 P P 07 49 06.5 +1.0
baz=132
ISA **Isabella, Lake** 74.20 319 P P 07 49 07.2 +1.4
ISA **Isabella, Lake** 74.20 319 P P 07 49 07.2 +1.4
ISA pmax pmax
comp=Z,28nm,0.9s
ISA **Isabella, Lake** 74.20 319 P P 07 49 07.0 +1.3
baz=131,SNR=22
R11A **Troy Canyon, C** 74.33 323 P P 07 49 08.2 +1.7
R11A **Troy Canyon, C** 74.33 323 P P 07 49 08.0 +1.5
baz=134,SNR=29
BW06 **Boulder Array** 74.42 329 P P 07 49 07.9 +0.9
BW06 **Boulder Array** 74.42 329 P P 07 49 07.1 0.0
baz=140,SNR=17
PD31 **Pinedale Array** 74.42 329 P P 07 49 07.8 +0.7
PDAR **Pinedale Array** 74.42 329 P P 07 49 07.2 +0.2
comp=Z,12nm,0.9s,baz=142,slow=7.4,SNR=51
comp=Z,12nm,0.9s
PDAR **Pinedale Array** 74.42 329 P P 07 49 07.7 +0.7
GRAC **Grapevine Rang** 74.43 321 P P 07 49 08.1 +1.1
baz=133,SNR=8.2
CWC **Cottonwood Cre** 74.48 320 P P 07 49 08.4 +1.0
baz=132
MDND **Maddock** 74.48 338 P P 07 49 07.4 +0.4
MDND **Maddock** 74.48 338 P P 07 49 07.6 +0.6
baz=149,SNR=64
PKM **Mcpherson Peak** 74.53 318 P P 07 49 09.2 +1.4
baz=130,SNR=8.8
VES **Vestal, Richgr** 74.69 319 P P 07 49 09.6 +1.1
baz=131,SNR=12
SMMC **Simmler** 74.92 318 P P 07 49 11.4 +1.6
baz=130,SNR=8.1
TIN **Timemaha, Big** 74.98 320 P P 07 49 11.3 +1.0
baz=132
ULM **Lac du Bonnet** 75.40 342 P P 07 49 11.7 -0.5
comp=Z,41nm,0.6s,baz=156,slow=7.4,SNR=67
comp=Z,41nm,0.6s
ULM **Lac du Bonnet** 75.40 342 P P 07 49 12.0 -0.2
ULM IAmb IAmb 07 49 12.7
comp=Z,41nm,0.6s
ULM **Lac du Bonnet** 75.40 342 P P 07 49 11.7 -0.5
MLAC **Mammoth, Mammo** 75.72 320 P P 07 49 16.1 +1.4
baz=132
MOOW **Moose Ponds** 75.73 329 P P 07 49 15.2 +0.7
MOOW IAmb IAmb 07 49 16.5
comp=Z,112nm,1.9s
SCHQ **Schefferville** 75.79 1 P P 07 49 14.2 -0.1
comp=Z,33nm,0.8s,baz=195,slow=4.7,SNR=20
comp=Z,33nm,0.8s
SCHQ **Schefferville** 75.79 1 P P 07 49 14.4 +0.2
SCHQ IAmb IAmb 07 49 15.1
comp=Z,33nm,0.8s

IMW **Indian Meadow** 75.93 329 P P 07 49 16.9 +1.1
IMW IAmb IAmb 07 49 18.0
comp=Z,51nm,0.9s
NVAR **Mina Array Bea** 75.94 321 P P 07 49 16.6 +0.8
comp=Z,9.0nm,0.9s,baz=146,slow=6.6,SNR=58
NVAR PP PP 07 52 10.1 +1.4
comp=Z,1.1nm,0.9s,baz=134,slow=7.6,SNR=3.3
comp=Z,9.0nm,0.9s
LAO **LASA Array** 76.02 334 P P 07 49 16.5 +0.7
LAO IAmb IAmb 07 49 17.6
comp=Z,72nm,1.1s
LAO **LASA Array** 76.02 334 P P 07 49 16.5 +0.7
baz=143,SNR=21
RLMT **Red Lodge** 76.09 331 P P 07 49 17.7 +1.2
baz=140,SNR=40
H17A **Grant Village** 76.14 330 P P 07 49 18.5 +1.6
baz=139,SNR=17
KVN **Kaiserville** 76.24 322 P P 07 49 18.4 +0.9
KVN **Kaiserville** 76.24 322 P P 07 49 18.4 +0.9
KVN pmax pmax
comp=Z,28nm,0.9s
TOA0 **Torodi Ar. Sit** 76.31 70 P P 07 49 17.6 -0.5
TOA0 IAmb IAmb 07 49 18.6
comp=Z,44nm,0.7s
TORD **Torodi Ar. Bea** 76.31 70 P P 07 49 17.7 -0.4
comp=Z,42nm,0.7s,baz=256,slow=5.2,SNR=176
TORD S S 07 58 45.8 -4.5
comp=Z,2.5nm,1.0s,baz=234,slow=11,SNR=5.1
comp=Z,42nm,0.7s
DGMT **Dagmar** 76.66 336 P P 07 49 20.5 +1.1
baz=145,SNR=30
YHL **Hebgen Lake** 76.77 330 P P 07 49 22.2 +1.8
YHL IAmb IAmb 07 49 23.3
comp=Z,33nm,0.8s
GCMT **Greycliff** 76.79 331 P P 07 49 21.2 +0.9
VNDA **Vanda** 77.26 190 P P 07 49 24.3 +1.9
comp=Z,0.5nm,0.5s,baz=117,slow=6.8,SNR=6.7
VNDA **Vanda** 77.26 190 P P 07 49 24.3 +1.9
HLID **Hailey** 77.39 327 P P 07 49 25.6 +1.9
HLID IAmb IAmb 07 49 26.6
comp=Z,46nm,0.8s
HLID **Hailey** 77.39 327 P P 07 49 25.4 +1.6
baz=136,SNR=97
BOZ **Bozeman (W)** 77.54 330 P P 07 49 25.3 +0.8
BOZ **Bozeman (W)** 77.54 330 P P 07 49 25.3 +0.8
BOZ pmax pmax
comp=Z,21nm,1.1s
BOZ **Bozeman (W)** 77.54 330 P P 07 49 25.4 +0.9
baz=139,SNR=29
SUR **Sutherland** 77.81 120 LR LR 08 24 05.5
comp=Z,32nm,18.5s,baz=170,slow=36
EGMT **Eagleton** 78.55 333 P P 07 49 30.4 +0.5
baz=140,SNR=23
TSUM **Tsumeb** 79.13 106 LR LR 08 21 50.7
comp=Z,39nm,19.5s,baz=160,slow=34
PLID **Pearl Lake** 79.28 327 P P 07 49 35.0 +0.9
PLID IAmb IAmb 07 49 36.2
comp=Z,53nm,0.8s
MSO **Missoula** 79.53 330 P P 07 49 36.4 +1.1
baz=137,SNR=8.8
PFVI **Vila Bisbo** 80.36 44 *eP* P 07 49 39.7 -0.2
MORF **Marmelete** 80.58 44 *eP* P 07 49 41.4 +0.3
MORF IAmb IAmb 07 49 43.3
comp=Z,18nm,1.0s
MORF **Marmelete** 80.58 44 *eP* P 07 49 42.4 +1.3
MORF **Marmelete** 80.58 44 *eP* P 07 49 41.4 +0.3
PTEO **Sao Teotonio** 80.67 44 *eP* P 07 49 42.1 +0.6
K04D **Chiloquin, OR** 80.68 323 P P 07 49 42.7 +1.0
baz=130,SNR=6.6
L04D **Klamath Falls** 80.73 322 P P 07 49 41.9 0.0
baz=130,SNR=7.7
MDT **Midelt** 80.81 50 LR LR 08 26 19.9
comp=Z,30nm,18.8s,baz=260,slow=36
J05D **Fort Rock, OR** 80.82 324 P P 07 49 43.4 +1.0
baz=131,SNR=33
G08A **Pilot Rock** 80.93 326 P P 07 49 43.8 +0.9
PNCL **Nicolau / Gran** 81.12 43 *eP* P 07 49 44.8 +0.9
WALA **Waterton Lakes** 81.15 331 P P 07 49 44.6 +0.6
WALA IAmb IAmb 07 49 45.6
comp=Z,49nm,0.8s
PCVE **Castro Verde** 81.16 44 *eP* P 07 49 45.2 +1.1
comp=Z,26nm,1.7s
MESJ **Messejana** 81.17 44 *eP* P 07 49 44.5 +0.4
MESJ IAmb IAmb 07 49 46.7
comp=Z,6.4nm,0.9s
MESJ **Messejana** 81.17 44 *eP* P 07 49 44.9 +0.7
MESJ **Messejana** 81.17 44 *eP* P 07 49 44.6 +0.4
PVAQ **Vaqueiros** 81.24 44 *eP* P 07 49 44.5 0.0
J04D **Umpqua Nationa** 81.28 323 P P 07 49 45.6 +0.7
baz=130,SNR=12
L02F **Cave Junction** 81.40 322 P P 07 49 45.9 +0.6
baz=129,SNR=7.9
PBEJ **Beja** 81.50 44 *eP* P 07 49 46.5 +0.6
I05D **Terrebonne, OR** 81.56 324 P P 07 49 47.6 +1.5
baz=131,SNR=43
I04A **Tendick Farm,** 81.80 323 P P 07 49 47.8 +0.3
baz=130,SNR=12
K02D **Willamette Mer** 81.81 322 P P 07 49 48.3 +0.7
baz=129,SNR=9.6
PMTG **Montargil** 81.88 43 *eP* P 07 49 48.2 +0.4
NEW **Newport** 82.06 329 P P 07 49 48.5 -0.2
baz=134,SNR=13
PBAR **Barrancos** 82.12 44 *eP* P 07 49 49.4 +0.3
G05D **Wamic, OR** 82.14 325 P P 07 49 49.8 +0.6
baz=131,SNR=18
J01E **Myrtle Point** 82.26 322 P P 07 49 50.7 +1.0
baz=129,SNR=7.0
I03D **Drain, OR** 82.26 323 P P 07 49 50.3 +0.5
baz=129,SNR=13
H04D **Lebanon** 82.44 324 P P 07 49 50.7 0.0
baz=130
BOSA **Boshof** 82.65 118 P P 07 49 52.7 +0.3
comp=Z,3.6nm,0.5s,baz=256,slow=2.9,SNR=11
comp=Z,3.6nm,0.5s
BOSA **Boshof** 82.65 118 P P 07 49 52.7 +0.3
PCBR **Castelo Branco** 82.79 42 *eP* P 07 49 52.9 +0.3
COR **Corvallis** 82.80 324 P P 07 49 54.2 +1.7
COR IAmb IAmb 07 49 55.0
comp=Z,46nm,0.9s
COR **Corvallis** 82.80 324 P P 07 49 54.2 +1.7
COR pmax pmax
comp=Z,46nm,1.0s
I02E **Swisshome, OR** 82.80 323 P P 07 49 54.1 +1.6
I02E IAmb IAmb 07 49 54.8
comp=Z,47nm,0.7s
I02E **Swisshome, OR** 82.80 323 P P 07 49 53.7 +1.2
baz=129,SNR=9.5
PVIS **Viseu** 83.04 41 *eP* P 07 49 55.2 +1.3
G03D **McMinnville, O** 83.17 324 P P 07 49 55.7 +1.3
baz=129
PVRL **Vila Real** 83.48 41 *eP* P 07 49 55.8 -0.3
POLO **Lamas de Olo** 83.48 41 *eP* P 07 49 56.4 +0.2
F04D **Rainier, OR** 83.59 325 P P 07 49 57.4 +0.9
baz=130
MVO **Moncorvo** 83.83 42 *eP* P 07 49 58.9 +0.9
comp=Z,30nm,1.5s
LBTB **Lobatse** 84.19 114 LR LR 08 23 51.8
comp=Z,58nm,20.3s,baz=239,slow=33
MAW **Mawson** 84.26 163 P P 07 50 00.8 +1.1
comp=Z,4.1nm,0.5s,baz=219,slow=6.7,SNR=24
comp=Z,4.1nm,0.5s
MAW **Mawson** 84.26 163 P P 07 50 01.0 +1.3
MAW **Mawson** 84.26 163 P P 07 50 00.8 +1.1
PBRG **Braganca** 84.38 41 *eP* P 07 50 01.3 +0.6
PAB **San Pablo** 84.63 44 P P 07 50 02.9 +0.8
PAB **San Pablo** 84.63 44 P P 07 50 02.9 +0.8
PAB pmax pmax
comp=Z,21nm,1.1s
NLWA **Neilton Lookou** 84.87 326 P P 07 50 04.2 +1.1
NLWA IAmb IAmb 07 50 05.1
comp=Z,35nm,1.1s
ESDC **Sonseca Array** 84.95 44 P P 07 50 03.8 +0.2
comp=Z,7.5nm,1.0s,baz=244,slow=5.1,SNR=40
comp=Z,7.5nm,1.0s
B04A **Port Angeles** 85.10 326 P P 07 50 05.5 +1.4
B04A IAmb IAmb 07 50 06.2
comp=Z,38nm,1.2s
PGC **Sidney** 85.45 327 P P 07 50 06.7 +0.9
PGC IAmb IAmb 07 50 07.7
comp=Z,48nm,0.8s
LLLB **Lillooet** 85.94 329 P P 07 50 08.6 +0.4
LLLB IAmb IAmb 07 50 09.3
comp=Z,49nm,1.0s
CBB **Campbell River** 87.30 327 P P 07 50 15.7 +0.9
CBB IAmb IAmb 07 50 16.5
comp=Z,32nm,0.9s

DY2G	**Dye2**	**88.96**	**8**	*i* P		**P**	07 50 20.9	-1.6	
YKA	**Yellowknife Ar**	**91.31**	**340**	P		**P**	07 50 33.2	0.0	
	comp=Z,50nm,0.7s,baz=134,slow=4.7,SNR=118								
YKA	**Yellowknife Ar**	**91.31**	**340**	P		**P**	07 50 33.2	0.0	
ICESG	**Greenland Ices**	**92.36**	**10**	*i* P		**P**	07 50 37.8	-0.7	
V35K	**Ketchikan**	**93.47**	**329**	P		**P**	07 50 43.6	+0.3	
	baz=123								
T35M	**Bob Quinn**	**93.75**	**331**	P		**P**	07 50 44.8	+0.1	
	baz=124								
CRAG	**Craig**	**94.27**	**329**	P		**P**	07 50 46.4	-0.7	
	baz=122								
WRAK	**Wrangell Islan**	**94.41**	**330**	P		**P**	07 50 48.0	+0.3	
	baz=122,SNR=5.3								
DLBC	**Dease Lake**	**94.47**	**332**	P		**P**	07 50 49.1	+1.1	
	baz=124								
S34M	**Telegraph Cree**	**94.66**	**331**	P		**P**	07 50 49.6	+0.8	
	baz=123								
WTLY	**Watson Lake, Y**	**94.90**	**334**	P		**P**	07 50 49.8	-0.1	
	baz=125								
DOU	**Dourbes**	**95.41**	**38**	*d*P		**P**	07 50 51.3	-1.1	
R33M	**Jennings River**	**95.41**	**333**	P		**P**	07 50 52.8	+0.4	
	baz=123								
TGTN	**Hyland Airport**	**95.51**	**335**	P		**P**	07 50 52.9	+0.2	
	baz=125								
BMRD	**Maredsous**	**95.60**	**38**	*d*P		**P**	07 50 52.4	-0.8	
SUMG	**Summit**	**95.67**	**9**	*i* P		**P**	07 50 53.0	-0.6	
RAO	**Raoul Island**	**96.03**	**236**	LR		LR	08 27 26.3		
	comp=Z,118nm,19.8s,baz=141,slow=31								
R32K	**Eaglecrest**	**96.38**	**331**	P		**P**	07 50 56.7	0.0	
	baz=120								
P33M	**Teslin, Yukon**	**96.64**	**333**	P		**P**	07 50 58.3	+0.4	
	baz=122								
N32M	**Quiet Lake**	**97.24**	**334**	P		Pdif	07 51 01.2	+0.6	
	baz=121								
MMPY	**Sheldon Lake,**	**97.29**	**335**	P		Pdif	07 51 01.2	+0.4	
	baz=123								
SKAG	**Skagway**	**97.34**	**332**	P		Pdif	07 51 01.3	+0.3	
	baz=120								
WHY	**Whitehorse**	**97.75**	**333**	P		**P**	07 51 02.5	-0.4	
	baz=120								
PLBC	**Pleasant Camp**	**97.80**	**331**	P		Pdif	07 51 03.1	0.0	
	baz=119								
FARO	**Faro, Yukon**	**97.91**	**335**	P		Pdif	07 51 03.6	0.0	
	baz=121								
M31M	**Drury Creek, Y**	**98.32**	**334**	P		Pdif	07 51 05.6	+0.3	
	baz=120								
O30N	**Mendenhall**	**98.32**	**333**	P		**P**	07 51 05.3	-0.1	
	baz=119								
P30M	**Million Dollar**	**98.39**	**332**	P		**P**	07 51 05.1	-0.6	
	baz=118								
N31M	**Braeburn, Yuko**	**98.53**	**333**	P		**P**	07 51 06.0	-0.3	
	baz=119								
NEEM	**North Greenlan**	**99.00**	**4**	*e*P		**P**	07 51 07.2	-1.1	
MAYO	**Mayo, Yukon**	**99.60**	**335**	P		**Pdif**	07 51 10.9	-0.1	
	baz=119								
YUK4	**Talbot Arm**	**99.69**	**332**	P		**Pdif**	07 51 10.7	-1.0	
	baz=117								
PINM	**Pinnacle**	**99.84**	**331**	P		**Pdif**	07 51 11.0	-1.3	
	baz=115								
M29M	**Somme Creek**	**100.10**	**334**	P		**Pdif**	07 51 12.8	-0.6	
	baz=116								
O28M	**Mount Upton**	**100.11**	**332**	P		**Pdif**	07 51 13.4	-0.3	
	baz=115								
K29M	**Barlow Dome**	**100.36**	**335**	P		**Pdif**	07 51 14.3	-0.2	
	baz=117								
YUK3	**Moose Creek**	**100.66**	**333**	P		**Pdif**	07 51 16.0	0.0	
	baz=115								
CTG	**Chitna Glacier**	**100.70**	**332**	P		**Pdif**	07 51 15.7	-0.4	
	baz=114								
INK	**Inuvik**	**101.07**	**340**	P		**Pdif**	07 51 18.2	+0.9	
	baz=120								
DAWY	**Dawson**	**101.20**	**335**	P		**Pdif**	07 51 18.3	+0.2	
	baz=116								
I29M	**Ogilvie Camp,**	**101.35**	**336**	P		**Pdif**	07 51 18.9	+0.1	
	baz=116								
M27K	**Edge Creek, AK**	**101.51**	**333**	P		**Pdif**	07 51 19.7	0.0	
	baz=114								
L27K	**Beaver Creek,**	**101.77**	**333**	P		**Pdif**	07 51 21.2	+0.5	
	baz=114								
EGAK	**Eagle**	**102.19**	**335**	P		**Pdif**	07 51 22.4	-0.1	
	baz=114								
K27K	**Chicken**	**102.26**	**334**	P		**Pdif**	07 51 22.8	0.0	
	baz=113								
N25K	**Chitina, Valde**	**102.40**	**332**	P		**Pdif**	07 51 23.1	-0.5	
	baz=112								
KLU	**Klutina**	**102.95**	**331**	P		**Pdif**	07 51 26.0	-0.1	
	baz=110								
SCRK	**Sand Creek**	**103.02**	**334**	P		**Pdif**	07 51 26.5	+0.1	
	baz=112								
J26L	**Joseph Creek**	**103.04**	**334**	P		**Pdif**	07 51 26.2	-0.2	
	baz=112								
PAX	**Paxson**	**103.27**	**333**	P		**Pdif**	07 51 27.6	+0.1	
	baz=110								
RIDG	**Independent Ri**	**103.28**	**334**	P		**Pdif**	07 51 27.4	0.0	
	baz=111								
E27K	**Coleen River**	**103.71**	**338**	P		**Pdif**	07 51 28.9	-0.4	
	baz=113								
J25K	**Salcha River,**	**103.81**	**334**	P		**Pdif**	07 51 29.6	-0.1	
	baz=110								
WAT6	**Susitna Watana**	**104.12**	**332**	P		**Pdif**	07 51 30.7	-0.7	
	baz=109								
SML	**Sawmill**	**104.14**	**331**	P		**Pdif**	07 51 30.0	-1.3	
	baz=108								
PRP	**Porcupine Dome**	**104.18**	**335**	P		**Pdif**	07 51 32.1	+0.6	
	baz=110								
ILAR	**Eielson Array**	**104.47**	**334**	Pdiff		**Pdif**	07 51 32.5	-0.2	
	comp=Z,0.5nm,0.7s,baz=133,slow=2.4,SNR=5.1								
ILAR				PP		**PP**	07 55 53.3	-0.4	
	comp=Z,2.3nm,0.9s,baz=102,slow=5.5,SNR=5.1								
O18K	**Koktuh Hills**	**106.85**	**328**	P		**PKiKP**	07 55 52.4	0.0	
	baz=103								
R17K	**Ugashik Creek**	**106.95**	**326**	P		**PKiKP**	07 55 52.9	+0.3	
	baz=103								
H21K	**Melozitna Rive**	**107.12**	**334**	P		**PKiKP**	07 55 53.1	+0.3	
	baz=103								
L19K	**White Mountain**	**107.21**	**331**	P		**PKiKP**	07 55 54.0	+0.9	
	baz=103								
G21K	**Allakaket**	**107.59**	**335**	P		**PKiKP**	07 55 54.1	+0.5	
	baz=102								
MNK	**Minsk**	**110.29**	**38**	*i* P		**Pdif**	07 52 12.5	+14	
MNK				*i*			07 56 33.3		
MNK				*i*			08 02 56.2		
MNK				*i* SS		SS	08 11 49.8	-1.4	
MNK				*i* SSS		SSS	08 15 56.0		
MNK				MLR		MLR			
	comp=E,17nm,15.0s								
MNK				MLR		MLR			
	comp=Z,33nm,13.0s								
MNK	**Minsk**	**110.29**	**38**	*i* P		**Pdif**	07 52 12.6	+14	
MNK				*i* P		**Pdif**	07 52 12.6	+14	
MNK				*i* P		**Pdif**	07 52 12.6	+14	
MNK				*i* PP		**PP**	07 56 33.3	-3.1	
	baz=262								
MNK				*i* PPP		PPP	07 58 53.5		
MNK				*i* PKS		**PKSdf**	07 59 33.9	-1.4	
MNK				*i* SKS		**SKSdf**	08 02 56.2	+0.2	
MNK				*i* SS		**SS**	08 11 49.9	-1.3	
MNK				*i* SSS		SSS	08 15 56.0		
MNK				*i* LRM		MLR	08 43 53.3		
	comp=E,17nm,15.3s								
MNK				*i* LRM		MLR	08 43 57.1		
	comp=Z,33nm,12.7s								
BRTR	**Keskin Array B**	**111.86**	**55**	*c* iPKIKP		**PKiKP**	07 56 04.0	+1.3	
ANN	**Anapa**	**115.33**	**49**	*i* PKIKP		**PKPdf**	07 56 07.6	-1.3	
ANN				*e*			07 56 46.1		
ANN				*e*			08 02 43.8		
ANN				pmax		pmax			
	comp=Z,15nm,0.8s								
KLMR	**Klimovskoe**	**116.77**	**32**	*e*PKIKP		**PKPdf**	07 56 09.5	-1.6	
KLMR				pmax		pmax			
	comp=Z,13nm,1.3s								
KLMR	**Klimovskoe**	**116.77**	**32**	*e*PKPdf		**PKPdf**	07 56 09.6	-1.6	
KLMR				AMP			07 56 11.7		
	comp=Z,13nm,1.3s								
KIV	**Kislovodsk**	**119.03**	**51**	⇑*i* PKIKP		**PKiKP**	07 56 16.5	+0.2	
KIV				*e*			07 56 55.9		
KIV				*e*			07 57 38.2		
KIV				pmax		pmax			
	comp=Z,4.0nm,0.5s								
KBZ	**Khabaz**	**119.17**	**51**	PKKPbc		PKKPbc	08 06 30.5	-0.5	
	comp=Z,1.1nm,0.7s,baz=344,slow=20,SNR=2.0								
KBZ	**Khabaz**	**119.17**	**51**	⇑*i* PKIKP		**PKiKP**	07 56 17.0	+0.6	
ARU	**Arti**	**127.38**	**34**	*i* PKIKP		**PKiKP**	07 56 33.6	+1.4	
ARU							07 58 34.0		
ARU							08 03 31.3		
ARU				SS		SS	08 15 25.6	-5.2	
AKTO	**Aktyubinsk**	**128.78**	**42**	PKP		**PKiKP**	07 56 35.3	+0.1	
	baz=270,slow=3.2								
AKTO	**Aktyubinsk**	**128.78**	**42**	PKIKP		**PKiKP**	07 56 35.3	+0.1	
H11S2	**WAKE ISLAND Hyl**	**128.87**	**277**	T		T	10 17 06.8		
	baz=102,slow=74,SNR=47								
H11S1	**WAKE ISLAND Hyl**	**128.87**	**277**	T		T	10 17 06.8		
	baz=102,slow=74,SNR=30								
H11S3	**WAKE ISLAND Hyl**	**128.88**	**277**	T		T	10 17 08.1		
	baz=102,slow=74,SNR=19								
H11N3	**WAKE ISLAND Hyl**	**128.94**	**279**	T		T	10 17 12.1		
	baz=102,slow=75,SNR=36								
H11N2	**WAKE ISLAND Hyl**	**128.95**	**279**	T		T	10 17 06.2		
	baz=102,slow=75,SNR=46								
H11N1	**WAKE ISLAND Hyl**	**128.95**	**279**	T		T	10 17 14.2		
	baz=102,slow=75,SNR=21								
NRIK	**Noril'sk**	**129.64**	**11**	PKP		**PKiKP**	07 56 36.2	-0.2	
	comp=Z,1.5nm,0.4s,baz=0.0,slow=5.1,SNR=5.1								
NRIK	**Noril'sk**	**129.64**	**11**	⇑PKIKP		**PKiKP**	07 56 36.6	+0.2	
SEY	**Seymchan**	**130.28**	**337**	PKP		**PKiKP**	07 56 38.0	+0.1	
	comp=Z,12nm,0.9s,baz=58,slow=13,SNR=27								
SEY				PP		**PP**	07 58 48.1	-4.2	
	comp=Z,0.6nm,0.3s,baz=69,slow=8.6,SNR=4.0								
SEY	**Seymchan**	**130.28**	**337**	⇑*i* PKIKP		**PKiKP**	07 56 38.4	+0.5	
SEY				pmax		pmax			
	comp=Z,20nm,1.3s								
AB31	**Akbulak array**	**130.28**	**43**	*i* PKIKP		**PKiKP**	07 56 38.0	-0.3	
ABKAR	**Akbulak array**	**130.28**	**43**	PKPdf		**PKiKP**	07 56 38.8	+0.5	
AS31	**Alice Springs**	**130.59**	**207**	PKPdf		**PKPdf**	07 56 39.2	+0.2	
ASAR	**Alice Springs**	**130.59**	**207**	PKP		**PKPdf**	07 56 39.0	0.0	
	comp=Z,4.8nm,0.9s,baz=152,slow=2.4,SNR=30								
ASAR				SKPbc		**SKPbc**	07 59 47.6	-0.5	
	comp=Z,3.4nm,0.8s,baz=143,slow=4.1,SNR=18								
ASAR	**Alice Springs**	**130.59**	**207**	PKPdf		**PKPdf**	07 56 39.2	+0.2	
ASAR	**Alice Springs**	**130.59**	**207**	PKIKP		**PKPdf**	07 56 39.2	+0.2	
GEYT	**Alibeck**	**130.80**	**58**	PKP		**PKiKP**	07 56 39.7	-0.1	
	comp=Z,3.4nm,0.8s,baz=298,slow=3.1,SNR=4.0								
MA2	**Magadan**	**132.96**	**334**	SKP			08 00 01.0		
	comp=Z,2.9nm,0.3s,baz=357,slow=15,SNR=1.8								
PETK	**Petropavlovsk-**	**132.98**	**324**	PKP		**PKPdf**	07 56 42.2	-0.3	
	comp=Z,2.9nm,0.6s,baz=89,slow=4.2,SNR=6.3								
PETK	**Petropavlovsk-**	**132.98**	**324**	PKIKP		**PKPdf**	07 56 42.2	-0.3	
WRA	**Warramunga Arr**	**133.67**	**209**	PKP		**PKPdf**	07 56 45.2	+0.4	
	comp=Z,3.4nm,0.7s,baz=156,slow=1.7,SNR=36								
WRA				SKPbc		**SKPbc**	07 59 58.5	-0.5	
	comp=Z,6.4nm,1.1s,baz=147,slow=2.8,SNR=14								
WRA	**Warramunga Arr**	**133.67**	**209**			**PKPdf**	07 56 45.4	+0.5	
WRA	**Warramunga Arr**	**133.67**	**209**	PKIKP		**PKPdf**	07 56 45.2	+0.4	
WRAB	**Tennant Creek**	**133.68**	**209**	⇑*i* PKIKP		**PKPdf**	07 56 45.3	+0.4	
KURK	**Kurchatov**	**140.56**	**34**	PKPdf		**PKPdf**	07 56 56.7	+0.2	
KURK	**Kurchatov**	**140.56**	**34**	PKIKP		**PKPdf**	07 56 56.7	+0.2	
ZALV	**Zalesovo Beam**	**141.30**	**26**	PKhKP		PKPpre	07 56 54.5		
	comp=Z,8.9nm,0.7s,baz=286,slow=3.2,SNR=8.8								
ZALV				SKPbc		**SKPbc**	08 00 20.6	+0.6	
	comp=Z,1.6nm,0.6s,baz=304,slow=3.1,SNR=3.8								
ZALV	**Zalesovo Beam**	**141.30**	**26**			**PKPdf**	07 56 58.3	+0.5	
ZALV	**Zalesovo Beam**	**141.30**	**26**	PKIKP		**PKPdf**	07 56 58.3	+0.5	
BOD	**Bodaibo**	**143.46**	**358**	*e*PKIKP		PKPab	07 56 58.6	+0.5	
BOD				pmax		pmax			
	comp=Z,19nm,1.3s								
KSH	**Kashi**	**144.15**	**51**	PKP		PKPbc	07 57 02.2	+0.2	
YSS	**Yuzh-Sakhalins**	**144.37**	**323**	*e*PKIKP		**PKPdf**	07 57 03.1	-0.3	
YSS				pmax		pmax			
	comp=Z,40nm,0.7s								
MAKZ	**Makanchi**	**144.65**	**37**	PKIKP		PKPbc	07 57 03.5	+0.3	
MK31	**Makanchi Array**	**144.84**	**36**			**PKPab**	07 57 04.0	+0.2	
MK31	**Makanchi Array**	**144.84**	**36**	PKIKP		**PKPab**	07 57 04.0	+0.2	
MKAR	**Makanchi Array**	**144.84**	**36**	PKP		**PKPab**	07 57 03.9	+0.2	
	comp=Z,53nm,0.7s,baz=313,slow=3.4,SNR=439								
MKAR				SKPbc		**SKPbc**	08 00 27.8	-1.1	
	comp=Z,1.7nm,1.0s,baz=296,slow=3.6,SNR=4.9								
MKAR	**Makanchi Array**	**144.84**	**36**			**PKPdf**	07 57 04.2	-0.1	
MKAR	**Makanchi Array**	**144.84**	**36**	PKIKP		**PKPab**	07 57 03.9	+0.2	
ZEA	**Zeya**	**145.60**	**344**	*e*PKP2		**PKPab**	07 57 06.4	+0.1	
ZEA				*e*			08 13 12.0		
ZEA				pmax		pmax			
	comp=Z,50nm,1.0s								
ZEA				pmax		pmax			
	comp=Z,100nm,9.0s								
GUMO	**Guam**	**147.95**	**262**	PKPbc		**PKPbc**	07 57 13.3	-0.3	
	comp=Z,138nm,1.0s,baz=87,slow=7.3,SNR=4.9								
GUMO	**Guam**	**147.95**	**262**	PKP2		**PKPbc**	07 57 13.3	-0.3	
HYBB	**Hyderabad (bro**	**148.07**	**91**	*e*PKiKP		**PKPbc**	07 57 14.5	+0.5	
MOY	**Mondy**	**148.42**	**13**	*e*PKP2		**PKiKP**	07 57 15.1	-0.4	
MOY				pmax		pmax			
	comp=Z,57nm,2.1s								
WMQ	**Urumqi**	**149.67**	**36**	*e*PKPbc		**PKPdf**	07 57 12.5	0.0	
WMQ				LR		LR			
	comp=Z,280nm,22.3s								
WMQ				LR		LR			
	comp=Z,310nm,22.3s								
ZAK	**Zakamensk**	**150.10**	**11**	*e*PKIKP		**PKPbc**	07 57 18.1	0.0	
ZAK				pmax		pmax			
	comp=Z,15nm,1.3s								
USRK	**Ussuriysk Ar.**	**151.85**	**329**	PKPbc		**PKPbc**	07 57 22.4	+0.2	
	comp=Z,14nm,0.6s,baz=11,slow=1.5,SNR=24								
USRK				PKPab		**PKPab**	07 57 31.6	-0.2	
	comp=Z,5.7nm,0.7s,baz=0.0,slow=3.2,SNR=6.5								
USRK	**Ussuriysk Ar.**	**151.85**	**329**			**PKiKP**	07 57 23.1	+0.5	
USRK	**Ussuriysk Ar.**	**151.85**	**329**	PKIKP		**PKPbc**	07 57 22.4	+0.2	
USRK							07 57 31.6		
MJAR	**Matsushiro Arr**	**152.72**	**310**	PKPbc		**PKPbc**	07 57 24.2	-0.3	
	comp=Z,5.6nm,0.8s,baz=93,slow=1.5,SNR=10								
MJAR				PKPab		**PKPab**	07 57 35.6	-0.3	
	comp=Z,3.8nm,0.8s,baz=93,slow=5.3,SNR=4.3								
MJAR	**Matsushiro Arr**	**152.72**	**310**	PKIKP		**PKPbc**	07 57 24.2	-0.3	
MJAR							07 57 35.6		
MAJO	**Matsushiro**	**152.72**	**310**			**PKiKP**	07 57 24.9	+0.2	
MAJO	**Matsushiro**	**152.72**	**310**	PKIKP		**PKiKP**	07 57 24.9	+0.2	
SONM	**Songino Array**	**153.08**	**9**	PKP		**PKPdf**	07 57 18.1	+0.5	
	comp=Z,3.8nm,0.8s,baz=331,slow=0.7,SNR=13								
SONM				PKPbc		**PKiKP**	07 57 25.9	+0.7	
	comp=Z,7.5nm,0.7s,baz=316,slow=1.2,SNR=16								
SONM				PKPab		**PKPab**	07 57 37.3	+0.2	
	comp=Z,5.8nm,0.7s,baz=319,slow=3.9,SNR=8.8								
SONM				PP		**PP**	08 01 15.4	+5.2	
	comp=Z,1.4nm,0.8s,baz=343,slow=4.5,SNR=3.6								
SONM	**Songino Array**	**153.08**	**9**	PKIKP		**PKPdf**	07 57 18.1	+0.5	
SONM							07 57 37.3		
GOMU	**GeErMu**	**158.75**	**42**	PKP		**PKPdf**	07 57 26.9	+1.1	
GOMU				AMB		AMB			
	comp=Z,38nm,6.5s								
KSRS	**Korea Array**	**158.87**	**323**	PKP		**PKPdf**	07 57 25.6	+0.3	
	comp=Z,4.6nm,0.9s,baz=53,slow=1.2,SNR=26								
KSRS				PKPab		**PKPab**	07 58 02.6	+0.5	
	comp=Z,6.7nm,0.8s,baz=55,slow=4.6,SNR=20								
KSRS				PP		**PP**	08 01 43.9	+1.0	
	comp=Z,0.6nm,0.4s,baz=42,slow=3.8,SNR=4.5								
KSRS	**Korea Array**	**158.87**	**323**	PKIKP		**PKPdf**	07 57 25.6	+0.3	
KSRS							07 58 02.7		
GTA	**Gaotai**	**159.03**	**28**	⇑PKP		**PKPdf**	07 57 27.0	+1.3	
GTA				PKPab		**PKPab**	07 58 03.1	+0.2	
GTA				LR		LR			
	comp=Z,77nm,17.1s								
GTA				LR		LR			
	comp=Z,89nm,16.7s								
GTA				LR		LR			
	comp=Z,69nm,17.5s								
HHC	**Hu-ho-hao-te**	**160.47**	**1**	*e*PKP		**PKPdf**	07 57 24.0	-3.2	
BJI	**Beijing**	**160.97**	**351**	PKP		**PKPdf**	07 57 28.6	+1.0	
BJI				pPKP		**pPKPdf**	07 58 10.3	-0.5	
LZH	**Lanzhou**	**163.53**	**24**	*e*PKP		**PKPdf**	07 57 29.5	-1.1	
LZH				sPKP			07 58 30.5		
CMAR	**Chiang Mai Arr**	**167.23**	**100**	PKP		**PKPdf**	07 57 34.3	+0.4	
	comp=Z,1.3nm,0.3s,baz=256,slow=2.7,SNR=7.4								
CMAR	**Chiang Mai Arr**	**167.23**	**100**	PKIKP		**PKPdf**	07 57 34.3	+0.4	
NJ2	**Nanjing**	**167.72**	**332**	*e*PKP		**PKPdf**	07 57 34.2	+0.3	
CD2	**Chengdu**	**167.77**	**37**	PKP		**PKPdf**	07 57 33.4	-0.6	
PZH	**PanZhiHua**	**169.11**	**59**	PKP		**PKPdf**	07 57 32.4	-2.7	
WHN	**Wuhan**	**170.55**	**349**	⇑PKP		**PKPdf**	07 57 36.9	+1.2	

IDC 06 07:42:06.7±2.1, 54°.48N×83°.59E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=17.6km s-min=10.4km az=168.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**126**	*i*		07 47 50.0	
	baz=306,slow=296,SNR=1.3						
ZALV	**Zalesovo Beam**	**0.90**	**126**	Pg	Pg	07 42 24.3	+0.5
	2.8nm,0.3s,baz=305,slow=17,SNR=20						
ZALV				Lg	Lg	07 42 36.0	
	3.2nm,0.3s,baz=308,slow=24,SNR=11						
ZALV				Rg	Rg	07 42 43.0	
	9.1nm,0.4s,baz=308,slow=23,SNR=6.2						

KURBB	**Kurchatov Arra**	**4.94**	**221**	Pn		Pn	07 43 21.8	-0.3	
	baz=42,slow=14,SNR=6.5								
KURBB				Lg		Lg	07 44 43.4		
	0.1nm,0.3s,baz=39,slow=29,SNR=3.8								
	0.7nm,0.8s								
MKAR	**Makanchi Array**	**7.74**	**187**	Pn		Pn	07 44 00.5	0.0	
	0.1nm,0.3s,baz=12,slow=12,SNR=4.7								
MKAR				Sn		Sn	07 45 29.0	+0.2	
	baz=10,slow=26,SNR=3.5								
MKAR				Lg		Lg	07 46 11.9		
	0.1nm,0.3s,baz=11,slow=30,SNR=6.8								
	0.3nm,0.4s								

NIED ***06*** *07:44:57.2, 25°.77N×124°.12E, h167km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=0.74; Mθθ-5.44; Mϕϕ6.18; Mrθ1.32; Mθϕ-1.98; Mϕr0.40; Fault plane solution: M₀6.31000×10¹⁴ NP1: ϕs306.00000°, δ79.00000°, λ-171.00000°. NP2: ϕs215.00000°, δ81.00000°, λ-11.00000°.*

JMA 06 07:44:57.2±0.2, 26°N±2°×12°4E±°, h167km, MV4.0/23, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**1.19**	**171**	P	Pn	07 45 25.4	+0.2
JTJ	**Tarama**	**1.25**	**155**	*i* P	Pn	07 45 25.9	+0.2
JTJ				S	Sn	07 45 47.3	-0.2
JIKM	**Ikemajima**	**1.33**	**129**	P	Pn	07 45 27.1	+0.7
JIKM				S	Sn	07 45 49.1	+0.3
JIRB	**Irabujima**	**1.34**	**134**	P	Pn	07 45 27.0	+0.5
JIRB				S	Sn	07 45 48.5	-0.5
JIJ	**Ishigaki jima**	**1.40**	**179**	*i* P	Pn	07 45 26.9	-0.2
JIJ				S	Sn	07 45 49.1	-1.1
IRIF	**Iriomote-Funau**	**1.47**	**194**	*i* P	Pn	07 45 27.6	-0.2
IRIF				S	Sn	07 45 51.3	-0.1
JMJ2	**Miyako jima3**	**1.50**	**133**	S	Sn	07 45 52.0	+0.1
JKRS	**Kuro-shima**	**1.53**	**184**	P	Pn	07 45 28.4	0.0
JKRS				S	Sn	07 45 52.1	-0.3
JOGS	**Gusukube**	**1.54**	**131**	P	Pn	07 45 29.5	+1.0
JOGS				S	Sn	07 45 52.9	+0.3
YOJ	**Yonaguni jima**	**1.65**	**218**	*i* P	Pn	07 45 30.1	+0.6
YOJ				*e*S	Sn	07 45 55.2	+0.7
JYNG	**Yonagunijimaku**	**1.69**	**219**	P	Pn	07 45 30.6	+0.6
JYNG				S	Sn	07 45 55.8	+0.5
HATJ	**Hateruma jima**	**1.73**	**189**	P	Pn	07 45 30.4	-0.1
HATJ				S	Sn	07 45 55.4	-0.7
JKE	**Kume jima 2**	**2.46**	**76**	P	Pn	07 45 38.7	0.0
JKE				*e*S	Sn	07 46 10.7	-0.2
JAGN	**Aguni-jima**	**2.92**	**73**	P	Pn	07 45 43.8	-0.4
JAGN				S	Sn	07 46 19.6	-1.2
JJT3	**Tamagusuku3**	**3.32**	**83**	P	Pn	07 45 49.0	-0.3
JJT3				S	Sn	07 46 27.9	-1.8
JNTH	**Nagotoyohara**	**3.59**	**77**	P	Pn	07 45 51.6	-1.0
JNTH				S	Sn	07 46 31.9	-3.8
JIH	**Iheya**	**3.67**	**69**	P	Pn	07 45 52.8	-0.9
JIH				*e*S	Sn	07 46 34.8	-2.9
JOW	**Kunigami**	**3.88**	**73**	S	Sn	07 46 38.0	-4.4
JYRO	**Yoronjima**	**4.08**	**71**	P	Pn	07 45 57.3	-1.6
JYRO				S	Sn	07 46 41.8	-5.3

IDC ***06*** *08:05:16.8±0.6, 6°.57S×155°.05E, h0km, mb4.2/13, mbtmp4.1/15, ML3.8/2, MS3.5/8, Error ellipse: s-maj=21.2km s-min=17.7km az=92.0*
NEIC ***06*** *08:05:29.6±1.3, 6°.6S±0°.1×155°.0E±0°.1, h95km±7km, mb4.4/23, Error ellipse: s-maj=16.5km s-min=14.7km az=187.0*

ISC 06 08:05:19.2±0.5, 6°.44S±0°.08×155°.02E±0°.07, h10km, n55, σ1°.46/52, mb4.6/26, MS3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.61**	**308**	Pn	**Pb**	**08 06 24.0**	**+0.8**
KRVT	**Keravat (AS076**	**3.65**	**305

comp=Z,1.7nm,0.8s,baz=106,slow=6.4,SNR=14
comp=Z,1.7nm,0.8s

MKAR	**Makanchi Array**	**83.00**	**319**	P	**P**	**08 17 44.0**	**-0.8**
CTGM	**Chitina Glacie**	**83.22**	**26**	P	**P**	**08 17 46.6**	**+0.8**
J25K	**Salcha River,**	**83.33**	**22**	P	**P**	**08 17 46.2**	**+0.1**
J25K				IAmb	IAmb	08 17 49.7	
	comp=Z,2.2nm,0.6s						
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**	**08 17 45.6**	**-1.7**
QSPA				IAmb	IAmb	08 17 48.6	
	comp=Z,7.0nm,1.1s						
BCAR	**Beaver Creek A**	**83.98**	**24**	P	**P**	**08 17 49.6**	**+0.1**
HYT	**Haines Junctio**	**84.87**	**27**	P	**P**	**08 17 54.3**	**+0.2**
HYT				IAmb	IAmb	08 17 56.8	
	comp=Z,3.5nm,0.8s						
MAW	**Mawson**	**84.92**	**203**	P	**P**	**08 17 53.5**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=110,slow=6.4,SNR=2.0						
	comp=Z,1.0nm,0.7s						
EGAK	**Eagle**	**85.00**	**23**	P	**P**	**08 17 55.0**	**+0.5**
EGAK				IAmb	IAmb	08 17 56.4	
	comp=Z,3.5nm,0.9s						
DAWY	**Dawson**	**85.38**	**24**	P	**P**	**08 17 57.5**	**+1.0**
DAWY				IAmb	IAmb	08 18 15.1	
	comp=Z,6.3nm,1.5s						
INK	**Inuvik**	**89.19**	**21**	LR	LR	08 52 31.6	
	comp=Z,27nm,21.5s,baz=248,slow=32						
INK	**Inuvik**	**89.19**	**21**	P	**P**	**08 18 15.3**	**+0.6**
INK				IAmb	IAmb	08 18 54.8	
	comp=Z,8.7nm,1.4s						
NVAR	**Mina Array Bea**	**91.36**	**52**	P	**P**	**08 18 26.7**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=249,slow=5.8,SNR=9.4						
	comp=Z,1.4nm,0.9s						
NEW	**Newport**	**93.33**	**42**	LR	LR	08 53 41.9	
	comp=Z,35nm,21.0s,baz=256,slow=31						
YKA	**Yellowknife Ar**	**95.83**	**28**	P	**P**	**08 18 45.5**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=253,slow=4.2,SNR=3.1						
	comp=Z,1.9nm,0.8s						
ARU	**Arti**	**98.90**	**326**	LR	LR	09 06 01.1	
	comp=Z,28nm,18.6s,baz=170,slow=37						
LPAZ	**La Paz**	**131.70**	**118**	PKP	**PKPdf**	**08 24 33.0**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=303,slow=4.5,SNR=3.7						
BDFB	**Brasilia**	**148.35**	**134**	PKPbc	**PKPdf**	**08 25 05.7**	**+2.1**
	comp=Z,2.7nm,0.5s,baz=12,slow=1.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**152.90**	**286**	PKPbc	**PKPbc**	**08 25 15.8**	**-1.9**
	comp=Z,2.3nm,0.7s,baz=60,slow=2.2,SNR=17						

GUC 06 08:13:27.3±0.6, 32°40S×71°39W, h52km±2km, ML3.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.18**	**154**	⇑*i*	P	Pn	08 13 36.2	+0.5
VA06					*e*S	Sn	08 13 42.9	+1.2
VA06					IAML		08 13 43.8	
	comp=E,13μm,0.3s							
ROCH	**El Roble**	**0.66**	**151**	*i*	P	Pn	08 13 41.9	+1.1
ROCH					*e*S	Sn	08 13 52.8	+2.3
ROCH					IAML		08 13 54.7	
	comp=N,12μm,0.6s							
VA01	**Torpederas**	**0.66**	**199**	*e*P		Pn	08 13 41.2	+0.6
VA01						Sn	08 13 51.9	+1.6
VA03	**San Esteban**	**0.80**	**117**	⇓*i*	P	Pn	08 13 43.5	+1.0
VA03					*e*S	Sn	08 13 55.7	+2.1
VA03					IAML		08 13 56.6	
	comp=N,4μm,0.4s							
MT02	**Curacav**	**0.89**	**166**	*i*	P	Pn	08 13 44.6	+1.0
MT02					*e*S	Sn	08 13 55.8	+0.4
MT05	**Renca**	**1.13**	**151**	*e*P		Pn	08 13 48.3	+1.4
MT05					*e*S	Sn	08 14 04.8	+3.3
MT05					IAML		08 14 06.9	
	comp=E,4μm,0.4s							
VA05	**Santo Domingo**	**1.27**	**188**	*e*P		Pn	08 13 49.9	+1.1
VA05					*e*S	Sn	08 14 07.1	+2.4
VA05					IAML		08 14 11.8	
	comp=E,1μm,0.3s							
FCH	**Farellones**	**1.31**	**135**	*e*P		Pn	08 13 51.1	+1.5
FCH					IAML		08 14 10.4	
	comp=E,855nm,0.1s							
MT03	**Universidad Ad**	**1.32**	**146**	⇓*i*	P	Pn	08 13 51.4	+1.9
MT03					*e*S	Sn	08 14 09.6	+3.5
MT03					IAML		08 14 11.1	
	comp=E,3μm,0.2s							
MT09	**Talagante**	**1.42**	**166**	*e*P		Pn	08 13 52.8	+2.0
MT09					*e*S	Sn	08 14 11.9	+3.5
MT09					IAML		08 14 16.6	
	comp=N,822nm,0.4s							
MT01	**Popeta**	**1.47**	**175**	*i*	P		08 13 53.0	+1.6
MT01					IAML		08 14 16.3	
	comp=E,677nm,0.6s							
CO06	**Fray Jorge**	**1.73**	**353**	⇑*i*	P	Pn	08 13 52.9	-2.1
CO06					*e*S	Sn	08 14 12.0	-3.9
CO06					IAML		08 14 18.4	
	comp=N,1μm,0.2s							
BO03	**Pichilemu**	**2.15**	**193**	*e*P		Pn	08 14 01.1	+0.4
GO04	**Tololo Observa**	**2.27**	**13**	*e*P		Pn	08 14 01.4	-1.2
GO04					*e*S	Sn	08 14 30.4	+0.8
BO02	**Sierra Bellavi**	**2.44**	**168**	*e*P		Pn	08 14 06.8	+2.0
CO05	**La Serena**	**2.48**	**3**	*e*P		Pn	08 14 03.0	-2.1
CO05					*e*S	Sn	08 14 31.4	-2.8
CO05					IAML		08 14 38.2	
	comp=E,459nm,0.3s							
CO01	**Juntas del Tor**	**2.66**	**25**	*e*P		Pn	08 14 08.0	+0.1
CO01					*e*S	Sn	08 14 38.9	-0.1
CO01					IAML		08 14 59.3	
	comp=N,150nm,0.3s							
AC05	**El Transito**	**3.68**	**15**	*e*P		Pn	08 14 20.9	-1.0
AC04	**Llanos de Chal**	**4.19**	**4**	*e*P		Pn	08 14 26.1	-2.6
AC06	**Mina Casimiro**	**5.10**	**10**	*e*P		Pn	08 14 38.6	-2.7

*NOU **06** 08:20:51.3, 37°31S×179°50E, h150km, mb4.5/8, Off E. Coast of N. Island, N.Z.*
*NEIC **06** 08:20:52.8±1.2, 37°09S±0°08×178°9E±0°1, h10km±2km, mb4.8/22, Error ellipse: s-maj=18.1km s-min=12.7km az=99.0*
*WEL **06** 08:20:54.3±1.4, 37°S±4°×17°9E±1°2, h5km, M4.2/77, MLv4.2/77, Error ellipse: s-maj=0.0km s-min=0.0km az=83.2*
*IDC **06** 08:20:58.9±2.1, 37°03S×178°70E, h62km±16km, mb4.2/10, mbtmp4.5/11, MS3.4/9, Error ellipse: s-maj=17.4km s-min=14.7km az=160.0*
ISC 06 08:20:57.0±1.4, 37°08S±0°06×178°95E±0°08, h50km±10km, n188, σ1$40/178, mb4.8/21, MS3.5/10, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.70**	**227**			**Pn**	**08 21 08.3**	**-2.4**
MXZ	**Matakaoa Point**	**0.70**	**227**	P		**Pn**	**08 21 08.4**	**-2.4**
MXZ				S		**Sn**	**08 21 17.4**	**-3.2**
WMGZ	**Waiomatatini S**	**0.85**	**210**	P		**Pn**	**08 21 12.6**	**-0.1**
WMGZ				S		**Sn**	**08 21 25.3**	**+1.2**
PKGZ	**Pakihiroa**	**1.06**	**220**	P		**Pn**	**08 21 14.6**	**-0.9**
PKGZ				S		**Sn**	**08 21 30.2**	**+0.9**
PUZ	**Puketiti**	**1.13**	**209**	P		**Pn**	**08 21 16.1**	**-0.4**
HAZ	**Te Kaha**	**1.14**	**234**	P		**Pn**	**08 21 14.9**	**-1.7**
HAZ				S		**Sn**	**08 21 33.3**	**+2.1**
TWGZ	**Tauwhareparae**	**1.33**	**215**	P		**Pn**	**08 21 19.1**	**-0.2**
RUGZ	**Raukumara Rang**	**1.34**	**228**	P		**Pn**	**08 21 19.1**	**-0.3**
RUGZ				S		**Sn**	**08 21 38.8**	**+2.7**
WIZ	**White Island**	**1.47**	**252**	P		**Pn**	**08 21 18.9**	**-2.2**
WSRZ	**White Island S**	**1.47**	**252**	P		**Pn**	**08 21 19.3**	**-1.9**
CNGZ	**Carnagh Statio**	**1.52**	**202**	P		**Pn**	**08 21 21.6**	**-0.2**
CNGZ				S		**Sn**	**08 21 44.1**	**+3.8**
TKGZ	**Te Karaka**	**1.61**	**212**	P		**Pn**	**08 21 22.5**	**-0.5**
MWZ	**Matawai**	**1.68**	**222**	P		**Pn**	**08 21 23.8**	**-0.2**
WHRZ	**Whale Island**	**1.75**	**243**	P		**Pn**	**08 21 24.8**	**-0.1**
RAGZ	**Rawiri**	**1.86**	**220**	P		**Pn**	**08 21 26.4**	**-0.1**
URZ	**Urewera**	**1.87**	**231**	P		**Pn**	**08 21 26.3**	**-0.1**
	1μm,0.6s,baz=31,slow=4.3,SNR=389							
URZ				S		**Sn**	**08 21 48.7**	**-0.3**
	678nm,0.4s,baz=211,slow=24,SNR=42							
URZ	**Urewera**	**1.87**	**231**	Pn		**Pn**	**08 21 26.4**	**-0.1**
URZ	**Urewera**	**1.87**	**231**	P		**Pn**	**08 21 26.4**	**-0.1**
URZ	**Urewera**	**1.87**	**231**	P		**Pn**	**08 21 26.9**	**+0.4**
RIGZ	**Rimuhau**	**1.87**	**210**	P		**Pn**	**08 21 25.9**	**-0.7**
MARZ	**Manawahe**	**2.02**	**243**	P		**Pn**	**08 21 28.4**	**-0.2**
PRGZ	**Paritu Road**	**2.02**	**204**	P		**Pn**	**08 21 27.6**	**-1.1**
EDRZ	**Edgecumbe**	**2.03**	**239**	P		**Pn**	**08 21 28.8**	**0.0**
OPRZ	**Ohinepanea**	**2.05**	**247**	P		**Pn**	**08 21 27.8**	**-1.2**
SNGZ	**Shannon Statio**	**2.12**	**216**	P		**Pn**	**08 21 29.4**	**-0.6**
MYRZ	**Mayor Island**	**2.17**	**264**	P		**Pn**	**08 21 29.6**	**-1.1**
KNZ	**Kokohu**	**2.18**	**207**	P		**Pn**	**08 21 29.3**	**-1.4**
RTZ	**Ruatahuna**	**2.18**	**225**	P		**Pn**	**08 21 30.6**	**-0.3**
MUGZ	**Murupara**	**2.21**	**230**	P		**Pn**	**08 21 30.9**	**-0.4**
MHGZ	**Mahia Peninsul**	**2.22**	**201**	P		**Pn**	**08 21 30.2**	**-1.2**
MKRZ	**Makatiti**	**2.23**	**241**	P		**Pn**	**08 21 32.4**	**+0.8**
TGRZ	**Tauranga**	**2.23**	**252**	P		**Pn**	**08 21 30.2**	**-1.3**
TARZ	**Mount Tarawera**	**2.25**	**239**	P		**Pn**	**08 21 32.2**	**+0.4**
OMRZ	**Omania**	**2.29**	**243**	P		**Pn**	**08 21 32.3**	**+0.1**
RRRZ	**Republican Roa**	**2.30**	**236**	P		**Pn**	**08 21 32.6**	**+0.1**
KARZ	**Kaharoa**	**2.34**	**246**	P		**Pn**	**08 21 32.9**	**-0.1**
RAHZ	**Arahi**	**2.35**	**218**	P		**Pn**	**08 21 32.7**	**-0.4**
HLRZ	**Highlands Stat**	**2.37**	**240**	P		**Pn**	**08 21 33.6**	**+0.3**
WHHZ	**Waihua**	**2.41**	**214**	P		**Pn**	**08 21 33.2**	**-0.7**
NGRZ	**Ngongotaha**	**2.42**	**244**	P		**Pn**	**08 21 35.1**	**+1.1**
MTHZ	**Maungataniwha**	**2.43**	**223**	P		**Pn**	**08 21 34.0**	**-0.2**
UTU	**Utuhina**	**2.44**	**243**	P		**Pn**	**08 21 36.1**	**+1.7**
PRRZ	**Plateau Road**	**2.47**	**234**	P		**Pn**	**08 21 34.7**	**0.0**
HSRZ	**Hossack Road**	**2.47**	**239**	P		**Pn**	**08 21 35.3**	**+0.6**
HRRZ	**Handcock Road**	**2.48**	**237**	P		**Pn**	**08 21 35.4**	**+0.4**
KMRZ	**Kaimai**	**2.51**	**251**	P		**Pn**	**08 21 34.3**	**-1.0**
ALRZ	**Allen Road**	**2.54**	**234**	P		**Pn**	**08 21 35.4**	**-0.2**
GRRZ	**Galatos Road**	**2.58**	**240**	P		**Pn**	**08 21 36.9**	**+0.6**
KUZ	**Kuaotunu**	**2.61**	**276**	P		**Pn**	**08 21 34.8**	**-1.8**
NMHZ	**Naumai**	**2.62**	**219**	P		**Pn**	**08 21 36.6**	**-0.3**
WPRZ	**Whakapapatarin**	**2.63**	**236**	P		**Pn**	**08 21 37.5**	**+0.6**
MRHZ	**Matea Rd**	**2.65**	**228**	P		**Pn**	**08 21 36.8**	**-0.6**
ARHZ	**Aropaoanui**	**2.66**	**215**	P		**Pn**	**08 21 36.7**	**-0.8**
TOZ	**Tahuroa Road**	**2.82**	**256**	P		**Pn**	**08 21 38.2**	**-1.3**
BKZ	**Black Stump Fm**	**2.84**	**222**			**Pn**	**08 21 38.7**	**-1.2**
BKZ	**Black Stump Fm**	**2.84**	**222**	P		**Pn**	**08 21 39.1**	**-0.7**
BKZ	**Black Stump Fm**	**2.84**	**222**	P		**Pn**	**08 21 39.5**	**-0.4**
KUTZ	**Kaahu Road**	**2.84**	**239**	P		**Pn**	**08 21 40.2**	**+0.3**
WHTZ	**Whakaora**	**2.84**	**235**	P		**Pn**	**08 21 40.1**	**+0.2**
GRZ	**Great Barrier**	**2.92**	**285**	P		**Pn**	**08 21 40.1**	**-0.9**
CKHZ	**Cape Kidnapper**	**2.96**	**209**	P		**Pn**	**08 21 39.7**	**-1.8**
TLZ	**Tolley Road**	**2.97**	**244**	P		**Pn**	**08 21 42.0**	**+0.2**
WATZ	**Wairara**	**3.01**	**236**	P		**Pn**	**08 21 42.6**	**+0.3**
MKAZ	**Moumakai**	**3.02**	**268**	P		**Pn**	**08 21 41.2**	**-1.2**
KWHZ	**Kaweka Forest**	**3.07**	**220**	P		**Pn**	**08 21 41.6**	**-1.4**
WIAZ	**Waiheke Island**	**3.07**	**274**	P		**Pn**	**08 21 41.9**	**-1.1**
RATZ	**Rangitukua**	**3.08**	**234**	P		**Pn**	**08 21 43.3**	**+0.2**
KAHZ	**Kahuranaki**	**3.16**	**210**	P		**Pn**	**08 21 42.1**	**-2.1**
KATZ	**Kakaramea**	**3.19**	**233**	P		**Pn**	**08 21 44.9**	**+0.2**
ETAZ	**East Tamaki Re**	**3.22**	**271**	P		**Pn**	**08 21 44.4**	**-0.6**
MBAZ	**Motutapu North**	**3.26**	**274**	P		**Pn**	**08 21 45.1**	**-0.4**
TMVZ	**Te Maari**	**3.26**	**231**	P		**Pn**	**08 21 45.1**	**-0.7**
NTVZ	**North Tongarir**	**3.27**	**231**	P		**Pn**	**08 21 45.3**	**-0.6**
ETVZ	**East Tongariro**	**3.27**	**230**	P		**Pn**	**08 21 45.1**	**-0.8**
KRVZ	**Karewarewa**	**3.29**	**231**	P		**Pn**	**08 21 45.8**	**-0.3**
BHHZ	**Black Hill Sta**	**3.30**	**222**	P		**Pn**	**08 21 45.0**	**-1.3**
OTVZ	**Oturere**	**3.32**	**230**	P		**Pn**	**08 21 45.7**	**-0.9**
NNVZ	**North Ngauruho**	**3.33**	**231**	P		**Pn**	**08 21 46.4**	**-0.3**
ABAZ	**Army Bay**	**3.33**	**277**	P		**Pn**	**08 21 46.7**	**+0.1**
WTVZ	**West Tongariro**	**3.33**	**232**	P		**Pn**	**08 21 46.5**	**-0.3**
SNVZ	**South Ngauruho**	**3.35**	**230**	P		**Pn**	**08 21 46.1**	**-0.8**
NGZ	**Ngauruhoe**	**3.36**	**231**	P		**Pn**	**08 21 46.5**	**-0.6**
EPAZ	**Eden Park BICE**	**3.37**	**272**	P		**Pn**	**08 21 47.8**	**+0.7**
HBAZ	**Herne Bay Bore**	**3.38**	**273**	P		**Pn**	**08 21 48.0**	**+0.7**
TUVZ	**Tukino**	**3.39**	**229**	P		**Pn**	**08 21 46.9**	**-0.6**
TWVZ	**Taurewa**	**3.41**	**233**	P		**Pn**	**08 21 47.5**	**-0.1**
MOVZ	**Moawhango**	**3.42**	**226**	P		**Pn**	**08 21 46.4**	**-1.5**
AWAZ	**Awhitu Peninsu**	**3.44**	**269**	P		**Pn**	**08 21 47.8**	**-0.2**
FWVZ	**Far West T-bar**	**3.44**	**230**	P		**Pn**	**08 21 47.7**	**-0.6**
WNVZ	**Wahianoa**	**3.46**	**229**	P		**Pn**	**08 21 47.7**	**-0.7**
WTAZ	**Waiatarua**	**3.50**	**271**	P		**Pn**	**08 21 48.8**	**-0.2**
RVAZ	**Riverhead Bore**	**3.51**	**274**	P		**Pn**	**08 21 48.7**	**-0.3**
HIZ	**Hauiti**	**3.54**	**245**	Pn		**Pn**	**08 21 49.7**	**+0.3**
HIZ	**Hauiti**	**3.54**	**245**	P		**Pn**	**08 21 50.0**	**+0.5**
HIZ	**Hauiti**	**3.54**	**245**	P		**Pn**	**08 21 50.4**	**+1.0**
PNHZ	**Pukenui**	**3.55**	**216**	P		**Pn**	**08 21 47.3**	**-2.3**
WPHZ	**Waipukurau**	**3.56**	**213**	P		**Pn**	**08 21 47.5**	**-2.3**
MTVZ	**Mangateitei**	**3.57**	**229**	P		**Pn**	**08 21 48.9**	**-1.1**
PKVZ	**Pokaka**	**3.59**	**231**	P		**Pn**	**08 21 50.1**	**-0.1**
TSZ	**Takapari Road**	**3.78**	**217**	P		**Pn**	**08 21 50.0**	**-2.7**
WCZ	**Waipu Caves**	**3.88**	**286**	P		**Pn**	**08 21 53.7**	**-0.3**
WAZ	**Wanganui**	**4.10**	**228**	P		**Pn**	**08 21 56.4**	**-0.7**
POWZ	**Post Office Ro**	**4.13**	**216**	P		**Pn**	**08 21 55.0**	**-2.6**
MHEZ	**Mangahewa**	**4.15**	**240**	P		**Pn**	**08 22 00.3**	**+2.5**
BFZ	**Birch Farm**	**4.17**	**210**	P		**Pn**	**08 21 54.6**	**-3.4**
OHWZ	**Ohakea**	**4.22**	**221**	P		**Pn**	**08 21 57.1**	**-1.6**
DREZ	**Durham Road**	**4.29**	**239**	P		**Pn**	**08 22 01.7**	**+2.0**
LREZ	**Lake Rotokare**	**4.29**	**235**	P		**Pn**	**08 21 59.9**	**+0.2**
PREZ	**Palmer Road**	**4.39**	**238**	P		**Pn**	**08 22 02.9**	**+1.7**
NEZ	**North Egmont**	**4.40**	**239**	P		**Pn**	**08 22 02.8**	**+1.5**
PKE	**Pukeiti**	**4.44**	**240**	P		**Pn**	**08 22 04.0**	**+2.1**
KHEZ	**Kahui Hut**	**4.47**	**239**	P		**Pn**	**08 22 03.6**	**+1.4**
NBEZ	**Newall Road No**	**4.56**	**240**	P		**Pn**	**08 22 05.8**	**+2.5**
OUZ	**Omahuta**	**4.71**	**292**	Pn		**Pn**	**08 22 05.9**	**+0.4**
OUZ	**Omahuta**	**4.71**	**292**	P		**Pn**	**08 22 05.7**	**+0.2**
SNZO	**South Karori**	**5.35**	**217**	P		**Pn**	**08 22 11.0**	**-3.3**
QRZ	**Quartz Range**	**6.24**	**231**	P		**Pn**	**08 22 23.2**	**-3.3**
KHZ	**Kahutara**	**6.76**	**216**	P		**Pn**	08 22 28.5	-5.0
RPZ	**Rata Peaks**	**8.95**	**220**	P		**Pn**	**08 22 58.8**	**-4.7**
	11nm,0.7s,baz=241,slow=1.7,SNR=17							
RPZ				S		Sn	08 24 31.1	-12
	20nm,0.3s,baz=115,slow=20,SNR=22							
RPZ	**Rata Peaks**	**8.95**	**220**	P		**Pn**	**08 22 59.1**	**-4.4**
LBZ	**Lake Benmore**	**9.86**	**220**	Pn		Pn	08 23 11.3	-4.8
DZM	**Mont Dzumac**	**18.46**	**321**	*e*LR		LR	08 29 29.6	
	comp=Z,347nm,23.4s							
DZM	**Mont Dzumac**	**18.46**	**321**	LR		LR	08 31 24.9	
	comp=Z,212nm,18.6s,baz=178,slow=34							
MSVF	**Nonsavu**	**19.29**	**357**	P		**P**	**08 25 18.1**	**+0.2**
	6.4nm,0.8s,baz=201,slow=9.4,SNR=2.8							
MSVF				LR		LR	08 31 01.0	
	comp=Z,167nm,21.1s,baz=198,slow=31							
MSVF	**Nonsavu**	**19.29**	**357**	P		**P**	**08 25 18.0**	**+0.2**
RAR	**Rarotonga**	**24.32**	**55**	LR		LR	08 34 10.3	
	comp=Z,52nm,19.2s,baz=254,slow=32							
TBI	**Tubuai**	**30.38**	**72**	*e*LR		LR	08 35 01.7	
	comp=Z,103nm,26.8s							
TBI	**Tubuai**	**30.38**	**72**	*e*T		T	08 58 45.6	
	13nm,0.4s							
STKA	**Stephens Creek**	**31.09**	**268**	P		**P**	**08 27 10.3**	**-0.3**
	3.5nm,0.7s,baz=105,slow=12,SNR=8.0							
	3.5nm,0.7s							
STKA	**Stephens Creek**	**31.09**	**268**	P		**P**	**08 27 09.7**	**-0.9**
HNR	**Honiara**	**32.46**	**323**	LR		LR	08 37 47.5	
	comp=Z,1μm,18.3s,baz=169,slow=31							
CTA	**Charters Tower**	**33.11**	**292**	LR		LR	08 40 30.8	
	comp=Z,90nm,18.1s,baz=98,slow=36							
PPT2	**Papeete2**	**33.81**	**64**	*e*LR		LR	08 36 37.5	
	comp=Z,262nm,25.2s							
PPT	**Papeete**	**33.83**	**63**	LR		LR	08 38 13.7	
	comp=Z,45nm,21.7s,baz=277,slow=30							
BBOO	**Buckleboo**	**35.19**	**264**	P		**P**	**08 27 45.5**	**-0.8**
BBOO					IAmb	IAmb	08 28 50.8	
	comp=Z,24nm,1.6s							
COEN	**Coen**	**39.30**	**296**	P		**P**	**08 28 21.3**	**0.0**
COEN					IAmb	IAmb	08 28 53.6	
	comp=Z,33nm,1.4s							
PMG	**Port Moresby**	**39.80**	**306**	LR		LR	08 43 51.1	
	comp=Z,103nm,18.5s,baz=106,slow=35							
AS31	**Alice Springs**	**40.73**	**276**	P		**P**	**08 28 32.8**	**-0.4**
ASAR	**Alice Springs**	**40.73**	**276**	P		**P**	**08 28 32.5**	**-0.6**
	comp=Z,11nm,0.7s,baz=118,slow=7.8,SNR=118							
ASAR				ScP		**ScP**	**08 34 17.3**	**-1.9**
	comp=Z,0.2nm,0.8s,baz=323,slow=33,SNR=1.5							
ASAR				S		**S**	**08 34 36.5**	**-3.8**
	comp=Z,0.7nm,1.0s,baz=125,slow=15,SNR=4.9							
ASAR				LR		LR	08 44 44.9	
	comp=Z,75nm,19.7s,baz=90,slow=35							
	comp=Z,11nm,0.7s							
ASAR	**Alice Springs**	**40.73**	**276**	P		**P**	**08 28 32.9**	**-0.2**
VNDA	**Vanda**	**41.21**	**186**	P		**P**	**08 28 37.1**	**+0.7**
WR0	**Warramunga Arr**	**42.17**	**281**	P		**P**	**08 28 44.6**	**-0.3**
WR0					IAmb	IAmb	08 28 45.0	
	comp=Z,11nm,0.7s							
FORT	**Forrest**	**42.27**	**263**	P		**P**	**08 28 45.2**	**-0.4**
FORT					IAmb	IAmb	08 28 45.4	
	comp=Z,25nm,0.8s							
WB2	**Warramunga Arr**	**42.33**	**281**	P		**P**	**08 28 45.9**	**-0.3**
WRAB	**Tennant Creek**	**42.33**	**281**	P		**P**	**08 28 45.5**	**-0.8**
WRA	**Warramunga Arr**	**42.34**	**281**	P		**P**	**08 28 45.6**	**-0.7**
	comp=Z,16nm,0.7s,baz=121,slow=7.8,SNR=229							
	comp=Z,16nm,0.7s							
WRA	**Warramunga Arr**	**42.34**	**281**	P		**P**	**08 28 45.8**	**-0.5**
WB0	**Warramunga Arr**	**42.39**	**281**	P		**P**	**08 28 46.2**	**-0.6**
CASY	**Casey**	**48.08**	**210**	P		**P**	**08 29 32.0**	**+0.8**
CASY					IAmb	IAmb	08 29 33.0	
	comp=Z,8.8nm,0.9s							
MTN	**Manton Dam**	**48.97**	**287**	P		**P**	**08 29 37.6**	**-1.1**
KNRA	**Kununurra**	**49.12**	**282**	P		**P**	**08 29 39.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.22**	**277**	P		**P**	**08 29 47.8**	**-0.3**
	comp=Z,12nm,0.8s,baz=146,slow=7.9,SNR=24							
	comp=Z,12nm,0.8s							
FITZ	**Fitzroy Crossi**	**50.22**	**277**	P		**P**	**08 29 47.9**	**-0.3**
FITZ					IAmb	IAmb	08 29 48.5	
	comp=Z,13nm,0.8s							
PSA00	**Pilbara Seismi**	**53.01**	**270**	P		**P**	**08 30 08.0**	**-1.0**
PSA00					IAmb	IAmb	08 30 19.9	
	comp=Z,16nm,2.0s							
QSPA	**South Pole Qui**	**53.04**	**180**	P		**P**	**08 30 10.9**	**+2.1**
	comp=Z,3.7nm,0.8s,baz=24,slow=1.6,SNR=21							
	comp=Z,3.7nm,0.8s							
QSPA	**South Pole Qui**	**53.04**	**180**	P		**P**	**08 30 10.6**	**+1.8**
QSPA					IAmb	IAmb	08 30 30.6	
	comp=Z,9.7nm,1.2s							
MBWA	**Marble Bar**	**53.31**	**270**	P		**P**	**08 30 09.8**	**-1.4**
MBWA					IAmb	IAmb	08 30 18.0	
	comp=Z,12nm,1.2s							
GUMO	**Guam**	**59.74**	**321**	LR		LR	08 54 13.8	
	comp=Z,13nm,19.6s,baz=138,slow=34							
BELA	**Belgrano 2**	**63.52**	**172**	P		**P**	**08 31 23.5**	**+2.0**
BELA					IAmb	IAmb	08 31 23.9	
	comp=Z,4.2nm,0.9s							
MAW	**Mawson**	**65.17**	**202**	P		**P**	**08 31 34.7**	**+2.3**
	comp=Z,1.6nm,0.8s,baz=146,slow=7.3,SNR=2.2							
	comp=Z,1.6nm,0.8s							
TROLL	**Troll, Antarti**	**71.18**	**181**	P		**P**	**08 32 11.1**	**+0.9**
SNAA	**Sanae**	**71.54**	**179**	P		**P**	**08 32 13.5**	**+1.2**
SNAA	**Sanae**	**71.54**	**179**	P		**P**	**08 32 13.7**	**+1.4**
SNAA					IAmb	IAmb	08 33 49.3	
	comp=Z,14nm,1.8s							
H03S2	**Juan Fernandez**	**78.88**	**124**	T		T	09 59 41.4	
	baz=234							
H03S1	**Juan Fernandez**	**78.89**	**124**	T		T	09 59 42.3	
	baz=234							
H03S3	**Juan Fernandez**	**78.89**	**124**	T		T	09 59 37.4	
	baz=234							
H03N3	**Juan Fernandez**	**79.11**	**124**	T		T	09 59 45.1	
	baz=234,slow=72							
H03N2	**Juan Fernandez**	**79.11**	**124**	T		T	09 59 41.6	
	baz=234,slow=72							
H03N1	**Juan Fernandez**	**79.13**	**124**	T		T	09 59 59.2	
	baz=234,slow=72							
PLCA	**Paso Flores**	**79.78**	**134**	P		**P**	**08 33 00.4**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=247,slow=7.8,SNR=4.1							
	comp=Z,1.4nm,0.8s							
**PLC

COEG				*e*S		**Sn**	**08 50 56.6**	**+1.3**
NBG	**Las Nubes**	**1.12**	**344**	*e*P		**Pn**	**08 50 41.5**	**+0.4**
FUG	**Fuego 3**	**1.23**	**320**	*e*P		**Pn**	**08 50 42.1**	**-0.3**
FUG				*e*		**S**	**08 50 58.2**	**+0.1**
FUG				*e*S		**S**	**08 50 58.2**	**+0.1**
ESQI	**Esquipulas**	**1.24**	**32**	⇓*i*P		**Pn**	**08 50 42.0**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.27**	**81**	*e*P		**Pn**	**08 50 42.5**	**-0.5**
P5NO	**Presa 5 de nov**	**1.32**	**69**	*i* P		**Pn**	**08 50 42.4**	**-1.1**
PQSS	**Presa 15 de Se**	**1.43**	**85**	*e*P		**Pn**	**08 50 44.3**	**-0.6**
COEB	**Comit de Eme**	**1.45**	**90**	*e*P		**Pn**	**08 50 44.9**	**-0.5**
COEB				*e*S		**Sn**	**08 51 04.2**	**+0.7**
COEB				IAML			08 51 12.7	
	comp=Z,232nm,0.4s							
STG3	**Santiaguito 3,**	**1.92**	**309**	*e*P		**Pn**	**08 50 51.5**	**-0.4**
STG3				*e*S		**Sn**	**08 51 14.4**	**-0.5**
CNCH	**Conchagua**	**2.14**	**96**	*e*P		**Pn**	**08 50 54.3**	**-0.5**

IDC 06 08:52:09.5±2.6, 4°77'S×152°91'E, h0km, mb3.7/3, mbtmp3.8/3, MS3.1/1, Error ellipse: s-maj=44.1km s-min=14.2km az=44.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.00**	**298**	Pg	Pg	08 52 29.1	+0.5
	86nm,0.3s,baz=282,slow=3.0,SNR=139						
KRVT				Lg	Lg	08 52 42.5	
	100nm,0.3s,baz=289,slow=8.5,SNR=10						
WRA	**Warramunga Arr**	**23.55**	**229**	P	P	08 57 22.0	+0.3
	1.1nm,0.5s,baz=53,slow=10.0,SNR=29						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**26.24**	**222**	P	P	08 57 47.8	+1.2
	0.6nm,0.5s,baz=58,slow=8.6,SNR=12						
	0.6nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.82**	**30**	T	T	09 25 11.7	
	baz=209,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	**26.82**	**30**	T	T	09 25 12.1	
	baz=209,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**26.83**	**30**	T	T	09 25 14.5	
	baz=209,slow=74,SNR=11						
DAV	**Davao City (W)**	**29.71**	**293**	LR	LR	09 08 53.6	
	comp=Z,36nm,20.7s,baz=106,slow=34						
FITZ	**Fitzroy Crossi**	**29.77**	**241**	P	P	08 58 16.6	-1.5
	0.8nm,0.6s,baz=51,slow=7.7,SNR=2.0						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.41**	**288**	PKPbc	PKPbc	09 12 02.5	-1.6
	0.3nm,0.4s,baz=56,slow=2.2,SNR=1.9						

DJA 06 09:10:50.5±0.5, 9°S±5'×111°8E±', h10km, M3.1/3, MLv3.1/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.40**	**330**	P	Pb	09 10 59.6	-0.2
PLAI				S	Sb	09 11 05.2	-0.8
TWSI	**Taliwang, Sumb**	**1.17**	**292**	P	Pb	09 11 12.7	-0.1
TWSI				S	Sb	09 11 27.5	-0.6
WBSI	**Waikabubak, Su**	**1.47**	**108**	P	Pn	09 11 15.6	-1.5
EDFI	**Ende, Flores**	**3.69**	**84**	P	Pn	09 11 48.4	+0.7
JAGI	**Jajag, Banyuwa**	**3.85**	**280**	S	Sn	09 12 35.7	+0.5

IDC 06 09:11:24.8±2.0, 7°75'S×118°52'E, h0km, mb3.6/4, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=194.4km s-min=20.6km az=54.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.40**	**147**	Pn	Pn	09 14 22.0	-0.8
	0.1nm,0.3s,baz=332,slow=15,SNR=1.8						
FITZ				Sn	Sn	09 16 33.3	-8.5
	0.1nm,0.3s,baz=299,slow=17,SNR=2.3						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**19.54**	**130**	P	P	09 15 54.2	0.0
	0.1nm,0.3s,baz=302,slow=13,SNR=5.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**21.64**	**139**	P	P	09 16 17.4	+0.4
	0.6nm,0.7s,baz=317,slow=9.0,SNR=9.8						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**63.13**	**333**	P	P	09 21 54.6	+0.2
	0.5nm,0.6s,baz=134,slow=6.9,SNR=6.1						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**67.64**	**334**	P	P	09 22 23.8	+0.3
	0.4nm,0.6s,baz=155,slow=5.4,SNR=4.4						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**67.71**	**339**	P	P	09 22 23.2	-0.6
	1.3nm,0.5s,baz=156,slow=7.4,SNR=4.2						
	1.3nm,0.5s						

MAN 06 09:19:58.7, 9°76N×126°31E, h11km, mb4.3, ML3.1, MS2.9, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.81**	**272**	⇓*i*P	Pg	09 20 13.8	-0.6
SCPH				*i* S	Sb	09 20 25.6	-0.1
BUTP	**Butuan**	**1.03**	**221**	⇓*e*P	Pb	09 20 18.8	+0.1
BUTP				*e*S	Sn	09 20 35.2	+1.6
BIPH	**Bislig**	**1.56**	**178**	⇑*i*P	Pn	09 20 17.7	-8.8
BIPH				*i* S	Sb	09 20 48.2	+0.7
BESP	**Borongan**	**2.02**	**335**	⇓*e*P	Pn	09 20 32.4	-0.4
BESP				*e*S	Sn	09 20 59.4	+1.3
BUKP	**Musuan**	**2.23**	**214**	⇓*e*P	Pn	09 20 36.1	+0.3
BUKP				*e*S	Sb	09 21 08.0	+1.1
TBP	**Tagbilaran**	**2.41**	**269**	*e*P	Pn	09 20 36.8	-1.4
TBP				*i* S	Sb	09 21 10.2	-1.8

IDC 06 09:23:39.7±2.9, 53°53N×87°80E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=24.8km s-min=16.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**285**	*i*		09 35 52.5	
	baz=98,slow=324,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.82**	**285**	Pg	Pn	09 24 11.7	-0.6
	2.4nm,0.3s,baz=105,slow=16,SNR=28						
ZALV				Lg	Lg	09 24 37.3	
	3.9nm,0.3s,baz=106,slow=24,SNR=24						
KURBB	**Kurchatov Arra**	**6.41**	**247**	Pn	Pn	09 25 16.6	+1.3
	0.1nm,0.3s,baz=62,slow=14,SNR=7.8						
KURBB				Sn	Sn	09 26 28.6	-0.5
	baz=70,slow=27,SNR=1.9						
KURBB				Lg	Lg	09 27 01.4	
	baz=62,slow=32,SNR=3.5						
	1.7nm,0.5s						
MKAR	**Makanchi Array**	**7.61**	**210**	Pn	Pn	09 25 32.6	+0.8
	0.2nm,0.3s,baz=27,slow=12,SNR=6.2						
MKAR				Lg	Lg	09 27 41.1	
	baz=32,slow=29,SNR=2.9						
	0.3nm,0.4s						

IDC 06 09:28:39.6±3.2, 53°53N×87°81E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=31.1km s-min=15.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**284**	*i*		09 40 30.0	
	baz=99,slow=323,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.82**	**284**	Pg	Pn	09 29 12.0	-0.2
	3.3nm,0.3s,baz=103,slow=19,SNR=22						
ZALV				Lg	Lg	09 29 37.8	
	5.9nm,0.3s,baz=105,slow=26,SNR=13						
KURBB	**Kurchatov Arra**	**6.42**	**247**	Pn	Pn	09 30 15.9	+0.5
	0.2nm,0.3s,baz=64,slow=14,SNR=15						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	Pn	09 30 33.3	+1.4
	0.4nm,0.3s,baz=28,slow=14,SNR=10						
MKAR				Lg	Lg	09 32 38.2	
	0.1nm,0.3s,baz=29,slow=31,SNR=3.1						
	0.4nm,0.3s						

*IDC **06** 09:29:06.9±1.3, 33°64N×141°62E, h0km, mb3.3/4, mbtmp3.4/6, ML3.3/2, Error ellipse: s-maj=29.4km s-min=23.0km az=86.0*
*JMA **06** 09:29:11.0±0.4, 33°7N±0°8×14°2E±', h48km, MV3.1/24, E OFF HACHIJOJIMA ISLAND*
ISC 06 09:29:11.4±1.0, 33°63N±0°05×141°58E±0°09, h41km, n16, σ1§41/20, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.14**	**334**	*e*P		**Pn**	**09 29 29.3**	**-1.0**
BSO1				*e*S		**Sn**	**09 29 43.6**	**-0.8**
BSO3	**Boso 3**	**1.47**	**323**	*e*P		**Pn**	**09 29 34.7**	**-0.4**
JHJ2	**Mitsune**	**1.56**	**251**	*e*P		**Pn**	**09 29 37.4**	**+0.7**
JHJ	**Hachijo jima 2**	**1.59**	**252**	Pn		**Pn**	**09 29 37.3**	**+0.4**
	115nm,0.3s,baz=72,slow=20,SNR=101							
JHJ				Sn		**Sn**	**09 29 55.0**	**-1.3**
	63nm,0.3s,baz=142,slow=23,SNR=5.6							
JHCJ	**Hachijojimakas**	**1.59**	**250**	*e*P		**Pn**	**09 29 37.6**	**+0.6**
JMKN	**Mikurajimanish**	**1.68**	**280**	P		**Pn**	**09 29 37.9**	**-0.4**
BSO4	**Boso 4**	**1.70**	**323**	*e*P		**Pn**	**09 29 38.5**	**0.0**
JTHY	**Toshimahigashi**	**2.10**	**296**	*e*P		**Pn**	**09 29 44.0**	**0.0**
KTJ3	**Kamata3**	**2.45**	**303**	P		**Pn**	**09 29 47.6**	**-1.2**
JOD2	**Odawara 2**	**2.62**	**309**	P		**Pn**	**09 29 50.3**	**-0.9**
MJAR	**Matsushiro Arr**	**4.01**	**317**	Pn		**Pn**	**09 30 10.2**	**-0.1**
	0.4nm,0.3s,baz=138,slow=13,SNR=17							
MJAR				Sn		**Sn**	**09 30 54.3**	**-1.7**
	0.3nm,0.3s,baz=152,slow=21,SNR=5.1							
	1.4nm,0.3s							
JCJ	**Chichijima**	**6.53**	**175**	Pn		**Pn**	**09 30 45.5**	**+0.5**
	3.3nm,0.3s,baz=349,slow=20,SNR=6.5							
JCJ				Sn		**Sn**	**09 31 53.9**	**-4.4**
	4.7nm,0.3s,baz=281,slow=24,SNR=1.4							
	12nm,0.3s							
MKAR	**Makanchi Array**	**46.11**	**305**	P		**P**	**09 37 31.9**	**+0.5**
	0.2nm,0.4s,baz=81,slow=9.6,SNR=3.7							
	0.2nm,0.4s							
ILAR	**Eielson Array**	**52.32**	**31**	P		**P**	**09 38 20.1**	**+1.5**
	0.3nm,0.5s,baz=261,slow=7.9,SNR=4.1							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**53.72**	**188**	P		**P**	**09 38 30.1**	**+0.8**
	0.3nm,0.3s,baz=5.1,slow=7.5,SNR=2.8							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**57.45**	**188**	P		**P**	**09 38 57.3**	**+1.2**
	0.1nm,0.7s,baz=356,slow=5.7,SNR=1.2							
	0.1nm,0.7s							

*NNC **06** 09:31:20.6±2.3, 51°82N×75°52E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=65.6km s-min=13.9km az=28.0, Suspected Mining explosion.*
*IDC **06** 09:31:23.4±1.1, 51°74N×75°54E, h0km, mbtmp2.5/4, ML2.1/4, Error ellipse: s-maj=37.6km s-min=10.8km az=28.0*
ISC 06 09:31:20.0±1.0, 51°7N±0°1×75°20E±0°08, h0km, n9, σ0§85/9, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.36**	**116**	Pn	**Pn**	**09 32 01.0**	**+1.0**
	0.3nm,0.3s,baz=304,slow=18,SNR=12						
KURBB				Lg	Lg	09 32 28.5	
	0.5nm,0.3s,baz=305,slow=31,SNR=5.6						
	0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**2.36**	**116**	⇑Pg	**Pb**	**09 32 02.3**	**-1.0**
	3.6nm,0.7s						
KURBB				⇓Lg	Lg	09 32 33.9	
	16nm,0.5s						
KURK	**Kurchatov**	**2.37**	**113**	⇑Pg	**Pn**	**09 32 01.4**	**+1.3**
	2.0nm,0.7s						
KURK				⇑Lg	Lg	09 32 28.5	
	7.0nm,0.7s						
BVA0	**Borovoye Array**	**3.23**	**296**	⇓Pg	**Pg**	**09 32 21.9**	**-0.1**
	0.7nm,0.5s,baz=104,slow=16,SNR=3.9						
BVA0				⇓Lg	Lg	09 33 06.2	
	2.0nm,0.5s,baz=107,slow=27,SNR=5.9						
BVAR	**Borovoye Array**	**3.23**	**296**	Pn	**Pb**	**09 32 18.1**	**-0.2**
	0.2nm,0.3s,baz=113,slow=15,SNR=2.9						
BVAR				Sn	**Sb**	**09 32 57.8**	**-0.4**
	0.6nm,0.3s,baz=107,slow=25,SNR=5.3						
BVAR				Lg	Lg	09 33 07.4	
	0.9nm,0.3s,baz=102,slow=29,SNR=4.0						
	0.4nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.25**	**65**	*i*		10 10 30.0	
	baz=254,slow=316,SNR=0.7						
ZALV	**Zalesovo Beam**	**6.25**	**65**	Pn	**Pn**	**09 32 53.8**	**+0.5**
	0.4nm,0.3s,baz=250,slow=15,SNR=3.4						
	0.9nm,0.4s						
MK31	**Makanchi Array**	**6.76**	**134**	⇑Sn	**Sn**	**09 34 18.1**	**0.0**
	0.2nm,0.3s						
MK31				⇓Lg	Lg	09 34 50.3	
	1.7nm,0.6s,baz=326,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**6.76**	**134**	Pn	**Pn**	**09 33 00.8**	**+0.4**
	0.1nm,0.3s,baz=324,slow=12,SNR=1.8						
MKAR				Lg	Lg	09 34 49.5	
	0.1nm,0.3s,baz=326,slow=28,SNR=3.1						
	0.2nm,0.4s						

*NEIC **06** 09:39:03.4±1.5, 43°03N±0°07×126°6W±0°2, h10km±2km, ML3.0/56, Error ellipse: s-maj=19.8km s-min=11.1km az=260.0*
*ANF **06** 09:39:05.3±0.9, 43°09N×126°21W, h0km, ML3.1/13, Error ellipse: s-maj=9.2km s-min=6.7km az=38.0*
*IDC **06** 09:39:10.3±2.3, 43°14N×125°68W, h0km, mb3.1/2, mbtmp3.2/7, ML3.4/5, MS2.9/8, Error ellipse: s-maj=34.2km s-min=16.2km az=70.0*
ISC 06 09:39:08.2±1.5, 43°06N±0°05×126°11W±0°08, h10km, n67, σ1§48/65, MS3.1/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.32**	**98**		**Pn**	**09 39 31.5**	**-1.3**
KEBM					IAML	09 39 56.0	
	comp=N,209nm,1.0s						
J01E	**Myrtle Point**	**1.60**	**86**		**Pn**	**09 39 35.3**	**-1.3**
J01E					IAML	09 39 59.0	
	comp=E,196nm,0.2s						
J01E					IAML	09 39 59.5	
	comp=N,207nm,0.2s						
J01E	**Myrtle Point**	**1.60**	**86**	P	**Pn**	**09 39 35.2**	**-1.3**
	baz=268,SNR=162						
J01E				S	**Sg**	**09 39 58.7**	**-0.9**
	baz=268						
KBO	**Bosley Butte**	**1.63**	**121**	Pn	**Pn**	**09 39 35.5**	**-1.5**
KBO					IAML	09 40 04.2	
	comp=E,97nm,1.7s						
K02D	**Willamette Mer**	**1.83**	**101**	P	**Pn**	**09 39 38.7**	**-1.2**
	baz=283,SNR=12						
K02D				S	**Sb**	**09 40 04.4**	**-0.5**
	baz=283						
I02E	**Swisshome, OR**	**1.95**	**57**	Pn	**Pn**	**09 39 40.0**	**-1.4**
I02E					IAML	09 40 13.2	
	comp=N,70nm,0.8s						
I02E					IAML	09 40 14.4	
	comp=E,67nm,0.7s						
I02E	**Swisshome, OR**	**1.95**	**57**	P	**Pn**	**09 39 39.8**	**-1.5**
	baz=240,SNR=132						
I02E				S	**Sb**	**09 40 06.4**	**-1.7**
	baz=240						
KSXB	**Camp Six Broad**	**2.06**	**126**	Pn	**Pn**	**09 39 41.6**	**-1.4**
L02F	**Cave Junction**	**2.10**	**116**	P	**Pn**	**09 39 42.5**	**-0.9**
	baz=298						
L02F				S	**Sb**	**09 40 11.0**	**-1.5**
	baz=298						
DBO	**Dodson Butte**	**2.10**	**88**		**Pn**	**09 39 43.1**	**-0.4**
DBO					IAML	09 40 17.7	
	comp=E,79nm,1.0s						
I03D	**Drain, OR**	**2.11**	**72**	P	**Pn**	**09 39 42.5**	**-1.1**
	baz=255,SNR=469						
I03D				S	**Sb**	**09 40 11.3**	**-1.5**
	baz=255						
KRMB	**Red Mountain**	**2.25**	**133**		**Pn**	**09 39 43.5**	**-2.1**
HUMO	**Hull Mountain**	**2.36**	**100**	Pn	**Pn**	**09 39 46.8**	**-0.3**
KRPM	**Rodgers**	**2.46**	**140**	Pn	**Pn**	**09 39 46.5**	**-1.9**
KRPM					IAML	09 40 10.3	
	comp=N,70nm,1.7s						
KRPM					IAML	09 41 23.9	
	comp=E,56nm,2.4s						
BUCK	**Buck Mountain**	**2.54**	**62**		**Pn**	**09 39 49.0**	**-0.6**
BUCK					IAML	09 40 25.2	
	comp=E,58nm,0.6s						
BUCK					IAML	09 40 26.9	
	comp=N,59nm,0.8s						
COR	**Corvallis**	**2.54**	**52**		**Pn**	**09 39 48.5**	**-0.9**
COR					IAML	09 40 29.2	
	comp=N,61nm,0.8s						
I04A	**Tendick Farm,**	**2.79**	**74**	P	**Pn**	**09 39 52.9**	**-0.1**
	baz=257,SNR=46						
KHMM	**Horse Mountain**	**2.82**	**140**	Pn	**Pn**	**09 39 51.6**	**-1.9**
H04D	**Lebanon**	**2.84**	**58**		**Pn**	**09 39 53.3**	**-0.4**
H04D					IAML	09 40 32.9	
	comp=N,60nm,1.1s						
H04D	**Lebanon**	**2.84**	**58**	P	**Pn**	**09 39 52.7**	**-1.0**
	baz=242,SNR=13						
H04D				S	**Sn**	**09 40 28.6**	**+0.6**
	baz=242						
YBH	**Yreka Blue Hor**	**2.85**	**117**	Pn	**Pn**	**09 39 53.8**	**-0.1**
	comp=N,1.2nm,0.3s,baz=302,slow=14,SNR=17						
YBH				LR	LR	09 40 21.8	
	comp=N,32nm,21.2s,baz=304,slow=27						
YBH				Lg	Lg	09 40 28.0	
	comp=N,0.8nm,0.3s,baz=340,slow=19,SNR=1.6						
	comp=N,4.1nm,0.4s						
YBH	**Yreka Blue Hor**	**2.85**	**117**	Pn	**Pn**	**09 39 51.5**	**-2.3**
L04D	**Klamath Falls**	**2.93**	**105**		**Pn**	**09 39 53.8**	**-1.3**
L04D					IAML	09 40 38.2	
	comp=N,26nm,0.8s						
L04D					IAML	09 40 42.3	
	comp=E,36nm,0.9s						
L04D	**Klamath Falls**	**2.93**	**105**	P	**Pn**	**09 39 55.3**	**+0.3**
	baz=288,SNR=16						
J04D	**Umpqua Nationa**	**2.93**	**85**		**Pn**	**09 39 53.9**	**-1.2**
J04D	**Umpqua Nationa**	**2.93**	**85**	P	**Pn**	**09 39 56.2**	**+1.1**
	baz=269,SNR=62						
G03D	**McMinnville, O**	**2.97**	**43**		**Pn**	**09 39 52.5**	**-2.9**
G03D	**McMinnville, O**	**2.97**	**43**	P	**Pn**	**09 39 54.2**	**-1.2**
	baz=226,SNR=36						
G03D				S	**Sn**	**09 40 31.3**	**+0.3**
	baz=226						
H04A	**Detroit Lake**	**3.27**	**59**	Pn	**Pn**	**09 39 58.2**	**-1.3**
H04A					IAML	09 40 53.4	
	comp=N,48nm,0.4s						
J05D	**Fort Rock, OR**	**3.57**	**85**	P	**Pn**	**09 40 03.9**	**0.0**
	baz=269						
I05D	**Terrebonne, OR**	**3.69**	**68**	P	**Pn**	**09 40 05.3**	**0.0**
	baz=252						
F04D	**Rainier, OR**	**3.74**	**35**	P	**Pn**	**09 40 04.7**	**-1.3**
	baz=218,SNR=8.5						
F04D				S	**Sn**	**09 40 50.0**	**-0.1**
	baz=218						
PINE	**Pine Mountain**	**3.84**	**77**	Pn	**Pn**	**09 40 07.6**	**+0.1**
PINE					IAML	09 40 51.7	
	comp=N,16nm,4.2s						
PINE					IAML	09 41 01.6	
	comp=E,18nm,3.9s						
K05A	**Summer Lake**	**3.85**	**93**	Pn	**Pn**	**09 40 07.3**	**-0.4**
K05A					IAML	09 42 03.1	
	comp=E,12nm,3.0s						
K05A					IAML	09 42 04.8	
	comp=N,16nm,4.3s						
HOOD	**Mount Hood Mea**	**3.92**	**53**		**Pn**	**09 40 08.0**	**-0.6**
E03A	**Lebam**	**3.92**	**27**	Pn	**Pn**	**09 40 06.1**	**-2.4**
G05D	**Wamic, OR**	**4.08**	**56**	P	**Pn**	**09 40 10.5**	**-0.2**
	baz=240						
MOD	**Modoc Plateau**	**4.45**	**103**	Pn	**Pn**	**09 40 13.8**	**-2.1**
I07A	**Izee**	**4.91**	**76**	Pn	**Pn**	**09 40 21.7**	**-0.4**
I07A					IAML	09 41 55.5	
	comp=E,9.4nm,4.0s						
I07A					IAML	09 42 56.4	
	comp=N,8.7nm,4.4s						
D05A	**Enumclaw**	**5.05**	**34**		**Pn**	**09 40 21.5**	**-2.5**
B04A	**Port Angeles**	**5.32**	**19**	Pn	**Pn**	**09 40 25.0**	**-2.6**
WVOR	**Wild Horse Val**	**5.54**	**94**		**Pn**	**09 40 30.0**	**-0.9**
J08A	**Circle Bar Ran**	**5.59**	**84**		**Pn**	**09 40 31.6**	**+0.1**
G08A	**Pilot Rock**	**5.60**	**64**	Pn	**Pn**	**09 40 32.1**	**+0.4**
LTY	**Liberty**	**5.69**	**41**		**Pn**	**09 40 32.2**	**-0.7**
HAWA	**Hanford**	**5.75**	**52**	Pn	**Pn**	**09 40 32.5**	**-1.1**
E08A	**Dider Farm, El**	**6.08**	**53**		**Pn**	**09 40 37.7**	**-0.4**
BMO	**Blue Mountains**	**6.60**	**71**		**Pn**	**09 40 45.9**	**+0.5**
F10A	**Beach Ranch, E**	**6.98**	**62**		**Pn**	**09 40 51.3**	**+0.6**
B08A	**Colville Reser**	**7.11**	**40**		**Pn**	**09 40 48.8**	**-3.5**
C09A	**Chrisman Ranch**	**7.27**	**47**	Pn	**Pn**	**09 40 53.4**	**-1.0**
NVAR	**Mina Array Bea**	**7.52**	**125**	Pn	**Pn**	**09 41 00.3**	**+2.2**
	comp=N,0.1nm,0.3s,baz=303,slow=15,SNR=6.3						
	comp=N,0.5nm,0.6s						
NEW	**Newport**	**8.16**	**47**	Pn	**Pn**	**09 41 08.6**	**+1.8**
	comp=N,0.4nm,0.3s,baz=239,slow=11,SNR=7.7						
NEW				LR	LR	09 44 33.3	
	comp=N,108nm,18.7s,baz=245,slow=41						
	comp=N,0.8nm,0.3s						
ELK	**Elko**	**8.43**	**102**	LR	LR	09 44 43.8	
	comp=N,52nm,19.8s,baz=264,slow=41						
PFO	**Pinyon Flats O**	**12.09**	**138**	LR	LR	09 46 35.1	
	comp=N,105nm,18.8s,baz=287,slow=37						
PDAR	**Pinedale Array**	**12.14**	**86**	Pn	**Pn**	**09 42 03.5**	**+2.0**
	comp=N,0.1nm,0.3s,baz=277,slow=7.1,SNR=3.0						
PDAR				LR	LR	09 47 24.6	
	comp=N,100nm,18.2s,baz=294,slow=42						
	comp=N,1.1nm,1.0s						
ANMO	**Albuquerque**	**17.27**	**111**	Pn	**P**	**09 43 09.9**	**-1.2**
	comp=N,0.1nm,0.3s,baz=313,slow=19,SNR=6.0						
	comp=N,0.8nm,0.6s						
ULM	**Lac du Bonnet**	**21.85**	**60**	LR	LR	09 52 53.1	
	comp=N,68nm,18.2s,baz=324,slow=38						
TXAR	**Lajitas Array**	**22.62**	**120**	P	**P**	**09 44 11.5**	**+2.2**
	comp=N,0.5nm,1.0s,baz=319,slow=9.0,SNR=3.0						
	comp=N,0.5nm,1.0s						
ILAR	**Eielson Array**	**24.72**	**339**	P	**P**	**09 44 32.8**	**+3.5**
	comp=N,0.4nm,0.7s,baz=143,slow=7.9,SNR=3.5						
ILAR				LR	LR	09 52 34.8	
	comp=N,33nm,21.0s,baz=122,slow=32						
	comp=N,0.4nm,0.7s						
TKL	**Tuckaleechee C**	**33.28**	**88**	LR	LR	09 59 29.7	
	comp=N,41nm,20.1s,baz=319,slow=37						
H11N3	**WAKE ISLAND Hy**	**60.12**	**270**	T	T	10 53 50.6	
	baz=50,slow=75,SNR=153						
H11N2	**WAKE ISLAND Hy**	**60.12**	**270**	T	T	10 53 52.6	
	baz=50,slow=75,SNR=97						
H11N1	**WAKE ISLAND Hy**	**60.14**	**270**	T	T	10 53 53.4	
	baz=50,slow=75,SNR=98						
H11S1	**WAKE ISLAND Hy**	**61.03**	**269**	T	T	10 55 00.2	
	baz=50,slow=75,SNR=196						
H11S2	**WAKE ISLAND Hy**	**61.04**	**269**	T	T	10 55 01.4	
	baz=50,slow=75,SNR=128						
H11S3	**WAKE ISLAND Hy**	**61.05**	**269**	T	T	10 55 01.4	
	baz=50,slow=75,SNR=117						

*TIF **06** 09:43:35.6, 41°75N×41°70E, h16km±1km*
*DDA **06** 09:43:37.1±0.0, 41°66N×41°61E, h7km±1km, ML2.6*
**ISC 06 09:43:36.7±1.3, 41°70N±0°06×41°72E±0°06, h15km±8km, n13, σ1§10/23, Tur

ISC 06 09:48:30.2±2.0,37°03S±0.06×179°45E±0.07,h16km±10km, n233,σ1°79/218,mb4.8/18,MS3.8/20,1D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.06**	**239**		**Pb**	**09 48 49.5**	**-0.7**
MXZ	**Matakaoa Point**	**1.06**	**239**	P	**Pb**	**09 48 49.4**	**-0.8**
MXZ				S	**Sb**	**09 48 58.4**	**-5.3**
WMGZ	**Waiomatatini S**	**1.14**	**226**	P	**Pg**	**09 48 53.4**	**+1.1**
WMGZ				S	**Sg**	**09 49 08.6**	**+1.3**
PKGZ	**Pakihiroa**	**1.39**	**232**	P	**Pb**	**09 48 55.8**	**-0.1**
PKGZ				S	**Sb**	**09 49 13.7**	**+0.3**
PUZ	**Puketiti**	**1.41**	**222**	P	**Pb**	**09 48 56.9**	**+0.8**
PUZ				S	**Sg**	**09 49 15.3**	**-0.5**
HAZ	**Te Kaha**	**1.52**	**241**	P	**Pn**	**09 48 56.1**	**-0.6**
HAZ				S	**Sb**	**09 49 17.2**	**+0.3**
TWGZ	**Tauwhareparae**	**1.64**	**225**	P	**Pb**	**09 49 00.2**	**+0.2**
TWGZ				S	**Sg**	**09 49 22.2**	**-0.8**
RUGZ	**Raukumara Rang**	**1.69**	**236**	P	**Pn**	**09 49 00.3**	**+1.1**
RUGZ				S	**Sg**	**09 49 24.3**	**-0.5**
CNGZ	**Carnagh Statio**	**1.76**	**214**	P	**Pb**	**09 49 02.4**	**+0.3**
WIZ	**White Island**	**1.87**	**254**	P	**Pn**	**09 49 00.4**	**-1.1**
WSRZ	**White Island S**	**1.88**	**254**	P	**Pn**	**09 49 02.5**	**+0.8**
TKGZ	**Te Karaka**	**1.90**	**222**	P	**Pn**	**09 49 03.3**	**+1.4**
MWZ	**Matawai**	**2.01**	**229**	P	**Pn**	**09 49 05.1**	**+1.6**
WHRZ	**Whale Island**	**2.14**	**247**	P	**Pn**	**09 49 06.9**	**+1.6**
RIGZ	**Rimuhau**	**2.14**	**218**	P	**Pn**	**09 49 06.7**	**+1.3**
RAGZ	**Rawiri**	**2.18**	**227**	P	**Pn**	**09 49 07.3**	**+1.4**
URZ	**Urewera**	**2.23**	**236**	Pn	**Pn**	**09 49 07.9**	**+1.5**
	371nm,0.3s,baz=31,slow=1.0,SNR=466						
URZ				Sn	**Sn**	**09 49 33.7**	**0.0**
	363nm,0.3s,baz=211,slow=24,SNR=22						
URZ				LR	LR	09 50 20.0	
	comp=Z,2μm,18.7s,baz=30,slow=48						
	1μm,0.5s						
URZ	**Urewera**	**2.23**	**236**	Pn	**Pn**	**09 49 07.4**	**+0.9**
URZ	**Urewera**	**2.23**	**236**	P	**Pn**	**09 49 08.1**	**+1.6**
PRGZ	**Paritu Road**	**2.26**	**213**	P	**Pn**	**09 49 08.4**	**+1.5**
MARZ	**Manawahe**	**2.41**	**246**	P	**Pn**	**09 49 09.7**	**+0.8**
EDRZ	**Edgecumbe**	**2.41**	**243**	P	**Pn**	**09 49 10.5**	**+1.4**
SNGZ	**Shannon Statio**	**2.42**	**223**	P	**Pn**	**09 49 10.3**	**+1.1**
SNGZ				S	**Sn**	**09 49 40.8**	**+2.4**
KNZ	**Kokohu**	**2.44**	**215**	P	**Pn**	**09 49 10.2**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.45**	**209**	P	**Pn**	**09 49 11.0**	**+1.5**
OPRZ	**Ohinepanea**	**2.45**	**250**	P	**Pn**	**09 49 09.8**	**+0.3**
RTZ	**Ruatahuna**	**2.52**	**230**	P	**Pn**	**09 49 11.8**	**+1.3**
RTZ				S	**Sn**	**09 49 42.1**	**+1.1**
MUNZ	**Murupara**	**2.57**	**235**	P	**Pn**	**09 49 12.3**	**+1.1**
MYRZ	**Mayor Island**	**2.58**	**263**	P	**Pn**	**09 49 12.1**	**+0.8**
MKRZ	**Makatiti**	**2.62**	**244**	P	**Pn**	**09 49 14.2**	**+2.3**
LIRZ	**Lichensteins R**	**2.63**	**247**	P	**Pn**	**09 49 14.3**	**+2.3**
TARZ	**Mount Tarawera**	**2.63**	**242**	P	**Pn**	**09 49 13.7**	**+1.6**
TGRZ	**Tauranga**	**2.64**	**254**	P	**Pn**	**09 49 12.4**	**+0.3**
RAHZ	**Arahi**	**2.66**	**224**	P	**Pn**	**09 49 13.5**	**+1.1**
RRRZ	**Republican Roa**	**2.67**	**240**	P	**Pn**	**09 49 14.1**	**+1.5**
OMRZ	**Omania**	**2.67**	**245**	P	**Pn**	**09 49 13.8**	**+1.2**
WHHZ	**Waihua**	**2.69**	**220**	P	**Pn**	**09 49 14.2**	**+1.4**
KARZ	**Kaharoa**	**2.74**	**248**	P	**Pn**	**09 49 14.7**	**+1.2**
HLRZ	**Highlands Stat**	**2.75**	**243**	P	**Pn**	**09 49 15.3**	**+1.7**
MTHZ	**Maungataniwha**	**2.75**	**228**	P	**Pn**	**09 49 15.3**	**+1.6**
MTHZ				S	**Sn**	**09 49 47.3**	**+0.7**
NGRZ	**Ngongotaha**	**2.81**	**247**	P	**Pn**	**09 49 17.2**	**+2.8**
UTU	**Utuhina**	**2.83**	**245**	P	**Pn**	**09 49 17.7**	**+2.9**
PRRZ	**Plateau Road**	**2.83**	**238**	P	**Pn**	**09 49 16.2**	**+1.4**
HSRZ	**Hossack Road**	**2.85**	**242**	P	**Pn**	**09 49 17.1**	**+2.0**
HRRZ	**Handcock Road**	**2.86**	**241**	P	**Pn**	**09 49 16.8**	**+1.6**
ALRZ	**Allen Road**	**2.90**	**237**	P	**Pn**	**09 49 16.9**	**+1.2**
KMRZ	**Kaimai**	**2.91**	**253**	P	**Pn**	**09 49 16.8**	**+0.9**
NMHZ	**Naumai**	**2.94**	**225**	P	**Pn**	**09 49 17.6**	**+1.3**
ARHZ	**Aropaoanui**	**2.95**	**220**	P	**Pn**	**09 49 17.5**	**+1.1**
GRRZ	**Galatos Road**	**2.96**	**243**	P	**Pn**	**09 49 18.5**	**+1.9**
MRHZ	**Matea Rd**	**3.00**	**232**	P	**Pn**	**09 49 18.4**	**+1.3**
WPRZ	**Whakapapatarin**	**3.00**	**239**	P	**Pn**	**09 49 18.8**	**+1.7**
KUZ	**Kuaotunu**	**3.01**	**274**	P	**Pn**	**09 49 15.8**	**-1.3**
BKZ	**Black Stump Fm**	**3.16**	**227**		**Pn**	**09 49 20.0**	**+0.7**
BKZ	**Black Stump Fm**	**3.16**	**227**	P	**Pn**	**09 49 20.1**	**+0.7**
BKZ	**Black Stump Fm**	**3.16**	**227**	P	**Pn**	**09 49 20.5**	**+1.1**
WHTZ	**Whakaora**	**3.21**	**238**	P	**Pn**	**09 49 22.9**	**+2.8**
CKHZ	**Cape Kidnapper**	**3.22**	**215**	P	**Pn**	**09 49 20.5**	**+0.4**
TOZ	**Tahuroa Road**	**3.22**	**256**	P	**Pn**	**09 49 19.4**	**-0.7**
KUTZ	**Kaahu Road**	**3.23**	**242**	P	**Pn**	**09 49 21.8**	**+1.6**
HATZ	**Hinemaiaia**	**3.24**	**234**	P	**Pn**	**09 49 23.7**	**+3.2**
MCHZ	**McNeill Hill**	**3.24**	**221**	P	**Pn**	**09 49 21.2**	**+0.8**
GRZ	**Great Barrier**	**3.31**	**282**	P	**Pn**	**09 49 22.1**	**+0.8**
TLZ	**Tolley Road**	**3.37**	**246**	P	**Pn**	**09 49 23.4**	**+1.3**
KWHZ	**Kaweka Forest**	**3.38**	**224**	P	**Pn**	**09 49 22.7**	**+0.4**
WATZ	**Wairara**	**3.39**	**239**	P	**Pn**	**09 49 24.2**	**+1.7**
KAHZ	**Kahuranaki**	**3.42**	**215**	P	**Pn**	**09 49 23.0**	**+0.1**
MKAZ	**Moumakai**	**3.43**	**267**	P	**Pn**	**09 49 22.3**	**-0.7**
RATZ	**Rangitukua**	**3.44**	**237**	P	**Pn**	**09 49 24.9**	**+1.7**
RITZ	**Rihia Road**	**3.44**	**235**	P	**Pn**	**09 49 24.3**	**+1.1**
WIAZ	**Waiheke Island**	**3.47**	**273**	P	**Pn**	**09 49 23.0**	**-0.5**
KATZ	**Kakaramea**	**3.55**	**236**	P	**Pn**	**09 49 26.6**	**+1.8**
KRHZ	**Kereru**	**3.56**	**222**	P	**Pn**	**09 49 24.8**	**-0.1**
TMVZ	**Te Maari**	**3.62**	**234**	P	**Pn**	**09 49 26.4**	**+0.7**
PXZ	**Pawanui**	**3.62**	**213**	P	**Pn**	**09 49 25.2**	**-0.4**
ETAZ	**East Tamaki Re**	**3.62**	**270**	P	**Pn**	**09 49 25.5**	**-0.1**
ETVZ	**East Tongariro**	**3.62**	**233**	P	**Pn**	**09 49 26.4**	**+0.6**
BHHZ	**Black Hill Sta**	**3.63**	**226**	P	**Pn**	**09 49 26.3**	**+0.6**
NTVZ	**North Tongarir**	**3.63**	**234**	P	**Pn**	**09 49 26.6**	**+0.7**
KRVZ	**Karewarewa**	**3.65**	**234**	P	**Pn**	**09 49 27.2**	**+1.1**
MBAZ	**Motutapu North**	**3.66**	**273**	P	**Pn**	**09 49 26.1**	**-0.1**
OTVZ	**Oturere**	**3.67**	**233**	P	**Pn**	**09 49 27.1**	**+0.6**
NNVZ	**North Ngauruho**	**3.68**	**234**	P	**Pn**	**09 49 27.9**	**+1.3**
WTVZ	**West Tongariro**	**3.69**	**234**	P	**Pn**	**09 49 28.2**	**+1.4**
SNVZ	**South Ngauruho**	**3.70**	**233**	P	**Pn**	**09 49 27.4**	**+0.6**
NGZ	**Ngauruhoe**	**3.72**	**234**	P	**Pn**	**09 49 27.7**	**+0.6**
ABAZ	**Army Bay**	**3.73**	**275**	P	**Pn**	**09 49 27.4**	**+0.3**
TUVZ	**Tukino**	**3.74**	**232**	P	**Pn**	**09 49 28.3**	**+0.9**
MOVZ	**Moawhango**	**3.76**	**230**	P	**Pn**	**09 49 28.2**	**+0.6**
TWVZ	**Taurewa**	**3.77**	**236**	P	**Pn**	**09 49 29.0**	**+1.3**
EPAZ	**Eden Park BICE**	**3.78**	**271**	P	**Pn**	**09 49 28.2**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.79**	**232**	P	**Pn**	**09 49 29.8**	**+1.7**
HBAZ	**Herne Bay Bore**	**3.79**	**271**	P	**Pn**	**09 49 30.1**	**+2.2**
FWVZ	**Far West T-bar**	**3.79**	**233**	P	**Pn**	**09 49 30.2**	**+2.0**
WNVZ	**Wahianoa**	**3.81**	**232**	P	**Pn**	**09 49 29.6**	**+1.3**
WPHZ	**Waipukurau**	**3.84**	**217**	P	**Pn**	**09 49 28.3**	**-0.4**
AWAZ	**Awhitu Peninsu**	**3.85**	**268**	P	**Pn**	**09 49 30.0**	**0.0**
PNHZ	**Pukenui**	**3.85**	**221**	P	**Pn**	**09 49 28.4**	**-0.4**
WTAZ	**Waiatarua**	**3.91**	**270**	P	**Pn**	**09 49 30.0**	**+0.4**
RVAZ	**Riverhead Bore**	**3.92**	**272**	P	**Pn**	**09 49 29.9**	**+0.2**
MTVZ	**Mangateitei**	**3.92**	**232**	P	**Pn**	**09 49 30.5**	**+0.7**
HIZ	**Hauiti**	**3.93**	**246**	Pn	**Pn**	**09 49 31.7**	**+1.8**
HIZ	**Hauiti**	**3.93**	**246**	P	**Pn**	**09 49 32.0**	**+2.2**
HIZ	**Hauiti**	**3.93**	**246**	P	**Pn**	**09 49 32.1**	**+2.2**
PKVZ	**Pokaka**	**3.94**	**234**	P	**Pn**	**09 49 32.0**	**+1.8**
ANWZ	**Angora Road**	**4.14**	**213**	P	**Pn**	**09 49 32.4**	**-0.4**
DVHZ	**Dannevirke**	**4.16**	**217**	P	**Pn**	**09 49 32.2**	**-0.8**
WCZ	**Waipu Caves**	**4.26**	**283**	P	**Pn**	**09 49 34.4**	**0.0**
BFZ	**Birch Farm**	**4.42**	**213**	Pn	**Pn**	**09 49 35.0**	**-1.7**
BFZ	**Birch Farm**	**4.42**	**213**	P	**Pn**	**09 49 35.8**	**-0.9**
POWZ	**Post Office Ro**	**4.42**	**220**	P	**Pn**	**09 49 35.7**	**-0.9**
WAZ	**Wanganui**	**4.44**	**231**	P	**Pn**	**09 49 37.7**	**+0.8**
PRWZ	**Pori Road**	**4.45**	**217**	P	**Pn**	**09 49 36.5**	**-0.5**
OHWZ	**Ohakea**	**4.53**	**224**	P	**Pn**	**09 49 39.1**	**+1.0**
MHEZ	**Mangahewa**	**4.54**	**242**	P	**Pn**	**09 49 42.5**	**+4.3**
LREZ	**Lake Rotokare**	**4.66**	**237**	P	**Pn**	**09 49 41.8**	**+1.9**
DREZ	**Durham Road**	**4.67**	**241**	P	**Pn**	**09 49 43.4**	**+3.3**
PREZ	**Palmer Road**	**4.77**	**239**	P	**Pn**	**09 49 44.7**	**+3.3**
NEZ	**North Egmont**	**4.78**	**240**	P	**Pn**	**09 49 44.9**	**+3.3**
PKE	**Pukeiti**	**4.82**	**242**	P	**Pn**	**09 49 46.1**	**+3.9**
KHEZ	**Kahui Hut**	**4.85**	**241**	P	**Pn**	**09 49 45.9**	**+3.3**
NBEZ	**Newall Road No**	**4.94**	**241**	P	**Pn**	**09 49 47.6**	**+3.9**
NMEZ	**Namu Road**	**4.99**	**240**	P	**Pn**	**09 49 49.1**	**+4.6**
OUZ	**Omahuta**	**5.07**	**289**	Pn	**Pn**	**09 49 45.8**	**+0.3**
OUZ	**Omahuta**	**5.07**	**289**	P	**Pn**	**09 49 46.1**	**+0.5**
OUZ	**Omahuta**	**5.07**	**289**	P	**Pn**	**09 49 47.4**	**+1.8**
MSWZ	**Moikau Station**	**5.46**	**215**		**Pn**	**09 49 47.4**	**-3.6**
PLWZ	**Palliser**	**5.58**	**214**	Pn	**Pn**	**09 49 49.2**	**-3.4**
SNZO	**South Karori**	**5.65**	**219**	Pn	**Pn**	**09 49 51.3**	**-2.1**
TUWZ	**Tuamarina**	**6.13**	**223**		**Pn**	**09 49 57.8**	**-2.3**
CMWZ	**Cape Campbell**	**6.22**	**219**	Pn	**Pn**	**09 49 59.6**	**-1.7**
NNZ	**Nelson**	**6.37**	**227**	Pn	**Pn**	**09 50 00.8**	**-1.7**
BSWZ	**Blackbirch Sta**	**6.37**	**221**	Pn	**Pn**	**09 50 00.9**	**-2.5**
TKNZ	**Takaka Hill**	**6.44**	**230**	P	**Pn**	**09 50 03.5**	**-0.9**
QRZ	**Quartz Range**	**6.59**	**233**	Pn	**Pn**	**09 50 05.0**	**-1.4**
QRZ	**Quartz Range**	**6.59**	**233**	P	**Pn**	**09 50 05.4**	**-1.1**
THZ	**Tophouse**	**6.93**	**225**	Pn	**Pn**	**09 50 08.7**	**-2.4**
KHZ	**Kahutara**	**7.05**	**218**	Pn	**Pn**	**09 50 10.6**	**-2.1**
KHZ	**Kahutara**	**7.05**	**218**	P	**Pn**	**09 50 10.4**	**-2.3**
CTZ	**Chatham Island**	**7.34**	**157**	P	**Pn**	**09 50 20.4**	**+3.8**
GVZ	**Greta Valley S**	**7.71**	**218**	P	**Pn**	**09 50 21.8**	**+0.1**
LTZ	**Lake Taylor**	**7.96**	**222**		**Pn**	**09 50 21.8**	**-3.6**
MQZ	**McQueen's Vall**	**8.45**	**216**	Pn	**Pn**	**09 50 29.4**	**-2.5**
OXZ	**Oxford**	**8.47**	**220**		**Pn**	**09 50 29.1**	**-3.1**
WVZ	**Waitaha Valley**	**9.00**	**225**	P	**Pn**	**09 50 38.7**	**-0.8**
RPZ	**Rata Peaks**	**9.25**	**221**	Pn	**Pn**	**09 50 40.4**	**-2.5**
	3.3nm,0.3s,baz=90,slow=2.0,SNR=15						
RPZ				Sn	Sn	09 52 15.4	-11
	5.9nm,0.3s,baz=327,slow=23,SNR=13						
RPZ	**Rata Peaks**	**9.25**	**221**	Pn	**Pn**	**09 50 40.6**	**-2.4**
RPZ	**Rata Peaks**	**9.25**	**221**	P	**Pn**	**09 50 40.7**	**-2.2**
GCSZ	**Gaunt Creek Bo**	**9.39**	**225**	P	**Pn**	**09 50 44.5**	**-0.2**
FOZ	**Fox Glacier**	**9.81**	**226**	Pn	**Pn**	**09 50 48.6**	**-2.0**
FOZ	**Fox Glacier**	**9.81**	**226**	P	**Pn**	**09 50 50.1**	**-0.5**
LBZ	**Lake Benmore**	**10.17**	**221**	Pn	**Pn**	**09 50 53.0**	**-2.5**
ODZ	**Otahua Downs**	**10.40**	**217**	Pn	**Pn**	**09 50 55.9**	**-2.8**
ODZ	**Otahua Downs**	**10.40**	**217**	P	**Pn**	**09 50 57.4**	**-1.3**
WKZ	**Wanaka**	**11.08**	**222**	Pn	**Pn**	**09 51 07.6**	**-0.4**
SYZ	**Scrubby Hill**	**12.22**	**216**	P	**Pn**	**09 51 24.2**	**+0.7**
WHZ	**Wether Hill Ro**	**12.35**	**221**	Pn	**Pn**	**09 51 22.3**	**-3.1**
DCZ	**Deep Cove**	**12.51**	**224**	Pn	**Pn**	**09 51 25.7**	**-1.7**
DZM	**Mont Dzumac**	**18.69**	**319**	eLR	LR	09 57 12.6	
	comp=Z,694nm,23.6s						
DZM	**Mont Dzumac**	**18.69**	**319**	LR	LR	09 58 58.5	
	comp=Z,534nm,18.4s,baz=139,slow=34						
MSVF	**Nonsavu**	**19.26**	**356**	LR	LR	09 58 39.8	
	comp=Z,205nm,19.9s,baz=182,slow=32						
RAR	**Rarotonga**	**23.96**	**55**	LR	LR	10 01 11.0	
	comp=Z,110nm,20.4s,baz=236,slow=32						
TAU	**Tasmania Unive**	**25.22**	**247**	P	**P**	**09 53 53.8**	**-1.4**
TOO	**Toolangi**	**26.94**	**258**	P	**P**	**09 54 10.2**	**-0.6**
TOO				IAmb	IAmb	09 54 49.5	
	comp=Z,52nm,1.9s						
RMQ	**Roma**	**28.03**	**283**	P	**P**	**09 54 22.7**	**+2.0**
CMSA	**Cobar Meteorol**	**28.33**	**271**	P	**P**	**09 54 24.6**	**+1.3**
TBI	**Tubuai**	**29.98**	**72**	eLR	LR	10 02 11.3	
	comp=Z,224nm,27.2s						
TBI	**Tubuai**	**29.98**	**72**	*e*T	T	10 26 20.2	
	comp=Z,22nm,0.4s						
STKA	**Stephens Creek**	**31.50**	**268**	P	**P**	**09 54 49.6**	**-1.7**
	comp=Z,5.3nm,0.9s,baz=101,slow=10,SNR=9.4						
	comp=Z,5.3nm,0.9s						
STKA	**Stephens Creek**	**31.50**	**268**	P	**P**	**09 54 50.0**	**-1.3**
STKA	**Stephens Creek**	**31.50**	**268**	P	**P**	**09 54 53.2**	**+1.9**
QLP	**Quilpie**	**31.53**	**279**	P	**P**	**09 54 53.8**	**+2.1**
HTT	**Hatutt**	**33.13**	**264**	P	**P**	**09 55 06.9**	**+1.2**
PPT2	**Papeete2**	**33.43**	**63**	eLR	LR	10 03 48.2	
	comp=Z,268nm,25.0s						
PPT	**Papeete**	**33.44**	**63**	LR	LR	10 05 16.6	
	comp=Z,112nm,22.0s,baz=210,slow=30						
CTA	**Charters Tower**	**33.47**	**291**	LR	LR	10 07 36.1	
	comp=Z,138nm,19.8s,baz=86,slow=35						
INKA	**Innaminka**	**33.78**	**275**	P	**P**	**09 55 13.0**	**+1.6**
WHYH	**Whyalla**	**34.32**	**264**	P	**P**	**09 55 17.0**	**+1.0**
LCRK	**Leigh Creek**	**34.71**	**269**	P	**P**	**09 55 20.7**	**+1.3**
BBOO	**Buckleboo**	**35.60**	**264**	P	**P**	**09 55 25.1**	**-2.0**
BBOO				IAmb	IAmb	09 55 30.8	
	comp=Z,27nm,1.5s						
COEN	**Coen**	**39.64**	**296**	P	**P**	**09 56 00.3**	**-1.1**
COEN				IAmb	IAmb	09 56 03.2	
	comp=Z,19nm,1.0s						
PMG	**Port Moresby**	**40.10**	**305**	LR	LR	10 10 59.7	
	comp=Z,125nm,19.1s,baz=103,slow=34						
AS31	**Alice Springs**	**41.13**	**276**	P	**P**	**09 56 13.0**	**-0.7**
ASAR	**Alice Springs**	**41.13**	**276**	P	**P**	**09 56 13.4**	**-0.3**
	comp=Z,21nm,0.9s,baz=117,slow=7.2,SNR=132						
ASAR				PcP	**PcP**	**09 58 14.5**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=122,slow=3.5,SNR=1.2						
ASAR				LR	LR	10 12 32.9	
	comp=Z,107nm,18.7s,baz=90,slow=35						
	comp=Z,21nm,0.9s						
ASAR	**Alice Springs**	**41.13**	**276**	P	**P**	**09 56 12.9**	**-0.9**
RABL	**Rabaul**	**41.16**	**316**	P	**P**	**09 56 12.4**	**-1.6**
VNDA	**Vanda**	**41.30**	**186**	LR	LR	10 09 44.6	
	comp=Z,55nm,18.9s,baz=23,slow=31						
WR0	**Warramunga Arr**	**42.56**	**281**	P	**P**	**09 56 24.9**	**-0.5**
WR0				IAmb	IAmb	09 56 26.6	
	comp=Z,15nm,1.1s						
FORT	**Forrest**	**42.69**	**263**	P	**P**	**09 56 25.3**	**-1.0**
FORT				IAmb	IAmb	09 56 32.3	
	comp=Z,22nm,0.8s						
WB2	**Warramunga Arr**	**42.72**	**281**	P	**P**	**09 56 26.1**	**-0.6**
WB2				IAmb	IAmb	09 56 27.8	
	comp=Z,38nm,1.4s						
WRAB	**Tennant Creek**	**42.72**	**281**	P	**P**	**09 56 25.8**	**-0.9**
WRAB				IAmb	IAmb	09 56 27.3	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**42.73**	**281**	P	**P**	**09 56 26.4**	**-0.4**
	comp=Z,14nm,0.9s,baz=121,slow=7.5,SNR=59						
WRA				PcP	**PcP**	**09 58 18.0**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=119,slow=3.4,SNR=3.5						
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**42.73**	**281**	P	**P**	**09 56 26.1**	**-0.7**
WB0	**Warramunga Arr**	**42.78**	**281**	P	**P**	**09 56 26.3**	**-0.9**
WB0				IAmb	IAmb	09 56 28.3	
	comp=Z,23nm,1.2s						
TAOE	**Nuku Hiva Isla**	**46.05**	**63**	eLR	LR	10 09 38.9	
	comp=Z,232nm,25.9s						
CASY	**Casey**	**48.33**	**210**	P	**P**	**09 57 08.4**	**-2.1**
CASY				IAmb	IAmb	09 57 14.8	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.61**	**277**	LR	LR	10 19 07.3	
	comp=Z,120nm,18.4s,baz=129,slow=36						
FITZ	**Fitzroy Crossi**	**50.61**	**277**	P	**P**	**09 57 27.5**	**-1.1**
MORW	**Morawa**	**52.89**	**259**	P	**P**	**09 57 43.5**	**-2.0**
QSPA	**South Pole Qui**	**53.10**	**180**	P	**P**	**09 57 52.0**	**+5.3**
	comp=Z,9.2nm,1.1s,baz=33,slow=0.6,SNR=14						
QSPA				LR	LR	10 17 01.8	
	comp=Z,116nm,20.7s,baz=49,slow=32						
	comp=Z,9.2nm,1.1s						
QSPA	**South Pole Qui**	**53.10**	**180**	P	**P**	**09 57 43.6**	**-3.1**
QSPA				IAmb	IAmb	09 58 05.9	
	comp=Z,11nm,0.9s						
PSA00	**Pilbara Seismi**	**53.41**	**269**	P	**P**	**09 57 47.5**	**-1.9**
MBWA	**Marble Bar**	**53.72**	**270**	P	**P**	**09 57 50.3**	**-1.3**
MBWA				IAmb	IAmb	09 57 51.2	
	comp=Z,10nm,1.1s						
SIJI	**Sorong**	**57.15**	**297**	P	**P**	**09 58 16.5**	**+0.1**
	comp=Z,8.5nm,0.8s,baz=57,slow=10,SNR=3.9						
SIJI				LR	LR	10 23 00.4	
	comp=Z,67nm,20.0s,baz=19,slow=36						
	comp=Z,8.5nm,0.8s						
RPN	**Rapa Nui**	**59.89**	**103**	LR	LR	10 17 08.2	
	comp=Z,47nm,20.5s,baz=288,slow=29						
MAW	**Mawson**	**65.38**	**202**	P	**P**	**09 59 15.5**	**+4.1**
	comp=Z,2.2nm,0.9s,baz=113,slow=15,SNR=3.4						
	comp=Z,2.2nm,0.9s						
TROLL	**Troll, Antarti**	**71.24**	**181**	sP	**P**	**09 59 51.7**	**+3.5**
SNAA	**Sanae**	**71.59**	**179**	sP	**P**	**09 59 53.7**	**+3.4**
VNA3	**Neumayer Olymp**	**71.83**	**177**	sP	**P**	**09 59 55.7**	**+4.1**
H03S2	**Juan Fernandez**	**78.57**	**124**	T	T	11 27 11.4	
	SNR=17						
H03S1	**Juan Fernandez**	**78.58**	**124**	T	T	11 27 12.7	
	SNR=18						
H03S3	**Juan Fernandez**	**78.59**	**124**	T	T	11 27 13.6	
	SNR=19						
H03N3	**Juan Fernandez**	**78.80**	**123**	T	T	11 27 27.4	
	baz=234,slow=72,SNR=103						
H03N2	**Juan Fernandez**	**78.80**	**123**	T	T	11 27 26.2	
	baz=234,slow=72,SNR=79						
H03N1	**Juan Fernandez**	**78.82**	**123**	T	T	11 27 26.5	
	baz=234,slow=72,SNR=83						
LVC	**Limon Verde**	**92.49**	**121**	LR	LR	10 35 08.1	
	comp=Z,47nm,19.1s,baz=211,slow=30						
NNA	**Nana**	**93.54**	**108**	LR	LR	10 36 13.8	
	comp=Z,65nm,19.0s,baz=248,slow=30						
CMAR	**Cnang Mai Arr**	**93.64**	**290**	LR	LR	10 46 42.2	
	comp=Z,17nm,19.9s,baz=210,slow=37						
ATAH	**Atahualpa**	**95.35**	**103**	LR	LR	10 35 27.5	
	comp=Z,48nm,20.4s,baz=308,slow=30						
PZH	**PanZhiHua**	**96.52**	**298**	P	**P**	**10 01 57.6**	**-1.6**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,80nm,4.4s						
CPUP	**Villa Florida**	**97.41**	**131**	LR	LR	10 39 10.3	
	comp=Z,66nm,20.0s,baz=216,slow=31						
TXAR	**Lajitas Array**	**97.68**	**59**	LR	LR	10 38 41.7	
	comp=Z,31nm,18.4s,baz=208,slow=31						
MA2	**Magadan**	**99.14**	**346**	LR	LR	10 39 57.7	
	comp=Z,24nm,21.2s,baz=134,slow=31						
HHC	**Hu-ho-hao-te**	**99.33**	**315**	*e*P	**Pdif**	**10 02 10.7**	**-0.8**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,87nm,5.2s						
LZH	**Lanzhou**	**100.98**	**307**	⇓P	**Pdif**	**10 02 24.9**	**+5.9**
LZH				pP	pwP	10 02 29.8	+3.3
LZH				pmax	pmax		
	comp=Z,24nm,1.4s						
WMQ	**Urumqi**	**115.56**	**307**	*e*P	**PKPdf**	**10 07 09.2**	**-2.0**
MKAR	**Makanchi Array**	**120.28**	**308**	PKP	**PKiKP**	**10 07 20.8**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=98,slow=2.5,SNR=7.5						
ARCES	**ARCESS Array B**	**144.51**	**345**	PKP	**PKPdf**	**10 08 05.0**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=329,slow=2.1,SNR=5.9						
KLMR	**Klimovskoe**	**145.36**	**326**	*e*	**PKPab**	**10 08 07.7**	**+1.3**
KLMR				AMP		10 08 09.3	
	comp=Z,25nm,1.3s						
FINES	**FINESS Array B**	**150.42**	**334**	PKPbc	**PKPbc**	**10 08 20.1**	**+0.2**
	comp=Z,5.2nm,0.9s,baz=58,slow=4.7,SNR=9.8						
BRTR	**Keskin Array B**	**153.16**	**286**	PKPbc	**PKiKP**	**10 08 27.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=149,slow=3.0,SNR=4.5						
AKASG	**Malin Array Be**	**154.76**	**312**	PKPbc	**PKiKP**	**10 08 30.6**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=50,slow=2.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**156.13**	**185**	PKPab	**PKPab**	**10 08 53.9**	**+2.1**
	comp=Z,3.5nm,1.1s,baz=154,slow=3.4,SNR=7.1						

*MOS **06** 09:58:25.3±0.0,42°.25N×45°.45E,h9km,MPVA3.5*
*NORS **06** 09:58:26.1±0.0,42°.08N×45°.33E,h7km,MPVA3.8*
*TIF **06** 09:58:26.3,42°.22N×45°.37E,h9km±2km*
*DRS **06** 09

OUF			SB	**Sb**	**10 01 17.2 +0.1**		
RNF	**Rovaniemi**	**2.71 317**	PN	**Pn**	**10 00 44.4 +1.2**		
RNF			SB	**Sb**	**10 01 21.4 0.0**		
OBF0	**Syolatti, Pyha**	**2.75 269**	PN	**Pn**	**10 00 44.9 +1.2**		
OBF0			SG	**Sb**	**10 01 23.5 +0.8**		
TOF	**Tornio**	**2.98 301**	PN	**Pn**	**10 00 48.4 +1.6**		
TOF			MSG		10 01 27.3		
	comp=Z,14nm,0.2s						
TOF			SB	**Sb**	**10 01 28.7 -0.4**		
APA0	**Apatity Array**	**3.09 17**	P	**Pn**	**10 00 48.5 +0.1**		
APA0			S	**Sn**	**10 01 24.8 -1.2**		
VRF	**Varrio**	**3.10 353**	PN	**Pn**	**10 00 49.1 +0.5**		
VRF			MSG		10 01 30.1		
	comp=Z,11nm,0.2s						
VRF			SG	**Sb**	**10 01 33.6 +0.9**		
SGF	**Sodankyl**	**3.23 331**	PN	**Pn**	**10 00 50.8 +0.5**		
SGF			SB	**Sb**	**10 01 35.5 -0.8**		
KAF	**Kangasniemi**	**3.23 219**	PB	**Pn**	**10 00 53.1 +2.8**		
RUFX	**Ruokolahti**	**3.36 194**	PN	**Pn**	**10 00 52.5 +0.4**		
	baz=13						
KEF	**Keuruu**	**3.61 228**	PN	**Pn**	**10 00 57.1 +1.5**		
LVZ	**Lovozero**	**3.61 25**	P	**Pn**	**10 00 55.5 -0.2**		
LVZ			S	**Sn**	**10 01 35.8 -3.1**		
LVZ	**Lovozero**	**3.61 25**	PN	**Pn**	**10 00 55.7 +0.1**		
LVZ			SN	**Sn**	**10 01 39.0 0.0**		
KLF	**Kolari**	**3.73 316**	PN	**Pn**	**10 00 58.7 +1.5**		
FIA0	**FINESS Array S**	**3.85 214**	PN	**Pn**	**10 00 59.3 +0.4**		
	baz=28						
FIA0			SN	**Sn**	**10 01 45.1 +0.3**		
FINES	**FINESS Array B**	**3.85 214**	Pn	**Pn**	**10 00 59.5 +0.7**		
	comp=Z,0.5nm,0.3s,baz=34,slow=14,SNR=18						
FINES			Pg	**Pb**	**10 01 06.8 -0.4**		
	comp=Z,1.4nm,0.3s,baz=32,slow=15,SNR=8.6						
FINES			Sn	**Sn**	**10 01 44.2 -0.6**		
	comp=Z,1.4nm,0.3s,baz=35,slow=17,SNR=8.1						
FINES			Lg	Lg	10 01 57.3		
	comp=Z,1.8nm,0.3s,baz=35,slow=27,SNR=4.9						
	comp=Z,1.0nm,0.3s						
PAJU	**Pajala**	**3.87 311**	PN	**Pn**	**10 00 59.6 +0.5**		
PAJU			SG	**Sb**	**10 01 57.8 +3.0**		
VAF	**Ylistaro**	**3.88 248**	PN	**Pn**	**10 01 00.4 +1.2**		
VAF			SG	**Sg**	**10 02 00.6 -2.3**		
VJF	**Virojoki**	**4.40 200**	SG	**Sb**	**10 02 13.4 +3.5**		
HEF	**Hetta**	**4.65 327**	*e*P	**Pn**	**10 01 09.3 -0.6**		
HEF	**Hetta**	**4.65 327**	PN	**Pn**	**10 01 11.1 +1.2**		
	baz=138						
HEF			SN	**Sn**	**10 02 00.9 -3.5**		
PVF	**Pernaja**	**4.70 210**	SG	**Sb**	**10 02 22.7 +4.0**		
KTK1	**Kautokeino**	**5.22 329**	*e*P	**Pn**	**10 01 18.2 +0.5**		
KTK1			IAML		10 02 24.6		
	comp=Z,1.7nm,0.2s						
ARA0	**ARCESS Array S**	**5.26 340**	*e*P	**Pn**	**10 01 18.2 +0.1**		
ARCES	**ARCESS Array B**	**5.26 340**	Pn	**Pn**	**10 01 18.3 +0.1**		
	comp=Z,0.6nm,0.3s,baz=154,slow=13,SNR=122						
ARCES			Pg	**Pb**	**10 01 32.2 +1.1**		
	comp=Z,0.3nm,0.3s,baz=155,slow=15,SNR=6.8						
ARCES			Sn	**Sn**	**10 02 18.0 -1.3**		
	comp=Z,0.4nm,0.3s,baz=153,slow=22,SNR=2.6						
ARCES			Lg	Lg	10 02 38.8		
	comp=Z,0.8nm,0.3s,baz=159,slow=28,SNR=3.6						
	comp=Z,1.8nm,0.2s						
ARCES	**ARCESS Array B**	**5.26 340**	P	**Pn**	**10 01 17.9 -0.3**		
ARCES			S	**Sn**	**10 02 19.7 +0.3**		
KEV	**Kevo**	**5.28 346**	*e*P	**Pn**	**10 01 18.3 -0.1**		
SALU	**Saltoluokta**	**5.62 304**	*e*P	**Pn**	**10 01 24.2 +1.0**		
KIF	**Kilpisjarvi**	**5.80 323**	*e*P	**Pn**	**10 01 26.3 +0.7**		
JETT	**Jettan, Norway**	**6.29 325**	*e*P	**Pn**	**10 01 31.7 -0.7**		
FAUS	**Fauske**	**6.79 300**	*e*P	**Pn**	**10 01 39.8 +0.6**		
STEI	**Steigen**	**6.98 305**	*e*P	**Pn**	**10 01 41.3 -0.5**		
KONS	**Konsvik**	**7.46 292**	*e*P	**Pn**	**10 01 48.1 -0.2**		
HFS	**Hagfors**	**9.06 248**	Pn	**Pn**	**10 02 09.5 -0.8**		
	comp=Z,0.8nm,0.3s,baz=56,slow=12,SNR=6.3						
HFS			Sn	**Sn**	**10 03 48.0 -4.9**		
	comp=Z,0.4nm,0.3s,baz=66,slow=25,SNR=2.7						
HFS			Lg	Lg	10 04 39.5		
	comp=Z,0.9nm,0.3s,baz=65,slow=28,SNR=5.9						
	comp=Z,1.8nm,0.3s						
NOA	**NORSAR Array B**	**9.57 256**	Pn	**Pn**	**10 02 15.8 -1.5**		
	comp=Z,0.1nm,0.3s,baz=62,slow=14,SNR=5.0						
NOA			Sn	**Sn**	**10 04 01.6 -3.7**		
	baz=54,slow=23,SNR=2.1						
NOA			Lg	Lg	10 04 53.5		
	baz=56,slow=23,SNR=2.0						
	comp=Z,0.3nm,0.3s						

*IDC **06** 10:02:09.4±0.7,4.4°46S×153.68E,h95km±5km,mb3.9/15, mbtmp4.4/17,MS3.7/4, Error ellipse: s-maj=10.8km s-min=8.3km az=178.0*
*DJA **06** 10:02:09.4±1.4,4.4°S±7.7°×15.4E±1.2,h107km±8km,M4.8/13, mB4.9/2,mb4.6/13,MLv4.8/1,Mw(mB)4.2/2*
*NEIC **06** 10:02:10.8±1.0,4.4°47S±0.09°×153.6E±0.1,h96km±6km, mb4.5/28,Error ellipse: s-maj=16.7km s-min=12.1km az=72.0*

ISC 06 10:02:08.9±0.5,**4°44S**±0.06°×**153°65E**±0.06,**h85**km,**n80,** σ1s**40**/85,**mb4.4**/29,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.50 279**		Pn	**Pn**	**10 02 36.1**	**+1.6**
RABL	**Rabaul**	**1.50 279**		P	**Pn**	**10 02 36.3**	**+1.8**
KRVT	**Keravat (AS076**	**1.62 275**		P	**Pn**	**10 02 38.0**	**+1.9**
	1μm,0.5s,baz=202,slow=1.0,SNR=97						
KRVT				S	**Sn**	**10 02 58.9**	**+2.3**
	2μm,0.7s,baz=5.0,slow=21,SNR=21						
HNR	**Honiara**	**7.98 129**		P	**Pn**	**10 04 01.9**	**-0.3**
	518nm,0.5s,baz=302,slow=9.5,SNR=1.4						
HNR				S	**Sn**	**10 05 31.6**	**+0.7**
	717nm,0.4s,baz=143,slow=20,SNR=1.8						
PMG	**Port Moresby**	**8.11 232**		P	**Pn**	**10 04 06.0**	**+1.9**
	131nm,0.6s,baz=41,slow=7.0,SNR=55						
PMG				S	**Sn**	**10 05 35.1**	**+0.9**
	169nm,0.8s,baz=122,slow=21,SNR=16						
PMG	**Port Moresby**	**8.11 232**		Pn	**Pn**	**10 04 05.0**	**+1.0**
PMG	**Port Moresby**	**8.11 232**		P	**Pn**	**10 04 08.1**	**+4.0**
PMG	**Port Moresby**	**8.11 232**		P	**Pn**	**10 04 07.9**	**+3.8**
COEN	**Coen**	**14.00 227**		Pn	**Pn**	**10 05 24.6**	**+1.0**
COEN	**Coen**	**14.00 227**		P	**P**	**10 05 26.6**	**-2.2**
MTSU	**Mount Surprise**	**16.39 213**		P	**P**	**10 05 57.2**	**+1.9**
RK1H	**Rockhampton Ha**	**19.08 189**		P	**Pn**	**10 06 27.4**	**+0.9**
EIDS	**Eidsvold**	**20.96 187**		P	**P**	**10 06 44.3**	**-0.8**
EIDS				IAmb	IAmb	10 07 13.8	
	comp=Z,16nm,1.1s						
QIS	**Mount Isa**	**21.05 219**		P	**P**	**10 06 47.2**	**+0.9**
DZM	**Mont Dzumac**	**21.47 146**		P	**P**	**10 06 50.2**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=331,slow=19,SNR=1.2						
	comp=Z,4.0nm,0.8s						
RMQ	**Roma**	**22.42 192**		P	**P**	**10 07 01.7**	**+0.9**
QLP	**Quilpie**	**23.79 201**		P	**P**	**10 07 14.2**	**+0.2**
WB0	**Warramunga Arr**	**24.17 229**		P	**P**	**10 07 17.4**	**-0.2**
WB0				IAmb	IAmb	10 07 19.1	
	comp=Z,18nm,0.7s						
WR0	**Warramunga Arr**	**24.18 229**		P	**P**	**10 07 16.8**	**-0.8**
WR0				IAmb	IAmb	10 07 19.2	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**24.30 229**		P	**P**	**10 07 17.8**	**-0.9**
WRAB				IAmb	IAmb	10 07 20.4	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**24.30 229**		P	**P**	**10 07 19.0**	**+0.3**
WB2	**Warramunga Arr**	**24.31 229**		P	**P**	**10 07 17.8**	**-1.0**
WB2				IAmb	IAmb	10 07 20.5	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**24.32 229**		P	**P**	**10 07 18.4**	**-0.4**
	comp=Z,19nm,0.8s,baz=54,slow=10.0,SNR=119						
WRA				S	**S**	**10 11 33.4**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=51,slow=17,SNR=3.7						
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**24.32 229**		P	**P**	**10 07 17.4**	**-1.4**
H11S3	**WAKE ISLAND Hy**	**26.16 29**		T	T	10 33 54.4	
	baz=210,slow=73						
H11S2	**WAKE ISLAND Hy**	**26.17 29**		T	T	10 33 51.0	
	baz=210,slow=73						
H11S1	**WAKE ISLAND Hy**	**26.18 29**		T	T	10 33 55.6	
	baz=210,slow=73						
INKA	**Innaminka**	**26.23 207**		P	**P**	**10 07 36.3**	**+0.2**
KNRA	**Kununurra**	**26.89 244**		P	**P**	**10 07 41.0**	**-1.2**
KNRA				IAmb	IAmb	10 08 12.3	
	comp=Z,12nm,0.6s						
AS31	**Alice Springs**	**26.98 223**		P	**P**	**10 07 42.1**	**-0.9**
ASAR	**Alice Springs**	**26.99 223**		P	**P**	**10 07 42.6**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=56,slow=9.1,SNR=42						
ASAR				pP	**pP**	**10 08 03.2**	**+2.2**
	comp=Z,1.8nm,0.6s,baz=51,slow=8.8,SNR=2.4						
ASAR				PcP	**PcP**	**10 11 02.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=67,slow=3.1,SNR=3.7						
ASAR				S	**S**	**10 12 15.0**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=342,slow=11,SNR=0.8						
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**26.99 223**		P	**P**	**10 07 41.5**	**-1.5**
CMSA	**Cobar Meteorol**	**27.97 195**		P	**P**	**10 07 51.7**	**0.0**
OOD	**Oodnadatta**	**28.85 214**		P	**P**	**10 07 59.5**	**0.0**
STKA	**Stephens Creek**	**29.55 201**		P	**P**	**10 08 05.2**	**-0.5**
	comp=Z,5.3nm,0.6s,baz=9.3,slow=9.4,SNR=21						
STKA				LR	LR	10 18 51.5	
	comp=Z,70nm,19.2s,baz=32,slow=34						
	comp=Z,5.3nm,0.6s						
STKA	**Stephens Creek**	**29.55 201**		P	**P**	**10 08 05.6**	**0.0**
STKA	**Stephens Creek**	**29.55 201**		P	**P**	**10 08 05.7**	**0.0**
FITZ	**Fitzroy Crossi**	**30.57 241**		P	**P**	**10 08 13.9**	**-0.9**
	comp=Z,6.1nm,0.7s,baz=35,slow=7.8,SNR=20						
FITZ				pP	**pP**	**10 08 36.2**	**+2.0**
	comp=Z,4.4nm,0.8s,baz=83,slow=7.7,SNR=4.1						
FITZ				S	**S**	**10 13 05.1**	**-5.7**
	comp=Z,1.1nm,0.3s,baz=310,slow=20,SNR=1.6						
	comp=Z,6.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**30.57 241**		P	**P**	**10 08 14.5**	**-0.4**
FITZ				IAmb	IAmb	10 08 15.8	
	comp=Z,5.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.57 241**		P	**P**	**10 08 14.0**	**-0.9**
MULG	**Mulgathing**	**31.67 214**		P	**P**	**10 08 23.9**	**-0.5**
HTT	**Hallett**	**31.95 204**		P	**P**	**10 08 27.3**	**+0.5**
EDFI	**Ende, Flores**	**32.02 261**		P	**P**	**10 08 25.7**	**-2.1**
	comp=Z,6.7nm,0.8s						
ARPS	**Mount Arapiles**	**33.95 197**		P	**P**	**10 08 45.2**	**+1.0**
MPSI	**Mapaga**	**34.05 277**		P	**P**	**10 08 44.1**	**-1.3**
	comp=Z,7.3nm,0.8s						
FORT	**Forrest**	**35.60 220**		P	**P**	**10 08 57.4**	**-1.1**
FORT	**Forrest**	**35.60 220**		P	**P**	**10 08 58.4**	**-0.1**
MBWA	**Marble Bar**	**36.88 240**		P	**P**	**10 09 08.6**	**-1.0**
MBWA				IAmb	IAmb	10 09 09.6	
	comp=Z,11nm,1.1s						
PSA00	**Pilbara Seismi**	**36.94 240**		P	**P**	**10 09 09.1**	**-0.9**
PSA00	**Pilbara Seismi**	**36.94 240**		P	**P**	**10 09 09.3**	**-0.8**
URZ	**Urewera**	**39.88 151**		LR	LR	10 23 51.5	
	comp=Z,132nm,19.5s,baz=335,slow=33						
MORW	**Morawa**	**43.23 231**		P	**P**	**10 10 01.5**	**-0.5**
KSRS	**Korea Array**	**48.07 332**		P	**P**	**10 10 39.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=151,slow=8.7,SNR=4.7						
	comp=Z,0.7nm,0.5s						
KULM	**Kulim**	**53.81 280**		P	**P**	**10 11 22.8**	**-0.7**
KULM				IAmb	IAmb	10 11 23.4	
	comp=Z,9.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**58.49 295**		P	**P**	**10 11 57.5**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=134,slow=5.2,SNR=7.5						
	comp=Z,1.2nm,0.3s						
SONM	**Songino Array**	**66.48 327**		P	**P**	**10 12 50.1**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=153,slow=3.7,SNR=2.8						
	comp=Z,0.7nm,0.6s						
CASY	**Casey**	**68.61 197**		P	**P**	**10 13 02.8**	**+0.3**
CASY				IAmb	IAmb	10 13 33.2	
	comp=Z,4.4nm,1.1s						
CNBA	**Chernabura Isl**	**70.58 27**		P	**P**	**10 13 13.1**	**-1.7**
VNDA	**Vanda**	**73.16 178**		P	**P**	**10 13 30.0**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=332,slow=8.1,SNR=13						
	comp=Z,2.3nm,0.8s						
VNDA	**Vanda**	**73.16 178**		P	**P**	**10 13 30.7**	**+0.7**
PALK	**Pallekele**	**73.72 279**		LR	LR	10 47 30.4	
	comp=Z,68nm,18.9s,baz=209,slow=37						
Q19K	**Cape Douglas,**	**75.67 25**		P	**P**	**10 13 45.7**	**+0.9**
CNPM	**China Poot**	**77.03 25**		P	**P**	**10 13 53.9**	**+1.5**
L19K	**White Mountain**	**77.10 22**		P	**P**	**10 13 54.8**	**+2.0**
L19K				IAmb	IAmb	10 14 37.6	
	comp=Z,4.9nm,1.1s						
RC01	**Rabbit Creek A**	**78.50 24**		P	**P**	**10 14 01.5**	**+0.9**
RC01				IAmb	IAmb	10 14 38.0	
	comp=Z,18nm,1.3s						
J20K	**Nowinta River**	**78.55 21**		P	**P**	**10 14 02.5**	**+1.7**
J20K				IAmb	IAmb	10 14 34.5	
	comp=Z,7.8nm,1.3s						
PWL	**Port Wells**	**78.96 25**		P	**P**	**10 14 04.2**	**+1.0**
PWL				IAmb	IAmb	10 14 04.7	
	comp=Z,14nm,1.3s						
MLY	**Manley**	**80.25 21**		P	**P**	**10 14 11.0**	**+0.9**
MK31	**Makanchi Array**	**80.61 319**		P	**P**	**10 14 12.5**	**+0.1**
MKAR	**Makanchi Array**	**80.61 319**		P	**P**	**10 14 12.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=101,slow=6.4,SNR=10						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**80.61 319**		P	**P**	**10 14 11.0**	**-1.4**
ZALV	**Zalesovo Beam**	**81.33 326**		P	**P**	**10 14 15.2**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=110,slow=4.3,SNR=4.3						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**81.51 22**		P	**P**	**10 14 15.7**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=253,slow=4.9,SNR=8.4						
ILAR				pP	**pP**	**10 14 40.3**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=255,slow=5.4,SNR=3.0						
	comp=Z,1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**84.04 322**		P	**P**	**10 14 29.5**	**-0.7**
	comp=Z,1.2nm,0.2s,baz=101,slow=3.9,SNR=5.2						
	comp=Z,1.2nm,0.2s						
DAWY	**Dawson**	**84.11 24**		P	**P**	**10 14 29.7**	**-0.6**
QSPA	**South Pole Qui**	**85.52 180**		P	**P**	**10 14 36.7**	**-0.8**
MAW	**Mawson**	**86.22 203**		P	**P**	**10 14 40.4**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=72,slow=4.1,SNR=7.9						
	comp=Z,3.6nm,0.8s						
BVAR	**Borovoye Array**	**89.46 323**		P	**P**	**10 14 55.6**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=108,slow=4.7,SNR=7.2						
BVAR				pP	**pP**	**10 15 19.1**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=123,slow=5.5,SNR=3.0						
	comp=Z,1.4nm,0.8s						
RES	**Resolute Bay**	**99.85 15**		LR	LR	11 03 56.9	
	comp=Z,21nm,18.9s,baz=338,slow=37						
TORD	**Torodi Ar. Bea**	**150.99 289**		PKPbc	**PKPbc**	**10 21 51.6**	**-1.5**
	comp=Z,3.1nm,0.7s,baz=69,slow=2.4,SNR=23						

*IDC **06** 10:07:36.2±1.8,6.7°57S×129.02E,h200km±24km,mb3.3/1, mbtmp3.9/6,Error ellipse: s-maj=35.1km s-min=18.1km az=96.0*

ISC 06 10:07:34.9±0.9,**6°71S**±0.06°×**129°1E**±0.1,**h200**km,**n6,** σ2s**54**/11,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.17 20**		P	**Pn**	**10 09 05.0**	**+0.4**
	11nm,0.3s,baz=234,slow=23,SNR=22						
SIJI				S	**Sn**	**10 10 12.3**	**-3.2**
	4.9nm,0.5s,baz=107,slow=19,SNR=1.4						
BATI	**Baumata**	**6.44 237**		P	**Pn**	**10 09 09.1**	**+1.1**
	22nm,0.4s,baz=315,slow=1.4,SNR=2.5						
BATI				S	**Sn**	**10 10 20.1**	**-1.6**
	26nm,0.4s,baz=120,slow=20,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.82 196**		P	**Pn**	**10 10 19.2**	**+1.6**
	3.3nm,0.4s,baz=31,slow=10,SNR=13						
FITZ				S	**Sn**	**10 12 24.9**	**-4.6**
	1.9nm,0.4s,baz=270,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**14.09 160**		P	**P**	**10 10 49.9**	**+2.1**
	0.3nm,0.4s,baz=350,slow=11,SNR=8.9						
WRA				S	**S**	**10 13 20.9**	**-2.2**
	0.8nm,0.5s,baz=333,slow=25,SNR=7.6						
ASAR	**Alice Springs**	**17.47 165**		P	**Pn**	**10 11 28.6**	**+1.8**
	0.6nm,0.5s,baz=343,slow=10,SNR=8.7						
ASAR				S	**S**	**10 14 35.2**	**-1.2**
	0.3nm,0.7s,baz=348,slow=25,SNR=2.1						
MKAR	**Makanchi Array**	**67.52 327**		P	**P**	**10 18 09.7**	**+0.2**
	0.5nm,0.4s,baz=115,slow=7.6,SNR=7.3						
	0.5nm,0.4s						

WEL 06 10:08:07.1±1.4,**33°S**±11°×**17°9E**±3°4,**h200**km,**M4.1**/10, **mB4.3**/3,**ML4.2**/13,**MLv4.2**/10,**Mw(mB)3.4**/3,**Error ellipse: s-maj=0.0km s-min=0.0km az=99.1,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.66 185**		P	Pn	10 09 18.1	+1.0
WMGZ	**Waiomatatini S**	**4.91 184**		P	Pn	10 09 18.7	-1.5
HAZ	**Te Kaha**	**4.91 190**		P	Pn	10 09 19.9	-0.4
HAZ				S	Sn	10 10 16.4	-1.7
PKGZ	**Pakihiroa**	**5.00 187**		P	Pn	10 09 22.1	+0.6
RUGZ	**Raukumara Rang**	**5.13 190**		P	Pn	10 09 24.2	+1.0
PUZ	**Puketiti**	**5.17 185**		P	Pn	10 09 23.1	-0.5
PUZ				S	Sn	10 10 24.5	+0.4
TWGZ	**Tauwhareparae**	**5.30 187**		P	Pn	10 09 26.2	+0.9
TWGZ				S	Sn	10 10 28.8	+1.6
MWZ	**Matawai**	**5.51 191**		P	Pn	10 09 27.2	-0.9
URZ	**Urewera**	**5.52 194**		P	Pn	10 09 28.5	+0.5
TKGZ	**Te Karaka**	**5.57 188**		P	Pn	10 09 25.3	-3.4
CNGZ	**Carnagh Statio**	**5.58 185**		P	Pn	10 09 28.9	0.0
RAGZ	**Rawiri**	**5.69 191**		P	Pn	10 09 31.1	+0.7
MUGZ	**Murupara**	**5.80 196**		P	Pn	10 09 32.6	+0.9
RIGZ	**Rimuhau**	**5.85 188**		P	Pn	10 09 31.5	-0.8
RTZ	**Ruatahuna**	**5.89 194**		P	Pn	10 09 32.6	-0.4
SNGZ	**Shannon Statio**	**5.98 191**		P	Pn	10 09 32.9	-1.1
NMHZ	**Naumai**	**6.39 194**		P	Pn	10 09 35.5	-3.9
BKZ	**Black Stump Fm**	**6.52 196**		P	Pn	10 09 39.1	-2.0
BKZ				S	Sn	10 10 56.4	+0.8
OTVZ	**Oturere**	**6.75 202**		P	Pn	10 09 44.4	+0.3
KWHZ	**Kaweka Forest**	**6.79 196**		P	Pn	10 09 44.1	-0.4
KWHZ	**Kaweka Forest**	**6.79 196**		P	Sn	10 11 03.0	+1.1
BHHZ	**Black Hill Sta**	**6.94 198**		P	Pn	10 09 45.8	-0.7
KRHZ	**Kereru**	**7.01 196**		P	Pn	10 09 45.9	-1.4
KRHZ	**Kereru**	**7.01 196**		P	Sn	10 11 07.1	+0.1
KAHZ	**Kahuranaki**	**7.05 192**		P	Pn	10 09 46.2	-1.7
KAHZ	**Kahuranaki**	**7.05 192**		P	Sn	10 11 02.5	-5.5
PXZ	**Pawanui**	**7.28 192**		P	Sn	10 11 08.5	-4.9
PNHZ	**Pukenui**	**7.30 196**		P	Pn	10 09 49.4	-1.9
PNHZ	**Pukenui**	**7.30 196**		P	Sn	10 11 12.2	-1.8
WPHZ	**Waipukurau**	**7.39 194**		P	Sn	10 11 15.4	-0.7
TSZ	**Takapari Road**	**7.50 197**		P	Pn	10 09 52.0	-1.8
TSZ	**Takapari Road**	**7.50 197**		P	Sn	10 11 13.0	-5.7
PRHZ	**Porangahau**	**7.55 193**		P	Pn	10 09 52.4	-2.0
PRHZ	**Porangahau**	**7.55 193**		P	Sn	10 11 13.6	-6.2
DVHZ	**Dannevirke**	**7.68 196**		P	Sn	10 11 17.9	-5.0
ANWZ	**Angora Road**	**7.77 194**		P	Sn	10 11 19.2	-5.7
PRWZ	**Pori Road**	**7.97 196**		P	Sn	10 11 23.3	-6.3
BFZ	**Birch Farm**	**8.03 194**		P	Pn	10 09 58.0	-2.7
BFZ	**Birch Farm**	**8.03 194**		P	Sn	10 11 24.5	-6.6
MRZ	**Mangatainoka R**	**8.16 198**		P	Pn	10 09 59.2	-3.1
TIWZ	**Tintock**	**8.20 196**		P	Pn	10 10 00.2	-2.6
TIWZ	**Tintock**	**8.20 196**		P	Sn	10 11 28.2	-6.9
HOWZ	**Holdsworth Sta**	**8.40 198**		P	Pn	10 10 02.2	-3.3
HOWZ	**Holdsworth Sta**	**8.40 198**		P	Sn	10 11 34.4	-5.6
OGWZ	**Otaki Gorge**	**8.42 199**		P	Pn	10 10 02.8	-2.9
OGWZ	**Otaki Gorge**	**8.42 199**		P	Sn	10 11 37.5	-2.8
TMWZ	**Te Maipa**	**8.51 195**		P	Pn	10 10 03.6	-3.4
KIW	**Kapiti Island**	**8.53 201**		P	Sn	10 11 40.4	-2.7
CAW	**Cannon Point**	**8.72 199**		P	Pn	10 10 06.0	-3.6
PLWZ	**Palliser**	**9.10 197**		P	Pn	10 10 10.6	-4.0

*IDC **06** 10:25:39.9±1.9,58.2°18N×153.90W,h54km±20km,mb3.6/3, mbtmp3.7/6,ML3.8/3,MS3.3/1,Error ellipse: s-maj=27.0km s-min=19.4km az=82.0*
*NEIC **06** 10:25:40.5±1.3,57.9°99N±0.03×153.97W±0.07,h70km±9km, Error ellipse: s-maj=5.7km s-min=4.5km az=92.0*
*AEIC **06** 10:25:41±1.5,57.9°99N±0.03×153.97W±0.06,h56km±7km, ML3.3,ML3.5/90(NEIC),Error ellipse: s-maj=5.0km s-min=3.5km az=54.0*

ISC 06 10:25:40.7±0.8,**58°02N**±0.04×**153°93W**±0.04,**h71**km±8km, **n271,**σ0s**74**/272,**mb3.9**/3,**Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHG	**Katmai Hook Gl**	**0.58 326**			**Pn**	**10 25 54.2**	**-0.2**
KAPH	**Katmai Pasha**	**0.62 339**			**Pn**	**10 25 54.5**	**-0.3**
KAPH					**Sn**	**10 26 05.2**	**-0.1**
KCG	**Knife Ck. Glac**	**0.69 295**			**Pn**	**10 25 54.8**	**-0.8**
KDAK	**Kodiak Island**	**0.75 108**		P	**Pn**	**10 25 55.8**	**-0.4**
	281nm,0.3s,baz=333,slow=1.6,SNR=6923						
KDAK				S	**Sn**	**10 26 07.3**	**-0.4**
	693nm,0.3s,baz=229,slow=19,SNR=19						
KDAK				LR	LR	10 26 25.3	
	comp=Z,123nm,20.0s,baz=322,slow=56						
KDAK	**Kodiak Island**	**0.75 108**			**Pn**	**10 25 56.1**	**-0.1**
KDAK					**Sn**	**10 26 07.3**	**-0.4**
KDAK	**Kodiak Island**	**0.75 108**		IAML

baz=199
O19K **Port Alsworth** 2.19 355 Pn **Pn** 10 26 15.1 +0.3
O19K **Port Alsworth** 2.19 355 P **Pn** 10 26 15.1 +0.3
baz=175
BRLK **Bradley Lake** 2.36 41 **Pn** 10 26 16.9 -0.3
BRLK **Bradley Lake** 2.36 41 IAML 10 26 43.8
comp=N,269nm,0.2s
BRLK IAML 10 26 44.7
comp=E,278nm,0.2s
P16K **Nushagak River** 2.36 297 **Pn** 10 26 17.3 +0.2
P16K **Nushagak River** 2.36 297 P **Pn** 10 26 17.3 +0.2
baz=115
CHIR **Chirikof Islan** 2.39 204 Pn **Pn** 10 26 16.9 -0.6
CHIR IAML 10 27 01.9
comp=N,171nm,0.6s
CHIR IAML 10 27 09.8
comp=E,188nm,0.8s
BRSE **Bradley Lake S** 2.39 42 **Pn** 10 26 17.5 -0.1
BRSE **Bradley Lake S** 2.39 42 P **Pn** 10 26 17.5 -0.1
baz=225
O17K **Koliganek Bris** 2.41 318 **Pn** 10 26 17.7 -0.1
O17K **Koliganek Bris** 2.41 318 P **Pn** 10 26 17.7 -0.1
baz=136
RED **Redoubt Volcan** 2.48 13 **Pn** 10 26 19.5 +0.7
RDWB **Redoubt West** 2.54 12 **Pn** 10 26 20.4 +0.7
NCT **North Crescent** 2.60 11 **Pn** 10 26 21.4 +0.9
RDJH **Redoubt Jeurge** 2.65 12 **Pn** 10 26 22.1 +1.0
DFR **Drift River** 2.66 13 **Pn** 10 26 22.2 +0.9
O16K **Kokwok River B** 2.68 308 **Pn** 10 26 21.6 +0.1
O16K **Kokwok River B** 2.68 308 P **Pn** 10 26 21.6 +0.1
baz=125
N19K **Bonanza Creek** 2.82 354 **Pn** 10 26 24.0 +0.5
N19K **Bonanza Creek** 2.82 354 P **Pn** 10 26 24.0 +0.5
baz=174
N18K **Kilae Creek** 2.85 340 **Pn** 10 26 24.1 +0.2
N18K **Kilae Creek** 2.85 340 P **Pn** 10 26 24.1 +0.2
baz=159
CHGN **Chignik** 2.99 237 **Pn** 10 26 25.6 -0.1
CHGN IAML 10 27 01.0
comp=E,176nm,0.3s
CHGN IAML 10 27 12.2
comp=N,98nm,0.1s
CAPN **Captain Cook N** 3.10 26 Pn **Pn** 10 26 29.2 +2.0
SEW **Seward** 3.12 46 **Pn** 10 26 26.5 -0.9
SEW **Seward** 3.12 46 P **Pn** 10 26 26.5 -0.9
baz=230
SLKM **Skilak Lake** 3.14 36 **Pn** 10 26 27.4 -0.3
SVW2 **Sparrevohn** 3.20 345 **Pn** 10 26 28.8 +0.2
O22K **Cooper Landing** 3.28 39 **Pn** 10 26 29.5 -0.1
O22K **Cooper Landing** 3.28 39 P **Pn** 10 26 29.5 -0.1
baz=223
N20K **Mount Spurr** 3.31 15 P **Pn** 10 26 30.7 +0.6
baz=196
SPCR **Spurr Chakacha** 3.31 15 **Pn** 10 26 30.7 +0.6
SPNN **North Nagishla** 3.42 10 **Pn** 10 26 32.7 +1.1
N16K **Nishlik Lake** 3.50 317 **Pn** 10 26 33.4 +0.7
N16K **Nishlik Lake** 3.50 317 P **Pn** 10 26 33.4 +0.7
baz=133
STLK **Strandline Lak** 3.65 16 **Pn** 10 26 35.5 +0.8
RC01 **Rabbit Creek A** 3.75 33 **Pn** 10 26 36.1 +0.1
RC01 **Rabbit Creek A** 3.75 33 IAML 10 27 19.7
comp=N,70nm,0.2s
RC01 **Rabbit Creek A** 3.75 33 P **Pn** 10 26 36.1 +0.1
baz=216
SUA **Susitna One** 3.81 24 **Pn** 10 26 37.4 +0.4
SUA **Susitna One** 3.81 24 IAML 10 27 28.0
comp=N,60nm,1.3s
SUA **Susitna One** 3.81 24 P **Pn** 10 26 37.4 +0.4
baz=206
M20K **Styx River** 3.90 6 **Pn** 10 26 39.1 +1.0
M20K **Styx River** 3.90 6 P **Pn** 10 26 39.4 +1.3
baz=186
M19K **Big River Lodg** 3.91 357 **Pn** 10 26 38.6 +0.5
M19K **Big River Lodg** 3.91 357 P **Pn** 10 26 38.6 +0.5
baz=177
P23K **Montague Islan** 3.91 57 **Pn** 10 26 37.8 -0.4
P23K **Montague Islan** 3.91 57 P **Pn** 10 26 37.8 -0.4
baz=242
PWL **Port Wells** 4.03 43 **Pn** 10 26 39.2 -0.7
PWL **Port Wells** 4.03 43 IAML 10 27 23.1
comp=N,84nm,0.2s
PWL IAML 10 27 25.7
comp=E,57nm,0.4s
PWL **Port Wells** 4.03 43 P **Pn** 10 26 39.2 -0.7
baz=227
SKT **Skwentna** 4.15 16 **Pn** 10 26 41.7 +0.2
SKT **Skwentna** 4.15 16 IAML 10 27 33.7
comp=E,34nm,0.5s
SKT IAML 10 27 34.9
comp=N,34nm,0.3s
SKT **Skwentna** 4.15 16 P **Pn** 10 26 41.7 +0.2
baz=198
Q23K **Middleton Isla** 4.20 67 **Pn** 10 26 41.6 -0.5
Q23K **Middleton Isla** 4.20 67 P **Pn** 10 26 41.6 -0.5
baz=253
MID **Middleton Isla** 4.20 67 Pn **Pn** 10 26 41.8 -0.4
L19K **White Mountain** 4.20 354 **Pn** 10 26 42.8 +0.6
L19K **White Mountain** 4.20 354 IAML 10 28 00.9
comp=E,33nm,0.8s
L19K **White Mountain** 4.20 354 P **Pn** 10 26 42.8 +0.6
baz=174
M22K **Willow** 4.21 25 **Pn** 10 26 42.9 +0.7
M22K **Willow** 4.21 25 P **Pn** 10 26 42.9 +0.7
baz=209
PMR **Palmer** 4.33 32 **Pn** 10 26 43.3 -0.6
PMR **Palmer** 4.33 32 IAML 10 27 29.9
comp=N,43nm,0.4s
PMR IAML 10 27 30.2
comp=E,37nm,0.4s
PMR **Palmer** 4.33 32 P **Pn** 10 26 43.3 -0.6
baz=216
KNK **Knik Glacier** 4.39 37 **Pn** 10 26 44.0 -0.7
KNK **Knik Glacier** 4.39 37 IAML 10 27 34.8
comp=N,52nm,0.6s
KNK **Knik Glacier** 4.39 37 P **Pn** 10 26 44.0 -0.7
baz=222
L20K **Farewell, AK** 4.48 0 **Pn** 10 26 46.8 +0.8
L20K **Farewell, AK** 4.48 0 P **Pn** 10 26 46.8 +0.8
baz=181
CNBA **Chernabura Isl** 4.49 227 Pn **Pn** 10 26 44.7 -1.4
CNBA IAML 10 27 52.1
comp=N,42nm,0.9s
CNBA IAML 10 28 45.8
comp=E,39nm,2.0s
SDPT **Sand Point** 4.49 236 Pn **Pn** 10 26 46.3 +0.1
SDPT IAML 10 27 41.1
comp=E,53nm,2.7s
SDPT IAML 10 28 17.1
comp=N,40nm,3.2s
HIN **Hinchinbrook I** 4.50 55 **Pn** 10 26 45.9 -0.3
HIN IAML 10 27 56.3
comp=N,52nm,1.9s
HIN IAML 10 29 22.5
comp=E,48nm,2.7s
GLI **Glacier Island** 4.51 48 **Pn** 10 26 45.1 -1.4
GLI IAML 10 27 36.1
comp=E,47nm,0.2s
GLI IAML 10 27 36.2
comp=N,36nm,0.6s
GLI **Glacier Island** 4.51 48 P **Pn** 10 26 45.0 -1.4
baz=233
GHO **Glory Hole Cre** 4.53 32 **Pn** 10 26 46.3 -0.4
FID **Port Fidalgo** 4.69 51 **Pn** 10 26 47.2 -1.6
FID IAML 10 27 42.3
comp=E,25nm,0.4s
FID IAML 10 27 46.5
comp=N,36nm,0.7s
SML **Sawmill** 4.73 34 **Pn** 10 26 49.0 -0.4
SML IAML 10 27 40.7
comp=N,29nm,0.7s
SML IAML 10 27 41.7
comp=E,29nm,0.6s
SML **Sawmill** 4.73 34 P **Pn** 10 26 48.9 -0.5
baz=219
CUT **Chulitna** 4.76 21 Pn **Pn** 10 26 50.1 +0.2
CUT IAML 10 27 48.2
comp=E,57nm,0.5s
CUT IAML 10 27 50.2
comp=N,55nm,0.5s
JPK **Jack Peak** 4.81 48 **Pn** 10 26 49.4 -1.2
EYAK **Cordova Ski Ar** 4.90 55 **Pn** 10 26 51.0 -0.6
EYAK **Cordova Ski Ar** 4.90 55 P **Pn** 10 26 51.1 -0.6
baz=242
M23K **Glacier View** 4.91 37 **Pn** 10 26 51.6 -0.2
M23K **Glacier View** 4.91 37 P **Pn** 10 26 51.6 -0.2
baz=222
PPLA **Purkeypile** 4.97 9 Pn **Pn** 10 26 54.7 +1.9
TT01 **Tatalina** 5.01 349 **Pn** 10 26 53.7 +0.5
TTA **Tatalina** 5.04 349 **Pn** 10 26 54.3 +0.7
TTA IAML 10 28 15.5
comp=E,16nm,2.2s
SCM **Sheep Creek Mo** 5.07 38 **Pn** 10 26 53.9 -0.2
SCM IAML 10 27 51.1
comp=N,43nm,0.2s
SCM **Sheep Creek Mo** 5.07 38 P **Pn** 10 26 53.7 -0.3
baz=224
DIV **Divide** 5.19 50 Pn **Pn** 10 26 55.1 -0.6
KAIM **Kayak Island** 5.28 65 **Pn** 10 26 57.1 +0.2
KAIM **Kayak Island** 5.28 65 P **Pn** 10 26 57.0 +0.2
baz=253
RAGM **Ragged Mountai** 5.31 60 **Pn** 10 26 57.1 -0.2
RAGM IAML 10 28 35.0
comp=E,40nm,3.4s
KLU **Klutina** 5.34 46 **Pn** 10 26 57.4 -0.3
KLU IAML 10 28 00.3
comp=E,21nm,0.6s
KLU **Klutina** 5.34 46 P **Pn** 10 26 57.2 -0.6
baz=233
K20K **Telida** 5.36 359 **Pn** 10 26 58.5 +0.5
K20K **Telida** 5.36 359 P **Pn** 10 26 58.5 +0.5
baz=179
GOAT **Goat Mountain** 5.37 58 **Pn** 10 26 58.0 -0.2
WAT7 **Susitna Watana** 5.45 25 **Pn** 10 26 59.3 +0.1
HMT **Hamilton** 5.49 61 **Pn** 10 26 59.7 0.0
CAST **Castle Rocks** 5.50 9 **Pn** 10 27 00.2 +0.4
CAST **Castle Rocks** 5.50 9 P **Pn** 10 27 00.6 +0.8
baz=190
WAT1 **Susitna Watana** 5.51 27 **Pn** 10 26 59.9 -0.1
WAT1 **Susitna Watana** 5.51 27 P **Pn** 10 26 59.9 -0.1
baz=211
WAT6 **Susitna Watana** 5.51 31 **Pn** 10 26 59.6 -0.6
WAT6 **Susitna Watana** 5.51 31 P **Pn** 10 26 59.6 -0.6
baz=217
NICHA **Nichawak Mount** 5.59 62 **Pn** 10 27 00.9 -0.2
BMRM **Bremner River** 5.59 54 **Pn** 10 27 00.5 -0.7
BMRM **Bremner River** 5.59 54 P **Pn** 10 27 00.5 -0.7
baz=242
SUCK **Suckling Hills** 5.63 64 Pn **Pn** 10 27 01.7 0.0
M24K **Tolsona, Glenn** 5.64 40 Pn **Pn** 10 27 02.0 +0.1
TRF **Thorofare Moun** 5.74 17 **Pn** 10 27 03.0 -0.2
TRF **Thorofare Moun** 5.74 17 P **Pn** 10 27 03.0 -0.2
baz=200
KTH **Kantishna Hill** 5.75 14 Pn **Pn** 10 27 03.7 +0.4
BERG **Berg Lake** 5.77 61 **Pn** 10 27 03.5 -0.1
GRIN **Grindle Hills** 5.91 63 **Pn** 10 27 05.7 +0.1
N25K **Chitina, Valde** 5.92 49 **Pn** 10 27 05.1 -0.7
N25K **Chitina, Valde** 5.92 49 P **Pn** 10 27 04.9 -0.9
baz=237
RND **Reindeer** 5.95 23 Pn **Pn** 10 27 05.8 -0.3
KHIT **Khitrov Hills** 6.00 62 **Pn** 10 27 06.2 -0.5
DHY **Denali Highway** 6.01 30 **Pn** 10 27 06.8 -0.3
DHY **Denali Highway** 6.01 30 P **Pn** 10 27 06.6 -0.4
baz=215
SNH **Sunshine Point** 6.11 65 **Pn** 10 27 08.2 0.0
GLB **Gilahina Butte** 6.16 52 **Pn** 10 27 08.5 -0.4
J20K **Nowinta River** 6.18 359 **Pn** 10 27 09.6 +0.4
J20K **Nowinta River** 6.18 359 P **Pn** 10 27 09.9 +0.7
baz=179
WAX **Waxell Ridge** 6.18 62 **Pn** 10 27 09.2 -0.1
HARP **HAARP** 6.20 41 **Pn** 10 27 10.1 +0.7
HARP **HAARP** 6.20 41 P **Pn** 10 27 10.1 +0.7
baz=229
MCK **McKinley** 6.23 21 **Pn** 10 27 10.1 +0.2
MCK **McKinley** 6.23 21 P **Pn** 10 27 10.1 +0.2
baz=205
BPAW **Bear Paw Mtn.** 6.27 12 **Pn** 10 27 10.4 0.0
TGL **Tana Glacier** 6.30 59 **Pn** 10 27 10.6 -0.3
BARK **Barkley Ridge** 6.34 63 **Pn** 10 27 11.6 +0.1
MCARA **McCarthy VSAT** 6.47 54 **Pn** 10 27 13.8 +0.8
ISLE **Juniper Island** 6.47 62 **Pn** 10 27 13.3 0.0
PAX **Paxson** 6.49 36 **Pn** 10 27 12.7 -0.7
PAX **Paxson** 6.49 36 P **Pn** 10 27 13.6 +0.2
baz=224
MESA **MESA** 6.54 66 **Pn** 10 27 14.1 -0.1
MESA **MESA** 6.54 66 P **Pn** 10 27 14.2 -0.1
baz=256
BWN **Browne** 6.54 17 Pn **Pn** 10 27 14.6 +0.5
BAGL **Bagley Icefiel** 6.56 63 **Pn** 10 27 14.6 +0.3
PTPK **Patty Peak** 6.63 57 **Pn** 10 27 14.9 -0.6
YAH **Yahtse** 6.69 64 **Pn** 10 27 16.6 +0.3
CHX **Chaix Hills** 6.92 67 **Pn** 10 27 19.8 +0.4
M26K **Nabesna, AK** 6.99 46 Pn **Pn** 10 27 20.6 +0.3
TABL **Table Mountain** 6.99 64 **Pn** 10 27 20.8 +0.3
NEA2 **Nenana** 7.00 17 Pn **Pn** 10 27 19.6 -0.7
K24K **Donnelly Dome** 7.03 31 **Pn** 10 27 21.9 +1.1
K24K **Donnelly Dome** 7.03 31 P **Pn** 10 27 21.9 +1.1
baz=218
MENT **Mentasta** 7.05 41 Pn **Pn** 10 27 20.9 -0.2
CTG **Chitna Glacier** 7.05 60 P **Pn** 10 27 21.5 +0.2
baz=251
CTGM **Chitina Glacie** 7.06 60 **Pn** 10 27 21.4 +0.1
WRH **Wood River Hil** 7.06 21 **Pn** 10 27 20.5 -0.6
SAMH **Samovar Hills** 7.10 67 **Pn** 10 27 20.3 +0.5
LOGN **Logan Glacier** 7.17 61 **Pn** 10 27 22.7 -0.1
L26K **Log Cabin Wild** 7.24 42 **Pn** 10 27 24.5 +0.9
HDA **Harding Lake** 7.24 25 **Pn** 10 27 24.0 +0.3
RIDG **Independent Ri** 7.25 34 **Pn** 10 27 24.6 +0.8
I21K **Tanana** 7.25 7 Pn **Pn** 10 27 24.9 +1.2
CCB **Clear Creek Bu** 7.27 21 **Pn** 10 27 23.2 -0.9
PCA **Pinnacle** 7.35 68 **Pn** 10 27 25.8 +0.6
PINM **Pinnacle** 7.35 68 P **Pn** 10 27 25.3 0.0
baz=259
TCOL **CIGO, UAF Yank** 7.46 20 Pn **Pn** 10 27 26.0 -0.6
COLA **College** 7.47 20 Pn **Pn** 10 27 26.0 -0.7
MDM **Murphy Dome** 7.48 19 Pn **Pn** 10 27 25.9 -1.0
O28M **Mount Upton** 7.53 63 **Pn** 10 27 28.2 +0.3
O28M **Mount Upton** 7.53 63 P **Pn** 10 27 28.2 +0.3
baz=254
IL31 7.57 24 **Pn** 10 27 26.5 -1.6
ILAR **Eielson Array** 7.57 24 P **Pn** 10 27 26.2 -1.9
comp=E,0.3nm,0.3s,baz=216,slow=14,SNR=11
ILAR S **Sn** 10 28 46.5 -5.8
comp=E,1.3nm,0.3s,baz=193,slow=30,SNR=9.5
comp=E,0.7nm,0.3s
ILAR **Eielson Array** 7.57 24 Pn **Pn** 10 27 28.3 +0.2
YUK2 **White River** 7.58 55 **Pn** 10 27 28.8 +0.4
BCPM **Bancas Point** 7.63 69 **Pn** 10 27 28.7 -0.3
H21K **Melozitna Rive** 7.69 3 Pn **Pn** 10 27 30.1 +0.4
PNL **Peninsula** 7.72 71 **Pn** 10 27 29.6 -0.6
PNL **Peninsula** 7.72 71 P **Pn** 10 27 29.6 -0.6
baz=264
YUK3 **Moose Creek** 7.74 55 **Pn** 10 27 31.4 +0.7
YUK3 **Moose Creek** 7.74 55 P **Pn** 10 27 31.4 +0.7
baz=247
J25K **Salcha River,** 7.79 28 **Pn** 10 27 30.3 -0.9
J25K **Salcha River,** 7.79 28 P **Pn** 10 27 30.3 -0.9
baz=216
L27K **Beaver Creek,** 7.81 45 Pn **Pn** 10 27 31.2 -0.3
BC03 7.83 45 **Pn** 10 27 31.8 +0.1
BCAR **Beaver Creek A** 7.83 45 Pn **Pn** 10 27 31.6 -0.1
IMAR **Indian Mountai** 8.00 1 Pn **Pn** 10 27 34.9 +0.9
H23K **Yukon River** 8.10 13 **Pn** 10 27 34.8 -0.7
J26L **Joseph Creek** 8.19 33 Pn **Pn** 10 27 36.4 -0.3
UNV **Unalaska Valle** 8.20 245 Pn **Pn** 10 27 35.8 -1.0
O29M **Mount Kennedy** 8.21 67 **Pn** 10 27 37.5 +0.5
O29M **Mount Kennedy** 8.21 67 P **Pn** 10 27 37.5 +0.5
baz=260
K27K **Chicken** 8.32 39 Pn **Pn** 10 27 38.6 +0.2
H24K **Noodor Dome** 8.35 17 Pn **Pn** 10 27 39.5 +0.7
YUK4 **Talbot Arm** 8.41 60 P **Pn** 10 27 41.3 +1.4
baz=253
PRP **Porcupine Dome** 8.51 24 Pn **Pn** 10 27 40.8 -0.3
P29M **Windy Craggy** 8.55 72 **Pn** 10 27 41.5 -0.1
P29M **Windy Craggy** 8.55 72 P **Pn** 10 27 41.5 -0.1
baz=266
ANM **Nome** 8.56 325 Pn **Pn** 10 27 43.3 +1.7
SPIA **Saint Paul Isl** 8.81 271 Pn **Pn** 10 27 43.3 -1.7
HYT **Haines Junctio** 8.83 65 Pn **Pn** 10 27 46.3 +0.9
M29M **Somme Creek** 8.87 54 **Pn** 10 27 46.7 +0.7
M29M **Somme Creek** 8.87 54 P **Pn** 10 27 46.7 +0.7
baz=247
I26K **Coal Creek Min** 8.91 30 Pn **Pn** 10 27 47.4 +0.9
P30M **Million Dollar** 8.99 69 **Pn** 10 27 48.0 +0.5
P30M **Million Dollar** 8.99 69 P **Pn** 10 27 48.0 +0.5
baz=264
EGAK **Eagle** 9.12 37 Pn **Pn** 10 27 49.8 +0.5
DAWY **Dawson** 9.28 43 Pn **Pn** 10 27 52.1 +0.6
O30N **Mendenhall** 9.50 66 **Pn** 10 27 54.5 -0.1
O30N **Mendenhall** 9.50 66 P **Pn** 10 27 54.5 -0.1
baz=261
M30M **Minto, Yukon** 9.64 55 Pn **Pn** 10 27 55.9 -0.5
SKAG **Skagway** 9.77 74 Pn **Pn** 10 27 59.3 +1.1
N31M **Braeburn, Yuko** 9.78 62 Pn **Pn** 10 27 58.8 +0.4
WHY **Whitehorse** 10.07 67 Pn **Pn** 10 28 02.8 +0.4
BMAR **Burnt Mountain** 10.36 20 Pn **Pn** 10 28 06.0 -0.2
P33M **Teslin, Yukon** 11.06 70 Pn **Pn** 10 28 15.7 -0.1
FARO **Faro, Yukon** 11.07 59 Pn **Pn** 10 28 16.6 +0.6
DLBC **Dease Lake** 12.59 78 P **Pn** 10 28 36.4 -0.3
comp=E,0.3nm,0.3s,baz=270,slow=2.9,SNR=9.3
comp=E,0.8nm,0.3s
DLBC **Dease Lake** 12.59 78 Pn **Pn** 10 28 37.0 +0.4
YKA **Yellowknife Ar** 19.78 60 P **P** 10 30 05.7 +0.9
comp=E,0.4nm,0.3s,baz=272,slow=9.8,SNR=7.7
comp=E,1.3nm,0.5s
PDAR **Pinedale Array** 31.47 99 P **P** 10 31 57.7 +2.2
comp=E,0.2nm,0.8s,baz=330,slow=2.5,SNR=2.7
comp=E,0.2nm,0.8s
ULM **Lac du Bonnet** 33.91 78 LR LR 10 45 42.6
comp=E,41nm,18.5s,baz=24,slow=36
SONM **Songino Array** 55.58 306 P **P** 10 35 08.3 -0.3
comp=E,0.6nm,0.5s,baz=26,slow=8.0,SNR=2.2
comp=E,0.6nm,0.5s
CMAR **Chiang Mai Arr** 83.25 294 P **P** 10 37 59.2 -0.2
comp=E,1.1nm,0.2s,baz=19,slow=5.7,SNR=1.5
comp=E,1.1nm,0.2s

---

*NEIC **06** 10:33:17.8±0.9, 17°.8S±0°.1×177°.9W±0°.2, h548km±12km, mb4.2/16, Error ellipse: s-maj=29.0km s-min=13.2km az=55.0*
*IDC **06** 10:33:18.7±1.9, 17°.92S×178°.04W, h552km±13km, mb3.5/8, mbtmp4.5/9, Error ellipse: s-maj=29.1km s-min=19.7km az=58.0*
ISC 06 10:33:18.8±1.8, 18°.0S±0°.2×178°.0W±0°.2, h550km, n29, σ0°69/31, mb4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.73**	**273**	P	**P**	**10 34 38.8**	**0.0**
	54nm,0.7s,baz=117,slow=4.7,SNR=34						
MSVF				S	**S**	**10 35 45.3**	**+1.3**
	4.3nm,0.8s,baz=151,slow=21,SNR=0.8						
MSVF	**Nonsavu**	**3.73**	**273**	P	**P**	**10 34 38.5**	**-0.3**
URZ	**Urewera**	**20.66**	**191**	P	**P**	**10 37 19.4**	**-1.2**
	4.6nm,0.8s,baz=31,slow=10,SNR=5.8						
	4.6nm,0.8s						
CTA	**Charters Tower**	**33.78**	**261**	P	**P**	**10 39 15.0**	**-0.6**
	3.2nm,0.5s,baz=98,slow=7.1,SNR=1.9						
	3.2nm,0.5s						
CTAO	**Charters Tower**	**33.78**	**261**	P	**P**	**10 39 15.6**	**0.0**
TOO	**Toolangi**	**37.41**	**231**	P	**P**	**10 39 46.4**	**+1.0**
TOO				IAmb	IAmb	10 39 47.2	
	comp=Z,6.4nm,0.9s						
COEN	**Coen**	**37.46**	**270**	P	**P**	**10 39 46.4**	**+0.3**
STKA	**Stephens Creek**	**38.91**	**241**	P	**P**	**10 39 58.6**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=86,slow=6.8,SNR=14						
	comp=Z,2.6nm,0.5s						
STKA	**Stephens Creek**	**38.91**	**241**	P	**P**	**10 39 58.4**	**+0.7**
BBOO	**Buckleboo**	**43.69**	**241**	P	**P**	**10 40 36.1**	**+0.7**
BBOO				IAmb	IAmb	10 40 50.3	
	comp=Z,12nm,1.3s						
WR0	**Warramunga Arr**	**44.78**	**260**	P	**P**	**10 40 43.6**	**-0.5**
WR0				IAmb	IAmb	10 40 47.6	
	comp=Z,5.3nm,1.1s						
WB0	**Warramunga Arr**	**44.94**	**260**	P	**P**	**10 40 44.5**	**-0.8**
WB0				IAmb	IAmb	10 41 25.1	
	comp=Z,8.8nm,1.3s						
WB2	**Warramunga Arr**	**44.96**	**260**	P	**P**	**10 40 44.5**	**-0.9**
WB2				IAmb	IAmb	10 40 45.5	
	comp=Z,9.5nm,1.2s						
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**10 40 44.6**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=95,slow=7.0,SNR=116						
WRA				PcP	**PcP**	**10 42 15.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=93,slow=3.6,SNR=2.6						
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**10 40 44.6**	**-0.9**
AS31	**Alice Springs**	**45.11**	**254**	P	**P**	**10 40 46.5**	**-0.2**
AS31				IAmb	IAmb	10 40 47.1	
	comp=Z,5.6nm,0.7s						
ASAR	**Alice Springs**	**45.12**	**254**	P	**P**	**10 40 46.6**	**0.0**
	comp=Z,21nm,0.6s,baz=88,slow=8.4,SNR=432						
ASAR				PcP	**PcP**	**10 42 15.5**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=107,slow=3.3,SNR=3.9						
	comp=Z,21nm,0.6s						
ASAR	**Alice Springs**	**45.12**	**254**	P	**P**	**10 40 46.2**	**-0.5**
FORT	**Forrest**	**50.30**	**245**	P	**P**	**10 41 24.9**	**-0.4**
KNRA	**Kununurra**	**50.83**	**264**	P	**P**	**10 41 29.0**	**-0.3**
KNRA				IAmb	IAmb	10 41 54.9	
	comp=Z,13nm,1.2s						
FAKI	**Fak Fak**	**50.94**	**281**	P	**P**	**10 41 30.2**	**+0.1**
SIJI	**Sorong**	**52.59**	**283**	P	**P**	**10 41 41.2**	**-0.9**
	comp=Z,14nm,0.6s,baz=87,slow=7.7,SNR=6.0						
	comp=Z,14nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	**P**	**10 41 47.6**	**+0.1**
PSA00	**Pilbara Seismi**	**58.24**	**255**	P	**P**	**10 42 20.4**	**-0.7**
MBWA	**Marble Bar**	**58.40**	**256**	P	**P**	**10 42 21.9**	**-0.4**
MBWA				IAmb	IAmb	10 42 48.3	
	comp=Z,12nm,1.3s						
QSPA	**South Pole Qui**	**72.09**	**180**	P	**P**	**10 43 48.0**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=55,slow=3.6,SNR=13						
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	**72.09**	**180**	P	**P**	**10 43 48.1**	**+0.7**
SEY	**Seymchan**	**83.91**	**347**	P	**P**	**10 44 49.2**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=112,slow=4.4,SNR=4.0						
	comp=Z,1.1nm,0.5s						
BRTR	**Keskin Array B**	**145.07**	**315**	PKPbc	**PKPdf**	**10 51 54.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=89,slow=4.1,SNR=2.5						

---

*NEIC **06** 10:59:52.7±1.5, 12°.8S±0°.1×168°.6E±0°.1, h10km±2km, mb4.4/8, Error ellipse: s-maj=24.0km s-min=18.2km az=319.0*
*IDC **06** 11:00:23.0±3.8, 14°.37S×167°.40E, h173km±34km, mb3.6/6, mbtmp4.1/7, Error ellipse: s-maj=35.9km s-min=22.9km az=108.0*
ISC 06 11:00:04.4±0.9, 13°.7S±0°.1×168°.0E±0°.2, h35km, n28, σ2°40/23, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**7.07**	**186**	Pn	**Pn**	**11 01 49.3**	**+3.9**
KOUNC	**Koumac, New Ca**	**7.67**	**207**	Pn	**Pn**	**11 01 57.9**	**+4.2**
MARNC	**Mare, Loyalty**	**7.74**	**180**	Pn	**Pn**	**11 01 57.4**	**+2.8**
DZM	**Mont Dzumac**	**8.45**	**190**	P	Pn	11 02 14.2	+10
	3.1nm,0.4s,baz=85,slow=7.3,SNR=13						
DZM				S	**Sn**	**11 03 37.0**	**-1.7**
	5.0nm,0.9s,baz=122,slow=20,SNR=1.2						
DZM	**Mont Dzumac**	**8.45**	**190**	Pn	Pn	11 02 09.6	+5.1
ONTNC	**Ouen Toro**	**8.68**	**189**	Pn	**Pn**	**11 02 11.1**	**+3.5**
OUENC	**Ouen Island, N**	**8.73**	**187**	Pn	**Pn**	**11 02 11.4**	**+3.1**
MSVF	**Nonsavu**	**10.49**	**114**	Pn	Pn	11 02 20.5	-12
EIDS	**Eidsvold**	**19.68**	**231**	P	**P**	**11 04 31.9**	**+1.3**
EIDS				IAmb	IAmb	11 04 49.1	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**30.18**	**229**	P	**P**	**11 06 09.6**	**-1.9**
	comp=Z,2.4nm,0.4s,baz=61,slow=9.7,SNR=16						
	comp=Z,2.4nm,0.4s						
STKA	**Stephens Creek**	**30.18**	**229**	P	**P**	**11 06 10.0**	**-1.4**
WB0	**Warramunga Arr**	**32.68**	**255**	P	**P**	**11 06 31.9**	**-1.8**
WRAB	**Tennant Creek**	**32.74**	**254**	P	**P**	**11 06 32.1**	**-2.1**
WRA	**Warramunga Arr**	**32.75**	**254**	P	**P**	**11 06 32.8**	**-1.5**
ASAR	**Alice Springs**	**33.68**	**248**	P	**P**	**11 06 40.8**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=72,slow=9.1,SNR=1.9						
	comp=Z,0.8nm,0.3s						
VNDA	**Vanda**	**63.90**	**181**	P	**P**	**11 10 32.6**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=348,slow=8.0,SNR=5.2						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**63.90**	**181**	P	**P**	**11 10 32.1**	**-1.1**
VNDA				IAmb	IAmb	11 10 32.4	
	comp=Z,3.9nm,1.5s						
PETK	**Petropavlovsk-**	**67.12**	**353**	P	P	11 11 01.2	+6.9
	comp=Z,2.0nm,0.7s,baz=159,slow=9.4,SNR=4.3						
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**76.32**	**180**	P	**P**	**11 11 46.8**	**-2.9**
QSPA				IAmb	IAmb	11 12 16.4	
	comp=Z,3.3nm,1.4s						
ILAR	**Eielson Array**	**85.35**	**18**	P	P	11 12 43.8	+6.3
	comp=Z,0.7nm,0.8s,baz=236,slow=5.7,SNR=8.2						
	comp=Z,0.7nm,0.8s						
TROLL	**Troll, Antarti**	**93.93**	**184**	P	**P**	**11 13 17.0**	**-1.4**
SNAA	**Sanae**	**94.60**	**183**	P	**P**	**11 13 19.7**	**-1.7**
SNAA	**Sanae**	**94.60**	**183**	P	**P**	**11 13 19.6**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=207,slow=14,SNR=5.1						
	comp=Z,0.7nm,0.7s						

VNA3 **Neumayer Olymp** **95.24 181** P **P** **11 13 22.3 -1.9**
VNA2 **Neumayer--Watz** **95.52 182** P P 11 13 19.4 -6.0
baz=297,slow=2.0
ARCES **ARCESS Array B** **119.44 346** PKP **PKiKP** **11 18 52.5 +2.8**
comp=Z,1.4nm,0.3s,baz=77,slow=1.9,SNR=25
LBTB **Lobatse** **126.83 224** PKP **PKiKP** **11 19 05.5 -0.3**
comp=Z,1.8nm,0.8s,baz=182,slow=8.7,SNR=3.6
AKASG **Malin Array Be** **130.27 327** PKP **PKiKP** **11 19 12.6 +0.9**
comp=Z,0.2nm,0.3s,baz=44,slow=1.6,SNR=1.3

*NEIC **06** 11:01:27.4±2.7, 7.40S±0.08×128.51E±0.08, h156km±6km, mb4.4/16, Error ellipse: s-maj=12.3km s-min=11.5km az=70.0*
*IDC **06** 11:01:27.0±1.5, 7.38S×128.55E, h143km±14km, mb3.8/12, mbtmp4.3/16, Error ellipse: s-maj=15.3km s-min=10.1km az=90.0*
*DJA **06** 11:01:28.8±0.3, 8°S±2°×12°9E±°, h150km±10km, M4.3/11, mb4.2/7, mB5.1/3, MLv4.3/11, Mw(mB)4.5/3*
ISC 06 11:01:27.4±0.4, 7.44S±0.05×128.58E±0.06, h151km, n87, σ2s16/91, mb4.2/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.75**	**102**	Pn	**Pn**	**11 02 12.8**	**+1.1**
SAUI	**Saumlaki**	**2.75**	**102**	P	**Pn**	**11 02 14.9**	**+3.2**
SAUI	**Saumlaki**	**2.75**	**102**	P	**Pn**	**11 02 16.0**	**+4.3**
AAI	**Ambon**	**3.75**	**354**	P	**Pn**	**11 02 25.7**	**+1.3**
NLAI	**Namlea**	**4.42**	**341**	P	**Pn**	**11 02 37.0**	**+3.8**
BATI	**Baumata**	**5.58**	**240**	P	**Pn**	**11 02 49.7**	**+1.2**
	58nm,0.4s,baz=100,slow=3.3,SNR=9.9						
BATI				S	**Sn**	**11 03 51.6**	**-0.4**
	89nm,0.4s,baz=21,slow=22,SNR=15						
BATI	**Baumata**	**5.58**	**240**	P	**Pn**	**11 02 51.6**	**+3.1**
	0.4nm40nm,0.4s						
FAKI	**Fak Fak**	**5.79**	**39**	Pn	**Pn**	**11 02 50.7**	**-0.6**
FAKI	**Fak Fak**	**5.79**	**39**	P	**Pn**	**11 02 51.9**	**+0.6**
	0.2nm14nm,0.9s						
MTN	**Manton Dam**	**5.93**	**155**	Pn	**Pn**	**11 02 54.2**	**+1.0**
MTN	**Manton Dam**	**5.93**	**155**	P	**Pn**	**11 02 55.1**	**+1.9**
KDU	**Kakadu**	**6.47**	**144**	P	**Pn**	**11 03 01.9**	**+1.5**
EDFI	**Ende, Flores**	**6.94**	**259**	P	**Pn**	**11 03 10.2**	**+3.4**
	0.0nm9.5nm,0.8s						
SIJI	**Sorong**	**7.05**	**22**	P	**Pn**	**11 03 08.4**	**+0.2**
	8.9nm,0.2s,baz=135,slow=21,SNR=25						
SIJI				S	**Sn**	**11 04 26.1**	**-1.3**
	9.1nm,0.2s,baz=239,slow=23,SNR=2.0						
SWI	**Sorong**	**7.06**	**22**	P	**Pn**	**11 03 09.7**	**+1.4**
	0.1nm14nm,1.0s						
KNRA	**Kununurra**	**8.19**	**179**	Pn	**Pn**	**11 03 24.1**	**+0.8**
KNRA	**Kununurra**	**8.19**	**179**	P	**Pn**	**11 03 24.4**	**+1.1**
PLAI	**Plampang**	**10.78**	**262**	P	**Pn**	**11 04 01.1**	**+3.4**
FITZ	**Fitzroy Crossi**	**10.97**	**195**	P	**Pn**	**11 03 59.1**	**-1.1**
	8.1nm,0.5s,baz=24,slow=9.1,SNR=59						
FITZ				S	**Sn**	**11 05 56.1**	**-5.5**
	12nm,0.4s,baz=112,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**10.97**	**195**	P	**Pn**	**11 03 59.9**	**-0.3**
TOLI2	**Tolitoli**	**11.52**	**317**	Pn	**Pn**	**11 04 05.4**	**-2.0**
WB0	**Warramunga Arr**	**13.49**	**156**	Pn	**Pn**	**11 04 31.5**	**-1.4**
WRAB	**Tennant Creek**	**13.62**	**156**		**Pn**	**11 04 34.8**	**+0.2**
WRA	**Warramunga Arr**	**13.63**	**156**	P	**Pn**	**11 04 32.8**	**-1.8**
	3.3nm,0.3s,baz=335,slow=10,SNR=147						
WRA				S	Sn	11 06 56.5	-9.1
	7.4nm,0.6s,baz=329,slow=23,SNR=6.3						
WRA	**Warramunga Arr**	**13.63**	**156**		**Pn**	**11 04 32.0**	**-2.7**
WB2	**Warramunga Arr**	**13.63**	**156**	Pn	**Pn**	**11 04 33.0**	**-1.7**
WR0	**Warramunga Arr**	**13.72**	**156**		**Pn**	**11 04 34.2**	**-1.6**
COEN	**Coen**	**15.73**	**116**	P	**P**	**11 05 02.2**	**+0.4**
COEN				IAmb	IAmb	11 05 21.6	
	comp=Z,24nm,1.3s						
COEN	**Coen**	**15.73**	**116**	P	**P**	**11 05 03.6**	**+1.8**
PSA00	**Pilbara Seismi**	**16.39**	**210**	P	**Pn**	**11 05 04.4**	**-4.4**
PSA00	**Pilbara Seismi**	**16.39**	**210**	P	**P**	**11 05 11.6**	**+2.7**
	comp=Z,18nm,1.8s						
QIS	**Mount Isa**	**16.86**	**142**	P	**Pn**	**11 05 15.8**	**+1.2**
AS31	**Alice Springs**	**16.93**	**163**		**Pn**	**11 05 16.4**	**+0.9**
ASAR	**Alice Springs**	**16.93**	**163**	P	**Pn**	**11 05 16.3**	**+0.9**
	comp=Z,5.9nm,0.6s,baz=341,slow=11,SNR=92						
ASAR				S	**S**	**11 08 14.1**	**-10**
	comp=Z,1.3nm,0.8s,baz=346,slow=25,SNR=2.2						
ASAR	**Alice Springs**	**16.93**	**163**		**P**	**11 05 15.5**	**+0.6**
WRKA	**Warakurna**	**17.50**	**181**	P	**Pn**	**11 05 24.4**	**+2.1**
MTSU	**Mount Surprise**	**18.65**	**126**	P	**Pn**	**11 05 38.1**	**+2.2**
CTA	**Charters Tower**	**21.25**	**128**	P	**P**	**11 06 01.6**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=305,slow=10,SNR=1.6						
	comp=Z,2.7nm,0.6s						
MEEK	**Meekatharra**	**21.32**	**205**	P	**P**	**11 06 05.2**	**+2.8**
OOD	**Oodnadatta**	**21.34**	**162**	P	**P**	**11 06 04.2**	**+1.6**
FORT	**Forrest**	**23.23**	**181**	P	**P**	**11 06 23.1**	**+2.0**
FORT				IAmb	IAmb	11 06 45.3	
	comp=Z,14nm,0.8s						
FORT	**Forrest**	**23.23**	**181**	P	**P**	**11 06 23.3**	**+2.2**
INKA	**Innaminka**	**23.25**	**152**	P	**P**	**11 06 24.6**	**+3.2**
MULG	**Mulgathing**	**23.30**	**168**	P	**P**	**11 06 24.0**	**+2.2**
MORW	**Morawa**	**24.55**	**207**	P	**P**	**11 06 33.0**	**-0.2**
MORW				IAmb	IAmb	11 06 55.9	
	comp=Z,31nm,1.5s						
MORW	**Morawa**	**24.55**	**207**	P	**P**	**11 06 36.1**	**+2.9**
LCRK	**Leigh Creek**	**24.61**	**160**	P	**P**	**11 06 35.9**	**+2.2**
BLDU	**Ballidu**	**25.60**	**204**	P	**P**	**11 06 44.2**	**+1.5**
	comp=Z,19nm,2.2s						
KLBR	**Kellerberrin**	**26.07**	**201**	P	**P**	**11 06 48.8**	**+1.9**
BBOO	**Buckleboo**	**26.18**	**166**	P	**P**	**11 06 49.8**	**-1.4**
BBOO	**Buckleboo**	**26.18**	**166**	P	**P**	**11 06 50.0**	**-1.2**
BBOO	**Buckleboo**	**26.18**	**166**	IAmb	IAmb	11 06 50.1	
	comp=Z,6.2nm,0.6s						
BBOO	**Buckleboo**	**26.18**	**166**	P	**P**	**11 06 49.5**	**+1.5**
BBOO				IAmb	IAmb	11 06 50.1	
	comp=Z,6.2nm,0.6s						
STKA	**Stephens Creek**	**27.18**	**155**	P	**P**	**11 06 57.1**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=336,slow=8.4,SNR=7.0						
	comp=Z,2.2nm,0.5s						
STKA	**Stephens Creek**	**27.18**	**155**	P	**P**	**11 06 56.1**	**-0.7**
NWAO	**Narrogin (SRO)**	**27.46**	**201**	P	**P**	**11 06 60.0**	**+0.6**
	comp=Z,3.0nm,0.3s,baz=141,slow=17,SNR=1.6						
	comp=Z,3.0nm,0.3s						
NWAO	**Narrogin (SRO)**	**27.46**	**201**	P	**P**	**11 06 57.6**	**-1.7**
NWAO	**Narrogin (SRO)**	**27.46**	**201**	P	**P**	**11 07 00.8**	**+1.5**
	comp=Z,37nm,1.8s						
HTT	**Hallett**	**27.58**	**161**	P	**P**	**11 07 03.5**	**+3.0**
EIDS	**Eidsvold**	**27.91**	**132**	P	**P**	**11 07 02.6**	**-0.9**
EIDS				IAmb	IAmb	11 07 16.9	
	comp=Z,22nm,1.5s						
CMSA	**Cobar Meteorol**	**28.81**	**149**	P	**P**	**11 07 13.9**	**+2.6**
ARMA	**Armidale**	**31.46**	**140**	P	**P**	**11 07 33.3**	**-1.5**
ARMA				IAmb	IAmb	11 07 57.6	
	comp=Z,17nm,1.4s						
ARPS	**Mount Arapiles**	**31.60**	**159**	P	**P**	**11 07 38.1**	**+2.2**
	comp=Z,12nm,1.4s						
GSI	**Gunungsitoli**	**32.12**	**284**	P	**P**	**11 07 38.4**	**-2.4**
CAN	**Canberra**	**33.49**	**149**	P	**P**	**11 07 51.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**38.95**	**312**	P	**P**	**11 08 39.0**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=131,slow=6.5,SNR=4.7						
	comp=Z,0.7nm,0.3s						
MJAR	**Matsushiro Arr**	**44.67**	**11**	P	**P**	**11 09 22.4**	**-2.8**
	comp=Z,0.5nm,0.4s,baz=177,slow=9.8,SNR=4.1						
SONM	**Songino Array**	**58.42**	**343**	P	**P**	**11 11 07.5**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=154,slow=7.4,SNR=6.5						
	comp=Z,1.2nm,0.7s						
PEA0B	**Petropavlovsk-**	**65.19**	**19**	P	**P**	**11 11 51.1**	**-1.1**
PETK	**Petropavlovsk-**	**65.19**	**19**	P	**P**	**11 11 52.3**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=151,slow=3.4,SNR=4.1						
	comp=Z,1.6nm,0.6s						
PETK	**Petropavlovsk-**	**65.19**	**19**	P	**P**	**11 11 52.5**	**+0.3**
MK31	**Makanchi Array**	**67.83**	**328**	P	**P**	**11 12 09.3**	**+0.1**
MK31				IAmb	IAmb	11 12 10.5	
	comp=Z,2.1nm,0.6s						
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**11 12 09.3**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=115,slow=8.1,SNR=32						
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**67.83**	**328**	P	**P**	**11 12 09.4**	**+0.2**
ZAA0	**Zalesovo Array**	**71.36**	**334**	P	**P**	**11 12 27.6**	**-3.0**
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**11 12 29.8**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=142,slow=6.2,SNR=7.4						
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**11 12 29.9**	**-0.7**
KURBB	**Kurchatov Arra**	**72.15**	**329**	P	**P**	**11 12 35.4**	**0.0**
	comp=Z,2.8nm,0.5s,baz=127,slow=5.0,SNR=37						
	comp=Z,2.8nm,0.5s						
KURK	**Kurchatov**	**72.16**	**329**	P	**P**	**11 12 35.3**	**-0.2**
KURK				IAmb	IAmb	11 12 36.1	
	comp=Z,3.6nm,0.8s						
VNDA	**Vanda**	**72.19**	**173**	P	**P**	**11 12 36.5**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=323,slow=5.4,SNR=6.8						
	comp=Z,0.5nm,0.5s						

MAW **Mawson** **74.03 201** P **P** **11 12 48.1 +2.0**
comp=Z,0.7nm,0.5s,baz=20,slow=10.0,SNR=2.1
comp=Z,0.7nm,0.5s
BVAR **Borovoye Array** **77.69 328** P **P** **11 13 06.9 -0.3**
comp=Z,0.6nm,0.4s,baz=119,slow=9.2,SNR=4.4
comp=Z,0.6nm,0.4s
TXAR **Lajitas Array** **126.36 59** PKP **PKiKP** **11 20 13.5 0.0**
comp=Z,0.1nm,0.4s,baz=191,slow=4.0,SNR=5.5
TORD **Torodi Ar. Bea** **127.51 281** PKP **PKPdf** **11 20 15.2 -0.3**
comp=Z,0.6nm,0.6s,baz=57,slow=2.2,SNR=2.6
CPUP **Villa Florida** **145.95 171** PKPbc **PKPbc** **11 20 50.1 +0.1**
comp=Z,2.1nm,0.9s,baz=64,slow=5.6,SNR=3.8
LPAZ **La Paz** **151.20 145** PKPbc **PKiKP** **11 21 05.8 +0.6**
comp=Z,1.0nm,0.4s,baz=60,slow=4.5,SNR=6.9
LPAZ PKPab **PKPab** **11 21 13.7 +0.8**
comp=Z,2.9nm,0.6s,baz=85,slow=1.4,SNR=11
SIV **San Ignacio** **154.84 158** PKPab **PKPab** **11 21 28.2 +0.8**
comp=Z,0.3nm,0.3s,baz=166,slow=5.9,SNR=4.6

*BJI **06** 11:04:16.4±0.0, 19.78S×177.56W, h572km, mb5.1/48, mB4.8/23*
*GCMT **06** 11:04:18.7±0.6, 20.09S±0.04×178.08W±0.06, h592km±4km, MW5.2/49, Moment Tensor Solution. s49,c59; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=6.12±.34; Mθθ=4.58±.62; Mφφ 1.53±.62; Mrθ=-2.92±.73; Mθφ 0.51±.64; Mφr-3.74±.79; Best double couple: M0 7.03100×10^16 NP1 φs=56.00000°, δ65.00000°, λ-104.00000°. NP2 φs=267.00000°, δ28.00000°, λ-62.00000°. Principal axes: T 5.9140, Plg19.0000°, Azm156.0000°; N 2.2250, Plg13.0000°, Azm62.0000°; P -8.1490, Plg67.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*NEIC **06** 11:04:18.7±2.1, 20.01S±0.10×178.01W±0.10, h571km±2km, mb4.8/382 Error ellipse: s-maj=14.7km s-min=12.7km az=153.0*
*NOU **06** 11:04:18.2, 20.03S×177.89W, h580km, mb5.2/97, Fiji Islands Region*
*IDC **06** 11:04:19.7±0.6, 19.97S×178.11W, h590km±6km, mb4.4/32, mbtmp5.3/35, Error ellipse: s-maj=9.6km s-min=7.1km az=156.0*
ISC 06 11:04:18.5±0.4, 20.01S±0.05×178.02W±0.05, h581km±4km, h581km; pP-P, n1158, σ0s90/1156, mb4.9/272, 60C-41D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.92**	**337**	P	**P**	**11 05 31.8**	**+1.0**
TAVE	**Taveuni**	**3.74**	**331**	P	**P**	**11 05 42.1**	**+1.2**
DGTI	**Dogotuki**	**4.26**	**330**	P	**P**	**11 05 45.4**	**+0.8**
MSVF	**Nonsavu**	**4.36**	**301**	P	**P**	**11 05 46.6**	**+1.2**
	374nm,0.4s,baz=179,slow=7.0,SNR=867						
MSVF	**Nonsavu**	**4.36**	**301**	P	**P**	**11 05 46.5**	**+1.1**
MSVF	**Nonsavu**	**4.36**	**301**	P	**P**	**11 05 46.7**	**+1.3**
NIUE	**Niue**	**7.69**	**84**	P	**P**	**11 06 13.7**	**-0.5**
	baz=7.6,SNR=17						
NIUE	**Niue**	**7.69**	**84**	P	**P**	**11 06 13.5**	**-0.7**
NIUE	**Niue**	**7.69**	**84**	P	**P**	**11 06 13.7**	**-0.5**
AFI	**Afiamalu**	**8.51**	**46**	P	**P**	**11 06 19.9**	**-2.4**
	148nm,0.5s,baz=158,slow=1.2,SNR=38						
AFI				S	S	11 07 55.6	-8.1
	168nm,0.7s,baz=24,slow=23,SNR=11						
AFI	**Afiamalu**	**8.51**	**46**	P	**P**	**11 06 19.8**	**-2.6**
AFI	**Afiamalu**	**8.51**	**46**	P	**P**	**11 06 20.1**	**-2.3**
RAO	**Raoul Island**	**9.21**	**179**	S	S	11 08 01.5	-14
	98nm,0.3s,baz=132,slow=23,SNR=2.4						
FUNA	**Funafuti**	**11.73**	**346**		**P**	**11 06 53.1**	**-1.4**
FUNA	**Funafuti**	**11.73**	**346**	P	**P**	**11 06 53.2**	**-1.4**
MARNC	**Mare, Loyalty**	**13.13**	**261**	P	**P**	**11 07 07.7**	**-1.1**
DVP	**Devils Point**	**13.25**	**278**	P	**P**	**11 07 10.9**	**+0.8**
PINNC	**Pines Island,**	**13.79**	**257**	P	**P**	**11 07 15.2**	**-0.4**
LIFNC	**LIFOU**	**13.85**	**264**	P	**P**	**11 07 14.0**	**-2.1**
OUENC	**Ouen Island, N**	**14.32**	**258**	P	**P**	**11 07 20.1**	**-0.7**
DZM	**Mont Dzumac**	**14.65**	**259**	*e*P	**P**	**11 07 25.2**	**+1.1**
	112nm,0.7s						
DZM				*e*S	**S**	**11 09 53.6**	**-2.6**
	662nm,24.8s						
DZM	**Mont Dzumac**	**14.65**	**259**	P	**P**	**11 07 24.7**	**+0.6**
	79nm,0.5s,baz=84,slow=12,SNR=101						
DZM	**Mont Dzumac**	**14.65**	**259**	P	**P**	**11 07 26.1**	**+1.9**
DZM	**Mont Dzumac**	**14.65**	**259**	P	**P**	**11 07 26.5**	**+2.4**
ONTNC	**Ouen Toro**	**14.67**	**258**	P	**P**	**11 07 26.4**	**+2.3**
NOUC	**Port Laguerre**	**14.79**	**259**	P	**P**	**11 07 25.6**	**+0.3**
KOUNC	**Koumac, New Ca**	**16.61**	**265**	P	**P**	**11 07 44.4**	**+2.0**
KOUNC	**Koumac, New Ca**	**16.61**	**265**	P	**P**	**11 07 43.8**	**+1.3**
RAR	**Rarotonga**	**17.12**	**97**	P	**P**	**11 07 47.1**	**0.0**
	26nm,0.7s,baz=254,slow=3.5,SNR=8.1						
RAR	**Rarotonga**	**17.12**	**97**	P	**P**	**11 07 47.6**	**+0.5**
KUZ	**Kuaotunu**	**17.55**	**197**	P	**P**	**11 07 52.2**	**+1.4**
WIAZ	**Waiheke Island**	**17.77**	**198**	P	**P**	**11 07 54.2**	**+1.5**
MBAZ	**Motutapu North**	**17.81**	**199**	P	**P**	**11 07 55.2**	**+2.1**
ETAZ	**East Tamaki Re**	**17.98**	**199**	P	**P**	**11 07 56.1**	**+1.5**
WMGZ	**Waiomatatini S**	**18.02**	**189**	P	**P**	**11 07 55.2**	**+0.2**
MKAZ	**Moumakai**	**18.05**	**198**	P	**P**	**11 07 56.6**	**+1.4**
HAZ	**Te Kaha**	**18.06**	**191**	P	**P**	**11 07 54.6**	**-0.7**
WTAZ	**Waiatarua**	**18.07**	**199**	P	**P**	**11 07 54.4**	**-1.0**
PUZ	**Puketiti**	**18.29**	**189**	P	**P**	**11 07 57.6**	**+0.1**
TWGZ	**Tauwhareparae**	**18.44**	**190**	P	**P**	**11 07 58.8**	**-0.1**
URZ	**Urewera**	**18.67**	**192**	P	**P**	**11 07 57.7**	**-3.2**
	26nm,0.3s,baz=211,slow=0.8,SNR=68						
URZ				S	S	11 10 50.9	-11
	29nm,0.8s,baz=211,slow=16,SNR=16						
URZ	**Urewera**	**18.67**	**192**	P	**P**	**11 07 59.5**	**-1.4**
RIGZ	**Rimuhau**	**18.99**	**190**	P	**P**	**11 07 57.7**	**-6.2**
QRZ	**Quartz Range**	**22.27**	**199**	P	**P**	**11 08 33.2**	**-0.1**
KHZ	**Kahutara**	**23.45**	**196**	P	**P**	**11 08 42.1**	**-1.7**
RPZ	**Rata Peaks**	**25.35**	**199**	P	**P**	**11 09 01.8**	**+1.2**
	7.7nm,0.7s,baz=298,slow=2.0,SNR=5.2						
	7.7nm,0.7s						
PPT2	**Papeete2**	**27.02**	**90**	*e*P	**P**	**11 09 15.9**	**+0.2**
PPT2	61nm,1.0s			*e*LR	LR	11 16 48.2	
	comp=Z,43nm,23.2s						
PPT	**Papeete**	**27.02**	**90**	P	**P**	**11 09 16.2**	**+0.5**
	55nm,0.7s,baz=44,slow=10.0,SNR=6.8						
	55nm,0.7s						
TIAR	**Tiarei**	**27.24**	**90**	*e*P	**P**	**11 09 17.5**	**-0.1**
	9.5nm,0.9s						
TIAR				*e*pP	**pP**	**11 10 47.2**	**-1.0**
	12nm,1.1s						
TIAR				*e*sP	**sP**	**11 11 54.7**	**-0.9**
	9.8nm,0.9s						
EIDS	**Eidsvold**	**28.96**	**254**	P	**P**	**11 09 32.5**	**0.0**
	baz=29,SNR=7.9						
EIDS	**Eidsvold**	**28.96**	**254**	P	**P**	**11 09 31.9**	**-0.6**
EIDS				IAmb	IAmb	11 09 33.4	
	comp=Z,23nm,0.8s						
EIDS	**Eidsvold**	**28.96**	**254**	P	**P**	**11 09 33.0**	**+0.5**
ARMA	**Armidale**	**29.27**	**243**	P	**P**	**11 09 36.1**	**+1.0**
	baz=29,SNR=33						
ARMA	**Armidale**	**29.27**	**243**	P	**P**	**11 09 34.8**	**-0.4**
ARMA				IAmb	IAmb	11 09 37.0	
	comp=Z,37nm,0.8s						
ARMA	**Armidale**	**29.27**	**243**	P	**P**	**11 09 36.2**	**+1.0**
RK1H	**Rockhampton Ha**	**29.42**	**258**	P	**P**	**11 09 36.6**	**+0.2**
SYDH	**Sydney Hard Ro**	**30.91**	**237**	P	**P**	**11 09 50.0**	**+0.9**
RMQ	**Roma**	**31.14**	**252**	P	**P**	**11 09 52.2**	**+1.0**
	baz=31,SNR=13						
RMQ	**Roma**	**31.14**	**252**	P	**P**	**11 09 52.0**	**+0.8**
CNB	**Canberra Magne**	**32.49**	**235**	P	**P**	**11 10 03.3**	**+0.7**
	baz=33,SNR=37						
CNB	**Canberra Magne**	**32.49**	**235**	P	**P**	**11 10 03.3**	**+0.7**
CAN	**Canberra**	**32.77**	**235**	P	**P**	**11 10 05.0**	**+0.1**
CAN				IAmb	IAmb	11 10 06.0	
	comp=Z,23nm,0.8s						
CAN	**Canberra**	**32.77**	**235**	P	**P**	**11 10 05.6**	**+0.7**
RABL	**Rabaul**	**33.03**	**295**	P	**P**	**11 10 06.5**	**-0.8**
KRVT	**Keravat (AS076**	**33.09**	**294**	P	**P**	**11 10 07.6**	**-0.2**
	comp=Z,38nm,0.5s,baz=26,slow=1.8,SNR=5.3						
	comp=Z,38nm,0.5s						
MILA	**Mila**	**33.26**	**232**	P	**P**	**11 10 09.4**	**+0.4**
	baz=33,SNR=5.3						
CTA	**Charters Tower**	**33.52**	**264**	P	**P**	**11 10 12.0**	**+0.5**
	comp=Z,111nm,0.5s,baz=93,slow=9.7,SNR=152						
CTA				PcP	**PcP**	**11 12 35.3**	**+0.4**
	comp=Z,12nm,0.9s,baz=90,slow=2.0,SNR=3.9						
	comp=Z,111nm,0.5s						
CTA	**Charters Tower**	**33.52**	**264**	P	**P**	**11 10 11.9**	**+0.5**
CTAO	**Charters Tower**	**33.52**	**264**	P	**P**	**11 10 11.4**	**0.0**
CTAO	**Charters Tower**	**33.52**	**264**	P	**P**	**11 10 11.9**	**+0.5**
CTAO	**Charters Tower**	**33.52**	**264**	P	**P**	**11 10 09.8**	**-1.6**
CMSA	**Cobar Meteorol**	**34.49**	**243**	P	**P**	**11 10 19.7**	**+0.4**
	baz=35,SNR=59						
CMSA	**Cobar Meteorol**	**34.49**	**243**	P	**P**	**11 10 19.6**	**+0.3**
QLP	**Quilpie**	**35.19**	**252**	P	**P**	**11 10 25.4**	**+0.2**
	baz=35,SNR=42						
QLP	**Quilpie**	**35.19**	**252**	P	**P**	**11 10 25.5**	**+0.3**
PMG	**Port Moresby**	**35.22**	**282**	P	**P**	**11 10 26.2**	**+0.6**
	comp=Z,87nm,0.8s,baz=100,slow=5.3,SNR=13						
	comp=Z,87nm,0.8s						
PMG	**Port Moresby**	**35.22**	**282**	P	**P**	**11 10 24.4**	**-1.2**
PMG	**Port Moresby**	**35.22**	**282**	P	**P**	**11 10 26.4**	**+0.8**
MTSU	**Mount Surprise**	**35.60**	**267**	P	**P**	**11 10 29.1**	**+0.4**
	baz=36,SNR=40						
MTSU	**Mount Surprise**	**35.60**	**267**	P	**P**	**11 10 29.3**	**+0.6**
TOO	**Toolangi**	**36.17**	**233**	P	**P**	**11 10 33.7**	**+0.4**
	baz=36,SNR=58						
TOO	**Toolangi**	**36.17**	**233**	P	**P**	**11 10 33.7**	**+0.4**
TOO	**Toolangi**	**36.17**	**233**	P	**P**	**11 10 33.6**	**+0.4**
CORO	**Coronation Par**	**36.44**	**226**	P	**P**	**11 10 35.4**	**+0.2**
MOO	**Moorlands**	**36.84**	**225**	P	**P**	**11 10 39.2**	**+0.7**
	baz=37,SNR=3.5						
TAU	**Tasmania Unive**	**36.96**	**224**	P	**P**	**11 10 39.1**	**-0.4**
GEXS	**Deakin Univers**	**37.27**	**233**	P	**P**	**11 10 42.8**	**+0.7**
BRAT	**Ballarat**	**37.35**	**234**	P	**P**	**11 10 43.9**	**+1.2**
COEN	**Coen**	**37.54**	**273**	P	**P**	**11 10 45.4**	**+0.8**
	baz=38,SNR=44						
COEN	**Coen**	**37.54**	**273**	P	**P**	**11 10 44.4**	**-0.3**
COEN	**Coen**	**37.54**	**273**	P	**P**	**11 10 45.4**	**+0.8**
STKA	**Stephens Creek**	**37.99**	**244**	P	**P**	**11 10 48.8**	**+0.6**
	comp=Z,39nm,0.6s,baz=90,slow=9.9,SNR=77						
STKA				PcP	**PcP**	**11 12 49.0**	**+0.8**
	comp=Z,7.1nm,0.6s,baz=187,slow=23,SNR=2.9						
	comp=Z,39nm,0.6s						
STKA	**Stephens Creek**	**37.99**	**244**	P	**P**	**11 10 48.7**	**+0.6**
	baz=38,SNR=68						
STKA	**Stephens Creek**	**37.99**	**244**	P	**P**	**11 10 48.3**	**+0.3**
STKA				IAmb	IAmb	11 10 49.8	
	comp=Z,21nm,1.1s						
STKA	**Stephens Creek**	**37.99**	**244**	P	**P**	**11 10 48.7**	**+0.6**
INKA	**Innaminka**	**38.35**	**250**	P	**P**	**11 10 52.1**	**+1.1**
ARPS	**Mount Arapiles**	**38.74**	**236**	P	**P**	**11 10 54.3**	**+0.2**
	baz=39,SNR=37						
ARPS	**Mount Arapiles**	**38.74**	**236**	P	**P**	**11 10 54.3**	**+0.2**
QIS	**Mount Isa**	**39.67**	**262**	P	**P**	**11 11 01.5**	**-0.3**
	baz=40,SNR=6.9						
QIS	**Mount Isa**	**39.67**	**262**	P	**P**	**11 11 01.7**	**-0.1**
HTT	**Hallett**	**40.44**	**242**	P	**P**	**11 11 08.1**	**+0.3**
	baz=41,SNR=60						
HTT	**Hallett**	**40.44**	**242**	P	**P**	**11 11 08.1**	**+0.3**
LCRK	**Leigh Creek**	**40.72**	**246**	P	**P**	**11 11 10.4**	**+0.4**
TWOA	**Tennyson Woods**	**40.97**	**239**	P	**P**	**11 11 11.9**	**0.0**
PTPS	**Port Pirie**	**41.18**	**242**	P	**P**	**11 11 14.5**	**+1.0**
WHYH	**Whyalla**	**41.51**	**242**	P	**P**	**11 11 16.6**	**+0.4**
BBOO	**Buckleboo**	**42.75**	**243**	P	**P**	**11 11 26.1**	**+0.1**
	baz=43,SNR=204						
BBOO	**Buckleboo**	**42.75**	**243**	P	**P**	**11 11 26.1**	**+0.1**
BBOO	**Buckleboo**	**42.75**	**243**	P	**P**	**11 11 26.3**	**+0.3**
OOD	**Oodnadatta**	**42.83**	**250**	P	**P**	**11 11 27.7**	**+1.1**
MULG	**Mulgathing**	**44.29**	**247**	P	**P**	**11 11 38.0**	**+0.1**
GENI	**Genyem**	**44.32**	**288**	P	**P**	**11 11 39.4**	**+1.1**
	comp=Z,2μmcomp=Z,143nm,0.7s						
GENI	**Genyem**	**44.32**	**288**	P	**P**	**11 11 39.3**	**+1.0**
WR0	**Warramunga Arr**	**44.46**	**262**	P	**P**	**11 11 38.4**	**-1.0**
AS31	**Alice Springs**	**44.62**	**256**	P	**P**	**11 11

RKGY	Rocky Gully	58.66	241	P		P		11 13 21.9	+0.6
	baz=59,SNR=7.3								
RKGY	Rocky Gully	58.66	241	P		P		11 13 21.7	+0.4
MMRI	Maumere	58.72	272	P		P		11 13 21.3	-0.6
MMRI	Maumere	58.72	272	P		P		11 13 21.9	0.0
	comp=Z,164nm,0.9s								
MMRI	Maumere	58.72	272	P		P		11 13 21.6	-0.3
EDFI	Ende, Flores	59.20	272	P		P		11 13 24.6	-0.7
	comp=Z,637nmcomp=Z,73nm,0.9s								
BLDU	Ballidu	59.24	246	P		P		11 13 24.8	-0.5
	baz=59,SNR=27								
BLDU	Ballidu	59.24	246	P		P		11 13 24.7	-0.5
MUN	Mundaring	59.52	244	P		P		11 13 27.3	+0.2
	baz=60,SNR=16								
MUN	Mundaring	59.52	244	P		P		11 13 27.5	+0.4
MORW	Morawa	60.00	247	P		P		11 13 29.8	-0.4
	baz=60,SNR=16								
MORW	Morawa	60.00	247	P		P		11 13 29.9	-0.4
MORW				IAmb		IAmb		11 13 30.8	
	comp=Z,61nm,1.2s								
MORW	Morawa	60.00	247	P		P		11 13 30.0	-0.3
JCJ	Chichijima	60.66	319	P		P		11 13 34.3	-0.2
	comp=Z,44nm,0.5s,baz=234,slow=7.8,SNR=9.2								
	comp=Z,44nm,0.5s								
JCJ	Chichijima	60.66	319	P		P		11 13 34.8	+0.3
LUWI	Luwuk	60.83	280	P		P		11 13 36.6	+0.6
H01W1	Cape Leeuwin H	60.96	241	P		P		11 13 36.2	0.0
	baz=217								
H01W3	Cape Leeuwin H	60.98	241	P		P		11 13 36.6	+0.3
	baz=217								
H01W2	Cape Leeuwin H	60.98	241	P		P		11 13 37.0	+0.7
	baz=217								
WBSI	Waikabubak, Su	61.09	270	P		P		11 13 38.3	+0.6
	comp=Z,89nm,0.7s								
GTOI	Gorontalo	61.25	282	P		P		11 13 40.3	+1.6
	comp=Z,254nmcomp=Z,27nm,0.8s								
BKSI	Bulukumba	61.77	275	P		P		11 13 41.7	-0.4
	comp=Z,26nm,0.9s								
APSI	Ampana	61.92	280	P		P		11 13 43.9	+0.9
	comp=Z,641nmcomp=Z,68nm,1.2s								
MRSI	Marisa	62.17	282	P		P		11 13 45.8	+1.1
	comp=Z,36nm,0.7s								
KAPI	Kappang	62.22	275	P		P		11 13 45.4	+0.4
SPSI	Sidrap Palu	62.57	276	P		P		11 13 46.3	-0.9
	comp=Z,824nmcomp=Z,37nm,0.8s								
GIRL	Giralia	62.67	254	P		P		11 13 48.8	+1.0
	baz=63,SNR=14								
TTSI	Tana Toraja	62.84	277	P		P		11 13 47.7	-1.3
	comp=Z,941nmcomp=Z,16nm,0.6s								
PLAI	Plampang	62.85	270	P		P		11 13 48.8	-0.3
	comp=Z,234nm,0.9s								
PLAI	Plampang	62.85	270	P		P		11 13 48.9	-0.2
CCD	Concordia, Ant	62.94	194	P		P		11 13 50.5	+1.4
TOLI2	Tolitoli	63.49	282	P		P		11 13 53.1	0.0
TOLI2				IAmb		IAmb		11 13 54.1	
	comp=Z,50nm,0.9s								
TOLI2	Tolitoli	63.49	282	P		P		11 13 53.3	+0.2
TWSI	Taliwang, Sumb	63.72	270	P		P		11 13 54.5	-0.1
	comp=Z,129nm,0.8s								
MPSI	Mapaga	64.01	281	P		P		11 13 56.2	-0.2
	comp=Z,1µmcomp=Z,104nm,0.9s								
CASY	Casey	64.40	205	P		P		11 13 58.2	+0.2
CASY				IAmb		IAmb		11 13 59.1	
	comp=Z,26nm,0.9s								
CASY	Casey	64.40	205	P		P		11 13 56.4	-1.5
SRBI	Singaraja	65.49	270	P		P		11 14 06.1	+0.3
	comp=Z,106nm,0.8s								
JAGI	Jajag, Banyuwa	66.37	269	P		P		11 14 10.5	-0.8
JAGI	Jajag, Banyuwa	66.37	269	P		P		11 14 10.3	-1.0
	comp=Z,146nm,0.9s								
JAGI	Jajag, Banyuwa	66.37	269	P		P		11 14 10.5	-0.8
JHJ2	Mitsune	66.42	322	P		P		11 14 11.6	+0.5
BLJI	Banyuglugur	67.12	270	P		P		11 14 15.9	+0.1
	comp=Z,1µmcomp=Z,93nm,0.8s								
MYLDM	Lahad Datu	67.19	285	IAmb		IAmb		11 14 36.5	
	comp=Z,37nm,0.8s								
BBKI	Banjar Baru	67.35	275	P		P		11 14 19.2	+1.9
	comp=Z,35nm,0.7s								
MTKI	Muara Teweh, K	68.18	277	P		P		11 14 23.0	+0.7
	comp=Z,51nm,0.9s								
PWJI	Pagerwojo	68.72	269	P		P		11 14 25.6	+0.1
	comp=Z,96nm,0.8s								
NGJI	Ngawi	69.25	270	P		P		11 14 28.8	+0.1
	comp=Z,85nm,0.9s								
PCJI	Pacitan	69.25	269	P		P		11 14 29.2	+0.4
	comp=Z,5µmcomp=Z,468nm,0.6s								
JMM	Marumori	69.38	326	P		P		11 14 29.0	+0.1
JMM				IAmb		IAmb		11 14 30.3	
	comp=Z,59nm,1.0s								
KKM	Kota Kinabalu	69.62	285	P		P		11 14 31.1	+0.1
INU	Inuyama	69.63	322	P		P		11 14 30.9	+0.4
MJAR	Matsushiro Arr	69.81	324	P		P		11 14 29.5	-2.1
	comp=Z,23nm,0.6s,baz=154,slow=6.5,SNR=64								
	comp=Z,23nm,0.6s								
MAJO	Matsushiro	69.81	324	P		P		11 14 31.8	+0.3
MAJO	Matsushiro	69.81	324	P		P		11 14 31.9	+0.3
MAJO	Matsushiro	69.81	324	P		P		11 14 26.2	-5.3
JOW	Kunigami	69.84	310	P		P		11 14 31.9	-0.1
UGM	Wanagama	69.96	269	P		P		11 14 33.2	+0.2
QSPA	South Pole Qui	70.06	180	P		P		11 14 33.8	+1.0
QSPA				IAmb		IAmb		11 14 34.6	
	comp=Z,22nm,0.8s								
QSPA	South Pole Qui	70.06	180	P		P		11 14 32.2	-0.6
SMRI	Semarang	70.31	270	P		P		11 14 35.9	+0.8
JMN	Monobe	70.40	319	P		P		11 14 36.3	+1.1
JMN				IAmb		IAmb		11 14 37.2	
	comp=Z,44nm,1.0s								
PBKI	Pangkalan Bun	70.58	274	P		P		11 14 38.2	+1.5
	comp=Z,7µmcomp=Z,220nm,0.8s								
JSD	Sado	70.86	325	P		P		11 14 38.3	+0.7
JSD				IAmb		IAmb		11 14 39.3	
	comp=Z,30nm,0.7s								
AMKA	Amchitka	71.11	358	P		P		11 14 38.7	-0.2
JSU	Suzuyama	71.16	315	P		P		11 14 40.1	+0.4
ADK	Adak	71.59	1	P		P		11 14 41.2	-0.4
ADK	Adak	71.59	1	P		P		11 14 41.5	-0.1
ADK	Adak	71.59	1	P		P		11 14 44.1	+2.5
JHS	Saijyo	71.72	319	P		P		11 14 44.0	+1.1
JHS				IAmb		IAmb		11 14 44.7	
	comp=Z,49nm,0.8s								
STKI	Sintang	71.73	277	P		P		11 14 44.6	+1.2
	comp=Z,48nm,0.9s								
GSTR	Great Sitkin T	71.81	1	P		P		11 14 43.2	+0.2
SBUM	Sibu	71.91	280	P		P		11 14 44.2	-0.1
SBUM				IAmb		IAmb		11 14 45.9	
	comp=Z,17nm,0.7s								
YOJ	Yonaguni jima	72.44	305	P		P		11 14 47.4	+0.2
SHEM	Shemya Is, Ala	72.75	355	P		P		11 14 48.0	-0.3
	comp=Z,33nm,0.6s,baz=273,slow=15,SNR=3.7								
	comp=Z,33nm,0.6s								
NIKH	Nikolski High	73.11	6	P		P		11 14 49.5	-0.8
	baz=189,SNR=5.1								
YULB	Yu-li	73.22	303	P		P		11 14 50.9	-0.8
YULB				IAmb		IAmb		11 14 54.5	
	comp=Z,44nm,1.1s								
CNJI	Cibinong	73.34	268	P		P		11 14 52.3	-0.3
	comp=Z,148nm,0.9s								
NACB	Ninganchiao	73.39	304	P		P		11 14 52.5	-0.2
SSLB	Suanglung	73.69	303	P		P		11 14 53.9	-0.5
TPUB	Ta-pu	73.70	303	P		P		11 14 53.6	-0.8
XMIS	Christmas Isla	73.74	265	P		P		11 14 54.7	-0.2
JTU	Tsushima	73.75	317	IAmb		IAmb		11 15 08.1	
	comp=Z,69nm,1.6s								
YHNB	Yeheng	73.81	304	P		P		11 14 55.0	-0.2
YHNB	Yeheng	73.81	304	P		P		11 14 55.3	+0.2
CBJI	Citeko	73.88	269	P		P		11 14 54.9	-0.8
	comp=Z,125nm,0.6s								
DBJI	Dramaga	73.94	269	P		P		11 14 56.0	0.0
	comp=Z,226nm,0.8s								
UNV	Unalaska Valle	74.21	7	P		P		11 14 56.1	-0.5
UNV				IAmb		IAmb		11 14 56.4	
	comp=Z,26nm,0.6s								
UNV	Unalaska Valle	74.21	7	P		P		11 14 55.7	-0.8
	baz=191								
TPI	Tanjungpandan	74.34	273	P		P		11 14 59.3	+1.0
	comp=Z,49nm,1.1s								
YSS	Yuzh-Sakhalins	75.45	333	P		P		11 15 04.5	+0.9
YSS	Yuzh-Sakhalins	75.45	333	P		P		11 15 05.0	+1.4
PET	Petropavlovsk	75.49	346	P		P		11 15 03.9	+0.1
PET				IAmb		IAmb		11 15 50.7	
	comp=Z,64nm,1.5s								
NAWB	Namwon	75.59	317	IAmb		IAmb		11 15 06.5	
	comp=Z,45nm,1.1s								
FALS	False Pass	75.60	9	P		P		11 15 04.4	+0.2
	baz=194								
PEA0B	Petropavlovsk-	75.79	345	P		P		11 15 05.9	+0.5
PEA0B				IAmb		IAmb		11 15 06.7	
	comp=Z,48nm,0.8s								
PETK	Petropavlovsk-	75.79	345	P		P		11 15 04.9	-0.5
	comp=Z,30nm,0.7s,baz=141,slow=8.0,SNR=54								
	comp=Z,30nm,0.7s								
PPBI	Pangkal Pinang	75.96	273	P		P		11 15 08.3	+1.0
	comp=Z,19µmcomp=Z,84nm,1.0s								
QZH	Quanzhou	76.13	303	⇓iP		P		11 15 08.7	+0.8
QZH				pmax		pmax			
	comp=Z,50nm,1.1s								
TJN	Taejon	76.20	317	P		P		11 15 08.2	+0.2
TJN	Taejon	76.20	317	⇑iP		P		11 15 08.5	+0.5
TJN	Taejon	76.20	317	P		P		11 15 08.5	+0.5
KASI	Kota Agung	76.39	269	P		P		11 15 08.7	-0.9
	comp=Z,2µmcomp=Z,190nm,0.9s								
KSRS	Korea Array	76.51	319	P		P		11 15 10.3	+0.6
	comp=Z,8.3nm,0.7s,baz=134,slow=6.2,SNR=46								
	comp=Z,8.3nm,0.7s								
KSAR	Wonju Array Be	76.53	318	P		P		11 15 11.2	+1.4
SDPT	Sand Point	76.53	10	P		P		11 15 09.1	-0.3
SDPT				IAmb		IAmb		11 15 09.8	
	comp=Z,55nm,0.8s								
SDPT	Sand Point	76.53	10	P		P		11 15 08.8	-0.6
	baz=197								
KS19	Wonju Array Si	76.57	319	P		P		11 15 11.2	+1.1
SEHB	SEOHWA	76.81	319	P		P		11 15 13.0	+1.6
SEHB				IAmb		IAmb		11 15 13.9	
	comp=Z,22nm,0.8s								
SNCC	San Nicolas Is	76.92	47	P		P		11 15 13.3	+1.2
	baz=235								
LWLI	Liwa	76.96	269	P		P		11 15 14.0	+1.1
	comp=Z,147nm,0.9s								
SCZ2	Santa Cruz Isl	77.27	46	P		P		11 15 15.1	+1.1
	baz=235								
INCN	Inchon	77.33	318	P		P		11 15 14.8	+0.6
INCN				IAmb		IAmb		11 15 16.2	
	comp=Z,37nm,1.1s								
INCN	Inchon	77.33	318	P		P		11 15 15.2	+0.9
SCI2	San Clemente I	77.45	48	P		P		11 15 15.2	+0.2
	baz=236								
S14K	Fog Glacier	77.58	10	P		P		11 15 15.0	-0.2
	baz=198								
PKM	Mcpherson Peak	77.66	46	P		P		11 15 17.6	+1.2
	baz=235								
SAO	San Andreas Ge	77.68	43	P		P		11 15 17.7	+1.6
SAO				IAmb		IAmb		11 15 18.7	
	comp=Z,21nm,0.8s								
PMPB	Monarch Peak	77.78	44	P		P		11 15 18.9	+2.2
PMPB				IAmb		IAmb		11 15 19.4	
	comp=Z,24nm,0.8s								
CIS	Catalina Islan	77.78	48	P		P		11 15 16.9	+0.1
	baz=236								
SMMC	Simmler	77.79	45	P		P		11 15 17.5	+0.8
	baz=235								
CHGN	Chignik	77.80	11	IAmb		IAmb		11 15 19.9	
	comp=Z,48nm,0.9s								
CHGN	Chignik	77.80	11	P		P		11 15 16.1	-0.1
	baz=199								
CHIR	Chirikof Islan	77.88	13	P		P		11 15 16.7	0.0
	baz=201								
BCW	Bitter Crk WRg	77.96	46	IAmb		IAmb		11 15 20.5	
	comp=Z,25nm,0.8s								
DECC	Green Verdugo	78.31	47	P		P		11 15 18.5	-1.1
	baz=236								
KMRM	Mail Ridge	78.39	39	P		P		11 15 22.2	+2.2
KMRM				IAmb		IAmb		11 15 22.9	
	comp=Z,62nm,0.9s								
109C	Camp Elliot, M	78.41	49	P		P		11 15 20.0	-0.1
	baz=237								
CBX	Cerro Bola	78.42	49	P		P		11 15 22.1	+1.7
ARVC	Arvin	78.46	46	P		P		11 15 20.7	+0.3
	baz=235								
USRK	Ussuriysk Ar.	78.55	326	P		P		11 15 21.5	+0.9
	comp=Z,37nm,0.7s,baz=126,slow=3.2,SNR=48								
	comp=Z,37nm,0.7s								
USRK	Ussuriysk Ar.	78.55	326	P		P		11 15 21.8	+1.2
TKX	Tecate	78.59	49	IAmb		IAmb		11 18 24.1	
	comp=Z,22nm,0.4s								
ELS	Elsinore Mount	78.60	48	P		P		11 15 22.3	+1.1
VES	Vestal, Richgr	78.70	45	P		P		11 15 22.0	+0.5
	baz=235,SNR=7.2								
MURC	Murrieta	78.74	48	P		P		11 15 22.9	+1.0
	baz=237,SNR=5.7								
BFSC	Mount Baldy Ra	78.77	47	P		P		11 15 22.9	+0.8
	baz=236,SNR=6.4								
KSI	Kapahiang	78.79	270	P		P		11 15 22.6	-0.1
	comp=Z,184nm,0.8s								
SII	Sinabung Islan	78.87	13	P		P		11 15 22.1	+0.1
	baz=203								
EDW2	Edwards Air Fo	78.89	47	P		P		11 15 24.1	+1.3
	baz=236,SNR=15								
MONP2	Monument Peak	78.90	49	P		P		11 15 24.4	+1.4
	baz=237,SNR=15								
DLV	T Lat	78.96	287	P		P		11 15 24.0	+0.3
IKP	In-Ko-Pah, Jac	78.99	49	P		P		11 15 24.6	+1.3
	baz=238,SNR=9.0								
ISA	Isabella, Lake	79.00	46	P		P		11 15 25.1	+1.8
ISA	Isabella, Lake	79.00	46	P		P		11 15 24.6	+1.2
	baz=236,SNR=10.0								
SMAI	San Martin Ant	79.07	159	P		P		11 15 24.4	+1.4
KRMB	Red Mountain	79.09	38	P		P		11 15 25.9	+2.2
KRMB				IAmb		IAmb		11 15 58.9	
	comp=Z,61nm,1.6s								
PFO	Pinyon Flats O	79.26	48	P		P		11 15 25.4	+0.6
	comp=Z,5.0nm,0.8s,baz=280,slow=7.4,SNR=8.8								
	comp=Z,5.0nm,0.8s								
PFO	Pinyon Flats O	79.26	48	P		P		11 15 25.9	+1.1
PFO	Pinyon Flats O	79.26	48	P		P		11 15 25.2	+0.4
	baz=237								
TPFO	Pinon Flats	79.26	48	P		P		11 15 25.7	+0.9
	baz=237								
AFDM	Forest Hills D	79.28	42	P		P		11 15 23.8	-0.8
BBRC	Big Bear Solar	79.29	48	P		P		11 15 25.6	+0.5
	baz=237								
MASI	Maura Aman, Be	79.30	271	P		P		11 15 26.0	+0.7
	comp=Z,142nm,1.1s								
PMD	Palm Desert	79.34	48	IAmb		IAmb		11 15 27.3	
	comp=Z,3.5nm,1.1s								
SWSC	Sam W. Stewart	79.37	49	P		P		11 15 26.7	+1.6
	baz=238								
R17K	Ugashik Creek	79.43	12	P		P		11 15 25.0	+0.1
	baz=201								
LRMC	Laurel Mtn Rad	79.44	46	P		P		11 15 26.6	+0.9
	baz=236								
MYKOM	Kota Tinggi	79.47	276	IAmb		IAmb		11 15 27.9	
	comp=Z,52nm,0.9s								
NJ2	Nanjing	79.55	310	⇓P		P		11 15 27.1	+0.9
NJ2				pmax		pmax			
	comp=Z,30nm,0.6s								
L02F	Cave Junction	79.66	38	P		P		11 15 27.7	+1.2
	baz=231								
OHAK	Old Harbor	79.68	13	P		P		11 15 26.2	0.0
	baz=204								
CWC	Cottonwood Cre	79.70	45	P		P		11 15 28.1	+1.0
	baz=236								
MDPB	Devils Postpil	79.72	44	P		P		11 15 28.7	+1.4
OMMB	Old Mammoth Mi	79.76	44	P		P		11 15 29.0	+1.5
BELC	Belle Mtn. Jos	79.79	48	P		P		11 15 28.7	+1.2
	baz=237,SNR=14								
MLAC	Mammoth, Mammo	79.88	44	P		P		11 15 29.3	+1.2
	baz=235								
MPMC	Manual Prospec	79.89	46	P		P		11 15 29.5	+1.4
	baz=236,SNR=11								
YBH	Yreka Blue Hor	79.92	39	P		P		11 15 29.6	+1.6
	comp=Z,22nm,0.8s,baz=202,slow=0.9,SNR=45								
	comp=Z,22nm,0.8s								
YBH	Yreka Blue Hor	79.92	39	P		P		11 15 29.6	+1.6
YBH				IAmb		IAmb		11 15 30.7	
	comp=Z,24nm,0.8s								
GSC	Goldstone, Bar	79.94	47	P		P		11 15 29.4	+1.2
	baz=237,SNR=7.7								
TIN	Tinemaha, Big	79.95	45	P		P		11 15 29.4	+1.1
	baz=236								
K02D	Willamette Mer	79.97	37	P		P		11 15 29.2	+1.0
	baz=231								
BC3	Big Chuckawall	79.99	49	P		P		11 15 30.0	+1.4
	baz=238,SNR=6.0								
HEC	Hector,Ludlow	80.00	47	P		P		11 15 28.8	+0.2
	baz=237								
BELA	Belgrano 2	80.05	173	P		P		11 15 28.2	+0.2
MPK	Martis Peak	80.08	42	IAmb		IAmb		11 15 31.6	
	comp=Z,58nm,1.1s								
MDJ	Mudanjiang	80.11	325	IAmb		IAmb		11 15 31.1	
	comp=Z,49nm,0.8s								
MDJ	Mudanjiang	80.11	325	P		P		11 15 30.5	+1.7
MDJ				pmax		pmax			
	comp=Z,74nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,120nm,4.1s								
MDJ	Mudanjiang	80.11	325	P		P		11 15 29.3	+0.5
J01E	Myrtle Point	80.11	37	P		P		11 15 30.2	+1.4
	baz=230								
GLA	Glamis	80.12	50	P		P		11 15 30.5	+1.3
GLA				IAmb		IAmb		11 15 32.2	
	comp=Z,32nm,1.1s								
GLA	Glamis	80.12	50	P		P		11 15 30.5	+1.3
	baz=238								
BEKR	Beckworth	80.21	41	P		P		11 15 31.1	+1.4
BEKR				IAmb		IAmb		11 15 31.9	
	comp=Z,30nm,1.3s								
PNTR	Pine Nut	80.23	42	IAmb		IAmb		11 15 32.4	
	comp=Z,48nm,0.8s								
QSM	Queen of Sheba	80.26	46	P		P		11 15 30.4	+0.6
HUMO	Hull Mountain	80.32	38	IAmb		IAmb		11 15 33.0	
	comp=Z,28nm,1.2s								
KDAK	Kodiak Island	80.34	13	P		P		11 15 30.0	+0.4
	comp=Z,22nm,0.7s,baz=242,slow=3.9,SNR=19								
	comp=Z,22nm,0.7s								
KDAK	Kodiak Island	80.34	13	P		P		11 15 31.5	+1.8
	baz=204								
Q16K	King Salmon	80.36	11	P		P		11 15 30.2	+0.5
	baz=200,SNR=13								
YERR	Yerington	80.40	43	P		P		11 15 32.0	+1.3
YERR				IAmb		IAmb		11 15 32.9	
	comp=Z,26nm,0.8s								
GMRC	Granite Mounta	80.45	48	P		P		11 15 31.7	+0.7
	baz=238,SNR=8.7								
LHV	Little Huntoon	80.45	43	P		P		11 15 32.7	+2.1
LHV				IAmb		IAmb		11 15 33.5	
	comp=Z,30nm,1.0s								
L04D	Klamath Falls	80.45	38	IAmb		IAmb		11 15 33.2	
	comp=Z,33nm,0.8s								
L04D	Klamath Falls	80.45	38	P		P		11 15 32.2	+1.3
	baz=232,SNR=9.7								
P16K	Nushagak River	80.46	10	P		P		11 15 29.9	-0.3
	baz=199								
IRM	Iron Mountain	80.47	48	P		P		11 15 32.7	+1.7
	baz=238,SNR=12								
GRAC	Grapevine Rang	80.49	45	IAmb		IAmb		11 15 33.8	
	comp=Z,49nm,1.3s								
GRAC	Grapevine Rang	80.49	45	P		P		11 15 32.4	+1.4
	baz=236,SNR=12								
FURC	Furnace Creek,	80.53	46	P		P		11 15 32.3	+1.2
	baz=236,SNR=5.3								
TUQ	Turquoise Moun	80.61	47	P		P		11 15 33.2	+1.4
	baz=237,SNR=15								
SHOC	Shoshone, Teco	80.62	46	P		P		11 15 32.6	+0.9
	baz=237,SNR=6.5								
RYN	Ryan	80.65	43	IAmb		IAmb		11 15 34.3	
	comp=Z,60nm,2.0s								
NVAR	Mina Array Bea	80.68	43	P		P		11 15 33.5	+1.3
	comp=Z,14nm,0.8s,baz=225,slow=9.3,SNR=103								
NVAR				pP		pP		11 17 36.7	+2.3
	comp=Z,0.5nm,0.9s,baz=220,slow=8.2,SNR=1.5								
NVAR				PKKPbc		PKKPbc		11 34 08.1	+0.1
	comp=Z,0.4nm,0.6s,baz=74,slow=3.7,SNR=4.9								
	comp=Z,14nm,0.8s								
BLYC	Blythe	80.70	49	P		P		11 15 33.6	+1.5
PAHR	Pah Rah Range	80.72	42	P		P		11 15 32.9	+0.6
I02E	Swisshome, ÖR	80.76	36	P		P		11 15 33.5	+1.4
	baz=230								
I03D	Drain, OR	80.78	37	P		P		11 15 32.4	+0.1
	baz=231,SNR=6.4								
NV11	Mina Array Sit	80.78	43	P		P		11 15 34.0	+1.4
NV11				IAmb		IAmb		11 15 35.0	
	comp=Z,22nm,0.9s								
WCT	Wildcat Mounta	80.87	46	P		P		11 15 34.6	+1.6
P17K	Kvichak River	80.88	11	P		P		11 15 32.1	-0.3
	baz=200,SNR=15								
O16K	Kokwok River B	80.97	10	P		P		11 15 32.2	-0.7
	baz=199,SNR=9.6								
214A	Organ Pipe Nat	81.02	51	P		P		11 15 35.2	+1.4
214A	Organ Pipe Nat	81.02	51	P		P		11 15 35.6	+1.7
	baz=240,SNR=5.4								
K04D	Chiloquin, OR	81.03	38	P		P		11 15 35.1	+1.4
	baz=232,SNR=5.6								
Q20K	Shuyak Island	81.14	13	P		P		11 15 34.1	+0.3
	baz=204								
KVN	Kaiserville	81.16	43	P		P		11 15 35.9	+1.3
KVN				IAmb		IAmb		11 15 36.7	
	comp=Z,20nm,0.8s								
NEE2	Needles Airpor	81.17	48	P		P		11 15 36.1	+1.6
	baz=238								
Q19K	Cape Douglas,	81.17	13	P		P		11 15 34.4	+0.4
Q19K	Cape Douglas,	81.17	13	P		P		11 15 33.7	-0.3
	baz=203								
TPH	Tonopah	81.19	44	P		P		11 15 36.2	+1.4
J04D	Umpqua Nationa	81.20	38	P		P		11 15 35.8	+1.0
	baz=232,SNR=16								
TPNV	Topopah Spring	81.21	46	IAmb		IAmb		11 15 37.2	
	comp=Z,20nm,1.0s								
TPNV	Topopah Spring	81.21	46	P		P		11 15 36.0	+1.1
	baz=237,SNR=16								
PLTX	Planet X, Gerl	81.25	41	P		P		11 15 36.7	+1.

comp=Z,27nm,0.9s
I05D Terrebonne, OR 82.31 37 P P 11 15 41.5 +1.3
baz=232,SNR=14
N18K Kilae Creek 82.38 11 P P 11 15 40.2 +0.1
N18K Kilae Creek 82.38 11 P P 11 15 40.1 +0.1
baz=201,SNR=7.4
R11A Troy Canyon, C 82.41 45 P P 11 15 41.9 +0.9
baz=237,SNR=12
O20K Slope Mountain 82.44 13 P P 11 15 40.1 -0.3
baz=204
E03A Lebam 82.46 35 IAmb IAmb 11 15 43.2
comp=Z,47nm,0.9s
F04D Rainier, OR 82.46 35 P P 11 15 42.3 +1.5
baz=231
BMN Battle Mountai 82.50 42 IAmb IAmb 11 15 43.6
comp=Z,30nm,0.9s
BRLK Bradley Lake 82.52 13 P P 11 15 41.4 +0.6
BRLK IAmb IAmb 11 15 41.9
comp=Z,46nm,0.8s
BRSE Bradley Lake S 82.53 14 P P 11 15 40.8 0.0
baz=206,SNR=13
TUC Tucson 82.69 52 P P 11 15 43.4 +1.0
TUC IAmb IAmb 11 15 45.6
comp=Z,23nm,1.1s
TUC Tucson 82.69 52 P P 11 15 44.2 +1.8
baz=241
HOOD Mount Hood Mea 82.74 36 IAmb IAmb 11 15 44.5
comp=Z,30nm,1.1s
N19K Bonanza Creek 82.75 11 IAmb IAmb 11 15 42.5
comp=Z,32nm,0.8s
N19K Bonanza Creek 82.75 11 P P 11 15 41.1 -0.9
baz=202,SNR=16
WVOR Wild Horse Val 82.77 40 IAmb IAmb 11 15 45.0
comp=Z,30nm,1.1s
SVW2 Sparrevohn 82.82 11 P P 11 15 42.7 +0.4
C03A Quillayute Air 82.84 33 P P 11 15 45.0 +2.4
NLWA Neilton Lookou 82.84 34 P P 11 15 44.5 +1.7
NLWA IAmb IAmb 11 15 45.3
comp=Z,42nm,1.1s
H02S1 DAWSON INLET T 82.85 26 P P 11 15 43.2 +0.7
SNR=5.0
G05D Wamic, OR 82.88 37 P P 11 15 43.7 +0.7
baz=232
HOLB Holberg 82.90 29 P P 11 15 44.1 +1.2
UBPT Khong Chiam 82.96 289 IAmb IAmb 11 15 45.9
comp=Z,30nm,1.0s
IPM Ipoh 83.05 277 P P 11 15 45.6 +1.1
MNSI Mandailing Nat 83.13 273 P P 11 15 44.5 -0.4
SEW Seward 83.14 14 P P 11 15 43.9 +0.1
SEW Seward 83.14 14 P P 11 15 43.5 -0.3
baz=207,SNR=8.4
I07A Izee 83.21 38 P P 11 15 46.3 +1.5
I07A IAmb IAmb 11 15 47.2
comp=Z,24nm,0.9s
LCMT Little Creek M 83.28 47 P P 11 15 46.2 +0.8
MA2 Magadan 83.31 345 P P 11 15 43.5 -1.2
comp=Z,18nm,0.7s,baz=131,slow=4.7,SNR=25
comp=Z,18nm,0.7s
MA2 Magadan 83.31 345 P P 11 15 43.6 -1.1
MA2 IAmb IAmb 11 15 45.4
comp=Z,23nm,0.8s
MA2 Magadan 83.31 345 P P 11 15 44.6 -0.1
319A Douglas 83.37 53 IAmb IAmb 11 15 49.0
comp=Z,37nm,1.0s
J08A Circle Bar Ran 83.40 39 IAmb IAmb 11 15 48.1
comp=Z,33nm,1.2s
O22K Cooper Landing 83.42 14 P P 11 15 45.7 +0.5
O22K Cooper Landing 83.42 14 P P 11 15 45.2 0.0
baz=207,SNR=8.8
B04A Port Angeles 83.45 33 IAmb IAmb 11 15 47.8
comp=Z,19nm,0.8s
CCUT Cedar City 83.48 46 P P 11 15 48.0 +1.6
P23K Montague Islan 83.53 15 P P 11 15 45.7 0.0
baz=209
N20K Mount Spurr 83.55 12 P P 11 15 45.0 -1.0
baz=204,SNR=6.6
SPCR Spurr Chakacha 83.55 12 P P 11 15 45.2 -0.8
baz=204
KNB Kanab 83.58 47 P P 11 15 48.2 +1.4
KNB IAmb IAmb 11 15 49.5
comp=Z,20nm,1.2s
SPR3 Spring Creek 3 83.59 45 P P 11 15 47.7 +0.7
SPR3 IAmb IAmb 11 15 48.7
comp=Z,7.1nm,1.0s
U15A North Rim 83.64 48 IAmb IAmb 11 15 50.0
comp=Z,30nm,1.0s
KULM Kulim 83.69 278 P P 11 15 48.7 +1.1
D05A Enumclaw 83.70 35 IAmb IAmb 11 15 49.7
comp=Z,45nm,1.2s
M19K Big River Lodg 83.78 11 P P 11 15 47.2 +0.2
M19K IAmb IAmb 11 15 47.8
comp=Z,23nm,0.8s
M19K Big River Lodg 83.78 11 P P 11 15 46.7 -0.3
baz=202
CBB Campbell River 83.80 31 IAmb IAmb 11 15 49.1
comp=Z,19nm,1.0s
WUAZ Wupatki 83.83 49 P P 11 15 49.2 +1.1
baz=240,SNR=10
PGC Sidney 83.86 33 P P 11 15 49.0 +1.4
PGC IAmb IAmb 11 15 49.8
comp=Z,19nm,0.8s
ELK Elko 83.93 43 P P 11 15 49.7 +1.1
L19K White Mountain 83.96 11 IAmb IAmb 11 15 50.0
comp=Z,26nm,0.8s
L19K White Mountain 83.96 11 P P 11 15 48.3 +0.4
baz=202,SNR=18
RC01 Rabbit Creek A 83.96 13 IAmb IAmb 11 15 49.0
comp=Z,31nm,0.9s
RC01 Rabbit Creek A 83.96 13 P P 11 15 47.7 -0.3
baz=206,SNR=6.8
M20K Styx River 84.00 12 P P 11 15 47.3 -0.9
baz=203
PWL Port Wells 84.07 14 P P 11 15 48.2 -0.3
baz=208,SNR=14
SUA Susitna One 84.09 13 P P 11 15 48.4 -0.3
baz=206,SNR=10.0
PKCU Pink Cliffs 84.14 47 IAmb IAmb 11 15 53.0
comp=Z,23nm,0.9s
HPIG 84.19 59 P P 11 15 50.8 +0.7
HPIG IAmb IAmb 11 16 11.2
comp=Z,41nm,1.8s
KAIM Kayak Island 84.22 16 P P 11 15 49.9 +0.7
baz=211
G08A Pilot Rock 84.24 37 P P 11 15 51.3 +1.5
G08A IAmb IAmb 11 15 52.1
comp=Z,37nm,1.2s
GLI Glacier Island 84.38 15 P P 11 15 49.8 -0.2
baz=209,SNR=27
SKT Skwentna 84.39 12 P P 11 15 48.7 -1.3
baz=205,SNR=5.1
L20K Farewell, AK 84.41 11 P P 11 15 49.6 -0.5
baz=203,SNR=9.8
FID Port Fidalgo 84.41 15 IAmb IAmb 11 15 51.0
comp=Z,50nm,1.3s
EYAK Cordova Ski Ar 84.42 15 P P 11 15 50.5 +0.4
EYAK IAmb IAmb 11 15 50.8
comp=Z,16nm,0.7s
EYAK Cordova Ski Ar 84.42 15 P P 11 15 50.2 +0.1
baz=210,SNR=5.9
PSI Prapat 84.43 275 P P 11 15 50.6 -0.9
comp=Z,34nm,0.9s,baz=151,slow=3.9,SNR=11
comp=Z,34nm,0.9s
TTA Tatalina 84.47 10 P P 11 15 51.2 +0.8
TTA IAmb IAmb 11 15 52.1
comp=Z,26nm,1.1s
TTA Tatalina 84.47 10 P P 11 15 50.7 +0.3
baz=201,SNR=10
M22K Willow 84.48 13 P P 11 15 50.0 -0.3
baz=206,SNR=16
MTPU Mount Pierson 84.53 46 IAmb IAmb 11 15 54.7
comp=Z,14nm,0.9s
KNK Knik Glacier 84.53 14 IAmb IAmb 11 15 51.8
comp=Z,32nm,0.8s
KNK Knik Glacier 84.53 14 P P 11 15 50.7 -0.1
baz=208,SNR=9.7
PMR Palmer 84.55 13 P P 11 15 50.7 0.0
PMR IAmb IAmb 11 15 51.6
comp=Z,66nm,1.4s
PMR Palmer 84.55 13 P P 11 15 50.8 +0.1
baz=207,SNR=17
RAGM Ragged Mountai 84.55 16 IAmb IAmb 11 15 52.3
comp=Z,35nm,1.2s
HAWA Hanford 84.56 36 IAmb IAmb 11 15 53.7
comp=Z,20nm,1.0s
HMT Hamilton 84.61 16 P P 11 15 51.9 +0.7
MVU Marysvale 84.75 46 P P 11 15 53.5 +0.8
MVU IAmb IAmb 11 15 55.3
comp=Z,33nm,1.1s
GHO Glory Hole Cre 84.75 13 P P 11 15 52.3 +0.4
V35K Ketchikan 84.75 25 P P 11 15 52.9 +1.1
baz=223
MSU Marysvale 84.78 46 P P 11 15 53.9 +1.1
SNH Sunshine Point 84.86 17 P P 11 15 53.4 +1.0
SML Sawmill 84.91 14 IAmb IAmb 11 15 53.8
comp=Z,46nm,1.6s
SML Sawmill 84.91 14 P P 11 15 52.5 -0.1
baz=208,SNR=6.2
DIV Divide 84.92 15 IAmb IAmb 11 15 53.8
comp=Z,36nm,0.8s
MFID Camas Ranch 85.02 40 P P 11 15 55.2 +1.5
121A Cookes Peak, D 85.03 53 P P 11 15 54.9 +0.8
121A IAmb IAmb 11 15 57.0
comp=Z,16nm,0.9s
121A Cookes Peak, D 85.03 53 P P 11 15 56.0 +2.0
baz=242
CUT Chulitna 85.03 13 P P 11 15 53.1 0.0
baz=206,SNR=7.5
M23K Glacier View 85.04 14 P P 11 15 52.8 -0.3
baz=208,SNR=8.4
BMRM Bremner River 85.07 16 P P 11 15 53.8 +0.4
BMRM IAmb IAmb 11 15 54.6
comp=Z,30nm,0.7s
BMRM Bremner River 85.07 16 P P 11 15 53.8 +0.4
baz=211,SNR=10.0
WAX Waxell Ridge 85.08 17 IAmb IAmb 11 15 55.1
comp=Z,31nm,0.7s
PPLA Puyupile 85.10 12 P P 11 15 54.0 +0.3
baz=204
MESA MESA 85.10 17 P P 11 15 54.3 +0.5
baz=214
SCM Sheep Creek Mo 85.16 14 P P 11 15 54.0 +0.1
baz=209,SNR=24
GSI Gunungsitoli 85.18 273 P P 11 15 56.2 +1.2
comp=Z,123nm,0.9s
GSI Gunungsitoli 85.18 273 P P 11 15 56.7 +1.7
K20K Telida 85.19 11 IAmb IAmb 11 15 55.2
comp=Z,56nm,1.4s
K20K Telida 85.19 11 P P 11 15 53.6 -0.3
baz=202,SNR=17
KLU Klutina 85.19 15 IAmb IAmb 11 15 55.2
comp=Z,16nm,1.0s
KLU Klutina 85.19 15 P P 11 15 53.9 -0.1
baz=210,SNR=7.9
HNS HongShan 85.20 313 ⇓P P 11 15 55.7 +1.2
HNS pmax pmax
comp=Z,35nm,0.8s
WRAK Wrangell Islan 85.27 24 P P 11 15 55.7 +1.4
WRAK IAmb IAmb 11 15 56.5
comp=Z,28nm,0.8s
WRAK Wrangell Islan 85.27 24 P P 11 15 55.3 +1.0
baz=222
D08A Wollman Farm, 85.30 36 IAmb IAmb 11 15 57.1
comp=Z,23nm,1.2s
YAH Yahtse 85.31 17 P P 11 15 55.2 +0.4
YAH IAmb IAmb 11 15 56.6
comp=Z,34nm,0.9s
ISLE Juniper Island 85.35 17 IAmb IAmb 11 17 43.4
comp=Z,29nm,1.0s
E09A Wood Farm, Sta 85.41 37 IAmb IAmb 11 15 57.9
comp=Z,17nm,0.9s
PNL Peninsula 85.42 19 P P 11 15 55.8 +0.8
baz=216
LYN LuoYang 85.43 309 ⇓*i*P P 11 15 56.0 +0.3
LYN pmax pmax
comp=Z,40nm,0.9s
BJT Baijiatuau 85.52 315 IAmb IAmb 11 15 57.3
comp=Z,15nm,0.8s
BJI Beijing 85.53 315 P P 11 15 56.6 +0.6
BJI pmax pmax
comp=Z,22nm,0.8s
TABL Table Mountain 85.55 17 P P 11 15 56.6 +0.7
TABL IAmb IAmb 11 15 57.4
comp=Z,30nm,0.8s
CAST Castle Rocks 85.60 11 P P 11 15 54.9 -0.9
CAST Castle Rocks 85.60 11 P P 11 15 54.8 -1.1
baz=204,SNR=34
N25K Chitina, Valde 85.62 15 IAmb IAmb 11 15 57.4
comp=Z,40nm,1.1s
N25K Chitina, Valde 85.62 15 P P 11 15 56.7 +0.7
baz=211,SNR=13
Q16A Castle Valley 85.66 46 IAmb IAmb 11 15 59.8
comp=Z,22nm,1.5s
M24K Tolsona, Glenn 85.67 14 P P 11 15 56.5 +0.3
baz=210,SNR=6.8
GLB Gilahina Butte 85.67 16 IAmb IAmb 11 15 57.1
comp=Z,19nm,0.7s
WAT6 Susitna Watana 85.73 14 P P 11 15 56.3 -0.3
baz=208,SNR=26
ENH Enshi 85.75 304 P P 11 15 58.5 +1.2
WAT1 Susitna Watana 85.77 13 P P 11 15 56.2 -0.5
baz=208
TMUT Trail Mountain 85.83 46 P P 11 15 59.4 +1.5
TMUT IAmb IAmb 11 16 00.4
comp=Z,12nm,0.8s
MCARA McCarthy VSAT 85.83 16 IAmb IAmb 11 15 58.5
comp=Z,21nm,1.0s
MCARA McCarthy VSAT 85.83 16 P P 11 15 56.9 0.0
baz=213
B08A Colville Reser 85.84 35 IAmb IAmb 11 15 58.8
comp=Z,15nm,0.8s
PLID Pearl Lake 85.84 39 P P 11 15 58.8 +1.0
PLID IAmb IAmb 11 15 59.0
comp=Z,14nm,0.8s
LLLB Lillooet 85.89 32 IAmb IAmb 11 15 59.4
comp=Z,16nm,1.0s
R32K Eaglecrest 85.89 21 P P 11 15 57.1 -0.2
baz=220
P29M Windy Craggy 85.89 19 IAmb IAmb 11 15 59.4
comp=Z,20nm,0.8s
P29M Windy Craggy 85.89 19 P P 11 15 58.1 +0.7
baz=218,SNR=5.9
LOGN Logan Glacier 85.90 17 P P 11 15 57.9 +0.3
LOGN IAmb IAmb 11 15 59.0
comp=Z,19nm,0.7s
CTG Chitna Glacier 85.93 17 P P 11 15 58.3 +0.7
baz=214,SNR=5.6
CTGM Chitina Glacie 85.93 17 P P 11 15 58.1 +0.5
CTGM IAmb IAmb 11 15 59.1
comp=Z,21nm,0.8s
J20K Nowinta River 85.94 10 P P 11 15 57.7 +0.3
J20K IAmb IAmb 11 15 58.8
comp=Z,21nm,1.1s
J20K Nowinta River 85.94 10 P P 11 15 57.7 +0.3
baz=202,SNR=11
KTH Kantishna Hill 85.94 12 IAmb IAmb 11 15 58.1
comp=Z,27nm,0.9s
HLID Hailey 85.97 41 IAmb IAmb 11 16 00.8
comp=Z,15nm,0.9s
HLID Hailey 85.97 41 P P 11 15 59.2 +1.0
baz=238,SNR=29
TRF Thorofare Moun 85.97 12 P P 11 15 57.4 -0.4
TRF Thorofare Moun 85.97 12 P P 11 15 57.3 -0.4
baz=206,SNR=42
CHUM Lake Chumin 85.98 11 P P 11 15 56.8 -0.8
baz=204,SNR=8.9
HVU Hansel Valley 86.06 43 P P 11 15 59.8 +1.1
C09A Chrisman Ranch 86.09 36 IAmb IAmb 11 15 59.9
comp=Z,13nm,0.7s
O28M Mount Upton 86.09 18 P P 11 15 59.0 +0.5
baz=215,SNR=7.3
HARP HAARP 86.16 15 P P 11 15 58.7 +0.2
baz=211
O29M Mount Kennedy 86.18 18 P P 11 15 59.2 +0.4
baz=217,SNR=6.5
PLBC Pleasant Camp 86.19 20 P P 11 15 59.8 +1.1
baz=219
SRU San Rafael Swe 86.19 46 IAmb IAmb 11 16 01.5
comp=Z,16nm,0.9s
RND Reindeer 86.22 13 P P 11 15 59.2 +0.3
DHY Denali Highway 86.25 13 P P 11 15 59.1 0.0
DHY IAmb IAmb 11 15 59.5
comp=Z,14nm,1.0s
DHY Denali Highway 86.25 13 P P 11 15 59.1 0.0
baz=209,SNR=10
GYA Guiyang 86.39 300 ⇑P P 11 16 01.7 +1.1
GYA pmax pmax
comp=Z,24nm,0.8s
BPAW Bear Paw Mtn. 86.43 12 IAmb IAmb 11 15 59.6
comp=Z,36nm,1.8s
BPAW Bear Paw Mtn. 86.43 12 P P 11 15 58.9 -0.8
baz=205
T35M Bob Quinn 86.48 24 P P 11 15 59.7 -0.4
baz=224
MNTX Cornudas Mount 86.48 55 P P 11 16 02.2 +1.4
MNTX IAmb IAmb 11 16 03.4
comp=Z,18nm,1.1s
MNTX Cornudas Mount 86.48 55 P P 11 16 01.5 +0.7
baz=244
MCK McKinley 86.50 13 P P 11 15 59.9 -0.2
MCK McKinley 86.50 13 P P 11 15 59.6 -0.5
baz=207,SNR=20
P30M Million Dollar 86.53 19 P P 11 16 01.3 +0.9
baz=218
SKAG Skagway 86.53 20 P P 11 16 02.3 +2.0
SKAG IAmb IAmb 11 16 02.9
comp=Z,25nm,1.3s
SKAG Skagway 86.53 20 P P 11 16 01.4 +1.1
baz=220
PAX Paxson 86.58 14 P P 11 16 00.1 -0.5
baz=210,SNR=7.6
TCUT Toone Canyon 86.60 44 IAmb IAmb 11 16 05.5
comp=Z,12nm,0.7s
MVCO Mesa Verde 86.68 49 P P 11 16 02.8 +0.9
baz=242
M26K Nabesna, AK 86.69 16 IAmb IAmb 11 16 02.7
comp=Z,19nm,0.9s
M26K Nabesna, AK 86.69 16 P P 11 16 01.5 +0.4
baz=213,SNR=13
YUK6 Outpost Mounta 86.75 18 P P 11 16 01.2 -0.4
baz=217
BWN Browne 86.78 12 P P 11 16 01.4 +0.1
TX31 Lajitas Ar. Si 86.81 57 P P 11 16 04.5 +2.0
TX32 Lajitas Array 86.81 57 P P 11 16 04.5 +2.0
TX32 IAmb IAmb 11 16 05.2
comp=Z,14nm,0.9s
TXAR Lajitas Array 86.81 57 P P 11 16 03.7 +1.2
comp=Z,10.0nm,0.8s,baz=218,slow=6.7,SNR=107
TXAR pP pwP 11 18 10.9 +0.7
comp=Z,0.9nm,1.0s,baz=224,slow=2.5,SNR=4.1
TXAR PKKPbc PKKPbc 11 33 51.4 -1.8
comp=Z,0.2nm,0.5s,baz=145,slow=4.6,SNR=4.9
comp=Z,10.0nm,0.8s
TXAR Lajitas Array 86.81 57 P P 11 16 04.3 +1.9
S34M Telegraph Cree 86.82 23 P P 11 16 02.7 +1.0
baz=223,SNR=10
YUK3 Moose Creek 86.84 17 P P 11 16 02.2 +0.2
baz=215,SNR=20
PV23 Carpenter Ridg 86.91 47 P P 11 16 04.2 +1.2
PV23 IAmb IAmb 11 16 04.8
comp=Z,13nm,0.8s
HYT Haines Junctio 86.92 19 P P 11 16 03.2 +1.0
HYT IAmb IAmb 11 16 04.1
comp=Z,14nm,0.9s
HYT Haines Junctio 86.92 19 P P 11 16 02.8 +0.5
baz=218,SNR=6.2
PV11 David Mesa, Pa 86.93 47 IAmb IAmb 11 16 05.5
comp=Z,19nm,1.4s
M27K Edge Creek, AK 86.94 16 P P 11 16 03.5 +1.2
M27K Edge Creek, AK 86.94 16 P P 11 16 03.0 +0.7
baz=214,SNR=20
MENT Mentasta 86.97 15 P P 11 16 02.8 +0.4
MENT IAmb IAmb 11 16 04.0
comp=Z,15nm,1.0s
NEW Newport 86.98 36 IAmb IAmb 11 16 04.4
comp=Z,19nm,1.5s
NEW Newport 86.98 36 P P 11 16 02.9 +0.1
baz=235,SNR=5.6
YUK4 Talbot Arm 87.00 18 P P 11 16 03.5 +0.8
baz=217
ANMO Albuquerque 87.11 51 P P 11 16 04.6 +0.7
ANMO Albuquerque 87.11 51 P P 11 16 03.8 0.0
baz=243
L26K Log Cabin Wild 87.13 15 P P 11 16 03.9 +0.8
L26K IAmb IAmb 11 16 04.7
comp=Z,12nm,0.8s
L26K Log Cabin Wild 87.13 15 P P 11 16 03.4 +0.3
baz=212,SNR=13
P32M Atlin 87.16 21 P P 11 16 04.0 +0.7
baz=221
I21K Tanana 87.23 11 P P 11 16 03.0 -0.4
baz=204,SNR=33
K24K Donnelly Dome 87.23 14 P P 11 16 03.7 +0.2
baz=210,SNR=22
NEA2 Nenana 87.24 12 P P 11 16 02.5 -1.0
NEA2 IAmb IAmb 11 16 04.3
comp=Z,18nm,0.8s
NEA2 Nenana 87.24 12 P P 11 16 02.2 -1.4
baz=207,SNR=23
BVCY Beaver Creek 87.25 16 P P 11 16 04.0 +0.3
baz=215,SNR=20
O30N Mendenhall 87.30 19 P P 11 16 04.6 +0.6
baz=219,SNR=12
MLY Manley 87.32 11 P P 11 16 03.0 -1.0
baz=206,SNR=33
WRH Wood River Hil 87.33 12 P P 11 16 04.0 +0.1
RIDG Independent Ri 87.39 14 IAmb IAmb 11 16 05.6
comp=Z,14nm,0.8s
RIDG Independent Ri 87.39 14 P P 11 16 04.2 -0.1
baz=211,SNR=15
DOT Dot Lake 87.49 14 IAmb IAmb 11 16 06.0
comp=Z,24nm,1.1s
HDA Harding Lake 87.51 13 P P 11 16 04.8 0.0
HDA Harding Lake 87.51 13 P P 11 16 04.3 -0.5
baz=209,SNR=54
H21K Melozitna Rive 87.53 10 P P 11 16 05.2 +0.3
H21K IAmb IAmb 11 16 07.2
comp=Z,18nm,0.7s
H21K Melozitna Rive 87.53 10 P P 11 16 05.0 +0.1
baz=204,SNR=22
CCB Clear Creek Bu 87.54 13 P P 11 16 04.1 -0.8
N30M Aishikik Lake 87.54 18 P P 11 16 05.6 +0.5
baz=218,SNR=5.2
L27K Beaver Creek, 87.54 16 P P 11 16 05.1 +0.1
L27K IAmb IAmb 11 16 06.6
comp=Z,17nm,1.1s
L27K Beaver Creek, 87.54 16 P P 11 16 05.2 +0.2
baz=214,SNR=11
BCAR Beaver Creek A 87.56 16 P P 11 16 05.1 0.0
XLT XiLinHaoTe 87.56 319 *e*P P 11 16 05.9 +0.3
XLT pmax pmax
comp=Z,19nm,0.7s
XLT pmax pmax
comp=Z,83nm,7.5s
MCMT McKenzie Canyo 87.59 40 P P 11 16 07.2 +1.3
WHY Whitehorse 87.59 20 IAmb IAmb 11 16 07.3
comp=Z,16nm,0.8s
WHY Whitehorse 87.59 20 P P 11 16 06.4 +0.9
baz=220,SNR=7.1
DLBC Dease Lake 87.61 23 P P 11 16 06.8 +1.3
DLBC IAmb IAmb 11 16 07.7
comp=Z,14nm,0.9s
DLBC Dease Lake 87.61 23 P P 11 16 06.4 +0.9
baz=224,SNR=7.3
AHID Auburn Hatcher 87.63 43 IAmb IAmb 11 16 08.4
comp=Z,33nm,1.5s
IMAR Indian Mountai 87.68 10 P P 11 16 05.7 +0.2
TCOL CIGO, UAF Yank 87.73 12 P P 11 16 05.3 -0.4
baz=208,SNR=8.9
COLA College 87.73 12 P P 11 16 05.5 -0.3
COLA College 87.73 12 P P 11 16 05.3 -0.4
baz=208
MDM Murphy Dome 87.73 12 P P 11 16 05.2 -0.7
SCRK Sand Creek 87.79 14 P P 11 16 06.2 -0.1
SCRK IAmb IAmb 11 16 07.7
comp=Z,15nm,1.1s
SCRK Sand Creek 87.79 14 P P 11 16 06.2 -0.1
baz=212,SNR=14
XAN Xi'an 87.82 307 ⇓P P 11 16 08.0 +1.0
XAN pmax pmax
comp=Z,82nm,0.8s
XAN pmax pmax
comp=Z,130nm,3.8s
IL31 87.84 13 P P 11 16 05.9 -0.4
IL31 IAmb IAmb 11 16 06.8
comp=Z,28nm,1.1s
ILAR Eielson Array 87.84 13 P P 11 16 05.8 -0.5
comp=Z,20nm,0.8s,baz=217,slow=5.4,SNR=256
ILAR pP pP 11 18 06.3 -4.9
comp=Z,2.0nm,1.2s,baz=210,slow=5.2,SNR=2.5
ILAR PKiKP PKiKP 11 21 03.6 -0.9
comp=Z,0.2nm,0.4s,baz=226,slow=4.1,SNR=6.1
ILAR PKKP PKKPdf 11 33 47.8 +1.4
comp=Z,0.3nm,0.6s,baz=360,slow=3.3,SNR=6.3
comp=Z,20nm,0.8s
ILAR Eielson Array 87.84 13 P P 11 16 05.7 -0.7
P33M Teslin, Yukon 87.93 21 P P 11 16 07.9 +1.0
P33M IAmb IAmb 11 16 08.6
comp=Z,10nm,0.9s
P33M Teslin, Yukon 87.93 21 P P 11 16 07.4 +0.5
baz=222,SNR=7.2
M29M Somme Creek 87.93 17 P P 11 16 07.5 +0.5

baz=217,SNR=32
N31M Braeburn, Yuko 87.95 19 P P 11 16 07.8 +0.8
baz=219,SNR=9.4
R33M Jennings River 87.96 22 P P 11 16 08.5 +1.3
baz=223,SNR=11
H22K Ishtalitna Cre 87.99 11 P P 11 16 07.2 +0.2
baz=205,SNR=47
MSO Missoula 87.99 38 P P 11 16 07.7 +0.1
baz=238,SNR=6.1
J25K Salcha River, 88.03 13 P P 11 16 07.2 -0.1
J25K Salcha River, 88.03 13 P P 11 16 07.3 +0.1
baz=210,SNR=37
POKR Poker Plat Res 88.03 12 P P 11 16 06.5 -0.8
POKR Poker Plat Res 88.03 12 P P 11 16 06.8 -0.4
baz=208,SNR=24
REDW Red Top Meadow 88.08 42 P P 11 16 09.1 +0.8
REDW IAmb IAmb 11 16 10.5
comp=Z,30nm,1.1s
TPAW Teton Pass 88.08 42 P P 11 16 08.5 +0.2
TPAW IAmb IAmb 11 16 09.6
comp=Z,13nm,0.9s
S22A 4UR Ranch, Cre 88.11 49 P P 11 16 09.0 +0.4
baz=243,SNR=13
SNOW Snow King Moun 88.19 42 IAmb IAmb 11 16 11.2
comp=Z,24nm,0.9s
G21K Allakaket 88.21 10 P P 11 16 08.5 +0.5
baz=203
TROLL Troll, Antarti 88.22 180 P P 11 16 08.2 -0.1
O20A White River Ci 88.23 46 IAmb IAmb 11 16 11.0
comp=Z,25nm,1.4s
O20A White River Ci 88.23 46 P P 11 16 09.3 +0.3
baz=242,SNR=7.8
H23K Yukon River 88.25 11 P P 11 16 07.4 -0.9
H23K IAmb IAmb 11 16 09.1
comp=Z,9.1nm,0.8s
H23K Yukon River 88.25 11 P P 11 16 07.8 -0.5
baz=207,SNR=9.8
K27K Chicken 88.29 15 IAmb IAmb 11 16 10.4
comp=Z,24nm,0.8s
K27K Chicken 88.29 15 P P 11 16 08.9 +0.5
baz=213
IMW Indian Meadow 88.29 42 P P 11 16 10.6 +1.3
IMW IAmb IAmb 11 16 11.7
comp=Z,21nm,0.9s
J26L Joseph Creek 88.34 14 P P 11 16 09.6 +0.8
baz=212,SNR=39
LOHW Long Hollow 88.36 42 P P 11 16 10.5 +0.9
LOHW IAmb IAmb 11 16 11.2
comp=Z,9.3nm,0.7s
SNAA Sanae 88.50 178 P P 11 16 09.1 -0.5
SNAA Sanae 88.50 178 P P 11 16 09.1 -0.5
comp=Z,3.5nm,0.8s,baz=208,slow=8.9,SNR=20
comp=Z,3.5nm,0.8s
SNAA Sanae 88.50 178 P P 11 16 08.3 -1.2
M30M Minto, Yukon 88.51 18 P P 11 16 10.0 +0.5
baz=218,SNR=41
N32M Quiet Lake 88.54 20 P P 11 16 10.3 +0.5
baz=222
H24K Noodor Dome 88.58 12 P P 11 16 08.4 -1.4
baz=208
BW06 Boulder Array 88.62 43 IAmb IAmb 11 16 12.3
comp=Z,12nm,0.8s
BW06 Boulder Array 88.62 43 P P 11 16 11.1 +0.3
baz=241,SNR=21
PD31 Pinedale Array 88.62 43 P P 11 16 11.2 +0.5
PD31 IAmb IAmb 11 16 12.3
comp=Z,10nm,0.8s
PDAR Pinedale Array 88.62 43 P P 11 16 11.3 +0.5
comp=Z,8.0nm,0.6s,baz=206,slow=3.3,SNR=102
PDAR PKKPbc **PKKPbc** 11 33 48.1 -1.4
comp=Z,0.8nm,0.7s,baz=89,slow=2.9,SNR=8.6
comp=Z,8.0nm,0.6s
PDAR Pinedale Array 88.62 43 P P 11 16 11.1 +0.3
VNA3 Neumayer Olymp 88.63 176 P P 11 16 10.0 -0.1
YFT Old Faithful 88.64 41 IAmb IAmb 11 16 14.4
comp=Z,17nm,0.9s
YMR Madison River 88.66 41 IAmb IAmb 11 16 13.8
comp=Z,22nm,0.9s
BOZ Bozeman (W) 88.72 40 P P 11 16 12.6 +1.5
BOZ IAmb IAmb 11 16 13.5
comp=Z,16nm,0.9s
BOZ Bozeman (W) 88.72 40 P P 11 16 12.7 +1.5
baz=239,SNR=22
H17A Grant Village 88.77 41 IAmb IAmb 11 16 14.9
comp=Z,17nm,0.9s
H17A Grant Village 88.77 41 P P 11 16 13.5 +2.1
baz=240,SNR=12
PRP Porcupine Dome 88.78 13 P P 11 16 10.4 -0.4
PRP IAmb IAmb 11 16 12.8
comp=Z,15nm,0.8s
PRP Porcupine Dome 88.78 13 P P 11 16 10.7 -0.1
baz=210,SNR=17
F21K Alatna River 88.86 9 P P 11 16 10.8 -0.2
baz=203,SNR=7.8
YNR Norris Junctio 88.86 41 IAmb IAmb 11 16 16.0
comp=Z,8.6nm,1.0s
G22K Bettles 88.90 10 P P 11 16 11.3 +0.2
baz=205
M31M Drury Creek, Y 88.93 19 P P 11 16 11.8 +0.3
baz=220,SNR=6.8
G23K Bananza Creek 88.96 11 P P 11 16 11.5 -0.1
baz=206,SNR=11
DAWY Dawson 88.99 16 P P 11 16 12.1 +0.3
baz=216,SNR=33
HHC Hu-ho-hao-te 89.00 314 *e*P P 11 16 13.5 +1.1
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.3s
SDCO Great Sand Dun 89.05 49 P P 11 16 13.6 +0.7
SDCO IAmb IAmb 11 16 14.6
comp=Z,23nm,1.9s
SDCO Great Sand Dun 89.05 49 P P 11 16 13.7 +0.7
baz=244
VNA2 Neumayer--Watz 89.07 177 P P 11 16 12.3 +0.1
baz=185,slow=4.0
KMI Kunming 89.11 297 ⇓P P 11 16 15.1 +1.6
KMI pmax pmax
comp=Z,38nm,1.0s
I26K Coal Creek Min 89.11 14 P P 11 16 11.6 -0.7
I26K IAmb IAmb 11 16 13.8
comp=Z,22nm,1.0s
I26K Coal Creek Min 89.11 14 P P 11 16 12.7 +0.5
baz=212
EGAK Eagle 89.14 15 P P 11 16 12.6 +0.3
EGAK Eagle 89.14 15 P P 11 16 12.2 -0.2
baz=214,SNR=30
HRY Holter Researc 89.17 39 P P 11 16 14.1 +1.0
WALA Waterton Lakes 89.20 36 IAmb IAmb 11 16 14.8
comp=Z,14nm,0.9s
WTLY Watson Lake, Y 89.24 22 IAmb IAmb 11 16 15.0
comp=Z,15nm,1.0s
WTLY Watson Lake, Y 89.24 22 P P 11 16 13.6 +0.6
baz=225,SNR=6.7
FARO Faro, Yukon 89.27 19 IAmb IAmb 11 16 14.4
comp=Z,7.5nm,0.8s
FARO Faro, Yukon 89.27 19 P P 11 16 13.1 0.0
baz=221
VNA1 Neumayer--Stat 89.30 177 P P 11 16 13.4 +0.2
K29M Barlow Dome 89.31 17 P P 11 16 13.9 +0.5
baz=218,SNR=30
CRAI Chiangrai 89.31 292 IAmb IAmb 11 16 16.5
comp=Z,15nm,0.9s
F22K John River 89.33 10 P P 11 16 13.3 +0.1
baz=204,SNR=16
H25K Birch Creek 89.37 12 P P 11 16 13.1 -0.2
baz=210
COLD Coldfoot 89.40 10 P P 11 16 14.1 +0.6
COLD Coldfoot 89.40 10 P P 11 16 14.0 +0.5
baz=206,SNR=17
G24K Hadweenzic Riv 89.42 12 P P 11 16 14.0 +0.3
baz=208
MSTX Muleshoe 89.43 53 P P 11 16 15.3 +0.7
MSTX IAmb IAmb 11 16 15.8
comp=Z,14nm,0.7s
MSTX Muleshoe 89.43 53 P P 11 16 14.7 +0.1
baz=245
CMIG Matias Romero 89.53 72 P P 11 16 15.6 +0.3
comp=Z,4.5nm,0.9s,baz=263,slow=5.4,SNR=6.8
comp=Z,4.5nm,0.9s
MAYO Mayo, Yukon 89.56 17 P P 11 16 15.0 +0.6
baz=219,SNR=15
T25A Trinidad 89.56 50 P P 11 16 15.0 -0.3
baz=244
J29M Klondike Camp 89.61 16 P P 11 16 16.2 +1.6
J29M Klondike Camp 89.61 16 P P 11 16 15.7 +1.0
baz=217

RWWY Rawlins 89.65 45 P P 11 16 16.1 +0.5
RWWY IAmb IAmb 11 16 17.3
comp=Z,20nm,1.1s
I27K Kandik River 89.71 14 P P 11 16 15.4 +0.3
baz=214,SNR=8.4
833A Chaparral WMA, 89.83 60 P P 11 16 16.5 +0.1
baz=247
ISCO Idaho Springs 89.88 47 P P 11 16 17.2 +0.4
baz=244
CMAR Chiang Mai Arr 89.93 290 P P 11 16 18.3 +1.2
comp=Z,25nm,0.9s,baz=120,slow=2.9,SNR=109
CMAR PP PP 11 20 02.8 +1.8
comp=Z,0.5nm,0.3s,baz=133,slow=6.6,SNR=2.0
CMAR PKKPbc **PKKPbc** 11 33 44.5 -0.6
comp=Z,0.8nm,0.5s,baz=295,slow=5.3,SNR=4.4
comp=Z,25nm,0.9s
CMAR Chiang Mai Arr 89.93 290 P P 11 16 18.7 +1.5
RLMT Red Lodge 89.94 41 IAmb IAmb 11 16 19.2
comp=Z,7.8nm,0.8s
RLMT Red Lodge 89.94 41 P P 11 16 18.1 +1.3
baz=241
CHTO Chiang Mai 90.06 290 P P 11 16 18.9 +1.2
CHTO Chiang Mai 90.06 290 P P 11 16 19.3 +1.6
F24K Squaw Lake 90.07 11 P P 11 16 17.2 +0.5
baz=208,SNR=12
N23A Red Feather La 90.14 46 P P 11 16 19.3 +1.3
N23A IAmb IAmb 11 16 20.1
comp=Z,13nm,0.9s
N23A Red Feather La 90.14 46 P P 11 16 18.6 +0.7
baz=243,SNR=9.4
MMPY Sheldon Lake, 90.21 20 P P 11 16 17.9 +0.4
baz=223,SNR=11
H27K Steamboat Moun 90.26 14 P P 11 16 18.3 +0.8
baz=214,SNR=11
I29M Ogilvie Camp, 90.32 16 IAmb IAmb 11 16 18.8
comp=Z,21nm,1.1s
I29M Ogilvie Camp, 90.32 16 P P 11 16 17.9 +0.1
baz=217,SNR=16
JCT Junction City 90.34 58 IAmb IAmb 11 16 20.1
comp=Z,7.0nm,0.7s
JCT Junction City 90.34 58 P P 11 16 18.7 -0.1
baz=247
G26K Porcupine Rive 90.37 13 P P 11 16 18.8 +0.8
baz=212,SNR=7.4
TGTN Hyland Airport 90.42 21 P P 11 16 19.2 +0.8
baz=226,SNR=6.9
E24K Your Creek 90.45 11 P P 11 16 18.9 +0.5
baz=208
PZH PanZhiHua 90.46 298 P P 11 16 20.5 +0.9
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,60nm,3.5s
K22A Casper 90.54 44 IAmb IAmb 11 16 21.3
comp=Z,10nm,0.9s
K22A Casper 90.54 44 P P 11 16 19.8 +0.2
baz=243,SNR=7.6
F25K Christian Rive 90.55 12 P P 11 16 19.6 +0.7
baz=210
BMAR Burnt Mountain 90.62 12 P P 11 16 19.2 -0.1
AMTX Amarillo 90.63 53 P P 11 16 19.9 -0.2
baz=246
PHWY Pilot Hill 90.65 46 IAmb IAmb 11 16 21.8
comp=Z,7.8nm,0.9s
G27K Doyon Strip 90.71 14 P P 11 16 18.7 -0.9
baz=242
TOLK Toolik Lake Re 90.78 10 P P 11 16 20.2 +0.2
baz=207
D23K Nanushuk River 90.89 10 P P 11 16 20.6 +0.2
baz=206,SNR=8.1
F26K Sheenjek River 90.94 12 P P 11 16 21.5 +0.8
baz=212
E25K Arctic Village 91.03 12 P P 11 16 21.5 +0.5
baz=210
EGMT Eagleton 91.05 39 P P 11 16 21.8 +0.1
baz=241
ABTX Abilene, Hawle 91.29 56 P P 11 16 23.4 +0.3
baz=247
D24K Happy Valley 91.36 10 P P 11 16 22.0 -0.5
baz=207
EPYK Eagle Plains 91.52 15 P P 11 16 23.4 0.0
baz=218,SNR=7.2
KSCO Kaye Shedlock' 91.63 49 IAmb IAmb 11 16 26.6
comp=Z,16nm,0.9s
KSCO Kaye Shedlock' 91.63 49 P P 11 16 23.6 -1.1
baz=245
YAK Yakutsk 91.65 338 P P 11 16 23.7 -0.3
comp=Z,10nm,0.4s,baz=169,slow=1.0,SNR=7.1
comp=Z,10nm,0.4s
C23K Itkillik River 91.69 9 P P 11 16 24.1 +0.1
baz=206
EDM Edmonton 91.71 33 P P 11 16 24.7 +0.2
E27K Coleen River 91.87 13 P P 11 16 25.6 +0.6
baz=214
C24K Franklin Bluff 91.89 10 P P 11 16 25.5 +0.5
baz=207
D25K Kavik River 91.92 11 P P 11 16 25.2 0.0
baz=210
LZH Lanzhou 92.46 307 ⇓P P 11 16 29.8 +1.2
LZH pmax pmax
comp=Z,30nm,1.4s
LAO LASA Array 92.55 41 IAmb IAmb 11 16 31.1
comp=Z,11nm,0.9s
LAO LASA Array 92.55 41 P P 11 16 29.6 +1.0
baz=243
C27K Jago River 92.67 11 P P 11 16 29.1 +0.6
baz=212
C26K Camden Bay 92.70 11 P P 11 16 30.3 +1.6
baz=211
RSSD Black Hills 92.81 44 P P 11 16 30.6 +0.5
RSSD IAmb IAmb 11 16 32.1
comp=Z,14nm,1.3s
RSSD Black Hills 92.81 44 P P 11 16 30.3 +0.2
baz=245
F31M Tsiigehtchic 93.09 16 P P 11 16 30.8 +0.3
baz=221,SNR=5.3
INK Inuvik 93.80 15 P P 11 16 33.6 -0.1
comp=Z,6.7nm,0.8s,baz=247,slow=5.0,SNR=7.6
comp=Z,6.7nm,0.8s
INK Inuvik 93.80 15 P P 11 16 33.5 -0.1
INK IAmb IAmb 11 16 34.0
comp=Z,6.4nm,0.8s
INK Inuvik 93.80 15 P P 11 16 33.6 -0.1
baz=221
DGMT Dagmar 94.56 40 P P 11 16 38.5 +0.8
DGMT Dagmar 94.56 40 P P 11 16 38.5 +0.8
baz=245,SNR=5.8
SONM Songino Array 95.37 319 P P 11 16 41.6 0.0
comp=Z,1.1nm,0.5s,baz=130,slow=2.4,SNR=7.4
comp=Z,1.1nm,0.5s
YKA Yellowknife Ar 96.07 25 P P 11 16 44.5 +0.4
comp=Z,2.7nm,0.8s,baz=240,slow=4.6,SNR=4.3
comp=Z,2.7nm,0.8s
GTA Gaotai 96.65 309 *e*P P 11 16 48.9 +1.4
GTA pmax pmax
comp=Z,6.0nm,0.9s
GOMU GeErMu 99.35 305 pmax pmax
comp=Z,38nm,3.5s
GOMU pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 110.10 321 PKiKP **PKiKP** 11 21 43.2 -1.3
comp=Z,4.2nm,0.6s,baz=111,slow=1.3,SNR=19
MKAR Makanchi Array 110.85 314 Pdiff **Pdif** 11 17 52.1 +1.8
comp=Z,0.6nm,0.7s,baz=99,slow=4.8,SNR=5.2
MKAR PKiKP **PKiKP** 11 21 45.2 -1.0
comp=Z,4.7nm,0.6s,baz=70,slow=1.9,SNR=45
BRVK Borovoye 118.75 320 **PKPdf** 11 22 00.7 -0.5
KK31 Karatay Array 118.92 309 PKPdf **PKPdf** 11 22 01.2 -0.7
KKAR Karatay Array 118.92 309 **PKPdf** 11 22 01.2 -0.7
GAR Garm 118.93 304 **PKPdf** 11 22 01.8 -0.4
BDFB Brasilia 119.42 122 PKP **PKPdf** 11 22 03.1 -0.7
comp=Z,2.0nm,0.5s,baz=0,9,slow=27,SNR=2.0
KBL Kabul 119.64 299 PKPdf **PKPdf** 11 22 02.4 -1.3
CHGR Chuyangaron 119.81 304 **PKPdf** 11 22 03.2 -0.6
OPO Ambohidratompo 121.39 232 PKP **PKPdf** 11 22 07.7 +0.1
comp=Z,2.6nm,0.6s,baz=104,slow=3.4,SNR=5.9
GBN Guysborough 122.48 48 PKPdf **PKPdf** 11 22 08.8 +0.2
SUMG Summit 122.68 13 PKPdf **PKPdf** 11 22 08.7 -0.1
ARU Arti 124.79 326 PKP **PKPdf** 11 22 12.4 -0.3
comp=Z,15nm,0.5s,baz=54,slow=1.1,SNR=17
ARU Arti 124.79 326 PKPdf **PKPdf** 11 22 12.2 -0.5
SUR Sutherland 124.88 199 PKP **PKPdf** 11 22 13.9 0.0
comp=Z,8.8nm,0.7s,baz=193,slow=1.6,SNR=18
ABKAR Akbulak array 125.72 317 PKPdf **PKPdf** 11 22 14.2 -0.4
BOSA Boshof 126.69 206 PKP **PKPdf** 11 22 17.3 -0.2
comp=Z,3.7nm,0.7s,baz=206,slow=1.5,SNR=10
HAMF Hammerfest 127.73 351 *e*PKPdf **PKPdf** 11 22 17.8 -0.1

ARA0 ARCESS Array S 128.44 350 *e*PKPdf **PKPdf** 11 22 19.2 -0.1
ARCES ARCESS Array B 128.44 350 PKP **PKPdf** 11 22 18.9 -0.4
comp=Z,6.7nm,0.5s,baz=14,slow=1.4,SNR=45
GEYT Alibeck 128.50 303 PKP **PKPdf** 11 22 20.6 +0.2
comp=Z,7.0nm,0.6s,baz=199,slow=4.1,SNR=10
GEYT PP **PP** 11 24 32.1 -3.2
comp=Z,1.3nm,0.4s,baz=91,slow=12,SNR=3.7
GYA0B ALIBECK ARRAY 128.50 303 PKPdf **PKPdf** 11 22 20.2 -0.2
KIRV Kirov 128.53 330 PKP **PKPdf** 11 22 18.9 -0.8
comp=Z,10nm,0.6s,baz=111,slow=2.9,SNR=7.6
KTK1 Kautokeino 129.27 350 *e*PKPdf **PKPdf** 11 22 20.9 0.0
TRO Tromso 129.31 352 *e*PKPdf **PKPdf** 11 22 20.2 -0.7
LBTB Lobatse 129.70 208 PKP **PKPdf** 11 22 23.2 0.0
comp=Z,2.6nm,0.6s,baz=173,slow=4.8,SNR=6.2
STEI Steigen 131.36 353 *e*PKPdf **PKiKP** 11 22 25.5 -0.4
KLMR Klimovskoe 131.42 337 *e*P **PKPdf** 11 22 23.1 -2.0
KLMR AMP 11 22 25.9
comp=Z,9.0nm,0.7s
BELG Belogornoye 132.19 324 PKP **PKPdf** 11 22 25.4 -1.4
comp=Z,40nm,0.9s,baz=177,slow=0.6,SNR=9.1
KONS Konsvik 132.97 354 *e*PKPdf **PKPdf** 11 22 27.5 -0.4
FIA1 FINESS Array S 135.30 344 **PKiKP** 11 22 33.4 -0.6
FINES FINESS Array B 135.30 344 PKhKP PKPpre 11 22 20.1
comp=Z,2.3nm,0.6s,baz=65,slow=2.8,SNR=7.7
FINES PKP **PKPdf** 11 22 30.6 -1.8
comp=Z,3.4nm,0.5s,baz=81,slow=3.3,SNR=15
FINES SKP 11 25 11.0
comp=Z,1.3nm,0.8s,baz=20,slow=4.4,SNR=2.2
OBN Obninsk 136.32 332 PKP **PKPdf** 11 22 34.0 -0.5
comp=Z,8.8nm,0.4s,baz=224,slow=23,SNR=3.0
TSUM Tsumeb 138.14 202 PKP **PKPdf** 11 22 39.1 -0.1
comp=Z,2.8nm,0.5s,baz=165,slow=5.3,SNR=6.7
GNI Garni 138.39 308 PKP **PKPdf** 11 22 38.5 -0.5
comp=Z,4.8nm,0.4s,baz=145,slow=6.9,SNR=5.0
NB2 NORSAR Subarra 138.49 353 PKP PKPpre 11 22 28.9
comp=Z,2.1nm,0.7s,baz=16,slow=3.2
NOA NORSAR Array B 138.49 353 PKhKP PKPpre 11 22 28.4
comp=Z,3.8nm,0.6s,baz=17,slow=5.1,SNR=12
NOA PKP **PKPdf** 11 22 38.3 -0.1
comp=Z,1.9nm,0.5s,baz=13,slow=4.0,SNR=6.1
KBZ Khabaz 138.54 314 PKhKP PKPpre 11 22 32.5
comp=Z,0.6nm,0.4s,baz=0.8,slow=12,SNR=2.3
KMBO Kilima Mbogo 139.55 243 PKhKP PKPpre 11 22 32.9
comp=Z,1.0nm,0.3s,baz=170,slow=1.4,SNR=3.5
AGRB Hanur-Agry 139.84 308 *e*P **PKPdf** 11 22 40.6 -1.1
NACGM Naroch 140.41 338 ⇓*i*PKP PKPpre 11 22 36.7
baz=38
PABE Paberze 140.88 340 *e*P PKPpre 11 22 36.4
HOMB Homborsund 141.49 354 *i* P PKPpre 11 22 39.0
HOMB Homborsund 141.49 354 *e*PKPdf PKPpre 11 22 39.7
BORU Boraas 141.59 351 *i* P PKPpre 11 22 38.4
ONAU Onsala 141.95 351 *i* P PKPpre 11 22 39.1
KAC Achnashellach 142.17 6 *e*P PKPpre 11 22 41.8
FABU Falkenberg 142.21 350 *i* P PKPpre 11 22 40.8
KPL Plockton 142.29 7 *e*P PKPpre 11 22 41.7
BLEU Blekinge 142.31 347 *i* P PKPpre 11 22 40.9
MAZI Mazidag 142.36 306 *e*P **PKPdf** 11 22 43.4 -2.8
DYBB Diyarbakir 142.45 307 *e*P **PKPdf** 11 22 43.6 -2.7
DEL Delary 142.52 349 *i* P **PKPdf** 11 22 41.9 -3.8
AKASG Malin Array Be 142.58 331 PKhKP PKPpre 11 22 42.6
comp=Z,67nm,0.8s,baz=39,slow=4.6,SNR=242
PTK Pertek 142.71 309 *e*P **PKPdf** 11 22 45.3 -1.6
DRUM Mains of Drumt 143.00 4 *e*P **PKPdf** 11 22 43.6 -2.9
BJUU Bjuv 143.05 350 *i* P **PKPdf** 11 22 43.5 -3.1
MUD Monsted U'grnd 143.21 353 *i* P PKPab 11 22 44.0 -0.9
INVG Invergeldie, C 143.36 6 *e*P PKPab 11 22 45.3 -0.3
LAWE Loch Awe, Argy 143.38 7 *e*P PKPab 11 22 45.4 -0.2
LUNU Lund 143.40 349 *i* P PKPab 11 22 45.0 -0.7
ARPR Arapgir-MALATY 143.41 309 *e*P **PKPdf** 11 22 47.8 -0.2
COP Copenhagen 143.52 350 *i* P PKPab 11 22 45.5 -0.6
LODK Lodwar 143.52 247 PKPdf **PKPdf** 11 22 48.4 -0.4
EAB Aberfoyle 143.56 6 *e*P PKPab 11 22 46.1 -0.2
URFA Urfa 143.60 306 *e*P PKPab 11 22 42.9 -4.4
BSD Bornholm Skovb 143.61 347 *e*P PKPab 11 22 45.5 -1.0
BSD Bornholm Skovb 143.61 347 *i* P PKPab 11 22 45.1 -1.4
RSDY Resadiye-TOKAT 143.65 312 *e*P **PKPdf** 11 22 47.9 -0.3
PGBU Glenifferbraes 143.92 6 *e*P PKPbc 11 22 47.2 -0.4
SVSK Karacayir 144.07 311 *e*P **PKPdf** 11 22 49.8 +0.9
EBL Broad Law 144.09 5 *e*P PKPbc 11 22 47.8 -0.3
DARE Darende-Malaty 144.22 309 *e*P **PKPab** 11 22 50.3 +0.7
TOKT Tokat 144.22 312 *e*P **PKPab** 11 22 49.6 +0.1
KVT Kavak 144.25 314 *e*P **PKPab** 11 22 50.5 +0.9
DIKM Dikmen 144.53 315 ⇑P **PKPab** 11 22 50.7 +0.1
DIKM Dikmen 144.53 315 *e*P **PKPab** 11 22 51.5 +1.0
ESK Eskdalemuir 144.53 5 *e*P **PKPdf** 11 22 48.7 -0.5
ESK Eskdalemuir 144.53 5 **PKPdf** 11 22 49.2 0.0
NEWG New Galloway 144.63 6 *e*P **PKPdf** 11 22 48.5 -0.8
GKP Gorka Klasztor 144.77 344 *e*PKP PKPbc 11 22 50.5 +0.3
BEL Belsk 144.99 340 *e*PKP **PKPab** 11 22 51.6 -0.3
KMRS Kahramanmaras 145.03 307 *e*P PKPbc 11 22 51.9 +0.3
SARI SarD1z-Kayseri 145.06 309 *e*P **PKPdf** 11 22 51.3 +0.4
PURM Purcari 145.07 326 ⇓P PKPbc 11 22 51.8 +0.5
EDMD Edmundbyers 145.10 4 *e*P **PKPdf** 11 22 50.2 -0.1
MBAR Mbarara 145.17 237 PKPbc **PKPdf** 11 22 52.4 +0.6
BZK Bozkurt 145.21 316 ⇑P **PKPdf** 11 22 50.1 -0.7
BZK Bozkurt 145.21 316 *e*P **PKPdf** 11 22 50.6 -0.2
BZK Bozkurt 145.21 316 PKPdf **PKPdf** 11 22 50.8 0.0
BNN Bunyan 145.31 310 *e*P **PKPdf** 11 22 51.9 +0.6
BNN Bunyan 145.31 310 PKPdf **PKPdf** 11 22 51.5 +0.2
YOZ Yozgat 145.36 312 *e*P **PKPbc** 11 22 52.8 +0.1
MILM Milestii Mici 145.37 327 ⇑P **PKPbc** 11 22 52.2 0.0
WIM Isle of Man 145.54 7 *e*P **PKPbc** 11 22 52.2 -0.3
CORM Corum 145.61 313 *e*P **PKPbc** 11 22 53.2 -0.1
ILGA Ilgaz 145.83 315 **PKPbc** 11 22 54.5 +0.4
KOZT Kozan 145.83 308 *e*P **PKPbc** 11 22 53.8 -0.1
TAHT Tahtakopru-Hat 145.95 306 *e*P **PKPbc** 11 22 54.2 0.0
CEYT Ceyhan 146.06 307 *e*P **PKPbc** 11 22 54.9 +0.4
VASR Vaslui 146.08 327 ⇑P **PKPbc** 11 22 54.8 +0.6
KWP Kalwaria Pacla 146.13 336 *i* PKPdf **PKPbc** 11 22 54.6 +0.2
KWP Kalwaria Pacla 146.13 336 PKPbc **PKPbc** 11 22 54.5 +0.2
RUE Ruedersdorf 146.31 347 *e*P **PKPbc** 11 22 54.6 -0.1
WME Myndd Eilian 146.32 7 *e*P **PKPbc** 11 22 54.2 -0.4
WLF1 Llynfaes 146.41 7 *e*P **PKPbc** 11 22 54.6 -0.3
VLDR Vladesti 146.46 326 ⇑P **PKPbc** 11 22 56.2 +0.9
BR131 Keskin Array S 146.50 313 PKPbc **PKPbc** 11 22 55.7 -0.1
BRTR Keskin Array B 146.50 313 PKPbc **PKPbc** 11 22 55.6 -0.2
comp=Z,25nm,0.7s,baz=130,slow=3.9,SNR=74
BRTR pPKPbc pPKPab 11 25 08.7 +1.1
comp=Z,0.7nm,0.6s,baz=54,slow=2.7,SNR=2.3
BRTR PP **PP** 11 26 23.7 -1.5
comp=Z,0.6nm,0.4s,baz=57,slow=5.3,SNR=2.8
TLCR 146.50 325 ⇑P **PKPbc** 11 22 54.9 -0.6
ASF Jabal al Asfar 146.53 298 PKPbc **PKPbc** 11 22 56.6 +0.6
comp=Z,33nm,0.7s,baz=92,slow=1.4,SNR=43
LBWR Ladybower, Pea 146.54 4 *e*P **PKPbc** 11 22 54.7 -0.6
BUR08 Bucovina Ar. S 146.61 331 PKPbc **PKPbc** 11 22 56.7 +0.9
BURAR Bucovina Array 146.62 331 ⇑P **PKPbc** 11 22 56.8 +1.0
BURAR Bucovina Array 146.62 331 PKPbc **PKPbc** 11 22 56.3 +0.8
GHRR 146.67 327 ⇑P **PKiKP** 11 22 57.3 -0.5
OJC Ojcow 146.70 339 *i* PKPdf **PKPbc** 11 22 55.0 -0.8
OJC Ojcow 146.70 339 PKPdf **PKPdf** 11 22 54.0 +0.9
BIZ Bicaz 146.70 329 ⇑P **PKiKP** 11 22 57.3 -0.7
JURR Jurilovca 146.73 324 ⇑P **PKPbc** 11 22 56.0 0.0
TESR Tescani 146.74 328 ⇑P **PKPbc** 11 22 56.6 +0.5
SLCR Slobozia Conac 146.79 326 ⇑P **PKPbc** 11 22 56.2 0.0
KOLS Kolonicke sedl 146.86 335 *e*PKP **PKPdf** 11 22 54.9 +1.5
KOLS *e* 11 22 57.1
KOLS *e* 11 23 00.2
CFR Carcaliu 146.87 325 ⇑P **PKPbc** 11 22 56.9 +0.5
TPGR Topolog 146.93 325 ⇑P **PKPbc** 11 22 57.4 +0.7
PANC Panciu 146.93 327 ⇓P **PKPbc** 11 22 57.0 +0.4
FOEL Foel Wylfa 146.93 6 *e*P **PKPdf** 11 22 55.1 +1.7
ANTO Ankara 147.01 314 ⇑P **PKPbc** 11 22 57.3 +0.2
ANTO Ankara 147.01 314 *e*P **PKPbc** 11 22 57.3 +0.2
ANTO Ankara 147.01 314 **PKPbc** 11 22 57.4 +0.3
LOD Lodumlu 147.02 314 *e*P **PKPbc** 11 22 56.4 -0.7
MERS Mersin 147.03 308 *e*P **PKPbc** 11 22 55.9 -1.3
BR231 Keskin MP Arra 147.03 314 **PKPbc** 11 22 57.9 +0.6
VRI Vrincioaia 147.15 327 ⇑P **PKPbc** 11 22 57.5 +0.3
VRI Vrincioaia 147.15 327 *e*P **PKPbc** 11 22 57.0 -0.2
TIRR Tirgusor 147.19 324 ⇑P **PKPbc** 11 22 57.8 +0.5
TIRR Tirgusor 147.19 324 **PKPbc** 11 22 57.3 +0.1
PLOR Plostina 147.20 327 ⇑P **PKPbc** 11 22 57.6 +0.2
CRVS Cervenica-Dubn 147.20 336 *e*PKP **PKPbc** 11 22 57.6 +0.4
CRVS *e* 11 23 01.4
NIE Niedzica 147.20 338 *i* PKPdf **PKPbc** 11 22 58.1 +0.9
KSP Ksiaz 147.22 343 *i* PKPdf **PKPbc** 11 22 57.9 +0.7
HARR Harsova 147.30 325 ⇑P **PKPbc** 11 22 58.2 +0.6
WACR West Acre 147.33 2 *e*P **PKPbc** 11 22 56.9 -0.5
HLM1 Long Mynd 147.33 6 *e*P **PKPbc** 11 22 57.2 -0.2
TLBR Topalu 147.33 324 ⇓P **PKPbc** 11 22 57.4 -0.2
COVR Voineasa-Covas 147.42 328 ⇑P **PKPbc** 11 22 57.6 -0.3

KIZK	Mersin	147.45	307		*e*P	PKPbc	11 22 58.2	0.0
OZUR		147.46	329	⇓	P	PKPbc	11 22 58.6	+0.5
MANR	Mangalia	147.49	323	⇑	P	PKPbc	11 22 58.3	+0.3
OSTC	Ostas	147.50	343	⇑	*e*PKP	PKPdf	11 22 55.0	+0.6
OSTC					*e*PKPAB	PKPbc	11 22 58.6	+0.7
CHVC	Chvalec	147.51	343	⇑	*e*PKP	PKPbc	11 22 58.2	+0.2
CHBY	Cihanbeyli	147.52	311		*e*P	PKPbc	11 22 58.0	-0.5
OKC	Ostrava-Krasne	147.56	340	⇑	*e*PKP	PKPbc	11 22 58.6	+0.5
OKC					*e*PKPAB	PKPab	11 23 02.7	+0.4
CLL	Collm	147.58	347	⇓	*i* PKPbc	PKPbc	11 22 58.4	+0.3
	comp=Z,110nm,0.9s							
CLL				⇑	*i* PKPab	PKPab	11 23 02.4	+0.1
	comp=Z,47nm,0.8s							
CLL					*e*pPKPab	pPKPbc	11 25 13.0	+1.9
UPC	Upice	147.60	343	⇑	*e*PKP	PKPbc	11 22 58.4	+0.2
UPC					*e*PKPAB	PKPab	11 23 03.3	+0.9
DPC	Dobruska-Polom	147.65	343		*e*PKPDF	PKPdf	11 22 55.1	+0.4
DPC				⇑	*e*PKP	PKPbc	11 22 58.6	+0.2
DPC					*e*PKPAB	PKPab	11 23 03.5	+0.8
NEHR	Nehoiu	147.67	327	⇑	P	PKPbc	11 22 58.8	+0.3
MMLI	Mount Malkishu	147.68	299		*e*P	PKiKP	11 22 59.9	-0.6
RSBS	Rosebush, Pemb	147.69	8		*e*P	PKPbc	11 22 57.3	-1.0
LANS	Liptovska Anna	147.72	338		*e*PKP	PKiKP	11 23 00.0	0.0
LANS					*e*		11 23 04.6	
ISR	Istrita	147.75	327	⇓	P	PKPbc	11 22 59.4	+0.5
KRLC	Kraliky	147.77	342		*e*PKPDF	PKPdf	11 22 54.9	0.0
KRLC				⇑	*e*PKP	PKPbc	11 22 58.7	0.0
BRG	Berggiesshubel	147.78	346	⇓	*e*PKPf		11 22 54.8	
BRG					Amp		11 22 56.1	
	comp=Z,11nm,1.2s							
BRG				⇑	*i* PKP	PKPbc	11 22 59.4	+0.8
BRG					Amp		11 23 00.0	
	comp=Z,48nm,0.7s							
BRG					PKPab	PKPab	11 23 03.6	+0.5
BRG					Amp		11 23 04.2	
	comp=Z,28nm,0.8s							
BRG					*ex*	x	11 25 13.2	
BRG					Amp		11 25 15.1	
	comp=Z,5.5nm,0.9s							
MDUB	Mudurnu	147.78	316		*e*P	PKPbc	11 22 58.1	-1.0
MDUB	Mudurnu	147.78	316			PKPbc	11 22 58.2	-0.9
MLR	Muntele Rosu	147.80	328	⇑	P	PKPbc	11 22 59.1	0.0
MLR	Muntele Rosu	147.80	328		*e*P	PKPbc	11 22 58.8	-0.2
MORC	Moravsky Berou	147.81	341		*i* P	PKiKP	11 22 59.7	-0.5
MORC	Moravsky Berou	147.81	341		*e*PKP	PKPbc	11 22 59.1	+0.3
MORC					*e*		11 23 04.0	
MCH1	Michaelchurch	147.84	6		*e*P	PKPbc	11 22 58.2	-0.5
IKL	Isikli	147.88	307		*e*P	PKPbc	11 22 59.2	-0.1
PVCC	Panska Ves	147.95	345	⇑	*e*PKP	PKPbc	11 22 59.6	+0.5
MONM	Monmouth	148.01	6		*e*P	PKPbc	11 22 58.3	-0.8
CJR	Cluj-Napoca	148.03	331	⇑	P	PKiKP	11 23 00.3	-0.4
LADK	Ladik-KONYA	148.06	311		*e*P	PKPbc	11 22 58.5	-1.4
SVRH	Sivrihisar-ESK	148.07	314		*e*P	PKPdf	11 22 54.9	-0.9
MAUC	Maruska	148.08	340	⇑	*e*PKP	PKPbc	11 23 00.0	+0.5
KIZT	Kizilcal	148.09	313		*e*P	PKPbc	11 22 59.9	-0.1
KONT	Konya--Tatoy	148.17	311		*e*P	PKPbc	11 22 59.5	-0.6
LTVH	Ltavrtes, Hu	148.25	334	⇓	P	PKiKP	11 23 01.0	-0.1
LTVH	Ltavrtes, Hu	148.25	334		PKP	PKiKP	11 23 01.5	+0.4
GULT	Gulveren	148.25	316		*e*P	PKPbc	11 23 00.7	+0.5
VOIR		148.29	328	⇑	P	PKPbc	11 23 00.6	+0.4
LFK	Lefkose	148.34	305		*e*P	PKPbc	11 23 00.6	0.0
DRGR		148.37	332	⇑	P	PKPbc	11 22 59.2	-1.1
SRCK	Saricakaya, Es	148.38	315		*e*P	PKPbc	11 23 00.1	-0.4
SILT	Sile	148.42	318		*e*P	PKPbc	11 23 00.6	+0.1
CIFT	Cifteler, Eski	148.43	314		*e*P	PKPbc	11 23 00.5	-0.2
PRU	Pruhonice	148.46	344	⇑	*e*PKP	PKPbc	11 23 00.6	+0.3
PRU					*e*PKPAB	PKPab	11 23 06.0	0.0
VYHS	Vyhne	148.50	338		*e*PKP	PKPbc	11 23 01.1	+0.6
VYHS					*e*		11 23 07.1	
VRAC	Vranov	148.51	342	⇑	P	PKiKP	11 23 01.5	-0.1
VRAC	Vranov	148.51	342		*e*PKP	PKPbc	11 23 00.6	+0.1
VRAC					*e*		11 23 07.2	
ARR	Arges	148.54	329	⇓	P	PKiKP	11 23 02.3	+0.4
PRD	Provadia	148.55	323		P	PKiKP	11 23 01.8	0.0
JAVC	Velka Javorina	148.57	340		*e*PKP	PKiKP	11 23 02.2	+0.4
BORA	Eskisehir	148.57	315			PKPbc	11 23 01.1	0.0
HRT	Hereke	148.59	317		*e*P	PKPbc	11 23 00.7	-0.3
PSZ	Piszkesteto	148.60	337	⇑	P	PKPbc	11 23 01.4	+0.5
PSZ	Piszkesteto	148.60	337		PKP	PKPbc	11 23 01.4	+0.5
CSS	Mathiatis	148.61	305		*e*P	PKPbc	11 23 01.1	-0.1
EIL	Elat	148.66	294		PKPbc	PKPbc	11 23 01.5	0.0
	comp=Z,35nm,0.7s,baz=315,slow=3.9,SNR=23							
EIL	Elat	148.66	294		*e*P	PKPbc	11 23 01.9	+0.4
NKC	Novy Kostel	148.71	347	⇑	*e*PKP	PKPbc	11 23 01.4	+0.4
NKC					*e*PKPAB	PKPab	11 23 06.7	-0.3
ADVT	Abdulvahap	148.75	317		*e*P	PKPbc	11 23 01.1	-0.3
KRUC	Moravsky	148.79	342		*e*PKP	PKPbc	11 23 01.4	+0.2
KRUC					*e*		11 23 08.0	
CAVI	Cavuskoy	148.81	316		*e*P	PKPbc	11 23 01.3	-0.2
RAZG	Razgrad	148.81	324	⇑	P	PKPbc	11 23 01.8	+0.4
TREC	Trest	148.84	343	⇑	*e*PKP	PKPbc	11 23 01.5	+0.2
LEF	Lefka	148.89	305		*e*P	PKPbc	11 23 01.4	-0.5
GAZI	Gazipasa	148.91	308		*e*P	PKPbc	11 23 01.2	-0.7
YLV	Yalova	148.91	317		*e*P	PKPbc	11 23 01.4	-0.5
HUMR	Humele	148.96	327	⇑	P	PKiKP	11 23 02.3	-0.3
DEV	Deva	148.98	331	⇑	P	PKPbc	11 23 02.1	+0.4
CTKS	Kestanelik-??a	149.08	319		*e*P	PKPbc	11 23 01.9	-0.2
MODS	Modra-Piesok	149.12	340		*e*PKP	PKiKP	11 23 03.1	+0.2
BEBN	Eben Emael	149.14	355		*d*PKP	PKPbc	11 23 02.4	+0.5
BEBN					*d*PKPab	PKPab	11 23 08.8	+0.1
SHUT	Suhut-Afyon	149.16	313		*e*P	PKPbc	11 23 02.7	+0.1
ARMT	Armutlu	149.24	318		*e*P	PKPbc	11 23 02.3	-0.3
SLVT	Silivri	149.27	319		*e*P	PKiKP	11 23 03.5	+0.1
DYA	Yadsworthy	149.28	7		*e*P	PKPbc	11 23 01.8	-0.5
MEM	Membach	149.30	355		*d*PKP	PKPbc	11 23 02.5	+0.2
BTNL	Ternell	149.31	355		*d*PKPbc	PKPbc	11 23 02.6	+0.2
BSTI	Sart Tilman	149.36	356		*d*PKPbc	PKPbc	11 23 02.8	+0.3
GZR	Gura Zlata	149.41	331	⇑	P	PKPbc	11 23 02.8	-0.1
TVSB	Tavsanli	149.45	315		*e*P	PKPbc	11 23 02.5	-0.7
GRA1	Grafenberg Arr	149.48	348			PKPbc	11 23 03.3	+0.4
GRFO	Grafenberg	149.48	348			PKPbc	11 23 03.1	+0.3
KHC	Kasperske Hory	149.49	345		*e*PKPDF	PKPdf	11 22 57.1	-0.6
KHC				⇑	*e*PKP	PKPbc	11 23 02.9	0.0
KHC					*e*PKPAB	PKPab	11 23 10.9	+0.6
ISP	Isparta	149.53	312		*e*P	PKPbc	11 23 02.5	-1.0
ISP	Isparta	149.53	312			PKPbc	11 23 02.1	-1.3
ISP					PKPab	PKPab	11 23 10.6	-0.4
BCLA	Clavier	149.54	356		*d*PKPbc	PKPbc	11 23 03.0	+0.1
BCLA					*d*PKPab	PKPab	11 23 10.3	-0.1
BHOU	Houvegnez	149.55	355		*d*PKPdf	PKPdf	11 22 58.4	+0.7
BHOU					*d*PKP	PKPbc	11 23 03.4	+0.4
BHOU					*d*PKPab	PKPab	11 23 10.4	-0.1
CKRC	Cesky Krumlov	149.59	344		*e*PKPDF	PKPdf	11 22 58.0	+0.2
CKRC				⇑	*e*PKP	PKPbc	11 23 03.2	+0.1
CKRC					*e*PKPAB	PKPab	11 23 10.7	0.0
VLAD	Vladila	149.63	327	⇑	P	PKiKP	11 23 04.1	+0.1
CSKK	Cskako	149.66	338		PKP	PKPbc	11 23 03.5	+0.1
BMRD	Maredsous	149.69	356		*d*PKPbc	PKPbc	11 23 03.4	+0.1
BMRD					*d*PKPab	PKPab	11 23 11.0	-0.1
GEC2	GERESS Array S	149.72	345		PKPdf	PKPdf	11 22 57.5	-0.6
GEC2					PKPbc	PKPbc	11 23 03.8	+0.2
GEC2					PKPab	PKPab	11 23 10.4	-1.0
GERES	GERESS Array B	149.72	345		PKP	PKPdf	11 22 57.9	-0.2
	comp=Z,1.7nm,0.7s,baz=27,slow=1.5,SNR=8.2							
GERES					PKPbc	PKPbc	11 23 03.7	+0.2
	comp=Z,23nm,0.8s,baz=43,slow=1.9,SNR=36							
GERES					PKPab	PKPab	11 23 11.7	+0.3
	comp=Z,4.7nm,0.7s,baz=26,slow=5.4,SNR=3.5							
SRE	Strehaia	149.75	329	⇑	P	PKiKP	11 23 04.4	+0.2
BZS	Buzias	149.76	332	⇓	P	PKPbc	11 23 03.4	-0.1
BZS	Buzias	149.76	332		*e*P	PKPbc	11 23 03.5	-0.1
EDRB	Edirne	149.78	322		*e*P	PKPbc	11 23 03.6	-0.2
RCHB	Rochefort	149.81	356		*d*PKPbc	PKPbc	11 23 03.4	-0.1
RCHB					*d*PKPab	PKPab	11 23 12.0	+0.5
DOU	Dourbes	149.91	357		*d*PKPdf	PKPdf	11 22 58.5	+0.3
DOU					*d*PKP	PKPbc	11 23 04.1	+0.4
DOU					*d*PKPab	PKPab	11 23 11.8	-0.1
EGYH	Egyhazaskeszo	149.94	339		PKP	PKiKP	11 23 04.8	+0.2
HERR	Herculane	149.96	330	⇑	P	PKPbc	11 23 04.5	+0.4
CONA	Conrad Observa	149.96	341		*i* P	PKPbc	11 23 04.5	+0.4
	comp=Z,35nm,0.6s,SNR=17							
SOP	Sopron	149.96	340		PKP	PKiKP	11 23 04.7	+0.1
KORT	Korkueli	150.03	310		*e*P	PKPbc	11 23 04.4	-0.3
RONA	Rosalia, Austr	150.03	340		*i* P	PKPbc	11 23 04.6	+0.3
	comp=Z,50nm,0.5s,SNR=16							
DJES	Djerdap	150.07	330	⇑	P	PKiKP	11 23 04.8	-0.2
MPLH	Magyarpolny	150.08	338		PKP	PKPbc	11 23 04.3	0.0
WLF	Walferdange	150.22	355		PKPdf	PKPdf	11 22 58.0	-0.7
WLF						PKiKP	11 23 05.1	0.0
WLF					PKPab	PKPab	11 23 13.7	+0.5

WLF	Walferdange	150.22	355		*d*PKP	PKiKP	11 23 05.4	+0.3
WLF					*d*PKPab	PKPab	11 23 13.4	+0.1
MDVR	Moldovita	150.36	331	⇑	P	PKPbc	11 23 05.1	0.0
ELL	Elmali	150.46	310		*e*P	PKPbc	11 23 05.4	-0.3
ELL	Elmali	150.46	310		PKPdf	PKPdf	11 22 58.6	-1.0
ELL						PKPbc	11 23 05.4	-0.3
ELL					PKPab	PKPab	11 23 14.8	-0.1
MOA	Molln	150.49	343		*i* P	PKPbc	11 23 05.2	-0.1
	comp=Z,14nm,0.5s							
MOA					*e*P	PKPab	11 23 15.1	+0.6
	comp=Z,13nm,0.6s							
MORH	Mrgy, Hungar	150.50	336	⇑	P	PKPbc	11 23 05.0	-0.3
MORH	Mrgy, Hungar	150.50	336		PKP	PKPdf	11 22 59.5	+0.3
ARSA	Arzberg	150.67	341		*i* P	PKPbc	11 23 05.4	-0.3
	comp=Z,4.3nm,0.7s							
ARSA					*i* P	PKPab	11 23 15.6	+0.3
	comp=Z,6.9nm,0.7s							
KDZ	Kurdzhali	150.67	323		*e*P	PKPbc	11 23 05.8	-0.1
KDZ	Kurdzhali	150.67	323		P	PKPbc	11 23 05.9	0.0
JSA	Saint Aubin	150.70	6		*e*P	PKPbc	11 23 05.6	0.0
BLKB	Belogradchik	150.77	328	⇑	P	PKPbc	11 23 05.8	-0.3
ALN	Alexandroupoli	150.78	321			PKPbc	11 23 05.8	-0.3
ALN					PKPab	PKPab	11 23 15.2	-0.8
BIOA	Bad Ischl, Aus	150.81	344		*i* P	PKPbc	11 23 05.7	-0.3
	comp=Z,9.5nm,0.4s,SNR=6.0							
BIOA					*i* P	PKPab	11 23 16.6	+0.8
	comp=Z,32nm,0.7s							
KOVH	Kovagotottos	150.81	337		PKP	PKPbc	11 23 05.8	-0.2
GELI	Tayfur-Gelibol	150.82	320		*e*P	PKPbc	11 23 05.8	-0.4
FRGS	Fruska Gora	150.90	334	⇑	P	PKiKP	11 23 06.6	-0.1
AKAS	Kas	150.90	310		*e*P	PKPbc	11 23 05.2	-1.5
AKAS	Kas	150.90	310			PKPbc	11 23 05.2	-1.5
RDO	Rodhopi	150.92	322		*e*P	PKPbc	11 23 05.9	-0.5
RDO	Rodhopi	150.92	322		PKPdf	PKPdf	11 22 59.4	-0.7
RDO						PKPbc	11 23 06.2	-0.2
RDO					PKPab	PKPab	11 23 17.4	+0.9
VTS	Vitosha	151.21	326	⇓	P	PKiKP	11 23 07.6	0.0
VTS	Vitosha	151.21	326		*e*P	PKPbc	11 23 07.2	0.0
VTS	Vitosha	151.21	326			PKPbc	11 23 07.3	0.0
VTS					PKPab	PKPab	11 23 17.2	-0.7
VTS	Vitosha	151.21	326		P	PKiKP	11 23 07.5	0.0
BOVS	Bovan	151.23	329		P	PKPbc	11 23 06.1	-1.0
EZN	Ezine	151.25	319		*e*P	PKPbc	11 23 06.1	-1.1
AYDB	Zeytinkoy-Aydi	151.28	314		*e*P	PKPbc	11 23 07.6	+0.1
BFO	Black Forest	151.28	351		PKPdf	PKPdf	11 22 58.8	-1.7
BFO						PKPbc	11 23 07.1	+0.1
BFO					PKPab	PKPab	11 23 16.9	-1.0
DALY	Dalyan (Mula)	151.32	311		*e*P	PKPbc	11 23 07.5	+0.1
SOKA	Soboth	151.33	341		*e*P	PKPbc	11 23 06.8	-0.5
	comp=Z,14nm,0.7s,SNR=7.3							
SOKA					*i* P	PKPab	11 23 18.0	-0.2
	comp=Z,20nm,1.0s							
YER	Yerkesik	151.42	312		*e*P	PKPbc	11 23 07.7	-0.1
KBA	Koelnbreinsper	151.45	344		*i* P	PKPbc	11 23 06.8	-0.9
	comp=Z,16nm,0.5s							
KBA					*i* P	PKPab	11 23 19.9	+1.2
	comp=Z,20nm,0.6s							
ECH	Echery	151.55	353		PKPdf	PKPdf	11 23 00.3	-0.6
ECH						PKPbc	11 23 07.8	+0.1
ECH					PKPab	PKPab	11 23 18.1	-0.9
TURN	Turunc	151.62	312		*e*P	PKPbc	11 23 08.3	+0.2
OBKA	Obir	151.63	342		*e*P	PKPbc	11 23 07.2	-0.8
	comp=Z,8.2nm,0.7s							
OBKA					*i* P	PKPab	11 23 19.3	-0.1
	comp=Z,10nm,0.8s							
WATA	Walderalm	151.64	346		*e*P	PKPdf	11 23 00.5	-0.7
	comp=Z,2.8nm,0.5s							
WATA					*i* P	PKPbc	11 23 07.7	-0.4
	comp=Z,10nm,0.5s,SNR=5.4							
WATA					*e*P	PKPab	11 23 19.8	+0.3
	comp=Z,20nm,1.1s							
MMB	Musomiste	151.66	324		P	PKPbc	11 23 08.0	-0.1
DIVS	Divibare	151.66	332		PKPdf	PKPdf	11 23 00.3	-0.9
DIVS						PKPbc	11 23 07.9	-0.3
DIVS					PKPab	PKPab	11 23 18.4	-0.3
DOBS	Dobrina	151.67	340		*i* PKPbc	PKPbc	11 23 07.7	-0.3
RETA	Reutte	151.67	347		*e*P	PKPdf	11 23 00.7	-0.4
	comp=Z,3.2nm,1.0s							
RETA					*e*P	PKPbc	11 23 07.8	-0.2
	comp=Z,6.3nm,0.6s							
RETA					*e*P	PKPab	11 23 19.9	+0.3
	comp=Z,14nm,1.0s							
WTTA	Wattenberg	151.69	346		*e*P	PKPdf	11 23 00.8	-0.5
	comp=Z,7.2nm,0.7s							
WTTA					*i* P	PKPbc	11 23 08.1	-0.1
	comp=Z,20nm,0.4s,SNR=8.0							
WTTA					*e*P	PKPab	11 23 20.1	+0.3
	comp=Z,18nm,0.6s							
MOTA	Moosalm	151.74	347		*e*P	PKPdf	11 23 00.6	-0.8
	comp=Z,7.4nm,1.0s							
MOTA					*i* P	PKPbc	11 23 07.9	-0.3
	comp=Z,10nm,0.6s,SNR=5.3							
MOTA					*e*P	PKPab	11 23 19.8	-0.2
	comp=Z,16nm,0.8s							
MYKA	Terra Mystica	151.78	343		*i* P	PKPbc	11 23 07.4	-0.9
	comp=Z,16nm,0.5s							
MYKA					*e*P	PKPab	11 23 20.0	0.0
	comp=Z,14nm,0.6s							
SQTA	Sankt Quirin	151.83	347		*e*P	PKPdf	11 23 00.7	-0.8
	comp=Z,4.5nm,0.7s							
SQTA					*e*P	PKPbc	11 23 08.3	-0.1
	comp=Z,18nm,0.7s							
GCAM	G?zelcami?	151.85	314		*e*P	PKPbc	11 23 08.5	-0.1
PDKS	Podkum	151.90	341		*i* PKPbc	PKPbc	11 23 08.2	-0.3
PDKS					*i* PKPab	PKPab	11 23 20.1	-0.5
URLA	Izmir	151.92	316		*e*P	PKPbc	11 23 07.2	-1.6
VNDS	Vrh nad Dolski	151.95	341		*i* PKPbc	PKPbc	11 23 08.3	-0.3
ABTA	Abfaltersbach	151.97	344		*e*P	PKPdf	11 23 00.8	-0.8
	comp=Z,9.2nm,0.7s							
ABTA					*i* P	PKPbc	11 23 08.1	-0.7
	comp=Z,33nm,0.5s,SNR=8.4							
ABTA					*e*P	PKPab	11 23 20.5	-0.4
	comp=Z,17nm,0.6s							
PRED	Cave del Predi	151.97	343		PKPdf	PKPdf	11 22 60.0	-1.6
PRED						PKPbc	11 23 08.0	-0.7
PRED					PKPab	PKPab	11 23 20.5	-0.4
DAVA	Damuels	152.04	348		*e*P	PKPdf	11 23 01.6	-0.1
	comp=Z,2.2nm,0.7s							
DAVA					*i* P	PKPbc	11 23 08.9	-0.1
	comp=Z,25nm,1.5s,SNR=5.9							
DAVA					*e*P	PKPab	11 23 21.1	-0.1
	comp=Z,8.2nm,0.7s							
CLF	Chambon-Foret	152.05	360		PKPdf	PKPdf	11 22 59.1	-2.4
CLF						PKPbc	11 23 07.6	-1.1
CLF					PKPab	PKPab	11 23 21.1	+0.1
DAT	Datca	152.11	312		*e*P	PKPbc	11 23 08.3	-1.1
FETA	Feichten	152.12	347		*e*P	PKPdf	11 23 01.7	-0.2
	comp=Z,9.8nm,0.8s							
FETA					*e*P	PKPbc	11 23 09.1	-0.1
	comp=Z,8.3nm,0.6s							
FETA					*e*P	PKPab	11 23 22.4	+0.8
	comp=Z,19nm,1.4s							
BODT	Bodrum	152.13	313		*e*P	PKPbc	11 23 07.5	-1.8
CLUD	Cludinico	152.15	344			PKPdf	11 22 59.8	-2.0
CLUD						PKPbc	11 23 08.4	-0.6
CLUD						PKPab	11 23 20.9	-0.7
VOJS	Vojsko	152.26	342		*i* PKPbc	PKPbc	11 23 08.6	-0.8
STAL	STALIGIAL	152.37	344			PKPdf	11 23 01.2	-0.9
STAL					PKPbc	PKPbc	11 23 09.3	-0.3
STAL					PKPab	PKPab	11 23 22.0	-0.5
SABO	M.te Sabotino	152.39	342		PKPdf	PKPdf	11 23 00.7	-1.5
SABO					PKPbc	PKPbc	11 23 09.4	-0.2
SABO					PKPab	PKPab	11 23 22.2	-0.4
KARP	Karpathos	152.98	310		PKPdf	PKPdf	11 23 01.5	-1.8
KARP						PKPbc	11 23 10.7	-0.5
KARP					PKPab	PKPab	11 23 25.6	+0.1
PDG	Podgorica	153.31	331		PKPdf	PKPdf	11 23 02.0	-1.5
PDG					PKPbc	PKPbc	11 23 11.1	-0.6
PDG						PKPab	11 23 26.1	-0.5
SENIN	Lac Senin/Sane	153.35	352		PKPdf	PKPdf	11 23 02.1	-1.7
SENIN					PKPbc	PKPbc	11 23 11.5	-0.4
SENIN					PKPab	PKPab	11 23 27.3	+0.4
LIT	Litokhoron	153.36	323		PKPdf	PKPdf	11 23 02.6	-1.1
LIT					PKPab	PKPab	11 23 27.2	+0.2
TEOL	Teolo	153.48	345		PKPdf	PKPdf	11 23 02.0	-1.7
TEOL					PKPab	PKPab	11 23 27.3	+0.1
SSB	Saint Sauveur	154.71	356		PKPdf	PKPdf	11 23 04.3	-1.0
SSB					PKPab	PKPab	11 23 32.5	-0.1
BNI	Bardonecchia	154.72	352		PKPdf	PKPdf	11 23 04.0	-1.6
BNI					PKPab	PKPab	11 23 32.3	-0.4
PBRG	Braganca	157.04	17		*e*PKPab	PKPab	11 23 42.8	0.0
MVO	Moncorvo	157.56	18		*e*PKPdf	PKPdf	11 23 10.2	+0.9
MVO	Moncorvo	157.56	18		*e*PKPab	PKPab	11 23 45.0	0.0

PCAS	Casmilo, Conde	158.09	22		*e*PKPab	PKPab	11 23 47.1	-0.2
PCBR	Castelo Branco	158.63	20		*e*PKPdf	PKPdf	11 23 09.8	-0.7
PCBR	Castelo Branco	158.63	20		*e*PKPab	PKPab	11 23 49.2	-0.4
PMRV	Marv??o	159.03	21		*e*PKPdf	PKPdf	11 23 11.4	+0.4
PMRV	Marv??o	159.03	21		*e*PKPab	PKPab	11 23 51.4	0.0
PMTG	Montargil	159.06	23		*e*PKPab	PKPab	11 23 51.2	-0.3
PESTR	Estremoz	159.46	22		*e*PKPab	PKPab	11 23 52.6	-0.7
PESTR	Estremoz	159.46	22		PKPdf	PKPdf	11 23 09.2	-2.4
PESTR					PKPab	PKPab	11 23 51.4	-2.0
EVO	Evora	159.61	23		*e*PKPab	PKPab	11 23 53.6	-0.4
ESBB	Sonseca Array	159.74	13		PKPdf	PKPdf	11 23 10.7	-1.2
ESBB						PKPab	11 23 52.8	-1.8
ESDC	Sonseca Array	159.74	13		PKP	PKPdf	11 23 11.8	-0.1
	comp=Z,1.0nm,0.8s,baz=320,slow=1.6,SNR=8.0							
ESDC					PKPab	PKPab	11 23 54.7	+0.2
	comp=Z,5.9nm,1.0s,baz=344,slow=4.0,SNR=19							
ESDC					PP	PP	11 27 38.8	+1.2
	comp=Z,0.5nm,0.7s,baz=341,slow=6.2,SNR=4.2							
ESDC	Sonseca Array	159.74	13		PKPdf	PKPdf	11 23 10.0	-1.8
ESDC					PKPab	PKPab	11 23 52.8	-1.8
PAB	San Pablo	159.78	14		PKPdf	PKPdf	11 23 11.0	-0.9
PAB					PKPab	PKPab	11 23 54.0	-0.7
PNCL	Nicolau / Gran	159.78	25		*e*PKPdf	PKPdf	11 23 10.9	-1.0
PNCL	Nicolau / Gran	159.78	25		*e*PKPab	PKPab	11 23 54.6	-0.1
PBEJ	Beja	160.11	23		*e*PKPdf	PKPdf	11 23 13.1	+0.8
PBEJ	Beja	160.11	23		*e*PKPab	PKPab	11 23 56.6	+0.4
MESJ	Messejana	160.14	24		*e*PKPdf	PKPdf	11 23 13.1	+0.8
MESJ	Messejana	160.14	24		*e*PKPdf	PKPdf	11 23 13.3	+1.0
MESJ	Messejana	160.14	24		*e*PKPab	PKPab	11 23 56.4	+0.1
PBAR	Barrancos	160.28	21		*e*PKPdf	PKPdf	11 23 12.8	+0.4
PBAR	Barrancos	160.28	21		*e*PKPab	PKPab	11 23 56.3	-0.6
PCVE	Castro Verde	160.39	24		*e*PKPab	PKPab	11 23 57.5	+0.1
MORF	Marmelete	160.43	26		*e*PKPdf	PKPdf	11 23 13.5	+0.8

KEK					S		**Sb**	**11 07 13.4**	**+0.5**
	comp=E,338nm,0.2s								
KEK	**Kerkira**	**0.60**	**271**		P		**Pg**	**11 07 04.0**	**+0.1**
KEK					S		**Sb**	**11 07 13.0**	**+0.1**
KEK					AML	AML		11 07 18.2	
	comp=N,1189μm,0.4s								
KEK					AML	AML		11 07 19.3	
	comp=E,1414μm,0.4s								
NEST	**Nestorio**	**0.79**	**27**		P		**Pg**	**11 07 07.2**	**-0.3**
NEST					S		**Sb**	**11 07 19.2**	**+0.7**
	comp=E,392nm,0.7s								
NEST	**Nestorio**	**0.79**	**27**		P		**Pg**	**11 07 07.5**	**0.0**
NEST					S		**Sg**	**11 07 18.0**	**0.0**
NEST					AML	AML		11 07 21.4	
	comp=N,983μm,0.7s								
NEST					AML	AML		11 07 23.5	
	comp=E,1119μm,0.7s								
TSLK	**Tsoukalades, L**	**0.88**	**176**		P		**Pb**	**11 07 09.2**	**-0.1**
KBN	**Korca**	**0.93**	**10**		P		**Pb**	**11 07 09.9**	**-0.2**
	baz=10.0								
KBN					S		**Sg**	**11 07 22.6**	**+0.4**
	baz=10.0								
KBN					AMP				
	comp=N,0.7nm,0.8s,baz=10.0								
EVGI	**Lefkada island**	**1.09**	**177**		P		**Pg**	**11 07 13.2**	**+0.1**
KZN	**Kozani**	**1.09**	**56**		P		**Pb**	**11 07 13.0**	**+0.1**
THL	**Klokotos Trika**	**1.12**	**97**		P		**Pb**	**11 07 12.5**	**-0.7**
THL					S		**Sn**	**11 07 28.5**	**-0.1**
THL	**Klokotos Trika**	**1.12**	**97**		P		**Pn**	**11 07 13.3**	**0.0**
THL					S		**Sn**	**11 07 28.4**	**-0.1**
THL					AML	AML		11 07 33.1	
	comp=E,357μm,0.5s								
THL					AML	AML		11 07 33.8	
	comp=N,357μm,0.6s								
EVR	**Evrytania**	**1.24**	**129**		P		**Pb**	**11 07 15.4**	**0.0**
OHR	**Ohrid**	**1.41**	**7**	*i* Pn			**Pg**	**11 07 20.8**	**+1.5**
VLS	**Valsamata**	**1.53**	**180**		P		**Pb**	**11 07 20.3**	**0.0**
SCTE	**Santa Cesarea**	**1.67**	**283**		P		**Pn**	**11 07 20.4**	**-0.5**
	baz=285								
PHP	**Peshkopia**	**1.98**	**357**		P		**Pb**	**11 07 27.3**	**-0.7**
	baz=358								
PHP					S		**Sb**	**11 07 53.1**	**+0.6**
	baz=358								
PHP					AMP				
	comp=N,0.3nm,0.5s,baz=358								

SOME **06** *11:07:10.8,39.42N×73.02E,h0km*
KRNET **06** *11:07:13.9±0.1,39.38N×73.49E,mb3.9*
IDC **06** *11:07:14.6±1.4,39.39N×73.22E,h0km,mb3.8/8, mbtmp3.6/13,ML2.8/5,MS2.6/1,Error ellipse: s-maj=26.4km s-min=14.1km az=132.0*
NNC **06** *11:07:16.2±2.7,39.58N×73.14E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=21.0km s-min=11.3km az=168.0*
MOS **06** *11:07:17.5±2.2,39.47N×73.36E,h18km,mb4.1/1,Error ellipse: s-maj=8.5km s-min=4.5km az=86.3*
NEIC **06** *11:07:20.4±2.5,39.51N±0.06×73.18E±0.06,h10km±2km, mb4.1/3,Error ellipse: s-maj=10.5km s-min=7.5km az=163.0*

ISC 06 11:07:16.0±1.3,39.49N±0.04×73.34E±0.02,h2km±8km, n126,σ2s23/173,mb3.8/9,27C-12D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.12**	**338**	*i*	PG		**Pg**	**11 07 38.0**	**+0.5**
OHH					S		**Sn**	**11 07 56.7**	**+1.9**
OHH	**Osh**	**1.12**	**338**	⇑*i*	P		**Pg**	**11 07 37.8**	**+0.3**
	baz=35								
OHH				⇑*i*	S		**Sn**	**11 07 55.6**	**+0.8**
	baz=35								
DRK	**Karamyk**	**1.19**	**270**				**Pg**	**11 07 39.2**	**+0.3**
DRK	**Karamyk**	**1.19**	**270**	⇑*i*	P		**Pg**	**11 07 39.1**	**+0.3**
	baz=75								
DRK				⇑*i*	S		**Sn**	**11 07 57.2**	**+0.3**
	baz=75								
BTK	**Batken**	**2.03**	**287**				**Pb**	**11 07 52.9**	**-0.7**
BTK	**Batken**	**2.03**	**287**		PN		**Pb**	**11 07 52.9**	**-0.7**
BTK	**Batken**	**2.03**	**287**	⇓*i*	P		**Pb**	**11 07 53.2**	**-0.4**
	baz=89								
BTK				⇓*i*	S		**Sg**	**11 08 22.0**	**+0.9**
	baz=89								
GAR	**Garm**	**2.40**	**259**				**Pn**	**11 07 58.2**	**+1.9**
ARK	**Arkit**	**2.54**	**336**		PN		**Pg**	**11 08 07.0**	**+2.4**
ARK					S		**Sb**	**11 08 35.2**	**+1.2**
ARK	**Arkit**	**2.54**	**336**	⇑*i*	P		**Pn**	**11 08 00.4**	**+2.1**
	baz=35								
ARK				⇑*i*	S		**Sb**	**11 08 34.3**	**+0.3**
	baz=35								
TRKS	**Terek-Say**	**2.64**	**321**	*e*	PN		**Pn**	**11 08 01.3**	**+1.5**
TRKS					S		**Sb**	**11 08 36.0**	**-1.1**
TRKS	**Terek-Say**	**2.64**	**321**	⇑*e*	P		**Pn**	**11 08 01.3**	**+1.5**
	baz=20								
TRKS				⇑*i*	S		**Sb**	**11 08 35.6**	**-1.5**
	baz=20								
AML	**Almayashu**	**2.66**	**6**	P			**Pb**	**11 08 03.0**	**-1.5**
	SNR=15								
AML	**Almayashu**	**2.66**	**6**	*i*	PN		**Pn**	**11 08 01.8**	**+1.6**
AML					S		**Sb**	**11 08 37.0**	**-0.7**
NRN	**Naryn**	**2.81**	**45**				**Pb**	**11 08 05.3**	**-1.7**
NRN	**Naryn**	**2.81**	**45**		PN		**Pb**	**11 08 05.4**	**-1.7**
NRN	**Naryn**	**2.81**	**45**	⇑*i*	P		**Pn**	**11 08 01.8**	**-0.4**
	baz=42								
NRN				⇑*i*	S		**Sn**	**11 08 36.8**	**-0.1**
	baz=42								
UCH	**Uchtor**	**2.88**	**18**	P			**Pn**	**11 08 06.1**	**+2.8**
	SNR=13								
UCH	**Uchtor**	**2.88**	**18**	*i*	PN		**Pn**	**11 08 04.4**	**+1.1**
UCH					S		**Sn**	**11 08 41.6**	**+2.9**
UCH	**Uchtor**	**2.88**	**18**	⇑*i*	P		**Pn**	**11 08 04.4**	**+1.1**
	baz=15								
UCH				⇑*i*	S		**Sn**	**11 08 41.6**	**+2.9**
	baz=15								
EKS2	**Erkin-Say**	**3.19**	**6**	P			**Pb**	**11 08 11.7**	**-1.8**
	SNR=6.4								
EKS2	**Erkin-Say**	**3.19**	**6**	*e*	PN		**Pn**	**11 08 09.0**	**+1.7**
EKS2	**Erkin-Say**	**3.19**	**6**	⇑*e*	P		**Pn**	**11 08 09.0**	**+1.7**
	baz=4.0								
EKS2				⇑*i*	S		**Sn**	**11 08 49.0**	**+3.1**
	baz=4.0								
MRKS	**Merke**	**3.26**	**359**	*e*	P		**Pb**	**11 08 12.2**	**-2.4**
	12nm,0.4s								
MRKS				*e*	S		**Sb**	**11 08 56.6**	**+1.9**
	25nm,0.4s								
MRKS	**Merke**	**3.26**	**359**	Pg			**Pb**	**11 08 12.2**	**-2.4**
	12nm,0.4s								
MRKS				Lg		Lg		11 08 57.7	
	25nm,0.4s								
AAK	**Ala-Archa**	**3.27**	**15**	P			**Pb**	**11 08 13.1**	**-1.7**
	SNR=14								
AAK	**Ala-Archa**	**3.27**	**15**	Pn			**Pb**	**11 08 12.0**	**-2.7**
	3.1nm,0.3s,baz=177,slow=8.7,SNR=21								
AAK					Sn		**Sb**	**11 08 53.3**	**-1.8**
	2.5nm,0.3s,baz=53,slow=7.4,SNR=2.0								
AAK					LR		LR	11 09 44.6	
	comp=Z,81nm,18.7s,baz=274,slow=44 22nm,0.5s								
AAK	**Ala-Archa**	**3.27**	**15**				**Pn**	**11 08 11.7**	**+3.3**
AAK	**Ala-Archa**	**3.27**	**15**	*d*	*i*	PN	**Pn**	**11 08 10.4**	**+2.0**
AAK					*i*	S	**Sb**	**11 08 52.4**	**-2.7**
AAK	**Ala-Archa**	**3.27**	**15**	⇑*i*	P		**Pn**	**11 08 09.9**	**+1.5**
	baz=13								
AAK				⇑*i*	S		**Sn**	**11 08 50.4**	**+2.5**
	baz=13								
CHGR	**Chuyangaron**	**3.36**	**257**				**Pn**	**11 08 12.0**	**+2.5**
CHGR	**Chuyangaron**	**3.36**	**257**		PN		**Pn**	**11 08 12.0**	**+2.5**
KBK	**Karagaybulak**	**3.39**	**20**	*e*	PN		**Pn**	**11 08 11.5**	**+1.4**
KBK					S		**Sn**	**11 08 53.4**	**+2.4**
KBK	**Karagaybulak**	**3.39**	**20**	⇑*e*	P		**Pn**	**11 08 11.5**	**+1.4**
	baz=18								
KBK				⇑*i*	S		**Sn**	**11 08 53.4**	**+2.4**
	baz=18								
ULHL	**Ulahol**	**3.53**	**38**	P			**Pb**	**11 08 19.8**	**+0.6**
	SNR=7.3								
ULHL	**Ulahol**	**3.53**	**38**	*i*	PN		**Pn**	**11 08 12.6**	**+0.6**
ULHL					S		**Sn**	**11 08 55.4**	**+1.0**
ULHL	**Ulahol**	**3.53**	**38**	⇑*i*	P		**Pn**	**11 08 12.6**	**+0.6**
	baz=35								
ULHL				⇑*i*	S		**Sn**	**11 08 55.4**	**+1.0**
	baz=35								
IUG	**luzhnay**	**3.66**	**318**	*e*	P		**Pn**	**11 08 16.1**	**+2.4**
	139nm,0.5s								
IUG				*e*	S		**Sb**	**11 09 03.4**	**-2.9**
	79nm,0.5s								
IUG	**luzhnay**	**3.66**	**318**		Pg		**Pn**	**11 08 16.1**	**+2.4**
IUG					Lg		Lg	11 09 04.2	
CHMS	**Chumysh**	**3.67**	**16**	P			**Pn**	**11 08 16.8**	**+3.0**
	SNR=6.0								
CHMS	**Chumysh**	**3.67**	**16**	*e*	PN		**Pn**	**11 08 15.2**	**+1.5**
CHMS	**Chumysh**	**3.67**	**16**	⇑*i*	P		**Pn**	**11 08 15.2**	**+1.5**
	baz=14								
CHMS				⇑*i*	S		**Sn**	**11 08 59.8**	**+2.2**
	baz=14								
TKM2	**Tokmak 2**	**3.83**	**26**	*e*	PN		**Pn**	**11 08 17.2**	**+1.1**
TKM2	**Tokmak 2**	**3.83**	**26**	⇓	Pg		**Pg**	**11 08 28.7**	**-0.7**
	13nm,0.7s								
TKM2				⇓	Lg		Lg	11 09 17.6	
	28nm,0.7s								
TKM2	**Tokmak 2**	**3.83**	**26**	⇑*e*	P		**Pn**	**11 08 17.2**	**+1.1**
	baz=24								
TKM2				⇑*i*	S		**Sn**	**11 09 03.6**	**+1.7**
	baz=24								
USP	**Ospenovka**	**3.88**	**13**	P			**Pb**	**11 08 22.5**	**-2.6**
	SNR=6.7								
USP	**Ospenovka**	**3.88**	**13**	*e*	PN		**Pn**	**11 08 18.3**	**+1.7**
USP					S		**Sn**	**11 09 05.3**	**+2.5**
USP	**Ospenovka**	**3.88**	**13**	⇓*e*	P		**Pn**	**11 08 18.3**	**+1.7**
	baz=11								
USP				⇓*i*	S		**Sn**	**11 09 05.3**	**+2.5**
	baz=11								
CHM	**Chimkent**	**4.00**	**316**	*i*	PN		**Pn**	**11 08 15.2**	**-3.1**
KST	**Kastek**	**4.07**	**28**	*e*	P		**Pb**	**11 08 30.5**	**+2.1**
	8.8nm,0.5s								
KST				*e*	S		**Sg**	**11 09 27.9**	**+1.3**
	65nm,0.7s								
KST	**Kastek**	**4.07**	**28**	Pg			**Pb**	**11 08 30.5**	**+2.1**
	8.8nm,0.5s								
KST				Lg			Lg	11 09 27.9	
	65nm,0.7s								
TARG	**Taragay, Kyrgy**	**4.07**	**55**				**Pn**	**11 08 23.4**	**+3.9**
TARG	**Taragay, Kyrgy**	**4.07**	**55**		PN		**Pn**	**11 08 23.5**	**+3.9**
TARG	**Taragay, Kyrgy**	**4.07**	**55**	⇓*e*	P		**Pn**	**11 08 19.1**	**-0.5**
	baz=53								
TARG				⇓*i*	S		**Sn**	**11 09 06.9**	**-1.1**
	baz=53								
SGDS	**Sogindy**	**4.08**	**13**	*e*	P		**Pb**	**11 08 28.3**	**-0.2**
	3.2nm,0.4s								
SGDS				*e*	S		**Sg**	**11 09 24.1**	**-2.9**
	23nm,0.8s								
SGDS	**Sogindy**	**4.08**	**13**	Pg			**Pb**	**11 08 28.3**	**-0.2**
SGDS				Lg			Lg	11 09 24.1	
DGS	**Degeres**	**4.18**	**25**	*e*	P		**Pb**	**11 08 31.9**	**+1.7**
	7.2nm,0.7s								
DGS				*e*	S		**Sg**	**11 09 31.1**	**+1.0**
	54nm,0.9s								
DGS	**Degeres**	**4.18**	**25**	Pg			**Pb**	**11 08 31.9**	**+1.7**
	7.2nm,0.7s								
DGS				Lg			Lg	11 09 31.1	
	54nm,0.9s								
KK31	**Karatay Array**	**4.20**	**330**				**Pn**	**11 08 24.1**	**+3.1**
KK31	**Karatay Array**	**4.20**	**330**		PN		**Pn**	**11 08 24.1**	**+3.1**
KK31	**Karatay Array**	**4.20**	**330**	⇓	Pn		**Pn**	**11 08 24.7**	**+3.7**
	3.0nm,0.5s,baz=148,slow=13,SNR=8.5								
KK31				⇑	Pg		**Pb**	**11 08 33.9**	**+3.4**
	8.5nm,0.5s,baz=152,slow=16,SNR=14								
KK31				⇓	Lg		Lg	11 09 24.6	
	10nm,0.4s,baz=145,slow=15,SNR=3.5								
KKAR	**Karatay Array**	**4.20**	**330**				**Pn**	**11 08 24.1**	**+3.1**
KKAR	**Karatay Array**	**4.20**	**330**		PN		**Pn**	**11 08 24.1**	**+3.1**
IZV	**Izvestkoviy**	**4.32**	**34**	*e*	P		**Pb**	**11 08 32.1**	**-0.6**
	78nm,0.1s								
IZV				*e*	S		**Sb**	**11 09 30.3**	**+4.9**
	78nm,0.8s								
MTBS	**Maitube**	**4.32**	**32**	*e*	P		**Pb**	**11 08 33.2**	**+0.5**
	12nm,0.7s								
MTBS				*e*	S		**Sg**	**11 09 33.2**	**-1.6**
	12nm,0.5s								
MTBS	**Maitube**	**4.32**	**32**	Pg			**Pb**	**11 08 33.2**	**+0.5**
	12nm,0.7s								
MTBS				Lg			Lg	11 09 33.2	
	12nm,0.5s								
KRBS	**Karabastau**	**4.56**	**22**	*e*	P		**Pb**	**11 08 38.3**	**+1.6**
	4.1nm,0.5s								
KRBS				*e*	S		**Sg**	**11 09 41.2**	**-1.1**
	23nm,1.3s								
KRBS	**Karabastau**	**4.56**	**22**	Pg			**Pb**	**11 08 38.3**	**+1.6**
	4.1nm,0.5s								
KRBS				Lg			Lg	11 09 41.2	
	23nm,1.3s								
MDOK	**Medeo**	**4.61**	**36**	*e*	P		**Pb**	**11 08 39.3**	**+1.6**
	8.4nm,0.8s								
MDOK				*e*	S		**Sg**	**11 09 43.2**	**-0.9**
	28nm,1.2s								
MDOK	**Medeo**	**4.61**	**36**	Pg			**Pb**	**11 08 39.3**	**+1.6**
	8.4nm,0.8s								
MDOK				Lg			Lg	11 09 43.2	
	28nm,1.2s								
KTBS	**Karatobe**	**4.91**	**30**	*e*	P		**Pg**	**11 08 47.2**	**-2.8**
	8.7nm,0.7s								
KTBS				*e*	S		**Sg**	**11 09 56.4**	**+2.7**
	40nm,0.8s								
KTBS	**Karatobe**	**4.91**	**30**	Pg			**Pg**	**11 08 47.2**	**-2.8**
	8.7nm,0.7s								
KTBS				Lg			Lg	11 09 56.4	
	40nm,0.8s								
KUU	**Kurty**	**4.94**	**26**	*e*	P		**Pb**	**11 08 44.5**	**+1.3**
	3.7nm,0.8s								
KUU				*e*	S		**Sg**	**11 09 52.2**	**-2.5**
	41nm,0.8s								
KUU	**Kurty**	**4.94**	**26**	Pg			**Pb**	**11 08 44.5**	**+1.3**
	3.7nm,0.8s								
KUU				Lg			Lg	11 09 52.2	
	41nm,0.8s								
CHKK	**Chushkaly**	**5.15**	**31**	*e*	P		**Pb**	**11 08 49.9**	**+3.2**
	5.2nm,0.7s								
CHKK				*e*	S		**Sg**	**11 10 01.6**	**+0.3**
	19nm,0.6s								
CHKK	**Chushkaly**	**5.15**	**31**	Pg			**Pb**	**11 08 49.9**	**+3.2**
	5.2nm,0.7s								
CHKK				Lg			Lg	11 10 01.6	
	19nm,0.6s								
SATY	**Saty**	**5.23**	**45**	*e*	P		**Pg**	**11 08 53.0**	**-3.1**
	16nm,0.8s								
SATY				*e*	S		**Sg**	**11 10 07.2**	**+3.4**
	32nm,1.2s								
SATY	**Saty**	**5.23**	**45**	Pg			**Pg**	**11 08 53.0**	**-3.1**
SATY				Lg			Lg	11 10 07.2	
ZHN	**Zhinishke**	**5.31**	**45**	*e*	P		**Pb**	**11 08 52.4**	**+2.8**
	2.5nm,0.1s								
ZHN				*e*	S		**Sg**	**11 10 05.1**	**-1.5**
	24nm,0.8s								
KURS	**Kuram**	**5.40**	**41**	*e*	P		**Pb**	**11 08 53.8**	**+2.8**
	8.8nm,0.6s								
KURS				*e*	S		**Sg**	**11 10 07.9**	**-1.4**
	14nm,1.1s								
KURS	**Kuram**	**5.40**	**41**	Pg			**Pb**	**11 08 53.8**	**+2.8**
KURS				Lg			Lg	11 10 07.9	
BTLS	**Baital**	**5.58**	**5**	*e*	P		**Pb**	**11 08 55.5**	**+1.5**
	1.9nm,0.3s								
BTLS				*e*	S		**Sg**	**11 10 11.0**	**-4.0**
	8.8nm,0.7s								
BTLS	**Baital**	**5.58**	**5**	Pg			**Pb**	**11 08 55.5**	**+1.5**
BTLS				Lg			Lg	11 10 11.0	
UZB	**Uzynbulak**	**5.63**	**48**	*e*	P		**Pb**	**11 08 56.5**	**+1.5**
	3.6nm,0.5s								
UZB				*e*	S		**Sg**	**11 10 12.1**	**-4.6**
	16nm,0.7s								
KPKS	**Kokpek**	**5.65**	**44**	*e*	P		**Pb**	**11 08 58.0**	**+2.7**
	6.2nm,0.8s								
KPKS				*e*	S		**Sg**	**11 10 15.0**	**-2.4**
	17nm,0.7s								
KPKS	**Kokpek**	**5.65**	**44**	Pg			**Pb**	**11 08 58.0**	**+2.7**
	6.2nm,0.8s								
KPKS				Lg			Lg	11 10 15.0	
	17nm,0.7s								
ARXS	**Arharly**	**5.79**	**34**	*e*	P		**Pb**	**11 09 02.3**	**+4.6**
	16nm,0.8s								
ARXS				*e*	S		**Sg**	**11 10 22.1**	**+0.2**
	31nm,1.2s								
NIL	**Nilore**	**5.82**	**181**				**Pn**	**11 08 47.8**	**+4.4**
NIL	**Nilore**	**5.82**	**181**		PN		**Pn**	**11 08 47.8**	**+4.4**
SHLS	**Shalkode**	**5.89**	**50**	*e*	P		**Pg**	**11 09 08.5**	**-0.3**
	5.2nm,0.6s								
SHLS				*e*	S		**Sg**	**11 10 32.6**	**+7.5**
	10nm,0.6s								
BLB	**Baldybastay**	**6.00**	**38**	*e*	P		Pb	11 09 06.2	+4.9
	9.8nm,0.6s								
BLB				*e*	S		**Sg**	**11 10 28.6**	**+0.1**
	35nm,1.1s								
KBL	**Kabul**	**6.01**	**216**	Pn			**Pn**	**11 08 47.9**	**+1.8**
KBL	**Kabul**	**6.01**	**216**	PN			**Pn**	**11 08 47.9**	**+1.8**
DJR	**Jarkent**	**6.83**	**43**	*e*	P		**Pb**	**11 09 19.7**	**+4.4**
	4.0nm,1.0s								
DJR				*e*	S		**Sg**	**11 10 52.0**	**-3.1**
	12nm,1.2s								
MK31	**Makanchi Array**	**9.80**	**39**	*i*	P		**Pn**	**11 09 39.0**	**+1.1**
MKAR	**Makanchi Array**	**9.80**	**39**		Pn		**Pn**	**11 09 40.7**	**+2.9**
	baz=228,slow=15,SNR=2.7								
MKAR					Lg		Lg	11 12 25.5	
	0.1nm,0.3s,baz=227,slow=25,SNR=2.6 0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**11.72**	**16**		Pn		**Pn**	**11 10 04.0**	**-0.1**
	baz=202,slow=12,SNR=3.1								
KURBB					Lg		Lg	11 13 28.0	
	baz=206,slow=32,SNR=4.8 0.3nm,0.6s								
KURK	**Kurchatov**	**11.83**	**17**	*e*	P		**Pn**	**11 10 07.7**	**+2.1**
AB31	**Akbulak array**	**13.66**	**320**	⇓	P		**Pn**	**11 10 29.4**	**-1.3**
	1.0nm,0.5s,baz=133,slow=12,SNR=9.3								
ABKAR	**Akbulak array**	**13.66**	**320**		Pn		**Pn**	**11 10 30.7**	**0.0**
BVAR	**Borovoye Array**	**13.70**	**352**		Pn		**Pn**	**11 10 29.6**	**-1.5**
	0.1nm,0.3s,baz=228,slow=42,SNR=2.5								
BVAR					Lg		Lg	11 14 28.9	
	0.1nm,0.3s,baz=163,slow=36,SNR=2.2 0.5nm,0.6s								
BRVK	**Borovoye**	**13.74**	**352**		Pn		**Pn**	**11 10 33.0**	**+1.4**
BRVK	**Borovoye**	**13.74**	**352**	⇑	P		**Pn**	**11 10 34.7**	**+3.1**
DGZ	**Jazzator, Alta**	**14.30**	**40**	*e*	P		**Pn**	**11 10 38.8**	**-0.7**
AKTO	**Aktyubinsk**	**15.38**	**320**		P		**P**	**11 10 56.9**	**-1.8**
AKTO	**Aktyubinsk**	**15.38**	**320**	⇑	P		**P**	**11 10 57.0**	**-1.8**
	2.5nm,0.7s								
ZAA0	**Zalesovo Array**	**16.44**	**25**		Pn		**P**	**11 11 09.8**	**-0.5**
ZAA0					lAmb		lAmb	11 11 13.0	
	comp=Z,2.9nm,1.0s								
ZALV	**Zalesovo Beam**	**16.44**	**25**		Pn		**Pn**	**11 11 08.5**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=211,slow=10,SNR=4.8								
ZALV					Lg		Lg	11 15 59.9	
	comp=Z,0.1nm,0.3s,baz=218,slow=26,SNR=1.6 comp=Z,1.5nm,0.5s								
ZALV	**Zalesovo Beam**	**16.44**	**25**		Pn		**P**	**11 11 10.1**	**-0.3**
ZALV	**Zalesovo Beam**	**16.44**	**25**	*i*	P		**Pn**	**11 11 09.1**	**+1.6**
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.6s								
ARU	**Arti**	**19.56**	**335**	*i*	P		**Pn**	**11 11 47.6**	**+1.6**
ARU					pmax		pmax		
	comp=Z,3.0nm,1.0s								
BR131	**Keskin Array S**	**30.42**	**283**		P		**P**	**11 13 32.6**	**+2.8**
BR131					lAmb		lAmb	11 13 32.9	
	comp=Z,5.1nm,1.3s								
BR131	**Keskin Array S**	**30.42**	**283**		P		**P**	**11 13 32.6**	**+2.8**
BRTR	**Keskin Array B**	**30.42**	**283**		P		**P**	**11 13 28.0**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=100,slow=5.5,SNR=5.0 comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**30.42**	**283**		P		**P**	**11 13 31.2**	**+1.5**
BRTR	**Keskin Array B**	**30.42**	**283**	*i*	P		**P**	**11 13 30.8**	**+1.0**
BRTR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**32.64**	**305**		P		**P**	**11 13 48.3**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=75,slow=7.0,SNR=5.6 comp=Z,0.3nm,0.2s								
FIA1	**FINESS Array S**	**36.12**	**323**		P		**P**	**11 14 22.1**	**+3.1**
FIA1					lAmb		lAmb	11 14 30.7	
	comp=Z,12nm,1.2s								
FINES	**FINESS Array B**	**36.12**	**323**		P		**P**	**11 14 18.0**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=116,slow=9.4,SNR=1.5 comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**36.12**	**323**		P		**P**	**11 14 21.0**	**+2.0**
FINES	**FINESS Array B**	**36.12**	**323**		P		**P**	**11 14 21.0**	**+2.0**
ARCES	**ARCESS Array B**	**39.14**	**336**		P		**P**	**11 14 43.1**	**-1.5**
	comp=Z,2.3nm,1.0s,baz=103,slow=10,SNR=1.4 comp=Z,2.3nm,1.0s								
NOA	**NORSAR Array B**	**43.17**	**321**		P		**P**	**11 15 16.6**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=91,slow=8.5,SNR=2.1 comp=Z,0.8nm,0.7s								
ESDC	**Sonseca Array**	**57.73**	**297**		P		**P**	**11 17 06.8**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=50,slow=7.5,SNR=4.6 comp=Z,0.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**67.63**	**269**		P		**P**	**11 18 12.9**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=43,slow=6.0,SNR=2.8 comp=Z,0.6nm,0.8s								
WRA	**Warramunga Arr**	**82.05**	**124**		P		**P**	**11 19 36.5**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=317,slow=5.6,SNR=2.4 comp=Z,0.5nm,0.6s								

KRNET 06 11:12:46.0±0.1,39.19N×73.99E,mb2.6,4C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.87**	**267**	⇑*i*	P		Pn	11 13 35.2	+2.1
	baz=67								
GAR				⇑*i*	S		Sb	11 14 11.5	-2.3
	baz=67								
UCH	**Uchtor**	**3.06**	**7**	⇑*i*	P		Pn	11 13 38.1	+2.0
	baz=7.0								
UCH				⇑*i*	S		Sn	11 14 16.3	+2.6
	baz=7.0								

SOME **06** *11:21:51.0,39.57N×72.88E,h5km*
*KRNET

115nm,0.6s
CHMS Chumysh 3.65 17⇑*e*P Pn 11 22 53.2 +0.5
baz=15
CHMS ⇑*e*S Sn 11 23 36.7 +0.4
baz=15
TKM2 Tokmak 2 3.82 26 ⇑Pn **Pn 11 22 58.1 +3.0**
1.3nm,0.3s
TKM2 ⇑Pg **Pg 11 23 10.5 +2.1**
5.5nm,0.7s
TKM2 ⇑Lg Lg 11 23 55.2
11nm,0.7s
TKM2 Tokmak 2 3.82 26⇓*e*P **Pn 11 22 55.6 +0.5**
baz=25
TKM2 ⇓*e*S **Sn 11 23 40.7 0.0**
baz=25
USP Ospenovka 3.86 13⇓*e*P **Pn 11 22 56.1 +0.6**
baz=12
USP ⇓*e*S **Sn 11 23 41.9 +0.5**
baz=12
KST Kastek 4.06 29 *e*P **Pb 11 23 06.9 -0.5**
2.9nm,0.3s
KST *e*S **Sg 11 24 01.8 -3.7**
15nm,0.5s
KST Kastek 4.06 29 Pg **Pb 11 23 06.9 -0.5**
2.9nm,0.3s
KST Lg Lg 11 24 02.1
15nm,0.5s
SGDS Sogindy 4.06 14 *e*P **Pb 11 23 06.7 -0.8**
2.2nm,0.4s
SGDS *e*S **Sb 11 24 01.4 +4.4**
9.6nm,1.0s
SGDS Sogindy 4.06 14 Pg **Pb 11 23 06.7 -0.8**
SGDS Lg Lg 11 24 01.4
DGS Degeres 4.16 26 *e*P **Pb 11 23 09.9 +0.8**
3.7nm,0.7s
DGS *e*S **Sg 11 24 06.7 -2.2**
16nm,0.5s
DGS Degeres 4.16 26 Pg **Pb 11 23 09.9 +0.8**
3.7nm,0.7s
DGS Lg Lg 11 24 06.7
16nm,0.5s
KK31 Karatay Array 4.17 330 Pn **Pn 11 23 01.9 +2.2**
1.3nm,0.3s,baz=290,slow=18,SNR=21
KK31 ⇓Pg **Pb 11 23 11.5 +2.3**
1.8nm,0.3s,baz=148,slow=16,SNR=5.7
KK31 Sn **Sn 11 23 52.8 +3.8**
6.9nm,0.5s,baz=144,slow=21,SNR=4.7
KK31 ⇓Lg Lg 11 24 06.1
4.5nm,0.3s,baz=157,slow=31,SNR=4.1
MTBS Maitube 4.31 32 *e*P **Pb 11 23 13.4 +1.7**
9.2nm,0.5s
MTBS *e*S **Sg 11 24 12.8 -0.8**
9.8nm,0.4s
MTBS Maitube 4.31 32 Pg **Pb 11 23 13.4 +1.7**
9.2nm,0.5s
MTBS Lg Lg 11 24 12.8
9.8nm,0.4s
KRBS Karabastau 4.54 22 *e*P **Pb 11 23 16.5 +0.9**
3.4nm,0.6s
KRBS *e*S **Sg 11 24 18.1 -3.0**
12nm,0.5s
KRBS Karabastau 4.54 22 Pg **Pb 11 23 16.5 +0.9**
3.4nm,0.6s
KRBS Lg Lg 11 24 18.1
12nm,0.5s
KTBS Karatobe 4.90 30 *e*P **Pb 11 23 23.3 +1.6**
1.8nm,0.6s
KTBS *e*S **Sg 11 24 29.8 -2.7**
19nm,0.6s
KTBS Karatobe 4.90 30 Pg **Pb 11 23 23.3 +1.6**
1.8nm,0.6s
KTBS Lg Lg 11 24 29.8
19nm,0.6s
BTLS Baital 5.56 5 *e*P **Pb 11 23 34.7 +1.9**
1.4nm,0.4s
BTLS *e*S **Sg 11 24 49.3 -4.3**
3.5nm,0.4s
BTLS Baital 5.56 5 Pg **Pb 11 23 34.7 +1.9**
1.4nm,0.4s
BTLS Lg Lg 11 24 49.3
3.5nm,0.4s
KPKS Kokpek 5.65 44 *e*P **Pb 11 23 37.8 +3.4**
3.8nm,0.3s
KPKS *e*S **Sg 11 24 54.9 -1.6**
7.7nm,0.8s
KPKS Kokpek 5.65 44 Pg **Pb 11 23 37.8 +3.4**
KPKS Lg Lg 11 24 54.9
AB31 Akbulak array 13.63 320 P **Pn 11 25 07.7 -1.7**
0.6nm,0.5s,baz=130,slow=11,SNR=7.0
AKTO Aktyubinsk 15.35 320⇓P **P 11 25 34.8 -2.7**
2.8nm,0.8s

MAN 06 11:30:32.4, 8.29N×125.80E, *h*66km, mb4.1, ML2.9, MS2.5, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.57**	**101**	⇓*i*P	Pn	11 30 45.8	+0.3
BIPH				*i* S	Sn	11 30 55.4	+0.2
BUTP	**Butuan**	**0.69**	**345**⇓*e*P		Pn	11 30 48.1	+1.1
BUTP				*e*S	Sn	11 31 01.1	+3.4
BUKP	**Musuan**	**0.84**	**241**⇓*e*P		Pn	11 30 49.8	+1.1
BUKP				*e*S	Sn	11 31 03.4	+2.7
CGP	**Cagayan de Oro**	**1.10**	**278**⇑*e*P		Pn	11 30 54.1	+2.0
CGP				*e*S	Sn	11 31 06.6	-0.1
SCPH	**Surigao**	**1.51**	**348**	*e*P	Pn	11 30 59.1	+1.7
SCPH				*i* S	Sn	11 31 11.2	-5.0
TBP	**Tagbilaran**	**2.37**	**306**	*e*P	Pn	11 31 09.8	+0.9
TBP				*i* S	Sn	11 31 38.2	+1.3

*NEIC **06** 11:36:59.4±1.3, 15.0S±0.1×166.8E±0.1, h10km±2km, mb4.3/5, Error ellipse: s-maj=26.8km s-min=14.3km az=54.0*
*IDC **06** 11:37:03.9±1.8, 15.2S×166.72E, h0km, mb3.7/3, mbtmp3.8/4, ML3.8/1, MS3.5/6, Error ellipse: s-maj=54.2km s-min=32.7km az=130.0*
*NOU **06** 11:37:09.0, 15.69S×166.67E, h0km, mB3.8/13, Vanuatu Islands*

ISC 06 11:37:06.0±1.2, 15.5S±0.1×166.5E±0.1, h29km, n30, σ2.9⁄47/25, mb4.1/6, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.80**	**144**	P	**Pn**	**11 37 50.1**	**+1.3**
RTV	**Rentapao**	**2.99**	**141**	P	**Pn**	**11 37 53.7**	**+2.3**
LIFNC	**LIFOU**	**5.35**	**172**	Pn	**Pn**	**11 38 23.3**	**-0.6**
KOUNC	**Koumac, New Ca**	**5.48**	**202**		**Pn**	**11 38 28.5**	**+2.8**
KOUNC	**Koumac, New Ca**	**5.48**	**202**	P	**Pn**	**11 38 29.9**	**+4.2**
MARNC	**Mare, Loyalty**	**6.18**	**166**	Pn	**Pn**	**11 38 34.8**	**-0.5**
MARNC	**Mare, Loyalty**	**6.18**	**166**	P	**Pn**	**11 38 38.6**	**+3.3**
DZM	**Mont Dzumac**	**6.58**	**180**	Pn	**Pn**	**11 38 43.2**	**+2.2**
	1.8nm,0.3s,baz=1.5,slow=22,SNR=2.9						
DZM				Sn	**Sn**	**11 39 53.5**	**-1.7**
	1.3nm,0.3s,baz=330,slow=23,SNR=1.6						
DZM				LR	LR	11 41 03.1	
	comp=Z,309nm,18.6s,baz=29,slow=36						
	7.7nm,0.4s						
DZM	**Mont Dzumac**	**6.58**	**180**	Pn	**Pn**	**11 38 42.6**	**+1.7**
YATNC	**Mamie plateau,**	**6.58**	**177**	P	**Pn**	**11 38 42.4**	**+1.5**
NOUC	**Port Laguerre**	**6.62**	**181**	P	**Pn**	**11 38 44.8**	**+3.5**
ONTNC	**Ouen Toro**	**6.82**	**180**	Pn	**Pn**	**11 38 45.2**	**+1.1**
ONTNC	**Ouen Toro**	**6.82**	**180**	P	**Pn**	**11 38 47.8**	**+3.7**
OUENC	**Ouen Island, N**	**6.94**	**177**	Pn	**Pn**	**11 38 47.9**	**+2.1**
OUENC	**Ouen Island, N**	**6.94**	**177**	P	**Pn**	**11 38 48.2**	**+2.5**
PINNC	**Pines Island,**	**7.18**	**173**	Pn	**Pn**	**11 38 51.4**	**+2.3**
PINNC	**Pines Island,**	**7.18**	**173**	P	**Pn**	**11 38 51.7**	**+2.6**
HNR	**Honiara**	**8.74**	**312**	LR	LR	11 42 18.4	
	comp=Z,1μm,20.9s,baz=150,slow=35						
MSVF	**Nonsavu**	**11.33**	**103**	LR	LR	11 43 15.4	
	comp=Z,122nm,18.1s,baz=232,slow=33						
WR0	**Warramunga Arr**	**30.72**	**257**	P	**P**	**11 43 18.0**	**-0.7**
WR0				IAmb	IAmb	11 43 23.1	
	comp=Z,7.6nm,1.4s						
WB2	**Warramunga Arr**	**30.90**	**257**	P	**P**	**11 43 17.7**	**-2.6**
WB2				IAmb	IAmb	11 43 18.7	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**30.91**	**257**	P	P	11 43 25.4	+5.0
	comp=Z,0.6nm,1.0s,baz=89,slow=7.6,SNR=2.6						
	comp=Z,0.6nm,1.0s						
WRA	**Warramunga Arr**	**30.91**	**257**	P	**P**	**11 43 19.7**	**-0.7**
ASAR	**Alice Springs**	**31.70**	**250**	P	**P**	**11 43 31.2**	**+3.8**
	comp=Z,1.1nm,0.9s,baz=81,slow=8.4,SNR=7.5						
	comp=Z,1.1nm,0.9s						
GUMO	**Guam**	**35.91**	**322**	LR	LR	11 56 33.8	
	comp=Z,28nm,21.6s,baz=140,slow=32						
FORT	**Forrest**	**38.27**	**240**	P	**P**	**11 44 23.0**	**-0.9**
SHEM	**Shemya Is, Ala**	**68.22**	**5**	LR	LR	12 12 43.3	
	comp=Z,35nm,20.8s,baz=168,slow=31						
PETK	**Petropavlovsk-**	**68.69**	**354**	LR	LR	12 16 38.8	
	comp=Z,22nm,18.1s,baz=102,slow=35						
QSPA	**South Pole Qui**	**74.58**	**180**	P	**P**	**11 48 41.0**	**-1.1**
QSPA				IAmb	IAmb	11 49 09.1	
	comp=Z,2.5nm,1.1s						
ILAR	**Eielson Array**	**87.45**	**18**	P	**P**	**11 49 52.3**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=234,slow=5.8,SNR=9.1						
	comp=Z,1.0nm,0.8s						

*IDC **06** 12:07:56.4±0.5, 45.81S×95.83E, h0km, mb4.5/21, mbtmp4.5/21, MS4.8/52, Error ellipse: s-maj=17.3km s-min=12.5km az=134.0*
*NEIC **06** 12:07:57.8±1.8, 45.80S±0.10×95.77E±0.04, h10km±1km, mb5.2/59, Mwb5.3/13, Error ellipse: s-maj=16.5km s-min=4.1km az=188.0*
*NEIC **06** 12:07:57.6, 45.84S×95.74E, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.18; Mθθ-1.29; Mϕϕ 1.11; Mrθ-0.17; Mrϕ-0.39; Mθϕ0.06; Fault plane solution: M₀1.28000×10¹⁷ NP1:φs125.98000°, δ89.51000°, λ-172.27000°. NP2:φs35.92000°, δ82.27000°, λ-0.49000°. Principal axes: T 1.1772, Plg5.0000°, Azm261.0000°; N 0.1854, Plg82.0000°, Azm130.0000°; P -1.3626, Plg6.0000°, Azm351.0000°;*
*BJI **06** 12:07:58.6±0.0, 45.45S×95.20E, h15km, mb4.9/47, mB5.2/36, Ms5.2/42, Ms7 5.0/41*
*GCMT **06** 12:08:00.8±0.1, 45.73S±0.01×95.82E±0.01, h12km, MW5.3/138, Moment Tensor Solution. s107,c165; s138,c266; Duration: 1†1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.18±.01; Mθθ-1.26±.01; Mϕϕ1.08±.01; Mrθ0.12±.04; Mθϕ-0.41±.01; Mϕr-0.07±.04; Best double couple: M₀1.24700×10¹⁷ NP1:φs125.00000°, δ89.00000°, λ173.00000°. NP2:φs215.00000°, δ83.00000°, λ1.00000°. Principal axes: T 1.1570, Plg5.0000°, Azm80.0000°; N 0.1770, Plg83.0000°, Azm299.0000°; P -1.3370, Plg4.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 12:07:57.9±0.3, 45.89S±0.05×95.80E±0.07, h12km, n260, σ1†70/276, mb5.0/63, MS4.9/73, 2C-3D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.72**	**58**	T	T	12 30 05.1	
	baz=226,slow=74,SNR=1262						
H01W3	**Cape Leeuwin H**	**17.73**	**58**	T	T	12 30 04.6	
	baz=226,slow=74,SNR=1358						
H01W1	**Cape Leeuwin H**	**17.74**	**58**	T	T	12 30 09.6	
	baz=226,slow=74,SNR=1429						
NWAO	**Narrogin (SRO)**	**20.94**	**59**	P	**P**	**12 12 40.0**	**-0.5**
	21nm,1.1s,baz=45,slow=13,SNR=2.9						
NWAO				LR	LR	12 18 48.1	
	comp=Z,4μm,20.0s,baz=92,slow=31						
	21nm,1.1s						
NWAO	**Narrogin (SRO)**	**20.94**	**59**	P	**P**	**12 12 38.5**	**-2.0**
NWAO				IAmb	IAmb	12 12 46.2	
	comp=Z,284nm,1.9s						
MUN	**Mundaring**	**21.02**	**56**	P	**P**	**12 12 42.1**	**+0.8**
	baz=21,SNR=6.1						
MUN	**Mundaring**	**21.02**	**56**	P	**P**	**12 12 42.1**	**+0.8**
CASY	**Casey**	**21.91**	**164**	P	**P**	**12 12 52.1**	**+1.5**
CASY				IAmb	IAmb	12 12 55.9	
	comp=Z,140nm,1.6s						
KLBR	**Kellerberrin**	**22.20**	**58**	P	**P**	**12 12 54.9**	**+0.9**
BLDU	**Ballidu**	**22.31**	**54**	P	**P**	**12 12 57.8**	**+2.5**
	baz=22,SNR=6.8						
BLDU	**Ballidu**	**22.31**	**54**	P	**P**	**12 12 56.3**	**+1.0**
MAW	**Mawson**	**27.66**	**207**	P	**P**	**12 13 46.6**	**+1.5**
	comp=Z,22nm,1.0s,baz=53,slow=11,SNR=30						
MAW				LR	LR	12 22 45.0	
	comp=Z,1μm,18.5s,baz=50,slow=32						
	comp=Z,22nm,1.0s						
MAW	**Mawson**	**27.66**	**207**	P	**P**	**12 13 48.0**	**+2.9**
	baz=28,SNR=13						
MAW	**Mawson**	**27.66**	**207**	P	**P**	**12 13 46.4**	**+1.2**
FORT	**Forrest**	**29.22**	**70**	P	**P**	**12 13 57.7**	**-1.7**
FORT				IAmb	IAmb	12 14 27.1	
	comp=Z,23nm,0.9s						
PSA00	**Pilbara Seismi**	**31.21**	**47**	P	**P**	**12 14 15.2**	**-1.8**
PSA00				IAmb	IAmb	12 14 18.1	
	comp=Z,30nm,1.2s						
PSA00	**Pilbara Seismi**	**31.21**	**47**	P	**P**	**12 14 17.1**	**0.0**
MBWA	**Marble Bar**	**31.50**	**46**	P	**P**	**12 14 17.2**	**-2.3**
WRKA	**Warakurna**	**33.33**	**63**	P	**P**	**12 14 36.4**	**+0.7**
	baz=33,SNR=5.9						
BBOO	**Buckleboo**	**33.40**	**81**	P	**P**	**12 14 34.3**	**-2.0**
BBOO				IAmb	IAmb	12 14 37.2	
	comp=Z,28nm,1.4s						
BBOO	**Buckleboo**	**33.40**	**81**	P	**P**	**12 14 36.6**	**+0.3**
MULG	**Mulgathing**	**33.54**	**76**	P	**P**	**12 14 37.6**	**+0.1**
HTT	**Hallett**	**35.04**	**85**	P	**P**	**12 14 51.1**	**+0.6**
	baz=35,SNR=5.9						
HTT	**Hallett**	**35.04**	**85**	P	**P**	**12 14 50.9**	**+0.4**
ARPS	**Mount Arapiles**	**35.33**	**92**	P	**P**	**12 14 55.0**	**+2.1**
LCRK	**Leigh Creek**	**36.28**	**80**	P	**P**	**12 15 01.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**37.14**	**52**	P	**P**	**12 15 08.5**	**0.0**
	comp=Z,9.5nm,1.0s,baz=227,slow=7.1,SNR=14						
FITZ				LR	LR	12 29 26.6	
	comp=Z,1μm,18.1s,baz=226,slow=35						
	comp=Z,9.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**37.14**	**52**	P	**P**	**12 15 08.5**	**0.0**
	baz=37,SNR=9.8						
FITZ	**Fitzroy Crossi**	**37.14**	**52**	P	**P**	**12 15 08.4**	**0.0**
FITZ				IAmb	IAmb	12 15 10.2	
	comp=Z,33nm,1.3s						
FITZ	**Fitzroy Crossi**	**37.14**	**52**	P	**P**	**12 15 09.2**	**+0.7**
TOO	**Toolangi**	**37.48**	**95**	P	**P**	**12 15 11.7**	**+0.4**
STKA	**Stephens Creek**	**37.77**	**85**	P	**P**	**12 15 14.3**	**+0.6**
	comp=Z,9.1nm,1.0s,baz=221,slow=7.9,SNR=12						
STKA				PcP	**PcP**	**12 17 30.6**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=252,slow=2.1,SNR=2.8						
STKA				LR	LR	12 27 37.1	
	comp=Z,3μm,21.6s,baz=228,slow=31						
	comp=Z,9.1nm,1.0s						
STKA	**Stephens Creek**	**37.77**	**85**	P	**P**	**12 15 14.7**	**+0.9**
	baz=38,SNR=9.1						
STKA	**Stephens Creek**	**37.77**	**85**	P	**P**	**12 15 12.7**	**-1.1**
STKA	**Stephens Creek**	**37.77**	**85**	P	**P**	**12 15 14.4**	**+0.6**
ASAR	**Alice Springs**	**37.85**	**67**	P	**P**	**12 15 14.2**	**-0.4**
	comp=Z,8.3nm,1.0s,baz=224,slow=7.5,SNR=39						
ASAR				PP	**PP**	**12 16 40.9**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=228,slow=11,SNR=2.2						
ASAR				PcP	**PcP**	**12 17 31.2**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=218,slow=2.2,SNR=5.1						
ASAR				ScP	**ScP**	**12 21 18.9**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=222,slow=1.2,SNR=3.0						
ASAR				LR	LR	12 28 27.5	
	comp=Z,3μm,22.0s,baz=252,slow=33						
	comp=Z,8.3nm,1.0s						
ASAR	**Alice Springs**	**37.85**	**67**	P	**P**	**12 15 13.5**	**-1.1**
AS31	**Alice Springs**	**37.86**	**67**	P	**P**	**12 15 12.8**	**-1.8**
INKA	**Innaminka**	**39.69**	**79**	P	**P**	**12 15 31.5**	**+1.6**
LEM	**Lembang**	**40.24**	**18**	LR	LR	12 28 34.7	
	comp=Z,2μm,20.7s,baz=188,slow=31						
VNDA	**Vanda**	**40.51**	**162**	P	**P**	**12 15 36.7**	**+0.5**
	comp=Z,4.2nm,1.1s,baz=288,slow=11,SNR=8.8						
VNDA				LR	LR	12 31 07.2	
	comp=Z,3μm,18.2s,baz=284,slow=34						
	comp=Z,4.2nm,1.1s						
VNDA	**Vanda**	**40.51**	**162**	P	**P**	**12 15 35.9**	**-0.3**
CMSA	**Cobar Meteorol**	**40.82**	**87**	P	**P**	**12 15 40.1**	**+0.8**
	baz=41,SNR=8.7						
CMSA	**Cobar Meteorol**	**40.82**	**87**	P	**P**	**12 15 40.6**	**+1.3**
KNRA	**Kununurra**	**40.83**	**53**	P	**P**	**12 15 38.3**	**-1.1**
KNRA				IAmb	IAmb	12 15 44.3	
	comp=Z,70nm,1.9s						
WRA	**Warramunga Arr**	**40.84**	**64**	P	**P**	**12 15 39.0**	**-0.4**
	comp=Z,17nm,1.0s,baz=221,slow=7.6,SNR=54						
WRA				PcP	**PcP**	**12 17 39.1**	**-1.2**
	comp=Z,0.5nm,1.1s,baz=230,slow=3.0,SNR=2.7						
WRA				LR	LR	12 30 35.1	
	comp=Z,5μm,20.4s,baz=218,slow=33						
	comp=Z,17nm,1.0s						
WRA	**Warramunga Arr**	**40.84**	**64**	P	**P**	**12 15 38.4**	**-1.1**
WB2	**Warramunga Arr**	**40.84**	**64**	P	**P**	**12 15 39.4**	**-0.2**
WRAB	**Tennant Creek**	**40.85**	**64**	P	**P**	**12 15 39.2**	**-0.4**
WRAB				IAmb	IAmb	12 15 40.8	
	comp=Z,38nm,1.2s						
WRAB	**Tennant Creek**	**40.85**	**64**	P	**P**	**12 15 39.9**	**+0.3**
WR0	**Warramunga Arr**	**40.95**	**64**	P	**P**	**12 15 40.0**	**-0.4**
WR0				IAmb	IAmb	12 15 41.4	
	comp=Z,32nm,1.1s						
WB0	**Warramunga Arr**	**41.00**	**64**	P	**P**	**12 15 39.7**	**-1.1**
WB0				IAmb	IAmb	12 15 41.8	
	comp=Z,30nm,1.1s						
SBA	**Scott Base**	**41.60**	**162**	P	**P**	**12 15 44.3**	**-0.8**
QLP	**Quilpie**	**42.82**	**80**	P	**P**	**12 15 57.1**	**+1.5**
	baz=43,SNR=8.6						
QLP	**Quilpie**	**42.82**	**80**	P	**P**	**12 15 57.1**	**+1.5**
MASI	**Maura Aman, Be**	**42.95**	**9**	P	**P**	**12 15 58.1**	**+1.3**
	comp=Z,74nm,1.2s						
H08S2	**Diego Garcia H**	**43.08**	**325**	T	T	13 01 42.5	
	baz=156,slow=76,SNR=189						
H08S1	**Diego Carcia H**	**43.09**	**325**	T	T	13 01 43.9	
	baz=156,slow=76,SNR=175						
H08S3	**Diego Garcia H**	**43.10**	**325**	T	T	13 01 46.8	
	baz=156,slow=76,SNR=214						
EDFI	**Ende, Flores**	**43.18**	**39**	P	**P**	**12 15 58.8**	**+0.1**
	comp=Z,29nm,1.2s						
MMRI	**Maumere**	**43.52**	**40**	P	**P**	**12 15 59.8**	**-1.6**
MMRI				IAmb	IAmb	12 16 07.0	
	comp=Z,79nm,1.4s						
QIS	**Mount Isa**	**43.77**	**70**	P	**P**	**12 16 04.6**	**+1.2**
	baz=44,SNR=5.1						
QIS	**Mount Isa**	**43.77**	**70**	P	**P**	**12 16 04.3**	**+0.9**
QSPA	**South Pole Qui**	**44.25**	**180**	P	**P**	**12 16 08.1**	**+1.2**
	comp=Z,12nm,1.1s,baz=282,slow=6.7,SNR=26						
QSPA				LR	LR	12 33 27.1	
	comp=Z,7μm,18.6s,baz=310,slow=34						
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**44.25**	**180**	P	**P**	**12 16 08.1**	**+1.2**
QSPA				IAmb	IAmb	12 16 09.8	
	comp=Z,56nm,1.4s						
MTN	**Manton Dam**	**44.46**	**54**	P	**P**	**12 16 08.1**	**-0.8**
MTN				IAmb	IAmb	12 16 10.2	
	comp=Z,52nm,1.4s						
KDU	**Kakadu**	**45.34**	**55**	P	**P**	**12 16 16.9**	**+1.0**
ARMA	**Armidale**	**45.62**	**90**	P	**P**	**12 16 19.6**	**+1.4**
	baz=46,SNR=5.6						
ARMA	**Armidale**	**45.62**	**90**	P	**P**	**12 16 17.1**	**-1.0**
ARMA				IAmb	IAmb	12 16 24.8	
	comp=Z,34nm,1.2s						
ARMA	**Armidale**	**45.62**	**90**	P	**P**	**12 16 19.6**	**+1.4**
RMQ	**Roma**	**46.01**	**84**	P	**P**	**12 16 22.8**	**+1.6**
	baz=46,SNR=6.9						
RMQ	**Roma**	**46.01**	**84**	P	**P**	**12 16 22.6**	**+1.4**
VOI	**Vohitsoka**	**46.30**	**284**	P	**P**	**12 16 21.4**	**-2.2**
VOI				IAmb	IAmb	12 16 25.7	
	comp=Z,68nm,1.7s						
SPSI	**Sidrap Palu**	**46.70**	**34**	P	**P**	**12 16 27.4**	**+0.8**
TROLL	**Troll, Antarti**	**48.09**	**205**	P	**P**	**12 16 38.3**	**+1.2**
RPSI	**Rantau Prapat**	**48.46**	**4**	P	**P**	**12 16 40.9**	**+0.7**
CTA	**Charters Tower**	**48.52**	**75**	P	**P**	**12 16 41.2**	**+0.4**
	comp=Z,12nm,1.0s,baz=228,slow=12,SNR=4.4						
CTA				LR	LR	12 35 37.2	
	comp=Z,2μm,19.1s,baz=237,slow=34						
	comp=Z,12nm,1.0s						
PSI	**Prapat**	**48.56**	**4**	P	**P**	**12 16 40.9**	**-0.3**
	comp=Z,9.8nm,0.8s,baz=184,slow=2.0,SNR=4.1						
PSI				LR	LR	12 34 10.9	
	comp=Z,1μm,19.8s,baz=176,slow=33						
	comp=Z,9.8nm,0.8s						
SNAA	**Sanae**	**49.78**	**204**	P	**P**	**12 16 50.8**	**+1.0**
SNAA	**Sanae**	**49.78**	**204**	P	**P**	**12 16 51.3**	**+1.4**
	comp=Z,12nm,0.9s,baz=126,slow=7.7,SNR=19						
SNAA				LR	LR	12 35 20.7	
	comp=Z,1μm,21.1s,baz=104,slow=33						
	comp=Z,12nm,0.9s						
SNAA	**Sanae**	**49.78**	**204**	P	**P**	**12 16 50.6**	**+0.8**
SNAA				IAmb	IAmb	12 16 53.0	
	comp=Z,74nm,1.6s						
SBUM	**Sibu**	**50.29**	**22**	P	**P**	**12 16 53.2**	**-1.0**
VNA2	**Neumayer--Watz**	**51.43**	**204**	P	**P**	**12 17 02.5**	**+0.2**
	baz=111,slow=7.0						
RPZ	**Rata Peaks**	**51.55**	**116**	LR	LR	12 34 27.1	
	comp=Z,724nm,21.9s,baz=242,slow=31						
TOLI2	**Tolitoli**	**51.74**	**33**	P	**P**	**12 17 04.3**	**-0.9**
TOLI2				IAmb	IAmb	12 17 10.1	
	comp=Z,35nm,1.2s						
VNA1	**Neumayer--Stat**	**51.81**	**204**	P	**P**	**12 17 06.5**	**+1.4**
VNA3	**Neumayer Olymp**	**51.91**	**203**	P	**P**	**12 17 07.0**	**+1.2**
BELA	**Belgrano 2**	**52.86**	**192**	P	**P**	**12 17 13.3**	**+0.5**
BELA				IAmb	IAmb	12 17 15.1	
	comp=Z,28nm,1.5s						
FAKI	**Fak Fak**	**53.33**	**48**	P	**P**	**12 17 15.0**	**-2.0**
SIJI	**Sorong**	**54.58**	**45**	P	**P**	**12 17 25.9**	**-0.3**
	comp=Z,9.0nm,0.8s,baz=263,slow=5.0,SNR=6.5						
SIJI				LR	LR	12 41 35.4	
	comp=Z,130nm,18.8s,baz=173,slow=37						
	comp=Z,9.0nm,0.8s						
PALK	**Pallekele**	**54.63**	**342**	LR	LR	12 35 27.9	
	comp=Z,1μm,20.6s,baz=278,slow=30						
MYLDM	**Lahad Datu**	**54.72**	**28**	P	**P**	**12 17 25.6**	**-1.5**
MYLDM				IAmb	IAmb	12 18 04.4	
	comp=Z,38nm,1.4s						
PMG	**Port Moresby**	**56.87**	**67**	LR	LR	12 40 44.1	
	comp=Z,1μm,18.4s,baz=217,slow=35						
BOSA	**Boshof**	**56.94**	**262**	P	**P**	**12 17 43.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=92,slow=8.8,SNR=3.6						
BOSA				LR	LR	12 36 23.3	
	comp=Z,1μm,21.6s,baz=144,slow=30						
	comp=Z,1.6nm,0.7s						
BOSA	**Boshof**	**56.94**	**262**	P	**P**	**12 17 41.5**	**-1.7**
BOSA				IAmb	IAmb	12 17 44.5	
	comp=Z,60nm,1.9s						
SUR	**Sutherland**	**57.69**	**255**	P	**P**	**12 17 49.8**	**+1.3**
	comp=Z,3.1nm,0.8s,baz=142,slow=12,SNR=1.7						
SUR				LR	LR	12 38 02.6	
	comp=Z,1μm,18.2s,baz=136,slow=31						
	comp=Z,3.1nm,0.8s						
URZ	**Urewera**	**58.37**	**114**	LR	LR	12 39 44.7	
	comp=Z,905nm,18.2s,baz=152,slow=33						
PCHI	**Peechi**	**58.83**	**337**	*e*P	**P**	**12 17 55.1**	**-1.2**
LBTB	**Lobatse**	**58.97**	**265**	LR	LR	12 37 54.8	
	comp=Z,1μm,21.1s,baz=138,slow=30						
DAV	**Davao City (W)**	**59.06**	**35**	LR	LR	12 40 48.1	
	comp=Z,114nm,21.0s,baz=196,slow=33						
MATP	**Matopo**	**59.93**	**271**	LR	LR	12 38 44.0	
	comp=Z,3μm,21.2s,baz=65,slow=31						
DZM	**Mont Dzumac**	**61.18**	**93**	*e*LR	LR	12 36 19.3	
	comp=Z,2μm,23.8s						
DZM	**Mont Dzumac**	**61.18**	**93**	LR	LR	12 40 47.2	
	comp=Z,692nm,19.5s,baz=224,slow=32						
LSZ	**Lusaka**	**63.63**	**275**	LR	LR	12 41 11.6	
	comp=Z,1μm,20.0s,baz=142,slow=31						
KRVT	**Keravat (AS076**	**63.86**	**67**	LR	LR	12 45 15

TSUM	Tsumeb	68.36	264	P	P	12 18 59.2	-0.3		
PMSA	Palmer Station	68.55	189	LR	LR	12 50 04.6			
	comp=Z,2μm,18.2s,baz=174,slow=37								
KMI	Kunming	70.96	7	⇓P	P	12 19 17.2	+1.9		
KMI				pP	pwP	12 19 21.6	-0.8		
KMI				S	S	12 28 35.1	+4.2		
KMI				SKS	SKSac	12 29 13.3	-4.3		
KMI				pmax	pmax				
	comp=Z,19nm,2.0s								
KMI				pmax	pmax				
	comp=Z,140nm,3.5s								
KMI				LR	LR				
	comp=Z,930nm,18.5s								
KMI				LR	LR				
	comp=Z,530nm,17.7s								
KMI				LR	LR				
	comp=Z,1μm,18.3s								
SHL	Shillong	71.21	356	P	P	12 19 16.1	-0.7		
MSVF	Nonsavu	72.15	97	LR	LR	12 44 49.5			
	comp=Z,320nm,21.9s,baz=221,slow=31								
PZH	PanZhiHua	72.25	6	P	P	12 19 25.3	+2.4		
PZH				S	S	12 28 47.4	+1.8		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.9s								
PZH				pmax	pmax				
	comp=Z,100nm,3.5s								
PZH				LR	LR				
	comp=Z,690nm,21.2s								
PZH				LR	LR				
	comp=Z,370nm,18.4s								
PZH				LR	LR				
	comp=Z,930nm,19.2s								
MBAR	Mbarara	72.43	288	LR	LR	12 46 51.8			
	comp=Z,654nm,19.8s,baz=134,slow=32								
GYA	Guiyang	72.68	10	⇑P	P	12 19 26.9	+1.4		
GYA				S	S	12 28 52.2	+1.7		
GYA				pmax	pmax				
	comp=Z,21nm,1.2s								
GYA				pmax	pmax				
	comp=Z,220nm,3.5s								
GYA				LR	LR				
	comp=Z,680nm,20.0s								
GYA				LR	LR				
	comp=Z,560nm,20.0s								
GYA				LR	LR				
	comp=Z,1μm,20.7s								
GUMO	Guam	73.87	50	LR	LR	12 52 54.4			
	comp=Z,148nm,18.4s,baz=264,slow=37								
ATD	Arta Tunnel	74.32	306	LR	LR	12 46 48.4			
	comp=Z,468nm,19.5s,baz=152,slow=31								
LSA	Lhasa	75.36	356	P	P	12 19 42.2	+0.7		
LSA				pmax	pmax				
	comp=Z,13nm,1.9s								
WSAR	Wadi Sarin	76.64	325	LR	LR	12 46 42.4			
	comp=Z,687nm,19.0s,baz=157,slow=30								
ENH	Enshi	76.82	12	P	P	12 19 49.3	0.0		
ENH				IAmb	IAmb	12 19 55.5			
	comp=Z,50nm,1.4s								
JOW	Kunigami	78.16	29	LR	LR	12 50 45.4			
	comp=Z,190nm,21.5s,baz=285,slow=33								
USHA	Ushuaia	78.76	189	LR	LR	12 53 01.7			
	comp=Z,1μm,21.1s,baz=158,slow=34								
XAN	Xi'an	80.44	11	P	P	12 20 10.0	+0.8		
XAN				pP	sP	12 20 14.1	+0.9		
XAN				sP	pwP	12 20 17.8	+1.5		
XAN				PP	PP	12 23 17.5	+4.6		
XAN				S	S	12 30 17.8	+2.8		
XAN				SKS	SKSac	12 30 22.3	-4.3		
XAN				SS	SS	12 35 25.8	-2.1		
XAN				pmax	pmax				
	comp=Z,20nm,1.3s								
XAN				pmax	pmax				
	comp=Z,120nm,4.1s								
XAN				LR	LR				
	comp=Z,720nm,18.7s								
XAN				LR	LR				
	comp=Z,590nm,18.9s								
XAN				LR	LR				
	comp=Z,940nm,19.6s								
LYN	LuoYang	81.48	14	eP	P	12 20 14.2	-0.4		
LYN				pP	sP	12 20 19.3	+0.7		
LYN				sP	pwP	12 20 21.5	-0.3		
LYN				S	S	12 30 28.7	+3.0		
LYN				pmax	pmax				
	comp=Z,80nm,3.6s								
LYN				LR	LR				
	comp=Z,780nm,22.8s								
LYN				LR	LR				
	comp=Z,510nm,21.8s								
LYN				LR	LR				
	comp=Z,900nm,21.2s								
GOMU	GeErMu	81.72	359	P	P	12 20 18.3	+2.0		
GOMU				pP	PcP	12 20 22.0	-0.1		
GOMU				sP	pwP	12 20 23.7	+0.2		
GOMU				pmax	pmax				
	comp=Z,61nm,4.1s								
GOMU				LR	LR				
	comp=Z,250nm,19.4s								
GOMU				LR	LR				
	comp=Z,230nm,19.8s								
GOMU				LR	LR				
	comp=Z,200nm,20.6s								
NIL	Nilore	81.76	341	P	P	12 20 16.2	0.0		
NIL				IAmb	IAmb	12 20 21.3			
	comp=Z,44nm,1.2s								
AFI	Afiamalu	81.82	101	LR	LR	12 50 04.7			
	comp=Z,290nm,21.2s,baz=210,slow=31								
LZH	Lanzhou	81.93	7	⇑P	P	12 20 18.4	+1.2		
LZH				sP	pwP	12 20 28.3	+4.0		
LZH				S	S	12 30 32.7	+2.1		
LZH				pmax	pmax				
	comp=Z,16nm,1.4s								
LZH				pmax	pmax				
	comp=Z,190nm,5.5s								
LZH				LR	LR				
	comp=Z,320nm,15.1s								
LZH				LR	LR				
	comp=Z,370nm,16.1s								
LZH				LR	LR				
	comp=Z,330nm,16.1s								
KBL	Kabul	83.64	338	P	P	12 20 25.8	-0.4		
RAR	Rarotonga	84.54	115	LR	LR	12 51 20.0			
	comp=Z,250nm,18.6s,baz=226,slow=31								
HNS	HongShan	84.64	15	⇓P	P	12 20 31.5	+0.6		
HNS				S	S	12 31 01.2	+3.5		
HNS				pmax	pmax				
	comp=Z,19nm,1.5s								
HNS				LR	LR				
	comp=Z,310nm,21.8s								
HNS				LR	LR				
	comp=Z,220nm,19.4s								
HNS				LR	LR				
	comp=Z,560nm,20.8s								
GTA	Gaotai	85.00	3	⇓P	P	12 20 33.0	+0.1		
GTA				pP	sP	12 20 37.7	+0.8		
GTA				sP	pwP	12 20 40.8	+0.8		
GTA				S	S	12 31 01.0	-0.5		
GTA				pmax	pmax				
	comp=Z,9.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,76nm,6.2s								
GTA				LR	LR				
	comp=Z,300nm,20.7s								
GTA				LR	LR				
	comp=Z,340nm,18.9s								
GTA				LR	LR				
	comp=Z,470nm,20.7s								
HRA	Herat	85.47	333	P	P	12 20 35.3	-0.2		
HRA				IAmb	IAmb	12 20 41.4			
	comp=Z,23nm,1.3s								
KSH	Kashi	86.87	345	P	P	12 20 40.7	-1.4		
KSH				pP	pP	12 20 45.6	+0.5		
KSH				S	S	12 31 14.7	-5.1		
KSH				pmax	pmax				
	comp=Z,9.0nm,1.3s								
KSH				LR	LR				
	comp=Z,690nm,17.9s								
KSH				LR	LR				
	comp=Z,690nm,17.5s								
KSH				LR	LR				
	comp=Z,810nm,18.2s								
BJT	Baijiatuau	87.45	16	P	P	12 20 45.5	+0.7		
BJI	Beijing	87.48	16	P	P	12 20 45.3	+0.5		
BJI				PcP	sP	12 20 50.0	+1.2		
BJI				S	S	12 31 24.7	-0.6		
BJI				ScS	ScS	12 31 33.4	+1.2		
BJI				pmax	pmax				
	comp=Z,8.0nm,1.6s								
BJI				pmax	pmax				
	comp=Z,160nm,4.5s								
BJI				LR	LR				
	comp=Z,60nm,18.1s								
BJI				LR	LR				
	comp=Z,160nm,18.5s								
BJI				LR	LR				
	comp=Z,270nm,18.3s								
HHC	Hu-ho-hao-te	87.50	12	eP	P	12 20 47.4	+2.3		
HHC				S	S	12 31 24.7	-1.1		
HHC				SS	SS	12 37 10.2	-2.0		
HHC				pmax	pmax				
	comp=Z,17nm,0.9s								
HHC				pmax	pmax				
	comp=Z,200nm,4.2s								
HHC				LR	LR				
	comp=Z,1μm,21.6s								
HHC				LR	LR				
	comp=Z,1μm,19.7s								
HHC				LR	LR				
	comp=Z,2μm,19.7s								
CHGR	Chuyangaron	87.51	339	P	P	12 20 44.8	-0.4		
GAR	Garm	87.56	340	P	P	12 20 45.3	-0.1		
KSAR	Wonju Array Be	87.84	25	P	P	12 20 46.6	-0.1		
KSRS	Korea Array	87.86	25	P	P	12 20 46.6	-0.1		
	comp=Z,0.9nm,0.7s,baz=200,slow=4.3,SNR=8.2								
KSRS				LR	LR	13 00 34.5			
	comp=Z,135nm,19.5s,baz=260,slow=36								
	comp=Z,0.9nm,0.7s								
JHJ	Hachijo jima 2	88.14	36	LR	LR	13 01 34.8			
	comp=Z,128nm,18.1s,baz=356,slow=36								
BTK	Batken	88.45	341	P	P	12 20 50.4	+0.8		
BTK				IAmb	IAmb	12 20 57.5			
	comp=Z,34nm,1.6s								
TARG	Taragay, Kyrgy	88.71	347	P	P	12 20 50.2	-1.0		
TARG				IAmb	IAmb	12 21 03.2			
	comp=Z,15nm,1.4s								
NRN	Naryn	88.72	345	P	P	12 20 51.1	-0.1		
NRN				IAmb	IAmb	12 20 57.4			
	comp=Z,31nm,1.9s								
TBI	Tubuai	89.23	123	eLR	LR	12 49 19.3			
	comp=Z,529nm,32.2s								
WMQ	Urumqi	89.62	354	eP	P	12 20 56.2	+1.2		
WMQ				SKS	SKSac	12 31 26.3	+1.5		
WMQ				S	S	12 31 46.8	+1.2		
WMQ				pmax	pmax				
	comp=Z,22nm,1.5s								
WMQ				LR	LR				
	comp=Z,350nm,20.9s								
WMQ				LR	LR				
	comp=Z,340nm,19.5s								
WMQ				LR	LR				
	comp=Z,630nm,19.5s								
SHLS	Shalkode	89.85	348	eP	P	12 20 55.1	-1.1		
	comp=Z,22nm,2.0s,baz=348								
SATY	Saty	89.91	347	eP	P	12 20 55.9	-0.5		
	comp=Z,16nm,1.7s,baz=347								
GEYT	Alibeck	90.06	331	P	P	12 20 57.0	-0.2		
	comp=Z,1.5nm,0.6s,baz=188,slow=7.7,SNR=1.6								
GEYT				LR	LR	12 56 13.2			
	comp=Z,452nm,20.7s,baz=157,slow=32								
	comp=Z,1.5nm,0.6s								
GEYT	Alibeck	90.06	331	P	P	12 20 56.1	-1.0		
GYA0B	ALIBECK ARRAY	90.06	331	P	P	12 20 57.8	+0.6		
AAK	Ala-Archa	90.17	344	LR	LR	12 58 17.4			
	comp=Z,684nm,19.1s,baz=182,slow=34								
AAK	Ala-Archa	90.17	344	P	P	12 20 57.5	-0.2		
AAK				IAmb	IAmb	12 21 08.8			
	comp=Z,24nm,1.6s								
MDOK	Medeo	90.23	346	eP	P	12 20 57.4	-0.6		
	baz=346								
KPKS	Kokpek	90.27	348	eP	P	12 20 57.9	-0.2		
	comp=Z,29nm,2.0s,baz=347								
AAA	Alma-Ata	90.29	346	eP	P	12 20 57.8	-0.4		
	baz=346								
MJAR	Matsushiro Arr	90.52	33	P	P	12 20 59.2	-0.1		
	comp=Z,3.0nm,1.0s,baz=199,slow=5.9,SNR=4.9								
	comp=Z,3.0nm,1.0s								
IUG	Iuzhnay	90.62	341	eP	P	12 20 59.7	-0.1		
	baz=341								
CHKK	Chushkaly	90.91	347	eP	P	12 21 00.2	-0.7		
	baz=346								
SGDS	Sogindy	90.93	345	eP	P	12 21 00.3	-0.8		
	baz=345								
KUU	Kurty	91.06	346	eP	P	12 21 00.8	-0.9		
	baz=346								
XLT	XiLinHaoTe	91.20	15	eP	P	12 21 07.3	+4.9		
XLT				pP	pwP	12 21 12.0	+2.4		
XLT				SKS	SKSac	12 31 37.6	+3.7		
XLT				S	S	12 32 05.9	+5.7		
XLT				SS	SS	12 38 07.0	+1.2		
XLT				pmax	pmax				
	comp=Z,8.0nm,1.0s								
XLT				pmax	pmax				
	comp=Z,63nm,5.1s								
XLT				LR	LR				
	comp=Z,63nm,19.5s								
XLT				LR	LR				
	comp=Z,430nm,20.2s								
XLT				LR	LR				
	comp=Z,680nm,18.9s								
KK31	Karatay Array	91.42	342		P	12 21 03.8	+0.5		
KK31				IAmb	IAmb	12 21 09.8			
	comp=Z,16nm,1.8s								
KKAR	Karatay Array	91.42	342	P	P	12 21 03.0	-0.3		
TDK	Taldyqorghan	91.81	348	eP	P	12 21 05.0	-0.1		
	baz=348								
BTLS	Baital	92.57	345	eP	P	12 21 08.0	-0.6		
	baz=345								
PLCA	Paso Flores	92.90	190	LR	LR	13 00 58.5			
	comp=Z,1μm,21.9s,baz=172,slow=34								
MK31	Makanchi Array	93.06	351	P	P	12 21 10.2	-0.6		
MKAR	Makanchi Array	93.06	351	P	P	12 21 10.7	-0.2		
	comp=Z,1.5nm,1.0s,baz=163,slow=5.4,SNR=9.0								
MKAR				LR	LR	13 01 03.4			
	comp=Z,694nm,19.2s,baz=198,slow=34								
	comp=Z,1.5nm,1.0s								
MKAR	Makanchi Array	93.06	351	P	P	12 21 10.0	-0.9		
CN2	Changchun	93.11	21	eP	P	12 21 10.9	-0.2		
CN2				PP	PP	12 24 58.7	+3.8		
CN2				S	S	12 32 15.2	-1.8		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CN2				LR	LR				
	comp=Z,300nm,18.0s								
CN2				LR	LR				
	comp=Z,200nm,18.0s								
CN2				LR	LR				
	comp=Z,300nm,19.0s								
MAKZ	Makanchi	93.11	351	P	P	12 21 09.7	-1.4		
MAKZ				IAmb	IAmb	12 21 12.3			
	comp=Z,11nm,1.3s								
EIL	Elat	93.23	310	LR	LR	12 56 41.2			
	comp=Z,905nm,20.5s,baz=94,slow=31								
ZSN	Zaisan	93.45	353	eP	P	12 21 12.3	-0.3		
	baz=352								
PPT2	Papeete2	93.59	120	eLR	LR	12 51 20.8			
	comp=Z,464nm,22.5s								
PPT	Papeete	93.60	120	LR	LR	12 54 44.7			
	comp=Z,246nm,21.3s,baz=221,slow=30								
SONM	Songino Array	93.81	7	P	P	12 21 14.1	-0.3		
	comp=Z,2.8nm,1.0s,baz=173,slow=3.8,SNR=13								
SONM				LR	LR	13 01 15.1			
	comp=Z,563nm,21.9s,baz=184,slow=34								
	comp=Z,2.8nm,1.0s								
SONM	Songino Array	93.81	7	P	P	12 21 14.4	0.0		
SONM				IAmb	IAmb	12 21 19.9			
	comp=Z,7.4nm,1.2s								
ASF	Jabal al Asfar	94.21	313	LR	LR	12 57 49.2			
	comp=Z,394nm,20.0s,baz=112,slow=32								
KURBB	Kurchatov Arra	97.29	349	LR	LR	13 01 02.9			
	comp=Z,408nm,21.7s,baz=164,slow=33								
ZALV	Zalesovo Beam	99.91	353	LR	LR	13 03 11.3			
	comp=Z,446nm,21.5s,baz=180,slow=33								
TAOE	Nuku Hiva Isla	106.08	122	eLR	LR	12 57 07.5			
	comp=Z,440nm,27.4s								
MNK	Minsk	115.36	323	i PKP	PKPdf	12 26 37.4	-1.0		
	comp=E,1.0nm,0.8s,baz=134								
MNK				i PKP	PKPdf	12 26 37.4	-1.0		
MNK				i PKP	PKPdf	12 26 37.4	-1.0		
	comp=Z,5.0nm,0.8s								
MNK				i PP	PP	12 27 37.8	-2.6		
MNK				i PPP	PPP	12 30 03.5			
MNK				i PKS	PKSdf	12 30 14.7	-0.1		
MNK				i SKS	SKSdf	12 33 49.0	-0.8		
MNK				i PS	PS	12 37 18.6	-1.1		
MNK				i SS	SS	12 43 37.7	-0.5		
MNK				i SSS	SSS	12 47 51.9			
MNK				i LQ	LQ	13 08 57.4			
MNK				i LR	LR	13 12 43.0			
MNK				i LRM	MLR	13 15 56.4			
	comp=E,55nm,26.7s								
MNK				i LRM	MLR	13 16 16.7			
	comp=Z,241nm,16.6s								
NACGM	Naroch	116.09	323	PP	PP	12 27 41.6	-3.9		
	baz=133								
GERES	GERESS Array B	118.29	312	PKP	PKiKP	12 26 45.0	+0.5		
	comp=Z,0.3nm,0.3s,baz=90,slow=2.9,SNR=1.9								
CLL	Collm	120.15	314	ePKPdf	PKiKP	12 26 50.0	+2.2		
	comp=Z,4.0nm,0.6s								
CLL				ePS	PS	12 38 18.0	+15		
CLL				eSS	SS	12 44 42.0	+1.4		
CLL				eSSS	SSS	12 48 48.0			
CLL				LmV		13 17 00.0			
	comp=Z,200nm,20.1s								
FINES	FINESS Array B	120.76	328	PKP	PKPdf	12 26 48.3	-0.3		
	comp=Z,1.6nm,0.8s,baz=128,slow=2.3,SNR=5.1								
ESDC	Sonseca Array	123.13	295	PKP	PKiKP	12 26 54.2	+0.1		
	comp=Z,0.8nm,0.8s,baz=114,slow=1.8,SNR=8.0								
ESDC	Sonseca Array	123.13	295	PKPdf	PKPdf	12 26 52.6	-1.3		
FALS	False Pass	131.26	49	PKPdf	PKPdf	12 27 07.3	-1.6		
WRH	Wood River Hil	141.10	38	PKPdf	PKPdf	12 27 24.6	-2.3		
H24K	Noodor Dome	141.24	36	PKPdf	PKPdf	12 27 27.3	+0.1		
ILAR	Eielson Array	141.63	38	PKhKP	PKPpre	12 27 23.5			
	comp=Z,0.2nm,0.6s,baz=266,slow=2.7,SNR=2.7								
BCAR	Beaver Creek A	143.87	41	PKPdf	PKPdf	12 27 31.5	-0.4		
BVCY	Beaver Creek	144.30	42	P	PKPbc	12 27 31.8	+0.8		
	baz=271								
DAWY	Dawson	144.90	39	P	PKPdf	12 27 33.5	-0.2		
	baz=274								
I29M	Ogilvie Camp,	145.23	37	P	PKPdf	12 27 34.3	+0.1		
	baz=277								
YUK4	Talbot Arm	145.37	44	P	PKPab	12 27 36.0	+1.1		
	baz=271								
M29M	Somme Creek	145.42	42	P	PKPab	12 27 35.6	+0.7		
	baz=273								
L29M	L29M	145.53	40	P	PKPab	12 27 36.3	+1.1		
	baz=274								
EPYK	Eagle Plains	145.72	35	P	PKPbc	12 27 35.7	+0.2		
	baz=280								
K29M	Barlow Dome	145.74	39	P	PKPbc	12 27 36.0	+0.3		
	baz=276								
HYT	Haines Junctio	145.93	45	P	PKPab	12 27 37.9	+1.0		
	baz=272								
SUMG	Summit	146.03	337	PKPdf	PKPdf	12 27 35.5	-0.3		
N30M	Aishikik Lake	146.11	43	P	PKPab	12 27 38.2	+0.7		
	baz=273								
ACON	Acoyapa	146.18	178	PKPdf	PKPdf	12 27 35.6	-1.7		
M30M	Minto, Yukon	146.18	41	PKPdf	PKPdf	12 27 34.8	-1.1		
M30M	Minto, Yukon	146.18	41	P	PKPab	12 27 38.1	+0.4		
	baz=275								
INK	Inuvik	146.47	31	PKPdf	PKPdf	12 27 35.9	-0.2		
MAYO	Mayo, Yukon	146.49	39	PKPdf	PKPdf	12 27 36.3	0.0		
MAYO	Mayo, Yukon	146.49	39	P	PKPab	12 27 39.0	+0.2		
	baz=277								
O30N	Mendenhall	146.63	45	P	PKPab	12 27 39.3	-0.1		
	baz=273								
BOAB	BOACO BROADBAN	146.64	177	PKPdf	PKPdf	12 27 36.6	-1.5		
FARO	Faro, Yukon	147.81	42	P	PKPbc	12 27 42.2	+0.6		
	baz=278								
P33M	Teslin, Yukon	148.28	45	P	PKPbc	12 27 43.1	+0.1		
	baz=275								
T35M	Bob Quinn	149.80	52	P	PKiKP	12 27 48.4	+0.7		
	baz=272								
DLBC	Dease Lake	149.85	49	PKPbc	PKPbc	12 27 46.3	-0.6		
DLBC	Dease Lake	149.85	49	P	PKiKP	12 27 48.0	+0.2		
	baz=274								
TGTN	Hyland Airport	150.30	42	P	PKiKP	12 27 48.9	+0.2		
	baz=282								
KHMM	Horse Mountain	151.05	86		PKiKP	12 27 51.0	-0.1		
EDW2	Edwards Air Fo	152.20	101	P	PKiKP	12 27 54.7	+1.2		
	baz=236								
HUMO	Hull Mountain	152.23	83	PKPdf	PKPdf	12 27 44.6	-1.6		
HUMO					PKiKP	12 27 54.1	+0.8		
ISA	Isabella, Lake	152.30	99	PKPdf	PKPdf	12 27 43.9	-2.7		
I03D	Drain, OR	152.32	80	P	PKiKP	12 27 54.4	+1.1		
	baz=252								
CWC	Cottonwood Cre	152.97	98	P	PKiKP	12 27 56.6	+1.4		
	baz=239								
BEKR	Beckworth	152.99	90	PKPdf	PKPdf	12 27 45.3	-2.3		
BEKR					PKiKP	12 27 55.6	+0.5		
PNTR	Pine Nut	153.19	92	PKPbc	PKiKP	12 27 57.3	+1.7		
GSC	Goldstone, Bar	153.25	102	PKPdf	PKPdf	12 27 45.5	-2.6		
GSC				PKPbc	PKPbc	12 27 54.8	-0.8		
GSC				PKPab	PKPab	12 28 07.8	+0.4		
J05D	Fort Rock, OR	153.65	82	P	PKiKP	12 27 57.7	+1.4		
	baz=252								
NVAR	Mina Array Bea	153.79	94	PKP	PKPdf	12 27 48.7	-0.2		
	comp=Z,0.2nm,0.6s,baz=198,slow=2.7,SNR=4.5								
NVAR				PKPbc	PKiKP	12 27 58.1	+1.3		
	comp=Z,1.8nm,0.8s,baz=226,slow=4.1,SNR=12								
KVN	Kaiserville	154.22	93	PKPdf	PKPdf	12 27 47.2	-2.2		
KVN				PKPbc	PKiKP	12 27 59.1	+1.4		
KVN				PKPab	PKPab	12 28 08.8	-2.8		
TPNV	Topopah Spring	154.50	99	PKPdf	PKPdf	12 27 48.0	-1.8		
TPNV				PKPab	sPKPab	12 28 17.4	+0.5		
PRN	Pahroc Range	155.56	99	PKPdf	PKPdf	12 27 49.0	-2.3		
PRN				PKPab	PKPab	12 28 18.4	+1.2		
G08A	Pilot Rock	155.78	79	PKPdf	PKPdf	12 27 50.2	-1.1		
G08A				PKPab	PKPab	12 28 18.5	+0.5		
KNB	Kanab	156.88	102	PKPdf	PKPdf	12 27 50.0	-3.0		
KNB				PKPab	PKPab	12 28 24.4	+1.4		
PSUT	Pine Spring	156.93	98	PKPdf	PKPdf	12 27 51.1	-2.0		
PSUT				PKPab	PKPab	12 28 21.1	-2.1		
U15A	North Rim	156.93	104	PKPdf	PKPdf	12 27 51.0	-2.3		
U15A				PKPab	PKPab	12 28 24.6	+1.2		
TX31	Lajitas Ar. Si	157.49	131	PKPdf	PKPdf	12 27 52.1	-1.9		
TX31				PKPab	PKPab	12 28 25.9	+0.2		
TX32	Lajitas Array	157.49	131	PKPdf	PKPdf	12 27 52.1	-1.8		
TX32				PKPab	PKPab	12 28 26.5	+0.9		
TXAR	Lajitas Array	157.49	131	PKP	PKPdf	12 27 54.2	+0.2		
	comp=Z,0.6nm,1.0s,baz=165,slow=4.3,SNR=4.1								
TXAR				PKPab	PKPab	12 28 25.9	+0.2		
	comp=Z,1.1nm,0.9s,baz=180,slow=7.5,SNR=7.2								
TXAR	Lajitas Array	157.49	131	PKPdf	PKPdf	12 27 52.7	-1.3		
TXAR				PKPab	PKPab	12 28 25.8	+0.2		
PLID	Pearl Lake	157.76	81	PKPdf	PKPdf	12 27 51.7	-2.3		
PLID				PKPab	PKPab	12 28 25.0	-1.7		
MNTX	Cornudas Mount	158.33	123	PKPdf	PKPdf	12 27 51.8	-3.1		
MNTX				PKPab	PKPab	12 28 29.7	+0.5		
ANMO	Albuquerque	159.90	115	PKPdf	PKPdf	12 27 54.6	-2.2		
ANMO				PKPab	PKPab	12 28 35.0	-1.1		
PV15	Paradox Valley	160.52	104	PKPdf	PKPdf	12 27 55.5	-2.0		
PV15				PKPab	PKPab	12 28 38.4	-0.5		
LOHW	Long Hollow	161.13	87	PKPdf	PKPdf	12 27 56.5	-1.4		
LOHW				PKPab	PKPab	12 28 40.4	-1.0		
PDAR	Pinedale Array	161.61	91	PKP	PKPdf	12 27 57.4	-1.1		
	comp=Z,0.4nm,0.8s,baz=270,slow=0.9,SNR=5.2								
PDAR				PKPab	PKPab	12 28 43.1	-

SNGZ	Shannon Statio	2.15 211	P	Pn	12 12 10.5	-0.8		
RTZ	Ruatahuna	2.18 220	P	Pn	12 12 11.7	-0.2		
MUGZ	Murupara	2.19 225	P	Pn	12 12 11.9	-0.1		
TARZ	Mount Tarawera	2.20 234	P	Pn	12 12 13.1	+1.0		
KNZ	Kokohu	2.24 202	P	Pn	12 12 10.2	-2.4		
RRRZ	Republican Roa	2.26 231	P	Pn	12 12 13.4	+0.5		
KARZ	Kaharoa	2.27 241	P	Pn	12 12 13.7	+0.7		
MHGZ	Mahia Peninsul	2.30 197	P	Pn	12 12 11.2	-2.3		
HLRZ	Highlands Stat	2.31 235	P	Pn	12 12 11.3	-2.3		
RAHZ	Arahi	2.37 213	P	Pn	12 12 13.6	-0.8		
HSRZ	Hossack Road	2.41 235	P	Pn	12 12 16.6	+1.6		
KMRZ	Kaimai	2.41 247	P	Pn	12 12 15.9	+0.9		
MTHZ	Maungataniwha	2.43 218	P	Pn	12 12 14.9	-0.3		
KUZ	Kuaotunu	2.44 274	P	Pn	12 12 15.7	+0.3		
WHHZ	Waihua	2.44 209	P	Pn	12 12 14.2	-1.2		
ALRZ	Allen Road	2.50 229	P	Pn	12 12 16.5	+0.2		
MRHZ	Matea Rd	2.64 224	P	Pn	12 12 17.9	-0.3		
NMHZ	Naumai	2.64 215	P	Pn	12 12 17.6	-0.6		
ARHZ	Aropaoanui	2.70 210	P	Pn	12 12 17.5	-1.4		
TOZ	Tahuroa Road	2.71 252	P	Pn	12 12 19.0	0.0		
GRZ	Great Barrier	2.74 284	P	Pn	12 12 21.7	+2.2		
KUTZ	Kaahu Road	2.79 236	P	Pn	12 12 21.1	+1.0		
BKZ	Black Stump Fm	2.84 218	P	Pn	12 12 20.0	-1.0		
MKAZ	Moumakai	2.88 266	P	Pn	12 12 22.1	+0.7		
TLZ	Tolley Road	2.90 241	P	Pn	12 12 22.8	+1.0		
WIAZ	Waiheke Island	2.91 272	P	Pn	12 12 22.8	+1.1		
MCHZ	McNeill Hill	2.97 212	P	Pn	12 12 21.2	-1.5		
RATZ	Rangitukua	3.04 230	P	Pn	12 12 24.2	+0.6		
ETAZ	East Tamaki Re	3.06 269	P	Pn	12 12 25.1	+1.1		
KWHZ	Kaweka Forest	3.08 216	P	Pn	12 12 22.7	-1.5		
MBAZ	Motutapu North	3.10 272	P	Pn	12 12 25.9	+1.5		
ABAZ	Army Bay	3.17 275	P	Pn	12 12 27.1	+1.7		
KAHZ	Kahuranaki	3.20 207	P	Pn	12 12 23.1	-2.8		
HBAZ	Herne Bay Bore	3.23 271	P	Pn	12 12 28.2	+2.1		
TMVZ	Te Maari	3.24 227	P	Pn	12 12 26.1	-0.3		
NTVZ	North Tongariro	3.24 228	P	Pn	12 12 26.2	-0.3		
ETVZ	East Tongariro	3.25 227	P	Pn	12 12 26.2	-0.4		
KRHZ	Kereru	3.28 214	P	Pn	12 12 24.9	-2.1		
AWAZ	Awhitu Peninsu	3.29 267	P	Pn	12 12 28.7	+1.6		
NNVZ	North Ngauruho	3.30 228	P	Pn	12 12 27.9	+0.6		
BHHZ	Black Hill Sta	3.31 219	P	Pn	12 12 26.2	-1.1		
NGZ	Ngauruhoe	3.34 227	P	Pn	12 12 27.2	-0.7		
WTAZ	Waiatarua	3.35 269	P	Pn	12 12 29.6	+1.7		
RVAZ	Riverhead Bore	3.35 272	P	Pn	12 12 29.7	+1.8		
TWVZ	Taurewa	3.37 230	P	Pn	12 12 28.9	+0.7		
MOVZ	Moawhango	3.41 223	P	Pn	12 12 27.7	-1.1		
PXZ	Pawanui	3.42 205	P	Pn	12 12 25.2	-3.6		
HIZ	Hauiti	3.46 242	P	Pn	12 12 31.2	+1.7		
PNHZ	Pukenui	3.58 213	P	Pn	12 12 28.4	-2.6		
WCZ	Waipu Caves	3.69 284	P	Pn	12 12 34.5	+1.9		
TSZ	Takapari Road	3.80 214	P	Pn	12 12 31.0	-3.1		
DVHZ	Dannevirke	3.91 210	P	Pn	12 12 32.5	-3.1		
ANWZ	Angora Road	3.93 206	P	Pn	12 12 32.5	-3.4		
WAZ	Wanganui	4.08 225	P	Pn	12 12 37.7	-0.2		
NEZ	North Egmont	4.34 236	P	Pn	12 12 44.3	+2.7		
KHEZ	Kahui Hut	4.41 236	P	Pn	12 12 45.6	+3.1		
TIWZ	Tintock	4.43 209	P	Pn	12 12 39.3	-3.5		
OUZ	Omahuta	4.52 291	P	Pn	12 12 46.5	+2.6		
CTZ	Chatham Island	7.65 154	P	Pn	12 13 22.2	-4.6		

ROM 06 12:32:36.2±0.1, 42°.762N±0°.004×13°.124E±0°.005, h12km, Md1.4/7, Error ellipse: s-maj=0.5km s-min=0.2km az=238.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
NRCA	Norcia	0.07	354	P	Pg	12 32 38.9	+0.1	
NRCA				S	Sg	12 32 40.6	-0.1	
NRCA	Norcia	0.07	354	P	Pg	12 32 39.0	+0.2	
NRCA				S	Sg	12 32 40.7	0.0	
T1242	Castelluccio d	0.09	41	P	Pg	12 32 39.2	+0.2	
T1242				S	Sg	12 32 41.3	+0.1	
T1242	Castelluccio d	0.09	41	P	Pg	12 32 39.2	+0.2	
T1242				S	Sg	12 32 41.4	+0.2	
T1242				END				
T1202	Accumoli, Fraz	0.10	128	P	Pg	12 32 39.3	+0.3	
T1202				S	Sg	12 32 41.7	+0.6	
T1202	Accumoli, Fraz	0.10	128	P	Pg	12 32 39.4	+0.3	
T1202				S	Sg	12 32 41.8	+0.7	
T1244	Arquata del Tr	0.13	92	P	Pg	12 32 39.9	+0.4	
T1244				S	Sg	12 32 42.6	+0.8	
T1244	Arquata del Tr	0.13	92	P	Pg	12 32 39.9	+0.5	
T1244				S	Sg	12 32 42.7	+0.9	
T1201	Domo (RI)	0.14	138	P	Pb	12 32 40.2	-0.6	
T1201				S	Sg	12 32 43.1	+1.1	
MC2	Monte Cornacci	0.16	18	S	Sg	12 32 40.0	-2.8	
MC2	Monte Cornacci	0.16	18	P	Pg	12 32 40.3	+0.3	
MC2				S	Sg	12 32 43.5	+0.8	
T1204	Amatrice, Fraz	0.17	121	P	Pg	12 32 40.3	+0.2	
T1204	Amatrice, Fraz	0.17	121	P	Pg	12 32 40.4	+0.3	
LNSS	Leonessa	0.17	201	P	Pg	12 32 40.3	+0.2	
LNSS				S	Sg	12 32 43.8	+0.9	
LNSS	Leonessa	0.17	201	P	Pg	12 32 40.3	+0.2	
T1215	Vallo di Nera,	0.19	282	P	Pg	12 32 40.6	+0.2	
T1215				S	Sg	12 32 43.9	+0.6	
T1215	Vallo di Nera,	0.19	282	P	Pg	12 32 40.6	+0.2	
T1215				END				
SMA1	SAN MARTINO	0.20	130	P	Pg	12 32 41.0	+0.3	
SMA1				S	Sg	12 32 44.8	+1.1	
SMA1	SAN MARTINO	0.20	130	P	Pg	12 32 41.0	+0.4	
SMA1				AML	AML			
	comp=E,136μm,1.5s							
SMA1				AML	AML			
	comp=N,131μm,1.5s							
T1241	Roccafluvione,	0.24	67	P	Pg	12 32 41.6	+0.3	
T1241				S	Sg	12 32 45.6	+0.8	
T1241	Roccafluvione,	0.24	67	P	Pg	12 32 41.6	+0.3	
T1241				S	Sg	12 32 45.8	+0.9	
T1241				END				
T1243	Rocca Santa Ma	0.25	105	P	Pg	12 32 41.5	+0.1	
T1243				S	Sg	12 32 45.6	+0.6	
T1243	Rocca Santa Ma	0.25	105	P	Pg	12 32 41.5	+0.1	
RM33	Pellescritta (	0.26	165	P	Pg	12 32 42.0	+0.3	
RM33				S	Sg	12 32 46.3	+1.0	
RM33				END				
FDMO	Fiordimonte	0.28	354	P	Pg	12 32 42.1	+0.2	
FDMO				S	Sg	12 32 46.6	+0.9	
FDMO				END				
CESI	CESI - Serrava	0.29	327	P	Pb	12 32 42.8	-0.6	
CESI				S	Sb	12 32 47.3	-1.0	
CESI				END				
CSP1	Cessapalombo	0.34	10	P	Pg	12 32 43.2	+0.2	
CSP1				S	Sb	12 32 48.9	-0.7	
CSP1				END				
TERO	Teramo	0.38	111	P	Pg	12 32 43.7	0.0	
TERO				S	Sg	12 32 49.8	+0.9	
TERO				AML	AML			
	comp=E,342μm,1.1s							
TERO				AML	AML			
	comp=N,106μm,1.3s							
TERO	Teramo	0.38	111	P	Pg	12 32 43.8	+0.1	
ASSB	Assisi San Ben	0.44	310	P	Pb	12 32 45.7	-0.3	
ASSB				S	Sb	12 32 52.1	-0.5	

*IDC **06** 12:38:29.7±1.3, 33°.55N×82°.06E, h0km, mb3.4/5, mbtmp3.4/6, ML3.1/1, MS3.8/3, Error ellipse: s-maj=32.9km s-min=27.4km az=65.0*

ISC 06 12:38:35.6±1.0, 33°.73N±0°.10×82°.2E±0°.2, h35km, n14, σ1§63/11, mb3.4/4, MS4.0/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PYUN	Piuthan	5.66	173	eP	Pn	12 39 57.8	+0.4	
PKIN	Phulchoki	6.74	155	eP	Pn	12 40 14.9	+2.7	
	11nm,0.4s							
PKI	Pulchoki	6.75	155	eP	Pn	12 40 14.8	+2.4	
	9.5nm,0.3s							
RAMN	Ramite	7.77	149	eP	Pn	12 40 25.9	-0.5	
	9.8nm,0.4s							
TAPN	Taplejung	7.96	142	eP	Pn	12 40 29.0	0.0	
	6.0nm,0.3s							
MKAR	Makanchi Array	13.05	0	Pn	Pn	12 41 37.9	-0.5	
	0.1nm,0.3s,baz=184,slow=14,SNR=5.0							
	0.4nm,0.6s							
ZALV	Zalesovo Beam	20.30	5	P	P	12 43 10.3	+2.1	
	0.6nm,0.5s,baz=186,slow=12,SNR=2.0							
	0.6nm,0.5s							
CMAR	Chiang Mai Arr	21.36	131	P	P	12 43 18.5	-1.4	
	0.6nm,0.7s,baz=313,slow=11,SNR=1.9							
	0.6nm,0.7s							
SONM	Songino Array	23.01	45	P	P	12 43 37.6	+0.2	
	0.3nm,0.4s,baz=235,slow=10,SNR=3.7							
	0.3nm,0.4s							
KBZ	Khabaz	31.96	300	LR	LR	13 00 15.2		
	comp=Z,61nm,19.8s,baz=140,slow=41							
MLR	Muntele Rosu	44.04	303	LR	LR	13 10 31.1		
	comp=Z,219nm,19.0s,baz=129,slow=44							
VRAC	Vranov	49.95	309	LR	LR	13 13 27.8		
	comp=Z,142nm,19.8s,baz=116,slow=42							
WRA	Warramunga Arr	72.94	129	P	P	12 50 00.8	-0.7	
	0.5nm,0.9s,baz=321,slow=5.7,SNR=2.3							
	0.5nm,0.9s							
TORD	Torodi Ar. Bea	74.97	276	P	P	12 50 12.8	-0.8	
	0.4nm,0.4s,baz=48,slow=5.3,SNR=7.0							
	0.4nm,0.4s							

*NEIC **06** 12:43:56.6±1.5, 21°.62S×0°.06×68°.2W±0°.1, h129km±9km, Error ellipse: s-maj=13.6km s-min=8.3km az=88.0*
*IDC **06** 12:43:56.6±0.7, 21°.64S×68°.05W, h122km±7km, mb4.1/6, mbtmp4.3/11, MS3.8/3, Error ellipse: s-maj=18.2km s-min=10.5km az=105.0*
*GUC **06** 12:43:57.5±0.5, 21°.63S×68°.22W, h133km±4km, ML3.6*
*VAO **06** 12:44:06.3±0.4, 21°.04S×67°.51W, h161km, mb4.3*

ISC 06 12:43:56.4±0.6, 21°.60S±0°.04×68°.12W±0°.05, h124km±6km, n107, σ1§32/116, mb4.3/9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PB09	IPOC Station P	1.06	259		Pn	12 44 20.5	+0.9	
PB09	IPOC Station P	1.06	259	eP	Pn	12 44 20.5	+0.9	
PB09				i S	Sn	12 44 37.9	+0.8	
PB09				IAML		12 44 41.3		
	comp=N,1μm,0.5s							
LVC	Limon Verde	1.24	216	P	Pn	12 44 22.6	+0.9	
	comp=N,1μm,0.4s,baz=22,slow=7.6,SNR=1466							
LVC				S	Sn	12 44 40.8	0.0	
	comp=N,178nm,0.4s,baz=287,slow=23,SNR=18							
LVC	Limon Verde	1.24	216	Pn	Pn	12 44 22.5	+0.8	
LVC	Limon Verde	1.24	216	eP	Pn	12 44 22.2	+0.5	
LVC				i S	Sn	12 44 41.5	+0.6	
AF01	San Pedro de A	1.35	182		Pn	12 44 23.2	+0.5	
PB01	IPOC Station P	1.39	293		Pn	12 44 23.3	+0.3	
PB01	IPOC Station P	1.39	293	eP	Pn	12 44 23.3	+0.3	
PB01				i S	Sn	12 44 43.2	+0.1	
PB01				IAML		12 44 45.0		
	comp=E,2μm,0.3s							
PB07	IPOC Station P	1.65	265		Pn	12 44 25.8	-0.2	
PB07	IPOC Station P	1.65	265	eP	Pn	12 44 25.7	-0.2	
PB07				i S	Sn	12 44 47.8	-0.8	
PB07				IAML		12 44 49.5		
	comp=E,1μm,0.2s							
PB02	IPOC Station P	1.68	279		Pn	12 44 26.1	-0.2	
PB02	IPOC Station P	1.68	279	eP	Pn	12 44 26.1	-0.2	
PB02				i S	Sn	12 44 48.1	-0.9	
PB06	IPOC Station P	1.74	230		Pn	12 44 27.2	+0.1	
PB06	IPOC Station P	1.74	230	eP	Pn	12 44 27.3	+0.3	
PB06				i S	Sn	12 44 50.2	-0.3	
PB06				IAML		12 44 53.2		
	comp=E,393nm,0.6s							
PB04	IPOC Station P	2.02	248	Pn	Pn	12 44 30.0	-0.5	
PB04	IPOC Station P	2.02	248	eP	Pn	12 44 29.9	-0.5	
PB04				i S	Sn	12 44 55.3	-1.2	
PB04				IAML		12 45 00.0		
	comp=E,424nm,0.2s							
PB15	IPOC Station P	2.03	218		Pn	12 44 30.9	+0.2	
PB15	IPOC Station P	2.03	218	eP	Pn	12 44 31.1	+0.4	
PB15				i S	Sn	12 44 57.2	+0.3	
GO01	Chusmiza	2.17	332		Pn	12 44 33.9	+1.2	
GO01	Chusmiza	2.17	332	eP	Pn	12 44 33.9	+1.2	
GO01				i S	Sn	12 45 02.1	+1.8	
TA01	Diego Aracena	2.18	298	Pn	Pn	12 44 32.0	-0.3	
TA01	Diego Aracena	2.18	298	eP	Pn	12 44 32.0	-0.3	
TA01				i S	Sn	12 44 58.3	-1.5	
TA02	Huaiquique	2.30	305		Pn	12 44 33.3	-0.5	
TA02	Huaiquique	2.30	305	eP	Pn	12 44 33.4	-0.4	
PB10	IPOC Station P	2.95	229	Pn	Pn	12 44 41.6	-0.5	
PB10	IPOC Station P	2.95	229	eP	Pn	12 44 41.6	-0.5	
PB16	IPOC Station P	3.50	338	Pn	Pn	12 44 51.0	+1.1	
PB16	IPOC Station P	3.50	338	eP	Pn	12 44 51.1	+1.1	
PB12	IPOC Station P	3.62	325	Pn	Pn	12 44 50.2	-0.9	
PB14	IPOC Station P	3.67	214	Pn	Pn	12 44 51.6	-0.4	
GO02	Mina Guanaco	3.79	201	Pn	Pn	12 44 52.9	-0.7	
AP01	Chacalluta	3.83	327	Pn	Pn	12 44 53.9	+0.1	
AC01	Pan de Azucar	5.06	206	Pn	Pn	12 45 08.3	-2.0	
LPAZ	La Paz	5.28	360	P	Pn	12 45 16.3	+2.5	
	comp=E,4.2nm,0.4s,baz=172,slow=5.9,SNR=19							
LPAZ				S	Sn	12 46 16.8	+2.8	
	comp=E,3.9nm,0.5s,baz=42,slow=22,SNR=1.5							
LPAZ	La Paz	5.28	360	eP	Pn	12 45 16.2	+2.3	
AC02	Maricunga	5.29	190	Pn	Pn	12 45 13.9	+0.1	
AC06	Mina Casimiro	6.08	199	Pn	Pn	12 45 21.2	-2.8	
AC04	Llanos de Chal	7.10	202	Pn	Pn	12 45 33.3	-4.4	
AC05	El Transito	7.46	195	Pn	Pn	12 45 39.9	-2.9	
CO01	Juntas del Tor	8.53	192	Pn	Pn	12 45 56.2	-1.1	
SIV	San Ignacio	8.70	51	P	Pn	12 45 57.6	-1.8	
	comp=E,41nm,0.3s,baz=239,slow=12,SNR=166							
SIV				S	Sn	12 47 29.9	-6.0	
	comp=E,3.7nm,0.6s,baz=292,slow=23,SNR=1.5							
GO04	Tololo Observa	8.87	195	Pn	Pn	12 45 58.1	-3.7	
CO06	Fray Jorge	9.57	199	Pn	Pn	12 46 07.4	-3.6	
PTLB	Pontes e Lacer	10.49	56	Pn	Pn	12 46 22.3	-1.2	
PTLB	Pontes e Lacer	10.49	56	eP	Pn	12 46 21.7	-1.7	
CPUP	Villa Florida	10.93	118	P	Pn	12 46 28.4	-0.9	
	comp=E,1.5nm,0.6s,baz=301,slow=14,SNR=1.6							
CPUP	Villa Florida	10.93	118	Pn	Pn	12 46 29.5	+0.2	
VILB	Vilhena	11.45	43		Pn	12 46 37.4	+1.1	
VILB	Vilhena	11.45	43	eP	Pn	12 46 35.7	-0.7	
AQDB	Aquidauana	11.65	87	Pn	Pn	12 46 39.7	+0.7	
AQDB	Aquidauana	11.65	87	eP	Pn	12 46 38.9	-0.1	
MT02	Curacav	11.92	192	Pn	Pn	12 46 41.0	-1.4	
MT09	Talagante	12.39	191	Pn	Pn	12 46 48.0	-0.7	
MT01	Popeta	12.53	192	Pn	Pn	12 46 50.7	+0.4	
SALV	Santo Antonio	13.06	66	eP	Pn	12 46 56.0	-1.3	
BO02	Sierra Bellavi	13.35	190	Pn	Pn	12 47 00.5	-0.5	
GO05	Huala	13.77	193	Pn	Pn	12 47 05.5	-1.0	
CRSM	Crissumal (Br	14.09	117	eP	P	12 47 10.4	+1.7	
FRBT	Francisco Belt	14.46	110	eP	P	12 47 19.2	+0.7	
PDRB	Porto dos Gac	14.75	49	eP	Pn	12 47 18.3	-0.7	
PTGB	Pitanga	15.09	105	eP	P	12 47 27.1	+1.5	
ITAB	Concordia	15.60	114		P	12 47 30.4	-0.7	
ITAB				IAmb	IAmb	12 47 58.0		
	comp=Z,22nm,1.4s							
PCMB	Pacaembu	15.68	93	eP	P	12 47 33.7	+1.6	
CLDB	Colider	15.92	50	eP	Pn	12 47 33.0	-0.6	
PLTB	Pedras Altas	16.44	131		P	12 47 40.0	-0.4	
TRQA	Tornquist	17.24	163	P	P	12 47 48.5	-0.6	
TRQA				IAmb	IAmb	12 47 49.7		
	comp=Z,18nm,1.2s							
GO06	Curarrehue	18.15	188	P	P	12 47 58.7	-0.6	
GO06				IAmb	IAmb	12 48 00.7		
	comp=Z,6.6nm,0.7s							
BB19B	Bebedouro	18.26	92	eP	Pn	12 48 01.1	-0.9	
SNDB	Serra Nova Dou	18.72	62	eP	P	12 48 05.3	-0.3	
NPGB	Novo Progresso	19.01	42	eP	P	12 48 07.7	-1.0	
IPMB	Ipameri, GO	19.07	83	eP	Pn	12 48 09.5	-2.1	
PLCA	Paso Flores	19.19	186	P	P	12 48 10.9	+0.4	
	comp=Z,2.9nm,0.6s,baz=357,slow=11,SNR=16							
PLCA	Paso Flores	19.19	186	P	P	12 48 09.4	-1.0	
LL04	Puerto Octay	19.59	190	P	P	12 48 13.9	-0.9	
LL04				IAmb	IAmb	12 48 15.1		
	comp=Z,8.3nm,0.8s							
MACA	Manacapuru-AM	19.70	23	P	P	12 48 14.9	-1.3	
MACA				IAmb	IAmb	12 48 18.5		
	comp=Z,56nm,0.6s							
MACA	Manacapuru-AM	19.70	23	eP	P	12 48 15.2	-1.0	
BDFB	Brasilia	19.95	76	P	P	12 48 18.7	-0.3	
	comp=Z,2.8nm,0.4s,baz=275,slow=6.0,SNR=3.9							
PMNB	Patos De Minas	20.59	85	eP	Pn	12 48 26.8	-2.5	
ITTB	Itaituba	20.93	37	eP	P	12 48 28.4	-0.9	
LL02	Futaleuf	21.75	187	P	P	12 48 37.0	-1.0	
LL02				IAmb	IAmb	12 48 39.4		
	comp=Z,8.0nm,1.1s							
DIAM	Diamantina, MG	23.21	86	eP	P	12 48 53.4	+0.6	
PRPB	Parauapebas	23.43	52	eP	P	12 48 53.5	-1.1	
SMTB	Santa Maria do	23.47	60	eP	P	12 48 54.6	-0.5	
JANB	Januaria	23.50	78	eP	P	12 48 55.3	-0.1	
MALB	Monte Alegre	23.82	36	eP	P	12 48 57.4	-0.7	
BOAV	Boa Vista	24.98	18	P	P	12 49 09.0	+0.3	
BOAV				IAmb	IAmb	12 49 25.8		
	comp=Z,6.7nm,1.5s							
NAN01	Guarapari, ES	26.60	87	eP	P	12 49 23.7	+0.3	
GUA01	Guaratinga, BA	27.20	84	eP	P	12 49 28.9	+0.2	
PCRV	Puerto La Cruz	31.76	7	LR	LR	13 05 25.5		
	comp=Z,92nm,19.7s,slow=41							
VNA3	Neumayer Olymp	59.75	161	P	P	12 53 48.6	+0.8	
SNAA	Sanae	61.95	161	P	P	12 54 03.3	+0.6	
SNAA	Sanae	61.95	161	P	P	12 54 03.5	+0.8	
	comp=Z,2.3nm,0.6s,baz=278,slow=8.0,SNR=18							
	comp=Z,2.3nm,0.6s							
SNAA	Sanae	61.95	161	P	P	12 54 03.7	+0.9	
SNAA				IAmb	IAmb	12 54 04.4		
	comp=Z,2.7nm,0.7s							
TROLL	Troll, Antarti	63.66	161	P	P	12 54 15.0	+0.8	
DBIC	Dimbokro	68.06	73	P	P	12 54 42.8	-0.3	
	comp=Z,6.7nm,0.6s,baz=262,slow=3.5,SNR=8.4							
	comp=Z,6.7nm,0.6s							
QSPA	South Pole Qui	68.59	180	P	P	12 54 47.1	+1.3	
QSPA				IAmb	IAmb	12 54 47.6		
	comp=Z,3.0nm,0.6s							
PFO	Pinyon Flats O	71.66	319	LR	LR	13 25 40.9		
	comp=Z,245nm,20.7s,baz=248,slow=35							
ULM	Lac du Bonnet	75.64	342	P	P	12 55 27.3	-0.3	
	comp=Z,1.4nm,0.6s,baz=174,slow=9.2							
	comp=Z,1.4nm,0.6s							
NVAR	Mina Array Bea	76.03	322	P	P	12 55 31.1	+0.7	
	comp=Z,0.1nm,0.5s,baz=150,slow=9.3,SNR=1.9							
TORD	Torodi Ar. Bea	76.70	70	P	P	12 55 34.3	-0.1	
	comp=Z,3.0nm,0.4s,baz=252,slow=5.4,SNR=38							
	comp=Z,3.0nm,0.4s							
VNDA	Vanda	76.88	190	LR	LR	13 31 38.8		
	comp=Z,25nm,18.1s,baz=346,slow=37							
MAW	Mawson	84.02	163	P	P	12 56 12.4	-0.2	
	comp=Z,1.3nm,0.6s,baz=308,slow=15,SNR=4.1							
	comp=Z,1.3nm,0.6s							
YKA	Yellowknife Ar	91.53	340	P	P	12 56 48.8	+0.3	
	comp=Z,1.7nm,0.7s,baz=137,slow=5.1,SNR=5.7							
	comp=Z,1.7nm,0.7s							
ASAR	Alice Springs	130.16	207	PKP	PKPdf	13 02 52.8	+0.2	
	comp=Z,0.4nm,0.5s,baz=128,slow=1.5,SNR=6.9							
WRA	Warramunga Arr	133.24	210	PKP	PKPdf	13 02 59.1	+0.7	
	comp=Z,0.6nm,0.6s,baz=156,slow=1.8,SNR=11							
ZALV	Zalesovo Beam	141.73	26	PKP	PKPdf	13 03 13.8	+0.8	
	comp=Z,0.5nm,0.5s,baz=327,slow=2.1,SNR=2.4							
MKAR	Makanchi Array	145.28	37	PKPbc	PKPab	13 03 20.2	+0.5	
	comp=Z,1.4nm,0.9s,baz=304,slow=3.3,SNR=8.8							
MKAR				pPKPbc	pPKPab	13 03 52.3	-1.4	
	comp=Z,0.5nm,0.8s,baz=332,slow=4.9,SNR=1.8							

*MOS **06** 12:58:06.5±0.7, 54°.42N×168°.43E, h23km, mb4.2/5, Error ellipse: s-maj=10.4km s-min=6.5km az=177.0*
*NEIC **06** 12:58:06.8±1.8, 54°.4N±0°.2×168°.5E±0°.1, h10km±1km, mb4.2/58, Error ellipse: s-maj=32.6km s-min=11.8km az=185.0*
*IDC **06** 12:58:06.4±0.7, 54°.79N×168°.37E, h0km, mb3.8/14, mbtmp3.8/15, ML3.2/1, MS3.5/2, Error ellipse: s-maj=26.6km s-min=14.1km az=169.0*
*KRSC **06** 12:58:08.4±1.8, 54°.38N×167°.91E, h25km±32km, ML4.3*

ISC 06 12:58:09.0±0.5, 54°.43N±0°.06×168°.40E±0°.05, h24km, n166, σ1§40/177, mb4.1/44, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BKI	Bering	1.61	300	PN	Pn	12 58 32.7	-3.1	
BKI				S	Sn	12 58 52.1	-3.6	
BKI	Bering	1.61	300	eP	Pn	12 58 32.7	-3.1	
BKI				eS	Sn	12 58 52.1	-3.6	
KBTR	Krutoberegovo	3.65	302	PN	Pn	12 59 01.8	-2.1	
KBTR	Krutoberegovo	3.65	302	eP	Pn	12 59 01.8	-2.1	
KBTR				S	Sn	12 59 43.3	-2.9	
KBG	Krutoberegovo	3.73	302	S	Sn	12 59 45.9	-2.2	
SHEM	Shemya Is, Ala	3.80	114	Pn	Pn	12 59 04.8	-1.1	
	31nm,0.3s,baz=52,slow=3.5,SNR=20							
SHEM				Sn	Sn	12 59 50.5	+0.7	
	29nm,0.3s,baz=262,slow=21,SNR=6.2							
SMY	Shemya	3.80	114	Pn	Pn	12 59 04.6	-1.3	
SMY	Shemya	3.80	114	PN	Pn	12 59

NIKH	**Nikolski High**	**13.54**	**87**	Pn	**Pn**	**13 01 17.7**	**-1.6**
UNV	**Unalaska Valle**	**14.70**	**82**	Pn	**Pn**	**13 01 34.1**	**-1.1**
AKUT	**Akutan**	**15.07**	**81**	Pn	**Pn**	**13 01 39.7**	**-0.3**
TTA	**Tatalina**	**20.12**	**51**	P	**P**	**13 02 40.6**	**-0.2**
TTA	**Tatalina**	**20.12**	**51**	P	**P**	**13 02 40.6**	**-0.2**
TTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
P18K	**Big Mountain,**	**20.29**	**61**	P	**P**	**13 02 41.0**	**-1.6**
P18K				IAmb	IAmb	13 02 44.4	
	comp=Z,15nm,0.8s						
O18K	**Koktuh Hills**	**20.29**	**60**	P	**P**	**13 02 41.9**	**-0.8**
O18K				IAmb	IAmb	13 03 19.5	
	comp=Z,24nm,1.5s						
L19K	**White Mountain**	**20.56**	**53**	P	**P**	**13 02 45.9**	**+0.3**
N19K	**Bonanza Creek**	**20.66**	**57**	P	**P**	**13 02 46.7**	**0.0**
N19K				IAmb	IAmb	13 02 48.4	
	comp=Z,6.8nm,0.7s						
K20K	**Telida**	**21.05**	**50**	P	**P**	**13 02 50.4**	**-0.4**
Q19K	**Cape Douglas,**	**21.13**	**62**	P	**P**	**13 02 49.8**	**-1.9**
J20K	**Nowinta River**	**21.14**	**48**	P	**P**	**13 02 51.9**	**+0.1**
OHAK	**Old Harbor**	**21.51**	**67**	P	**P**	**13 02 54.7**	**-1.1**
KDAK	**Kodiak Island**	**21.81**	**65**	P	**P**	**13 02 58.2**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=342,slow=1.2,SNR=9.8						
	comp=Z,4.3nm,0.7s						
KDAK	**Kodiak Island**	**21.81**	**65**	P	**P**	**13 02 58.0**	**-1.0**
PPLA	**Purkeypile**	**21.85**	**51**	P	**P**	**13 02 59.8**	**+0.2**
PPLA				IAmb	IAmb	13 03 21.4	
	comp=Z,7.5nm,1.0s						
CAST	**Castle Rocks**	**21.95**	**50**	P	**P**	**13 03 00.3**	**-0.2**
H21K	**Melozitna Rive**	**21.99**	**44**	P	**P**	**13 03 00.7**	**-0.2**
SKT	**Skwentna**	**22.11**	**54**	P	**P**	**13 02 59.6**	**-2.6**
SKT				IAmb	IAmb	13 03 17.6	
	comp=Z,9.4nm,1.3s						
CNPM	**China Poot**	**22.32**	**60**	P	**P**	**13 03 03.5**	**-1.0**
SUA	**Susitna One**	**22.47**	**55**	P	**P**	**13 03 05.0**	**-1.2**
SUA				IAmb	IAmb	13 03 17.3	
	comp=Z,19nm,1.2s						
NEA2	**Nenana**	**23.38**	**47**	P	**P**	**13 03 15.1**	**-0.3**
RND	**Reindeer**	**23.39**	**50**	P	**P**	**13 03 14.7**	**-0.9**
RND				IAmb	IAmb	13 03 46.9	
	comp=Z,5.7nm,0.6s						
RND	**Reindeer**	**23.39**	**50**	P	**P**	**13 03 14.7**	**-0.9**
RND				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KNK	**Knik Glacier**	**23.57**	**55**	P	**P**	**13 03 16.9**	**-0.5**
KNK				IAmb	IAmb	13 03 17.9	
	comp=Z,5.0nm,0.7s						
SML	**Sawmill**	**23.62**	**54**	P	**P**	**13 03 16.9**	**-0.9**
SML				IAmb	IAmb	13 03 39.9	
	comp=Z,5.7nm,0.8s						
PWL	**Port Wells**	**23.66**	**57**	P	**P**	**13 03 16.2**	**-2.1**
MDM	**Murphy Dome**	**23.78**	**46**	P	**P**	**13 03 18.6**	**-0.7**
MDM				IAmb	IAmb	13 04 01.5	
	comp=Z,8.0nm,1.4s						
WRH	**Wood River Hil**	**23.80**	**48**	P	**P**	**13 03 19.6**	**+0.1**
WRH				IAmb	IAmb	13 03 29.9	
	comp=Z,5.6nm,1.0s						
TOLK	**Toolik Lake Re**	**23.92**	**37**	P	**P**	**13 03 20.5**	**-0.2**
TOLK				IAmb	IAmb	13 03 21.9	
	comp=Z,7.5nm,0.7s						
TCOL	**CIGO, UAF Yank**	**23.93**	**47**	P	**P**	**13 03 20.6**	**0.0**
TCOL				IAmb	IAmb	13 03 21.5	
	comp=Z,7.1nm,0.6s						
COLA	**College**	**23.93**	**47**	P	**P**	**13 03 20.7**	**+0.1**
COLA				IAmb	IAmb	13 03 21.5	
	comp=Z,6.8nm,0.6s						
COLA	**College**	**23.93**	**47**	P	**P**	**13 03 20.7**	**+0.1**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CCB	**Clear Creek Bu**	**23.93**	**47**	P	**P**	**13 03 19.9**	**-0.8**
CCB				IAmb	IAmb	13 03 30.4	
	comp=Z,3.3nm,0.7s						
H24K	**Noodor Dome**	**24.02**	**44**	P	**P**	**13 03 20.9**	**-0.8**
DHY	**Denali Highway**	**24.05**	**51**	P	**P**	**13 03 21.3**	**-0.7**
SCM	**Sheep Creek Mo**	**24.10**	**54**	P	**P**	**13 03 21.3**	**-1.1**
SCM				IAmb	IAmb	13 03 33.0	
	comp=Z,5.6nm,0.7s						
SCM	**Sheep Creek Mo**	**24.10**	**54**	P	**P**	**13 03 21.3**	**-1.1**
SCM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GLI	**Glacier Island**	**24.27**	**57**	P	**P**	**13 03 22.8**	**-1.1**
GLI				IAmb	IAmb	13 03 32.9	
	comp=Z,15nm,1.4s						
IL31		**24.34**	**47**	P	**P**	**13 03 23.5**	**-0.9**
ILAR	**Eielson Array**	**24.34**	**47**	P	**P**	**13 03 23.4**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=259,slow=7.7,SNR=17						
	comp=Z,1.5nm,0.6s						
ILAR	**Eielson Array**	**24.34**	**47**	P	**P**	**13 03 23.0**	**-1.5**
FID	**Port Fidalgo**	**24.58**	**57**	P	**P**	**13 03 26.3**	**-0.4**
M24K	**Tolsona, Glenn**	**24.63**	**54**	P	**P**	**13 03 26.5**	**-0.7**
KLU	**Klutina**	**24.79**	**55**	P	**P**	**13 03 28.4**	**-0.3**
EYAK	**Cordova Ski Ar**	**24.96**	**57**	P	**P**	**13 03 30.4**	**+0.3**
PRP	**Porcupine Dome**	**24.96**	**45**	P	**P**	**13 03 29.9**	**-0.3**
PRP				IAmb	IAmb	13 03 31.9	
	comp=Z,6.6nm,0.8s						
J25K	**Salcha River,**	**24.98**	**47**	P	**P**	**13 03 29.0**	**-1.4**
N25K	**Chitina, Valde**	**25.41**	**55**	P	**P**	**13 03 33.6**	**-0.7**
N25K				IAmb	IAmb	13 04 11.5	
	comp=Z,4.7nm,0.9s						
BMAR	**Burnt Mountain**	**25.53**	**41**	P	**P**	**13 03 35.4**	**+0.2**
DOT	**Dot Lake**	**25.55**	**50**	P	**P**	**13 03 35.0**	**-0.4**
DOT				IAmb	IAmb	13 03 36.5	
	comp=Z,4.8nm,0.8s						
SCRK	**Sand Creek**	**25.57**	**49**	P	**P**	**13 03 34.2**	**-1.6**
SCRK				IAmb	IAmb	13 04 02.3	
	comp=Z,5.9nm,1.2s						
J26L	**Joseph Creek**	**25.76**	**48**	P	**P**	**13 03 36.1**	**-1.3**
GLB	**Gilahina Butte**	**25.80**	**55**	P	**P**	**13 03 36.2**	**-1.6**
GLB				IAmb	IAmb	13 04 01.5	
	comp=Z,9.1nm,1.4s						
K27K	**Chicken**	**26.41**	**49**	P	**P**	**13 03 42.8**	**-0.5**
K27K				IAmb	IAmb	13 04 03.1	
	comp=Z,9.5nm,1.5s						
L27K	**Beaver Creek,**	**26.58**	**51**	P	**P**	**13 03 45.3**	**+0.5**
L27K				IAmb	IAmb	13 03 55.8	
	comp=Z,4.4nm,0.8s						
BCAR	**Beaver Creek A**	**26.60**	**51**	P	**P**	**13 03 44.7**	**-0.3**
M27K	**Edge Creek, AK**	**26.62**	**53**	P	**P**	**13 03 44.0**	**-1.3**
M27K				IAmb	IAmb	13 04 17.4	
	comp=Z,4.1nm,0.9s						
EGAK	**Eagle**	**26.79**	**47**	P	**P**	**13 03 45.7**	**-1.0**
EGAK				IAmb	IAmb	13 03 55.4	
	comp=Z,4.4nm,0.8s						
LOGN	**Logan Glacier**	**27.23**	**56**	P	**P**	**13 03 48.4**	**-2.5**
LOGN				IAmb	IAmb	13 03 59.9	
	comp=Z,9.3nm,1.1s						
MJAR	**Matsushiro Arr**	**27.39**	**242**	P	**P**	**13 03 55.5**	**+3.1**
	comp=Z,1.8nm,0.9s,baz=36,slow=10,SNR=4.4						
	comp=Z,1.8nm,0.9s						
HYT	**Haines Junctio**	**28.92**	**55**	P	**P**	**13 04 05.5**	**-0.3**
M31M	**Drury Creek, Y**	**30.10**	**52**	P	**P**	**13 04 16.1**	**0.0**
M31M				IAmb	IAmb	13 04 27.6	
	comp=Z,4.6nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**34.65**	**182**	T	T	13 41 35.0	
	baz=1.4,slow=76,SNR=3990						
H11N3	**WAKE ISLAND Hy**	**34.66**	**182**	T	T	13 41 37.2	
	baz=1.4,slow=76,SNR=3827						
H11N1	**WAKE ISLAND Hy**	**34.67**	**182**	T	T	13 41 37.8	
	baz=1.4,slow=76,SNR=2992						
H11S1	**WAKE ISLAND Hy**	**35.87**	**183**	T	T	13 43 10.0	
	baz=1.4,slow=76,SNR=742						
H11S3	**WAKE ISLAND Hy**	**35.89**	**183**	T	T	13 43 11.3	
	baz=1.4,slow=76,SNR=281						
H11S2	**WAKE ISLAND Hy**	**35.89**	**183**	T	T	13 43 11.5	
	baz=1.4,slow=76,SNR=796						
SONM	**Songino Array**	**38.33**	**286**	P	**P**	**13 05 28.5**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=66,slow=8.4,SNR=6.7						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**38.33**	**286**	P	**P**	**13 05 28.2**	**+0.6**
SONM	**Songino Array**	**38.33**	**286**	P	**P**	**13 05 28.2**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**39.53**	**274**	*eP*	**P**	**13 05 38.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC				pmax	pmax		
	comp=Z,230nm,5.5s						
ZALV	**Zalesovo Beam**	**46.12**	**305**	P	**P**	**13 06 29.9**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=79,slow=7.5,SNR=1.4						
	comp=Z,0.4nm,0.4s						
NVAR	**Mina Array Bea**	**50.64**	**77**	P	**P**	**13 07 06.8**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=298,slow=7.9,SNR=3.7						
	comp=Z,0.3nm,0.6s						
WMQ	**Urumqi**	**51.08**	**293**	*eP*	**P**	**13 07 12.0**	**+2.8**
WMQ				LR	LR		
	comp=N,250nm,18.7s						
KURK	**Kurchatov**	**51.11**	**305**	P	**P**	**13 07 09.1**	**-0.1**
KURBB	**Kurchatov Arra**	**51.21**	**305**	P	**P**	**13 07 09.1**	**-0.9**
	comp=N,1.6nm,0.9s,baz=54,slow=7.6,SNR=9.7						
	comp=N,1.6nm,0.9s						
MK31	**Makanchi Array**	**51.91**	**299**	P	**P**	**13 07 13.5**	**-1.8**
MK31	**Makanchi Array**	**51.91**	**299**	P	**P**	**13 07 13.5**	**-1.8**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.4s						
MKAR	**Makanchi Array**	**51.91**	**299**	P	**P**	**13 07 14.4**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=64,slow=3.4,SNR=8.8						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**51.91**	**299**	P	**P**	**13 07 13.9**	**-1.4**
PDAR	**Pinedale Array**	**52.51**	**67**	P	**P**	**13 07 20.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=324,slow=3.8,SNR=2.0						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**53.30**	**312**	P	**P**	**13 07 24.9**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=44,slow=9.0,SNR=9.2						
	comp=Z,1.3nm,0.6s						
BRVK	**Borovoye**	**53.33**	**312**	P	**P**	**13 07 24.9**	**-0.8**
BRVK				IAmb	IAmb	13 07 30.3	
	comp=Z,2.8nm,0.8s						
BRVK	**Borovoye**	**53.33**	**312**	P	**P**	**13 07 24.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PZH	**PanZhiHua**	**55.41**	**268**	P	**P**	**13 07 43.9**	**+2.6**
PZH				pmax	pmax		
	comp=Z,20nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,4.2s						
ABKAR	**Akbulak array**	**60.54**	**314**	P	**P**	**13 08 15.1**	**-1.7**
SCHQ	**Schefferville**	**62.02**	**33**	LR	LR	13 39 37.2	
	comp=Z,186nm,19.6s,baz=105,slow=40						
MNTX	**Cornudas Mount**	**62.80**	**73**	P	**P**	**13 08 32.3**	**0.0**
MNTX				IAmb	IAmb	13 08 45.3	
	comp=Z,1.8nm,1.1s						
KAN01	**Argonia South**	**62.83**	**64**	P	**P**	**13 08 31.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**63.25**	**264**	P	**P**	**13 08 36.6**	**+1.1**
	comp=Z,3.5nm,0.3s,baz=24,slow=6.9,SNR=1.0						
	comp=Z,0.3nm,0.3s						
TX31	**Lajitas Ar. Si**	**65.55**	**73**	P	**P**	**13 08 48.9**	**-1.6**
TX32	**Lajitas Array**	**65.55**	**73**	P	**P**	**13 08 49.2**	**-1.3**
TXAR	**Lajitas Array**	**65.55**	**73**	P	**P**	**13 08 51.2**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=302,slow=4.9,SNR=8.1						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**65.55**	**73**	P	**P**	**13 08 50.9**	**+0.4**
WRA	**Warramunga Arr**	**79.61**	**212**	P	**P**	**13 10 16.4**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=22,slow=6.2,SNR=6.7						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**83.24**	**212**	P	**P**	**13 10 36.0**	**+2.9**
	comp=Z,1.2nm,0.9s,baz=26,slow=4.3,SNR=7.7						
	comp=Z,1.2nm,0.9s						

*IDC **06** 13:05:50.3±1.8, 13°.81N×144°.56E, h129km±12km, mb3.1/5, mbtmp3.5/5, MS3.4/1, Error ellipse: s-maj=76.4km s-min=19.7km az=118.0*

ISC 06 13:05:51.0±2.1, 13°.8N±0°.4×144°.6E±0°.7, h139km±13km, n14, σ0°73/8, mb3.3/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.30**	**130**	P	**Pn**	**13 06 10.7**	**+0.6**
	647nm,0.3s,baz=153,slow=4.5,SNR=365						
GUMO				S	**Sn**	**13 06 23.8**	**-0.8**
	2μm,0.3s,baz=180,slow=20,SNR=31						
JHJ	**Hachijo jima 2**	**19.75**	**348**	LR	LR	13 17 47.6	
	comp=Z,100nm,18.6s,baz=106,slow=36						
H11S3	**WAKE ISLAND Hy**	**21.69**	**75**	T	T	13 32 00.3	
	baz=261,slow=74						
H11S1	**WAKE ISLAND Hy**	**21.70**	**75**	T	T	13 32 45.7	
	baz=261						
H11S2	**WAKE ISLAND Hy**	**21.71**	**75**	T	T	13 32 47.4	
	baz=261,slow=74						
H11N1	**WAKE ISLAND Hy**	**22.10**	**71**	T	T	13 33 46.7	
	baz=257,slow=75,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**22.11**	**71**	T	T	13 33 48.1	
	baz=257,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**22.12**	**71**	T	T	13 33 48.3	
	baz=257,slow=75,SNR=11						
WRA	**Warramunga Arr**	**35.01**	**197**	P	**P**	**13 12 30.3**	**0.0**
	0.3nm,0.6s,baz=12,slow=8.9,SNR=5.6						
	0.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**36.80**	**211**	P	**P**	**13 12 45.8**	**+0.2**
	1.3nm,0.9s,baz=13,slow=7.5,SNR=6.1						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**38.67**	**196**	P	**P**	**13 13 00.9**	**-0.4**
	0.3nm,0.8s,baz=20,slow=8.3,SNR=2.1						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**68.50**	**25**	P	**P**	**13 16 37.4**	**-0.6**
	0.4nm,0.5s,baz=246,slow=5.8,SNR=5.9						
	0.4nm,0.5s						
NVAR	**Mina Array Bea**	**86.98**	**51**	P	**P**	**13 18 21.8**	**+0.7**
	0.2nm,0.6s,baz=283,slow=4.5,SNR=0.6						
	0.2nm,0.6s						
LPAZ	**La Paz**	**148.28**	**99**	PKPbc	**PKiKP**	**13 25 23.7**	**-0.4**
	1.0nm,0.7s,baz=270,slow=3.0,SNR=3.6						

*DJA **06** 13:14:16.7±0.5, 4°.5S×12°.8E±°, h10km, M4.2/11, mb5.3/1, MLv3.7/11*

*IDC **06** 13:14:17.1±1.2, 4°.52S×128°.41E, h0km, mb3.8/5, mbtmp3.8/9, ML3.3/4, Error ellipse: s-maj=43.0km s-min=22.0km az=75.0*

ISC 06 13:14:19.0±0.9, 4°.10S±0°.06×128°.14E±0°.07, h10km, n17, σ2s62/16, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.42**	**7**	P	**Pg**	**13 14 26.7**	**-0.5**
AAI				S	**Sb**	**13 14 34.5**	**-0.4**
MSAI	**Masohi**	**1.09**	**46**	P	**Pb**	**13 14 38.3**	**-1.7**
NLAI	**Namlea**	**1.35**	**310**	P	Pn	13 14 38.3	-5.6
SANI	**Sanana**	**2.96**	**313**	P	**Pn**	**13 15 02.6**	**-3.6**
LBMI	**Labuha**	**3.50**	**349**	P	**Pn**	**13 15 12.0**	**-1.6**
FAKI	**Fak Fak**	**4.27**	**74**	P	**Pn**	**13 15 23.8**	**-0.3**
SIJI	**Sorong**	**4.48**	**44**	Pn	**Pn**	**13 15 26.9**	**-0.1**
	3.2nm,0.3s,baz=167,slow=19,SNR=72						
SIJI				Sn	**Sn**	**13 16 17.2**	**-2.1**
	4.7nm,0.3s,baz=286,slow=23,SNR=9.4						
	9.6nm,0.3s						
SWI	**Sorong**	**4.48**	**44**	P	**Pn**	**13 15 27.2**	**+0.2**
SAUI	**Saumlaki**	**4.97**	**141**	P	**Pn**	**13 15 32.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**14.12**	**190**	Pn	Pn	13 17 31.8	-7.5
	baz=79,slow=18,SNR=1.5						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**16.86**	**160**	Pn	Pn	13 18 07.1	-8.3
	0.1nm,0.3s,baz=334,slow=13,SNR=12						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**20.23**	**165**	P	**P**	**13 18 50.0**	**-4.5**
	0.3nm,0.3s,baz=343,slow=11,SNR=38						
	5.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.47**	**309**	P	**P**	**13 21 27.0**	**+2.4**
	0.2nm,0.3s,baz=128,slow=5.8,SNR=1.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**64.80**	**327**	P	**P**	**13 25 00.9**	**+2.8**
	0.9nm,0.6s,baz=129,slow=7.8,SNR=7.8						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**68.18**	**334**	P	**P**	**13 25 22.2**	**+2.7**
	0.4nm,0.5s,baz=119,slow=5.1,SNR=1.8						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**69.09**	**329**	P	**P**	**13 25 28.6**	**+3.4**
	0.9nm,0.6s,baz=131,slow=5.4,SNR=14						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**74.64**	**328**	P	**P**	**13 26 02.1**	**+3.6**
	0.4nm,0.6s,baz=131,slow=4.4,SNR=2.4						
	0.4nm,0.6s						

*IDC **06** 13:18:37.5±2.5, 2°.13N×126°.75E, h0km, mb3.0/3, mbtmp3.0/3, Error ellipse: s-maj=206.4km s-min=28.7km az=66.0*

*DJA **06** 13:18:51.3±0.6, 2°.N±4°×12°.7E±°, h10km, M2.8/3, MLv2.8/3*

ISC 06 13:18:43.8±5.1, 1°.7N±0°.5×126°.4E±0°.3, h10km, n5, σ2s26/5, mb2.9/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.29**	**133**	P	**Pg**	**13 19 09.9**	**+1.3**
TNTI				S	**Sg**	**13 19 23.6**	**-1.8**
LBMI	**Labuha**	**2.52**	**155**	P	**Pb**	**13 19 30.3**	**+1.1**
WRA	**Warramunga Arr**	**22.82**	**160**	P	**P**	**13 23 45.8**	**-1.4**
	0.2nm,0.5s,baz=340,slow=11,SNR=7.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**26.20**	**164**	P	**P**	**13 24 17.4**	**-1.5**
	0.1nm,0.7s,baz=346,slow=9.8,SNR=1.1						
	0.1nm,0.7s						
MKAR	**Makanchi Array**	**59.09**	**326**	P	P	13 28 38.3	-6.1
	0.1nm,0.5s,baz=122,slow=5.4,SNR=1.6						
	0.1nm,0.5s						

*NEIC **06** 13:20:34.7±0.6, 20°.3S±0°.2×173°.5W±0°.1, h6km±6km, mb4.3/5, Error ellipse: s-maj=23.1km s-min=17.5km az=185.0*

*IDC **06** 13:20:36.1±0.8, 20°.04S×173°.93W, h0km, mb4.0/13, mbtmp4.0/15, ML4.2/2, MS3.7/5, Error ellipse: s-maj=29.6km s-min=17.5km az=142.0*

ISC 06 13:20:40.6±0.7, 19°.8S±0°.1×174°.0W±0°.1, h31km, n33, σ1s76/27, mb4.0/17, MS3.4/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.87**	**80**	Pn	Pn	13 21 30.1	-7.9
AFI	**Afiamalu**	**6.20**	**20**	Pn	**Pn**	**13 22 10.6**	**+0.5**
	2.9nm,0.3s,baz=215,slow=12,SNR=4.4						
AFI				Sn	**Sn**	**13 23 15.9**	**-4.0**
	2.2nm,0.3s,baz=262,slow=23,SNR=1.1						
	31nm,0.9s						
MSVF	**Nonsavu**	**7.84**	**284**	Pn	**Pn**	**13 22 32.9**	**+0.2**
	0.2nm,0.3s,baz=114,slow=20,SNR=1.5						
MSVF				LR	LR	13 25 34.6	
	comp=Z,468nm,18.3s,baz=121,slow=38						
	4.7nm,0.9s						
RAR	**Rarotonga**	**13.37**	**99**	Pn	Pn	13 23 37.2	-11
	1.8nm,0.3s,baz=268,slow=9.3,SNR=12						
RAR	**Rarotonga**	**13.37**	**99**	Pn	Pn	13 23 36.9	-11
DZM	**Mont Dzumac**	**18.45**	**259**	*e*LR	LR	13 29 22.8	
	comp=Z,170nm,24.1s						
DZM	**Mont Dzumac**	**18.45**	**259**	LR	LR	13 30 41.6	
	comp=Z,139nm,21.4s,baz=46,slow=33						
TBI	**Tubuai**	**23.05**	**103**	*e*LR	LR	13 30 47.0	
	comp=Z,135nm,29.0s						
PPT2	**Papeete2**	**23.20**	**89**	*e*LR	LR	13 30 42.7	
	comp=Z,193nm,27.5s						
PPT	**Papeete**	**23.20**	**89**	LR	LR	13 32 44.8	
	comp=Z,83nm,19.1s,baz=280,slow=31						
HNR	**Honiara**	**27.22**	**288**	LR	LR	13 35 22.5	
	comp=Z,1μm,19.4s,baz=187,slow=32						
CTA	**Charters Tower**	**37.34**	**263**	P	**P**	**13 27 49.3**	**-1.3**
	5.1nm,0.9s,baz=150,slow=2.9,SNR=1.7						
CTA				LR	LR	13 40 15.5	
	comp=Z,62nm,19.6s,baz=86,slow=32						
	5.1nm,0.9s						
STKA	**Stephens Creek**	**41.52**	**244**	P	**P**	**13 28 23.9**	**-1.4**
	1.6nm,0.8s,baz=72,slow=11,SNR=4.4						
	1.6nm,0.8s						
WR0	**Warramunga Arr**	**48.27**	**261**	P	**P**	**13 29 19.3**	**+0.1**
WR0				IAmb	IAmb	13 29 33.4	
	comp=Z,6.7nm,1.4s						
AS31	**Alice Springs**	**48.38**	**256**	P	**P**	**13 29 19.4**	**-0.6**
AS31				IAmb	IAmb	13 29 20.8	
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**48.38**	**256**	P	**P**	**13 29 19.6**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=98,slow=7.8,SNR=17						
ASAR				PcP	**PcP**	**13 30 45.9**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=96,slow=4.5,SNR=4.1						
	comp=Z,1.6nm,0.8s						
WB0	**Warramunga Arr**	**48.44**	**261**	P	**P**	**13 29 20.1**	**-0.4**
WB0				IAmb	IAmb	13 29 44.8	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**48.45**	**261**	P	**P**	**13 29 20.5**	**-0.1**
WRA	**Warramunga Arr**	**48.46**	**261**	P	**P**	**13 29 20.2**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=94,slow=5.2,SNR=11						
WRA				PcP	**PcP**	**13 30 48.6**	**+1.9**
	comp=Z,0.4nm,0.9s,baz=97,slow=3.2,SNR=1.5						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**48.46**	**261**	P	**P**	**13 29 20.9**	**+0.2**
VNDA	**Vanda**	**58.99**	**186**	P	**P**	**13 30 36.6**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=360,slow=8.9,SNR=4.6						
	comp=Z,0.9nm,0.9s						
MJAR	**Matsushiro Arr**	**71.96**	**321**	P	**P**	**13 32 04.5**	**+3.3**
	comp=Z,0.6nm,0.6s,baz=115,slow=4.7,SNR=2.1						
	comp=Z,0.6nm,0.6s						
PETK	**Petropavlovsk-**	**76.62**	**343**	P	**P**	**13 32 24.4**	**-3.7**
	comp=Z,0.6nm,0.4s,baz=144,slow=5.4,SNR=2.2						
NVAR	**Mina Array Bea**	**77.93**	**42**	P	**P**	**13 32 38.1**	**+2.1**
	comp=Z,1.9nm,1.0s,baz=225,slow=9.8,SNR=7.7						
	comp=Z,1.9nm,1.0s						
TXAR	**Lajitas Array**	**83.49**	**56**	P	**P**	**13 33 05.8**	**0.0**
	comp=Z,0.6nm,1.0s,baz=228,slow=12,SNR=1.9						
	comp=Z,0.6nm,1.0s						
MAW	**Mawson**	**83.50**	**199**	P	**P**	**13 33 02.3**	**-2.7**
	comp=Z,1.0nm,0.8s,baz=57,slow=13,SNR=2.4						
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**85.86**	**42**	P	**P**	**13 33 19.2**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=170,slow=1.6,SNR=3.8				

UCH					⇑*i*S		**Sn**	13 29 37.8	+0.1
	baz=70								
SGDS	**Sogindy**	**4.16**	**54**	*e*P			**Pb**	13 29 13.2	+0.3
	1.4nm,0.5s								
SGDS				*e*S			**Sb**	13 30 07.3	+4.1
	3.3nm,0.4s								
SGDS	**Sogindy**	**4.16**	**54**	Pg			**Pb**	13 29 13.2	+0.3
	1.4nm,0.5s								
SGDS				Lg			Lg	13 30 07.3	
	3.3nm,0.4s								
TKM2	**Tokmak 2**	**4.55**	**65**	⇑Pn			**Pb**	13 29 19.6	+0.1
	0.8nm,0.3s								
TKM2				⇓Sn			**Sb**	13 30 19.6	+5.1
	5.3nm,0.6s								
DGS	**Degeres**	**4.79**	**62**	*e*P			**Pb**	13 29 26.1	+2.4
	2.0nm,0.5s								
DGS				*e*S			**Sg**	13 30 29.4	-3.9
	4.3nm,0.5s								
DGS	**Degeres**	**4.79**	**62**	Pg			**Pb**	13 29 26.1	+2.4
DGS				Lg			Lg	13 30 29.4	
BTLS	**Baital**	**4.92**	**36**	*e*P			**Pb**	13 29 28.4	+2.6
	2.2nm,0.4s								
BTLS				*e*S			**Sg**	13 30 33.6	-4.0
	2.5nm,0.8s								
BTLS	**Baital**	**4.92**	**36**	Pg			**Pb**	13 29 28.4	+2.6
	2.2nm,0.4s								
BTLS				Lg			Lg	13 30 33.6	
	2.5nm,0.8s								
KRBS	**Karabastau**	**4.94**	**56**	*e*P			**Pb**	13 29 27.4	+1.3
KRBS				*e*S			**Sb**	13 30 31.7	+6.2
KRBS	**Karabastau**	**4.94**	**56**	Pg			**Pb**	13 29 27.4	+1.3
KRBS				Lg			Lg	13 30 31.7	

IDC 06 13:29:17.1±5.2, 12°37S×74°91W, h0km, mb3.5/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=222.0km s-min=34.7km az=37.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.64**	**121**	Pn	Pn	13 31 10.3	+0.1
	0.4nm,0.3s,baz=291,slow=8.6,SNR=8.5 1.6nm,0.4s						
H03N1	**Juan Fernandez**	**21.29**	**189**	T	T	13 53 04.1	
	baz=8.0,slow=74,SNR=430						
H03N2	**Juan Fernandez**	**21.29**	**189**	T	T	13 53 03.4	
	baz=8.0,slow=74,SNR=448						
H03N3	**Juan Fernandez**	**21.31**	**189**	T	T	13 53 03.6	
	baz=8.0,slow=74,SNR=336						
TXAR	**Lajitas Array**	**49.89**	**327**	P	P	13 38 12.6	-0.1
	0.2nm,0.5s,baz=146,slow=9.1,SNR=1.9 0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**80.08**	**74**	P	P	13 41 29.4	0.0
	0.5nm,0.7s,baz=260,slow=4.9,SNR=2.2 0.5nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**20.40**	**286**	T	T	15 58 51.0	
	baz=96,slow=74,SNR=62						
H11N2	**WAKE ISLAND Hy**	**20.41**	**286**	T	T	15 58 50.4	
	baz=96,slow=74,SNR=43						
H11N1	**WAKE ISLAND Hy**	**20.42**	**286**	T	T	15 58 51.0	
	baz=96,slow=74,SNR=24						
H11S2	**WAKE ISLAND Hy**	**20.52**	**284**	T	T	15 58 54.0	
	baz=97,slow=74,SNR=45						
H11S1	**WAKE ISLAND Hy**	**20.53**	**284**	T	T	15 58 55.0	
	baz=97,slow=74,SNR=77						
H11S3	**WAKE ISLAND Hy**	**20.54**	**284**	T	T	15 58 51.6	
	baz=97,slow=74,SNR=60						

*IDC **06** 13:34:20.5±0.6, 27°.05N×143°.40E, h0km, mb3.9/17, mbtmp3.8/20, ML3.0/3, MS3.2/2, Error ellipse: s-maj=16.0km s-min=15.4km az=10.0*
*NEIC **06** 13:34:22.7±1.2, 27°.15N±0°.10×143°.35E±0°.07, h10km±1km, mb4.7/36, Error ellipse: s-maj=16.8km s-min=10.5km az=164.0*
*JMA **06** 13:34:24.7±0.3, 27°N±1°×14°3E±°, h40km, MV3.9/23, NEAR CHICHIJIMA ISLAND*
ISC 06 13:34:25.9±0.6, 27°20N±0°.06×143°37E±0°.07, h35km, n81, σ1°27/86, mb4.4/34, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.06**	**265**	P	**Pn**	**13 34 44.0**	**-0.2**
CBIJ				*e*S	**Sn**	**13 34 57.7**	**0.0**
JCJ	**Chichijima**	**1.06**	**265**	Pn	**Pn**	**13 34 43.6**	**-0.5**
	126nm,0.3s,baz=84,slow=19,SNR=138						
JCJ				Sn	**Sn**	**13 34 58.1**	**+0.4**
	483nm,0.3s,baz=0.0,slow=20,SNR=13						
JCJ	**Chichijima**	**1.06**	**265**		**Pn**	**13 34 43.9**	**-0.3**
JCJ				Sn	**Sn**	**13 34 57.6**	**0.0**
JHH2	**Haha-jima-NKT2**	**1.20**	**242**	P	**Pn**	**13 34 45.7**	**-0.5**
JHH2				*e*S	**Sn**	**13 35 02.2**	**+1.0**
JHJ2	**Mitsune**	**6.65**	**333**	Pn	**Pn**	**13 36 00.2**	**-0.8**
JHJ	**Hachijo jima 2**	**6.67**	**333**	Pn	**Pn**	**13 35 59.1**	**-2.2**
	4.0nm,0.3s,baz=242,slow=20,SNR=2.0						
JHJ				Sn	**Sn**	**13 37 13.1**	**-3.0**
	9.8nm,0.3s,baz=72,slow=19,SNR=1.1						
BSO1	**Boso 1**	**7.71**	**345**	*e*P	**Pn**	**13 36 14.4**	**-0.8**
BSO1				*e*S	**Sn**	**13 37 39.0**	**-2.0**
JYN	**Shimob**	**9.24**	**335**	*e*P	**Pn**	**13 36 39.0**	**+2.3**
JYN				*e*S	**Sn**	**13 38 22.4**	**+2.9**
JHU	**Hanno**	**9.30**	**339**	*e*P	**Pn**	**13 36 37.4**	**-0.1**
JYT	**Yasato**	**9.40**	**344**	Pn	**Pn**	**13 36 35.9**	**-2.9**
JRY	**Ryogami san**	**9.58**	**338**	*e*P	**Pn**	**13 36 42.3**	**+1.0**
JHO	**Hitachi**	**9.68**	**347**	*e*P	**Pn**	**13 36 41.2**	**-1.4**
JAG	**Ashikaga**	**9.78**	**341**	*e*P	**Pn**	**13 36 43.2**	**-0.8**
MJAR	**Matsushiro Arr**	**10.29**	**336**	Pn	**Pn**	**13 36 51.6**	**+0.5**
	0.2nm,0.3s,baz=126,slow=19,SNR=9.2						
MJAR				Sn	**Sn**	**13 38 42.4**	**-2.9**
	baz=134,slow=10,SNR=1.8 1.3nm,0.3s						
MAJO	**Matsushiro**	**10.30**	**336**	Pn	**Pn**	**13 36 49.3**	**-1.8**
JFK	**Kawauchi**	**10.36**	**349**	*e*P	**Pn**	**13 36 49.0**	**-2.9**
JMM	**Marumori**	**10.86**	**349**		**Pn**	**13 36 56.3**	**-2.4**
JEW	**Eniwo**	**15.69**	**355**	Pn	**Pn**	**13 38 02.9**	**-1.3**
KSRS	**Korea Array**	**16.56**	**312**	Pn	**P**	**13 38 17.4**	**-0.2**
	0.1nm,0.3s,baz=121,slow=12,SNR=5.2						
KSRS				LR	LR	13 44 25.4	
	comp=Z,28nm,19.1s,baz=340,slow=36 0.6nm,0.6s						
SEHB	**SEOHWA**	**16.82**	**315**	P	**P**	**13 38 20.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**19.29**	**335**	P	**P**	**13 38 48.4**	**+0.9**
	0.1nm,0.3s,baz=134,slow=12,SNR=2.5 1.2nm,0.6s						
YHNB	**Yeheng**	**19.93**	**268**	P	**P**	**13 38 53.9**	**-1.0**
YHNB				IAmb	IAmb	13 39 35.6	
	comp=Z,74nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**22.80**	**104**	T	T	14 01 27.3	
	baz=297,slow=74						
H11N1	**WAKE ISLAND Hy**	**22.81**	**104**	T	T	14 01 33.0	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**22.82**	**104**	T	T	14 01 28.7	
	baz=297,slow=74						
SONM	**Songino Array**	**35.38**	**316**	P	**P**	**13 41 18.2**	**-0.1**
	σ=Z,0.5nm,0.3s,baz=113,slow=9.6,SNR=2.4 comp=Z,0.5nm,0.3s						
MTN	**Manton Dam**	**41.53**	**198**	P	**P**	**13 42 09.1**	**-0.9**
MTN				IAmb	IAmb	13 42 18.3	
	comp=Z,23nm,1.3s						
CMAR	**Chiang Mai Arr**	**41.68**	**268**	P	**P**	**13 42 11.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=51,slow=9.2,SNR=4.3 comp=Z,0.5nm,0.5s						
KNRA	**Kununurra**	**44.91**	**200**	P	**P**	**13 42 37.0**	**-0.3**
KNRA				IAmb	IAmb	13 42 43.5	
	comp=Z,11nm,1.1s						
TIXI	**Tiksi**	**45.22**	**354**	P	**P**	**13 42 40.4**	**+1.2**
	comp=Z,3.2nm,0.6s,baz=90,slow=23,SNR=2.1 comp=Z,3.2nm,0.6s						
KULM	**Kulim**	**46.11**	**250**	P	**P**	**13 42 46.1**	**-0.8**
WB0	**Warramunga Arr**	**47.49**	**191**	P	**P**	**13 42 56.5**	**-1.1**
WB0				IAmb	IAmb	13 43 33.7	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**47.65**	**191**	P	**P**	**13 42 57.6**	**-1.2**
WR0				IAmb	IAmb	13 43 13.5	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**47.66**	**192**	P	**P**	**13 42 57.8**	**-1.1**
WRAB				IAmb	IAmb	13 43 11.4	
	comp=Z,6.4nm,0.8s						
WB2	**Warramunga Arr**	**47.67**	**192**	P	**P**	**13 42 57.9**	**-1.1**
WB2				IAmb	IAmb	13 43 11.9	
	comp=Z,5.7nm,0.7s						
WRA	**Warramunga Arr**	**47.67**	**192**	P	**P**	**13 42 58.0**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=11,slow=8.4,SNR=30 comp=Z,1.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**48.20**	**203**	P	**P**	**13 43 01.8**	**-1.3**
FITZ				IAmb	IAmb	13 43 44.8	
	comp=Z,9.1nm,1.4s						
ZALV	**Zalesovo Beam**	**50.10**	**319**	P	**P**	**13 43 18.8**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=45,slow=4.4,SNR=2.3 comp=Z,1.0nm,0.8s						
CHGN	**Chignik**	**50.29**	**38**	P	**P**	**13 43 17.9**	**-0.8**
MKAR	**Makanchi Array**	**51.22**	**310**	P	**P**	**13 43 27.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=92,slow=8.5,SNR=3.7 comp=Z,0.2nm,0.3s						
AS31	**Alice Springs**	**51.38**	**191**	P	**P**	**13 43 25.7**	**-1.5**
ASAR	**Alice Springs**	**51.38**	**191**	P	**P**	**13 43 25.9**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=7.8,slow=6.9,SNR=13 comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**51.38**	**191**	P	**P**	**13 43 26.1**	**-1.2**
O18K	**Koktuh Hills**	**52.59**	**34**	P	**P**	**13 43 38.1**	**+2.2**
O18K				IAmb	IAmb	13 43 49.0	
	comp=Z,18nm,1.4s						
TTA	**Tatalina**	**52.83**	**30**	P	**P**	**13 43 36.5**	**-1.2**
OHAK	**Old Harbor**	**53.22**	**37**	P	**P**	**13 43 41.1**	**+0.7**
P19K	**Oil Pt**	**53.55**	**34**	P	**P**	**13 43 44.0**	**+1.0**
KDAK	**Kodiak Island**	**53.66**	**37**	P	**P**	**13 43 44.0**	**+0.3**
K20K	**Telida**	**53.79**	**30**	P	**P**	**13 43 46.2**	**+1.5**
K20K				IAmb	IAmb	13 44 09.2	
	comp=Z,4.2nm,1.1s						
J20K	**Nowinta River**	**53.92**	**29**	P	**P**	**13 43 47.6**	**+2.0**
J20K				IAmb	IAmb	13 43 48.2	
	comp=Z,3.1nm,0.6s						
IMAR	**Indian Mountai**	**54.48**	**27**	P	**P**	**13 43 50.3**	**+0.7**
CNPM	**China Poot**	**54.54**	**35**	P	**P**	**13 43 50.7**	**+0.5**
RND	**Reindeer**	**56.11**	**30**	P	**P**	**13 44 00.4**	**-1.2**
RND				IAmb	IAmb	13 44 05.5	
	comp=Z,8.8nm,1.4s						
SCM	**Sheep Creek Mo**	**56.67**	**32**	P	**P**	**13 44 06.6**	**+1.1**
SCM				IAmb	IAmb	13 44 32.7	
	comp=Z,14nm,1.4s						
GLI	**Glacier Island**	**56.72**	**33**	P	**P**	**13 44 06.3**	**+0.6**
HIN	**Hinchinbrook I**	**56.98**	**34**	P	**P**	**13 44 08.6**	**+0.9**
ILAR	**Eielson Array**	**57.12**	**29**	P	**P**	**13 44 08.7**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=260,slow=5.4,SNR=9.5 comp=Z,1.0nm,0.8s						
KLU	**Klutina**	**57.31**	**33**	P	**P**	**13 44 11.6**	**+1.5**
KLU				IAmb	IAmb	13 44 33.7	
	comp=Z,10nm,1.3s						
SCRK	**Sand Creek**	**58.32**	**30**	P	**P**	**13 44 18.0**	**+0.9**
SCRK				IAmb	IAmb	13 44 18.9	
	comp=Z,2.9nm,0.7s						
J26L	**Joseph Creek**	**58.53**	**29**	P	**P**	**13 44 19.3**	**+0.8**
J26L				IAmb	IAmb	13 44 20.1	
	comp=Z,2.7nm,0.7s						
STKA	**Stephens Creek**	**58.77**	**182**	P	**P**	**13 44 18.7**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=326,slow=15,SNR=3.5 comp=Z,0.7nm,0.5s						
STKA	**Stephens Creek**	**58.77**	**182**	P	**P**	**13 44 19.9**	**-0.5**
EGAK	**Eagle**	**59.57**	**29**	P	**P**	**13 44 26.4**	**+0.8**
EGAK				IAmb	IAmb	13 44 54.0	
	comp=Z,7.8nm,1.4s						
KKAR	**Karatay Array**	**59.88**	**306**	P	**P**	**13 44 29.3**	**+1.1**
ABKAR	**Akbulak array**	**65.78**	**314**	P	**P**	**13 45 07.8**	**+0.5**
FINES	**FINESS Array B**	**78.32**	**334**	P	**P**	**13 46 23.4**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=96,slow=3.8,SNR=3.8 comp=Z,2.4nm,0.9s						
KBZ	**Khabaz**	**78.71**	**313**	P	**P**	**13 46 24.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=121,slow=5.6,SNR=2.3						
KBZ				LR	LR	14 23 32.0	
	comp=Z,34nm,20.0s,baz=28,slow=37 comp=Z,0.6nm,0.5s						
NVAR	**Mina Array Bea**	**79.63**	**52**	P	**P**	**13 46 30.5**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=291,slow=6.2,SNR=12 comp=Z,1.7nm,0.7s						
NVAR	**Mina Array Bea**	**79.63**	**52**	P	**P**	**13 46 30.9**	**+0.8**
LRM	**Limekiln Ridge**	**80.08**	**43**	P	**P**	**13 46 33.2**	**+0.8**
ELK	**Elko**	**80.69**	**49**	P	**P**	**13 46 36.2**	**+0.4**
BOZ	**Bozeman (W)**	**80.69**	**43**	P	**P**	**13 46 36.7**	**+1.1**
GMN	**Gold Mountain**	**80.87**	**53**	P	**P**	**13 46 37.8**	**+1.0**
R11A	**Troy Canyon, C**	**81.57**	**51**	P	**P**	**13 46 40.9**	**+0.5**
AKASG	**Malin Array Be**	**83.15**	**324**	P	**P**	**13 46 48.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=52,slow=5.5,SNR=1.9 comp=Z,0.2nm,0.3s						
PDAR	**Pinedale Array**	**83.40**	**45**	P	**P**	**13 46 50.3**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=325,slow=1.5,SNR=5.6 comp=Z,0.8nm,0.8s						
NOA	**NORSAR Array B**	**83.90**	**339**	P	**P**	**13 46 52.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=111,slow=11,SNR=3.5 comp=Z,0.3nm,0.5s						
SRU	**San Rafael Swe**	**84.65**	**49**	P	**P**	**13 46 56.6**	**+0.3**
SRU				IAmb	IAmb	13 46 58.0	
	comp=Z,4.3nm,1.0s						
BRTR	**Keskin Array B**	**86.70**	**313**	P	**P**	**13 47 07.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=40,slow=11,SNR=1.9 comp=Z,0.3nm,0.3s						
TXAR	**Lajitas Array**	**94.70**	**54**	P	**P**	**13 47 44.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=302,slow=3.2,SNR=4.6 comp=Z,0.4nm,0.8s						
LPAZ	**La Paz**	**148.88**	**76**	PKPbc	**PKiKP**	**13 54 12.4**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=300,slow=2.8,SNR=10						

*IDC **06** 13:41:28.7±2.5, 19°.35S×175°.70W, h189km±23km, mb3.4/11, mbtmp4.0/13, Error ellipse: s-maj=21.9km s-min=12.8km az=144.0*
*NEIC **06** 13:41:32.6±1.7, 19°.3S±0°.1×175°.61W±0°.08, h222km±8km, mb4.3/44, Error ellipse: s-maj=16.9km s-min=11.6km az=168.0*
ISC 06 13:41:32.3±0.5, 19°30S±0°.09×175°60W±0°.07, h223km, n79, σ1°24/76, mb4.2/35, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.37**	**89**	Pn	**Pn**	**13 42 52.3**	**+0.4**
MSVF	**Nonsavu**	**6.22**	**283**	P	**Pn**	**13 43 05.5**	**+2.6**
	8.2nm,0.5s,baz=127,slow=15,SNR=17						
MSVF	**Nonsavu**	**6.22**	**283**	Pn	**Pn**	**13 43 06.2**	**+3.3**
AFI	**Afiamalu**	**6.49**	**35**	P	**Pn**	**13 43 04.0**	**-2.3**
	9.6nm,0.3s,baz=195,slow=4.8,SNR=8.5						
AFI				S	S	13 44 10.9	-10
	60nm,0.4s,baz=153,slow=21,SNR=13						
AFI	**Afiamalu**	**6.49**	**35**	Pn	**Pn**	**13 43 03.1**	**-3.2**
RAR	**Rarotonga**	**14.98**	**100**	P	P	13 45 04.8	+11
	8.0nm,0.8s,baz=236,slow=19,SNR=1.2						
MARNC	**Mare, Loyalty**	**15.50**	**259**	P	**Pn**	**13 45 00.6**	**+0.9**
PINNC	**Pines Island,**	**16.18**	**255**	Pn	**Pn**	**13 45 09.2**	**+1.4**
DZM	**Mont Dzumac**	**17.03**	**258**	P	**Pn**	**13 45 18.1**	**+0.2**
	9.2nm,0.8s,baz=66,slow=20,SNR=5.9						
URZ	**Urewera**	**19.93**	**197**	P	**P**	**13 45 45.5**	**-1.8**
	6.5nm,0.4s,baz=27,slow=0.8,SNR=14						
URZ	**Urewera**	**19.93**	**197**	P	**P**	**13 45 45.9**	**-1.4**
BKZ	**Black Stump Fm**	**20.95**	**197**	P	**P**	**13 45 55.8**	**-2.4**
PPT	**Papeete**	**24.74**	**90**	P	**P**	**13 46 32.9**	**-0.7**
	21nm,0.7s,baz=230,slow=18,SNR=1.6						
LTZ	**Lake Taylor**	**25.56**	**201**	P	**P**	**13 46 39.4**	**-1.4**
EIDS	**Eidsvold**	**31.35**	**253**	P	**P**	**13 47 31.1**	**-1.1**
ARMA	**Armidale**	**31.62**	**243**	P	**P**	**13 47 35.0**	**+0.3**
CTAO	**Charters Tower**	**35.87**	**262**	P	**P**	**13 48 10.8**	**-0.5**
TOO	**Toolangi**	**38.42**	**233**	P	**P**	**13 48 32.0**	**-0.6**
TOO				IAmb	IAmb	13 49 09.8	
	comp=Z,7.8nm,1.4s						
STKA	**Stephens Creek**	**40.34**	**243**	P	**P**	**13 48 47.2**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=92,slow=11,SNR=5.4 comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**40.34**	**243**	P	**P**	**13 48 47.9**	**-0.5**
BBOO	**Buckleboo**	**45.10**	**243**	P	**P**	**13 49 25.1**	**-1.5**
WB0	**Warramunga Arr**	**46.99**	**261**	P	**P**	**13 49 39.8**	**-1.8**
WB0				IAmb	IAmb	13 49 41.5	
	comp=Z,6.5nm,0.6s						
AS31	**Alice Springs**	**47.00**	**255**	P	**P**	**13 49 40.0**	**-1.6**
AS31				IAmb	IAmb	13 49 42.7	
	comp=Z,8.2nm,0.6s						
ASAR	**Alice Springs**	**47.00**	**255**	P	**P**	**13 49 40.2**	**-1.3**
	comp=Z,23nm,0.6s,baz=93,slow=8.4,SNR=279			PcP	**PcP**	**13 51 09.8**	**-0.3**
ASAR							
	comp=Z,0.5nm,0.4s,baz=105,slow=4.3,SNR=4.8						
WB2	**Warramunga Arr**	**47.00**	**260**	P	**P**	**13 49 40.1**	**-1.5**
WB2				IAmb	IAmb	13 49 41.6	
	comp=Z,5.1nm,0.6s						
WRAB	**Tennant Creek**	**47.01**	**260**	P	**P**	**13 49 40.1**	**-1.5**
WRA	**Warramunga Arr**	**47.01**	**260**	P	**P**	**13 49 39.8**	**-1.9**
	comp=Z,4.7nm,0.7s,baz=98,slow=5.8,SNR=85			PcP	**PcP**	**13 51 09.9**	**-0.3**
WRA							
	comp=Z,0.2nm,0.3s,baz=96,slow=3.3,SNR=1.4 comp=Z,4.7nm,0.7s						
WRA	**Warramunga Arr**	**47.01**	**260**	P	**P**	**13 49 39.9**	**-1.8**
MTN	**Manton Dam**	**51.43**	**269**	P	**P**	**13 50 13.9**	**-1.2**
MTN				IAmb	IAmb	13 50 16.4	
	comp=Z,11nm,0.8s						
KNRA	**Kununurra**	**53.01**	**265**	P	**P**	**13 50 26.0**	**-0.7**
KNRA				IAmb	IAmb	13 50 27.3	
	comp=Z,7.6nm,0.7s						
FAKI	**Fak Fak**	**53.46**	**281**	P	**P**	**13 50 29.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**55.43**	**261**	P	**P**	**13 50 43.6**	**-0.6**
PSA00	**Pilbara Seismi**	**60.14**	**256**	P	**P**	**13 51 16.3**	**-0.5**
PSA00				IAmb	IAmb	13 51 16.7	
	comp=Z,5.2nm,0.8s						
MBWA	**Marble Bar**	**60.33**	**256**	P	**P**	**13 51 17.1**	**-1.0**
MBWA				IAmb	IAmb	13 51 41.5	
	comp=Z,8.0nm,1.1s						
CASY	**Casey**	**66.01**	**205**	P	**P**	**13 51 55.1**	**+0.5**
MJAR	**Matsushiro Arr**	**70.62**	**322**	P	**P**	**13 52 23.0**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=151,slow=7.3,SNR=7.0 comp=Z,2.1nm,0.6s						
MAJO	**Matsushiro**	**70.62**	**322**	P	**P**	**13 52 23.8**	**+0.2**
MAJO				IAmb	IAmb	13 52 25.1	
	comp=Z,3.8nm,0.6s						
QSPA	**South Pole Qui**	**70.77**	**180**	P	**P**	**13 52 24.5**	**+0.3**
QSPA				IAmb	IAmb	13 53 04.2	
	comp=Z,5.8nm,1.4s						
JSD	**Sado**	**71.62**	**323**	P	**P**	**13 52 30.5**	**+0.9**
KSRS	**Korea Array**	**77.51**	**317**	P	**P**	**13 53 03.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=142,slow=11,SNR=2.3 comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**78.61**	**42**	P	**P**	**13 53 10.8**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=220,slow=9.6,SNR=6.9 comp=Z,0.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**79.27**	**325**	P	**P**	**13 53 14.4**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=69,slow=13,SNR=4.6 comp=Z,0.6nm,0.6s						
MAW	**Mawson**	**83.45**	**199**	P	**P**	**13 53 35.6**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=146,slow=3.6,SNR=2.1 comp=Z,0.5nm,0.5s						
SNH	**Sunshine Point**	**83.54**	**16**	P	**P**	**13 53 35.1**	**+0.2**
GHO	**Glory Hole Cre**	**83.55**	**12**	P	**P**	**13 53 35.0**	**0.0**
GHO				IAmb	IAmb	13 54 06.3	
	comp=Z,11nm,1.4s						
SCM	**Sheep Creek Mo**	**83.94**	**13**	P	**P**	**13 53 37.7**	**+0.7**
SCM				IAmb	IAmb	13 53 51.9	
	comp=Z,8.3nm,1.2s						
K20K	**Telida**	**84.09**	**10**	P	**P**	**13 53 38.8**	**+1.1**
K20K				IAmb	IAmb	13 54 05.8	
	comp=Z,5.1nm,1.1s						
N25K	**Chitina, Valde**	**84.35**	**14**	P	**P**	**13 53 39.9**	**+0.9**
N25K				IAmb	IAmb	13 53 40.7	
	comp=Z,4.2nm,0.8s						
GLB	**Gilahina Butte**	**84.39**	**15**	P	**P**	**13 53 40.0**	**+0.8**
TXAR	**Lajitas Array**	**84.51**	**57**	P	**P**	**13 53 41.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=211,slow=7.1,SNR=4.0 comp=Z,0.3nm,0.7s						
TRF	**Thorofare Moun**	**84.82**	**11**	P	**P**	**13 53 41.1**	**-0.4**
TRF				IAmb	IAmb	13 53 42.8	
	comp=Z,4.7nm,0.8s						
J20K	**Nowinta River**	**84.85**	**9**	P	**P**	**13 53 42.3**	**+0.9**
J20K				IAmb	IAmb	13 54 05.5	
	comp=Z,7.8nm,1.3s						
H03N2	**Juan Fernandez**	**84.93**	**124**	T	T	15 26 56.7	
	baz=256,slow=71,SNR=6.1						
H03N3	**Juan Fernandez**	**84.93**	**124**	T	T	15 26 57.5	
	baz=256,slow=71,SNR=4.6						
H03N1	**Juan Fernandez**	**84.94**	**124**	T	T	15 26 54.2	
	baz=256,slow=71,SNR=4.1						
DHY	**Denali Highway**	**85.04**	**12**	P	**P**	**13 53 42.4**	**-0.1**
RND	**Reindeer**	**85.05**	**12**	P	**P**	**13 53 43.7**	**+1.2**
RND				IAmb	IAmb	13 53 44.0	
	comp=Z,3.6nm,0.7s						
M27K	**Edge Creek, AK**	**85.65**	**15**	P	**P**	**13 53 46.4**	**+0.8**
M27K				IAmb	IAmb	13 53 48.0	
	comp=Z,5.8nm,1.1s						
WRH	**Wood River Hil**	**86.16**	**12**	P	**P**	**13 53 48.1**	**+0.3**
MLY	**Manley**	**86.20**	**10**	P	**P**	**13 53 48.2**	**+0.2**
DOT	**Dot Lake**	**86.26**	**14**	P	**P**	**13 53 47.8**	**-0.6**
DOT				IAmb	IAmb	13 53 53.3	
	comp=Z,5.7nm,1.5s						
L27K	**Beaver Creek,**	**86.26**	**15**	P	**P**	**13 53 50.2**	**+1.8**
CCB	**Clear Creek Bu**	**86.37**	**12**	P	**P**	**13 53 49.1**	**+0.2**
H21K	**Melozitna Rive**	**86.45**	**9**	P	**P**	**13 53 50.8**	**+1.6**
H21K				IAmb	IAmb	13 54 27.6	
	comp=Z,6.3nm,1.4s						
PDAR	**Pinedale Array**	**86.55**	**42**	P	**P**	**13 53 51.5**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=238,slow=1.7,SNR=2.1 comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**86.55**	**42**	P	**P**	**13 53 51.4**	**+0.8**
IMAR	**Indian Mountai**	**86.61**	**9**	P	**P**	**13 53 51.8**	**+1.8**
ILAR	**Eielson Array**	**86.66**	**12**	P	**P**	**13 53 50.9**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=218,slow=5.7,SNR=2.9 comp=Z,0.4nm,0.8s

	2.5nm,0.4s							
KST					*e*S	**Sg**	**14 02 33.5**	**+1.3**
	19nm,1.0s							
KST	**Kastek**	**3.83**	**30**		Pg	**Pb**	**14 01 38.0**	**+0.9**
	2.5nm,0.4s							
KST					Lg	Lg	14 02 34.2	
	19nm,1.0s							
DGS	**Degeres**	**3.93**	**26**		*e*P	**Pb**	**14 01 40.0**	**+1.2**
	3.3nm,0.4s							
DGS					*e*S	**Sg**	**14 02 37.3**	**+1.7**
	15nm,1.1s							
DGS	**Degeres**	**3.93**	**26**		Pg	**Pb**	**14 01 40.0**	**+1.2**
	3.3nm,0.4s							
DGS					Lg	Lg	14 02 37.6	
	15nm,1.1s							
KK31	**Karatay Array**	**3.99**	**328**		⇓Pg	**Pb**	**14 01 41.6**	**+1.8**
	1.5nm,0.4s,baz=147,slow=15,SNR=6.0							
KK31					⇑Sn	**Sb**	**14 02 24.6**	**-3.5**
	1.2nm,0.3s							
KK31					⇓Lg	Lg	14 02 38.2	
	4.6nm,0.5s,baz=146,slow=26,SNR=4.7							
MTBS	**Maitube**	**4.09**	**33**		*e*P	**Pb**	**14 01 42.9**	**+1.5**
	2.0nm,0.2s							
MTBS					*e*S	**Sg**	**14 02 42.1**	**+1.5**
	12nm,0.3s							
MTBS	**Maitube**	**4.09**	**33**		Pg	**Pb**	**14 01 42.9**	**+1.5**
MTBS					Lg	Lg	14 02 42.1	
KRBS	**Karabastau**	**4.31**	**23**		*e*P	**Pb**	**14 01 46.6**	**+1.4**
	1.6nm,0.3s							
KRBS					*e*S	**Sg**	**14 02 48.7**	**+1.2**
	12nm,0.7s							
KRBS	**Karabastau**	**4.31**	**23**		Pg	**Pb**	**14 01 46.6**	**+1.4**
	1.6nm,0.3s							
KRBS					Lg	Lg	14 02 48.7	
	12nm,0.7s							
MDOK	**Medeo**	**4.39**	**38**		*e*P	**Pb**	**14 01 46.9**	**+0.2**
MDOK					*e*S	**Sg**	**14 02 48.9**	**-1.4**
MDOK	**Medeo**	**4.39**	**38**		Pg	**Pb**	**14 01 46.8**	**+0.2**
MDOK					Lg	Lg	14 02 48.9	
KTBS	**Karatobe**	**4.67**	**31**		*e*P	**Pb**	**14 01 51.9**	**+0.5**
	0.8nm,0.5s							
KTBS					*e*S	**Sg**	**14 02 57.6**	**-1.7**
	31nm,0.6s							
KTBS	**Karatobe**	**4.67**	**31**		Pg	**Pb**	**14 01 51.9**	**+0.5**
	0.8nm,0.5s							
KTBS					Lg	Lg	14 02 57.7	
	31nm,0.6s							
KUU	**Kurty**	**4.70**	**27**		*e*P	**Pb**	**14 01 53.5**	**+1.6**
	2.3nm,0.4s							
KUU					*e*S	**Sg**	**14 03 00.3**	**+0.1**
	13nm,0.7s							
KUU	**Kurty**	**4.70**	**27**		Pg	**Pb**	**14 01 53.5**	**+1.6**
	2.3nm,0.4s							
KUU					Lg	Lg	14 03 00.3	
	13nm,0.7s							

ROM 06 14:16:16.1±0.0,**42°.790N**±0°.002×**13°.238E**±0°.004,
h10km,**ML1.8**/13,**3C-1D**,**Error ellipse: s-maj=0.3km s-min=0.2km az=66.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.05**	**328**	P	Pg	14 16 18.1	0.0
T1242				AML	AML		
	comp=E,2465μm,0.7s						
T1242				AML	AML		
	comp=N,2985μm,0.4s						
T1242				AML	AML		
	comp=E,2430μm,0.7s						
T1242				AML	AML		
	comp=N,2935μm,0.4s						
T1244	**Arquata del Tr**	**0.06**	**127**	⇑P	Pg	14 16 18.4	+0.3
T1244				S	Sg	14 16 19.8	+0.1
T1244				AML	AML		
	comp=E,3010μm,1.5s						
T1244				AML	AML		
	comp=E,1642μm,0.3s						
T1244				AML	AML		
	comp=N,1342μm,0.3s						
T1244				AML	AML		
	comp=N,3985μm,1.6s						
NRCA	**Norcia**	**0.10**	**296**	P	Pg	14 16 19.1	+0.4
NRCA				S	Sg	14 16 21.0	+0.4
NRCA				AML	AML		
	comp=E,2860μm,0.2s						
NRCA				AML	AML		
	comp=E,3070μm,0.2s						
NRCA				AML	AML		
	comp=N,2415μm,0.5s						
NRCA				AML	AML		
	comp=N,2155μm,0.5s						
MC2	**Monte Cornacci**	**0.13**	**344**	P	Pg	14 16 19.2	0.0
MC2				S	Sg	14 16 22.0	+0.6
MMO1	**Montemonaco**	**0.13**	**31**	P	Pg	14 16 19.4	+0.3
MMO1				S	Sg	14 16 21.8	+0.5
MMO1				AML	AML		
	comp=E,470μm,1.1s						
MMO1				AML	AML		
	comp=N,556μm,0.5s						
MMO1				AML	AML		
	comp=E,471μm,1.1s						
T1204	**Amatrice, Fraz**	**0.13**	**153**	P	Pg	14 16 19.7	+0.6
T1204				S	Sg	14 16 22.4	+1.0
T1241	**Roccafluvione,**	**0.16**	**65**	⇑P	Pg	14 16 20.2	+0.7
T1241				S	Sg	14 16 23.0	+1.1
T1241				AML	AML		
	comp=E,462μm,0.8s						
T1241				AML	AML		
	comp=N,234μm,0.8s						
SMA1	**SAN MARTINO**	**0.17**	**156**	P	Pg	14 16 20.6	+0.7
SMA1				AML	AML		
	comp=N,329μm,0.2s						
SMA1				AML	AML		
	comp=E,407μm,0.5s						
T1243	**Rocca Santa Ma**	**0.18**	**121**	⇑P	Pg	14 16 20.6	+0.6
T1243				S	Sg	14 16 23.7	+1.1
LNSS	**Leonessa**	**0.24**	**218**	P	Pg	14 16 21.7	+0.8
LNSS				S	Sg	14 16 26.0	+1.8
LNSS				AML	AML		
	comp=E,472μm,0.2s						
LNSS				AML	AML		
	comp=N,516μm,0.2s						
LNSS				AML	AML		
	comp=E,472μm,0.2s						
LNSS				AML	AML		
	comp=N,515μm,0.2s						
FDMO	**Fiordimonte**	**0.27**	**336**	P	Pg	14 16 22.1	+0.5
FDMO				S	Sb	14 16 26.6	-1.3
FDMO				AML	AML		
	comp=N,266μm,0.2s						
FDMO				AML	AML		
	comp=E,217μm,0.2s						
T1215	**Vallo di Nera,**	**0.27**	**273**	P	Pg	14 16 22.2	+0.6
T1215				S	Sb	14 16 26.7	-1.2
GUMA	**Gualdo di Mace**	**0.28**	**15**	P	Pb	14 16 22.8	-0.5
GUMA				S	Sb	14 16 28.1	-0.1
GUMA				AML	AML		
	comp=E,1635μm,0.4s						
GUMA				AML	AML		
	comp=N,648μm,1.2s						
RM33	**Pellescritta (**	**0.28**	**184**	P	Pb	14 16 22.6	-0.8
RM33				S	Sb	14 16 27.6	-0.6
RM33				AML	AML		
	comp=E,147μm,0.5s						
RM33				AML	AML		
	comp=N,164μm,0.9s						
RM33				AML	AML		
	comp=E,325μm,0.3s						
RM33				AML	AML		
	comp=N,183μm,0.3s						
CAMP	**Campotosto**	**0.28**	**154**	P	Pg	14 16 22.1	+0.3
CAMP				S	Sg	14 16 26.9	+1.3
CAMP				AML	AML		
	comp=N,83μm,0.8s						
CAMP				AML	AML		
	comp=E,75μm,0.8s						
CSP1	**Cessapalombo**	**0.30**	**355**	P	Pg	14 16 22.7	+0.5
CSP1				S	Sb	14 16 27.8	-1.0
CSP1				AML	AML		
	comp=E,255μm,1.3s						
CSP1				AML	AML		
	comp=N,259μm,0.9s						
TERO	**Teramo**	**0.32**	**122**	⇓P	Pg	14 16 23.0	+0.6
TERO				S	Sb	14 16 28.1	-1.1
TERO				AML	AML		
	comp=E,216μm,0.2s						
TERO				AML	AML		
	comp=N,239μm,1.2s						
CESI	**CESI - Serrava**	**0.33**	**311**	P	Pg	14 16 23.1	+0.5
CESI				S	Sb	14 16 28.6	-0.9
CESI				AML	AML		
	comp=E,183μm,1.1s						
CESI				AML	AML		
	comp=N,318μm,0.3s						
ARRO	**Arrone**	**0.41**	**239**	P	Pg	14 16 24.5	+0.5
ARRO				AML	AML		
	comp=E,78μm,0.2s						
ARRO				AML	AML		
	comp=N,80μm,1.4s						
GIGS	**Gran Sasso**	**0.42**	**144**	P	Pg	14 16 24.5	+0.2
GIGS				S	Sb	14 16 31.3	-0.8
ASSB	**Assisi San Ben**	**0.49**	**301**	P	Pg	14 16 26.0	+0.3
ASSB				S	Sb	14 16 33.7	-0.6
ASSB				AML	AML		
	comp=E,134μm,0.2s						
ASSB				AML	AML		
	comp=N,151μm,0.3s						
SNTG	**Esanatoglia**	**0.51**	**335**	P	Pg	14 16 26.4	+0.3
SNTG				S	Sb	14 16 34.6	-0.2
FIAM	**Fiamignano**	**0.53**	**190**	P	Pg	14 16 26.6	+0.2
FIAM				S	Sb	14 16 35.0	-0.3
EL6	**Elcito**	**0.55**	**350**	P	Pg	14 16 27.2	+0.5
PIEI	**Pieia**	**0.91**	**326**	P	Pg	14 16 33.5	0.0

ROM 06 14:16:58.7±0.2,**42°.769N**±0°.007×**13°.15E**±0°.02,**h15**km±1km,
ML1.8/8,**2C-3D**,**Error ellipse: s-maj=1.3km s-min=0.5km az=261.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.07**	**338**	P	Pg	14 17 02.1	+0.2
NRCA				S	Sg	14 17 04.1	+0.2
NRCA				AML	AML		
	comp=E,1755μm,0.1s						
NRCA				AML	AML		
	comp=N,1410μm,0.7s						
NRCA				AML	AML		
	comp=E,1870μm,0.1s						
NRCA				AML	AML		
	comp=N,1510μm,0.3s						
T1242	**Castelluccio d**	**0.07**	**34**	P	Pg	14 17 02.0	0.0
T1242				S	Sg	14 17 04.2	+0.1
T1242				AML	AML		
	comp=E,1335μm,0.1s						
T1242				AML	AML		
	comp=N,1229μm,0.4s						
T1202	**Accumoli, Fraz**	**0.09**	**140**	P	Pg	14 17 02.3	+0.3
T1202				S	Sg	14 17 04.7	+0.5
T1202				AML	AML		
	comp=E,959μm,0.8s						
T1202				AML	AML		
	comp=N,1134μm,0.3s						
T1244	**Arquata del Tr**	**0.11**	**96**	P	Pb	14 17 02.6	0.0
T1244				S	Sb	14 17 05.1	-0.1
T1244				AML	AML		
	comp=E,1244μm,0.1s						
T1244				AML	AML		
	comp=N,624μm,0.1s						
MC2	**Monte Cornacci**	**0.15**	**12**	P	Pb	14 17 03.1	-0.2
MMO1	**Montemonaco**	**0.18**	**45**	P	Pg	14 17 03.5	+0.3
MMO1				S	Sb	14 17 06.9	-0.4
MMO1				AML	AML		
	comp=E,171μm,0.9s						
MMO1				AML	AML		
	comp=N,272μm,0.2s						
LNSS	**Leonessa**	**0.18**	**206**	P	Pg	14 17 03.5	+0.2
LNSS				AML	AML		
	comp=N,280μm,0.2s						
LNSS				AML	AML		
	comp=E,422μm,0.2s						
SMA1	**SAN MARTINO**	**0.20**	**135**	P	Pb	14 17 03.9	-0.2
SMA1				S	Sb	14 17 11.1	+3.5
SMA1				AML	AML		
	comp=E,407μm,0.5s						
SMA1				AML	AML		
	comp=N,329μm,0.2s						
T1215	**Vallo di Nera,**	**0.21**	**279**	⇓P	Pb	14 17 04.1	-0.2
T1241	**Roccafluvione,**	**0.23**	**67**	P	Pg	14 17 04.1	+0.2
T1241				S	Sg	14 17 07.8	+0.5
T1241				AML	AML		
	comp=E,107μm,1.6s						
T1241				AML	AML		
	comp=N,94μm,1.5s						
T1243	**Rocca Santa Ma**	**0.23**	**108**	P	Pg	14 17 04.1	+0.2
RM33	**Pellescritta (**	**0.27**	**170**	P	Pg	14 17 04.8	+0.3
RM33				S	Sg	14 17 08.2	-0.2
RM33				AML	AML		
	comp=E,310μm,0.3s						
RM33				AML	AML		
	comp=N,344μm,1.2s						
RM33				AML	AML		
	comp=E,325μm,0.3s						
RM33				AML	AML		
	comp=N,183μm,0.3s						
FDMO	**Fiordimonte**	**0.27**	**350**	⇓P	Pb	14 17 05.0	-0.3
FDMO				AML	AML		
	comp=E,54μm,1.5s						
FDMO				AML	AML		
	comp=N,49μm,0.9s						
CESI	**CESI - Serrava**	**0.30**	**323**	⇑P	Pb	14 17 05.7	-0.1
GUMA	**Gualdo di Mace**	**0.32**	**25**	⇓P	Pb	14 17 06.2	0.0
GUMA				AML	AML		
	comp=E,404μm,0.3s						
GUMA				AML	AML		
	comp=N,285μm,1.4s						
CSP1	**Cessapalombo**	**0.33**	**7**	P	Pg	14 17 05.9	+0.4
ARRO	**Arrone**	**0.34**	**236**	P	Pb	14 17 06.3	-0.2
TERO	**Teramo**	**0.36**	**113**	⇑P	Pg	14 17 06.3	+0.1
GIGS	**Gran Sasso**	**0.45**	**136**	P	Pg	14 17 07.7	0.0
TRE1	**Treia**	**0.56**	**12**	S	Sg	14 17 16.0	-1.1

*IDC **06** 14:17:13.2±3.8,22°.25N×144°.13E,h107km±28km,mb3.1/7, mbtmp3.6/8,Error ellipse: s-maj=103.9km s-min=17.6km az=77.0*
ISC 06 14:17:11.6±2.3,**22°.2N**±0°.2×**144°.4E**±0°.7,**h100**km,**n8**,
σ1§**15/10**,**mb3.6/6**,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.23**	**338**	P	**Pn**	**14 18 27.6**	**+0.1**
	15nm,0.3s,baz=90,slow=20,SNR=5.7						
JCJ				S	**Sn**	**14 19 26.9**	**+0.3**
	45nm,0.8s,baz=93,slow=19,SNR=2.6						
KSRS	**Korea Array**	**20.78**	**321**	P	**P**	**14 21 45.4**	**+0.8**
	0.4nm,0.5s,baz=148,slow=7.7,SNR=4.0						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.06**	**194**	P	**P**	**14 25 02.4**	**+0.6**
	0.1nm,0.2s,baz=13,slow=8.4,SNR=13						
	0.1nm,0.2s						
ASAR	**Alice Springs**	**46.76**	**193**	P	**P**	**14 25 29.7**	**-1.4**
	0.2nm,0.8s,baz=9.2,slow=7.5,SNR=1.9						
ASAR				PcP	**PcP**	**14 27 05.0**	**+2.1**
	0.3nm,1.0s,baz=106,slow=6.7,SNR=4.3						
	0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**54.49**	**321**	P	**P**	**14 26 27.8**	**-1.0**
	0.6nm,0.6s,baz=111,slow=11,SNR=2.1						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**55.16**	**312**	P	**P**	**14 26 33.3**	**-0.5**
	0.3nm,0.5s,baz=90,slow=9.5,SNR=4.9						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**57.90**	**317**	P	**P**	**14 26 52.3**	**-0.7**
	0.8nm,0.4s,baz=94,slow=7.7,SNR=9.8						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**83.17**	**335**	P	**P**	**14 29 25.9**	**-0.5**
	0.4nm,0.4s,baz=40,slow=2.4,SNR=1.1						
	0.4nm,0.4s						

ROM 06 14:17:17.4±0.5,**42°.52N**±0°.02×**13°.29E**±0°.02,**h16**km±2km,
ML2.3/5,**3C-9D**,**Error ellipse: s-maj=1.9km s-min=1.3km az=284.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.06**	**260**	P	Pg	14 17 20.6	+0.1
RM33				S	Sg	14 17 22.4	-0.1
CAMP	**Campotosto**	**0.09**	**79**	P	Pg	14 17 21.5	+0.6
CAMP				S	Sg	14 17 23.9	+0.8
SMA1	**SAN MARTINO**	**0.12**	**17**	P	Pg	14 17 21.2	+0.1
SMA1				S	Sg	14 17 23.5	-0.1
T1204	**Amatrice, Fraz**	**0.16**	**8**	P	Pg	14 17 21.5	-0.2
T1204				S	Sg	14 17 24.8	+0.3
T1202	**Accumoli, Fraz**	**0.19**	**346**	P	Pb	14 17 24.3	+1.6
T1202				S	Sb	14 17 26.5	+0.3
LNSS	**Leonessa**	**0.20**	**295**	⇑P	Pg	14 17 22.0	-0.2
LNSS				AML	AML		
	comp=N,281μm,0.2s						
LNSS				AML	AML		
	comp=E,422μm,0.2s						
LNSS				AML	AML		
	comp=N,280μm,0.2s						
T1243	**Rocca Santa Ma**	**0.21**	**34**	P	Pg	14 17 22.6	+0.1
T1243				S	Sg	14 17 26.0	+0.2
T1244	**Arquata del Tr**	**0.24**	**2**	⇓P	Pg	14 17 22.7	-0.1
T1244				AML	AML		
	comp=E,1244μm,0.1s						
T1244				AML	AML		
	comp=N,624μm,0.1s						
T1244				AML	AML		
	comp=N,622μm,0.1s						
T1244				AML	AML		
	comp=E,1246μm,0.1s						
T1244				AML	AML		
	comp=E,1235μm,0.2s						
T1244				AML	AML		
	comp=N,622μm,0.1s						
TERO	**Teramo**	**0.26**	**66**	⇓P	Pb	14 17 23.6	-0.1
T1242	**Castelluccio d**	**0.32**	**349**	P	Pg	14 17 24.5	+0.3
T1242				AML	AML		
	comp=E,1364μm,1.5s						
T1242				AML	AML		
	comp=N,1270μm,0.4s						
T1242				AML	AML		
	comp=E,1335μm,0.1s						
T1242				AML	AML		
	comp=N,1270μm,0.4s						
T1242				AML	AML		
	comp=N,1229μm,0.4s						
T1242				AML	AML		
	comp=E,1364μm,1.5s						
NRCA	**Norcia**	**0.34**	**338**	P	Pb	14 17 24.9	-0.3
NRCA				AML	AML		
	comp=E,1870μm,0.1s						
NRCA				AML	AML		
	comp=N,1510μm,0.3s						
T1241	**Roccafluvione,**	**0.35**	**17**	⇑P	Pb	14 17 26.2	+0.8
MC2	**Monte Cornacci**	**0.40**	**350**	P	Pg	14 17 25.7	+0.1
T1215	**Vallo di Nera,**	**0.42**	**313**	P	Pb	14 17 26.6	+0.1
FDMO	**Fiordimonte**	**0.54**	**344**	⇓P	Pg	14 17 27.8	-0.3
CESI	**CESI - Serrava**	**0.56**	**330**	⇓P	Pg	14 17 28.5	0.0
CSP1	**Cessapalombo**	**0.58**	**354**	⇓P	Pg	14 17 28.5	-0.3
CSP1				AML	AML		
	comp=E,94μm,1.1s						
CSP1				AML	AML		
	comp=N,94μm,0.6s						
CSP1				AML	AML		
	comp=E,94μm,1.1s						
CSP1				AML	AML		
	comp=N,96μm,0.6s						
SRES	**S.Oreste - Sor**	**0.64**	**244**	⇓P	Pg	14 17 26.8	-3.2
ASSB	**Assisi San Ben**	**0.70**	**319**	⇓P	Pg	14 17 31.2	+0.1
SNTG	**Esanatoglia**	**0.78**	**341**	⇓P	Pg	14 17 32.0	-0.6
OSSC	**Osservatorio P**	**1.80**	**305**	P	Pb	14 17 50.5	+0.4
VBKN	**Vesuvio Bunker**	**1.89**	**153**	⇓P	Pn	14 17 48.3	-0.8
CAFE	**Carife**	**2.08**	**135**	S	Sn	14 18 18.0	+0.5
CELB	**S.Piero in Cam**	**2.28**	**277**	S	Sb	14 18 25.0	-1.3
CDRU	**Civita di Ruta**	**2.53**	**143**	P	Pn	14 17 50.6	-7.4
PZUN	**Potenza**	**2.66**	**134**	S	Sn	14 18 24.0	-7.5
PZUN				S	Sb	14 18 36.0	-1.1
SBPO	**S.Benedetto Po**	**3.06**	**327**	⇑P	Pb	14 18 08.6	-2.9
MNTV	**Mantova**	**3.19**	**326**	S	Sn	14 18 44.0	-0.6
STON	**Ston**	**3.27**	**82**	S	Sn	14 18 45.0	-1.6
ISTR	**Stromboli Gino**	**4.00**	**158**	P	Pn	14 18 20.6	+2.5
RISI	**Rein**	**4.51**	**349**	S	Sn	14 19 09.0	-8.5
SRN	**Sarande**	**5.71**	**115**	P	Pb	14 18 52.3	-4.3

*JMA **06** 14:20:55.8±0.3,25°.N±3°.×12°.3E±°,h193km,MV2.6/15,NW OFF ISHIGAKIJIMA IS*
*TAP **06** 14:20:56.1,25°.39N×122°.85E,h186km,ML3.6,D*
ISC 06 14:20:54.9±2.0,**25°.31N**±0°.07×**122°.84E**±0°.03,
h198km±12km,**n71**,**σ1**§**04/123**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.77**	**295**	P	**Pn**	**14 21 23.5**	**+0.6**
	baz=288						
PCYT				S	**Sn**	**14 21 43.0**	**-1.7**
	baz=288						
TWB1	**Santiao Chiao**	**0.83**	**249**	*e*P	**Pn**	**14 21 23.4**	**+0.1**
	baz=248						
TWB1				S	**Sn**	**14 21 45.3**	**+0.1**
	baz=248						
YOJ	**Yonaguni jima**	**0.86**	**170**	P	**Pn**	**14 21 24.2**	**+0.7**
	baz=169						
JYNG	**Yonagunijimaku**	**0.86**	**174**	*e*P	**Pn**	**14 21 24.2**	**+0.6**
JYNG				*e*S	**Sn**	**14 21 46.1**	**+0.4**
SXI1	**Grass Mountain**	**0.90**	**257**	*e*P	**Pn**	**14 21 24.7**	**+0.8**
	baz=251						
SXI1				*e*S	**Sn**	**14 21 46.7**	**+0.4**
	baz=251						
EGS		**0.94**	**241**	P	**Pn**	**14 21 25.0**	**+1.0**
	baz=242						
TIPB	**Shuangxi**	**0.98**	**250**	P	**Pn**	**14 21 24.9**	**+0.5**
	baz=247						
TIPB				*e*S	**Sn**	**14 21 46.4**	**-0.7**
	baz=247						
NTC	**Toucheng**	**1.02**	**244**	*e*P	**Pn**	**14 21 25.0**	**+0.5**
	baz=242						
NTC				*e*S	**Sn**	**14 21 45.7**	**-1.7**
	baz=242						
ILA	**Ilan**	**1.13**	**242**	S	**Sn**	**14 21 50.0**	**+1.1**
	baz=241						
TWC	**Suao**	**1.14**	**232**	S	**Sn**	**14 21 48.8**	**-0.2**
	baz=220						
YM01	**YM01**	**1.16**	**262**	P	**Pn**	**14 21 26.6**	**+1.0**
	baz=261						
TWE	**Neicheng**	**1.21**	**241**	*i* P	**Pn**	**14 21 28.6**	**+2.6**
	baz=229						
TWE				*i* S	**Sn**	**14 21 49.9**	**-0.2**
	baz=229						
NDS	**Dongshan**	**1.22**	**237**	*e*P	**Pn**	**14 21 27.1**	**+1.0**
	baz=226						
NDS				S	**Sn**	**14 21 48.6**	**-1.5**
	baz=226						
FUSB	**Fushanzhiwuyua**	**1.26**	**245**	P	**Pn**	**14 21 26.8**	**+0.4**
	baz=234						
FUSB				S	**Sn**	**14 21 50.7**	**-0.2**
	baz=234						
IRIF	**Iriomote-Funau**	**1.26**	**140**	*e*P	**Pn**	**14 21 26.6**	**+0.2**
IRIF				*e*S	**Sn**	**14 21 50.6**	**-0.2**
EWUT	**Wuta**	**1.29**	**229**	S	**Sn**	**14 21 49.6**	**-1.6**
	baz=219						
ENA	**Nanau**	**1.33**	**229**	*i* S	**Sn**	**14 21 51.9**	**+0.2**
	baz=219						
ENTT	**Nioudou**	**1.33**	**240**	P	**Pn**	**14 21 26.8**	**-0.2**
	baz=231						
ENTT				S	**Sn**	**14 21 51.5**	**-0.3**
	baz=231						
NDT	**Datong Townshi**	**1.40**	**240**	P	**Pn**	**14 21 28.9**	**+1.4**
	baz=230						
NDT				S	**Sn**	**14 21 52.9**	**+0.1**
	baz=230						
LATG	**Datong**	**1.42**	**237**	P	**Pn**	**14 21 29.3**	**+1.4**
	baz=234						
LATG				S	**Sn**	**14 21 53.5**	**+0.2**
	baz=234						
YHNB	**Yeheng**	**1.47**	**245**	P	**Pn**	**14 21 29.2**	**+0.9**
	baz=242						
YHNB				S	**Sn**	**14 21 53.0**	**-1.1**
	baz=242						
NSK	**Sanguang**	**1.48**	**245**	P	**Pn**	**14 21 27.9**	**-0.4**
	baz=243						
NSK				S	**Sn**	**14 21 52.0**	**-2.2**
	baz=243						
JKRS	**Kuro-shima**	**1.50**	**135**	P	**Pn**	**14 21 29.1**	**+0.7**
JKRS				S	**Sn**	**14 21 53.4**	**-1.0**
JIJ	**Ishigaki jima**	**1.51**	**128**	P	**Pn**	**14 21 28.8**	**+0.2**
JIJ				S	**Sn**	**14 21 52.7**	**-1.9**
HATJ	**Hateruma jima**	**1.52**	**145**	P	**Pn**	**14 21 29.2**	**+0.6**
HATJ				*e*S	**Sn**	**14 21 54.6**	**-0.2**
NNSB	**Datong**	**1.59**	**237**	P	**Pn**	**14 21 30.5**	**+1.1**
	baz=234						
NNSB				S	**Sn**	**14 21 55.4**	**-0.6**
	baz=234						

NNS	**Nan Shan**	**1.59 237**	*i* S		**Sn**	**14 21 54.6**	**-1.4**
	baz=234							
ETL	**Fush Village**	**1.59 224**	S		**Sn**	**14 21 55.1**	**-0.8**
	baz=217							
NACB	**Ninganchiao**	**1.60 225**	P		**Pn**	**14 21 30.0**	**+0.7**
	baz=218							
NACB			S		**Sn**	**14 21 55.1**	**-0.9**
	baz=218							
ETLH	**Xiulin Townshi**	**1.65 229**	*e*P		**Pn**	**14 21 30.6**	**+0.7**
	baz=234							
ETLH			S		**Sn**	**14 21 56.4**	**-0.7**
	baz=234							
TWD	**Chiawan**	**1.67 223**	P		**Pn**	**14 21 30.2**	**+0.3**
	baz=217							
TWD			S		**Sn**	**14 21 56.2**	**-0.9**
	baz=217							
NFF	**Wufeng Townshi**	**1.70 247**	*e*P		**Pn**	**14 21 29.8**	**-0.5**
	baz=236							
NFF			S		**Sn**	**14 21 55.9**	**-1.9**
	baz=236							
HWA	**Hwalien**	**1.74 221**	S		**Sn**	**14 21 58.9**	**+0.5**
	baz=215							
LIOB	**Emei**	**1.78 249**	P		**Pn**	**14 21 31.9**	**+0.8**
	baz=238							
LIOB			S		**Sn**	**14 21 58.8**	**-0.3**
	baz=238							
FUSS	**Fushou**	**1.79 234**	P		**Pn**	**14 21 33.1**	**+1.7**
	baz=231							
FUSS			S		**Sn**	**14 21 59.6**	**-0.2**
	baz=231							
NSTT	**Nanjuang**	**1.80 248**	*i* P		**Pn**	**14 21 32.2**	**+1.0**
	baz=238							
NSTT			*i* S		**Sn**	**14 21 58.1**	**-1.3**
	baz=238							
JTJ	**Tarama**	**1.82 111**	S		**Sn**	**14 21 58.9**	**-0.7**
TWT	**Tachien**	**1.84 236**	*i* P		**Pn**	**14 21 33.3**	**+1.5**
	baz=233							
TWT			*i* S		**Sn**	**14 22 01.3**	**+0.8**
	baz=233							
WHF	**Hehuan Shan**	**1.84 231**	*i* P		**Pn**	**14 21 33.4**	**+1.3**
	baz=234							
WHF			*i* S		**Sn**	**14 22 00.6**	**-0.4**
	baz=234							
TDCB	**Techi**	**1.85 236**	P		**Pn**	**14 21 33.2**	**+1.3**
	baz=233							
TDCB			S		**Sn**	**14 22 00.4**	**-0.3**
	baz=233							
CHGB	**Renai**	**1.96 231**	P		**Pn**	**14 21 34.4**	**+1.3**
	baz=232							
CHGB			S		**Sn**	**14 22 02.0**	**-0.7**
	baz=232							
ESL	**Shilin**	**1.96 221**	P		**Pn**	**14 21 33.3**	**+0.4**
	baz=223							
ESL			S		**Sn**	**14 22 00.4**	**-2.0**
	baz=223							
WHP	**Taichung City**	**2.00 240**	P		**Pn**	**14 21 34.5**	**+1.1**
	baz=237							
WHP			S		**Sn**	**14 22 02.4**	**-0.9**
	baz=237							
NMLH	**Miaoli**	**2.01 248**	*e*S		**Sn**	**14 22 02.3**	**-1.0**
	baz=245							
OWD	**Renai**	**2.03 229**	*i* P		**Pn**	**14 21 34.8**	**+1.1**
	baz=223							
OWD			S		**Sn**	**14 22 03.1**	**-0.7**
	baz=223							
WUSB	**Renai**	**2.04 230**	P		**Pn**	**14 21 35.2**	**+1.3**
	baz=228							
WUSB			S		**Sn**	**14 22 03.9**	**-0.2**
	baz=228							
EGFH	**Guangfu**	**2.08 219**	*e*S		**Sn**	**14 22 02.8**	**-1.7**
	baz=223							
TWQ1	**Liyutan**	**2.11 243**	P		**Pn**	**14 21 36.1**	**+1.7**
	baz=234							
TWQ1			S		**Sn**	**14 22 04.5**	**-0.5**
	baz=234							
WCS	**Beigang Elemen**	**2.15 235**	*e*P		**Pn**	**14 21 34.8**	**0.0**
	baz=238							
WCS			S		**Sn**	**14 22 04.7**	**-1.2**
	baz=238							
JIRB	**Irabujima**	**2.17 102**	S		**Sn**	**14 22 05.3**	**-0.9**
VWDT	**VWDT**	**2.19 225**	P		**Pn**	**14 21 36.8**	**+1.6**
	baz=217							
VWDT			S		**Sn**	**14 22 07.2**	**+0.6**
	baz=217							
JIKM	**Ikemajima**	**2.22 99**	*e*S		**Sn**	**14 22 06.8**	**-0.2**
HGSD	**Ruisui**	**2.22 216**	P		**Pn**	**14 21 37.1**	**+1.5**
	baz=211							
HGSD			S		**Sn**	**14 22 06.7**	**-0.6**
	baz=211							
SMLT	**Sun Moon Lake**	**2.27 232**	P		**Pn**	**14 21 36.6**	**+0.4**
	baz=229							
SMLT			*e*S		**Sn**	**14 22 07.6**	**-0.7**
	baz=229							
EHY	**Hungye**	**2.27 218**	*e*P		**Pn**	**14 21 36.4**	**+0.3**
	baz=216							
EHY			S		**Sn**	**14 22 07.2**	**-0.9**
	baz=216							
SSLB	**Suanglung**	**2.29 229**	P		**Pn**	**14 21 37.5**	**+1.2**
	baz=226							
SSLB			S		**Sn**	**14 22 08.6**	**-0.1**
	baz=226							
JMJ2	**Miyako jima3**	**2.33 104**	S		**Sn**	**14 22 08.8**	**-0.5**
YULB	**Yu-li**	**2.37 217**	P		**Pn**	**14 21 37.2**	**-0.1**
	baz=215							
YULB			S		**Sn**	**14 22 08.2**	**-2.1**
	baz=215							
EYUL	**Yuli**	**2.40 216**	*e*P		**Pn**	**14 21 39.6**	**+2.1**
	baz=220							
EYUL			*e*S		**Sn**	**14 22 09.6**	**-1.1**
	baz=220							
WHYT	**Xinyi Township**	**2.42 229**	*e*P		**Pn**	**14 21 38.9**	**+1.0**
	baz=233							
WHYT			*e*S		**Sn**	**14 22 11.5**	**+0.3**
	baz=233							
WNT	**Mingjian**	**2.42 234**	P		**Pn**	**14 21 37.9**	**+0.1**
	baz=237							
YUS	**Yu-Shan**	**2.50 224**	P		**Pn**	**14 21 40.5**	**+1.4**
	baz=216							
YUS			*e*S		**Sn**	**14 22 13.5**	**-0.1**
	baz=216							
FULB	**Fuli**	**2.53 214**	P		**Pn**	**14 21 40.2**	**+1.1**
	baz=212							
FULB			S		**Sn**	**14 22 13.6**	**+0.1**
	baz=212							
ALS	**Alishan**	**2.58 226**	*i* P		**Pn**	**14 21 41.0**	**+1.2**
	baz=231							
ALS			*i* S		**Sn**	**14 22 14.8**	**-0.1**
	baz=231							
WRL	**Guolierlin Hig**	**2.64 239**	*e*P		**Pn**	**14 21 39.6**	**-0.7**
	baz=236							
WRL			*e*S		**Sn**	**14 22 13.5**	**-2.2**
	baz=236							
WDLH	**Douliu**	**2.65 233**	*e*P		**Pn**	**14 21 41.5**	**+1.2**
	baz=230							
WDLH			*e*S		**Sn**	**14 22 15.8**	**+0.1**
	baz=230							
ELDTW	**Lidau**	**2.69 219**	*e*P		**Pn**	**14 21 41.6**	**+0.7**
	baz=212							
ELDTW			*e*S		**Sn**	**14 22 14.8**	**-2.0**
	baz=212							
EDH	**Donghe**	**2.72 211**	*e*P		**Pn**	**14 21 41.9**	**+0.7**
	baz=205							
EDH			*e*S		**Sn**	**14 22 16.2**	**-1.0**
	baz=205							
WCKO	**Fanlu**	**2.76 228**	*e*P		**Pn**	**14 21 41.2**	**-0.4**
	baz=226							
WCKO			*e*S		**Sn**	**14 22 16.8**	**-1.3**
	baz=226							
TPUB	**Ta-pu**	**2.84 226**	*e*S		**Sn**	**14 22 19.6**	**-0.2**
	baz=230							
JKE	**Kume jima 2**	**3.70 73**	*e*S		**Sn**	**14 22 38.0**	**-0.2**

HVO ***06*** *14:25:57.5±1.0, 19°.45N±0°.01×155°.59W±0°.01, h1km±5km, ML4.1/33, mb4.2/4(NEIC), ML3.9/52(NEIC), Error ellipse: s-maj=1.8km s-min=1.1km az=219.0*
NEIC ***06*** *14:25:58.2±1.0, 19°.492N±0°.010×155°.581W±0°.009, h3km±5km, Error ellipse: s-maj=1.7km s-min=0.5km az=218.0*

ISC 06 14:25:57.8±0.9, 19°.47N±0°.03×155°.60W±0°.02, h7km±5km, n66, σ1§12/63, mb5.1/5, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Moku'aweowe**	**0.02**	**358**		**Pg**	**14 25 59.5**	**-0.3**
MLOA	**Mauna Loa Obse**	**0.07**	**16**		**Pg**	**14 25 59.8**	**-0.3**
ALEP	**Alea Permanent**	**0.09**	**328**		**Pg**	**14 26 00.1**	**-0.1**
ALEP					**Sg**	**14 26 02.1**	**+0.3**
AIN	**Ainahou**	**0.16**	**126**		**Pg**	**14 26 01.7**	**+0.5**
AIN					**Sg**	**14 26 04.4**	**+0.8**
AIN	**Ainahou**	**0.16**	**126**	IAML		14 26 05.3	
	comp=N,54μm,0.6s						
HMH	**Humu'ula Sheep**	**0.17**	**39**		**Pg**	**14 26 01.8**	**+0.4**
HMH					**Sg**	**14 26 05.7**	**+1.7**
HMH	**Humu'ula Sheep**	**0.17**	**39**	IAML		14 26 05.7	
	comp=N,17μm,0.5s						
MLH	**Mauna Loa**	**0.20**	**83**		**Pg**	**14 26 02.4**	**+0.4**
MLH	**Mauna Loa**	**0.20**	**83**	IAML		14 26 06.3	
	comp=N,26μm,0.4s						
MLH				IAML		14 26 06.6	
	comp=E,25μm,0.6s						
KHU	**Kahuku**	**0.22**	**185**		**Pg**	**14 26 02.4**	**0.0**
KHU					**Sg**	**14 26 00.0**	**+0.6**
KHU	**Kahuku**	**0.22**	**185**	IAML		14 26 06.8	
	comp=N,9μm,0.9s						
KHU				IAML		14 26 08.0	
	comp=E,8μm,0.5s						
WRMHI	**West Rim**	**0.29**	**102**		**Pg**	**14 26 03.7**	**+0.2**
WRMHI	**West Rim**	**0.29**	**102**	IAML		14 26 11.7	
	comp=E,64μm,0.4s						
WRMHI				IAML		14 26 11.7	
	comp=N,37μm,0.4s						
UWE	**Uwekahuna**	**0.29**	**99**		**Pg**	**14 26 03.9**	**+0.2**
UWE					**Sg**	**14 26 06.3**	**-1.2**
UWE	**Uwekahuna**	**0.29**	**99**	IAML		14 26 09.5	
	comp=E,40μm,0.3s						
UWE				IAML		14 26 09.9	
	comp=N,45μm,0.4s						
POHA	**Pohakuloa**	**0.29**	**12**		**Pg**	**14 26 04.2**	**+0.4**
SDHHI	**Sand Hill**	**0.30**	**105**		**Pg**	**14 26 03.9**	**+0.1**
SDHHI	**Sand Hill**	**0.30**	**105**	IAML		14 26 11.9	
	comp=E,33μm,0.4s						
SDHHI				IAML		14 26 13.4	
	comp=N,46μm,0.6s						
HTC	**Hot Caves**	**0.30**	**141**		**Pg**	**14 26 03.8**	**+0.1**
OBL	**Observatory Le**	**0.30**	**100**		**Pg**	**14 26 03.9**	**+0.2**
OBL					**Sg**	**14 26 08.7**	**+0.9**
OBL	**Observatory Le**	**0.30**	**100**	IAML		14 26 09.6	
	comp=E,42μm,0.7s						
RSD	**Rainshed**	**0.30**	**91**		**Pg**	**14 26 04.1**	**+0.3**
RSD					**Sg**	**14 26 07.3**	**-0.5**
NPH	**North Pit**	**0.30**	**101**		**Pg**	**14 26 03.8**	**0.0**
NPH					**Sg**	**14 26 06.8**	**-1.1**
NPH	**North Pit**	**0.30**	**101**	IAML		14 26 12.2	
	comp=N,11μm,0.4s						
CPH	**Captain Cook**	**0.30**	**274**		**Pg**	**14 26 04.3**	**+0.5**
UWB	**Uwekahuna B**	**0.30**	**98**		**Pg**	**14 26 03.9**	**+0.1**
UWB	**Uwekahuna B**	**0.30**	**98**	IAML		14 26 12.1	
	comp=N,12μm,0.5s						
UWB				IAML		14 26 13.8	
	comp=E,8μm,1.0s						
KHLU	**Kahalu`u**	**0.30**	**294**		**Pg**	**14 26 04.5**	**+0.6**
KHLU	**Kahalu`u**	**0.30**	**294**	IAML		14 26 12.5	
	comp=E,9μm,0.7s						
KHLU				IAML		14 26 13.7	
	comp=N,8μm,0.6s						
HUH	**Hualalai**	**0.31**	**314**		**Pg**	**14 26 05.1**	**+1.0**
HUH					**Sg**	**14 26 08.1**	**-0.1**
HUH	**Hualalai**	**0.31**	**314**	IAML		14 26 12.3	
	comp=E,24μm,0.5s						
RIM	**Rim**	**0.31**	**104**		**Pg**	**14 26 04.1**	**+0.1**
RIM					**Sg**	**14 26 08.7**	**+0.5**
RIM	**Rim**	**0.31**	**104**	IAML		14 26 12.7	
	comp=E,19μm,0.6s						
RIM				IAML		14 26 12.7	
	comp=N,21μm,0.7s						
SBLHI	**Steaming Bluff**	**0.31**	**98**		**Pg**	**14 26 04.1**	**0.0**
SBLHI					**Sg**	**14 26 09.1**	**+0.9**
SBLHI	**Steaming Bluff**	**0.31**	**98**	IAML		14 26 14.4	
	comp=E,18μm,0.8s						
HATHI	**Halema'uma'u T**	**0.32**	**98**		**Pg**	**14 26 04.2**	**0.0**
HATHI					**Sg**	**14 26 08.4**	**0.0**
HATHI	**Halema'uma'u T**	**0.32**	**98**	IAML		14 26 11.7	
	comp=E,30μm,0.4s						
HATHI				IAML		14 26 14.2	
	comp=N,22μm,0.6s						
KKO	**Keanakako`i**	**0.32**	**103**		**Pg**	**14 26 04.3**	**+0.1**
KKO					**Sg**	**14 26 07.8**	**-0.6**
KKO	**Keanakako`i**	**0.32**	**103**	IAML		14 26 10.4	
	comp=N,28μm,0.7s						
KKO				IAML		14 26 13.5	
	comp=E,19μm,0.7s						
BYL	**Byron's Ledge**	**0.32**	**100**		**Pg**	**14 26 04.3**	**0.0**
BYL					**Sg**	**14 26 08.8**	**+0.3**
BYL	**Byron's Ledge**	**0.32**	**100**	IAML		14 26 11.7	
	comp=E,27μm,0.5s						
BYL				IAML		14 26 14.5	
	comp=N,25μm,0.7s						
HLP	**Hilina Pali**	**0.32**	**122**		**Pg**	**14 26 04.3**	**+0.1**
HLP					**Sg**	**14 26 08.4**	**-0.1**
HLP	**Hilina Pali**	**0.32**	**122**	IAML		14 26 14.7	
	comp=N,16μm,0.6s						
HLP				IAML		14 26 14.8	
	comp=E,23μm,0.5s						
PUH	**Pauahi**	**0.37**	**105**	Pg	**Pg**	**14 26 04.8**	**-0.3**
PUH				IAML		14 26 16.9	
	comp=E,8μm,0.5s						
HPO	**Honuapo**	**0.38**	**174**		**Pg**	**14 26 04.6**	**-0.6**
KNHH	**Kane Nui o Ham**	**0.41**	**102**		**Pg**	**14 26 05.5**	**-0.4**
NPOC	**North of Pu'u**	**0.47**	**99**		**Pg**	**14 26 06.0**	**-0.9**
NPOC				IAML		14 26 17.8	
	comp=N,10μm,0.6s						
NPOC				IAML		14 26 18.4	
	comp=E,8μm,0.5s						
JCUZ	**Jacuzzi**	**0.47**	**100**		**Pg**	**14 26 06.3**	**-0.8**
JCUZ				IAML		14 26 18.2	
	comp=E,7μm,0.7s						
JCUZ				IAML		14 26 19.4	
	comp=N,6μm,0.6s						
JOKA	**Jonika Flow**	**0.56**	**94**		**Pg**	**14 26 07.7**	**-1.0**
JOKA					**Sg**	**14 26 16.9**	**+1.0**
HPAH	**Hawaii Prepara**	**0.57**	**350**		**Pg**	**14 26 08.3**	**-0.5**
HPAH				IAML		14 26 28.3	
	comp=E,10μm,0.5s						
HPAH	**Hawaii Prepara**	**0.57**	**350**		**Sg**	**14 26 15.7**	**-0.6**
PHO	**Puu Honuaula**	**0.67**	**89**		**Pg**	**14 26 10.3**	**-0.4**
MHA	**Mahukona**	**0.77**	**338**		**Pg**	**14 26 11.6**	**-1.1**
HLK	**Haleakala**	**1.42**	**335**	Pn	**Pn**	**14 26 24.1**	**-0.3**
KHLH	**Kahului Airpor**	**1.62**	**331**	Pn	**Pn**	**14 26 24.3**	**-2.6**
HON	**Honolulu**	**2.91**	**310**	Pn	**Pn**	**14 26 40.7**	**-3.9**
KIP	**Kipapa**	**2.99**	**311**	Pn	Pn	14 26 41.0	-4.7
OPA	**Opana**	**3.16**	**315**	Pn	Pn	14 26 43.6	-4.5
TRF	**Thorofare Moun**	**44.10**	**3**	P	**P**	**14 34 08.0**	**+1.3**
RND	**Reindeer**	**44.15**	**4**	P	**P**	**14 34 07.2**	**+0.3**
CCB	**Clear Creek Bu**	**45.45**	**5**	P	**P**	**14 34 18.9**	**+1.6**
CCB				IAmb	IAmb	14 35 02.0	
	comp=Z,2.7nm,1.3s						
IMAR	**Indian Mountai**	**46.51**	**1**	P	**P**	**14 34 27.1**	**+1.6**
WMOK	**Wichita Mounta**	**52.18**	**61**	P	**P**	**14 35 09.9**	**+0.4**
WMOK				IAmb	IAmb	14 35 10.8	
	comp=Z,2.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**79.61**	**310**	*e*P	**P**	**14 38 03.8**	**-2.4**
HHC				pmax	pmax		
	comp=Z,20nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,5.5s						
PZH	**PanZhiHua**	**92.19**	**299**	P	**P**	**14 39 11.0**	**+1.9**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,50nm,4.2s						
WMQ	**Urumqi**	**94.49**	**320**	*e*P	**P**	**14 39 18.2**	**-1.0**
WMQ				pP	sP	14 39 25.1	+1.3
WMQ				PP	**PP**	**14 43 10.2**	**+3.9**
WMQ				pmax	pmax		
	comp=Z,15nm,0.8s						

NNC 06 14:50:45.2±7.9, 36°.91N×70°.94E, h0km, mb3.6, mpv3.4, 4C-2D, Error ellipse: s-maj=81.2km s-min=45.1km az=152.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.20**	**357**	⇓P	Pn	14 52 19.3	+1.4
	1.4nm,0.5s,baz=175,slow=11,SNR=14						
KK31				⇑S	Sn	14 53 32.7	+3.2
	2.6nm,0.5s,baz=179,slow=26,SNR=4.7						
TKM2	**Tokmak 2**	**6.99**	**29**	⇑P	Pn	14 52 30.1	+1.1
	1.8nm,0.5s						
TKM2				⇑S	Sn	14 53 49.1	-0.2
	1.6nm,0.6s						

AB31	**Akbulak array**	**14.71**	**331**	⇑P		Pn	14 54 14.8	+0.4
	0.2nm,0.4s,baz=148,slow=11,SNR=4.7							
AKTO	**Aktyubinsk**	**16.41**	**330**	⇓P		Pn	14 54 32.3	-4.4
	1.0nm,0.6s							

NOU ***06*** *15:08:44.0, 37°.55S×176°.54E, h251km, MLv3.8/8, North Island, New Zealand*
WEL ***06*** *15:08:47.9±1.0, 37°.5S±5°×17°.6E±°, h211km±10km, M2.8/37, MLv2.8/37, Error ellipse: s-maj=0.0km s-min=0.0km az=50.3*

ISC 06 15:08:43.2±1.4, 37°.54S±0°.06×176°.47E±0°.06, h251km, n122, σ1§36/125, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.25**	**221**	P	**Pn**	**15 09 16.3**	**+0.8**
OPRZ	**Ohinepanea**	**0.31**	**167**	P	**Pn**	**15 09 16.1**	**+0.5**
MARZ	**Manawahe**	**0.47**	**160**	P	**Pn**	**15 09 17.0**	**+0.9**
KMRZ	**Kaimai**	**0.51**	**234**	P	**Pn**	**15 09 17.3**	**+1.1**
OMRZ	**Omania**	**0.57**	**188**	P	**Pn**	**15 09 17.3**	**+0.9**
TARZ	**Mount Tarawera**	**0.69**	**177**	P	**Pn**	**15 09 18.2**	**+1.3**
HSRZ	**Hossack Road**	**0.79**	**193**	P	**Pn**	**15 09 18.9**	**+1.7**
TOZ	**Tahuroa Road**	**0.79**	**256**	P	**Pn**	**15 09 18.1**	**+0.9**
RRRZ	**Republican Roa**	**0.80**	**177**	P	**Pn**	**15 09 18.2**	**+0.9**
HRRZ	**Handcock Road**	**0.86**	**190**	P	**Pn**	**15 09 18.9**	**+1.3**
URZ	**Urewera**	**0.88**	**145**	P	**Pn**	**15 09 17.9**	**+0.3**
URZ	**Urewera**	**0.88**	**145**	P	**Pn**	**15 09 17.9**	**+0.3**
PRRZ	**Plateau Road**	**0.96**	**183**	P	**Pn**	**15 09 19.1**	**+1.1**
MUGZ	**Murupara**	**0.96**	**166**	P	**Pn**	**15 09 18.8**	**+0.8**
MUGZ				S	**S**	**15 09 44.2**	**-1.4**
KUZ	**Kuaotunu**	**0.99**	**323**	P	**Pn**	**15 09 18.6**	**+0.3**
WPRZ	**Whakapapatarin**	**1.00**	**194**	P	**Pn**	**15 09 19.7**	**+1.4**
ALRZ	**Allen Road**	**1.02**	**185**	P	**Pn**	**15 09 19.6**	**+1.3**
RUGZ	**Raukumara Rang**	**1.05**	**114**	P	**Pn**	**15 09 18.4**	**-0.3**
HAZ	**Te Kaha**	**1.07**	**102**	P	**Pn**	**15 09 18.9**	**+0.2**
KUTZ	**Kaahu Road**	**1.07**	**208**	P	**Pn**	**15 09 20.3**	**+1.6**
TLZ	**Tolley Road**	**1.07**	**223**	P	**Pn**	**15 09 20.0**	**+1.3**
MKAZ	**Moumakai**	**1.13**	**292**	P	**Pn**	**15 09 19.9**	**+0.9**
RTZ	**Ruatahuna**	**1.15**	**159**	P	**Pn**	**15 09 20.1**	**+0.9**
RTZ				S	**S**	**15 09 45.1**	**-2.6**
MWZ	**Matawai**	**1.15**	**134**	P	**Pn**	**15 09 19.8**	**+0.6**
RAGZ	**Rawiri**	**1.21**	**142**	P	**Pn**	**15 09 21.0**	**+1.4**
MRHZ	**Matea Rd**	**1.29**	**182**	P	**Pn**	**15 09 21.0**	**+0.9**
WIAZ	**Waiheke Island**	**1.30**	**305**	P	**Pn**	**15 09 21.0**	**+0.8**
PKGZ	**Pakihiroa**	**1.32**	**106**	P	**Pn**	**15 09 21.6**	**+1.2**
MTHZ	**Maungataniwha**	**1.34**	**167**	P	**Pn**	**15 09 21.7**	**+1.3**
TWGZ	**Tauwhareparae**	**1.35**	**118**	P	**Pn**	**15 09 22.1**	**+1.6**
ETAZ	**East Tamaki Re**	**1.36**	**295**	P	**Pn**	**15 09 21.6**	**+1.0**
TKGZ	**Te Karaka**	**1.41**	**130**	P	**Pn**	**15 09 22.3**	**+1.4**
SNGZ	**Shannon Statio**	**1.42**	**151**	P	**Pn**	**15 09 22.5**	**+1.5**
RATZ	**Rangitukua**	**1.43**	**202**	P	**Pn**	**15 09 22.6**	**+1.5**
RAHZ	**Arahi**	**1.46**	**161**	P	**Pn**	**15 09 23.0**	**+1.7**
MXZ	**Matakaoa Point**	**1.46**	**91**	P	**Pn**	**15 09 22.4**	**+1.1**
MBAZ	**Motutapu North**	**1.47**	**301**	P	**Pn**	**15 09 22.5**	**+1.1**
PUZ	**Puketiti**	**1.51**	**111**	P	**Pn**	**15 09 22.8**	**+1.1**
GRZ	**Great Barrier**	**1.52**	**328**	P	**Pn**	**15 09 22.5**	**+0.7**
AWAZ	**Awhitu Peninsu**	**1.53**	**288**	P	**Pn**	**15 09 22.9**	**+1.1**
RIGZ	**Rimuhau**	**1.55**	**139**	P	**Pn**	**15 09 23.8**	**+1.9**
WMGZ	**Waiomatatini S**	**1.57**	**101**	P	**Pn**	**15 09 23.6**	**+1.5**
NMHZ	**Naumai**	**1.57**	**170**	P	**Pn**	**15 09 24.4**	**+2.2**
HIZ	**Hauiti**	**1.60**	**232**	P	**Pn**	**15 09 24.0**	**+1.7**
HIZ	**Hauiti**	**1.60**	**232**	P	**Pn**	**15 09 24.0**	**+1.7**
ABAZ	**Army Bay**	**1.61**	**305**	P	**Pn**	**15 09 23.7**	**+1.3**
BKZ	**Black Stump Fm**	**1.62**	**179**	P	**Pn**	**15 09 23.5**	**+1.0**
BKZ	**Black Stump Fm**	**1.62**	**179**	P	**Pn**	**15 09 23.5**	**+1.0**
WTAZ	**Waiatarua**	**1.63**	**291**	P	**Pn**	**15 09 23.9**	**+1.3**
WHHZ	**Waihua**	**1.65**	**159**	P	**Pn**	**15 09 24.5**	**+1.9**
WHHZ				S	**S**	**15 09 52.4**	**-1.5**
CNGZ	**Carnagh Statio**	**1.67**	**125**	P	**Pn**	**15 09 25.1**	**+2.3**
TMVZ	**Te Maari**	**1.68**	**201**	P	**Pn**	**15 09 25.0**	**+2.0**
RVAZ	**Riverhead Bore**	**1.69**	**297**	P	**Pn**	**15 09 24.0**	**+1.0**
ETVZ	**East Tongariro**	**1.70**	**200**	P	**Pn**	**15 09 24.8**	**+1.6**
WTVZ	**West Tongariro**	**1.71**	**203**	P	**Pn**	**15 09 24.9**	**+1.5**
NNVZ	**North Ngauruho**	**1.72**	**203**	P	**Pn**	**15 09 25.5**	**+2.0**
TWVZ	**Taurewa**	**1.73**	**208**	P	**Pn**	**15 09 25.0**	**+1.5**
KNZ	**Kokohu**	**1.76**	**148**	P	**Pn**	**15 09 25.3**	**+1.8**
NGZ	**Ngauruhoe**	**1.77**	**202**	P	**Pn**	**15 09 26.4**	**+2.5**
ARHZ	**Aropaoanui**	**1.77**	**167**	P	**Pn**	**15 09 25.6**	**+2.0**
PRGZ	**Paritu Road**	**1.77**	**141**	P	**Pn**	**15 09 25.5**	**+1.8**
TUKZ	**Tukino**	**1.84**	**200**	P	**Pn**	**15 09 26.2**	**+1.8**
KWHZ	**Kaweka Forest**	**1.88**	**181**	P	**Pn**	**15 09 26.2**	**+1.6**
MCHZ	**McNeill Hill**	**1.91**	**175**	P	**Pn**	**15 09 26.9**	**+2.1**
MOVZ	**Moawhango**	**1.94**	**197**	P	**Pn**	**15 09 26.3**	**+1.1**
MHGZ	**Mahia Peninsul**	**1.97**	**145**	P	**Pn**	**15 09 27.5**	**+2.1**
BHHZ	**Black Hill Sta**	**1.97**	**189**	P	**Pn**	**15 09 26.6**	**+1.2**
KRHZ	**Kereru**	**2.10**	**182**	P	**Pn**	**15 09 28.1**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.17**	**167**	P	**Pn**	**15 09 29.2**	**+2.1**
KAHZ	**Kahuranaki**	**2.27**	**172**	P	**Pn**	**15 09 30.1**	**+1.9**
WCZ	**Waipu Caves**	**2.34**	**313**	P	**Pn**	**15 09 30.5**	**+1.5**
PNHZ	**Pukenui**	**2.38**	**185**	P	**Pn**	**15 09 30.7**	**+1.5**
WAZ	**Wanganui**	**2.49**	**207**	P	**Pn**	**15 09 32.3**	**+1.9**
PXZ	**Pawanui**	**2.50**	**173**	P	**Pn**	**15 09 32.1**	**+1.7**
WPHZ	**Waipukurau**	**2.52**	**180**	P	**Pn**	**15 09 32.0**	**+1.4**
NEZ	**North Egmont**	**2.54**	**226**	P	**Pn**	**15 09 34.7**	**+3.7**
TSZ	**Takapari Road**	**2.54**	**189**	P	**Pn**	**15 09 32.2**	**+1.4**
PKE	**Puketi**	**2.55**	**229**	P	**Pn**	**15 09 34.7**	**+3.7**
PRHZ	**Porangahau**	**2.72**	**177**	P	**Pn**	**15 09 34.3**	**+1.6**
DVHZ	**Dannevirke**	**2.76**	**185**	P	**Pn**	**15 09 33.1**	**+0.0**
ANWZ	**Ang

DAV				S		**Sn**	**15 15 21.1**	**+1.0**
	806nm,0.5s,baz=248,slow=22,SNR=12							
GSPH	**General Santos**	**1.60**	**278**	⇓*i*	P	**Pn**	**15 14 58.0**	**-3.1**
GSPH				*i*	S	**Sn**	**15 15 18.1**	**-3.4**
KCP	**Kidapawan**	**1.84**	**309**	⇓*i*	P	**Pn**	**15 15 02.4**	**-1.7**
KCP				*i*	S	**Sn**	**15 15 25.2**	**-1.8**
BIPH	**Bislig**	**2.32**	**356**	⇓*e*	P	**Pn**	**15 15 07.4**	**-3.1**
BIPH				*i*	S	**Sn**	**15 15 35.9**	**-2.4**
SGSI	**Sangihe**	**2.38**	**205**		P	**Pn**	**15 15 12.2**	**+1.0**
SGSI					S	**Sn**	**15 15 40.9**	**+1.2**
BUKP	**Musuan**	**2.49**	**324**	⇓*e*	P	**Pn**	**15 15 12.1**	**-0.6**
BUKP				*e*	S	**Sn**	**15 15 42.8**	**+0.4**
CTBH	**Cotabato--PC H**	**2.65**	**301**	⇑*i*	P	**Pn**	**15 15 13.8**	**-1.0**
CGP	**Cagayan de Oro**	**3.16**	**325**	⇓*e*	P	**Pn**	**15 15 22.9**	**+1.2**
CGP				*e*	S	**Sn**	**15 15 59.4**	**+0.8**
BUTP	**Butuan**	**3.22**	**344**	⇓*e*	P	**Pn**	**15 15 22.6**	**0.0**
BUTP				*e*	S	**Sn**	**15 16 05.6**	**+5.6**
SCPH	**Surigao**	**4.04**	**345**	⇑*i*	P	**Pn**	**15 15 34.7**	**+1.1**
SCPH				*i*	S	**Sn**	**15 16 20.9**	**+1.2**
TBP	**Tagbilaran**	**4.64**	**325**	*e*	P	**Pn**	**15 15 41.5**	**-0.3**
TBP				*i*	S	**Sn**	**15 16 33.2**	**-1.2**
SNPH	**Sibulan**	**4.76**	**317**	⇑*i*	P	**Pn**	**15 15 44.4**	**+0.9**
TNTI	**Ternate**	**5.12**	**171**			**Pn**	**15 15 48.8**	**+0.5**
TNTI	**Ternate**	**5.12**	**171**		P	**Pn**	**15 15 47.4**	**-0.9**
	0.2nm707nm39nm,1.0s							
TNTI	**Ternate**	**5.12**	**171**		P	**Pn**	**15 15 51.5**	**+3.2**
CNOP	**Candoni, Negro**	**5.52**	**316**	⇑*e*	P	**Pn**	**15 15 53.6**	**-0.2**
GTOI	**Gorontalo**	**6.27**	**214**		P	**Pn**	**15 16 04.2**	**+0.3**
	0.2nm727nm57nm,0.6s							
LBMI	**Labuha**	**6.52**	**171**		P	**Pn**	**15 16 07.7**	**+0.3**
	0.1nm12nm,0.5s							
MRSI	**Marisa**	**7.04**	**221**		P	**Pn**	**15 16 15.4**	**+0.9**
	0.3nm854nm96nm,0.7s							
TOLI2	**Tolitoli**	**7.43**	**231**			**Pn**	**15 16 19.5**	**-0.3**
TOLI2	**Tolitoli**	**7.43**	**231**		P	**Pn**	**15 16 19.5**	**-0.3**
LUWI	**Luwuk**	**7.82**	**209**		Pn	**Pn**	**15 16 26.2**	**+1.1**
LUWI	**Luwuk**	**7.82**	**209**		P	**Pn**	**15 16 25.4**	**+0.3**
	0.4nm60nm,0.5s							
LUWI	**Luwuk**	**7.82**	**209**		P	**Pn**	**15 16 29.5**	**+4.4**
MYLDM	**Lahad Datu**	**8.03**	**266**		Pn	**Pn**	**15 16 29.9**	**+2.0**
SWI	**Sorong**	**8.17**	**145**		P	**Pn**	**15 16 29.1**	**-0.8**
	8.3nm,0.6s							
SIJI	**Sorong**	**8.18**	**145**		P	**Pn**	**15 16 29.2**	**-0.9**
	3.8nm,0.2s,baz=271,slow=23,SNR=12							
SIJI					S	**Sn**	**15 18 00.1**	**-0.8**
	1.4nm,0.3s,baz=150,slow=23,SNR=1.3							
APSI	**Ampana**	**8.31**	**216**		P	**Pn**	**15 16 32.7**	**+0.9**
	508nm32nm,1.2s							
MPSI	**Mapaga**	**8.60**	**231**		P	**Pn**	**15 16 36.4**	**+0.6**
	5.5nm,0.6s							
NLAI	**Namlea**	**9.05**	**176**		P	**Pn**	**15 16 40.1**	**-1.8**
	4µm19nm,0.7s							
FAKI	**Fak Fak**	**10.42**	**147**		Pn	**Pn**	**15 17 00.6**	**+0.1**
RKPI	**Ransiki, Papua**	**10.57**	**134**		P	**Pn**	**15 17 01.8**	**-0.9**
TTSI	**Tana Toraja**	**11.10**	**217**		P	**Pn**	**15 17 09.8**	**0.0**
	1µm44nm,0.9s							
SBUM	**Sibu**	**14.67**	**257**		P	**P**	**15 18 02.9**	**+1.9**
BATI	**Baumata**	**16.21**	**190**		P	**P**	**15 18 18.1**	**+0.1**
	14nm,0.5s,baz=342,slow=20,SNR=5.0							
BATI	**Baumata**	**16.21**	**190**		P	**P**	**15 18 19.3**	**+1.2**
JAGI	**Jajag, Banyuwa**	**18.84**	**221**		P	**P**	**15 18 46.8**	**-0.3**
MTN	**Manton Dam**	**19.13**	**166**		P	**P**	**15 18 50.3**	**+0.1**
MTN					IAmb	IAmb	15 19 29.6	
	comp=Z,25nm,1.4s							
MTN	**Manton Dam**	**19.13**	**166**		P	**Pn**	**15 18 52.6**	**+0.6**
	comp=Z,6.7nm,1.8s							
KDU	**Kakadu**	**19.34**	**162**		P	**Pn**	**15 18 55.7**	**+1.3**
	comp=Z,14nm,1.8s							
KNRA	**Kununurra**	**21.51**	**174**		P	**P**	**15 19 15.5**	**-0.3**
KNRA					IAmb	IAmb	15 19 19.4	
	comp=Z,8.1nm,0.8s							
KNRA	**Kununurra**	**21.51**	**174**		P	**P**	**15 19 16.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**23.82**	**182**		P	**P**	**15 19 38.6**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=14,slow=9.2,SNR=16							
	comp=Z,1.6nm,0.5s							
FITZ	**Fitzroy Crossi**	**23.82**	**182**		P	**P**	**15 19 38.8**	**-0.1**
FITZ					IAmb	IAmb	15 20 15.4	
	comp=Z,8.3nm,1.2s							
FITZ	**Fitzroy Crossi**	**23.82**	**182**		P	**P**	**15 19 38.8**	**-0.1**
WB0	**Warramunga Arr**	**26.61**	**163**		P	**P**	**15 20 04.5**	**+0.3**
WB0					IAmb	IAmb	15 20 50.3	
	comp=Z,6.9nm,1.3s							
WRAB	**Tennant Creek**	**26.76**	**163**		P	**P**	**15 20 05.8**	**+0.2**
WRAB					IAmb	IAmb	15 20 41.3	
	comp=Z,8.2nm,1.4s							
WRAB	**Tennant Creek**	**26.76**	**163**		P	**P**	**15 20 07.0**	**+1.5**
WRA	**Warramunga Arr**	**26.76**	**164**		P	**P**	**15 20 04.6**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=342,slow=10,SNR=33							
WRA					PcP	**PcP**	**15 23 27.2**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=350,slow=2.5,SNR=1.5							
	comp=Z,1.0nm,0.6s							
WB2	**Warramunga Arr**	**26.77**	**164**		P	**P**	**15 20 06.4**	**+0.8**
WR0	**Warramunga Arr**	**26.84**	**163**		P	**P**	**15 20 07.0**	**+0.7**
WR0					IAmb	IAmb	15 20 22.8	
	comp=Z,12nm,1.5s							
QIS	**Mount Isa**	**29.22**	**154**		P	**P**	**15 20 27.0**	**-0.5**
JHJ	**Hachijo jima 2**	**29.80**	**23**		LR	LR	15 31 53.9	
	comp=Z,321nm,21.1s,baz=350,slow=35							
AS31	**Alice Springs**	**30.21**	**166**		P	**P**	**15 20 35.7**	**-0.5**
ASAR	**Alice Springs**	**30.21**	**166**		P	**P**	**15 20 34.8**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=339,slow=7.2,SNR=36							
ASAR					PcP	**PcP**	**15 23 34.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=348,slow=2.2,SNR=5.0							
	comp=Z,0.5nm,0.4s							
ASAR	**Alice Springs**	**30.21**	**166**		P	**P**	**15 20 35.6**	**-0.7**
WRKA	**Warakurna**	**30.75**	**177**		P	**P**	**15 20 41.2**	**+0.1**
OOD	**Oodnadatta**	**34.60**	**166**		P	**P**	**15 21 14.2**	**-0.3**
	comp=Z,9.4nm,1.7s							
INKA	**Innaminka**	**36.11**	**158**		P	**P**	**15 21 26.3**	**-1.2**
FORT	**Forrest**	**36.46**	**178**		P	**P**	**15 21 30.5**	**+0.1**
MULG	**Mulgathing**	**36.65**	**169**		P	**P**	**15 21 32.8**	**+0.8**
BBOO	**Buckleboo**	**39.50**	**167**		P	**P**	**15 21 56.2**	**+0.2**
STKA	**Stephens Creek**	**40.18**	**160**		P	**P**	**15 22 01.2**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=339,slow=8.6,SNR=3.4							
	comp=Z,0.7nm,0.4s							
STKA	**Stephens Creek**	**40.18**	**160**		P	**P**	**15 22 01.9**	**+0.3**
MKAR	**Makanchi Array**	**55.72**	**325**		P	**P**	**15 24 00.1**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=116,slow=7.4,SNR=7.0							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**59.86**	**327**		P	**P**	**15 24 30.1**	**-0.2**
	comp=Z,1.2nm,0.2s,baz=122,slow=6.0,SNR=4.6							
	comp=Z,1.2nm,0.2s							
BVAR	**Borovoye Array**	**65.45**	**327**		P	**P**	**15 25 06.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=134,slow=8.2,SNR=2.9							
	comp=Z,0.3nm,0.5s							
ABKAR	**Akbulak array**	**70.40**	**320**		P	**P**	**15 25 38.3**	**-0.1**
CASY	**Casey**	**72.89**	**187**		P	**P**	**15 25 53.2**	**+0.2**
CASY					IAmb	IAmb	15 26 11.8	
	comp=Z,4.4nm,1.2s							
ARCES	**ARCESS Array B**	**88.40**	**340**		P	**P**	**15 27 13.8**	**-1.9**
	comp=Z,2.2nm,0.9s,baz=82,slow=6.7,SNR=1.8							
	comp=Z,2.2nm,0.9s							

ROM 06 15:16:47.3±0.0, 42°819N×0°003×13°232E±0°005, h9km, ML2.1/9, 4C-2D, Error ellipse: s-maj=0.4km s-min=0.1km az=70.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.02**	**298**	P	Pg	15 16 48.8	-0.4
T1242				AML	AML		
	comp=E,13050µm,0.4s						
T1242				AML	AML		
	comp=N,21050µm,0.2s						
T1242				AML	AML		
	comp=E,13100µm,0.4s						
T1242				AML	AML		
	comp=N,21000µm,0.2s						
T1242				AML	AML		
	comp=E,13000µm,0.4s						
T1244	**Arquata del Tr**	**0.08**	**142**	P	Pg	15 16 49.9	+0.3
T1244				S	Sg	15 16 51.8	+0.6
T1244				AML	AML		
	comp=E,3245µm,0.4s						
T1244				AML	AML		
	comp=N,3995µm,0.2s						
T1244				AML	AML		
	comp=E,3265µm,1.0s						
T1244				AML	AML		
	comp=N,3945µm,0.2s						
T1244				AML	AML		
	comp=E,3260µm,1.0s						
T1244				AML	AML		
	comp=E,3255µm,1.0s						
T1244				AML	AML		
	comp=N,3950µm,0.2s						
NRCA	**Norcia**	**0.09**	**280**	P	Pg	15 16 50.0	+0.3
NRCA				S	Sg	15 16 51.8	+0.3
NRCA				AML	AML		
	comp=E,5045µm,0.2s						
NRCA				AML	AML		
	comp=N,5680µm,0.1s						
NRCA				AML	AML		
	comp=E,5050µm,0.2s						
NRCA				AML	AML		
	comp=N,5175µm,0.1s						
NRCA				AML	AML		
	comp=N,5175µm,0.1s						
NRCA				AML	AML		
	comp=E,5330µm,0.2s						
MC2	**Monte Cornacci**	**0.10**	**342**	P	Pg	15 16 50.2	+0.2
MMO1	**Montemonaco**	**0.11**	**41**	P	Pg	15 16 50.2	+0.2
MMO1				S	Sg	15 16 52.3	+0.4
MMO1				AML	AML		
	comp=E,1725µm,0.1s						
MMO1				AML	AML		
	comp=N,2870µm,0.2s						
T1202	**Accumoli, Fraz**	**0.12**	**182**	P	Pg	15 16 50.7	+0.6
T1202				AML	AML		
	comp=E,3005µm,1.2s						
T1202				AML	AML		
	comp=N,2910µm,0.7s						
T1202				AML	AML		
	comp=E,2994µm,1.2s						
T1202				AML	AML		
	comp=N,2905µm,0.7s						
T1202				AML	AML		
	comp=E,2990µm,1.2s						
T1241	**Roccafluvione,**	**0.15**	**76**	P	Pg	15 16 51.2	+0.6
T1241				S	Sg	15 16 54.1	+1.1
T1241				AML	AML		
	comp=E,968µm,0.6s						
T1241				AML	AML		
	comp=N,718µm,0.8s						
T1241				AML	AML		
	comp=E,956µm,0.7s						
T1241				AML	AML		
	comp=N,722µm,0.8s						
T1241				AML	AML		
	comp=E,970µm,0.7s						
T1241				AML	AML		
	comp=N,718µm,0.8s						
T1241				AML	AML		
	comp=N,721µm,0.8s						
T1241				AML	AML		
	comp=E,955µm,0.7s						
T1204	**Amatrice, Fraz**	**0.16**	**156**	P	Pg	15 16 51.4	+0.6
T1201	**Domo (RI)**	**0.16**	**175**	P	Pg	15 16 51.8	+1.0
FEMA	**Monte Fema**	**0.20**	**317**	P	Pg	15 16 52.2	+0.8
T1243	**Rocca Santa Ma**	**0.20**	**127**	P	Pg	15 16 52.0	+0.5
T1243				S	Sg	15 16 55.7	+1.3
SMA1	**SAN MARTINO**	**0.20**	**158**	P	Pg	15 16 52.1	+0.6
SMA1				S	Sg	15 16 55.6	+1.2
SMA1				AML	AML		
	comp=E,2245µm,0.5s						
SMA1				AML	AML		
	comp=N,3630µm,0.3s						
FDMO	**Fiordimonte**	**0.24**	**334**	P	Pg	15 16 52.9	+0.6
FDMO				S	Sg	15 16 57.2	+1.7
FDMO	**Fiordimonte**	**0.24**	**334**	⇓P	Pg	15 16 52.8	+0.5
FDMO				AML	AML		
	comp=E,360µm,1.4s						
FDMO				AML	AML		
	comp=N,448µm,0.2s						
FDMO				AML	AML		
	comp=E,360µm,1.4s						
FDMO				AML	AML		
	comp=N,448µm,0.2s						
FDMO				AML	AML		
	comp=E,360µm,1.4s						
FDMO				AML	AML		
	comp=N,448µm,0.2s						
GUMA	**Gualdo di Mace**	**0.26**	**17**	P	Pb	15 16 53.4	-0.7
GUMA				S	Sb	15 16 58.3	-0.4
GUMA	**Gualdo di Mace**	**0.26**	**17**	⇑P	Pb	15 16 53.5	-0.7
GUMA				S	Sb	15 16 58.8	+0.2
GUMA				AML	AML		
	comp=E,1985µm,0.3s						
GUMA				AML	AML		
	comp=N,1250µm,0.3s						
GUMA				AML	AML		
	comp=E,1985µm,0.3s						
GUMA				AML	AML		
	comp=N,1255µm,0.3s						
GUMA				AML	AML		
	comp=E,1985µm,0.3s						
GUMA				AML	AML		
	comp=N,1255µm,0.3s						
LNSS	**Leonessa**	**0.26**	**213**	P	Pg	15 16 53.3	+0.7
LNSS				S	Sb	15 16 58.4	-0.4
LNSS				AML	AML		
	comp=E,597µm,0.7s						
LNSS				AML	AML		
	comp=N,418µm,1.1s						
LNSS				AML	AML		
	comp=E,598µm,0.7s						
LNSS				AML	AML		
	comp=N,418µm,1.1s						
T1215	**Vallo di Nera,**	**0.27**	**267**	P	Pg	15 16 53.4	+0.7
T1215	**Vallo di Nera,**	**0.27**	**267**	P	Pg	15 16 53.1	+0.4
T1215				S	Sb	15 16 58.3	-0.7
CSP1	**Cessapalombo**	**0.27**	**356**	P	Pg	15 16 53.4	+0.6
CSP1				S	Sb	15 16 58.3	-0.9
CSP1	**Cessapalombo**	**0.27**	**356**	P	Pg	15 16 53.4	+0.5
CSP1				S	Sb	15 16 58.3	-0.9
CSP1				AML	AML		
	comp=E,624µm,0.2s						
CSP1				AML	AML		
	comp=N,724µm,0.2s						
CSP1				AML	AML		
	comp=E,625µm,0.2s						
CSP1				AML	AML		
	comp=N,724µm,0.2s						
CSP1				AML	AML		
	comp=N,724µm,0.2s						
CSP1				AML	AML		
	comp=E,625µm,0.2s						
CESI	**CESI - Serrava**	**0.30**	**308**	S	Sg	15 16 55.0	-2.5
RM33	**Pellescritta (**	**0.31**	**182**	P	Pg	15 16 54.1	+0.6
RM33				S	Sb	15 16 59.2	-1.0
RM33				AML	AML		
	comp=E,822µm,0.2s						
RM33				AML	AML		
	comp=N,625µm,1.1s						
RM33				AML	AML		
	comp=N,624µm,1.1s						
RM33				AML	AML		
	comp=N,614µm,0.2s						
RM33				AML	AML		
	comp=E,806µm,0.2s						
CAMP	**Campotosto**	**0.31**	**155**	P	Pg	15 16 54.0	+0.5
CAMP				S	Sb	15 16 59.0	-1.3
CAMP				AML	AML		
	comp=E,408µm,0.2s						
CAMP				AML	AML		
	comp=E,408µm,0.2s						
CAMP				AML	AML		
	comp=N,190µm,0.6s						
TERO	**Teramo**	**0.34**	**125**	P	Pg	15 16 54.5	+0.5
TERO				S	Sb	15 17 00.2	-0.8
TERO				AML	AML		
	comp=N,550µm,0.5s						
TERO				AML	AML		
	comp=E,403µm,0.1s						
TERO	**Teramo**	**0.34**	**125**	P	Pg	15 16 54.5	+0.5
TERO				S	Sb	15 17 00.1	-0.9
TERO				AML	AML		
	comp=E,403µm,0.1s						
TERO				AML	AML		
	comp=N,550µm,0.5s						
TERO				AML	AML		
	comp=E,403µm,0.1s						
TERO				AML	AML		
	comp=N,550µm,0.5s						
TERO				AML	AML		
	comp=N,550µm,0.5s						
TERO				AML	AML		
	comp=E,403µm,0.1s						
GIGS	**Gran Sasso**	**0.45**	**146**	P	Pg	15 16 56.2	+0.2
GIGS				S	Sb	15 17 03.5	-0.7
GIGS				AML	AML		
	comp=E,69µm,1.1s						
GIGS				AML	AML		
	comp=N,51µm,1.4s						
ASSB	**Assisi San Ben**	**0.48**	**298**	⇑P	Pg	15 16 57.0	+0.4
ASSB				S	Sb	15 17 04.9	-0.1
ASSB				AML	AML		
	comp=E,160µm,1.2s						
ASSB				AML	AML		
	comp=N,117µm,1.5s						
ASSB				AML	AML		
	comp=E,160µm,1.2s						
ASSB				AML	AML		
	comp=N,117µm,1.5s						
ASSB				AML	AML		
	comp=N,117µm,1.5s						
ASSB				AML	AML		
	comp=E,160µm,1.2s						
SNTG	**Esanatoglia**	**0.49**	**334**	P	Pb	15 16 57.5	-0.6
SNTG				S	Sb	15 17 05.2	0.0
SNTG				AML	AML		
	comp=E,88µm,1.0s						
SNTG				AML	AML		
	comp=N,118µm,1.3s						
SNTG				AML	AML		
	comp=E,88µm,1.0s						
SNTG				AML	AML		
	comp=N,118µm,1.3s						
SNTG				AML	AML		
	comp=E,88µm,1.0s						
SNTG				AML	AML		
	comp=N,118µm,1.3s						
EL6	**Elcito**	**0.52**	**349**	⇑P	Pg	15 16 58.0	+0.5
EL6				S	Sb	15 17 06.8	+0.5
CING	**Cingoli**	**0.56**	**357**	⇑P	Pb	15 16 59.0	-0.2
CING				S	Sb	15 17 08.2	+0.9
CING				AML	AML		
	comp=E,160µm,1.5s						
CING				AML	AML		
	comp=N,100µm,0.4s						
CING				AML	AML		
	comp=N,100µm,0.4s						
CING				AML	AML		
	comp=E,160µm,1.5s						
FIAM	**Fiamignano**	**0.56**	**189**	⇓P	Pg	15 16 58.4	+0.2
FIAM				AML	AML		
	comp=E,78µm,1.5s						
FIAM				AML	AML		
	comp=N,82µm,1.6s						
FIAM				AML	AML		
	comp=N,82µm,1.6s						
FIAM				AML	AML		
	comp=E,78µm,1.5s						
T0110	**Collepietro**	**0.72**	**145**	P	Pg	15 17 01.2	+0.1
T0110				AML	AML		
	comp=E,128µm,1.0s						
T0110				AML	AML		
	comp=E,128µm,1.0s						
T0110				AML	AML		
	comp=N,179µm,1.5s						
MGAB	**Montegabbione**	**0.83**	**277**	P	Pg	15 17 03.3	0.0
MGAB				AML	AML		
	comp=E,76µm,1.4s						
MGAB				AML	AML		
	comp=N,61µm,0.5s						
MGAB				AML	AML		
	comp=N,61µm,0.5s						
MGAB				AML	AML		
	comp=E,76µm,1.4s						
PIEI	**Pieia**	**0.88**	**325**	P	Pn	15 17 05.4	-0.5
PIEI				S	Sn	15 17 18.7	-0.2
PIEI				AML	AML		
	comp=E,53µm,1.5s						
PIEI				AML	AML		
	comp=N,45µm,1.6s						
PIEI				AML	AML		
	comp=E,53µm,1.5s						
PIEI				AML	AML		
	comp=N,45µm,1.6s						

*NNC **06** 15:17:58.2±4.4, 36°68N×70°30E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=40.9km s-min=27.2km az=154.0*
ISC 06 15:17:56.7±3.7, 36°5N±0°2×70°3E±0°1, h10km, n12, σ1§07/14, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.24**	**24**	P	**Pn**	**15 19 30.3**	**+1.0**
	SNR=41						
UCH	**Uchtor**	**6.62**	**28**	P	**Pn**	**15 19 35.1**	**+0.6**
	SNR=27						
KK31	**Karatay Array**	**6.63**	**1**	P	**Pn**	**15 19 35.9**	**+1.6**
	4.8nm,0.4s,baz=183,slow=13,SNR=44						
KK31				⇓S	**Sn**	**15 20 49.4**	**-0.4**
	3.4nm,0.5s,baz=181,slow=22,SNR=12						
EKS2	**Erkin-Say**	**6.75**	**23**	P	**Pn**	**15 19 37.3**	**+1.4**
	SNR=7.4						
AAK	**Ala-Archa**	**6.96**	**27**	P	**Pn**	**15 19 39.9**	**+0.9**
	SNR=18						
KBK	**Karagaybulak**	**7.15**	**29**	P	**Pn**	**15 19 43.0**	**+1.5**
	SNR=7.8						
CHMS	**Chumysh**	**7.37**	**26**	P	**Pn**	**15 19 45.1**	**+0.6**
	SNR=6.1						
USP	**Ospenovka**	**7.52**	**24**	P	**Pn**	**15 19 47.5**	**+0.9**
	SNR=10						
TKM2	**Tokmak 2**	**7.63**	**31**	P	**Pn**	**15 19 48.4**	**+0.2**
	SNR=13						
TKM2	**Tokmak 2**	**7.63**	**31**	⇑P	**Pn**	**15 19 48.0**	**-0.2**
	8.1nm,0.6s						
TKM2				⇓S	**Sn**	**15 21 14.2**	**-0.7**
	1.8nm,0.6s						
AB31	**Akbulak array**	**14.84**	**333**	P	**Pn**	**15 21 25.5**	**-1.0**
	1.0nm,0.3s,baz=150,slow=12,SNR=63						
AKTO	**Aktyubinsk**	**16.52**	**331**	⇑P	**Pn**	**15 21 47.7**	**-0.8**
	2.3nm,0.7s						

*NOU **06** 15:20:23.4, 36°82S×179°47W, h58km, mb4.3/8, East of North Island, N.Z.*
*WEL **06** 15:20:34.5±1.2, 37°S±5°×17°9E±1°1, h10km, M3.6/25, ML3.9/29, MLv3.6/25, Error ellipse: s-maj=0.0km s-min=0.0km az=88.6*
ISC 06 15:20:33.3±2.7, 37°06S±0°09×179°3E±0°1, h10km, n91, σ0§99/95, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.94**	**238**	P	**Pg**	**15 20 50.6**	**-0.8**
WMGZ	**Waiomatatini S**	**1.04**	**223**	P	**Pb**	**15 20 54.6**	**+1.3**
WMGZ				S	**Sn**	**15 21 08.3**	**-0.1**
PKGZ	**Pakihiroa**	**1.28**	**229**	P	**Pb**	**15 20 57.4**	**-0.1**
PKGZ				S	**Sg**	**15 21 13.8**	**-0.7**
PUZ	**Puketiti**	**1.31**	**219**	P	**Pb**	**15 20 58.6**	**+0.6**
PUZ				S	**Sn**	**15 21 16.2**	**+1.0**
HAZ	**Te Kaha**	**1.40**	**240**	P	**Pn**	**15 20 57.5**	**-1.4**
TWGZ	**Tauwhareparae**	**1.53**	**223**	P	**Pn**	**15 21 01.8**	**+1.0**
RUGZ	**Raukumara Rang**	**1.58**	**235**	P	**Pn**	**15 21 01.8**	**+0.4**
CNGZ	**Carnagh Statio**	**1.67**	**211**	P	**Pn**	**15 21 03.8**	**+1.3**
WIZ	**White Island**	**1.75**	**254**	P	**Pn**	**15 21 01.7**	**-2.0**
TKGZ	**Te Karaka**	**1.79**	**220**	P	**Pn**	**15 21 04.7**	**+0.4**
MWZ	**Matawai**	**1.90**	**227**	P	**Pn**	**15 21 06.2**	**+0.4**
WHRZ	**Whale Island**	**2.02**	**246**	P	**Pn**	**15 21 07.9**	**+0.5**
RIGZ	**Rimuhau**	**2.04**	**216**	P	**Pn**	**15 21 08.1**	**+0.3**
RAGZ	**Rawiri**	**2.07**	**226**	P	**Pn**	**15 21 09.1**	**+0.9**
URZ	**Urewera**	**2.11**	**235**	P	**Pn**	**15 21 09.0**	**+0.3**
URZ	**Urewera**	**2.11**	**235**	P	**Pn**	**15 21 09.4**	**+0.7**
PRGZ	**Paritu Road**	**2.17**	**211**	P	**Pn**	**15 21 09.6**	**+0.1**
MARZ	**Manawahe**	**2.29**	**245**	P	**Pn**	**15 21 11.5**	**+0.4**
EDRZ	**Edgecumbe**	**2.29**	**242**	P	**Pn**	**15 21 12.4**	**+1.2**
SNGZ	**Shannon Statio**	**2.32**	**222**	P	**Pn**	**15 21 11.5**	**0.0**
SNGZ				S	**Sn**	**15 21 40.3**	**+0.2**
OPRZ	**Ohinepanea**	**2.32**	**250**	P	**Pn**	**15 21 10.8**	**-0.8**
KNZ	**Kokohu**	**2.34**	**213**	P	**Pn**	**15 21 11.8**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.36**	**207**	P	**Pn**	**15 21 12.3**	**+0.2**
RTZ	**Ruatahuna**	**2.41**	**229**	P	**Pn**	**15 21 13.5**	**+0.7**
MUGZ	**Murupara**	**2.46**	**234**	P	**Pn**	**15 21 13.4**	**0.0**
MYRZ	**Mayor Island**	**2.46**	**264**

PRRZ	Plateau Road	2.72	237	P		Pn	15 21 17.0	0.0
HSRZ	Hossack Road	2.73	242	P		Pn	15 21 20.0	+2.8
HRRZ	Handcock Road	2.74	240	P		Pn	15 21 17.9	+0.5
ALRZ	Allen Road	2.78	237	P		Pn	15 21 18.1	+0.2
KMRZ	Kaimai	2.79	253	P		Pn	15 21 17.1	-1.0
NMHZ	Naumai	2.83	223	P		Pn	15 21 19.2	+0.5
ARHZ	Aropaoanui	2.85	219	P		Pn	15 21 19.1	+0.2
MRHZ	Matea Rd	2.89	231	P		Pn	15 21 19.3	-0.1
KUZ	Kuaotunu	2.89	275	P		Pn	15 21 17.8	-1.6
BKZ	Black Stump Fm	3.06	226	P		Pn	15 21 21.2	-0.5
BKZ	Black Stump Fm	3.06	226	P		Pn	15 21 20.9	-0.8
TOZ	Tahuroa Road	3.10	256	P		Pn	15 21 21.0	-1.3
KUTZ	Kaahu Road	3.10	242	P		Pn	15 21 22.8	+0.4
CKHZ	Cape Kidnapper	3.13	213	P		Pn	15 21 22.0	-0.7
MCHZ	McNeill Hill	3.14	220	P		Pn	15 21 22.4	-0.5
GRZ	Great Barrier	3.20	284	P		Pn	15 21 23.1	-0.5
TLZ	Tolley Road	3.25	246	P		Pn	15 21 24.9	+0.6
KWHZ	Kaweka Forest	3.27	223	P		Pn	15 21 24.4	-0.3
MKAZ	Moumakai	3.31	268	P		Pn	15 21 24.0	-1.2
KAHZ	Kahuranaki	3.33	214	P		Pn	15 21 24.2	-1.3
WIAZ	Waiheke Island	3.35	273	P		Pn	15 21 24.8	-1.0
KRHZ	Kereru	3.46	221	P		Pn	15 21 26.5	-0.7
TMVZ	Te Maari	3.50	233	P		Pn	15 21 28.1	+0.1
ETAZ	East Tamaki Re	3.51	270	P		Pn	15 21 27.2	-0.6
ETVZ	East Tongariro	3.51	233	P		Pn	15 21 28.0	0.0
BHHZ	Black Hill Sta	3.52	225	P		Pn	15 21 27.9	-0.2
PXZ	Pawanui	3.53	212	P		Pn	15 21 26.5	-1.6
KRVZ	Karewarewa	3.53	234	P		Pn	15 21 28.6	+0.3
MBAZ	Motutapu North	3.54	273	P		Pn	15 21 28.4	0.0
NNVZ	North Ngauruho	3.57	234	P		Pn	15 21 29.6	+0.7
WTVZ	West Tongariro	3.58	234	P		Pn	15 21 29.8	+0.8
NGZ	Ngauruhoe	3.60	233	P		Pn	15 21 29.4	0.0
ABAZ	Army Bay	3.62	276	P		Pn	15 21 29.3	0.0
MOVZ	Moawhango	3.65	229	P		Pn	15 21 29.5	-0.4
TWVZ	Taurewa	3.65	236	P		Pn	15 21 30.6	+0.7
EPAZ	Eden Park BICE	3.66	272	P		Pn	15 21 30.8	+0.9
HBAZ	Herne Bay Bore	3.67	272	P		Pn	15 21 30.9	+0.8
AWAZ	Awhitu Peninsu	3.73	269	P		Pn	15 21 30.6	-0.3
WPHZ	Waipukurau	3.75	216	P		Pn	15 21 29.6	-1.6
PNHZ	Pukenui	3.75	220	P		Pn	15 21 30.1	-1.2
WTAZ	Waiatarua	3.79	271	P		Pn	15 21 32.2	+0.5
RVAZ	Riverhead Bore	3.80	273	P		Pn	15 21 31.6	-0.3
HIZ	Hauiti	3.81	246	P		Pn	15 21 33.1	+1.0
HIZ	Hauiti	3.81	246	P		Pn	15 21 33.3	+1.2
PRHZ	Porangahau	3.82	212	P		Pn	15 21 30.5	-1.7
TSZ	Takapari Road	3.98	220	P		Pn	15 21 32.5	-1.8
ANWZ	Angora Road	4.05	212	P		Pn	15 21 34.8	-0.5
WCZ	Waipu Caves	4.15	284	P		Pn	15 21 36.3	-0.4
WAZ	Wanganui	4.33	230	P		Pn	15 21 39.2	0.0
BFZ	Birch Farm	4.33	213	P		Pn	15 21 37.6	-1.6
KHEZ	Kahui Hut	4.73	240	P		Pn	15 21 48.0	+3.3
OUZ	Omahuta	4.97	290	P		Pn	15 21 48.0	0.0
OUZ	Omahuta	4.97	290	P		Pn	15 21 47.5	-0.5
QRZ	Quartz Range	6.48	232	P		Pn	15 22 09.5	+0.8
KHZ	Kahutara	6.95	218	P		Pn	15 22 14.7	-0.4
CTZ	Chatham Island	7.36	156	P		Pn	15 22 22.5	+1.8
ODZ	Otahua Downs	10.31	217	P		Pn	15 22 58.3	-2.9

*IDC **06** 15:22:46.5±0.4,24.7S 78N×125.11E,h0km,mb4.6/48, mbtmp4.6/49,ML4.5/1,MS3.9/46,Error ellipse: s-maj=14.4km s-min=9.1km az=69.0*

*BJI **06** 15:22:50.4±0.0,24.5S 51N×125.55E,h59km,mb4.4/70, mB4.5/43,ML4.5/3,Ms4.2/74,Ms7 4.1/69*

*MOS **06** 15:22:51.5±1.0,24.7S 77N×125.19E,h49km,mb5.2/54, MS4.1/9,Error ellipse: s-maj=7.1km s-min=4.1km az=115.4*

*JMA **06** 15:22:52.4±0.2,24.8N±0.8×125.3E±0.6,h46km±1km, MD4.8/11,MV4.6/11,NEAR MIYAKOJIMA ISLAND*

JMA Felt III J1 at NEAR MIYAKOJIMA ISLAND .

*NIED **06** 15:22:52.4,24.78N×125.27E,h46km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.91; Mθθ0.04; Mϕϕ-0.95; Mrθ-1.90; Mθϕ-0.15; Mϕr-0.94; Fault plane solution: M₀2.27000×10¹⁶ NP1: ϕs358.00000°,δ17.00000°,λ33.00000°. NP2: ϕs236.00000°,δ81.00000°,λ104.00000°.*

*NEIC **06** 15:22:52.4±1.3,24.78N±0.07×125.20E±0.06,h35km±5km, mb5.1/152 Error ellipse: s-maj=11.6km s-min=7.0km az=149.0*

ISC 06 15:22:52.7±0.3,24.77N±0.03×125.27E±0.03,h45km±2km, h45km:pP-P,n666,σ1s33/674,mb5.0/164,MS4.0/66, 53C-17D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	Miyako jima 2	0.05	22	P	Pn	15 22 59.5	-0.3
JMJ2	Miyako jima3	0.06	120	*i* P	Pn	15 22 59.4	-0.4
JMJ2				S	Sn	15 23 04.8	0.0
JMJ2	Miyako jima3	0.06	120	A	A	15 22 59.4	
	comp=E,444nm,4.8s,comp=E,968nm,2.0s						
JIRB	Irabujima	0.11	303	*i* P	Pn	15 22 59.4	-0.6
JIRB				S	Sn	15 23 04.6	-0.5
JIRB	Irabujima	0.11	303	A	A	15 22 59.4	
	comp=E,211nm,0.7s,comp=E,238nm,2.3s						
JOGS	Gusukube	0.12	94	*i* P	Pn	15 22 59.7	-0.4
JOGS				S	Sn	15 23 05.4	+0.2
JOGS	Gusukube	0.12	94	A	A	15 22 59.7	
	comp=E,965nm,1.0s,comp=E,1μm,1.0s						
JIKM	Ikemajima	0.15	351	*i* P	Pn	15 22 59.9	-0.4
JIKM				S	Sn	15 23 05.1	-0.5
JIKM	Ikemajima	0.15	351	A	A	15 22 59.9	
	comp=E,135nm,2.0s,comp=E,236nm,0.3s						
JTJ	Tarama	0.54	256	*i* P	Pn	15 23 03.9	-0.2
JTJ				S	Sn	15 23 12.1	-0.2
JTJ	Tarama	0.54	256	A	A	15 23 03.9	
	comp=E,290nm,1.6s,comp=E,123nm,0.8s						
JISG	Ishigakijimahi	0.90	258	*i* P	Pn	15 23 08.3	-0.6
JIJ	Ishigaki jima	1.11	249	*i* P	Pn	15 23 11.6	-0.2
JIJ				*e*S	Sn	15 23 26.2	+0.3
JIJ	Ishigaki jima	1.11	249	A	A	15 23 11.6	
	comp=E,18nm,1.3s,comp=E,45nm,2.5s						
JKRS	Kuro-shima	1.27	246	P	Pn	15 23 14.5	+0.5
JKRS				*e*S	Sn	15 23 31.1	+1.3
JKRS	Kuro-shima	1.27	246	A	A	15 23 14.5	
	comp=E,75nm,1.9s,comp=E,92nm,2.5s						
IRIF	Iriomote-Funau	1.47	253	*i* P	Pn	15 23 16.5	-0.3
IRIF	Iriomote-Funau	1.47	253	A	A	15 23 16.5	
	comp=E,23nm,2.7s,comp=E,20nm,1.8s						
HATJ	Hateruma jima	1.52	242	P	Pn	15 23 19.0	+1.6
HATJ				*e*S	Sn	15 23 37.4	+1.5
HATJ	Hateruma jima	1.52	242	A	A	15 23 19.0	
	comp=E,44nm,2.5s,comp=E,37nm,3.7s						
JKE	Kume jima 2	2.07	41	A	A	15 23 25.6	
	comp=E,12nm,2.6s,comp=E,8.0nm,1.2s						
YOJ	Yonaguni jima	2.08	262	Pn	Pn	15 23 24.6	-0.6
YOJ	Yonaguni jima	2.08	262	P	Pn	15 23 24.6	-0.6
YOJ	Yonaguni jima	2.08	262	P	Pn	15 23 25.1	-0.1
JYNG	Yonagunijimaku	2.14	262	A	A	15 23 26.6	
	comp=E,9.0nm,4.0s,comp=E,10.0nm,2.8s						
JAGN	Aguni-jima	2.54	44	A	A	15 23 32.2	
	comp=E,9.0nm,3.2s,comp=E,8.0nm,1.3s						
JJT3	Tamagusuku3	2.65	58	A	A	15 23 33.9	
	comp=E,39nm,3.1s,comp=E,39nm,2.7s						
JNTH	Nagotoyohara	3.03	54	A	A	15 23 39.2	
	comp=E,6.0nm,4.0s,comp=E,5.0nm,1.2s						
JOW	Kunigami	3.40	52	Pn	Pn	15 23 43.4	+0.1
JOW	Kunigami	3.40	52	P	Pn	15 23 44.1	+0.9
JOW	Kunigami	3.40	52	A	A	15 23 44.4	
	comp=E,5.0nm,9.8s,comp=E,5.0nm,5.6s						
NACB	Ninganchiao	3.40	261		Pn	15 23 43.0	-0.4
TATO	Taipei	3.44	274		Pn	15 23 45.5	+1.6
YHNB	Yeheng	3.55	269		Pn	15 23 47.1	+1.7
YHNB	Yeheng	3.55	269	P	Pn	15 23 47.3	+1.9
YULB	Yu-li	3.88	250		Pn	15 23 48.3	-1.7
SSLB	Suanglung	4.06	257	Pn	Pn	15 23 51.5	-0.9
SSLB	Suanglung	4.06	257	P	Pn	15 23 52.7	+0.3
TWG	Pinlang	4.31	244		Pn	15 23 53.6	-2.1
TPUB	Ta-pu	4.49	252		Pn	15 23 58.5	+0.2
TPUB	Ta-pu	4.49	252	P	Pn	15 23 59.1	+0.8
QZH	Quanzhou	6.07	273	*e*P	Pn	15 24 21.1	+1.1
QZH				S	Sn	15 25 27.7	-0.5
QZH				LR	LR		
	comp=Z,1μm,22.3s						
SSE	Sheshan	7.26	331	P	Pn	15 24 36.7	+0.4
SSE				smax	smax		
	comp=N,41nm,1.4s						
SSE				smax	smax		
	comp=E,12nm,0.9s						
SSE				LR	LR		
	comp=N,690nm,17.6s						
SSE				LR	LR		
	comp=E,480nm,22.8s						
JSU	Suzuyama	8.12	33	Pn	Pn	15 24 47.5	-0.6
PCPH	Palayan	9.96	204	⇓*e*P	Pn	15 25 13.7	+0.3
LQP	Lukban	11.17	199	⇓*e*P	Pn	15 25 24.2	-5.9
LQP	Lukban	11.17	199	⇓*e*P	Sn	15 27 23.5	-10
WHN	Wuhan	11.26	303	⇑P	Pn	15 25 35.8	+4.8
WHN				LR	LR		
	comp=N,3μm,15.9s						
WHN				LR	LR		
	comp=E,4μm,21.4s						
CNSH	ChangSha	11.57	290	⇓P	Pn	15 25 38.2	+3.0
CNSH				S	Sn	15 27 50.5	+7.5
CNSH				LR	LR		
	comp=N,690nm,12.3s						
CNSH				LR	LR		
	comp=E,840nm,17.4s						
CNSH				LR	LR		
	comp=Z,800nm,14.3s						
TJN	Taejon	11.71	8	Pn	Pn	15 25 39.5	+2.4
TJN	Taejon	11.71	8	⇑*i*P	Pn	15 25 40.1	+3.0
TJN	Taejon	11.71	8	P	Pn	15 25 40.7	+3.6
KSAR	Wonju Array Be	12.83	9	Pn	Pn	15 25 54.4	+2.0
KSAR	Wonju Array Be	12.83	9	P	Pn	15 25 54.4	+2.0
KSRS	Korea Array	12.85	10	Pn	Pn	15 25 54.9	+2.2
	0.4nm,0.3s,baz=187,slow=13,SNR=32						
KSRS				LR	LR	15 31 13.7	
	comp=Z,573nm,18.9s,baz=195,slow=40						
KS19	Wonju Array Si	12.88	9		Pn	15 25 54.1	+0.9
GULI	GuiLin	13.53	275	⇓P	Pn	15 26 05.4	+3.3
SEHB	SEOHWA	13.69	10	Pn	Pn	15 26 04.9	+0.6
DL2	Dalian	14.43	349	P	P	15 26 19.1	-0.9
DL2				S	S	15 29 02.5	-8.3
DL2				pmax	pmax		
	comp=Z,58nm,1.1s						
DL2				LR	LR		
	comp=N,430nm,18.6s						
DL2				LR	LR		
	comp=E,610nm,17.5s						
DL2				LR	LR		
	comp=Z,540nm,19.9s						
INU	Inuyama	14.63	41	P	P	15 26 23.4	+1.0
INU	Inuyama	14.63	41	P	P	15 26 21.2	-1.1
LYN	LuoYang	14.78	314	*e*P	Pn	15 26 21.3	+2.4
LYN				pP	P	15 26 29.7	+5.7
LYN				PP	PnPn	15 26 32.7	+5.4
LYN				sP		15 26 36.3	
LYN				S	Sn	15 29 04.4	+3.0
LYN				SS	S	15 29 25.6	+7.4
LYN				pmax	pmax		
	comp=Z,40nm,1.5s						
LYN				pmax	pmax		
	comp=Z,180nm,4.3s						
LYN				LR	LR		
	comp=N,1μm,16.9s						
LYN				LR	LR		
	comp=E,520nm,16.3s						
LYN				LR	LR		
	comp=Z,1μm,17.9s						
ENH	Enshi	15.04	295	P	P	15 26 25.0	-1.9
TBP	Tagbilaran	15.06	185	⇑*e*P	Pn	15 26 22.5	-0.1
CNOP	Candoni, Negro	15.07	190	⇑*e*P	Pn	15 26 23.9	+1.2
JCJ	Chichijima	15.39	78	Pn	Pn	15 26 28.5	+1.6
	1.7nm,0.3s,baz=287,slow=18,SNR=1.6						
JCJ				LR	LR	15 31 31.8	
	comp=Z,401nm,21.5s,baz=260,slow=34						
	22nm,0.7s						
HNS	HongShan	15.49	327	⇓P	P	15 26 31.8	0.0
HNS				pP	pP	15 26 41.8	-0.3
HNS				*e*S	Sn	15 29 24.4	+5.8
HNS				pmax	pmax		
	comp=Z,47nm,1.2s						
HNS				LR	LR		
	comp=N,870nm,15.8s						
HNS				LR	LR		
	comp=E,380nm,15.9s						
HNS				LR	LR		
	comp=Z,880nm,17.8s						
MAJO	Matsushiro	16.15	40	P	P	15 26 40.4	+1.2
MAJO	Matsushiro	16.15	40	*c i*P	P	15 26 39.9	+0.7
MAJO	Matsushiro	16.15	40	P	P	15 26 40.3	+1.1
MJAR	Matsushiro Arr	16.15	40	Pn	P	15 26 39.3	0.0
	0.1nm,0.3s,baz=221,slow=7.1,SNR=22						
BUKP	Musuan	16.80	181	⇓*e*P	P	15 26 46.6	+0.1
GYA	Guiyang	16.87	280	⇓P	Pn	15 26 46.2	+0.4
GYA				S	Sn	15 29 49.5	-2.9
GYA				pmax	pmax		
	comp=Z,8.0nm,1.7s						
GYA				LR	LR		
	comp=N,270nm,5.6s						
GYA				LR	LR		
	comp=E,510nm,14.5s						
GYA				LR	LR		
	comp=Z,840nm,19.8s						
TIY	Taiyuan	16.92	323	*e*P	P	15 26 49.6	+1.8
TIY				S	S	15 29 58.3	-3.6
TIY				pmax	pmax		
	comp=Z,200nm,5.1s						
TIY				LR	LR		
	comp=N,550nm,20.6s						
TIY				LR	LR		
	comp=E,300nm,19.3s						
TIY				LR	LR		
	comp=Z,540nm,23.1s						
XAN	Xi'an	16.96	307	P	P	15 26 49.0	+0.7
XAN				pP	pP	15 26 58.6	-0.1
XAN				sP	sP	15 27 03.8	-0.5
XAN				S	Sn	15 29 56.7	+2.2
XAN				SS	S	15 30 16.1	+13
XAN				pmax	pmax		
	comp=Z,13nm,1.0s						
XAN				pmax	pmax		
	comp=Z,330nm,4.0s						
XAN				LR	LR		
	comp=N,340nm,8.1s						
XAN				LR	LR		
	comp=E,1μm,15.1s						
XAN				LR	LR		
	comp=Z,2μm,14.4s						
BJT	Baijiatuan	17.02	335	P	P	15 26 49.5	+0.7
BJT	Baijiatuan	17.02	335	P	P	15 26 49.5	+0.7
BJT				pmax	pmax		
	comp=Z,26nm,1.0s						
BJI	Beijing	17.04	336	P	P	15 26 49.2	+0.2
BJI				sP	sP	15 27 03.5	-1.4
BJI				S	S	15 30 03.0	-1.1
BJI				pmax	pmax		
	comp=Z,25nm,1.3s						
BJI				pmax	pmax		
	comp=Z,170nm,7.0s						
BJI				LR	LR		
	comp=Z,130nm,21.3s						
BJI				LR	LR		
	comp=Z,440nm,19.5s						
BJI				LR	LR		
	comp=Z,960nm,18.8s						
SNY	Shenyang	17.07	356	⇑P	P	15 26 50.9	+1.6
SNY				pmax	pmax		
	comp=Z,73nm,0.9s						
SNY				pmax	pmax		
	comp=Z,140nm,2.9s						
SNY				LR	LR		
	comp=Z,660nm,19.0s						
SNY				LR	LR		
	comp=Z,360nm,15.9s						
SNY				LR	LR		
	comp=Z,960nm,20.1s						
JYT	Yasato	17.17	45		P	15 26 50.2	-0.2
JYT				IAmb	IAmb	15 26 52.7	
	comp=Z,138nm,1.4s						
DAV	Davao City (W)	17.60	179	LR	LR	15 34 56.9	
	comp=Z,348nm,18.9s,baz=10,slow=42						
MSHR	Mys Shultsa	18.42	14	*i* P	Pn	15 27 04.7	+0.1
JMM	Marumori	18.57	42	P	P	15 27 04.5	-1.5
JMM				IAmb	IAmb	15 27 07.4	
	comp=Z,200nm,1.7s						
CN2	Changchun	18.99	0	*e*P	Pn	15 27 10.9	-0.5
CN2				pP	sP	15 27 24.3	-2.4
CN2				sP	pP	15 27 33.0	+12
CN2				S	Sn	15 30 38.3	-4.8
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2				LR	LR		
	comp=Z,300nm,20.0s						
CN2				LR	LR		
	comp=Z,300nm,20.0s						
CN2				LR	LR		
	comp=Z,400nm,21.0s						
VLA	Vladivostok	19.09	15	*e*P	P	15 27 11.5	-0.1
HHC	Hu-ho-hao-te	19.70	328	*e*P	Pn	15 27 20.1	-0.1
HHC				S	S	15 30 58.2	0.0
HHC				pmax	pmax		
	comp=Z,82nm,0.9s						
HHC				pmax	pmax		
	comp=Z,410nm,5.6s						
HHC				LR	LR		
	comp=Z,790nm,16.8s						
HHC				LR	LR		
	comp=Z,840nm,14.3s						
HHC				LR	LR		
	comp=Z,1μm,15.9s						
CD2	Chengdu	19.97	293	P	P	15 27 21.6	+0.2
CD2				S	S	15 31 02.1	-1.5
CD2				sS	sS	15 31 17.9	-3.0
CD2				pmax	pmax		
	comp=Z,60nm,0.5s						
CD2				LR	LR		
	comp=Z,440nm,10.4s						
CD2				LR	LR		
	comp=Z,670nm,10.4s						
CD2				LR	LR		
	comp=Z,620nm,16.1s						
USRK	Ussuriysk Ar.	20.14	14	P	P	15 27 23.6	+0.6
	comp=Z,2.9nm,0.5s,baz=187,slow=8.8,SNR=9.2						
	comp=Z,2.9nm,0.5s						
KMI	Kunming	20.43	276	⇑P	Pn	15 27 29.8	+0.7
KMI				pP	pP	15 27 37.4	+0.1
KMI				sP	sP	15 27 43.7	+0.7
KMI				S	S	15 31 08.2	-5.0
KMI				pmax	pmax		
	comp=Z,22nm,1.2s						
KMI				pmax	pmax		
	comp=Z,100nm,4.9s						
KMI				LR	LR		
	comp=Z,240nm,16.0s						
KMI				LR	LR		
	comp=Z,520nm,16.6s						
KMI				LR	LR		
	comp=Z,560nm,17.8s						
XLT	XiLinHaoTe	20.51	341	⇓*i*P	P	15 27 26.5	-0.6
XLT				pP	pP	15 27 38.8	+1.2
XLT				PP	sP	15 27 47.2	+4.1
XLT				S	S	15 31 12.1	-2.1
XLT				sS	sS	15 31 30.9	-0.7
XLT				pmax	pmax		
	comp=Z,20nm,1.1s						
XLT				pmax	pmax		
	comp=Z,130nm,3.9s						
XLT				LR	LR		
	comp=Z,450nm,17.8s						
XLT				LR	LR		
	comp=Z,620nm,17.0s						
MYLDM	Lahad Datu	20.54	200	P	P	15 27 27.8	+0.4
JTM	Tenmabayashi	20.72	36	Pn	Pn	15 27 32.1	+0.1
JTM				IAmb	IAmb	15 27 34.7	
	comp=Z,80nm,1.0s						
UBPT	Khong Chiam	20.84	247	Pn	Pn	15 27 32.2	-1.5
SGSI	Sangihe	20.96	179	P	P	15 27 33.0	+0.9
	comp=Z,87nm,0.8s						
BNX	BinXian	20.99	4	⇓P	P	15 27 32.4	+0.2
BNX				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BNX				pmax	pmax		
	comp=Z,110nm,3.8s						
PZH	PanZhiHua	21.28	280	P	P	15 27 38.1	+2.5
PZH				S	S	15 31 28.1	-1.7
PZH				SS	SnSn	15 32 00.7	+6.5
PZH				pmax	pmax		
	comp=Z,50nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,4.2s						
PZH				LR	LR		
	comp=Z,730nm,18.5s						
PZH				LR	LR		
	comp=Z,1μm,20.2s						
PZH				LR	LR		
	comp=Z,2μm,19.6s						
GUMO	Guam	21.56	117	LR	LR	15 34 20.7	
	comp=Z,430nm,21.2s,baz=290,slow=32						
LZH	Lanzhou	21.60	306	*e*P	P	15 27 39.8	+0.8
LZH				PP	sP	15 28 02.0	+6.8
LZH				S	S	15 31 34.3	-1.7
LZH				sS	sS	15 31 53.8	+0.4
LZH				pmax	pmax		
	comp=Z,24nm,1.4s						
LZH				pmax	pmax		
	comp=Z,140nm,5.2s						
LZH				LR	LR		
	comp=Z,350nm,12.7s						
LZH				LR	LR		
	comp=Z,580nm,13.7s						
LZH				LR	LR		
	comp=Z,820nm,13.4s						
JEW	Eniwo	22.41	33	P	P	15 27 47.0	-0.5
TOLI2	Tolitoli	23.92	191	P	P	15 28 03.2	+0.6
TOLI2	Tolitoli	23.92	191	P	P	15 28 03.6	+1.0
TNTI	Ternate	23.94	175	P	P	15 28 03.5	+0.7
TNTI				IAmb	IAmb	15 28 07.5	
	comp=Z,81nm,1.2s						
TNTI	Ternate	23.94	175	P	P	15 28 03.1	+0.3
	comp=Z,849nmcomp=Z,57nm,1.2s						
TNTI	Ternate	23.94	175	P	P	15 28 03.7	+0.9
GTOI	Gorontalo	24.09	186	P	P	15 28 03.6	-0.6
	comp=Z,204nmcomp=Z,14nm,1.4s						
MRSI	Marisa	24.36	188	P	P	15 28 08.3	+1.6
	comp=Z,892nmcomp=Z,51nm,1.8s						
HIA	Hailar	24.83	351	P	P	15 28 09.5	-1.3
HIA	Hailar	24.83	351	P	P	15 28 09.5	-1.3
HIA				pmax	pmax		
	comp=Z,20nm,1.0s						
MPSI	Mapaga	24.84	193	P	P	15 28 12.8	+1.8
	comp=Z,413nmcomp=Z,24nm,1.6s						
CHTO	Chiang Mai	25.13	262	P	P	15 28 13.4	-0.3
CHTO	Chiang Mai	25.13	262	P	P	15 28 13.4	-0.3
CHTO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
CHTO	Chiang Mai	25.13	262	P	P	15 28 15.9	+2.2
CMAR	Chiang Mai Arr	25.25	261	P	P	15 28 12.5	-2.3
	comp=Z,1.0nm,0.3s,baz=128,slow=12,SNR=3.0						
CMAR				LR	LR	15 39 06.2	
	comp=Z,236nm,19.1s,baz=75,slow=39						
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	25.25	261	P	P	15 28 15.0	+0.2
CMAR	Chiang Mai Arr	25.25	261	P	P	15 28 15.0	+0.2
LBMI	Labuha	25.35	175	P	P	15 28 16.5	+0.9
	comp=Z,29nm,0.9s						
SBUM	Sibu	25.52	212	P	P	15 28 17.1	-0.1
APSI	Ampana	25.77	188	P	P	15 28 20.0	+0.6
	comp=Z,390nmcomp=Z,34nm,1.3s						
GTA	Gaotai	25.93	310	⇓P	P	15 28 19.9	-1.0
GTA				pmax	pmax		
	comp=Z,15nm,1.1s						
GTA				pmax	pmax		
	comp=Z,77nm,4.0s						
GTA				LR	LR		
	comp=Z,260nm,15.3s						
GTA				LR	LR		
	comp=Z,450nm,13.8s						
GTA				LR	LR		
	comp=Z,620nm,16.7s						
SIJI	Sorong	26.14	166	P	P	15 28 22.1	-0.7
	comp=Z,4.6nm,0.5s,baz=4.6,slow=16,SNR=6.9						
SIJI				LR	LR	15 36 29.0	
	comp=Z,480nm,21.9s,baz=348,slow=31						
	comp=Z,4.6nm,0.5s						
YSS	Yuzh-Sakhalins	26.17	28	*e*P	P	15 28 26.8	+4.0
YSS				MLR	MLR		
	comp=Z,600nm,18.0s						
SANI	Sanana	26.67	178	P	P	15 28 25.8	-1.8
	comp=Z,890nmcomp=Z,77nm,1.1s						
SANI	Sanana	26.

SONM Songino Array 27.45 332 P **P** **15 28 33.2 -1.3**
GOMU GeErMu 28.50 301 P **P** **15 28 45.0 +0.7**
GOMU S **S** **15 33 31.5 +2.3**
GOMU sS sS 15 33 57.1 +7.8
GOMU pmax pmax
comp=Z,5.0nm,1.2s
GOMU pmax pmax
comp=Z,47nm,5.2s
GOMU LR LR
comp=Z,260nm,17.9s
GOMU LR LR
comp=Z,260nm,18.8s
GOMU LR LR
comp=Z,280nm,20.5s
ZEA Zeya 28.97 2 *e*P **P** **15 28 47.6 -0.2**
ZEA MLR MLR
comp=N,400nm,17.0s
ZEA MLR MLR
comp=Z,300nm,12.0s
BBKI Banjar Baru 29.84 201 P **P** **15 28 56.6 +0.7**
comp=Z,26nm,1.1s
BRDH Bariadhala 30.82 273 LR LR 15 43 32.4
comp=Z,198nm,18.4s,baz=86,slow=41
MOY Mondy 32.64 332 *e*P **P** **15 29 19.9 -0.5**
MOY pmax pmax
comp=Z,36nm,1.5s
PSI Prapat 33.50 233 LR LR 15 43 02.4
comp=Z,145nm,18.2s,baz=49,slow=36
RAMN Ramite 34.78 282 *e*P **P** **15 29 40.0 +0.6**
BATI Baumata 34.80 183 LR LR 15 46 18.3
comp=Z,158nm,18.7s,baz=314,slow=41
PKI Pulchoki 35.78 283 *e*P **P** **15 29 48.7 +0.6**
PKIN Phulchoki 35.79 283 *e*P **P** **15 29 48.3 +0.1**
comp=Z,8.4nm,0.5s
LEM Lembang 35.81 211 LR LR 15 45 15.5
comp=Z,150nm,18.0s,baz=10.0,slow=38
WMQ Urumqi 36.01 311 *e*P **P** **15 29 49.4 -0.1**
WMQ PP **PnPn** **15 31 10.1 -1.2**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ LR LR
comp=Z,260nm,21.5s
WMQ LR LR
comp=Z,390nm,20.3s
WMQ LR LR
comp=Z,270nm,20.3s
DMN Daman 36.05 283 *e*P **P** **15 29 50.6 +0.3**
GKN Gorkha 36.43 284 *e*P **P** **15 29 53.9 +0.4**
comp=Z,8.7nm,0.5s
PEA0B Petropavlovsk- 37.34 32*d i*P **P** **15 30 01.2 +0.5**
PETK Petropavlovsk- 37.34 32 P **P** **15 30 00.6 -0.1**
comp=Z,2.6nm,0.5s,baz=218,slow=7.8,SNR=17
comp=Z,2.6nm,0.5s
PETK Petropavlovsk- 37.34 32 P **P** **15 29 60.0 -0.7**
YAK Yakutsk 37.37 3*c i*P **P** **15 29 58.4 -2.3**
YAK pmax pmax
comp=Z,7.0nm,0.8s
PET Petropavlovsk 37.76 33 P **P** **15 30 04.3 +0.2**
PET Petropavlovsk 37.76 33 *e*P **P** **15 30 04.5 +0.3**
PET *e*S **S** **15 35 52.5 +1.0**
PET pmax pmax
comp=Z,97nm,1.3s
PET MLR MLR
comp=Z,200nm,20.0s
PET Petropavlovsk 37.76 33 P **P** **15 30 06.0 +1.8**
PET Petropavlovsk 37.76 33 P **P** **15 30 04.4 +0.2**
MTN Manton Dam 37.82 171 P **P** **15 30 04.1 -1.0**
MTN IAmb IAmb 15 30 06.8
comp=Z,25nm,1.2s
PYUN Piuthan 37.87 284 *e*P **P** **15 30 06.3 +0.5**
comp=Z,52nm,1.2s
H11N1 WAKE ISLAND Hy 38.74 89 T T 16 10 59.0
baz=283,slow=74,SNR=17
H11N2 WAKE ISLAND Hy 38.74 89 T T 16 10 59.0
baz=283,slow=74,SNR=32
H11N3 WAKE ISLAND Hy 38.76 89 T T 16 11 00.1
baz=283,slow=74,SNR=4.3
KRVT Keravat (AS076 38.88 134 LR LR 15 43 00.0
comp=Z,316nm,21.6s,baz=101,slow=31
RABL Rabaul 38.89 134 P **P** **15 30 14.2 +0.1**
RABL IAmb IAmb 15 30 15.8
comp=Z,33nm,0.8s
H11S3 WAKE ISLAND Hy 38.89 91 T T 16 11 12.4
baz=289,slow=74,SNR=80
H11S1 WAKE ISLAND Hy 38.90 91 T T 16 11 06.7
baz=289,slow=74,SNR=41
H11S2 WAKE ISLAND Hy 38.91 91 T T 16 11 11.5
baz=289,slow=74,SNR=20
MA2 Magadan 39.08 20*d i*P **P** **15 30 14.5 -0.7**
MA2 pmax pmax
comp=Z,24nm,1.8s
ZSN Zaisan 39.12 316 *e*P **P** **15 30 14.4 -1.3**
ZSN Zaisan 39.12 316 *e*P **P** **15 30 14.5 -1.3**
baz=316
PMG Port Moresby 40.12 145 LR LR 15 44 35.1
comp=Z,243nm,21.2s,baz=309,slow=32
MK31 Makanchi Array 40.57 314 P **P** **15 30 26.9 -0.9**
MK31 Makanchi Array 40.57 314 *i* P **P** **15 30 27.0 -0.8**
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 40.57 314 P **P** **15 30 27.1 -0.6**
comp=Z,6.5nm,0.5s,baz=99,slow=9.4,SNR=103
MKAR PcP **PcP** **15 32 30.1 +0.7**
comp=Z,1.1nm,0.8s,baz=127,slow=4.3,SNR=2.0
MKAR ScP **ScP** **15 36 23.0 +7.8**
comp=Z,0.4nm,0.8s,baz=99,slow=6.6,SNR=3.3
comp=Z,6.5nm,0.5s
MKAR Makanchi Array 40.57 314 P **P** **15 30 26.7 -1.1**
MAKZ Makanchi 40.78 314 P **P** **15 30 28.7 -0.8**
MAKZ Makanchi 40.78 314 P **P** **15 30 28.7 -0.8**
MAKZ pmax pmax
comp=Z,21nm,1.0s
MAKZ Makanchi 40.78 314 P **P** **15 30 28.0 -1.5**
MAKZ pP **pP** **15 30 38.3 -3.4**
SHLS Shalkode 41.61 308 *e*P **P** **15 30 33.0 -3.6**
SHLS Shalkode 41.61 308 *e*P **P** **15 30 33.0 -3.6**
baz=308
PDGK Podgornoye 41.63 308 P **P** **15 30 36.2 -0.5**
ZAA0 Zalesovo Array 41.84 325 P **P** **15 30 35.7 -2.4**
ZALV Zalesovo Beam 41.84 325 P **P** **15 30 36.9 -1.3**
comp=Z,4.4nm,0.4s,baz=108,slow=8.3,SNR=19
comp=Z,4.4nm,0.4s
ZALV Zalesovo Beam 41.84 325 P **P** **15 30 36.4 -1.8**
UZB Uzynbulak 41.93 308 *e*P **P** **15 30 38.2 -1.0**
UZB Uzynbulak 41.93 308 *e*P **P** **15 30 38.2 -1.0**
baz=308
SEY Seymchan 42.21 18 P **P** **15 30 40.0 -0.9**
comp=Z,5.7nm,0.9s,baz=222,slow=4.9,SNR=12
comp=Z,5.7nm,0.9s
SEY Seymchan 42.21 18⇓ *e*P **P** **15 30 41.6 +0.6**
SEY pmax pmax
comp=Z,4.0nm,0.8s
COEN Coen 42.27 154 P **P** **15 30 41.9 -0.1**
COEN IAmb IAmb 15 30 44.0
comp=Z,49nm,1.3s
FITZ Fitzroy Crossi 42.61 179 P **P** **15 30 43.8 -0.9**
comp=Z,11nm,0.9s,baz=4.5,slow=7.7,SNR=16
FITZ LR LR 15 48 54.1
comp=Z,48nm,21.4s,baz=359,slow=37
comp=Z,11nm,0.9s
FITZ Fitzroy Crossi 42.61 179 P **P** **15 30 44.1 -0.5**
FITZ Fitzroy Crossi 42.61 179 P **P** **15 30 44.3 -0.4**
TDK Taldyqorghan 42.73 310 *e*P **P** **15 30 45.3 -0.2**
TDK pmax pmax
comp=Z,24nm,1.1s
TDK Taldyqorghan 42.73 310 *e*P **P** **15 30 45.3 -0.2**
comp=Z,24nm,1.1s,baz=310
SEM Semipalatinsk 43.00 318 *e*P **P** **15 30 46.1 -1.8**
SEM Semipalatinsk 43.00 318 *e*P **P** **15 30 46.1 -1.8**
baz=318
MDOK Medeo 43.35 307 *e*P **P** **15 30 49.7 -1.0**
MDOK Medeo 43.35 307 *e*P **P** **15 30 49.8 -1.0**
baz=307
CHKK Chushkaly 43.51 308 *e*P **P** **15 30 51.1 -0.7**
CHKK Chushkaly 43.51 308 *e*P **P** **15 30 51.1 -0.7**
baz=308
KSH Kashi 43.73 302 P **P** **15 30 57.6 +3.8**
KSH pP sP 15 31 08.8 -2.4
KSH pmax pmax
comp=Z,11nm,0.9s
KSH LR LR
comp=Z,160nm,12.0s
KSH LR LR
comp=Z,220nm,12.7s
KSH LR LR
comp=Z,370nm,15.1s
KUU Kurty 43.98 308 *e*P **P** **15 30 54.7 -0.9**
KUU pmax pmax
comp=Z,13nm,0.9s
KUU Kurty 43.98 308 *e*P **P** **15 30 54.7 -0.9**
comp=Z,13nm,0.9s,baz=308
KURK Kurchatov 44.09 318 P **P** **15 30 55.1 -1.2**
KURK Kurchatov 44.09 318*c i*P **P** **15 30 55.9 -0.4**
KURK pmax pmax
comp=Z,19nm,1.3s
KURK Kurchatov 44.09 318 P **P** **15 30 54.5 -1.8**
KURK pP **pP** **15 31 06.9 -1.6**
KURBB Kurchatov Arra 44.11 318 P **P** **15 30 55.0 -1.5**
comp=Z,2.3nm,0.4s,baz=107,slow=7.9,SNR=23
KURBB PP **PP** **15 32 38.6 -1.1**
comp=Z,0.5nm,0.7s,baz=108,slow=8.9,SNR=1.5
comp=Z,2.3nm,0.4s
TKM2 Tokmak 2 44.37 307 *i* P **P** **15 30 59.3 +0.3**
TKM2 pmax pmax
comp=Z,11nm,0.7s
CHMS Chumysh 45.00 307 *i* P **P** **15 31 04.1 +0.3**
CHMS pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 45.14 306 P **P** **15 31 04.2 -0.9**
comp=Z,1.6nm,0.4s,baz=86,slow=13,SNR=4.2
comp=Z,1.6nm,0.4s
AAK Ala-Archa 45.14 306*c i*P **P** **15 31 05.9 +0.8**
AAK pmax pmax
comp=Z,6.0nm,1.2s
SGDS Sogindy 45.14 307 *e*P **P** **15 31 04.3 -0.6**
SGDS Sogindy 45.14 307 *e*P **P** **15 31 04.4 -0.6**
baz=307
WB0 Warramunga Arr 45.15 168 P **P** **15 31 05.0 -0.1**
WB0 IAmb IAmb 15 31 06.5
comp=Z,37nm,1.0s
WRAB Tennant Creek 45.30 168 P **P** **15 31 06.0 -0.3**
WRAB IAmb IAmb 15 31 07.7
comp=Z,36nm,1.0s
WRAB Tennant Creek 45.30 168*c i*P **P** **15 31 06.7 +0.4**
WRAB *i* *PP **pP** **15 31 17.1 -1.3**
WRAB *i* *SP **sP** **15 31 23.1 -0.4**
WRAB pmax pmax
comp=Z,43nm,1.1s
WRAB Tennant Creek 45.30 168 P **P** **15 31 06.9 +0.6**
WRAB Tennant Creek 45.30 168 P **P** **15 31 05.9 -0.4**
WRAB pP **pP** **15 31 17.3 -1.1**
WRA Warramunga Arr 45.31 168 P **P** **15 31 06.5 +0.1**
comp=Z,23nm,0.8s,baz=348,slow=8.7,SNR=90
WRA LR LR 15 48 51.7
comp=Z,148nm,20.5s,baz=20,slow=34
comp=Z,23nm,0.8s
WRA Warramunga Arr 45.31 168 P **P** **15 31 05.3 -1.1**
WRA Warramunga Arr 45.31 168 P **P** **15 31 05.3 -1.1**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WB2 Warramunga Arr 45.31 168 P **P** **15 31 06.1 -0.2**
WB2 IAmb IAmb 15 31 07.8
comp=Z,38nm,0.9s
WR0 Warramunga Arr 45.37 168 P **P** **15 31 06.9 +0.1**
WR0 IAmb IAmb 15 31 08.3
comp=Z,38nm,1.1s
BTLS Baital 45.78 310 *e*P **P** **15 31 08.9 -0.9**
BTLS Baital 45.78 310 *e*P **P** **15 31 09.0 -0.9**
baz=310
NIL Nilore 45.86 294 P **P** **15 31 10.3 -0.4**
NIL IAmb IAmb 15 31 13.6
comp=Z,30nm,1.1s
NIL Nilore 45.86 294 P **P** **15 31 10.3 -0.4**
NIL pmax pmax
comp=Z,30nm,1.1s
NIL Nilore 45.86 294 P **P** **15 31 10.4 -0.3**
MBWA Marble Bar 45.97 187 P **P** **15 31 11.3 -0.2**
PALK Pallekele 45.98 255 LR LR 15 50 26.5
comp=Z,64nm,21.1s,baz=165,slow=36
PALK Pallekele 45.98 255 P **P** **15 31 11.6 -0.3**
PALK Pallekele 45.98 255 P **P** **15 31 11.6 -0.3**
PALK pmax pmax
comp=Z,79nm,1.6s
PSA00 Pilbara Seismi 46.37 187 P **P** **15 31 14.0 -0.6**
PSA00 Pilbara Seismi 46.37 187 P **P** **15 31 13.2 -1.4**
PSA00 IAmb IAmb 15 31 15.3
comp=Z,26nm,1.1s
PSA00 Pilbara Seismi 46.37 187 P **P** **15 31 14.7 +0.1**
MTSU Mount Surprise 46.51 155 P **P** **15 31 17.4 +1.6**
TIXI Tiksi 46.95 2 P **P** **15 31 18.2 -0.5**
comp=Z,1.5nm,0.3s,baz=276,slow=9.2,SNR=1.7
comp=Z,1.5nm,0.3s
QIS Mount Isa 47.16 162 P **P** **15 31 21.8 +0.9**
DZA Taraz 47.48 306 *e*P **P** **15 31 22.6 -0.7**
DZA Taraz 47.48 306 *e*P **P** **15 31 22.7 -0.7**
baz=306
BRZS Berezniki 47.57 316 *e*P **P** **15 31 22.4 -1.4**
BRZS Berezniki 47.57 316 *e*P **P** **15 31 22.4 -1.4**
baz=316
BTK Batken 47.72 302 P **P** **15 31 24.8 -0.5**
BTK IAmb IAmb 15 31 32.0
comp=Z,9.5nm,0.4s
BTK Batken 47.72 302 P **P** **15 31 24.8 -0.5**
BTK pmax pmax
comp=Z,10.0nm,0.4s
GAR Garm 48.10 301 P **P** **15 31 27.3 -0.9**
GAR IAmb IAmb 15 31 31.5
comp=Z,31nm,1.0s
KK31 Karatay Array 48.10 307 P **P** **15 31 27.7 -0.4**
KK31 Karatay Array 48.10 307 P **P** **15 31 27.7 -0.4**
KK31 pmax pmax
comp=Z,17nm,1.7s
KKAR Karatay Array 48.10 307 P **P** **15 31 27.8 -0.3**
KKAR Karatay Array 48.10 307 P **P** **15 31 27.8 -0.3**
IUG luzhnay 48.40 305 *e*P **P** **15 31 29.8 -0.6**
IUG luzhnay 48.40 305 *e*P **P** **15 31 29.9 -0.6**
baz=305
AMKA Amchitka 48.75 42 P **P** **15 31 33.0 +0.2**
AS31 Alice Springs 48.87 169 P **P** **15 31 34.5 +0.4**
ASAR Alice Springs 48.87 169 P **P** **15 31 34.5 +0.4**
comp=Z,7.6nm,0.5s,baz=357,slow=7.5,SNR=222
ASAR PcP **PcP** **15 32 58.6 +0.5**
comp=Z,1.9nm,0.9s,baz=1.6,slow=5.2,SNR=4.7
ASAR LR LR 15 51 38.8
comp=Z,114nm,21.0s,baz=299,slow=35
comp=Z,7.6nm,0.5s
ASAR Alice Springs 48.87 169 P **P** **15 31 34.2 +0.2**
CHGR Chuyangaron 49.00 301 P **P** **15 31 35.2 +0.1**
CHGR IAmb IAmb 15 31 38.2
comp=Z,26nm,0.8s
CHGR Chuyangaron 49.00 301 P **P** **15 31 35.3 +0.1**
CHGR pmax pmax
comp=Z,26nm,0.8s
CTA Charters Tower 49.04 154 P **P** **15 31 36.2 +0.8**
comp=Z,5.5nm,0.9s,baz=350,slow=9.2,SNR=2.2
CTA LR LR 15 51 44.3
comp=Z,248nm,20.3s,baz=322,slow=35
comp=Z,5.5nm,0.9s
KBL Kabul 49.28 295 P **P** **15 31 37.0 -0.5**
KBL IAmb IAmb 15 31 40.2
comp=Z,37nm,1.3s
KBL Kabul 49.28 295 P **P** **15 31 37.0 -0.5**
KBL pmax pmax
comp=Z,37nm,1.3s
WRKA Warakurna 49.60 176 P **P** **15 31 40.7 +1.1**
BVAR Borovoye Array 49.62 320 P **P** **15 31 38.9 -0.6**
comp=Z,1.3nm,0.4s,baz=108,slow=9.9,SNR=15
BVAR PcP **PcP** **15 33 00.6 +0.2**
comp=Z,2.0nm,0.8s,baz=151,slow=3.4,SNR=5.3
comp=Z,1.3nm,0.4s
BRVK Borovoye 49.69 320 P **P** **15 31 39.3 -0.7**
BRVK Borovoye 49.69 320*c i*P **P** **15 31 39.9 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 49.69 320 P **P** **15 31 39.7 -0.3**
BRVK pP **pP** **15 31 50.0 -2.4**
BRVK sP **sP** **15 31 54.3 -3.3**
NRIK Noril'sk 49.85 343 P **P** **15 31 39.8 -1.2**
comp=Z,10.0nm,0.9s,baz=130,slow=5.8,SNR=14
comp=Z,10.0nm,0.9s
NRIK Noril'sk 49.85 343 P **P** **15 31 39.9 -1.2**
NRIK IAmb IAmb 15 31 41.4
comp=Z,16nm,1.1s
NRIK Noril'sk 49.85 343*c i*P **P** **15 31 40.0 -1.0**
BILL Bilibino 49.90 19 P **P** **15 31 41.2 -0.2**
BILL IAmb IAmb 15 31 42.4
comp=Z,16nm,1.2s
BILL Bilibino 49.90 19⇑ *e*P **P** **15 31 41.5 +0.1**
BILL *e* 15 33 38.7
BILL *e*S **S** **15 38 49.3 +1.2**
BILL pmax pmax
comp=Z,21nm,1.5s
BILL MLR MLR
comp=Z,116nm,21.0s
KIWB Kanaga Island 51.01 42 P **P** **15 31 50.6 +0.5**
ADK Adak 51.30 42 P **P** **15 31 52.9 +0.7**
ADK Adak 51.30 42 P **P** **15 31 52.9 +0.7**
ADK pmax pmax
comp=Z,77nm,1.9s
GSTR Great Sitkin T 51.72 42 P **P** **15 31 56.0 +0.6**
OOD Oodnadatta 53.22 168 P **P** **15 32 07.6 +1.0**
QLP Quilpie 54.24 159 P **P** **15 32 14.7 +0.6**
MORW Morawa 54.26 190 P **P** **15 32 14.2 -0.1**
MORW IAmb IAmb 15 33 56.4
comp=Z,49nm,1.5s
FORT Forrest 55.30 177 P **P** **15 32 22.5 +0.8**
AB31 Akbulak array 55.71 314 *e*P **P** **15 32 24.6 0.0**
ABKAR Akbulak array 55.71 314 P **P** **15 32 24.6 0.0**
EIDS Eidsvold 55.75 152 P **P** **15 32 25.5 +0.4**
EIDS IAmb IAmb 15 32 46.2
comp=Z,42nm,1.7s
SPIA Saint Paul Isl 55.75 36 P **P** **15 32 25.0 +0.2**
baz=263
ARU Arti 56.90 322 P **P** **15 32 31.9 -1.1**
comp=Z,5.1nm,0.5s,baz=134,slow=3.0,SNR=8.2
comp=Z,5.1nm,0.5s
ARU Arti 56.90 322 P **P** **15 32 31.6 -1.3**
ARU IAmb IAmb 15 32 33.1
comp=Z,14nm,1.2s
ARU Arti 56.90 322*c i*P **P** **15 32 32.4 -0.5**
ARU 15 34 34.2
ARU S **S** **15 40 24.6 +1.2**
ARU SS **SS** **15 44 08.2 -3.6**
ARU pmax pmax
comp=Z,13nm,1.1s
ARU MLR MLR
comp=Z,354nm,23.0s
ARU Arti 56.90 322 P **P** **15 32 32.2 -0.8**
ARU pP **pP** **15 32 44.2 -1.2**
AKTO Aktyubinsk 56.97 315 P **P** **15 32 33.2 -0.4**
comp=Z,4.6nm,0.9s,baz=97,slow=6.0,SNR=8.6
comp=Z,4.6nm,0.9s
UNV Unalaska Valle 57.62 41 P **P** **15 32 37.9 -0.2**
baz=268
GEYT Alibeck 57.72 300 P **P** **15 32 39.2 +0.1**
comp=Z,14nm,0.6s,baz=153,slow=1.0,SNR=22
comp=Z,14nm,0.6s
GEYT Alibeck 57.72 300 P **P** **15 32 39.4 +0.3**
GEYT IAmb IAmb 15 32 43.6
comp=Z,34nm,1.1s
GYA0B ALIBECK ARRAY 57.72 300 P **P** **15 32 39.9 +0.8**
GYA0B IAmb IAmb 15 32 43.6
comp=Z,32nm,1.1s
NWAO Narrogin (SRO) 57.88 188 P **P** **15 32 40.4 +0.4**
comp=Z,23nm,0.8s,baz=249,slow=6.4,SNR=18
NWAO LR LR 15 58 59.0
comp=Z,42nm,19.2s,baz=274,slow=38
comp=Z,23nm,0.8s
NWAO Narrogin (SRO) 57.88 188 P **P** **15 32 40.4 +0.4**
BBOO Buckleboo 58.17 169 P **P** **15 32 42.3 +0.2**
BBOO IAmb IAmb 15 32 43.2
comp=Z,20nm,0.7s
STKA Stephens Creek 58.45 164 P **P** **15 32 44.6 +0.6**
comp=Z,15nm,0.7s,baz=341,slow=6.7,SNR=42
STKA LR LR 15 59 31.5
comp=Z,45nm,18.2s,baz=11,slow=38
comp=Z,15nm,0.7s
STKA Stephens Creek 58.45 164 P **P** **15 32 44.2 +0.2**
STKA Stephens Creek 58.45 164*c i*P **P** **15 32 44.3 +0.2**
KOUNC Koumac, New Ca 58.90 136 P **P** **15 32 48.5 +1.2**
ANM Nome 59.05 28 P **P** **15 32 47.9 0.0**
baz=263
WSAR Wadi Sarin 60.33 284 LR LR 16 02 25.3
comp=Z,49nm,18.6s,baz=90,slow=40
DZM Mont Dzumac 61.37 136 *e*LR LR 15 51 19.8
comp=Z,580nm,24.9s
DZM Mont Dzumac 61.37 136 LR LR 15 55 41.8
comp=Z,150nm,21.7s,baz=320,slow=32
KIRV Kirov 61.88 325 P **P** **15 33 07.2 0.0**
comp=Z,6.4nm,0.5s,baz=21,slow=6.9,SNR=6.0
KIRV LR LR 16 02 27.5
comp=Z,388nm,18.2s,baz=86,slow=38
comp=Z,6.4nm,0.5s
N16K Nishlik Lake 61.89 33 P **P** **15 33 07.3 0.0**
baz=271
CHGN Chignik 62.24 38 P **P** **15 33 09.0 -0.6**
CHGN Chignik 62.24 38 P **P** **15 33 10.7 +1.1**
baz=274
P16K Nushagak River 62.32 35 P **P** **15 33 11.2 +1.0**
baz=272
O17K Koliganek Bris 62.75 34 P **P** **15 33 13.4 +0.4**
baz=273
P17K Kvichak River 63.11 34 P **P** **15 33 15.5 0.0**
baz=274
TTA Tatalina 63.14 30 P **P** **15 33 16.5 +0.8**
TTA IAmb IAmb 15 33 29.5
comp=Z,18nm,1.1s
TTA Tatalina 63.14 30 P **P** **15 33 16.5 +0.8**
TTA pmax pmax
comp=Z,18nm,1.1s
TTA Tatalina 63.14 30 P **P** **15 33 16.1 +0.4**
baz=272
R17K Ugashik Creek 63.25 36 P **P** **15 33 17.2 +0.7**
baz=274
N18K Kilae Creek 63.30 33 P **P** **15 33 17.3 +0.5**
baz=273
BELG Belogornoye 63.36 318 P **P** **15 33 16.8 -0.4**
comp=Z,8.4nm,0.4s,baz=79,slow=5.2,SNR=5.0
comp=Z,8.4nm,0.4s
BELG Belogornoye 63.36 318⇑ *i*P **P** **15 33 16.3 -0.9**
BELG pmax pmax
comp=Z,4.0nm,0.9s
SVW2 Sparrevohn 63.43 32 P **P** **15 33 18.2 +0.6**
SVW2 IAmb IAmb 15 33 32.5
comp=Z,10nm,0.8s
PRGR Permogore 63.63 328 *e*P **P** **15 33 16.8 -2.1**
O18K Koktuh Hills 63.69 34 P **P** **15 33 20.6 +1.2**
O18K IAmb IAmb 15 33 33.7
comp=Z,24nm,1.1s
O18K Koktuh Hills 63.69 34 P **P** **15 33 20.1 +0.8**
baz=274
L19K White Mountain 63.71 31 P **P** **15 33 20.1 +0.7**
L19K IAmb IAmb 15 33 33.7
comp=Z,28nm,1.2s
L19K White Mountain 63.71 31 P **P** **15 33 20.0 +0.5**
baz=274
CHIR Chirikof Islan 63.84 38 P **P** **15 33 20.9 +0.6**
baz=276
CAN Canberra 63.85 158 P **P** **15 33 21.8 +1.2**
CAN Canberra 63.85 158 P **P** **15 33 21.8 +1.2**
CAN pmax pmax
comp=Z,74nm,1.9s
J20K Nowinta River 63.91 29 P **P** **15 33 21.7 +1.0**
J20K Nowinta River 63.91 29 P **P** **15 33 21.4 +0.7**
baz=273,SNR=12
M19K Big River Lodg 63.94 31 P **P** **15 33 22.0 +1.0**
M19K IAmb IAmb 15 33 35.5
comp=Z,25nm,1.4s
M19K Big River Lodg 63.94 31 P **P** **15 33 21.2 +0.2**
baz=274
N19K Bonanza Creek 63.98 33 P **P** **15 33 21.9 +0.6**
baz=274
IMAR Indian Mountai 63.99 27 P **P** **15 33 22.0 +0.8**
K20K Telida 63.99 30 P **P** **15 33 22.4 +1.2**
K20K Telida 63.99 30 P **P** **15 33 21.0 -0.2**
baz=274,SNR=9.4
F21K Alatna River 64.05 25 P **P** **15 33 21.8 +0.2**
baz=272,SNR=6.3
G21K Allakaket 64.07 26 P **P** **15 33 21.7 0.0**
baz=273,SNR=14
O19K Port Alsworth 64.11 33 P **P** **15 33 22.3 +0.3**
baz=275
L20K Farewell, AK 64.14 31 P **P** **15 33 21.5 -0.7**
baz=274
H21K Melozitna Rive 64.40 27 P **P** **15 33 23.2 -0.7**
baz=274,SNR=20
F22K John River 64.54 25 P **P** **15 33 24.2 -0.6**
baz=273,SNR=27
M20K Styx River 64.54 31 P **P** **15 33 25.8 +0.9**
M20K IAmb IAmb 15 33 39.4
comp=Z,24nm,1.4s
M20K Styx River 64.54 31 P **P** **15 33 24.8 -0.1**
baz=275
Q19K Cape Douglas, 64.58 35 P **P** **15 33 24.3 -0.9**
baz=276
CHUM Lake Minchumin 64.74 29 P **P** **15 33 25.9 -0.2**
baz=275
I21K Tanana 64.78 28 P **P** **15 33 27.7 +1.4**

I21K	**Tanana**	64.78	28	P		P		15 33 26.8	+0.5	
	baz=275,SNR=10.0									
G22K	**Bettles**	64.83	26	P		P		15 33 26.8	+0.2	
	baz=274									
TOO	**Toolangi**	64.86	162	P		P		15 33 28.2	+1.0	
TOO				IAmb		IAmb		15 34 19.0		
	comp=Z,61nm,2.0s									
TOO	**Toolangi**	64.86	162	P		P		15 33 28.2	+1.0	
TOO				pmax		pmax				
	comp=Z,61nm,2.0s									
CAST	**Castle Rocks**	64.88	30	P		P		15 33 28.1	+1.0	
CAST				IAmb		IAmb		15 33 41.2		
	comp=Z,22nm,1.0s									
CAST	**Castle Rocks**	64.88	30	P		P		15 33 28.4	+1.3	
	baz=275,SNR=6.9									
PPLA	**Purkeypile**	64.88	30	P		P		15 33 27.2	-0.1	
	baz=276									
OHAK	**Old Harbor**	64.96	36	P		P		15 33 28.6	+0.9	
C23K	**Itkillik River**	64.97	22	P		P		15 33 28.7	+1.2	
	baz=274,SNR=8.1									
H22K	**Ishtalitna Cre**	64.97	27	P		P		15 33 28.2	+0.7	
	baz=275									
D23K	**Nanushuk River**	65.00	23	P		P		15 33 29.1	+1.4	
	baz=274,SNR=18									
N20K	**Mount Spurr**	65.05	32	P		P		15 33 29.0	+0.7	
	baz=276									
SPCR	**Spurr Chakacha**	65.05	32	P		P		15 33 28.4	+0.2	
	baz=276									
KDAK	**Kodiak Island**	65.27	36	LR		LR		16 03 14.2		
	comp=Z,35nm,19.2s,baz=279,slow=37									
KDAK	**Kodiak Island**	65.27	36	P		P		15 33 30.4	+0.8	
	baz=278									
SKT	**Skwentna**	65.28	31	P		P		15 33 30.2	+0.5	
SKT				IAmb		IAmb		15 33 42.7		
	comp=Z,14nm,1.2s									
SKT	**Skwentna**	65.28	31	P		P		15 33 30.2	+0.5	
	baz=276									
BPAW	**Bear Paw Mtn.**	65.30	29	P		P		15 33 31.1	+1.3	
BPAW	**Bear Paw Mtn.**	65.30	29	P		P		15 33 30.4	+0.6	
	baz=276									
MLY	**Manley**	65.31	28	P		P		15 33 30.1	+0.2	
MLY				IAmb		IAmb		15 33 44.1		
	comp=Z,33nm,1.2s									
MLY	**Manley**	65.31	28	P		P		15 33 30.4	+0.5	
	baz=276,SNR=14									
COLD	**Coldfoot**	65.32	25	P		P		15 33 30.7	+0.9	
	baz=275,SNR=6.6									
TOLK	**Toolik Lake Re**	65.43	24	P		P		15 33 31.5	+0.9	
TOLK	**Toolik Lake Re**	65.43	24	P		P		15 33 31.5	+0.9	
	baz=275,SNR=9.7									
G23K	**Bananza Creek**	65.44	26	P		P		15 33 31.5	+0.9	
	baz=276,SNR=10									
C24K	**Franklin Bluff**	65.64	22	P		P		15 33 32.4	+0.6	
	baz=276,SNR=7.3									
D24K	**Happy Valley**	65.65	23	P		P		15 33 32.6	+0.6	
	baz=276									
TRF	**Thorofare Moun**	65.68	29	P		P		15 33 33.4	+1.0	
TRF				IAmb		IAmb		15 34 03.6		
	comp=Z,22nm,1.6s									
TRF	**Thorofare Moun**	65.68	29	P		P		15 33 32.1	-0.3	
	baz=277									
SUA	**Susitna One**	65.72	32	P		P		15 33 33.3	+0.6	
SUA				IAmb		IAmb		15 33 47.8		
	comp=Z,22nm,0.8s									
SUA	**Susitna One**	65.72	32	P		P		15 33 32.4	-0.2	
	baz=277									
H23K	**Yukon River**	65.72	27	P		P		15 33 34.2	+1.7	
H23K	**Yukon River**	65.72	27	P		P		15 33 33.0	+0.5	
	baz=276,SNR=29									
CUT	**Chulitna**	65.82	31	P		P		15 33 33.9	+0.8	
	baz=277									
E24K	**Your Creek**	65.89	24	P		P		15 33 34.0	+0.5	
	baz=276,SNR=21									
BRSE	**Bradley Lake S**	65.95	33	P		P		15 33 35.1	+1.0	
	baz=278									
M22K	**Willow**	65.97	31	P		P		15 33 34.8	+0.7	
M22K				IAmb		IAmb		15 33 38.6		
	comp=Z,31nm,1.1s									
M22K	**Willow**	65.97	31	P		P		15 33 34.2	+0.1	
	baz=278									
NEA2	**Nenana**	66.07	28	P		P		15 33 35.8	+1.1	
NEA2				IAmb		IAmb		15 33 48.5		
	comp=Z,22nm,0.9s									
NEA2	**Nenana**	66.07	28	P		P		15 33 35.5	+0.7	
	baz=278,SNR=17									
F24K	**Squaw Lake**	66.18	25	P		P		15 33 36.3	+0.9	
	baz=277,SNR=25									
MCK	**McKinley**	66.25	29	P		P		15 33 36.6	+0.7	
MCK				IAmb		IAmb		15 33 49.2		
	comp=Z,38nm,1.3s									
MCK	**McKinley**	66.25	29	P		P		15 33 36.6	+0.7	
MCK				pmax		pmax				
	comp=Z,38nm,1.3s									
MCK	**McKinley**	66.25	29	P		P		15 33 36.5	+0.6	
	baz=278									
RND	**Reindeer**	66.33	29	P		P		15 33 36.5	+0.1	
RND				IAmb		IAmb		15 33 49.5		
	comp=Z,26nm,1.0s									
RND	**Reindeer**	66.33	29	P		P		15 33 36.5	+0.1	
RND				pmax		pmax				
	comp=Z,26nm,1.0s									
MDM	**Murphy Dome**	66.38	28	P		P		15 33 37.7	+1.0	
H24K	**Noodor Dome**	66.40	27	P		P		15 33 37.9	+1.0	
	baz=278,SNR=10									
G24K	**Hadweenzic Riv**	66.45	26	P		P		15 33 38.4	+1.3	
	baz=278,SNR=13									
D25K	**Kavik River**	66.50	23	P		P		15 33 38.4	+0.9	
	baz=278,SNR=9.3									
GHO	**Glory Hole Cre**	66.53	31	P		P		15 33 37.9	+0.1	
GHO				IAmb		IAmb		15 33 50.3		
	comp=Z,36nm,1.6s									
SEW	**Seward**	66.54	33	P		P		15 33 38.0	+0.2	
SEW				IAmb		IAmb		15 33 53.6		
	comp=Z,30nm,1.2s									
SEW	**Seward**	66.54	33	P		P		15 33 38.3	+0.6	
	baz=279									
WAT1	**Susitna Watana**	66.55	30	P		P		15 33 38.2	+0.3	
	baz=279									
MSVF	**Nonsavu**	66.55	124	P		P		15 33 39.5	+1.0	
	comp=Z,13nm,0.9s,baz=315,slow=4.3,SNR=4.6									
MSVF				LR		LR		15 58 00.2		
	comp=Z,64nm,21.4s,baz=27,slow=32									
	comp=Z,13nm,0.9s									
COLA	**College**	66.55	28	*i* P		P		15 33 39.6	+1.9	
COLA				pmax		pmax				
	comp=Z,6.0nm,0.9s									
CCB	**Clear Creek Bu**	66.60	28	P		P		15 33 39.3	+1.2	
KLMR	**Klimovskoe**	66.66	328	*e*P		P		15 33 37.3	-1.2	
KLMR				pmax		pmax				
	comp=Z,26nm,1.3s									
KLMR	**Klimovskoe**	66.66	328	*e*P		P		15 33 37.4	-1.1	
KLMR				AMP				15 33 39.4		
	comp=Z,26nm,1.3s									
POKR	**Poker Plat Res**	66.69	27	P		P		15 33 40.1	+1.4	
POKR				IAmb		IAmb		15 33 53.6		
	comp=Z,26nm,1.1s									
POKR	**Poker Plat Res**	66.69	27	P		P		15 33 39.1	+0.4	
	baz=279,SNR=10									
SML	**Sawmill**	66.81	31	P		P		15 33 40.7	+1.1	
SML				IAmb		IAmb		15 33 52.8		
	comp=Z,21nm,1.2s									
SML	**Sawmill**	66.81	31	P		P		15 33 40.1	+0.6	
	baz=279									
KNK	**Knik Glacier**	66.81	31	P		P		15 33 39.8	+0.3	
	baz=279									
WAT6	**Susitna Watana**	66.96	30	P		P		15 33 40.6	0.0	
	baz=280									
PWL	**Port Wells**	66.96	32	P		P		15 33 39.6	-0.9	
PWL				IAmb		IAmb		15 33 54.1		
	comp=Z,25nm,1.1s									
PWL	**Port Wells**	66.96	32	P		P		15 33 40.8	+0.3	
	baz=280									
E25K	**Arctic Village**	66.97	24	P		P		15 33 40.9	+0.5	
	baz=279									
IL31		66.97	28	P		P		15 33 41.0	+0.6	
ILAR	**Eielson Array**	66.97	28	P		P		15 33 40.8	+0.3	
	comp=Z,1.6nm,0.7s,baz=304,slow=9.8,SNR=23									
	comp=Z,1.6nm,0.7s									
ILAR	**Eielson Array**	66.97	28	P		P		15 33 40.5	0.0	
HDA	**Harding Lake**	67.01	28	P		P		15 33 40.9	+0.2	
HDA				IAmb		IAmb		15 33 53.3		
	comp=Z,27nm,1.3s									
HDA	**Harding Lake**	67.01	28	P		P		15 33 41.5	+0.8	
	baz=279,SNR=6.4									
F25K	**Christian Rive**	67.02	25	P		P		15 33 41.6	+0.8	
	baz=279,SNR=24									
DHY	**Denali Highway**	67.04	30	P		P		15 33 41.9	+0.8	
	baz=280									
M23K	**Glacier View**	67.09	31	P		P		15 33 42.1	+0.7	
	baz=280									
VRH	**Novokhopyorsk**	67.16	317	*e*P		P		15 33 39.8	-2.1	
VRH				pmax		pmax				
	comp=Z,10.0nm,1.0s									
H25K	**Birch Creek**	67.17	26	P		P		15 33 42.8	+1.2	
	baz=280,SNR=8.2									
SCM	**Sheep Creek Mo**	67.27	31	P		P		15 33 42.3	-0.2	
SCM				IAmb		IAmb		15 33 56.7		
	comp=Z,25nm,0.9s									
SCM	**Sheep Creek Mo**	67.27	31	P		P		15 33 42.3	-0.2	
SCM				pmax		pmax				
	comp=Z,25nm,0.9s									
SCM	**Sheep Creek Mo**	67.27	31	P		P		15 33 43.3	+0.7	
	baz=280									
C27K	**Jago River**	67.38	22	P		P		15 33 43.2	+0.3	
	baz=280,SNR=6.7									
PRP	**Porcupine Dome**	67.42	27	P		P		15 33 41.9	-1.5	
PRP	**Porcupine Dome**	67.42	27	P		P		15 33 44.1	+0.6	
	baz=280									
BMAR	**Burnt Mountain**	67.45	25	P		P		15 33 45.2	+1.7	
ZEI	**Tsey**	67.52	308	*e*P		P		15 33 43.5	-1.1	
ZEI				pmax		pmax				
	comp=Z,21nm,1.4s									
F26K	**Sheenjek River**	67.57	24	P		P		15 33 45.4	+1.1	
	baz=280,SNR=15									
P23K	**Montague Islan**	67.57	33	P		P		15 33 44.9	+0.6	
	baz=281									
K24K	**Donnelly Dome**	67.62	29	P		P		15 33 45.7	+1.1	
	baz=281,SNR=5.9									
J25K	**Salcha River,**	67.64	28	P		P		15 33 44.7	-0.1	
J25K	**Salcha River,**	67.64	28	P		P		15 33 45.6	+0.8	
	baz=281,SNR=6.1									
M24K	**Tolsona, Glenn**	67.76	31	P		P		15 33 46.7	+1.2	
M24K				IAmb		IAmb		15 34 00.3		
	comp=Z,17nm,0.7s									
M24K	**Tolsona, Glenn**	67.76	31	P		P		15 33 45.8	+0.2	
	baz=281									
G26K	**Porcupine Rive**	67.84	25	P		P		15 33 47.4	+1.5	
	baz=281,SNR=6.8									
PAX	**Paxson**	67.91	30	P		P		15 33 46.8	+0.2	
PAX	**Paxson**	67.91	30	P		P		15 33 46.8	+0.2	
PAX				pmax		pmax				
	comp=Z,12nm,1.2s									
PAX	**Paxson**	67.91	30	P		P		15 33 47.1	+0.6	
	baz=281									
HIN	**Hinchinbrook I**	67.94	32	P		P		15 33 47.0	+0.4	
HIN				IAmb		IAmb		15 35 58.1		
	comp=Z,36nm,1.2s									
KLU	**Klutina**	68.00	31	P		P		15 33 47.4	+0.3	
KLU	**Klutina**	68.00	31	P		P		15 33 47.3	+0.2	
	baz=282									
KBZ	**Khabaz**	68.01	309	P		P		15 33 47.3	-0.1	
	comp=Z,14nm,1.0s,baz=120,slow=3.5,SNR=24									
	comp=Z,14nm,1.0s									
KBZ	**Khabaz**	68.01	309	⇓ *i* P		P		15 33 47.9	+0.5	
KBZ				pmax		pmax				
	comp=Z,23nm,1.0s									
RIDG	**Independent Ri**	68.04	29	P		P		15 33 47.9	+0.6	
	baz=282									
KEKH	**Kekaha**	68.08	75	P		P		15 33 47.5	-0.7	
KVAR	**Kislovodsk Arr**	68.10	309	P		P		15 33 47.9	-0.2	
	comp=Z,10nm,1.0s,baz=11,slow=10,SNR=3.9									
	comp=Z,10nm,1.0s									
KIV	**Kislovodsk**	68.11	309	⇑ P		P		15 33 49.2	+1.1	
KIV	**Kislovodsk**	68.11	309	P		P		15 33 48.1	0.0	
KIV	**Kislovodsk**	68.11	309	*d* *i* P		P		15 33 48.7	+0.6	
KIV				*e*				15 36 18.3		
KIV				*e*	PPP	PPP		15 37 53.8		
KIV				*e*	S	S		15 42 33.8	-11	
KIV				pmax		pmax				
	comp=Z,48nm,1.1s									
KIV				MLR		MLR				
	comp=Z,107nm,22.0s									
HARP	**HAARP**	68.17	30	P		P		15 33 49.1	+1.0	
	baz=282									
SHA1	**Shidzhatmaz**	68.18	309	*d* *i* P		P		15 33 48.8	+0.1	
EYAK	**Cordova Ski Ar**	68.27	32	P		P		15 33 48.7	0.0	
	baz=282									
SCRK	**Sand Creek**	68.36	28	P		P		15 33 50.3	+0.9	
SCRK				IAmb		IAmb		15 34 02.7		
	comp=Z,56nm,1.9s									
SCRK	**Sand Creek**	68.36	28	P		P		15 33 49.9	+0.5	
	baz=282,SNR=9.0									
DOT	**Dot Lake**	68.40	29	P		P		15 33 50.2	+0.7	
DOT				IAmb		IAmb		15 33 54.1		
	comp=Z,10nm,0.9s									
E27K	**Coleen River**	68.41	24	P		P		15 33 50.3	+0.7	
	baz=283,SNR=9.5									
I26K	**Coal Creek Min**	68.43	27	P		P		15 33 50.5	+0.9	
	baz=282									
J26L	**Joseph Creek**	68.43	28	P		P		15 33 49.7	-0.1	
J26L	**Joseph Creek**	68.43	28	P		P		15 33 50.1	+0.3	
	baz=282,SNR=11									
LPSR	**Galich'ya Gora**	68.56	319	*e*P		P		15 33 49.2	-1.4	
LPSR				pmax		pmax				
	comp=Z,10.0nm,1.0s									
N25K	**Chitina, Valde**	68.59	31	P		P		15 33 51.7	+0.9	
N25K	**Chitina, Valde**	68.59	31	P		P		15 33 51.7	+0.9	
	baz=282									
VORR	**Voronezh**	68.60	318	*e*P		P		15 33 52.0	+1.1	
VORR				pmax		pmax				
	comp=Z,160nm,0.5s									
G27K	**Doyon Strip**	68.70	25	P		P		15 33 52.3	+1.0	
	baz=283,SNR=8.2									
MENT	**Mentasta**	68.70	29	P		P		15 33 52.4	+1.0	
MENT				IAmb		IAmb		15 34 22.2		
	comp=Z,10nm,0.8s									
BMRM	**Bremner River**	68.73	32	P		P		15 33 52.6	+0.9	
	baz=283									
VSR	**Storozhevoye**	68.73	318	*e*P		P		15 33 48.7	-3.0	
VSR				pmax		pmax				
	comp=Z,10.0nm,1.0s									
RAGM	**Ragged Mountai**	68.82	32	P		P		15 33 53.2	+0.9	
RAGM				IAmb		IAmb		15 34 06.3		
	comp=Z,23nm,1.2s									
L26K	**Log Cabin Wild**	68.85	29	P		P		15 33 53.7	+1.3	
	baz=283									
H27K	**Steamboat Moun**	68.88	26	P		P		15 33 53.4	+0.9	
	baz=283,SNR=9.8									
I27K	**Kandik River**	68.99	26	P		P		15 33 54.4	+1.2	
	baz=284,SNR=20									
GLB	**Gilahina Butte**	69.00	31	P		P		15 33 53.9	+0.6	
GLB				IAmb		IAmb		15 34 07.0		
	comp=Z,27nm,1.6s									
M26K	**Nabesna, AK**	69.15	30	P		P		15 33 55.2	+0.9	
M26K				IAmb		IAmb		15 34 08.1		
	comp=Z,32nm,1.4s									
M26K	**Nabesna, AK**	69.15	30	P		P		15 33 55.5	+1.2	
	baz=284									
K27K	**Chicken**	69.17	28	P		P		15 33 55.2	+0.9	
	baz=284									
OBN	**Obninsk**	69.34	322	P		P		15 33 55.3	-0.1	
	comp=Z,3.7nm,0.3s,baz=103,slow=15,SNR=3.0									
	comp=Z,3.7nm,0.3s									
OBN	**Obninsk**	69.34	322	*c* *e* P		P		15 33 55.2	-0.2	
OBN				*e*				15 34 19.8		
OBN				*e*				15 36 30.8		
OBN				pmax		pmax				
	comp=Z,13nm,1.2s									
OBN				MLR		MLR				
	comp=Z,192nm,19.0s									
EGAK	**Eagle**	69.38	27	P		P		15 33 56.0	+0.5	
EGAK	**Eagle**	69.38	27	P		P		15 33 56.0	+0.5	
	baz=284,SNR=5.9									
MCARA	**McCarthy VSAT**	69.38	31	P		P		15 33 55.9	+0.3	
	baz=284									
L27K	**Beaver Creek,**	69.51	29	P		P		15 33 57.7	+1.3	
L27K	**Beaver Creek,**	69.51	29	P		P		15 33 57.1	+0.7	
	baz=284									
BCAR	**Beaver Creek A**	69.53	29	P		P		15 33 58.0	+1.4	
M27K	**Edge Creek, AK**	69.67	30	P		P		15 33 58.3	+0.8	
M27K				IAmb		IAmb		15 34 26.9		
	comp=Z,47nm,1.9s									
M27K	**Edge Creek, AK**	69.67	30	P		P		15 33 58.4	+0.8	
	baz=285									
SPB2	**Spitsbergen Ar**	69.70	348	P		P		15 33 58.2	+0.9	
SPITS	**Spitsbergen Ar**	69.70	348	P		P		15 33 57.0	-0.3	
	comp=Z,7.2nm,0.8s,baz=105,slow=6.1,SNR=1.9									
	comp=Z,7.2nm,0.8s									
KEV	**Kevo**	69.81	338	P		P		15 33 58.9	+0.8	
KEV	**Kevo**	69.81	338	P		P		15 33 58.9	+0.8	
KEV				pmax		pmax				
	comp=Z,152nm,1.9s									
VSLR	**Vesyoloye**	70.09	309	⇑ *i* P		P		15 33 59.0	-1.3	
	baz=280									
BVCY	**Beaver Creek**	70.11	30	P		P		15 34 00.7	+0.6	
	baz=285									
CTG	**Chitna Glacier**	70.27	31	P		P		15 34 01.7	+0.4	
	baz=286									
CTGM	**Chitina Glacie**	70.28	31	P		P		15 34 02.3	+1.0	
CTGM				IAmb		IAmb		15 34 06.8		
	comp=Z,12nm,0.9s									
SOC	**Sochi**	70.28	310	*e*P		P		15 33 58.9	-2.6	
SOC				*e*	*PPP	pP		15 34 10.2	-4.3	
SOC				*e*	PPP			15 38 17.9		
SOC				*e*	S	S		15 43 09.2	-1.0	
SOC				*e*	SSS	SSS		15 50 49.1		
SOC				pmax		pmax				
	comp=Z,33nm,1.3s									
SOC				MLR		MLR				
	comp=Z,131nm,20.0s									
DAWY	**Dawson**	70.30	28	P		P		15 34 01.6	+0.3	
DAWY	**Dawson**	70.30	28	P		P		15 34 02.0	+0.7	
	baz=286,SNR=5.7									
ARCES	**ARCESS Array B**	70.38	338	P		P		15 34 02.1	+0.5	
	comp=Z,1.6nm,0.7s,baz=53,slow=6.2,SNR=10									
	comp=Z,1.6nm,0.7s									
ARCES	**ARCESS Array B**	70.38	338	P		P		15 34 02.3	+0.7	
ARCES	**ARCESS Array B**	70.38	338	P		P		15 34 02.3	+0.7	
ARCES				pmax		pmax				
	comp=Z,77nm,2.0s									
I29M	**Ogilvie Camp,**	70.39	26	P		P		15 34 02.7	+0.9	
	baz=286,SNR=5.8									
YUK3	**Moose Creek**	70.46	30	P		P		15 34 03.0	+0.4	
	baz=286									
EPYK	**Eagle Plains**	70.72	25	P		P		15 34 04.1	+0.3	
EPYK				IAmb		IAmb		15 34 17.5		
	comp=Z,20nm,0.8s									
EPYK	**Eagle Plains**	70.72	25	P		P		15 34 04.7	+0.9	
	baz=288,SNR=7.9									
O28M	**Mount Upton**	70.87	31	P		P		15 34 04.5	-0.6	
	baz=286									
PINM	**Pinnacle**	71.03	32	P		P		15 34 06.0	+0.1	
	baz=287									
K29M	**Barlow Dome**	71.16	28	P		P		15 34 06.3	-0.3	
	baz=288									
M29M	**Somme Creek**	71.17	29	P		P		15 34 06.9	+0.2	
	baz=287									
INK	**Inuvik**	71.27	23	P		P		15 34 07.8	+0.9	
	comp=Z,12nm,0.8s,baz=298,slow=7.7,SNR=13									
	comp=Z,12nm,0.8s									
INK	**Inuvik**	71.27	23	P		P		15 34 07.6	+0.6	
INK				IAmb		IAmb		15 34 20.6		
	comp=Z,25nm,1.1s									
INK	**Inuvik**	71.27	23	P		P		15 34 07.6	+0.6	
INK				pmax		pmax				
	comp=Z,25nm,1.1s									
INK	**Inuvik**	71.27	23	P		P		15 34 07.2	+0.2	
	baz=290									
MARD	**Mardin**	71.28	303	P		P		15 34 07.9	+0.1	
MARD				IAmb		IAmb		15 34 09.4		
	comp=Z,22nm,0.8s									
YUK4	**Talbot Arm**	71.42	30	P		P		15 34 08.4	+0.1	
	baz=288									
YUK6	**Outpost Mounta**	71.67	31	P		P		15 34 09.7	-0.1	
	baz=288									
RAYN	**Ar Rayn**	71.73	288	P		P		15 34 10.8	+0.2	
RAYN	**Ar Rayn**	71.73	288	P		P		15 34 10.8	+0.2	
RAYN				pmax		pmax				
	comp=Z,7.0nm,1.1s									
M30M	**Minto, Yukon**	71.87	29	P		P		15 34 12.3	+1.5	
M30M				IAmb		IAmb		15 34 15.9		
	comp=Z,28nm,1.6s									
M30M	**Minto, Yukon**	71.87	29	P		P		15 34 11.4	+0.6	
	baz=289									
N30M	**Aishikik Lake**	72.10	30	P		P		15 34 12.3	+0.1	
	baz=289									
HYT	**Haines Junctio**	72.11	31	P		P		15 34 13.5	+1.1	
HYT	**Haines Junctio**	72.11	31	P		P		15 34 12.7	+0.3	
	baz=289									
P29M	**Windy Craggy**	72.38	32	P		P		15 34 14.5	+0.6	
	baz=289									
AFI	**Afiamalu**	72.43	115	LR		LR		15 59 34.5		
	comp=Z,77nm,19.8s,baz=339,slow=30									
MLOA	**Mauna Loa Obse**	72.55	76	P		P		15 34 16.2	+0.1	
N31M	**Braeburn, Yuko**	72.68	30	P		P		15 34 16.1	+0.5	
N31M				IAmb		IAmb		15 34 47.2		
	comp=Z,15nm,0.8s									
N31M	**Braeburn, Yuko**	72.68	30	P		P		15 34 16.5	+0.9	
	baz=290									
O30N	**Mendenhall**	72.78	31	P		P		15 34 16.7	+0.5	
	baz=290									
FIA1	**FINESS Array S**	72.81	330	P		P		15 34 16.1	-0.2	
FIA1				IAmb		IAmb		15 35 52.0		
	comp=Z,30nm,1.5s									
FINES	**FINESS Array B**	72.81	330	P		P		15 34 15.9	-0.3	
	comp=Z,4.9nm,0.6s,baz=60,slow=5.3,SNR=24									
	comp=Z,4.9nm,0.6s									
FINES	**FINESS Array B**	72.81	330	P		P		15 34 16.0	-0.3	
M31M	**Drury Creek, Y**	73.05	29	P		P		15 34 18.4	+0.6	
M31M	**Drury Creek, Y**	73.05	29	P		P		15 34 18.7	+0.9	
	baz=291									
PLBC	**Pleasant Camp**	73.10	32	P		P		15 34 19.4	+1.3	
	baz=290									
WHY	**Whitehorse**	73.38	30	P		P		15 34 20.9	+1.0	
WHY				IAmb		IAmb		15 34 34.5		
	comp=Z,30nm,1.4s									
WHY	**Whitehorse**	73.38	30	P		P		15 34 20.5	+0.6	
	baz=291									
FARO	**Faro, Yukon**	73.49

baz=69
AKASG **Malin Array Be** 74.89 319 P P 15 34 27.9 -0.8
comp=Z,2.2nm,0.3s,baz=56,slow=6.1,SNR=17
comp=Z,2.2nm,0.3s
AKASG **Malin Array Be** 74.89 319 P P 15 34 27.9 -0.8
AKASG **Malin Array Be** 74.89 319 *i*P P 15 34 28.2 -0.5
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 74.89 319 P P 15 34 27.9 -0.8
AKBB lAmb lAmb 15 34 30.6
comp=Z,20nm,1.4s
AKBB Malin Array Si 74.89 319⇑*i*P P 15 34 27.5 -1.2
AKBB pmax pmax
comp=Z,16nm,1.3s
R33M Jennings River 75.68 31 P P 15 34 33.7 +0.5
baz=294
BR131 Keskin Array S 75.81 307 P P 15 34 34.5 +0.1
BR131 lAmb lAmb 15 34 36.2
comp=Z,28nm,0.9s
BR131 Keskin Array S 75.81 307*c i*P P 15 34 34.7 +0.3
BRTR Keskin Array B 75.81 307 P P 15 34 34.4 -0.1
comp=Z,11nm,0.9s,baz=97,slow=5.1,SNR=54
comp=Z,11nm,0.9s
BRTR Keskin Array B 75.81 307 *i*P P 15 34 34.7 +0.3
BRTR pmax pmax
comp=Z,12nm,0.9s
TGTN Hyland Airport 75.98 28 P P 15 34 35.5 +0.6
baz=296
ANTO Ankara 76.36 308 ⇑P P 15 34 38.3 +0.8
ANTO Ankara 76.36 308 P P 15 34 37.5 0.0
ANTO lAmb lAmb 15 34 38.9
comp=Z,20nm,1.0s
ANTO Ankara 76.36 308 P P 15 34 37.5 0.0
ANTO pmax pmax
comp=Z,20nm,1.0s
DLBC Dease Lake 76.53 32 P P 15 34 38.6 +0.6
comp=Z,2.3nm,0.8s,baz=4.4,slow=11,SNR=3.8
DLBC LR LR 16 10 17.6
comp=Z,42nm,18.6s,baz=318,slow=37
comp=Z,2.3nm,0.8s
MDUB Mudurnu 77.29 309 P P 15 34 42.0 -0.7
RES Resolute Bay 77.46 10 P P 15 34 43.7 +0.8
comp=Z,15nm,0.8s,baz=295,slow=5.1,SNR=2.0
RES LR LR 16 12 07.3
comp=Z,57nm,19.3s,baz=316,slow=38
comp=Z,15nm,0.8s
RES Resolute Bay 77.46 10 P P 15 34 43.3 +0.4
RES Resolute Bay 77.46 10 P P 15 34 43.3 +0.4
RES pmax pmax
comp=Z,44nm,1.1s
TPGR Topolog 77.54 314 ⇑P P 15 34 43.5 -0.4
CFR Carcaliu 77.61 314 ⇑P P 15 34 44.3 +0.1
CFR Carcaliu 77.61 314 ⇑P P 15 34 44.3 +0.1
BORA Eskisehir 78.03 308 P P 15 34 45.6 -1.3
BORA lAmb lAmb 15 34 48.1
comp=Z,15nm,0.9s
TESR Tescani 78.04 316 ⇑P P 15 34 47.1 +0.4
BIZ Bicaz 78.22 316 ⇑P P 15 34 47.8 +0.2
VRI Vrincioaia 78.25 315 ⇑P P 15 34 49.0 +1.1
VRI Vrincioaia 78.25 315 ⇑P P 15 34 49.0 +1.1
PLOR Plostina 78.30 315 ⇑P P 15 34 50.0 +1.8
PLOR Plostina 78.30 315 ⇑P P 15 34 50.0 +1.8
EIL Elat 78.42 297 LR LR 16 14 17.7
comp=Z,53nm,20.3s,baz=88,slow=40
BUR08 Bucovina Ar. S 78.50 317 P P 15 34 49.3 0.0
BURAR Bucovina Array 78.50 317 ⇑P P 15 34 49.9 +0.6
BURAR Bucovina Array 78.50 317 P P 15 34 49.3 0.0
BURAR Bucovina Array 78.50 317 ⇑P P 15 34 49.9 +0.6
HFS Hagfors 78.85 332 P P 15 34 50.9 0.0
comp=Z,2.5nm,0.4s,baz=86,slow=6.1,SNR=18
HFS LR LR 16 13 57.2
comp=Z,223nm,18.1s,baz=41,slow=39
comp=Z,2.5nm,0.4s
MLR Muntele Rosu 78.90 315 ⇑P P 15 34 52.2 +0.6
MLR Muntele Rosu 78.90 315 P P 15 34 51.9 +0.3
comp=Z,2.8nm,0.6s,baz=97,slow=2.7,SNR=5.9
MLR LR LR 16 13 06.2
comp=Z,173nm,21.5s,baz=70,slow=38
comp=Z,2.8nm,0.6s
MLR Muntele Rosu 78.90 315 P P 15 34 51.4 -0.2
MLR Muntele Rosu 78.90 315 ⇑P P 15 34 52.2 +0.6
DOPR Dopca 79.06 316 ⇑P P 15 34 49.7 -2.7
KWP Kalwaria Pacla 79.17 320 *i*P P 15 34 53.7 +0.9
KWP Kalwaria Pacla 79.17 320 P P 15 34 52.5 -0.3
KWP Kalwaria Pacla 79.17 320 P P 15 34 52.5 -0.3
KWP pmax pmax
comp=Z,198nm,1.0s
NC405 NORSAR Array S 79.17 333 P P 15 34 52.4 -0.2
JMIC Jan Mayen 79.19 346 LR LR 16 13 56.8
comp=Z,97nm,19.2s,baz=68,slow=39
URZ Urewera 79.32 141 LR LR 16 05 11.3
comp=Z,103nm,22.0s,baz=324,slow=32
NNZ Nelson 79.37 145 P P 15 34 53.1 -0.7
NB201 NORSAR Array S 79.38 333 P P 15 34 53.6 -0.2
NB2 NORSAR Subarra 79.42 333 P P 15 34 53.9 -0.1
comp=Z,1.7nm,0.8s,baz=56,slow=5.6
NOA NORSAR Array B 79.42 333 P P 15 34 53.2 -0.8
comp=Z,3.0nm,0.8s,baz=58,slow=5.9,SNR=6.8
comp=Z,3.0nm,0.8s
BKZ Black Stump Fm 79.60 142 P P 15 34 54.4 -0.8
BKZ lAmb lAmb 15 36 33.5
comp=Z,53nm,1.6s
ARR Arges 79.79 315 ⇑P P 15 34 57.6 +1.2
RPZ Rata Peaks 80.05 148 LR LR 16 09 39.0
comp=Z,129nm,19.8s,baz=274,slow=35
CRVS Cervenica-Dubn 80.22 319 *e*P P 15 34 59.2 +0.7
CRVS pmax pmax
comp=Z,65nm,2.2s
CRVS Cervenica-Dubn 80.22 319 *e*P P 15 34 59.2 +0.7
KHZ Kahutara 80.32 146 P P 15 34 58.2 -0.7
OJC Ojcow 80.59 321 *e*L L 16 12 54.6
comp=Z,197nm,22.2s
OJC Ojcow 80.59 321 P P 15 35 00.3 -0.2
OJC lAmb lAmb 15 35 02.2
comp=Z,28nm,1.4s
OJC Ojcow 80.59 321 P P 15 35 00.3 -0.2
OJC pmax pmax
comp=Z,28nm,1.4s
OJC Ojcow 80.59 321 *e*P P 15 34 59.5 -1.0
YKA Yellowknife Ar 80.95 24 P P 15 35 03.4 +1.3
comp=Z,5.2nm,0.8s,baz=309,slow=4.9,SNR=8.1
comp=Z,5.2nm,0.8s
GZR Gura Zlata 80.97 316 ⇑P P 15 35 03.2 +0.5
GZR Gura Zlata 80.97 316 ⇑P P 15 35 03.2 +0.5
BLKB Belogradchik 81.81 314 ⇑P P 15 35 07.7 +0.6
VTS Vitosha 81.89 313 ⇑P P 15 35 08.6 +0.9
VTS Vitosha 81.89 313 ⇑P P 15 35 08.6 +0.9
MDVR Moldovita 81.91 316 ⇓P P 15 35 07.9 +0.2
VYHS Vyhne 81.95 320 *e*P P 15 35 08.7 +0.9
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 81.95 320 *e*P P 15 35 08.7 +0.9
MORC Moravsky Berou 82.08 321 ⇑P P 15 35 09.4 +0.9
MORC Moravsky Berou 82.08 321 *e*P P 15 35 08.7 +0.2
MORC Moravsky Berou 82.08 321 ⇑P P 15 35 09.4 +0.9
KSP Ksiaz 82.25 323 *e*P P 15 35 10.4 +1.1
KSP *e*L L 16 16 05.4
comp=Z,203nm,20.6s
KRLC Kraliky 82.36 322 *e*P P 15 35 10.7 +0.8
KRLC Kraliky 82.36 322 *e*P P 15 35 10.7 +0.8
BOVS Bovan 82.43 315 ⇑P P 15 35 09.5 -0.9
JAVC Velka Javorina 82.45 321 *e*P P 15 35 11.8 +1.3
DPC Dobruska-Polom 82.48 322 *e*P P 15 35 13.0 +2.4
DPC Dobruska-Polom 82.48 322 *e*P P 15 35 13.0 +2.4
VRAC Vranov 82.85 321 ⇑P P 15 35 12.7 +0.2
VRAC Vranov 82.85 321 P P 15 35 12.5 +0.1
comp=Z,3.6nm,0.7s,baz=76,slow=3.3,SNR=8.3
VRAC LR LR 16 15 11.7
comp=Z,202nm,20.1s,baz=68,slow=38
comp=Z,3.6nm,0.7s
VRAC Vranov 82.85 321 *e*P P 15 35 13.2 +0.8
VRAC Vranov 82.85 321 ⇑P P 15 35 12.7 +0.2
FRGS Fruska Gora 82.94 317 ⇑P P 15 35 13.6 +0.6
KRUC Moravsky 83.09 321 *e*P P 15 35 14.2 +0.6
MORH Mrgy, Hungar 83.16 318 ⇑P P 15 35 13.6 -0.5
BRG Berggiesshubel 83.52 324 Amp 15 35 30.8
comp=Z,5.9nm,0.9s
BRG Berggiesshubel 83.52 324 *e*P pP 15 35 29.3 +0.1
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 83.52 324 *e*P pP 15 35 29.4 +0.1
CLL Collm 83.80 324 *e*P P 15 35 17.0 -0.2
CLL *e**PP pP 15 35 30.0 -0.6
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL MLR MLR
comp=Z,300nm,18.4s
CLL Collm 83.80 324 *e*P P 15 35 17.0 -0.2
comp=Z,8.0nm,1.2s
CLL *e*pP pP 15 35 30.0 -0.6
comp=Z,9.0nm,0.9s
CLL LmV 16 17 00.0
comp=Z,300nm,18.4s
CKRC Cesky Krumlov 84.39 322 *e*P P 15 35 21.0 +0.6
KHC Kasperske Hory 84.64 322 *e*P P 15 35 19.9 -1.7
KHC Kasperske Hory 84.64 322 *e*P P 15 35 19.9 -1.7
GERES GERESS Array B 84.72 322 P P 15 35 22.4 +0.3
comp=Z,2.3nm,0.9s,baz=66,slow=5.0,SNR=15
GERES LR LR 16 16 27.4
comp=Z,228nm,19.5s,baz=61,slow=38
comp=Z,2.3nm,0.9s
ITM Ithomi 85.23 309 P P 15 35 24.6 -0.3
GRA1 Grafenberg Arr 85.63 324 P P 15 35 27.3 +0.8
GRF Grafenberg Arr 85.63 324 P P 15 35 27.3 +0.8
GRF pmax pmax
comp=Z,46nm,1.4s
GRFO Grafenberg 85.63 324 P P 15 35 27.4 +0.9
GRFO Grafenberg 85.63 324 P P 15 35 27.4 +0.9
GRFO pmax pmax
comp=Z,38nm,1.3s
RAR Rarotonga 85.97 115 LR LR 16 08 18.1
comp=Z,57nm,21.3s,baz=235,slow=32
BORG Borgarnes 87.09 346 LR LR 16 18 26.3
comp=Z,79nm,19.5s,baz=8.6,slow=38
EDM Edmonton 87.23 31 P P 15 35 35.6 +1.3
EDM lAmb lAmb 15 35 50.5
comp=Z,11nm,0.8s
EDM Edmonton 87.23 31 P P 15 35 35.6 +1.3
EDM pmax pmax
comp=Z,11nm,0.8s
DAVOX Davos/Dischmat 88.01 322 P P 15 35 38.3 -0.1
comp=Z,1.8nm,0.6s,baz=47,slow=13,SNR=3.6
DAVOX LR LR 16 18 45.0
comp=Z,240nm,20.6s,baz=80,slow=38
comp=Z,1.8nm,0.6s
NEW Newport 88.36 36 P P 15 35 41.4 +1.5
comp=Z,1.2nm,0.4s,baz=249,slow=9.9,SNR=2.1
comp=Z,1.2nm,0.4s
KMBO Kilima Mbogo 88.67 268 P P 15 35 40.6 -1.6
comp=Z,1.1nm,0.5s,baz=65,slow=3.8,SNR=4.5
KMBO LR LR 16 16 44.5
comp=Z,18nm,18.6s,baz=94,slow=37
comp=Z,1.1nm,0.5s
FRB Frobisher Bay 91.11 6 LR LR 16 19 36.1
comp=Z,116nm,18.7s,baz=25,slow=37
PPT Papeete 92.96 108 LR LR 16 08 44.5
comp=Z,46nm,20.4s,baz=312,slow=30
PPT2 Papeete2 92.97 108 *e*LR LR 16 05 58.7
comp=Z,286nm,29.8s
NVAR Mina Array Bea 93.43 45 P P 15 36 05.5 +1.7
comp=Z,0.6nm,0.7s,baz=290,slow=5.4,SNR=4.2
comp=Z,0.6nm,0.7s
ELK Elko 93.96 42 LR LR 16 19 33.4
comp=Z,22nm,18.4s,baz=290,slow=36
MBAR Mbarara 94.37 271 LR LR 16 22 33.0
comp=Z,15nm,18.3s,baz=58,slow=38
TBI Tubuai 95.47 113 *e*LR LR 16 07 07.9
comp=Z,129nm,29.2s
PDAR Pinedale Array 95.95 37 P P 15 36 16.4 +1.0
comp=Z,0.3nm,0.6s,baz=281,slow=1.5,SNR=2.5
PDAR LR LR 16 20 22.6
comp=Z,21nm,21.0s,baz=330,slow=36
comp=Z,0.3nm,0.6s
PFO Pinyon Flats O 97.45 48 LR LR 16 13 04.0
comp=Z,45nm,20.7s,baz=277,slow=31
TAOE Nuku Hiva Isla 97.78 96 *e*LR LR 16 08 12.0
comp=Z,179nm,28.2s
TROLL Troll, Antarti 123.29 198 PKPdf **PKiKP** 15 41 44.5 +0.2
SNAA Sanae 124.94 198 PKPdf **PKPdf** 15 41 46.7 -0.4
VNA2 Neumayer--Watz 126.59 198 PKPdf **PKPdf** 15 41 50.3 +0.1
baz=91,slow=2.0
VNA1 Neumayer--Stat 126.98 198 PKPdf **PKiKP** 15 41 52.0 +0.6
VNA3 Neumayer Olymp 127.01 197 PKPdf **PKiKP** 15 41 51.6 +0.1

ROM 06 15:32:55.3±0.8, 42.75N±0.02×13.21E±0.04, h3km±8km, ML1.3/1, Error ellipse: s-maj=3.2km s-min=1.7km az=268.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.05**	**165**	P	Pg	15 32 56.0	-0.5
T1202				S	Sg	15 32 57.7	+0.5
T1202				AML	AML		
	comp=E,155μm,1.6s						
T1202				AML	AML		
	comp=N,118μm,1.3s						
T1204	**Amatrice, Fraz**	**0.11**	**132**	P	Pg	15 32 56.4	-1.2
T1204				S	Sg	15 33 07.0	+8.0
MC2	**Monte Cornacci**	**0.17**	**355**	P	Pg	15 32 59.3	+0.7
MC2				S	Sg	15 33 01.6	+0.7
MMO1	**Montemonaco**	**0.17**	**30**	P	Pg	15 32 59.5	+0.7
MMO1				S	Sg	15 33 02.0	+0.9
T1215	**Vallo di Nera,**	**0.26**	**282**	AML	AML		
	comp=E,72μm,1.6s						
T1215				AML	AML		
	comp=N,128μm,1.6s						

*NEIC **06** 15:54:58.8±1.6, 19.20S±0.08×177.4W±0.1, h576km±8km, mb4.5/75, Error ellipse: s-maj=15.7km s-min=10.8km az=78.0*
*IDC **06** 15:54:58.5±1.1, 19.30S×177.48W, h570km±12km, mb3.8/15, mbtmp4.8/20, Error ellipse: s-maj=14.9km s-min=9.9km az=156.0*
*NOU **06** 15:54:58.7, 19.20S×177.26W, h585km, mb4.8/68, Fiji Islands Region*

ISC 06 15:54:58.1±0.4, 19.20S±0.07×177.44W±0.06, h570km, n251, σ1♀41/258, mb4.6/67, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**1.62**	**306**	P	P	15 56 10.7	+2.5
TAVE	**Taveuni**	**3.41**	**316**	P	P	15 56 20.3	+2.9
DGTI	**Dogotuki**	**3.94**	**317**	P	P	15 56 23.2	+2.1
MSVF	**Nonsavu**	**4.52**	**288**	P	P	15 56 27.3	+1.8
	76nm,0.4s,baz=128,slow=18,SNR=139						
MSVF				S	S	15 57 41.2	+4.6
	14nm,0.8s,baz=120,slow=21,SNR=0.7						
MSVF	**Nonsavu**	**4.52**	**288**	P	P	15 56 27.9	+2.4
MSVF	**Nonsavu**	**4.52**	**288**	P	P	15 56 28.0	+2.5
NIUE	**Niue**	**7.11**	**90**	P	P	15 56 49.1	+1.2
	baz=7.0,SNR=5.6						
NIUE	**Niue**	**7.11**	**90**	P	P	15 56 49.0	+1.2
AFI	**Afiamalu**	**7.56**	**47**	P	P	15 56 52.2	-0.2
	229nm,0.5s,baz=181,slow=1.4,SNR=92						
AFI				S	S	15 58 22.0	-3.9
	74nm,0.8s,baz=212,slow=23,SNR=2.6						
AFI	**Afiamalu**	**7.56**	**47**	P	P	15 56 51.9	-0.5
AFI	**Afiamalu**	**7.56**	**47**	P	P	15 56 52.2	-0.2
MARNC	**Mare, Loyalty**	**13.81**	**258**	P	P	15 57 54.4	-1.0
MARNC	**Mare, Loyalty**	**13.81**	**258**	P	P	15 57 57.2	+1.8
LIFNC	**LIFOU**	**14.49**	**261**	P	P	15 57 59.7	-2.4
PINNC	**Pines Island,**	**14.52**	**254**	P	P	15 58 02.1	-0.3
PINNC	**Pines Island,**	**14.52**	**254**	P	P	15 58 02.7	+0.2
YATNC	**Mamie plateau,**	**14.94**	**256**	P	P	15 58 07.7	+1.1
OUENC	**Ouen Island, N**	**15.04**	**255**	P	P	15 58 05.4	-2.2
OUENC				lAmb	lAmb	15 58 34.2	
	comp=Z,60nm,1.4s						
OUENC	**Ouen Island, N**	**15.04**	**255**	P	P	15 58 09.0	+1.4
DZM	**Mont Dzumac**	**15.35**	**257**	P	P	15 58 10.2	-0.6
	comp=Z,19nm,0.6s,baz=84,slow=17,SNR=21						
DZM	**Mont Dzumac**	**15.35**	**257**	P	P	15 58 10.7	-0.1
DZM				lAmb	lAmb	15 58 14.9	
	comp=Z,29nm,0.9s						
DZM	**Mont Dzumac**	**15.35**	**257**	P	P	15 58 12.1	+1.3
ONTNC	**Ouen Toro**	**15.38**	**256**	P	P	15 58 10.8	-0.1
ONTNC				lAmb	lAmb	15 58 14.3	
	comp=Z,46nm,0.9s						
ONTNC	**Ouen Toro**	**15.38**	**256**	P	P	15 58 11.5	+0.6
NOUC	**Port Laguerre**	**15.49**	**256**	P	P	15 58 14.4	+2.4
RAR	**Rarotonga**	**16.71**	**100**	P	P	15 58 23.2	-0.1
	comp=Z,20nm,0.8s,baz=345,slow=22,SNR=2.7						
KOUNC	**Koumac, New Ca**	**17.24**	**262**	P	P	15 58 29.8	+1.6
KOUNC	**Koumac, New Ca**	**17.24**	**262**	P	P	15 58 30.6	+2.4
MXZ	**Matakaoa Point**	**18.67**	**191**	P	P	15 58 41.2	+0.3
RUGZ	**Raukumara Rang**	**19.18**	**192**	P	P	15 58 46.2	+0.4
TGRZ	**Tauranga**	**19.27**	**195**	P	P	15 58 51.5	+5.1
OPRZ	**Ohinepanea**	**19.30**	**195**	P	P	15 58 47.7	+1.0
TWGZ	**Tauwhareparae**	**19.33**	**191**	P	P	15 58 47.8	+0.8

KMRZ Kaimai 19.46 196 P P 15 58 50.2 +2.0
TOZ Tahuroa Road 19.47 197 P P 15 58 50.0 +1.8
MWZ Matawai 19.56 192 P P 15 58 49.1 -0.1
URZ Urewera 19.58 193 P P 15 58 47.5 -1.7
comp=Z,12nm,0.4s,baz=31,slow=5.5,SNR=23
URZ S S 16 01 48.4 -8.1
comp=Z,7.3nm,0.7s,baz=31,slow=22,SNR=6.4
URZ Urewera 19.58 193 P P 15 58 47.2 -1.9
URZ lAmb lAmb 15 58 52.5
comp=Z,36nm,1.1s
URZ Urewera 19.58 193 P P 15 58 47.3 -1.9
URZ Urewera 19.58 193 P P 15 58 48.4 -0.8
CNGZ Carnagh Statio 19.59 190 P P 15 58 51.9 +2.6
TKGZ Te Karaka 19.61 191 P P 15 58 50.5 +1.1
UTU Utuhina 19.71 195 P P 15 58 41.9 -8.5
HRRZ Handcock Road 19.89 195 P P 15 58 56.3 +4.2
TLZ Tolley Road 20.02 196 P P 15 58 58.7 +5.4
SNGZ Shannon Statio 20.03 192 P P 15 58 53.1 -0.3
MRHZ Matea Rd 20.28 194 P P 15 58 56.9 +1.3
HIZ Hauiti 20.38 198 P P 15 58 59.1 +2.6
HIZ Hauiti 20.38 198 P P 15 58 57.8 +1.3
RATZ Rangitukua 20.46 195 P P 15 59 01.7 +4.4
BKZ Black Stump Fm 20.58 194 P P 15 58 56.4 -1.9
BKZ lAmb lAmb 15 59 06.1
comp=Z,14nm,1.1s
NNVZ North Ngauruho 20.75 195 P P 15 59 06.1 +6.0
MCHZ McNeill Hill 20.80 193 P P 15 59 00.2 -0.1
BHHZ Black Hill Sta 20.99 194 P P 15 59 01.4 -0.6
KAHZ Kahuranaki 21.10 192 P P 15 59 03.7 +0.6
PNHZ Pukenui 21.36 194 P P 15 59 04.6 -0.8
TSZ Takapari Road 21.55 194 P P 15 59 06.3 -0.8
TCW Tory Channel 23.05 196 P P 15 59 21.1 +0.7
QRZ Quartz Range 23.20 200 P P 15 59 22.1 +0.3
QRZ Quartz Range 23.20 200 P P 15 59 22.1 +0.3
TKNZ Takaka Hill 23.26 199 P P 15 59 21.9 -0.4
NNZ Nelson 23.31 198 P P 15 59 22.1 -0.6
TUWZ Tuamarina 23.35 197 P P 15 59 22.1 -0.9
MRNZ Matariki Terra 23.66 199 P P 15 59 25.3 -0.5
HNR Honiara 23.94 291 P P 15 59 22.6 -6.0
THZ Tophouse 23.95 198 P P 15 59 27.6 -0.8
THZ lAmb lAmb 15 59 56.9
comp=Z,25nm,1.1s
THZ Tophouse 23.95 198 P P 15 59 27.8 -0.6
DSZ Denniston Nort 24.27 200 P P 15 59 30.6 -0.6
KHZ Kahutara 24.38 196 P P 15 59 30.8 -1.3
KHZ Kahutara 24.38 196 P P 15 59 31.5 -0.6
GVZ Greta Valley S 25.02 197 P P 15 59 36.8 -1.1
LTZ Lake Taylor 25.07 198 P P 15 59 36.5 -1.8
INZ Inchbonnie 25.27 199 P P 15 59 38.9 -1.1
WVZ Waitaha Valley 25.81 200 P P 15 59 44.8 +0.1
RPZ Rata Peaks 26.29 199 P P 15 59 48.5 -0.5
comp=Z,9.0nm,0.6s,baz=55,slow=18,SNR=2.4
comp=Z,9.0nm,0.6s
EIDS Eidsvold 29.72 252 P P 16 00 19.2 +0.1
baz=30,SNR=3.2
EIDS lAmb lAmb 16 00 20.0
comp=Z,11nm,0.9s
EIDS Eidsvold 29.72 252 P P 16 00 21.1 +1.9
comp=Z,15nm,1.1s
ARMA Armidale 30.12 242 P P 16 00 23.7 +1.0
baz=30,SNR=21
ARMA Armidale 30.12 242 P P 16 00 23.4 +0.7
ARMA lAmb lAmb 16 00 24.1
comp=Z,14nm,0.5s
ARMA Armidale 30.12 242 P P 16 00 24.0 +1.3
SYDH Sydney Hard Ro 31.81 236 P P 16 00 37.9 +1.0
comp=Z,37nm,0.7s
RMQ Roma 31.91 251 P P 16 00 38.8 +0.9
baz=32,SNR=15
RMQ Roma 31.91 251 P P 16 00 39.3 +1.4
CNB Canberra Magne 33.40 234 P P 16 00 51.3 +0.9
baz=34,SNR=23
CNB Canberra Magne 33.40 234 P P 16 00 51.4 +1.0
CAN Canberra 33.68 235 P P 16 00 53.1 +0.3
CAN lAmb lAmb 16 00 54.2
comp=Z,15nm,0.9s
CAN Canberra 33.68 235 P P 16 00 52.9 +0.1
comp=Z,32nm,0.9s
CTA Charters Tower 34.16 262 P P 16 00 57.6 +0.6
CTAO Charters Tower 34.16 262 P P 16 00 57.2 +0.3
CTAO Charters Tower 34.16 262 P P 16 00 57.5 +0.6
CMSA Cobar Meteorol 35.34 242 P P 16 01 07.2 +0.6
baz=36,SNR=78
CMSA Cobar Meteorol 35.34 242 P P 16 01 07.5 +0.9
PMG Port Moresby 35.59 281 P P 16 01 09.0 +0.1
comp=Z,39nm,0.8s,baz=96,slow=9.3,SNR=5.9
comp=Z,39nm,0.8s
PMG Port Moresby 35.59 281 P P 16 01 08.9 +0.1
QLP Quilpie 35.96 251 P P 16 01 12.1 +0.3
baz=36,SNR=34
QLP Quilpie 35.96 251 P P 16 01 12.2 +0.4
MTSU Mount Surprise 36.20 265 P P 16 01 14.2 +0.3
baz=36,SNR=9.6
MTSU Mount Surprise 36.20 265 P P 16 01 13.7 -0.2
comp=Z,12nm,0.8s
TOO Toolangi 37.09 233 P P 16 01 21.6 +0.7
baz=37,SNR=49
TOO Toolangi 37.09 233 P P 16 01 21.2 +0.3
TOO Toolangi 37.09 233 P P 16 01 22.0 +1.0
MOO Moorlands 37.79 224 P P 16 01 27.4 +0.9
comp=Z,38nm,1.1s
TAU Tasmania Unive 37.92 224 P P 16 01 29.6 +2.0
COEN Coen 38.05 272 P P 16 01 29.7 +0.7
baz=38,SNR=26
COEN Coen 38.05 272 P P 16 01 29.3 +0.3
COEN lAmb lAmb 16 01 30.6
comp=Z,27nm,0.8s
COEN Coen 38.05 272 P P 16 01 29.6 +0.6
BRAT Ballarat 38.26 233 P P 16 01 31.4 +1.0
comp=Z,52nm,0.8s
STKA Stephens Creek 38.84 243 P P 16 01 35.1 -0.1
comp=Z,28nm,0.5s,baz=91,slow=9.9,SNR=81
comp=Z,28nm,0.5s
STKA Stephens Creek 38.84 243 P P 16 01 36.1 +0.9
baz=39,SNR=71
STKA Stephens Creek 38.84 243 P P 16 01 35.7 +0.5
STKA lAmb lAmb 16 01 36.9
comp=Z,16nm,1.1s
STKA Stephens Creek 38.84 243 P P 16 01 36.2 +1.0
INKA Innaminka 39.13 249 P P 16 01 39.2 +1.6
ARPS Mount Arapiles 39.65 235 P P 16 01 42.0 +0.4
baz=40,SNR=19
ARPS Mount Arapiles 39.65 235 P P 16 01 42.9 +1.3
QIS Mount Isa 40.33 261 P P 16 01 47.1 -0.3
baz=40,SNR=5.6
QIS Mount Isa 40.33 261 P P 16 01 47.4 +0.1
HTT Hallett 41.30 241 P P 16 01 55.5 +0.6
baz=41,SNR=55
HTT Hallett 41.30 241 P P 16 01 56.3 +1.4
LCRK Leigh Creek 41.54 246 P P 16 01 57.8 +1.1
TWOA Tennyson Woods 41.85 239 P P 16 01 58.7 -0.4
comp=Z,39nm,0.7s
WHYH Whyalla 42.37 242 P P 16 02 03.4 +0.2
comp=Z,113nm,0.7s
BBOO Buckleboo 43.60 242 P P 16 02 13.1 +0.3
baz=44,SNR=100
BBOO Buckleboo 43.60 242 P P 16 02 12.8 0.0
BBOO Buckleboo 43.60 242 P P 16 02 13.3 +0.5
OOD Oodnadatta 43.61 250 P P 16 02 14.1 +1.1
MULG Mulgathing 45.11 246 P P 16 02 24.8 +0.3
WR0 Warramunga Arr 45.12 261 P P 16 02 23.8 -0.9
WR0 lAmb lAmb 16 02 25.8
comp=Z,32nm,1.2s
WB0 Warramunga Arr 45.29 261 P P 16 02 25.2 -0.8
WB2 Warramunga Arr 45.30 261 P P 16 02 25.5 -0.6
WRAB Tennant Creek 45.31 261 P P 16 02 25.0 -1.1
WRAB lAmb lAmb 16 02 26.0
comp=Z,23nm,0.6s
WRAB Tennant Creek 45.31 261 P P 16 02 25.9 -0.2
WRA Warramunga Arr 45.31 261 P P 16 02 25.6 -0.6
comp=Z,17nm,0.4s,baz=98,slow=7.7,SNR=762
WRA PcP PcP 16 03 53.2 -0.5
comp=Z,0.6nm,0.5s,baz=76,slow=3.6,SNR=2.3
WRA S S 16 08 22.8 -3.2
comp=Z,0.9nm,0.5s,baz=99,slow=12,SNR=6.9
comp=Z,17nm,0.4s
AS31 Alice Springs 45.34 255 P P 16 02 26.0 -0.4
ASAR Alice Springs 45.34 255 P P 16 02 26.4 0.0
comp=Z,53nm,0.7s,baz=87,slow=8.1,SNR=1336
ASAR PcP PcP 16 03 53.3 -0.5
comp=Z,2.0nm,0.7s,baz=92,slow=5.3,SNR=3.0
ASAR ScP ScP 16 06 54.1 +1.6
comp=Z,0.3nm,0.7s,baz=98,slow=4.9,SNR=2.9

ASAR S S 16 08 24.6 -1.8
comp=Z,4.5nm,0.8s,baz=92,slow=16,SNR=24
comp=Z,53nm,0.7s
SMPI Sarmi 46.18 286 P P 16 02 32.7 -0.1
comp=Z,18nm,0.8s
KDU Kakadu 48.46 270 P P 16 02 49.6 -0.3
baz=48,SNR=51
KDU Kakadu 48.46 270 P P 16 02 50.0 +0.1
MTN Manton Dam 49.69 269 P P 16 02 58.3 -0.6
baz=50,SNR=49
MTN Manton Dam 49.69 269 P P 16 02 57.9 -1.1
MTN Manton Dam 49.69 269 P P 16 02 58.9 0.0
FORT Forrest 50.30 246 P P 16 03 02.7 -0.5
baz=50,SNR=31
FORT Forrest 50.30 246 P P 16 03 02.3 -0.9
FORT Forrest 50.30 246 P P 16 03 03.7 +0.5
WRKA Warakurna 50.34 253 P P 16 03 03.4 -0.1
baz=50,SNR=317
WRKA Warakurna 50.34 253 P P 16 03 03.8 +0.2
KNRA Kununurra 51.28 265 P P 16 03 10.3 -0.1
baz=51,SNR=76
KNRA Kununurra 51.28 265 P P 16 03 09.9 -0.5
KNRA Kununurra 51.28 265 P P 16 03 10.8 +0.3
FAKI Fak Fak 51.73 282 P P 16 03 13.4 -0.4
FAKI IAmb IAmb 16 03 23.4
comp=Z,45nm,1.5s
FAKI Fak Fak 51.73 282 P P 16 03 13.2 -0.6
comp=Z,20nm,1.4s
FAKI Fak Fak 51.73 282 P P 16 03 14.5 +0.7
SIJI Sorong 53.43 284 P P 16 03 26.3 +0.4
comp=Z,150nm,0.9s,baz=119,slow=4.4,SNR=118
SWI Sorong 53.44 284 P P 16 03 25.2 -0.7
comp=Z,1µmcomp=Z,136nm,0.8s
FITZ Fitzroy Crossi 53.73 261 P P 16 03 28.0 +0.1
comp=Z,13nm,0.4s,baz=78,slow=4.9,SNR=150
comp=Z,13nm,0.4s
FITZ Fitzroy Crossi 53.73 261 P P 16 03 27.9 -0.1
baz=54,SNR=78
FITZ Fitzroy Crossi 53.73 261 P P 16 03 27.7 -0.2
FITZ IAmb IAmb 16 03 28.8
comp=Z,15nm,0.6s
FITZ Fitzroy Crossi 53.73 261 P P 16 03 28.7 +0.8
AAI Ambon 55.22 279 P P 16 03 37.1 -1.4
comp=Z,37nm,0.7s
LBMI Labuha 56.98 282 P P 16 03 49.8 -0.8
comp=Z,24nm,0.8s
BATI Baumata 57.44 270 P P 16 03 54.9 +1.2
comp=Z,21nm,0.4s,baz=140,slow=4.8,SNR=8.0
comp=Z,21nm,0.4s
BATI Baumata 57.44 270 P P 16 03 52.9 -0.8
comp=Z,25nm,0.7s
TNTI Ternate 57.65 284 P P 16 03 54.6 -0.5
TNTI IAmb IAmb 16 04 01.9
comp=Z,21nm,0.6s
SANI Sanana 57.86 280 P P 16 03 55.7 -0.9
comp=Z,32nm,1.0s
PSA00 Pilbara Seismi 58.48 256 P P 16 03 59.7 -0.9
PSA00 IAmb IAmb 16 04 01.1
comp=Z,32nm,0.8s
PSA00 Pilbara Seismi 58.48 256 P P 16 03 59.2 -1.4
PSA00 IAmb IAmb 16 04 01.1
comp=Z,13nm,0.8s
PSA00 Pilbara Seismi 58.48 256 P P 16 04 00.4 -0.3
MBWA Marble Bar 58.66 256 P P 16 04 01.0 -0.8
MBWA IAmb IAmb 16 04 02.2
comp=Z,15nm,0.7s
MBWA Marble Bar 58.66 256 P P 16 04 01.6 -0.2
MEEK Meekatharra 58.85 250 P P 16 04 02.4 -0.7
baz=59,SNR=10
MEEK Meekatharra 58.85 250 P P 16 04 01.9 -1.2
comp=Z,21nm,1.7s
KLBR Kellerberrin 59.09 244 P P 16 04 04.4 -0.1
baz=59,SNR=7.7
KLBR Kellerberrin 59.09 244 P P 16 04 03.9 -0.7
comp=Z,56nm,0.8s
MMRI Maumere 59.24 271 P P 16 04 05.1 -0.7
MMRI IAmb IAmb 16 04 06.2
comp=Z,43nm,1.0s
MMRI Maumere 59.24 271 P P 16 04 05.0 -0.8
comp=Z,2µmcomp=Z,57nm,1.0s
VNDA Vanda 59.25 185 P P 16 04 05.8 +1.0
comp=Z,0.6nm,0.7s,baz=76,slow=4.8,SNR=3.0
VNDA Vanda 59.25 185 P P 16 04 06.0 +1.2
EDFI Ende, Flores 59.72 271 P P 16 04 08.2 -1.0
comp=Z,18nm,0.8s
BLDU Ballidu 60.07 245 P P 16 04 10.7 -0.4
baz=60,SNR=15
BLDU Ballidu 60.07 245 P P 16 04 11.0 -0.1
MUN Mundaring 60.37 244 P P 16 04 13.3 +0.3
baz=60,SNR=5.4
MUN Mundaring 60.37 244 P P 16 04 12.9 -0.1
comp=Z,51nm,1.5s
MORW Morawa 60.81 247 P P 16 04 15.6 -0.4
MORW IAmb IAmb 16 04 17.1
comp=Z,36nm,1.3s
LUWI Luwuk 61.22 280 P P 16 04 19.2 +0.3
GTOI Gorontalo 61.62 282 P P 16 04 21.7 +0.2
comp=Z,8.1nm,0.6s
GIRL Giralia 63.41 254 P P 16 04 33.9 +1.0
TOLI2 Tolitoli 63.86 281 P P 16 04 35.8 -0.1
TOLI2 IAmb IAmb 16 04 36.7
comp=Z,8.6nm,0.8s
TOLI2 Tolitoli 63.86 281 P P 16 04 36.3 +0.4
MPSI Mapaga 64.40 280 P P 16 04 38.3 -1.0
comp=Z,22nm,0.7s
CASY Casey 65.36 205 P P 16 04 44.2 -0.2
CASY IAmb IAmb 16 04 57.7
comp=Z,11nm,1.4s
JAGI Jajag, Banyuwa 66.93 269 P P 16 04 53.9 -1.3
MJAR Matsushiro Arr 69.48 323 P P 16 05 10.5 +0.4
comp=Z,0.8nm,0.5s,baz=98,slow=9.8,SNR=4.5
comp=Z,0.8nm,0.5s
MAJO Matsushiro 69.48 323 P P 16 05 10.1 0.0
MAJO IAmb IAmb 16 05 31.2
comp=Z,12nm,1.4s
KKM Kota Kinabalu 69.94 284 P P 16 05 12.9 -0.5
KKM IAmb IAmb 16 05 14.4
comp=Z,15nm,0.8s
KKM Kota Kinabalu 69.94 284 P P 16 05 14.3 +0.9
UGM Wanagama 70.52 268 P P 16 05 16.5 -0.3
UGM Wanagama 70.52 268 P P 16 05 17.7 +0.9
QSPA South Pole Qui 70.86 180 P P 16 05 18.9 +0.9
JHS Saijyo 71.47 319 P P 16 05 22.4 +0.6
JHS IAmb IAmb 16 05 23.6
comp=Z,6.3nm,0.8s
LEM Lembang 73.59 268 P P 16 05 35.1 +0.4
comp=Z,31nm,0.8s,baz=50,slow=7.3,SNR=8.1
comp=Z,31nm,0.8s
TPUB Ta-pu 73.72 302 P P 16 05 34.2 -0.8
OHAK Old Harbor 78.77 13 P P 16 06 02.2 +0.3
OHAK IAmb IAmb 16 06 39.0
comp=Z,8.3nm,0.9s
PNTR Pine Nut 79.27 42 P P 16 06 05.9 +0.6
PNTR IAmb IAmb 16 06 07.8
comp=Z,6.9nm,0.8s
YERR Yerington 79.44 42 P P 16 06 07.3 +1.2
NJ2 Nanjing 79.46 309 eP P 16 06 06.0 -0.2
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NVAR Mina Array Bea 79.72 43 P P 16 06 09.1 +1.3
comp=Z,1.2nm,0.7s,baz=223,slow=8.8,SNR=9.0
comp=Z,1.2nm,0.7s
NVAR Mina Array Bea 79.72 43 P P 16 06 08.9 +1.2
PAHR Pah Rah Range 79.76 42 P P 16 06 08.2 +0.4
MOD Modoc Plateau 80.48 39 P P 16 06 11.9 +0.4
BELA Belgrano 2 80.78 173 P P 16 06 12.1 -0.2
O18K Koktuh Hills 80.83 11 P P 16 06 12.4 -0.3
O18K IAmb IAmb 16 06 39.2
comp=Z,8.0nm,1.1s
BMN Battle Mountai 81.54 42 P P 16 06 16.7 -0.3
WVOR Wild Horse Val 81.80 40 P P 16 06 19.2 +0.9
I07A Izee 82.25 38 P P 16 06 21.7 +1.2
I07A IAmb IAmb 16 06 32.4
comp=Z,9.8nm,1.5s
U15A North Rim 82.70 48 P P 16 06 23.4 +0.3
PSUT Pine Spring 82.71 45 P P 16 06 23.9 +0.8
SUA Susitna One 83.18 13 P P 16 06 24.8 +0.1
SUA IAmb IAmb 16 07 06.2
comp=Z,33nm,1.3s
IPM Ipoh 83.49 277 P P 16 06 26.4 -0.8
IPM IAmb IAmb 16 06 28.7
comp=Z,13nm,0.7s
GHO Glory Hole Cre 83.84 13 P P 16 06 27.9 0.0
GHO IAmb IAmb 16 06 35.8
comp=Z,11nm,1.2s
BMRM Bremner River 84.15 15 P P 16 06 29.8 +0.4
BMRM IAmb IAmb 16 06 48.6
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 84.25 14 P P 16 06 30.2 +0.2
SCM IAmb IAmb 16 06 39.4
comp=Z,6.2nm,0.9s
N25K Chitina, Valde 84.70 15 P P 16 06 32.1 0.0
CAST Castle Rocks 84.71 11 P P 16 06 30.9 -1.1
J20K Nowinta River 85.05 10 P P 16 06 33.9 +0.3
TRF Thorofare Moun 85.07 12 P P 16 06 33.6 -0.4
RND Reindeer 85.32 12 P P 16 06 35.7 +0.6
RND IAmb IAmb 16 06 36.5
comp=Z,6.6nm,1.2s
TXAR Lajitas Array 85.91 57 P P 16 06 40.4 +1.6
comp=Z,2.2nm,0.7s,baz=217,slow=6.7,SNR=26
comp=Z,2.2nm,0.7s
TXAR Lajitas Array 85.91 57 P P 16 06 39.0 +0.2
CCB Clear Creek Bu 86.64 12 P P 16 06 40.5 -0.7
IMAR Indian Mountai 86.79 9 P P 16 06 41.9 -0.1
IL31 86.94 13 P P 16 06 41.9 -0.7
ILAR Eielson Array 86.94 13 P P 16 06 42.0 -0.6
comp=Z,0.4nm,0.6s,baz=235,slow=5.3,SNR=9.0
comp=Z,0.4nm,0.6s
J25K Salcha River, 87.12 13 P P 16 06 43.3 -0.3
J26L Joseph Creek 87.42 14 P P 16 06 45.1 +0.1
M30M Minto, Yukon 87.58 18 P P 16 06 45.9 +0.2
M30M IAmb IAmb 16 06 53.6
comp=Z,5.1nm,1.4s
PDAR Pinedale Array 87.66 43 P P 16 06 47.1 +0.3
comp=Z,0.8nm,0.7s,baz=212,slow=2.3,SNR=8.9
comp=Z,0.8nm,0.7s
HHC Hu-ho-hao-te 88.83 314 eP P 16 06 50.1 -2.1
HHC pmax pmax
comp=Z,58nm,0.6s
HHC pmax pmax
comp=Z,200nm,5.5s
TROLL Troll, Antarti 89.03 180 PcP P 16 06 52.7 0.0
SNAA Sanae 89.29 178 PcP P 16 06 53.3 -0.5
SNAA Sanae 89.29 178 P P 16 06 53.1 -0.6
SNAA IAmb IAmb 16 07 08.7
comp=Z,4.4nm,1.5s
VNA3 Neumayer Olymp 89.40 176 PcP P 16 06 54.0 -0.3
PLCA Paso Flores 89.78 133 P P 16 06 57.6 +0.9
comp=Z,1.7nm,0.8s,baz=249,slow=5.9,SNR=5.0
comp=Z,1.7nm,0.8s
PLCA Paso Flores 89.78 133 P P 16 06 57.5 +0.8
PLCA IAmb IAmb 16 07 37.5
comp=Z,11nm,1.5s
VNA2 Neumayer--Watz 89.85 177 PcP P 16 06 56.4 +0.1
baz=187,slow=4.0
VNA1 Neumayer--Stat 90.07 176 PcP P 16 06 57.5 +0.2
CMAR Chiang Mai Arr 90.18 289 P P 16 07 00.1 +1.2
comp=Z,1.2nm,0.7s,baz=124,slow=2.5,SNR=12
comp=Z,1.2nm,0.7s
CMAR Chiang Mai Arr 90.18 289 P P 16 06 59.0 +0.2
PZH PanZhiHua 90.57 298 P P 16 07 01.8 +1.2
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,4.5s
ARCES ARCESS Array B 127.74 350 PKP PKPdf 16 12 58.5 -0.1
comp=Z,3.2nm,1.0s,baz=50,slow=1.9,SNR=7.5
BRTR Keskin Array B 146.34 314 PKPbc PKPbc 16 13 35.4 -0.6
GERES GERESS Array B 149.09 346 PKPbc PKPbc 16 13 42.5 -0.1
comp=Z,0.2nm,0.4s,baz=18,slow=3.5,SNR=4.1

IDC 06 16:03:12.4±2.3, 2°97N×127°66E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=162.8km s-min=26.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.70	164	P	P	16 08 26.2	+0.2
	0.9nm,0.5s,baz=344,slow=11,SNR=7.6						
	0.9nm,0.5s						
ASAR	Alice Springs	27.16	167	P	P	16 08 57.5	-0.2
	0.3nm,0.6s,baz=349,slow=7.0,SNR=4.3						
	0.3nm,0.6s						
MKAR	Makanchi Array	58.70	325	P	P	16 13 11.9	0.0
	0.2nm,0.4s,baz=120,slow=7.2,SNR=4.7						
	0.2nm,0.4s						

*DJA **06** 16:09:04.9±0.2, 9°S±2°×12°1E±°, h10km, M3.6/11, MLv3.6/11*
*IDC **06** 16:09:04.0±1.2, 8°88S×120°17E, h0km, mb3.5/3, mbtmp3.7/7, ML3.4/4, MS3.1/5, Error ellipse: s-maj=64.0km s-min=14.7km az=46.0*
ISC 06 16:09:05.0±0.7, 8°67S±0°04×120°54E±0°04, h10km, n21, σ1s83/25, mb3.6/3, MS3.1/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	Ende, Flores	1.14	94	P	Pb	16 09 26.8	-0.1
EDFI				S	Sg	16 09 41.6	-0.1
WBSI	Waikabubak, Su	1.49	230	P	Pn	16 09 31.0	-0.9
WBSI				S	Sn	16 09 51.2	-0.2
BASI	Baing, Sumba	1.54	179	P	Pn	16 09 32.5	0.0
BASI				S	Sn	16 09 53.2	+0.6
MMRI	Maumere	1.68	89	P	Pn	16 09 35.7	+1.3
BSSI	Bau Bau, Buton	2.51	359	P	Pn	16 09 44.3	-1.7
BSSI				S	Sn	16 10 14.8	-1.9
PLAI	Plampang	2.74	267	P	Pn	16 09 50.1	+1.1
BKSI	Bulukumba	3.35	353	P	Pn	16 09 57.5	0.0
BATI	Baumata	3.44	117	Pn	Pn	16 10 03.0	+4.3
	3.1nm,0.3s,baz=309,slow=6.5,SNR=2.0						
BATI				Sn	Sb	16 10 46.7	-1.2
	1.4nm,0.3s,baz=103,slow=21,SNR=1.6						
BATI				LR	LR	16 11 42.2	
	comp=Z,370nm,18.3s,baz=248,slow=43						
	15nm,0.5s						
BATI	Baumata	3.44	117	P	Pn	16 10 00.1	+1.4
TWSI	Taliwang, Sumb	3.62	269	P	Pn	16 10 01.4	+0.2
BBSI	Bau Bau	3.75	33	P	Pn	16 10 03.2	+0.2
FITZ	Fitzroy Crossi	10.60	153	Pn	Pn	16 11 37.4	+0.4
	0.2nm,0.3s,baz=334,slow=14,SNR=2.6						
FITZ				Sn	Sn	16 13 30.6	-5.3
	0.1nm,0.3s,baz=138,slow=20,SNR=1.5						
	2.2nm,0.8s						
DAV	Davao City (W)	16.43	18	LR	LR	16 21 25.3	
	comp=Z,53nm,18.1s,baz=134,slow=44						
WRA	Warramunga Arr	17.43	131	P	Pn	16 13 09.3	+0.9
	0.1nm,0.3s,baz=305,slow=13,SNR=12						
WRA				S	S	16 16 28.8	-2.3
	0.4nm,0.8s,baz=326,slow=24,SNR=2.4						
	1.7nm,0.7s						
ASAR	Alice Springs	19.65	141	P	P	16 13 35.0	+0.9
	0.1nm,0.3s,baz=314,slow=9.4,SNR=31						
	3.4nm,0.8s						
CTA	Charters Tower	27.32	117	LR	LR	16 27 24.3	
	comp=Z,66nm,18.8s,baz=279,slow=40						
CMAR	Chiang Mai Arr	34.37	322	P	P	16 15 53.9	+1.5
	0.2nm,0.3s,baz=142,slow=7.5,SNR=4.9						
CMAR				LR	LR	16 30 01.8	
	comp=Z,36nm,18.3s,baz=180,slow=37						
	0.2nm,0.3s						
KSRS	Korea Array	46.40	8	LR	LR	16 36 59.5	
	comp=Z,8.8nm,20.1s,baz=220,slow=36						
SONM	Songino Array	57.64	349	P	P	16 18 57.3	+1.8
	0.3nm,0.5s,baz=160,slow=9.2,SNR=2.8						
	0.3nm,0.5s						
MKAR	Makanchi Array	64.87	332	P	P	16 19 43.7	-0.7
	0.4nm,0.7s,baz=128,slow=6.9,SNR=4.4						
	0.4nm,0.7s						
TORD	Torodi Ar. Bea	119.90	280	PKP	PKPdf	16 27 56.7	-0.1
	0.4nm,0.7s,baz=67,slow=2.5,SNR=2.6						

*IDC **06** 16:22:11.4±1.1, 54°53N×168°90E, h0km, mb3.6/5, mbtmp3.6/7, ML3.3/2, MS2.4/1, Error ellipse: s-maj=30.5km s-min=22.9km az=166.0*
*KRSC **06** 16:22:12.6±1.4, 54°36N×168°42E, h33km±23km, ML3.8*
ISC 06 16:22:14.3±0.8, 54°5N±0°1×168°67E±0°06, h24km, n23, σ1s42/22, mb3.6/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	1.70	295	P	Pn	16 22 40.0	-2.4
BKI				S	Sn	16 23 02.1	-1.3
SHEM	Shemya Is, Ala	3.70	117	Pn	Pn	16 23 08.0	-1.9
	8.9nm,0.3s,baz=54,slow=2.6,SNR=5.6						
SHEM				Sn	Sn	16 23 51.4	-1.3
	9.3nm,0.3s,baz=217,slow=21,SNR=7.0						
SHEM				LR	LR	16 24 24.9	
	comp=Z,53nm,19.6s,baz=108,slow=37						
	35nm,0.5s						
TUMR	Tumrok	4.98	282	P	Pn	16 23 28.3	+0.7
SPN	Mys Shipunski	5.32	258	P	Pn	16 23 31.3	-0.9
SPN				S	Sn	16 24 30.0	-2.7
KII	Karymskiy	5.43	269	P	Pn	16 23 33.8	+0.1
KRER	Koryakskii	5.99	262	P	Pn	16 23 42.1	+0.5
KOK	Koryaka	6.06	262	P	Pn	16 23 42.5	+0.1
DALK	Dalny	6.07	260	P	Pn	16 23 42.6	+0.2
DALK				S	Sn	16 24 48.4	-2.6
GNL	Ganaly	6.37	267	P	Pn	16 23 47.5	+0.8
GRL	Gorelyy	6.62	257	P	Pn	16 23 51.3	+1.1
PETK	Petropavlovsk-	6.65	262	Pn	Pn	16 23 51.9	+1.4
	0.8nm,0.3s,baz=81,slow=19,SNR=15						
PETK				Sn	Sn	16 25 06.2	+0.7
	0.7nm,0.3s,baz=202,slow=24,SNR=5.2						
	1.6nm,0.5s						
ASAK	Asacha	6.78	256	P	Pn	16 23 52.2	-0.1
ILAR	Eielson Array	24.15	47	P	P	16 27 27.9	-0.1
	1.4nm,0.7s,baz=259,slow=9.2,SNR=12						
	1.4nm,0.7s						
H11N2	WAKE ISLAND Hy	34.77	183	T	T	17 05 40.3	
	baz=1.5,slow=76,SNR=219						
H11N3	WAKE ISLAND Hy	34.78	183	T	T	17 05 41.3	
	baz=1.5,slow=76,SNR=184						
H11N1	WAKE ISLAND Hy	34.78	183	T	T	17 05 41.7	
	baz=1.5,slow=76,SNR=170						
H11S1	WAKE ISLAND Hy	35.99	183	T	T	17 07 12.1	
	baz=1.8,slow=76,SNR=48						
H11S3	WAKE ISLAND Hy	36.00	183	T	T	17 07 13.2	
	baz=1.8,slow=76,SNR=35						
H11S2	WAKE ISLAND Hy	36.00	183	T	T	17 07 14.7	
	baz=1.8,slow=76,SNR=57						
NOA	NORSAR Array B	63.40	348	P	P	16 32 42.1	+0.8
	0.8nm,0.7s,baz=16,slow=6.6,SNR=2.1						
	0.8nm,0.7s						
TXAR	Lajitas Array	65.37	74	P	P	16 32 54.9	+0.2
	0.3nm,0.6s,baz=308,slow=4.4,SNR=3.7						
	0.3nm,0.6s						
WRA	Warramunga Arr	79.79	213	P	P	16 34 21.3	+1.1
	0.6nm,1.0s,baz=25,slow=6.4,SNR=2.7						
	0.6nm,1.0s						
ASAR	Alice Springs	83.42	212	P	P	16 34 41.3	+1.9
	0.5nm,1.0s,baz=26,slow=5.1,SNR=3.2						
	0.5nm,1.0s						

IDC 06 16:34:59.9±2.3, 2°87N×127°41E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=158.8km s-min=28.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.67	164	P	P	16 40 13.2	-0.1
	0.3nm,0.4s,baz=343,slow=11,SNR=7.7						
	0.3nm,0.4s						
ASAR	Alice Springs	27.13	167	P	P	16 40 44.9	0.0
	0.1nm,0.5s,baz=348,slow=7.5,SNR=6.1						
	0.1nm,0.5s						
MKAR	Makanchi Array	58.64	325	P	P	16 44 59.1	0.0
	0.2nm,0.7s,baz=120,slow=8.5,SNR=2.6						
	0.2nm,0.7s						

ANF 06 16:35:58.4±0.2, 33°19N×116°04W, h15km, ML2.0/11, Error ellipse: s-maj=1.4km s-min=1.3km az=149.0, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWSC	Sam W. Stewart	0.32	141	P	Pb	16 36 05.5	-0.3
	baz=319,SNR=13						
SWSC				S	Sg	16 36 10.0	+0.5
	baz=319						
MONP2	Monument Peak	0.44	227	P	Pb	16 36 07.7	-0.3
	baz=48,SNR=14						
MONP2				S	Sg	16 36 13.7	+0.4
	baz=48						
IKP	In-Ko-Pah, Jac	0.54	186	P	Pg	16 36 09.4	+0.2
	baz=6.2,SNR=19						
IKP				S	Sg	16 36 16.7	+0.3
	baz=6.2						
PFO	Pinyon Flats O	0.55	320	P	Pb	16 36 09.8	0.0
	baz=141,SNR=8.6						
PFO				S	Sb	16 36 17.4	-0.1
	baz=141						
BC3	Big Chuckawall	0.67	46	P	Pb	16 36 12.3	+0.4
	baz=226,SNR=12						
BC3				S	Sb	16 36 21.7	+0.5
	baz=226						
BELC	Belle Mtn. Jos	0.81	2	P	Pb	16 36 14.7	+0.4
	baz=182,SNR=11						
BELC				S	Sb	16 36 25.8	+0.7
	baz=182						
109C	Camp Elliot, M	0.94	252	P	Pb	16 36 16.5	+0.1
	baz=72						
109C				S	Sb	16 36 28.8	0.0
	baz=72						
GLA	Glamis	1.03	97	P	Pg	16 36 18.2	-0.1
	baz=277						
GLA				S	Sb	16 36 30.5	-0.7
	baz=277						
MURC	Murrieta	1.05	293	Pg	Pg	16 36 18.9	+0.2
	baz=114						
MURC				S	Sg	16 36 32.6	+0.2
	baz=114						
IRM	Iron Mountain	1.22	37	S	Sg	16 36 37.7	-0.1
	baz=218						
BBRC	Big Bear Solar	1.30	326	Sg	Sg	16 36 42.0	+1.7
	baz=146						
GMRC	Granite Mounta	1.62	11	Pg	Pg	16 36 29.4	-0.2
	baz=191						
GMRC				Sb	Sg	16 36 50.6	-0.1
	baz=191						
CIS	Catalina Islan	2.00	277	Sb	Sb	16 37 00.7	+1.4
	baz=96						

*UUSS **06** 16:37:13.1±1.4, 38°32N±0°02×112°14W±0°03, h0km±7km, ML2.7/15, ML2.6/68(NEIC), Error ellipse: s-maj=3.6km s-min=2.5km az=113.0*
NEIC 06 16:37:13.1±1.1, 38°30N±0°02×112°10W±0°04, h9km±8km, Error ellipse: s-maj=4.6km s-min=1.6km az=115.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSU	Marysvale	0.22	345		Pg	16 37 17.2	-0.6
MVU	Marysvale	0.22	337		Pg	16 37 17.0	-0.8
MTPU	Mount Pierson	0.26	194		Pg	16 37 18.8	+0.2
MTPU					Sg	16 37 23.0	+0.8
MTPU	Mount Pierson	0.26	194	IAML		16 37 24.7	
	comp=N,540nm,0.3s						
MTPU				IAML		16 37 28.1	
	comp=E,457nm,0.6s						
TCRU	Three Creeks R	0.41	319		Pg	16 37 20.8	-0.5
TCRU	Three Creeks R	0.41	319	IAML		16 37 27.2	
	comp=E,622nm,0.5s						
TCRU				IAML		16 37 30.5	
	comp=N,715nm,0.7s						
BTU	Barney Top	0.57	162		Pb	16 37 25.1	-0.4
NMUT	North Mineral	0.63	291		Pg	16 37 24.7	-0.6
MMU	Miners Mountai	0.64	99		Pg	16 37 25.6	0.0
WCU	Willow Creek	0.67	1		Pg	16 37 25.9	-0.2
OWUT	Old Woman Plat	0.72	48		Pg	16 37 27.3	+0.3
DWU	Dry Willow Pea	0.73	255		Pg	16 37 27.0	-0.2
PKCU	Pink Cliffs	0.87	191		Pg	16 37 30.0	+0.2
PKCU	Pink Cliffs	0.87	191	IAML		16 37 50.2	
	comp=N,192nm,0.5s						
PKCU				IAML		16 37 50.6	
	comp=E,372nm,0.3s						
IMU	Iron Mountain	0.90	292		Pg	16 37 29.9	-0.5
Q16A	Castle Valley	0.96	49		Pg	16 37 31.0	-0.5
Q16A				IAML		16 37 44.1	
	comp=N,234nm,0.4s						
Q16A				IAML		16 37 44.7	
	comp=E,282nm,0.3s						
SZCU	Shurtz Canyon	1.05	228		Pg	16 37 32.6	-0.6
SZCU				IAML		16 37 48.7	
	comp=E,254nm,0.2s						
SZCU				IAML		16 37 51.9	
	comp=N,206nm,0.3s						
FLU	Fool Peak	1.08	357		Pg	16 37 33.6	-0.3
HMU	Henry Mountain	1.13	108		Pg	16 37 34.5	-0.3
ARUT	Antelope Range	1.17	245		Pb	16 37 35.4	-0.2
TMUT	Trail Mountain	1.22	35		Pb	16 37 35.6	-0.9
TMUT	Trail Mountain	1.22	35	IAML		16 37 53.0	
	comp=N,198nm,0.6s						
TMUT				IAML		16 37 55.3	

comp=E,205nm,0.4s
LEVU Levan 1.23 10 Pb 16 37 36.1 -0.4
CCUT Cedar City 1.25 234 Pn 16 37 36.7 -0.1
PSUT Pine Spring 1.40 280 Pn 16 37 39.0 +0.1
PSUT Pine Spring 1.40 280 IAML 16 38 01.1
comp=N,83nm,0.8s
PSUT IAML 16 38 04.3
comp=E,89nm,0.9s
KNB Kanab 1.40 204 Pn Pn 16 37 38.8 -0.1
SRU San Rafael Swe 1.48 56 Pb 16 37 40.5 -0.3
SRU San Rafael Swe 1.48 56 Pn Pn 16 37 40.2 +0.2
LCMT Little Creek M 1.57 216 IAML 16 37 41.6 +0.3
LCMT 16 38 04.2
comp=E,77nm,0.2s
LCMT IAML 16 38 06.4
comp=N,72nm,0.2s
P17A Butcher Ranch, 1.58 42 Pn Pn 16 37 41.3 -0.1
P17A IAML 16 38 06.2
comp=E,73nm,0.4s
P17A IAML 16 38 06.6
comp=N,83nm,0.6s
SUU Santaquin Cany 1.61 9 Pb 16 37 43.3 +0.2
NLU North Lily Min 1.66 1 Pn 16 37 42.6 +0.1
MPU Maple Canyon 1.75 12 Pn 16 37 44.1 +0.3
MPU IAML 16 38 13.3
comp=E,39nm,0.5s
SPR3 Spring Creek 3 1.88 293 IAML 16 37 45.7 0.0
SPR3 16 38 14.6
comp=N,36nm,0.4s
SPR3 IAML 16 38 16.9
comp=E,42nm,0.5s
DUG Dugway, Tooele 1.98 344 Pn 16 37 46.6 -0.2
DUG IAML 16 38 16.7
comp=E,48nm,0.6s
DUG IAML 16 38 20.2
comp=E,64nm,0.8s
DUG Dugway, Tooele 1.98 344 P Pn 16 37 46.6 -0.2
baz=201,SNR=15
CTU Camp Tracy 2.41 6 Pn Pn 16 37 53.1 +0.3
BGU Big Grassy Mou 2.72 345 Pn Pn 16 37 56.9 -0.2
R11A Troy Canyon, C 2.74 272 Pn 16 37 57.5 +0.1
R11A IAML 16 38 40.7
comp=E,23nm,0.5s
R11A IAML 16 38 42.6
comp=N,17nm,0.5s
WUAZ Wupatki 2.83 168 Pn Pn 16 37 59.2 +0.6
S11A Rachel 2.95 258 Pn Pn 16 38 00.2 -0.1
MVCO Mesa Verde 3.06 110 Pn Pn 16 38 02.6 +0.9
ELK Elko 3.44 316 Pn Pn 16 38 06.5 -0.5
O20A White River Ci 3.52 57 Pn Pn 16 38 08.7 +0.7
HVU Hansel Valley 3.52 352 Pn Pn 16 38 08.0 0.0
HVU IAML 16 39 06.0
comp=N,12nm,0.6s
HVU IAML 16 39 08.4
comp=E,15nm,0.7s
W18A Petrified Fore 3.70 148 Pn 16 38 11.7 +1.2
SMCO Snowmass 4.11 76 Pn Pn 16 38 16.8 +0.5
GMN Gold Mountain 4.21 258 Pn Pn 16 38 16.9 -0.7
GMN IAML 16 39 35.7
comp=N,7.0nm,0.7s
KVN Kaiserville 4.75 281 Pn Pn 16 38 24.4 -0.6
KVN IAML 16 39 54.2
comp=E,8.7nm,4.6s
GSC Goldstone, Bar 4.81 233 Pn Pn 16 38 24.7 -1.1
GSC IAML 16 39 25.9
comp=N,7.8nm,4.1s
GSC IAML 16 41 08.4
comp=E,8.5nm,2.8s

*DNK **06** 16:51:06.8±0.5,67.19N×20.69E,h0km,ML2.8(UPP), Suspected explosion*
*HEL **06** 16:51:07.1±0.0,67.19N×20.65E,h0km,ML2.1, ML2.8(UPP),Confirmed Induced event*
*BER **06** 16:51:07.7±1.8,66.95N×21.10E,h0km,ML2.1,Confirmed Induced event*
*KOLA **06** 16:51:07.8,67.20N×20.79E,h0km,ML2.4*
*IDC **06** 16:51:07.2±1.0,67.15N×20.93E,h0km,mbtmp3.1/4, ML2.6/4,Error ellipse: s-maj=15.2km s-min=8.7km az=118.0*
ISC 06 16:51:05.6±0.7,**67.19N**±0.02×**20.73E**±0.02,**h0km,n49,** σ1§**07**/71,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**224**	P	**Pg**	**16 51 08.4**	**+1.1**
DUNU				S	**Sg**	**16 51 09.6**	**+1.2**
DUNU	**Dundret**	**0.09**	**224**	*i* P	**Pg**	**16 51 08.4**	**+1.1**
DUNU				*i* S	**Sg**	**16 51 09.6**	**+1.2**
MASU	**Masugnsbyn**	**0.56**	**60**	P	**Pb**	**16 51 17.8**	**-0.6**
MASU				S	**Sg**	**16 51 24.5**	**+0.8**
MASU	**Masugnsbyn**	**0.56**	**60**	*i* P	**Pb**	**16 51 17.8**	**-0.6**
MASU				*i* S	**Sg**	**16 51 24.5**	**+0.8**
RATU	**Laukkuluspa**	**0.78**	**326**	P	**Pg**	**16 51 20.7**	**+0.3**
RATU	**Laukkuluspa**	**0.78**	**326**	*i* P	**Pg**	**16 51 20.7**	**+0.3**
KUA	**Kurravaara**	**0.79**	**349**	*i* P	**Pg**	**16 51 20.9**	**+0.2**
ERTU	**Ertsjaerv**	**0.86**	**137**	P	**Pb**	**16 51 22.7**	**-0.7**
ERTU	**Ertsjaerv**	**0.86**	**137**	*e*P	**Pb**	**16 51 22.7**	**-0.7**
ERTU				*e*S	**Sb**	**16 51 34.8**	**-0.5**
SALU	**Saltoluokta**	**0.88**	**284**	P	**Pg**	**16 51 22.7**	**+0.2**
SALU	**Saltoluokta**	**0.88**	**284**	*i* P	**Pg**	**16 51 22.7**	**+0.2**
NIKU	**Nikkaluokta**	**0.94**	**317**	P	**Pg**	**16 51 23.7**	**+0.1**
NIKU	**Nikkaluokta**	**0.94**	**317**	*e*P	**Pg**	**16 51 23.7**	**+0.1**
PAJU	**Pajala**	**0.95**	**99**	P	**Pb**	**16 51 24.6**	**-0.3**
PAJU	**Pajala**	**0.95**	**99**	*e*P	**Pb**	**16 51 24.6**	**-0.3**
PAJU				*e*S	**Sb**	**16 51 38.2**	**+0.2**
LANU	**Lannavaara**	**0.99**	**29**	P	**Pg**	**16 51 25.0**	**+0.4**
LANU	**Lannavaara**	**0.99**	**29**	*e*P	**Pg**	**16 51 24.9**	**+0.2**
LANU				*e*S	**Sg**	**16 51 38.3**	**+0.8**
HARU	**Harads**	**1.03**	**174**	P	**Pg**	**16 51 25.5**	**+0.1**
HARU	**Harads**	**1.03**	**174**	*e*P	**Pg**	**16 51 25.5**	**+0.1**
KOVU	**Salmi**	**1.06**	**349**	P	**Pg**	**16 51 25.9**	**-0.1**
KOVU	**Salmi**	**1.06**	**349**	*e*P	**Pg**	**16 51 25.9**	**-0.1**
KLF	**Kolari**	**1.26**	**86**	*e*P	**Pb**	**16 51 30.2**	**-0.1**
HEF	**Hetta**	**1.66**	**41**	*e*P	**Pb**	**16 51 36.7**	**-0.4**
HEF				*e*S	**Sg**	**16 51 59.4**	**+0.6**
HEF	**Hetta**	**1.66**	**41**	*e*P	**Pb**	**16 51 36.5**	**-0.5**
HEF				MSG		16 52 02.3	
comp=Z,11nm,0.2s							
SJUU	**Sjulsmark**	**1.72**	**168**	P	**Pb**	**16 51 37.8**	**-0.3**
SJUU	**Sjulsmark**	**1.72**	**168**	*e*P	**Pb**	**16 51 37.8**	**-0.3**
TOF	**Tornio**	**1.81**	**126**	*e*P	**Pb**	**16 51 39.8**	**+0.1**
TOF				*e*S	**Sg**	**16 52 03.7**	**-0.1**
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*S	**Sg**	**16 52 00.3**	**+2.0**
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	**Pb**	**16 51 39.9**	**0.0**
KIF				*e*S	**Sg**	**16 52 04.2**	**0.0**
KIF				MSG		16 52 07.2	
comp=Z,15nm,0.1s							
KTK1	**Kautokeino**	**2.06**	**26**	*e*P	**Pb**	**16 51 43.7**	**-0.2**
KTK1				*e*S	**Sg**	**16 52 11.5**	**-0.3**
KTK1				IAML		16 52 13.0	
comp=Z,45nm,0.5s							
KTK1	**Kautokeino**	**2.06**	**26**	*e*P	**Pb**	**16 51 43.7**	**-0.2**
FAUS	**Fauske**	**2.12**	**278**	*e*P	**Pb**	**16 51 44.0**	**-0.9**
FAUS				*e*S	**Sg**	**16 52 13.1**	**-0.5**
FAUS				IAML		16 52 13.4	
comp=Z,23nm,0.4s							
RNF	**Rovaniemi**	**2.17**	**103**	*e*P	**Pb**	**16 51 45.0**	**-0.6**
RNF				MSG		16 52 16.4	
comp=Z,9.5nm,0.2s							
STEI	**Steigen**	**2.23**	**292**	*e*P	**Pb**	**16 51 46.5**	**-0.2**
STEI				*e*S	**Sg**	**16 52 16.5**	**-0.8**
STEI				IAML		16 52 18.5	
comp=Z,16nm,0.5s							
JETT	**Jettan, Norway**	**2.38**	**357**	*e*P	**Pb**	**16 51 49.1**	**-0.3**
JETT				*e*S	**Sg**	**16 52 21.1**	**-1.0**
JETT				IAML		16 52 23.6	
comp=Z,26nm,0.5s							
TRO	**Tromso**	**2.55**	**346**	*e*P	**Pb**	**16 51 51.8**	**-0.3**
TRO				*e*S	**Sb**	**16 52 25.2**	**+1.2**
TRO				IAML		16 52 27.6	
comp=Z,18nm,0.4s							
LOF	**Lofoten**	**2.90**	**292**	*e*	**Sg**	**16 52 38.4**	**-0.4**
LOF				IAML		16 52 46.3	
comp=Z,12nm,0.6s							
ARA0	**ARCESS Array S**	**2.95**	**35**	*e*P	**Pn**	**16 51 55.2**	**+1.5**
ARA0				IAML		16 52 35.4	
comp=Z,5.0nm,0.4s							
ARCES	**ARCESS Array B**	**2.95**	**35**	Pn	**Pn**	**16 51 55.0**	**+1.3**
comp=Z,1.3nm,0.3s,baz=213,slow=13,SNR=109							
ARCES				Lg	Lg	16 52 32.7	
comp=Z,1.9nm,0.3s,baz=214,slow=26,SNR=11							
comp=Z,3.3nm,0.3s							
ARCES	**ARCESS Array B**	**2.95**	**35**	P	**Pn**	**16 51 55.0**	**+1.3**
ARCES				S	**Sn**	**16 52 30.8**	**+1.0**
KONS	**Konsvik**	**3.08**	**261**	*e*P	**Pn**	**16 51 57.4**	**+1.9**
STOK	**Stokkvaagen**	**3.17**	**258**	*e*P	**Pn**	**16 51 57.6**	**+0.9**
KEV	**Kevo**	**3.47**	**39**	*e*P	**Pn**	**16 52 02.2**	**+1.5**
KEV				*e*S	**Sn**	**16 52 43.6**	**+1.1**
NSS	**Namsos**	**4.47**	**238**	*e*P	**Pn**	**16 52 16.5**	**+1.9**
APA0	**Apatity Array**	**4.75**	**79**	P	**Pn**	**16 52 19.1**	**+0.7**
APA0				S	**Sn**	**16 53 13.9**	**-0.2**
TERR	**Teriberka**	**5.73**	**63**	P	**Pn**	**16 52 31.6**	**-0.2**
TERR				S	**Sn**	**16 53 33.6**	**-4.4**
FINES	**FINESS Array B**	**6.21**	**156**	Pn	**Pn**	**16 52 40.2**	**+1.7**
comp=Z,0.6nm,0.3s,baz=347,slow=14,SNR=25							
FINES				Sn	**Sn**	**16 53 49.8**	**-0.3**
comp=Z,0.3nm,0.3s,baz=345,slow=22,SNR=2.2							
FINES				Lg	Lg	16 54 18.9	
comp=Z,0.5nm,0.3s,baz=346,slow=20,SNR=2.6							
comp=Z,1.6nm,0.4s							
NOA	**NORSAR Array B**	**7.43**	**218**	Pn	**Pn**	**16 52 56.3**	**+1.1**
baz=33,slow=12,SNR=4.4							
NOA				Sn	**Sn**	**16 54 17.4**	**-2.8**
baz=32,slow=23,SNR=2.2							
NOA				Lg	Lg	16 54 59.4	
comp=Z,0.1nm,0.3s,baz=348,slow=20,SNR=3.9							
comp=Z,0.3nm,0.5s							
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**16 52 59.2**	**-0.1**
comp=Z,0.5nm,0.3s,baz=28,slow=14,SNR=11							
HFS				Sn	**Sn**	**16 54 24.6**	**-2.8**
comp=Z,0.4nm,0.3s,baz=24,slow=25,SNR=2.4							
HFS				Lg	Lg	16 55 08.7	
comp=Z,0.6nm,0.3s,baz=23,slow=30,SNR=5.3							
comp=Z,0.9nm,0.3s							

*IDC **06** 16:54:49.3±13.0,15.30S×165.87E,h0km,mb3.7/3, mbtmp3.7/4,ML3.9/1,MS3.4/3,Error ellipse: s-maj=232.6km s-min=36.8km az=56.0*
*NEIC **06** 16:54:52.9±0.8,15.5S±0.1×165.8E±0.2,h10km±2km, mb4.1/5,Error ellipse: s-maj=32.3km s-min=20.9km az=95.0*
*NOU **06** 16:55:05.7,16.39S×167.49E,h1km,MLv4.0/10,Vanuatu Islands*
ISC 06 16:54:42.3±2.5,**14.8S**±0.2×**166.8E**±0.2,**h10km,n26,** σ1§**98**/22,**mb3.9**/6,**MS3.5**/3,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.21**	**155**	P	**Pn**	**16 55 33.5**	**+0.7**
LIFNC	**LIFOU**	**5.96**	**176**	Pn	**Pn**	**16 56 10.3**	**-0.4**
KOUNC	**Koumac, New Ca**	**6.20**	**202**	Pn	Pn	16 56 10.5	-3.4
MARNC	**Mare, Loyalty**	**6.75**	**170**	Pn	Pn	16 56 18.7	-2.9
YATNC	**Mamie plateau,**	**7.22**	**179**	P	**Pn**	**16 56 29.1**	**+1.1**
33nm,1.7s							
DZM	**Mont Dzumac**	**7.24**	**182**	Pn	**Pn**	**16 56 30.1**	**+1.7**
2.2nm,0.3s,baz=62,slow=10,SNR=63							
DZM				Sn	**Sn**	**16 57 48.3**	**-2.5**
2.7nm,0.3s,baz=320,slow=23,SNR=11							
5.9nm,0.4s							
DZM	**Mont Dzumac**	**7.24**	**182**	Pn	**Pn**	**16 56 28.6**	**+0.2**
NOUC	**Port Laguerre**	**7.28**	**184**	P	**Pn**	**16 56 32.3**	**+3.5**
29nm,1.5s							
ONTNC	**Ouen Toro**	**7.47**	**182**	Pn	**Pn**	**16 56 33.4**	**+1.9**
ONTNC	**Ouen Toro**	**7.47**	**182**	P	**Pn**	**16 56 35.2**	**+3.7**
38nm,1.1s							
OUENC	**Ouen Island, N**	**7.58**	**180**	Pn	**Pn**	**16 56 35.5**	**+2.5**
OUENC	**Ouen Island, N**	**7.58**	**180**	P	**Pn**	**16 56 37.0**	**+4.1**
27nm,2.4s							
PINNC	**Pines Island,**	**7.80**	**175**	Pn	**Pn**	**16 56 37.1**	**+1.2**
PINNC	**Pines Island,**	**7.80**	**175**	P	**Pn**	**16 56 38.7**	**+2.8**
96nm,2.4s							
STKA	**Stephens Creek**	**28.59**	**229**	P	**P**	**17 00 38.3**	**-0.5**
0.5nm,0.3s,baz=59,slow=9.8,SNR=5.2							
0.5nm,0.3s							
STKA	**Stephens Creek**	**28.59**	**229**	P	**P**	**17 00 37.8**	**-1.0**
WR0	**Warramunga Arr**	**31.16**	**256**	P	**P**	**17 01 01.6**	**-0.2**
WR0				IAmb	IAmb	17 01 45.1	
comp=Z,4.8nm,1.2s							
WB0	**Warramunga Ar**	**31.29**	**256**	P	**P**	**17 01 02.6**	**-0.3**
WB0				IAmb	IAmb	17 01 32.2	
comp=Z,10nm,1.5s							
WRA	**Warramunga Arr**	**31.35**	**256**	P	**P**	**17 01 03.4**	**0.0**
comp=Z,0.2nm,0.7s,baz=85,slow=9.2,SNR=1.2							
comp=Z,0.2nm,0.7s							
AS31	**Alice Springs**	**32.21**	**249**	P	**P**	**17 01 10.6**	**-0.4**
AS31				IAmb	IAmb	17 01 42.8	
comp=Z,1.5nm,1.1s							
ASAR	**Alice Springs**	**32.21**	**249**	P	**P**	**17 01 10.7**	**-0.3**
comp=Z,0.7nm,0.4s,baz=78,slow=9.1,SNR=36							
comp=Z,0.7nm,0.4s							
ASAR	**Alice Springs**	**32.21**	**249**	P	**P**	**17 01 10.8**	**-0.1**
BBOO	**Buckleboo**	**33.16**	**232**	P	**P**	**17 01 18.3**	**-0.9**
MJAR	**Matsushiro Arr**	**57.75**	**333**	LR	LR	17 26 28.0	
comp=Z,27nm,21.9s,baz=219,slow=33							
DLBC	**Dease Lake**	**89.22**	**28**	LR	LR	17 43 33.9	
comp=Z,16nm,18.5s,baz=292,slow=32							
TIXI	**Tiksi**	**89.94**	**349**	LR	LR	17 44 50.9	
comp=Z,18nm,19.5s,baz=182,slow=33							

*IDC **06** 16:55:58.5±1.2,32.54N×130.48E,h0km,mb3.7/7, mbtmp3.8/10,ML3.2/3,MS3.1/3,Error ellipse: s-maj=32.4km s-min=23.4km az=43.0*
*NEIC **06** 16:56:01.8±1.7,32.67N±0.04×130.63E±0.08,h15km±2km, mb4.3/2,Error ellipse: s-maj=9.8km s-min=6.5km az=83.0*
*NIED **06** 16:56:01.1,32.74N×130.63E,h13km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.62; $M_{\theta\theta}$=4.72; $M_{\phi\phi}$=0.10; $M_{r\theta}$=0.96; $M_{\theta\phi}$=0.82; $M_{\phi r}$=0.39; Fault plane solution: $M_0$4.85000×10^{14} NP1: ϕ_s286.00000°,δ40.00000°,λ-80.00000°. NP2:ϕ_s93.00000°, δ51.00000°,λ-99.00000°.*
*JMA **06** 16:56:01.1±0.0,32.74N±0.08×130.6E±0.1,h13km, MV3.9/20,NW KUMAMOTO PREF*
JMA Felt IV J1 at NW KUMAMOTO PREF .
ISC 06 16:56:01.2±1.2,**32.66N**±0.04×**130.64E**±0.06,**h13km**±8km, **n36,**σ1§**31**/38,**mb4.0**/10,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**127**	*i* P	**Pb**	**16 56 06.3**	**-0.2**
JIU3				S	**Sb**	**16 56 10.0**	**0.0**
JTA	**Tamana**	**0.31**	**344**	*i* P	**Pg**	**16 56 06.4**	**-1.2**
JTA				S	**Sg**	**16 56 09.9**	**-2.1**
JTZ	**Takazaki**	**0.85**	**153**	*i* P	**Pn**	**16 56 18.8**	**0.0**
JTZ				S	**Sn**	**16 56 31.1**	**0.0**
JSU	**Suzuyama**	**1.16**	**188**	Pn	**Pg**	**16 56 23.4**	**-0.1**
JTU	**Tsushima**	**2.13**	**331**	Pn	**Pn**	**16 56 37.3**	**+0.9**
KSBUS	**Busan**	**2.88**	**334**	Pn	**Pn**	**16 56 45.5**	**-1.2**
JMN	**Monobe**	**2.92**	**68**	Pn	**Pn**	**16 56 47.7**	**+0.3**
JHS	**Saijyo**	**3.12**	**41**	Pn	**Pn**	**16 56 50.2**	**+0.2**
NAWB	**Namwon**	**3.85**	**317**	Pn	**Pn**	**16 56 59.2**	**-0.9**
TJN	**Taejon**	**4.59**	**325**	Pn	**Pn**	**16 57 10.6**	**+0.4**
KSCHJ	**Chungju**	**4.74**	**333**	Pn	**Pn**	**16 57 12.9**	**+0.6**
KSRS	**Korea Array**	**5.27**	**336**	Pn	**Pn**	**16 57 19.8**	**+0.2**
0.4nm,0.3s,baz=152,slow=14,SNR=5.0							
KSRS				Pg	**Pb**	**16 57 35.7**	**+2.5**
1.5nm,0.3s,baz=152,slow=18,SNR=11							
KSRS				Lg	Lg	16 58 45.0	
2.4nm,0.3s,baz=159,slow=32,SNR=9.3							
1.0nm,0.3s							
KSAR	**Wonju Array Be**	**5.28**	**335**	Pn	**Pn**	**16 57 20.3**	**+0.6**
KS19	**Wonju Array Si**	**5.34**	**336**	Pn	**Pn**	**16 57 19.9**	**-0.6**
INU	**Inuyama**	**5.94**	**61**	Pn	**Pn**	**16 57 30.0**	**+1.2**
JOW	**Kunigami**	**6.16**	**200**	Pn	**Pn**	**16 57 35.1**	**+3.2**
MJAR	**Matsushiro Arr**	**7.35**	**56**	Pn	**Pn**	**16 57 50.2**	**+2.1**
0.1nm,0.3s,baz=276,slow=15,SNR=5.5							
MJAR				LR	LR	17 00 27.7	
comp=Z,39nm,19.6s,baz=289,slow=36							
2.4nm,0.6s							
JHJ	**Hachijo jima 2**	**7.71**	**84**	Pn	**Pn**	**16 57 54.0**	**+0.9**
7.9nm,0.3s,baz=59,slow=21,SNR=1.9							
150nm,1.1s							
JHJ2	**Mitsune**	**7.74**	**84**	Pn	**Pn**	**16 57 52.4**	**-1.0**
USRK	**Ussuriysk Ar.**	**11.57**	**5**	Pn	**Pn**	**16 58 49.7**	**+3.8**
0.1nm,0.3s,baz=189,slow=17,SNR=4.1							
CMAR	**Chiang Mai Arr**	**31.76**	**251**	LR	LR	17 17 04.0	
comp=Z,23nm,18.7s,baz=220,slow=40							
MKAR	**Makanchi Array**	**39.15**	**306**	P	**P**	**17 03 27.4**	**-1.1**
0.5nm,0.9s,baz=79,slow=7.5,SNR=2.5							
0.5nm,0.9s							
MKAR	**Makanchi Array**	**39.15**	**306**	P	**P**	**17 03 28.0**	**-0.5**
KURBB	**Kurchatov Arra**	**41.92**	**311**	P	**P**	**17 03 50.5**	**-0.8**
0.9nm,0.9s,baz=97,slow=8.6,SNR=5.5							
0.9nm,0.9s							
BVAR	**Borovoye Array**	**47.09**	**314**	P	**P**	**17 04 32.3**	**-0.3**
1.1nm,0.7s,baz=99,slow=9.3,SNR=8.0							
1.1nm,0.7s							
BRVK	**Borovoye**	**47.15**	**314**	P	**P**	**17 04 33.2**	**+0.2**
BRVK				IAmb	IAmb	17 04 38.2	
comp=Z,1.8nm,0.9s							
KKAR	**Karatay Array**	**47.67**	**301**	P	**P**	**17 04 37.6**	**+0.4**
WB0	**Warramunga Arr**	**52.26**	**176**	P	**P**	**17 05 10.5**	**-1.6**
WB0				IAmb	IAmb	17 05 16.1	
comp=Z,8.7nm,1.5s							
WRA	**Warramunga Arr**	**52.42**	**176**	P	**P**	**17 05 12.0**	**-1.4**
comp=Z,0.5nm,1.1s,baz=354,slow=7.8,SNR=2.0							
comp=Z,0.5nm,1.1s							
ABKAR	**Akbulak array**	**53.95**	**310**	P	**P**	**17 05 24.2**	**-0.2**
BCAR	**Beaver Creek A**	**60.37**	**32**	P	**P**	**17 06 10.2**	**+0.5**
FINES	**FINESS Array B**	**68.34**	**330**	P	**P**	**17 07 01.2**	**-0.6**
comp=Z,2.1nm,0.9s,baz=70,slow=6.3,SNR=5.8							
comp=Z,2.1nm,0.9s							
AKASG	**Malin Array Be**	**72.04**	**319**	P	**P**	**17 07 23.6**	**-1.1**
comp=Z,0.7nm,0.5s,baz=54,slow=6.8,SNR=4.5							
comp=Z,0.7nm,0.5s							
BRTR	**Keskin Array B**	**74.77**	**308**	P	**P**	**17 07 40.8**	**-0.5**
comp=Z,0.6nm,0.7s,baz=155,slow=4.1,SNR=3.9							
comp=Z,0.6nm,0.7s							
CLL	**Collm**	**80.06**	**326**	*e*P	**P**	**17 08 10.0**	**-0.4**
comp=Z,3.0nm,0.9s							
RPZ	**Rata Peaks**	**84.50**	**152**	LR	LR	17 44 20.4	
comp=Z,31nm,18.4s,baz=222,slow=34							

*UPP **06** 17:01:25.1±0.1,67.05N×20.97E,h0km,ML1.9,Explosion*
*HEL **06** 17:01:25.8±0.1,67.05N×20.95E,h0km,ML2.0, ML1.9(UPP), Explosion*
*IDC **06** 17:01:26.2±0.9,66.99N×21.48E,h0km,mbtmp2.9/4, ML1.9/4,Error ellipse: s-maj=16.8km s-min=8.1km az=112.0*
*BER **06** 17:01:26.5±2.2,66.85N×21.44E,h0km,ML1.7,Suspected explosion*
*KOLA **06** 17:01:27.1,67.00N×21.30E,h0km,ML2.1*
ISC 06 17:01:24.5±0.7,**67.04N**±0.02×**20.98E**±0.02,**h0km,n46,** σ1§**08**/67,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.18**	**296**	P	**Pg**	**17 01 28.6**	**+0.7**
DUNU				S	**Sg**	**17 01 31.3**	**+1.1**
DUNU	**Dundret**	**0.18**	**296**	*i* P	**Pg**	**17 01 28.6**	**+0.7**
DUNU				*i* S	**Sg**	**17 01 31.3**	**+1.1**
MASU	**Masugnsbyn**	**0.57**	**43**	P	**Pg**	**17 01 36.1**	**+0.6**
MASU				S	**Sg**	**17 01 43.9**	**+1.0**
MASU	**Masugnsbyn**	**0.57**	**43**	*i* P	**Pg**	**17 01 36.1**	**+0.6**
MASU				*i* S	**Sg**	**17 01 43.9**	**+1.0**
ERTU	**Ertsjaerv**	**0.69**	**135**	P	**Pg**	**17 01 38.0**	**+0.4**
ERTU				S	**Sg**	**17 01 47.5**	**+0.9**
ERTU	**Ertsjaerv**	**0.69**	**135**	*i* P	**Pg**	**17 01 38.0**	**+0.4**
ERTU				*i* S	**Sg**	**17 01 47.5**	**+0.9**
PAJU	**Pajala**	**0.84**	**90**	P	**Pg**	**17 01 40.8**	**+0.3**
PAJU				S	**Sg**	**17 01 52.8**	**+1.4**
PAJU	**Pajala**	**0.84**	**90**	*i* P	**Pg**	**17 01 40.8**	**+0.3**
PAJU				*i* S	**Sg**	**17 01 52.8**	**+1.4**
HARU	**Harads**	**0.88**	**180**	P	**Pg**	**17 01 41.7**	**+0.2**
HARU	**Harads**	**0.88**	**180**	*i* P	**Pg**	**17 01 41.7**	**+0.2**
KUA	**Kurravaara**	**0.95**	**345**	P	**Pg**	**17 01 42.4**	**-0.3**
KUA	**Kurravaara**	**0.95**	**345**	*e*P	**Pg**	**17 01 42.4**	**-0.3**
RATU	**Laukkuluspa**	**0.95**	**326**	P	**Pg**	**17 01 42.5**	**-0.2**
RATU	**Laukkuluspa**	**0.95**	**326**	*e*P	**Pg**	**17 01 42.5**	**-0.2**
SALU	**Saltoluokta**	**1.02**	**290**	P	**Pg**	**17 01 44.0**	**0.0**
SALU	**Saltoluokta**	**1.02**	**290**	*e*P	**Pg**	**17 01 44.0**	**0.0**
LANU	**Lannavaara**	**1.08**	**21**	P	**Pg**	**17 01 44.9**	**-0.4**
LANU	**Lannavaara**	**1.08**	**21**	*e*P	**Pg**	**17 01 44.9**	**-0.4**
NIKU	**Nikkaluokta**	**1.12**	**319**	P	**Pg**	**17 01 45.5**	**-0.4**
NIKU	**Nikkaluokta**	**1.12**	**319**	*e*P	**Pg**	**17 01 45.5**	**-0.4**
KLF	**Kolari**	**1.18**	**79**	*e*P	**Pg**	**17 01 47.0**	**-0.1**
KOVU	**Salmi**	**1.23**	**346**	P	**Pg**	**17 01 47.5**	**-0.5**
KOVU	**Salmi**	**1.23**	**346**	*e*P	**Pg**	**17 01 47.5**	**-0.5**
TOF	**Tornio**	**1.65**	**124**	*e*P	**Pn**	**17 01 55.3**	**+0.6**
TOF				*e*S	**Sn**	**17 02 16.4**	**-0.2**
HEF	**Hetta**	**1.71**	**35**	*e*P	**Pn**	**17 01 55.9**	**+0.3**
HEF				*e*		17 02 21.2	
HEF	**Hetta**	**1.71**	**35**	*e*P	**Pn**	**17 01 55.8**	**+0.3**
HEF				*e*S	**Sg**	**17 02 19.5**	**+0.1**
HEF				MSG		17 02 26.1	
comp=Z,8.4nm,0.1s							
KIF	**Kilpisjarvi**	**1.97**	**358**	*e*P	**Pb**	**17 02 01.1**	**-0.2**
KIF				*e*S	**Sg**	**17 02 28.1**	**+0.3**
KIF	**Kilpisjarvi**	**1.97**	**358**	*e*P	**Pb**	**17 02 01.1**	**-0.2**
KIF				*e*S	**Sg**	**17 02 27.6**	**-0.2**
KIF				MSG		17 02 32.0	
comp=Z,10nm,0.1s							
RNF	**Rovaniemi**	**2.04**	**100**	*e*P	**Pb**	**17 02 01.6**	**-0.8**
RNF				*e*S	**Sb**	**17 02 28.1**	**-0.2**
KTK1	**Kautokeino**	**2.15**	**22**	*e*P	**Pb**	**17 02 03.9**	**-0.5**
KTK1				*e*S	**Sb**	**17 02 32.3**	**+0.8**
KTK1				IAML		17 02 38.8	
comp=Z,6.9nm,0.1s							
SGF	**Sodankyl**	**2.19**	**77**	*e*P	**Pb**	**17 02 04.1**	**-0.9**
FAUS	**Fauske**	**2.24**	**281**	*e*P	**Pb**	**17 02 05.2**	**-0.6**
FAUS				*e*S	**Sg**	**17 02 35.8**	**-0.6**
FAUS				IAML		17 02 41.6	
comp=Z,15nm,0.2s							
STEI	**Steigen**	**2.38**	**295**	*e*P	**Pb**	**17 02 08.2**	**0.0**
STEI				*e*S	**Sg**	**17 02

IDC 06 17:08:26.1±13.0, 15°33S×165°21E, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=240.0km s-min=37.0km az=52.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.80**	**170**	Pn	Pn	17 10 07.3	0.0
	0.7nm,0.3s,baz=297,slow=11,SNR=1.8						
DZM				Sn	Sn	17 11 27.3	+1.7
	0.3nm,0.3s,baz=118,slow=18,SNR=1.6 4.4nm,0.5s						
STKA	**Stephens Creek**	**27.10**	**228**	P	P	17 14 10.6	-0.2
	0.8nm,0.4s,baz=51,slow=6.5,SNR=4.6 0.8nm,0.4s						
WRA	**Warramunga Arr**	**29.75**	**257**	P	P	17 14 34.9	+0.3
	0.4nm,0.8s,baz=83,slow=7.4,SNR=2.1 0.4nm,0.8s						
ASAR	**Alice Springs**	**30.60**	**249**	P	P	17 14 42.0	-0.1
	0.4nm,0.8s,baz=77,slow=9.2,SNR=11 0.4nm,0.8s						

IDC 06 17:11:41.2±6.5, 29°61N×142°17E, h0km, mb3.4/2, mbtmp3.4/3, ML2.6/1, MS3.6/1, Error ellipse: s-maj=318.4km s-min=35.1km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.67**	**335**	Pn	Pn	17 13 33.8	-0.4
	0.1nm,0.3s,baz=142,slow=11,SNR=5.2 0.7nm,0.3s						
PSI	**Prapat**	**48.89**	**245**	LR	LR	17 40 13.1	
	comp=Z,56nm,18.9s,baz=265,slow=35						
WRA	**Warramunga Arr**	**49.84**	**190**	P	P	17 20 36.1	-0.1
	0.4nm,0.6s,baz=7.8,slow=7.9,SNR=7.1 0.4nm,0.6s						
ASAR	**Alice Springs**	**53.56**	**189**	P	P	17 21 03.9	-0.2
	0.3nm,0.9s,baz=12,slow=8.0,SNR=1.5 0.3nm,0.9s						

*IDC **06** 17:12:16.2±1.2, 5°51S×128°53E, h297km±18km, mb2.7/1, mbtmp3.5/6, Error ellipse: s-maj=27.0km s-min=13.0km az=115.0*

ISC 06 17:12:16.5±0.9, 5°52S±0°08×128°6E±0°1, h337km, n6, σ2ˢ48/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.34**	**30**	P	**Pn**	**17 13 39.3**	**-0.1**
	5.4nm,0.3s,baz=11,slow=20,SNR=33						
SIJI				S	**S**	**17 14 42.7**	**-3.7**
	3.6nm,0.2s,baz=260,slow=24,SNR=7.7						
BATI	**Baumata**	**6.74**	**226**	P	**Pn**	**17 13 54.9**	**-0.7**
	11nm,0.4s,baz=62,slow=2.8,SNR=4.1						
BATI				S	**S**	**17 15 12.7**	**-3.2**
	16nm,0.8s,baz=242,slow=23,SNR=7.0						
FITZ	**Fitzroy Crossi**	**12.83**	**193**	P	**Pn**	**17 15 09.0**	**+0.7**
	1.0nm,1.0s,baz=22,slow=11,SNR=1.0						
WRA	**Warramunga Arr**	**15.39**	**159**	P	**Pn**	**17 15 38.1**	**-0.3**
	0.2nm,0.3s,baz=334,slow=13,SNR=16						
WRA				S	**S**	**17 18 20.1**	**-1.5**
	0.4nm,1.0s,baz=328,slow=21,SNR=1.7						
ASAR	**Alice Springs**	**18.75**	**165**	P	**P**	**17 16 14.3**	**+2.1**
	0.4nm,0.3s,baz=346,slow=11,SNR=29						
ASAR				S	**S**	**17 19 28.0**	**+0.1**
	0.7nm,0.9s,baz=346,slow=25,SNR=5.9						
MKAR	**Makanchi Array**	**66.23**	**327**	P	**P**	**17 22 32.3**	**+3.3**
	0.2nm,0.4s,baz=143,slow=5.0,SNR=1.9 0.2nm,0.4s						

*NEIC **06** 17:19:27.7±2.5, 30°62N±0°05×131°05E±0°07, h33km±6km, mb4.5/19, Error ellipse: s-maj=9.0km s-min=6.9km az=75.0*

*NIED **06** 17:19:27.1, 30°60N×131°15E, h30km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.83; Mθθ=0.15; Mφφ=-0.69; Mrθ=0.58; Mθφ=-0.31; Mφr=0.89; Fault plane solution: M₀1.35000×10¹⁵ NP1: φs198.00000°, δ19.00000°, λ78.00000°. NP2:φs31.00000°, δ71.00000°, λ94.00000°.*

*JMA **06** 17:19:27.1±0.1, 30°6N±0°3×131°2E±0°7, h30km, MV3.9/37, NEAR TANEGASHIMA ISLAND*

JMA Felt I J1 at NEAR TANEGASHIMA ISLAND .

*IDC **06** 17:19:29.5±2.6, 30°68N×131°09E, h60km±24km, mb3.7/20, mbtmp4.0/24, ML3.1/4, MS3.3/13, Error ellipse: s-maj=20.8km s-min=14.0km az=66.0*

ISC 06 17:19:26.7±0.9, 30°60N±0°04×131°15E±0°05, h33km±4km, n85, σ1ˢ17/85, mb4.4/31, MS3.5/12, 1C-12D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.15**	**291**	⇓*i*P	**Pb**	**17 19 32.7**	**-0.2**
JTN				⇓S	**Sb**	**17 19 37.0**	**-0.1**
JMTN	**Minamitane**	**0.29**	**226**	⇓*i*P	**Pb**	**17 19 34.3**	**-0.1**
JMTN				⇓S	**Sn**	**17 19 40.0**	**+0.3**
JTSR	**Tashiro 2**	**0.60**	**341**	⇓*i*P	**Pb**	**17 19 38.9**	**-0.1**
JTSR				⇓S	**Sb**	**17 19 47.2**	**-0.1**
JYAK	**Yakushimahirau**	**0.66**	**237**	⇓*i*P	**Pn**	**17 19 39.4**	**-0.3**
JYAK				⇓S	**Sb**	**17 19 48.7**	**-0.2**
JKC	**Kuchinoerabu**	**0.83**	**261**	⇓*i*P	**Pn**	**17 19 42.4**	**+0.3**
JKC				⇓S	**Sb**	**17 19 54.5**	**+0.8**
JNAR	**Kushima--Naru**	**0.93**	**7**	⇓*i*P	**Pb**	**17 19 44.4**	**0.0**
JNKG	**Nichinankitago**	**1.08**	**10**	*i*P	**Pb**	**17 19 47.1**	**+0.2**
JSU	**Suzuyama**	**1.08**	**327**		**Pn**	**17 19 45.3**	**-0.3**
JSU				Sn	**Sn**	**17 19 59.7**	**+0.3**
JTZ	**Takazaki**	**1.30**	**358**	⇓*i*P	**Pb**	**17 19 49.9**	**-0.7**
JNN	**Nakanoshima**	**1.34**	**236**	P	**Pn**	**17 19 49.9**	**+0.8**
JMN	**Monobe**	**3.88**	**36**	Pn	**Pn**	**17 20 25.5**	**+1.3**
JMN				Sn	**Sn**	**17 21 05.9**	**-2.9**
JTU	**Tsushima**	**4.18**	**340**	Pn	**Pn**	**17 20 29.9**	**+1.6**
JOW	**Kunigami**	**4.52**	**215**	Pn	**Pn**	**17 20 33.1**	**+0.1**
JOW				Sn	**Sn**	**17 21 23.1**	**-1.3**
JHS	**Saijyo**	**4.69**	**20**	Pn	**Pn**	**17 20 36.7**	**+1.5**
JHS				Sn	**Sn**	**17 21 28.2**	**-0.3**
KSBUS	**Busan**	**4.94**	**340**	Pn	**Pn**	**17 20 40.5**	**+1.8**
NAWB	**Namwon**	**5.75**	**328**	Pn	**Pn**	**17 20 51.1**	**+1.4**
TJN	**Taejon**	**6.57**	**332**		**Pn**	**17 21 00.8**	**-0.3**
INU	**Inuyama**	**6.84**	**45**	Pn	**Pn**	**17 21 07.4**	**+2.7**
KSRS	**Korea Array**	**7.34**	**339**	P	**Pn**	**17 21 14.1**	**+2.5**
	0.7nm,0.3s,baz=157,slow=14,SNR=8.3						
KSRS				S	**Sn**	**17 22 34.0**	**+0.3**
	1.1nm,0.6s,baz=171,slow=30,SNR=3.4						
KSRS				LR	LR	17 24 17.1	
	comp=Z,162nm,20.5s,baz=170,slow=40 1.7nm,0.5s						
KS19	**Wonju Array Si**	**7.40**	**339**	Pn	**Pn**	**17 21 11.4**	**-1.1**
JHJ	**Hachijo jima 2**	**7.76**	**69**	P	**Pn**	**17 21 20.0**	**+2.6**
	5.4nm,0.3s,baz=49,slow=5.7,SNR=1.7						
JHJ				S	**Sn**	**17 22 40.9**	**-3.3**
	113nm,1.0s,baz=198,slow=22,SNR=1.3 92nm,0.8s						
SEHB	**SEOHWA**	**8.01**	**343**	Pn	**Pn**	**17 21 18.8**	**-2.1**
MJAR	**Matsushiro Arr**	**8.36**	**43**	P	**Pn**	**17 21 27.5**	**+1.9**
	0.1nm,0.3s,baz=237,slow=15,SNR=1.9 0.4nm,0.3s						
JCJ	**Chichijima**	**10.29**	**107**	LR	LR	17 25 21.1	
	comp=Z,69nm,21.5s,baz=306,slow=34						
USRK	**Ussuriysk Ar.**	**13.59**	**3**	P	**Pn**	**17 22 37.9**	**+0.7**
	0.3nm,0.3s,baz=185,slow=9.8,SNR=1.5 0.6nm,0.6s						
CN2	**Changchun**	**13.93**	**343**	*e*P	**P**	**17 22 49.5**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
HHC	**Hu-ho-hao-te**	**18.87**	**308**	*e*P	**Pn**	**17 23 47.7**	**+2.7**
HHC				pmax	pmax		
	comp=Z,37nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,7.0s						
HHC				LR	LR		
	comp=N,200nm,12.7s						
HHC				LR	LR		
	comp=E,150nm,12.1s						
HHC				LR	LR		
	comp=Z,240nm,12.7s						
GUMO	**Guam**	**21.14**	**140**	LR	LR	17 31 22.8	
	comp=Z,26nm,19.2s,baz=294,slow=34						
GYA	**Guiyang**	**21.89**	**265**	⇑P	**P**	**17 24 16.8**	**-0.3**
GYA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ULN	**Ulaanbaatar**	**25.25**	**320**	P	**P**	**17 24 49.5**	**-0.4**
SONM	**Songino Array**	**25.60**	**319**	P	**P**	**17 24 52.4**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=138,slow=10,SNR=5.7						
SONM				LR	LR	17 36 03.0	
	comp=Z,83nm,20.4s,baz=69,slow=39 comp=Z,0.9nm,0.5s						
PZH	**PanZhiHua**	**26.11**	**268**	P	**P**	**17 24 58.1**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,70nm,4.0s						
CMAR	**Chiang Mai Arr**	**31.58**	**255**	P	**P**	**17 25 46.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=51,slow=8.5,SNR=2.5						
CMAR				LR	LR	17 39 55.2	
	comp=Z,39nm,19.2s,baz=90,slow=39 comp=Z,0.4nm,0.6s						
MA2	**Magadan**	**31.86**	**19**	LR	LR	17 39 39.5	
	comp=Z,29nm,18.4s,baz=136,slow=38						
H11N2	**WAKE ISLAND Hy**	**33.99**	**100**	T	T	18 02 09.5	
	baz=296,slow=75,SNR=100						
H11N1	**WAKE ISLAND Hy**	**33.99**	**100**	T	T	18 02 08.0	
	baz=296,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hy**	**34.00**	**100**	T	T	18 02 08.4	
	baz=296,slow=75,SNR=82						
H11S3	**WAKE ISLAND Hy**	**34.36**	**102**	T	T	18 03 02.5	
	baz=296						
H11S1	**WAKE ISLAND Hy**	**34.36**	**102**	T	T	18 03 25.5	
	baz=296						
H11S2	**WAKE ISLAND Hy**	**34.38**	**102**	T	T	18 02 59.0	
	baz=296						
SEY	**Seymchan**	**35.11**	**17**	P	**P**	**17 26 17.2**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=135,slow=14,SNR=2.4 comp=Z,1.2nm,0.7s						
WMQ	**Urumqi**	**36.62**	**303**	*e*P	**P**	**17 26 31.7**	**+1.6**
WMQ				LR	LR		
	comp=Z,86nm,19.1s						
ZALV	**Zalesovo Beam**	**40.49**	**319**	P	**P**	**17 27 00.8**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=96,slow=7.6,SNR=3.5						
ZALV				LR	LR	17 45 36.0	
	comp=Z,44nm,19.2s,baz=62,slow=39 comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**40.73**	**308**	P	**P**	**17 27 03.3**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=87,slow=11,SNR=5.6						
MKAR				LR	LR	17 45 26.2	
	comp=Z,61nm,18.8s,baz=141,slow=38 comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**40.73**	**308**	P	**P**	**17 27 04.3**	**-0.1**
AMKA	**Amchitka**	**40.96**	**45**	P	**P**	**17 27 07.4**	**+1.3**
TIXI	**Tiksi**	**41.12**	**359**	P	**P**	**17 27 08.6**	**+1.4**
TIXI				IAmb	IAmb	17 27 27.0	
	comp=Z,5.6nm,0.7s						
KURK	**Kurchatov**	**43.58**	**313**	P	**P**	**17 27 27.1**	**-0.3**
NRIK	**Noril'sk**	**45.96**	**340**	P	**P**	**17 27 44.8**	**-1.4**
	comp=Z,1.7nm,0.4s,baz=118,slow=11,SNR=5.1 comp=Z,1.7nm,0.4s						
KNRA	**Kununurra**	**46.07**	**183**	P	**P**	**17 27 47.8**	**+0.2**
KNRA				IAmb	IAmb	17 28 00.5	
	comp=Z,16nm,1.4s						
AAK	**Ala-Archa**	**46.24**	**301**	LR	LR	17 50 29.1	
	comp=Z,44nm,18.2s,baz=130,slow=40						
FITZ	**Fitzroy Crossi**	**48.71**	**187**	P	**P**	**17 28 08.5**	**+0.4**
FITZ				IAmb	IAmb	17 28 23.2	
	comp=Z,7.0nm,1.3s						
BVAR	**Borovoye Array**	**48.85**	**316**	P	**P**	**17 28 08.2**	**-0.7**
	comp=Z,3.7nm,0.5s,baz=99,slow=9.4,SNR=26						
BVAR				LR	LR	17 50 17.9	
	comp=Z,43nm,19.0s,baz=94,slow=38 comp=Z,3.7nm,0.5s						
BRVK	**Borovoye**	**48.91**	**316**	P	**P**	**17 28 09.1**	**-0.3**
KKAR	**Karatay Array**	**49.12**	**302**	P	**P**	**17 28 11.3**	**+0.2**
WB0	**Warramunga Arr**	**50.17**	**176**	P	**P**	**17 28 19.5**	**+0.2**
WB0				IAmb	IAmb	17 29 00.8	
	comp=Z,4.4nm,1.4s						
WRA	**Warramunga Arr**	**50.34**	**176**	P	**P**	**17 28 20.8**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=356,slow=8.3,SNR=9.9 comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr**	**50.34**	**176**	P	**P**	**17 28 21.1**	**+0.5**
WB2	**Warramunga Arr**	**50.35**	**176**	P	**P**	**17 28 20.9**	**+0.3**
WB2				IAmb	IAmb	17 28 56.7	
	comp=Z,5.0nm,1.2s						
CHGR	**Chuyangaron**	**50.79**	**297**	P	**P**	**17 28 24.5**	**+0.4**
CHGR				IAmb	IAmb	17 28 25.2	
	comp=Z,8.5nm,0.9s						
ANM	**Nome**	**51.46**	**30**	P	**P**	**17 28 30.3**	**+1.8**
AS31	**Alice Springs**	**54.02**	**177**	P	**P**	**17 28 49.8**	**+1.9**
ASAR	**Alice Springs**	**54.02**	**177**	P	**P**	**17 28 48.5**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=10,slow=13,SNR=13 comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**54.02**	**177**	P	**P**	**17 28 48.3**	**+0.4**
ABKAR	**Akbulak array**	**55.62**	**311**	P	**P**	**17 28 58.9**	**-0.4**
ABKAR				IAmb	IAmb	17 28 59.4	
	comp=Z,2.2nm,0.6s						
ABKAR	**Akbulak array**	**55.62**	**311**	P	**P**	**17 28 58.7**	**-0.5**
ARU	**Arti**	**55.63**	**320**	P	**P**	**17 28 58.5**	**-0.7**
	comp=Z,3.2nm,0.3s,baz=345,slow=7.6,SNR=5.9 comp=Z,3.2nm,0.3s						
ARU	**Arti**	**55.63**	**320**	P	**P**	**17 28 58.6**	**-0.6**
ARU				IAmb	IAmb	17 28 59.1	
	comp=Z,3.8nm,0.5s						
K20K	**Telida**	**56.35**	**32**	P	**P**	**17 29 06.1**	**+1.8**
K20K				IAmb	IAmb	17 29 22.6	
	comp=Z,7.3nm,1.4s						
AKTO	**Aktyubinsk**	**56.67**	**313**	P	**P**	**17 29 06.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=68,slow=12,SNR=6.8						
AKTO				LR	LR	17 55 31.2	
	comp=Z,75nm,19.0s,baz=91,slow=38 comp=Z,1.7nm,0.7s						
H23K	**Yukon River**	**58.17**	**28**	P	**P**	**17 29 18.4**	**+1.3**
H23K				IAmb	IAmb	17 29 39.4	
	comp=Z,9.3nm,1.5s						
ILAR	**Eielson Array**	**59.38**	**30**	P	**P**	**17 29 24.9**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=284,slow=7.8,SNR=1.3 comp=Z,0.2nm,0.7s						
GEYT	**Alibeck**	**59.40**	**299**	P	**P**	**17 29 25.8**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=146,slow=2.9,SNR=3.7 comp=Z,2.1nm,0.7s						
BMAR	**Burnt Mountain**	**59.97**	**26**	P	**P**	**17 29 31.3**	**+1.7**
INK	**Inuvik**	**63.87**	**24**	P	**P**	**17 29 55.5**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=341,slow=10,SNR=3.8 comp=Z,1.8nm,0.3s						
SPB2	**Spitsbergen Ar**	**65.09**	**348**	P	**P**	**17 30 03.4**	**-0.2**
ARCES	**ARCESS Array B**	**66.90**	**338**	P	**P**	**17 30 14.4**	**-0.8**
	comp=Z,8.0nm,1.2s,baz=52,slow=7.9,SNR=5.9 comp=Z,8.0nm,1.2s						
KBZ	**Khabaz**	**68.41**	**309**	P	**P**	**17 30 24.9**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=76,slow=2.8,SNR=9.2 comp=Z,3.2nm,0.7s						
FIA1	**FINESS Array S**	**70.33**	**330**	P	**P**	**17 30 35.7**	**-1.1**
FIA0	**FINESS Array S**	**70.34**	**330**	P	**P**	**17 30 36.1**	**-0.7**
FINES	**FINESS Array B**	**70.34**	**330**	P	**P**	**17 30 35.5**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=65,slow=5.4,SNR=36 comp=Z,1.8nm,0.3s						
AKASG	**Malin Array Be**	**73.88**	**320**	P	**P**	**17 30 57.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=53,slow=6.4,SNR=4.7						
AKASG				LR	LR	18 06 31.4	
	comp=Z,36nm,20.3s,baz=12,slow=38 comp=Z,0.5nm,0.3s						
BRTR	**Keskin Array B**	**76.38**	**308**	P	**P**	**17 31 12.5**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=82,slow=5.6,SNR=7.1 comp=Z,1.3nm,0.9s						
NOA	**NORSAR Array B**	**76.52**	**334**	P	**P**	**17 31 12.2**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=36,slow=5.3,SNR=1.3 comp=Z,0.3nm,0.4s						
ESDC	**Sonseca Array**	**98.59**	**327**	LR	LR	18 22 58.1	
	comp=Z,28nm,19.7s,baz=348,slow=39						

*IDC **06** 17:33:09.7±3.4, 9°57N×126°23E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=263.0km s-min=29.9km az=65.0*

*MAN **06** 17:33:12.7, 9°22N×125°49E, h1km, mb4.6, ML3.5, MS3.3*

ISC 06 17:33:12.3±1.3, 9°28N±0°03×125°65E±0°05, h12km±10km, n23, σ0ˢ87/27, mb3.3/3, 8C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.31**	**186**	⇓*e*P	**Pg**	**17 33 18.7**	**+0.2**
BUTP				*e*S	**Sb**	**17 33 25.4**	**+0.6**
SCPH	**Surigao**	**0.53**	**342**	⇑*i*P	**Pb**	**17 33 23.3**	**-0.2**
SCPH				*i* S	**Sn**	**17 33 34.6**	**0.0**
CGP	**Cagayan de Oro**	**1.25**	**229**	⇑*i*P	**Pn**	**17 33 34.2**	**-1.4**
CGP				*i* S	**Sb**	**17 33 51.4**	**-0.5**
BIPH	**Bislig**	**1.29**	**147**	⇑*e*P	**Pn**	**17 33 35.3**	**-0.9**
BIPH				*i* S	**Sb**	**17 33 52.6**	**-0.5**
BUKP	**Musuan**	**1.50**	**203**	⇓*e*P	**Pb**	**17 33 39.7**	**-0.5**
BUKP				*e*S	**Sg**	**17 34 01.4**	**+0.7**
TBP	**Tagbilaran**	**1.81**	**283**	*e*P	**Pn**	**17 33 43.0**	**-0.3**
TBP				*i* S	**Sn**	**17 34 04.7**	**-1.6**
LLP	**Lapu-Lapu**	**1.96**	**302**	*e*P	Pn	17 33 35.2	-10
LLP				*i* S	**Sn**	**17 34 09.4**	**-0.4**
BESP	**Borongan**	**2.32**	**355**	⇓*e*P	**Pb**	**17 33 53.3**	**-0.7**
BESP				*e*S	**Sb**	**17 34 23.8**	**+1.1**
KCP	**Kidapawan**	**2.32**	**194**	⇓*e*P	**Pn**	**17 33 51.9**	**+1.5**
KCP				*i* S	**Sb**	**17 34 23.2**	**+0.4**
DCPH	**Dipolog City**	**2.37**	**253**	⇑*e*P	**Sn**	**17 34 19.3**	**-0.9**
SNPH	**Sibulan**	**2.38**	**272**	⇑*i*P	**Pn**	**17 33 52.0**	**+0.7**
SNPH				*i* S	**Sn**	**17 34 21.3**	**+0.8**
CTBH	**Cotabato--PC H**	**2.47**	**214**	⇑*e*P	**Pn**	**17 33 53.1**	**+0.7**
CTBH				*i* S	**Sg**	**17 34 31.0**	**-0.7**
CNOP	**Candoni, Negro**	**3.02**	**281**	⇑*e*P	**Pn**	**17 34 00.8**	**+0.9**
CNP	**Catarman**	**3.36**	**343**	⇑*e*P	**Pb**	**17 34 10.5**	**-1.3**
WRA	**Warramunga Arr**	**30.27**	**164**	P	**P**	**17 39 24.4**	**+1.0**
	0.5nm,1.1s,baz=345,slow=10,SNR=2.1 0.5nm,1.1s						
ASAR	**Alice Springs**	**33.72**	**166**	P	**P**	**17 39 53.9**	**+0.1**
	0.3nm,0.7s,baz=349,slow=7.2,SNR=6.7 0.3nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.79**	**72**	T	T	18 23 56.3	
	baz=261,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.81**	**72**	T	T	18 24 02.2	
	baz=261,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.81**	**72**	T	T	18 23 52.0	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**41.15**	**71**	T	T	18 24 34.2	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**41.16**	**71**	T	T	18 24 31.3	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**41.17**	**71**	T	T	18 24 31.7	
	baz=265						
MKAR	**Makanchi Array**	**52.45**	**323**	P	**P**	**17 42 25.0**	**+0.1**
	0.4nm,0.7s,baz=127,slow=9.2,SNR=3.3 0.4nm,0.7s						

*IDC **06** 17:48:33.5±0.6, 37°05N×97°92W, h0km, mb4.0/10, mbtmp3.9/17, ML4.0/6, MS3.3/3, Error ellipse: s-maj=9.7km s-min=8.3km az=159.0*

*NEIC **06** 17:48:33.7±0.6, 36°932N±0°009×97°90W±0°01, h2km±2km, Error ellipse: s-maj=1.3km s-min=1.1km az=156.0*

*ANF **06** 17:48:34.3±0.3, 36°95N×97°84W, h4km, ML4.9/23, Error ellipse: s-maj=3.5km s-min=3.1km az=166.0*

*TUL **06** 17:48:34.2±0.6, 36°937N±0°005×97°91W±0°01, h4km±2km, ML4.1, mb3.9/5(NEIC), mb_Lg4.1/117(NEIC), Mwr3.9/23(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=73.0*

*NEIC **06** 17:48:34.3, 36°92N×97°90W, h5km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=8.23; Mθθ8.21; Mφφ0.01; Mrθ0.27; Mrφ2.19; Mθr-0.58; Fault plane solution: M₀8.53000×10¹⁴ NP1:φs260.57000°, δ45.60000°, λ-83.46000°. NP2:φs71.27000°, δ44.78000°, λ-96.63000°. Principal axes: T 8.7660, Plg0.0000°, Azm346.0000°; N -0.4880, Plg5.0000°, Azm76.0000°; P -8.2780, Plg85.0000°, Azm251.0000°;*

ISC 06 17:48:34.0±0.7, 36°93N±0°02×97°90W±0°02, h9km±4km, n297, σ1ˢ12/334, mb4.0/11, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.06**	**298**	Pg	**Pg**	**17 48 35.7**	**-0.4**
KAN14				Sg	**Sg**	**17 48 36.9**	**-0.7**
GC02	**Grant County #**	**0.08**	**159**	Pg	**Pg**	**17 48 36.4**	**0.0**
GC02				Sg	**Sg**	**17 48 38.0**	**0.0**
KAN17	**Caldwell West**	**0.16**	**42**	Pg	**Pg**	**17 48 37.6**	**+0.2**
KAN17				Sg	**Sg**	**17 48 40.3**	**+0.5**
KAN05	**Bluff City Nor**	**0.18**	**6**		**Pg**	**17 48 38.1**	**+0.2**
KAN05				Sg	**Sg**	**17 48 40.9**	**+0.4**
KAN01	**Argonia South**	**0.25**	**26**	Pg	**Pg**	**17 48 39.4**	**+0.3**
KAN01				Sg	**Sg**	**17 48 43.1**	**+0.5**
OK032	**Salt Plains WL**	**0.28**	**244**	Pg	**Pg**	**17 48 39.9**	**+0.2**
OK032				Sg	**Sg**	**17 48 43.5**	**0.0**
KAN08	**Anthony NE Sta**	**0.30**	**349**		**Pg**	**17 48 40.4**	**+0.3**
KAN08				Sg	**Sg**	**17 48 45.1**	**+0.9**
KAN09	**Caldwell North**	**0.30**	**47**	Pg	**Pg**	**17 48 40.4**	**+0.3**
KAN09				Sg	**Sg**	**17 48 44.4**	**+0.2**
KAN06	**Argonia West S**	**0.32**	**5**		**Pg**	**17 48 40.7**	**+0.2**
KAN06				Sg	**Sg**	**17 48 45.1**	**+0.3**
KAN16	**Harper SW Stat**	**0.33**	**336**	Pg	**Pg**	**17 48 40.6**	**+0.1**
KAN16				Sg	**Sg**	**17 48 45.2**	**+0.3**
KAN13	**South Haven SW**	**0.35**	**76**	Pg	**Pg**	**17 48 41.3**	**+0.4**
KAN13				Sg	**Sg**	**17 48 45.3**	**-0.2**
KAN12	**Harper NE Stat**	**0.38**	**348**	Pg	**Pg**	**17 48 41.7**	**+0.2**
KS21	**Milan North St**	**0.40**	**28**	Pg	**Pg**	**17 48 42.0**	**+0.1**
KS20	**Mayfield South**	**0.41**	**42**	Pg	**Pg**	**17 48 42.3**	**+0.2**
KS20				Sg	**Sg**	**17 48 47.9**	**+0.4**
CROK	**Carrier**	**0.43**	**189**	Pg	**Pg**	**17 48 42.2**	**-0.3**
CROK				Sg	**Sg**	**17 48 49.3**	**+1.2**
BLOK	**Blackwell**	**0.57**	**107**	Pg	**Pg**	**17 48 45.4**	**+0.3**
BLOK				Sg	**Sg**	**17 48 53.6**	**+1.0**
OK035	**E0210 Rd and N**	**0.69**	**252**	Pg	**Pg**	**17 48 47.3**	**0.0**
OK038	**West end E0370**	**0.81**	**237**		**Pg**	**17 48 49.8**	**0.0**
NOKA	**Waynoka**	**0.88**	**251**	Pg	**Pg**	**17 48 50.8**	**-0.3**
OK045	**Pawnee Station**	**0.92**	**121**	Pg	**Pg**	**17 48 51.7**	**0.0**
OK045				Sg	**Sg**	**17 49 04.4**	**+0.7**
OK044	**Pawnee Station**	**1.04**	**122**	Pg	**Pg**	**17 48 54.0**	**-0.2**
OK044				Sg	**Sg**	**17 49 08.1**	**+0.5**
U32A	**Winter Ranch,**	**1.04**	**239**	P

CBKS Cedar Bluff 2.38 323 P Pn 17 49 14.8 +1.5
baz=141
CBKS Cedar Bluff 2.38 323 P Pn 17 49 13.8 +0.5
baz=142,SNR=29
CBKS S Sn 17 49 43.9 +1.3
baz=142
KSU1 Kansas State U 2.40 25 Pn 17 49 14.5 +1.1
KSU1 Kansas State U 2.40 25 P Pn 17 49 15.0 +1.6
baz=205,SNR=29
KSU1 Sb Sb 17 49 48.0 +1.0
baz=205
KSU1 Kansas State U 2.40 25 P Pn 17 49 14.3 +0.9
baz=206,SNR=59
KSU1 Sb Sb 17 49 47.6 +0.7
baz=206
RLO Rose Lookout 2.44 107 Pn Pn 17 49 15.2 +1.2
U38A Gravette 2.86 99 Pn Pn 17 49 21.2 +1.3
U38A lAmb_Lg 17 50 12.1
comp=Z,568nm,0.9s
U38A Gravette 2.86 99 P Pn 17 49 21.6 +1.8
baz=282,SNR=40
LOOK Love County 2.99 169 Pn Pn 17 49 22.7 +1.2
LOOK lAmb_Lg 17 50 16.6
comp=Z,380nm,1.0s
X37A Clayton 3.11 138 Pn Pn 17 49 24.5 +1.3
X37A Clayton 3.11 138 P Pn 17 49 25.1 +1.9
baz=320,SNR=33
HHAR Hobbs 3.25 100 Pn 17 49 26.0 +0.9
HHAR lAmb_Lg 17 50 24.7
comp=Z,835nm,0.8s
HHAR Hobbs 3.25 100 P Pn 17 49 26.9 +1.7
baz=283
Z35A Perchaven, San 3.63 171 Pn 17 49 30.5 +0.2
Z35A lAmb_Lg 17 50 35.0
comp=Z,347nm,1.0s
Z35A Perchaven, San 3.63 171 P Pn 17 49 31.7 +1.4
baz=353,SNR=10
Z35A S Sn 17 50 15.2 +1.9
baz=353
AMTX Amarillo 3.69 238 Pn 17 49 30.7 -0.5
AMTX lAmb_Lg 17 50 39.7
comp=Z,518nm,0.9s
AMTX Amarillo 3.69 238 P Pn 17 49 31.8 +0.6
baz=55
AMTX S Sn 17 50 16.0 +1.1
baz=55
S39A Bolivar 3.73 77 Pn 17 49 30.1 -1.6
S39A Bolivar 3.73 77 P Pn 17 49 32.6 +0.9
baz=260,SNR=18
S39A S Sn 17 50 16.6 +1.0
baz=260
N33B J Bar K, Exete 3.82 5 P Pn 17 49 33.5 +0.5
baz=185
N33B S Sn 17 50 18.8 +0.8
baz=185
N33A J Bar K, Exete 3.82 5 Pn 17 49 33.0 0.0
N33A lAmb_Lg 17 50 44.4
comp=Z,364nm,0.7s
MIAR Mount Ida 4.24 123 Pn 17 49 38.9 +0.1
MIAR lAmb_Lg 17 50 51.2
comp=Z,520nm,0.9s
MIAR Mount Ida 4.24 123 S Sn 17 50 29.5 +1.1
baz=306
MIAR Mount Ida 4.24 123 P Pn 17 49 39.2 +0.4
baz=305,SNR=24
MIAR S Sn 17 50 29.6 +1.2
baz=305
KSCO Kaye Shedlock' 4.28 301 Pn 17 49 39.6 +0.2
KSCO lAmb_Lg 17 50 56.6
comp=Z,422nm,1.2s
KSCO Kaye Shedlock' 4.28 301 P Pn 17 49 41.0 +1.6
baz=117
KSCO Kaye Shedlock' 4.28 301 P Pn 17 49 40.2 +0.8
baz=118
KSCO S Sn 17 50 30.7 +1.2
baz=118
N35A Tabor 4.30 23 Pn 17 49 40.4 +0.8
P38A Dawn 4.36 51 Pn 17 49 40.9 +0.5
P38A lAmb_Lg 17 50 53.4
comp=Z,457nm,0.9s
P38A Dawn 4.36 51 P Pn 17 49 41.7 +1.3
baz=233,SNR=17
Z38A Mt. Pleasant 4.37 146 Pn 17 49 41.4 +0.8
Z38A Mt. Pleasant 4.37 146 P Pn 17 49 42.0 +1.4
baz=328
BGNE Belgrade 4.48 358 Pn 17 49 42.2 +0.1
BGNE lAmb_Lg 17 51 05.1
comp=Z,447nm,0.8s
BGNE Belgrade 4.48 358 P Pn 17 49 42.9 +0.9
baz=177,SNR=30
BGNE Belgrade 4.48 358 P Pn 17 49 42.9 +0.9
baz=178,SNR=7.8
BGNE S Sn 17 50 35.7 +1.4
baz=178
MGMO Mountain Grove 4.51 85 Pn 17 49 43.4 +0.9
MGMO lAmb_Lg 17 50 58.3
comp=Z,366nm,0.8s
ABTX Abilene, Hawle 4.53 199 Pn 17 49 43.0 +0.2
ABTX Abilene, Hawle 4.53 199 S Sn 17 50 37.5 +2.0
baz=18
R40A Maddies Statio 4.67 71 Pn 17 49 45.4 +0.7
R40A lAmb_Lg 17 51 07.0
comp=Z,280nm,0.8s
R40A Maddies Statio 4.67 71 P Pn 17 49 45.7 +1.0
baz=255,SNR=45
R40A S Sn 17 50 38.8 -0.1
baz=255
FCAR Ozark Folk Cen 4.77 101 Pn 17 49 46.5 +0.5
FCAR lAmb_Lg 17 51 18.8
comp=Z,221nm,0.7s
WHAR Wooly Hollow 4.83 108 Pn 17 49 47.2 +0.4
WHTX Lake Whitney, 4.94 176 Pn 17 49 48.8 +0.5
WHTX Lake Whitney, 4.94 176 P Pn 17 49 49.0 +0.7
baz=356,SNR=62
WHTX Lake Whitney, 4.94 176 P Pn 17 49 49.1 +0.7
baz=356,SNR=17
WHTX S Sn 17 50 45.2 -0.4
baz=356
MSTX Muleshoe 4.96 235 Pn Pn 17 49 49.4 +0.7
MSTX Muleshoe 4.96 235 P Pn 17 49 49.9 +1.1
baz=52
MSTX S Sn 17 50 47.2 +1.1
baz=52
UALR University of 5.00 114 Pn 17 49 49.8 +0.7
UALR lAmb_Lg 17 51 24.3
comp=Z,265nm,0.9s
WLAR White Oak Lake 5.08 128 Pn 17 49 50.7 +0.5
OGNE Ogallala 5.15 322 Pn 17 49 52.6 +1.3
OGNE lAmb_Lg 17 51 25.0
comp=Z,352nm,0.8s
OGNE Ogallala 5.15 322 P Pn 17 49 53.5 +2.2
baz=139,SNR=23
OGNE Ogallala 5.15 322 P Pn 17 49 51.5 +0.2
baz=140,SNR=9.0
OGNE S Sn 17 50 50.8 0.0
baz=140
L34A Svendsen Farm, 5.17 13 Pn 17 49 51.0 -0.5
Z37A Washetta, Mont 5.21 160 Pn 17 49 52.2 +0.2
Z37A lAmb_Lg 17 51 31.7
comp=Z,354nm,1.2s
Z37A Washetta, Mont 5.21 160 P Pn 17 49 52.5 +0.4
baz=342
Z37A S Sn 17 50 51.6 -0.7
baz=342
T25A Trinidad 5.22 274 Pn 17 49 51.2 -1.2
T25A Trinidad 5.22 274 P Pn 17 49 52.8 +0.5
baz=90,SNR=6.6
P40A Paris 5.29 59 Pn 17 49 53.1 0.0
P40A lAmb_Lg 17 51 29.2
comp=Z,269nm,0.8s
N38A Joes South For 5.30 42 Pn 17 49 53.8 +0.4
N38A lAmb_Lg 17 51 26.3
comp=Z,442nm,0.8s
N38A Joes South For 5.30 42 P Pn 17 49 54.2 +0.9
baz=224,SNR=16
N38A S Sn 17 50 55.4 +0.9
baz=224
CCM Cathedral Cave 5.41 76 Pn 17 49 55.0 +0.2
CCM lAmb_Lg 17 51 37.0
comp=Z,236nm,0.8s
CCM Cathedral Cave 5.41 76 P Pn 17 49 55.1 +0.3
baz=260
CCM S Sn 17 50 56.1 -1.1
baz=260
CCM Cathedral Cave 5.41 76 P Pn 17 49 54.8 0.0
baz=260
CCM S Sn 17 50 56.6 -0.5
baz=260
LCAR Lake Charles 5.50 97 Pn 17 49 56.5 +0.4
LCAR lAmb_Lg 17 51 32.2
comp=Z,239nm,0.8s
K31A O'Neill 5.72 354 Pn Pn 17 49 59.3 +0.1
NATX Nacogdoches 5.81 152 Pn Pn 17 50 00.3 0.0
NATX lAmb_Lg 17 51 40.5
comp=Z,181nm,0.8s
NATX Nacogdoches 5.81 152 S Sn 17 51 05.2 -1.8
baz=334
CCAR Cane Creek 5.83 119 Pn Pn 17 50 00.3 -0.3
CCAR lAmb_Lg 17 51 44.4
comp=Z,319nm,0.9s
PBMO Poplar Bluff 5.99 89 Pn Pn 17 50 02.8 0.0
PBMO lAmb_Lg 17 51 45.2
comp=Z,346nm,0.8s
HBAR Harrisburg 6.01 101 Pn Pn 17 50 02.7 -0.3
FVM French Village 6.04 78 Pn Pn 17 50 03.6 +0.2
FVM lAmb_Lg 17 51 46.0
comp=Z,239nm,0.8s
FVM French Village 6.04 78 P Pn 17 50 03.9 +0.4
baz=262,SNR=8.9
Q24A Divide 6.08 292 Pn 17 50 04.5 +0.2
Q24A Divide 6.08 292 P Pn 17 50 04.9 +0.6
baz=107
Q24A S Sn 17 51 14.3 +0.1
baz=107
SDCO Great Sand Dun 6.11 280 Pn 17 50 05.2 +0.5
SDCO Great Sand Dun 6.11 280 P Pn 17 50 07.2 +2.4
baz=95,SNR=6.6
SDCO S Sn 17 51 16.5 +1.6
baz=95
SDCO Great Sand Dun 6.11 280 P Pn 17 50 05.8 +1.0
baz=95,SNR=8.7
435B Jarrell 6.14 177 Pn 17 50 05.0 +0.2
435B lAmb_Lg 17 52 00.4
comp=Z,337nm,1.0s
435B Jarrell 6.14 177 P Pn 17 50 05.3 +0.5
baz=358
435B Jarrell 6.14 177 P Pn 17 50 05.3 +0.5
baz=358
SCIA State Center 6.15 35 Pn 17 50 05.7 +0.7
SCIA State Center 6.15 35 P Pn 17 50 05.6 +0.6
baz=218
SCIA S Sn 17 51 15.5 0.0
baz=218
CPRX Cap Rock 6.26 233 Pn 17 50 06.9 +0.3
SLM Saint Louis 6.30 72 Pn 17 50 04.9 -2.2
SLM lAmb_Lg 17 51 57.1
comp=Z,295nm,0.9s
SLM Saint Louis 6.30 72 S Sn 17 51 17.9 -1.3
baz=257
HTMS Hat Mesa 6.49 228 Pn 17 50 09.6 -0.1
PEBM Pemiscott Bayo 6.52 95 Pn Pn 17 50 09.8 -0.3
PARMO Parma 6.54 90 Pn Pn 17 50 09.8 -0.5
CGM3 Cape Girardeau 6.59 84 lAmb_Lg 17 52 05.6
comp=Z,259nm,0.8s
JCT Junction City 6.63 194 Pn 17 50 11.5 -0.1
JCT lAmb_Lg 17 52 18.3
comp=Z,178nm,0.8s
JCT Junction City 6.63 194 P Pn 17 50 12.0 +0.4
baz=13
CLN7 Carlsbad 7 6.63 229 Pn 17 50 11.3 -0.5
N41A Harden Midland 6.67 53 Pn 17 50 12.5 +0.4
N41A lAmb_Lg 17 52 04.2
comp=Z,340nm,0.8s
N41A Harden Midland 6.67 53 P Pn 17 50 13.5 +1.5
baz=238
MET Memphis--Engin 6.70 103 lAmb_Lg 17 52 21.0
comp=Z,333nm,0.8s
ISCO Idaho Springs 6.71 298 Pn 17 50 13.4 +0.5
ISCO Idaho Springs 6.71 298 P Pn 17 50 14.2 +1.3
baz=113,SNR=11
ISCO Idaho Springs 6.71 298 P Pn 17 50 13.7 +0.7
baz=113,SNR=17
143A Socs Landing, 6.80 126 Pn Pn 17 50 13.2 -0.7
143A lAmb_Lg 17 52 22.3
comp=Z,186nm,0.8s
ECSD EROS Data Cent 6.87 8 Pn 17 50 14.4 -0.5
ECSD EROS Data Cent 6.87 8 P Pn 17 50 14.8 -0.1
baz=188,SNR=11
ECSD EROS Data Cent 6.87 8 P Pn 17 50 14.7 -0.1
baz=189,SNR=11
S44A Carbondale 6.93 81 Pn 17 50 13.6 -2.1
S44A lAmb_Lg 17 52 20.6
comp=Z,284nm,0.8s
S44A Carbondale 6.93 81 S Sn 17 51 32.5 -2.1
baz=266
K38A Parkersburg 6.94 33 Pn Pn 17 50 15.2 -0.7
GLAT Glass 6.96 93 Pn Pn 17 50 16.7 +0.7
SIUC Southern Illin 6.96 81 Pn 17 50 14.4 -1.7
SIUC lAmb_Lg 17 52 14.2
comp=Z,247nm,1.0s
HALT Halls 6.97 96 lAmb_Lg 17 52 31.7
comp=Z,350nm,1.0s
GDL2 Guadalupe Moun 7.12 230 Pn 17 50 17.1 -1.4
P43A Skaggs, Pawnee 7.12 65 Pn 17 50 18.6 +0.3
P43A Skaggs, Pawnee 7.12 65 S Sn 17 51 37.5 -1.8
baz=250
ANMO Albuquerque 7.22 257 Pn Pn 17 50 23.9 +4.0
comp=Z,0.5nm,0.3s,baz=62,slow=5.3,SNR=3.5
ANMO Lg Lg 17 52 20.1
comp=Z,2.5nm,0.3s,baz=329,slow=18,SNR=7.5
L40A Anamosa 7.27 43 Pn 17 50 20.2 -0.2
L40A lAmb_Lg 17 52 31.9
comp=Z,295nm,0.7s
L40A Anamosa 7.27 43 P Pn 17 50 20.6 +0.2
baz=227,SNR=14
Q44A Meyer Farm, Va 7.29 72 Pn 17 50 21.2 +0.6
Q44A Meyer Farm, Va 7.29 72 S Sn 17 51 42.0 -1.5
baz=257
OXF Oxford 7.31 107 P Pn 17 50 21.6 +0.6
baz=292
PHWY Pilot Hill 7.32 309 Pn 17 50 22.0 +0.6
PHWY lAmb_Lg 17 52 36.0
comp=Z,158nm,1.1s
N23A Red Feather La 7.42 305 Pn 17 50 23.4 +0.8
N23A lAmb_Lg 17 52 43.0
comp=Z,230nm,0.8s
N23A Red Feather La 7.42 305 P Pn 17 50 23.2 +0.5
baz=120
Y45A Yeager Farm, C 7.47 112 lAmb_Lg 17 52 51.3
comp=Z,238nm,0.9s
SMCO Snowmass 7.51 290 Pn Pn 17 50 22.8 -1.2
SUSD Miller 7.55 354 Pn 17 50 23.1 -1.1
SUSD lAmb_Lg 17 52 38.6
comp=Z,188nm,0.8s
HDIL Hopedale 7.63 59 Pn 17 50 24.4 -1.0
HDIL Hopedale 7.63 59 P Pn 17 50 26.4 +1.1
baz=244,SNR=8.9
HDIL S Sn 17 51 52.1 +0.1
baz=244
HDIL Hopedale 7.63 59 P Pn 17 50 26.0 +0.6
baz=244,SNR=13
BNM Barren Site 7.64 251 Pn 17 50 27.0 +1.4
CRNM Carthage 7.80 250 Pn Pn 17 50 28.0 +0.2
I37A Lemond, Waseca 7.86 24 Pn Pn 17 50 28.9 +0.4
I37A lAmb_Lg 17 52 56.0
comp=Z,193nm,0.7s
Y22D IRIS PASSCAL I 7.89 252 lAmb_Lg 17 53 05.4
comp=Z,271nm,1.0s
OLIL Olney 7.96 74 lAmb_Lg 17 53 09.6
comp=Z,241nm,1.0s
735A Kenedy 8.05 179 lAmb_Lg 17 53 02.3
comp=Z,144nm,1.0s
O44A Mansfield 8.06 64 Pn 17 50 31.3 +0.1
MNTX Cornudas Mount 8.10 232 Pn 17 50 32.3 +0.5
MNTX Cornudas Mount 8.10 232 P Pn 17 50 32.8 +1.1
baz=48,SNR=6.4
MNTX Cornudas Mount 8.10 232 P Pn 17 50 32.3 +0.5
baz=48,SNR=17
L42A Oliver, Polo 8.13 49 Pn 17 50 32.2 0.0
L42A Oliver, Polo 8.13 49 P Pn 17 50 32.8 +0.5
baz=234,SNR=22
WVT Waverly 8.14 93 Pn 17 50 32.3 -0.1
WVT Waverly 8.14 93 P Pn 17 50 31.9 -0.4
baz=279
PLAL Pickwick Lake 8.20 101 Pn 17 50 32.6 -0.5
PLAL lAmb_Lg 17 52 55.6
comp=Z,108nm,0.9s
JFWS Jewell Farm 8.38 42 Pn 17 50 35.1 -0.5
JFWS lAmb_Lg 17 53 04.1
comp=Z,257nm,0.7s
JFWS Jewell Farm 8.38 42 P Pn 17 50 35.6 0.0
baz=227,SNR=14
JFWS Jewell Farm 8.38 42 P Pn 17 50 35.1 -0.5
baz=227,SNR=14
146A Union 8.44 118 lAmb_Lg 17 53 19.4
comp=Z,114nm,0.8s
RSSD Black Hills 8.57 329 Pn 17 50 38.5 +0.1
RSSD lAmb_Lg 17 53 13.7
comp=Z,110nm,0.9s
RSSD Black Hills 8.57 329 P Pn 17 50 39.2 +0.8
baz=145
T47A Sharon Grove 8.64 86 Pn 17 50 39.7 +0.6
RWWY Rawlins 8.64 306 Pn 17 50 38.9 -0.6
833A Chaparral WMA, 8.67 189 Pn 17 50 39.1 -0.6
833A lAmb_Lg 17 53 19.8
comp=Z,124nm,1.1s
833A Chaparral WMA, 8.67 189 P Pn 17 50 39.9 +0.3
baz=7.8
K22A Casper 8.76 313 Pn 17 50 40.0 -0.9
K22A lAmb_Lg 17 53 30.2
comp=Z,126nm,0.9s
K22A Casper 8.76 313 P Pn 17 50 41.1 +0.2
baz=128
M44A Midewin, Midew 8.85 57 Pn 17 50 41.2 -0.8
M44A Midewin, Midew 8.85 57 P Pn 17 50 42.8 +0.7
baz=243
I40A Norwalk 8.89 36 Pn 17 50 42.7 0.0
I40A lAmb_Lg 17 53 25.3
comp=Z,153nm,1.1s
I40A Norwalk 8.89 36 S Sn 17 52 19.2 -3.8
baz=221
F33A 5 Mile Ranch, 8.98 7 Pn 17 50 41.8 -2.1
TX31 Lajitas Ar. Si 8.98 214 Pn 17 50 43.7 -0.3
TX31 Lajitas Ar. Si 8.98 214 P Pn 17 50 44.4 +0.3
baz=31,SNR=12
TX32 Lajitas Array 8.98 214 Pn 17 50 43.6 -0.5
TXAR Lajitas Array 8.98 214 Pn Pn 17 50 44.0 -0.1
comp=Z,1.1nm,0.3s,baz=30,slow=11,SNR=43
TXAR Sn Sn 17 52 22.5 -2.9
comp=Z,1.3nm,0.3s,baz=43,slow=16,SNR=1.5
TXAR Lg Lg 17 53 13.9
comp=Z,1.9nm,0.3s,baz=37,slow=23,SNR=3.2
comp=Z,2.1nm,0.5s
TXAR Lajitas Array 8.98 214 Pn 17 50 43.8 -0.2
V48A Smith Brothers 9.02 94 Pn Pn 17 50 44.1 -0.3
SFIN Lafayette 9.12 65 Pn 17 50 45.9 +0.2
SFIN Lafayette 9.12 65 P Pn 17 50 45.2 -0.6
baz=251,SNR=6.1
SPMN Marine on St. 9.13 23 Pn Pn 17 50 46.0 +0.1
SPMN lAmb_Lg 17 53 30.4
comp=Z,96nm,0.8s
BLO Bloomington 9.25 73 Pn 17 50 47.4 -0.1
WCI Wyandotte Cave 9.30 78 Pn 17 50 48.1 -0.1
L44A Lake County Fo 9.32 53 Pn 17 50 48.6 +0.1
L44A Lake County Fo 9.32 53 P Pn 17 50 48.7 +0.2
baz=239
K43A Burlington 9.35 49 Pn 17 50 48.4 -0.4
K43A lAmb_Lg 17 53 33.0
comp=Z,230nm,1.0s
U49A Red Boiling Sp 9.74 89 Pn 17 50 54.2 0.0
LRAL Lakeview Retre 9.75 110 P Pn 17 50 52.8 -1.5
baz=297
I42A Draeger Farm, 9.76 42 Pn 17 50 53.8 -0.7
I42A lAmb_Lg 17 53 51.8
comp=Z,203nm,1.2s
I42A Draeger Farm, 9.76 42 P Pn 17 50 54.4 0.0
baz=227
E28A Huff 9.86 349 lAmb_Lg 17 53 51.7
comp=Z,110nm,0.9s
P48A Milroy 10.14 72 Pn 17 50 58.6 -1.1
G40A Rib Lake 10.15 32 Pn 17 50 59.3 -0.5
N47A Urbana 10.29 64 Pn 17 51 00.3 -1.5
L46A Eue Claire 10.30 57 Pn 17 51 01.6 -0.3
L46A LR 17 53 54.0
O48B Farmland 10.51 68 P Pn 17 51 04.1 -0.7
baz=256
BW06 Boulder Array 10.69 307 P Pn 17 51 06.8 -0.7
baz=119
P49A Miami Univ. Ec 10.69 72 P Pn 17 51 06.5 -0.8
baz=260
PD31 Pinedale Array 10.69 307 Pn 17 51 05.8 -1.7
PDAR Pinedale Array 10.69 307 Pn Pn 17 51 07.2 -0.3
comp=Z,0.2nm,0.3s,baz=111,slow=14,SNR=12
PDAR Sn Sn 17 53 03.3 -4.1
comp=Z,0.3nm,0.3s,baz=120,slow=15,SNR=1.4
PDAR Lg Lg 17 54 07.7
comp=Z,1.3nm,0.3s,baz=109,slow=32,SNR=6.7
PDAR LR LR 17 55 29.9
comp=Z,110nm,18.1s,baz=109,slow=39
comp=Z,1.0nm,0.7s
E38A The Farm, Brul 10.76 24 Pn 17 51 07.2 -1.0
CPCT Cooper Cave 10.91 94 Pn 17 51 10.5 +0.2
WUAZ Wupatki 10.98 267 Pn 17 51 11.6 +0.2
V51A Loudon 10.98 92 Pn 17 51 11.0 -0.3
V51A Loudon 10.98 92 P Pn 17 51 12.6 +1.3
baz=280
O49A Covington 11.11 69 Pn 17 51 11.2 -1.8
N49A Columbus Grove 11.40 65 Pn 17 51 15.1 -1.9
S51A Beattyville 11.42 82 Pn 17 51 16.0 -1.2
AGMN Agassiz Nation 11.46 7 Pn Pn 17 51 15.1 -2.7
AGMN Agassiz Nation 11.46 7 P Pn 17 51 15.7 -2.1
baz=188
TKL Tuckaleechee C 11.47 92 Pn Pn 17 51 17.9 -0.1
comp=Z,1.7nm,0.3s,baz=234,slow=7.3,SNR=14
TKL Sn Sn 17 53 22.6 -3.6
comp=Z,0.8nm,0.3s,baz=298,slow=15,SNR=2.3
TKL Lg Lg 17 54 27.7
comp=Z,3.0nm,0.3s,baz=344,slow=23,SNR=3.5
comp=Z,6.2nm,0.4s
TKL Tuckaleechee C 11.47 92 Pn 17 51 17.3 -0.7
TKL Tuckaleechee C 11.47 92 P Pn 17 51 18.4 +0.4
baz=281
L48A N Adams 11.55 60 Pn 17 51 17.0 -2.0
LAO LASA Array 11.55 330 Pn 17 51 17.8 -1.4
LAO LASA Array 11.55 330 P Pn 17 51 18.9 -0.2
baz=145
Q51A Peebles 11.68 75 Pn 17 51 19.5 -1.2
EYMN Ely 11.98 21 P Pn 17 51 21.7 -3.2
baz=206
ACSO Alum Creek Sta 12.13 70 Pn 17 51 24.3 -2.7
ACSO Alum Creek Sta 12.13 70 P Pn 17 51 24.9 -2.1
baz=259
AAM Ann Arbor 12.22 60 Pn 17 51 26.6 -1.5
AAM Ann Arbor 12.22 60 P Pn 17 51 26.4 -1.7
baz=249
V53A Saluda 12.24 91 Pn 17 51 27.1 -1.4
M50A Fremont 12.36 64 Pn 17 51 28.6 -1.5
DGMT Dagmar 12.42 340 Pn 17 51 28.4 -2.5
DGMT Dagmar 12.42 340 P Pn 17 51 30.0 -0.9
baz=156
E43A Lone Tree Farm 12.46 37 Pn 17 51 29.5 -2.0
GCMT Greycliff 12.50 319 Pn 17 51 31.3 -0.9
P52A Corning 12.68 73 P Pn 17 51 32.9 -1.6
baz=263
N51A Ashland 12.72 67 Pn 17 51 33.0 -2.0
GLMI Grayling 12.76 48 P Pn 17 51 33.3 -2.3
baz=236
S54A Dingess, Beckl 13.22 81 Pn 17 51 40.5 -1.5
ULM Lac du Bonnet 13.40 6 Pn Pn 17 51 38.7 -5.4
comp=Z,3.8nm,0.7s,baz=188,slow=12,SNR=5.4
ULM Sn Sn 17 54 00.1 -13
comp=Z,0.9nm,0.3s,baz=142,slow=9.8,SNR=2.2
ULM Lg Lg 17 55 22.8
baz=200,slow=12
O53A New Philadelph 13.47 71 P Pn 17 51 42.4 -2.8
baz=261
KMSC Kings Mountain 13.53 93 P Pn 17 51 44.7 -1.3
baz=282
M52A Chesterland 13.62 65 Pn 17 51 46.1 -1.2
R11A Troy Canyon, C 14.09 281 P Pn 17 51 51.8 -2.2
baz=90
M53A WI Miller and 14.09 66 P Pn 17 51 51.8 -2.0
baz=257
EGMT Eagleton 14.11 326 Pn 17 51 53.0 -0.9
EGMT Eagleton 14.11 326 P Pn 17 51 53.6 -0.4
baz=138
KVN Kaiserville 16.07 284 P Pn 17 52 22.1 +1.8
SADO Sadowa 16.19 55 Pn Pn 17 52 16.8 -4.7
comp=Z,0.3nm,0.3s,baz=266,slow=16,SNR=1.5
SADO Sn Sn 17 55 10.4 -11
comp=Z,0.7nm,0.3s,baz=271,slow=10,SNR=2.4
SADO Lg Lg 17 56 51.2
comp=Z,0.6nm,0.3s,baz=212,slow=3.4,SNR=1.7
comp=Z,1.5nm,0.3s
NVAR Mina Array Bea 16.23 281 Pn Pn 17 52 24.7 +2.3
comp=Z,0.1nm,0.3s,baz=86,slow=12,SNR=8.4
comp=Z,1.3nm,0.8s
LHV Little Huntoon 16.39 281 P Pn 17 52 26.0 +1.8
LHV lAmb lAmb 17 52 30.4

	comp=Z,4.1nm,1.0s						
YBH	**Yreka Blue Hor**	**19.76**	**292**	P	**P**	**17 53 05.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=105,slow=7.9,SNR=7.0						
	comp=Z,2.6nm,0.7s						
CMIG	**Matias Romero**	**19.94**	**172**	P	**Pn**	**17 53 10.2**	**+2.2**
	comp=Z,1.6nm,0.5s,baz=348,slow=13,SNR=2.5						
	comp=Z,1.6nm,0.5s						
YKA	**Yellowknife Ar**	**27.60**	**343**	P	**P**	**17 54 21.1**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=147,slow=11,SNR=2.3						
YKA				LR	LR	18 05 42.9	
	comp=Z,62nm,19.3s,baz=122,slow=38						
	comp=Z,2.0nm,0.8s						
IL31		**40.02**	**330**	P	**P**	**17 56 09.9**	**+1.1**
IL31				IAmb	IAmb	17 56 11.3	
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**40.02**	**330**	P	**P**	**17 56 10.4**	**+1.6**
	comp=Z,2.6nm,0.9s,baz=110,slow=7.1,SNR=18						
ILAR				PcP	**PcP**	**17 58 15.1**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=151,slow=2.8,SNR=4.2						
	comp=Z,2.6nm,0.9s						
ILAR	**Eielson Array**	**40.02**	**330**	P	**P**	**17 56 09.8**	**+0.9**
BMAR	**Burnt Mountain**	**40.17**	**334**	P	**P**	**17 56 11.3**	**+1.2**
TOLK	**Toolik Lake Re**	**42.38**	**335**	P	**P**	**17 56 29.8**	**+1.6**
TOLK				IAmb	IAmb	17 57 01.5	
	comp=Z,6.5nm,1.2s						
J20K	**Nowinta River**	**42.88**	**328**	P	**P**	**17 56 33.4**	**+1.1**
ARCES	**ARCESS Array B**	**66.12**	**19**	P	**P**	**17 59 21.2**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=311,slow=5.4,SNR=8.2						
	comp=Z,2.4nm,0.7s						
TIXI	**Tiksi**	**66.82**	**345**	LR	LR	18 30 53.4	
	comp=Z,22nm,19.2s,baz=344,slow=38						
ESDC	**Sonseca Array**	**70.25**	**55**	P	**P**	**17 59 48.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=302,slow=7.4,SNR=4.4						
	comp=Z,0.4nm,0.6s						
GERES	**GERESS Array B**	**75.27**	**39**	P	**P**	**18 00 17.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=324,slow=4.8,SNR=3.7						
	comp=Z,0.4nm,0.7s						
AKASG	**Malin Array Be**	**81.13**	**31**	P	**P**	**18 00 50.2**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=311,slow=4.2,SNR=10.0						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**89.46**	**358**	P	**P**	**18 01 31.4**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=0.0,slow=4.4,SNR=5.1						
	comp=Z,1.2nm,0.7s						
SONM	**Songino Array**	**92.87**	**344**	P	**P**	**18 01 47.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=29,slow=3.3,SNR=4.0						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**96.65**	**360**	P	**P**	**18 02 04.5**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=7.2,slow=4.2,SNR=2.3						
	comp=Z,0.2nm,0.7s						
MAW	**Mawson**	**147.41**	**166**	PKPbc	**PKPbc**	**18 08 17.6**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=247,slow=4.5,SNR=7.1						

NEIC 06 17:49:45.0±1.6, 36°92N±0°02×97°93W±0°02, h10km±7km, mb_Lg3.7/58, Error ellipse: s-maj=3.2km s-min=1.1km az=130.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.04**	**325**	Pg	Pg	17 49 46.9	0.0
GC02	**Grant County #**	**0.09**	**140**	Pg	Pg	17 49 47.8	+0.3
KAN17	**Caldwell West**	**0.18**	**49**	Pg	Pg	17 49 49.1	+0.2
KAN05	**Bluff City Nor**	**0.19**	**15**		Pg	17 49 49.5	+0.5
KAN01	**Argonia South**	**0.27**	**31**	Pg	Pg	17 49 50.9	+0.4
KAN08	**Anthony NE Sta**	**0.30**	**354**		Pg	17 49 51.7	+0.6
KAN16	**Harper SW Stat**	**0.32**	**341**	Pg	Pg	17 49 52.2	+0.7
KAN06	**Argonia West S**	**0.33**	**11**	Pg	Pg	17 49 52.1	+0.5
KAN09	**Caldwell North**	**0.33**	**50**	Pg	Pg	17 49 51.9	+0.3
KAN12	**Harper NE Stat**	**0.38**	**352**	Pg	Pg	17 49 53.1	+0.7
KAN13	**South Haven SW**	**0.38**	**76**	Pg	Pg	17 49 52.7	+0.2
CROK	**Carrier**	**0.42**	**185**	Pg	Pb	17 49 54.2	-0.4
KS21	**Milan North St**	**0.42**	**31**	Pg	Pg	17 49 53.7	+0.4
KS20	**Mayfield South**	**0.43**	**45**	Pg	Pg	17 49 53.8	+0.3
BLOK	**Blackwell**	**0.60**	**106**	Pg	Pg	17 49 57.0	+0.4
OK045	**Pawnee Station**	**0.94**	**120**	Pg	Pb	17 50 03.3	-0.2
U32A	**Winter Ranch,**	**1.02**	**238**	Pg	Pg	17 50 04.3	-0.2
OK044	**Pawnee Station**	**1.07**	**121**	Pg	Pg	17 50 05.2	-0.4
T35A	**Sooner Cattle**	**1.14**	**90**	Pg	Pb	17 50 06.7	-0.2
OK029	**Liberty Lake**	**1.19**	**161**	Pg	Pb	17 50 07.6	-0.1
QUOK	**Quay**	**1.24**	**127**		Pb	17 50 08.6	0.0
BCOK	**Bluff Creek, N**	**1.29**	**168**	Pn	Pn	17 50 09.3	+0.1
OK031	**S. Brethren Rd**	**1.31**	**137**	Pn	Pn	17 50 09.0	-0.5
OK034	**N. Norfolk Rd.**	**1.34**	**132**	Pn	Pn	17 50 10.1	+0.2
OK030	**Cody Creek RV**	**1.36**	**137**	Pn	Pn	17 50 09.5	-0.6
OK005	**Luther M Schoo**	**1.40**	**154**	Pn	Pn	17 50 09.4	-1.3
OK009	**Oakdale Elemen**	**1.40**	**163**	Pn	Pn	17 50 10.3	-0.4
CSTR	**Hydro, Custer**	**1.41**	**206**	Pn	Pn	17 50 10.2	-0.8
OK025	**Westminster Rd**	**1.42**	**160**	Pn	Pn	17 50 10.1	-0.9
ELIS	**Ellis County**	**1.47**	**235**	Pn	Pn	17 50 10.9	-0.9
OKCSW	**OKLAHOMA CITY**	**1.57**	**165**	Pn	Pn	17 50 12.3	-0.7
R32A	**Long Quarter,**	**1.62**	**338**	Pn	Pn	17 50 13.4	-0.3
FNO	**Franklin**	**1.72**	**165**	Pn	Pn	17 50 14.2	-0.9
ABTX	**Abilene, Hawle**	**4.51**	**199**	Pn	Pn	17 50 52.6	-0.9
WHAR	**Wooly Hollow**	**4.85**	**108**	lAmb_Lg		17 52 22.9	
	comp=Z,226nm,1.2s						
P40A	**Paris**	**5.31**	**59**	lAmb_Lg		17 52 33.7	
	comp=Z,177nm,1.1s						
CCAR	**Cane Creek**	**5.86**	**119**	lAmb_Lg		17 53 01.9	
	comp=Z,114nm,1.0s						
SLM	**Saint Louis**	**6.33**	**72**	lAmb_Lg		17 53 07.0	
	comp=Z,118nm,1.1s						
JCT	**Junction City**	**6.61**	**194**	lAmb_Lg		17 53 29.8	
	comp=Z,64nm,0.8s						
CGM3	**Cape Girardeau**	**6.62**	**84**	lAmb_Lg		17 53 11.6	
	comp=Z,59nm,0.9s						
N41A	**Harden Midland**	**6.69**	**53**	lAmb_Lg		17 53 14.6	
	comp=Z,112nm,1.0s						
S44A	**Carbondale**	**6.96**	**81**	lAmb_Lg		17 53 28.7	
	comp=Z,63nm,0.7s						
SIUC	**Southern Illin**	**6.99**	**81**	lAmb_Lg		17 53 34.4	
	comp=Z,71nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.15**	**65**	lAmb_Lg		17 53 39.8	
	comp=Z,116nm,1.1s						
L40A	**Anamosa**	**7.30**	**43**	lAmb_Lg		17 53 34.4	
	comp=Z,95nm,1.0s						
Q44A	**Meyer Farm, Va**	**7.32**	**72**	lAmb_Lg		17 53 43.1	
	comp=Z,101nm,0.9s						
N23A	**Red Feather La**	**7.40**	**305**	lAmb_Lg		17 53 56.5	
	comp=Z,51nm,0.8s						
T45A	**Paducah**	**7.44**	**86**	lAmb_Lg		17 53 40.4	
	comp=Z,115nm,0.8s						
Y45A	**Yeager Farm, C**	**7.50**	**112**	lAmb_Lg		17 54 02.1	
	comp=Z,73nm,0.8s						
HDIL	**Hopedale**	**7.66**	**59**	lAmb_Lg		17 53 51.0	
	comp=Z,124nm,0.8s						
VBMS	**Vicksburg**	**7.71**	**125**	lAmb_Lg		17 53 45.7	
	comp=Z,77nm,1.1s						
I37A	**Lemond, Waseca**	**7.88**	**25**	lAmb_Lg		17 54 07.3	
	comp=Z,63nm,0.9s						
OLIL	**Olney**	**7.99**	**74**	lAmb_Lg		17 54 14.9	
	comp=Z,73nm,1.1s						
O44A	**Mansfield**	**8.09**	**64**	lAmb_Lg		17 54 09.3	
	comp=Z,60nm,0.8s						
L42A	**Oliver, Polo**	**8.16**	**49**	lAmb_Lg		17 54 02.0	
	comp=Z,83nm,1.1s						
JFWS	**Jewell Farm**	**8.40**	**42**	lAmb_Lg		17 54 17.9	
	comp=Z,63nm,0.8s						
146A	**Union**	**8.46**	**118**	lAmb_Lg		17 54 07.5	
	comp=Z,94nm,0.9s						
RSSD	**Black Hills**	**8.56**	**329**	lAmb_Lg		17 54 21.4	
	comp=Z,43nm,0.9s						
K22A	**Casper**	**8.74**	**314**	lAmb_Lg		17 54 18.1	
	comp=Z,63nm,1.1s						
M44A	**Midewin, Midew**	**8.88**	**57**	lAmb_Lg		17 54 27.0	
	comp=Z,52nm,0.9s						
Z47A	**Carrollton**	**8.90**	**112**	lAmb_Lg		17 54 25.7	
	comp=Z,42nm,0.9s						
I40A	**Norwalk**	**8.92**	**36**	lAmb_Lg		17 54 37.6	
	comp=Z,55nm,1.1s						
346A	**Big Creek Wild**	**8.93**	**126**	lAmb_Lg		17 54 33.6	
	comp=Z,44nm,0.8s						
E28A	**Huff**	**9.86**	**349**	lAmb_Lg		17 55 03.5	
	comp=Z,42nm,0.9s						

IDC 06 17:49:56.5±8.0, 30°26S×178°04W, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=334.6km s-min=61.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.08**	**267**	P	P	17 57 58.0	-0.4
	0.2nm,0.8s,baz=96,slow=7.1,SNR=1.3						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**44.05**	**272**	P	P	17 58 06.4	+0.1
	0.5nm,1.0s,baz=110,slow=8.1,SNR=5.1						
	0.5nm,1.0s						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	18 09 33.6	-0.6
	2.2nm,1.0s,baz=60,slow=4.6,SNR=5.2						

IDC 06 17:55:46.8±2.4, 8°00S×129°91E, h0km, mb3.5/1, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=143.1km s-min=29.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.62**	**161**	Pn	Pn	17 58 47.8	0.0
	0.1nm,0.3s,baz=333,slow=15,SNR=11						
WRA				Sn	Sn	18 01 09.4	+0.2
	0.1nm,0.3s,baz=342,slow=19,SNR=5.1						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**16.04**	**167**	Pn	Pn	17 59 34.5	+0.5
	baz=344,slow=12,SNR=1.8						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**69.01**	**327**	P	P	18 06 54.2	0.0
	0.3nm,0.5s,baz=141,slow=5.5,SNR=1.7						
	0.3nm,0.5s						

*NOU **06** 18:00:01.9, 37°14S×179°20E, h120km, mb3.9/5, Off E. Coast of N. Island, N.Z.*
*WEL **06** 18:00:02.2±1.6, 37°5S×17°9E±1°4, h5km, M3.4/10, ML3.7/10, MLv3.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=85.6*

ISC 06 18:00:00.4±2.4, 37°03S±0°07×179°1E±0°1, h10km, n65, σ1s04/66, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.84**	**230**	P	**Pg**	**18 00 16.2**	**-0.3**
MXZ				S	**Sg**	**18 00 25.7**	**-1.8**
WMGZ	**Waiomatatini S**	**0.97**	**215**	P	**Pg**	**18 00 20.5**	**+1.5**
WMGZ				S	**Sb**	**18 00 34.5**	**+2.4**
PKGZ	**Pakihiroa**	**1.19**	**224**	P	**Pb**	**18 00 22.6**	**-0.6**
PUZ	**Puketiti**	**1.25**	**213**	P	**Pb**	**18 00 24.1**	**+0.1**
PUZ				S	**Sb**	**18 00 40.6**	**+0.4**
HAZ	**Te Kaha**	**1.29**	**235**	P	**Pn**	**18 00 22.8**	**-1.6**
TWGZ	**Tauwhareparae**	**1.46**	**218**	P	**Pn**	**18 00 27.4**	**+0.6**
RUGZ	**Raukumara Rang**	**1.48**	**230**	P	**Pn**	**18 00 27.1**	**-0.1**
WIZ	**White Island**	**1.62**	**251**	P	**Pn**	**18 00 27.3**	**-1.6**
CNGZ	**Carnagh Statio**	**1.62**	**206**	P	**Pn**	**18 00 29.7**	**+0.7**
TKGZ	**Te Karaka**	**1.73**	**215**	P	**Pn**	**18 00 30.9**	**+0.3**
MWZ	**Matawai**	**1.81**	**224**	P	**Pn**	**18 00 32.3**	**+0.6**
WHRZ	**Whale Island**	**1.90**	**244**	P	**Pn**	**18 00 33.7**	**+0.9**
RIGZ	**Rimuhau**	**1.99**	**212**	P	**Pn**	**18 00 34.2**	**+0.1**
URZ	**Urewera**	**2.01**	**232**	P	**Pn**	**18 00 33.9**	**-0.5**
URZ	**Urewera**	**2.01**	**232**	P	**Pn**	**18 00 34.9**	**+0.5**
PRGZ	**Paritu Road**	**2.13**	**207**	P	**Pn**	**18 00 35.8**	**-0.2**
OPRZ	**Ohinepanea**	**2.20**	**247**	P	**Pn**	**18 00 36.3**	**-0.6**
SNGZ	**Shannon Statio**	**2.25**	**218**	P	**Pn**	**18 00 37.7**	**+0.1**
MYRZ	**Mayor Island**	**2.31**	**263**	P	**Pn**	**18 00 38.3**	**-0.2**
RTZ	**Ruatahuna**	**2.32**	**226**	P	**Pn**	**18 00 38.9**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.33**	**204**	P	**Pn**	**18 00 38.3**	**-0.4**
MUGZ	**Murupara**	**2.36**	**231**	P	**Pn**	**18 00 39.5**	**+0.4**
TGRZ	**Tauranga**	**2.38**	**252**	P	**Pn**	**18 00 39.2**	**-0.3**
TARZ	**Mount Tarawera**	**2.40**	**239**	P	**Pn**	**18 00 40.8**	**+1.1**
RRRZ	**Republican Roa**	**2.44**	**237**	P	**Pn**	**18 00 39.2**	**-1.2**
MTHZ	**Maungataniwha**	**2.56**	**224**	P	**Pn**	**18 00 42.4**	**+0.4**
KMRZ	**Kaimai**	**2.66**	**251**	P	**Pn**	**18 00 42.9**	**-0.4**
KUZ	**Kuaotunu**	**2.74**	**275**	P	**Pn**	**18 00 42.8**	**-1.5**
NMHZ	**Naumai**	**2.76**	**221**	P	**Pn**	**18 00 44.9**	**+0.2**
ARHZ	**Aropaoanui**	**2.79**	**216**	P	**Pn**	**18 00 45.0**	**0.0**
MRHZ	**Matea Rd**	**2.79**	**229**	P	**Pn**	**18 00 45.5**	**+0.3**
TOZ	**Tahuroa Road**	**2.96**	**255**	P	**Pn**	**18 00 46.2**	**-1.3**
BKZ	**Black Stump Fm**	**2.97**	**223**	P	Pn	18 00 45.0	-2.6
GRZ	**Great Barrier**	**3.04**	**284**	P	**Pn**	**18 00 48.8**	**+0.3**
MCHZ	**McNeill Hill**	**3.08**	**218**	P	**Pn**	**18 00 48.5**	**-0.5**
MKAZ	**Moumakai**	**3.17**	**267**	P	**Pn**	**18 00 49.3**	**-0.9**
WIAZ	**Waiheke Island**	**3.20**	**273**	P	**Pn**	**18 00 49.9**	**-0.9**
KAHZ	**Kahuranaki**	**3.27**	**212**	P	**Pn**	**18 00 50.2**	**-1.6**
ETAZ	**East Tamaki Re**	**3.35**	**270**	P	**Pn**	**18 00 52.3**	**-0.5**
MBAZ	**Motutapu North**	**3.39**	**273**	P	**Pn**	**18 00 53.1**	**-0.3**
TMVZ	**Te Maari**	**3.41**	**231**	P	**Pn**	**18 00 53.2**	**-0.4**
ETVZ	**East Tongariro**	**3.41**	**231**	P	**Pn**	**18 00 53.4**	**-0.4**
KRVZ	**Karewarewa**	**3.43**	**232**	P	**Pn**	**18 00 53.7**	**-0.3**
BHHZ	**Black Hill Sta**	**3.44**	**223**	P	**Pn**	**18 00 53.5**	**-0.5**
ABAZ	**Army Bay**	**3.46**	**276**	P	**Pn**	**18 00 54.1**	**-0.2**
NNVZ	**North Ngauruho**	**3.47**	**232**	P	**Pn**	**18 00 55.1**	**+0.5**
WTVZ	**West Tongariro**	**3.48**	**232**	P	**Pn**	**18 00 55.3**	**+0.6**
TWVZ	**Taurewa**	**3.55**	**234**	P	**Pn**	**18 00 56.1**	**+0.4**
MOVZ	**Moawhango**	**3.56**	**227**	P	**Pn**	**18 00 54.8**	**-0.9**
AWAZ	**Awhitu Peninsu**	**3.58**	**268**	P	**Pn**	**18 00 55.7**	**-0.2**
WTAZ	**Waiatarua**	**3.64**	**270**	P	**Pn**	**18 00 56.8**	**0.0**
RVAZ	**Riverhead Bore**	**3.65**	**273**	P	**Pn**	**18 00 56.8**	**0.0**
WPHZ	**Waipukurau**	**3.69**	**214**	P	**Pn**	**18 00 56.0**	**-1.4**
HIZ	**Hauiti**	**3.69**	**245**	P	**Pn**	**18 00 58.9**	**+1.4**
HIZ	**Hauiti**	**3.69**	**245**	P	**Pn**	**18 00 58.7**	**+1.3**
TSZ	**Takapari Road**	**3.91**	**218**	P	**Pn**	**18 00 58.5**	**-2.0**
WCZ	**Waipu Caves**	**4.00**	**284**	P	**Pn**	**18 01 01.7**	**0.0**
NEZ	**North Egmont**	**4.55**	**239**	P	**Pn**	**18 01 11.5**	**+2.2**
MRZ	**Mangatainoka R**	**4.56**	**216**	P	**Pn**	**18 01 07.1**	**-2.3**
KHEZ	**Kahui Hut**	**4.61**	**239**	P	**Pn**	**18 01 12.7**	**+2.5**
OUZ	**Omahuta**	**4.82**	**290**	P	**Pn**	**18 01 13.5**	**+0.5**
OUZ	**Omahuta**	**4.82**	**290**	P	**Pn**	**18 01 14.6**	**+0.6**
TKNZ	**Takaka Hill**	**6.24**	**228**	P	**Pn**	**18 01 30.2**	**-2.3**
QRZ	**Quartz Range**	**6.38**	**232**	P	Pn	18 01 31.7	-2.8
KHZ	**Kahutara**	**6.89**	**217**	P	**Pn**	**18 01 40.4**	**-0.9**

*IDC **06** 18:02:16.7±0.7, 35°64N×73°50E, h0km, mb3.8/15, mbtmp3.8/22, ML3.7/6, MS3.1/2, Error ellipse: s-maj=17.7km s-min=12.6km az=44.0*
*NNC **06** 18:02:22.4±6.0, 35°89N×73°34E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=58.9km s-min=40.3km az=139.0*
*BJI **06** 18:02:23.7±0.0, 35°63N×73°68E, h73km, mb4.2/11, mB4.1/5*
*NEIC **06** 18:02:24.4±2.3, 35°67N±0°08×73°6E±0°1, h58km±9km, mb4.3/9, Error ellipse: s-maj=13.4km s-min=9.7km az=121.0*

ISC 06 18:02:19.0±0.4, 35°69N±0°03×73°60E±0°05, h10km, n73, σ2s11/76, mb3.9/20, 2C-1D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**2.04**	**188**	P	**Pb**	**18 02 57.8**	**+1.5**
CHCP				S	**Sg**	**18 03 28.0**	**+3.3**
CEP	**Cherat**	**2.32**	**217**	P	**Pb**	**18 03 03.2**	**+2.1**
CEP				S	**Sg**	**18 03 36.0**	**+2.3**
THW	**Thamme Wali**	**3.27**	**209**	P	**Pn**	**18 03 14.3**	**+3.9**
THW				S	**Sb**	**18 03 58.0**	**+0.9**
KBL	**Kabul**	**3.91**	**254**	Pn	**Pn**	**18 03 22.7**	**+3.4**
KBL				Sn	**Sn**	**18 04 07.5**	**+2.1**
DRK	**Karamyk**	**4.05**	**340**		Pn	18 03 26.2	+4.9
DRK				Sn	**Sn**	**18 04 13.5**	**+4.5**
GAR	**Garm**	**4.22**	**323**	Pn	**Pn**	**18 03 27.2**	**+3.7**
KSH	**Kashi**	**4.26**	**26**	P	**Pn**	**18 03 24.6**	**+0.5**
KSH				S	**Sn**	**18 04 12.4**	**-1.6**
KSH				pmax	pmax		
	comp=Z,100nm,0.7s						
KSH				smax	smax		
	comp=N,140nm,0.7s						
KSH				smax	smax		
	comp=E,170nm,0.7s						
CHGR	**Chuyangaron**	**4.62**	**311**	Pn	**Pn**	**18 03 31.2**	**+2.1**
BTK	**Batken**	**4.89**	**334**		**Pn**	**18 03 36.8**	**+4.1**
NRN	**Naryn**	**6.04**	**17**	Pn	**Pn**	**18 03 52.3**	**+3.6**
AAK	**Ala-Archa**	**6.98**	**5**	Pn	**Pn**	**18 04 04.9**	**+3.4**
	1.2nm,0.3s,baz=180,slow=11,SNR=6.4						
AAK				Sn	**Sn**	**18 05 24.3**	**+3.5**
	0.4nm,0.3s,baz=212,slow=9.5,SNR=1.6						
	3.3nm,0.4s						
AAK	**Ala-Archa**	**6.98**	**5**		**Pn**	**18 04 04.3**	**+2.8**
TKM2	**Tokmak 2**	**7.39**	**11**	⇑P	Pn	18 04 11.4	+4.2
	2.7nm,0.5s						
TKM2				⇑S	**Sn**	**18 05 33.1**	**+2.0**
	1.1nm,0.1s						
KK31	**Karatay Array**	**7.78**	**343**	Pn	**Pn**	**18 04 14.2**	**+1.9**
KK31	**Karatay Array**	**7.78**	**343**	P	**Pn**	**18 04 14.7**	**+2.4**
	3.2nm,0.3s,baz=166,slow=13,SNR=80						
KK31				S	**Sn**	**18 05 41.2**	**+0.7**
	7.2nm,0.5s,baz=160,slow=23,SNR=11						
KKAR	**Karatay Array**	**7.78**	**343**	Pn	**Pn**	**18 04 14.4**	**+2.0**
KKAR	**Karatay Array**	**7.78**	**343**		**Pn**	**18 04 14.5**	**+2.1**
PYUN	**Piuthan**	**10.99**	**131**	*e*P	**Pn**	**18 04 54.8**	**-1.7**
	24nm,0.3s						
DANN	**Dangsing**	**11.30**	**128**	*e*P	**Pn**	**18 05 00.2**	**-0.7**
	12nm,0.2s						
GKN	**Gorkha**	**12.10**	**126**	*e*P	**Pn**	**18 05 11.0**	**-0.8**
	17nm,0.2s						
GEYT	**Alibeck**	**12.61**	**285**	Pn	**Pn**	**18 05 16.9**	**-1.7**
	0.3nm,0.3s,baz=80,slow=16,SNR=2.1						
GEYT				Sn	**Sn**	**18 07 35.4**	**-3.7**
	0.9nm,0.3s,baz=20,slow=23,SNR=4.9						
	0.8nm,0.3s						
GEYT	**Alibeck**	**12.61**	**285**	Pn	Pn	18 05 13.3	-5.2
GYA0B	**ALIBECK ARRAY**	**12.61**	**285**	Pn	Pn	18 05 14.4	-4.1
MAKZ	**Makanchi**	**12.76**	**27**	Pn	**Pn**	**18 05 20.4**	**-0.1**
MK31	**Makanchi Array**	**12.87**	**28**	Pn	**Pn**	**18 05 23.8**	**+1.8**
MK31	**Makanchi Array**	**12.87**	**28**	P	**Pn**	**18 05 23.5**	**+1.5**
	1.3nm,0.7s,baz=200,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**12.87**	**28**	Pn	**Pn**	**18 05 23.5**	**+1.5**
	0.1nm,0.3s,baz=199,slow=12,SNR=6.4						
MKAR				LR	LR	18 10 46.3	
	comp=Z,37nm,19.2s,baz=256,slow=39						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**12.87**	**28**	Pn	Pn	18 05 20.3	-1.7
PKIN	**Phulchoki**	**12.89**	**126**	*e*P	**Pn**	**18 05 20.7**	**-1.9**
	5.2nm,0.2s						
PKI	**Pulchoki**	**12.90**	**126**	*e*P	**Pn**	**18 05 21.2**	**-1.6**
	5.7nm,0.3s						
GUN	**Gumba**	**13.00**	**123**	*e*P	**Pn**	**18 05 23.1**	**-1.0**
	16nm,0.6s						
JIRN	**Jiri**	**13.37**	**123**	*e*P	**Pn**	**18 05 28.4**	**-0.8**
	27nm,0.4s						
WMQ	**Urumqi**	**13.53**	**49**	*e*P	Pn	18 05 35.6	+4.5
RAMN	**Ramite**	**14.11**	**125**	*e*P	Pn	18 05 34.9	-4.3
	9.8nm,0.3s						
KURBB	**Kurchatov Arra**	**15.35**	**12**	Pn	**Pn**	**18 05 53.7**	**-1.9**
	0.6nm,0.8s,baz=201,slow=12,SNR=4.5						
KURK	**Kurchatov**	**15.45**	**12**	P	**Pn**	**18 06 01.1**	**+4.1**
KURK				lAmb	lAmb	18 06 09.1	
	comp=Z,2.8nm,0.8s						
AB31	**Akbulak array**	**16.86**	**328**	P	**Pn**	**18 06 12.7**	**-2.3**
	comp=Z,1.1nm,0.5s,baz=140,slow=13,SNR=40						
ABKAR	**Akbulak array**	**16.86**	**328**	Pn	**Pn**	**18 06 11.3**	**-3.7**
ABKAR	**Akbulak array**	**16.86**	**328**		**Pn**	**18 06 12.7**	**-2.3**
GOMU	**GeErMu**	**17.19**	**82**	P	**Pn**	**18 06 20.9**	**+1.3**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**17.48**	**354**	P	**Pn**	**18 06 21.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=166,slow=11,SNR=14						
	comp=Z,1.7nm,0.5s						
AKTO	**Aktyubinsk**	**18.57**	**327**	P	**P**	**18 06 35.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=132,slow=9.0,SNR=14						
AKTO				S	**Sn**	**18 09 59.3**	**-4.4**
	comp=Z,0.3nm,0.3s,baz=136,slow=21,SNR=1.4						
	comp=Z,2.1nm,0.3s						
AKTO	**Aktyubinsk**	**18.57**	**327**	⇓P	**P**	**18 06 36.9**	**+0.9**
	comp=Z,4.4nm,0.6s						
ZAA0	**Zalesovo Array**	**19.87**	**20**	P	**P**	**18 06 48.6**	**-1.6**
ZAA0				lAmb	lAmb	18 06 51.8	
	comp=Z,7.1nm,0.9s						
ZALV	**Zalesovo Beam**	**19.87**	**20**	P	**P**	**18 06 49.4**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=213,slow=12,SNR=23						
	comp=Z,4.0nm,0.4s						
ZALV	**Zalesovo Beam**	**19.87**	**20**	P	**P**	**18 06 48.6**	**-1.6**
ARU	**Arti**	**23.12**	**338**	P	**P**	**18 07 24.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=208,slow=7.6,SNR=4.3						
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**24.84**	**298**	P	**P**	**18 07 41.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=127,slow=5.1,SNR=2.0						

s109,c175; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.56±.11; $M_{\theta\theta}$-3.46±.12; $M_{\phi\phi}$2.91±.10; $M_{r\theta}$0.99±.35; $M_{\theta\phi}$-0.94±.08; $M_{\phi r}$-1.02±.32; Best double couple: M_o3.63700×10^{16} · NP1:γ_{ϕ}125.00000°, δ83.00000°, λ156.00000°. NP2:γ_{ϕ}218.00000°, δ66.00000°, λ8.00000°. Principal axes: T 3.5090, Plg22.0000°, Azm79.0000°; N 0.2630, Plg65.0000°, Azm290.0000°; P -3.7650, Plg11.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 06 18:17:03.5±0.7, **45.9S**±0.1×**95.9E**±0.1, **h12**km, **n71**, σ0^s**79**/**33**, **mb4.3**/**18**, **MS4.3**/**43**, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.70**	**58**	T	T	18 39 09.0	
	baz=226,slow=74,SNR=644						
H01W3	**Cape Leeuwin H**	**17.71**	**58**	T	T	18 39 13.0	
	baz=226,slow=74,SNR=713						
H01W1	**Cape Leeuwin H**	**17.72**	**58**	T	T	18 39 13.3	
	baz=226,slow=74,SNR=854						
NWAO	**Narrogin (SRO)**	**20.92**	**59**	LR	LR	18 27 55.0	
	comp=Z,1μm,19.9s,baz=79,slow=31						
CASY	**Casey**	**21.88**	**164**	P	**P**	**18 21 54.6**	**-1.3**
CASY				IAmb	IAmb	18 22 02.8	
	comp=Z,28nm,1.4s						
MAW	**Mawson**	**27.66**	**207**	P	**P**	**18 22 51.0**	**+0.3**
	comp=Z,4.2nm,1.0s,baz=44,slow=11,SNR=8.0						
MAW				LR	LR	18 31 49.0	
	comp=Z,320nm,18.3s,baz=48,slow=32						
	comp=Z,4.2nm,1.0s						
MAW	**Mawson**	**27.66**	**207**	P	**P**	**18 22 51.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**37.12**	**52**	P	**P**	**18 24 14.1**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=219,slow=8.6,SNR=16						
FITZ				LR	LR	18 38 33.2	
	comp=Z,308nm,18.1s,baz=225,slow=35						
	comp=Z,3.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**37.12**	**52**	P	**P**	**18 24 13.7**	**-0.2**
STKA	**Stephens Creek**	**37.74**	**85**	P	**P**	**18 24 19.2**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=215,slow=10,SNR=3.5						
STKA				LR	LR	18 37 03.9	
	comp=Z,614nm,19.8s,baz=213,slow=32						
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**37.74**	**85**	P	**P**	**18 24 20.8**	**+1.7**
ASAR	**Alice Springs**	**37.83**	**67**	P	**P**	**18 24 20.0**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=213,slow=7.4,SNR=12						
ASAR				PcP	**PcP**	**18 26 35.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=225,slow=2.5,SNR=5.0						
ASAR				LR	LR	18 37 34.2	
	comp=Z,674nm,21.6s,baz=268,slow=33						
	comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**37.83**	**67**	P	**P**	**18 24 20.1**	**+0.2**
LEM	**Lembang**	**40.25**	**18**	LR	LR	18 37 19.9	
	comp=Z,380nm,21.2s,baz=174,slow=30						
VNDA	**Vanda**	**40.41**	**162**	P	**P**	**18 24 41.5**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=284,slow=3.6,SNR=3.4						
VNDA				LR	LR	18 40 20.2	
	comp=Z,808nm,18.0s,baz=281,slow=34						
	comp=Z,0.9nm,0.9s						
WRA	**Warramunga Arr**	**40.81**	**64**	P	**P**	**18 24 44.4**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=224,slow=8.3,SNR=24						
WRA				LR	LR	18 39 41.9	
	comp=Z,1μm,20.5s,baz=208,slow=33						
	comp=Z,3.8nm,0.8s						
KNRA	**Kununurra**	**40.81**	**53**	P	**P**	**18 24 43.9**	**-0.9**
KNRA				IAmb	IAmb	18 25 06.1	
	comp=Z,17nm,1.4s						
WB2	**Warramunga Arr**	**40.82**	**64**	P	**P**	**18 24 43.2**	**-1.7**
WB2				IAmb	IAmb	18 24 46.6	
	comp=Z,19nm,1.4s						
WRAB	**Tennant Creek**	**40.83**	**64**	P	**P**	**18 24 43.8**	**-1.2**
WRAB				IAmb	IAmb	18 24 46.1	
	comp=Z,5.5nm,0.8s						
WR0	**Warramunga Arr**	**40.92**	**64**	P	**P**	**18 24 44.5**	**-1.2**
WR0				IAmb	IAmb	18 24 47.0	
	comp=Z,7.9nm,1.1s						
WB0	**Warramunga Arr**	**40.98**	**63**	P	**P**	**18 24 45.0**	**-1.2**
WB0				IAmb	IAmb	18 24 56.5	
	comp=Z,23nm,1.5s						
H08S2	**Diego Garcia H**	**43.12**	**325**	T	T	19 10 48.9	
	baz=156,slow=76,SNR=45						
H08S1	**Diego Garcia H**	**43.13**	**325**	T	T	19 10 49.5	
	baz=156,slow=76,SNR=38						
H08S3	**Diego Garcia H**	**43.14**	**325**	T	T	19 10 50.5	
	baz=156,slow=76,SNR=71						
QSPA	**South Pole Qui**	**44.23**	**180**	P	**P**	**18 25 11.8**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=284,slow=1.5,SNR=17						
QSPA				LR	LR	18 42 31.1	
	comp=Z,2μm,18.6s,baz=308,slow=35						
	comp=Z,2.4nm,0.7s						
QSPA	**South Pole Qui**	**44.23**	**180**	P	**P**	**18 25 12.4**	**+0.1**
QSPA				IAmb	IAmb	18 25 39.3	
	comp=Z,16nm,1.4s						
TROLL	**Troll, Antarti**	**48.09**	**205**	P	**P**	**18 25 42.5**	**-0.1**
CTA	**Charters Tower**	**48.49**	**75**	P	**P**	**18 25 47.1**	**+1.0**
	comp=Z,6.1nm,1.0s,baz=233,slow=7.9,SNR=2.0						
CTA				LR	LR	18 44 44.1	
	comp=Z,371nm,19.1s,baz=243,slow=34						
	comp=Z,6.1nm,1.0s						
PSI	**Prapat**	**48.58**	**4**	LR	LR	18 43 17.0	
	comp=Z,342nm,19.8s,baz=184,slow=32						
SNAA	**Sanae**	**49.77**	**204**	P	**P**	**18 25 56.0**	**+0.6**
SNAA	**Sanae**	**49.77**	**204**	P	**P**	**18 25 55.7**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=147,slow=11,SNR=17						
SNAA				LR	LR	18 45 00.3	
	comp=Z,72nm,19.0s,baz=121,slow=34						
	comp=Z,1.9nm,0.6s						
SNAA	**Sanae**	**49.77**	**204**	P	**P**	**18 25 55.7**	**+0.3**
VNA2	**Neumayer--Watz**	**51.42**	**204**	P	**P**	**18 26 08.7**	**+0.9**
	baz=109,slow=8.0						
RPZ	**Rata Peaks**	**51.51**	**116**	LR	LR	18 43 20.9	
	comp=Z,357nm,19.7s,baz=258,slow=31						
VNA3	**Neumayer Olymp**	**51.90**	**203**	P	**P**	**18 26 12.0**	**+0.6**
SIJI	**Sorong**	**54.57**	**45**	LR	LR	18 48 44.8	
	comp=Z,34nm,21.3s,baz=174,slow=35						
PALK	**Pallekele**	**54.65**	**341**	LR	LR	18 44 34.4	
	comp=Z,308nm,21.1s,baz=284,slow=30						
PMG	**Port Moresby**	**56.84**	**67**	LR	LR	18 49 41.5	
	comp=Z,307nm,18.7s,baz=236,slow=34						
BOSA	**Boshof**	**56.97**	**262**	LR	LR	18 45 26.8	
	comp=Z,264nm,21.6s,baz=182,slow=30						
SUR	**Sutherland**	**57.72**	**255**	LR	LR	18 47 15.0	
	comp=Z,377nm,18.0s,baz=143,slow=31						
URZ	**Urewera**	**58.33**	**114**	LR	LR	18 48 41.2	
	comp=Z,173nm,18.1s,baz=214,slow=32						
LBTB	**Lobatse**	**59.00**	**265**	LR	LR	18 46 58.3	
	comp=Z,247nm,21.1s,baz=142,slow=30						
DZM	**Mont Dzumac**	**61.14**	**93**	LR	LR	18 50 55.3	
	comp=Z,179nm,18.1s,baz=216,slow=33						
LSZ	**Lusaka**	**63.67**	**275**	LR	LR	18 50 15.8	
	comp=Z,292nm,20.2s,baz=140,slow=31						
KRVT	**Keravat (AS076**	**63.83**	**67**	LR	LR	18 54 22.3	
	comp=Z,185nm,20.5s,baz=3.1,slow=35						
CMAR	**Chiang Mai Arr**	**64.12**	**3**	P	**P**	**18 27 37.6**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=199,slow=6.3,SNR=10						
CMAR				LR	LR	18 50 44.5	
	comp=Z,331nm,21.8s,baz=190,slow=32						
	comp=Z,1.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**64.12**	**3**	P	**P**	**18 27 37.4**	**-0.1**
CRAI	**Chiangrai**	**65.95**	**5**	P	**P**	**18 27 50.0**	**+0.7**
KMBO	**Kilima Mbogo**	**67.81**	**293**	LR	LR	18 51 06.2	
	comp=Z,131nm,21.6s,baz=92,slow=30						
KMBO	**Kilima Mbogo**	**67.81**	**293**	P	**P**	**18 28 01.9**	**+0.1**
KMBO				IAmb	IAmb	18 28 25.5	
	comp=Z,2.4nm,1.2s						
BRDH	**Bariadhala**	**68.37**	**356**	LR	LR	18 54 20.2	
	comp=Z,181nm,21.1s,baz=124,slow=33						
TSUM	**Tsumeb**	**68.39**	**264**	LR	LR	18 53 01.7	
	comp=Z,178nm,19.3s,baz=148,slow=32						
PMSA	**Palmer Station**	**68.54**	**189**	LR	LR	18 59 08.7	
	comp=Z,492nm,18.3s,baz=218,slow=37						
MSVF	**Nonsavu**	**72.12**	**97**	LR	LR	18 55 20.2	
	comp=Z,83nm,18.8s,baz=198,slow=32						
MBAR	**Mbarara**	**72.47**	**288**	LR	LR	18 56 05.8	
	comp=Z,151nm,19.6s,baz=138,slow=32						
ATD	**Arta Tunnel**	**74.36**	**306**	LR	LR	18 56 02.4	
	comp=Z,104nm,18.3s,baz=128,slow=32						
WSAR	**Wadi Sarin**	**76.67**	**325**	LR	LR	18 55 38.7	
	comp=Z,182nm,19.6s,baz=152,slow=30						
AFI	**Afiamalu**	**81.78**	**101**	LR	LR	18 58 59.9	
	comp=Z,64nm,21.5s,baz=140,slow=31						
RAR	**Rarotonga**	**84.50**	**115**	LR	LR	19 03 52.5	
	comp=Z,46nm,19.8s,baz=292,slow=33						
KSRS	**Korea Array**	**87.86**	**25**	P	**P**	**18 29 51.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=205,slow=4.3,SNR=2.6						
	comp=Z,0.4nm,0.6s						
GEYT	**Alibeck**	**90.09**	**331**	LR	LR	19 06 42.2	
	comp=Z,101nm,18.5s,baz=156,slow=33						
AAK	**Ala-Archa**	**90.19**	**344**	LR	LR	19 07 13.8	
	comp=Z,149nm,19.4s,baz=182,slow=33						
PLCA	**Paso Flores**	**92.88**	**190**	LR	LR	19 10 13.3	
	comp=Z,212nm,21.8s,baz=170,slow=34						
MKAR	**Makanchi Array**	**93.09**	**351**	LR	LR	19 10 00.1	
	comp=Z,154nm,19.5s,baz=232,slow=34						
EIL	**Eilat**	**93.27**	**310**	LR	LR	19 05 46.8	
	comp=Z,191nm,20.5s,baz=90,slow=31						
SONM	**Songino Array**	**93.82**	**7**	LR	LR	19 10 32.6	
	comp=Z,116nm,21.9s,baz=239,slow=34						
MMAI	**Mount Meron Ar**	**95.68**	**313**	LR	LR	19 09 20.2	
	comp=Z,114nm,18.4s,baz=316,slow=33						
GNI	**Garni**	**97.11**	**323**	LR	LR	19 10 05.2	
	comp=Z,36nm,21.5s,baz=160,slow=33						
KURBB	**Kurchatov Arra**	**97.32**	**349**	LR	LR	19 10 09.5	
	comp=Z,94nm,21.5s,baz=172,slow=33						
ESDC	**Sonseca Array**	**123.17**	**295**	PKP	**PKPdf**	**18 35 58.9**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=93,slow=3.5,SNR=2.9						
NVAR	**Mina Array Bea**	**153.75**	**94**	PKPbc	**PKiKP**	**18 37 02.9**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=228,slow=5.2,SNR=4.6						

*SJA **06** 18:28:56.3±0.6, 35.60S×68.28W, h10km±4km, ML4.0, MW3.7*
*IDC **06** 18:28:57.8±0.9, 35.59S×68.56W, h0km, mb4.1/6, mbtmp3.9/9, ML3.6/3, Error ellipse: s-maj=38.0km s-min=14.6km az=111.0*
*NEIC **06** 18:29:00.6±2.2, 35.55S±0.07×68.32W±0.09, h15km±5km, Md4.0(SJA), Error ellipse: s-maj=10.7km s-min=8.9km az=54.0*

ISC 06 18:28:59.4±0.6, **35.56S**±0.04×**68.34W**±0.05, **h10**km, **n53**, σ1^s**30**/**56**, **mb4.2**/**5**, **Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFA	**San Rafael**	**0.79**	**353**	*i* P	**Pg**	**18 29 12.7**	**-1.9**
RFA				*i* S	**Sg**	**18 29 25.0**	**0.0**
RFA				IAML		18 29 27.9	
	comp=Z,4μm,0.9s						
EDS3	**Malargue**	**0.89**	**256**	*i* P	**Pg**	**18 29 14.5**	**-2.0**
EDS3				*i* S	**Sg**	**18 29 27.6**	**-0.5**
BO02	**Sierra Bellavi**	**2.14**	**290**		**Pn**	**18 29 35.0**	**-0.2**
LMEL	**Las Melosas**	**2.29**	**318**		**Pn**	**18 29 37.8**	**+0.4**
AAGR	**Agrelo**	**2.50**	**351**	*i* P	**Pn**	**18 29 40.3**	**+0.1**
AAGR				IAML		18 30 24.6	
	comp=Z,852nm,0.4s						
ML02	**Panimavida**	**2.51**	**264**		**Pn**	**18 29 40.3**	**0.0**
MT03	**Universidad Ad**	**2.73**	**318**		**Pn**	**18 29 46.1**	**+2.8**
ARCO	**CERRO ARCO**	**2.75**	**350**	*i* P	**Pn**	**18 29 44.2**	**+0.4**
ARCO				IAML		18 30 35.8	
	comp=Z,622nm,0.4s						
MT09	**Talagante**	**2.81**	**308**		**Pn**	**18 29 44.6**	**+0.1**
MT05	**Renca**	**2.93**	**317**		**Pn**	**18 29 45.3**	**-0.8**
MT01	**Popeta**	**2.93**	**304**		**Pn**	**18 29 45.9**	**-0.1**
MT01	**Popeta**	**2.93**	**304**	*i* P	**Pn**	**18 29 47.0**	**+1.0**
GO05	**Huala**	**2.98**	**279**		**Pn**	**18 29 47.5**	**+0.7**
GO05	**Huala**	**2.98**	**279**	*i* P	**Pn**	**18 29 47.1**	**+0.3**
ASAL	**Salagasta**	**2.98**	**352**	*i* P	**Pn**	**18 29 47.0**	**+0.1**
ASAL				IAML		18 30 39.6	
	comp=Z,244nm,0.6s						
PEL	**Peldehue**	**3.09**	**321**		**Pn**	**18 29 51.6**	**+3.3**
MT02	**Curacav**	**3.25**	**314**		**Pn**	**18 29 50.6**	**+0.1**
MT02	**Curacav**	**3.25**	**314**	*i* P	**Pn**	**18 29 51.1**	**+0.6**
VA05	**Santo Domingo**	**3.30**	**304**		**Pn**	**18 29 51.7**	**+0.6**
VA03	**San Esteban**	**3.33**	**326**		**Pn**	**18 29 52.1**	**+0.5**
ROC1	**El Roble**	**3.39**	**319**		**Pn**	**18 29 52.4**	**-0.2**
VA01	**Torpederas**	**3.72**	**312**		**Pn**	**18 29 57.0**	**0.0**
MRA	**San Martin**	**3.81**	**36**	*i* P	**Pn**	**18 29 58.5**	**+0.2**
MRA				IAML		18 31 11.9	
	comp=Z,750nm,0.7s						
VA06	**Catapilco**	**3.86**	**320**		**Pn**	**18 29 57.6**	**-1.3**
ZON	**Zonda**	**4.01**	**356**	Pn	**Pn**	**18 30 01.4**	**+0.5**
BI05	**Punta Hualpn**	**4.10**	**252**		**Pn**	**18 30 03.3**	**+1.2**
ACHE	**Chepes**	**4.60**	**18**	*i* P	**Pn**	**18 30 09.8**	**+0.6**
GO06	**Curarrehue**	**4.73**	**211**		**Pn**	**18 30 12.3**	**+1.5**
CO02	**Combarbal**	**4.88**	**332**		**Pn**	**18 30 14.1**	**+1.2**
PLCA	**Paso Flores**	**5.45**	**198**	Pn	**Pn**	**18 30 21.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=13,slow=14,SNR=13						
PLCA				Pg	**Pb**	**18 30 36.0**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=8.1,slow=14,SNR=10						
PLCA				Lg	Lg	18 31 47.1	
	comp=Z,5.2nm,0.3s,baz=102,slow=15,SNR=6.5						
	comp=Z,1.3nm,0.4s						
CO06	**Fray Jorge**	**5.60**	**330**	Pn	**Pn**	**18 30 23.9**	**+1.2**
TRQA	**Tornquist**	**5.68**	**118**		**Pn**	**18 30 24.1**	**+0.2**
GO04	**Tololo Observa**	**5.75**	**338**		**Pn**	**18 30 26.2**	**+1.2**
CO01	**Juntas del Tor**	**5.75**	**345**		**Pn**	**18 30 27.0**	**+1.9**
CO05	**La Serena**	**6.13**	**336**	Pn	**Pn**	**18 30 31.2**	**+1.3**
LL04	**Puerto Octay**	**6.23**	**210**		**Pn**	**18 30 34.4**	**+3.0**
AC05	**El Transito**	**6.90**	**346**	Pn	**Pn**	**18 30 41.5**	**+0.8**
PLTB	**Pedras Altas**	**12.85**	**77**	Pn	**Pn**	**18 31 59.9**	**-2.3**
CPUP	**Villa Florida**	**13.18**	**49**	Pn	**Pn**	**18 32 09.2**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=188,slow=7.1,SNR=1.4						
CPUP				Lg	Lg	18 36 00.9	
	baz=252,slow=14						
	comp=Z,1.0nm,0.6s						
PB04	**IPOC Station P**	**13.27**	**353**	Pn	**Pn**	**18 32 06.4**	**-1.7**
PB09	**IPOC Station P**	**13.73**	**356**	Pn	**Pn**	**18 32 11.6**	**-2.8**
LPAZ	**La Paz**	**19.19**	**1**	P	**Pn**	**18 33 25.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=176,slow=7.6,SNR=6.1						
	comp=Z,2.9nm,1.0s						
SIV	**San Ignacio**	**20.54**	**20**	P	**P**	**18 33 39.2**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=241,slow=13						
	comp=Z,1.1nm,0.3s						
BDFB	**Brasilia**	**26.91**	**48**	P	**P**	**18 34 43.0**	**+2.1**
	comp=Z,2.2nm,0.4s,baz=223,slow=12,SNR=4.5						
	comp=Z,2.2nm,0.4s						
QSPA	**South Pole Qui**	**54.69**	**180**	P	**P**	**18 38 29.0**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=164,slow=2.5,SNR=21						
	comp=Z,4.1nm,0.8s						
BOSA	**Boshof**	**76.66**	**116**	P	**P**	**18 40 50.9**	**0.0**
	comp=Z,2.6nm,1.0s,baz=239,slow=5.9,SNR=2.3						
	comp=Z,2.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**81.93**	**68**	P	**P**	**18 41 19.8**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=256,slow=5.8,SNR=4.4						
	comp=Z,1.1nm,0.8s						
NVAR	**Mina Array Bea**	**86.92**	**323**	P	**P**	**18 41 43.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=158,slow=5.8,SNR=2.4						
	comp=Z,0.1nm,0.3s						
WRA	**Warramunga Arr**	**120.76**	**205**	PKP	**PKPdf**	**18 47 50.8**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=173,slow=1.8,SNR=2.2						
AAK	**Ala-Archa**	**150.48**	**65**	PKPbc	**PKPbc**	**18 48 52.1**	**+0.8**
	baz=225,slow=2.9						
KURBB	**Kurchatov Arra**	**151.79**	**47**	PKPbc	**PKPbc**	**18 48 53.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=298,slow=3.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**153.77**	**37**	PKPbc	**PKPbc**	**18 48 57.8**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=333,slow=1.7,SNR=2.9						
MKAR	**Makanchi Array**	**155.35**	**54**	PKPab	**PKPab**	**18 49 17.9**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=306,slow=5.0,SNR=1.7						

*IDC **06** 18:31:06.8±0.9, 0.79N×28.87W, h0km, mb3.9/10, mbtmp4.0/11, ML4.1/1, MS3.5/14, Error ellipse: s-maj=48.5km s-min=17.1km az=140.0*

ISC 06 18:31:08.1±0.7, **0.7N**±0.3×**28.9W**±0.2, **h10**km, **n27**, σ0^s**61**/**12**, **mb3.8**/**10**, **MS3.6**/**13**, **Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.58**	**227**	Pn	**Pn**	**18 33 25.3**	**-0.9**
	1.9nm,0.3s,baz=90,slow=16,SNR=15						
RCBR				Sn	Sn	18 35 03.7	-10
	0.6nm,0.3s,baz=90,slow=20,SNR=2.3						
	23nm,0.7s						
H10N3	**ASCENSION HYDR**	**16.66**	**121**	T	T	18 52 11.7	
	baz=299,slow=74,SNR=98						
H10N2	**ASCENSION HYDR**	**16.67**	**121**	T	T	18 52 13.7	
	baz=299,slow=74,SNR=82						
H10N1	**ASCENSION HYDR**	**16.68**	**121**	T	T	18 52 13.3	
	baz=299,slow=74,SNR=99						
H10S3	**ASCENSION HYDR**	**17.11**	**125**	T	T	18 52 48.3	
	baz=277,slow=74,SNR=48						
H10S2	**ASCENSION HYDR**	**17.13**	**125**	T	T	18 52 47.0	
	baz=303,slow=74,SNR=25						
BBTS	**Babate**	**18.44**	**41**	LR	LR	18 41 15.8	
	comp=Z,46nm,20.5s,baz=190,slow=33						
MDP	**Montagnes des**	**24.13**	**281**	LR	LR	18 43 39.2	
	comp=Z,49nm,21.6s,baz=74,slow=31						
DBIC	**Dimbokro**	**24.66**	**76**	P	**P**	**18 36 29.6**	**+0.3**
	7.1nm,0.7s,baz=260,slow=11,SNR=6.4						
	7.1nm,0.7s						
BDFB	**Brasilia**	**24.95**	**229**	P	**P**	**18 36 32.8**	**+0.7**
	2.0nm,0.4s,baz=48,slow=7.5,SNR=1.7						
	2.0nm,0.4s						
KOWA	**Kowa**	**28.12**	**60**	P	**P**	**18 37 00.4**	**-0.1**
	4.8nm,0.8s,baz=159,slow=10,SNR=4.9						
KOWA				LR	LR	18 46 45.7	
	comp=Z,52nm,18.1s,baz=77,slow=33						
	4.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**32.69**	**67**	P	**P**	**18 37 40.7**	**-0.3**
	1.8nm,0.9s,baz=249,slow=8.8,SNR=5.0						
	1.8nm,0.9s						
SIV	**San Ignacio**	**35.88**	**241**	LR	LR	18 52 17.9	
	comp=Z,138nm,18.8s,baz=87,slow=35						
CPUP	**Villa Florida**	**38.44**	**223**	LR	LR	18 54 03.8	
	comp=Z,118nm,18.8s,baz=40,slow=36						
MDT	**Midelt**	**39.24**	**33**	P	**P**	**18 38 37.8**	**+0.8**
	1.6nm,0.8s,baz=260,slow=3.8,SNR=4.0						
MDT				LR	LR	18 54 22.0	
	comp=Z,32nm,18.9s,baz=198,slow=36						
	1.6nm,0.8s						
LPAZ	**La Paz**	**42.27**	**245**	P	**P**	**18 39 03.5**	**+0.6**
	0.4nm,0.4s,baz=68,slow=5.4,SNR=2.2						
LPAZ				LR	LR	18 56 14.0	
	comp=Z,47nm,18.3s,baz=48,slow=36						
	0.4nm,0.4s						
ESDC	**Sonseca Array**	**44.92**	**27**	P	**P**	**18 39 23.0**	**-0.3**
	1.1nm,1.0s,baz=236,slow=8.6,SNR=7.3						
	1.1nm,1.0s						
ROSC	**El Rosal**	**45.57**	**276**	LR	LR	18 57 46.3	
	comp=Z,66nm,18.9s,baz=258,slow=35						
ATAH	**Atahualpa**	**50.02**	**260**	LR	LR	19 00 35.2	
	comp=Z,67nm,19.7s,baz=25,slow=35						
BOSA	**Boshof**	**59.39**	**124**	LR	LR	19 02 19.3	
	comp=Z,41nm,19.2s,baz=6.0,slow=32						
GERES	**GERESS Array B**	**60.26**	**31**	P	**P**	**18 41 16.1**	**-0.7**
	0.2nm,0.3s,baz=195,slow=4.0,SNR=5.1						
	0.2nm,0.3s						
TKL	**Tuckaleechee C**	**61.61**	**311**	LR	LR	19 03 39.3	
	comp=Z,9.7nm,18.7s,baz=120,slow=32						
BRTR	**Keskin Array B**	**68.65**	**47**	P	**P**	**18 42 12.0**	**0.0**
	0.3nm,0.5s,baz=260,slow=8.5,SNR=2.3						
BRTR				LR	LR	19 13 13.6	
	comp=Z,113nm,18.4s,baz=144,slow=37						
	0.3nm,0.5s						
FRB	**Frobisher Bay**	**69.29**	**342**	LR	LR	19 08 48.2	
	comp=Z,29nm,20.8s,baz=9.5,slow=33						
AKASG	**Malin Array Be**	**69.76**	**35**	P	**P**	**18 42 18.4**	**0.0**
	0.4nm,0.4s,baz=246,slow=6.1,SNR=4.5						
	0.4nm,0.4s						
BELG	**Belogornoye**	**81.19**	**37**	LR	LR	19 19 23.1	
	comp=Z,103nm,19.9s,baz=137,slow=36						
ASAR	**Alice Springs**	**151.73**	**145**	PKPbc	**PKiKP**	**18 51 04.9**	**+0.6**
	0.3nm,0.6s,baz=245,slow=1.0,SNR=4.6						

*IDC **06** 18:33:48.2±0.9, 37.00N×97.91W, h0km, mb3.8/2, mbtmp3.6/7, ML4.0/3, MS3.6/4, Error ellipse: s-maj=12.7km s-min=10.0km az=126.0*
*NEIC **06** 18:33:49.1±0.5, 36.941N±0.005×97.90W±0.01, h6km±2km, Error ellipse: s-maj=1.2km s-min=0.6km az=68.0*
*ANF **06** 18:33:49.1±0.4, 36.95N×97.92W, h4km±3km, ML4.4/20, Error ellipse: s-maj=2.1km s-min=1.9km az=51.0*
*TUL **06** 18:33:49.2±0.4, 36.937N±0.008×97.91W±0.01, h5km±1km, ML3.5, mb_Lg3.5/104(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=111.0*

ISC 06 18:33:49.1±0.7, **36.93N**±0.02×**97.91W**±0.02, **h9**km±4km, **n189**, σ1^s**01**/**199**, **MS4.1**/**3**, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.05**	**307**	Pg	**Pg**	**18 33 50.9**	**-0.1**
KAN14				Sg	**Sg**	**18 33 52.0**	**-0.5**
GC02	**Grant County #**	**0.09**	**151**		**Pg**	**18 33 51.4**	**0.0**
GC02				Sg	**Sg**	**18 33 53.1**	**0.0**
KAN17	**Caldwell West**	**0.17**	**45**	Pg	**Pg**	**18 33 52.7**	**0.0**
KAN17				Sg	**Sg**	**18 33 55.2**	**+0.1**
KAN05	**Bluff City Nor**	**0.18**	**10**		**Pg**	**18 33 53.3**	**+0.2**
KAN05				Sg	**Sg**	**18 33 55.8**	**+0.1**
KAN01	**Argonia South**	**0.26**	**28**	Pg	**Pg**	**18 33 54.5**	**+0.2**
KAN01				Sg	**Sg**	**18 33 58.

CBKS	**Cedar Bluff**	**2.38**	**323**	Pb	**Pb**	**18 34 32.3**	**+0.3**
	baz=142							
CBKS				S	**Sb**	**18 35 02.6**	**+1.2**
	baz=142							
KSU1	**Kansas State U**	**2.40**	**25**	Pn	**Pn**	**18 34 29.9**	**+1.3**
KSU1	**Kansas State U**	**2.40**	**25**	P	**Pn**	**18 34 29.9**	**+1.3**
	baz=206,SNR=12							
KSU1				Sb	**Sb**	**18 35 02.9**	**+0.7**
	baz=206							
KSU1	**Kansas State U**	**2.40**	**25**	P	**Pn**	**18 34 29.9**	**+1.3**
	baz=206							
KSU1				S	**Sb**	**18 35 02.7**	**+0.5**
	baz=206							
RLO	**Rose Lookout**	**2.45**	**107**	Pn	**Pn**	**18 34 30.3**	**+1.2**
U38A	**Gravette**	**2.88**	**99**	Pn	**Pn**	**18 34 36.3**	**+1.2**
U38A	**Gravette**	**2.88**	**99**	P	**Pn**	**18 34 36.9**	**+1.8**
	baz=281,SNR=11							
LOOK	**Love County**	**2.99**	**168**	Pn	**Pn**	**18 34 37.9**	**+1.3**
LOOK				IAmb_Lg		18 35 27.1		
	comp=Z,75nm,0.8s							
X37A	**Clayton**	**3.12**	**138**	Pn	**Pn**	**18 34 39.7**	**+1.3**
X37A	**Clayton**	**3.12**	**138**	P	**Pn**	**18 34 39.9**	**+1.6**
	baz=320							
X37A				S	**Sn**	**18 35 18.1**	**+2.5**
	baz=320							
HHAR	**Hobbs**	**3.26**	**100**		**Pn**	**18 34 41.7**	**+1.3**
HHAR				IAmb_Lg		18 35 36.5		
	comp=Z,205nm,1.0s							
Z35A	**Perchaven, San**	**3.63**	**171**		**Pn**	**18 34 46.7**	**+1.4**
Z35A				IAmb_Lg		18 35 50.0		
	comp=Z,90nm,1.0s							
Z35A	**Perchaven, San**	**3.63**	**171**	P	**Pn**	**18 34 46.8**	**+1.4**
	baz=352,SNR=8.1							
Z35A				S	**Sn**	**18 35 30.6**	**+2.3**
	baz=352							
AMTX	**Amarillo**	**3.68**	**237**		**Pn**	**18 34 47.5**	**+1.4**
AMTX				IAmb_Lg		18 35 51.8		
	comp=Z,147nm,0.9s							
AMTX	**Amarillo**	**3.68**	**237**	Sb	**Sg**	**18 35 44.8**	**-2.4**
	baz=55							
S39A	**Bolivar**	**3.74**	**77**		**Pn**	**18 34 47.9**	**+1.0**
S39A	**Bolivar**	**3.74**	**77**	P	**Pn**	**18 34 47.9**	**+1.0**
	baz=260,SNR=8.0							
N33B	**J Bar K, Exete**	**3.82**	**5**	P	**Pn**	**18 34 48.5**	**+0.4**
	baz=186,SNR=10							
N33B				S	**Sn**	**18 35 33.8**	**+0.7**
	baz=186							
N33A	**J Bar K, Exete**	**3.82**	**5**		**Pn**	**18 34 48.7**	**+0.6**
N33A				IAmb_Lg		18 35 58.4		
	comp=Z,175nm,0.9s							
MIAR	**Mount Ida**	**4.25**	**123**		**Pn**	**18 34 54.7**	**+0.7**
MIAR				IAmb_Lg		18 36 06.6		
	comp=Z,103nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.27**	**301**		**Pn**	**18 34 54.6**	**+0.3**
KSCO				IAmb_Lg		18 36 13.0		
	comp=Z,109nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.27**	**301**	P	**Pn**	**18 34 54.6**	**+0.3**
	baz=118							
KSCO				S	**Sn**	**18 35 44.6**	**+0.3**
	baz=118							
KSCO	**Kaye Shedlock'**	**4.27**	**301**	P	**Pn**	**18 34 55.7**	**+1.4**
	baz=118							
N35A	**Tabor**	**4.31**	**24**		**Pn**	**18 34 54.7**	**-0.1**
P38A	**Dawn**	**4.37**	**51**	Pn	**Pn**	**18 34 55.7**	**+0.1**
P38A				IAmb_Lg		18 36 18.7		
	comp=Z,88nm,0.8s							
P38A	**Dawn**	**4.37**	**51**	P	**Pn**	**18 34 56.9**	**+1.2**
	baz=233							
Z38A	**Mt. Pleasant**	**4.37**	**146**	Pn	**Pn**	**18 34 56.5**	**+0.8**
Z38A	**Mt. Pleasant**	**4.37**	**146**	P	**Pn**	**18 34 56.9**	**+1.2**
	baz=328							
BGNE	**Belgrade**	**4.48**	**358**		**Pn**	**18 34 58.0**	**+0.8**
BGNE	**Belgrade**	**4.48**	**358**	P	**Pn**	**18 34 58.2**	**+1.1**
	baz=178,SNR=7.1							
BGNE	**Belgrade**	**4.48**	**358**	P	**Pn**	**18 34 58.5**	**+1.4**
	baz=178							
MGMO	**Mountain Grove**	**4.52**	**85**	Pn	**Pn**	**18 34 58.4**	**+0.7**
MGMO				IAmb_Lg		18 36 12.0		
	comp=Z,78nm,0.8s							
ABTX	**Abilene, Hawle**	**4.52**	**199**	IAmb_Lg		18 36 22.7		
	comp=Z,73nm,0.7s							
R40A	**Maddies Statio**	**4.68**	**71**		**Pn**	**18 35 00.2**	**+0.3**
R40A				IAmb_Lg		18 36 21.5		
	comp=Z,70nm,1.0s							
R40A	**Maddies Statio**	**4.68**	**71**	P	**Pn**	**18 35 00.7**	**+0.8**
	baz=255,SNR=47							
FCAR	**Ozark Folk Cen**	**4.78**	**101**		**Pn**	**18 35 02.5**	**+1.3**
WHAR	**Wooly Hollow**	**4.84**	**108**		**Pn**	**18 35 02.5**	**+0.5**
WHAR				IAmb_Lg		18 36 21.4		
	comp=Z,138nm,0.9s							
WHTX	**Lake Whitney,**	**4.94**	**175**	Pn	**Pn**	**18 35 04.1**	**+0.7**
WHTX	**Lake Whitney,**	**4.94**	**175**	P	**Pn**	**18 35 04.2**	**+0.8**
	baz=356							
WHTX	**Lake Whitney,**	**4.94**	**175**	P	**Pn**	**18 35 04.2**	**+0.8**
	baz=356							
MSTX	**Muleshoe**	**4.94**	**235**	Pn	**Pn**	**18 35 02.1**	**-1.5**
UALR	**University of**	**5.01**	**114**		**Pn**	**18 35 03.7**	**-0.6**
UALR				IAmb_Lg		18 36 39.3		
	comp=Z,62nm,0.8s							
WLAR	**White Oak Lake**	**5.08**	**128**	Pn	**Pn**	**18 35 07.5**	**+2.1**
OGNE	**Ogallala**	**5.14**	**323**		**Pn**	**18 35 07.8**	**+1.5**
L34A	**Svendsen Farm,**	**5.17**	**13**		**Pn**	**18 35 05.5**	**-1.1**
T25A	**Trinidad**	**5.20**	**274**	Pn	**Pn**	**18 35 07.3**	**0.0**
T25A				IAmb_Lg		18 36 40.6		
	comp=Z,63nm,0.9s							
237A	**Washetta, Mont**	**5.21**	**160**	IAmb_Lg		18 36 46.0		
	comp=Z,107nm,1.2s							
237A	**Washetta, Mont**	**5.21**	**160**	P	**Pn**	**18 35 07.5**	**+0.4**
	baz=341							
P40A	**Paris**	**5.30**	**59**		**Pn**	**18 35 08.6**	**+0.3**
P40A				IAmb_Lg		18 36 39.0		
	comp=Z,80nm,0.7s							
N38A	**Joes South For**	**5.31**	**42**		**Pn**	**18 35 08.9**	**+0.4**
N38A				IAmb_Lg		18 36 48.4		
	comp=Z,88nm,0.8s							
N38A	**Joes South For**	**5.31**	**42**	P	**Pn**	**18 35 09.3**	**+0.7**
	baz=225,SNR=8.7							
CCM	**Cathedral Cave**	**5.42**	**76**	Pn	**Pn**	**18 35 10.0**	**-0.1**
CCM				IAmb_Lg		18 36 45.3		
	comp=Z,70nm,0.8s							
LCAR	**Lake Charles**	**5.51**	**97**		**Pn**	**18 35 10.7**	**-0.5**
K31A	**O'Neill**	**5.73**	**354**		**Pn**	**18 35 13.9**	**-0.3**
K31A	**O'Neill**	**5.73**	**354**	P	**Pn**	**18 35 14.8**	**+0.5**
	baz=173							
CCAR	**Cane Creek**	**5.84**	**119**	IAmb_Lg		18 36 59.4		
	comp=Z,77nm,1.0s							
PBMO	**Poplar Bluff**	**6.00**	**89**	IAmb_Lg		18 37 09.7		
	comp=Z,79nm,0.8s							
HBAR	**Harrisburg**	**6.02**	**101**	Pn	**Pn**	**18 35 19.6**	**+1.4**
FVM	**French Village**	**6.05**	**78**	IAmb_Lg		18 36 58.0		
	comp=Z,53nm,1.1s							
Q24A	**Divide**	**6.07**	**292**		**Pn**	**18 35 18.7**	**-0.5**
Q24A				IAmb_Lg		18 37 05.5		
	comp=Z,97nm,1.1s							
435B	**Jarrell**	**6.13**	**177**		**Pn**	**18 35 19.6**	**-0.2**
435B	**Jarrell**	**6.13**	**177**	P	**Pn**	**18 35 20.4**	**+0.5**
	baz=358							
SCIA	**State Center**	**6.16**	**35**		**Pn**	**18 35 19.5**	**-0.7**
CPRX	**Cap Rock**	**6.24**	**233**	Pn	**Pn**	**18 35 23.1**	**+1.7**
SLM	**Saint Louis**	**6.32**	**72**	IAmb_Lg		18 37 12.5		
	comp=Z,54nm,0.8s							
HTMS	**Hat Mesa**	**6.48**	**228**		**Pn**	**18 35 25.3**	**+0.7**
CGM3	**Cape Girardeau**	**6.61**	**84**	IAmb_Lg		18 37 20.2		
	comp=Z,54nm,0.8s							
JCT	**Junction City**	**6.62**	**194**	Pn	**Pn**	**18 35 27.8**	**+1.2**
JCT				IAmb_Lg		18 37 19.4		
	comp=Z,50nm,0.8s							
CLN7	**Carlsbad 7**	**6.62**	**229**	Pn	**Pn**	**18 35 27.5**	**+0.9**
N41A	**Harden Midland**	**6.68**	**53**	Pn	**Pn**	**18 35 27.7**	**+0.4**
N41A				IAmb_Lg		18 37 19.2		
	comp=Z,85nm,0.8s							
N41A	**Harden Midland**	**6.68**	**53**	P	**Pn**	**18 35 28.3**	**+1.0**
	baz=238							
ISCO	**Idaho Springs**	**6.70**	**298**		**Pn**	**18 35 27.8**	**0.0**
ECSD	**EROS Data Cent**	**6.87**	**8**	Pn	**Pn**	**18 35 29.5**	**-0.5**
ECSD				IAmb_Lg		18 37 33.7		
	comp=Z,42nm,1.1s							
ECSD	**EROS Data Cent**	**6.87**	**8**	P	**Pn**	**18 35 29.8**	**-0.2**
	baz=189							
ECSD	**EROS Data Cent**	**6.87**	**8**	P	**Pn**	**18 35 29.8**	**-0.2**
	baz=189							
S44A	**Carbondale**	**6.94**	**81**	IAmb_Lg		18 37 44.8		
	comp=Z,51nm,0.7s							
GDL2	**Guadalupe Moun**	**7.11**	**230**		**Pn**	**18 35 32.1**	**-1.2**
P43A	**Skaggs, Pawnee**	**7.13**	**65**	IAmb_Lg		18 37 38.7		
	comp=Z,63nm,0.8s							

ANMO	**Albuquerque**	**7.21**	**257**	Pn	**Pn**	**18 35 37.1**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=96,slow=10,SNR=1.6							
ANMO				Lg		18 37 35.3		
	comp=Z,1.7nm,0.3s,baz=94,slow=19,SNR=6.8							
L40A	**Anamosa**	**7.28**	**43**		**Pn**	**18 35 35.2**	**-0.3**
L40A				IAmb_Lg		18 37 48.2		
	comp=Z,67nm,0.9s							
L40A	**Anamosa**	**7.28**	**43**	P	**Pn**	**18 35 35.6**	**0.0**
	baz=227							
W45A	**Hickory Valley**	**7.29**	**101**	IAmb_Lg		18 37 40.6		
	comp=Z,82nm,0.7s							
441A	**DeRidder**	**7.30**	**146**	S	**Sn**	**18 37 00.9**	**+2.0**
	baz=329							
PHWY	**Pilot Hill**	**7.31**	**309**		**Pn**	**18 35 36.7**	**+0.4**
PHWY				IAmb_Lg		18 37 50.9		
	comp=Z,47nm,0.8s							
OXF	**Oxford**	**7.32**	**107**	IAmb_Lg		18 37 47.8		
	comp=Z,71nm,1.0s							
OXF	**Oxford**	**7.32**	**107**	P	**Pn**	**18 35 37.4**	**+1.3**
	baz=292							
T45A	**Paducah**	**7.42**	**87**	IAmb_Lg		18 37 47.2		
	comp=Z,71nm,0.8s							
Y45A	**Yeager Farm, C**	**7.48**	**112**	IAmb_Lg		18 37 57.8		
	comp=Z,60nm,0.8s							
SMCO	**Snowmass**	**7.50**	**290**		**Pn**	**18 35 38.2**	**-0.7**
SUSD	**Miller**	**7.55**	**354**	IAmb_Lg		18 37 53.2		
	comp=Z,53nm,0.9s							
HDIL	**Hopedale**	**7.65**	**59**	Pn	**Pn**	**18 35 39.6**	**-1.0**
HDIL	**Hopedale**	**7.65**	**59**	P	**Pn**	**18 35 41.9**	**+1.3**
	baz=244							
CRNM	**Carthage**	**7.79**	**250**	Pn	**Pn**	**18 35 42.4**	**-0.4**
I37A	**Lemond, Waseca**	**7.87**	**24**	IAmb_Lg		18 38 11.0		
	comp=Z,51nm,0.7s							
OLIL	**Olney**	**7.97**	**74**	IAmb_Lg		18 38 07.6		
	comp=Z,42nm,1.0s							
O44A	**Mansfield**	**8.07**	**64**	IAmb_Lg		18 38 05.8		
	comp=Z,61nm,0.8s							
MNTX	**Cornudas Mount**	**8.08**	**232**	Pn	**Pn**	**18 35 46.4**	**-0.2**
MNTX	**Cornudas Mount**	**8.08**	**232**	P	**Pn**	**18 35 47.9**	**+1.3**
	baz=48							
L42A	**Oliver, Polo**	**8.14**	**49**		**Pn**	**18 35 47.7**	**+0.3**
L42A				IAmb_Lg		18 38 08.6		
	comp=Z,72nm,0.9s							
L42A	**Oliver, Polo**	**8.14**	**49**	P	**Pn**	**18 35 47.9**	**+0.5**
	baz=234,SNR=5.8							
PLAL	**Pickwick Lake**	**8.21**	**101**	Pn	**Pn**	**18 35 48.1**	**-0.2**
JFWS	**Jewell Farm**	**8.39**	**42**	Pn	**Pn**	**18 35 49.9**	**-0.8**
JFWS				IAmb_Lg		18 38 18.1		
	comp=Z,51nm,0.7s							
RSSD	**Black Hills**	**8.56**	**329**	Pn	**Pn**	**18 35 55.5**	**+2.1**
RSSD				IAmb_Lg		18 38 33.2		
	comp=Z,29nm,0.8s							
RWWY	**Rawlins**	**8.63**	**306**	Pn	**Pn**	**18 35 53.9**	**-0.4**
RWWY				IAmb_Lg		18 38 31.4		
	comp=Z,44nm,1.2s							
833A	**Chaparral WMA,**	**8.67**	**189**	Pn	**Pn**	**18 35 54.7**	**0.0**
833A				IAmb_Lg		18 38 35.3		
	comp=Z,49nm,1.2s							
O20A	**White River Ci**	**8.71**	**295**	Pn	**Pn**	**18 35 55.1**	**-0.2**
K22A	**Casper**	**8.75**	**313**	Pn	**Pn**	**18 35 55.8**	**-0.1**
K22A				IAmb_Lg		18 38 43.6		
	comp=Z,50nm,1.1s							
PV13	**Radium Mtn., P**	**8.75**	**281**	Pn	**Pn**	**18 35 55.3**	**-0.7**
M44A	**Midewin, Midew**	**8.86**	**57**	Pn	**Pn**	**18 35 57.8**	**+0.5**
TX31	**Lajitas Ar. Si**	**8.98**	**214**	Pn	**Pn**	**18 35 58.1**	**-0.9**
TX32	**Lajitas Array**	**8.98**	**214**		**Pn**	**18 35 58.5**	**-0.4**
TXAR	**Lajitas Array**	**8.98**	**214**	Pn	**Pn**	**18 35 58.9**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=30,slow=11,SNR=26							
TXAR				Pg	Pg	18 36 31.1	-10	
	comp=Z,0.5nm,0.3s,baz=57,slow=15,SNR=4.3							
TXAR				Sn	**Sn**	**18 37 35.2**	**-5.1**	
	comp=Z,0.6nm,0.3s,baz=39,slow=13,SNR=1.7							
TXAR				Lg	Lg	18 38 27.0		
	comp=Z,0.8nm,0.3s,baz=343,slow=38,SNR=1.6							
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**8.98**	**214**	Pn	**Pn**	**18 35 58.5**	**-0.5**
F33A	**5 Mile Ranch,**	**8.99**	**7**		**Pn**	**18 35 57.8**	**-1.1**
V48A	**Smith Brothers**	**9.03**	**94**	Pn	**Pn**	**18 36 00.3**	**+0.8**
SFIN	**Lafayette**	**9.13**	**65**	Pn	**Pn**	**18 36 01.8**	**+0.9**
SPMN	**Marine on St.**	**9.14**	**23**	Pn	**Pn**	**18 36 00.9**	**-0.2**
SPMN				IAmb_Lg		18 38 36.4		
	comp=Z,28nm,0.7s							
K43A	**Burlington**	**9.36**	**49**	Pn	**Pn**	**18 36 04.1**	**+0.1**
K43A				IAmb_Lg		18 38 50.9		
	comp=Z,41nm,0.9s							
F36A	**Milaca**	**9.52**	**19**	Pn	**Pn**	**18 36 04.3**	**-1.8**
I42A	**Draeger Farm,**	**9.77**	**42**	IAmb_Lg		18 39 14.2		
	comp=Z,28nm,0.9s							
E28A	**Huff**	**9.86**	**349**	IAmb_Lg		18 39 09.8		
	comp=Z,44nm,0.9s							
G40A	**Rib Lake**	**10.16**	**32**		**Pn**	**18 36 14.8**	**-0.3**
PD31	**Pinedale Array**	**10.68**	**307**	Pn	**Pn**	**18 36 22.1**	**-0.3**
PDAR	**Pinedale Array**	**10.68**	**307**	Pn	**Pn**	**18 36 23.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=119,slow=46,SNR=3.0							
PDAR				Pg		18 37 07.0		
	comp=Z,0.4nm,0.3s,baz=118,slow=15,SNR=7.8							
PDAR				Lg	Lg	18 39 19.4		
	comp=Z,0.4nm,0.3s,baz=124,slow=40,SNR=1.3							
	comp=Z,0.3nm,0.5s							
PDAR	**Pinedale Array**	**10.68**	**307**	Pn	**Pn**	**18 36 19.7**	**-2.7**
BW06	**Boulder Array**	**10.68**	**307**	Pn	**Pn**	**18 36 21.9**	**-0.5**
S51A	**Beattyville**	**11.43**	**82**	Pn	**Pn**	**18 36 32.6**	**+0.1**
S51A	**Beattyville**	**11.43**	**82**	P	**Pn**	**18 36 33.1**	**+0.7**
	baz=271							
S51A				P	**Pn**	**18 36 33.1**	**+0.7**
	baz=271							
TKL	**Tuckaleechee C**	**11.48**	**92**	Pn	**Pn**	**18 36 32.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=262,slow=7.1,SNR=5.8							
TKL				Lg	Lg	18 39 42.8		
	comp=Z,0.7nm,0.3s,baz=143,slow=20,SNR=12							
	comp=Z,2.6nm,0.4s							
TKL	**Tuckaleechee C**	**11.48**	**92**	Pn	**Pn**	**18 36 33.0**	**-0.2**
E43A	**Lone Tree Farm**	**12.47**	**37**	Pn	**Pn**	**18 36 43.5**	**-3.1**
ULM	**Lac du Bonnet**	**13.40**	**6**	Pn	**Pn**	**18 36 52.7**	**-6.5**
	comp=Z,1.3nm,0.5s,baz=181,slow=14,SNR=1.6							
ULM				Sn	Sn	18 39 15.8	-12	
	comp=Z,0.3nm,0.3s,baz=111,slow=17,SNR=2.1							
ULM				Lg	Lg	18 40 39.2		
	comp=Z,0.3nm,0.3s,baz=165,slow=18,SNR=2.0							
SADO	**Sadowa**	**16.20**	**55**	Lg	Lg	18 42 08.2		
	comp=Z,0.3nm,0.3s,baz=279,slow=19,SNR=1.0							
YBH	**Yreka Blue Hor**	**19.75**	**292**	LR	LR	18 47 11.7		
	comp=Z,29nm,18.9s,baz=330,slow=41							
ILAR	**Eielson Array**	**40.01**	**330**	P	**P**	**18 41 24.6**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=113,slow=6.9,SNR=4.0							
	comp=Z,0.5nm,0.7s							
ARCES	**ARCESS Array B**	**66.12**	**19**	P	**P**	**18 44 36.2**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=316,slow=6.4,SNR=4.3							
	comp=Z,2.0nm,0.9s							
YAK	**Yakutsk**	**74.17**	**339**	LR	LR	19 23 47.8		
	comp=Z,85nm,18.1s,baz=268,slow=40							
OBN	**Obninsk**	**80.38**	**25**	LR	LR	19 21 23.8		
	comp=Z,38nm,20.4s,baz=164,slow=36							
AKASG	**Malin Array Be**	**81.14**	**31**	LR	LR	19 22 29.1		
	comp=Z,102nm,19.6s,baz=124,slow=36							

*IDC **06** 18:46:12.0±1.1,24.1°10N×123.7°1E,h0km,mb3.8/12, mbtmp3.8/13,ML3.1/1,MS3.5/7,Error ellipse: s-maj=61.4km s-min=18.6km az=67.0*
*JMA **06** 18:46:17.6±0.2,24.0°0N±0.7°×123.6°E±0.5,h31km±1km, MV3.6/9,NEAR ISHIGAKIJIMA ISLAND*
JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.
*NEIC **06** 18:46:18.3±2.1,23.95°N±0.05°×123.45°E±0.08,h30km±4km, mb4.1/5,Error ellipse: s-maj=10.1km s-min=7.1km az=85.0*

ISC 06 18:46:17.2±1.0,23.97°N±0.06°×123.58°E±0.03,h31km±6km, n54,σ1°05/52,mb3.9/15,MS3.8/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.23**	**67**	*i* P	**Pb**	**18 46 23.9**	**0.0**
HATJ				S	**Sb**	**18 46 28.6**	**+0.2**
IRIF	**Iriomote-Funau**	**0.39**	**21**	*i* P	**Pb**	**18 46 26.2**	**+0.1**
IRIF				S	**Sb**	**18 46 32.4**	**+0.3**
JKRS	**Kuro-shima**	**0.48**	**56**	*i* P	**Pb**	**18 46 27.7**	**+0.3**
JKRS				S	**Sb**	**18 46 34.7**	**+0.3**
JIJ	**Ishigaki jima**	**0.65**	**53**	*i* P	**Pb**	**18 46 29.8**	**-0.4**
JIJ				S	**Sb**	**18 46 38.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.71**	**314**		**Pb**	**18 46 30.5**	**-0.7**
YOJ	**Yonaguni jima**	**0.71**	**314**	*i* P	**Pb**	**18 46 31.4**	**+0.2**
YOJ				*eS*	**Sb**	**18 46 41.2**	**+0.5**
JYNG	**Yonagunijimaku**	**0.75**	**310**	*i* P	**Pn**	**18 46 31.9**	**+0.3**
JYNG				S	**Sb**	**18 46 42.4**	**+0.7**

JISG	**Ishigakijimahi**	**0.91**	**47**	P	**Pn**	**18 46 33.9**	**+0.1**
JISG				*eS*	**Sn**	**18 46 46.2**	**+0.3**
JTJ	**Tarama**	**1.23**	**57**	P	**Pb**	**18 46 39.8**	**0.0**
JTJ				*eS*	**Sb**	**18 46 55.5**	**+0.2**
NACB	**Ninganchiao**	**1.82**	**277**		**Pn**	**18 46 46.6**	**+0.2**
YHNB	**Yeheng**	**2.12**	**290**		**Pn**	**18 46 52.3**	**+1.7**
TATO	**Taipei**	**2.15**	**298**		**Pn**	**18 46 51.8**	**+1.0**
YULB	**Yu-li**	**2.17**	**255**		**Pn**	**18 46 50.6**	**-0.5**
SSLB	**Suanglung**	**2.41**	**266**		**Pn**	**18 46 54.8**	**+0.4**
TWG	**Pinlang**	**2.57**	**244**		**Pn**	**18 46 55.9**	**-0.8**
TPUB	**Ta-pu**	**2.78**	**257**		**Pn**	**18 47 01.3**	**+1.7**
KNMB	**Chin-men Tao**	**4.76**	**277**	Pn	**Pn**	**18 47 27.4**	**+0.6**
JOW	**Kunigami**	**5.12**	**55**	Pn	**Pn**	**18 47 34.9**	**+3.1**
KSRS	**Korea Array**	**13.95**	**14**	Pn	**Pn**	**18 49 29.3**	**-3.3**
	0.1nm,0.3s,baz=196,slow=12,SNR=2.2							
	0.2nm,0.3s							
DAV	**Davao City (W)**	**16.91**	**173**	LR	LR	18 56 30.4		
	comp=Z,72nm,19.1s,baz=28,slow=36							
CMAR	**Chiang Mai Arr**	**23.59**	**261**	LR	LR	19 01 40.1		
	comp=Z,50nm,18.5s,baz=195,slow=39							
SIJI	**Sorong**	**25.80**	**162**	LR	LR	19 02 26.3		
	comp=Z,62nm,18.3s,baz=96,slow=38							
SONM	**Songino Array**	**27.46**	**334**	P	**P**	**18 52 01.1**	**+0.6**
	0.4nm,0.5s,baz=149,slow=12,SNR=2.3							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**40.02**	**315**	P	**P**	**18 53 48.3**	**-1.0**
	0.9nm,0.6s,baz=100,slow=9.8,SNR=12							
	0.9nm,0.6s							
MKAR	**Makanchi Array**	**40.02**	**315**	P	**P**	**18 53 48.9**	**-0.3**
MAKZ	**Makanchi**	**40.23**	**315**	P	**P**	**18 53 51.3**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**40.31**	**87**	T	T	19 36 40.3		
	baz=281							
H11N2	**WAKE ISLAND Hy**	**40.32**	**87**	T	T	19 36 34.6		
	baz=281							
H11N3	**WAKE ISLAND Hy**	**40.33**	**87**	T	T	19 36 38.6		
	baz=281							
ZALV	**Zalesovo Beam**	**41.63**	**326**	P	**P**	**18 54 00.6**	**-1.7**
	1.4nm,0.6s,baz=113,slow=6.6,SNR=5.9							
	1.4nm,0.6s							
KURK	**Kurchatov**	**43.67**	**319**	P	**P**	**18 54 18.2**	**-0.7**
KURK				IAmb	IAmb	18 54 19.3		
	comp=Z,2.6nm,1.0s							
KURBB	**Kurchatov Arra**	**43.69**	**319**	P	**P**	**18 54 18.2**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=112,slow=9.4,SNR=13							
	comp=Z,1.3nm,0.8s							
WRA	**Warramunga Arr**	**44.89**	**166**	P	**P**	**18 54 29.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=347,slow=9.1,SNR=6.2							
	comp=Z,0.7nm,0.8s							
WR0	**Warramunga Arr**	**44.95**	**165**	P	**P**	**18 54 29.7**	**+0.2**
KKAR	**Karatay Array**	**47.34**	**307**	P	**P**	**18 54 49.6**	**+1.4**
ASAR	**Alice Springs**	**48.40**	**167**	P	**P**	**18 54 56.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=351,slow=14,SNR=5.2							
	comp=Z,0.3nm,0.6s							
ABKAR	**Akbulak array**	**55.15**	**314**	P	**P**	**18 55 46.3**	**-0.3**
ABKAR				IAmb	IAmb	18 55 48.5		
	comp=Z,2.4nm,1.1s							
ABKAR	**Akbulak array**	**55.15**	**314**	P	**P**	**18 55 46.9**	**+0.3**
GEYT	**Alibeck**	**56.79**	**301**	P	**P**	**18 55 59.8**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=83,slow=15,SNR=2.5							
	comp=Z,1.2nm,0.6s							
H23K	**Yukon River**	**67.13**	**27**	P	**P**	**18 57 09.9**	**+2.3**
H23K				IAmb	IAmb	18 57 22.8		
	comp=Z,3.2nm,1.1s							
BMAR	**Burnt Mountain**	**68.82**	**24**	P	**P**	**18 57 19.8**	**+1.6**
SPITS	**Spitsbergen Ar**	**70.16**	**348**	LR	LR	19 34 49.2		
	comp=Z,52nm,18.8s,baz=102,slow=42							
BCAR	**Beaver Creek A**	**70.98**	**29**	P	**P**	**18 57 32.7**	**+1.2**
FINES	**FINESS Array B**	**72.73**	**330**	P	**P**	**18 57 41.3**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=54,slow=4.9,SNR=4.4							
	comp=Z,2.2nm,0.9s							
FINES	**F

AFI				S		**S**	**19 16 53.4**	**-5.5**
	70nm,0.6s,baz=29,slow=23,SNR=8.3							
AFI	**Afiamalu**	**8.94**	**45**	P		**P**	**19 15 12.9**	**-1.6**
AFI						**S**	**19 16 56.4**	**-2.5**
AFI	**Afiamalu**	**8.94**	**45**	P		**P**	**19 15 13.3**	**-1.2**
MARNC	**Mare, Loyalty**	**12.87**	**263**	P		**P**	**19 15 54.4**	**-0.3**
MARNC	**Mare, Loyalty**	**12.87**	**263**	P		**P**	**19 15 54.5**	**-0.3**
MARNC	**Mare, Loyalty**	**12.87**	**263**	P		**P**	**19 15 54.7**	**0.0**
PINNC	**Pines Island,**	**13.50**	**258**	P		**P**	**19 16 01.6**	**+0.4**
PINNC	**Pines Island,**	**13.50**	**258**	P		**P**	**19 16 01.9**	**+0.7**
PINNC	**Pines Island,**	**13.50**	**258**	P		**P**	**19 16 01.6**	**+0.4**
OUENC	**Ouen Island, N**	**14.04**	**259**	P		**P**	**19 16 06.3**	**-0.4**
DZM	**Mont Dzumac**	**14.37**	**261**	P		**P**	**19 16 10.6**	**+0.2**
	13nm,0.8s,baz=126,slow=13,SNR=14							
DZM	**Mont Dzumac**	**14.37**	**261**	P		**P**	**19 16 09.4**	**-1.0**
DZM	**Mont Dzumac**	**14.37**	**261**	P		**P**	**19 16 11.3**	**+0.9**
DZM	**Mont Dzumac**	**14.37**	**261**	P		**P**	**19 16 11.4**	**+1.0**
ONTNC	**Ouen Toro**	**14.38**	**260**	P		**P**	**19 16 09.5**	**-0.9**
NOUC	**Port Laguerre**	**14.51**	**261**	P		**P**	**19 16 12.3**	**+0.7**
NOUC	**Port Laguerre**	**14.51**	**261**	P		**P**	**19 16 11.8**	**+0.2**
KOUNC	**Koumac, New Ca**	**16.37**	**266**	P		**P**	**19 16 32.1**	**+1.8**
KOUNC				IAmb		IAmb	19 16 33.3	
	comp=Z,22nm,0.8s							
OUZ	**Omahuta**	**16.42**	**204**	P		**P**	**19 16 32.0**	**+1.5**
OUZ	**Omahuta**	**16.42**	**204**	P		**P**	**19 16 32.3**	**+1.8**
MXZ	**Matakaoa Point**	**17.36**	**189**	P		**P**	**19 16 39.6**	**+0.6**
URZ	**Urewera**	**18.24**	**192**	P		**P**	**19 16 46.6**	**-0.5**
	comp=Z,16nm,0.4s,baz=31,slow=7.7,SNR=15							
URZ				S		**S**	**19 19 39.4**	**-6.6**
	comp=Z,5.1nm,0.5s,baz=31,slow=23,SNR=7.4							
URZ	**Urewera**	**18.24**	**192**	P		**P**	**19 16 46.3**	**-0.8**
URZ	**Urewera**	**18.24**	**192**	P		**P**	**19 16 46.4**	**-0.7**
URZ	**Urewera**	**18.24**	**192**	P		**P**	**19 16 46.9**	**-0.2**
HIZ	**Hauiti**	**19.01**	**197**	P		**P**	**19 16 57.1**	**+3.0**
HIZ	**Hauiti**	**19.01**	**197**	P		**P**	**19 16 56.1**	**+2.0**
MTW	**Mount Morrison**	**21.36**	**193**	P		**P**	**19 17 16.2**	**+0.8**
SNZO	**South Karori**	**21.68**	**194**	P		**P**	**19 17 18.1**	**-0.1**
TCW	**Tory Channel**	**21.69**	**195**	P		**P**	**19 17 18.3**	**0.0**
QRZ	**Quartz Range**	**21.82**	**199**	P		**P**	**19 17 19.7**	**+0.2**
QRZ	**Quartz Range**	**21.82**	**199**	P		**P**	**19 17 20.2**	**+0.7**
QRZ	**Quartz Range**	**21.82**	**199**	P		**P**	**19 17 19.7**	**+0.2**
TKNZ	**Takaka Hill**	**21.88**	**198**	P		**P**	**19 17 19.8**	**-0.3**
NNZ	**Nelson**	**21.93**	**197**	P		**P**	**19 17 19.8**	**-0.7**
NNZ	**Nelson**	**21.93**	**197**	P		**P**	**19 17 20.1**	**-0.4**
TUWZ	**Tuamarina**	**21.98**	**196**	P		**P**	**19 17 20.6**	**-0.4**
BSWZ	**Blackbirch Sta**	**22.27**	**196**	P		P	19 17 18.4	-5.1
MRNZ	**Matariki Terra**	**22.28**	**198**	P		**P**	**19 17 22.9**	**-0.7**
THZ	**Tophouse**	**22.57**	**197**	P		**P**	**19 17 25.5**	**-0.8**
DSZ	**Denniston Nort**	**22.88**	**199**	P		**P**	**19 17 29.1**	**0.0**
KHZ	**Kahutara**	**23.01**	**196**	P		**P**	**19 17 29.1**	**-0.9**
KHZ				IAmb		IAmb	19 17 29.7	
	comp=Z,22nm,1.1s							
KHZ	**Kahutara**	**23.01**	**196**	P		**P**	**19 17 29.4**	**-0.7**
KHZ	**Kahutara**	**23.01**	**196**	P		**P**	**19 17 29.2**	**-0.9**
GVZ	**Greta Valley S**	**23.66**	**196**	P		**P**	**19 17 34.8**	**-1.1**
MQZ	**McQueen's Vall**	**24.45**	**196**	P		**P**	**19 17 41.9**	**-0.9**
RPZ	**Rata Peaks**	**24.91**	**199**	P		**P**	**19 17 46.7**	**-0.2**
	comp=Z,7.4nm,0.6s,baz=4.8,slow=12,SNR=1.9							
	comp=Z,7.4nm,0.6s							
RPZ	**Rata Peaks**	**24.91**	**199**	P		**P**	**19 17 48.1**	**+1.2**
RPZ	**Rata Peaks**	**24.91**	**199**	P		**P**	**19 17 47.5**	**+0.6**
MLZ	**Mavora Lakes**	**27.32**	**201**	P		**P**	**19 18 08.6**	**+0.4**
WHZ	**Wether Hill Ro**	**27.84**	**201**	P		**P**	**19 18 13.9**	**+1.2**
EIDS	**Eidsvold**	**28.65**	**254**	P		**P**	**19 18 20.1**	**0.0**
EIDS				IAmb		IAmb	19 19 00.4	
	comp=Z,42nm,1.5s							
EIDS	**Eidsvold**	**28.65**	**254**	P		**P**	**19 18 20.6**	**+0.5**
ARMA	**Armidale**	**28.90**	**244**	P		**P**	**19 18 23.1**	**+0.8**
ARMA				IAmb		IAmb	19 18 23.9	
	comp=Z,9.6nm,0.7s							
ARMA	**Armidale**	**28.90**	**244**	P		**P**	**19 18 23.1**	**+0.8**
XMAS	**Kiritimati**	**30.23**	**45**	P		**P**	**19 18 33.0**	**-0.8**
RMQ	**Roma**	**30.82**	**252**	P		**P**	**19 18 39.6**	**+0.8**
CNB	**Canberra Magne**	**32.09**	**236**	P		**P**	**19 18 50.3**	**+0.7**
CAN	**Canberra**	**32.37**	**236**	P		**P**	**19 18 52.5**	**+0.5**
CAN				IAmb		IAmb	19 18 55.1	
	comp=Z,36nm,1.5s							
CTA	**Charters Tower**	**33.27**	**264**	P		**P**	**19 18 59.7**	**-0.1**
	comp=Z,7.1nm,0.4s,baz=91,slow=10,SNR=17							
	comp=Z,7.1nm,0.4s							
CTA	**Charters Tower**	**33.27**	**264**	P		**P**	**19 18 59.8**	**+0.1**
CTAO	**Charters Tower**	**33.27**	**264**	P		**P**	**19 18 59.6**	**-0.1**
CTAO				IAmb		IAmb	19 19 00.4	
	comp=Z,19nm,1.1s							
CTAO	**Charters Tower**	**33.27**	**264**	P		**P**	**19 18 59.7**	**-0.1**
CMSA	**Cobar Meteorol**	**34.12**	**244**	P		**P**	**19 19 07.0**	**+0.3**
QLP	**Quilpie**	**34.87**	**253**	P		**P**	**19 19 12.8**	**-0.2**
TOO	**Toolangi**	**35.77**	**234**	P		**P**	**19 19 20.4**	**+0.1**
TOO				IAmb		IAmb	19 19 21.0	
	comp=Z,8.9nm,1.0s							
TOO	**Toolangi**	**35.77**	**234**	P		**P**	**19 19 21.0**	**+0.6**
GEXS	**Deakin Univers**	**36.87**	**233**	P		**P**	**19 19 29.9**	**+0.6**
COEN	**Coen**	**37.35**	**274**	P		**P**	**19 19 33.3**	**-0.3**
COEN				IAmb		IAmb	19 19 47.4	
	comp=Z,11nm,1.1s							
STKA	**Stephens Creek**	**37.62**	**244**	P		**P**	**19 19 36.0**	**+0.3**
	comp=Z,4.7nm,0.4s,baz=80,slow=11,SNR=26							
	comp=Z,4.7nm,0.4s							
STKA	**Stephens Creek**	**37.62**	**244**	P		**P**	**19 19 35.7**	**0.0**
STKA	**Stephens Creek**	**37.62**	**244**	P		**P**	**19 19 36.1**	**+0.5**
INKA	**Innaminka**	**38.02**	**251**	P		**P**	**19 19 39.7**	**+0.8**
HTT	**Hallett**	**40.07**	**242**	P		**P**	**19 19 55.3**	**-0.1**
LCRK	**Leigh Creek**	**40.36**	**247**	P		**P**	**19 19 57.6**	**-0.2**
TWOA	**Tennyson Woods**	**40.59**	**240**	P		**P**	**19 19 59.6**	**+0.1**
BBOO	**Buckleboo**	**42.38**	**243**	P		**P**	**19 20 13.5**	**-0.3**
BBOO				IAmb		IAmb	19 20 13.8	
	comp=Z,12nm,0.6s							
BBOO	**Buckleboo**	**42.38**	**243**	P		**P**	**19 20 13.4**	**-0.3**
OOD	**Oodnadatta**	**42.50**	**251**	P		**P**	**19 20 15.2**	**+0.6**
MULG	**Mulgathing**	**43.95**	**247**	P		**P**	**19 20 25.6**	**-0.3**
WR0	**Warramunga Arr**	**44.20**	**262**	P		**P**	**19 20 26.7**	**-1.3**
AS31	**Alice Springs**	**44.32**	**257**	P		**P**	**19 20 28.3**	**-0.6**
ASAR	**Alice Springs**	**44.32**	**257**	P		**P**	**19 20 28.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=89,slow=8.2,SNR=106							
ASAR				PcP		**PcP**	**19 22 00.6**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=94,slow=4.5,SNR=2.9							
ASAR				ScP		**ScP**	**19 25 00.1**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=79,slow=4.8,SNR=3.4							
ASAR				S		**S**	**19 26 20.1**	**-3.3**
	comp=Z,0.8nm,0.8s,baz=91,slow=15,SNR=6.6							
	comp=Z,12nm,0.7s							
ASAR	**Alice Springs**	**44.32**	**257**	P		**P**	**19 20 27.8**	**-1.2**
WB0	**Warramunga Arr**	**44.37**	**262**	P		**P**	**19 20 28.3**	**-1.0**
WB0				IAmb		IAmb	19 20 28.9	
	comp=Z,9.0nm,0.6s							
WB2	**Warramunga Arr**	**44.38**	**262**	P		**P**	**19 20 28.3**	**-1.1**
WRAB	**Tennant Creek**	**44.38**	**262**	P		**P**	**19 20 28.4**	**-1.0**
WRAB				IAmb		IAmb	19 20 29.0	
	comp=Z,8.7nm,0.9s							
WRAB	**Tennant Creek**	**44.38**	**262**	P		**P**	**19 20 28.5**	**-0.9**
WRA	**Warramunga Arr**	**44.39**	**262**	P		**P**	**19 20 28.5**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=97,slow=7.6,SNR=142							
WRA				S		**S**	**19 26 19.6**	**-4.9**
	comp=Z,0.5nm,0.9s,baz=100,slow=14,SNR=2.3							
	comp=Z,2.9nm,0.3s							
WRA	**Warramunga Arr**	**44.39**	**262**	P		**P**	**19 20 27.8**	**-1.7**
HMH	**Humu'ula Sheep**	**45.59**	**31**	P		**P**	**19 20 39.3**	**+0.4**
KDU	**Kakadu**	**47.72**	**271**	P		**P**	**19 20 54.1**	**-0.7**
MTN	**Manton Dam**	**48.93**	**271**	P		**P**	**19 21 02.9**	**-0.9**
MTN				IAmb		IAmb	19 21 36.9	
	comp=Z,14nm,1.1s							
MTN	**Manton Dam**	**48.93**	**271**	P		**P**	**19 21 03.3**	**-0.5**
FORT	**Forrest**	**49.12**	**247**	P		**P**	**19 21 04.4**	**-0.7**
FORT				IAmb		IAmb	19 21 17.3	
	comp=Z,28nm,1.1s							
FORT	**Forrest**	**49.12**	**247**	P		**P**	**19 21 04.7**	**-0.3**
WRKA	**Warakurna**	**49.27**	**254**	P		**P**	**19 21 05.7**	**-0.6**
KNRA	**Kununurra**	**50.44**	**266**	P		**P**	**19 21 14.1**	**-0.8**
KNRA				IAmb		IAmb	19 21 20.0	
	comp=Z,16nm,1.4s							
KNRA	**Kununurra**	**50.44**	**266**	P		**P**	**19 21 14.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.81**	**262**	P		**P**	**19 21 31.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.81**	**262**	P		**P**	**19 21 31.9**	**-0.1**
SIJI	**Sorong**	**52.99**	**285**	P		**P**	**19 21 33.2**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=32,slow=2.1,SNR=5.0							
	comp=Z,4.9nm,0.8s							
KLBR	**Kellerberrin**	**57.89**	**245**	P		**P**	**19 22 06.9**	**-0.2**
SBA	**Scott Base**	**57.95**	**184**	P		**P**	**19 22 08.5**	**+1.8**
VNDA	**Vanda**	**57.98**	**185**	P		**P**	**19 22 08.3**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=352,slow=7.6,SNR=22							
	comp=Z,1.7nm,0.6s							
VNDA	**Vanda**	**57.98**	**185**	P		**P**	**19 22 08.4**	**+1.5**
QSPA	**South Pole Qui**	**69.66**	**180**	P		**P**	**19 23 22.7**	**+1.1**
	comp=Z,12nm,0.7s,baz=319,slow=0.1,SNR=65							
	comp=Z,12nm,0.7s							
QSPA	**South Pole Qui**	**69.66**	**180**	P		**P**	**19 23 22.7**	**+1.1**
QSPA				IAmb		IAmb	19 23 23.6	
	comp=Z,15nm,0.9s							
KIWB	**Kanaga Island**	**71.95**	**1**	P		**P**	**19 23 34.5**	**-0.5**
ADK	**Adak**	**71.99**	**1**	P		**P**	**19 23 34.3**	**-0.9**
ADK				IAmb		IAmb	19 24 10.8	
	comp=Z,17nm,1.2s							
PETK	**Petropavlovsk-**	**76.12**	**345**	P		**P**	**19 23 59.1**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=129,slow=8.0,SNR=1.9							
	comp=Z,1.6nm,0.8s							
BELA	**Belgrano 2**	**79.68**	**173**	P		**P**	**19 24 17.4**	**-0.1**
NVAR	**Mina Array Bea**	**81.11**	**43**	P		**P**	**19 24 26.9**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=222,slow=8.1,SNR=5.2							
	comp=Z,0.8nm,0.8s							
MAW	**Mawson**	**81.58**	**200**	P		**P**	**19 24 27.4**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=134,slow=4.8,SNR=7.0							
	comp=Z,1.6nm,0.7s							
MAW	**Mawson**	**81.58**	**200**	P		**P**	**19 24 27.7**	**+0.4**
O18K	**Koktuh Hills**	**82.16**	**12**	P		**P**	**19 24 30.1**	**-0.2**
O18K				IAmb		IAmb	19 24 52.3	
	comp=Z,15nm,1.2s							
SUA	**Susitna One**	**84.52**	**13**	P		**P**	**19 24 42.1**	**0.0**
SUA				IAmb		IAmb	19 25 15.6	
	comp=Z,25nm,1.4s							
RND	**Reindeer**	**86.66**	**13**	P		**P**	**19 24 51.9**	**-0.4**
RND				IAmb		IAmb	19 24 52.7	
	comp=Z,4.8nm,0.8s							
TROLL	**Troll, Antarti**	**87.82**	**180**	P		**P**	**19 24 57.9**	**0.0**
CCB	**Clear Creek Bu**	**87.97**	**13**	P		**P**	**19 24 57.4**	**-1.0**
CCB				IAmb		IAmb	19 24 58.2	
	comp=Z,4.6nm,0.6s							
VNA3	**Neumayer Olymp**	**88.25**	**176**	P		**P**	**19 24 59.2**	**-0.5**
ILAR	**Eielson Array**	**88.27**	**13**	P		**P**	**19 24 59.1**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=217,slow=5.4,SNR=12							
	comp=Z,0.8nm,0.5s							
VNA2	**Neumayer--Watz**	**88.69**	**177**	P		**P**	**19 25 01.6**	**-0.2**
	baz=187,slow=4.0							
VNA1	**Neumayer--Stat**	**88.92**	**177**	P		**P**	**19 25 02.4**	**-0.4**
PLCA	**Paso Flores**	**89.50**	**134**	P		**P**	**19 25 07.7**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=240,slow=7.0,SNR=4.2							
	comp=Z,1.3nm,0.8s							
MKAR	**Makanchi Array**	**110.97**	**313**	PKiKP		**PKiKP**	**19 30 36.9**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=122,slow=1.6,SNR=3.6							
FINES	**FINESS Array B**	**135.62**	**344**	SKPbc		**SKPbc**	**19 34 04.6**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=90,slow=5.7,SNR=4.0							
BRTR	**Keskin Array B**	**146.61**	**312**	PKPbc		**PKPdf**	**19 31 47.4**	**+2.3**
	comp=Z,0.5nm,0.4s,baz=102,slow=3.7,SNR=4.2							
CLL	**Collm**	**147.92**	**347**	*i* PKPbc		**PKPdf**	**19 31 50.4**	**+3.7**
CLL				*e*PKPab		**PKiKP**	**19 31 54.0**	**+2.1**
GERES	**GERESS Array B**	**150.05**	**344**	PKPbc		**PKPbc**	**19 31 55.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=325,slow=1.6,SNR=6.1							
TORD	**Torodi Ar. Bea**	**172.78**	**180**	PKP		**PKPdf**	**19 32 13.3**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=45,slow=1.2,SNR=2.5							
TORD				PKPab		**PKPab**	**19 33 43.8**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=183,slow=4.0,SNR=4.6							

*NEIC **06** 19:14:22.6±1.3,22°.52S±0°.09×66°.27W±0°.10, h298km±17km, mb4.3/4, Md3.9(SJA), Error ellipse: s-maj=16.3km s-min=9.1km az=133.0*
*IDC **06** 19:14:23.0±1.2,22°.54S×66°.09W, h250km±18km, mb3.8/3, mbtmp4.3/8, Error ellipse: s-maj=27.5km s-min=15.3km az=117.0*
*VAO **06** 19:14:24.1±0.5,22°.36S×66°.28W, h271km, mb4.1*
ISC 06 19:14:22.8±0.5, 22°.55S±0°.05×66°.46W±0°.06, h300km, n97, σ1s51/108, mb4.1/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.64**	**255**		**Pn**	**19 15 07.1**	**-0.2**
LVC	**Limon Verde**	**2.27**	**268**	P	**Pn**	**19 15 13.0**	**+0.8**
	122nm,0.3s,baz=82,slow=5.4,SNR=153						
LVC				S	**S**	**19 15 50.2**	**-1.4**
	78nm,0.3s,baz=224,slow=21,SNR=27						
LVC	**Limon Verde**	**2.27**	**268**	Pn	**Pn**	**19 15 12.9**	**+0.8**
LVC	**Limon Verde**	**2.27**	**268**	*e*P	**Pn**	**19 15 13.1**	**+0.8**
PB09	**IPOC Station P**	**2.69**	**286**		**Pn**	**19 15 17.2**	**+1.4**
PB09	**IPOC Station P**	**2.69**	**286**	*e*P	**Pn**	**19 15 17.4**	**+1.6**
PB09				*i* S	**S**	**19 15 57.3**	**-0.7**
PB09				IAML		19 16 02.2	
	comp=E,367nm,0.3s						
PB15	**IPOC Station P**	**2.85**	**256**		**Pn**	**19 15 18.4**	**+1.0**
PB15	**IPOC Station P**	**2.85**	**256**	*e*P	**Pn**	**19 15 18.6**	**+1.2**
PB15				*i* S	**S**	**19 16 00.6**	**-0.4**
PB06	**IPOC Station P**	**2.88**	**266**		**Pn**	**19 15 18.3**	**+0.7**
PB06	**IPOC Station P**	**2.88**	**266**	*e*P	**Pn**	**19 15 18.7**	**+1.1**
PB06				*i* S	**S**	**19 16 00.6**	**-0.7**
PB01	**IPOC Station P**	**3.19**	**297**		**Pn**	**19 15 21.7**	**+1.1**
PB01	**IPOC Station P**	**3.19**	**297**	*e*P	**Pn**	**19 15 21.8**	**+1.1**
PB01				*i* S	**S**	**19 16 05.4**	**-1.3**
PB07	**IPOC Station P**	**3.28**	**284**		**Pn**	**19 15 22.7**	**+1.1**
PB07	**IPOC Station P**	**3.28**	**284**	*e*P	**Pn**	**19 15 23.1**	**+1.5**
PB07				*i* S	**S**	**19 16 07.3**	**-1.3**
PB02	**IPOC Station P**	**3.42**	**290**		**Pn**	**19 15 24.0**	**+1.0**
PB02	**IPOC Station P**	**3.42**	**290**	*e*P	**Pn**	**19 15 24.2**	**+1.2**
PB02				*i* S	**S**	**19 16 09.4**	**-1.6**
PB04	**IPOC Station P**	**3.42**	**273**	Pn	**Pn**	**19 15 24.4**	**+1.3**
PB04	**IPOC Station P**	**3.42**	**273**	*e*P	**Pn**	**19 15 24.6**	**+1.5**
PB04				*i* S	**S**	**19 16 10.1**	**-1.1**
GO01	**Chusmiza**	**3.84**	**318**		**Pn**	**19 15 29.0**	**+1.2**
GO01	**Chusmiza**	**3.84**	**318**	*e*P	**Pn**	**19 15 29.5**	**+1.6**
GO01				*i* S	**S**	**19 16 20.5**	**+0.7**
GO02	**Mina Guanaco**	**3.87**	**227**	Pn	**Pn**	**19 15 29.4**	**+1.4**
PB10	**IPOC Station P**	**3.89**	**255**		**Pn**	**19 15 29.4**	**+1.5**
PB10	**IPOC Station P**	**3.89**	**255**	*e*P	**Pn**	**19 15 29.4**	**+1.5**
PB10				*i* S	**S**	**19 16 18.8**	**-1.2**
TA01	**Diego Aracena**	**3.98**	**299**	Pn	**Pn**	**19 15 29.7**	**+0.8**
TA01	**Diego Aracena**	**3.98**	**299**	*e*P	**Pn**	**19 15 29.9**	**+0.9**
TA01				*i* S	**S**	**19 16 19.9**	**-2.0**
TA02	**Huaiquique**	**4.10**	**303**		**Pn**	**19 15 30.9**	**+0.7**
PB14	**IPOC Station P**	**4.17**	**239**	Pn	**Pn**	**19 15 32.3**	**+1.0**
AC02	**Maricunga**	**4.91**	**209**	Pn	**Pn**	**19 15 41.2**	**+1.4**
PB16	**IPOC Station P**	**5.07**	**325**	Pn	**Pn**	**19 15 44.0**	**+2.1**
AC01	**Pan de Azucar**	**5.21**	**226**	Pn	**Pn**	**19 15 43.5**	**+0.7**
PB12	**IPOC Station P**	**5.33**	**316**		**Pn**	**19 15 44.3**	**-0.1**
AP01	**Chacalluta**	**5.52**	**318**		**Pn**	**19 15 47.2**	**+0.7**
AC06	**Mina Casimiro**	**5.95**	**216**		**Pn**	**19 15 52.0**	**+0.4**
LPAZ	**La Paz**	**6.42**	**345**	P	**Pn**	**19 15 59.5**	**+1.5**
	comp=E,6.1nm,0.4s,baz=158,slow=8.7,SNR=33						
LPAZ				S	**S**	**19 17 14.3**	**-0.3**
	comp=E,7.9nm,0.7s,baz=338,slow=15,SNR=8.0						
LPAZ	**La Paz**	**6.42**	**345**	Pn	**Pn**	**19 15 56.8**	**-1.2**
AC04	**Llanos de Chal**	**7.01**	**216**	Pn	**Pn**	**19 16 04.6**	**+0.3**
AC05	**El Transito**	**7.15**	**208**	Pn	**Pn**	**19 16 06.1**	**0.0**
CO01	**Juntas del Tor**	**8.09**	**203**		**Pn**	**19 16 18.8**	**+1.1**
SIV	**San Ignacio**	**8.27**	**39**	P	**Pn**	**19 16 17.3**	**-2.6**
	comp=E,35nm,0.9s,baz=233,slow=8.5,SNR=82						
GO04	**Tololo Observa**	**8.53**	**206**	Pn	**Pn**	**19 16 23.9**	**+0.8**
GO04					**S**	**19 17 58.0**	**-2.9**
CO06	**Fray Jorge**	**9.32**	**209**	Pn	**Pn**	**19 16 33.7**	**+1.1**
CO02	**Combarbal**	**9.53**	**204**	Pn	**Pn**	**19 16 36.3**	**+1.1**
PTLB	**Pontes e Lacer**	**9.89**	**46**	Pn	**Pn**	**19 16 37.4**	**-2.3**
PTLB	**Pontes e Lacer**	**9.89**	**46**	*e*P	**Pn**	**19 16 37.2**	**-2.5**
VA03	**San Esteban**	**10.80**	**199**	P	**P**	**19 16 53.1**	**-0.5**
VA06	**Catapilco**	**10.86**	**202**		**P**	**19 16 53.6**	**-0.4**
ROC1	**El Roble**	**11.14**	**200**	P	**P**	**19 16 57.8**	**+0.3**
VILB	**Vilhena**	**11.25**	**33**		**P**	**19 16 56.3**	**-2.3**
VILB	**Vilhena**	**11.25**	**33**	*e*P	**Pn**	**19 16 55.7**	**-0.7**
VA01	**Torpederas**	**11.40**	**203**		**P**	**19 17 00.1**	**+0.1**
MT02	**Curacav**	**11.44**	**200**	P	**P**	**19 17 01.1**	**+0.5**
MT05	**Renca**	**11.45**	**198**		**P**	**19 17 00.3**	**-0.2**
MT03	**Universidad Ad**	**11.48**	**197**		**P**	**19 17 01.7**	**+0.7**
LMEL	**Las Melosas**	**11.73**	**196**	P	**P**	**19 17 04.6**	**+0.7**
MT09	**Talagante**	**11.88**	**199**	P	**P**	**19 17 05.6**	**+0.1**
MT01	**Popeta**	**12.04**	**199**	P	**Pn**	**19 17 06.4**	**+0.6**
SALV	**Santo Antonio**	**12.12**	**59**	*e*P	**P**	**19 17 06.2**	**-2.1**
UNIS	**Unistalda (Bra**	**12.14**	**125**	*e*P	**P**	**19 17 09.3**	**+1.1**
CRSM	**Crissiumal (Br**	**12.29**	**116**	*e*P	**P**	**19 17 10.6**	**+0.7**
ETMB	**Extrema**	**12.66**	**1**	*e*P	**Pn**	**19 17 13.0**	**-0.5**
FRBT	**Francisco Belt**	**12.69**	**108**	*e*P	**P**	**19 17 15.5**	**+1.0**
TRCB	**Terra Rica**	**12.77**	**94**	*e*P	**P**	**19 17 16.2**	**+0.9**
PTGB	**Pitanga**	**13.37**	**102**	*e*P	**P**	**19 17 23.2**	**+1.1**
ALGR	**Alto Alegre (B**	**13.61**	**120**	*e*P	**P**	**19 17 25.9**	**+1.2**
ITAB	**Concordia**	**13.81**	**113**	P	**Pn**	**19 17 25.3**	**-1.9**
ITAB	**Concordia**	**13.81**	**113**	*e*P	**Pn**	**19 17 27.8**	**+0.6**
ML02	**Panimavida**	**13.86**	**197**	P	**Pn**	**19 17 28.5**	**+0.8**
CPSB	**Cacapava Do Su**	**14.03**	**127**	*e*P	Pn	19 17 31.3	+1.5
PCMB	**Pacaembu**	**14.12**	**89**	*e*P	**Pn**	**19 17 31.9**	**+0.9**
PDRB	**Porto dos Gac**	**14.30**	**42**	*e*P	**Pn**	**19 17 34.1**	**+1.0**
PLTB	**Pedras Altas**	**14.66**	**132**	P	**Pn**	**19 17 34.0**	**-3.2**
PLTB	**Pedras Altas**	**14.66**	**132**	*e*P	**Pn**	**19 17 38.1**	**+0.9**
BB19B	**Bebedouro**	**16.72**	**88**	*e*P	**Pn**	**19 18 00.1**	**-1.4**
GO06	**Curarrehue**	**17.51**	**193**	P	**Pn**	**19 18 09.0**	**-1.6**
PET01	**Itanhaem-SP**	**17.69**	**99**	*e*P	**Pn**	**19 18 09.9**	**-2.9**
IPMB	**Ipameri, GO**	**17.71**	**78**	*e*P	**Pn**	**19 18 10.4**	**-2.7**
SNDB	**Serra Nova Dou**	**17.88**	**56**	*e*P	**Pn**	**19 18 11.7**	**-3.4**
VAO	**Valinhos**	**17.98**	**95**	*e*P	**Pn**	**19 18 12.8**	**-3.5**
PLCA	**Paso Flores**	**18.46**	**190**	P	**P**	**19 18 21.6**	**+4.3**
	comp=E,1.6nm,0.5s,baz=1.6,slow=11,SNR=6.4						
PLCA	**Paso Flores**	**18.46**	**190**	P	**P**	**19 18 17.1**	**-0.3**
BDFB	**Brasilia**	**18.73**	**72**	P	**P**	**19 18 20.7**	**+0.2**
	comp=E,11nm,0.8s,baz=248,slow=13,SNR=12						
BDFB	**Brasilia**	**18.73**	**72**	P	**P**	**19 18 18.7**	**-1.8**
BDFB				IAmb	IAmb	19 18 22.7	
	comp=Z,14nm,1.0s						
BDFB	**Brasilia**	**18.73**	**72**	*e*P	**P**	**19 18 21.2**	**+0.7**
LL04	**Puerto Octay**	**18.98**	**194**	P	**P**	**19 18 24.7**	**+1.8**
LL04				IAmb	IAmb	19 18 33.0	
	comp=Z,9.0nm,0.6s						
JANB	**Januaria**	**22.23**	**74**	*e*P	**P**	**19 18 56.1**	**+1.0**
SMTB	**Santa Maria do**	**22.66**	**56**	*e*P	**P**	**19 19 00.6**	**+1.6**
SDBA	**SAO DESIDERIO**	**22.87**	**67**	*e*P	**P**	**19 19 01.9**	**+0.9**
GUA01	**Guaratinga, BA**	**25.78**	**81**	*e*P	**P**	**19 19 28.4**	**+1.2**
GDU01	**Guandu, BA**	**26.98**	**76**	*e*P	**P**	**19 19 38.3**	**+0.5**
**

HRY	**Holter Researc**	**5.57**	**307**	Pn	**Pn**	**19 28 50.1**	**+1.1**
PV07	**Paradox Valley**	**5.67**	**207**	Pn	**Pn**	**19 28 49.4**	**-1.1**
PV15	**Paradox Valley**	**5.71**	**206**	Pn	**Pn**	**19 28 49.6**	**-1.4**
P17A	**Butcher Ranch,**	**5.73**	**227**		**Pn**	**19 28 50.4**	**-0.9**
BGNE	**Belgrade**	**5.74**	**109**	Pn	**Pn**	**19 28 50.0**	**-1.2**
HVU	**Hansel Valley**	**5.75**	**255**		**Pn**	**19 28 51.0**	**-0.4**
PV23	**Carpenter Ridg**	**5.79**	**210**		**Pn**	**19 28 51.3**	**-0.8**
SRU	**San Rafael Swe**	**5.89**	**223**	Pn	**Pn**	**19 28 55.0**	**+1.5**
MDND	**Maddock**	**5.90**	**41**	Pn	**Pn**	**19 28 52.0**	**-1.4**
PV18	**Skein Mesa, Pa**	**5.93**	**208**	Pn	**Pn**	**19 28 54.1**	**0.0**
PV13	**Radium Mtn., P**	**5.98**	**207**	Pn	**Pn**	**19 28 57.0**	**+2.3**
TMUT	**Trail Mountain**	**6.11**	**228**	Pn	**Pn**	**19 28 58.9**	**+2.3**
PV05	**Paradox Valley**	**6.15**	**209**	Pn	**Pn**	**19 28 57.8**	**+0.7**
BGU	**Big Grassy Mou**	**6.27**	**248**	Pn	**Pn**	**19 28 58.5**	**-0.2**
ECSD	**EROS Data Cent**	**6.35**	**85**	Pn	**Pn**	**19 29 00.7**	**+1.1**
Q16A	**Castle Valley**	**6.37**	**225**	Pn	**Pn**	**19 29 01.6**	**+1.5**
T25A	**Trinidad**	**6.43**	**173**	Pn	**Pn**	**19 29 02.0**	**+1.0**
DUG	**Dugway, Tooele**	**6.49**	**242**	Pn	**Pn**	**19 29 02.2**	**+0.5**
HLID	**Hailey**	**6.58**	**273**	Pn	**Pn**	**19 29 02.6**	**-0.4**
MSU	**Marysvale**	**7.20**	**228**	Pn	**Pn**	**19 29 11.8**	**+0.4**
MVU	**Marysvale**	**7.22**	**228**	Pn	**Pn**	**19 29 11.6**	**-0.2**
MTPU	**Mount Pierson**	**7.55**	**226**	Pn	**Pn**	**19 29 17.8**	**+1.4**
ULM	**Lac du Bonnet**	**9.33**	**41**	Pn	**Pn**	**19 29 38.9**	**-1.6**
	comp=E,0.4nm,0.3s,baz=234,slow=13,SNR=2.3						
ULM				Lg	Lg	19 32 09.0	
	comp=E,0.2nm,0.3s,baz=311,slow=22,SNR=1.9						
	comp=E,1.3nm,0.4s						
I56US	**NEWPORT INFRAS**	**9.47**	**304**	*i*		20 24 30.0	
	baz=115,slow=320,SNR=2.5						

TIR 06 19:35:01.8, 39°.73N×20°.57E, h4km±2km, Md2.2, Ml1.1, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.27**	**223**	P	Pg	19 35 07.4	+0.3
	baz=223						
IGT				S	Sb	19 35 13.2	-1.0
	baz=223						
LSK	**Leskovik**	**0.42**	**3**	P	Pb	19 35 10.9	-0.9
	baz=2.0						
LSK				S	Sb	19 35 18.7	+0.1
	baz=2.0						
SRN	**Sarande**	**0.46**	**289**	P	Pg	19 35 11.4	+0.7
	baz=289						
SRN				S	Sb	19 35 19.0	-0.8
	baz=289						
SRN				AMP			
	comp=N,0.1nm,0.4s,baz=289						
LKD2	**Lefkada island**	**0.94**	**176**	P	Pg	19 35 20.2	+0.3
	baz=175						
LKD2				S	Sb	19 35 33.8	+0.2
	baz=175						

ROM 06 19:36:48.5±0.1, 42°.889N×0°.007×13°.231E±0°.004, h7km, ML0.8/1, 2C, Error ellipse: s-maj=0.6km s-min=0.6km az=156.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.04**	**308**	P	Pg	19 36 50.1	-0.1
MMO1	**Montemonaco**	**0.07**	**82**	⇑P	Pg	19 36 50.6	+0.2
MMO1				S	Sg	19 36 52.1	+0.3
NRCA	**Norcia**	**0.10**	**237**	P	Pg	19 36 51.1	+0.2
NRCA				S	Sg	19 36 53.1	+0.7
NRCA				AML	AML		
	comp=N,97μm,0.4s						
NRCA				AML	AML		
	comp=E,78μm,0.4s						
NRCA				AML	AML		
	comp=N,97μm,0.4s						
T1244	**Arquata del Tr**	**0.14**	**160**	⇑P	Pg	19 36 52.0	+0.5

CRAAG ***06*** *19:39:18.9, 35°.69N×4°.44E, Ml3.8*
IDC ***06*** *19:39:19.8±1.9, 35°.49N×4°.43E, h0km, mb3.2/2, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=30.9km s-min=25.4km az=1.0*
MDD ***06*** *19:39:19.9±0.7, 35°.52N×4°.53E, h0km, Mb4.0/12, M_mb3.3/12, Error ellipse: s-maj=7.3km s-min=4.0km az=170.0*
ISC 06 19:39:20.8±1.0, 35°.59N±0°.08×4°.44E±0°.05, h10km, n27, σ1s76/41, 9C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.97**	**64**	P	**Pg**	**19 39 37.3**	**-2.2**
SET	**Setif**	**0.99**	**52**	P	**Pg**	**19 39 39.0**	**-0.9**
CTEI	**Djebel Teioual**	**1.67**	**73**	P	**Pn**	**19 39 50.6**	**+0.4**
CASM	**Ain Smara**	**1.79**	**68**	P	**Pn**	**19 39 52.2**	**+0.3**
CKFL	**Kef-Lekhel**	**2.02**	**66**	P	**Pn**	**19 39 55.1**	**0.0**
EBNR	**Beni Rached**	**2.46**	**287**	P	**Pb**	**19 40 06.7**	**+1.5**
EANR	**'Ain N'Sour**	**2.74**	**278**	P	**Pb**	**19 40 11.9**	**+2.0**
KEST	**Kesra**	**4.00**	**87**	Pn	**Pn**	**19 40 22.6**	**+0.4**
	1.6nm,0.3s,baz=265,slow=2.0,SNR=28						
KEST				Sn	**Sn**	**19 41 10.3**	**+1.1**
	baz=266,slow=19						
	4.2nm,0.4s						
EIBI	**Ibiza**	**4.22**	**325**	P	**Pn**	**19 40 24.0**	**-1.2**
EIBI				⇑*i*Vmb_V		19 40 27.6	
	191nm,SNR=1.5						
EIBI				S	**Sn**	**19 41 12.6**	**-2.0**
ETOS	**Mallorca**	**4.36**	**343**	P	**Pn**	**19 40 26.1**	**-1.1**
ETOS				⇑*i*Vmb_V		19 40 31.6	
	29nm,SNR=0.1						
ETOS				S	**Sn**	**19 41 17.7**	**-0.4**
EMUR	**La Murta**	**5.08**	**298**	P	**Pn**	**19 40 37.2**	**+0.1**
EMUR				⇑*i*Vmb_V		19 40 45.1	
	179nm,SNR=3.7						
EMUR				S	**Sn**	**19 41 35.5**	**-0.4**
ECOL	**Islas Columbre**	**5.23**	**326**	P	**Pn**	**19 40 38.8**	**-0.2**
EZAR	**Zarzadilla de**	**5.42**	**297**	P	**Pn**	**19 40 41.3**	**-0.5**
EZAR				S	**Sn**	**19 41 43.6**	**-0.8**
ENIJ	**Nijar**	**5.54**	**286**	P	**Pn**	**19 40 43.1**	**-0.2**
ENIJ				⇑*i*Vmb_V		19 40 50.4	
	225nm,SNR=2.6						
ENIJ				S	**Sn**	**19 41 44.0**	**-3.2**
ETOB	**Tobarra**	**5.67**	**304**	P	**Pn**	**19 40 45.8**	**+0.6**
ETOB				⇑*i*Vmb_V		19 40 50.0	
	101nm,SNR=1.6						
ETOB				S	**Sn**	**19 41 49.4**	**-1.0**
ECHE	**Chera**	**5.86**	**315**	P	**Pn**	**19 40 49.5**	**+1.7**
EBER	**Berja**	**6.06**	**285**	P	**Pn**	**19 40 51.0**	**+0.3**
EBER				⇑*i*Vmb_V		19 40 54.2	
	114nm,SNR=1.7						
EBER				S	**Sn**	**19 41 57.4**	**-2.8**
EMOS	**Mosqueruela**	**6.14**	**322**	P	**Pn**	**19 40 50.8**	**-0.9**
EMOS				S	**Sn**	**19 41 59.8**	**-2.3**
EQES	**Quesada**	**6.42**	**292**	P	**Pn**	**19 40 57.4**	**+1.9**
EQES				⇑*i*Vmb_V		19 40 59.2	
	117nm,SNR=3.1						
EQES				S	**Sn**	**19 42 08.9**	**-0.1**
ELGU	**Los Guajares,**	**6.64**	**283**	P	**Pn**	**19 40 59.6**	**+1.0**
ELGU				⇑*i*Vmb_V		19 41 06.2	
	95nm,SNR=2.7						
ELGU				S	**Sn**	**19 42 11.8**	**-2.6**
ETOR	**Torete**	**7.30**	**318**	P	**Pn**	**19 41 12.1**	**+4.4**
EADA	**Adamuz**	**7.67**	**292**	P	**Pn**	**19 41 12.3**	**-0.3**
EADA				S	**Sn**	**19 42 40.9**	**+1.4**
ESDC	**Sonseca Array**	**7.81**	**304**	Pn	**Pn**	**19 41 14.9**	**+0.3**
	0.1nm,0.3s,baz=117,slow=13,SNR=7.8						
ESDC				Sn	**Sn**	**19 42 47.3**	**+4.2**
	0.1nm,0.3s,baz=124,slow=28,SNR=1.6						
	0.8nm,0.7s						
PAB	**San Pablo**	**8.01**	**302**	P	**Pn**	**19 41 16.4**	**-1.0**
PAB				⇑*i*Vmb_V		19 41 23.8	
	20nm,SNR=0.4						
ECAB	**El Cabril**	**8.28**	**290**	P	**Pn**	**19 41 19.6**	**-1.4**
ECAB				S	**Sn**	**19 42 51.1**	**-3.5**
TORD	**Torodi Ar. Bea**	**22.48**	**187**	P	**P**	**19 44 20.2**	**-0.2**
	1.0nm,1.2s,baz=4.7,slow=12,SNR=2.3						
	1.0nm,1.2s						
AKASG	**Malin Array Be**	**23.41**	**42**	P	**P**	**19 44 30.9**	**+1.2**
	0.3nm,0.3s,baz=240,slow=8.5,SNR=1.8						
	0.3nm,0.3s						

INET ***06*** *19:51:56.0±0.4, 12°.75N×88°.56W, h27km±6km, ML2.6*
SNET ***06*** *19:51:57.0±1.3, 12°.87N×88°.56W, h30km±6km, ML3.1*
ISC 06 19:51:55.6±1.9, 12°.77N±0°.08×88°.55W±0°.06, h27km±14km, n16, σ0s41/24, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.70**	**22**	*e*P	**Pn**	**19 52 10.3**	**+0.3**
VSM				*e*S	**Sn**	**19 52 20.1**	**0.0**
RANC	**El Ranchito**	**0.70**	**21**	*e*P	**Pb**	**19 52 09.9**	**+0.4**
RANC				IAML		19 52 21.2	
	comp=Z,332nm,0.2s						
PACA	**Pacayal**	**0.73**	**18**	*e*P	**Pb**	**19 52 10.3**	**+0.5**
PACA				*e*S	**Sn**	**19 52 20.5**	**0.0**
PACA				IAML		19 52 22.4	
	comp=Z,3μm,0.2s						
PACA	**Pacayal**	**0.73**	**18**	*e*P	**Pb**	**19 52 10.3**	**+0.5**
PACA				IAML		19 53 12.2	
	comp=Z,107nm,0.8s						
PQSS	**Presa 15 de Se**	**0.85**	**359**	*e*P	**Pn**	**19 52 11.6**	**-0.1**
PQSS				*e*S	**Sb**	**19 52 22.3**	**-0.5**
PQSS				IAML		19 52 24.1	
	comp=Z,420nm,0.2s						
CNCH	**Conchagua**	**0.86**	**54**	*e*P	**Pn**	**19 52 11.6**	**-0.5**
CNCH				IAML		19 52 12.5	
	comp=Z,760nm,0.2s						
COEG	**Centro de Oper**	**0.90**	**339**	*e*P	**Pb**	**19 52 13.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.94**	**349**	*e*P	**Pn**	**19 52 13.3**	**+0.2**
SCLA				*e*S	**Sb**	**19 52 24.9**	**-0.6**
SJTE	**Alcalda de S**	**0.95**	**332**	*e*P	**Pn**	**19 52 13.1**	**-0.2**
SJTE				*e*S	**Sb**	**19 52 25.2**	**-0.6**
LFRS	**El Faro**	**0.98**	**329**	*e*P	**Pn**	**19 52 13.9**	**+0.1**
LFRS				*e*S	**Sn**	**19 52 27.0**	**+0.1**
CSGN	**Cosiguina Volc**	**0.99**	**78**	*e*P	**Pn**	**19 52 13.4**	**-0.4**
PMON	**Piamonte**	**1.20**	**321**	*e*P	**Pn**	**19 52 16.5**	**-0.1**
PMON				*e*S	**Sb**	**19 52 32.6**	**-0.3**
P5NO	**Presa 5 de nov**	**1.22**	**350**	*e*P	**Pn**	**19 52 16.4**	**-0.6**
CRIN	**San Cristobal**	**1.46**	**93**	*e*P	**Pn**	**19 52 20.6**	**+0.2**
CRIN				*e*S	**Sn**	**19 52 39.2**	**+0.6**
CRIN				IAML		19 52 44.3	
	comp=Z,177nm,0.3s						
MTO3	**Montecristo**	**1.80**	**334**	*e*P	**Pn**	**19 52 25.1**	**0.0**
COPN	**Copaltepe**	**2.00**	**107**	*e*P	**Pn**	**19 52 27.1**	**-0.6**

ZUR 06 19:53:16.9, 46°.70N×9°.01E, h5km±4km, MLh0.7/4, 3C, Error ellipse: s-maj=8.6km s-min=1.2km az=130.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANIX	**Pigniu (Panix)**	**0.15**	**28**	Pg	Pg	19 53 20.1	+0.1
PANIX	**Pigniu (Panix)**	**0.15**	**28**	Sg	Sg	19 53 24.6	+2.7
LLS	**Linth-Limmern**	**0.15**	**359**	⇑Pg	Pg	19 53 20.4	+0.4
LLS				Sg	Sg	19 53 22.5	+0.4
LLS	**Linth-Limmern**	**0.15**	**359**	Sg	Sg	19 53 25.0	+2.9
NALPS	**Val Nalps**	**0.21**	**241**	Pg	Pg	19 53 21.6	+0.6
NALPS	**Val Nalps**	**0.21**	**241**	Pg	Pg	19 53 24.0	+3.0
FUSIO	**Fusio**	**0.34**	**225**	⇑Pg	Pg	19 53 24.0	+0.5
FUSIO				Sg	Sg	19 53 28.7	+0.7
FUSIO	**Fusio**	**0.34**	**225**	⇑Pg	Pb	19 53 26.4	+0.9
FUSIO				Sg	Sb	19 53 31.2	-0.1

ROM 06 19:54:43.4±0.1, 42°.747N±0°.003×13°.150E±0°.007, h12km±1km, ML1.2/4, 3C-5D, Error ellipse: s-maj=0.6km s-min=0.2km az=278.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.07**	**128**	⇓P	Pg	19 54 46.2	+0.2
T1202				S	Sg	19 54 48.1	+0.2
NRCA	**Norcia**	**0.09**	**343**	⇑P	Pg	19 54 46.4	+0.2
NRCA				S	Sg	19 54 48.4	+0.1
NRCA				AML	AML		
	comp=N,254μm,0.1s						
NRCA				AML	AML		
	comp=E,232μm,0.1s						
T1242	**Castelluccio d**	**0.09**	**26**	⇓P	Pg	19 54 46.5	+0.3
T1242				S	Sg	19 54 48.6	+0.3
T1242				AML	AML		
	comp=E,177μm,0.1s						
T1242				AML	AML		
	comp=N,154μm,0.5s						
T1244	**Arquata del Tr**	**0.11**	**85**	⇓P	Pg	19 54 46.7	+0.3
T1244				S	Sg	19 54 49.2	+0.6
LNSS	**Leonessa**	**0.17**	**209**	⇑P	Pg	19 54 47.6	+0.4
LNSS				S	Sg	19 54 50.8	+0.8
LNSS				AML	AML		
	comp=N,93μm,0.6s						
LNSS				AML	AML		
	comp=E,134μm,1.4s						
MC2	**Monte Cornacci**	**0.17**	**10**	⇓P	Pg	19 54 47.8	+0.5
MC2				S	Sg	19 54 51.0	+0.8
MMO1	**Montemonaco**	**0.20**	**40**	P	Pg	19 54 47.5	-0.3
MMO1				S	Sg	19 54 51.6	+0.8
T1243	**Rocca Santa Ma**	**0.23**	**103**	⇑P	Pg	19 54 48.3	+0.1
RM33	**Pellescritta (**	**0.24**	**169**	P	Pg	19 54 48.9	+0.4
RM33				S	Sg	19 54 52.8	+0.9
RM33				AML	AML		
	comp=N,72μm,1.6s						
RM33				AML	AML		
	comp=E,72μm,1.6s						
TERO	**Teramo**	**0.36**	**110**	⇓P	Pg	19 54 50.5	0.0
ATFO	**Monte Foce - G**	**0.75**	**326**	P	Pb	19 54 58.3	-0.2

NEIC ***06*** *20:15:04.5±1.9, 31°.19N±0°.03×103°.29W±0°.06, h2km±6km, mb_Lg3.3/70, ML3.6/31, Error ellipse: s-maj=7.0km s-min=4.0km az=73.0*
ISC 06 20:15:04.5±0.8, 31°.17N±0°.03×103°.25W±0°.04, h10km, n77, σ1s34/70, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLN7	**Carlsbad 7**	**1.33**	**339**		**Pb**	**20 15 29.1**	**-0.6**
HTMS	**Hat Mesa**	**1.34**	**346**		**Pg**	**20 15 29.8**	**-0.5**
GDL2	**Guadalupe Moun**	**1.40**	**317**		**Pb**	**20 15 30.0**	**-0.9**
GDL2				Sn	**Sg**	**20 15 49.5**	**-0.1**
TX31	**Lajitas Ar. Si**	**1.87**	**191**		**Pb**	**20 15 38.1**	**-0.7**
TX31				Sn	**Sg**	**20 16 03.0**	**-1.6**
TX31	**Lajitas Ar. Si**	**1.87**	**191**	P	**Pb**	**20 15 38.2**	**-0.6**
	baz=10,SNR=484						
TX31				S	**Sg**	**20 16 03.8**	**-0.8**
	baz=10						
TX32	**Lajitas Array**	**1.87**	**191**		**Pb**	**20 15 38.1**	**-0.6**
TX32				Sn	**Sg**	**20 16 03.5**	**-1.0**
TXAR	**Lajitas Array**	**1.87**	**191**		**Pb**	**20 15 38.1**	**-0.7**
MNTX	**Cornudas Mount**	**1.90**	**287**		**Pb**	**20 15 37.8**	**-1.5**
MNTX				Sn	**Sg**	**20 16 03.3**	**-2.4**
MNTX	**Cornudas Mount**	**1.90**	**287**	P	**Pb**	**20 15 38.1**	**-1.2**
	baz=105						
MNTX				Sb	**Sg**	**20 16 04.3**	**-1.3**
	baz=105						
CPRX	**Cap Rock**	**1.93**	**344**	Pn	**Pb**	**20 15 39.1**	**-0.8**
MSTX	**Muleshoe**	**2.82**	**8**		**Pn**	**20 15 51.8**	**+2.0**
MSTX				IAmb_Lg		20 16 35.2	
	comp=Z,102nm,0.8s						
MSTX	**Muleshoe**	**2.82**	**8**	Sb	**Sg**	**20 16 32.2**	**-2.9**
	baz=189						
JCT	**Junction City**	**3.04**	**102**		**Pn**	**20 15 55.4**	**+2.7**
JCT	**Junction City**	**3.04**	**102**	P	**Pb**	**20 15 56.0**	**-2.8**
	baz=284,SNR=34						
ABTX	**Abilene, Hawle**	**3.39**	**64**		**Pn**	**20 15 59.5**	**+1.9**
ABTX				IAmb_Lg		20 17 02.1	
	comp=Z,99nm,0.8s						
AMTX	**Amarillo**	**3.93**	**19**		**Pn**	**20 16 06.7**	**+1.7**
CRNM	**Carthage**	**4.05**	**314**	Pn	**Pn**	**20 16 08.5**	**+1.8**
121A	**Cookes Peak, D**	**4.09**	**291**		**Pn**	**20 16 06.8**	**-0.6**
121A				IAML		20 17 22.2	
	comp=N,69nm,0.5s						
121A				IAML		20 17 26.7	
	comp=E,58nm,0.8s						
BNM	**Barren Site**	**4.12**	**317**		**Pn**	**20 16 08.8**	**+1.0**
Y22D	**IRIS PASSCAL I**	**4.24**	**314**	Pn	**Pn**	**20 16 08.5**	**-0.9**
LENM	**Lemitar**	**4.34**	**315**		**Pn**	**20 16 10.9**	**+0.2**
833A	**Chaparral WMA,**	**4.39**	**129**		**Pn**	**20 16 13.1**	**+1.8**
833A				IAmb_Lg		20 17 34.6	
	comp=Z,60nm,0.8s						
ANMO	**Albuquerque**	**4.63**	**325**		**Pn**	**20 16 15.1**	**+0.3**
ANMO				IAML		20 17 30.9	
	comp=Z,49nm,0.8s						
ANMO	**Albuquerque**	**4.63**	**325**	S	**Sb**	**20 17 26.3**	**+4.4**
	baz=144						
HPIG		**4.72**	**207**	Pn	**Pn**	**20 16 16.6**	**+0.5**
HPIG				IAML		20 17 41.3	
	comp=E,52nm,0.8s						
HPIG				IAML		20 17 41.4	

	comp=N,36nm,0.8s						
435B	**Jarrell**	**4.88**	**93**	Pn	**Pn**	**20 16 19.1**	**+1.1**
WHTX	**Lake Whitney,**	**5.01**	**79**		**Pn**	**20 16 21.4**	**+1.7**
WHTX	**Lake Whitney,**	**5.01**	**79**	P	**Pn**	**20 16 21.6**	**+1.9**
	baz=262						
WHTX				S	**Sn**	**20 17 19.8**	**+2.1**
	baz=262						
319A	**Douglas**	**5.17**	**274**		**Pn**	**20 16 21.5**	**-0.6**
319A				IAML		20 17 54.9	
	comp=E,58nm,0.8s						
WMOK	**Wichita Mounta**	**5.17**	**45**		**Pn**	**20 16 23.7**	**+1.7**
WMOK	**Wichita Mounta**	**5.17**	**45**	P	**Pn**	**20 16 23.5**	**+1.5**
	baz=228,SNR=7.8						
WMOK				S	**Sn**	**20 17 23.3**	**+1.6**
	baz=228						
735A	**Kenedy**	**5.25**	**115**	Pn	**Pn**	**20 16 22.9**	**-0.2**
Z35A	**Perchaven, San**	**5.51**	**65**		**Pn**	**20 16 27.5**	**+0.7**
Z35A				IAmb_Lg		20 18 05.9	
	comp=Z,59nm,0.8s						
X34A	**Smith Ranch, M**	**5.70**	**52**	Pn	**Pn**	**20 16 30.1**	**+0.9**
ELIS	**Ellis County**	**5.83**	**32**		**Pn**	**20 16 31.0**	**-0.1**
ELIS				IAmb_Lg		20 18 24.6	
	comp=Z,41nm,0.8s						
CSTR	**Hydro, Custer**	**5.87**	**39**	IAmb_Lg		20 18 20.0	
	comp=Z,5.1nm,0.8s						
T25A	**Trinidad**	**6.03**	**351**	Pn	**Pn**	**20 16 34.4**	**+0.3**
U32A	**Winter Ranch,**	**6.28**	**33**	IAmb_Lg		20 18 37.5	
	comp=Z,32nm,0.9s						
FNO	**Franklin**	**6.37**	**49**	IAmb_Lg		20 18 41.6	
	comp=Z,59nm,0.7s						
237A	**Washetta, Mont**	**6.40**	**81**		**Pn**	**20 16 39.8**	**+0.9**
BCOK	**Bluff Creek, N**	**6.50**	**45**	Pn	**Pn**	**20 16 40.9**	**+0.6**
BCOK				IAmb_Lg		20 18 40.8	
	comp=Z,41nm,0.8s						
TUC	**Tucson**	**6.52**	**282**	IAmb_Lg		20 18 38.2	
	comp=Z,6.9nm,0.8s						
TUC	**Tucson**	**6.52**	**282**	IAmb_Lg		20 18 38.2	
	comp=Z,6.9nm,0.7s						
NOKA	**Waynoka**	**6.52**	**32**	IAmb_Lg		20 18 42.6	
	comp=Z,37nm,0.8s						
X18A	**Snowflake**	**6.56**	**302**	Pn	**Pn**	**20 16 39.9**	**-1.3**
OK025	**Westminster Rd**	**6.62**	**47**		**Pn**	**20 16 43.1**	**+1.2**
OK025				IAmb_Lg		20 18 42.6	
	comp=Z,50nm,0.8s						
OK035	**E0210 Rd and N**	**6.69**	**33**	IAmb_Lg		20 18 54.5	
	comp=Z,42nm,0.9s						
W18A	**Petrified Fore**	**6.72**	**308**	Pn	**Pn**	**20 16 42.8**	**-0.6**
SDCO	**Great Sand Dun**	**6.82**	**345**		**Pn**	**20 16 44.4**	**-0.5**
CROK	**Carrier**	**6.89**	**38**	IAmb_Lg		20 18 55.8	
	comp=Z,29nm,0.8s						
OK032	**Salt Plains WL**	**7.00**	**35**		**Pn**	**20 16 47.2**	**+0.1**
OK031	**S. Bretten Rd**	**7.16**	**47**	IAmb_Lg		20 18 46.6	
	comp=Z,38nm,1.0s						
OK030	**Cody Creek RV**	**7.18**	**47**	IAmb_Lg		20 19 00.4	
	comp=Z,24nm,0.7s						
Z38A	**Mt. Pleasant**	**7.30**	**71**		**Pn**	**20 16 52.8**	**+1.5**
DEOK	**Depew**	**7.31**	**49**	Pn	**Pn**	**20 16 50.7**	**-0.7**
DEOK				IAmb_Lg		20 19 05.2	
	comp=Z,14nm,0.8s						
NATX	**Nacogdoches**	**7.36**	**83**	Pn	**Pn**	**20 16 53.4**	**+1.3**
NATX				IAmb_Lg		20 19 10.2	
	comp=Z,38nm,0.9s						
QUOK	**Quay**	**7.39**	**46**	Pn	**Pn**	**20 16 52.5**	**+0.1**
QUOK				IAmb_Lg		20 19 08.5	
	comp=Z,19nm,0.8s						
X37A	**Clayton**	**7.45**	**61**		**Pn**	**20 16 54.1**	**+0.9**
X37A	**Clayton**	**7.45**	**61**	P	**Pn**	**20 16 54.7**	**+1.4**
	baz=245,SNR=6.1						
KS20	**Mayfield South**	**7.66**	**36**	Pn	**Pn**	**20 16 57.6**	**+1.3**
TUL1	**Leonard**	**7.81**	**51**	IAmb_Lg		20 19 18.2	
	comp=Z,29nm,1.0s						
KSCO	**Kaye Shedlock'**	**7.84**	**4**	IAmb_Lg		20 19 33.6	
	comp=Z,30nm,0.8s						
T35A	**Sooner Cattle**	**8.00**	**42**	Pn	**Pn**	**20 17 00.9**	**0.0**
T35B	**Sooner Cattle**	**8.00**	**42**	P	**Pn**	**20 17 01.6**	**+0.7**
	baz=226,SNR=9.6						
R32A	**Long Quarter,**	**8.14**	**26**	IAmb_Lg		20 19 33.4	
	comp=Z,29nm,0.8s						
CBKS	**Cedar Bluff**	**8.15**	**20**	IAmb_Lg		20 19 40.0	
	comp=Z,25nm,0.7s						
MIAR	**Mount Ida**	**8.80**	**65**		**Pn**	**20 17 11.8**	**-0.1**
MIAR				IAmb_Lg		20 20 06.8	
	comp=Z,26nm,0.9s						
WLAR	**White Oak Lake**	**8.93**	**71**	Pn	**Pn**	**20 17 14.5**	**+1.0**
HHAR	**Hobbs**	**9.27**	**54**		**Pn**	**20 17 19.9**	**-0.4**
KSU1	**Kansas State U**	**9.60**	**33**	IAmb_Lg		20 20 32.4	
	comp=Z,33nm,1.1s						
WHAR	**Wooly Hollow**	**10.05**	**63**	Pn	**Pn**	**20 17 29.4**	**+0.3**
CCAR	**Cane Creek**	**10.06**	**71**		**Pn**	**20 17 29.3**	**+0.1**
FCAR	**Ozark Folk Cen**	**10.40**	**60**		**Pn**	**20 17 34.2**	**+0.4**
S39A	**Bolivar**	**10.46**	**49**		**Pn**	**20 17 33.6**	**-0.9**
MGMO	**Mountain Grove**	**10.87**	**54**	Pn	**Pn**	**20 17 39.6**	**-0.7**
LCAR	**Lake Charles**	**11.20**	**61**	Pn	**Pn**	**20 17 44.1**	**-0.5**
R40A	**Maddies Statio**	**11.48**	**49**		**Pn**	**20 17 48.5**	**-0.1**

NOU ***06*** *20:15:47.0, 36°.73S×179°.23W, h0km, MLv4.9/4, East of North Island, N.Z.*
WEL ***06*** *20:16:05.4±1.3, 37°.5S±6°×17°.9E±1°.1, h10km, M3.5/13, ML3.8/12, MLv3.5/13, Error ellipse: s-maj=0.6km s-min=0.0km az=99.5*
ISC 06 20:16:04.1±2.7, 37°.05S±0°.09×179°.3E±0°.1, h10km, n58, σ0s87/60, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.94**	**237**	P	**Pg**	**20 16 21.6**	**-0.7**
MX

TKNZ	**Takaka Hill**	**6.34**	**229**	P	**Pn**	**20 17 36.6 -0.9**
QRZ	**Quartz Range**	**6.48**	**232**	P	**Pn**	**20 17 39.6 0.0**
CTZ	**Chatham Island**	**7.37**	**156**	P	**Pn**	**20 17 52.6 +1.0**
DSZ	**Denniston Nort**	**7.46**	**229**	P	**Pn**	**20 17 53.9 +0.9**

MAN 06 20:24:16.9, 13°53N×123°14E, h1km, mb4.1, ML2.9, MS2.6, 1C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.77**	**299**	*eP*	Pg	20 24 31.9	+0.3
GQP				*eS*	Sb	20 24 43.1	-0.9
BOAC	**Boac**	**1.26**	**267**	*eP*	Pg	20 24 40.8	-0.2
BOAC				*eS*	Sn	20 25 00.7	+1.5
LQP	**Lukban**	**1.65**	**291**	*eP*	Pn	20 24 46.3	-1.0
LQP				*eS*	Sg	20 25 11.7	+1.6
RCP	**Roxas**	**2.00**	**191**	*eP*	Pg	20 24 54.7	-0.6
RCP				*eS*	Sn	20 25 17.9	+0.4
BALP	**Baler**	**2.66**	**326**	*eP*	Pb	20 25 03.9	-1.5
BALP				*eS*	Sb	20 25 38.6	-0.1
PCPH	**Palayan**	**2.82**	**316**	*eP*	Pg	20 25 11.8	+0.8

IDC 06 20:25:27.3±1.6, 3°42S×128°86E, h0km, mb3.4/2, mbtmp3.6/5, ML3.2/3, Error ellipse: s-maj=46.9km s-min=25.5km az=89.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.50**	**44**	Pn	Pn	20 26 22.1	-0.9
	7.5nm,0.3s,baz=236,slow=15,SNR=41						
SIJI				Sn	Sn	20 27 02.9	-2.2
	2.4nm,0.3s,baz=325,slow=23,SNR=9.8						
	22nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.92**	**192**	Pn	Pn	20 29 00.8	+1.1
	baz=162,slow=17,SNR=1.2						
	2.6nm,1.2s						
WRA	**Warramunga Arr**	**17.27**	**162**	P	Pn	20 29 29.3	-0.8
	0.1nm,0.3s,baz=338,slow=12,SNR=10						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**20.71**	**167**	P	P	20 30 09.6	+0.1
	1.6nm,0.7s,baz=348,slow=11,SNR=20						
	1.6nm,0.7s						
MKAR	**Makanchi Array**	**64.63**	**326**	P	P	20 36 07.1	+0.3
	0.3nm,0.6s,baz=109,slow=7.8,SNR=2.5						
	0.3nm,0.6s						

*DDA **06** 20:27:53.6±0.0, 35°87N×31°37E, h14km±2km, ML2.0*
*NIC **06** 20:27:55.0±0.0, 35°98N×31°56E, h92km±7km, Ml2.7/4*
ISC 06 20:27:53.5±1.6, 35°88N±0°04×31°32E±0°07, h17km±10km, n15, σ1§03/24, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.88**	**66**	P	**Pg**	**20 28 10.2**	**-0.5**
GAZI				S	**Sg**	**20 28 21.9**	**-0.4**
KEPZ	**Antalya-Kepez**	**1.04**	**13**	P	**Pn**	**20 28 13.8**	**+0.3**
KEPZ				S	**Sg**	**20 28 27.5**	**0.0**
AKMS	**Akamas**	**1.19**	**136**	P	**Pn**	**20 28 15.3**	**-0.2**
AKMS				S	**Sg**	**20 28 34.2**	**+2.0**
AKMS				AML	AML	20 28 37.5	
	0.3nm,0.6s						
AKMS				AML	AML	20 28 37.5	
	0.3nm,0.6s						
AKMS				AML	AML	20 28 38.7	
	0.4nm,0.3s						
AKMS				AML	AML	20 28 38.7	
	0.4nm,0.3s						
ALFC	**Alefka**	**1.27**	**124**	P	**Pb**	**20 28 17.3**	**+0.3**
ALFC				S	**Sg**	**20 28 34.1**	**-0.4**
ALFC				AML	AML	20 28 37.3	
	0.4nm,0.5s						
ALFC				AML	AML	20 28 37.3	
	0.4nm,0.5s						
ALFC				AML	AML	20 28 40.1	
	0.3nm,0.8s						
ALFC				AML	AML	20 28 40.1	
	0.3nm,0.8s						
LEF	**Lefka**	**1.49**	**120**	P	**Pn**	**20 28 19.7**	**+0.1**
ERMK	**Ermenek**	**1.50**	**59**	P	**Pg**	**20 28 24.5**	**+2.2**
ERMK				*i* AML	AML	20 28 55.0	
	comp=N,21nm,0.4s						
NATA	**Nata**	**1.50**	**137**	P	**Pb**	**20 28 20.5**	**-0.5**
NATA				S	**Sg**	**20 28 40.9**	**-1.1**
NATA				AML	AML	20 28 50.3	
	0.5nm,0.7s						
NATA				AML	AML	20 28 50.3	
	0.5nm,0.7s						
NATA				AML	AML	20 28 54.5	
	1.0nm,0.7s						
NATA				AML	AML	20 28 54.5	
	1.0nm,0.7s						
SEDI	**Konya, Seydise**	**1.61**	**12**	P	**Pg**	**20 28 24.2**	**-0.3**
SEDI				S	**Sg**	**20 28 46.3**	**+0.9**
SEDI				*i* AML	AML	20 28 55.0	
	comp=E,22nm,0.4s						
SZAC	**Souni**	**1.70**	**131**	S	**Sn**	**20 28 44.3**	**+0.4**
SZAC				AML	AML	20 28 52.8	
	0.2nm,0.5s						
SZAC				AML	AML	20 29 00.1	
	0.3nm,0.6s						
GULN	**MERSIN_Gulnar**	**1.83**	**80**	P	**Pb**	**20 28 26.3**	**-0.2**
GULN				S	**Sn**	**20 28 47.9**	**+0.9**
GULN				*i* AML	AML	20 28 54.0	
	comp=E,13nm,0.6s						
CSS	**Mathiatis**	**1.88**	**119**	S	**Sn**	**20 28 48.1**	**-0.2**
KMER	**Konya-Meram**	**2.06**	**24**	P	**Pg**	**20 28 31.9**	**-1.3**
KMER				*i* AML	AML	20 29 03.0	
	comp=E,13nm,1.0s						
KMER				*i* AML	AML	20 29 04.0	
	comp=N,10nm,0.5s						
MVOU	**Mavrovouni**	**2.08**	**114**	S	**Sn**	**20 28 52.1**	**-1.0**
KIZK	**Mersin**	**2.36**	**74**	P	**Pb**	**20 28 34.4**	**-1.2**
KIZK				S	**Sb**	**20 29 03.8**	**-0.7**
KIZK				*i* AML	AML	20 29 09.0	
	comp=N,7.9nm,0.6s						
KIZK				*i* AML	AML	20 29 16.0	
	comp=E,11nm,0.9s						
YVAC	**Isparta, Yalva**	**2.39**	**358**	P	**Pb**	**20 28 35.4**	**-0.7**
YVAC				S	**Sb**	**20 29 07.1**	**+1.7**

IDC 06 20:39:39.8±3.9, 6°53S×127°94E, h363km±41km, mb2.6/1, mbtmp3.5/5, Error ellipse: s-maj=55.7km s-min=17.5km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.59**	**229**	P	Pn	20 41 06.7	+0.2
	11nm,0.3s,baz=121,slow=3.7,SNR=7.6						
BATI				S	S	20 42 16.5	-0.3
	7.6nm,0.4s,baz=236,slow=21,SNR=1.9						
FITZ	**Fitzroy Crossi**	**11.71**	**191**	P	P	20 42 17.7	+0.1
	0.5nm,0.3s,baz=27,slow=9.7,SNR=1.5						
WRA	**Warramunga Arr**	**14.71**	**156**	P	P	20 42 50.4	-0.3
	0.6nm,0.8s,baz=337,slow=11,SNR=8.0						
WRA				S	S	20 45 27.6	-1.3
	0.5nm,0.7s,baz=337,slow=20,SNR=3.1						
ASAR	**Alice Springs**	**17.98**	**162**	P	P	20 43 26.6	+0.7
	0.3nm,0.3s,baz=337,slow=7.8,SNR=8.8						
ASAR				S	S	20 46 33.9	+0.6
	0.4nm,0.9s,baz=333,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	**66.73**	**328**	P	P	20 49 52.8	-0.2
	0.2nm,0.5s,baz=112,slow=6.4,SNR=2.4						
	0.2nm,0.5s						

*NOU **06** 20:41:07.2, 37°08S×179°65W, h108km, MLv5.0/5, East of North Island, N.Z.*
*IDC **06** 20:41:15.6±1.4, 36°94S×178°95E, h0km, mb4.3/6, mbtmp4.3/6, MS3.4/2, Error ellipse: s-maj=30.4km s-min=28.9km az=127.0*
*WEL **06** 20:41:16.7±1.2, 37°S±6°×17°9E±1°1, h5km, M4.0/18, ML4.3/19, MLv4.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=101.7*
*NEIC **06** 20:41:16.6±0.7, 37°1S±0°1×179°1E±0°1, h10km±1km, mb4.7/13, Error ellipse: s-maj=25.6km s-min=4.7km az=140.0*
ISC 06 20:41:15.3±2.5, 37°11S±0°06×179°14E±0°08, h4km±13km, n128, σ1§26/124, mb4.5/13, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**235**		**Pg**	**20 41 31.1**	**+0.4**
MXZ					**Sg**	**20 41 40.9**	**-0.2**
MXZ	**Matakaoa Point**	**0.80**	**235**	P	**Pg**	**20 41 31.1**	**+0.4**
WMGZ	**Waiomatatini S**	**0.91**	**219**	P	**Pn**	**20 41 35.3**	**+0.4**
WMGZ				S	**Sb**	**20 41 47.2**	**+1.0**
PKGZ	**Pakihiroa**	**1.15**	**227**	P	**Pg**	**20 41 37.6**	**+0.3**
PKGZ				S	**Sg**	**20 41 52.8**	**+0.6**
PUZ	**Puketiti**	**1.19**	**216**	P	**Pb**	**20 41 39.1**	**+0.7**
PUZ				S	**Sg**	**20 41 54.1**	**+0.6**
HAZ	**Te Kaha**	**1.26**	**239**	P	**Pn**	**20 41 38.2**	**-1.5**
HAZ				S	**Sg**	**20 41 56.3**	**+0.6**
TWAZ	**Tauwhareparae**	**1.41**	**220**	P	**Pb**	**20 41 38.5**	**+0.3**
RUGZ	**Raukumara Rang**	**1.44**	**233**	P	**Pn**	**20 41 42.4**	**+0.1**
CNGZ	**Carnagh Statio**	**1.56**	**208**	P	**Pn**	**20 41 44.8**	**+1.0**
WIZ	**White Island**	**1.61**	**254**	P	**Pb**	**20 41 45.1**	**-0.5**
TKGZ	**Te Karaka**	**1.68**	**217**	P	**Pn**	**20 41 45.6**	**+0.2**
MWZ	**Matawai**	**1.77**	**226**	P	**Pn**	**20 41 47.2**	**+0.5**
WHRZ	**Whale Island**	**1.87**	**246**	P	**Pn**	**20 41 48.9**	**+0.7**
RIGZ	**Rimuhau**	**1.93**	**214**	P	**Pn**	**20 41 49.2**	**+0.2**
RAGZ	**Rawiri**	**1.94**	**224**	P	**Pb**	**20 41 50.8**	**-0.5**
URZ	**Urewera**	**1.98**	**234**	Pn	**Pn**	**20 41 49.9**	**+0.4**
	198nm,0.3s,baz=31,slow=2.8,SNR=326						
URZ				Sn	**Sn**	**20 42 14.7**	**0.0**
	73nm,0.3s,baz=31,slow=23,SNR=22						
URZ	**Urewera**	**1.98**	**234**	P	**Pn**	**20 41 50.2**	**+0.7**
URZ	**Hewera**	**1.98**	**234**	P	**Pn**	**20 41 50.5**	**+1.0**
PRGZ	**Paritu Road**	**2.06**	**208**	P	**Pn**	**20 41 51.0**	**+0.2**
MARZ	**Manawahe**	**2.14**	**245**	P	**Pn**	**20 41 52.6**	**+0.7**
EDRZ	**Edgecumbe**	**2.15**	**242**	P	**Pn**	**20 41 52.7**	**+0.7**
OPRZ	**Ohinepanea**	**2.18**	**250**	P	**Pn**	**20 41 52.6**	**+0.2**
SNGZ	**Shannon Statio**	**2.19**	**220**	P	**Pn**	**20 41 52.8**	**+0.3**
KNZ	**Kokohu**	**2.23**	**211**	P	**Pn**	**20 41 52.5**	**-0.6**
MHGZ	**Mahia Peninsul**	**2.26**	**205**	P	**Pn**	**20 41 53.4**	**0.0**
RTZ	**Ruatahuna**	**2.27**	**228**	P	**Pn**	**20 41 54.8**	**+1.0**
MUGZ	**Murupara**	**2.32**	**233**	P	**Pn**	**20 41 54.6**	**+0.3**
MYRZ	**Mayor Island**	**2.32**	**265**	P	**Pb**	**20 41 55.5**	**-2.2**
TARZ	**Mount Tarawera**	**2.37**	**241**	P	**Pn**	**20 41 56.1**	**+1.0**
OMRZ	**Omania**	**2.41**	**245**	P	**Pn**	**20 41 56.8**	**+1.2**
RRRZ	**Republican Roa**	**2.42**	**239**	P	**Pn**	**20 41 56.7**	**+1.1**
RAHZ	**Arahi**	**2.42**	**221**	P	**Pn**	**20 41 56.7**	**+1.0**
KARZ	**Kaharoa**	**2.47**	**248**	P	**Pn**	**20 41 57.0**	**+0.6**
WHHZ	**Waihua**	**2.47**	**217**	P	**Pn**	**20 41 56.6**	**+0.2**
HLRZ	**Highlands Stat**	**2.49**	**242**	P	**Pn**	**20 41 57.6**	**+0.9**
MTHZ	**Maungataniwha**	**2.51**	**225**	P	**Pn**	**20 41 57.7**	**+0.7**
PRRZ	**Plateau Road**	**2.58**	**237**	P	**Pn**	**20 41 58.8**	**+1.0**
HSRZ	**Hossack Road**	**2.59**	**242**	P	**Pb**	**20 42 00.2**	**-2.1**
HRRZ	**Handcock Road**	**2.60**	**240**	P	**Pn**	**20 42 00.2**	**+2.1**
ALRZ	**Allen Road**	**2.65**	**236**	P	**Pn**	**20 42 00.1**	**+1.3**
NMHZ	**Naumai**	**2.71**	**222**	P	**Pn**	**20 42 00.6**	**+0.9**
ARHZ	**Aropaoanui**	**2.73**	**217**	P	**Pn**	**20 42 00.0**	**+0.1**
WPRZ	**Whakapapatarin**	**2.74**	**238**	P	**Pn**	**20 42 01.2**	**+1.1**
MRHZ	**Matea Rd**	**2.75**	**230**	P	**Pn**	**20 42 00.5**	**+0.2**
KUZ	**Kuaotunu**	**2.76**	**277**	P	**Pn**	**20 41 59.3**	**-1.1**
BKZ	**Black Stump Fm**	**2.93**	**225**		**Pn**	**20 42 02.4**	**-0.2**
BKZ	**Black Stump Fm**	**2.93**	**225**	P	**Pn**	**20 42 02.5**	**-0.2**
BKZ	**Black Stump Fm**	**2.93**	**225**	P	**Pn**	**20 42 02.6**	**-0.1**
TOZ	**Tahuroa Road**	**2.96**	**257**	P	**Pn**	**20 42 03.2**	**+0.1**
CKHZ	**Cape Kidnapper**	**3.02**	**212**	P	**Pn**	**20 42 02.9**	**-1.0**
MCHZ	**McNeill Hill**	**3.02**	**219**	P	**Pn**	**20 42 03.4**	**-0.5**
GRZ	**Great Barrier**	**3.08**	**285**	P	**Pn**	**20 42 04.8**	**+0.1**
KWHZ	**Kaweka Forest**	**3.15**	**222**	P	**Pn**	**20 42 05.3**	**-0.4**
MKAZ	**Moumakai**	**3.18**	**269**	P	**Pn**	**20 42 05.3**	**-0.7**
RATZ	**Raukuka**	**3.19**	**236**	P	**Pn**	**20 42 06.9**	**+0.7**
KAHZ	**Kahuranaki**	**3.21**	**213**	P	**Pn**	**20 42 05.3**	**-1.4**
WIAZ	**Waiheke Island**	**3.22**	**274**	P	**Pn**	**20 42 06.5**	**-0.2**
TMVZ	**Te Maari**	**3.37**	**232**	P	**Pn**	**20 42 08.9**	**+0.1**
ETAZ	**East Tamaki Re**	**3.37**	**271**	P	**Pn**	**20 42 10.7**	**+2.0**
ETVZ	**East Tongariro**	**3.38**	**232**	P	**Pn**	**20 42 08.9**	**0.0**
BHHZ	**Black Hill Sta**	**3.39**	**225**	P	**Pn**	**20 42 08.8**	**-0.3**
KRVZ	**Karewarewa**	**3.40**	**233**	P	**Pn**	**20 42 09.5**	**+0.3**
MBAZ	**Motutapu North**	**3.41**	**274**	P	**Pn**	**20 42 09.7**	**+0.4**
NNVZ	**North Ngauruho**	**3.43**	**233**	P	**Pn**	**20 42 11.0**	**+1.2**
WTVZ	**West Tongariro**	**3.44**	**233**	P	**Pn**	**20 42 10.7**	**+0.9**
NGZ	**Ngauruhoe**	**3.47**	**232**	P	**Pn**	**20 42 10.3**	**0.0**
ABAZ	**Army Bay**	**3.49**	**277**	P	**Pn**	**20 42 11.5**	**+1.1**
MOVZ	**Moawhango**	**3.52**	**228**	P	**Pn**	**20 42 10.3**	**-0.5**
TWVZ	**Taurewa**	**3.52**	**235**	P	**Pn**	**20 42 11.8**	**+1.0**
WNVZ	**Wahianoa**	**3.56**	**230**	P	**Pn**	**20 42 11.6**	**+0.1**
AWAZ	**Awhitu Peninsu**	**3.59**	**269**	P	**Pn**	**20 42 12.3**	**+0.5**
PNHZ	**Pukemiti**	**3.63**	**219**	P	**Pn**	**20 42 10.8**	**-1.5**
WPHZ	**Waipukurau**	**3.63**	**215**	P	**Pn**	**20 42 10.8**	**-1.5**
HIZ	**Hauiti**	**3.67**	**246**		**Pn**	**20 42 14.3**	**+1.5**
HIZ	**Hauiti**	**3.67**	**246**	P	**Pn**	**20 42 14.3**	**+1.5**
HIZ	**Hauiti**	**3.67**	**246**	P	**Pn**	**20 42 14.5**	**+1.7**
TSZ	**Takapari Road**	**3.85**	**219**	P	**Pn**	**20 42 13.5**	**-1.9**
WCZ	**Waipu Caves**	**4.03**	**285**	P	**Pn**	**20 42 18.4**	**+0.6**
WAZ	**Wanganui**	**4.20**	**230**	P	**Pn**	**20 42 20.4**	**+0.4**
LREZ	**Lake Rotokare**	**4.40**	**236**	P	**Pn**	**20 42 24.1**	**+1.2**
PREZ	**Palmer Road**	**4.51**	**239**	P	**Pn**	**20 42 27.0**	**+2.6**
NEZ	**North Egmont**	**4.52**	**240**	P	**Pn**	**20 42 26.9**	**+2.3**
PKE	**Pukeiti**	**4.56**	**241**	P	**Pn**	**20 42 28.3**	**+3.2**
KHEZ	**Kahui Hut**	**4.59**	**240**	P	**Pn**	**20 42 27.9**	**+2.4**
OUZ	**Omahuta**	**4.86**	**291**	P	**Pn**	**20 42 30.4**	**+1.1**
OUZ	**Omahuta**	**4.86**	**291**	P	**Pn**	**20 42 30.4**	**+1.1**
TUWZ	**Tuamarina**	**5.90**	**221**		**Pn**	**20 42 41.1**	**-2.4**
QRZ	**Quartz Range**	**6.35**	**232**	P	**Pn**	**20 42 48.8**	**-0.8**
THZ	**Tophouse**	**6.70**	**224**	Pn	**Pn**	**20 42 51.2**	**-3.2**
CTZ	**Chatham Island**	**7.37**	**155**	P	**Pn**	**20 43 04.2**	**+0.6**
LTZ	**Lake Taylor**	**7.74**	**221**	Pn	**Pn**	**20 43 04.3**	**-4.4**
RPZ	**Rata Peaks**	**9.03**	**221**	Pn	**Pn**	**20 43 22.3**	**-4.1**
	0.9nm,0.3s,baz=22,slow=16,SNR=1.6						
RPZ				Sn	Sn	20 44 54.4	-14
	1.7nm,0.3s,baz=60,slow=22,SNR=9.6						
DZM	**Mont Dzumac**	**18.58**	**320**	LR	LR	20 51 01.2	
	comp=Z,156nm,18.8s,baz=74,slow=32						
STKA	**Stephens Creek**	**31.24**	**268**	P	**P**	**20 47 36.8**	**+0.7**
	2.2nm,0.5s,baz=99,slow=14,SNR=7.5						
	2.2nm,0.5s						
STKA	**Stephens Creek**	**31.24**	**268**	P	**P**	**20 47 36.2**	**+0.2**
CTA	**Charters Tower**	**33.27**	**292**	LR	LR	21 00 01.1	
	comp=Z,51nm,18.3s,baz=79,slow=34						
BBOO	**Buckleboo**	**35.34**	**264**	P	**P**	**20 48 10.1**	**-1.7**
BBOO				IAmb	IAmb	20 48 43.1	
	comp=Z,33nm,1.5s						
COEN	**Coen**	**39.45**	**296**	P	**P**	**20 48 45.8**	**-1.0**
COEN				IAmb	IAmb	20 49 25.9	
	comp=Z,28nm,1.4s						
AS31	**Alice Springs**	**40.89**	**276**	P	**P**	**20 48 57.7**	**-1.0**
ASAR	**Alice Springs**	**40.89**	**276**	P	**P**	**20 48 57.9**	**-0.8**
	comp=Z,6.5nm,0.7s,baz=119,slow=8.2,SNR=103						
	comp=Z,6.5nm,0.7s						
ASAR	**Alice Springs**	**40.89**	**276**	P	**P**	**20 48 57.4**	**-1.3**
WR0	**Warramunga Arr**	**42.33**	**281**	P	**P**	**20 49 09.4**	**-1.0**
WR0				IAmb	IAmb	20 49 10.4	
	comp=Z,4.9nm,0.7s						
FORT	**Forrest**	**42.42**	**263**	P	**P**	**20 49 10.0**	**-1.2**
WB2	**Warramunga Arr**	**42.48**	**281**	P	**P**	**20 49 10.9**	**-0.8**
WB2				IAmb	IAmb	20 49 11.6	
	comp=Z,9.7nm,0.6s						
WRA	**Warramunga Arr**	**42.49**	**281**	P	**P**	**20 49 11.1**	**-0.7**
	comp=Z,6.6nm,0.6s,baz=123,slow=7.5,SNR=118						
WRA				PcP	**PcP**	**20 51 05.2**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=134,slow=2.7,SNR=1.5						
	comp=Z,6.6nm,0.6s						
WRA	**Warramunga Arr**	**42.49**	**281**	P	**P**	**20 49 10.5**	**-1.4**
WB0	**Warramunga Arr**	**42.55**	**281**	P	**P**	**20 49 11.2**	**-1.1**
WB0				IAmb	IAmb	20 49 12.1	
	comp=Z,11nm,0.6s						
KNRA	**Kununurra**	**49.27**	**282**	P	**P**	**20 50 05.1**	**-0.3**
KNRA				IAmb	IAmb	20 50 45.6	
	comp=Z,21nm,1.4s						
NWAO	**Narrogin (SRO)**	**50.08**	**255**	P	**P**	**20 50 09.3**	**-2.2**
FITZ	**Fitzroy Crossi**	**50.37**	**277**	P	**P**	**20 50 13.3**	**-0.4**
	comp=Z,4.3nm,0.5s,baz=146,slow=5.7,SNR=26						
	comp=Z,4.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.37**	**277**	P	**P**	**20 50 12.4**	**-1.3**
MORW	**Morawa**	**52.62**	**259**	P	**P**	**20 50 29.1**	**-1.4**
QSPA	**South Pole Qui**	**53.02**	**180**	P	**P**	**20 50 35.6**	**+2.5**
	comp=Z,1.3nm,1.0s,baz=141,slow=6.5,SNR=2.4						
	comp=Z,1.3nm,1.0s						
BELA	**Belgrano 2**	**63.47**	**172**	P	**P**	**20 51 48.0**	**+2.1**
BELA				IAmb	IAmb	20 51 49.9	
	comp=Z,3.6nm,1.3s						
TROLL	**Troll, Antarti**	**71.16**	**181**	P	**P**	**20 52 36.2**	**+1.4**
VNA3	**Neumayer Olymp**	**71.77**	**177**	P	**P**	20 52 48.9	+11
VNA2	**Neumayer--Watz**	**72.17**	**178**	P	P	20 52 50.7	+10
	baz=178,slow=5.0						
VNA1	**Neumayer--Stat**	**72.41**	**177**	P	P	20 52 50.8	+8.6
H03S2	**Juan Fernandez**	**78.73**	**124**	T	T	22 19 56.7	
	baz=235						
H03S1	**Juan Fernandez**	**78.75**	**124**	T	T	22 19 56.4	
	baz=235						
H03S3	**Juan Fernandez**	**78.75**	**124**	T	T	22 19 53.4	
	baz=235						
H03N3	**Juan Fernandez**	**78.97**	**124**	T	T	22 20 13.8	
	baz=234,slow=72,SNR=41						
H03N2	**Juan Fernandez**	**78.97**	**124**	T	T	22 20 04.8	
	baz=234,slow=72,SNR=32						
H03N1	**Juan Fernandez**	**78.98**	**124**	T	T	22 20 13.4	
	baz=234,slow=72,SNR=43						
CMAR	**Chiang Mai Arr**	**93.43**	**290**	P	**P**	**20 54 32.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=146,slow=3.3,SNR=2.2						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**144.52**	**344**	PKP	**PKPdf**	**21 00 51.0**	**-0.9**
	comp=Z,4.4nm,1.1s,baz=0.0,slow=4.5,SNR=3.9						
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKPbc**	**21 01 06.5**	**-0.5**
	comp=Z,9.3nm,0.9s,baz=48,slow=2.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**156.03**	**186**	PKPab	**PKPab**	**21 01 39.9**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=170,slow=4.9,SNR=2.2						

*BJI **06** 20:47:54.3±0.0, 34°43N×141°72E, h5km, mb4.2/35, mB4.6/21, Ms4.1/23, Ms7 4.0/21*
*IDC **06** 20:47:56.8±0.6, 34°42N×141°59E, h0km, mb4.1/20, mbtmp4.1/24, ML2.7/3, MS3.5/16, Error ellipse: s-maj=15.4km s-min=13.5km az=110.0*
*NEIC **06** 20:47:57.6±1.5, 34°50N±0°02×141°75E±0°09, h10km±1km, mb4.6/30, Error ellipse: s-maj=12.0km s-min=2.9km az=80.0*
*NIED **06** 20:47:57.2, 34°43N×141°80E, h27km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.91; Mθθ-0.23; Mφφ-1.68; Mrθ1.89; Mθφ-0.09; Mφr-0.72; Fault plane solution: Mo2.51000×10¹⁵ NP1:φs13.00000°, δ33.00000°, λ136.00000°. NP2:φs142.00000°, δ68.00000°, λ65.00000°.*
*JMA **06** 20:47:57.2±0.6, 34°N±1°×14°2E±°, h27km±2km, MV3.6/29, FAR SE OFF BOSO PEN*
ISC 06 20:47:59.9±0.5, 34°42N±0°05×141°71E±0°06, h27km, n108, σ1§33/103, mb4.3/38, MS3.7/21, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.64**	**291**	*eP*	**Pb**	**20 48 10.7**	**-1.6**
BSO3	**Boso 3**	**1.06**	**291**	*eP*	**Pn**	**20 48 17.9**	**-0.9**
BSO4	**Boso 4**	**1.26**	**297**	*eP*	**Pn**	**20 48 20.4**	**-1.4**
KTR	**Katsuura**	**1.35**	**303**	*eP*	**Pn**	**20 48 22.2**	**-0.9**
JKUC	**kamogawauchiur**	**1.44**	**301**	*eP*	**Pn**	**20 48 23.3**	**-1.0**
JKUC				*eS*	**Sn**	**20 48 42.0**	**-0.3**
CHOJ	**Chosi**	**1.46**	**332**	*eP*	**Pn**	**20 48 22.9**	**-1.6**
CHOJ				*eS*	**Sn**	**20 48 41.8**	**-0.9**
JMKN	**Mikurajimanish**	**1.83**	**254**	*eP*	**Pn**	**20 48 28.7**	**-1.0**
JMKN				*eS*	**Sn**	**20 48 50.6**	**-1.3**
JHJ2	**Mitsune**	**2.04**	**231**		**Pn**	**20 48 32.9**	**+0.4**
JHJ	**Hachijo jima 2**	**2.06**	**232**	Pn	**Pn**	**20 48 32.8**	**0.0**
	42nm,0.3s,baz=71,slow=20,SNR=12						
JHJ				Sn	**Sn**	**20 48 58.8**	**+1.2**
	106nm,0.3s,baz=81,slow=23,SNR=10						
JYT	**Yasato**	**2.19**	**326**		**Pn**	**20 48 32.6**	**-1.9**
JMM	**Marumori**	**3.52**	**348**		**Pn**	**20 48 50.8**	**-2.0**
MJAR	**Matsushiro Arr**	**3.55**	**308**	Pn	**Pn**	**20 48 51.8**	**-1.5**
	1.1nm,0.3s,baz=154,slow=13,SNR=40						
MJAR				Sn	**Sn**	**20 49 35.9**	**+1.4**
	0.9nm,0.3s,baz=199,slow=16,SNR=6.9						
	5.4nm,0.3s						
MAJO	**Matsushiro**	**3.56**	**308**		**Pn**	**20 48 52.2**	**-1.2**
JGF	**Kuroka**	**3.76**	**290**		**Pn**	**20 48 56.0**	**-0.2**
INU	**Inuyama**	**3.96**	**285**		**Pn**	**20 48 59.9**	**+1.0**
JSD	**Sado**	**4.56**	**323**		**Pn**	**20 49 05.0**	**-2.1**
JTM	**Tenmabayashi**	**6.38**	**356**		**Pn**	**20 49 27.6**	**-4.5**
JMN	**Monobe**	**6.53**	**266**	Pn	**Pn**	**20 49 33.5**	**-0.8**
JHS	**Saijyo**	**7.10**	**277**	Pn	**Pn**	**20 49 41.7**	**-0.3**
JCJ	**Chichijima**	**7.31**	**177**	Pn	**Pn**	**20 49 44.7**	**-0.3**
	18nm,0.3s,baz=299,slow=23,SNR=11						
JCJ				Sn	**Sn**	**20 51 01.2**	**-6.0**
	3.9nm,0.3s,baz=270,slow=23,SNR=1.6						
JCJ	**Chichijima**	**7.31**	**177**		**Pn**	**20 49 44.2**	**-0.8**
**

comp=Z,150nm,13.4s
LZH LR LR
comp=Z,130nm,14.4s
LZH LR LR
comp=Z,110nm,13.1s
DAV Davao City (W) 31.02 212 LR LR 21 07 23.6
comp=Z,71nm,18.3s,baz=52,slow=38
GTA Gaotai 33.64 291 ⇓P **P** **20 54 38.2 -0.2**
GTA pP pP 20 54 42.4 -2.0
GTA sP sP 20 54 46.1 -1.0
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,29nm,6.2s
GTA LR LR
comp=Z,200nm,15.6s
GTA LR LR
comp=Z,120nm,14.9s
GTA LR LR
comp=Z,130nm,14.9s
PZH PanZhiHua 35.16 268 P **P** **20 54 53.3 +1.6**
PZH S **S** **21 00 25.3 +1.9**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,50nm,3.5s
PZH LR LR
comp=Z,230nm,16.9s
PZH LR LR
comp=Z,390nm,16.7s
PZH LR LR
comp=Z,390nm,15.9s
GOMU GeErMu 38.02 287 P **P** **20 55 16.3 0.0**
GOMU pP pP 20 55 20.4 -1.9
GOMU sP sP 20 55 22.5 -2.5
GOMU S **S** **21 01 09.2 +1.9**
GOMU pmax pmax
comp=Z,3.0nm,1.1s
GOMU pmax pmax
comp=Z,30nm,4.8s
GOMU LR LR
comp=Z,96nm,18.2s
GOMU LR LR
comp=Z,48nm,18.8s
GOMU LR LR
comp=Z,68nm,16.0s
CMAR Chiang Mai Arr 41.13 258 P **P** **20 55 41.2 -0.8**
comp=Z,1.0nm,0.7s,baz=47,slow=7.6,SNR=11
CMAR LR LR 21 12 55.1
comp=Z,20nm,18.1s,baz=65,slow=36
comp=Z,1.0nm,0.7s
WMQ Urumqi 42.28 299 *e*P **P** **20 55 52.5 +1.3**
WMQ LR LR
comp=Z,170nm,16.9s
ZAA0 Zalesovo Array 43.88 314 P **P** **20 56 03.1 -0.8**
ZALV Zalesovo Beam 43.88 314 P **P** **20 56 04.0 +0.1**
comp=Z,2.7nm,0.7s,baz=89,slow=6.2,SNR=12
ZALV PcP **PcP** **20 57 50.1 +0.4**
comp=Z,1.6nm,0.7s,baz=53,slow=0.7,SNR=4.0
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 43.88 314 P **P** **20 56 03.1 -0.8**
NRIK Noril'sk 45.74 336 P **P** **20 56 18.9 +0.4**
comp=Z,4.1nm,0.9s,baz=109,slow=8.1,SNR=6.6
comp=Z,4.1nm,0.9s
NRIK Noril'sk 45.74 336 P **P** **20 56 17.8 -0.7**
NRIK IAmb IAmb 20 56 19.8
comp=Z,6.2nm,1.0s
MK31 Makanchi Array 45.75 304 P **P** **20 56 18.1 -0.8**
MKAR Makanchi Array 45.75 304 P **P** **20 56 19.2 +0.3**
comp=Z,1.8nm,0.6s,baz=91,slow=10.0,SNR=13
MKAR LR LR 21 16 47.3
comp=Z,81nm,18.2s,baz=103,slow=38
comp=Z,1.8nm,0.6s
MKAR Makanchi Array 45.75 304 P **P** **20 56 18.5 -0.4**
KURK Kurchatov 47.76 310 P **P** **20 56 33.7 -0.8**
MTN Manton Dam 48.06 194 P **P** **20 56 37.5 +0.4**
KNRA Kununurra 51.32 196 P **P** **20 57 02.7 +0.8**
HDA Harding Lake 51.56 32 P **P** **20 57 02.8 -0.5**
HDA IAmb IAmb 20 57 04.6
comp=Z,4.8nm,1.0s
IL31 51.59 31 P **P** **20 57 03.8 +0.4**
ILAR Eielson Array 51.59 31 P **P** **20 57 04.2 +0.7**
comp=Z,2.5nm,0.8s,baz=267,slow=6.4,SNR=24
comp=Z,2.5nm,0.8s
ILAR Eielson Array 51.59 31 P **P** **20 57 02.9 -0.6**
BMAR Burnt Mountain 52.52 28 P **P** **20 57 09.8 -0.6**
BRVK Borovoye 52.59 314 P **P** **20 57 10.7 -0.4**
BRVK IAmb IAmb 20 57 12.3
comp=Z,4.3nm,0.8s
DOT Dot Lake 52.86 33 P **P** **20 57 13.4 +0.4**
DOT IAmb IAmb 20 57 42.2
comp=Z,7.3nm,1.4s
SCRK Sand Creek 52.87 32 P **P** **20 57 13.2 0.0**
L26K Log Cabin Wild 53.23 33 P **P** **20 57 16.5 +0.8**
L26K IAmb IAmb 20 57 18.9
comp=Z,3.7nm,0.9s
L27K Beaver Creek, 53.91 33 P **P** **20 57 22.6 +1.9**
L27K IAmb IAmb 20 57 36.8
comp=Z,4.7nm,1.1s
BCAR Beaver Creek A 53.93 33 P **P** **20 57 20.6 -0.3**
WB0 Warramunga Arr 54.33 188 P **P** **20 57 23.9 -0.3**
WB0 IAmb IAmb 20 57 42.7
comp=Z,8.2nm,1.1s
FITZ Fitzroy Crossi 54.42 199 P **P** **20 57 24.1 -0.7**
FITZ IAmb IAmb 20 57 46.0
comp=Z,6.0nm,1.1s
WR0 Warramunga Arr 54.51 188 P **P** **20 57 24.3 -1.1**
WB2 Warramunga Arr 54.51 189 P **P** **20 57 24.3 -1.1**
WB2 IAmb IAmb 20 57 44.1
comp=Z,6.9nm,0.8s
WRA Warramunga Arr 54.51 189 P **P** **20 57 25.6 +0.2**
comp=Z,1.8nm,0.7s,baz=2.0,slow=7.5,SNR=26
comp=Z,1.8nm,0.7s
WRA Warramunga Arr 54.51 189 P **P** **20 57 24.9 -0.5**
KK31 Karatay Array 54.67 302 P **P** **20 57 26.9 +0.4**
KK31 IAmb IAmb 20 57 28.0
comp=Z,8.1nm,1.0s
KKAR Karatay Array 54.67 302 P **P** **20 57 26.6 +0.1**
KKAR IAmb IAmb 20 57 28.0
comp=Z,8.1nm,1.0s
INK Inuvik 56.61 26 LR LR 21 25 49.6
comp=Z,31nm,18.9s,baz=190,slow=40
CHGR Chuyangaron 57.03 297 P **P** **20 57 43.5 -0.1**
ASAR Alice Springs 58.24 188 P **P** **20 57 52.7 +0.7**
comp=Z,1.3nm,0.9s,baz=17,slow=11,SNR=4.6
comp=Z,1.3nm,0.9s
ASAR Alice Springs 58.24 188 P **P** **20 57 52.2 +0.2**
ARU Arti 58.49 320 LR LR 21 25 54.4
comp=Z,46nm,18.0s,baz=209,slow=39
ARU Arti 58.49 320 P **P** **20 57 53.2 -0.2**
ARU IAmb IAmb 20 57 54.3
comp=Z,6.1nm,0.8s
ABKAR Akbulak array 59.82 311 P **P** **20 58 02.2 -0.6**
ABKAR IAmb IAmb 20 58 03.2
comp=Z,3.8nm,0.6s
ABKAR Akbulak array 59.82 311 P **P** **20 58 02.5 -0.2**
AKTO Aktyubinsk 60.61 313 LR LR 21 26 43.2
comp=Z,51nm,20.0s,baz=41,slow=38
KIRV Kirov 62.48 324 LR LR 21 28 01.6
comp=Z,46nm,19.4s,baz=29,slow=38
GEYT Alibeck 65.33 300 P **P** **20 58 40.5 +0.7**
comp=Z,2.1nm,0.7s,baz=38,slow=2.6,SNR=4.8
comp=Z,2.1nm,0.7s
GEYT Alibeck 65.33 300 P **P** **20 58 40.3 +0.5**
GEYT IAmb IAmb 20 58 41.3
comp=Z,3.9nm,0.9s
GYA0B ALIBECK ARRAY 65.33 300 P **P** **20 58 39.4 -0.3**
BELG Belogornoye 65.88 318 LR LR 21 30 34.2
comp=Z,70nm,18.3s,baz=171,slow=39
KBZ Khabaz 72.79 311 P **P** **20 59 27.0 +1.1**
comp=Z,2.6nm,0.8s,baz=73,slow=3.1,SNR=5.1
comp=Z,2.6nm,0.8s
NVAR Mina Array Bea 76.37 53 P **P** **20 59 49.6 +2.5**
comp=Z,1.7nm,0.7s,baz=278,slow=6.1,SNR=15
comp=Z,1.7nm,0.7s
AKASG Malin Array Be 76.51 323 P **P** **20 59 47.3 0.0**
comp=Z,1.7nm,0.6s,baz=46,slow=6.0,SNR=7.7
comp=Z,1.7nm,0.6s
NB2 NORSAR Subarra 76.69 338 P **P** **20 59 48.8 +0.6**
comp=Z,1.0nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 76.69 338 P **P** **20 59 48.6 +0.4**
comp=Z,1.6nm,0.8s,baz=39,slow=5.9,SNR=4.8
NOA LR LR 21 37 16.4
comp=Z,49nm,19.1s,baz=275,slow=39
comp=Z,1.6nm,0.8s
PDAR Pinedale Array 79.33 45 P **P** **21 00 05.4 +1.9**
comp=Z,0.6nm,0.7s,baz=267,slow=3.0,SNR=6.9
comp=Z,0.6nm,0.7s
PFO Pinyon Flats O 80.30 56 LR LR 21 32 03.6
comp=Z,45nm,18.8s,baz=180,slow=33
BRTR Keskin Array B 80.77 312 P **P** **21 00 12.2 +1.0**
comp=Z,1.3nm,0.8s,baz=113,slow=4.2,SNR=8.2
comp=Z,1.3nm,0.8s
GERES GERESS Array B 85.06 329 P **P** **21 00 33.5 +0.3**
comp=Z,0.2nm,0.4s,baz=346,slow=2.4,SNR=3.8
comp=Z,0.2nm,0.4s
DAVOX Davos/Dischmat 88.29 329 LR LR 21 43 20.0
comp=Z,61nm,18.2s,baz=279,slow=38
TXAR Lajitas Array 91.52 53 P **P** **21 01 06.8 +2.3**
comp=Z,0.5nm,0.7s,baz=280,slow=5.4,SNR=4.2
comp=Z,0.5nm,0.7s
LPAZ La Paz 147.73 63 PKPbc **PKiKP** **21 07 45.0 -0.5**
comp=Z,1.8nm,0.6s,baz=0.0,slow=9.6,SNR=8.3

JMA 06 20:49:10.9±0.1, 37.8N±0.3×141.8E±0.6, h28km±1km, MV2.7/30, SE OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.55**	**336**	*i* P	Pb	20 49 21.8	-0.2
JIKH				S	Sb	20 49 29.1	-0.5
JMST	**Minamisoumatoc**	**0.69**	**263**	P	Pb	20 49 24.0	-0.3
JMST				S	Sb	20 49 33.0	-0.5
JIO	**Ouri**	**0.72**	**334**	P	Pb	20 49 24.4	-0.4
JIO				S	Sb	20 49 33.4	-0.9
JMM	**Marumori**	**0.76**	**275**	P	Pb	20 49 25.2	-0.3
JMM				S	Sb	20 49 35.0	-0.5
JFK	**Kawauchi**	**0.82**	**238**	P	Pn	20 49 25.9	-0.7
JFK				S	Sb	20 49 36.5	-0.9
JOU	**Okura**	**1.02**	**303**	P	Pb	20 49 29.9	0.0
JOU				S	Sb	20 49 42.9	-0.1
JKMT	**Kesennumamotoy**	**1.02**	**348**	P	Pn	20 49 29.0	-0.3
JKMT				S	Sn	20 49 41.5	-1.2
JMK	**Ichinoseki**	**1.21**	**340**	S	Sn	20 49 46.9	-0.5
OFUJ	**Ofunato**	**1.27**	**357**	P	Pn	20 49 32.2	-0.5

*ROM **06** 20:52:39.7±0.1, 42.864N±0.003×13.223E±0.005, h10km, ML3.2/56, Error ellipse: s-maj=0.4km s-min=0.1km az=59.0*
*PRU **06** 20:52:39.4±0.0, 42.81N×13.91E, h0km*
*LDG **06** 20:52:39.1±0.1, 42.85N×13.26E, h10km, Md3.2/1, Ml2.8/18, Error ellipse: s-maj=2.6km s-min=1.5km az=54.0*
*IDC **06** 20:52:40.3±1.5, 42.96N×13.03E, h0km, mb3.4/2, mbtmp3.3/4, ML3.1/2, MS2.6/1, Error ellipse: s-maj=49.1km s-min=15.2km az=99.0*
*BEO **06** 20:52:41.5±0.9, 42.78N×13.28E, h0km, ML3.4/6*
ISC 06 20:52:40.5±0.7, 42.86N±0.01×13.19E±0.02, h9km±4km, n130, σ2s46/186, 20C-28D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**167**	P	**Pg**	**20 52 41.5**	**-0.8**
T1242				S	**Sg**	**20 52 42.5**	**-1.2**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
NRCA	**Norcia**	**0.07**	**243**	P	**Pg**	**20 52 42.3**	**-0.3**
NRCA				S	**Sg**	**20 52 44.2**	**+0.1**
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,94750μm,0.5s						
NRCA				AML	AML		
	comp=N,92600μm,0.5s						
NRCA				AML	AML		
FEMA	**Monte Fema**	**0.14**	**313**	⇓P	**Pg**	**20 52 43.9**	**+0.1**
FEMA				S	**Sg**	**20 52 47.1**	**+1.0**
FEMA				AML	AML		
	comp=N,13300μm,0.6s						
FEMA				AML	AML		
	comp=E,15250μm,0.4s						
T1202	**Accumoli, Fraz**	**0.16**	**172**	⇓P	**Pg**	**20 52 43.9**	**-0.1**
T1202				S	**Sg**	**20 52 47.4**	**+1.0**
T1202				AML	AML		
	comp=E,52500μm,0.2s						
T1202				AML	AML		
	comp=N,69600μm,0.3s						
T1202				AML	AML		
	comp=N,69650μm,0.3s						
T1241	**Roccafluvione,**	**0.17**	**92**	P	**Pg**	**20 52 43.6**	**-0.6**
T1241				S	**Sg**	**20 52 46.6**	**-0.1**
T1241				AML	AML		
	comp=N,29300μm,0.3s						
T1241				AML	AML		
	comp=E,49750μm,0.3s						
T1241				AML	AML		
	comp=E,50750μm,0.3s						
T1241				AML	AML		
	comp=N,29250μm,0.3s						
T1241				AML	AML		
	comp=N,27650μm,0.3s						
T1241				AML	AML		
	comp=E,50700μm,0.3s						
FDMO	**Fiordimonte**	**0.19**	**336**	P	**Pg**	**20 52 44.3**	**-0.1**
FDMO				S	**Sg**	**20 52 48.1**	**+0.9**
T1204	**Amatrice, Fraz**	**0.21**	**154**	P	**Pg**	**20 52 44.6**	**-0.2**
T1204				S	**Sg**	**20 52 48.5**	**+0.7**
T1204				AML	AML		
	comp=N,16900μm,1.4s						
T1204				AML	AML		
	comp=N,16850μm,1.4s						
T1204				AML	AML		
	comp=E,21350μm,1.3s						
GUMA	**Gualdo di Mace**	**0.23**	**27**	P	**Pg**	**20 52 44.8**	**-0.3**
GUMA				S	**Sg**	**20 52 49.0**	**+0.7**
GUMA				AML	AML		
	comp=N,80650μm,0.5s						
GUMA				AML	AML		
	comp=E,43850μm,0.4s						
GUMA				AML	AML		
	comp=N,93200μm,0.5s						
GUMA				AML	AML		
	comp=E,61000μm,0.5s						
CSP1	**Cessapalombo**	**0.23**	**2**	AML	AML		
	comp=E,9340μm,0.4s						
CSP1				AML	AML		
	comp=E,9320μm,0.4s						
CSP1				AML	AML		
	comp=N,13450μm,0.9s						
CSP1				AML	AML		
	comp=N,13400μm,0.9s						
T1215	**Vallo di Nera,**	**0.25**	**256**	⇑P	**Pg**	**20 52 45.7**	**+0.2**
T1215				S	**Sg**	**20 52 50.3**	**+1.5**
T1215				AML	AML		
	comp=N,6720μm,0.4s						
T1215				AML	AML		
	comp=E,8895μm,0.4s						
T1215				AML	AML		
	comp=N,6050μm,0.4s						
T1215				AML	AML		
	comp=E,8480μm,0.4s						
T1215				AML	AML		
	comp=N,6725μm,0.4s						
T1215				AML	AML		
	comp=E,8870μm,0.4s						
T1215				AML	AML		
	comp=N,6045μm,0.4s						
T1215				AML	AML		
	comp=E,8475μm,0.4s						
T1243	**Rocca Santa Ma**	**0.25**	**132**	P	**Pg**	**20 52 45.0**	**-0.5**
T1243				S	**Sg**	**20 52 49.1**	**+0.1**
CESI	**CESI - Serrava**	**0.26**	**304**	⇑P	**Pg**	**20 52 45.8**	**+0.1**
CESI				S	**Sg**	**20 52 50.5**	**+1.4**
CESI				AML	AML		
	comp=E,7045μm,0.5s						
CESI				AML	AML		
	comp=N,10300μm,1.1s						
LNSS	**Leonessa**	**0.28**	**204**	P	**Pg**	**20 52 46.2**	**0.0**
LNSS				S	**Sg**	**20 52 51.6**	**+1.6**
LNSS				AML	AML		
	comp=E,43900μm,0.3s						
LNSS				AML	AML		
	comp=N,53700μm,0.2s						
SEF1	**Sefro**	**0.34**	**328**	P	**Pg**	**20 52 47.1**	**-0.1**
SEF1				S	**Sb**	**20 52 53.4**	**-0.8**
SEF1				AML	AML		
	comp=E,7490μm,0.4s						
SEF1				AML	AML		
	comp=N,8000μm,0.6s						
MNTP	**Montappone**	**0.34**	**36**	P	**Pg**	**20 52 47.2**	**0.0**
RM33	**Pellescritta (**	**0.35**	**178**	⇓P	**Pg**	**20 52 47.2**	**-0.2**
RM33				S	**Sg**	**20 52 53.3**	**+1.1**
RM33				AML	AML		
	comp=E,7625μm,0.8s						
RM33				AML	AML		
	comp=N,7030μm,0.3s						
RM33				AML	AML		
	comp=N,7040μm,0.3s						
RM33				AML	AML		
	comp=E,7395μm,0.8s						
RM33				AML	AML		
	comp=N,7045μm,0.3s						
CAMP	**Campotosto**	**0.36**	**154**	⇓P	**Pg**	**20 52 47.1**	**-0.6**
CAMP				S	**Sg**	**20 52 53.0**	**+0.5**
CAMP				AML	AML		
	comp=N,8640μm,0.6s						
CAMP				AML	AML		
	comp=E,8425μm,0.3s						
SSM1	**San Severino M**	**0.37**	**358**	P	**Pg**	**20 52 48.0**	**+0.3**
OFFI	**Offida**	**0.37**	**79**	⇑P	**Pg**	**20 52 48.0**	**+0.2**
OFFI				AML	AML		
	comp=E,9055μm,0.5s						
OFFI				AML	AML		
	comp=N,13000μm,0.9s						
GAG1	**Gagliole**	**0.39**	**346**	⇓P	**Pg**	**20 52 48.3**	**+0.2**
GAG1				AML	AML		
	comp=E,8710μm,0.9s						
GAG1				AML	AML		
	comp=N,10500μm,0.5s						
TERO	**Teramo**	**0.39**	**128**	P	**Pg**	**20 52 47.4**	**-0.7**
TERO				S	**Sg**	**20 52 53.4**	**+0.2**
TERO				AML	AML		
	comp=E,17800μm,0.3s						
TERO				AML	AML		
	comp=E,18600μm,0.3s						
TERO				AML	AML		
	comp=N,26650μm,0.4s						
TERO				AML	AML		
	comp=N,25700μm,0.4s						
ARRO	**Arrone**	**0.42**	**228**	⇓P	**Pg**	**20 52 48.8**	**+0.1**
ARRO				AML	AML		
	comp=N,3360μm,0.6s						
ARRO				AML	AML		
	comp=N,3365μm,0.6s						
ARRO				AML	AML		
	comp=E,3850μm,0.2s						
ASSB	**Assisi San Ben**	**0.43**	**295**	⇑P	**Pg**	**20 52 48.9**	**-0.1**
ASSB				AML	AML		
	comp=N,3015μm,0.6s						
ASSB				AML	AML		
	comp=E,3305μm,0.6s						
SNTG	**Esanatoglia**	**0.43**	**335**	⇑P	**Pg**	**20 52 48.6**	**-0.3**
SNTG				AML	AML		
	comp=N,2180μm,0.7s						
SNTG				AML	AML		
	comp=E,1785μm,0.7s						
EL6	**Elcito**	**0.47**	**352**	⇓P	**Pg**	**20 52 49.2**	**-0.5**
EL6				AML	AML		
	comp=N,4865μm,0.4s						
EL6				AML	AML		
	comp=E,3750μm,0.3s						
GIGS	**Gran Sasso**	**0.50**	**146**	P	**Pg**	**20 52 49.5**	**-0.7**
GIGS				AML	AML		
	comp=E,1685μm,0.2s						
GIGS				AML	AML		
	comp=N,1405μm,0.8s						
CING	**Cingoli**	**0.51**	**0**	⇑P	**Pg**	**20 52 50.0**	**-0.4**
CING				AML	AML		
	comp=N,1630μm,0.6s						
CING				AML	AML		
	comp=E,2330μm,0.3s						
CESX	**Cesi**	**0.52**	**241**	⇓P	**Pg**	**20 52 50.4**	**-0.1**
CESX				S	**Sb**	**20 52 60.0**	**+0.6**
CESX				AML	AML		
	comp=E,3250μm,0.9s						
CESX				AML	AML		
	comp=N,2920μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.52**	**309**	⇑P	**Pg**	**20 52 50.5**	**-0.1**
ATCC				AML	AML		
	comp=N,3060μm,0.8s						
ATCC				AML	AML		
	comp=E,3035μm,0.7s						
AQU	**L'Aquila**	**0.53**	**163**	S	**Sb**	**20 52 59.0**	**-0.8**
TRTR	**Tortoreto Alta**	**0.53**	**96**	⇑P	**Pb**	**20 52 51.4**	**-0.6**
TRTR				AML	AML		
	comp=E,9190μm,0.8s						
TRTR				AML	AML		
	comp=N,12900μm,0.4s						
FOSV	**Fossato di Vic**	**0.54**	**324**	⇑P	**Pg**	**20 52 50.7**	**-0.2**
FOSV				AML	AML		
	comp=E,1770μm,0.5s						
FOSV				AML	AML		
	comp=N,2200μm,1.2s						
FOSV				AML	AML		
	comp=E,1765μm,0.5s						
FOSV				AML	AML		
	comp=N,2195μm,1.2s						
FIAM	**Fiamignano**	**0.60**	**185**	⇓P	**Pg**	**20 52 51.4**	**-0.6**
FIAM				S	**Sb**	**20 53 02.0**	**+0.3**
FIAM				AML	AML		
	comp=E,2315μm,0.6s						
FIAM				AML	AML		
	comp=N,2125μm,1.1s						
FIAM				AML	AML		
	comp=N,2130μm,1.1s						
PP3	**Marolino**	**0.60**	**30**	⇑P	**Pb**	**20 52 52.4**	**-0.7**
PP3				AML	AML		
	comp=E,7200μm,0.5s						
PP3				AML	AML		
	comp=N,7960μm,0.4s						
PP3				AML	AML		
	comp=N,7765μm,0.4s						
PP3				AML	AML		
	comp=E,7195μm,0.5s						
PP3				AML	AML		
	comp=N,7760μm,0.4s						
PP3				AML	AML		
	comp=N,7955μm,0.4s						
PP3				AML	AML		
	comp=E,7275μm,0.5s						
MURB	**Monte Urbino**	**0.63**	**309**	⇓P	**Pg**	**20 52 53.0**	**+0.2**
MURB				S	**Sn**	**20 53 05.0**	**-1.0**
MURB				AML	AML		
	comp=E,4570μm,0.4s						
MURB				AML	AML		
	comp=N,4830μm,0.3s						
MURB				AML	AML		
	comp=E,5000μm,0.4s						
MURB				AML	AML		
	comp=E,4570μm,0.4s						
MURB				AML	AML		
	comp=N,4825μm,0.3s						
MURB				AML	AML		
	comp=N,4545μm,0.4s						
SSFR	**Montelago di S**	**0.65**	**332**	⇓P	**Pg**	**20 52 52.6**	**-0.4**
SSFR				AML	AML		
	comp=N,1700μm,0.3s						
SSFR				AML	AML		
	comp=E,2035μm,0.3s						
SSFR				AML	AML		
	comp=N,1685μm,0.9s						
SSFR				AML	AML		
	comp=E,2130μm,0.3s						
FAGN	**Fagnano**	**0.66**	**154**	⇓P	**Pg**	**20 52 52.0**	**-1.2**
FAGN				AML	AML		
	comp=E,4895μm,0.4s						
FAGN				AML	AML		
	comp=N,5395μm,1.6s						
VCEL	**Villa Celiera**	**0.67**	**134**	⇑P	**Pg**	**20 52 52.8**	**-0.6**
VCEL				AML	AML		
	comp=E,3465μm,1.6s						
VCEL				AML	AML		
	comp=N,4045μm,0.6s						
VCEL				AML	AML		
	comp=N,4050μm,0.6s						
ATFO	**Monte Foce - G**	**0.68**	**318**	⇓P	**Pg**	**20 52 53.4**	**-0.2**
ATFO				S	**Sb**	**20 53 05.0**	**+0.9**
ATFO				AML	AML		
	comp=E,1344μm,0.7s						
ATFO				AML	AML		
	comp=E,1345μm,0.7s						
ATFO				AML	AML		
	comp=N,1275μm,0.7s						
ATTE	**AVT- Monte Tez**	**0.70**	**299**	P	**Pg**	**20 52 53.8**	**-0.2**
ATTE				AML	AML		

comp=E,969µm,1.0s
ATTE AML AML
comp=E,968µm,1.0s
ATTE AML AML
comp=N,1065µm,1.1s
FRON Frontone 0.74 333 ⇑P **Pg 20 52 54.1 -0.6**
FRON AML AML
comp=E,879µm,0.8s
FRON AML AML
comp=N,1198µm,1.5s
AOI Ancona 0.75 23 ⇓P **Pg 20 52 54.7 -0.2**
AOI AML AML
comp=N,970µm,0.4s
AOI AML AML
comp=E,1062µm,0.4s
T0110 Collepietro 0.77 146 ⇓P **Pg 20 52 54.1 -1.2**
T0110 S **Sb 20 53 07.0 +0.3**
T0110 AML AML
comp=N,4010µm,1.2s
T0110 AML AML
comp=E,4405µm,0.6s
ATVO AVT- Monte Val 0.78 312 P **Pg 20 52 53.7 -1.7**
ATVO AML AML
comp=E,916µm,0.5s
ATVO AML AML
comp=N,930µm,0.7s
ATVO AML AML
comp=E,914µm,0.5s
ATVO AML AML
comp=N,930µm,0.7s
COR1 Corinaldo 0.78 350 P **Pb 20 52 55.9 -0.4**
MGAB Montegabbione 0.80 274 ⇓P **Pn 20 52 58.3 +0.4**
MGAB AML AML
comp=E,1750µm,0.4s
MGAB AML AML
comp=N,2285µm,1.5s
MGAB AML AML
comp=E,1745µm,1.1s
MGAB AML AML
comp=N,2645µm,0.5s
SRES S.Oreste - Sor 0.80 219 ⇑P **Pg 20 52 55.6 -0.4**
SRES AML AML
comp=E,998µm,0.3s
SRES AML AML
comp=N,974µm,1.2s
ATPI Pietralunga - 0.82 316 ⇑P **Pg 20 52 55.9 -0.5**
ATPI AML AML
comp=E,1006µm,0.6s
ATPI AML AML
comp=N,883µm,0.5s
ATMI Monte Miggiano 0.83 305 ⇓P **Pb 20 52 57.3 +0.3**
ATMI AML AML
comp=E,1795µm,0.7s
ATMI AML AML
comp=N,2240µm,0.7s
PIEI Pieia 0.83 325 P **Pg 20 52 55.7 -0.7**
PIEI S **Sn 20 53 10.0 -0.8**
PIEI AML AML
comp=N,630µm,0.5s
PIEI AML AML
comp=E,678µm,0.9s
MPAG Monte Paganucc 0.83 338 ⇑P **Pg 20 52 56.3 -0.1**
MPAG AML AML
comp=N,985µm,0.5s
MPAG AML AML
comp=E,944µm,0.9s
PTQR Pietraquaria 0.85 170 ⇓P **Pg 20 52 55.4 -1.5**
PTQR AML AML
comp=E,480µm,0.9s
PTQR AML AML
comp=N,522µm,1.6s
NARO Abbazia di Nar 0.87 329 ⇓P **Pg 20 52 56.5 -0.8**
NARO AML AML
comp=E,569µm,0.8s
NARO AML AML
comp=N,682µm,0.5s
FSSB Fossombrone 0.88 340 ⇓P **Pg 20 52 57.1 -0.4**
FSSB AML AML
comp=N,3195µm,0.4s
FSSB AML AML
comp=E,2415µm,0.5s
MTCE Montecelio 0.90 202 ⇑P **Pb 20 52 58.7 +0.4**
MTCE AML AML
comp=E,938µm,0.3s
MTCE AML AML
comp=N,714µm,1.0s
CERT Cerreto 0.93 190 ⇓P **Pg 20 52 58.2 -0.1**
CERT AML AML
comp=N,1048µm,1.5s
CERT AML AML
comp=E,1405µm,0.4s
BADI Badiali 0.95 313 ⇓P **Pg 20 52 59.0 +0.3**
PE3 Peglio 0.98 329 ⇓P **Pg 20 52 59.2 0.0**
PE3 AML AML
comp=E,9µm,0.1s
PE3 AML AML
comp=N,9µm,0.1s
INTR Introdacqua 1.00 148 ⇓P **Pg 20 52 57.8 -1.9**
INTR AML AML
comp=E,842nm,0.8s
INTR AML AML
comp=N,1µm,0.6s
INTR AML AML
comp=N,1µm,0.6s
INTR AML AML
comp=N,2055µm,0.6s
INTR AML AML
comp=E,841µm,0.9s
INTR AML AML
comp=E,842nm,0.9s
CAFI Castiglion Fio 1.01 298 ⇓P **Pg 20 52 59.6 -0.4**
CAFI AML AML
comp=N,508µm,0.6s
CAFI AML AML
comp=E,612µm,0.8s
SSP9 Sansepolcro 1.05 313 ⇓P **Pn 20 53 02.1 +0.7**
GUAR Guarcino 1.07 175 P **Pg 20 53 00.6 -0.4**
GUAR AML AML
comp=E,931µm,0.8s
GUAR AML AML
comp=N,1070µm,0.6s
LPEL Lama dei Pelig 1.10 138 ⇓P **Pg 20 53 00.8 -0.7**
LPEL AML AML
comp=E,1200µm,0.3s
LPEL AML AML
comp=N,1020µm,0.9s
RMP Rome, Mte Porz 1.11 199 ⇑P **Pn 20 53 02.7 +0.5**
RMP AML AML
comp=E,893µm,1.3s
RMP AML AML
comp=N,1180µm,1.3s
VIVA Pratoni del Vi 1.16 196 ⇓P **Pb 20 53 02.7 +0.1**
VIVA AML AML
comp=N,1890µm,0.8s
VIVA AML AML
comp=E,2665µm,0.3s
SF01 Poggio Pratacc 1.20 268 P **Pg 20 53 04.6 +1.1**
GIUL Giuliano Di Ro 1.30 178 ⇑P **Pg 20 53 05.6 +0.1**
GIUL AML AML
comp=E,308µm,0.5s
GIUL AML AML
comp=N,557µm,0.6s
CERA Filignano 1.41 154 ⇑P **Pg 20 53 08.0 +0.6**
MIDA Miranda 1.45 147 ⇑P **Pg 20 53 08.4 +0.1**
SKDS Skadanscina 2.75 12 *i* Pn **Pn 20 53 24.5 -0.3**
SKDS *i* Sn **Sn 20 53 57.2 -0.8**
A050A Klekovaca 2.91 55 *e*Pn **Pn 20 53 27.6 +0.5**
CEY Cerknica 3.01 17 *e*Pn **Pn 20 53 28.2 -0.1**
PGF Pioggiola 3.11 266 *e*P **Pn 20 53 30.3 +0.5**
PGF *e*Sn **Sn 20 54 02.5 -4.6**
comp=N,19nm,0.9s
SRKY Kupres RS 3.13 66 *e*Pn **Pn 20 53 30.3 +0.2**
MGRS Mrkonjic Grad 3.22 60 *e*Pn **Pn 20 53 32.8 +1.5**
STON Ston 3.31 88 *e*Pn **Pn 20 53 31.7 -0.7**
STON Ston 3.31 88 *e*Pn **Pn 20 53 31.7 -0.7**
STON *e*Sn **Sn 20 54 11.2 -0.7**
A051A Mrakovica 3.44 50 *e*Pn **Pn 20 53 35.5 +1.3**
BLY Banja Luka 3.45 56 *e*Pn **Pn 20 53 37.5 +3.2**
OBKA Obir 3.77 14 *e*Pn **Pn 20 53 39.0 +0.1**
TREB Trebinje 3.80 90 *e*Pn **Pn 20 53 38.9 -0.2**
ABTA Abfaltersbach 3.91 353 *e*Pn **Pn 20 53 42.0 +1.2**
comp=N,14nm,0.4s,SNR=31
ABTA *e*Sn **Sb 20 54 32.1 -5.0**
comp=N,15nm,0.5s
SOKA Soboth 4.03 18 *e*Pn **Pn 20 53 45.4 +2.9**
comp=N,0.7nm,0.2s
SBF Sospel 4.32 285 *e*P **Pn 20 53 47.6 +1.3**
SBF *e*Sn **Sn 20 54 31.4 -5.4**
comp=N,6.9nm,0.5s
DRME Dracevica, Mon 4.48 97 *e*Pn **Pn 20 53 49.1 +0.6**
FETA Feichten 4.51 338 *e*Pn **Pn 20 53 51.7 +2.6**
comp=N,2.2nm,0.3s
FETA *i* Sn **Sn 20 54 45.5 +3.8**
comp=N,3.8nm,0.7s
WTTA Wattenberg 4.54 346 *i* Pn **Pn 20 53 52.1 +2.7**
comp=N,2.0nm,0.2s
WTTA *i* Sn **Sn 20 54 46.0 +3.6**
comp=N,11nm,0.5s
RUDO Rudo 4.58 78 *e*Pn **Pn 20 53 49.1 -0.7**
SQTA Sankt Quirin 4.58 343 *e*Pn **Pn 20 53 53.0 +3.0**
comp=N,8.6nm,0.4s,SNR=13
SQTA *i* Sn **Sn 20 54 47.6 +4.2**
comp=N,9.4nm,0.4s
WATA Walderalm 4.62 346 *i* Pn **Pn 20 53 54.0 +3.5**
comp=N,6.2nm,0.4s,SNR=9.5
WATA *e*Sn **Sn 20 54 48.6 +4.3**
comp=N,6.4nm,0.4s
BBLS Lazići 4.64 75 *e*Pn **Pn 20 53 52.6 +1.8**
ARSA Arzberg 4.69 20 *e*Pn **Pn 20 53 55.9 +4.5**
comp=N,2.6nm,0.5s
ARSA *e*Sn **Sn 20 54 45.1 -0.8**
comp=N,3.0nm,0.4s
MOTA Moosalm 4.72 342 *i* Pn **Pn 20 53 54.3 +2.3**
comp=N,2.2nm,0.3s
MOTA *i* Sn **Sn 20 54 49.4 +2.6**
comp=N,5.1nm,0.6s
BIOA Bad Ischl, Aus 4.84 4 *i* Pn **Pn 20 53 56.4 +2.9**
comp=N,4.5nm,0.3s
BIOA *e*Sn **Sn 20 54 52.4 +2.8**
comp=N,16nm,0.8s
LMR La Mourre 4.92 278 *e*P **Pn 20 53 54.5 0.0**
LMR *e*Sn **Sn 20 54 45.6 -5.9**
comp=N,0.5nm,0.3s
RETA Reutte 4.93 340 *e*Pn **Pn 20 53 57.9 +3.1**
comp=N,1.6nm,0.3s
RETA *e*Sn **Sn 20 54 55.5 +3.5**
comp=N,5.5nm,0.5s
SJES Sjenica 4.98 83 *e*Pn **Pn 20 53 56.7 +1.2**
SJES *e*Sn **Sn 20 54 53.2 -0.1**
DAVA Damuels 5.01 333 *e*Pn **Pn 20 54 00.2 +4.3**
comp=N,3.4nm,0.4s
MBDF Montbardon 5.01 294 *e*P **Pn 20 53 57.5 +1.6**
MBDF *e*Sn **Sn 20 54 48.0 -6.0**
comp=N,5.5nm,0.7s
MOA Molln 5.04 8 *e*Pn **Pn 20 53 59.8 +3.5**
MOA *e*Sn **Sn 20 54 56.3 +1.6**
DIVS Divibare 5.10 74 *e*Pn **Pn 20 53 59.7 +2.6**
IVAS Ivanjica 5.13 80 *e*Pn **Pn 20 53 58.7 +1.1**
IVAS *e*Sn **Sn 20 54 56.2 -0.8**
LPG La Plagne 5.33 302 *e*P **Pn 20 54 02.4 +1.9**
LPG *e*Sn **Sn 20 54 55.8 -6.3**
comp=N,1.7nm,0.4s
LPL La Plagne 5.35 302 *e*P **Pn 20 54 02.4 +1.7**
LPL *e*Sn **Sn 20 54 56.4 -6.1**
comp=N,2.5nm,0.4s
CONA Conrad Observa 5.40 19 *e*Pn **Pn 20 54 02.6 +1.3**
comp=N,0.6nm,0.2s
CONA *i* Sn **Sn 20 55 03.3 -0.3**
comp=N,3.1nm,0.4s
GRUS Gruza 5.58 77 *e*Pn **Pn 20 54 03.8 +0.2**
SMRF Simiane la Rot 5.66 284 *e*P **Pn 20 54 06.5 +1.7**
SMRF *e*Sn **Sn 20 55 03.4 -6.5**
comp=N,0.4nm,0.3s
ORIF Oris-en-Rattie 5.67 294 *e*P **Pn 20 54 06.8 +1.8**
ORIF *e*Sn **Sn 20 55 03.7 -6.5**
comp=N,2.5nm,0.6s
SELS Selova 5.82 84 *e*Pn **Pn 20 54 07.2 +0.3**
GERES GERESS Array B 5.99 3 Pn **Pn 20 54 09.4 0.0**
comp=N,0.4nm,0.3s,baz=178,slow=14,SNR=7.9
GERES Sn **Sn 20 55 17.2 -1.0**
comp=N,0.8nm,0.3s,baz=182,slow=25,SNR=6.2
comp=N,0.6nm,0.4s
CKRC Cesky Krumlov 6.01 7 *e*PN **Pn 20 54 09.0 -0.5**
CKRC *e*SN **Sn 20 55 16.5 -1.9**
KHC Kasperske Hory 6.28 2 *e*PN **Pn 20 54 13.5 +0.3**
KHC *e*SN **Sn 20 55 23.5 -1.5**
CABF La Chapelle 6.30 309 *e*P **Pn 20 54 15.4 +1.8**
CABF *e*Sn **Sn 20 55 18.6 -7.0**
comp=N,2.2nm,0.5s
BARS Barje 6.34 87 *e*Pn **Pn 20 54 14.8 +0.7**
BARS *e*Sn **Sn 20 55 25.7 -0.9**
ZAGS Zajecar 6.66 79 *e*Pn **Pn 20 54 18.3 -0.1**
HINF Hinteralfeld 6.67 320 *e*P **Pn 20 54 20.1 +1.5**
HINF *e*Sn **Sn 20 55 27.4 -7.3**
comp=N,5.6nm,0.5s
BOSS Bosilegrad 6.85 90 *e*Pn **Pn 20 54 21.1 0.0**
BOSS *e*Sn **Sn 20 55 36.8 -2.5**
ZAPS Zavoj 6.93 83 *e*Pn **Pn 20 54 22.6 +0.4**
ZAPS *e*Sn **Sn 20 55 38.6 -2.5**
CDF Champ du Feu 6.93 325 *e*P **Pn 20 54 24.2 +2.0**
CDF *e*Sn **Sn 20 55 33.6 -7.5**
comp=N,3.5nm,0.6s
HAU Haudompre 7.04 319 *e*P **Pn 20 54 25.9 +2.2**
HAU *e*Sn **Sn 20 55 36.3 -7.6**
comp=N,5.2nm,0.5s
KEST Kesra 7.72 204 Pn **Pn 20 54 34.8 +1.6**
comp=N,0.1nm,0.3s,baz=14,slow=17,SNR=1.9
comp=N,3.7nm,1.1s
PAGF Fort de Pagny 7.73 320 *e*P **Pn 20 54 35.6 +2.5**
PAGF *e*Sn **Sn 20 55 52.7 -8.0**
comp=N,6.1nm,0.7s
SFTF Sexfontaines 7.83 316 *e*Pn **Pn 20 54 33.1 -1.4**
LOR Lormes 7.94 307 *e*P **Pn 20 54 38.6 +2.6**
baz=122
LOR *e*Sn **Sn 20 55 58.0 -7.9**
comp=N,3.3nm,0.5s
MEZF Maizieres J'vi 8.02 318 *e*Pn **Pn 20 54 34.4 -2.6**
AVF Avril sur Loir 8.02 303 *e*P **Pn 20 54 39.3 +2.2**
AVF *e*Sn **Sn 20 55 59.7 -8.2**
comp=N,0.3nm,0.3s
SSF Saint Saulge 8.05 305 *e*P **Pn 20 54 39.7 +2.2**
BRTR Keskin Array B 15.68 95 LR LR 21 03 37.4
comp=N,21nm,20.7s,baz=197,slow=42
TORD Torodi Ar. Bea 31.23 202 P **P 20 59 01.6 +1.3**
comp=N,0.5nm,0.8s,baz=22,slow=9.3,SNR=2.6
comp=N,0.5nm,0.8s
MKAR Makanchi Array 47.72 60 P **P 21 01 19.5 +2.0**
comp=N,0.3nm,0.6s,baz=297,slow=8.8,SNR=2.5
comp=N,0.3nm,0.6s

*IDC **06** 21:01:36.5±10.0, 23°.93S×66°.83W, h189km±45km, mb3.1/1, mbtmp3.4/3, Error ellipse: s-maj=197.3km s-min=32.2km az=47.0*
*GUC **06** 21:01:39.5±0.6, 23°.71S×67°.23W, h243km±9km, ML4.1*
ISC 06 21:01:40.1±1.5, 23°.66S±0°.07×67°.2W±0°.2, h230km±17km, n15, σ0°69/25, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LVC	**Limon Verde**	**1.88**	**303**	⇓*i*P		**Pn**		**21 02 20.2**	**-0.1**
LVC				*i* S		**S**		**21 02 51.5**	**-0.1**
PB15	**IPOC Station P**	**2.13**	**282**	⇑*e*P		**Pn**		**21 02 22.8**	**+0.3**
PB15				*i* S		**S**		**21 02 56.0**	**+0.5**
PB06	**IPOC Station P**	**2.38**	**293**	⇓*i*P		**Pn**		**21 02 25.5**	**+0.7**
PB06				*i* S		**S**		**21 02 59.9**	**0.0**
PB06				IAML				21 03 02.0	
comp=N,271nm,0.4s									
PB09	**IPOC Station P**	**2.64**	**314**	⇑*e*P		**Pn**		**21 02 28.4**	**+0.7**
PB09				*i* S		**S**		**21 03 05.3**	**+0.4**
GO02	**Mina Guanaco**	**2.64**	**235**	*e*P		**Pn**		**21 02 27.7**	**0.0**
GO02				*i* S		**S**		**21 03 04.8**	**-0.3**
GO02				IAML				21 03 06.6	
comp=N,486nm,0.1s									
PB04	**IPOC Station P**	**3.02**	**295**	⇓*i*P		**Pn**		**21 02 32.6**	**+0.8**
PB04				*i* S		**S**		**21 03 11.4**	**-0.9**
PB10	**IPOC Station P**	**3.08**	**272**	*i* P		**Pn**		**21 02 33.4**	**+1.1**
PB10				*i* S		**S**		**21 03 12.6**	**-0.6**
PB14	**IPOC Station P**	**3.08**	**251**	*e*P		**Pn**		**21 02 32.7**	**+0.2**
PB14				*i* S		**S**		**21 03 13.1**	**-0.6**
PB07	**IPOC Station P**	**3.13**	**307**	⇓*i*P		**Pn**		**21 02 33.7**	**+0.6**
PB07				*i* S		**S**		**21 03 13.8**	**-0.9**
PB01	**IPOC Station P**	**3.35**	**320**	*e*P		**Pn**		**21 02 35.9**	**+0.3**
PB01				*i* S		**S**		**21 03 18.3**	**-0.8**
PB02	**IPOC Station P**	**3.41**	**313**	*e*P		**Pn**		**21 02 36.6**	**+0.4**
PB02				*i* S		**S**		**21 03 18.6**	**-1.6**
LPAZ	**La Paz**	**7.38**	**353**	P		**Pn**		**21 03 26.5**	**+0.4**
comp=N,0.4nm,0.4s,baz=165,slow=12,SNR=1.8									
CPUP	**Villa Florida**	**9.35**	**109**	P		Pn		21 03 42.0	-8.6
comp=N,2.0nm,0.7s,baz=299,slow=10,SNR=2.3									
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P		**P**		**21 13 05.6**	**-0.3**
comp=N,0.2nm,0.4s,baz=255,slow=5.7,SNR=4.1									
comp=N,0.2nm,0.4s									
MKAR	**Makanchi Array**	**146.38**	**39**	PKPbc		**PKPbc**		**21 20 54.2**	**+0.4**
comp=N,0.5nm,0.6s,baz=313,slow=2.6,SNR=5.2									

*IDC **06** 21:10:36.0±1.2, 34°.42N×141°.67E, h0km, mb3.7/7, mbtmp3.7/10, ML3.1/3, MS2.4/2, Error ellipse: s-maj=26.5km s-min=17.9km az=80.0*
*JMA **06** 21:10:37.6±0.6, 34°.N±2°×14°.2E±°, h27km±2km, MV2.8/21, FAR SE OFF BOSO PEN*
ISC 06 21:10:39.7±0.9, 34°.36N±0°.05×141°.60E±0°.09, h27km, n23, σ1°01/20, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**0.59**	**300**	*e*P		**Pb**		**21 10 50.6**	**-0.5**
BSO1				*e*X				21 10 59.6	
BSO3	**Boso 3**	**1.00**	**297**	*e*P		**Pb**		**21 10 57.4**	**-0.7**
BSO4	**Boso 4**	**1.21**	**302**	*e*P		**Pb**		**21 11 01.3**	**-0.6**
JKUC	**kamogawauchiur**	**1.40**	**305**	*e*P		**Pn**		**21 11 03.5**	**0.0**
JKUC				*e*S		**Sb**		**21 11 22.0**	**-0.6**
CHOJ	**Chosi**	**1.47**	**336**	*e*P		**Pn**		**21 11 03.1**	**-1.3**
CHOJ				*e*S		**Sn**		**21 11 21.0**	**-1.8**
JHJ	**Hachijo jima 2**	**1.95**	**231**	Pn		**Pb**		**21 11 13.1**	**-1.4**
	15nm,0.3s,baz=328,slow=23,SNR=7.1								
JHJ				Sn		**Sb**		**21 11 39.1**	**+0.7**
	36nm,0.3s,baz=259,slow=23,SNR=6.2								
	89nm,0.6s								
MJAR	**Matsushiro Arr**	**3.52**	**309**	Pn		**Pn**		**21 11 32.5**	**-0.1**
	0.3nm,0.3s,baz=164,slow=15,SNR=11								
MJAR				Sn		**Sn**		**21 12 15.1**	**+1.7**
	0.2nm,0.3s,baz=199,slow=16,SNR=5.1								
MJAR				LR		LR		21 13 29.4	
	comp=Z,42nm,18.5s,baz=78,slow=49								
	2.5nm,0.5s								
JCJ	**Chichijima**	**7.26**	**176**	Pn		**Pn**		**21 12 23.0**	**-1.0**
	1.7nm,0.3s,baz=280,slow=21,SNR=2.0								
JCJ				Sn		**Sn**		**21 13 44.8**	**-0.8**
	1.8nm,0.3s,baz=255,slow=24,SNR=1.9								
	6.9nm,0.4s								
KSRS	**Korea Array**	**11.51**	**289**	LR		LR		21 17 49.6	
	comp=Z,18nm,18.9s,baz=100,slow=38								
H11N2	**WAKE ISLAND Hy**	**26.74**	**117**	T		T		21 44 24.6	
	baz=309,slow=74								
H11N1	**WAKE ISLAND Hy**	**26.74**	**117**	T		T		21 44 28.8	
	baz=309,slow=74								
H11N3	**WAKE ISLAND Hy**	**26.75**	**117**	T		T		21 44 23.0	
	baz=309								
H11S3	**WAKE ISLAND Hy**	**27.36**	**119**	T		T		21 45 11.6	
	baz=312								
H11S1	**WAKE ISLAND Hy**	**27.36**	**119**	T		T		21 45 15.3	
	baz=312								
H11S2	**WAKE ISLAND Hy**	**27.38**	**119**	T		T		21 45 16.9	
	baz=312								
CMAR	**Chiang Mai Arr**	**41.03**	**258**	P		**P**		**21 18 21.6**	**+0.8**
	0.6nm,0.5s,baz=46,slow=8.2,SNR=1.4								
	0.6nm,0.5s								
ZALV	**Zalesovo Beam**	**43.86**	**314**	P		**P**		**21 18 43.6**	**+0.2**
	0.7nm,0.3s,baz=96,slow=8.9,SNR=2.3								
	0.7nm,0.3s								
MKAR	**Makanchi Array**	**45.71**	**304**	P		**P**		**21 18 58.6**	**+0.3**
	0.5nm,0.6s,baz=89,slow=9.8,SNR=5.6								
	0.5nm,0.6s								
KURBB	**Kurchatov Arra**	**47.80**	**310**	P		**P**		**21 19 13.6**	**-1.0**
	0.8nm,0.2s,baz=84,slow=8.5,SNR=7.9								
	0.8nm,0.2s								
ILAR	**Eielson Array**	**51.69**	**31**	P		**P**		**21 19 45.1**	**+1.1**
	0.3nm,0.8s,baz=291,slow=7.6,SNR=2.4								
	0.3nm,0.8s								
LEM	**Lembang**	**52.06**	**225**	LR		LR		21 42 24.3	
	comp=Z,101nm,18.0s,baz=150,slow=37								
WRA	**Warramunga Arr**	**54.44**	**188**	P		**P**		**21 20 05.0**	**+0.4**
	0.6nm,0.7s,baz=2.2,slow=7.5,SNR=12								
	0.6nm,0.7s								
ASAR	**Alice Springs**	**58.17**	**188**	P		**P**		**21 20 32.1**	**+0.9**
	0.3nm,0.7s,baz=12,slow=9.5,SNR=4.3								
	0.3nm,0.7s								

*IDC **06** 21:22:00.6±0.6, 13°.08N×145°.69E, h0km, mb4.4/20, mbtmp4.3/21, ML3.9/1, MS3.7/26, Error ellipse: s-maj=17.3km s-min=13.3km az=77.0*
*BJI **06** 21:22:01.6±0.0, 13°.07N×145°.36E, h9km, mb4.4/23, mB4.8/13, Ms4.2/4, Ms7 4.1/5*
*DJA **06** 21:22:05.0±2.4, 13°.N±8°×14°.6E±1°.1, h34km±18km, M4.7/9, mB6.2/2, mb4.9/9, MLv4.5/1, Mw(mB)5.8/2*
*NEIC **06** 21:22:07.6±1.1, 13°.07N±0°.09×145°.46E±0°.08, h39km±7km, mb4.7/82, Error ellipse: s-maj=12.7km s-min=11.5km az=167.0*
ISC 06 21:22:06.9±0.4, 13°.01N±0°.06×145°.52E±0°.08, h43km, n160, σ1°04/140, mb4.6/68, MS3.9/28, 4C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GUMO	**Guam**	**0.86**	**312**	Pn		**Pn**		**21 22 22.3**	**-0.3**
	1µm,0.3s,baz=155,slow=9.6,SNR=156								
GUMO				Sn		**Sn**		**21 22 37.5**	**+3.4**
	2µm,0.3s,baz=331,slow=19,SNR=11								
GUMO	**Guam**	**0.86**	**312**			**Pn**		**21 22 21.9**	**-0.7**
PATS	**Pohnpei**	**14.01**	**115**	Pn		Pn		21 25 17.4	-5.5
KRVT	**Keravat (AS076**	**18.38**	**159**	LR		LR		21 33 30.0	
	comp=Z,130nm,19.5s,baz=129,slow=38								
SIJI	**Sorong**	**19.75**	**227**	P		**Pn**		**21 26 34.6**	**-0.5**
	0.4nm,0.3s,baz=18,slow=13,SNR=1.8								
SIJI				LR		LR		21 35 41.2	
	comp=Z,183nm,18.1s,baz=44,slow=41								
	2.7nm,0.5s								
DAV	**Davao City (W)**	**20.50**	**255**	LR		LR		21 34 30.8	
	comp=Z,99nm,21.0s,baz=78,slow=36								
FAKI	**Fak Fak**	**20.59**	**221**	P		**P**		**21 26 40.9**	**-1.6**
FAKI				IAmb		IAmb		21 26 48.1	
	comp=Z,48nm,1.0s								
FAKI	**Fak Fak**	**20.59**	**221**	P		Pn		21 26 44.9	-0.2
	comp=Z,56nm,1.2s								
H11S3	**WAKE ISLAND Hy**	**21.08**	**72**	T		T		21 49 24.3	
	baz=253,slow=74								
H11S1	**WAKE ISLAND Hy**	**21.09**	**72**	T		T		21 49 23.6	
	baz=253								
H11S2	**WAKE ISLAND Hy**	**21.10**	**72**	T		T		21 49 11.7	
	baz=253,slow=74								
JOW	**Kunigami**	**21.23**	**313**	LR		LR		21 33 24.1	
	comp=Z,214nm,21.7s,baz=310,slow=32								
H11N1	**WAKE ISLAND Hy**	**21.55**	**69**	T		T		21 49 56.1	
	baz=258,slow=72,SNR=7.1								
H11N2	**WAKE ISLAND Hy**	**21.56**	**69**	T		T		21 49 59.6	
	baz=258,slow=72,SNR=2.5								
H11N3	**WAKE ISLAND Hy**	**21.57**	**69**	T		T		21 50 01.8	
	baz=258,slow=72,SNR=8.9								
INU	**Inuyama**	**23.53**	**342**	P		**P**		**21 27 12.6**	**-0.7**
INU				IAmb		IAmb		21 27 14.1	
	comp=Z,53nm,1.5s								
JGF	**Kuroka**	**23.67**	**343**	P		**P**		**21 27 13.3**	**-1.3**
MJAR	**Matsushiro Arr**	**24.34**	**346**	P		**P**		**21 27 18.5**	**-2.3**
	comp=Z,2.6nm,0.6s,baz=176,slow=9.5,SNR=6.9								
MJAR				LR		LR		21 36 23.8	
	comp=Z,188nm,18.5s,baz=152,slow=36								
	comp=Z,2.6nm,0.6s								
MAJO	**Matsushiro**	**24.34**	**346**	P		**P**		**21 27 18.7**	**-2.0**
MAJO				IAmb		IAmb		21 27 21.4	
	comp=Z,11nm,0.7s								
JHS	**Saijyo**	**24.61**	**335**	P		**P**		**21 27 23.1**	**-0.1**
KMSI	**Cibinong**	**24.66**	**242**	P		**P**		**21 27 26.1**	**+2.2**
	comp=Z,4µmcomp=Z,64nm,0.9s								
JMM	**Marumori**	**25.11**	**351**	P		**P**		**21 27 27.9**	**+0.1**
JMM				IAmb		IAmb		21 27 27.9	
	comp=Z,22nm,1.0s								
YULB	**Yu-li**	**25.18**	**298**	P		**P**		**21 27 27.6**	**-1.0**
YULB				IAmb		IAmb		21 27 48.4	
	comp=Z,28nm,1.2s								
SSLB	**Suanglung**	**25.62**	**298**	P		**P**		**21 27 31.1**	**-1.4**
SSLB				IAmb		IAmb		21 27 34.8	
	comp=Z,17nm,1.0s								
JSD	**Sado**	**25.75**	**347**	P		**P**		**21 27 32.0**	**-1.5**
JSD				IAmb		IAmb		21 27 39.4	
	comp=Z,26nm,1.4s								
HNR	**Honiara**	**26.50**	**147**	LR		LR		21 38 04.7	
	comp=Z,3µm,19.3s,baz=339,slow=36								
COEN	**Coen**	**26.89**	**185**	P		**P**		**21 27 44.2**	**+0.2**
COEN				IAmb		IAmb		21 27 49.4	
	comp=Z,30nm,1.2s								
MYLDM	**Lahad Datu**	**27.77**	**256**	P		**P**		**21 27 51.1**	**-0.9**
MYLDM				IAmb		IAmb		21 28 02.0	
	comp=Z,22nm,1.1s								
KSRS	**Korea Array**	**28.98**	**330**	P		**P**		**21 28 01.7**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=149,slow=9.0,SNR=3.9								

KSRS PcP **PcP** **21 31 10.2 -0.3**
comp=Z,1.3nm,0.9s,baz=156,slow=3.2,SNR=6.3
comp=Z,1.6nm,0.6s
KS19 Wonju Array Si 29.05 330 P **P** **21 28 01.2 -1.9**
MTN Manton Dam 29.38 210 P **P** **21 28 06.4 +0.2**
MTN IAmb IAmb 21 28 14.0
comp=Z,17nm,1.1s
NJ2 Nanjing 30.94 312 *e*P **P** **21 28 18.1 -1.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
BATI Baumata 31.67 224 LR LR 21 42 54.9
comp=Z,175nm,18.8s,baz=236,slow=39
KNRA Kununurra 32.97 211 P **P** **21 28 38.3 +0.5**
USRK Ussuriysk Ar. 33.18 342 P **P** **21 28 38.0 -1.4**
comp=Z,2.3nm,0.8s,baz=120,slow=6.3,SNR=2.3
comp=Z,2.3nm,0.8s
WB0 Warramunga Arr 34.36 199 P **P** **21 28 50.2 +0.3**
WB0 IAmb IAmb 21 28 50.9
comp=Z,5.4nm,0.8s
WR0 Warramunga Arr 34.50 198 P **P** **21 28 51.5 +0.3**
WR0 IAmb IAmb 21 28 52.5
comp=Z,7.4nm,0.8s
WRA Warramunga Arr 34.54 199 P **P** **21 28 51.3 -0.2**
comp=Z,4.8nm,0.6s,baz=22,slow=9.8,SNR=80
WRA PcP **PcP** **21 31 27.2 +1.4**
comp=Z,0.5nm,0.7s,baz=26,slow=3.3,SNR=2.3
comp=Z,4.8nm,0.6s
WRA Warramunga Arr 34.54 199 P **P** **21 28 51.0 -0.5**
SBUM Sibu 34.58 255 P **P** **21 28 51.9 0.0**
QIZ Qiongzhong 34.77 285 P **P** **21 28 55.4 +1.9**
QIZ S **S** **21 34 21.3 0.0**
QIZ pmax pmax
comp=Z,150nm,6.8s
QIZ LR LR
comp=Z,130nm,20.7s
QIZ LR LR
comp=Z,160nm,20.7s
QIZ LR LR
comp=Z,220nm,18.3s
FITZ Fitzroy Crossi 36.61 213 P **P** **21 29 10.2 +1.0**
AS31 Alice Springs 38.18 197 P **P** **21 29 23.4 +0.8**
ASAR Alice Springs 38.18 197 P **P** **21 29 22.9 +0.4**
comp=Z,3.5nm,0.7s,baz=23,slow=9.8,SNR=44
comp=Z,3.5nm,0.7s
HHC Hu-ho-hao-te 40.62 319 *e*P **P** **21 29 45.0 +2.1**
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,84nm,6.7s
HHC LR LR
comp=Z,160nm,15.9s
HHC LR LR
comp=Z,140nm,16.5s
HHC LR LR
comp=Z,260nm,15.9s
PEA0B Petropavlovsk- 41.16 11 P **P** **21 29 46.5 -0.4**
PEA0B IAmb IAmb 21 29 58.5
comp=Z,17nm,1.1s
PETK Petropavlovsk- 41.16 11 P **P** **21 29 46.0 -1.0**
comp=Z,3.1nm,0.9s,baz=142,slow=7.7,SNR=6.4
PETK PcP **PcP** **21 31 45.5 -0.1**
comp=Z,2.1nm,0.8s,baz=177,slow=2.9,SNR=2.7
comp=Z,3.1nm,0.9s
KMI Kunming 42.02 293 ⇑P **P** **21 29 50.9 -3.8**
KMI pmax pmax
comp=Z,7.0nm,1.1s
MBWA Marble Bar 42.37 217 P **P** **21 29 57.9 +0.7**
MBWA IAmb IAmb 21 30 24.8
comp=Z,17nm,1.2s
PSA00 Pilbara Seismi 42.62 217 P **P** **21 29 59.6 +0.4**
PZH PanZhiHua 43.12 295 P **P** **21 30 03.9 +0.4**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,50nm,5.2s
CRAI Chiangrai 43.75 286 P **P** **21 30 08.2 -0.3**
STKA Stephens Creek 44.79 185 P **P** **21 30 15.7 -0.8**
comp=Z,1.3nm,0.7s,baz=337,slow=15,SNR=2.0
comp=Z,1.3nm,0.7s
LWLI Liwa 44.91 249 P **P** **21 30 17.9 -0.1**
comp=Z,3μmcomp=Z,57nm,0.8s
CMAR Chiang Mai Arr 45.07 283 P **P** **21 30 19.6 +0.6**
comp=Z,3.1nm,0.6s,baz=83,slow=6.5,SNR=24
CMAR PcP **PcP** **21 31 59.6 +0.2**
comp=Z,0.8nm,0.4s,baz=101,slow=1.8,SNR=5.7
CMAR LR LR 21 50 48.6
comp=Z,43nm,18.3s,baz=125,slow=38
comp=Z,3.1nm,0.6s
CMAR Chiang Mai Arr 45.07 283 P **P** **21 30 19.5 +0.4**
MNAI Manna 45.66 251 P **P** **21 30 23.7 -0.1**
BBOO Buckleboo 46.45 191 P **P** **21 30 30.4 +0.7**
BBOO IAmb IAmb 21 31 12.3
comp=Z,12nm,1.1s
AMKA Amchitka 47.00 28 P **P** **21 30 34.5 +0.7**
SONM Songino Array 47.57 325 P **P** **21 30 38.0 -0.4**
comp=Z,1.2nm,0.7s,baz=137,slow=7.4,SNR=5.0
SONM PcP **PcP** **21 32 09.1 +1.3**
comp=Z,1.4nm,0.6s,baz=153,slow=3.6,SNR=6.1
comp=Z,1.2nm,0.7s
SONM Songino Array 47.57 325 P **P** **21 30 38.7 +0.3**
ADK Adak 49.24 30 P **P** **21 30 51.5 +0.5**
MORW Morawa 50.61 214 P **P** **21 31 01.9 +0.2**
GOMU GeErMu 50.89 306 P **P** **21 31 02.2 -2.1**
GOMU pP pP 21 31 05.6 -10
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,68nm,8.8s
WMQ Urumqi 58.00 314 *e*P **P** **21 32 00.0 +4.5**
WMQ pmax pmax
comp=Z,40nm,1.3s
WMQ LR LR
comp=Z,120nm,19.3s
MK31 Makanchi Array 62.35 316 P **P** **21 32 25.4 +0.2**
MKAR Makanchi Array 62.35 316 P **P** **21 32 25.4 +0.2**
comp=Z,2.0nm,0.4s,baz=90,slow=8.4,SNR=45
MKAR PcP **PcP** **21 33 05.5 +1.0**
comp=Z,1.4nm,0.8s,baz=82,slow=6.3,SNR=4.6
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 62.35 316 P **P** **21 32 25.1 -0.1**
ZALV Zalesovo Beam 62.46 324 P **P** **21 32 25.4 -0.3**
comp=Z,0.9nm,0.5s,baz=121,slow=5.7,SNR=5.0
ZALV PcP **PcP** **21 33 05.1 +0.4**
comp=Z,2.5nm,0.5s,baz=122,slow=4.3,SNR=8.5
ZALV LR LR 22 00 26.0
comp=Z,49nm,18.7s,baz=84,slow=37
comp=Z,0.9nm,0.5s
ZALV Zalesovo Beam 62.46 324 P **P** **21 32 25.0 -0.8**
MAKZ Makanchi 62.56 316 P **P** **21 32 26.4 -0.2**
MAKZ IAmb IAmb 21 32 28.2
comp=Z,3.7nm,0.5s
RAR Rarotonga 63.58 122 LR LR 21 55 34.8
comp=Z,85nm,21.8s,baz=302,slow=32
SVW2 Sparrevohn 63.89 28 P **P** **21 32 36.1 +1.0**
SVW2 IAmb IAmb 21 32 51.8
comp=Z,8.6nm,1.3s
PALK Pallekele 63.93 272 LR LR 21 59 27.0
comp=Z,29nm,20.6s,baz=229,slow=35
KDAK Kodiak Island 64.22 32 LR LR 22 02 22.6
comp=Z,46nm,18.5s,baz=264,slow=38
N19K Bonanza Creek 64.29 28 P **P** **21 32 38.9 +1.1**
L19K White Mountain 64.61 27 P **P** **21 32 41.1 +1.2**
L19K IAmb IAmb 21 33 06.9
comp=Z,11nm,1.4s
M19K Big River Lodg 64.72 27 P **P** **21 32 41.6 +1.1**
M19K IAmb IAmb 21 33 15.8
comp=Z,9.0nm,1.4s
K20K Telida 65.38 26 P **P** **21 32 45.8 +1.0**
K20K IAmb IAmb 21 33 06.8
comp=Z,6.2nm,0.9s
CNPM China Poot 65.41 30 P **P** **21 32 44.6 -0.4**
KURK Kurchatov 65.44 320 P **P** **21 32 45.3 -0.1**
KURBB Kurchatov Arra 65.48 320 LR LR 22 01 37.9
comp=Z,107nm,20.9s,baz=98,slow=36
J20K Nowinta River 65.65 25 P **P** **21 32 47.6 +1.1**
PPLA Purkeypile 66.02 26 P **P** **21 32 50.0 +1.0**
CAST Castle Rocks 66.24 26 P **P** **21 32 51.0 +0.7**
CAST IAmb IAmb 21 32 53.0
comp=Z,8.1nm,1.1s
IMAR Indian Mountai 66.48 23 P **P** **21 32 52.2 +0.5**
RC01 Rabbit Creek A 66.57 29 P **P** **21 32 52.4 -0.1**
H21K Melozitna Rive 66.72 23 P **P** **21 32 54.4 +1.0**
H21K IAmb IAmb 21 32 58.8
comp=Z,5.6nm,0.9s
NRIK Noril'sk 66.89 341 P **P** **21 32 53.9 -0.4**
comp=Z,4.8nm,0.7s,baz=106,slow=7.0,SNR=6.2
comp=Z,4.8nm,0.7s
NRIK Noril'sk 66.89 341 P **P** **21 32 53.9 -0.4**
NRIK IAmb IAmb 21 32 54.7
comp=Z,5.5nm,0.7s
BPAW Bear Paw Mtn. 66.92 25 P **P** **21 32 55.4 +0.8**
BPAW IAmb IAmb 21 32 57.3
comp=Z,4.5nm,1.0s
TRF Thorofare Moun 67.01 26 P **P** **21 32 55.4 0.0**
TRF IAmb IAmb 21 32 57.4
comp=Z,5.9nm,1.0s
PWL Port Wells 67.17 29 P **P** **21 32 56.7 +0.4**
AAK Ala-Archa 67.37 311 LR LR 22 03 37.9
comp=Z,64nm,20.1s,baz=80,slow=37
SML Sawmill 67.42 28 P **P** **21 32 58.0 +0.2**
RND Reindeer 67.62 26 P **P** **21 32 59.1 0.0**
RND IAmb IAmb 21 33 22.0
comp=Z,7.8nm,1.2s
HIN Hinchinbrook I 67.94 30 P **P** **21 33 01.6 +0.4**
H23K Yukon River 68.05 24 P **P** **21 33 02.5 +0.8**
COLD Coldfoot 68.24 22 P **P** **21 33 03.5 +0.7**
COLD IAmb IAmb 21 33 04.5
comp=Z,5.3nm,0.8s
MDM Murphy Dome 68.32 25 P **P** **21 33 04.0 +0.6**
MDM IAmb IAmb 21 33 12.5
comp=Z,4.6nm,1.0s
IL31 68.82 25 P **P** **21 33 05.9 -0.6**
ILAR Eielson Array 68.82 25 P **P** **21 33 05.5 -1.0**
comp=Z,1.9nm,0.5s,baz=249,slow=5.6,SNR=25
comp=Z,1.9nm,0.5s
ILAR Eielson Array 68.82 25 P **P** **21 33 06.4 -0.2**
TOLK Toolik Lake Re 68.93 21 P **P** **21 33 08.3 +1.0**
PAX Paxson 68.99 27 P **P** **21 33 07.8 0.0**
PAX IAmb IAmb 21 33 32.0
comp=Z,6.5nm,1.2s
J25K Salcha River, 69.41 25 P **P** **21 33 10.1 -0.2**
RIDG Independent Ri 69.44 26 P **P** **21 33 10.2 -0.2**
RIDG IAmb IAmb 21 33 54.2
comp=Z,8.0nm,1.1s
GLB Gilahina Butte 69.44 29 P **P** **21 33 11.6 +1.0**
GLB IAmb IAmb 21 33 12.2
comp=Z,6.6nm,1.0s
DOT Dot Lake 69.76 27 P **P** **21 33 12.7 +0.3**
DOT IAmb IAmb 21 33 37.9
comp=Z,5.6nm,1.0s
SCRK Sand Creek 69.86 26 P **P** **21 33 13.4 +0.3**
L26K Log Cabin Wild 69.95 27 P **P** **21 33 14.4 +0.7**
L26K IAmb IAmb 21 33 31.2
comp=Z,9.1nm,1.5s
J26L Joseph Creek 70.15 26 P **P** **21 33 15.0 +0.1**
KK31 Karatay Array 70.31 311 P **P** **21 33 16.3 +0.1**
KKAR Karatay Array 70.31 311 P **P** **21 33 16.5 +0.3**
BMAR Burnt Mountain 70.39 23 P **P** **21 33 17.4 +1.2**
M27K Edge Creek, AK 70.50 28 P **P** **21 33 17.7 +0.5**
BCAR Beaver Creek A 70.66 27 P **P** **21 33 18.8 +0.8**
BVAR Borovoye Array 70.77 322 LR LR 22 05 55.9
comp=Z,80nm,19.4s,baz=92,slow=37
BRVK Borovoye 70.84 322 P **P** **21 33 19.4 +0.2**
PPT Papeete 70.90 114 LR LR 21 57 33.2
comp=Z,121nm,19.6s,baz=254,slow=30
EGAK Eagle 71.22 26 P **P** **21 33 21.4 +0.1**
EGAK IAmb IAmb 21 33 26.5
comp=Z,8.9nm,1.3s
CHGR Chuyangaron 71.39 307 P **P** **21 33 23.6 +0.7**
CHGR IAmb IAmb 21 34 00.2
comp=Z,5.9nm,0.8s
HYT Haines Junctio 72.39 30 P **P** **21 33 30.2 +1.7**
HYT IAmb IAmb 21 33 51.8
comp=Z,7.5nm,1.0s
M30M Minto, Yukon 72.87 28 P **P** **21 33 32.5 +1.2**
M31M Drury Creek, Y 73.97 29 P **P** **21 33 38.7 +1.0**
DLBC Dease Lake 76.12 33 P **P** **21 33 51.2 +0.9**
DLBC IAmb IAmb 21 33 56.5
comp=Z,6.8nm,0.9s
ABKAR Akbulak array 77.40 318 P **P** **21 33 57.8 +0.3**
ABKAR Akbulak array 77.40 318 P **P** **21 33 58.0 +0.5**
ABKAR IAmb IAmb 21 33 58.5
comp=Z,3.8nm,0.8s
ARU Arti 77.60 325 P **P** **21 33 58.6 +0.1**
BBB Bella Bella 77.63 39 LR LR 22 01 29.4
comp=Z,64nm,20.9s,baz=305,slow=31
AKTO Aktyubinsk 78.52 319 LR LR 22 12 09.6
comp=Z,59nm,18.0s,baz=84,slow=38
WSAR Wadi Sarin 82.16 292 LR LR 22 14 43.6
comp=Z,12nm,18.6s,baz=358,slow=38
YBH Yreka Blue Hor 82.77 49 LR LR 22 04 09.0
comp=Z,60nm,21.7s,baz=304,slow=31
YBH Yreka Blue Hor 82.77 49 P **P** **21 34 28.3 +1.5**
YKA Yellowknife Ar 83.08 27 P **P** **21 34 27.2 -0.6**
comp=Z,6nm,0.5s,baz=264,slow=5.0,SNR=7.1
comp=Z,2.6nm,0.5s
PINE Pine Mountain 83.64 47 P **P** **21 34 32.0 +0.6**
PINE IAmb IAmb 21 34 39.2
comp=Z,6.1nm,0.8s
BELG Belogornoye 84.57 322 LR LR 22 14 37.3
comp=Z,53nm,19.0s,baz=124,slow=37
BEKR Beckworth 84.90 50 P **P** **21 34 38.8 +1.0**
BEKR IAmb IAmb 21 34 40.2
comp=Z,3.8nm,0.8s
KLMR Klimovskoe 86.36 332 *e*P **P** **21 34 43.0 -1.4**
KLMR AMP 21 35 00.5
comp=Z,13nm,1.5s
NVAR Mina Array Bea 86.78 51 P **P** **21 34 47.9 +0.6**
comp=Z,1.4nm,0.6s,baz=265,slow=5.6,SNR=12
comp=Z,1.4nm,0.6s
NVAR Mina Array Bea 86.78 51 P **P** **21 34 48.2 +1.0**
ARCES ARCESS Array B 87.83 342 P **P** **21 34 51.2 -0.2**
comp=Z,4.2nm,0.9s,baz=66,slow=7.0,SNR=9.1
comp=Z,4.2nm,0.9s
ARCES ARCESS Array B 87.83 342 P **P** **21 34 51.5 +0.1**
ELK Elko 88.48 49 P **P** **21 34 56.2 +0.8**
ELK IAmb IAmb 21 34 58.1
comp=Z,3.9nm,1.0s
PFO Pinyon Flats O 89.44 56 LR LR 22 11 29.3
comp=Z,45nm,19.1s,baz=289,slow=33
GNI Garni 89.78 311 LR LR 22 20 26.8
comp=Z,24nm,18.2s,baz=42,slow=39
V12A Nelson 90.15 53 P **P** **21 35 04.1 +1.0**
V12A IAmb IAmb 21 35 05.7
comp=Z,4.5nm,0.9s
FINES FINESS Array B 91.95 335 P **P** **21 35 09.6 -1.2**
comp=Z,2.8nm,0.5s,baz=74,slow=4.3,SNR=32
comp=Z,2.8nm,0.5s
JMIC Jan Mayen 94.35 352 LR LR 22 21 08.1
comp=Z,10nm,20.6s,baz=222,slow=38
AKASG Malin Array Be 95.85 325 P **P** **21 35 27.9 -1.0**
comp=Z,0.7nm,0.6s,baz=55,slow=3.5,SNR=1.7
AKASG LR LR 22 19 20.5
comp=Z,55nm,19.5s,baz=162,slow=36
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 97.81 339 P **P** **21 35 36.7 -1.0**
comp=Z,1.0nm,0.8s,baz=45,slow=4.7,SNR=2.8
NOA LR LR 22 21 18.8
comp=Z,35nm,19.0s,baz=295,slow=36
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 97.92 314 P **P** **21 35 38.5 -0.3**
comp=Z,0.6nm,0.9s,baz=60,slow=8.8,SNR=4.1
comp=Z,0.6nm,0.9s
MMAI Mount Meron Ar 99.23 307 LR LR 22 24 26.6
comp=Z,33nm,20.9s,baz=158,slow=38
TORD Torodi Ar. Bea 135.72 305 PKP **PKPdf** **21 41 24.4 +0.6**
comp=Z,0.6nm,0.5s,baz=52,slow=2.1,SNR=13
PLCA Paso Flores 138.08 138 PKP **PKiKP** **21 41 29.0 -0.6**
comp=Z,1.1nm,0.7s,baz=292,slow=4.1,SNR=3.9
DBIC Dimbokro 144.67 302 PKP **PKPdf** **21 41 40.0 0.0**
comp=Z,17nm,0.6s,baz=60,slow=2.9,SNR=28
KIC Kosan Boka 144.74 301 ⇑*i*PKP1 **PKPdf** **21 41 40.2 0.0**
comp=Z,26nm,0.5s
TIC Toumodi 144.82 302 ⇑*i*PKP1 **PKPdf** **21 41 40.3 0.0**
comp=Z,28nm,0.7s
LIC Lamto 145.06 301 ⇑*i*PKP1 **PKPdf** **21 41 41.1 +0.4**
comp=Z,66nm,0.6s
LPAZ La Paz 147.30 100 PKPbc **PKPbc** **21 41 47.6 +0.1**
comp=Z,1.6nm,0.5s,baz=234,slow=3.0,SNR=6.5

*NOU **06** 21:43:03.5, 37.°11S×179.°76E, h156km, mb4.7/10, Off E. Coast of N. Island, N.Z.*
*WEL **06** 21:43:10.4±1.1, 37.°5S±4.°×17.°9E±.°, h5km, M4.6/13, ML4.8/13, MLv4.6/13, Error ellipse: s-maj=0.0km s-min=0.0km az=82.6*
*NEIC **06** 21:43:10.8±1.5, 37.°00S±0.°09×178.°8E±0.°2, h23km±7km, mb4.9/29, Error ellipse: s-maj=19.4km s-min=10.1km az=117.0*
*IDC **06** 21:43:14.6±1.7, 36.°98S×178.°69E, h60km±14km, mb4.3/13,*

mbtmp4.6/14, MS3.8/19, Error ellipse: s-maj=15.6km s-min=11.5km az=165.0
ISC 06 21:43:12.2±1.3, 37.°02S±0.°06×178.°94E±0.°07, h45km±10km, n223, σ1℗31/216, mb4.9/27, MS3.7/18, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.74**	**223**		**Pn**	**21 43 23.9**	**-2.3**
MXZ				Sg	**Sn**	**21 43 33.1**	**-3.3**
MXZ	**Matakaoa Point**	**0.74**	**223**	P	**Pn**	**21 43 23.9**	**-2.3**
MXZ				S	**Sn**	**21 43 33.4**	**-3.0**
WMGZ	**Waiomatatini S**	**0.90**	**208**	P	**Pn**	**21 43 28.4**	**0.0**
WMGZ				S	**Sn**	**21 43 42.0**	**+1.7**
PKGZ	**Pakihiroa**	**1.10**	**218**	P	**Pn**	**21 43 30.4**	**-0.9**
PKGZ				S	**Sn**	**21 43 46.5**	**+1.1**
HAZ	**Te Kaha**	**1.18**	**231**	P	**Pn**	**21 43 30.8**	**-1.4**
PUZ	**Puketiti**	**1.18**	**207**	P	**Pn**	**21 43 32.1**	**-0.2**
PUZ				S	**Sn**	**21 43 48.2**	**+1.0**
RUGZ	**Raukumara Rang**	**1.38**	**227**	P	**Pn**	**21 43 35.1**	**0.0**
RUGZ				S	**Sn**	**21 43 54.8**	**+2.7**
TWGZ	**Tauwhareparae**	**1.38**	**213**	P	**Pn**	**21 43 35.3**	**+0.3**
TWGZ				S	**Sn**	**21 43 54.1**	**+1.9**
WIZ	**White Island**	**1.48**	**250**	P	**Pn**	**21 43 34.4**	**-2.0**
WIZ				S	**Sn**	**21 43 53.3**	**-1.3**
WSRZ	**White Island S**	**1.49**	**250**	P	**Pn**	**21 43 34.9**	**-1.6**
WSRZ				S	**Sn**	**21 43 55.2**	**+0.4**
CNGZ	**Carnagh Statio**	**1.57**	**202**	P	**Pn**	**21 43 37.6**	**0.0**
CNGZ				S	**Sn**	**21 43 59.6**	**+2.9**
TKGZ	**Te Karaka**	**1.66**	**211**	P	**Pn**	**21 43 38.8**	**+0.1**
MWZ	**Matawai**	**1.72**	**220**	P	**Pn**	**21 43 39.9**	**+0.1**
MWZ				S	**Sn**	**21 44 01.8**	**+1.3**
WHRZ	**Whale Island**	**1.77**	**241**	P	**Pn**	**21 43 40.9**	**+0.6**
RAGZ	**Rawiri**	**1.90**	**219**	P	**Pn**	**21 43 42.7**	**+0.4**
URZ	**Urewera**	**1.91**	**229**	P	**Pn**	**21 43 42.5**	**+0.4**
	462nm,0.3s,baz=31,slow=5.3,SNR=283						
URZ				S	**Sn**	**21 44 04.8**	**-0.1**
	1μm,0.5s,baz=211,slow=21,SNR=38						
URZ				LR	LR	21 44 23.6	
	comp=Z,730nm,21.9s,baz=30,slow=39						
URZ	**Urewera**	**1.91**	**229**		**Pn**	**21 43 42.0**	**-0.2**
URZ	**Urewera**	**1.91**	**229**	P	**Pn**	**21 43 42.6**	**+0.4**
URZ				S	**Sn**	**21 44 06.3**	**+1.3**
URZ	**Urewera**	**1.91**	**229**	P	**Pn**	**21 43 42.9**	**+0.7**
RIGZ	**Rimuhau**	**1.92**	**209**	P	**Pn**	**21 43 42.0**	**-0.5**
MARZ	**Manawahe**	**2.04**	**241**	P	**Pn**	**21 43 44.6**	**+0.5**
MARZ				S	**Sn**	**21 44 09.1**	**+0.7**
EDRZ	**Edgecumbe**	**2.06**	**238**	P	**Pn**	**21 43 44.8**	**+0.4**
OPRZ	**Ohinepanea**	**2.07**	**246**	P	**Pn**	**21 43 43.6**	**-0.8**
PRGZ	**Paritu Road**	**2.07**	**203**	P	**Pn**	**21 43 43.6**	**-0.9**
SNGZ	**Shannon Statio**	**2.16**	**215**	P	**Pn**	**21 43 45.5**	**-0.3**
MYRZ	**Mayor Island**	**2.17**	**262**	P	**Pn**	**21 43 44.8**	**-1.1**
RTZ	**Ruatahuna**	**2.22**	**224**	P	**Pn**	**21 43 46.6**	**0.0**
KNZ	**Kokohu**	**2.23**	**206**	P	**Pn**	**21 43 45.2**	**-1.5**
TGRZ	**Tauranga**	**2.25**	**251**	P	**Pn**	**21 43 47.2**	**+0.4**
MUGZ	**Murupara**	**2.25**	**229**	P	**Pn**	**21 43 46.8**	**-0.1**
MKRZ	**Makatiti**	**2.26**	**240**	P	**Pn**	**21 43 48.6**	**+1.5**
MHGZ	**Mahia Peninsul**	**2.28**	**201**	P	**Pn**	**21 43 46.3**	**-1.0**
TARZ	**Mount Tarawera**	**2.28**	**237**	P	**Pn**	**21 43 48.3**	**+0.9**
OMRZ	**Omania**	**2.31**	**241**	P	**Pn**	**21 43 48.1**	**+0.3**
RRRZ	**Republican Roa**	**2.33**	**235**	P	**Pn**	**21 43 48.4**	**+0.4**
KARZ	**Kaharoa**	**2.36**	**244**	P	**Pn**	**21 43 48.4**	**-0.1**
RAHZ	**Arahi**	**2.39**	**217**	P	**Pn**	**21 43 48.8**	**-0.1**
HLRZ	**Highlands Stat**	**2.39**	**238**	P	**Pn**	**21 43 49.6**	**+0.7**
NGRZ	**Ngongotaha**	**2.44**	**243**	P	**Pn**	**21 43 50.8**	**+1.3**
WHHZ	**Waihua**	**2.45**	**213**	P	**Pn**	**21 43 49.1**	**-0.6**
MTHZ	**Maungataniwha**	**2.47**	**222**	P	**Pn**	**21 43 50.2**	**+0.2**
HSRZ	**Hossack Road**	**2.50**	**238**	P	**Pn**	**21 43 51.3**	**+1.0**
PRRZ	**Plateau Road**	**2.50**	**233**	P	**Pn**	**21 43 50.5**	**+0.2**
HRRZ	**Handcock Road**	**2.51**	**236**	P	**Pn**	**21 43 51.3**	**+0.8**
KMRZ	**Kaimai**	**2.52**	**250**	P	**Pn**	**21 43 51.0**	**+0.3**
ALRZ	**Allen Road**	**2.57**	**232**	P	**Pn**	**21 43 51.4**	**+0.1**
KUZ	**Kuaotunu**	**2.60**	**275**	P	**Pn**	**21 43 50.5**	**-1.1**
GRRZ	**Galatos Road**	**2.61**	**239**	P	**Pn**	**21 43 52.9**	**+1.0**
WPRZ	**Whakapapatarin**	**2.66**	**235**	P	**Pn**	**21 43 53.4**	**+0.9**
NMHZ	**Naumai**	**2.67**	**218**	P	**Pn**	**21 43 52.8**	**+0.1**
MRHZ	**Matea Rd**	**2.69**	**227**	P	**Pn**	**21 43 52.8**	**-0.2**
ARHZ	**Aropaoanui**	**2.71**	**214**	P	**Pn**	**21 43 52.7**	**-0.5**
TOZ	**Tahuroa Road**	**2.83**	**255**	P	**Pn**	**21 43 53.9**	**-1.0**
KUTZ	**Kaahu Road**	**2.87**	**238**	P	**Pn**	**21 43 56.3**	**+0.8**
WHTZ	**Whakaora**	**2.88**	**234**	P	**Pn**	**21 43 58.5**	**+2.9**
BKZ	**Black Stump Fm**	**2.88**	**221**		**Pn**	**21 43 54.7**	**-1.0**
BKZ	**Black Stump Fm**	**2.88**	**221**	P	**Pn**	**21 43 55.1**	**-0.6**
BKZ	**Black Stump Fm**	**2.88**	**221**	P	**Pn**	**21 43 55.2**	**-0.4**
GRZ	**Great Barrier**	**2.91**	**284**	P	**Pn**	**21 43 55.9**	**0.0**
MCHZ	**McNeill Hill**	**2.99**	**215**	P	**Pn**	**21 43 56.5**	**-0.7**
TLZ	**Tolley Road**	**3.00**	**243**	P	**Pn**	**21 43 58.1**	**+0.8**
CKHZ	**Cape Kidnapper**	**3.01**	**209**	P	**Pn**	**21 43 55.7**	**-1.7**
MKAZ	**Moumakai**	**3.02**	**267**	P	**Pn**	**21 43 56.9**	**-0.7**
WATZ	**Wairara**	**3.04**	**236**	P	**Pn**	**21 43 58.4**	**+0.6**
RATZ	**Rangituku**	**3.11**	**233**	P	**Pn**	**21 43 59.2**	**+0.5**
KWHZ	**Kaweka Forest**	**3.11**	**219**	P	**Pn**	**21 43 57.7**	**-1.1**
RITZ	**Rihia Road**	**3.12**	**230**	P	**Pn**	**21 43 58.9**	**0.0**
KAHZ	**Kahuranaki**	**3.21**	**210**	P	**Pn**	**21 43 58.4**	**-1.7**
ETAZ	**East Tamaki Re**	**3.21**	**270**	P	**Pn**	**21 44 00.2**	**+0.1**
KATZ	**Kakaramea**	**3.22**	**232**	P	**Pn**	**21 44 01.2**	**+0.8**
MBAZ	**Motutapu North**	**3.25**	**273**	P	**Pn**	**21 44 00.8**	**+0.1**
TMVZ	**Te Maari**	**3.30**	**230**	P	**Pn**	**21 44 01.0**	**-0.4**
KRHZ	**Kereru**	**3.31**	**217**	P	**Pn**	**21 43 59.9**	**-1.5**
NTVZ	**North Tongarir**	**3.31**	**230**	P	**Pn**	**21 44 01.4**	**-0.1**
ETVZ	**East Tongariro**	**3.31**	**229**	P	**Pn**	**21 44 01.1**	**-0.5**
ABAZ	**Army Bay**	**3.32**	**276**	P	**Pn**	**21 44 02.0**	**+0.3**
KRVZ	**Karewarewa**	**3.33**	**231**	P	**Pn**	**21 44 01.6**	**-0.2**
BHHZ	**Black Hill Sta**	**3.34**	**222**	P	**Pn**	**21 44 01.1**	**-0.9**
OTVZ	**Oturere**	**3.35**	**229**	P	**Pn**	**21 44 02.1**	**-0.1**
NNVZ	**North Ngauruho**	**3.36**	**230**	P	**Pn**	**21 44 02.3**	**0.0**
EPAZ	**Eden Park BCE**	**3.37**	**271**	P	**Pn**	**21 44 03.1**	**+0.9**
WTVZ	**West Tongariro**	**3.37**	**231**	P	**Pn**	**21 44 02.4**	**+0.1**
HBAZ	**Herne Bay Bore**	**3.38**	**272**	P	**Pn**	**21 44 03.2**	**+0.9**
NGZ	**Ngauruhoe**	**3.40**	**230**	P	**Pn**	**21 44 02.4**	**-0.4**
AWAZ	**Awhitu Peninsu**	**3.44**	**268**	P	**Pn**	**21 44 03.4**	**+0.1**
TWVZ	**Taurewa**	**3.44**	**232**	P	**Pn**	**21 44 03.5**	**+0.1**
MOVZ	**Moawhango**	**3.46**	**226**	P	**Pn**	**21 44 02.3**	**-1.3**
FWVZ	**Far West T-bar**	**3.48**	**229**	P	**Pn**	**21 44 03.6**	**-0.4**
WNVZ	**Wahianoa**	**3.50**	**228**	P	**Pn**	**21 44 03.4**	**-0.8**
WTAZ	**Waiatarua**	**3.50**	**270**	P	**Pn**	**21 44 04.5**	**+0.4**
RVAZ	**Riverhead Bore**	**3.50**	**273**	P	**Pn**	**21 44 04.6**	**+0.5**
HIZ	**Hauiti**	**3.56**	**244**	P	**Pn**	**21 44 06.4**	**+1.4**
HIZ	**Hauiti**	**3.56**	**244**	P	**Pn**	**21 44 06.5**	**+1.6**
PNHZ	**Pukenui**	**3.60**	**216**	P	**Pn**	**21 44 03.2**	**-2.3**
MTVZ	**Mangateitei**	**3.61**	**228**	P	**Pn**	**21 44 05.3**	**-0.4**
WPHZ	**Waipukurau**	**3.61**	**212**	P	**Pn**	**21 44 03.5**	**-2.2**
PKVZ	**Pokaka**	**3.62**	**230**	P	**Pn**	**21 44 06.1**	**+0.3**
PRHZ	**Porangahau**	**3.71**	**208**	P	**Pn**	**21 44 04.9**	**-2.1**
TSZ	**Takapari Road**	**3.83**	**217**	P	**Pn**	**21 44 05.9**	**-2.7**
WCZ	**Waipu Caves**	**3.86**	**285**	P	**Pn**	**21 44 09.4**	**+0.4**
DVHZ	**Dannevirke**	**3.92**	**213**	P	**Pn**	**21 44 08.2**	**-1.7**
ANWZ	**Angora Road**	**3.94**	**209**	P	**Pn**	**21 44 08.0**	**-2.1**
WAZ	**Wanganui**	**4.13**	**228**	P	**Pn**	**21 44 12.2**	**-0.6**
POWZ	**Post Office Ro**	**4.18**	**215**	P	**Pn**	**21 44 10.7**	**-2.7**
MHEZ	**Mangahewa**	**4.18**	**239**	P	**Pn**	**21 44 15.9**	**+2.4**
BFZ	**Birch Farm**	**4.21**	**209**	P	**Pn**	**21 44 10.6**	**-3.3**
PRWZ	**Pori Road**	**4.22**	**212**	P	**Pn**	**21 44 11.9**	**-2.1**
LREZ	**Lake Rotokare**	**4.32**	**234**	P	**Pn**	**21 44 16.2**	**+0.9**
PREZ	**Palmer Road**	**4.42**	**237**	P	**Pn**	**21 44 18.9**	**+2.1**
NEZ	**North Egmont**	**4.43**	**238**	P	**Pn**	**21 44 18.9**	**+2.0**
PKE	**Pukeiti**	**4.47**	**239**	P	**Pn**	**21 44 20.4**	**+3.0**
KHEZ	**Kahui Hut**	**4.50**	**238**	P	**Pn**	**21 44 19.9**	**+2.1**

MSVF	**Nonsavu**	**19.23 357**	P	**P**	**21 47 32.0**	**-0.8**
MSVF			IAmb	IAmb	21 47 51.5	
	comp=Z,64nm,1.7s					
EIDS	**Eidsvold**	**26.41 288**		**P**	**21 48 45.5**	**+0.8**
EIDS			IAmb	IAmb	21 48 53.7	
	comp=Z,33nm,1.4s					
TOO	**Toolangi**	**26.54 259**	P	**P**	**21 48 45.8**	**0.0**
TBI	**Tubuai**	**30.37 72**	*e*LR	LR	21 57 10.7	
	comp=Z,114nm,25.0s					
TBI	**Tubuai**	**30.37 72**	*e*T	T	22 21 05.8	
	comp=Z,16nm,0.3s					
STKA	**Stephens Creek**	**31.09 268**	P	**P**	**21 49 26.1**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=104,slow=8.6,SNR=12					
STKA			LR	LR	22 00 56.8	
	comp=Z,130nm,19.0s,baz=47,slow=34					
	comp=Z,4.8nm,0.7s					
STKA	**Stephens Creek**	**31.09 268**	P	**P**	**21 49 26.3**	**+0.1**
CTA	**Charters Tower**	**33.09 292**	P	**P**	**21 49 41.8**	**-2.1**
	comp=Z,5.1nm,0.8s,baz=119,slow=9.6,SNR=2.3					
CTA			LR	LR	22 01 54.3	
	comp=Z,138nm,19.9s,baz=85,slow=34					
	comp=Z,5.1nm,0.8s					
CTAO	**Charters Tower**	**33.09 292**	P	**P**	**21 49 44.9**	**+1.0**
CTAO			IAmb	IAmb	21 50 03.1	
	comp=Z,21nm,1.1s					
PPT2	**Papeete2**	**33.79 64**	*e*LR	LR	21 58 47.2	
	comp=Z,159nm,24.5s					
BBOO	**Buckleboo**	**35.20 264**	P	**P**	**21 50 01.5**	**-0.5**
BBOO			IAmb	IAmb	21 50 15.8	
	comp=Z,31nm,1.5s					
COEN	**Coen**	**39.27 296**	P	**P**	**21 50 37.5**	**+0.8**
COEN			IAmb	IAmb	21 51 16.1	
	comp=Z,59nm,1.8s					
AS31	**Alice Springs**	**40.72 276**	P	**P**	**21 50 48.4**	**-0.4**
ASAR	**Alice Springs**	**40.72 276**	P	**P**	**21 50 48.5**	**-0.3**
	comp=Z,17nm,0.6s,baz=118,slow=7.8,SNR=172					
ASAR			PcP	**PcP**	**21 52 47.7**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=122,slow=4.4,SNR=1.9					
ASAR			ScP	**ScP**	**21 56 33.0**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=113,slow=3.9,SNR=3.1					
ASAR			S	**S**	**21 56 53.3**	**-2.9**
	comp=Z,1.0nm,0.9s,baz=124,slow=14,SNR=6.5					
ASAR			LR	LR	22 06 59.2	
	comp=Z,92nm,19.8s,baz=90,slow=35					
	comp=Z,17nm,0.6s					
SBA	**Scott Base**	**41.27 184**	P	**P**	**21 50 54.0**	**+1.5**
VNDA	**Vanda**	**41.27 186**	LR	LR	22 04 18.4	
	comp=Z,65nm,20.8s,baz=18,slow=31					
WR0	**Warramunga Arr**	**42.16 281**	P	**P**	**21 51 00.2**	**-0.3**
WR0			IAmb	IAmb	21 51 00.9	
	comp=Z,17nm,0.6s					
FORT	**Forrest**	**42.28 263**	P	**P**	**21 51 00.7**	**-0.7**
FORT			IAmb	IAmb	21 51 14.8	
	comp=Z,25nm,0.8s					
WRA	**Warramunga Arr**	**42.32 281**	P	**P**	**21 51 01.5**	**-0.4**
	comp=Z,23nm,0.4s,baz=121,slow=7.8,SNR=701					
WRA			PcP	**PcP**	**21 52 53.4**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=125,slow=2.9,SNR=5.1					
WRA			S	**S**	**21 57 16.2**	**-3.7**
	comp=Z,1.5nm,1.1s,baz=121,slow=16,SNR=5.6					
	comp=Z,23nm,0.4s					
WRA	**Warramunga Arr**	**42.32 281**	P	**P**	**21 51 00.4**	**-1.5**
WB0	**Warramunga Arr**	**42.38 281**	P	**P**	**21 51 02.0**	**-0.3**
CASY	**Casey**	**48.13 210**	P	**P**	**21 51 47.8**	**+0.6**
CASY			IAmb	IAmb	21 51 48.7	
	comp=Z,8.9nm,0.9s					
MTN	**Manton Dam**	**48.95 287**	P	**P**	**21 51 53.5**	**-0.8**
MTN			IAmb	IAmb	21 52 12.2	
	comp=Z,20nm,1.4s					
KNRA	**Kununurra**	**49.10 282**	P	**P**	**21 51 55.2**	**-0.2**
KNRA			IAmb	IAmb	21 52 09.2	
	comp=Z,30nm,1.4s					
FITZ	**Fitzroy Crossi**	**50.20 277**	P	**P**	**21 52 03.4**	**-0.3**
	comp=Z,14nm,0.7s,baz=128,slow=6.8,SNR=46					
FITZ			LR	LR	22 13 27.5	
	comp=Z,43nm,19.0s,baz=93,slow=36					
	comp=Z,14nm,0.7s					
FITZ	**Fitzroy Crossi**	**50.20 277**	P	**P**	**21 52 03.4**	**-0.3**
FITZ			IAmb	IAmb	21 52 04.3	
	comp=Z,17nm,0.8s					
MORW	**Morawa**	**52.48 259**	P	**P**	**21 52 19.4**	**-1.3**
PSA00	**Pilbara Seismi**	**53.00 270**	P	**P**	**21 52 23.3**	**-1.4**
PSA00			IAmb	IAmb	21 52 41.8	
	comp=Z,18nm,1.7s					
PSA00	**Pilbara Seismi**	**53.00 270**	P	**P**	**21 52 23.2**	**-1.5**
PSA00			IAmb	IAmb	21 52 41.7	
	comp=Z,45nm,1.6s					
QSPA	**South Pole Qui**	**53.10 180**	P	**P**	**21 52 27.2**	**+2.2**
	comp=Z,5.7nm,0.8s,baz=30,slow=1.3,SNR=29					
QSPA			LR	LR	22 11 52.5	
	comp=Z,69nm,18.8s,baz=30,slow=32					
	comp=Z,5.7nm,0.8s					
QSPA	**South Pole Qui**	**53.10 180**	P	**P**	**21 52 27.3**	**+2.4**
QSPA			IAmb	IAmb	21 52 28.0	
	comp=Z,7.1nm,0.8s					
MBWA	**Marble Bar**	**53.30 270**	P	**P**	**21 52 25.6**	**-1.3**
FAKI	**Fak Fak**	**54.65 297**	P	**P**	**21 52 35.3**	**-1.5**
BATI	**Baumata**	**56.34 284**	LR	LR	22 16 51.7	
	comp=Z,299nm,18.8s,baz=233,slow=36					
SIJI	**Sorong**	**56.78 298**	P	**P**	**21 52 51.9**	**-0.1**
	comp=Z,11nm,0.6s,baz=127,slow=5.8,SNR=8.1					
	comp=Z,11nm,0.6s					
GIRL	**Giralia**	**56.95 265**	P	**P**	**21 52 52.9**	**-0.2**
BELA	**Belgrano 2**	**63.57 172**	P	**P**	**21 53 38.5**	**+0.9**
BELA			IAmb	IAmb	21 53 39.7	
	comp=Z,3.8nm,0.7s					
MAW	**Mawson**	**65.23 202**	P	**P**	**21 53 50.7**	**+2.1**
	comp=Z,2.6nm,0.6s,baz=114,slow=5.6,SNR=2.9					
MAW			LR	LR	22 20 20.2	
	comp=Z,48nm,19.9s,baz=102,slow=34					
	comp=Z,2.6nm,0.6s					
MAW	**Mawson**	**65.23 202**	P	**P**	**21 53 50.5**	**+2.0**
LEM	**Lembang**	**71.02 276**	LR	LR	22 27 48.8	
	comp=Z,114nm,18.1s,baz=174,slow=38					
TROLL	**Troll, Antarti**	**71.24 181**	P	**P**	**21 54 27.6**	**+1.3**
SNAA	**Sanae**	**71.60 179**	P	**P**	**21 54 29.5**	**+1.1**
SNAA	**Sanae**	**71.60 179**	P	**P**	**21 54 29.1**	**+0.7**
VNA3	**Neumayer Olymp**	**71.86 177**	P	**P**	**21 54 30.9**	**+1.0**
VNA2	**Neumayer--Watz**	**72.26 178**	P	**P**	**21 54 33.6**	**+1.3**
	baz=175,slow=6.0					
KKM	**Kota Kinabalu**	**72.42 292**	P	**P**	**21 54 33.7**	**-0.5**
VNA1	**Neumayer--Stat**	**72.50 177**	P	**P**	**21 54 35.1**	**+1.4**
JCJ	**Chichijima**	**72.54 326**	LR	LR	22 21 09.8	
	comp=Z,39nm,20.7s,baz=32,slow=31					
H03S2	**Juan Fernandez**	**78.91 124**	T	T	23 21 48.4	
	baz=230					
H03S1	**Juan Fernandez**	**78.92 124**	T	T	23 21 40.1	
	baz=230					
H03S3	**Juan Fernandez**	**78.93 124**	T	T	23 21 45.1	
	baz=230					
H03N3	**Juan Fernandez**	**79.14 124**	T	T	23 21 52.3	
	baz=234,slow=72,SNR=82					
H03N2	**Juan Fernandez**	**79.15 124**	T	T	23 21 51.0	
	baz=234,slow=72,SNR=70					
H03N1	**Juan Fernandez**	**79.16 124**	T	T	23 21 51.4	
	baz=234,slow=72,SNR=77					
PLCA	**Paso Flores**	**79.83 134**	P	**P**	**21 55 17.4**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=270,slow=4.0,SNR=6.1					
	comp=Z,2.0nm,0.8s					
PSI	**Prapat**	**83.72 278**	LR	LR	22 34 55.7	
	comp=Z,69nm,18.4s,baz=148,slow=37					
UBPT	**Khong Chiam**	**86.40 292**	P	**P**	**21 55 51.6**	**+1.5**
UBPT			IAmb	IAmb	21 56 10.9	
	comp=Z,9.8nm,1.3s					
KSRS	**Korea Array**	**87.84 322**	P	**P**	**21 55 57.4**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=140,slow=5.2,SNR=6.6					
	comp=Z,0.8nm,0.4s					
NJ2	**Nanjing**	**88.72 313**	*e*P	**P**	**21 56 01.4**	**+0.6**
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
SHEM	**Shemya Is, Ala**	**89.48 357**	LR	LR	22 29 12.7	
	comp=Z,49nm,21.8s,baz=242,slow=31					
PETK	**Petropavlovsk-**	**91.64 347**	P	**P**	**21 56 14.2**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=150,slow=9.5,SNR=2.9					
	comp=Z,2.1nm,0.8s					
CMAR	**Chiang Mai Arr**	**93.25 291**	P	**P**	**21 56 22.5**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=147,slow=3.4,SNR=9.5					
	comp=Z,2.4nm,0.7s					
NNA	**Nana**	**93.93 108**	LR	LR	22 32 10.2	
	comp=Z,35nm,18.6s,baz=260,slow=31					
NVAR	**Mina Array Bea**	**94.78 44**	P	**P**	**21 56 29.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=231,slow=5.7,SNR=2.7					
	comp=Z,0.3nm,0.7s					
PZH	**PanZhiHua**	**96.15 298**	P	**P**	**21 56 35.2**	**-0.3**
PZH			pmax	pmax		
	comp=Z,20nm,1.0s					
PZH			pmax	pmax		
	comp=Z,40nm,3.5s					
CPUP	**Villa Florida**	**97.72 131**	LR	LR	22 34 03.9	
	comp=Z,61nm,19.9s,baz=240,slow=31					
ELK	**Elko**	**98.09 44**	LR	LR	22 34 20.6	
	comp=Z,23nm,19.9s,baz=261,slow=31					
MA2	**Magadan**	**99.04 346**	LR	LR	22 34 52.7	
	comp=Z,27nm,21.8s,baz=166,slow=31					
HHC	**Hu-ho-hao-te**	**99.04 315**	*e*P	**Pdif**	**21 56 50.3**	**+2.1**
HHC			pmax	pmax		
	comp=Z,20nm,0.9s					
HHC			pmax	pmax		
	comp=Z,120nm,5.3s					
WMQ	**Urumqi**	**115.23 307**	*e*P	**PKiKP**	**22 01 49.6**	**+1.2**
MKAR	**Makanchi Array**	**119.95 308**	PKP	**PKPdf**	**22 01 55.9**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=88,slow=5.9,SNR=8.4					
ZALV	**Zalesovo Beam**	**121.17 316**	PKP	**PKPdf**	**22 01 58.0**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=145,slow=2.1,SNR=2.4					
NRIK	**Noril'sk**	**124.57 334**	PKP	**PKiKP**	**22 02 05.5**	**-0.3**
	comp=Z,5.1nm,0.7s,baz=94,slow=3.2,SNR=5.0					
KMBO	**Kilima Mbogo**	**128.03 232**	PKP	**PKiKP**	**22 02 14.9**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=176,slow=4.3,SNR=5.2					
BVAR	**Borovoye Array**	**129.17 312**	PKP	**PKPdf**	**22 02 14.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=116,slow=1.0,SNR=12					
ARU	**Arti**	**136.33 316**	PKP	**PKiKP**	**22 02 29.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=184,slow=2.9,SNR=6.5					
SPITS	**Spitsbergen Ar**	**138.08 355**	PKP	**PKPdf**	**22 02 30.9**	**0.0**
	comp=Z,6.1nm,0.8s,baz=28,slow=3.7,SNR=5.3					
ARA0	**ARCESS Array S**	**144.39 344**	*e*PKPdf	PKPbc	22 02 41.2	+0.4
ARCES	**ARCESS Array B**	**144.39 344**	PKP	PKPbc	22 02 40.9	0.0
	comp=Z,3.2nm,0.6s,baz=28,slow=4.1,SNR=27					
KLMR	**Klimovskoe**	**145.12 326**	*e*PKPdf	**PKPbc**	**22 02 41.3**	**-2.1**
KLMR			AMP		22 02 44.0	
	comp=Z,13nm,0.9s					
KTK1	**Kautokeino**	**145.30 345**	*e*PKPbc	**PKPbc**	**22 02 43.6**	**-0.2**
TRO	**Tromso**	**145.58 348**	*e*PKPbc	**PKPdf**	**22 02 44.0**	**-0.3**
TRO			IAmb	IAmb	22 02 44.5	
	comp=Z,114nm,2.1s					
STEI	**Steigen**	**147.71 349**	*e*PKPbc	**PKPbc**	**22 02 50.8**	**-0.1**
STEI			IAmb	IAmb	22 02 53.5	
	comp=Z,395nm,2.4s					
LOF	**Lofoten**	**147.78 350**	*e*PKPab	**PKPab**	**22 02 53.3**	**-0.2**
FAUS	**Fauske**	**148.21 348**	*e*PKPdf	**PKPdf**	**22 02 49.4**	**+0.6**
KONS	**Konsvik**	**149.36 349**	*e*PKPbc	**PKPbc**	**22 02 55.2**	**+0.1**
KONS			IAmb	IAmb	22 02 56.5	
	comp=Z,117nm,1.8s					
MOR8	**Moi Rana**	**149.45 348**	*e*PKPbc	**PKPbc**	**22 02 55.1**	**-0.3**
DBIC	**Dimbokro**	**149.59 173**	PKPbc	**PKiKP**	**22 02 58.1**	**-0.3**
	comp=Z,4.4nm,0.6s,baz=200,slow=1.8,SNR=5.9					
FINES	**FINESS Array B**	**150.23 334**	PKPbc	**PKPbc**	**22 02 56.8**	**-0.6**
	comp=Z,7.5nm,0.6s,baz=31,slow=4.3,SNR=39					
NSS	**Namsos**	**151.38 348**	*e*PKPbc	**PKPbc**	**22 02 59.5**	**-0.5**
BRTR	**Keskin Array B**	**152.76 286**	PKPbc	**PKPbc**	**22 03 02.4**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=146,slow=4.1,SNR=9.7					
DOMB	**Dombas**	**154.17 349**	*e*PKPbc	**PKiKP**	**22 03 07.0**	**+0.6**
AKASG	**Malin Array Be**	**154.45 312**	PKPbc	**PKPbc**	**22 03 06.7**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=51,slow=2.5,SNR=7.4					
NB2	**NORSAR Subarra**	**154.74 346**	PKP	**PKPbc**	**22 03 06.7**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=26,slow=2.1					
NOA	**NORSAR Array B**	**154.74 346**	PKPbc	**PKPbc**	**22 03 07.2**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=28,slow=2.0,SNR=4.4					
NC602	**NORSAR Array S**	**154.95 345**	*e*PKPbc	**PKiKP**	**22 03 08.1**	**+0.1**
HFS	**Hagfors**	**155.01 342**	PKPbc	PKPbc	22 03 07.8	
	comp=Z,2.6nm,0.7s,baz=31,slow=3.4,SNR=4.1					
TORD	**Torodi Ar. Bea**	**156.10 187**	PKP	**PKPdf**	**22 03 02.1**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=174,slow=1.7,SNR=3.0					
TORD			PKPab	**PKPab**	**22 03 28.8**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=167,slow=2.6,SNR=10					

WEL **06** *22:04:55.5±1.7,37°S±6°×17°9E±1°,h10km±7km, M3.0/11, ML3.5/15, MLv3.0/11, Error ellipse: s-maj=0.0km s-min=0.0km az=90.1*

IDC **06** *22:04:57.5±2.8, 36°.80S×178°.05E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=58.6km s-min=26.9km az=98.0*

ISC 06 22:04:52.6±2.5, 37°.13S±0°.06×179°.2E±0°.1, h13km±11km, n24, σ1§21/30, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**237**	P		**Pg**	**22 05 08.4**	**+0.2**
MXZ				S		**Sg**	**22 05 16.9**	**-1.8**
WMGZ	**Waiomatatini S**	**0.91**	**220**	P		**Pn**	**22 05 12.2**	**+1.0**
WMGZ				S		**Sn**	**22 05 23.9**	**-0.2**
PKGZ	**Pakihiroa**	**1.14**	**228**	P		**Pg**	**22 05 15.3**	**+0.6**
PKGZ				S		**Sb**	**22 05 29.2**	**0.0**
PUZ	**Puketiti**	**1.18**	**217**	P		**Pn**	**22 05 15.9**	**+1.0**
PUZ				S		**Sb**	**22 05 30.4**	**+0.2**
HAZ	**Te Kaha**	**1.26**	**240**	P		**Pn**	**22 05 16.0**	**+0.1**
TWGZ	**Tauwhareparae**	**1.40**	**221**	P		**Pn**	**22 05 16.3**	**+0.6**
TWGZ				S		**Sb**	**22 05 37.1**	**+0.6**
CNGZ	**Carnagh Statio**	**1.55**	**209**	P		**Pn**	**22 05 21.6**	**+1.7**
TKGZ	**Te Karaka**	**1.67**	**218**	P		**Pn**	**22 05 22.6**	**+1.0**
MWZ	**Matawai**	**1.76**	**226**	P		**Pn**	**22 05 23.9**	**+1.0**
WHRZ	**Whale Island**	**1.88**	**247**	P		**Pb**	**22 05 26.2**	**-0.6**
URZ	**Urewera**	**1.98**	**234**	Pn		**Pn**	**22 05 27.3**	**+1.5**
	14nm,0.3s,baz=31,slow=3.0,SNR=55							
URZ					Sn	**Sn**	**22 05 50.9**	**+0.5**
	22nm,0.3s,baz=30,slow=20,SNR=50							
URZ	**Urewera**	**1.98**	**234**	P		**Pn**	**22 05 27.2**	**+1.5**
RTZ	**Ruatahuna**	**2.27**	**228**	P		**Pn**	**22 05 31.7**	**+1.7**
MRHZ	**Matea Rd**	**2.75**	**231**	P		**Pn**	**22 05 37.4**	**+0.8**
BKZ	**Black Stump Fm**	**2.92**	**225**	P		**Pn**	**22 05 39.4**	**+0.6**
MCHZ	**McNeill Hill**	**3.01**	**219**	P		**Pn**	**22 05 40.1**	**0.0**
GRZ	**Great Barrier**	**3.09**	**285**	P		**Pn**	**22 05 42.4**	**+1.2**
MKAZ	**Moumakai**	**3.19**	**269**	P		**Pn**	**22 05 42.9**	**+0.5**
HIZ	**Hauiti**	**3.67**	**247**	P		**Pn**	**22 05 51.5**	**+2.4**
WCZ	**Waipu Caves**	**4.05**	**286**	P		**Pn**	**22 05 55.8**	**+1.5**
OUZ	**Omahuta**	**4.88**	**291**	P		**Pn**	**22 06 07.8**	**+2.1**
ASAR	**Alice Springs**	**40.90**	**276**	P		**P**	**22 12 33.4**	**-1.4**
	0.4nm,0.6s,baz=118,slow=8.0,SNR=6.2							
	0.4nm,0.6s							
WRA	**Warramunga Arr**	**42.51**	**281**	P		**P**	**22 12 47.4**	**-0.5**
	0.4nm,0.5s,baz=121,slow=8.1,SNR=13							
	0.4nm,0.5s							
FINES	**FINESS Array B**	**150.40**	**334**	PKPbc		**PKPab**	**22 24 48.0**	**-1.4**
	2.5nm,1.1s,baz=47,slow=6.3,SNR=4.1							

IDC **06** *22:04:54.6±1.1,34°.36N×141°.88E, h0km, mb3.5/4, mbtmp3.5/7, ML3.1/3, Error ellipse: s-maj=28.8km s-min=23.1km az=107.0*

JMA **06** *22:04:55.9±0.2,34°.4N±0°.8×141°.8E±0°.8, h26km±1km, MV3.1/28, FAR SE OFF BOSO PEN*

ISC 06 22:04:54.1±2.8, 34°.35N±0°.05×141°.76E±0°.07, h2km±17km, n14, σ1§38/21, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.71**	**296**	P		**Pb**	**22 05 09.3**	**+0.4**
BSO1				X			22 05 21.0	
BSO3	**Boso 3**	**1.12**	**294**	P		**Pn**	**22 05 16.4**	**-0.2**
BSO3				S		**Sb**	**22 05 30.7**	**-0.4**
BSO4	**Boso 4**	**1.33**	**299**	S		**Sg**	**22 05 36.4**	**-0.6**
JKUC	**kamogawauchiur**	**1.52**	**303**	P		**Pn**	**22 05 21.9**	**-0.3**
JKUC				*e*S		**Sn**	**22 05 40.8**	**-1.8**
CHOJ	**Chosi**	**1.54**	**332**	P		**Pn**	**22 05 21.9**	**-0.6**
CHOJ				*e*S		**Sn**	**22 05 40.9**	**-2.3**
JMKN	**Mikurajimanish**	**1.85**	**256**	*e*S		**Sn**	**22 05 50.0**	**-0.9**
JHJ	**Hachijo jima 2**	**2.05**	**234**	Pn		**Pb**	**22 05 31.8**	**-0.3**
	16nm,0.3s,baz=61,slow=19,SNR=6.4							
JHJ					Sn	**Sn**	**22 05 56.2**	**+0.4**
	39nm,0.3s,baz=60,slow=20,SNR=9.2							
	75nm,0.6s							
JOD2	**Odawara 2**	**2.38**	**293**	P		**Pn**	**22 05 34.5**	**+0.3**
JOD2				*e*S		**Sn**	**22 06 02.4**	**-1.5**
MJAR	**Matsushiro Arr**	**3.63**	**308**	Pn		**Pn**	**22 05 51.6**	**+0.2**
	0.4nm,0.3s,baz=113,slow=7.8,SNR=12							
MJAR					Sn	**Sn**	**22 06 33.3**	**-1.5**
	0.4nm,0.3s,baz=123,slow=28,SNR=4.8							
	1.5nm,0.3s							
JCJ	**Chichijima**	**7.24**	**177**	Pn		**Pn**	**22 06 40.0**	**-0.9**
	1.2nm,0.3s,baz=329,slow=19,SNR=1.4							
JCJ					Sn	**Sn**	**22 08 00.3**	**-3.4**
	1.9nm,0.3s,baz=319,slow=16,SNR=1.7							
	8.3nm,0.5s							
MKAR	**Makanchi Array**	**45.82**	**304**	P		**P**	**22 13 19.1**	**+1.7**
	0.4nm,0.6s,baz=91,slow=9.1,SNR=4.8							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**51.62**	**31**	P		**P**	**22 14 02.1**	**+0.3**
	0.3nm,0.6s,baz=260,slow=5.4,SNR=2.5							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**54.45**	**189**	P		**P**	**22 14 24.3**	**+1.3**
	0.4nm,0.6s,baz=3.2,slow=7.6,SNR=8.2							
	0.4nm,0.6s							
NVAR	**Mina Array Bea**	**76.38**	**53**	P		**P**	**22 16 45.4**	**+0.1**
	0.3nm,0.6s,baz=297,slow=8.0,SNR=3.5							
	0.3nm,0.6s							

IDC **06** *22:11:25.2±2.9, 36°.24N×141°.65E, h0km, mb3.4/3, mbtmp3.5/5, ML3.2/2, MS2.8/1, Error ellipse: s-maj=63.4km s-min=29.7km az=69.0*

JMA **06** *22:11:29.0±0.2, 36°.3N±0°.3×141°.5E±1°.0, h33km±4km, MV2.8/24, FAR E OFF IBARAKI PREF*

ISC 06 22:11:29.0±1.4, 36°.32N±0°.05×141°.5E±0°.1, h26km, n14, σ0§89/15, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.74**	**272**	*e*P		**Pb**	**22 11 42.5**	**-0.7**
JHYU				*e*S		**Sb**	**22 11 52.3**	**-0.6**
CHOJ	**Chosi**	**0.81**	**221**	P		**Pb**	**22 11 44.2**	**-0.1**
CHOJ				S		**Sb**	**22 11 54.8**	**0.0**
JHO	**Hitachi**	**0.81**	**292**	*e*P		**Pb**	**22 11 44.1**	**-0.3**
JIHU	**Itakohorinouch**	**0.86**	**246**	P		**Pb**	**22 11 45.0**	**-0.4**
JFK	**Kawauchi**	**1.16**	**335**	P		**Pn**	**22 11 48.6**	**-1.0**
JFT	**Otama**	**1.52**	**322**	*e*P		**Pn**	**22 11 54.6**	**+0.1**
JAG	**Ashikaga**	**1.66**	**274**	P		**Pn**	**22 11 56.2**	**-0.1**
BSO3	**Boso 3**	**1.71**	**208**	P		**Pn**	**22 11 57.2**	**+0.3**
MJAR	**Matsushiro Arr**	**2.67**	**276**	Pn		**Pn**	**22 12 10.9**	**+0.6**
	0.6nm,0.3s,baz=116,slow=10.0,SNR=23							
	2.9nm,0.4s							
JHJ	**Hachijo jima 2**	**3.49**	**204**	Pn		**Pn**	**22 12 20.6**	**-0.9**
	32nm,0.3s,baz=282,slow=24,SNR=9.0							
	54nm,0.3s							
PETK	**Petropavlovsk-**	**20.27**	**29**	LR		LR	22 23 36.5	
	comp=Z,32nm,21.6s,baz=196,slow=36							
MKAR	**Makanchi Array**	**44.56**	**303**	P		**P**	**22 19 38.5**	**-0.1**
	0.4nm,0.8s,baz=76,slow=6.1,SNR=3.2							
	0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**46.50**	**309**	P		**P**	**22 19 56.2**	**+2.4**
	0.5nm,0.5s,baz=91,slow=8.8,SNR=1.7							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**56.36**	**188**	P		**P**	**22 21 07.5**	**-0.4**
	0.4nm,1.0s,baz=5.5,slow=7.4,SNR=1.8							
	0.4nm,1.0s							

IDC **06** *22:11:39.6±1.2, 13°.08N×145°.77E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=30.0km s-min=18.8km az=60.0*

ISC 06 22:11:45.8±1.2, 13°.1N±0°.2×145°.7E±0°.2, h43km, n12, σ0§47/9, mb3.8/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.94**	**304**	Pn		**Pn**	**22 12 01.9**	**-0.7**
	161nm,0.3s,baz=137,slow=8.9,SNR=46							
GUMO					Sn	**Sn**	**22 12 15.6**	**+0.6**
	324nm,0.3s,baz=7.8,slow=19,SNR=10							
H11N1	**WAKE ISLAND Hy**	**21.39**	**69**	T		T	22 38 45.9	
	baz=256							
H11N2	**WAKE ISLAND Hy**	**21.40**	**69**	T		T	22 38 46.3	
	baz=256							
H11N3	**WAKE ISLAND Hy**	**21.41**	**69**	T		T	22 38 45.9	
	baz=256							
WRA	**Warramunga Arr**	**34.64**	**199**	P		**P**	**22 18 31.2**	**-0.1**
	0.7nm,0.6s,baz=22,slow=9.8,SNR=14							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**38.28**	**198**	P		**P**	**22 19 02.4**	**+0.1**
	0.5nm,0.7s,baz=24,slow=9.2,SNR=6.0							
	0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**45.20**	**283**	P		**P**	**22 19 59.0**	**-0.1**
	1.0nm,0.3s,baz=82,slow=6.5,SNR=4.9							
	1.0nm,0.3s							
MKAR	**Makanchi Array**	**62.41**	**316**	P		**P**	**22 22 04.9**	**+0.4**
	0.4nm,0.4s,baz=88,slow=7.8,SNR=5.4							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**65.53**	**320**	P		**P**	**22 22 25.1**	**+0.3**
	0.8nm,0.4s,baz=104,slow=6.7,SNR=5.4							
	0.8nm,0.4s							

comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,150nm,4.8s
HHC LR LR
comp=N,160nm,10.2s
HHC LR LR
comp=E,150nm,10.8s
HHC LR LR
comp=Z,190nm,12.7s
MA2 Magadan 24.09 11 P **P** **22 17 16.7 +5.0**
comp=Z,3.1nm,0.5s,baz=197,slow=19,SNR=1.6
ENH Enshi 27.41 267 P **P** **22 17 41.5 -0.6**
ENH IAmb IAmb 22 17 42.3
comp=Z,10nm,0.6s
H11N2 WAKE ISLAND Hy 27.64 120 T T 22 46 38.2
baz=312,slow=75,SNR=22
H11N1 WAKE ISLAND Hy 27.65 120 T T 22 46 37.1
baz=312,slow=75,SNR=23
H11N3 WAKE ISLAND Hy 27.66 120 T T 22 46 34.3
baz=312,slow=75,SNR=15
H11S1 WAKE ISLAND Hy 28.33 122 T T 22 47 34.5
baz=314,slow=75,SNR=24
H11S3 WAKE ISLAND Hy 28.33 122 T T 22 47 33.8
baz=314,slow=75,SNR=30
SONM Songino Array 28.34 305 P **P** **22 17 49.3 -1.1**
comp=Z,1.7nm,0.6s,baz=105,slow=8.6,SNR=7.9
comp=Z,1.7nm,0.6s
SONM Songino Array 28.34 305 P **P** **22 17 50.1 -0.3**
H11S2 WAKE ISLAND Hy 28.35 122 T T 22 47 33.2
baz=314,slow=75,SNR=20
PZH PanZhiHua 35.16 265 P **P** **22 18 51.5 +1.0**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,60nm,4.7s
CRAI Chiangrai 39.33 257 P **P** **22 19 26.5 +0.7**
WMQ Urumqi 41.31 298 *eP* **P** **22 19 39.9 -2.1**
WMQ pP sP 22 19 54.3 +1.9
WMQ pmax pmax
comp=Z,23nm,0.9s
CMAR Chiang Mai Arr 41.43 256 P **P** **22 19 43.5 +0.4**
comp=Z,0.8nm,0.3s,baz=44,slow=7.4,SNR=4.7
comp=Z,0.8nm,0.3s
ZAA0 Zalesovo Array 42.54 313 P **P** **22 19 51.4 -0.4**
ZAA0 IAmb IAmb 22 20 03.1
comp=Z,5.7nm,0.6s
ZALV Zalesovo Beam 42.54 313 P **P** **22 19 52.0 +0.2**
comp=Z,1.9nm,0.6s,baz=87,slow=8.2,SNR=9.1
comp=Z,1.9nm,0.6s
ZALV Zalesovo Beam 42.54 313 P **P** **22 19 51.2 -0.6**
MK31 Makanchi Array 44.65 303 P **P** **22 20 08.0 -0.9**
MKAR Makanchi Array 44.65 303 P **P** **22 20 09.2 +0.2**
comp=Z,2.4nm,0.9s,baz=92,slow=9.7,SNR=11
comp=Z,2.4nm,0.9s
MKAR Makanchi Array 44.65 303 P **P** **22 20 08.4 -0.5**
KURK Kurchatov 46.52 309 P **P** **22 20 22.8 -0.8**
KURK IAmb IAmb 22 20 34.9
comp=Z,9.1nm,0.7s
KURBB Kurchatov Arra 46.59 309 P **P** **22 20 24.0 -0.2**
comp=Z,2.4nm,0.7s,baz=85,slow=8.1,SNR=12
KURBB LR LR 22 41 37.6
comp=Z,66nm,18.5s,baz=116,slow=38
comp=Z,2.4nm,0.7s
TARG Taragay, Kyrgy 48.87 297 P **P** **22 20 43.5 +1.0**
TARG IAmb IAmb 22 20 55.2
comp=Z,9.2nm,0.8s
ILAR Eielson Array 50.09 32 P **P** **22 20 49.8 -1.1**
comp=Z,0.8nm,0.9s,baz=274,slow=6.9,SNR=4.1
comp=Z,0.8nm,0.9s
BRVK Borovoye 51.25 313 P **P** **22 20 59.4 -0.5**
BRVK IAmb IAmb 22 21 11.3
comp=Z,3.8nm,1.1s
KNRA Kununurra 53.05 196 P **P** **22 21 15.8 +2.2**
KNRA IAmb IAmb 22 21 25.8
comp=Z,12nm,1.1s
KK31 Karatay Array 53.63 301 P **P** **22 21 16.9 -0.8**
KK31 IAmb IAmb 22 21 29.8
comp=Z,6.3nm,1.1s
KKAR Karatay Array 53.63 301 P **P** **22 21 16.6 -1.1**
DRK Karamyk 53.91 296 P **P** **22 21 20.6 +0.4**
GAR Garm 55.16 296 P **P** **22 21 29.2 +0.2**
FITZ Fitzroy Crossi 56.12 198 P **P** **22 21 35.9 +0.1**
CHGR Chuyangaron 56.12 296 P **P** **22 21 36.1 +0.2**
WB0 Warramunga Arr 56.12 188 P **P** **22 21 36.5 +0.6**
WB0 IAmb IAmb 22 21 58.9
comp=Z,6.5nm,1.4s
WRA Warramunga Arr 56.30 188 P **P** **22 21 37.8 +0.6**
comp=Z,0.7nm,0.7s,baz=3.0,slow=7.5,SNR=7.7
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 56.30 188 P **P** **22 21 36.5 -0.6**
ARU Arti 57.03 319 **P** **22 21 42.0 0.0**
ARU IAmb IAmb 22 21 53.1
comp=Z,3.8nm,0.7s
ABKAR Akbulak array 58.55 311 P **P** **22 21 52.5 -0.2**
ABKAR IAmb IAmb 22 22 03.8
comp=Z,8.1nm,1.5s
ABKAR Akbulak array 58.55 311 P **P** **22 21 52.4 -0.3**
ASAR Alice Springs 60.03 188 P **P** **22 22 04.2 +1.0**
comp=Z,0.2nm,0.6s,baz=4.3,slow=6.3,SNR=1.7
comp=Z,0.2nm,0.6s
FINES FINESS Array B 69.57 332 P **P** **22 23 04.5 -0.4**
comp=Z,3.3nm,1.1s,baz=45,slow=2.2,SNR=3.6
comp=Z,3.3nm,1.1s
NB2 NORSAR Subarra 74.96 337 P P 22 23 47.8 +11
comp=Z,3.9nm,1.0s,baz=38,slow=6.2
NOA NORSAR Array B 74.96 337 P **P** **22 23 37.0 -0.2**
comp=Z,0.8nm,0.8s,baz=22,slow=8.1,SNR=3.2
comp=Z,0.8nm,0.8s
AKASG Malin Array Be 75.00 322 P **P** **22 23 36.9 -0.6**
comp=Z,0.8nm,0.5s,baz=48,slow=6.2,SNR=5.0
comp=Z,0.8nm,0.5s
NVAR Mina Array Bea 75.35 53 P **P** **22 23 40.2 +0.1**
comp=Z,0.7nm,0.8s,baz=285,slow=7.2,SNR=4.8
comp=Z,0.7nm,0.8s
RAO Raoul Island 75.47 144 LR LR 23 00 09.5
comp=Z,22nm,18.1s,baz=120,slow=38
PDAR Pinedale Array 78.12 45 P **P** **22 23 55.6 0.0**
comp=Z,0.2nm,0.5s,baz=286,slow=3.3,SNR=2.6
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 78.12 45 P **P** **22 23 55.4 -0.2**
BUR08 Bucovina Ar. S 79.00 322 **P** **22 24 00.8 +0.6**
BUR08 IAmb IAmb 22 24 13.1
comp=Z,2.6nm,0.8s
BURAR Bucovina Array 79.01 322 P **P** **22 24 00.3 0.0**
BURAR IAmb IAmb 22 24 12.7
comp=Z,2.5nm,0.9s
BR131 Keskin Array S 79.47 312 P **P** **22 24 02.7 -0.3**
BR131 IAmb IAmb 22 24 15.6
comp=Z,2.7nm,0.9s
BRTR Keskin Array B 79.47 312 P **P** **22 24 03.2 +0.2**
comp=Z,0.8nm,0.9s,baz=65,slow=0.8,SNR=3.2
comp=Z,0.8nm,0.9s
CLL Collm 81.84 330 *es*P sP 22 24 26.0 0.0
MMAI Mount Meron Ar 82.53 306 LR LR 23 02 55.1
comp=Z,24nm,18.8s,baz=150,slow=37
GERES GERESS Array B 83.44 328 P **P** **22 24 23.2 -0.6**
comp=Z,0.2nm,0.3s,baz=64,slow=8.9,SNR=2.6
comp=Z,0.2nm,0.3s

IDC 06 22:24:21.6±5.7, 4°.33S×153°.78E, h99km±39km, mb3.6/2, mbtmp4.2/3, Error ellipse: s-maj=56.3km s-min=40.6km az=77.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.75**	**271**	P	Pn	22 24 50.8	-0.2
	114nm,0.4s,baz=163,slow=19,SNR=11						
KRVT				S	Sn	22 25 13.5	+0.2
	202nm,0.4s,baz=120,slow=20,SNR=11						
PMG	**Port Moresby**	**8.28**	**232**	P	Pn	22 26 20.0	+1.0
	13nm,0.3s,baz=59,slow=5.9,SNR=2.4						
PMG				S	Sn	22 27 47.9	-3.1
	26nm,0.7s,baz=320,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**24.49**	**229**	P	P	22 29 31.6	-0.1
	1.5nm,0.5s,baz=54,slow=10.0,SNR=29						
	1.5nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**26.00**	**29**	T	T	22 56 03.7	
	baz=209						
H11S2	**WAKE ISLAND Hy**	**26.01**	**29**	T	T	22 56 04.2	
	baz=209						
H11S1	**WAKE ISLAND Hy**	**26.02**	**29**	T	T	22 56 09.1	
	baz=209						
STKA	**Stephens Creek**	**29.69**	**201**	P	P	22 30 18.1	-0.2
	0.9nm,0.5s,baz=24,slow=10.0,SNR=2.9						
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**151.08**	**289**	PKPbc	PKPbc	22 44 04.2	-0.1
	0.2nm,0.4s,baz=72,slow=2.0,SNR=4.4						

---

*JMA **06** 22:39:25.6±0.2, 34°.5N×0°.9×141°.8E±1°.0, h25km±1km, MV2.9/17, FAR SE OFF BOSO PEN*
*IDC **06** 22:39:29.8±6.6, 33°.76N×140°.36E, h0km, mb3.4/3, mbtmp3.4/4, ML2.4/1, Error ellipse: s-maj=259.5km s-min=23.5km az=68.0*
ISC 06 22:39:28.0±1.7, 34°.3N±0°.1×141°.6E±0°.2, h27km, n17, σ1§59/14, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.62**	**305**	P	**Pb**	**22 39 38.8**	**-1.1**
BSO1				*eX*		22 39 48.5	
BSO3	**Boso 3**	**1.03**	**300**	*eP*	**Pn**	**22 39 45.6**	**-0.7**
BSO4	**Boso 4**	**1.25**	**304**	*eP*	**Pn**	**22 39 48.7**	**-0.8**
JKUC	**kamogawauchiur**	**1.44**	**307**	P	**Pn**	**22 39 51.0**	**-1.2**
JKUC				*eS*	**Sn**	**22 40 09.3**	**-0.9**
JOD2	**Odawara 2**	**2.28**	**296**	P	**Pn**	**22 40 03.5**	**-0.3**
JOD2				*eS*	**Sn**	**22 40 32.2**	**+1.2**
JAG	**Ashikaga**	**2.75**	**321**	P	**Pn**	**22 40 08.7**	**-1.7**
MJAR	**Matsushiro Arr**	**3.56**	**310**	Pn	**Pn**	**22 40 20.2**	**-1.3**
	0.4nm,0.3s,baz=153,slow=13,SNR=11						
MJAR				Sn	**Sn**	**22 41 01.2**	**-1.4**
	0.3nm,0.3s,baz=157,slow=21,SNR=6.3						
	2.3nm,0.3s						
JCJ	**Chichijima**	**7.20**	**176**	Sn	**Sn**	**22 42 30.4**	**-1.9**
	0.8nm,0.3s,baz=256,slow=21,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**26.71**	**116**	T	T	23 13 11.8	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**26.72**	**116**	T	T	23 13 17.0	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**26.73**	**116**	T	T	23 13 13.3	
	baz=308						
H11S3	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	23 14 06.7	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	23 14 08.0	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	23 13 54.6	
	baz=312						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**22 47 50.0**	**+3.2**
	0.4nm,0.6s,baz=84,slow=9.0,SNR=4.5						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**54.38**	**188**	P	**P**	**22 48 52.7**	**+0.2**
	0.6nm,0.8s,baz=1.5,slow=7.6,SNR=3.5						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**58.11**	**188**	P	**P**	**22 49 20.3**	**+1.2**
	0.2nm,0.5s,baz=13,slow=10.0,SNR=1.8						
	0.2nm,0.5s						

---

*IDC **06** 22:40:49.8±1.7, 5°.73S×150°.95E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=88.5km s-min=12.0km az=130.0*
ISC 06 22:40:53.9±3.9, 6°.1S±0°.6×151°.1E±°, h41km, n6, σ1§07/6, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.90**	**18**	Pg	**Pn**	**22 41 23.8**	**-0.1**
	40nm,0.3s,baz=168,slow=0.3,SNR=14						
KRVT				Lg	Lg	22 41 44.3	
	80nm,0.3s,baz=270,slow=20,SNR=14						
WRA	**Warramunga Arr**	**21.55**	**229**	P	**P**	**22 45 40.0**	**0.0**
	0.7nm,0.4s,baz=53,slow=10,SNR=11						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**24.26**	**222**	P	**P**	**22 46 08.2**	**+0.7**
	2.1nm,0.7s,baz=50,slow=9.6,SNR=19						
	2.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	**P**	**22 46 39.3**	**-0.4**
	2.1nm,0.8s,baz=50,slow=7.3,SNR=7.6						
	2.1nm,0.8s						
NRIK	**Noril'sk**	**86.78**	**341**	P	**P**	**22 53 34.3**	**+0.9**
	1.9nm,0.5s,baz=123,slow=7.8,SNR=3.6						
	1.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.39**	**285**	PKPbc	**PKPbc**	**23 00 38.2**	**-1.4**
	0.3nm,0.5s,baz=90,slow=1.9,SNR=2.2						

---

*IDC **06** 22:46:14.0±1.4, 36°.27N×140°.23E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=29.3km s-min=16.1km az=11.0*
*JMA **06** 22:46:22.4±0.1, 36°.1N±0°.3×139°.9E±0°.4, h44km±1km, MV3.3/38, SW IBARAKI PREF*
JMA Felt I J1 at SW IBARAKI PREF .
ISC 06 22:46:21.6±1.0, 36°.14N±0°.06×139°.94E±0°.07, h60km, n12, σ1§13/16, mb3.6/4, 5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.22**	**67**	P	**Pn**	**22 46 30.8**	**-0.3**
JYT				S	**Sn**	**22 46 36.8**	**-1.2**
TOK	**Tokyo**	**0.48**	**198**	*eP*	**Pn**	**22 46 33.0**	**-0.2**
JAG	**Ashikaga**	**0.49**	**305**	⇓P	**Pn**	**22 46 33.6**	**+0.3**
JAG				⇓*eS*	**Sn**	**22 46 41.6**	**-0.4**
JKT	**Katashina**	**0.84**	**318**	⇓P	**Pn**	**22 46 38.3**	**+0.7**
JRY	**Ryogami san**	**0.85**	**262**	⇓P	**Pn**	**22 46 37.5**	**-0.3**
JRY				⇓*eS*	**Sn**	**22 46 48.1**	**-1.6**
JOD2	**Odawara 2**	**1.12**	**219**	*eP*	**Pn**	**22 46 41.4**	**+0.2**
JOD2				S	**Sn**	**22 46 54.2**	**-1.6**
JYN	**Shimob**	**1.31**	**241**	P	**Pn**	**22 46 44.7**	**+1.0**
MJAR	**Matsushiro Arr**	**1.46**	**286**	Pg	**Pn**	**22 46 44.2**	**-1.5**
	2.3nm,0.3s,baz=96,slow=15,SNR=62						
MJAR				Lg	Lg	22 47 04.7	
	1.6nm,0.3s,baz=59,slow=35,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.65**	**313**	P	**P**	**22 54 05.0**	**+1.2**
	0.8nm,0.5s,baz=90,slow=6.5,SNR=3.6						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**43.60**	**303**	P	**P**	**22 54 20.7**	**+1.0**
	0.3nm,0.8s,baz=87,slow=9.4,SNR=2.0						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**56.03**	**186**	P	**P**	**22 55 55.5**	**+1.3**
	0.3nm,0.6s,baz=0.8,slow=7.5,SNR=7.0						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**65.17**	**30**	P	**P**	**22 56 54.6**	**-1.3**
	1.6nm,0.7s,baz=289,slow=5.8,SNR=2.9						
	1.6nm,0.7s						

---

*NNC **06** 23:18:12.5±0.4, 42°.72N×76°.22E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=3.5km s-min=1.0km az=173.0*
*SOME **06** 23:18:12.6, 42°.70N×76°.22E, h15km*
*KRNET **06** 23:18:12.6±0.1, 42°.71N×76°.22E, h18km, mb3.2*
*KNET **06** 23:18:13.1±0.6, 42°.66N×76°.14E, h15km±3km, ml2.2, Error ellipse: s-maj=4.8km s-min=2.4km az=53.0*
ISC 06 23:18:12.8±0.9, 42°.70N±0°.02×76°.20E±0°.01, h13km±8km, n87, σ1§09/158, 39C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KST	**Kastek**	**0.38**	**333**	*eP*	**Pg**	**23 18 20.5**	**0.0**
	26nm,0.2s						
KST				*eS*	**Sg**	**23 18 26.1**	**+0.3**
	631nm,0.3s						
KST	**Kastek**	**0.38**	**333**	P	**Pg**	**23 18 20.5**	**0.0**
	26nm,0.2s						
KST				S	**Sg**	**23 18 26.1**	**+0.3**
	631nm,0.3s						
KST	**Kastek**	**0.38**	**333**	*eP*	**Pg**	**23 18 20.5**	**0.0**
	baz=32						
KST				*eS*	**Sg**	**23 18 26.1**	**+0.3**
	baz=32						
MTBS	**Maitube**	**0.46**	**22**	*eP*	**Pg**	**23 18 21.6**	**-0.3**
	66nm,0.2s						
MTBS				*eS*	**Sg**	**23 18 27.9**	**-0.2**
	318nm,0.2s						
MTBS	**Maitube**	**0.46**	**22**	P	**Pg**	**23 18 21.6**	**-0.3**
	66nm,0.2s						
MTBS				S	**Sg**	**23 18 27.9**	**-0.2**
	318nm,0.2s						
MTBS	**Maitube**	**0.46**	**22**	*eP*	**Pg**	**23 18 21.7**	**-0.3**
	baz=20						
MTBS				*eS*	**Sg**	**23 18 27.9**	**-0.2**
	baz=20						
ULHL	**Ulahol**	**0.46**	**176**	⇓P	**Pg**	**23 18 21.8**	**-0.2**
	32nm,0.2s,SNR=19						
ULHL				⇓S	**Sg**	**23 18 27.9**	**-0.3**
	141nm,0.2s						
ULHL	**Ulahol**	**0.46**	**176**	⇑*i*P	**Pg**	**23 18 21.6**	**-0.4**
	baz=78						
ULHL				⇑*i*S	**Sg**	**23 18 28.0**	**-0.1**
	baz=78						
TKM2	**Tokmak 2**	**0.49**	**296**	⇑P	**Pg**	**23 18 22.8**	**+0.1**
	87nm,0.1s,SNR=221						
TKM2				⇑S	**Sg**	**23 18 29.7**	**+0.5**
	254nm,0.1s						
TKM2	**Tokmak 2**	**0.49**	**296**	⇑P	**Pg**	**23 18 22.7**	**+0.1**
	20nm,0.2s						
TKM2				⇑S	**Sg**	**23 18 29.8**	**+0.5**
	74nm,0.3s						
TKM2	**Tokmak 2**	**0.49**	**296**	⇑*i*P	**Pg**	**23 18 22.6**	**0.0**
	baz=96						
TKM2				⇑*i*S	**Sg**	**23 18 29.8**	**+0.5**
	baz=96						
DGS	**Degeres**	**0.62**	**330**	*eP*	**Pg**	**23 18 24.7**	**-0.3**
	7.9nm,0.1s						
DGS				*eS*	**Sg**	**23 18 33.1**	**-0.2**
	404nm,0.2s						
DGS	**Degeres**	**0.62**	**330**	P	**Pg**	**23 18 24.7**	**-0.3**
	7.9nm,0.1s						
DGS				S	**Sg**	**23 18 33.1**	**-0.2**
	404nm,0.2s						
DGS	**Degeres**	**0.62**	**330**	*eP*	**Pg**	**23 18 24.7**	**-0.3**
	baz=29						
DGS				*eS*	**Sg**	**23 18 33.1**	**-0.2**
	baz=29						
AAA	**Alma-Ata**	**0.73**	**46**	*eP*	**Pg**	**23 18 26.8**	**-0.2**
	172nm,0.2s						
AAA				*eS*	**Sb**	**23 18 36.8**	**-0.6**
	262nm,0.2s						
AAA	**Alma-Ata**	**0.73**	**46**	P	**Pg**	**23 18 26.8**	**-0.2**
	172nm,0.2s						
AAA				S	**Sb**	**23 18 36.8**	**-0.6**
	262nm,0.2s						
AAA	**Alma-Ata**	**0.73**	**46**	*eP*	**Pg**	**23 18 26.8**	**-0.2**
	baz=45						
AAA				*eS*	**Sb**	**23 18 36.8**	**-0.6**
	baz=45						
KNDC	**Almaty**	**0.76**	**47**	⇑P	**Pg**	**23 18 27.2**	**-0.5**
	35nm,0.3s						
KNDC				⇑S	**Sb**	**23 18 37.6**	**-0.7**
	186nm,0.6s						
MDOK	**Medeo**	**0.78**	**53**	*eP*	**Pg**	**23 18 27.2**	**-0.7**
	22nm,0.4s						
MDOK				*eS*	**Sg**	**23 18 37.5**	**-0.7**
	38nm,0.2s						
MDOK	**Medeo**	**0.78**	**53**	⇓P	**Pg**	**23 18 26.7**	**-1.2**
	13nm,0.4s						
MDOK				Pg	**Pg**	**23 18 27.2**	**-0.7**
	22nm,0.4s						
MDOK				⇓S	**Sg**	**23 18 37.1**	**-1.0**
	21nm,0.4s						
MDOK				Lg	Lg	23 18 37.4	
	38nm,0.2s						
MDOK	**Medeo**	**0.78**	**53**	*eP*	**Pg**	**23 18 27.2**	**-0.7**
	baz=53						
MDOK				*eS*	**Sg**	**23 18 37.4**	**-0.7**
	baz=53						
KBK	**Karagaybulak**	**0.92**	**267**	⇑P	**Pb**	**23 18 30.7**	**-0.1**
	32nm,0.1s,SNR=17						
KBK				⇓S	**Sg**	**23 18 43.7**	**+0.9**
	78nm,0.2s						
KBK	**Karagaybulak**	**0.92**	**267**	⇑*i*P	**Pb**	**23 18 30.4**	**-0.4**
	baz=67						
KBK				⇑*i*S	**Sg**	**23 18 43.3**	**+0.5**
	baz=67						
KRBS	**Karabastau**	**1.06**	**339**	*eP*	**Pb**	**23 18 32.8**	**-0.3**
	4.7nm,0.1s						
KRBS				*eS*	**Sg**	**23 18 47.0**	**-0.2**
	63nm,0.2s						
KRBS	**Karabastau**	**1.06**	**339**	P	**Pb**	**23 18 32.8**	**-0.3**
	4.7nm,0.1s						
KRBS				S	**Sg**	**23 18 47.0**	**-0.2**
	63nm,0.2s						
KRBS	**Karabastau**	**1.06**	**339**	*eP*	**Pb**	**23 18 32.8**	**-0.3**
	baz=38						
KRBS				*eS*	**Sg**	**23 18 47.1**	**-0.2**
	baz=38						
KTBS	**Karatobe**	**1.07**	**19**	*eP*	**Pb**	**23 18 32.8**	**-0.4**
	26nm,0.2s						
KTBS				*eS*	**Sg**	**23 18 46.8**	**-0.5**
	109nm,0.3s						
KTBS	**Karatobe**	**1.07**	**19**	P	**Pb**	**23 18 32.8**	**-0.4**
	26nm,0.2s						
KTBS				S	**Sg**	**23 18 46.8**	**-0.5**
	109nm,0.3s						
KTBS	**Karatobe**	**1.07**	**19**	*eP*	**Pb**	**23 18 32.8**	**-0.4**
	baz=19						
KTBS				*eS*	**Sg**	**23 18 46.9**	**-0.5**
	baz=19						
CHMS	**Chumysh**	**1.10**	**286**	⇑P	**Pb**	**23 18 33.2**	**-0.5**
	23nm,0.1s,SNR=9.8						
CHMS				⇑S	**Sb**	**23 18 48.1**	**+0.1**
	31nm,0.1s						
CHMS	**Chumysh**	**1.10**	**286**	⇓P	**Pb**	**23 18 33.1**	**-0.7**
	5.4nm,0.3s						
CHMS				⇓S	**Sb**	**23 18 47.8**	**-0.3**
	29nm,0.6s						
CHMS	**Chumysh**	**1.10**	**286**	⇓*i*P	**Pb**	**23 18 33.3**	**-0.5**
	baz=86						
CHMS				⇓*i*S	**Sb**	**23 18 48.4**	**+0.3**
	baz=86						
FRU1	**Bishkek**	**1.16**	**276**	⇑*i*P	**Pn**	**23 18 34.5**	**-0.3**
	baz=76						
FRU1				⇑*i*S	**Sg**	**23 18 50.7**	**+0.4**
	baz=76						
KUU	**Kurty**	**1.19**	**5**	*eP*	**Pn**	**23 18 34.7**	**-0.5**
	20nm,0.1s						
KUU				*eS*	**Sb**	**23 18 50.4**	**-0.2**
	79nm,0.3s						
KUU	**Kurty**	**1.19**	**5**	P	**Pn**	**23 18 34.7**	**-0.5**
	20nm,0.1s						
KUU				S	**Sb**	**23 18 50.4**	**-0.2**
	79nm,0.3s						
KUU	**Kurty**	**1.19**	**5**	*eP*	**Pn**	**23 18 34.7**	**-0.5**
	baz=4.0						
KUU				*eS*	**Sb**	**23 18 50.4**	**-0.2**
	baz=4.0						
AAK	**Ala-Archa**	**1.26**	**268**	⇑P	**Pb**	**23 18 36.4**	**-0.1**
	14nm,0.2s,SNR=20						
AAK				⇑S	**Sg**	**23 18 53.5**	**+0.1**
	29nm,0.2s						
AAK	**Ala-Archa**	**1.26**	**268**	⇑*i*P	**Pn**	**23 18 36.1**	**-0.1**
	baz=68						
AAK				⇑*i*S	**Sg**	**23 18 53.4**	**0.0**
	baz=68						
NRN	**Naryn**	**1.28**	**187**	⇑*i*P	**Pb**	**23 18 36.5**	**-0.4**
	baz=88						
NRN				⇑*i*S	**Sg**	**23 18 54.0**	**-0.1**
	baz=88						
CHKK	**Chushkaly**	**1.29**	**26**	*eP*	**Pb**	**23 18 36.4**	**-0.5**
	15nm,0.4s						
CHKK				*eS*	**Sn**	**23 18 53.3**	**-0.3**
	72nm,0.2s						
CHKK	**Chushkaly**	**1.29**	**26**	P	**Pb**	**23 18 36.4**	**-0.5**
	15nm,0.4s						
CHKK				S	**Sn**	**23 18 53.3**	**-0.3**
	72nm,0.2s						
CHKK	**Chushkaly**	**1.29**	**26**	*eP*	**Pb**	**23 18 36.4**	**-0.5**
	baz=26						
CHKK				*eS*	**Sn**	**23 18 53.3**	**-0.3**
	baz=26						
UCH	**Uchtor**	**1.33**	**250**	⇑P	**Pb**	**23 18 37.8**	**-0.2**
	5.0nm,0.2s,SNR=17						
UCH				⇑S	**Sg**	**23 18 55.8**	**-0.1**
	17nm,0.2s						
UCH	**Uchtor**	**1.33**	**250**	⇑*i*P	**Pn**	**23 18 37.5**	**0.0**
	baz=50						
UCH				⇑*i*S	**Sg**	**23 18 55.8**	**-0.1**
	baz=50						
USP	**Ospenovka**	**1.37**	**295**	⇓P	**Pb**	**23 18 37.9**	**-0.3**
	11nm,0.1s,SNR=22						
USP	**Ospenovka**	**1.37**	**295**	⇑*i*P	**Pb**	**23 18 37.8**	**-0.5**
	baz=95						
USP				⇑*i*S	**Sg**	**23 18 56.4**	**-0.5**
	baz=95						
SGDS	**Sogindy**	**1.37**	**304**	*eP*	**Pb**	**23 18 38.3**	**-0.1**
	12nm,0.1s						
SGDS				*eS*	**Sb**	**23 18 56.3**	**+0.5**
	36nm,0.3s						
SGDS	**Sogindy**	**1.37**	**304**	P	**Pb**	**23 18 38.3**	**-0.1**
	12nm,0.1s						
SGDS				S	**Sb**	**23 18 56.3**	**+0.5**
	36nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.54**	**129**	⇑*i*P	**Pb**	**23 18 40.4**	**-1.1**
	baz=29						
TARG				⇑*i*S	**Sb**	**23 19 00.8**	**-0.2**
	baz=29						
KURS	**Kuram**	**1.64**	**61**	*eP*	**Pb**	**23 18 43.1**	**+0.1**
	9.7nm,0.4s						
KURS				*eS*	**Sg**	**23 19 04.6**	**-1.1**
	13nm,0.4s						
KURS	**Kuram**	**1.64**	**61**	P	**Pb**	**23 18 43.1**	**+0.1**
	9.7nm,0.4s						

KURS					S	Sg	23 19 04.6	-1.1
	13nm,0.4s							
KURS	**Kuram**	**1.64**	**61**	*eP*	**Pb**		**23 18 43.1**	**+0.1**
	baz=61							
KURS					*eS*	**Sg**	**23 19 04.6**	**-1.1**
	baz=61							
SATY	**Saty**	**1.66**	**77**	*eP*	**Pb**		**23 18 43.2**	**-0.2**
	2.7nm,0.1s							
SATY					*eS*	**Sg**	**23 19 04.8**	**-1.5**
	65nm,0.1s							
SATY	**Saty**	**1.66**	**77**	P	**Pb**		**23 18 43.2**	**-0.2**
	2.7nm,0.1s							
SATY					S	**Sg**	**23 19 04.8**	**-1.5**
	65nm,0.1s							
SATY	**Saty**	**1.66**	**77**	*eP*	**Pb**		**23 18 43.2**	**-0.2**
	baz=77							
SATY					*eS*	**Sg**	**23 19 04.8**	**-1.5**
	baz=77							
ZHN	**Zhinishke**	**1.71**	**73**	*eP*	**Pb**		**23 18 44.2**	**+0.1**
	12nm,0.2s							
ZHN					*eS*	**Sg**	**23 19 06.4**	**-1.4**
	88nm,0.2s							
ZHN	**Zhinishke**	**1.71**	**73**	P	**Pb**		**23 18 44.2**	**+0.1**
	12nm,0.2s							
ZHN					S	**Sg**	**23 19 06.4**	**-1.4**
	88nm,0.2s							
ZHN	**Zhinishke**	**1.71**	**73**	*eP*	**Pb**		**23 18 44.2**	**+0.1**
	baz=73							
ZHN					*eS*	**Sg**	**23 19 06.4**	**-1.4**
	baz=73							
EKS2	**Erkin-Say**	**1.79**	**269**	⇑P	**Pb**		**23 18 46.1**	**+0.7**
	20nm,0.2s,SNR=17							
EKS2					⇓S	**Sg**	**23 19 10.0**	**-0.3**
	23nm,0.2s							
EKS2	**Erkin-Say**	**1.79**	**269**	⇑*i*P	**Pb**		**23 18 45.6**	**+0.2**
	baz=69							
EKS2					⇑*i*S	**Sg**	**23 19 09.4**	**-0.9**
	baz=69							
ARXS	**Arharly**	**1.92**	**38**	*eP*	**Pb**		**23 18 47.4**	**-0.4**
	48nm,0.2s							
ARXS					*eS*	**Sb**	**23 19 12.1**	**+0.5**
	77nm,0.3s							
ARXS	**Arharly**	**1.92**	**38**	P	**Pb**		**23 18 47.4**	**-0.4**
	48nm,0.2s							
ARXS					S	**Sb**	**23 19 12.1**	**+0.5**
	77nm,0.3s							
AML	**Almayashu**	**1.94**	**254**	⇓P	**Pb**		**23 18 49.1**	**+0.8**
	8.2nm,0.2s,SNR=20							
AML					⇑S	**Sg**	**23 19 14.7**	**-0.6**
	39nm,0.3s							
KPKS	**Kokpek**	**1.98**	**66**	*eP*	**Pb**		**23 18 48.7**	**+0.1**
	13nm,0.1s							
KPKS					*eS*	**Sg**	**23 19 14.2**	**-2.1**
	52nm,0.4s							
KPKS	**Kokpek**	**1.98**	**66**	Pg	**Pb**		**23 18 48.7**	**+0.1**
	13nm,0.1s							
KPKS					Lg	Lg	23 19 14.2	
	52nm,0.4s							
KPKS	**Kokpek**	**1.98**	**66**	*eP*	**Pb**		**23 18 48.7**	**+0.1**
	baz=66							
KPKS					*eS*	**Sg**	**23 19 14.2**	**-2.1**
	baz=66							
UZB	**Uzynbulak**	**2.12**	**77**	*eP*	**Pb**		**23 18 51.4**	**+0.2**
	3.9nm,0.2s							
UZB					*eS*	**Sg**	**23 19 18.7**	**-2.3**
	36nm,0.2s							
UZB	**Uzynbulak**	**2.12**	**77**	Pg	**Pb**		**23 18 51.4**	**+0.2**
	3.9nm,0.2s							
UZB					Lg	Lg	23 19 18.7	
	36nm,0.2s							
MRKS	**Merke**	**2.19**	**272**	*eP*	**Pb**		**23 18 52.5**	**+0.2**
	18nm,0.2s							
MRKS					*eS*	**Sb**	**23 19 20.7**	**+1.3**
	57nm,0.3s							
MRKS	**Merke**	**2.19**	**272**	Pg	**Pb**		**23 18 52.5**	**+0.2**
	18nm,0.2s							
MRKS					Lg	Lg	23 19 20.7	
	57nm,0.3s							
SHLS	**Shalkode**	**2.44**	**78**	*eP*	**Pg**		**23 19 03.0**	**+3.4**
	8.0nm,0.3s							
SHLS					*eS*	**Sg**	**23 19 38.7**	**+7.4**
	19nm,0.3s							
SHLS	**Shalkode**	**2.44**	**78**	Pg	**Pg**		**23 19 03.0**	**+3.4**
	8.0nm,0.3s							
SHLS					Lg	Lg	23 19 38.7	
	19nm,0.3s							
PDGK	**Podgornoye**	**2.49**	**74**	⇑Pg	**Pb**		**23 18 57.0**	**-0.5**
	2.7nm,0.4s							
PDGK					⇑Lg	Lg	23 19 28.8	
	22nm,0.6s							
TDK	**Taldyqorghan**	**2.80**	**34**	*eP*	**Pb**		**23 19 02.9**	**+0.2**
	17nm,0.5s							
TDK					*eS*	**Sb**	**23 19 38.5**	**+1.7**
	33nm,0.4s							
TDK	**Taldyqorghan**	**2.80**	**34**	Pg	**Pb**		**23 19 02.9**	**+0.2**
	17nm,0.5s							
TDK					Lg	Lg	23 19 38.5	
	33nm,0.4s							
BTLS	**Baital**	**2.81**	**327**	*eP*	**Pb**		**23 19 03.4**	**+0.6**
	1.4nm,0.2s							
BTLS					*eS*	**Sb**	**23 19 39.4**	**+2.3**
	22nm,0.2s							
BTLS	**Baital**	**2.81**	**327**	Pg	**Pb**		**23 19 03.4**	**+0.6**
	1.4nm,0.2s							
BTLS					Lg	Lg	23 19 39.4	
	22nm,0.2s							
DJR	**Jarkent**	**3.08**	**57**	*eP*	**Pb**		**23 19 06.7**	**-0.7**
	1.5nm,0.3s							
DJR					*eS*	**Sb**	**23 19 45.3**	**+0.3**
	19nm,0.5s							
DJR	**Jarkent**	**3.08**	**57**	Pg	**Pb**		**23 19 06.7**	**-0.7**
	1.5nm,0.3s							
DJR					Lg	Lg	23 19 45.3	
	19nm,0.5s							
KTMS	**Ketmen**	**3.13**	**75**	*eP*	**Pb**		**23 19 08.6**	**+0.1**
	0.7nm,0.2s							
KTMS					*eS*	**Sb**	**23 19 48.2**	**+1.6**
	4.6nm,0.5s							
KTMS	**Ketmen**	**3.13**	**75**	Pg	**Pb**		**23 19 08.6**	**+0.1**
	0.7nm,0.2s							
KTMS					Lg	Lg	23 19 48.2	
	4.6nm,0.5s							
KK31	**Karatay Array**	**4.20**	**277**	Pg	**Pb**		**23 19 29.7**	**+3.2**
	1.6nm,0.6s,baz=87,slow=16,SNR=10							
KK31					Lg	Lg	23 20 24.4	
	2.6nm,0.4s,baz=98,slow=28,SNR=9.6							
IUG	**Iuzhnay**	**4.60**	**265**	*eP*	**Pg**		**23 19 37.8**	**-3.1**
	54nm,0.4s							
IUG					*eS*	**Sg**	**23 20 38.4**	**-2.1**
	11nm,0.8s							
IUG	**Iuzhnay**	**4.60**	**265**	Pg	**Pg**		**23 19 37.8**	**-3.1**
	54nm,0.4s							
IUG					Lg	Lg	23 20 38.4	
	11nm,0.8s							
MK31	**Makanchi Array**	**5.96**	**45**	⇓Pn	**Pn**		**23 19 42.8**	**+2.1**
	0.2nm,0.2s,baz=66,slow=28,SNR=12							
MK31					⇓Lg	Lg	23 21 17.9	
	0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**8.08**	**11**	⇑Lg	Lg		23 22 28.4	
	6.7nm,0.8s							
KURK	**Kurchatov**	**8.19**	**11**	⇑Lg	Lg		23 22 28.6	
	3.6nm,0.9s							

IDC 06 23:18:32.3±1.6, 30°98S×179°83W, h333km±17km, mb3.0/1, mbtmp4.1/3, Error ellipse: s-maj=37.1km s-min=26.5km az=125.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.38**	**44**	P	Pn	23 19 25.0	-0.1
	112nm,0.2s,baz=323,slow=20,SNR=2.1						
RAO				S	S	23 20 01.0	-6.3
	215nm,0.3s,baz=64,slow=22,SNR=4.8						
URZ	**Urewera**	**7.69**	**198**	P	Pn	23 20 22.5	+0.2
	6.1nm,0.3s,baz=31,slow=17,SNR=24						
URZ				S	S	23 21 46.7	-5.1
	10nm,0.3s,baz=31,slow=23,SNR=14						
WRA	**Warramunga Arr**	**42.56**	**274**	P	P	23 25 56.4	-0.3
	0.3nm,0.3s,baz=111,slow=8.0,SNR=17						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**145.12**	**338**	PKPbc	PKPdf	23 37 29.1	-0.4
	1.9nm,0.4s,baz=54,slow=3.8,SNR=46						
TORD	**Torodi Ar. Bea**	**162.20**	**185**	PKPab	PKPab	23 38 42.9	-0.6
	0.4nm,0.9s,baz=186,slow=3.7,SNR=2.2						

*NEIC **06** 23:56:55.6±2.1, 6°.22S±0°.08×151°.8E±0°.1, h10km±1km, mb4.5/21, Error ellipse: s-maj=23.5km s-min=7.2km az=300.0*

*IDC **06** 23:57:01.4±1.5, 6°.07S×151°.34E, h47km±13km, mb3.8/9, mbtmp4.1/10, ML2.2/1, MS3.4/15, Error ellipse: s-maj=33.9km s-min=8.4km az=123.0*

*DJA **06** 23:57:01.0±0.6, 6°.S±4°×15°.2E°, h43km±7km, M5.1/9, mB6.0/5, mb4.6/9, MLv5.0/3, Mw(mB)5.6/5*

ISC 06 23:57:00.3±0.6, 6°.12S±0°.07×151°.55E±0°.10, h41km, n63, σ1§28/52, mb4.3/19, MS3.4/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.86**	**15**	P	**Pn**	**23 57 29.3**	**-0.5**
	2μm,0.5s,baz=160,slow=3.0,SNR=32						
KRVT				S	**Sn**	**23 57 54.1**	**+2.0**
	2μm,0.4s,baz=214,slow=23,SNR=13						
RABL	**Rabaul**	**2.01**	**18**	Pn	**Pn**	**23 57 30.2**	**-1.6**
RABL	**Rabaul**	**2.01**	**18**	P	**Pn**	**23 57 32.6**	**+0.8**
PMG	**Port Moresby**	**5.44**	**233**	P	**Pn**	**23 58 19.9**	**+0.9**
	5.0nm,0.3s,baz=63,slow=8.9,SNR=6.9						
PMG				S	**Sn**	**23 59 18.9**	**-1.5**
	69nm,0.8s,baz=175,slow=13,SNR=2.6						
PMG				LR	LR	00 00 15.5	
	comp=Z,220nm,21.2s,baz=6.5,slow=36						
	16nm,0.4s						
PMG	**Port Moresby**	**5.44**	**233**	Pn	**Pn**	**23 58 18.7**	**-0.2**
PMG	**Port Moresby**	**5.44**	**233**	P	**Pn**	**23 58 20.8**	**+1.9**
PMG	**Port Moresby**	**5.44**	**233**	P	**Pn**	**23 58 20.9**	**+2.0**
MANU	**Manus Island**	**5.82**	**314**	Pn	**Pn**	**23 58 26.2**	**+2.1**
HNR	**Honiara**	**8.94**	**112**	LR	LR	00 02 25.6	
	comp=Z,3μm,18.5s,baz=154,slow=35						
CTA	**Charters Tower**	**14.81**	**200**	LR	LR	00 06 10.0	
	comp=Z,174nm,18.5s,baz=71,slow=37						
QIS	**Mount Isa**	**18.45**	**218**	P	**Pn**	**00 01 13.5**	**+0.5**
EIDS	**Eidsvold**	**19.14**	**181**	P	**P**	**00 01 22.1**	**+1.9**
RMQ	**Roma**	**20.43**	**187**	P	Pn	00 01 36.7	+0.2
GUMO	**Guam**	**20.68**	**341**	LR	LR	00 09 42.5	
	comp=Z,68nm,19.0s,baz=134,slow=37						
MTN	**Manton Dam**	**21.21**	**250**	P	**P**	**00 01 40.6**	**-2.2**
MTN				IAmb	IAmb	00 01 51.2	
	comp=Z,20nm,1.2s						
DZM	**Mont Dzumac**	**21.41**	**139**	LR	LR	00 08 40.6	
	comp=Z,208nm,20.8s,baz=276,slow=32						
WB0	**Warramunga Arr**	**21.50**	**229**	P	**P**	**00 01 44.3**	**-1.5**
WB0				IAmb	IAmb	00 01 50.4	
	comp=Z,31nm,1.2s						
WR0	**Warramunga Arr**	**21.50**	**229**	P	**P**	**00 01 44.6**	**-1.2**
WR0				IAmb	IAmb	00 01 45.8	
	comp=Z,26nm,1.1s						
QLP	**Quilpie**	**21.51**	**198**	P	**P**	**00 01 47.7**	**+1.9**
WRAB	**Tennant Creek**	**21.63**	**229**	P	**P**	**00 01 46.2**	**-1.0**
WB2	**Warramunga Arr**	**21.64**	**229**	P	**P**	**00 01 46.0**	**-1.3**
WB2				IAmb	IAmb	00 01 47.2	
	comp=Z,33nm,1.5s						
WRA	**Warramunga Arr**	**21.64**	**229**	P	**P**	**00 01 46.0**	**-1.4**
	comp=Z,3.8nm,0.6s,baz=53,slow=10,SNR=25						
WRA				PcP	**PcP**	**00 05 48.4**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=48,slow=2.0,SNR=3.2						
WRA				LR	LR	00 10 50.7	
	comp=Z,92nm,18.3s,baz=30,slow=39						
	comp=Z,3.8nm,0.6s						
WRA	**Warramunga Arr**	**21.64**	**229**	P	**P**	**00 01 44.6**	**-2.8**
INKA	**Innaminka**	**23.83**	**204**	P	**P**	**00 02 10.4**	**+0.7**
KNRA	**Kununurra**	**24.29**	**245**	P	**P**	**00 02 11.0**	**-3.0**
AS31	**Alice Springs**	**24.34**	**222**	P	**P**	**00 02 14.3**	**-0.2**
ASAR	**Alice Springs**	**24.34**	**222**	P	**P**	**00 02 14.1**	**-0.5**
	comp=Z,8.7nm,0.8s,baz=57,slow=9.5,SNR=65						
ASAR				LR	LR	00 12 23.5	
	comp=Z,74nm,18.1s,baz=88,slow=38						
	comp=Z,8.7nm,0.8s						
ASAR	**Alice Springs**	**24.34**	**222**	P	**P**	**00 02 13.1**	**-1.4**
CMSA	**Cobar Meteorol**	**25.87**	**192**	P	**P**	**00 02 29.6**	**+1.3**
STKA	**Stephens Creek**	**27.26**	**199**	P	**P**	**00 02 41.2**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=5.5,slow=11,SNR=5.9						
STKA				LR	LR	00 13 08.2	
	comp=Z,77nm,21.9s,baz=26,slow=36						
	comp=Z,5.2nm,0.9s						
STKA	**Stephens Creek**	**27.26**	**199**	P	**P**	**00 02 40.9**	**0.0**
FITZ	**Fitzroy Crossi**	**27.94**	**242**	P	**P**	**00 02 45.6**	**-1.4**
	comp=Z,3.3nm,0.6s,baz=55,slow=7.2,SNR=10						
	comp=Z,3.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.94**	**242**	P	**P**	**00 02 45.5**	**-1.6**
FITZ				IAmb	IAmb	00 03 27.0	
	comp=Z,6.7nm,1.0s						
DAV	**Davao City (W)**	**29.04**	**296**	LR	LR	00 11 57.0	
	comp=Z,65nm,21.9s,baz=134,slow=31						
CAN	**Canberra**	**29.15**	**184**	P	**P**	**00 02 57.1**	**-0.6**
JCJ	**Chichijima**	**34.24**	**345**	LR	LR	00 16 17.3	
	comp=Z,73nm,20.9s,baz=150,slow=34						
RPZ	**Rata Peaks**	**41.18**	**158**	LR	LR	00 20 48.9	
	comp=Z,148nm,18.8s,baz=268,slow=35						
MJAR	**Matsushiro Arr**	**44.24**	**345**	LR	LR	00 23 19.0	
	comp=Z,66nm,18.3s,baz=186,slow=36						
CBJI	**Citeko**	**44.43**	**267**	P	**P**	**00 05 07.1**	**-0.5**
KSRS	**Korea Array**	**48.64**	**335**	P	**P**	**00 05 40.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=145,slow=9.3,SNR=1.8						
	comp=Z,0.6nm,0.5s						
MNSI	**Mandailing Nat**	**52.34**	**276**	P	P	00 06 14.7	+6.1
CMAR	**Chiang Mai Arr**	**57.33**	**296**	LR	LR	00 31 45.0	
	comp=Z,16nm,18.2s,baz=255,slow=36						
PETK	**Petropavlovsk-**	**59.23**	**4**	LR	LR	00 28 13.7	
	comp=Z,30nm,20.0s,baz=203,slow=32						
SHEM	**Shemya Is, Ala**	**61.68**	**15**	LR	LR	00 33 22.2	
	comp=Z,42nm,18.1s,baz=220,slow=35						
SONM	**Songino Array**	**66.79**	**329**	P	**P**	**00 07 47.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=106,slow=3.1,SNR=2.4						
	comp=Z,0.5nm,0.6s						
VNDA	**Vanda**	**71.56**	**178**	P	**P**	**00 08 17.7**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=318,slow=4.9,SNR=4.0						
	comp=Z,1.0nm,0.9s						
CNPM	**China Poot**	**79.44**	**26**	P	**P**	**00 09 01.4**	**-0.8**
L19K	**White Mountain**	**79.44**	**23**	P	**P**	**00 09 02.3**	**+0.2**
J20K	**Nowinta River**	**80.86**	**21**	P	**P**	**00 09 09.8**	**+0.1**
J20K				IAmb	IAmb	00 09 10.7	
	comp=Z,9.1nm,1.3s						
CAST	**Castle Rocks**	**81.19**	**22**	P	**P**	**00 09 10.5**	**-1.0**
CAST				IAmb	IAmb	00 09 26.5	
	comp=Z,7.1nm,1.4s						
IMAR	**Indian Mountai**	**82.04**	**20**	P	**P**	**00 09 14.6**	**-1.3**
RND	**Reindeer**	**82.42**	**23**	P	**P**	**00 09 17.4**	**-0.6**
RND				IAmb	IAmb	00 09 18.4	
	comp=Z,2.7nm,0.8s						
MLY	**Manley**	**82.56**	**21**	P	**P**	**00 09 18.5**	**-0.2**
MLY				IAmb	IAmb	00 09 33.7	
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**83.84**	**22**	P	**P**	**00 09 25.1**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=253,slow=5.5,SNR=10.0						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**83.84**	**22**	P	**P**	**00 09 25.3**	**0.0**
QSPA	**South Pole Qui**	**83.85**	**180**	P	**P**	**00 09 25.8**	**+0.3**
MAW	**Mawson**	**83.88**	**203**	P	**P**	**00 09 25.0**	**-0.4**
J25K	**Salcha River,**	**84.35**	**23**	P	**P**	**00 09 27.1**	**-0.8**
J25K				IAmb	IAmb	00 09 28.5	
	comp=Z,5.2nm,1.1s						
M27K	**Edge Creek, AK**	**84.80**	**25**	P	**P**	**00 09 30.7**	**+0.4**
M27K				IAmb	IAmb	00 09 32.5	
	comp=Z,3.8nm,0.9s						
NVAR	**Mina Array Bea**	**93.87**	**52**	P	**P**	**00 10 15.7**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=247,slow=4.4,SNR=2.3						
	comp=Z,0.2nm,0.5s						
ARU	**Arti**	**96.72**	**326**	LR	LR	00 52 47.4	
	comp=Z,34nm,21.8s,baz=248,slow=35						
GERES	**GERESS Array B**	**124.51**	**327**	PKP	**PKPdf**	**00 15 55.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=132,slow=1.5,SNR=7.0						
TORD	**Torodi Ar. Bea**	**149.50**	**285**	PKPbc	**PKPbc**	**00 16 45.2**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=62,slow=2.7,SNR=16						

*LDG **07** 00:04:09.7±0.1, 42°.72N×13°.22E, h10km, Md3.2/2, Ml2.9/26, Error ellipse: s-maj=2.1km s-min=1.1km az=48.0*

*PRU **07** 00:04:10.5±0.0, 42°.75N×13°.40E, h0km*

*ROM **07** 00:04:10.6±0.1, 42°.735N±0°.003×13°.192E±0°.004, h13km, ML3.3/98, Error ellipse: s-maj=0.3km s-min=0.1km az=245.0*

*PDG **07** 00:04:11.1±0.5, 42°.72N×13°.19E, h13km, ML3.4/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

*GEN **07** 00:04:28.3, 43°.42N×11°.95E, h29km±3km, Ml2.0*

ISC 07 00:04:10.6±0.7, 42°.72N±0°.01×13°.16E±0°.02, h15km±4km, n226, σ2§42/310, 78C-47D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.05**	**106**	P	**Pg**	**00 04 13.3**	**-0.2**
T1202				S	**Sg**	**00 04 15.0**	**-0.5**
T1201	**Domo (RI)**	**0.09**	**133**	P	**Pg**	**00 04 14.0**	**+0.2**
T1201				S	**Sg**	**00 04 15.6**	**-0.7**
T1201				AML	AML		
T1201				AML	AML		
	comp=N,86400μm,0.6s						
T1201				AML	AML		
T1201				AML	AML		
	comp=N,86600μm,0.6s						
T1201				AML	AML		
T1201				AML	AML		
	comp=N,86700μm,0.6s						
T1201				AML	AML		
	comp=N,86450μm,0.6s						
T1242	**Castelluccio d**	**0.12**	**15**	P	**Pg**	**00 04 13.8**	**-0.5**
T1242				S	**Sg**	**00 04 15.9**	**-0.8**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1204	**Amatrice, Fraz**	**0.12**	**110**	P	**Pg**	**00 04 14.1**	**-0.2**
T1204				S	**Sg**	**00 04 16.3**	**-0.4**
T1204				AML	AML		
	comp=N,34500μm,1.1s						
T1204				AML	AML		
	comp=E,57600μm,1.2s						
T1204				AML	AML		
	comp=N,34550μm,1.1s						
NRCA	**Norcia**	**0.12**	**343**	P	**Pg**	**00 04 13.8**	**-0.4**
NRCA				S	**Sg**	**00 04 16.1**	**-0.6**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
LNSS	**Leonessa**	**0.14**	**219**	P	**Pg**	**00 04 15.1**	**+0.5**
LNSS				S	**Sb**	**00 04 18.3**	**+0.2**
LNSS				AML	AML		
	comp=E,57300μm,1.4s						
LNSS				AML	AML		
	comp=N,56550μm,1.2s						
MC2	**Monte Cornacci**	**0.20**	**6**	P	**Pg**	**00 04 15.1**	**-0.3**
MC2				S	**Sg**	**00 04 18.3**	**-0.3**
RM33	**Pellescritta (**	**0.21**	**170**	⇑P	**Pg**	**00 04 15.9**	**+0.5**
RM33				S	**Sb**	**00 04 19.8**	**-0.1**
RM33				AML	AML		
	comp=E,15450μm,0.7s						
RM33				AML	AML		
	comp=N,12850μm,0.4s						
RM33				AML	AML		
	comp=E,15400μm,0.7s						
RM33				AML	AML		
	comp=E,15350μm,0.7s						
RM33				AML	AML		
	comp=N,12900μm,0.4s						
T1243	**Rocca Santa Ma**	**0.21**	**95**	P	**Pg**	**00 04 15.2**	**-0.3**
T1243				S	**Sg**	**00 04 18.3**	**-0.5**
MMO1	**Montemonaco**	**0.22**	**33**	⇑P	**Pg**	**00 04 15.2**	**-0.4**
MMO1				S	**Sg**	**00 04 18.5**	**-0.5**
MMO1				AML	AML		
	comp=E,60750μm,0.2s						
MMO1				AML	AML		
	comp=N,42250μm,0.9s						
MMO1				AML	AML		
	comp=E,60700μm,0.2s						
T1215	**Vallo di Nera,**	**0.23**	**292**	⇑P	**Pg**	**00 04 16.2**	**+0.3**
T1215				S	**Sg**	**00 04 20.2**	**+0.8**
T1215				AML	AML		
	comp=E,14200μm,0.4s						
T1215				AML	AML		
	comp=N,9760μm,1.4s						
T1215				AML	AML		
	comp=N,10500μm,1.4s						
T1215				AML	AML		
	comp=E,14300μm,0.4s						
T1215				AML	AML		
	comp=N,9780μm,1.4s						
T1215				AML	AML		
	comp=N,10465μm,1.4s						
T1215				AML	AML		
	comp=E,14200μm,0.4s						
T1241	**Roccafluvione,**	**0.24**	**55**	⇑P	**Pg**	**00 04 15.6**	**-0.4**
T1241				S	**Sg**	**00 04 19.0**	**-0.5**
T1241				AML	AML		
	comp=E,16400μm,0.4s						
T1241				AML	AML		
	comp=N,11275μm,0.7s						
T1241				AML	AML		
	comp=E,15750μm,0.3s						
T1241				AML	AML		
	comp=N,10980μm,0.7s						
T1241				AML	AML		
	comp=N,10985μm,0.7s						
T1241				AML	AML		
	comp=N,11235μm,0.7s						
CAMP	**Campotosto**	**0.26**	**135**	P	**Pg**	**00 04 16.3**	**+0.1**
CAMP				S	**Sg**	**00 04 20.4**	**+0.4**
CAMP				AML	AML		
	comp=E,6645μm,0.2s						
CAMP				AML	AML		
	comp=N,5155μm,0.2s						
FEMA	**Monte Fema**	**0.26**	**341**	P	**Pg**	**00 04 16.2**	**-0.1**
FEMA				S	**Sg**	**00 04 20.4**	**+0.2**
FEMA				AML	AML		
	comp=E,20250μm,0.6s						
FEMA				AML	AML		
	comp=N,24000μm,0.3s						
FEMA				AML	AML		
	comp=E,20200μm,0.6s						
ARRO	**Arrone**	**0.32**	**245**	P	**Pg**	**00 04 18.0**	**+0.7**
FDMO	**Fiordimonte**	**0.33**	**350**	⇓P	**Pg**	**00 04 17.2**	**-0.2**
FDMO				S	**Sg**	**00 04 22.0**	**0.0**
FDMO				AML	AML		
	comp=E,7875μm,0.2s						
FDMO				AML	AML		
	comp=N,7020μm,0.7s						
TERO	**Teramo**	**0.34**	**106**	⇑P	**Pg**	**00 04 17.3**	**-0.3**
TERO				S	**Sg**	**00 04 22.3**	**-0.1**
TERO				AML	AML		
	comp=N,19900μm,0.5s						
TERO				AML	AML		
	comp=E,12350μm,0.2s						
TERO				AML	AML		
	comp=E,11000μm,0.2s						
TERO				AML	AML		
	comp=N,19850μm,0.5s						
TERO				AML	AML		
	comp=E,10950μm,0.2s						
TERO				AML	AML		
	comp=N,21900μm,0.5s						
CESI	**CESI - Serrava**	**0.34**	**327**	P	**Pg**	**00 04 17.8**	**+0.1**
CESI				S	**Sg**	**00 04 23.1**	**+0.4**
CESI				AML	AML		
	comp=E,7115μm,0.9s						
CESI				AML	AML		
	comp=N,14650μm,0.5s						
GUMA	**Gualdo di Mace**	**0.37**	**20**	⇑P	**Pb**	**00 04 18.2**	**-0.7**
GUMA				S	**Sb**	**00 04 23.9**	**-0.6**
GUMA				AML	AML		
	comp=N,58600μm,0.3s						
GUMA				AML	AML		
	comp=E,48500μm,1.0s						
GUMA				AML	AML		
	comp=E,78750μm,0.3s						
GUMA				AML	AML		
	comp=N,47000μm,0.6s						
CSP1	**Cessapalombo**	**0.

comp=E,3885µm,0.4s
AQU AML AML
comp=N,2745µm,0.3s
AQU AML AML
comp=E,3865µm,0.4s
AQU AML AML
comp=N,2930µm,0.9s
OFFI Offida 0.44 60 ⇑P Pb 00 04 19.9 -0.2
OFFI AML AML
comp=E,12300µm,0.5s
OFFI AML AML
comp=N,11200µm,0.6s
CESX Cesi 0.44 256 ⇑P Pg 00 04 19.8 +0.4
CESX AML AML
comp=N,5010µm,1.1s
CESX AML AML
comp=E,4215µm,0.7s
FIAM Fiamignano 0.45 184 ⇑P Pg 00 04 20.0 +0.4
FIAM AML AML
comp=E,5095µm,0.6s
FIAM AML AML
comp=N,3080µm,0.4s
SEF1 Sefro 0.46 340 P Pg 00 04 19.6 -0.2
MDAR Monte D'Aria 0.48 358 P Pg 00 04 19.8 -0.4
MDAR AML AML
comp=E,3530µm,1.2s
MDAR AML AML
comp=N,3985µm,1.4s
MDAR AML AML
comp=N,3985µm,1.4s
MDAR AML AML
comp=E,3530µm,1.2s
MNTP Montappone 0.48 28 P Pb 00 04 20.4 -0.4
ASSB Assisi San Ben 0.49 311 ⇑P Pg 00 04 20.4 -0.1
ASSB AML AML
comp=N,5180µm,0.7s
ASSB AML AML
comp=E,4735µm,0.3s
SSM1 San Severino M 0.51 1 P Pg 00 04 20.6 -0.1
GAG1 Gagliole 0.53 352 P Pg 00 04 20.9 -0.1
GAG1 S Sb 00 04 28.8 -0.2
GAG1 AML AML
comp=N,7465µm,0.4s
GAG1 AML AML
comp=E,7145µm,1.0s
GAG1 AML AML
comp=N,7510µm,0.4s
FAGN Fagnano 0.55 145 ⇑P Pg 00 04 21.4 0.0
FAGN AML AML
comp=E,6405µm,0.4s
FAGN AML AML
comp=N,4670µm,0.3s
MTL1 Matelica 0.55 348 ⇓P Pb 00 04 21.9 -0.1
MTL1 AML AML
comp=E,6605µm,0.4s
MTL1 AML AML
comp=N,8060µm,0.3s
MTL1 AML AML
comp=N,8065µm,0.3s
TRTR Tortoreto Alta 0.56 80 ⇓P Pb 00 04 22.0 -0.1
TRTR AML AML
comp=E,9385µm,0.4s
TRTR AML AML
comp=N,10800µm,0.4s
SNTG Esanatoglia 0.56 343 ⇑P Pg 00 04 21.4 -0.4
SNTG AML AML
comp=E,1800µm,0.2s
SNTG AML AML
comp=N,2190µm,0.2s
VCEL Villa Celiera 0.59 123 P Pg 00 04 22.4 +0.1
VCEL S Sn 00 04 34.0 -0.1
VCEL AML AML
comp=E,5200µm,0.3s
VCEL AML AML
comp=E,5195µm,0.3s
VCEL AML AML
comp=N,4570µm,0.9s
TRE1 Treia 0.60 10 P Pb 00 04 22.6 -0.4
TRE1 AML AML
comp=E,8115µm,0.4s
TRE1 AML AML
comp=N,7350µm,1.0s
TRE1 AML AML
comp=E,8145µm,0.4s
ATCC AVT- Casa Cast 0.61 321 ⇓P Pg 00 04 22.5 -0.1
ATCC AML AML
comp=N,4095µm,0.6s
ATCC AML AML
comp=N,4100µm,0.6s
ATCC AML AML
comp=E,3880µm,0.4s
EL6 Elcito 0.61 356 ⇑P Pg 00 04 22.2 -0.5
EL6 AML AML
comp=E,4750µm,0.3s
EL6 AML AML
comp=N,3850µm,0.6s
EL6 AML AML
comp=N,3845µm,0.6s
EL6 AML AML
comp=E,4755µm,0.3s
CADA Capodarco di F 0.65 42 AML AML
comp=E,8005µm,0.6s
CADA AML AML
comp=N,6365µm,1.0s
FOSV Fossato di Vic 0.65 333 P Pg 00 04 23.1 -0.3
FOSV AML AML
comp=E,1610µm,0.3s
FOSV AML AML
comp=N,2345µm,1.4s
FOSV AML AML
comp=N,2350µm,1.4s
FOSV AML AML
comp=E,1615µm,0.3s
CING Cingoli 0.66 2 ⇑P Pg 00 04 22.9 -0.6
CING AML AML
comp=N,2855µm,0.6s
CING AML AML
comp=E,2725µm,0.1s
T0110 Collepietro 0.67 137 ⇓P Pg 00 04 23.4 -0.3
T0110 AML AML
comp=E,3480µm,0.5s
T0110 AML AML
comp=N,4120µm,0.3s
SRES S.Oreste - Sor 0.68 225 ⇑P Pg 00 04 24.0 +0.1
SRES AML AML
comp=E,1410µm,1.0s
SRES AML AML
comp=N,1725µm,0.4s
PTQR Pietraquaria 0.72 166 ⇓P Pg 00 04 24.6 0.0
PTQR AML AML
comp=E,944µm,0.7s
PTQR AML AML
comp=N,973µm,0.6s
MURB Monte Urbino 0.72 320 P Pg 00 04 24.6 -0.1
MURB S Sn 00 04 37.0 -0.2
MURB AML AML
comp=E,5760µm,0.4s
MURB AML AML
comp=N,5840µm,0.3s
MURB AML AML
comp=E,6570µm,0.3s
MURB AML AML
comp=N,6065µm,0.3s
MURB AML AML
comp=E,5765µm,0.4s
PP3 Marolino 0.74 26 ⇑P Pb 00 04 25.4 +0.2
PP3 AML AML
comp=E,14550µm,0.5s
PP3 AML AML
comp=N,7140µm,0.3s
PP3 AML AML
comp=E,14150µm,0.5s
PP3 AML AML
comp=N,7995µm,0.3s
PP3 AML AML
comp=E,14550µm,0.5s
PP3 AML AML
comp=N,7140µm,0.3s
PP3 AML AML
comp=E,14100µm,0.5s
MTCE Montecelio 0.76 204 ⇑P Pg 00 04 25.1 -0.3
MTCE AML AML
comp=E,2340µm,0.4s
MTCE AML AML
comp=N,1101µm,0.5s
ATTE AVT- Monte Tez 0.77 309 ⇓P Pg 00 04 25.6 +0.1
ATTE AML AML
comp=E,1100µm,0.4s
ATTE AML AML
comp=N,913µm,0.5s
SSFR Montelago di S 0.77 339 P Pg 00 04 25.3 -0.3
SSFR AML AML
comp=E,4360µm,1.1s
SSFR AML AML
comp=N,3520µm,0.3s
SSFR AML AML
comp=E,4325µm,1.1s
SSFR AML AML
comp=N,3635µm,0.2s
CERT Cerreto 0.78 190 ⇑P Pg 00 04 25.4 -0.4
CERT AML AML
comp=E,3590µm,1.3s
CERT AML AML
comp=N,2640µm,0.4s
ATFO Monte Foce - G 0.78 326 ⇓P Pb 00 04 25.9 -0.1
ATFO AML AML
comp=N,1315µm,0.4s
ATFO AML AML
comp=E,1400µm,0.3s
ATFO AML AML
comp=N,1320µm,0.4s
MGAB Montegabbione 0.80 285 ⇑P Pg 00 04 26.2 +0.1
MGAB AML AML
comp=E,3815µm,0.5s
MGAB AML AML
comp=N,2950µm,1.4s
MGAB AML AML
comp=E,4200µm,0.5s
MGAB AML AML
comp=N,3030µm,0.5s
MGAB AML AML
comp=E,3810µm,0.5s
FRON Frontone 0.86 338 ⇓P Pg 00 04 26.8 -0.6
FRON AML AML
comp=E,1175µm,0.4s
FRON AML AML
comp=N,1475µm,0.5s
ATVO AVT- Monte Val 0.87 320 ⇑P Pg 00 04 27.1 -0.4
ATVO AML AML
comp=E,1255µm,0.6s
ATVO AML AML
comp=N,1430µm,0.6s
RCAV Rocca di Cave 0.88 191 ⇓P Pg 00 04 27.7 0.0
AOI Ancona 0.89 21 ⇑P Pg 00 04 27.4 -0.6
AOI S Sn 00 04 43.0 +1.6
AOI AML AML
comp=N,1490µm,0.4s
AOI AML AML
comp=E,2255µm,1.1s
INTR Introdacqua 0.89 142 ⇑P Pg 00 04 26.9 -1.0
INTR AML AML
comp=E,1µm,1.1s
INTR AML AML
comp=N,1µm,0.7s
INTR AML AML
comp=N,2075µm,0.7s
INTR AML AML
comp=E,1µm,1.1s
INTR AML AML
comp=N,1µm,0.7s
INTR AML AML
comp=E,1118µm,0.9s
ATMI Monte Miggiano 0.90 314 ⇑P Pb 00 04 28.2 +0.3
ATMI AML AML
comp=N,4120µm,1.1s
ATMI AML AML
comp=E,5265µm,0.7s
ATPI Pietralunga - 0.92 323 ⇓P Pg 00 04 28.3 -0.2
ATPI AML AML
comp=E,944µm,0.9s
ATPI AML AML
comp=N,864µm,0.4s
COR1 Corinaldo 0.92 353 P Pn 00 04 28.8 -0.3
COR1 AML AML
comp=E,3380µm,0.6s
COR1 AML AML
comp=N,3150µm,0.7s
COR1 AML AML
comp=E,3385µm,0.6s
COR1 AML AML
comp=N,3155µm,0.7s
COR1 AML AML
comp=E,1745µm,0.6s
COR1 AML AML
comp=N,2960µm,0.7s
GUAR Guarcino 0.93 173 ⇑P Pn 00 04 30.6 +1.5
GUAR AML AML
comp=N,1660µm,0.4s
GUAR AML AML
comp=E,2020µm,0.5s
SACS San Casciano d 0.93 279 P Pg 00 04 28.9 +0.2
SACS AML AML
comp=E,1164µm,0.3s
SACS AML AML
comp=E,1130µm,0.3s
SACS AML AML
comp=N,1200µm,0.7s
SACS AML AML
comp=N,1220µm,1.1s
PIEI Pieia 0.94 331 P Pg 00 04 25.6 -3.2
MPAG Monte Paganucc 0.96 342 ⇓P Pb 00 04 29.0 0.0
MPAG AML AML
comp=E,912µm,0.4s
MPAG AML AML
comp=N,904µm,0.4s
MPAG AML AML
comp=N,904µm,0.4s
RMP Rome, Mte Porz 0.97 201 P Pb 00 04 29.2 +0.2
RMP AML AML
comp=E,2005µm,0.5s
RMP AML AML
comp=N,2595µm,0.4s
SENI Senigallia 0.99 3 ⇑P Pn 00 04 30.3 +0.3
SENI AML AML
comp=E,6520µm,0.3s
SENI AML AML
comp=N,5885µm,1.4s
NARO Abbazia di Nar 0.99 335 ⇓P Pb 00 04 29.1 -0.4
NARO AML AML
comp=E,718µm,0.3s
NARO AML AML
comp=N,762µm,0.5s
NARO AML AML
comp=E,718µm,0.3s
APEC Apecchio 1.00 327 ⇓P Pn 00 04 30.3 +0.1
LATE Laterza 1.01 265 ⇓P Pn 00 04 30.9 +0.7
LPEL Lama dei Pelig 1.01 131 P Pb 00 04 28.4 -1.4
LPEL AML AML
comp=N,986µm,0.6s
LPEL AML AML
comp=E,1230µm,1.5s
VIVA Pratoni del Vi 1.01 197 ⇑P Pn 00 04 30.7 +0.4
VIVA AML AML
comp=E,3420µm,0.4s
VIVA AML AML
comp=N,4285µm,0.4s
RDP Rocca di Papa 1.01 199 ⇓P Pn 00 04 31.5 +1.2
RDP AML AML
comp=E,3845µm,0.6s
RDP AML AML
comp=N,4495µm,0.4s
FSSB Fossombrone 1.01 344 ⇓P Pb 00 04 29.7 -0.2
FSSB AML AML
comp=E,2500µm,0.4s
FSSB AML AML
comp=N,5120µm,0.3s
BADI Badiali 1.04 320 ⇓P Pn 00 04 30.8 +0.1
CAFI Castiglion Fio 1.07 305 P Pg 00 04 31.4 +0.1
CAFI AML AML
comp=E,930µm,1.3s
CAFI AML AML
comp=N,831µm,0.8s
POFI Posta Fibreno 1.08 158 ⇑P Pn 00 04 33.7 +2.4
POFI AML AML
comp=N,339µm,0.6s
POFI AML AML
comp=E,776µm,0.7s
TOLF Tolfa 1.08 233 ⇓P Pb 00 04 31.5 +0.5
TOLF AML AML
comp=N,642µm,0.8s
TOLF AML AML
comp=E,730µm,0.6s
LAV9 Lanuvio 1.09 199 ⇓P Pb 00 04 31.3 +0.1
LAV9 AML AML
comp=N,2395µm,0.6s
LAV9 AML AML
comp=N,2600µm,0.4s
LAV9 AML AML
comp=E,2525µm,1.2s
LAV9 AML AML
comp=E,2365µm,0.4s
PE3 Peglio 1.09 334 ⇑P Pg 00 04 31.4 -0.3
MCIV Monte Civitell 1.10 274 ⇑P Pg 00 04 32.4 +0.6
MCIV AML AML
comp=N,422µm,0.7s
MCIV AML AML
comp=E,594µm,0.3s
SF04 Casetta 1.11 277 ⇓P Pg 00 04 32.7 +0.6
PARC Parchiule 1.15 324 ⇑P Pg 00 04 33.7 +0.9
PARC AML AML
comp=N,802µm,0.6s
PARC AML AML
comp=E,630µm,0.6s
GIUL Giuliano Di Ro 1.16 177 ⇑P Pn 00 04 32.4 +0.1
GIUL AML AML
comp=E,554µm,0.6s
GIUL AML AML
comp=N,838µm,0.6s
SF01 Poggio Pratacc 1.18 275 P Pg 00 04 34.2 +0.8
PESA Pesaro 1.25 349 ⇓P Pg 00 04 34.9 +0.2
PESA AML AML
comp=E,2115µm,0.5s
PESA AML AML
comp=N,1500µm,0.4s
ARCI Arcidosso 1.25 277 ⇓P Pg 00 04 35.7 +1.0
ARCI AML AML
comp=E,240µm,0.6s
ARCI AML AML
comp=N,215µm,0.8s
CRE Caprese Michel 1.27 316 ⇓P Pg 00 04 35.7 +0.7
CRE AML AML
comp=N,515µm,0.3s
CRE AML AML
comp=E,476µm,1.3s
CERA Filignano 1.29 150 ⇑P Pg 00 04 35.1 -0.3
CERA AML AML
comp=N,618µm,0.6s
CERA AML AML
comp=E,558µm,1.4s
MIDA Miranda 1.35 143 ⇑P Pg 00 04 37.6 +1.1
MIDA AML AML
comp=N,398µm,0.5s
MIDA AML AML
comp=E,488µm,0.7s
TRIV Trivento 1.40 132 ⇓P Pg 00 04 38.6 +1.1
TRIV AML AML
comp=N,530µm,1.2s
TRIV AML AML
comp=E,610µm,0.9s
FROS Frosini 1.55 289 P Pb 00 04 38.9 -0.2
CSNT Castellina Chi 1.57 299 P Pb 00 04 38.9 -0.4
CSNT Castellina Chi 1.57 299 ⇑P Pb 00 04 39.2 -0.1
CSNT AML AML
comp=E,190µm,1.5s
CSNT AML AML
comp=N,157µm,0.5s
OSSC Osservatorio P 1.62 301 P Pb 00 04 40.0 -0.2
OSSC Osservatorio P 1.62 301 ⇓P Pb 00 04 40.2 +0.1
OSSC AML AML
comp=E,141µm,0.5s
OSSC AML AML
comp=N,174µm,1.1s
RUFI Rufina 1.65 313 P Pn 00 04 39.9 +0.9
MODR Mondragone 1.66 161 ⇓P Pn 00 04 39.1 -0.1
MODR AML AML
comp=E,122µm,1.6s
MODR AML AML
comp=N,136µm,1.4s
CASP Castiglione de 1.69 273 ⇓P Pn 00 04 40.7 +1.0
CASP AML AML
comp=N,67µm,0.6s
CASP AML AML
comp=E,98µm,1.2s
TRIF Trifonti 1.71 284 ⇑P Pn 00 04 41.1 +1.2
TRIF AML AML
comp=N,204µm,0.8s
TRIF AML AML
comp=E,184µm,0.9s
MELA Melanico ??? S 1.77 124 ⇑P Pg 00 04 43.9 -0.8
MELA AML AML
comp=N,756µm,1.1s
MELA AML AML
comp=N,764µm,0.4s
MELA AML AML
comp=E,820µm,1.6s
MELA AML AML
comp=E,762µm,1.6s
TREM Isole Tremiti 1.84 108 S Sg 00 05 10.0 +0.3
VITU Vitulano (BN) 1.88 144 P Pb 00 04 44.7 0.0
VITU AML AML
comp=E,180µm,1.3s
VITU AML AML
comp=N,222µm,0.5s
APRC Apricena 2.01 118 ⇑P Pn 00 04 45.4 +1.3
APRC AML AML
comp=E,388µm,1.6s
APRC AML AML
comp=N,506µm,0.6s
SGRT San Giovanni R 2.14 116 ⇓P Pb 00 04 47.6 -1.6
SGRT S Sb 00 05 16.0 +0.4
SGRT AML AML
comp=E,386µm,0.6s
SGRT AML AML
comp=N,387µm,0.5s
PII Pisa 2.17 298 P Pn 00 04 48.1 +1.8
PII Pisa 2.17 298 ⇓P Pn 00 04 48.1 +1.8
PII AML AML
comp=E,298µm,0.3s
PII AML AML
comp=N,140µm,1.5s
CELB S.Piero in Cam 2.18 272 P Pn 00 04 47.2 +0.9
CELB AML AML
comp=E,51µm,1.3s
CELB AML AML
comp=N,60µm,1.6s
POPM Popiglio 2.20 308 P Pn 00 04 47.6 +1.0
POPM Popiglio 2.20 308 ⇓P Pn 00 04 47.9 +1.3
POPM AML AML
comp=N,128µm,0.3s
POPM AML AML
comp=E,109µm,0.3s
ZCCA Zocca 2.28 317 P Pb 00 04 51.7 +0.2
MAIM Mastiano 2.29 302 P Pn 00 04 49.4 +1.6
CARD Cardoso 2.35 305 P Pn 00 04 49.7 +1.0
HVAR Hvar 2.46 78 ⇑P Pn 00 04 51.5 +1.4
EQUI Equi 2.63 304 P Pn 00 04 53.7 +1.2
EQUI Equi 2.63 304 ⇓P Pn 00 04 53.8 +1.3
PLMA Palmaria, Port 2.76 300 P Pn 00 04 55.6 +1.3
MRVN Minervino Murg 2.80 125 ⇑P Pn 00 04 57.4 +2.5
GRAM Graiana 2.87 309 P Pn 00 04 58.6 +2.8
CMPR Campora 2.88 145 S Sg 00 05 41.0 -2.3
A050A Klekovaca 3.02 53 eP Pn 00 04 59.6 +1.7
PGF Pioggiola 3.08 268 eP Pn 00 05 00.5 +1.7
PGF eSn Sn 00 05 32.1 -3.3
comp=E,6.1nm,0.5s
AMUR Altamura 3.14 124 ⇑P Pn 00 05 01.8 +2.2
CEY Cerknica 3.15 16 eP Pn 00 05 00.4 +0.6
SRKY Kupres RS 3.21 64 eP Pn 00 05 01.1 +0.5
ROVR Rover Verones 3.29 334 ⇑P Pn 00 05 04.0 +2.3
CGRP Cima Grappa 3.31 343 ⇓P Pn 00 05 04.0 +1.9
CGRP AML AML
comp=E,186µm,0.3s
CGRP AML AML
comp=N,192µm,0.5s
MGRS Mrkonjic Grad 3.32 58 eP Pn 00 05 04.1 +2.1
STON Ston 3.34 86 eP Pn 00 05 02.2 -0.1
MATE Matera 3.36 127 ⇑P Pn 00 05 01.8 -0.7
MATE ⇑S Sn 00 05 42.5 +0.3
LTRZ Laterza 3.46 126 ⇑P Pn 00 05 06.2 +2.3
DOSS Dosso del Somm 3.47 337 ⇑P Pn 00 05 06.7 +2.6
SALO Salr 3.47 328 ⇑P Pn 00 05 07.4 +3.4
NOCI Noci 3.50 122 ⇑P Pn 00 05 07.2 +2.7
NOCI AML AML
comp=E,150µm,1.6s
NOCI AML AML
comp=N,170µm,1.6s
CTI Castel Tesino 3.50 342 ⇓P Pn 00 05 06.9 +2.3
CTI AML AML
comp=E,130µm,0.3s

CTI AML AML
comp=N,193µm,0.3s
A051A Mrakovica 3.55 48 *e*Pn **Pn** 00 05 05.4 +0.2
BLY Banja Luka 3.55 54 *e*Pn **Pn** 00 05 07.4 +2.2
MAGA Magasa 3.56 330 ⇑P **Pn** 00 05 07.8 +2.3
MAGA S **Sn** 00 05 51.0 +3.7
MAGA AML AML
comp=N,190µm,0.6s
MAGA AML AML
comp=E,309µm,1.2s
LUSI Trento, Gardas 3.61 335 ⇓P **Pn** 00 05 08.6 +2.5
LUSI AML AML
comp=E,95µm,0.3s
LUSI AML AML
comp=N,123µm,0.6s
ZONE Zone 3.75 325 ⇑P **Pn** 00 05 10.6 +2.6
ZONE AML AML
comp=E,93µm,1.6s
ZONE AML AML
comp=N,144µm,1.1s
TREB Trebinje 3.82 88 *e*Pn **Pn** 00 05 09.8 +0.9
ACOM Acomizza, Ital 3.84 4 ⇓P **Pn** 00 05 10.9 +1.6
ACOM AML AML
comp=E,92µm,0.9s
ACOM AML AML
comp=N,89µm,0.6s
MABI Malga Bissina 3.84 331 ⇑P **Pn** 00 05 11.6 +2.3
MABI AML AML
comp=E,37µm,0.5s
MABI AML AML
comp=N,44µm,0.9s
ZOU Zoufplan 3.84 358 ⇓P **Pn** 00 05 10.4 +1.1
OBKA Obir 3.92 14 *e*Pn **Pn** 00 05 12.3 +2.0
OBKA Obir 3.92 14 *e*Pn **Pn** 00 05 12.6 +2.2
comp=N,1.7nm,0.2s
MYKA Terra Mystica 3.93 5 *e*Pn **Pn** 00 05 12.0 +1.6
comp=N,3.4nm,0.2s
MYKA *e*Sn **Sn** 00 05 59.4 +3.1
comp=N,6.9nm,0.3s
HCY Herceg Novi 3.94 92 *e*Pn **Pn** 00 05 12.2 +1.6
HCY Herceg Novi 3.94 92 ⇓*i*Pn **Pn** 00 05 12.3 +1.6
HCY *i* Sn **Sn** 00 05 59.4 +2.8
KOSI Kohlern 3.96 342 ⇓P **Pn** 00 05 13.2 +2.3
KOSI AML AML
comp=N,82µm,1.4s
KOSI AML AML
comp=E,78µm,1.4s
BRY Bratogost 3.96 86⇑*i*Pn **Pn** 00 05 12.5 +1.6
BRY *i* Sn **Sn** 00 05 59.7 +2.5
APPI Appiano 4.01 340 ⇑P **Pn** 00 05 13.9 +2.4
APPI AML AML
comp=E,87µm,0.5s
APPI AML AML
comp=N,73µm,0.3s
ABTA Abfaltersbach 4.06 354 Pn **Pn** 00 05 14.3 +2.1
comp=N,1.8nm,0.2s,SNR=5.8
ABTA *e*Sn **Sn** 00 06 02.1 +2.7
comp=N,8.5nm,0.3s
CEME Cevo 4.25 90⇓*i*Pn **Pn** 00 05 16.5 +1.7
CEME *i* Sn **Sn** 00 06 06.6 +2.4
BUM Brajici-Budva 4.26 94⇑*i*Pn **Pn** 00 05 16.6 +1.7
BUM *i* Sn **Sn** 00 06 06.2 +1.8
NKME Niksic 4.26 87⇓*i*Pn **Pn** 00 05 16.8 +1.8
NKME *i* Sn **Sn** 00 06 06.7 +2.1
NKY Niksic 4.29 87⇑*i*Pn **Pn** 00 05 17.2 +1.7
NKY *i* Sn **Sn** 00 06 07.0 +1.7
RISI Rein 4.30 350 ⇓P **Pn** 00 05 18.2 +2.5
VSL Villasalto 4.30 223 ⇑P **Pn** 00 05 18.4 +2.8
KOGS Kog 4.33 30 ⇑P **Pn** 00 05 19.2 +3.3
SBF Sospel 4.34 287 *e*P **Pn** 00 05 17.7 +1.7
SBF *e*Sn **Sn** 00 06 02.0 -4.3
comp=N,11nm,0.4s
MUGIO Muggio 4.36 319 ⇓P **Pn** 00 05 18.4 +2.0
KBA Koelnbreinsper 4.36 2 *e*Pn **Pn** 00 05 20.2 +3.7
comp=N,1.5nm,0.1s
KBA *e*Sn **Sn** 00 06 08.9 +1.8
comp=N,6.9nm,0.3s
ROSI Rosskopf 4.39 344 ⇓P **Pn** 00 05 19.5 +2.6
DRME Dracevica, Mon 4.49 95 *e*Pn **Pn** 00 05 19.7 +1.7
DRME Dracevica, Mon 4.49 95⇓*i*Pn **Pn** 00 05 20.0 +2.0
DRME *i* Sn **Sn** 00 06 12.2 +2.2
PDG Podgorica 4.51 92 ⇑P **Pn** 00 05 19.1 +0.8
PDG ⇑S **Sn** 00 06 09.0 -1.4
TTG Podgorica 4.51 92⇑*i*Pn **Pn** 00 05 20.3 +2.0
TTG *i* Sn **Sn** 00 06 12.4 +2.0
ULC Ulcinj 4.57 97⇑*i*Pn **Pn** 00 05 20.9 +1.7
ULC *i* Sn **Sn** 00 06 13.3 +1.3
PLE Pljevlja 4.61 80⇓*i*Pn **Pn** 00 05 22.5 +2.7
PLE *e*Sn **Sn** 00 06 14.8 +1.8
RUDO Rudo 4.63 77 *e*Pn **Pn** 00 05 21.3 +1.3
FETA Feichten 4.64 339 *e*Pn **Pn** 00 05 23.6 +3.4
comp=N,0.6nm,0.2s
FETA *e*Sn **Sn** 00 06 20.3 +6.4
comp=N,2.7nm,0.5s
WTTA Wattenberg 4.67 347 *e*Pn **Pn** 00 05 23.8 +3.1
comp=N,1.6nm,0.2s
WTTA *e*Sn **Sn** 00 06 19.1 +4.2
comp=N,16nm,0.5s
KOME Kolasin 4.68 86⇑*i*Pn **Pn** 00 05 22.8 +2.1
KOME *i* Sn **Sn** 00 06 16.5 +1.7
SQTA Sankt Quirin 4.71 344 Pn **Pn** 00 05 24.1 +2.9
comp=N,3.9nm,0.3s,SNR=13
SQTA *e*Sn **Sn** 00 06 21.7 +6.0
comp=N,12nm,0.4s
WATA Walderalm 4.75 347 Pn **Pn** 00 05 25.7 +3.8
comp=N,3.8nm,0.2s,SNR=9.5
WATA *e*Sn **Sn** 00 06 22.7 +5.9
comp=N,10.0nm,0.4s
ARSA Arzberg 4.83 19 *i* Pn **Pn** 00 05 25.5 +2.6
comp=N,2.6nm,0.3s
ARSA *e*Sn **Sn** 00 06 18.6 +0.1
comp=N,1.5nm,0.3s
MOTA Moosalm 4.85 343 *e*Pn **Pn** 00 05 26.7 +3.5
comp=N,1.6nm,0.3s
MOTA *e*Sn **Sn** 00 06 24.0 +4.8
comp=N,6.1nm,0.5s
LMR La Mourre 4.92 279 *e*P **Pn** 00 05 25.1 +1.2
LMR *e*Sn **Sn** 00 06 15.8 -4.7
comp=N,8.0nm,0.7s
IVA Berane 4.96 86⇑*i*Pn **Pn** 00 05 26.5 +2.0
IVA *i* Sn **Sn** 00 06 23.4 +1.8
BIOA Bad Ischl, Aus 4.99 4 *e*Pn **Pn** 00 05 27.1 +2.1
comp=N,3.9nm,0.2s
BIOA *e*Sn **Sn** 00 06 26.2 +3.9
comp=N,22nm,0.5s
PVY Plav 5.01 89⇑*i*Pn **Pn** 00 05 27.0 +1.6
PVY *i* Sn **Sn** 00 06 24.8 +1.7
MBDF Montbardon 5.05 296 *e*P **Pn** 00 05 28.3 +2.4
MBDF *e*Sn **Sn** 00 06 19.2 -4.8
comp=N,5.7nm,0.6s
RETA Reutte 5.06 341 Pn **Pn** 00 05 29.5 +3.5
comp=N,1.7nm,0.3s,SNR=5.1
RETA *e*Sn **Sn** 00 06 28.8 +4.5
comp=N,4.3nm,0.4s
DAVA Damuels 5.13 334 *e*Pn **Pn** 00 05 31.1 +4.1
comp=N,1.5nm,0.3s
DAVA *e*Sn **Sn** 00 06 30.4 +4.5
comp=N,17nm,0.6s
DIVS Divibare 5.16 72 *e*Pn **Pn** 00 05 28.2 +0.8
TIR Tirane 5.17 103 ⇑P **Pn** 00 05 28.1 +0.6
TIR ⇑S **Sn** 00 06 25.2 -1.7
MOA Molln 5.19 8 *i* Pn **Pn** 00 05 29.6 +1.9
comp=N,1.4nm,0.2s
MOA *e*Sn **Sn** 00 06 29.9 +2.6
comp=N,6.8nm,0.4s
MORH Mrgy, Hungar 5.25 46 ⇑P **Pn** 00 05 30.4 +1.9
FRGS Fruska Gora 5.38 61 ⇑P **Pn** 00 05 30.7 +0.3
FRGS Fruska Gora 5.38 61 *e*Pn **Pn** 00 05 30.5 +0.1
LPG La Plagne 5.39 303 *e*P **Pn** 00 05 33.3 +2.6
LPG *e*Sn **Sn** 00 06 27.4 -5.2
comp=N,2.1nm,0.3s
LPL La Plagne 5.41 303 *e*P **Pn** 00 05 33.6 +2.7
LPL *e*Sn **Sn** 00 06 27.7 -5.3
comp=N,3.2nm,0.3s
RONA Rosalia, Austr 5.45 23 *e*Pn **Pn** 00 05 32.3 +1.0
comp=N,1.6nm,0.2s
RONA *e*Sn **Sn** 00 06 33.2 -0.6
comp=N,2.3nm,0.4s
CONA Conrad Observa 5.55 19 *e*Pn **Pn** 00 05 33.7 +1.0
comp=N,0.4nm,0.1s
CONA *e*Sn **Sn** 00 06 38.3 +2.1
comp=N,2.0nm,0.3s
SMRF Simiane la Rot 5.67 285 *e*P **Pn** 00 05 37.1 +2.7
SMRF *e*Sn **Sn** 00 06 34.0 -5.3
comp=N,1.1nm,0.4s

ORIF Oris-en-Rattie 5.71 295 *e*P **Pn** 00 05 37.8 +2.9
ORIF *e*Sn **Sn** 00 06 34.8 -5.4
comp=N,4.1nm,0.5s
CKRC Cesky Krumlov 6.16 7 *e*PN **Pn** 00 05 43.0 +2.0
CKRC *e*SN **Sn** 00 06 49.4 -1.7
BOVS Bovan 6.31 79 ⇑P **Pn** 00 05 44.0 +0.9
BOVS ⇑S **Sn** 00 06 54.1 -0.9
CABF La Chapelle 6.37 310 *e*P **Pn** 00 05 47.0 +3.0
CABF *e*Sn **Sn** 00 06 50.5 -6.0
comp=N,2.1nm,0.4s
KHC Kasperske Hory 6.42 2 *e*PN **Pn** 00 05 45.8 +1.2
KHC *e*SN **Sn** 00 06 56.7 -1.0
VIVF Saint-Julien-l 6.51 292 *e*P **Pn** 00 05 48.6 +2.8
VIVF *e*Sn **Sn** 00 06 53.9 -5.9
comp=N,1.6nm,0.5s
MDVR Moldovita 6.53 69 ⇑P **Pn** 00 05 46.7 +0.6
BZS Buzias 6.73 62 ⇑P **Pn** 00 05 49.8 +0.9
KRUC Moravsky 6.73 18 *e*PN **Pn** 00 05 49.4 +0.5
HINF Hinteralfeld 6.77 321 *e*P **Pn** 00 05 52.1 +2.7
HINF *e*Sn **Sn** 00 06 59.8 -6.4
comp=N,6.4nm,0.4s
LASF Ste Croix 6.91 284 *e*P **Pn** 00 05 53.2 +1.8
LASF *e*Sn **Sn** 00 07 03.6 -6.2
comp=N,0.3nm,0.3s
BLKB Belogradchik 7.01 79 ⇓P **Pn** 00 05 53.9 +1.1
BLKB ⇑S **Sn** 00 07 10.6 -1.6
CDF Champ du Feu 7.04 326 *e*P **Pn** 00 05 54.3 +1.2
CDF *e*Sn **Sn** 00 07 06.3 -6.5
comp=N,2.6nm,0.3s
HERR Herculane 7.04 69 ⇑P **Pn** 00 05 54.3 +1.2
HAU Haudompre 7.14 320 *e*P **Pn** 00 05 56.2 +1.7
HAU *e*Sn **Sn** 00 07 08.8 -6.5
comp=N,7.3nm,0.4s
PRU Pruhonice 7.34 7 *e*SN **Sn** 00 07 18.4 -1.7
VTS Vitosha 7.42 87 ⇑P **Pn** 00 05 59.0 +0.5
VTS ⇑S **Sn** 00 07 21.3 -1.2
SMF Signal de Mont 7.72 304 *e*P **Pn** 00 06 05.4 +3.0
SMF *e*Sn **Sn** 00 07 22.7 -6.8
comp=N,3.1nm,0.5s
PAGF Fort de Pagny 7.82 321 *e*P **Pn** 00 06 06.9 +3.1
PAGF *e*Sn **Sn** 00 07 25.0 -7.1
comp=N,1.8nm,0.3s
SFTF Sexfontaines 7.92 317 *e*P **Pn** 00 06 08.7 +3.6
SFTF *e*Sn **Sn** 00 07 29.4 -5.0
comp=N,2.7nm,0.3s
LOR Lormes 8.01 308 *e*P **Pn** 00 06 09.6 +3.2
LOR *e*Sn **Sn** 00 07 30.0 -6.7
comp=N,1.9nm,0.3s
AVF Avril sur Loir 8.08 304 *e*P **Pn** 00 06 10.7 +3.3
AVF *e*Sn **Sn** 00 07 31.3 -7.1
comp=N,0.8nm,0.4s
MEZF Maizieres J'vi 8.11 318 *e*P **Pn** 00 06 11.0 +3.3
MEZF *e*Sn **Sn** 00 07 31.8 -7.3
comp=N,2.3nm,0.3s
SSF Saint Saulge 8.12 306 *e*P **Pn** 00 06 11.2 +3.4
SSF *e*Sn **Sn** 00 07 32.2 -7.1
comp=N,0.7nm,0.3s
BGF Bois d'Agland 8.30 301 *e*P **Pn** 00 06 13.8 +3.5
CAF Calviac 8.32 289 *e*P **Pn** 00 06 13.9 +3.2
CAF *e*Sn **Sn** 00 07 37.4 -7.1
comp=N,0.4nm,0.3s
TCF Toulx Ste Croi 8.60 298 *e*P **Pn** 00 06 18.1 +3.5
TCF *e*Sn **Sn** 00 07 43.9 -7.4
comp=N,0.5nm,0.3s
RJF Les Rejaudoux 8.78 291 *e*P **Pn** 00 06 20.7 +3.7
VOIR 8.98 68 ⇑P **Pn** 00 06 20.2 +0.5

*IDC **07** 00:05:59.8±0.8, 31°.78S×71°.74W, h67km±6km, mb3.8/6, mbtmp4.1/10, MS3.2/5, Error ellipse: s-maj=26.4km s-min=15.7km az=101.0*
*NEIC **07** 00:06:00.1±1.7, 31°.95S±0°.03×71°.62W±0°.08, h67km±8km, mb4.2/10, ML4.1(GUC), Error ellipse: s-maj=9.3km s-min=4.5km az=91.0*
*VAO **07** 00:06:00.3±0.3, 32°.00S×71°.53W, h76km, mb4.3*
*GUC **07** 00:06:00.1±0.8, 31°.97S×71°.55W, h75km±6km, ML4.1*
ISC 07 00:05:59.1±0.6, **31°.89S**±0°.03×**71°.67W**±0°.06, **h65**km±5km, **n139**,σ1°**21**/156, **mb4.3**/10, **14C-2D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VA06	**Catapilco**	**0.74**	**155**			**Pn**	**00 06 15.0**	**+0.9**
VA06					Sn	**Sn**	**00 06 25.2**	**-0.1**
VA06	**Catapilco**	**0.74**	**155**	⇑*e*P		**Pn**	**00 06 14.6**	**+0.4**
VA06				*e*S		**Sn**	**00 06 25.1**	**-0.2**
CO02	**Combarbal**	**0.89**	**40**			**Pn**	**00 06 17.8**	**+1.7**
CO02					Sn	**Sn**	**00 06 30.2**	**+1.5**
CO02	**Combarbal**	**0.89**	**40**	⇓*e*P		**Pn**	**00 06 17.9**	**+1.8**
VA01	**Torpederas**	**1.13**	**179**			**Pn**	**00 06 19.8**	**+0.7**
VA01					Sn	**Sn**	**00 06 33.8**	**-0.1**
VA01	**Torpederas**	**1.13**	**179**	⇑*e*P		**Pn**	**00 06 19.8**	**+0.7**
VA01				*e*S		**Sn**	**00 06 34.0**	**+0.1**
VA01				IAML			00 06 35.5	
	comp=N,5µm,0.1s							
CO06	**Fray Jorge**	**1.21**	**2**			**Pn**	**00 06 22.5**	**+2.4**
CO06					Sn	**Sn**	**00 06 37.9**	**+2.0**
CO06	**Fray Jorge**	**1.21**	**2**	⇓*e*P		**Pn**	**00 06 22.6**	**+2.4**
CO06				*e*S		**Sn**	**00 06 38.2**	**+2.4**
CO06				IAML			00 06 40.1	
	comp=N,6µm,0.2s							
ROCH	**El Roble**	**1.22**	**153**	⇑*e*P		**Pn**	**00 06 20.7**	**+0.3**
ROCH				⇑*e*P		**Pn**	**00 06 20.4**	**0.0**
ROCH				*e*S		**Sn**	**00 06 35.3**	**-1.0**
ROCH				*e*S		**Sn**	**00 06 35.5**	**-0.7**
ROCH				IAML			00 06 37.7	
	comp=N,4µm,0.1s							
ROCH				IAML			00 06 39.4	
	comp=N,3µm,0.3s							
ROC1	**El Roble**	**1.22**	**153**			**Pn**	**00 06 20.4**	**-0.1**
ROC1					Sn	**Sn**	**00 06 35.2**	**-1.1**
VA03	**San Esteban**	**1.29**	**133**			**Pn**	**00 06 21.3**	**0.0**
VA03					Sn	**Sn**	**00 06 36.2**	**-1.6**
VA03	**San Esteban**	**1.29**	**133**	⇑*e*P		**Pn**	**00 06 21.4**	**+0.1**
VA03				*e*S		**Sn**	**00 06 36.4**	**-1.4**
VA03				IAML			00 06 40.1	
	comp=E,12µm,0.2s							
MT02	**Curacav**	**1.44**	**162**			**Pn**	**00 06 23.4**	**+0.2**
MT02					Sn	**Sn**	**00 06 38.3**	**-2.9**
MT02	**Curacav**	**1.44**	**162**	⇑*e*P		**Pn**	**00 06 23.1**	**-0.1**
MT02				*e*S		**Sn**	**00 06 39.9**	**-1.3**
MT02				IAML			00 06 46.5	
	comp=E,995nm,0.2s							
PEL	**Peldehue**	**1.50**	**147**			**Pn**	**00 06 24.3**	**+0.2**
MT05	**Renca**	**1.69**	**152**			**Pn**	**00 06 27.2**	**+0.6**
MT05					Sn	**Sn**	**00 06 46.3**	**-1.1**
MT05	**Renca**	**1.69**	**152**	⇑*e*P		**Pn**	**00 06 27.1**	**+0.5**
MT05				*e*S		**Sn**	**00 06 46.4**	**-0.9**
MT05				IAML			00 06 47.9	
	comp=E,6µm,0.4s							
VA05	**Santo Domingo**	**1.76**	**178**			**Pn**	**00 06 27.9**	**+0.4**
VA05					Sn	**Sn**	**00 06 47.7**	**-1.2**
VA05	**Santo Domingo**	**1.76**	**178**	IAML			00 06 50.0	
	comp=E,3µm,0.2s							
FCH	**Farellones**	**1.85**	**141**	⇑*e*P		**Pn**	**00 06 28.9**	**0.0**
FCH				*e*S		**Sn**	**00 06 51.4**	**-0.1**
FCH				IAML			00 06 52.0	
	comp=E,2µm,0.2s							
GO04	**Tololo Observa**	**1.87**	**24**	Pn		**Pn**	**00 06 31.1**	**+1.9**
GO04	**Tololo Observa**	**1.87**	**24**	⇑*e*P		**Pn**	**00 06 31.0**	**+1.9**
GO04				*e*S		**Sn**	**00 06 54.3**	**+2.4**
MT03	**Universidad Ad**	**1.88**	**149**	Pn		**Pn**	**00 06 29.4**	**+0.3**
MT03	**Universidad Ad**	**1.88**	**149**	⇑*e*P		**Pn**	**00 06 29.1**	**0.0**
MT03				*e*S		**Sn**	**00 06 51.1**	**-0.8**
MT03				IAML			00 06 52.6	
	comp=E,5µm,0.4s							
MT09	**Talagante**	**1.97**	**163**	Pn		**Pn**	**00 06 31.1**	**+0.8**
MT09	**Talagante**	**1.97**	**163**	⇑*e*P		**Pn**	**00 06 31.2**	**+0.9**
MT09				*e*S		**Sn**	**00 06 53.0**	**-1.2**
MT09				IAML			00 06 57.2	
	comp=N,3µm,0.2s							
CO05	**La Serena**	**2.00**	**11**	Pn		**Pn**	**00 06 32.7**	**+2.1**
CO05	**La Serena**	**2.00**	**11**	⇑*e*P		**Pn**	**00 06 32.4**	**+1.8**
CO05				*e*S		**Sn**	**00 06 55.9**	**+1.3**
CO05				IAML			00 06 58.7	
	comp=N,2µm,0.6s							
MT01	**Popeta**	**2.00**	**170**	Pn		**Pn**	**00 06 30.9**	**+0.2**
MT01	**Popeta**	**2.00**	**170**	⇑*e*P		**Pn**	**00 06 30.9**	**+0.2**
MT01				*e*S		**Sn**	**00 06 53.7**	**-1.0**
MT01				IAML			00 06 56.8	
	comp=E,2µm,0.2s							
LMEL	**Las Melosas**	**2.31**	**148**	Pn		**Pn**	**00 06 36.1**	**+1.0**

LMEL Las Melosas 2.31 148⇑*e*P **Pn** 00 06 35.7 +0.7
LMEL *e*S **Sn** 00 07 01.5 -1.0
LMEL IAML 00 07 07.2
comp=N,2µm,0.6s
CO01 Juntas del Tor 2.34 36 **Pn** 00 06 37.7 +2.2
ZON Zonda 2.58 83 **Pn** 00 06 40.6 +2.1
LCO Las Campanas 2.99 17 Pn **Pn** 00 06 46.4 +2.0
BO02 Sierra Bellavi 2.99 166 **Pn** 00 06 45.2 +1.0
GO05 Huala 3.12 184 **Pn** 00 06 46.0 +0.1
AC05 El Transito 3.27 22 Pn **Pn** 00 06 50.6 +2.5
AC04 Llanos de Chal 3.71 8 Pn **Pn** 00 06 55.1 +1.2
ML02 Panimavida 3.87 177 Pn **Pn** 00 06 56.3 +0.2
AC06 Mina Casimiro 4.66 15 Pn **Pn** 00 07 07.8 +0.8
BI05 Punta Hualpn 5.01 194 Pn **Pn** 00 07 10.5 -1.1
AC02 Maricunga 5.50 24 Pn **Pn** 00 07 20.0 +1.0
AC01 Pan de Azucar 5.80 10 Pn **Pn** 00 07 21.5 -1.1
VA04 Juan Fernndez 6.28 252 Pn **Pn** 00 07 30.6 +1.5
H03N1 Juan Fernandez 6.30 254 T T 00 14 16.1
baz=79,slow=72,SNR=805
H03N3 Juan Fernandez 6.31 254 T T 00 14 15.4
baz=79,slow=72,SNR=723
H03N2 Juan Fernandez 6.31 254 T T 00 14 16.8
baz=79,slow=72,SNR=889
H03S3 Juan Fernandez 6.39 250 T T 00 14 10.0
baz=84
H03S1 Juan Fernandez 6.39 250 T T 00 14 14.3
baz=84
H03S2 Juan Fernandez 6.40 250 T T 00 14 14.4
baz=84
GO02 Mina Guanaco 6.95 16 Pn **Pn** 00 07 38.4 -0.2
PB14 IPOC Station P 7.32 9 Pn **Pn** 00 07 43.0 -0.7
GO06 Curarrehue 7.68 179 Pn **Pn** 00 07 47.3 -1.0
LR03 Panguipulli 7.75 184 Pn **Pn** 00 07 47.5 -1.6
LR04 Corral 8.10 190 Pn **Pn** 00 07 52.5 -1.5
PLCA Paso Flores 8.87 174 P **Pn** 00 08 05.3 +0.7
comp=N,1.1nm,0.4s,baz=338,slow=13,SNR=9.9
PLCA S **Sn** 00 09 46.9 +3.9
comp=N,2.0nm,0.7s,baz=3.6,slow=16,SNR=1.9
PLCA LR LR 00 12 11.5
comp=N,63nm,19.3s,baz=20,slow=41
PLCA Paso Flores 8.87 174 Pn **Pn** 00 08 04.7 +0.1
PLCA Paso Flores 8.87 174 *e*P **Pn** 00 08 04.9 +0.3
LL04 Puerto Octay 9.02 184 Pn **Pn** 00 08 04.9 -1.7
LVC Limon Verde 9.56 16 P **Pn** 00 08 12.5 -1.9
comp=N,2.0nm,0.4s,baz=214,slow=11,SNR=2.5
LVC S **Sn** 00 09 57.4 -3.1
comp=N,4.2nm,0.5s,baz=197,slow=22,SNR=1.2
LVC Limon Verde 9.56 16 Pn **Pn** 00 08 11.8 -2.5
TRQA Tornquist 10.05 130 Pn **Pn** 00 08 19.6 -1.1
GO07 Milladeo Hill, 11.32 187 Pn **Pn** 00 08 35.7 -2.1
ITQB Itaqui 13.13 84 Pn **Pn** 00 08 59.7 -3.0
PB16 IPOC Station P 13.64 9 P **P** 00 09 14.0 -2.8
CPUP Villa Florida 13.70 70 P **Pn** 00 09 12.2 +1.8
comp=N,1.9nm,0.6s,baz=228,slow=14,SNR=3.4
CPUP LR LR 00 14 21.5
comp=N,67nm,18.8s,baz=258,slow=37
PLTB Pedras Altas 15.36 94 *e*P **Pn** 00 09 30.3 -1.8
CPSB Cacapava Do Su 15.69 89 *e*P **Pn** 00 09 35.5 -0.5
LPAZ La Paz 15.86 13 P **P** 00 09 41.6 0.0
comp=N,3.1nm,0.6s,baz=196,slow=7.9,SNR=19
LPAZ La Paz 15.86 13 P **P** 00 09 41.8 +0.2
ANTJ Antonio Joao (17.07 59 *e*P **Pn** 00 09 53.7 +0.1
ITAB Concordia 17.62 80 *e*P **Pn** 00 09 59.6 -0.6
AQDB Aquidauana 18.27 55 P **Pn** 00 10 08.0 -0.1
AQDB IAmb IAmb 00 10 11.5
comp=Z,15nm,1.0s
AQDB Aquidauana 18.27 55 *e*P **P** 00 10 07.3 -0.3
SIV San Ignacio 18.54 34 P **P** 00 10 10.5 0.0
comp=Z,12nm,0.7s,baz=208,slow=9.7,SNR=51
SIV LR LR 00 18 48.0
comp=Z,55nm,21.1s,baz=281,slow=42
PTGB Pitanga 18.67 72 *e*P **P** 00 10 11.6 -0.4
TRCB Terra Rica 19.16 66 *e*P **Pn** 00 10 18.4 -0.5
TER01 Tubaro-SC 19.76 86 *e*P **P** 00 10 23.1 -0.8
PTLB Pontes e Lacer 19.96 38 P **P** 00 10 26.2 +0.2
PTLB IAmb IAmb 00 10 29.4
comp=Z,12nm,0.9s
PTLB Pontes e Lacer 19.96 38 *e*P **P** 00 10 26.8 +0.8
PCMB Pacaembu 20.88 66 *e*P **P** 00 10 35.5 -0.5
C2SB Chapadao do Su 21.42 57 *e*P **P** 00 10 40.8 -0.9
SALV Santo Antonio 21.56 46 *e*P **P** 00 10 43.0 -0.3
VILB Vilhena 21.59 32 P **P** 00 10 43.2 -0.4
VILB IAmb IAmb 00 10 47.0
comp=Z,17nm,0.7s
VILB Vilhena 21.59 32 *e*P **P** 00 10 44.2 +0.6
ETMB Extrema 22.54 14 P **P** 00 10 55.9 +2.1
ETMB IAmb IAmb 00 10 57.6
comp=Z,9.7nm,1.2s
ETMB Extrema 22.54 14 *e*P **P** 00 10 56.6 +2.8
ITRB Iturama 22.66 63 *e*P **P** 00 10 54.5 -0.6
PET01 Itanhaem-SP 22.79 77 *e*P **P** 00 10 55.7 -0.6
BB19B Bebedouro 23.31 68 *e*P **P** 00 11 00.9 -0.6
VAO Valinhos 23.61 74 *e*P **P** 00 11 03.1 -1.3
PDRB Porto dos Gac 24.44 38 *e*P **P** 00 11 12.4 +0.6
IPMB Ipameri, GO 25.31 62 *e*P **P** 00 11 19.4 -0.4
CLDB Colider 25.55 39 *e*P **P** 00 11 22.8 +0.9
PMNB Patos De Minas 26.34 66 *e*P **P** 00 11 29.4 +0.3
BDFB Brasilia 26.93 59 P **P** 00 11 34.7 +0.1
comp=Z,9.4nm,0.5s,baz=237,slow=10,SNR=18
BDFB LR LR 00 23 30.3
comp=Z,121nm,19.6s,baz=305,slow=39
comp=Z,9.4nm,0.5s
BDFB Brasilia 26.93 59 P **P** 00 11 34.5 -0.1
BDFB Brasilia 26.93 59 *e*P **P** 00 11 35.2 +0.6
SNDB Serra Nova Dou 27.30 48 *e*P **P** 00 11 37.9 +0.2
NPGB Novo Progresso 29.03 35 *e*P **P** 00 11 52.7 -0.4
JANB Januaria 30.05 62 *e*P **P** 00 12 02.0 -0.2
ITTB Itaituba 31.20 32 *e*P **P** 00 12 12.4 +0.1
SDBA SAO DESIDERIO 31.33 58 *e*P **P** 00 12 13.3 -0.2
NAN01 Guarapari, ES 31.72 71 *e*P **P** 00 12 17.1 +0.2
SMTB Santa Maria do 32.02 50 *e*P **P** 00 12 19.0 -0.5
PRPB Paraguacu 32.74 43 *e*P **P** 00 12 25.8 0.0
CMC01 Camacan, BA 33.57 68 *e*P **P** 00 12 32.6 -0.4
MALB Monte Alegre 34.09 32 *e*P **P** 00 12 37.9 +0.4
GDU01 Guandu, BA 34.49 66 *e*P **P** 00 12 40.4 -0.7
BOAV Boa Vista 35.70 19 P **P** 00 12 52.2 +0.8
BOAV IAmb IAmb 00 13 10.0
comp=Z,3.3nm,0.8s
BOAV Boa Vista 35.70 19 *e*P **P** 00 12 51.5 +0.1
NBLA Lagarto - SE 37.53 64 *e*P **P** 00 13 06.2 -0.9
NBAN Anadia - AL 39.52 64 *e*P **P** 00 13 22.9 -0.9
RCBR Riachuelo 42.30 60 LR LR 00 32 39.1
comp=Z,41nm,20.2s,baz=328,slow=38
BELA Belgrano 2 48.90 170 P **P** 00 14 38.9 +1.0
VNA3 Neumayer Olymp 51.20 158 P **P** 00 14 56.5 +1.1
VNA2 Neumayer--Watz 51.84 158 P **P** 00 15 00.6 +0.4
SNAA Sanae 53.42 158 P **P** 00 15 12.4 +0.5
SNAA Sanae 53.42 158 P **P** 00 15 12.7 +0.7
SNAA IAmb IAmb 00 15 13.6
comp=Z,2.6nm,0.9s
TROLL Troll, Antarti 55.13 159 P **P** 00 15 25.0 +0.6
QSPA South Pole Qui 58.34 180 P **P** 00 15 48.7 +1.4
QSPA IAmb IAmb 00 15 51.4
comp=Z,4.1nm,1.0s
TXAR Lajitas Array 68.05 330 P **P** 00 16 51.6 -0.2
comp=Z,0.2nm,0.6s,baz=146,slow=6.6,SNR=2.5
comp=Z,0.2nm,0.6s
DBIC Dimbokro 74.22 72 P **P** 00 17 29.9 +0.6
comp=Z,3.3nm,0.6s,baz=220,slow=4.7,SNR=4.7
comp=Z,3.3nm,0.6s
MAW Mawson 75.11 164 P **P** 00 17 35.0 +1.4
comp=Z,0.7nm,0.8s,baz=248,slow=9.2,SNR=1.4
comp=Z,0.7nm,0.8s
NVAR Mina Array Bea 82.33 325 P **P** 00 18 13.1 -0.8
comp=Z,0.6nm,0.9s,baz=145,slow=5.4,SNR=3.9
comp=Z,0.6nm,0.9s
TORD Torodi Ar. Bea 83.20 70 P **P** 00 18 19.3 +0.7
comp=Z,2.3nm,0.7s,baz=258,slow=4.9,SNR=8.8
TORD pP **pP** 00 18 37.3 +0.5
comp=Z,2.2nm,0.7s,baz=280,slow=6.2,SNR=6.1
comp=Z,2.3nm,0.7s
ASAR Alice Springs 119.58 207 PKP **PKPdf** 00 24 42.0 0.0
comp=Z,0.3nm,0.6s,baz=160,slow=3.0,SNR=1.7
WRA Warramunga Arr 122.75 209 PKP **PKPdf** 00 24 48.1 0.0
comp=Z,0.3nm,0.8s,baz=177,slow=1.7,SNR=9.0
H11S2 WAKE ISLAND Hyl 26.08 270 T T 02 44 04.6
baz=117,slow=75,SNR=254
H11S1 WAKE ISLAND Hyl 26.10 270 T T 02 44 07.7
baz=117,slow=75,SNR=42
H11S3 WAKE ISLAND Hyl 26.44 272 T T 02 44 06.5
baz=117,slow=75,SNR=247
H11N3 WAKE ISLAND Hyl 26.44 272 T T 02 44 31.2
baz=117,slow=75,SNR=81
H11N1 WAKE ISLAND Hyl 26.46 272 T T 02 44 32.3

baz=117,slow=75,SNR=35
H11N2 WAKE ISLAND Hyl 26.46 272 T T 02 44 32.9
baz=117,slow=75,SNR=166
BVAR Borovoye Array 145.51 41 PKPbc **PKPab** **00 25 30.5 +0.7**
comp=Z,0.8nm,0.6s,baz=294,slow=3.9,SNR=11
BVAR pPKPbc **pPKPdf** **00 25 47.8 -0.3**
comp=Z,0.5nm,0.5s,baz=339,slow=3.7,SNR=3.9
ZALV Zalesovo Beam 152.27 30 PKPbc **PKiKP** **00 26 48.0 +0.8**
comp=Z,0.8nm,0.5s,baz=314,slow=3.6,SNR=3.7
ZALV pPKPbc **sPKPdf** **00 26 07.2 +1.3**
comp=Z,1.3nm,0.5s,baz=286,slow=2.9,SNR=5.1
MKAR Makanchi Array 155.11 46 PKPab **PKPab** **00 26 09.2 -0.2**
comp=Z,0.3nm,0.7s,baz=292,slow=4.2,SNR=2.9
MKAR pPKPab **pPKPab** **00 26 27.3 -0.4**
comp=Z,0.5nm,0.6s,baz=291,slow=4.7,SNR=4.0
PZH PanZhiHua 172.13 131 PKP **PKPdf** **00 25 59.8 -1.1**

NNC 07 00:13:23.9±2.3, 43°.81N×86°.86E, h0km, mb3.6, mpv3.2, 10C-5D, Error ellipse: s-maj=15.7km s-min=11.2km az=118.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.39**	**314**	⇓Pn	Pn	00 14 32.7	**+0.9**
	0.3nm,0.2s,baz=131,slow=14,SNR=61						
MK31				⇓Sn	Sn	00 15 25.5	+1.7
	1.6nm,0.3s,baz=132,slow=26,SNR=4.4						
MK31				⇑Lg	Lg	00 15 42.5	
	22nm,0.9s,baz=132,slow=27,SNR=4.9						
MAKZ	**Makanchi**	**4.57**	**313**	⇑Pn	Pn	00 14 34.6	**+0.4**
	1.3nm,0.3s						
MAKZ				⇑Sn	Sn	00 15 29.6	+1.6
	3.3nm,0.5s						
MAKZ				⇑Lg	Lg	00 15 48.0	
	14nm,0.8s						
PDGK	**Podgornoye**	**5.38**	**267**	⇑Pg	Pb	00 15 02.3	**+3.5**
	5.1nm,0.6s						
PDGK				⇓Sn	Sn	00 15 48.0	-0.2
	7.4nm,0.6s						
PDGK				⇑Lg	Lg	00 16 14.7	
	30nm,0.9s						
UZB	**Uzynbulak**	**5.74**	**266**	Pg	Pg	00 15 15.4	**+1.4**
	2.8nm,1.2s						
UZB				Lg	Lg	00 16 27.3	
	7.2nm,0.8s						
SATY	**Saty**	**6.20**	**266**	Pg	Pg	00 15 24.0	**+1.3**
	4.6nm,1.6s						
SATY				Lg	Lg	00 16 42.5	
	6.7nm,1.0s						
ARXS	**Arharly**	**6.53**	**277**	Pg	Pg	00 15 30.6	**+1.6**
	4.1nm,0.8s						
ARXS				Lg	Lg	00 16 53.7	
	7.0nm,0.6s						
KUU	**Kurty**	**7.61**	**274**	Pg	Pg	00 15 48.4	-1.2
KUU				Lg	Lg	00 17 23.6	
KURBB	**Kurchatov Arra**	**8.86**	**323**	⇑Pn	Pn	00 15 32.0	-1.1
	0.3nm,0.3s						
KURBB				⇑Sn	Sn	00 17 13.9	+0.2
	4.5nm,0.7s						
KURBB				⇑Lg	Lg	00 18 06.6	
	13nm,0.7s						
KURK	**Kurchatov**	**8.89**	**324**	⇑Pn	Pn	00 15 31.0	-2.5
	1.2nm,0.9s						
KURK				⇓Sn	Sn	00 17 14.6	+0.2
	2.7nm,1.0s						
KURK				⇓Lg	Lg	00 18 06.6	
	9.4nm,1.0s						

*IDC **07** 00:13:24.7±0.9, 55°.07S×28°.55W, h0km, mb4.0/6, mbtmp4.0/6, MS3.4/13, Error ellipse: s-maj=31.2km s-min=23.0km az=55.0*
*NEIC **07** 00:13:26.3±1.5, 55°.2S±0°.1×28°.6W±0°.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=20.9km s-min=17.5km az=27.0*
ISC 07 00:13:25.9±0.7, 55°.1S±0°.1×28°.6W±0°.1, h10km, n41, σ0§69/27, mb4.4/11, MS3.4/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.68**	**277**		**Pn**	**00 14 35.7**	**-0.7**
VNA1	**Neumayer--Stat**	**17.94**	**158**	P	**P**	**00 17 35.8**	**+0.1**
VNA3	**Neumayer Olymp**	**18.12**	**160**	P	**Pn**	**00 17 37.0**	**-0.4**
VNA2	**Neumayer--Watz**	**18.34**	**158**	P	**Pn**	**00 17 39.9**	**-0.2**
	baz=311,slow=12						
SNAA	**Sanae**	**19.90**	**156**	P	**P**	**00 17 56.4**	**-0.9**
SNAA	**Sanae**	**19.90**	**156**	P	**P**	**00 17 56.6**	**-0.6**
TROLL	**Troll, Antarti**	**21.42**	**154**	P	**P**	**00 18 12.6**	**-1.1**
BELA	**Belgrano 2**	**22.95**	**183**	P	**P**	**00 18 29.9**	**0.0**
MG02	**Cerro Sombrero**	**23.81**	**259**	P	**P**	**00 18 37.8**	**-0.8**
MG05	**Puerto Natales**	**26.10**	**259**	P	**P**	**00 18 58.9**	**-0.6**
AY01	**Puyuhuapi**	**29.93**	**272**	P	**P**	**00 19 35.9**	**+2.1**
AY01				IAmb	IAmb	00 19 58.5	
	comp=Z,15nm,1.4s						
PLCA	**Paso Flores**	**31.07**	**280**	LR	LR	00 32 00.6	
	comp=Z,20nm,19.9s,baz=138,slow=36						
QSPA	**South Pole Qui**	**35.12**	**180**	LR	LR	00 35 35.6	
	comp=Z,33nm,18.0s,baz=172,slow=38						
QSPA	**South Pole Qui**	**35.12**	**180**	P	**P**	**00 20 19.9**	**+0.7**
CPUP	**Villa Florida**	**35.62**	**312**	P	**P**	**00 20 23.0**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=163,slow=5.7,SNR=3.6						
CPUP				LR	LR	00 33 54.3	
	comp=Z,61nm,18.9s,baz=152,slow=35						
	comp=Z,1.3nm,0.3s						
MT09	**Talagante**	**36.28**	**288**	P	**P**	**00 20 29.2**	**-0.3**
MT09				IAmb	IAmb	00 20 32.1	
	comp=Z,11nm,1.1s						
MAW	**Mawson**	**41.35**	**145**	P	**P**	**00 21 11.3**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=236,slow=11,SNR=1.6						
	comp=Z,0.9nm,0.6s						
LVC	**Limon Verde**	**44.16**	**301**	LR	LR	00 39 25.4	
	comp=Z,26nm,21.3s,baz=176,slow=35						
LVC	**Limon Verde**	**44.16**	**301**	P	**P**	**00 21 35.8**	**+0.7**
PTLB	**Pontes e Lacer**	**46.09**	**317**	P	**P**	**00 21 49.9**	**-0.1**
PTLB				IAmb	IAmb	00 21 51.5	
	comp=Z,3.3nm,0.8s						
BOSA	**Boshof**	**46.52**	**78**	P	**P**	**00 21 53.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=200,slow=12,SNR=1.2						
BOSA				LR	LR	00 37 26.5	
	comp=Z,32nm,21.2s,baz=196,slow=31						
	comp=Z,0.9nm,0.8s						
BOSA	**Boshof**	**46.52**	**78**	P	**P**	**00 21 53.5**	**0.0**
BOSA				IAmb	IAmb	00 22 14.8	
	comp=Z,6.0nm,1.1s						
GO01	**Chusmiza**	**46.80**	**303**	P	**P**	**00 21 56.8**	**+0.6**
GO01				IAmb	IAmb	00 22 05.5	
	comp=Z,4.7nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.36**	**19**	T	T	01 12 53.1	
	baz=190,slow=74,SNR=4.9						
H10S3	**ASCENSION HYDR**	**47.36**	**19**	T	T	01 12 54.3	
	baz=30,slow=74,SNR=12						
VNDA	**Vanda**	**47.46**	**183**	P	**P**	**00 22 00.9**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=187,slow=7.0,SNR=10						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**47.46**	**183**	P	**P**	**00 22 00.5**	**+0.4**
VNDA				IAmb	IAmb	00 22 11.5	
	comp=Z,5.0nm,1.2s						
H10N1	**ASCENSION HYDR**	**48.48**	**19**	T	T	01 14 18.3	
	baz=189,slow=75,SNR=12						
H10N3	**ASCENSION HYDR**	**48.48**	**19**	T	T	01 14 18.3	
	baz=189,slow=75,SNR=22						
H10N2	**ASCENSION HYDR**	**48.49**	**19**	T	T	01 14 19.5	
	baz=189,slow=75,SNR=22						
LPAZ	**La Paz**	**49.21**	**306**	P	**P**	**00 22 15.0**	**0.0**
	comp=Z,2.6nm,0.7s,baz=172,slow=7.1,SNR=10						
LPAZ				LR	LR	00 45 10.3	
	comp=Z,36nm,18.9s,baz=118,slow=39						
	comp=Z,2.6nm,0.7s						
LPAZ	**La Paz**	**49.21**	**306**	P	**P**	**00 22 15.2**	**+0.2**
LPAZ				IAmb	IAmb	00 22 20.6	
	comp=Z,2.8nm,0.7s						
LSZ	**Lusaka**	**58.78**	**71**	LR	LR	00 47 33.6	
	comp=Z,42nm,18.2s,baz=149,slow=35						
MDP	**Montagnes des**	**63.26**	**333**	LR	LR	00 49 15.9	
	comp=Z,31nm,19.6s,baz=190,slow=34						
TOA0	**Torodi Ar. Sit**	**72.65**	**31**	P	**P**	**00 24 53.4**	**-0.2**
TOA0				IAmb	IAmb	00 25 16.8	
	comp=Z,4.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.65**	**31**	P	**P**	**00 24 53.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=200,slow=6.5,SNR=16						
TORD				LR	LR	00 50 51.1	
	comp=Z,61nm,18.1s,baz=218,slow=31						
	comp=Z,1.1nm,0.6s						
SDV	**Santo Domingo**	**72.81**	**316**	LR	LR	00 55 57.5	
	comp=Z,48nm,21.9s,baz=147,slow=35						
KMBO	**Kilima Mbogo**	**75.45**	**70**	LR	LR	00 56 19.9	
	comp=Z,29nm,19.0s,baz=238,slow=34						
SJG	**San Juan**	**79.64**	**324**	LR	LR	01 03 51.4	
	comp=Z,16nm,19.0s,baz=248,slow=38						
RAR	**Rarotonga**	**93.36**	**225**	LR	LR	01 07 30.4	
	comp=Z,23nm,18.3s,baz=340,slow=35						
ILAR	**Eielson Array**	**148.92**	**313**	PKPbc	**PKPbc**	**00 33 12.4**	**0.0**
	comp=Z,3.5nm,0.7s,baz=113,slow=1.5,SNR=30						

DJA 07 00:31:33.8±1.9, 8°S±5°×107°E±°, h26km±21km, M4.4/7, mb6.0/1, mB6.1/1, MLv3.6/7, Mw(mB)5.7/1, MwMwp5.1/1, Mwp5.4/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.09**	**22**	P	Pn	00 31 52.3	-1.1
CNJI	**Cibinong**	**1.21**	**54**	P	Pn	00 31 54.9	-0.1
CNJI				S	Sn	00 32 10.5	-0.1
DBJI	**Dramaga**	**1.58**	**23**	P	Pn	00 32 00.6	+0.5
LEM	**Lembang**	**1.89**	**51**	P	Pn	00 32 05.3	+0.8
PMBI	**Palembang**	**5.24**	**345**	P	Pn	00 32 50.9	+0.4

KRSC 07 00:35:51.3±0.3, 54°.61N×168°.03E, h19km±4km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.33**	**298**	P	Pn	00 36 14.9	+0.1
BKI				S	Sb	00 36 32.5	+0.3
KBTR	**Krutoberegovo**	**3.37**	**300**	P	Pn	00 36 46.2	+3.3
KBTR				S	Sn	00 37 26.5	+4.1
SMKR	**Semkarok**	**4.21**	**301**	P	Pn	00 36 58.7	+4.2
SRKR	**Sorokina**	**4.39**	**301**	P	Pn	00 37 01.3	+4.3
TUMR	**Tumrok**	**4.59**	**282**	P	Pn	00 37 04.5	+4.7
TUMR				S	Sn	00 37 57.5	+4.9
KII	**Karymskiy**	**5.05**	**267**	P	Pn	00 37 10.7	+4.6
KRER	**Koryakskii**	**5.63**	**260**	P	Pn	00 37 18.8	+4.7
KRER				S	Sn	00 38 23.0	+4.7
KRX	**Arik**	**5.67**	**261**	P	Pn	00 37 19.0	+4.4
KRX				S	Sn	00 38 23.8	+4.5
KOK	**Koryaka**	**5.70**	**260**	P	Pn	00 37 19.3	+4.3
GNL	**Ganaly**	**6.00**	**265**	P	Pn	00 37 23.8	+4.7

*NEIC **07** 00:50:59.9±1.4, 8°.28S±0°.08×119°.70E±0°.08, h171km±9km, mb4.3/12, Error ellipse: s-maj=13.5km s-min=9.7km az=220.0*
*DJA **07** 00:51:00.6±0.4, 8°S±4°×12°0E±°, h157km±5km, M4.2/12, mb4.3/2, mB5.1/2, MLv4.2/12, Mw(mB)4.5/2*
*IDC **07** 00:51:02.6±1.9, 8°.21S×120°.00E, h204km±16km, mb3.3/5, mbtmp3.9/7, Error ellipse: s-maj=38.7km s-min=11.3km az=54.0*
ISC 07 00:50:59.5±0.6, 8°.37S±0°.05×119°.70E±0°.05, h170km, n59, σ1§17/63, mb4.4/9, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.31**	**194**	P	**Pn**	**00 51 29.3**	**+0.4**
WBSI				S	**Sn**	**00 51 51.2**	**-0.4**
PLAI	**Plampang**	**1.96**	**256**	P	**Pn**	**00 51 36.1**	**+0.6**
PLAI				S	**Sn**	**00 52 02.4**	**-0.9**
PLAI	**Plampang**	**1.96**	**256**	P	**Pn**	**00 51 36.3**	**+0.8**
EDFI	**Ende, Flores**	**2.00**	**101**	P	**Pn**	**00 51 36.1**	**+0.1**
BASI	**Baing, Sumba**	**2.03**	**155**	P	**Pn**	**00 51 37.1**	**+0.8**
BSSI	**Bau Bau, Buton**	**2.34**	**20**	P	**Pn**	**00 51 39.4**	**-0.4**
MMRI	**Maumere**	**2.52**	**96**	Pn	**Pn**	**00 51 42.5**	**+0.6**
MMRI	**Maumere**	**2.52**	**96**	P	**Pn**	**00 51 42.7**	**+0.8**
MMRI	**Maumere**	**2.52**	**96**	P	**Pn**	**00 51 43.3**	**+1.4**
TWSI	**Taliwang, Sumb**	**2.82**	**262**	P	**Pn**	**00 51 45.7**	**+0.2**
BKSI	**Bulukumba**	**3.05**	**8**	P	**Pn**	**00 51 48.2**	**-0.2**
KAPI	**Kappang**	**3.33**	**1**	P	**Pn**	**00 51 51.8**	**-0.1**
BBSI	**Bau Bau**	**4.03**	**45**	P	**Pn**	**00 52 01.3**	**+0.5**
BATI	**Baumata**	**4.32**	**115**	P	**Pn**	**00 52 06.0**	**+1.6**
	287nm,0.4s,baz=280,slow=12,SNR=30						
BATI				S	**Sn**	**00 52 56.6**	**+1.4**
	62nm,0.3s,baz=273,slow=18,SNR=1.7						
BATI	**Baumata**	**4.32**	**115**	P	**Pn**	**00 52 05.5**	**+1.1**
SPSI	**Sidrap Palu**	**4.37**	**1**	P	**Pn**	**00 52 05.5**	**+0.3**
SOEI	**Soe**	**4.71**	**107**	Pn	**Pn**	**00 52 09.6**	**-0.1**
SOEI	**Soe**	**4.71**	**107**	P	**Pn**	**00 52 10.1**	**+0.4**
SOEI	**Soe**	**4.71**	**107**	P	**Pn**	**00 52 10.7**	**+1.0**
TTSI	**Tana Toraja**	**5.29**	**1**	P	**Pn**	**00 52 18.0**	**+0.9**
	0.1nm26nm,0.6s						
JAGI	**Jajag, Banyuwa**	**5.49**	**269**	Pn	**Pn**	**00 52 19.9**	**+0.1**
JAGI	**Jajag, Banyuwa**	**5.49**	**269**	P	**Pn**	**00 52 20.5**	**+0.7**
JAGI	**Jajag, Banyuwa**	**5.49**	**269**	P	**Pn**	**00 52 20.7**	**+0.9**
BLJI	**Banyuglugur**	**6.08**	**275**	P	**Pn**	**00 52 28.6**	**+1.1**
UGM	**Wanagama**	**9.10**	**272**	Pn	**Pn**	**00 53 06.3**	**-1.2**
UGM	**Wanagama**	**9.10**	**272**	P	**Pn**	**00 53 08.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.27**	**150**	P	**Pn**	**00 53 36.7**	**+0.9**
	3.7nm,0.5s,baz=330,slow=11,SNR=27						
FITZ				S	**Sn**	**00 55 36.7**	**-4.1**
	9.8nm,0.5s,baz=336,slow=20,SNR=4.4						
KNRA	**Kununurra**	**11.46**	**130**	Pn	**Pn**	**00 53 37.2**	**-1.1**
KNRA	**Kununurra**	**11.46**	**130**	P	**Pn**	**00 53 37.6**	**-0.7**
MTN	**Manton Dam**	**12.08**	**113**	Pn	**Pn**	**00 53 45.6**	**-0.7**
MTN	**Manton Dam**	**12.08**	**113**	P	**Pn**	**00 53 45.7**	**-0.7**
MBWA	**Marble Bar**	**12.72**	**180**	Pn	**Pn**	**00 53 55.1**	**+0.6**
PSA00	**Pilbara Seismi**	**13.13**	**179**	Pn	**Pn**	**00 54 00.2**	**+0.5**
FAKI	**Fak Fak**	**13.60**	**67**	P	Pn	00 53 59.7	-6.1
	17nm,1.6s						
WB0	**Warramunga Arr**	**18.19**	**130**	P	**P**	**00 54 59.3**	**-0.3**
WB0				IAmb	IAmb	00 55 02.2	
	comp=Z,9.4nm,0.7s						
WRA	**Warramunga Arr**	**18.25**	**131**	P	**P**	**00 55 00.5**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=304,slow=13,SNR=66						
WRA				S	**S**	**00 58 17.2**	**-3.1**
	comp=Z,1.8nm,0.8s,baz=308,slow=22,SNR=4.5						
WRA	**Warramunga Arr**	**18.25**	**131**	P	**P**	**00 54 59.9**	**-0.3**
WRAB	**Tennant Creek**	**18.25**	**131**	P	**P**	**00 55 00.1**	**-0.2**
WRAB				IAmb	IAmb	00 55 27.4	
	comp=Z,8.8nm,0.6s						
WB2	**Warramunga Arr**	**18.26**	**131**	P	**P**	**00 55 00.3**	**0.0**
WB2				IAmb	IAmb	00 55 02.7	
	comp=Z,8.6nm,0.6s						
WR0	**Warramunga Arr**	**18.41**	**130**	P	**P**	**00 55 02.3**	**+0.3**
WR0				IAmb	IAmb	00 55 04.9	
	comp=Z,16nm,0.7s						
AS31	**Alice Springs**	**20.41**	**140**	P	**P**	**00 55 24.2**	**+0.7**
AS31				IAmb	IAmb	00 55 40.4	
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**20.41**	**140**	P	**P**	**00 55 24.1**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=319,slow=11,SNR=25						
ASAR				S	**S**	**00 59 00.8**	**-2.2**
	comp=Z,2.4nm,0.7s,baz=316,slow=20,SNR=8.9						
	comp=Z,3.3nm,0.6s						
ASAR	**Alice Springs**	**20.41**	**140**	P	**P**	**00 55 24.0**	**+0.5**
MORW	**Morawa**	**20.88**	**189**	P	**P**	**00 55 29.4**	**+1.0**
FORT	**Forrest**	**23.63**	**162**	P	**P**	**00 55 55.4**	**+0.2**
COEN	**Coen**	**23.68**	**106**	P	**P**	**00 55 56.5**	**+0.7**
COEN				IAmb	IAmb	00 55 58.6	
	comp=Z,29nm,1.4s						
BBOO	**Buckleboo**	**28.66**	**150**	P	**P**	**00 56 40.8**	**+0.4**
STKA	**Stephens Creek**	**31.01**	**142**	P	**P**	**00 57 00.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=328,slow=9.5,SNR=4.8						
	comp=Z,1.7nm,0.6s						
STKA	**Stephens Creek**	**31.01**	**142**	P	**P**	**00 57 02.6**	**+1.4**
PZH	**PanZhiHua**	**38.80**	**334**	P	**P**	**00 58 08.8**	**+0.8**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,50nm,3.5s						
XAN	**Xi'an**	**43.39**	**347**	P	P	00 58 36.3	-9.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSRS	**Korea Array**	**46.22**	**9**	P	**P**	**00 59 06.7**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=189,slow=9.7,SNR=1.9						
	comp=Z,0.5nm,0.3s						
HHC	**Hu-ho-hao-te**	**49.54**	**352**	*e*P	**P**	**00 59 35.7**	**+2.5**
HHC				pmax	pmax		
	comp=Z,28nm,1.1s						
HHC				pmax	pmax		
	comp=Z,95nm,4.1s						
WMQ	**Urumqi**	**59.49**	**334**	*e*P	**P**	**01 00 43.4**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,18nm,1.1s						
MKAR	**Makanchi Array**	**64.22**	**332**	P	**P**	**01 01 14.5**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=131,slow=7.9,SNR=5.3						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**64.22**	**332**	P	**P**	**01 01 15.3**	**-0.9**
VNDA	**Vanda**	**72.50**	**171**	P	**P**	**01 02 08.6**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=306,slow=8.1,SNR=1.7						
	comp=Z,0.3nm,0.5s						
VNDA	**Vanda**	**72.50**	**171**	P	**P**	**01 02 08.9**	**+1.7**
ABKAR	**Akbulak array**	**77.45**	**325**	P	**P**	**01 02 33.9**	**-2.1**

*DJA **07** 01:14:47.6±0.2, 8°S±2°×12°3E±°, h10km, M4.6/14, mB5.1/5, mb4.7/14, MLv4.5/12, Mw(mB)4.5/5*
*NEIC **07** 01:14:51.1±2.1, 8°.20S±0°.06×123°.26E±0°.06, h42km±7km, mb4.5/26, Error ellipse: s-maj=9.8km s-min=7.9km az=47.0*
*IDC **07** 01:14:52.6±2.6, 8°.07S×123°.41E, h53km±24km, mb4.0/15, mbtmp4.3/16, ML4.2/2, MS3.3/12, Error ellipse: s-maj=26.3km s-min=13.2km az=75.0*
ISC 07 01:14:50.0±0.4, 8°.27S±0°.04×123°.37E±0°.06, h35km, n122, σ1§66/121, mb4.5/36, MS3.5/7, 1D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.17**	**252**		**Pn**	**01 15 09.5**	**-0.5**
MMRI	**Maumere**	**1.17**	**252**	P	**Pn**	**01 15 10.2**	**+0.2**
MMRI				S	**Sn**	**01 15 26.6**	**+1.8**
MMRI	**Maumere**	**1.17**	**252**	P	**Pn**	**01 15 09.8**	**-0.2**
SOEI	**Soe**	**1.72**	**149**		**Pn**	**01 15 19.1**	**+1.5**
SOEI	**Soe**	**1.72**	**149**	P	**Pn**	**01 15 19.5**	**+1.9**
SOEI	**Soe**	**1.72**	**149**	P	**Pn**	**01 15 19.2**	**+1.5**
EDFI	**Ende, Flores**	**1.72**	**254**	P	**Pn**	**01 15 17.9**	**+0.2**
BATI	**Baumata**	**1.94**	**171**	P	Pn	01 15 25.6	+5.0
	424nm,0.3s,baz=353,slow=1.5,SNR=223						
BATI				S	Sn	01 15 56.6	+13
	2µm,0.9s,baz=349,slow=23,SNR=23						
BATI				LR	LR	01 15 57.7	
	comp=Z,420nm,21.3s,baz=283,slow=30						
BATI	**Baumata**	**1.94**	**171**	P	**Pn**	**01 15 23.2**	**+2.6**
BBSI	**Bau Bau**	**2.88**	**344**	P	**Pn**	**01 15 32.1**	**-1.4**
BASI	**Baing, Sumba**	**3.36**	**235**	P	**Pn**	**01 15 42.1**	**+2.0**
BSSI	**Bau Bau, Buton**	**3.55**	**306**	P	**Pn**	**01 15 41.0**	**-1.7**
WBSI	**Waikabubak, Su**	**4.16**	**251**	P	**Pn**	**01 15 51.9**	**+0.8**
BKSI	**Bulukumba**	**4.36**	**312**	P	**Pn**	**01 15 51.9**	**-1.9**
KAPI	**Kappang**	**4.83**	**312**	Pn	**Pn**	**01 15 57.6**	**-2.7**
PLAI	**Plampang**	**5.56**	**264**	P	**Pn**	**01 16 11.9**	**+1.6**
	0.4nm129nm,0.7s						
PLAI	**Plampang**	**5.56**	**264**	P	**Pn**	**01 16 11.5**	**+1.2**
SPSI	**Sidrap Palu**	**5.58**	**320**	P	**Pn**	**01 16 09.3**	**-1.3**
	0.2nm2µm61nm,0.6s						
TTSI	**Tana Toraja**	**6.28**	**326**	P	**Pn**	**01 16 19.5**	**-0.7**
	0.4nm1µm123nm,0.7s						
TWSI	**Taliwang, Sumb**	**6.43**	**265**	P	**Pn**	**01 16 23.1**	**+0.8**
	0.1nm28nm,0.8s						
LUWI	**Luwuk**	**7.21**	**355**	Pn	**Pn**	**01 16 31.7**	**-1.3**
LUWI	**Luwuk**	**7.21**	**355**	P	**Pn**	**01 16 32.9**	**-0.1**
	0.8nm154nm,0.9s						
APSI	**Ampana**	**7.51**	**347**	P	**Pn**	**01 16 36.0**	**-1.2**
	0.4nm2µm125nm,0.7s						
MRSI	**Marisa**	**8.81**	**351**	P	**Pn**	**01 16 53.6**	**-1.4**
	35nm,0.8s						
GTOI	**Gorontalo**	**8.86**	**358**	P	**Pn**	**01 16 56.4**	**+0.8**
	14nm,0.8s						
MTN	**Manton Dam**	**8.88**	**121**	Pn	**Pn**	**01 16 55.8**	**-0.2**
MTN	**Manton Dam**	**8.88**	**121**	P	**Pn**	**01 16 56.6**	**+0.6**
KNRA	**Kununurra**	**9.05**	**145**	Pn	**Pn**	**01 16 57.8**	**-0.6**
KNRA	**Kununurra**	**9.05**	**145**	P	**Pn**	**01 16 58.2**	**-0.1**
MPSI	**Mapaga**	**9.22**	**338**	P	**Pn**	**01 16 59.8**	**-0.9**
	584nm50nm,0.7s						
TOLI2	**Tolitoli**	**9.67**	**344**	Pn	**Pn**	**01 17 07.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**10.01**	**167**	P	**Pn**	**01 17 10.8**	**-0.7**
	20nm,0.7s,baz=0.5,slow=7.7,SNR=30						
FITZ				S	**Sn**	**01 19 01.1**	**-1.6**
	68nm,0.9s,baz=112,slow=4.4,SNR=11						
FITZ				LR	LR	01 22 27.3	
	comp=Z,136nm,18.2s,baz=340,slow=45						
FITZ	**Fitzroy Crossi**	**10.01**	**167**	Pn	**Pn**	**01 17 10.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.01**	**167**	P	**Pn**	**01 17 10.7**	**-0.7**
SWI	**Sorong**	**10.77**	**47**	P	Pn	01 17 32.0	+10
SIJI	**Sorong**	**10.77**	**47**	P	**Pn**	**01 17 22.8**	**+0.9**
	0.3nm,0.3s,baz=299,slow=2.3,SNR=6.7						
	8.5nm,0.6s						
PSA00	**Pilbara Seismi**	**13.65**	**194**	Pn	**Pn**	**01 17 59.9**	**-1.4**
DAV	**Davao City (W)**	**15.40**	**8**	LR	LR	01 23 54.3	
	comp=Z,60nm,21.2s,baz=180,slow=36						
WB0	**Warramunga Arr**	**15.64**	**138**	Pn	**Pn**	**01 18 25.2**	**-2.8**
WRA	**Warramunga Arr**	**15.73**	**139**	P	**Pn**	**01 18 26.8**	**-2.3**
	7.9nm,0.9s,baz=320,slow=13,SNR=42						
WRA				S	**Sn**	**01 21 13.7**	**-8.8**
	19nm,1.0s,baz=308,slow=22,SNR=11						
WRA				LR	LR	01 24 31.1	
	comp=Z,152nm,19.4s,baz=339,slow=36						
WRA	**Warramunga Arr**	**15.73**	**139**	Pn	**Pn**	**01 18 26.1**	**-3.0**
WB2	**Warramunga Arr**	**15.74**	**139**	Pn	**Pn**	**01 18 25.7**	**-3.5**
WB2				IAmb	IAmb	01 18 41.7	
	comp=Z,27nm,1.0s						
WR0	**Warramunga Arr**	**15.88**	**138**	Pn	**

comp=Z,5.0nm,1.2s
USRK Ussuriysk Ar. 52.81 8 P **P** **01 24 01.2 -0.7**
comp=Z,4.8nm,0.8s,baz=193,slow=6.6,SNR=5.9
comp=Z,4.8nm,0.8s
BKZ Black Stump Fm 56.52 132 P **P** **01 24 28.9 -0.2**
SONM Songino Array 57.85 347 P **P** **01 24 37.7 -0.7**
comp=Z,1.8nm,0.8s,baz=164,slow=8.5,SNR=7.5
comp=Z,1.8nm,0.8s
SONM Songino Array 57.85 347 P **P** **01 24 37.8 -0.5**
WMQ Urumqi 61.10 331 *eP* **P** **01 24 59.0 -1.7**
WMQ pmax pmax
comp=Z,18nm,0.7s
KSH Kashi 64.68 321 P **P** **01 25 25.2 +0.5**
KSH pmax pmax
comp=Z,6.0nm,0.8s
SHLS Shalkode 64.89 326 *eP* **P** **01 25 23.7 -2.3**
baz=326
TARG Taragay, Kyrgy 64.92 324 P **P** **01 25 26.3 -0.3**
TARG IAmb IAmb 01 25 29.1
comp=Z,3.3nm,0.8s
UZB Uzynbulak 65.12 326 *eP* **P** **01 25 27.4 -0.3**
baz=326
SATY Saty 65.41 325 *eP* **P** **01 25 28.8 -0.7**
comp=Z,4.1nm,0.8s,baz=325
KPKS Kokpek 65.52 326 *eP* **P** **01 25 29.7 -0.4**
baz=326
MK31 Makanchi Array 65.87 330 P **P** **01 25 31.5 -0.7**
MK31 IAmb IAmb 01 25 33.3
comp=Z,4.5nm,1.0s
MKAR Makanchi Array 65.87 330 P **P** **01 25 31.6 -0.6**
comp=Z,3.1nm,0.6s,baz=136,slow=7.3,SNR=26
comp=Z,3.1nm,0.6s
MKAR Makanchi Array 65.87 330 P **P** **01 25 31.5 -0.7**
MDOK Medeo 66.25 325 *eP* **P** **01 25 34.4 -0.5**
baz=325
TDK Taldyqorghan 66.67 327 *eP* **P** **01 25 36.4 -0.9**
baz=327
CHKK Chushkaly 66.72 325 *eP* **P** **01 25 36.4 -1.2**
baz=325
KUU Kurty 67.11 325 *eP* **P** **01 25 39.1 -1.0**
comp=Z,8.0nm,0.9s,baz=325
AAK Ala-Archa 67.42 323 P **P** **01 25 42.8 +0.5**
comp=Z,2.6nm,0.5s,baz=157,slow=6.2,SNR=8.4
comp=Z,2.6nm,0.5s
AAK Ala-Archa 67.42 323 P **P** **01 25 41.3 -1.1**
AAK IAmb IAmb 01 25 49.2
comp=Z,5.4nm,0.9s
PETK Petropavlovsk- 67.75 22 P **P** **01 25 44.2 +0.3**
comp=Z,6.1nm,0.8s,baz=190,slow=5.8,SNR=7.7
comp=Z,6.1nm,0.8s
PETK Petropavlovsk- 67.75 22 P **P** **01 25 43.7 -0.3**
SGDS Sogindy 67.83 324 *eP* **P** **01 25 43.6 -1.2**
baz=324
CHGR Chuyangaron 68.64 317 P **P** **01 25 49.2 -0.8**
BTLS Baital 69.11 325 *eP* **P** **01 25 51.6 -1.0**
baz=325
SEM Semipalatinsk 69.36 332 *eP* **P** **01 25 52.1 -2.3**
baz=332
IUG Iuzhnay 69.88 321 *eP* **P** **01 25 57.2 -0.4**
baz=321
ZALV Zalesovo Beam 69.99 337 P **P** **01 25 56.5 -1.3**
comp=Z,1.6nm,0.6s,baz=122,slow=5.6,SNR=9.0
comp=Z,1.6nm,0.6s
ZALV Zalesovo Beam 69.99 337 P **P** **01 25 55.8 -2.0**
KK31 Karatay Array 70.10 322 P **P** **01 25 58.0 -0.9**
KK31 IAmb IAmb 01 26 05.4
comp=Z,3.2nm,1.0s
KKAR Karatay Array 70.10 322 P **P** **01 25 57.9 -1.0**
YAK Yakutsk 70.26 3 P **P** **01 25 59.0 -0.3**
KURBB Kurchatov Arra 70.31 332 P **P** **01 25 59.0 -0.9**
comp=Z,2.8nm,0.9s,baz=145,slow=5.5,SNR=11
comp=Z,2.8nm,0.9s
KURK Kurchatov 70.33 332 P **P** **01 25 58.5 -1.5**
KURK IAmb IAmb 01 26 00.2
comp=Z,5.8nm,0.9s
WSAR Wadi Sarin 70.58 298 LR LR 01 58 25.2
comp=Z,23nm,18.2s,baz=132,slow=37
MA2 Magadan 71.09 14 P **P** **01 26 05.4 +0.9**
MA2 IAmb IAmb 01 26 06.1
comp=Z,12nm,0.9s
MAW Mawson 71.41 201 P **P** **01 26 08.9 +2.6**
comp=Z,2.5nm,0.7s,baz=83,slow=8.2,SNR=8.3
MAW LR LR 01 55 17.8
comp=Z,12nm,18.2s,baz=83,slow=34
comp=Z,2.5nm,0.7s
VNDA Vanda 72.06 172 P **P** **01 26 11.8 +1.6**
comp=Z,1.1nm,0.9s,baz=314,slow=8.0,SNR=3.5
VNDA LR LR 01 57 16.8
comp=Z,30nm,18.4s,baz=336,slow=35
comp=Z,1.1nm,0.9s
VNDA Vanda 72.06 172 P **P** **01 26 11.3 +1.2**
VNDA IAmb IAmb 01 26 29.4
comp=Z,4.3nm,1.1s
BRZS Berezniki 72.81 328 *eP* **P** **01 26 13.8 -1.2**
baz=328
BVAR Borovoye Array 75.76 330 P **P** **01 26 31.4 -0.7**
comp=Z,1.4nm,0.9s,baz=142,slow=7.2,SNR=9.8
comp=Z,1.4nm,0.9s
BRVK Borovoye 75.83 330 P **P** **01 26 31.3 -1.2**
BRVK IAmb IAmb 01 26 38.4
comp=Z,4.4nm,0.9s
ABKAR Akbulak array 79.51 323 P **P** **01 26 52.0 -1.1**
TIXI Tiksi 79.84 2 P **P** **01 26 54.1 -0.3**
TIXI IAmb IAmb 01 27 00.7
comp=Z,11nm,1.2s
NRIK Noril'sk 81.30 348 P **P** **01 27 02.4 0.0**
comp=Z,1.0nm,0.6s,baz=135,slow=8.0,SNR=1.4
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 81.71 180 P **P** **01 27 05.8 +0.9**
QSPA IAmb IAmb 01 27 07.2
comp=Z,3.9nm,0.8s
RAYN Ar Rayn 82.28 295 P **P** **01 27 08.2 -0.4**
RAYN IAmb IAmb 01 27 08.7
comp=Z,2.9nm,0.9s
KBZ Khabaz 88.83 314 P **P** **01 27 40.2 -0.4**
comp=Z,2.5nm,0.8s,baz=199,slow=4.1,SNR=5.3
comp=Z,2.5nm,0.8s
TORD Torodi Ar. Bea 122.58 280 PKP **PKPdf** **01 33 41.6 -1.4**
comp=Z,1.2nm,0.9s,baz=101,slow=1.7,SNR=5.3
CPUP Villa Florida 145.60 179 PKPbc **PKPab** **01 34 27.1 +1.2**
comp=Z,4.2nm,0.9s,baz=147,slow=5.2,SNR=5.0
LPAZ La Paz 153.07 155 PKPbc **PKiKP** **01 34 47.2 +1.3**
comp=Z,1.5nm,0.8s,baz=200,slow=3.5,SNR=6.2

---

*MOS **07** 01:36:47.7±0.9,51˚73N×173˚47W,h31km,mb4.9/36, Error ellipse: s-maj=8.5km s-min=5.2km az=100.0*
*GCMT **07** 01:36:48.6±0.5,51˚52N±0˚04×173˚31W±0˚06, h27km±1km, MW4.9/64,Moment Tensor Solution. s29,c30; s64,c74; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.54±.18; $M_{\theta\theta}$-1.49±.11; $M_{\phi\phi}$-1.05±.13; $M_{r\theta}$0.91±.18; $M_{\theta\phi}$-0.68±.06; $M_{\phi r}$0.39±.25; Best double couple: M_o2.46600×10^{16} NP1:ϕ_s58.00000°,δ57.00000°,λ94.00000°. NP2: ϕ_s231.00000°,δ34.00000°,λ84.00000°. Principal axes: T 2.7500, Plg78.0000°, Azm342.0000°; N -0.5690, Plg3.0000°, Azm236.0000°; P -2.1810, Plg12.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 01:36:49.6±2.4,51˚53N±0˚06×173˚50W±0˚08,h42km±7km, mb4.8/299,ML4.2/31(AEIC) Error ellipse: s-maj=9.4km s-min=6.8km az=158.0*
*AEIC **07** 01:36:49.4±3.2,51˚64N±0˚06×173˚56W±0˚09,h63km±5km, Error ellipse: s-maj=9.4km s-min=7.6km az=165.0*
*IDC **07** 01:36:50.9±0.5,51˚66N×173˚47W,h43km±3km,mb4.2/33, mbtmp4.5/37,ML3.9/4,MS3.7/48,Error ellipse: s-maj=13.8km s-min=8.2km az=169.0*
ISC 07 01:36:51.2±0.4,51˚67N±0˚06×173˚43W±0˚04,h48km±3km, h48km:pP-P,n721,σ0:99/611,mb4.7/214,MS3.8/55, 60C-5D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.73**	**326**		**Pn**	**01 37 04.6**	**-0.7**
KOSE	**Korovin Southe**	**0.77**	**331**		**Pn**	**01 37 05.6**	**-0.3**
KOSE					**Sn**	**01 37 17.6**	**+1.1**
KOKL	**Mount Kliuchef**	**0.81**	**324**		**Pn**	**01 37 05.6**	**-0.7**
GSMY	**Great Sitkin M**	**1.67**	**284**		**Pn**	**01 37 15.7**	**-2.3**
GSTR	**Great Sitkin T**	**1.68**	**286**		**Pn**	**01 37 16.0**	**-2.2**
GSTD	**Great Sitkin T**	**1.73**	**284**		**Pn**	**01 37 16.4**	**-2.3**
GSTD					**Sn**	**01 37 36.5**	**-3.1**
GSCK	**Great Sitkin C**	**1.73**	**282**		**Pn**	**01 37 16.3**	**-2.4**
ADK	**Adak**	**2.03**	**277**		**Pn**	**01 37 20.2**	**-2.7**
ADK						01 37 43.7	
KIWB	**Kanaga Island**	**2.32**	**276**	Pn	**Pn**	**01 37 24.7**	**-2.1**
KIKV	**Kanaga Island**	**2.33**	**277**		**Pn**	**01 37 25.3**	**-1.7**
KICM	**Kanaga Island**	**2.35**	**277**		**Pn**	**01 37 25.7**	**-1.5**
KIMD	**Kanaga Island**	**2.37**	**274**		**Pn**	**01 37 25.9**	**-1.6**
TAPA	**Tanaga Point A**	**2.73**	**275**		**Pn**	**01 37 31.4**	**-1.1**
TAFP	**Tanaga Falls P**	**2.83**	**276**		**Pn**	**01 37 32.9**	**-1.1**
TAFP					**Sn**	**01 38 07.5**	**+0.7**
TASE	**Tanaga Southea**	**2.87**	**275**		**Pn**	**01 37 33.1**	**-1.3**
NIKH	**Nikolski High**	**3.10**	**63**	Pn	**Pn**	**01 37 36.6**	**-0.9**
NIKH	**Nikolski High** baz=247,SNR=19	**3.10**	**63**	P	**Pn**	**01 37 36.7**	**-0.7**
GAEA	**Gareloi East**	**3.31**	**274**		**Pn**	**01 37 38.7**	**-1.6**
GANO	**Gareloi North**	**3.34**	**275**		**Pn**	**01 37 39.5**	**-1.4**
OKCE	**Okmok Cone E**	**3.66**	**59**		**Pn**	**01 37 46.5**	**+1.2**
OKNC	**Okmok New Cone**	**3.70**	**59**		**Pn**	**01 37 46.8**	**+1.1**
CERAA	**Semis' Rag'd T**	**4.28**	**276**		**Pn**	**01 37 53.4**	**-0.3**
CEPE	**Semis' Perret**	**4.30**	**277**		**Pn**	**01 37 53.7**	**-0.4**
CESW	**Semis' Southwe**	**4.36**	**276**		**Pn**	**01 37 54.1**	**-0.7**
MAPS	**Pakushin South**	**4.49**	**59**		**Pn**	**01 37 57.2**	**+0.7**
AMKA	**Amchitka**	**4.55**	**269**	Pn	**Pn**	**01 37 55.8**	**-1.6**
MNAT	**Makushin Natee**	**4.66**	**59**		**Pn**	**01 37 59.3**	**+0.4**
UNV	**Unalaska Valle**	**4.74**	**60**	Pn	**Pn**	**01 38 00.7**	**+0.8**
UNV	**Unalaska Valle** baz=246,SNR=8.3	**4.74**	**60**	P	**Pn**	**01 37 59.5**	**-0.5**
AKUT	**Akutan**	**5.25**	**59**	Pn	**Pn**	**01 38 08.8**	**+1.8**
FALS	**False Pass**	**6.80**	**58**	Pn	**Pn**	**01 38 30.7**	**+2.5**
SHEM	**Shemya Is, Ala** 1.8nm,0.3s,baz=88,slow=22,SNR=1.4	**7.74**	**283**	P	**Pn**	**01 38 40.8**	**-0.2**
SHEM				S	**Sn**	**01 40 15.8**	**+8.6**
SHEM	12nm,0.5s,baz=95,slow=18,SNR=1.3			LR	LR	01 41 32.5	
	comp=Z,524nm,21.7s,baz=101,slow=36 12nm,0.5s						
SDPT	**Sand Point**	**8.55**	**59**	Pn	**Pn**	**01 38 52.0**	**-0.3**
SDPT	**Sand Point** baz=240	**8.55**	**59**	P	**Pn**	**01 38 51.6**	**-0.6**
CNBA	**Chernabura Isl**	**8.88**	**64**	Pn	**Pn**	**01 38 56.7**	**+0.1**
CHGN	**Chignik**	**9.98**	**56**	Pn	**Pn**	**01 39 11.2**	**-0.5**
CHIR	**Chirikof Islan**	**11.32**	**62**	Pn	**Pn**	**01 39 28.4**	**-1.7**
O16K	**Kokwok River B** baz=234	**11.73**	**41**	P	**Pn**	**01 39 35.0**	**-0.6**
P17K	**Kvichak River** baz=239	**12.21**	**45**	P	**Pn**	**01 39 41.3**	**-0.9**
O17K	**Koliganek Bris** baz=236	**12.24**	**42**	P	**Pn**	**01 39 42.1**	**-0.5**
P18K	**Big Mountain,** baz=241	**12.85**	**46**	P	**Pn**	**01 39 50.7**	**-0.3**
OHAK	**Old Harbor**	**12.95**	**57**	Pn	**Pn**	**01 39 49.1**	**-3.1**
OHAK	**Old Harbor** baz=253	**12.95**	**57**	P	**Pn**	**01 39 51.5**	**-0.7**
O18K	**Koktuh Hills**	**13.09**	**44**	Pn	**Pn**	**01 39 52.9**	**-1.4**
O18K	**Koktuh Hills** baz=239	**13.09**	**44**	P	**Pn**	**01 39 53.3**	**-0.9**
N18K	**Kilae Creek**	**13.26**	**40**	Pn	**Pn**	**01 39 58.7**	**+2.2**
N18K	**Kilae Creek** baz=235	**13.26**	**40**	P	**Pn**	**01 39 55.5**	**-1.0**
Q19K	**Cape Douglas,**	**13.37**	**49**	Pn	**Pn**	**01 39 56.3**	**-1.8**
KDAK	**Kodiak Island** 0.9nm,0.3s,baz=260,slow=7.3,SNR=13 3.0nm,0.3s	**13.48**	**55**	P	**Pn**	**01 39 59.3**	**-0.2**
KDAK	**Kodiak Island**	**13.48**	**55**	Pn	**Pn**	**01 39 56.6**	**-2.9**
KDAK	**Kodiak Island** baz=252	**13.48**	**55**	P	**Pn**	**01 39 59.2**	**-0.3**
ANM	**Nome** baz=202	**13.59**	**15**	P	**Pn**	**01 39 59.2**	**-1.8**
SVW2	**Sparrevohn**	**13.62**	**39**	Pn	**Pn**	**01 40 02.8**	**+1.3**
Q20K	**Shuyak Island** baz=249	**13.85**	**52**	P	**Pn**	**01 40 03.8**	**-0.8**
N19K	**Bonanza Creek**	**13.90**	**41**	Pn	**Pn**	**01 40 06.8**	**+1.5**
N19K	**Bonanza Creek** baz=237,SNR=6.9	**13.90**	**41**	P	**Pn**	**01 40 04.6**	**-0.7**
ILSW	**Iliamna Southw**	**14.06**	**46**	P	**P**	**01 40 14.8**	**+0.7**
O20K	**Slope Mountain** baz=243	**14.34**	**46**	P	**Pn**	**01 40 10.8**	**-0.4**
L19K	**White Mountain**	**14.55**	**36**	P	**P**	**01 40 18.3**	**-1.1**
L19K	**White Mountain** baz=232	**14.55**	**36**	P	**Pn**	**01 40 13.9**	**-0.1**
M19K	**Big River Lodg**	**14.56**	**38**	P	**Pn**	**01 40 16.4**	**+2.4**
M19K	**Big River Lodg** baz=234	**14.56**	**38**	P	**Pn**	**01 40 13.9**	**-0.1**
TTA	**Tatalina**	**14.63**	**33**	P	**P**	**01 40 20.2**	**-0.1**
TTA	**Tatalina**	**14.63**	**33**	P	**P**	**01 40 20.2**	**-0.1**
TTA	**Tatalina** baz=228,SNR=15	**14.63**	**33**	P	**Pn**	**01 40 14.1**	**-0.9**
CNPM	**China Poot**	**14.75**	**49**	P	**P**	**01 40 19.9**	**-1.7**
BRLK	**Bradley Lake**	**15.00**	**49**	P	**Pn**	**01 40 21.9**	**+2.0**
M20K	**Styx River** baz=236	**15.04**	**39**	P	**Pn**	**01 40 20.4**	**+0.1**
BRSE	**Bradley Lake S** baz=248	**15.06**	**49**	P	**Pn**	**01 40 20.3**	**-0.4**
L20K	**Farewell, AK** baz=233,SNR=6.5	**15.10**	**37**	P	**Pn**	**01 40 20.7**	**-0.4**
K20K	**Telida**	**15.57**	**34**	P	**P**	**01 40 29.2**	**-1.6**
K20K	**Telida** baz=230	**15.57**	**34**	P	**Pn**	**01 40 26.8**	**-0.4**
GCSA	**Galena City Sc** baz=221,SNR=7.3	**15.66**	**27**	P	**Pn**	**01 40 27.6**	**-0.7**
SKT	**Skwentna**	**15.73**	**41**	P	**P**	**01 40 31.7**	**-0.8**
SKT	**Skwentna** baz=239	**15.73**	**41**	P	**Pn**	**01 40 29.1**	**-0.1**
SUA	**Susitna One**	**15.80**	**43**	P	**P**	**01 40 31.9**	**-1.4**
SUA	**Susitna One** baz=242	**15.80**	**43**	P	**Pn**	**01 40 29.7**	**-0.5**
SEW	**Seward**	**15.80**	**48**	Pn	**Pn**	**01 40 29.5**	**-0.6**
SEW	**Seward** baz=248	**15.80**	**48**	P	**Pn**	**01 40 29.4**	**-0.6**
PPLA	**Purkeypile**	**15.97**	**37**	P	**P**	**01 40 35.4**	**+0.1**
PPLA	**Purkeypile** baz=235	**15.97**	**37**	P	**Pn**	**01 40 31.7**	**-0.7**
J20K	**Nowinta River**	**16.09**	**31**	P	**P**	**01 40 36.6**	**+0.2**
J20K	**Nowinta River** baz=228,SNR=11	**16.09**	**31**	P	**Pn**	**01 40 33.7**	**0.0**
CAST	**Castle Rocks**	**16.32**	**36**	P	**Pn**	**01 40 37.5**	**+0.9**
CAST	**Castle Rocks** baz=234,SNR=13	**16.32**	**36**	P	**Pn**	**01 40 36.3**	**-0.4**
PWL	**Port Wells** baz=248	**16.60**	**47**	P	**Pn**	**01 40 39.9**	**-0.3**
GHO	**Glory Hole Cre**	**16.71**	**43**	P	**Pn**	**01 40 41.3**	**-0.4**
P23K	**Montague Islan** baz=252	**16.73**	**50**	P	**Pn**	**01 40 42.3**	**+0.5**
KNK	**Knik Glacier**	**16.76**	**45**	Pn	**Pn**	**01 40 41.7**	**-0.6**
KNK	**Knik Glacier** baz=246	**16.76**	**45**	P	**Pn**	**01 40 41.9**	**-0.4**
KTH	**Kantishna Hill**	**16.82**	**36**	P	**P**	**01 40 44.5**	**0.0**
SML	**Sawmill** baz=245	**16.98**	**44**	P	**Pn**	**01 40 44.7**	**-0.4**
TRF	**Thorofare Moun**	**17.00**	**37**	P	**P**	**01 40 46.3**	**-0.4**
TRF	**Thorofare Moun** baz=237	**17.00**	**37**	P	**Pn**	**01 40 45.1**	**-0.3**
PET	**Petropavlovsk**	**17.07**	**286**	*eP*	**Pn**	**01 40 42.9**	**-3.2**
BPAW	**Bear Paw Mtn.** baz=234,SNR=13	**17.11**	**35**	P	**Pn**	**01 40 46.4**	**-0.3**
M23K	**Glacier View** baz=246,SNR=6.6	**17.24**	**44**	P	**Pn**	**01 40 48.2**	**0.0**
SCM	**Sheep Creek Mo** baz=246,SNR=5.8	**17.43**	**44**	P	**Pn**	**01 40 50.5**	**-0.1**
I21K	**Tanana** baz=230,SNR=16	**17.45**	**31**	P	**Pn**	**01 40 50.8**	**+0.1**
IMAR	**Indian Mountai**	**17.47**	**27**	P	**P**	**01 40 51.3**	**-0.3**
H21K	**Melozitna Rive** baz=227,SNR=8.8	**17.52**	**29**	P	**Pn**	**01 40 51.4**	**-0.1**
WAT6	**Susitna Watana** baz=244	**17.57**	**42**	P	**Pn**	**01 40 50.9**	**-1.5**
PEA0B	**Petropavlovsk-**	**17.63**	**286**	*iP*	**Pn**	**01 40 51.5**	**-1.6**
PETK	**Petropavlovsk-** 0.4nm,0.3s,baz=97,slow=13,SNR=8.6	**17.63**	**286**	P	**P**	**01 40 53.4**	**-0.2**
PETK				LR	LR	01 47 09.3	
	comp=Z,116nm,21.7s,baz=94,slow=35 7.7nm,0.7s						
MCK	**McKinley**	**17.66**	**37**	P	**Pn**	**01 40 52.5**	**-0.9**
MCK	**McKinley**	**17.66**	**37**	P	**Pn**	**01 40 52.5**	**-0.9**
MCK				pmax	pmax		
	comp=Z,11nm,0.7s						
MCK	**McKinley** baz=238,SNR=7.7	**17.66**	**37**	P	**Pn**	**01 40 51.9**	**-1.5**
EYAK	**Cordova Ski Ar** baz=252	**17.68**	**49**	P	**Pn**	**01 40 52.6**	**-1.0**
MLY	**Manley** baz=232,SNR=17	**17.76**	**32**	P	**Pn**	**01 40 53.6**	**-1.0**
KLU	**Klutina**	**17.92**	**46**	P	**Pn**	**01 40 56.2**	**-0.4**
KLU	**Klutina** baz=249	**17.92**	**46**	P	**Pn**	**01 40 55.9**	**-0.7**
G21K	**Allakaket**	**17.92**	**26**	P	**Pn**	**01 40 55.5**	**-1.0**
	baz=224						
DHY	**Denali Highway** baz=243	**17.95**	**40**	P	**Pn**	**01 40 56.1**	**-0.9**
M24K	**Tolsona, Glenn** baz=247	**18.04**	**44**	P	**P**	**01 40 57.1**	**-0.9**
NEA2	**Nenana** baz=236,SNR=7.3	**18.08**	**35**	P	**P**	**01 40 57.5**	**-0.9**
H22K	**Ishtalitna Cre** baz=229	**18.11**	**30**	P	**P**	**01 40 57.7**	**-1.0**
KAIM	**Kayak Island** baz=256	**18.15**	**52**	P	**P**	**01 40 58.8**	**-0.4**
BMRM	**Bremner River** baz=253	**18.35**	**48**	P	**P**	**01 41 00.9**	**-0.5**
WRH	**Wood River Hil**	**18.37**	**36**	P	**P**	**01 40 58.5**	**-3.0**
F21K	**Alatna River** baz=222	**18.45**	**25**	P	**P**	**01 41 01.3**	**-1.1**
N25K	**Chitina, Valde** baz=251	**18.55**	**46**	P	**P**	**01 41 02.9**	**-0.8**
CCB	**Clear Creek Bu**	**18.57**	**36**	P	**P**	**01 41 01.4**	**-2.3**
HARP	**HAARP** baz=248	**18.59**	**44**	P	**P**	**01 41 04.0**	**-0.1**
BERG	**Berg Lake**	**18.61**	**50**	P	**P**	**01 41 04.4**	**+0.1**
H23K	**Yukon River** baz=232,SNR=7.3	**18.65**	**31**	P	**P**	**01 41 04.3**	**-0.3**
COLA	**College**	**18.67**	**35**	*eP*	**P**	**01 41 04.9**	**0.0**
PAX	**Paxson**	**18.68**	**42**	P	**P**	**01 41 05.0**	**-0.1**
PAX	**Paxson**	**18.68**	**42**	P	**P**	**01 41 05.0**	**-0.1**
PAX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HDA	**Harding Lake**	**18.76**	**37**	P	**P**	**01 41 04.2**	**-1.6**
HDA				IAmb	IAmb	01 41 07.8	
	comp=Z,22nm,0.7s						
HDA	**Harding Lake** baz=240,SNR=21	**18.76**	**37**	P	**P**	**01 41 05.7**	**-0.1**
GLB	**Gilahina Butte**	**18.86**	**47**	P	**Pn**	**01 41 08.0**	**0.0**
K24K	**Donnelly Dome** baz=243,SNR=12	**18.92**	**39**	P	**P**	**01 41 07.8**	**+0.1**
POKR	**Poker Plat Res**	**18.95**	**35**	P	**P**	**01 41 07.9**	**-0.1**
POKR	**Poker Plat Res** baz=237	**18.95**	**35**	P	**P**	**01 41 08.0**	**-0.1**
IL31		**18.97**	**36**	P	**P**	**01 41 06.2**	**-1.9**
IL31				IAmb	IAmb	01 41 09.8	
	comp=Z,52nm,1.4s						
ILAR	**Eielson Array** comp=Z,1.6nm,0.3s,baz=231,slow=9.0,SNR=71	**18.97**	**36**	P	**P**	**01 41 06.8**	**-1.3**
ILAR				LR	LR	01 49 11.2	
	comp=Z,304nm,18.4s,baz=238,slow=39 comp=Z,11nm,0.8s						
F22K	**John River** baz=224	**19.00**	**25**	P	**P**	**01 41 08.3**	**-0.2**
G23K	**Bananza Creek** baz=229,SNR=16	**19.06**	**29**	P	**P**	**01 41 09.0**	**-0.2**
BILL	**Bilibino**	**19.15**	**337**	*ceP*	**P**	**01 41 08.2**	**-1.9**
BILL				pmax	pmax		
	comp=Z,50nm,1.7s						
MCARA	**McCarthy VSAT**	**19.20**	**48**	P	**Pn**	**01 41 11.5**	**-0.5**
MCARA	**McCarthy VSAT** baz=253	**19.20**	**48**	P	**P**	**01 41 10.5**	**-0.3**
H24K	**Noodor Dome** comp=Z,29nm,0.8s	**19.21**	**33**	IAmb	IAmb	01 41 13.1	
H24K	**Noodor Dome** baz=235,SNR=35	**19.21**	**33**	P	**P**	**01 41 10.8**	**0.0**
RIDG	**Independent Ri** baz=245	**19.26**	**40**	P	**P**	**01 41 10.9**	**-0.6**
COLD	**Coldfoot**	**19.35**	**28**	P	**Pn**	**01 41 13.3**	**-0.4**
COLD	**Coldfoot** baz=228,SNR=7.8	**19.35**	**28**	P	**P**	**01 41 12.1**	**-0.2**
J25K	**Salcha River,** comp=Z,44nm,0.8s	**19.46**	**38**	IAmb	IAmb	01 41 26.6	
J25K	**Salcha River,** baz=242,SNR=68	**19.46**	**38**	P	**P**	**01 41 12.3**	**-1.2**
DOT	**Dot Lake**	**19.54**	**41**	P	**P**	**01 41 13.8**	**-0.7**
SCRK	**Sand Creek**	**19.71**	**40**	P	**P**	**01 41 14.5**	**-1.9**
SCRK				IAmb	IAmb	01 41 18.0	
	comp=Z,17nm,0.6s						
SCRK	**Sand Creek** baz=245,SNR=25	**19.71**	**40**	P	**P**	**01 41 15.4**	**-0.9**
G24K	**Hadweenzie Riv** baz=234,SNR=22	**19.85**	**31**	P	**P**	**01 41 17.2**	**-0.5**
PRP	**Porcupine Dome** baz=239,SNR=11	**19.85**	**35**	P	**P**	**01 41 17.2**	**-0.6**
CTG	**Chitna Glacier** baz=257	**19.88**	**50**	P	**P**	**01 41 18.2**	**-0.1**
LOGN	**Logan Glacier** comp=Z,22nm,1.0s	**20.01**	**50**	IAmb	IAmb	01 41 33.4	
M27K	**Edge Creek, AK** baz=252	**20.01**	**45**	P	**P**	**01 41 19.5**	**-0.2**
J26L	**Joseph Creek**	**20.10**	**39**	P	**P**	**01 41 19.4**	**-1.2**
J26L				IAmb	IAmb	01 41 21.6	
	comp=Z,53nm,0.7s						
J26L	**Joseph Creek** baz=245,SNR=81	**20.10**	**39**	P	**P**	**01 41 19.6**	**-0.9**
H25K	**Birch Creek** baz=237,SNR=23	**20.14**	**33**	P	**P**	**01 41 20.6**	**-0.3**
F24K	**Squaw Lake** baz=231	**20.22**	**29**	P	**P**	**01 41 21.4**	**-0.4**
PINM	**Pinnacle** baz=260	**20.23**	**52**	P	**P**	**01 41 21.6**	**-0.4**
L27K	**Beaver Creek,** baz=250,SNR=12	**20.26**	**44**	P	**P**	**01 41 21.7**	**-0.5**
BCAR	**Beaver Creek A**	**20.28**	**44**	P	Pn	01 41 24.1	-0.6
E24K	**Your Creek** baz=229	**20.41**	**27**	P	**P**	**01 41 23.4**	**-0.5**
D23K	**Nanushuk River** baz=224	**20.45**	**24**	P	**P**	**01 41 23.0**	**-1.2**
BVCY	**Beaver Creek** baz=253,SNR=12	**20.48**	**46**	P	**P**	**01 41 24.2**	**-0.5**
YUK3	**Moose Creek** baz=256	**20.49**	**48**	P	**P**	**01 41 24.3**	**-0.7**
TOLK	**Toolik Lake Re**	**20.50**	**25**	P	**P**	**01 41 25.0**	**+0.2**
TOLK				IAmb	IAmb	01 41 39.3	
	comp=Z,25nm,0.8s						
TOLK	**Toolik Lake Re** baz=226,SNR=7.7	**20.50**	**25**	P	**P**	**01 41 23.9**	**-0.9**
K27K	**Chicken** baz=248	**20.50**	**41**	P	**P**	**01 41 24.7**	**-0.1**
BCPM	**Bancas Point** comp=Z,23nm,0.7s	**20.52**	**53**	IAmb	IAmb	01 41 27.1	
PNL	**Peninsula** baz=262	**20.59**	**54**	P	**P**	**01 41 25.0**	**-0.8**
I26K	**Coal Creek Min** baz=243	**20.61**	**37**	P	**P**	**01 41 25.1**	**-0.9**
F25K	**Christian Rive** baz=234,SNR=6.7	**20.95**	**30**	P	**P**	**01 41 28.7**	**-1.0**
O29M	**Mount Kennedy** baz=262,SNR=6.7	**21.09**	**52**	P	**P**	**01 41 31.0**	**-0.4**
C23K	**Itkillik River** baz=222	**21.10**	**22**	P	**P**	**01 41 30.5**	**-0.7**
EGAK	**Eagle** baz=247,SNR=108	**21.16**	**39**	P	**P**	**01 41 31.9**	**0.0**
BMAR	**Burnt Mountain**	**21.20**	**31**	P	**P**	**01 41 32.4**	**+0.1**
G26K	**Porcupine Rive** baz=238	**21.20**	**33**	P	**P**	**01 41 31.7**	**-0.5**
E25K	**Arctic Village** baz=233	**21.29**	**29**	P	**P**	**01 41 32.9**	**-0.4**
I27K	**Kandik River** baz=245,SNR=28	**21.32**	**37**	P	**P**	**01 41 33.3**	**-0.4**
SEY	**Seymchan** comp=Z,3.9nm,0.7s,baz=100,slow=11,SNR=7.3 comp=Z,3.9nm,0.7s	**21.34**	**315**	P	**P**	**01 41 34.5**	**+0.7**
SEY	**Seymchan**	**21.34**	**315**	*ceP*	**P**	**01 41 34.6**	**+0.7**
SEY				pmax	pmax		
	comp=Z,11nm,1.3s						
P29M	**Windy Craggy** comp=Z,23nm,0.9s	**21.43**	**54**	IAmb	IAmb	01 41 53.5	
P29M	**Windy Craggy** baz=264,SNR=6.4	**21.43**	**54**	P	**P**	**01 41 35.3**	**+0.4**
MA2	**Magadan** comp=Z,9.8nm,0.8s,baz=124,slow=15,SNR=2.9	**21.47**	**306**	P	**P**	**01 41 35.0**	**-0.2**
MA2				LR	LR	01 49 46.6	
	comp=Z,273nm,18.4s,baz=111,slow=36 comp=Z,

baz=243,SNR=5.7
HYT **Haines Junctio** 21.70 51 P P 01 41 38.0 +0.2
HYT **Haines Junctio** 21.70 51 P P 01 41 37.7 -0.1
baz=261
D25K **Kavik River** 21.81 26 P P 01 41 38.3 -0.6
baz=230
G27K **Doyon Strip** 21.86 34 P P 01 41 39.0 -0.3
baz=242
P30M **Million Dollar** 21.87 53 P P 01 41 39.2 -0.4
baz=264
N30M **Aishikik Lake** 22.00 49 P P 01 41 40.6 -0.4
baz=260
K29M **Barlow Dome** 22.34 43 P P 01 41 44.1 -0.6
baz=254,SNR=16
M30M **Minto, Yukon** 22.35 47 P P 01 41 45.2 +0.5
baz=258
O30N **Mendenhall** 22.38 51 P P 01 41 44.8 -0.2
baz=263
I29M **Ogilvie Camp,** 22.50 39 IAmb IAmb 01 42 00.5
comp=Z,18nm,0.8s
I29M **Ogilvie Camp,** 22.50 39 P P 01 41 45.1 -1.1
baz=250,SNR=13
E27K **Coleen River** 22.56 31 P P 01 41 46.0 -0.9
baz=239,SNR=8.8
WHY **Whitehorse** 22.95 52 P P 01 41 50.5 -0.7
baz=264
R32K **Eaglecrest** 23.03 58 P P 01 41 51.4 -0.4
baz=270
M31M **Drury Creek, Y** 23.38 48 P P 01 41 54.7 -0.6
baz=261
EPYK **Eagle Plains** 23.47 37 IAmb IAmb 01 42 15.7
comp=Z,10nm,0.7s
EPYK **Eagle Plains** 23.47 37 P P 01 41 55.8 -0.3
baz=249
FARO **Faro, Yukon** 23.87 48 P P 01 41 59.7 -0.1
baz=262
P33M **Teslin, Yukon** 23.94 53 P P 01 42 00.3 -0.2
baz=267
S34M **Telegraph Cree** 24.84 59 P P 01 42 07.8 -0.8
baz=274,SNR=5.6
R33M **Jennings River** 24.86 55 P P 01 42 07.8 -1.2
baz=271
V35K **Ketchikan** 24.86 65 P P 01 42 08.9 0.0
baz=279
MMPY **Sheldon Lake,** 24.88 48 P P 01 42 08.4 -0.7
baz=264
F31M **Tsiigehtchic** 24.94 36 P P 01 42 09.3 -0.1
baz=251
INK **Inuvik** 25.32 34 P P 01 42 13.1 +0.2
comp=Z,17nm,0.8s,baz=246,slow=7.9,SNR=23
comp=Z,17nm,0.8s
INK **Inuvik** 25.32 34 P P 01 42 12.1 -0.7
INK IAmb IAmb 01 42 14.6
comp=Z,31nm,1.2s
INK **Inuvik** 25.32 34 P P 01 42 12.1 -0.7
INK pmax pmax
comp=Z,31nm,1.2s
INK **Inuvik** 25.32 34 P P 01 42 12.9 +0.1
baz=249,SNR=14
DLBC **Dease Lake** 25.39 57 P P 01 42 13.7 +0.1
comp=Z,13nm,1.0s,baz=268,slow=8.9,SNR=14
DLBC LR LR 01 52 29.0
comp=Z,220nm,19.6s,baz=264,slow=37
comp=Z,13nm,1.0s
DLBC **Dease Lake** 25.39 57 IAmb IAmb 01 42 34.8
comp=Z,14nm,0.8s
DLBC **Dease Lake** 25.39 57 P P 01 42 13.8 +0.1
baz=274,SNR=8.9
TGTN **Hyland Airport** 26.21 50 P P 01 42 21.6 +0.5
baz=269
BBB **Bella Bella** 27.61 71 LR LR 01 51 58.6
comp=Z,80nm,21.4s,baz=328,slow=33
TIXI **Tiksi** 32.05 330 P P 01 43 13.1 +0.4
comp=Z,3.2nm,0.4s,baz=268,slow=23,SNR=3.0
TIXI LR LR 01 57 23.5
comp=Z,103nm,18.6s,baz=179,slow=38
comp=Z,3.2nm,0.4s
TIXI **Tiksi** 32.05 330 *e*P P 01 43 12.2 -0.5
TIXI pmax pmax
comp=Z,3.0nm,0.4s
YKA **Yellowknife Ar** 32.58 48 P P 01 43 18.0 +0.6
comp=Z,2.4nm,0.7s,baz=273,slow=7.4,SNR=7.4
YKA pP pP 01 43 30.5 +0.8
comp=Z,1.8nm,0.6s,baz=278,slow=8.0,SNR=3.8
YKA LR LR 01 58 12.2
comp=Z,170nm,18.9s,baz=278,slow=39
comp=Z,2.4nm,0.7s
B08A **Colville Reser** 34.26 74 P P 01 43 32.9 +0.6
B08A IAmb IAmb 01 43 53.9
comp=Z,7.1nm,0.9s
I04A **Tendick Farm,** 34.59 83 P P 01 43 35.8 +0.5
baz=302
I05D **Terrebonne, OR** 34.97 81 P P 01 43 39.2 +0.7
baz=301
HAWA **Hanford** 35.05 77 IAmb IAmb 01 43 54.0
comp=Z,8.7nm,0.9s
ZEA **Zeya** 35.10 297 *e*P P 01 43 39.1 -0.3
ZEA *e* 01 43 45.6
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=Z,100nm,16.0s
D08A **Wollman Farm,** 35.10 76 IAmb IAmb 01 43 59.4
comp=Z,4.8nm,0.7s
C09A **Chrisman Ranch** 35.14 74 IAmb IAmb 01 43 59.9
comp=Z,5.4nm,0.8s
H11N2 **WAKE ISLAND Hy** 35.42 213 T T 02 21 47.1
baz=21,slow=76,SNR=113
H11N3 **WAKE ISLAND Hy** 35.42 213 T T 02 21 47.7
baz=21,slow=76,SNR=109
H11N1 **WAKE ISLAND Hy** 35.44 213 T T 02 21 48.5
baz=21,slow=76,SNR=108
L04D **Klamath Falls** 35.50 85 P P 01 43 43.2 0.0
baz=303
YBH **Yreka Blue Hor** 35.52 86 LR LR 01 57 25.1
comp=Z,79nm,18.2s,baz=323,slow=35
J05D **Fort Rock, OR** 35.58 83 P P 01 43 44.2 +0.3
baz=302
NEW **Newport** 35.62 73 P P 01 43 44.7 +0.7
comp=Z,7.3nm,1.0s,baz=323,slow=5.2,SNR=8.7
NEW LR LR 01 58 18.3
comp=Z,52nm,18.4s,baz=314,slow=36
comp=Z,7.3nm,1.0s
NEW **Newport** 35.62 73 P P 01 43 44.6 +0.6
NEW IAmb IAmb 01 43 58.1
comp=Z,7.2nm,0.8s
NEW **Newport** 35.62 73 P P 01 43 43.8 -0.2
baz=297,SNR=6.7
E09A **Wood Farm, Sta** 35.83 76 IAmb IAmb 01 44 09.6
comp=Z,7.5nm,1.0s
K05A **Summer Lake** 36.09 83 P P 01 43 49.3 +0.9
K05A IAmb IAmb 01 44 08.9
comp=Z,13nm,0.9s
I07A **Izee** 36.23 80 P P 01 43 50.3 +1.0
USRK **Ussuriysk Ar.** 36.56 280 P P 01 43 51.8 -0.3
comp=Z,12nm,0.9s,baz=56,slow=7.7,SNR=14
USRK pP pP 01 44 05.1 +1.3
comp=Z,3.7nm,0.7s,baz=56,slow=9.9,SNR=3.8
comp=Z,12nm,0.9s
USRK **Ussuriysk Ar.** 36.56 280 P P 01 43 51.0 -1.1
H11S1 **WAKE ISLAND Hy** 36.62 213 T T 02 23 12.0
baz=20,slow=76,SNR=247
H11S2 **WAKE ISLAND Hy** 36.63 213 T T 02 23 06.0
baz=20,slow=76,SNR=43
H11S3 **WAKE ISLAND Hy** 36.64 213 T T 02 23 01.1
baz=20,slow=76,SNR=40
F10A **Beach Ranch, E** 36.65 76 IAmb IAmb 01 44 16.0
comp=Z,4.7nm,0.7s
WALA **Waterton Lakes** 37.15 70 IAmb IAmb 01 43 59.7
comp=Z,8.3nm,0.9s
MJAR **Matsushiro Arr** 37.15 265 P P 01 43 56.8 -0.4
comp=Z,1.5nm,0.3s,baz=65,slow=7.9,SNR=5.1
MJAR PcP PcP 01 46 16.9 +0.5
comp=Z,1.1nm,0.3s,baz=72,slow=12,SNR=2.0
MJAR LR LR 01 58 02.7
comp=Z,90nm,19.2s,baz=66,slow=34
comp=Z,1.5nm,0.3s
WVOR **Wild Horse Val** 37.65 82 P P 01 44 02.5 +1.0
WVOR IAmb IAmb 01 44 06.5
comp=Z,14nm,0.7s
WVOR **Wild Horse Val** 37.65 82 P P 01 44 02.5 +1.0
WVOR pmax pmax
comp=Z,14nm,0.7s
MSHR **Mys Shultsa** 37.95 279 ⇑*i*P P 01 44 04.6 +0.8
MSHR pmax pmax
comp=Z,36nm,0.8s

RES **Resolute Bay** 38.07 25 LR LR 02 03 55.7
comp=Z,123nm,18.2s,baz=314,slow=43
MSO **Missoula** 38.19 73 IAmb IAmb 01 44 08.1
comp=Z,8.5nm,1.1s
MSO **Missoula** 38.19 73 P P 01 44 05.6 -0.4
baz=300
PAHR **Pah Rah Range** 38.75 86 IAmb IAmb 01 44 25.9
comp=Z,17nm,1.2s
PNTR **Pine Nut** 38.98 87 IAmb IAmb 01 44 28.2
comp=Z,16nm,0.9s
LRM **Limekiln Ridge** 39.59 74 P P 01 44 19.3 +1.4
HLID **Hailey** 39.62 78 P P 01 44 17.9 -0.2
baz=303,SNR=5.8
EGMT **Eagleton** 40.07 69 IAmb IAmb 01 44 23.9
comp=Z,19nm,0.7s
EGMT **Eagleton** 40.07 69 P P 01 44 21.4 -0.2
baz=300
NVAR **Mina Array Bea** 40.19 87 P P 01 44 24.1 +1.3
comp=Z,2.6nm,1.0s,baz=295,slow=7.6,SNR=8.6
NVAR pP pP 01 44 35.5 +0.8
comp=Z,3.3nm,0.9s,baz=297,slow=8.4,SNR=7.7
NVAR PcP PcP 01 46 26.4 +0.2
comp=Z,0.3nm,0.6s,baz=336,slow=2.0,SNR=1.6
NVAR LR LR 01 58 03.1
comp=Z,72nm,21.4s,baz=266,slow=32
comp=Z,2.6nm,1.0s
NVAR **Mina Array Bea** 40.19 87 P P 01 44 23.9 +1.0
BOZ **Bozeman (W)** 40.20 73 P P 01 44 22.6 -0.2
baz=302,SNR=5.8
ELK **Elko** 40.70 82 LR LR 01 59 58.8
comp=Z,58nm,20.3s,baz=309,slow=34
YHH **Holmes Hill** 41.10 74 IAmb IAmb 01 44 32.5
comp=Z,10nm,1.1s
FFC **Flin Flon** 41.22 57 P P 01 44 31.0 +0.1
FFC IAmb IAmb 01 44 36.6
comp=Z,31nm,1.8s
FFC **Flin Flon** 41.22 57 P P 01 44 31.0 +0.1
FFC pmax pmax
comp=Z,31nm,1.8s
YNR **Norris Junctio** 41.24 74 IAmb IAmb 01 44 34.3
comp=Z,9.0nm,0.9s
JCJ **Chichijima** 41.30 251 P P 01 44 31.7 -0.2
comp=Z,28nm,0.6s,baz=324,slow=8.7,SNR=5.8
JCJ LR LR 01 58 27.5
comp=Z,32nm,20.5s,baz=28,slow=31
comp=Z,28nm,0.6s
VES **Vestal, Richgr** 41.32 91 P P 01 44 33.0 +1.1
baz=310
LCH **Last Change Ra** 41.34 88 IAmb IAmb 01 44 47.4
comp=Z,13nm,1.4s
H17A **Grant Village** 41.48 74 IAmb IAmb 01 44 37.2
comp=Z,11nm,1.1s
H17A **Grant Village** 41.48 74 P P 01 44 33.2 -0.2
baz=303
IMW **Indian Meadow** 41.54 75 P P 01 44 35.1 +1.2
ISA **Isabella, Lake** 41.81 90 P P 01 44 36.4 +0.3
baz=310
RLMT **Red Lodge** 41.87 73 P P 01 44 37.2 +0.6
RLMT IAmb IAmb 01 44 39.1
comp=Z,12nm,0.9s
RLMT **Red Lodge** 41.87 73 P P 01 44 36.3 -0.2
baz=303,SNR=14
SNOW **Snow King Moun** 41.89 76 IAmb IAmb 01 45 01.4
comp=Z,7.5nm,0.7s
R11A **Troy Canyon, C** 41.92 85 P P 01 44 37.3 +0.2
baz=308
MPMC **Manual Prospec** 42.17 89 P P 01 44 39.6 +0.4
baz=310
SEHB **SEOHWA** 42.26 275 P P 01 44 40.0 +0.4
SEHB IAmb IAmb 01 44 42.8
comp=Z,16nm,0.9s
TPNV **Topopah Spring** 42.38 87 P P 01 44 41.3 +0.5
TPNV IAmb IAmb 01 44 55.7
comp=Z,12nm,1.1s
TPNV **Topopah Spring** 42.38 87 P P 01 44 41.3 +0.5
TPNV pmax pmax
comp=Z,12nm,1.1s
TPNV **Topopah Spring** 42.38 87 P P 01 44 40.5 -0.3
baz=309
DUG **Dugway, Tooele** 42.52 81 P P 01 44 42.3 +0.4
DUG IAmb IAmb 01 45 01.9
comp=Z,9.9nm,1.1s
DUG **Dugway, Tooele** 42.52 81 P P 01 44 42.3 +0.4
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG **Dugway, Tooele** 42.52 81 P P 01 44 41.2 -0.6
baz=307,SNR=5.4
GWY **Greenwater Val** 42.60 88 IAmb IAmb 01 44 56.6
comp=Z,15nm,1.5s
EDW2 **Edwards Air Fo** 42.62 91 P P 01 44 43.1 +0.5
baz=311
LAO **LASA Array** 42.81 69 IAmb IAmb 01 44 46.1
comp=Z,15nm,1.1s
LAO **LASA Array** 42.81 69 P P 01 44 43.9 -0.2
baz=302
PRN **Pahroc Range** 42.84 86 IAmb IAmb 01 45 00.1
comp=Z,18nm,1.0s
KSRS **Korea Array** 42.97 274 P P 01 44 46.3 +1.0
comp=Z,13nm,1.0s,baz=57,slow=7.5,SNR=30
KSRS pP pP 01 44 58.2 +0.9
comp=Z,2.6nm,0.7s,baz=54,slow=8.1,SNR=3.3
KSRS LR LR 02 01 55.0
comp=Z,46nm,20.6s,baz=60,slow=35
comp=Z,13nm,1.0s
KSAR **Wonju Array Be** 43.00 274 P P 01 44 45.3 -0.3
KSAR **Wonju Array Be** 43.00 274 P P 01 44 45.3 -0.3
BW06 **Boulder Array** 43.01 76 P P 01 44 45.8 -0.1
baz=305,SNR=12
PD31 **Pinedale Array** 43.01 76 P P 01 44 46.2 +0.3
PDAR **Pinedale Array** 43.01 76 P P 01 44 46.6 +0.8
comp=Z,5.1nm,0.8s,baz=306,slow=5.3,SNR=33
PDAR pP pP 01 44 58.3 +0.7
comp=Z,3.8nm,0.6s,baz=310,slow=3.9,SNR=10
PDAR LR LR 01 59 53.2
comp=Z,43nm,19.6s,baz=318,slow=32
comp=Z,5.1nm,0.8s
SHOC **Shoshone, Teco** 43.03 88 P P 01 44 46.2 +0.3
baz=310
GSC **Goldstone, Bar** 43.09 89 IAmb IAmb 01 45 01.1
comp=Z,17nm,1.1s
GSC **Goldstone, Bar** 43.09 89 P P 01 44 47.1 +0.6
baz=310,SNR=5.5
BFSC **Mount Baldy Ra** 43.25 91 P P 01 44 47.9 +0.1
baz=311
KSCHJ **Chungju** 43.31 274 IAmb IAmb 01 44 50.6
comp=Z,9.8nm,0.8s
TJN **Taejon** 44.00 274 P P 01 44 52.8 -0.9
TJN **Taejon** 44.00 274 ⇑*i*P P 01 44 53.0 -0.6
V12A **Nelson** 44.03 88 IAmb IAmb 01 45 08.9
comp=Z,10.0nm,1.2s
TMUT **Trail Mountain** 44.05 81 IAmb IAmb 01 45 09.3
comp=Z,7.6nm,0.9s
GMRC **Granite Mounta** 44.14 89 P P 01 44 55.1 +0.1
baz=311
P17A **Butcher Ranch,** 44.23 80 IAmb IAmb 01 44 57.8
comp=Z,14nm,1.5s
RDMU **Red Mountain** 44.28 78 IAmb IAmb 01 45 10.3
comp=Z,10nm,1.0s
Q16A **Castle Valley** 44.30 81 P P 01 44 57.1 +0.8
Q16A IAmb IAmb 01 45 11.9
comp=Z,10nm,1.1s
PFO **Pinyon Flats O** 44.41 91 LR LR 01 59 32.5
comp=Z,84nm,21.5s,baz=290,slow=31
PFO **Pinyon Flats O** 44.41 91 P P 01 44 57.9 +0.8
baz=312
BELC **Belle Mtn. Jos** 44.44 90 P P 01 44 57.2 -0.2
baz=312
KNB **Kanab** 44.47 85 IAmb IAmb 01 45 34.3
comp=Z,13nm,1.2s
SRU **San Rafael Swe** 44.58 81 IAmb IAmb 01 45 15.5
comp=Z,10nm,1.1s
IRM **Iron Mountain** 44.87 89 P P 01 45 01.3 +0.7
baz=311
K22A **Casper** 44.90 74 IAmb IAmb 01 45 02.0
comp=Z,5.6nm,0.8s
K22A **Casper** 44.90 74 P P 01 45 00.4 -0.6
baz=306
W13A **Hualapai Mount** 45.03 87 IAmb IAmb 01 45 16.1
comp=Z,9.7nm,1.3s
U15A **North Rim** 45.17 85 IAmb IAmb 01 45 17.7
comp=Z,13nm,1.2s
O20A **White River Ci** 45.36 78 IAmb IAmb 01 45 19.9
comp=Z,12nm,0.8s
O20A **White River Ci** 45.36 78 P P 01 45 04.1 -0.6
baz=308
PDMCI **Parker Dam,Lak** 45.40 89 P P 01 45 04.7 0.0
baz=311
RSSD **Black Hills** 45.52 71 P P 01 45 05.5 -0.4

RSSD IAmb IAmb 01 45 07.6
comp=Z,5.0nm,0.7s
RSSD **Black Hills** 45.52 71 P P 01 45 05.6 -0.4
RSSD pmax pmax
comp=Z,5.0nm,0.7s
RSSD **Black Hills** 45.52 71 P P 01 45 05.2 -0.7
baz=305
RSSD **Black Hills** 45.52 71 P P 01 45 05.8 -0.1
RSSD pP pP 01 45 19.6 +1.3
NRIK **Noril'sk** 45.82 331 P P 01 45 08.1 +0.4
comp=Z,7.0nm,0.7s,baz=77,slow=7.4,SNR=14
comp=Z,7.0nm,0.7s
NRIK **Noril'sk** 45.82 331 P P 01 45 07.1 -0.6
NRIK IAmb IAmb 01 45 09.0
comp=Z,7.1nm,0.8s
NRIK **Noril'sk** 45.82 331 *c i*P P 01 45 07.8 +0.1
MDND **Maddock** 45.96 64 P P 01 45 09.2 0.0
baz=304,SNR=7.2
PV13 **Radium Mtn., P** 46.22 81 IAmb IAmb 01 45 27.6
comp=Z,21nm,1.1s
N23A **Red Feather La** 46.29 76 IAmb IAmb 01 45 14.3
comp=Z,7.5nm,0.9s
N23A **Red Feather La** 46.29 76 P P 01 45 11.6 -0.5
baz=307,SNR=5.1
NEEM **North Greenlan** 46.33 15 *i* P P 01 45 11.5 -0.4
NEEM IAmb IAmb 01 45 12.5
comp=Z,11nm,0.7s
WUAZ **Wupatki** 46.33 85 IAmb IAmb 01 45 35.1
comp=Z,7.5nm,0.9s
WUAZ **Wupatki** 46.33 85 P P 01 45 12.7 +0.4
baz=311
ULM **Lac du Bonnet** 46.68 60 P P 01 45 15.8 +1.1
comp=Z,3.6nm,0.8s,baz=303,slow=9.1,SNR=5.0
comp=Z,3.6nm,0.8s
MVCO **Mesa Verde** 47.02 81 P P 01 45 17.4 -0.4
baz=310
ISCO **Idaho Springs** 47.16 77 P P 01 45 18.9 -0.1
baz=308
W18A **Petrified Fore** 47.60 84 P P 01 45 22.1 -0.2
baz=311
S22A **4UR Ranch, Cre** 47.70 80 IAmb IAmb 01 45 40.9
comp=Z,16nm,1.9s
S22A **4UR Ranch, Cre** 47.70 80 P P 01 45 23.1 -0.1
baz=310
AGMN **Agassiz Nation** 47.78 62 P P 01 45 22.7 -0.6
AGMN IAmb IAmb 01 45 24.8
comp=Z,14nm,0.9s
AGMN **Agassiz Nation** 47.78 62 P P 01 45 22.6 -0.6
baz=305,SNR=11
SUSD **Miller** 48.29 68 P P 01 45 27.1 -0.2
baz=307
SDCO **Great Sand Dun** 48.51 79 IAmb IAmb 01 45 45.5
comp=Z,4.0nm,0.8s
SDCO **Great Sand Dun** 48.51 79 P P 01 45 28.8 -0.7
baz=310
OGNE **Ogallala** 48.60 73 P P 01 45 29.7 -0.2
baz=308
B35A **Bob, Littlefor** 48.91 61 IAmb IAmb 01 45 32.9
comp=Z,9.3nm,0.8s
F33A **5 Mile Ranch,** 48.98 65 IAmb IAmb 01 45 33.1
comp=Z,14nm,1.2s
ULN **Ulaanbaatar** 49.10 299 P P 01 45 32.4 -1.3
ULN IAmb IAmb 01 45 34.8
comp=Z,5.3nm,0.9s
ULN **Ulaanbaatar** 49.10 299 *c i*P P 01 45 33.4 -0.2
ULN pmax pmax
comp=Z,6.0nm,0.9s
SONM **Songino Array** 49.47 299 P P 01 45 37.5 +1.0
comp=Z,5.6nm,0.6s,baz=49,slow=7.6,SNR=26
SONM PcP PcP 01 46 57.9 0.0
comp=Z,3.6nm,0.3s,baz=72,slow=4.7,SNR=5.3
SONM LR LR 02 07 29.9
comp=Z,167nm,19.0s,baz=58,slow=37
comp=Z,5.6nm,0.6s
T25A **Trinidad** 49.57 79 IAmb IAmb 01 45 52.3
comp=Z,14nm,1.0s
T25A **Trinidad** 49.57 79 P P 01 45 36.7 -0.7
baz=310
ZAK **Zakamensk** 49.63 303 *e*P P 01 45 38.0 +0.4
ZAK *e* 01 45 51.0
ZAK *e* 01 46 59.2
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ZAK pmax pmax
comp=Z,6.0nm,1.2s
ANMO **Albuquerque** 49.74 82 LR LR 02 06 51.6
comp=Z,40nm,18.1s,baz=316,slow=36
ANMO **Albuquerque** 49.74 82 *ce*P P 01 45 39.9 +1.2
ANMO pmax pmax
comp=Z,3.0nm,1.4s
ANMO **Albuquerque** 49.74 82 P P 01 45 38.2 -0.6
baz=311
ECSD **EROS Data Cent** 50.06 67 IAmb IAmb 01 45 41.3
comp=Z,12nm,1.1s
ECSD **EROS Data Cent** 50.06 67 P P 01 45 40.1 -0.7
baz=308,SNR=7.8
SPITS **Spitsbergen Ar** 50.27 357 P P 01 45 43.5 +1.5
comp=Z,11nm,1.0s,baz=33,slow=5.2,SNR=2.7
comp=Z,11nm,1.0s
EYMN **Ely** 50.36 60 IAmb IAmb 01 45 44.1
comp=Z,8.9nm,0.9s
EYMN **Ely** 50.36 60 P P 01 45 42.3 -0.8
baz=307,SNR=5.7
F36A **Milaca** 50.51 63 IAmb IAmb 01 45 44.8
comp=Z,5.7nm,0.8s
121A **Cookes Peak, D** 50.53 85 P P 01 45 44.6 -0.1
baz=313
BGNE **Belgrade** 50.61 70 P P 01 45 45.0 -0.1
baz=309
HHC **Hu-ho-hao-te** 50.80 289 *e*P P 01 45 46.7 +0.1
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.4s
HNS **HongShan** 51.13 284 ⇑P P 01 45 50.1 +1.2
HNS pP pwP 01 46 03.2 -2.2
HNS *e*S S 01 53 02.8 -0.3
HNS pmax pmax
comp=Z,39nm,1.0s
HNS LR LR
comp=E,150nm,15.7s
HNS LR LR
comp=Z,180nm,21.4s
E38A **The Farm, Brul** 51.14 61 IAmb IAmb 01 45 50.0
comp=Z,12nm,0.9s
SPMN **Marine on St.** 51.30 63 P P 01 45 49.5 -0.7
baz=308
CBKS **Cedar Bluff** 51.32 74 P P 01 45 49.8 -0.6
baz=310
NJ2 **Nanjing** 52.14 276 *e*P P 01 45 55.8 -0.7
NJ2 pmax pmax
comp=Z,17nm,0.5s
SUMG **Summit** 52.16 16 P P 01 45 56.0 -0.6
SUMG IAmb IAmb 01 46 04.9
comp=Z,21nm,1.5s
SUMG **Summit** 52.16 16 P P 01 45 56.0 -0.6
SUMG pmax pmax
comp=Z,21nm,1.5s
SUMG **Summit** 52.16 16 *i* P P 01 45 56.6 0.0
SUMG IAmb IAmb 01 46 02.5
comp=Z,2.9nm,1.0s
MNTX **Cornudas Mount** 52.59 84 P P 01 45 59.7 -0.2
MNTX IAmb IAmb 01 46 14.0
comp=Z,12nm,1.3s
MNTX **Cornudas Mount** 52.59 84 P P 01 46 00.1 +0.3
baz=314
MSTX **Muleshoe** 52.66 81 IAmb IAmb 01 46 14.6
comp=Z,29nm,1.3s
MSTX **Muleshoe** 52.66 81 P P 01 46 00.7 +0.2
baz=312
G40A **Rib Lake** 52.71 62 IAmb IAmb 01 46 02.5
comp=Z,11nm,1.1s
KSU1 **Kansas State U** 52.99 72 IAmb IAmb 01 46 04.7
comp=Z,14nm,1.0s
KSU1 **Kansas State U** 52.99 72 P P 01 46 02.0 -0.8
baz=311
SCIA **State Center** 53.16 67 P P 01 46 03.6 -0.4
baz=310
E43A **Lone Tree Farm** 53.74 59 P P 01 46 08.5 +0.3
SFJD **Kangerlussuaq** 54.06 24 LR LR 02 10 09.4
comp=Z,55nm,22.0s,baz=283,slow=37
JFWS **Jewell Farm** 54.19 64 P P 01 46 10.7 -0.8
baz=310
T35A **Sooner Cattle** 54.49 74 IAmb IAmb 01 46 26.6
comp=Z,7.8nm,0.8s

WMOK Wichita Mounta **54.58** **77** IAmb IAmb 01 46 28.5
comp=Z,5.6nm,0.8s

ICESG Greenland Ices **54.86** **18** *i* P **P** **01 46 15.5 -0.8**
ICESG IAmb IAmb 01 46 16.4
comp=Z,6.5nm,0.7s

LPIG La Paz **54.90** **95** LR LR 02 08 12.8
comp=Z,40nm,18.0s,baz=239,slow=34

E46A Sault Ste Mari **55.17** **58** IAmb IAmb 01 46 32.8
comp=Z,11nm,0.7s

TX31 Lajitas Ar. Si **55.29** **85** P **P** **01 46 19.6 -0.2**

TX32 Lajitas Array **55.29** **85** IAmb IAmb 01 46 33.3
comp=Z,11nm,1.4s

TXAR Lajitas Array **55.29** **85** P **P** **01 46 19.7 0.0**
TXAR pP **pP** **01 46 31.8 -0.3**
comp=Z,1.8nm,0.7s,baz=307,slow=7.1,SNR=8.5
TXAR ScP **ScP** **01 51 16.0 +1.6**
comp=Z,0.4nm,0.9s,baz=316,slow=5.0,SNR=2.8
TXAR LR LR 02 09 25.8
comp=Z,51nm,18.2s,baz=322,slow=35
comp=Z,1.4nm,0.7s

TUL1 Leonard **55.59** **74** P **P** **01 46 21.2 -0.5**
baz=313

GLMI Grayling **56.02** **59** P **P** **01 46 23.8 -0.9**
baz=311

U38A Gravette **56.07** **73** IAmb IAmb 01 46 26.3
comp=Z,6.3nm,0.8s

R40A Maddies Statio **56.08** **70** IAmb IAmb 01 46 24.4
comp=Z,9.9nm,0.6s

ZALV Zalesovo Beam **56.21** **316** PcP **PcP** **01 47 23.6 +0.6**
comp=Z,2.5nm,0.9s,baz=35,slow=3.5,SNR=6.0
ZALV LR LR 02 12 02.3
comp=Z,77nm,18.1s,baz=52,slow=38

HDIL Hopedale **56.27** **66** IAmb IAmb 01 46 27.1
comp=Z,20nm,0.9s

HDIL Hopedale **56.27** **66** P **P** **01 46 25.6 -0.9**
baz=312

HHAR Hobbs **56.44** **72** P **P** **01 46 26.5 -1.3**
HHAR IAmb IAmb 01 46 28.3
comp=Z,7.3nm,1.0s

X37A Clayton **56.74** **75** IAmb IAmb 01 46 44.1
comp=Z,11nm,0.8s

P43A Skaggs, Pawnee **56.76** **67** IAmb IAmb 01 46 30.5
comp=Z,15nm,0.9s

CCM Cathedral Cave **56.83** **69** P **P** **01 46 29.7 -0.8**
CCM IAmb IAmb 01 46 30.2
comp=Z,10nm,1.1s

CCM Cathedral Cave **56.83** **69** P **P** **01 46 29.7 -0.8**
CCM pmax pmax
comp=Z,10.0nm,1.1s

CCM Cathedral Cave **56.83** **69** P **P** **01 46 29.7 -0.8**
baz=313

MGMO Mountain Grove **56.84** **71** IAmb IAmb 01 46 31.0
comp=Z,12nm,0.9s

XAN Xi'an **56.87** **284** P **P** **01 46 30.9 0.0**
XAN pP pP 01 46 44.2 +1.0
XAN PP PP 01 48 49.8 +12
XAN S **S** **01 54 22.5 +1.6**
XAN sS sS 01 54 45.7 +2.6
XAN pmax pmax
comp=Z,20nm,1.1s
XAN pmax pmax
comp=Z,110nm,6.4s
XAN LR LR
comp=N,120nm,16.2s
XAN LR LR
comp=E,150nm,17.9s
XAN LR LR
comp=Z,210nm,18.9s

JMIC Jan Mayen **57.17** **6** LR LR 02 11 13.1
comp=Z,30nm,20.4s,baz=74,slow=36

VLDQ Val d'Or **57.50** **52** IAmb IAmb 01 46 34.7
comp=Z,13nm,0.9s

Q44A Meyer Farm, Va **57.54** **67** IAmb IAmb 01 46 55.7
comp=Z,19nm,1.0s

SFIN Lafayette **57.63** **64** P **P** **01 46 35.6 -0.5**
baz=313

SCHQ Schefferville **57.64** **41** P **P** **01 46 36.4 +0.4**
comp=Z,2.6nm,0.6s,baz=344,slow=10,SNR=4.7
comp=Z,2.6nm,0.6s

FCAR Ozark Folk Cen **57.79** **72** P **P** **01 46 36.3 -0.9**
FCAR IAmb IAmb 01 46 38.0
comp=Z,16nm,0.9s

MIAR Mount Ida **57.84** **74** P **P** **01 46 37.4 -0.2**
baz=314,SNR=13

WHAR Wooly Hollow **58.10** **72** IAmb IAmb 01 46 53.9
comp=Z,9.2nm,1.0s

S44A Carbondale **58.23** **68** IAmb IAmb 01 46 40.5
comp=Z,11nm,0.7s

AAM Ann Arbor **58.23** **61** P **P** **01 46 39.8 -0.5**
baz=313

SIUC Southern Illin **58.24** **68** IAmb IAmb 01 46 40.6
comp=Z,12nm,0.8s

ARCES ARCESS Array B **58.31** **352** P **P** **01 46 40.2 -0.2**
comp=Z,2.3nm,0.7s,baz=13,slow=7.1,SNR=9.9
ARCES PcP **PcP** **01 47 29.7 -1.3**
comp=Z,7.2nm,0.8s,baz=7.0,slow=5.0,SNR=7.0
ARCES LR LR 02 11 29.5
comp=Z,38nm,21.8s,baz=76,slow=36
comp=Z,2.3nm,0.7s

LZH Lanzhou **58.48** **290** ⇓P **P** **01 46 43.7 +1.3**
LZH pP pP 01 46 50.9 -3.6
LZH sP sP 01 46 54.6 -5.0
LZH pmax pmax
comp=Z,36nm,1.5s
LZH LR LR
comp=N,170nm,15.1s
LZH LR LR
comp=E,170nm,15.5s
LZH LR LR
comp=Z,190nm,15.1s

GTA Gaotai **58.53** **295** *e*P **P** **01 46 42.7 +0.1**
GTA pP pP 01 46 50.6 -4.9
GTA sP pwP 01 46 55.0 -2.6
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,49nm,5.4s
GTA LR LR
comp=N,91nm,15.6s
GTA LR LR
comp=E,140nm,17.5s
GTA LR LR
comp=Z,130nm,15.6s

O48B Farmland **58.80** **63** P **P** **01 46 43.9 -0.4**
baz=313,SNR=5.7

LVZ Lovozero **58.91** **348** *e*P **P** **01 46 43.1 -1.6**
LVZ pmax pmax
comp=Z,42nm,1.2s

SADO Sadowa **58.94** **56** LR LR 02 13 47.1
comp=Z,103nm,18.8s,baz=5.0,slow=38

USIN University of **58.96** **67** P **P** **01 46 44.2 -1.2**

P48A Milroy **59.20** **64** IAmb IAmb 01 46 47.9
comp=Z,14nm,0.9s

P49A Miami Univ. Ec **59.55** **64** P **P** **01 46 48.8 -0.6**
baz=314

WCI Wyandotte Cave **59.56** **66** P **P** **01 46 49.5 0.0**

WCI Wyandotte Cave **59.56** **66** P **P** **01 46 49.5 0.0**
WCI pmax pmax
comp=Z,15nm,0.9s

WCI Wyandotte Cave **59.56** **66** P **P** **01 46 48.9 -0.7**
baz=314

ACSO Alum Creek Sta **60.02** **62** P **P** **01 46 52.2 -0.5**
baz=314

WVT Waverly **60.13** **69** P **P** **01 46 53.0 -0.5**
WVT IAmb IAmb 01 46 54.4
comp=Z,8.6nm,0.8s

WVT Waverly **60.13** **69** P **P** **01 46 53.0 -0.5**
WVT pmax pmax
comp=Z,9.0nm,0.8s

WVT Waverly **60.13** **69** P **P** **01 46 53.5 -0.1**
baz=314

WVT Waverly **60.13** **69** P **P** **01 46 52.6 -0.9**
WVT pP **pP** **01 47 05.4 -0.3**

ERPA Erie **60.33** **59** P **P** **01 46 54.5 -0.3**
baz=314

OXF Oxford **60.34** **71** P **P** **01 46 55.0 0.0**
baz=315

M53A WI Miller and **60.44** **60** P **P** **01 46 55.6 +0.1**
baz=314,SNR=5.3

R50A Paris **60.63** **65** P **P** **01 46 57.1 +0.2**
R50A IAmb IAmb 01 46 58.1
comp=Z,12nm,1.0s

ZSN Zaisan **60.73** **310** *e*P **P** **01 46 57.8 +0.3**
ZSN pmax pmax
comp=Z,4.0nm,1.0s

ZSN Zaisan **60.73** **310** *e*P **P** **01 46 57.8 +0.3**
comp=Z,3.6nm,1.0s,baz=310

P52A Corning **60.91** **62** P **P** **01 46 58.5 -0.3**
baz=315

O53A New Philadelph **60.98** **61** P **P** **01 46 58.7 -0.6**
baz=315

CLTN Cedars of Leba **61.03** **68** IAmb IAmb 01 47 01.2
comp=Z,12nm,0.9s

KURK Kurchatov **61.18** **316** P **P** **01 46 59.9 -0.6**
KURK IAmb IAmb 01 47 15.7
comp=Z,6.9nm,1.1s

KURK Kurchatov **61.18** **316** *c* *i* P **P** **01 47 00.6 +0.2**
KURK pmax pmax
comp=Z,4.0nm,0.7s

KURK Kurchatov **61.18** **316** P **P** **01 46 59.6 -0.8**
KURK pP **pwP** **01 47 14.8 -1.8**

MNTQ Montreal, Queb **61.21** **52** IAmb IAmb 01 47 01.1
comp=Z,12nm,0.8s

KURBB Kurchatov Arra **61.29** **316** LR LR 02 15 40.6
comp=Z,154nm,18.3s,baz=26,slow=38

LONY Lake Ozonia **61.36** **54** P **P** **01 47 01.4 -0.4**
baz=316

P53A Whipple **61.42** **62** IAmb IAmb 01 47 05.0
comp=Z,12nm,0.8s

S51A Beattyville **61.50** **65** IAmb IAmb 01 47 05.4
comp=Z,9.2nm,0.8s

J57A Williamstown **61.51** **55** P **P** **01 47 02.6 -0.1**

L56A Greenwood **61.60** **57** P **P** **01 47 04.0 +0.5**

X48A Hartselle **61.77** **69** IAmb IAmb 01 47 17.3
comp=Z,5.9nm,0.7s

J58A Remsen **61.90** **55** P **P** **01 47 05.7 +0.2**

WMQ Urumqi **61.94** **306** *e*P **P** **01 47 03.8 -2.0**
WMQ LR LR
comp=N,200nm,20.5s
WMQ LR LR
comp=Z,110nm,20.5s

MCWV Mont Chateau **62.14** **61** P **P** **01 47 06.5 -0.6**
baz=316

J59A Piesco **62.23** **54** IAmb IAmb 01 47 21.1
comp=Z,11nm,0.7s

W50A Signal Mountai **62.24** **68** IAmb IAmb 01 47 09.1
comp=Z,13nm,0.9s

D62A Allapoint, All **62.26** **48** P **P** **01 47 07.7 0.0**

TZTN Tazewell **62.30** **65** IAmb IAmb 01 47 09.4
comp=Z,9.5nm,0.8s

TZTN Tazewell **62.30** **65** P **P** **01 47 08.2 0.0**
baz=315

V51A Loudon **62.37** **67** IAmb IAmb 01 47 09.2
comp=Z,17nm,1.4s

BINY Binghamton **62.38** **56** P **P** **01 47 08.4 -0.2**
baz=316

MK31 Makanchi Array **62.42** **311** IAmb IAmb 01 47 10.6
comp=Z,3.2nm,0.9s

MK31 Makanchi Array **62.42** **311** *d* *i* P **P** **01 47 08.4 -0.5**

MKAR Makanchi Array **62.42** **311** P **P** **01 47 08.5 -0.4**
comp=Z,2.9nm,0.6s,baz=52,slow=6.1,SNR=26
MKAR LR LR 02 14 43.6
comp=Z,86nm,19.7s,baz=66,slow=36
comp=Z,2.9nm,0.6s

MKAR Makanchi Array **62.42** **311** P **P** **01 47 07.3 -1.5**

SSPA Standing Stone **62.50** **59** P **P** **01 47 09.4 0.0**
baz=316

MAKZ Makanchi **62.55** **311** P **P** **01 47 09.2 -0.6**
MAKZ IAmb IAmb 01 47 10.6
comp=Z,3.6nm,0.8s

MAKZ Makanchi **62.55** **311** ⇑P **P** **01 47 09.2 -0.6**

BVA0 Borovoye Array **62.77** **322** P **P** **01 47 10.9 -0.1**

BVAR Borovoye Array **62.77** **322** LR LR 02 17 10.8
comp=Z,160nm,18.9s,baz=43,slow=39

V52A Sevierville **62.77** **66** IAmb IAmb 01 47 24.8
comp=Z,10nm,0.9s

BRVK Borovoye **62.78** **323** P **P** **01 47 10.9 -0.2**
BRVK IAmb IAmb 01 47 12.5
comp=Z,6.9nm,0.7s

BRVK Borovoye **62.78** **323** *c* *e* P **P** **01 47 11.4 +0.3**
BRVK pmax pmax
comp=Z,16nm,1.6s

BRVK Borovoye **62.78** **323** P **P** **01 47 11.3 +0.2**
BRVK pP **pP** **01 47 23.9 +0.1**

TKL Tuckaleechee C **62.80** **66** P **P** **01 47 11.1 -0.4**
TKL IAmb IAmb 01 47 22.5
comp=Z,5.5nm,0.8s

TKL Tuckaleechee C **62.80** **66** P **P** **01 47 11.1 -0.4**
TKL pmax pmax
comp=Z,6.0nm,0.8s

LRAL Lakeview Retre **62.80** **70** P **P** **01 47 11.6 0.0**
baz=316

LBNH Lisbon **62.95** **52** P **P** **01 47 12.4 -0.1**
baz=317

R55A Marlinton **62.97** **62** IAmb IAmb 01 47 14.5
comp=Z,14nm,0.9s

P57A Homestead Farm **63.26** **60** IAmb IAmb 01 47 16.5
comp=Z,14nm,1.0s

U54A Nelsons Funny **63.29** **64** IAmb IAmb 01 47 16.4
comp=Z,15nm,0.9s

V53A Saluda **63.34** **66** IAmb IAmb 01 47 17.0
comp=Z,11nm,1.1s

PKME Peaks-Kenny Pk **63.48** **50** P **P** **01 47 15.4 -0.4**
baz=318

BLA Blacksburg **63.57** **63** P **P** **01 47 15.9 -0.8**
baz=316,SNR=5.7

GOMU GeErMu **63.60** **295** P **P** **01 47 17.6 +0.3**
GOMU S S 01 55 37.5 -10

Z51A Franklin **63.66** **69** IAmb IAmb 01 47 30.3
comp=Z,9.7nm,0.7s

BG3 Lake Jocassee **63.75** **66** IAmb IAmb 01 47 19.0
comp=Z,15nm,1.1s

Y52A Lilburn **63.92** **68** IAmb IAmb 01 47 32.6
comp=Z,12nm,0.9s

SDMD Soldier's Deli **63.94** **59** IAmb IAmb 01 47 20.7
comp=Z,9.6nm,0.9s

ARU Arti **64.05** **331** LR LR 02 19 30.4
comp=Z,138nm,18.0s,baz=44,slow=40

ARU Arti **64.05** **331** P **P** **01 47 19.5 0.0**
ARU IAmb IAmb 01 47 20.5
comp=Z,7.8nm,0.6s

ARU Arti **64.05** **331** *d* *i* P **P** **01 47 19.4 0.0**
ARU 01 47 54.5
ARU S **S** **01 55 55.3 +3.4**
ARU SS **SS** **01 59 56.3 -4.0**
ARU pmax pmax
comp=Z,6.0nm,0.6s

V55A Taylorsville **64.11** **64** IAmb IAmb 01 47 21.6
comp=Z,13nm,1.0s

U56A King **64.22** **64** IAmb IAmb 01 47 22.4
comp=Z,14nm,1.1s

BRZS Berezniki **64.23** **319** *e*P **P** **01 47 19.9 -0.8**

BRZS Berezniki **64.23** **319** *e*P **P** **01 47 20.0 -0.8**
baz=319

PAL Palisades **64.31** **56** P **P** **01 47 20.9 -0.5**
baz=317

T57A Hurt **64.37** **62** P **P** **01 47 22.3 +0.4**
T57A IAmb IAmb 01 47 47.6
comp=Z,15nm,1.1s

R58B Mineral **64.42** **61** IAmb IAmb 01 47 24.0
comp=Z,10nm,1.1s

PAULI Pauline **64.51** **66** IAmb IAmb 01 47 24.3
comp=Z,17nm,1.1s

KMSC Kings Mountain **64.55** **65** P **P** **01 47 22.7 -0.4**
baz=317,SNR=7.0

GOGA Godfrey **64.59** **68** IAmb IAmb 01 47 36.6
comp=Z,14nm,0.8s

GOGA Godfrey **64.59** **68** P **P** **01 47 22.8 -0.5**
baz=317,SNR=9.1

HODGE Hodges **64.69** **66** IAmb IAmb 01 47 24.9
comp=Z,12nm,0.9s

KIRV Kirov **64.70** **337** ⇑ *i* P **P** **01 47 23.9 +0.3**

LMN Caledonia Moun **65.13** **47** IAmb IAmb 01 47 27.8
comp=Z,16nm,0.8s

JSC Jenkinsville **65.22** **66** P **P** **01 47 27.8 +0.4**
JSC IAmb IAmb 01 47 28.7
comp=Z,14nm,1.1s

JSC Jenkinsville **65.22** **66** P **P** **01 47 27.8 +0.4**
JSC pmax pmax
comp=Z,14nm,1.1s

AFI Afiamalu **65.32** **178** LR LR 02 15 58.6
comp=Z,21nm,19.0s,baz=80,slow=36

V58A Windy Hill, Pi **65.32** **63** IAmb IAmb 01 47 29.6
comp=Z,11nm,1.0s

T59A Double "B" Far **65.32** **61** IAmb IAmb 01 47 30.9
comp=Z,14nm,0.9s

BIRD Birdtown, Kers **65.41** **65** IAmb IAmb 01 47 29.9
comp=Z,9.0nm,0.8s

FINES FINESS Array B **66.16** **350** P **P** **01 47 33.0 0.0**
comp=Z,3.6nm,0.8s,baz=12,slow=9.9,SNR=8.2
FINES LR LR 02 19 23.5
comp=Z,44nm,18.5s,baz=316,slow=39
comp=Z,3.6nm,0.8s

SHLS Shalkode **66.47** **310** *i* P **P** **01 47 35.0 -0.5**
comp=Z,4.7nm,0.9s,baz=310

PZH PanZhiHua **66.57** **283** P **P** **01 47 36.8 +0.4**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,4.0s

KPKS Kokpek **66.60** **311** *e*P **P** **01 47 36.3 0.0**

KPKS Kokpek **66.60** **311** *e*P **P** **01 47 36.3 0.0**
baz=311

UZB Uzynbulak **66.69** **311** *e*P **P** **01 47 37.5 +0.6**

UZB Uzynbulak **66.69** **311** *e*P **P** **01 47 37.5 +0.6**
baz=310

NHSC New Hope **66.69** **66** P **P** **01 47 36.5 -0.3**
baz=318

TAOE Nuku Hiva Isla **66.75** **144** *e*LR LR 02 07 47.0
comp=Z,92nm,23.3s

KMI Kunming **66.98** **282** ⇓P **P** **01 47 40.4 +1.3**
KMI sP pP 01 47 53.1 +1.4
KMI PcP **PcP** **01 48 07.0 -0.3**
KMI pmax pmax
comp=Z,9.0nm,0.5s

SATY Saty **67.04** **311** *e*P **P** **01 47 38.9 -0.3**
SATY pmax pmax
comp=Z,9.0nm,1.5s

SATY Saty **67.04** **311** *e*P **P** **01 47 38.1 -1.1**
comp=Z,9.5nm,1.5s,baz=311

KUU Kurty **67.36** **313** *e*P **P** **01 47 40.0 -1.0**

KUU Kurty **67.36** **313** *e*P **P** **01 47 40.0 -1.0**
baz=313

BTLS Baital **67.50** **315** *e*P **P** **01 47 41.4 -0.4**

BTLS Baital **67.50** **315** *e*P **P** **01 47 41.4 -0.4**
baz=315

NB2 NORSAR Subarra **67.58** **358** PKP P **01 47 41.5 -0.6**
comp=Z,0.7nm,0.6s,baz=9.6,slow=2.9

NOA NORSAR Array B **67.58** **358** P **P** **01 47 42.2 +0.1**
comp=Z,0.7nm,0.6s,baz=2.2,slow=6.3,SNR=5.1
NOA LR LR 02 18 29.4
comp=Z,24nm,18.9s,baz=305,slow=37
comp=Z,0.7nm,0.6s

MDOK Medeo **67.60** **312** *e*P **P** **01 47 42.5 -0.2**

MDOK Medeo **67.60** **312** *e*P **P** **01 47 42.6 -0.2**
baz=312

SGDS Sogindy **68.48** **313** *e*P **P** **01 47 48.4 +0.3**
SGDS pmax pmax
comp=Z,9.0nm,1.9s

SGDS Sogindy **68.48** **313** *e*P **P** **01 47 48.4 +0.3**
comp=Z,9.2nm,1.9s,baz=313

AAK Ala-Archa **69.18** **313** LR LR 02 19 32.6
comp=Z,66nm,18.8s,baz=24,slow=37

AAK Ala-Archa **69.18** **313** P **P** **01 47 53.2 +0.7**
AAK IAmb IAmb 01 47 55.1
comp=Z,13nm,1.1s

AAK Ala-Archa **69.18** **313** *c* *i* P **P** **01 47 53.3 +0.7**
AAK pmax pmax
comp=Z,12nm,1.1s

AKTO Aktyubinsk **69.31** **328** LR LR 02 21 59.7
comp=Z,78nm,18.5s,baz=34,slow=39

AB31 Akbulak array **69.65** **326** *i* P **P** **01 47 55.1 -0.1**

ABKAR Akbulak array **69.65** **326** P **P** **01 47 55.2 0.0**
ABKAR IAmb IAmb 01 47 57.2
comp=Z,7.9nm,0.7s

CMIG Matias Romero **69.71** **88** LR LR 02 14 09.7
comp=Z,50nm,21.1s,baz=280,slow=32

PMOR Pomariorio Ree **70.02** **154** *e*T T 03 04 42.7
comp=Z,2.2nm,0.2s

LSA Lhasa **70.45** **293** P **P** **01 48 02.7 +1.7**
LSA pP **pP** **01 48 15.8 +2.3**

KK31 Karatay Array **70.58** **316** IAmb IAmb 01 48 02.4
comp=Z,12nm,1.4s

KK31 Karatay Array **70.58** **316** *i* P **P** **01 48 00.9 -0.1**

KKAR Karatay Array **70.58** **316** P **P** **01 47 59.5 -1.5**

KKAR Karatay Array **70.58** **316** P **P** **01 47 59.5 -1.5**

OBN Obninsk **70.69** **342** *e*P **P** **01 48 01.8 +0.4**
OBN *e* 01 48 21.1
OBN *e* 01 50 40.6
OBN *e*PPP PPP 01 52 21.6
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,87nm,16.0s

BELG Belogornoye **70.70** **335** LR LR 02 21 44.0
comp=Z,47nm,21.1s,baz=162,slow=38

BELG Belogornoye **70.70** **335** *c* *i* P **P** **01 48 01.6 +0.1**
BELG pmax pmax
comp=Z,5.0nm,1.4s

KSH Kashi **70.95** **310** P **P** **01 48 07.7 +4.3**
KSH pmax pmax
comp=Z,20nm,1.1s

IUG Iuzhnay **71.56** **315** *e*P **P** **01 48 07.4 +0.3**

IUG Iuzhnay **71.56** **315** *e*P **P** **01 48 07.5 +0.3**
baz=315

PPT2 Papeete2 **72.05** **156** *e*LR LR 02 10 13.7
comp=Z,53nm,21.5s

LPSR Galich'ya Gora **72.59** **340** *e*P **P** **01 48 12.0 -0.9**
LPSR pmax pmax
comp=Z,9.0nm,1.3s

BTK Batken **72.91** **314** IAmb IAmb 01 48 16.9
comp=Z,12nm,1.0s

VRH Novokhopyorsk **73.27** **338** *e*P **P** **01 48 15.0 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.7s

VORR Voronezh **73.40** **339** *e*P **P** **01 48 17.0 -0.7**
VORR pmax pmax
comp=Z,20nm,0.5s

RAR Rarotonga **73.55** **167** LR LR 02 14 48.7
comp=Z,84nm,19.7s,baz=322,slow=31

VSR Storozhevoye **73.84** **339** *e*P **P** **01 48 19.3 -0.9**
VSR pmax pmax
comp=Z,30nm,1.5s

TAPN Taplejung **74.20** **294** *e*P **P** **01 48 24.2 +1.0**
comp=Z,88nm,0.7s

CMAR Chiang Mai Arr **74.29** **280** P **P** **01 48 23.7 +0.3**
comp=Z,1.8nm,0.3s,baz=28,slow=6.8,SNR=2.2
comp=Z,1.8nm,0.3s

GUN Gumba **74.80** **296** *e*P **P** **01 48 27.9 +1.2**
comp=Z,77nm,0.7s

JIRN Jiri **74.82** **295** *e*P **P** **01 48 28.0 +1.1**
comp=Z,110nm,0.7s

RAMN Ramite **75.14** **295** *e*P **P** **01 48 29.2 +0.7**
comp=Z,133nm,0.7s

PKI Pulchoki **75.33** **296** *e*P **P** **01 48 30.4 +0.7**
comp=Z,83nm,1.1s

PKIN Phulchoki **75.33** **296** *e*P **P** **01 48 30.4 +0.7**
comp=Z,70nm,1.0s

GKN Gorkha **75.43** **297** *e*P **P** **01 48 30.8 +0.7**
comp=Z,58nm,0.8s

DMN Daman **75.47** **296** *e*P **P** **01 48 31.3 +0.9**
comp=Z,68nm,0.9s

BRDH Bariadhala **75.49** **288** LR LR 02 27 06.2
comp=Z,95nm,18.2s,baz=27,slow=40

DANN Dangsing **75.64** **297** *e*P **P** **01 48 32.6 +1.1**
comp=Z,139nm,0.7s

AKASG Malin Array Be **76.20** **345** P **P** **01 48 33.2 -0.7**
comp=Z,1.7nm,0.4s,baz=18,slow=6.2,SNR=9.8
AKASG LR LR 02 26 42.1
comp=Z,41nm,19.7s,baz=61,slow=39
comp=Z,1.7nm,0.4s

AKBB Malin Array Si **76.20** **345** IAmb IAmb 01 48 34.5
comp=Z,17nm,1.4s

AKBB Malin Array Si **76.20** **345** ⇑ *i* P **P** **01 48 33.2 -0.7**
AKBB pmax pmax
comp=Z,12nm,1.5s

PYUN Piuthan **76.26** **298** *e*P **P** **01 48 35.6 +0.7**
comp=Z,90nm,0.9s

CLL Collm **77.25** **356** *i* P **P** **01 48 40.0 +0.2**
CLL *e**PP **pP** **01 48 52.0 -0.7**
CLL pmax pmax
comp=Z,6.0nm,0.8s

CLL Collm **77.25** **356** *i* P **P** **01 48 40.0 +0.2**
comp=Z,6.0nm,0.8s
CLL *e*pP **pP** **01 48 52.0 -0.7**

TBI Tubuai **77.61** **158** eLR LR 02 12 48.6
comp=Z,110nm,28.0s

BRG Berggiesshubel **77.64** **355** *e*P **P** **01 48 42.6 +0.6**
BRG Amp 01 48 44.1
comp=Z,12nm,1.3s
BRG *ex* x 01 48 55.6
BRG Amp 01 48 56.3
comp=Z,5.1nm,0.8s

BRG Berggiesshubel **77.64** **355** *e*P **P** **01 48 42.5 +0.6**
BRG *e* 01 48 55.6
BRG pmax pmax
comp=Z,12nm,1.3s
BRG pmax pmax
comp=Z,5.0nm,0.8s

CHVC	**Chvalec**	**77.80**	**354**	*eP*	**P**	**01 48 43.3**	**+0.4**
OSTC	**Ostas**	**77.82**	**354**	*eP*	**P**	**01 48 43.0**	**0.0**
OSTC				*epP*	**pP**	**01 48 55.5**	**-0.4**
PVCC	**Panska Ves**	**77.95**	**355**	*eP*	**P**	**01 48 44.3**	**+0.6**
PVCC	**Panska Ves**	**77.95**	**355**	*eP*	**P**	**01 48 44.3**	**+0.6**
DPC	**Dobruska-Polom**	**78.02**	**354**	*eP*	**P**	**01 48 44.4**	**+0.2**
DPC				*e*		01 48 57.6	
DPC	**Dobruska-Polom**	**78.02**	**354**	*eP*	**P**	**01 48 44.4**	**+0.2**
DPC				*epP*	**pP**	**01 48 57.6**	**+0.5**
KBL	**Kabul**	**78.22**	**312**	P	**P**	**01 48 45.0**	**-0.8**
KBL	**Kabul**	**78.22**	**312**	P	**P**	**01 48 45.0**	**-0.8**
KBL				pmax	pmax		
	comp=Z,16nm,0.7s						
KRLC	**Kraliky**	**78.26**	**353**	*eP*	**P**	**01 48 46.0**	**+0.5**
KRLC				*e*		01 48 59.0	
KRLC	**Kraliky**	**78.26**	**353**	*eP*	**P**	**01 48 46.0**	**+0.5**
KRLC				*epP*	**pP**	**01 48 59.0**	**+0.6**
NKC	**Novy Kostel**	**78.35**	**356**	*eP*	**P**	**01 48 46.6**	**+0.6**
NKC				*e*		01 48 59.6	
NKC	**Novy Kostel**	**78.35**	**356**	*eP*	**P**	**01 48 46.6**	**+0.6**
NKC				*epP*	**pP**	**01 48 59.6**	**+0.7**
BMRD	**Maredsous**	**78.39**	**1**	*dP*	**P**	**01 48 47.0**	**+0.8**
	comp=Z,5.2nm,1.0s						
PRU	**Pruhonice**	**78.49**	**355**	*eP*	**P**	**01 48 45.0**	**-1.7**
PRU				*e*		01 48 59.9	
PRU	**Pruhonice**	**78.49**	**355**	*eP*	**P**	**01 48 45.0**	**-1.7**
PRU				*epP*	**pP**	**01 48 59.9**	**+0.3**
MORC	**Moravsky Berou**	**78.50**	**353**	*eP*	**P**	**01 48 47.1**	**+0.3**
MORC				*e*		01 49 00.3	
GOF	**Gofitskoye**	**78.63**	**335**⇑	*eP*	**P**	**01 48 48.5**	**+0.9**
GOF				pmax	pmax		
	comp=Z,48nm,1.0s						
LANS	**Liptovska Anna**	**78.95**	**351**	*eP*	**P**	**01 48 51.2**	**+1.9**
LANS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LANS	**Liptovska Anna**	**78.95**	**351**	*eP*	**P**	**01 48 51.2**	**+1.9**
VRAC	**Vranov**	**79.03**	**353**	⇑P	**P**	**01 48 50.7**	**+1.0**
VRAC	**Vranov**	**79.03**	**353**	*eP*	**P**	**01 48 50.3**	**+0.6**
VRAC				*e*		01 49 03.6	
VRAC	**Vranov**	**79.03**	**353**	⇑P	**P**	**01 48 50.7**	**+1.0**
TREC	**Trest**	**79.12**	**354**	*eP*	**P**	**01 48 50.5**	**+0.3**
TREC	**Trest**	**79.12**	**354**	*eP*	**P**	**01 48 50.5**	**+0.3**
KRUC	**Moravsky**	**79.29**	**353**	*eP*	**P**	**01 48 51.5**	**+0.4**
KRUC				*e*		01 49 04.6	
KHC	**Kasperske Hory**	**79.39**	**355**	IAmb	IAmb	01 49 06.5	
	comp=Z,5.6nm,0.9s						
KHC	**Kasperske Hory**	**79.39**	**355**	*eP*	**P**	**01 48 52.1**	**+0.3**
KHC				*e*		01 49 05.4	
KHC	**Kasperske Hory**	**79.39**	**355**	*eP*	**P**	**01 48 52.1**	**+0.3**
KHC				*epP*	**pP**	**01 49 05.4**	**+0.7**
JAVC	**Velka Javorina**	**79.40**	**353**	*eP*	**P**	**01 48 53.2**	**+1.4**
JAVC				*e*		01 49 06.5	
VYHS	**Vyhne**	**79.66**	**352**	*eP*	**P**	**01 48 53.7**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VYHS	**Vyhne**	**79.66**	**352**	*eP*	**P**	**01 48 53.7**	**+0.5**
CKRC	**Cesky Krumlov**	**79.67**	**355**	*eP*	**P**	**01 48 53.2**	**0.0**
CKRC				*ex*	x	01 49 06.4	
GERES	**GERESS Array B**	**79.67**	**355**	P	**P**	**01 48 53.4**	**0.0**
	comp=Z,2.8nm,0.9s,baz=28,slow=4.9,SNR=17						
GERES				pP	**pP**	**01 49 06.3**	**0.0**
	comp=Z,2.0nm,0.8s,baz=35,slow=4.9,SNR=8.2						
	comp=Z,2.8nm,0.9s						
KIV	**Kislovodsk**	**79.75**	**334**	⇑P	**P**	**01 48 54.5**	**+0.6**
KIV	**Kislovodsk**	**79.75**	**334**	P	**P**	**01 48 54.7**	**+0.9**
KIV				IAmb	IAmb	01 48 55.4	
	comp=Z,7.1nm,0.8s						
KIV	**Kislovodsk**	**79.75**	**334**	⇑P	**P**	**01 48 54.5**	**+0.6**
SMOL	**Smolenice**	**79.76**	**353**	*eP*	**P**	**01 48 54.7**	**+1.0**
SMOL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**79.78**	**347**	IAmb	IAmb	01 48 55.7	
	comp=Z,11nm,1.4s						
BURAR	**Bucovina Array**	**79.81**	**347**	⇑P	**P**	**01 48 54.2**	**+0.1**
BURAR	**Bucovina Array**	**79.81**	**347**	⇑P	**P**	**01 48 54.2**	**+0.1**
KBZ	**Khabaz**	**79.90**	**334**	P	**P**	**01 48 55.5**	**+1.0**
	comp=Z,4.6nm,0.8s,baz=92,slow=3.1,SNR=11						
KBZ				LR	LR	02 30 40.0	
	comp=Z,55nm,18.2s,baz=12,slow=40						
	comp=Z,4.6nm,0.8s						
KBZ	**Khabaz**	**79.90**	**334***c*	*iP*	**P**	**01 48 55.3**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MODS	**Modra-Piesok**	**79.91**	**353**	*eP*	**P**	**01 48 56.0**	**+1.5**
MODS				pmax	pmax		
	comp=Z,18nm,1.2s						
MODS	**Modra-Piesok**	**79.91**	**353**	*eP*	**P**	**01 48 56.0**	**+1.5**
GEYT	**Alibeck**	**80.05**	**321**	P	**P**	**01 48 56.2**	**+0.7**
	comp=Z,7.2nm,1.0s,baz=2.6,slow=6.3,SNR=12						
	comp=Z,7.2nm,1.0s						
GEYT	**Alibeck**	**80.05**	**321**	IAmb	IAmb	01 48 57.5	
	comp=Z,8.8nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**80.05**	**321**	P	**P**	**01 48 56.2**	**+0.7**
GYA0B				IAmb	IAmb	01 48 57.5	
	comp=Z,8.7nm,1.0s						
ZST	**Bratislava**	**80.10**	**353**	*eP*	**P**	**01 48 56.9**	**+1.4**
ZST	**Bratislava**	**80.10**	**353**	*eP*	**P**	**01 48 56.9**	**+1.4**
PSZ	**Piszkesteto**	**80.13**	**351**	⇑P	**P**	**01 48 55.0**	**-0.8**
PSZ	**Piszkesteto**	**80.13**	**351**	⇑P	**P**	**01 48 55.0**	**-0.8**
BIZ	**Bicaz**	**80.34**	**347**	⇑P	**P**	**01 48 57.5**	**+0.7**
CONA	**Conrad Observa**	**80.46**	**354**	*eP*	**P**	**01 48 58.6**	**+1.1**
	comp=Z,2.2nm,0.6s						
ECH	**Echery**	**80.49**	**360**	IAmb	IAmb	01 49 12.6	
	comp=Z,6.2nm,0.9s						
ZEI	**Tsey**	**80.50**	**333**	*eP*	**P**	**01 48 55.7**	**-2.3**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
RONA	**Rosalia, Austr**	**80.66**	**353**	*eP*	**P**	**01 48 59.6**	**+1.1**
	comp=Z,2.8nm,0.7s						
TESR	**Tescani**	**80.68**	**346**	⇑P	P	01 49 06.3	+7.6
BIOA	**Bad Ischl, Aus**	**80.83**	**355**	*eP*	**P**	**01 49 00.4**	**+0.9**
	comp=Z,7.7nm,1.1s						
DRGR		**80.94**	**349**	⇑P	**P**	**01 49 00.1**	**0.0**
DRGR		**80.94**	**349**	⇑P	**P**	**01 49 00.1**	**0.0**
GHRR		**81.00**	**345**	⇑P	**P**	**01 49 01.7**	**+1.3**
VLDR	**Vladesti**	**81.11**	**345**	⇑P	**P**	**01 49 02.1**	**+1.2**
ARSA	**Arzberg**	**81.16**	**354**	*eP*	**P**	**01 49 01.8**	**+0.6**
	comp=Z,4.3nm,0.8s						
WATA	**Walderalm**	**81.28**	**357**	*eP*	**P**	**01 49 02.8**	**+0.7**
	comp=Z,7.5nm,1.1s						
PLOR	**Plostina**	**81.32**	**346**	⇑P	**P**	**01 49 02.4**	**+0.2**
PLOR	**Plostina**	**81.32**	**346**	⇑P	**P**	**01 49 02.4**	**+0.2**
WTTA	**Wattenberg**	**81.35**	**357**	*eP*	**P**	**01 49 04.1**	**+1.7**
	comp=Z,13nm,1.4s						
COVR	**Voineasa-Covas**	**81.40**	**346**	⇑P	**P**	**01 49 03.5**	**+1.0**
HRA	**Herat**	**81.40**	**316**	IAmb	IAmb	01 49 04.8	
	comp=Z,13nm,0.8s						
SQTA	**Sankt Quirin**	**81.41**	**357**	*eP*	**P**	**01 49 03.7**	**+1.0**
	comp=Z,4.6nm,0.7s						
KBA	**Koelnbreinsper**	**81.45**	**355**	*eP*	**P**	**01 49 04.4**	**+1.4**
	comp=Z,11nm,0.8s						
FETA	**Feichten**	**81.62**	**357**	*eP*	**P**	**01 49 04.8**	**+0.9**
	comp=Z,8.9nm,1.0s						
TLCR		**81.63**	**344**	⇑P	**P**	**01 49 04.2**	**+0.5**
TLCR		**81.63**	**344**	⇑P	**P**	**01 49 04.2**	**+0.5**
CFR	**Carcaliu**	**81.75**	**345**	⇑P	**P**	**01 49 03.7**	**-0.6**
CFR	**Carcaliu**	**81.75**	**345**	⇑P	**P**	**01 49 03.7**	**-0.6**
SOKA	**Soboth**	**81.76**	**354**	*eP*	**P**	**01 49 05.2**	**+0.7**
	comp=Z,4.2nm,0.8s						
MLR	**Muntele Rosu**	**81.78**	**346**	⇑P	**P**	**01 49 06.5**	**+1.8**
MLR	**Muntele Rosu**	**81.78**	**346**	⇑P	**P**	**01 49 06.5**	**+1.8**
ABTA	**Abfaltersbach**	**81.83**	**356**	*eP*	**P**	**01 49 04.9**	**0.0**
	comp=Z,6.5nm,1.1s						
DAVOX	**Davos/Dischmat**	**81.88**	**358**	LR	LR	02 28 01.0	
	comp=Z,35nm,18.1s,baz=76,slow=38						
OBKA	**Obir**	**81.96**	**354**	*eP*	**P**	**01 49 06.1**	**+0.6**
	comp=Z,9.0nm,1.4s						
VOIR		**81.96**	**347**	⇑P	**P**	**01 49 08.2**	**+2.6**
VOIR		**81.96**	**347**	⇑P	**P**	**01 49 08.2**	**+2.6**
TPGR	**Topolog**	**82.01**	**344**	⇑P	**P**	**01 49 06.7**	**+0.9**
ARR	**Arges**	**82.09**	**347**	⇑P	**P**	**01 49 06.9**	**+0.7**
BZS	**Buzias**	**82.22**	**349**	⇑P	**P**	**01 49 06.9**	**+0.1**
BZS	**Buzias**	**82.22**	**349**	⇑P	**P**	**01 49 06.9**	**+0.1**
HARR	**Harsova**	**82.25**	**345**	⇑P	**P**	**01 49 07.4**	**+0.4**
HARR	**Harsova**	**82.25**	**345**	⇑P	**P**	**01 49 07.4**	**+0.4**
GZR	**Gura Zlata**	**82.31**	**349**	⇑P	**P**	**01 49 07.8**	**+0.4**
GZR	**Gura Zlata**	**82.31**	**349**	⇑P	**P**	**01 49 07.8**	**+0.4**
TIRR	**Tirgusor**	**82.40**	**344**	⇑P	**P**	**01 49 07.9**	**+0.1**
TIRR	**Tirgusor**	**82.40**	**344**	⇑P	**P**	**01 49 07.9**	**+0.1**
GNI	**Garni**	**82.69**	**331**	LR	LR	02 32 28.9	
	comp=Z,46nm,18.1s,baz=26,slow=40						
HERR	**Herculane**	**82.86**	**349**	⇑P	**P**	**01 49 10.1**	**-0.1**
MDVR	**Moldovita**	**83.04**	**349**	⇑P	**P**	**01 49 11.2**	**0.0**
BNI	**Bardonecchia**	**83.65**	**360**	IAmb	IAmb	01 49 17.5	
	comp=Z,7.5nm,0.9s						
BLKB	**Belogradchik**	**84.06**	**348**	⇑P	**P**	**01 49 16.2**	**-0.2**
BOVS	**Bovan**	**84.17**	**349**	⇑P	**P**	**01 49 16.1**	**-0.8**
WRA	**Warramunga Arr**	**84.63**	**228**	P	**P**	**01 49 18.2**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=31,slow=5.5,SNR=20						
WRA				pP	**pP**	**01 49 31.5**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=38,slow=6.7,SNR=8.2						
	comp=Z,1.4nm,0.6s						
VTS	**Vitosha**	**84.98**	**348**	⇑P	**P**	**01 49 21.6**	**+0.4**
VTS	**Vitosha**	**84.98**	**348**	IAmb	IAmb	01 49 22.7	
	comp=Z,4.4nm,0.9s						
VTS	**Vitosha**	**84.98**	**348**	⇑P	**P**	**01 49 21.6**	**+0.4**
BR131	**Keskin Array S**	**85.96**	**339**	P	**P**	**01 49 25.5**	**-0.6**
BR131				IAmb	IAmb	01 50 18.6	
	comp=Z,6.9nm,0.7s						
BR131	**Keskin Array S**	**85.96**	**339**	P	**P**	**01 49 25.5**	**-0.6**
BR131				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRTR	**Keskin Array B**	**85.96**	**339**	P	**P**	**01 49 26.9**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=46,slow=2.5,SNR=13						
	comp=Z,2.1nm,0.9s						
SJG	**San Juan**	**86.23**	**66**	LR	LR	02 30 51.7	
	comp=Z,31nm,18.1s,baz=272,slow=38						
BORA	**Eskisehir**	**86.47**	**342**	P	**P**	**01 49 28.6**	**0.0**
ASAR	**Alice Springs**	**88.05**	**227**	P	**P**	**01 49 36.2**	**0.0**
	comp=Z,4.0nm,0.8s,baz=33,slow=4.5,SNR=29						
ASAR				pP	**pP**	**01 49 49.1**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=30,slow=4.7,SNR=13						
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**88.05**	**227**	P	**P**	**01 49 34.7**	**-1.5**
ESDC	**Sonseca Array**	**88.56**	**8**	P	**P**	**01 49 38.4**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=352,slow=4.7,SNR=11						
ESDC				pP	**pP**	**01 49 51.6**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=345,slow=4.7,SNR=7.3						
	comp=Z,1.8nm,0.9s						
ESDC	**Sonseca Array**	**88.56**	**8**	P	**P**	**01 49 38.4**	**-0.2**
ESDC				IAmb	IAmb	01 49 52.5	
	comp=Z,3.5nm,1.1s						
MMAI	**Mount Meron Ar**	**91.95**	**336**	LR	LR	02 40 01.4	
	comp=Z,22nm,18.4s,baz=144,slow=41						
STKA	**Stephens Creek**	**92.09**	**217**	P	**P**	**01 49 55.1**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=42,slow=6.7,SNR=4.6						
STKA				pP	**pP**	**01 50 08.3**	**+0.9**
	comp=Z,5.5nm,0.9s,baz=28,slow=4.4,SNR=4.9						
	comp=Z,3.5nm,0.8s						
EIL	**Elat**	**95.25**	**335**	LR	LR	02 39 53.1	
	comp=Z,36nm,18.6s,baz=89,slow=40						
MDT	**Midelt**	**95.30**	**9**	LR	LR	02 36 31.8	
	comp=Z,24nm,18.4s,baz=20,slow=38						
TORD	**Torodi Ar. Bea**	**115.31**	**5**	PKP	**PKPdf**	**01 55 28.9**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=3.3,SNR=1.6						
H03N2	**Juan Fernandez**	**118.04**	**109**	T	T	04 05 28.3	
	baz=317,slow=78,SNR=12						
H03N1	**Juan Fernandez**	**118.05**	**109**	T	T	04 05 15.2	
	baz=317,slow=78,SNR=14						
H03N3	**Juan Fernandez**	**118.05**	**109**	T	T	04 05 28.4	
	baz=317,slow=78,SNR=12						
MAW	**Mawson**	**148.77**	**218**	PKPbc	**PKPbc**	**01 56 32.1**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=103,slow=2.4,SNR=10						
BOSA	**Boshof**	**153.05**	**322**	PKPbc	**PKPbc**	**01 56 43.0**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=41,slow=4.0,SNR=7.3						

*INET **07** 01:48:16.8±0.6, 12°.35N×88°.26W, h12km±4km, MW2.8*
*SNET **07** 01:48:17.7±0.8, 12°.46N×88°.29W, h25km±7km, ML3.6*
*UCR **07** 01:48:17.8±0.6, 12°.42N×88°.28W, h35km±999km, ML4.0*

ISC 07 01:48:16.7±2.5, 12°.4N±0°.1×88°.30W±0°.08, h29km±15km, n12, σ0°31/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.94**	**50**	*eP*	**Pn**	**01 48 34.0**	**-0.1**
CNCH	**Conchagua**	**1.01**	**27**	*eP*	**Pn**	**01 48 34.9**	**-0.1**
CNCH				*eP*	**Pb**	**01 48 35.3**	**-0.3**
CNCH				*eS*	**Sn**	**01 48 48.0**	**-0.3**
CNCH				IAML		01 48 52.6	
	comp=Z,2μm,0.3s						
CNCH	**Conchagua**	**1.01**	**27**	*eP*	**Pn**	**01 48 34.9**	**-0.1**
CNCH				*eP*	**Pb**	**01 48 35.3**	**-0.3**
CNCH				*eS*	**Sn**	**01 48 48.0**	**-0.3**
CNCH				IAML		01 48 52.6	
	comp=Z,2μm,0.3s						
PACA	**Pacayal**	**1.09**	**359**	*eP*	**Pn**	**01 48 36.4**	**+0.2**
PACA				*eS*	**Sn**	**01 48 50.5**	**0.0**
PACA				IAML		01 48 51.9	
	comp=Z,6μm,0.2s						
PACA	**Pacayal**	**1.09**	**359**	*eP*	**Pn**	**01 48 36.4**	**+0.2**
PACA				*eS*	**Sn**	**01 48 50.5**	**0.0**
PACA				IAML		01 48 51.9	
	comp=Z,6μm,0.2s						
CRIN	**San Cristobal**	**1.26**	**75**	*eP*	**Pn**	**01 48 38.9**	**+0.4**
CRIN				*eS*	**Sb**	**01 48 56.5**	**+0.7**
LFRS	**El Faro**	**1.45**	**329**	*eP*	**Pn**	**01 48 41.0**	**-0.1**
LFRS	**El Faro**	**1.45**	**329**	*eP*	**Pn**	**01 48 41.0**	**-0.1**
P5NO	**Presa 5 de nov**	**1.67**	**344**	*eP*	**Pn**	**01 48 44.4**	**+0.4**
P5NO				IAML		01 48 45.7	
	comp=Z,119nm,0.2s						
P5NO				*eS*	**Sn**	**01 49 04.8**	**+0.3**
COPN	**Copaltepe**	**1.68**	**96**	*eP*	**Pn**	**01 48 43.9**	**-0.2**
MOMN	**Momotombo**	**1.72**	**89**	*eP*	**Pn**	**01 48 44.7**	**0.0**
MOMN				*eS*	**Sn**	**01 49 06.1**	**+0.3**
MATN	**Matagalpa**	**2.38**	**76**	*eP*	**Pn**	**01 48 53.8**	**-0.2**

*INET **07** 02:09:35.9±0.6, 12°.50N×87°.78W, h68km±6km, MW3.1*
*SNET **07** 02:09:38.4±0.4, 12°.59N×88°.13W, h1km±11km, ML3.0*

ISC 07 02:09:35.8±1.9, 12°.4N±0°.1×87°.82W±0°.07, h50km, n12, σ0°67/14, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.63**	**24**	*eP*	**Pn**	**02 09 48.6**	**-0.2**
CRIN	**San Cristobal**	**0.81**	**68**	*eP*	**Pn**	**02 09 51.4**	**+0.3**
CRIN				*eS*	**Sn**	**02 10 03.4**	**+1.2**
CNCH	**Conchagua**	**0.88**	**359**	IAML		02 10 09.8	
	comp=Z,490nm,0.2s						
PACA	**Pacayal**	**1.18**	**335**	IAML		02 10 12.7	
	comp=Z,44μm,0.1s						
COPN	**Copaltepe**	**1.22**	**100**	*eP*	**Pn**	**02 09 56.4**	**-0.1**
MOMN	**Momotombo**	**1.25**	**89**	*eP*	**Pn**	**02 09 56.9**	**-0.1**
MOMN				*eS*	**Sn**	**02 10 12.5**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.57**	**326**	*eP*	**Pn**	**02 10 02.2**	**+0.8**
SCLA				*eS*	**Sn**	**02 10 20.5**	**-0.2**
SCLA				IAML		02 10 24.0	
	comp=Z,20nm,0.2s						
COEG	**Centro de Oper**	**1.60**	**320**	*eS*	**Sn**	**02 10 20.4**	**-0.9**
COEG				IAML		02 10 24.4	
	comp=Z,154nm,0.4s						
SJTE	**Alcalda de S**	**1.68**	**316**	*eP*	**Pn**	**02 10 03.1**	**+0.2**
SJTE				*eS*	**Sn**	**02 10 22.2**	**-1.0**
SJTE				IAML		02 10 27.6	
	comp=Z,72nm,0.2s						
LFRS	**El Faro**	**1.72**	**315**	*eP*	**Pn**	**02 10 03.7**	**+0.3**
LFRS				IAML		02 10 31.1	
	comp=Z,397nm,0.3s						
MATN	**Matagalpa**	**1.92**	**74**	*eP*	**Pn**	**02 10 05.7**	**-0.5**
JAYA	**Jayaque - finc**	**2.02**	**308**	*eP*	**Pn**	**02 10 08.2**	**+0.6**
JAYA				IAML		02 10 33.9	
	comp=Z,166nm,0.2s						

*IDC **07** 02:13:08.4±0.9, 30°.41N×141°.88E, h0km, mb3.7/9, mbtmp3.7/12, ML3.3/3, MS3.4/1, Error ellipse: s-maj=33.8km s-min=14.9km az=79.0*

ISC 07 02:13:11.9±0.7, 30°.42N±0°.07×141°.8E±0°.2, h23km, n13, σ0°96/17, mb3.7/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.21**	**328**	Pn	**Pn**	**02 13 59.5**	**-1.4**
	5.5nm,0.3s,baz=70,slow=14,SNR=1.3						
JHJ				Sn	**Sn**	**02 14 37.7**	**-0.7**
	11nm,0.3s,baz=68,slow=18,SNR=1.2						
	41nm,0.6s						
JCJ	**Chichijima**	**3.32**	**174**	Pn	**Pn**	**02 14 01.0**	**-1.5**
	7.3nm,0.3s,baz=345,slow=20,SNR=7.2						
JCJ				Sn	**Sn**	**02 14 41.3**	**+0.1**
	18nm,0.3s,baz=330,slow=23,SNR=9.3						
	14nm,0.3s						
MJAR	**Matsushiro Arr**	**6.81**	**335**	Pn	**Pn**	**02 14 49.5**	**-1.0**
	0.3nm,0.3s,baz=160,slow=11,SNR=9.1						
MJAR				Sn	**Sn**	**02 16 08.1**	**+0.7**
	0.1nm,0.3s,baz=154,slow=26,SNR=1.2						
	3.4nm,0.6s						

SONM	**Songino Array**	**32.17**	**313**	P	**P**	**02 19 40.3**	**+2.3**
	0.3nm,0.3s,baz=101,slow=13,SNR=2.0						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**46.81**	**317**	PcP	**PcP**	**02 23 12.6**	**+0.1**
	0.5nm,0.3s,baz=128,slow=4.4,SNR=2.2						
MKAR	**Makanchi Array**	**48.17**	**307**	P	**P**	**02 21 50.7**	**+0.3**
	0.6nm,0.6s,baz=88,slow=9.8,SNR=6.6						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**50.58**	**189**	P	**P**	**02 22 09.0**	**0.0**
	1.8nm,0.6s,baz=6.1,slow=7.7,SNR=31						
WRA				PcP	**PcP**	**02 23 26.7**	**+0.2**
	0.3nm,0.6s,baz=360,slow=3.8,SNR=1.5						
	1.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.69**	**200**	P	**P**	**02 22 10.4**	**+0.7**
	1.1nm,0.6s,baz=39,slow=6.5,SNR=2.0						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**54.31**	**189**	P	**P**	**02 22 36.6**	**+0.1**
	0.5nm,0.6s,baz=3.9,slow=5.7,SNR=5.6						
ASAR				LR	LR	02 45 36.5	
	comp=Z,38nm,20.9s,baz=100,slow=36						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**54.98**	**30**	P	**P**	**02 22 41.5**	**+0.5**
	0.3nm,0.6s,baz=251,slow=7.5,SNR=2.3						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**74.84**	**333**	P	**P**	**02 24 49.5**	**-0.7**
	2.7nm,1.0s,baz=60,slow=8.3,SNR=3.4						
	2.7nm,1.0s						
NVAR	**Mina Array Bea**	**78.73**	**52**	P	**P**	**02 25 13.1**	**+0.2**
	0.3nm,0.6s,baz=306,slow=6.2,SNR=2.9						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**83.53**	**312**	P	**P**	**02 25 37.9**	**-0.4**
	0.3nm,0.7s,baz=69,slow=1.6,SNR=1.3						
	0.3nm,0.7s						

IDC 07 02:14:15.0±10.0, 12°.28S×166°.68E, h294km±118km, mb3.2/5, mbtmp3.8/6, Error ellipse: s-maj=110.8km s-min=31.0km az=162.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.74**	**181**	P	Pn	02 16 30.4	+0.4
	10.0nm,1.1s,baz=17,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**31.95**	**252**	P	P	02 20 13.9	-0.3
	0.5nm,0.8s,baz=84,slow=8.9,SNR=5.8						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**33.09**	**245**	P	P	02 20 23.4	-0.6
	0.6nm,0.7s,baz=78,slow=9.6,SNR=5.6						
	0.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.97**	**256**	P	P	02 21 22.3	+0.5
	0.6nm,0.4s,baz=100,slow=6.1,SNR=1.7						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**84.39**	**18**	P	P	02 26 13.3	-0.8
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**95.04**	**317**	P	P	02 27 04.9	+0.3
	1.0nm,0.7s,baz=99,slow=6.3,SNR=3.0						
	1.0nm,0.7s						
ARCES	**ARCESS Array B**	**117.75**	**346**	PKP	PKiKP	02 32 26.2	+0.4
	3.0nm,1.0s,baz=58,slow=3.4,SNR=4.0						

*BJI **07** 02:16:51.6±0.0, 26°.18N×126°.79E, h76km, mb4.4/30, mB4.4/15, Ms3.8/5, Ms7 3.5/4*
*NIED **07** 02:16:52.6, 26°.30N×126°.89E, h67km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.71; Mθθ-3.64; Mφφ-0.06; Mrθ-0.43; Mθφ-0.08; Mrφ0.40; Fault plane solution: M₀3.72000×10¹⁵ NP1:φ83.00000°, δ42.00000°, λ81.00000°. NP2:φ275.00000°, δ49.00000°, λ98.00000°.*
*NEIC **07** 02:16:52.7±1.7, 26°.27N±0°.06×126°.86E±0°.06, h69km±5km, mb4.6/75 Error ellipse: s-maj=9.2km s-min=8.2km az=174.0*
*JMA **07** 02:16:52.6±0.2, 26°.3N±1°.0×126°.9E±0°.7, h67km±1km, MD4.1/9, MV4.3/9, NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
*IDC **07** 02:16:53.5±0.7, 26°.25N×126°.64E, h81km±6km, mb4.0/24, mbtmp4.3/

JSD	**Sado**	**15.17**	**37**	Pn	**Pn**	**02 20 24.3**	**+1.6**
BJI	**Beijing**	**16.33**	**330**	P	**P**	**02 20 39.2**	**+0.2**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JMM	**Marumori**	**16.50**	**42**	Pn	**Pn**	**02 20 38.8**	**-0.6**
JMM				IAmb	IAmb	02 20 41.4	
	comp=Z,59nm,1.5s						
XAN	**Xi'an**	**17.28**	**301**	P	**P**	**02 20 53.1**	**+3.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				LR	LR		
	comp=Z,190nm,12.2s						
XAN				LR	LR		
	comp=Z,130nm,11.5s						
CN2	**Changchun**	**17.49**	**357**	*e*P	**P**	**02 20 53.6**	**+1.8**
CN2				pP	pwP	02 21 11.0	+2.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**18.34**	**12**	P	**Pn**	**02 21 04.2**	**+2.3**
	comp=Z,1.5nm,0.5s,baz=192,slow=10,SNR=8.1						
USRK				LR	LR	02 27 20.3	
	comp=Z,56nm,19.1s,baz=215,slow=34						
HHC	**Hu-ho-hao-te**	**19.25**	**323**	*e*P	**Pn**	**02 21 12.2**	**-0.7**
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,5.8s						
XLT	**XiLinHaoTe**	**19.60**	**336**	*e*P	**Pn**	**02 21 16.5**	**-0.5**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,73nm,3.9s						
GUMO	**Guam**	**21.12**	**123**	LR	LR	02 30 01.0	
	comp=Z,29nm,18.8s,baz=298,slow=37						
LZH	**Lanzhou**	**21.90**	**302**	*e*P	**P**	**02 21 41.6**	**+1.6**
LZH				pP	pP	02 21 53.3	-1.5
LZH				pmax	pmax		
	comp=Z,14nm,1.4s						
PZH	**PanZhiHua**	**22.46**	**276**	P	**P**	**02 21 45.9**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,4.4s						
CRAI	**Chiangrai**	**25.02**	**262**	P	**P**	**02 22 11.1**	**+1.1**
TOLI2	**Tolitoli**	**25.71**	**194**	P	**P**	**02 22 15.6**	**-0.7**
TOLI2				IAmb	IAmb	02 22 41.4	
	comp=Z,9.9nm,0.8s						
GTA	**Gaotai**	**26.08**	**307**	*e*P	**P**	**02 22 19.8**	**+0.3**
GTA				pP	pP	02 22 34.6	-1.5
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	**26.54**	**329**	P	**P**	**02 22 23.3**	**-0.4**
CHTO	**Chiang Mai**	**26.77**	**260**	P	**P**	**02 22 25.9**	**+0.1**
SONM	**Songino Array**	**26.82**	**329**	P	**P**	**02 22 25.3**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=140,slow=9.7,SNR=11						
SONM				pP	**pwP**	**02 22 44.3**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=142,slow=7.5,SNR=5.2						
	comp=Z,2.7nm,0.6s						
SONM	**Songino Array**	**26.82**	**329**	P	**P**	**02 22 26.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.90**	**259**	P	**P**	**02 22 25.6**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=59,slow=8.6,SNR=7.7						
CMAR				LR	LR	02 32 52.5	
	comp=Z,41nm,18.2s,baz=105,slow=36						
	comp=Z,1.4nm,0.4s						
SBUM	**Sibu**	**27.56**	**213**	P	**P**	**02 22 35.1**	**+2.3**
SBUM				IAmb	IAmb	02 22 36.9	
	comp=Z,9.4nm,0.7s						
GOMU	**GeErMu**	**28.98**	**298**	P	**P**	**02 22 48.9**	**+3.1**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,51nm,4.9s						
FAKI	**Fak Fak**	**29.52**	**169**	P	**P**	**02 22 50.4**	**+0.1**
FAKI				IAmb	IAmb	02 22 54.0	
	comp=Z,20nm,1.1s						
PEA0B	**Petropavlovsk-**	**35.30**	**32**	P	**P**	**02 23 41.7**	**+1.3**
PETK	**Petropavlovsk-**	**35.30**	**32**	P	**P**	**02 23 42.4**	**+1.9**
	comp=Z,1.5nm,0.5s,baz=200,slow=5.8,SNR=5.9						
PETK				LR	LR	02 38 29.7	
	comp=Z,18nm,21.6s,baz=253,slow=37						
	comp=Z,1.5nm,0.5s						
PETK	**Petropavlovsk-**	**35.30**	**32**	P	**P**	**02 23 41.7**	**+1.2**
YAK	**Yakutsk**	**35.77**	**2**	LR	LR	02 38 50.0	
	comp=Z,44nm,19.1s,baz=80,slow=37						
WMQ	**Urumqi**	**36.09**	**309**	*e*P	**P**	**02 23 50.0**	**+2.6**
MA2	**Magadan**	**37.16**	**20**	LR	LR	02 38 46.0	
	comp=Z,27nm,21.7s,baz=249,slow=35						
MTN	**Manton Dam**	**39.14**	**173**	P	**P**	**02 24 12.1**	**-1.1**
SEY	**Seymchan**	**40.33**	**18**	P	**P**	**02 24 23.5**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=190,slow=11,SNR=5.5						
	comp=Z,1.5nm,0.6s						
MK31	**Makanchi Array**	**40.55**	**312**	P	**P**	**02 24 24.6**	**-0.2**
MKAR	**Makanchi Array**	**40.55**	**312**	P	**P**	**02 24 23.9**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=98,slow=10,SNR=33						
MKAR				PcP	**PcP**	**02 26 25.9**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=88,slow=5.1,SNR=3.6						
MKAR				ScP	**ScP**	**02 30 08.9**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=86,slow=4.8,SNR=1.8						
	comp=Z,3.0nm,0.6s						
ZAA0	**Zalesovo Array**	**41.43**	**323**	P	**P**	**02 24 32.5**	**+0.7**
ZAA0				IAmb	IAmb	02 24 33.5	
	comp=Z,4.6nm,0.7s						
ZALV	**Zalesovo Beam**	**41.43**	**323**	P	**P**	**02 24 31.0**	**-0.8**
	comp=Z,4.5nm,0.4s,baz=110,slow=8.0,SNR=15						
ZALV				ScP	**ScP**	**02 30 10.9**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=141,slow=4.8,SNR=1.5						
	comp=Z,4.5nm,0.4s						
ZALV	**Zalesovo Beam**	**41.43**	**323**	P	**P**	**02 24 32.3**	**+0.4**
KNRA	**Kununurra**	**41.77**	**177**	P	**P**	**02 24 34.6**	**-0.4**
KURK	**Kurchatov**	**43.90**	**317**	P	**P**	**02 24 51.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**44.15**	**182**	P	**P**	**02 24 53.8**	**-0.4**
	comp=Z,9.8nm,0.7s,baz=7.6,slow=7.6,SNR=30						
FITZ				pP	**pP**	**02 25 13.0**	**+1.0**
	comp=Z,5.8nm,0.6s,baz=13,slow=7.0,SNR=6.0						
	comp=Z,9.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**44.15**	**182**	P	**P**	**02 24 53.8**	**-0.4**
FITZ				IAmb	IAmb	02 24 54.6	
	comp=Z,9.0nm,0.8s						
TIXI	**Tiksi**	**45.40**	**1**	LR	LR	02 45 06.9	
	comp=Z,53nm,21.1s,baz=181,slow=37						
WB0	**Warramunga Arr**	**46.38**	**170**	P	**P**	**02 25 11.1**	**-0.7**
WB0				IAmb	IAmb	02 25 11.7	
	comp=Z,7.0nm,0.8s						
WRAB	**Tennant Creek**	**46.54**	**170**	P	**P**	**02 25 12.3**	**-0.7**
WRAB				IAmb	IAmb	02 25 13.0	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**46.55**	**170**	P	**P**	**02 25 12.6**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=352,slow=8.4,SNR=35						
WRA				pP	**pP**	**02 25 32.4**	**+1.4**
	comp=Z,3.0nm,0.6s,baz=351,slow=8.6,SNR=6.3						
WRA				PcP	**PcP**	**02 26 45.0**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=355,slow=4.7,SNR=2.0						
	comp=Z,5.4nm,0.7s						
WRA	**Warramunga Arr**	**46.55**	**170**	P	**P**	**02 25 12.5**	**-0.6**
WB2	**Warramunga Arr**	**46.55**	**170**	P	**P**	**02 25 12.7**	**-0.4**
WB2				IAmb	IAmb	02 25 13.5	
	comp=Z,8.3nm,0.8s						
WR0	**Warramunga Arr**	**46.59**	**170**	P	**P**	**02 25 12.9**	**-0.6**
WR0				IAmb	IAmb	02 25 43.3	
	comp=Z,11nm,1.2s						
PSA00	**Pilbara Seismi**	**48.07**	**189**	P	**P**	**02 25 24.1**	**-0.8**
KKAR	**Karatay Array**	**48.34**	**305**	P	**P**	**02 25 28.0**	**+1.1**
NRIK	**Noril'sk**	**48.80**	**343**	LR	LR	02 48 26.8	
	comp=Z,86nm,18.1s,baz=103,slow=39						
BRVK	**Borovoye**	**49.45**	**318**	P	**P**	**02 25 35.4**	**+0.1**
BRVK				IAmb	IAmb	02 25 38.1	
	comp=Z,5.1nm,1.1s						
CTA	**Charters Tower**	**49.82**	**156**	P	**P**	**02 25 39.1**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=0.0,slow=5.1,SNR=1.9						
	comp=Z,3.3nm,0.7s						
CTAO	**Charters Tower**	**49.82**	**156**	P	**P**	**02 25 38.0**	**-0.4**
AS31	**Alice Springs**	**50.14**	**172**	P	**P**	**02 25 40.3**	**-0.5**
AS31				IAmb	IAmb	02 25 42.8	
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**50.15**	**172**	P	**P**	**02 25 40.6**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=355,slow=8.5,SNR=44						
ASAR				pP	**pP**	**02 26 01.2**	**+2.5**
	comp=Z,1.6nm,0.6s,baz=355,slow=7.3,SNR=3.6						
ASAR				PcP	**PcP**	**02 26 58.5**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=356,slow=3.4,SNR=8.2						
	comp=Z,4.1nm,0.6s						
ABKAR	**Akbulak array**	**55.68**	**313**	P	**P**	**02 26 21.3**	**0.0**
MORW	**Morawa**	**56.02**	**191**	P	**P**	**02 26 23.4**	**-0.4**
GEYT	**Alibeck**	**58.16**	**300**	P	**P**	**02 26 39.9**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=73,slow=8.0,SNR=3.2						
	comp=Z,1.4nm,0.5s						
BBOO	**Buckleboo**	**59.44**	**171**	P	**P**	**02 26 46.9**	**-0.9**

STKA	**Stephens Creek**	**59.55**	**165**	P	**P**	**02 26 48.4**	**-0.1**
	comp=Z,7.3nm,0.6s,baz=347,slow=7.5,SNR=21						
	comp=Z,7.3nm,0.6s						
STKA	**Stephens Creek**	**59.55**	**165**	P	**P**	**02 26 48.4**	**-0.1**
ARMA	**Armidale**	**61.19**	**156**	P	**P**	**02 27 00.1**	**+0.2**
SVW2	**Sparrevohn**	**61.38**	**33**	P	**P**	**02 27 01.9**	**+1.2**
SVW2				IAmb	IAmb	02 27 20.5	
	comp=Z,4.6nm,0.9s						
KIRV	**Kirov**	**61.45**	**324**	LR	LR	02 56 28.0	
	comp=Z,49nm,18.2s,baz=109,slow=39						
DZM	**Mont Dzumac**	**61.52**	**138**	P	**P**	**02 27 02.8**	**+0.5**
O18K	**Koktuh Hills**	**61.64**	**34**	P	**P**	**02 27 03.7**	**+1.1**
J20K	**Nowinta River**	**61.90**	**29**	P	**P**	**02 27 05.7**	**+1.6**
J20K				IAmb	IAmb	02 27 08.1	
	comp=Z,9.1nm,1.2s						
K20K	**Telida**	**61.97**	**30**	P	**P**	**02 27 06.1**	**+1.4**
H21K	**Melozitna Rive**	**62.40**	**27**	P	**P**	**02 27 09.5**	**+2.0**
H21K				IAmb	IAmb	02 27 27.3	
	comp=Z,5.2nm,1.1s						
I21K	**Tanana**	**62.77**	**28**	P	**P**	**02 27 11.8**	**+1.9**
I21K				IAmb	IAmb	02 27 29.4	
	comp=Z,8.0nm,1.1s						
PPLA	**Purkeypile**	**62.85**	**31**	P	**P**	**02 27 11.2**	**+0.4**
PPLA				IAmb	IAmb	02 27 13.2	
	comp=Z,7.9nm,1.1s						
KDAK	**Kodiak Island**	**63.20**	**36**	P	**P**	**02 27 15.1**	**+2.1**
	baz=258,slow=9.3						
SKT	**Skwentna**	**63.25**	**32**	P	**P**	**02 27 13.2**	**0.0**
SKT				IAmb	IAmb	02 27 31.9	
	comp=Z,6.4nm,1.1s						
BPAW	**Bear Paw Mtn.**	**63.28**	**29**	P	**P**	**02 27 15.0**	**+1.5**
BPAW				IAmb	IAmb	02 27 23.0	
	comp=Z,7.8nm,1.4s						
MLY	**Manley**	**63.30**	**28**	P	**P**	**02 27 14.7**	**+1.1**
MLY				IAmb	IAmb	02 27 32.7	
	comp=Z,7.4nm,1.2s						
KTH	**Kantishna Hill**	**63.37**	**30**	P	**P**	**02 27 14.4**	**+0.4**
KTH				IAmb	IAmb	02 27 49.6	
	comp=Z,13nm,1.5s						
TRF	**Thorofare Moun**	**63.66**	**30**	P	**P**	**02 27 16.9**	**+0.8**
TRF				IAmb	IAmb	02 27 46.4	
	comp=Z,6.7nm,1.4s						
SUA	**Susitna One**	**63.68**	**32**	P	**P**	**02 27 16.4**	**+0.3**
SUA				IAmb	IAmb	02 27 34.2	
	comp=Z,10nm,1.2s						
H23K	**Yukon River**	**63.73**	**27**	P	**P**	**02 27 17.5**	**+1.2**
H23K				IAmb	IAmb	02 27 19.3	
	comp=Z,6.6nm,0.8s						
RND	**Reindeer**	**64.31**	**30**	P	**P**	**02 27 20.3**	**+0.1**
RND				IAmb	IAmb	02 27 38.8	
	comp=Z,11nm,1.0s						
MDM	**Murphy Dome**	**64.37**	**28**	P	**P**	**02 27 22.1**	**+1.6**
CCB	**Clear Creek Bu**	**64.59**	**28**	P	**P**	**02 27 22.2**	**+0.3**
PWL	**Port Wells**	**64.92**	**33**	P	**P**	**02 27 24.8**	**+0.6**
IL31		**64.97**	**28**	P	**P**	**02 27 24.4**	**0.0**
ILAR	**Eielson Array**	**64.97**	**28**	P	**P**	**02 27 23.6**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=296,slow=9.9,SNR=6.5						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**64.97**	**28**	P	**P**	**02 27 27.4**	**+3.0**
DHY	**Denali Highway**	**65.02**	**30**	P	**P**	**02 27 25.6**	**+0.7**
DHY				IAmb	IAmb	02 27 58.4	
	comp=Z,5.2nm,1.2s						
BMAR	**Burnt Mountain**	**65.47**	**25**	P	**P**	**02 27 29.9**	**+2.2**
J25K	**Salcha River,**	**65.64**	**28**	P	**P**	**02 27 28.3**	**-0.5**
HIN	**Hinchinbrook I**	**65.89**	**33**	P	**P**	**02 27 30.3**	**-0.2**
DOT	**Dot Lake**	**66.38**	**29**	P	**P**	**02 27 33.7**	**+0.2**
N25K	**Chitina, Valde**	**66.56**	**31**	P	**P**	**02 27 35.9**	**+1.1**
N25K				IAmb	IAmb	02 28 01.3	
	comp=Z,8.1nm,1.4s						
GLB	**Gilahina Butte**	**66.96**	**31**	P	**P**	**02 27 37.8**	**+0.5**
GLB				IAmb	IAmb	02 27 56.4	
	comp=Z,6.2nm,1.1s						
M26K	**Nabesna, AK**	**67.12**	**30**	P	**P**	**02 27 38.9**	**+0.5**
M26K				IAmb	IAmb	02 27 40.4	
	comp=Z,6.5nm,1.1s						
BCAR	**Beaver Creek A**	**67.51**	**30**	P	**P**	**02 27 42.1**	**+1.4**
M27K	**Edge Creek, AK**	**67.64**	**30**	P	**P**	**02 27 42.0**	**+0.3**
M27K				IAmb	IAmb	02 28 10.3	
	comp=Z,6.6nm,1.1s						
KBZ	**Khabaz**	**68.14**	**309**	P	**P**	**02 27 44.7**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=150,slow=8.1,SNR=6.1						
	comp=Z,3.3nm,0.9s						
EPYK	**Eagle Plains**	**68.73**	**25**	P	**P**	**02 27 48.9**	**+0.5**
EPYK				IAmb	IAmb	02 27 50.4	
	comp=Z,5.5nm,0.6s						
INK	**Inuvik**	**69.31**	**23**	P	**P**	**02 27 52.4**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=305,slow=7.3,SNR=3.9						
	comp=Z,3.6nm,0.9s						
ARCES	**ARCESS Array B**	**69.48**	**338**	P	**P**	**02 27 52.4**	**-0.5**
	comp=Z,3.3nm,0.9s,baz=75,slow=9.2,SNR=7.2						
ARCES				LR	LR	03 02 45.3	
	comp=Z,28nm,18.8s,baz=4.0,slow=40						
	comp=Z,3.3nm,0.9s						
ARCES	**ARCESS Array B**	**69.48**	**338**	P	**P**	**02 27 52.7**	**-0.1**
ARCES				IAmb	IAmb	02 28 28.0	
	comp=Z,11nm,1.3s						
M30M	**Minto, Yukon**	**69.85**	**29**	P	**P**	**02 27 57.1**	**+1.8**
M31M	**Drury Creek, Y**	**71.03**	**29**	P	**P**	**02 28 02.8**	**+0.3**
FARO	**Faro, Yukon**	**71.48**	**29**	P	**P**	**02 28 06.3**	**+1.1**
FARO				IAmb	IAmb	02 28 09.5	
	comp=Z,6.0nm,0.9s						
MARD	**Mardin**	**71.62**	**303**	P	**P**	**02 28 08.0**	**+1.4**
FIA1	**FINESS Array S**	**72.18**	**330**	P	**P**	**02 28 08.9**	**-0.4**
FINES	**FINESS Array B**	**72.18**	**330**	P	**P**	**02 28 08.8**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=62,slow=5.5,SNR=19						
	comp=Z,1.9nm,0.5s						
FINES	**FINESS Array B**	**72.18**	**330**	P	**P**	**02 28 08.1**	**-1.2**
RAYN	**Ar Rayn**	**72.59**	**288**	P	**P**	**02 28 12.4**	**-0.2**
RAYN				IAmb	IAmb	02 28 14.5	
	comp=Z,6.4nm,0.9s						
MNK	**Minsk**	**73.94**	**323**	*i* P	**P**	**02 28 18.1**	**-1.8**
	comp=E,2.0nm,1.2s						
MNK				*i* P	**P**	**02 28 18.1**	**-1.8**
	comp=N,7.0nm,0.9s						
MNK				*i* P	**P**	**02 28 18.1**	**-1.8**
	comp=Z,6.0nm,0.9s,baz=248						
MNK				*i* pP	**PcP**	**02 28 36.9**	**+2.0**
MNK				*i* PP	**PP**	**02 31 00.8**	**-4.5**
MNK				*i* PPP	PPP	02 32 48.2	
MNK				*i* S	**S**	**02 37 44.2**	**-1.9**
MNK				*i* sS	**sS**	**02 38 16.6**	**-1.7**
MNK				*i* SS	**SS**	**02 42 29.9**	**-1.2**
MNK				*i* SSS	SSS	02 45 51.5	
MNK				*i* LQ	LQ	02 55 54.6	
MNK				*i* LR	LR	03 01 31.5	
MNK				*i* LRM	MLR	03 03 46.6	
	comp=Z,89nm,16.1s						
MNK				*i* LRM	MLR	03 03 47.9	
	comp=E,6.0nm,11.6s						
MNK				*i* LRM	MLR	03 03 48.5	
	comp=N,12nm,16.1s						
DIKM	**Dikmen**	**74.14**	**309**	⇑P	**P**	**02 28 23.5**	**+2.2**
AKASG	**Malin Array Be**	**74.66**	**319**	P	**P**	**02 28 23.5**	**-0.6**
	comp=N,1.3nm,0.4s,baz=56,slow=6.8,SNR=11						
	comp=N,1.3nm,0.4s						
AKASG	**Malin Array Be**	**74.66**	**319**	P	**P**	**02 28 24.0**	**-0.1**
AKBB	**Malin Array Si**	**74.66**	**319**	P	**P**	**02 28 23.3**	**-0.8**
AKBB				IAmb	IAmb	02 28 25.6	
	comp=Z,4.6nm,0.6s						
BRTR	**Keskin Array B**	**75.99**	**307**	P	**P**	**02 28 32.4**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=62,slow=4.0,SNR=6.1						
	comp=Z,1.4nm,1.0s						
BRTR	**Keskin Array B**	**75.99**	**307**	P	**P**	**02 28 32.7**	**+0.5**
NEEM	**North Greenlan**	**76.48**	**360**	*i* P	**P**	**02 28 34.9**	**+0.4**
NEEM				IAmb	IAmb	02 28 37.2	
	comp=Z,5.8nm,0.6s						
TESR	**Tescani**	**77.93**	**316**	⇑P	**P**	**02 28 42.8**	**+0.1**
VRI	**Vrincioaia**	**78.15**	**315**	⇑P	**P**	**02 28 45.1**	**+1.1**
PLOR	**Plostina**	**78.21**	**315**	⇑P	**P**	**02 28 41.2**	**-3.2**
BUR08	**Bucovina Ar. S**	**78.33**	**317**	P	**P**	**02 28 45.2**	**+0.2**
BURAR	**Bucovina Array**	**78.33**	**317**	⇑P	**P**	**02 28 44.5**	**-0.6**
BURAR	**Bucovina Array**	**78.33**	**317**	P	**P**	**02 28 45.2**	**+0.2**
NB2	**NORSAR Subarra**	**78.69**	**333**	P	**P**	**02 28 45.6**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=52,slow=5.3						
NOA	**NORSAR Array B**	**78.69**	**333**	P	**P**	**02 28 46.0**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=52,slow=5.6,SNR=7.1						
	comp=Z,0.8nm,0.5s						
NC204	**NORSAR Array S**	**78.73**	**334**	P	**P**	**02 28 46.2**	**-0.8**
MLR	**Muntele Rosu**	**78.81**	**315**	⇓P	**P**	**02 28 48.2**	**+0.4**
MLR	**Muntele Rosu**	**78.81**	**315**	P	**P**	**02 28 48.4**	**+0.6**
MLR				IAmb	IAmb	02 29 24.9	
	comp=Z,6.8nm,1.3s						
KWP	**Kalwaria Pacla**	**78.91**	**320**	P	**P**	**02 28 48.6**	**+0.6**
DOPR	**Dopca**	**78.95**	**316**	⇑P	**P**	**02 28 49.3**	**+0.9**
YKA	**Yellowknife Ar**	**78.98**	**25**	P	**P**	**02 28 48.6**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=311,slow=5.5,SNR=4.6						
YKA				LR	LR	03 11 52.4	
	comp=Z,12nm,18.3s,baz=342,slow=42						
	comp=Z,1.4nm,0.6s						
ARR	**Arges**	**79.69**	**316**	⇓	**P**	**02 28 52.9**	**+0.4**
ARR				⇑P	**PcP**	**02 28 53.5**	**-6.6**
CEI	**Carei**	**79.96**	**318**	⇑P	P	02 29 08.3	+15
DRGR		**80.22**	**317**	⇑P	**P**	**02 28 56.0**	**+0.6**
SUMG	**Summit**	**80.87**	**356**	P	**P**	**02 28 59.7**	**+0.9**
SUMG				IAmb	IAmb	02 29 00.3	
	comp=Z,5.0nm,0.7s						
SUMG	**Summit**	**80.87**	**356**	*i* P	**P**	**02 28 58.0**	**-0.7**
BZS	**Buzias**	**81.45**	**317**	⇑P	**P**	**02 29 02.3**	**+0.4**
VYHS	**Vyhne**	**81.68**	**320**	*e*P	**P**	**02 29 03.8**	**+0.8**
BLKB	**Belogradchik**	**81.74**	**315**	⇑P	**P**	**02 29 03.7**	**+0.2**
MORC	**Moravsky Berou**	**81.76**	**322**	⇑P	**P**	**02 29 02.2**	**-1.2**
VTS	**Vitosha**	**81.86**	**314**	⇑P	**P**	**02 29 03.4**	**-0.9**
CLL	**Collm**	**83.37**	**325**	*i* P	**P**	**02 29 11.9**	**+0.2**
	comp=Z,3.0nm,0.9s						
ICESG	**Greenland Ices**	**84.37**	**355**	*i* P	**P**	**02 29 12.9**	**-4.0**
GERES	**GERESS Array B**	**84.38**	**322**	P	**P**	**02 29 17.4**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=51,slow=6.9,SNR=7.2						
	comp=Z,0.7nm,0.6s						
GERES	**GERESS Array B**	**84.38**	**322**	P	**P**	**02 29 17.5**	**+0.5**
PDG	**Podgorica**	**84.51**	**315**	⇑P	P	02 29 11.0	-6.7
HLID	**Hailey**	**90.64**	**40**	P	**P**	**02 29 48.3**	**+0.9**
HLID				IAmb	IAmb	02 29 50.4	
	comp=Z,4.8nm,1.4s						
BOZ	**Bozeman (W)**	**90.91**	**37**	P	**P**	**02 29 48.2**	**-0.4**
BOZ				IAmb	IAmb	02 29 50.2	
	comp=Z,2.4nm,1.0s						
NVAR	**Mina Array Bea**	**91.36**	**45**	P	**P**	**02 29 51.1**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=293,slow=4.6,SNR=4.9						
	comp=Z,0.6nm,0.8s						
PPT	**Papeete**	**92.10**	**108**	LR	LR	03 07 09.1	
	comp=Z,19nm,18.9s,baz=344,slow=33						
PDAR	**Pinedale Array**	**93.88**	**38**	P	**P**	**02 30 02.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=28,slow=2.1,SNR=2.9						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**99.92**	**324**	LR	LR	03 18 06.6	
	comp=Z,27nm,18.8s,baz=350,slow=37						

IDC ***07*** *02:26:49.7±2.1,36°.36N×96°.66W,h0km,mbtmp3.2/3, ML3.9/2,Error ellipse: s-maj=31.7km s-min=12.5km az=107.0*

NEIC ***07*** *02:26:50.1±1.2,36°.432N±0°.006×96°.91W±0°.02,h2km±3km, Error ellipse: s-maj=2.3km s-min=0.4km az=67.0*

TUL ***07*** *02:26:50.5±1.2,36°.433N±0°.010×96°.91W±0°.02,h4km±2km, ML3.9,mb_Lg3.5/108(NEIC),Mwr3.1/7(SLM), Error ellipse: s-maj=2.3km s-min=0.6km az=56.0*

ANF ***07*** *02:26:50.4±0.3,36°.46N×96°.88W,h4km,ML4.1/18,Error ellipse: s-maj=3.2km s-min=3.0km az=155.0*

NEIC ***07*** *02:26:50.5,36°.43N×96°.90W,h3km,Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr0.00; Mθθ6.26; Mϕϕ-6.26; Mrθ-0.72; Mθϕ-1.10; Mϕr0.86; Fault plane solution: M₀6.46000×10¹³ NP1:ϕ₁230.00000°, δ80.00000°,λ180.00000°. NP2:ϕ₂320.00000°,δ90.00000°, λ10.00000°. Principal axes: T 6.4541, Plg7.0000°, Azm185.0000°; N 0.0001, Plg80.0000°, Azm320.0000°; P -6.4541, Plg7.0000°, Azm95.0000°;*

ISC 07 02:26:49.9±0.7,36°.45N±0°.02×96°.89W±0°.02,h9km±4km, n162,σ1§46/172,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK045	**Pawnee Station**	**0.03**	**267**		**Pg**	**02 26 51.7**	**0.0**
OK045					**Sg**	**02 26 52.4**	**-0.5**
OK046	**Pawnee Station**	**0.05**	**196**	Pg	**Pg**	**02 26 51.9**	**+0.1**
OK046				Sg	**Sg**	**02 26 52.7**	**-0.6**
OK044	**Pawnee Station**	**0.11**	**135**		**Pg**	**02 26 53.2**	**+0.7**
OK044				Sg	**Sg**	**02 26 55.0**	**+0.6**
QUOK	**Quay**	**0.31**	**152**	Pg	**Pg**	**02 26 56.9**	**+0.8**
QUOK				Sg	**Sg**	**02 27 01.1**	**+0.8**
OK033	**Mehan**	**0.41**	**186**	Pg	**Pg**	**02 26 58.5**	**+0.6**
BLOK	**Blackwell**	**0.41**	**320**	Pg	**Pg**	**02 26 58.8**	**+0.8**
BLOK				Sg	**Sg**	**02 27 04.3**	**+1.0**

LOOK	**Love County**	**2.46**	**186**	Pn	**Pn**	**02 27 31.9**	**+1.7**
LOOK				lAmb_Lg		02 28 11.1	
	comp=Z,89nm,0.9s						
KSU1	**Kansas State U**	**2.66**	**5**	Pn	**Pn**	**02 27 35.1**	**+2.2**
S39A	**Bolivar**	**3.11**	**65**	Pn	**Pn**	**02 27 41.8**	**+2.7**
S39A				lAmb_Lg		02 28 35.8	
	comp=Z,105nm,0.8s						
S39A	**Bolivar**	**3.11**	**65**	P	**Pn**	**02 27 41.7**	**+2.6**
	baz=247						
S39A				Sb	**Sb**	**02 28 25.6**	**+2.2**
	baz=247						
Z35A	**Perchaven, San**	**3.12**	**186**	Pn	**Pn**	**02 27 41.0**	**+1.7**
Z35A	**Perchaven, San**	**3.12**	**186**	P	**Pn**	**02 27 41.2**	**+1.9**
	baz=5.1,SNR=17						
Z35A				S	**Sn**	**02 28 18.8**	**+2.0**
	baz=5.1						
CBKS	**Cedar Bluff**	**3.27**	**317**	Pn	**Pn**	**02 27 43.0**	**+1.6**
CBKS	**Cedar Bluff**	**3.27**	**317**	P	**Pn**	**02 27 43.3**	**+1.9**
	baz=136						
CBKS				S	**Sn**	**02 28 21.6**	**+1.2**
	baz=136						
CBKS	**Cedar Bluff**	**3.27**	**317**	P	**Pn**	**02 27 43.2**	**+1.9**
	baz=136						
MIAR	**Mount Ida**	**3.30**	**124**	Pn	**Pn**	**02 27 43.7**	**+2.0**
MIAR				lAmb_Lg		02 28 43.2	
	comp=Z,93nm,0.7s						
MIAR	**Mount Ida**	**3.30**	**124**	P	**Pn**	**02 27 44.1**	**+2.4**
	baz=306,SNR=17						
MIAR				S	**Sn**	**02 28 23.7**	**+2.5**
	baz=306						
MIAR	**Mount Ida**	**3.30**	**124**	P	**Pn**	**02 27 44.2**	**+2.4**
	baz=306						
MIAR				S	**Sn**	**02 28 23.8**	**+2.6**
	baz=306						
Z38A	**Mt. Pleasant**	**3.55**	**153**	Pn	**Pn**	**02 27 47.0**	**+1.9**
Z38A				lAmb_Lg		02 28 47.2	
	comp=Z,167nm,0.8s						
WHAR	**Wooly Hollow**	**3.91**	**106**	lAmb_Lg		02 28 56.3	
	comp=Z,130nm,1.0s						
UALR	**University of**	**4.06**	**113**		**Pn**	**02 27 54.3**	**+2.1**
UALR				lAmb_Lg		02 29 04.7	
	comp=Z,107nm,0.8s						
R40A	**Maddies Statio**	**4.11**	**62**	Pn	**Pn**	**02 27 54.8**	**+2.0**
R40A				lAmb_Lg		02 29 05.4	
	comp=Z,122nm,0.8s						
R40A	**Maddies Statio**	**4.11**	**62**	P	**Pn**	**02 27 54.9**	**+2.0**
	baz=245,SNR=12						
R40A				S	**Sn**	**02 28 44.1**	**+3.0**
	baz=245						
P38A	**Dawn**	**4.13**	**39**	Pn	**Pn**	**02 27 55.5**	**+2.4**
P38A	**Dawn**	**4.13**	**39**	P	**Pn**	**02 27 55.1**	**+2.0**
	baz=221,SNR=8.5						
P38A				S	**Sn**	**02 28 44.1**	**+2.5**
	baz=221						
WLAR	**White Oak Lake**	**4.15**	**131**	Pn	**Pn**	**02 27 55.6**	**+2.3**
WLAR				lAmb_Lg		02 29 10.0	
	comp=Z,62nm,0.7s						
AMTX	**Amarillo**	**4.20**	**250**	lAmb_Lg		02 29 11.2	
	comp=Z,104nm,0.7s						
N33A	**J Bar K, Exete**	**4.30**	**354**	Pn	**Pn**	**02 27 56.8**	**+1.2**
N33A				lAmb_Lg		02 29 09.9	
	comp=Z,160nm,1.2s						
WHTX	**Lake Whitney,**	**4.47**	**186**	Pn	**Pn**	**02 27 58.5**	**+0.7**
WHTX	**Lake Whitney,**	**4.47**	**186**	P	**Pn**	**02 27 58.8**	**+1.0**
	baz=5.7,SNR=14						
WHTX	**Lake Whitney,**	**4.47**	**186**	P	**Pn**	**02 27 59.2**	**+1.4**
	baz=5.7						
N35A	**Tabor**	**4.51**	**12**	Pn	**Pn**	**02 27 59.4**	**+1.1**
N35A				lAmb_Lg		02 29 26.4	
	comp=Z,116nm,0.7s						
N35A	**Tabor**	**4.51**	**12**	P	**Pn**	**02 27 59.5**	**+1.1**
	baz=193,SNR=14						
237A	**Washetta, Mont**	**4.53**	**168**	Pn	**Pn**	**02 27 59.6**	**+1.0**
LCAR	**Lake Charles**	**4.65**	**93**	Pn	**Pn**	**02 28 01.9**	**+1.7**
LCAR				lAmb_Lg		02 29 15.3	
	comp=Z,64nm,0.8s						
CCM	**Cathedral Cave**	**4.78**	**69**	Pn	**Pn**	**02 28 03.8**	**+1.8**
CCM	**Cathedral Cave**	**4.78**	**69**	P	**Pn**	**02 28 04.2**	**+2.1**
	baz=252						
CCM				Sb	**Sg**	**02 29 18.2**	**-5.1**
	baz=252						
CCAR	**Cane Creek**	**4.89**	**120**	lAmb_Lg		02 29 28.0	
	comp=Z,53nm,0.8s						
NATX	**Nacogdoches**	**5.03**	**158**	lAmb_Lg		02 29 43.0	
	comp=Z,58nm,0.9s						
BGNE	**Belgrade**	**5.05**	**349**	Pn	**Pn**	**02 28 07.0**	**+1.2**
BGNE				lAmb_Lg		02 29 43.6	
	comp=Z,124nm,0.8s						
BGNE	**Belgrade**	**5.05**	**349**	P	**Pn**	**02 28 07.0**	**+1.2**
	baz=169						
BGNE				S	**Sn**	**02 29 04.2**	**0.0**
	baz=169						
BGNE	**Belgrade**	**5.05**	**349**	P	**Pn**	**02 28 07.2**	**+1.4**
	baz=169						
N38A	**Joes South For**	**5.20**	**32**	S	**Sn**	**02 29 08.8**	**+1.0**
	baz=214						
PBMO	**Poplar Bluff**	**5.21**	**84**	lAmb_Lg		02 29 37.5	
	comp=Z,83nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.22**	**301**	Pn	**Pn**	**02 28 09.2**	**+1.0**
KSCO				lAmb_Lg		02 29 47.5	
	comp=Z,71nm,0.7s						
FVM	**French Village**	**5.38**	**72**	Pn	**Pn**	**02 28 11.5**	**+1.2**
FVM				lAmb_Lg		02 29 50.5	
	comp=Z,54nm,0.8s						
FVM	**French Village**	**5.38**	**72**	P	**Pn**	**02 28 11.4**	**+1.0**
	baz=255,SNR=6.2						
FVM				S	**Sn**	**02 29 11.9**	**-0.5**
	baz=255						
435B	**Jarrell**	**5.68**	**186**	Pn	**Pn**	**02 28 15.2**	**+0.7**
435B				lAmb_Lg		02 30 00.3	
	comp=Z,65nm,0.9s						
435B	**Jarrell**	**5.68**	**186**	P	**Pn**	**02 28 14.7**	**+0.3**
	baz=5.5						
435B	**Jarrell**	**5.68**	**186**	P	**Pn**	**02 28 15.2**	**+0.7**
	baz=5.5						
PEBM	**Pemiscott Bayo**	**5.69**	**91**	lAmb_Lg		02 29 53.1	
	comp=Z,84nm,0.7s						
SLM	**Saint Louis**	**5.72**	**66**	lAmb_Lg		02 29 56.2	
	comp=Z,116nm,0.8s						
SLM	**Saint Louis**	**5.72**	**66**	S	**Sn**	**02 29 20.4**	**-0.3**
	baz=249						
CGM3	**Cape Girardeau**	**5.86**	**80**	lAmb_Lg		02 29 57.8	
	comp=Z,57nm,0.8s						
143A	**Socs Landing,**	**5.87**	**128**	lAmb_Lg		02 30 07.9	
	comp=Z,81nm,0.8s						
OGNE	**Ogallala**	**6.03**	**320**	lAmb_Lg		02 30 16.4	
	comp=Z,78nm,0.8s						
T25A	**Trinidad**	**6.08**	**279**	Pn	**Pn**	**02 28 21.3**	**+1.2**
T25A				lAmb_Lg		02 30 12.5	
	comp=Z,85nm,0.9s						
HALT	**Halls**	**6.13**	**93**	lAmb_Lg		02 30 18.0	
	comp=Z,87nm,0.9s						
GLAT	**Glass**	**6.14**	**89**	lAmb_Lg		02 30 21.0	
	comp=Z,103nm,0.8s						
SCIA	**State Center**	**6.15**	**27**	Pn	**Pn**	**02 28 21.2**	**+0.3**
SCIA				lAmb_Lg		02 30 14.8	
	comp=Z,110nm,0.7s						
SCIA	**State Center**	**6.15**	**27**	P	**Pn**	**02 28 22.0**	**+1.1**
	baz=209						
HICK	**Hickman**	**6.17**	**87**	Pn	**Pn**	**02 28 22.6**	**+1.4**
S44A	**Carbondale**	**6.23**	**76**	Pn	**Pn**	**02 28 23.4**	**+1.5**
S44A	**Carbondale**	**6.23**	**76**	S	**Sn**	**02 29 33.6**	**+0.3**
	baz=261						
SIUC	**Southern Illin**	**6.26**	**76**	Pn	**Pn**	**02 28 24.0**	**+1.6**
K31A	**O'Neill**	**6.33**	**347**	Pn	**Pn**	**02 28 24.6**	**+1.2**
K31A				lAmb_Lg		02 30 21.4	
	comp=Z,98nm,0.7s						
OXF	**Oxford**	**6.40**	**105**	Pn	**Pn**	**02 28 23.9**	**-0.4**
OXF				lAmb_Lg		02 30 12.9	
	comp=Z,73nm,0.8s						
OXF	**Oxford**	**6.40**	**105**	P	**Pn**	**02 28 24.4**	**+0.1**
	baz=290						
JCT	**Junction City**	**6.43**	**203**	lAmb_Lg		02 30 24.6	
	comp=Z,60nm,0.8s						
Y45A	**Yeager Farm, C**	**6.55**	**111**	lAmb_Lg		02 30 32.4	
	comp=Z,59nm,0.7s						
CPRX	**Cap Rock**	**6.68**	**241**	Pn	**Pn**	**02 28 29.9**	**+1.6**
VBMS	**Vicksburg**	**6.75**	**127**	lAmb_Lg		02 30 36.0	
	comp=Z,44nm,1.2s						
K38A	**Parkersburg**	**6.96**	**26**	Pn	**Pn**	**02 28 32.5**	**+0.6**
K38A				lAmb_Lg		02 30 47.1	
	comp=Z,77nm,0.7s						
Q24A	**Divide**	**7.01**	**293**	lAmb_Lg		02 30 42.2	
	comp=Z,39nm,0.8s						
L40A	**Anamosa**	**7.12**	**36**	Pn	**Pn**	**02 28 34.9**	**+0.7**
L40A				lAmb_Lg		02 30 47.1	
	comp=Z,68nm,0.7s						
ECSD	**EROS Data Cent**	**7.28**	**2**	Pn	**Pn**	**02 28 36.9**	**+0.5**
ECSD	**EROS Data Cent**	**7.28**	**2**	P	**Pn**	**02 28 37.1**	**+0.7**
	baz=182						
PLAL	**Pickwick Lake**	**7.32**	**99**	Pn	**Pn**	**02 28 37.9**	**+1.0**
WVT	**Waverly**	**7.32**	**90**	Pn	**Pn**	**02 28 37.6**	**+0.6**
146A	**Union**	**7.50**	**118**	lAmb_Lg		02 31 01.8	
	comp=Z,30nm,0.8s						
USIN	**University of**	**7.51**	**76**	lAmb_Lg		02 30 52.1	
	comp=Z,58nm,0.8s						
ISCO	**Idaho Springs**	**7.65**	**299**	Pn	**Pn**	**02 28 42.4**	**+0.7**
ISCO	**Idaho Springs**	**7.65**	**299**	P	**Pn**	**02 28 42.8**	**+1.1**
	baz=113						
L42A	**Oliver, Polo**	**7.88**	**43**	Pn	**Pn**	**02 28 44.7**	**0.0**
Z47A	**Carrollton**	**7.94**	**112**	lAmb_Lg		02 31 22.7	
	comp=Z,38nm,1.3s						
I37A	**Lemond, Waseca**	**8.01**	**18**	lAmb_Lg		02 31 11.0	
	comp=Z,35nm,0.7s						
SUSD	**Miller**	**8.14**	**349**	lAmb_Lg		02 31 16.0	
	comp=Z,46nm,0.9s						
JFWS	**Jewell Farm**	**8.24**	**36**	lAmb_Lg		02 31 17.2	
	comp=Z,56nm,0.7s						
PHWY	**Pilot Hill**	**8.25**	**309**	Pn	**Pn**	**02 28 50.8**	**+0.8**
PHWY				lAmb_Lg		02 31 21.3	
	comp=Z,25nm,0.8s						
N23A	**Red Feather La**	**8.36**	**305**	Pn	**Pn**	**02 28 52.9**	**+1.4**
N23A				lAmb_Lg		02 31 24.0	
	comp=Z,68nm,0.9s						
N23A	**Red Feather La**	**8.36**	**305**	P	**Pn**	**02 28 53.2**	**+1.8**
	baz=119						
M44A	**Midewin, Midew**	**8.47**	**52**	lAmb_Lg		02 31 19.2	
	comp=Z,70nm,0.8s						
MNTX	**Cornudas Mount**	**8.49**	**239**	Pn	**Pn**	**02 28 54.0**	**+1.0**
MNTX				lAmb_Lg		02 31 24.8	
	comp=Z,24nm,0.9s						
SFIN	**Lafayette**	**8.63**	**60**	lAmb_Lg		02 31 25.8	
	comp=Z,64nm,0.7s						
HQIL	**Hanson Quary C**	**8.82**	**50**	lAmb_Lg		02 31 36.1	
	comp=Z,60nm,1.0s						
I40A	**Norwalk**	**8.85**	**31**	lAmb_Lg		02 31 32.0	
	comp=Z,33nm,0.7s						
K43A	**Burlington**	**9.09**	**44**	Pn	**Pn**	**02 29 00.4**	**-0.8**
TXAR	**Lajitas Array**	**9.10**	**221**	Pn	**Pn**	**02 29 00.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=46,slow=12,SNR=7.5						
TXAR				Lg	Lg	02 31 34.9	
	comp=Z,1.4nm,0.3s,baz=41,slow=27,SNR=10						
	comp=Z,0.1nm,0.3s						
TXAR	**Lajitas Array**	**9.10**	**221**	Pn	**Pn**	**02 29 01.1**	**-0.3**
SPMN	**Marine on St.**	**9.29**	**18**	lAmb_Lg		02 31 47.9	
	comp=Z,24nm,1.1s						
RSSD	**Black Hills**	**9.40**	**327**	Pn	**Pn**	**02 29 07.1**	**+1.3**
RSSD				lAmb_Lg		02 31 53.3	
	comp=Z,51nm,1.2s						
I42A	**Draeger Farm,**	**9.61**	**37**	Pn	**Pn**	**02 29 08.2**	**-0.1**
I42A				lAmb_Lg		02 32 00.0	
	comp=Z,32nm,0.8s						
K22A	**Casper**	**9.68**	**313**	lAmb_Lg		02 32 08.7	
	comp=Z,32nm,1.0s						
F36A	**Milaca**	**9.74**	**14**	Pn	**Pn**	**02 29 09.8**	**-0.3**
G40A	**Rib Lake**	**10.16**	**28**	Pn	**Pn**	**02 29 16.7**	**+0.8**
S51A	**Beattyville**	**10.70**	**80**	Pn	**Pn**	**02 29 24.5**	**+1.3**
V52A	**Sevierville**	**10.77**	**89**	Pn	**Pn**	**02 29 25.5**	**+1.3**
PDAR	**Pinedale Array**	**11.62**	**307**	Pn	Pn	02 29 41.2	+5.0
	comp=Z,0.1nm,0.3s,baz=118,slow=15,SNR=2.8						
PDAR				Pg		02 30 26.4	
	comp=Z,0.2nm,0.3s,baz=115,slow=16,SNR=4.4						
PDAR				Sn	**Sn**	**02 31 43.9**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=124,slow=19,SNR=1.0						
PDAR				Lg	Lg	02 32 55.3	
	comp=Z,0.6nm,0.3s,baz=113,slow=36,SNR=4.1						
	comp=Z,0.1nm,0.4s						
AGMN	**Agassiz Nation**	**11.87**	**3**	Pn	**Pn**	**02 29 37.0**	**-2.2**
P52A	**Corning**	**12.06**	**70**	Pn	**Pn**	**02 29 41.6**	**-0.3**
B35A	**Bob, Littlefor**	**12.13**	**10**	Pn	**Pn**	**02 29 41.9**	**-0.9**
EYMN	**Ely**	**12.16**	**17**	Pn	**Pn**	**02 29 41.6**	**-1.7**
E43A	**Lone Tree Farm**	**12.38**	**34**	Pn	**Pn**	**02 29 43.9**	**-2.3**
E46A	**Sault Ste Mari**	**13.67**	**40**	Pn	**Pn**	**02 30 01.6**	**-2.2**
ULM	**Lac du Bonnet**	**13.81**	**3**	Pn	**Pn**	**02 30 03.0**	**-2.8**
	comp=Z,0.9nm,0.4s,baz=180,slow=13						
ULM				Sn	**Sn**	**02 32 32.3**	**-6.9**
	comp=Z,0.3nm,0.3s,baz=144,slow=19,SNR=2.0						
ULM				Lg	Lg	02 33 57.0	
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=1.7						
T57A	**Hurt**	**14.16**	**83**	Pn	**Pn**	**02 30 09.4**	**-1.1**

BEO ***07*** *02:32:15.2±0.3, 42.˚04N×20.˚18E, h0km, ML1.7/7*
TIR 07 02:32:13.7, 42.05N×20.09E, h7km±2km, Md2.2, Ml1.7,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCI	**Bajram Curri**	**0.32**	**357**	P	Pg	02 32 20.3	+0.3
	baz=357						
BCI				S	Sg	02 32 25.6	+1.3
	baz=357						
BCI				AMP			
	comp=N,0.9nm,0.3s,baz=357						
PHP	**Peshkopia**	**0.44**	**144**	P	Pg	02 32 21.9	-0.4
	baz=144						
PHP				S	Sb	02 32 29.6	-1.1
	baz=144						
PHP				AMP			
	comp=N,0.3nm,0.2s,baz=144						
TIR	**Tirane**	**0.72**	**194**	*e*Pg	Pb	02 32 29.0	+0.5
TIR				*e*Sg	Sb	02 32 39.1	+0.5
TIR	**Tirane**	**0.72**	**194**	P	Pb	02 32 28.1	-0.4
	baz=194						
TIR				S	Sb	02 32 38.7	+0.1
	baz=194						
TIR				AMP			
	comp=N,0.1nm,0.5s,baz=194						
PDG	**Podgorica**	**0.73**	**302**	*e*Pg	Pg	02 32 27.6	-0.1
PDG				*e*Sg	Sg	02 32 38.1	+0.8
SJES	**Sjenica**	**1.22**	**356**	*e*Pg	Pn	02 32 37.4	+0.1
SJES				*e*Sg	Sn	02 32 55.2	+1.1
SELS	**Selova**	**1.40**	**32**	*e*Pg	Pb	02 32 40.1	0.0
SELS				*e*Sg	Sn	02 32 58.4	+0.1
BARS	**Barje**	**1.49**	**58**	*e*Pg	Pn	02 32 40.2	-0.7
BARS				*e*Sg	Sb	02 33 00.9	+0.1
IVAS	**Ivanjica**	**1.53**	**2**	*e*Pg	Pg	02 32 43.9	+0.9
IVAS				*e*Sg	Sg	02 33 04.2	+1.3
BOSS	**Bosilegrad**	**1.83**	**75**	*e*Pg	Pb	02 32 46.7	-0.7
BOSS				*e*Sg	Sn	02 33 09.4	+0.5
DIVS	**Divibare**	**2.05**	**358**	*e*Sn	Sg	02 33 18.7	-0.9

ROM 07 02:32:56.0±0.0, 42.806N±0.002×13.151E±0.004,
h10km, ML2.2/16, 4C-5D, Error ellipse: s-maj=0.3km
s-min=0.2km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**315**	P	Pg	02 32 58.2	+0.2
NRCA				S	Sg	02 32 59.4	-0.2
T1242	**Castelluccio d**	**0.05**	**60**	P	Pg	02 32 58.4	+0.2
T1242				S	Sg	02 32 59.5	-0.2
T1242				AML	AML		
	comp=N,7795µm,0.4s						
T1242				AML	AML		
	comp=E,3805µm,0.1s						
T1242				AML	AML		
	comp=E,3935µm,0.1s						
T1242				AML	AML		
	comp=N,7795µm,0.4s						
T1242				AML	AML		
	comp=E,3800µm,0.1s						
T1242				AML	AML		
	comp=N,7685µm,0.4s						
T1242				AML	AML		
	comp=E,3940µm,0.1s						
MC2	**Monte Cornacci**	**0.11**	**15**	P	Pg	02 32 59.5	+0.5
MC2				S	Sg	02 33 01.8	+0.7
T1202	**Accumoli, Fraz**	**0.12**	**152**	P	Pg	02 32 59.5	+0.5
T1202				S	Sg	02 33 01.7	+0.6
T1202				AML	AML		
	comp=E,4315µm,0.1s						
T1202				AML	AML		
	comp=N,7245µm,0.4s						
T1202				AML	AML		
	comp=N,7250µm,0.4s						
T1244	**Arquata del Tr**	**0.12**	**114**	P	Pg	02 32 59.6	+0.6
T1244				S	Sg	02 33 01.9	+0.9
T1244				AML	AML		
	comp=N,1385µm,1.1s						
T1244				AML	AML		
	comp=E,1945µm,0.4s						
T1244				AML	AML		
	comp=N,1375µm,1.1s						
T1244				AML	AML		
	comp=E,1940µm,0.4s						
T1244				AML	AML		
	comp=N,1380µm,1.1s						
MMO1	**Montemonaco**	**0.16**	**54**	P	Pg	02 33 00.1	+0.5
MMO1				S	Sg	02 33 02.8	+0.8
MMO1				AML	AML		
	comp=E,2145µm,0.7s						
MMO1				AML	AML		
	comp=N,2785µm,0.6s						
MMO1				AML	AML		
	comp=E,2150µm,0.7s						
T1204	**Amatrice, Fraz**	**0.18**	**137**	P	Pg	02 33 00.5	+0.6
T1204				S	Sg	02 33 03.6	+1.0
T1215	**Vallo di Nera,**	**0.21**	**269**	P	Pg	02 33 01.1	+0.7
T1215				S	Sg	02 33 04.5	+1.2
T1215				AML	AML		
	comp=E,716µm,0.2s						
T1215				AML	AML		
	comp=N,658µm,0.3s						
T1215				AML	AML		
	comp=N,658µm,0.3s						
T1241	**Roccafluvione,**	**0.21**	**76**	P	Pg	02 33 01.1	+0.6
T1241				S	Sg	02 33 04.6	+1.1
T1241				AML	AML		
	comp=E,1425µm,0.3s						
T1241				AML	AML		
	comp=N,1435µm,0.4s						
T1241				AML	AML		
	comp=N,1350µm,0.4s						
T1241				AML	AML		
	comp=E,1425µm,0.3s						
T1241				AML	AML		
	comp=N,1433µm,0.4s						
T1241				AML	AML		
	comp=E,1380µm,0.3s						
T1241				AML	AML		
	comp=N,1354µm,0.4s						
T1241				AML	AML		
	comp=N,1431µm,0.4s						
T1241				AML	AML		
	comp=E,1375µm,0.3s						
T1241				AML	AML		
	comp=N,1353µm,0.4s						
LNSS	**Leonessa**	**0.22**	**202**	P	Pg	02 33 01.1	+0.6
LNSS				S	Sg	02 33 05.1	+1.4
LNSS				AML	AML		
	comp=E,1134µm,0.4s						
LNSS				AML	AML		
	comp=N,996µm,0.7s						
LNSS				AML	AML		
	comp=E,1136µm,0.4s						
LNSS				AML	AML		
	comp=E,1135µm,0.4s						
LNSS				AML	AML		
	comp=N,997µm,0.7s						
FDMO	**Fiordimonte**	**0.23**	**349**	P	Pg	02 33 01.5	+0.6
FDMO				S	Sg	02 33 05.4	+1.3
FDMO				AML	AML		
	comp=E,601µm,0.7s						
FDMO				AML	AML		
	comp=E,600µm,0.7s						
FDMO				AML	AML		
	comp=N,540µm,0.2s						
T1243	**Rocca Santa Ma**	**0.24**	**116**	P	Pg	02 33 01.5	+0.5
T1243				S	Sg	02 33 05.6	+1.1
CESI	**CESI - Serrava**	**0.27**	**318**	P	Pg	02 33 02.2	+0.7
CESI				S	Sb	02 33 06.6	-1.0
CESI				AML	AML		
	comp=N,1090µm,0.5s						
CESI				AML	AML		
	comp=E,550µm,0.9s						
CSP1	**Cessapalombo**	**0.29**	**8**	P	Pg	02 33 02.5	+0.7
CSP1				S	Sb	02 33 07.3	-0.9
CSP1				AML	AML		
	comp=E,1034µm,0.3s						
CSP1				AML	AML		
	comp=N,1074µm,0.3s						
CSP1				AML	AML		
	comp=E,1034µm,0.3s						
CSP1				AML	AML		
	comp=N,1075µm,0.3s						
RM33	**Pellescritta (**	**0.30**	**171**	P	Pg	02 33 02.5	+0.5
RM33				S	Sb	02 33 07.5	-1.0
RM33				AML	AML		
	comp=E,546µm,1.0s						
RM33				AML	AML		
	comp=N,508µm,1.0s						
RM33				AML	AML		
	comp=N,536µm,0.9s						
RM33				AML	AML		
	comp=E,546µm,0.2s						
TERO	**Teramo**	**0.38**	**119**	P	Pg	02 33 04.0	+0.4
TERO				S	Sb	02 33 09.8	-1.0
TERO				AML	AML		
	comp=N,446µm,0.3s						
TERO				AML	AML		
	comp=E,266µm,0.8s						
TERO				AML	AML		
	comp=N,445µm,0.3s						
EL6	**Elcito**	**0.52**	**356**	S	Sb	02 33 16.0	+1.0
ATCC	**AVT- Casa Cast**	**0.53**	**315**	⇓P	Pg	02 33 06.9	+0.5
ATCC				AML	AML		
	comp=N,186µm,0.3s						
ATCC				AML	AML		
	comp=E,272µm,0.3s						
ATCC				AML	AML		
	comp=N,186µm,0.3s						
ATCC				AML	AML		
	comp=N,186µm,0.3s						
FIAM	**Fiamignano**	**0.54**	**183**	⇓P	Pg	02 33 06.6	+0.1
FOSV	**Fossato di Vic**	**0.57**	**330**	⇓P	Pb	02 33 07.5	-0.5
FOSV				S	Sb	02 33 17.0	+0.9
FOSV				AML	AML		
	comp=E,142µm,1.0s						
FOSV				AML	AML		
	comp=N,158µm,0.9s						
FAGN	**Fagnano**	**0.63**	**149**	⇑P	Pb	02 33 09.1	+0.1
FAGN				AML	AML		
	comp=E,176µm,1.2s						
FAGN				AML	AML		
	comp=E,175µm,1.2s						
FAGN				AML	AML		
	comp=N,169µm,1.6s						
PP3	**Marolino**	**0.66**	**30**	⇑P	Pb	02 33 10.3	+0.7
SRES	**S.Oreste - Sor**	**0.74**	**220**	⇑P	Pb	02 33 11.2	+0.3
T0110	**Collepietro**	**0.74**	**141**	⇓P	Pg	02 33 10.4	+0.1
ATVO	**AVT- Monte Val**	**0.79**	**317**	⇓P	Pg	02 33 11.4	+0.2
NARO	**Abbazia di Nar**	**0.91**	**333**	S	Sn	02 33 28.0	+0.1
SACS	**San Casciano d**	**0.91**	**273**	P	Pb	02 33 13.8	-0.1
LPEL	**Lama dei Pelig**	**1.08**	**134**	S	Sb	02 33 31.0	+0.2
MA9	**Marino**	**1.10**	**200**	⇑P	Pb	02 33 15.6	-1.4
PTRJ	**Pietraroja**	**1.77**	**144**	P	Pb	02 33 28.7	+0.2

IDC ***07*** *03:25:20.8±0.7, 54.˚69S×30.˚87W, h0km, mb4.2/10, mbtmp4.2/10, MS3.4/10, Error ellipse: s-maj=27.2km s-min=16.0km az=54.0*
NEIC ***07*** *03:25:23.7±1.1, 54.˚8S±0.˚2×31.˚2W±0.˚2, h13km±6km, mb4.5/11, Error ellipse: s-maj=24.4km s-min=15.6km az=217.0*
ISC 07 03:25:22.2±0.5, 54.72S±0.˚09×31.˚05W±0.˚09, h10km, n43,
σ0s75/33, mb4.5/13, MS3.5/9, South Georgia Island
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.20**	**276**		**Pn**	**03 26 12.6**	**+0.2**
HOPE					**S

BELA Belgrano 2 23.29 182 P P 03 30 30.3 +0.8
TRQA Tornquist 26.77 296 P P 03 31 01.9 -0.1
TRQA IAmb IAmb 03 31 13.7
comp=Z,17nm,1.4s
CPUP Villa Florida 34.29 315 P P 03 32 08.5 +0.1
comp=Z,4.2nm,0.7s,baz=145,slow=7.1,SNR=12
CPUP LR LR 03 46 33.0
comp=Z,24nm,19.4s,baz=168,slow=37
comp=Z,4.2nm,0.7s
CPUP Villa Florida 34.29 315 P P 03 32 08.4 -0.1
CPUP IAmb IAmb 03 32 09.4
comp=Z,5.5nm,0.8s
QSPA South Pole Qui 35.53 180 P P 03 32 19.9 +0.9
comp=Z,5.3nm,0.9s,baz=207,slow=7.8,SNR=20
QSPA LR LR 03 45 10.5
comp=Z,53nm,20.7s,baz=194,slow=34
comp=Z,5.3nm,0.9s
QSPA South Pole Qui 35.53 180 P P 03 32 19.7 +0.7
QSPA IAmb IAmb 03 32 22.8
comp=Z,13nm,1.4s
BDFB Brasilia 41.16 335 P P 03 33 07.6 +0.9
comp=Z,3.0nm,0.6s,baz=132,slow=4.5,SNR=6.2
comp=Z,3.0nm,0.6s
BDFB Brasilia 41.16 335 P P 03 33 07.2 +0.5
BDFB IAmb IAmb 03 33 20.0
comp=Z,10.0nm,1.3s
MAW Mawson 42.51 146 P P 03 33 17.1 +0.1
comp=Z,2.4nm,0.8s,baz=237,slow=7.6,SNR=4.6
MAW LR LR 03 49 41.4
comp=Z,43nm,18.4s,baz=6.0,slow=34
comp=Z,2.4nm,0.8s
PB01 IPOC Station P 44.34 304 P P 03 33 33.1 +0.7
PB01 IAmb IAmb 03 33 34.7
comp=Z,9.8nm,0.9s
PTLB Pontes e Lacer 44.83 320 P P 03 33 36.9 +0.6
PTLB IAmb IAmb 03 33 48.9
comp=Z,5.4nm,0.9s
SIV San Ignacio 45.08 317 P P 03 33 38.0 -0.3
comp=Z,0.8nm,0.6s,baz=180,slow=11,SNR=3.7
comp=Z,0.8nm,0.6s
GO01 Chusmiza 45.37 305 P P 03 33 42.4 +1.3
H10S2 ASCENSION HYDR 47.48 22 T T 04 25 03.2
baz=27,slow=74,SNR=6.0
H10S3 ASCENSION HYDR 47.49 22 T T 04 25 00.3
baz=193,slow=74,SNR=9.4
LPAZ La Paz 47.82 309 P P 03 34 01.8 +1.3
comp=Z,5.6nm,0.7s,baz=152,slow=5.0,SNR=30
comp=Z,5.6nm,0.7s
LPAZ La Paz 47.82 309 P P 03 34 01.1 +0.6
BOSA Boshof 47.86 81 P P 03 34 00.8 +0.6
comp=Z,1.6nm,0.8s,baz=243,slow=6.8,SNR=1.9
comp=Z,1.6nm,0.8s
H10N1 ASCENSION HYDR 48.60 22 T T 04 26 24.3
baz=190,slow=76,SNR=7.1
H10N3 ASCENSION HYDR 48.60 22 T T 04 26 29.7
baz=190,slow=76,SNR=12
H10N2 ASCENSION HYDR 48.62 22 T T 04 26 32.0
baz=190,slow=76,SNR=12
RCBR Riachuelo 48.91 354 LR LR 03 49 58.0
comp=Z,52nm,21.2s,baz=314,slow=30
LBTB Lobatse 50.81 78 P P 03 34 21.7 -1.0
comp=Z,3.5nm,0.9s,baz=234,slow=5.5,SNR=3.8
comp=Z,3.5nm,0.9s
BOAV Boa Vista 61.91 326 P P 03 35 41.5 -0.3
BOAV IAmb IAmb 03 36 22.3
comp=Z,4.8nm,1.2s
MDP Montagnes des 62.27 336 LR LR 04 00 27.5
comp=Z,35nm,21.1s,baz=174,slow=34
KOWA Kowa 72.67 27 LR LR 04 02 58.0
comp=Z,31nm,18.5s,baz=86,slow=31
TORD Torodi Ar. Bea 73.07 33 P P 03 36 52.0 -0.3
comp=Z,2.1nm,0.8s,baz=201,slow=6.3,SNR=10.0
comp=Z,2.1nm,0.8s
RPZ Rata Peaks 80.14 196 LR LR 04 09 13.7
comp=Z,79nm,19.2s,baz=290,slow=33
MDT Midelt 90.11 22 LR LR 04 12 45.9
comp=Z,31nm,18.1s,baz=194,slow=32
FINES FINESS Array B 124.27 29 PKP PKPdf 03 44 19.1 -0.6
comp=Z,2.8nm,1.0s,baz=242,slow=3.0,SNR=3.7
ARCES ARCESS Array B 130.55 23 PKP PKPdf 03 44 31.3 -0.1
comp=Z,2.6nm,0.8s,baz=207,slow=3.0,SNR=2.9
MKAR Makanchi Array 138.57 72 PKP PKPdf 03 44 46.7 -0.5
comp=Z,0.3nm,0.7s,baz=236,slow=1.1,SNR=2.2
ILAR Eielson Array 147.59 314 PKPbc PKPbc 03 45 05.2 +0.1
comp=Z,2.2nm,0.8s,baz=120,slow=2.1,SNR=15
SONM Songino Array 152.85 87 PKPbc PKPbc 03 45 17.7 -0.9
comp=Z,0.9nm,0.7s,baz=236,slow=1.6,SNR=3.9

---

*IDC **07** 03:53:16.4±1.0, 18°15S×172°69W, h0km, mb4.0/7, mbtmp4.1/8, ML4.5/1, MS3.4/4, Error ellipse: s-maj=45.9km s-min=18.8km az=143.0*
*NOU **07** 03:53:17.3, 18°40S×172°27W, h90km, MLv4.6/8, Tonga Islands Region*
*NEIC **07** 03:53:18.5±1.5, 18°2S±0°1×172°1W±0°1, h40km±11km, mb4.6/9, Error ellipse: s-maj=23.5km s-min=8.2km az=52.0*

ISC 07 03:53:19.7±0.6, 18°28S±0°06×172°26W±0°08, h35km, n44, σ2s24/30, mb4.3/11, MS3.6/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.34**	**110**	Pn		**Pn**	**Pn**	**03 53 53.6**	**-2.2**
NIUE				Sn		**Sn**	**Sn**	**03 54 19.4**	**-4.0**
NIUE	**Niue**	**2.34**	**110**	P		**Pn**	**Pn**	**03 53 53.9**	**-1.9**
AFI	**Afiamalu**	**4.37**	**6**	Pn		**Pn**	**Pn**	**03 54 23.3**	**-0.4**
	28nm,0.3s,baz=314,slow=0.3,SNR=7.6								
AFI				Sn		**Sn**	**Sn**	**03 55 10.4**	**-3.1**
	32nm,0.3s,baz=360,slow=20,SNR=4.3								
AFI				LR		LR	LR	03 55 14.4	
	comp=Z,20nm,20.4s,baz=166,slow=27								
	61nm,0.3s								
AFI	**Afiamalu**	**4.37**	**6**	Pn		**Pn**	**Pn**	**03 54 21.3**	**-2.4**
AFI				Sn		**Sn**	**Sn**	**03 55 09.1**	**-4.3**
AFI	**Afiamalu**	**4.37**	**6**	P		**Pn**	**Pn**	**03 54 23.7**	**0.0**
MSVF	**Nonsavu**	**9.24**	**272**	LR		LR	LR	03 58 33.5	
	comp=Z,153nm,20.6s,baz=111,slow=36								
PPT	**Papeete**	**21.59**	**92**	LR		LR	LR	04 04 22.8	
	comp=Z,51nm,19.1s,baz=214,slow=30								
URZ	**Urewera**	**21.97**	**203**	P		**P**	**P**	**03 58 11.6**	**+1.1**
	16nm,1.0s,baz=31,slow=9.1,SNR=3.2								
	16nm,1.0s								
URZ	**Urewera**	**21.97**	**203**	P		**P**	**P**	**03 58 09.3**	**-1.2**
URZ				IAmb		IAmb	IAmb	03 58 19.4	
	comp=Z,23nm,1.1s								
LTZ	**Lake Taylor**	**27.73**	**205**	P		**P**	**P**	**03 59 04.3**	**-0.6**
HNR	**Honiara**	**28.35**	**284**	LR		LR	LR	04 09 09.3	
	comp=Z,1μm,18.4s,baz=218,slow=34								
CTA	**Charters Tower**	**39.16**	**260**	P		**P**	**P**	**04 00 41.9**	**-2.5**
	comp=Z,1.8nm,0.4s,baz=63,slow=9.0,SNR=1.6								
	comp=Z,1.8nm,0.4s								
H11S2	**WAKE ISLAND Hy**	**41.98**	**329**	T		T	T	04 46 21.6	
	baz=154,slow=75								
H11S3	**WAKE ISLAND Hy**	**42.00**	**329**	T		T	T	04 46 22.7	
	baz=154,slow=75								
H11S1	**WAKE ISLAND Hy**	**42.00**	**329**	T		T	T	04 46 25.0	
	baz=154,slow=75								
H11N3	**WAKE ISLAND Hy**	**42.94**	**331**	T		T	T	04 47 32.5	
	baz=151,slow=77,SNR=4.3								
H11N1	**WAKE ISLAND Hy**	**42.95**	**331**	T		T	T	04 47 32.7	
	baz=151,slow=77,SNR=11								
H11N2	**WAKE ISLAND Hy**	**42.96**	**331**	T		T	T	04 47 33.8	
	baz=151,slow=77,SNR=4.7								
STKA	**Stephens Creek**	**43.63**	**243**	LR		LR	LR	04 17 08.8	
	comp=Z,82nm,19.6s,baz=199,slow=33								
BBOO	**Buckleboo**	**48.38**	**242**	P		**P**	**P**	**04 01 56.3**	**-2.2**
WR0	**Warramunga Arr**	**50.12**	**259**	P		**P**	**P**	**04 02 09.4**	**-2.6**
WR0				IAmb		IAmb	IAmb	04 02 38.2	
	comp=Z,4.1nm,1.2s								
WB0	**Warramunga Arr**	**50.29**	**259**	P		**P**	**P**	**04 02 11.4**	**-1.8**
WB0				IAmb		IAmb	IAmb	04 02 20.7	
	comp=Z,12nm,1.4s								
WB2	**Warramunga Arr**	**50.30**	**259**	P		**P**	**P**	**04 02 11.6**	**-1.7**
WB2				IAmb		IAmb	IAmb	04 02 42.5	
	comp=Z,13nm,1.4s								
WRA	**Warramunga Arr**	**50.31**	**259**	P		**P**	**P**	**04 02 11.8**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=97,slow=7.6,SNR=29								
	comp=Z,1.7nm,0.8s								
WRA	**Warramunga Arr**	**50.31**	**259**	P		**P**	**P**	**04 02 11.4**	**-2.0**
ASAR	**Alice Springs**	**50.32**	**254**	P		**P**	**P**	**04 02 12.8**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=85,slow=9.2,SNR=22								
	comp=Z,2.3nm,0.7s								
CASY	**Casey**	**68.27**	**205**	P		**P**	**P**	**04 04 19.4**	**+2.6**
CASY				IAmb		IAmb	IAmb	04 04 47.9	
	comp=Z,12nm,1.4s								
QSPA	**South Pole Qui**	**71.78**	**180**	P		**P**	**P**	**04 04 39.8**	**+1.3**
NVAR	**Mina Array Bea**	**75.75**	**41**	P		**P**	**P**	**04 05 05.3**	**+3.1**
	comp=Z,0.7nm,0.8s,baz=227,slow=9.9,SNR=5.7								
	comp=Z,0.7nm,0.8s								
PMSA	**Palmer Station**	**81.11**	**156**	LR		LR		04 36 36.4	
	comp=Z,23nm,19.0s,baz=54,slow=32								
TXAR	**Lajitas Array**	**81.32**	**55**	P		**P**	**P**	**04 05 36.4**	**+3.4**
	comp=Z,0.6nm,0.8s,baz=215,slow=11,SNR=6.0								
	comp=Z,0.6nm,0.8s								
H03S2	**Juan Fernandez**	**82.71**	**123**	T		T		05 36 41.9	
	baz=248								
H03S1	**Juan Fernandez**	**82.73**	**123**	T		T		05 36 43.0	
	baz=248								
H03S3	**Juan Fernandez**	**82.73**	**123**	T		T		05 36 43.0	
	baz=248								
H03N2	**Juan Fernandez**	**82.82**	**123**	T		T		05 36 45.1	
	baz=256,slow=72,SNR=46								
H03N3	**Juan Fernandez**	**82.83**	**123**	T		T		05 36 46.1	
	baz=256,slow=72,SNR=26								
H03N1	**Juan Fernandez**	**82.84**	**123**	T		T		05 36 46.3	
	baz=256,slow=72,SNR=41								
PDAR	**Pinedale Array**	**83.68**	**41**	P		**P**		**04 05 47.6**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=210,slow=3.5,SNR=11								
	comp=Z,0.9nm,0.7s								
CLL	**Collm**	**146.78**	**354**	*i* PKiKP		**PKPab**		**04 13 00.1**	**+0.9**
	comp=Z,11nm,1.5s								
CLL				*ep*PKiKP		sPKPab		04 13 12.0	+0.7
BRTR	**Keskin Array B**	**149.06**	**319**	PKPbc		**PKiKP**		**04 13 06.8**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=135,slow=2.7,SNR=7.5								
GERES	**GERESS Array B**	**149.13**	**352**	PKPbc		**PKiKP**		**04 13 06.3**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=87,slow=5.5,SNR=3.7								
WATA	**Walderalm**	**150.85**	**355**	*eP*		**PKiKP**		**04 13 10.8**	**+1.4**
	comp=Z,2.0nm,0.3s								
WTTA	**Wattenberg**	**150.92**	**355**	*eP*		**PKiKP**		**04 13 11.3**	**+1.7**
	comp=Z,2.0nm,0.5s								
ABTA	**Abfaltersbach**	**151.34**	**353**	*eP*		**PKiKP**		**04 13 11.5**	**+1.1**
	comp=Z,6.4nm,1.2s								

---

*PRE **07** 04:24:28.5±3.9, 11°13S×34°49E, h10km, mb4.9, ML4.8*
*IDC **07** 04:24:32.0±0.6, 11°52S×34°49E, h0km, mb4.1/15, mbtmp4.2/23, ML4.6/6, MS3.7/16, Error ellipse: s-maj=17.7km s-min=12.8km az=108.0*
*NEIC **07** 04:24:33.8±1.1, 11°5S±0°1×34°4E±0°1, h10km±1km, mb4.6/16, Error ellipse: s-maj=24.7km s-min=12.0km az=304.0*

ISC 07 04:24:33.4±0.4, 11°57S±0°04×34°46E±0°06, h10km, n111, σ1s89/105, mb4.4/25, MS3.6/9, 11D, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARM1	**KARONGA**	**1.70**	**341**	*i* P		**P**	**Pn**	**04 25 02.2**	**-1.0**
KARM1				S		**Sn**	**Sn**	**04 25 23.1**	**-1.9**
LSZ	**Lusaka**	**7.13**	**238**	Pn		**Pn**	**Pn**	**04 26 20.1**	**+2.2**
	28nm,0.3s,baz=62,slow=10,SNR=64								
LSZ				Sn		**Sn**	**Sn**	**04 27 35.1**	**-3.9**
	35nm,0.3s,baz=44,slow=15,SNR=10								
LSZ				Lg		Lg	Lg	04 28 17.1	
	135nm,0.3s,baz=156,slow=21,SNR=8.4								
LSZ				LR		LR	LR	04 29 25.2	
	comp=Z,548nm,19.2s,baz=38,slow=41								
LSZ	**Lusaka**	**7.13**	**238**	Pn		**Pn**	**Pn**	**04 26 19.0**	**+1.1**
LSZ				Sn		**Sn**	**Sn**	**04 27 38.2**	**-0.8**
LSZ	**Lusaka**	**7.13**	**238**	*i* P		**Pn**	**Pn**	**04 26 20.7**	**+2.9**
LSZ				*i* S		**Sn**	**Sn**	**04 27 37.0**	**-2.1**
LSZ	**Lusaka**	**7.13**	**238**	*i* P		**Pn**	**Pn**	**04 26 20.7**	**+2.9**
LSZ				*i* S		**Sn**	**Sn**	**04 27 37.0**	**-2.1**
KIBK	**Kibwezi**	**9.84**	**21**	Pn		**Pn**	**Pn**	**04 26 53.3**	**-1.7**
BLWY	**Bulawayo**	**10.21**	**213**	*i*P		**Pn**	**Pn**	**04 27 01.5**	**+1.3**
BLWY				*e*S		**Sn**	**Sn**	**04 28 49.4**	**-5.5**
BLWY				IAML				04 30 13.3	
	comp=Z,656nm,0.6s								
BLWY	**Bulawayo**	**10.21**	**213**	*i* P		Pn	Pn	04 26 57.0	-3.2
BLWY	**Bulawayo**	**10.21**	**213**	*i* P		Pn	Pn	04 26 57.0	-3.2
MATP	**Matopo**	**10.50**	**212**	Pn		**Pn**	**Pn**	**04 27 05.2**	**+1.0**
	comp=Z,12nm,0.3s,baz=31,slow=14,SNR=178								
MATP				Sn		**Sn**	**Sn**	**04 28 57.8**	**-4.2**
	comp=Z,13nm,0.3s,baz=120,slow=14,SNR=8.1								
MATP				Lg		Lg	Lg	04 30 02.2	
	comp=Z,16nm,0.3s,baz=304,slow=20,SNR=8.5								
MATP				LR		LR	LR	04 31 20.2	
	comp=Z,676nm,18.3s,baz=59,slow=39								
	comp=Z,40nm,0.4s								
MATP	**Matopo**	**10.50**	**212**	*i*P		**Pn**	**Pn**	**04 27 05.2**	**+1.0**
MATP				IAML				04 30 15.5	
	comp=Z,567nm,0.7s								
KMBO	**Kilima Mbogo**	**10.74**	**15**	Pn		**Pn**	**Pn**	**04 27 05.5**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=197,slow=18,SNR=8.3								
KMBO				Sn		Sn	Sn	04 28 59.3	-8.9
	comp=Z,1.0nm,0.3s,baz=252,slow=22,SNR=3.2								
KMBO				Lg		Lg	Lg	04 30 03.7	
	comp=Z,1.9nm,0.3s,baz=99,slow=24,SNR=4.5								
KMBO				LR		LR	LR	04 31 23.6	
	comp=Z,265nm,19.7s,baz=194,slow=38								
	comp=Z,2.3nm,0.3s								
KMBO	**Kilima Mbogo**	**10.74**	**15**	Pn		**Pn**	**Pn**	**04 27 04.8**	**-2.8**
KMBO	**Kilima Mbogo**	**10.74**	**15**	*e*P		Pn	Pn	04 27 00.4	-7.2
KMBO				IAML				04 30 07.0	
	comp=Z,132nm,0.7s								
MBAR	**Mbarara**	**11.51**	**341**	Pn		**Pn**	**Pn**	**04 27 17.1**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=176,slow=21,SNR=1.6								
MBAR				Sn		**Sn**	**Sn**	**04 29 27.6**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=254,slow=23,SNR=1.4								
MBAR				Lg		Lg	Lg	04 30 26.0	
	comp=Z,8.3nm,0.3s,baz=118,slow=14,SNR=5.2								
MBAR				LR		LR	LR	04 31 38.2	
	comp=Z,594nm,18.0s,baz=163,slow=37								
	comp=Z,3.4nm,0.3s								
MBAR	**Mbarara**	**11.51**	**341**	*e*P		Pn	Pn	04 27 09.9	-8.1
MBAR				IAML				04 30 38.5	
	comp=Z,253nm,0.6s								
MBAR	**Mbarara**	**11.51**	**341**	*e*P		Pn	Pn	04 27 24.7	+6.7
MBAR				*e*S		Sn	Sn	04 29 36.6	+10
MUSN	**Musina, Limpop**	**11.53**	**202**	*i*P		**Pn**	**Pn**	**04 27 19.4**	**+1.2**
MUSN	**Musina, Limpop**	**11.53**	**202**	*i* P		Pn	Pn	04 27 14.6	-3.6
MUSN	**Musina, Limpop**	**11.53**	**202**	*i* P		Pn	Pn	04 27 14.6	-3.6
MOPA	**Mopani**	**12.23**	**193**	*e*P		**Pn**	**Pn**	**04 27 28.7**	**+0.9**
MOPA	**Mopani**	**12.23**	**193**	*i* P		**Pn**	**Pn**	**04 27 27.4**	**-0.4**
MOPA	**Mopani**	**12.23**	**193**	*i* P		**Pn**	**Pn**	**04 27 27.4**	**-0.4**
LEPH	**Lephalale, Lim**	**13.76**	**207**	*i*P		**Pn**	**Pn**	**04 27 47.9**	**-0.9**
LEPH				IAML				04 32 05.0	
	comp=Z,161nm,0.6s								
OPO	**Ambohidratompo**	**14.12**	**121**	Pn		**Pn**	**Pn**	**04 27 53.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=297,slow=13,SNR=8.6								
OPO				Sn		**Sn**	**Sn**	**04 30 25.6**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=274,slow=20,SNR=2.5								
	comp=Z,3.3nm,0.4s								
CRLN	**Carolina, Mapu**	**14.95**	**196**	*e*P		**Pn**	**Pn**	**04 28 06.7**	**+1.8**
SLR	**Silverton**	**15.25**	**202**	*i*P		**Pn**	**Pn**	**04 28 08.6**	**-0.4**
VOI	**Vohitsoka**	**15.64**	**133**	P		**Pn**	**Pn**	**04 28 16.9**	**+2.8**
LBTB	**Lobatse**	**15.79**	**211**	Pn		**Pn**	**Pn**	**04 28 14.5**	**-1.5**
	comp=Z,4.7nm,0.3s,baz=22,slow=13,SNR=35								
LBTB				Sn		**Sn**	**Sn**	**04 31 03.6**	**-7.6**
	comp=Z,4.2nm,0.3s,baz=337,slow=9.3,SNR=4.6								
LBTB				Lg		Lg	Lg	04 32 46.5	
	comp=Z,4.1nm,0.3s,baz=310,slow=8.0,SNR=5.6								
LBTB				LR		LR	LR	04 34 38.5	
	comp=Z,245nm,18.2s,baz=36,slow=38								
	comp=Z,19nm,0.5s								
LBTB	**Lobatse**	**15.79**	**211**	Pn		**Pn**	**Pn**	**04 28 14.1**	**-1.9**
LBTB	**Lobatse**	**15.79**	**211**	*e*P		**Pn**	**Pn**	**04 28 13.3**	**-2.7**
LBTB	**Lobatse**	**15.79**	**211**	*i* P		**Pn**	**Pn**	**04 28 14.1**	**-1.9**
LBTB				*i* S		Sn	Sn	04 31 03.1	-8.1
LBTB	**Lobatse**	**15.79**	**211**	*i* P		**Pn**	**Pn**	**04 28 14.1**	**-1.9**
LBTB				*i* S		Sn	Sn	04 31 03.1	-8.1
KSR	**Koster**	**15.90**	**206**	*e*P		**Pn**	**Pn**	**04 28 16.2**	**-1.3**
POGA	**Pongola**	**15.90**	**189**	P		**Pn**	**Pn**	**04 28 18.9**	**+1.5**
POGA				IAmb		IAmb	IAmb	04 28 21.5	
	comp=Z,46nm,0.8s								
POGA	**Pongola**	**15.90**	**189**	*i*P		**Pn**	**Pn**	**04 28 20.5**	**+3.1**
NWCL	**Newcastle**	**16.64**	**194**	*e*P		**Pn**	**Pn**	**04 28 27.5**	**+0.6**
PRYS	**Parys**	**16.67**	**203**	*i*P		**Pn**	**Pn**	**04 28 25.4**	**-2.0**
SWZ	**Schweizer**	**17.74**	**208**	*e*P		**Pn**	**Pn**	**04 28 38.1**	**-2.6**
SNKL	**Senekal, Frees**	**17.76**	**200**	*e*P		**Pn**	**Pn**	**04 28 40.7**	**-0.3**
FOMA	**Nahampoana Res**	**17.84**	**140**			**Pn**	**Pn**	**04 28 43.8**	**+2.0**
FOMA				IAmb		IAmb	IAmb	04 28 47.5	
	comp=Z,36nm,1.1s								
TSUM	**Tsumeb**	**17.94**	**243**	P		**Pn**	**Pn**	**04 28 42.9**	**-0.4**
	comp=Z,3.8nm,0.4s,baz=65,slow=15,SNR=8.6								
TSUM				S		Sn	Sn	04 31 54.3	-9.3
	comp=Z,18nm,0.9s,baz=275,slow=15,SNR=3.3								
TSUM				Lg		Lg	Lg	04 33 57.2	
	comp=Z,1.0nm,0.3s,baz=121,slow=21,SNR=1.8								
TSUM				LR		LR	LR	04 35 56.3	
	comp=Z,319nm,19.1s,baz=68,slow=38								
TSUM	**Tsumeb**	**17.94**	**243**	P		**Pn**	**Pn**	**04 28 42.7**	**-0.6**
BOSA	**Boshof**	**19.01**	**206**	P		**P**	**P**	**04 28 54.4**	**-1.2**
BOSA				S		Sn	Sn	04 32 21.2	-8.1
	comp=Z,11nm,0.6s,baz=126,slow=18,SNR=4.0								
BOSA				Lg		Lg	Lg	04 34 29.4	
	comp=Z,2.0nm,0.3s,baz=293,slow=21,SNR=5.5								
BOSA				LR		LR	LR	04 36 27.3	
	comp=Z,256nm,18.5s,baz=24,slow=38								
	comp=Z,15nm,0.6s								
BOSA	**Boshof**	**19.01**	**206**	P		**P**	**P**	**04 28 54.3**	**-1.3**
BOSA				IAmb		IAmb	IAmb	04 29 04.2	
	comp=Z,45nm,0.9s								
BOSA	**Boshof**	**19.01**	**206**	*i*P		**P**	**P**	**04 28 55.1**	**-0.5**
BOSA	**Boshof**	**19.01**	**206**	*i* P		**P**	**P**	**04 28 54.4**	**-1.2**
BOSA	**Boshof**	**19.01**	**206**	*i* P		**P**	**P**	**04 28 54.4**	**-1.2**
KSTD	**Kokstad**	**19.55**	**193**	*e*P		**Pn**	**Pn**	**04 29 04.9**	**+2.2**
WIN	**Windhoek**	**19.85**	**234**	*e*P		**P**	**P**	**04 29 07.0**	**+2.2**
HVD	**Gariep Dam**	**20.68**	**202**	*e*P		**P**	**P**	**04 29 15.4**	**+1.5**
HVD				IAmb		IAmb	IAmb	04 29 16.1	
	comp=Z,36nm,0.8s								
UPI	**Upington**	**20.78**	**215**	*e*P		**P**	**P**	**04 29 16.3**	**+1.5**
UPI				IAmb		IAmb	IAmb	04 29 17.6	
	comp=Z,16nm,0.6s								
PKA	**Prieska**	**21.05**	**209**	*e*P		**P**	**P**	**04 29 19.6**	**+1.9**
ARMS	**Ukamas**	**21.41**	**218**	*e*P		**P**	**P**	**04 29 22.4**	**+0.8**
AUGR	**Augrabies**	**21.47**	**216**	*e*P		**P**	**P**	**04 29 22.9**	**+0.6**
BFON	**Badsfontein, M**	**22.45**	**205**	*i*P		**P**	**P**	**04 29 33.5**	**+0.7**
GRAF	**Camdeboo Natio**	**22.56**	**202**	*e*P		**P**	**P**	**04 29 35.6**	**+1.7**
GRAF				IAmb		IAmb	IAmb	04 29 48.6	
	comp=Z,77nm,1.1s								
SOE	**Somerset East**	**22.57**	**200**	P		**P**	**P**	**04 29 34.6**	**+0.6**
SOE	**Somerset East**	**22.57**	**200**	*e*P		**P**	**P**	**04 29 34.9**	**+0.9**
BRAK	**Brakfontein**	**22.77**	**206**	*e*P		**P**	**P**	**04 29 36.8**	**+0.6**
BRAK				IAmb		IAmb	IAmb	04 29 41.9	
	comp=Z,36nm,0.8s								
AUSN	**Aus**	**22.78**	**226**	*e*P		**P**	**P**	**04 29 36.9**	**+0.4**
ROOI	**Rooidraai Farm**	**23.11**	**204**	*e*P		**P**	**P**	**04 29 40.9**	**+1.2**
ROOI				IAmb		IAmb	IAmb	04 29 41.9	
	comp=Z,86nm,1.3s								
GRAN	**Grantham**	**23.53**	**207**	*e*P		**P**	**P**	**04 29 44.5**	**+0.6**
GRAN				IAmb		IAmb	IAmb	04 29 45.5	
	comp=Z,21nm,0.6s								
FRAZ	**Fraserburg**	**23.57**	**209**	*e*P		**P**	**P**	**04 29 45.7**	**+1.4**
	comp=Z,29nm,0.8s								
FRAZ				IAmb		IAmb	IAmb	04 29 46.0	
	comp=Z,29nm,0.8s								
CVNA	**Calvinia**	**24.02**	**212**	*i*P		**P**	**P**	**04 29 50.6**	**+1.9**
MERW	**Merweville**	**24.13**	**208**	*e*P		**P**	**P**	**04 29 51.5**	**+1.8**
SUR	**Sutherland**	**24.22**	**209**	P		**P**	**P**	**04 29 51.9**	**+1.2**
	comp=Z,12nm,0.6s,baz=27,slow=7.2,SNR=28								
SUR				S		S	S	04 34 22.0	+13
	comp=Z,6.9nm,0.8s,baz=52,slow=13,SNR=1.4								
SUR				Lg		Lg	Lg	04 37 04.8	
	comp=Z,0.4nm,0.3s,baz=357,slow=10,SNR=6.0								
SUR				LR		LR	LR	04 39 24.0	
	comp=Z,233nm,18.5s,baz=36,slow=37								
	comp=Z,12nm,0.6s								
SUR	**Sutherland**	**24.22**	**209**	P		**P**	**P**	**04 29 51.2**	**+0.5**
SUR	**Sutherland**	**24.22**	**209**	*i*P		**P**	**P**	**04 29 51.8**	**+1.2**
SUR				IAmb		IAmb	IAmb	04 29 59.6	
	comp=Z,2μm,3.1s								
ATD	**Arta Tunnel**	**24.42**	**20**	LR		LR	LR	04 39 28.3	
	comp=Z,157nm,18.7s,baz=184,slow=37								
CER	**Ceres**	**25.76**	**210**	*eP*		P	P	04 29 43.3	-21
TORD	**Torodi Ar. Bea**	**40.74**	**306**	P		**P**	**P**	**04 32 14.8**	**0.0**
	comp=Z,1.7nm,0.8s,baz=114,slow=7.9,SNR=8.2								
	comp=Z,1.7nm,0.8s								
EIL	**Elat**	**41.01**	**1**	LR		LR	LR	04 49 18.5	
	comp=Z,52nm,20.1s,baz=262,slow=36								
WSAR	**Wadi Sarin**	**41.91**	**34**	LR		LR	LR	04 49 28.1	
	comp=Z,69nm,18.7s,baz=236,slow=36								
DBIC	**Dimbokro**	**43.11**	**293**	LR		LR	LR	04 50 14.5	
	comp=Z,54nm,18.2s,baz=132,slow=36								
**MMAI

mB4.8/41

NIED ***07*** *04:28:50.0, 36.7′17N×140.7′04E, h50km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.94; Mθθ-0.73; Mϕϕ-0.21; Mrθ1.01; Mθϕ-0.46; Mϕr0.85; Fault plane solution: M0 1.64000×10^16 NP1: ϕs248.00000°, δ19.00000°, λ105.00000°. NP2: ϕs52.00000°, δ72.00000°, λ85.00000°.*

GCMT ***07*** *04:28:50.7±0.3, 36.24N±0.02×140.17E±0.03, h46km±1km, MW4.9/86, Moment Tensor Solution. s42,c47; s86,c113; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.31±.15; Mθθ-1.72±.10; Mϕϕ-0.58±.10; Mrθ1.46±.08; Mθϕ-0.62±.06; Mϕr0.92±.06; Best double couple: M0 2.75700×10^16 NP1:ϕs61.00000°, δ64.00000°, λ86.00000°. NP2: ϕs250.00000°, δ26.00000°, λ98.00000°. Principal axes: T 2.9220, Plg70.0000°, Azm324.0000°; N -0.3230, Plg3.0000°, Azm63.0000°; P -2.5920, Plg19.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***07*** *04:28:50.1, 36.17N×140.05E, h51km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.88; Mθθ-0.88; Mϕϕ0.00; Mrθ0.41; Mθϕ-0.55; Mϕr0.48; Fault plane solution: M0 1.21000×10^16 NP1:ϕs49.08000°, δ61.84000°, λ72.51000°. NP2:ϕs262.81000°, δ32.77000°, λ119.31000°. Principal axes: T 1.1039, Plg68.0000°, Azm284.0000°; N 0.1977, Plg15.0000°, Azm58.0000°; P -1.3017, Plg15.0000°, Azm152.0000°;*

JMA ***07*** *04:28:50.0±0.1, 36.2N±0.3×140.0E±0.4, h50km, MD4.9/39, MW4.8/39, SW IBARAKI PREF*

JMA Felt IV J1 at SW IBARAKI PREF .

ISC 07 04:28:49.4±0.4, 36.14N±0.03×140.11E±0.03, h60km±3km, h60km:pP-P, n857, σ1§40/732, mb4.9/239, 42C-50D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.11**	**37**		**Pn**	**04 28 58.1**	**-0.3**
JYT	**Yasato**	**0.11**	**37**	P	**Pn**	**04 28 58.2**	**-0.3**
JYT				S	**Sn**	**04 29 03.9**	**-1.1**
JYT	**Yasato**	**0.11**	**37**	A	A	04 28 58.2	
	comp=E,1μm,0.3s,comp=E,2μm,0.3s						
JIHU	**Itakohorinouch**	**0.38**	**117**	A	A	04 29 00.6	
	comp=E,278nm,1.7s,comp=E,440nm,0.7s						
JHYU	**Hitachinakayam**	**0.43**	**62**	A	A	04 29 01.0	
	comp=E,114nm,1.0s,comp=E,316nm,0.4s						
TOK	**Tokyo**	**0.53**	**212**	A	A	04 29 01.6	
	comp=E,355nm,1.2s,comp=E,241nm,1.0s						
JSMT	**Sammumatsuo**	**0.57**	**151**	A	A	04 29 02.8	
	comp=E,161nm,0.7s,comp=E,143nm,1.8s						
JHO	**Hitachi**	**0.60**	**38**	A	A	04 29 02.7	
	comp=E,101nm,0.9s,comp=E,167nm,1.2s						
JAG	**Ashikaga**	**0.60**	**298**	⇓P	**Pn**	**04 29 01.9**	**-0.6**
JAG				⇓S	**Sn**	**04 29 10.1**	**-2.0**
JAG	**Ashikaga**	**0.60**	**298**	A	A	04 29 01.9	
	comp=E,104nm,2.5s,comp=E,72nm,0.8s						
JCN	**Nagara**	**0.72**	**174**	A	A	04 29 04.5	
	comp=E,127nm,0.7s,comp=E,104nm,1.2s						
JHU	**Hanno**	**0.73**	**247**	A	A	04 29 03.6	
	comp=E,34nm,1.7s,comp=E,36nm,1.6s						
CHOJ	**Chosi**	**0.75**	**125**	A	A	04 29 05.3	
	comp=E,43nm,0.5s,comp=E,34nm,0.4s						
JSB	**Shiboa**	**0.84**	**350**	A	A	04 29 05.3	
	comp=E,145nm,0.9s,comp=E,109nm,0.9s						
JSGW	**Sagamiharawaka**	**0.91**	**234**	A	A	04 29 06.2	
	comp=E,54nm,1.3s,comp=E,92nm,1.2s						
JKT	**Katashina**	**0.94**	**312**	⇓P	**Pn**	**04 29 06.0**	**-0.7**
JKT				⇓S	**Sn**	**04 29 18.8**	**-0.6**
JKT	**Katashina**	**0.94**	**312**	A	A	04 29 06.0	
	comp=E,62nm,0.4s,comp=E,74nm,1.3s						
JKUC	**kamogawauchiur**	**0.98**	**176**	A	A	04 29 08.1	
	comp=E,55nm,1.8s,comp=E,62nm,1.7s						
JYO	**Yokosk**	**0.98**	**202**	A	A	04 29 07.7	
	comp=E,76nm,1.1s,comp=E,72nm,1.9s						
JRY	**Ryogami san**	**0.99**	**263**	⇓P	**Pn**	**04 29 07.0**	**-0.2**
JRY				⇓S	**Sn**	**04 29 19.4**	**-1.2**
JRY	**Ryogami san**	**0.99**	**263**	A	A	04 29 07.0	
	comp=E,23nm,1.0s,comp=E,39nm,3.6s						
JFFD	**Fukushimafurud**	**1.02**	**21**	A	A	04 29 08.1	
	comp=E,73nm,1.0s,comp=E,59nm,1.3s						
JOD2	**Odawara 2**	**1.21**	**224**	⇓P	**Pn**	**04 29 10.6**	**+0.5**
JOD2				⇓eS	**Sn**	**04 29 25.9**	**+0.3**
JOD2	**Odawara 2**	**1.21**	**224**	A	A	04 29 10.6	
	comp=E,41nm,1.3s,comp=E,33nm,1.1s						
JGK	**Kuni**	**1.26**	**290**	A	A	04 29 10.7	
	comp=E,24nm,1.2s,comp=E,27nm,1.6s						
JFY	**Yanaizu**	**1.31**	**346**	⇓P	**Pn**	**04 29 11.6**	**0.0**
JFY				⇓eS	**Sn**	**04 29 28.4**	**+0.4**
JFY	**Yanaizu**	**1.31**	**346**	A	A	04 29 11.6	
	comp=E,34nm,1.3s,comp=E,22nm,1.2s						
JUON	**Uonuma**	**1.36**	**322**	⇓P	**Pn**	**04 29 12.0**	**-0.2**
JUON	**Uonuma**	**1.36**	**322**	A	A	04 29 12.0	
	comp=E,12nm,3.9s,comp=E,13nm,2.1s						
JFK	**Kawauchi**	**1.37**	**26**	⇓P	**Pn**	**04 29 12.3**	**0.0**
JFK				⇓S	**Sn**	**04 29 29.1**	**-0.5**
JFK	**Kawauchi**	**1.37**	**26**	A	A	04 29 12.3	
	comp=E,36nm,0.9s,comp=E,30nm,0.9s						
JFT	**Otama**	**1.39**	**7**	⇓P	**Pn**	**04 29 12.8**	**+0.2**
JFT	**Otama**	**1.39**	**7**	A	A	04 29 12.8	
	comp=E,50nm,2.9s,comp=E,46nm,1.2s						
JYN	**Shimob**	**1.43**	**244**	P	**Pn**	**04 29 14.4**	**+1.3**
JYN				eS	**Sn**	**04 29 31.7**	**+0.8**
JYN	**Shimob**	**1.43**	**244**	A	A	04 29 14.4	
	comp=E,31nm,0.9s,comp=E,29nm,0.7s						
JHTM	**Izuhatsuma**	**1.48**	**218**	A	A	04 29 14.6	
	comp=E,65nm,1.2s,comp=E,70nm,1.3s						
JFNN	**Fujinakano**	**1.50**	**231**	P	**Pn**	**04 29 15.0**	**+1.0**
JFNN				eS	**Sn**	**04 29 32.5**	**0.0**
JFNN	**Fujinakano**	**1.50**	**231**	A	A	04 29 15.0	
	comp=E,27nm,1.2s,comp=E,40nm,1.8s						
JIM2	**Oshima 3**	**1.52**	**202**	A	A	04 29 15.4	
	comp=E,61nm,0.4s,comp=E,65nm,0.8s						
MJAR	**Matsushiro Arr**	**1.59**	**285**	P	**Pn**	**04 29 13.0**	**-2.3**
	1μm,0.7s,baz=93,slow=7.0,SNR=807						
MJAR				S	**Sn**	**04 29 28.9**	**-5.9**
	1μm,0.7s,baz=89,slow=18,SNR=14						
MJAR				LR	LR	04 30 05.2	
	comp=Z,3μm,21.2s,baz=136,slow=54						
MAJO	**Matsushiro**	**1.59**	**285**	Pn	**Pn**	**04 29 15.4**	**+0.1**
MAJO				Sn	**Sn**	**04 29 32.5**	**-2.4**
MAJO	**Matsushiro**	**1.59**	**285**	*d* iP	**Pn**	**04 29 15.6**	**+0.3**
JNT	**Takato**	**1.62**	**261**	A	A	04 29 16.1	
	comp=E,19nm,2.7s,comp=E,15nm,1.2s						
JNG	**Nsakai**	**1.65**	**280**	A	A	04 29 16.3	
	comp=E,9.0nm,1.3s,comp=E,15nm,1.1s						
JMST	**Minamisoumatoc**	**1.70**	**21**	A	A	04 29 17.9	
	comp=E,30nm,0.6s,comp=E,16nm,1.0s						
JIZS	**Izushimoda**	**1.74**	**216**	A	A	04 29 18.3	
	comp=E,18nm,1.3s,comp=E,15nm,2.3s						
JTHY	**Toshimahigashi**	**1.75**	**203**	A	A	04 29 18.6	
	comp=E,29nm,1.6s,comp=E,33nm,2.8s						
JYAR	**Yonezawaarcadi**	**1.77**	**1**	A	A	04 29 18.5	
	comp=E,64nm,1.5s,comp=E,27nm,0.9s						
JIZZ	**Izumozaki**	**1.79**	**321**	A	A	04 29 18.4	
	comp=E,43nm,2.2s,comp=E,34nm,2.0s						
JNS	**Sasagawa**	**1.79**	**339**	A	A	04 29 18.6	
	comp=E,8.0nm,5.7s,comp=E,9.0nm,1.8s						
JMM	**Marumori**	**1.81**	**17**	Pn	**Pn**	**04 29 18.4**	**+0.2**
JMM				Sn	**Sn**	**04 29 38.9**	**-1.2**
JMM	**Marumori**	**1.81**	**17**	A	A	04 29 19.4	
	comp=E,19nm,0.6s,comp=E,24nm,1.1s						
JJN	**Nakama**	**1.84**	**302**	A	A	04 29 19.0	
	comp=E,28nm,2.1s,comp=E,13nm,1.3s						
SHZ3	**Shizuoka 3**	**1.88**	**236**	A	A	04 29 20.1	
	comp=E,24nm,1.1s,comp=E,25nm,1.6s						
JNIO	**Niijimaoohara**	**1.91**	**201**	A	A	04 29 20.9	
	comp=E,30nm,2.2s,comp=E,27nm,2.0s						
JNY	**Yasuok**	**1.99**	**248**	A	A	04 29 21.4	
	comp=E,20nm,1.1s,comp=E,26nm,2.5s						
JYS	**Shirataka**	**2.08**	**359**	A	A	04 29 23.0	
	comp=E,44nm,1.3s,comp=E,38nm,1.1s						
JSG	**Sagara**	**2.15**	**228**	A	A	04 29 23.9	
	comp=E,23nm,1.7s,comp=E,24nm,1.7s						
JKKS	**Kakegawashinom**	**2.22**	**232**	A	A	04 29 24.9	
	comp=E,27nm,2.0s,comp=E,17nm,2.0s						
JOU	**Okura**	**2.27**	**11**	A	A	04 29 25.8	
	comp=E,21nm,1.8s,comp=E,29nm,0.8s						
JMKN	**Mikurajimanish**	**2.28**	**191**	A	A	04 29 26.4	
	comp=E,13nm,0.9s,comp=E,9.0nm,0.3s						
JTT	**Ttatey**	**2.29**	**283**	A	A	04 29 25.4	
	comp=E,8.0nm,1.7s,comp=E,10.0nm,2.4s						
JGF	**Kuroka**	**2.30**	**257**		**Pn**	**04 29 27.1**	**+2.2**
JGF	**Kuroka**	**2.30**	**257**	A	A	04 29 25.7	
	comp=E,16nm,1.5s,comp=E,13nm,2.0s						
HMMJ	**Hamamatsu 2**	**2.33**	**237**	A	A	04 29 26.4	
	comp=E,6.0nm,2.7s,comp=E,10.0nm,2.4s						
JSD	**Sado**	**2.40**	**323**	Pn	**Pn**	**04 29 25.1**	**-1.2**
JYA	**Atsumi**	**2.47**	**353**	A	A	04 29 28.4	
	comp=E,15nm,0.8s,comp=E,17nm,0.9s						
JAO	**Obara**	**2.48**	**250**	A	A	04 29 28.4	
	comp=E,11nm,0.9s,comp=E,8.0nm,2.4s						
JOFO	**Osakifurukawao**	**2.54**	**14**	A	A	04 29 29.7	
	comp=E,63nm,1.3s,comp=E,51nm,2.4s						
INU	**Inuyama**	**2.64**	**254**	Pn	**Pn**	**04 29 29.1**	**-0.4**
JYK	**Kaneyama**	**2.78**	**4**	A	A	04 29 33.0	
	comp=E,8.0nm,1.3s,comp=E,8.0nm,2.9s						
JICN	**Ichinomiyachia**	**2.79**	**254**	A	A	04 29 32.7	
	comp=E,15nm,1.3s,comp=E,23nm,2.3s						
JHJ	**Hachijo jima 2**	**3.02**	**185**	P	**Pn**	**04 29 35.1**	**+0.3**
	3μm,0.4s,baz=347,slow=3.9,SNR=62						
JHJ				S	**Sn**	**04 30 09.6**	**-0.3**
	2μm,0.3s,baz=122,slow=23,SNR=10						
JHJ2	**Mitsune**	**3.03**	**185**	Pn	**Pn**	**04 29 34.6**	**-0.2**
JRG	**Rokugo**	**3.28**	**7**	A	A	04 29 40.1	
	comp=E,7.0nm,3.9s,comp=E,8.0nm,0.9s						
JYW	**Yuwa**	**3.40**	**1**	A	A	04 29 41.6	
	comp=E,12nm,4.4s,comp=E,19nm,1.9s						
JFM	**Mihama**	**3.41**	**261**	A	A	04 29 41.4	
	comp=E,3.0nm,1.5s,comp=E,7.0nm,1.6s						
JSZI	**Iwateshizukuis**	**3.66**	**10**	A	A	04 29 45.4	
	comp=E,21nm,2.5s,comp=E,19nm,1.5s						
JKY	**Yasaka**	**4.10**	**264**	A	A	04 29 51.0	
	comp=E,3.0nm,6.3s,comp=E,5.0nm,2.9s						
JKEN	**Kujiedanarisaw**	**4.25**	**17**	A	A	04 29 53.9	
	comp=E,9.0nm,0.7s,comp=E,13nm,0.8s						
JMIK	**Miki**	**4.34**	**254**	A	A	04 29 54.5	
	comp=E,4.0nm,1.1s,comp=E,5.0nm,1.8s						
JTM	**Tenmabayashi**	**4.70**	**9**	Pn	**Pn**	**04 29 59.7**	**+2.0**
JAHD	**Aomorihigashid**	**5.21**	**10**	A	A	04 30 07.1	
	comp=E,7.0nm,2.5s,comp=E,7.0nm,1.7s						
JMN	**Monobe**	**5.66**	**247**	Pn	**Pn**	**04 30 11.4**	**+0.5**
JHS	**Saijyo**	**5.81**	**261**	Pn	**Pn**	**04 30 12.4**	**-0.6**
JEW	**Eniwo**	**6.77**	**8**	Pn	**Pn**	**04 30 25.4**	**-0.6**
NMR	**Nemuro--Hokkai**	**8.42**	**29**	*e*P	**Pn**	**04 30 45.9**	**-2.6**
NMR				eS	**Sn**	**04 32 15.3**	**-6.7**
RUSJ	**Misakicho**	**8.87**	**25**	*e*P	**Pn**	**04 30 55.4**	**+0.6**
RUSJ				eS	**Sn**	**04 32 33.1**	**-0.1**
KSBUS	**Busan**	**8.99**	**268**	Pn	**Pn**	**04 30 55.3**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**9.03**	**27**	P	**Pn**	**04 30 55.3**	**-1.7**
YUK				eS	**Sn**	**04 32 34.0**	**-3.1**
YUK				pmax	pmax		
	comp=Z,199nm,0.3s						
YUK				pmax	pmax		
	comp=N,157nm,0.4s						
YUK				pmax	pmax		
	comp=E,215nm,0.5s						
JCJ	**Chichijima**	**9.19**	**168**	P	**Pn**	**04 30 56.6**	**-2.6**
	comp=E,399nm,0.4s,baz=286,slow=22,SNR=43						
JCJ				S	**Sn**	**04 32 34.0**	**-7.1**
	comp=E,162nm,0.4s,baz=287,slow=23,SNR=5.6						
JCJ	**Chichijima**	**9.19**	**168**	Pn	**Pn**	**04 30 56.5**	**-2.8**
VLA	**Vladivostok**	**9.42**	**320**	*e*P	**Pn**	**04 31 00.8**	**-1.5**
MSHR	**Mys Shultsa**	**9.45**	**316**	*e*P	**Pn**	**04 31 04.2**	**+1.4**
SEHB	**SEOHWA**	**9.70**	**286**	Pn	**Pn**	**04 31 04.9**	**-1.3**
KSCHJ	**Chungju**	**9.80**	**278**	Pn	**Pn**	**04 31 06.9**	**-0.6**
KSRS	**Korea Array**	**9.86**	**281**	P	**Pn**	**04 31 11.3**	**+2.9**
	comp=E,14nm,0.7s,baz=93,slow=14,SNR=61						
KSRS				LR	LR	04 34 48.9	
	comp=E,613nm,19.3s,baz=90,slow=37						
KSAR	**Wonju Array Be**	**9.89**	**281**	Pn	**Pn**	**04 31 08.4**	**-0.4**
KSAR	**Wonju Array Be**	**9.89**	**281**	P	**Pn**	**04 31 08.4**	**-0.4**
KS19	**Wonju Array Si**	**9.91**	**282**	Pn	**Pn**	**04 31 12.9**	**+3.9**
USRK	**Ussuriysk Ar.**	**10.16**	**325**	P	**Pn**	**04 31 16.1**	**+3.6**
	comp=E,50nm,0.9s,baz=141,slow=12,SNR=44						
USRK	**Ussuriysk Ar.**	**10.16**	**325**	Pn	**Pn**	**04 31 15.4**	**+2.9**
USRK	**Ussuriysk Ar.**	**10.16**	**325**	P	**Pn**	**04 31 15.4**	**+2.9**
TJN	**Taejon**	**10.30**	**275**	Pn	**Pn**	**04 31 17.5**	**+3.2**
TJN	**Taejon**	**10.30**	**275**	P	**Pn**	**04 31 17.5**	**+3.2**
NAWB	**Namwon**	**10.36**	**270**	Pn	**Pn**	**04 31 14.7**	**-0.4**
YSS	**Yuzh-Sakhalins**	**10.98**	**10**	*e*P	**Pn**	**04 31 23.1**	**-0.5**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				MLR	MLR		
	comp=Z,1μm,14.6s						
MDJ	**Mudanjiang**	**11.65**	**320**	P	**Pn**	**04 31 36.7**	**+3.9**
MDJ				PP	**PnPn**	**04 31 45.8**	**+5.0**
MDJ				S	**Sn**	**04 33 48.2**	**+7.0**
MDJ				pmax	pmax		
	comp=Z,53nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,90nm,3.5s						
MDJ				LR	LR		
	comp=Z,430nm,11.2s						
MDJ				LR	LR		
	comp=Z,410nm,12.2s						
MDJ				LR	LR		
	comp=Z,850nm,20.9s						
CN2	**Changchun**	**13.59**	**309**	*e*P	**P**	**04 32 04.1**	**-2.1**
CN2				S	**Sn**	**04 34 29.0**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,20.0s						
JOW	**Kunigami**	**13.70**	**231**	LR	LR	04 37 37.1	
	comp=Z,177nm,19.0s,baz=273,slow=39						
SNY	**Shenyang**	**14.05**	**299**	⇓P	**Pn**	**04 32 07.4**	**+2.1**
SNY				S	**Sn**	**04 34 44.4**	**+4.8**
SNY				pmax	pmax		
	comp=Z,28nm,1.2s						
SNY				pmax	pmax		
	comp=Z,150nm,3.8s						
SNY				LR	LR		
	comp=Z,390nm,12.8s						
SNY				LR	LR		
	comp=Z,420nm,14.3s						
SNY				LR	LR		
	comp=Z,600nm,16.7s						
TYV	**Tymovskoe**	**14.83**	**6**	*e*P	**P**	**04 32 20.0**	**+0.1**
TYV				pmax	pmax		
	comp=Z,39nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,2.4s						
DL2	**Dalian**	**14.93**	**286**	P	**P**	**04 32 21.7**	**+0.6**
DL2				pmax	pmax		
	comp=Z,44nm,0.7s						
DL2				LR	LR		
	comp=Z,440nm,13.8s						
DL2				LR	LR		
	comp=Z,510nm,14.2s						
YOJ	**Yonaguni jima**	**18.77**	**236**	P	**P**	**04 33 03.1**	**-0.5**
YOJ	**Yonaguni jima**	**18.77**	**236**	P	**P**	**04 33 03.1**	**-0.5**
YOJ				pmax	pmax		
	comp=Z,167nm,1.1s						
BJI	**Beijing**	**19.22**	**289**	P	**P**	**04 33 08.5**	**0.0**
BJI				S	**S**	**04 36 39.3**	**-3.7**
BJI				sS	**sS**	**04 37 05.5**	**+1.5**
BJI				pmax	pmax		
	comp=Z,22nm,1.1s						
BJT	**Baijiatuau**	**19.23**	**289**	P	**P**	**04 33 08.1**	**-0.5**
BJT	**Baijiatuau**	**19.23**	**289**	P	**P**	**04 33 08.1**	**-0.5**
BJT				pmax	pmax		
	comp=Z,22nm,0.8s						
YHNB	**Yeheng**	**19.76**	**240**	P	**P**	**04 33 14.7**	**+0.1**
YHNB				IAmb	IAmb	04 33 28.9	
	comp=Z,76nm,1.5s						
ZEA	**Zeya**	**19.76**	**337**	*e*P	**P**	**04 33 12.7**	**-1.5**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.3s						
ZEA				pmax	pmax		
	comp=E,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.4s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						
NACB	**Ninganchiao**	**19.92**	**238**	P	**P**	**04 33 16.9**	**+0.6**
XLT	**XiLinHaoTe**	**19.92**	**300**	*e*P	**P**	**04 33 14.4**	**-1.8**
XLT				S	**S**	**04 36 51.3**	**-5.8**
XLT				pmax	pmax		
	comp=Z,19nm,1.0s						
XLT				pmax	pmax		
	comp=Z,130nm,4.4s						
XLT				LR	LR		
	comp=Z,410nm,16.0s						
XLT				LR	LR		
	comp=Z,470nm,16.9s						
HNS	**HongShan**	**20.38**	**281**	⇑P	**P**	**04 33 19.0**	**-2.1**
HNS				eS	**S**	**04 36 58.0**	**-8.0**
HNS				pmax	pmax		
	comp=Z,18nm,0.9s						
HNS				LR	LR		
	comp=Z,160nm,14.8s						
HNS				LR	LR		
	comp=Z,260nm,16.1s						
HNS				LR	LR		
	comp=Z,260nm,20.2s						
SSLB	**Suanglung**	**20.62**	**239**	P	**P**	**04 33 24.5**	**+0.6**
PEA0B	**Petropavlovsk-**	**20.99**	**31**	P	**P**	**04 33 28.6**	**+1.1**
PEA0B				IAmb	IAmb	04 33 48.5	
	comp=Z,76nm,1.1s						
PEA0B	**Petropavlovsk-**	**20.99**	**31**	P	**P**	**04 33 28.6**	**+1.1**
PEA0B				pmax	pmax		
	comp=Z,76nm,1.2s						
PETK	**Petropavlovsk-**	**20.99**	**31**	P	**P**	**04 33 28.3**	**+0.8**
	comp=E,6.1nm,0.9s,baz=220,slow=14,SNR=6.3						
PETK				LR	LR	04 41 22.8	
	comp=Z,144nm,19.9s,baz=226,slow=36						
	comp=E,6.1nm,0.9s						
PET	**Petropavlovsk**	**21.33**	**32**	*e*P	**P**	**04 33 33.2**	**+2.1**
PET				eS	**S**	**04 37 24.7**	**+0.2**
PET				pmax	pmax		
	comp=Z,47nm,1.1s						
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
WHN	**Wuhan**	**22.20**	**263**	⇑P	**P**	**04 33 44.6**	**+3.9**
WHN				pmax	pmax		
	comp=Z,62nm,0.8s						
LYN	**LuoYang**	**22.58**	**274**	*e*P	**P**	**04 33 45.0**	**+0.2**
LYN				S	**S**	**04 37 39.1**	**-8.9**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LYN				pmax	pmax		
	comp=Z,40nm,4.0s						
LYN				LR	LR		
	comp=Z,160nm,16.9s						
LYN				LR	LR		
	comp=Z,170nm,19.4s						
LYN				LR	LR		
	comp=Z,210nm,26.0s						
HHC	**Hu-ho-hao-te**	**22.78**	**291**	*e*P	**P**	**04 33 47.6**	**+0.6**
HHC				S	**S**	**04 37 48.9**	**-2.7**
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,3.8s						
HHC				LR	LR		
	comp=Z,390nm,14.6s						
HHC				LR	LR		
	comp=Z,490nm,15.5s						
GUMO	**Guam**	**22.86**	**168**	P	**P**	**04 33 49.3**	**+1.6**
	comp=Z,47nm,0.4s,baz=15,slow=12,SNR=2.7						
	comp=Z,47nm,0.4s						
GUMO	**Guam**	**22.86**	**168**	P	**P**	**04 33 49.6**	**+1.8**
GUMO	**Guam**	**22.86**	**168**	P	**P**	**04 33 49.6**	**+1.8**
GUMO				pmax	pmax		
	comp=Z,127nm,1.0s						
MA2	**Magadan**	**24.45**	**13**	P	**P**	**04 34 02.8**	**+0.4**
	comp=Z,43nm,0.6s,baz=204,slow=8.8,SNR=25						
MA2				LR	LR	04 44 03.3	
	comp=Z,118nm,19.9s,baz=188,slow=38						
	comp=Z,43nm,0.6s						
MA2	**Magadan**	**24.45**	**13**	P	**P**	**04 34 02.5**	**+0.2**
MA2				IAmb	IAmb	04 34 22.8	
	comp=Z,51nm,0.8s						
MA2	**Magadan**	**24.45**	**13**	*d* iP	**P**	**04 34 02.2**	**-0.1**
MA2				pmax	pmax		
	comp=Z,42nm,0.6s						
XAN	**Xi'an**	**25.55**	**275**	P	**P**	**04 34 11.3**	**-1.4**
XAN				PP	**PnPn**	**04 34 53.9**	**+2.8**
XAN				S	**S**	**04 38 32.5**	**-3.7**
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,190nm,4.6s						
XAN				LR	LR		
	comp=Z,210nm,15.8s						
XAN				LR	LR		
	comp=Z,220nm,15.1s						
XAN				LR	LR		
	comp=Z,240nm,15.6s						
ENH	**Enshi**	**26.22**	**266**	P	**P**	**04 34 18.2**	**-0.4**
ENH				IAmb	IAmb	04 34 22.5	
	comp=Z,29nm,0.6s						
YAK	**Yakutsk**	**26.73**	**349**	P	**P**	**04 34 21.8**	**-1.1**
	comp=Z,17nm,0.4s,baz=155,slow=6.4,SNR=1.6						
YAK				LR	LR	04 45 06.5	
	comp=Z,216nm,19.0s,baz=95,slow=37						
	comp=Z,17nm,0.4s						
YAK	**Yakutsk**	**26.73**	**349**	*e*P	**P**	**04 34 21.5**	**-1.4**
YAK				*e**PP	**pP**	**04 34 38.7**	**+1.1**
YAK				eS	**S**	**04 38 51.7**	**-2.3**
YAK				*e**SS	**sS**	**04 39 15.0**	**-4.2**
YAK				pmax	pmax		
	comp=Z,30nm,0.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.8s						
YAK				smax	smax		
	comp=E,43nm,2.4s						
YAK				smax	smax		
	comp=N,56nm,2.2s						
ULN	**Ulaanbaatar**	**27.01**	**306**	P	**P**	**04 34 26.5**	**+0.7**
ULN	**Ulaanbaatar**	**27.01**	**306**	*c* iP	**P**	**04 34 24.6**	**-1.2**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SONM	**Songino Array**	**27.43**	**306**	P	**P**	**04 34 28.7**	**-0.9**
	comp=Z,9.1nm,0.8s,baz=108,slow=7.5,SNR=21						
SONM				PcP	**PcP**	**04 37 47.4**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=126,slow=3.2,SNR=3.8						
	comp=Z,9.1nm,0.8s						
SONM	**Songino Array**	**27.43**	**306**	P	**P**	**04 34 29.4**	**-0.2**
SONM	**Songino Array**	**27.43**	**306**	P	**P**	**04 34 29.4**	**-0.2**
SONM				pmax	pmax		
	comp=Z,13nm,1.0s						
SEY	**Seymchan**	**27.88**	**12**	P	**P**	**04 34 34.2**	**+1.0**
	comp=Z,8.1nm,0.7s,baz=215,slow=7.4,SNR=21						
	comp=Z,8.1n

PZH S **S** **04 40 49.4 +1.1**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.1s
PZH LR LR
comp=Z,460nm,23.5s
PZH LR LR
comp=Z,410nm,25.3s
PZH LR LR
comp=Z,540nm,23.0s
ADK Adak 34.26 49 P **P** **04 35 30.1 +0.7**
ADK IAmb IAmb 04 35 50.0
comp=Z,12nm,0.8s
ADK Adak 34.26 49 P **P** **04 35 30.1 +0.7**
ADK pmax pmax
comp=Z,12nm,0.8s
BILL Bilibino 35.18 17 *e*P **P** **04 35 36.3 -0.9**
BILL pmax pmax
comp=Z,17nm,1.2s
TIXI Tiksi 36.06 354 P **P** **04 35 44.9 +0.3**
comp=Z,6.7nm,0.6s,baz=270,slow=22,SNR=3.0
TIXI LR LR 04 51 39.3
comp=Z,71nm,18.1s,baz=180,slow=38
comp=Z,6.7nm,0.6s
TIXI Tiksi 36.06 354 P **P** **04 35 44.4 -0.2**
TIXI IAmb IAmb 04 36 15.0
comp=Z,10.0nm,0.9s
TIXI Tiksi 36.06 354⇑ *i*P **P** **04 35 44.1 -0.5**
TIXI pmax pmax
comp=Z,8.0nm,0.7s
GOMU GeErMu 36.31 284 P **P** **04 35 47.6 -0.1**
GOMU PcP **PcP** **04 38 12.6 +1.2**
GOMU S **S** **04 41 23.6 -0.9**
GOMU pmax pmax
comp=Z,11nm,0.7s
GOMU pmax pmax
comp=Z,61nm,5.4s
GOMU LR LR
comp=Z,72nm,13.3s
GOMU LR LR
comp=Z,99nm,15.5s
GOMU LR LR
comp=Z,100nm,15.4s
CRAI Chiangrai 38.15 256 P **P** **04 36 03.1 0.0**
GTOI Gorontalo 38.73 208 P **P** **04 36 05.5 -2.3**
comp=Z,13nm,1.0s
FAKI Fak Fak 39.54 192 P **P** **04 36 15.2 +0.6**
FAKI IAmb IAmb 04 36 19.2
comp=Z,22nm,0.8s
DGZ Jazzator, Alta 40.08 307 *c i*P **P** **04 36 19.2 +0.3**
DGZ pmax pmax
comp=Z,31nm,0.8s
SANI Sanana 40.21 202 P **P** **04 36 20.9 +0.7**
comp=Z,19nm,0.5s
CMAR Chiang Mai Arr 40.26 255 P **P** **04 36 20.5 -0.1**
comp=Z,2.1nm,0.5s,baz=45,slow=7.4,SNR=8.6
CMAR PcP **PcP** **04 38 25.4 +1.9**
comp=Z,3.1nm,0.9s,baz=27,slow=2.9,SNR=7.9
CMAR LR LR 04 55 08.2
comp=Z,61nm,18.1s,baz=60,slow=39
comp=Z,2.1nm,0.5s
WMQ Urumqi 40.31 298 *e*P **P** **04 36 22.1 +1.2**
WMQ pmax pmax
comp=Z,39nm,0.9s
WMQ LR LR
comp=Z,78nm,20.9s
LSA Lhasa 41.25 276 P **P** **04 36 28.6 -0.6**
LSA IAmb IAmb 04 36 31.3
comp=Z,20nm,0.9s
LSA Lhasa 41.25 276 P **P** **04 36 29.2 0.0**
LSA Lhasa 41.25 276 P **P** **04 36 28.6 -0.6**
LSA pmax pmax
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 41.75 313 P **P** **04 36 32.0 -0.4**
ZAA0 IAmb IAmb 04 36 33.7
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 41.75 313 P **P** **04 36 32.4 0.0**
comp=Z,20nm,0.7s,baz=91,slow=6.6,SNR=48
ZALV PcP **PcP** **04 38 28.2 +0.5**
comp=Z,11nm,0.6s,baz=101,slow=2.9,SNR=10.0
ZALV LR LR 04 53 30.7
comp=Z,66nm,20.4s,baz=74,slow=36
comp=Z,20nm,0.7s
ZSN Zaisan 41.89 303 *e*P **P** **04 36 34.3 +0.6**
ZSN Zaisan 41.89 303 *e*P **P** **04 36 34.3 +0.6**
baz=303
SHL Shillong 42.35 270 P **P** **04 36 37.2 -0.7**
SHL IAmb IAmb 04 36 37.8
comp=Z,16nm,0.7s
SHL Shillong 42.35 270 P **P** **04 36 37.2 -0.7**
SHL pmax pmax
comp=Z,16nm,0.7s
NRIK Noril'sk 43.65 336 P **P** **04 36 47.8 +0.2**
comp=Z,9.2nm,0.9s,baz=107,slow=10,SNR=12
NRIK PcP **PcP** **04 38 34.8 +1.0**
comp=Z,8.5nm,0.7s,baz=89,slow=2.6,SNR=4.8
NRIK LR LR 04 56 10.8
comp=Z,152nm,18.7s,baz=124,slow=38
comp=Z,9.2nm,0.9s
NRIK Noril'sk 43.65 336 P **P** **04 36 47.1 -0.4**
NRIK IAmb IAmb 04 36 48.4
comp=Z,17nm,1.1s
NRIK Noril'sk 43.65 336 *c i*P **P** **04 36 47.0 -0.6**
MK31 Makanchi Array 43.71 303 P **P** **04 36 48.0 -0.5**
MK31 IAmb IAmb 04 36 49.8
comp=Z,23nm,0.9s
MK31 Makanchi Array 43.71 303 P **P** **04 36 48.0 -0.5**
MK31 pmax pmax
comp=Z,23nm,0.9s
MKAR Makanchi Array 43.71 303 P **P** **04 36 49.0 +0.5**
comp=Z,19nm,0.8s,baz=92,slow=9.6,SNR=81
MKAR PcP **PcP** **04 38 35.0 +0.5**
comp=Z,3.9nm,0.7s,baz=75,slow=5.1,SNR=4.3
MKAR LR LR 04 55 37.8
comp=Z,125nm,19.0s,baz=93,slow=37
comp=Z,19nm,0.8s
MKAR Makanchi Array 43.71 303 P **P** **04 36 48.6 +0.2**
BRDH Bariadhala 43.88 266 LR LR 04 57 34.3
comp=Z,142nm,19.6s,baz=4.0,slow=40
MAKZ Makanchi 43.92 303 P **P** **04 36 49.9 -0.3**
MAKZ IAmb IAmb 04 36 51.6
comp=Z,29nm,0.9s
MAKZ Makanchi 43.92 303 P **P** **04 36 49.9 -0.3**
MAKZ pmax pmax
comp=Z,29nm,0.9s
SEM Semipalatinsk 44.66 308 *e*P **P** **04 36 55.1 -1.1**
SEM pmax pmax
comp=Z,12nm,1.2s
SEM Semipalatinsk 44.66 308 *e*P **P** **04 36 55.1 -1.1**
comp=Z,12nm,1.2s,baz=308
TAPN Taplejung 44.96 274 *e*P **P** **04 36 59.9 +0.9**
comp=Z,14nm,0.5s
N16K Nishlik Lake 45.27 38 P **P** **04 37 01.9 +1.2**
baz=266
P16K Nushagak River 45.59 40 P **P** **04 37 04.1 +0.9**
baz=268
KURK Kurchatov 45.66 309 P **P** **04 37 03.6 -0.3**
KURK Kurchatov 45.66 309 *c i*P **P** **04 37 03.6 -0.3**
KURK pmax pmax
comp=Z,53nm,0.9s
KURBB Kurchatov Arra 45.73 309 LR LR 04 57 04.8
comp=Z,140nm,19.2s,baz=55,slow=37
RAMN Ramite 46.02 274 *e*P **P** **04 37 06.2 -1.2**
comp=Z,31nm,0.6s
JIRN Jiri 46.05 275 *e*P **P** **04 37 08.4 +0.7**
comp=Z,57nm,0.7s
O17K Koliganek Bris 46.08 39 P **P** **04 37 08.7 +1.8**
baz=268
GUN Gumba 46.20 276 *e*P **P** **04 37 09.5 +0.6**
PDGK Podgornoye 46.27 298 P **P** **04 37 08.6 -0.4**
Q16K King Salmon 46.28 40 P **P** **04 37 10.0 +1.4**
baz=270
SHLS Shalkode 46.33 298 *e*P **P** **04 37 07.2 -2.2**
SHLS pmax pmax
comp=Z,9.0nm,0.7s
SHLS Shalkode 46.33 298 *e*P **P** **04 37 07.3 -2.2**
comp=Z,9.0nm,0.7s,baz=298
P17K Kvichak River 46.40 39 P **P** **04 37 11.4 +1.9**
baz=270
R17K Ugashik Creek 46.43 42 P **P** **04 37 11.3 +1.5**
baz=271
UZB Uzynbulak 46.64 298 *e*P **P** **04 37 12.0 +0.1**
UZB pmax pmax
comp=Z,8.0nm,1.0s
UZB Uzynbulak 46.64 298 *e*P **P** **04 37 12.1 +0.1**
comp=Z,8.3nm,1.0s,baz=298

N18K Kilae Creek 46.70 37 P **P** **04 37 14.1 +2.2**
N18K Kilae Creek 46.70 37 P **P** **04 37 13.6 +1.7**
baz=268
PKI Pulchoki 46.72 276 *e*P **P** **04 37 12.8 -0.1**
comp=Z,74nm,1.1s
PKIN Phulchoki 46.73 276 *e*P **P** **04 37 13.0 +0.1**
comp=Z,28nm,0.6s
TTA Tatalina 46.75 34 P **P** **04 37 13.8 +1.4**
baz=266
KPKS Kokpek 46.81 299 *c i*P **P** **04 37 13.4 +0.2**
KPKS pmax pmax
comp=Z,11nm,0.9s
KPKS Kokpek 46.81 299⇑ *i*P **P** **04 37 13.4 +0.2**
comp=Z,11nm,0.9s,baz=299
SVW2 Sparrevohn 46.87 37 P **P** **04 37 13.2 0.0**
SVW2 IAmb IAmb 04 37 35.8
comp=Z,20nm,0.8s
CHIR Chirikof Islan 46.92 44 P **P** **04 37 15.3 +1.7**
baz=273
DMN Daman 46.95 276 *e*P **P** **04 37 14.9 +0.3**
P18K Big Mountain, 47.02 39 P **P** **04 37 15.6 +1.1**
P18K IAmb IAmb 04 37 36.7
comp=Z,31nm,1.2s
P18K Big Mountain, 47.02 39 P **P** **04 37 14.9 +0.5**
baz=270
O18K Koktuh Hills 47.03 39 P **P** **04 37 16.6 +2.0**
O18K IAmb IAmb 04 37 36.9
comp=Z,20nm,0.9s
O18K Koktuh Hills 47.03 39 P **P** **04 37 16.2 +1.7**
baz=270
GKN Gorkha 47.16 277 *e*P **P** **04 37 16.7 +0.5**
comp=Z,275nm,1.0s
L19K White Mountain 47.25 35 P **P** **04 37 16.5 +0.3**
baz=268
ARXS Arharly 47.25 300 *i* P **P** **04 37 16.8 +0.2**
N19K Bonanza Creek 47.40 37 P **P** **04 37 18.3 +0.9**
baz=270
M19K Big River Lodg 47.46 36 P **P** **04 37 18.2 +0.3**
baz=269
O19K Port Alsworth 47.48 38 P **P** **04 37 18.9 +1.0**
baz=270
K20K Telida 47.66 34 P **P** **04 37 20.4 +1.1**
K20K IAmb IAmb 04 37 41.7
comp=Z,18nm,0.8s
K20K Telida 47.66 34 P **P** **04 37 19.7 +0.3**
baz=268,SNR=8.7
J20K Nowinta River 47.66 33 P **P** **04 37 21.4 +2.1**
J20K IAmb IAmb 04 37 41.5
comp=Z,19nm,1.1s
J20K Nowinta River 47.66 33 P **P** **04 37 19.4 +0.1**
baz=267
A21K Barrow 47.69 23 P **P** **04 37 19.9 +0.5**
baz=258
L20K Farewell, AK 47.71 35 P **P** **04 37 20.4 +0.6**
baz=269
DANN Dangsing 47.72 277 *e*P **P** **04 37 21.4 +0.7**
comp=Z,345nm,0.9s
Q19K Cape Douglas, 47.84 40 P **P** **04 37 19.4 -1.5**
baz=272
TARG Taragay, Kyrgy 47.86 297 P **P** **04 37 21.7 0.0**
TARG Taragay, Kyrgy 47.86 297 P **P** **04 37 21.7 0.0**
TARG pmax pmax
comp=Z,27nm,0.8s
CHKK Chushkaly 47.92 300 *e*P **P** **04 37 21.7 0.0**
CHKK Chushkaly 47.92 300 *e*P **P** **04 37 21.7 0.0**
baz=300
IMAR Indian Mountai 47.95 30 P **P** **04 37 22.5 +0.9**
P19K Oil Pt 48.03 39 P **P** **04 37 22.1 -0.2**
baz=272
MDOK Medeo 48.05 299 *i* P **P** **04 37 23.7 +0.9**
MDOK Medeo 48.05 299 *i* P **P** **04 37 23.7 +0.9**
baz=299
M20K Styx River 48.05 36 P **P** **04 37 22.4 -0.1**
baz=270
G21K Allakaket 48.09 30 P **P** **04 37 22.7 0.0**
baz=265
OHAK Old Harbor 48.12 42 P **P** **04 37 24.2 +1.3**
OHAK IAmb IAmb 04 37 38.1
comp=Z,17nm,0.8s
OHAK Old Harbor 48.12 42 P **P** **04 37 23.0 +0.1**
baz=274
AAA Alma-Ata 48.13 299 *c i*P **P** **04 37 24.4 +1.1**
AAA Alma-Ata 48.13 299⇑ *i*P **P** **04 37 24.4 +1.1**
baz=299
F21K Alatna River 48.17 29 P **P** **04 37 23.4 +0.2**
baz=265
H21K Melozitna Rive 48.32 31 P **P** **04 37 24.9 +0.5**
H21K IAmb IAmb 04 37 46.4
comp=Z,11nm,1.0s
H21K Melozitna Rive 48.32 31 P **P** **04 37 25.1 +0.7**
baz=267
O20K Slope Mountain 48.33 38 P **P** **04 37 25.4 +0.8**
baz=272
KUU Kurty 48.37 300 *c i*P **P** **04 37 25.0 -0.1**
KUU pmax pmax
comp=Z,30nm,1.2s
KUU Kurty 48.37 300⇑ *i*P **P** **04 37 25.1 -0.1**
comp=Z,30nm,1.2s,baz=300
PYUN Piuthan 48.45 278 *e*P **P** **04 37 26.6 +0.5**
comp=Z,350nm,1.1s
CHUM Lake Minchumin 48.46 33 P **P** **04 37 26.3 +0.9**
baz=269
KDAK Kodiak Island 48.46 41 LR LR 04 57 04.1
comp=Z,50nm,22.0s,baz=243,slow=35
KDAK Kodiak Island 48.46 41 P **P** **04 37 26.4 +0.9**
KDAK Kodiak Island 48.46 41 *c i*P **P** **04 37 26.5 +0.9**
KDAK pmax pmax
comp=Z,25nm,0.9s
KDAK Kodiak Island 48.46 41 P **P** **04 37 25.3 -0.3**
baz=274
PPLA Purkeypile 48.50 34 P **P** **04 37 26.1 +0.1**
PPLA Purkeypile 48.50 34 P **P** **04 37 26.3 +0.3**
baz=270
N20K Mount Spurr 48.50 37 P **P** **04 37 26.8 +0.9**
baz=271
SPCR Spurr Chakacha 48.50 37 P **P** **04 37 26.7 +0.7**
baz=271
Q20K Shuyak Island 48.51 40 P **P** **04 37 26.0 0.0**
baz=273
CAST Castle Rocks 48.55 34 P **P** **04 37 27.4 +1.2**
CAST IAmb IAmb 04 37 48.6
comp=Z,14nm,1.0s
CAST Castle Rocks 48.55 34 P **P** **04 37 27.4 +1.2**
baz=269,SNR=6.5
I21K Tanana 48.64 31 P **P** **04 37 28.9 +2.0**
I21K IAmb IAmb 04 37 49.2
comp=Z,13nm,1.1s
I21K Tanana 48.64 31 P **P** **04 37 27.9 +1.0**
baz=268
F22K John River 48.69 28 P **P** **04 37 28.9 +1.7**
baz=266
SKT Skwentna 48.81 36 P **P** **04 37 28.6 +0.3**
baz=271
HOM Homer 48.84 39 P **P** **04 37 29.4 +0.9**
baz=273
G22K Bettles 48.91 29 P **P** **04 37 29.3 +0.4**
baz=267
H22K Ishtalitna Cre 48.92 30 P **P** **04 37 29.7 +0.7**
baz=268
HNR Honiara 49.03 154 LR LR 05 00 38.3
comp=Z,546nm,18.4s,baz=307,slow=39
BPAW Bear Paw Mtn. 49.04 33 P **P** **04 37 31.2 +1.2**
BPAW IAmb IAmb 04 37 58.8
comp=Z,6.9nm,0.9s
BPAW Bear Paw Mtn. 49.04 33 P **P** **04 37 30.2 +0.1**
baz=270
KTH Kantishna Hill 49.07 34 P **P** **04 37 31.6 +1.3**
TKM2 Tokmak 2 49.14 299 P **P** **04 37 32.1 +0.9**
SNR=24
TKM2 Tokmak 2 49.14 299 P **P** **04 37 31.7 +0.4**
MLY Manley 49.16 32 P **P** **04 37 31.8 +0.8**
MLY IAmb IAmb 04 37 53.1
comp=Z,14nm,0.9s
MLY Manley 49.16 32 P **P** **04 37 32.0 +1.1**
baz=269,SNR=11
SUA Susitna One 49.20 36 P **P** **04 37 32.6 +1.3**
SUA Susitna One 49.20 36 P **P** **04 37 32.5 +1.2**
baz=272
NRN Naryn 49.24 297 P **P** **04 37 32.0 -0.2**
NRN IAmb IAmb 04 37 49.7
comp=Z,8.3nm,0.8s
NRN Naryn 49.24 297 P **P** **04 37 32.0 -0.2**
NRN pmax pmax
comp=Z,8.0nm,0.8s
BRSE Bradley Lake S 49.29 39 P **P** **04 37 32.1 +0.1**
baz=274
TRF Thorofare Moun 49.36 34 P **P** **04 37 33.4 +0.8**

TRF IAmb IAmb 04 37 55.9
comp=Z,13nm,0.9s
TRF Thorofare Moun 49.36 34 P **P** **04 37 32.1 -0.5**
baz=271
D23K Nanushuk River 49.36 26 P **P** **04 37 32.0 -0.3**
baz=266
CUT Chulitna 49.39 35 P **P** **04 37 33.0 +0.4**
baz=272
COLD Coldfoot 49.44 29 P **P** **04 37 32.2 -0.8**
baz=268
MTN Manton Dam 49.45 192 P **P** **04 37 33.3 -0.2**
C23K Itkillik River 49.45 25 P **P** **04 37 33.1 +0.1**
baz=265
M22K Willow 49.49 36 P **P** **04 37 34.0 +0.7**
baz=273
G23K Bananza Creek 49.49 29 P **P** **04 37 33.5 +0.1**
baz=268
BRZS Berezniki 49.54 308 *c i*P **P** **04 37 33.6 -0.3**
BRZS pmax pmax
comp=Z,6.0nm,0.6s
BRZS Berezniki 49.54 308⇑ *i*P **P** **04 37 33.6 -0.3**
comp=Z,6.0nm,0.6s,baz=308
H23K Yukon River 49.67 31 P **P** **04 37 36.1 +1.4**
H23K IAmb IAmb 04 37 57.4
comp=Z,21nm,1.1s
H23K Yukon River 49.67 31 P **P** **04 37 35.1 +0.3**
baz=270,SNR=13
SGDS Sogindy 49.68 300 *e*P **P** **04 37 35.6 +0.4**
SGDS Sogindy 49.68 300 *e*P **P** **04 37 35.6 +0.4**
baz=300
BTLS Baital 49.69 302 *i* P **P** **04 37 35.1 -0.1**
BTLS pmax pmax
comp=Z,10.0nm,0.8s
BTLS Baital 49.69 302 *i* P **P** **04 37 35.1 -0.1**
comp=Z,9.6nm,0.8s,baz=302
RC01 Rabbit Creek A 49.70 37 P **P** **04 37 34.2 -0.8**
baz=274
BWN Browne 49.71 33 P **P** **04 37 36.8 +1.8**
TOLK Toolik Lake Re 49.74 27 P **P** **04 37 34.7 -0.6**
baz=267
O22K Cooper Landing 49.75 38 P **P** **04 37 35.4 0.0**
baz=274
KSH Kashi 49.82 294 P **P** **04 37 40.7 +4.3**
KSH pmax pmax
comp=Z,13nm,1.0s
USP Ospenovka 49.82 299 P **P** **04 37 37.0 +0.7**
SNR=9.7
NEA2 Nenana 49.88 32 P **P** **04 37 37.2 +0.9**
NEA2 Nenana 49.88 32 P **P** **04 37 36.6 +0.3**
baz=271,SNR=12
SEW Seward 49.91 38 P **P** **04 37 36.3 -0.3**
baz=275
MCK McKinley 49.96 33 P **P** **04 37 38.0 +1.0**
MCK IAmb IAmb 04 38 01.4
comp=Z,13nm,0.8s
MCK McKinley 49.96 33 P **P** **04 37 38.0 +1.0**
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 49.96 33 P **P** **04 37 37.1 +0.2**
baz=272
PMR Palmer 49.97 36 P **P** **04 37 36.9 -0.1**
baz=274
AAK Ala-Archa 49.99 299 LR LR 04 59 56.3
comp=Z,199nm,19.4s,baz=80,slow=38
AAK Ala-Archa 49.99 299 P **P** **04 37 38.0 +0.3**
AAK IAmb IAmb 04 37 39.4
comp=Z,9.7nm,0.9s
AAK Ala-Archa 49.99 299 *c i*P **P** **04 37 38.3 +0.6**
AAK pmax pmax
comp=Z,8.0nm,0.9s
RND Reindeer 50.01 34 P **P** **04 37 38.5 +1.1**
RND Reindeer 50.01 34 P **P** **04 37 38.5 +1.1**
RND pmax pmax
comp=Z,27nm,1.1s
D24K Happy Valley 50.04 26 P **P** **04 37 37.2 -0.3**
baz=268
GHO Glory Hole Cre 50.05 36 P **P** **04 37 38.9 +1.1**
UCH Uchtor 50.09 298 P **P** **04 37 40.4 +1.6**
SNR=8.4
OTUK Ortayu 50.10 306 P **P** **04 37 37.7 -0.6**
C24K Franklin Bluff 50.11 25 P **P** **04 37 37.7 -0.3**
baz=267
E24K Your Creek 50.12 28 P **P** **04 37 38.5 +0.3**
baz=269
WAT1 Susitna Watana 50.17 34 P **P** **04 37 38.2 -0.4**
baz=273
MDM Murphy Dome 50.23 32 P **P** **04 37 40.0 +1.0**
KNK Knik Glacier 50.30 36 P **P** **04 37 40.6 +1.1**
KNK IAmb IAmb 04 38 01.1
comp=Z,14nm,0.8s
KNK Knik Glacier 50.30 36 P **P** **04 37 39.7 +0.2**
baz=274
WRH Wood River Hil 50.30 32 P **P** **04 37 41.0 +1.4**
WRH IAmb IAmb 04 38 08.4
comp=Z,9.5nm,0.8s
SML Sawmill 50.33 36 P **P** **04 37 40.9 +1.0**
SML Sawmill 50.33 36 P **P** **04 37 40.3 +0.4**
baz=274
F24K Squaw Lake 50.34 28 P **P** **04 37 40.4 +0.6**
baz=270
H24K Noodor Dome 50.36 31 P **P** **04 37 41.0 +1.0**
H24K IAmb IAmb 04 38 02.5
comp=Z,15nm,1.0s
H24K Noodor Dome 50.36 31 P **P** **04 37 41.1 +1.0**
baz=271,SNR=7.8
TCOL CIGO, UAF Yank 50.39 32 P **P** **04 37 40.3 +0.2**
baz=272
COLA College 50.39 32 P **P** **04 37 40.5 +0.3**
baz=272
BVAR Borovoye Array 50.40 313 LR LR 04 58 57.7
comp=Z,98nm,21.9s,baz=98,slow=36
PWL Port Wells 50.40 37 P **P** **04 37 40.8 +0.5**
baz=275
CCB Clear Creek Bu 50.42 32 P **P** **04 37 41.0 +0.6**
CCB IAmb IAmb 04 38 15.2
comp=Z,9.3nm,1.1s
PSI Prapat 50.43 239 P **P** **04 37 42.2 +0.9**
PSI pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 50.46 313 P **P** **04 37 40.9 0.0**
BRVK IAmb IAmb 04 37 43.8
comp=Z,12nm,1.1s
BRVK Borovoye 50.46 313 *c i*P **P** **04 37 40.8 0.0**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 50.50 299 P **P** **04 37 42.4 +0.9**
SNR=6.3
G24K Hadweenzic Riv 50.51 29 P **P** **04 37 42.0 +1.0**
baz=271
RPSI Rantau Prapat 50.51 238 P **P** **04 37 42.2 +0.5**
RPSI IAmb IAmb 04 37 44.8
comp=Z,8.2nm,0.8s
WAT6 Susitna Watana 50.56 35 P **P** **04 37 42.9 +1.3**
baz=274
POKR Poker Plat Res 50.56 31 P **P** **04 37 42.5 +1.1**
POKR Poker Plat Res 50.56 31 P **P** **04 37 42.4 +0.9**
baz=272
M23K Glacier View 50.62 36 P **P** **04 37 42.9 +0.9**
baz=275
DHY Denali Highway 50.69 34 P **P** **04 37 43.3 +0.6**
DHY IAmb IAmb 04 38 10.8
comp=Z,13nm,0.9s
DHY Denali Highway 50.69 34 P **P** **04 37 43.1 +0.5**
baz=274,SNR=5.1
AML Almayashu 50.70 298 P **P** **04 37 44.6 +1.2**
SNR=38
HDA Harding Lake 50.80 32 P **P** **04 37 43.7 +0.5**
HDA Harding Lake 50.80 32 P **P** **04 37 43.8 +0.5**
baz=273,SNR=9.2
SCM Sheep Creek Mo 50.80 36 P **P** **04 37 43.1 -0.3**
SCM Sheep Creek Mo 50.80 36 P **P** **04 37 43.1 -0.3**
SCM pmax pmax
comp=Z,35nm,1.0s
SCM Sheep Creek Mo 50.80 36 P **P** **04 37 43.8 +0.4**
baz=275
IL31 50.81 32 P **P** **04 37 44.3 +1.0**
ILAR Eielson Array 50.81 32 P **P** **04 37 44.4 +1.1**
comp=Z,6.7nm,0.7s,baz=271,slow=6.3,SNR=79
ILAR pP **pP** **04 37 56.1 -2.9**
comp=Z,5.1nm,0.9s,baz=271,slow=4.7,SNR=7.0
ILAR LR LR 05 00 05.8
comp=Z,35nm,20.0s,baz=278,slow=37
comp=Z,6.7nm,0.7s
ILAR Eielson Array 50.81 32 P **P** **04 37 44.1 +0.8**
D25K Kavik River 50.92 26 P **P** **04 37 44.9 +0.8**
baz=270,SNR=5.4
H25K Birch Creek 51.18 30 P **P** **04 37 46.8 +0.7**

baz=273,SNR=5.0
F25K Christian Rive 51.20 28 P P 04 37 46.3 -0.1
baz=272,SNR=5.1
E25K Arctic Village 51.22 28 P P 04 37 47.7 +1.3
baz=271
M24K Tolsona, Glenn 51.32 35 P P 04 37 48.0 +0.7
baz=276
PRP Porcupine Dome 51.34 31 P P 04 37 48.7 +1.2
PRP IAmb IAmb 04 38 09.9
comp=Z,14nm,0.8s
PRP Porcupine Dome 51.34 31 P P 04 37 48.1 +0.6
baz=274
K24K Donnelly Dome 51.35 33 P P 04 37 48.1 +0.6
baz=275,SNR=7.2
FYU Fort Yukon 51.41 30 P P 04 37 48.4 +0.6
J25K Salcha River, 51.47 32 P P 04 37 47.0 -1.4
baz=274
KLU Klutina 51.51 36 P P 04 37 50.3 +1.6
KLU Klutina 51.51 36 P P 04 37 48.1 -0.6
baz=276
PAX Paxson 51.56 34 P P 04 37 49.9 +0.7
PAX IAmb IAmb 04 38 10.9
comp=Z,9.8nm,1.1s
PAX Paxson 51.56 34 P P 04 37 49.9 +0.7
PAX pmax pmax
comp=Z,10.0nm,1.1s
PAX Paxson 51.56 34 P P 04 37 48.7 -0.5
baz=276
BMAR Burnt Mountain 51.62 28 P P 04 37 50.9 +1.4
DIV Divide 51.62 37 P P 04 37 50.5 +1.0
EYAK Cordova Ski Ar 51.70 37 P P 04 37 48.6 -1.5
baz=277
HARP HAARP 51.77 35 P P 04 37 49.7 -0.9
baz=276
RIDG Independent Ri 51.77 33 IAmb IAmb 04 38 11.6
comp=Z,11nm,0.8s
RIDG Independent Ri 51.77 33 P P 04 37 50.7 +0.1
baz=276
F26K Sheenjek River 51.77 28 P P 04 37 50.5 -0.1
baz=273,SNR=8.9
C27K Jago River 51.85 26 P P 04 37 50.9 -0.2
baz=272
G26K Porcupine Rive 51.96 29 P P 04 37 51.5 -0.3
baz=274
N25K Chitina, Valde 52.12 36 P P 04 37 52.8 -0.5
baz=277
SCRK Sand Creek 52.13 33 P P 04 37 52.5 -0.9
baz=276,SNR=10
DOT Dot Lake 52.13 33 IAmb IAmb 04 38 14.4
comp=Z,12nm,0.9s
DZA Taraz 52.16 300 eP P 04 37 54.0 +0.2
DZA Taraz 52.16 300 eP P 04 37 54.0 +0.2
baz=300
BMRM Bremner River 52.20 37 P P 04 37 52.8 -1.1
baz=278
J26L Joseph Creek 52.26 32 IAmb IAmb 04 38 15.1
comp=Z,13nm,1.4s
J26L Joseph Creek 52.26 32 P P 04 37 54.3 +0.1
baz=276
I26K Coal Creek Min 52.35 31 P P 04 37 54.6 -0.2
baz=276
MENT Mentasta 52.36 34 IAmb IAmb 04 38 17.4
comp=Z,15nm,0.8s
GLB Gilahina Butte 52.52 36 IAmb IAmb 04 38 18.5
comp=Z,14nm,1.2s
L26K Log Cabin Wild 52.52 34 P P 04 37 57.3 +1.1
L26K Log Cabin Wild 52.52 34 P P 04 37 56.2 +0.1
baz=277,SNR=10.0
KNRA Kununurra 52.64 194 P P 04 37 58.2 +0.8
KK31 Karatay Array 52.67 300 iP P 04 37 57.5 0.0
E27K Coleen River 52.70 27 P P 04 37 57.2 -0.2
baz=275
M26K Nabesna, AK 52.77 35 IAmb IAmb 04 38 20.5
comp=Z,21nm,1.1s
M26K Nabesna, AK 52.77 35 P P 04 37 57.7 -0.3
baz=278,SNR=5.2
G27K Doyon Strip 52.81 29 P P 04 37 58.0 -0.2
baz=276
MCARA McCarthy VSAT 52.90 36 IAmb IAmb 04 38 22.5
comp=Z,20nm,1.0s
MCARA McCarthy VSAT 52.90 36 P P 04 37 58.4 -0.5
baz=279
H27K Steamboat Moun 52.92 30 P P 04 37 60.0 +0.9
baz=276,SNR=8.0
I27K Kandik River 52.95 31 P P 04 38 00.7 +1.4
baz=277
K27K Chicken 52.96 33 IAmb IAmb 04 38 21.5
comp=Z,17nm,0.9s
K27K Chicken 52.96 33 P P 04 38 00.4 +1.1
baz=278
L27K Beaver Creek, 53.20 34 P P 04 38 01.3 +0.1
baz=279,SNR=17
EGAK Eagle 53.25 32 IAmb IAmb 04 38 24.6
comp=Z,23nm,1.4s
EGAK Eagle 53.25 32 P P 04 38 01.6 +0.1
baz=278,SNR=6.5
M27K Edge Creek, AK 53.29 35 P P 04 38 02.2 +0.3
baz=279,SNR=11
IUG luzhnay 53.30 299 c iP P 04 38 03.2 +0.9
IUG luzhnay 53.30 299 ⇑ iP P 04 38 03.3 +0.9
baz=299
MESA MESA 53.62 37 P P 04 38 05.1 +0.6
baz=281
BVCY Beaver Creek 53.74 35 P P 04 38 06.0 +0.9
baz=280,SNR=5.6
CTG Chitna Glacier 53.78 36 P P 04 38 05.5 0.0
baz=281
CTGM Chitina Glacie 53.78 36 P P 04 38 06.5 +0.9
CTGM IAmb IAmb 04 38 27.7
comp=Z,25nm,1.2s
YUK3 Moose Creek 54.04 35 P P 04 38 07.5 -0.1
baz=281
DAWY Dawson 54.12 32 P P 04 38 07.8 -0.1
baz=280
I29M Ogilvie Camp, 54.36 31 P P 04 38 10.9 +1.4
baz=280,SNR=12
O28M Mount Upton 54.37 36 P P 04 38 10.6 +0.6
baz=282
EPYK Eagle Plains 54.82 29 P P 04 38 13.6 +0.7
baz=281,SNR=17
M29M Somme Creek 54.84 34 P P 04 38 14.4 +1.3
baz=282,SNR=11
K29M Barlow Dome 54.97 32 P P 04 38 15.1 +0.9
baz=282,SNR=6.6
YUK4 Talbot Arm 54.98 36 P P 04 38 15.4 +1.0
baz=282
YUK6 Outpost Mounta 55.20 36 P P 04 38 16.6 +0.6
baz=283
O29M Mount Kennedy 55.24 37 P P 04 38 17.4 +1.2
baz=283,SNR=8.6
M30M Minto, Yukon 55.56 34 IAmb IAmb 04 38 41.3
comp=Z,18nm,1.2s
M30M Minto, Yukon 55.56 34 P P 04 38 19.7 +1.3
baz=283
HYT Haines Junctio 55.64 36 P P 04 38 20.4 +1.4
baz=284,SNR=6.1
FITZ Fitzroy Crossi 55.65 197 IAmb IAmb 04 38 23.3
comp=Z,15nm,1.1s
INK Inuvik 55.66 27 LR LR 05 04 24.4
comp=Z,63nm,18.2s,baz=284,slow=38
INK Inuvik 55.66 27 P P 04 38 19.9 +1.1
baz=282,SNR=5.1
N30M Aishikik Lake 55.69 35 P P 04 38 20.9 +1.6
baz=284
MAYO Mayo, Yukon 55.73 33 P P 04 38 21.0 +1.5
baz=283
F31M Tsiigehtchic 55.76 28 P P 04 38 19.7 +0.1
baz=282
P29M Windy Craggy 55.81 37 P P 04 38 20.4 +0.2
baz=284,SNR=5.6
WRAB Tennant Creek 56.03 187 P P 04 38 23.0 +0.9
WRAB Tennant Creek 56.03 187 eP P 04 38 23.0 +0.9
WRAB pmax pmax
comp=Z,5.0nm,0.5s
WB2 Warramunga Arr 56.04 187 IAmb IAmb 04 38 43.8
comp=Z,17nm,0.8s
WRA Warramunga Arr 56.04 187 P P 04 38 22.5 +0.4
comp=Z,7.7nm,0.5s,baz=359,slow=7.5,SNR=117
WRA pP pP 04 38 35.5 -2.6
comp=Z,10nm,0.5s,baz=0.3,slow=7.4,SNR=12
WRA PcP PcP 04 39 21.7 +1.9
comp=Z,5.6nm,0.8s,baz=2.0,slow=4.3,SNR=2.0
comp=Z,7.7nm,0.5s
P30M Million Dollar 56.07 37 P P 04 38 22.4 +0.3
baz=285
N31M Braeburn, Yuko 56.29 35 P P 04 38 24.4 +0.8
baz=285
O30N Mendenhall 56.32 36 P P 04 38 23.9 0.0
baz=285
ARU Arti 56.34 319 LR LR 05 04 32.3
comp=Z,68nm,18.6s,baz=166,slow=38
ARU Arti 56.34 319 P P 04 38 24.7 +0.8
ARU IAmb IAmb 04 38 27.8
comp=Z,15nm,0.8s
ARU Arti 56.34 319 d iP P 04 38 22.3 -1.6
ARU 04 39 19.2
ARU S S 04 46 08.0 -1.5
ARU SS SS 04 49 49.2 -7.3
ARU pmax pmax
comp=Z,34nm,1.9s
PLBC Pleasant Camp 56.53 37 P P 04 38 26.0 +0.7
baz=286,SNR=5.4
M31M Drury Creek, Y 56.74 34 IAmb IAmb 04 38 44.7
comp=Z,6.1nm,0.8s
M31M Drury Creek, Y 56.74 34 P P 04 38 27.5 +0.8
baz=285
KBL Kabul 56.76 291 P P 04 38 27.1 -0.4
KBL IAmb IAmb 04 38 32.3
comp=Z,9.3nm,0.8s
KBL Kabul 56.76 291 P P 04 38 27.1 -0.4
KBL pmax pmax
comp=Z,9.0nm,0.8s
WHY Whitehorse 56.93 36 P P 04 38 29.2 +1.1
baz=286
SKAG Skagway 57.04 37 P P 04 38 29.9 +1.1
baz=286
HYBB Hyderabad (bro 57.13 268 eP P 04 38 30.0 -0.1
FARO Faro, Yukon 57.20 34 IAmb IAmb 04 38 52.4
comp=Z,9.4nm,1.0s
FARO Faro, Yukon 57.20 34 P P 04 38 30.7 +0.7
baz=286
AB31 Akbulak array 57.71 310 i P P 04 38 33.5 -0.2
ABKAR Akbulak array 57.71 310 IAmb IAmb 04 38 37.4
comp=Z,9.5nm,0.8s
R32K Eaglecrest 57.79 38 P P 04 38 34.2 +0.1
baz=288
P32M Atlin 57.79 37 P P 04 38 33.4 -0.8
baz=288
MMPY Sheldon Lake, 58.02 33 P P 04 38 35.9 +0.1
baz=288
P33M Teslin, Yukon 58.04 36 IAmb IAmb 04 38 39.7
comp=Z,18nm,1.1s
P33M Teslin, Yukon 58.04 36 P P 04 38 36.2 +0.3
baz=288,SNR=10
C36M Paulatuk 58.68 24 P P 04 38 40.2 +0.1
baz=290
R33M Jennings River 59.19 37 P P 04 38 44.2 +0.2
baz=290
S34M Telegraph Cree 59.61 38 P P 04 38 46.8 +0.1
baz=290
TGTN Hyland Airport 59.71 34 P P 04 38 48.3 +0.8
baz=291,SNR=7.1
ASAR Alice Springs 59.77 187 P P 04 38 49.5 +1.3
comp=Z,3.8nm,0.5s,baz=8.2,slow=8.2,SNR=35
ASAR PcP PcP 04 39 36.0 +1.6
comp=Z,2.6nm,0.7s,baz=3.8,slow=5.7,SNR=4.2
comp=Z,3.8nm,0.5s
WTLY Watson Lake, Y 59.97 35 P P 04 38 51.3 +2.0
WTLY IAmb IAmb 04 38 52.6
comp=Z,9.3nm,1.0s
WTLY Watson Lake, Y 59.97 35 P P 04 38 49.7 +0.5
baz=291
DLBC Dease Lake 59.97 37 P P 04 38 50.9 +1.6
baz=291,SNR=5.4
MBWA Marble Bar 60.16 202 P P 04 38 51.1 +0.2
KIRV Kirov 60.33 323 deP P 04 38 51.5 -0.1
T35M Bob Quinn 60.39 39 P P 04 38 53.1 +1.0
baz=292
PSA00 Pilbara Seismi 60.52 202 P P 04 38 53.2 -0.1
PSA00 IAmb IAmb 04 39 20.5
comp=Z,6.4nm,0.9s
PRGR Permogore 60.94 327 eP P 04 38 55.0 -0.8
WRGLY Wrigley 61.16 31 P P 04 38 57.1 -0.1
baz=293
SPA0 Spitsbergen Ar 61.20 349 eP P 04 38 58.7 +1.4
SPITS Spitsbergen Ar 61.20 349 LR LR 05 06 27.7
comp=Z,64nm,19.6s,baz=4.0,slow=37
HRA Herat 61.91 294 P P 04 39 03.5 +0.4
HRA IAmb IAmb 04 39 07.0
comp=Z,8.2nm,0.8s
DZM Mont Dzumac 63.03 153 eLR LR 04 58 02.9
comp=Z,289nm,27.4s
DZM Mont Dzumac 63.03 153 LR LR 05 07 27.8
comp=Z,100nm,18.8s,baz=354,slow=37
GEYT Alibeck 63.35 299 P P 04 39 12.4 +0.1
comp=Z,6.2nm,0.7s,baz=29,slow=3.4,SNR=7.9
comp=Z,6.2nm,0.7s
GEYT Alibeck 63.35 299 IAmb IAmb 04 39 34.4
comp=Z,8.5nm,0.8s
RES Resolute Bay 63.72 14 LR LR 05 10 52.3
comp=Z,39nm,18.4s,baz=305,slow=40
BELG Belogornoye 63.74 317 LR LR 05 09 41.2
comp=Z,77nm,18.5s,baz=12,slow=39
BELG Belogornoye 63.74 317 c iP P 04 39 14.0 -0.6
BELG pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 63.95 328 eP P 04 39 14.5 -1.3
KLMR pmax pmax
comp=Z,14nm,0.8s
KLMR Klimovskoe 63.95 328 eP P 04 39 14.5 -1.3
KLMR AMP 04 39 16.7
comp=Z,14nm,0.8s
ARCES ARCESS Array B 64.46 339 P P 04 39 17.7 -1.4
comp=Z,6.0nm,0.8s,baz=61,slow=8.5,SNR=8.3
ARCES LR LR 05 12 26.4
comp=Z,71nm,18.2s,baz=60,slow=41
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 65.10 30 P P 04 39 23.6 +0.3
comp=Z,7.2nm,0.9s,baz=299,slow=6.6,SNR=9.0
YKA LR LR 05 09 25.2
comp=Z,28nm,18.1s,baz=338,slow=37
comp=Z,7.2nm,0.9s
YKA Yellowknife Ar 65.10 30 P P 04 39 24.4 +1.0
YKA Yellowknife Ar 65.10 30 P P 04 39 24.4 +1.0
KTK1 Kautokeino 65.42 339 eP P 04 39 25.8 +0.5
NEEM North Greenlan 66.47 3 iP P 04 39 31.4 -1.0
NEEM IAmb IAmb 04 39 40.4
comp=Z,7.8nm,0.8s
FORT Forrest 67.52 191 P P 04 39 40.2 +1.1
VRH Novokhopyorsk 67.54 318 eP P 04 39 37.9 -1.2
VRH pmax pmax
comp=Z,10.0nm,0.6s
STKA Stephens Creek 67.67 179 P P 04 39 41.5 +1.5
comp=Z,5.0nm,0.7s,baz=346,slow=5.3,SNR=10
comp=Z,5.0nm,0.7s
STKA Stephens Creek 67.67 179 P P 04 39 42.7 +2.7
STKA Stephens Creek 67.67 179 P P 04 39 42.7 +2.7
STKA pmax pmax
comp=Z,3.0nm,1.2s
OBN Obninsk 68.18 323 P P 04 39 42.8 -0.3
OBN Obninsk 68.18 323 eP P 04 39 42.9 -0.1
OBN e 04 40 10.8
OBN e 04 42 12.0
OBN ePPP PPP 04 43 51.3
OBN pmax pmax
comp=Z,43nm,1.3s
LPSR Galich'ya Gora 68.31 320 eP P 04 39 42.7 -1.2
LPSR pmax pmax
comp=Z,30nm,0.9s
VORR Voronezh 68.65 319 eP P 04 39 46.3 +0.2
VORR pmax pmax
comp=Z,90nm,0.4s
FAUS Fauske 68.74 340 eP P 04 39 46.7 +0.4
FAUS IAmb IAmb 04 39 50.8
comp=Z,184nm,2.1s
VSR Storozhevoye 68.91 319 eP P 04 39 45.2 -2.5
VSR pmax pmax
comp=Z,20nm,0.9s
FINES FINESS Array B 69.11 332 P P 04 39 48.9 +0.2
comp=Z,11nm,0.8s,baz=72,slow=8.2,SNR=20
comp=Z,11nm,0.8s
FINES FINESS Array B 69.11 332 P P 04 39 49.0 +0.2
G03D McMinnville, O 69.56 49 P P 04 39 51.4 -0.4
baz=301
MOR8 Moi Rana 69.83 339 eP P 04 39 52.4 -0.8
MOR8 IAmb IAmb 04 39 52.7
comp=Z,24nm,0.9s
I03D Drain, OR 70.28 50 P P 04 39 57.2 +0.9
baz=302
HOOD Mount Hood Mea 70.47 48 IAmb IAmb 04 40 00.9
comp=Z,34nm,1.4s
ZEI Tsey 70.55 309 eP P 04 39 57.1 -1.1
ZEI pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 70.69 310 P P 04 39 58.9 +0.2
comp=Z,12nm,0.9s,baz=60,slow=2.6,SNR=19
KBZ LR LR 05 12 55.0
comp=Z,66nm,19.6s,baz=41,slow=38
comp=Z,12nm,0.9s
KBZ Khabaz 70.69 310 ceP P 04 39 59.2 +0.5
KBZ pmax pmax
comp=Z,15nm,0.9s
KVAR Kislovodsk Arr 70.69 311 LR LR 05 12 26.2
comp=Z,60nm,19.2s,baz=270,slow=37
KIV Kislovodsk 70.70 311 P P 04 39 59.4 +0.5
KIV Kislovodsk 70.70 311 ceP P 04 39 59.4 +0.5
KIV pmax pmax
comp=Z,25nm,0.9s
G05D Wamic, OR 70.71 48 P P 04 39 59.7 +0.8
baz=302
I04A Tendick Farm, 70.81 49 P P 04 39 59.6 0.0
baz=302
I05D Terrebonne, OR 71.18 49 P P 04 40 01.9 0.0
baz=302
F07A Phinny Hill Vi 71.19 47 IAmb IAmb 04 40 04.9
comp=Z,8.8nm,0.7s
J04D Umpqua Nationa 71.29 50 IAmb IAmb 04 40 05.6
comp=Z,11nm,0.6s
J04D Umpqua Nationa 71.29 50 P P 04 40 03.3 +0.6
baz=302
E08A Dider Farm, El 71.37 46 IAmb IAmb 04 40 05.7
comp=Z,6.1nm,0.6s
GNI Garni 71.39 306 LR LR 05 13 02.6
comp=Z,70nm,19.8s,baz=60,slow=37
NEW Newport 71.50 43 P P 04 40 04.0 +0.3
baz=304,SNR=6.7
SUMG Summit 71.57 360 IAmb IAmb 04 40 06.5
comp=Z,18nm,0.8s
SUMG Summit 71.57 360 i P P 04 40 04.1 0.0
SUMG IAmb IAmb 04 40 06.1
comp=Z,12nm,0.7s
L04D Klamath Falls 71.72 51 P P 04 40 04.8 -0.4
baz=302
PINE Pine Mountain 71.72 49 IAmb IAmb 04 40 08.4
comp=Z,13nm,0.8s
J05D Fort Rock, OR 71.81 49 P P 04 40 05.5 -0.3
baz=303
E09A Wood Farm, Sta 71.89 45 IAmb IAmb 04 40 08.9
comp=Z,7.8nm,0.8s
MNK Minsk 72.64 326 i P P 04 40 10.1 -0.2
MNK i *PP pP 04 40 26.6 -0.2
MNK i 04 42 51.8
MNK i PPP PPP 04 44 36.2
MNK i S S 04 49 30.5 0.0
MNK i *SS sS 04 49 58.9 +0.5
MNK i 04 50 11.6
MNK i SS SS 04 54 11.3 +1.6
MNK pmax pmax
comp=Z,25nm,0.8s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK MLR MLR
comp=N,53nm,18.0s
MNK MLR MLR
comp=E,9.0nm,14.0s
MNK MLR MLR
comp=Z,70nm,17.0s
MNK Minsk 72.64 326 i P P 04 40 10.1 -0.2
comp=E,3.0nm,1.0s
MNK i P P 04 40 10.1 -0.2
comp=N,7.0nm,0.8s
MNK i P P 04 40 10.1 -0.2
comp=Z,25nm,0.8s,baz=232
MNK i pP pP 04 40 26.6 -0.2
MNK i PP PP 04 42 51.8 -0.1
MNK i PPP PPP 04 44 36.2
MNK i S S 04 49 30.5 0.0
MNK i sS sS 04 49 59.0 +0.5
MNK i SS SS 04 54 11.3 +1.6
MNK i SSS SSS 04 57 31.9
MNK i LQ LQ 05 07 14.3
MNK i LR LR 05 12 45.7
MNK i LRM MLR 05 15 07.0
comp=N,53nm,18.1s
MNK i LRM MLR 05 15 10.8
comp=E,9.0nm,14.2s
MNK i LRM MLR 05 15 20.5
comp=Z,70nm,16.8s
NACGM Naroch 72.89 326 ⇓ eP P 04 40 12.2 +0.4
baz=51
JTMT Jette 73.36 43 IAmb IAmb 04 40 17.8
comp=Z,7.2nm,0.8s
ANN Anapa 73.39 314 eP P 04 40 15.3 +0.4
ANN pmax pmax
comp=Z,35nm,0.9s
J08A Circle Bar Ran 73.45 48 IAmb IAmb 04 40 18.8
comp=Z,18nm,1.5s
PABE Paberze 73.74 328 P P 04 40 16.4 -0.3
GURO Guroymak-BITLI 74.03 306 IAmb IAmb 04 40 21.1
comp=Z,14nm,1.1s
MSO Missoula 74.09 43 P P 04 40 19.5 +0.4
baz=306
BEKR Beckworth 74.23 52 IAmb IAmb 04 40 23.0
comp=Z,11nm,0.8s
AKASG Malin Array Be 74.36 322 P P 04 40 20.2 -0.2
comp=Z,7.6nm,0.6s,baz=46,slow=6.4,SNR=44
AKASG LR LR 05 15 29.1
comp=Z,161nm,18.8s,baz=5.0,slow=38
comp=Z,7.6nm,0.6s
AKASG Malin Array Be 74.36 322 IAmb IAmb 04 40 21.7
comp=Z,18nm,1.4s
AKBB Malin Array Si 74.36 322 IAmb IAmb 04 40 21.2
comp=Z,19nm,0.7s
NC303 NORSAR Array S 74.41 337 eP P 04 40 20.0 -0.6
HFS Hagfors 74.47 335 LR LR 05 15 19.8
comp=Z,157nm,18.4s,baz=22,slow=38
DOMB Dombas 74.49 338 eP P 04 40 21.2 +0.1
DOMB IAmb IAmb 04 40 34.3
comp=Z,392nm,2.7s
NC204 NORSAR Array S 74.56 337 P P 04 40 22.0 +0.5
NB2 NORSAR Subarra 74.60 337 P P 04 40 21.6 -0.1
comp=Z,6.7nm,0.6s,baz=41,slow=5.9
NB2 NORSAR Subarra 74.60 337 P P 04 40 21.6 -0.1
baz=41,slow=5.9
NOA NORSAR Array B 74.60 337 P P 04 40 21.8 +0.1
comp=Z,9.8nm,0.7s,baz=40,slow=5.9,SNR=44
NOA pP PcP 04 40 34.6 -1.2
comp=Z,4.4nm,0.7s,baz=40,slow=5.9,SNR=4.4
NOA LR LR 05 16 16.9
comp=Z,103nm,20.1s,baz=50,slow=38
comp=Z,9.8nm,0.7s
MPK Martis Peak 74.76 52 IAmb IAmb 04 40 26.6
comp=Z,31nm,1.4s
PAHR Pah Rah Range 74.94 52 IAmb IAmb 04 40 27.2
comp=Z,10.0nm,1.0s
FFC Flin Flon 75.02 32 P P 04 40 24.8 +0.6
FFC IAmb IAmb 04 40 26.2
comp=Z,11nm,0.8s
FFC Flin Flon 75.02 32 P P 04 40 24.8 +0.6
FFC pmax pmax
comp=Z,11nm,0.9s
ICESG Greenland Ices 75.08 360 i P P 04 40 24.8 0.0
ICESG IAmb IAmb 04 40 26.6
comp=Z,12nm,0.7s
SIM Simferopol' 75.22 315 eP P 04 40 25.3 -0.3
SIM e 04 40 34.5
SIM pmax pmax
comp=Z,24nm,0.9s
SIM MLR MLR
comp=Z,40nm,16.0s
CMB Columbia Colle 75.24 54 IAmb IAmb 04 40 28.8
comp=Z,13nm,1.2s
YERR Yerington 75.44 52 IAmb IAmb 04 40 30.3
comp=Z,10.0nm,0.8s
MARD Mardin 75.54 306 IAmb IAmb 04 40 51.8
comp=Z,15nm,0.8s
OSL Oslo 75.60 336 eP P 04 40 28.5 +1.1
EGMT Eagleton 75.63 41 IAmb IAmb 04 40 30.5
comp=Z,14nm,0.8s
EGMT Eagleton 75.63 41 P P 04 40 28.4 +0.4
baz=308,SNR=6.2
HLID Hailey 75.75 46 P P 04 40 28.8 0.0
baz=307,SNR=10
BMN Battle Mountai 75.89 50 IAmb IAmb 04 40 33.0
comp=Z,9.4nm,0.7s
RYN Ryan 76.11 52 IAmb IAmb 04 40 34.1
comp=Z,13nm,1.3s
BOZ Bozeman (W) 76.11 43 P P 04 40 30.8 0.0
baz=308,SNR=9.9
KVN Kaiserville 76.14 52 IAmb IAmb 04 40 34.3

comp=Z,21nm,1.2s
LHV Little Huntoon 76.34 53 IAmb IAmb 04 40 35.9
comp=Z,20nm,1.1s
NVAR Mina Array Bea 76.36 52 P **P 04 40 34.7 +2.2**
NVAR pP **pP 04 40 48.3 -0.8**
comp=Z,6.0nm,0.7s,baz=290,slow=5.4,SNR=53
comp=Z,3.5nm,0.6s,baz=294,slow=5.4,SNR=11
comp=Z,6.0nm,0.7s
SFJD Kangerlussuaq 76.86 4 LR LR 05 18 19.7
comp=Z,39nm,18.2s,baz=340,slow=39
ASK Askoy 76.87 339 *e*P **P 04 40 36.1 +1.5**
ODD1 Odda 76.91 338 *e*P **P 04 40 35.6 +0.7**
BER Bergen 76.91 339 *e*P **P 04 40 35.8 +0.9**
VES Vestal, Richgr 77.35 55 P **P 04 40 38.6 +0.8**
baz=306
H17A Grant Village 77.44 44 P **P 04 40 39.0 +0.5**
baz=309,SNR=6.6
LVV L'vov 77.48 323 *e*P **P 04 40 38.0 -0.2**
DY2G Dye2 77.59 3 *i*P **P 04 40 39.5 +0.6**
DY2G IAmb IAmb 04 40 41.4
comp=Z,16nm,0.6s
BEL Belsk 77.61 326 *e*P **P 04 40 40.0 +1.1**
CWC Cottonwood Cre 77.66 54 P **P 04 40 40.5 +0.7**
baz=306
GMN Gold Mountain 77.69 53 P **P 04 40 40.5 +0.5**
RLMT Red Lodge 77.71 43 IAmb IAmb 04 40 44.0
comp=Z,5.1nm,0.7s
RLMT Red Lodge 77.71 43 P **P 04 40 40.7 +0.7**
baz=309,SNR=8.4
BSD Bornholm Skovb 77.73 331 *i*P **P 04 40 38.6 -0.9**
BSD IAmb IAmb 04 40 39.9
comp=Z,15nm,0.7s
HVU Hansel Valley 77.78 47 IAmb IAmb 04 40 43.5
comp=Z,6.5nm,0.7s
TPAW Teton Pass 77.79 45 IAmb IAmb 04 41 05.0
comp=Z,9.3nm,1.2s
GRAC Grapevine Rang 77.80 53 IAmb IAmb 04 40 43.6
comp=Z,10nm,0.7s
GRAC Grapevine Rang 77.80 53 P **P 04 40 41.6 +1.2**
baz=306,SNR=7.0
ISA Isabella, Lake 77.86 55 P **P 04 40 41.1 +0.4**
baz=306
FRB Frobisher Bay 77.88 13 LR LR 05 16 47.9
comp=Z,42nm,20.9s,baz=358,slow=37
SNOW Snow King Moun 77.92 45 IAmb IAmb 04 40 45.7
comp=Z,10nm,1.4s
SNART Snartemo 77.98 337 *e*P **P 04 40 41.3 +0.5**
R11A Troy Canyon, C 78.14 51 IAmb IAmb 04 40 45.6
comp=Z,13nm,1.3s
R11A Troy Canyon, C 78.14 51 P **P 04 40 42.8 +0.4**
baz=307,SNR=19
DGMT Dagmar 78.19 38 P **P 04 40 43.0 +0.7**
baz=312
KWP Kalwaria Pacla 78.24 324 *e*P **P 04 40 43.6 +1.1**
MPMC Manual Prospec 78.27 54 P **P 04 40 43.9 +0.7**
baz=306,SNR=6.6
LAO LASA Array 78.33 40 IAmb IAmb 04 40 59.6
comp=Z,7.8nm,0.8s
LAO LASA Array 78.33 40 P **P 04 40 43.6 +0.4**
baz=311
TESR Tescani 78.34 320 ⇓P **P 04 40 43.8 +0.7**
BUR08 Bucovina Ar. S 78.34 321 IAmb IAmb 04 40 44.9
comp=Z,8.6nm,0.8s
BIZ Bicaz 78.35 320 ⇓P **P 04 40 44.1 +1.0**
BURAR Bucovina Array 78.36 321 ⇓P **P 04 40 43.6 +0.3**
BURAR Bucovina Array 78.36 321 IAmb IAmb 04 40 44.7
comp=Z,8.0nm,0.8s
BURAR Bucovina Array 78.36 321 ⇓P **P 04 40 43.6 +0.3**
CFR Carcaliu 78.41 318 ⇓P **P 04 40 43.8 +0.3**
CFR Carcaliu 78.41 318 ⇓P **P 04 40 43.8 +0.3**
FURC Furnace Creek, 78.44 53 P **P 04 40 44.6 +0.9**
baz=307,SNR=8.5
S11A Rachel 78.46 52 IAmb IAmb 04 41 13.3
comp=Z,11nm,0.9s
TPGR Topolog 78.47 318 ⇓P **P 04 40 44.5 +0.7**
SPR3 Spring Creek 3 78.53 50 IAmb IAmb 04 41 03.3
comp=Z,4.1nm,0.8s
TPNV Topopah Spring 78.55 53 IAmb IAmb 04 40 47.6
comp=Z,7.9nm,0.8s
TPNV Topopah Spring 78.55 53 P **P 04 40 44.4 -0.2**
baz=307,SNR=12
HWUT Hardware Ranch 78.61 47 IAmb IAmb 04 40 48.2
comp=Z,12nm,1.1s
BR131 Keskin Array S 78.65 311 P **P 04 40 45.2 0.0**
BR131 IAmb IAmb 04 40 49.4
comp=Z,16nm,0.9s
BR131 Keskin Array S 78.65 311 P **P 04 40 45.2 0.0**
BR131 pmax pmax
comp=Z,16nm,1.0s
BRTR Keskin Array B 78.65 311 P **P 04 40 46.4 +1.2**
comp=Z,8.4nm,1.0s,baz=103,slow=2.6,SNR=21
comp=Z,8.4nm,1.0s
VRI Vrincioaia 78.72 319 ⇑P **P 04 40 47.2 +1.9**
VRI Vrincioaia 78.72 319 ⇑P **P 04 40 47.2 +1.9**
DUG Dugway, Tooele 78.73 48 IAmb IAmb 04 40 48.8
comp=Z,12nm,1.1s
DUG Dugway, Tooele 78.73 48 P **P 04 40 46.3 +0.7**
baz=308,SNR=11
QSM Queen of Sheba 78.73 54 IAmb IAmb 04 40 48.4
comp=Z,8.5nm,0.8s
PLOR Plostina 78.77 319 ⇑P **P 04 40 46.9 +1.4**
PLOR Plostina 78.77 319 ⇑P **P 04 40 46.9 +1.4**
KOLS Kolonicke sedl 78.92 324 *e*P **P 04 40 46.9 +0.6**
KOLS pmax pmax
comp=Z,9.0nm,0.6s
KOLS Kolonicke sedl 78.92 324 *e*P **P 04 40 46.9 +0.6**
TCUT Toone Canyon 79.00 47 IAmb IAmb 04 41 10.8
comp=Z,9.3nm,0.7s
COVR Voineasa-Covas 79.01 319 ⇓P **P 04 40 48.0 +1.1**
BW06 Boulder Array 79.04 45 P **P 04 40 47.9 +0.5**
baz=310,SNR=6.4
PDAR Pinedale Array 79.04 45 P **P 04 40 48.6 +1.3**
comp=Z,2.7nm,0.7s,baz=266,slow=1.2,SNR=33
PDAR pP **pP 04 41 02.8 -1.2**
comp=Z,1.8nm,0.5s,baz=268,slow=2.4,SNR=7.2
comp=Z,2.7nm,0.7s
OZUR 79.07 320 ⇑P **P 04 40 48.6 +1.4**
OJC Ojcow 79.19 326 *e*P **P 04 40 47.3 -0.4**
OJC Ojcow 79.19 326 IAmb IAmb 04 40 48.4
comp=Z,17nm,0.7s
ICOR Ion Corvin 79.28 317 ⇑P **P 04 40 50.0 +1.7**
NLU North Lily Min 79.33 48 P **P 04 40 49.2 +0.3**
CRVS Cervenica-Dubn 79.33 324 *e*P **P 04 40 49.4 +0.9**
CRVS Cervenica-Dubn 79.33 324 *e*P **P 04 40 49.4 +0.9**
MLR Muntele Rosu 79.38 319 ⇓P **P 04 40 50.8 +1.8**
MLR Muntele Rosu 79.38 319 LR LR 05 19 09.3
comp=Z,113nm,18.1s,baz=54,slow=38
MLR Muntele Rosu 79.38 319 IAmb IAmb 04 40 53.5
comp=Z,18nm,1.5s
MLR Muntele Rosu 79.38 319 ⇓P **P 04 40 50.8 +1.8**
NIE Niedzica 79.52 325 *e*P **P 04 40 50.9 +1.3**
MPU Maple Canyon 79.55 48 IAmb IAmb 04 40 53.1
comp=Z,7.9nm,0.7s
TUQ Turquoise Moun 79.67 54 P **P 04 40 51.7 +1.0**
baz=307
HEC Hector,Ludlow 79.76 54 P **P 04 40 52.1 +0.9**
baz=307
MURC Murrieta 79.92 56 P **P 04 40 53.0 +1.0**
baz=307
RAYN Ar Rayn 80.02 292 P **P 04 40 53.1 +0.4**
RAYN IAmb IAmb 04 40 53.6
comp=Z,8.7nm,0.8s
RAYN Ar Rayn 80.02 292 ⇓P **P 04 40 53.4 +0.7**
LANS Liptovska Anna 80.10 325 *e*P **P 04 40 54.6 +1.9**
LANS pmax pmax
comp=Z,7.0nm,0.8s
LANS Liptovska Anna 80.10 325 *e*P **P 04 40 54.6 +1.9**
ARR Arges 80.15 320 ⇓P **P 04 40 54.9 +1.8**
GMRC Granite Mounta 80.23 54 P **P 04 40 54.3 +0.5**
baz=307,SNR=6.4
KSP Ksiaz 80.30 328 *e*P **P 04 40 54.5 +0.8**
PFO Pinyon Flats O 80.41 55 LR LR 05 09 29.9
comp=Z,60nm,21.9s,baz=263,slow=30
PFO Pinyon Flats O 80.41 55 P **P 04 40 55.8 +1.0**
PFO Pinyon Flats O 80.41 55 P **P 04 40 55.8 +1.0**
PFO pmax pmax
comp=Z,8.0nm,0.9s
PFO Pinyon Flats O 80.41 55 P **P 04 40 56.1 +1.3**
baz=307,SNR=8.0
TPFO Pinon Flats 80.42 55 P **P 04 40 55.6 +0.8**
baz=307,SNR=8.4
RDMU Red Mountain 80.43 46 IAmb IAmb 04 40 57.8
comp=Z,30nm,1.4s
P17A Butcher Ranch, 80.43 48 IAmb IAmb 04 40 58.0
comp=Z,12nm,0.7s
PMD Palm Desert 80.44 55 IAmb IAmb 04 40 58.1
comp=Z,16nm,1.4s
BELC Belle Mtn. Jos 80.48 55 P **P 04 40 55.6 +0.5**
baz=307,SNR=5.4
MORC Moravsky Berou 80.53 326 ⇑P **P 04 40 55.7 +0.7**
MORC Moravsky Berou 80.53 326 IAmb IAmb 04 40 56.7
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 80.53 326 *e*P **P 04 40 55.7 +0.7**
MORC Moravsky Berou 80.53 326 ⇑P **P 04 40 55.7 +0.7**
CHVC Chvalec 80.59 328 *e*P **P 04 40 55.6 +0.3**
KRLC Kraliky 80.65 327 *e*P **P 04 40 56.2 +0.5**
KRLC Kraliky 80.65 327 *e*P **P 04 40 56.2 +0.5**
DPC Dobruska-Polom 80.65 327 *e*P **P 04 40 56.3 +0.7**
DPC Dobruska-Polom 80.65 327 *e*P **P 04 40 56.3 +0.7**
KNB Kanab 80.69 51 IAmb IAmb 04 40 60.0
comp=Z,19nm,1.3s
PSZ Piszkesteto 80.77 324 ⇓P **P 04 40 57.5 +1.2**
PSZ Piszkesteto 80.77 324 P **P 04 40 56.6 +0.3**
PSZ IAmb IAmb 04 40 58.3
comp=Z,16nm,1.0s
PSZ Piszkesteto 80.77 324 ⇓P **P 04 40 57.5 +1.2**
SRU San Rafael Swe 80.79 48 IAmb IAmb 04 40 59.5
comp=Z,11nm,0.7s
K22A Casper 80.82 43 P **P 04 40 56.8 0.0**
baz=311
ULM Lac du Bonnet 80.82 33 P **P 04 40 56.1 -0.4**
comp=Z,3.5nm,0.7s,baz=312,slow=7.7,SNR=7.8
comp=Z,3.5nm,0.7s
BAR Barrett 80.83 56 IAmb IAmb 04 40 59.7
comp=Z,14nm,1.2s
MDND Maddock 80.85 36 P **P 04 40 57.4 +0.7**
baz=315
VYHS Vyhne 80.86 325 *e*P **P 04 40 57.3 +0.5**
VYHS pmax pmax
comp=Z,10.0nm,0.9s
VYHS Vyhne 80.86 325 *e*P **P 04 40 57.3 +0.5**
MONP2 Monument Peak 80.87 56 P **P 04 40 57.7 +0.4**
baz=307
IRM Iron Mountain 80.95 54 P **P 04 40 59.1 +1.6**
baz=308
BC3 Big Chuckawall 81.05 55 P **P 04 40 59.7 +1.5**
baz=308,SNR=6.3
JAVC Velka Javorina 81.13 326 *e*P **P 04 40 59.9 +1.6**
RSSD Black Hills 81.19 41 P **P 04 40 59.9 +1.0**
RSSD Black Hills 81.19 41 P **P 04 40 59.9 +1.0**
RSSD pmax pmax
comp=Z,3.0nm,0.7s
RSSD Black Hills 81.19 41 P **P 04 40 59.1 +0.2**
baz=313
IKP In-Ko-Pah, Jac 81.22 56 P **P 04 40 59.6 +0.6**
baz=308,SNR=7.1
SWSC Sam W. Stewart 81.25 56 P **P 04 41 00.1 +1.0**
baz=308
RMX La Rumorosa 81.27 56 IAmb IAmb 04 41 02.6
comp=Z,14nm,1.2s
BRG Berggiesshubel 81.28 329 *e*P **P 04 40 59.7 +0.7**
BRG Amp 04 41 00.4
comp=Z,8.3nm,0.9s
BRG *ex* x 04 41 28.7
BRG Amp 04 41 29.4
comp=Z,5.2nm,0.7s
BRG Berggiesshubel 81.28 329 *e*P **P 04 40 59.6 +0.7**
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,0.7s
VRAC Vranov 81.29 326 ⇓P **P 04 41 00.4 +1.4**
VRAC Vranov 81.29 326 LR LR 05 19 34.7
comp=Z,104nm,20.1s,baz=38,slow=38
VRAC Vranov 81.29 326 *e*P **P 04 40 59.8 +0.8**
VRAC Vranov 81.29 326 ⇓P **P 04 41 00.4 +1.4**
CLL Collm 81.34 330 IAmb IAmb 04 41 00.4
comp=Z,18nm,0.8s
CLL Collm 81.34 330 ⇑*i*P **P 04 40 59.5 +0.3**
CLL *e**PP **pP 04 41 18.0 +2.0**
CLL pmax pmax
comp=Z,20nm,0.9s
CLL Collm 81.34 330 ⇑*i*P **P 04 40 59.5 +0.3**
comp=Z,20nm,0.9s
CLL *i* x x 04 41 02.4
CLL *e*PcP **PcP 04 41 06.0 +0.8**
CLL *ex* x 04 41 14.0
CLL *e*(pP) **pP 04 41 18.0 +2.0**
CLL *e*PP **PP 04 44 00.0 -4.9**
O20A White River Ci 81.49 46 P **P 04 41 01.0 +0.5**
baz=311
SMOL Smolenice 81.49 326 *e*P **P 04 41 01.3 +1.2**
SMOL pmax pmax
comp=Z,8.0nm,0.9s
PDMCI Parker Dam,Lak 81.52 54 P **P 04 41 01.4 +0.9**
baz=308
BZS Buzias 81.53 321 ⇓P **P 04 41 00.8 +0.4**
BZS Buzias 81.53 321 ⇓P **P 04 41 00.8 +0.4**
KRUC Moravsky 81.56 326 *e*P **P 04 41 01.1 +0.6**
BLYC Blythe 81.61 54 IAmb IAmb 04 41 03.5
comp=Z,16nm,1.2s
MMAI Mount Meron Ar 81.62 305 LR LR 05 19 42.3
comp=Z,86nm,21.4s,baz=232,slow=38
HERR Herculane 81.64 320 ⇑P **P 04 41 01.9 +1.0**
MODS Modra-Piesok 81.67 326 *e*P **P 04 41 02.4 +1.4**
MODS pmax pmax
comp=Z,31nm,1.1s
MODS Modra-Piesok 81.67 326 *e*P **P 04 41 02.4 +1.4**
PRU Pruhonice 81.69 328 *e*P **P 04 41 01.3 +0.2**
PRU Pruhonice 81.69 328 *e*P **P 04 41 01.3 +0.2**
ESJX Sierra Juarez 81.72 56 IAmb IAmb 04 41 04.9
comp=Z,12nm,1.0s
TREC Trest 81.79 327 *e*P **P 04 41 02.4 +0.7**
TREC Trest 81.79 327 *e*P **P 04 41 02.4 +0.7**
GLA Glamis 81.83 55 P **P 04 41 03.1 +0.9**
baz=308
AGMN Agassiz Nation 82.26 34 P **P 04 41 05.0 +0.9**
AGMN Agassiz Nation 82.26 34 P **P 04 41 05.1 +0.9**
baz=318
N23A Red Feather La 82.31 44 IAmb IAmb 04 41 08.1
comp=Z,9.4nm,1.0s
N23A Red Feather La 82.31 44 P **P 04 41 04.9 0.0**
baz=312,SNR=6.5
BLKB Belogradchik 82.37 319 ⇓P **P 04 41 05.4 +0.6**
NKC Novy Kostel 82.39 329 *e*P **P 04 41 05.8 +1.0**
NKC Novy Kostel 82.39 329 *e*P **P 04 41 05.8 +1.0**
PV13 Radium Mtn., P 82.42 48 IAmb IAmb 04 41 08.5
comp=Z,11nm,0.9s
WUAZ Wupatki 82.54 51 IAmb IAmb 04 41 08.9
comp=Z,7.0nm,0.9s
WUAZ Wupatki 82.54 51 P **P 04 41 06.6 +0.5**
baz=310
MORH Mrgy, Hungar 82.58 323 ⇓P **P 04 41 06.0 +0.2**
RONA Rosalia, Austr 82.61 326 *i*P **P 04 41 06.8 +0.8**
comp=Z,5.5nm,0.6s,SNR=4.2
CONA Conrad Observa 82.64 326 *e*P **P 04 41 07.3 +1.1**
comp=Z,4.1nm,0.6s
CKRC Cesky Krumlov 82.67 327 *e*P **P 04 41 06.6 +0.3**
KHC Kasperske Hory 82.75 328 IAmb IAmb 04 41 08.3
comp=Z,9.4nm,0.9s
KHC Kasperske Hory 82.75 328 *e*P **P 04 41 06.2 -0.5**
KHC Kasperske Hory 82.75 328 *e*P **P 04 41 06.2 -0.5**
VTS Vitosha 82.76 318 ⇑P **P 04 41 08.0 +1.0**
VTS Vitosha 82.76 318 IAmb IAmb 04 41 08.6
comp=Z,9.1nm,0.9s
VTS Vitosha 82.76 318 ⇑P **P 04 41 08.0 +1.0**
FRGS Fruska Gora 82.76 322 ⇑P **P 04 41 07.5 +0.6**
BOVS Bovec 82.87 320 ⇓P **P 04 41 07.0 -0.4**
GERES GERESS Array B 82.91 328 P **P 04 41 07.7 +0.1**
comp=Z,2.7nm,0.7s,baz=45,slow=4.0,SNR=17
comp=Z,2.7nm,0.7s
GERES GERESS Array B 82.91 328 P **P 04 41 08.2 +0.5**
GERES GERESS Array B 82.91 328 P **P 04 41 08.2 +0.5**
X16A Lo Mia Camp, P 83.19 52 IAmb IAmb 04 41 12.9
comp=Z,11nm,1.0s
ISCO Idaho Springs 83.22 45 P **P 04 41 10.0 +0.3**
baz=312
MVCO Mesa Verde 83.23 48 IAmb IAmb 04 41 35.7
comp=Z,7.1nm,0.9s
MVCO Mesa Verde 83.23 48 P **P 04 41 10.7 +1.0**
baz=311
MOA Molln 83.41 327 *e*P **P 04 41 10.8 +0.6**
comp=Z,3.4nm,0.6s
DIVS Divibare 83.42 321 IAmb IAmb 04 41 20.0
comp=Z,16nm,1.5s
SUSD Miller 83.59 38 IAmb IAmb 04 41 12.8
comp=Z,14nm,0.8s
SUSD Miller 83.59 38 P **P 04 41 11.1 0.0**
baz=316
EKA Eskdalemuir Ar 83.62 340 LR LR 05 23 41.0
comp=Z,40nm,18.4s,baz=16,slow=39
BIOA Bad Ischl, Aus 83.81 327 *e*P **P 04 41 13.0 +0.8**
comp=Z,10nm,0.8s
W18A Petrified Fore 83.82 51 P **P 04 41 13.5 +0.8**
baz=310
214A Organ Pipe Nat 83.85 55 IAmb IAmb 04 41 15.7
comp=Z,12nm,0.8s
214A Organ Pipe Nat 83.85 55 P **P 04 41 13.3 +0.6**
baz=309
F33A 5 Mile Ranch, 83.87 36 IAmb IAmb 04 41 13.9
comp=Z,6.5nm,0.8s
S22A 4UR Ranch, Cre 83.88 47 IAmb IAmb 04 41 16.6
comp=Z,9.0nm,1.1s
S22A 4UR Ranch, Cre 83.88 47 P **P 04 41 14.2 +1.1**
baz=312,SNR=6.8
SOKA Soboth 83.94 325 *e*P **P 04 41 13.7 +0.7**
comp=Z,10nm,0.6s,SNR=5.0
X18A Snowflake 84.06 51 IAmb IAmb 04 41 17.0
comp=Z,6.1nm,0.7s
OBKA Obir 84.29 326 *i*P **P 04 41 15.4 +0.6**
comp=Z,5.6nm,0.7s,SNR=4.2
KBA Koelnbreinsper 84.41 327 *e*P **P 04 41 15.7 +0.3**
comp=Z,5.9nm,0.7s
EYMN Ely 84.45 32 IAmb IAmb 04 41 17.1
comp=Z,7.7nm,0.8s
EYMN Ely 84.45 32 P **P 04 41 16.1 +0.6**
baz=321
BTNL Ternell 84.60 333 *d*P **P 04 41 16.0 -0.1**
MYKA Terra Mystica 84.61 326 *i*P **P 04 41 16.3 0.0**
comp=Z,7.2nm,0.5s,SNR=4.2
MEM Membach 84.63 333 *d*P **P 04 41 16.8 +0.6**
SDCO Great Sand Dun 84.67 46 P **P 04 41 16.9 -0.2**
baz=312,SNR=7.7
PMOR Pomariorio Ree 84.79 113 *e*T T 06 13 51.7
comp=Z,5.4nm,0.2s
BSTI Sart Tilman 84.81 333 *d*P **P 04 41 17.7 +0.5**
BHOU Houvegnez 84.84 332 *d*P **P 04 41 17.8 +0.5**
TUC Tucson 84.95 53 P **P 04 41 19.8 +1.5**
TUC IAmb IAmb 04 41 21.3
comp=Z,8.2nm,0.8s
TUC Tucson 84.95 53 P **P 04 41 19.8 +1.5**
TUC pmax pmax
comp=Z,8.0nm,0.9s
TUC Tucson 84.95 53 P **P 04 41 19.1 +0.8**
baz=310
PDG Podgorica 84.99 320 ⇑P **P 04 41 18.5 +0.3**
ABTA Abfaltersbach 85.03 327 *e*P **P 04 41 17.6 -0.9**
comp=Z,7.0nm,0.8s
BCLA Clavier 85.04 333 *d*P **P 04 41 18.6 +0.3**
PPT Papeete 85.18 116 LR LR 05 11 30.6
comp=Z,62nm,21.7s,baz=327,slow=30
PPT2 Papeete2 85.20 116 *e*LR LR 05 08 19.5
comp=Z,158nm,26.0s
RETA Reutte 85.22 328 *e*P **P 04 41 19.8 +0.4**
comp=Z,7.6nm,0.5s
APE Apeiranthos 85.23 313 ⇑P **P 04 41 19.4 -0.2**
APE Apeiranthos 85.23 313 ⇑P **P 04 41 19.4 -0.2**
ECSD EROS Data Cent 85.27 37 P **P 04 41 20.3 +0.7**
ECSD IAmb IAmb 04 41 20.9
comp=Z,5.4nm,0.8s
ECSD EROS Data Cent 85.27 37 P **P 04 41 18.9 -0.7**
baz=317
RCHB Rochefort 85.29 333 *d*P **P 04 41 19.4 -0.1**
comp=Z,7.2nm,0.9s
BMRD Maredsous 85.34 333 *d*P **P 04 41 19.5 -0.3**
CIMO Cimolais 85.39 327 IAmb IAmb 04 42 00.3
comp=Z,13nm,1.3s
E38A The Farm, Brul 85.46 33 IAmb IAmb 04 41 40.6
comp=Z,14nm,1.1s
BFO Black Forest 85.56 330 P **P 04 41 20.6 -0.4**
BFO IAmb IAmb 04 41 22.1
comp=Z,9.9nm,0.7s
BFO Black Forest 85.56 330 P **P 04 41 20.6 -0.4**
BFO pmax pmax
comp=Z,10.0nm,0.7s
DOU Dourbes 85.57 333 *d*P **P 04 41 21.0 0.0**
FETA Feichten 85.59 328 P **P 04 41 21.5 +0.2**
comp=Z,4.7nm,0.7s,SNR=4.7
T25A Trinidad 85.72 46 IAmb IAmb 04 41 24.6
comp=Z,9.5nm,0.9s
T25A Trinidad 85.72 46 P **P 04 41 22.3 +0.1**
baz=313,SNR=6.4
DAVA Damuels 85.75 329 P **P 04 41 21.9 -0.2**
comp=Z,11nm,0.9s,SNR=4.6
ANMO Albuquerque 85.96 49 P **P 04 41 24.4 +0.9**
ANMO IAmb IAmb 04 41 26.7
comp=Z,5.9nm,1.1s
ANMO Albuquerque 85.96 49 P **P 04 41 24.4 +0.9**
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 85.96 49 P **P 04 41 24.3 +0.8**
baz=312
ECH Echery 86.12 331 IAmb IAmb 04 41 24.7
comp=Z,8.9nm,0.8s
DAVOX Davos/Dischmat 86.14 328 LR LR 05 23 45.9
comp=Z,59nm,18.8s,baz=54,slow=38
BGNE Belgrade 86.18 40 P **P 04 41 24.3 +0.1**
baz=317
Y22D IRIS PASSCAL I 86.26 50 P **P 04 41 25.4 +0.5**
baz=312
SCHQ Schefferville 86.48 15 P **P 04 41 26.4 +1.1**
comp=Z,5.6nm,0.7s,baz=8.9,slow=6.6,SNR=8.4
comp=Z,5.6nm,0.7s
121A Cookes Peak, D 86.73 52 IAmb IAmb 04 41 30.5
comp=Z,14nm,1.1s
121A Cookes Peak, D 86.73 52 P **P 04 41 27.6 +0.4**
baz=312
TAOE Nuku Hiva Isla 86.98 103 *e*LR LR 05 09 09.0
comp=Z,159nm,31.8s
KSU1 Kansas State U 88.67 41 P **P 04 41 36.2 0.0**
baz=318
MNTX Cornudas Mount 88.81 51 P **P 04 41 37.2 +0.2**
baz=313
AMTX Amarillo 88.87 46 IAmb IAmb 04 41 39.6
comp=Z,8.3nm,0.9s
AMTX Amarillo 88.87 46 P **P 04 41 37.2 -0.1**
baz=315
TBI Tubuai 88.98 120 *e*LR LR 05 10 03.7
comp=Z,167nm,32.5s
TBI Tubuai 88.98 120 *e*T T 06 19 07.7
comp=Z,7.2nm,0.3s
GLMI Grayling 89.81 30 P **P 04 41 41.7 +0.3**
baz=325
OK029 Liberty Lake 90.63 43 P **P 04 41 46.9 +1.4**
WMOK Wichita Mounta 90.65 45 IAmb IAmb 04 42 02.9
comp=Z,9.8nm,1.4s
TUL1 Leonard 91.46 42 P **P 04 41 49.8 +0.6**
baz=318
TX32 Lajitas Array 91.50 52 IAmb IAmb 04 41 53.8
comp=Z,8.1nm,1.2s
TXAR Lajitas Array 91.50 52 P **P 04 41 51.2 +1.6**
comp=Z,2.7nm,0.6s,baz=298,slow=2.7,SNR=51
TXAR pP **pP 04 42 05.8 -0.9**
comp=Z,1.6nm,0.6s,baz=306,slow=2.9,SNR=7.3
comp=Z,2.7nm,0.6s
U38A Gravette 91.83 41 P **P 04 41 50.9 0.0**
U38A IAmb IAmb 04 41 52.6
comp=Z,4.9nm,0.8s
SADO Sadowa 91.97 27 LR LR 05 25 34.9
comp=Z,39nm,19.9s,baz=23,slow=37
CCM Cathedral Cave 92.21 38 P **P 04 41 51.7 -0.9**
baz=321
SFIN Lafayette 92.36 34 P **P 04 41 53.9 +0.6**
baz=324
FCAR Ozark Folk Cen 93.43 40 IAmb IAmb 04 41 59.7
comp=Z,6.6nm,1.1s
MIAR Mount Ida 93.68 42 P **P 04 41 58.7 -0.8**
baz=319
KEST Kesra 95.09 322 LR LR 05 28 09.8
comp=Z,51nm,18.9s,baz=274,slow=38
ESDC Sonseca Array 97.62 333 P **P 04 42 17.1 -0.3**
comp=Z,0.9nm,0.9s,baz=20,slow=3.5,SNR=5.7
ESDC LR LR 05 30 19.3
comp=Z,56nm,18.5s,baz=34,slow=38
comp=Z,0.9nm,0.9s
TORD Torodi Ar. Bea 117.20 313 PKP **PKPdf 04 47 28.4 +0.1**
comp=Z,1.0nm,0.7s,baz=54,slow=1.4,SNR=9.1
BOSA Boshof 125.37 258 PKP **PKiKP 04 47 44.4 +0.3**
comp=Z,2.5nm,0.8s,baz=296,slow=6.8,SNR=4.1
QSPA South Pole Qui 125.88 180 PKP **PKiKP 04 47 46.6 +0.7**
comp=Z,1.8nm,0.8s,baz=245,slow=0.6,SNR=8.5
DBIC Dimbokro 126.20 315 PKP **PKiKP 04 47 46.4 +0.3**
comp=Z,3.7nm,0.8s,baz=360,slow=2.0,SNR=5.9
SDV Santo Domingo 126.68 39 *e*P **PKPdf 04 47 47.2 +0.3**
TROLL Troll, Antarti 138.06 198 PKPdf **PKPdf 04 48 02.7 -3.7**
SNAA Sanae 139.59 197 PKPdf PKPpre 04 47 60.0
VNA2 Neumayer--Watz 141.17 196 PKPdf **PKPdf 04 48 05.5 -6.4**
baz=124,slow=3.0

VNA3	Neumayer Olymp	141.43	195	PKPdf	PKPdf	04 48 05.5	-6.9
VNA1	Neumayer--Stat	141.57	196	PKPdf	PKPdf	04 48 07.6	-5.0
H03N2	Juan Fernandez	147.97	97	T	T	07 33 48.5	
	baz=291,slow=76,SNR=109						
H03N3	Juan Fernandez	147.98	97	T	T	07 33 49.7	
	baz=291,slow=76,SNR=121						
H03N1	Juan Fernandez	147.98	97	T	T	07 33 49.8	
	baz=291,slow=76,SNR=146						
LPAZ	La Paz	148.05	59	PKPbc	PKiKP	04 48 30.8	-0.4
	comp=Z,5.1nm,0.8s,baz=327,slow=1.9,SNR=23						
LPAZ	La Paz	148.05	59	eP	PKPdf	04 48 26.8	+0.6
ITRB	Iturama	161.22	32	eP	PKPdf	04 48 45.0	+1.6
DIAM	Diamantina, MG	161.91	12	eP	PKPdf	04 48 45.3	+0.9
CPUP	Villa Florida	162.19	62	PKPab	PKPab	04 49 31.7	+0.3
	comp=Z,1.0nm,0.8s,baz=334,slow=5.2,SNR=3.7						

UCR ***07*** *04:29:56.6±2.1, 6.°04N×81.°26W, h18km±999km, mb4.6(NEIC)*
UPA ***07*** *04:30:16.8±2.0, 7.°62N×82.°13W, h0km±5km, MW4.2*
NEIC ***07*** *04:30:19.3±1.9, 7.°83N±0.°06×82.°04W±0.°02, h10km±2km, mb4.6/6, Error ellipse: s-maj=10.5km s-min=3.6km az=185.0*

ISC 07 04:30:17.4±1.4, **7.°74N**±0.°05×**82.°04W**±0.°03, **h4**km±10km, **n74**, σ1§67/98, **mb4.5**/4, **11C-14D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHIR3	Chiriqui UPA,	0.71	336	⇓iP			Pn	04 30 32.8	-1.3
CHIR3					eS		Sn	04 30 45.0	-0.4
DVD	David	0.80	330	⇑eP			Pn	04 30 34.1	-1.2
DVD					eS		Sn	04 30 47.5	-0.1
PTAR3	Potrerillos Ar	1.04	335	⇓eP			Pn	04 30 38.7	-0.1
PTAR3					eS		Sn	04 30 56.1	+2.1
MARI3	Mariato, Verag	1.05	95	⇑iP			Pn	04 30 38.0	-0.9
MARI3					eS		Sn	04 30 54.8	+0.9
BCO2	Palmira	1.08	334	⇓iP			Pn	04 30 38.8	-0.6
BCO2					eS		Sn	04 30 56.7	+1.8
LNBQ3	Los Naranjos,	1.11	339	⇑eP			Pn	04 30 39.4	-0.5
LNBQ3					eS		Sn	04 30 57.1	+1.4
STIA3	Santiago, Vera	1.12	72	⇑iP			Pn	04 30 39.3	-0.5
STIA3					eS		Sn	04 30 58.4	+2.7
CDITO	Canoas	1.16	315		Pn		Pn	04 30 39.4	-0.6
CDITO					Sn		Sn	04 30 56.0	-0.7
CDITO	Canoas	1.16	315	⇓eP			Pg	04 30 40.8	+1.0
CDITO					eS		Sn	04 30 58.0	+1.3
CHGR2	Aguacate	1.19	355	⇑iP			Pn	04 30 40.7	-0.1
CHGR2					eS		Sn	04 30 59.8	+2.3
BC3P	Paso Ancho	1.20	332	⇑eP			Pg	04 30 42.2	+1.7
BC3P					eS		Sn	04 31 00.4	+2.4
BRU2	Volcan	1.22	328				Pg	04 30 40.9	0.0
BRU2					Sn		Sn	04 30 57.8	-0.7
BRU2	Volcan	1.22	328	⇓iP			Pb	04 30 40.7	-0.5
BRU2					eS		Sn	04 31 00.3	+1.9
CACAO	El Cacao, Vera	1.24	109	⇑iP			Pn	04 30 40.5	-0.9
CACAO					eS		Sn	04 30 58.5	-0.1
CALO3	Calobre, Verag	1.32	64	⇓eP			Pg	04 30 42.3	-0.5
CALO3					eS		Sg	04 31 03.2	+3.3
CHIT3	Chitre	1.62	82	⇑iP			Pb	04 30 46.8	-1.1
CHIT3					eS		Sg	04 31 10.8	+0.6
CNI2	El Empalme, Bo	1.72	346	⇓eP			Pg	04 30 51.0	+0.6
AZU	Azuero	1.75	88	⇓iP			Pb	04 30 49.0	-1.1
AZU					eS		Sg	04 31 13.4	-0.4
PNME	Penonome	1.85	66	eP			Pb	04 30 51.1	-0.7
PNME					eS		Sg	04 31 17.1	+0.2
DRK0	Durika	1.92	322		Pn		Pb	04 30 52.4	-0.7
SRBA	San Rafael, Bu	1.97	319				Pb	04 30 52.6	-1.3
SRBA	San Rafael, Bu	1.97	319	eP			Pb	04 30 53.0	-0.9
PEDA3	Pedasi	2.01	96	⇓eP			Pn	04 30 52.2	+0.1
PEDA3					eS		Sb	04 31 19.5	-0.4
VTON	El Valle, Cocl	2.10	66	⇑eP			Pb	04 30 55.4	-0.7
VTON					eS		Sg	04 31 24.0	-0.8
PEZE	Perez Zeledon,	2.29	315		Pn		Pb	04 30 57.4	-2.0
CDM	Cerro de Muert	2.48	317	eP			Pb	04 31 00.8	-1.8
CHOR3	La Chorrera	2.53	63	⇓eP			Pb	04 31 02.0	-1.4
BCIP	Isla Barro Col	2.60	57		Pn		Pb	04 31 01.7	-2.9
BCIP	Isla Barro Col	2.60	57	⇑eP			Pb	04 31 03.8	-0.8
BCIP					eS		Sb	04 31 36.7	-0.1
TABO3	Taboga, Panama	2.68	67	eP			Pb	04 31 04.0	+1.0
BATAN	Batan	2.68	331		Pn		Pn	04 31 01.4	0.0
BATAN	Batan	2.68	331	⇓eP			Pb	04 31 04.5	-1.5
BATAN					eS		Sb	04 31 39.9	+0.6
RIMA	Rio Macho	2.70	318				Pn	04 31 01.8	+0.1
RIMA	Rio Macho	2.70	318	eP			Pb	04 31 04.0	-2.4
UPA	Univ. de Panam	2.77	63	⇓eP			Pn	04 31 03.5	+1.0
UPA					eS		Sb	04 31 40.3	-1.4
LCR2	La Lucha 2	2.77	316	eP			Pn	04 31 03.9	+1.1
CVTR	Volcan Turrial	2.83	323		Pn		Pn	04 31 03.3	-0.3
HDC	Heredia	3.04	318				Pn	04 31 05.0	-1.3
HDC	Heredia	3.04	318	⇑eP			Pn	04 31 08.5	+2.2
HDC					eS		Sn	04 31 44.3	+1.2
JACO	JACO, Garabito	3.21	307				Pn	04 31 09.6	+1.0
JACO	JACO, Garabito	3.21	307	eP			Pn	04 31 08.4	-0.2
CHPO	Chepo, Panama	3.23	64	⇓eP			Pg	04 31 54.7	+35
CHPO					eS		Sg	04 32 35.9	+35
CNTA3	Canitas, Panam	3.45	65	eP			Pb	04 31 14.9	-4.1
LAFE	Finca La Fe, P	3.50	306	eP			Pn	04 31 13.4	+0.9
FORC	Fortuna	3.75	316	eP			Pb	04 31 19.8	-4.3
COVE	Coope Vega, Sa	3.76	322		Pn		Pn	04 31 17.2	+1.0
CASO	Castillo	3.77	315	eP			Pb	04 31 21.6	-2.9
CEDE	Laguna Cedeo	3.79	316	eP			Pb	04 31 20.6	-4.2
JTS	Las Juntas de	3.83	312		Pn		Pn	04 31 18.6	+1.4
JTS	Las Juntas de	3.83	312	⇓eP			Pn	04 31 19.4	+2.3
JTS	Las Juntas de	3.83	312	⇓eP			Pb	04 31 22.9	-2.6
JTS					eS		Sn	04 32 02.2	-0.4
INDI	Punta indio, G	4.02	302	eP			Pn	04 31 20.1	+0.4
UPD2	Meteti	4.07	78	eP			Pn	04 31 22.9	+2.5
PTEN	Parque Tenorio	4.14	316	eP			Pn	04 31 25.0	+3.5
CUI	Cuipilapa	4.23	313	eP			Pn	04 31 24.6	+1.9
ORTG	Ortega, Santa	4.26	308		Pn		Pn	04 31 24.1	+1.0
HORNC	Hornillas	4.28	314	eP			Pn	04 31 26.8	+3.5
SAJU	San Juanillo,	4.30	303	eP			Pn	04 31 23.2	-0.3
LAPC	Finca la Perla	4.50	312	eP			Pn	04 31 29.0	+3.2
BUEV	Buena Vista	4.50	313	eP			Pn	04 31 29.6	+3.2
HZTE	Horizontes, Gu	4.58	310		Pn		Pn	04 31 28.1	+0.6
ACON	Acoyapa	5.21	324				Pn	04 31 36.2	+0.1
BOAB	BOACO BROADBAN	5.88	323		Pn		Pn	04 31 45.9	+0.6
MATN	Matagalpa	6.41	324				Pn	04 31 54.0	+1.3
TGUH	Tegucigalpa,Un	8.11	321		Pn		Pn	04 32 15.4	-0.6
TULM	Tulcn-Chalpat	8.17	149		Pn		Pn	04 32 18.9	+1.7
ROSC	El Rosal	8.20	110				Pn	04 32 17.8	+0.2
SLOR	San Lorenzo -	9.13	157		Pn		Pn	04 32 33.3	+2.9
TBTG	Tabatinga, AM	16.94	134		Pn		P	04 34 16.6	-0.9
TBTG					IAmb	IAmb	IAmb	04 34 20.4	
	comp=Z,12nm,0.6s								
BIM	Bigot	21.64	70		P		P	04 35 08.0	-0.9
BIM					IAmb		IAmb	04 35 12.0	
	comp=Z,105nm,1.3s								
ILAM	Ilet Lapin Mar	21.89	70		P		P	04 35 12.0	+0.4
ETMB	Extrema	23.51	138		P		P	04 35 29.1	+0.4
ETMB					IAmb		IAmb	04 35 29.4	
	comp=Z,8.1nm,0.7s								
TIGA	Tifton	23.62	357		P		P	04 35 29.4	-0.1
TIGA					IAmb		IAmb	04 35 59.8	
	comp=Z,22nm,1.2s								
MIAR	Mount Ida	28.71	340		P		P	04 36 14.4	-1.3
MIAR					IAmb		IAmb	04 36 26.6	
	comp=Z,7.7nm,1.4s								

IDC ***07*** *04:40:27.8±1.0, 15.°72S×173.°23W, h0km, mb4.0/7, mbtmp4.1/9, ML3.7/2, MS2.9/3, Error ellipse: s-maj=52.2km s-min=17.8km az=149.0*
NEIC ***07*** *04:40:33.7±2.0, 15.°58S±0.°06×172.°6W±0.°1, h70km±11km, mb4.5/9, Error ellipse: s-maj=14.5km s-min=7.4km az=75.0*

ISC 07 04:40:31.1±0.6, **15.°65S**±0.°06×**173.°03W**±0.°08, **h29**km, **n44**, σ2§01/26, **mb4.2**/12, **MS3.2**/3, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.11	35		Pn		Pn	04 41 04.6	+0.1
	60nm,0.3s,baz=170,slow=2.0,SNR=27								
AFI					Sn		Sn	04 41 25.3	-4.5
	73nm,0.3s,baz=26,slow=21,SNR=7.6								
AFI					LR		LR	04 41 36.3	
	comp=Z,90nm,21.8s,baz=200,slow=30 182nm,0.3s								
AFI	Afiamalu	2.11	35		Pn		Pn	04 41 03.8	-0.7
AFI					Sn		Sn	04 41 25.9	-4.0
NIUE	Niue	4.51	139				Pn	04 41 37.8	+0.3
NIUE							Sn	04 42 25.5	-3.6
MSVF	Nonsavu	8.80	255		LR		LR	04 45 39.2	
	comp=Z,226nm,20.2s,baz=86,slow=36								
MSVF	Nonsavu	8.80	255				Pn	04 42 43.8	+7.3
RAR	Rarotonga	13.74	116		Pn		Pn	04 43 44.4	+0.5
	1.2nm,0.3s,baz=7.5,slow=11,SNR=2.1								
RAR					Sn		Sn	04 46 05.4	-10
	0.6nm,0.3s,baz=294,slow=23,SNR=1.6								
RAR					LR		LR	04 48 05.8	
	comp=Z,57nm,19.0s,baz=284,slow=33 15nm,0.9s								
RAR	Rarotonga	13.74	116		Pn		Pn	04 43 39.8	-4.2
DZM	Mont Dzumac	20.44	249	e	LR		LR	04 50 34.7	
	comp=Z,138nm,26.6s								
PAE	Paea	22.55	98	e	T		T	05 08 48.7	
	2.6nm,0.3s								
PPT2	Papeete2	22.55	98	e	LR		LR	04 50 54.1	
	comp=Z,68nm,23.0s								
PPT2	Papeete2	22.55	98	e	T		T	05 08 46.1	
	3.2nm,0.3s								
TIAR	Tiarei	22.77	98	e	T		T	05 09 06.6	
	1.4nm,0.3s								
TBI	Tubuai	23.48	113	e	T		T	05 09 53.8	
	5.9nm,0.3s								
BKZ	Black Stump Fm	25.17	199		P		P	04 45 53.7	-0.3
BKZ					IAmb		IAmb	04 46 29.2	
	comp=Z,35nm,1.3s								
TAOE	Nuku Hiva Isla	32.80	82	e	LR		LR	04 55 44.3	
	comp=Z,96nm,23.9s								
TAOE	Nuku Hiva Isla	32.80	82	e	T		T	05 21 36.5	
	comp=Z,46nm,0.2s								
NPOC	North of Pu'u	39.03	27		P		P	04 47 51.1	-4.4
H11S2	WAKE ISLAND Hy	39.36	329		T		T	05 29 32.0	
	baz=149,slow=76,SNR=8.9								
H11S3	WAKE ISLAND Hy	39.37	329		T		T	05 29 53.3	
	baz=149,slow=76,SNR=3.5								
H11S1	WAKE ISLAND Hy	39.38	329		T		T	05 29 50.9	
	baz=149,slow=76,SNR=6.1								
H11N3	WAKE ISLAND Hy	40.30	330		T		T	05 30 45.3	
	baz=150,slow=76,SNR=11								
H11N1	WAKE ISLAND Hy	40.31	330		T		T	05 31 06.2	
	baz=150,slow=76,SNR=10								
H11N2	WAKE ISLAND Hy	40.32	330		T		T	05 30 46.6	
	baz=150,slow=76,SNR=12								
STKA	Stephens Creek	44.22	240		P		P	04 48 36.4	-1.6
	comp=Z,1.2nm,0.4s,baz=88,slow=12,SNR=2.9								
	comp=Z,1.2nm,0.4s								
WB0	Warramunga Arr	50.10	257		P		P	04 49 23.3	-0.6
WB0					IAmb		IAmb	04 50 06.2	
	comp=Z,12nm,1.5s								
WB2	Warramunga Arr	50.13	257		P		P	04 49 23.6	-0.5
WB2					IAmb		IAmb	04 49 46.7	
	comp=Z,4.3nm,1.2s								
WRA	Warramunga Arr	50.14	257		P		P	04 49 23.9	-0.4
	comp=Z,1.0nm,0.8s,baz=92,slow=7.4,SNR=19								
	comp=Z,1.0nm,0.8s								
WRA	Warramunga Arr	50.14	257		P		P	04 49 23.1	-1.1
AS31	Alice Springs	50.37	252		P		P	04 49 27.8	+1.7
ASAR	Alice Springs	50.38	252		P		P	04 49 25.6	-0.5
	comp=Z,8.8nm,0.8s,baz=86,slow=7.7,SNR=38								
	comp=Z,8.8nm,0.8s								
ASAR	Alice Springs	50.38	252		P		P	04 49 25.0	-1.0
NWAO	Narrogin (SRO)	64.81	241		P		P	04 51 06.2	-1.3
TOLI2	Tolitoli	67.44	278		P		P	04 51 24.4	-0.2
TOLI2					IAmb		IAmb	04 52 01.6	
	comp=Z,3.3nm,0.7s								
NVAR	Mina Array Bea	74.27	42		P		P	04 52 09.5	+3.5
	comp=Z,1.6nm,0.9s,baz=223,slow=9.3,SNR=9.0								
	comp=Z,1.6nm,0.9s								
QSPA	South Pole Qui	74.40	180		P		P	04 52 04.8	-1.4
QSPA					IAmb		IAmb	04 52 10.2	
	comp=Z,7.2nm,1.4s								
TXAR	Lajitas Array	80.45	56		P		P	04 52 44.0	+3.4
	comp=Z,0.6nm,0.8s,baz=218,slow=7.9,SNR=4.9								
	comp=Z,0.6nm,0.8s								
PDAR	Pinedale Array	82.21	42		P		P	04 52 51.8	+2.0
	comp=Z,0.6nm,0.8s,baz=240,slow=2.9,SNR=4.5								
	comp=Z,0.6nm,0.8s								
ILAR	Eielson Array	82.62	11		P		P	04 52 52.8	+1.6
	comp=Z,0.6nm,0.8s,baz=220,slow=5.5,SNR=4.9								
	comp=Z,0.6nm,0.8s								
H03S2	Juan Fernandez	84.77	124		T		T	06 26 50.1	
	baz=252								
H03S1	Juan Fernandez	84.78	124		T		T	06 26 50.8	
	baz=252								
H03S3	Juan Fernandez	84.78	124		T		T	06 26 50.7	
	baz=252								
ARCES	ARCESS Array B	124.90	352		PKP		PKiKP	04 59 28.6	+0.5
	comp=Z,1.9nm,0.9s,baz=325,slow=1.1,SNR=4.0								
CLL	Collm	144.10	354	i	PKPdf		PKPdf	05 00 03.6	-0.3
BRTR	Keskin Array B	146.58	321		PKPbc		PKPab	05 00 11.4	+0.1
	comp=Z,0.6nm,0.6s,baz=5.7,slow=1.4,SNR=2.9								

UCR ***07*** *04:46:33.0±2.7, 11.°33N×87.°14W, h5km, MW3.5*
INET ***07*** *04:46:34.6±0.6, 11.°29N×87.°02W, h15km±8km, MW3.5*

ISC 07 04:46:37.6±1.8, **11.°42N**±0.°06×**86.°99W**±0.°09, **h49**km, **n20**, σ1§30/24, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.85	27	eP			Pn	04 46 52.0	-1.3
TISN	Laguna Tiscapa	1.00	44	eP			Pn	04 46 54.4	-1.0
APYN	Apoyeque	1.02	38	eP			Pn	04 46 54.7	-0.9
MGAN	Managua	1.02	45	eP			Pn	04 46 54.6	-1.0
MGAN				eP			Pn	04 46 54.7	-0.9
MOMN	Momotombo	1.07	24	eP			Pn	04 46 55.3	-1.0
HUEN		1.21	41	eP			Pn	04 46 57.2	-0.9
HUEN				eS			Sn	04 47 14.9	+1.5
CRIN	San Cristobal	1.27	357	eP			Pn	04 46 58.3	-0.8
CRIN				eS			Sn	04 47 16.9	+1.8
CRIN	San Cristobal	1.27	357	eP			Pn	04 46 58.3	-0.8
HZTE	Horizontes, Gu	1.54	117	eP			Pn	04 47 01.3	-1.3
CSGN	Cosiguina Volc	1.64	340	eP			Pn	04 47 03.5	-0.7
MATN	Matagalpa	1.82	35	eP			Pn	04 47 05.7	-0.9
MATN				eS			Sn	04 47 29.5	+0.9
ORTG	Ortega, Santa	1.83	125	eP			Pn	04 47 07.6	+0.9
SAJU	San Juanillo,	1.84	137	eP			Pn	04 47 03.9	-2.9
ACON	Acoyapa	1.86	73	eP			Pn	04 47 05.3	-1.6
COLC	Colonia	1.91	113	eP			Pn	04 47 07.8	+0.1
VMAR	Armenia, Volca	1.93	108	eP			Pn	04 47 07.3	-0.7
CUI	Cuipilapa	1.94	113	eP			Pn	04 47 07.3	-0.9
NICO	Nicoya	1.98	130	eP			Pn	04 47 10.3	+1.6
JTS	Las Juntas de	2.29	119	eP			Pn	04 47 13.4	+0.5
LAFE	Finca La Fe, P	2.60	128	eP			Pn	04 47 15.7	-1.4

IDC ***07*** *04:54:20.5±0.4, 8.°42N×125.°99E, h0km, mb4.5/31, mbtmp4.5/33, ML4.9/2, MS3.8/13, Error ellipse: s-maj=15.9km s-min=8.9km az=81.0*
NEIC ***07*** *04:54:22.8±1.2, 8.°35N±0.°07×125.°95E±0.°08, h10km±1km, mb4.9/66, Error ellipse: s-maj=14.1km s-min=11.9km az=74.0*
MAN ***07*** *04:54:22.6, 8.°30N×125.°97E, h9km, mb5.5, ML4.5, MS4.8*
DJA ***07*** *04:54:25.6±0.7, 8.°N±6.°×12.°6E±.°, h52km±5km, M4.8/30, mb4.9/30, mB5.2/16, MLv5.4/6, Mw(mB)4.6/16, MwMwp4.8/2, Mwp5.1/2*
BJI ***07*** *04:54:27.3±0.0, 8.°19N×126.°20E, h75km, mb4.6/47, mB4.9/32, Ms4.4/29, Ms7 4.1/30*

ISC 07 04:54:24.3±0.5, **8.°38N**±0.°03×**126.°01E**±0.°04, **h22**km±4km, **n235**, σ1§45/240, **mb4.8**/77, **MS4.1**/25, **8C-8D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BIPH	Bislig	0.40	118	⇓eP			Pb	04 54 31.9	-0.7
BIPH				iS			Sn	04 54 42.2	+0.6
BUKP	Musuan	1.05	242	⇑eP			Pn	04 54 41.5	-2.3
BUKP				eS			Sn	04 55 01.6	+3.7
DAV	Davao City (W)	1.36	198		Pn		Pn	04 54 48.0	0.0
	1µm,0.3s,baz=32,slow=3.2,SNR=177								
DAV					Sn		Sb	04 55 06.0	-0.1
	654nm,0.3s,baz=278,slow=20,SNR=6.4								
DAV	Davao City (W)	1.36	198		Pn		Pn	04 54 47.8	-0.2
DAV	Davao City (W)	1.36	198		P		Pb	04 54 49.1	0.0
SCPH	Surigao	1.49	340	eP			Pn	04 54 50.4	+0.7
SCPH				eS			Sn	04 55 08.7	+0.2
KCP	Kidapawan	1.63	214	⇓iP			Pn	04 54 50.5	-1.3
KCP				iS			Sb	04 55 14.5	+0.6
MSLP	Maasin	2.08	327	⇑eP			Pn	04 54 59.6	+1.7
CTBH	Cotabato--PC H	2.09	237	⇓eP			Pn	04 54 57.8	-0.1
TABP	Talibon, Bohol	2.37	316	⇑eP			Pn	04 55 01.0	-0.9
TABP				eS			Sn	04 55 31.9	+1.5
TBP	Tagbilaran	2.49	302	⇑eP			Pn	04 55 03.5	0.0
TBP				iS			Sb	04 55 36.0	-2.5
GSPH	General Santos	2.50	205	⇑iP			Pn	04 55 04.2	+0.4
GSPH				eS			Sb	04 55 39.3	+0.3
DCPH	Dipolog City	2.63	275	⇓eP			Pn	04 55 07.1	+1.6
DCPH				eS			Sb	04 55 43.1	+0.4
PAGZ	Pagadian	2.65	259	⇑eP			Pn	04 55 05.4	-0.3
PAGZ				eS			Sb	04 55 44.1	+1.0
LLP	Lapu-Lapu	2.79	314	⇑iP			Pn	04 55 08.2	+0.6
LLP				iS			Sb	04 55 47.7	+0.5
SNPH	Sibulan	2.90	290	⇓eP			Pn	04 55 09.1	-0.1
SNPH				eS			Sn	04 55 45.1	+1.7
CNOP	Candoni, Negro	3.62	294	⇓eP			Pn	04 55 19.5	+0.4
RCP	Roxas	4.51	315	⇓eP			Pn	04 55 32.1	+0.9
RCP				eS			Sb	04 56 52.7	+16
SGSI	Sangihe	4.68	186	P			Pn	04 55 36.6	+2.9
LQP	Lukban	7.19	323	⇑eP			Pn	04 56 01.4	-6.9
TNTI	Ternate	7.67	170		Pn		Pn	04 56 14.4	-0.4
TNTI	Ternate	7.67	170		P		Pn	04 56 16.7	+1.9
	0.5nm2µm123nm,1.1s								
MYLDM	Lahad Datu	8.10	247		Pn		Pn	04 56 19.6	-1.0
GTOI	Gorontalo	8.25	201		P		Pn	04 56 21.7	-1.0
	1µm137nm,1.0s								
I39PW	PALAU INFRASON	8.50	95	i				05 51 50.0	
	baz=281,slow=285,SNR=0.9								
MRSI	Marisa	8.83	207		P		Pn	04 56 30.4	-0.3
	1µm91nm,0.7s								
TOLI2	Tolitoli	8.89	216		Pn		Pn	04 56 30.9	-0.7
TOLI2	Tolitoli	8.89	216		P		Pn	04 56 32.0	+0.4
LBMI	Labuha	9.08	170		P		Pn	04 56 35.1	+1.0
	2µm94nm,1.4s								
LUWI	Luwuk	9.89	199		Pn		Pn	04 56 44.7	-0.6
LUWI	Luwuk	9.89	199		P		Pn	04 56 46.4	+1.1
	226nm,1.2s								
KKM	Kota Kinabalu	9.98	257		Pn		Pn	04 56 46.4	-0.2
APSI	Ampana	10.20	205		P		Pn	04 56 51.1	+1.7
	1µm95nm,1.3s								
SANI	Sanana	10.36	180		P		Pn	04 56 46.5	-5.1
SIJI	Sorong	10.57	150		Pn		Pn	04 56 55.5	+0.9
	6.0nm,0.3s,baz=345,slow=14,SNR=6.8 23nm,0.4s								
NLAI	Namlea	11.59	175		P		Pn	04 57 08.0	-0.5
	3µm76nm,0.6s								
FAKI	Fak Fak	12.83	151		Pn		Pn	04 57 26.4	+0.9
FAKI	Fak Fak	12.83	151		P		Pn	04 57 27.8	+2.3
	884nm71nm,1.0s								
FAKI	Fak Fak	12.83	151		P		Pn	04 57 27.8	+2.3
TTSI	Tana Toraja	12.91	209		P		Pn	04 57 27.8	+1.2
	1µm61nm,1.3s								
KAPI	Kappang	14.69	205		P		Pn	04 57 48.0	-2.9
BKSI	Bulukumba	14.82	204		P		Pn	04 57 53.2	+0.6
	686nm24nm,0.9s								
SBUM	Sibu	14.93	248		Pn		Pn	04 57 54.1	0.0
SMPI	Sarmi	16.32	129		P		Pn	04 58 12.8	+0.5
	13µm112nm,1.4s								
MMRI	Maumere	17.31	193				Pn	04 58 24.1	-0.6
MMRI						IAmb	IAmb	04 58 33.1	
	comp=Z,197nm,1.6s								
MMRI	Maumere	17.31	193		P		P	04 58 26.1	+0.1
	comp=Z,65nm,0.9s								
EDFI	Ende, Flores	17.55	194		P		Pn	04 58 26.4	-1.3
	comp=Z,364nmcomp=Z,18nm,1.4s								
SOEI	Soe	18.09	186				Pn	04 58 33.4	-1.1
SOEI	Soe	18.09	186		P		Pn	04 58 34.6	+0.1
	comp=Z,2µmcomp=Z,188nm,1.3s								
BATI	Baumata	18.61	187		P		Pn	04 58 40.7	+0.1
	comp=Z,5.8nm,0.3s,baz=335,slow=2.0,SNR=7.4								
	comp=Z,113nm,0.8s								
BATI	Baumata	18.61	187		P		P	04 58 39.0	-1.3
	comp=Z,84nm,1.2s								
QIZ	Qiongzhong	18.92	306		P		Pn	04 58 44.5	0.

PZH S **S** **05 05 19.8 +3.0**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,100nm,4.3s
PZH LR LR
comp=Z,830nm,18.6s
PZH LR LR
comp=Z,730nm,17.0s
PZH LR LR
comp=Z,730nm,16.3s
WRAB Tennant Creek 29.30 164 P **P** **05 00 23.8 -1.6**
WRAB IAmb IAmb 05 01 25.3
comp=Z,21nm,1.4s
WRAB Tennant Creek 29.30 164 P **P** **05 00 26.4 +1.0**
WRA Warramunga Arr 29.31 164 P **P** **05 00 25.4 0.0**
comp=Z,3.1nm,0.9s,baz=349,slow=9.7,SNR=16
comp=Z,3.1nm,0.9s
WRA Warramunga Arr 29.31 164 P **P** **05 00 23.9 -1.5**
WB2 Warramunga Arr 29.32 164 P **P** **05 00 24.9 -0.6**
WR0 Warramunga Arr 29.38 163 P **P** **05 00 25.4 -0.6**
WR0 IAmb IAmb 05 01 16.6
comp=Z,28nm,1.4s
XAN Xi'an 30.00 331 P **P** **05 00 31.1 -0.4**
XAN S **S** **05 05 25.5 -2.9**
XAN pmax pmax
comp=Z,7.0nm,0.7s
XAN LR LR
comp=Z,180nm,14.6s
XAN LR LR
comp=Z,440nm,15.3s
XAN LR LR
comp=Z,470nm,17.0s
MJAR Matsushiro Arr 30.16 20 P **P** **05 00 30.9 -1.9**
comp=Z,0.9nm,0.3s,baz=189,slow=9.7,SNR=5.7
MJAR LR LR 05 13 17.8
comp=Z,240nm,18.0s,baz=205,slow=38
comp=Z,0.9nm,0.3s
CD2 Chengdu 30.56 320 P **P** **05 00 36.4 -0.1**
QIS Mount Isa 31.71 155 P **P** **05 00 47.8 +1.2**
ASAR Alice Springs 32.77 167 P **P** **05 00 55.0 -0.9**
comp=Z,1.4nm,0.6s,baz=340,slow=6.6,SNR=20
comp=Z,1.4nm,0.6s
ASAR Alice Springs 32.77 167 P **P** **05 00 55.3 -0.6**
WRKA Warakurna 33.28 176 P **P** **05 01 00.2 -0.2**
LZH Lanzhou 34.20 327 *e*P **P** **05 01 09.3 +0.9**
LZH S **S** **05 06 33.4 -0.6**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH LR LR
comp=Z,450nm,14.8s
LZH LR LR
comp=Z,380nm,14.8s
LZH LR LR
comp=Z,460nm,14.1s
CTA Charters Tower 34.60 145 P **P** **05 01 12.0 +0.1**
comp=Z,6.1nm,0.8s,baz=343,slow=12,SNR=3.7
comp=Z,6.1nm,0.8s
CTAO Charters Tower 34.60 145 P **P** **05 01 11.8 -0.1**
HHC Hu-ho-hao-te 34.80 341 *e*P **P** **05 01 15.9 +2.4**
HHC pmax pmax
comp=Z,32nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.4s
HHC LR LR
comp=Z,310nm,14.7s
HHC LR LR
comp=Z,400nm,14.7s
HHC LR LR
comp=Z,370nm,15.9s
USA0B Ussuriysk Arra 36.07 7 P **P** **05 01 23.5 -0.7**
USA0B IAmb IAmb 05 01 25.0
comp=Z,9.4nm,0.8s
USRK Ussuriysk Ar. 36.07 7 P **P** **05 01 24.2 0.0**
comp=Z,15nm,0.6s,baz=190,slow=7.0,SNR=35
comp=Z,15nm,0.6s
USRK Ussuriysk Ar. 36.07 7 P **P** **05 01 23.4 -0.8**
MDJ Mudanjiang 36.24 4 P **P** **05 01 26.6 +0.9**
MDJ pmax pmax
comp=Z,20nm,1.2s
MDJ pmax pmax
comp=Z,83nm,3.9s
XLT XiLinHaoTe 36.43 348 *e*P **P** **05 01 30.9 +3.4**
XLT S **S** **05 07 12.9 +4.9**
XLT pmax pmax
comp=Z,10.0nm,1.0s
XLT pmax pmax
comp=Z,100nm,4.2s
XLT LR LR
comp=Z,340nm,16.5s
XLT LR LR
comp=Z,290nm,18.8s
SHL Shillong 36.68 302 P **P** **05 01 29.5 -0.5**
SHL IAmb IAmb 05 01 43.1
comp=Z,20nm,0.9s
GTA Gaotai 38.80 327 *e*P **P** **05 01 48.1 +0.5**
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,79nm,5.3s
GTA LR LR
comp=Z,260nm,15.3s
GTA LR LR
comp=Z,300nm,16.0s
GTA LR LR
comp=Z,450nm,18.2s
FORT Forrest 38.98 177 P **P** **05 01 49.3 +0.3**
FORT IAmb IAmb 05 02 29.1
comp=Z,27nm,0.9s
GOMU GeErMu 39.67 319 P **P** **05 01 57.0 +1.8**
GOMU S **S** **05 08 00.7 +2.9**
GOMU pmax pmax
comp=Z,6.0nm,1.1s
GOMU pmax pmax
comp=Z,62nm,7.1s
GOMU LR LR
comp=Z,200nm,20.0s
GOMU LR LR
comp=Z,190nm,17.2s
GOMU LR LR
comp=Z,200nm,16.3s
H11S3 WAKE ISLAND Hy 40.74 71 T T 05 44 59.6
baz=262,slow=74,SNR=53
H11S1 WAKE ISLAND Hy 40.75 71 T T 05 45 00.8
baz=262,slow=74,SNR=26
H11S2 WAKE ISLAND Hy 40.76 71 T T 05 45 01.6
baz=262,slow=74,SNR=18
H11N1 WAKE ISLAND Hy 41.13 70 T T 05 45 44.1
baz=265,slow=75,SNR=20
H11N2 WAKE ISLAND Hy 41.13 70 T T 05 45 44.9
baz=265,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 41.14 70 T T 05 45 45.4
baz=265,slow=75,SNR=17
NWAO Narrogin (SRO) 41.91 191 P **P** **05 02 12.5 -0.8**
comp=Z,24nm,1.1s,baz=167,slow=16,SNR=2.1
comp=Z,24nm,1.1s
BBOO Buckleboo 42.06 167 P **P** **05 02 11.8 -2.7**
SONM Songino Array 42.70 341 P **P** **05 02 19.3 -0.4**
comp=Z,1.3nm,0.8s,baz=168,slow=10,SNR=7.2
SONM LR LR 05 19 48.3
comp=Z,156nm,21.6s,baz=168,slow=36
comp=Z,1.3nm,0.8s
STKA Stephens Creek 42.71 160 P **P** **05 02 20.1 +0.3**
comp=Z,9.6nm,0.8s,baz=342,slow=9.5,SNR=13
STKA PP **PP** **05 04 02.9 +3.7**
comp=Z,3.0nm,0.8s,baz=343,slow=13,SNR=2.9
comp=Z,9.6nm,0.8s
STKA Stephens Creek 42.71 160 P **P** **05 02 19.3 -0.5**
PALK Pallekele 44.88 272 LR LR 05 22 40.1
comp=Z,82nm,18.6s,baz=190,slow=38
WMQ Urumqi 48.56 323 *e*P **P** **05 03 07.7 +1.6**
WMQ pmax pmax
comp=Z,31nm,0.7s
WMQ LR LR
comp=Z,440nm,21.3s
WMQ LR LR
comp=Z,220nm,22.7s
WMQ LR LR
comp=Z,210nm,21.3s
DZM Mont Dzumac 49.87 128 P **P** **05 03 17.0 +0.5**
comp=Z,5.3nm,0.7s,baz=204,slow=12,SNR=5.8
comp=Z,5.3nm,0.7s
PETK Petropavlovsk- 51.46 24 P **P** **05 03 28.3 +0.4**
comp=Z,2.1nm,0.6s,baz=219,slow=0.9,SNR=4.2
comp=Z,2.1nm,0.6s
PETK Petropavlovsk- 51.46 24 P **P** **05 03 28.8 +0.9**
SHLS Shalkode 53.37 319 *e*P **P** **05 03 40.0 -2.4**
baz=319
MK31 Makanchi Array 53.38 324 P **P** **05 03 42.2 0.0**
MK31 IAmb IAmb 05 04 03.1
comp=Z,24nm,1.9s
MKAR Makanchi Array 53.38 324 P **P** **05 03 42.8 +0.5**
comp=Z,3.5nm,0.7s,baz=123,slow=8.1,SNR=31
MKAR PcP **PcP** **05 04 50.1 +0.6**
comp=Z,5.5nm,0.9s,baz=96,slow=3.7,SNR=3.8
MKAR LR LR 05 29 24.5
comp=Z,134nm,18.7s,baz=107,slow=40
comp=Z,3.5nm,0.7s
MKAR Makanchi Array 53.38 324 P **P** **05 03 41.8 -0.5**
MAKZ Makanchi 53.57 324 P **P** **05 03 43.4 -0.2**
MAKZ IAmb IAmb 05 04 04.6
comp=Z,22nm,1.6s
UZB Uzynbulak 53.65 318 *e*P **P** **05 03 44.0 -0.5**
baz=318
TARG Taragay, Kyrgy 53.87 316 P **P** **05 03 42.8 -3.6**
TARG IAmb IAmb 05 03 54.0
comp=Z,13nm,1.1s
KPKS Kokpek 54.02 319 *e*P **P** **05 03 46.4 -0.7**
baz=319
SATY Saty 54.02 318 *e*P **P** **05 03 47.2 +0.1**
comp=Z,9.0nm,1.1s,baz=318
KSH Kashi 54.31 313 P **P** **05 03 51.5 +2.2**
KSH pmax pmax
comp=Z,13nm,1.2s
TDK Taldyorghan 54.88 320 *e*P **P** **05 03 53.0 -0.2**
baz=320
MDOK Medeo 54.97 318 *e*P **P** **05 03 53.3 -0.8**
baz=318
NRN Naryn 55.00 315 P **P** **05 03 52.5 -2.0**
NRN IAmb IAmb 05 04 01.3
comp=Z,19nm,1.2s
CHKK Chushkaly 55.30 318 *e*P **P** **05 03 56.1 -0.1**
baz=318
KUU Kurty 55.74 318 *e*P **P** **05 03 58.7 -0.7**
comp=Z,26nm,1.1s,baz=318
ZALV Zalesovo Beam 56.16 332 P **P** **05 04 01.2 -0.9**
comp=Z,1.1nm,0.4s,baz=122,slow=7.2,SNR=6.7
comp=Z,1.1nm,0.4s
ZALV Zalesovo Beam 56.16 332 P **P** **05 04 00.8 -1.4**
SEM Semipalatinsk 56.43 327 *e*P **P** **05 04 03.8 -0.7**
baz=327
AAK Ala-Archa 56.49 316 P **P** **05 04 05.2 +0.2**
AAK IAmb IAmb 05 04 12.2
comp=Z,13nm,1.2s
SGDS Sogindy 56.70 317 *e*P **P** **05 04 06.3 -0.1**
baz=317
KURK Kurchatov 57.48 326 P **P** **05 04 10.7 -0.9**
KURK IAmb IAmb 05 04 32.2
comp=Z,16nm,1.1s
MSVF Nonsavu 57.57 117 P **P** **05 04 12.8 -0.1**
comp=Z,7.8nm,0.8s,baz=118,slow=19,SNR=3.0
comp=Z,7.8nm,0.8s
BTLS Baital 57.70 319 *e*P **P** **05 04 12.6 -0.7**
baz=319
KBL Kabul 58.20 305 P **P** **05 04 17.1 -0.2**
KBL IAmb IAmb 05 04 23.5
comp=Z,14nm,1.1s
BTK Batken 58.24 312 P **P** **05 04 16.5 -0.8**
GAR Garm 58.31 311 P **P** **05 04 17.9 0.0**
DZA Taraz 58.76 315 *e*P **P** **05 04 20.8 0.0**
baz=316
CHGR Chuyangaron 59.09 310 P **P** **05 04 23.1 -0.2**
KK31 Karatay Array 59.40 315 P **P** **05 04 24.9 -0.3**
KK31 IAmb IAmb 05 04 31.6
comp=Z,25nm,1.4s
KKAR Karatay Array 59.40 315 P **P** **05 04 24.7 -0.6**
IUG Iuzhnay 59.44 314 *e*P **P** **05 04 25.4 -0.2**
baz=314
BRZS Berezniki 60.53 324 *e*P **P** **05 04 32.3 -0.5**
comp=Z,14nm,1.8s,baz=324
AMKA Amchitka 61.09 35 P **P** **05 04 37.5 +0.9**
BVAR Borovoye Array 63.07 326 LR LR 05 32 19.3
comp=Z,93nm,21.7s,baz=110,slow=36
BRVK Borovoye 63.15 326 P **P** **05 04 50.4 +0.1**
HRA Herat 63.70 304 P **P** **05 04 54.0 -0.6**
HRA IAmb IAmb 05 06 38.7
comp=Z,4.6nm,0.6s
NRIK Noril'sk 65.78 346 P **P** **05 05 06.4 -0.8**
comp=Z,5.7nm,0.7s,baz=144,slow=6.1,SNR=8.2
comp=Z,5.7nm,0.7s
NRIK Noril'sk 65.78 346 P **P** **05 05 06.0 -1.2**
NRIK IAmb IAmb 05 05 10.9
comp=Z,13nm,1.1s
RPZ Rata Peaks 65.97 146 P **P** **05 05 09.6 +0.7**
comp=Z,23nm,0.9s,baz=165,slow=2.3,SNR=4.6
comp=Z,23nm,0.9s
OXZ Oxford 66.27 145 P **P** **05 05 11.0 +0.2**
URZ Urewera 66.43 138 P **P** **05 05 11.9 -0.1**
comp=Z,4.9nm,0.7s,baz=254,slow=0.1,SNR=1.4
URZ LR LR 05 34 04.7
comp=Z,76nm,20.7s,baz=334,slow=36
comp=Z,4.9nm,0.7s
BKZ Black Stump Fm 66.52 139 P **P** **05 05 12.9 +0.3**
GEYT Ailbeck 67.47 308 P **P** **05 05 19.6 +0.9**
comp=Z,1.5nm,0.5s,baz=99,slow=4.5,SNR=1.9
comp=Z,1.5nm,0.5s
ABKAR Akbulak array 68.14 320 P **P** **05 05 22.2 -0.5**
NIKH Nikolski High 68.48 36 P **P** **05 05 25.1 +0.3**
UNV Unalaska Valle 70.06 36 P **P** **05 05 34.6 +0.1**
ARU Arti 70.66 327 LR LR 05 36 46.6
comp=Z,72nm,18.4s,baz=220,slow=36
CASY Casey 75.32 186 P **P** **05 06 05.6 +0.3**
CASY IAmb IAmb 05 07 28.3
comp=Z,44nm,1.9s
RAYN Ar Rayn 78.04 292 P **P** **05 06 20.3 -1.5**
IMAR Indian Mountai 78.43 24 P **P** **05 06 22.4 -0.7**
H21K Melozitna Rive 78.78 25 P **P** **05 06 25.6 +0.5**
CAST Castle Rocks 78.94 27 P **P** **05 06 26.4 +0.4**
I21K Tanana 79.09 25 P **P** **05 06 27.1 +0.4**
BPAW Bear Paw Mtn. 79.46 26 P **P** **05 06 29.1 +0.2**
BPAW Bear Paw Mtn. 79.46 26 P **P** **05 06 29.6 +0.8**
baz=267
SUA Susitna One 79.47 29 P **P** **05 06 28.9 -0.1**
SUA Susitna One 79.47 29 P **P** **05 06 29.3 +0.3**
baz=268
MLY Manley 79.61 25 P **P** **05 06 29.4 -0.2**
MLY IAmb IAmb 05 08 04.8
comp=Z,29nm,2.0s
MLY Manley 79.61 25 P **P** **05 06 30.2 +0.5**
baz=267
TRF Thorofare Moun 79.75 27 P **P** **05 06 31.1 +0.5**
baz=268
M22K Willow 79.78 29 P **P** **05 06 30.7 +0.3**
baz=269
COLD Coldfoot 79.93 23 P **P** **05 06 33.1 +1.9**
baz=268
GURO Guroymak-BITLI 80.14 308 P **P** **05 06 32.5 -0.7**
MCK McKinley 80.36 27 P **P** **05 06 33.9 +0.2**
MCK IAmb IAmb 05 06 44.6
comp=Z,37nm,1.6s
MCK McKinley 80.36 27 P **P** **05 06 33.9 +0.2**
baz=269
PWL Port Wells 80.63 30 P **P** **05 06 35.3 +0.1**
baz=270
MDM Murphy Dome 80.67 25 P **P** **05 06 35.7 +0.3**
WRH Wood River Hil 80.73 26 P **P** **05 06 36.0 +0.3**
WRH IAmb IAmb 05 06 36.8
comp=Z,12nm,1.5s
CCB Clear Creek Bu 80.86 26 P **P** **05 06 37.0 +0.8**
WAT6 Susitna Watana 80.90 28 P **P** **05 06 36.9 +0.1**
baz=271
KLMR Klimovskoe 81.03 330 *e*P **P** **05 06 39.3 +2.0**
KLMR AMP 05 06 42.6
comp=Z,10.0nm,1.0s
DHY Denali Highway 81.06 27 P **P** **05 06 38.0 +0.4**
HDA Harding Lake 81.23 26 P **P** **05 06 37.1 -1.2**
ILAR Eielson Array 81.25 26 P **P** **05 06 37.2 -1.2**
comp=Z,0.9nm,0.9s,baz=254,slow=5.0,SNR=7.5
comp=Z,0.9nm,0.9s
BMAR Burnt Mountain 82.10 23 P **P** **05 06 43.6 +0.7**
K27K Chicken 83.38 26 P **P** **05 06 49.8 +0.3**
K27K Chicken 83.38 26 P **P** **05 06 51.6 +2.0**
baz=275
I27K Kandik River 83.42 25 P **P** **05 06 51.2 +1.4**
baz=276
CTGM Chitina Glacie 84.04 29 P **P** **05 06 53.4 +0.2**
CTGM IAmb IAmb 05 08 23.0
comp=Z,12nm,0.9s
DAWY Dawson 84.55 26 P **P** **05 06 55.5 -0.1**
DAWY IAmb IAmb 05 07 00.8
comp=Z,6.5nm,1.2s
DAWY Dawson 84.55 26 P **P** **05 06 56.6 +1.0**
baz=278
I29M Ogilvie Camp, 84.82 25 P **P** **05 06 57.2 +0.3**
I29M IAmb IAmb 05 08 32.0
comp=Z,6.4nm,1.0s
I29M Ogilvie Camp, 84.82 25 P **P** **05 06 57.4 +0.5**
baz=279
EPYK Eagle Plains 85.30 24 P **P** **05 06 59.8 +0.5**
EPYK IAmb IAmb 05 07 15.1
comp=Z,9.3nm,1.1s
ARCES ARCESS Array B 85.87 340 P **P** **05 07 01.0 -1.1**
comp=Z,3.2nm,1.0s,baz=80,slow=7.8,SNR=6.7
comp=Z,3.2nm,1.0s
BRTR Keskin Array B 86.53 309 P **P** **05 07 05.6 -0.5**
comp=Z,0.4nm,0.5s,baz=98,slow=5.5,SNR=3.8
comp=Z,0.4nm,0.5s
PPT2 Papeete2 87.23 108 *e*LR LR 05 34 47.9
comp=Z,149nm,33.0s
FINES FINESS Array B 87.42 332 P **P** **05 07 08.9 -0.8**
comp=Z,5.7nm,1.0s,baz=90,slow=3.9,SNR=9.6
comp=Z,5.7nm,1.0s
FARO Faro, Yukon 87.58 27 P **P** **05 07 11.0 +0.5**
FARO IAmb IAmb 05 07 25.7
comp=Z,17nm,1.8s
AKASG Malin Array Be 87.86 321 P **P** **05 07 10.2 -1.8**
comp=Z,1.8nm,0.8s,baz=61,slow=4.4,SNR=6.8
comp=Z,1.8nm,0.8s
MNK Minsk 87.94 325 *i* P **P** **05 07 07.7 -4.7**
comp=E,4.0nm,0.8s
MNK *i* P **P** **05 07 07.7 -4.7**
comp=N,7.0nm,1.0s
MNK *i* P **P** **05 07 07.7 -4.7**
comp=Z,12nm,0.8s,baz=79
MNK *i* PP **PP** **05 10 33.4 -5.0**
MNK *i* PPP PPP 05 12 28.5
MNK *i* S **SKSac** **05 17 35.4 -4.1**
MNK *i* SS **SS** **05 23 39.3 -2.3**
MNK *i* SSS SSS 05 27 12.9
MNK *i* LR LR 05 45 29.3
MNK *i* LRM MLR 05 47 09.2
comp=E,5.0nm,10.3s
MNK *i* LRM MLR 05 47 13.8
comp=Z,58nm,10.3s
MNK *i* LRM MLR 05 47 15.7
comp=N,13nm,14.8s
VNDA Vanda 88.09 173 P **P** **05 07 12.8 +0.3**
comp=N,2.1nm,1.0s,baz=325,slow=4.3,SNR=8.3
comp=N,2.1nm,1.0s
VNDA Vanda 88.09 173 P **P** **05 07 13.3 +0.7**
VNDA IAmb IAmb 05 07 19.8
comp=Z,24nm,1.9s
TBI Tubuai 88.30 114 *e*LR LR 05 35 16.8
comp=Z,152nm,25.8s
MLR Muntele Rosu 91.07 316 LR LR 05 54 47.3
comp=Z,105nm,19.2s,baz=51,slow=40
BBB Bella Bella 93.02 36 LR LR 05 43 05.5
comp=Z,28nm,20.2s,baz=79,slow=32
NOA NORSAR Array B 94.33 334 P **P** **05 07 39.8 -2.2**
comp=Z,9.9nm,0.8s,baz=67,slow=4.7,SNR=1.7
comp=Z,0.9nm,0.8s
TAOE Nuku Hiva Isla 95.03 98 *e*LR LR 05 38 25.1
comp=Z,74nm,23.7s
CLL Collm 97.47 324 *e*Px Px 05 08 00.0
GERES GERESS Array B 98.02 322 P Pdif 05 07 60.0 +0.8
comp=Z,1.9nm,1.0s,baz=89,slow=4.2,SNR=5.0
comp=Z,1.9nm,1.0s
YBH Yreka Blue Hor 99.96 45 LR LR 05 45 12.6
comp=Z,44nm,21.9s,baz=309,slow=30
TXAR Lajitas Array 119.25 50 PKP **PKPdf** **05 13 11.1 -1.6**
comp=Z,0.2nm,0.7s,baz=288,slow=3.7,SNR=2.4
TORD Torodi Ar. Bea 120.70 291 PKP **PKPdf** **05 13 14.5 -1.1**
comp=Z,1.2nm,0.7s,baz=48,slow=2.0,SNR=7.2
KOWA Kowa 125.47 294 PKP **PKPdf** **05 13 24.1 -0.7**
comp=Z,1.5nm,0.8s,baz=333,slow=2.3,SNR=2.2
PLCA Paso Flores 144.57 158 PKP **PKPdf** **05 13 58.9 -0.7**
comp=Z,1.7nm,0.9s,baz=233,slow=7.2,SNR=3.7

---

*IDC **07** 04:55:43.7±0.7, 8°.30N×126°.04E, h0km, mb4.3/14, mbtmp4.3/14, MS3.8/3, Error ellipse: s-maj=30.3km s-min=15.3km az=85.0*
*NEIC **07** 04:55:45.9±1.9, 8°.34N±0°.08×126°.05E±0°.09, h10km±1km, mb4.9/13, Error ellipse: s-maj=18.1km s-min=8.4km az=133.0*
ISC 07 04:55:48.7±0.5, **8°.31N**±0°.05×**126°.06E**±0°.07, **h34**km, **n43,**
σ1°**00**/**39, mb4.3**/20, **2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.32**	**113**	ǁ*i*P		**Pb**		**04 55 54.3**	**-2.6**
BIPH				*i*S		**Sb**		**04 56 02.7**	**+0.3**
DAV	**Davao City (W)**	**1.32**	**201**	Pn		**Pn**		**04 56 11.6**	**+0.8**
	541nm,0.3s,baz=118,slow=22,SNR=1.0								
SCPH	**Surigao**	**1.57**	**339**	*e*P		**Pn**		**04 56 13.8**	**-0.4**
SCPH				*i*S		**Sn**		**04 56 33.1**	**-0.1**
DCPH	**Dipolog City**	**2.69**	**276**	ǁ*e*P		**Pn**		**04 56 30.1**	**+0.5**
DCPH				*e*S		**Sn**		**04 56 59.8**	**-1.2**
SIJI	**Sorong**	**10.49**	**150**	Pn		**Pn**		**04 58 18.4**	**+1.6**
	4.1nm,0.3s,baz=182,slow=24,SNR=2.3								
MMRI	**Maumere**	**17.26**	**193**	Pn		**Pn**		**04 59 44.9**	**-2.3**
MMRI					IAmb	IAmb		04 59 52.2	
	comp=Z,39nm,0.6s								
JOW	**Kunigami**	**18.54**	**6**	LR		LR		05 05 16.8	
	comp=Z,343nm,20.6s,baz=169,slow=31								
KNRA	**Kununurra**	**23.98**	**174**	P		**P**		**05 00 60.0**	**-0.3**
KNRA					IAmb	IAmb		05 01 00.4	
	comp=Z,39nm,1.1s								
JCJ	**Chichijima**	**24.13**	**37**	P		**P**		**05 01 02.4**	**+0.7**
	comp=Z,11nm,0.4s,baz=282,slow=18,SNR=1.3								
	comp=Z,11nm,0.4s								
FITZ	**Fitzroy Crossi**	**26.25**	**181**	P		**P**		**05 01 20.5**	**-0.3**
	comp=Z,9.3nm,0.9s,baz=18,slow=6.8,SNR=2.0								
	comp=Z,9.3nm,0.9s								
FITZ	**Fitzroy Crossi**	**26.25**	**181**	P		**P**		**05 01 19.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**28.20**	**294**	P		**P**		**05 01 39.5**	**+1.0**
	comp=Z,0.8nm,0.2s,baz=116,slow=6.3,SNR=1.8								
	comp=Z,0.8nm,0.2s								
KSRS	**Korea Array**	**29.06**	**3**	P		**P**		**05 01 44.7**	**-1.2**
	comp=Z,2.1nm,0.6s,baz=180,slow=9.6,SNR=4.9								
	comp=Z,2.1nm,0.6s								
WRA	**Warramunga Arr**	**29.24**	**164**	P		**P**		**05 01 47.3**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=345,slow=10,SNR=1.1								
	comp=Z,1.3nm,0.8s								
MJAR	**Matsushiro Arr**	**30.20**	**20**	P		**P**		**05 01 56.9**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=188,slow=10,SNR=4.5								
	comp=Z,1.1nm,0.4s								
ASAR	**Alice Springs**	**32.69**	**167**	P		**P**		**05 02 18.1**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=342,slow=7.1,SNR=4.3								
	comp=Z,1.8nm,0.6s								
USA0B	**Ussuriysk Arra**	**36.12**	**7**	P		**P**		**05 02 46.9**	**-0.6**
USA0B					IAmb	IAmb		05 04 07.3	
	comp=Z,54nm,2.0s								
USRK	**Ussuriysk Ar.**	**36.12**	**7**	P		**P**		**05 02 46.7**	**-0.8**
	comp=Z,12nm,0.7s,baz=186,slow=7.3,SNR=9.9								
USRK					LR	LR		05 17 15.2	
	comp=Z,108nm,20.2s,baz=223,slow=36								
	comp=Z,12nm,0.7s								
USRK	**Ussuriysk Ar.**	**36.12**	**7**	P		**P**		**05 02 46.5**	**-1.0**
SHL	**Shillong**	**36.76**	**302**	P		**P**		**05 02 53.2**	**-0.3**
SHL					IAmb	IAmb		05 02 58.8	
	comp=Z,15nm,0.8s								
FORT	**Forrest**	**38.91**	**177**	P		**P**		**05 03 12.0**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**40.71**	**71**	T		T		05 46 22.6	
	baz=260,slow=73,SNR=10.0								
H11S1	**WAKE ISLAND Hy**	**40.72**	**71**	T		T		05 46 23.5	
	baz=260,slow=73,SNR=7.5								
H11S2	**WAKE ISLAND Hy**	**40.72**	**71**	T		T		05 46 29.9	
	baz=260,slow=73,SNR=3.9								
H11N1	**WAKE ISLAND Hy**	**41.10**	**70**	T		T		05 47 11.7	
	baz=265,slow=74,SNR=6.4								
H11N2	**WAKE ISLAND Hy**	**41.10**	**70**	T		T		05 47 14.1	
	baz=265,slow=74,SNR=4.8								
H11N3	**WAKE ISLAND Hy**	**41.12**	**70**	T		T		05 47 11.7	
	baz=265,slow=74,SNR=3.7								
BBOO	**Buckleboo**	**41.99**	**167**	P		**P**		**05 03 37.1**	**+0.4**
BBOO					IAmb	IAmb		05 03 37.9	
	comp=Z,25nm,0.9s								
STKA	**Stephens Creek**	**42.63**	**160**	P		**P**		**05 03 42.2**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=354,slow=5.7,SNR=3.2								
	comp=Z,4.9nm,0.8s								
STKA	**Stephens Creek**	**42.63**	**160**	P		**P**		**05 03 42.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**51.50**	**24**	P		**P**		**05 04 51.0**	**+0.1**
PETK	**Petropavlovsk-**	**51.50**	**24**	P		**P**		**05 04 50.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=192,slow=4.0,SNR=1.8								
	comp=Z,1.4nm,0.6s								
MKAR	**Makanchi Array**	**53.46**	**324**	P		**P**		**05 05 06.4**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=125,slow=7.4,SNR=2.6								
MKAR				PcP		**PcP**		**05 06 13.2**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=123,slow=3.3,SNR=2.0								

comp=Z,3.7nm,0.9s
ZALV Zalesovo Beam 56.24 332 P **P** **05 05 26.0 +0.5**
comp=Z,2.4nm,0.7s,baz=104,slow=6.3,SNR=3.8
comp=Z,2.4nm,0.7s
GAR Garm 58.39 311 P **P** **05 05 40.4 -0.8**
KK31 Karatay Array 59.48 315 P **P** **05 05 49.5 +0.9**
KK31 IAmb IAmb 05 05 58.9
comp=Z,5.4nm,0.9s
KKAR Karatay Array 59.48 315 P **P** **05 05 49.1 +0.6**
KKAR Karatay Array 59.48 315 P **P** **05 05 48.3 -0.2**
PWL Port Wells 80.66 30 P **P** **05 07 58.5 +0.5**
PWL IAmb IAmb 05 08 09.6
comp=Z,12nm,1.0s
ILAR Eielson Array 81.28 26 P **P** **05 08 03.1 +1.9**
comp=Z,0.8nm,0.7s,baz=251,slow=4.6,SNR=4.1
comp=Z,0.8nm,0.7s
OPO Ambohidratompo 82.20 250 LR LR 05 39 53.3
comp=Z,84nm,20.8s,baz=114,slow=32
ARCES ARCESS Array B 85.95 340 P **P** **05 08 24.5 -0.6**
comp=Z,0.9nm,0.6s,baz=57,slow=4.5,SNR=3.6
comp=Z,0.9nm,0.6s
TORD Torodi Ar. Bea 120.78 291 PKP **PKPdf** **05 14 36.5 -1.8**
comp=Z,1.0nm,0.7s,baz=72,slow=2.4,SNR=6.5

---

*IDC **07** 05:04:04.9±2.3,22.˚48S×173.˚05E,h0km,mb4.0/4, mbtmp4.0/5,ML3.7/1,Error ellipse: s-maj=77.2km s-min=42.4km az=166.0*
ISC 07 05:04:09.2±1.7,22.˚3S±0.˚4×173.˚1E±0.˚1,h32km,n13, σ0s78/8,mb4.0/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.14**	**271**	Pn	**Pn**	**05 05 38.4**	**+0.6**
	2.0nm,0.3s,baz=128,slow=14,SNR=16						
DZM				Sn	**Sn**	**05 06 46.4**	**-0.7**
	0.7nm,0.3s,baz=143,slow=20,SNR=2.3						
	2.9nm,0.3s						
STKA	**Stephens Creek**	**29.49**	**244**	P	**P**	**05 10 10.7**	**+0.1**
	1.9nm,0.7s,baz=95,slow=12,SNR=3.6						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**35.99**	**260**	P	**P**	**05 11 07.2**	**-0.4**
	2.3nm,0.9s,baz=88,slow=9.1,SNR=16						
	2.3nm,0.9s						
WRA	**Warramunga Arr**	**36.13**	**266**	P	**P**	**05 11 07.8**	**-1.0**
	0.5nm,0.4s,baz=96,slow=8.5,SNR=8.3						
	0.5nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**41.05**	**351**	T	T	05 56 11.8	
	baz=171						
H11S3	**WAKE ISLAND Hy**	**41.05**	**351**	T	T	05 56 10.3	
	baz=171						
H11S1	**WAKE ISLAND Hy**	**41.06**	**351**	T	T	05 56 12.2	
	baz=171						
H11N1	**WAKE ISLAND Hy**	**42.22**	**351**	T	T	05 57 42.0	
	baz=179						
H11N3	**WAKE ISLAND Hy**	**42.22**	**351**	T	T	05 57 37.6	
	baz=173						
H11N2	**WAKE ISLAND Hy**	**42.24**	**351**	T	T	05 57 42.0	
	baz=173						
FITZ	**Fitzroy Crossi**	**44.56**	**267**	P	**P**	**05 12 19.3**	**+0.8**
	2.1nm,0.7s,baz=112,slow=5.4,SNR=6.1						
	2.1nm,0.7s						
EKA	**Eskdalemuir Ar**	**146.92**	**356**	PKPbc	**PKPab**	**05 23 49.3**	**-0.2**
	0.4nm,0.5s,baz=343,slow=2.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**167.72**	**223**	PKPab	**PKPab**	**05 25 18.8**	**-0.7**
	0.4nm,0.8s,baz=144,slow=4.2,SNR=2.4						

---

*IDC **07** 05:05:28.7±1.8,22.˚86S×173.˚00E,h0km,mb4.0/4, mbtmp4.0/5,ML4.0/1,MS3.6/3,Error ellipse: s-maj=68.7km s-min=32.1km az=156.0*
ISC 07 05:05:35.8±1.1,22.˚8S±0.˚2×172.˚9E±0.˚1,h49km,n21, σ0s73/13,mb3.9/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.99**	**276**	Pn	**Pn**	**05 07 02.3**	**+0.3**
	3.6nm,0.3s,baz=136,slow=15,SNR=8.2						
DZM				Sn	**Sn**	**05 08 09.5**	**+0.1**
	1.6nm,0.3s,baz=79,slow=18,SNR=1.4						
	16nm,0.5s						
RAO	**Raoul Island**	**10.47**	**130**	LR	LR	05 11 05.4	
	comp=Z,245nm,20.2s,baz=310,slow=32						
URZ	**Urewera**	**15.82**	**168**	LR	LR	05 14 05.0	
	comp=Z,228nm,19.2s,baz=14,slow=33						
RPZ	**Rata Peaks**	**20.90**	**184**	LR	LR	05 16 52.1	
	comp=Z,178nm,18.4s,baz=46,slow=33						
STKA	**Stephens Creek**	**29.13**	**245**	P	**P**	**05 11 31.5**	**-0.7**
	1.7nm,0.6s,baz=104,slow=8.3,SNR=1.4						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**35.74**	**261**	P	**P**	**05 12 30.3**	**+0.1**
	4.1nm,0.9s,baz=90,slow=9.7,SNR=15						
	4.1nm,0.9s						
WRA	**Warramunga Arr**	**35.93**	**267**	P	**P**	**05 12 31.6**	**-0.2**
	0.4nm,0.3s,baz=102,slow=8.3,SNR=10						
	0.4nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**41.49**	**351**	T	T	05 57 33.3	
	baz=171,slow=76						
H11S3	**WAKE ISLAND Hy**	**41.50**	**351**	T	T	05 57 35.2	
	baz=171,slow=76						
H11S1	**WAKE ISLAND Hy**	**41.51**	**351**	T	T	05 57 34.4	
	baz=171,slow=76						
H11N1	**WAKE ISLAND Hy**	**42.67**	**352**	T	T	05 59 02.5	
	baz=172,slow=76						
H11N3	**WAKE ISLAND Hy**	**42.67**	**352**	T	T	05 59 07.5	
	baz=172,slow=76						
H11N2	**WAKE ISLAND Hy**	**42.69**	**352**	T	T	05 59 03.9	
	baz=172,slow=76						
TROLL	**Troll, Antarti**	**85.19**	**183**	P	**P**	**05 18 07.9**	**+1.1**
SNAA	**Sanae**	**85.72**	**181**	P	**P**	**05 18 10.0**	**+0.7**
VNA3	**Neumayer Olymp**	**86.18**	**179**	P	**P**	**05 18 11.7**	**+0.2**
VNA2	**Neumayer--Watz**	**86.52**	**180**	P	**P**	**05 18 12.3**	**-0.9**
	baz=165,slow=5.0						
VNA1	**Neumayer--Stat**	**86.79**	**180**	P	**P**	**05 18 13.4**	**-1.1**
ILAR	**Eielson Array**	**92.66**	**16**	P	**P**	**05 18 42.0**	**+0.1**
	0.4nm,0.9s,baz=231,slow=5.7,SNR=2.8						
	0.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**147.39**	**356**	PKPbc	**PKPbc**	**05 25 13.3**	**-0.5**
	0.4nm,0.5s,baz=10,slow=4.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**167.24**	**223**	PKPab	**PKPab**	**05 26 42.7**	**+0.8**
	1.2nm,0.9s,baz=126,slow=3.0,SNR=4.4						

WEL 07 05:05:57.6±1.4,37˚S±5˚×17˚9E±˚,h20km±7km,M3.5/21, ML3.7/26,MLv3.5/21,Error ellipse: s-maj=0.0km s-min=0.0km az=80.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.59**	**236**	P	Pg	05 06 09.5	+0.1
MXZ				S	Sb	05 06 17.1	+0.1
WMGZ	**Waiomatatini S**	**0.71**	**214**	P	Pn	05 06 12.7	+0.3
WMGZ				S	Sn	05 06 23.3	+0.6
PKGZ	**Pakihiroa**	**0.93**	**225**	P	Pg	05 06 15.8	-0.1
PKGZ				S	Sg	05 06 28.1	-0.1
PUZ	**Puketiti**	**0.99**	**212**	P	Pn	05 06 16.2	-0.1
PUZ				S	Sg	05 06 30.1	+0.3
HAZ	**Te Kaha**	**1.04**	**240**	P	Pb	05 06 16.5	-0.4
HAZ				S	Sg	05 06 31.5	-0.1
TWGZ	**Tauwhareparae**	**1.20**	**218**	P	Pb	05 06 19.7	+0.1
RUGZ	**Raukumara Rang**	**1.23**	**233**	P	Pb	05 06 20.3	+0.2
RUGZ				S	Sb	05 06 35.4	-0.2
CNGZ	**Carnagh Statio**	**1.37**	**204**	P	Pb	05 06 22.7	+0.2
WIZ	**White Island**	**1.41**	**258**	P	Pb	05 06 22.8	-0.4
TKGZ	**Te Karaka**	**1.47**	**215**	P	Pn	05 06 21.3	-1.7
MWZ	**Matawai**	**1.56**	**225**	P	Pn	05 06 24.2	+0.1
WHRZ	**Whale Island**	**1.66**	**248**	P	Pn	05 06 26.2	+0.6
RAGZ	**Rawiri**	**1.73**	**223**	P	Pn	05 06 26.8	+0.2
URZ	**Urewera**	**1.76**	**234**	P	Pn	05 06 27.0	+0.1
PRGZ	**Paritu Road**	**1.87**	**206**	P	Pn	05 06 28.1	-0.4
EDRZ	**Edgecumbe**	**1.94**	**243**	P	Pn	05 06 30.4	+1.0
OPRZ	**Ohinepanea**	**1.97**	**251**	P	Pn	05 06 29.6	-0.3
KNZ	**Kokohu**	**2.04**	**208**	P	Pn	05 06 29.4	-1.3
RTZ	**Ruatahuna**	**2.06**	**227**	P	Pn	05 06 31.9	+0.7
MHGZ	**Mahia Peninsul**	**2.07**	**202**	P	Pn	05 06 31.0	-0.3
MUGZ	**Murupara**	**2.10**	**233**	P	Pn	05 06 31.8	+0.1
MTHZ	**Maungataniwha**	**2.30**	**225**	P	Pn	05 06 34.5	+0.1
NMHZ	**Naumai**	**2.50**	**221**	P	Pn	05 06 37.2	+0.1
ARHZ	**Aropaoanui**	**2.53**	**216**	P	Pn	05 06 36.8	-0.7
KUZ	**Kuaotunu**	**2.61**	**280**	P	Pn	05 06 37.7	-0.9
BKZ	**Black Stump Fm**	**2.71**	**224**	P	Pn	05 06 39.9	-0.2
TOZ	**Tahuroa Road**	**2.76**	**259**	P	Pn	05 06 40.7	0.0
GRZ	**Great Barrier**	**2.95**	**288**	P	Pn	05 06 43.3	0.0
MKAZ	**Moumakai**	**3.00**	**271**	P	Pn	05 06 43.7	-0.3
KRVZ	**Karewarewa**	**3.18**	**233**	P	Pb	05 06 52.5	-0.9
MBAZ	**Motutapu North**	**3.25**	**277**	P	Pn	05 06 47.7	+0.3
MOVZ	**Moawhango**	**3.30**	**228**	P	Pn	05 06 47.4	-0.8
PNHZ	**Pukenui**	**3.42**	**218**	P	Pn	05 06 47.4	-2.4
HIZ	**Hauiti**	**3.46**	**247**	P	Pn	05 06 50.8	+0.5
WCZ	**Waipu Caves**	**3.90**	**288**	P	Pn	05 06 57.0	+0.7
OUZ	**Omahuta**	**4.75**	**293**	P	Pn	05 07 09.2	+1.2
TUWZ	**Tuamarina**	**5.69**	**221**	P	Pn	05 07 18.8	-2.2

---

*ROM **07** 05:08:47.6±0.0,42.˚800N×0.˚002×13.˚204E±0.˚004, h10km,ML3.4/82,Error ellipse: s-maj=0.3km s-min=0.2km az=68.0*
*LDG **07** 05:08:47.6±0.1,42.˚80N×13.˚18E,h10km,Md3.4/2, Ml3.0/22,Error ellipse: s-maj=2.7km s-min=1.7km az=38.0*
*PRU **07** 05:08:48.0±0.0,42.˚67N×13.˚75E,h10km*
*PDG **07** 05:08:48.4±0.5,42.˚79N×13.˚19E,h10km,ML3.5/10,Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*STR **07** 05:08:48.6±5.2,43˚N±23˚×1˚3E±4˚0,h5km,MLv3.5/7, Error ellipse: s-maj=0.1km s-min=0.0km az=117.3, preliminary*
*GEN **07** 05:09:11.1,43.˚64N×11.˚47E,h20km±13km,Ml1.4*
ISC 07 05:08:48.2±0.7,42.˚78N±0.˚01×13.˚18E±0.˚02,h10km±4km, n201,σ2s08/266,56C-39D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.05**	**18**	⇓P	**Pg**	**05 08 49.8**	**-0.6**
T1242				S	**Sg**	**05 08 50.9**	**-1.1**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
NRCA	**Norcia**	**0.07**	**318**	⇓P	**Pg**	**05 08 50.3**	**-0.2**
NRCA				S	**Sg**	**05 08 51.6**	**-0.6**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1202	**Accumoli, Fraz**	**0.08**	**157**	P	**Pg**	**05 08 50.9**	**+0.3**
T1202				S	**Sg**	**05 08 53.0**	**+0.6**
T1202				AML	AML		
	comp=E,84550µm,0.3s						
T1202				AML	AML		
	comp=E,84500µm,0.3s						
T1202				AML	AML		
T1202				AML	AML		
T1244	**Arquata del Tr**	**0.09**	**105**	⇑P	**Pg**	**05 08 50.6**	**-0.1**
T1244				S	**Sg**	**05 08 52.3**	**-0.2**
T1244				AML	AML		
T1244				AML	AML		
	comp=N,97000µm,0.4s						
T1244				AML	AML		
	comp=N,97050µm,0.4s						
T1244				AML	AML		
	comp=N,97150µm,0.4s						
T1244				AML	AML		
MC2	**Monte Cornacci**	**0.13**	**3**	P	**Pg**	**05 08 51.0**	**-0.4**
MC2				S	**Sg**	**05 08 53.5**	**-0.2**
T1204	**Amatrice, Fraz**	**0.14**	**136**	⇑P	**Pg**	**05 08 51.7**	**+0.2**
T1204				S	**Sg**	**05 08 54.5**	**+0.7**
T1204				AML	AML		
	comp=E,56950µm,0.4s						
T1204				AML	AML		
	comp=N,43450µm,0.5s						
T1204				AML	AML		
	comp=E,56900µm,0.4s						
MMO1	**Montemonaco**	**0.16**	**42**	P	**Pg**	**05 08 51.2**	**-0.5**
MMO1				S	**Sg**	**05 08 53.6**	**-0.6**
MMO1				AML	AML		
MMO1				AML	AML		
MMO1				AML	AML		
	comp=N,67100µm,0.3s						
T1241	**Roccafluvione,**	**0.20**	**67**	⇑P	**Pg**	**05 08 52.0**	**-0.4**
T1241				S	**Sg**	**05 08 55.0**	**-0.3**
T1241				AML	AML		
	comp=E,42300µm,0.4s						
T1241				AML	AML		
	comp=N,36400µm,0.9s						
T1241				AML	AML		
	comp=E,42350µm,0.4s						
T1241				AML	AML		
	comp=N,36450µm,0.8s						
T1241				AML	AML		
	comp=N,36450µm,0.9s						
T1241				AML	AML		
	comp=E,41900µm,0.4s						
T1241				AML	AML		
	comp=N,34400µm,0.8s						
LNSS	**Leonessa**	**0.20**	**211**	P	**Pg**	**05 08 53.1**	**+0.6**
LNSS				S	**Sg**	**05 08 57.2**	**+1.7**
LNSS				AML	AML		
	comp=N,67200µm,0.3s						
LNSS				AML	AML		
FEMA	**Monte Fema**	**0.21**	**332**	P	**Pg**	**05 08 52.5**	**-0.1**
FEMA				S	**Sg**	**05 08 55.8**	**+0.2**
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,99000µm,0.3s						
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,98750µm,0.3s						
FEMA				AML	AML		
	comp=N,98950µm,0.3s						
FEMA				AML	AML		
T1243	**Rocca Santa Ma**	**0.21**	**113**	P	**Pg**	**05 08 52.5**	**-0.2**
T1243				S	**Sg**	**05 08 55.7**	**+0.1**
T1215	**Vallo di Nera,**	**0.23**	**276**	P	**Pg**	**05 08 53.3**	**+0.4**
T1215				S	**Sg**	**05 08 57.4**	**+1.2**
T1215				AML	AML		
	comp=E,9130µm,0.2s						
T1215				AML	AML		
	comp=E,9345µm,0.2s						
T1215				AML	AML		
	comp=N,6730µm,1.3s						
T1215				AML	AML		
	comp=E,9350µm,0.2s						
T1215				AML	AML		
	comp=N,6625µm,1.3s						
T1215				AML	AML		
	comp=N,6630µm,1.3s						
T1215				AML	AML		
	comp=E,9335µm,0.2s						
T1215				AML	AML		
	comp=E,9140µm,0.2s						
FDMO	**Fiordimonte**	**0.27**	**345**	⇓P	**Pg**	**05 08 53.3**	**-0.3**
FDMO				S	**Sg**	**05 08 57.3**	**0.0**
FDMO				AML	AML		
	comp=E,18000µm,0.2s						
FDMO				AML	AML		
	comp=N,33500µm,0.3s						
RM33	**Pellescritta (**	**0.27**	**175**	P	**Pg**	**05 08 54.1**	**+0.4**
RM33				S	**Sb**	**05 08 58.8**	**-1.1**
RM33				AML	AML		
	comp=E,11950µm,0.2s						
RM33				AML	AML		
	comp=N,9935µm,0.4s						
RM33				AML	AML		
	comp=E,11900µm,0.2s						
RM33				AML	AML		
	comp=N,9815µm,0.5s						
RM33				AML	AML		
	comp=N,9810µm,0.5s						
RM33				AML	AML		
	comp=E,11900µm,0.2s						
CAMP	**Campotosto**	**0.29**	**145**	⇑P	**Pg**	**05 08 54.1**	**0.0**
CAMP				S	**Sb**	**05 08 58.9**	**-1.8**
CAMP				AML	AML		
	comp=N,20800µm,0.6s						
CAMP				AML	AML		
	comp=E,22000µm,0.2s						
CESI	**CESI - Serrava**	**0.30**	**318**	⇑P	**Pg**	**05 08 54.3**	**0.0**
CESI				S	**Sg**	**05 08 59.2**	**+0.8**
CESI				AML	AML		
	comp=E,35250µm,0.3s						
CESI				AML	AML		
	comp=N,68250µm,0.5s						
GUMA	**Gualdo di Mace**	**0.30**	**22**	P	**Pg**	**05 08 54.1**	**-0.2**
GUMA				S	**Sg**	**05 08 58.9**	**+0.5**
GUMA				AML	AML		
	comp=E,36350µm,0.5s						
GUMA				AML	AML		
	comp=N,39150µm,1.0s						
GUMA				AML	AML		
	comp=E,40350µm,0.2s						
GUMA				AML	AML		
	comp=N,34650µm,1.1s						
GUMA				AML	AML		
	comp=E,36350µm,0.5s						
CSP1	**Cessapalombo**	**0.31**	**3**	⇓P	**Pg**	**05 08 54.0**	**-0.5**
CSP1				S	**Sg**	**05 08 58.8**	**+0.1**
CSP1				AML	AML		
	comp=E,22500µm,0.5s						
CSP1				AML	AML		
	comp=N,39050µm,0.4s						
CSP1				AML	AML		
	comp=E,22450µm,0.5s						
TERO	**Teramo**	**0.35**	**117**	P	**Pg**	**05 08 54.8**	**-0.3**
TERO				S	**Sg**	**05 09 00.1**	**+0.3**
ARRO	**Arrone**	**0.37**	**237**	⇑P	**Pg**	**05 08 55.9**	**+0.5**
ARRO				S	**Sg**	**05 09 01.8**	**+1.5**
ARRO				AML	AML		
	comp=E,6505µm,0.5s						
ARRO				AML	AML		
	comp=N,7140µm,1.2s						
OFFI	**Offida**	**0.40**	**67**	⇑P	**Pg**	**05 08 56.4**	**+0.3**
OFFI				AML	AML		
	comp=N,25300µm,0.5s						
OFFI				AML	AML		
	comp=E,14450µm,0.8s						
SEF1	**Sefro**	**0.41**	**335**	P	**Pg**	**05 08 55.8**	**-0.4**
SEF1				S	**Sg**	**05 09 02.1**	**+0.5**
SEF1				AML	AML		
	comp=N,22100µm,0.2s						
SEF1				AML	AML		
	comp=E,18600µm,0.2s						
MDAR	**Monte D'Aria**	**0.41**	**356**	P	**Pg**	**05 08 55.9**	**-0.5**
MDAR				S	**Sg**	**05 09 02.1**	**+0.2**
MDAR				AML	AML		
	comp=E,7645µm,1.0s						
MDAR				AML	AML		
	comp=N,8625µm,0.2s						
MDAR				AML	AML		
	comp=E,7640µm,1.1s						
MDAR				AML	AML		
	comp=N,8630µm,0.2s						
MNTP	**Montappone**	**0.42**	**30**	P	**Pg**	**05 08 56.4**	**+0.1**
MNTP				AML	AML		
	comp=N,10445µm,0.7s						
MNTP				AML	AML		
	comp=E,17050µm,0.5s						
MNTP				AML	AML		
	comp=N,10450µm,0.7s						
PIO1	**Pioraco**	**0.42**	**340**	P	**Pg**	**05 08 56.2**	**-0.3**
PIO1				AML	AML		
	comp=N,12900µm,0.4s						
PIO1				AML	AML		
	comp=E,7625µm,1.5s						
GIGS	**Gran Sasso**	**0.44**	**139**	⇑P	**Pg**	**05 08 56.2**	**-0.5**
GIGS				S	**Sb**	**05 09 03.0**	**-1.7**
GIGS				AML	AML		
	comp=E,2895µm,0.2s						
GIGS				AML	AML		
	comp=N,3465µm,0.6s						
SSM1	**San Severino M**	**0.45**	**360**	P	**Pg**	**05 08 56.5**	**-0.5**
AQU	**L'Aquila**	**0.46**	**159**	P	**Pg**	**05 08 57.1**	**0.0**
AQU				AML	AML		
	comp=E,6120µm,0.8s						
AQU				AML	AML		
	comp=E,5940µm,0.8s						
AQU				AML	AML		
	comp=N,5180µm,0.6s						
AQU				AML	AML		
	comp=E,6115µm,0.8s						
AQU				AML	AML		
	comp=N,5240µm,0.6s						
ASSB	**Assisi San Ben**	**0.47**	**305**	⇑P	**Pg**	**05 08 57.1**	**-0.2**
ASSB				AML	AML		
	comp=E,10855µm,0.2s						
ASSB				AML	AML		
	comp=N,15550µm,0.2s						
GAG1	**Gagliole**	**0.47**	**350**	⇓P	**Pg**	**05 08 57.1**	**-0.2**
GAG1				AML	AML		
	comp=E,19900µm,0.4s						
GAG1				AML	AML		
	comp=N,22050µm,0.4s						
GAG1				AML	AML		
	comp=N,22050µm,0.4s						
GAG1				AML	AML		
	comp=E,19850µm,0.3s						
CESX	**Cesi**	**0.47**	**249**	⇑P	**Pg**	**05 08 57.5**	**+0.1**
CESX				S	**Sb**	**05 09 06.0**	**+0.2**
CESX				AML	AML		
	comp=N,5595µm,0.3s						
CESX				AML	AML		
	comp=E,5700µm,0.3s						
MTL1	**Matelica**	**0.49**	**345**	⇓P	**Pg**	**05 08 57.6**	**-0.2**
MTL1				AML	AML		
	comp=E,14900µm,0.5s						
MTL1				AML	AML		
	comp=N,21650µm,0.4s						
MTL1				AML	AML		
	comp=N,21650µm,0.4s						
MTL1				AML	AML		
	comp=E,14900µm,0.5s						
SNTG	**Esanatoglia**	**0.51**	**340**	⇑P	**Pg**	**05 08 57.5**	**-0.6**
SNTG				S	**Sg**	**05 09 06.0**	**+1.2**
SNTG				AML	AML		
	comp=N,544µm,0.4s						
SNTG				AML	AML		
	comp=E,4420µm,0.5s						
SNTG				AML	AML		
	comp=E,536µm,0.5s						
SNTG				AML	AML		
	comp=N,4700µm,0.4s						
SNTG				AML	AML		
	comp=N,544µm,0.5s						
FIAM	**Fiamignano**	**0.51**	**185**	⇓P	**Pg**	**05 08 58.2**	**0.0**
FIAM				S	**Sb**	**05 09 06.4**	**-0.6**
FIAM				AML	AML		
	comp=E,2285µm,0.2s						
FIAM				AML	AML		
	comp=N,2735µm,0.6s						
TRTR	**Tortoreto Alta**	**0.54**	**87**	⇑P	**Pb**	**05 08 59.4**	**-0.4**
TRTR				AML	AML		
	comp=N,13550µm,1.3s						
TRTR				AML	AML		
	comp=E,16300µm,0.3s						
TRE1	**Treia**	**0.54**	**10**	P	**Pg**	**05 08 59.0**	**+0.3**
TRE1				AML	AML		
	comp=E,9525µm,0.5s						
TRE1				AML	AML		
	comp=N,8355µm,0.4s						
TRE1				AML	AML		
	comp=E,9525µm,0.5s						
TRE1				AML	AML		
	comp=N,8370µm,0.4s						
EL6	**Elcito**	**0.55**	**354**	⇑P	**Pg**	**05 08 58.4**	**-0.6**
EL6				S	**Sb**	**05 09 08.0**	**-0.1**
ATCC	**AVT- Casa Cast**	**0.57**	**316**	⇑P	**Pg**	**05 08 59.0**	**-0.3**
ATCC				AML	AML		
	comp=N,8965µm,1.3s						
ATCC				AML	AML		
	comp=E,7955µm,0.8s						
ATCC				AML	AML		
	comp=N,8970µm,1.3s						
CADA	**Capodarco di F**	**0.59**	**46**	AML	AML		
	comp=E,12000µm,0.4s						
CADA				AML	AML		
	comp=N,12600µm,0.9s						
CING	**Cingoli**	**0.60**	**1**	⇓P	**Pg**	**05 08 59.0**	**-0.8**
CING				AML	AML		
	comp=N,4295µm,0.3s						
CING				AML	AML		
	comp=E,4820µm,0.5s						
FOSV	**Fossato di Vic**	**0.60**	**329**	⇑P	**Pg**	**05 08 59.3**	**-0.5**
FOSV				S	**Sg**	**05 09 09.0**	**+1.2**
FOSV				AML	AML		
	comp=E,5310µm,0.5s						
FOSV				AML	AML		
	comp=N,7975µm,0.3s						
FOSV				AML	AML		
	comp=E,5305µm,0.5s						
FOSV				AML	AML		
	comp=N,7980µm,0.3s						
VCEL	**Villa Celiera**	**0.62**	**128**	⇑P	**Pg**	**05 08 60.0**	**-0.2**
VCEL				AML	AML		
	comp=N,11900µm,0.4s						

VCEL AML AML
comp=E,12800µm,0.3s
PP3 Marolino 0.68 27 ⇑P Pb 05 09 01.9 -0.2
PP3 AML AML
comp=E,8855µm,0.5s
PP3 AML AML
comp=N,7395µm,0.3s
PP3 AML AML
comp=E,8430µm,0.5s
PP3 AML AML
comp=E,8860µm,0.5s
PP3 AML AML
comp=N,7390µm,0.3s
PP3 AML AML
comp=N,7500µm,0.3s
MURB Monte Urbino 0.68 315 ⇑P Pg 05 09 01.0 -0.4
MURB S Sb 05 09 13.0 +1.2
MURB AML AML
comp=E,16650µm,0.3s
MURB AML AML
comp=E,15400µm,0.2s
MURB AML AML
comp=N,13700µm,1.6s
MURB AML AML
comp=N,13200µm,1.0s
T0110 Collepietro 0.71 141 ⇓P Pg 05 09 01.1 -0.7
T0110 S Sb 05 09 13.0 +0.5
T0110 AML AML
comp=E,10580µm,0.6s
T0110 AML AML
comp=N,7630µm,0.4s
SSFR Montelago di S 0.72 336 P Pg 05 09 01.9 -0.2
SSFR S Sb 05 09 14.0 +1.1
SSFR AML AML
comp=E,10615µm,0.2s
SSFR AML AML
comp=N,9430µm,1.4s
SSFR AML AML
comp=E,10640µm,0.2s
SSFR AML AML
comp=E,9495µm,0.2s
SSFR AML AML
comp=N,10290µm,1.4s
SRES S.Oreste - Sor 0.73 223 P Pg 05 09 02.6 +0.2
SRES S Sb 05 09 13.0 -0.2
SRES AML AML
comp=N,1510µm,1.5s
SRES AML AML
comp=E,1475µm,0.3s
ATFO Monte Foce - G 0.74 323 ⇑P Pg 05 09 01.9 -0.6
ATFO AML AML
comp=E,3145µm,0.5s
ATFO AML AML
comp=N,2905µm,0.2s
ATTE AVT- Monte Tez 0.74 305 P Pg 05 09 01.8 -0.7
ATTE AML AML
comp=N,1665µm,0.5s
ATTE AML AML
comp=E,2030µm,0.3s
MGAB Montegabbione 0.80 280 ⇑P Pg 05 09 03.3 -0.2
MGAB AML AML
comp=E,3610µm,0.4s
MGAB AML AML
comp=E,3970µm,0.4s
MGAB AML AML
comp=N,2950µm,0.3s
MGAB AML AML
comp=N,3045µm,0.3s
FRON Frontone 0.81 336 ⇑P Pg 05 09 02.8 -1.0
FRON S Sb 05 09 16.0 +0.5
FRON AML AML
comp=E,3125µm,0.2s
FRON AML AML
comp=N,3890µm,1.5s
ATVO AVT- Monte Val 0.83 317 ⇑P Pg 05 09 03.4 -0.8
ATVO AML AML
comp=E,1950µm,1.0s
ATVO AML AML
comp=N,1770µm,0.8s
ATVO AML AML
comp=N,1775µm,0.8s
AOI Ancona 0.83 22 ⇓P Pg 05 09 03.7 -0.5
AOI AML AML
comp=N,1540µm,1.3s
AOI AML AML
comp=E,1775µm,1.2s
AOI AML AML
comp=N,1545µm,1.3s
CERT Cerreto 0.84 190 ⇑P Pg 05 09 03.8 -0.6
CERT AML AML
comp=E,1690µm,1.3s
CERT AML AML
comp=N,1375µm,0.5s
COR1 Corinaldo 0.86 351 ⇓P Pg 05 09 04.9 0.0
COR1 AML AML
comp=N,4790µm,1.1s
COR1 AML AML
comp=E,4795µm,0.5s
COR1 AML AML
comp=N,4795µm,1.1s
ATMI Monte Miggiano 0.87 310 ⇓P Pg 05 09 04.5 -0.5
ATMI AML AML
comp=N,4295µm,1.6s
ATMI AML AML
comp=E,4245µm,0.8s
ATPI Pietralunga - 0.88 320 S Sb 05 09 19.0 +1.5
PIEI Pieia 0.89 328 ⇑P Pg 05 09 04.3 -1.1
PIEI S Sn 05 09 20.0 +0.1
PIEI AML AML
comp=E,1980µm,0.6s
PIEI AML AML
comp=N,1450µm,0.3s
MPAG Monte Paganucc 0.90 340 ⇑P Pg 05 09 04.7 -0.9
MPAG AML AML
comp=E,2370µm,0.3s
MPAG AML AML
comp=N,33450µm,0.6s
INTR Introdacqua 0.94 145 ⇑P Pg 05 09 04.8 -1.4
INTR S Sn 05 09 20.0 -1.0
INTR AML AML
comp=E,1µm,1.1s
INTR AML AML
comp=N,2µm,0.4s
INTR AML AML
comp=E,1350µm,1.1s
INTR AML AML
comp=N,3140µm,0.4s
SACS San Casciano d 0.94 275 ⇓P Pg 05 09 06.4 +0.1
SACS AML AML
comp=E,1145µm,0.4s
SACS AML AML
comp=E,1175µm,0.7s
SACS AML AML
comp=N,934µm,0.6s
SACS AML AML
comp=N,986µm,0.6s
NARO Abbazia di Nar 0.94 332 P Pg 05 09 05.0 -1.3
NARO S Sb 05 09 20.0 +0.8
NARO AML AML
comp=E,1132µm,0.3s
NARO AML AML
comp=N,1090µm,0.5s
RCAV Rocca di Cave 0.95 191 ⇓P Pb 05 09 06.9 +0.1
APEC Apecchio 0.96 325 ⇓P Pg 05 09 06.1 -0.5
FSSB Fossombrone 0.96 342 ⇑P Pg 05 09 05.7 -0.9
FSSB S Sn 05 09 22.0 +0.4
FSSB AML AML
comp=N,8590µm,0.4s
FSSB AML AML
comp=E,5295µm,1.5s
VVLD Villa Vallelon 0.96 160 ⇑P Pg 05 09 06.2 -0.6
VVLD AML AML
comp=E,1210µm,0.6s
VVLD AML AML
comp=N,1430µm,0.5s
BADI Badiali 1.00 317 ⇓P Pg 05 09 06.8 -0.7
BADI AML AML
comp=N,946µm,0.7s
BADI AML AML
comp=E,101µm,0.4s
LPEL Lama dei Pelig 1.04 134 ⇓P Pg 05 09 06.5 -1.7
LPEL S Sn 05 09 23.0 -0.6
LPEL AML AML
comp=E,1830µm,0.3s
LPEL AML AML
comp=N,1845µm,0.3s

PE3 Peglio 1.04 332 ⇓P Pg 05 09 07.5 -0.8
PE3 AML AML
comp=N,14µm,0.2s
PE3 AML AML
comp=E,13µm,0.2s
CAFI Castiglion Fio 1.05 302 ⇑P Pg 05 09 07.6 -0.7
CAFI AML AML
comp=N,1007µm,0.7s
CAFI AML AML
comp=E,896µm,1.2s
CAFI AML AML
comp=E,874µm,1.2s
CAFI AML AML
comp=N,1077µm,0.7s
MCIV Monte Civitell 1.11 270 P Pg 05 09 09.5 0.0
MCIV AML AML
comp=E,574µm,0.6s
MCIV AML AML
comp=N,487µm,0.6s
PARC Parchiule 1.11 322 ⇑P Pg 05 09 08.5 -1.0
PARC AML AML
comp=N,1510µm,0.6s
PARC AML AML
comp=E,1665µm,0.5s
SF04 Casetta 1.12 273 P Pg 05 09 09.7 0.0
TOLF Tolfa 1.13 231 S Sn 05 09 28.0 +2.3
POFI Posta Fibreno 1.13 159 ⇓P Pn 05 09 11.0 +0.8
POFI AML AML
comp=N,702µm,0.5s
POFI AML AML
comp=E,692µm,1.4s
POFI AML AML
comp=E,704µm,1.4s
POFI AML AML
comp=N,706µm,0.5s
PESA Pesaro 1.19 348 ⇑P Pb 05 09 11.2 +0.4
PESA AML AML
comp=N,2385µm,1.3s
PESA AML AML
comp=E,2790µm,0.7s
GIUL Giuliano Di Ro 1.22 177 ⇑P Pn 05 09 12.7 +1.3
GIUL AML AML
comp=N,478µm,0.7s
GIUL AML AML
comp=E,532µm,0.6s
ARCI Arcidosso 1.26 274 ⇓P Pg 05 09 13.1 +0.8
ARCI AML AML
comp=E,224µm,0.5s
ARCI AML AML
comp=N,154µm,1.6s
CERA Filignano 1.33 152 ⇓P Pn 05 09 12.0 -1.0
CERA AML AML
comp=E,874µm,0.9s
CERA AML AML
comp=N,996µm,0.5s
CERA AML AML
comp=N,960µm,0.5s
CERA AML AML
comp=E,856µm,0.9s
MIDA Miranda 1.39 145 ⇑P Pn 05 09 13.0 -0.7
MIDA AML AML
comp=E,716µm,1.6s
MIDA AML AML
comp=E,703µm,1.6s
MIDA AML AML
comp=N,1006µm,0.8s
MIDA AML AML
comp=N,978µm,0.7s
TRIV Triveno 1.43 134 ⇓P Pg 05 09 17.0 +1.3
CSNT Castellina Chi 1.55 297 P Pn 05 09 16.0 +0.1
CSNT Castellina Chi 1.55 297 ⇓P Pn 05 09 16.4 +0.5
CSNT AML AML
comp=E,240µm,0.5s
CSNT AML AML
comp=N,224µm,0.4s
OSSC Osservatorio P 1.60 298 P Pn 05 09 17.1 +0.5
OSSC Osservatorio P 1.60 298 ⇓P Pn 05 09 17.2 +0.6
OSSC AML AML
comp=E,224µm,0.6s
OSSC AML AML
comp=N,188µm,1.1s
RUFI Rufina 1.62 312 P Pn 05 09 17.0 +0.2
RUFI Rufina 1.62 312 ⇓P Pn 05 09 17.3 +0.5
CASP Castiglione de 1.71 271 ⇓P Pn 05 09 17.4 -0.6
TRIF Trifonti 1.71 282 ⇓P Pn 05 09 18.4 +0.3
TRIF AML AML
comp=E,250µm,0.7s
TRIF AML AML
comp=N,183µm,0.5s
MODR Mondragone 1.71 162 P Pn 05 09 18.4 +0.3
MODR AML AML
comp=E,158µm,1.4s
MODR AML AML
comp=N,233µm,0.5s
MELA Melanico ??? S 1.80 126 ⇓P Pb 05 09 20.6 -0.6
APRC Apricena 2.03 119 ⇓P Pb 05 09 25.1 -0.1
SGRT San Giovanni R 2.16 117 ⇓P Pn 05 09 25.5 +1.1
SGRT AML AML
comp=N,465µm,0.4s
SGRT AML AML
comp=E,657µm,0.5s
POPM Popiglio 2.17 306 P Pn 05 09 24.4 0.0
POPM Popiglio 2.17 306 ⇑P Pn 05 09 26.1 +1.6
ZCCA Zocca 2.24 315 S Sb 05 09 58.0 +1.3
MAIM Mastiano 2.27 301 ⇑P Pn 05 09 26.4 +0.6
MAIM AML AML
comp=E,147µm,0.4s
MAIM AML AML
comp=N,116µm,1.6s
BDI Bagni Di Lucca 2.28 305 ⇑P Pn 05 09 25.5 -0.5
BDI S Sn 05 09 54.0 -0.2
BDI AML AML
comp=E,176µm,1.6s
BDI AML AML
comp=E,79µm,0.4s
BDI AML AML
comp=N,61µm,0.4s
BDI AML AML
comp=N,234µm,1.6s
CARD Cardoso 2.33 303 P Pn 05 09 26.9 +0.3
CAPA Cerignola FG 2.55 129 ⇑P Pb 05 09 31.6 -2.4
VULT Monte Vulture 2.57 134 ⇑P Pn 05 09 32.0 +1.9
PLMA Palmaria, Port 2.74 299 P Pn 05 09 32.5 +0.2
PLMA Palmaria, Port 2.74 299 ⇑P Pn 05 09 32.3 +0.1
CMPR Campora 2.93 146 P Pb 05 09 39.2 -1.3
SMPL Sampolo 2.96 258 Pn Pn 05 09 36.6 +1.3
A050A Klekovaca 2.97 54 ePn Pn 05 09 37.1 +1.6
CEY Cerknica 3.09 16 ePn Pn 05 09 38.2 +1.1
PGF Pioggiola 3.09 267 eP Pn 05 09 38.1 +0.9
PGF eSn Sn 05 10 10.0 -4.3
comp=N,2.7nm,0.2s
PGF Pioggiola 3.09 267 Pn Pn 05 09 38.7 +1.5
AMUR Altamura 3.17 125 ⇑P Pn 05 09 39.5 +1.3
SRKY Kupres RS 3.17 65 ePn Pn 05 09 40.2 +1.9
SABO M.te Sabotino 3.21 5 ⇑P Pn 05 09 38.7 -0.1
SABO AML AML
comp=E,880µm,1.6s
SABO AML AML
comp=N,268µm,0.9s
SABO AML AML
comp=N,1026µm,0.9s
SABO AML AML
comp=E,216µm,1.6s
CGRP Cima Grappa 3.25 343 ⇑P Pn 05 09 40.6 +1.1
CGRP S Sn 05 10 19.0 +0.6
MGRS Mrkonjic Grad 3.27 59 ePn Pb 05 09 43.0 -3.4
STON Ston 3.33 87 ePn Pn 05 09 39.3 -0.9
DOSS Dosso del Somm 3.42 336 ⇓P Pn 05 09 43.9 +2.2
CTI Castel Tesino 3.45 342 P Pn 05 09 40.5 -1.6
CTI AML AML
comp=E,196µm,0.4s
CTI AML AML
comp=N,210µm,0.3s
LTRZ Laterza 3.48 127 ⇑P Pn 05 09 43.9 +1.4
A051A Mrakovica 3.50 49 ePn Pn 05 09 44.9 +2.2
STAL STALIGIAL 3.50 355 ⇓P Pn 05 09 43.2 +0.5
STAL AML AML
comp=N,154µm,0.7s
STAL AML AML
comp=E,188µm,1.5s
BLY Banja Luka 3.50 54 ePn Pb 05 09 51.5 +1.2
MAGA Magasa 3.51 329 ⇑P Pn 05 09 44.1 +1.1
NOCI Noci 3.52 123 ⇑P Pn 05 09 44.3 +1.3
CIMO Cimolais 3.57 352 ⇑P Pn 05 09 41.4 -2.3
CIMO AML AML
comp=N,46µm,1.4s
CIMO AML AML
comp=E,49µm,0.5s
GAGG Gaggia 3.67 335 ⇓P Pn 05 09 47.4 +2.2
CLUD Cludinico 3.68 357 ⇑P Pn 05 09 46.6 +1.3
ACOM Acomizza, Ital 3.78 3 ⇓P Pn 05 09 47.6 +1.0
MABI Malga Bissina 3.79 331 ⇑P Pn 05 09 48.5 +1.6
TREB Trebinje 3.81 89 ePn Pn 05 09 47.0 +0.1
OBKA Obir 3.85 14 ePn Pn 05 09 48.4 +0.7
OBKA Obir 3.85 14 ePn Pn 05 09 48.6 +0.9
comp=E,1.2nm,0.1s
MYKA Terra Mystica 3.86 5 ePn Pn 05 09 49.1 +1.4
comp=E,3.8nm,0.2s
KOSI Kohlern 3.90 341 ⇑P Pn 05 09 49.6 +1.3
TDS Terranova Siba 3.92 142 S Sn 05 10 34.0 -0.6
HCY Herceg Novi 3.94 93 ePn Pn 05 09 49.0 +0.3
HCY Herceg Novi 3.94 93 ⇓iPn Pn 05 09 50.0 +1.3
HCY iSn Sn 05 10 36.8 +1.9
APPI Appiano 3.95 340 P Pn 05 09 51.0 +2.0
ABTA Abfaltersbach 4.00 353 ePn Pn 05 09 50.7 +1.1
comp=E,38nm,0.5s
CEME Cevo 4.24 91 ⇑iPn Pn 05 09 54.3 +1.4
CEME iSn Sn 05 10 44.3 +1.9
BUM Brajici-Budva 4.25 95 ⇓iPn Pn 05 09 54.0 +1.0
BUM iSn Sn 05 10 43.6 +0.9
NKME Niksic 4.25 88 ⇑iPn Pn 05 09 54.4 +1.4
NKME iSn Sn 05 10 44.6 +1.9
SAOF Saorge 4.28 288 Pn Pn 05 09 54.9 +1.5
KBA Koelnbreinsper 4.30 1 ePn Pn 05 09 55.6 +1.7
comp=E,8.6nm,0.3s
SBF Sospel 4.33 286 eP Pn 05 09 55.1 +0.9
SBF eSn Sn 05 10 39.2 -5.6
comp=E,26nm,0.5s
ROSI Rosskopf 4.33 344 ⇑P Pn 05 09 56.8 +2.5
TURF col de Turini 4.39 288 Pn Pn 05 09 56.1 +1.1
DRME Dracevica, Mon 4.48 96 ePn Pn 05 09 57.3 +1.2
DRME Dracevica, Mon 4.48 96 ⇓iPn Pn 05 09 57.7 +1.6
DRME iSn Sn 05 10 58.1 +1.8
TTG Podgorica 4.50 92 ⇑iPn Pn 05 09 57.3 +0.9
TTG iSn Sn 05 10 50.2 +1.5
SPIF crte de Spivo 4.51 288 Pn Pn 05 09 58.0 +1.2
ULC Ulcinj 4.56 98 ⇓iPn Pn 05 09 58.5 +1.1
ULC iSn Sn 05 10 51.9 +1.4
FETA Feichten 4.58 339 Pn Pn 05 09 59.6 +1.9
comp=E,2.6nm,0.4s
FETA eSn Sn 05 10 53.2 +2.1
comp=E,7.9nm,0.7s
RUDO Rudo 4.60 77 ePn Pn 05 09 53.7 -4.1
WTTA Wattenberg 4.62 347 iPn Pn 05 10 01.2 +3.0
comp=E,3.5nm,0.3s
DAVOX Davos/Dischmat 4.64 331 ⇑P Pn 05 10 02.7 +4.1
GRI Girifalco 4.65 147 P Pn 05 10 02.5 +3.9
SQTA Sankt Quirin 4.66 343 ePn Pn 05 10 02.2 +3.5
comp=E,9.0nm,0.3s
KOME Kolasin 4.66 87 ⇓iPn Pn 05 10 00.4 +1.7
KOME iSn Sn 05 10 54.5 +1.6
CALF Calern 4.67 284 Pn Pn 05 09 59.6 +0.7
ISO Isola 4.68 290 Pn Pn 05 10 00.4 +1.5
WATA Walderalm 4.70 347 ePn Pn 05 10 02.2 +2.9
comp=E,3.9nm,0.2s
TRAV Traversella 4.77 307 P Pn 05 09 59.9 -0.4
MOTA Moosalm 4.80 343 ePn Pn 05 10 03.9 +3.3
comp=E,5.7nm,0.4s
LMR La Mourre 4.92 279 eP Pn 05 10 02.6 +0.4
LMR eSn Sn 05 10 53.3 -5.9
comp=E,2.7nm,0.5s
BIOA Bad Ischl, Aus 4.92 4 ePn Pn 05 10 04.9 +2.6
comp=E,14nm,0.4s
IVA Berane 4.94 87 ⇑iPn Pn 05 10 04.2 +1.7
IVA iSn Sn 05 11 01.3 +1.6
PVY Plav 5.00 90 ⇑iPn Pn 05 10 04.5 +1.1
PVY iSn Sn 05 11 02.9 +1.6
RETA Reutte 5.01 341 iPn Pn 05 10 06.7 +3.2
comp=E,4.1nm,0.4s
MBDF Montbardon 5.04 295 eP Pn 05 10 05.3 +1.4
MBDF eSn Sn 05 10 56.2 -6.0
comp=E,4.4nm,0.5s
TRIGF Trigance 5.04 283 Pn Pn 05 10 05.7 +1.8
DAVA Damuels 5.08 334 ePn Pn 05 10 07.7 +3.2
comp=E,4.9nm,0.3s
MOA Molln 5.13 8 ePn Pn 05 10 07.2 +2.1
comp=E,3.1nm,0.3s
LPG La Plagne 5.37 303 eP Pn 05 10 10.3 +1.7
LPG eSn Sn 05 11 04.0 -6.6
comp=E,7.6nm,0.7s
LPL La Plagne 5.39 303 eP Pn 05 10 10.7 +1.9
LPL eSn Sn 05 11 04.6 -6.4
comp=E,4.8nm,0.5s
RONA Rosalia, Austr 5.39 23 ePn Pn 05 10 12.1 +3.4
comp=E,0.8nm,0.1s
ARTF Artigues 5.45 281 Pn Pn 05 10 10.5 +1.0
CONA Conrad Observa 5.48 19 ePn Pn 05 10 12.2 +2.2
comp=E,1.0nm,0.2s
RSL Roselend 5.54 304 Pn Pn 05 10 12.7 +1.9
SMRF Simiane la Rot 5.67 285 eP Pn 05 10 14.3 +1.7
SMRF eSn Sn 05 11 11.4 -6.4
comp=E,1.3nm,0.3s
ORIF Oris-en-Rattie 5.70 295 eP Pn 05 10 14.8 +1.8
ORIF eSn Sn 05 11 11.9 -6.6
comp=E,3.4nm,0.5s
ORIF Oris-en-Rattie 5.70 295 Pn Pn 05 10 14.5 +1.5
BALST Balsthal 5.99 321 Pn Pn 05 10 17.9 +1.0
CKRC Cesky Krumlov 6.09 7 eSN Sn 05 11 26.9 -1.2
CABF La Chapelle 6.34 310 eP Pn 05 10 23.4 +1.6
CABF eSn Sn 05 11 27.2 -7.2
comp=E,3.3nm,0.5s
KHC Kasperske Hory 6.36 2 ePN Pn 05 10 22.0 0.0
KHC eSN Sn 05 11 33.0 -1.7
KIZ Kirchzarten 6.37 326 Pn Pn 05 10 23.4 +1.3
VIVF Saint-Julien-l 6.50 292 eP Pn 05 10 26.0 +2.1
VIVF eSn Sn 05 11 31.1 -7.0
comp=E,1.7nm,0.5s
HINF Hinteralfeld 6.73 321 eP Pn 05 10 28.6 +1.5
HINF eSn Sn 05 11 36.5 -7.3
comp=E,11nm,0.4s
ECH Echery 6.89 324 Pn Pn 05 10 30.7 +1.4
LASF Ste Croix 6.91 284 eP Pn 05 10 30.9 +1.3
LASF eSn Sn 05 11 41.0 -7.3
comp=E,1.2nm,0.5s
CDF Champ du Feu 6.99 326 eP Pn 05 10 31.7 +1.0
CDF eSn Sn 05 11 42.3 -8.0
comp=E,6.6nm,0.4s
HAU Haudompre 7.10 320 eSn Sn 05 11 45.1 -7.8
comp=E,16nm,0.4s
SMF Signal de Mont 7.69 303 eP Pn 05 10 42.4 +2.1
SMF eSn Sn 05 11 59.4 -8.1
comp=E,3.5nm,0.4s
SFTF Sexfontaines 7.88 316 eP Pn 05 10 44.6 +1.7
LOR Lormes 7.98 307 eP Pn 05 10 44.8 +0.5
baz=121
LOR eSn Sn 05 12 06.6 -8.0
comp=E,2.2nm,0.3s
AVF Avril sur Loir 8.06 303 eP Pn 05 10 47.0 +1.7
SSF Saint Saulge 8.09 305 eP Pn 05 10 47.7 +2.0
SSF eSn Sn 05 12 08.8 -8.4
comp=E,2.8nm,0.5s
BGF Bois d'Agland 8.28 301 eP Pn 05 10 50.2 +1.9
BGF eSn Sn 05 12 13.2 -8.6
comp=E,3.2nm,0.4s
CAF Calviac 8.32 289 eP Pn 05 10 51.0 +2.1
EPF Esparros 9.43 276 eP Pn 05 11 06.8 +2.7
EPF eSn Sn 05 12 41.1 -9.1
comp=E,0.7nm,0.2s
MUD Monsted U'grnd 13.93 351 iP P 05 12 16.0 +2.3

*TIR **07** 05:17:48.0,38°.32N±20°.51E,h23km±2km,Ml3.4*
*ATH **07** 05:17:51.2,38°.46N±20°.60E,h13km±2km,ML3.2/2,Error ellipse: s-maj=2.6km s-min=0.8km az=284.0*
*THE **07** 05:17:51.2,38°.46N±20°.58E,h10km,ML3.3/12,Error ellipse: s-maj=0.9km s-min=0.4km az=272.0*
*IDC **07** 05:17:58.1±2.3,38°.52N±20°.51E,h81km±25km,mb3.5/8, mbtmp3.7/13,MS3.5/1,Error ellipse: s-maj=20.8km s-min=18.1km az=163.0*

ISC 07 05:17:50.7±0.7,38°.45N±0°.02×20°.58E±0°.02,h14km±4km, n82,σ1s04/111,mb3.8/8,1C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSK	**Fiskardo**	**0.02**	**291**	P	**Pg**	**05 17 53.4**	**+0.2**
FSK				S	**Sg**	**05 17 54.4**	**-0.5**
	258µm,0.3s						
FSK	**Fiskardo**	**0.02**	**291**	P	**Pg**	**05 17 53.3**	**+0.2**

FSK				S	Sg	05 17 54.4	-0.5		
EVGI	**Lefkada island**	**0.18**	**19**	P	Pg	05 17 55.0	+0.1		
EVGI				S	Sg	05 17 57.6	-0.2		
	75μm,0.1s								
EVGI	**Lefkada island**	**0.18**	**19**	P	Pg	05 17 55.0	+0.1		
EVGI				S	Sg	05 17 58.0	+0.2		
DRAG	**Dragano-Lefkad**	**0.23**	**359**	P	Pg	05 17 55.7	-0.1		
DRAG				S	Sg	05 17 59.5	+0.3		
KEF4	**Livadi, Kephal**	**0.23**	**212**	P	Pg	05 17 56.1	+0.4		
KEF4				S	Sb	05 18 00.2	-0.3		
KEF4	**Livadi, Kephal**	**0.23**	**212**	P	Pg	05 17 56.0	+0.3		
KEF4				S	Sb	05 18 00.3	-0.3		
DMLN	**Damoulianata-K**	**0.27**	**217**	P	Pg	05 17 56.7	+0.3		
DMLN				S	Sb	05 18 01.5	-0.2		
NYDR	**Nydri-Lefkada**	**0.28**	**19**	P	Pg	05 17 56.6	+0.1		
NYDR				S	Sg	05 18 00.3	-0.2		
	8μm,0.4s								
VLS	**Valsamata**	**0.28**	**179**	P	Pg	05 17 56.9	+0.4		
VLS				S	Sb	05 18 01.6	-0.3		
	12μm,0.2s								
VLS	**Valsamata**	**0.28**	**179**	P	Pg	05 17 56.7	+0.2		
VLS				S	Sb	05 18 01.5	-0.4		
VLS				AML	AML	05 18 02.0			
	comp=E,22846μm,0.1s								
VLS				AML	AML	05 18 02.0			
	comp=N,24092μm,0.2s								
ARGA	**Argostoli. Kep**	**0.29**	**196**	P	Pb	05 17 58.0	+0.5		
ARGA				S	Sb	05 18 02.5	+0.3		
KEF3	**Kipouria, Keph**	**0.31**	**216**	P	Pg	05 17 56.8	-0.3		
KEF3				S	Sg	05 18 01.8	+0.4		
KEF3	**Kipouria, Keph**	**0.31**	**216**	P	Pg	05 17 56.9	-0.3		
KEF3				S	Sg	05 18 01.9	+0.4		
PSDA	**Pessada-Kefalo**	**0.34**	**180**	P	Pg	05 17 58.1	+0.5		
PSDA				S	Sb	05 18 03.6	-0.1		
PSDA	**Pessada-Kefalo**	**0.34**	**180**	P	Pg	05 17 58.0	+0.5		
PSDA				S	Sb	05 18 03.8	+0.1		
LKD2	**Lefkada island**	**0.34**	**10**	P	Pg	05 17 57.7	0.0		
LKD2				S	Sg	05 18 02.6	+0.1		
	comp=N,6μm,0.4s								
LKD2	**Lefkada island**	**0.34**	**10**	P	Pg	05 17 57.7	0.0		
	baz=14								
LKD2				S	Sg	05 18 02.1	-0.4		
	baz=14								
LKD2	**Lefkada island**	**0.34**	**10**	P	Pg	05 17 57.8	0.0		
TSLK	**Tsoukalades, L**	**0.38**	**9**	P	Pg	05 17 58.4	+0.1		
TSLK				S	Sb	05 18 04.2	-0.6		
	comp=N,6μm,0.5s								
TSLK	**Tsoukalades, L**	**0.38**	**9**	P	Pg	05 17 58.4	+0.1		
PVO	**Paravola**	**0.76**	**77**	P	Pb	05 18 05.8	+0.2		
PVO				S	Sn	05 18 17.2	-0.9		
	comp=N,3μm,0.4s								
PVO	**Paravola**	**0.76**	**77**	P	Pb	05 18 05.8	+0.2		
LTHK	**Lithakia**	**0.77**	**165**	P	Pg	05 18 05.4	-0.2		
LTHK				S	Sb	05 18 16.6	+0.5		
	comp=N,3μm,0.2s								
RLS	**Riolos of Patr**	**0.80**	**119**	P	Pb	05 18 06.2	-0.1		
RLS				S	Sn	05 18 19.1	-0.1		
	comp=N,1μm,0.6s								
RLS	**Riolos of Patr**	**0.80**	**119**	P	Pb	05 18 06.2	-0.1		
RLS				S	Sg	05 18 16.6	-0.1		
RLS				AML	AML	05 18 25.8			
	comp=N,3350μm,0.7s								
RLS				AML	AML	05 18 28.5			
	comp=E,1133μm,0.6s								
UPR	**University Cam**	**0.96**	**100**	P	Pn	05 18 09.8	+0.1		
UPR				S	Sn	05 18 24.1	+0.9		
DRO	**Drossia**	**1.02**	**119**	P	Pb	05 18 09.9	-0.2		
DRO	**Drossia**	**1.02**	**119**	P	Pb	05 18 10.0	-0.1		
EFP	**Efpalio**	**1.04**	**91**	P	Pb	05 18 09.9	-0.6		
EFP	**Efpalio**	**1.04**	**91**	P	Pb	05 18 09.8	-0.6		
ANX	**Ano Chora**	**1.06**	**82**	P	Pb	05 18 10.5	-0.3		
ANX	**Ano Chora**	**1.06**	**82**	P	Pb	05 18 10.5	-0.3		
EVR	**Evrytania**	**1.07**	**64**	P	Pb	05 18 10.7	-0.2		
EVR	**Evrytania**	**1.07**	**64**	P	Pb	05 18 10.7	-0.2		
IGT	**Igoumenitsa**	**1.09**	**350**	P	Pn	05 18 11.5	-0.1		
IGT	**Igoumenitsa**	**1.09**	**350**	P	Pg	05 18 12.0	+0.1		
	baz=354								
IGT				S	Sn	05 18 28.4	+1.9		
	baz=354								
LAKA	**Lakka**	**1.12**	**101**	P	Pb	05 18 11.4	-0.4		
LAKA				S	Sg	05 18 28.3	+1.5		
	comp=E,2μm,0.6s								
LAKA	**Lakka**	**1.12**	**101**	P	Pb	05 18 11.4	-0.4		
SERG	**Sergoula**	**1.16**	**92**	P	Pn	05 18 12.1	-0.4		
SERG				S	Sg	05 18 30.7	+2.6		
	comp=E,1μm,0.6s								
ALIK	**Aliki, Aigiali**	**1.22**	**99**	P	Pn	05 18 13.2	0.0		
JAN	**Janina**	**1.22**	**10**	P	Pb	05 18 13.8	+0.3		
KLV	**Kalavryta, Ach**	**1.30**	**108**	P	Pn	05 18 14.4	0.0		
MAKR	**Makrakomi, Fth**	**1.33**	**65**	P	Pb	05 18 15.3	-0.2		
MAKR	**Makrakomi, Fth**	**1.33**	**65**	P	Pb	05 18 15.5	+0.1		
KEK	**Kerkira**	**1.40**	**334**	P	Pb	05 18 16.6	+0.1		
KEK				S	Sg	05 18 35.4	-0.4		
	comp=E,468nm,0.4s								
SRN	**Sarande**	**1.50**	**343**	P	Pn	05 18 17.5	+0.5		
SRN	**Sarande**	**1.50**	**343**	P	Pb	05 18 18.7	+0.5		
	baz=347								
SRN				S	Sg	05 18 40.3	+1.4		
	baz=347								
SRN				AMP					
	comp=E,0.6nm,0.5s,baz=347								
THL	**Klokotos Trika**	**1.57**	**45**	P	Pb	05 18 19.6	+0.1		
TRIP	**Tripoli**	**1.62**	**124**	P	Pn	05 18 17.1	-1.8		
AXAR	**Agios Charalam**	**1.66**	**78**	P	Pg	05 18 23.5	+1.0		
THAL	**Thalero**	**1.69**	**104**	P	Pg	05 18 24.0	+0.9		
LSK	**Leskovik**	**1.69**	**0**	P	Pb	05 18 21.1	-0.5		
LSK	**Leskovik**	**1.69**	**0**	P	Pg	05 18 22.6	-0.6		
	baz=2.0								
LSK				S	Sg	05 18 47.4	+2.2		
	baz=2.0								
LSK				AMP					
	comp=N,2.6nm,0.5s,baz=2.0								
LKR	**Lokris**	**1.91**	**83**	P	Pb	05 18 25.2	0.0		
ATAL	**Atalanti**	**1.93**	**82**	P	Pg	05 18 27.0	-0.6		
LOUT	**Loutraki**	**1.94**	**103**	P	Pb	05 18 26.0	+0.2		
VILL	**Villia**	**2.17**	**97**	P	Pb	05 18 29.4	-0.3		
KBN	**Korca**	**2.17**	**4**	P	Pb	05 18 30.5	+0.7		
	baz=5.0								
KBN				S	Sg	05 18 58.6	-2.0		
	baz=5.0								
KBN				AMP					
	comp=E,0.6nm,0.9s,baz=5.0								
XOR	**Xorichti**	**2.23**	**65**	P	Pb	05 18 30.4	-0.3		
SCTE	**Santa Cesarea**	**2.30**	**315**	P	Pn	05 18 29.2	+1.1		
	baz=319								
SCTE				AMP					
	comp=E,0.5nm,0.4s,baz=319								
OHR	**Ohrid**	**2.66**	**4**	*i* Pn	Pb	05 18 36.4	-1.7		
TIR	**Tirane**	**2.94**	**349**	P	Pn	05 18 39.3	+2.3		
	baz=351								
TIP	**Timpagrande**	**3.07**	**285**	⇓P	Pn	05 18 38.8	0.0		
PHP	**Peshkopia**	**3.23**	**358**	P	Pn	05 18 43.7	+2.8		
	baz=0.0								
VAY	**Valandovo**	**3.25**	**27**	*i* Pn	Pb	05 18 46.1	-1.9		
BCI	**Bajram Curri**	**3.93**	**354**	P	Pn	05 18 53.5	+2.9		
	baz=356								
PDG	**Podgorica**	**4.10**	**346**	⇑P	Pn	05 18 54.8	+2.0		
IDI	**Anoyia**	**4.68**	**131**	P	Pb	05 19 07.4	-5.1		
	comp=E,2.6nm,0.4s,baz=308,slow=16,SNR=1.2								
IDI				S	Sn	05 19 54.2	-0.8		
	comp=E,6.0nm,0.5s,baz=71,slow=18,SNR=1.9								
MLR	**Muntele Rosu**	**8.09**	**28**	P	Pn	05 19 53.4	+5.7		
	comp=E,2.0nm,0.5s,baz=176,slow=15,SNR=1.9								
BRTR	**Keskin Array B**	**10.23**	**79**	P	Pn	05 20 23.7	+6.6		
	comp=E,0.6nm,0.6s,baz=266,slow=12,SNR=2.8								
DAVOX	**Davos/Dischmat**	**11.45**	**320**	P	Pn	05 20 36.7	+2.8		
	comp=E,1.3nm,0.3s,baz=127,slow=20,SNR=2.1								
DAVOX				S	Sn	05 22 35.9	-5.8		
	comp=E,0.9nm,0.3s,baz=331,slow=19,SNR=1.4								
GERES	**GERESS Array B**	**11.52**	**337**	LR	LR	05 25 21.1			
	comp=E,241nm,20.3s,baz=216,slow=39								
ESDC	**Sonseca Array**	**19.09**	**281**	P	Pn	05 22 14.4	+0.7		
	comp=E,0.8nm,0.8s,baz=86,slow=11,SNR=4.7								
HFS	**Hagfors**	**22.14**	**351**	P	P	05 22 45.4	-0.2		
	comp=E,1.1nm,0.5s,baz=160,slow=13,SNR=1.4								
	comp=E,1.1nm,0.5s								
EKA	**Eskdalemuir Ar**	**23.23**	**324**	P	P	05 22 56.2	-1.0		
	comp=E,0.7nm,0.6s,baz=128,slow=8.4,SNR=3.8								
	comp=E,0.7nm,0.6s								
FINES	**FINESS Array B**	**23.27**	**7**	P	P	05 22 57.4	0.0		
	comp=E,4.0nm,0.9s,baz=187,slow=9.8,SNR=5.2								
	comp=E,4.0nm,0.9s								
BELG	**Belogornoye**	**23.37**	**45**	P	P	05 22 59.3	+0.7		
	comp=E,7.1nm,0.7s,baz=286,slow=7.4,SNR=4.0								
	comp=E,7.1nm,0.7s								

TORD	**Torodi Ar. Bea**	**30.27**	**219**	P	P	05 24 01.3	0.0		
	comp=E,0.3nm,0.5s,baz=37,slow=9.1,SNR=5.8								
	comp=E,0.3nm,0.5s								
MKAR	**Makanchi Array**	**45.12**	**59**	P	P	05 26 06.0	-0.3		
	comp=E,0.3nm,0.5s,baz=266,slow=8.3,SNR=3.6								
	comp=E,0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**45.47**	**48**	P	P	05 26 08.8	-0.3		
	comp=E,1.2nm,0.5s,baz=267,slow=7.9,SNR=5.4								
	comp=E,1.2nm,0.5s								
SCHQ	**Schefferville**	**58.29**	**317**	P	P	05 27 45.1	+0.5		
	comp=E,1.8nm,0.6s,baz=31,slow=5.9,SNR=1.6								
	comp=E,1.8nm,0.6s								

*IDC **07** 05:20:57.2±1.6, 42.55S×89.17E, h0km, mb4.0/6, mbtmp4.0/6, MS4.0/34, Error ellipse: s-maj=58.3km s-min=21.0km az=128.0*

*GCMT **07** 05:21:00.0±0.3, 41.91S±0.02×88.37E±0.02, h20km±1km, MW4.9/93, Moment Tensor Solution. s20,c21; s93,c120; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.76±.14; Mθθ=3.05±.14; Mϕϕ-2.29±.11; Mrθ-0.33±.22; Mrϕ-0.08±.09; Mθϕ=0.12±.21; Best double couple: M=2.69000×10^16 NP1:ϕs=316.00000°, δ=90.00000°, λ=7.00000°. NP2: ϕs=226.00000°, δ=83.00000°, λ=180.00000°. Principal axes: T 3.0790, Plg=5.0000°, Azm=181.0000°; N -0.7790, Plg=83.0000°, Azm=319.0000°; P -2.3000, Plg=4.0000°, Azm=91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 07 05:20:57.8±1.6, 42.4S±0.3×88.9E±0.3, h10km, n=48, σ=1.5 42/14, mb4.0/6, MS4.1/34, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**21.01**	**77**	T	T		T	05 47 40.6	
	baz=243,slow=74,SNR=577								
H01W3	**Cape Leeuwin H**	**21.02**	**77**	T	T		T	05 47 41.2	
	baz=243,slow=74,SNR=473								
H01W1	**Cape Leeuwin H**	**21.03**	**77**	T	T		T	05 47 41.9	
	baz=243,slow=74,SNR=469								
NWAO	**Narrogin (SRO)**	**24.23**	**76**	LR	LR		LR	05 33 34.4	
	comp=E,365nm,21.7s,baz=97,slow=31								
MAW	**Mawson**	**28.87**	**200**	P	P		P	**05 26 56.2**	**+0.2**
	3.6nm,1.0s,baz=54,slow=14,SNR=4.7								
MAW				LR	LR		LR	05 36 01.5	
	comp=E,541nm,20.4s,baz=34,slow=31								
	3.6nm,1.0s								
H08S2	**Diego Garcia H**	**37.56**	**333**	T	T		T	06 07 10.1	
	baz=160,slow=76,SNR=549								
H08S1	**Diego Garcia H**	**37.57**	**333**	T	T		T	06 07 10.0	
	baz=160,slow=76,SNR=398								
H08S3	**Diego Garcia H**	**37.58**	**333**	T	T		T	06 07 11.6	
	baz=160,slow=76,SNR=695								
LEM	**Lembang**	**39.12**	**30**	LR	LR		LR	05 40 55.3	
	comp=Z,108nm,21.4s,baz=190,slow=31								
FITZ	**Fitzroy Crossi**	**39.45**	**63**	LR	LR		LR	05 42 31.5	
	comp=Z,149nm,20.1s,baz=239,slow=33								
ASAR	**Alice Springs**	**41.53**	**78**	P	P		P	**05 28 43.9**	**-1.6**
	0.7nm,0.7s,baz=228,slow=7.5,SNR=6.0								
ASAR				PcP	PcP		PcP	**05 30 45.8**	**+2.9**
	0.4nm,0.5s,baz=226,slow=2.0,SNR=2.4								
ASAR				LR	LR		LR	05 44 01.3	
	comp=Z,417nm,22.0s,baz=266,slow=33								
	0.7nm,0.7s								
STKA	**Stephens Creek**	**42.66**	**94**	LR	LR		LR	05 44 34.3	
	comp=Z,212nm,19.6s,baz=210,slow=33								
WRA	**Warramunga Arr**	**44.20**	**74**	P	P		P	**05 29 06.2**	**-0.8**
	1.8nm,1.0s,baz=232,slow=8.4,SNR=9.3								
WRA				PcP	PcP		PcP	**05 30 53.9**	**+2.1**
	1.0nm,1.1s,baz=221,slow=2.4,SNR=2.8								
WRA				LR	LR		LR	05 45 16.1	
	comp=Z,311nm,21.6s,baz=198,slow=33								
	1.8nm,1.0s								
VNDA	**Vanda**	**45.30**	**163**	P	P		P	**05 29 15.8**	**+0.7**
	0.9nm,0.8s,baz=290,slow=9.6,SNR=4.2								
	0.9nm,0.8s								
PSI	**Prapat**	**45.92**	**14**	LR	LR		LR	05 43 58.8	
	comp=Z,358nm,21.5s,baz=226,slow=30								
QSPA	**South Pole Qui**	**47.72**	**180**	P	P		P	**05 29 34.6**	**+0.2**
	3.3nm,0.9s,baz=275,slow=4.4,SNR=9.9								
QSPA				LR	LR		LR	05 48 18.7	
	comp=Z,316nm,18.8s,baz=332,slow=34								
	3.3nm,0.9s								
TROLL	**Troll, Antarti**	**49.20**	**204**	P	P		P	**05 29 44.9**	**-0.9**
PALK	**Pallekele**	**50.03**	**349**	LR	LR		LR	05 47 32.3	
	comp=Z,159nm,18.2s,baz=268,slow=32								
SNAA	**Sanae**	**50.92**	**204**	P	P		P	**05 29 57.9**	**-0.8**
SNAA	**Sanae**	**50.92**	**204**	P	P		P	**05 29 57.9**	**-0.8**
	2.1nm,1.0s,baz=100,slow=7.7,SNR=6.0								
	2.1nm,1.0s								
BOSA	**Boshof**	**52.49**	**263**	LR	LR		LR	05 47 24.2	
	comp=Z,223nm,21.4s,baz=155,slow=30								
VNA2	**Neumayer--Watz**	**52.55**	**204**	P	P		P	**05 30 09.9**	**-0.9**
	baz=104,slow=7.0								
VNA1	**Neumayer--Stat**	**52.93**	**204**	P	P		P	**05 30 12.4**	**-1.1**
VNA3	**Neumayer Olymp**	**53.11**	**204**	P	P		P	**05 30 14.0**	**-1.0**
SUR	**Sutherland**	**53.73**	**257**	LR	LR		LR	05 49 15.1	
	comp=Z,65nm,20.8s,baz=106,slow=32								
LBTB	**Lobatse**	**54.26**	**267**	LR	LR		LR	05 49 18.2	
	comp=Z,154nm,18.6s,baz=119,slow=31								
RPZ	**Rata Peaks**	**57.55**	**122**	LR	LR		LR	05 50 57.3	
	comp=Z,169nm,18.5s,baz=254,slow=31								
LSZ	**Lusaka**	**58.32**	**278**	LR	LR		LR	05 51 21.5	
	comp=Z,85nm,21.3s,baz=72,slow=31								
KMBO	**Kilima Mbogo**	**61.83**	**297**	LR	LR		LR	05 51 59.4	
	comp=Z,43nm,21.3s,baz=91,slow=30								
TSUM	**Tsumeb**	**63.67**	**268**	LR	LR		LR	05 54 26.9	
	comp=Z,181nm,21.3s,baz=143,slow=32								
MBAR	**Mbarara**	**66.60**	**292**	LR	LR		LR	05 56 03.2	
	comp=Z,55nm,20.3s,baz=104,slow=32								
PMSA	**Palmer Station**	**71.05**	**192**	LR	LR		LR	06 03 44.7	
	comp=Z,107nm,18.0s,baz=132,slow=36								
WSAR	**Wadi Sarin**	**71.08**	**331**	LR	LR		LR	05 57 01.3	
	comp=Z,164nm,18.0s,baz=152,slow=30								
GEYT	**Alibeck**	**84.76**	**336**	LR	LR		LR	06 06 10.5	
	comp=Z,63nm,20.3s,baz=169,slow=32								
AAK	**Ala-Archa**	**85.63**	**349**	LR	LR		LR	06 09 22.7	
	comp=Z,134nm,18.2s,baz=167,slow=34								
EIL	**Elat**	**87.26**	**315**	LR	LR		LR	06 05 41.1	
	comp=Z,74nm,21.2s,baz=91,slow=31								
MKAR	**Makanchi Array**	**89.04**	**355**	LR	LR		LR	06 12 15.7	
	comp=Z,60nm,18.3s,baz=138,slow=34								
MMAI	**Mount Meron Ar**	**89.70**	**317**	LR	LR		LR	06 07 44.3	
	comp=Z,61nm,21.8s,baz=156,slow=31								
GNI	**Garni**	**91.43**	**328**	LR	LR		LR	06 09 59.7	
	comp=Z,78nm,20.6s,baz=137,slow=32								
KURBB	**Kurchatov Arra**	**93.12**	**353**	LR	LR		LR	06 13 02.1	
	comp=Z,90nm,19.1s,baz=121,slow=34								
PLCA	**Paso Flores**	**95.16**	**196**	LR	LR		LR	06 18 17.7	
	comp=Z,138nm,18.0s,baz=180,slow=36								
KBZ	**Khabaz**	**95.19**	**328**	LR	LR		LR	06 12 23.5	
	comp=Z,45nm,20.3s,baz=99,slow=32								
BRTR	**Keskin Array B**	**95.90**	**320**	LR	LR		LR	06 13 59.7	
	comp=Z,69nm,18.9s,baz=128,slow=33								
BVAR	**Borovoye Array**	**96.42**	**349**	LR	LR		LR	06 15 38.7	
	comp=Z,58nm,18.0s,baz=129,slow=34								
TORD	**Torodi Ar. Bea**	**96.73**	**282**	LR	LR		LR	06 13 52.8	
	comp=Z,68nm,22.0s,baz=216,slow=33								
DBIC	**Dimbokro**	**97.25**	**272**	LR	LR		LR	06 13 37.6	
	comp=Z,54nm,19.6s,baz=150,slow=32								
PPT	**Papeete**	**99.62**	**124**	LR	LR		LR	06 13 56.6	
	comp=Z,36nm,18.1s,baz=204,slow=32								
INK	**Inuvik**	**145.80**	**27**	PKPbc	PKPab			**05 40 35.8**	**-0.5**
	3.0nm,0.8s,baz=323,slow=5.4,SNR=5.9								

WEL 07 05:37:28.3±1.5, 37.5S±4.×17.9E±., h17km±11km, n=43, M3.8/30, ML4.0/36, MLv3.8/30, Error ellipse: s-maj=0.0km s-min=0.0km az=92.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.87**	**240**	P	Pb		05 37 44.2	-0.7	
MXZ				S	Sb		05 37 55.0	-1.1	
WMGZ	**Waiomatatini S**	**0.96**	**224**	P	Pb		05 37 46.6	+0.2	
WMGZ				S	Sn		05 38 00.9	+0.8	
PKGZ	**Pakihiroa**	**1.20**	**231**	P	Pb		05 37 50.6	0.0	
PKGZ				S	Sb		05 38 05.9	0.0	
PUZ	**Puketiti**	**1.23**	**220**	P	Pb		05 37 51.0	-0.1	
PUZ				S	Sg		05 38 07.5	-0.5	
HAZ	**Te Kaha**	**1.32**	**241**	P	Pn		05 37 51.9	0.0	
HAZ				S	Sb		05 38 10.2	+0.8	
TWGZ	**Tauwhareparae**	**1.45**	**224**	P	Pb		05 37 54.6	-0.3	
TWGZ				S	Sb		05 38 13.0	0.0	
RUGZ	**Raukumara Rang**	**1.50**	**236**	P	Pb		05 37 55.5	-0.3	
CNGZ	**Carnagh Statio**	**1.58**	**211**	P	Pb		05 37 56.7	-0.4	

WIZ	**White Island**	**1.69**	**256**	P	Pn		05 37 56.2	-0.8	
MWZ	**Matawai**	**1.82**	**228**	P	Pn		05 37 59.3	+0.5	
MWZ				S	Sn		05 38 20.8	-0.7	
WHRZ	**Whale Island**	**1.95**	**247**	P	Pn		05 38 01.3	+0.7	
URZ	**Urewera**	**2.04**	**236**	P	Pn		05 38 02.3	+0.5	
PRGZ	**Paritu Road**	**2.09**	**211**	P	Pn		05 38 02.4	-0.1	
EDRZ	**Edgecumbe**	**2.22**	**243**	P	Pn		05 38 04.9	+0.5	
SNGZ	**Shannon Statio**	**2.24**	**222**	P	Pn		05 38 04.5	0.0	
OPRZ	**Ohinepanea**	**2.26**	**251**	P	Pn		05 38 04.7	-0.2	
KNZ	**Kokohu**	**2.26**	**213**	P	Pn		05 38 04.2	-0.6	
MHGZ	**Mahia Peninsul**	**2.28**	**207**	P	Pn		05 38 05.2	+0.1	
RTZ	**Ruatahuna**	**2.33**	**230**	P	Pn		05 38 06.6	+0.8	
MUGZ	**Murupara**	**2.38**	**235**	P	Pn		05 38 06.5	0.0	
RAHZ	**Arahi**	**2.47**	**223**	P	Pn		05 38 08.4	+0.7	
RRRZ	**Republican Roa**	**2.48**	**240**	P	Pn		05 38 08.3	+0.4	
WHHZ	**Waihua**	**2.51**	**219**	P	Pn		05 38 08.9	+0.6	
MTHZ	**Maungataniwha**	**2.56**	**227**	P	Pn		05 38 09.7	+0.7	
ALRZ	**Allen Road**	**2.71**	**237**	P	Pn		05 38 11.1	+0.1	
NMHZ	**Naumai**	**2.75**	**224**	P	Pn		05 38 11.7	0.0	
ARHZ	**Aropaoanui**	**2.77**	**219**	P	Pn		05 38 11.5	-0.4	
KUZ	**Kuaotunu**	**2.85**	**277**	P	Pn		05 38 11.4	-1.6	
BKZ	**Black Stump Fm**	**2.98**	**226**	P	Pn		05 38 14.5	-0.3	
TOZ	**Tahuroa Road**	**3.04**	**257**	P	Pn		05 38 14.8	-0.8	
CKHZ	**Cape Kidnapper**	**3.05**	**213**	P	Pn		05 38 14.4	-1.2	
MCHZ	**McNeill Hill**	**3.06**	**220**	P	Pn		05 38 15.3	-0.5	
GRZ	**Great Barrier**	**3.17**	**285**	P	Pn		05 38 17.2	-0.2	
KAHZ	**Kahuranaki**	**3.25**	**214**	P	Pn		05 38 17.1	-1.3	
MKAZ	**Moumakai**	**3.27**	**269**	P	Pn		05 38 17.8	-0.8	
PXZ	**Pawanui**	**3.45**	**212**	P	Pn		05 38 19.3	-1.9	
ETAZ	**East Tamaki Re**	**3.46**	**272**	P	Pn		05 38 21.6	+0.3	
NNVZ	**North Ngauruho**	**3.49**	**234**	P	Pn		05 38 21.9	0.0	
MBAZ	**Motutapu North**	**3.50**	**275**	P	Pn		05 38 22.1	-0.2	
MOVZ	**Moawhango**	**3.57**	**229**	P	Pn		05 38 22.1	-0.8	
ABAZ	**Army Bay**	**3.58**	**277**	P	Pn		05 38 23.7	+0.7	
PNHZ	**Pukenui**	**3.67**	**220**	P	Pn		05 38 23.5	-0.7	
AWAZ	**Awhitu Peninsu**	**3.68**	**270**	P	Pn		05 38 25.3	+1.0	
PRHZ	**Porangahau**	**3.74**	**212**	P	Pn		05 38 23.3	-1.9	
HIZ	**Hauiti**	**3.74**	**247**	P	Pn		05 38 26.6	+1.3	
WTAZ	**Waiatarua**	**3.75**	**272**	P	Pn		05 38 26.4	+1.1	
PKVZ	**Pokaka**	**3.75**	**234**	P	Pn		05 38 25.9	+0.5	
RVAZ	**Riverhead Bore**	**3.76**	**274**	P	Pn		05 38 24.4	-1.0	
WCZ	**Waipu Caves**	**4.12**	**285**	P	Pn		05 38 30.5	+0.1	
OUZ	**Omahuta**	**4.96**	**291**	P	Pn		05 38 42.5	+0.7	
CTZ	**Chatham Island**	**7.31**	**156**	P	Pn		05 39 15.2	+1.1	

IDC 07 05:37:45.6±4.2, 53.86N×91.02E, h0km, mbtmp3.1/2, ML2.6/1, Error ellipse: s-maj=34.0km s-min=26.0km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.67**	**274**	*i*				06 02 00.0	
	baz=91,slow=321,SNR=1.0								
ZALV	**Zalesovo Beam**	**3.67**	**274**	Pg	Pb		Pb	05 38 51.3	0.0
	0.5nm,0.3s,baz=92,slow=15,SNR=8.3								
ZALV				Lg	Lg		Lg	05 39

comp=E,412nm,1.6s
POHA **Pohakuloa** **0.46 323** Pg 05 43 12.9 -0.1
POHA Sg 05 43 19.9 +0.6
POHA **Pohakuloa** **0.46 323** IAML 05 43 20.1
comp=E,381nm,0.4s
POHA IAML 05 43 20.8
comp=E,315nm,0.3s
HUH **Hualalai** **0.64 298** Pg 05 43 16.2 -0.1
KHLU **Kahalu`u** **0.65 288** Pg 05 43 14.5 -2.0
HPAH **Hawaii Prepara** **0.77 326** Pg Pg 05 43 17.4 -1.4

IDC 07 05:43:34.2±3.1, 54°46N×86°97E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=26.8km s-min=18.7km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**249**	*i*		05 51 48.5	
	baz=65,slow=321,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.36**	**249**	Pg	Pg	05 43 58.7	-1.7
	1.5nm,0.3s,baz=71,slow=15,SNR=6.5						
ZALV				Lg	Lg	05 44 18.6	
	1.4nm,0.3s,baz=70,slow=28,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.42**	**237**	Pn	Pn	05 45 10.4	+0.5
	0.2nm,0.3s,baz=53,slow=14,SNR=5.4						
KURBB				Lg	Lg	05 46 57.4	
	0.1nm,0.3s,baz=46,slow=30,SNR=1.7						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**8.23**	**203**	Pn	Pn	05 45 36.5	+1.7
	0.1nm,0.3s,baz=14,slow=9.5,SNR=4.6						
MKAR				Sn	Sn	05 47 07.1	-1.3
	0.1nm,0.3s,baz=22,slow=27,SNR=2.3						
MKAR				Lg	Lg	05 47 55.3	
	baz=26,slow=27,SNR=2.2						
	0.2nm,0.3s						

*IDC **07** 05:56:05.9±0.7, 6°73N×144°77E, h0km, mb4.4/14, mbtmp4.4/15, ML5.0/1, MS3.7/47, Error ellipse: s-maj=27.6km s-min=17.0km az=91.0*
*BJI **07** 05:56:05.0±0.0, 6°70N×144°70E, h10km, mb4.6/30, mB4.8/15, Ms4.3/5, Ms7 4.1/5*
*NEIC **07** 05:56:07.7±1.7, 6°72N±0°07×144°7E±0°1, h10km±1km, mb4.7/38, Error ellipse: s-maj=22.1km s-min=12.3km az=85.0*
*GCMT **07** 05:56:09.7±0.4, 6°65N±0°03×144°56E±0°02, h20km±2km, MW4.8/75, Moment Tensor Solution. s10,c10; s75,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.20±.12; $M_{\theta\theta}$=1.05±.10; $M_{\phi\phi}$=-1.05±.09; $M_{r\theta}$=0.30±.17; $M_{\theta\phi}$=1.44±.11; $M_{\phi r}$=0.00±.22; Best double couple: $M_0$1.86500×10^{16} NP1:ϕ_s109.00000°, δ88.00000°, λ8.00000°. NP2: ϕ_s19.00000°, δ82.00000°, λ178.00000°. Principal axes: T 1.9770, Plg7.0000°, Azm335.0000°; N -0.2250, Plg81.0000°, Azm120.0000°; P -1.7540, Plg5.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **07** 05:56:11.2±2.6, 6°N±30°×14°5E±2°3, h52km±40km, M4.7/9, mB5.1/3, mb4.8/9, Mw(mB)4.4/3*

ISC 07 05:56:10.7±0.5, 6.72N±0°06×144°64E±0°08, h35km, n122, σ2^{s}38/80, mb4.5/43, MS3.7/48, 1D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.83**	**2**	Pn	**Pn**	**05 57 47.5**	**-0.9**
	31nm,0.3s,baz=206,slow=12,SNR=8.8						
GUMO				Sn	**Sn**	**05 59 01.7**	**-3.2**
	2.7nm,0.3s,baz=52,slow=19,SNR=1.7						
GUMO				LR	LR	06 00 43.7	
	comp=Z,461nm,18.4s,baz=190,slow=41						
	103nm,0.5s						
GUMO	**Guam**	**6.83**	**2**	Pn	**Pn**	**05 57 47.1**	**-1.3**
MANU	**Manus Island**	**9.12**	**163**		**Pn**	**05 58 17.0**	**-3.0**
GENI	**Genyem**	**10.28**	**206**	P	**Pn**	**05 58 31.1**	**-4.7**
	3µm242nm,1.0s						
SMPI	**Sarmi**	**10.49**	**215**	P	Pn	05 58 33.3	-5.4
	43nm,0.8s						
KRVT	**Keravat (AS076**	**13.20**	**146**	LR	LR	06 03 22.1	
	comp=Z,608nm,20.6s,baz=74,slow=33						
PATS	**Pohnpei**	**13.57**	**89**	Pn	**Pn**	**05 59 19.9**	**-1.0**
SIJI	**Sorong**	**15.33**	**241**	LR	LR	06 04 14.9	
	comp=Z,537nm,18.3s,baz=342,slow=32						
FAKI	**Fak Fak**	**15.65**	**233**		**P**	**05 59 51.3**	**-1.2**
PMG	**Port Moresby**	**16.22**	**171**	LR	LR	06 05 07.2	
	comp=Z,456nm,21.2s,baz=334,slow=33						
LBMI	**Labuha**	**18.61**	**247**	P	**Pn**	**06 00 26.2**	**+0.5**
	727nm66nm,1.1s						
JCJ	**Chichijima**	**20.39**	**354**	P	**P**	**06 00 44.6**	**-0.1**
	14nm,0.6s,baz=229,slow=6.5,SNR=5.6						
JCJ				LR	LR	06 08 24.3	
	comp=Z,94nm,18.1s,baz=156,slow=36						
	14nm,0.6s						
JCJ	**Chichijima**	**20.39**	**354**	P	**P**	**06 00 42.6**	**-2.1**
COEN	**Coen**	**20.60**	**184**	P	**P**	**06 00 47.0**	**0.0**
COEN				IAmb	IAmb	06 00 51.4	
	comp=Z,66nm,1.5s						
HNR	**Honiara**	**22.14**	**136**	LR	LR	06 08 26.6	
	comp=Z,3µm,20.3s,baz=292,slow=34						
GTOI	**Gorontalo**	**22.41**	**255**	P	**P**	**06 01 06.9**	**+0.4**
	comp=Z,236nmcomp=Z,22nm,1.2s						
MTN	**Manton Dam**	**23.63**	**215**	P	**P**	**06 01 18.1**	**-0.7**
MTN				IAmb	IAmb	06 01 30.4	
	comp=Z,24nm,1.2s						
TOLI2	**Tolitoli**	**24.44**	**258**	P	**P**	**06 01 26.0**	**-0.5**
TOLI2				IAmb	IAmb	06 01 30.7	
	comp=Z,22nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**24.45**	**59**	T	T	06 27 24.9	
	baz=246,slow=75						
H11S2	**WAKE ISLAND Hy**	**24.46**	**59**	T	T	06 27 29.5	
	baz=246,slow=75						
H11S1	**WAKE ISLAND Hy**	**24.47**	**59**	T	T	06 27 27.8	
	baz=246,slow=75						
H11N1	**WAKE ISLAND Hy**	**25.17**	**57**	T	T	06 28 18.8	
	baz=243,slow=75						
H11N2	**WAKE ISLAND Hy**	**25.18**	**57**	T	T	06 28 19.7	
	baz=243,slow=75						
H11N3	**WAKE ISLAND Hy**	**25.19**	**57**	T	T	06 28 33.5	
	baz=243,slow=75						
MPSI	**Mapaga**	**25.49**	**257**	P	**P**	**06 01 35.2**	**-0.8**
	comp=Z,19nm,1.4s						
MYLDM	**Lahad Datu**	**26.05**	**268**	P	**P**	**06 01 42.8**	**+1.7**
TTSI	**Tana Toraja**	**26.61**	**249**	P	P	06 01 58.3	+12
CTA	**Charters Tower**	**26.69**	**177**	LR	LR	06 12 15.1	
	comp=Z,110nm,18.3s,baz=0.5,slow=36						
KNRA	**Kununurra**	**27.25**	**215**	P	**P**	**06 01 53.7**	**+1.9**
KNRA				IAmb	IAmb	06 02 10.1	
	comp=Z,19nm,1.0s						
WB0	**Warramunga Arr**	**28.19**	**201**	P	**P**	**06 02 03.0**	**+2.8**
WB0				IAmb	IAmb	06 02 25.8	
	comp=Z,18nm,1.2s						
WR0	**Warramunga Arr**	**28.32**	**200**	P	**P**	**06 02 01.7**	**+0.3**
WR0				IAmb	IAmb	06 02 35.1	
	comp=Z,20nm,1.4s						
WRAB	**Tennant Creek**	**28.36**	**201**	P	**P**	**06 02 01.3**	**-0.4**
WRAB				IAmb	IAmb	06 02 29.9	
	comp=Z,13nm,1.1s						
WB2	**Warramunga Arr**	**28.37**	**201**	P	**P**	**06 02 00.8**	**-1.0**
WB2				IAmb	IAmb	06 02 28.5	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**28.37**	**201**	P	**P**	**06 02 00.6**	**-1.3**
	comp=Z,5.2nm,1.2s,baz=23,slow=9.2,SNR=6.4						
WRA				LR	LR	06 12 26.3	
	comp=Z,114nm,20.0s,baz=4.0,slow=34						
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**28.37**	**201**	P	**P**	**06 02 01.4**	**-0.5**
MJAR	**Matsushiro Arr**	**30.26**	**350**	LR	LR	06 13 28.0	
	comp=Z,83nm,21.8s,baz=150,slow=34						
FITZ	**Fitzroy Crossi**	**30.99**	**217**	LR	LR	06 14 14.9	
	comp=Z,86nm,21.7s,baz=38,slow=35						
ASAR	**Alice Springs**	**31.97**	**199**	P	**P**	**06 02 33.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=30,slow=11,SNR=3.3						
ASAR				PcP	**PcP**	**06 05 24.7**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=18,slow=4.2,SNR=1.8						
	comp=Z,0.3nm,0.5s						
KSRS	**Korea Array**	**34.17**	**336**	P	**P**	**06 02 52.4**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=144,slow=9.0,SNR=6.8						
KSRS				PcP	**PcP**	**06 05 31.3**	**+2.1**
	comp=Z,1.2nm,0.5s,baz=162,slow=4.3,SNR=2.1						
KSRS				LR	LR	06 17 10.8	
	comp=Z,98nm,18.1s,baz=145,slow=37						
	comp=Z,0.8nm,0.5s						
NJ2	**Nanjing**	**34.83**	**320**	*eP*	**P**	**06 02 56.5**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DZM	**Mont Dzumac**	**35.71**	**144**	*e*LR	LR	06 12 38.6	
	comp=Z,441nm,23.4s						
DZM	**Mont Dzumac**	**35.71**	**144**	LR	LR	06 15 43.3	
	comp=Z,310nm,20.1s,baz=303,slow=33						
STKA	**Stephens Creek**	**38.49**	**184**	LR	LR	06 18 52.5	
	comp=Z,119nm,18.5s,baz=18,slow=36						
LEM	**Lembang**	**39.32**	**251**	LR	LR	06 20 02.7	
	comp=Z,61nm,18.0s,baz=151,slow=36						
HNS	**HongShan**	**40.91**	**323**	||P	**P**	**06 03 51.2**	**+1.5**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MSVF	**Nonsavu**	**40.97**	**127**	LR	LR	06 19 06.9	
	comp=Z,95nm,21.3s,baz=136,slow=34						
KLR	**Kul'dur**	**43.74**	**348**	LR	LR	06 21 13.9	
	comp=Z,91nm,20.9s,baz=134,slow=34						
HHC	**Hu-ho-hao-te**	**45.00**	**324**	*eP*	**P**	**06 04 25.0**	**+2.0**
HHC				pmax	pmax		
	comp=Z,31nm,0.9s						
HHC				pmax	pmax		
	comp=Z,88nm,5.2s						
PZH	**PanZhiHua**	**45.28**	**301**	P	**P**	**06 04 28.5**	**+3.0**
PZH				pmax	pmax		
	comp=Z,30nm,1.0s						
PZH				pmax	pmax		
	comp=Z,80nm,3.5s						
PSI	**Prapat**	**45.71**	**267**	LR	LR	06 24 30.7	
	comp=Z,74nm,18.7s,baz=54,slow=37						
CMAR	**Chiang Mai Arr**	**45.97**	**289**	P	**P**	**06 04 34.0**	**+3.1**
	comp=Z,3.5nm,0.5s,baz=98,slow=5.9,SNR=18						
CMAR				LR	LR	06 23 03.9	
	comp=Z,27nm,21.7s,baz=270,slow=35						
	comp=Z,3.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**45.97**	**289**	P	**P**	**06 04 31.7**	**+0.9**
NWAO	**Narrogin (SRO)**	**47.26**	**212**	LR	LR	06 24 55.5	
	comp=Z,111nm,19.0s,baz=266,slow=36						
LZH	**Lanzhou**	**47.37**	**314**	*eP*	**P**	**06 04 38.1**	**-3.7**
LZH				sP	pP	06 04 47.8	-3.4
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				LR	LR		
	comp=Z,170nm,13.7s						
LZH				LR	LR		
	comp=Z,190nm,15.5s						
LZH				LR	LR		
	comp=Z,170nm,17.2s						
PETK	**Petropavlovsk-**	**47.46**	**11**	P	**P**	**06 04 43.0**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=187,slow=10,SNR=5.3						
PETK				LR	LR	06 22 14.1	
	comp=Z,55nm,21.9s,baz=189,slow=33						
	comp=Z,4.3nm,0.8s						
RAO	**Raoul Island**	**50.76**	**137**	LR	LR	06 26 06.5	
	comp=Z,39nm,18.1s,baz=290,slow=36						
GTA	**Gaotai**	**51.74**	**316**	*eP*	**P**	**06 05 16.6**	**+1.6**
GTA				pP	pP	06 05 20.6	-3.8
GTA				sP	sP	06 05 23.5	-4.7
GTA				PcP	**PcP**	**06 06 32.9**	**+4.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,25nm,4.7s						
GTA				LR	LR		
	comp=Z,82nm,17.1s						
GTA				LR	LR		
	comp=Z,120nm,15.6s						
GTA				LR	LR		
	comp=Z,140nm,18.5s						
SHEM	**Shemya Is, Ala**	**51.81**	**22**	LR	LR	06 22 59.9	
	comp=Z,75nm,21.7s,baz=236,slow=31						
ULN	**Ulaanbaatar**	**51.98**	**329**	P	**P**	**06 05 17.8**	**+1.1**
SONM	**Songino Array**	**52.30**	**328**	P	**P**	**06 05 19.8**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=143,slow=8.7,SNR=10						
SONM				PcP	**PcP**	**06 06 32.2**	**+2.2**
	comp=Z,1.3nm,0.8s,baz=134,slow=4.2,SNR=4.1						
SONM				LR	LR	06 28 51.5	
	comp=Z,79nm,19.0s,baz=130,slow=38						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**52.30**	**328**	P	**P**	**06 05 19.8**	**+0.8**
MA2	**Magadan**	**52.94**	**4**	LR	LR	06 26 12.1	
	comp=Z,28nm,21.5s,baz=210,slow=34						
URZ	**Urewera**	**53.99**	**149**	LR	LR	06 25 58.5	
	comp=Z,96nm,18.6s,baz=196,slow=33						
GOMU	**GeErMu**	**54.08**	**310**	P	**P**	**06 05 32.6**	**0.0**
GOMU				pP	pP	06 05 35.4	-6.7
GOMU				sP	sP	06 05 37.8	-8.1
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,84nm,5.3s						
RPZ	**Rata Peaks**	**55.60**	**157**	LR	LR	06 25 51.6	
	comp=Z,173nm,20.4s,baz=266,slow=32						
WMQ	**Urumqi**	**61.81**	**317**	*eP*	**P**	**06 06 27.0**	**+0.6**
WMQ				pP	pP	06 06 31.8	-4.2
WMQ				pmax	pmax		
	comp=Z,34nm,0.7s						
MK31	**Makanchi Array**	**66.35**	**318**	P	**P**	**06 06 56.3**	**+0.2**
MKAR	**Makanchi Array**	**66.35**	**318**	P	**P**	**06 06 56.8**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=113,slow=7.2,SNR=7.1						
MKAR				LR	LR	06 37 38.8	
	comp=Z,41nm,18.3s,baz=124,slow=38						
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**66.35**	**318**	P	**P**	**06 06 56.3**	**+0.3**
ZALV	**Zalesovo Beam**	**67.11**	**326**	P	**P**	**06 07 00.9**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=99,slow=6.3,SNR=4.2						
ZALV				LR	LR	06 37 31.7	
	comp=Z,47nm,19.5s,baz=94,slow=37						
	comp=Z,2.2nm,0.3s						
PPT	**Papeete**	**69.28**	**112**	LR	LR	06 32 23.2	
	comp=Z,50nm,21.5s,baz=210,slow=32						
PPT2	**Papeete2**	**69.28**	**112**	*e*LR	LR	06 28 11.6	
	comp=Z,42nm,22.8s						
KSH	**Kashi**	**69.32**	**310**	P	**P**	**06 07 19.0**	**+4.0**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURK	**Kurchatov**	**69.74**	**322**	P	**P**	**06 07 17.4**	**+0.2**
KURBB	**Kurchatov Arra**	**69.77**	**322**	LR	LR	06 39 17.9	
	comp=Z,38nm,19.1s,baz=75,slow=37						
KDAK	**Kodiak Island**	**70.02**	**30**	LR	LR	06 35 10.9	
	comp=Z,48nm,19.9s,baz=245,slow=34						
PMOR	**Pomariorio Ree**	**70.25**	**108**	*e*T	T	07 24 04.7	
	comp=Z,3.2nm,0.2s						
AAK	**Ala-Archa**	**70.89**	**313**	LR	LR	06 41 10.9	
	comp=Z,42nm,18.6s,baz=85,slow=38						
J20K	**Nowinta River**	**71.70**	**24**	P	**P**	**06 07 30.9**	**+2.1**
CAST	**Castle Rocks**	**72.25**	**25**	IAmb	IAmb	06 07 36.7	
	comp=Z,4.5nm,0.8s						
NRIK	**Noril'sk**	**72.53**	**342**	P	**P**	**06 07 33.5**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=142,slow=4.9,SNR=5.9						
	comp=Z,1.7nm,0.3s						
NRIK	**Noril'sk**	**72.53**	**342**	P	**P**	**06 07 34.1**	**+0.4**
I21K	**Tanana**	**72.94**	**23**	P	**P**	**06 07 38.1**	**+1.9**
I21K				IAmb	IAmb	06 07 41.5	
	comp=Z,6.1nm,0.8s						
BPAW	**Bear Paw Mtn.**	**72.95**	**24**	P	**P**	**06 07 36.8**	**+0.4**
MLY	**Manley**	**73.38**	**24**	IAmb	IAmb	06 07 43.7	
	comp=Z,5.0nm,0.8s						
RND	**Reindeer**	**73.61**	**25**	IAmb	IAmb	06 07 44.5	
	comp=Z,4.6nm,0.8s						
KKAR	**Karatay Array**	**73.86**	**313**	P	**P**	**06 07 43.2**	**+1.0**
WRH	**Wood River Hil**	**74.27**	**25**	P	**P**	**06 07 44.7**	**+0.7**
WRH				IAmb	IAmb	06 07 47.7	
	comp=Z,7.1nm,0.8s						
HDA	**Harding Lake**	**74.72**	**25**	IAmb	IAmb	06 07 50.4	
	comp=Z,5.6nm,0.9s						
IL31		**74.85**	**24**	P	**P**	**06 07 47.4**	**0.0**
IL31				IAmb	IAmb	06 07 50.5	
	comp=Z,4.4nm,0.7s						
ILAR	**Eielson Array**	**74.85**	**24**	P	**P**	**06 07 46.7**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=251,slow=6.0,SNR=31						
ILAR				LR	LR	06 39 14.8	
	comp=Z,41nm,18.6s,baz=267,slow=35						
	comp=Z,3.4nm,0.6s						
ILAR	**Eielson Array**	**74.85**	**24**	P	**P**	**06 07 46.5**	**-1.0**
BVAR	**Borovoye Array**	**75.20**	**323**	LR	LR	06 43 22.0	
	comp=Z,52nm,18.6s,baz=86,slow=38						
BRVK	**Borovoye**	**75.27**	**323**	P	**P**	**06 07 50.8**	**+0.7**
BRVK				IAmb	IAmb	06 07 55.1	
	comp=Z,11nm,1.1s						
K27K	**Chicken**	**76.69**	**26**	IAmb	IAmb	06 08 09.0	
	comp=Z,5.8nm,1.1s						
DAWY	**Dawson**	**77.86**	**26**	P	**P**	**06 08 05.5**	**+0.9**
DAWY				IAmb	IAmb	06 08 09.6	
	comp=Z,5.5nm,0.8s						
HYT	**Haines Junctio**	**78.24**	**29**	P	**P**	**06 08 08.5**	**+1.7**
HYT				IAmb	IAmb	06 08 12.2	
	comp=Z,4.8nm,0.7s						
HRA	**Herat**	**79.98**	**304**	P	**P**	**06 08 17.4**	**+0.4**
HRA				IAmb	IAmb	06 08 21.6	
	comp=Z,7.1nm,0.9s						
INK	**Inuvik**	**80.77**	**22**	P	**P**	**06 08 20.6**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=267,slow=6.7,SNR=5.5						
	comp=Z,3.2nm,0.8s						
ABKAR	**Akbulak array**	**81.49**	**319**	P	**P**	**06 08 24.6**	**+0.1**
ABKAR	**Akbulak array**	**81.49**	**319**	IAmb	IAmb	06 08 28.8	
	comp=Z,1.8nm,0.8s						
ARU	**Arti**	**82.28**	**326**	P	**P**	**06 08 29.4**	**+0.9**
	comp=Z,5.5nm,0.2s,baz=47,slow=19,SNR=1.4						
ARU				LR	LR	06 46 13.2	
	comp=Z,69nm,21.1s,baz=160,slow=36						
	comp=Z,5.5nm,0.2s						
AKTO	**Aktyubinsk**	**82.72**	**320**	P	**P**	**06 08 31.6**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=88,slow=6.5,SNR=7.2						
AKTO				LR	LR	06 47 45.0	
	comp=Z,39nm,18.7s,baz=80,slow=37						
	comp=Z,2.5nm,0.8s						
BBB	**Bella Bella**	**83.05**	**38**	LR	LR	06 39 58.4	
	comp=Z,32nm,19.4s,baz=271,slow=32						
VNDA	**Vanda**	**84.67**	**176**	LR	LR	06 47 16.3	
	comp=Z,14nm,18.2s,baz=345,slow=36						
KIRV	**Kirov**	**87.04**	**329**	LR	LR	06 50 25.4	
	comp=Z,80nm,18.6s,baz=74,slow=37						
YBH	**Yreka Blue Hor**	**87.55**	**48**	LR	LR	06 42 23.9	
	comp=Z,32nm,19.0s,baz=330,slow=32						
PINE	**Pine Mountain**	**88.58**	**46**	P	**P**	**06 09 02.5**	**+2.0**
YKA	**Yellowknife Ar**	**89.03**	**27**	LR	LR	06 45 32.2	
	comp=Z,40nm,19.5s,baz=324,slow=33						
NEW	**Newport**	**90.49**	**41**	LR	LR	06 45 36.7	
	comp=Z,34nm,18.9s,baz=312,slow=33						
ELK	**Elko**	**93.26**	**49**	LR	LR	06 44 56.6	
	comp=Z,47nm,19.7s,baz=356,slow=32						
ARCES	**ARCESS Array B**	**93.51**	**342**	LR	LR	06 56 54.5	
	comp=Z,38nm,18.1s,baz=56,slow=39						
KBZ	**Khabaz**	**93.81**	**315**	LR	LR	06 56 21.7	
	comp=Z,31nm,18.9s,baz=72,slow=38						
OBN	**Obninsk**	**94.69**	**327**	LR	LR	06 54 50.2	
	comp=Z,16nm,20.7s,baz=356,slow=37						
QSPA	**South Pole Qui**	**96.61**	**180**	LR	LR	06 52 17.5	
	comp=Z,33nm,21.4s,baz=5.0,slow=35						
FINES	**FINESS Array B**	**97.25**	**335**	LR	LR	06 57 30.3	
	comp=Z,44nm,18.4s,baz=58,slow=38						
MNK	**Minsk**	**99.58**	**328**	*i* P	**Pdif**	**06 09 44.1**	**-6.2**
	comp=E,2.0nm,0.7s						
MNK				*i* P	**Pdif**	**06 09 44.1**	**-6.2**
	comp=N,7.0nm,0.8s						
MNK				*i* P	**Pdif**	**06 09 44.1**	**-6.2**
	comp=Z,11nm,0.7s,baz=64						
MNK				*i* PP	**PP**	**06 13 48.0**	**-5.9**
MNK				*i* PPP	PPP	06 15 54.6	
MNK				*i* S	**SKSac**	**06 20 22.7**	**-3.6**
MNK				*i* PS	**PS**	**06 22 43.9**	**-8.3**
MNK				*i* SS	**SS**	**06 28 09.8**	**-1.4**
MNK				*i* SSS	SSS	06 31 58.9	
MNK				*i* LQ	LQ	06 48 45.5	
MNK				*i* LR	LR	06 53 00.2	
MNK				*i* LRM	MLR	06 54 22.7	
	comp=N,22nm,17.4s						
MNK				*i* LRM	MLR	06 54 30.4	
	comp=Z,133nm,17.4s						
MNK				*i* LRM	MLR	06 54 52.4	
	comp=E,46nm,18.7s						
ESDC	**Sonseca Array**	**125.48**	**330**	PP	**PP**	**06 17 01.8**	**+3.0**
	comp=E,0.3nm,0.5s,baz=32,slow=7.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**138.24**	**299**	PKP	**PKiKP**	**06 15 35.4**	**0.0**
	comp=E,0.8nm,0.9s,baz=114,slow=2.1,SNR=3.5						
LPAZ	**La Paz**	**146.56**	**109**	PKPbc	**PKPab**	**06 15 51.5**	**+0.2**
	comp=E,1.7nm,0.6s,baz=247,slow=2.9,SNR=9.7						
DBIC	**Dimbokro**	**146.79**	**293**	PKPbc	**PKPab**	**06 15 51.5**	**-0.1**
	comp=E,9.2nm,1.0s,baz=63,slow=3.9,SNR=5.2						
CPUP	**Villa Florida**	**151.39**	**135**	PKPbc	**PKiKP**	**06 16 03.2**	**+1.1**
	comp=E,1.2nm,0.7s,baz=320,slow=5.2,SNR=3.7						

*JMA **07** 05:57:35.2±0.1, 43°4N±0°1×143°1E±0°1, h1km±1km, MV3.4/20, TAISETSU MOUNTAINS REG*
JMA Felt I J1 at TAISETSU MOUNTAINS REG .
*IDC **07** 05:57:43.4±5.6, 43°42N×143°03E, h59km±53km, mb3.2/6, mbtmp3.5/7, ML2.8/1, MS3.0/4, Error ellipse: s-maj=37.7km s-min=28.4km az=114.0*

ISC 07 05:57:35.5±1.2, 43°39N±0°03×143°09E±0°04, h2km±10km, n18, σ0^{s}80/19, mb3.7/6, 5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFR	**Furan**	**0.42**	**239**	*eP*	**Pg**	**05 57 43.5**	**0.0**
JFR				*eS*	**Sg**	**05 57 49.7**	**+0.6**
JAR	**Ashorobuto**	**0.51**	**100**	||P	**Pg**	**05 57 45.4**	**+0.2**
JAR				||*eS*	**Sg**	**05 57 52.6**	**+0.9**
JKK2	**Kamakawa 2**	**0.55**	**333**	*eP*	**Pb**	**05 57 46.7**	**-1.1**
JMP	**Maruseppu**	**0.65**	**18**	*eP*	**Pg**	**05 57 48.0**	**-0.1**
JMP				S	**Sg**	**05 57 57.2**	**+0.8**
JOB	**Onbets**	**0.73**	**131**	||P	**Pb**	**05 57 50.1**	**-0.8**
JCH	**Churui**	**0.80**	**165**	||P	**Pg**	**05 57 50.8**	**+0.1**
JCH				||eS	**Sb**	**05 58 01.8**	**-1.4**
ASAJ	**Asahikawa**	**0.81**	**334**	*eP*	**Pb**	**05 57 51.8**	**-0.5**
JTKR	**Abashiri--Toko**	**0.84**	**45**	*eP*	**Pg**	**05 57 51.2**	**-0.3**
JTKR				*eS*	**Sg**	**05 58 02.6**	**+0.2**
MJAR	**Matsushiro Arr**	**7.79**	**210**	P	Pn	05 59 34.3	+4.4
	0.1nm,0.3s,baz=32,slow=14,SNR=1.7						
MJAR				LR	LR	06 02 51.6	
	comp=Z,150nm,20.7s,baz=21,slow=40						
	1.0nm,0.3s						
KSRS	**Korea Array**	**12.98**	**248**	LR	LR	06 05 11.9	
	comp=Z,85nm,18.9s,baz=70,slow=34						
MA2	**Magadan**	**16.88**	**14**	LR	LR	06 07 47.2	
	comp=Z,68nm,20.3s,baz=188,slow=36						
SHEM	**Shemya Is, Ala**	**22.58**	**55**	LR	L

0.2nm,0.5s,baz=301,slow=9.2,SNR=4.1
0.2nm,0.5s

H08S2 Diego Garcia H 33.88 266 T T 06 49 21.6
baz=93

H08S3 Diego Garcia H 33.89 266 T T 06 49 30.3
baz=93,slow=74

H08S1 Diego Garcia H 33.90 266 T T 06 49 32.3
baz=93,slow=74

STKA Stephens Creek 41.09 132 P **P 06 14 57.9 +2.1**
2.7nm,0.8s,baz=310,slow=7.9,SNR=4.2
2.7nm,0.8s

IDC 07 06:15:29.5±56.0, 19°49S×177°84W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1034.0km s-min=163.7km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.37**	**243**	P	P	06 22 52.7	+0.1
	2.1nm,0.8s,baz=99,slow=13,SNR=2.9						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**44.89**	**261**	P	P	06 23 46.0	-0.2
	1.4nm,0.7s,baz=97,slow=7.5,SNR=39						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**44.90**	**256**	P	P	06 23 46.1	-0.2
	2.3nm,0.5s,baz=96,slow=7.7,SNR=29						
	2.3nm,0.5s						

WEL 07 06:21:09.3±1.3, 37°S±6°×17°9E±°, h15km±5km, M3.5/21, mB5.1/2, ML3.9/26, MLv3.5/21, Mw(mB)4.5/2, Error ellipse: s-maj=0.0km s-min=0.0km az=101.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**229**	P	Pg	06 21 23.2	-0.6
MXZ				S	Sg	06 21 32.5	-1.0
WMGZ	**Waiomatatini S**	**0.88**	**213**	P	Pn	06 21 27.0	-0.1
WMGZ				S	Sn	06 21 40.0	+0.3
PKGZ	**Pakihiroa**	**1.10**	**223**	P	Pb	06 21 30.0	-0.1
PKGZ				S	Sn	06 21 46.0	+0.7
PUZ	**Puketiti**	**1.16**	**211**	P	Pn	06 21 30.5	-0.5
PUZ				S	Sg	06 21 47.1	+0.3
HAZ	**Te Kaha**	**1.19**	**235**	P	Pn	06 21 30.0	-1.4
TWGZ	**Tauwhareparae**	**1.37**	**217**	P	Pb	06 21 34.4	-0.2
RUGZ	**Raukumara Rang**	**1.38**	**230**	P	Pb	06 21 34.9	-0.1
RUGZ				S	Sg	06 21 54.9	+1.0
TKGZ	**Te Karaka**	**1.64**	**214**	P	Pn	06 21 37.4	-0.2
MWZ	**Matawai**	**1.72**	**223**	P	Pn	06 21 38.6	-0.2
RAGZ	**Rawiri**	**1.90**	**221**	P	Pn	06 21 41.3	0.0
URZ	**Urewera**	**1.92**	**232**	P	Pn	06 21 41.3	-0.1
URZ				S	Sn	06 22 05.5	+0.2
PRGZ	**Paritu Road**	**2.05**	**206**	P	Pn	06 21 41.9	-1.3
OPRZ	**Ohinepanea**	**2.10**	**248**	P	Pn	06 21 44.6	+0.6
SNGZ	**Shannon Statio**	**2.16**	**217**	P	Pn	06 21 44.2	-0.5
SNGZ				S	Sn	06 22 11.4	+0.2
KNZ	**Kokohu**	**2.21**	**208**	P	Pn	06 21 44.0	-1.5
WHHZ	**Waihua**	**2.44**	**215**	P	Pn	06 21 47.8	-0.8
MTHZ	**Maungataniwha**	**2.47**	**224**	P	Pn	06 21 49.0	0.0
NMHZ	**Naumai**	**2.67**	**220**	P	Pn	06 21 51.2	-0.6
ARHZ	**Aropaoanui**	**2.70**	**216**	P	Pn	06 21 51.2	-1.0
TOZ	**Tahuroa Road**	**2.87**	**256**	P	Pn	06 21 53.7	-0.8
BKZ	**Black Stump Fm**	**2.88**	**223**	P	Pn	06 21 53.7	-1.1
KAHZ	**Kahuranaki**	**3.19**	**211**	P	Pn	06 21 56.8	-2.2
ETAZ	**East Tamaki Re**	**3.27**	**271**	P	Pn	06 21 59.7	-0.4
MBAZ	**Motutapu North**	**3.31**	**274**	P	Pn	06 21 59.6	-1.0
BHHZ	**Black Hill Sta**	**3.34**	**223**	P	Pn	06 22 04.3	+3.1
MOVZ	**Moawhango**	**3.46**	**227**	P	Pn	06 22 01.6	-1.2
RVAZ	**Riverhead Bore**	**3.57**	**274**	P	Pn	06 22 06.4	+2.3
HIZ	**Hauiti**	**3.59**	**245**	P	Pn	06 22 05.7	+1.2
TCW	**Tory Channel**	**5.53**	**220**	P	Pn	06 22 35.1	+4.0
TUWZ	**Tuamarina**	**5.86**	**221**	P	Pn	06 22 38.3	+2.7
NNZ	**Nelson**	**6.02**	**225**	P	Pn	06 22 37.8	0.0
QRZ	**Quartz Range**	**6.29**	**232**	P	Pn	06 22 39.9	-1.6
MRNZ	**Matariki Terra**	**6.50**	**226**	P	Pn	06 22 42.2	-2.1
THZ	**Tophouse**	**6.65**	**223**	P	Pn	06 22 46.1	-0.4

---

*SEA **07** 06:50:25.0±2.9, 48°.75N±0°.03×122°.29W±0°.03, h18km±4km, ML3.2/122, ML2.9/32(NEIC), Error ellipse: s-maj=4.3km s-min=2.7km az=213.0*
*PNSN **07** 06:50:25.0, 48°.75N×122°.29W, h18km, MD3.1, Fault plane solution: NP1:♑95.00000°, δ60.00000°, λ80.00000°.*
NEIC 07 06:50:24.9±2.2, 48°.76N±0°.03×122°.38W±0°.03, h15km±5km, Error ellipse: s-maj=5.2km s-min=2.4km az=160.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCW	**Mount Constitu**	**0.31**	**256**		Pb	06 50 32.1	-0.1
A05A	**Maple Falls**	**0.31**	**39**		Pg	06 50 30.9	-0.5
MBW	**Mount Baker**	**0.32**	**85**		Pg	06 50 30.8	-0.8
VDB	**Vedder Mountai**	**0.33**	**34**		Pg	06 50 31.0	-0.6
ERW	**Mount Erie**	**0.34**	**208**		Pg	06 50 32.1	+0.2
CMW	**Cultus Mountai**	**0.38**	**152**		Pg	06 50 32.0	-0.5
SHUK	**Shuksan-Mt. Ba**	**0.47**	**78**		Pg	06 50 33.2	-1.1
SHUK					Sg	06 50 39.2	-1.5
SVOH	**Skagit Valley**	**0.50**	**200**		Pg	06 50 35.0	+0.3
SNB	**Saturna Island**	**0.52**	**272**		Pb	06 50 35.9	+0.1
RPW	**Rockport**	**0.65**	**118**		Pg	06 50 36.0	-1.6
VGZ	**Gonzales**	**0.71**	**242**		Pg	06 50 38.3	-0.4
VGZ					Sg	06 50 48.1	0.0
B011	**North Saanich**	**0.72**	**262**		Pg	06 50 38.4	-0.4
B011					Sg	06 50 48.3	0.0
PGC	**Sidney**	**0.72**	**262**		Pg	06 50 38.5	-0.4
SQM	**Sequim**	**0.81**	**213**		Pg	06 50 40.6	-0.1
SQM					Sn	06 50 52.8	-0.8
EVGW	**Everett Gatewa**	**0.92**	**170**		Pb	06 50 42.3	-0.2
LYNC	**Lynnwood City**	**0.93**	**176**		Pb	06 50 42.7	0.0
B013	**Quilcene**	**1.01**	**201**		Pb	06 50 42.8	-1.2
B013	**Quilcene**	**1.01**	**201**		Pb	06 50 42.8	-1.3
B04A	**Port Angeles**	**1.02**	**227**		Pb	06 50 43.4	-0.9
HTW	**Haystack Looko**	**1.04**	**157**		Pb	06 50 43.2	-1.4
GPW	**Glacier Peak**	**1.04**	**127**		Pb	06 50 43.2	-1.7
CLRS	**Cowichan Lake**	**1.16**	**274**	Pn	Pn	06 50 45.7	-0.9
NLLB	**Nanaimo Lost L**	**1.16**	**295**		Pn	06 50 45.5	-1.1
SHB	**Sechelt**	**1.29**	**311**		Pn	06 50 47.2	-1.3
WSLR	**Whistler**	**1.42**	**346**		Pn	06 50 49.6	-0.6
NLW	**Nelson Butte**	**1.52**	**116**		Pn	06 50 51.6	-0.2
D05A	**Enumclaw**	**1.59**	**170**		Pn	06 50 52.5	0.0
B927	**Port Alberni**	**1.67**	**287**		Pn	06 50 53.7	+0.2
C03A	**Quillayute Air**	**1.67**	**242**	Pn	Pb	06 50 55.3	+0.1
C03A				IAML		06 51 23.9	
	comp=N,133nm,0.9s						
C03A				IAML		06 51 24.4	
	comp=E,120nm,1.4s						
NLWA	**Neilton Lookou**	**1.69**	**217**		Pb	06 50 55.0	-0.7
NLWA				IAML		06 51 20.5	
	comp=E,87nm,0.5s						
NLWA				IAML		06 51 20.7	
	comp=E,95nm,0.4s						
LLLB	**Lillooet**	**1.88**	**10**		Pn	06 50 56.6	0.0
LLLB				IAML		06 51 24.8	
	comp=E,128nm,0.5s						
WISH	**Wishkah**	**1.89**	**210**	Pn	Pn	06 50 57.8	+1.2
LTY	**Liberty**	**1.89**	**142**		Pn	06 50 57.2	+0.5
LTY				IAML		06 51 21.9	
	comp=E,128nm,0.7s						
LTY				IAML		06 51 22.5	
	comp=N,139nm,0.6s						
PNT	**Penticton**	**1.90**	**72**		Pb	06 50 58.4	-1.0
DHW2	**Dyer Hill 2**	**1.90**	**113**		Pb	06 50 58.6	-0.8
RCS	**Mount Rainier-**	**1.94**	**167**		Pn	06 50 57.9	+0.3
RCM	**Mount Rainier-**	**1.97**	**167**		Pn	06 50 58.3	+0.3
B08A	**Colville Reser**	**2.06**	**100**	Pn	Pb	06 51 00.7	-1.4
OZB	**Mount Ozzard**	**2.07**	**277**	Pn	Pn	06 51 00.6	+1.5
OZB				IAML		06 51 31.4	
	comp=E,87nm,0.8s						
BTB	**Buttle Lake**	**2.18**	**290**		Pn	06 51 02.0	+1.2
B019	**Raymond**	**2.27**	**203**		Pn	06 51 03.2	+1.3
CBB	**Campbell River**	**2.33**	**304**		Pn	06 51 03.2	+0.4
E03A	**Lebam**	**2.35**	**200**		Pn	06 51 03.2	+0.2
E03A				IAML		06 51 37.1	
	comp=N,49nm,0.4s						
E03A				IAML		06 51 40.2	
	comp=E,71nm,0.6s						
RADR	**Rader Ridge**	**2.52**	**203**	Pn	Pn	06 51 06.1	+0.7
RADR				IAML		06 52 14.9	
	comp=N,66nm,2.5s						
RADR				IAML		06 52 38.3	
	comp=E,62nm,1.9s						

YA2	**Yakima**	**2.56**	**150**		Pn	06 51 05.6	-0.2
C09A	**Chrisman Ranch**	**2.90**	**108**	Pn	Pn	06 51 10.5	-0.1
HAWA	**Hanford**	**3.05**	**140**	Pn	Pn	06 51 13.1	+0.5
HAWA				IAML		06 52 01.7	
	comp=E,24nm,0.5s						
HAWA				IAML		06 52 06.8	
	comp=E,27nm,0.6s						
H04A	**Detroit Lake**	**4.08**	**178**	Pn	Pn	06 51 28.3	+1.5
BMO	**Blue Mountains**	**5.23**	**136**		Pn	06 51 40.8	-1.8
BMO				IAML		06 53 16.0	
	comp=E,5.9nm,4.3s						
BMO				IAML		06 53 34.4	
	comp=E,6.1nm,4.0s						

---

*SOME **07** 06:51:47.5, 41°.55N×73°.90E, h10km*
*KRNET **07** 06:51:48.5±0.1, 41°.60N×73°.93E, h12km, mb2.4*
*NNC **07** 06:51:51.6±2.0, 41°.72N×73°.94E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=16.3km s-min=7.3km az=0.0*
ISC 07 06:51:49.1±1.8, 41°63N±0°.10×73°92E±0°.04, h10km±11km, n21, σ0°67/37, 11C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.75**	**36**	⇓*i*P	**Pg**	**06 52 03.4**	**-0.2**
	baz=34						
UCH				⇓*i*S	**Sb**	**06 52 14.3**	**-0.6**
	baz=34						
EKS2	**Erkin-Say**	**1.04**	**354**	⇑*i*P	**Pb**	**06 52 09.2**	**0.0**
	baz=54						
EKS2				⇑*i*S	**Sn**	**06 52 24.4**	**-0.1**
	baz=54						
AAK	**Ala-Archa**	**1.10**	**23**	⇓*i*P	**Pg**	**06 52 09.9**	**-0.3**
	baz=22						
AAK				⇓*i*S	**Sn**	**06 52 25.9**	**-0.1**
	baz=22						
MRKS	**Merke**	**1.23**	**336**	*e*P	**Pn**	**06 52 12.2**	**-0.2**
	3.0nm,0.1s						
MRKS				*e*S	**Sn**	**06 52 29.5**	**+0.3**
	8.7nm,0.2s						
MRKS	**Merke**	**1.23**	**336**	P	**Pn**	**06 52 12.2**	**-0.2**
	2.9nm,0.4s						
MRKS				S	**Sn**	**06 52 29.5**	**+0.3**
	4.2nm,0.4s						
MRKS	**Merke**	**1.23**	**336**	*e*P	**Pn**	**06 52 12.2**	**-0.2**
	baz=36						
MRKS				*e*S	**Sn**	**06 52 29.4**	**+0.3**
	baz=36						
KBK	**Karagaybulak**	**1.28**	**36**	⇑*i*P	**Pb**	**06 52 13.1**	**-0.3**
	baz=35						
KBK				⇑*i*S	**Sn**	**06 52 31.4**	**+0.8**
	baz=35						
ARK	**Arkit**	**1.47**	**277**	⇑*i*P	**Pb**	**06 52 16.6**	**0.0**
	baz=79						
ARK				⇑*i*S	**Sg**	**06 52 37.5**	**+1.1**
	baz=79						
USP	**Ospenovka**	**1.69**	**15**	⇑*i*P	**Pb**	**06 52 20.7**	**+0.3**
	baz=14						
USP				⇑*i*S	**Sg**	**06 52 44.7**	**+1.2**
	baz=14						
TKM2	**Tokmak 2**	**1.80**	**43**	⇑Pn	**Pb**	**06 52 22.3**	**+0.1**
	0.7nm,0.2s						
TKM2				⇑Sn	**Sg**	**06 52 57.4**	**+0.7**
	2.3nm,0.5s						
KST	**Kastek**	**2.08**	**46**	*e*P	**Pb**	**06 52 27.4**	**+0.5**
	1.7nm,0.3s						
KST				*e*S	**Sg**	**06 52 56.3**	**+0.5**
	4.9nm,0.2s						
KST	**Kastek**	**2.08**	**46**	Pg	**Pb**	**06 52 26.9**	**0.0**
	1.7nm,0.3s						
KST				Lg	Lg	06 52 54.7	
	4.2nm,0.5s						
KST	**Kastek**	**2.08**	**46**	*e*P	**Pb**	**06 52 27.4**	**+0.5**
	baz=46						
KST				*e*S	**Sg**	**06 52 56.3**	**+0.5**
	baz=46						
DGS	**Degeres**	**2.12**	**40**	*e*P	**Pb**	**06 52 28.3**	**+0.7**
	1.7nm,0.2s						
DGS				*e*S	**Sg**	**06 52 57.2**	**0.0**
	7.2nm,0.2s						
DGS	**Degeres**	**2.12**	**40**	Pg	**Pb**	**06 52 28.3**	**+0.7**
	1.4nm,0.6s						
DGS				Lg	Lg	06 52 57.2	
	6.7nm,0.4s						
DGS	**Degeres**	**2.12**	**40**	*e*P	**Pb**	**06 52 28.3**	**+0.7**
	baz=39						
DGS				*e*S	**Sg**	**06 52 57.2**	**0.0**
	baz=39						
KRBS	**Karabastau**	**2.44**	**32**	*e*P	**Pg**	**06 52 34.7**	**-1.1**
	5.0nm,0.2s						
KRBS				*e*S	**Sg**	**06 53 08.4**	**+0.9**
	5.3nm,0.2s						
KRBS	**Karabastau**	**2.44**	**32**	Pg	**Pg**	**06 52 34.7**	**-1.1**
	5.0nm,0.5s						
KRBS				Lg	Lg	06 53 08.4	
	3.8nm,0.4s						
KUU	**Kurty**	**2.88**	**37**	*e*P	**Pb**	**06 52 41.9**	**+1.3**
	2.1nm,0.2s						
KUU				*e*S	**Sg**	**06 53 20.6**	**-1.0**
	6.5nm,0.2s						
KUU	**Kurty**	**2.88**	**37**	Pg	**Pb**	**06 52 41.9**	**+1.3**
	2.1nm,0.6s						
KUU				Lg	Lg	06 53 20.6	
	5.8nm,0.3s						
KK31	**Karatay Array**	**2.92**	**301**	⇓Pn	**Pb**	**06 52 41.4**	**+0.1**
	0.1nm,0.2s,baz=127,slow=18,SNR=3.6						
KK31				⇑Lg	Lg	06 53 22.9	
	0.5nm,0.3s,baz=127,slow=27,SNR=5.2						

---

*BGR **07** 06:58:52.2±0.3, 48°.10N×7°.81E, h10km, ML1.8/11, Error ellipse: s-maj=2.2km s-min=2.2km az=48.0*
*ZUR **07** 06:58:52.0, 48°.09N×7°.77E, h9km±1km, MLh2.1/29, Error ellipse: s-maj=3.6km s-min=0.8km az=134.0*
*STR **07** 06:58:52.5±0.2, 48°.N±°×°±°, h3km±3km, MLv2.2/23, Error ellipse: s-maj=0.0km s-min=0.0km az=48.6, preliminary*
*LDG **07** 06:58:52.4±0.0, 48°.08N×7°.81E, h10km, Md2.3/2, Ml2.6/15, Error ellipse: s-maj=0.5km s-min=0.4km az=5.0*
ISC 07 06:58:52.4±0.8, 48°07N±0°.01×7°80E±0°.01, h15km±4km, n97, σ1°33/156, 16C-20D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FBB	**Freiburg im Br**	**0.08**	**154**	Pg	**Pg**	**06 58 55.0**	**-0.5**
FBB				Sg	**Sg**	**06 58 56.9**	**-0.7**
VOGT	**Vogtsburg - To**	**0.09**	**277**	⇑Pg	**Pg**	**06 58 55.3**	**-0.4**
VOGT	**Vogtsburg - To**	**0.09**	**277**	Sg	**Sg**	**06 58 57.1**	**-0.8**
KIZ	**Kirchzarten**	**0.14**	**146**	⇓Pg	**Pg**	**06 58 55.7**	**-0.6**
KIZ				Sg	**Sg**	**06 58 58.0**	**-0.8**
KIZ	**Kirchzarten**	**0.14**	**146**	⇓*i*Pg	**Pg**	**06 58 55.7**	**-0.6**
KIZ				Sg	**Sg**	**06 58 58.0**	**-0.8**
KIZ	**Kirchzarten**	**0.14**	**146**	⇓Pg	**Pg**	**06 58 55.7**	**-0.6**
FELD	**Feldberg im Sc**	**0.24**	**145**	⇓Pg	**Pg**	**06 58 57.4**	**-0.4**
FELD				Sg	**Sg**	**06 59 00.8**	**-0.7**
FELD	**Feldberg im Sc**	**0.24**	**145**	⇑*i*Pg	**Pg**	**06 58 57.4**	**-0.4**
FELD				Sg	**Sg**	**06 59 00.8**	**-0.7**
FELD	**Feldberg im Sc**	**0.24**	**145**	Pg	**Pg**	**06 58 57.4**	**-0.4**
BERGE	**Lenzkirch (DE)**	**0.32**	**128**	⇓Pg	**Pg**	**06 58 58.7**	**-0.5**
BERGE				Sg	**Sg**	**06 59 02.9**	**-0.9**
BERGE	**Lenzkirch (DE)**	**0.32**	**128**	⇓*i*Pg	**Pg**	**06 58 58.7**	**-0.5**
BERGE				Sg	**Sg**	**06 59 02.9**	**-0.9**
ENDD	**Endenburg**	**0.36**	**187**	⇑*i*Pg	**Pg**	**06 58 59.6**	**-0.2**
ENDD				*i* Sg	**Sg**	**06 59 04.7**	**-0.1**
ENDD				SmS		06 59 08.1	
BFO	**Black Forest**	**0.44**	**53**	⇓Pg	**Pg**	**06 59 00.5**	**-0.8**
BFO	**Black Forest**	**0.44**	**53**	⇓Pg	**Pg**	**06 59 00.5**	**-0.8**
BFO				Sg	**Sg**	**06 59 06.2**	**-1.1**
BFO				SmS		06 59 09.4	
ECH	**Echery**	**0.46**	**289**	Pg	**Pg**	**06 59 01.2**	**-0.3**
ECH				Sg	**Sg**	**06 59 07.4**	**-0.4**
ECH	**Echery**	**0.46**	**289**	⇓Pg	**Pg**	**06 59 01.2**	**-0.3**
ECH				Sg	**Sg**	**06 59 07.4**	**-0.4**
ECH	**Echery**	**0.46**	**289**	Pg	**Pg**	**06 59 01.2**	**-0.3**
ECH	**Echery**	**0.46**	**289**	⇓Pg	**Pg**	**06 59 01.2**	**-0.3**
ECH				Sg	**Sg**	**06 59 07.3**	**-0.4**
WLS	**Welschbruch**	**0.46**	**319**	Pg	**Pg**	**06 59 01.4**	**-0.2**
WLS				PmP		06 59 02.9	
WLS	**Welschbruch**	**0.46**	**319**	Pg	**Pg**	**06 59 01.3**	**-0.2**
WLS				Sg	**Sg**	**06 59 07.6**	**-0.2**
METMA	**Mettma DE**	**0.47**	**140**	⇓Pg	**Pg**	**06 59 01.4**	**-0.5**
METMA	**Mettma DE**	**0.47**	**140**	⇓*i*Pg	**Pg**	**06 59 01.4**	**-0.5**
METMA				Sg	**Sg**	**06 59 07.6**	**-0.6**
CDF	**Champ du Feu**	**0.49**	**314**	*e*Pg	**Pg**	**06 59 01.9**	**-0.3**
CDF				*e*Sg	**Sg**	**06 59 08.4**	**-0.5**

	26nm,0.2s						
MOF	**Molkenrain**	**0.50**	**244**	Pg	**Pg**	**06 59 02.4**	**0.0**
MOF				P*	**Pb**	**06 59 03.4**	**+0.4**
MOF				PmP		06 59 03.8	
MOF	**Molkenrain**	**0.50**	**244**	Pg	**Pg**	**06 59 02.4**	**0.0**
MOF				Sg	**Sg**	**06 59 09.2**	**0.0**
MATTE	**Schuetzenmatte**	**0.54**	**197**	⇓Pg	**Pg**	**06 59 03.1**	**-0.1**
SLE	**Schleitheim**	**0.56**	**123**	⇓Pg	**Pg**	**06 59 02.9**	**-0.5**
SLE	**Schleitheim**	**0.56**	**123**	⇓*i*Pg	**Pg**	**06 59 02.9**	**-0.5**
SLE				P*	**Pb**	**06 59 03.8**	**-0.1**
SLE				Sg	**Sg**	**06 59 10.5**	**-0.4**
SLE	**Schleitheim**	**0.56**	**123**	⇓Pg	**Pg**	**06 59 02.9**	**-0.5**
SLE	**Schleitheim**	**0.56**	**123**	Sg	**Sg**	**06 59 10.0**	**-0.9**
ACHB	**Acheberg**	**0.57**	**148**	Sg	**Sg**	**06 59 10.9**	**-0.4**
SULZ	**Cheisacher**	**0.58**	**159**	⇑Pg	**Pg**	**06 59 03.7**	**-0.2**
SULZ				Sg	**Sg**	**06 59 11.6**	**-0.1**
SULZ	**Cheisacher**	**0.58**	**159**	⇑*i*Pg	**Pg**	**06 59 03.7**	**-0.2**
SULZ				Sg	**Sg**	**06 59 11.6**	**-0.1**
SULZ	**Cheisacher**	**0.58**	**159**	⇑Pg	**Pg**	**06 59 03.7**	**-0.2**
ROTHE	**Rothenfluh**	**0.60**	**172**	⇑Pg	**Pg**	**06 59 04.1**	**-0.1**
EMMET	**Emmethof**	**0.65**	**167**	⇑Pg	**Pg**	**06 59 05.1**	**0.0**
HINF	**Hinteralfeld**	**0.69**	**249**	*e*Pg	**Pg**	**06 59 05.7**	**-0.2**
HINF				*e*Sg	**Sg**	**06 59 14.5**	**-0.5**
	24nm,0.2s						
FLACH	**Flaach**	**0.72**	**134**	Pg	**Pg**	**06 59 06.2**	**-0.3**
FLACH				Sg	**Sg**	**06 59 15.8**	**-0.2**
EMING	**Emmingen-Lipti**	**0.72**	**104**	⇓Pg	**Pg**	**06 59 06.0**	**-0.5**
EMING	**Emmingen-Lipti**	**0.72**	**104**	⇓*i*Pg	**Pg**	**06 59 06.1**	**-0.5**
EMING				Sg	**Sg**	**06 59 15.7**	**-0.3**
BALST	**Balsthal**	**0.74**	**186**	⇑Pg	**Pg**	**06 59 06.7**	**-0.2**
BALST	**Balsthal**	**0.74**	**186**	⇑*i*Pg	**Pg**	**06 59 06.7**	**-0.2**
BALST				Sg	**Sg**	**06 59 17.2**	**+0.6**
BALST	**Balsthal**	**0.74**	**186**	⇑Pg	**Pg**	**06 59 06.6**	**-0.3**
BOURR	**Bourrignon**	**0.78**	**210**	⇑Pg	**Pg**	**06 59 07.6**	**-0.1**
BOURR				Sg	**Sb**	**06 59 19.0**	**+0.9**
BOURR	**Bourrignon**	**0.78**	**210**	⇑Pg	**Pg**	**06 59 07.5**	**-0.1**
MTI02	**Mont Terri, (H**	**0.81**	**212**	Pg	**Pg**	**06 59 08.2**	**0.0**
MTI03	**Mont Terri (fr**	**0.82**	**212**	⇓Pg	**Pg**	**06 59 08.4**	**0.0**
STEIN	**Stein am Rhein**	**0.82**	**119**	Pg	**Pg**	**06 59 08.2**	**-0.2**
STEIN				Sg	**Sg**	**06 59 19.4**	**+0.2**
SUBF	**Surbourg**	**0.85**	**2**	Pg	**Pg**	**06 59 08.4**	**-0.4**
SUBF	**Surbourg**	**0.85**	**2**	Sg	**Sg**	**06 59 20.3**	**+0.3**
DAGMA	**Lutertal, Dagm**	**0.85**	**170**	⇑Pg	**Pg**	**06 59 08.8**	**-0.2**
RONF	**Ronchamp**	**0.86**	**246**	Pg	**Pg**	**06 59 08.2**	**-0.9**
RONF				Sg	**Sg**	**06 59 19.9**	**-0.4**
GUT	**Gutenstein**	**0.88**	**90**	Sg	**Sg**	**06 59 20.0**	**-0.7**
GUT	**Gutenstein**	**0.88**	**90**	⇓Pg	**Pg**	**06 59 08.9**	**-0.6**
WALHA	**Wallhausen, DE**	**0.94**	**109**	Pg	**Pg**	**06 59 10.2**	**-0.5**
WALHA				Sg	**Sg**	**06 59 23.1**	**0.0**
TUBL	**Tuebingen-Lenn**	**0.97**	**62**	Pn	**Pg**	**06 59 09.4**	**-1.8**
TUBL				PmP		06 59 10.3	
TUBL				Sg	**Sg**	**06 59 22.8**	**-1.1**
GALG	**Neuhausen (Enz**	**0.97**	**42**	⇑Pn	**Pg**	**06 59 09.3**	**-1.8**
GALG				PmP		06 59 10.6	
GALG				Sg	**Sg**	**06 59 22.5**	**-1.4**
HAU	**Haudompre**	**0.98**	**267**	*e*Pg	**Pg**	**06 59 10.7**	**-0.7**
HAU				*e*Sg	**Sg**	**06 59 24.1**	**-0.1**
	128nm,0.3s						
WILA	**Wila**	**0.99**	**131**	Pg	**Pg**	**06 59 11.3**	**-0.4**
WILA				Sg	**Sg**	**06 59 24.7**	**0.0**
PEB	**Petersbachel**	**1.00**	**357**	Sg	**Sg**	**06 59 23.7**	**-1.1**
BUCH	**Bad Urach**	**1.10**	**69**	⇑Pn	**Pg**	**06 59 11.5**	**-2.3**
BUCH				Pg	**Pb**	**06 59 13.2**	**0.0**
BUCH				Sg	**Sg**	**06 59 27.4**	**-0.8**
BRET	**Bretten**	**1.11**	**32**	Pg	**Pg**	**06 59 13.0**	**-0.9**
BRET				Sg	**Sg**	**06 59 27.5**	**-1.0**
BOUC	**Bouclans**	**1.33**	**232**	Pg	**Pn**	**06 59 17.3**	**+0.9**
BOUC				Sg	**Sg**	**06 59 34.9**	**-0.5**
BRANT	**Les Verrieres**	**1.45**	**219**	Sn	**Sb**	**06 59 38.8**	**+1.5**
BRANT	**Les Verrieres**	**1.45**	**219**	Pg	**Pn**	**06 59 19.1**	**+1.0**
PAGF	**Fort de Pagny**	**1.47**	**290**	*e*Pg	**Pn**	**06 59 19.9**	**+1.6**
PAGF				*e*Sn	**Sb**	**06 59 35.7**	**-2.2**
PAGF				*e*Sg	**Sn**	**06 59 38.9**	**+1.6**
	8.6nm,0.2s						
PLONS	**Plons/SG**	**1.48**	**133**	*e*Sg	**Sb**	**06 59 39.3**	**+1.1**
IMS	**Imsbach**	**1.53**	**2**	Pg	**Pn**	**06 59 20.7**	**+1.6**
IMS				Sg	**Sn**	**06 59 40.4**	**+1.8**
HDH	**Heidenheim-Cha**	**1.69**	**71**	Sg	**Sb**	**06 59 45.5**	**+1.4**
SIND	**Sindeldorf**	**1.75**	**42**	Pg	**Pn**	**06 59 23.5**	**+1.3**
SIND				Sg	**Sn**	**06 59 46.8**	**+2.6**
RIVT	**Riveris**	**1.78**	**338**	Sg	**Sb**	**06 59 47.9**	**+1.2**
ABH	**Alteburg**	**1.82**	**355**	Pg	**Pb**	**06 59 26.3**	**+0.8**
ABH				Sg	**Sb**	**06 59 49.5**	**

IKRI	**Krysuvik**	**1.71**	**45**	P		**Pn**	**07 20 27.0**	**-1.9**
	baz=41							
IKRI				S		**Sg**	**07 20 54.0**	**0.0**
	baz=41							
IVOS	**Vogsosar**	**1.82**	**49**	P		**Pn**	**07 20 28.4**	**-2.0**
	baz=45							
IVOS				S		**Sg**	**07 20 57.2**	**-0.4**
	baz=45							
IKAS	**Kald??rsel**	**1.89**	**44**	P		**Pn**	**07 20 29.6**	**-1.6**
	baz=40							
IKAS				S		**Sg**	**07 20 57.9**	**-1.6**
	baz=40							
ISAN	**Sandskeio**	**2.00**	**46**	P		**Pn**	**07 20 31.1**	**-1.7**
	baz=42							
IBJA	**Bjarnastaoir**	**2.02**	**50**	P		**Pn**	**07 20 31.3**	**-1.8**
	baz=46							
ISOL	**Solvholt**	**2.14**	**53**	P		**Pn**	**07 20 32.8**	**-2.0**
	baz=48							
IKRO	**Krokur**	**2.18**	**48**	P		**Pn**	**07 20 33.7**	**-1.6**
	baz=44							
IHEI	**Heioarbar**	**2.21**	**45**	P		**Pn**	**07 20 34.5**	**-1.2**
	baz=42							
IASM	**Asmuli**	**2.22**	**57**	P		**Pn**	**07 20 33.8**	**-2.0**
	baz=52							
ISAU	**Saurbar**	**2.37**	**55**	P		**Pn**	**07 20 36.1**	**-1.8**
	baz=50							
ISAU				S		**Sb**	**07 21 11.0**	**0.0**
	baz=50							
IMID	**Miomork**	**2.44**	**65**	P		**Pn**	**07 20 37.8**	**-1.0**
	baz=59							
IHAU	**Haukadalur**	**2.53**	**58**	P		**Pn**	**07 20 38.5**	**-1.7**
	baz=53							
IESK	**Eystri-Skogar**	**2.58**	**69**	P		**Pn**	**07 20 38.0**	**-2.7**
	baz=63							
IASB	**`sbjarnarst**	**2.58**	**36**	P		**Pn**	**07 20 40.3**	**-0.5**
	baz=34							
IGYG	**Gygjarholskot**	**2.60**	**50**	P		**Pn**	**07 20 40.0**	**-1.2**
	baz=47							
IMJO	**Mjoaskard**	**2.63**	**60**	P		**Pn**	**07 20 40.3**	**-1.3**
	baz=55							
IFED	**Fedgar**	**2.67**	**58**	P		**Pn**	**07 20 40.6**	**-1.4**
	baz=53							
IALF	**Alftagrof**	**2.68**	**70**	P		**Pn**	**07 20 39.8**	**-2.4**
	baz=64							
ISNB	**Snabyli**	**2.99**	**67**	P		**Pn**	**07 20 45.7**	**-0.7**
	baz=62							
IVAT	**Vatnsfell**	**3.04**	**58**	P		**Pn**	**07 20 46.7**	**-0.5**
	baz=54							
ISTE	**Stelbrattur**	**3.16**	**45**	P		**Pn**	**07 20 49.0**	**+0.1**
	baz=42							
IIEY	**Innrieyrar**	**3.32**	**62**	P		**Pn**	**07 20 50.6**	**-0.4**
	baz=58							
IJOK	**Jokulheimar**	**3.37**	**58**	P		**Pn**	**07 20 51.5**	**-0.2**
	baz=55							
ISKR	**Skrokkalda**	**3.42**	**54**	P		**Pn**	**07 20 52.5**	**0.0**
	baz=51							
IKAL	**Kalfafell**	**3.45**	**66**	P		**Pn**	**07 20 51.3**	**-1.5**
	baz=61							
IVON	**Vonarskard**	**3.72**	**55**	P		**Pn**	**07 20 56.6**	**+0.1**
	baz=52							
SFJD	**Kangerlussuaq**	**11.73**	**303**	LR		LR	07 26 24.8	
	comp=Z,84nm,21.6s,baz=72,slow=33							
EKA	**Eskdalemuir Ar**	**13.32**	**114**	Pn		**Pn**	**07 23 08.6**	**+0.6**
	baz=310,slow=17							
EKA				LR		LR	07 27 43.9	
	comp=Z,35nm,21.1s,baz=1.5,slow=35 1.1nm,0.7s							
FRB	**Frobisher Bay**	**19.45**	**293**	LR		LR	07 31 11.8	
	comp=Z,38nm,18.1s,baz=12,slow=35							
VRAC	**Vranov**	**26.21**	**101**	LR		LR	07 34 26.1	
	comp=Z,14nm,21.1s,baz=340,slow=33							
RES	**Resolute Bay**	**26.21**	**326**	LR		LR	07 36 52.2	
	comp=Z,32nm,18.0s,baz=28,slow=39							
SADO	**Sadowa**	**35.48**	**266**	LR		LR	07 39 42.8	
	comp=Z,61nm,19.8s,baz=22,slow=34							
TKL	**Tuckaleechee C**	**44.88**	**261**	LR		LR	07 45 11.7	
	comp=Z,47nm,19.6s,baz=73,slow=34							
ILAR	**Eielson Array**	**45.83**	**330**	P		**P**	**07 28 20.9**	**+0.4**
	0.8nm,0.9s,baz=23,slow=7.8,SNR=5.5 0.8nm,0.9s							
PDAR	**Pinedale Array**	**50.84**	**289**	P		**P**	**07 28 58.2**	**-1.5**
	1.2nm,0.8s,baz=56,slow=7.3,SNR=11 1.2nm,0.8s							
KURBB	**Kurchatov Arra**	**51.96**	**52**	P		**P**	**07 29 10.2**	**+2.5**
	0.7nm,0.8s,baz=322,slow=7.8,SNR=5.7 0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**52.95**	**147**	P		**P**	**07 29 15.6**	**+0.2**
	0.9nm,1.1s,baz=343,slow=8.1,SNR=2.3 0.9nm,1.1s							
ELK	**Elko**	**54.94**	**292**	LR		LR	07 50 49.2	
	comp=Z,37nm,19.5s,baz=4.0,slow=34							
ANMO	**Albuquerque**	**55.87**	**281**	P		**P**	**07 29 36.5**	**-0.2**
	0.8nm,0.7s,baz=16,slow=10,SNR=5.4 0.8nm,0.7s							
MKAR	**Makanchi Array**	**56.53**	**52**	P		**P**	**07 29 43.0**	**+1.9**
	1.1nm,0.9s,baz=319,slow=5.3,SNR=7.2 1.1nm,0.9s							
NVAR	**Mina Array Bea**	**58.18**	**293**	P		**P**	**07 29 52.6**	**-0.4**
	0.6nm,0.8s,baz=61,slow=5.6,SNR=4.6 0.6nm,0.8s							
TXAR	**Lajitas Array**	**59.31**	**275**	P		**P**	**07 29 59.9**	**-1.0**
	0.5nm,0.9s,baz=69,slow=5.2,SNR=4.5 0.5nm,0.9s							

*IDC **07** 07:25:05.3±2.7, 15°.68S×167°.84E, h179km±22km, mb3.7/12, mbtmp4.2/12, Error ellipse: s-maj=22.1km s-min=15.9km az=94.0*
*NOU **07** 07:25:21.5, 16°.54S×167°.67E, h26km, MLv4.3/7, Vanuatu Islands*

ISC 07 07:25:07.3±0.8, 15°.77S±0°.09×167°.8E±0°.1, h200km, n18, σ1°52/20, mb4.0/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.98**	**169**	P	**Pn**	**07 25 44.2**	**-1.4**
RTV	**Rentapao**	**2.10**	**163**	P	**Pn**	**07 25 45.9**	**-1.0**
DZM	**Mont Dzumac**	**6.39**	**191**	S	**Sn**	**07 27 52.9**	**-0.1**
	16nm,0.6s,baz=300,slow=20,SNR=1.1						
CTA	**Charters Tower**	**20.92**	**255**	P	**P**	**07 29 35.5**	**+0.9**
	3.5nm,0.9s,baz=101,slow=16,SNR=1.2 3.5nm,0.9s						
URZ	**Urewera**	**23.86**	**162**	P	**P**	**07 30 04.0**	**+1.6**
	31nm,0.9s,baz=31,slow=6.9,SNR=5.8 31nm,0.9s						
STKA	**Stephens Creek**	**28.71**	**231**	P	**P**	**07 30 46.8**	**+0.8**
	5.4nm,0.8s,baz=68,slow=12,SNR=7.9 5.4nm,0.8s						
WRA	**Warramunga Arr**	**32.06**	**258**	P	**P**	**07 31 15.7**	**+0.1**
	0.3nm,0.3s,baz=83,slow=7.8,SNR=16						
WRA				ScP	**ScP**	**07 37 26.5**	**+1.5**
	0.5nm,0.8s,baz=91,slow=4.0,SNR=2.5 0.3nm,0.3s						
ASAR	**Alice Springs**	**32.78**	**251**	P	**P**	**07 31 20.8**	**-1.0**
	0.5nm,0.3s,baz=78,slow=8.8,SNR=11						
ASAR				S	**S**	**07 36 20.5**	**-3.5**
	0.4nm,0.9s,baz=80,slow=17,SNR=2.2						
ASAR				ScP	**ScP**	**07 37 30.1**	**+2.7**
	0.9nm,1.0s,baz=114,slow=3.4,SNR=4.8 0.5nm,0.3s						
MJAR	**Matsushiro Arr**	**59.05**	**332**	P	**P**	**07 34 46.0**	**-0.4**
	3.8nm,0.9s,baz=164,slow=8.6,SNR=5.4 3.8nm,0.9s						
VNDA	**Vanda**	**61.84**	**181**	P	**P**	**07 35 05.0**	**+0.3**
	0.8nm,0.5s,baz=1.0,slow=6.9,SNR=3.7 0.8nm,0.5s						
KSRS	**Korea Array**	**64.87**	**326**	P	**P**	**07 35 25.8**	**+0.7**
	1.3nm,0.6s,baz=148,slow=7.4,SNR=7.6 1.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**68.03**	**333**	P	**P**	**07 35 44.7**	**-0.3**
	4.4nm,0.9s,baz=157,slow=7.8,SNR=6.0 4.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.82**	**294**	P	**P**	**07 36 33.5**	**+1.6**
	1.3nm,0.4s,baz=122,slow=4.5,SNR=8.2 1.3nm,0.4s						
SONM	**Songino Array**	**83.62**	**323**	P	**P**	**07 37 13.8**	**+0.4**
	4.4nm,0.9s,baz=139,slow=5.3,SNR=12						
ILAR	**Eielson Array**	**87.36**	**18**	P	**P**	**07 37 29.2**	**-2.1**
	0.7nm,0.8s,baz=250,slow=4.8,SNR=6.9 0.7nm,0.8s						
MKAR	**Makanchi Array**	**98.29**	**316**	P	Pdif	07 38 22.3	+0.3
	0.6nm,0.8s,baz=72,slow=4.7,SNR=4.5 0.6nm,0.8s						
ARCES	**ARCESS Array B**	**121.38**	**345**	PKP	**PKiKP**	**07 43 35.7**	**-0.5**
	1.5nm,1.0s,baz=98,slow=1.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**166.27**	**261**	PKPab	**PKPab**	**07 45 53.1**	**+1.3**
	0.5nm,0.9s,baz=119,slow=4.3,SNR=2.6						

WEL 07 07:25:11.2±0.9, 37°S±4°×17°9E±°, h19km±6km, M3.8/52, ML4.0/60, MLv3.8/52, Error ellipse: s-maj=0.0km s-min=0.0km az=85.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.65**	**242**	P	Pb	07 25 23.6	-0.3
MXZ				S	Sb	07 25 31.4	-1.3
WMGZ	**Waiomatatini S**	**0.75**	**221**	P	Pn	07 25 27.2	+0.4
WMGZ				S	Sn	07 25 38.3	+0.7
PKGZ	**Pakihiroa**	**0.99**	**230**	P	Pg	07 25 30.3	-0.1
PKGZ				S	Sg	07 25 43.2	-0.2
PUZ	**Puketiti**	**1.02**	**217**	P	Pg	07 25 30.9	-0.1
PUZ				S	Sg	07 25 44.6	+0.1
HAZ	**Te Kaha**	**1.11**	**243**	P	Pn	07 25 30.9	-0.9
HAZ				S	Sn	07 25 46.9	+0.3
TWGZ	**Tauwhareparae**	**1.24**	**222**	P	Pb	07 25 34.3	+0.2
RUGZ	**Raukumara Rang**	**1.29**	**236**	P	Pb	07 25 35.2	+0.3
CNGZ	**Carnagh Statio**	**1.39**	**208**	P	Pb	07 25 36.7	+0.2
CNGZ				S	Sg	07 25 56.2	0.0
WIZ	**White Island**	**1.49**	**259**	P	Pn	07 25 36.8	-0.3
TKGZ	**Te Karaka**	**1.51**	**218**	P	Pn	07 25 37.4	+0.2
TKGZ				S	Sn	07 25 56.2	-0.2
MWZ	**Matawai**	**1.61**	**228**	P	Pn	07 25 38.9	+0.2
RIGZ	**Rimuhau**	**1.76**	**214**	P	Pn	07 25 41.0	+0.2
RAGZ	**Rawiri**	**1.78**	**226**	P	Pn	07 25 41.6	+0.5
URZ	**Urewera**	**1.82**	**236**	P	Pn	07 25 42.3	+0.7
URZ				S	Sn	07 26 04.6	+0.5
PRGZ	**Paritu Road**	**1.89**	**208**	P	Pn	07 25 42.6	0.0
EDRZ	**Edgecumbe**	**2.01**	**244**	P	Pn	07 25 44.8	+0.7
EDRZ				S	Sn	07 26 08.9	+0.1
SNGZ	**Shannon Statio**	**2.03**	**221**	P	Pn	07 25 44.4	0.0
OPRZ	**Ohinepanea**	**2.06**	**253**	P	Pn	07 25 44.8	+0.1
KNZ	**Kokohu**	**2.06**	**211**	P	Pn	07 25 44.0	-0.8
MHGZ	**Mahia Peninsul**	**2.09**	**205**	P	Pn	07 25 45.3	0.0
RTZ	**Ruatahuna**	**2.12**	**230**	P	Pn	07 25 46.4	+0.7
RTZ				S	Sn	07 26 13.1	+1.6
MUGZ	**Murupara**	**2.17**	**235**	P	Pn	07 25 46.7	+0.4
MUGZ				S	Sn	07 26 12.4	-0.2
TARZ	**Mount Tarawera**	**2.23**	**243**	P	Pn	07 25 48.6	+1.3
TGRZ	**Tauranga**	**2.25**	**257**	P	Pn	07 25 47.9	+0.4
RAHZ	**Arahi**	**2.26**	**222**	P	Pn	07 25 48.0	+0.3
RRRZ	**Republican Roa**	**2.27**	**241**	P	Pn	07 25 48.4	+0.7
WHHZ	**Waihua**	**2.30**	**217**	P	Pn	07 25 46.7	-1.5
KARZ	**Kaharoa**	**2.34**	**250**	P	Pn	07 25 49.5	+0.7
HLRZ	**Highlands Stat**	**2.35**	**244**	P	Pn	07 25 50.0	+1.2
MTHZ	**Maungataniwha**	**2.35**	**227**	P	Pn	07 25 49.6	+0.7
PRRZ	**Plateau Road**	**2.43**	**239**	P	Pn	07 25 50.2	+0.3
HSRZ	**Hossack Road**	**2.45**	**244**	P	Pn	07 25 51.6	+1.4
HRRZ	**Handcock Road**	**2.45**	**242**	P	Pn	07 25 51.0	+0.7
ALRZ	**Allen Road**	**2.50**	**238**	P	Pn	07 25 51.1	+0.2
NMHZ	**Naumai**	**2.54**	**223**	P	Pn	07 25 51.8	+0.3
ARHZ	**Aropaoanui**	**2.57**	**218**	P	Pn	07 25 51.6	-0.2
MRHZ	**Matea Rd**	**2.60**	**232**	P	Pn	07 25 52.8	+0.6
KUZ	**Kuaotunu**	**2.70**	**280**	P	Pn	07 25 52.3	-1.3
BKZ	**Black Stump Fm**	**2.76**	**226**	P	Pn	07 25 54.4	-0.1
KUTZ	**Kaahu Road**	**2.82**	**243**	P	Pn	07 25 56.1	+0.7
CKHZ	**Cape Kidnapper**	**2.85**	**212**	P	Pn	07 25 54.6	-1.0
TOZ	**Tahuroa Road**	**2.85**	**259**	P	Pn	07 25 55.1	-0.5
MCHZ	**McNeill Hill**	**2.85**	**219**	P	Pn	07 25 55.4	-0.3
KWHZ	**Kaweka Forest**	**2.98**	**223**	P	Pn	07 25 57.1	-0.5
RATZ	**Rangitukua**	**3.03**	**237**	P	Pn	07 25 58.9	+0.6
GRZ	**Great Barrier**	**3.04**	**288**	P	Pn	07 25 58.6	+0.2
KAHZ	**Kahuranaki**	**3.05**	**213**	P	Pn	07 25 57.4	-1.0
MKAZ	**Moumakai**	**3.10**	**272**	P	Pn	07 25 58.4	-0.7
WIAZ	**Waiheke Island**	**3.15**	**277**	P	Pn	07 25 59.3	-0.6
KRHZ	**Kereru**	**3.17**	**220**	P	Pn	07 25 59.3	-0.8
TMVZ	**Te Maari**	**3.21**	**234**	P	Pn	07 26 00.8	0.0
ETVZ	**East Tongariro**	**3.22**	**233**	P	Pn	07 26 00.9	0.0
BHHZ	**Black Hill Sta**	**3.23**	**225**	P	Pn	07 25 58.7	-2.3
OTVZ	**Oturere**	**3.27**	**233**	P	Pn	07 26 01.8	+0.2
NNVZ	**North Ngauruho**	**3.28**	**234**	P	Pn	07 26 02.1	+0.3
WTVZ	**West Tongariro**	**3.29**	**235**	P	Pn	07 26 02.3	+0.5
SNVZ	**South Ngauruho**	**3.29**	**233**	P	Pn	07 26 02.0	0.0
ETAZ	**East Tamaki Re**	**3.30**	**274**	P	Pn	07 26 01.5	-0.3
NGZ	**Ngauruhoe**	**3.31**	**234**	P	Pn	07 26 02.1	-0.1
MBAZ	**Motutapu North**	**3.35**	**277**	P	Pn	07 26 02.7	+0.2
MOVZ	**Moawhango**	**3.35**	**229**	P	Pn	07 26 02.2	-0.5
TWVZ	**Taurewa**	**3.36**	**236**	P	Pn	07 26 03.3	+0.4
WNVZ	**Wahianoa**	**3.40**	**232**	P	Pn	07 26 03.2	-0.2
PNHZ	**Pukenui**	**3.46**	**219**	P	Pn	07 26 02.3	-1.8
WPHZ	**Waipukurau**	**3.46**	**215**	P	Pn	07 26 02.7	-1.4
AWAZ	**Awhitu Peninsu**	**3.51**	**272**	P	Pn	07 26 05.3	+0.5
HIZ	**Hauiti**	**3.54**	**248**	P	Pn	07 26 05.4	+0.3
PKVZ	**Pokaka**	**3.54**	**234**	P	Pn	07 26 05.2	0.0
WTAZ	**Waiatarua**	**3.58**	**274**	P	Pn	07 26 04.2	-1.6
RVAZ	**Riverhead Bore**	**3.60**	**276**	P	Pn	07 26 06.0	0.0
TSZ	**Takapari Road**	**3.69**	**220**	P	Pn	07 26 05.3	-1.9
DVHZ	**Dannevirke**	**3.77**	**216**	P	Pn	07 26 06.2	-2.2
WCZ	**Waipu Caves**	**4.00**	**288**	P	Pn	07 26 11.7	+0.2
WAZ	**Wanganui**	**4.04**	**231**	P	Pn	07 26 12.1	+0.1
BFZ	**Birch Farm**	**4.05**	**212**	P	Pn	07 26 09.6	-2.6
PRWZ	**Pori Road**	**4.07**	**215**	P	Pn	07 26 10.6	-1.8
TIWZ	**Tintock**	**4.28**	**214**	P	Pn	07 26 13.0	-2.4
KHEZ	**Kahui Hut**	**4.44**	**241**	P	Pn	07 26 20.0	+2.3
OUZ	**Omahuta**	**4.84**	**293**	P	Pn	07 26 23.9	+0.9
CTZ	**Chatham Island**	**7.27**	**154**	P	Pn	07 26 57.5	+1.2

DJA 07 07:31:46.7±0.4, 9°S±4°×11°8E±°, h118km±6km, M3.9/8, mb4.4/1, MLv3.6/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.61**	**257**	P	Pn	07 32 06.8	+1.6
PLAI				S	Sn	07 32 21.2	+2.1
WBSI	**Waikabubak, Su**	**1.38**	**134**	P	Pn	07 32 12.8	+0.2
WBSI				S	Sn	07 32 33.0	+0.7
TWSI	**Taliwang, Sumb**	**1.48**	**268**	P	Pn	07 32 14.5	+0.7
TWSI				S	Sn	07 32 35.4	+1.0
BASI	**Baing, Sumba**	**2.65**	**125**	P	Pn	07 32 28.6	+0.3
BASI				S	Sn	07 33 00.8	+0.4
SRBI	**Singaraja**	**3.19**	**281**	P	Pn	07 32 36.2	+0.8
EDFI	**Ende, Flores**	**3.27**	**91**	P	Pn	07 32 37.4	+0.8
BKSI	**Bulukumba**	**3.77**	**27**	P	Pn	07 32 42.7	-0.4
JAGI	**Jajag, Banyuwa**	**4.19**	**273**	P	Pn	07 32 47.7	-1.0
GMJI	**Gumukmas**	**4.90**	**274**	P	Pn	07 32 57.7	-0.6

IDC 07 07:48:15.2±3.5, 54°.29N×87°.26E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=32.7km s-min=20.4km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**258**	*i*		07 57 10.0	
	baz=77,slow=321,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.48**	**258**	Pg	Pn	07 48 40.9	-2.2
	1.8nm,0.3s,baz=77,slow=15,SNR=14						
ZALV				Lg	Lg	07 49 02.6	
	1.3nm,0.3s,baz=77,slow=22,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.48**	**239**	Pn	Pn	07 49 52.3	+0.6
	0.2nm,0.3s,baz=55,slow=13,SNR=4.8 1.3nm,0.3s						
MKAR	**Makanchi Array**	**8.14**	**205**	Pn	Pn	07 50 16.1	+1.5
	0.1nm,0.3s,baz=27,slow=13,SNR=5.7 0.2nm,0.3s						

IDC 07 07:50:09.9±3.1, 54°.21N×87°.36E, h0km, mbtmp3.4/2, ML2.7/2, Error ellipse: s-maj=26.5km s-min=17.7km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**261**	*i*		07 58 53.3	
	baz=79,slow=320,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.52**	**261**	Pg	Pn	07 50 35.9	-2.4
	0.7nm,0.3s,baz=75,slow=15,SNR=7.7						
ZALV				Lg	Lg	07 50 58.8	
	1.0nm,0.3s,baz=78,slow=23,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.49**	**240**	Pn	Pn	07 51 47.8	+1.2
	0.1nm,0.3s,baz=54,slow=13,SNR=4.6						
KURBB				Lg	Lg	07 53 36.1	
	baz=260,slow=27,SNR=1.6 2.6nm,0.2s						
MKAR	**Makanchi Array**	**8.10**	**206**	Pn	Pn	07 52 10.1	+1.4
	0.2nm,0.3s,baz=29,slow=13,SNR=6.4						
MKAR				Sn	Sn	07 53 38.9	-2.0
	baz=21,slow=26,SNR=1.9						
MKAR				Lg	Lg	07 54 28.3	
	0.1nm,0.3s,baz=32,slow=31,SNR=2.8 0.4nm,0.5s						

NEIC 07 08:03:42.2±1.8, 31°.18N±0°.04×103°.33W±0°.06, h2km±7km, mb_Lg2.8/31, ML3.1/23, Error ellipse: s-maj=7.5km s-min=5.8km az=67.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLN7	**Carlsbad 7**	**1.30**	**342**		Pg	08 04 06.5	-0.5
HTMS	**Hat Mesa**	**1.32**	**349**	Pn	Pg	08 04 06.9	-0.5
GDL2	**Guadalupe Moun**	**1.35**	**320**	Pn	Pg	08 04 06.8	-1.2
MNTX	**Cornudas Mount**	**1.83**	**287**		Pn	08 04 14.3	-0.3
TX31	**Lajitas Ar. Si**	**1.86**	**189**		Pn	08 04 15.1	-0.1
TX32	**Lajitas Array**	**1.86**	**189**		Pn	08 04 15.1	-0.1
TXAR	**Lajitas Array**	**1.86**	**189**		Pn	08 04 15.4	+0.2
CPRX	**Cap Rock**	**1.90**	**346**	Pn	Pn	08 04 15.9	0.0
MSTX	**Muleshoe**	**2.83**	**10**	Pn	Pn	08 04 29.1	+0.6
JCT	**Junction City**	**3.12**	**102**		Pn	08 04 33.1	+0.7
ABTX	**Abilene, Hawle**	**3.46**	**64**	Pn	Pn	08 04 37.9	+0.8
ABTX				IAmb_Lg		08 05 35.1	
	comp=Z,35nm,0.8s						
AMTX	**Amarillo**	**3.95**	**20**	Pn	Pn	08 04 45.0	+1.0
CRNM	**Carthage**	**3.99**	**315**		Pn	08 04 45.1	+0.5
121A	**Cookes Peak, D**	**4.02**	**291**		Pn	08 04 44.9	-0.1
121A				IAML		08 05 50.0	
	comp=N,28nm,3.4s						
121A				IAML		08 05 56.2	
	comp=E,22nm,0.5s						
BNM	**Barren Site**	**4.06**	**318**		Pn	08 04 47.0	+1.3
LENM	**Lemitar**	**4.28**	**315**	Pn	Pn	08 04 49.2	+0.7
SBM	**South Baldy**	**4.28**	**312**	Pn	Pn	08 04 47.1	-1.7
833A	**Chaparral WMA,**	**4.45**	**129**	Pn	Pn	08 04 49.4	-1.3
ANMO	**Albuquerque**	**4.58**	**326**	IAmb_Lg		08 06 14.3	
	comp=Z,11nm,0.7s						
ANMO				IAmb_Lg		08 06 14.3	
	comp=Z,11nm,0.7s						
HPIG		**4.69**	**206**	Pn	Pn	08 04 54.0	-0.2
HPIG				IAML		08 06 30.6	
	comp=E,20nm,3.9s						
HPIG				IAML		08 06 43.7	
	comp=N,16nm,4.0s						
WHTX	**Lake Whitney,**	**5.08**	**79**	Pn	Pn	08 04 58.9	-0.6
WHTX				IAmb_Lg		08 06 33.1	
	comp=Z,15nm,1.0s						
319A	**Douglas**	**5.09**	**274**	Pn	Pn	08 04 59.1	-0.7
WMOK	**Wichita Mounta**	**5.22**	**46**		Pn	08 05 00.7	-0.7
WMOK				IAmb_Lg		08 06 39.5	
	comp=Z,13nm,0.7s						
Z35A	**Perchaven, San**	**5.58**	**66**	IAmb_Lg		08 06 51.9	
	comp=Z,20nm,1.1s						
X34A	**Smith Ranch, M**	**5.75**	**52**	Pn	Pn	08 05 07.7	-0.9
ELIS	**Ellis County**	**5.87**	**33**	IAmb_Lg		08 06 56.2	
	comp=Z,9.6nm,0.7s						
LOOK	**Love County**	**5.90**	**60**	IAmb_Lg		08 07 05.3	
	comp=Z,27nm,0.9s						
T25A	**Trinidad**	**6.01**	**352**	IAmb_Lg		08 07 00.2	
	comp=Z,17nm,0.9s						
FNO	**Franklin**	**6.42**	**49**	IAmb_Lg		08 07 17.4	
	comp=Z,15nm,0.7s						
OK038	**West end E0370**	**6.52**	**35**	IAmb_Lg		08 07 20.6	
	comp=Z,13nm,0.8s						
BCOK	**Bluff Creek, N**	**6.55**	**45**	Pn	Pn	08 05 19.5	-0.1
OK025	**Westminster Rd**	**6.67**	**47**	IAmb_Lg		08 07 20.2	
	comp=Z,12nm,0.7s						
OK035	**E0210 Rd and N**	**6.72**	**34**	IAmb_Lg		08 07 21.5	
	comp=Z,12nm,0.8s						
OK029	**Liberty Lake**	**6.73**	**45**	IAmb_Lg		08 07 23.5	
	comp=Z,10nm,0.7s						
X37A	**Clayton**	**7.51**	**61**	Pn	Pn	08 05 31.7	-1.1
TUL1	**Leonard**	**7.87**	**51**	Pn	Pn	08 05 35.2	-2.4
TUL1				IAmb_Lg		08 07 58.6	
	comp=Z,9.4nm,1.0s						
T35A	**Sooner Cattle**	**8.05**	**43**	Pn	Pn	08 05 38.2	-2.0
CBKS	**Cedar Bluff**	**8.17**	**20**	IAmb_Lg		08 08 01.1	
	comp=Z,7.5nm,0.7s						
WLAR	**White Oak Lake**	**8.99**	**71**	Pn	Pn	08 05 51.8	-1.4
HHAR	**Hobbs**	**9.33**	**54**		Pn	08 05 55.0	-2.8
WHAR	**Wooly Hollow**	**10.12**	**63**		Pn	08 06 06.7	-1.8
FCAR	**Ozark Folk Cen**	**10.47**	**60**	Pn	Pn	08 06 11.3	-2.0
MGMO	**Mountain Grove**	**10.93**	**54**	Pn	Pn	08 06 18.5	-1.2

*SSNC **07** 08:05:03.5±1.8, 19°.70N×75°.47W, h20km±9km, MD3.0, ML3.0, MW3.0*
*OSPL **07** 08:05:04.7±1.2, 20°.37N×75°.40W, h11km±19km, ML2.8*
*JSN **07** 08:05:06.5±0.5, 19°.30N×75°.54W, h0km±740km, MD3.5*

ISC 07 08:04:57.8±1.5, 19°.61N±0°.05×75°.50W±0°.03, h8km±13km, n13, σ1°46/19, 1D, Cuba region

|

TGRZ	Tauranga	2.45 257	P	Pn	08 44 17.2	-0.4	
RRRZ	Republican Roa	2.46 242	P	Pn	08 44 18.3	+0.5	
WHHZ	Waihua	2.46 220	P	Pn	08 44 18.1	+0.2	
MTHZ	Maungataniwha	2.53 229	P	Pn	08 44 19.7	+0.9	
KARZ	Kaharoa	2.53 250	P	Pn	08 44 19.8	+0.9	
HLRZ	Highlands Stat	2.54 245	P	Pn	08 44 19.4	+0.4	
PRRZ	Plateau Road	2.62 239	P	Pn	08 44 19.9	-0.1	
HSRZ	Hossack Road	2.64 244	P	Pn	08 44 22.8	+2.5	
ALRZ	Allen Road	2.68 239	P	Pn	08 44 21.4	+0.5	
NMHZ	Naumai	2.71 225	P	Pn	08 44 21.5	+0.2	
ARHZ	Aropaoanui	2.73 220	P	Pn	08 44 22.0	+0.5	
MRHZ	Matea Rd	2.78 233	P	Pn	08 44 22.5	+0.2	
KUZ	Kuaotunu	2.87 278	P	Pn	08 44 21.9	-1.6	
BKZ	Black Stump Fm	2.94 227	P	Pn	08 44 24.9	+0.4	
CKHZ	Cape Kidnapper	3.00 214	P	Pn	08 44 24.5	-0.7	
MCHZ	McNeill Hill	3.02 221	P	Pn	08 44 25.8	+0.3	
TOZ	Tahuroa Road	3.04 259	P	Pn	08 44 25.3	-0.5	
KAHZ	Kahuranaki	3.20 215	P	Pn	08 44 27.1	-0.9	
GRZ	Great Barrier	3.20 286	P	Pn	08 44 27.3	-0.7	
MKAZ	Moumakai	3.28 270	P	Pn	08 44 28.3	-0.8	
WIAZ	Waiheke Island	3.33 276	P	Pn	08 44 29.4	-0.4	
BHHZ	Black Hill Sta	3.40 227	P	Pn	08 44 30.6	-0.3	
NNVZ	North Ngauruho	3.46 235	P	Pn	08 44 32.7	+0.9	
ETAZ	East Tamaki Re	3.48 273	P	Pn	08 44 31.9	+0.1	
MBAZ	Motutapu North	3.52 276	P	Pn	08 44 32.5	+0.1	
MOVZ	Moawhango	3.53 230	P	Pn	08 44 32.7	0.0	
ABAZ	Army Bay	3.60 278	P	Pn	08 44 33.6	0.0	
WPHZ	Waipukurau	3.61 217	P	Pn	08 44 32.4	-1.3	
HBAZ	Herne Bay Bore	3.65 274	P	Pn	08 44 34.3	+0.2	
PRHZ	Porangahau	3.69 213	P	Pn	08 44 33.3	-1.4	
AWAZ	Awhitu Peninsu	3.70 271	P	Pn	08 44 35.1	+0.2	
HIZ	Hauiti	3.73 248	P	Pn	08 44 36.2	+0.9	
WTAZ	Waiatarua	3.76 273	P	Pn	08 44 36.4	+0.6	
RVAZ	Riverhead Bore	3.78 275	P	Pn	08 44 36.3	+0.4	
TSZ	Takapari Road	3.85 221	P	Pn	08 44 35.2	-1.8	
ANWZ	Angora Road	3.92 213	P	Pn	08 44 36.1	-1.7	
DVHZ	Dannevirke	3.93 217	P	Pn	08 44 36.7	-1.4	
WCZ	Waipu Caves	4.16 286	P	Pn	08 44 40.7	-0.5	
POWZ	Post Office Ro	4.20 220	P	Pn	08 44 40.5	-1.3	
PRWZ	Pori Road	4.22 216	P	Pn	08 44 40.4	-1.6	
OUZ	Omahuta	4.99 292	P	Pn	08 44 52.4	-0.2	
TKNZ	Takaka Hill	6.22 230	P	Pn	08 45 07.7	-1.8	
CTZ	Chatham Island	7.24 156	P	Pn	08 45 24.3	+0.8	

IDC 07 08:46:39.9±2.5, 53°69N×86°81E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=21.9km s-min=14.1km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21 283**		*i*		08 54 20.0	
	baz=100,slow=319,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.21 283**		Pg	Pg	08 47 02.2	-0.9
	0.7nm,0.3s,baz=106,slow=11,SNR=10						
ZALV				Lg	Lg	08 47 19.0	
	1.0nm,0.3s,baz=102,slow=26,SNR=8.5						
KURBB	**Kurchatov Arra**	**5.95 242**		Pn	Pn	08 48 10.6	+1.4
	baz=56,slow=25,SNR=5.9						
KURBB				Sn	Sn	08 49 17.5	-0.5
	baz=60,slow=41,SNR=1.1						
KURBB				Lg	Lg	08 49 47.9	
	baz=62,slow=35,SNR=1.7 0.6nm,0.6s						
MKAR	**Makanchi Array**	**7.49 205**		Pn	Pn	08 48 31.4	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=7.7						
MKAR				Lg	Lg	08 50 35.8	
	baz=27,slow=26,SNR=1.8 0.2nm,0.2s						

*NOU **07** 08:51:29.4, 37°.52S×179°.91E, h0km, mb4.8/18, Off E. Coast of N. Island, N.Z.*
*IDC **07** 08:51:34.9±0.7, 36°.92S×178°.94E, h0km, mb4.5/10, mbtmp4.5/11, ML4.9/1, MS3.5/6, Error ellipse: s-maj=23.2km s-min=18.5km az=44.0*
*NEIC **07** 08:51:36.4±2.5, 37°.30S±0°.09×179°.24E±0°.06, h18km±7km, mb4.9/20, ML4.6(WEL), Error ellipse: s-maj=13.8km s-min=5.5km az=161.0*
*WEL **07** 08:51:39.8±0.8, 37°.5S×17°.9E±°, h25km±5km, M4.6/82, ML4.8/81, MLv4.6/82, Error ellipse: s-maj=0.0km s-min=0.0km az=82.9*

ISC 07 08:51:37.3±1.6, 37°29S±0°.05×179°09E±0°.06, h17km±8km, n216, σ1§46/216, mb4.8/19, MS3.5/5, 3C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.68 246**			**Pn**	**08 51 51.7**	**-0.4**
MXZ	**Matakaoa Point**	**0.68 246**		P	**Pn**	**08 51 51.7**	**-0.4**
MXZ				S	**Sg**	**08 51 59.2**	**-0.5**
WMGZ	**Waiomatatini S**	**0.75 225**		P	**Pn**	**08 51 54.8**	**+1.7**
WMGZ				S	**Sn**	**08 52 04.8**	**+0.7**
PKGZ	**Pakihiroa**	**1.00 233**		P	**Pn**	**08 51 57.9**	**+1.3**
PKGZ				S	**Sg**	**08 52 10.0**	**+0.1**
PUZ	**Puketiti**	**1.02 220**		P	**Pg**	**08 51 58.5**	**+1.4**
PUZ				S	**Sg**	**08 52 10.5**	**0.0**
HAZ	**Te Kaha**	**1.14 245**		P	**Pb**	**08 51 58.7**	**+0.2**
HAZ				S	**Sn**	**08 52 13.9**	**+0.3**
TWGZ	**Tauwhareparae**	**1.25 224**		P	**Pg**	**08 52 01.7**	**+0.3**
TWGZ				S	**Sg**	**08 52 17.7**	**-0.1**
RUGZ	**Raukumara Rang**	**1.31 238**		P	**Pg**	**08 52 02.6**	**+0.1**
RUGZ				S	**Sn**	**08 52 18.3**	**+0.3**
CNGZ	**Carnagh Statio**	**1.38 210**		P	**Pg**	**08 52 04.0**	**+0.1**
CNGZ				S	**Sg**	**08 52 22.4**	**+0.5**
TKGZ	**Te Karaka**	**1.51 220**		P	**Pb**	**08 52 04.8**	**-0.1**
TKGZ				S	**Sb**	**08 52 23.8**	**+0.1**
WIZ	**White Island**	**1.53 260**		P	**Pn**	**08 52 03.7**	**-0.1**
WIZ				S	**Sn**	**08 52 20.9**	**-2.4**
MWZ	**Matawai**	**1.62 229**		P	**Pb**	**08 52 06.5**	**-0.1**
MWZ				S	**Sn**	**08 52 24.3**	**-1.2**
RIGZ	**Rimuhau**	**1.76 216**		P	**Pb**	**08 52 08.2**	**-1.0**
WHRZ	**Whale Island**	**1.77 251**		P	**Pb**	**08 52 08.4**	**-0.9**
RAGZ	**Rawiri**	**1.79 227**		P	**Pb**	**08 52 08.9**	**-0.7**
RAGZ				S	**Sn**	**08 52 29.9**	**+0.1**
URZ	**Urewera**	**1.84 238**		Pn	**Pb**	**08 52 09.3**	**-1.2**
	427nm,0.3s,baz=31,slow=7.9,SNR=89						
URZ				Sn	**Sn**	**08 52 30.3**	**-0.7**
	478nm,0.3s,baz=31,slow=22,SNR=30						
URZ				LR	LR	08 52 38.6	
	comp=Z,637nm,19.8s,baz=32,slow=32						
URZ	**Urewera**	**1.84 238**		Pn	**Pn**	**08 52 09.2**	**+1.1**
URZ	**Urewera**	**1.84 238**		P	**Pb**	**08 52 09.5**	**-1.0**
URZ				S	**Sn**	**08 52 30.5**	**-0.4**
URZ	**Urewera**	**1.84 238**		P	**Pb**	**08 52 09.5**	**-1.0**
PRGZ	**Paritu Road**	**1.89 210**		P	**Pb**	**08 52 10.2**	**-1.1**
SNGZ	**Shannon Statio**	**2.03 222**		P	**Pn**	**08 52 11.7**	**+1.0**
SNGZ				S	**Sn**	**08 52 35.7**	**0.0**
EDRZ	**Edgecumbe**	**2.04 246**		P	**Pn**	**08 52 12.1**	**+1.3**
MARZ	**Manawahe**	**2.04 249**		P	**Pn**	**08 52 11.7**	**+0.9**
KNZ	**Kokohu**	**2.06 212**		P	**Pn**	**08 52 11.4**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.08 206**		P	**Pn**	**08 52 12.5**	**+1.1**
OPRZ	**Ohinepanea**	**2.09 254**		P	**Pn**	**08 52 11.9**	**+0.4**
RTZ	**Ruatahuna**	**2.13 231**		P	**Pn**	**08 52 13.4**	**+1.3**
MUGZ	**Murupara**	**2.19 236**		P	**Pn**	**08 52 13.8**	**+1.0**
MKRZ	**Makatiti**	**2.25 247**		P	**Pn**	**08 52 15.5**	**+1.8**
TARZ	**Mount Tarawera**	**2.25 244**		P	**Pn**	**08 52 15.3**	**+1.5**
LIRZ	**Lichensteins R**	**2.26 251**		P	**Pn**	**08 52 15.2**	**+1.4**
RAHZ	**Arahi**	**2.27 224**		P	**Pn**	**08 52 15.3**	**+1.3**
MYRZ	**Mayor Island**	**2.27 269**		P	**Pn**	**08 52 15.0**	**+1.0**
TGRZ	**Tauranga**	**2.29 258**		P	**Pn**	**08 52 14.9**	**+0.6**
RRRZ	**Republican Roa**	**2.29 242**		P	**Pn**	**08 52 15.5**	**+1.2**
OMRZ	**Omania**	**2.31 248**		P	**Pn**	**08 52 15.8**	**+1.4**
WHHZ	**Waihua**	**2.31 219**		P	**Pn**	**08 52 15.7**	**+1.2**
MTHZ	**Maungataniwha**	**2.36 228**		P	**Pn**	**08 52 16.7**	**+1.5**
HLRZ	**Highlands Stat**	**2.37 245**		P	**Pn**	**08 52 16.7**	**+1.3**
KARZ	**Kaharoa**	**2.37 251**		P	**Pn**	**08 52 16.3**	**+0.9**
PRRZ	**Plateau Road**	**2.45 240**		P	**Pn**	**08 52 17.2**	**+0.8**
UTU	**Utuhina**	**2.46 248**		P	**Pn**	**08 52 18.4**	**+1.8**
HSRZ	**Hossack Road**	**2.47 245**		P	**Pn**	**08 52 18.6**	**+1.8**
HRRZ	**Handcock Road**	**2.48 243**		P	**Pn**	**08 52 18.2**	**+1.3**
ALRZ	**Allen Road**	**2.52 239**		P	**Pn**	**08 52 18.2**	**+0.8**
NMHZ	**Naumai**	**2.55 224**		P	**Pn**	**08 52 19.3**	**+1.5**
KMRZ	**Kaimai**	**2.56 257**		P	**Pn**	**08 52 18.6**	**+0.6**
ARHZ	**Aropaoanui**	**2.57 219**		P	**Pn**	**08 52 19.1**	**+1.0**
GRRZ	**Galatos Road**	**2.59 245**		P	**Pn**	**08 52 20.0**	**+1.7**
MRHZ	**Matea Rd**	**2.61 233**		P	**Pn**	**08 52 19.5**	**+0.7**
WPRZ	**Whakapapataran**	**2.62 241**		P	**Pn**	**08 52 20.3**	**+1.5**
KUZ	**Kuaotunu**	**2.75 280**		P	**Pn**	**08 52 20.1**	**-0.5**
BKZ	**Black Stump Fm**	**2.77 227**		P	**Pn**	**08 52 21.5**	**+0.6**
BKZ	**Black Stump Fm**	**2.77 227**		P	**Pn**	**08 52 21.7**	**+0.8**
BKZ	**Black Stump Fm**	**2.77 227**		P	**Pn**	**08 52 21.6**	**+0.6**
WHTZ	**Whakaora**	**2.83 240**		P	**Pn**	**08 52 23.4**	**+1.6**
CKHZ	**Cape Kidnapper**	**2.84 213**		P	**Pn**	**08 52 21.8**	**-0.1**
KUTZ	**Kaahu Road**	**2.85 244**		P	**Pn**	**08 52 23.1**	**+1.2**
MCHZ	**McNeill Hill**	**2.86 220**		P	**Pn**	**08 52 22.7**	**+0.7**
TOZ	**Tahuroa Road**	**2.89 260**		P	**Pn**	**08 52 22.8**	**+0.4**
KWHZ	**Kaweka Forest**	**2.99 224**		P	**Pn**	**08 52 24.4**	**+0.5**
TLZ	**Tolley Road**	**3.00 249**		P	**Pn**	**08 52 25.0**	**+1.0**
WATZ	**Wairara**	**3.01 241**		P	**Pn**	**08 52 25.5**	**+1.4**
KAHZ	**Kahuranaki**	**3.04 214**		P	**Pn**	**08 52 24.7**	**0.0**
RATZ	**Rangitukua**	**3.06 238**		P	**Pn**	**08 52 26.2**	**+1.4**
GRZ	**Great Barrier**	**3.09 288**		P	**Pn**	**08 52 25.7**	**+0.4**
MKAZ	**Moumakai**	**3.14 272**		P	**Pn**	**08 52 26.2**	**+0.3**
KRHZ	**Kereru**	**3.17 221**		P	**Pn**	**08 52 26.3**	**-0.1**
WIAZ	**Waiheke Island**	**3.20 278**		P	**Pn**	**08 52 27.2**	**+0.4**
TMVZ	**Te Maari**	**3.23 235**		P	**Pn**	**08 52 27.9**	**+0.6**
BHHZ	**Black Hill Sta**	**3.24 226**		P	**Pn**	**08 52 27.6**	**+0.3**
ETVZ	**East Tongariro**	**3.24 234**		P	**Pn**	**08 52 27.9**	**+0.5**
NTVZ	**North Tongarir**	**3.24 235**		P	**Pn**	**08 52 28.0**	**+0.6**
PXZ	**Pawanui**	**3.25 212**		P	**Pn**	**08 52 26.7**	**-0.7**
KRVZ	**Karewarewa**	**3.26 235**		P	**Pn**	**08 52 28.3**	**+0.6**
OTVZ	**Oturere**	**3.28 234**		P	**Pn**	**08 52 27.5**	**-0.6**
NNVZ	**North Ngauruho**	**3.30 235**		P	**Pn**	**08 52 29.3**	**+1.0**
WTVZ	**West Tongariro**	**3.31 235**		P	**Pn**	**08 52 29.3**	**+1.0**
SNVZ	**South Ngauruho**	**3.31 234**		P	**Pn**	**08 52 29.3**	**+0.8**
NGZ	**Ngauruhoe**	**3.33 234**		P	**Pn**	**08 52 29.2**	**+0.5**
ETAZ	**East Tamaki Re**	**3.34 274**		P	**Pn**	**08 52 29.3**	**+0.6**
TUVZ	**Tukino**	**3.35 233**		P	**Pn**	**08 52 29.6**	**+0.6**
MOVZ	**Moawhango**	**3.37 230**		P	**Pn**	**08 52 29.1**	**0.0**
TWVZ	**Taurewa**	**3.38 237**		P	**Pn**	**08 52 30.1**	**+0.7**
MBAZ	**Motutapu North**	**3.39 278**		P	**Pn**	**08 52 29.9**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.40 233**		P	**Pn**	**08 52 30.1**	**+0.4**
FWVZ	**Far West T-bar**	**3.41 234**		P	**Pn**	**08 52 30.5**	**+0.7**
WNVZ	**Wahianoa**	**3.42 232**		P	**Pn**	**08 52 30.2**	**+0.3**
TRVZ	**Turoa**	**3.43 233**		P	**Pn**	**08 52 30.8**	**+0.6**
WPHZ	**Waipukurau**	**3.46 216**		P	**Pn**	**08 52 30.1**	**-0.2**
PNHZ	**Pukenui**	**3.46 220**		P	**Pn**	**08 52 29.7**	**-0.7**
ABAZ	**Army Bay**	**3.48 280**		P	**Pn**	**08 52 31.8**	**+1.2**
EPAZ	**Eden Park BICE**	**3.50 275**		P	**Pn**	**08 52 32.6**	**+1.8**
HBAZ	**Herne Bay Bore**	**3.51 276**		P	**Pn**	**08 52 32.6**	**+1.6**
MTVZ	**Mangateitei**	**3.53 233**		P	**Pn**	**08 52 31.8**	**+0.4**
PRHZ	**Porangahau**	**3.54 212**		P	**Pn**	**08 52 30.3**	**-1.1**
AWAZ	**Awhitu Peninsu**	**3.56 272**		P	**Pn**	**08 52 32.6**	**+0.9**
PKVZ	**Pokaka**	**3.56 235**		P	**Pn**	**08 52 32.8**	**+1.0**
HIZ	**Hauiti**	**3.56 249**				**08 52 33.7**	**+1.9**
HIZ	**Hauiti**	**3.56 249**		P	**Pn**	**08 52 33.7**	**+1.9**
HIZ	**Hauiti**	**3.56 249**		P	**Pn**	**08 52 33.7**	**+1.9**
WTAZ	**Waiatarua**	**3.63 274**		P	**Pn**	**08 52 33.9**	**+1.3**
RVAZ	**Riverhead Bore**	**3.65 277**		P	**Pn**	**08 52 33.8**	**+0.9**
TSZ	**Takapari Road**	**3.69 221**		P	**Pn**	**08 52 32.4**	**-1.2**
ANWZ	**Angora Road**	**3.77 212**		P	**Pn**	**08 52 33.4**	**-1.1**
DVHZ	**Dannevirke**	**3.77 216**		P	**Pn**	**08 52 33.5**	**-1.2**
POWZ	**Post Office Ro**	**4.04 219**		P	**Pn**	**08 52 37.5**	**-0.8**
WCZ	**Waipu Caves**	**4.05 288**		P	**Pn**	**08 52 39.4**	**+1.0**
BFZ	**Birch Farm**	**4.05 212**			**Pn**	**08 52 36.6**	**-1.8**
BFZ	**Birch Farm**	**4.05 212**		P	**Pn**	**08 52 37.0**	**-1.4**
WAZ	**Wanganui**	**4.05 231**		P	**Pn**	**08 52 39.0**	**+0.6**
PRWZ	**Pori Road**	**4.07 216**		P	**Pn**	**08 52 38.1**	**-0.6**
OHWZ	**Ohakea**	**4.15 224**		P	**Pn**	**08 52 40.0**	**+0.3**
MHEZ	**Mangahewa**	**4.16 243**		P	**Pn**	**08 52 43.9**	**+4.0**
CPWZ	**Castlepoint**	**4.26 211**		P	**Pn**	**08 52 39.9**	**-1.3**
LREZ	**Lake Rotokare**	**4.27 238**		P	**Pn**	**08 52 43.2**	**+1.7**
TIWZ	**Tintock**	**4.28 215**		P	**Pn**	**08 52 40.4**	**-1.3**
DREZ	**Durham Road**	**4.29 242**		P	**Pn**	**08 52 44.5**	**+2.8**
MRZ	**Mangatainoka R**	**4.34 218**		P	**Pn**	**08 52 40.9**	**-1.5**
NEZ	**North Egmont**	**4.40 242**		P	**Pn**	**08 52 46.3**	**+3.0**
PKE	**Pukeiti**	**4.44 243**		P	**Pn**	**08 52 47.3**	**+3.4**
KHEZ	**Kahui Hut**	**4.47 242**		P	**Pn**	**08 52 46.7**	**+2.5**
NBEZ	**Newall Road No**	**4.56 243**		P	**Pn**	**08 52 48.7**	**+3.3**
NMEZ	**Namu Road**	**4.61 241**		P	**Pn**	**08 52 49.6**	**+3.5**
OUZ	**Omahuta**	**4.89 293**			**Pn**	**08 52 51.6**	**+1.6**
OUZ	**Omahuta**	**4.89 293**		P	**Pn**	**08 52 51.7**	**+1.6**
OUZ	**Omahuta**	**4.89 293**		P	**Pn**	**08 52 51.9**	**+1.9**
MSWZ	**Moikau Station**	**5.08 215**		Pn	**Pn**	**08 52 49.6**	**-3.0**
PLWZ	**Palliser**	**5.20 214**		Pn	**Pn**	**08 52 51.3**	**-3.0**
SNZO	**South Karori**	**5.26 219**		Pn	**Pn**	**08 52 51.8**	**-3.3**
SNZO	**South Karori**	**5.26 219**		P	**Pn**	**08 52 52.2**	**-2.9**
NNZ	**Nelson**	**5.92 227**		Pn	**Pn**	**08 53 02.0**	**-2.1**
BSWZ	**Blackbirch Sta**	**5.98 221**		Pn	**Pn**	**08 53 03.9**	**-1.1**
QRZ	**Quartz Range**	**6.21 233**		Pn	**Pn**	**08 53 06.5**	**-1.6**
THZ	**Tophouse**	**6.54 225**		Pn	**Pn**	**08 53 09.5**	**-3.2**
CTZ	**Chatham Island**	**7.22 154**		P	**Pn**	**08 53 25.1**	**+3.2**
OXZ	**Oxford**	**8.08 220**			**Pn**	**08 53 30.9**	**-2.9**
RPZ	**Rata Peaks**	**8.87 221**		Pn	**Pn**	**08 53 40.3**	**-4.2**
	7.0nm,0.3s,baz=85,slow=16,SNR=31						
RPZ				Sn	Sn	08 55 10.7	-13
	14nm,0.3s,baz=16,slow=23,SNR=15						
RPZ				LR	LR	08 57 22.4	
	comp=Z,323nm,19.8s,baz=44,slow=38						
RPZ	**Rata Peaks**	**8.87 221**		P	**Pn**	**08 53 41.5**	**-3.1**
ODZ	**Otahua Downs**	**10.02 217**		P	**Pn**	**08 53 56.8**	**-3.6**
DZM	**Mont Dzumac**	**18.70 321**		*e*LR	LR	09 00 22.9	
	comp=Z,430nm,24.1s						
DZM	**Mont Dzumac**	**18.70 321**		LR	LR	09 01 33.0	
	comp=Z,306nm,20.6s,baz=174,slow=33						
MSVF	**Nonsavu**	**19.50 357**		P	**P**	**08 55 59.5**	**-4.2**
MSVF	0.2nm,0.3s,baz=160,slow=14,SNR=2.4			LR	LR	09 02 04.8	
	comp=Z,181nm,21.4s,baz=160,slow=33 5.9nm,0.8s						
CNB	**Canberra Magne**	**24.00 266**		P	**P**	**08 56 52.4**	**+1.3**
CAN	**Canberra**	**24.28 266**		P	**P**	**08 56 53.4**	**-0.3**
CAN				IAmb	IAmb	08 56 57.3	
	comp=Z,67nm,2.0s						
AFI	**Afiamalu**	**24.67 22**		LR	LR	09 06 40.1	
	comp=Z,28nm,18.8s,baz=192,slow=37						
TAU	**Tasmania Unive**	**24.85 247**		P	**P**	**08 56 58.0**	**-0.7**
TOO	**Toolangi**	**26.60 259**		P	**P**	**08 57 14.6**	**-0.1**
TOO				IAmb	IAmb	08 57 43.2	
	comp=Z,42nm,1.9s						
EIDS	**Eidsvold**	**26.61 288**		P	**P**	**08 57 15.5**	**+0.7**
EIDS				IAmb	IAmb	08 57 27.4	
	comp=Z,23nm,1.2s						
CMSA	**Cobar Meteorol**	**28.05 272**		P	**P**	**08 57 28.6**	**+0.9**
TBI	**Tubuai**	**30.34 72**		*e*LR	LR	09 05 38.3	
	comp=Z,133nm,26.0s						
TBI	**Tubuai**	**30.34 72**		*e*T	T	09 29 32.8	
	comp=Z,16nm,0.3s						
STKA	**Stephens Creek**	**31.20 269**		P	**P**	**08 57 55.9**	**+0.3**
	comp=Z,8.7nm,0.7s,baz=105,slow=10,SNR=23 comp=Z,8.7nm,0.7s						
STKA	**Stephens Creek**	**31.20 269**		P	**P**	**08 57 56.1**	**+0.6**
STKA	**Stephens Creek**	**31.20 269**		P	**P**	**08 57 56.4**	**+0.8**
HTT	**Hallett**	**32.81 265**		P	**P**	**08 58 10.2**	**+0.4**
CTA	**Charters Tower**	**33.30 292**		P	**P**	**08 58 13.7**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=118,slow=9.9,SNR=2.0						
CTA				LR	LR	09 11 19.3	
	comp=Z,88nm,19.1s,baz=83,slow=36 comp=Z,3.7nm,0.6s						
CTAO	**Charters Tower**	**33.30 292**		P	**P**	**08 58 13.3**	**-0.8**
CTAO				IAmb	IAmb	08 58 30.7	
	comp=Z,31nm,1.5s						
INKA	**Innaminka**	**33.51 275**		P	**P**	**08 58 16.4**	**+0.5**
PAE	**Paea**	**33.75 63**		*e*T	T	09 34 02.0	
	comp=Z,2.3nm,0.3s						
PPT2	**Papeete2**	**33.80 63**		*e*LR	LR	09 07 12.1	
	comp=Z,187nm,27.5s						
PPT2	**Papeete2**	**33.80 63**		*e*T	T	09 34 01.9	
	comp=Z,3.4nm,0.4s						
TVO	**Taravao**	**33.91 64**		*e*T	T	09 34 08.9	
	comp=Z,2.1nm,0.3s						
LCRK	**Leigh Creek**	**34.41 269**		P	**P**	**08 58 23.8**	**+0.1**
BBOO	**Buckleboo**	**35.28 264**		P	**P**	**08 58 30.6**	**-0.7**
BBOO	**Buckleboo**	**35.28 264**		P	**P**	**08 58 30.7**	**-0.5**
OOD	**Oodnadatta**	**37.52 272**		P	**P**	**08 58 30.4**	**+0.1**
MULG	**Mulgathing**	**37.79 267**		P	**P**	**08 58 52.2**	**-0.4**
QIS	**Mount Isa**	**38.05 285**		P	**P**	**08 58 55.2**	**+0.2**
COEN	**Coen**	**39.49 296**		P	**P**	**08 59 07.2**	**+0.1**
COEN				IAmb	IAmb	08 59 08.7	
	comp=Z,14nm,0.7s						
COEN	**Coen**	**39.49 296**		P	**P**	**08 59 07.5**	**+0.5**
AS31	**Alice Springs**	**40.87 276**		P	**P**	**08 59 17.3**	**-1.1**
ASAR	**Alice Springs**	**40.87 276**		P	**P**	**08 59 17.2**	**-1.3**
	comp=Z,11nm,0.7s,baz=117,slow=7.4,SNR=90						
ASAR				PcP	**PcP**	**09 01 17.2**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=115,slow=4.4,SNR=1.1						
ASAR				ScP	**ScP**	**09 05 07.2**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=114,slow=3.8,SNR=5.0 comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**40.87 276**		P	**P**	**08 59 17.5**	**-1.0**
WR0	**Warramunga Arr**	**42.32 281**		P	**P**	**08 59 29.9**	**-0.4**
FORT	**Forrest**	**42.37 263**		P	**P**	**08 59 29.8**	**-0.8**
WB2	**Warramunga Arr**	**42.48 281**		IAmb	IAmb	08 59 31.6	
	comp=Z,21nm,0.6s						
WRAB	**Tennant Creek**	**42.49 281**		P	**P**	**08 59 30.9**	**-0.7**
WRAB				IAmb	IAmb	08 59 31.6	
	comp=Z,16nm,0.6s						
WRA	**Warramunga Arr**	**42.49 281**		P	**P**	**08 59 30.6**	**-1.1**
	comp=Z,13nm,0.6s,baz=121,slow=7.8,SNR=191						
WRA				PcP	**PcP**	**09 01 23.7**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=117,slow=3.3,SNR=2.4 comp=Z,13nm,0.6s						
WB0	**Warramunga Arr**	**42.55 282**		IAmb	IAmb	08 59 32.1	
	comp=Z,22nm,0.6s						
MTN	**Manton Dam**	**49.14 287**		P	**P**	**09 00 23.5**	**-0.8**
MTN				IAmb	IAmb	09 00 24.2	
	comp=Z,13nm,0.7s						
KNRA	**Kununurra**	**49.27 282**		P	**P**	**09 00 24.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.35 277**		P	**P**	**09 00 32.7**	**-0.8**
	comp=Z,5.8nm,0.6s,baz=91,slow=7.9,SNR=11 comp=Z,5.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.35 277**		P	**P**	**09 00 32.9**	**-0.6**
MORW	**Morawa**	**52.55 259**		P	**P**	**09 00 48.9**	**-1.0**
QSPA	**South Pole Qui**	**52.84 180**		P	**P**	**09 00 55.2**	**+3.6**
	comp=Z,4.4nm,0.7s,baz=356,slow=1.6,SNR=25 comp=Z,4.4nm,0.7s						
QSPA	**South Pole Qui**	**52.84 180**		P	**P**	**09 00 55.4**	**+3.8**
MBWA	**Marble Bar**	**53.42 270**		P	**P**	**09 00 54.0**	**-2.4**
MBWA				IAmb	IAmb	09 01 57.5	
	comp=Z,30nm,1.6s						
MAW	**Mawson**	**65.03 202**		P	**P**	**09 02 17.4**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=46,slow=6.4,SNR=4.5 comp=Z,2.0nm,0.8s						
TROLL	**Troll, Antarti**	**70.97 181**		P	**P**	**09 02 55.6**	**+2.1**
SNAA	**Sanae**	**71.33 179**		P	**P**	**09 02 57.6**	**+2.1**
VNA3	**Neumayer Olymp**	**71.59 177**		P	**P**	**09 02 58.8**	**+1.7**
VNA2	**Neumayer--Watz**	**71.99 178**		P	**P**	**09 03 01.8**	**+2.3**
	baz=173,slow=6.0						
VNA1	**Neumayer--Stat**	**72.24 177**		P	**P**	**09 03 03.4**	**+2.5**
H03S2	**Juan Fernandez**	**78.67 124**		T	T	10 30 11.3	
	baz=226						
H03S1	**Juan Fernandez**	**78.68 124**		T	T	10 30 12.5	
	baz=226						
H03S3	**Juan Fernandez**	**78.69 124**		T	T	10 30 12.5	
	baz=226						
H03N3	**Juan Fernandez**	**78.90 124**		T	T	10 30 12.2	
	baz=236,slow=72			

PB09 IPOC Station P 3.12 313 ⇑ iP Pn 09 03 55.8 +1.6
PB09 i S Sn 09 04 34.5 +0.7
PB09 IAML 09 04 37.8
comp=N,2µm,0.4s
PB09 IPOC Station P 3.12 313 eP Pn 09 03 54.9 +0.8
PB09 eS Sn 09 04 35.0 +1.1
PB09 IAML 09 04 37.7
comp=Z,748nm,0.3s
PB14 IPOC Station P 3.38 258 Pn Pn 09 03 57.5 +0.1
PB14 IPOC Station P 3.38 258 ⇑ iP Pn 09 03 57.6 +0.1
PB14 i S Sn 09 04 37.1 -2.7
PB14 IAML 09 04 41.0
comp=E,1µm,0.4s
PB14 IPOC Station P 3.38 258 eP Pn 09 03 57.5 +0.1
PB14 IAML 09 04 43.5
comp=Z,724nm,0.6s
PB04 IPOC Station P 3.49 296 Pn Pn 09 03 59.2 +0.6
PB04 IPOC Station P 3.49 296 ⇑ iP Pn 09 03 59.0 +0.4
PB04 i S Sn 09 04 39.8 -2.2
PB04 IPOC Station P 3.49 296 eP Pn 09 03 59.2 +0.6
PB04 IAML 09 04 48.9
comp=Z,1µm,0.5s
AC02 Maricunga 3.59 216 Pn Pn 09 04 00.6 +0.6
AC02 Maricunga 3.59 216 ⇑ iP Pn 09 04 00.7 +0.6
AC02 i S Sn 09 04 44.3 -0.3
AC02 Maricunga 3.59 216 eP Pn 09 04 00.9 +0.8
AC02 eS Sn 09 04 43.2 -1.5
AC02 IAML 09 04 52.8
comp=Z,130nm,0.5s
PB07 IPOC Station P 3.62 307 Pn 09 04 00.6 +0.4
PB07 IPOC Station P 3.62 307 ⇑ iP Pn 09 04 00.8 +0.6
PB07 i S Sn 09 04 43.0 -1.7
PB07 IPOC Station P 3.62 307 eP Pn 09 04 00.8 +0.6
PB07 IAML 09 04 50.9
comp=Z,1µm,0.4s
PB01 IPOC Station P 3.82 318 Pn 09 04 03.1 +0.6
PB01 IPOC Station P 3.82 318 ⇑ iP Pn 09 04 03.1 +0.6
PB01 i S Sn 09 04 47.6 -1.5
PB01 IPOC Station P 3.82 318 eP Pn 09 04 03.4 +0.8
PB01 eS Sn 09 04 48.0 -1.1
PB01 IAML 09 04 51.5
comp=Z,1µm,0.2s
PB02 IPOC Station P 3.89 311 Pn 09 04 03.8 +0.4
PB02 IPOC Station P 3.89 311 ⇑ iP Pn 09 04 03.7 +0.4
PB02 i S Sn 09 04 48.2 -2.5
PB02 IPOC Station P 3.89 311 eP Pn 09 04 03.8 +0.4
PB02 IAML 09 04 55.0
comp=Z,2µm,0.3s
AC01 Pan de Azucar 4.11 237 Pn Pn 09 04 05.0 -1.1
AC01 Pan de Azucar 4.11 237 ⇑ iP Pn 09 04 05.0 -1.1
TA01 Diego Aracena 4.61 316 Pn Pn 09 04 12.2 -0.2
TA01 Diego Aracena 4.61 316 eP Pn 09 04 11.4 -0.9
AC06 Mina Casimiro 4.70 223 Pn 09 04 12.0 -1.5
TA02 Huaiquique 4.80 319 eP Pn 09 04 14.0 -0.8
GO01 Chusmiza 4.80 332 Pn 09 04 16.8 +1.4
GO01 Chusmiza 4.80 332 eP Pn 09 04 16.1 +0.7
AC04 Llanos de Chal 5.75 221 Pn Pn 09 04 25.0 -2.0
AC05 El Transito 5.80 212 Pn Pn 09 04 26.7 -1.1
PB16 IPOC Station P 6.13 335 Pn Pn 09 04 32.7 +0.1
LCO Las Campanas 6.16 214 Pn 09 04 31.0 -1.5
PB12 IPOC Station P 6.25 327 Pn Pn 09 04 32.3 -1.3
AP01 Chacalluta 6.46 328 Pn 09 04 36.9 +0.5
CO01 Juntas del Tor 6.71 205 Pn 09 04 39.5 -0.2
GO04 Tololo Observa 7.17 209 Pn Pn 09 04 43.2 -2.6
LPAZ La Paz 7.71 350 P Pn 09 04 54.5 +1.2
comp=Z,16nm,0.3s,baz=173,slow=7.4,SNR=167
LPAZ S Sn 09 06 19.1 -1.6
comp=Z,12nm,0.6s,baz=260,slow=19,SNR=1.9
LPAZ LR LR 09 08 38.2
comp=Z,30nm,18.1s,baz=178,slow=43
LPAZ La Paz 7.71 350 Pn 09 04 54.2 +0.9
LPAZ La Paz 7.71 350 eP Pn 09 04 53.5 +0.2
CO02 Combarbal 8.15 206 Pn Pn 09 04 56.9 -1.6
CPUP Villa Florida 8.88 108 P Pn 09 05 07.2 -0.7
comp=Z,8.5nm,0.7s,baz=287,slow=11,SNR=19
CPUP Villa Florida 8.88 108 Pn 09 05 07.6 -0.3
CPUP Villa Florida 8.88 108 eP Pn 09 05 07.2 -0.7
VA03 San Esteban 9.40 200 Pn Pn 09 05 13.6 -1.1
SIV San Ignacio 9.55 35 P Pn 09 05 16.0 -0.7
comp=Z,4.1nm,0.4s,baz=213,slow=14,SNR=14
SIV S Sn 09 06 59.4 -4.1
comp=Z,2.2nm,0.4s,baz=263,slow=17,SNR=1.7
MT02 Curacav 10.05 201 Pn Pn 09 05 21.4 -1.6
ANTJ Antonio Joao (10.11 81 eP Pn 09 05 23.8 -0.1
MT01 Popeta 10.64 201 Pn Pn 09 05 28.5 -2.2
ITQB Itaqui 10.71 124 Pn 09 05 29.9 -1.7
ITQB Itaqui 10.71 124 eP Pn 09 05 31.1 -0.5
AQDB Aquidauana 10.82 74 eP Pn 09 05 32.5 -0.5
PTLB Pontes e Lacer 11.09 42 Pn Pn 09 05 35.9 -0.6
PTLB Pontes e Lacer 11.09 42 eP Pn 09 05 36.8 +0.2
UNIS Unistalda (Bra 11.66 119 eP Pn 09 05 43.3 -0.5
ROSS Rosario do Sul 12.12 124 eP Pn 09 05 49.3 -0.1
ML02 Panimavida 12.45 198 Pn 09 05 53.0 -0.8
VILB Vilhena 12.57 31 Pn 09 05 55.6 +0.1
VILB Vilhena 12.57 31 eP Pn 09 05 55.6 +0.1
FRBT Francisco Belt 12.60 102 eP Pn 09 05 55.6 -0.3
PP1B Ponte de Pedra 12.78 63 eP Pn 09 05 57.4 -0.7
TRCB Terra Rica 13.04 88 eP Pn 09 06 01.3 0.0
ALGR Alto Alegre (B 13.24 114 eP Pn 09 06 03.6 -0.2
PTGB Pitanga 13.43 96 eP P 09 06 07.2 -1.9
CPSB Cacapava Do Su 13.50 121 eP Pn 09 06 06.4 -0.6
ITAB Concordia 13.62 107 Pn 09 06 07.2 -1.3
ITAB Concordia 13.62 107 eP Pn 09 06 08.2 -0.3
C2SB Chapadao do Su 13.96 71 eP P 09 06 14.1 -0.8
PLTB Pedras Altas 14.01 127 P Pn 09 06 11.9 -1.5
PLTB Pedras Altas 14.01 127 eP Pn 09 06 12.2 -1.1
ETMB Extrema 14.05 2 Pn Pn 09 06 13.4 -0.6
ETMB Extrema 14.05 2 eP Pn 09 06 13.9 0.0
VA04 Juan Fernndez 14.32 225 P Pn 09 06 17.0 -0.1
PCMB Pacaembu 14.50 84 eP Pn 09 06 18.4 -1.1
TRQA Tornquist 14.66 165 Pn Pn 09 06 19.1 -2.2
CNLB Canela 15.21 114 eP Pn 09 06 27.4 -0.8
NNA Nana 15.25 319 P P 09 06 31.2 +1.9
comp=Z,9.1nm,0.5s,baz=160,slow=14,SNR=8.1
NNA S S 09 09 14.7 -4.0
comp=Z,2.3nm,0.3s,baz=196,slow=21,SNR=1.7
PDRB Porto dos Gac 15.54 40 eP P 09 06 31.9 -0.5
ITRB Iturama 15.81 78 eP P 09 06 35.6 +0.1
TIJ01 Guaruva-PR 16.22 99 eP Pn 09 06 40.5 +0.1
TER01 Tubaro-SC 16.48 110 eP P 09 06 41.7 -0.9
CLDB Colider 16.67 41 eP Pn 09 06 45.1 -0.8
PLCA Paso Flores 17.05 190 P P 09 06 48.9 +0.1
comp=Z,1.7nm,0.5s,baz=37,slow=11,SNR=13
PLCA Paso Flores 17.05 190 eP P 09 06 48.6 -0.3
CZSB Cruzeiro do Su 17.09 340 P P 09 06 48.8 -0.7
CZSB IAmb IAmb 09 06 54.2
comp=Z,30nm,0.5s
CZSB Cruzeiro do Su 17.09 340 eP P 09 06 48.9 -0.7
BB19B Bebedouro 17.10 84 eP Pn 09 06 50.2 -0.8
LL04 Puerto Octay 17.57 194 P P 09 06 53.0 -1.5
PET01 Itanhaem-SP 17.81 95 eP Pn 09 06 57.3 -1.9
VAO Valinhos 18.20 91 eP P 09 07 01.3 -0.3
IPMB Ipameri, GO 18.31 75 eP Pn 09 07 03.0 -2.3
SNDB Serra Nova Dou 18.91 54 eP P 09 07 09.3 0.0
PARB Paraibuna 19.39 93 eP P 09 07 14.9 +0.4
BDFB Brasilia 19.47 68 P P 09 07 15.6 +0.2
comp=Z,56nm,0.7s,baz=241,slow=12,SNR=84
BDFB S S 09 10 42.6 -2.5
comp=Z,1.6nm,0.5s,baz=230,slow=19,SNR=1.4
BDFB Brasilia 19.47 68 P P 09 07 15.1 -0.3
BDFB Brasilia 19.47 68 eP P 09 07 15.7 +0.2
PMNB Patos De Minas 19.69 78 eP P 09 07 17.4 -0.4
TBTG Tabatinga, AM 19.87 351 P P 09 07 20.5 +0.9
TBTG IAmb IAmb 09 07 23.4
comp=Z,85nm,0.5s
TBTG Tabatinga, AM 19.87 351 eP P 09 07 20.9 +1.4
NPGB Novo Progresso 20.05 35 eP P 09 07 19.6 -2.0
ATAH Atahualpa 20.09 324 P P 09 07 24.6 +2.2
comp=Z,7.2nm,0.7s,baz=140,slow=7.9,SNR=6.4
comp=Z,7.2nm,0.7s
MACA Manacapuru-AM 21.48 17 eP P 09 07 36.6 0.0
VAS01 Vassouras-RJ 21.52 90 eP P 09 07 37.2 +0.1
ITTB Itaituba 22.18 30 eP P 09 07 42.1 -1.5
DIAM Diamantina, MG 22.26 80 eP P 09 07 43.8 -0.7
DUB01 Friburgo-RJ 22.53 90 eP P 09 07 46.7 -0.2
MC01 Montes Claros 22.57 76 eP P 09 07 45.9 -1.4
JANB Januaria 22.92 71 eP P 09 07 49.5 -0.9
CAM01 Campos-RJ 23.23 90 eP P 09 07 52.6 -0.5
BOSC San Juan Bosco 23.56 330 P P 09 07 57.3 +0.9
SMTB Santa Maria do 23.69 54 eP P 09 07 56.9 -0.4
SDBA SAO DESIDERIO 23.69 65 eP P 09 07 56.6 -0.8
ARNL Arenillas 23.99 326 P P 09 08 01.1 +1.0

PRPB Parauapebas 24.03 45 eP P 09 07 58.9 -1.6
ALF01 Guarapari-ES 24.32 87 eP P 09 08 02.8 -0.2
SJMB Sao Joao De Ma 24.38 83 eP P 09 08 02.8 -0.8
RIB01 Linhares ES 24.93 84 eP P 09 08 07.6 -1.0
MALB Monte Alegre 25.07 31 eP P 09 08 09.7 -0.2
NAN01 Guarapari, ES 25.60 81 eP P 09 08 13.2 -1.5
GUA01 Guaratinga, BA 26.30 79 eP P 09 08 20.5 -0.4
OTAV Otavalo 26.57 333 eP P 09 08 22.0 -1.8
TULM Tulcn-Chalpat 26.74 335 IAmb IAmb 09 08 29.1
comp=Z,12nm,0.7s
BOAV Boa Vista 26.87 14 eP P 09 08 26.7 +0.7
CMC01 Camacan, BA 27.01 77 eP P 09 08 25.9 -1.4
GDU01 Guanambu, BA 27.63 73 eP P 09 08 31.1 -1.6
ROSB Rosrio 30.27 50 eP P 09 08 57.0 +0.9
NBLA Lagarto - SE 30.42 70 eP P 09 08 55.4 -2.1
NBAN Anadia - AL 32.36 69 eP P 09 09 13.0 -1.5
BAUV El Baul 32.70 358 P P 09 09 17.3 0.0
BAUV IAmb IAmb 09 09 17.7
comp=Z,16nm,0.9s
SDV Santo Domingo 32.84 353 eP P 09 09 18.2 -0.5
NBRF Rio Formoso - 33.84 69 eP P 09 09 25.6 -1.6
RCBR Riachuelo 34.71 64 P P 09 09 35.0 +0.2
RCBR IAmb IAmb 09 10 17.4
comp=Z,9.9nm,1.0s
RCBR Riachuelo 34.71 64 eP P 09 09 35.2 +0.3
MATN Matagalpa 41.15 331 P P 09 10 29.6 +0.9
TGUH Tegucigalpa,Un 42.75 330 P P 09 10 42.6 +1.0
TGUH IAmb IAmb 09 10 43.9
comp=Z,19nm,0.8s
MTO3 Montecristo 44.03 328 IAmb IAmb 09 10 54.5
comp=Z,10nm,0.8s
DWPF Disney Wildern 53.64 344 P P 09 12 04.1 -0.5
baz=163
BELA Belgrano 2 56.08 172 P P 09 12 22.1 +0.7
BELA IAmb IAmb 09 12 30.7
comp=Z,8.2nm,0.7s
VNA3 Neumayer Olymp 57.15 161 P P 09 12 29.9 +0.8
VNA1 Neumayer--Stat 57.34 160 P P 09 12 31.6 +1.2
VNA2 Neumayer--Watz 57.71 160 P P 09 12 33.9 +0.9
baz=283,slow=7.0
BRAL Brewton 58.13 340 P P 09 12 36.8 +0.4
baz=158
NHSC New Hope 58.15 347 P P 09 12 37.6 +1.2
baz=166
152A Waverly Hall 58.84 342 IAmb IAmb 09 12 42.5
comp=Z,16nm,1.4s
GOGA Godfrey 59.20 344 P P 09 12 44.1 +0.4
GOGA IAmb IAmb 09 12 44.7
comp=Z,8.7nm,1.0s
GOGA Godfrey 59.20 344 P P 09 12 43.9 +0.2
baz=162
SNAA Sanae 59.34 161 P P 09 12 45.0 +0.7
SNAA Sanae 59.34 161 P P 09 12 44.9 +0.5
SNAA IAmb IAmb 09 12 47.6
comp=Z,5.5nm,0.7s
BIRD Birdtown, Kers 59.69 347 P P 09 12 46.7 -0.4
BIRD IAmb IAmb 09 12 48.8
comp=Z,8.3nm,0.8s
LRAL Lakeview Retre 59.85 340 P P 09 12 48.2 +0.1
LRAL IAmb IAmb 09 12 48.5
comp=Z,7.6nm,0.6s
LRAL Lakeview Retre 59.85 340 P P 09 12 48.3 +0.1
baz=159
Y49A Blount Mountai 60.44 341 IAmb IAmb 09 12 52.5
comp=Z,6.1nm,0.7s
833A Chaparral WMA, 60.72 327 P P 09 12 54.7 +0.5
baz=146
FPAL Fort Paine 60.84 342 IAmb IAmb 09 12 55.7
comp=Z,7.3nm,0.7s
V55A Taylorsville 61.01 347 IAmb IAmb 09 12 57.9
TROLL Troll, Antarti 61.06 161 P P 09 12 57.0 +1.0
W50A Signal Mountai 61.38 343 IAmb IAmb 09 12 59.6
comp=Z,11nm,0.9s
NATX Nacogdoches 61.47 333 P P 09 13 00.4 +1.2
baz=151
SWET Sewanee 61.57 342 IAmb IAmb 09 13 00.3
comp=Z,11nm,0.8s
PLAL Pickwick Lake 61.98 340 IAmb IAmb 09 13 02.9
comp=Z,9.9nm,1.0s
V48A Smith Brothers 62.31 342 IAmb IAmb 09 13 05.5
comp=Z,8.7nm,0.8s
CLTN Cedars of Leba 62.50 342 IAmb IAmb 09 13 06.8
comp=Z,7.4nm,0.8s
JCT Junction City 62.70 328 P P 09 13 08.3 +0.9
baz=146
WVT Waverly 62.97 341 P P 09 13 08.4 -0.6
WVT Waverly 62.97 341 P P 09 13 08.8 -0.2
baz=158
MIAR Mount Ida 63.49 335 IAmb IAmb 09 13 13.8
comp=Z,6.1nm,0.8s
MIAR Mount Ida 63.49 335 P P 09 13 12.8 +0.3
baz=153
T47A Sharon Grove 63.56 342 IAmb IAmb 09 13 13.4
comp=Z,13nm,1.0s
TXAR Lajitas Array 63.75 324 P P 09 13 15.4 +1.0
comp=Z,2.7nm,0.8s,baz=145,slow=7.8,SNR=29
comp=Z,2.7nm,0.8s
TX31 Lajitas Ar. Si 63.75 324 IAmb IAmb 09 13 15.9
comp=Z,5.6nm,0.6s
FCAR Ozark Folk Cen 64.15 337 IAmb IAmb 09 13 17.0
comp=Z,5.3nm,0.6s
X37A Clayton 64.23 334 P P 09 13 17.8 +0.6
X37A IAmb IAmb 09 13 19.3
comp=Z,10.0nm,1.0s
WCI Wyandotte Cave 64.50 343 P P 09 13 18.2 -0.7
WCI Wyandotte Cave 64.50 343 P P 09 13 18.5 -0.5
baz=160
P52A Corning 64.85 347 P P 09 13 21.1 -0.1
baz=164
HHAR Hobbs 65.16 336 IAmb IAmb 09 13 25.0
comp=Z,8.6nm,0.7s
MGMO Mountain Grove 65.34 338 IAmb IAmb 09 13 25.6
comp=Z,9.4nm,0.8s
U38A Gravette 65.47 336 IAmb IAmb 09 13 27.4
comp=Z,3.5nm,0.7s
TUL1 Leonard 65.55 334 P P 09 13 26.5 +0.7
baz=151
ACSO Alum Creek Sta 65.60 346 P P 09 13 26.5 +0.5
baz=164
DEOK Depew 65.77 334 IAmb IAmb 09 13 29.2
comp=Z,23nm,1.1s
WMOK Wichita Mounta 65.79 331 P P 09 13 27.2 -0.2
baz=148
CCM Cathedral Cave 65.81 339 P P 09 13 27.4 0.0
CCM Cathedral Cave 65.81 339 P P 09 13 27.6 +0.2
baz=156
OK030 Cody Creek RV 65.96 334 IAmb IAmb 09 13 29.8
comp=Z,14nm,0.9s
O48B Farmland 66.12 345 P P 09 13 29.6 +0.2
baz=162
QSPA South Pole Qui 66.27 180 P P 09 13 31.7 +1.5
BINY Binghamton 66.35 353 P P 09 13 31.7 +0.9
baz=171
R40A Madies Statio 66.36 338 IAmb IAmb 09 13 31.8
comp=Z,8.8nm,0.8s
GDL2 Guadalupe Moun 66.38 326 P P 09 13 30.6 -0.7
MNTX Cornudas Mount 66.52 325 IAmb IAmb 09 13 33.4
comp=Z,4.6nm,0.8s
MNTX Cornudas Mount 66.52 325 P P 09 13 32.1 +0.1
baz=142
SFIN Lafayette 66.73 343 P P 09 13 33.0 -0.1
baz=160
ERPA Erie 66.85 349 P P 09 13 34.5 +0.6
baz=167
MSTX Muleshoe 66.99 328 P P 09 13 35.5 +0.3
baz=144
P40A Paris 67.41 339 IAmb IAmb 09 13 38.9
comp=Z,11nm,0.8s
HDIL Hopedale 67.50 342 P P 09 13 37.9 -0.2
baz=158
DBIC Dimbokro 67.58 71 P P 09 13 38.4 -0.8
comp=Z,5.3nm,0.4s,baz=250,slow=6.7,SNR=12
comp=Z,5.3nm,0.4s
121A Cookes Peak, D 68.45 323 IAmb IAmb 09 13 47.6
comp=Z,9.9nm,0.9s
121A Cookes Peak, D 68.45 323 P P 09 13 45.9 +1.5
baz=140
KSU1 Kansas State U 68.64 335 P P 09 13 45.4 +0.2
baz=151
R32A Long Quarter, 68.89 334 IAmb IAmb 09 13 48.7
comp=Z,12nm,0.8s
ANMO Albuquerque 69.61 326 P P 09 13 53.5 +2.0
ANMO Albuquerque 69.61 326 P P 09 13 52.4 +0.9
baz=142
CBKS Cedar Bluff 69.64 333 P P 09 13 52.6 +1.2

baz=148
JFWS Jewell Farm 69.95 342 P P 09 13 53.7 +0.5
JFWS Jewell Farm 69.95 342 P P 09 13 53.9 +0.7
baz=157
TUC Tucson 69.96 321 P P 09 13 55.2 +1.7
baz=138
T25A Trinidad 70.34 329 IAmb IAmb 09 13 58.6
comp=Z,4.4nm,0.7s
T25A Trinidad 70.34 329 P P 09 13 56.7 +0.8
baz=144
214A Organ Pipe Nat 70.89 320 P P 09 13 60.0 +0.9
baz=136
KSCO Kaye Shedlock' 71.04 331 P P 09 14 01.7 +1.7
baz=146
BGNE Belgrade 71.23 336 P P 09 14 01.7 +0.7
baz=150
SDCO Great Sand Dun 71.34 328 P P 09 14 03.7 +1.7
baz=143
S22A 4UR Ranch, Cre 71.99 328 P P 09 14 07.3 +1.4
baz=142
Q24A Divide 72.15 329 P P 09 14 08.4 +1.6
baz=144
KOWA Kowa 72.22 65 P P 09 14 07.2 -0.2
KOWA IAmb IAmb 09 14 08.3
comp=Z,6.6nm,0.5s
OGNE Ogallala 72.39 333 P P 09 14 09.5 +1.6
baz=146
MVCO Mesa Verde 72.41 326 P P 09 14 09.7 +1.4
baz=140
WUAZ Wupatki 72.65 323 IAmb IAmb 09 14 13.0
comp=Z,7.1nm,0.9s
WUAZ Wupatki 72.65 323 P P 09 14 11.7 +2.0
baz=138
ECSD EROS Data Cent 72.70 338 IAmb IAmb 09 14 11.9
comp=Z,7.8nm,0.9s
ECSD EROS Data Cent 72.70 338 P P 09 14 10.3 +0.7
baz=152
SPMN Marine on St. 72.81 341 IAmb IAmb 09 14 11.6
comp=Z,15nm,1.2s
SPMN Marine on St. 72.81 341 P P 09 14 10.6 +0.5
baz=155
ISCO Idaho Springs 73.03 330 P P 09 14 13.4 +1.4
baz=143
SMCO Snowmass 73.18 328 IAmb IAmb 09 14 15.7
comp=Z,4.1nm,0.7s
YUH Yuha Desert 73.24 318 P P 09 14 15.3 +2.3
PDMCI Parker Dam,Lak 73.34 321 P P 09 14 15.3 +1.8
baz=136
IKP In-Ko-Pah, Jac 73.36 318 P P 09 14 15.8 +2.0
baz=134
F36A Milaca 73.60 341 IAmb IAmb 09 14 15.7
comp=Z,9.2nm,0.7s
BC3 Big Chuckawall 73.66 319 P P 09 14 17.8 +2.2
baz=134
E38A The Farm, Brul 73.71 342 IAmb IAmb 09 14 16.5
comp=Z,4.6nm,0.7s
MONP2 Monument Peak 73.72 318 P P 09 14 18.1 +2.0
baz=134
IRM Iron Mountain 73.83 320 P P 09 14 18.6 +2.1
baz=135
U15A North Rim 73.83 323 IAmb IAmb 09 14 20.2
comp=Z,7.8nm,1.0s
N23A Red Feather La 74.06 330 P P 09 14 20.1 +2.1
baz=143
BELC Belle Mtn. Jos 74.22 319 P P 09 14 21.1 +2.2
baz=134
TPFO Pinon Flats 74.23 319 P P 09 14 21.2 +2.3
baz=134
PFO Pinyon Flats O 74.23 319 P P 09 14 21.0 +2.1
comp=Z,2.7nm,0.8s,baz=136,slow=6.4
comp=Z,2.7nm,0.8s
PFO Pinyon Flats O 74.23 319 P P 09 14 20.9 +1.9
baz=134
F33A 5 Mile Ranch, 74.45 339 IAmb IAmb 09 14 20.6
comp=Z,5.4nm,0.8s
O20A White River Ci 74.54 328 IAmb IAmb 09 14 23.5
comp=Z,6.4nm,0.8s
O20A White River Ci 74.54 328 P P 09 14 22.8 +2.1
baz=141
KNB Kanab 74.55 323 P P 09 14 23.1 +2.3
KNB IAmb IAmb 09 14 24.3
comp=Z,11nm,1.0s
GMRC Granite Mounta 74.57 320 P P 09 14 22.7 +1.9
baz=134,SNR=5.5
MURC Murrieta 74.67 318 P P 09 14 23.4 +2.0
baz=133
ELS Elsinore Mount 74.85 318 P P 09 14 24.7 +2.3
ELS IAmb IAmb 09 14 25.4
comp=Z,7.1nm,0.9s
SRU San Rafael Swe 74.89 326 IAmb IAmb 09 14 24.8
comp=Z,6.7nm,0.6s
EYMN Ely 74.92 343 P P 09 14 24.2 +1.8
baz=157
BBRC Big Bear Solar 74.96 319 P P 09 14 24.9 +1.7
baz=134
HEC Hector,Ludlow 75.00 320 P P 09 14 25.6 +2.4
baz=134
TUQ Turquoise Moun 75.18 320 P P 09 14 26.5 +2.2
baz=134
CCUT Cedar City 75.23 323 P P 09 14 26.8 +2.0
CCUT IAmb IAmb 09 14 28.4
comp=Z,6.7nm,0.8s
BFSC Mount Baldy Ra 75.39 318 P P 09 14 27.2 +1.7
baz=133
RDMU Red Mountain 75.52 328 IAmb IAmb 09 14 28.8
comp=Z,6.0nm,0.7s
GSC Goldstone, Bar 75.60 320 P P 09 14 29.2 +2.5
GSC Goldstone, Bar 75.60 320 P P 09 14 28.6 +1.9
baz=134
K22A Casper 75.72 331 P P 09 14 29.2 +1.9
baz=143
RSSD Black Hills 75.84 333 P P 09 14 28.2 +0.2
RSSD IAmb IAmb 09 14 30.4
comp=Z,5.7nm,0.8s
RSSD Black Hills 75.84 333 P P 09 14 29.4 +1.4
baz=145
SNCC San Nicolas Is 75.88 317 P P 09 14 29.7 +1.5
baz=132
B35A Bob, Littlefor 75.92 342 P P 09 14 28.3 +0.2
B35A IAmb IAmb 09 14 29.2
comp=Z,11nm,0.7s
EDW2 Edwards Air Fo 76.03 319 P P 09 14 30.5 +1.4
baz=133
PRN Pahroc Range 76.06 322 IAmb IAmb 09 14 32.9
comp=Z,8.6nm,1.2s
LRMC Laurel Mtn Rad 76.25 319 P P 09 14 31.9 +1.5
baz=133
TOA0 Torodi Ar. Sit 76.35 69 P P 09 14 30.1 -1.1
TOA0 IAmb IAmb 09 14 31.2
comp=Z,9.1nm,0.5s
TORD Torodi Ar. Bea 76.35 69 P P 09 14 30.7 -0.5
comp=Z,6.5nm,0.4s,baz=258,slow=5.7,SNR=94
comp=Z,6.5nm,0.4s
TPNV Topopah Spring 76.42 321 P P 09 14 33.4 +2.0
baz=134,SNR=6.0
FURC Furnace Creek, 76.44 321 P P 09 14 33.2 +2.0
baz=134
SCZ2 Santa Cruz Isl 76.44 317 P P 09 14 32.9 +1.5
baz=132
JLU Jordanelle 76.47 327 IAmb IAmb 09 14 34.1
comp=Z,4.1nm,0.6s
AGMN Agassiz Nation 76.49 340 IAmb IAmb 09 14 32.6
comp=Z,8.2nm,0.9s
AGMN Agassiz Nation 76.49 340 P P 09 14 31.7 +0.4
baz=153,SNR=6.2
MPMC Manual Prospec 76.53 320 P P 09 14 33.5 +1.4
baz=133
SPR3 Spring Creek 3 76.80 324 IAmb IAmb 09 14 35.9
comp=Z,3.3nm,0.7s
ISA Isabella, Lake 76.84 319 P P 09 14 36.2 +2.5
ISA Isabella, Lake 76.84 319 P P 09 14 35.8 +2.1
baz=133
DUG Dugway, Tooele 76.87 326 P P 09 14 35.9 +2.1
baz=138
R11A Troy Canyon, C 77.03 323 P P 09 14 36.8 +2.0
baz=135,SNR=6.8
CWC Cottonwood Cre 77.13 320 P P 09 14 37.0 +1.6
baz=133
PKM Mcpherson Peak 77.14 318 P P 09 14 37.3 +1.8
baz=132
BW06 Boulder Array 77.20 329 P P 09 14 37.0 +1.3
baz=140
PDAR Pinedale Array 77.20 329 P P 09 14 36.8 +1.1
comp=Z,1.3nm,0.5s,baz=131,slow=7.7,SNR=24
comp=Z,1.3nm,0.5s
HWUT Hardware Ranch 77.29 327 IAmb IAmb 09 14 39.5
comp=Z,5.7nm,0.6s
MDND Maddock 77.31 338 P P 09 14 36.9 +1.0

	baz=150,SNR=6.6						
VES	**Vestal, Richgr**	**77.33**	**319**	P	**P**	09 14 37.6	**+1.3**
	baz=132						
TSUM	**Tsumeb**	**77.47**	**106**	P	**P**	**09 14 36.1**	**-1.6**
TSUM				IAmb	IAmb	09 14 38.1	
	comp=Z,5.7nm,0.7s						
SMMC	**Simmler**	**77.53**	**318**	P	**P**	**09 14 39.7**	**+2.2**
	baz=132						
AHID	**Auburn Hatcher**	**77.93**	**328**	IAmb	IAmb	09 14 41.7	
	comp=Z,8.2nm,0.6s						
ULM	**Lac du Bonnet**	**78.23**	**341**	P	**P**	**09 14 41.1**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=154,slow=6.1,SNR=24						
	comp=Z,5.3nm,0.5s						
ULM	**Lac du Bonnet**	**78.23**	**341**	IAmb	IAmb	09 14 42.0	
	comp=Z,8.2nm,0.7s						
LOHW	**Long Hollow**	**78.34**	**329**	IAmb	IAmb	09 14 44.1	
	comp=Z,4.6nm,0.7s						
SCHQ	**Schefferville**	**78.44**	**360**	P	**P**	**09 14 42.3**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=208,slow=9.1,SNR=5.6						
	comp=Z,2.2nm,0.6s						
OMMB	**Old Mammoth Mi**	**78.47**	**320**	IAmb	IAmb	09 14 45.6	
	comp=Z,5.4nm,0.7s						
NVAR	**Mina Array Bea**	**78.62**	**321**	P	**P**	**09 14 45.0**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=145,slow=5.6,SNR=10						
	comp=Z,0.7nm,0.5s						
IMW	**Indian Meadow**	**78.71**	**329**	IAmb	IAmb	09 14 46.8	
	comp=Z,6.0nm,0.8s						
LAO	**LASA Array**	**78.83**	**334**	IAmb	IAmb	09 14 46.5	
	comp=Z,10.0nm,0.9s						
LAO	**LASA Array**	**78.83**	**334**	P	**P**	**09 14 45.5**	**+1.2**
	baz=144,SNR=6.0						
RLMT	**Red Lodge**	**78.89**	**331**	IAmb	IAmb	09 14 47.0	
	comp=Z,5.9nm,0.6s						
RLMT	**Red Lodge**	**78.89**	**331**	P	**P**	**09 14 46.6**	**+1.7**
	baz=141,SNR=7.2						
KVN	**Kaiserville**	**78.93**	**322**	IAmb	IAmb	09 14 47.6	
	comp=Z,5.3nm,0.7s						
YMR	**Madison River**	**79.31**	**330**	IAmb	IAmb	09 14 50.6	
	comp=Z,7.9nm,0.8s						
YHH	**Holmes Hill**	**79.35**	**330**	IAmb	IAmb	09 14 50.7	
	comp=Z,7.6nm,0.7s						
DGMT	**Dagmar**	**79.49**	**336**	P	**P**	**09 14 48.5**	**+0.7**
DGMT	**Dagmar**	**79.49**	**336**	P	**P**	**09 14 49.8**	**+2.0**
	baz=146,SNR=8.1						
YERR	**Yerington**	**79.53**	**321**	IAmb	IAmb	09 14 51.5	
	comp=Z,4.1nm,0.6s						
YHL	**Hebgen Lake**	**79.55**	**330**	IAmb	IAmb	09 14 51.4	
	comp=Z,4.9nm,0.6s						
PNTR	**Pine Nut**	**79.81**	**321**	IAmb	IAmb	09 14 53.1	
	comp=Z,8.4nm,0.8s						
PAHR	**Pah Rah Range**	**80.10**	**322**	IAmb	IAmb	09 14 54.5	
	comp=Z,7.4nm,0.9s						
HLID	**Hailey**	**80.15**	**327**	IAmb	IAmb	09 14 54.9	
	comp=Z,8.6nm,0.8s						
HLID	**Hailey**	**80.15**	**327**	P	**P**	**09 14 53.4**	**+1.7**
	baz=137,SNR=12						
MPK	**Martis Peak**	**80.20**	**321**	IAmb	IAmb	09 14 54.4	
	comp=Z,6.6nm,0.9s						
MCMT	**McKenzie Canyo**	**80.31**	**329**	P	**P**	**09 14 54.8**	**+2.2**
BOZ	**Bozeman (W)**	**80.32**	**330**	P	**P**	**09 14 54.1**	**+1.6**
	baz=139						
BOSA	**Boshof**	**80.58**	**117**	P	**P**	**09 14 54.1**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=251,slow=4.5,SNR=7.5						
	comp=Z,1.5nm,0.4s						
EGMT	**Eagleton**	**81.35**	**332**	IAmb	IAmb	09 14 59.7	
	comp=Z,9.3nm,0.9s						
EGMT	**Eagleton**	**81.35**	**332**	P	**P**	**09 14 58.5**	**+0.6**
	baz=141,SNR=6.5						
MAW	**Mawson**	**81.44**	**163**	P	**P**	**09 14 59.5**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=224,slow=7.6,SNR=10						
	comp=Z,1.6nm,0.5s						
PLID	**Pearl Lake**	**82.04**	**327**	P	**P**	**09 15 02.7**	**+1.0**
PLID				IAmb	IAmb	09 15 04.1	
	comp=Z,10nm,0.8s						
J08A	**Circle Bar Ran**	**82.09**	**325**	P	**P**	**09 15 03.1**	**+1.3**
J08A				IAmb	IAmb	09 15 04.1	
	comp=Z,6.2nm,0.7s						
MSO	**Missoula**	**82.31**	**329**	P	**P**	**09 15 04.3**	**+1.4**
	baz=138						
K05A	**Summer Lake**	**82.97**	**323**	IAmb	IAmb	09 15 09.3	
	comp=Z,1.1nm,0.8s						
F10A	**Beach Ranch, E**	**83.27**	**327**	IAmb	IAmb	09 15 14.2	
	comp=Z,5.0nm,0.6s						
YBH	**Yreka Blue Hor**	**83.34**	**321**	P	**P**	**09 15 08.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=104,slow=2.5						
	comp=Z,2.1nm,0.8s						
K04D	**Chiloquin, OR**	**83.38**	**323**	P	**P**	**09 15 09.7**	**+1.2**
	baz=131						
J05D	**Fort Rock, OR**	**83.53**	**323**	P	**P**	**09 15 10.5**	**+1.3**
	baz=132						
J04D	**Umpqua Nationa**	**83.98**	**323**	P	**P**	**09 15 13.3**	**+1.6**
	baz=131						
I05D	**Terrebonne, OR**	**84.28**	**324**	P	**P**	**09 15 14.7**	**+1.7**
	baz=132						
K02D	**Willamette Mer**	**84.50**	**322**	P	**P**	**09 15 15.5**	**+1.4**
	baz=130						
NEW	**Newport**	**84.84**	**329**	P	**P**	**09 15 17.4**	**+1.8**
	baz=135						
ESDC	**Sonsea Array**	**86.21**	**43**	P	**P**	**09 15 24.0**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=246,slow=4.8,SNR=5.1						
	comp=Z,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**94.14**	**340**	P	**P**	**09 15 59.6**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=136,slow=4.6,SNR=18						
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**128.60**	**204**	PKP	**PKPdf**	**09 21 47.7**	**0.0**
	comp=Z,1.4nm,0.6s,baz=133,slow=2.0,SNR=14						
WRA	**Warramunga Arr**	**131.78**	**207**	PKP	**PKPdf**	**09 21 54.1**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=158,slow=1.9,SNR=32						
WRA				SKPbc	**SKPbc**	**09 25 01.1**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=155,slow=3.4,SNR=27						
PETK	**Petropavlovsk-**	**135.69**	**323**	PKP	**PKiKP**	**09 22 01.4**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=89,slow=2.7,SNR=1.6						
ZALV	**Zalesovo Beam**	**143.24**	**28**	PKP	PKPbc	09 22 11.9	+0.6
	comp=Z,2.2nm,0.5s,baz=313,slow=5.0,SNR=9.1						
MKAR	**Makanchi Array**	**146.34**	**40**	PKPbc	**PKPbc**	**09 22 20.6**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=314,slow=2.6,SNR=30						
MJAR	**Matsushiro Arr**	**155.11**	**306**	PKPab	**PKPab**	**09 22 59.3**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=59,slow=4.5,SNR=4.0						
SONM	**Songino Array**	**155.54**	**11**	PKP	**PKPdf**	**09 22 31.4**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=2.4,slow=1.5,SNR=2.6						
SONM				PKPab	**PKPab**	**09 23 01.9**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=336,slow=3.2,SNR=1.9						
CMAR	**Chiang Mai Arr**	**165.61**	**110**	PKPab	**PKPab**	**09 23 45.6**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=249,slow=5.5,SNR=6.3						
PZH	**PanZhiHua**	**169.29**	**74**	PKP	**PKPdf**	**09 22 46.5**	**-1.2**

*IDC **07** 09:16:34.9±8.7, 15°.02N×91°.88W, h0km, mb3.4/2, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=196.8km s-min=53.3km az=16.0*
*MEX **07** 09:16:35.4±0.4, 14°.18N×92°.30W, h71km±15km, MD4.0*
*GCG **07** 09:16:35.5±0.7, 14°.24N×92°.25W, h70km±8km, MD3.7*

ISC 07 09:16:31.4±2.3, 14°.18N±0°.08×92°.35W±0°.05, h5km±14km, n19, σ1°21/33, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
THIG		**0.73**	**6**	*i* P		**Pn**	**09 16 49.2**	**+0.9**
THIG				*e*S		**Sn**	**09 16 59.5**	**-0.3**
STG3	**Santiaguito 3,**	**0.92**	**55**	*e*P		**Pn**	**09 16 52.3**	**+1.1**
CHUJ	**Union Juarez**	**0.94**	**14**	*i* P		**Pn**	**09 16 51.8**	**+0.3**
CHUJ				*e*S		**Sn**	**09 17 04.5**	**-0.8**
PATR	**El Naranjo**	**0.94**	**7**	*e*P		**Pn**	**09 16 51.8**	**+0.3**
PATR				*e*S		**Sn**	**09 17 04.7**	**-0.7**
PAVE	**Pavencul**	**1.02**	**9**	*e*P		**Pn**	**09 16 53.1**	**+0.5**
PAVE				*e*S		**Sn**	**09 17 07.1**	**-0.3**
FUG	**Fuego 3**	**1.48**	**79**	*e*P		**Pn**	**09 16 59.3**	**+0.5**
PCG	**Pacaya**	**1.70**	**83**	*e*P		**Pn**	**09 17 02.7**	**+0.8**
PCG				*e*S		**Sn**	**09 17 23.7**	**-0.5**
PCIG		**1.73**	**331**	*e*P		**Pn**	**09 17 02.3**	**+0.1**
PCIG				*i* S		**Sn**	**09 17 23.3**	**-1.4**
NBG	**Las Nubes**	**1.98**	**78**	*e*P		**Pb**	**09 17 07.9**	**-0.1**
NBG				*e*S		**Sn**	**09 17 31.4**	**+0.3**
CCIG	**Comitan**	**2.10**	**5**	*e*P		**Pg**	**09 17 11.6**	**-0.1**
CCIG				*e*S		**Sn**	**09 17 34.3**	**+0.3**
CARR	**Arriaga**	**2.55**	**324**	*e*P		**Pn**	**09 17 13.9**	**+0.4**
CARR				*e*S		**Sn**	**09 17 47.5**	**+2.6**
TGIG		**2.69**	**344**	*e*P		**Pn**	**09 17 17.1**	**+1.7**
TGIG				*e*S		**Sn**	**09 17 50.4**	**+2.0**
UXUV	**UXUV**	**3.57**	**331**	*e*P		**Pn**	**09 17 30.1**	**+2.6**
UXUV				*e*S		**Sn**	**09 18 08.6**	**-1.4**
CMIG	**Matias Romero**	**3.79**	**320**	Pn		**Pn**	**09 17 30.6**	**+0.1**
	1.9nm,0.3s,baz=140,slow=10,SNR=30							
CMIG				Sn		**Sn**	**09 18 15.5**	**0.0**
	6.2nm,0.3s,baz=90,slow=19,SNR=6.1							
	5.2nm,0.4s							
CMIG	**Matias Romero**	**3.79**	**320**	*e*P		**Pn**	**09 17 31.3**	**+0.8**
CMIG				*e*S		**Sn**	**09 18 13.8**	**-1.7**
NEUV	**Arroyo Zacate**	**4.84**	**317**	*e*P		**Pn**	**09 17 44.9**	**0.0**
NEUV				*e*S		**Sn**	**09 18 41.9**	**+0.5**
TXAR	**Lajitas Array**	**18.36**	**327**	P		**Pn**	**09 20 45.3**	**-1.8**
	baz=146,slow=13,SNR=1.5							
	0.1nm,0.4s							
NVAR	**Mina Array Bea**	**33.32**	**321**	P		**P**	**09 23 12.3**	**+1.8**
	0.2nm,0.6s,baz=131,slow=9.7,SNR=2.5							
	0.2nm,0.6s							
YKA	**Yellowknife Ar**	**50.77**	**347**	P		**P**	**09 25 30.8**	**-1.5**
	0.5nm,0.6s,baz=153,slow=6.6,SNR=2.2							
	0.5nm,0.6s							

WEL 07 09:18:07.5±1.2, 37°.5S±5°×17°.9E±°, h24km±12km, M3.7/37, ML3.9/49, MLv3.7/37, Error ellipse: s-maj=0.0km s-min=0.0km az=84.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MXZ	**Matakaoa Point**	**0.91**	**240**	P		Pb	09 18 23.3	-1.2
MXZ				S		Sb	09 18 34.8	-1.4
WMGZ	**Waiomatatini S**	**0.99**	**224**	P		Pb	09 18 26.6	+0.6
WMGZ				S		Sn	09 18 40.5	+1.2
PKGZ	**Pakihiroa**	**1.24**	**231**	P		Pn	09 18 29.7	+0.3
PKGZ				S		Sn	09 18 45.5	+0.1
PUZ	**Puketiti**	**1.26**	**220**	P		Pn	09 18 30.1	+0.4
PUZ				S		Sb	09 18 47.4	+0.9
HAZ	**Te Kaha**	**1.36**	**241**	P		Pn	09 18 30.3	-0.7
HAZ				S		Sb	09 18 49.8	+0.5
TWGZ	**Tauwhareparae**	**1.49**	**224**	P		Pn	09 18 32.4	+0.6
TWGZ				S		Sb	09 18 53.7	+0.7
RUGZ	**Raukumara Rang**	**1.54**	**236**	P		Pb	09 18 34.6	-0.9
CNGZ	**Carnagh Statio**	**1.62**	**212**	P		Pb	09 18 36.0	-0.7
WIZ	**White Island**	**1.73**	**255**	P		Pn	09 18 35.2	-0.9
TKGZ	**Te Karaka**	**1.75**	**220**	P		Pn	09 18 36.6	+0.2
MWZ	**Matawai**	**1.86**	**228**	P		Pn	09 18 38.3	+0.4
MWZ				S		Sn	09 18 59.7	-0.9
WHRZ	**Whale Island**	**1.99**	**247**	P		Pn	09 18 40.2	+0.6
RIGZ	**Rimuhau**	**2.00**	**217**	P		Pn	09 18 40.1	+0.3
RIGZ				S		Sn	09 19 04.1	-0.1
RAGZ	**Rawiri**	**2.03**	**227**	P		Pn	09 18 40.7	+0.4
URZ	**Urewera**	**2.08**	**236**	P		Pn	09 18 41.3	+0.5
URZ				S		Sn	09 19 05.5	-0.5
PRGZ	**Paritu Road**	**2.12**	**211**	P		Pn	09 18 41.7	+0.1
SNGZ	**Shannon Statio**	**2.27**	**222**	P		Pn	09 18 43.6	0.0
KNZ	**Kokohu**	**2.30**	**213**	P		Pn	09 18 43.3	-0.5
OPRZ	**Ohinepanea**	**2.30**	**251**	P		Pn	09 18 43.5	-0.4
MHGZ	**Mahia Peninsul**	**2.31**	**208**	P		Pn	09 18 44.4	+0.3
RTZ	**Ruatahuna**	**2.37**	**230**	P		Pn	09 18 45.2	+0.3
MUGZ	**Murupara**	**2.42**	**235**	P		Pn	09 18 46.0	+0.4
TARZ	**Mount Tarawera**	**2.48**	**242**	P		Pn	09 18 47.3	+0.8
TGRZ	**Tauranga**	**2.49**	**255**	P		Pn	09 18 46.4	-0.2
RAHZ	**Arahi**	**2.51**	**223**	P		Pn	09 18 46.8	0.0
RRRZ	**Republican Roa**	**2.52**	**240**	P		Pn	09 18 47.3	+0.3
OMRZ	**Omania**	**2.52**	**246**	P		Pn	09 18 47.8	+0.7
WHHZ	**Waihua**	**2.55**	**219**	P		Pn	09 18 47.3	0.0
KARZ	**Kaharoa**	**2.59**	**249**	P		Pn	09 18 48.1	+0.2
MTHZ	**Maungataniwha**	**2.60**	**227**	P		Pn	09 18 48.9	+0.7
HSRZ	**Hossack Road**	**2.70**	**243**	P		Pn	09 18 50.4	+1.0
ALRZ	**Allen Road**	**2.75**	**237**	P		Pn	09 18 50.1	0.0
KMRZ	**Kaimai**	**2.77**	**254**	P		Pn	09 18 50.2	-0.2
NMHZ	**Naumai**	**2.79**	**224**	P		Pn	09 18 50.9	+0.2
ARHZ	**Aropaoanui**	**2.81**	**219**	P		Pn	09 18 50.8	-0.2
MRHZ	**Matea Rd**	**2.85**	**232**	P		Pn	09 18 51.4	-0.1
KUZ	**Kuaotunu**	**2.89**	**276**	P		Pn	09 18 50.5	-1.4
BKZ	**Black Stump Fm**	**3.02**	**226**	P		Pn	09 18 53.4	-0.3
KUTZ	**Kaahu Road**	**3.07**	**242**	P		Pn	09 18 55.3	+0.7
CKHZ	**Cape Kidnapper**	**3.08**	**214**	P		Pn	09 18 53.7	-0.9
TOZ	**Tahuroa Road**	**3.08**	**257**	P		Pn	09 18 53.8	-0.8
MCHZ	**McNeill Hill**	**3.10**	**220**	P		Pn	09 18 54.7	-0.2
GRZ	**Great Barrier**	**3.20**	**284**	P		Pn	09 18 56.3	0.0
KAHZ	**Kahuranaki**	**3.28**	**215**	P		Pn	09 18 56.3	-1.2
MKAZ	**Moumakai**	**3.30**	**269**	P		Pn	09 18 56.8	-0.9
ETVZ	**East Tongariro**	**3.47**	**233**	P		Pn	09 19 00.1	0.0
PXZ	**Pawanui**	**3.48**	**212**	P		Pn	09 18 58.4	-1.8
KRVZ	**Karewarewa**	**3.50**	**234**	P		Pn	09 19 00.1	-0.4
ETAZ	**East Tamaki Re**	**3.50**	**271**	P		Pn	09 19 00.4	+0.1
NNVZ	**North Ngauruho**	**3.53**	**234**	P		Pn	09 19 01.2	+0.2
MBAZ	**Motutapu North**	**3.54**	**274**	P		Pn	09 19 00.9	-0.1
WTVZ	**West Tongariro**	**3.54**	**234**	P		Pn	09 19 01.4	+0.3
NGZ	**Ngauruhoe**	**3.57**	**234**	P		Pn	09 19 01.1	-0.4
MOVZ	**Moawhango**	**3.61**	**229**	P		Pn	09 19 01.2	-0.8
ABAZ	**Army Bay**	**3.62**	**277**	P		Pn	09 19 02.7	+0.7
WPHZ	**Waipukurau**	**3.70**	**216**	P		Pn	09 19 01.5	-1.7
AWAZ	**Awhitu Peninsu**	**3.72**	**269**	P		Pn	09 19 03.7	+0.3
PRHZ	**Porangahau**	**3.78**	**213**	P		Pn	09 19 02.2	-2.0
HIZ	**Hauiti**	**3.78**	**247**	P		Pn	09 19 05.2	+0.9
RVAZ	**Riverhead Bore**	**3.79**	**274**	P		Pn	09 19 04.6	+0.1
PKVZ	**Pokaka**	**3.79**	**234**	P		Pn	09 19 04.9	+0.4
WCZ	**Waipu Caves**	**4.15**	**285**	P		Pn	09 19 09.3	-0.1
WAZ	**Wanganui**	**4.29**	**231**	P		Pn	09 19 11.5	+0.2
PRWZ	**Pori Road**	**4.31**	**216**	P		Pn	09 19 09.8	-1.8
LREZ	**Lake Rotokare**	**4.51**	**237**	P		Pn	09 19 15.4	+1.1
OUZ	**Omahuta**	**4.98**	**291**	P		Pn	09 19 21.6	+0.8

*IDC **07** 09:30:41.0±3.5, 2°.74N×127°.22E, h0km, mb3.7/4, mbtmp3.7/4, MS3.5/3, Error ellipse: s-maj=116.0km s-min=58.9km az=81.0*
*DJA **07** 09:30:51.6±1.4, 3°.N±3°×12°.7E±°, h28km±13km, M3.5/5, MLv3.5/5*

ISC 07 09:30:48.1±1.5, 2°.8N±0°.1×127°.4E±0°.1, h49km, n10, σ1°75/10, mb3.7/3, MS3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
TNTI	**Ternate**	**2.02**	**181**	P		**Pn**	**09 31 23.0**	**+3.2**
TNTI				S		**Sn**	**09 31 44.3**	**+0.4**
SGSI	**Sangihe**	**2.05**	**295**	P		**Pn**	**09 31 22.1**	**+2.0**
SGSI				S		**Sn**	**09 31 45.3**	**+0.7**
GTOI	**Gorontalo**	**4.88**	**244**	P		**Pn**	**09 31 58.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.85**	**185**	P		**P**	**09 35 24.6**	**-1.3**
	0.6nm,0.5s,baz=5.3,slow=11,SNR=1.2							
	0.6nm,0.5s							
PMG	**Port Moresby**	**23.14**	**122**	LR		LR	09 46 43.3	
	comp=Z,60nm,19.1s,baz=122,slow=41							
WRA	**Warramunga Arr**	**23.62**	**163**	P		**P**	**09 35 53.3**	**-1.6**
	2.0nm,0.7s,baz=341,slow=10,SNR=40							
	2.0nm,0.7s							
ASAR	**Alice Springs**	**27.07**	**167**	P		**P**	**09 36 25.0**	**-1.2**
	0.2nm,0.3s,baz=341,slow=11,SNR=7.1							
ASAR				PcP		**PcP**	**09 39 46.7**	**+0.1**
	0.3nm,0.8s,baz=357,slow=3.2,SNR=1.7							
	0.2nm,0.3s							
STKA	**Stephens Creek**	**37.04**	**160**	P		**P**	**09 37 52.5**	**-0.8**
	1.8nm,0.6s,baz=326,slow=9.1,SNR=7.6							
	1.8nm,0.6s							
GNI	**Garni**	**82.58**	**310**	LR		LR	10 25 39.7	
	comp=Z,25nm,19.7s,baz=245,slow=40							
AKASG	**Malin Array Be**	**93.02**	**321**	LR		LR	10 28 43.4	
	comp=Z,30nm,19.5s,baz=54,slow=38							

IDC 07 09:33:11.4±3.3, 53°.65N×87°.95E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=29.5km s-min=19.1km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**281**	*i*			09 45 50.0	
	baz=97,slow=327,SNR=1.0							
ZALV	**Zalesovo Beam**	**1.88**	**281**	Pn		Pn	09 33 44.9	0.0
	2.2nm,0.3s,baz=101,slow=13,SNR=12							
ZALV				Lg		Lg	09 34 10.4	
	3.5nm,0.3s,baz=94,slow=34,SNR=11							
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn		Pn	09 34 49.8	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=3.5							
KURBB				Lg		Lg	09 36 40.4	
	baz=62,slow=31							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**7.76**	**210**	Pn		Pn	09 35 06.5	+0.9
	0.1nm,0.3s,baz=27,slow=13,SNR=3.0							
MKAR				Lg		Lg	09 37 15.6	
	0.1nm,0.3s,baz=30,slow=35,SNR=6.5							
	0.2nm,0.4s							

*NNC **07** 09:34:46.2±1.2, 50°.51N×74°.61E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=15.5km s-min=5.9km az=22.0, Suspected Mining explosion.*
*IDC **07** 09:34:54.1±1.1, 51°.73N×75°.64E, h0km, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=33.1km s-min=8.5km az=31.0*

ISC 07 09:34:46.5±1.2, 50°.5N±0°.1×74°.63E±0°.07, h0km, n11, σ2°20/13, 8C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
KURBB	**Kurchatov Arra**	**2.49**	**85**	Pg		**Pb**	**09 35 32.5**	**+0.4**
	0.5nm,0.3s,baz=304,slow=19,SNR=25							
KURBB				Lg		Lg	09 36 00.3	
	0.8nm,0.3s,baz=307,slow=31,SNR=4.7							
KURBB	**Kurchatov Arra**	**2.49**	**85**	⇑Pn		**Pn**	**09 35 27.8**	**-0.5**
	2.1nm,0.2s							
KURBB				⇑Sn		**Sn**	**09 36 00.9**	**+1.5**
	27nm,0.6s							
KURK	**Kurchatov**	**2.56**	**83**	⇑Pn		**Pn**	**09 35 29.5**	**+0.4**
	2.2nm,0.6s							
KURK				⇓Sn		**Sn**	**09 36 01.5**	**+0.5**
	6.4nm,0.4s							
BVA0	**Borovoye Array**	**3.67**	**316**	⇓Pg		**Pb**	**09 35 52.7**	**+0.5**
	1.6nm,0.6s,baz=115,slow=16,SNR=4.3							
BVA0				⇑Lg		Lg	09 36 42.1	
	5.1nm,0.9s,baz=112,slow=25,SNR=6.8							
BVAR	**Borovoye Array**	**3.67**	**316**	Pn		**Pb**	**09 35 48.5**	**-3.6**
	0.3nm,0.3s,baz=106,slow=15,SNR=3.9							
BVAR				Sn		**Sn**	**09 36 31.2**	**+2.8**
	0.3nm,0.3s,baz=111,slow=24,SNR=3.2							
	1.1nm,0.5s							
BRVK	**Borovoye**	**3.74**	**315**	⇓Pg		**Pb**	**09 35 52.7**	**-0.6**
	2.6nm,0.8s							
BRVK				⇑Lg		Lg	09 36 44.2	
	4.0nm,0.6s							
MAKZ	**Makanchi**	**6.10**	**124**	⇓Sn		**Sn**	**09 37 28.2**	**-0.1**
	3.5nm,1.0s							
MAKZ				⇑Lg		Lg	09 37 59.7	
	2.8nm,0.8s							
MK31	**Makanchi Array**	**6.28**	**123**	⇓Pn		**Pn**	**09 36 22.9**	**+2.6**
	0.4nm,0.5s							
MK31				⇑Sn		**Sn**	**09 37 33.0**	**+0.3**
	0.5nm,0.5s							
MK31				⇑Lg		Lg	09 38 05.6	
	1.2nm,0.5s,baz=311,slow=24,SNR=6.8							
MKAR	**Makanchi Array**	**6.28**	**123**	Pn		Pb	09 36 31.5	-5.0
	0.1nm,0.3s,baz=316,slow=12,SNR=2.8							
MKAR				Sn		**Sb**	**09 37 48.1**	**-4.1**
	0.2nm,0.3s,baz=318,slow=21,SNR=2.4							
MKAR				Lg		Lg	09 38 21.7	
	0.4nm,0.3s,baz=322,slow=26,SNR=8.4							
	0.2nm,0.5s							
I46RU	**ZALESOVO INFRA**	**7.16**	**57**	*i*			10 13 40.0	
	baz=254,slow=313,SNR=1.0							
ZALV	**Zalesovo Beam**	**7.16**	**57**	Pn		Pn	09 36 25.6	-6.8
	0.6nm,0.3s,baz=254,slow=17,SNR=3.4							
	1.1nm,0.3s							

*BJI **07** 09:42:01.1±0.0, 42°.63N×142°.88E, h119km, mb4.7/52, mB4.8/28*
*MOS **07** 09:42:02.3±0.9, 42°.50N×142°.61E, h112km, mb5.1/54, MS3.3/5, Error ellipse: s-maj=5.8km s-min=4.0km az=113.5*
*SKHL **07** 09:42:03.6±0.3, 42°.50N×142°.70E, h117km±7km, mb5.5/6, msha6.0/3*
*JMA **07** 09:42:03.7±0.2, 42°.5N±0°.6×142°.7E±0°.8, h110km±1km, MD4.7/40, MW4.8/40, HIDAKA REGION*
JMA Felt III J1 at HIDAKA REGION .
*IDC **07** 09:42:03.6±0.6, 42°.48N×142°.58E, h108km±4km, mb4.6/50, mbtmp5.0/51, MS3.4/20, Error ellipse: s-maj=9.3km s-min=8.8km az=149.0*
*NIED **07** 09:42:03.7, 42°.49N×142°.68E, h110km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr=-0.79; Mθθ 1.00; Mϕϕ -0.21; Mrθ 1.04; Mθϕ -0.27; Mϕr 0.34; Fault plane solution: Mo 1.45000×10^16 NP1: ϕs 128.00000°, δ 27.00000°, λ -44.00000°. NP2: ϕs 259.00000°, δ 72.00000°, λ -110.00000°.*
*NEIC **07** 09:42:03.5±2.0,

JHR ⇓eS Sn 09 42 50.4 +1.5
JHR Hokuryu 1.46 333 A A 09 42 30.0
comp=E,37nm,1.9s,comp=E,72nm,1.3s
JAHD Aomorihigashid 1.53 220 A A 09 42 31.9
comp=E,55nm,0.6s,comp=E,84nm,0.5s
JOT Ohata 1.59 229 P Pn 09 42 30.3 -0.4
JOT eS Sn 09 42 50.1 -1.7
JOT Ohata 1.59 229 A A 09 42 30.3
comp=E,17nm,0.6s,comp=E,27nm,2.2s
JAK Akkeshi 1.61 69 eP Pn 09 42 31.5 +0.6
JAK eS Sn 09 42 51.8 -0.4
JAK Akkeshi 1.61 69 A A 09 42 31.5
comp=E,28nm,0.6s,comp=E,28nm,0.6s
JMP Maruseppu 1.65 18 A A 09 42 31.9
comp=E,13nm,0.8s,comp=E,32nm,2.2s
ASAJ Asahikawa 1.67 359 A A 09 42 32.3
comp=E,19nm,0.9s,comp=E,28nm,0.9s
JKA Kamikawa-asahi 1.67 359 Sn Sn 09 42 55.0 +1.6
JYM2 Yakumo 2 1.71 260 A A 09 42 34.0
comp=E,6.0nm,2.7s,comp=E,10.0nm,2.7s
AKK Akkeshi 1.72 70 iP Pn 09 42 32.7 +0.5
AKK iS Sn 09 42 53.9 -0.7
JARK Aomorirokkasho 1.73 214 A A 09 42 34.3
comp=E,14nm,2.9s,comp=E,14nm,0.5s
JTKR Abashiri--Toko 1.78 31 P Pn 09 42 34.2 +1.2
JTKR eS Sn 09 42 57.0 +1.1
JTKR Abashiri--Toko 1.78 31 A A 09 42 34.2
comp=E,22nm,1.4s,comp=E,21nm,2.8s
JSK Shakotan 1.83 300 A A 09 42 35.0
comp=E,10.0nm,1.5s,comp=E,10.0nm,0.8s
JSR Shiriuchi 1.89 242 A A 09 42 36.4
comp=E,6.0nm,1.1s,comp=E,9.0nm,4.1s
JNK Nakash 1.90 53 A A 09 42 35.2
comp=E,14nm,0.5s,comp=E,12nm,0.7s
JSH Shimam 1.93 277 A A 09 42 36.5
comp=E,6.0nm,1.3s,comp=E,13nm,3.6s
JKHN Kushirohamanak 1.96 70 A A 09 42 36.0
comp=E,16nm,0.7s,comp=E,12nm,2.8s
JSS Shosan 2.03 344 A A 09 42 37.1
comp=E,13nm,3.4s,comp=E,43nm,0.8s
JTM Tenmabayashi 2.04 216 Pn 09 42 35.6 -0.6
JTM Tenmabayashi 2.04 216 A A 09 42 38.3
comp=E,9.0nm,1.3s,comp=E,7.0nm,3.1s
JHST Hiyamasetana 2.04 270 A A 09 42 38.1
comp=E,30nm,0.8s,comp=E,23nm,1.5s
JYG Yagishiri 2.17 336 A A 09 42 38.9
comp=E,12nm,1.2s,comp=E,13nm,0.8s
JOMM Oshimamatsumae 2.17 246 A A 09 42 39.9
comp=E,6.0nm,2.7s,comp=E,13nm,2.0s
JSI2 Shiura 2 2.17 231 A A 09 42 40.0
comp=E,19nm,0.8s,comp=E,23nm,0.9s
JNSB Nemuroshibetsu 2.18 52 A A 09 42 38.8
comp=E,29nm,3.0s,comp=E,33nm,1.5s
JANG Nango 2.24 203 A A 09 42 40.9
comp=E,6.0nm,1.3s,comp=E,7.0nm,0.8s
JKEN Kujiedanarisaw 2.35 198 A A 09 42 42.4
comp=E,17nm,0.9s,comp=E,15nm,0.6s
JRA Rausu 2.35 50 A A 09 42 40.9
comp=E,12nm,1.6s,comp=E,14nm,2.2s
JOSM Okushiri--Mats 2.38 262 A A 09 42 42.6
comp=E,14nm,1.2s,comp=E,9.0nm,2.8s
NMR Nemuro--Hokkai 2.45 67⇑iPN Pn 09 42 41.6 +0.1
NMR eS Sn 09 43 09.4 -1.8
NMR Nemuro--Hokkai 2.45 67 eP Pn 09 42 41.6 +0.1
NMR eS Sn 09 43 09.4 -1.8
NEM2 Nemuro 2 2.46 67 A A 09 42 42.5
comp=E,7.0nm,0.9s,comp=E,8.0nm,0.8s
JHHS Hirosakihyakuz 2.48 224 A A 09 42 44.1
comp=E,17nm,1.3s,comp=E,17nm,2.5s
JSE Soyaes 2.51 359 A A 09 42 43.2
comp=E,9.0nm,3.3s,comp=E,8.0nm,7.2s
RUSJ Misakicho 2.52 48⇑iPN Pn 09 42 44.2 +1.7
RUSJ eS Sn 09 43 16.2 +3.3
JKZ Kuzumaki 2.65 202 A A 09 42 46.4
comp=E,6.0nm,2.2s,comp=E,6.0nm,0.7s
JIW Iwasaki 2.71 228 A A 09 42 47.2
comp=E,7.0nm,1.5s,comp=E,6.0nm,3.1s
JAH Hinai 2.71 214 A A 09 42 47.3
comp=E,6.0nm,5.4s,comp=E,9.0nm,1.7s
YUK Yuzh-Kuril'sk 2.84 55ciPN Pn 09 42 47.9 +1.2
YUK iS Sn 09 43 20.9 +0.6
YUK pmax pmax
comp=N,302nm,0.3s
YUK pmax pmax
comp=E,292nm,0.3s
YUK pmax pmax
comp=Z,3μm,0.3s
YUK smax smax
comp=N,17μm,0.5s
YUK smax smax
comp=E,13μm,0.5s
YUK Yuzh-Kuril'sk 2.84 55 iP Pn 09 42 48.1 +1.4
YUK AMB AMB 09 42 48.8
comp=E,300nm,0.3s
YUK iS Sn 09 43 21.4 +1.1
YUK A A 09 43 22.1
comp=E,2μm,0.5s
YUK A A 09 43 22.1
comp=E,1μm,0.5s
JNTW Noshirotokiwa 2.86 221 A A 09 42 49.3
comp=E,13nm,4.6s,comp=E,12nm,2.9s
JOM Ohasama 3.14 199 A A 09 42 53.0
comp=E,4.0nm,1.2s,comp=E,6.0nm,0.6s
JRG Rokugo 3.41 207 A A 09 42 56.6
comp=E,5.0nm,1.7s,comp=E,5.0nm,2.5s
JYW Yuwa 3.44 213 A A 09 42 57.1
comp=E,7.0nm,2.9s,comp=E,11nm,2.0s
OFUJ Ofunato 3.44 193 A A 09 42 57.1
comp=E,4.0nm,4.4s,comp=E,3.0nm,0.9s
JOG3 Oga3 3.69 228 A A 09 42 55.3
comp=E,5.0nm,2.4s,comp=E,5.0nm,3.1s
JYYZ Yamagatayuza 4.00 212 A A 09 43 04.7
comp=E,6.0nm,3.8s,comp=E,7.0nm,4.1s
JOU Okura 4.35 201 A A 09 43 09.5
comp=E,5.0nm,1.1s,comp=E,6.0nm,1.1s
JYA Atsumi 4.45 211 A A 09 43 10.9
comp=E,4.0nm,0.7s,comp=E,7.0nm,1.1s
YSS Yuzh-Sakhalins 4.51 1 Pn Pn 09 43 10.8 +1.8
YSS Yuzh-Sakhalins 4.51 1dePN Pn 09 43 10.7 +1.8
YSS eS Sn 09 44 02.0 +1.7
YSS pmax pmax
comp=Z,2μm,0.9s
YSS pmax pmax
comp=N,1μm,0.8s
YSS smax smax
comp=E,370nm,1.2s
YSS smax smax
comp=N,4μm,2.3s
YSS smax smax
comp=E,3.0nm,2.8s
YSS MLR MLR
comp=Z,1μm,12.3s
YSS Yuzh-Sakhalins 4.51 1 eP Pn 09 43 10.5 +1.6
YSS AMB AMB 09 43 11.8
comp=Z,1μm,0.6s
YSS eS Sn 09 44 01.6 +1.3
YSS A A 09 44 05.3
comp=Z,180nm,0.7s
YSS A A 09 44 05.3
comp=Z,200nm,0.7s
KUR Kuril'sk 4.70 52⇑iPN Pn 09 43 13.0 +1.4
KUR iS Sn 09 44 06.8 +2.0
KUR pmax pmax
comp=Z,733nm,0.7s
KUR pmax pmax
comp=N,104nm,0.4s
KUR pmax pmax
comp=E,177nm,0.7s
KUR smax smax
comp=N,985nm,0.4s
KUR smax smax
comp=E,368nm,0.3s
KUR Kuril'sk 4.70 52 iP Pn 09 43 12.9 +1.4
KUR AMB AMB 09 43 14.4
comp=E,730nm,0.5s
KUR iS Sn 09 44 06.6 +1.8
KUR A A 09 44 14.0
comp=E,990nm,0.4s
KUR A A 09 44 14.0
comp=E,370nm,0.4s
JMM Marumori 4.79 198 Pn 09 43 10.9 -1.9
JSD Sado 5.53 219 Pn Pn 09 43 22.6 -0.3
JYT Yasato 6.49 198 Pn Pn 09 43 32.4 -3.5
UGL Uglegorsk 6.64 357 ePN Pn 09 43 38.5 +0.7
UGL eS Sn 09 44 52.7 +0.7
UGL pmax pmax
comp=Z,270nm,0.8s
UGL smax smax
comp=N,160nm,0.9s
UGL smax smax
comp=E,120nm,0.9s
UGL Uglegorsk 6.64 357 eP Pn 09 43 38.5 +0.7
UGL AMB AMB 09 43 39.3
comp=Z,270nm,0.8s
MAJO Matsushiro 6.82 212 Pn Pn 09 43 40.4 0.0
MAJO Matsushiro 6.82 212ciPN Pn 09 43 40.1 -0.3
MJAR Matsushiro Arr 6.82 212 P Pn 09 43 38.0 -2.4
comp=E,143nm,0.9s,baz=18,slow=15,SNR=74
MJAR S Sn 09 44 55.9 -0.6
comp=E,8.7nm,0.6s,baz=24,slow=26,SNR=1.1
MJAR LR LR 09 47 14.7
comp=E,201nm,19.6s,baz=29,slow=46
VLA Vladivostok 7.94 278 iPN Pn 09 43 55.3 -0.2
VLA pmax pmax
comp=Z,10.0nm,0.2s
VLA Vladivostok 7.94 278 eP Pn 09 43 55.3 -0.2
USA0B Ussuriysk Arra 7.96 286 Pn Pn 09 43 57.8 +2.0
USA0B Ussuriysk Arra 7.96 286 PN Pn 09 43 57.8 +2.0
USRK Ussuriysk Ar. 7.96 286 P Pn 09 43 56.6 +0.9
comp=Z,18nm,0.6s,baz=87,slow=14,SNR=37
USRK S Sn 09 45 21.0 -3.1
comp=Z,6.2nm,0.7s,baz=87,slow=28,SNR=1.3
USRK Ussuriysk Ar. 7.96 286 Pn Pn 09 43 57.2 +1.4
JGF Kuroka 7.97 213 Pn Pn 09 43 55.8 -0.3
INU Inuyama 8.33 214 Pn Pn 09 44 00.3 -0.6
TYV Tymovskoe 8.42 0 ePN Pn 09 44 03.0 +1.1
TYV eS Sn 09 45 41.3 +6.2
TYV pmax pmax
comp=Z,800nm,4.9s
TYV pmax pmax
comp=Z,116nm,0.8s
TYV smax smax
comp=N,27nm,1.1s
TYV smax smax
comp=E,33nm,1.1s
TYV smax smax
comp=E,200nm,3.0s
TYV Tymovskoe 8.42 0 eP Pn 09 44 03.0 +1.1
TYV AMB AMB 09 44 04.5
comp=E,120nm,0.8s
MSHR Mys Shultsa 8.48 275 iPN Pn 09 44 03.1 +0.2
MSHR pmax pmax
comp=Z,18nm,0.8s
GRNR Gornyy 9.35 335⇑iPN Pn 09 44 15.4 +0.8
GRNR eS Sn 09 46 00.7 +2.8
GRNR pmax pmax
comp=N,30nm,1.0s
GRNR pmax pmax
comp=E,20nm,1.0s
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR smax smax
comp=E,10.0nm,0.8s
GRNR MLR MLR
comp=E,220nm,13.0s
GRNR MLR MLR
comp=N,170nm,12.0s
GRNR MLR MLR
comp=Z,270nm,10.0s
GRNR Gornyy 9.35 335 eP Pn 09 44 15.4 +0.8
GRNR AMB AMB 09 44 16.7
comp=Z,30nm,0.9s
JHJ Hachijo jima 2 9.58 195 P Pn 09 44 13.7 -4.2
comp=Z,150nm,0.3s,baz=354,slow=19,SNR=34
JHJ S Sn 09 45 53.4 -10
comp=Z,130nm,0.3s,baz=103,slow=24,SNR=8.6
JHJ2 Mitsune 9.58 194 Pn Pn 09 44 14.1 -3.7
MDJ Mudanjiang 9.72 287 Pn Pn 09 44 20.5 +0.9
MDJ Mudanjiang 9.72 287 P Pn 09 44 21.6 +2.0
MDJ pmax pmax
comp=Z,17nm,0.8s
MDJ pmax pmax
comp=Z,170nm,3.5s
MDJ LR LR
comp=Z,330nm,10.2s
MDJ LR LR
comp=Z,220nm,9.6s
MDJ LR LR
comp=Z,420nm,10.0s
KLR Kul'dur 10.18 316cePN Pn 09 44 25.8 0.0
KLR pmax pmax
comp=Z,45nm,1.3s
KLR Kul'dur 10.18 316 eP Pn 09 44 25.8 0.0
JHS Saijyo 10.51 228 Pn 09 44 30.3 -0.2
JMN Monobe 11.10 221 Pn Pn 09 44 36.4 -2.1
OKH Okha 11.11 1dePN Pn 09 44 37.4 -1.0
OKH eS Sn 09 46 41.1 +0.7
OKH pmax pmax
comp=Z,100nm,8.9s
OKH smax smax
comp=N,100nm,16.8s
OKH MLR MLR
comp=Z,100nm,16.0s
OKH MLR MLR
comp=N,200nm,18.0s
OKH MLR MLR
comp=E,300nm,14.0s
OKH Okha 11.11 1 eP Pn 09 44 40.4 +2.0
OKH AMB AMB 09 44 42.5
comp=E,120nm,0.7s
BNX BinXian 11.44 292⇓P Pn 09 44 42.8 0.0
BNX pmax pmax
comp=E,10.0nm,0.9s
BNX pmax pmax
comp=E,100nm,3.6s
SEHB SEOHWA 11.74 254 Pn Pn 09 44 47.0 +0.1
KSRS Korea Array 12.34 251 P Pn 09 44 54.8 -0.1
comp=E,2.9nm,0.9s,baz=63,slow=12,SNR=10.0
KSRS LR LR 09 48 38.4
comp=E,66nm,20.3s,baz=120,slow=32
KS19 Wonju Array Si 12.36 251 Pn Pn 09 44 54.2 -0.8
SKR Severo-Kuril's 12.39 44 ePN Pn 09 44 54.0 -1.3
SKR pmax pmax
comp=Z,112nm,1.0s
SKR MLR MLR
comp=Z,100nm,12.0s
SKR Severo-Kuril's 12.39 44 eP Pn 09 44 55.3 0.0
KSCHJ Chungju 12.59 249 Pn Pn 09 44 58.6 +0.5
CN2 Changchun 12.63 282 eP Pn 09 44 58.2 -0.5
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
JTU Tsushima 13.03 237 Pn Pn 09 45 04.8 +0.8
PAU Pauzhetka 13.21 42 eP Pn 09 45 04.3 -1.8
TJN Taejon 13.27 248 Pn Pn 09 45 09.4 +2.4
TJN Taejon 13.27 248 iPN Pn 09 45 07.9 +0.9
NAWB Namwon 13.77 244 Pn Pn 09 45 13.9 +0.3
PEA0B Petropavlovsk- 14.67 38 Pn Pn 09 45 22.6 -2.3
PEA0B Petropavlovsk- 14.67 38ceP Pn 09 45 22.1 -2.8
PETK Petropavlovsk- 14.67 38 P Pn 09 45 21.4 -3.6
comp=Z,24nm,0.6s,baz=220,slow=9.1,SNR=68
PETK LR LR 09 50 45.1
comp=Z,141nm,21.4s,baz=249,slow=36
PET Petropavlovsk 15.06 40 Pn Pn 09 45 28.2 -1.6
PET Petropavlovsk 15.06 40 iP Pn 09 45 28.7 -1.2
PET pmax pmax
comp=Z,17nm,0.3s
PET Petropavlovsk 15.06 40 eP Pn 09 45 29.5 -0.4
ZEA Zeya 15.23 323 eP Pn 09 45 31.3 -0.7
ZEA e 09 48 22.1
ZEA pmax pmax
comp=Z,100nm,1.3s
ZEA pmax pmax
comp=E,50nm,0.6s
ZEA pmax pmax
comp=N,60nm,0.8s
ZEA pmax pmax
comp=Z,90nm,0.7s
ZEA MLR MLR
comp=Z,200nm,12.0s
ZEA Zeya 15.23 323 eP Pn 09 45 30.4 -1.6
ZEA AMB AMB 09 45 34.4
comp=Z,90nm,0.7s
JCJ Chichijima 15.32 182 P Pn 09 45 29.8 -3.6
comp=Z,108nm,0.4s,baz=346,slow=9.1,SNR=27
JCJ S Sn 09 48 09.7 -13
comp=Z,53nm,0.4s,baz=319,slow=22,SNR=6.2
JCJ Chichijima 15.32 182 Pn Pn 09 45 30.5 -2.8
HIA Hailar 17.31 301 P 09 45 56.0 -1.5
HIA Hailar 17.31 301 P P 09 45 56.0 -1.5
MA2 Magadan 17.87 14 P P 09 46 00.6 -2.9
comp=Z,155nm,0.8s,baz=199,slow=10.0,SNR=92
MA2 LR LR 09 53 05.9
comp=Z,102nm,20.1s,baz=200,slow=37
MA2 Magadan 17.87 14 P P 09 46 02.4 -1.1
MA2 Magadan 17.87 14ceP P 09 46 02.6 -0.9
MA2 pmax pmax
comp=Z,515nm,1.7s
MA2 Magadan 17.87 14 eP P 09 46 02.6 -0.9
KBG Krutoberegovo 18.92 36 eP P 09 46 14.3 -0.7
XLT XiLinHaoTe 19.40 283 eP Pn 09 46 24.2 +1.5
XLT pP pP 09 46 41.6 +1.0
XLT S Sn 09 50 00.2 -0.4
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,110nm,5.4s
XLT LR LR
comp=Z,160nm,11.3s
XLT LR LR
comp=Z,150nm,12.0s
BJI Beijing 20.02 272 P P 09 46 26.7 -0.4
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJT Baijiatuau 20.03 272 P P 09 46 25.5 -1.7
BJT Baijiatuau 20.03 272 P P 09 46 25.5 -1.7
YAK Yakutsk 21.08 343 P P 09 46 35.3 -2.9
comp=Z,49nm,0.4s,baz=149,slow=1.2,SNR=25
YAK Yakutsk 21.08 343 eP P 09 46 33.7 -4.5
YAK eS S 09 50 21.2 -5.3
YAK e'SS sS 09 50 57.7 -2.9
YAK e 09 57 47.8
YAK pmax pmax
comp=Z,203nm,0.8s
YAK pmax pmax
comp=N,55nm,0.9s
YAK pmax pmax
comp=E,30nm,0.8s
YAK smax smax
comp=N,111nm,1.3s
YAK smax smax
comp=E,48nm,1.1s
SEY Seymchan 21.30 12 P P 09 46 38.4 -2.3
comp=E,47nm,0.5s,baz=212,slow=9.3,SNR=140
SEY Seymchan 21.30 12ceP P 09 46 38.8 -1.9
SEY pmax pmax
comp=Z,126nm,1.3s
SEY Seymchan 21.30 12 eP P 09 46 38.8 -1.9
NJ2 Nanjing 21.52 249 eP P 09 46 45.0 +1.7
NJ2 pmax pmax
comp=Z,14nm,0.5s
HNS HongShan 21.96 266⇑P P 09 46 48.3 +0.5
HNS pmax pmax
comp=Z,12nm,0.7s
HHC Hu-ho-hao-te 23.21 277 eP P 09 46 59.5 -1.0
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,150nm,5.6s
SHEM Shemya Is, Ala 23.40 53 P P 09 47 02.6 +0.7
comp=Z,31nm,0.7s,baz=207,slow=2.3,SNR=3.7
SHEM LR LR 09 56 10.8
comp=Z,39nm,21.8s,baz=192,slow=36
comp=Z,31nm,0.7s
BOD Bodaibo 23.69 320 eP P 09 47 01.2 -3.4
BOD pmax pmax
comp=Z,42nm,0.9s
LYN LuoYang 24.80 262 eP P 09 47 25.9 +11
LYN sP sP 09 47 57.0 +6.5
LYN S S 09 51 43.6 +14
LYN SS SnSn 09 52 40.3 +12
LYN pmax pmax
comp=Z,60nm,4.5s
ULN Ulaanbaatar 25.52 295 P P 09 47 22.5 +1.1
ULN Ulaanbaatar 25.52 295ceP P 09 47 21.6 +0.2
ULN pmax pmax
comp=Z,19nm,1.3s
ULN Ulaanbaatar 25.52 295 eP P 09 47 21.6 +0.2
SONM Songino Array 25.96 295 P P 09 47 25.7 +0.3
comp=Z,6.4nm,0.6s,baz=89,slow=8.1,SNR=18
SONM LR LR 09 59 10.0
comp=Z,57nm,21.2s,baz=64,slow=40
comp=Z,6.4nm,0.6s
SONM Songino Array 25.96 295 P P 09 47 25.9 +0.5
SONM Songino Array 25.96 295 P P 09 47 25.9 +0.5
SONM pmax pmax
comp=Z,13nm,1.0s
IRK Irkutsk 27.48 304 eP P 09 47 38.9 +0.1
IRK pmax pmax
comp=Z,51nm,1.2s
ZAK Zakamensk 28.00 300 eP P 09 47 43.3 -0.3
ZAK pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 28.58 18ceP P 09 47 47.9 -0.5
BILL e 09 48 10.7
BILL e 09 51 01.0
BILL pmax pmax
comp=Z,10.0nm,0.7s
BILL Bilibino 28.58 18 eP P 09 47 47.9 -0.5
ADK Adak 28.88 57 P P 09 47 51.2 0.0
ADK Adak 28.88 57 P P 09 47 51.2 0.0
ADK pmax pmax
comp=Z,17nm,0.9s
GSTR Great Sitkin T 29.28 56 P P 09 47 54.2 -0.6
MOY Mondy 29.47 303 eP P 09 47 57.6 +1.0
MOY pmax pmax
comp=Z,41nm,2.1s
TIXI Tiksi 30.06 351 P P 09 47 58.2 -3.2
comp=Z,8.7nm,0.5s,baz=90,slow=20,SNR=7.5
TIXI LR LR 10 01 41.2
comp=Z,55nm,20.6s,baz=177,slow=39
TIXI Tiksi 30.06 351ceP P 09 47 58.5 -2.9
TIXI pmax pmax
comp=Z,17nm,1.3s
LZH Lanzhou 30.50 271 eP P 09 48 07.2 +1.3
LZH pP pP 09 48 28.7 -1.0
LZH sP sP 09 48 45.8 +3.7
LZH pmax pmax
comp=Z,21nm,1.4s
LZH LR LR
comp=Z,170nm,13.1s
LZH LR LR
comp=Z,150nm,12.4s
LZH LR LR
comp=Z,130nm,13.4s
H11N2 WAKE ISLAND Hy 30.53 130 T T 10 19 48.7
baz=325,slow=75,SNR=105
H11N1 WAKE ISLAND Hy 30.55 130 T T 10 19 57.2
baz=325,slow=75,SNR=175
H11N3 WAKE ISLAND Hy 30.55 130 T T 10 19 58.4
baz=325,slow=75,SNR=161
GTA Gaotai 32.25 279 eP P 09 48 22.5 +1.3
GTA pP pP 09 48 47.9 +2.9
GTA sP sP 09 49 03.1 +5.7
GTA PcP PcP 09 51 08.8 +1.8
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,48nm,5.3s
GTA LR LR
comp=Z,93nm,15.6s
GTA LR LR
comp=Z,67nm,14.2s
GTA LR LR
comp=Z,100nm,11.3s
SPIA Saint Paul Isl 33.04 47 P P 09 48 28.1 +0.4
baz=264
GYA Guiyang 33.39 253⇑P P 09 48 32.1 +0.9
GYA pmax pmax
comp=Z,11nm,0.8s
TNA Tin City 35.73 33 P P 09 48 51.0 +0.2
baz=254
KMI Kunming 37.00 255⇑P P 09 49 03.5 +1.2
KMI pmax pmax
comp=Z,8.0nm,0.8s
GOMU GeErMu 37.12 277 P P 09 49 02.2 -1.2
GOMU pmax pmax
comp=Z,5.0nm,0.6s
GOMU pmax pmax
comp=Z,41nm,3.7s
DGZ Jazzator, Alta 38.22 300ciP P 09 49 12.5 +0.2
DGZ pmax pmax

comp=Z,26nm,0.7s
SDPT Sand Point 38.47 50 P P 09 49 13.7 -0.3
baz=275
NRIK Noril'sk 38.83 332 P P 09 49 15.4 -1.5
comp=Z,17nm,0.5s,baz=106,slow=9.0,SNR=22
NRIK LR LR 10 04 54.5
comp=Z,70nm,19.1s,baz=64,slow=35
comp=Z,17nm,0.5s
NRIK Noril'sk 38.83 332 P P 09 49 15.3 -1.5
NRIK IAmb IAmb 09 49 17.0
comp=Z,59nm,1.4s
NRIK Noril'sk 38.83 332 *ce*P P 09 49 15.1 -1.8
NRIK pmax pmax
comp=Z,20nm,0.7s
CHNA Chernabura Isl 39.03 51 P P 09 49 18.4 -0.3
baz=276,SNR=6.0
CNBA Chernabura Isl 39.03 51 P P 09 49 17.3 -1.4
ZAA0 Zalesovo Array 39.16 308 P P 09 49 19.9 +0.1
ZALV Zalesovo Beam 39.16 308 P P 09 49 20.1 +0.3
comp=Z,47nm,0.7s,baz=87,slow=8.3,SNR=96
ZALV pP pP 09 49 44.8 +0.5
comp=Z,9.6nm,0.7s,baz=87,slow=8.3,SNR=2.3
ZALV PcP PcP 09 51 27.9 +0.9
comp=Z,4.1nm,0.7s,baz=92,slow=1.6,SNR=5.7
ZALV ScP ScP 09 55 06.3 +0.8
comp=Z,3.4nm,0.8s,baz=90,slow=4.4,SNR=6.7
ZALV LR LR 10 05 22.2
comp=Z,46nm,18.7s,baz=75,slow=36
comp=Z,47nm,0.7s
ZALV Zalesovo Beam 39.16 308 P P 09 49 19.9 +0.1
ZALV PcP PcP 09 51 26.4 -0.7
N16K Nishlik Lake 39.18 42 P P 09 49 20.7 +0.7
baz=270,SNR=9.4
WMQ Urumqi 39.49 291 *e*P P 09 49 24.0 +1.1
WMQ pP pP 09 49 48.9 +1.6
WMQ sP sP 09 49 58.9 -0.7
WMQ pmax pmax
comp=Z,32nm,1.1s
O16K Kokwok River B 39.53 43 P P 09 49 23.5 +0.7
baz=271
CHGN Chignik 39.55 49 P P 09 49 22.9 -0.1
baz=275
O17K Koliganek Bris 40.03 43 P P 09 49 27.6 +0.6
baz=272,SNR=13
GCSA Galena City Sc 40.19 35 P P 09 49 28.1 -0.1
baz=266
Q16K King Salmon 40.31 45 P P 09 49 29.7 +0.5
baz=274
ZSN Zaisan 40.38 298 *e*P P 09 49 30.7 +0.6
ZSN Zaisan 40.38 298 *e*P P 09 49 30.7 +0.6
baz=298
P17K Kvichak River 40.39 44 P P 09 49 29.9 0.0
baz=273
TTA Tatalina 40.51 38 P P 09 49 30.4 -0.6
TTA IAmb IAmb 09 49 33.0
comp=Z,16nm,0.8s
TTA Tatalina 40.51 38 P P 09 49 30.4 -0.6
TTA pmax pmax
comp=Z,16nm,0.8s
TTA Tatalina 40.51 38 P P 09 49 31.4 +0.4
baz=269,SNR=12
N18K Kilae Creek 40.59 42 P P 09 49 31.0 -0.7
N18K IAmb IAmb 09 49 34.6
comp=Z,32nm,0.9s
N18K Kilae Creek 40.59 42 P P 09 49 32.6 +0.9
baz=272,SNR=14
SVW2 Sparrevohn 40.73 41 P P 09 49 34.0 +1.2
SVW2 IAmb IAmb 09 49 35.6
comp=Z,46nm,1.3s
O18K Koktuh Hills 40.97 43 P P 09 49 36.5 +1.7
O18K IAmb IAmb 09 49 45.5
comp=Z,21nm,0.9s
O18K Koktuh Hills 40.97 43 P P 09 49 35.0 +0.2
baz=273
P18K Big Mountain, 40.99 44 P P 09 49 35.5 +0.5
baz=274
L19K White Mountain 41.05 39 P P 09 49 36.7 +1.3
L19K IAmb IAmb 09 49 37.9
comp=Z,33nm,1.4s
L19K White Mountain 41.05 39 P P 09 49 35.8 +0.4
baz=271,SNR=8.3
CHIR Chirikof Islan 41.16 49 P P 09 49 37.2 +0.9
CHIR Chirikof Islan 41.16 49 P P 09 49 36.7 +0.4
baz=278
M19K Big River Lodg 41.27 40 IAmb IAmb 09 49 55.3
comp=Z,18nm,0.6s
M19K Big River Lodg 41.27 40 P P 09 49 38.0 +0.8
baz=272
N19K Bonanza Creek 41.28 41 P P 09 49 37.8 +0.5
N19K IAmb IAmb 09 49 40.0
comp=Z,20nm,0.8s
N19K Bonanza Creek 41.28 41 P P 09 49 37.9 +0.5
baz=273,SNR=8.3
J20K Nowinta River 41.36 36 P P 09 49 39.1 +1.3
J20K Nowinta River 41.36 36 P P 09 49 38.6 +0.8
baz=269,SNR=37
K20K Telida 41.39 38 P P 09 49 39.5 +1.4
K20K IAmb IAmb 09 49 40.6
comp=Z,43nm,0.9s
K20K Telida 41.39 38 P P 09 49 39.1 +0.9
baz=270,SNR=24
O19K Port Alsworth 41.40 42 P P 09 49 37.2 -1.0
O19K IAmb IAmb 09 49 40.8
comp=Z,13nm,0.8s
O19K Port Alsworth 41.40 42 P P 09 49 39.0 +0.8
baz=274
L20K Farewell, AK 41.50 39 P P 09 49 40.2 +1.2
baz=271,SNR=11
IMAR Indian Mountai 41.57 34 P P 09 49 39.9 +0.4
G21K Allakaket 41.69 33 P P 09 49 40.9 +0.4
baz=267
F21K Alatna River 41.73 32 P P 09 49 40.6 -0.3
baz=266,SNR=23
CRAI Chiangrai 41.80 251 P P 09 49 42.7 +0.8
Q19K Cape Douglas, 41.85 44 P P 09 49 39.5 -2.5
Q19K Cape Douglas, 41.85 44 P P 09 49 42.2 +0.2
baz=276,SNR=7.9
SII Sitkinak Islan 41.85 48 P P 09 49 41.8 -0.2
baz=278
M20K Styx River 41.87 40 P P 09 49 43.9 +1.8
M20K IAmb IAmb 09 49 44.6
comp=Z,16nm,0.7s
M20K Styx River 41.87 40 P P 09 49 44.0 +1.8
baz=273,SNR=16
H21K Melozitna Rive 41.95 34 P P 09 49 41.6 -1.0
H21K IAmb IAmb 09 49 45.4
comp=Z,17nm,0.8s
H21K Melozitna Rive 41.95 34 P P 09 49 42.8 +0.1
baz=269,SNR=15
P19K Oil Pt 41.99 43 P P 09 49 43.8 +0.8
P19K IAmb IAmb 09 49 52.1
comp=Z,20nm,0.9s
P19K Oil Pt 41.99 43 P P 09 49 44.0 +1.0
baz=275
ILSW Iliamna Southw 42.00 43 P P 09 49 43.8 +0.5
ILSW IAmb IAmb 09 49 47.9
comp=Z,11nm,0.7s
CHUM Lake Minchumin 42.17 37 P P 09 49 45.1 +0.6
baz=271,SNR=8.9
OHAK Old Harbor 42.24 47 P P 09 49 45.5 +0.4
OHAK IAmb IAmb 09 49 46.5
comp=Z,44nm,1.0s
OHAK Old Harbor 42.24 47 P P 09 49 45.3 +0.2
baz=278,SNR=6.4
F22K John River 42.25 31 P P 09 49 45.4 +0.3
baz=267,SNR=20
O20K Slope Mountain 42.25 42 P P 09 49 45.5 +0.2
baz=275,SNR=5.9
MK31 Makanchi Array 42.25 297 P P 09 49 45.6 +0.2
MK31 Makanchi Array 42.25 297 *c i*P P 09 49 45.6 +0.2
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 42.25 297 P P 09 49 45.7 +0.3
comp=Z,13nm,0.9s,baz=81,slow=9.2,SNR=67
MKAR PcP PcP 09 51 36.8 -0.5
comp=Z,1.4nm,0.6s,baz=59,slow=4.2,SNR=1.5
MKAR ScP ScP 09 55 18.4 +0.5
comp=Z,1.2nm,0.9s,baz=67,slow=4.8,SNR=3.9
comp=Z,13nm,0.9s
MKAR Makanchi Array 42.25 297 P P 09 49 45.2 -0.2
PPLA Purkeypile 42.26 38 P P 09 49 47.1 +1.7
PPLA Purkeypile 42.26 38 P P 09 49 46.9 +1.5
baz=272,SNR=15
CAST Castle Rocks 42.28 37 P P 09 49 47.0 +1.6
CAST Castle Rocks 42.28 37 P P 09 49 46.9 +1.5
baz=272,SNR=82
I21K Tanana 42.29 35 P P 09 49 46.4 +1.0
I21K IAmb IAmb 09 49 50.2
comp=Z,16nm,0.8s
I21K Tanana 42.29 35 P P 09 49 46.0 +0.6
baz=270,SNR=11
N20K Mount Spurr 42.36 41 P P 09 49 47.5 +1.4
baz=274,SNR=9.8
SPCR Spurr Chakacha 42.36 41 P P 09 49 47.0 +0.8
baz=274
MAKZ Makanchi 42.45 297 P P 09 49 47.3 +0.3
MAKZ IAmb IAmb 09 50 14.1
comp=Z,16nm,0.8s
MAKZ Makanchi 42.45 297 P P 09 49 47.3 +0.3
MAKZ pmax pmax
comp=Z,16nm,0.9s
MAKZ Makanchi 42.45 297 P P 09 49 46.5 -0.5
MAKZ pP pP 09 50 12.8 +1.0
G22K Bettles 42.49 32 P P 09 49 46.9 -0.1
baz=269
Q20K Shuyak Island 42.53 45 P P 09 49 47.4 -0.1
baz=277,SNR=8.0
H22K Ishtalitna Cre 42.54 34 P P 09 49 48.2 +0.8
baz=270,SNR=40
KDAK Kodiak Island 42.54 46 P P 09 49 47.5 0.0
comp=Z,49nm,0.7s,baz=296,slow=8.5,SNR=76
KDAK PcP PcP 09 51 38.8 +0.8
comp=Z,14nm,1.0s,baz=357,slow=3.3,SNR=3.4
comp=Z,49nm,0.7s
KDAK Kodiak Island 42.54 46 P P 09 49 47.8 +0.3
KDAK Kodiak Island 42.54 46 *c i*P P 09 49 47.8 +0.3
KDAK pmax pmax
comp=Z,83nm,0.8s
KDAK Kodiak Island 42.54 46 P P 09 49 47.3 -0.2
baz=278
SEM Semipalatinsk 42.59 303 *e*P P 09 49 47.7 -0.6
SEM pmax pmax
comp=Z,15nm,0.8s
SEM Semipalatinsk 42.59 303 *e*P P 09 49 47.7 -0.6
comp=Z,15nm,0.8s,baz=303
SKT Skwentna 42.62 40 P P 09 49 47.9 -0.3
SKT Skwentna 42.62 40 P P 09 49 48.7 +0.5
baz=274,SNR=8.9
BPAW Bear Paw Mtn. 42.74 36 IAmb IAmb 09 49 51.3
comp=Z,26nm,0.7s
BPAW Bear Paw Mtn. 42.74 36 P P 09 49 50.0 +0.8
baz=272,SNR=21
KTH Kantishna Hill 42.80 37 P P 09 49 50.8 +1.2
MLY Manley 42.82 35 P P 09 49 50.5 +0.7
MLY IAmb IAmb 09 49 54.1
comp=Z,17nm,0.5s
MLY Manley 42.82 35 P P 09 49 50.6 +0.8
baz=271,SNR=29
D23K Nanushuk River 42.87 29 P P 09 49 50.1 0.0
baz=267
C23K Itkillik River 42.94 28 P P 09 49 50.2 -0.5
baz=266
COLD Coldfoot 43.01 32 IAmb IAmb 09 49 53.7
comp=Z,24nm,0.9s
COLD Coldfoot 43.01 32 P P 09 49 50.9 -0.3
baz=270,SNR=19
SUA Susitna One 43.04 40 IAmb IAmb 09 49 55.0
comp=Z,30nm,0.9s
SUA Susitna One 43.04 40 P P 09 49 51.9 +0.2
baz=275,SNR=13
G23K Bananza Creek 43.08 32 P P 09 49 51.7 -0.1
baz=270,SNR=37
TRF Thorofare Moun 43.09 37 IAmb IAmb 09 49 55.0
comp=Z,36nm,1.0s
TRF Thorofare Moun 43.09 37 P P 09 49 52.7 +0.6
baz=274,SNR=34
BRLK Bradley Lake 43.16 43 IAmb IAmb 09 49 59.2
comp=Z,32nm,0.7s
CUT Chulitna 43.18 39 P P 09 49 52.7 +0.1
baz=275,SNR=5.8
BRSE Bradley Lake S 43.23 43 P P 09 49 53.4 +0.3
baz=277,SNR=8.2
TOLK Toolik Lake Re 43.27 30 P P 09 49 52.4 -0.9
TOLK IAmb IAmb 09 49 57.2
comp=Z,22nm,0.6s
TOLK Toolik Lake Re 43.27 30 P P 09 49 53.3 0.0
baz=269,SNR=9.0
H23K Yukon River 43.29 34 P P 09 49 54.8 +1.2
H23K Yukon River 43.29 34 P P 09 49 54.3 +0.8
baz=272,SNR=30
M22K Willow 43.31 40 P P 09 49 53.0 -0.6
baz=275
KURK Kurchatov 43.51 304 P P 09 49 55.6 +0.2
KURK Kurchatov 43.51 304 P P 09 49 55.6 +0.2
KURK pmax pmax
comp=Z,73nm,1.1s
KURK Kurchatov 43.51 304 *e*P P 09 49 55.6 +0.2
KURK Kurchatov 43.51 304 P P 09 49 54.6 -0.8
KURK pP pP 09 50 21.7 +1.4
KURK sP sP 09 50 34.2 +1.7
D24K Happy Valley 43.55 29 P P 09 49 55.8 +0.3
baz=269
NEA2 Nenana 43.55 36 P P 09 49 56.3 +0.7
baz=273,SNR=100
RC01 Rabbit Creek A 43.56 41 IAmb IAmb 09 49 57.2
comp=Z,39nm,0.8s
RC01 Rabbit Creek A 43.56 41 P P 09 49 55.7 0.0
baz=276,SNR=14
KURBB Kurchatov Arra 43.59 304 P P 09 49 56.3 +0.2
comp=Z,36nm,0.4s,baz=73,slow=8.8,SNR=140
KURBB pP pP 09 50 22.0 +1.0
comp=Z,20nm,0.7s,baz=79,slow=8.9,SNR=4.1
KURBB ScP ScP 09 55 24.4 +1.2
comp=Z,0.7nm,0.9s,baz=88,slow=2.2,SNR=2.6
KURBB S S 09 56 15.2 -1.9
comp=Z,1.5nm,0.9s,baz=77,slow=16,SNR=5.9
comp=Z,36nm,0.4s
KURBB Kurchatov Arra 43.59 304 P P 09 49 55.6 -0.5
C24K Franklin Bluff 43.60 28 P P 09 49 55.4 -0.5
baz=268
O22K Cooper Landing 43.64 42 P P 09 49 56.7 +0.4
baz=277,SNR=12
E24K Your Creek 43.66 30 P P 09 49 56.4 -0.1
baz=270,SNR=20
MCK McKinley 43.67 37 P P 09 49 57.4 +0.8
baz=274,SNR=35
PMR Palmer 43.79 40 IAmb IAmb 09 49 59.4
comp=Z,37nm,0.9s
PMR Palmer 43.79 40 P P 09 49 58.0 +0.5
baz=276,SNR=22
SEW Seward 43.83 42 P P 09 49 58.0 +0.2
baz=278,SNR=11
GHO Glory Hole Cre 43.87 40 P P 09 49 59.3 +1.0
MDM Murphy Dome 43.89 35 P P 09 49 59.0 +0.7
F24K Squaw Lake 43.90 31 P P 09 49 58.4 0.0
baz=271,SNR=26
WAT1 Susitna Watana 43.93 38 P P 09 49 58.7 0.0
baz=276
H24K Noodor Dome 43.98 34 IAmb IAmb 09 50 04.5
comp=Z,28nm,0.8s
H24K Noodor Dome 43.98 34 P P 09 49 60.0 +0.9
baz=273,SNR=28
CMAR Chiang Mai Arr 43.98 251 P P 09 50 00.3 +0.7
comp=Z,1.0nm,0.4s,baz=44,slow=7.9,SNR=6.6
CMAR pP pP 09 50 24.9 +0.6
comp=Z,0.9nm,0.4s,baz=51,slow=7.0,SNR=1.6
CMAR LR LR 10 10 55.8
comp=Z,21nm,18.4s,baz=205,slow=39
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 43.98 251 *i* P P 09 50 02.2 +2.6
CMAR pmax pmax
comp=Z,1.0nm,0.6s
WRH Wood River Hil 43.98 36 P P 09 49 59.3 +0.2
WRH IAmb IAmb 09 50 01.5
comp=Z,25nm,0.6s
TCOL CIGO, UAF Yank 44.05 35 P P 09 50 00.5 +1.0
baz=274,SNR=29
COLA College 44.05 35 P P 09 50 00.9 +1.3
COLA College 44.05 35 *c i*P P 09 50 00.6 +1.0
COLA pmax pmax
comp=Z,76nm,0.9s
COLA College 44.05 35 P P 09 50 00.3 +0.7
baz=274
COLA College 44.05 35 P P 09 49 59.4 -0.1
COLA pP pP 09 50 24.9 +0.5
CCB Clear Creek Bu 44.09 35 P P 09 50 00.5 +0.7
CCB IAmb IAmb 09 50 04.7
comp=Z,25nm,0.9s
G24K Hadweenzic Riv 44.09 32 P P 09 50 00.7 +0.8
baz=273,SNR=28
KNK Knik Glacier 44.14 40 P P 09 50 00.7 +0.3
KNK Knik Glacier 44.14 40 P P 09 50 00.9 +0.5
baz=277,SNR=22
SML Sawmill 44.15 40 P P 09 50 01.4 +0.9
baz=277,SNR=43
POKR Poker Plat Res 44.21 35 P P 09 50 02.3 +1.4
baz=274,SNR=11
PWL Port Wells 44.27 41 IAmb IAmb 09 50 03.3
comp=Z,39nm,0.9s
PWL Port Wells 44.27 41 P P 09 50 01.7 +0.3
baz=278,SNR=20
SWI Sorong 44.32 196 P P 09 50 01.8 -0.4
comp=Z,63nm,0.8s
SIJI Sorong 44.32 196 P P 09 50 03.5 +1.3
comp=Z,36nm,0.6s,baz=12,slow=12,SNR=12
comp=Z,36nm,0.6s
WAT6 Susitna Watana 44.33 38 P P 09 50 02.3 +0.3
baz=277,SNR=18
SMPI Sarmi 44.38 186 P P 09 50 03.9 +1.2
comp=Z,39nm,1.0s
D25K Kavik River 44.42 29 P P 09 50 02.4 -0.2
baz=271,SNR=10
M23K Glacier View 44.43 40 P P 09 50 02.9 +0.2
baz=277,SNR=13
DHY Denali Highway 44.44 38 P P 09 50 03.2 +0.3
baz=276,SNR=69
ILAR Eielson Array 44.47 35 P P 09 50 03.5 +0.5
comp=Z,54nm,0.9s,baz=256,slow=5.3,SNR=348
ILAR PcP PcP 09 51 44.1 -0.4
comp=Z,0.8nm,0.6s,baz=286,slow=3.7,SNR=1.1
ILAR ScP ScP 09 55 25.5 -1.0
comp=Z,0.6nm,0.9s,baz=274,slow=5.3,SNR=3.2
ILAR LR LR 10 09 39.0
comp=Z,33nm,19.9s,baz=358,slow=37
comp=Z,54nm,0.9s
HDA Harding Lake 44.48 36 P P 09 50 03.3 +0.3
baz=275,SNR=82
SCM Sheep Creek Mo 44.62 39 P P 09 50 05.1 +0.9
baz=278,SNR=17
E25K Arctic Village 44.76 30 P P 09 50 06.0 +0.8
baz=273,SNR=7.1
F25K Christian Rive 44.76 31 P P 09 50 06.0 +0.8
baz=273,SNR=16
H25K Birch Creek 44.78 33 P P 09 50 06.6 +1.3
baz=274,SNR=28
P23K Montague Islan 44.86 42 P P 09 50 06.7 +0.6
baz=280
GLI Glacier Island 44.87 41 IAmb IAmb 09 50 07.6
comp=Z,37nm,0.7s
GLI Glacier Island 44.87 41 P P 09 50 06.4 +0.3
baz=279,SNR=11
GENI Genyem 44.89 183 P P 09 50 07.9 +1.2
C26K Camden Bay 44.91 28 P P 09 50 07.4 +1.1
baz=272
PRP Porcupine Dome 44.98 34 P P 09 50 08.3 +1.2
baz=276,SNR=71
K24K Donnelly Dome 45.06 37 P P 09 50 08.1 +0.4
baz=277,SNR=48
M24K Tolsona, Glenn 45.11 39 P P 09 50 09.6 +1.4
baz=278,SNR=15
J25K Salcha River, 45.14 35 IAmb IAmb 09 50 10.5
comp=Z,15nm,0.6s
J25K Salcha River, 45.14 35 P P 09 50 07.3 -1.0
baz=276,SNR=24
FID Port Fidalgo 45.19 41 IAmb IAmb 09 50 10.4
comp=Z,72nm,1.4s
PAX Paxson 45.31 38 IAmb IAmb 09 50 16.4
comp=Z,12nm,0.6s
PAX Paxson 45.31 38 P P 09 50 11.0 +1.3
baz=278,SNR=18
F26K Sheenjek River 45.32 31 P P 09 50 10.7 +1.0
baz=274,SNR=18
KLU Klutina 45.33 40 P P 09 50 10.9 +1.0
baz=279,SNR=45
C27K Jago River 45.35 28 P P 09 50 10.0 +0.2
baz=273,SNR=8.1
SHLS Shalkode 45.35 293 *e*P P 09 50 07.9 -2.5
SHLS Shalkode 45.35 293 *e*P P 09 50 07.9 -2.5
baz=293
TDK Taldyqorghan 45.40 296 *e*P P 09 50 11.0 +0.5
TDK Taldyqorghan 45.40 296 *e*P P 09 50 11.1 +0.5
baz=296
RIDG Independent Ri 45.48 37 IAmb IAmb 09 50 12.9
comp=Z,35nm,0.9s
RIDG Independent Ri 45.48 37 P P 09 50 11.0 0.0
baz=278
G26K Porcupine Rive 45.53 32 P P 09 50 12.4 +1.2
baz=276,SNR=38
HARP HAARP 45.54 38 P P 09 50 12.9 +1.5
baz=279,SNR=22
EYAK Cordova Ski Ar 45.58 41 P P 09 50 12.8 +1.1
baz=280,SNR=11
UZB Uzynbulak 45.66 294 *e*P P 09 50 12.8 0.0
UZB Uzynbulak 45.66 294 *e*P P 09 50 12.8 0.0
baz=294
MRSI Marisa 45.74 210 P P 09 50 13.6 +0.1
comp=Z,55nm,1.1s
KPKS Kokpek 45.77 294 *e*P P 09 50 13.6 0.0
KPKS Kokpek 45.77 294 *e*P P 09 50 13.7 0.0
baz=294
SCRK Sand Creek 45.82 36 P P 09 50 13.9 +0.1
baz=278,SNR=144
J26L Joseph Creek 45.93 35 IAmb IAmb 09 50 15.9
comp=Z,18nm,0.6s
J26L Joseph Creek 45.93 35 P P 09 50 14.7 +0.1
baz=278,SNR=33
N25K Chitina, Valde 45.93 39 IAmb IAmb 09 50 37.2
comp=Z,13nm,0.8s
N25K Chitina, Valde 45.93 39 P P 09 50 15.5 +0.9
baz=280,SNR=6.7
I26K Coal Creek Min 45.98 34 P P 09 50 14.3 -0.5
baz=278
ZHN Zhinishke 46.05 294 *e*P P 09 50 15.8 0.0
ZHN Zhinishke 46.05 294 *e*P P 09 50 15.8 0.0
baz=294
BMRM Bremner River 46.05 40 IAmb IAmb 09 50 17.8
comp=Z,42nm,0.8s
BMRM Bremner River 46.05 40 P P 09 50 16.4 +0.9
baz=281,SNR=17
ARXS Arharly 46.07 295 *i* P P 09 50 16.1 +0.2
MENT Mentasta 46.11 38 IAmb IAmb 09 50 24.3
comp=Z,28nm,0.9s
SATY Saty 46.11 294 *e*P P 09 50 16.4 +0.1
SATY Saty 46.11 294 *e*P P 09 50 16.4 +0.1
baz=294
FAKI Fak Fak 46.13 194 P P 09 50 15.0 -1.5
FAKI Fak Fak 46.13 194 P P 09 50 15.1 -1.4
comp=Z,928nmcomp=Z,97nm,0.9s
RAGM Ragged Mountai 46.13 41 IAmb IAmb 09 50 19.5
comp=Z,41nm,0.9s
E27K Coleen River 46.23 30 P P 09 50 17.6 +0.7
baz=276,SNR=6.8
L26K Log Cabin Wild 46.26 37 P P 09 50 18.6 +1.6
baz=280,SNR=54
GLB Gilahina Butte 46.34 40 IAmb IAmb 09 50 24.0
comp=Z,23nm,0.8s
HMT Hamilton 46.34 41 IAmb IAmb 09 50 20.3
comp=Z,20nm,0.7s
KAIM Kayak Island 46.35 42 P P 09 50 19.1 +1.3
baz=282
G27K Doyon Strip 46.38 32 P P 09 50 19.4 +1.4
baz=278,SNR=22
H27K Steamboat Moun 46.52 33 P P 09 50 20.9 +1.8
baz=278,SNR=38
M26K Nabesna, AK 46.53 38 P P 09 50 21.2 +2.0
baz=281,SNR=34
I27K Kandik River 46.58 34 P P 09 50 20.8 +1.2
baz=279,SNR=29
K27K Chicken 46.64 36 P P 09 50 21.5 +1.4
baz=280
MCARA McCarthy VSAT 46.72 40 P P 09 50 22.1 +1.4
MCARA McCarthy VSAT 46.72 40 P P 09 50 22.3 +1.7
baz=282,SNR=18
TAPN Taplejung 46.72 270 *e*P P 09 50 22.3 +0.8
comp=Z,18nm,0.7s
EGAK Eagle 46.91 35 IAmb IAmb 09 50 23.5
comp=Z,38nm,0.8s
EGAK Eagle 46.91 35 P P 09 50 22.7 +0.6
baz=280,SNR=46
L27K Beaver Creek, 46.93 37 P P 09 50 24.3 +1.9
baz=281,SNR=115
TGL Tana Glacier 46.94 40 IAmb IAmb 09 50 25.1
comp=Z,41nm,0.9s
BCAR Beaver Creek A 46.95 37 P P 09 50 24.0 +1.5
MDOK Medeo 46.99 294 *i* P P 09 50 23.7 +0.5
MDOK Medeo 46.99 294 *i* P P 09 50 23.7 +0.5
baz=294
WAX Waxell Ridge 47.00 41 P P 09 50 22.4 -0.6
M27K Edge Creek, AK 47.05 38 P P 09 50 24.8 +1.3
M27K Edge Creek, AK 47.05 38 P P 09 50 24.7 +1.3
baz=282,SNR=49
AAA Alma-Ata 47.06 294 *e*P P 09 50 24.4 +0.7

AAA Alma-Ata 47.06 294 eP P 09 50 24.4 +0.7
baz=294
KUU Kurty 47.18 296 eP P 09 50 23.9 -0.6
KUU Kurty 47.18 296 eP P 09 50 23.9 -0.6
baz=296
BRZS Berezniki 47.37 304 c iP P 09 50 26.1 +0.2
BRZS pmax pmax
comp=Z,9.0nm,0.4s
BRZS Berezniki 47.37 304⇑ iP P 09 50 26.1 +0.2
comp=Z,8.7nm,0.4s,baz=304
MESA MESA 47.50 41 P P 09 50 28.2 +1.3
baz=284,SNR=6.3
BVCY Beaver Creek 47.50 38 P P 09 50 28.3 +1.5
baz=282,SNR=25
CTG Chitna Glacier 47.61 40 P P 09 50 29.3 +1.6
baz=283,SNR=24
RAMN Ramite 47.76 270 eP P 09 50 30.0 +0.5
comp=Z,36nm,0.8s
BVAR Borovoye Array 47.76 309 P P 09 50 29.4 +0.5
comp=Z,8.5nm,0.3s,baz=78,slow=8.8,SNR=53
BVAR PcP PcP 09 51 56.5 +0.3
comp=Z,3.2nm,0.5s,baz=102,slow=4.3,SNR=3.8
BVAR ScP ScP 09 55 41.0 +0.5
comp=Z,0.9nm,0.7s,baz=87,slow=5.9,SNR=2.9
BVAR S S 09 57 15.6 -1.3
comp=Z,0.6nm,0.6s,baz=71,slow=14,SNR=2.9
comp=Z,8.5nm,0.3s
GUN Gumba 47.77 271 eP P 09 50 30.3 +0.7
comp=Z,27nm,0.4s
DAWY Dawson 47.80 35 P P 09 50 27.4 -1.7
DAWY Dawson 47.80 35 P P 09 50 29.7 +0.7
baz=282,SNR=15
LOGN Logan Glacier 47.80 40 IAmb IAmb 09 50 36.4
comp=Z,20nm,0.7s
BRVK Borovoye 47.81 309 P P 09 50 29.5 +0.3
BRVK IAmb IAmb 09 50 33.6
comp=Z,47nm,1.3s
BRVK Borovoye 47.81 309 ceP P 09 50 29.8 +0.5
BRVK pmax pmax
comp=Z,58nm,1.7s
BRVK Borovoye 47.81 309 eP P 09 50 29.8 +0.5
BRVK Borovoye 47.81 309 P P 09 50 29.1 -0.1
BRVK pP pP 09 50 55.8 +1.3
TABL Table Mountain 47.83 41 IAmb IAmb 09 50 31.6
comp=Z,25nm,0.8s
YUK3 Moose Creek 47.83 39 P P 09 50 30.6 +1.1
baz=283,SNR=21
I29M Ogilvie Camp, 47.98 34 P P 09 50 31.8 +1.4
baz=282,SNR=47
BOOM Boomskoye usch 48.00 294 IAmb IAmb 09 50 59.0
comp=Z,24nm,0.8s
TKM2 Tokmak 2 48.06 295 i P P 09 50 31.8 +0.2
TKM2 pmax pmax
comp=Z,23nm,0.7s
O28M Mount Upton 48.20 40 P P 09 50 33.4 +0.9
baz=284,SNR=11
J29M Klondike Camp 48.21 35 P P 09 50 33.7 +1.5
baz=283
BTLS Baital 48.26 298 c iP P 09 50 32.4 -0.4
BTLS Baital 48.26 298⇑ iP P 09 50 32.5 -0.4
baz=298
PCA Pinnacle 48.34 41 IAmb IAmb 09 50 39.1
comp=Z,33nm,1.0s
PINM Pinnacle 48.34 41 P P 09 50 34.4 +1.1
baz=285
EPYK Eagle Plains 48.40 32 P P 09 50 35.1 +1.5
EPYK Eagle Plains 48.40 32 P P 09 50 35.1 +1.5
baz=282,SNR=54
SGDS Sogindy 48.49 296 eP P 09 50 34.7 0.0
SGDS Sogindy 48.49 296 eP P 09 50 34.8 0.0
baz=296
M29M Somme Creek 48.58 37 P P 09 50 37.1 +1.9
baz=284,SNR=18
K29M Barlow Dome 48.65 36 P P 09 50 37.2 +1.5
baz=284,SNR=80
YUK4 Talbot Arm 48.78 39 P P 09 50 38.6 +1.8
baz=285,SNR=12
AAK Ala-Archa 48.92 295 P P 09 50 38.4 +0.4
comp=Z,2.9nm,0.5s,baz=48,slow=14,SNR=6.0
AAK pP pP 09 51 03.2 -0.2
comp=Z,7.3nm,0.8s,baz=141,slow=1.7,SNR=3.4
comp=Z,2.9nm,0.5s
AAK Ala-Archa 48.92 295 P P 09 50 38.3 +0.2
AAK Ala-Archa 48.92 295 ceP P 09 50 38.5 +0.4
AAK pmax pmax
comp=Z,10.0nm,1.7s
YUK6 Outpost Mounta 49.02 39 P P 09 50 40.5 +1.8
baz=286,SNR=6.2
DANN Dangsing 49.09 273 eP P 09 50 40.6 +0.8
comp=Z,55nm,0.6s
O29M Mount Kennedy 49.09 40 P P 09 50 41.1 +2.0
baz=286,SNR=13
INK Inuvik 49.17 29 P P 09 50 40.1 +0.7
comp=Z,39nm,0.5s,baz=280,slow=5.6,SNR=147
comp=Z,39nm,0.5s
INK Inuvik 49.17 29 P P 09 50 40.0 +0.7
baz=283,SNR=44
KSH Kashi 49.23 290 P P 09 50 44.4 +3.9
KSH pP pP 09 51 10.8 +4.9
KSH pmax pmax
comp=Z,5.0nm,0.8s
M30M Minto, Yukon 49.29 37 IAmb IAmb 09 50 43.6
comp=Z,20nm,0.8s
M30M Minto, Yukon 49.29 37 P P 09 50 42.5 +2.0
baz=285,SNR=22
F31M Tsiigehtchic 49.30 30 P P 09 50 41.1 +0.7
baz=284,SNR=15
BKB Balikpapan 49.32 215 P P 09 50 40.0 -1.1
MAYO Mayo, Yukon 49.41 36 P P 09 50 43.0 +1.6
baz=285,SNR=9.5
HYT Haines Junctio 49.45 39 P P 09 50 44.1 +2.3
baz=286,SNR=104
N30M Aishikik Lake 49.47 39 P P 09 50 43.8 +1.9
baz=286,SNR=6.8
P29M Windy Craggy 49.69 41 P P 09 50 45.8 +2.2
baz=287,SNR=41
PYUN Piuthan 49.80 273 eP P 09 50 45.6 +0.6
comp=Z,23nm,0.7s
P30M Million Dollar 49.92 40 P P 09 50 47.5 +2.2
baz=287
N31M Braeburn, Yuko 50.06 38 P P 09 50 48.8 +2.4
baz=287,SNR=22
O30N Mendenhall 50.13 39 P P 09 50 48.5 +1.6
baz=287,SNR=13
PLBC Pleasant Camp 50.41 41 P P 09 50 51.0 +2.0
baz=288,SNR=10.0
M31M Drury Creek, Y 50.47 37 IAmb IAmb 09 50 52.2
comp=Z,19nm,0.8s
M31M Drury Creek, Y 50.47 37 P P 09 50 51.1 +1.6
baz=288,SNR=20
WHY Whitehorse 50.73 39 IAmb IAmb 09 50 54.5
comp=Z,24nm,0.8s
WHY Whitehorse 50.73 39 P P 09 50 53.3 +1.8
baz=288,SNR=14
A36M Sachs Harbour 50.91 24 P P 09 50 54.3 +1.9
baz=287
SKAG Skagway 50.91 41 IAmb IAmb 09 50 55.9
comp=Z,27nm,1.1s
SKAG Skagway 50.91 41 P P 09 50 54.6 +1.9
baz=289
DZA Taraz 50.92 296 eP P 09 50 53.1 0.0
DZA Taraz 50.92 296 eP P 09 50 53.2 0.0
baz=296
FARO Faro, Yukon 50.93 37 IAmb IAmb 09 50 55.5
comp=Z,19nm,0.8s
FARO Faro, Yukon 50.93 37 P P 09 50 54.4 +1.5
baz=288,SNR=16
KK31 Karatay Array 51.38 297 IAmb IAmb 09 51 06.4
comp=Z,8.9nm,0.6s
KK31 Karatay Array 51.38 297 i P P 09 50 56.4 -0.1
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 51.38 297 P P 09 50 56.5 0.0
KKAR Karatay Array 51.38 297 P P 09 50 56.4 0.0
KKAR IAmb IAmb 09 51 06.4
comp=Z,8.9nm,0.6s
KKAR Karatay Array 51.38 297 P P 09 50 56.5 0.0
KKAR pmax pmax
comp=Z,9.0nm,0.6s
N32M Quiet Lake 51.40 38 P P 09 50 57.5 +1.1
baz=289
P32M Atlin 51.64 40 P P 09 50 59.8 +1.6
baz=290
R32K Eaglecrest 51.71 42 P P 09 51 00.9 +2.3
baz=290,SNR=7.4
MMPY Sheldon Lake, 51.72 36 P P 09 51 00.7 +1.9
baz=290,SNR=13

JIS Juneau Island 51.78 42 IAmb IAmb 09 51 02.4
comp=Z,25nm,0.8s
P33M Teslin, Yukon 51.85 39 P P 09 51 01.7 +1.9
baz=290,SNR=25
IUG luzhnay 52.11 296 eP P 09 51 02.2 +0.2
IUG luzhnay 52.11 296 eP P 09 51 02.2 +0.2
baz=296
C36M Paulatuk 52.15 27 P P 09 51 02.8 +1.1
baz=290,SNR=19
R33M Jennings River 53.02 40 P P 09 51 10.6 +2.1
baz=292,SNR=8.6
ARU Arti 53.02 316 P P 09 51 08.6 +0.3
comp=Z,28nm,0.4s,baz=54,slow=3.6,SNR=47
comp=Z,28nm,0.4s
ARU Arti 53.02 316 P P 09 51 07.9 -0.5
ARU Arti 53.02 316 P P 09 51 07.8 -0.5
ARU pP pP 09 51 34.2 +0.1
T33K Petersburg 53.04 43 P P 09 51 10.2 +1.8
baz=293
GAR Garm 53.37 292 IAmb IAmb 09 51 23.6
comp=Z,13nm,0.6s
TGTN Hyland Airport 53.43 37 P P 09 51 13.4 +2.1
baz=293,SNR=13
KIP Kipapa 53.43 94 ceP P 09 51 12.7 +0.8
KIP pmax pmax
comp=Z,27nm,1.0s
CRAG Craig 53.48 45 P P 09 51 13.8 +2.0
baz=293
WRAK Wrangell Islan 53.50 44 P P 09 51 14.3 +2.4
baz=293
S34M Telegraph Cree 53.52 41 P P 09 51 14.1 +2.1
baz=293,SNR=5.7
WTLY Watson Lake, Y 53.75 38 IAmb IAmb 09 51 16.5
comp=Z,20nm,0.9s
DLBC Dease Lake 53.84 41 IAmb IAmb 09 51 17.9
comp=Z,28nm,1.1s
DLBC Dease Lake 53.84 41 P P 09 51 16.9 +2.5
baz=294,SNR=12
V35K Ketchikan 54.32 45 P P 09 51 19.4 +1.6
baz=294
T35M Bob Quinn 54.33 42 P P 09 51 20.6 +2.7
baz=294,SNR=13
ALE Alert 54.65 4 P P 09 51 19.0 -0.9
ALE pP pP 09 51 44.0 -1.9
DIB Dawson Inlet, 54.77 47 IAmb IAmb 09 51 25.4
comp=Z,39nm,1.1s
WRGLY Wrigley 54.78 34 P P 09 51 23.8 +2.8
baz=295,SNR=6.0
HOPEN Hopen 55.03 345 eP P 09 51 23.7 +1.0
HOPEN IAmb IAmb 09 51 23.8
comp=Z,51nm,1.0s
AB31 Akbulak array 55.27 308 i P P 09 51 25.2 +0.4
AB31 pmax pmax
comp=Z,17nm,0.5s
ABKAR Akbulak array 55.27 308 P P 09 51 25.2 +0.4
SPA0 Spitsbergen Ar 55.41 348 eP P 09 51 25.4 0.0
SPA0 IAmb IAmb 09 51 27.5
comp=Z,49nm,1.2s
SPB2 Spitsbergen Ar 55.41 348 IAmb IAmb 09 51 27.8
comp=Z,27nm,0.9s
SPITS Spitsbergen Ar 55.41 348 P P 09 51 25.2 -0.2
comp=Z,6.8nm,0.5s,baz=75,slow=9.6,SNR=13
SPITS LR LR 10 18 33.2
comp=Z,17nm,18.3s,baz=14,slow=40
comp=Z,6.8nm,0.5s
SPITS Spitsbergen Ar 55.41 348 P P 09 51 25.1 -0.3
SPITS pmax pmax
comp=Z,37nm,1.1s
PSI Prapat 55.46 237 P P 09 51 27.5 +0.8
comp=Z,4.2nm,0.4s,baz=74,slow=4.1,SNR=3.6
comp=Z,4.2nm,0.4s
KBS Kingsbay 55.50 350 eP P 09 51 26.7 +0.7
KBS IAmb IAmb 09 51 27.2
comp=Z,43nm,0.9s
GRNB Grenville Isla 55.84 46 IAmb IAmb 09 51 31.7
comp=Z,20nm,0.7s
AKTO Aktyubinsk 55.85 310 P P 09 51 29.0 +0.1
comp=Z,11nm,0.6s,baz=73,slow=8.3,SNR=19
comp=Z,11nm,0.6s
MTN Manton Dam 56.02 194 P P 09 51 29.7 -0.8
HSPB Hornsund (broa 56.36 347 eP P 09 51 32.6 +0.4
HSPB IAmb IAmb 09 51 34.0
comp=Z,133nm,1.7s
KIRV Kirov 56.56 321 P P 09 51 34.0 +0.2
comp=Z,51nm,0.7s,baz=46,slow=3.2,SNR=18
comp=Z,51nm,0.7s
KIRV Kirov 56.56 321 ceP P 09 51 33.9 +0.1
PRGR Permogore 56.79 325 eP P 09 51 34.2 -1.2
PRGR e*PP pP 09 51 59.7 -1.8
PRGR pmax pmax
comp=Z,114nm,1.0s
LVZ Lovozero 57.59 335 P P 09 51 41.3 +0.3
LVZ Lovozero 57.59 335 P P 09 51 41.3 +0.3
LVZ pmax pmax
comp=Z,112nm,1.9s
MASI Maura Aman, Be 58.25 230 P P 09 51 51.9 +5.6
YKA Yellowknife Ar 58.69 32 P P 09 51 49.2 +0.6
comp=Z,21nm,0.8s,baz=302,slow=6.6,SNR=73
YKA PP PP 09 53 59.8 +0.7
comp=Z,1.2nm,0.8s,baz=302,slow=8.5,SNR=3.2
comp=Z,21nm,0.8s
YKA Yellowknife Ar 58.69 32 P P 09 51 48.7 0.0
KEV Kevo 58.74 338 P P 09 51 48.7 -0.2
KEV IAmb IAmb 09 51 50.0
comp=Z,16nm,0.8s
KEV Kevo 58.74 338 P P 09 51 48.7 -0.2
KEV pmax pmax
comp=Z,16nm,0.8s
HAMF Hammerfest 59.04 340 eP P 09 51 50.7 -0.3
HAMF IAmb IAmb 09 51 50.8
comp=Z,19nm,0.9s
KNRA Kununurra 59.23 196 P P 09 51 50.3 -2.6
ARA0 ARCESS Array S 59.28 339 eP P 09 51 52.8 +0.1
ARCES ARCESS Array B 59.28 339 P P 09 51 52.6 -0.1
comp=Z,4.5nm,0.5s,baz=46,slow=8.2,SNR=66
ARCES PP PP 09 54 03.8 -0.5
comp=Z,3.3nm,0.8s,baz=42,slow=9.6,SNR=2.9
comp=Z,4.5nm,0.5s
ARCES ARCESS Array B 59.28 339 P P 09 51 52.4 -0.3
ARCES IAmb IAmb 09 51 55.5
comp=Z,33nm,1.4s
ARCES ARCESS Array B 59.28 339 P P 09 51 52.4 -0.3
ARCES pmax pmax
comp=Z,33nm,1.4s
HYBB Hyderabad (bro 59.41 266 eP P 09 51 54.6 +0.2
KLMR Klimovskoe 59.73 326 eP P 09 51 54.4 -1.4
KLMR e*PP pP 09 52 20.5 -1.6
KLMR e 09 52 41.7
KLMR e 09 54 06.4
KLMR pmax pmax
comp=Z,46nm,0.9s
KLMR Klimovskoe 59.73 326 eP P 09 51 54.4 -1.4
KLMR AMP 09 51 59.1
comp=Z,46nm,0.9s
KLMR epP pP 09 52 20.5 -1.6
KLMR ePcP PcP 09 52 41.8 +0.2
KLMR ePP PP 09 54 06.5 -1.8
KLMR ePPP PPP 09 55 28.9
NEEM North Greenlan 60.08 3 i P P 09 51 57.0 -1.4
NEEM IAmb IAmb 09 52 00.5
comp=Z,31nm,0.4s
CBB Campbell River 60.18 48 IAmb IAmb 09 52 01.5
comp=Z,11nm,0.9s
KTK1 Kautokeino 60.24 339 IAmb IAmb 09 51 59.5
comp=Z,19nm,0.7s
KTK1 eP P 09 51 59.6 +0.4
DAG Danmarks Havn 60.47 355 i P P 09 52 00.0 -0.7
DAG IAmb IAmb 09 52 00.5
comp=Z,12nm,0.6s
BELG Belogornoye 60.54 315 P P 09 52 01.6 +0.1
comp=Z,41nm,0.5s,baz=154,slow=0.1,SNR=14
comp=Z,41nm,0.5s
JETT Jettan, Norway 60.60 340 eP P 09 52 01.7 -0.1
JETT IAmb IAmb 09 52 02.0
comp=Z,21nm,0.8s
TRO Tromso 60.92 341 eP P 09 52 03.8 0.0
TRO IAmb IAmb 09 52 04.2
comp=Z,33nm,0.9s
CLRS Cowichan Lake 61.51 49 IAmb IAmb 09 52 10.5
comp=Z,12nm,0.9s
LLLB Lillooet 61.76 46 IAmb IAmb 09 52 12.3
comp=Z,14nm,0.9s
GEYT Alibeck 62.13 297 P P 09 52 12.9 +0.4
comp=Z,11nm,0.7s,baz=64,slow=3.4,SNR=12
GEYT LR LR 10 19 32.7
comp=Z,62nm,18.1s,baz=126,slow=36
comp=Z,11nm,0.7s
GEYT Alibeck 62.13 297 IAmb IAmb 09 52 13.7
comp=Z,12nm,0.8s
GYA0B ALIBECK ARRAY 62.13 297 P P 09 52 13.2 +0.7
GYA0B IAmb IAmb 09 52 13.7
comp=Z,9.6nm,0.7s
FITZ Fitzroy Crossi 62.25 198 P P 09 52 13.8 +0.5
comp=Z,4.4nm,0.8s,baz=3.9,slow=8.2,SNR=5.9
comp=Z,4.4nm,0.8s
B04A Port Angeles 62.27 49 IAmb IAmb 09 52 16.0
comp=Z,17nm,0.9s
WB0 Warramunga Arr 62.37 189 P P 09 52 14.1 0.0
WB0 IAmb IAmb 09 52 48.3
comp=Z,15nm,0.8s
NLWA Neilton Lookou 62.44 50 IAmb IAmb 09 52 17.6
comp=Z,26nm,1.1s
WRAB Tennant Creek 62.54 189 P P 09 52 14.7 -0.6
WRAB IAmb IAmb 09 52 49.5
comp=Z,17nm,1.0s
WRAB Tennant Creek 62.54 189 i P P 09 52 14.9 -0.3
WRAB pmax pmax
comp=Z,17nm,1.1s
WR0 Warramunga Arr 62.54 189 IAmb IAmb 09 52 49.5
comp=Z,14nm,1.0s
WB2 Warramunga Arr 62.55 189 P P 09 52 13.8 -1.5
WB2 IAmb IAmb 09 52 49.6
comp=Z,16nm,0.8s
WRA Warramunga Arr 62.55 189 P P 09 52 14.7 -0.6
comp=Z,4.4nm,0.9s,baz=6.7,slow=7.0,SNR=50
comp=Z,9.4nm,0.9s
WRA Warramunga Arr 62.55 189 P P 09 52 13.8 -1.5
WRA Warramunga Arr 62.55 189 P P 09 52 13.8 -1.5
WRA pmax pmax
comp=Z,1.0nm,0.9s
VALR Valaam 62.80 330 c iP P 09 52 16.2 -0.3
VALR pmax pmax
comp=Z,67nm,0.8s
E03A Lebam 63.08 51 IAmb IAmb 09 52 21.8
comp=Z,34nm,0.9s
STEI Steigen 63.08 340 eP P 09 52 18.2 -0.1
LOF Lofoten 63.35 341 eP P 09 52 19.7 -0.3
LOF IAmb IAmb 09 52 22.2
comp=Z,108nm,1.6s
FAUS Fauske 63.48 340 eP P 09 52 20.9 -0.1
FAUS IAmb IAmb 09 52 21.9
comp=Z,32nm,0.8s
MOS Moscow 63.50 322 eP P 09 52 19.4 -1.9
MOS e*PP pP 09 52 47.4 -0.4
MOS eS S 10 00 43.2 -2.6
MOS pmax pmax
comp=Z,53nm,1.0s
D05A Enumclaw 63.61 49 IAmb IAmb 09 52 25.4
comp=Z,31nm,1.1s
VRH Novokhopyorsk 64.25 317 eP P 09 52 25.3 -0.9
VRH pmax pmax
comp=Z,40nm,1.0s
LTY Liberty 64.31 49 IAmb IAmb 09 52 29.1
comp=Z,19nm,1.2s
OBN Obninsk 64.36 322 P P 09 52 26.7 -0.2
OBN Obninsk 64.36 322 P P 09 52 26.5 -0.4
comp=Z,8.4nm,0.7s,baz=67,slow=8.0,SNR=8.0
comp=Z,8.4nm,0.7s
OBN Obninsk 64.36 322 eP P 09 52 25.9 -1.0
OBN e*PP sP 09 53 03.1 -2.1
OBN e 09 54 46.5
OBN pmax pmax
comp=Z,40nm,1.0s
OBN Obninsk 64.36 322 eP P 09 52 25.9 -1.0
B08A Colville Reser 64.40 47 IAmb IAmb 09 52 29.7
comp=Z,42nm,1.6s
FIA1 FINESS Array S 64.49 332 P P 09 52 27.2 -0.4
FINES FINESS Array B 64.49 332 P P 09 52 27.4 -0.2
comp=Z,66nm,0.6s,baz=50,slow=7.5,SNR=363
FINES PP PP 09 54 48.6 -1.5
comp=Z,4.7nm,0.7s,baz=49,slow=11,SNR=3.4
FINES LR LR 10 25 45.6
comp=Z,50nm,20.4s,baz=30,slow=41
comp=Z,66nm,0.6s
MOR8 Moi Rana 64.63 339 eP P 09 52 27.1 -1.4
MOR8 IAmb IAmb 09 52 27.7
comp=Z,45nm,0.7s
LPSR Galich'ya Gora 64.79 319 eP P 09 52 29.3 -0.5
LPSR pmax pmax
comp=Z,40nm,0.9s
I03D Drain, OR 64.83 53 P P 09 52 32.1 +2.0
baz=305
H04A Detroit Lake 64.94 52 IAmb IAmb 09 52 33.4
comp=Z,16nm,0.7s
G05D Wamic, OR 65.11 51 P P 09 52 33.5 +1.5
baz=306
VORR Voronezh 65.22 318 eP P 09 52 31.9 -0.6
VORR pmax pmax
comp=Z,50nm,0.4s
SUMG Summit 65.28 0 P P 09 52 33.0 -0.1
SUMG Summit 65.28 0 P P 09 52 33.0 -0.1
SUMG pmax pmax
comp=Z,53nm,0.7s
SUMG Summit 65.28 0 i P P 09 52 32.5 -0.6
SUMG IAmb IAmb 09 52 34.3
comp=Z,49nm,0.6s
C09A Chrisman Ranch 65.30 47 IAmb IAmb 09 52 35.5
comp=Z,23nm,0.8s
I04A Tendick Farm, 65.32 53 P P 09 52 35.1 +1.7
baz=306,SNR=9.7
D08A Wollman Farm, 65.39 48 P P 09 52 32.3 -1.4
D08A IAmb IAmb 09 52 36.0
comp=Z,17nm,0.9s
HAWA Hanford 65.44 49 IAmb IAmb 09 52 36.7
comp=Z,13nm,0.8s
F07A Phinny Hill Vi 65.52 50 P P 09 52 32.3 -2.3
F07A IAmb IAmb 09 52 37.4
comp=Z,24nm,0.8s
VSR Storozhevoye 65.52 318 eP P 09 52 34.1 -0.4
VSR pmax pmax
comp=Z,50nm,1.2s
L02F Cave Junction 65.61 55 P P 09 52 37.2 +1.9
baz=306
I05D Terrebonne, OR 65.63 52 P P 09 52 37.2 +1.8
baz=306,SNR=5.6
NEW Newport 65.64 46 IAmb IAmb 09 52 37.7
comp=Z,16nm,0.8s
NEW Newport 65.64 46 P P 09 52 36.8 +1.4
baz=307,SNR=18
E08A Dider Farm, El 65.65 49 IAmb IAmb 09 52 37.9
comp=Z,20nm,0.7s
J04D Umpqua Nationa 65.83 53 IAmb IAmb 09 52 39.7
comp=Z,21nm,0.7s
J04D Umpqua Nationa 65.83 53 P P 09 52 38.7 +1.8
baz=306,SNR=6.9
MEF Metsahovi 65.93 331 eP P 09 52 37.2 +0.2
E09A Wood Farm, Sta 66.14 48 IAmb IAmb 09 52 41.1
comp=Z,29nm,0.9s
PINE Pine Mountain 66.19 52 IAmb IAmb 09 52 42.3
comp=Z,21nm,0.8s
RAF Rauma 66.27 333 eP P 09 52 39.8 +0.7
ASAR Alice Springs 66.28 189 P P 09 52 40.2 +0.6
comp=Z,6.8nm,0.9s,baz=9.0,slow=5.1,SNR=34
comp=Z,6.8nm,0.9s
VSU Vasula 66.29 329 eP P 09 52 39.8 +0.5
L04D Klamath Falls 66.31 54 IAmb IAmb 09 52 42.7
comp=Z,22nm,0.9s
L04D Klamath Falls 66.31 54 P P 09 52 41.4 +1.4
baz=306,SNR=6.5
J05D Fort Rock, OR 66.31 52 P P 09 52 41.8 +1.9
baz=306,SNR=7.7
NSS Namsos 66.56 339 eP P 09 52 40.9 0.0
WALA Waterton Lakes 66.84 44 P P 09 52 43.5 +0.4
WALA IAmb IAmb 09 52 45.3
comp=Z,16nm,0.8s
K05A Summer Lake 66.85 53 P P 09 52 43.9 +0.5
K05A IAmb IAmb 09 52 46.5
comp=Z,15nm,0.9s
MTSE Matsula 67.21 330 eP P 09 52 45.5 +0.5
JTMT Jette 67.47 45 IAmb IAmb 09 52 49.7
comp=Z,19nm,0.9s
TBLU Trondheim 68.04 339 eP P 09 52 48.2 -2.0
KVAR Kislovodsk Arr 68.11 310 P P 09 52 53.5 +2.3
comp=Z,7.1nm,0.6s,baz=21,slow=17,SNR=3.9
comp=Z,7.1nm,0.6s
KIV Kislovodsk 68.11 310 ⇑P P 09 52 51.3 +0.1
KIV Kislovodsk 68.11 310 P P 09 52 52.6 +1.4
KIV Kislovodsk 68.11 310 d iP P 09 52 52.7 +1.5
KIV i *PP pP 09 53 20.0 +2.0
KIV i 09 55 23.4
KIV i S S 10 01 30.9 -12
KIV pmax pmax

comp=Z,21nm,0.8s
KIV MLR MLR
comp=Z,36nm,16.0s
KIV Kislovodsk 68.11 310 *e*P **P 09 52 52.7 +1.5**
KBZ Khabaz 68.14 310 P **P 09 52 52.2 +1.1**
comp=Z,13nm,0.7s,baz=51,slow=3.7,SNR=26
comp=Z,13nm,0.7s
KBZ Khabaz 68.14 310*c i*P **P 09 52 51.5 +0.3**
KBZ pmax pmax
comp=Z,15nm,0.8s
KBZ Khabaz 68.14 310 *e*P **P 09 52 51.5 +0.3**
ZEI Tsey 68.14 308 *e*P **P 09 52 50.4 -1.1**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
ILULI Ilulissat 68.19 5 *i* P **P 09 52 50.8 -0.3**
ILULI IAmb IAmb 09 52 51.2
comp=Z,18nm,0.6s
SHA1 Shidzhatmaz 68.27 310*c i*P **P 09 52 53.1 +0.8**
NEY Neytrino 68.53 309 *i* P **P 09 52 54.0 +0.1**
NEY pmax pmax
comp=Z,2.0nm,0.6s
ISAL Salakas 68.54 327 *e*P **P 09 52 54.7 +1.2**
MNK Minsk 68.56 325 *i* P **P 09 52 54.7 +1.1**
MNK *i* *PP **pP 09 53 20.0 -0.6**
MNK *i* 09 55 27.2
MNK *i* PPP PPP 09 57 07.6
MNK *i* S **S 10 01 47.9 +0.8**
MNK *i* *SS **sS 10 02 33.7 +0.4**
MNK *i* SS **SS 10 06 16.9 +4.7**
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,45nm,0.9s
MNK MLR MLR
comp=E,38nm,19.0s
MNK MLR MLR
comp=N,8.0nm,15.0s
MNK MLR MLR
comp=Z,83nm,18.0s
MNK Minsk 68.56 325 *i* P **P 09 52 54.8 +1.1**
comp=E,4.0nm,0.8s
MNK *i* P **P 09 52 54.8 +1.1**
comp=N,9.0nm,0.9s
MNK *i* P **P 09 52 54.8 +1.1**
comp=Z,45nm,0.9s,baz=226
MNK *i* pP **pP 09 53 20.0 -0.6**
MNK *i* PP **PP 09 55 27.2 +1.5**
MNK *i* PPP PPP 09 57 07.7
MNK *i* S **S 10 01 48.0 +0.8**
MNK *i* SS **sS 10 02 33.7 +0.4**
MNK *i* SS **SS 10 06 17.0 +4.7**
MNK *i* SSS SSS 10 09 34.2
MNK *i* LQ LQ 10 18 03.0
MNK *i* LR LR 10 23 35.6
MNK *i* LRM MLR 10 25 44.1
comp=E,38nm,19.3s
MNK *i* LRM MLR 10 25 53.8
comp=N,8.0nm,14.8s
MNK *i* LRM MLR 10 25 55.1
comp=Z,83nm,18.1s
FFC Flin Flon 68.67 34 P **P 09 52 55.2 +0.8**
FFC IAmb IAmb 09 52 56.1
comp=Z,26nm,0.8s
FFC Flin Flon 68.67 34 P **P 09 52 55.2 +0.8**
FFC pmax pmax
comp=Z,27nm,0.8s
FFC Flin Flon 68.67 34 P **P 09 52 53.7 -0.6**
NACGM Naroch 68.74 326 *e*P **P 09 52 54.8 +0.1**
baz=46
ICESG Greenland Ices 68.77 1 *i* P **P 09 52 54.6 -0.6**
ICESG IAmb IAmb 09 52 55.9
comp=Z,37nm,0.5s
BEKR Beckworth 68.91 55 P **P 09 52 57.5 +1.2**
AFDM Forest Hills D 69.10 56 P **P 09 52 56.0 -1.3**
GNI Garni 69.27 306 P **P 09 52 59.0 +0.5**
comp=Z,3.9nm,0.3s,baz=43,slow=18,SNR=1.8
comp=Z,3.9nm,0.3s
MOL Molde 69.31 340 *e*P **P 09 52 57.3 -0.9**
MFID Camas Ranch 69.35 50 IAmb IAmb 09 53 01.4
comp=Z,34nm,1.7s
DOMB Dombas 69.35 339 *e*P **P 09 52 58.5 0.0**
DOMB IAmb IAmb 09 52 59.0
comp=Z,22nm,0.7s
NC303 NORSAR Array S 69.37 337 *e*P **P 09 52 58.8 +0.2**
NC303 IAmb IAmb 09 52 59.7
comp=Z,33nm,0.9s
HRY Holter Researc 69.42 45 P **P 09 52 59.7 +0.4**
PABE Paberze 69.45 328 *e*P **P 09 52 59.6 +0.4**
MPK Martis Peak 69.46 55 IAmb IAmb 09 53 02.5
comp=Z,31nm,1.4s
NC204 NORSAR Array S 69.51 337 P **P 09 52 59.7 +0.2**
NB201 NORSAR Array S 69.54 337 P **P 09 52 59.6 0.0**
HFS Hagfors 69.55 335 P **P 09 52 59.5 -0.2**
comp=Z,54nm,0.5s,baz=48,slow=6.8,SNR=111
HFS LR LR 10 25 42.8
comp=Z,29nm,18.2s,baz=16,slow=38
comp=Z,54nm,0.5s
NB2 NORSAR Subarra 69.57 337 P **P 09 52 59.4 -0.4**
comp=Z,31nm,0.7s,baz=36,slow=6.2
NB2 NORSAR Subarra 69.57 337 P **P 09 52 59.4 -0.4**
baz=36,slow=6.2
NOA NORSAR Array B 69.57 337 P **P 09 52 59.7 -0.2**
comp=Z,26nm,0.7s,baz=36,slow=6.1,SNR=87
NOA LR LR 10 31 13.9
comp=Z,16nm,19.1s,baz=355,slow=42
comp=Z,26nm,0.7s
EMB Emerald Bay 69.61 56 IAmb IAmb 09 53 03.2
comp=Z,13nm,0.8s
EGMT Eagleton 69.63 43 IAmb IAmb 09 53 02.6
comp=Z,33nm,0.8s
EGMT Eagleton 69.63 43 P **P 09 53 01.6 +1.1**
baz=311,SNR=23
NC602 NORSAR Array S 69.72 337 *e*P **P 09 53 00.3 -0.4**
AKN Aaknes 69.78 340 *e*P **P 09 53 02.0 +0.9**
PNTR Pine Nut 69.85 55 IAmb IAmb 09 53 05.0
comp=Z,45nm,1.8s
HLID Hailey 70.05 49 P **P 09 53 04.6 +1.3**
baz=310,SNR=10
BOZ Bozeman (W) 70.25 46 IAmb IAmb 09 53 06.8
comp=Z,23nm,0.7s
BOZ Bozeman (W) 70.25 46 P **P 09 53 05.6 +1.2**
baz=311,SNR=45
SFJD Kangerlussuaq 70.42 5 LR LR 10 25 29.9
comp=Z,40nm,18.7s,baz=8.5,slow=37
SFJD Kangerlussuaq 70.42 5 *i* P **P 09 53 04.1 -0.8**
SFJD IAmb IAmb 09 53 05.0
comp=Z,9.9nm,0.7s
SFJD Kangerlussuaq 70.42 5 P **P 09 53 04.4 -0.4**
ANN Anapa 70.49 313 *e*P **P 09 53 05.6 0.0**
ANN pmax pmax
comp=Z,20nm,0.6s
OSL Oslo 70.61 337 *e*P **P 09 53 06.9 +0.8**
AKASG Malin Array Be 70.61 322 P **P 09 53 06.2 -0.2**
comp=Z,19nm,0.6s,baz=43,slow=6.6,SNR=64
AKASG pP **pP 09 53 33.2 -0.2**
comp=Z,5.8nm,0.6s,baz=43,slow=6.7,SNR=3.1
comp=Z,19nm,0.6s
HYA Hoyanger 70.85 339 *e*P **P 09 53 07.8 +0.3**
HYA IAmb IAmb 09 53 09.7
comp=Z,245nm,2.1s
YHL Hebgen Lake 70.98 46 IAmb IAmb 09 53 11.6
comp=Z,15nm,0.8s
LHV Little Huntoon 71.04 55 IAmb IAmb 09 53 12.5
comp=Z,20nm,1.0s
NVAR Mina Array Bea 71.05 55 P **P 09 53 11.2 +1.7**
comp=Z,6.6nm,0.8s,baz=292,slow=5.8,SNR=65
comp=Z,6.6nm,0.8s
KONO Kongsberg 71.17 337 ⇑P **P 09 53 10.2 +0.7**
KONO Kongsberg 71.17 337 *e*P **P 09 53 09.7 +0.2**
DY2G Dye2 71.19 4 *i* P **P 09 53 08.6 -1.3**
DY2G IAmb IAmb 09 53 10.7
comp=Z,23nm,0.6s
YMR Madison River 71.21 46 IAmb IAmb 09 53 13.0
comp=Z,14nm,0.8s
MLAC Mammoth, Mammo 71.23 56 P **P 09 53 12.8 +2.1**
baz=309
FRB Frobisher Bay 71.30 14 LR LR 10 27 18.4
comp=Z,54nm,19.6s,baz=156,slow=38
KLNR Kaliningrad 71.58 329 *i* P **P 09 53 11.6 -0.5**
KLNR pmax pmax
comp=Z,73nm,1.0s
H17A Grant Village 71.60 46 P **P 09 53 15.5 +2.7**
baz=312,SNR=9.6
ASK Askoy 71.69 339 *e*P **P 09 53 13.2 +0.6**
ASK IAmb IAmb 09 53 13.7
comp=Z,112nm,1.1s
IMW Indian Meadow 71.74 47 IAmb IAmb 09 53 16.7
comp=Z,12nm,0.8s
ODD1 Odda 71.79 338 *e*P **P 09 53 13.8 +0.4**
RLMT Red Lodge 71.81 45 IAmb IAmb 09 53 16.5
comp=Z,35nm,1.7s
RLMT Red Lodge 71.81 45 P **P 09 53 15.3 +1.3**
baz=312,SNR=9.2
GURO Guroymak-BITLI 71.91 306 IAmb IAmb 09 53 17.0
comp=Z,13nm,0.7s
TPH Tonopah 71.93 55 IAmb IAmb 09 53 17.3
comp=Z,44nm,0.9s
TIN Tinemaha, Big 71.97 56 P **P 09 53 16.2 +1.3**
baz=310
TPAW Teton Pass 72.00 47 IAmb IAmb 09 53 17.4
comp=Z,36nm,1.5s
DGMT Dagmar 72.05 40 P **P 09 53 16.2 +1.1**
baz=314,SNR=14
SIM Simferopol' 72.15 315 *e*P P 09 53 21.1 +5.4
SIM *e* 09 56 04.0
SIM pmax pmax
comp=Z,20nm,1.0s
SIM pmax pmax
comp=Z,49nm,14.6s
VES Vestal, Richgr 72.22 58 P **P 09 53 17.0 +0.7**
baz=310,SNR=5.4
BLS5 Blasjo 72.25 338 *e*P **P 09 53 16.9 +0.9**
LAO LASA Array 72.30 42 IAmb IAmb 09 53 19.0
comp=Z,25nm,0.9s
LAO LASA Array 72.30 42 P **P 09 53 18.0 +1.3**
baz=314,SNR=6.0
PKM Mcpherson Peak 72.36 59 P **P 09 53 18.6 +1.2**
baz=310
CWC Cottonwood Cre 72.46 57 P **P 09 53 19.0 +1.1**
baz=310
GRAC Grapevine Rang 72.54 56 IAmb IAmb 09 53 21.1
comp=Z,20nm,0.8s
GRAC Grapevine Rang 72.54 56 P **P 09 53 19.8 +1.6**
baz=310,SNR=6.5
HOMB Homborsund 72.63 337 *e*P **P 09 53 18.5 +0.2**
ISA Isabella, Lake 72.71 57 P **P 09 53 20.5 +1.2**
baz=310
R11A Troy Canyon, C 72.74 54 P **P 09 53 20.8 +1.2**
baz=311,SNR=11
KMY Karmoy 72.76 339 *e*P **P 09 53 19.7 +0.7**
HWUT Hardware Ranch 72.92 49 IAmb IAmb 09 53 23.2
comp=Z,20nm,1.1s
SNART Snartemo 72.95 337 *e*P **P 09 53 20.5 +0.3**
SPR3 Spring Creek 3 73.06 53 IAmb IAmb 09 53 25.6
comp=Z,8.4nm,0.9s
MPMC Manual Prospec 73.07 57 P **P 09 53 23.0 +1.5**
baz=310,SNR=9.7
S11A Rachel 73.10 54 IAmb IAmb 09 53 24.4
comp=Z,14nm,0.9s
DUG Dugway, Tooele 73.15 51 IAmb IAmb 09 53 24.6
comp=Z,14nm,0.8s
DUG Dugway, Tooele 73.15 51 P **P 09 53 23.6 +1.7**
baz=312,SNR=20
FURC Furnace Creek, 73.19 56 P **P 09 53 23.9 +1.9**
baz=310,SNR=22
BW06 Boulder Array 73.24 47 IAmb IAmb 09 53 24.4
comp=Z,12nm,0.8s
BW06 Boulder Array 73.24 47 P **P 09 53 23.4 +0.8**
baz=312,SNR=14
PDAR Pinedale Array 73.24 47 P **P 09 53 23.5 +1.0**
comp=Z,9.9nm,0.7s,baz=261,slow=1.9,SNR=119
comp=Z,9.9nm,0.7s
TPNV Topopah Spring 73.25 55 IAmb IAmb 09 53 25.1
comp=Z,16nm,0.9s
TPNV Topopah Spring 73.25 55 P **P 09 53 23.9 +1.3**
baz=311,SNR=15
LRMC Laurel Mtn Rad 73.32 57 P **P 09 53 23.8 +0.8**
baz=310
TCUT Toone Canyon 73.33 49 IAmb IAmb 09 53 25.7
comp=Z,21nm,0.8s
MARD Mardin 73.46 306 IAmb IAmb 09 53 26.0
comp=Z,28nm,0.8s
QSM Queen of Sheba 73.51 56 IAmb IAmb 09 53 26.5
comp=Z,18nm,1.0s
EDW2 Edwards Air Fo 73.52 58 P **P 09 53 25.1 +1.1**
baz=310,SNR=6.3
LVV L'vov 73.57 324 *e*P P 09 53 29.2 +5.2
DIKM Dikmen 73.77 312 ⇑P **P 09 53 26.4 +1.1**
SHOC Shoshone, Teco 73.92 56 P **P 09 53 27.5 +1.2**
baz=311
STKA Stephens Creek 73.97 181 P **P 09 53 26.7 +0.4**
comp=Z,3.1nm,0.8s,baz=329,slow=4.8,SNR=5.7
comp=Z,3.1nm,0.8s
GSC Goldstone, Bar 73.98 57 P **P 09 53 28.0 +1.2**
baz=311,SNR=5.1
BFSC Mount Baldy Ra 74.14 58 P **P 09 53 28.7 +0.9**
baz=311
CIS Catalina Islan 74.21 59 P **P 09 53 29.0 +0.9**
baz=310
SCI2 San Clemente I 74.40 60 P **P 09 53 30.1 +1.0**
baz=311
TCRU Three Creeks R 74.42 52 IAmb IAmb 09 55 53.8
comp=Z,14nm,0.4s
TUQ Turquoise Moun 74.44 56 P **P 09 53 31.0 +1.5**
baz=311,SNR=8.7
ULM Lac du Bonnet 74.49 35 P **P 09 53 29.4 +0.1**
comp=Z,14nm,0.8s,baz=316,slow=7.1,SNR=21
comp=Z,14nm,0.8s
ULM Lac du Bonnet 74.49 35 IAmb IAmb 09 53 30.5
comp=Z,19nm,1.0s
HEC Hector,Ludlow 74.58 57 P **P 09 53 31.8 +1.6**
baz=311,SNR=9.3
MVU Marysvale 74.62 52 IAmb IAmb 09 53 33.6
comp=Z,37nm,1.0s
MDND Maddock 74.64 38 P **P 09 53 31.5 +1.2**
baz=317
BUR08 Bucovina Ar. S 74.65 322 IAmb IAmb 09 53 37.3
comp=Z,20nm,0.7s
BURAR Bucovina Array 74.66 321 ⇑P **P 09 53 30.8 +0.3**
BURAR Bucovina Array 74.66 321 IAmb IAmb 09 53 37.7
comp=Z,25nm,0.7s
BURAR Bucovina Array 74.66 321 ⇑P **P 09 53 30.8 +0.3**
TLCR 74.69 318 P **P 09 53 31.5 +0.9**
TLCR 74.69 318 P **P 09 53 31.5 +0.9**
RDMU Red Mountain 74.73 49 IAmb IAmb 09 53 33.7
comp=Z,39nm,0.8s
BIZ Bicaz 74.74 321 ⇑P **P 09 53 31.8 +0.9**
TESR Tescani 74.79 320 ⇑P **P 09 53 31.2 0.0**
P17A Butcher Ranch, 74.82 50 IAmb IAmb 09 53 34.2
comp=Z,21nm,0.8s
MURC Murrieta 74.85 58 P **P 09 53 32.8 +1.1**
baz=311
K22A Casper 74.95 46 IAmb IAmb 09 53 34.4
comp=Z,34nm,1.4s
K22A Casper 74.95 46 P **P 09 53 33.1 +0.7**
baz=314,SNR=11
KOLS Kolonicke sedl 75.00 324 *e*P **P 09 53 33.3 +1.0**
KOLS Kolonicke sedl 75.00 324 *e*P **P 09 53 33.3 +1.0**
KOLS *e* 09 53 38.4
ILGA Ilgaz 75.02 312 IAmb IAmb 09 53 35.2
comp=Z,35nm,0.8s
GMRC Granite Mounta 75.03 57 P **P 09 53 34.1 +1.2**
baz=311,SNR=6.8
CFR Carcaliu 75.03 318 ⇑P **P 09 53 33.5 +1.0**
CFR Carcaliu 75.03 318 ⇑P **P 09 53 33.5 +1.0**
OJC Ojcow 75.08 326 *e*P **P 09 53 32.4 -0.4**
OJC Ojcow 75.08 326 IAmb IAmb 09 53 38.2
comp=Z,34nm,0.7s
TPGR Topolog 75.12 318 ⇑P **P 09 53 33.4 +0.3**
SRU San Rafael Swe 75.19 50 IAmb IAmb 09 53 36.5
comp=Z,26nm,0.7s
RSSD Black Hills 75.20 43 P **P 09 53 34.5 +0.7**
RSSD IAmb IAmb 09 53 35.5
comp=Z,16nm,0.9s
RSSD Black Hills 75.20 43 P **P 09 53 34.5 +0.7**
RSSD pmax pmax
comp=Z,16nm,0.9s
RSSD Black Hills 75.20 43 P **P 09 53 34.7 +0.9**
baz=315
VRI Vrincioaia 75.22 319 ⇑P **P 09 53 35.0 +1.4**
VRI Vrincioaia 75.22 319 ⇑P **P 09 53 35.0 +1.4**
RWWY Rawlins 75.25 47 IAmb IAmb 09 53 36.2
comp=Z,20nm,0.8s
PLOR Plostina 75.27 319 ⇑P **P 09 53 34.5 +0.5**
PLOR Plostina 75.27 319 ⇑P **P 09 53 34.5 +0.5**
PFO Pinyon Flats O 75.31 58 P **P 09 53 35.5 +1.0**
PFO Pinyon Flats O 75.31 58 P **P 09 53 35.5 +1.0**
PFO pmax pmax
comp=Z,11nm,1.4s
PFO Pinyon Flats O 75.31 58 P **P 09 53 35.2 +0.7**
baz=311
TPFO Pinon Flats 75.31 58 P **P 09 53 35.5 +0.9**
baz=311
BNN Bunyan 75.34 309 IAmb IAmb 09 53 35.5
comp=Z,42nm,0.9s
BELC Belle Mtn. Jos 75.34 57 P **P 09 53 35.7 +1.0**
baz=311,SNR=5.1
CRVS Cervenica-Dubn 75.38 324 *e*P **P 09 53 35.0 +0.5**
CRVS *e* 09 53 40.6
CRVS pmax pmax
comp=Z,16nm,0.7s
CRVS Cervenica-Dubn 75.38 324 *e*P **P 09 53 35.0 +0.5**
CRVS *e* 09 53 40.6
TIRR Tirgusor 75.41 318 P P 09 53 29.1 -5.6
TIRR Tirgusor 75.41 318 P **P 09 53 29.1 -5.6**
NEHR Nehoiu 75.75 319 P **P 09 53 36.3 -0.4**
IRM Iron Mountain 75.76 57 P **P 09 53 38.7 +1.7**
baz=312,SNR=5.2
O20A White River Ci 75.77 48 P **P 09 53 38.2 +1.1**
baz=314,SNR=9.7
MONP2 Monument Peak 75.80 58 P **P 09 53 38.4 +1.0**
baz=311
ISR Istrita 75.86 319 ⇑P **P 09 53 38.7 +1.4**
ISR Istrita 75.86 319 ⇑P **P 09 53 38.7 +1.4**
MLR Muntele Rosu 75.87 320 ⇑P **P 09 53 38.2 +0.7**
MLR Muntele Rosu 75.87 320 P **P 09 53 37.8 +0.3**
comp=Z,2.7nm,0.5s,baz=349,slow=5.2,SNR=3.5
comp=Z,2.7nm,0.5s
MLR Muntele Rosu 75.87 320 ⇑P **P 09 53 38.2 +0.7**
BC3 Big Chuckawall 75.90 57 P **P 09 53 38.7 +0.9**
baz=312
AGMN Agassiz Nation 75.98 36 IAmb IAmb 09 53 38.8
comp=Z,16nm,0.8s
AGMN Agassiz Nation 75.98 36 P **P 09 53 37.6 -0.3**
baz=319,SNR=13
BR131 Keskin Array S 75.98 311 P **P 09 53 38.2 -0.1**
BR131 Keskin Array S 75.98 311 P **P 09 53 38.2 -0.1**
BR131 pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 75.98 311 P **P 09 53 38.8 +0.5**
comp=Z,4.1nm,0.7s,baz=75,slow=3.8,SNR=23
BRTR PP **PP 09 56 29.6 0.0**
comp=Z,1.3nm,0.7s,baz=42,slow=6.7,SNR=4.0
comp=Z,4.1nm,0.7s
BRTR Keskin Array B 75.98 311 P **P 09 53 38.4 +0.1**
KSP Ksiaz 76.00 328 *e*P **P 09 53 38.8 +0.8**
LANS Liptovska Anna 76.04 326 *e*P **P 09 53 40.0 +1.7**
LANS *e* 09 53 45.2
LANS pmax pmax
comp=Z,15nm,0.9s
LANS Liptovska Anna 76.04 326 *e*P **P 09 53 40.0 +1.7**
LANS *e* 09 53 45.2
SWSC Sam W. Stewart 76.16 58 P **P 09 53 39.5 +0.3**
baz=312
IKP In-Ko-Pah, Jac 76.16 58 P **P 09 53 40.3 +1.0**
baz=312
OSTC Ostas 76.26 328 *e*P **P 09 53 40.1 +0.6**
OSTC *ex* x 09 53 43.9
PDMCI Parker Dam,Lak 76.28 56 P **P 09 53 41.0 +1.1**
baz=312,SNR=5.4
CHVC Chvalec 76.29 328 *e*P **P 09 53 40.4 +0.7**
CHVC *ex* x 09 53 45.5
VOIR 76.34 320 ⇑P **P 09 53 40.9 +0.8**
VOIR 76.34 320 ⇑P **P 09 53 40.9 +0.8**
MORC Moravsky Berou 76.34 327 ⇑P **P 09 53 41.6 +1.6**
MORC Moravsky Berou 76.34 327 P **P 09 53 40.4 +0.4**
MORC IAmb IAmb 09 53 47.0
comp=Z,22nm,0.7s
MORC Moravsky Berou 76.34 327 *e*P **P 09 53 40.4 +0.4**
MORC *e* 09 53 46.1
MORC *e* 09 54 08.9
MORC Moravsky Berou 76.34 327 ⇑P **P 09 53 41.6 +1.6**
ANTO Ankara 76.35 312 P **P 09 53 41.3 +1.0**
ANTO IAmb IAmb 09 53 42.0
comp=Z,20nm,0.8s
ANTO Ankara 76.35 312 P **P 09 53 41.3 +1.0**
ANTO pmax pmax
comp=Z,20nm,0.9s
UPC Upice 76.38 328 *e*P **P 09 53 40.8 +0.7**
UPC Upice 76.38 328 *e*P **P 09 53 40.8 +0.7**
DPC Dobruska-Polom 76.38 328 *e*P **P 09 53 41.2 +1.0**
DPC *e* 09 53 46.2
DPC Dobruska-Polom 76.38 328 *e*P **P 09 53 41.2 +1.0**
DPC *ex* x 09 53 46.2
KRLC Kraliky 76.41 328 *e*P **P 09 53 40.6 +0.2**
KRLC *e* 09 53 46.4
KRLC Kraliky 76.41 328 *e*P **P 09 53 40.6 +0.2**
KRLC *ex* x 09 53 46.4
DRGR 76.42 322 P **P 09 53 41.1 +0.6**
DRGR 76.42 322 P **P 09 53 41.1 +0.6**
N23A Red Feather La 76.49 47 IAmb IAmb 09 53 43.9
comp=Z,28nm,1.4s
N23A Red Feather La 76.49 47 P **P 09 53 42.9 +1.6**
baz=315,SNR=8.6
PV23 Carpenter Ridg 76.50 50 IAmb IAmb 09 53 43.8
comp=Z,31nm,0.9s
MAUC Maruska 76.55 327 *e*P **P 09 53 41.9 +0.7**
MAUC *ex* x 09 53 47.2
ARR Arges 76.59 320 ⇑P **P 09 53 43.0 +1.5**
BORR Bors 76.61 323 ⇑P **P 09 53 43.6 +2.2**
PV11 David Mesa, Pa 76.68 50 P **P 09 53 41.7 -0.6**
PSZ Piszkesteto 76.80 324 P **P 09 53 43.6 +0.9**
PSZ Piszkesteto 76.80 324 P **P 09 53 42.9 +0.3**
PSZ IAmb IAmb 09 53 50.1
comp=Z,14nm,0.7s
PSZ Piszkesteto 76.80 324 P **P 09 53 42.9 +0.3**
PSZ pmax pmax
comp=Z,14nm,0.7s
PSZ Piszkesteto 76.80 324 P **P 09 53 42.6 -0.1**
PV13 Radium Mtn., P 76.81 50 P **P 09 53 43.6 +0.5**
PV13 IAmb IAmb 09 53 45.6
comp=Z,22nm,0.9s
VYHS Vyhne 76.81 325 *e*P **P 09 53 43.4 +0.8**
VYHS *e* 09 53 49.2
VYHS pmax pmax
comp=Z,14nm,0.9s
VYHS Vyhne 76.81 325 *e*P **P 09 53 43.4 +0.8**
VYHS *e* 09 53 49.2
B35A Bob, Littlefor 76.84 35 P **P 09 53 42.9 +0.1**
CLL Collm 76.87 330 P **P 09 53 43.1 +0.3**
CLL IAmb IAmb 09 53 49.3
comp=Z,17nm,0.6s
CLL Collm 76.87 330 ⇑*i*P **P 09 53 43.0 +0.1**
CLL *e* 09 53 54.0
CLL *e**PP **pP 09 54 11.0 +0.7**
CLL pmax pmax
comp=Z,17nm,0.8s
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 76.87 330 ⇑*i*P **P 09 53 43.0 +0.1**
comp=Z,17nm,0.8s
CLL *i* x x 09 53 47.2
comp=Z,17nm,0.7s
CLL *e*PcP **PcP 09 53 54.0 +0.4**
comp=Z,10.0nm,0.8s
CLL *e*pP **pP 09 54 11.0 +0.7**
comp=Z,31nm,1.5s
CLL *e*sP **sP 09 54 22.0 +0.1**
BRG Berggiesshubel 76.88 329 *e*P **P 09 53 44.0 +1.1**
BRG Amp 09 53 44.5
comp=Z,7.8nm,0.9s
BRG Berggiesshubel 76.88 329 *e*P **P 09 53 44.0 +1.1**
BRG pmax pmax
comp=Z,8.0nm,0.9s
PVCC Panska Ves 76.92 329 *e*P **P 09 53 43.9 +0.8**
PVCC Panska Ves 76.92 329 *e*P **P 09 53 43.9 +0.8**
JAVC Velka Javorina 77.01 326 *e*P **P 09 53 45.3 +1.5**
JAVC *e* 09 53 51.1
JAVC *e* 09 54 13.7
VRAC Vranov 77.09 327 ⇑P **P 09 53 45.4 +1.2**
VRAC Vranov 77.09 327 P **P 09 53 45.3 +1.2**
comp=Z,10nm,0.7s,baz=33,slow=5.6,SNR=11
VRAC pP **pP 09 54 13.1 +1.4**
comp=Z,8.2nm,0.9s,baz=60,slow=5.3,SNR=2.7
VRAC LR LR 10 33 43.8
comp=Z,47nm,18.8s,baz=11,slow=40
comp=Z,10nm,0.7s
VRAC Vranov 77.09 327 *e*P **P 09 53 45.0 +0.8**
VRAC *e* 09 53 50.7
VRAC *e* 09 54 13.3
SMCO Snowmass 77.13 48 IAmb IAmb 09 53 47.4
comp=Z,13nm,0.8s
WUAZ Wupatki 77.14 54 P **P 09 53 46.6 +1.7**
baz=313,SNR=8.2
PRU Pruhonice 77.36 329 *e*P **P 09 53 46.0 +0.4**

PRU *e* 09 53 50.4
PRU Pruhonice 77.36 329 *eP* **P 09 53 46.0 +0.4**
PRU *ex* x 09 53 50.4
KRUC Moravsky 77.37 327 *eP* **P 09 53 46.4 +0.7**
KRUC *e* 09 53 52.2
KRUC *e* 09 54 14.8
SMOL Smolenice 77.38 326 *eP* **P 09 53 47.1 +1.3**
SMOL pmax pmax
comp=Z,7.0nm,0.7s
GZR Gura Zlata 77.44 321 ⇑P **P 09 53 46.7 +0.5**
GZR Gura Zlata 77.44 321 ⇑P **P 09 53 46.7 +0.5**
ISCO Idaho Springs 77.44 47 P **P 09 53 48.0 +1.3**
baz=315,SNR=12
SUSD Miller 77.47 40 P **P 09 53 47.0 +0.6**
SUSD Miller 77.47 40 P **P 09 53 46.9 +0.6**
baz=318,SNR=11
MODS Modra-Piesok 77.55 326 *eP* **P 09 53 48.1 +1.3**
MODS pmax pmax
comp=Z,34nm,1.4s
MODS Modra-Piesok 77.55 326 *eP* **P 09 53 48.0 +1.3**
MVCO Mesa Verde 77.65 51 P **P 09 53 49.1 +1.3**
baz=314,SNR=8.9
F33A 5 Mile Ranch, 77.65 38 IAmb IAmb 09 53 48.7
comp=Z,17nm,0.8s
BZS Buzias 77.80 322 ⇑P **P 09 53 48.0 -0.2**
BZS Buzias 77.80 322 ⇑P **P 09 53 48.0 -0.2**
HERR Herculane 77.99 321 ⇑P **P 09 53 49.4 +0.2**
EYMN Ely 78.10 34 IAmb IAmb 09 53 51.0
comp=Z,25nm,0.8s
EYMN Ely 78.10 34 P **P 09 53 50.1 +0.3**
baz=322,SNR=19
S22A 4UR Ranch, Cre 78.22 49 P **P 09 53 52.3 +1.2**
baz=315,SNR=14
Q24A Divide 78.29 47 P **P 09 53 52.2 +0.8**
baz=316
EKA Eskdalemuir Ar 78.34 341 P **P 09 53 51.2 +0.3**
comp=Z,5.7nm,0.6s,baz=24,slow=5.1,SNR=29
EKA PP **PP 09 56 48.2 -0.4**
comp=Z,0.4nm,0.6s,baz=41,slow=9.4,SNR=4.3
comp=Z,5.7nm,0.6s
CKRC Cesky Krumlov 78.39 328 *eP* **P 09 53 52.0 +0.6**
CKRC *ex* x 09 53 56.8
MPLH Magyarpolny 78.39 325 P P 09 53 59.6 +8.2
SOP Sopron 78.39 326 P P 09 53 59.1 +7.8
MDVR Moldovita 78.39 321 ⇑P **P 09 53 52.4 +0.9**
KHC Kasperske Hory 78.42 329 IAmb IAmb 09 53 53.3
comp=Z,15nm,0.7s
KHC Kasperske Hory 78.42 329 *eP* **P 09 53 52.0 +0.4**
KHC *e* 09 53 57.4
KHC Kasperske Hory 78.42 329 *eP* **P 09 53 52.0 +0.4**
KHC *ex* x 09 53 57.4
CONA Conrad Observa 78.48 327 *eP* **P 09 53 53.4 +1.4**
comp=Z,3.1nm,0.5s
RONA Rosalia, Austr 78.49 326 *i* P **P 09 53 53.3 +1.3**
SNR=5.7
RONA *eP* **P 09 53 53.5 +1.5**
comp=Z,8.5nm,0.7s
OGNE Ogallala 78.51 44 IAmb IAmb 09 53 54.2
comp=Z,36nm,0.8s
OGNE Ogallala 78.51 44 P **P 09 53 53.4 +1.1**
baz=317,SNR=13
GERES GERESS Array B 78.61 328 P **P 09 53 52.9 +0.2**
comp=Z,2.8nm,0.6s,baz=35,slow=4.9,SNR=17
GERES pP **pP 09 54 20.6 +0.4**
comp=Z,1.2nm,0.6s,baz=21,slow=8.4,SNR=2.4
comp=Z,2.8nm,0.6s
MORH Mrgy, Hungar 78.66 324 P **P 09 53 51.9 -1.0**
K31A O'Neill 78.92 41 P **P 09 53 54.3 -0.1**
SDCO Great Sand Dun 78.96 49 P **P 09 53 56.4 +1.3**
baz=316,SNR=14
FRGS Fruska Gora 78.97 323 ⇑P **P 09 53 55.7 +1.0**
KOVH Kovagotottos 79.00 324 P **P 09 53 53.8 -0.9**
ECSD EROS Data Cent 79.11 39 IAmb IAmb 09 53 56.8
comp=Z,26nm,0.8s
ECSD EROS Data Cent 79.11 39 P **P 09 53 56.0 +0.6**
baz=320,SNR=29
E38A The Farm, Brul 79.13 35 IAmb IAmb 09 54 18.9
comp=Z,30nm,0.8s
ARSA Arzberg 79.16 326 *eP* **P 09 53 56.5 +0.8**
comp=Z,3.1nm,0.6s
MOA Molln 79.19 327 *eP* **P 09 53 56.8 +1.0**
comp=Z,1.4nm,0.3s
BOVS Bovan 79.27 321 ⇑P **P 09 53 56.4 +0.1**
ASF Jabal al Asfar 79.28 304 P **P 09 53 57.5 +0.9**
comp=Z,4.5nm,0.9s,baz=90,slow=3.0,SNR=6.6
comp=Z,4.5nm,0.9s
VTS Vitosha 79.31 319 ⇑P **P 09 53 58.5 +1.8**
VTS Vitosha 79.31 319 IAmb IAmb 09 53 58.6
comp=Z,15nm,0.7s
VTS Vitosha 79.31 319 ⇑P **P 09 53 58.5 +1.8**
RAYN Ar Rayn 79.48 292 P **P 09 53 58.2 +0.3**
RAYN Ar Rayn 79.48 292 P **P 09 53 58.6 +0.8**
BIOA Bad Ischl, Aus 79.57 328 *eP* **P 09 53 59.1 +1.3**
comp=Z,2.8nm,0.3s
MMAI Mount Meron Ar 79.61 305 P **P 09 53 59.4 +1.0**
comp=Z,9.8nm,0.8s,baz=46,slow=7.1,SNR=11
comp=Z,9.8nm,0.8s
KSCO Kaye Shedlock' 79.61 46 IAmb IAmb 09 54 01.2
comp=Z,75nm,1.8s
KSCO Kaye Shedlock' 79.61 46 P **P 09 53 59.0 +0.6**
baz=317,SNR=6.6
SPMN Marine on St. 79.69 36 IAmb IAmb 09 53 59.5
comp=Z,15nm,0.9s
SPMN Marine on St. 79.69 36 P **P 09 53 58.6 +0.1**
baz=322
DIVS Divibare 79.71 322 IAmb IAmb 09 54 06.3
comp=Z,12nm,0.7s
SOKA Soboth 79.82 326 *i* P **P 09 54 00.3 +1.0**
SNR=5.3
SOKA *eP* **P 09 54 00.4 +1.0**
comp=Z,9.5nm,0.6s
SOKA *i* P **P 09 54 00.5 +1.2**
SNR=4.8
BEBN Eben Emael 79.84 334 *dP* **P 09 53 59.1 -0.1**
BEBN *dPcP* **PcP 09 54 06.1 -0.4**
BTNL Ternell 79.87 334 *dP* **P 09 53 59.4 0.0**
BTNL *dPcP* **PcP 09 54 05.6 -1.1**
SCHQ Schefferville 79.88 17 P **P 09 53 59.9 +0.5**
comp=Z,16nm,0.8s,baz=9.3,slow=6.5,SNR=21
comp=Z,16nm,0.8s
SCHQ Schefferville 79.88 17 P **P 09 53 59.2 -0.2**
SCHQ IAmb IAmb 09 54 00.8
comp=Z,16nm,0.9s
MEM Membach 79.89 334 *dP* **P 09 53 59.9 +0.4**
T25A Trinidad 80.00 48 IAmb IAmb 09 54 02.8
comp=Z,19nm,0.8s
T25A Trinidad 80.00 48 P **P 09 54 01.5 +0.9**
baz=316,SNR=16
BSTI Sart Tilman 80.06 334 *dP* **P 09 54 01.3 +0.9**
BSTI *dPcP* **PcP 09 54 07.3 -0.2**
BHOU Houvegnez 80.11 333 *dP* **P 09 54 00.9 +0.1**
BGNE Belgrade 80.13 42 IAmb IAmb 09 54 02.3
comp=Z,48nm,0.9s
BGNE Belgrade 80.13 42 P **P 09 54 01.4 +0.4**
baz=319,SNR=5.1
OBKA Obir 80.16 327 *eP* **P 09 54 01.9 +0.8**
comp=Z,8.9nm,0.6s
ELL Elmali 80.16 311 P **P 09 54 01.8 +0.4**
ELL IAmb IAmb 09 54 02.5
comp=Z,35nm,0.8s
ELL Elmali 80.16 311 P **P 09 54 01.8 +0.4**
ELL pmax pmax
comp=Z,35nm,0.8s
BCLA Clavier 80.29 334 *dP* **P 09 54 01.8 +0.1**
I37A Lemond, Waseca 80.37 37 P **P 09 54 01.7 -0.5**
I37A IAmb IAmb 09 54 03.9
comp=Z,35nm,0.8s
ANMO Albuquerque 80.42 51 P **P 09 54 04.0 +1.1**
ANMO Albuquerque 80.42 51 P **P 09 54 04.0 +1.1**
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO Albuquerque 80.42 51 P **P 09 54 03.1 +0.2**
baz=315
MYKA Terra Mystica 80.43 327 *eP* **P 09 54 02.5 -0.1**
comp=Z,5.3nm,0.6s
RCHB Rochefort 80.54 334 *dP* **P 09 54 02.6 -0.3**
COWI Conover 80.54 34 P **P 09 54 02.6 -0.5**
BMRD Maredsous 80.56 334 *dP* **P 09 54 02.8 -0.3**
BMRD *dPcP* **PcP 09 54 09.7 0.0**
BMRD *dpP* **pP 09 54 29.8 -0.9**
L34A Svendsen Farm, 80.57 40 P **P 09 54 03.5 +0.2**
WATA Walderalm 80.66 329 *eP* **P 09 54 04.6 +0.7**
comp=Z,6.3nm,0.4s
WTTA Wattenberg 80.70 329 *eP* **P 09 54 04.8 +0.7**
comp=Z,15nm,0.7s
MOTA Moosalm 80.83 329 *eP* **P 09 54 05.3 +0.5**
comp=Z,22nm,0.9s
MOTA *i* P **P 09 54 05.3 +0.5**
SNR=12
MOTA *i* P **P 09 54 05.4 +0.6**
SNR=9.8
RETA Reutte 80.85 329 *eP* **P 09 54 05.6 +0.8**
comp=Z,7.3nm,0.6s
RETA *i* P **P 09 54 05.8 +1.0**
SNR=6.0
BFO Black Forest 81.04 331 P **P 09 54 05.1 -0.6**
BFO IAmb IAmb 09 54 07.0
comp=Z,36nm,1.7s
BFO Black Forest 81.04 331 P **P 09 54 05.1 -0.6**
BFO pmax pmax
comp=Z,36nm,1.7s
STAL STALIGIAL 81.10 327 P **P 09 54 05.3 -0.8**
STAL IAmb IAmb 09 54 06.0
comp=Z,14nm,0.7s
FETA Feichten 81.25 329 *i* P **P 09 54 07.4 +0.4**
SNR=7.3
FETA *eP* **P 09 54 07.7 +0.7**
comp=Z,8.9nm,0.9s
FETA *i* P **P 09 54 07.7 +0.7**
SNR=11
CBKS Cedar Bluff 81.28 44 IAmb IAmb 09 54 08.2
comp=Z,18nm,0.7s
CBKS Cedar Bluff 81.28 44 P **P 09 54 07.2 0.0**
baz=318,SNR=6.0
PDG Podgorica 81.34 321 ⇑P **P 09 54 08.2 +0.9**
PDG Podgorica 81.34 321 P **P 09 54 07.3 -0.1**
PDG IAmb IAmb 09 54 08.5
comp=Z,28nm,0.7s
DAVA Damuels 81.35 330 *eP* **P 09 54 08.0 +0.5**
comp=Z,10nm,0.6s
DAVA *i* P **P 09 54 08.1 +0.5**
SNR=5.6
121A Cookes Peak, D 81.35 54 P **P 09 54 08.0 +0.1**
baz=315
CTI Castel Tesino 81.69 328 IAmb IAmb 09 54 09.4
comp=Z,16nm,0.8s
I40A Norwalk 81.69 36 P **P 09 54 09.4 +0.2**
I40A IAmb IAmb 09 54 10.2
comp=Z,15nm,0.9s
K38A Parkersburg 81.73 38 P **P 09 54 09.0 -0.4**
K38A IAmb IAmb 09 54 10.1
comp=Z,12nm,0.6s
DAVOX Davos/Dischmat 81.77 329 P **P 09 54 10.5 +0.6**
comp=Z,6.5nm,0.5s,baz=90,slow=2.0,SNR=11
DAVOX LR LR 10 36 07.6
comp=Z,39nm,18.2s,baz=84,slow=40
comp=Z,6.5nm,0.5s
N35A Tabor 81.77 41 IAmb IAmb 09 54 11.4
comp=Z,34nm,0.8s
TIR Tirane 81.90 320 P **P 09 54 11.0 +0.6**
TIR Tirane 81.90 320 P **P 09 54 11.0 +0.6**
SCIA State Center 82.11 39 P **P 09 54 12.2 +0.8**
baz=322,SNR=5.6
EIL Eilat 82.21 303 P **P 09 54 12.9 +0.7**
comp=Z,4.8nm,0.6s,baz=27,slow=11,SNR=2.6
comp=Z,4.8nm,0.6s
SALO Salr 82.49 328 IAmb IAmb 09 54 16.1
comp=Z,41nm,0.9s
JFWS Jewell Farm 82.64 36 P **P 09 54 14.1 -0.1**
baz=323
KSU1 Kansas State U 82.65 42 IAmb IAmb 09 54 15.2
comp=Z,25nm,0.8s
KSU1 Kansas State U 82.65 42 P **P 09 54 14.4 +0.1**
baz=320,SNR=7.6
L40A Anamosa 82.89 37 IAmb IAmb 09 54 16.4
comp=Z,20nm,0.8s
N38A Joes South For 82.97 39 IAmb IAmb 09 54 17.4
comp=Z,31nm,0.8s
SENIN Lac Senin/Sane 83.08 331 IAmb IAmb 09 54 17.6
comp=Z,9.3nm,0.7s
AMTX Amarillo 83.16 48 P **P 09 54 16.8 -0.3**
AMTX IAmb IAmb 09 54 19.5
comp=Z,13nm,1.0s
AMTX Amarillo 83.16 48 P **P 09 54 18.0 +0.8**
baz=318
MSTX Muleshoe 83.22 50 P **P 09 54 18.2 +0.7**
baz=317
NOKA Waynoka 83.33 45 IAmb IAmb 09 54 19.8
comp=Z,19nm,0.6s
MNTX Cornudas Mount 83.37 53 P **P 09 54 19.3 +1.1**
baz=316,SNR=5.8
GLMI Grayling 83.40 32 P **P 09 54 18.5 +0.4**
baz=327
ELIS Ellis County 83.50 46 IAmb IAmb 09 54 21.2
comp=Z,31nm,0.9s
L42A Oliver, Polo 83.63 36 IAmb IAmb 09 54 19.9
comp=Z,16nm,0.8s
P38A Dawn 83.75 40 IAmb IAmb 09 54 21.5
comp=Z,26nm,0.8s
CROK Carrier 83.93 45 IAmb IAmb 09 54 22.9
comp=Z,24nm,0.9s
IDI Anoyia 83.98 313 ⇑P **P 09 54 21.0 -0.3**
IDI Anoyia 83.98 313 P **P 09 54 20.4 -0.9**
comp=Z,6.9nm,0.4s,baz=34,slow=9.0,SNR=12
comp=Z,6.9nm,0.4s
IDI Anoyia 83.98 313 IAmb IAmb 09 54 25.1
comp=Z,28nm,1.1s
L44A Lake County Fo 84.25 35 P **P 09 54 22.9 +0.5**
baz=325
T35A Sooner Cattle 84.38 44 IAmb IAmb 09 54 25.1
comp=Z,22nm,0.9s
P40A Paris 84.53 39 IAmb IAmb 09 54 25.5
comp=Z,24nm,0.9s
WMOK Wichita Mounta 84.85 47 P **P 09 54 26.4 +0.8**
baz=319,SNR=5.7
HDIL Hopedale 84.96 37 P **P 09 54 26.7 +0.6**
baz=324,SNR=7.0
TIP Tinpagrande 85.07 321 ⇑P **P 09 54 26.7 0.0**
R40A Madies Statio 85.41 40 IAmb IAmb 09 54 29.6
comp=Z,16nm,0.7s
X34A Smith Ranch, M 85.46 46 IAmb IAmb 09 54 31.0
comp=Z,21nm,1.1s
TUL1 Leonard 85.52 44 IAmb IAmb 09 54 30.8
comp=Z,16nm,1.1s
TUL1 Leonard 85.52 44 P **P 09 54 29.6 +0.6**
baz=321
P43A Skaggs, Pawnee 85.60 38 IAmb IAmb 09 54 30.6
comp=Z,15nm,0.8s
TRQ Mont Tremblant 85.72 25 IAmb IAmb 09 54 30.8
comp=Z,31nm,0.9s
U38A Gravette 85.82 43 IAmb IAmb 09 54 31.9
comp=Z,12nm,0.9s
AAM Ann Arbor 85.90 33 P **P 09 54 31.2 +0.5**
baz=328
SFIN Lafayette 86.07 36 P **P 09 54 31.7 +0.1**
baz=325
CCM Cathedral Cave 86.08 40 P **P 09 54 30.9 -0.7**
CCM IAmb IAmb 09 54 33.1
comp=Z,22nm,0.8s
CCM Cathedral Cave 86.08 40 P **P 09 54 31.0 -0.7**
CCM pmax pmax
comp=Z,22nm,0.9s
CCM Cathedral Cave 86.08 40 P **P 09 54 32.9 +1.2**
baz=323
TX31 Lajitas Ar. Si 86.10 53 IAmb IAmb 09 54 34.2
comp=Z,15nm,0.7s
TXAR Lajitas Array 86.10 53 P **P 09 54 33.5 +1.5**
comp=Z,3.8nm,0.5s,baz=292,slow=4.2,SNR=80
comp=Z,3.8nm,0.5s
HHAR Hobbs 86.17 43 P **P 09 54 31.9 -0.3**
DELO Deloro Mine 86.23 28 IAmb IAmb 09 54 33.2
comp=Z,15nm,1.0s
N47A Urbana 86.25 35 P **P 09 54 32.3 -0.2**
N47A IAmb IAmb 09 54 33.6
comp=Z,22nm,0.8s
MGMO Mountain Grove 86.31 41 P **P 09 54 32.6 -0.2**
MGMO IAmb IAmb 09 54 33.9
comp=Z,11nm,0.8s
Q44A Meyer Farm, Va 86.43 38 IAmb IAmb 09 54 34.8
comp=Z,13nm,0.8s
D62A Allapoint, All 86.53 21 IAmb IAmb 09 54 35.0
comp=Z,15nm,0.7s
N49A Columbus Grove 86.85 34 IAmb IAmb 09 54 36.9
comp=Z,24nm,1.0s
O48B Farmland 87.00 35 P **P 09 54 36.6 +0.5**
baz=327
BATG Bathurst New B 87.11 19 IAmb IAmb 09 54 37.8
comp=Z,17nm,0.7s
LONY Lake Ozonia 87.14 26 P **P 09 54 37.6 +0.9**
baz=333
FCAR Ozark Folk Cen 87.38 42 IAmb IAmb 09 54 39.1
comp=Z,17nm,1.0s
ERPA Erie 87.47 30 IAmb IAmb 09 54 40.6
comp=Z,20nm,0.7s
ERPA Erie 87.47 30 P **P 09 54 39.2 +0.9**
baz=330
JCT Junction City 87.49 50 P **P 09 54 39.5 +0.8**
baz=319
P48A Milroy 87.55 35 IAmb IAmb 09 54 40.1
comp=Z,24nm,1.2s
N51A Ashland 87.58 32 IAmb IAmb 09 54 40.3
comp=Z,20nm,0.9s
J56A Wolcott 87.58 28 IAmb IAmb 09 54 39.8
comp=Z,23nm,1.0s
MMNY Mt. Morris Dam 87.69 29 IAmb IAmb 09 54 40.5
comp=Z,14nm,0.8s
MIAR Mount Ida 87.72 43 IAmb IAmb 09 54 41.5
comp=Z,9.1nm,0.9s
MIAR Mount Ida 87.72 43 P **P 09 54 40.5 +0.9**
baz=322,SNR=6.6
WHAR Wooly Hollow 87.78 42 IAmb IAmb 09 54 41.4
comp=Z,17nm,0.9s
P49A Miami Univ. Ec 87.79 35 IAmb IAmb 09 54 41.3
comp=Z,27nm,0.9s
P49A Miami Univ. Ec 87.79 35 P **P 09 54 40.4 +0.5**
baz=327,SNR=7.0
M53A WI Miller and 87.80 31 IAmb IAmb 09 54 41.7
comp=Z,32nm,1.2s
M53A WI Miller and 87.80 31 P **P 09 54 40.5 +0.6**
baz=329
ACSO Alum Creek Sta 87.92 33 P **P 09 54 41.0 +0.5**
baz=328,SNR=6.4
J58A Remsen 88.04 27 IAmb IAmb 09 54 42.2
comp=Z,13nm,0.8s
PKME Peaks-Kenny Pk 88.14 22 P **P 09 54 42.0 +0.6**
baz=337
WCI Wyandotte Cave 88.20 36 P **P 09 54 40.1 -1.7**
WCI IAmb IAmb 09 54 43.5
comp=Z,16nm,0.8s
WCI Wyandotte Cave 88.20 36 P **P 09 54 40.1 -1.7**
WCI pmax pmax
comp=Z,16nm,0.9s
WCI Wyandotte Cave 88.20 36 P **P 09 54 42.5 +0.7**
baz=326
J59A Piesco 88.20 26 IAmb IAmb 09 54 43.0
comp=Z,15nm,0.8s
N53A Lisbon 88.28 32 P **P 09 54 42.2 0.0**
LBNH Lisbon 88.31 24 P **P 09 54 42.9 +0.7**
baz=335
P51A Williamsport 88.52 34 IAmb IAmb 09 54 44.7
comp=Z,23nm,0.8s
O53A New Philadelph 88.61 32 P **P 09 54 44.2 +0.5**
baz=329,SNR=9.3
LMN Caledonia Moun 88.75 19 IAmb IAmb 09 54 45.9
comp=Z,15nm,0.7s
P52A Corning 88.77 33 IAmb IAmb 09 54 45.9
comp=Z,15nm,0.8s
P52A Corning 88.77 33 P **P 09 54 44.9 +0.4**
baz=328
BINY Binghamton 88.83 28 P **P 09 54 45.4 +0.6**
baz=332
R50A Paris 89.00 35 IAmb IAmb 09 54 47.4
comp=Z,10nm,0.8s
P53A Whipple 89.19 33 IAmb IAmb 09 54 48.3
comp=Z,22nm,0.8s
WVT Waverly 89.23 39 P **P 09 54 45.0 -1.7**
WVT IAmb IAmb 09 54 48.5
comp=Z,6.7nm,0.8s
WVT Waverly 89.23 39 P **P 09 54 45.0 -1.7**
WVT pmax pmax
comp=Z,7.0nm,0.8s
WVT Waverly 89.23 39 P **P 09 54 47.4 +0.7**
baz=325
Q52A Bidwell 89.29 33 IAmb IAmb 09 54 48.4
comp=Z,18nm,1.1s
SSPA Standing Stone 89.54 30 P **P 09 54 47.2 -0.8**
SSPA Standing Stone 89.54 30 P **P 09 54 48.8 +0.7**
baz=331
MCWV Mont Chateau 89.65 31 IAmb IAmb 09 54 51.2
comp=Z,17nm,0.8s
MCWV Mont Chateau 89.65 31 P **P 09 54 49.0 +0.4**
baz=330
L61B Northampton 89.70 25 P **P 09 54 49.2 +0.4**
baz=335
OXF Oxford 89.81 41 IAmb IAmb 09 54 51.0
comp=Z,24nm,1.0s
OXF Oxford 89.81 41 P **P 09 54 50.1 +0.7**
baz=324
Q54A Coxs Mills 89.85 32 IAmb IAmb 09 54 51.6
comp=Z,14nm,0.7s
U49A Red Boiling Sp 89.85 37 IAmb IAmb 09 54 51.4
comp=Z,12nm,0.8s
S51A Beattyville 89.86 35 IAmb IAmb 09 54 51.1
comp=Z,10nm,0.9s
CLTN Cedars of Leba 89.95 38 IAmb IAmb 09 54 51.9
comp=Z,11nm,1.0s
HRV Adam Dziewonsk 90.00 25 P **P 09 54 50.4 +0.2**
baz=335
V48A Smith Brothers 90.02 38 IAmb IAmb 09 54 52.5
comp=Z,8.2nm,1.0s
PAL Palisades 90.60 27 P **P 09 54 53.4 +0.4**
baz=334
TZTN Tazewell 90.80 36 IAmb IAmb 09 56 45.1
comp=Z,33nm,1.6s
TZTN Tazewell 90.80 36 P **P 09 54 54.3 +0.2**
baz=328
SWET Sewanee 90.86 38 IAmb IAmb 09 54 55.6
comp=Z,7.1nm,0.9s
V51A Loudon 91.08 36 IAmb IAmb 09 54 56.9
comp=Z,15nm,1.1s
W50A Signal Mountai 91.15 37 IAmb IAmb 09 54 58.4
comp=Z,7.7nm,1.1s
CPCT Cooper Cave 91.30 37 IAmb IAmb 09 54 58.4
comp=Z,12nm,1.0s
LRAL Lakeview Retre 92.17 40 P **P 09 55 00.6 +0.2**
baz=326
ESDC Sonseca Array 92.83 335 P **P 09 55 03.8 +0.4**
comp=Z,2.1nm,0.8s,baz=19,slow=3.8,SNR=14
comp=Z,2.1nm,0.8s
KMSC Kings Mountain 92.94 35 P **P 09 55 03.9 0.0**
baz=329
GOGA Godfrey 93.48 37 P **P 09 55 06.5 +0.1**
baz=328
TORD Torodi Ar. Bea 114.07 318 PP **PP 10 01 21.1 -3.7**
comp=Z,4.2nm,1.0s,baz=16,slow=7.3,SNR=11
VNDA Vanda 120.28 175 PKP **PKPdf 10 00 39.8 -0.1**
comp=Z,0.3nm,0.6s,baz=6.5,slow=5.4,SNR=3.6
DBIC Dimbokro 122.85 321 PP **PP 10 02 24.9 -0.5**
comp=Z,5.7nm,1.0s,baz=37,slow=6.7,SNR=3.9
BELA Belgrano 2 144.44 181 PKPdf PKPbc 10 01 23.8 -0.1
TROLL Troll, Antarti 144.65 200 PKPdf PKPbc 10 01 25.2 +0.4
SMTB Santa Maria do 145.36 18 *eP* **PKPab 10 01 29.9 +1.1**
SNAA Sanae 146.19 199 PKPdf **PKPbc 10 01 29.3 -0.2**
SNAA Sanae 146.19 199 PKPdf **PKPdf 10 01 26.4 -1.9**
SNAA Sanae 146.19 199 PKIKP **PKPdf 10 01 26.4 -1.9**
H03N2 Juan Fernandez 146.29 88 T T 12 45 03.2
baz=300,slow=76,SNR=10
H03N3 Juan Fernandez 146.30 89 T T 12 45 04.2
baz=300,slow=76,SNR=14
H03N1 Juan Fernandez 146.30 88 T T 12 45 05.6
baz=300,slow=76,SNR=14
LVC Limon Verde 147.13 63 *eP* **PKPab 10 01 35.0 -0.8**
PTLB Pontes e Lacer 147.23 41 *eP* **PKPab 10 01 35.0 -0.8**
SNDB Serra Nova Dou 147.31 26 *eP* **PKPbc 10 01 35.0 +0.8**
NBAN Anadia - AL 147.34 358 *eP* **PKPab 10 01 35.6 -0.8**
VNA2 Neumayer--Watz 147.76 198 PKPdf **PKPbc 10 01 33.9 0.0**
baz=118,slow=2.0
VNA3 Neumayer Olymp 148.03 196 PKPdf **PKPbc 10 01 34.4 -0.2**
VNA1 Neumayer--Stat 148.16 198 PKPdf **PKPbc 10 01 35.4 +0.5**
NBLA Lagarto - SE 148.66 1 *eP* **PKPbc 10 01 38.2 +0.3**
SALV Santo Antonio 149.22 36 *eP* **PKPbc 10 01 39.2 0.0**
SDBA SAO DESIDERIO 149.36 15 *eP* **PKPbc 10 01 39.3 -0.4**
PP1B Ponte de Pedra 151.08 36 *eP* **PKPbc 10 01 41.8 -1.8**
GDU01 Guandu, BA 151.31 4 *eP* **PKPbc 10 01 44.3 +0.1**
BDFB Brasilia 151.76 22 PKPbc **PKiKP 10 01 46.5 +0.8**
comp=Z,2.7nm,0.7s,baz=284,slow=8.3,SNR=4.0
BDFB PKPab **PKPab 10 01 55.5 +1.0**
comp=Z,7.5nm,0.6s,baz=274,slow=3.8,SNR=10.0
BDFB Brasilia 151.76 22 *eP* **PKPbc 10 01 42.9 -2.5**
JANB Januaria 152.06 14 *eP* **PKPbc 10 01 42.9 -3.0**
CMC01 Camacan, BA 152.94 5 *eP* **PKPbc 10 01 44.4 -3.4**
MC01 Montes Claros 153.73 14 *eP* **PKPdf 10 01 45.5 +3.8**
PMNB Patos De Minas 154.95 21 *eP* **PKPbc 10 01 48.1 -4.1**
PLCA Paso Flores 155.20 97 PKPab **PKPab 10 02 09.9 +1.2**
comp=Z,4.1nm,1.1s,baz=270,slow=5.1,SNR=5.5
PET01 Itanhaem-SP 160.12 28 *eP* **PKPdf 10 01 53.3 +3.7**

*GCG **07** 09:49:17.6±0.7, 13°.98N×91°.53W, h100km±8km, MD3.7*
*SNET **07** 09:49:20.8±1.1, 14°.34N×91°.33W, h12km±16km, ML3.5*

ISC 07 09:49:20.2±3.0, 13°.9N±0°.1×91°.6W±0°.2, h61km, n12, σ0§67/19, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.80**	**3**	*eP*	**Pn**	**09 49 35.8**	**-0.2**
FUG	**Fuego 3**	**0.92**	**54**	*eP*	**Pn**	**09 49 36.6**	**-0.9**
FUG				*eS*	**Sn**	**09 49 51.6**	**+1.4**
PCG	**Pacaya**	**1.09**	**64**	*eP*	**Pn**	**09 49 38.7**	**-1.0**
PCG				*eS*	**Sn**	**09 49 54.8**	**+0.5**
NBG	**Las Nubes**	**1.41**	**61**	*eP*	**Pn**	**09 49 43.6**	**-0.3**
NBG				*eS*	**Sn**	**09 50 02.2**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.78**	**86**	*eP*	**Pn**	**09 49 47.8**	**-1.0**
SLOZ				IAML		09 50 13.6	
	comp=Z,245nm,0.3s						
CEVE	**Cerro Verde**	**1.94**	**92**	*eP*	**Pn**	**09 49 51.3**	**+0.2**
CEVE				*eS*	**Sn**	**09 50 14.1**	**-0.4**
JAYA	**Jayaque - finc**	**2.12**	**97**	*eP*	**Pn**	**09 49 53.3**	**-0.2**
JAYA				*eS*	**Sn**	**09 50 18.5**	**-0.4**
UEES	**Universidad Ev**	**2.32**	**94**	*eP*	**Pn**	**09 49 56.4**	**+0.3**
UEES				IAML		09 50 27.9	
	comp=Z,491nm,0.2s						
SJTE	**Alcalda de S**	**2.55**	**96**	*eP*	**Pn**	**09 49 59.1**	**-0.2**
SJTE				*eS*	**Sn**	**09 50 29.4**	**+0.1**
COEG	**Centro de Oper**	**2.67**	**96**	*eP*	**Pn**	**09 50 01.4**	**+0.4**
COEG				*eS*	**Sn**	**09 50 33.2**	**+0.9**
COEG				IAML		09 50 42.5	
	comp=Z,391nm,0.4s						
SCLA	**Alcaldia de Sa**	**2.81**	**94**	*eP*	**Pn**	**09 50 02.3**	**-0.6**
LCND	**La Caada**	**3.67**	**99**	*eP*	**Pn**	**09 50 14.6**	**0.0**

ROM 07 09:49:47.5±0.1, 42°.778N±0°.004×13°.134E±0°.005, h10km, ML2.5/25, 14C-11D, Error ellipse: s-maj=0.5km s-min=0.2km az=247.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.06**	**345**	P	Pg	09 49 49.7	0.0
NRCA				S	Sg	09 49 50.9	-0.5
NRCA				AML	AML		
	comp=E,81000μm,1.0s						
NRCA				AML	AML		
	comp=N,67750μm,0.2s						
NRCA				AML	AML		
	comp=N,73950μm,0.1s						
NRCA				AML	AML		
	comp=E,80950μm,1.0s						
NRCA				AML	AML		
	comp=N,88050μm,0.2s						
NRCA				AML	AML		
	comp=N,67700μm,0.2s						
T1202	**Accumoli, Fraz**	**0.10**	**138**	P	Pg	09 49 50.5	+0.3
T1202				S	Sg	09 49 52.5	+0.3
T1202				AML	AML		
	comp=E,10650μm,0.6s						
T1202				AML	AML		
	comp=N,12800μm,0.7s						
T1202				AML	AML		
	comp=N,12750μm,0.7s						
T1244	**Arquata del Tr**	**0.12**	**100**	⇓P	Pg	09 49 50.3	-0.3
T1244				S	Sg	09 49 54.0	+1.3
T1244				AML	AML		
	comp=N,8575μm,0.8s						
T1244				AML	AML		
	comp=E,30500μm,1.6s						
T1244				AML	AML		
	comp=N,10800μm,1.6s						
T1244				AML	AML		
	comp=E,13600μm,0.8s						
MC2	**Monte Cornacci**	**0.14**	**17**	⇑P	Pg	09 49 51.3	+0.4
MC2				S	Sg	09 49 54.5	+1.2
MMO1	**Montemonaco**	**0.19**	**50**	⇑P	Pg	09 49 52.0	+0.5
MMO1				S	Sg	09 49 55.3	+0.9
MMO1				AML	AML		
	comp=E,1945μm,0.5s						
MMO1				AML	AML		
	comp=N,3310μm,1.4s						
LNSS	**Leonessa**	**0.19**	**201**	⇓P	Pg	09 49 52.1	+0.5
LNSS				S	Sg	09 49 56.5	+2.1
LNSS				AML	AML		
	comp=E,1540μm,0.7s						
LNSS				AML	AML		
	comp=N,1845μm,0.2s						
T1215	**Vallo di Nera,**	**0.20**	**277**	⇓P	Pg	09 49 52.3	+0.6
T1215				S	Sg	09 49 55.9	+1.3
T1215				AML	AML		
	comp=N,1185μm,0.2s						
T1215				AML	AML		
	comp=E,1164μm,0.3s						
T1215				AML	AML		
	comp=N,1221μm,0.2s						
T1215				AML	AML		
	comp=E,1170μm,0.3s						
T1215				AML	AML		
	comp=N,1190μm,0.2s						
T1215				AML	AML		
	comp=E,1165μm,0.3s						
SMA1	**SAN MARTINO**	**0.21**	**135**	⇑P	Pg	09 49 52.5	+0.6
SMA1				S	Sg	09 49 56.8	+1.8
SMA1				AML	AML		
	comp=E,4055μm,0.5s						
SMA1				AML	AML		
	comp=N,4050μm,0.5s						
T1241	**Roccafluvione,**	**0.23**	**70**	⇑P	Pg	09 49 52.9	+0.6
T1241				AML	AML		
	comp=N,1935μm,0.5s						
T1241				AML	AML		
	comp=E,1805μm,1.3s						
T1241				AML	AML		
	comp=N,1935μm,0.5s						
T1241				AML	AML		
	comp=E,1800μm,1.3s						
T1241				AML	AML		
	comp=E,1805μm,1.3s						
T1241				AML	AML		
	comp=N,1825μm,0.5s						
T1241				AML	AML		
	comp=E,1800μm,1.4s						
T1243	**Rocca Santa Ma**	**0.25**	**109**	⇑P	Pg	09 49 53.0	+0.4
T1243				S	Sg	09 49 57.0	+1.0
FDMO	**Fiordimonte**	**0.26**	**352**	⇓P	Pg	09 49 53.4	+0.6
FDMO				S	Sb	09 49 57.8	-1.1
FDMO				AML	AML		
	comp=N,1670μm,0.4s						
FDMO				AML	AML		
	comp=E,1770μm,0.2s						
RM33	**Pellescritta (**	**0.28**	**167**	⇓P	Pg	09 49 53.6	+0.5
RM33				S	Sb	09 49 58.1	-1.2
RM33				AML	AML		
	comp=E,1185μm,1.4s						
RM33				AML	AML		
	comp=E,1180μm,1.4s						
RM33				AML	AML		
	comp=N,1790μm,0.3s						
RM33				AML	AML		
	comp=N,1750μm,0.3s						
RM33				AML	AML		
	comp=E,1290μm,1.4s						
CESI	**CESI - Serrava**	**0.28**	**323**	⇓P	Pg	09 49 53.9	+0.6
CESI				S	Sb	09 49 58.7	-0.9
CESI				AML	AML		
	comp=N,3105μm,0.3s						
CESI				AML	AML		
	comp=E,1715μm,0.5s						
CESI				AML	AML		
	comp=N,3200μm,0.1s						
CAMP	**Campotosto**	**0.32**	**140**	⇑P	Pg	09 49 54.3	+0.4
CAMP				S	Sb	09 49 59.5	-1.0
CAMP				AML	AML		
	comp=N,572μm,0.5s						
CAMP				AML	AML		
	comp=E,443μm,0.9s						
CSP1	**Cessapalombo**	**0.32**	**9**	P	Pg	09 49 54.6	+0.6
CSP1				S	Sb	09 49 60.0	-0.6
CSP1				AML	AML		
	comp=E,2095μm,0.3s						
CSP1				AML	AML		
	comp=N,2178μm,0.9s						
CSP1				AML	AML		
	comp=N,2185μm,0.9s						
GUMA	**Gualdo di Mace**	**0.32**	**27**	⇑P	Pg	09 49 54.5	+0.5
GUMA				S	Sb	09 50 00.3	-0.3
GUMA				AML	AML		
	comp=N,3505μm,0.4s						
GUMA				AML	AML		
	comp=N,3875μm,0.7s						
GUMA				AML	AML		
	comp=E,4025μm,0.6s						
GUMA				AML	AML		
	comp=E,4030μm,0.6s						
GUMA				AML	AML		
	comp=E,4635μm,0.4s						
ARRO	**Arrone**	**0.34**	**234**	⇓P	Pb	09 49 55.0	-0.6
ARRO				AML	AML		
	comp=E,428μm,1.5s						
ARRO				AML	AML		
	comp=N,496μm,0.9s						
ARRO				AML	AML		
	comp=E,428μm,1.5s						
TERO	**Teramo**	**0.38**	**114**	⇑P	Pg	09 49 55.3	+0.2
TERO				AML	AML		
	comp=N,960μm,0.7s						
TERO				AML	AML		
	comp=E,670μm,1.6s						
TERO				AML	AML		
	comp=N,930μm,0.7s						
TERO				AML	AML		
	comp=E,660μm,1.6s						
TERO				AML	AML		
	comp=E,661μm,1.6s						
TERO				AML	AML		
	comp=N,932μm,0.7s						
ASSB	**Assisi San Ben**	**0.44**	**307**	⇓P	Pg	09 49 56.5	+0.4
ASSB				AML	AML		
	comp=N,600μm,0.4s						
ASSB				AML	AML		
	comp=E,826μm,0.5s						
SNTG	**Esanatoglia**	**0.50**	**344**	P	Pb	09 49 57.9	-0.5
SNTG				S	Sb	09 50 06.0	+0.3
SNTG				AML	AML		
	comp=N,444μm,0.2s						
SNTG				AML	AML		
	comp=E,503μm,0.1s						
FIAM	**Fiamignano**	**0.51**	**181**	⇓P	Pg	09 49 57.6	+0.1
FIAM				AML	AML		
	comp=E,226μm,0.6s						
FIAM				AML	AML		
	comp=N,266μm,1.1s						
FIAM				AML	AML		
	comp=E,226μm,0.6s						
FIAM				AML	AML		
	comp=N,266μm,1.1s						
ATCC	**AVT- Casa Cast**	**0.55**	**318**	⇓P	Pg	09 49 58.6	+0.5
ATCC				AML	AML		
	comp=E,712μm,0.2s						
ATCC				AML	AML		
	comp=N,588μm,0.3s						
EL6	**Elcito**	**0.55**	**358**	⇑P	Pg	09 49 58.6	+0.4
EL6				AML	AML		
	comp=E,969μm,0.3s						
EL6				AML	AML		
	comp=N,900μm,0.3s						
CING	**Cingoli**	**0.60**	**4**	⇓P	Pb	09 49 59.6	-0.5
CING				AML	AML		
	comp=E,436μm,1.3s						
CING				AML	AML		
	comp=N,380μm,0.4s						
VCEL	**Villa Celiera**	**0.65**	**126**	⇑P	Pb	09 50 00.8	-0.2
VCEL				AML	AML		
	comp=E,426μm,0.7s						
VCEL				AML	AML		
	comp=E,427μm,0.7s						
VCEL				AML	AML		
	comp=N,483μm,0.3s						
SSFR	**Montelago di S**	**0.71**	**339**	AML	AML		
	comp=N,580μm,0.1s						
SSFR				AML	AML		
	comp=E,716μm,0.2s						
SSFR				AML	AML		
	comp=N,662μm,0.1s						
SSFR				AML	AML		
	comp=E,753μm,0.8s						
T0110	**Collepietro**	**0.73**	**139**	⇑P	Pg	09 50 01.8	+0.2
T0110				AML	AML		
	comp=N,576μm,0.4s						
T0110				AML	AML		
	comp=E,472μm,0.5s						
FRON	**Frontone**	**0.80**	**338**	AML	AML		
	comp=E,188μm,1.4s						
FRON				AML	AML		
	comp=N,234μm,0.4s						
PIEI	**Pieia**	**0.88**	**330**	⇑P	Pb	09 50 04.9	+0.1
PIEI				AML	AML		
	comp=E,134μm,0.3s						
PIEI				AML	AML		
	comp=N,143μm,1.4s						
FSSB	**Fossombrone**	**0.95**	**344**	⇑P	Pb	09 50 06.0	-0.1
FSSB				AML	AML		
	comp=E,548μm,0.4s						
FSSB				AML	AML		
	comp=E,548μm,0.4s						
FSSB				AML	AML		
	comp=N,580μm,0.3s						
MCIV	**Monte Civitell**	**1.07**	**271**	⇑P	Pg	09 50 05.8	-2.3

ROM 07 09:50:24.4±0.1, 42°.891N±0°.003×13°.096E±0°.004, h12km, Md1.5/5, ML2.2/2, 2D, Error ellipse: s-maj=0.3km s-min=0.1km az=236.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.06**	**167**	P	Pg	09 50 27.1	+0.2
NRCA				S	Sg	09 50 28.8	0.0
NRCA				END			
MC2	**Monte Cornacci**	**0.07**	**73**	P	Pg	09 50 27.6	+0.3
MC2				S	Sg	09 50 29.5	+0.2
FEMA	**Monte Fema**	**0.08**	**335**	P	Pg	09 50 27.5	+0.2
FEMA				S	Sg	09 50 29.5	+0.2
FEMA				AML	AML		
	comp=E,3635μm,1.1s						
FEMA				AML	AML		
	comp=N,3144μm,1.4s						
FEMA				END			
FDMO	**Fiordimonte**	**0.15**	**358**	P	Pg	09 50 28.2	+0.3
FDMO				S	Sg	09 50 31.0	+0.5
FDMO				END			
MMO1	**Montemonaco**	**0.17**	**87**	P	Pg	09 50 28.6	+0.2
MMO1				S	Sg	09 50 31.6	+0.4
MMO1				END			
CESI	**CESI - Serrava**	**0.18**	**309**	P	Pg	09 50 28.9	+0.4
CESI				S	Sg	09 50 32.1	+0.6
CESI				AML	AML		
	comp=E,1675μm,0.6s						
CESI				AML	AML		
	comp=N,3200μm,0.1s						
CESI				END			
T1215	**Vallo di Nera,**	**0.19**	**242**	P	Pg	09 50 29.0	+0.3
T1202	**Accumoli, Fraz**	**0.21**	**153**	P	Pg	09 50 29.4	+0.3
T1202				S	Sg	09 50 33.5	+1.3
CSP1	**Cessapalombo**	**0.22**	**22**	P	Pg	09 50 29.5	+0.3
CSP1				S	Sg	09 50 33.2	+0.7
T1241	**Roccafluvione,**	**0.25**	**98**	P	Pg	09 50 30.0	+0.3
T1241				AML	AML		
	comp=N,1470μm,0.1s						
T1241				AML	AML		
	comp=E,905μm,0.1s						
T1204	**Amatrice, Fraz**	**0.27**	**143**	P	Pg	09 50 29.8	-0.3
LNSS	**Leonessa**	**0.29**	**188**	P	Pg	09 50 30.7	+0.3
LNSS				S	Sb	09 50 35.6	-0.9
T1243	**Rocca Santa Ma**	**0.32**	**127**	⇓P	Pg	09 50 31.3	+0.3
ASSB	**Assisi San Ben**	**0.35**	**295**	P	Pg	09 50 31.9	+0.3
ASSB				S	Sb	09 50 37.5	-0.8
SNTG	**Esanatoglia**	**0.38**	**343**	P	Pg	09 50 32.2	+0.2
ARRO	**Arrone**	**0.40**	**218**	P	Pb	09 50 32.8	-0.5
ARRO				S	Sb	09 50 38.6	-0.7
EL6	**Elcito**	**0.44**	**1**	P	Pg	09 50 33.3	+0.1
EL6				S	Sb	09 50 40.7	0.0
ATCC	**AVT- Casa Cast**	**0.45**	**312**	P	Pg	09 50 33.5	+0.3
ATCC				S	Sb	09 50 40.9	0.0
TERO	**Teramo**	**0.46**	**125**	P	Pg	09 50 33.6	+0.1
TERO				S	Sb	09 50 40.7	-0.5
CING	**Cingoli**	**0.49**	**9**	P	Pg	09 50 34.2	+0.1
CING				S	Sb	09 50 42.0	-0.1
MURB	**Monte Urbino**	**0.56**	**312**	S	Sg	09 50 43.0	+0.1
ATFO	**Monte Foce - G**	**0.61**	**321**	S	Sb	09 50 46.0	+0.3
VIVA	**Pratoni del Vi**	**1.17**	**192**	⇓P	Pb	09 50 43.1	-3.4

*IDC **07** 09:53:55.6±0.8, 8°.43N×126°.31E, h0km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=25.3km s-min=11.0km az=96.0*
*MAN **07** 09:53:57.0, 8°.32N×126°.00E, h5km, mb4.9, ML3.8, MS3.8 MAN INTENSITY III - TALACOGON PROSPERIDAD & LA PAZ AGUSAN DEL SUR.*
*NEIC **07** 09:53:58.0±1.0, 8°.42N±0°.08×126°.1E±0°.2, h10km±1km, mb4.4/13, Error ellipse: s-maj=33.1km s-min=13.9km az=91.0*

ISC 07 09:53:56.3±1.7, 8°.38N±0°.05×125°.96E±0°.04, h2km±11km, n42, σ1§13/47, mb4.1/17, 5C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.44**	**116**	⇓*i*P	**Pb**	**09 54 06.5**	**-0.3**
BIPH				*e*S	**Sb**	**09 54 13.2**	**-0.6**
BUKP	**Musuan**	**1.02**	**241**	⇓*e*P	**Pb**	**09 54 16.3**	**-0.4**
BUKP				*e*S	**Sn**	**09 54 36.1**	**+3.5**
CGP	**Cagayan de Oro**	**1.26**	**274**	⇑*i*P	**Pn**	**09 54 19.5**	**-1.4**
CGP				*i* S	**Sg**	**09 54 37.6**	**+0.8**
DAV	**Davao City (W)**	**1.35**	**196**	Pg	**Pg**	**09 54 23.3**	**+1.0**
	518nm,0.3s,baz=51,slow=4.3,SNR=32						
DAV				Lg	Lg	09 54 44.3	
	154nm,0.3s,baz=260,slow=19,SNR=6.7						
KCP	**Kidapawan**	**1.61**	**213**	⇑*i*P	**Pb**	**09 54 25.8**	**-1.0**
KCP				*i* S	**Sg**	**09 54 47.8**	**-0.4**
CTBH	**Cotabato--PC H**	**2.05**	**236**	⇑*i*P	**Pn**	**09 54 32.0**	**+0.2**
CTBH				*i* S	**Sg**	**09 55 02.7**	**+0.4**
TBP	**Tagbilaran**	**2.45**	**302**	*e*P	**Pb**	**09 54 39.5**	**-1.6**
TBP				*i* S	**Sb**	**09 55 11.0**	**-0.8**
DCPH	**Dipolog City**	**2.59**	**275**	⇓*e*P	**Pn**	**09 54 36.5**	**-2.7**
PAGZ	**Pagadian**	**2.61**	**259**	⇑*e*P	**Pb**	**09 54 43.1**	**-0.7**
LLP	**Lapu-Lapu**	**2.76**	**315**	*e*P	**Pn**	**09 54 43.0**	**+1.5**
LLP				*i* S	**Sb**	**09 55 20.2**	**-0.4**
SNPH	**Sibulan**	**2.86**	**290**	*e*P	**Pn**	**09 54 43.2**	**+0.2**
SNPH				*e*S	**Sn**	**09 55 19.2**	**+1.1**
RCP	**Roxas**	**4.48**	**315**	⇑*e*P	**Pn**	**09 55 07.4**	**+2.1**
MTN	**Manton Dam**	**21.70**	**166**	P	**P**	**09 58 48.7**	**0.0**
MTN				IAmb	IAmb	09 59 09.6	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**24.06**	**173**	P	**P**	**09 59 11.9**	**-1.2**
KNRA				IAmb	IAmb	09 59 20.7	
	comp=Z,8.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.31**	**181**	P	**P**	**09 59 33.9**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=6.6,slow=8.9,SNR=5.3 comp=Z,1.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.31**	**181**	P	**P**	**09 59 32.3**	**-1.3**
FITZ				IAmb	IAmb	09 59 42.2	
	comp=Z,16nm,1.5s						
ENH	**Enshi**	**26.69**	**327**	P	**P**	**09 59 37.0**	**0.0**
ENH				IAmb	IAmb	09 59 39.8	
	comp=Z,31nm,1.2s						
CMAR	**Chiang Mai Arr**	**28.09**	**294**	P	P	09 59 53.5	+3.9
	comp=Z,0.9nm,0.4s,baz=112,slow=11,SNR=4.1 comp=Z,0.9nm,0.4s						
KSRS	**Korea Array**	**29.00**	**3**	P	**P**	**09 59 56.3**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=178,slow=12,SNR=2.1 comp=Z,0.9nm,0.8s						
WB0	**Warramunga Arr**	**29.17**	**164**	P	**P**	**09 59 58.3**	**-0.9**
WB0				IAmb	IAmb	10 00 02.7	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**29.32**	**164**	P	**P**	**09 59 59.2**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=343,slow=10.0,SNR=1.9 comp=Z,0.6nm,0.9s						
WB2	**Warramunga Arr**	**29.33**	**164**	P	**P**	**10 00 01.6**	**+1.0**
WR0	**Warramunga Arr**	**29.40**	**163**	P	**P**	**10 00 01.0**	**-0.3**
JMM	**Marumori**	**32.28**	**22**	P	**P**	**10 00 25.3**	**-1.1**
ASAR	**Alice Springs**	**32.78**	**166**	P	**P**	**10 00 30.0**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=339,slow=7.0,SNR=14 comp=Z,0.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**36.07**	**7**	P	**P**	**10 00 58.8**	**-0.5**
	comp=Z,7.8nm,0.7s,baz=192,slow=7.4,SNR=19 comp=Z,7.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**36.07**	**7**	P	**P**	**10 00 59.1**	**-0.2**
FORT	**Forrest**	**38.98**	**177**	P	**P**	**10 01 23.9**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**40.78**	**71**	T	T	10 44 34.1	
	baz=262,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.79**	**71**	T	T	10 44 35.6	
	baz=262,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.79**	**71**	T	T	10 44 35.6	
	baz=262						
BBOO	**Buckleboo**	**42.07**	**167**	P	**P**	**10 01 48.9**	**-0.8**
STKA	**Stephens Creek**	**42.73**	**160**	P	**P**	**10 01 54.8**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=343,slow=11,SNR=2.9 comp=Z,1.7nm,0.8s						
STKA	**Stephens Creek**	**42.73**	**160**	P	**P**	**10 01 54.9**	**-0.1**
MKAR	**Makanchi Array**	**53.35**	**324**	P	**P**	**10 03 17.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=122,slow=8.4,SNR=5.8						
MKAR				PcP	**PcP**	**10 04 26.7**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=1.8 comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**56.14**	**332**	P	**P**	**10 03 36.3**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=142,slow=7.3,SNR=1.9 comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**57.46**	**326**	P	**P**	**10 03 46.5**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=126,slow=6.6,SNR=6.4 comp=Z,0.9nm,0.6s						
KK31	**Karatay Array**	**59.37**	**315**	P	**P**	**10 04 00.7**	**+0.5**
KK31				IAmb	IAmb	10 04 04.3	
	comp=Z,3.3nm,1.3s						
KKAR	**Karatay Array**	**59.37**	**315**	P	**P**	**10 04 00.5**	**+0.3**
BVAR	**Borovoye Array**	**63.05**	**326**	P	**P**	**10 04 25.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=108,slow=8.2,SNR=3.9 comp=Z,0.3nm,0.5s						
ABKAR	**Akbulak array**	**68.11**	**320**	P	**P**	**10 04 57.9**	**+0.1**
VNDA	**Vanda**	**88.10**	**173**	P	**P**	**10 06 48.7**	**+0.7**
VNDA				IAmb	IAmb	10 07 06.1	
	comp=Z,2.2nm,1.3s						

IDC 07 10:04:56.6±3.0, 53°.53N×87°.64E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.6km s-min=14.4km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**285**	*i*		10 16 00.0	
	baz=102,slow=321,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.73**	**285**	Pg	Pn	10 05 27.9	0.0
	1.1nm,0.3s,baz=100,slow=18,SNR=9.1						
ZALV				Lg	Lg	10 05 50.8	
	1.2nm,0.3s,baz=105,slow=28,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	10 06 32.2	+1.2
	0.1nm,0.3s,baz=62,slow=14,SNR=1.9						
KURBB				Lg	Lg	10 08 17.2	
	0.1nm,0.3s,baz=61,slow=31,SNR=5.4 0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	Pn	10 06 49.0	+0.9
	0.1nm,0.3s,baz=28,slow=12,SNR=6.5						
MKAR				Sn	Sn	10 08 14.8	+0.3
	0.1nm,0.3s,baz=31,slow=26,SNR=2.9						
MKAR				Lg	Lg	10 08 54.7	
	0.1nm,0.3s,baz=24,slow=28,SNR=3.5 0.4nm,0.5s						

*IDC **07** 10:16:26.0±5.9, 20°.28S×177°.86W, h554km±39km, mb3.5/4, mbtmp4.3/5, Error ellipse: s-maj=128.3km s-min=35.7km az=145.0*

ISC 07 10:16:24.3±2.1, 20°.4S±0°.4×177°.6W±0°.3, h550km, n7, σ1§15/9, mb4.1/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.90**	**303**	P	**P**	**10 17 53.4**	**-0.1**
	3.9nm,0.5s,baz=125,slow=12,SNR=8.2						
CTA	**Charters Tower**	**33.85**	**264**	P	**P**	**10 22 21.4**	**-0.3**
	7.0nm,0.8s,baz=80,slow=11,SNR=6.1 7.0nm,0.8s						
ASAR	**Alice Springs**	**44.88**	**257**	P	**P**	**10 23 50.1**	**-0.2**
	3.1nm,0.7s,baz=96,slow=7.6,SNR=48						
ASAR				PcP	**PcP**	**10 25 21.3**	**+1.1**
	0.4nm,0.5s,baz=103,slow=3.9,SNR=6.6 3.1nm,0.7s						
WRA	**Warramunga Arr**	**44.96**	**262**	P	**P**	**10 23 50.2**	**-0.8**
	0.8nm,0.3s,baz=97,slow=7.6,SNR=100						
WRA				PcP	**PcP**	**10 25 21.3**	**+0.8**
	0.4nm,0.7s,baz=95,slow=3.2,SNR=2.3 0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**90.43**	**289**	P	**P**	**10 28 29.4**	**+1.4**
	1.6nm,0.3s,baz=112,slow=2.4,SNR=4.3 1.6nm,0.3s						
AKASG	**Malin Array Be**	**143.13**	**331**	PKP	**PKPdf**	**10 34 53.9**	**-1.8**
	1.1nm,0.5s,baz=37,slow=3.7,SNR=6.5						
BRTR	**Keskin Array B**	**147.06**	**313**	PKPbc	**PKPbc**	**10 35 05.9**	**-0.2**
	0.6nm,0.6s,baz=160,slow=4.6,SNR=3.1						

*IDC **07** 10:24:33.8±8.1, 12°.15S×166°.66E, h99km±74km, mb3.8/5, mbtmp4.2/6, ML4.4/1, Error ellipse: s-maj=57.3km s-min=41.2km az=167.0*
*NOU **07** 10:24:36.0, 12°.53S×166°.99E, h0km, mb4.5/11, Santa Cruz Islands*
*NEIC **07** 10:24:38.8±1.0, 12°.43S±0°.02×166°.6E±0°.2, h124km±12km, mb4.4/17, Error ellipse: s-maj=23.1km s-min=3.1km az=91.0*

ISC 07 10:24:35.1±1.4, 12°.3S±0°.1×166°.7E±0°.2, h100km, n42, σ1§41/43, mb4.2/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.21**	**292**	Pn	**Pn**	**10 26 20.5**	**+2.7**
KOUNC	**Koumac, New Ca**	**8.56**	**195**	Pn	**Pn**	**10 26 37.0**	**+0.8**
KOUNC				Sn	Sn	10 28 09.5	-1.5
KOUNC	**Koumac, New Ca**	**8.56**	**195**	P	**Pn**	**10 26 38.6**	**+2.4**
MARNC	**Mare, Loyalty**	**9.25**	**172**	Pn	**Pn**	**10 26 47.1**	**+1.5**
MARNC	**Mare, Loyalty**	**9.25**	**172**	P	**Pn**	**10 26 47.8**	**+2.2**
YATNC	**Mamie plateau,**	**9.74**	**179**	P	**Pn**	**10 26 53.4**	**+1.1**
DZM	**Mont Dzumac**	**9.75**	**181**	P	**Pn**	**10 26 53.7**	**+1.2**
	3.1nm,0.3s,baz=124,slow=18,SNR=12						
DZM				S	**Sn**	**10 28 39.7**	**-0.6**
	10nm,1.0s,baz=272,slow=20,SNR=1.8						
	8.7nm,0.4s						
DZM	**Mont Dzumac**	**9.75**	**181**	Pn	**Pn**	**10 26 53.2**	**+0.6**
DZM	**Mont Dzumac**	**9.75**	**181**	P	**Pn**	**10 26 54.0**	**+1.5**
NOUC	**Port Laguerre**	**9.79**	**182**	P	**Pn**	**10 26 54.6**	**+1.7**
ONTNC	**Ouen Toro**	**9.99**	**181**	Pn	**Pn**	**10 26 57.0**	**+1.3**
ONTNC	**Ouen Toro**	**9.99**	**181**	P	**Pn**	**10 26 57.7**	**+2.1**
OUENC	**Ouen Island, N**	**10.10**	**179**	Pn	**Pn**	**10 26 58.8**	**+1.7**
OUENC	**Ouen Island, N**	**10.10**	**179**	P	**Pn**	**10 26 59.1**	**+2.0**
PINNC	**Pines Island,**	**10.31**	**176**	Pn	**Pn**	**10 27 01.5**	**+1.4**
EIDS	**Eidsvold**	**19.68**	**226**	P	**P**	**10 28 58.5**	**+2.1**
EIDS				IAmb	IAmb	10 28 59.0	
	comp=Z,11nm,0.6s						
CTA	**Charters Tower**	**21.11**	**246**	P	**P**	**10 29 11.2**	**-0.6**
	comp=Z,5.4nm,0.8s,baz=84,slow=13,SNR=2.4						
	comp=Z,5.4nm,0.8s						
CTAO	**Charters Tower**	**21.11**	**246**	P	**P**	**10 29 11.8**	**-0.1**
CTAO				IAmb	IAmb	10 29 32.0	
	comp=Z,28nm,1.4s						
ARMA	**Armidale**	**22.83**	**215**	P	**P**	**10 29 29.1**	**-0.8**
ARMA				IAmb	IAmb	10 29 56.0	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**30.24**	**226**	P	**P**	**10 30 37.0**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=51,slow=10,SNR=7.2						
	comp=Z,2.7nm,0.8s						
STKA	**Stephens Creek**	**30.24**	**226**	P	**P**	**10 30 36.0**	**-0.5**
WR0	**Warramunga Arr**	**31.79**	**252**		**P**	**10 30 48.8**	**-1.5**
WR0				IAmb	IAmb	10 31 11.2	
	comp=Z,5.4nm,1.2s						
WB0	**Warramunga Arr**	**31.90**	**252**	P	**P**	**10 30 50.0**	**-1.3**
WB0				IAmb	IAmb	10 31 09.8	
	comp=Z,5.9nm,1.2s						
WB2	**Warramunga Arr**	**31.96**	**252**	P	**P**	**10 30 49.9**	**-1.9**
WRAB	**Tennant Creek**	**31.96**	**252**	P	**P**	**10 30 50.5**	**-1.4**
WRAB				IAmb	IAmb	10 30 58.6	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**31.97**	**252**	P	**P**	**10 30 50.0**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=84,slow=9.1,SNR=10						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**31.97**	**252**	P	**P**	**10 30 50.9**	**-1.0**
AS31	**Alice Springs**	**33.11**	**245**	P	**P**	**10 31 00.7**	**-1.2**
ASAR	**Alice Springs**	**33.11**	**245**	P	**P**	**10 31 00.2**	**-1.6**
	comp=Z,2.7nm,0.6s,baz=71,slow=9.7,SNR=53						
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**33.11**	**245**	P	**P**	**10 31 00.4**	**-1.5**
BBOO	**Buckleboo**	**34.71**	**229**	P	**P**	**10 31 15.7**	**+0.1**
KNRA	**Kununurra**	**36.94**	**260**	P	**P**	**10 31 33.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**39.99**	**256**	P	**P**	**10 32 00.3**	**+0.1**
FORT	**Forrest**	**40.13**	**236**	P	**P**	**10 32 00.0**	**-1.3**
PSA00	**Pilbara Seismi**	**45.63**	**252**	P	**P**	**10 32 45.6**	**-0.3**
PSA00				IAmb	IAmb	10 33 00.3	
	comp=Z,14nm,1.4s						
MBWA	**Marble Bar**	**45.71**	**252**	P	**P**	**10 32 46.4**	**-0.1**
MBWA				IAmb	IAmb	10 33 01.3	
	comp=Z,12nm,1.2s						
TOLI2	**Tolitoli**	**47.49**	**283**	P	**P**	**10 32 59.9**	**-0.6**
MORW	**Morawa**	**49.88**	**242**	P	**P**	**10 33 18.4**	**-0.2**
CASY	**Casey**	**65.59**	**202**	P	**P**	**10 35 07.9**	**0.0**
QSPA	**South Pole Qui**	**77.75**	**180**	P	**P**	**10 36 21.2**	**+0.2**
MKAR	**Makanchi Array**	**95.05**	**317**	P	P	10 37 44.8	-1.9
	comp=Z,0.4nm,0.5s,baz=99,slow=6.3,SNR=4.2						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**117.74**	**346**	PKP	**PKPdf**	**10 43 07.3**	**-1.8**
	comp=Z,3.5nm,0.9s,baz=93,slow=1.8,SNR=3.1						

IDC 07 10:43:16.7±4.7, 4°.17S×152°.87E, h52km±32km, mb3.2/3, mbtmp3.5/3, Error ellipse: s-maj=68.8km s-min=43.7km az=146.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.85**	**261**	P	Pn	10 43 32.9	+0.4
	32nm,0.3s,baz=29,slow=2.9,SNR=19						
KRVT				S	Sn	10 43 45.0	+0.9
	120nm,0.3s,baz=155,slow=23,SNR=11						
WRA	**Warramunga Arr**	**23.92**	**228**	P	P	10 48 25.6	-0.5
	0.4nm,0.4s,baz=53,slow=9.7,SNR=11						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**26.66**	**222**	P	P	10 48 52.2	+1.2
	0.6nm,1.0s,baz=60,slow=8.6,SNR=4.4						
	0.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.02**	**240**	P	P	10 49 20.0	-1.0
	0.4nm,0.4s,baz=41,slow=11,SNR=1.0						
	0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**150.17**	**289**	PKPbc	PKPbc	11 03 02.8	-0.2
	0.2nm,0.4s,baz=96,slow=1.8,SNR=2.2						

HEL 07 10:43:22.2±0.3, 60°.35N×24°.92E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUR	**Nurmijrvi**	**0.21**	**321**	PG	Pg	10 43 25.2	-1.0
NUR				SG	Sg	10 43 27.9	-1.1
MEF	**Metsahovi**	**0.29**	**244**	PG	Pg	10 43 27.3	-0.4
MEF				SG	Sg	10 43 31.4	-0.1
PVF	**Pernaja**	**0.51**	**66**	PG	Pg	10 43 30.9	-1.1
	baz=249						
PVF				SG	Sg	10 43 37.5	-1.1
FIA0	**FINESS Array S**	**1.24**	**27**	PG	Pg	10 43 44.1	-1.8
FIA0				SN	Sn	10 44 05.1	+0.9
VJF	**Virojoki**	**1.32**	**80**	MSG		10 44 02.1	
	comp=Z,4.3nm,0.2s						
VJF				SN	Sn	10 44 06.7	+0.5
RAF	**Rauma**	**1.69**	**295**	PN	Pn	10 43 52.9	-0.1
RAF				MSG		10 44 12.7	
	comp=Z,1.7nm,0.2s						
RAF				SN	Sb	10 44 15.6	-0.3
KEF	**Keuruu**	**1.83**	**359**	PG	Pb	10 43 55.8	-0.7
KEF				MSG		10 44 16.6	
	comp=Z,1.5nm,0.2s						
KAF	**Kangasniemi**	**1.90**	**20**	MSG		10 44 18.7	
	comp=Z,1.1nm,0.2s						
KAF				SG	Sn	10 44 20.8	+0.5
AAL	**Aland**	**2.46**	**268**	SN	Sn	10 44 31.1	-3.1

*KRNET **07** 10:44:37.7±0.1, 42°.85N×70°.56E, mb2.7*
*NNC **07** 10:44:38.8±0.1, 42°.92N×71°.02E, h0km, mpv1.4, Error ellipse: s-maj=11.5km s-min=0.6km az=25.0, Suspected Mining explosion.*

ISC 07 10:44:37.7±1.1, 42°.8N±0°.1×70°.8E±0°.1, h0km, n14, σ0§24/28, 18C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK06	**Karatay Array**	**0.34**	**323**	⇑P	**Pb**	**10 44 46.8**	**+0.1**
KK06				⇑S	**Sb**	**10 44 52.6**	**-0.1**
KK07	**Karatay Array**	**0.35**	**320**	⇑P	**Pb**	**10 44 47.1**	**+0.3**
KK07				⇑S	**Sb**	**10 44 53.0**	**+0.1**
KK02	**Karatay Array**	**0.35**	**322**	⇓P	**Pb**	**10 44 47.0**	**+0.1**
KK02				⇓S	**Sb**	**10 44 53.0**	**0.0**
KK31	**Karatay Array**	**0.35**	**322**	P	**Pb**	**10 44 47.0**	**+0.1**
	0.3nm,0.2s,baz=149,slow=13,SNR=171						
KK31				S	**Sb**	**10 44 52.9**	**-0.2**
	2.3nm,0.2s,baz=122,slow=31,SNR=16						
KKAR	**Karatay Array**	**0.35**	**322**	⇓*i*P	**Pb**	**10 44 46.4**	**-0.5**
	baz=53						
KKAR				⇓*i*S	**Sb**	**10 44 52.6**	**-0.4**
	baz=53						
KK01	**Karatay Array**	**0.36**	**322**	⇑P	**Pb**	**10 44 47.1**	**+0.2**
KK01				⇓S	**Sb**	**10 44 53.0**	**-0.2**
KK03	**Karatay Array**	**0.36**	**321**	⇑P	**Pb**	**10 44 47.2**	**+0.2**
KK03				⇓S	**Sb**	**10 44 53.2**	**0.0**
KK05	**Karatay Array**	**0.36**	**325**	⇑P	**Pb**	**10 44 47.1**	**+0.1**
KK05				⇑S	**Sb**	**10 44 53.0**	**-0.2**
KK04	**Karatay Array**	**0.36**	**322**	⇑P	**Pb**	**10 44 47.1**	**+0.1**
KK04				⇓S	**Sb**	**10 44 53.1**	**-0.2**
KK08	**Karatay Array**	**0.36**	**320**	⇑P	**Pb**	**10 44 47.3**	**+0.2**
KK08				⇓S	**Sb**	**10 44 53.5**	**+0.1**
KK09	**Karatay Array**	**0.37**	**323**	⇑P	**Pb**	**10 44 47.3**	**0.0**
KK09				⇑S	**Sb**	**10 44 53.3**	**-0.3**
ARK	**Arkit**	**1.34**	**140**	⇑*i*P	**Pg**	**10 45 03.2**	**-0.2**
	baz=35						
ARK				⇑*i*S	**Sn**	**10 45 22.0**	**-0.3**
	baz=35						
EKS2	**Erkin-Say**	**2.19**	**93**	⇑e*i*P	**Pn**	**10 45 15.7**	**+0.1**
	baz=93						
EKS2				⇑*i*S	**Sn**	**10 45 43.4**	**-0.1**
	baz=93						
ARLS	**Aral**	**2.78**	**109**	⇑*i*P	**Pn**	**10 45 24.2**	**+0.5**
	baz=8.0						
ARLS				⇑*i*S	**Sn**	**10 45 57.8**	**-0.2**
	baz=8.0						

*NEIC **07** 11:15:05.2±0.9, 37°.72S±0°.05×74°.3W±0°.2, h28km±8km, Error ellipse: s-maj=23.2km s-min=7.3km az=93.0*
*GUC **07** 11:15:06.3±0.5, 37°.90S×73°.72W, h16km±7km, ML4.1*

ISC 07 11:15:02.5±2.0, 37°.77S±0°.06×74°.2W±0°.2, h18km, n41, σ1§38/44, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.29**	**44**	⇑e*i*P	**Pn**	**11 15 25.5**	**0.0**
CCSP				e*i*S	**Sb**	**11 15 40.9**	**-1.5**
CCSP				IAML		11 15 47.4	
	comp=N,9μm,0.4s						
BI05	**Punta Hualpn**	**1.32**	**39**		**Pn**	**11 15 26.9**	**+1.0**
BI05	**Punta Hualpn**	**1.32**	**39**	⇑e*i*P	**Pn**	**11 15 26.9**	**+1.0**
BI05				e*i*S	**Sb**	**11 15 42.4**	**-0.8**
BI05				IAML		11 15 49.4	
	comp=E,5μm,0.4s						
LR02	**Universidad Au**	**2.17**	**160**	IAML		11 16 21.9	
	comp=E,3μm,0.6s						
LR04	**Corral**	**2.20**	**164**	Pn	**Pn**	**11 15 40.3**	**+2.3**
LR04	**Corral**	**2.20**	**164**	e*i*P	**Pn**	**11 15 39.1**	**+1.1**
LR04				e*i*S	**Sn**	**11 16 03.9**	**-0.8**
LR04				IAML		11 16 06.2	
	comp=E,1μm,0.2s						
LR03	**Panguipulli**	**2.37**	**142**		**Pb**	**11 15 43.6**	**-1.0**
GO06	**Curarrehue**	**2.82**	**131**	Pn	**Pn**	**11 15 48.5**	**+1.9**
GO06	**Curarrehue**	**2.82**	**131**	⇑*i*P	**Pn**	**11 15 48.6**	**+1.9**
ML02	**Panimavida**	**3.02**	**49**	⇑e*i*P	**Pn**	**11 15 51.4**	**+2.0**
ML02				e*i*S	**Sn**	**11 16 25.0**	**-0.1**
ML02				IAML		11 16 41.6	
	comp=N,1μm,0.5s						
GO05	**Hualla**	**3.32**	**35**	Pn	**Pn**	**11 15 55.1**	**+1.5**
LL04	**Puerto Octay**	**3.44**	**156**	Pn	**Pn**	**11 15 57.5**	**+2.4**
BO03	**Pichilemu**	**3.75**	**30**	e*i*P	**Pn**	**11 16 00.3**	**+0.9**
BO02	**Sierra Bellavi**	**4.08**	**44**		**Pn**	**11 16 05.1**	**+1.1**
PLCA	**Paso Flores**	**4.11**	**137**	Pn	**Pn**	**11 16 07.5**	**+3.0**
MT01	**Popeta**	**4.59**	**33**	Pn	**Pn**	**11 16 11.6**	**+0.6**
MT01	**Popeta**	**4.59**	**33**	e*i*P	**Pn**	**11 16 11.8**	**+0.8**
VA05	**Santo Domingo**	**4.63**	**28**		**Pn**	**11 16 12.2**	**+0.8**
MT09	**Talagante**	**4.78**	**34**		**Pn**	**11 16 14.9**	**+1.2**
MT09	**Talagante**	**4.78**	**34**	e*i*P	**Pn**	**11 16 14.8**	**+1.1**
LMEL	**Las Melosas**	**5.10**	**41**		**Pn**	**11 16 19.7**	**+1.5**
LMEL	**Las Melosas**	**5.10**	**41**	e*i*P	**Pn**	**11 16 19.7**	**+1.5**
MT02	**Curacav**	**5.16**	**30**		**Pn**	**11 16 19.6**	**+0.8**
MT02	**Curacav**	**5.16**	**30**	e*i*P	**Pn**	**11 16 19.3**	**+0.5**
MT05	**Renca**	**5.22**	**34**	Pn	**Pn**	**11 16 20.6**	**+1.0**
MT05	**Renca**	**5.22**	**34**	e*i*P	**Pn**	**11 16 20.0**	**+0.4**
MT03	**Universidad Ad**	**5.24**	**36**	Pn	**Pn**	**11 16 21.3**	**+1.4**
PEL	**Peldehue**	**5.45**	**33**		**Pn**	**11 16 24.1**	**+1.3**
ROC1	**El Roble**	**5.46**	**30**		**Pn**	**11 16 24.0**	**+0.8**
ROCH	**El Roble**	**5.46**	**30**	e*i*P	**Pn**	**11 16 24.2**	**+1.0**
FCH	**Farellones**	**5.48**	**37**	e*i*P	**Pn**	**11 16 24.6**	**+1.1**
VA06	**Catapilco**	**5.73**	**26**	Pn	**Pn**	**11 16 28.0**	**+1.4**
VA06	**Catapilco**	**5.73**	**26**	e*i*P	**Pn**	**11 16 27.7**	**+1.1**
VA03	**San Esteban**	**5.83**	**32**		**Pn**	**11 16 29.2**	**+1.0**
CO02	**Combarbal**	**7.08**	**23**		**Pn**	**11 16 46.6**	**+1.4**
CO06	**Fray Jorge**	**7.40**	**18**	Pn	**Pn**	**11 16 50.1**	**+0.5**
GO04	**Tololo Observa**	**8.10**	**22**	Pn	**Pn**	**11 17 00.8**	**+1.4**
CO01	**Juntas del Tor**	**8.50**	**25**		**Pn**	**11 17 07.2**	**+2.2**
AC05	**El Transito**	**9.51**	**22**	Pn	**Pn**	**11 17 19.8**	**+1.2**
TRQA	**Tornquist**	**9.69**	**95**	Pn	**Pn**	**11 17 22.8**	**+1.8**
AC02	**Maricunga**	**11.72**	**23**	Pn	**Pn**	**11 17 49.0**	**-0.3**

*WEL **07** 11:29:00, 38°.83S×175°.89E, h102km, ML4.2, Mw4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr~0.61; Mθθ 1.05; Mϕϕ-0.44; Mrθ 1.28; Mθϕ-0.53; Mϕr~1.88; Fault plane solution: M0 2.51000×10^15 NP1: ϕs72.00000°, δ22.00000°, λ-159.00000°. NP2: ϕs323.00000°, δ82.00000°, λ-70.00000°. Principal axes: T 250.7600, Plg34.0000°, Azm35.0000°; N -0.1300, Plg21.0000°, Azm140.0000°; P -250.6300, Plg49.0000°, Azm256.0000°;*
*NOU **07** 11:29:45.2, 38°.94S×175°.78E, h97km, mb4.7/19, North Island, New Zealand*
*NEIC **07** 11:29:45.5±2.2, 38°.93S±0°.06×175°.77E±0°.09, h106km±7km, mb4.5/27, ML4.2(WEL), Error ellipse: s-maj=10.5km s-min=8.2km az=91.0*
*IDC **07** 11:29:46.3±0.8, 38°.63S×176°.02E, h120km±13km, mb3.9/7, mbtmp4.3/7, MS3.6/1, Error ellipse: s-maj=26.6km s-min=16.8km az=61.0*
*WEL **07** 11:29:47.4, 39°.S±3°×17°.6E±°, h89km±4km, M4.2/69, ML4.2/54, MLv4.2/69, Error ellipse: s-maj=0.0km s-min=0.0km az=81.3*

ISC 07 11:29:45.9±0.5, 38°.89S±0°.04×175°.79E±0°.04, h113km±4km, n245, σ1§41/262, mb4.5/22, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATZ	**Rangitukua**	**0.03**	**330**	P	**Pn**	**11 30 00.3**	**-1.2**
RATZ				S	**Sn**	**11 30 11.5**	**-1.6**
KATZ	**Kakaramea**	**0.11**	**223**	P	**Pn**	**11 30 00.7**	**-0.9**
KATZ				S	**Sn**	**11 30 10.2**	**-3.3**
WATZ	**Wairara**	**0.19**	**346**	P	**Pn**	**11 30 00.6**	**-1.1**
WATZ				S	**Sn**	**11 30 12.0**	**-1.5**
NTVZ	**North Tongarir**	**0.22**	**204**	P	**Pn**	**11 30 01.1**	**-0.7**
NTVZ				S	**Sn**	**11 30 12.0**	**-1.9**
KRVZ	**Karewarewa**	**0.23**	**210**	P	**Pn**	**11 30 01.1**	**-0.8**
KRVZ				S	**Sn**	**11 30 12.7**	**-1.3**
TMVZ	**Te Maari**	**0.23**	**197**	P	**Pn**	**11 30 01.3**	**-0.7**
TMVZ				S	**Sn**	**11 30 12.8**	**-1.1**
HATZ	**Hinemaiaia**	**0.23**	**89**	P	**Pn**	**11 30 00.6**	**-1.2**
HATZ				S	**Sn**	**11 30 11.3**	**-2.4**
ETVZ	**East Tongariro**	**0.25**	**195**	P	**Pn**	**11 30 01.4**	**-0.6**
ETVZ				S	**Sn**	**11 30 11.9**	**-2.1**
WHTZ	**Whakaora**	**0.26**	**30**	P	**Pn**	**11 30 01.0**	**-1.0**
WTVZ	**West Tongariro**	**0.27**	**215**	P	**Pn**	**11 30 01.3**	**-0.7**
WTVZ				S	**Sn**	**11 30 11.9**	**-2.3**
NNVZ	**North Ngauruho**	**0.28**	**210**	P	**Pn**	**11 30 01.4**	**-0.7**
NNVZ				S	**Sn**	**11 30 11.9**	**-2.4**
OTVZ	**Oturere**	**0.29**	**200**	P	**Pn**	**11 30 01.5**	**-0.6**
OTVZ				S	**Sn**	**11 30 12.1**	**-2.3**
SNVZ	**South Ngauruho**	**0.32**	**202**	P	**Pn**	**11 30 01.7**	**-0.6**
SNVZ				S	**Sn**	**11 30 13.0**	**-1.6**
NGZ	**Ngauruhoe**	**0.32**	**208**	P	**Pn**	**11 30 01.5**	**-0.8**
NGZ				S	**Sn**	**11 30 13.4**	**-1.2**
TWVZ	**Taurewa**	**0.33**	**237**	P	**Pn**	**11 30 01.6**	**-0.6**
TWVZ				S	**Sn**	**11 30 12.9**	**-1.6**
TUVZ	**Tukino**	**0.39**	**196**	P	**Pn**	**11 30 02.3**	**-0.3**
TUVZ				S	**Sn**	**11 30 14.0**	**-1.1**
KUTZ	**Kaahu Road**	**0.41**	**3**	P	**Pn**	**11 30 01.4**	**-1.1**
FWVZ	**Far West T-bar**	**0.41**	**207**	P	**Pn**	**11 30 02.2**	**-0.6**
FWVZ				S	**Sn**	**11 30 14.4**	**-1.1**
WHVZ	**Whangaehu Hut**	**0.42**	**202**	P	**Pn**	**11 30 02.4**	**-0.5**
WHVZ				S	**Sn**	**11 30 14.1**	**-1.5**
TRVZ	**Turoa**	**0.45**	**205**	P	**Pn**	**11 30 02.7**	**-0.4**
TRVZ				S	**Sn**	**11 30 14.7**	**-1.2**
WNVZ	**Wahianoa**	**0.46**	**199**	P	**Pn**	**11 30 02.7**	**-0.3**
WPRZ	**Whakapapatarin**	**0.47**	**38**	P	**Pn**	**11 30 01.6**	**-1.4**
MRHZ	**Matea Rd**	**0.49**	**83**	P	**Pn**	**11 30 01.8**	**-1.3**
MRHZ				S	**Sn**	**11 30 13.4**	**-2.5**
MOVZ	**Moawhango**	**0.51**	**183**	P	**Pn**	**11 30 02.8**	**-0.5**
MOVZ				S	**Sn**	**11 30 14.4**	**-1.9**
PKVZ	**Pokaka**	**0.53**	**221**	P	**Pn**	**11 30 03.1**	**-0.2**
ALRZ	**Allen Road**	**0.54**	**53**	P	**Pn**	**11 30 02.0**	**-1.4**
MTVZ	**Mangateitei**	**0.55**	**207**	P	**Pn**	**11 30 03.3**	**-0.2**
GRRZ	**Galatos Road**	**0.60**	**25**	P	**Pn**	**11 30 02.6**	**-1.1**
TLZ	**Tolley Road**	**0.60**	**340**	P	**Pn**	**11 30 02.8**	**-1.0**
BKZ	**Black Stump Fm**	**0.61**	**117**		**Pn**	**11 30 03.1**	**-0.7**
BKZ	**Black Stump Fm**	**0.61**	**117**		**Pn**	**11 30 03.1**	**-0.7**
BKZ	**Black Stump Fm**	**0.61**	**117**	P	**Pn**	**11 30 03.1**	**-0.7**
BKZ	**Black Stump Fm**	**0.61**	**117**	P	**Pn**	**11 30 03.2**	**-0.7**
PRRZ	**Plateau Road**	**0.61**	**50**	P	**Pn**	**11 30 02.3**	**-1.5**
BHHZ	**Black Hill Sta**	**0.63**	**161**	P	**Pn**	**11 30 03.6**	**-0.4**
HRRZ	**Handcock Road**	**0.63**	**38**	P	**Pn**	**11 30 02.8**	**-1.2**
HSRZ	**Hossack Road**	**0.68**	**32**	P	**Pn**	**11 30 03.2**	**-1.2**
KWHZ	**Kaweka Forest**	**0.72**	**137**	P	**Pn**	**11 30 04.6**	**-0.2**
HLRZ	**Highlands Stat**	**0.78**	**35**	P	**Pn**	**11 30 04.6**	**-0.7**
UTU	**Utuhina**	**0.78**	**24**	P	**Pn**	**11 30 04.2**	**-1.0**
RRRZ	**Republican Roa**	**0.79**	**46**	P	**Pn**	**11 30 04.0**	**-1.4**
NMHZ	**Naumai**	**0.82**	**105**	P	**Pn**	**11 30 05.5**	**-0.1**
MTHZ	**Maungataniwha**	**0.82**	**87**	P	**Pn**	**11 30 04.6**	**-1.0**
HIZ	**Hauiti**	**0.83**	**297**	Pn	**Pn**	**11 30 05.0**	**-0.6**
HIZ	**Hauiti**	**0.83**	**297**	P	**Pn**	**11 30 05.0**	**-0.6**
NGRZ	**Ngongotaha**	**0.85**	**22**	P	**Pn**	**11 30 04.8**	**-1.1**
TARZ	**Mount Tarawera**	**0.86**	**41**	P	**Pn**	**11 30 05.0**	**-1.1**
MUGZ	**Murupara**	**0.87**	**62**	P	**Pn**	**11 30 04.5**	**-1.5**
KRHZ	**Kereru**	**0.87**	**149**	P	**Pn**	**11 30 06.1**	**0.0**
MCHZ	**McNeill Hill**	**0.89**	**128**	P	**Pn**	**11 30 06.7**	**+0.4**
OMRZ	**Omania**	**0.91**	**30**	P	**Pn**	**11 30 05.2**	**-1.2**
MKRZ	**Makatiti**	**0.92**	**35**	P	**Pn**	**11 30 05.9**	**-0.7**
KARZ	**Kaharoa**	**0.94**	**22**	P	**Pn**	**11 30 05.5**	**-1.2**
RTZ	**Ruatahuna**	**0.97**	**74**	P	**Pn**	**11 30 05.9**	**-1.2**
LIRZ	**Lichensteins R**	**1.00**	**28**	P	**Pn**	**11 30 06.2**	**-1.1**
ARHZ	**Aropaoanui**	**1.01**	**112**	P	**Pn**	**11 30 07.1**	**-0.2**
RAHZ	**Arahi**	**1.01**	**92**	P	**Pn**	**11 30 07.0**	**-0.4**
KMRZ	**Kaimai**	**1.05**	**6**	P	**Pn**	**11 30 06.8**	**-1.1**
WAZ	**Wanganui**	**1.06**	**216**	P	**Pn**	**11 30 08.5**	**+0.5**
PNHZ	**Pukenui**	**1.07**	**163**	P	**Pn**	**11 30 08.1**	**0.0**
EDRZ	**Edgecumbe**	**1.08**	**44**	P	**Pn**	**11 30 06.7**	**-1.5**
WHHZ	**Waihua**	**1.14**	**100**	P	**Pn**	**11 30 08.3**	**-0.5**
MARZ	**Manawahe**	**1.14**	**38**	P	**Pn**	**11 30 07.7**	**-1.2**
MHEZ	**Mangahewa**	**1.16**	**261**	P	**Pn**	**11 30 09.5**	**+0.5**
TSZ	**Takapari Road**	**1.17**	**174**	P	**Pn**	**11 30 09.3**	**+0.1**
TOZ	**Tahuroa Road**	**1.18**	**349**	P	**Pn**	**11 30 08.3**	**-0.9**
OPRZ	**Ohinepanea**	**1.21**	**30**	P	**Pn**	**11 30 08.1**	**-1.4**
URZ	**Urewera**	**1.21**	**59**	P	**Pn**	**11 30 07.8**	**-1.7**
	680nm,0.3s,baz=211,slow=3.2,SNR=1474						
URZ				S	**Sn**	**11 30 24.1**	**-3.3**
	2μm,0.3s,baz=211,slow=0.8,SNR=27						
URZ				LR	LR	11 30 33.1	
	comp=Z,174nm,20.6s,baz=205,slow=50						
URZ	**Urewera**	**1.21**	**59**	Pn	**Pn**	**11 30 07.9**	**-1.7**
URZ	**Urewera**	**1.21**	**59**	P	**Pn**	**11 30 07.8**	**-1.7**
URZ	**Urewera**	**1.21**	**59**	P	**Pn**	**11 30 07.9**	**-1.7**
SNGZ	**Shannon Statio**	**1.21**	**85**	P	**Pn**	**11 30 08.8**	**-0.7**
LREZ	**Lake Rotokare**	**1.22**	**242**	P	**Pn**	**11 30 10.2**	**+0.6**
TGRZ	**Tauranga**	**1.22**	**18**	P	**Pn**	**11 30 08.5**	**-1.1**
KAHZ	**Kahuranaki**	**1.23**	**137**	P	**Pn**	**11 30 10.1**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.26**	**128**	P	**Pn**	**11 30 10.3**	**+0.3**
WPHZ	**Waipukurau**	**1.27**	**157**	P	**Pn**	**11 30 10.3**	**+0.1**
DREZ	**Durham Road**	**1.27**	**256**	P	**Pn**	**11 30 10.8**	**+0.5**
RAGZ	**Rawiri**	**1.33**	**73**	P	**Pn**	**11 30 09.8**	**-1.2**
PREZ	**Palmer Road**	**1.35**	**250**	P	**Pn**	**11 30 12.1**	**+1.

RPZ	**Rata Peaks**	**5.99 215**	P	**Pn**	11 31 09.5	**-2.6**	
FOZ	**Fox Glacier**	**6.46 222**	Pn	**Pn**	11 31 16.1	**-2.3**	
LBZ	**Lake Benmore**	**6.91 216**	Pn	**Pn**	11 31 21.5	**-3.0**	
LBZ	**Lake Benmore**	**6.91 216**	P	**Pn**	11 31 21.6	**-3.0**	
ODZ	**Otahua Downs**	**7.24 210**	Pn	Pn	11 31 25.6	-3.4	
ODZ	**Otahua Downs**	**7.24 210**	P	Pn	11 31 25.5	-3.5	
CTZ	**Chatham Island**	**7.48 133**	P	**Pn**	11 31 31.0	**-1.2**	
WKZ	**Wanaka**	**7.79 218**	Pn	**Pn**	11 31 35.5	**-0.9**	
MSZ	**Milford Sound**	**8.24 223**	P	**Pn**	11 31 41.1	**-1.4**	
TUZ	**Tuapeka**	**8.40 211**	P	**Pn**	11 31 41.7	**-2.9**	
MLZ	**Mavora Lakes**	**8.62 219**	Pn	**Pn**	11 31 46.5	**-1.1**	
MLZ	**Mavora Lakes**	**8.62 219**	P	**Pn**	11 31 46.5	**-1.1**	
WHZ	**Wether Hill Ro**	**9.08 217**	Pn	**Pn**	11 31 51.0	**-2.9**	
DCZ	**Deep Cove**	**9.17 222**	Pn	Pn	11 31 51.6	-3.5	
MSVF	**Nonsavu**	**21.18 6**	P	**P**	**11 34 21.0**	**-1.3**	
	5.0nm,0.5s,baz=276,slow=23,SNR=5.8						
	5.0nm,0.5s						
MSVF	**Nonsavu**	**21.18 6**	P	**P**	**11 34 21.4**	**-0.9**	
MSVF			IAmb	IAmb	11 34 22.2		
	comp=Z,14nm,0.9s						
MSVF	**Nonsavu**	**21.18 6**	P	**P**	**11 34 21.7**	**-0.6**	
STKA	**Stephens Creek**	**28.63 274**	P	**P**	**11 35 33.5**	**+1.9**	
	comp=Z,3.4nm,0.8s,baz=80,slow=9.6,SNR=5.8						
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**28.63 274**	P	**P**	**11 35 32.1**	**+0.5**	
HTT	**Hallett**	**30.12 269**	P	**P**	**11 35 46.9**	**+1.9**	
INKA	**Innaminka**	**31.15 280**	P	**P**	**11 35 55.9**	**+1.9**	
CTAO	**Charters Tower**	**31.61 298**	P	**P**	**11 35 57.5**	**-0.6**	
CTAO			IAmb	IAmb	11 36 07.2		
	comp=Z,20nm,1.2s						
LCRK	**Leigh Creek**	**31.85 274**	P	**P**	**11 36 01.5**	**+1.4**	
BBOO	**Buckleboo**	**32.58 268**	P	**P**	**11 36 06.2**	**-0.3**	
BBOO	**Buckleboo**	**32.58 268**	P	**P**	**11 36 07.1**	**+0.6**	
OOD	**Oodnadatta**	**35.03 276**	P	**P**	**11 36 29.5**	**+1.8**	
MULG	**Mulgathing**	**35.17 271**	P	**P**	**11 36 29.5**	**+0.6**	
AS31	**Alice Springs**	**38.53 281**	P	**P**	**11 36 58.0**	**+0.5**	
AS31			IAmb	IAmb	11 36 59.2		
	comp=Z,4.6nm,0.9s						
ASAR	**Alice Springs**	**38.53 281**	P	**P**	**11 36 58.1**	**+0.6**	
	comp=Z,10nm,0.9s,baz=120,slow=6.1,SNR=105						
ASAR			PcP	**PcP**	**11 39 06.7**	**-1.4**	
	comp=Z,0.2nm,0.5s,baz=134,slow=4.4,SNR=1.8						
	comp=Z,10nm,0.9s						
ASAR	**Alice Springs**	**38.53 281**	P	**P**	**11 36 57.6**	**+0.1**	
VNDA	**Vanda**	**39.19 185**	P	**P**	**11 37 04.3**	**+2.1**	
	comp=Z,1.1nm,0.8s,baz=4.1,slow=7.6,SNR=4.0						
	comp=Z,1.1nm,0.8s						
VNDA	**Vanda**	**39.19 185**	P	**P**	**11 37 00.7**	**-1.5**	
SBA	**Scott Base**	**39.25 183**	P	P	11 36 57.4	-5.4	
FORT	**Forrest**	**39.63 267**	P	**P**	**11 37 06.0**	**-0.5**	
FORT	**Forrest**	**39.63 267**	P	**P**	**11 37 06.9**	**+0.4**	
WR0	**Warramunga Arr**	**40.17 286**	P	**P**	**11 37 10.9**	**-0.2**	
WR0			IAmb	IAmb	11 37 12.3		
	comp=Z,7.6nm,1.1s						
WB2	**Warramunga Arr**	**40.33 286**	P	**P**	**11 37 12.7**	**+0.3**	
WB2			IAmb	IAmb	11 37 14.5		
	comp=Z,5.7nm,0.8s						
WRAB	**Tennant Creek**	**40.33 286**	P	**P**	**11 37 10.9**	**-1.5**	
WRAB			IAmb	IAmb	11 37 14.0		
	comp=Z,6.6nm,0.8s						
WRAB	**Tennant Creek**	**40.33 286**	P	**P**	**11 37 13.3**	**+0.9**	
WRA	**Warramunga Arr**	**40.34 286**	P	**P**	**11 37 12.9**	**+0.4**	
	comp=Z,3.2nm,0.8s,baz=126,slow=8.0,SNR=111						
	comp=Z,3.2nm,0.8s						
WRA	**Warramunga Arr**	**40.34 286**	P	**P**	**11 37 12.7**	**+0.2**	
WB0	**Warramunga Arr**	**40.40 286**	P	**P**	**11 37 12.3**	**-0.7**	
WB0			IAmb	IAmb	11 37 14.1		
	comp=Z,4.3nm,0.9s						
WRKA	**Warakurna**	**42.14 275**	P	**P**	**11 37 26.8**	**-0.5**	
CASY	**Casey**	**45.25 211**	P	**P**	**11 37 51.5**	**0.0**	
CASY			IAmb	IAmb	11 37 52.3		
	comp=Z,14nm,0.6s						
NWAO	**Narrogin (SRO)**	**47.11 258**	P	**P**	**11 38 04.0**	**-2.5**	
KNRA	**Kununurra**	**47.13 286**	P	**P**	**11 38 07.8**	**+0.9**	
KNRA			IAmb	IAmb	11 38 09.9		
	comp=Z,7.4nm,0.6s						
MTN	**Manton Dam**	**47.20 291**	P	**P**	**11 38 08.0**	**+0.6**	
MTN			IAmb	IAmb	11 38 46.0		
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**48.04 281**	P	**P**	**11 38 14.5**	**+0.7**	
FITZ			IAmb	IAmb	11 38 15.1		
	comp=Z,6.5nm,0.6s						
MORW	**Morawa**	**49.73 262**	P	**P**	**11 38 26.4**	**-0.3**	
PSA00	**Pilbara Seismi**	**50.56 273**	P	**P**	**11 38 32.5**	**-0.5**	
PSA00			IAmb	IAmb	11 38 41.1		
	comp=Z,4.6nm,1.3s						
QSPA	**South Pole Qui**	**51.23 180**	P	**P**	**11 38 40.3**	**+2.6**	
	comp=Z,2.1nm,0.5s,baz=209,slow=1.2,SNR=28						
QSPA			pP	**pP**	**11 39 08.0**	**+3.5**	
	comp=Z,1.3nm,0.6s,baz=101,slow=1.0,SNR=2.1						
	comp=Z,2.1nm,0.5s						
QSPA	**South Pole Qui**	**51.23 180**	P	**P**	**11 38 40.2**	**+2.5**	
QSPA			IAmb	IAmb	11 38 41.3		
	comp=Z,11nm,1.4s						
GIRL	**Giralia**	**54.36 268**	P	**P**	**11 39 01.8**	**+0.7**	
BELA	**Belgrano 2**	**62.03 173**	P	**P**	**11 39 53.5**	**-0.1**	
BELA			IAmb	IAmb	11 40 01.2		
	comp=Z,3.2nm,0.5s						
MAW	**Mawson**	**62.54 203**	P	**P**	**11 39 58.3**	**+1.2**	
	comp=Z,3.5nm,0.6s,baz=121,slow=6.7,SNR=20						
	comp=Z,3.5nm,0.6s						
MAW	**Mawson**	**62.54 203**	P	**P**	**11 39 58.2**	**+1.2**	
JAGI	**Jajag, Banyuwa**	**62.73 282**	P	**P**	**11 39 57.0**	**-2.2**	
LEM	**Lembang**	**68.78 279**	LR	LR	12 10 53.5		
	comp=Z,43nm,19.1s,baz=248,slow=36						
TROLL	**Troll, Antarti**	**69.30 182**	P	**P**	**11 40 41.7**	**+1.2**	
SNAA	**Sanae**	**69.73 180**	P	**P**	**11 40 44.2**	**+1.1**	
SNAA	**Sanae**	**69.73 180**	P	**P**	**11 40 44.2**	**+1.1**	
VNA3	**Neumayer Olymp**	**70.10 178**	P	**P**	**11 40 45.9**	**+0.5**	
VNA2	**Neumayer--Watz**	**70.46 179**	P	**P**	**11 40 48.5**	**+1.0**	
	baz=168,slow=7.0						
VNA1	**Neumayer--Stat**	**70.72 179**	P	**P**	**11 40 50.3**	**+1.3**	
KKM	**Kota Kinabalu**	**70.88 295**	P	**P**	**11 40 51.6**	**+0.6**	
KKM			IAmb	IAmb	11 41 24.2		
	comp=Z,15nm,1.2s						
PZH	**PanZhiHua**	**94.90 300**	P	**P**	**11 42 56.9**	**+1.5**	
PZH			pmax	pmax			
	comp=Z,30nm,1.1s						
PZH			pmax	pmax			
	comp=Z,80nm,4.5s						
HHC	**Hu-ho-hao-te**	**98.63 316**	*e*P	**P**	**11 43 12.1**	**+0.2**	
HHC			pmax	pmax			
	comp=Z,34nm,0.8s						
HHC			pmax	pmax			
	comp=Z,140nm,4.9s						
ARCES	**ARCESS Array B**	**145.46 342**	PKPbc	**PKPdf**	**11 49 06.4**	**-3.0**	
	comp=Z,3.2nm,0.9s,baz=48,slow=5.1,SNR=5.6						
DBIC	**Dimbokro**	**147.91 179**	PKPbc	**PKPdf**	**11 49 18.1**	**+2.9**	
	comp=Z,1.8nm,0.5s,baz=197,slow=4.1,SNR=4.4						
BRTR	**Keskin Array B**	**150.84 284**	PKPab	**PKPab**	**11 49 31.9**	**-0.8**	
	comp=Z,0.6nm,0.6s,baz=116,slow=5.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**153.83 193**	PKPab	**PKPab**	**11 49 45.5**	**0.0**	
	comp=Z,1.4nm,0.6s,baz=175,slow=3.2,SNR=3.4						

*IDC **07** 11:47:02.9±1.4,59.˚82N×153.˚30W,h96$^{km}_{\pm 14}$km,mb3.9/14, mbtmp4.3/19,MS2.2/1,Error ellipse: s-maj=15.1km s-min=12.6km az=163.0*

*NEIC **07** 11:47:03.7±1.2,59.˚75N±0.˚04×153.˚16W±0.˚07, h106$^{km}_{\pm 3}$km,Error ellipse: s-maj=5.2km s-min=5.1km az=179.0*

*AEIC **07** 11:47:04±1.3,59.˚73N±0.˚04×153.˚14W±0.˚07,h104$^{km}_{\pm 4}$km, ML4.2,mb4.4/4(NEIC),ML4.3/124(NEIC),Mwr4.2/79(NEIC), Error ellipse: s-maj=5.1km s-min=5.1km az=185.0*

*NEIC **07** 11:47:04,59.˚74N×153.˚15W,h102km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.87; $M_{\theta\theta}$-2.28; $M_{\phi\phi}$1.40; $M_{r\theta}$0.11; $M_{\theta\phi}$0.44; $M_{r\phi}$1.24; Fault plane solution: M_o2.39000×10^{15} NP1:ϕ$_s$314.85000°, δ64.58000°,λ.150.12000°. NP2:ϕ$_s$58.70000°,δ63.26000°, λ28.73000°. Principal axes: T 2.4392, Plg38.0000°, Azm276.0000°; N -0.1108, Plg52.0000°, Azm98.0000°; P -2.3283, Plg1.0000°, Azm7.0000°;*

ISC 07 11:47:03.2±0.5,59.˚74N±0.˚03×153.˚13W±0.˚03, h105$^{km}_{\pm 4}$km,n384,σ0.96/433,mb4.5/24,1C,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.11**	**209**		**Pn**	**11 47 18.8**	**+1.0**
P19K					**Sn**	**11 47 30.0**	**+1.3**
P19K	**Oil Pt**	**0.11**	**209**	P	**Pn**	**11 47 18.8**	**+1.0**
	baz=32,SNR=901						
P19K				S	**Sn**	**11 47 30.0**	**+1.3**
	baz=32						
ILSW	**Iliamna Southw**	**0.24**	**358**		**Pn**	**11 47 19.1**	**+0.9**
ILSW					**Sn**	**11 47 30.5**	**+1.0**
O20K	**Slope Mountain**	**0.42**	**37**		**Pn**	**11 47 20.2**	**+1.2**
O20K					**Sn**	**11 47 32.2**	**+1.2**
O20K	**Slope Mountain**	**0.42**	**37**	P	**Pn**	**11 47 20.2**	**+1.2**
	baz=216,SNR=504						
O20K				S	**Sn**	**11 47 32.6**	**+1.7**
	baz=216						
O19K	**Port Alsworth**	**0.75**	**308**		**Pn**	**11 47 22.2**	**+0.8**
O19K					**Sn**	**11 47 35.7**	**+0.5**
O19K				IAML		11 47 36.6	
	comp=N,20μm,0.5s						
O19K				IAML		11 47 37.6	
	comp=E,13μm,0.5s						
O19K	**Port Alsworth**	**0.75**	**308**	P	**Pn**	**11 47 22.3**	**+0.8**
	baz=128,SNR=311						
O19K				S	**Sn**	**11 47 35.9**	**+0.7**
	baz=128						
HOM	**Homer**	**0.76**	**96**		**Pn**	**11 47 22.9**	**+1.4**
HOM				IAML		11 47 39.2	
	comp=N,8μm,0.4s						
HOM				IAML		11 47 42.5	
	comp=E,9μm,0.7s						
HOM	**Homer**	**0.76**	**96**	P	**Pn**	**11 47 22.5**	**+1.0**
	baz=276,SNR=156						
RDWB	**Redoubt West**	**0.76**	**11**		**Pn**	**11 47 22.6**	**+0.9**
Q19K	**Cape Douglas,**	**0.86**	**198**		**Pn**	**11 47 23.3**	**+0.7**
Q19K					**Sn**	**11 47 37.8**	**+0.7**
Q19K				IAML		11 47 42.0	
	comp=E,8μm,0.8s						
Q19K				IAML		11 47 43.7	
	comp=N,9μm,0.9s						
Q19K	**Cape Douglas,**	**0.86**	**198**	P	**Pn**	**11 47 23.2**	**+0.7**
	baz=18,SNR=257						
Q19K				S	**Sn**	**11 47 37.4**	**+0.3**
	baz=18						
CNPM	**China Poot**	**0.99**	**102**		**Pn**	**11 47 24.6**	**+0.8**
CNPM				IAML		11 47 44.1	
	comp=N,4μm,0.5s						
CNPM				IAML		11 47 45.3	
	comp=E,4μm,0.4s						
O18K	**Koktuh Hills**	**1.06**	**277**		**Pn**	**11 47 25.0**	**+0.5**
O18K					**Sn**	**11 47 40.8**	**+0.1**
O18K	**Koktuh Hills**	**1.06**	**277**	P	**Pn**	**11 47 25.0**	**+0.5**
	baz=96,SNR=65						
O18K				S	**Sn**	**11 47 40.6**	**-0.1**
	baz=96						
P18K	**Big Mountain,**	**1.13**	**253**		**Pn**	**11 47 25.5**	**+0.2**
P18K	**Big Mountain,**	**1.13**	**253**	P	**Pn**	**11 47 25.5**	**+0.2**
	baz=72,SNR=16						
P18K				S	**Sn**	**11 47 41.5**	**-0.6**
	baz=72						
BRLK	**Bradley Lake**	**1.14**	**88**		**Pn**	**11 47 26.1**	**+0.6**
BRLK				IAML		11 47 45.1	
	comp=E,3μm,0.5s						
BRLK				IAML		11 47 45.2	
	comp=N,3μm,0.4s						
Q20K	**Shuyak Island**	**1.20**	**161**	P	**Pn**	**11 47 27.1**	**+1.0**
	baz=341,SNR=202						
Q20K				S	**Sn**	**11 47 44.4**	**+0.9**
	baz=341						
SYI	**Shuyak Island**	**1.20**	**161**		**Pn**	**11 47 27.0**	**+0.9**
SYI					**Sn**	**11 47 44.8**	**+1.4**
BRSE	**Bradley Lake S**	**1.21**	**89**		**Pn**	**11 47 26.8**	**+0.6**
BRSE	**Bradley Lake S**	**1.21**	**89**	P	**Pn**	**11 47 26.9**	**+0.6**
	baz=270,SNR=259						
BRSE				S	**Sn**	**11 47 44.1**	**+0.4**
	baz=270						
N19K	**Bonanza Creek**	**1.27**	**328**		**Pn**	**11 47 27.7**	**+0.8**
N19K	**Bonanza Creek**	**1.27**	**328**	P	**Pn**	**11 47 27.8**	**+0.8**
	baz=148,SNR=1000						
N19K				S	**Sn**	**11 47 45.3**	**+0.3**
	baz=148						
CAPN	**Captain Cook N**	**1.42**	**43**		**Pn**	**11 47 31.5**	**+2.8**
CAPN	**Captain Cook N**	**1.42**	**43**	IAML		11 47 55.0	
	comp=E,7μm,0.7s						
CAPN	**Captain Cook N**	**1.42**	**43**	P	**Pn**	**11 47 31.4**	**+2.8**
	baz=224						
CAPN				S	**Sn**	**11 47 52.0**	**+4.0**
	baz=224						
N20K	**Mount Spurr**	**1.53**	**17**	P	**Pn**	**11 47 31.1**	**+1.0**
	baz=198						
N20K				S	**Sn**	**11 47 51.0**	**+0.5**
	baz=198						
SPCR	**Spurr Chakacha**	**1.53**	**17**		**Pn**	**11 47 31.1**	**+1.0**
SPCR					**Sn**	**11 47 51.4**	**+0.8**
N18K	**Kilae Creek**	**1.67**	**305**	Pn	**Pn**	**11 47 32.1**	**+0.5**
N18K	**Kilae Creek**	**1.67**	**305**	P	**Pn**	**11 47 32.2**	**+0.5**
	baz=124,SNR=99						
N18K				S	**Sn**	**11 47 53.4**	**-0.1**
	baz=124						
P17K	**Kvichak River**	**1.78**	**253**		**Pn**	**11 47 33.8**	**+0.7**
P17K					**Sn**	**11 47 56.3**	**+0.5**
P17K	**Kvichak River**	**1.78**	**253**	P	**Pn**	**11 47 33.7**	**+0.7**
	baz=71,SNR=58						
P17K				S	**Sn**	**11 47 56.1**	**+0.3**
	baz=71						
SVW2	**Sparrevohn**	**1.82**	**319**		**Pn**	**11 47 34.1**	**+0.5**
O22K	**Cooper Landing**	**1.86**	**65**		**Pn**	**11 47 35.1**	**+1.1**
O22K	**Cooper Landing**	**1.86**	**65**	P	**Pn**	**11 47 35.0**	**+1.0**
	baz=248,SNR=194						
O22K				S	**Sn**	**11 47 58.3**	**+0.7**
	baz=248						
SEW	**Seward**	**1.89**	**77**		**Pn**	**11 47 34.8**	**+0.4**
SEW	**Seward**	**1.89**	**77**		**Sn**	**11 47 57.6**	**-0.6**
SEW	**Seward**	**1.89**	**77**	P	**Pn**	**11 47 34.6**	**+0.2**
	baz=260,SNR=172						
SEW				S	**Sn**	**11 47 57.9**	**-0.4**
	baz=260						
KDAK	**Kodiak Island**	**1.99**	**172**	P	**Pn**	**11 47 35.5**	**-0.2**
	comp=E,753nm,0.3s,baz=36,slow=8.5,SNR=2822						
KDAK				S	**Sn**	**11 47 59.9**	**-0.7**
	comp=E,702nm,0.5s,baz=23,slow=15,SNR=21						
KDAK				LR	LR	11 48 02.2	
	comp=E,59nm,20.9s,baz=239,slow=28						
KDAK	**Kodiak Island**	**1.99**	**172**	IAML		11 48 01.9	
	comp=E,2μm,0.5s						
KDAK				IAML		11 48 09.3	
	comp=E,2μm,0.4s						
KDAK	**Kodiak Island**	**1.99**	**172**	P	**Pn**	**11 47 35.6**	**-0.1**
	baz=352						
KDAK				S	**Sn**	**11 48 00.1**	**-0.4**
	baz=352						
O17K	**Koliganek Bris**	**2.01**	**273**		**Pn**	**11 47 36.4**	**+0.5**
O17K	**Koliganek Bris**	**2.01**	**273**	P	**Pn**	**11 47 36.5**	**+0.5**
	baz=90,SNR=34						
O17K				S	**Sn**	**11 48 00.7**	**-0.2**
	baz=90						
FIS	**Fire Island**	**2.01**	**45**		**Pn**	**11 47 38.1**	**+2.1**
FIS				IAML		11 48 07.5	
	comp=E,3μm,0.8s						
FIS				IAML		11 48 08.3	
	comp=N,3μm,0.7s						
SUA	**Susitna One**	**2.09**	**33**		**Pn**	**11 47 38.4**	**+1.3**
SUA					**Sn**	**11 48 04.0**	**+1.0**
SUA	**Susitna One**	**2.09**	**33**	P	**Pn**	**11 47 38.4**	**+1.3**
	baz=215						
SUA				S	**Sn**	**11 48 04.1**	**+1.0**
	baz=215						
Q16K	**King Salmon**	**2.11**	**241**		**Pn**	**11 47 38.1**	**+0.9**
Q16K	**King Salmon**	**2.11**	**241**	P	**Pn**	**11 47 38.1**	**+0.9**
	baz=58,SNR=31						
Q16K				S	**Sn**	**11 48 03.3**	**0.0**
	baz=58						
M20K	**Styx River**	**2.15**	**360**		**Pn**	**11 47 39.0**	**+1.2**
RC01	**Rabbit Creek A**	**2.16**	**50**		**Pn**	**11 47 39.0**	**+1.1**
RC01				IAML		11 48 07.4	
	comp=N,3μm,0.6s						
RC01	**Rabbit Creek A**	**2.16**	**50**	P	**Pn**	**11 47 38.8**	**+0.9**
	baz=232,SNR=140						
RC01				S	**Sn**	**11 48 04.7**	**+0.3**
	baz=232						
M19K	**Big River Lodg**	**2.25**	**345**		**Pn**	**11 47 40.0**	**+0.8**
M19K	**Big River Lodg**	**2.25**	**345**	P	**Pn**	**11 47 40.0**	**+0.8**
	baz=164						
SKT	**Skwentna**	**2.38**	**19**		**Pn**	**11 47 41.3**	**+0.6**
SKT	**Skwentna**	**2.38**	**19**	P	**Pn**	**11 47 41.6**	**+0.9**
	baz=200,SNR=317						
SKT				S	**Sn**	**11 48 11.5**	**+1.9**
	baz=200						
M22K	**Willow**	**2.50**	**35**	P	**Pn**	**11 47 43.5**	**+1.2**
	baz=217,SNR=232						
M22K				S	**Sn**	**11 48 13.4**	**+1.0**
	baz=217						
O16K	**Kokwok River B**	**2.52**	**269**		**Pn**	**11 47 43.5**	**+0.8**
O16K	**Kokwok River B**	**2.52**	**269**	P	**Pn**	**11 47 43.4**	**+0.8**
	baz=85,SNR=37						
O16K				S	**Sn**	**11 48 13.8**	**+0.9**
	baz=85						
OHAK	**Old Harbor**	**2.53**	**182**		**Pn**	**11 47 42.1**	**-0.6**
OHAK				IAML		11 48 14.5	
	comp=E,664nm,0.3s						
OHAK				IAML		11 48 14.9	
	comp=N,596nm,0.4s						
OHAK	**Old Harbor**	**2.53**	**182**	P	**Pn**	**11 47 42.1**	**-0.6**
	baz=1.7,SNR=69						
L19K	**White Mountain**	**2.59**	**342**		**Pn**	**11 47 44.1**	**+0.6**
L19K	**White Mountain**	**2.59**	**342**	P	**Pn**	**11 47 44.1**	**+0.6**
	baz=161,SNR=407						
L19K				S	**Sn**	**11 48 14.6**	**+0.1**
	baz=161						
P16K	**Nushagak River**	**2.59**	**256**		**Pn**	**11 47 44.7**	**+1.2**
P16K	**Nushagak River**	**2.59**	**256**	P	**Pn**	**11 47 44.8**	**+1.4**
	baz=72,SNR=9.0						
P16K				S	**Sn**	**11 48 15.3**	**+0.8**
	baz=72						
PWL	**Port Wells**	**2.64**	**63**		**Pn**	**11 47 44.4**	**+0.2**
PWL	**Port Wells**	**2.64**	**63**	P	**Pn**	**11 47 44.2**	**+0.1**
	baz=247,SNR=173						
PWL				S	**Sn**	**11 48 15.0**	**-0.7**
	baz=247						
PMR	**Palmer**	**2.70**	**45**		**Pn**	**11 47 45.0**	**0.0**
PMR				IAML		11 48 17.0	
	comp=E,764nm,0.5s						
PMR				IAML		11 48 19.3	
	comp=N,1μm,0.7s						
PMR	**Palmer**	**2.70**	**45**	P	**Pn**	**11 47 45.1**	**0.0**
	baz=228,SNR=197						
PMR				S	**Sn**	**11 48 16.6**	**-0.6**
	baz=228						
R17K	**Ugashik Creek**	**2.71**	**220**		**Pn**	**11 47 46.3**	**+1.2**
R17K	**Ugashik Creek**	**2.71**	**220**	P	**Pn**	**11 47 46.3**	**+1.2**
	baz=38,SNR=123						
R17K				S	**Sn**	**11 48 18.0**	**+0.6**
	baz=38						
L20K	**Farewell, AK**	**2.77**	**353**		**Pn**	**11 47 47.0**	**+1.0**
L20K	**Farewell, AK**	**2.77**	**353**	P	**Pn**	**11 47 47.1**	**+1.2**
	baz=172,SNR=409						
KNK	**Knik Glacier**	**2.85**	**52**		**Pn**	**11 47 47.4**	**+0.4**
KNK	**Knik Glacier**	**2.85**	**52**	P	**Pn**	**11 47 47.1**	**+0.1**
	baz=236,SNR=111						
KNK				S	**Sn**	**11 48 19.1**	**-1.6**
	baz=236						
GHO	**Glory Hole Cre**	**2.90**	**44**		**Pn**	**11 47 47.9**	**+0.2**
GHO				IAML		11 48 25.3	
	comp=N,2μm,0.6s						
GHO				IAML		11 48 28.6	
	comp=E,2μm,0.7s						
P23K	**Montague Islan**	**2.90**	**82**		**Pn**	**11 47 48.4**	**+0.7**
P23K	**Montague Islan**	**2.90**	**82**	P	**Pn**	**11 47 48.7**	**+1.1**
	baz=267,SNR=154						
P23K				S	**Sn**	**11 48 21.9**	**0.0**
	baz=267						
N16K	**Nishlik Lake**	**2.92**	**287**		**Pn**	**11 47 48.9**	**+1.0**
N16K	**Nishlik Lake**	**2.92**	**287**	P	**Pn**	**11 47 48.9**	**+1.0**
	baz=102,SNR=94						
CUT	**Chulitna**	**3.01**	**26**		**Pn**	**11 47 49.8**	**+0.8**
CUT				IAML		11 48 31.8	
	comp=E,1μm,0.4s						
CUT				IAML		11 48 52.8	
	comp=N,1μm,0.9s						
CUT	**Chulitna**	**3.01**	**26**	P	**Pn**	**11 47 49.8**	**+0.8**
	baz=209,SNR=154						
SML	**Sawmill**	**3.13**	**47**		**Pn**	**11 47 50.8**	**+0.1**
SML				IAML		11 48 28.5	
	comp=N,1μm,1.0s						
SML				IAML		11 48 35.5	
	comp=E,1μm,0.6s						
SML	**Sawmill**	**3.13**	**47**	P	**Pn**	**11 47 50.8**	**+0.1**
	baz=231,SNR=109						
R16K	**Pilot Point**	**3.19**	**229**	P	**Pn**	**11 47 52.7**	**+1.3**
	baz=45						
PPLA	**Purkeypile**	**3.20**	**8**		**Pn**	**11 47 53.2**	**+1.5**
PPLA	**Purkeypile**	**3.20**	**8**	P	**Pn**	**11 47 53.2**	**+1.5**
	baz=189,SNR=299						
GLI	**Glacier Island**	**3.21**	**67**		**Pn**	**11 47 51.0**	**-0.8**
GLI	**Glacier Island**	**3.21**	**67**	P	**Pn**	**11 47 51.5**	**-0.2**
	baz=252,SNR=48						
SII	**Sitkinak Islan**	**3.24**	**190**		**Pn**	**11 47 51.4**	**-0.8**
SII				IAML		11 48 31.0	
	comp=E,715nm,0.4s						
SII				IAML		11 48 31.1	
	comp=N,628nm,0.4s						
SII	**Sitkinak Islan**	**3.24**	**190**	P	**Pn**	**11 47 51.4**	**-0.8**
	baz=9.4,SNR=25						
M23K	**Glacier View**	**3.35**	**50**		**Pn**	**11 47 53.8**	**+0.1**
M23K	**Glacier View**	**3.35**	**50**	P	**Pn**	**11 47 53.8**	**+0.1**
	baz=234,SNR=53						
HIN	**Hinchinbrook I**	**3.39**	**76**		**Pn**	**11 47 54.1**	**0.0**
HIN				IAML		11 48 35.2	
	comp=E,1μm,0.7s						
Q23K	**Middleton Isla**	**3.46**	**92**		**Pn**	**11 47 55.6**	**+0.5**
Q23K				IAML		11 48 41.2	
	comp=E,357nm,0.8s						
Q23K				IAML		11 48 41.9	
	comp=N,519nm,0.6s						
Q23K	**Middleton Isla**	**3.46**	**92**	P	**Pn**	**11 47 55.7**	**+0.5**
	baz=278,SNR=28						
FID	**Port Fidalgo**	**3.46**	**70**		**Pn**	**11 47 54.2**	**-0.9**
FID				IAML		11 48 34.6	
	comp=E,1μm,0.6s						
TT01	**Tatalina**	**3.47**	**338**		**Pn**	**11 47 55.4**	**+0.3**
MID	**Middleton Isla**	**3.47**	**92**		**Pn**	**11 47 55.6**	**+0.5**
MID				IAML		11 48 42.1	
	comp=E,480nm,0.4s						
MID				IAML		11 48

comp=N,159nm,0.7s
GOAT Goat Mountain 4.28 75 Pn 11 48 06.1 -0.1
RAGM Ragged Mountai 4.29 78 Pn 11 48 05.9 -0.3
DHY Denali Highway 4.34 37 Pn 11 48 07.2 +0.2
DHY IAML 11 48 58.8
comp=E,388nm,0.6s
DHY IAML 11 49 00.8
comp=N,273nm,0.5s
DHY Denali Highway 4.34 37 P Pn 11 48 07.4 +0.4
baz=222,SNR=119
KAIM Kayak Island 4.40 84 Pn 11 48 08.4 +0.7
KAIM IAML 11 49 02.2
comp=E,448nm,0.8s
KAIM Kayak Island 4.40 84 P Pn 11 48 08.4 +0.7
baz=271,SNR=14
BMRM Bremner River 4.41 70 Pn 11 48 07.5 -0.4
BMRM Bremner River 4.41 70 P Pn 11 48 08.6 +0.7
baz=257,SNR=92
PS11 TAPS Pump St11 4.41 55 Pn 11 48 08.4 +0.6
CHGN Chignik 4.45 221 Pn 11 48 08.7 +0.3
CHGN IAML 11 48 59.6
comp=N,503nm,0.1s
CHGN IAML 11 49 01.2
comp=E,539nm,0.1s
CHGN Chignik 4.45 221 P Pn 11 48 08.9 +0.5
baz=37,SNR=16
MCK McKinley 4.47 25 Pn 11 48 09.4 +0.7
MCK IAML 11 49 03.8
comp=E,132nm,0.5s
MCK IAML 11 49 39.8
comp=N,154nm,1.3s
MCK McKinley 4.47 25 P Pn 11 48 09.4 +0.7
baz=208,SNR=175
J20K Nowinta River 4.47 354 Pn 11 48 09.5 +0.8
J20K Nowinta River 4.47 354 P Pn 11 48 09.4 +0.8
baz=174,SNR=155
BPAW Bear Paw Mtn. 4.49 12 Pn 11 48 09.1 +0.2
BPAW IAML 11 48 59.9
comp=N,99nm,0.6s
BPAW Bear Paw Mtn. 4.49 12 P Pn 11 48 08.9 +0.1
baz=194,SNR=101
HMT Hamilton 4.49 79 Pn 11 48 08.7 -0.3
N25K Chitina, Valde 4.59 62 Pn 11 48 11.4 +1.0
N25K IAML 11 49 04.5
comp=N,436nm,0.6s
N25K Chitina, Valde 4.59 62 P Pn 11 48 11.4 +1.0
baz=250,SNR=112
NICHA Nichawak Mount 4.63 80 Pn 11 48 10.8 0.0
HARP HAARP 4.70 52 Pn 11 48 12.3 +0.6
HARP HAARP 4.70 52 P Pn 11 48 12.1 +0.4
baz=239,SNR=20
SUCK Suckling Hills 4.72 82 Pn 11 48 12.8 +0.8
SUCK IAML 11 49 07.6
comp=N,237nm,0.7s
SUCK IAML 11 49 15.3
comp=E,135nm,0.6s
BERG Berg Lake 4.77 78 Pn 11 48 13.0 +0.3
BWN Browne 4.77 20 Pn 11 48 13.2 +0.5
BWN IAML 11 49 43.1
comp=E,282nm,1.0s
BWN IAML 11 49 47.1
comp=N,285nm,0.9s
S14K Fog Glacier 4.87 227 P Pn 11 48 14.6 +0.5
baz=42
GLB Gilahina Butte 4.90 66 Pn 11 48 14.7 +0.2
GLB IAML 11 49 11.6
comp=E,359nm,0.8s
PAX Paxson 4.90 45 Pn 11 48 14.9 +0.3
PAX Paxson 4.90 45 P Pn 11 48 14.9 +0.3
baz=232,SNR=128
GRIN Grindle Hills 4.95 80 Pn 11 48 16.2 +1.0
BGLC Bering Glacier 4.97 81 P Pn 11 48 16.3 +1.0
baz=270
KHIT Khitrov Hills 5.00 78 Pn 11 48 16.5 +0.7
PS10 TAPS Pump St10 5.10 40 Pn 11 48 19.0 +1.8
SNH Sunshine Point 5.19 81 Pn 11 48 19.2 +0.8
SNH IAML 11 49 18.2
comp=E,244nm,0.9s
SNH IAML 11 49 18.2
comp=N,218nm,0.7s
WAX Waxell Ridge 5.19 78 Pn 11 48 19.2 +0.8
NEA2 Nenana 5.22 20 Pn 11 48 18.8 -0.1
NEA2 Nenana 5.22 20 P Pn 11 48 18.5 -0.3
baz=203,SNR=324
TGL Tana Glacier 5.23 74 Pn 11 48 19.7 +0.7
TGL IAML 11 49 16.4
comp=N,274nm,0.7s
TGL IAML 11 49 17.6
comp=E,303nm,0.8s
MCARA McCarthy VSAT 5.25 67 Pn 11 48 19.9 +0.7
MCARA McCarthy VSAT 5.25 67 P Pn 11 48 19.7 +0.5
baz=256,SNR=25
WRH Wood River Hil 5.30 24 Pn 11 48 19.7 -0.2
WRH IAML 11 49 21.1
comp=N,62nm,0.6s
WRH IAML 11 50 06.6
comp=E,79nm,1.0s
GCSA Galena City Sc 5.32 342 Pn 11 48 20.5 +0.4
GCSA Galena City Sc 5.32 342 P Pn 11 48 20.4 +0.4
baz=159,SNR=33
K24K Donnelly Dome 5.36 37 Pn 11 48 22.3 +1.6
K24K Donnelly Dome 5.36 37 P Pn 11 48 22.3 +1.6
baz=224,SNR=181
CYK Cape Yakataga 5.37 82 Pn 11 48 22.0 +1.3
BARK Barkley Ridge 5.37 78 Pn 11 48 21.6 +0.7
MLY Manley 5.42 11 Pn 11 48 21.1 -0.4
MLY Manley 5.42 11 P Pn 11 48 21.5 -0.1
baz=193,SNR=174
ISLE Juniper Island 5.46 76 Pn 11 48 22.5 +0.4
PTPK Patty Peak 5.47 70 Pn 11 48 23.5 +1.1
I21K Tanana 5.48 5 Pn 11 48 22.7 +0.4
I21K Tanana 5.48 5 P Pn 11 48 22.4 +0.2
baz=186,SNR=100
HDA Harding Lake 5.51 29 Pn 11 48 22.7 0.0
HDA Harding Lake 5.51 29 P Pn 11 48 22.7 0.0
baz=215,SNR=144
CCB Clear Creek Bu 5.51 25 Pn 11 48 22.4 -0.3
MENT Mentasta 5.55 51 Pn 11 48 24.3 +1.0
BAGL Bagley Icefiel 5.57 78 Pn 11 48 24.9 +1.4
M26K Nabesna, AK 5.59 57 Pn 11 48 24.8 +1.0
M26K Nabesna, AK 5.59 57 P Pn 11 48 24.5 +0.6
baz=246,SNR=155
RIDG Independent Ri 5.62 41 Pn 11 48 24.7 +0.6
RIDG Independent Ri 5.62 41 P Pn 11 48 24.6 +0.4
baz=228,SNR=109
MESA MESA 5.63 81 Pn 11 48 25.2 +0.6
MESA MESA 5.63 81 P Pn 11 48 25.3 +0.8
baz=270,SNR=34
PS08 TAPS Pump Stn8 5.65 29 Pn 11 48 24.8 +0.2
TCOL CIGO, UAF Yank 5.70 23 Pn 11 48 25.3 +0.1
TCOL CIGO, UAF Yank 5.70 23 P Pn 11 48 25.4 +0.1
baz=208,SNR=60
COLA College 5.70 23 Pn 11 48 25.2 0.0
COLA College 5.70 23 P Pn 11 48 25.4 +0.1
baz=208
MDM Murphy Dome 5.71 21 Pn 11 48 25.4 0.0
L26K Log Cabin Wild 5.74 51 Pn 11 48 26.4 +0.6
L26K Log Cabin Wild 5.74 51 P Pn 11 48 26.2 +0.4
baz=239,SNR=42
YAH Yahtse 5.74 79 Pn 11 48 26.7 +0.7
IL31 5.83 27 Pn 11 48 26.7 -0.2
ILAR Eielson Array 5.83 27 P Pn 11 48 26.6 -0.3
comp=E,101nm,0.6s,baz=216,slow=13,SNR=860
ILAR S Sn 11 49 31.4 -0.9
comp=E,29nm,0.7s,baz=219,slow=23,SNR=8.3
SDPT Sand Point 5.92 225 Pn Pn 11 48 27.8 -0.5
SDPT Sand Point 5.92 225 P Pn 11 48 27.7 -0.6
baz=39
H21K Melozitna Rive 5.94 1 Pn 11 48 29.0 +0.5
H21K Melozitna Rive 5.94 1 P Pn 11 48 28.9 +0.5
baz=182,SNR=72
CTG Chitna Glacier 5.98 73 P Pn 11 48 30.3 +1.1
baz=263,SNR=64
CTGM Chitina Glacie 5.98 73 Pn Pn 11 48 30.3 +1.1
POKR Poker Plat Res 6.00 24 Pn 11 48 29.5 +0.1
POKR Poker Plat Res 6.00 24 P Pn 11 48 29.4 +0.1
baz=209,SNR=28
PS07 TAPS Pump Stn7 6.02 20 Pn 11 48 30.1 +0.5
TABL Table Mountain 6.04 78 Pn 11 48 30.8 +0.7
CHNA Chernabura Isl 6.04 218 P Pn 11 48 28.8 -1.2
baz=33
CHX Chaix Hills 6.05 82 Pn 11 48 31.3 +1.2
M27K Edge Creek, AK 6.06 60 Pn 11 48 31.2 +1.0
M27K Edge Creek, AK 6.06 60 P Pn 11 48 31.7 +1.4
baz=249,SNR=17

SCRK Sand Creek 6.06 42 Pn 11 48 29.8 -0.4
SCRK Sand Creek 6.06 42 P Pn 11 48 29.8 -0.4
baz=230,SNR=71
J25K Salcha River, 6.08 33 Pn 11 48 30.7 +0.1
J25K Salcha River, 6.08 33 P Pn 11 48 30.7 +0.1
baz=220,SNR=195
LOGN Logan Glacier 6.13 75 Pn 11 48 32.2 +1.0
H22K Ishtalitna Cre 6.22 7 Pn 11 48 33.1 +0.7
H22K Ishtalitna Cre 6.22 7 P Pn 11 48 32.6 +0.2
baz=188,SNR=57
IM03 6.27 358 Pn 11 48 34.1 +1.2
IMAR Indian Mountai 6.27 358 Pn Pn 11 48 33.9 +0.9
H23K Yukon River 6.32 14 Pn 11 48 34.1 +0.5
H23K Yukon River 6.32 14 P Pn 11 48 34.3 +0.6
baz=197,SNR=122
PS06 TAPS Pump Stn6 6.33 13 Pn 11 48 34.7 +0.9
YUK2 White River 6.36 66 Pn 11 48 35.5 +1.2
L27K Beaver Creek, 6.36 54 Pn 11 48 34.6 +0.3
L27K Beaver Creek, 6.36 54 P Pn 11 48 34.5 +0.3
baz=243,SNR=33
BC03 6.38 54 Pn 11 48 34.9 +0.4
BCAR Beaver Creek A 6.38 54 Pn Pn 11 48 34.6 0.0
PCA Pinnacle 6.48 81 Pn 11 48 36.8 +0.8
PINM Pinnacle 6.49 81 P Pn 11 48 36.8 +0.8
baz=272,SNR=30
O28M Mount Upton 6.52 75 P Pn 11 48 38.1 +1.4
baz=266,SNR=199
BVCY Beaver Creek 6.53 61 P Pn 11 48 37.8 +1.3
baz=251,SNR=34
YUK3 Moose Creek 6.53 66 P Pn 11 48 37.5 +0.8
baz=257,SNR=35
J26L Joseph Creek 6.54 39 Pn 11 48 36.8 0.0
J26L Joseph Creek 6.54 39 P Pn 11 48 36.7 -0.1
baz=228,SNR=78
H24K Noodor Dome 6.57 19 Pn 11 48 36.8 -0.3
H24K Noodor Dome 6.57 19 P Pn 11 48 37.0 -0.1
baz=204,SNR=121
K27K Chicken 6.76 46 Pn 11 48 40.2 +0.5
K27K Chicken 6.76 46 P Pn 11 48 39.4 -0.2
baz=235
PRP Porcupine Dome 6.77 28 Pn 11 48 39.5 -0.4
PRP Porcupine Dome 6.77 28 P Pn 11 48 39.7 -0.1
baz=215,SNR=314
G21K Alakaket 6.80 359 P Pn 11 48 41.1 +0.9
baz=178
BCPM Bancas Point 6.80 82 Pn 11 48 40.9 +0.7
PNL Peninsula 6.95 85 P Pn 11 48 42.7 +0.4
baz=276,SNR=68
G23K Bananza Creek 7.13 10 P Pn 11 48 45.2 +0.5
baz=193,SNR=79
I26K Coal Creek Min 7.23 35 Pn 11 48 45.6 -0.5
I26K Coal Creek Min 7.23 35 P Pn 11 48 46.5 +0.5
baz=224
G22K Bettles 7.24 5 P Pn 11 48 46.8 +0.7
baz=187
O29M Mount Kennedy 7.32 79 P Pn 11 48 48.7 +1.4
baz=272,SNR=67
YUK4 Talbot Arm 7.32 71 P Pn 11 48 49.4 +1.9
baz=263,SNR=21
H25K Birch Creek 7.34 24 P Pn 11 48 47.7 +0.3
baz=210,SNR=41
FALS False Pass 7.42 233 Pn Pn 11 48 49.4 +0.9
FALS False Pass 7.42 233 P Pn 11 48 49.3 +0.7
baz=244
YUK6 Outpost Mounta 7.42 74 P Pn 11 48 49.3 +0.4
baz=267,SNR=24
G24K Hadweenzic Riv 7.43 18 P Pn 11 48 48.2 -0.6
baz=203,SNR=48
F21K Alatna River 7.51 359 P Pn 11 48 51.2 +1.4
baz=179,SNR=56
EGAK Eagle 7.52 43 Pn 11 48 49.5 -0.5
EGAK Eagle 7.52 43 P Pn 11 48 49.4 -0.5
baz=233,SNR=29
M29M Somme Creek 7.60 63 P Pn 11 48 52.5 +1.4
baz=256,SNR=45
COLD Coldfoot 7.62 9 Pn Pn 11 48 51.4 +0.1
COLD Coldfoot 7.62 9 P Pn 11 48 51.8 +0.4
baz=191,SNR=27
FYU Fort Yukon 7.72 24 Pn Pn 11 48 52.3 -0.3
P29M Windy Craggy 7.79 84 Pn Pn 11 48 54.3 +0.7
P29M Windy Craggy 7.79 84 P Pn 11 48 54.5 +0.8
baz=277,SNR=249
DAWY Dawson 7.79 50 Pn 11 48 54.2 +0.5
DAWY Dawson 7.79 50 P Pn 11 48 54.4 +0.7
baz=242,SNR=24
F22K John River 7.81 3 P Pn 11 48 54.5 +0.7
baz=184,SNR=17
HYT Haines Junctio 7.84 75 Pn Pn 11 48 55.5 +1.0
HYT Haines Junctio 7.84 75 P Pn 11 48 55.8 +1.4
baz=269,SNR=22
I27K Kandik River 7.90 37 P Pn 11 48 55.2 0.0
baz=227,SNR=19
N30M Aishikik Lake 8.08 71 P Pn 11 48 57.8 +0.2
baz=265,SNR=56
P30M Million Dollar 8.13 80 P Pn 11 48 59.5 +1.2
baz=274
F24K Squaw Lake 8.14 14 P Pn 11 48 58.8 +0.4
baz=199,SNR=30
G26K Porcupine Rive 8.35 26 P Pn 11 49 00.3 -0.9
baz=214,SNR=14
H27K Steamboat Moun 8.37 34 P Pn 11 49 01.5 0.0
baz=224,SNR=45
M30M Minto, Yukon 8.39 63 Pn Pn 11 49 02.1 +0.4
M30M Minto, Yukon 8.39 63 P Pn 11 49 02.5 +0.8
baz=257,SNR=12
K29M Barlow Dome 8.45 54 P Pn 11 49 03.9 +1.2
baz=248,SNR=7.1
PLBC Pleasant Camp 8.51 85 P Pn 11 49 04.3 +1.0
baz=279,SNR=104
O30N Mendenhall 8.53 76 P Pn 11 49 04.9 +1.2
baz=270,SNR=26
F25K Christian Rive 8.54 20 P Pn 11 49 03.2 -0.7
baz=206,SNR=12
BMAR Burt Mountain 8.59 23 Pn Pn 11 49 03.2 -1.3
E24K Your Creek 8.61 12 P Pn 11 49 04.6 -0.1
baz=196,SNR=17
N31M Braeburn, Yuko 8.71 71 Pn Pn 11 49 07.0 +0.9
N31M Braeburn, Yuko 8.71 71 P Pn 11 49 07.3 +1.3
baz=266,SNR=20
G27K Doyon Strip 8.76 31 P Pn 11 49 06.2 -0.5
baz=221,SNR=28
AKUT Akutan 8.90 236 Pn Pn 11 49 09.3 +0.7
F26K Sheenjek River 8.91 23 P Pn 11 49 07.9 -0.8
baz=211,SNR=14
SKAG Skagway 9.03 84 Pn 11 49 11.3 +0.9
SKAG Skagway 9.03 84 P Pn 11 49 10.7 +0.3
baz=279,SNR=32
E25K Arctic Village 9.03 18 P Pn 11 49 09.9 -0.6
baz=205,SNR=13
MAYO Mayo, Yukon 9.05 57 Pn 11 49 12.2 +1.5
MAYO Mayo, Yukon 9.05 57 P Pn 11 49 11.3 +0.6
baz=252
TOLK Toolik Lake Re 9.06 8 Pn Pn 11 49 12.2 +1.3
TOLK Toolik Lake Re 9.06 8 P Pn 11 49 11.4 +0.5
baz=192,SNR=14
WHY Whitehorse 9.13 76 Pn Pn 11 49 12.5 +0.5
WHY Whitehorse 9.13 76 P Pn 11 49 13.1 +1.2
baz=272,SNR=42
D23K Nanushuk River 9.32 5 P Pn 11 49 15.0 +0.7
baz=188,SNR=5.7
UNV Unalaska Valle 9.41 237 Pn Pn 11 49 15.5 -0.1
UNV Unalaska Valle 9.41 237 P Pn 11 49 15.8 +0.1
baz=46
M31M Drury Creek, Y 9.43 67 Pn 11 49 16.9 +1.0
M31M Drury Creek, Y 9.43 67 P Pn 11 49 16.9 +1.0
baz=263,SNR=22
BESE Bessie Mountai 9.46 89 Pn Pn 11 49 17.2 +0.9
D24K Happy Valley 9.62 9 P Pn 11 49 19.0 +0.5
baz=193
GAMB Gambell 9.67 303 P Pn 11 49 19.1 0.0
baz=106
R32K Eaglecrest 9.71 91 P Pn 11 49 21.3 +1.7
baz=286,SNR=13
SIT Sitka 9.72 98 Pn Pn 11 49 19.3 -0.5
SIT Sitka 9.72 98 P Pn 11 49 19.2 -0.6
baz=293
JIS Juneau Island 9.78 91 Pn 11 49 21.2 +0.6
P32M Atlin 9.82 83 P Pn 11 49 22.5 +1.2
baz=279,SNR=12
E27K Coleen River 9.85 26 P Pn 11 49 21.0 -0.6
baz=216,SNR=7.1
FARO Faro, Yukon 9.92 67 Pn 11 49 23.7 +1.2
FARO Faro, Yukon 9.92 67 P Pn 11 49 23.3 +0.8
baz=264,SNR=15
EPYK Eagle Plains 9.95 41 Pn 11 49 23.1 +0.1
EPYK Eagle Plains 9.95 41 P Pn 11 49 23.7 +0.8

baz=236,SNR=14
N32M Quiet Lake 10.00 73 P Pn 11 49 23.5 -0.1
baz=271
D25K Kavik River 10.04 14 P Pn 11 49 24.2 +0.1
baz=200,SNR=6.0
P33M Teslin, Yukon 10.19 79 Pn Pn 11 49 26.7 +0.5
P33M Teslin, Yukon 10.19 79 P Pn 11 49 26.5 +0.3
baz=276,SNR=24
C23K Itkillik River 10.19 5 P Pn 11 49 26.1 0.0
baz=187
C24K Franklin Bluff 10.19 9 P Pn 11 49 26.2 +0.1
baz=193
C27K Jago River 10.69 18 P Pn 11 49 33.4 +0.5
baz=206
MMPY Sheldon Lake, 10.92 65 P Pn 11 49 37.6 +1.5
baz=264,SNR=14
NIKH Nikolski High 11.03 239 Pn Pn 11 49 36.7 -0.9
NIKH Nikolski High 11.03 239 P Pn 11 49 37.2 -0.4
baz=46
R33M Jennings River 11.23 82 P Pn 11 49 40.2 -0.2
baz=281,SNR=21
WRAK Wrangell Islan 11.48 98 Pn 11 49 44.0 +0.5
WRAK Wrangell Islan 11.48 98 P Pn 11 49 44.0 +0.5
baz=295
F31M Tsiigehtchic 11.53 40 P Pn 11 49 43.9 -0.1
baz=237,SNR=5.7
S34M Telegraph Cree 11.53 90 P Pn 11 49 45.4 +1.1
baz=288,SNR=9.1
CRAG Craig 11.54 103 P Pn 11 49 45.1 +0.8
baz=300
DLBC Dease Lake 11.94 86 P Pn 11 49 50.1 +0.4
comp=E,11nm,0.3s,baz=325,slow=12,SNR=70
DLBC S Sn 11 51 59.1 -1.7
comp=E,3.1nm,0.5s,baz=291,slow=20,SNR=2.0
DLBC Dease Lake 11.94 86 Pn Pn 11 49 50.7 +1.0
DLBC Dease Lake 11.94 86 P Pn 11 49 51.1 +1.4
baz=286,SNR=16
INK Inuvik 12.08 37 P Pn 11 49 51.2 -0.2
comp=E,8.1nm,0.7s,baz=254,slow=16,SNR=22
INK Inuvik 12.08 37 Pn Pn 11 49 51.7 +0.2
INK Inuvik 12.08 37 P Pn 11 49 52.3 +0.8
baz=234,SNR=5.2
WTLY Watson Lake, Y 12.19 78 P Pn 11 49 53.6 +0.6
baz=279
TGTN Hyland Airport 12.30 71 P Pn 11 49 55.4 +0.8
baz=273
T35M Bob Quinn 12.31 93 P Pn 11 49 55.7 +1.2
baz=292,SNR=14
V35K Ketchikan 12.35 102 P Pn 11 49 56.5 +1.4
baz=300
C36M Paulatuk 15.58 40 Pn Pn 11 50 34.7 -1.8
C36M IAmb IAmb 11 50 37.5
comp=Z,47nm,1.4s
C36M Paulatuk 15.58 40 P Pn 11 50 34.7 -1.8
baz=246
BBB Bella Bella 15.84 107 P P 11 50 44.1 +2.5
comp=Z,19nm,1.1s,baz=314,slow=6.3,SNR=4.8
BBB S Sn 11 53 33.2 -1.8
comp=Z,7.4nm,1.0s,baz=234,slow=22,SNR=1.5
YKA Yellowknife Ar 18.62 65 P Pn 11 51 13.5 -0.1
comp=Z,4.1nm,0.6s,baz=278,slow=9.8,SNR=36
YKA PcP PcP 11 55 36.3 +0.4
comp=Z,0.2nm,0.3s,baz=265,slow=0.8,SNR=4.6
YKA ScP ScP 11 59 01.8 +0.3
comp=Z,0.3nm,0.5s,baz=291,slow=2.3,SNR=6.4
YKA Yellowknife Ar 18.62 65 P P 11 51 11.9 -0.1
EDM Edmonton 22.63 89 P 11 51 56.0 +0.9
EDM IAmb IAmb 11 52 22.6
comp=Z,11nm,0.9s
SEY Seymchan 25.66 301 P P 11 52 21.8 -0.9
comp=Z,1.2nm,0.5s,baz=71,slow=6.9,SNR=4.7
comp=Z,1.2nm,0.5s
PETK Petropavlovsk- 27.43 278 P P 11 52 38.8 +0.1
comp=Z,4.3nm,0.7s,baz=72,slow=13,SNR=32
comp=Z,4.3nm,0.7s
MA2 Magadan 27.62 294 P P 11 52 40.2 -0.2
comp=Z,2.4nm,0.3s,baz=93,slow=10,SNR=6.4
comp=Z,2.4nm,0.3s
NVAR Mina Array Bea 30.66 118 P P 11 53 11.0 +3.3
comp=Z,0.2nm,0.5s,baz=309,slow=7.8,SNR=1.9
NVAR PcP PcP 11 56 03.9 +0.8
comp=Z,0.3nm,0.7s,baz=225,slow=1.1,SNR=2.6
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 31.40 103 PcP PcP 11 56 05.1 +0.1
comp=Z,0.2nm,0.5s,baz=90,slow=0.2,SNR=2.9
CWC Cottonwood Cre 32.41 120 P P 11 53 23.0 +0.1
baz=327
WCT Wildcat Mounta 32.76 118 S 11 58 31.3 -3.5
MPMC Manual Prospec 32.99 120 P P 11 53 29.7 +1.6
baz=327
TCRU Three Creeks R 33.20 111 pP 11 53 53.2 -0.2
GSC Goldstone, Bar 33.92 120 S 11 58 58.0 +5.1
EYMN Ely 36.86 80 pP 11 54 27.6 +2.9
E43A Lone Tree Farm 40.18 79 pP 11 54 55.8 +3.1
SCHQ Schefferville 43.76 57 P P 11 54 58.4 +0.6
comp=Z,1.3nm,0.5s,baz=82,slow=18,SNR=1.6
comp=Z,1.3nm,0.5s
NRIK Noril'sk 44.10 334 P P 11 55 00.2 +0.1
comp=Z,5.0nm,0.4s,baz=52,slow=4.9,SNR=6.4
comp=Z,5.0nm,0.4s
NRIK Noril'sk 44.10 334 P P 11 55 00.7 +0.5
USRK Ussuriysk Ar. 46.05 285 P P 11 55 14.7 -1.2
comp=Z,0.8nm,0.4s,baz=45,slow=8.7,SNR=3.0
comp=Z,0.8nm,0.4s
MJAR Matsushiro Arr 48.73 274 P P 11 55 36.8 0.0
comp=Z,3.4nm,1.0s,baz=26,slow=6.4,SNR=5.6
comp=Z,3.4nm,1.0s
CN2 Changchun 49.50 290 eP P 11 55 42.4 -0.2
CN2 pmax pmax
comp=Z,40nm,0.6s
KSRS Korea Array 53.17 283 P P 11 56 10.9 +0.9
comp=Z,6.1nm,0.5s,baz=38,slow=6.9,SNR=34
comp=Z,6.1nm,0.5s
SONM Songino Array 54.89 306 P P 11 56 23.6 +1.1
comp=Z,8.7nm,0.5s,baz=40,slow=7.5,SNR=42
comp=Z,8.7nm,0.5s
ZALV Zalesovo Beam 57.54 324 P P 11 56 41.1 +0.1
comp=Z,21nm,0.5s,baz=33,slow=6.8,SNR=79
HHC Hu-ho-hao-te 58.24 297 eP P 11 56 48.7 +2.3
HHC pmax pmax
comp=Z,33nm,1.0s
HHC pmax pmax
comp=Z,140nm,4.2s
GTA Gaotai 64.52 305 eP P 11 57 28.5 -0.1
GTA sP sP 11 58 04.8 -1.7
GTA pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 64.59 321 P P 11 57 28.3 -0.6
comp=Z,2.3nm,0.5s,baz=39,slow=6.6,SNR=33
comp=Z,2.3nm,0.5s
XAN Xi'an 65.02 295 P P 11 57 30.9 -1.0
XAN pmax pmax
comp=Z,11nm,0.6s
WMQ Urumqi 65.40 316 eP P 11 57 35.0 +0.8
WMQ pP PcP 11 58 04.9 -0.5
WMQ pmax pmax
comp=Z,19nm,0.7s
LZH Lanzhou 65.59 300 ⇑P P 11 57 35.2 -0.5
LZH pP pP 11 58 02.1 +0.1
LZH sP sP 11 58 14.4 +0.9
LZH pmax pmax
comp=Z,44nm,1.5s
MNK Minsk 66.10 359 *i* P **P 11 57 36.1 -2.3**
comp=E,1.0nm,0.5s
MNK *i* P **P 11 57 36.1 -2.3**
comp=N,6.0nm,0.8s
MNK *i* P **P 11 57 36.1 -2.3**
comp=Z,9.0nm,0.7s,baz=181
MNK *i* pP **pP 11 58 01.1 -3.5**
MNK *i* PP **PP 12 00 02.4 -2.0**
MNK *i* PPP PPP 12 01 37.9
MNK *i* S **S 12 06 16.6 -1.3**
MNK *i* sS **sS 12 07 00.2 -2.9**
MNK *i* SS **SS 12 10 34.8 +0.7**
MNK *i* SSS SSS 12 13 38.7
MNK *i* LQ LQ 12 21 58.1
MNK *i* LR LR 12 26 59.8
MNK *i* LRM MLR 12 29 05.5
comp=E,125nm,23.2s
MNK *i* LRM MLR 12 29 15.8
comp=Z,65nm,18.7s
MNK *i* LRM MLR 12 29 19.7
comp=N,10.0nm,15.4s
PZH PanZhiHua 74.67 296 P P 11 58 33.1 +1.9
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax

comp=Z,80nm,4.2s
ESDC Sonseca Array 77.72 24 P **P** **11 58 48.6 +0.5**
comp=Z,0.6nm,0.8s,baz=348,slow=4.6,SNR=3.1
comp=Z,0.6nm,0.8s
CMAR Chiang Mai Arr 82.91 294 P **P** **11 59 15.2 -1.0**
comp=Z,1.5nm,0.5s,baz=12,slow=5.7,SNR=10
comp=Z,1.5nm,0.5s
WRA Warramunga Arr 98.59 245 P **P** **12 00 29.5 -0.4**
comp=Z,0.7nm,1.0s,baz=44,slow=6.2,SNR=1.8
comp=Z,0.7nm,1.0s

---

*NEIC **07** 12:01:10.7±1.1,24.92S±0.04×70.88W±0.06,h10km±1km, Error ellipse: s-maj=10.5km s-min=5.6km az=304.0*
*GUC **07** 12:01:13.5±0.7,24.89S×70.68W,h30km±3km,ML4.0*
*IDC **07** 12:01:18.4±3.4,24.92S×70.56W,h67km±26km,mb4.1/3, mbtmp4.1/7,MS3.2/8,Error ellipse: s-maj=61.3km s-min=22.5km az=100.0*
ISC 07 12:01:11.2±1.7,24.88S±0.04×70.93W±0.08,h17km±10km, n72,σ1§42/65,mb4.5/3,MS3.6/3,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.54**	**63**		**Pg**	**12 01 22.3**	**+0.2**
PB14	**IPOC Station P**	**0.54**	**63**	*eP*	**Pb**	**12 01 22.6**	**+0.2**
PB14				*i* S	**Sg**	**12 01 29.0**	**-0.5**
GO02	**Mina Guanaco**	**1.25**	**103**		**Pn**	**12 01 32.8**	**-1.4**
GO02					**Sb**	**12 01 46.0**	**-4.5**
GO02	**Mina Guanaco**	**1.25**	**103**	*eP*	**Pn**	**12 01 32.2**	**-2.0**
GO02				*i* S	**Sb**	**12 01 47.2**	**-3.3**
GO02				IAML		12 01 50.2	
	comp=N,6µm,0.5s						
AC01	**Pan de Azucar**	**1.30**	**167**		**Pn**	**12 01 34.1**	**-0.5**
AC01					**Sn**	**12 01 51.9**	**+0.3**
AC01	**Pan de Azucar**	**1.30**	**167**	*eP*	**Pn**	**12 01 34.1**	**-0.5**
AC01				*i* S	**Sb**	**12 01 51.7**	**0.0**
AC01				IAML		12 01 53.3	
	comp=E,4µm,0.3s						
PB15	**IPOC Station P**	**2.13**	**39**		**Pn**	**12 01 46.5**	**+0.3**
PB15	**IPOC Station P**	**2.13**	**39**	*eP*	**Pn**	**12 01 46.8**	**+0.6**
PB15				*i* S	**Sn**	**12 02 13.1**	**+0.7**
PB15				IAML		12 02 31.8	
	comp=E,3µm,0.2s						
PB06	**IPOC Station P**	**2.50**	**30**		**Pn**	**12 01 50.1**	**-1.1**
PB06	**IPOC Station P**	**2.50**	**30**	*eP*	**Pn**	**12 01 49.3**	**-1.9**
AC06	**Mina Casimiro**	**2.52**	**168**		**Pn**	**12 01 50.8**	**-0.7**
AC06	**Mina Casimiro**	**2.52**	**168**	*eP*	**Pn**	**12 01 51.8**	**+0.3**
AC06				*i* S	**Sb**	**12 02 25.3**	**-1.5**
AC06				IAML		12 02 34.4	
	comp=E,1µm,0.4s						
AC02	**Maricunga**	**2.54**	**141**		**Pn**	**12 01 52.7**	**+0.6**
AC02	**Maricunga**	**2.54**	**141**	*eP*	**Pn**	**12 01 53.4**	**+1.3**
AC02				*i* S	**Sn**	**12 02 23.3**	**+0.4**
AC02				IAML		12 02 28.0	
	comp=E,1µm,0.3s						
PB04	**IPOC Station P**	**2.63**	**16**		**Pn**	**12 01 49.9**	**-3.2**
PB04	**IPOC Station P**	**2.63**	**16**	*eP*	**Pn**	**12 01 49.1**	**-3.9**
LVC	**Limon Verde**	**2.92**	**40**	P	**Pn**	**12 02 00.6**	**+3.4**
	comp=E,36nm,0.5s,baz=230,slow=10,SNR=45						
LVC				S	**Sb**	**12 02 36.9**	**-1.7**
	comp=E,228nm,0.7s,baz=350,slow=8.8,SNR=10						
LVC				LR	LR	12 03 14.1	
	comp=E,239nm,20.9s,baz=210,slow=42						
LVC	**Limon Verde**	**2.92**	**40**		**Pn**	**12 01 57.1**	**-0.1**
LVC	**Limon Verde**	**2.92**	**40**	*eP*	**Pn**	**12 01 58.3**	**+1.1**
LVC				*i* S	**Sn**	**12 02 32.3**	**+0.2**
PB07	**IPOC Station P**	**3.28**	**17**		**Pn**	**12 02 03.1**	**+1.1**
PB07	**IPOC Station P**	**3.28**	**17**	*eP*	**Pn**	**12 02 01.9**	**-0.1**
AC04	**Llanos de Chal**	**3.32**	**182**	Pn	**Pn**	**12 02 00.7**	**-1.7**
PB09	**IPOC Station P**	**3.44**	**27**		**Pn**	**12 02 05.1**	**+1.0**
PB09	**IPOC Station P**	**3.44**	**27**	*eP*	**Pn**	**12 02 04.9**	**+0.7**
PB02	**IPOC Station P**	**3.67**	**15**		**Pn**	**12 02 07.6**	**+0.3**
PB02	**IPOC Station P**	**3.67**	**15**	*eP*	**Pn**	**12 02 06.9**	**-0.3**
AC05	**El Transito**	**3.99**	**172**	Pn	**Pn**	**12 02 11.1**	**-0.6**
AC05	**El Transito**	**3.99**	**172**	*eP*	**Pn**	**12 02 11.8**	**+0.2**
PB01	**IPOC Station P**	**4.04**	**20**		**Pn**	**12 02 12.9**	**+0.6**
PB01	**IPOC Station P**	**4.04**	**20**	*eP*	**Pn**	**12 02 12.8**	**+0.4**
LCO	**Las Campanas**	**4.12**	**177**	*eP*	**Pn**	**12 02 12.3**	**-1.4**
TA01	**Diego Aracena**	**4.35**	**9**	Pn	**Pn**	**12 02 17.4**	**+0.9**
TA01	**Diego Aracena**	**4.35**	**9**	*eP*	**Pn**	**12 02 15.1**	**-1.3**
CO01	**Juntas del Tor**	**5.13**	**172**		**Pn**	**12 02 27.5**	**0.0**
GO04	**Tololo Observa**	**5.28**	**179**	Pn	**Pn**	**12 02 28.8**	**-0.7**
GO01	**Chusmiza**	**5.43**	**18**		**Pn**	**12 02 32.4**	**+0.6**
PB12	**IPOC Station P**	**6.26**	**5**	Pn	**Pn**	**12 02 43.8**	**+0.9**
CO02	**Combarbal**	**6.30**	**181**	Pn	**Pn**	**12 02 43.4**	**-0.1**
PB16	**IPOC Station P**	**6.64**	**12**	Pn	**Pn**	**12 02 49.0**	**+0.4**
ROC1	**El Roble**	**8.07**	**180**	Pn	**Pn**	**12 03 08.0**	**+0.2**
MT02	**Curacav**	**8.35**	**181**	Pn	**Pn**	**12 03 10.2**	**-1.3**
LPAZ	**La Paz**	**8.94**	**18**	P	**Pn**	**12 03 23.5**	**+3.3**
	comp=E,0.4nm,0.3s,baz=170,slow=6.1,SNR=2.3						
LPAZ				LR	LR	12 07 11.5	
	comp=E,140nm,20.6s,baz=234,slow=40						
H03N1	**Juan Fernandez** baz=44	**11.02**	**217**	T	T	12 15 06.6	
H03N2	**Juan Fernandez** baz=44	**11.03**	**217**	T	T	12 15 04.9	
H03N3	**Juan Fernandez** baz=44	**11.03**	**217**	T	T	12 15 03.8	
H03S3	**Juan Fernandez** baz=42	**11.30**	**216**	T	T	12 15 48.3	
H03S1	**Juan Fernandez** baz=42	**11.32**	**216**	T	T	12 15 43.8	
H03S2	**Juan Fernandez** baz=42	**11.32**	**216**	T	T	12 15 43.8	
CPUP	**Villa Florida** comp=E,66nm,18.1s,baz=258,slow=39	**12.36**	**100**	LR	LR	12 09 04.4	
SIV	**San Ignacio** comp=E,2.2nm,0.5s,baz=226,slow=9.7,SNR=12	**12.78**	**48**	P	**Pn**	**12 04 14.6**	**+2.3**
NNA	**Nana** comp=E,50nm,21.7s,baz=140,slow=32	**13.99**	**335**	LR	LR	12 08 55.3	
PLCA	**Paso Flores** comp=E,3.3nm,1.0s,baz=350,slow=11,SNR=6.3	**15.81**	**179**	P	**P**	**12 04 57.9**	**+1.0**
PLCA				LR	LR	12 11 21.5	
	comp=E,62nm,21.3s,baz=330,slow=38						
VNA3	**Neumayer Olymp**	**57.51**	**160**	P	**P**	**12 10 58.9**	**-0.2**
VNA1	**Neumayer--Stat**	**57.76**	**160**	P	**P**	**12 11 01.0**	**+0.2**
VNA2	**Neumayer--Watz** baz=279,slow=7.0	**58.12**	**160**	P	**P**	**12 11 02.7**	**-0.7**
SNAA	**Sanae**	**59.73**	**160**	P	**P**	**12 11 14.2**	**-0.4**
SNAA	**Sanae** comp=E,2.4nm,0.6s,baz=280,slow=8.7,SNR=23 comp=E,2.4nm,0.6s	**59.73**	**160**	P	**P**	**12 11 14.3**	**-0.4**
TROLL	**Troll, Antarti**	**61.45**	**160**	P	**P**	**12 11 26.2**	**-0.2**
DBIC	**Dimbokro** comp=E,20nm,19.1s,baz=36,slow=35	**71.48**	**73**	LR	LR	12 42 49.3	
SUR	**Sutherland** comp=E,26nm,18.1s,baz=226,slow=34	**78.49**	**120**	LR	LR	12 45 34.1	
TORD	**Torodi Ar. Bea** comp=E,3.7nm,0.7s,baz=261,slow=5.2,SNR=19 comp=E,3.7nm,0.7s	**80.23**	**71**	P	**P**	**12 13 20.6**	**-0.8**
MAW	**Mawson** comp=E,2.2nm,0.6s,baz=202,slow=7.1,SNR=12 comp=E,2.2nm,0.6s	**81.63**	**164**	P	**P**	**12 13 28.2**	**+0.3**
MBAR	**Mbarara** comp=E,29nm,18.6s,baz=354,slow=34	**100.33**	**95**	LR	LR	12 57 33.6	
ASAR	**Alice Springs** comp=E,0.4nm,0.5s,baz=134,slow=1.8,SNR=6.0	**126.07**	**208**	PKP	**PKPdf**	**12 20 13.4**	**+0.1**
H11S2	**WAKE ISLAND Hyd** baz=108,slow=75,SNR=96	**26.39**	**275**	T	T	14 39 49.1	
H11S1	**WAKE ISLAND Hyd** baz=108,slow=75,SNR=109	**26.40**	**275**	T	T	14 39 50.6	
H11S3	**WAKE ISLAND Hyd** baz=108,slow=75,SNR=107	**26.41**	**275**	T	T	14 39 50.4	
H11N3	**WAKE ISLAND Hyd** baz=107,slow=75,SNR=5.9	**26.56**	**277**	T	T	14 40 04.3	
H11N2	**WAKE ISLAND Hyd** baz=107,slow=75,SNR=6.1	**26.58**	**277**	T	T	14 40 04.1	
H11N1	**WAKE ISLAND Hyd** baz=107,slow=75,SNR=3.8	**26.58**	**277**	T	T	14 40 03.8	
ZALV	**Zalesovo Beam** comp=E,1.8nm,0.6s,baz=320,slow=5.3,SNR=8.6	**145.79**	**26**	PKPbc	**PKPdf**	**12 20 48.6**	**+0.1**
MKAR	**Makanchi Array** comp=E,1.4nm,0.7s,baz=312,slow=1.3,SNR=9.9	**149.44**	**38**	PKPbc	**PKPbc**	**12 20 59.0**	**-0.3**

DJA 07 12:02:50.5±0.5,3°N±3°×12°8E±°,h10km,M4.0/10,mb4.5/4, mB4.8/3,MLv3.9/10,Mw(mB)4.0/3,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.09**	**186**	P	Pn	12 03 25.0	-0.7
SGSI	**Sangihe**	**2.19**	**292**	P	Pn	12 03 26.2	-0.8
SGSI				S	Sn	12 03 55.7	+1.4
LBMI	**Labuha**	**3.48**	**181**	P	Pn	12 03 43.3	-1.5
KMSI	**Cibinong**	**4.25**	**238**	P	Pn	12 03 55.6	+0.2
GTOI	**Gorontalo** 0.2nm614nm44nm,0.5s	**5.07**	**244**	P	Pn	12 04 06.9	+0.3
SANI	**Sanana**	**5.14**	**198**	P	Pn	12 04 01.8	-5.7
SWI	**Sorong** 0.1nm938nm22nm,0.9s	**5.23**	**135**	P	Pn	12 04 08.2	-0.6
MRSI	**Marisa**	**6.11**	**247**	P	Pn	12 04 20.9	0.0

---

*IDC **07** 12:09:31.1±2.9,6.22S×130.53E,h75km±39km,mb3.3/1, mbtmp3.6/5,ML3.5/4,Error ellipse: s-maj=74.8km s-min=22.6km az=89.0*
ISC 07 12:09:31.5±0.8,6.19S±0.06×131.1E±0.2,h86km,n16, σ3§31/15,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.03**	**325**	P	Pn	12 10 06.6	+2.6
FAKI	**Fak Fak**	**3.46**	**20**	P	Pn	12 10 27.2	+4.0
SIJI	**Sorong** 2.1nm,0.3s,baz=216,slow=22,SNR=21	**5.29**	**2**	P	**Pn**	**12 10 48.8**	**+0.7**
SIJI				S	**Sn**	**12 11 43.8**	**-4.0**
	25nm,0.2s,baz=222,slow=22,SNR=23 5.2nm,0.3s						
KDU	**Kakadu**	**6.60**	**168**	P	Pn	12 11 10.8	+4.8
MTN	**Manton Dam**	**6.61**	**180**	P	Pn	12 11 11.4	+5.3
KNRA	**Kununurra**	**9.70**	**193**	P	**Pn**	**12 11 50.1**	**+1.9**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=25,slow=9.9,SNR=14	**12.97**	**204**	P	**Pn**	**12 12 30.1**	**-2.4**
FITZ				S	Sn	12 14 44.7	-10
	1.6nm,0.5s,baz=171,slow=21,SNR=8.0 0.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**12.97**	**204**	P	**Pn**	**12 12 33.0**	**+0.5**
WRAB	**Tennant Creek** 5.9nm,1.8s	**14.03**	**167**	P	**P**	**12 12 50.9**	**-0.6**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=347,slow=13,SNR=16	**14.03**	**167**	P	**Pn**	**12 12 46.1**	**-0.4**
WRA				S	**Sn**	**12 15 14.7**	**-6.2**
	0.5nm,0.4s,baz=350,slow=23,SNR=7.7 0.4nm,0.4s						
COEN	**Coen** 20nm,2.0s	**14.19**	**124**	P	**P**	**12 12 55.6**	**+2.2**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=349,slow=9.9,SNR=16	**17.59**	**171**	P	**Pn**	**12 13 32.3**	**+1.1**
ASAR				S	**Sn**	**12 16 40.7**	**-6.1**
	0.5nm,0.6s,baz=357,slow=29,SNR=2.7 1.2nm,0.7s						
WRKA	**Warakurna**	**18.93**	**188**	P	**Pn**	**12 13 48.7**	**+1.4**
LCRK	**Leigh Creek**	**25.05**	**165**	P	**P**	**12 14 52.0**	**+4.2**
KMBL	**Kambalda**	**26.48**	**198**	P	**P**	**12 15 02.0**	**+1.1**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=122,slow=6.9,SNR=4.2 0.3nm,0.4s	**68.15**	**326**	P	**P**	**12 20 21.7**	**-0.8**

---

*MAN **07** 12:23:10.4,8.31N×125.89E,h5km,mb4.6,ML3.5,MS3.4*
*IDC **07** 12:23:11.1±1.5,8.14N×126.55E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=37.8km s-min=17.0km az=124.0*
ISC 07 12:23:11.0±1.4,8.32N±0.04×125.89E±0.04,h6km±10km, n11,σ1§75/18,mb3.4/3,1C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.49**	**106**	*eP*	**Pg**	**12 23 20.3**	**-0.1**
BIPH				*eS*	**Sb**	**12 23 28.6**	**-0.9**
BUKP	**Musuan**	**0.93**	**242**	*eP*	**Pg**	**12 23 28.8**	**+0.1**
BUKP				*eS*	**Sn**	**12 23 47.3**	**+3.0**
CGP	**Cagayan de Oro**	**1.19**	**277**	*eP*	**Pg**	**12 23 31.8**	**-1.9**
CGP				*i* S	**Sg**	**12 23 48.9**	**-0.2**
DAV	**Davao City (W)** 78nm,0.3s,baz=11,slow=5.2,SNR=7.6	**1.28**	**194**	Pg	**Pg**	**12 23 36.1**	**+0.6**
DAV				Lg	Lg	12 23 58.6	
	104nm,0.3s,baz=110,slow=16,SNR=2.4						
KCP	**Kidapawan**	**1.52**	**211**	*eP*	**Pn**	**12 23 38.1**	**-0.8**
KCP				*i* S	**Sg**	**12 24 00.5**	**+0.5**
CTBH	**Cotabato--PC H**	**1.96**	**236**	*iP*	**Pn**	**12 23 44.6**	**-0.1**
CTBH				*i* S	**Sb**	**12 24 11.8**	**0.0**
TABP	**Talibon, Bohol**	**2.33**	**319**	*eP*	**Pn**	**12 23 49.2**	**-0.7**
TABP				*eS*	**Sg**	**12 24 29.2**	**+3.2**
TBP	**Tagbilaran**	**2.42**	**304**	*eP*	**Pn**	**12 23 50.9**	**-0.3**
TBP				*i* S	**Sb**	**12 24 23.2**	**-1.8**
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=328,slow=11,SNR=2.2 0.4nm,0.9s	**29.29**	**164**	P	**P**	**12 29 12.3**	**-2.2**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=338,slow=7.0,SNR=4.8 0.3nm,0.7s	**32.74**	**166**	P	**P**	**12 29 42.8**	**-2.1**
USRK	**Ussuriysk Ar.** 2.3nm,0.7s,baz=179,slow=7.3,SNR=5.7 2.3nm,0.7s	**36.14**	**7**	P	**P**	**12 30 16.2**	**+2.2**

IDC 07 12:25:02.8±2.9,9.61S×114.88E,h0km,mb3.0/3, mbtmp3.2/4,ML3.4/1,Error ellipse: s-maj=156.2km s-min=26.9km az=48.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=320,slow=12,SNR=9.7	**13.43**	**130**	Pn	Pn	12 28 14.8	+0.1
FITZ				Sn	Sn	12 30 29.5	-15
	0.3nm,0.3s,baz=170,slow=16,SNR=8.2 1.1nm,0.5s						
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=296,slow=12,SNR=6.3	**21.42**	**121**	P	P	12 29 51.2	-1.3
WRA				S	S	12 33 36.3	-15
	0.8nm,1.1s,baz=278,slow=23,SNR=2.5 0.2nm,0.5s						
ASAR	**Alice Springs** 0.2nm,0.4s,baz=305,slow=8.6,SNR=8.0 0.2nm,0.4s	**22.93**	**130**	P	P	12 30 09.0	+0.3
H08S2	**Diego Garcia H** baz=98,slow=77	**41.93**	**269**	T	T	13 18 37.7	
H08S3	**Diego Garcia H** baz=98,slow=77	**41.94**	**269**	T	T	13 18 34.1	
H08S1	**Diego Garcia H** baz=98,slow=77	**41.95**	**269**	T	T	13 18 35.7	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=162,slow=7.6,SNR=2.4 0.1nm,0.3s	**63.23**	**336**	P	P	12 35 33.7	+0.6

---

*IDC **07** 12:30:38.3±3.2,2.45S×101.84E,h152km±29km,mb3.4/8, mbtmp3.9/9,Error ellipse: s-maj=57.7km s-min=13.9km az=60.0*
*DJA **07** 12:30:39.9±0.3,2°S±2°×10°2E±°,h157km±4km,M4.2/19, mb4.4/5,MLv4.2/19*
*NEIC **07** 12:30:40.5±1.0,2.30S±0.06×101.89E±0.07,h160km±10km, mb4.2/8,Error ellipse: s-maj=10.1km s-min=8.6km az=55.0*
ISC 07 12:30:40.3±0.7,2.26S±0.04×101.93E±0.05,h164km±6km, n50,σ1§18/58,mb4.0/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.49**	**290**	P	**Pn**	**12 31 04.0**	**+0.6**
MASI	**Maura Aman, Be**	**0.93**	**160**	P	**Pn**	**12 31 26.2**	**+0.2**
MASI				S	**Sn**	**12 31 26.1**	**+0.4**
SDSI	**Sungai Dareh**	**1.41**	**339**	P	**Pn**	**12 31 09.7**	**-0.4**
SDSI				S	**Sn**	**12 31 31.1**	**-2.0**
KSI	**Kapahiang**	**1.53**	**154**	P	**Pn**	**12 31 11.4**	**0.0**
KSI				S	**Sn**	**12 31 35.2**	**-0.2**
PPSI	**Pulau Pagai**	**1.98**	**255**	P	**Pn**	**12 31 16.8**	**+0.7**
PPSI				S	**Sn**	**12 31 42.5**	**-1.1**
MNAI	**Manna**	**2.32**	**154**	P	**Pn**	**12 31 19.7**	**-0.4**
MNAI				Sn	**Sn**	**12 31 50.5**	**-0.4**
MNAI	**Manna**	**2.32**	**154**	P	**Pn**	**12 31 19.5**	**-0.6**
MNAI				S	**Sn**	**12 31 49.4**	**-1.5**
BKNI	**Bangkinang**	**2.72**	**341**		**Pn**	**12 31 25.2**	**+0.4**
BKNI				Sn	**Sn**	**12 31 59.4**	**-0.1**
BKNI	**Bangkinang**	**2.72**	**341**	P	**Pn**	**12 31 25.1**	**+0.3**
BKNI				S	**Sn**	**12 31 57.1**	**-2.3**
SISI	**Saibi**	**2.98**	**288**	P	**Pn**	**12 31 28.5**	**+0.5**
SISI				S	**Sn**	**12 32 02.3**	**-2.8**
DSRI	**Dabo**	**3.19**	**56**	P	**Pn**	**12 31 30.0**	**-0.6**
LWLI	**Liwa**	**3.47**	**142**	P	**Pn**	**12 31 34.7**	**+0.4**
MNSI	**Mandailing Nat**	**3.84**	**322**	P	**Pn**	**12 31 39.7**	**+0.8**
KLI	**Kotabumi**	**3.90**	**132**	P	**Pn**	**12 31 39.0**	**-0.7**
KASI	**Kota Agung**	**4.13**	**142**	P	**Pn**	**12 31 40.6**	**-2.1**
PPBI	**Pangkal Pinang**	**4.21**	**89**	P	**Pn**	**12 31 42.2**	**-1.5**
MYKOM	**Kota Tinggi**	**4.46**	**26**		**Pn**	**12 31 47.3**	**+0.4**
GSI	**Gunungsitoli**	**5.61**	**309**		**Pn**	**12 32 01.7**	**-0.3**
GSI	**Gunungsitoli** 0.7nm172nm,0.5s	**5.61**	**309**	P	**Pn**	**12 32 01.7**	**-0.3**
SBJI	**Serang** 0.6nm136nm,0.8s	**5.68**	**133**	P	**Pn**	**12 32 02.5**	**-0.5**
RPSI	**Rantau Prapat**	**5.77**	**329**		**Pn**	**12 32 03.6**	**-0.5**
RPSI	**Rantau Prapat**	**5.77**	**329**		**Pn**	**12 32 04.0**	**-0.2**
PSI	**Prapat** 12nm,0.6s,baz=148,slow=11,SNR=6.9	**5.86**	**329**	P	**Pn**	**12 32 04.0**	**-1.5**
PSI				S	**Sn**	**12 33 11.7**	**-0.5**
	4.1nm,0.5s,baz=194,slow=20,SNR=1.3						
IPM	**Ipoh**	**6.76**	**352**	Pn	**Pn**	**12 32 17.8**	**+0.5**
KCSI	**Kotacane, Aceh**	**7.09**	**324**	P	**Pn**	**12 32 19.1**	**-2.6**
KULM	**Kulim**	**7.61**	**350**	Pn	**Pn**	**12 32 28.8**	**+0.3**
BKSI	**Bulukumba**	**18.41**	**100**	P	**Pn**	**12 34 44.9**	**-0.3**
TOLI2	**Tolitoli**	**19.15**	**80**	P	**P**	**12 34 51.6**	**+0.3**
TOLI2				IAmb	IAmb	12 34 52.9	
	comp=Z,8.7nm,0.9s						
MRSI	**Marisa**	**20.20**	**82**	P	Pn	12 35 05.9	-0.5
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.8s,baz=188,slow=8.3,SNR=6.0	**20.80**	**352**	P	**P**	**12 35 09.0**	**+0.1**
CMAR				PP	**pP**	**12 35 40.4**	**+2.9**
	comp=Z,0.5nm,0.5s,baz=180,slow=12,SNR=4.4 comp=Z,0.9nm,0.8s						
H08S2	**Diego Garcia H** baz=81,slow=75	**29.79**	**259**	T	T	13 05 52.7	
H08S3	**Diego Garcia H** baz=81,slow=75	**29.80**	**259**	T	T	13 05 52.7	
H08S1	**Diego Carcia H** baz=81,slow=75	**29.81**	**259**	T	T	13 05 52.7	
WB0	**Warramunga Arr**	**36.18**	**121**	P	**P**	**12 37 25.9**	**-1.5**
WB0				IAmb	IAmb	12 37 37.3	
	comp=Z,8.1nm,1.4s						
WRA	**Warramunga Arr** comp=Z,1.0nm,0.7s,baz=302,slow=10,SNR=15	**36.21**	**121**	P	**P**	**12 37 25.6**	**-2.0**
WRA				PcP	**PcP**	**12 39 47.9**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=316,slow=2.3,SNR=9.2 comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**36.21**	**121**	P	**P**	**12 37 26.6**	**-1.1**
WRAB	**Tennant Creek**	**36.21**	**121**	P	**P**	**12 37 26.5**	**-1.1**
WRAB				IAmb	IAmb	12 37 46.2	
	comp=Z,7.1nm,1.4s						
WB2	**Warramunga Arr**	**36.22**	**121**	P	**P**	**12 37 26.4**	**-1.3**
WR0	**Warramunga Arr**	**36.39**	**121**	P	**P**	**12 37 27.3**	**-1.9**
WR0				IAmb	IAmb	12 37 49.9	
	comp=Z,10nm,1.4s						
ASAR	**Alice Springs** comp=Z,1.5nm,0.6s,baz=303,slow=8.2,SNR=30	**37.55**	**127**	P	**P**	**12 37 38.0**	**-1.0**
ASAR				PcP	**PcP**	**12 39 53.2**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=308,slow=2.6,SNR=12 comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**37.55**	**127**	P	**P**	**12 37 39.6**	**+0.6**
FORT	**Forrest**	**37.62**	**142**	P	**P**	**12 37 40.2**	**+0.9**
STKA	**Stephens Creek** comp=Z,4.2nm,0.8s,baz=307,slow=7.7,SNR=6.4 comp=Z,4.2nm,0.8s	**47.55**	**133**	P	**P**	**12 38 58.6**	**-0.8**
SONM	**Songino Array** comp=Z,0.4nm,0.3s,baz=187,slow=10,SNR=2.7 comp=Z,0.4nm,0.3s	**50.04**	**4**	P	**P**	**12 39 19.8**	**+1.6**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=142,slow=8.5,SNR=3.0 comp=Z,0.2nm,0.3s	**51.82**	**343**	P	**P**	**12 39 30.8**	**-0.7**
USRK	**Ussuriysk Ar.** comp=Z,2.3nm,0.7s,baz=224,slow=4.0,SNR=5.3 comp=Z,2.3nm,0.7s	**53.50**	**27**	P	**P**	**12 39 44.6**	**+0.8**
CAN	**Canberra**	**54.61**	**133**	P	**P**	**12 39 52.2**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.6s,baz=185,slow=10,SNR=5.1 comp=Z,0.9nm,0.6s	**57.80**	**348**	P	**P**	**12 40 15.2**	**+1.0**
ZALV	**Zalesovo Beam**	**57.80**	**348**	P	**P**	**12 40 14.9**	**+0.7**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.5s,baz=271,slow=1.1,SNR=6.5	**143.71**	**40**	PKP	PKPbc	12 49 54.4	-0.2

MAN 07 12:43:41.8,10.73N×122.31E,h12km,mb4.5,ML3.4, MS3.2,3C-5D,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**0.35**	**273**	*iP*	Pn	12 43 51.8	-0.9
JAP				*i* S	Sb	12 43 58.5	+2.9
RCP	**Roxas**	**0.93**	**28**	*eP*	Pg	12 43 59.5	-0.2
RCP				*eS*	Sn	12 44 14.2	+0.3
CNOP	**Candoni, Negro**	**0.96**	**160**	*eP*	Pg	12 43 58.6	-1.6
CNOP				*eS*	Sg	12 44 12.4	-0.3
SNPH	**Sibulan**	**1.66**	**146**	*iP*	Pn	12 44 10.2	-0.5
SNPH				*i* S	Sb	12 44 33.4	+0.2
LLP	**Lapu-Lapu**	**1.68**	**104**	*iP*	Pn	12 44 11.1	0.0
LLP				*i* S	Sn	12 44 32.9	+0.4
TBP	**Tagbilaran**	**1.85**	**124**	*eP*	Pn	12 44 13.1	-0.2
TBP				*i* S	Sn	12 44 37.1	+0.5
DCPH	**Dipolog City**	**2.37**	**154**	*eP*	Pb	12 44 25.1	+0.7
DCPH				*eS*	Sb	12 44 51.9	-1.7
CGP	**Cagayan de Oro**	**3.27**	**134**	*eP*	Pg	12 44 45.7	+1.3
CGP				*eS*	Sb	12 45 17.3	-2.1
LQP	**Lukban**	**3.44**	**348**	*eP*	Pn	12 44 34.1	-1.4

TRN 07 12:49:38.1,10.59N×61.77W,h44km,MD3.5,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.36**	**80**	*eP*	Pn	12 49 48.5	+1.1
TRN				*eS*	Sn	12 49 54.1	+0.2
TBH	**Brigand Hill**	**0.69**	**98**	*eP*	Pn	12 49 51.5	-0.1
TBH				*eS*	Sn	12 50 00.8	-0.5
TOSP	**Speyside**	**1.40**	**59**	*eP*	Pn	12 50 01.4	+0.2
TOSP				*eS*	Sn	12 50 19.5	+1.0
GRFF	**Grenada Fort F**	**1.46**	**1**	*eP*	Pn	12 50 02.7	+0.6
GRFF				*eS*

KWHZ	Kaweka Forest	3.19	221	P	Pn	12 50 31.7	-1.7	
WIAZ	Waiheke Island	3.21	273	P	Pn	12 50 34.5	+1.0	
ETAZ	East Tamaki Re	3.36	270	P	Pn	12 50 36.3	+0.7	
KRHZ	Kereru	3.38	219	P	Pn	12 50 34.9	-1.1	
SNVZ	South Ngauruho	3.48	231	P	Pn	12 50 36.6	-0.9	
RVAZ	Riverhead Bore	3.65	273	P	Pn	12 50 40.1	+0.5	
WCZ	Waipu Caves	4.01	285	P	Pn	12 50 45.0	+0.5	
MQZ	McQueen's Vall	8.29	215	P	Pn	12 51 45.0	+1.8	

*DJA **07** 12:58:54.1±0.5,3˚N±5˚×12˚9E±˚, h10km,M3.9/10,mb4.1/3, MLv3.8/10*

*IDC **07** 12:58:57.5±5.1,2˚.65N×129˚.23E, h60km±59km,mb3.3/4, mbtmp3.7/5,ML3.8/1,Error ellipse: s-maj=85.3km s-min=24.7km az=74.0*

ISC 07 12:58:52.8±1.3,2˚.5N±0˚.1×128˚.89E±0˚.08,h10km,n17, σ1§49/12,mb3.5/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	2.31	221	P	Pn	12 59 32.9	+2.0
LBMI	Labuha	3.43	204	P	Pb	12 59 51.6	-2.0
SGSI	Sangihe	3.56	289	P	Pn	12 59 49.1	+1.0
SWI	Sorong	4.11	145	P	Pn	12 59 57.4	+1.8
SIJI	Sorong	4.11	145	P	Pn	12 59 57.4	+1.6
	5.9nm,0.3s,baz=282,slow=23,SNR=16						
SIJI				S	Sn	13 00 43.3	-0.7
	8.3nm,0.3s,baz=208,slow=23,SNR=8.5						
	15nm,0.2s						
KMSI	Cibinong	5.28	249	P	Pb	13 00 24.4	-0.8
GTOI	Gorontalo	6.17	252	P	Pn	13 00 25.8	+1.8
	0.0nm8.5nm,0.6s						
FITZ	Fitzroy Crossi	20.73	189	P	P	13 03 33.8	+0.1
	2.3nm,1.1s,baz=354,slow=9.1,SNR=1.5						
	2.3nm,1.1s						
WRA	Warramunga Arr	22.95	167	P	P	13 03 57.5	+0.1
	0.8nm,0.6s,baz=347,slow=10,SNR=18						
	0.8nm,0.6s						
ASAR	Alice Springs	26.48	170	P	P	13 04 30.8	+0.4
	1.0nm,1.0s,baz=347,slow=8.2,SNR=7.8						
	1.0nm,1.0s						
H11S3	WAKE ISLAND Hy	40.28	64	T	T	13 49 44.9	
	baz=251,slow=75,SNR=61						
H11S2	WAKE ISLAND Hy	40.29	64	T	T	13 49 36.4	
	baz=251,slow=75,SNR=44						
H11S1	WAKE ISLAND Hy	40.29	64	T	T	13 49 35.9	
	baz=251,slow=75,SNR=45						
H11N1	WAKE ISLAND Hy	40.86	62	T	T	13 50 22.6	
	baz=250,slow=75,SNR=65						
H11N2	WAKE ISLAND Hy	40.87	62	T	T	13 50 23.5	
	baz=250,slow=75,SNR=38						
H11N3	WAKE ISLAND Hy	40.88	62	T	T	13 50 22.6	
	baz=250,slow=75,SNR=57						
MKAR	Makanchi Array	59.78	325	P	P	13 08 57.4	-0.8
	0.5nm,0.5s,baz=108,slow=7.3,SNR=9.1						
	0.5nm,0.5s						

IDC 07 13:05:31.0±1.8,1˚.12S×122˚.27E, h0km,mb3.1/3, mbtmp3.2/3,MS2.8/1,Error ellipse: s-maj=203.2km s-min=28.8km az=60.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	8.78	22	LR	LR	13 11 42.8	
	comp=Z,68nm,20.9s,baz=130,slow=42						
WRA	Warramunga Arr	22.12	149	P	P	13 10 28.4	+0.1
	0.5nm,0.8s,baz=325,slow=11,SNR=2.3						
	0.5nm,0.8s						
ASAR	Alice Springs	25.09	154	P	P	13 10 57.4	-0.1
	0.5nm,0.8s,baz=344,slow=15,SNR=6.5						
	0.5nm,0.8s						
MKAR	Makanchi Array	59.19	329	P	P	13 15 33.9	0.0
	0.2nm,0.7s,baz=142,slow=7.3,SNR=2.1						
	0.2nm,0.7s						

IDC 07 13:35:01.8±2.3,55˚.69S×30˚.85W, h0km,mb3.9/3, mbtmp3.9/3,MS3.2/2,Error ellipse: s-maj=87.5km s-min=41.1km az=18.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	Palmer Station	18.60	227	LR	LR	13 46 21.9	
	comp=Z,41nm,20.8s,baz=27,slow=37						
CPUP	Villa Florida	35.06	316	P	P	13 41 55.4	-0.9
	1.1nm,0.6s,baz=154,slow=8.7,SNR=3.5						
	1.1nm,0.6s						
H10S2	ASCENSION HYDR	48.34	22	T	T	14 35 51.1	
	baz=189,slow=74,SNR=5.0						
H10S3	ASCENSION HYDR	48.34	22	T	T	14 35 51.5	
	baz=31,slow=74,SNR=13						
LPAZ	La Paz	48.51	309	P	P	13 43 47.1	0.0
	0.7nm,0.5s,baz=166,slow=4.2,SNR=2.7						
	0.7nm,0.5s						
H10N1	ASCENSION HYDR	49.45	22	T	T	14 37 15.4	
	baz=189,slow=77,SNR=7.0						
H10N3	ASCENSION HYDR	49.45	22	T	T	14 37 00.6	
	baz=189,slow=77,SNR=18						
H10N2	ASCENSION HYDR	49.47	22	T	T	14 37 07.1	
	baz=189,slow=77,SNR=12						
LSZ	Lusaka	60.20	73	LR	LR	14 07 12.2	
	comp=Z,30nm,19.6s,baz=180,slow=32						
TORD	Torodi Ar. Bea	73.82	33	P	P	13 46 38.3	+0.3
	0.7nm,0.6s,baz=192,slow=6.2,SNR=4.6						
	0.7nm,0.6s						
ILAR	Eielson Array	148.34	313	PKPbc	PKPbc	13 54 49.0	+0.5
	0.4nm,0.6s,baz=104,slow=1.5,SNR=5.2						
SONM	Songino Array	152.78	89	PKPbc	PKPbc	13 54 58.6	-1.2
	0.6nm,0.4s,baz=221,slow=4.5,SNR=2.2						

*DJA **07** 14:23:47.6±0.3,4˚.5±3˚×14˚0E±˚, h86km±4km,M4.7/19, mb4.8/19,mB5.0/8,MLv5.2/6,Mw(mB)4.2/8,MwMwp4.3/1, Mwp4.8/1*

*NEIC **07** 14:23:48.3±1.5,4˚.37S±0˚.08×139˚.94E±0˚.07,h93km±6km, mb4.7/34,Error ellipse: s-maj=12.4km s-min=9.1km az=202.0*

*IDC **07** 14:23:48.8±0.6,4˚.41S×139˚.80E,h100km±5km,mb3.8/8, mbtmp4.4/13,Error ellipse: s-maj=13.9km s-min=9.8km az=93.0*

ISC 07 14:23:48.2±0.4,4˚.35S±0˚.05×139˚.94E±0˚.05,h100km,n114, σ1§43/124,mb4.5/24,1C-2D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	Genyem	1.76	7	P	Pn	14 24 14.4	-3.3
GENI				S	Sn	14 24 35.9	-4.2
GENI	Genyem	1.76	7	P	Pn	14 24 14.8	-2.9
SMPI	Sarmi	2.64	332	P	Pn	14 24 26.8	-2.5
SRPI	Serui, Papua	4.44	304	P	Pn	14 24 54.6	+1.2
SRPI				S	Sn	14 25 42.1	-1.9
BAKI	Biak	4.95	309	P	Pn	14 25 00.7	+0.4
MANU	Manus Island	7.76	73		Pn	14 25 37.4	-1.1
FAKI	Fak Fak	7.81	280	Pn	Pn	14 25 38.3	-0.9
FAKI	Fak Fak	7.81	280	P	Pn	14 25 38.7	-0.5
	0.4nm934nm123nm,0.7s						
FAKI	Fak Fak	7.81	280	P	Pn	14 25 38.9	-0.3
PMG	Port Moresby	8.75	125	P	Pn	14 25 52.3	+0.2
	117nm,0.6s,baz=75,slow=0.5,SNR=24						
PMG				S	Sn	14 27 27.6	-1.4
	24nm,0.5s,baz=52,slow=19,SNR=1.5						
PMG	Port Moresby	8.75	125	Pn	Pn	14 25 51.8	-0.2
PMG	Port Moresby	8.75	125	P	Pn	14 25 52.2	+0.2
SAUI	Saumlaki	9.32	247	P	Pn	14 26 04.4	+4.6
SIJI	Sorong	9.33	291	P	Pn	14 25 59.9	0.0
	48nm,0.7s,baz=88,slow=9.6,SNR=16						
SIJI				S	Sn	14 27 42.7	-0.4
	12nm,0.5s,baz=261,slow=22,SNR=2.0						
SWI	Sorong	9.34	292	P	Pn	14 26 00.9	+0.9
	2µm104nm,0.7s						
BNDI	Bandanaira	10.01	269	P	Pn	14 26 10.1	+0.9
	281nm,0.8s						
COEN	Coen	10.07	162		Pn	14 26 09.1	-0.9
COEN	Coen	10.07	162	P	Pn	14 26 10.1	+0.1
KDU	Kakadu	11.10	221	P	Pn	14 26 22.8	-1.1
KRVT	Keravat (AS076	12.05	90	P	Pn	14 26 38.3	+1.6
	26nm,0.6s,baz=32,slow=3.3,SNR=3.8						
MTN	Manton Dam	12.13	225	Pn	Pn	14 26 36.3	-1.4
MTN	Manton Dam	12.13	225	P	Pn	14 26 36.5	-1.2
SANI	Sanana	14.12	279	P	Pn	14 27 01.9	-1.9
	28nm,0.7s						
SANI	Sanana	14.12	279	P	Pn	14 27 02.9	-0.9
	28nm,0.7s						
MTSU	Mount Surprise	14.36	163	P	P	14 27 09.1	-1.9
KNRA	Kununurra	15.74	224	Pn	Pn	14 27 23.9	-0.5
KNRA	Kununurra	15.74	224	P	Pn	14 27 23.8	-0.5
QIS	Mount Isa	16.12	181	P	Pn	14 27 29.0	-0.1
WB0	Warramunga Arr	16.25	199	Pn	Pn	14 27 29.9	-0.9
WB0				IAmb	IAmb	14 27 35.2	
	comp=Z,171nm,1.5s						
WRAB	Tennant Creek	16.42	199	P	Pn	14 27 32.4	-0.5
WB2	Warramunga Arr	16.43	199	P	Pn	14 27 31.9	-1.1
WRA	Warramunga Arr	16.44	199	P	Pn	14 27 32.5	-0.6
	comp=Z,8.1nm,0.4s,baz=22,slow=12,SNR=121						
WRA				S	Sn	14 30 26.5	-8.9
	comp=Z,21nm,0.5s,baz=16,slow=22,SNR=8.2						
WRA	Warramunga Arr	16.44	199	P	Pn	14 27 32.2	-0.9
KMSI	Cibinong	16.68	287	P	P	14 27 44.3	+7.6
CTA	Charters Tower	16.81	159	P	P	14 27 38.9	+0.6
	comp=Z,8.2nm,0.7s,baz=339,slow=12,SNR=14						
CTA	Charters Tower	16.81	159	P	P	14 27 39.4	+1.3
CTAO	Charters Tower	16.81	159		P	14 27 38.8	+0.6
CTAO	Charters Tower	16.81	159	P	P	14 27 39.5	+1.3
BATI	Baumata	17.16	249	P	Pn	14 27 43.4	+1.4
	comp=Z,140nm,0.6s,baz=124,slow=2.2,SNR=15						
BATI				S	Sn	14 30 49.9	-3.1
	comp=Z,25nm,0.5s,baz=108,slow=22,SNR=3.0						
BATI	Baumata	17.16	249	P	Pn	14 27 45.8	+3.8
	comp=Z,975nmcomp=Z,102nm,0.6s						
MMRI	Maumere	18.10	255		Pn	14 27 53.9	+0.6
MMRI				IAmb	IAmb	14 28 01.6	
	comp=Z,47nm,0.8s						
MMRI	Maumere	18.10	255	P	Pn	14 28 01.9	+8.6
APSI	Ampana	18.59	280	P	Pn	14 28 00.5	+1.3
	comp=Z,591nmcomp=Z,30nm,1.3s						
MRSI	Marisa	18.61	284	P	Pn	14 28 01.3	+1.8
EDFI	Ende, Flores	18.65	256	P	P	14 27 58.8	+0.3
	comp=Z,29nm,1.0s						
FITZ	Fitzroy Crossi	19.56	225	P	P	14 28 08.6	+0.3
	comp=Z,20nm,0.8s,baz=46,slow=9.7,SNR=49						
FITZ				S	S	14 31 40.2	-3.7
	comp=Z,64nm,0.7s,baz=79,slow=19,SNR=12						
FITZ	Fitzroy Crossi	19.56	225	P	P	14 28 08.8	+0.5
FITZ				IAmb	IAmb	14 28 10.0	
	comp=Z,21nm,0.8s						
FITZ	Fitzroy Crossi	19.56	225	P	P	14 28 09.4	+1.1
BKSI	Bulukumba	19.77	266	P	P	14 28 12.4	+1.7
	comp=Z,552nmcomp=Z,72nm,0.9s						
TOLI2	Tolitoli	19.90	285	P	P	14 28 13.0	+1.0
TOLI2				IAmb	IAmb	14 28 18.7	
	comp=Z,30nm,0.7s						
TOLI2	Tolitoli	19.90	285	P	P	14 28 13.5	+1.5
BASI	Baing, Sumba	20.07	252	P	Pn	14 28 16.9	+0.4
	comp=Z,146nm,1.0s						
AS31	Alice Springs	20.07	196	Pn	P	14 28 15.6	+1.7
AS31				IAmb	IAmb	14 28 17.9	
	comp=Z,46nm,0.6s						
ASAR	Alice Springs	20.07	196	P	P	14 28 15.3	+1.4
	comp=Z,131nm,0.6s,baz=29,slow=9.1,SNR=527						
ASAR				S	S	14 31 53.4	-0.7
	comp=Z,46nm,1.1s,baz=19,slow=26,SNR=13						
ASAR	Alice Springs	20.07	196	P	P	14 28 15.6	+1.7
TTSI	Tana Toraja	20.12	273	P	Pn	14 28 16.9	-0.3
	comp=Z,52nm,1.1s						
SPSI	Sidrap Palu	20.12	270	P	Pn	14 28 17.2	0.0
MPSI	Mapaga	20.56	283	P	Pn	14 28 21.7	-0.6
	comp=Z,17nm,0.7s						
QLP	Quilpie	22.49	170	P	P	14 28 42.1	+2.6
INKA	Innaminka	23.28	178	P	P	14 28 47.3	+0.1
MYLDM	Lahad Datu	23.41	294	P	P	14 28 51.9	+3.2
MYLDM				IAmb	IAmb	14 28 52.3	
	comp=Z,43nm,1.2s						
WRKA	Warakurna	23.42	207	P	P	14 28 48.9	+0.2
EIDS	Eidsvold	23.48	154	P	P	14 28 49.5	+0.3
EIDS				IAmb	IAmb	14 28 52.1	
	comp=Z,13nm,0.6s						
EIDS	Eidsvold	23.48	154	P	P	14 28 51.4	+2.3
OOD	Oodnadatta	23.67	189	P	P	14 28 51.3	+0.5
MBWA	Marble Bar	25.78	228	P	P	14 29 09.8	-0.2
MBWA				IAmb	IAmb	14 29 33.8	
	comp=Z,20nm,0.8s						
PSA00	Pilbara Seismi	25.95	227	P	P	14 29 11.8	+0.2
PSA00	Pilbara Seismi	25.95	227	P	P	14 29 12.5	+0.9
PSA00				IAmb	IAmb	14 29 35.4	
	comp=Z,21nm,0.8s						
LCRK	Leigh Creek	26.01	183	P	P	14 29 12.2	+0.2
STKA	Stephens Creek	27.43	177	P	P	14 29 24.8	+0.1
	comp=Z,1.1nm,0.6s,baz=1.7,slow=12,SNR=1.8						
	comp=Z,1.1nm,0.6s						
BBOO	Buckleboo	28.55	187	P	P	14 29 33.8	-0.9
BBOO				IAmb	IAmb	14 30 02.3	
	comp=Z,26nm,1.2s						
FORT	Forrest	28.58	202	P	P	14 29 35.1	+0.1
MORW	Morawa	33.44	220	P	P	14 30 17.2	-0.6
IPM	Ipoh	39.85	282	P	P	14 31 11.8	-0.6
IPM				IAmb	IAmb	14 31 16.5	
	comp=Z,14nm,0.8s						
KULM	Kulim	40.40	283	P	P	14 31 16.7	-0.2
KULM				IAmb	IAmb	14 31 36.4	
	comp=Z,13nm,1.1s						
RPSI	Rantau Prapat	41.58	279	P	P	14 31 26.3	-0.4
GSI	Gunungsitoli	42.70	277	P	P	14 31 34.2	-1.6
KSRS	Korea Array	43.06	346	P	P	14 31 41.8	+3.5
	comp=Z,0.4nm,0.6s,baz=160,slow=7.4,SNR=1.6						
KSRS				pP	pP	14 32 01.0	-0.8
	comp=Z,0.6nm,0.6s,baz=155,slow=9.0,SNR=3.3						
CMAR	Chiang Mai Arr	46.32	301	P	P	14 32 04.3	-0.1
	comp=Z,1.6nm,0.8s,baz=122,slow=6.2,SNR=11						
CMAR				pP	pP	14 32 28.0	-0.4
	comp=Z,2.9nm,0.9s,baz=123,slow=6.6,SNR=3.7						
CMAR				PcP	PcP	14 33 39.7	+1.4
	comp=Z,0.9nm,0.8s,baz=116,slow=2.1,SNR=4.8						
	comp=Z,1.6nm,0.8s						
TUWZ	Tuamarina	47.84	145	P	P	14 32 16.1	+0.3
BKZ	Black Stump Fm	47.93	141	P	P	14 32 16.9	+0.2
GTA	Gaotai	57.11	324	eP	P	14 33 25.4	+0.8
GTA				pP	pP	14 33 40.6	-8.7
GTA				sP	sP	14 33 52.1	-8.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PETK	Petropavlovsk-	59.17	12	P	P	14 33 37.7	-0.8
	comp=Z,1.5nm,0.8s,baz=201,slow=7.7,SNR=2.1						
	comp=Z,1.5nm,0.8s						
SONM	Songino Array	59.72	334	P	P	14 33 43.0	+0.5
	comp=Z,0.4nm,0.5s,baz=141,slow=7.4,SNR=2.4						
	comp=Z,0.4nm,0.5s						
CASY	Casey	65.15	193	P	P	14 34 18.9	+0.7
CASY				IAmb	IAmb	14 34 59.7	
	comp=Z,11nm,1.2s						
MK31	Makanchi Array	71.83	322	P	P	14 35 00.6	+0.4
MKAR	Makanchi Array	71.83	322	P	P	14 35 00.6	+0.3
	comp=Z,2.6nm,0.6s,baz=100,slow=8.3,SNR=32						
	comp=Z,2.6nm,0.6s						
MKAR	Makanchi Array	71.83	322	P	P	14 35 00.3	+0.1
KSH	Kashi	73.09	313	P	P	14 35 09.9	+1.9
KSH				PcP	PcP	14 35 24.9	+0.6
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZALV	Zalesovo Beam	73.96	330	P	P	14 35 12.1	-0.5
	comp=Z,0.5nm,0.4s,baz=100,slow=6.0,SNR=2.6						
ZALV				pP	pP	14 35 39.0	+0.2
	comp=Z,0.7nm,0.6s,baz=97,slow=4.6,SNR=2.5						
	comp=Z,0.5nm,0.4s						
VNDA	Vanda	74.06	175	P	P	14 35 13.9	+1.1
BOOM	Boomskoye usch	74.18	316	P	P	14 35 15.2	+0.9
BOOM				IAmb	IAmb	14 35 54.8	
	comp=Z,22nm,1.1s						
KURK	Kurchatov	75.75	325	P	P	14 35 22.9	-0.1
BTK	Batken	77.03	313	P	P	14 35 30.7	+0.1
GAR	Garm	77.09	311	P	P	14 35 31.5	+0.5
GAR				IAmb	IAmb	14 35 32.3	
	comp=Z,11nm,0.8s						
CHGR	Chuyangaron	77.87	311	P	P	14 35 35.9	+0.6
KKAR	Karatay Array	78.15	316	P	P	14 35 37.5	+0.8
MAW	Mawson	81.08	202	P	P	14 35 52.4	+0.4
	comp=Z,1.1nm,0.7s,baz=98,slow=8.5,SNR=2.3						
	comp=Z,1.1nm,0.7s						
MAW	Mawson	81.08	202	P	P	14 35 52.1	+0.1
QSPA	South Pole Qui	85.61	180	P	P	14 36 15.5	0.0
QSPA				IAmb	IAmb	14 36 42.5	
	comp=Z,5.8nm,1.0s						
GEYT	Alibeck	86.21	308	P	P	14 36 18.9	-0.1
	comp=Z,3.1nm,0.6s,baz=113,slow=3.3,SNR=5.2						
	comp=Z,3.1nm,0.6s						
ABKAR	Akbulak array	86.76	320	P	P	14 36 20.4	-0.8
ILAR	Eielson Array	86.81	24	P	P	14 36 19.1	-2.1
	comp=Z,0.5nm,0.5s,baz=276,slow=4.8,SNR=8.3						
ILAR				pP	pP	14 36 50.4	+2.9
	comp=Z,0.9nm,0.7s,baz=253,slow=4.9,SNR=4.9						
J26L	Joseph Creek	88.11	25	P	P	14 36 27.4	-0.1
J26L				IAmb	IAmb	14 36 28.4	
	comp=Z,7.0nm,1.3s						
M27K	Edge Creek, AK	88.36	27	P	P	14 36 28.6	-0.2
BMAR	Burnt Mountain	88.45	22	P	P	14 36 29.5	+0.5
BCAR	Beaver Creek A	88.55	26	P	P	14 36 30.0	+0.4
TORD	Torodi Ar. Bea	137.88	285	PKP	PKPdf	14 43 02.3	+0.1
	comp=Z,0.8nm,0.6s,baz=98,slow=2.1,SNR=4.4						
TORD				pPKP	pPKPdf	14 43 29.4	-0.7
	comp=Z,0.8nm,0.8s,baz=130,slow=1.3,SNR=3.6						
KIC	Kosan Boka	144.79	275	⇓iPKP1	PKPdf	14 43 14.0	-0.6
	comp=Z,6.7nm,0.4s						
DBIC	Dimbokro	144.89	275	PKP	PKPdf	14 43 14.1	-0.7
	comp=Z,14nm,0.6s,baz=102,slow=3.9,SNR=23						
DBIC				pPKP	pPKPdf	14 43 40.5	-2.8
	comp=Z,12nm,0.8s,baz=99,slow=3.1,SNR=6.8						
TIC	Toumodi	145.05	275	⇓iPKP1	PKPdf	14 43 14.8	-0.3
	comp=Z,5.5nm,0.3s						
LIC	Lamto	145.07	275	⇑iPKP1	PKPdf	14 43 14.6	-0.5
	comp=Z,10.0nm,0.3s						
CPUP	Villa Florida	145.22	152	PKPbc	PKPbc	14 43 13.7	-1.1
	comp=Z,2.2nm,0.7s,baz=230,slow=7.0,SNR=4.3						
CPUP				pPKPbc	pPKPab	14 43 41.6	-1.2
	comp=Z,3.7nm,0.9s,baz=181,slow=2.9,SNR=4.2						
LPAZ	La Paz	145.49	127	PKPbc	PKiKP	14 43 18.1	-2.4
	comp=Z,3.7nm,0.8s,baz=228,slow=3.8,SNR=14						
LPAZ				pPKPbc	pPKPdf	14 43 43.6	-0.9
	comp=Z,7.9nm,0.8s,baz=234,slow=1.5,SNR=8.6						

*BJI **07** 14:32:30.8±0.0,1˚.69S×120˚.83E,h11km,mb4.8/66, mB5.3/58,Ms4.7/67,Ms7 4.5/64*

*IDC **07** 14:32:37.2±0.4,0˚.91S×120˚.46E,h0km,mb4.7/28, mbtmp4.7/30,ML4.0/2,MS4.4/58,Error ellipse: s-maj=15.4km s-min=10.3km az=64.0*

*DJA **07** 14:32:39.9±0.1,1˚.5±1˚×12˚0E±˚,h10km,M5.0/73, mb5.1/73,mB5.5/48,MLv5.4/26,Mw(mB)5.0/48, MwMwp5.0/13,Mwp5.3/13*

*GCMT **07** 14:32:39.4±0.1,0˚.95S±0˚.01×120˚.37E±0˚.01,h12km, MW5.3/138,Moment Tensor Solution. s102,c149; s138,c262; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.37±.01; $M_{\theta\theta}$0.59±.01; $M_{\phi\phi}$-0.21±.01; $M_{r\theta}$0.69±.03; $M_{\theta\phi}$-0.60±.01; $M_{\phi r}$-0.05±.03; Best double couple: $M_0$1.01000×10^{17} NP1:ϕ_s267.00000°,δ76.00000°, λ-126.00000°. NP2:ϕ_s159.00000°,δ38.00000°, λ-22.00000°. Principal axes: T 1.1750, Plg23.0000°, Azm24.0000°; N -0.3290, Plg35.0000°, Azm277.0000°; P -0.8460, Plg46.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 14:32:41.4±1.8,0˚.94S±0˚.05×120˚.41E±0˚.05,h27km±4km, mb5.1/53 Error ellipse: s-maj=7.8km s-min=6.3km az=57.0*

ISC 07 14:32:38.8±0.2,0˚.96S±0˚.03×120˚.40E±0˚.04,h10km,n327, σ1§89/332,mb5.0/70,MS4.5/78,10C-6D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	Ampana	1.25	88	P	Pg	14 33 04.0	+1.2
MPSI	Mapaga	1.39	339	P	Pn	14 33 01.4	-2.8
TOLI2	Tolitoli	2.10	11	Pn	Pn	14 33 13.7	-0.3
TOLI2	Tolitoli	2.10	11	P	Pn	14 33 15.2	+1.2
MRSI	Marisa	2.10	47	P	Pn	14 33 11.1	-3.0
TTSI	Tana Toraja	2.15	196	P	Pn	14 33 15.1	+0.4
LUWI	Luwuk	2.37	92	Pn	Pn	14 33 18.8	+1.0
LUWI	Luwuk	2.37	92	P	Pn	14 33 19.0	+1.2
LUWI	Luwuk	2.37	92	P	Pb	14 33 20.5	-1.1
SPSI	Sidrap Palu	3.05	192	P	Pn	14 33 28.0	+1.0
GTOI	Gorontalo	3.06	59	P	Pn	14 33 24.7	-2.5
SMKI	Samarinda	3.23	279	P	Pn	14 33 30.4	+0.8
BKB	Balikpapan	3.51	265		Pn	14 33 32.9	-0.6
BKB	Balikpapan	3.51	265	P	Pn	14 33 32.8	-0.7
BKB	Balikpapan	3.51	265	P	Pn	14 33 34.8	+1.3
KMSI	Cibinong	3.89	67	P	Pn	14 33 43.0	+4.3
KAPI	Kappang	4.07	189		Pn	14 33 41.9	+0.7
KAPI	Kappang	4.07	189	P	Pn	14 33 43.6	+2.4
BKSI	Bulukumba	4.34	184	P	Pn	14 33 44.8	0.0
BBSI	Bau Bau	4.99	154	P	Pn	14 33 54.2	+0.4
	0.6nm1µm92nm,0.7s						
BSSI	Bau Bau, Buton	5.14	179	P	Pn	14 33 56.1	+0.2
	2.4nm6µm7µm534nm,0.6s						
MTKI	Muara Teweh, K	5.50	270	P	Pn	14 34 01.6	+0.7
	2.1nm1µm6µm271nm,0.6s						
SANI	Sanana	5.69	101	P	Pn	14 34 02.7	-0.7
	1.5nm4µm485nm,1.0s						
SANI	Sanana	5.69	101	P	Pn	14 34 04.2	+0.8
BBKI	Banjar Baru	6.08	246	P	Pn	14 34 08.7	-0.1
	2.0nm9µm259nm,1.0s						
MYLDM	Lahad Datu	6.39	343	Pn	Pn	14 34 13.8	+0.8
SGSI	Sangihe	6.90	48	P	Pn	14 34 19.8	-0.3
	0.5nm1µm92nm,0.6s						
NLAI	Namlea	7.07	109	P	Pn	14 34 24.0	+1.6
	0.7nm128nm,0.9s						
LBMI	Labuha	7.11	87	P	Pn	14 34 23.1	+0.2
	3.0nm3µm144nm,0.4s						
TNTI	Ternate	7.18	76		Pn	14 34 24.0	+0.1
TNTI	Ternate	7.18

LEM	**Lembang**	**14.01**	**245**	P		**Pn**	**14 36 00.8**	**+3.1**
	1µm79nm,1.4s								
PPBI	**Pangkal Pinang**	**14.31**	**265**	P		**P**	**14 36 07.0**	**-1.8**
	42nm,1.6s								
PGP	**Puerto Galera**	**14.38**	**2**⇑	*eP*		**P**	**14 36 08.0**	**-1.7**
CBJI	**Citeko**	**14.56**	**248**	P		**P**	**14 36 09.5**	**-2.1**
	4µm216nm,0.9s								
LUBP	**Lubang**	**14.60**	**359**⇑	*eP*		**Pn**	**14 36 05.8**	**+0.1**
DBJI	**Dramaga**	**14.70**	**247**	P		**P**	**14 36 10.9**	**-2.3**
	124nm,1.4s								
JCNP	**Jose Panganiba**	**15.32**	**8**⇑	*eP*		**Pn**	**14 36 17.5**	**+2.2**
BAKI	**Biak**	**15.71**	**91**	P		**P**	**14 36 28.0**	**+3.6**
DSRI	**Dabo**	**15.83**	**272**	P		**P**	**14 36 24.7**	**-1.0**
	34nm,1.3s								
SRPI	**Serui, Papua**	**15.86**	**93**	P		**Pn**	**14 36 22.2**	**-0.2**
	92nm,1.1s								
MTN	**Manton Dam**	**15.89**	**138**	P		**Pn**	**14 36 21.9**	**-0.8**
	baz=16,SNR=7.3								
MTN	**Manton Dam**	**15.89**	**138**			**P**	**14 36 25.6**	**-0.8**
MTN	**Manton Dam**	**15.89**	**138**	P		**P**	**14 36 25.7**	**-0.7**
KASI	**Kota Agung**	**16.51**	**254**	P		**P**	**14 36 33.8**	**+0.5**
	127nm,0.9s								
KDU	**Kakadu**	**16.70**	**135**	P		**Pn**	**14 36 31.4**	**-1.6**
	baz=17,SNR=11								
KDU	**Kakadu**	**16.70**	**135**	P		**P**	**14 36 35.5**	**+0.1**
JMBI	**JAMBI**	**16.77**	**268**	P		**P**	**14 36 36.9**	**+0.8**
	3µm149nm,0.5s								
MYKOM	**Kota Tinggi**	**16.77**	**279**	P		**P**	**14 36 36.3**	**+0.1**
MYKOM				IAmb		IAmb	14 36 38.8		
	comp=Z,187nm,1.5s								
KNRA	**Kununurra**	**16.79**	**151**	P		**Pn**	**14 36 32.1**	**-2.0**
	baz=17,SNR=3.1								
KNRA	**Kununurra**	**16.79**	**151**			**Pn**	**14 36 32.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**17.79**	**163**	P		**Pn**	**14 36 46.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=356,slow=13,SNR=1.8								
FITZ				LR		LR	14 44 12.6		
	comp=Z,759nm,20.7s,baz=334,slow=39								
	comp=Z,8.4nm,1.0s								
KSI	**Kapahiang**	**17.99**	**261**	P		**P**	**14 36 51.1**	**+1.3**
MASI	**Maura Aman, Be**	**18.27**	**263**	P		**P**	**14 36 56.3**	**+3.4**
	comp=Z,11µmcomp=Z,863nm,1.4s								
APYP	**Conner**	**18.73**	**3**⇑	*eP*		**Pn**	**14 37 02.3**	**+4.2**
KRJI	**Kerinci**	**18.96**	**266**	P		**Pn**	**14 37 03.4**	**+2.2**
	comp=Z,11µmcomp=Z,461nm,2.0s								
BKNI	**Bangkinang**	**19.40**	**274**	P		**Pn**	**14 37 08.2**	**+1.8**
	comp=Z,3µmcomp=Z,122nm,1.4s								
GENI	**Genyem**	**19.82**	**95**	P		**P**	**14 37 09.4**	**-0.5**
	comp=Z,3µmcomp=Z,134nm,1.3s								
GENI	**Genyem**	**19.82**	**95**	P		**Pn**	**14 37 13.2**	**+1.8**
MBWA	**Marble Bar**	**20.08**	**182**	P		Pn	14 37 15.1	+0.7
IPM	**Ipoh**	**20.10**	**286**	P		**P**	**14 37 12.4**	**-0.5**
IPM				IAmb		IAmb	14 37 18.7		
	comp=Z,290nm,1.7s								
IPM	**Ipoh**	**20.10**	**286**	P		Pn	14 37 14.2	-0.5
PSA00	**Pilbara Seismi**	**20.49**	**181**	P		**P**	**14 37 16.5**	**-0.6**
PSA00	**Pilbara Seismi**	**20.49**	**181**	P		**P**	**14 37 16.2**	**-0.8**
PSA00				IAmb		IAmb	14 37 21.3		
	comp=Z,147nm,1.6s								
PSA00	**Pilbara Seismi**	**20.49**	**181**	P		Pn	14 37 19.3	+0.1
	comp=Z,114nm,2.1s								
KULM	**Kulim**	**20.68**	**288**	P		**P**	**14 37 18.6**	**-0.6**
KULM				IAmb		IAmb	14 37 23.6		
	comp=Z,203nm,1.5s								
MNSI	**Mandailing Nat**	**20.89**	**275**	P		**P**	**14 37 22.9**	**+1.4**
	comp=Z,60nm,0.7s								
SISI	**Saibi**	**21.31**	**269**	P		**P**	**14 37 25.2**	**-0.8**
	comp=Z,132nm,1.3s								
RPSI	**Rantau Prapat**	**21.77**	**280**	P		**P**	**14 37 32.1**	**+1.1**
PSI	**Prapat**	**21.79**	**280**	P		**P**	**14 37 32.1**	**+0.8**
	comp=Z,14nm,0.7s,baz=120,slow=7.4,SNR=18								
PSI				LR		LR	14 47 07.5		
	comp=Z,2µm,19.0s,baz=110,slow=40								
	comp=Z,14nm,0.7s								
PSI	**Prapat**	**21.79**	**280**	P		**P**	**14 37 33.9**	**+2.6**
	comp=Z,49nm,1.1s								
TSI	**Tuntungan**	**22.27**	**282**	P		**P**	**14 37 42.6**	**+6.3**
QIZ	**Qiongzhong**	**22.41**	**333**	P		**P**	**14 37 36.5**	**-1.3**
QIZ	**Qiongzhong**	**22.41**	**333**	P		**P**	**14 37 36.6**	**-1.2**
QIZ				S		**S**	**14 41 44.8**	**+0.7**
QIZ				sS		**sS**	**14 41 52.0**	**+3.2**
QIZ				pmax		pmax			
	comp=Z,12nm,1.6s								
QIZ				pmax		pmax			
	comp=Z,630nm,6.6s								
QIZ				LR		LR			
	comp=Z,1µm,19.9s								
QIZ				LR		LR			
	comp=Z,740nm,20.7s								
QIZ				LR		LR			
	comp=Z,2µm,22.3s								
QIZ	**Qiongzhong**	**22.41**	**333**	P		**P**	**14 37 40.3**	**+2.5**
GSI	**Gunungsitoli**	**22.93**	**276**	P		**P**	**14 37 43.7**	**+0.4**
GSI	**Gunungsitoli**	**22.93**	**276**	P		**P**	**14 37 46.2**	**+2.9**
	comp=Z,112nm,1.4s								
GSI	**Gunungsitoli**	**22.93**	**276**	P		**P**	**14 37 46.3**	**+2.9**
KCSI	**Kotacane, Aceh**	**23.05**	**281**	P		**P**	**14 37 43.9**	**-0.7**
	comp=Z,1µmcomp=Z,32nm,1.0s								
WRAB	**Tennant Creek**	**23.28**	**145**	P		**P**	**14 37 46.9**	**+0.1**
WRA	**Warramunga Arr**	**23.28**	**145**	P		**P**	**14 37 45.8**	**-1.1**
	comp=Z,43nm,0.9s,baz=322,slow=10,SNR=53								
WRA				PcP		**PcP**	**14 41 34.5**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=309,slow=2.5,SNR=4.4								
WRA				LR		LR	14 49 23.3		
	comp=Z,2µm,18.3s,baz=318,slow=43								
	comp=Z,43nm,0.9s								
WRA	**Warramunga Arr**	**23.28**	**145**	P		**P**	**14 37 45.3**	**-1.5**
WR0	**Warramunga Arr**	**23.41**	**145**	P		**P**	**14 37 46.8**	**-1.3**
TPUB	**Ta-pu**	**24.12**	**1**	P		**P**	**14 37 58.4**	**+3.4**
YULB	**Yu-li**	**24.23**	**2**	P		**P**	**14 37 54.2**	**-1.8**
YULB				IAmb		IAmb	14 38 06.6		
	comp=Z,80nm,1.2s								
WRKA	**Warakurna**	**25.12**	**163**	P		**P**	**14 38 03.3**	**-0.8**
	baz=25,SNR=9.3								
WRKA	**Warakurna**	**25.12**	**163**	P		**P**	**14 38 05.7**	**+1.6**
YHNB	**Yeheng**	**25.50**	**2**	P		**P**	**14 38 10.9**	**+3.4**
MEEK	**Meekatharra**	**25.58**	**184**	P		**P**	**14 38 08.2**	**0.0**
	baz=26,SNR=4.0								
MEEK	**Meekatharra**	**25.58**	**184**	P		**P**	**14 38 09.4**	**+1.1**
	comp=Z,66nm,1.2s								
QZH	**Quanzhou**	**25.81**	**356**⇑	*iP*		**P**	**14 38 10.6**	**+0.3**
QZH				S		**S**	**14 42 40.8**	**+0.9**
QZH				pmax		pmax			
	comp=Z,490nm,2.4s								
QZH				LR		LR			
	comp=Z,740nm,18.5s								
QZH				LR		LR			
	comp=Z,530nm,11.4s								
QZH				LR		LR			
	comp=Z,800nm,18.5s								
COEN	**Coen**	**25.97**	**121**	P		**P**	**14 38 12.0**	**+0.1**
	baz=26,SNR=13								
COEN	**Coen**	**25.97**	**121**	P		**P**	**14 38 10.4**	**-1.5**
COEN				IAmb		IAmb	14 38 13.8		
	comp=Z,47nm,1.1s								
COEN	**Coen**	**25.97**	**121**	P		**P**	**14 38 12.4**	**+0.5**
AS31	**Alice Springs**	**26.09**	**151**	P		**P**	**14 38 13.4**	**+0.5**
ASAR	**Alice Springs**	**26.09**	**151**	P		**P**	**14 38 12.6**	**-0.3**
	comp=Z,17nm,0.8s,baz=333,slow=9.9,SNR=37								
ASAR				PcP		**PcP**	**14 41 40.4**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=342,slow=2.1,SNR=15								
ASAR				LR		LR	14 50 02.6		
	comp=Z,2µm,18.4s,baz=326,slow=40								
	comp=Z,17nm,0.8s								
ASAR	**Alice Springs**	**26.09**	**151**	P		**P**	**14 38 11.8**	**-1.2**
QIS	**Mount Isa**	**27.05**	**137**	P		**P**	**14 38 20.8**	**-0.8**
	baz=27,SNR=5.6								
PMG	**Port Moresby**	**27.91**	**108**	P		**P**	**14 38 30.6**	**+1.2**
	comp=Z,36nm,0.9s,baz=258,slow=10,SNR=6.4								
PMG				LR		LR	14 51 26.6		
	comp=Z,862nm,20.0s,baz=314,slow=40								
	comp=Z,36nm,0.9s								
PMG	**Port Moresby**	**27.91**	**108**	P		**P**	**14 38 28.8**	**-0.6**
PMG				IAmb		IAmb	14 38 32.2		
	comp=Z,70nm,1.1s								
PMG	**Port Moresby**	**27.91**	**108**	P		**P**	**14 38 31.8**	**+2.3**
PMG	**Port Moresby**	**27.91**	**108**	P		**P**	**14 38 31.7**	**+2.3**
GUMO	**Guam**	**28.24**	**58**	LR		LR	14 50 34.2		
	comp=Z,214nm,18.6s,baz=235,slow=38								
MORW	**Morawa**	**28.25**	**188**	P		**P**	**14 38 35.8**	**+3.5**
	comp=Z,48nm,1.7s								
CMAR	**Chiang Mai Arr**	**28.59**	**313**	P		**P**	**14 38 36.0**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=140,slow=7.6,SNR=24								
CMAR				PcP		**PcP**	**14 41 46.4**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=176,slow=2.0,SNR=4.2								
	comp=Z,3.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**28.59**	**313**	P		**P**	**14 38 34.3**	**-1.1**
JOW	**Kunigami**	**28.66**	**15**	LR		LR	14 49 51.5		
	comp=Z,2µm,21.1s,baz=139,slow=36								
CRAI	**Chiangrai**	**28.79**	**318**	P		**P**	**14 38 36.9**	**-0.3**
CHTO	**Chiang Mai**	**28.82**	**314**	P		**P**	**14 38 40.3**	**+2.8**
MTSU	**Mount Surprise**	**29.03**	**127**	P		**P**	**14 38 39.4**	**+0.1**
	baz=29,SNR=5.1								
KMI	**Kunming**	**31.06**	**328**	⇓P		**P**	**14 39 00.5**	**+3.0**
KMI				pP		sP	14 39 08.3	+6.5
KMI				sP		pP	14 39 10.8	+10
KMI				PP		**PnPn**	**14 40 02.1**	**+3.4**
KMI				S		**S**	**14 43 58.9**	**-4.1**
KMI				pmax		pmax			
	comp=Z,14nm,1.3s								
KMI				pmax		pmax			
	comp=Z,230nm,5.4s								
KMI				LR		LR			
	comp=Z,340nm,24.1s								
KMI				LR		LR			
	comp=Z,660nm,22.6s								
KMI				LR		LR			
	comp=Z,820nm,22.7s								
CTA	**Charters Tower**	**31.64**	**129**	LR		LR	14 53 21.0		
	comp=Z,650nm,18.9s,baz=294,slow=39								
KRVT	**Keravat (AS076**	**31.76**	**97**	LR		LR	14 53 03.9		
	comp=Z,330nm,20.6s,baz=52,slow=39								
WHN	**Wuhan**	**31.86**	**350**	⇓P		**P**	**14 39 07.0**	**+2.9**
WHN				S		**S**	**14 44 20.3**	**+5.5**
WHN				pmax		pmax			
	comp=Z,73nm,1.1s								
WHN				pmax		pmax			
	comp=Z,740nm,7.6s								
WHN				LR		LR			
	comp=Z,870nm,15.4s								
WHN				LR		LR			
	comp=Z,3µm,23.5s								
WHN				LR		LR			
	comp=Z,2µm,17.2s								
SSE	**Sheshan**	**31.89**	**1**	P		**P**	**14 39 02.0**	**-2.4**
SSE				S		**S**	**14 44 13.0**	**-2.4**
SSE				pmax		pmax			
	comp=Z,15nm,0.8s								
SSE				pmax		pmax			
	comp=Z,120nm,3.5s								
SSE				LR		LR			
	comp=Z,270nm,17.4s								
SSE				LR		LR			
	comp=Z,160nm,15.3s								
MULG	**Mulgathing**	**31.91**	**157**	P		**P**	**14 39 07.8**	**+3.1**
	comp=Z,28nm,1.5s								
NWAO	**Narrogin (SRO)**	**31.93**	**185**	LR		LR	14 51 52.7		
	comp=Z,1µm,21.2s,baz=251,slow=36								
PZH	**PanZhiHua**	**32.70**	**328**	P		**P**	**14 39 14.0**	**+2.2**
PZH				PP		**PP**	**14 40 22.7**	**-3.1**
PZH				S		**S**	**14 44 29.9**	**+1.5**
PZH				sS		sS	14 44 43.9	+10
PZH				PcS		**PcS**	**14 45 36.4**	**-6.6**
PZH				pmax		pmax			
	comp=Z,30nm,1.0s								
PZH				pmax		pmax			
	comp=Z,200nm,5.1s								
PZH				LR		LR			
	comp=Z,2µm,23.6s								
PZH				LR		LR			
	comp=Z,2µm,22.1s								
PZH				LR		LR			
	comp=Z,2µm,23.5s								
ENH	**Enshi**	**32.76**	**342**	P		**P**	**14 39 12.2**	**+0.1**
ENH				IAmb		IAmb	14 39 23.9		
	comp=Z,70nm,1.6s								
NJ2	**Nanjing**	**32.87**	**358**	⇑P		**P**	**14 39 14.5**	**+1.5**
NJ2				pP		**sP**	**14 39 16.8**	**-0.5**
NJ2				sP		**pP**	**14 39 19.9**	**+3.8**
NJ2				PP		**PP**	**14 40 27.6**	**+0.2**
NJ2				S		**S**	**14 44 33.1**	**+2.5**
NJ2				pmax		pmax			
	comp=Z,19nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,220nm,3.5s								
NJ2				LR		LR			
	comp=Z,550nm,20.2s								
NJ2				LR		LR			
	comp=Z,340nm,17.1s								
NJ2				LR		LR			
	comp=Z,1µm,20.2s								
QLP	**Quilpie**	**34.27**	**140**	P		**P**	**14 39 25.1**	**-0.1**
	baz=34,SNR=14								
QLP	**Quilpie**	**34.27**	**140**	P		**P**	**14 39 28.0**	**+2.7**
JCJ	**Chichijima**	**34.90**	**35**	P		**P**	**14 39 28.4**	**-2.3**
	comp=Z,171nm,0.9s,baz=305,slow=3.4,SNR=10								
JCJ				LR		LR	14 53 33.1		
	comp=Z,300nm,20.3s,baz=228,slow=36								
JCJ	**Chichijima**	**34.90**	**35**	P		**P**	**14 39 28.1**	**-2.6**
BBOO	**Buckleboo**	**34.94**	**157**	P		**P**	**14 39 29.8**	**-1.2**
	baz=35,SNR=6.8								
CD2	**Chengdu**	**35.43**	**335**	P		**P**	**14 39 35.5**	**+0.2**
LYN	**LuoYang**	**36.10**	**349**⇓	*eP*		**P**	**14 39 42.2**	**+1.2**
LYN				PP		**PP**	**14 41 03.1**	**-0.1**
LYN				S		**S**	**14 45 19.5**	**-1.0**
LYN				pmax		pmax			
	comp=Z,310nm,7.3s								
LYN				LR		LR			
	comp=Z,450nm,13.7s								
LYN				LR		LR			
	comp=Z,850nm,23.8s								
LYN				LR		LR			
	comp=Z,640nm,20.0s								
XAN	**Xi'an**	**36.45**	**344**	P		**P**	**14 39 41.7**	**-2.3**
XAN				pP		sP	14 39 53.9	+5.5
XAN				PP		**PP**	**14 41 07.0**	**-0.1**
XAN				sS		sS	14 45 41.1	+10
XAN				ScS		**ScS**	**14 49 53.7**	**-7.6**
XAN				pmax		pmax			
	comp=Z,13nm,1.2s								
XAN				pmax		pmax			
	comp=Z,360nm,6.5s								
XAN				LR		LR			
	comp=Z,920nm,19.6s								
XAN				LR		LR			
	comp=Z,420nm,16.7s								
XAN				LR		LR			
	comp=Z,1µm,19.9s								
BRDH	**Bariadhala**	**36.56**	**312**	LR		LR	14 58 27.7		
	comp=Z,752nm,18.4s,baz=130,slow=42								
HTT	**Hallett**	**36.68**	**154**	P		**P**	**14 39 45.6**	**-0.4**
	baz=37,SNR=22								
HTT	**Hallett**	**36.68**	**154**	P		**P**	**14 39 46.2**	**+0.2**
STKA	**Stephens Creek**	**36.69**	**149**	P		**P**	**14 39 45.5**	**-0.5**
	comp=Z,16nm,0.7s,baz=314,slow=9.8,SNR=18								
STKA				LR		LR	14 56 56.9		
	comp=Z,2µm,18.6s,baz=319,slow=40								
	comp=Z,16nm,0.7s								
STKA	**Stephens Creek**	**36.69**	**149**	P		**P**	**14 39 45.5**	**-0.5**
	baz=37,SNR=18								
STKA	**Stephens Creek**	**36.69**	**149**	P		**P**	**14 39 45.6**	**-0.5**
STKA	**Stephens Creek**	**36.69**	**149**	P		**P**	**14 39 46.7**	**+0.7**
SHL	**Shillong**	**38.15**	**316**	P		**P**	**14 39 58.8**	**0.0**
SHL				IAmb		IAmb	14 40 04.1		
	comp=Z,26nm,1.1s								
JHJ	**Hachijo jima 2**	**38.52**	**27**	LR		LR	14 54 09.3		
	comp=Z,778nm,22.0s,baz=286,slow=34								
HNS	**HongShan**	**38.53**	**353**	⇑P		**P**	**14 40 02.0**	**+0.5**
HNS				S		**S**	**14 45 58.5**	**+1.2**
HNS				pmax		pmax			
	comp=Z,18nm,1.5s								
HNS				pmax		pmax			
	comp=Z,400nm,6.7s								
HNS				LR		LR			
	comp=Z,950nm,18.1s								
HNS				LR		LR			
	comp=Z,410nm,19.4s								
HNS				LR		LR			
	comp=Z,1µm,17.9s								
CMSA	**Cobar Meteorol**	**38.68**	**144**	P		**P**	**14 40 02.9**	**-0.1**
	baz=39,SNR=44								
CMSA	**Cobar Meteorol**	**38.68**	**144**	P		**P**	**14 40 03.7**	**+0.8**
KSAR	**Wonju Array Be**	**38.84**	**10**	P		**P**	**14 40 02.7**	**-1.4**
KSRS	**Korea Array**	**38.86**	**10**	P		**P**	**14 40 04.4**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=189,slow=9.0,SNR=26								
KSRS				LR		LR	14 55 38.9		
	comp=Z,521nm,21.6s,baz=195,slow=36								
	comp=Z,3.8nm,0.7s								
DL2	**Dalian**	**39.69**	**2**	P		**P**	**14 40 11.1**	**-0.1**
DL2				S		**S**	**14 46 16.0**	**+1.2**
DL2				pmax		pmax			
	comp=Z,22nm,0.9s								
DL2				pmax		pmax			
	comp=Z,150nm,6.5s								
DL2				LR		LR			
	comp=Z,390nm,16.1s								
DL2				LR		LR			
	comp=Z,380nm,15.9s								
DL2				LR		LR			
	comp=Z,600nm,33.9s								
LZH	**Lanzhou**	**39.96**	**339**	⇑P		**P**	**14 40 13.5**	**-0.2**
LZH				pP		sP	14 40 22.2	+4.1
LZH				sP		pP	14 40 26.8	+10
LZH				PP		**PP**	**14 41 47.6**	**+2.0**
LZH				S		**S**	**14 46 18.0**	**-1.2**
LZH				SS		**SnSn**	**14 49 23.4**	**+4.2**
LZH				pmax		pmax			
	comp=Z,14nm,1.3s								
LZH				pmax		pmax			
	comp=Z,150nm,4.8s								
LZH				LR		LR			
	comp=Z,680nm,16.8s								
LZH				LR		LR			
	comp=Z,520nm,17.9s								
LZH				LR		LR			
	comp=Z,770nm,18.2s								
HNR	**Honiara**	**40.23**	**103**	LR		LR	14 59 30.9		
	comp=Z,5µm,19.6s,baz=292,slow=40								
PALK	**Pallekele**	**40.44**	**282**	LR		LR	14 57 57.1		
	comp=Z,1µm,20.1s,baz=207,slow=38								
ARPS	**Mount Arapiles**	**40.78**	**153**	P		**P**	**14 40 20.6**	**+0.3**
	baz=41,SNR=7.0								
ARPS	**Mount Arapiles**	**40.78**	**153**	P		**P**	**14 40 20.2**	**-0.1**
MJAR	**Matsushiro Arr**	**40.82**	**22**	P		**P**	**14 40 19.6**	**-1.1**
	comp=Z,3.0nm,0.8s,baz=187,slow=8.8,SNR=6.2								
MJAR				LR		LR	14 55 44.5		
	comp=Z,1µm,21.5s,baz=218,slow=34								
	comp=Z,3.0nm,0.8s								
BJT	**Baijiatuau**	**40.97**	**355**	P		**P**	**14 40 21.2**	**-0.6**
BJT				IAmb		IAmb	14 40 25.6		
	comp=Z,26nm,0.9s								
BJI	**Beijing**	**40.99**	**355**	P		**P**	**14 40 21.6**	**-0.3**
BJI				PP		**PnPn**	**14 41 59.4**	**-1.5**
BJI				S		**S**	**14 46 34.6**	**+0.5**
BJI				SS		**SS**	**14 49 39.2**	**+2.9**
BJI				pmax		pmax			
	comp=Z,31nm,0.8s								
BJI				pmax		pmax			
	comp=Z,320nm,5.9s								
BJI				LR		LR			
	comp=Z,65nm,23.9s								
BJI				LR		LR			
	comp=Z,330nm,21.8s								
BJI				LR		LR			
	comp=Z,410nm,24.7s								
ARMA	**Armidale**	**41.67**	**138**	P		**P**	**14 40 28.4**	**+0.6**
	baz=42,SNR=3.7								
ARMA	**Armidale**	**41.67**	**138**	P		**P**	**14 40 28.5**	**+0.6**
ARMA				IAmb		IAmb	14 40 30.6		
	comp=Z,42nm,1.3s								
ARMA	**Armidale**	**41.67**	**138**	P		**P**	**14 40 29.9**	**+2.0**
TAPN	**Taplejung**	**42.20**	**314**	*eP*		**P**	**14 40 33.6**	**+1.2**
	comp=Z,32nm,0.5s								
HHC	**Hu-ho-hao-te**	**42.39**	**350**	*eP*		**P**	**14 40 33.4**	**-0.2**
HHC				sP		sP	14 40 44.4	+6.5
HHC				PP		**PP**	**14 42 13.9**	**+2.0**
HHC				S		**S**	**14 46 56.9**	**+1.8**
HHC				sS		sS	14 47 10.6	+10
HHC				pmax		pmax			
	comp=Z,46nm,0.8s								
HHC				pmax		pmax			
	comp=Z,420nm,7.7s								
HHC				LR		LR			
	comp=Z,880nm,17.1s								
HHC				LR		LR			
	comp=Z,660nm,16.8s								
HHC				LR		LR			
	comp=Z,1µm,17.4s								
SNY	**Shenyang**	**42.69**	**4**	⇓P		**P**	**14 40 35.3**	**-0.5**
SNY				S		**S**	**14 46 57.6**	**-1.7**
SNY				pmax		pmax			
	comp=Z,19nm,1.0s								
SNY				pmax		pmax			
	comp=Z,280nm,6.1s								
SNY				LR		LR			
	comp=Z,560nm,18.6s								
SNY				LR		LR			
	comp=Z,480nm,16.7s								
SNY				LR		LR			
	comp=Z,1µm,18.8s								
RAMN	**Ramite**	**42.77**	**313**	*eP*		**P**	**14 40 37.2**	**+0.2**
	comp=Z,54nm,0.7s								
CAN	**Canberra**	**43.32**	**145**	P		**P**	**14 40 41.1**	**-0.1**
CAN				IAmb		IAmb	14 40 43.2		
	comp=Z,73nm,1.2s								
CAN	**Canberra**	**43.32**	**145**	P		**P**	**14 40 42.6**	**+1.4**
JIRN	**Jiri**	**43.47**	**314**	*eP*		**P**	**14 40 42.9**	**0.0**
	comp=Z,53nm,0.6s								
CNB	**Canberra Magne**	**43.53**	**145**	P		**P**	**14 40 44.4**	**+1.5**
GUN	**Gumba**	**43.84**	**314**	*eP*		**P**	**14 40 46.1**	**+0.3**
	comp=Z,46nm,0.6s								
GOMU	**GeErMu**	**43.98**	**330**	P		**P**	**14 40 47.2**	**+0.4**
GOMU				pP		sP	14 40 52.4	+1.2
GOMU				sP		pP	14 40 54.0	+4.0
GOMU				PP		**PP**	**14 42 30.7**	**+1.4**
GOMU				SS		SS	14 50 36.0	0.0
GOMU				pmax		pmax			
	comp=Z,5.0nm,1.3s								
GOMU				LR		LR			
	comp=Z,380nm,18.1s								
GOMU				LR		LR			
	comp=Z,390nm,21.3s								
GOMU				LR		LR			
	comp=Z,340nm,17.5s								
PKI	**Pulchoki**	**43.99**	**313**	*eP*		**P**	**14 40 47.6**	**+0.6**
	comp=Z,21nm,0.7s								
PKIN	**Phulchoki**	**44.00**	**313**	*eP*		**P**	**14 40 47.8**	**+0.8**
	comp=Z,26nm,0.7s								
GTA	**Gaotai**	**44.39**	**337**	*eP*		**P**	**14 40 50.0**	**+0.2**
GTA				pP		sP	14 40 53.7	-0.5
GTA				sP		pP	14 40 56.2	+3.2
GTA				S		**S**	**14 47 22.7**	**-1.9**
GTA				sS		sS	14 47 38.7	+9.0
GTA				SS		**SS**	**14 50 45.5**	**+1.8**
GTA				pmax		pmax			
	comp=Z,13nm,1.6s								
GTA				pmax		pmax			
	comp=Z,300nm,6.8s								
GTA				LR		LR			
	comp=Z,320nm,19.6s								
GTA				LR		LR			
	comp=Z,400nm,18.5s								
GTA				LR		LR			
	comp=Z,510nm,20.0s								
GKN	**Gorkha**	**44.80**	**313**	*eP*		**P**	**14 40 54.4**	**+1.1**
	comp=Z,28nm,0.6s								
XLT	**XiLinHaoTe**	**44.83**	**356**	*eP*		**P**	**14 40 53.1**	**-0.1**
XLT				pP

MDJ					LR	LR		
	comp=Z,830nm,22.6s							
MDJ	**Mudanjiang**	**46.12**	**9**	P	**P**	**14 41 05.5**	**+2.3**
USRK	**Ussuriysk Ar.**	**46.14**	**12**	P	**P**	**14 41 02.5**	**-1.0**
	comp=Z,4.1nm,0.5s,baz=197,slow=6.3,SNR=16							
USRK					LR	LR	14 59 56.0	
	comp=Z,335nm,21.6s,baz=235,slow=36							
	comp=Z,4.1nm,0.5s							
DZM	**Mont Dzumac**	**49.46**	**119**	*e*S	**S**	**14 48 36.4**	**-1.0**
	comp=Z,221nm,32.5s							
DZM				*e*SS	**SS**	**14 52 09.2**	**-0.3**
	comp=Z,263nm,23.1s							
DZM				*e*LR	LR	14 55 35.3		
	comp=Z,944nm,32.5s							
DZM	**Mont Dzumac**	**49.46**	**119**	P	**P**	**14 41 30.6**	**+0.9**
	comp=Z,22nm,1.0s,baz=270,slow=8.1							
DZM				LR	LR	15 03 52.8		
	comp=Z,248nm,19.5s,baz=276,slow=38							
	comp=Z,22nm,1.0s							
YATNC	**Mamie plateau,**	**49.85**	**118**	P	**P**	**14 41 34.6**	**+2.0**
ULN	**Ulaanbaatar**	**50.01**	**348**	P	**P**	**14 41 32.9**	**-0.6**
SONM	**Songino Array**	**50.11**	**348**	P	**P**	**14 41 34.3**	**0.0**
	comp=Z,4.8nm,0.9s,baz=168,slow=7.4,SNR=19							
	comp=Z,4.8nm,0.9s							
SONM	**Songino Array**	**50.11**	**348**	P	**P**	**14 41 33.6**	**-0.7**
SONM				IAmb	IAmb	14 41 36.3		
	comp=Z,37nm,1.9s							
WMQ	**Urumqi**	**53.31**	**331**	*e*P	**P**	**14 41 59.8**	**+1.6**
WMQ				LR	LR			
	comp=Z,420nm,17.5s							
WMQ				LR	LR			
	comp=Z,400nm,21.1s							
WMQ				LR	LR			
	comp=Z,460nm,19.3s							
KSH	**Kashi**	**57.20**	**320**	P	**P**	**14 42 26.6**	**+0.2**
KSH				sP	sP	14 42 37.6	+6.8	
KSH				S	**S**	**14 50 28.0**	**+5.7**
KSH				LR	LR			
	comp=Z,380nm,21.6s							
KSH				LR	LR			
	comp=Z,350nm,22.3s							
KSH				LR	LR			
	comp=Z,550nm,21.3s							
TARG	**Taragay, Kyrgy**	**57.33**	**323**	P	**P**	**14 42 27.1**	**-0.5**
TARG				IAmb	IAmb	14 42 47.2		
	comp=Z,21nm,1.3s							
MK31	**Makanchi Array**	**58.10**	**330**	P	**P**	**14 42 31.8**	**-0.7**
MKAR	**Makanchi Array**	**58.10**	**330**	P	**P**	**14 42 32.6**	**+0.1**
	comp=Z,6.7nm,0.7s,baz=130,slow=8.2,SNR=36							
MKAR				LR	LR	15 11 13.2		
	comp=Z,231nm,19.3s,baz=144,slow=40							
	comp=Z,6.7nm,0.7s							
MKAR	**Makanchi Array**	**58.10**	**330**	P	**P**	**14 42 31.4**	**-1.1**
MAKZ	**Makanchi**	**58.27**	**330**	P	**P**	**14 42 32.8**	**-0.9**
KBL	**Kabul**	**59.60**	**312**	P	**P**	**14 42 41.1**	**-2.3**
AAK	**Ala-Archa**	**59.86**	**322**	P	**P**	**14 42 45.0**	**+0.1**
AAK				IAmb	IAmb	14 42 52.9		
	comp=Z,24nm,1.2s							
GAR	**Garm**	**60.70**	**317**	P	**P**	**14 42 50.0**	**-0.7**
BTK	**Batken**	**60.87**	**318**	P	**P**	**14 42 50.5**	**-1.4**
CHGR	**Chuyangaron**	**61.34**	**316**	P	**P**	**14 42 54.6**	**-0.4**
RPZ	**Rata Peaks**	**61.89**	**141**	LR	LR	15 10 13.9		
	comp=Z,740nm,19.7s,baz=297,slow=36							
ZAA0	**Zalesovo Array**	**62.15**	**337**	P	**P**	**14 42 58.9**	**-1.2**
ZALV	**Zalesovo Beam**	**62.15**	**337**	P	**P**	**14 42 59.3**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=145,slow=5.4,SNR=17							
ZALV				LR	LR	15 11 13.9		
	comp=Z,211nm,20.9s,baz=139,slow=37							
	comp=Z,2.9nm,0.7s							
ZALV	**Zalesovo Beam**	**62.15**	**337**	P	**P**	**14 42 58.2**	**-1.9**
PETK	**Petropavlovsk-**	**62.21**	**24**	P	**P**	**14 42 59.7**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=224,slow=2.8,SNR=5.3							
PETK				LR	LR	15 08 27.0		
	comp=Z,579nm,21.8s,baz=222,slow=35							
	comp=Z,1.5nm,0.6s							
KURK	**Kurchatov**	**62.54**	**331**	P	**P**	**14 43 01.2**	**-1.6**
KURK				IAmb	IAmb	14 43 06.1		
	comp=Z,21nm,0.9s							
YAK	**Yakutsk**	**63.23**	**5**	LR	LR	15 11 04.0		
	comp=Z,292nm,21.4s,baz=226,slow=36							
YAK	**Yakutsk**	**63.23**	**5**	P	**P**	**14 43 05.2**	**-1.9**
URZ	**Urewera**	**63.75**	**133**	LR	LR	15 14 18.9		
	comp=Z,437nm,18.5s,baz=104,slow=39							
MA2	**Magadan**	**64.87**	**17**	LR	LR	15 09 56.5		
	comp=Z,266nm,22.0s,baz=196,slow=35							
RAO	**Raoul Island**	**65.00**	**122**	LR	LR	15 13 29.3		
	comp=Z,170nm,18.2s,baz=300,slow=38							
BVAR	**Borovoye Array**	**67.99**	**330**	LR	LR	15 15 11.7		
	comp=Z,107nm,18.6s,baz=115,slow=38							
BRVK	**Borovoye**	**68.06**	**330**	P	**P**	**14 43 38.0**	**-0.5**
BRVK				IAmb	IAmb	14 43 45.1		
	comp=Z,18nm,1.2s							
SEY	**Seymchan**	**68.09**	**15**	P	**P**	**14 43 38.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=210,slow=7.5,SNR=2.3							
	comp=Z,0.6nm,0.4s							
GEYT	**Alibeck**	**69.05**	**311**	P	**P**	**14 43 45.4**	**+0.3**
	comp=Z,16nm,1.0s,baz=152,slow=4.3,SNR=15							
	comp=Z,16nm,1.0s							
GEYT	**Alibeck**	**69.05**	**311**	P	**P**	**14 43 44.7**	**-0.4**
ABKAR	**Akbulak array**	**71.92**	**323**	P	**P**	**14 44 01.0**	**-1.3**
TIXI	**Tiksi**	**72.70**	**3**	P	**P**	**14 44 04.0**	**-2.5**
TIXI				IAmb	IAmb	14 44 07.6		
	comp=Z,12nm,0.9s							
AKTO	**Aktyubinsk**	**73.53**	**324**	LR	LR	15 20 11.2		
	comp=Z,291nm,20.9s,baz=113,slow=39							
NRIK	**Noril'sk**	**73.59**	**348**	P	**P**	**14 44 11.1**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=149,slow=6.3,SNR=6.4							
NRIK				LR	LR	15 20 09.5		
	comp=Z,453nm,18.5s,baz=148,slow=39							
	comp=Z,1.9nm,0.5s							
ARU	**Arti**	**75.62**	**330**	P	**P**	**14 44 20.9**	**-3.0**
RAYN	**Ar Rayn**	**76.56**	**294**	P	**P**	**14 44 28.9**	**-1.1**
MAW	**Mawson**	**77.22**	**199**	P	**P**	**14 44 32.7**	**0.0**
	comp=Z,9.7nm,1.1s,baz=53,slow=8.8,SNR=10							
	comp=Z,9.7nm,1.1s							
MAW	**Mawson**	**77.22**	**199**	P	**P**	**14 44 33.0**	**+0.3**
	baz=77,SNR=5.9							
ATD	**Arta Tunnel**	**78.00**	**282**	LR	LR	15 19 36.5		
	comp=Z,158nm,18.9s,baz=49,slow=36							
VNDA	**Vanda**	**79.67**	**172**	P	**P**	**14 44 46.4**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=300,slow=5.8,SNR=9.6							
VNDA				LR	LR	15 19 20.9		
	comp=Z,434nm,20.0s,baz=328,slow=35							
	comp=Z,1.8nm,0.7s							
VNDA	**Vanda**	**79.67**	**172**	P	**P**	**14 44 45.6**	**-0.5**
VNDA				IAmb	IAmb	14 44 47.4		
	comp=Z,27nm,1.7s							
RAR	**Rarotonga**	**80.17**	**111**	LR	LR	15 20 20.3		
	comp=Z,40nm,20.4s,baz=282,slow=36							
SBA	**Scott Base**	**80.65**	**171**	P	**P**	**14 44 52.3**	**+0.9**
SBA				IAmb	IAmb	14 44 56.0		
	comp=Z,23nm,1.6s							
KBZ	**Khabaz**	**81.64**	**314**	P	**P**	**14 44 56.9**	**-0.4**
	comp=Z,6.3nm,0.8s,baz=136,slow=2.2,SNR=10							
	comp=Z,6.3nm,0.8s							
KIBK	**Kibwezi**	**82.32**	**268**	P	**P**	**14 45 00.4**	**-1.3**
KIBK				IAmb	IAmb	14 45 04.1		
	comp=Z,22nm,1.3s							
MARD	**Mardin**	**82.33**	**308**	P	**P**	**14 45 00.8**	**-0.4**
MARD				IAmb	IAmb	14 45 04.2		
	comp=Z,37nm,1.3s							
KMBO	**Kilima Mbogo**	**83.13**	**269**	P	**P**	**14 45 05.7**	**-0.4**
	comp=Z,7.5nm,1.0s,baz=71,slow=5.8,SNR=13							
KMBO				LR	LR	15 20 05.8		
	comp=Z,270nm,20.5s,baz=93,slow=34							
	comp=Z,7.5nm,1.0s							
KMBO	**Kilima Mbogo**	**83.13**	**269**	P	**P**	**14 45 03.6**	**-2.5**
KMBO				IAmb	IAmb	14 45 08.8		
	comp=Z,24nm,1.3s							
ASF	**Jabal al Asfar**	**85.00**	**302**	P	**P**	**14 45 16.1**	**+1.0**
	comp=Z,33nm,1.1s,baz=135,slow=1.3,SNR=31							
ASF				LR	LR	15 29 54.4		
	comp=Z,205nm,18.5s,baz=107,slow=40							
	comp=Z,33nm,1.1s							
LODK	**Lodwar**	**85.10**	**273**	P	**P**	**14 45 14.6**	**-1.3**
LODK				IAmb	IAmb	14 45 18.8		
	comp=Z,18nm,1.5s							
MMAI	**Mount Meron Ar**	**86.32**	**303**	P	**P**	**14 45 22.4**	**+0.8**
	comp=Z,6.2nm,0.7s,baz=92,slow=7.2,SNR=9.2							
MMAI				LR	LR	15 30 42.0		
	comp=Z,201nm,18.8s,baz=302,slow=40							
	comp=Z,6.2nm,0.7s							
BNN	**Bunyan**	**86.35**	**309**	P	**P**	**14 45 21.1**	**-0.6**
KLMR	**Klimovskoe**	**86.39**	**331**	*e*P	**P**	**14 45 17.9**	**-3.3**
KLMR				AMP		14 45 23.4		
	comp=Z,45nm,1.5s							
EIL	**Elat**	**86.51**	**300**	P	**P**	**14 45 23.2**	**+0.7**
	comp=Z,22nm,1.0s,baz=355,slow=0.3,SNR=13							
EIL				LR	LR	15 27 43.5		
	comp=Z,167nm,20.8s,baz=90,slow=38							
	comp=Z,22nm,1.0s							
OBN	**Obninsk**	**87.25**	**325**	LR	LR	15 30 15.0		
	comp=Z,30nm,18.6s,baz=128,slow=40							
BR131	**Keskin Array S**	**88.11**	**310**	P	**P**	**14 45 28.8**	**-1.4**
BR131				IAmb	IAmb	14 45 33.0		
	comp=Z,9.5nm,1.1s							
BRTR	**Keskin Array B**	**88.11**	**310**	P	**P**	**14 45 29.5**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=134,slow=5.9,SNR=15							
BRTR				LR	LR	15 33 17.1		
	comp=Z,165nm,18.7s,baz=122,slow=41							
	comp=Z,3.4nm,0.8s							
BRTR	**Keskin Array B**	**88.11**	**310**	P	**P**	**14 45 28.4**	**-1.8**
QSPA	**South Pole Qui**	**88.98**	**180**	LR	LR	15 25 29.6		
	comp=Z,442nm,19.7s,baz=332,slow=36							
QSPA	**South Pole Qui**	**88.98**	**180**	P	**P**	**14 45 33.0**	**-0.7**
KDAK	**Kodiak Island**	**89.21**	**32**	LR	LR	15 20 29.6		
	comp=Z,169nm,21.9s,baz=266,slow=32							
MBAR	**Mbarara**	**89.65**	**269**	P	**P**	**14 45 37.8**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=78,slow=6.2,SNR=12							
MBAR				LR	LR	15 25 37.2		
	comp=Z,140nm,18.6s,baz=73,slow=35							
	comp=Z,6.1nm,0.8s							
PPT2	**Papeete2**	**89.74**	**107**	*e*S	**S**	**14 56 27.5**	**-3.2**
	comp=Z,74nm,23.2s							
PPT2	**Papeete2**	**89.74**	**107**	*e*LR	LR	15 14 14.8		
	comp=Z,407nm,37.2s							
TBI	**Tubuai**	**89.75**	**113**	*e*S	**S**	**14 56 27.3**	**-3.2**
	comp=Z,80nm,24.0s							
TBI	**Tubuai**	**89.75**	**113**	*e*LR	LR	15 14 17.2		
	comp=Z,165nm,25.5s							
AKASG	**Malin Array Be**	**91.49**	**321**	P	**P**	**14 45 45.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=86,slow=3.7,SNR=5.8							
AKASG				LR	LR	15 30 17.7		
	comp=Z,196nm,22.0s,baz=80,slow=38							
	comp=Z,1.0nm,0.7s							
LSZ	**Lusaka**	**91.88**	**255**	LR	LR	15 22 18.5		
	comp=Z,455nm,21.9s,baz=102,slow=32							
ILAR	**Eielson Array**	**92.03**	**25**	PP	**PP**	**14 49 27.3**	**0.0**
	comp=Z,0.1nm,0.6s,baz=263,slow=7.0,SNR=2.8							
ILAR				LR	LR	15 26 34.3		
	comp=Z,131nm,21.4s,baz=238,slow=35							
MNK	**Minsk**	**92.25**	**324**	*i* P	P	14 45 43.0	-6.0	
	comp=E,3.0nm,1.1s							
MNK				*i* P	P	14 45 43.0	-6.0	
	comp=N,7.0nm,0.8s							
MNK				*i* P	P	14 45 43.0	-6.0	
	comp=Z,9.0nm,0.6s,baz=268							
MNK				*i* PP	**PP**	**14 49 23.2**	**-6.0**	
MNK				*i* PPP	PPP	14 51 22.2		
MNK				*i* S	**SKSac**	**14 56 15.9**	**-6.4**	
MNK				*i* PS	**PS**	**14 57 58.4**	**-5.1**	
MNK				*i* SS	**SS**	**15 02 57.7**	**-4.1**	
MNK				*i* SSS	SSS	15 06 36.6		
MNK				*i* LQ	LQ	15 20 32.1		
MNK				*i* LR	LR	15 27 02.1		
MNK				*i* LRM	MLR	15 27 56.9		
	comp=N,13nm,16.8s							
MNK				*i* LRM	MLR	15 28 07.5		
	comp=E,36nm,21.2s							
MNK				*i* LRM	MLR	15 28 07.5		
	comp=Z,201nm,22.6s							
ARCES	**ARCESS Array B**	**92.62**	**339**	P	**P**	**14 45 51.2**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=92,slow=5.4,SNR=3.6							
	comp=Z,3.0nm,1.0s							
FINES	**FINESS Array B**	**92.92**	**331**	LR	LR	15 29 23.6		
	comp=Z,57nm,20.5s,baz=81,slow=37							
SPITS	**Spitsbergen Ar**	**93.80**	**348**	LR	LR	15 34 41.3		
	comp=Z,169nm,18.1s,baz=40,slow=40							
MLR	**Muntele Rosu**	**93.81**	**315**	LR	LR	15 35 51.1		
	comp=Z,163nm,21.7s,baz=58,slow=40							
LBTB	**Lobatse**	**93.95**	**245**	LR	LR	15 23 11.0		
	comp=Z,227nm,21.6s,baz=156,slow=32							
IDI	**Anoyia**	**95.06**	**305**	LR	LR	15 34 53.2		
	comp=Z,96nm,21.8s,baz=85,slow=39							
SNAA	**Sanae**	**99.06**	**196**	Pdiff	**Pdif**	**14 46 20.2**	**+0.4**
SNAA	**Sanae**	**99.06**	**196**	LR	LR	15 29 46.6		
	comp=Z,375nm,19.7s,baz=102,slow=35							
HFS	**Hagfors**	**99.11**	**331**	LR	LR	15 34 54.3		
	comp=Z,155nm,19.9s,baz=72,slow=38							
TAOE	**Nuku Hiva Isla**	**99.19**	**99**	*e*LR	LR	15 18 37.0		
	comp=Z,192nm,26.8s							
VRAC	**Vranov**	**99.72**	**320**	LR	LR	15 38 07.8		
	comp=Z,262nm,19.7s,baz=74,slow=39							
VNA2	**Neumayer--Watz**	**100.70**	**195**	Pdiff	**Pdif**	**14 46 27.6**	**+0.6**
	baz=82,slow=1.0							
TORD	**Torodi Ar. Bea**	**118.14**	**284**	PKP	**PKiKP**	**14 51 27.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=90,slow=3.5,SNR=2.9							
PDAR	**Pinedale Array**	**119.01**	**40**	PKKPab	PKKPab	15 01 46.5	+1.2	
	comp=Z,1.7nm,0.8s,baz=115,slow=6.7,SNR=9.0							
TXAR	**Lajitas Array**	**129.46**	**52**	PKP	**PKPdf**	**14 51 48.8**	**0.0**
	comp=Z,0.4nm,1.0s,baz=215,slow=1.1,SNR=4.0							
PLCA	**Paso Flores**	**137.32**	**168**	PKP	**PKiKP**	**14 52 04.4**	**-0.6**
	comp=Z,4.4nm,1.1s,baz=225,slow=1.4,SNR=3.3							
AAGR	**Agrelo**	**145.03**	**166**	*i* P	**PKPab**	**14 52 16.9**	**+0.4**
ARCO	**CERRO ARCO**	**145.24**	**166**	*i* P	**PKPbc**	**14 52 17.3**	**0.0**
ASAL	**Salagasta**	**145.50**	**166**	*e*P	**PKPab**	**14 52 18.4**	**+0.2**
RTLS	**Leoncito**	**146.14**	**165**	*i* P	**PKPab**	**14 52 20.9**	**-0.1**
MRA	**San Martin**	**146.30**	**171**	*e*P	**PKPdf**	**14 52 19.8**	**+0.4**
PLTB	**Pedras Altas**	**146.96**	**189**	*e*P	**PKPbc**	**14 52 22.6**	**+0.3**
ACCO	**Cerro Coronel**	**147.35**	**165**	*i* P	**PKPbc**	**14 52 23.8**	**-0.1**
ACHE	**Chepes**	**147.35**	**169**	*i* P	**PKPbc**	**14 52 23.3**	**-0.4**
TCA	**Tanti**	**147.53**	**172**	*i* P	**PKPbc**	**14 52 24.2**	**+0.2**
AROD	**Rodeo**	**147.64**	**164**	*e*P	**PKPbc**	**14 52 24.6**	**-0.1**
AVFE	**Valle Fertil**	**147.67**	**167**	*i* P	**PKPbc**	**14 52 24.8**	**+0.4**
ACDV	**Cuesta del Vie**	**147.74**	**164**	*e*P	**PKPbc**	**14 52 23.7**	**-1.1**
APLL	**PUNTA DE LOS L**	**148.12**	**169**	*i* P	**PKPbc**	**14 52 25.2**	**-0.4**
CPSB	**Cacapava Do Su**	**148.26**	**190**	*e*P	**PKPbc**	**14 52 24.7**	**-1.2**
CNLB	**Canela**	**148.75**	**195**	*e*P	**PKPbc**	**14 52 26.2**	**-1.1**
ACLC	**CERRO LA CRUZ**	**148.97**	**167**	*i* P	**PKPbc**	**14 52 27.5**	**-0.5**
ITAB	**Concordia**	**151.06**	**194**	*e*P	**PKPdf**	**14 52 29.2**	**+2.1**
PET01	**Itanhaem-SP**	**152.19**	**205**	*e*P	**PKPdf**	**14 52 30.7**	**+1.8**
CPUP	**Villa Florida**	**152.78**	**184**	PKPbc	**PKiKP**	**14 52 37.3**	**+0.2**
	comp=Z,8.2nm,0.9s,baz=121,slow=0.7,SNR=9.0							
VAO	**Valinhos**	**153.19**	**207**	*e*P	**PKPdf**	**14 52 31.6**	**+1.1**
LVC	**Limon Verde**	**154.87**	**159**	*e*P	**PKPdf**	**14 52 35.5**	**+2.2**
ITRB	**Iturama**	**157.55**	**203**	*e*P	**PKPdf**	**14 52 38.2**	**+1.8**
BDFB	**Brasilia**	**159.92**	**214**	PKPab	**PKPab**	**14 53 19.0**	**+0.5**
	comp=Z,17nm,1.1s,baz=140,slow=3.3,SNR=7.7							
LPAZ	**La Paz**	**160.90**	**154**	PKP	**PKPdf**	**14 52 41.8**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=190,slow=1.5,SNR=7.3							
LPAZ				PKPab	**PKPab**	**14 53 23.4**	**0.0**
	comp=Z,2.3nm,0.7s,baz=199,slow=4.6,SNR=4.8							
LPAZ	**La Paz**	**160.90**	**154**	*e*P	**PKPdf**	**14 52 43.9**	**+2.7**

*IDC **07** 14:39:44.6±1.0,29.˚42N×68.˚60E,h0km,mb3.7/6, mbtmp3.7/6,MS4.0/2,Error ellipse: s-maj=33.4km s-min=27.1km az=25.0*
ISC 07 14:39:47.9±1.2,29.˚5N±0.˚2×68.˚6E±0.˚2,h20km,n8,σ0§18/6, mb3.8/5,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**20.33**	**28**	P	**P**	**14 44 22.6**	**-0.1**
	0.8nm,0.5s,baz=207,slow=10,SNR=1.4						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**27.17**	**21**	P	**P**	**14 45 29.9**	**+0.1**
	0.4nm,0.3s,baz=217,slow=6.9,SNR=1.9						
	0.4nm,0.3s						
OPO	**Amboniditompo**	**52.03**	**206**	LR	LR	15 08 39.1	
	comp=Z,83nm,19.0s,baz=174,slow=33						
ESDC	**Sonseca Array**	**59.16**	**301**	P	**P**	**14 49 47.6**	**+0.2**
	0.4nm,0.5s,baz=72,slow=7.1,SNR=2.0						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**63.66**	**271**	P	**P**	**14 50 17.9**	**-0.2**
	0.4nm,0.5s,baz=55,slow=6.6,SNR=4.8						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**80.13**	**119**	P	**P**	**14 51 56.9**	**0.0**
	0.8nm,0.9s,baz=316,slow=4.8,SNR=12						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**82.01**	**123**	P	**P**	**14 52 07.0**	**+0.1**
	0.7nm,0.6s,baz=305,slow=5.5,SNR=23						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**88.34**	**1**	LR	LR	15 36 33.2	
	comp=Z,125nm,21.4s,baz=302,slow=39						

*KRNET **07** 14:52:08.6±0.1,39.˚21N×73.˚55E,mb2.9*
ISC 07 14:52:06.7±2.4,39.˚1N±0.˚1×73.˚68E±0.˚08,h10km,n8, σ1§74/15,8C-9D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**1.51**	**286**	⇓*i*P	**Pb**	**14 52 34.8**	**-0.2**
	baz=82						
DRK				⇓*i*S	**Sg**	**14 52 54.1**	**-1.2**
	baz=82						
OHH	**Osh**	**1.59**	**335**	⇑*i*P	**Pn**	**14 52 35.6**	**+0.6**
	baz=36						
OHH				⇑*i*S	**Sg**	**14 52 55.6**	**-2.3**
	baz=36						
BTK	**Batken**	**2.41**	**295**	⇑*i*P	**Pb**	**14 52 49.3**	**-1.0**
	baz=93						
BTK				⇑*i*S	**Sb**	**14 53 19.1**	**-1.1**
	baz=93						
GAR	**Garm**	**2.62**	**269**	⇑*e*P	**Pb**	**14 52 52.9**	**-0.9**
	baz=66						
GAR				⇑*i*S	**Sb**	**14 53 25.1**	**-1.0**
	baz=66						
ARLS	**Aral**	**2.81**	**10**	⇓*i*P	**Pb**	**14 52 55.5**	**-1.6**
	baz=12						
ARLS				⇓*i*S	**Sb**	**14 53 29.7**	**-2.0**
	baz=12						
TRKS	**Terek-Say**	**3.12**	**322**	⇓*e*P	**Pn**	**14 52 58.1**	**+2.0**
	baz=22						
TRKS				⇓*i*S	**Sn**	**14 53 34.3**	**+0.8**
	baz=22						
TKM2	**Tokmak 2**	**4.09**	**20**	⇓Pn	**Pb**	**14 53 19.2**	**+0.2**
	2.6nm,1.1s						
TKM2				⇓Lg	Lg	14 54 14.0	
	2.0nm,0.7s						
KK31	**Karatay Array**	**4.67**	**330**	⇑Pn	**Pb**	**14 53 30.0**	**+1.3**
	0.4nm,0.3s,baz=145,slow=14,SNR=5.3						
KK31				⇑Sn	**Sn**	**14 54 15.0**	**+3.5**
	0.4nm,0.3s						
KK31				⇓Lg	Lg	14 54 29.5	
	0.6nm,0.4s						

*IDC **07** 14:52:10.6±1.6,0.˚11S×121.˚98E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=382.2km s-min=27.9km az=61.0*
*DJA **07** 14:52:12.7±0.3,1.˚S±2.˚×12.˚0E±.˚,h10km,M3.8/10,mb4.0/3, MLv3.7/10*
ISC 07 14:52:15.5±1.0,0.˚86S±0.˚05×120.˚24E±0.˚06,h35km,n12, σ1§67/16,mb3.3/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.24**	**344**	P	**Pn**	**14 52 34.7**	**-1.6**
MPSI				S	**Sn**	**14 52 52.4**	**+0.7**
APSI	**Ampana**	**1.41**	**92**	P	**Pn**	**14 52 37.8**	**-0.9**
APSI				S	**Sn**	**14 52 58.9**	**+2.8**
MRSI	**Marisa**	**2.16**	**52**	P	**Pn**	**14 52 49.8**	**+0.8**
TTSI	**Tana Toraja**	**2.21**	**191**	P	**Pn**	**14 52 49.3**	**-0.4**
TTSI				S	**Sn**	**14 53 16.8**	**+1.0**
SPSI	**Sidrap Palu**	**3.12**	**189**	P	**Pn**	**14 53 01.6**	**-0.6**
GTOI	**Gorontalo**	**3.14**	**62**	P	**Pn**	**14 53 01.8**	**-0.7**
BKSI	**Bulukumba**	**4.43**	**181**	P	**Pn**	**14 53 19.8**	**-0.5**
BSSI	**Bau Bau, Buton**	**5.25**	**177**	P	**Pn**	**14 53 31.6**	**0.0**
	0.2nm29nm,1.3s						
LBMI	**Labuha**	**7.26**	**88**	P	**Pn**	**14 53 56.6**	**-2.6**
	0.1nm8.7nm,1.1s						
WRA	**Warramunga Arr**	**23.46**	**145**	P	**P**	**14 57 19.1**	**-2.9**
	1.0nm,0.8s,baz=324,slow=11,SNR=6.4						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**26.26**	**151**	P	**P**	**14 57 46.6**	**-1.1**
	0.5nm,0.6s,baz=334,slow=10,SNR=9.0						
ASAR				PcP	**PcP**	**15 01 13.5**	**-0.3**
	0.6nm,1.1s,baz=334,slow=1.3,SNR=0.7						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**57.93**	**330**	P	**P**	**15 02 06.5**	**+2.2**
	0.2nm,0.6s,baz=132,slow=8.5,SNR=2.9						
	0.2nm,0.6s						

ROM 07 14:52:55.2±0.1,42.˚921N±0.˚004×13.˚250E±0.˚004, h9km,ML1.4/3,3C-1D,Error ellipse: s-maj=0.3km s-min=0.2km az=208.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**259**	P	Pg	14 52 57.4	+0.2
MC2				S	Sg	14 52 58.6	0.0
MC2	**Monte Cornacci**	**0.04**	**259**	P	Pg	14 52 57.4	+0.2
MC2				S	Sg	14 52 58.7	+0.1
MMO1	**Montemonaco**	**0.06**	**111**	P	Pg	14 52 57.4

T1202	**Accumoli, Fraz**	**0.22**	**185**	P	Pg	14 53 00.6	+0.9
T1202				S	Sg	14 53 04.9	+2.2
T1202	**Accumoli, Fraz**	**0.22**	**185**	S	Sg	14 53 01.0	-1.7
T1204	**Amatrice, Fraz**	**0.25**	**169**	⇑P	Pg	14 53 01.1	+0.8
T1204	**Amatrice, Fraz**	**0.25**	**169**	S	Sg	14 53 02.0	-1.7
CESI	**CESI - Serrava**	**0.27**	**288**	P	Pg	14 53 01.2	+0.6
CESI				S	Sb	14 53 05.7	-1.3
CESI	**CESI - Serrava**	**0.27**	**288**	P	Pg	14 53 01.2	+0.6
T1243	**Rocca Santa Ma**	**0.27**	**147**	P	Pg	14 53 01.1	+0.6
T1243				S	Sb	14 53 06.0	-1.1
T1243	**Rocca Santa Ma**	**0.27**	**147**	P	Pg	14 53 01.1	+0.5
T1243				S	Sb	14 53 06.1	-0.9
T1215	**Vallo di Nera,**	**0.30**	**247**	P	Pg	14 53 02.0	+0.8
T1215				S	Sb	14 53 07.1	-0.9
T1215	**Vallo di Nera,**	**0.30**	**247**	P	Pg	14 53 01.9	+0.7
T1215				S	Sb	14 53 07.4	-0.7
TERO	**Teramo**	**0.40**	**139**	P	Pg	14 53 03.6	+0.6
TERO				S	Sb	14 53 09.7	-0.9
TERO	**Teramo**	**0.40**	**139**	P	Pg	14 53 03.2	+0.3
TERO				S	Sb	14 53 10.2	-0.4
SNTG	**Esanatoglia**	**0.40**	**326**	P	Pg	14 53 03.6	+0.5
SNTG				S	Sb	14 53 10.3	-0.6
SNTG	**Esanatoglia**	**0.40**	**326**	P	Pg	14 53 03.3	+0.2
SNTG				S	Sb	14 53 10.3	-0.6
EL6	**Elcito**	**0.42**	**345**	⇓P	Pg	14 53 04.0	+0.5
EL6				S	Sb	14 53 11.3	-0.2
EL6	**Elcito**	**0.42**	**345**	P	Pg	14 53 03.9	+0.4
EL6				S	Sb	14 53 11.0	-0.5
CING	**Cingoli**	**0.46**	**355**	P	Pg	14 53 04.5	+0.4
CING				S	Sb	14 53 12.3	-0.1
CING	**Cingoli**	**0.46**	**355**	P	Pg	14 53 04.8	+0.6

*IDC **07** 15:28:06.4±4.2, 4˚.28S×68˚.76E, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/4, Error ellipse: s-maj=136.8km s-min=40.3km az=64.0*

ISC 07 15:28:07.4±2.8, 4˚.4S±0˚.3×68˚.7E±0˚.5, h10km, n13, σ0s70/12, mb4.0/5, MS3.3/3, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**4.92**	**131**	Pn	**Pn**	**15 29 21.2**	**0.0**
	baz=180,slow=25						
H08S3				Sn	**Sn**	**15 30 19.1**	**+0.9**
H08S3				T	T	15 34 29.6	
	baz=308,slow=80,SNR=36						
H08S1	**Diego Carcia H**	**4.93**	**131**	Pn	**Pn**	**15 29 21.4**	**+0.1**
	baz=180,slow=25						
H08S1				Sn	**Sn**	**15 30 17.2**	**-1.1**
H08S1				T	T	15 34 29.7	
	baz=308,slow=80,SNR=57						
H08S2	**Diego Garcia H**	**4.94**	**131**	Pn	**Pn**	**15 29 21.4**	**-0.1**
	baz=180,slow=25						
H08S2				Sn	**Sn**	**15 30 18.2**	**-0.4**
H08S2				T	T	15 34 33.6	
	baz=308,slow=80,SNR=27						
PALK	**Pallekele**	**16.64**	**46**	LR	LR	15 37 09.4	
	comp=Z,86nm,20.3s,baz=7.2,slow=33						
BRDH	**Bariadhala**	**35.00**	**39**	LR	LR	15 49 58.2	
	comp=Z,41nm,18.1s,baz=92,slow=38						
LBTB	**Lobatse**	**46.20**	**239**	LR	LR	15 53 32.8	
	comp=Z,50nm,18.2s,baz=80,slow=33						
BOSA	**Boshof**	**47.75**	**235**	LR	LR	15 53 47.1	
	comp=Z,37nm,21.1s,baz=11,slow=32						
MKAR	**Makanchi Array**	**52.36**	**12**	P	**P**	**15 37 18.8**	**-0.9**
	0.3nm,0.8s,baz=193,slow=5.9,SNR=2.2 0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**55.44**	**8**	P	**P**	**15 37 41.8**	**-0.3**
	0.8nm,0.2s,baz=200,slow=7.7,SNR=3.3 0.8nm,0.2s						
ZALV	**Zalesovo Beam**	**59.67**	**11**	P	**P**	**15 38 11.1**	**-0.7**
	1.3nm,0.8s,baz=203,slow=6.3,SNR=5.0 1.3nm,0.8s						
SONM	**Songino Array**	**61.60**	**28**	P	**P**	**15 38 26.1**	**+0.8**
	0.7nm,0.6s,baz=223,slow=5.9,SNR=4.7 0.7nm,0.6s						
WRA	**Warramunga Arr**	**65.59**	**110**	P	**P**	**15 38 52.5**	**+0.5**
	0.4nm,0.8s,baz=290,slow=5.8,SNR=2.6 0.4nm,0.8s						
NVAR	**Mina Array Bea**	**145.52**	**10**	PKPbc	**PKPdf**	**15 47 46.6**	**-0.1**
	0.9nm,0.8s,baz=340,slow=2.4,SNR=4.9						

*IDC **07** 15:44:43.9±0.7, 6˚.93N×121˚.02E, h0km, mb4.0/13, mbtmp4.0/13, MS3.4/11, Error ellipse: s-maj=27.7km s-min=14.3km az=66.0*

*MAN **07** 15:44:44.9, 6˚.95N×120˚.87E, h32km, mb5.2, ML4.2, MS4.3 MAN INTENSITY II - ZAMBOANGA CITY; ISABELA CITY BASILAN.*

*NEIC **07** 15:44:51.5±1.5, 6˚.83N±0˚.09×120˚.88E±0˚.09, h52km±7km, mb4.5/35, Error ellipse: s-maj=15.7km s-min=10.8km az=225.0*

*DJA **07** 15:44:52.0±0.5, 7˚.N±4˚×12˚.1E±˚, h56km±8km, M4.7/17, mB5.1/9, mb4.9/17, MLv4.9/12, Mw(mB)4.5/9*

ISC 07 15:44:48.9±0.4, 6˚.90N±0˚.04×120˚.99E±0˚.04, h35km, n105, σ2s10/107, mb4.4/34, MS3.4/12, 8C-9D, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCP	**Zamboanga City**	**1.07**	**88**	⇑*i*P	**Pn**	**15 45 05.0**	**-2.5**
ZCP				*i* S	**Sn**	**15 45 18.6**	**-2.6**
PAGZ	**Pagadian**	**2.55**	**68**	⇑*e*P	**Pn**	**15 45 26.3**	**-1.5**
PAGZ				*e*S	**Sn**	**15 45 58.0**	**+0.3**
DCPH	**Dipolog City**	**2.87**	**54**	⇓*e*P	**Pn**	**15 45 30.8**	**-1.5**
DCPH				*e*S	**Sn**	**15 45 57.8**	**-7.9**
MYLDM	**Lahad Datu**	**3.01**	**236**	Pn	**Pn**	**15 45 34.9**	**+0.8**
CTBH	**Cotabato--PC H**	**3.25**	**84**	⇑*i*P	**Pn**	**15 45 35.3**	**-2.1**
CTBH				*i* S	**Sn**	**15 46 11.8**	**-3.0**
SNPH	**Sibulan**	**3.29**	**42**	⇓*i*P	**Pn**	**15 45 36.3**	**-1.7**
SNPH				*i* S	**Sn**	**15 46 14.7**	**-1.3**
CNOP	**Candoni, Negro**	**3.33**	**29**	⇑*e*P	**Pn**	**15 45 36.3**	**-2.3**
CNOP				*e*S	**Sn**	**15 46 11.8**	**-5.2**
PPR	**Puerto Princes**	**3.63**	**322**	⇓*i*P	**Pn**	**15 45 38.2**	**-4.4**
PPR				*e*S	**Sn**	**15 46 19.0**	**-5.3**
JAP	**San Jose, Anti**	**3.94**	**14**	⇓*e*P	**Pn**	**15 45 45.2**	**-1.7**
TBP	**Tagbilaran**	**3.97**	**45**	*e*P	**Pn**	**15 45 44.6**	**-2.7**
CGP	**Cagayan de Oro**	**3.98**	**67**	⇓*e*P	**Pn**	**15 45 46.1**	**-1.3**
GSPH	**General Santos**	**4.01**	**101**	⇓*i*P	**Pn**	**15 45 51.4**	**+3.3**
BUKP	**Musuan**	**4.15**	**76**	⇓*e*P	**Pn**	**15 45 49.4**	**-0.5**
BUKP				*e*S	**Sn**	**15 46 39.0**	**+1.7**
LLP	**Lapu-Lapu**	**4.49**	**41**	⇑*i*P	**Pn**	**15 45 52.5**	**-2.0**
DAV	**Davao City (W)**	**4.56**	**88**	Pn	**Pn**	**15 45 59.4**	**+4.0**
	83nm,0.3s,baz=316,slow=5.3,SNR=2.5						
DAV				Sn	**Sn**	**15 46 49.2**	**+2.0**
	74nm,0.3s,baz=343,slow=5.3,SNR=2.0						
DAV				LR	LR	15 47 55.9	
	comp=Z,1μm,18.5s,baz=272,slow=42						
KKM	**Kota Kinabalu**	**4.82**	**260**	Pn	**Pn**	**15 45 59.5**	**+0.3**
RCP	**Roxas**	**4.94**	**20**	⇑*e*P	**Pn**	**15 45 59.8**	**-1.0**
MSLP	**Maasin**	**5.00**	**50**	⇑*e*P	**Pn**	**15 45 59.8**	**-1.6**
BIPH	**Bislig**	**5.47**	**76**	⇓*i*P	**Pn**	**15 46 08.5**	**+0.4**
BIPH				*i* S	**Sn**	**15 47 04.2**	**-5.6**
SGSI	**Sangihe**	**5.53**	**125**	P	**Pn**	**15 46 06.2**	**-2.6**
	1.3nm4μm191nm,0.6s						
TOLI2	**Tolitoli**	**5.75**	**182**	Pn	**Pn**	**15 46 10.0**	**-1.9**
MMPH	**Masbate**	**6.01**	**25**	⇓*i*P	**Pn**	**15 46 14.7**	**-0.7**
MMPH				*i* S	**Sn**	**15 47 20.0**	**-3.1**
MRSI	**Marisa**	**6.45**	**172**	P	**Pn**	**15 46 21.2**	**-0.3**
	0.3nm1μm78nm,0.5s						
GTOI	**Gorontalo**	**6.54**	**162**	P	**Pn**	**15 46 18.5**	**-4.2**
	0.3nm634nm60nm,0.8s						
GTOI				S	**Sn**	**15 47 28.9**	**-7.2**
	0.3nm634nm60nm,0.8s						
PGP	**Puerto Galera**	**6.56**	**360**	⇑*e*P	**Pn**	**15 46 21.5**	**-1.5**
MPSI	**Mapaga**	**6.61**	**190**	P	**Pn**	**15 46 22.0**	**-1.6**
	1.0nm6μm123nm,0.5s						
MPSI				S	**Sn**	**15 47 32.6**	**-5.2**
	1.0nm6μm123nm,0.5s						
KMSI	**Cibinong**	**6.96**	**154**	P	**Pn**	**15 46 29.2**	**+0.8**
	0.7nm172nm,0.9s						
APSI	**Ampana**	**7.79**	**175**	P	**Pn**	**15 46 40.9**	**+1.1**
	0.3nm1μm86nm,0.8s						
LUWI	**Luwuk**	**8.09**	**167**	Pn	**Pn**	**15 46 45.9**	**+2.0**
LUWI	**Luwuk**	**8.09**	**167**	P	**Pn**	**15 46 45.9**	**+2.0**
	1.1nm5μm280nm,0.9s						
TNTI	**Ternate**	**8.80**	**133**	P	**Pn**	**15 46 55.2**	**+1.4**
	24nm,0.7s						
SBUM	**Sibu**	**9.80**	**244**	Pn	**Pn**	**15 47 07.5**	**+0.1**
MTKI	**Muara Teweh, K**	**9.88**	**218**	P	Pn	15 47 02.2	-6.4
LBMI	**Labuha**	**9.91**	**139**	P	**Pn**	**15 47 10.1**	**+1.1**
	538nm43nm,0.8s						
TTSI	**Tana Toraja**	**9.95**	**187**	P	**Pn**	**15 47 09.9**	**+0.4**
	38nm,1.2s						

QIZ	**Qiongzhong**	**16.22**	**319**		**P**	**P**	**15 48 38.1**	**+1.1**
QIZ				IAmb	IAmb	15 48 38.9		
	comp=Z,37nm,1.1s							
QIZ	**Qiongzhong**	**16.22**	**319**	P	**P**		**15 48 38.1**	**+1.1**
QIZ				S	**Sn**		**15 51 35.2**	**+2.1**
QIZ				sS	sS		15 52 06.2	+7.9
QIZ				pmax	pmax			
	comp=Z,35nm,1.0s							
QIZ				LR	LR			
	comp=N,240nm,14.3s							
QIZ				LR	LR			
	comp=E,240nm,13.5s							
QIZ				LR	LR			
	comp=Z,190nm,15.9s							
SSLB	**Suanglung**	**16.79**	**360**	P	**P**		**15 48 43.7**	**+0.3**
SSLB				IAmb	IAmb		15 48 58.4	
	comp=Z,24nm,1.0s							
UBPT	**Khong Chiam**	**17.35**	**300**	P	**P**		**15 48 50.4**	**+0.8**
CBJI	**Citeko**	**19.34**	**227**	P	Pn		15 49 30.2	+17
KULM	**Kulim**	**20.29**	**267**	P	**P**		**15 49 20.8**	**-1.1**
KULM				IAmb	IAmb		15 49 38.5	
	comp=Z,36nm,1.2s							
GENI	**Genyem**	**21.34**	**116**	P	P		15 49 47.4	+14
MTN	**Manton Dam**	**22.05**	**153**	P	**P**		**15 49 39.3**	**-1.5**
MTN				IAmb	IAmb		15 49 54.8	
	comp=Z,21nm,1.3s							
MNSI	**Mandailing Nat**	**22.20**	**255**	P	P		15 49 57.6	+15
PSI	**Prapat**	**22.36**	**261**	P	**P**		**15 49 44.4**	**+0.1**
	comp=Z,11nm,0.7s,baz=100,slow=11,SNR=5.3 comp=Z,11nm,0.7s							
RPSI	**Rantau Prapat**	**22.38**	**260**	P	**P**		**15 49 44.3**	**-0.1**
RPSI				IAmb	IAmb		15 49 58.3	
	comp=Z,30nm,1.1s							
RPSI	**Rantau Prapat**	**22.38**	**260**	P	**P**		**15 49 44.4**	**0.0**
PHRA	**Phrae**	**23.27**	**302**	P	**P**		**15 49 53.1**	**-0.6**
CRAI	**Chiangrai**	**23.98**	**306**	P	**P**		**15 49 59.0**	**-1.4**
CRAI				IAmb	IAmb		15 50 00.9	
	comp=Z,17nm,1.0s							
CM31	**Chiang Mai Arr**	**24.35**	**300**	P	**P**		**15 50 03.8**	**0.0**
CMAR	**Chiang Mai Arr**	**24.35**	**300**	P	**P**		**15 50 04.1**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=109,slow=7.8,SNR=22							
CMAR				LR	LR		16 00 25.7	
	comp=Z,44nm,20.7s,baz=120,slow=39 comp=Z,4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**24.35**	**300**	P	**P**		**15 50 02.9**	**-0.9**
GUMO	**Guam**	**24.40**	**72**	LR	LR		15 58 01.6	
	comp=Z,43nm,20.8s,baz=249,slow=33							
CHTO	**Chiang Mai**	**24.50**	**301**	P	**P**		**15 50 05.1**	**-0.1**
NJ2	**Nanjing**	**25.10**	**356**	*e*P	**P**		**15 50 11.6**	**+1.2**
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
FITZ	**Fitzroy Crossi**	**25.26**	**170**	P	**P**		**15 50 13.3**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=0.0,slow=7.1,SNR=2.1 comp=Z,1.3nm,0.6s							
MBWA	**Marble Bar**	**27.91**	**183**	P	**P**		**15 50 35.7**	**-0.2**
MBWA				IAmb	IAmb		15 51 14.4	
	comp=Z,21nm,1.4s							
JCJ	**Chichijima**	**28.44**	**43**	LR	LR		16 00 24.5	
	comp=Z,52nm,21.7s,baz=258,slow=33							
XAN	**Xi'an**	**29.22**	**339**	P	**P**		**15 50 51.9**	**+4.4**
XAN				pmax	pmax			
	comp=Z,8.0nm,0.7s							
WB0	**Warramunga Arr**	**29.60**	**154**	P	**P**		**15 50 53.0**	**+2.0**
WB0				IAmb	IAmb		15 51 17.3	
	comp=Z,13nm,1.3s							
WRA	**Warramunga Arr**	**29.73**	**154**	P	**P**		**15 50 51.4**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=336,slow=9.8,SNR=8.3 comp=Z,1.1nm,0.9s							
WRA	**Warramunga Arr**	**29.73**	**154**	P	**P**		**15 50 51.5**	**-0.6**
WB2	**Warramunga Arr**	**29.74**	**154**	P	**P**		**15 50 49.9**	**-2.3**
WB2				IAmb	IAmb		15 51 26.8	
	comp=Z,6.9nm,1.1s							
WR0	**Warramunga Arr**	**29.84**	**154**	P	**P**		**15 50 54.3**	**+1.3**
WR0				IAmb	IAmb		15 51 01.4	
	comp=Z,16nm,1.5s							
PMG	**Port Moresby**	**30.70**	**122**	LR	LR		16 04 59.7	
	comp=Z,23nm,18.6s,baz=346,slow=40							
KSRS	**Korea Array**	**31.06**	**11**	P	**P**		**15 51 03.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=184,slow=11,SNR=2.1 comp=Z,0.2nm,0.3s							
AS31	**Alice Springs**	**32.89**	**158**	P	**P**		**15 51 19.1**	**-0.9**
ASAR	**Alice Springs**	**32.90**	**158**	P	**P**		**15 51 19.7**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=339,slow=7.3,SNR=9.0							
ASAR				PcP	**PcP**		**15 54 05.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=347,slow=3.2,SNR=2.4 comp=Z,0.9nm,0.9s							
ASAR	**Alice Springs**	**32.90**	**158**	P	**P**		**15 51 20.5**	**+0.5**
MJAR	**Matsushiro Arr**	**33.44**	**26**	LR	LR		16 05 19.2	
	comp=Z,39nm,19.3s,baz=216,slow=37							
HHC	**Hu-ho-hao-te**	**34.84**	**347**	*e*P	P		15 51 41.6	+4.8
HHC				pmax	pmax			
	comp=Z,28nm,0.7s							
HHC				pmax	pmax			
	comp=Z,95nm,5.2s							
PATS	**Pohnpei**	**37.05**	**88**	P	**P**		**15 51 57.4**	**+1.5**
GTA	**Gaotai**	**37.56**	**333**	*e*P	**P**		**15 52 00.6**	**+0.5**
GTA				pP	sP		15 52 12.8	+0.1
GTA				sP	pwP		15 52 17.8	+3.3
GTA				pmax	pmax			
	comp=Z,13nm,0.9s							
GTA				pmax	pmax			
	comp=Z,40nm,4.4s							
GTA				LR	LR			
	comp=N,100nm,15.3s							
GTA				LR	LR			
	comp=E,140nm,15.6s							
GTA				LR	LR			
	comp=Z,84nm,15.3s							
GOMU	**GeErMu**	**37.73**	**324**	P	**P**		**15 52 02.9**	**+1.0**
GOMU				pP	pP		15 52 06.2	-4.6
GOMU				sP	sP		15 52 08.1	-6.4
GOMU				pmax	pmax			
	comp=Z,2.0nm,0.6s							
GOMU				pmax	pmax			
	comp=Z,38nm,6.3s							
SONM	**Songino Array**	**42.65**	**345**	P	**P**		**15 52 41.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=167,slow=8.2,SNR=7.3 comp=Z,1.2nm,0.7s							
SONM	**Songino Array**	**42.65**	**345**	P	**P**		**15 52 42.4**	**+0.3**
KLR	**Kul'dur**	**43.15**	**10**	LR	LR		16 09 55.2	
	comp=Z,42nm,21.7s,baz=208,slow=35							
STKA	**Stephens Creek**	**43.29**	**154**	P	**P**		**15 52 47.6**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=337,slow=7.7,SNR=4.6 comp=Z,3.5nm,0.8s							
STKA	**Stephens Creek**	**43.29**	**154**	P	**P**		**15 52 47.7**	**+0.3**
WMQ	**Urumqi**	**46.92**	**327**	*e*P	**P**		**15 53 17.0**	**+0.8**
WMQ				sP	pwP		15 53 37.1	+6.2
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
WMQ				LR	LR			
	comp=N,160nm,16.3s							
MK31	**Makanchi Array**	**51.75**	**327**	P	**P**		**15 53 53.1**	**+0.1**
MK31				IAmb	IAmb		15 53 54.4	
	comp=Z,3.3nm,0.8s							
MKAR	**Makanchi Array**	**51.75**	**327**	P	**P**		**15 53 53.5**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=126,slow=8.2,SNR=43 comp=Z,3.1nm,0.6s							
MKAR	**Makanchi Array**	**51.75**	**327**	P	**P**		**15 53 52.8**	**-0.2**
KSH	**Kashi**	**51.79**	**316**	P	**P**		**15 53 54.5**	**+0.9**
KSH				pmax	pmax			
	comp=Z,4.0nm,1.1s							
MAKZ	**Makanchi**	**51.93**	**327**	P	**P**		**15 53 54.6**	**+0.2**
MAKZ				IAmb	IAmb		15 53 55.7	
	comp=Z,4.0nm,0.9s							
AAK	**Ala-Archa**	**54.20**	**319**	P	**P**		**15 54 11.1**	**-0.2**
AAK				IAmb	IAmb		15 54 13.6	
	comp=Z,4.6nm,0.9s							
DRK	**Karamyk**	**54.71**	**314**	P	**P**		**15 54 16.3**	**+1.1**
PETK	**Petropavlovsk-**	**54.89**	**26**	P	**P**		**15 54 16.1**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=213,slow=10,SNR=6.4 comp=Z,2.7nm,0.8s							
KBL	**Kabul**	**55.07**	**308**	P	**P**		**15 54 17.2**	**-0.7**
ZALV	**Zalesovo Beam**	**55.25**	**335**	P	**P**		**15 54 18.5**	**0.0**
	comp=Z,1.6nm,0.8s,baz=116,slow=6.7,SNR=5.5							
ZALV				LR	LR		16 18 26.9	
	comp=Z,31nm,18.5s,baz=122,slow=37 comp=Z,1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**55.25**	**335**	P	**P**		**15 54 17.5**	**-0.9**
GAR	**Garm**	**55.59**	**313**	P	**P**		**15 54 21.5**	**+0.1**
BTK	**Batken**	**55.63**	**314**	P	**P**		**15 54 20.9**	**-0.7**
BTK				IAmb	IAmb		15 54 35.0	
	comp=Z,4.5nm,0.9s							
KURBB	**Kurchatov Arra**	**56.04**	**329**	LR	LR		16 19 23.1	
	comp=Z,29nm,18.4s,baz=197,slow=37							
KURK	**Kurchatov**	**56.05**	**329**	P	**P**		**15 54 24.3**	**0.0**
CHGR	**Chuyangaron**	**56.32**	**312**	P	**P**		**15 54 26.5**	**-0.1**

KK31	**Karatay Array**	**57.04**	**318**	P	**P**		**15 54 31.6**	**+0.1**
KK31				IAmb	IAmb		15 54 32.9	
	comp=Z,3.4nm,0.9s							
KKAR	**Karatay Array**	**57.04**	**318**	P	**P**		**15 54 31.6**	**+0.1**
HRA	**Herat**	**60.46**	**306**	P	**P**		**15 54 55.4**	**-0.3**
HRA				IAmb	IAmb		15 55 07.4	
	comp=Z,4.3nm,0.8s							
BRVK	**Borovoye**	**61.66**	**328**	P	**P**		**15 55 03.0**	**-0.2**
BRVK				IAmb	IAmb		15 55 04.8	
	comp=Z,4.3nm,0.8s							
GEYT	**Alibeck**	**64.47**	**309**	P	**P**		**15 55 22.6**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=155,slow=4.6,SNR=3.8 comp=Z,2.1nm,0.7s							
ABKAR	**Akbulak array**	**66.11**	**321**	P	**P**		**15 55 31.5**	**-1.0**
AKASG	**Malin Array Be**	**85.83**	**320**	P	**P**		**15 57 24.3**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=70,slow=4.7,SNR=4.7 comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**93.40**	**333**	LR	LR		16 42 44.1	
	comp=Z,19nm,18.3s,baz=5.0,slow=37							
VAE	**Valguarnera**	**98.81**	**310**	LR	LR		16 49 12.3	
	comp=Z,64nm,18.7s,baz=278,slow=39							

*IDC **07** 16:03:40.6±1.8, 44˚.07N×105˚.60W, h0km, mbtmp3.5/2, ML3.4/2, Error ellipse: s-maj=56.7km s-min=9.3km az=147.0*

*NEIC **07** 16:03:41.2±1.3, 44˚.02N±0˚.05×105˚.20W±0˚.09, h0km±2km, ML3.1/47, Error ellipse: s-maj=11.2km s-min=8.2km az=87.0*

ISC 07 16:03:40.7±1.1, 44˚.01N±0˚.06×105˚.20W±0˚.07, h0km, n43, σ0s79/42, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.85**	**82**		**Pb**	**16 03 58.5**	**+0.1**
K22A	**Casper**	**1.66**	**216**		**Pn**	**16 04 10.1**	**-1.2**
K22A				IAML		16 04 34.3	
	comp=E,296nm,0.7s						
PHWY	**Pilot Hill**	**2.71**	**184**	Pn	**Pn**	**16 04 26.1**	**+0.3**
PHWY				IAML		16 05 07.3	
	comp=E,65nm,0.6s						
RWWY	**Rawlins**	**2.75**	**213**	Pn	**Pn**	**16 04 27.1**	**+0.8**
LAO	**LASA Array**	**2.78**	**345**	Pn	**Pn**	**16 04 26.0**	**-0.6**
RLMT	**Red Lodge**	**3.11**	**292**		**Pn**	**16 04 31.4**	**+0.1**
RLMT				IAML		16 05 33.6	
	comp=E,46nm,0.7s						
RLMT				IAML		16 05 33.8	
	comp=E,39nm,2.2s						
N23A	**Red Feather La**	**3.16**	**190**	Pn	**Pn**	**16 04 31.8**	**-0.1**
N23A				IAML		16 05 25.3	
	comp=N,36nm,0.7s						
N23A				IAML		16 05 40.7	
	comp=E,39nm,0.6s						
BW06	**Boulder Array**	**3.41**	**250**	Pn	**Pn**	**16 04 37.0**	**+1.6**
BW06				IAML		16 05 23.4	
	comp=E,44nm,0.6s						
BW06				IAML		16 05 25.3	
	comp=E,44nm,0.7s						
PD31	**Pinedale Array**	**3.41**	**250**	Pn	**Pn**	**16 04 36.0**	**+0.7**
PDAR	**Pinedale Array**	**3.41**	**250**	Pn	**Pn**	**16 04 35.3**	**0.0**
	comp=E,3.5nm,0.3s,baz=76,slow=17,SNR=41						
PDAR				Lg	Lg	16 05 18.6	
	comp=E,1.8nm,0.3s,baz=68,slow=33,SNR=4.0 comp=E,1.5nm,0.3s						
PDAR	**Pinedale Array**	**3.41**	**250**	Pn	**Pn**	**16 04 36.3**	**+1.0**
GCMT	**Greycliff**	**3.64**	**301**	Pn	**Pn**	**16 04 38.9**	**+0.4**
OGNE	**Ogallala**	**3.85**	**141**	Pn	**Pn**	**16 04 42.0**	**+0.8**
YHH	**Holmes Hill**	**4.12**	**283**	Pn	**Pn**	**16 04 45.2**	**+0.1**
IMW	**Indian Meadow**	**4.14**	**270**	Pn	**Pn**	**16 04 46.4**	**+0.9**
IMW				IAML		16 05 53.3	
	comp=E,30nm,0.6s						
IMW				IAML		16 06 06.8	
	comp=E,29nm,0.6s						
REDW	**Red Top Meadow**	**4.15**	**263**	Pn	**Pn**	**16 04 45.7**	**+0.2**
REDW				IAML		16 05 56.8	
	comp=E,30nm,0.7s						
REDW				IAML		16 06 22.5	
	comp=E,25nm,2.8s						
ISCO	**Idaho Springs**	**4.21**	**184**	Pn	**Pn**	**16 04 46.8**	**+0.3**
FXWY	**Fox Creek**	**4.23**	**267**	Pn	**Pn**	**16 04 47.0**	**+0.3**
YHL	**Hebgen Lake**	**4.37**	**283**	Pn	**Pn**	**16 04 48.9**	**+0.3**
YHL				IAML		16 06 10.4	
	comp=N,20nm,1.0s						
YHL				IAML		16 06 12.6	
	comp=E,20nm,1.2s						
O20A	**White River Ci**	**4.48**	**211**	Pn	**Pn**	**16 04 50.1**	**0.0**
DGMT	**Dagmar**	**4.52**	**9**	Pn	**Pn**	**16 04 52.8**	**+2.4**
RDMU	**Red Mountain**	**4.72**	**225**	Pn	**Pn**	**16 04 54.3**	**+0.9**
RDMU				IAML		16 06 10.7	
	comp=E,18nm,1.0s						
RDMU				IAML		16 06 14.5	
	comp=N,17nm,0.7s						
BOZ	**Bozeman (W)**	**4.84**	**291**	Pn	**Pn**	**16 04 55.2**	**+0.2**
BOZ		

SANI	Sanana	5.98	320	P	Pn	16 10 08.6	+3.4	
MTN	Manton Dam	6.27	168	Pn	Pn	16 10 10.2	+1.2	
MTN	Manton Dam	6.27	168	P	Pn	16 10 10.2	+1.2	
LBMI	Labuha	6.43	339	P	Pn	16 10 12.5	+1.3	
	0.2nm904nm72nm,0.9s							
KDU	Kakadu	6.52	157	P	Pn	16 10 13.5	+1.1	
BATI	Baumata	7.04	240	P	Pn	16 10 18.4	-1.0	
	62nm,0.5s,baz=89,slow=5.0,SNR=28							
BATI				S	Sn	16 11 34.8	-3.6	
	58nm,0.4s,baz=307,slow=15,SNR=2.8							
BATI	Baumata	7.04	240	P	Pn	16 10 22.1	+2.7	
	0.3nm960nm57nm,0.6s							
BBSI	Bau Bau	7.32	279	P	Pn	16 10 27.9	+4.8	
	0.0nm5.5nm,0.8s							
MMRI	Maumere	7.78	255	Pn	Pn	16 10 33.5	+4.2	
MMRI	Maumere	7.78	255	P	Pn	16 10 34.5	+5.2	
	47nm,1.8s							
TNTI	Ternate	7.79	341	Pn	Pn	16 10 29.4	0.0	
SRPI	Serui, Papua	7.97	54	P	Pn	16 10 33.0	+1.2	
BAKI	Biak	8.29	49	P	Pn	16 10 37.9	+1.8	
EDFI	Ende, Flores	8.33	255	P	Pn	16 10 40.9	+4.2	
	5.1nm,0.7s							
KNRA	Kununurra	9.01	187	Pn	Pn	16 10 45.7	0.0	
KNRA	Kununurra	9.01	187	P	Pn	16 10 45.6	-0.1	
MRSI	Marisa	10.60	312	P	Pn	16 11 10.7	+3.8	
	39nm,0.9s							
FITZ	Fitzroy Crossi	12.07	199	P	Pn	16 11 25.0	-1.1	
	17nm,0.3s,baz=29,slow=9.2,SNR=103							
FITZ				S	Sn	16 13 32.5	-7.1	
	19nm,0.4s,baz=217,slow=14,SNR=6.6							
FITZ	Fitzroy Crossi	12.07	199	Pn	Pn	16 11 25.3	-0.8	
FITZ	Fitzroy Crossi	12.07	199	P	Pn	16 11 25.2	-1.0	
PLAI	Plampang	12.14	259	P	Pn	16 11 28.9	+1.9	
WB0	Warramunga Arr	13.75	162	Pn	Pn	16 11 46.5	-1.3	
WRAB	Tennant Creek	13.90	162	Pn	Pn	16 11 48.3	-1.3	
WRAB	Tennant Creek	13.90	162	P	Pn	16 11 48.9	-0.7	
WRA	Warramunga Arr	13.90	162	P	Pn	16 11 48.3	-1.4	
	4.0nm,0.3s,baz=335,slow=14,SNR=48							
WRA				S	Sn	16 14 13.3	-10	
	20nm,0.7s,baz=334,slow=22,SNR=11							
WRA	Warramunga Arr	13.90	162	Pn	Pn	16 11 47.2	-2.4	
WB2	Warramunga Arr	13.90	162	Pn	Pn	16 11 48.2	-1.5	
WR0	Warramunga Arr	13.98	161	Pn	Pn	16 11 49.5	-1.1	
COEN	Coen	14.98	120	Pn	Pn	16 12 02.1	-1.1	
COEN				IAmb	IAmb	16 12 07.4		
	comp=Z,18nm,0.9s							
COEN	Coen	14.98	120	P	Pn	16 12 04.8	+1.5	
JAGI	Jajag, Banyuwa	15.65	262		Pn	16 12 11.3	-0.2	
JAGI	Jajag, Banyuwa	15.65	262	P	P	16 12 12.0	-0.5	
QIS	Mount Isa	16.74	146	P	Pn	16 12 25.7	+0.9	
AS31	Alice Springs	17.35	167	P	Pn	16 12 32.9	+0.8	
AS31				IAmb	IAmb	16 12 49.6		
	comp=Z,4.0nm,0.3s							
ASAR	Alice Springs	17.35	167	P	Pn	16 12 32.8	+0.6	
	comp=Z,1.7nm,0.4s,baz=347,slow=11,SNR=88							
ASAR				S	S	16 15 35.8	-8.8	
	comp=Z,3.2nm,0.5s,baz=359,slow=28,SNR=7.5							
PMG	Port Moresby	17.37	100	P	P	16 12 31.5	0.0	
	comp=Z,12nm,0.8s,baz=356,slow=13,SNR=1.5							
MBWA	Marble Bar	17.41	213	P	Pn	16 12 32.8	0.0	
MBWA				IAmb	IAmb	16 12 52.2		
	comp=Z,11nm,0.8s							
MBWA	Marble Bar	17.41	213	P	Pn	16 12 33.8	+1.0	
PSA00	Pilbara Seismi	17.69	212	P	P	16 12 35.3	+0.3	
PSA00				IAmb	IAmb	16 12 53.8		
	comp=Z,13nm,0.8s							
PSA00	Pilbara Seismi	17.69	212	P	P	16 12 35.5	+0.6	
PSA00				IAmb	IAmb	16 12 54.5		
	comp=Z,4.2nm,0.9s							
PSA00	Pilbara Seismi	17.69	212	P	Pn	16 12 36.0	-0.1	
MTSU	Mount Surprise	18.14	130	P	P	16 12 41.8	+1.8	
WRKA	Warakurna	18.32	184	P	Pn	16 12 43.8	+0.1	
SBUM	Sibu	19.78	297	P	Pn	16 13 00.1	-0.7	
SBUM				IAmb	IAmb	16 13 01.5		
	comp=Z,5.9nm,0.8s							
CTA	Charters Tower	20.78	132	P	P	16 13 09.1	+0.6	
	comp=Z,5.1nm,0.7s,baz=306,slow=9.7,SNR=7.3							
	comp=Z,5.1nm,0.7s							
CTAO	Charters Tower	20.78	132	P	P	16 13 11.0	+2.5	
CTAO	Charters Tower	20.78	132	P	P	16 13 10.3	+1.8	
OOD	Oodnadatta	21.73	166	P	P	16 13 19.3	+0.8	
LEM	Lembang	22.06	268	P	P	16 13 22.8	+0.5	
	comp=Z,13nm,0.5s,baz=357,slow=16,SNR=4.0							
	comp=Z,13nm,0.5s							
KRVT	Keravat (AS076	22.21	85	LR	LR	16 23 05.3		
	comp=Z,45nm,18.4s,baz=231,slow=39							
INKA	Innaminka	23.38	155	P	P	16 13 36.7	+2.4	
MULG	Mulgathing	23.82	171	P	P	16 13 40.5	+2.1	
FORT	Forrest	24.04	184	P	P	16 13 43.3	+2.9	
QLP	Quilpie	24.09	147	P	P	16 13 42.3	+1.4	
LCRK	Leigh Creek	24.93	163	P	P	16 13 50.5	+2.0	
BBOO	Buckleboo	26.65	168	P	P	16 14 05.6	+1.7	
STKA	Stephens Creek	27.38	158	P	P	16 14 10.8	+0.4	
	comp=Z,1.5nm,0.4s,baz=328,slow=8.3,SNR=7.4							
	comp=Z,1.5nm,0.4s							
STKA	Stephens Creek	27.38	158	P	P	16 14 11.0	+0.5	
CMSA	Cobar Meteorol	28.84	151	P	P	16 14 24.7	+1.2	
ARPS	Mount Arapiles	31.91	162	P	P	16 14 51.5	+1.1	
	comp=Z,11nm,0.5s							
CAN	Canberra	33.52	151	P	P	16 15 06.1	+1.5	
CAN	Canberra	33.52	151	P	P	16 15 06.6	+2.0	
PZH	PanZhiHua	42.77	322	P	P	16 16 24.2	+2.0	
PZH				pmax	pmax			
	comp=Z,20nm,0.9s							
PZH				pmax	pmax			
	comp=Z,50nm,3.6s							
MJAR	Matsushiro Arr	43.69	10	P	P	16 16 27.2	-2.0	
	comp=Z,1.7nm,0.7s,baz=181,slow=9.8,SNR=5.5							
	comp=Z,1.7nm,0.7s							
KSRS	Korea Array	43.93	358	P	P	16 16 29.7	-1.4	
	comp=Z,0.3nm,0.5s,baz=176,slow=9.0,SNR=2.3							
	comp=Z,0.3nm,0.5s							
HHC	Hu-ho-hao-te	50.18	342	*e*P	P	16 17 21.1	+1.4	
HHC				pmax	pmax			
	comp=Z,29nm,0.8s							
HHC				pmax	pmax			
	comp=Z,120nm,4.7s							
USRK	Ussuriysk Ar.	50.67	2	P	P	16 17 21.8	-1.3	
	comp=Z,1.7nm,0.5s,baz=180,slow=7.0,SNR=8.4							
	comp=Z,1.7nm,0.5s							
WMQ	Urumqi	63.03	327	*e*P	P	16 18 51.1	+0.7	
PETK	Petropavlovsk-	64.06	18	P	P	16 18 56.3	-0.6	
	comp=Z,2.8nm,0.8s,baz=185,slow=4.3,SNR=5.4							
	comp=Z,2.8nm,0.8s							
MKAR	Makanchi Array	67.86	327	P	P	16 19 21.1	-0.2	
	comp=Z,2.4nm,0.4s,baz=114,slow=8.3,SNR=53							
	comp=Z,2.4nm,0.4s							
MKAR	Makanchi Array	67.86	327	P	P	16 19 21.4	+0.1	
MAKZ	Makanchi	68.04	327	P	P	16 19 22.9	+0.4	
MAKZ				IAmb	IAmb	16 19 23.1		
	comp=Z,2.6nm,0.4s							
ZALV	Zalesovo Beam	71.22	334	P	P	16 19 40.4	-1.3	
	comp=Z,0.4nm,0.3s,baz=123,slow=5.3,SNR=1.9							
	comp=Z,0.4nm,0.3s							
KURK	Kurchatov	72.15	329	P	P	16 19 46.8	-0.6	
TIXI	Tiksi	78.16	360	P	P	16 20 20.7	-0.6	
TIXI				IAmb	IAmb	16 20 22.2		
	comp=Z,4.5nm,0.9s							
ABKAR	Akbulak array	82.15	322	P	P	16 20 41.9	-1.3	
QSPA	South Pole Qui	83.31	180	P	P	16 20 48.8	-0.2	
QSPA				IAmb	IAmb	16 20 56.0		
	comp=Z,7.5nm,1.4s							
ILAR	Eielson Array	93.12	25	P	P	16 21 33.4	-2.4	
	comp=Z,0.3nm,0.6s,baz=242,slow=3.8,SNR=2.4							
	comp=Z,0.3nm,0.6s							

WEL ***07*** *16:28:02.8±0.6,34°S±8°×18°0W±1°9,h33km,M4.3/12, mB4.8/5,ML4.6/13,MLv4.5/12,Mw(mB)4.1/5,Error ellipse: s-maj=0.0km s-min=0.0km az=111.9*

ISC 07 16:28:03.3±1.1,33.66S±0.10×179.7W±0.2,h35km,n20, σ1$16/32,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	Matakaoa Point	4.22	202	P		Pn	16 29 05.5	+0.4
WMGZ	Waiomatatini S	4.43	200	P		Pn	16 29 08.0	+0.1
WMGZ				S		Sn	16 30 00.5	+2.3
HAZ	Te Kaha	4.58	206	P		Pn	16 29 08.7	-1.3
HAZ				S		Sn	16 30 00.4	-1.5
PKGZ	Pakihiroa	4.59	203	P		Pn	16 29 09.7	-0.6
PKGZ				S		Sn	16 30 02.0	-0.5
GLKZ	Green Lake	4.64	20	P		Pn	16 29 10.8	-0.1
GLKZ				S		Sn	16 30 02.4	-1.0
PUZ	Puketiti	4.71	200	S		Sn	16 30 05.1	-0.1
RUGZ	Raukumara Rang	4.80	206	P		Pn	16 29 13.7	+0.5
RUGZ				S		Sn	16 30 07.1	-0.5
KUZ	Kuaotunu	4.85	229	P		Pn	16 29 15.7	+1.9
TWGZ	Tauwhareparae	4.89	202	P		Pn	16 29 15.0	+0.7
TWGZ				S		Sn	16 30 11.3	+1.6
TKGZ	Te Karaka	5.17	202	P		Pn	16 29 18.3	+0.2
TKGZ				S		Sn	16 30 16.9	+0.4
OPRZ	Ohinepanea	5.17	215	P		Pn	16 29 18.9	+0.8
URZ	Urewera	5.27	208	P		Pn	16 29 18.7	-0.8
URZ				S		Sn	16 30 16.0	-3.0
MUGZ	Murupara	5.59	210	P		Pn	16 29 23.4	-0.6
MUGZ				S		Sn	16 30 25.2	-1.9
TOZ	Tahuroa Road	5.64	222	P		Pn	16 29 24.3	-0.2
SNGZ	Shannon Statio	5.65	204	P		Pn	16 29 25.3	+0.6
SNGZ				S		Sn	16 30 27.4	-1.0
RAHZ	Arahi	5.86	205	P		Pn	16 29 28.2	+0.6
MTHZ	Maungataniwha	5.89	207	P		Pn	16 29 27.1	-0.9
MTHZ				S		Sn	16 30 35.1	+0.8
BKZ	Black Stump Fm	6.30	208	P		Pn	16 29 32.1	-1.5
BKZ				S		Sn	16 30 43.6	-0.8
VNA3	Neumayer Olymp	75.15	177	P		P	16 39 41.9	+0.4
VNA2	Neumayer--Watz	75.57	177	P		P	16 39 44.7	+0.8
	baz=175,slow=6.0							

NEIC ***07*** *16:31:34.5±0.8,10.84S±0.09×164.20E±0.07,h10km±1km, mb4.5/10,Error ellipse: s-maj=16.9km s-min=7.9km az=148.0*

IDC ***07*** *16:31:38.1±3.5,11.06S×164.29E,h50km±31km,mb3.4/4, mbtmp3.8/6,ML3.9/2,MS3.0/1,Error ellipse: s-maj=29.3km s-min=18.8km az=52.0*

ISC 07 16:31:36.9±1.0,11.04S±0.09×164.2E±0.1,h29km,n30, σ1$59/26,mb4.4/10,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	Honiara	4.47	291	P		Pn	16 32 44.1	+1.4
	744nm,0.4s,baz=182,slow=10,SNR=5.4							
HNR				S		Sn	16 33 37.8	+4.0
	630nm,0.4s,baz=164,slow=19,SNR=1.6							
HNR	Honiara	4.47	291	Pn		Pn	16 32 41.0	-1.7
KOUNC	Koumac, New Ca	9.46	179	Pn		Pn	16 33 53.0	+1.7
DZM	Mont Dzumac	11.19	169	P		Pn	16 34 14.8	-0.2
	1.1nm,0.3s,baz=320,slow=7.1,SNR=17							
DZM				S		Sn	16 36 18.8	-0.3
	5.8nm,0.9s,baz=108,slow=20,SNR=1.2							
	6.6nm,0.9s							
ONTNC	Ouen Toro	11.42	169	Pn		Pn	16 34 19.7	+1.6
CTA	Charters Tower	19.46	240	P		Pn	16 36 01.8	-1.0
	0.2nm,0.3s,baz=60,slow=18,SNR=1.9							
	5.2nm,1.0s							
CTAO	Charters Tower	19.46	240	P		Pn	16 36 02.2	-0.6
H11S2	WAKE ISLAND Hy	29.44	5	T		T	17 08 00.7	
	baz=183,slow=76							
H11S3	WAKE ISLAND Hy	29.45	5	T		T	17 08 07.9	
	baz=183,slow=76							
H11S1	WAKE ISLAND Hy	29.46	5	T		T	17 08 05.0	
	baz=183,slow=76							
WR0	Warramunga Arr	29.87	249	P		P	16 37 41.4	-0.8
WR0				IAmb		IAmb	16 38 20.7	
	comp=Z,13nm,1.4s							
WB0	Warramunga Arr	29.97	250	P		P	16 37 43.7	+0.7
WB0				IAmb		IAmb	16 37 56.1	
	comp=Z,9.7nm,1.4s							
WB2	Warramunga Arr	30.04	249	P		P	16 37 42.8	-1.0
WB2				IAmb		IAmb	16 38 16.8	
	comp=Z,7.4nm,1.2s							
WRA	Warramunga Arr	30.05	249	P		P	16 37 43.6	-0.2
	comp=Z,0.4nm,0.5s,baz=79,slow=9.1,SNR=8.4							
WRA				S		S	16 42 36.5	-4.2
	comp=Z,0.6nm,1.1s,baz=74,slow=16,SNR=1.7							
	comp=Z,0.4nm,0.5s							
H11N1	WAKE ISLAND Hy	30.67	5	T		T	17 09 31.9	
	baz=183,slow=76							
H11N3	WAKE ISLAND Hy	30.68	5	T		T	17 09 34.8	
	baz=183,slow=76							
H11N2	WAKE ISLAND Hy	30.69	5	T		T	17 09 35.4	
	baz=183,slow=76							
GUMO	Guam	31.08	321	LR		LR	16 48 59.4	
	comp=Z,31nm,21.6s,baz=150,slow=33							
AS31	Alice Springs	31.43	242	P		P	16 37 56.3	+0.3
ASAR	Alice Springs	31.44	242	P		P	16 37 55.5	-0.5
	comp=Z,0.3nm,0.7s,baz=64,slow=10.0,SNR=7.6							
	comp=Z,0.3nm,0.7s							
KNRA	Kununurra	34.75	258	P		P	16 38 24.9	-0.1
FITZ	Fitzroy Crossi	37.91	255	P		P	16 38 51.8	-0.1
QSPA	South Pole Qui	78.97	180	P		P	16 43 40.0	+2.1
QSPA				IAmb		IAmb	16 44 02.2	
	comp=Z,8.5nm,1.5s							
M19K	Big River Lodg	79.57	19	P		P	16 43 41.9	+1.0
IMAR	Indian Mountai	82.83	16	P		P	16 43 57.3	-0.8
H21K	Melozitna Rive	82.85	17	P		P	16 43 58.5	+0.3
H21K				IAmb		IAmb	16 44 24.4	
	comp=Z,4.3nm,1.4s							
ILAR	Eielson Array	83.99	19	P		P	16 44 03.0	-1.2
	comp=Z,1.1nm,0.7s,baz=230,slow=5.9,SNR=12							
	comp=Z,1.1nm,0.7s							
J25K	Salcha River,	84.38	20	P		P	16 44 05.5	-0.6
J25K				IAmb		IAmb	16 44 06.1	
	comp=Z,2.5nm,0.8s							
BCAR	Beaver Creek A	84.65	22	P		P	16 44 06.8	-0.7
MKAR	Makanchi Array	92.47	317	P		P	16 44 43.7	-1.6
	comp=Z,0.2nm,0.5s,baz=110,slow=5.0,SNR=2.4							
	comp=Z,0.2nm,0.5s							

BUL ***07*** *16:34:42.4±1.4,20.88S×28.95E,h44km±74km,MD2.8*
EAF ***07*** *16:34:44.2±0.9,20.72S×29.08E,h0km±28km,MD2.4*

PRE 07 16:34:50.0±1.5,20.21S×28.77E,h5km,ML2.0,3D, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLWY	Bulawayo	0.17	296	*i*P		Pg	16 34 56.4	+3.0
BLWY				*e*S		Sg	16 34 59.8	+4.1
BLWY				IAML			16 35 00.8	
	comp=Z,965nm,0.3s							
BLWY	Bulawayo	0.17	296	*i* Pg		Pg	16 34 57.1	+3.6
BLWY	Bulawayo	0.17	296	*i* Pg		Pg	16 34 57.1	+3.6
MATP	Matopo	0.33	231	⇓*i*P		Pb	16 34 57.6	-0.9
MATP				*e*S		Sg	16 35 01.2	+0.3
MATP				IAML			16 35 02.9	
	comp=Z,668nm,0.5s							
MATP	Matopo	0.33	231	*i* Pg		Pg	16 34 55.6	-0.9
MATP				*i* Sg		Sb	16 35 03.0	-1.3
MATP	Matopo	0.33	231	*i* Pg		Pg	16 34 55.6	-0.9
MATP				*i* Sg		Sb	16 35 03.0	-1.3
MUSN	Musina, Limpop	2.30	154	⇓*i*P		Pn	16 35 29.6	+1.0
MUSN				*e*S		Sn	16 35 57.8	+0.4
MUSN				IAML			16 36 02.1	
	comp=Z,5.4nm,0.2s							
LEPH	Lephalale, Lim	3.74	194	*e*P		Pn	16 35 49.9	+1.4
LEPH				*e*S		Sn	16 36 31.7	-1.3
LEPH				IAML			16 36 47.4	
	comp=Z,2.0nm,0.5s							
MOPA	Mopani	4.09	144	*e*P		Pn	16 35 54.4	+1.1
MOPA				*e*S		Sn	16 36 39.8	-1.8
MOPA				IAML			16 36 56.8	
	comp=Z,2.1nm,0.3s							

IDC ***07*** *16:37:54.0±1.5,2.65N×66.40E,h0km,mb3.6/6, mbtmp3.6/6,MS3.5/8,Error ellipse: s-maj=49.4km s-min=31.2km az=54.0*

ISC 07 16:37:56.7±1.6,2.6N±0.3×66.3E±0.3,h20km,n19,σ0$85/7, mb3.7/6,MS3.4/8,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALK	Pallekele	15.06	72	LR		LR	16 46 02.7	
	comp=Z,135nm,18.9s,baz=3.2,slow=33							
BRDH	Bariadhala	31.63	49	LR		LR	16 56 02.8	
	comp=Z,11nm,21.9s,baz=268,slow=34							
CMAR	Chiang Mai Arr	35.62	62	LR		LR	16 59 01.1	
	comp=Z,35nm,18.7s,baz=215,slow=36							
MBAR	Mbarara	35.70	265	LR		LR	16 58 52.8	
	comp=Z,54nm,18.7s,baz=32,slow=35							
LSZ	Lusaka	41.71	244	LR		LR	17 01 51.5	
	comp=Z,66nm,18.5s,baz=133,slow=34							
MKAR	Makanchi Array	46.13	15	P		P	16 46 18.6	-1.2
	0.4nm,0.9s,baz=181,slow=9.1,SNR=2.5							
	0.4nm,0.9s							
LBTB	Lobatse	48.10	233	LR		LR	17 04 21.3	
	comp=Z,38nm,19.6s,baz=38,slow=33							
BOSA	Boshof	50.16	229	LR		LR	17 05 20.5	
	comp=Z,41nm,19.9s,baz=18,slow=33							
TSUM	Tsumeb	52.57	243	LR		LR	17 07 15.0	
	comp=Z,59nm,20.2s,baz=72,slow=33							
ZALV	Zalesovo Beam	53.36	14	P		P	16 47 14.2	-0.4
	1.1nm,0.6s,baz=214,slow=7.7,SNR=5.6							
	1.1nm,0.6s							
SUR	Sutherland	55.38	227	LR		LR	17 07 45.3	
	comp=Z,75nm,20.6s,baz=82,slow=32							
SONM	Songino Array	56.73	31	P		P	16 47 40.2	+1.0
	0.8nm,1.0s,baz=208,slow=4.9,SNR=5.5							
	0.8nm,1.0s							
H01W3	Cape Leeuwin H	58.31	134	T		T	17 50 39.5	
	baz=300,slow=75							
H01W2	Cape Leeuwin H	58.31	134	T		T	17 50 39.6	
	baz=300,slow=75							
H01W1	Cape Leeuwin H	58.32	134	T		T	17 50 39.2	
	baz=300,slow=75							
WRA	Warramunga Arr	70.36	112	P		P	16 49 09.8	+0.1
	0.5nm,0.7s,baz=291,slow=5.7,SNR=3.0							
	0.5nm,0.7s							
ASAR	Alice Springs	70.68	116	P		P	16 49 11.2	-0.5
	0.5nm,0.9s,baz=280,slow=6.3,SNR=2.9							
	0.5nm,0.9s							
ESDC	Sonseca Array	73.19	311	P		P	16 49 26.4	0.0
	0.2nm,0.5s,baz=98,slow=6.6,SNR=3.3							
	0.2nm,0.5s							
TXAR	Lajitas Array	146.79	344	PKPbc		PKPab	16 57 39.9	+0.4
	0.9nm,0.7s,baz=48,slow=2.8,SNR=15							

IDC ***07*** *16:57:42.3±0.5,41.87N×46.48E,h0km,mb4.0/24, mbtmp4.0/33,ML3.6/10,MS3.5/32,Error ellipse: s-maj=9.1km s-min=7.0km az=158.0*
NORS ***07*** *16:57:42.6±0.0,41.71N×46.60E,h5km,MPVA4.7*
MOS ***07*** *16:57:44.1±0.0,41.86N×46.67E,h6km,MPVA4.9*
NSSP ***07*** *16:57:44.1,41.80N×46.60E,h20km,Ms4.6*
TIF ***07*** *16:57:44.6,41.82N×46.61E,h16km*
AZER ***07*** *16:57:44.9±0.1,41.66N×46.41E,h3km,Error ellipse: s-maj=1.5km s-min=0.4km az=350.0*
NNC ***07*** *16:57:46.2±1.2,41.86N×47.06E,h0km,mb4.4,Error ellipse: s-maj=16.2km s-min=10.6km az=112.0*
DRS ***07*** *16:57:46.3±0.0,41.81N×46.56E,h16km*
NEIC ***07*** *16:57:49.8±2.0,41.97N±0.06×46.66E±0.08,h52km±6km, mb4.4/66,Error ellipse: s-maj=8.8km s-min=8.7km az=161.0*

ISC 07 16:57:45.1±0.8,41.85N±0.01×46.62E±0.01,h17km±5km, n449,σ2$10/567,mb4.3/71,MS3.5/29,36C-33D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZKTA	Zakatala	0.21	180	P		Pg	16 57 50.4	+0.2
ZKTA				S		Sg	16 57 54.1	+0.6
LGD	Lagodekhi	0.28	267	P		Pb	16 57 51.3	-0.4
LGD				S		Sg	16 57 55.2	-0.4
LGD	Lagodekhi	0.28	267	PG		Pb	16 57 51.3	-0.4
KMKR	Kumukh	0.45	51	*e*PG		Pb	16 57 55.1	+0.4
KMKR				*e*S		Sb	16 58 02.1	+0.8
KMKR				pmax	pmax			
	comp=Z,4μm,0.3s							
KMKR				smax	smax			
	comp=N,53μm,0.7s							
KMKR	Kumukh	0.45	51	*e*Pg		Pb	16 57 55.2	+0.4
KMKR				*e*Sg		Sb	16 58 02.2	+0.8
DDFL	Dedoflistskaro	0.55	223	P		Pn	16 57 58.4	+0.2
DDFL				S		Sn	16 58 10.9	+3.9
DDFL	Dedoflistskaro	0.55	223	PG		Pn	16 57 58.4	+0.2
DDFL				S		Sn	16 58 10.9	+3.9
GNBR	Gunib	0.60	25	*e*PG		Pn	16 57 57.8	-1.1
GNBR				*i* S		Sn	16 58 07.0	-1.1
GNBR				pmax	pmax			
	comp=Z,2μm,0.4s							
GNBR				smax	smax			
	comp=E,14μm,0.8s							
GNBR	Gunib	0.60	25	*i* Pg		Pn	16 57 57.7	-1.1
GNBR				*i* Sg		Sb	16 58 06.5	+1.3
XNZR	Khunzakh	0.69	5	*i* PG		Pn	16 57 59.6	-0.7
XNZR				*e*S		Sb	16 58 09.4	+1.2
XNZR	Khunzakh	0.69	5	*i* Pg		Pn	16 57 59.6	-0.7
XNZR				*e*Sg		Sb	16 58 09.4	+1.2
SEKA	Sheki	0.77	146	Pg		Pb	16 58 00.2	+0.1
SEKA				Sg		Sn	16 58 12.7	+0.3
ARKR	Arakani	0.80	20	*e*PG		Pn	16 58 01.5	-0.2
ARKR				*e*S		Sn	16 58 12.6	-0.6
ARKR	Arakani	0.80	20	*e*Pg		Pn	16 58 01.5	-0.2
ARKR				*e*Sg		Sn	16 58 12.7	-0.6
URKR	Urkarakh	0.82	67	*e*PG		Pn	16 58 01.8	-0.1
URKR				*e*S		Sn	16 58 13.5	-0.2
URKR				pmax	pmax			
	comp=Z,1μm,0.5s							
URKR				smax	smax			
	comp=N,7μm,0.2s							
URKR				smax	smax			
	comp=E,4μm,0.3s							
URKR				smax	smax			
	comp=N,6μm,0.6s							
URKR	Urkarakh	0.82	67	*e*Pg		Pn	16 58 01.9	-0.1
URKR				*e*Sg		Sn	16 58 13.5	-0.2
UNCR	Uncukul	0.87	8	*e*PG		Pn	16 58 02.8	+0.2
UNCR				*e*S		Sn	16 58 15.7	+0.7

GANJ Ganja 1.22 191 PG Pg 16 58 07.4 -1.3
GANJ Ganja 1.22 191 P Pg 16 58 07.4 -1.3
GANJ S Sg 16 58 24.0 -0.7
QZX Qazax, Azerbai 1.23 230 P Pn 16 58 07.3 -0.1
QZX S Sb 16 58 24.8 +1.4
QSAR Qusar 1.27 105 Pg Pn 16 58 09.9 +1.8
QSAR Sn Sn 16 58 33.4 +8.6
MAK Makhachkala 1.29 30⇑ *i*PG Pg 16 58 10.7 +0.7
MAK *e* 16 58 30.1
MAK pmax pmax
comp=Z,3μm,0.5s
MAK smax smax
comp=N,11μm,0.6s
MAK Makhachkala 1.29 30 *e*Pg Pg 16 58 10.8 +0.8
MAK *e*Sg Sn 16 58 29.8 +4.7
GDB GEDABAY 1.30 210 P Pn 16 58 08.1 -0.5
GDB S Sb 16 58 25.7 0.0
XNQ Khinaliq 1.33 120 Pg Pg 16 58 10.1 -0.6
XNQ Sn Sn 16 58 34.5 +8.1
SEAG Tbilisi Sea 1.36 267 P Pn 16 58 10.2 +0.9
SEAG S Sg 16 58 29.4 +0.3
SEAG Tbilisi Sea 1.36 267 PG Pn 16 58 10.2 +0.9
SEAG S Sg 16 58 29.4 +0.3
BTNK Botanikuri 1.37 264 P Pn 16 58 01.8 -7.7
BTNK S Sb 16 58 21.4 -6.1
GROC Groznyy 1.48 336 *e*PG Pg 16 58 14.3 +0.6
GROC *e* 16 58 34.9
GROC pmax pmax
comp=Z,2μm,0.5s
GROC smax smax
comp=N,5μm,0.8s
GROC smax smax
comp=N,4μm,0.6s
GROC smax smax
comp=E,2μm,1.0s
GROC Groznyy 1.48 336 *e*Pg Pg 16 58 14.5 +0.8
GROC *e*Sg Sg 16 58 35.9 +2.9
QUBA Quba, Azerbaij 1.49 109 Pg Pg 16 58 13.9 +0.2
QUBA Sn Sg 16 58 39.3 +6.2
KANR Karaman 1.49 25 *e*PG Pg 16 58 13.3 -0.5
KANR *i*S Sg 16 58 35.5 +2.3
KANR pmax pmax
comp=Z,4μm,0.4s
KANR smax smax
comp=E,16μm,0.6s
KANR Karaman 1.49 25 *e*Pg Pg 16 58 13.4 -0.5
KANR *e*Sg Sg 16 58 34.8 +1.6
IML Ismayilli 1.58 131 Pg Pg 16 58 14.1 -1.3
IML Sn Sg 16 58 39.2 +3.1
BRDA Brd 1.64 165 Pn Pg 16 58 15.6 -1.0
BRDA Sn Sg 16 58 40.2 +2.2
PNSH Pansheti 1.68 298 P Pb 16 58 15.3 -0.4
PNSH Pansheti 1.68 298 PN Pb 16 58 15.3 -0.4
GUDG Gudauri 1.71 292 Pb 16 58 16.1 +0.1
GUDG Gudauri 1.71 292 P Pb 16 58 16.4 +0.2
GUDG S Sg 16 58 39.3 -0.9
GUDG Gudauri 1.71 292 PN Pb 16 58 16.4 +0.2
KZRT Kazreti 1.73 255 P Pn 16 58 14.5 +0.1
KZRT S Sn 16 58 37.7 +1.6
KZRT Kazreti 1.73 255 PN Pn 16 58 14.5 +0.1
ZRD Zardab 1.76 153 Pn Pb 16 58 17.0 +0.1
ZRD Sn Sg 16 58 42.5 +0.6
KMGR Komgaron 1.77 313 *e*PN Pg 16 58 19.3 +0.1
KMGR *e*S Sg 16 58 45.9 +3.6
KMGR Komgaron 1.77 313 *e*Pg Pg 16 58 19.0 -0.1
KMGR *e*Sg Sg 16 58 45.0 +2.8
AGDM Agdam 1.78 168 Pn Pb 16 58 16.8 -0.4
AGDM Sn Sg 16 58 42.5 +0.1
PQL Pirkuli 1.82 125 Pn Pg 16 58 19.2 -1.0
PQL Sn Sg 16 58 48.0 +4.1
VLKR Vladikavkaz 1.87 310 *e*PN Pg 16 58 21.0 0.0
VLKR *e*S Sg 16 58 47.6 +2.2
VLKR Vladikavkaz 1.87 310 *e*Pg Pg 16 58 21.1 0.0
VLKR *e*Sg Sg 16 58 48.1 +2.7
STEZ Stepenevan 1.87 244 *e*P Pn 16 58 18.0 +1.5
STEZ ⇑S Sn 16 58 42.3 +2.5
SIZA Siyzn 1.88 114 Pn Pg 16 58 21.4 +0.2
SIZA Sn Sg 16 58 50.6 +5.1
KDMR Kurdemir 1.89 141 Pn Pg 16 58 19.4 -1.9
KDMR Sn Sg 16 58 46.7 +0.9
LACR Lac 1.98 300 *e*PN Pb 16 58 21.0 +0.3
LACR pmax pmax
comp=Z,517nm,0.4s
LACR Lac 1.98 300 *e*Pg Pb 16 58 21.5 +0.8
LACR *e*Sg Sg 16 58 49.5 +0.6
ATGJ Altiaghaj 2.00 119 Pn Pg 16 58 23.4 -0.2
ATGJ Sn Sg 16 58 51.7 +2.1
BRNG Burnasheti 2.10 265 P Pn 16 58 21.0 +1.3
BRNG S Sb 16 58 49.3 +0.6
BTKR Batakoyurt 2.16 315 *i* PN Pb 16 58 24.7 +0.9
BTKR pmax pmax
comp=Z,305nm,0.5s
BTKR Batakoyurt 2.16 315 *i* Pg Pb 16 58 24.5 +0.7
BTKR *e*Sg Sg 16 58 54.8 +0.1
ARNR Ardon 2.18 308 *e*PN Pb 16 58 24.6 +0.5
ARNR *e*S Sg 16 58 54.9 -0.3
ARNR Ardon 2.18 308 *e*Pg Pb 16 58 24.2 +0.1
ARNR *e*Sg Sg 16 58 54.5 -0.8
GBS Qobustan 2.19 126 Pn Pg 16 58 27.6 +0.5
GBS Sn Sg 16 58 56.4 +0.9
GNI Garni 2.22 221 Pn Pn 16 58 22.9 +1.8
comp=Z,874nm,0.3s,baz=356,slow=2.6,SNR=10
GNI Sn Sb 16 58 52.8 +0.8
comp=Z,337nm,0.3s,baz=12,slow=18,SNR=7.9
GNI LR LR 16 59 30.3
comp=Z,1μm,18.8s,baz=62,slow=50
GNI Garni 2.22 221 *i* P Pn 16 58 22.9 +1.8
GNI Garni 2.22 221 ⇓*i*P Pn 16 58 22.9 +1.8
GNI ⇓*i*S Sb 16 58 52.9 +1.0
GNI Garni 2.22 221 Pn Pb 16 58 23.6 -1.2
GNI Garni 2.22 221 *de*PN Pn 16 58 22.8 +1.6
GNI pmax pmax
comp=Z,2μm,0.5s
ZEI Tsey 2.23 296 *e*PN Pb 16 58 24.9 0.0
ZEI *e*S Sg 16 58 55.1 -1.6
ZEI Tsey 2.23 296 *e*Pn Pb 16 58 24.9 0.0
ZEI *e*Sn Sg 16 58 55.1 -1.6
ALIG Mtskhetisjvari 2.23 278 P Pn 16 58 23.2 +1.9
ALIG S Sb 16 58 52.0 -0.3
BLQ Beylaqan 2.24 161 Pn Pn 16 58 22.9 +1.5
BLQ Sn Sb 16 58 53.4 +0.9
KORR Kora 2.26 304 *e*PN Pb 16 58 24.9 -0.5
KORR *e*S Sg 16 58 55.8 -1.9
KORR Kora 2.26 304 *e*Pn Pb 16 58 24.9 -0.5
KORR *e*Sn Sg 16 58 55.9 -1.9
BKRG Bakuriani 2.32 269 P Pn 16 58 24.2 +1.6
BKRG Bakuriani 2.32 269 PN Pn 16 58 24.2 +1.6
TRKR Terskaya 2.33 324 *e*PN Pb 16 58 26.8 +0.2
TRKR pmax pmax
comp=Z,863nm,0.9s
TRKR Terskaya 2.33 324 *e*Pn Pb 16 58 26.7 0.0
TRKR *e*Sn Sg 16 58 58.1 -2.0
GRS Goris 2.36 185 ⇓*i*P Pb 16 58 25.5 -1.6
GRS ⇓*i*S Sb 16 58 58.2 +2.3
NRKZ NAREK 2.37 219 ⇓*i*P Pn 16 58 25.7 +2.4
NRKZ ⇓*i*S Sb 16 58 57.8 +1.4
AKH Akhalkalaki 2.39 260 *i* P Pn 16 58 25.8 +2.3
AKH Akhalkalaki 2.39 260 P Pn 16 58 25.3 +1.8
AKH S Sn 16 58 55.5 +3.1
AKH Akhalkalaki 2.39 260 PN Pn 16 58 25.3 +1.8
AKH S Sn 16 58 55.5 +3.1
SAAT Saatly 2.41 145 Pn Pn 16 58 24.9 +1.2
SAAT Sn Sb 16 58 57.3 0.0
STDR Stavd-Durt 2.42 310 *e*PN Pb 16 58 27.5 -0.7
STDR *e*S Sb 16 58 59.7 +1.9
STDR Stavd-Durt 2.42 310 *e*Pn Pb 16 58 27.5 -0.7
STDR *e*Sn Sb 16 58 59.7 +1.9
QRD Qoradiz 2.44 167 Pn Pn 16 58 25.5 +1.3
QRD Sn Sb 16 58 58.2 -0.1
ONI Oni 2.47 289 *i* P Pn 16 58 27.3 +2.8
ONI Oni 2.47 289 P Pn 16 58 27.4 +2.8
ONI Oni 2.47 289 PN Pb 16 58 27.4 -1.6
DIGR Digorskoe uzhe 2.49 296 *e*PN Pb 16 58 28.2 -1.2
DIGR *e*S Sb 16 59 01.2 +1.4
DIGR Digorskoe uzhe 2.49 296 *e*Pn Pb 16 58 28.2 -1.2
DIGR *e*Sn Sb 16 59 01.2 +1.4
LSNR Lesken 2.51 306 *e*PN Pg 16 58 31.9 -1.4
LSNR *e*S Sg 16 59 04.6 -1.2
LSNR Lesken 2.51 306 *e*Pn Pg 16 58 31.9 -1.4
LSNR *e*Sn Sg 16 59 04.6 -1.2
HYR Heyderabad 2.52 213 Pg Pn 16 58 27.7 +2.4
HYR Sg Sn 16 58 56.8 +1.3
AZMN Azmana 2.56 259 P Pn 16 58 25.9 0.0
AZMN S Sn 16 58 59.8 +3.1
PRTR Priterechnaya 2.56 319 *e*PN Pb 16 58 29.8 -0.8
PRTR *e*S Sb 16 59 04.2 +2.4
PRTR Priterechnaya 2.56 319 *e*Pn Pb 16 58 29.8 -0.8
PRTR *e*Sn Sb 16 59 04.2 +2.4
METS Metsamor 2.57 229 ⇓*i*P Pb 16 58 29.6 -1.1
METS ⇓*i*S Sb 16 59 03.6 +1.7
SBZ Shahbuz 2.58 199 Pn Pn 16 58 28.5 +2.4
SBZ Sn Sb 16 59 01.4 -1.0
TASB TASBURUN-IGDIR 2.59 225 *i* P Pn 16 58 27.7 +1.4
ALIB Äli-Bayra 2.61 135 Pg Pb 16 58 31.5 0.0
ALIB Sn Sb 16 59 05.0 +1.8
TKB Tkibuli 2.75 282 P Pn 16 58 30.4 +2.0
TKB S Sb 16 59 07.3 +0.2
TKB Tkibuli 2.75 282 PN Pn 16 58 30.4 +2.0
TKB S Sb 16 59 07.3 +0.2
GOBA Gobu 2.76 121 Pn Pb 16 58 33.1 -0.8
GOBA Sn Sg 16 59 10.8 -3.0
NCK Nalchik 2.77 307 *e*PN Pb 16 58 33.2 -0.9
NCK *e*S Sb 16 59 09.1 +1.3
NCK Nalchik 2.77 307 *e*Pn Pb 16 58 33.2 -0.9
NCK *e*Sn Sb 16 59 09.1 +1.3
NAX Nakhchivan 2.81 198 PN Pb 16 58 32.8 -2.0
NAX Nakhchivan 2.81 198 Pn Pn 16 58 31.8 +2.5
NAX Sn Sn 16 59 05.1 +2.4
NDR Nardaran 2.84 115 Pn Pb 16 58 36.2 +1.0
NDR Sn Sg 16 59 12.9 -3.3
ABS Abastumani 2.85 269 P Pn 16 58 28.2 -1.7
ABS S Sn 16 59 07.7 +3.8
ABS Abastumani 2.85 269 PN Pn 16 58 28.2 -1.7
ABS S Sn 16 59 07.7 +3.8
GLBA Clilabad 2.93 152 Pn Pn 16 58 32.6 +1.7
GLBA Sn Sb 16 59 12.3 -0.1
KARS Kars 2.94 247 *i* P Pb 16 58 35.7 -1.3
KARS Kars 2.94 247 Pn Pb 16 58 35.7 -1.3
KARS Kars 2.94 247 PN Pb 16 58 35.7 -1.3
ORD Ordubad 2.96 190 Pg Pb 16 58 35.9 -1.4
ORD Sn Sb 16 59 11.4 -1.8
GALA Gala 3.03 117 Pn Pb 16 58 38.2 -0.4
GALA Sn Sg 16 59 18.8 -3.6
YRD Yardimli 3.18 157 Pn Pn 16 58 35.8 +1.3
YRD Sn Sn 16 59 14.9 +2.8
NEY Neytrino 3.20 297 *e*PN Pb 16 58 43.1 +1.5
NEY *e*S Sb 16 59 23.1 +2.8
NEY Neytrino 3.20 297 *e*Pn Pb 16 58 43.1 +1.5
NEY *e*Sn Sb 16 59 23.1 +2.8
KBZ Khabaz 3.32 306 Pn Pn 16 58 36.4 +0.2
comp=Z,3.5nm,0.3s,baz=133,slow=5.1,SNR=22
KBZ Sn Sn 16 59 15.2 -0.1
comp=Z,9.1nm,0.3s,baz=124,slow=16,SNR=4.9
KBZ Lg Lg 16 59 25.7
comp=Z,7.6nm,0.3s,baz=251,slow=24,SNR=3.6
KBZ LR LR 17 00 05.4
comp=Z,271nm,18.9s,baz=126,slow=44
comp=Z,3.4nm,0.4s
KBZ Khabaz 3.32 306 *ce*PN Pn 16 58 40.1 +3.9
KBZ MLR MLR
comp=Z,280nm,3.0s
KBZ Khabaz 3.32 306 *e*Pn Pb 16 58 40.4 -3.1
KBZ *e*Sn Sb 16 59 22.1 -1.5
CLDR Caldiran 3.40 218 *i* P Pn 16 58 39.0 +1.5
LRK Lerik 3.46 157 Pn Pn 16 58 39.8 +1.4
LRK Sn Sn 16 59 23.1 +4.1
SENK Senkaya-Erzuru 3.47 250 *i* P Pb 16 58 44.6 -1.6
SHA1 Shidzhatmaz 3.48 304 *e*PN Pn 16 58 41.9 +3.4
SHA1 *e*S Sn 16 59 24.8 +5.4
SHA1 Shidzhatmaz 3.48 304 *e*Pn Pn 16 58 41.9 +3.4
SHA1 *e*Sn Sn 16 59 24.8 +5.4
LKRN Lenkeran, Azer 3.54 152 PN Pn 16 58 41.0 +1.7
LKRN Lenkeran, Azer 3.54 152 Pn Pn 16 58 41.6 +2.3
LKRN Sn Sn 16 59 24.3 +3.6
KVAR Kislovodsk Arr 3.57 307 Pn Pn 16 58 41.1 +1.4
baz=253,slow=19
comp=Z,8.1nm,0.4s
AGRB Hanur-Agry 3.57 232 *i* P Pn 16 58 41.5 +1.6
KIV Kislovodsk 3.58 307 *i* P Pn 16 58 40.9 +1.1
KIV Kislovodsk 3.58 307 Pn Pn 16 58 41.4 +1.6
KIV Kislovodsk 3.58 307 *ce*PN Pn 16 58 42.3 +2.5
KIV pmax pmax
comp=Z,22nm,0.4s
KIV MLR MLR
comp=Z,117nm,2.0s
KIV Kislovodsk 3.58 307 *i* Pn Pn 16 58 43.2 +3.4
ASTR Astara 3.68 152 Pn Pn 16 58 42.9 +1.7
ASTR Sn Sn 16 59 26.9 +2.8
BATM Batumi 3.70 268 P Pb 16 58 49.7 -0.2
BATM S Sb 16 59 38.3 +3.9
BATM Batumi 3.70 268 PN Pb 16 58 49.7 -0.2
BATM S Sb 16 59 38.3 +3.9
DOMR Dombai 3.96 293 *i* PN Pn 16 58 48.7 +3.5
ALER Alexandrovskoy 3.98 318 *e*PN Pn 16 58 49.0 +3.8
ALER *e*S Sn 16 59 36.7 +5.3
ALER Alexandrovskoy 3.98 318 *e*Pn Pn 16 58 49.0 +3.8
ALER *e*Sn Sn 16 59 36.7 +5.3
VANB Van 4.08 218 *i* P Pb 16 58 59.2 +2.6
GOF Gofitskoye 4.13 322 ⇑*i*PN Pn 16 58 49.3 +1.9
GOF *e*S Sn 16 59 41.9 +6.7
GOF pmax pmax
comp=Z,61nm,0.3s
GOF smax smax
comp=N,432nm,0.5s
GOF smax smax
comp=E,855nm,1.3s
GOF Gofitskoye 4.13 322 *e*Pn Pb 16 58 54.4 -2.9
GOF *e*Sn Sb 16 59 43.0 -3.9
NVNR Nevinnomyssk 4.38 311 *i* PN Pb 16 59 04.5 +2.9
NVNR *e*S Sb 16 59 57.0 +2.8
NVNR Nevinnomyssk 4.38 311 *i* Pn Pb 16 59 04.5 +2.9
NVNR *e*Sn Sb 16 59 57.0 +2.8
AHMR Akhmetovskaya 4.70 301 *e*PN Pb 16 59 08.9 +1.9
AHMR Akhmetovskaya 4.70 301 *e*Pn Pb 16 59 08.9 +1.9
AHMR *e*Sn Sb 17 00 03.7 +0.5
VSLR Vesyoloye 5.12 291 *i* PN Pn 16 59 05.4 +4.5
LABN Labinsk 5.13 305 *e*Pn Pg 16 59 23.7 +0.4
LABN *e*Sn Sb 17 00 22.5 +6.8
LZRR Lazarevskoye 5.71 294 *e*P Pn 16 59 13.2 +4.1
LZRR Lazarevskoye 5.71 294 *e*Pn Pn 16 59 13.2 +4.1
GOYR Goytkh 5.82 297 *e*P Pb 16 59 20.2 -5.9
GOYR *e*S Sn 17 00 26.0 +9.1
GOYR Goytkh 5.82 297 *e*Pn Pb 16 59 20.2 -6.0
GOYR *e*Sn Sn 17 00 26.0 +9.1
ERBR Yeremizino-Bor 5.89 313 *e*P Pb 16 59 24.8 -2.4
ERBR *e*S Sb 17 00 31.3 -6.1
ERBR Yeremizino-Bor 5.89 313 *e*Pn Pb 16 59 24.8 -2.4
ERBR *e*Sn Sb 17 00 31.3 -6.1
MARD Mardin 6.39 227 Pn Pn 16 59 22.2 +3.6
GEYT Alibeck 9.66 110 Pn Pn 17 00 03.6 +0.3
comp=E,0.6nm,0.3s,baz=282,slow=17,SNR=6.9
GEYT Sn Sn 17 01 53.2 +1.7
comp=E,1.0nm,0.3s,baz=320,slow=20,SNR=1.6
comp=E,1.9nm,0.4s
GEYT Alibeck 9.66 110 Pn Pn 17 00 04.3 +1.0
GYA0B ALIBECK ARRAY 9.66 110 Pn Pn 17 00 04.3 +1.0
GYA0B ALIBECK ARRAY 9.66 110 ⇓P Pn 17 00 04.5 +1.2
GYA0B ⇓S Sn 17 01 49.0 -2.4
VRH Novokhopyorsk 9.94 342 *e*P Pn 17 00 07.8 +0.8
VRH pmax pmax
comp=Z,10.0nm,0.6s
BRTR Keskin Array B 10.07 262 Pn Pn 17 00 10.2 +1.2
comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=1.9
BELG Belogornoye 10.57 3 Pn Pn 17 00 14.0 -1.6
comp=Z,5.6nm,0.3s,baz=316,slow=3.0,SNR=17
BELG Sn Sn 17 02 10.3 -3.2
comp=Z,4.0nm,0.3s,baz=54,slow=11,SNR=4.6
BELG LR LR 17 05 30.3
comp=Z,201nm,21.2s,baz=147,slow=44
BELG Belogornoye 10.57 3 P Pn 17 00 14.0 -1.6
VSR Storozhevoye 10.68 334 *e*P Pn 17 00 17.1 0.0
VSR pmax pmax
comp=Z,10.0nm,1.2s
VORR Voronezh 11.06 335 *e*P Pn 17 00 21.5 -0.8
VORR pmax pmax
comp=Z,50nm,0.5s
AKTO Aktyubinsk 11.66 39 Pn Pn 17 00 29.6 -0.9
comp=Z,1.6nm,0.3s,baz=220,slow=11,SNR=24
AKTO Sn Sn 17 02 38.0 -2.2
comp=Z,1.0nm,0.3s,baz=75,slow=19,SNR=2.4
comp=Z,4.5nm,0.4s
AKTO Aktyubinsk 11.66 39 ⇑P Pn 17 00 29.6 -0.9
comp=Z,20nm,0.8s
AKTO ⇓S Sn 17 02 40.4 +0.2
comp=Z,31nm,1.3s
AB31 Akbulak array 11.91 47 *e*P Pn 17 00 33.1 -0.8
AB31 S Sn 17 02 43.6 -2.6
AB31 Akbulak array 11.91 47 P Pn 17 00 33.1 -0.8
comp=Z,3.7nm,0.5s,baz=228,slow=12,SNR=136
AB31 ⇓S Sn 17 02 43.6 -2.6
comp=Z,18nm,0.7s,baz=251,slow=26,SNR=4.9
ABKAR Akbulak array 11.91 47 Pn Pn 17 00 33.1 -0.8
LPSR Galich'ya Gora 11.95 337 *e*P Pn 17 00 34.9 +0.4
LPSR pmax pmax
comp=Z,20nm,0.8s
MMAI Mount Meron Ar 12.53 229 Pn Pn 17 00 40.6 -2.0
comp=Z,0.8nm,0.6s,baz=133,slow=36,SNR=1.2
MMAI LR LR 17 06 28.4
comp=Z,131nm,18.9s,baz=249,slow=42
TLCR 13.35 290 ⇑P P 17 01 04.9 +1.8
TLCR 13.35 290 ⇑P P 17 01 04.9 +1.8
ELL Elmali 13.90 254 P 17 01 09.8 +0.3
ELL Elmali 13.90 254 P P 17 01 09.8 +0.3
GHRR 14.46 293 ⇑P P 17 01 18.3 +2.8
OBN Obninsk 14.83 337 Pn Pn 17 01 09.3 -4.5
comp=Z,0.5nm,0.3s,baz=117,slow=12,SNR=4.4
OBN Sn Sn 17 03 50.1 -7.4
comp=Z,0.6nm,0.3s,baz=117,slow=4.5,SNR=1.3
comp=Z,3.3nm,0.5s
OBN Obninsk 14.83 337 Pn Pn 17 01 11.2 -2.6
OBN Obninsk 14.83 337 *e*P Pn 17 01 16.4 +2.6
OBN *e*S Sn 17 03 59.4 +1.9
OBN pmax pmax
comp=Z,15nm,0.3s
OBN MLR MLR
comp=Z,241nm,13.0s
VRI Vrincioaia 14.90 292 ⇑P P 17 01 24.4 +4.0
VRI Vrincioaia 14.90 292 ⇑P P 17 01 24.4 +4.0
AKASG Malin Array Be 14.91 312 Pn Pn 17 01 10.1 -4.8
comp=Z,0.2nm,0.3s,baz=117,slow=12,SNR=2.0
AKASG LR LR 17 07 40.9
comp=Z,95nm,18.3s,baz=152,slow=40
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 14.91 312 *e*P P 17 01 18.5 -1.9
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 14.91 312 Pn Pn 17 01 16.2 +1.4
AKBB Malin Array Si 14.91 312 *i* P P 17 01 18.9 -1.5
PLOR Plostina 14.95 292 ⇑P P 17 01 24.5 +3.5
PLOR Plostina 14.95 292 ⇑P P 17 01 24.5 +3.5
TESR Tescani 15.06 295 ⇑P P 17 01 24.7 +2.5
MOS Moscow 15.09 340 *e*P Pn 17 01 13.7 -3.6
MOS *e*S Sn 17 04 02.2 -1.6
MOS pmax pmax
comp=Z,29nm,0.8s
COVR Voineasa-Covas 15.26 292 ⇑P P 17 01 27.9 +3.5
EIL Elat 15.39 222 LR LR 17 08 10.2
comp=Z,154nm,18.7s,baz=88,slow=41
MLR Muntele Rosu 15.39 291 ⇓P P 17 01 30.0 +4.0
MLR Muntele Rosu 15.39 291 Pn P 17 01 27.7 +1.7
comp=Z,0.3nm,0.3s,baz=87,slow=8.8,SNR=8.4
MLR LR LR 17 09 00.9
comp=Z,124nm,20.1s,baz=74,slow=44
MLR Muntele Rosu 15.39 291 P P 17 01 27.9 +1.9
MLR Muntele Rosu 15.39 291 P P 17 01 27.9 +1.9
MLR pmax pmax
comp=Z,13nm,1.0s
DRBR Darabani 15.49 301 ⇑P P 17 01 33.4 +6.5
BIZ Bicaz 15.51 296 ⇓P P 17 01 29.6 +2.5
OZUR 15.58 293 ⇓P P 17 01 30.7 +2.7
DOPR Dopca 15.84 292 ⇓P P 17 01 34.7 +3.9
VOIR 16.01 290 ⇓P P 17 01 35.8 +3.0
VOIR 16.01 290 ⇓P P 17 01 35.8 +3.0
BURAR Bucovina Array 16.25 298 ⇑P P 17 01 37.9 +2.5
BURAR Bucovina Array 16.25 298 Pn Pn 17 01 32.5 +0.1
BUR08 Bucovina Ar. S 16.26 298 Pn Pn 17 01 32.5 -0.1
ARR Arges 16.30 290 ⇑P P 17 01 42.8 +6.8
ARU Arti 16.51 24 Pn Pn 17 01 35.5 -0.2
comp=Z,0.1nm,0.3s,baz=213,slow=5.9,SNR=37
ARU Sn Sn 17 04 30.4 -8.0
baz=180,slow=20,SNR=1.8
ARU Arti 16.51 24 Pn Pn 17 01 34.1 -1.6
ARU Arti 16.51 24 *i* P Pn 17 01 36.0 +0.4
ARU pmax pmax
comp=Z,23nm,0.5s
ARU MLR MLR
comp=Z,56nm,8.0s
KIRV Kirov 16.85 5 Pn Pn 17 01 36.0 -3.9
comp=Z,3.0nm,0.3s,baz=106,slow=23,SNR=9.0
KIRV LR LR 17 09 55.5
comp=Z,305nm,18.1s,baz=210,slow=44
APE Apeiranthos 16.96 261 ⇓P Pn 17 01 40.1 -1.4
APE Apeiranthos 16.96 261 ⇓P Pn 17 01 40.1 -1.4
VTS Vitosha 17.33 280 ⇑P P 17 01 55.5 +8.0
VTS Vitosha 17.33 280 ⇑P P 17 01 55.5 +8.0
CHGR Chuyangaron 17.49 93 Pn Pn 17 01 48.0 -0.1
CHGR IAmb IAmb 17 02 16.2
comp=Z,26nm,0.7s
CHGR Chuyangaron 17.49 93 P Pn 17 01 48.0 -0.1
CHGR pmax pmax
comp=Z,27nm,0.7s
GZR Gura Zlata 17.61 290 ⇓P P 17 02 03.9 +13
GZR Gura Zlata 17.61 290 ⇓P P 17 02 03.9 +13
KK31 Karatay Array 17.66 78 Pn Pn 17 01 49.5 -0.7
KK31 IAmb IAmb 17 02 15.8
comp=Z,12nm,0.7s
KK31 Karatay Array 17.66 78 P Pn 17 01 49.5 -0.7
KK31 pmax pmax
comp=Z,12nm,0.7s
KK31 Karatay Array 17.66 78 P Pn 17 01 49.9 -0.3
comp=Z,13nm,0.9s,baz=285,slow=12,SNR=67
KK31 ⇓S Sn 17 05 02.8 -3.6
comp=Z,8.5nm,0.9s,baz=278,slow=24,SNR=10
KKAR Karatay Array 17.66 78 Pn Pn 17 01 49.3 -0.8
KKAR Karatay Array 17.66 78 P Pn 17 01 49.3 -0.8
BLKB Belogradchik 17.67 284 ⇑P P 17 01 59.1 +7.9
MNK Minsk 17.71 322 *i* P Pn 17 01 48.7 -2.0
MNK *i* S Sn 17 05 10.0 +2.5
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK MLR MLR
comp=Z,77nm,15.0s
MNK MLR MLR
comp=N,50nm,16.0s
MNK Minsk 17.71 322 *i* P Pn 17 01 48.7 -2.0
comp=E,2.0nm,0.8s
MNK *i* P Pn 17 01 48.7 -2.0
comp=N,7.0nm,0.9s
MNK *i* P Pn 17 01 48.7 -2.0
comp=Z,9.0nm,0.7s,baz=189
MNK *i* PP PnPn 17 01 59.8 -1.4
MNK *i* S Sn 17 05 10.0 +2.5
MNK *i* SS SnSn 17 05 25.1 +4.2
MNK *i* LQ LQ 17 07 11.8
MNK *i* LR LR 17 07 58.9
MNK *i* LRM MLR 17 10 01.0
comp=E,15nm,17.8s
MNK *i* LRM MLR 17 10 01.0
comp=Z,77nm,15.3s
MNK *i* LRM MLR 17 10 12.0
comp=N,50nm,16.1s
IDI Anoyia 18.19 256 P Pn 17 01 55.5 -1.3
comp=N,0.2nm,0.3s,baz=48,slow=12,SNR=1.7
IDI S Sn 17 05 04.6 -15
comp=N,3.2nm,0.8s,baz=299,slow=19,SNR=1.8
comp=N,1.5nm,0.5s
GAR Garm 18.25 91 P P 17 01 58.0 +0.3
GAR IAmb IAmb 17 02 09.4
comp=Z,27nm,0.7s
RAYN Ar Rayn 18.30 183 P Pn 17 01 56.7 -1.5
RAYN pmax pmax
comp=Z,16nm,1.4s
BTK Batken 18.35 88 P Pn 17 01 58.0 -0.8
BTK IAmb IAmb 17 02 28.8
comp=Z,11nm,0.7s
BTK Batken 18.35 88 P Pn 17 01 58.0 -0.8
BTK pmax pmax
comp=Z,11nm,0.7s
BOVS Bovan 18.37 284 ⇑P P 17 02 07.8 +9.0
KOLS Kolonicke sedl 18.46 301 *e*P Pn 17 02 04.1 +4.2
KOLS pmax pmax
comp=Z,6.0nm,0.7s
KOLS Kolonicke sedl 18.46 301 *e*P Pn 17 02 04.1 +4.2
NACGM Naroch 18.47 322 ⇑*e*P P 17 01 59.4 -0.3

baz=125
KBL Kabul 19.04 105 P **P** **17 02 06.5 0.0**
KBL IAmb IAmb 17 02 18.0
comp=Z,22nm,1.2s
KBL Kabul 19.04 105 P **P** **17 02 06.5 0.0**
KBL pmax pmax
comp=Z,22nm,1.3s
OTUK Ortayu 19.21 62 P **P** **17 02 08.6 +0.5**
OTUK Ortayu 19.21 62 ⇓P **P** **17 02 08.6 +0.5**
comp=Z,4.0nm,0.6s
DRK Karamyk 19.23 89 P **Pn** **17 02 09.8 +0.2**
DRK IAmb IAmb 17 02 53.1
comp=Z,13nm,0.7s
BRVK Borovoye 19.44 47 P **P** **17 02 10.6 +0.1**
BRVK Borovoye 19.44 47 *ce*P **P** **17 02 11.0 +0.5**
BRVK pmax pmax
comp=Z,47nm,0.8s
BRVK Borovoye 19.44 47 ⇑P **P** **17 02 10.7 +0.3**
comp=Z,30nm,0.7s
BVA0 Borovoye Array 19.48 47 P **P** **17 02 11.7 +0.7**
comp=Z,13nm,0.7s,baz=255,slow=7.8,SNR=66
BVA0 S **Sn** **17 05 50.5 +0.2**
comp=Z,7.8nm,0.8s,baz=246,slow=26,SNR=3.7
BVAR Borovoye Array 19.48 47 P **P** **17 02 11.7 +0.7**
comp=Z,1.5nm,0.3s,baz=248,slow=7.5,SNR=59
BVAR S **Sn** **17 05 45.7 -4.5**
comp=Z,3.4nm,0.8s,baz=240,slow=27,SNR=4.1
BVAR LR LR 17 11 01.8
comp=Z,164nm,19.0s,baz=245,slow=41
comp=Z,8.8nm,0.6s
KLMR Klimovskoe 19.52 350 *e*P **P** **17 02 10.9 -0.3**
KLMR *e* 17 05 55.6
KLMR pmax pmax
comp=Z,16nm,0.7s
KLMR Klimovskoe 19.52 350 *e*Pn **P** **17 02 11.0 -0.3**
KLMR AMP 17 02 16.7
comp=Z,16nm,0.7s
KLMR *e*Sn **S** **17 05 55.7 +4.8**
KLMR *e*Sn **S** **17 05 55.7 +4.8**
DIVS Divibare 19.59 286 **Pn** **17 02 14.4 +0.8**
FRGS Fruska Gora 19.69 289 ⇑P **Pn** **17 02 15.9 +1.1**
PSZ Piszkesteto 19.83 297 ⇓P **Pn** **17 02 22.1 +5.6**
PSZ Piszkesteto 19.83 297 ⇓P **Pn** **17 02 22.1 +5.6**
PDG Podgorica 20.27 281 ⇑P Pn 17 02 25.9 +4.2
PDG Podgorica 20.27 281 P **P** **17 02 20.7 +1.1**
PDG IAmb IAmb 17 02 30.9
comp=Z,26nm,1.2s
LANS Liptovska Anna 20.31 300 *e*P Pn 17 02 24.5 +2.4
LANS Liptovska Anna 20.31 300 *e*P Pn 17 02 24.5 +2.4
OJC Ojcow 20.33 303 *e*P Pn 17 02 24.2 +1.9
OJC Ojcow 20.33 303 P **P** **17 02 20.7 +0.5**
OJC IAmb IAmb 17 02 24.7
comp=Z,14nm,0.7s
OJC Ojcow 20.33 303 P **P** **17 02 20.7 +0.5**
OJC pmax pmax
comp=Z,14nm,0.7s
MORH Mrgy, Hungar 20.53 292 ⇑P Pn 17 02 25.6 +1.0
VYHS Vyhne 20.61 298 *e*P Pn 17 02 26.0 +0.4
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 20.61 298 *e*P Pn 17 02 26.0 +0.4
AAK Ala-Archa 20.62 78 P Pn 17 02 24.9 -0.9
comp=Z,4.9nm,0.7s,baz=242,slow=4.6,SNR=12
AAK LR LR 17 11 01.5
comp=Z,44nm,21.0s,baz=286,slow=39
comp=Z,4.9nm,0.7s
AAK Ala-Archa 20.62 78 P **P** **17 02 23.4 -0.2**
AAK IAmb IAmb 17 02 35.0
comp=Z,14nm,1.0s
AAK Ala-Archa 20.62 78 *ce*P Pn 17 02 25.2 -0.7
AAK pmax pmax
comp=Z,14nm,1.3s
VSU Vasula 20.81 330 *i* P Pn 17 02 28.1 +0.3
VSU pmax pmax
comp=Z,39nm,0.9s
VSU MLR MLR
comp=Z,266nm,14.0s
WSAR Wadi Sarin 21.10 148 P **P** **17 02 29.4 +0.7**
comp=Z,7.8nm,0.8s,baz=3.1,slow=12,SNR=4.5
comp=Z,7.8nm,0.8s
TKM2 Tokmak 2 21.39 77 P **P** **17 02 31.6 -0.3**
TKM2 Tokmak 2 21.39 77 ⇑P **P** **17 02 31.7 -0.3**
comp=Z,12nm,0.8s
MAUC Maruska 21.41 300 *e*P **P** **17 02 36.2 +4.3**
JAVC Velka Javorina 21.43 299 *e*P **P** **17 02 33.0 +0.8**
MODS Modra-Piesok 21.63 298 *e*P **P** **17 02 37.1 +2.9**
MODS pmax pmax
comp=Z,40nm,1.1s
MODS Modra-Piesok 21.63 298 *e*P **P** **17 02 37.1 +2.9**
MORC Moravsky Berou 21.66 301 ⇓P **P** **17 02 35.7 +1.1**
MORC Moravsky Berou 21.66 301 P **P** **17 02 34.3 -0.3**
MORC Moravsky Berou 21.66 301 *e*P **P** **17 02 35.1 +0.5**
MORC Moravsky Berou 21.66 301 ⇓P **P** **17 02 35.7 +1.1**
BOOM Boomskoye usch 21.70 78 P **P** **17 02 35.7 +0.5**
BOOM IAmb IAmb 17 03 03.5
comp=Z,9.0nm,0.8s
BOOM Boomskoye usch 21.70 78 P **P** **17 02 35.7 +0.5**
BOOM pmax pmax
comp=Z,9.0nm,0.8s
ZST Bratislava 21.72 297 *e*P **P** **17 02 38.9 +3.7**
ZST pmax pmax
comp=Z,31nm,1.1s
ZST Bratislava 21.72 297 *e*P **P** **17 02 38.9 +3.7**
NRN Naryn 21.92 81 P **P** **17 02 37.1 -0.6**
NRN Naryn 21.92 81 P **P** **17 02 37.1 -0.6**
NRN pmax pmax
comp=Z,8.0nm,1.0s
VRAC Vranov 22.20 300 P **P** **17 02 38.7 -1.6**
comp=Z,1.1nm,0.3s,baz=76,slow=11,SNR=4.0
VRAC LR LR 17 12 34.5
comp=Z,70nm,18.5s,baz=108,slow=40
comp=Z,1.1nm,0.3s
VRAC Vranov 22.20 300 *e*P **P** **17 02 41.1 +0.8**
KRLC Kraliky 22.20 302 *e*P **P** **17 02 40.9 +0.5**
KRLC Kraliky 22.20 302 *e*P **P** **17 02 40.9 +0.5**
KRUC Moravsky 22.29 299 *e*P **P** **17 02 42.2 +0.9**
KSH Kashi 22.33 86 P **P** **17 02 41.4 -0.6**
KSH pP sP 17 02 56.0 +5.6
KSH pmax pmax
comp=Z,6.0nm,0.9s
DPC Dobruska-Polom 22.54 303 *e*P **P** **17 02 45.0 +1.0**
DPC Dobruska-Polom 22.54 303 *e*P **P** **17 02 45.0 +1.0**
CHVC Chvalec 22.75 303 *e*P **P** **17 02 48.4 +2.2**
FINES FINESS Array B 23.21 335 P **P** **17 02 49.8 -1.0**
comp=Z,2.0nm,0.4s,baz=142,slow=11,SNR=9.8
FINES LR LR 17 13 26.2
comp=Z,74nm,18.4s,baz=98,slow=41
comp=Z,2.0nm,0.4s
KURBB Kurchatov Arra 23.60 57 P **P** **17 02 55.1 +0.4**
comp=Z,1.6nm,0.3s,baz=268,slow=12,SNR=22
KURBB LR LR 17 13 37.8
comp=Z,178nm,19.2s,baz=236,slow=40
comp=Z,1.6nm,0.3s
KURBB Kurchatov Arra 23.60 57 P **P** **17 02 56.5 +1.7**
PRU Pruhonice 23.61 301 *e*P P 17 03 05.9 +11
PRU Pruhonice 23.61 301 *ep*P pP 17 03 05.9 +5.1
CKRC Cesky Krumlov 23.63 298 *e*P **P** **17 02 56.4 +1.2**
KURK Kurchatov 23.67 57 P **P** **17 02 54.7 -0.8**
KURK Kurchatov 23.67 57 *ce*P **P** **17 02 56.4 +0.9**
KURK pmax pmax
comp=Z,22nm,1.0s
KURK MLR MLR
comp=Z,170nm,18.0s
KURK Kurchatov 23.67 57 ⇑P **P** **17 02 56.4 +0.9**
comp=Z,18nm,0.8s
PVCC Panska Ves 23.67 302 *e*P **P** **17 02 57.9 +2.4**
PVCC Panska Ves 23.67 302 *e*P **P** **17 02 57.9 +2.4**
GEC2 GERESS Array S 24.03 298 P **P** **17 02 59.4 +0.3**
GERES GERESS Array B 24.03 298 P **P** **17 02 58.9 -0.2**
comp=Z,2.9nm,0.6s,baz=96,slow=9.5,SNR=24
comp=Z,2.9nm,0.6s
GERES GERESS Array B 24.03 298 P **P** **17 02 59.5 +0.4**
GERES GERESS Array B 24.03 298 *e*P **P** **17 03 00.8 +1.7**
GERES pmax pmax
comp=Z,3.0nm,0.6s
BRG Berggiesshubel 24.12 303 *e*P **P** **17 03 02.3 +2.5**
BRG Amp 17 03 02.9
comp=Z,6.3nm,0.8s
BRG Berggiesshubel 24.12 303 *e*P **P** **17 03 02.2 +2.5**
BRG pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 24.14 299 P **P** **17 02 58.2 -1.8**
KHC Kasperske Hory 24.14 299 P **P** **17 02 58.2 -1.8**
KHC pmax pmax
comp=Z,6.0nm,0.8s

KHC Kasperske Hory 24.14 299 *e*P **P** **17 03 00.6 +0.6**
PDGK Podgornoye 24.16 75 P **P** **17 02 59.9 -0.5**
PDGK Podgornoye 24.16 75 ⇓P **P** **17 02 59.9 -0.5**
comp=Z,6.8nm,0.8s
KBA Koelnbreinsper 24.20 294 *e*P **P** **17 03 01.9 +1.2**
comp=Z,12nm,0.8s
CLUD Cludinico 24.53 292 P **P** **17 03 04.2 +0.7**
CLL Collm 24.78 304 P **P** **17 03 05.7 0.0**
CLL IAmb IAmb 17 03 09.2
comp=Z,11nm,0.7s
CLL Collm 24.78 304 P **P** **17 03 05.7 0.0**
CLL pmax pmax
comp=Z,11nm,0.7s
CLL Collm 24.78 304 *i* P **P** **17 03 06.1 +0.4**
comp=Z,3.0nm,0.7s
CLL *e*Pmax 17 03 08.0
comp=Z,11nm,0.8s
CLL *i* x x 17 03 14.3
CIMO Cimolais 24.84 292 P **P** **17 03 07.7 +1.3**
CIMO IAmb IAmb 17 03 11.2
comp=Z,13nm,1.2s
NKC Novy Kostel 24.98 301 *e*P **P** **17 03 10.2 +2.6**
NKC Novy Kostel 24.98 301 *e*P **P** **17 03 10.2 +2.6**
WTTA Wattenberg 25.37 294 *e*P **P** **17 03 12.2 +0.8**
comp=Z,18nm,1.4s
WATA Walderalm 25.41 294 P **P** **17 03 11.9 +0.3**
comp=Z,7.6nm,0.9s
MAKZ Makanchi 25.63 67 P **P** **17 03 12.5 -1.0**
MAKZ Makanchi 25.63 67 ⇓P **P** **17 03 16.9 +3.4**
MAKZ Makanchi 25.63 67 ⇓P **P** **17 03 15.0 +1.5**
comp=Z,8.8nm,1.3s
SQTA Sankt Quirin 25.66 294 *e*P **P** **17 03 14.6 +0.7**
comp=Z,11nm,1.0s
MOTA Moosalm 25.73 294 *e*P **P** **17 03 17.6 +3.0**
comp=Z,4.7nm,0.8s
MK31 Makanchi Array 25.84 67 P **P** **17 03 16.0 +0.5**
MK31 Makanchi Array 25.84 67 P **P** **17 03 16.0 +0.5**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 25.84 67 ⇓P **P** **17 03 16.7 +1.2**
comp=Z,6.7nm,0.8s,baz=275,slow=7.2,SNR=50
MKAR Makanchi Array 25.84 67 P **P** **17 03 16.4 +0.9**
comp=Z,7.2nm,0.8s,baz=277,slow=7.3,SNR=43
comp=Z,7.2nm,0.8s
MKAR Makanchi Array 25.84 67 P **P** **17 03 16.2 +0.8**
MKAR Makanchi Array 25.84 67 *e*P **P** **17 03 17.1 +1.6**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
FETA Feichten 25.99 294 *e*P **P** **17 03 17.7 +0.7**
comp=Z,4.7nm,0.7s
DAVA Damuels 26.56 294 *e*P **P** **17 03 23.3 +1.2**
comp=Z,3.0nm,0.6s
DAVOX Davos/Dischmat 26.58 293 P **P** **17 03 21.8 -0.6**
comp=Z,1.5nm,0.5s,baz=58,slow=3.6,SNR=3.7
DAVOX LR LR 17 15 05.6
comp=Z,71nm,19.9s,baz=74,slow=39
comp=Z,1.5nm,0.5s
LVZ Lovozero 26.89 350 ⇑P **P** **17 03 25.5 +0.7**
HFS Hagfors 27.21 323 P **P** **17 03 26.6 -1.1**
comp=Z,2.5nm,0.6s,baz=113,slow=11,SNR=6.4
HFS LR LR 17 15 09.3
comp=Z,112nm,19.3s,baz=114,slow=39
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 27.97 51 P **P** **17 03 34.2 -0.2**
comp=Z,3.2nm,0.5s,baz=265,slow=9.4,SNR=15
ZALV LR LR 17 16 24.9
comp=Z,80nm,18.2s,baz=255,slow=40
comp=Z,3.2nm,0.5s
ZALV Zalesovo Beam 27.97 51 P **P** **17 03 33.7 -0.8**
ZALV Zalesovo Beam 27.97 51 *e*P **P** **17 03 34.4 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
NB2 NORSAR Subarra 28.71 324 P **P** **17 03 38.8 -2.3**
comp=Z,1.6nm,1.0s,baz=116,slow=9.3
NOA NORSAR Array B 28.71 324 P **P** **17 03 39.5 -1.6**
comp=Z,0.3nm,0.6s,baz=123,slow=9.0,SNR=4.3
NOA LR LR 17 16 47.2
comp=Z,40nm,20.7s,baz=95,slow=40
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 29.85 345 P **P** **17 03 50.9 -0.2**
comp=Z,0.6nm,0.4s,baz=148,slow=8.6,SNR=1.6
ARCES LR LR 17 16 46.2
comp=Z,105nm,19.2s,baz=122,slow=38
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 29.85 345 *e*P **P** **17 03 55.5 +4.5**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
WMQ Urumqi 29.97 72 *e*P **P** **17 03 54.7 +2.3**
ATD Arta Tunnel 30.38 187 LR LR 17 17 10.7
comp=Z,61nm,20.0s,baz=148,slow=38
NRIK Noril'sk 34.74 24 P **P** **17 04 33.7 -0.2**
comp=Z,1.8nm,0.3s,baz=269,slow=7.0,SNR=5.3
comp=Z,1.8nm,0.3s
NRIK Noril'sk 34.74 24 P **P** **17 04 33.7 -0.2**
NRIK IAmb IAmb 17 04 35.9
comp=Z,6.4nm,1.1s
NRIK Noril'sk 34.74 24 *e*P **P** **17 04 33.3 -0.5**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
NRIK MLR MLR
comp=Z,194nm,18.0s
EKA Eskdalemuir Ar 34.80 310 P **P** **17 04 33.5 -1.0**
comp=Z,1.1nm,0.7s,baz=101,slow=8.6,SNR=6.8
comp=Z,1.1nm,0.7s
ESDC Sonseca Array 37.93 284 P **P** **17 04 59.8 -1.8**
comp=Z,0.6nm,0.8s,baz=62,slow=8.0,SNR=2.9
comp=Z,0.6nm,0.8s
TAM Tamanrasset 39.14 254 P **P** **17 05 09.5 -2.5**
TAM IAmb IAmb 17 05 13.1
comp=Z,9.9nm,1.5s
TAM Tamanrasset 39.14 254 P **P** **17 05 09.5 -2.5**
TAM pmax pmax
comp=Z,10.0nm,1.5s
LODK Lodwar 39.57 198 P **P** **17 05 16.2 +0.8**
SONM Songino Array 41.88 61 P **P** **17 05 34.0 -0.3**
comp=Z,0.5nm,0.6s,baz=285,slow=8.9,SNR=2.0
SONM LR LR 17 24 47.4
comp=Z,195nm,18.4s,baz=276,slow=39
comp=Z,0.5nm,0.6s
SONM Songino Array 41.88 61 *e*P **P** **17 05 37.6 +3.3**
SONM pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 42.30 60 *i* P **P** **17 05 38.3 +0.5**
ULN pmax pmax
comp=Z,4.0nm,1.2s
KMBO Kilima Mbogo 43.61 194 LR LR 17 25 12.1
comp=Z,87nm,18.1s,baz=93,slow=38
BORG Borgarnes 43.88 325 LR LR 17 24 30.0
comp=Z,42nm,18.1s,baz=340,slow=37
BOD Bodaibo 44.34 45 *e*P **P** **17 05 53.6 -0.3**
BOD pmax pmax
comp=Z,20nm,0.7s
PZH PanZhiHua 47.32 91 P **P** **17 06 19.8 +1.8**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,80nm,4.3s
HHC Hu-ho-hao-te 47.69 68 *e*P **P** **17 06 19.7 -1.0**
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,160nm,4.2s
TORD Torodi Ar. Bea 48.28 247 P **P** **17 06 24.2 -1.1**
comp=Z,1.9nm,0.9s,baz=42,slow=7.0,SNR=8.5
comp=Z,1.9nm,0.9s
TIXI Tiksi 48.52 25 *ce*P **P** **17 06 27.7 +1.2**
TIXI pmax pmax
comp=Z,18nm,1.7s
TIXI MLR MLR
comp=Z,136nm,18.0s
CHTO Chiang Mai 49.79 101 P **P** **17 06 36.9 0.0**
CHTO Chiang Mai 49.79 101 P **P** **17 06 36.9 0.0**
CRAI Chiangrai 49.96 98 P **P** **17 06 39.1 +0.9**
CRAI IAmb IAmb 17 06 42.9
comp=Z,3.1nm,0.9s
CMAR Chiang Mai Arr 50.01 101 P **P** **17 06 38.5 -0.2**
comp=Z,1.4nm,0.6s,baz=303,slow=8.4,SNR=13
comp=Z,1.4nm,0.6s
CMAR Chiang Mai Arr 50.01 101 *e*P **P** **17 06 39.5 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
PHRA Phrae 50.93 100 P **P** **17 06 47.0 +1.4**
YAK Yakutsk 51.04 37 LR LR 17 31 20.7
comp=Z,48nm,18.4s,baz=269,slow=40
YAK Yakutsk 51.04 37 P **P** **17 06 43.6 -2.2**
YAK IAmb IAmb 17 06 46.0
comp=Z,6.3nm,1.0s

YAK Yakutsk 51.04 37 *ce*P **P** **17 06 45.5 -0.3**
YAK pmax pmax
comp=Z,5.0nm,0.8s
YAK MLR MLR
comp=Z,53nm,16.0s
KLR Kul'dur 57.08 51 *i* P **P** **17 07 30.5 +0.4**
KLR pmax pmax
comp=Z,3.0nm,1.4s
KLR MLR MLR
comp=Z,61nm,16.0s
DBIC Dimbokro 57.39 247 P **P** **17 07 32.1 -0.6**
comp=Z,1.6nm,0.5s,baz=19,slow=6.1,SNR=3.9
comp=Z,1.6nm,0.5s
DBIC Dimbokro 57.39 247 P **P** **17 07 32.4 -0.3**
DBIC Dimbokro 57.39 247 P **P** **17 07 32.4 -0.3**
DBIC pmax pmax
comp=Z,23nm,1.5s
LSZ Lusaka 59.34 201 LR LR 17 35 08.6
comp=Z,27nm,19.4s,baz=168,slow=38
USRK Ussuriysk Ar. 59.66 56 P **P** **17 07 49.6 +1.5**
comp=Z,3.8nm,1.0s,baz=314,slow=6.9,SNR=6.8
USRK LR LR 17 35 16.3
comp=Z,41nm,20.7s,baz=138,slow=38
comp=Z,3.8nm,1.0s
USRK Ussuriysk Ar. 59.66 56 *e*P **P** **17 07 51.3 +3.2**
USRK pmax pmax
comp=Z,3.0nm,0.8s
KSRS Korea Array 60.50 65 P **P** **17 07 54.4 +0.3**
comp=Z,0.9nm,0.6s,baz=292,slow=6.6,SNR=5.2
KSRS LR LR 17 35 48.8
comp=Z,22nm,20.6s,baz=30,slow=38
comp=Z,0.9nm,0.6s
MA2 Magadan 61.37 34 LR LR 17 39 33.5
comp=Z,56nm,18.9s,baz=335,slow=41
BILL Bilibino 61.52 22 *i* P **P** **17 08 00.2 -0.3**
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,34nm,17.0s
MJAR Matsushiro Arr 67.83 60 LR LR 17 40 46.6
comp=Z,50nm,18.7s,baz=312,slow=38
PETK Petropavlovsk- 68.39 37 P **P** **17 08 44.0 -1.4**
comp=Z,2.5nm,0.9s,baz=339,slow=3.8,SNR=2.5
comp=Z,2.5nm,0.9s
TOLK Toolik Lake Re 69.17 6 P **P** **17 08 49.4 -0.7**
INK Inuvik 70.17 0 LR LR 17 46 19.5
comp=Z,30nm,19.4s,baz=162,slow=42
BMAR Burnt Mountain 70.72 5 P **P** **17 09 00.6 +1.0**
IMAR Indian Mountai 71.35 9 P **P** **17 09 03.5 +0.1**
H21K Melozitna Rive 71.77 8 P **P** **17 09 06.5 +0.6**
H21K IAmb IAmb 17 09 07.9
comp=Z,2.9nm,0.8s
H23K Yukon River 71.93 7 P **P** **17 09 07.7 +0.8**
H23K IAmb IAmb 17 09 09.3
comp=Z,4.3nm,1.0s
H24K Noodor Dome 72.06 6 P **P** **17 09 08.4 +0.6**
MLY Manley 72.59 8 P **P** **17 09 11.3 +0.4**
MLY IAmb IAmb 17 09 12.8
comp=Z,3.4nm,1.1s
BOSA Boshof 72.84 200 LR LR 17 42 54.7
comp=Z,44nm,18.5s,baz=7.5,slow=37
I26K Coal Creek Min 72.91 4 P **P** **17 09 12.8 0.0**
I26K IAmb IAmb 17 09 14.3
comp=Z,6.0nm,1.1s
J20K Nowinta River 73.05 9 P **P** **17 09 14.0 +0.5**
J20K IAmb IAmb 17 09 17.6
comp=Z,3.7nm,1.1s
ILAR Eielson Array 73.19 6 P **P** **17 09 14.2 -0.3**
comp=Z,0.5nm,0.7s,baz=340,slow=9.2,SNR=4.4
ILAR LR LR 17 45 16.9
comp=Z,26nm,19.2s,baz=142,slow=39
comp=Z,0.5nm,0.7s
ILAR Eielson Array 73.19 6 P **P** **17 09 15.0 +0.6**
CCB Clear Creek Bu 73.24 6 P **P** **17 09 14.3 -0.4**
J25K Salcha River, 73.46 5 P **P** **17 09 15.4 -0.7**
HDA Harding Lake 73.54 6 P **P** **17 09 16.0 -0.5**
HDA IAmb IAmb 17 09 17.5
comp=Z,3.2nm,0.7s
J26L Joseph Creek 73.69 5 P **P** **17 09 17.5 +0.1**
J26L IAmb IAmb 17 09 43.6
comp=Z,4.6nm,1.2s
KTH Kantishna Hill 74.02 8 P **P** **17 09 19.2 -0.2**
KTH IAmb IAmb 17 09 20.1
comp=Z,8.2nm,1.3s
CAST Castle Rocks 74.02 9 P **P** **17 09 19.4 0.0**
CAST IAmb IAmb 17 09 20.8
comp=Z,7.0nm,0.9s
DOT Dot Lake 74.50 5 P **P** **17 09 22.4 +0.2**
DOT IAmb IAmb 17 09 23.3
comp=Z,3.4nm,0.9s
PPLA Purkeypile 74.52 9 P **P** **17 09 22.7 +0.3**
YKA Yellowknife Ar 74.91 351 P **P** **17 09 23.6 -0.9**
comp=Z,1.0nm,0.5s,baz=11,slow=5.3,SNR=6.9
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 74.91 351 *i* P **P** **17 09 24.5 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.4s
BCAR Beaver Creek A 75.22 4 P **P** **17 09 26.0 -0.3**
L27K Beaver Creek, 75.22 4 P **P** **17 09 26.6 +0.2**
MENT Mentasta 75.23 5 P **P** **17 09 26.9 +0.5**
MENT IAmb IAmb 17 09 28.2
comp=Z,9.7nm,1.2s
SHEM Shemya Is, Ala 75.45 30 LR LR 17 46 41.1
comp=Z,54nm,19.1s,baz=93,slow=39
SKT Skwentna 75.48 9 P **P** **17 09 26.2 -1.7**
SKT IAmb IAmb 17 09 56.7
comp=Z,6.8nm,1.3s
M24K Tolsona, Glenn 75.88 6 P **P** **17 09 31.4 +1.3**
M30M Minto, Yukon 75.89 2 P **P** **17 09 29.6 -0.6**
M30M IAmb IAmb 17 09 44.9
comp=Z,5.1nm,1.4s
SCM Sheep Creek Mo 76.05 7 P **P** **17 09 31.8 +0.6**
SCM Sheep Creek Mo 76.05 7 P **P** **17 09 31.8 +0.6**
SCM pmax pmax
comp=Z,10.0nm,1.0s
SUA Susitna One 76.08 8 P **P** **17 09 30.2 -1.1**
N19K Bonanza Creek 76.25 10 P **P** **17 09 32.0 -0.3**
KLU Klutina 76.51 6 P **P** **17 09 33.9 +0.2**
KLU IAmb IAmb 17 09 36.0
comp=Z,6.7nm,0.9s
RC01 Rabbit Creek A 76.55 8 P **P** **17 09 34.0 +0.1**
CNPM China Poot 77.91 9 P **P** **17 09 41.4 -0.2**
P33M Teslin, Yukon 78.30 360 P **P** **17 09 43.4 -0.4**
P33M IAmb IAmb 17 09 47.8
comp=Z,6.6nm,1.3s
OHAK Old Harbor 79.88 11 P **P** **17 09 53.5 +1.1**
FFC Flin Flon 80.12 342 P **P** **17 09 53.2 -0.6**
FFC IAmb IAmb 17 09 55.1
comp=Z,3.6nm,0.8s
FFC Flin Flon 80.12 342 P **P** **17 09 53.2 -0.6**
FFC pmax pmax
comp=Z,4.0nm,0.8s

*IDC **07** 16:59:52.8±2.3, 54.81N×168.43E, h0km, mb3.3/2, mbtmp3.3/3, ML2.3/1, Error ellipse: s-maj=121.3km s-min=32.3km az=160.0*
*KRSC **07** 16:59:55.6±2.3, 54.62N×167.92E, h31km±12km, ML3.7*
ISC 07 16:59:56.6±1.3, **54.8N**±0.1×**168.19E**±0.0, **h29**km, **n19**, σ1§**48**/16, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.34**	**288**	*e*P	**Pn**		**17 00 18.7**	**-0.5**
BKI				*e*S	**Sn**		**17 00 35.9**	**-0.1**
KBTR	**Krutoberegovo**	**3.36**	**297**	*e*P	**Pn**		**17 00 47.3**	**+0.3**
TUMR	**Tumrok**	**4.65**	**279**	*e*P	**Pn**		**17 01 07.3**	**+2.4**
SPN	**Mys Shipunski**	**5.12**	**254**	*e*P	**Pn**		**17 01 11.6**	**+0.3**
SPN				*e*S	**Sn**		**17 02 06.2**	**-3.1**
NLC	**Nalytchevo**	**5.47**	**256**	*e*S	**Sn**		**17 02 16.4**	**-1.6**
KRX	**Arik**	**5.80**	**259**	*e*P	**Pn**		**17 01 22.3**	**+1.5**
KOK	**Koryaka**	**5.83**	**259**	*e*P	**Pn**		**17 01 22.4**	**+1.3**
DALK	**Dalny**	**5.86**	**256**	S	**Sn**		**17 02 27.5**	**+0.1**
GNL	**Ganaly**	**6.11**	**264**	*e*P	**Pn**		**17 01 26.9**	**+1.9**
KRMR	**Karymshinskiy**	**6.28**	**256**	*e*S	**Sn**		**17 02 37.5**	**-0.4**
PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=65,slow=18,SNR=13	**6.42**	**259**	Pn	**Pn**		**17 01 30.4**	**+1.3**
PETK				Sn	**Sn**		**17 02 41.1**	**-0.4**
ILAR	**Eielson Array** 0.6nm,0.6s,baz=255,slow=9.0,SNR=5.5	**24.16**	**48**	P	**P**		**17 05 09.6**	**-0.2**
H11N2	**WAKE ISLAND Hy** baz=1.0,slow=76	**35.04**	**182**	T	T		17 43 30.9	

H11N3	**WAKE ISLAND Hy**	**35.05**	**182**	T	T	17 43 33.4	
	baz=1.0,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.06**	**182**	T	T	17 43 34.0	
	baz=1.0,slow=76						
H11S1	**WAKE ISLAND Hy**	**36.26**	**182**	T	T	17 45 06.4	
	baz=1.2,slow=76						
H11S3	**WAKE ISLAND Hy**	**36.27**	**182**	T	T	17 45 01.9	
	baz=1.2,slow=76						
H11S2	**WAKE ISLAND Hy**	**36.28**	**182**	T	T	17 45 04.1	
	baz=1.2,slow=76						
TXAR	**Lajitas Array**	**65.55**	**73**	P	**P**	**17 10 37.1**	**-0.3**
	0.3nm,0.7s,baz=316,slow=5.0,SNR=3.7						
	0.3nm,0.7s						

*IDC **07** 17:06:57.5±3.2, 36°.63S×179°.02E, h0km, mb3.9/3, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=69.6km s-min=42.1km az=121.0*
*WEL **07** 17:07:01.1±0.7, 37°.5±4'×17°.9E±°, h20km, M3.6/30, ML3.9/41, MLv3.6/30, Error ellipse: s-maj=0.0km s-min=0.0km az=100.8*

ISC 07 17:06:58.1±1.9, 37°.02S±0°.07×179°.4E±0°.1, h20km±8km, n63, σ1°21/78, mb3.9/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.02**	**237**	P	**Pb**	**17 07 16.7**	**-0.4**
MXZ				S	**Sb**	**17 07 29.1**	**-1.0**
WMGZ	**Waiomatatini S**	**1.12**	**224**	P	**Pb**	**17 07 20.3**	**+1.6**
PKGZ	**Pakihiroa**	**1.36**	**230**	P	**Pb**	**17 07 23.0**	**+0.1**
PKGZ				S	**Sb**	**17 07 40.4**	**+0.5**
PUZ	**Puketiti**	**1.39**	**220**	P	**Pb**	**17 07 24.1**	**+0.7**
PUZ				S	**Sb**	**17 07 41.2**	**+0.6**
HAZ	**Te Kaha**	**1.48**	**240**	P	**Pn**	**17 07 23.4**	**-0.2**
HAZ				S	**Sb**	**17 07 44.1**	**+0.9**
TWGZ	**Tauwhareparae**	**1.61**	**224**	P	**Pb**	**17 07 27.2**	**0.0**
TWGZ				S	**Sb**	**17 07 47.8**	**+0.6**
RUGZ	**Raukumara Rang**	**1.66**	**235**	P	**Pb**	**17 07 27.8**	**-0.3**
RUGZ				S	**Sb**	**17 07 48.6**	**0.0**
CNGZ	**Carnagh Statio**	**1.74**	**212**	P	**Pb**	**17 07 29.2**	**-0.2**
TKGZ	**Te Karaka**	**1.88**	**220**	P	**Pb**	**17 07 30.4**	**-1.3**
TKGZ				S	**Sn**	**17 07 52.9**	**+0.8**
WHRZ	**Whale Island**	**2.10**	**246**	P	**Pb**	**17 07 33.9**	**-1.6**
URZ	**Urewera**	**2.19**	**235**	Pn	**Pn**	**17 07 34.9**	**+1.5**
	34nm,0.3s,baz=211,slow=2.5,SNR=91						
URZ				Sn	**Sn**	**17 07 59.9**	**-0.1**
	29nm,0.3s,baz=211,slow=20,SNR=12						
	90nm,0.4s						
URZ	**Urewera**	**2.19**	**235**	P	**Pn**	**17 07 34.9**	**+1.5**
SNGZ	**Shannon Statio**	**2.40**	**222**	P	**Pn**	**17 07 37.2**	**+1.0**
SNGZ				S	**Sn**	**17 08 04.0**	**-1.0**
OPRZ	**Ohinepanea**	**2.41**	**249**	P	**Pn**	**17 07 37.2**	**+0.9**
KNZ	**Kokohu**	**2.42**	**214**	P	**Pn**	**17 07 37.0**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.43**	**208**	P	**Pn**	**17 07 38.0**	**+1.3**
MUGZ	**Murupara**	**2.54**	**234**	P	**Pn**	**17 07 39.3**	**+1.1**
TGRZ	**Tauranga**	**2.59**	**253**	P	**Pn**	**17 07 39.9**	**+1.0**
TARZ	**Mount Tarawera**	**2.59**	**241**	P	**Pn**	**17 07 40.9**	**+1.9**
RAHZ	**Arahi**	**2.63**	**223**	P	**Pn**	**17 07 40.3**	**+0.9**
RAHZ				S	**Sn**	**17 08 11.2**	**+0.4**
OMRZ	**Omania**	**2.63**	**245**	P	**Pn**	**17 07 41.3**	**+1.8**
RRRZ	**Republican Roa**	**2.64**	**239**	P	**Pn**	**17 07 41.0**	**+1.5**
WHHZ	**Waihua**	**2.67**	**219**	P	**Pn**	**17 07 40.9**	**+1.0**
WHHZ				S	**Sn**	**17 08 11.8**	**0.0**
KARZ	**Kaharoa**	**2.70**	**247**	P	**Pn**	**17 07 41.8**	**+1.5**
HLRZ	**Highlands Stat**	**2.71**	**242**	P	**Pn**	**17 07 42.3**	**+1.7**
MTHZ	**Maungataniwha**	**2.73**	**227**	P	**Pn**	**17 07 42.2**	**+1.4**
MTHZ				S	**Sn**	**17 08 12.6**	**-0.5**
HSRZ	**Hossack Road**	**2.81**	**242**	P	**Pn**	**17 07 44.0**	**+2.1**
NMHZ	**Naumai**	**2.91**	**224**	P	**Pn**	**17 07 44.5**	**+1.2**
NMHZ				S	**Sn**	**17 08 17.9**	**+0.2**
ARHZ	**Aropaoanui**	**2.93**	**219**	P	**Pn**	**17 07 44.7**	**+1.1**
ARHZ				S	**Sn**	**17 08 18.1**	**-0.1**
KUZ	**Kuaotunu**	**2.96**	**274**	P	**Pn**	**17 07 43.3**	**-0.6**
KUZ				S	**Sn**	**17 08 15.4**	**-3.3**
MRHZ	**Matea Rd**	**2.97**	**231**	P	**Pn**	**17 07 45.5**	**+1.3**
BKZ	**Black Stump Fm**	**3.14**	**226**	P	**Pn**	**17 07 47.1**	**+0.7**
BKZ				S	**Sn**	**17 08 21.6**	**-1.7**
TOZ	**Tahuroa Road**	**3.18**	**256**	P	**Pn**	**17 07 47.0**	**+0.1**
KUTZ	**Kaahu Road**	**3.19**	**241**	P	**Pn**	**17 07 48.4**	**+1.3**
KWHZ	**Kaweka Forest**	**3.35**	**223**	P	**Pn**	**17 07 49.8**	**+0.4**
KWHZ				S	**Sn**	**17 08 27.5**	**-1.2**
MKAZ	**Moumakai**	**3.38**	**267**	P	**Pn**	**17 07 49.8**	**+0.1**
KAHZ	**Kahuranaki**	**3.41**	**215**	P	**Pn**	**17 07 50.1**	**0.0**
KAHZ				S	**Sn**	**17 08 28.8**	**-1.1**
ETAZ	**East Tamaki Re**	**3.58**	**270**	P	**Pn**	**17 07 54.2**	**+1.8**
TMZ	**Te Maari**	**3.59**	**233**	P	**Pn**	**17 07 53.4**	**+0.7**
NTVZ	**North Tongariro**	**3.59**	**234**	P	**Pn**	**17 07 53.7**	**+1.0**
BHHZ	**Black Hill Sta**	**3.60**	**226**	P	**Pn**	**17 07 53.5**	**+0.7**
MBAZ	**Motutapu North**	**3.61**	**273**	P	**Pn**	**17 07 54.7**	**+1.8**
KRVZ	**Karewarewa**	**3.62**	**234**	P	**Pn**	**17 07 54.1**	**+1.0**
OTVZ	**Oturere**	**3.64**	**233**	P	**Pn**	**17 07 54.0**	**+0.6**
NNVZ	**North Ngauruho**	**3.65**	**234**	P	**Pn**	**17 07 55.1**	**+1.4**
WTVZ	**West Tongariro**	**3.66**	**234**	P	**Pn**	**17 07 54.9**	**+1.2**
SNVZ	**South Ngauruho**	**3.67**	**233**	P	**Pn**	**17 07 54.5**	**+0.6**
EPAZ	**Eden Park BICE**	**3.73**	**271**	P	**Pn**	**17 07 55.8**	**+1.4**
MOVZ	**Moawhango**	**3.73**	**229**	P	**Pn**	**17 07 55.0**	**+0.4**
PNHZ	**Pukenui**	**3.83**	**220**	P	**Pn**	**17 07 55.8**	**-0.1**
RVAZ	**Riverhead Bore**	**3.87**	**272**	P	**Pn**	**17 07 59.1**	**+2.7**
HIZ	**Hauiti**	**3.89**	**246**	P	**Pn**	**17 07 59.0**	**+2.3**
WCZ	**Waipu Caves**	**4.21**	**283**	P	**Pn**	**17 08 01.6**	**+0.6**
BFZ	**Birch Farm**	**4.41**	**213**	P	**Pn**	**17 08 02.4**	**-1.4**
MRZ	**Mangatainoka R**	**4.70**	**218**	P	**Pn**	**17 08 06.7**	**-1.2**
RPZ	**Rata Peaks**	**9.23**	**221**	Pn	**Pn**	**17 09 07.7**	**-2.3**
	0.6nm,0.3s,baz=340,slow=7.7,SNR=2.4						
RPZ				Sn	Sn	17 10 40.9	-12
	0.8nm,0.3s,baz=301,slow=24,SNR=10.0						
ASAR	**Alice Springs**	**41.08**	**276**	P	**P**	**17 14 40.4**	**-0.2**
	2.1nm,0.8s,baz=121,slow=8.0,SNR=42						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**42.68**	**281**	P	**P**	**17 14 52.8**	**-0.9**
	1.2nm,0.6s,baz=121,slow=7.8,SNR=21						
	1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.56**	**277**	P	**P**	**17 15 56.0**	**+0.5**
	1.4nm,0.9s,baz=105,slow=6.9,SNR=1.4						
	1.4nm,0.9s						
H03N3	**Juan Fernandez**	**78.85**	**123**	T	T	18 45 39.4	
	baz=235,slow=74						
H03N2	**Juan Fernandez**	**78.85**	**123**	T	T	18 45 34.7	
	baz=235						
H03N1	**Juan Fernandez**	**78.86**	**123**	T	T	18 45 35.8	
	baz=235,slow=74						
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKiKP**	**17 26 48.3**	**+0.4**
	3.7nm,1.0s,baz=78,slow=6.4,SNR=4.2						

*DDA **07** 17:07:42.6±0.0, 40°.13N×41°.29E, h7km±1km, ML1.6*
*ISK **07** 17:07:42.9, 40°.17N×41°.20E, h18km, ML2.5/5*

ISC 07 17:07:42.2±1.1, 40°.14N±0°.04×41°.24E±0°.04, h14km±10km, n10, σ0°61/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERZM	**Erzurum**	**0.25**	**157**	P	**Pg**	**17 07 47.8**	**0.0**
KRIK	**Erzurum-spir**	**0.31**	**311**	P	**Pg**	**17 07 49.1**	**+0.3**
KRIK				S	**Sb**	**17 07 55.4**	**+0.6**
KRIK				*i* AML	AML	17 07 56.0	
	comp=N,71nm,0.5s						
KRIK				*i* AML	AML	17 07 58.0	
	comp=E,64nm,0.6s						
BAYB	**BAYBURT**	**0.76**	**280**	P	**Pn**	**17 07 57.9**	**-0.8**
BAYB				S	**Sn**	**17 08 09.7**	**-0.3**
BAYB				*i* AML	AML	17 08 14.0	
	comp=E,23nm,0.3s						
BAYT	**Aydıntepe-Bayb**	**0.88**	**287**	PG	**Pg**	**17 07 59.6**	**+0.3**
BAYT				SG	**Sn**	**17 08 11.9**	**-1.0**
YEDI	**Yedisu-Bingol**	**0.88**	**218**	PG	**Pn**	**17 08 00.8**	**+0.5**
YEDI				SG	**Sn**	**17 08 13.3**	**+0.4**
SENK	**Senkaya-Erzuru**	**0.95**	**63**	PG	**Pn**	**17 08 01.8**	**+0.5**
EATA	**Eleskirt**	**1.00**	**105**	P	**Pb**	**17 08 01.0**	**-0.6**
CHOM	**Cayeli-Rize**	**1.03**	**340**	PG	**Pg**	**17 08 02.8**	**+0.7**
HOPA	**Hopa-Artvin**	**1.26**	**7**	PN	**Pb**	**17 08 05.6**	**-0.1**
HOPA				SN	**Sg**	**17 08 22.4**	**-0.5**
ERZN	**Erzincan**	**1.29**	**245**	PN	**Pb**	**17 08 06.3**	**0.0**

*UPP **07** 17:13:42.7±0.1, 59°.00N×18°.20E, h0km, ML2.2, Explosion*
*HEL **07** 17:13:43.6±0.1, 59°.00N×18°.17E, h0km, ML1.7, ML2.2(UPP), Explosion*
*DNK **07** 17:13:43.0±0.6, 59°.00N×18°.21E, h0km, ML2.2(UPP), Explosion*
*IDC **07** 17:13:48.6±1.1, 59°.56N×18°.10E, h0km, mbtmp3.0/4, ML1.5/4, Error ellipse: s-maj=16.6km s-min=5.7km az=2.0*

ISC 07 17:13:42.7±0.8, 59°.00N±0°.03×18°.20E±0°.02, h0km, n56, σ0°99/70, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.10**	**271**	P	**Pg**	**17 13 44.9**	**+0.3**
NYNU				S	**Sg**	**17 13 46.3**	**+0.4**
NYNU	**Nynaeshamn**	**0.10**	**271**	P	**Pg**	**17 13 44.9**	**+0.3**
NYNU				S	**Sg**	**17 13 46.3**	**+0.4**
NYNU	**Nynaeshamn**	**0.10**	**271**	*i* P	**Pg**	**17 13 44.9**	**+0.3**
NYNU				*i* S	**Sg**	**17 13 46.3**	**+0.4**
NRTU	**Norrtaelje**	**0.71**	**18**	P	**Pg**	**17 13 56.2**	**-0.1**
NRTU				S	**Sg**	**17 14 05.0**	**-0.5**
NRTU	**Norrtaelje**	**0.71**	**18**	P	**Pg**	**17 13 56.2**	**-0.1**
NRTU				S	**Sg**	**17 14 05.0**	**-0.5**
NRTU	**Norrtaelje**	**0.71**	**18**	*i* P	**Pg**	**17 13 56.2**	**-0.1**
NRTU				*i* S	**Sg**	**17 14 05.0**	**-0.5**
UPP	**Uppsala**	**0.91**	**341**	P	**Pg**	**17 14 00.1**	**+0.1**
UPP	**Uppsala**	**0.91**	**341**	*eP*	**Pg**	**17 14 00.1**	**+0.1**
VIKU	**Vikbolandet**	**0.93**	**238**	P	**Pg**	**17 14 00.3**	**-0.1**
VIKU	**Vikbolandet**	**0.93**	**238**	P	**Pg**	**17 14 00.3**	**+0.1**
VIKU	**Vikbolandet**	**0.93**	**238**	*eP*	**Pg**	**17 14 00.3**	**-0.1**
ESKU	**Eskilstuna**	**0.96**	**285**	P	**Pg**	**17 14 00.6**	**-0.4**
ESKU	**Eskilstuna**	**0.96**	**285**	P	**Pg**	**17 14 00.6**	**-0.4**
ESKU	**Eskilstuna**	**0.96**	**285**	*eP*	**Pg**	**17 14 00.6**	**-0.4**
FIBU	**Brunna**	**1.00**	**335**	P	**Pg**	**17 14 01.4**	**-0.4**
FIBU	**Brunna**	**1.00**	**335**	P	**Pg**	**17 14 01.4**	**-0.4**
BACU	**Backbrunna**	**1.02**	**327**	P	**Pg**	**17 14 01.8**	**-0.4**
BACU	**Backbrunna**	**1.02**	**327**	P	**Pg**	**17 14 01.8**	**-0.4**
BACU	**Backbrunna**	**1.02**	**327**	*eP*	**Pg**	**17 14 01.8**	**-0.4**
FLYU	**Flymyra**	**1.14**	**352**	P	**Pg**	**17 14 04.1**	**-0.4**
FLYU	**Flymyra**	**1.14**	**352**	P	**Pg**	**17 14 04.1**	**-0.4**
FLYU	**Flymyra**	**1.14**	**352**	*eP*	**Pg**	**17 14 04.1**	**-0.4**
GOTU	**Gotland**	**1.34**	**171**	P	**Pg**	**17 14 06.9**	**-1.3**
GOTU	**Gotland**	**1.34**	**171**	P	**Pg**	**17 14 06.9**	**-1.3**
GOTU	**Gotland**	**1.34**	**171**	*eP*	**Pg**	**17 14 06.9**	**-1.3**
OSTU	**Oestervaala**	**1.34**	**337**	P	**Pg**	**17 14 07.7**	**-0.7**
OSTU	**Oestervaala**	**1.34**	**337**	P	**Pg**	**17 14 07.7**	**-0.7**
OSTU	**Oestervaala**	**1.34**	**337**	*eP*	**Pg**	**17 14 07.7**	**-0.7**
GRAU	**Graesoe**	**1.35**	**7**	P	**Pg**	**17 14 07.9**	**-0.6**
GRAU	**Graesoe**	**1.35**	**7**	P	**Pg**	**17 14 07.9**	**-0.6**
GRAU	**Graesoe**	**1.35**	**7**	*eP*	**Pg**	**17 14 07.9**	**-0.6**
FORU	**Forsmark**	**1.39**	**360**	P	**Pg**	**17 14 08.6**	**-0.7**
FORU	**Forsmark**	**1.39**	**360**	P	**Pg**	**17 14 08.6**	**-0.7**
FORU	**Forsmark**	**1.39**	**360**	*eP*	**Pg**	**17 14 08.6**	**-0.7**
AAL	**Aland**	**1.49**	**37**	P	**Pn**	**17 14 10.2**	**-0.4**
AAL	**Aland**	**1.49**	**37**	*eP*	**Pn**	**17 14 10.3**	**-0.4**
AAL				*eS*	**Sn**	**17 14 30.5**	**-0.3**
HFS	**Hagfors**	**2.56**	**298**	Pn	**Pn**	**17 14 27.0**	**+1.7**
	0.3nm,0.3s,baz=116,slow=16,SNR=24						
HFS				Lg	Lg	17 14 59.7	
	1.8nm,0.3s,baz=110,slow=28,SNR=24						
SLIT	**Slitere, Latvi**	**2.56**	**121**	*eP*	**Pn**	**17 14 27.1**	**+1.7**
RAF	**Rauma**	**2.70**	**40**	*eP*	**Pb**	**17 14 30.4**	**-1.5**
RAF	**Rauma**	**2.70**	**40**	*eP*	**Pn**	**17 14 29.3**	**+2.0**
RAF				*eS*	**Sn**	**17 15 02.8**	**+2.1**
RAF				MSG		17 15 09.8	
	comp=Z,3.1nm,0.1s						
MTSE	**Matsula**	**2.93**	**93**	*eP*	**Pn**	**17 14 31.4**	**+0.9**
MEF	**Metsahovi**	**3.38**	**66**	*eP*	**Pb**	**17 14 44.9**	**+1.6**
MEF	**Metsahovi**	**3.38**	**66**	*eS*	**Sn**	**17 15 16.6**	**-0.7**
MEF				MSG		17 15 30.1	
	comp=Z,1.5nm,0.1s						
NOA	**NORSAR Array B**	**4.05**	**303**	Pn	**Pn**	**17 14 46.6**	**+0.6**
	baz=127,slow=11,SNR=5.7						
NOA				Pg	**Pb**	**17 14 54.2**	**-0.7**
	baz=56,slow=21,SNR=5.2						
NOA				Sn	**Sn**	**17 15 30.3**	**-3.8**
	baz=298,slow=10,SNR=2.5						
NOA				Lg	Lg	17 15 47.6	
	baz=128,slow=24,SNR=2.0						
	comp=Z,0.2nm,0.5s						
BSD	**Bornholm Skovb**	**4.29**	**206**	*eP*	**Pn**	**17 14 48.9**	**-0.3**
KEF	**Keuruu**	**4.57**	**43**	*eP*	**Pn**	**17 14 54.5**	**+1.5**
KEF				*eS*	**Sn**	**17 15 47.2**	**+0.4**
VAF	**Ylistaro**	**4.60**	**26**	*eP*	**Pn**	**17 14 55.6**	**+2.2**
VAF				*eS*	**Sn**	**17 15 48.3**	**+0.9**
FIA0	**FINESS Array S**	**4.63**	**55**	*eP*	**Pn**	**17 14 55.3**	**+1.5**
FIA0				*eS*	**Sn**	**17 15 47.6**	**-0.5**
FINES	**FINESS Array B**	**4.63**	**55**	Pn	**Pn**	**17 14 55.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=251,slow=12,SNR=8.6						
FINES				Pg	**Pb**	**17 15 04.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=245,slow=17,SNR=7.3						
FINES				Sn	**Sn**	**17 15 47.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=244,slow=23,SNR=6.6						
FINES				Lg	Lg	17 16 06.0	
	comp=Z,0.4nm,0.3s,baz=244,slow=28,SNR=7.1						
	comp=Z,2.1nm,0.8s						
FIA1	**FINESS Array S**	**4.63**	**55**	*eP*	**Pn**	**17 14 55.3**	**+1.5**
FIA1				*eS*	**Sn**	**17 15 47.6**	**-0.6**
KAF	**Kangasniemi**	**5.07**	**49**	*eP*	**Pn**	**17 15 01.0**	**+1.1**
KAF				*eS*	**Sn**	**17 15 59.1**	**+0.1**
IIGN	**Ignalina**	**5.70**	**127**	*eP*	Pb	17 15 15.6	-7.2
OUF	**Merijarvi**	**6.21**	**27**	*eP*	**Pn**	**17 15 16.0**	**+0.5**
OBF4	**Vikkela, Lumij**	**6.68**	**26**	*eP*	**Pn**	**17 15 22.6**	**+0.8**
AKASG	**Malin Array Be**	**10.46**	**138**	Pn	Pn	17 16 20.8	+7.1
	comp=Z,0.3nm,0.4s,baz=342,slow=27,SNR=0.9						
ARCES	**ARCESS Array B**	**11.03**	**14**	Pn	Pn	17 16 16.5	-4.9
	baz=187,slow=14,SNR=1.7						
ARCES				Sn	Sn	17 18 11.4	-14
	comp=Z,0.2nm,0.3s,baz=228,slow=23,SNR=7.2						
	comp=Z,3.3nm,1.2s						

IDC 07 17:13:53.9±1.6, 3°.29N×127°.55E, h0km, mb3.3/4, mbtmp3.4/5, ML2.6/1, MS3.3/1, Error ellipse: s-maj=77.2km s-min=21.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.55**	**138**	Pn	Pn	17 15 16.7	-1.2
	0.2nm,0.3s,baz=307,slow=20,SNR=2.4						
SIJI				Sn	Sn	17 16 17.1	-5.3
	0.6nm,0.3s,baz=343,slow=23,SNR=6.1						
	4.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.34**	**185**	P	P	17 18 42.0	-0.7
	1.3nm,0.8s,baz=27,slow=11,SNR=1.7						
FITZ				S	S	17 22 23.0	-18
	2.9nm,1.0s,baz=229,slow=7.4,SNR=2.2						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**24.03**	**164**	P	P	17 19 11.3	+0.5
	0.4nm,0.8s,baz=344,slow=10,SNR=10						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**27.50**	**167**	P	P	17 19 42.4	+0.2
	0.2nm,0.8s,baz=351,slow=7.6,SNR=4.1						
ASAR				LR	LR	17 31 26.7	
	comp=Z,59nm,19.0s,baz=269,slow=38						
	0.2nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**41.16**	**66**	T	T	18 04 33.1	
	baz=253,slow=75,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**41.17**	**66**	T	T	18 04 33.8	
	baz=253,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**41.17**	**65**	T	T	18 04 35.2	
	baz=253,slow=75,SNR=6.9						
MKAR	**Makanchi Array**	**58.38**	**325**	P	P	17 23 51.2	0.0
	0.4nm,0.4s,baz=113,slow=7.8,SNR=14						
	0.4nm,0.4s						

ROM 07 17:16:16.3±0.2, 42°.781N±0°.005×13°.130E±0°.007, h7km±1km, ML0.8/4, 1C, Error ellipse: s-maj=0.6km s-min=0.2km az=233.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.05**	**348**	P	Pg	17 16 18.0	-0.1
NRCA				S	Sg	17 16 19.2	-0.2
NRCA				AML	AML		
	comp=E,1730μm,0.5s						
NRCA				AML	AML		
	comp=E,1650μm,0.5s						
NRCA				AML	AML		
	comp=N,2295μm,0.1s						
NRCA				AML	AML		
	comp=N,2115μm,0.4s						
T1216	**Preci, Frazion**	**0.14**	**323**	P	Pg	17 16 19.9	+0.6
MC2	**Monte Cornacci**	**0.14**	**19**	P	Pg	17 16 19.7	+0.3
MC2				S	Sg	17 16 22.9	+1.4
T1217	**Poggiodomo (PG**	**0.16**	**245**	P	Pg	17 16 20.1	+0.4
T1217				AML	AML		
	comp=E,106μm,1.6s						
T1217				AML	AML		
	comp=N,120μm,1.5s						
T1204	**Amatrice, Fraz**	**0.17**	**127**	P	Pg	17 16 20.3	+0.4
T1204				S	Sg	17 16 23.9	+1.5
MMO1	**Montemonaco**	**0.19**	**51**	P	Pg	17 16 20.4	+0.2
MMO1				S	Sg	17 16 23.7	+1.0
LNSS	**Leonessa**	**0.19**	**200**	P	Pg	17 16 20.5	+0.3
T1215	**Vallo di Nera,**	**0.19**	**276**	P	Pg	17 16 20.7	+0.4
T1215				S	Sg	17 16 24.4	+1.5
SMA1	**SAN MARTINO**	**0.21**	**135**	P	Pg	17 16 21.6	+0.9
SMA1				S	Sg	17 16 25.4	+1.9
SMA1				AML	AML		
	comp=E,1580μm,0.4s						
SMA1				AML	AML		
	comp=N,2465μm,0.3s						
T1243	**Rocca Santa Ma**	**0.25**	**110**	P	Pg	17 16 21.4	+0.1
T1243				S	Sg	17 16 25.6	+1.0
FDMO	**Fiordimonte**	**0.26**	**353**	P	Pg	17 16 21.9	+0.5
FDMO				S	Sb	17 16 27.1	-0.9
FDMO				AML	AML		
	comp=N,64μm,1.6s						
FDMO				AML	AML		
	comp=E,52μm,1.2s						
FDMO				AML	AML		
	comp=N,64μm,1.6s						
EL6	**Elcito**	**0.55**	**358**	S	Sb	17 16 37.0	+0.5
ATFO	**Monte Foce - G**	**0.71**	**325**	S	Sg	17 16 40.0	+0.6
SENI	**Senigallia**	**0.93**	**5**	S	Sg	17 16 45.0	-1.2

*IDC **07** 17:28:44.5±1.5, 3°.77N×128°.44E, h0km, mb3.4/4, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=79.2km s-min=20.7km az=66.0*
*DJA **07** 17:28:49.8±2.0, 4°.N±13°×12°8E±°, h32km±35km, M3.8/7, mb4.1/3, mB4.8/1, MLv3.7/7, Mw(mB)4.1/1*

ISC 07 17:28:50.3±1.4, 3°.9N±0°.1×128°.53E±0°.10, h46km, n11, σ1°19/11, mb3.3/4, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.00**	**267**	P	**Pn**	**17 29 34.5**	**-0.8**
SGSI				S	**Sn**	**17 30 08.5**	**-1.6**
SIJI	**Sorong**	**5.42**	**150**	Pn	**Pn**	**17 30 07.7**	**-1.0**
	0.5nm,0.3s,baz=330,slow=20,SNR=1.8						
SIJI				Sn	**Sn**	**17 31 09.0**	**-0.9**
	0.8nm,0.3s,baz=343,slow=19,SNR=2.4						
	2.8nm,0.5s						
GTOI	**Gorontalo**	**6.37**	**240**	P	**Pn**	**17 30 22.4**	**+0.7**
	0.0nm6.7nm,0.7s						
MRSI	**Marisa**	**7.38**	**243**	P	**Pn**	**17 30 37.1**	**+1.5**
FITZ	**Fitzroy Crossi**	**21.99**	**187**	P	**P**	**17 33 41.4**	**+0.7**
	1.9nm,0.9s,baz=354,slow=10,SNR=2.3						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**24.32**	**167**	P	**P**	**17 34 02.8**	**-1.0**
	0.4nm,0.7s,baz=346,slow=11,SNR=9.6						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**27.84**	**169**	P	**P**	**17 34 34.7**	**-0.9**
	0.2nm,0.9s,baz=351,slow=8.0,SNR=1.3						
ASAR				PcP	**PcP**	**17 37 51.9**	**+0.9**
	0.2nm,0.8s,baz=333,slow=3.3,SNR=1.8						
	0.2nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**40.05**	**66**	T	T	18 19 24.7	
	baz=253,slow=75						
H11S1	**WAKE ISLAND Hy**	**40.06**	**66**	T	T	18 19 30.1	
	baz=253,slow=75						
H11S2	**WAKE ISLAND Hy**	**40.06**	**66**	T	T	18 19 25.7	
	baz=253,slow=75						
MKAR	**Makanchi Array**	**58.49**	**324**	P	**P**	**17 38 42.5**	**+0.6**
	0.5nm,0.4s,baz=116,slow=8.4,SNR=13						
	0.5nm,0.4s						

*NEIC **07** 17:41:19.4±1.1, 6°.23S±0°.06×151°.79E±0°.09, h10km±1km, mb4.8/51, Error ellipse: s-maj=14.6km s-min=9.9km az=102.0*
*IDC **07** 17:41:22.7±1.5, 6°.18S×151°.67E, h41km±13km, mb4.0/14, mbtmp4.3/15, ML2.9/1, MS3.2/7, Error ellipse: s-maj=20.0km s-min=7.9km az=116.0*

ISC 07 17:41:22.7±0.5, 6°.22S±0°.06×151°.73E±0°.07, h41km, n79, σ1°03/83, mb4.6/41, MS3.1/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.92**	**9**	P	**Pn**	**17 41 52.3**	**-0.7**
	238nm,0.4s,baz=253,slow=1.

P19K	**Oil Pt**	**78.66**	**25**	P	**P**	**17 53 21.4**	**+1.0**	
N19K	**Bonanza Creek**	**78.81**	**24**	P	**P**	**17 53 22.8**	**+1.6**	
CNPM	**China Poot**	**79.45**	**26**	P	**P**	**17 53 25.9**	**+1.3**	
L19K	**White Mountain**	**79.46**	**23**	P	**P**	**17 53 26.2**	**+1.6**	
L19K				IAmb	IAmb	17 53 27.9		
	comp=Z,8.2nm,0.8s							
TTA	**Tatalina**	**79.47**	**22**	P	**P**	**17 53 25.8**	**+1.0**	
TTA				IAmb	IAmb	17 53 27.8		
	comp=Z,23nm,1.6s							
M19K	**Big River Lodg**	**79.48**	**23**	P	**P**	**17 53 25.7**	**+1.0**	
M20K	**Styx River**	**79.95**	**23**	P	**P**	**17 53 27.1**	**-0.3**	
M20K				IAmb	IAmb	17 53 29.3		
	comp=Z,12nm,1.5s							
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	**17 53 31.2**	**-0.4**	
	comp=Z,0.7nm,1.0s,baz=106,slow=9.5,SNR=4.3							
	comp=Z,0.7nm,1.0s							
J20K	**Nowinta River**	**80.89**	**21**	P	**P**	**17 53 33.3**	**+1.0**	
J20K				IAmb	IAmb	17 53 35.0		
	comp=Z,6.0nm,0.9s							
CAST	**Castle Rocks**	**81.21**	**22**	P	**P**	**17 53 34.6**	**+0.5**	
CAST				IAmb	IAmb	17 53 36.1		
	comp=Z,9.8nm,1.1s							
PWL	**Port Wells**	**81.38**	**25**	P	**P**	**17 53 36.0**	**+1.0**	
PWL				IAmb	IAmb	17 53 37.6		
	comp=Z,12nm,0.8s							
ZALV	**Zalesovo Beam**	**81.74**	**327**	P	**P**	**17 53 35.1**	**-1.8**	
	comp=Z,0.9nm,0.5s,baz=104,slow=6.3,SNR=5.2							
	comp=Z,0.9nm,0.5s							
SML	**Sawmill**	**81.85**	**25**	P	**P**	**17 53 38.4**	**+0.9**	
SML				IAmb	IAmb	17 53 40.0		
	comp=Z,9.3nm,0.8s							
GLI	**Glacier Island**	**81.92**	**26**	P	**P**	**17 53 39.5**	**+1.7**	
GLI				IAmb	IAmb	17 53 40.3		
	comp=Z,9.6nm,0.7s							
IMAR	**Indian Mountai**	**82.07**	**20**	P	**P**	**17 53 39.5**	**+1.1**	
I21K	**Tanana**	**82.22**	**21**	P	**P**	**17 53 40.6**	**+1.3**	
I21K				IAmb	IAmb	17 53 42.4		
	comp=Z,6.3nm,1.0s							
RND	**Reindeer**	**82.44**	**23**	P	**P**	**17 53 40.9**	**+0.4**	
RND				IAmb	IAmb	17 53 42.2		
	comp=Z,8.9nm,0.9s							
MCK	**McKinley**	**82.58**	**23**	P	**P**	**17 53 41.9**	**+0.7**	
MLY	**Manley**	**82.58**	**21**	P	**P**	**17 53 42.2**	**+0.9**	
MLY				IAmb	IAmb	17 53 43.5		
	comp=Z,7.4nm,0.7s							
KLU	**Klutina**	**82.71**	**25**	P	**P**	**17 53 43.2**	**+1.2**	
KLU				IAmb	IAmb	17 54 08.7		
	comp=Z,7.2nm,1.2s							
DHY	**Denali Highway**	**82.86**	**24**	P	**P**	**17 53 43.7**	**+0.9**	
DHY				IAmb	IAmb	17 53 45.3		
	comp=Z,5.9nm,1.0s							
NEA2	**Nenana**	**82.96**	**22**	P	**P**	**17 53 43.5**	**+0.4**	
NEA2				IAmb	IAmb	17 53 44.6		
	comp=Z,5.9nm,0.8s							
WRH	**Wood River Hil**	**83.27**	**22**	P	**P**	**17 53 45.2**	**+0.5**	
WRH				IAmb	IAmb	17 53 46.2		
	comp=Z,6.5nm,0.9s							
CCB	**Clear Creek Bu**	**83.46**	**22**	P	**P**	**17 53 45.9**	**+0.2**	
CCB				IAmb	IAmb	17 53 46.5		
	comp=Z,4.9nm,0.8s							
GLB	**Gilahina Butte**	**83.59**	**26**	P	**P**	**17 53 47.8**	**+1.3**	
GLB				IAmb	IAmb	17 53 49.5		
	comp=Z,18nm,1.6s							
HDA	**Harding Lake**	**83.67**	**23**	P	**P**	**17 53 47.7**	**+0.9**	
HDA				IAmb	IAmb	17 53 50.0		
	comp=Z,7.1nm,1.2s							
QSPA	**South Pole Qui**	**83.75**	**180**	P	**P**	**17 53 48.0**	**+0.6**	
IL31		**83.87**	**22**	P	**P**	**17 53 48.3**	**+0.5**	
IL31				IAmb	IAmb	17 53 48.9		
	comp=Z,6.2nm,0.8s							
ILAR	**Eielson Array**	**83.87**	**22**	P	**P**	**17 53 47.0**	**-0.8**	
	comp=Z,4.8nm,0.7s,baz=251,slow=5.2,SNR=43							
ILAR				LR	LR	18 31 09.4		
	comp=Z,17nm,18.5s,baz=237,slow=36							
	comp=Z,4.8nm,0.7s							
ILAR	**Eielson Array**	**83.87**	**22**	P	**P**	**17 53 47.7**	**-0.1**	
MENT	**Mentasta**	**84.28**	**25**	P	**P**	**17 53 50.8**	**+0.8**	
MENT				IAmb	IAmb	17 53 52.4		
	comp=Z,3.3nm,0.6s							
J25K	**Salcha River,**	**84.37**	**23**	P	**P**	**17 53 51.2**	**+0.7**	
DOT	**Dot Lake**	**84.45**	**24**	P	**P**	**17 53 51.9**	**+1.0**	
DOT				IAmb	IAmb	17 53 53.4		
	comp=Z,7.2nm,1.0s							
L26K	**Log Cabin Wild**	**84.47**	**25**	P	**P**	**17 53 52.2**	**+1.2**	
M27K	**Edge Creek, AK**	**84.81**	**25**	P	**P**	**17 53 54.4**	**+1.5**	
M27K				IAmb	IAmb	17 53 56.2		
	comp=Z,7.6nm,0.7s							
J26L	**Joseph Creek**	**85.02**	**23**	P	**P**	**17 53 54.8**	**+1.0**	
K27K	**Chicken**	**85.41**	**24**	P	**P**	**17 53 57.6**	**+2.0**	
K27K				IAmb	IAmb	17 53 59.2		
	comp=Z,4.1nm,0.8s							
BMAR	**Burnt Mountain**	**85.94**	**20**	P	**P**	**17 54 01.5**	**+3.2**	
EGAK	**Eagle**	**86.08**	**23**	P	**P**	**17 54 00.5**	**+1.6**	
EGAK				IAmb	IAmb	17 54 01.3		
	comp=Z,5.3nm,0.9s							
I29M	**Ogilvie Camp,**	**87.42**	**23**	P	**P**	**17 54 06.6**	**+1.1**	
I29M				IAmb	IAmb	17 54 08.3		
	comp=Z,5.2nm,0.9s							
NVAR	**Mina Array Bea**	**93.79**	**52**	P	**P**	**17 54 37.2**	**+1.1**	
	comp=Z,1.0nm,0.8s,baz=248,slow=6.3,SNR=6.8							
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**124.69**	**328**	PKP	**PKiKP**	**18 00 18.3**	**-0.2**	
	comp=Z,0.6nm,0.6s,baz=50,slow=2.1,SNR=7.1							
TORD	**Torodi Ar. Bea**	**149.69**	**285**	PKPbc	**PKPbc**	**18 01 07.9**	**-1.3**	
	comp=Z,5.0nm,0.6s,baz=70,slow=2.8,SNR=26							

*IDC **07** 17:53:13.8±2.7, 18°.73N×145°.51E, h207km±24km, mb3.1/7, mbtmp3.6/8, Error ellipse: s-maj=41.3km s-min=18.7km az=106.0*

ISC 07 17:53:13.1±0.9, **18°.8N**±0°.1×**145°.5E**±0°.3, **h200**km, **n8, σ0°74/9, mb3.3/7, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.20**	**186**	P	**Pn**	**17 54 31.3**	**+1.2**
	15nm,0.7s,baz=328,slow=3.9,SNR=6.3						
GUMO				S	**Sn**	**17 55 30.5**	**-0.3**
	15nm,0.5s,baz=36,slow=19,SNR=1.5						
WRA	**Warramunga Arr**	**40.00**	**196**	P	**P**	**18 00 28.0**	**-0.6**
	1.0nm,1.1s,baz=20,slow=8.3,SNR=7.5						
	1.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.51**	**209**	P	**P**	**18 00 40.6**	**-0.3**
	0.7nm,0.3s,baz=26,slow=6.3,SNR=19						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**43.67**	**195**	P	**P**	**18 00 57.8**	**-0.5**
	0.1nm,0.4s,baz=10,slow=7.1,SNR=7.4						
	0.1nm,0.4s						
STKA	**Stephens Creek**	**50.51**	**184**	P	**P**	**18 01 50.6**	**-0.3**
	1.3nm,0.9s,baz=304,slow=5.3,SNR=1.3						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**58.25**	**314**	P	**P**	**18 02 47.1**	**+0.5**
	0.2nm,0.5s,baz=104,slow=7.0,SNR=2.3						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**63.66**	**26**	P	**P**	**18 03 22.1**	**-0.6**
	0.3nm,0.6s,baz=248,slow=6.5,SNR=2.9						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**83.26**	**52**	P	**P**	**18 05 18.3**	**+0.6**
	0.5nm,0.6s,baz=253,slow=4.8,SNR=4.0						
	0.5nm,0.6s						

*PRU **07** 18:13:24.8±0.0, 42°.61N×14°.27E, h10km*

*ROM **07** 18:13:26.6±0.0, 42°.803N±0°.003×13°.243E±0°.005, h10km, ML3.3/52, Mw3.3, Error ellipse: s-maj=0.4km s-min=0.1km az=69.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.96; $M_{\theta\theta}$0.49; $M_{\phi\phi}$0.47; $M_{r\theta}$-0.12; $M_{\theta\phi}$-0.55; $M_{\phi r}$0.10; Fault plane solution: $M_0$1.00545×10^{14} NP1:ϕ_s315.00000°, δ41.00000°, λ-89.00000°. NP2:ϕ_s134.00000°, δ49.00000°, λ-91.00000°.*

*LDG **07** 18:13:26.5±0.1, 42°.78N×13°.22E, h10km, Md3.2/2, Ml2.7/12 Error ellipse: s-maj=4.4km s-min=2.7km az=42.0*

*IDC **07** 18:13:30.2±2.3, 43°.09N×13°.34E, h0km, mb3.5/3, mbtmp3.4/7, ML3.4/4, MS2.7/4, Error ellipse: s-maj=32.8km s-min=17.8km az=48.0*

ISC 07 18:13:27.8±0.8, **42°.79N**±0°.01×**13°.20E**±0°.02, **h9**km±4km, **n130, σ2913/167, mb3.6/3, 37C-27D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.07**	**305**	⇑P	**Pg**	**18 13 29.4**	**-0.6**
NRCA				S	**Sg**	**18 13 31.4**	**-0.1**
NRCA				AML	AML		
	comp=E,74200μm,1.5s						
NRCA				AML	AML		
	comp=E,80000μm,1.5s						
NRCA				AML	AML		
	comp=E,74150μm,1.5s						
NRCA				AML	AML		
	comp=N,52250μm,0.7s						
NRCA				AML	AML		
	comp=E,74200μm,1.5s						
NRCA				AML	AML		
	comp=N,55700μm,0.4s						
T1202	**Accumoli, Fraz**	**0.09**	**166**	⇑P	**Pg**	**18 13 29.6**	**-0.6**
T1202				S	**Sg**	**18 13 32.3**	**+0.4**
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
MC2	**Monte Cornacci**	**0.12**	**358**	P	**Pg**	**18 13 29.7**	**-1.0**
MC2				S	**Sg**	**18 13 32.4**	**-0.4**
MMO1	**Montemonaco**	**0.14**	**42**	P	**Pg**	**18 13 29.5**	**-1.5**
MMO1				S	**Sg**	**18 13 32.1**	**-1.1**
T1204	**Amatrice, Fraz**	**0.15**	**142**	⇓P	**Pg**	**18 13 30.3**	**-0.7**
T1204				S	**Sg**	**18 13 33.4**	**+0.1**
T1204				AML	AML		
	comp=N,23350μm,1.0s						
T1204				AML	AML		
	comp=E,49800μm,1.2s						
T1204				AML	AML		
	comp=N,23300μm,1.0s						
T1216	**Preci, Frazion**	**0.16**	**308**	⇓P	**Pg**	**18 13 30.9**	**-0.4**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,28250μm,1.2s						
T1216				AML	AML		
	comp=N,26700μm,1.4s						
T1216				AML	AML		
	comp=E,28200μm,1.2s						
T1216				AML	AML		
	comp=N,26650μm,1.4s						
T1216				AML	AML		
T1241	**Roccafluvione,**	**0.19**	**69**	⇓P	**Pg**	**18 13 30.5**	**-1.2**
T1241				S	**Sg**	**18 13 33.6**	**-0.7**
T1241				AML	AML		
	comp=E,63600μm,1.4s						
T1241				AML	AML		
	comp=N,57100μm,1.1s						
T1241				AML	AML		
	comp=E,61950μm,1.4s						
T1241				AML	AML		
	comp=N,55550μm,1.1s						
T1241				AML	AML		
	comp=E,63650μm,1.4s						
T1241				AML	AML		
	comp=N,57050μm,1.1s						
T1241				AML	AML		
	comp=E,61900μm,1.4s						
T1241				AML	AML		
	comp=N,55500μm,1.1s						
SMA1	**SAN MARTINO**	**0.19**	**147**	⇓P	**Pg**	**18 13 31.0**	**-0.7**
SMA1				S	**Sg**	**18 13 34.8**	**+0.3**
SMA1				AML	AML		
	comp=E,37300μm,1.3s						
SMA1				AML	AML		
	comp=N,27150μm,1.0s						
FEMA	**Monte Fema**	**0.20**	**328**	P	**Pg**	**18 13 31.7**	**-0.2**
FEMA				S	**Sg**	**18 13 35.8**	**+1.0**
FEMA				AML	AML		
	comp=E,17600μm,0.4s						
FEMA				AML	AML		
	comp=N,14850μm,1.3s						
FEMA				AML	AML		
	comp=N,14800μm,1.3s						
T1243	**Rocca Santa Ma**	**0.21**	**117**	⇑P	**Pg**	**18 13 31.0**	**-1.1**
T1243				S	**Sg**	**18 13 34.6**	**-0.5**
T1217	**Poggiodomo (PG**	**0.21**	**248**	P	**Pg**	**18 13 32.4**	**+0.3**
T1217				AML	AML		
	comp=E,6615μm,0.6s						
T1217				AML	AML		
	comp=N,11850μm,1.3s						
T1217				AML	AML		
	comp=E,6910μm,1.6s						
T1217				AML	AML		
	comp=E,6905μm,1.6s						
T1217				AML	AML		
	comp=N,12200μm,1.3s						
AM05	**Amandola Campo**	**0.22**	**32**	⇑P	**Pg**	**18 13 31.2**	**-1.0**
AM05				S	**Sg**	**18 13 34.8**	**-0.5**
AM05				AML	AML		
	comp=E,21050μm,1.1s						
AM05				AML	AML		
	comp=N,21300μm,1.3s						
AM05				AML	AML		
	comp=E,5250μm,1.1s						
AM05				AML	AML		
	comp=E,21100μm,1.1s						
AM05				AML	AML		
	comp=N,21350μm,1.3s						
AM05				AML	AML		
	comp=N,5210μm,1.4s						
LNSS	**Leonessa**	**0.22**	**211**	⇑P	**Pg**	**18 13 32.3**	**0.0**
LNSS				S	**Sg**	**18 13 37.0**	**+1.7**
LNSS				AML	AML		
	comp=E,15200μm,1.4s						
LNSS				AML	AML		
	comp=N,11530μm,0.4s						
T1215	**Vallo di Nera,**	**0.24**	**273**	⇓P	**Pg**	**18 13 32.7**	**0.0**
T1215				S	**Sg**	**18 13 37.9**	**+1.9**
T1215				AML	AML		
	comp=E,5185μm,1.6s						
T1215				AML	AML		
	comp=N,5780μm,1.1s						
T1215				AML	AML		
	comp=E,5560μm,1.6s						
T1215				AML	AML		
	comp=N,6365μm,1.5s						
T1215				AML	AML		
	comp=N,5775μm,1.1s						
T1215				AML	AML		
	comp=N,6370μm,1.5s						
T1215				AML	AML		
	comp=E,5190μm,1.6s						
T1215				AML	AML		
	comp=E,5570μm,1.6s						
FDMO	**Fiordimonte**	**0.26**	**342**	P	**Pg**	**18 13 32.3**	**-0.7**
FDMO				S	**Sg**	**18 13 37.2**	**+0.8**
FDMO				AML	AML		
	comp=E,7700μm,0.5s						
FDMO				AML	AML		
	comp=N,7115μm,1.3s						
RM33	**Pellescritta (**	**0.28**	**177**	⇓P	**Pg**	**18 13 33.1**	**-0.4**
RM33				S	**Sg**	**18 13 38.6**	**+1.3**
RM33				AML	AML		
	comp=N,12400μm,1.3s						
RM33				AML	AML		
	comp=E,10900μm,1.6s						
RM33				AML	AML		
	comp=N,12100μm,1.3s						
RM33				AML	AML		
	comp=E,11150μm,1.6s						
RM33				AML	AML		
	comp=E,10850μm,1.6s						
RM33				AML	AML		
	comp=N,12450μm,1.3s						
GUMA	**Gualdo di Mace**	**0.29**	**21**	⇑P	**Pg**	**18 13 33.1**	**-0.5**
GUMA				S	**Sg**	**18 13 38.1**	**+0.7**
GUMA				AML	AML		
	comp=E,26550μm,0.8s						
GUMA				AML	AML		
	comp=N,26300μm,0.3s						
GUMA				AML	AML		
	comp=N,23250μm,0.4s						
GUMA				AML	AML		
	comp=E,26600μm,0.8s						
GUMA				AML	AML		
	comp=E,25650μm,0.3s						
GUMA				AML	AML		
	comp=N,26350μm,0.3s						
CAMP	**Campotosto**	**0.30**	**148**	⇓P	**Pg**	**18 13 32.9**	**-0.9**
CAMP				S	**Sg**	**18 13 38.0**	**+0.1**
CAMP				AML	AML		
	comp=N,6540μm,1.5s						
CAMP				AML	AML		
	comp=E,7075μm,1.0s						
CSP1	**Cessapalombo**	**0.30**	**1**	P	**Pg**	**18 13 33.0**	**-0.8**
CSP1				S	**Sg**	**18 13 38.1**	**+0.2**
CSP1				AML	AML		
	comp=E,11385μm,0.6s						
CSP1				AML	AML		
	comp=N,12800μm,0.4s						
CSP1				AML	AML		
	comp=E,11380μm,0.6s						
CESI	**CESI - Serrava**	**0.30**	**315**	⇓P	**Pg**	**18 13 33.5**	**-0.4**
CESI				S	**Sb**	**18 13 39.3**	**-1.2**
CESI				AML	AML		
	comp=E,7260μm,1.6s						
CESI				AML	AML		
	comp=N,9640μm,0.8s						
TERO	**Teramo**	**0.34**	**119**	P	**Pg**	**18 13 33.3**	**-1.3**
TERO				S	**Sg**	**18 13 39.1**	**-0.1**
TERO				AML	AML		
	comp=N,14200μm,0.5s						
TERO				AML	AML		
	comp=E,7445μm,0.1s						
TERO				AML	AML		
	comp=N,14900μm,0.5s						
TERO				AML	AML		
	comp=N,14850μm,0.5s						
TERO				AML	AML		
	comp=N,14250μm,0.5s						
TERO				AML	AML		
	comp=E,6790μm,0.3s						
T1247	**Pizzolo (AQ)**	**0.36**	**168**	⇓P	**Pg**	**18 13 34.3**	**-0.6**
T1247				AML	AML		
	comp=N,14000μm,1.6s						
T1247				AML	AML		
	comp=E,14100μm,1.6s						
ARRO	**Arrone**	**0.38**	**236**	⇑P	**Pg**	**18 13 35.3**	**+0.1**
ARRO				AML	AML		
	comp=N,3220μm,1.0s						
ARRO				AML	AML		
	comp=E,2995μm,1.5s						
OFFI	**Offida**	**0.39**	**68**	⇑P	**Pg**	**18 13 35.2**	**-0.2**
OFFI				AML	AML		
	comp=E,23200μm,1.1s						
OFFI				AML	AML		
	comp=N,27350μm,0.8s						
SEF1	**Sefro**	**0.40**	**333**	P	**Pg**	**18 13 35.1**	**-0.5**
SEF1				AML	AML		
	comp=N,5600μm,1.1s						
SEF1				AML	AML		
	comp=E,6890μm,1.4s						
GAG1	**Gagliole**	**0.46**	**348**	⇑P	**Pg**	**18 13 36.5**	**-0.2**
GAG1				AML	AML		
	comp=E,10495μm,1.1s						
GAG1				AML	AML		
	comp=N,8610μm,0.3s						
ASSB	**Assisi San Ben**	**0.47**	**303**	⇓P	**Pg**	**18 13 36.4**	**-0.5**
ASSB				AML	AML		
	comp=E,3460μm,1.6s						
ASSB				AML	AML		
	comp=N,2985μm,1.0s						
CESX	**Cesi**	**0.49**	**248**	⇑P	**Pg**	**18 13 37.1**	**-0.1**
CESX				AML	AML		
	comp=E,2900μm,1.0s						
CESX				AML	AML		
	comp=N,3320μm,1.5s						
SNTG	**Esanatoglia**	**0.50**	**338**	P	**Pg**	**18 13 36.5**	**-1.0**
SNTG				S	**Sb**	**18 13 46.0**	**-0.3**
SNTG				AML	AML		
	comp=N,372μm,1.2s						
SNTG				AML	AML		
	comp=N,2185μm,0.6s						
SNTG				AML	AML		
	comp=N,372μm,1.3s						
SNTG				AML	AML		
	comp=E,271μm,0.8s						
SNTG				AML	AML		
	comp=E,2190μm,0.5s						
FIAM	**Fiamignano**	**0.53**	**186**	⇑P	**Pg**	**18 13 37.5**	**-0.5**
FIAM				S	**Sb**	**18 13 46.0**	**-1.0**
FIAM				AML	AML		
	comp=E,2685μm,1.2s						
FIAM				AML	AML		
	comp=N,2815μm,1.0s						
FIAM				AML	AML		
	comp=E,2680μm,1.2s						
TRTR	**Tortoreto Alta**	**0.53**	**88**	⇑P	**Pg**	**18 13 38.1**	**+0.1**
TRTR				AML	AML		
	comp=E,15850μm,1.0s						
TRTR				AML	AML		
	comp=N,15100μm,1.6s						
EL6	**Elcito**	**0.54**	**353**	P	**Pg**	**18 13 37.2**	**-1.1**
EL6				AML	AML		
	comp=E,4215μm,0.8s						
EL6				AML	AML		
	comp=N,5940μm,0.9s						
EL6				AML	AML		
	comp=E,4210μm,0.8s						
ATCC	**AVT- Casa Cast**	**0.57**	**314**	⇓P	**Pg**	**18 13 38.2**	**-0.6**
ATCC				AML	AML		
	comp=E,4745μm,0.8s						
ATCC				AML	AML		
	comp=N,4905μm,1.1s						
ATCC				AML	AML		
	comp=E,4740μm,0.8s						
ATCC				AML	AML		
	comp=N,4900μm,1.1s						
CING	**Cingoli**	**0.58**	**0**	⇓P	**Pg**	**18 13 38.2**	**-0.9**
CING				AML	AML		
	comp=N,1735μm,0.5s						
CING				AML	AML		
	comp=E,2430μm,1.2s						
FOSV	**Fossato di Vic**	**0.59**	**328**	⇓P	**Pg**	**18 13 38.5**	**-0.8**
FOSV				AML	AML		
	comp=E,2500μm,1.0s						
FOSV				AML	AML		
	comp=E,2505μm,1.0s						
FOSV				AML	AML		
	comp=N,5350μm,0.4s						
VCEL	**Villa Celiera**	**0.62**	**130**	⇑P	**Pg**	**18 13 38.8**	**-1.0**
VCEL				AML	AML		
	comp=N,4095μm,0.9s						
VCEL				AML	AML		
	comp=E,4005μm,1.3s						
PP3	**Marolino**	**0.66**	**27**	⇑P	**Pg**	**18 13 40.0**	**-0.5**
PP3				AML	AML		
	comp=E,6620μm,1.0s						
PP3				AML	AML		
	comp=N,5645μm,1.2s						
PP3				AML	AML		
	comp=E,6835μm,1.0s						
PP3				AML	AML		
	comp=N,5540μm,1.3s						
PP3				AML	AML		
	comp=N,5650μm,1.3s						
PP3				AML	AML		
	comp=N,5545μm,1.3s						
PP3				AML	AML		
	comp=E,6830μm,1.0s						
MURB	**Monte Urbino**	**0.68**	**314**	P	**Pg**	**18 13 40.5**	**-0.5**
MURB				S	**Sb**	**18 13 53.0**	**+1.5**
MURB				AML	AML		
	comp=E,3970μm,1.0s						
MURB				AML	AML		
	comp=N,4235μm,1.0s						
MURB				AML	AML		
	comp=E,4345μm,1.1s						
MURB				AML	AML		
	comp=N,4235μm,1.0s						
MURB				AML	AML		
	comp=N,3935μm,1.0s						
T0110	**Collepietro**	**0.71**	**142**	⇓P	**Pg**	**18 13 39.9**	**-1.6**
T0110				AML	AML		
	comp=E,2620μm,1.0s						
T0110				AML	AML		
	comp=N,2490μm,0.9s						
SSFR	**Montelago di S**	**0.71**	**335**	⇓P	**Pg**	**18 13 40.7**	**-0.8**
SSFR				AML	AML		
	comp=E,2105μm,1.6s						
SSFR				AML	AML		
	comp=E,2610μm,0.4s						
SSFR				AML	AML		
	comp=N,2365μm,1.4s						
SSFR				AML	AML		
	comp=N,2395μm,0.9s						
ATFO	**Monte Foce - G**	**0.73**	**322**	⇓P	**Pg**	**18 13 41.0**	**-1.0**
ATFO				S	**Sb**	**18 13 54.0**	**+0.9**
ATFO				AML	AML		
	comp=N,1390μm,0.7s						
ATFO				AML	AML		
	comp=N,1385μm,0.7s						

ATFO AML AML
comp=E,2310µm,1.0s
ATTE AVT- Monte Tez 0.74 304 ⇓P **Pn 18 13 44.1 -0.4**
SRES S.Oreste - Sor 0.75 223 ⇓P **Pb 18 13 42.8 -0.3**
SRES AML AML
comp=E,839µm,1.6s
SRES AML AML
comp=N,672µm,0.8s
FRON Frontone 0.80 335 ⇑P **Pg 18 13 42.2 -1.1**
FRON S **Sb 18 13 56.0 +1.0**
FRON AML AML
comp=N,1910µm,0.4s
FRON AML AML
comp=E,1390µm,0.9s
MGAB Montegabbione 0.81 279 ⇑P **Pg 18 13 42.9 -0.4**
MGAB AML AML
comp=E,2495µm,1.6s
MGAB AML AML
comp=E,2195µm,1.6s
MGAB AML AML
comp=N,2340µm,0.7s
MGAB AML AML
comp=N,2225µm,0.7s
AOI Ancona 0.81 21 ⇑P **Pg 18 13 42.7 -0.8**
AOI AML AML
comp=N,1365µm,1.1s
AOI AML AML
comp=E,1105µm,1.2s
ATVO AVT- Monte Val 0.83 316 P **Pg 18 13 41.6 -2.1**
ATVO S **Sb 18 13 57.0 +1.3**
ATVO AML AML
comp=E,1205µm,1.6s
ATVO AML AML
comp=N,1135µm,1.0s
COR1 Corinaldo 0.85 350 ⇑P **Pg 18 13 44.0 -0.2**
COR1 AML AML
comp=E,4420µm,1.2s
COR1 AML AML
comp=N,3840µm,1.4s
CERT Cerreto 0.86 191 ⇑P **Pg 18 13 43.2 -1.0**
CERT AML AML
comp=N,1370µm,0.8s
CERT AML AML
comp=E,1765µm,1.4s
ATMI Monte Miggiano 0.87 309 P **Pg 18 13 44.2 -0.3**
ATMI AML AML
comp=E,2295µm,0.7s
ATMI AML AML
comp=N,2435µm,1.4s
ATPI Pietralunga - 0.88 319 ⇑P **Pg 18 13 43.8 -0.9**
ATPI AML AML
comp=E,1194µm,1.0s
ATPI AML AML
comp=N,978µm,0.5s
ATPI AML AML
comp=E,1194µm,1.0s
ATPI AML AML
comp=N,982µm,0.5s
PIEI Pieia 0.89 327 ⇑P **Pg 18 13 43.6 -1.2**
PIEI S **Sn 18 13 59.0 -0.6**
PIEI AML AML
comp=E,734µm,0.4s
PIEI AML AML
comp=N,915µm,1.0s
NARO Abbazia di Nar 0.93 331 ⇓P **Pg 18 13 44.7 -1.0**
INTR Introdacqua 0.94 146 ⇑P **Pg 18 13 44.0 -1.8**
INTR AML AML
comp=E,802nm,0.6s
INTR AML AML
comp=N,5685µm,0.3s
INTR AML AML
comp=N,5685µm,0.3s
INTR AML AML
comp=E,803nm,0.6s
SACS San Casciano d 0.95 274 P **Pg 18 13 46.3 +0.3**
SACS AML AML
comp=E,2295µm,1.6s
SACS AML AML
comp=N,1420µm,1.1s
SACS AML AML
comp=N,1255µm,1.1s
SACS AML AML
comp=E,2220µm,1.6s
FSSB Fossombrone 0.95 341 P **Pg 18 13 44.8 -1.3**
FSSB AML AML
comp=N,3530µm,0.4s
FSSB AML AML
comp=E,2330µm,0.4s
BADI Badiali 1.00 316 ⇑P **Pg 18 13 46.4 -0.6**
PE3 Peglio 1.04 331 P **Pg 18 13 47.1 -0.6**
LPEL Lama dei Pelig 1.04 135 ⇑P **Pg 18 13 46.8 -1.0**
LPEL S **Sn 18 14 03.0 -0.5**
LPEL AML AML
comp=N,830µm,1.1s
LPEL AML AML
comp=E,1095µm,1.4s
CAFI Castiglion Fio 1.05 301 P **Pg 18 13 47.1 -0.8**
CAFI AML AML
comp=N,525µm,1.1s
CAFI AML AML
comp=E,560µm,0.9s
GIUL Giuliano Di Ro 1.23 178 ⇓P **Pg 18 13 51.8 +0.3**
FRES Fresagrandinar 1.36 126 P **Pn 18 13 51.8 -1.2**
FRES AML AML
comp=N,358µm,1.5s
FRES AML AML
comp=E,500µm,0.8s
TRIV Trivento 1.44 135 ⇓P **Pg 18 13 55.3 0.0**
RUFI Rufina 1.62 311 ⇑P **Pn 18 13 57.2 +0.7**
CASP Castiglione de 1.71 271 ⇑P **Pn 18 13 57.7 -0.2**
CASP AML AML
comp=N,92µm,1.2s
CASP AML AML
comp=E,100µm,1.5s
MELA Melanico ??? S 1.80 126 ⇑P **Pn 18 13 58.0 -1.0**
MELA AML AML
comp=N,879µm,0.8s
MELA AML AML
comp=N,896µm,0.9s
MELA AML AML
comp=E,692µm,1.5s
MELA AML AML
comp=E,648µm,1.2s
FIU Minerbio Fiu 2.22 327 P **Pb 18 14 08.9 +0.8**
SNAL S. Angelo Dei 2.40 140 ⇑P **Pb 18 14 10.3 -0.9**
VULT Monte Vulture 2.58 135 P **Pn 18 14 10.9 +1.1**
NDIM Novi di Modena 2.67 322 ⇑P **Pg 18 14 19.4 +0.4**
PZUN Potenza 2.90 137 ⇓P **Pn 18 14 12.1 -2.1**
PZUN AML AML
comp=E,101µm,1.4s
PZUN AML AML
comp=N,152µm,1.3s
CMPR Campora 2.93 147 S **Sn 18 14 49.0 -1.1**
PGF Pioggiola 3.10 267 *eP* **Pn 18 14 17.4 +0.3**
PGF *eSn* **Sn 18 14 49.6 -4.7**
comp=N,9.5nm,0.7s
MTSN Montesano sull 3.17 142 ⇑P **Pn 18 14 15.8 -2.1**
MTSN AML AML
comp=E,76µm,1.6s
MTSN AML AML
comp=N,51µm,1.4s
ROVR Rover Verones 3.24 333 P **Pn 18 14 17.1 -1.8**
ROVR AML AML
comp=E,42µm,1.0s
ROVR AML AML
comp=N,42µm,0.8s
CGRP Cima Grappa 3.25 343 ⇓P **Pn 18 14 20.2 +1.1**
STON Ston 3.31 87 ⇑P **Pn 18 14 17.7 -2.1**
STON AML AML
comp=E,62µm,1.6s
STON AML AML
comp=N,57µm,1.4s
DOSS Dosso del Somm 3.41 336 P **Pn 18 14 22.7 +1.4**
SALO Salr 3.42 327 ⇓P **Pn 18 14 23.9 +2.6**
CTI Castel Tesino 3.44 342 ⇑P **Pn 18 14 23.0 +1.3**
STAL STALIGIAL 3.48 354 ⇓P **Pn 18 14 22.6 +0.4**
NOCI Noci 3.52 123 ⇑P **Pn 18 14 23.5 +0.8**
LUSI Trento, Gardas 3.56 334 ⇑P **Pn 18 14 24.5 +1.3**
ACOM Acomizza, Ital 3.76 3 ⇑P **Pn 18 14 26.6 +0.3**
MABI Malga Bissina 3.79 330 ⇓P **Pn 18 14 28.2 +1.7**
EUCT Pavia 3.79 311 ⇑P **Pb 18 14 34.0 -0.9**
OBKA Obir 3.84 14 *ePn* **Pn 18 14 28.1 +0.9**
comp=N,1.3nm,0.2s
MYKA Terra Mystica 3.85 5 *ePn* **Pn 18 14 28.7 +1.4**
comp=N,4.8nm,0.4s
MYKA *eSn* **Sn 18 15 15.3 +2.6**
comp=N,6.7nm,0.4s
KOSI Kohlern 3.89 341 ⇑P **Pn 18 14 29.1 +1.1**
ABTA Abfaltersbach 3.98 353 *ePn* **Pn 18 14 29.8 +0.6**
comp=N,9.5nm,0.4s
SOKA Soboth 4.10 18 *ePn* **Pn 18 14 31.5 +0.8**
comp=N,0.6nm,0.2s
KBA Koelnbreinsper 4.29 1 *ePn* **Pn 18 14 34.3 +0.9**
comp=N,3.6nm,0.3s
PIPA Pietrapiola 4.29 139 S **Sn 18 15 23.0 -0.4**
ROSI Rosskopf 4.33 344 ⇓P **Pn 18 14 35.8 +1.8**
SBF Sospel 4.34 286 *eP* **Pn 18 14 34.6 +0.6**
SBF *eSn* **Sn 18 15 18.9 -5.8**
comp=N,10nm,0.6s
FETA Feichten 4.58 338 *ePn* **Pn 18 14 38.8 +1.4**
comp=N,6.3nm,0.9s
WTTA Wattenberg 4.61 347 *ePn* **Pn 18 14 37.2 -0.6**
comp=N,1.6nm,0.3s
DAVOX Davos/Dischmat 4.63 331 Pn **Pn 18 14 40.8 +2.6**
comp=N,1.1nm,0.3s,baz=148,slow=19,SNR=23
DAVOX Sn **Sn 18 15 37.2 +5.0**
comp=N,0.5nm,0.3s,baz=25,slow=19,SNR=1.6
comp=N,7.3nm,0.6s
SQTA Sankt Quirin 4.65 343 *ePn* **Pn 18 14 39.8 +1.5**
comp=N,3.3nm,0.2s
WATA Walderalm 4.69 346 *ePn* **Pn 18 14 41.4 +2.5**
comp=N,2.5nm,0.4s
ARSA Arzberg 4.75 20 *ePn* **Pn 18 14 40.0 +0.3**
comp=N,1.8nm,0.4s
MOTA Moosalm 4.79 343 *ePn* **Pn 18 14 42.8 +2.5**
comp=N,1.8nm,0.3s
BIOA Bad Ischl, Aus 4.91 4 *ePn* **Pn 18 14 42.8 +0.9**
comp=N,4.9nm,0.3s
LMR La Mourre 4.93 279 *eP* **Pn 18 14 42.4 +0.4**
LMR *eSn* **Sn 18 15 33.1 -6.1**
comp=N,0.5nm,0.3s
RETA Reutte 5.00 341 *ePn* **Pn 18 14 46.1 +2.9**
comp=N,2.0nm,0.3s
MBDF Montbardon 5.04 295 *eP* **Pn 18 14 44.9 +1.2**
MBDF *eSn* **Sn 18 15 35.7 -6.4**
comp=N,2.8nm,0.6s
DAVA Damuels 5.07 334 *ePn* **Pn 18 14 46.6 +2.4**
comp=N,6.8nm,0.7s
LPG La Plagne 5.37 302 *eP* **Pn 18 14 49.5 +1.2**
LPG *eSn* **Sn 18 15 43.8 -6.6**
comp=N,1.8nm,0.4s
RONA Rosalia, Austr 5.37 23 *ePn* **Pn 18 14 47.9 -0.3**
comp=N,0.5nm,0.2s
CONA Conrad Observa 5.47 19 *ePn* **Pn 18 14 49.4 -0.1**
comp=N,0.9nm,0.2s
CONA *eSn* **Sn 18 15 52.9 +0.3**
comp=N,2.6nm,0.5s
SMRF Simiane la Rot 5.68 285 *eP* **Pn 18 14 54.1 +1.7**
ORIF Oris-en-Rattie 5.70 294 *eP* **Pn 18 14 54.0 +1.3**
ORIF *eSn* **Sn 18 15 51.5 -6.8**
comp=N,1.8nm,0.5s
GERES GERESS Array B 6.07 3 Pn **Pn 18 14 57.2 -0.6**
comp=N,0.4nm,0.3s,baz=184,slow=14,SNR=10
GERES Sn **Sn 18 16 03.6 -3.7**
comp=N,0.8nm,0.3s,baz=177,slow=21,SNR=5.7
comp=N,0.7nm,0.3s
CKRC Cesky Krumlov 6.08 7 *eSN* **Sn 18 16 04.8 -2.8**
CABF La Chapelle 6.34 309 *eP* **Pn 18 15 03.0 +1.5**
CABF *eSn* **Sn 18 16 06.7 -7.4**
comp=N,1.5nm,0.6s
KHC Kasperske Hory 6.35 2 *ePN* **Pn 18 14 59.6 -1.9**
KHC *eSN* **Sn 18 16 11.9 -2.3**
HINF Hinteralfeld 6.72 321 *eP* **Pn 18 15 08.2 +1.5**
HINF *eSn* **Sn 18 16 15.6 -7.9**
comp=N,6.3nm,0.5s
CDF Champ du Feu 6.99 326 *eP* **Pn 18 15 11.3 +0.9**
CDF *eSn* **Sn 18 16 21.8 -8.2**
comp=N,1.0nm,0.3s
HAU Haudompre 7.10 320 *eP* **Pn 18 15 13.6 +1.8**
HAU *eSn* **Sn 18 16 24.6 -8.0**
comp=N,8.6nm,0.5s
BRG Berggiesshubel 8.10 3 *ex* x 18 17 07.0
BRG Amp 18 17 12.6
comp=Z,2.8nm,0.9s
BRG *ex* x 18 17 53.8
BRG Amp 18 18 36.6
comp=Z,6.8nm,1.2s
CLL Collm 8.52 359 *ex* x 18 17 05.0
CLL *ex* x 18 17 19.0
CLL *ex* x 18 17 28.0
CLL *ex* x 18 17 50.0
CLL *eSg* **Sg 18 17 57.0 -4.1**
comp=Z,13nm,1.4s
MLR Muntele Rosu 9.56 69 Pn **Pn 18 15 48.1 +2.5**
comp=Z,0.1nm,0.3s,baz=255,slow=12,SNR=3.7
comp=Z,1.6nm,0.8s
ESDC Sonseca Array 13.29 262 LR LR 18 21 15.9
comp=Z,28nm,18.7s,baz=323,slow=35
AKASG Malin Array Be 13.52 49 LR LR 18 23 01.2
comp=Z,32nm,18.7s,baz=195,slow=43
BRTR Keskin Array B 15.67 94 LR LR 18 24 23.6
comp=Z,45nm,18.1s,baz=305,slow=42
EKA Eskdalemuir Ar 16.45 325 Pn **Pn 18 17 20.0 +1.4**
baz=149,slow=13
comp=Z,0.3nm,0.6s
NOA NORSAR Array B 18.32 357 LR LR 18 26 12.7
comp=Z,17nm,19.0s,baz=0.0,slow=42
KBZ Khabaz 21.60 77 P **P 18 18 19.9 +2.0**
comp=Z,1.0nm,0.5s,baz=300,slow=8.1,SNR=4.4
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 47.76 60 P **P 18 22 06.7 +1.6**
comp=Z,0.3nm,0.6s,baz=277,slow=6.4,SNR=4.8
comp=Z,0.3nm,0.6s
ILAR Eielson Array 71.64 351 P **P 18 24 51.1 +1.8**
comp=Z,0.5nm,1.0s,baz=24,slow=7.9,SNR=2.9
comp=Z,0.5nm,1.0s

ROM 07 18:14:14.6±0.1, 42°.805N±0°.004×13°.085E±0°.005, h11km, Md1.3/4, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=336.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**38**	⇓P	Pg	18 14 17.0	+0.3
NRCA				S	Sg	18 14 18.1	-0.2
NRCA				END			
T1216	**Preci, Frazion**	**0.10**	**331**	P	Pg	18 14 17.8	+0.5
T1216				S	Sg	18 14 19.8	+0.5
T1216				END			
MC2	**Monte Cornacci**	**0.13**	**36**	P	Pg	18 14 18.4	+0.5
MC2				S	Sg	18 14 21.1	+0.8
MC2				END			
T1202	**Accumoli, Fraz**	**0.14**	**135**	P	Pg	18 14 18.6	+0.6
T1217	**Poggiodomo (PG**	**0.15**	**230**	P	Pg	18 14 18.6	+0.6
T1217				END			
T1215	**Vallo di Nera,**	**0.16**	**269**	⇑P	Pg	18 14 18.8	+0.6
T1215				S	Sg	18 14 21.6	+0.9
MMO1	**Montemonaco**	**0.20**	**62**	P	Pg	18 14 19.4	+0.5
MMO1				S	Sg	18 14 22.8	+0.9
LNSS	**Leonessa**	**0.20**	**189**	P	Pg	18 14 19.6	+0.6
LNSS				S	Sg	18 14 23.1	+1.1
CESI	**CESI - Serrava**	**0.24**	**327**	P	Pg	18 14 20.1	+0.5
CESI				S	Sg	18 14 24.3	+1.3
T1243	**Rocca Santa Ma**	**0.29**	**112**	P	Pg	18 14 20.7	+0.2
T1243				S	Sg	18 14 25.4	+1.0

*IDC **07** 18:15:30.7±0.5, 2°.88N×96°.57E, h0km, mb4.5/35, mbtmp4.5/37, ML3.9/2, MS3.6/34, Error ellipse: s-maj=19.1km s-min=11.5km az=42.0*
*NEIC **07** 18:15:36.4±1.6, 2°.83N±0°.02×96°.48E±0°.09, h35km±8km, mb4.7/70, Error ellipse: s-maj=13.6km s-min=1.6km az=78.0*
*BJI **07** 18:15:36.4±0.0, 2°.89N×96°.58E, h59km, mb4.7/34, mbB4.8/13, Ms4.1/5, Ms7 3.9/5*
*DJA **07** 18:15:37.2±2.7, 3°N±3°×9°E±°, h20km±27km, M4.7/11, mb4.7/4, mB5.5/2, MLv4.7/11, Mw(mB)4.9/2*

ISC 07 18:15:36.0±0.4, 2°.91N±0°.05×96°.55E±0°.05, h33km, n180, σ1§09/166, mb4.7/72, MS3.6/33, 4C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCSI	**Kotacane, Aceh**	**1.36**	**63**	P	**Pb**	**18 15 59.9**	**-1.1**
KCSI				S	**Sb**	**18 16 17.9**	**-0.2**
GSI	**Gunungsitoli**	**1.90**	**147**		**Pn**	**18 16 06.5**	**+0.5**
GSI	**Gunungsitoli**	**1.90**	**147**	P	**Pn**	**18 16 06.7**	**+0.7**
GSI	**Gunungsitoli**	**1.90**	**147**	P	**Pn**	**18 16 07.5**	**+1.5**
TSI	**Tuntungan**	**2.10**	**74**	P	**Pb**	**18 16 13.6**	**+0.2**
LHMI	**Lhok Sumawe**	**2.34**	**10**	Pn	**Pn**	**18 16 14.4**	**+2.3**
LHMI	**Lhok Sumawe**	**2.34**	**10**	P	**Pn**	**18 16 15.0**	**+2.9**
LHMI	**Lhok Sumawe**	**2.34**	**10**	P	**Pb**	**18 16 15.3**	**-2.2**
PSI	**Prapat**	**2.38**	**92**	Pn	**Pn**	**18 16 14.9**	**+2.2**
	7.0nm,0.3s,baz=270,slow=7.6,SNR=14						
PSI				Sn	**Sn**	**18 16 40.4**	**-0.4**
	21nm,0.3s,baz=300,slow=20,SNR=7.0						
PSI				LR	LR	18 17 27.8	
	comp=Z,2µm,18.2s,baz=282,slow=50						
PSI	**Prapat**	**2.38**	**92**	P	**Pn**	**18 16 15.0**	**+2.2**
RPSI	**Rantau Prapat**	**2.38**	**95**		**Pn**	**18 16 14.6**	**+1.9**
RPSI	**Rantau Prapat**	**2.38**	**95**		**Pn**	**18 16 14.9**	**+2.2**
MNSI	**Mandailing Nat**	**3.69**	**125**	P	**Pn**	**18 16 32.3**	**+1.6**
KULM	**Kulim**	**4.73**	**60**	Pn	**Pn**	**18 16 46.4**	**+1.4**
IPM	**Ipoh**	**4.73**	**71**	Pn	**Pn**	**18 16 46.8**	**+1.7**
IPM	**Ipoh**	**4.73**	**71**	P	**Pn**	**18 16 47.1**	**+2.0**
BKNI	**Bangkinang**	**5.17**	**120**	Pn	**Pn**	**18 16 50.6**	**-0.5**
SRIT	**Nakonsritamara**	**6.42**	**28**		**Pn**	**18 17 09.2**	**+1.0**
KRJI	**Kerinci**	**6.98**	**135**	P	**Pn**	**18 17 19.6**	**+3.5**
	0.7nm8µm114nm,0.6s						
MYKOM	**Kota Tinggi**	**7.38**	**98**		**Pn**	**18 17 22.4**	**+0.9**
MNAI	**Manna**	**9.65**	**138**	Pn	**Pn**	**18 17 51.7**	**-0.9**
MNAI	**Manna**	**9.65**	**138**	P	**Pn**	**18 17 52.6**	**0.0**
LEM	**Lembang**	**14.68**	**131**	LR	LR	18 25 46.5	
	comp=Z,267nm,21.6s,baz=330,slow=42						
UBPT	**Khong Chiam**	**15.12**	**35**	P	**P**	**18 19 11.4**	**-0.6**
CM31	**Chiang Mai Arr**	**15.63**	**8**		**Pn**	**18 19 14.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**15.63**	**8**	Pn	**Pn**	**18 19 14.6**	**+0.7**
	0.4nm,0.3s,baz=198,slow=11,SNR=44						
CMAR				LR	LR	18 25 30.7	
	comp=Z,314nm,20.2s,baz=190,slow=38						
	15nm,1.0s						
CMAR	**Chiang Mai Arr**	**15.63**	**8**		**P**	**18 19 16.5**	**-1.3**
SBUM	**Sibu**	**15.66**	**91**	P	**P**	**18 19 17.9**	**-0.3**
PHRA	**Phrae**	**15.91**	**13**	P	**P**	**18 19 20.7**	**-0.1**
CHTO	**Chiang Mai**	**15.98**	**8**	P	**Pn**	**18 19 20.0**	**+1.5**
PALK	**Pallekele**	**16.36**	**286**	Pn	**Pn**	**18 19 22.5**	**-0.9**
	0.1nm,0.3s,baz=142,slow=12,SNR=1.9						
PALK				Sn	Sn	18 22 11.9	-12
	2.1nm,0.3s,baz=105,slow=19,SNR=12						
PALK				LR	LR	18 25 05.6	
	comp=Z,247nm,21.6s,baz=212,slow=35						
	8.5nm,1.0s						
CRAI	**Chiangrai**	**17.62**	**12**		**Pn**	**18 19 39.8**	**+0.7**
MTKI	**Muara Teweh, K**	**18.74**	**102**	P	**Pn**	**18 19 53.9**	**+1.1**
KKM	**Kota Kinabalu**	**19.85**	**80**	P	**Pn**	**18 20 05.8**	**-0.5**
KKM				IAmb	IAmb	18 20 12.7	
	comp=Z,26nm,1.0s						
BRDH	**Bariadhala**	**20.22**	**347**	LR	LR	18 28 39.8	
	comp=Z,179nm,19.3s,baz=150,slow=39						
MYLDM	**Lahad Datu**	**22.01**	**83**	P	**P**	**18 20 28.4**	**+0.7**
MYLDM				IAmb	IAmb	18 20 31.8	
	comp=Z,35nm,0.9s						
HYBB	**Hyderabad (bro**	**22.80**	**310**	*eP*	**P**	**18 20 39.2**	**+3.0**
KMI	**Kunming**	**22.88**	**15**	⇑P	**P**	**18 20 36.2**	**-0.9**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SHL	**Shillong**	**22.97**	**349**	P	**P**	**18 20 35.7**	**-2.3**
SHL				IAmb	IAmb	18 20 53.0	
	comp=Z,23nm,0.8s						
H08S2	**Diego Garcia H**	**26.19**	**246**	T	T	18 47 46.5	
	baz=68,slow=76,SNR=175						
H08S3	**Diego Garcia H**	**26.19**	**246**	T	T	18 47 39.5	
	baz=68,slow=76,SNR=183						
H08S1	**Diego Carcia H**	**26.21**	**246**	T	T	18 47 48.0	
	baz=68,slow=76,SNR=139						
LSA	**Lhasa**	**27.14**	**350**	P	**P**	**18 21 16.7**	**0.0**
DAV	**Davao City (W)**	**29.21**	**81**	LR	LR	18 36 16.3	
	comp=Z,34nm,20.9s,baz=250,slow=43						
ENH	**Enshi**	**29.85**	**23**	P	**P**	**18 21 39.3**	**-1.1**
ENH				IAmb	IAmb	18 21 40.1	
	comp=Z,9.7nm,0.8s						
XAN	**Xi'an**	**33.05**	**19**	P	**P**	**18 22 06.9**	**-1.7**
XAN				pP	sP	18 22 21.8	+0.1
XAN				pmax	pmax		
	comp=Z,35nm,0.8s						
XAN				LR	LR		
	comp=Z,160nm,15.5s						
XAN				LR	LR		
	comp=Z,140nm,15.5s						
XAN				LR	LR		
	comp=Z,190nm,16.3s						
GOMU	**GeErMu**	**33.17**	**357**	P	**P**	**18 22 09.7**	**-0.2**
GOMU				S	**S**	**18 27 24.5**	**-3.2**
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,72nm,4.1s						
GOMU				LR	LR		
	comp=Z,67nm,9.1s						
GOMU				LR	LR		
	comp=Z,64nm,10.2s						
GOMU				LR	LR		
	comp=Z,58nm,9.4s						
LYN	**LuoYang**	**34.80**	**23**	⇑P	**P**	**18 22 22.3**	**-1.4**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN				pmax	pmax		
	comp=Z,90nm,4.4s						
LYN				LR	LR		
	comp=Z,170nm,14.5s						
LYN				LR	LR		
	comp=Z,120nm,12.2s						
SIJI	**Sorong**	**34.91**	**96**	P	**P**	**18 22 23.9**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=263,slow=8.1,SNR=2.7						
	comp=Z,4.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**35.46**	**127**	P	**P**	**18 22 28.2**	**-1.4**
	comp=Z,5.4nm,0.9s,baz=322,slow=4.8,SNR=7.6						
	comp=Z,5.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**35.46**	**127**	P	**P**	**18 22 28.1**	**-1.5**
FITZ				IAmb	IAmb	18 22 32.4	
	comp=Z,8.0nm,1.1s						
NJ2	**Nanjing**	**35.78**	**33**	*eP*	**P**	**18 22 34.1**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GTA	**Gaotai**	**36.45**	**4**	*eP*	**P**	**18 22 38.7**	**+0.7**
GTA				PcP	**PcP**	**18 25 02.4**	**+0.7**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HNS	**HongShan**	**38.16**	**24**	⇑P	**P**	**18 22 53.2**	**+0.9**
HNS				pmax	pmax		
	comp=Z,15nm,0.6s						
KSH	**Kashi**	**40.96**	**335**	P	**P**	**18 23 14.6**	**-1.2**
KSH				pmax	pmax		
	comp=Z,13nm,0.7s						
BJT	**Baijiatuau**	**41.00**	**23**	P	**P**	**18 23 15.9**	**0.0**
BJT				IAmb	IAmb	18 23 18.5	
	comp=Z,7.9nm,0.7s						
H01W3	**Cape Leeuwin H**	**41.06**	**158**	T	T	19 06 37.2	
	baz=333,slow=76,SNR=23						
H01W2	**Cape Leeuwin H**	**41.07**	**158**	T	T	19 06 38.2	
	baz=333,slow=76,SNR=25						
H01W1	**Cape Leeuwin H**	**41.08**	**158**	T	T	19 06 40.1	
	baz=333,slow=76,SNR=25						
TARG	**Taragay, Kyrgy**	**42.16**	**339**	P	**P**	**18 23 25.9**	**0.0**
TARG				IAmb	IAmb	18 23 28.3	
	comp=Z,20nm,0.8s						
NRN	**Naryn**	**42.57**	**337**	P	**P**	**18 23 29.2**	**-0.1**
NRN				IAmb	IAmb	18 23 31.2	
	comp=Z,15nm,0.8s						
DRK	**Karamyk**	**42.79**	**332**	P	**P**	**18 23 31.1**	**+0.1**
GAR	**Garm**	**43.14**	**330**	P	**P**	**18 23 33.4**	**-0.2**
GAR				IAmb	IAmb	18 23 35.8	
	comp=Z,37nm,1.3s						
WB0	**Warramunga Arr**	**43.46**	**123**	P	**P**	**18 23 35.8**	**-0.6**
WB0				IAmb	IAmb	18 23 36.3	
	comp=Z,11nm,0.8s						
CHGR	**Chuyangaron**	**43.48**	**328**	P	**P**	**18 23 35.9**	**-0.4**
WRA	**Warramunga Arr**	**43.50**	**123**	P	**P**	**18 23 35.7**	**-0.9**
	comp=Z,7.7nm,0.8s,baz=302,slow=9.0,SNR=74						
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**43.50**	**123**	P	**P**	**18 23 35.6**	**-1.0**
BOOM	**Boomskoye usch**	**43.50**	**338**	P	**P**	**18 23 36.2**	**-0.3**
BOOM				IAmb	IAmb	18 23 38.5	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**43.50**	**123**	P	**P**	**18 23 36.1**	**-0.5**
WRAB				IAmb	IAmb	18 23 37.9	
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	**43.51**	**123**	P	**P**	**18 23 36.1**	**-0.6**
WB2				IAmb	IAmb	18 23 37.9	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**43.67**	**123**	P	**P**	**18 23 37.2**	**-0.9**
WR0				IAmb	IAmb	18 23 38.7	
	comp=Z,17nm,0.8s						
BTK	**Batken**	**43.71**	**331**	P	**P**	**18 23 39.1**	**+0.9**
BTK				IAmb	IAmb	18 23 41.1	
	comp=Z,29nm,1.2s						

UCH Uchtor 43.84 336 P P 18 23 40.4 +0.8
SNR=21
TKM2 Tokmak 2 44.00 338 P P 18 23 40.9 +0.3
SNR=16
KBK Karagaybulak 44.02 337 P P 18 23 42.0 +1.2
SNR=13
AML Almayashu 44.09 335 P P 18 23 41.8 +0.2
SNR=9.9
AAK Ala-Archa 44.19 337 P P 18 23 43.3 +1.3
comp=Z,5.4nm,0.9s,baz=166,slow=3.3,SNR=8.3
AAK LR LR 18 44 20.5
comp=Z,95nm,18.9s,baz=151,slow=39
comp=Z,5.4nm,0.9s
AAK Ala-Archa 44.19 337 P P 18 23 42.4 +0.4
CHMS Chumysh 44.39 337 P P 18 23 44.6 +1.1
SNR=5.1
EKS2 Erkin-Say 44.50 336 P P 18 23 45.5 +1.0
SNR=8.5
USP Ospenovka 44.72 337 P P 18 23 46.3 +0.2
SNR=29
KSRS Korea Array 44.84 36 P P 18 23 46.4 -0.7
comp=Z,0.9nm,0.7s,baz=232,slow=8.9,SNR=6.9
KSRS LR LR 18 44 31.1
comp=Z,90nm,18.8s,baz=230,slow=39
comp=Z,0.9nm,0.7s
ASAR Alice Springs 44.95 128 P P 18 23 47.4 -0.8
comp=Z,2.5nm,0.8s,baz=302,slow=8.0,SNR=31
ASAR LR LR 18 45 17.2
comp=Z,68nm,20.1s,baz=270,slow=40
comp=Z,2.5nm,0.8s
AS31 Alice Springs 44.95 128 P P 18 23 47.4 -0.8
FORT Forrest 45.00 140 P P 18 23 49.2 +0.8
MK31 Makanchi Array 45.44 346 P P 18 23 51.2 -0.5
MK31 IAmb IAmb 18 23 53.0
comp=Z,14nm,0.8s
MKAR Makanchi Array 45.44 346 P P 18 23 51.6 -0.2
comp=Z,20nm,0.8s,baz=163,slow=7.4,SNR=124
MKAR LR LR 18 45 34.7
comp=Z,44nm,20.1s,baz=158,slow=40
comp=Z,20nm,0.8s
MKAR Makanchi Array 45.44 346 P P 18 23 50.8 -1.0
MAKZ Makanchi 45.53 346 P P 18 23 51.5 -1.0
SONM Songino Array 45.56 9 P P 18 23 52.7 -0.1
comp=Z,8.7nm,0.7s,baz=191,slow=8.8,SNR=51
SONM PcP PcP 18 25 31.3 +0.3
comp=Z,2.7nm,0.6s,baz=206,slow=2.5,SNR=7.1
comp=Z,8.7nm,0.7s
SONM Songino Array 45.56 9 P P 18 23 52.3 -0.5
SONM IAmb IAmb 18 23 54.1
comp=Z,9.2nm,0.8s
ULN Ulaanbaatar 45.70 10 P P 18 23 53.3 -0.6
ULN IAmb IAmb 18 23 55.1
comp=Z,5.4nm,0.8s
KK31 Karatay Array 46.25 334 P P 18 23 58.4 +0.2
KK31 IAmb IAmb 18 24 00.1
comp=Z,5.9nm,0.9s
KKAR Karatay Array 46.25 334 P P 18 23 58.4 +0.2
KKAR Karatay Array 46.25 334 P P 18 23 58.7 +0.5
KKAR IAmb IAmb 18 24 00.1
comp=Z,5.9nm,0.9s
GEYT Alibeck 49.50 320 P P 18 24 24.4 +0.9
comp=Z,24nm,0.7s,baz=142,slow=7.3,SNR=38
comp=Z,24nm,0.7s
GEYT Alibeck 49.50 320 P P 18 24 24.3 +0.8
GYA0B ALIBECK ARRAY 49.50 320 P P 18 24 24.0 +0.5
JCJ Chichijima 49.81 57 LR LR 18 43 33.1
comp=Z,26nm,21.8s,baz=210,slow=34
KURBB Kurchatov Arra 49.92 345 P P 18 24 26.3 -0.1
comp=Z,6.7nm,0.7s,baz=165,slow=6.9,SNR=81
KURBB PcP PcP 18 25 46.7 +0.4
comp=Z,1.4nm,0.7s,baz=154,slow=3.2,SNR=5.2
comp=Z,6.7nm,0.7s
KURK Kurchatov 49.99 345 P P 18 24 26.6 -0.3
MJAR Matsushiro Arr 50.89 44 LR LR 18 48 26.2
comp=Z,35nm,18.3s,baz=235,slow=39
USRK Uesurisyk Ar. 51.67 32 P P 18 24 40.4 +0.7
comp=Z,1.4nm,0.5s,baz=238,slow=5.2,SNR=5.8
USRK LR LR 18 48 05.3
comp=Z,33nm,18.2s,baz=198,slow=38
comp=Z,1.4nm,0.5s
ZAA0 Zalesovo Array 51.78 351 P P 18 24 39.9 -0.5
ZALV Zalesovo Beam 51.78 351 P P 18 24 40.0 -0.3
comp=Z,19nm,0.7s,baz=177,slow=6.8,SNR=67
ZALV LR LR 18 48 54.8
comp=Z,52nm,18.1s,baz=139,slow=39
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 51.78 351 P P 18 24 39.7 -0.6
CTA Charters Tower 53.85 117 LR LR 18 52 15.5
comp=Z,50nm,20.5s,baz=278,slow=41
BVAR Borovoye Array 54.43 341 P P 18 24 59.1 -0.8
comp=Z,5.2nm,0.7s,baz=145,slow=8.3,SNR=52
BVAR LR LR 18 51 41.2
comp=Z,52nm,18.5s,baz=149,slow=40
comp=Z,5.2nm,0.7s
BRVK Borovoye 54.50 341 P P 18 24 59.5 -0.9
BRVK IAmb IAmb 18 25 01.2
comp=Z,6.1nm,0.7s
STKA Stephens Creek 54.98 133 P P 18 25 04.0 -0.3
comp=Z,1.3nm,0.6s,baz=328,slow=7.9,SNR=4.0
STKA LR LR 18 51 04.6
comp=Z,43nm,19.8s,baz=26,slow=39
comp=Z,1.3nm,0.6s
KLR Kul'dur 55.04 27 P P 18 25 04.2 -0.2
comp=Z,5.1nm,0.9s,baz=256,slow=7.5,SNR=14
KLR LR LR 18 52 10.2
comp=Z,54nm,19.4s,baz=216,slow=40
comp=Z,5.1nm,0.9s
ABKAR Akbulak array 55.71 332 P P 18 25 08.8 -0.4
ABKAR IAmb IAmb 18 25 10.2
comp=Z,8.1nm,1.1s
AKTO Aktyubinsk 57.43 332 P P 18 25 21.2 -0.3
comp=Z,4.1nm,0.7s,baz=139,slow=8.8,SNR=11
comp=Z,4.1nm,0.7s
KMBO Kilima Mbogo 59.41 267 P P 18 25 36.6 +0.4
comp=Z,2.1nm,0.8s,baz=61,slow=10,SNR=4.8
KMBO LR LR 18 48 59.7
comp=Z,60nm,18.6s,baz=93,slow=34
comp=Z,2.1nm,0.8s
GNI Garni 59.62 316 P P 18 25 36.8 -0.3
comp=Z,11nm,1.0s,baz=132,slow=11,SNR=3.7
GNI LR LR 18 52 50.8
comp=Z,10nm,20.7s,baz=121,slow=38
comp=Z,11nm,1.0s
GURO Guroymak-BITLI 60.93 313 P P 18 25 47.3 +1.2
GURO IAmb IAmb 18 25 48.7
comp=Z,6.9nm,1.0s
ARU Arti 61.37 337 P P 18 25 48.5 0.0
comp=Z,4.5nm,0.8s,baz=135,slow=6.9,SNR=6.7
ARU LR LR 18 54 29.0
comp=Z,69nm,18.6s,baz=158,slow=38
comp=Z,4.5nm,0.8s
ARU Arti 61.37 337 P P 18 25 48.2 -0.3
ARU IAmb IAmb 18 25 50.5
comp=Z,5.5nm,0.9s
MARD Mardin 61.42 311 P P 18 25 49.6 +0.2
MARD IAmb IAmb 18 25 51.7
comp=Z,11nm,1.0s
KBZ Khabaz 62.37 319 P P 18 25 55.4 -0.1
comp=Z,11nm,0.9s,baz=138,slow=4.2,SNR=27
comp=Z,11nm,0.9s
KVAR Kislovodsk Arr 62.59 319 P P 18 25 57.4 +0.3
comp=Z,1.8nm,0.4s,baz=90,slow=6.1,SNR=2.6
comp=Z,1.8nm,0.4s
KIV Kislovodsk 62.60 319 P P 18 25 56.6 -0.6
ASF Jabal al Asfar 62.96 305 P P 18 25 59.9 +0.1
comp=Z,2.1nm,0.8s,baz=135,slow=7.1,SNR=1.8
comp=Z,2.1nm,0.8s
BELG Belogornoye 63.77 329 P P 18 26 04.0 -0.6
comp=Z,22nm,1.0s,baz=115,slow=9.8,SNR=3.9
BELG LR LR 18 58 06.6
comp=Z,42nm,18.3s,baz=160,slow=40
comp=Z,22nm,1.0s
YAK Yakutsk 63.98 17 LR LR 18 58 17.4
comp=Z,47nm,18.4s,baz=268,slow=40
YAK Yakutsk 63.98 17 P P 18 26 04.1 -1.7
EIL Elat 64.01 302 LR LR 18 53 34.2
comp=Z,46nm,20.4s,baz=89,slow=36
MMAI Mount Meron Ar 64.39 305 P P 18 26 09.6 +0.4
comp=Z,2.3nm,0.7s,baz=134,slow=8.2,SNR=3.0
comp=Z,2.3nm,0.7s
MBAR Mbarara 65.88 268 LR LR 18 52 51.4
comp=Z,49nm,19.0s,baz=43,slow=34
NRIK Noril'sk 66.60 357 P P 18 26 22.6 0.0
comp=Z,1.7nm,0.4s,baz=169,slow=4.5,SNR=5.0
comp=Z,1.7nm,0.4s
NRIK Noril'sk 66.60 357 P P 18 26 21.9 -0.8
NRIK IAmb IAmb 18 26 36.5
comp=Z,4.7nm,0.9s

BR131 Keskin Array S 67.49 312 P P 18 26 27.7 -1.4
BR131 IAmb IAmb 18 26 47.8
comp=Z,4.8nm,0.9s
BRTR Keskin Array B 67.49 312 P P 18 26 28.4 -0.7
comp=Z,1.7nm,0.8s,baz=120,slow=7.3,SNR=1.9
BRTR LR LR 18 57 40.0
comp=Z,34nm,20.2s,baz=124,slow=38
comp=Z,1.7nm,0.8s
BRTR Keskin Array B 67.49 312 P P 18 26 28.0 -1.1
ELL Elmali 69.63 308 P P 18 26 42.7 +0.2
LSZ Lusaka 69.98 253 LR LR 18 52 29.4
comp=Z,47nm,21.3s,baz=79,slow=32
PETK Petropavlovsk- 70.69 34 LR LR 18 58 51.2
comp=Z,27nm,20.1s,baz=256,slow=37
OBN Obninsk 70.83 328 P P 18 26 49.2 -0.1
comp=Z,2.5nm,0.4s,baz=90,slow=5.1,SNR=3.2
comp=Z,2.5nm,0.4s
KARP Karpathos 71.59 306 P P 18 26 54.1 -0.3
KLMR Klimovskoe 71.94 334 eP P 18 26 54.3 -1.6
KLMR AMP 18 26 56.6
comp=Z,13nm,1.2s
KLMR ePcP sP 18 27 11.7 +2.2
AKASG Malin Array Be 73.52 322 P P 18 27 04.6 -0.9
comp=Z,2.7nm,0.6s,baz=87,slow=5.2,SNR=22
comp=Z,2.7nm,0.6s
AKASG Malin Array Be 73.52 322 P P 18 27 04.4 -1.0
AKBB Malin Array Si 73.52 322 P P 18 27 04.4 -1.0
AKBB IAmb IAmb 18 27 06.3
comp=Z,10nm,0.8s
MLR Muntele Rosu 74.39 316 P P 18 27 11.6 +0.7
MLR IAmb IAmb 18 27 12.8
comp=Z,7.0nm,1.1s
BURAR Bucovina Array 75.32 319 P P 18 27 16.7 +0.5
BUR08 Bucovina Ar. S 75.34 319 P P 18 27 16.9 +0.6
NACGM Naroch 76.08 326 eP P 18 27 20.7 +0.5
baz=105
KWP Kalwaria Pacla 77.35 320 P P 18 27 27.4 -0.2
KOLS Kolonicke sedl 77.50 319 eP P 18 27 30.1 +1.7
PABE Paberze 77.79 326 P P 18 27 29.7 -0.1
FINES FINESS Array B 78.19 332 P P 18 27 31.6 -0.4
comp=Z,3.9nm,0.9s,baz=95,slow=8.0,SNR=7.3
comp=Z,3.9nm,0.9s
OJC Ojcow 79.30 320 P P 18 27 37.6 -0.7
OJC IAmb IAmb 18 27 38.3
comp=Z,4.4nm,0.8s
SUR Sutherland 79.55 236 LR LR 18 56 48.1
comp=Z,76nm,18.9s,baz=98,slow=31
JAVC Velka Javorina 80.50 319 eP P 18 27 46.5 +1.6
MORC Moravsky Berou 80.69 320 P P 18 27 45.1 -0.8
MORC Moravsky Berou 80.69 320 eP P 18 27 46.3 +0.4
ARCES ARCESS Array B 80.72 340 P P 18 27 45.5 -0.1
comp=Z,5.8nm,0.9s,baz=104,slow=4.6,SNR=11
comp=Z,5.8nm,0.9s
VRAC Vranov 81.25 319 LR LR 19 09 16.9
comp=Z,20nm,18.6s,baz=348,slow=40
GEC2 GERESS Array S 83.11 319 P P 18 27 58.1 -0.6
GEC2 IAmb IAmb 18 28 01.0
comp=Z,5.8nm,1.1s
GERES GERESS Array B 83.11 319 P P 18 27 59.2 +0.5
comp=Z,4.0nm,1.1s,baz=110,slow=6.1,SNR=16
comp=Z,4.0nm,1.1s
GERES GERESS Array B 83.11 319 P P 18 27 58.5 -0.2
CLL Collm 83.70 321 eP P 18 28 02.0 +0.5
CLL esP sP 18 28 19.0 +3.7
CIMO Cimolais 83.84 316 P P 18 28 02.5 +0.1
CIMO IAmb IAmb 18 28 04.3
comp=Z,8.3nm,0.8s
HFS Hagfors 83.93 330 LR LR 19 08 52.2
comp=Z,22nm,18.4s,baz=8.0,slow=38
CTI Castel Tesino 84.38 316 P P 18 28 05.1 -0.2
CTI IAmb IAmb 18 28 07.5
comp=Z,5.9nm,0.8s
WTTA Wattenberg 84.42 317 eP P 18 28 06.4 +0.9
comp=Z,1.2nm,0.4s
MOTA Moosalm 84.79 317 eP P 18 28 07.7 +0.4
SPITS Spitsbergen Ar 85.16 348 LR LR 19 12 23.4
comp=Z,43nm,18.6s,baz=129,slow=40
NB2 NORSAR Subarra 85.21 331 P P 18 28 09.2 +0.2
comp=Z,0.7nm,0.7s,baz=97,slow=5.3
NOA NORSAR Array B 85.21 331 P P 18 28 09.2 +0.2
comp=Z,2.0nm,0.9s,baz=94,slow=5.4,SNR=5.4
NOA LR LR 19 09 31.9
comp=Z,26nm,18.4s,baz=260,slow=38
comp=Z,2.0nm,0.9s
DAVA Damuels 85.62 317 eP P 18 28 12.6 +1.1
comp=Z,2.0nm,0.6s
KEST Kesra 86.05 305 P P 18 28 14.5 +0.7
comp=Z,4.9nm,0.9s,baz=101,slow=5.2,SNR=5.0
comp=Z,4.9nm,0.9s
SENIN Lac Senin/Sane 87.40 316 P P 18 28 19.9 -0.5
SENIN IAmb IAmb 18 28 43.1
comp=Z,6.2nm,1.1s
QSPA South Pole Qui 92.84 180 LR LR 19 06 22.5
comp=Z,52nm,19.6s,baz=293,slow=33
TORD Torodi Ar. Bea 94.07 283 P P 18 28 51.8 0.0
comp=Z,1.8nm,1.0s,baz=82,slow=4.7,SNR=6.6
comp=Z,1.8nm,1.0s
ESDC Sonseca Array 96.23 310 P P 18 29 01.5 +0.2
comp=Z,0.4nm,0.7s,baz=91,slow=5.1,SNR=2.6
comp=Z,0.4nm,0.7s
ILAR Eielson Array 98.39 23 PP PP 18 33 13.2 +2.9
comp=Z,0.5nm,0.9s,baz=302,slow=5.2,SNR=1.5
NVAR Mina Array Bea 127.77 35 PKP PKPdf 18 34 39.0 +0.1
comp=Z,1.3nm,1.0s,baz=262,slow=3.6,SNR=5.3
TXAR Lajitas Array 142.54 30 PKP PKPdf 18 35 06.3 -0.1
comp=Z,1.1nm,1.0s,baz=321,slow=2.3,SNR=5.7
CPUP Villa Florida 145.79 225 PKPbc PKPbc 18 35 12.6 +0.1
comp=Z,4.5nm,1.0s,baz=122,slow=3.8,SNR=6.0

IDC 07 18:33:24.7±2.7,2°23N×95°58E,h0km,mb3.4/3,
mbtmp3.4/4,ML3.0/1,Error ellipse: s-maj=78.4km
s-min=29.5km az=46.0,Off west coast of northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.39**	**80**	Pn	Pn	18 34 19.5	+0.5
	1.5nm,0.3s,baz=300,slow=12,SNR=1.7						
PSI				Sn	Sn	18 34 47.9	-12
	0.9nm,0.3s,baz=43,slow=22,SNR=4.1						
	5.4nm,0.4s						
H08S2	**Diego Garcia H**	**25.04**	**247**	T	T	19 05 37.2	
	baz=68,slow=76,SNR=27						
H08S3	**Diego Garcia H**	**25.04**	**247**	T	T	19 05 37.3	
	baz=68,slow=76,SNR=32						
H08S1	**Diego Garcia H**	**25.05**	**247**	T	T	19 05 35.2	
	baz=68,slow=76,SNR=32						
WRA	**Warramunga Arr**	**43.95**	**122**	P	P	18 41 33.6	-0.4
	0.3nm,0.8s,baz=302,slow=9.1,SNR=5.5						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**45.87**	**347**	P	P	18 41 49.0	+0.1
	0.2nm,0.5s,baz=168,slow=7.4,SNR=2.9						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**52.30**	**352**	P	P	18 42 37.7	-0.3
	0.4nm,0.8s,baz=163,slow=5.6,SNR=2.6						
	0.4nm,0.4s						

*KRSC **07** 18:55:36.6±1.2,48°64N×156°51E,h18km±22km, ML4.0*
*SKHL **07** 18:55:37.2±0.6,48°60N×155°80E,h39km±9km, mb4.0/3*
ISC 07 18:55:38.9±2.0,48°6N±0°2×155°7E±0°2,h36km,n23,
σ1s06/33,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.09**	**7**	P	Pn	18 56 09.7	-1.6
SKR	**Severo-Kuril's**	**2.09**	**7**	eP	Pn	18 56 09.6	-1.7
SKR				AMB	AMB	18 56 10.1	
	20nm,0.8s						
SKR				eS	Sn	18 56 34.4	-1.7
SKR				A	A	18 56 39.0	
	70nm,0.7s						
SKR				A	A	18 56 39.0	
	110nm,0.7s						
PAU	**Pauzhetka**	**2.95**	**14**	P	Pn	18 56 23.3	+0.2
PAU				S	Sn	18 56 57.6	+0.4
PAU	**Pauzhetka**	**2.95**	**14**	eP	Pn	18 56 23.5	+0.4
PAU				AMB	AMB	18 56 23.6	
	30nm,0.4s						
PAU				eS	Sn	18 56 56.4	-0.8
PAU				A	A	18 57 00.1	
	60nm,0.3s						
PAU				A	A	18 57 00.1	
	90nm,0.3s						
KDTR	**Khodutka, Kamc**	**3.55**	**25**	P	Pn	18 56 31.2	-0.1
KDTR				S	Sn	18 57 10.7	-1.3

ASAK Asacha 4.03 20 P Pn 18 56 38.8 +0.8
MTVR Mutnovka 4.19 21 P Pn 18 56 40.9 +0.6
MTVR S Sn 18 57 28.7 +0.7
GRL Gorelyy 4.23 20 P Pn 18 56 41.8 +1.0
RUS Russkaya 4.23 24 P Pn 18 56 40.4 -0.3
RUS S Sn 18 57 28.8 +0.1
KRMR Karymshinskiy 4.50 19 P Pn 18 56 45.7 +1.3
PET Petropavlovsk 4.80 22 eP Pn 18 56 48.5 0.0
PET eS Sn 18 57 43.8 +1.0
PET A A 18 57 46.2
30nm,0.5s
PET A A 18 57 46.2
40nm,0.5s
DALK Dalny 4.83 23 P Pn 18 56 50.0 +1.1
DALK S Sn 18 57 43.3 -0.3
UGLR Uglovaya 5.01 22 P Pn 18 56 52.8 +1.3
AVH Avacha 5.04 21 P Pn 18 56 53.4 +1.5
KOK Koryaka 5.04 21 P Pn 18 56 53.6 +1.7
SMAR Somma 5.06 22 P Pn 18 56 53.3 +1.1
KRER Koryakskii 5.08 21 P Pn 18 56 53.4 +0.8
SDLR Sedlovina 5.09 22 P Pn 18 56 53.0 +0.4
KRX Arik 5.11 20 P Pn 18 56 54.1 +1.2
SPN Mys Shipunski 5.26 30 P Pn 18 56 54.9 0.0
SPN S Sn 18 57 53.1 -1.1
GNL Ganaly 5.28 15 P Pn 18 56 57.1 +1.8
KUR Kuril'sk 6.33 241 eP Pn 18 57 10.5 +0.9
KUR AMB AMB 18 57 13.0
20nm,0.8s
KUR eS Sn 18 58 20.0 -0.6
KUR A A 18 58 24.3
10.0nm,0.6s
KUR A A 18 58 24.3
60nm,0.6s
KBTR Krutoberegovo 8.76 27 P Pn 18 57 43.0 +0.2

IDC 07 19:02:09.3±2.4,7°56S×130°37E,h0km,mb3.1/1,
mbtmp3.3/4,ML3.0/2,Error ellipse: s-maj=81.5km
s-min=30.6km az=78.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.44**	**203**	Pn	Pn	19 04 54.6	+0.5
	1.0nm,0.3s,baz=29,slow=12						
FITZ				Sn	Sn	19 06 56.5	-6.3
	0.1nm,0.3s,baz=120,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**12.89**	**163**	Pn	Pn	19 05 13.7	-0.4
	0.1nm,0.3s,baz=346,slow=13,SNR=10						
WRA				Sn	Sn	19 07 28.4	-10
	0.1nm,0.3s,baz=340,slow=21,SNR=2.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**16.37**	**168**	Pn	Pn	19 06 00.5	-0.2
	0.1nm,0.3s,baz=343,slow=8.3,SNR=8.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**68.89**	**327**	P	P	19 13 16.0	0.0
	0.1nm,0.5s,baz=125,slow=7.2,SNR=1.7						
	0.1nm,0.5s						

*NEIC **07** 19:06:22.9±0.7,43°79N±0°04×105°27W±0°07,h0km±2km,*
ML3.3/54,Error ellipse: s-maj=8.2km s-min=6.4km
az=98.0
*IDC **07** 19:06:23.9±1.3,44°06N×105°74W,h0km,mb3.7/2,*
mbtmp3.7/6,ML3.7/4,MS3.0/1,Error ellipse: s-maj=40.3km
s-min=8.3km az=145.0
ISC 07 19:06:21.7±1.0,43°78N±0°05×105°22W±0°07,h0km,n53,
σ0s94/51,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.92**	**68**		Pn	19 06 41.4	-0.7
K22A	**Casper**	**1.48**	**220**		Pn	19 06 48.2	-1.6
K22A				IAML		19 07 15.5	
	comp=E,636nm,0.3s						
PHWY	**Pilot Hill**	**2.49**	**184**		Pn	19 07 04.0	+0.2
PHWY				IAML		19 07 42.5	
	comp=E,120nm,0.3s						
RWWY	**Rawlins**	**2.56**	**216**		Pn	19 07 05.9	+1.2
RWWY				IAML		19 07 41.8	
	comp=E,188nm,0.8s						
N23A	**Red Feather La**	**2.94**	**191**		Pn	19 07 11.0	+1.1
N23A				IAML		19 07 55.0	
	comp=E,80nm,0.7s						
N23A				IAML		19 07 56.8	
	comp=N,144nm,0.7s						
LAO	**LASA Array**	**2.99**	**347**		Pn	19 07 11.3	+0.8
LAO				IAML		19 08 13.0	
	comp=N,136nm,0.9s						
RLMT	**Red Lodge**	**3.19**	**296**		Pn	19 07 13.7	+0.3
RLMT				IAML		19 08 04.6	
	comp=N,85nm,0.4s						
RLMT				IAML		19 08 09.2	
	comp=N,99nm,0.3s						
BW06	**Boulder Array**	**3.33**	**254**	Pn	Pn	19 07 15.5	+0.3
BW06				IAML		19 08 09.1	
	comp=N,59nm,0.7s						
BW06				IAML		19 08 12.0	
	comp=N,56nm,0.4s						
PD31	**Pinedale Array**	**3.33**	**254**		Pn	19 07 15.6	+0.4
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	Pn	19 07 16.0	+0.8
	comp=N,9.8nm,0.3s,baz=69,slow=16,SNR=142						
PDAR				Lg	Lg	19 08 00.8	
	comp=N,30nm,0.3s,baz=68,slow=34,SNR=3.1						
	comp=N,7.8nm,0.3s						
PDAR	**Pinedale Array**	**3.33**	**254**		Pn	19 07 15.2	0.0
OGNE	**Ogallala**	**3.69**	**139**		Pn	19 07 21.9	+1.8
GCMT	**Greycliff**	**3.75**	**304**		Pn	19 07 21.7	+0.7
LOHW	**Long Hollow**	**3.91**	**269**		Pn	19 07 23.8	+0.5
ISCO	**Idaho Springs**	**3.99**	**184**		Pn	19 07 25.8	+1.3
MOOW	**Moose Ponds**	**4.00**	**271**		Pn	19 07 25.1	+0.6
REDW	**Red Top Meadow**	**4.11**	**266**		Pn	19 07 26.5	+0.5
REDW				IAML		19 08 32.5	
	comp=N,58nm,1.1s						
REDW				IAML		19 08 48.8	
	comp=N,43nm,1.3s						
IMW	**Indian Meadow**	**4.14**	**274**	Pn	Pn	19 07 27.5	+1.0
IMW				IAML		19 07 55.9	
	comp=N,41nm,0.5s						
IMW				IAML		19 08 48.9	
	comp=N,28nm,0.8s						
YHH	**Holmes Hill**	**4.17**	**286**		Pn	19 07 27.3	+0.5
TPAW	**Teton Pass**	**4.17**	**268**		Pn	19 07 27.2	+0.4
TPAW				IAML		19 08 42.0	
	comp=N,28nm,0.9s						
TPAW				IAML		19 08 50.1	
	comp=N,36nm,0.7s						
FXWY	**Fox Creek**	**4.21**	**270**		Pn	19 07 27.9	+0.5
O20A	**White River Ci**	**4.29**	**213**		Pn	19 07 28.9	+0.5
O20A				IAML		19 08 51.4	
	comp=N,49nm,1.9s						
YHL	**Hebgen Lake**	**4.41**	**286**		Pn	19 07 30.8	+0.6
YHL				IAML		19 08 50.8	
	comp=E,38nm,1.2s						
YHL				IAML		19 09 04.4	
	comp=N,30nm,1.2s						
AHID	**Auburn Hatcher**	**4.41**	**259**		Pn	19 07 31.1	+1.0
AHID				IAML		19 08 43.4	
	comp=N,36nm,0.8s						
ECR	**Eagle Creek**	**4.54**	**263**		Pn	19 07 32.6	+0.7
RDMU	**Red Mountain**	**4.55**	**227**		Pn	19 07 32.1	0.0
RDMU				IAML		19 08 50.1	
	comp=N,36nm,0.7s						
RDMU				IAML		19 08 55.1	
	comp=E,42nm,1.0s						
DGMT	**Dagmar**	**4.74**	**8**	Pn	Pn	19 07 36.4	+1.9
Q24A	**Divide**	**4.82**	**179**		Pn	19 07 35.6	-0.2
Q24A				IAML		19 08 55.6	
	comp=E,31nm,0.3s						
Q24A				IAML		19 08 56.3	
	comp=N,19nm,0.3s						
BOZ	**Bozeman (W)**	**4.92**	**294**		Pn	19 07 37.4	+0.4
BOZ				IAML		19 08 55.0	
	comp=N,21nm,1.3s						
BOZ				IAML		19 08 58.4	
	comp=N,16nm,0.8s						
HWUT	**Hardware Ranch**	**5.16**	**247**		Pn	19 07 40.3	-0.1
EGMT	**Eagleton**	**5.29**	**325**		Pn	19 07 42.5	+0.5
TCUT	**Toone Canyon**	**5.30**	**242**		Pn	19 07 42.2	-0.1
HRY	**Holter Researc**	**5.51**	**304**	Pn	Pn	19 07 45.4	+0.3
LRM	**Limekiln Ridge**	**5.53**	**294**		Pn	19 07 46.1	+0.6
MCMT	**McKenzie Canyo**	**5.57**	**283**		Pn	19 07 46.7	+0.6
MDND	**Maddock**	**5.65**	**42**	Pn	Pn	19 07 47.2	+0.3
HVU	**Hansel Valley**	**5.91**	**253**	Pn	Pn	19 07 51.5	+0.9
PV07	**Paradox Valley**	**5.93**	**207**		Pn	19 07 51.0	0.0

P17A	Butcher Ranch,	5.97 226		Pn		19 07 51.9	+0.4
SRU	San Rafael Swe	6.14 222		Pn		19 07 53.6	-0.2
TMUT	Trail Mountain	6.34 227		Pn		19 07 57.6	+0.9
BGU	Big Grassy Mou	6.45 246		Pn		19 07 58.0	-0.1
Q16A	Castle Valley	6.61 225		Pn		19 08 00.1	-0.1
D32A	Dogwood Acres,	6.67 57		Pn		19 08 00.1	-0.8
DUG	Dugway, Tooele	6.70 240		Pn		19 08 01.4	0.0
ELK	Elko	8.03 251	Pn	Pn		19 08 21.4	+1.6
	comp=N,0.7nm,0.3s,baz=42,slow=14,SNR=11 comp=N,1.2nm,0.3s						
PSUT	Pine Spring	8.36 234	Pn	Pn		19 08 25.1	+0.7
ULM	Lac du Bonnet	9.08 41	Pn	Pn		19 08 35.1	+1.1
	comp=N,2.8nm,0.3s,baz=228,slow=11,SNR=21						
ULM			Lg	Lg		19 11 06.2	
	comp=N,0.3nm,0.3s,baz=140,slow=19,SNR=1.2 comp=N,4.7nm,0.3s						
I56US	NEWPORT INFRAS	9.41 303	*i*			20 00 00.0	
	baz=114,slow=317,SNR=4.2						
NVAR	Mina Array Bea	11.22 246	Pn	Pn		19 09 05.3	+1.7
	comp=N,0.2nm,0.3s,baz=58,slow=12,SNR=3.4 comp=N,0.6nm,0.7s						
BBB	Bella Bella	17.42 307	LR	LR		19 18 15.6	
	comp=N,46nm,19.1s,baz=2.0,slow=42						
DLBC	Dease Lake	21.21 322	P	P		19 11 05.7	-3.2
	comp=N,1.1nm,0.3s,baz=138,slow=11,SNR=2.5 comp=N,1.1nm,0.3s						
MKAR	Makanchi Array	89.56 355	P	P		19 19 21.0	+0.1
	comp=N,0.3nm,0.7s,baz=15,slow=6.0,SNR=3.6 comp=N,0.3nm,0.7s						

*IDC **07** 19:13:15.3±1.9,24˚.70N×122˚.17E,h0km,mb3.5/4, mbtmp3.5/4,MS2.6/1,Error ellipse: s-maj=160.9km s-min=22.3km az=66.0*
*TAP **07** 19:13:16.6,24˚.80N×122˚.16E,h10km,ML3.8,C*
*JMA **07** 19:13:17.1±0.1,24˚.8N±0˚.4×122˚.1E±0˚.2,h50km±2km, MV3.3/10,TAIWAN REGION*
ISC 07 19:13:16.4±1.0,24˚.79N±0˚.02×122˚.19E±0˚.02,h9km±7km, n112,σ0°89/198,mb3.5/4,11C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.24**	**283**	⇑*i*	*e*	P	**Pg**	**19 13 21.8**	**+0.5**
	baz=281								
EGS				S	*e*		**Sg**	**19 13 24.9**	**+0.4**
	baz=281								
TWB1	**Santiao Chiao**	**0.28**	**320**	⇑*i*	*e*	P	**Pg**	**19 13 22.5**	**+0.4**
	baz=322								
TWB1				*i* S			**Sg**	**19 13 25.9**	**0.0**
	baz=322								
NTC	**Toucheng**	**0.33**	**281**	P			**Pb**	**19 13 23.5**	**-1.0**
	baz=280								
NTC					*e*	S	**Sg**	**19 13 28.0**	**+0.6**
	baz=280								
TWC	**Suao**	**0.36**	**240**	⇑*i*	*e*	P	**Pg**	**19 13 23.5**	**0.0**
	baz=236								
TWC				*i* S			**Sg**	**19 13 27.4**	**-0.8**
	baz=236								
TIPB	**Shuangxi**	**0.38**	**299**	⇑*i*	*e*	P	**Pb**	**19 13 24.4**	**-0.9**
	baz=298								
TIPB				*i* S			**Sg**	**19 13 29.1**	**+0.3**
	baz=298								
ILA	**Ilan**	**0.40**	**267**	P			**Pg**	**19 13 24.7**	**+0.4**
	baz=254								
ILA				S			**Sb**	**19 13 31.4**	**-0.4**
	baz=254								
SXI1	**Grass Mountain**	**0.41**	**317**	P			**Pb**	**19 13 25.3**	**-0.7**
	baz=320								
SXI1					*e*	S	**Sg**	**19 13 30.3**	**+0.2**
	baz=320								
NDS	**Dongshan**	**0.46**	**250**	P			**Pg**	**19 13 23.1**	**-2.2**
	baz=242								
NDS					*e*	S	**Sg**	**19 13 29.8**	**-1.6**
	baz=242								
NWF	**Wu-fen Shan**	**0.46**	**307**	P			**Pb**	**19 13 26.2**	**-0.6**
	baz=307								
WFSB	**Wu-fen Shan**	**0.46**	**307**	*e*P			**Pb**	**19 13 26.3**	**-0.4**
	baz=307								
TWE	**Neicheng**	**0.48**	**262**	⇑*i*	*e*	P	**Pg**	**19 13 25.8**	**+0.1**
	baz=254								
TWE				S			**Sb**	**19 13 33.5**	**-0.6**
	baz=254								
EWUT	**Wuta**	**0.51**	**227**	P			**Pg**	**19 13 25.3**	**-0.9**
	baz=217								
EWUT				S			**Sg**	**19 13 32.1**	**-0.8**
	baz=217								
TNOU	**National Taiwa**	**0.52**	**314**	*e*P			**Pb**	**19 13 27.2**	**-0.5**
	baz=320								
ENA	**Nanau**	**0.55**	**229**	⇑*i*	*e*	P	**Pg**	**19 13 26.9**	**0.0**
	baz=218								
ENA					*e*	S	**Sg**	**19 13 34.0**	**-0.1**
	baz=218								
FUSB	**Fushanzhiwuyua**	**0.55**	**267**	⇓*i*	*e*	P	**Pg**	**19 13 27.2**	**+0.2**
	baz=266								
FUSB				S			**Sg**	**19 13 33.8**	**-0.5**
	baz=266								
TWA	**Mucha**	**0.58**	**289**	*e*P			**Pn**	**19 13 29.7**	**-1.1**
	baz=280								
ENTT	**Nioudou**	**0.59**	**255**	P			**Pg**	**19 13 26.6**	**-1.2**
	baz=254								
ENTT				S			**Sg**	**19 13 35.1**	**-0.4**
	baz=254								
NHDH	**Xindian Distri**	**0.63**	**286**	*e*P			**Pb**	**19 13 30.1**	**+0.6**
	baz=278								
NHDH					*e*	S	**Sb**	**19 13 38.4**	**0.0**
	baz=278								
EHP	**Heping Village**	**0.63**	**221**	*e*P			**Pg**	**19 13 27.8**	**-0.8**
	baz=218								
EHP					*e*	S	**Sb**	**19 13 38.2**	**-0.3**
	baz=218								
NDT	**Datong Townshi**	**0.64**	**253**	*e*P			**Pg**	**19 13 28.9**	**+0.1**
	baz=252								
NDT					*e*	S	**Sb**	**19 13 38.3**	**-0.6**
	baz=252								
LATG	**Datong**	**0.65**	**247**	⇓*i*	*e*	P	**Pb**	**19 13 29.5**	**-0.6**
	baz=253								
LATG				S			**Sb**	**19 13 38.1**	**-1.2**
	baz=253								
TATO	**Taipei**	**0.66**	**286**	*e*P			**Pb**	**19 13 30.3**	**+0.2**
	baz=278								
YM01	**YM01**	**0.66**	**302**	⇑*i*	*e*	P	**Pb**	**19 13 30.4**	**+0.2**
	baz=302								
YM01					*e*	S	**Sb**	**19 13 39.8**	**+0.3**
	baz=302								
TAP	**Taipei**	**0.67**	**292**	P			**Pn**	**19 13 31.1**	**-0.9**
	baz=284								
TAP				S			**Sn**	**19 13 41.1**	**-1.5**
	baz=284								
TWY	**Chenhua**	**0.72**	**312**	P			**Pb**	**19 13 31.5**	**+0.4**
	baz=312								
TWY				S			**Sn**	**19 13 42.3**	**-1.6**
	baz=312								
ANP	**Anpu**	**0.72**	**303**	*e*P			**Pb**	**19 13 31.6**	**+0.4**
	baz=296								
YHNB	**Yeheng**	**0.75**	**261**	P			**Pg**	**19 13 30.7**	**-0.2**
	baz=254								
YHNB					*e*	S	**Sg**	**19 13 40.1**	**-0.6**
	baz=254								
TWS1	**Kuangyinshan**	**0.77**	**294**	*e*P			**Pb**	**19 13 32.2**	**+0.4**
	baz=294								
TWS1					*e*	S	**Sn**	**19 13 43.4**	**-1.6**
	baz=294								
JYNG	**Yonagunijimaku**	**0.77**	**116**	P			**Pg**	**19 13 32.0**	**+0.9**
JYNG				S			**Sb**	**19 13 42.9**	**+0.5**
NTST	**Danshui**	**0.77**	**299**	P			**Pn**	**19 13 32.9**	**-0.5**
	baz=311								
NTST					*e*	S	**Sn**	**19 13 43.8**	**-1.3**
	baz=311								
ETL	**Fush Village**	**0.81**	**219**	*e*P			**Pg**	**19 13 31.8**	**-0.2**
	baz=218								
ETL					*e*	S	**Sg**	**19 13 42.9**	**+0.2**
	baz=218								
NNSH	**Datong**	**0.82**	**244**	P			**Pg**	**19 13 32.2**	**+0.1**
	baz=247								
NNSH					*e*	S	**Sg**	**19 13 42.9**	**0.0**
	baz=247								
YOJ	**Yonaguni jima**	**0.82**	**113**	P			**Pg**	**19 13 32.6**	**+0.5**
	baz=114								
YOJ				S			**Sg**	**19 13 43.8**	**+1.0**
	baz=114								
YOJ	**Yonaguni jima**	**0.82**	**113**	P			**Pg**	**19 13 32.6**	**+0.5**
YOJ				S			**Sb**	**19 13 44.2**	**+0.4**
NNSB	**Datong**	**0.82**	**244**	P			**Pg**	**19 13 32.2**	**0.0**
	baz=234								
NNSB				S			**Sg**	**19 13 42.9**	**+0.1**
	baz=234								
NACB	**Ninganchiao**	**0.82**	**222**	⇑*i*	*e*	P	**Pg**	**19 13 31.8**	**-0.4**
	baz=220								
NACB					*e*	S	**Sg**	**19 13 42.1**	**-0.8**
	baz=220								
NNS	**Nan Shan**	**0.82**	**245**	P			**Pg**	**19 13 31.4**	**-0.8**
	baz=244								
NNS					*e*	S	**Sb**	**19 13 43.7**	**-0.4**
	baz=244								
ETLH	**Xiulin Townshi**	**0.87**	**228**	P			**Pg**	**19 13 33.1**	**0.0**
	baz=227								
ETLH				S			**Sg**	**19 13 44.2**	**-0.2**
	baz=227								
TWD	**Chiawan**	**0.89**	**217**	⇑*i*	*e*	P	**Pg**	**19 13 33.2**	**-0.3**
	baz=216								
TWD				S			**Sb**	**19 13 46.6**	**+0.6**
	baz=216								
NCU	**National Centr**	**0.93**	**281**	*e*P			**Pn**	**19 13 36.0**	**+0.4**
	baz=281								
NCU					*e*	S	**Sn**	**19 13 49.6**	**+0.6**
	baz=281								
NCUH	**Zhongli**	**0.93**	**281**	P			**Pn**	**19 13 36.2**	**+0.6**
	baz=281								
NCUH					*e*	S	**Sn**	**19 13 48.2**	**-0.9**
	baz=281								
HWA	**Hwalien**	**0.97**	**213**	*e*P			**Pn**	**19 13 36.8**	**+0.7**
	baz=220								
HWA					*e*	S	**Sn**	**19 13 50.2**	**+0.2**
	baz=220								
NFF	**Wufeng Townshi**	**0.99**	**261**	P			**Pb**	**19 13 35.7**	**0.0**
	baz=267								
NFF					*e*	S	**Sn**	**19 13 49.4**	**-1.2**
	baz=267								
FUSS	**Fushou**	**1.02**	**238**	P			**Pb**	**19 13 36.2**	**-0.1**
	baz=237								
FUSS					*e*	S	**Sb**	**19 13 49.6**	**-0.3**
	baz=237								
ETM	**Tongmen**	**1.04**	**218**	*e*P			**Pg**	**19 13 35.9**	**-0.4**
	baz=215								
NHW	**Xinwu Township**	**1.06**	**282**	*e*P			**Pn**	**19 13 36.9**	**-0.5**
	baz=282								
NHW					*e*	S	**Sn**	**19 13 52.3**	**+0.1**
	baz=282								
WHF	**Hehuan Shan**	**1.06**	**233**	P			**Pg**	**19 13 36.5**	**-0.3**
	baz=231								
WHF				S			**Sg**	**19 13 50.3**	**-0.3**
	baz=231								
TEYL	**Yanliau Villag**	**1.06**	**211**	*e*P			**Pn**	**19 13 38.0**	**+0.5**
	baz=216								
TWT	**Tachien**	**1.07**	**240**	*e*P			**Pb**	**19 13 37.2**	**+0.1**
	baz=232								
TWT					*e*	S	**Sb**	**19 13 51.4**	**+0.1**
	baz=232								
LIOB	**Emei**	**1.08**	**263**	*e*P			**Pn**	**19 13 38.1**	**+0.4**
	baz=262								
LIOB					*e*	S	**Sn**	**19 13 53.8**	**+1.0**
	baz=262								
TDCB	**Techi**	**1.08**	**241**	*e*P			**Pb**	**19 13 37.2**	**-0.2**
	baz=233								
TDCB					*e*	S	**Sb**	**19 13 51.1**	**-0.5**
	baz=233								
NSTT	**Nanjuang**	**1.09**	**262**	*e*P			**Pn**	**19 13 37.7**	**-0.1**
	baz=261								
NSTT					*e*	S	**Sn**	**19 13 53.0**	**-0.1**
	baz=261								
SBCB	**Hsinchu**	**1.09**	**270**	*e*P			**Pn**	**19 13 38.6**	**+0.7**
	baz=290								
SBCB					*e*	S	**Sn**	**19 13 54.1**	**+1.0**
	baz=290								
CHGB	**Renai**	**1.18**	**232**	⇑*i*	*e*	P	**Pn**	**19 13 39.1**	**-0.1**
	baz=231								
CHGB				S			**Sb**	**19 13 54.5**	**+0.1**
	baz=231								
ESL	**Shilin**	**1.19**	**215**	*e*P			**Pb**	**19 13 39.0**	**-0.2**
	baz=221								
ESL					*e*	S	**Sn**	**19 13 56.0**	**+0.5**
	baz=221								
WHP	**Taichung City**	**1.24**	**246**	P			**Pg**	**19 13 40.9**	**+0.7**
	baz=245								
WHP					*e*	S	**Sn**	**19 13 56.5**	**-0.4**
	baz=245								
OWD	**Renai**	**1.24**	**228**	*e*P			**Pb**	**19 13 40.1**	**0.0**
	baz=220								
OWD					*e*	S	**Sb**	**19 13 56.1**	**-0.2**
	baz=220								
WUSB	**Renai**	**1.26**	**231**	⇑*i*	*e*	P	**Pg**	**19 13 40.6**	**0.0**
	baz=230								
WUSB				S			**Sb**	**19 13 56.5**	**-0.3**
	baz=230								
NMLH	**Miaoli**	**1.30**	**259**	*e*P			**Pb**	**19 13 40.8**	**-0.1**
	baz=249								
NMLH					*e*	S	**Sg**	**19 13 59.9**	**+1.8**
	baz=249								
EGFH	**Guangfu**	**1.32**	**212**	*e*P			**Pb**	**19 13 41.3**	**0.0**
	baz=228								
EGFH					*e*	S	**Sg**	**19 13 59.8**	**+1.0**
	baz=228								
NSY	**Sanyi**	**1.35**	**254**	*e*P			**Pg**	**19 13 44.0**	**+1.7**
	baz=245								
NSY					*e*	S	**Sg**	**19 14 02.5**	**+2.6**
	baz=245								
TWQ1	**Liyutan**	**1.36**	**251**	*e*P			**Pg**	**19 13 43.4**	**+0.8**
	baz=242								
TWQ1					*e*	S	**Sg**	**19 14 01.2**	**+1.0**
	baz=242								
WCS	**Beigang Elemen**	**1.37**	**238**	*e*P			**Pg**	**19 13 43.0**	**+0.2**
	baz=237								
WCS					*e*	S	**Sg**	**19 14 00.1**	**-0.5**
	baz=237								
HGSD	**Ruisui**	**1.47**	**209**	*e*P			**Pb**	**19 13 44.2**	**+0.3**
	baz=207								
HGSD					*e*	S	**Sg**	**19 14 07.8**	**+4.2**
	baz=207								
IRIF	**Iriomote-Funau**	**1.48**	**108**	P			**Pn**	**19 13 42.0**	**-1.1**
IRIF					*e*	S	**Sn**	**19 14 00.9**	**-1.6**
WDJ	**Dajia District**	**1.48**	**253**	*e*P			**Pg**	**19 13 46.2**	**+1.4**
	baz=252								
WDJ					*e*	S	**Sg**	**19 14 06.9**	**+3.0**
	baz=252								
SMLT	**Sun Moon Lake**	**1.48**	**233**	*e*P			**Pg**	**19 13 44.6**	**-0.3**
	baz=232								
SMLT					*e*	S	**Sg**	**19 14 04.0**	**-0.2**
	baz=232								
TYC	**Yuchr**	**1.50**	**234**	*e*P			**Pg**	**19 13 44.8**	**-0.4**
	baz=233								
TYC					*e*	S	**Sg**	**19 14 04.1**	**-0.6**
	baz=233								
EHY	**Hungye**	**1.50**	**212**	*e*P			**Pn**	**19 13 43.9**	**+0.4**
	baz=210								
EHY					*e*	S	**Sg**	**19 14 05.0**	**+0.2**
	baz=210								
SSLB	**Suanglung**	**1.51**	**229**	*e*P			**Pg**	**19 13 44.9**	**-0.4**
	baz=228								
SSLB					*e*	S	**Sb**	**19 14 04.0**	**+0.3**
	baz=228								
TCU	**Taichung**	**1.52**	**245**	*e*P			**Pg**	**19 13 47.7**	**+2.2**
	baz=245								
TCU					*e*	S	**Sg**	**19 14 08.2**	**+2.9**
	baz=245								
YULB	**Yu-li**	**1.61**	**211**	*e*P			**Pn**	**19 13 45.7**	**+0.7**
	baz=208								
YULB					*e*	S	**Sg**	**19 14 07.9**	**-0.4**
	baz=208								
WHYT	**Xinyi Township**	**1.64**	**228**	*e*P			**Pg**	**19 13 48.4**	**+0.6**
	baz=224								
EYUL	**Yuli**	**1.64**	**209**	*e*P			**Pb**	**19 13 46.9**	**0.0**
	baz=220								
HATJ	**Hateruma jima**	**1.65**	**116**	P			**Pn**	**19 13 45.1**	**-0.4**
HATJ					*e*	S	**Sn**	**19 14 05.2**	**-1.4**
WJS	**Zhushan**	**1.65**	**234**	*e*P			**Pg**	**19 13 48.1**	**+0.1**
	baz=233								
WJS					*e*	S	**Sg**	**19 14 11.2**	**+1.9**
	baz=233								
WNT	**Mingjian**	**1.65**	**237**	P			**Pg**	**19 13 48.6**	**+0.6**
	baz=235								
WNT				S			**Sg**	**19 14 11.8**	**+2.4**
	baz=235								
YUS	**Yu-Shan**	**1.72**	**221**	*e*P			**Pg**	**19 13 49.5**	**+0.1**
	baz=219								
YUS					*e*	S	**Sg**	**19 14 12.1**	**+0.4**
	baz=219								
JKRS	**Kuro-shima**	**1.75**	**108**	P			**Pn**	**19 13 46.1**	**-0.7**
JKRS					*e*	S	**Sn**	**19 14 08.7**	**-0.6**
ALS	**Alishan**	**1.79**	**225**	*e*P			**Pg**	**19 13 50.7**	**-0.1**
	baz=206								
JIJ	**Ishigaki jima**	**1.83**	**103**	P			**Pn**	**19 13 47.6**	**-0.4**
JIJ					*e*	S	**Sn**	**19 14 10.0**	**-1.2**
WDLH	**Douliu**	**1.86**	**234**	*e*P			**Pg**	**19 13 51.7**	**-0.5**
	baz=233								
WDLH					*e*	S	**Sg**	**19 14 17.8**	**+1.4**
	baz=233								
WRL	**Guolierlin Hig**	**1.88**	**242**	*e*P			**Pb**	**19 13 49.9**	**-0.9**
	baz=241								
WRL					*e*	S	**Sg**	**19 14 16.2**	**-0.5**
	baz=241								
ELDTW	**Lidau**	**1.92**	**214**	*e*P			**Pb**	**19 13 51.4**	**-0.3**
	baz=212								
ELDTW					*e*	S	**Sb**	**19 14 15.8**	**0.0**
	baz=212								
WCKO	**Fanlu**	**1.98**	**227**	*e*P			**Pg**	**19 13 53.9**	**-0.5**
	baz=211								
WCKO					*e*	S	**Sg**	**19 14 19.6**	**-0.4**
	baz=211								
EDH	**Donghe**	**1.98**	**204**	P			**Pn**	**19 13 50.6**	**+0.5**
	baz=187								
EDH					*e*	S	**Sn**	**19 14 14.3**	**-0.8**
	baz=187								
CHN2	**Minshiung**	**2.00**	**232**	*e*P			**Pg**	**19 13 55.7**	**+0.8**
	baz=230								
CHN2					*e*	S	**Sg**	**19 14 20.9**	**0.0**
	baz=230								
CHN4	**Tsaushan**	**2.04**	**226**	*e*P			**Pb**	**19 13 53.3**	**-0.4**
	baz=220								
TPUB	**Ta-pu**	**2.06**	**224**	*e*P			**Pb**	**19 13 54.3**	**+0.3**
	baz=203								
TPUB					*e*	S	**Sg**	**19 14 22.0**	**-0.6**
	baz=203								
CHY	**Chiayi**	**2.06**	**232**	*e*P			**Pg**	**19 13 54.9**	**-1.0**
	baz=225								
STYH	**Taoyuan**	**2.07**	**219**	*e*P			**Pb**	**19 13 53.3**	**-0.7**
	baz=217								
STYH					*e*	S	**Sb**	**19 14 19.3**	**-0.6**
	baz=217								
LONT	**Longtian**	**2.11**	**208**	*e*P			**Pn**	**19 13 53.1**	**+1.2**
	baz=186								
WSF	**Szhu**	**2.13**	**238**	*e*P			**Pb**	**19 13 55.3**	**+0.2**
	baz=236								
WSF					*e*	S	**Sg**	**19 14 23.6**	**-1.3**
	baz=236								
TWK	**Hsinying**	**2.17**	**226**	P			**Pb**	**19 13 56.4**	**+0.5**
	baz=223								
TWK				S			**Sg**	**19 14 25.6**	**-0.7**
	baz=223								
WSL	**Shuilin Townsh**	**2.19**	**235**	*e*P			**Pn**	**19 13 54.1**	**+1.1**
	baz=234								
WSL					*e*	S	**Sb**	**19 14 24.0**	**+0.6**
	baz=234								
CHN1	**Nanshi**	**2.21**	**224**	*e*P			**Pb**	**19 13 56.8**	**+0.3**
	baz=221								
CHN1					*e*	S	**Sg**	**19 14 26.4**	**-0.9**
	baz=221								
TWGBT	**Beinan**	**2.21**	**208**	*e*P			**Pn**	**19 13 54.2**	**+1.0**
	baz=187								
SGST	**Jiashian**	**2.25**	**221**	*e*P			**Pb**	**19 13 56.0**	**-1.1**
	baz=219								
SGST					*e*	S	**Sb**	**19 14 25.6**	**+0.5**
	baz=219								
ICHU	**Yijhu**	**2.25**	**231**	*e*P			**Pb**	**19 13 57.8**	**+0.6**
	baz=229								
ICHU					*e*	S	**Sg**	**19 14 28.1**	**-0.7**
	baz=229								
JTJ	**Tarama**	**2.29**	**93**	*e*S			**Sn**	**19 14 22.8**	**+0.1**
CHN8	**Yiju**	**2.31**	**232**	*e*S			**Sg**	**19 14 29.1**	**-1.6**
	baz=230								
SSD	**Sandimen**	**2.48**	**215**	*e*P			**Pb**	**19 14 00.6**	**-0.6**
	baz=212								
SSD					*e*	S	**Sb**	**19 14 32.1**	**+0.2**
	baz=212								
TSMG	**Majia**	**2.51**	**215**	*e*P			**Pb**	**19 14 00.6**	**-1.1**
	baz=195								
TSMG					*e*	S	**Sb**	**19 14 33.1**	**+0.4**
	baz=195								
MASBT	**Mashibuluo**	**2.60**	**214**	*e*P			**Pb**	**19 14 01.0**	**-2.1**
	baz=194								
MASBT					*e*	S	**Sb**	**19 14 33.9**	**-1.2**
	baz=194								
EAST	**Anshuo**	**2.69**	**207**	*e*P			**Pn**	**19 14 00.6**	**+0.7**
	baz=188								
XPSS	**Dashiqiu**	**2.79**	**320**	*e*P			**Pn**	**19 14 00.4**	**-0.8**
	baz=325								
LYJJ	**Jianjiangzhen**	**2.81**	**309**	*e*P			**Pn**	**19 14 00.8**	**-0.6**
	baz=313								
KSRS	**Korea Array**	**13.54**	**20**	LR			LR	19 21 38.2	
	comp=Z,22nm,18.1s,baz=210,slow=37								
SONM	**Songino Array**	**26.18**	**335**	P			**P**	**19 18 52.5**	**+1.2**
	1.3nm,0.7s,baz=149,slow=10,SNR=8.2 1.3nm,0.7s								
MKAR	**Makanchi Array**	**38.55**	**315**	P			**P**	**19 20 39.9**	**+0.5**
	0.2nm,0.5s,baz=110,slow=10,SNR=1.5 0.2nm,0.5s								
WRA	**Warramunga Arr**	**46.01**	**164**	P			**P**	**19 21 40.0**	**-0.3**
	0.9nm,0.7s,baz=346,slow=8.2,SNR=9.9 0.9nm,0.7s								
ASAR	**Alice Springs**	**49.49**	**166**	P			**P**	**19 22 06.9**	**-0.4**
	0.3nm,0.8s,baz=359,slow=8.0,SNR=4.3 0.3nm,0.8s								

*JMA **07** 19:14:25.3±0.3,24˚.N±2˚×122˚.4E±0˚.5,h6km,MV2.7/7, TAIWAN REGION*
*TAP **07** 19:14:26.8,24˚.12N×122˚.30E,h21km±1km,ML2.5,D*
ISC 07 19:14:27.2±1.3,24˚.11N±0˚.06×122˚.29E±0˚.02,h26km±13km, n23,σ0°56/36,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.57**	**306**	*e*P			**Pb**	**19 14 38.1**	**-0.6**
	baz=304								
EWUT					*e*	S	**Sb**	**19 14 47.1**	**+0.6**
	baz=304								
ENA	**Nanau**	**0.59**	**302**	*e*P			**Pb**	**19 14 39.1**	**0.0**
	baz=301								
ENA					*e*	S	**Sn**	**19 14 48.6**	**-0.2**
	baz=301								
ETL	**Fush Village**	**0.61**	**275**	*e*P			**Pn**	**19 14 39.7**	**-0.6**
	baz=273								
TWD	**Chiawan**	**0.64**	**268**	*e*P			**Pb**	**19 14 39.7**	**-0.1**
	baz=266								
TWD						S	**Sn**	**19 14 49.3**	**-0.6**
	baz=266								
NACB	**Ninganchiao**	**0.64**	**276**	P			**Pb**	**19 14 39.9**	**+0.1**
	baz=275								
NACB					*e*	S	**Sn**	**19 14 49.8**	**-0.1**
	baz=275								
TWC	**Suao**	**0.64**	**321**	P			**Pb**	**19 14 39.9**	**+0.1**
	baz=320								
TWC						S	**Sn**	**19 14 49.3**	**-0.7**
	baz=320								
TEYL	**Yanliau Villag**	**0.68**	**249**	*e*P			**Pb**	**19 14 40.2**	**-0.2**
	baz=251								
TEYL					*e*	S	**Sn**	**19 14 50.8**	**-0.1**
	baz=251								
JYNG	**Yonagunijimaku**	**0.69**	**60**	P			**Pb**	**19 14 40.2**	**-0.4**
JYNG					*e*	S	**Sn**	**19 14 51.6**	**+0.5**
NDS	**Dongshan**	**0.74**	**315**	*e*P			**Pb**	**19 14 39.7**	**-1.8**
	baz=314								
NDS					*e*	S	**Sn**	**19 14 52.0**	**-0.4**
	baz=314								
ETLH	**Xiulin Townshi**	**0.74**	**278**	P			**Pn**	**19 14 41.8**	**-0.4**
	baz=276								
ETLH

IRIF	**Iriomote-Funau**	**1.33**	**80**	*eS*	**Sb**	**19 15 08.7**	**+0.5**
HATJ	**Hateruma jima**	**1.39**	**92**	*S*	**Sn**	**19 15 08.4**	**0.0**
JIJ	**Ishigaki jima**	**1.71**	**81**	*eS*	**Sn**	**19 15 17.0**	**+0.6**

*TUL **07** 19:39:00.3±0.4,36°.651N±0°.007×97°.71W±0°.02,h7km±5km, ML2.9,mb_Lg2.5/30(NEIC),Error ellipse: s-maj=1.8km s-min=0.9km az=107.0*

NEIC 07 19:39:00.8±0.3,36°.650N±0°.010×97°.71W±0°.01,h5km±1km, Error ellipse: s-maj=3.0km s-min=2.1km az=18.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GC02	**Grant County #**	**0.23**	**329**	Pg	Pg	19 39 05.4	0.0
CROK	**Carrier**	**0.26**	**237**		Pg	19 39 05.9	-0.1
KAN14	**Manchester OK**	**0.37**	**326**	Pg	Pg	19 39 07.7	-0.3
KAN17	**Caldwell West**	**0.40**	**354**	Pg	Pg	19 39 08.4	-0.1
KAN13	**South Haven SW**	**0.41**	**27**	Pg	Pg	19 39 08.5	-0.2
BLOK	**Blackwell**	**0.41**	**74**	Pg	Pg	19 39 08.4	-0.4
OK032	**Salt Plains WL**	**0.43**	**291**	Pg	Pg	19 39 08.8	-0.4
KAN09	**Caldwell North**	**0.49**	**8**	Pg	Pg	19 39 09.9	-0.4
KS20	**Mayfield South**	**0.59**	**12**	IAmb_Lg		19 39 19.1	
	comp=Z,112nm,0.7s						
KS21	**Milan North St**	**0.64**	**3**	Pg	Pg	19 39 12.7	-0.4
KAN16	**Harper SW Stat**	**0.64**	**334**	Pg	Pg	19 39 12.7	-0.5
OK045	**Pawnee Station**	**0.66**	**107**	Pg	Pg	19 39 12.9	-0.6
KAN12	**Harper NE Stat**	**0.69**	**340**	Pg	Pg	19 39 13.3	-0.7
OK046	**Pawnee Station**	**0.69**	**111**	Pg	Pg	19 39 13.6	-0.6
OK044	**Pawnee Station**	**0.79**	**110**	Pg	Pg	19 39 15.2	-0.7
OK035	**E0210 Rd and N**	**0.81**	**274**	Pg	Pg	19 39 15.7	-0.6
OK038	**West end E0370**	**0.85**	**259**		Pg	19 39 16.4	-0.7
OK033	**Mehan**	**0.87**	**134**	Pg	Pg	19 39 16.8	-0.7
OK029	**Liberty Lake**	**0.88**	**166**	Pg	Pg	19 39 16.9	-0.7
QUOK	**Quay**	**0.94**	**120**		Pg	19 39 18.0	-0.8
NOKA	**Waynoka**	**0.98**	**269**		Pg	19 39 18.9	-0.8
OK031	**S. Brethren Rd**	**0.99**	**134**	Pg	Pg	19 39 18.7	-1.1
BCOK	**Bluff Creek, N**	**0.99**	**175**		Pg	19 39 19.0	-0.9
T35A	**Sooner Cattle**	**1.00**	**74**		Pg	19 39 19.1	-0.8
OK034	**N. Norfolk Rd.**	**1.03**	**128**		Pg	19 39 19.7	-0.8
OK030	**Cody Creek RV**	**1.04**	**134**	Pg	Pg	19 39 19.9	-0.9
U32A	**Winter Ranch,**	**1.08**	**256**	Pg	Pg	19 39 20.4	-1.1
OK025	**Westminster Rd**	**1.11**	**164**	Pg	Pg	19 39 20.9	-1.1
DEOK	**Depew**	**1.27**	**129**	Pg	Pg	19 39 23.5	-1.6
CSTR	**Hydro, Custer**	**1.28**	**219**		Pg	19 39 23.9	-1.5
FNO	**Franklin**	**1.41**	**170**		Pn	19 39 26.0	-1.2
ELIS	**Ellis County**	**1.50**	**248**		Pn	19 39 27.5	-0.9
TUL1	**Leonard**	**1.72**	**115**		Pn	19 39 31.3	0.0
TUL1				IAmb_Lg		19 39 54.8	
	comp=Z,20nm,0.8s						
R32A	**Long Quarter,**	**1.94**	**336**	IAmb_Lg		19 40 05.7	
	comp=Z,23nm,0.7s						
X34A	**Smith Ranch, M**	**2.05**	**183**	Pn	Pn	19 39 35.0	-1.0
WMOK	**Wichita Mounta**	**2.10**	**205**	Pn	Pn	19 39 36.2	-0.5
CBKS	**Cedar Bluff**	**2.69**	**324**	IAmb_Lg		19 40 31.9	
	comp=Z,17nm,0.7s						
X37A	**Clayton**	**2.80**	**137**	IAmb_Lg		19 40 30.1	
	comp=Z,9.4nm,0.8s						
HHAR	**Hobbs**	**3.06**	**96**	Pn	Pn	19 39 48.3	-1.6
HHAR				IAmb_Lg		19 40 44.1	
	comp=Z,8.9nm,0.8s						
S39A	**Bolivar**	**3.65**	**72**	IAmb_Lg		19 40 57.8	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**3.68**	**243**	IAmb_Lg		19 40 59.7	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**3.97**	**121**	IAmb_Lg		19 41 14.3	
	comp=Z,8.7nm,0.8s						
MGMO	**Mountain Grove**	**4.39**	**82**	IAmb_Lg		19 41 21.8	
	comp=Z,8.1nm,0.7s						
N35A	**Tabor**	**4.50**	**20**	IAmb_Lg		19 41 29.5	
	comp=Z,16nm,0.8s						
R40A	**Maddies Static**	**4.63**	**68**	IAmb_Lg		19 41 37.3	
	comp=Z,6.5nm,0.7s						
P40A	**Paris**	**5.31**	**56**	IAmb_Lg		19 41 52.1	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**5.34**	**73**	IAmb_Lg		19 41 55.4	
	comp=Z,7.3nm,1.0s						
N38A	**Joes South For**	**5.42**	**39**	IAmb_Lg		19 41 57.1	
	comp=Z,11nm,0.7s						
OGNE	**Ogallala**	**5.46**	**323**	IAmb_Lg		19 42 05.7	
	comp=Z,8.8nm,0.8s						
CGM3	**Cape Girardeau**	**6.48**	**82**	IAmb_Lg		19 42 33.3	
	comp=Z,11nm,0.8s						

*IDC **07** 19:39:21.5±1.1,28°.24N×85°.73E,h0km,mb3.5/7, mbtmp3.4/9,ML3.4/2,Error ellipse: s-maj=38.1km s-min=19.8km az=62.0*

ISC 07 19:39:24.2±1.1,28°.2N±0°.2×85°.9E±0°.2,h19km,n9,σ1§02/9, mb3.6/7,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.43**	**126**	Pn	**P**	**19 43 03.8**	**-1.6**
	0.1nm,0.3s,baz=310,slow=14,SNR=1.8 0.2nm,0.7s						
MKAR	**Makanchi Array**	**18.76**	**352**	P	**P**	**19 43 42.0**	**0.0**
	0.1nm,0.3s,baz=172,slow=10,SNR=7.5 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**23.06**	**348**	P	**P**	**19 44 27.1**	**-1.3**
	0.5nm,0.3s,baz=165,slow=10,SNR=3.5 0.5nm,0.3s						
SONM	**Songino Array**	**25.27**	**34**	P	**P**	**19 44 50.0**	**+0.7**
	0.8nm,0.6s,baz=221,slow=9.8,SNR=6.4 0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**25.72**	**359**	P	**P**	**19 44 53.5**	**+0.3**
	0.7nm,0.5s,baz=198,slow=14,SNR=3.9 0.7nm,0.5s						
FINES	**FINESS Array B**	**51.26**	**328**	P	**P**	**19 48 26.2**	**-0.3**
	1.7nm,0.7s,baz=100,slow=7.9,SNR=6.1 1.7nm,0.7s						
WRA	**Warramunga Arr**	**66.99**	**130**	P	**P**	**19 50 16.9**	**+0.9**
	0.2nm,0.5s,baz=323,slow=6.4,SNR=8.5 0.2nm,0.5s						
ASAR	**Alice Springs**	**69.31**	**133**	P	**P**	**19 50 31.3**	**+0.7**
	0.1nm,0.5s,baz=315,slow=5.8,SNR=1.3 0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**78.83**	**279**	P	**P**	**19 51 26.6**	**+0.2**
	0.2nm,0.5s,baz=24,slow=4.6,SNR=1.3 0.2nm,0.5s						

GUC 07 19:43:25.4±0.8,31°.76S×72°.08W,h36km±10km,ML3.2,4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**1.04**	**140**	⇑*iP*	Pn	19 43 45.2	+1.8
VA06				*i* S	Sn	19 43 59.1	+2.4
VA06				IAML		19 44 03.2	
	comp=E,2µm,0.6s						
CO02	**Combarbal**	**1.08**	**59**	*i* P	Pn	19 43 45.9	+1.9
CO02				*i* S	Sn	19 44 01.2	+3.4
CO06	**Fray Jorge**	**1.15**	**20**	⇑*iP*	Pn	19 43 46.2	+1.2
CO06				IAML		19 44 12.7	
	comp=E,470nm,0.3s						
VA01	**Torpederas**	**1.31**	**164**	*eP*	Pn	19 43 48.8	+1.7
VA01				*i* S	Sn	19 44 05.1	+1.7
VA01				IAML		19 44 06.1	
	comp=E,367nm,0.1s						
ROCH	**El Roble**	**1.51**	**143**	*eP*	Pn	19 43 52.2	+2.1
ROCH				*i* S	Sn	19 44 13.9	+5.3
ROCH				IAML		19 44 20.6	
	comp=N,881nm,0.5s						
VA03	**San Esteban**	**1.64**	**128**	⇑*iP*	Pn	19 43 54.6	+2.9
VA03				*i* S	Sn	19 44 15.7	+4.1
VA03				IAML		19 44 22.0	
	comp=N,940nm,0.7s						
MT02	**Curacav**	**1.69**	**152**	⇑*iP*	Pn	19 43 54.6	+2.1
MT02				*i* S	Sn	19 44 14.0	+1.2
MT02				IAML		19 44 24.2	
	comp=N,196nm,0.5s						
GO04	**Tololo Observa**	**1.93**	**35**	*eP*	Pn	19 43 58.2	+2.3
GO04				*i* S	Sn	19 44 24.9	+5.9
CO05	**La Serena**	**1.98**	**22**	*eP*	Pn	19 44 00.7	+4.4
CO05				*i* S	Sn	19 44 30.1	+10
CO05				IAML		19 44 34.0	
	comp=N,280nm,0.3s						
MT09	**Talagante**	**2.21**	**156**	*eP*	Pn	19 44 02.6	+2.9
MT09				IAML		19 44 43.2	
	comp=E,401nm,0.8s						
CO01	**Juntas del Tor**	**2.47**	**44**	*eP*	Pn	19 44 09.5	+6.2
CO01				*i* S	Sn	19 44 41.9	+10
CO01				IAML		19 44 44.8	
	comp=N,131nm,0.1s						

*NEIC **07** 19:44:07.4±0.8,29°.49S±0°.10×179°.2W±0°.2,h335km±9km, mb4.1/17,Error ellipse: s-maj=24.1km s-min=13.5km az=101.0*

*IDC **07** 19:44:07.4±0.8,29°.30S×179°.05W,h347km±8km,mb3.6/10, mbtmp4.4/12,Error ellipse: s-maj=21.7km s-min=14.6km az=152.0*

ISC 07 19:44:07.2±0.5,29°.52S±0°.05×179°.05W±0°.09,h350km, n95,σ2§34/125,mb4.0/18,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**1.02**	**74**	P	**Pn**	**19 44 52.1**	**-0.9**
GLKZ	**Green Lake**	**1.02**	**75**	P	**Pn**	**19 44 51.7**	**-1.3**
GLKZ				S	**S**	**19 45 26.4**	**-3.3**
RAO	**Raoul Island**	**1.02**	**75**	P	**Pn**	**19 44 52.2**	**-0.8**
	1µm,0.3s,baz=280,slow=2.2,SNR=26						
RAO				S	**S**	**19 45 24.3**	**-5.5**
	331nm,0.3s,baz=68,slow=22,SNR=6.1						
GRZ	**Great Barrier**	**8.14**	**213**	P	Pn	19 46 07.1	+4.2
MXZ	**Matakaoa Point**	**8.31**	**195**	Pn	**Pn**	**19 46 04.6**	**-0.3**
MXZ	**Matakaoa Point**	**8.31**	**195**	P	**P**	**19 46 06.5**	**-1.2**
MXZ				S	**S**	**19 47 38.8**	**-2.2**
WMGZ	**Waiomatatini S**	**8.54**	**194**	P	Pn	19 46 02.4	-5.1
WMGZ				S	S	19 47 36.5	-9.4
HAZ	**Te Kaha**	**8.62**	**197**	P	**P**	**19 46 11.1**	**0.0**
HAZ				S	**S**	**19 47 49.3**	**+1.5**
PKGZ	**Pakihiroa**	**8.68**	**195**	P	**Pn**	**19 46 10.3**	**0.0**
PKGZ				S	**S**	**19 47 48.4**	**-0.7**
PUZ	**Puketiti**	**8.81**	**194**	S	**S**	**19 47 48.8**	**-3.2**
URZ	**Urewera**	**9.28**	**199**	P	**P**	**19 46 19.1**	**+0.7**
	32nm,0.3s,baz=211,slow=3.0,SNR=69						
URZ				S	**S**	**19 48 01.5**	**-0.6**
	50nm,0.3s,baz=210,slow=1.1,SNR=17						
URZ	**Urewera**	**9.28**	**199**		**Pn**	**19 46 16.2**	**-0.2**
MUGZ	**Murupara**	**9.58**	**200**	P	**P**	**19 46 22.8**	**+0.9**
MUGZ				S	**S**	**19 48 09.8**	**+1.0**
TLZ	**Tolley Road**	**9.86**	**206**	P	**P**	**19 46 29.1**	**+4.0**
RAHZ	**Arahi**	**9.90**	**198**	P	**P**	**19 46 26.4**	**+1.1**
RAHZ				S	**S**	**19 48 14.6**	**-1.2**
MTHZ	**Maungataniwha**	**9.91**	**199**	P	**P**	**19 46 26.6**	**+1.1**
MTHZ				S	**S**	**19 48 15.0**	**-1.0**
NMHZ	**Naumai**	**10.14**	**199**	P	**P**	**19 46 28.5**	**+0.3**
NMHZ				S	**S**	**19 48 21.0**	**-0.3**
ARHZ	**Aropaoanui**	**10.25**	**198**	P	**P**	**19 46 30.3**	**+1.1**
ARHZ				S	**S**	**19 48 21.1**	**-2.4**
BKZ	**Black Stump Fm**	**10.30**	**200**		**Pn**	**19 46 28.9**	**+0.3**
BKZ	**Black Stump Fm**	**10.30**	**200**	P	**P**	**19 46 29.0**	**-0.9**
BKZ				S	**S**	**19 48 22.6**	**-2.0**
KWHZ	**Kaweka Forest**	**10.56**	**199**	P	**P**	**19 46 33.0**	**+0.2**
KWHZ				S	**S**	**19 48 27.6**	**-2.8**
OTVZ	**Oturere**	**10.56**	**203**	P	**P**	**19 46 34.0**	**+1.1**
SNVZ	**South Ngauruho**	**10.59**	**203**	P	**P**	**19 46 33.8**	**+0.6**
SNVZ				S	**S**	**19 48 31.6**	**+0.3**
BHHZ	**Black Hill Sta**	**10.72**	**201**	P	**P**	**19 46 34.3**	**-0.2**
BHHZ				S	**S**	**19 48 30.3**	**-3.8**
MOVZ	**Moawhango**	**10.75**	**202**	P	**P**	**19 46 34.9**	**0.0**
MOVZ				S	**S**	**19 48 30.9**	**-3.7**
KRHZ	**Kereru**	**10.78**	**199**	P	**P**	**19 46 34.5**	**-0.6**
KRHZ				S	**S**	**19 48 30.0**	**-5.1**
KAHZ	**Kahuranaki**	**10.78**	**197**	P	**P**	**19 46 37.2**	**+2.1**
KAHZ				S	**S**	**19 48 29.1**	**-6.1**
PXZ	**Pawanui**	**11.01**	**197**	P	**P**	**19 46 38.2**	**+0.6**
PXZ				S	**S**	**19 48 36.9**	**-3.3**
PNHZ	**Pukenui**	**11.07**	**199**	P	**Pn**	**19 46 37.7**	**-0.1**
PNHZ				S	**S**	**19 48 36.4**	**-5.4**
TSZ	**Takapari Road**	**11.28**	**200**	P	**P**	**19 46 40.6**	**-0.1**
TSZ				S	**S**	**19 48 39.7**	**-6.6**
PRHZ	**Porangahau**	**11.29**	**197**	P	**P**	**19 46 41.7**	**+0.9**
PRHZ				S	**S**	**19 48 44.5**	**-1.9**
DVHZ	**Dannevirke**	**11.44**	**199**	P	**P**	**19 46 42.4**	**-0.1**
DVHZ				S	**S**	**19 48 42.5**	**-7.4**
POWZ	**Post Office Ro**	**11.64**	**200**	P	**P**	**19 46 46.3**	**+1.6**
POWZ				S	**S**	**19 48 50.0**	**-4.3**
PRWZ	**Pori Road**	**11.73**	**199**	P	**P**	**19 46 42.2**	**+0.5**
PRWZ				S	**S**	**19 48 51.7**	**-4.6**
BFZ	**Birch Farm**	**11.78**	**198**		**P**	**19 46 46.2**	**0.0**
BFZ	**Birch Farm**	**11.78**	**198**	P	**P**	**19 46 46.3**	**+0.2**
BFZ				S	**S**	**19 48 50.5**	**-6.7**
MRZ	**Mangatainoka R**	**11.95**	**200**	P	**Pn**	**19 46 47.4**	**-0.8**
MRZ				S	**S**	**19 48 56.6**	**-4.4**
MSVF	**Nonsavu**	**12.03**	**347**	P	**P**	**19 46 46.4**	**-3.0**
	19nm,0.6s,baz=284,slow=23,SNR=18						
MSVF	**Nonsavu**	**12.03**	**347**	P	**P**	**19 46 46.3**	**-3.1**
OGWZ	**Otaki Gorge**	**12.21**	**201**	P	**P**	**19 46 50.6**	**-0.4**
OGWZ				S	**S**	**19 49 01.2**	**-5.4**
CAW	**Cannon Point**	**12.51**	**201**	P	**Pn**	**19 46 54.2**	**-0.6**
CAW				S	**S**	**19 49 05.7**	**-7.0**
TUWZ	**Tuamarina**	**13.17**	**204**	P	**P**	**19 47 01.4**	**-0.2**
TUWZ	**Tuamarina**	**13.17**	**204**	P	**P**	**19 47 01.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**13.45**	**203**	P	**Pn**	**19 47 05.4**	**-0.4**
THZ	**Tophouse**	**13.84**	**206**	P	**Pn**	**19 47 09.5**	**-1.0**
MARNC	**Mare, Loyalty**	**14.14**	**302**	P	**P**	**19 47 11.3**	**-1.2**
KHZ	**Kahutara**	**14.19**	**203**	P	**P**	**19 47 13.0**	**+0.3**
LTZ	**Lake Taylor**	**14.96**	**205**	P	**Pn**	**19 47 22.1**	**-1.4**
DZM	**Mont Dzumac**	**15.02**	**296**	P	**Pn**	**19 47 25.5**	**+1.1**
	13nm,0.6s,baz=209,slow=22,SNR=16						
RPZ	**Rata Peaks**	**16.22**	**206**	S	**S**	**19 50 28.1**	**+1.0**
	9.3nm,0.5s,baz=106,slow=23,SNR=7.1						
ARMA	**Armidale**	**25.39**	**261**	P	**P**	**19 49 07.8**	**+3.7**
CAN	**Canberra**	**27.51**	**250**	P	**P**	**19 49 26.4**	**+3.6**
CTA	**Charters Tower**	**32.76**	**279**	P	**P**	**19 50 10.1**	**+1.3**
	5.4nm,0.4s,baz=98,slow=11,SNR=15 5.4nm,0.4s						
CTAO	**Charters Tower**	**32.76**	**279**	P	**P**	**19 50 09.6**	**+0.8**
CTAO				IAmb	IAmb	19 50 47.2	
	comp=Z,26nm,1.5s						
STKA	**Stephens Creek**	**33.80**	**256**	P	**P**	**19 50 19.4**	**+1.8**
	comp=Z,1.9nm,0.5s,baz=91,slow=10,SNR=8.9 comp=Z,1.9nm,0.5s						
STKA	**Stephens Creek**	**33.80**	**256**	P	**P**	**19 50 18.7**	**+1.1**
BBOO	**Buckleboo**	**38.34**	**253**	P	**P**	**19 50 54.6**	**-1.0**
BBOO				IAmb	IAmb	19 51 08.0	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**42.25**	**266**	P	**P**	**19 51 27.7**	**+0.1**
ASAR	**Alice Springs**	**42.25**	**266**	P	**P**	**19 51 28.1**	**+0.5**
	comp=Z,2.9nm,0.5s,baz=101,slow=6.7,SNR=105						
ASAR				PcP	**sP**	**19 53 14.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=119,slow=4.2,SNR=6.6 comp=Z,2.9nm,0.5s						
ASAR	**Alice Springs**	**42.25**	**266**	P	**P**	**19 51 27.1**	**-0.5**
WR0	**Warramunga Arr**	**42.98**	**272**	P	**P**	**19 51 32.9**	**-0.5**
WR0				IAmb	IAmb	19 52 06.7	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**43.15**	**272**	P	**P**	**19 51 34.4**	**-0.4**
WB2				IAmb	IAmb	19 51 35.5	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**43.16**	**272**	P	**P**	**19 51 34.8**	**0.0**
	comp=Z,3.5nm,0.6s,baz=110,slow=6.5,SNR=40						
WRA				PcP	**PcP**	**19 53 17.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=105,slow=3.3,SNR=2.7						
WRA				S	**S**	**19 57 32.3**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=107,slow=15,SNR=2.6 comp=Z,3.5nm,0.6s						
WRA	**Warramunga Arr**	**43.16**	**272**	P	**P**	**19 51 34.6**	**-0.2**
WB0	**Warramunga Arr**	**43.18**	**272**	P	**P**	**19 51 34.9**	**-0.1**
WB0				IAmb	IAmb	19 51 35.7	
	comp=Z,9.2nm,0.9s						
FORT	**Forrest**	**45.40**	**255**	P	**P**	**19 51 51.9**	**-0.3**
MTN	**Manton Dam**	**48.95**	**279**	P	**P**	**19 52 19.2**	**-0.3**
MTN				IAmb	IAmb	19 52 31.3	
	comp=Z,22nm,1.4s						
KNRA	**Kununurra**	**49.73**	**274**	P	**P**	**19 52 25.7**	**+0.3**
KNRA				IAmb	IAmb	19 52 26.3	
	comp=Z,29nm,1.5s						
FITZ	**Fitzroy Crossi**	**51.45**	**270**	P	**P**	**19 52 38.3**	**+0.2**
QSPA	**South Pole Qui**	**60.58**	**180**	P	**P**	**19 53 43.5**	**+1.9**
QSPA				IAmb	IAmb	19 54 11.7	
	comp=Z,8.1nm,1.5s						
BELA	**Belgrano 2**	**70.77**	**173**	P	**P**	**19 54 48.2**	**+2.5**
BELA				IAmb	IAmb	19 55 21.6	
	comp=Z,4.2nm,1.4s						
MJAR	**Matsushiro Arr**	**77.01**	**326**	P	**P**	**19 55 21.1**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=154,slow=5.2,SNR=5.6 comp=Z,2.8nm,0.8s						
JHS	**Saijyo**	**78.44**	**322**	P	**P**	**19 55 30.5**	**+0.5**
TROLL	**Troll, Antarti**	**78.74**	**180**	P	**P**	**19 55 34.0**	**+2.7**
VNA3	**Neumayer Olymp**	**79.23**	**177**	P	**P**	**19 55 36.1**	**+2.3**
VNA2	**Neumayer--Watz**	**79.66**	**177**	P	**P**	**19 55 38.6**	**+2.6**
	baz=172,slow=5.0						
VNA1	**Neumayer--Stat**	**79.89**	**177**	P	**P**	**19 55 39.1**	**+1.8**
KSRS	**Korea Array**	**83.09**	**320**	P	**P**	**19 55 55.2**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=141,slow=5.4,SNR=7.4 comp=Z,1.1nm,0.6s						
PETK	**Petropavlovsk-**	**84.74**	**346**	P	**P**	**19 56 02.0**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=106,slow=9.4,SNR=6.5 comp=Z,2.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**85.93**	**327**	P	**P**	**19 56 08.6**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=148,slow=2.4,SNR=6.3 comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**88.22**	**43**	P	**P**	**19 56 19.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=228,slow=9.5,SNR=2.3 comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.25**	**290**	P	**P**	**19 56 39.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=126,slow=3.8,SNR=2.2 comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**116.51**	**311**	PKP	**PKPdf**	**20 02 08.8**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=196,slow=1.4,SNR=6.2						
ARCES	**ARCESS Array B**	**137.54**	**347**	PKP	**PKPdf**	**20 02 47.3**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=64,slow=2.8,SNR=6.1						
KBZ	**Khabaz**	**143.87**	**305**	PKP	PKPab	20 02 59.3	+0.1
	comp=Z,1.1nm,0.6s,baz=72,slow=3.2,SNR=3.8						
FINES	**FINESS Array B**	**144.01**	**340**	PKP	**PKPab**	**20 02 58.6**	**-0.6**
	comp=Z,8.0nm,0.5s,baz=60,slow=3.9,SNR=104						
NC303	**NORSAR Array S**	**147.55**	**351**		**PKPdf**	**20 03 08.9**	**+2.2**
NB2	**NORSAR Subarra**	**147.75**	**351**	PKP	**PKPdf**	**20 03 09.9**	**+2.8**
	comp=Z,1.3nm,0.5s,baz=16,slow=2.9						
NOA	**NORSAR Array B**	**147.75**	**351**	PKPbc	**PKPdf**	**20 03 09.9**	**+2.8**
	comp=Z,2.5nm,0.6s,baz=17,slow=4.3,SNR=10						
AKASG	**Malin Array Be**	**150.05**	**323**	PKPbc	**PKPbc**	**20 03 16.1**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=50,slow=3.1,SNR=13						
AKASG				PKPab	**PKPab**	**20 03 22.8**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=48,slow=4.2,SNR=8.7						
AKASG	**Malin Array Be**	**150.05**	**323**		**PKPbc**	**20 03 16.3**	**-0.1**
BRTR	**Keskin Array B**	**151.38**	**300**	PKPbc	**PKPbc**	**20 03 20.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=152,slow=7.5,SNR=4.2						
CLL	**Collm**	**156.45**	**341**	*i* PKPab	**PKPab**	**20 03 49.9**	**-0.8**
GERES	**GERESS Array B**	**158.38**	**337**	PKPab	**PKPab**	**20 03 58.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=20,slow=4.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**163.69**	**183**	PKPab	**PKPab**	**20 04 25.1**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=180,slow=2.9,SNR=7.0						

*IDC **07** 19:58:18.6±1.4,29°.88S×178°.72W,h340km±13km,mb3.2/3, mbtmp3.9/4,Error ellipse: s-maj=48.6km s-min=24.3km az=111.0*

ISC 07 19:58:18.2±1.2,30°.0S±0°.1×178°.5W±0°.2,h350km,n6, σ0§81/8,mb3.4/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.91**	**36**	P	**Pn**	**19 59 04.2**	**+0.5**
	398nm,0.3s,baz=125,slow=8.8,SNR=13						
RAO				S	**S**	**19 59 38.7**	**-1.3**
	238nm,0.3s,baz=102,slow=24,SNR=6.2						
URZ	**Urewera**	**9.00**	**203**	P	**P**	**20 00 26.7**	**+0.4**
	3.2nm,0.4s,baz=211,slow=13,SNR=1.6						
URZ				S	**S**	**20 02 06.3**	**-0.7**
	7.3nm,0.4s,baz=31,slow=16,SNR=10.0						
STKA	**Stephens Creek**	**34.13**	**256**	P	**P**	**20 04 31.8**	**+0.4**
	1.5nm,0.8s,baz=98,slow=9.7,SNR=3.0 1.5nm,0.8s						
ASAR	**Alice Springs**	**42.68**	**267**	P	**P**	**20 05 41.9**	**-0.1**
	0.5nm,0.4s,baz=107,slow=7.9,SNR=8.7 0.5nm,0.4s						
WRA	**Warramunga Arr**	**43.63**	**272**	P	**P**	**20 05 48.9**	**-0.6**
	1.7nm,0.5s,baz=112,slow=6.3,SNR=34 1.7nm,0.5s						
FINES	**FINESS Array B**	**144.61**	**340**	PKP	**PKPdf**	**20 17 13.0**	**+0.3**
	2.0nm,0.9s,baz=46,slow=2.9,SNR=7.0						

*MOS **07** 20:03:20.5±1.1,19°.86S×68°.92W,h85km,mb5.4/16,Error ellipse: s-maj=12.1km s-min=5.7km az=110.8*

*GUC **07** 20:03:23.5±0.8,20°.05S×69°.09W,h113km±4km,ML5.3*

*NEIC **07** 20:03:23.8,20°.10S×69°.02W,h107km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.77; Mθθ=0.21; Mφφ=0.57; Mrθ=0.47; Mrφ=-0.29; Mθφ=-0.65; Fault plane solution: M₀1.10000×10¹⁷ NP1:φ₁155.26000°, δ21.75000°,λ-81.29000°. NP2:φ₂325.90000°,δ68.51000°, λ-93.46000°. Principal axes: T 1.0701, Plg23.0000°, Azm59.0000°; N 0.0532, Plg3.0000°, Azm327.0000°; P -1

PB04 *i* S **Sn** **20 04 32.2 -1.2**
LVC **Limon Verde** **2.57 178** P **Pn** **20 04 04.7 +1.0**
comp=N,2µm,0.4s,baz=355,slow=9.2,SNR=406
LVC S **Sn** **20 04 36.4 +1.6**
comp=N,4µm,0.3s,baz=4.1,slow=9.0,SNR=32
LVC LR LR 20 05 26.1
comp=N,4µm,19.3s,baz=359,slow=47
LVC **Limon Verde** **2.57 178** **Pn** **20 04 04.4 +0.7**
LVC **Limon Verde** **2.57 178**↑ *i*P **Pn** **20 04 04.5 +0.7**
LVC *i* S **Sn** **20 04 35.7 +0.9**
LVC **Limon Verde** **2.57 178** *e*P **Pn** **20 04 04.4 +0.7**
PB06 **IPOC Station P** **2.71 191** **Pn** **20 04 05.0 -0.5**
PB06 **IPOC Station P** **2.71 191**↑ *i*P **Pn** **20 04 04.6 -0.8**
PB06 *i* S **Sn** **20 04 36.3 -1.5**
AF01 **San Pedro de A** **3.01 165** **Pn** **20 04 11.6 +2.1**
PB15 **IPOC Station P** **3.19 187** **Pn** **20 04 12.2 +0.4**
PB10 **IPOC Station P** **3.75 202** Pn **Pn** **20 04 17.1 -1.9**
LPAZ **La Paz** **3.82 13** P **Pn** **20 04 23.9 +3.3**
comp=N,799nm,0.7s,baz=205,slow=6.2,SNR=1051
LPAZ S **Sn** **20 05 06.1 +1.1**
comp=N,183nm,0.5s,baz=40,slow=11,SNR=1.1
LPAZ LR LR 20 05 55.9
comp=N,5µm,18.5s,baz=220,slow=40
LPAZ ScS **ScS** **20 18 37.6 +0.4**
comp=N,2.1nm,0.9s,baz=256,slow=4.2,SNR=6.4
LPAZ **La Paz** **3.82 13** Pn **Pn** **20 04 23.5 +2.8**
LPAZ **La Paz** **3.82 13** P **Pn** **20 04 23.5 +2.8**
PB14 **IPOC Station P** **4.75 195** Pn **Pn** **20 04 30.7 -2.2**
GO02 **Mina Guanaco** **5.13 186** Pn **Pn** **20 04 36.6 -1.5**
AC01 **Pan de Azucar** **6.26 193** Pn **Pn** **20 04 49.8 -3.3**
AC02 **Maricunga** **6.77 181** Pn **Pn** **20 04 59.5 -1.0**
AC06 **Mina Casimiro** **7.39 189** Pn **Pn** **20 05 04.3 -4.1**
AC04 **Llanos de Chal** **8.35 193** Pn 20 05 16.1 -5.3
SIV **San Ignacio** **8.57 63** P **Pn** **20 05 23.9 -0.6**
comp=N,504nm,0.7s,baz=250,slow=10,SNR=1358
SIV S **Sn** **20 06 59.4 -0.1**
comp=N,54nm,0.8s,baz=289,slow=8.2,SNR=4.1
AC05 **El Transito** **8.84 187** **Pn** **20 05 24.3 -3.9**
LCO **Las Campanas** **9.07 189** Pn 20 05 26.2 -5.2
LCO **Las Campanas** **9.07 189** P Pn 20 05 26.2 -5.3
CO01 **Juntas del Tor** **9.95 185** **Pn** **20 05 40.2 -3.2**
GO04 **Tololo Observa** **10.22 189** Pn 20 05 42.1 -5.0
GO04 **Tololo Observa** **10.22 189** *e*P Pn 20 05 42.1 -5.0
PTLB **Pontes e Lacer** **10.46 66** **Pn** **20 05 48.5 -1.8**
PTLB **Pontes e Lacer** **10.46 66** *e*P **Pn** **20 05 48.4 -1.8**
ETMB **Extrema** **10.51 15** **Pn** **20 05 49.3 -1.6**
ETMB **Extrema** **10.51 15** *e*P **Pn** **20 05 49.6 -1.3**
CO06 **Fray Jorge** **10.86 192** **Pn** **20 05 51.4 -4.0**
NNA **Nana** **10.97 316** P **Pn** **20 05 54.7 -2.5**
comp=N,11nm,0.3s,baz=172,slow=6.5,SNR=2.9
NNA S **Sn** **20 07 53.4 -4.6**
comp=N,18nm,0.3s,baz=249,slow=15,SNR=1.6
NNA **Nana** **10.97 316** **Pn** **20 05 52.5 -4.7**
NNA **Nana** **10.97 316** *i* P **Pn** **20 05 55.8 -1.4**
VILB **Vilhena** **11.00 52** **Pn** **20 05 56.0 -1.6**
VILB **Vilhena** **11.00 52** *e*P **Pn** **20 05 56.5 -1.1**
ANTJ **Antonio Joao (** **12.32 101** *e*P **Pn** **20 06 12.8 -2.2**
SAML **Samuel** **12.38 28** Pn **Pn** **20 06 12.8 -3.1**
SAML **Samuel** **12.38 28** P **Pn** **20 06 12.8 -3.1**
CPUP **Villa Florida** **12.45 122** P **Pn** **20 06 16.1 -0.5**
comp=N,228nm,0.9s,baz=303,slow=12,SNR=228
CPUP LR LR 20 11 39.8
comp=N,748nm,20.9s,baz=311,slow=40
CPUP **Villa Florida** **12.45 122** *e*P **Pn** **20 06 15.7 -0.9**
CZSB **Cruzeiro do Su** **12.74 343** **Pn** **20 06 17.2 -3.4**
SALV **Santo Antonio** **13.33 74** *e*P **Pn** **20 06 26.6 -1.7**
PDRB **Porto dos Gac** **14.48 57** *e*P **Pn** **20 06 40.6 -2.6**
MCR1 **Marechal Candi** **14.56 110** *e*P **Pn** **20 06 44.2 +0.1**
ITQB **Itaqui** **14.78 133** P **Pn** **20 06 45.6 -1.3**
ITQB **Itaqui** **14.78 133** *e*P **Pn** **20 06 46.0 -0.9**
C2SB **Chapadao do Su** **15.32 88** *e*P **Pn** **20 06 53.7 -0.1**
TRCB **Terra Rica** **15.51 103** P **Pn** **20 06 56.5 +0.3**
TRCB **Terra Rica** **15.51 103** *e*P **Pn** **20 06 56.5 +0.3**
UNIS **Unistalda (Bra** **15.55 128** *e*P **Pn** **20 06 56.4 -0.2**
CRSM **Crissiumal (Br** **15.59 121** *e*P **Pn** **20 06 57.6 +0.4**
CLDB **Colider** **15.66 56** *e*P **Pn** **20 06 56.5 -1.5**
ATAH **Atahualpa** **15.71 323** P **Pn** **20 06 60.0 +0.8**
comp=N,6.9nm,0.7s,baz=157,slow=7.7,SNR=3.9
ATAH S **Sn** **20 09 51.8 -1.6**
comp=N,3.3nm,0.7s,baz=293,slow=17,SNR=1.0
TBTG **Tabatinga, AM** **15.77 357** P **Pn** **20 06 56.6 -2.9**
TBTG **Tabatinga, AM** **15.77 357** *e*P **Pn** **20 06 57.8 -1.7**
ML02 **Panimavida** **15.81 187** P **Pn** **20 06 59.3 -0.5**
FRBT **Francisco Belt** **15.84 115** *e*P **Pn** **20 07 00.4 +0.1**
H03N1 **Juan Fernandez** **16.00 211** P **P** **20 07 02.7 -0.6**
baz=109,slow=14,SNR=48
H03N1 T T 20 23 37.3
baz=32,slow=74
H03N2 **Juan Fernandez** **16.01 211** P **Pn** **20 07 02.6 +0.6**
baz=109,slow=14,SNR=44
H03N2 T T 20 23 40.4
baz=32,slow=74
H03N3 **Juan Fernandez** **16.02 211** P **Pn** **20 07 02.4 +0.3**
baz=109,slow=14,SNR=51
H03N3 T T 20 23 41.5
baz=32
VA04 **Juan Fernndez** **16.12 211** **Pn** **20 07 00.4 -3.2**
RODS **Rosario do Sul** **16.17 132** *e*P **Pn** **20 07 03.6 -0.7**
H03S3 **Juan Fernandez** **16.31 211** P **P** **20 07 06.7 -0.1**
SNR=91
H03S1 **Juan Fernandez** **16.32 211** P **P** **20 07 06.5 -0.3**
SNR=72
H03S2 **Juan Fernandez** **16.33 211** P **P** **20 07 06.7 -0.2**
SNR=69
PTGB **Pitanga** **16.36 110** *e*P **P** **20 07 07.5 -0.3**
PCMB **Pacaembu** **16.68 99** *e*P **Pn** **20 07 10.2 -0.5**
ALGR **Alto Alegre (B** **16.97 124** *e*P **Pn** **20 07 14.0 -0.2**
ITAB **Concordia** **17.05 118** P **Pn** **20 07 14.5 -0.6**
ITAB **Concordia** **17.05 118** *e*P **P** **20 07 15.6 +0.3**
BI05 **Punta Hualpn** **17.05 191** **Pn** **20 07 09.0 -6.0**
CPSB **Cacapava Do Su** **17.46 129** *e*P **P** **20 07 19.0 -0.8**
ITRB **Iturama** **17.56 92** *e*P **Pn** **20 07 21.7 +0.3**
PLTB **Pedras Altas** **18.11 133** P **P** **20 07 25.7 -1.2**
PLTB **Pedras Altas** **18.11 133** *e*P **P** **20 07 26.1 -0.8**
NPGB **Novo Progresso** **18.50 48** *e*P **P** **20 07 30.4 -1.0**
MACA **Manacapuru-AM** **18.64 27** P **P** **20 07 31.5 -1.3**
MACA **Manacapuru-AM** **18.64 27** *e*P **P** **20 07 32.2 -0.6**
SNDB **Serra Nova Dou** **18.82 67** *e*P **P** **20 07 34.6 -0.2**
MCRA **Macar, Loja** **18.86 324** P **Pn** **20 07 36.3 -0.7**
CNLB **Canela** **18.90 123** *e*P **P** **20 07 34.9 -0.8**
TRQA **Tornquist** **18.98 163** P **P** **20 07 36.6 +0.2**
TRQA **Tornquist** **18.98 163** P **P** **20 07 36.6 +0.2**
BOSC **San Juan Bosco** **19.16 330** P **P** **20 07 39.6 +0.9**
TIJ01 **Guaruva-PR** **19.20 110** *e*P **P** **20 07 39.4 +0.3**
BB19B **Bebedouro** **19.22 97** *e*P **P** **20 07 38.9 -0.3**
GO06 **Curarrehue** **19.60 186** P **P** **20 07 44.0 +0.7**
ARNL **Arenillas** **19.61 325** P **Pn** **20 07 45.4 -0.3**
LR03 **Panguipulli** **19.74 188** P **P** **20 07 45.5 +0.9**
IPMB **Ipameri, GO** **19.78 88** *e*P **P** **20 07 44.8 -0.6**
TER01 **Tubarao-SC** **19.99 119** *e*P **P** **20 07 46.6 -0.9**
LR04 **Corral** **20.14 190** P **P** **20 07 49.7 +0.8**
ITTB **Itaituba** **20.25 41** *e*P **P** **20 07 49.4 -0.9**
BDFB **Brasilia** **20.47 81** P **P** **20 07 52.5 -0.3**
comp=N,39nm,0.4s,baz=260,slow=11,SNR=83
BDFB S **S** **20 11 32.0 -4.3**
comp=N,5.1nm,0.7s,baz=148,slow=25,SNR=1.1
BDFB LR LR 20 16 59.3
comp=N,2µm,20.2s,baz=280,slow=40
comp=N,39nm,0.4s
BDFB **Brasilia** **20.47 81** P **P** **20 07 53.0 +0.2**
BDFB **Brasilia** **20.47 81** *e*P **P** **20 07 52.5 -0.3**
PET01 **Itanhaem-SP** **20.58 106** *e*P **P** **20 07 52.9 -0.9**
PLCA **Paso Flores** **20.68 183** P **P** **20 07 55.3 +0.5**
comp=N,85nm,0.8s,baz=7.0,slow=12,SNR=90
PLCA S **S** **20 11 41.0 +1.0**
comp=N,1.0nm,0.8s,baz=25,slow=13,SNR=0.8
comp=N,85nm,0.8s
PLCA **Paso Flores** **20.68 183** *e*P **P** **20 07 55.9 +1.2**
VAO **Valinhos** **20.73 102** *e*P **P** **20 07 54.3 -1.2**
PORT **Chimborazo Vol** **20.77 331** P Pn 20 07 58.6 -1.3
CHSH **Refugio Sur-Vo** **20.79 331** P Pn 20 07 58.7 -1.4
LL04 **Puerto Octay** **21.01 187** P **P** **20 07 57.6 -0.6**
LL04 **PcP** **20 12 01.0 -0.3**
LL03 **Petrohue** **21.24 187** P **P** **20 08 00.7 +0.1**
SLOR **San Lorenzo -** **21.31 333** P **P** **20 08 05.8 +3.7**
PMNB **Patos De Minas** **21.37 90** *e*P **P** **20 08 01.6 -0.9**
LL05 **Los Muermos** **21.64 189** P **P** **20 08 07.2 +2.2**
PULU **Pululahua** **21.99 334** P **P** **20 08 11.0 +1.7**
PARB **Paraibuna** **21.99 103** *e*P **P** **20 08 08.5 -0.5**
IMBA **Imbabura, San** **22.09 335** P **P** **20 08 12.3 +1.8**
OTAV **Otavalo** **22.16 334** P **P** **20 08 12.5 +1.3**
OTAV **Otavalo** **22.16 334** P **P** **20 08 12.5 +1.3**
TULM **Tulcn-Chalpat** **22.34 336** P **P** **20 08 15.5 +2.4**

LL01 **San Ignacio de** **22.46 187** P **P** **20 08 11.9 -1.6**
MALB **Monte Alegre** **23.12 40** *e*P **P** **20 08 18.6 -1.7**
PRPB **Parauapebas** **23.19 56** *e*P **P** **20 08 19.0 -2.0**
LL02 **Futaleuf** **23.21 185** P **P** **20 08 20.9 0.0**
GO07 **Milladeo Hill,** **23.34 189** P **P** **20 08 22.0 -0.1**
SMTB **Santa Maria do** **23.51 65** *e*P **P** **20 08 23.3 -0.7**
BOAV **Boa Vista** **23.80 21** P **P** **20 08 25.9 -0.6**
BOAV **Boa Vista** **23.80 21** *e*P **P** **20 08 26.3 -0.2**
VAS01 **Vassouras-RJ** **23.95 100** *e*P **P** **20 08 28.2 +0.3**
DIAM **Diamantina, MG** **24.00 90** *e*P **P** **20 08 28.4 -0.1**
MC01 **Montes Claros** **24.02 86** *e*P **P** **20 08 27.8 -0.9**
JANB **Januaria** **24.07 82** *e*P **P** **20 08 28.5 -0.5**
SDBA **SAO DESIDERIO** **24.35 76** *e*P **P** **20 08 30.2 -1.3**
AY01 **Puyuhuapi** **24.51 186** P **P** **20 08 32.2 -0.3**
DUB01 **Friburgo-RJ** **24.94 99** *e*P **P** **20 08 37.5 +0.6**
ROSC **El Rosal** **25.26 348** P **P** **20 08 41.8 +1.6**
comp=N,14nm,0.5s,baz=114,slow=6.5,SNR=7.0
ROSC S **S** **20 12 58.9 +0.3**
comp=N,7.3nm,0.3s,baz=252,slow=20,SNR=2.1
ROSC LR LR 20 19 10.0
comp=N,645nm,19.0s,baz=216,slow=37
comp=N,14nm,0.5s
ROSC **El Rosal** **25.26 348** P **P** **20 08 37.8 -2.4**
ROSC **El Rosal** **25.26 348** P **P** **20 08 37.8 -2.4**
COYC **Coyhaique** **25.60 185** P **P** **20 08 42.5 -0.1**
COYC IAmb IAmb 20 08 44.1
comp=Z,73nm,0.9s
CAM01 **Campos-RJ** **25.61 99** *e*P **P** **20 08 42.7 -0.2**
SJMB **Sao Joao De Ma** **26.29 92** *e*P **P** **20 08 49.4 +0.3**
ALF01 **Guarapari-ES** **26.53 96** *e*P **P** **20 08 52.0 +0.8**
RIB01 **Linhares ES** **26.96 93** *e*P **P** **20 08 55.4 +0.4**
NAN01 **Guarapari, ES** **27.41 90** *e*P **P** **20 08 59.0 -0.1**
GUA01 **Guaratinga, BA** **27.93 88** *e*P **P** **20 09 04.2 +0.4**
CMC01 **Camacan, BA** **28.47 85** *e*P **P** **20 09 09.0 +0.4**
SDV **Santo Domingo** **28.78 357** P **P** **20 09 11.2 -0.2**
comp=Z,16nm,0.6s,baz=181,slow=9.8,SNR=12
SDV pP **pP** **20 09 36.6 +0.5**
comp=Z,14nm,0.5s,baz=184,slow=4.8,SNR=3.2
SDV S **S** **20 13 50.0 -3.7**
comp=Z,2.1nm,0.3s,baz=82,slow=9.6,SNR=3.2
SDV LR LR 20 22 01.8
comp=Z,651nm,21.1s,baz=179,slow=39
comp=Z,16nm,0.6s
SDV **Santo Domingo** **28.78 357** P **P** **20 09 11.1 -0.4**
SDV **Santo Domingo** **28.78 357** *e*P **P** **20 09 11.3 -0.1**
BAUV **El Baul** **28.81 2** P **P** **20 09 11.6 +0.1**
BAUV IAmb IAmb 20 10 00.3
comp=Z,254nm,1.6s
GDU01 **Guandu, BA** **28.84 82** *e*P **P** **20 09 11.4 -0.5**
ROSB **Rosrio** **29.67 58** *e*P **P** **20 09 18.4 -0.8**
MDP **Montagnes des** **29.72 35** P **P** **20 09 18.9 -0.7**
comp=Z,6.6nm,0.6s,baz=217,slow=8.9,SNR=8.0
comp=Z,6.6nm,0.6s
PCRV **Puerto La Cruz** **30.33 9** LR LR 20 23 07.6
comp=Z,1µm,18.9s,slow=39
NBLA **Lagarto - SE** **31.36 78** *e*P **P** **20 09 32.9 -1.2**
MG05 **Puerto Natales** **31.70 184** P **P** **20 09 36.4 -0.2**
MG05 IAmb IAmb 20 10 19.3
comp=Z,206nm,1.8s
TOSP **Speyside** **32.23 16** P **P** **20 09 42.3 +0.6**
SRBA **San Rafael, Bu** **32.32 333** P **P** **20 09 40.4 -2.2**
EFI **East Falkland** **32.73 167** P **P** **20 09 46.8 +1.1**
EFI **East Falkland** **32.73 167** *i* P **P** **20 09 46.0 +0.3**
EFI pmax pmax
comp=Z,123nm,0.9s
GRGR **Grenville** **32.77 13** P **P** **20 09 47.1 +0.7**
RIMA **Rio Macho** **33.02 332** P **P** **20 09 51.7 +2.9**
NBAN **Anadia - AL** **33.23 77** *e*P **P** **20 09 50.2 -0.2**
SVB **Belmont** **33.97 14** P **P** **20 09 56.2 -0.6**
JTS **Las Juntas de** **33.97 331** *i* P **P** **20 09 57.7 +0.9**
NBRF **Rio Formoso -** **34.65 76** *e*P **P** **20 10 02.5 -0.3**
RCBR **Riachuelo** **35.14 71** P **P** **20 10 06.4 -0.7**
comp=Z,30nm,0.6s,baz=28,slow=7.5,SNR=26
RCBR LR LR 20 24 33.0
comp=Z,390nm,19.4s,baz=19,slow=36
comp=Z,30nm,0.6s
RCBR **Riachuelo** **35.14 71** P **P** **20 10 07.9 +0.8**
RCBR IAmb IAmb 20 10 09.6
comp=Z,56nm,1.2s
MPOM **Morne Pois Mar** **35.19 14** P **P** **20 10 06.6 -0.7**
BIM **Bigot** **35.21 13** P **P** **20 10 05.7 -1.9**
FDF **Fort de France** **35.40 13** P **P** **20 10 07.4 -1.8**
FDF **Fort de France** **35.40 13** P **P** **20 10 07.4 -1.8**
FDF pmax pmax
comp=Z,88nm,0.5s
SVN **Savane Anatole** **35.51 13** P **P** **20 10 09.1 -1.0**
H05N1 **Guadeloupe/Mar** **36.96 13** P **P** **20 10 19.3 -3.1**
SNR=6.6
RPN **Rapa Nui** **37.49 251** LR LR 20 22 51.8
comp=Z,275nm,18.4s,baz=96,slow=31
ICMP **Isla Caja de M** **37.76 4** P **P** **20 10 29.0 -0.1**
MLPR **Magueyes Islan** **37.81 3** P **P** **20 10 28.3 -1.3**
MLPR IAmb IAmb 20 10 29.6
comp=Z,74nm,1.1s
CRPR **Cabo Rojo, PR** **37.85 3** P **P** **20 10 28.7 -1.1**
OBIP **Obispado Ponce** **37.91 4** P **P** **20 10 28.6 -1.8**
CELP **Cerrillos** **37.95 4** P **P** **20 10 29.2 -1.4**
SJG **San Juan** **38.01 4** P **P** **20 10 29.9 -1.3**
comp=Z,82nm,0.7s,baz=164,slow=4.7,SNR=32
comp=Z,82nm,0.7s
SJG **San Juan** **38.01 4** P **P** **20 10 29.1 -2.1**
SJG **San Juan** **38.01 4** P **P** **20 10 29.1 -2.1**
MTP **Monte Pirata** **38.05 5** P **P** **20 10 28.8 -2.7**
MTP IAmb IAmb 20 10 30.6
comp=Z,49nm,1.0s
PRSN **Puerto Rico Se** **38.06 3** P **P** **20 10 30.1 -1.5**
HUMP **Col San Antoni** **38.06 5** P **P** **20 10 29.4 -2.3**
HUMP IAmb IAmb 20 10 33.6
comp=Z,44nm,0.6s
CBYP **Canovanas** **38.19 5** P **P** **20 10 30.9 -1.9**
AOPR **Arecibo Observ** **38.20 3** P **P** **20 10 30.9 -2.0**
AOPR IAmb IAmb 20 10 32.5
comp=Z,54nm,0.7s
GCPR **Guaynabo City** **38.21 5** P **P** **20 10 30.9 -2.0**
CUPR **Culebra, Puert** **38.28 6** P **P** **20 10 32.1 -1.3**
CUPR IAmb IAmb 20 10 34.7
comp=Z,21nm,0.6s
SMRT **St. Maarten** **38.29 9** P **P** **20 10 30.6 -3.1**
SMRT IAmb IAmb 20 10 32.7
comp=Z,60nm,0.9s
PCDR **Punta Cana, DR** **38.31 1** P **P** **20 10 33.8 0.0**
TGUH **Tegucigalpa,Un** **38.34 331** P **P** **20 10 34.4 +0.2**
TGUH IAmb IAmb 20 10 37.1
comp=Z,49nm,1.1s
EMPR **Esperanza - Ma** **38.35 4** P **P** **20 10 32.5 -1.5**
STVI **Saint Thomas** **38.35 6** P **P** **20 10 33.2 -0.9**
STVI IAmb IAmb 20 10 34.5
comp=Z,27nm,0.6s
DR12 **Loma Pena Alta** **38.58 359** P **P** **20 10 33.8 -2.3**
MTO3 **Montecristo** **39.63 328** P **P** **20 10 46.9 +1.8**
PETF **Flores** **42.04 329** P **P** **20 11 06.4 +1.8**
PETF IAmb IAmb 20 11 37.0
comp=Z,49nm,1.1s
HOPE **Hope Point** **42.22 152** P **P** **20 11 07.4 +1.8**
HOPE **Hope Point** **42.22 152** P **P** **20 11 07.4 +1.8**
HOPE pmax pmax
comp=Z,87nm,0.9s
TEIG **Tepich** **44.23 334** P **P** **20 11 23.3 +1.1**
CMIG **Matias Romero** **44.79 324** P **P** **20 11 27.5 +0.8**
comp=Z,11nm,1.0s,baz=123,slow=8.1,SNR=8.6
CMIG pP **pP** **20 11 53.0 +0.9**
comp=Z,7.3nm,0.7s,baz=92,slow=4.3,SNR=4.5
comp=Z,11nm,1.0s
PMSA **Palmer Station** **44.84 177** P **P** **20 11 26.2 -0.2**
comp=Z,17nm,0.8s,baz=8.3,slow=2.3,SNR=3.5
comp=Z,17nm,0.8s
PMSA **Palmer Station** **44.84 177** *e*P **P** **20 11 28.4 +1.9**
TLIG **Tlapa** **47.30 320** P **P** **20 11 48.0 +1.5**
SMAI **San Martin Ant** **48.10 179** P **P** **20 11 53.4 +1.5**
SMAI IAmb IAmb 20 11 55.6
comp=Z,50nm,1.1s
DWPF **Disney Wildern** **49.34 346** P **P** **20 12 03.1 +1.3**
DWPF **Disney Wildern** **49.34 346** P **P** **20 12 00.2 -1.6**
baz=165
656A **Willston** **50.81 345** P **P** **20 12 13.8 +0.8**
656A **Willston** **50.81 345** P **P** **20 12 13.7 +0.8**
baz=164
456A **Hilliard** **51.99 346** P **P** **20 12 23.1 +1.5**
BBSR **BB Station** **52.27 5** P **P** **20 12 23.8 +0.1**
255A **Hazlehurst** **53.25 346** P **P** **20 12 31.6 +0.6**
255A **pP** **20 12 57.3 -0.1**
255A **Hazlehurst** **53.25 346** P **P** **20 12 31.9 +1.0**
baz=164
352A **Blakely** **53.44 343** P **P** **20 12 32.9 +0.5**
352A **pP** **20 12 58.6 -0.1**
352A **Blakely** **53.44 343** P **P** **20 12 33.3 +0.9**
baz=162
ZAIG **Zacatecas** **53.68 321** P **P** **20 12 35.5 +0.8**
ZAIG IAmb IAmb 20 12 38.2
comp=Z,18nm,0.8s
ZAIG pP **pP** **20 13 02.0 +1.2**
CSU **Charleston Sou** **53.77 348** P **P** **20 12 34.2 -0.5**
CSU pP **pP** **20 13 01.1 -0.2**
BRAL **Brewton** **53.77 341** P **P** **20 12 34.8 -0.1**
BRAL **pP** **20 13 00.1 -1.2**
NHSC **New Hope** **53.90 348** P **P** **20 12 37.2 +1.5**
NHSC pP **pP** **20 13 01.7 -0.6**
154A **Montrose** **54.05 345** P **P** **20 12 37.5 +0.6**
154A **pP** **20 13 03.9 +0.6**
250A **Grady** **54.29 342** P **P** **20 12 39.2 +0.6**
250A **pP** **20 13 04.3 -0.8**
250A **Grady** **54.29 342** P **P** **20 12 39.5 +0.9**
baz=160
HAW **Hawthorne Fire** **54.44 347** P **P** **20 12 40.6 +1.0**
baz=166,SNR=7.3
152A **Waverly Hall** **54.51 344** P **P** **20 12 41.1 +0.9**
152A **pP** **20 13 06.5 -0.1**
152A IAmb IAmb 20 13 08.3
comp=Z,56nm,1.1s
Y58A **Scranton** **54.59 349** P **P** **20 12 41.3 +0.6**
346A **Big Creek Wild** **54.76 339** P **P** **20 12 42.4 +0.4**
Y57A **Sumter** **54.83 348** P **P** **20 12 43.6 +1.2**
Y57A pP **pP** **20 13 08.8 -0.2**
GOGA **Godfrey** **54.90 345** P **P** **20 12 43.2 +0.2**
GOGA **pP** **20 13 08.1 -1.3**
GOGA IAmb IAmb 20 13 10.7
comp=Z,38nm,1.1s
GOGA **Godfrey** **54.90 345** P **P** **20 12 43.2 +0.2**
GOGA *PP **pP** **20 13 08.1 -1.3**
GOGA pmax pmax
comp=Z,38nm,1.1s
GOGA **Godfrey** **54.90 345** P **P** **20 12 41.7 -1.2**
baz=164
X58A **Rowland** **55.16 350** P **P** **20 12 45.6 +0.8**
X58A IAmb IAmb 20 12 47.9
comp=Z,94nm,1.6s
Z51A **Franklin** **55.24 344** P **P** **20 12 45.4 -0.1**
Z51A IAmb IAmb 20 13 13.2
comp=Z,33nm,1.1s
JSC **Jenkinsville** **55.25 348** P **P** **20 12 46.3 +0.8**
JSC IAmb IAmb 20 13 13.2
comp=Z,38nm,1.0s
JSC **Jenkinsville** **55.25 348** P **P** **20 12 46.3 +0.8**
JSC pmax pmax
comp=Z,38nm,1.0s
JSC **Jenkinsville** **55.25 348** P **P** **20 12 46.0 +0.5**
baz=166,SNR=6.6
HODGE **Hodges** **55.41 347** P **P** **20 12 47.0 +0.4**
HODGE **pP** **20 13 13.3 -0.1**
HODGE IAmb IAmb 20 14 29.9
comp=Z,28nm,1.0s
HODGE **Hodges** **55.41 347** P **P** **20 12 47.5 +0.9**
baz=165
BIRD **Birdtown, Kers** **55.45 349** P **P** **20 12 46.8 -0.1**
BIRD pP **pP** **20 13 13.3 -0.4**
BIRD **Birdtown, Kers** **55.45 349** P **P** **20 12 47.6 +0.7**
baz=167,SNR=11
Y52A **Lilburn** **55.48 345** P **P** **20 12 47.6 +0.5**
Y52A **pP** **20 12 12.9 -0.7**
Y52A IAmb IAmb 20 13 14.9
comp=Z,33nm,1.0s
LRAL **Lakeview Retre** **55.49 342** P **P** **20 12 47.2 0.0**
LRAL **pP** **20 13 13.1 -0.7**
LRAL IAmb IAmb 20 13 14.7
comp=Z,24nm,1.1s
LRAL **Lakeview Retre** **55.49 342** P **P** **20 12 47.5 +0.2**
baz=160
LRAL **Lakeview Retre** **55.49 342** P **P** **20 12 46.1 -1.1**
baz=160
342A **Flagon Creek P** **55.79 336** P **P** **20 12 50.9 +1.5**
342A **pP** **20 13 16.6 +0.9**
W57A **Gilead** **55.86 349** P **P** **20 12 50.0 +0.2**
W57A pP **pP** **20 13 15.6 -1.0**
W57A **Gilead** **55.86 349** P **P** **20 12 50.5 +0.7**
baz=168,SNR=7.8
W57A P **P** **20 12 50.5 +0.7**
baz=168,SNR=7.8
VBMS **Vicksburg** **55.88 338** P **P** **20 12 49.0 -1.0**
baz=156
PAULI **Pauline** **55.89 347** P **P** **20 12 50.4 +0.4**
PAULI **pP** **20 13 16.3 -0.6**
PAULI **Pauline** **55.89 347** P **P** **20 12 51.1 +1.0**
baz=166
Z47A **Carrollton** **55.97 341** P **P** **20 12 51.2 +0.5**
Z47A IAmb IAmb 20 13 17.4
comp=Z,85nm,1.5s
HKT **Hockley** **56.00 332** P **P** **20 12 52.5 +1.7**
HKT pP **pP** **20 13 17.3 0.0**
HKT IAmb IAmb 20 13 20.6
comp=Z,37nm,1.4s
HKT **Hockley** **56.00 332** *i* P **P** **20 12 52.2 +1.4**
HKT pmax pmax
comp=Z,33nm,1.5s
KMSC **Kings Mountain** **56.10 348** P **P** **20 12 51.9 +0.4**
KMSC **pP** **20 13 17.4 -1.0**
KMSC **Kings Mountain** **56.10 348** P **P** **20 12 52.5 +0.9**
baz=166,SNR=5.6
KMSC **Kings Mountain** **56.10 348** P **P** **20 12 51.8 +0.2**
baz=166
BG3 **Lake Jocassee** **56.29 346** P **P** **20 12 53.7 +0.8**
BG3 **pP** **20 13 18.9 -0.9**
BG3 IAmb IAmb 20 13 20.7
comp=Z,42nm,1.2s
CASEE **Lake Jocassee** **56.29 346** P **P** **20 12 54.0 +1.1**
baz=164
833A **Chaparral WMA,** **56.33 328** P **P** **20 12 53.8 +0.5**
833A IAmb IAmb 20 12 55.5
comp=Z,43nm,1.1s
833A **Chaparral WMA,** **56.33 328** P **P** **20 12 52.5 -0.7**
baz=145
V58A **Windy Hill, Pi** **56.34 350** P **P** **20 12 53.4 +0.2**
V58A **pP** **20 13 18.9 -1.2**
V58A IAmb IAmb 20 14 20.6
comp=Z,20nm,0.6s
X51A **Calhoun** **56.35 344** P **P** **20 12 53.4 +0.1**
X51A **pP** **20 13 19.0 -0.8**
X51A IAmb IAmb 20 13 21.1
comp=Z,53nm,1.0s
FPAL **Fort Paine** **56.52 344** P **P** **20 12 55.2 +0.6**
FPAL **pP** **20 13 20.2 -0.9**
FPAL IAmb IAmb 20 13 22.0
comp=Z,32nm,1.2s
W52A **Murphy** **56.62 345** P **P** **20 12 55.3 +0.1**
W52A **pP** **20 13 21.3 -0.8**
W52A IAmb IAmb 20 13 23.4
comp=Z,48nm,1.1s
U59A **Littleton** **56.69 352** P **P** **20 12 56.2 +0.5**
U59A **pP** **20 13 22.0 -0.5**
U59A IAmb IAmb 20 14 41.0
comp=Z,19nm,0.8s
V55A **Taylorsville** **56.77 348** P **P** **20 12 56.9 +0.6**
V55A **pP** **20 13 21.6 -1.5**
V55A **Taylorsville** **56.77 348** P **P** **20 12 57.3 +1.1**
baz=166,SNR=9.2
V55A P **P** **20 12 57.3 +1.1**
baz=166,SNR=9.2
X48A **Hartselle** **56.83 342** P **P** **20 12 57.0 +0.2**
X48A pP **pP** **20 13 23.4 +0.1**
X48A IAmb IAmb 20 13 24.4
comp=Z,45nm,0.9s
X48A **Hartselle** **56.83 342** P **P** **20 12 57.0 +0.2**
baz=160,SNR=7.2
V53A **Saluda** **56.92 347** P **P** **20 12 57.4 0.0**
V53A IAmb IAmb 20 13 55.8
comp=Z,27nm,0.6s
V53A **Saluda** **56.92 347** P **P** **20 12 58.2 +0.8**
baz=165
V53A P **P** **20 12 58.2 +0.8**
baz=165
Y45A **Yeager Farm, C** **57.05 340** P **P** **20 12 58.9 +0.6**
Y45A IAmb IAmb 20 13 26.7
comp=Z,44nm,0.8s
NATX **Nacogdoches** **57.06 334** P **P** **20 12 59.2 +0.8**
NATX pP **pP** **20 13 25.0 +0.1**
NATX IAmb IAmb 20 13 27.5
comp=Z,45nm,0.8s
NATX **Nacogdoches** **57.06 334** P **P** **20 12 58.5 0.0**
baz=151

W50A	**Signal Mountai**	**57.06 344**	P	**P**	**20 12 58.6**	**+0.2**
W50A				**pP**	**20 13 24.8**	**-0.2**
W50A			IAmb	IAmb	20 13 26.3	
	comp=Z,66nm,1.1s					
W50A	**Signal Mountai**	**57.06 344**	P	**P**	**20 12 58.8**	**+0.4**
	baz=162,SNR=7.2					
U56A	**King**	**57.09 349**	P	**P**	**20 12 59.8**	**+1.2**
U56A				**pP**	**20 13 24.8**	**-0.7**
CPCT	**Cooper Cave**	**57.10 345**	P	**P**	**20 12 59.1**	**+0.5**
CPCT				**pP**	**20 13 25.2**	**0.0**
CPCT			IAmb	IAmb	20 13 26.6	
	comp=Z,44nm,1.1s					
TKL	**Tuckaleechee C**	**57.12 346**	P	**P**	**20 12 58.2**	**-0.6**
	comp=Z,14nm,0.9s,baz=148,slow=8.8,SNR=9.2					
TKL			pP	**pP**	**20 13 25.2**	**-0.5**
	comp=Z,34nm,0.9s,baz=159,slow=6.3,SNR=9.7					
	comp=Z,14nm,0.9s					
TKL	**Tuckaleechee C**	**57.12 346**	P	**P**	**20 12 58.7**	**0.0**
TKL			pP	**pP**	**20 13 24.0**	**-1.7**
TKL			IAmb	IAmb	20 13 26.6	
	comp=Z,63nm,1.1s					
TKL	**Tuckaleechee C**	**57.12 346**	P	**P**	**20 12 58.7**	**0.0**
TKL			*PP	**pP**	**20 13 24.0**	**-1.7**
TKL			pmax	pmax		
	comp=Z,63nm,1.2s					
TKL	**Tuckaleechee C**	**57.12 346**	P	**P**	**20 12 58.8**	**0.0**
	baz=164,SNR=7.0					
SWET	**Sewanee**	**57.24 344**	P	**P**	**20 12 59.7**	**+0.1**
SWET				**pP**	**20 13 25.6**	**-0.7**
SWET			IAmb	IAmb	20 13 27.3	
	comp=Z,54nm,1.1s					
V52A	**Sevierville**	**57.26 346**	P	**P**	**20 12 59.8**	**+0.1**
V52A			pP	**pP**	**20 13 26.0**	**-0.7**
V52A	**Sevierville**	**57.26 346**	P	**P**	**20 12 60.0**	**+0.2**
	baz=164,SNR=9.7					
T59A	**Double "B" Far**	**57.26 352**	P	**P**	**20 13 00.4**	**+0.7**
T59A			pP	**pP**	**20 13 26.1**	**-0.5**
V51A	**Loudon**	**57.40 345**	P	**P**	**20 13 00.9**	**+0.3**
435B	**Jarrell**	**57.50 331**	P	**P**	**20 13 01.5**	**0.0**
435B			IAmb	IAmb	20 13 55.4	
	comp=Z,20nm,0.5s					
435B	**Jarrell**	**57.50 331**	P	**P**	**20 13 01.2**	**-0.3**
	baz=148					
T57A	**Hurt**	**57.54 350**	P	**P**	**20 13 02.2**	**+0.5**
OXF	**Oxford**	**57.60 340**	P	**P**	**20 13 02.4**	**+0.3**
OXF				**pP**	**20 13 27.5**	**-1.4**
OXF	**Oxford**	**57.60 340**	P	**P**	**20 13 02.0**	**-0.1**
	baz=157					
PLAL	**Pickwick Lake**	**57.63 341**	P	**P**	**20 13 02.3**	**0.0**
PLAL			pP	**pP**	**20 13 28.5**	**-0.6**
PLAL			IAmb	IAmb	20 13 29.9	
	comp=Z,33nm,1.0s					
237A	**Washetta, Mont**	**57.75 333**	P	**P**	**20 13 04.2**	**+1.0**
CCAR	**Cane Creek**	**57.86 338**	P	**P**	**20 13 04.7**	**+0.7**
CCAR			IAmb	IAmb	20 13 32.4	
	comp=Z,82nm,1.3s					
TZTN	**Tazewell**	**57.92 346**	P	**P**	**20 13 03.5**	**-0.9**
TZTN			pP	**pP**	**20 13 27.8**	**-3.6**
TZTN	**Tazewell**	**57.92 346**	P	**P**	**20 13 04.7**	**+0.3**
	baz=164,SNR=9.1					
BLA	**Blacksburg**	**57.94 349**	P	**P**	**20 13 02.3**	**-2.2**
BLA	**Blacksburg**	**57.94 349**	P	**P**	**20 13 02.3**	**-2.2**
BLA			pmax	pmax		
	comp=Z,150nm,0.6s					
BLA	**Blacksburg**	**57.94 349**	P	**P**	**20 13 04.8**	**+0.2**
	baz=168					
V48A	**Smith Brothers**	**57.98 343**	P	**P**	**20 13 04.0**	**-0.7**
V48A				**pP**	**20 13 30.2**	**-1.3**
V48A	**Smith Brothers**	**57.98 343**	P	**P**	**20 13 05.1**	**+0.3**
	baz=160,SNR=7.1					
W45A	**Hickory Valley**	**58.13 341**	P	**P**	**20 13 05.7**	**-0.1**
W45A				**pP**	**20 13 32.0**	**-0.6**
WLAR	**White Oak Lake**	**58.15 336**	P	**P**	**20 13 07.3**	**+1.3**
WLAR			pP	**pP**	**20 13 33.1**	**+0.2**
CLTN	**Cedars of Leba**	**58.17 344**	P	**P**	**20 13 06.1**	**0.0**
CLTN				**pP**	**20 13 32.1**	**-0.7**
CLTN			IAmb	IAmb	20 13 34.4	
	comp=Z,50nm,0.9s					
S57A	**Dark Hollow, R**	**58.24 351**	P	**P**	**20 13 07.0**	**+0.5**
S57A			IAmb	IAmb	20 13 55.0	
	comp=Z,27nm,0.7s					
R58B	**Mineral**	**58.28 352**	P	**P**	**20 13 08.1**	**+1.2**
R58B				**pP**	**20 13 33.9**	**+0.1**
R58B			IAmb	IAmb	20 14 21.9	
	comp=Z,27nm,0.5s					
JCT	**Junction City**	**58.30 329**	P	**P**	**20 13 06.7**	**-0.5**
JCT	**Junction City**	**58.30 329**	P	**P**	**20 13 06.7**	**-0.5**
JCT			pmax	pmax		
	comp=Z,17nm,1.0s					
JCT	**Junction City**	**58.30 329**	P	**P**	**20 13 06.2**	**-0.9**
	baz=146					
U49A	**Red Boiling Sp**	**58.43 344**	P	**P**	**20 13 07.6**	**-0.3**
U49A			pP	**pP**	**20 13 33.5**	**-1.1**
U49A			IAmb	IAmb	20 13 35.6	
	comp=Z,40nm,1.1s					
U49A	**Red Boiling Sp**	**58.43 344**	P	**P**	**20 13 07.9**	**0.0**
	baz=162					
CBN	**Corbin Frederi**	**58.45 352**	P	**P**	**20 13 08.5**	**+0.5**
	baz=171					
WHTX	**Lake Whitney,**	**58.46 332**	P	**P**	**20 13 07.8**	**-0.4**
WHTX			pP	**pP**	**20 13 33.4**	**-1.4**
WHTX			IAmb	IAmb	20 13 37.5	
	comp=Z,22nm,0.8s					
WHTX	**Lake Whitney,**	**58.46 332**	P	**P**	**20 13 07.4**	**-0.8**
	baz=149					
Z38A	**Mt. Pleasant**	**58.50 335**	P	**P**	**20 13 08.8**	**+0.3**
Z38A			pP	**pP**	**20 13 34.1**	**-1.0**
WVT	**Waverly**	**58.62 342**	P	**P**	**20 13 08.6**	**-0.7**
WVT			pP	**pP**	**20 13 34.6**	**-1.4**
WVT			IAmb	IAmb	20 13 36.9	
	comp=Z,44nm,0.9s					
WVT	**Waverly**	**58.62 342**	P	**P**	**20 13 08.4**	**-0.8**
	baz=159					
WVT	**Waverly**	**58.62 342**	P	**P**	**20 13 07.8**	**-1.5**
WVT			pP	**pP**	**20 13 34.6**	**-1.4**
HPIG		**58.66 321**	P	**P**	**20 13 10.3**	**+0.4**
HPIG				**pP**	**20 13 36.0**	**-0.5**
HPIG			IAmb	IAmb	20 13 38.2	
	comp=Z,25nm,1.2s					
UALR	**University of**	**58.84 338**	P	**P**	**20 13 11.9**	**+1.1**
UALR				**pP**	**20 13 36.0**	**-1.7**
UALR			IAmb	IAmb	20 13 39.2	
	comp=Z,50nm,1.2s					
S51A	**Beattyville**	**58.98 347**	P	**P**	**20 13 10.4**	**-1.3**
MIAR	**Mount Ida**	**59.09 336**	P	**P**	**20 13 12.2**	**-0.3**
MIAR				**pP**	**20 13 39.1**	**-0.4**
MIAR			IAmb	IAmb	20 13 41.2	
	comp=Z,45nm,1.1s					
MIAR	**Mount Ida**	**59.09 336**	P	**P**	**20 13 12.2**	**-0.3**
MIAR			*PP	**pP**	**20 13 39.1**	**-0.4**
MIAR			pmax	pmax		
	comp=Z,45nm,1.1s					
MIAR	**Mount Ida**	**59.09 336**	P	**P**	**20 13 13.8**	**+1.3**
	baz=153,SNR=12					
MIAR	**Mount Ida**	**59.09 336**	P	**P**	**20 13 11.9**	**-0.6**
	baz=153					
UTMT	**University of**	**59.12 341**	P	**P**	**20 13 13.2**	**+0.5**
GLAT	**Glass**	**59.19 341**	P	**P**	**20 13 14.0**	**+0.9**
PEBM	**Pemiscott Bayo**	**59.22 340**	P	**P**	**20 13 13.4**	**0.0**
T47A	**Sharon Grove**	**59.22 343**	P	**P**	**20 13 12.8**	**-0.6**
T47A				**pP**	**20 13 39.3**	**-0.9**
T47A	**Sharon Grove**	**59.22 343**	P	**P**	**20 13 13.8**	**+0.4**
	baz=160,SNR=11					
WHAR	**Wooly Hollow**	**59.28 338**	P	**P**	**20 13 14.0**	**+0.2**
WHAR				**pP**	**20 13 39.6**	**-1.2**
WHAR			IAmb	IAmb	20 13 41.6	
	comp=Z,26nm,1.1s					
TX32	**Lajitas Array**	**59.37 325**	P	**P**	**20 13 14.7**	**0.0**
TXAR	**Lajitas Array**	**59.37 325**	P	**P**	**20 13 14.8**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=150,slow=8.0,SNR=19					
TXAR			pP	**pP**	**20 13 41.4**	**+0.2**
	comp=Z,6.1nm,1.0s,baz=141,slow=8.1,SNR=9.0					
	comp=Z,0.9nm,0.5s					
TXAR	**Lajitas Array**	**59.37 325**	P	**P**	**20 13 15.2**	**+0.5**
TXAR			pP	**pP**	**20 13 40.8**	**-0.4**
TX31	**Lajitas Ar. Si**	**59.37 325**	P	**P**	**20 13 14.9**	**+0.3**
TX31			IAmb	IAmb	20 13 42.7	
	comp=Z,22nm,1.0s					
TX31	**Lajitas Ar. Si**	**59.37 325**	P	**P**	**20 13 14.9**	**+0.3**
	baz=142,SNR=7.5					
HICK	**Hickman**	**59.42 341**	P	**P**	**20 13 16.0**	**+1.3**
Z35A	**Perchaven, San**	**59.51 333**	P	**P**	**20 13 16.3**	**+0.8**
Z35A			IAmb	IAmb	20 13 45.7	
	comp=Z,44nm,0.9s					
LCAR	**Lake Charles**	**59.60 339**	P	**P**	**20 13 15.6**	**-0.4**
LCAR			pP	**pP**	**20 13 41.9**	**-1.0**
LCAR			IAmb	IAmb	20 13 43.5	
	comp=Z,19nm,1.0s					
T45A	**Paducah**	**59.69 342**	P	**P**	**20 13 16.4**	**-0.1**
PARMO	**Parma**	**59.69 341**	P	**P**	**20 13 16.8**	**+0.2**
PARMO			pP	**pP**	**20 13 43.5**	**0.0**
R50A	**Paris**	**59.76 346**	P	**P**	**20 13 18.0**	**+1.0**
FCAR	**Ozark Folk Cen**	**59.77 338**	P	**P**	**20 13 17.0**	**-0.1**
FCAR				**pP**	**20 13 42.9**	**-1.2**
FCAR			IAmb	IAmb	20 13 44.6	
	comp=Z,18nm,1.0s					
P57A	**Homestead Farm**	**59.80 352**	P	**P**	**20 13 18.2**	**+1.0**
P57A				**pP**	**20 13 41.3**	**-3.0**
P57A			IAmb	IAmb	20 13 46.0	
	comp=Z,88nm,1.8s					
X37A	**Clayton**	**59.82 335**	P	**P**	**20 13 18.0**	**+0.4**
X37A			IAmb	IAmb	20 13 46.4	
	comp=Z,49nm,1.0s					
X37A	**Clayton**	**59.82 335**	P	**P**	**20 13 18.4**	**+0.8**
	baz=151,SNR=13					
R49A	**Shelbyville**	**59.96 345**	P	**P**	**20 13 16.4**	**-2.1**
R49A				**pP**	**20 13 45.6**	**0.0**
ABTX	**Abilene, Hawle**	**59.99 330**	P	**P**	**20 13 19.7**	**+0.9**
ABTX	**Abilene, Hawle**	**59.99 330**	P	**P**	**20 13 18.1**	**-0.7**
	baz=147					
LOOK	**Love County**	**60.05 333**	P	**P**	**20 13 20.0**	**+0.8**
LOOK			IAmb	IAmb	20 13 52.6	
	comp=Z,42nm,1.1s					
WCI	**Wyandotte Cave**	**60.18 344**	P	**P**	**20 13 19.9**	**0.0**
WCI			IAmb	IAmb	20 14 19.6	
	comp=Z,39nm,0.8s					
WCI	**Wyandotte Cave**	**60.18 344**	P	**P**	**20 13 19.9**	**0.0**
WCI			pmax	pmax		
	comp=Z,39nm,0.8s					
WCI	**Wyandotte Cave**	**60.18 344**	P	**P**	**20 13 19.6**	**-0.3**
	baz=161					
WCI	**Wyandotte Cave**	**60.18 344**	P	**P**	**20 13 20.0**	**0.0**
WCI			pP	**pP**	**20 13 45.2**	**-1.5**
BELA	**Belgrano 2**	**60.21 172**	P	**P**	**20 13 20.5**	**+0.8**
MCWV	**Mont Chateau**	**60.23 350**	P	**P**	**20 13 21.1**	**+0.8**
MCWV				**pP**	**20 13 46.7**	**-0.7**
MCWV	**Mont Chateau**	**60.23 350**	P	**P**	**20 13 20.1**	**-0.1**
	baz=168					
CGM3	**Cape Girardeau**	**60.25 341**	P	**P**	**20 13 21.0**	**+0.6**
CGM3				**pP**	**20 13 46.7**	**-0.6**
USIN	**University of**	**60.29 343**	P	**P**	**20 13 20.9**	**+0.2**
USIN			IAmb	IAmb	20 13 48.2	
	comp=Z,58nm,1.2s					
S44A	**Carbondale**	**60.49 342**	P	**P**	**20 13 21.7**	**-0.4**
S44A				**pP**	**20 13 48.5**	**-0.4**
SIUC	**Southern Illin**	**60.50 342**	P	**P**	**20 13 22.4**	**+0.3**
SIUC				**pP**	**20 13 48.4**	**-0.6**
P52A	**Corning**	**60.60 348**	P	**P**	**20 13 23.5**	**+0.7**
HHAR	**Hobbs**	**60.77 337**	P	**P**	**20 13 24.5**	**+0.6**
HHAR			pP	**pP**	**20 13 49.9**	**-1.2**
HHAR			IAmb	IAmb	20 13 52.5	
	comp=Z,42nm,1.1s					
HHAR	**Hobbs**	**60.77 337**	P	**P**	**20 13 24.8**	**+0.9**
	baz=153					
O54A	**Avella**	**60.83 350**	P	**P**	**20 13 24.7**	**+0.4**
X34A	**Smith Ranch, M**	**60.85 333**		**P**	**20 13 25.3**	**+0.7**
X34A			IAmb	IAmb	20 13 54.6	
	comp=Z,69nm,1.4s					
PAL	**Palisades**	**60.89 356**	P	**P**	**20 13 24.2**	**-0.5**
	baz=175					
SSPA	**Standing Stone**	**60.92 352**	P	**P**	**20 13 24.6**	**-0.3**
	baz=171					
MGMO	**Mountain Grove**	**60.96 339**	P	**P**	**20 13 24.8**	**-0.4**
MGMO				**pP**	**20 13 50.6**	**-1.7**
MGMO			IAmb	IAmb	20 13 53.8	
	comp=Z,49nm,1.1s					
N58A	**Sunbury**	**60.98 353**	P	**P**	**20 13 26.0**	**+0.7**
N58A			IAmb	IAmb	20 13 54.5	
	comp=Z,79nm,1.6s					
O52A	**Adamsville**	**61.02 349**	P	**P**	**20 13 25.6**	**0.0**
O52A			pP	**pP**	**20 13 45.9**	**-6.9**
O53A	**New Philadelph**	**61.04 349**	P	**P**	**20 13 25.8**	**+0.1**
O53A				**pP**	**20 13 52.4**	**-0.5**
O53A	**New Philadelph**	**61.04 349**	P	**P**	**20 13 25.0**	**-0.7**
	baz=167					
UPAO	**U. Pittsburgh**	**61.07 350**	P	**P**	**20 13 27.0**	**+1.1**
	baz=168					
RLO	**Rose Lookout**	**61.07 336**		**P**	**20 13 25.6**	**-0.4**
RLO				**pP**	**20 13 52.3**	**-0.8**
RLO			IAmb	IAmb	20 13 54.4	
	comp=Z,47nm,0.9s					
U38A	**Gravette**	**61.07 337**		**P**	**20 13 26.0**	**0.0**
U38A				**pP**	**20 13 52.7**	**-0.4**
U38A			IAmb	IAmb	20 13 54.7	
	comp=Z,50nm,1.6s					
FVM	**French Village**	**61.12 341**	P	**P**	**20 13 26.3**	**0.0**
FVM				**pP**	**20 13 52.3**	**-0.9**
FVM			IAmb	IAmb	20 13 54.3	
	comp=Z,57nm,0.9s					
FVM	**French Village**	**61.12 341**	P	**P**	**20 13 26.2**	**-0.1**
	baz=157,SNR=10					
BLO	**Bloomington**	**61.13 345**	P	**P**	**20 13 25.8**	**-0.5**
BLO				**pP**	**20 13 52.4**	**-1.2**
BLO			IAmb	IAmb	20 13 54.1	
	comp=Z,42nm,0.9s					
OLIL	**Olney**	**61.13 343**	P	**P**	**20 13 26.8**	**+0.5**
OLIL			IAmb	IAmb	20 13 53.7	
	comp=Z,48nm,1.4s					
P48A	**Milroy**	**61.14 346**	P	**P**	**20 13 25.6**	**-0.8**
P48A			pP	**pP**	**20 13 52.4**	**-1.2**
P48A			IAmb	IAmb	20 14 21.0	
	comp=Z,28nm,0.7s					
TUL1	**Leonard**	**61.14 335**	P	**P**	**20 13 26.2**	**-0.3**
TUL1			pP	**pP**	**20 13 51.7**	**-1.9**
TUL1			IAmb	IAmb	20 13 54.8	
	comp=Z,72nm,1.4s					
TUL1	**Leonard**	**61.14 335**	P	**P**	**20 13 25.5**	**-1.0**
	baz=151					
FNO	**Franklin**	**61.23 334**	P	**P**	**20 13 26.6**	**-0.5**
FNO			IAmb	IAmb	20 14 52.7	
	comp=Z,65nm,1.4s					
ACSO	**Alum Creek Sta**	**61.35 348**	P	**P**	**20 13 27.7**	**-0.1**
ACSO				**pP**	**20 13 51.5**	**-3.6**
ACSO	**Alum Creek Sta**	**61.35 348**	P	**P**	**20 13 27.5**	**-0.3**
	baz=165					
DEOK	**Depew**	**61.36 335**		**P**	**20 13 28.2**	**+0.2**
DEOK				**pP**	**20 13 53.8**	**-1.4**
WMOK	**Wichita Mounta**	**61.38 332**		**P**	**20 13 27.8**	**-0.3**
WMOK				**pP**	**20 13 53.4**	**-1.5**
WMOK	**Wichita Mounta**	**61.38 332**	P	**P**	**20 13 27.8**	**-0.3**
WMOK			*PP	**pP**	**20 13 53.4**	**-1.5**
WMOK			pmax	pmax		
	comp=Z,37nm,2.0s					
WMOK	**Wichita Mounta**	**61.38 332**	P	**P**	**20 13 28.8**	**+0.6**
	baz=148					
WMOK	**Wichita Mounta**	**61.38 332**	P	**P**	**20 13 27.4**	**-0.7**
	baz=148					
CCM	**Cathedral Cave**	**61.44 340**	P	**P**	**20 13 28.2**	**-0.2**
CCM			pP	**pP**	**20 13 54.0**	**-1.5**
CCM			IAmb	IAmb	20 13 56.3	
	comp=Z,46nm,1.1s					
CCM	**Cathedral Cave**	**61.44 340**	P	**P**	**20 13 28.8**	**+0.4**
	baz=156,SNR=13					
CCM	**Cathedral Cave**	**61.44 340**	P	**P**	**20 13 27.9**	**-0.5**
	baz=156					
CCM	**Cathedral Cave**	**61.44 340**	P	**P**	**20 13 27.7**	**-0.8**
CCM			pP	**pP**	**20 13 53.9**	**-1.5**
OK025	**Westminster Rd**	**61.48 334**	P	**P**	**20 13 29.1**	**+0.3**
OK025			IAmb	IAmb	20 14 09.9	
	comp=Z,43nm,1.2s					
VNA3	**Neumayer Olymp**	**61.49 162**	P	**P**	**20 13 29.4**	**+0.9**
N53A	**Lisbon**	**61.51 350**	P	**P**	**20 13 28.9**	**0.0**
N53A	**Lisbon**	**61.51 350**	P	**P**	**20 13 29.7**	**+0.8**
	baz=168,SNR=5.8					
N53A			P	**P**	**20 13 29.7**	**+0.8**
	baz=168,SNR=5.8					
Q44A	**Meyer Farm, Va**	**61.55 342**	P	**P**	**20 13 29.1**	**-0.1**
Q44A			pP	**pP**	**20 13 54.7**	**-1.4**
Q44A			IAmb	IAmb	20 13 56.5	
	comp=Z,57nm,1.1s					
Q44A	**Meyer Farm, Va**	**61.55 342**	P	**P**	**20 13 29.4**	**+0.3**
	baz=159,SNR=6.0					
OK030	**Cody Creek RV**	**61.55 335**	P	**P**	**20 13 29.1**	**-0.1**
OK030				**pP**	**20 13 56.3**	**-0.1**
OK030			IAmb	IAmb	20 13 58.1	
	comp=Z,74nm,1.4s					
O49A	**Covington**	**61.59 347**	P	**P**	**20 13 29.7**	**+0.3**
O49A			pP	**pP**	**20 13 55.0**	**-1.6**
OK034	**N. Norfolk Rd.**	**61.59 335**		**P**	**20 13 29.7**	**+0.2**
OK034				**pP**	**20 13 55.9**	**-0.8**
OK034			IAmb	IAmb	20 14 02.6	
	comp=Z,46nm,1.1s					
OK031	**S. Brethren Rd**	**61.59 335**	P	**P**	**20 13 29.7**	**+0.2**
OK031				**pP**	**20 13 55.3**	**-1.4**
BCOK	**Bluff Creek, N**	**61.66 334**	P	**P**	**20 13 30.3**	**+0.3**
BCOK			IAmb	IAmb	20 13 57.9	
	comp=Z,59nm,1.4s					
SLM	**Saint Louis**	**61.66 341**	P	**P**	**20 13 29.7**	**-0.2**
SLM	**Saint Louis**	**61.66 341**	P	**P**	**20 13 29.7**	**-0.2**
SLM			pmax	pmax		
	comp=Z,30nm,0.4s					
BRYW	**Bryant College**	**61.68 358**	P	**P**	**20 13 30.8**	**+0.8**
BRYW			IAmb	IAmb	20 13 59.6	
	comp=Z,46nm,0.9s					
VNA1	**Neumayer--Stat**	**61.70 161**	P	**P**	**20 13 31.4**	**+1.6**
OK029	**Liberty Lake**	**61.71 334**	P	**P**	**20 13 30.4**	**0.0**
OK029			IAmb	IAmb	20 14 04.0	
	comp=Z,20nm,0.6s					
OK033	**Mehan**	**61.72 334**		**P**	**20 13 30.5**	**+0.2**
OK033				**pP**	**20 13 55.8**	**-1.7**
OK033			IAmb	IAmb	20 14 00.0	
	comp=Z,44nm,1.0s					
P46A	**Rosedale**	**61.72 344**	P	**P**	**20 13 30.4**	**+0.1**
P46A				**pP**	**20 13 56.7**	**-0.6**
P46A			IAmb	IAmb	20 13 57.7	
	comp=Z,60nm,1.2s					
QUOK	**Quay**	**61.73 335**		**P**	**20 13 30.6**	**+0.2**
QUOK				**pP**	**20 13 56.1**	**-1.5**
QUOK			IAmb	IAmb	20 13 58.8	
	comp=Z,53nm,1.2s					
S39A	**Bolivar**	**61.80 338**	P	**P**	**20 13 30.4**	**-0.5**
S39A				**pP**	**20 13 57.0**	**-1.0**
S39A			IAmb	IAmb	20 13 58.9	
	comp=Z,36nm,1.0s					
S39A	**Bolivar**	**61.80 338**	P	**P**	**20 13 31.1**	**+0.2**
	baz=154,SNR=11					
HTMS	**Hat Mesa**	**61.82 327**	P	**P**	**20 13 32.0**	**+0.7**
O48B	**Farmland**	**61.83 346**	P	**P**	**20 13 29.8**	**-1.2**
	baz=163					
M55A	**Ridgway**	**61.85 352**	P	**P**	**20 13 31.4**	**+0.3**
M55A			pP	**pP**	**20 13 58.7**	**+0.3**
M55A	**Ridgway**	**61.85 352**	P	**P**	**20 13 31.9**	**+0.7**
	baz=170					
M55A			P	**P**	**20 13 31.9**	**+0.7**
	baz=170					
OK044	**Pawnee Station**	**61.94 335**	P	**P**	**20 13 32.2**	**+0.3**
OK044			pP	**pP**	**20 13 58.5**	**-0.6**
R40A	**Maddies Statio**	**61.99 339**	P	**P**	**20 13 31.8**	**-0.4**
R40A				**pP**	**20 13 58.9**	**-0.3**
R40A			IAmb	IAmb	20 13 60.0	
	comp=Z,37nm,1.1s					
R40A	**Maddies Statio**	**61.99 339**	P	**P**	**20 13 31.9**	**-0.2**
	baz=155					
GDL2	**Guadalupe Moun**	**61.99 326**	P	**P**	**20 13 33.0**	**+0.5**
GDL2			pP	**pP**	**20 13 58.7**	**-0.6**
OK046	**Pawnee Station**	**62.01 335**	P	**P**	**20 13 32.5**	**+0.2**
OK046			pP	**pP**	**20 13 59.3**	**-0.2**
VNA2	**Neumayer--Watz**	**62.07 161**	P	**P**	**20 13 32.7**	**+0.4**
	baz=284,slow=8.0					
CSTR	**Hydro, Custer**	**62.10 333**	P	**P**	**20 13 33.0**	**0.0**
M53A	**WI Miller and**	**62.10 350**	P	**P**	**20 13 33.2**	**+0.3**
M53A			pP	**pP**	**20 13 56.8**	**-3.3**
M53A	**WI Miller and**	**62.10 350**	P	**P**	**20 13 32.8**	**-0.1**
	baz=168					
MNTX	**Cornudas Mount**	**62.13 325**	P	**P**	**20 13 32.3**	**-1.0**
MNTX	**Cornudas Mount**	**62.13 325**	P	**P**	**20 13 33.2**	**-0.1**
	baz=141,SNR=12					
MNTX	**Cornudas Mount**	**62.13 325**	P	**P**	**20 13 31.3**	**-2.0**
	baz=141					
ALLY	**Alegheny Colle**	**62.23 351**	P	**P**	**20 13 34.3**	**+0.6**
ALLY				**pP**	**20 14 00.2**	**-0.8**
ALLY	**Alegheny Colle**	**62.23 351**	P	**P**	**20 13 34.5**	**+0.8**
	baz=168,SNR=8.4					
BINY	**Binghamton**	**62.25 354**	P	**P**	**20 13 34.7**	**+0.9**
BINY			pP	**pP**	**20 14 01.7**	**+0.5**
BINY	**Binghamton**	**62.25 354**	P	**P**	**20 13 34.9**	**+1.1**
	baz=173					
BINY	**Binghamton**	**62.25 354**	P	**P**	**20 13 33.7**	**-0.1**
	baz=173					
N49A	**Columbus Grove**	**62.26 347**	P	**P**	**20 13 32.8**	**-1.0**
N49A				**pP**	**20 14 00.2**	**-0.9**
N49A	**Columbus Grove**	**62.26 347**	P	**P**	**20 13 33.7**	**-0.1**
	baz=164,SNR=9.5					
N49A			P	**P**	**20 13 33.7**	**-0.1**
	baz=164,SNR=9.5					
L61B	**Northampton**	**62.26 357**	P	**P**	**20 13 33.8**	**0.0**
	baz=176					
HRV	**Adam Dziewonsk**	**62.27 358**	P	**P**	**20 13 33.9**	**0.0**
	baz=177					
T35A	**Sooner Cattle**	**62.30 335**		**P**	**20 13 34.9**	**+0.6**
T35A			pP	**pP**	**20 14 00.2**	**-1.3**
T35A			IAmb	IAmb	20 14 03.4	
	comp=Z,51nm,1.2s					
M52A	**Chesterland**	**62.32 350**	P	**P**	**20 13 34.6**	**+0.3**
M52A	**Chesterland**	**62.32 350**	P	**P**	**20 13 34.8**	**+0.5**
	baz=167					
M52A			P	**P**	**20 13 34.8**	**+0.5**
	baz=167					
L56A	**Greenwood**	**62.35 353**	P	**P**	**20 13 34.9**	**+0.3**
L56A			IAmb	IAmb	20 14 20.5	
	comp=Z,52nm,1.5s					
P43A	**Skaggs, Pawnee**	**62.38 342**	P	**P**	**20 13 34.1**	**-0.6**
P43A				**pP**	**20 14 00.3**	**-1.3**
P43A	**Skaggs, Pawnee**	**62.38 342**	P	**P**	**20 13 34.2**	**-0.5**
	baz=158,SNR=6.7					
SFIN	**Lafayette**	**62.41 344**	P	**P**	**20 13 34.3**	**-0.6**
SFIN				**pP**	**20 14 00.7**	**-1.5**
SFIN			IAmb	IAmb	20 14 02.1	
	comp=Z,47nm,0.9s					
SFIN	**Lafayette**	**62.41 344**	P	**P**	**20 13 34.5**	**-0.4**
	baz=161,SNR=8.4					
SFIN	**Lafayette**	**62.41 344**	P	**P**	**20 13 34.7**	**-0.2**
	baz=161,SNR=8.4					
BLOK	**Blackwell**	**62.45 335**		**P**	**20 13 35.7**	**+0.5**
BLOK			IAmb	IAmb	20 13 37.8	
	comp=Z,33nm,0.9s					
BLOK				**pP**	**20 14 02.0**	**-0.5**
M50A	**Fremont**	**62.49 348**	P	**P**	**20 13 35.2**	**-0.2**
M50A				**pP**	**20 14 01.9**	**-0.8**
M50A			IAmb	IAmb	20 14 35.2	
	comp=Z,45nm,0.8s					
CROK	**Carrier**	**62.54 334**	P	**P**	**20 13 36.0**	**+0.2**
CROK			IAmb	IAmb	20 14 42.3	
	comp=Z,30nm,0.5s					
N47A	**Urbana**	**62.55 346**	P	**P**	**20 13 35.3**	**-

P40A IAmb IAmb 20 14 07.0
comp=Z,49nm,1.1s
P40A Paris 63.04 340 P P **20 13 39.0 -0.1**
baz=156,SNR=10
NOKA Waynoka 63.05 333 P P **20 13 38.9 -0.3**
NOKA IAmb IAmb 20 14 09.3
comp=Z,65nm,1.5s
HDIL Hopedale 63.16 343 P P **20 13 39.8 -0.1**
HDIL IAmb IAmb 20 14 07.2
comp=Z,39nm,0.8s
HDIL Hopedale 63.16 343 P P **20 13 39.8 -0.1**
baz=159
L48A N Adams 63.29 347 P P **20 13 40.3 -0.4**
L48A pP **20 14 06.6 -1.5**
L48A IAmb IAmb 20 14 08.7
comp=Z,63nm,1.2s
J59A Piesco 63.38 356 P P **20 13 42.1 +0.8**
J59A pP **20 14 09.1 +0.3**
J59A IAmb IAmb 20 14 10.9
comp=Z,71nm,1.4s
J59A Piesco 63.38 356 P P **20 13 42.1 +0.8**
baz=174,SNR=8.4
J59A P P **20 13 42.1 +0.8**
baz=174,SNR=8.4
J56A Wolcott 63.40 354 P P **20 13 41.7 +0.4**
J56A IAmb IAmb 20 13 44.8
comp=Z,24nm,0.8s
J56A Wolcott 63.40 354 P P **20 13 41.8 +0.4**
baz=172,SNR=8.6
J56A P P **20 13 41.8 +0.4**
baz=172,SNR=8.6
J57A Williamstown 63.45 354 P P **20 13 42.0 +0.3**
J57A pP **20 14 09.0 -0.2**
AAM Ann Arbor 63.48 348 P P **20 13 41.7 -0.2**
AAM IAmb IAmb 20 15 02.5
comp=Z,30nm,0.6s
AAM Ann Arbor 63.48 348 P P **20 13 41.7 -0.2**
AAM pmax pmax
comp=Z,29nm,0.6s
J55A Hilton 63.50 353 P P **20 13 42.9 +0.9**
P38A Dawn 63.61 339 P P **20 13 42.5 -0.4**
P38A IAmb IAmb 20 13 44.3
comp=Z,31nm,1.1s
P38A pP pP **20 14 09.1 -1.0**
P38A Dawn 63.61 339 P P **20 13 43.0 +0.1**
baz=154,SNR=8.5
SNAA Sanae 63.70 161 P P **20 13 43.6 +0.4**
SNAA Sanae 63.70 161 P P **20 13 43.7 +0.6**
comp=Z,53nm,0.8s,baz=279,slow=6.4,SNR=90
comp=Z,53nm,0.8s
SNAA Sanae 63.70 161 P P **20 13 43.5 +0.4**
SNAA Sanae 63.70 161 P P **20 13 43.6 +0.4**
K50A Casco 63.74 349 P P **20 13 43.4 -0.2**
K50A pP **20 14 10.0 -1.1**
N41A Harden Midland 63.75 342 P P **20 13 44.1 +0.3**
N41A pP **20 14 09.7 -1.2**
N41A IAmb IAmb 20 14 11.9
comp=Z,89nm,1.1s
L46A Eue Claire 63.77 346 P P **20 13 43.6 -0.2**
L46A pP pP **20 14 09.7 -1.5**
LBNH Lisbon 64.01 358 P P **20 13 45.9 +0.5**
baz=177
319A Douglas 64.07 322 P P **20 13 47.4 +1.2**
319A IAmb IAmb 20 14 28.8
comp=Z,34nm,1.0s
PECO Prince Edward 64.07 354 P P **20 13 46.5 +0.8**
PECO pP pP **20 14 12.5 -0.7**
PECO IAmb IAmb 20 14 14.8
comp=Z,117nm,1.8s
121A Cookes Peak, D 64.08 324 P P **20 13 47.6 +1.3**
121A IAmb IAmb 20 13 49.5
comp=Z,52nm,1.6s
121A Cookes Peak, D 64.08 324 P P **20 13 48.1 +1.8**
baz=139,SNR=9.2
121A Cookes Peak, D 64.08 324 P P **20 13 44.8 -1.5**
baz=139
KSU1 Kansas State U 64.24 336 P P **20 13 46.4 -0.7**
KSU1 IAmb IAmb 20 14 15.8
comp=Z,31nm,1.0s
KSU1 Kansas State U 64.24 336 P P **20 13 46.6 -0.5**
baz=151
L44A Lake County Fo 64.31 345 P P **20 13 47.3 -0.1**
baz=160
R32A Long Quarter, 64.48 334 P P **20 13 48.7 +0.1**
R32A IAmb IAmb 20 13 51.3
comp=Z,48nm,1.3s
LONY Lake Ozonia 64.54 356 P P **20 13 48.8 0.0**
LONY IAmb IAmb 20 14 18.4
comp=Z,73nm,1.6s
LONY Lake Ozonia 64.54 356 P P **20 13 49.0 +0.1**
baz=174
N38A Joes South For 64.57 340 P P **20 13 48.9 -0.2**
N38A pP **20 14 13.2 -3.1**
N38A IAmb IAmb 20 14 17.1
comp=Z,30nm,0.8s
L42A Oliver, Polo 64.61 343 P P **20 13 49.4 0.0**
L42A IAmb IAmb 20 14 16.6
comp=Z,43nm,1.4s
J47A Sunmer 64.61 347 P P **20 13 49.7 +0.3**
J47A pP **20 14 16.2 -0.6**
J47A IAmb IAmb 20 14 17.5
comp=Z,60nm,0.9s
BNM Barren Site 64.69 326 P P **20 13 51.4 +1.0**
DELO Deloro Mine 64.71 353 P P **20 13 50.0 +0.1**
DELO pP pP **20 14 17.6 +0.2**
BMNY Brushton-Moira 64.75 356 P P **20 13 51.5 +1.3**
baz=174,SNR=7.0
LENM Lemitar 64.89 326 P P **20 13 52.5 +1.0**
I49A Point Hope 64.90 349 P P **20 13 51.3 +0.1**
I49A pP pP **20 14 17.8 -0.8**
I49A IAmb IAmb 20 14 19.3
comp=Z,99nm,1.2s
K43A Burlington 64.91 344 P P **20 13 51.2 -0.1**
K43A IAmb IAmb 20 14 19.2
comp=Z,72nm,1.1s
G65A Princeton 64.93 1 P P **20 13 52.2 +0.9**
G65A IAmb IAmb 20 14 20.0
comp=Z,78nm,1.7s
G62A West of Eustis 64.95 359 P P **20 13 52.5 +1.0**
G62A IAmb IAmb 20 14 46.7
comp=Z,29nm,1.1s
PKME Peaks-Kenny Pk 64.98 360 P P **20 13 52.1 +0.5**
baz=180
L40A Anamosa 65.10 342 P P **20 13 51.6 -0.9**
L40A pP **20 14 18.9 -0.8**
L40A IAmb IAmb 20 14 21.1
comp=Z,46nm,1.1s
L40A Anamosa 65.10 342 P P **20 13 53.9 +1.3**
baz=157,SNR=7.7
SADO Sadowa 65.14 352 P P **20 13 53.1 +0.3**
comp=Z,8.4nm,0.8s,baz=205,slow=2.3,SNR=6.4
SADO pP pP **20 14 20.2 0.0**
comp=Z,12nm,0.8s,baz=137,slow=1.9,SNR=5.6
comp=Z,8.4nm,0.8s
SADO Sadowa 65.14 352 P P **20 13 53.1 +0.3**
SADO pP pP **20 14 19.2 -0.9**
SADO IAmb IAmb 20 14 20.8
comp=Z,54nm,1.4s
ANMO Albuquerque 65.22 327 P P **20 13 54.4 +0.7**
comp=Z,3.1nm,1.0s,baz=133,slow=12,SNR=13
ANMO pP pP **20 14 21.3 +0.5**
comp=Z,5.9nm,0.9s,baz=149,slow=6.3,SNR=5.3
ANMO LR LR 20 43 29.8
comp=Z,983nm,21.1s,baz=322,slow=37
comp=Z,3.1nm,1.0s
ANMO Albuquerque 65.22 327 P P **20 13 54.8 +1.1**
ANMO pP pP **20 14 21.3 +0.5**
ANMO Albuquerque 65.22 327 *i*P P **20 13 55.2 +1.5**
ANMO Albuquerque 65.22 327 P P **20 13 55.9 +2.2**
baz=141,SNR=6.1
ANMO Albuquerque 65.22 327 P P **20 13 52.4 -1.3**
baz=141
ANMO Albuquerque 65.22 327 P P **20 13 53.4 -0.3**
ANMO pP pP **20 14 20.4 -0.4**
ANMO sP sP **20 14 30.7 -1.9**
CBKS Cedar Bluff 65.23 334 P P **20 13 54.5 +1.0**
CBKS IAmb IAmb 20 13 56.4
comp=Z,63nm,1.4s
CBKS Cedar Bluff 65.23 334 P P **20 13 54.5 +1.0**
CBKS pmax pmax
comp=Z,63nm,1.4s
CBKS Cedar Bluff 65.23 334 P P **20 13 53.0 -0.5**
baz=148
MNTQ Montreal, Queb 65.35 356 P P **20 13 55.4 +1.3**
MNTQ pP **20 14 21.1 -0.5**
MNTQ IAmb IAmb 20 14 22.6
comp=Z,119nm,1.6s
TROLL Troll, Antarti 65.41 161 P P **20 13 55.3 +0.9**
N35A Tabor 65.44 338 P P **20 13 54.5 -0.2**
N35A pP **20 14 21.7 -0.4**
SCIA State Center 65.57 340 P P **20 13 56.2 +0.6**
SCIA pP **20 14 22.3 -0.5**
SCIA IAmb IAmb 20 14 24.3
comp=Z,58nm,1.1s
SCIA State Center 65.57 340 P P **20 13 55.3 -0.3**
baz=155
F64A Sherman 65.58 1 P P **20 13 57.8 +2.3**
F64A IAmb IAmb 20 14 24.5
comp=Z,52nm,1.6s
JFWS Jewell Farm 65.61 343 P P **20 13 55.3 -0.5**
JFWS pP **20 14 22.3 -0.7**
JFWS IAmb IAmb 20 14 24.1
comp=Z,25nm,0.7s
JFWS Jewell Farm 65.61 343 P P **20 13 55.3 -0.5**
JFWS *PP pP **20 14 22.3 -0.7**
JFWS pmax pmax
comp=Z,25nm,0.7s
JFWS Jewell Farm 65.61 343 P P **20 13 55.9 0.0**
baz=158
TUC Tucson 65.62 322 P P **20 13 57.9 +1.6**
TUC pP pP **20 14 22.8 -0.6**
TUC Tucson 65.62 322 P P **20 13 55.2 -1.1**
baz=137
TUC Tucson 65.62 322 P P **20 13 54.5 -1.7**
TUC pP pP **20 14 23.2 -0.2**
T25A Trinidad 65.93 330 P P **20 13 59.7 +1.4**
T25A pP pP **20 14 25.6 +0.2**
T25A Trinidad 65.93 330 P P **20 13 57.3 -0.9**
baz=144,SNR=5.8
N33A J Bar K, Exete 65.99 337 P P **20 13 58.6 +0.3**
N33A pP **20 14 24.5 -1.2**
GLMI Grayling 66.09 348 P P **20 13 58.2 -0.6**
GLMI pP **20 14 25.5 -0.9**
GLMI IAmb IAmb 20 14 27.8
comp=Z,64nm,1.0s
GLMI Grayling 66.09 348 P P **20 13 59.9 +1.0**
baz=164
K38A Parkersburg 66.10 341 P P **20 13 59.5 +0.5**
K38A pP pP **20 14 25.2 -1.1**
K38A IAmb IAmb 20 14 27.1
comp=Z,40nm,1.1s
TRQ Mont Tremblant 66.13 356 P P **20 13 59.4 +0.2**
TRQ pP pP **20 14 26.1 -0.7**
TRQ IAmb IAmb 20 14 28.9
comp=Z,30nm,1.0s
I42A Draeger Farm, 66.17 344 P P **20 14 00.0 +0.6**
I42A IAmb IAmb 20 14 01.6
comp=Z,77nm,1.4s
I42A pP pP **20 14 26.2 -0.8**
E62A Clayton Lake 66.34 360 P P **20 14 02.1 +1.7**
E62A IAmb IAmb 20 14 56.0
comp=Z,50nm,1.6s
H43A Windswept, Lux 66.44 345 P P **20 14 01.4 +0.4**
H43A pP pP **20 14 28.0 -0.7**
H43A IAmb IAmb 20 14 29.4
comp=Z,35nm,0.8s
214A Organ Pipe Nat 66.57 320 P P **20 14 03.7 +1.4**
214A IAmb IAmb 20 14 05.7
comp=Z,24nm,0.9s
214A Organ Pipe Nat 66.57 320 P P **20 14 00.9 -1.3**
baz=135,SNR=7.0
I40A Norwalk 66.62 343 P P **20 14 02.6 +0.3**
I40A IAmb IAmb 20 14 04.3
comp=Z,40nm,1.4s
I40A pP pP **20 14 28.4 -1.6**
KSCO Kaye Shedlock' 66.63 332 P P **20 14 02.9 +0.3**
KSCO IAmb IAmb 20 14 05.9
comp=Z,85nm,1.4s
KSCO Kaye Shedlock' 66.63 332 P P **20 14 02.2 -0.4**
baz=146
L34A Svendsen Farm, 66.67 338 P P **20 14 02.1 -0.5**
L34A IAmb IAmb 20 14 44.0
comp=Z,42nm,0.7s
X18A Snowflake 66.77 324 P P **20 14 04.7 +1.0**
D62A Allapoint, All 66.80 360 P P **20 14 03.9 +0.6**
D62A IAmb IAmb 20 14 14.7
comp=Z,89nm,1.9s
BGNE Belgrade 66.83 337 P P **20 14 04.0 +0.3**
BGNE Belgrade 66.83 337 P P **20 14 03.2 -0.5**
baz=150
SDCO Great Sand Dun 66.94 329 P P **20 14 05.7 +0.9**
SDCO Great Sand Dun 66.94 329 P P **20 14 05.8 +1.1**
baz=143
SDCO Great Sand Dun 66.94 329 P P **20 14 04.0 -0.8**
baz=143,SNR=28
W18A Petrified Fore 67.09 325 P P **20 14 07.5 +1.8**
W18A IAmb IAmb 20 14 08.7
comp=Z,36nm,1.4s
W18A Petrified Fore 67.09 325 P P **20 14 04.8 -0.9**
baz=138,SNR=5.9
E46A Sault Ste Mari 67.52 349 P P **20 14 08.8 +1.0**
E46A pP PcP **20 14 34.4 0.0**
E46A IAmb IAmb 20 14 36.3
comp=Z,42nm,1.2s
E46A Sault Ste Mari 67.52 349 P P **20 14 09.2 +1.3**
baz=165
X16A Lo Mia Camp, P 67.53 323 P P **20 14 09.2 +0.7**
I37A Lemond, Waseca 67.53 341 P P **20 14 08.0 -0.1**
I37A PcP **20 14 34.4 -0.1**
I37A IAmb IAmb 20 14 36.5
comp=Z,36nm,0.7s
S22A 4UR Ranch, Cre 67.58 328 P P **20 14 10.1 +1.2**
S22A 4UR Ranch, Cre 67.58 328 P P **20 14 07.7 -1.2**
baz=142
Q24A Divide 67.74 330 P P **20 14 10.4 +0.6**
Q24A IAmb IAmb 20 14 13.2
comp=Z,50nm,1.6s
Q24A Divide 67.74 330 P P **20 14 09.2 -0.7**
baz=143
G40A Rib Lake 67.79 344 P P **20 14 09.7 +0.1**
OGNE Ogallala 67.98 334 P P **20 14 11.2 +0.2**
OGNE Ogallala 67.98 334 P P **20 14 11.6 +0.6**
baz=147
MVCO Mesa Verde 68.01 327 P P **20 14 12.1 +0.6**
MVCO Mesa Verde 68.01 327 P P **20 14 11.0 -0.5**
baz=140
Lone Tree Farm 68.07 347 P P **20 14 11.7 +0.4**
E43A pP PcP **20 14 37.6 +0.9**
Y14A Wickenburg 68.08 322 P P **20 14 13.1 +1.3**
LIC Lamto 68.09 74⇑ *i*P P **20 14 12.2 0.0**
comp=Z,50nm,0.4s
K31A O'Neill 68.11 337 P P **20 14 11.5 -0.2**
K31A IAmb IAmb 20 14 14.4
comp=Z,62nm,1.1s
NVL N'lazarevskaya 68.24 159⇑ *i*P P **20 14 13.6 +1.5**
NVL pmax pmax
comp=Z,124nm,1.0s
VLDQ Val d'Or 68.25 354 P P **20 14 12.7 +0.3**
VLDQ IAmb IAmb 20 14 42.0
comp=Z,71nm,1.6s
TIC Toumodi 68.27 74⇑ *i*P P **20 14 13.4 +0.1**
comp=Z,36nm,0.4s
WUAZ Wupatki 68.29 324 P P **20 14 14.2 +1.0**
WUAZ IAmb IAmb 20 14 43.7
comp=Z,29nm,1.1s
WUAZ Wupatki 68.29 324 P P **20 14 14.0 +0.8**
baz=137,SNR=13
COWI Conover 68.30 345 P P **20 14 12.8 -0.1**
COWI IAmb IAmb 20 14 41.5
comp=Z,42nm,1.5s
ECSD EROS Data Cent 68.32 339 P P **20 14 12.8 -0.2**
ECSD IAmb IAmb 20 14 41.7
comp=Z,44nm,1.5s
ECSD EROS Data Cent 68.32 339 P P **20 14 13.0 0.0**
baz=152,SNR=9.1
KIC Kosan Boka 68.41 74⇑ *e*P P **20 14 14.2 0.0**
comp=Z,66nm,0.3s
DBIC Dimbokro 68.43 74 P P **20 14 13.8 -0.5**
comp=Z,83nm,0.7s,baz=250,slow=6.5,SNR=104
DBIC pP pP **20 14 42.0 0.0**
comp=Z,24nm,0.7s,baz=240,slow=8.1,SNR=2.8
DBIC S S **20 23 05.0 -3.0**
comp=Z,10nm,1.2s,baz=88,slow=20,SNR=7.3
comp=Z,83nm,0.7s
DBIC Dimbokro 68.43 74 P P **20 14 13.3 -1.0**
DBIC Dimbokro 68.43 74 P P **20 14 13.3 -1.0**
SPMN Marine on St. 68.46 342 P P **20 14 13.5 -0.3**
SPMN Marine on St. 68.46 342 P P **20 14 13.7 -0.1**
baz=156
GLA Glamis 68.55 320 P P **20 14 14.5 -0.2**
GLA pmax pmax
comp=Z,29nm,1.3s
GLA Glamis 68.55 320 P P **20 14 14.3 -0.4**
baz=134
ISCO Idaho Springs 68.62 330 P P **20 14 16.5 +1.2**
ISCO Idaho Springs 68.62 330 P P **20 14 16.5 +1.2**
ISCO pmax pmax
comp=Z,34nm,1.6s
ISCO Idaho Springs 68.62 330 P P **20 14 15.9 +0.6**
baz=143
SMCO Snowmass 68.77 329 P P **20 14 17.2 +0.8**
BLYC Blythe 68.85 320 P P **20 14 17.7 +1.2**
PV15 Paradox Valley 68.87 328 P P **20 14 18.1 +1.2**
PV13 Radium Mtn., P 68.90 327 P P **20 14 19.0 +2.0**
YUH Yuha Desert 68.95 319 P P **20 14 18.8 +1.6**
PDMCI Parker Dam,Lak 69.01 321 P P **20 14 18.7 +1.2**
baz=135
RMX La Rumorosa 69.02 319 P P **20 14 18.4 +0.6**
PV07 Paradox Valley 69.03 328 P P **20 14 18.1 +0.3**
IKP In-Ko-Pah, Jac 69.07 319 P P **20 14 19.0 +1.1**
baz=133,SNR=6.0
SWSC Sam W. Stewart 69.08 319 P P **20 14 18.5 +0.6**
baz=133
CBX Cerro Bola 69.19 318 P P **20 14 19.1 +0.4**
F36A Milaca 69.25 342 P P **20 14 19.2 +0.5**
BC3 Big Chuckawall 69.35 320 P P **20 14 20.5 +0.8**
baz=134,SNR=5.9
W13A Hualapai Mount 69.42 322 P P **20 14 21.2 +1.0**
MONP2 Monument Peak 69.42 319 P P **20 14 21.0 +0.7**
baz=133
BAR Barrett 69.44 318 P P **20 14 22.3 +2.1**
U15A North Rim 69.46 324 P P **20 14 21.9 +1.3**
IRM Iron Mountain 69.50 320 P P **20 14 20.9 +0.3**
baz=134,SNR=15
NEE2 Needles Airpor 69.61 321 P P **20 14 22.0 +0.9**
baz=134
N23A Red Feather La 69.65 331 P P **20 14 22.3 +0.7**
N23A Red Feather La 69.65 331 P P **20 14 22.3 +0.7**
baz=143
PHWY Pilot Hill 69.75 332 P P **20 14 22.7 +0.4**
SUSD Miller 69.75 338 P P **20 14 21.8 0.0**
SUSD Miller 69.75 338 P P **20 14 21.9 0.0**
baz=150
109C Camp Elliot, M 69.85 318 P P **20 14 23.4 +0.7**
baz=132
PMD Palm Desert 69.91 319 P P **20 14 24.1 +1.1**
BELC Belle Mtn. Jos 69.91 320 P P **20 14 24.3 +1.1**
baz=133,SNR=9.8
TPFO Pinon Flats 69.92 319 P P **20 14 25.0 +1.7**
baz=133,SNR=6.9
PFO Pinyon Flats O 69.93 319 P P **20 14 24.7 +1.5**
comp=Z,8.6nm,0.9s,baz=137,slow=5.9,SNR=11
PFO pP **pP** **20 14 52.0 +1.2**
comp=Z,16nm,1.1s,baz=135,slow=4.9,SNR=5.6
comp=Z,8.6nm,0.9s
PFO Pinyon Flats O 69.93 319 P P **20 14 23.9 +0.6**
PFO Pinyon Flats O 69.93 319 P P **20 14 23.9 +0.6**
PFO pmax pmax
comp=Z,13nm,0.9s
PFO Pinyon Flats O 69.93 319 P P **20 14 24.8 +1.5**
baz=133,SNR=6.9
F33A 5 Mile Ranch, 70.08 340 P P **20 14 23.9 +0.1**
O20A White River Ci 70.13 329 P P **20 14 26.3 +1.8**
baz=141
QSPA South Pole Qui 70.15 180 LR LR 20 45 59.9
comp=Z,100nm,18.9s,baz=144,slow=36
QSPA South Pole Qui 70.15 180 P P **20 14 25.6 +1.3**
QSPA IAmb IAmb 20 14 27.5
comp=Z,94nm,1.2s
QSPA South Pole Qui 70.15 180 P P **20 14 24.6 +0.4**
QSPA pP pP **20 14 54.1 +2.2**
KNB Kanab 70.18 324 P P **20 14 26.9 +2.0**
KNB IAmb IAmb 20 14 29.5
comp=Z,126nm,1.5s
KNB Kanab 70.18 324 P P **20 14 26.9 +2.0**
KNB pmax pmax
comp=Z,126nm,1.5s
PKCU Pink Cliffs 70.21 325 P P **20 14 25.1 -0.1**
GMRC Granite Mounta 70.24 321 P P **20 14 27.3 +2.1**
baz=134,SNR=21
MURC Murrieta 70.38 319 P P **20 14 27.5 +1.6**
baz=132
LCMT Little Creek M 70.41 324 P P **20 14 26.6 +0.4**
LCMT pP pP **20 14 54.5 +0.9**
V12A Nelson 70.42 322 P P **20 14 27.9 +1.7**
V12A pP pP **20 14 55.0 +1.4**
SRU San Rafael Swe 70.49 327 P P **20 14 27.1 +0.4**
SRU San Rafael Swe 70.49 327 P P **20 14 27.1 +0.4**
SRU pmax pmax
comp=Z,11nm,0.8s
ELS Elsinore Mount 70.56 319 P P **20 14 29.2 +2.1**
MTPU Mount Pierson 70.58 325 P P **20 14 28.7 +1.2**
EYMN Ely 70.61 344 P P **20 14 28.1 +1.1**
EYMN Ely 70.61 344 P P **20 14 30.1 +3.1**
baz=158
BBRC Big Bear Solar 70.65 319 P P **20 14 29.6 +1.7**
baz=133
HEC Hector,Ludlow 70.68 320 P P **20 14 30.0 +2.2**
baz=133,SNR=16
Q16A Castle Valley 70.68 326 P P **20 14 28.6 +0.8**
SZCU Shurtz Canyon 70.74 324 P P **20 14 29.4 +1.1**
SCI2 San Clemente I 70.82 317 P P **20 14 30.2 +1.6**
baz=131
WTNK Soaring Height 70.83 322 P P **20 14 30.1 +1.5**
TUQ Turquoise Moun 70.85 321 P P **20 14 30.5 +1.6**
baz=134
RWWY Rawlins 70.86 331 P P **20 14 30.1 +1.1**
CCUT Cedar City 70.86 324 P P **20 14 30.0 +1.0**
P17A Butcher Ranch, 70.88 327 P P **20 14 28.5 -0.5**
MSU Marysvale 70.92 325 P P **20 14 30.6 +1.3**
MSU Marysvale 70.92 325 P P **20 14 30.6 +1.3**
MVU Marysvale 70.93 325 P P **20 14 31.0 +1.5**
TMUT Trail Mountain 70.98 327 P P **20 14 31.0 +1.2**
CIS Catalina Islan 71.01 318 P P **20 14 31.2 +1.4**
baz=131
BFSC Mount Baldy Ra 71.09 319 P P **20 14 31.8 +1.5**
baz=132,SNR=6.2
RRX Edison Barstow 71.11 320 P P **20 14 31.9 +1.6**
baz=133
RDMU Red Mountain 71.12 328 P P **20 14 31.1 +0.6**
FMP Fort Macarthur 71.14 318 P P **20 14 32.2 +1.7**
baz=131
SHPR Sheep Range 71.14 322 P P **20 14 31.8 +1.2**
GSC Goldstone, Bar 71.28 320 P P **20 14 32.7 +1.3**
GSC Goldstone, Bar 71.28 320 P P **20 14 32.7 +1.3**
GSC pmax pmax
comp=Z,178nm,1.8s
GSC Goldstone, Bar 71.28 320 P P **20 14 33.5 +2.1**
baz=133,SNR=12
K22A Casper 71.31 332 P P **20 14 32.8 +1.3**
K22A Casper 71.31 332 P P **20 14 32.8 +1.3**
baz=143
PASC Pasadena Art C 71.37 319 P P **20 14 33.7 +1.8**
SHOC Shoshone, Teco 71.37 321 P P **20 14 33.3 +1.4**
baz=134
RSSD Black Hills 71.44 334 P P **20 14 32.4 +0.1**
RSSD Black Hills 71.44 334 P P **20 14 32.4 +0.1**
RSSD pmax pmax
comp=Z,34nm,0.7s
RSSD Black Hills 71.44 334 P P **20 14 33.2 +0.9**
baz=146
RSSD Black Hills 71.44 334 P P **20 14 32.7 +0.4**
baz=146
RSSD Black Hills 71.44 334 P P **20 14 32.7 +0.4**
D32A Dogwood Acres, 71.46 340 P P **20 14 32.4 +0.3**
DECC Green Verdugo 71.52 319 P P **20 14 34.2 +1.4**
baz=132
B35A Bob, Littlefor 71.58 343 P P **20 14 32.3 -0.5**
B35A Bob, Littlefor 71.58 343 P P **20 14 32.7 -0.1**
baz=156
PRN Pahroc Range 71.71 323 P P **20 14 35.5 +1.5**
EDW2 Edwards Air Fo 71.72 319 P P **20 14 35.2 +1.1**
baz=132,SNR=11
MPU Maple Canyon 71.74 327 P P **20 14 35.3 +1.1**
QSM Queen of Sheba 71.77 321 P P **20 14 34.7 +0.4**
GWY Greenwater Val 71.80 321 P P **20 14 36.0 +1.3**
PSUT Pine Spring 71.84 324 P P **20 14 36.2 +1.3**
CCAC Calif City Air 71.92 319 P P **20 14 36.7 +1.5**
NLU North Lily Min 71.92 326 P P **20 14 36.0 +0.6**
LRMC Laurel Mtn Rad 71.93 320 P P **20 14 36.6 +1.2**
baz=132
OSI Osito Audit: C 72.00 319 P P **20 14 36.7 +1.0**
baz=131
TPNV Topopah Spring 72.08 322 P P **20 14 37.5 +1.2**

TPNV **Topopah Spring** 72.08 322 P **P** 20 14 37.5 +1.2
TPNV pmax pmax
comp=Z,131nm,1.5s
TPNV **Topopah Spring** 72.08 322 P **P** 20 14 38.0 +1.7
baz=134,SNR=20
JLU **Jordanelle** 72.08 327 P **P** 20 14 37.2 +0.9
FURC **Furnace Creek,** 72.11 321 P **P** 20 14 37.6 +1.4
baz=133
AGMN **Agassiz Nation** 72.14 342 P **P** 20 14 36.0 -0.1
AGMN **Agassiz Nation** 72.14 342 P **P** 20 14 36.4 +0.2
baz=154
AGMN **Agassiz Nation** 72.14 342 P **P** 20 14 38.4 +2.2
baz=154
SCZ2 **Santa Cruz Isl** 72.17 318 P **P** 20 14 38.1 +1.4
baz=130
WCT **Wildcat Mounta** 72.19 321 P **P** 20 14 37.7 +0.9
MPMC **Manual Prospec** 72.20 320 P **P** 20 14 38.2 +1.1
baz=133,SNR=8.6
E28A **Huff** 72.21 338 P **P** 20 14 37.1 +0.4
S11A **Rachel** 72.27 323 P **P** 20 14 39.5 +2.1
S11A IAmb IAmb 20 16 58.7
comp=Z,52nm,1.1s
CTU **Camp Tracy** 72.30 327 P **P** 20 14 38.6 +1.1
ARVC **Arvin** 72.40 319 P **P** 20 14 39.0 +1.0
baz=131
SPR3 **Spring Creek 3** 72.43 324 P **P** 20 14 39.0 +0.5
DUG **Dugway, Tooele** 72.48 326 P **P** 20 14 39.7 +1.1
DUG **Dugway, Tooele** 72.48 326 P **P** 20 14 39.7 +1.1
DUG pmax pmax
comp=Z,27nm,1.2s
DUG **Dugway, Tooele** 72.48 326 P **P** 20 14 39.7 +1.1
baz=137,SNR=16
ISA **Isabella, Lake** 72.53 320 P **P** 20 14 40.1 +1.2
ISA **Isabella, Lake** 72.53 320 P **P** 20 14 40.1 +1.2
ISA pmax pmax
comp=Z,16nm,0.9s
ISA **Isabella, Lake** 72.53 320 P **P** 20 14 40.4 +1.5
baz=132,SNR=12
KOWA **Kowa** 72.54 67 P **P** 20 14 38.2 -1.0
BCW **Bitter Crk WRg** 72.64 318 P **P** 20 14 41.2 +1.7
R11A **Troy Canyon, C** 72.67 323 P **P** 20 14 41.0 +1.2
R11A **Troy Canyon, C** 72.67 323 P **P** 20 14 41.9 +2.1
baz=135,SNR=29
GRAC **Grapevine Rang** 72.76 321 P **P** 20 14 40.4 +0.2
GRAC **Grapevine Rang** 72.76 321 P **P** 20 14 42.0 +1.8
baz=133
BW06 **Boulder Array** 72.79 330 P **P** 20 14 41.2 +0.8
BW06 **Boulder Array** 72.79 330 P **P** 20 14 41.1 +0.6
baz=140,SNR=7.7
PD31 **Pinedale Array** 72.79 330 P **P** 20 14 41.7 +1.2
PD31 IAmb IAmb 20 16 58.1
comp=Z,45nm,1.1s
PDAR **Pinedale Array** 72.79 330 P **P** 20 14 41.6 +1.2
comp=Z,1.0nm,0.5s,baz=137,slow=7.6,SNR=15
PDAR pP **pP** 20 15 09.0 +0.6
comp=Z,1.0nm,0.5s,baz=118,slow=7.0,SNR=4.2
comp=Z,1.0nm,0.5s
PDAR **Pinedale Array** 72.79 330 P **P** 20 14 40.1 -0.3
CWC **Cottonwood Cre** 72.81 320 P **P** 20 14 42.1 +1.4
baz=132
PKM **Mcpherson Peak** 72.86 318 P **P** 20 14 42.1 +1.1
baz=131,SNR=8.1
HWUT **Hardware Ranch** 72.89 328 P **P** 20 14 41.3 +0.3
GMN **Gold Mountain** 72.91 322 P **P** 20 14 41.7 +0.4
MDND **Maddock** 72.93 339 P **P** 20 14 41.7 +0.9
MDND **Maddock** 72.93 339 P **P** 20 14 42.0 +1.1
baz=150
MDND **Maddock** 72.93 339 P **P** 20 14 41.7 +0.9
baz=150
LCH **Last Change Ra** 73.09 321 P **P** 20 14 43.3 +1.1
BGU **Big Grassy Mou** 73.13 327 P **P** 20 14 43.5 +1.1
MZP **Montezuma Peak** 73.25 322 P **P** 20 14 44.3 +0.9
DSP **Deep Springs** 73.37 321 P **P** 20 14 46.0 +2.3
TPH **Tonopah** 73.41 322 P **P** 20 14 45.6 +1.4
TPH **Tonopah** 73.41 322 P **P** 20 14 45.6 +1.4
TPH pmax pmax
comp=Z,131nm,0.7s
AHID **Auburn Hatcher** 73.53 329 P **P** 20 14 45.4 +0.7
HVU **Hansel Valley** 73.62 327 P **P** 20 14 46.4 +1.1
HVU **Hansel Valley** 73.62 327 P **P** 20 14 46.4 +1.1
HVU pmax pmax
comp=Z,44nm,1.5s
PAGB **Antelope Grade** 73.67 319 P **P** 20 14 47.0 +1.5
REDW **Red Top Meadow** 73.86 330 P **P** 20 14 48.1 +1.4
ECR **Eagle Creek** 73.88 329 P **P** 20 14 48.6 +1.8
SNOW **Snow King Moun** 73.89 330 P **P** 20 14 47.0 +0.1
ULM **Lac du Bonnet** 73.89 342 P **P** 20 14 46.2 -0.2
comp=Z,12nm,0.8s,baz=180,slow=20
comp=Z,12nm,0.8s
ULM **Lac du Bonnet** 73.89 342 P **P** 20 14 46.4 0.0
ULM **Lac du Bonnet** 73.89 342 *d iP **P** 20 14 45.5 -0.9
LOHW **Long Hollow** 73.93 330 P **P** 20 14 48.5 +1.4
TPAW **Teton Pass** 74.00 330 P **P** 20 14 47.7 +0.1
MLAC **Mammoth, Mammo** 74.06 321 P **P** 20 14 48.6 +0.5
baz=132
MOOW **Moose Ponds** 74.10 330 P **P** 20 14 48.6 +0.5
OMMB **Old Mammoth Mi** 74.14 321 P **P** 20 14 49.6 +1.0
FXWY **Fox Creek** 74.15 330 P **P** 20 14 48.5 +0.1
ELK **Elko** 74.16 325 P **P** 20 14 49.5 +1.0
comp=Z,4.4nm,0.9s,baz=144,slow=7.0,SNR=12
comp=Z,4.4nm,0.9s
ELK **Elko** 74.16 325 P **P** 20 14 49.6 +1.0
NV11 **Mina Array Sit** 74.19 322 P **P** 20 14 49.9 +1.2
MDPB **Devils Postpil** 74.20 321 P **P** 20 14 49.0 +0.1
LHV **Little Huntoon** 74.28 322 P **P** 20 14 50.8 +1.9
NVAR **Mina Array Bea** 74.28 322 P **P** 20 14 50.4 +1.2
comp=Z,4.5nm,0.8s,baz=147,slow=4.4,SNR=26
NVAR pP **pP** 20 15 17.4 +0.4
comp=Z,8.2nm,1.0s,baz=141,slow=6.7,SNR=8.9
NVAR sP **sP** 20 15 29.6 +0.9
comp=Z,4.4nm,0.8s,baz=157,slow=6.7,SNR=4.9
comp=Z,4.5nm,0.8s
NVAR **Mina Array Bea** 74.28 322 P **P** 20 14 50.0 +0.7
IMW **Indian Meadow** 74.31 330 P **P** 20 14 51.0 +1.6
LAO **LASA Array** 74.42 334 P **P** 20 14 50.8 +1.1
LAO **LASA Array** 74.42 334 P **P** 20 14 51.1 +1.4
baz=144
RLMT **Red Lodge** 74.48 332 P **P** 20 14 50.8 +0.6
RLMT **Red Lodge** 74.48 332 P **P** 20 14 51.7 +1.4
baz=141,SNR=13
RYN **Ryan** 74.54 322 P **P** 20 14 51.8 +1.1
KVN **Kaiserville** 74.58 322 P **P** 20 14 52.0 +1.0
KVN **Kaiserville** 74.58 322 P **P** 20 14 52.0 +1.0
KVN pmax pmax
comp=Z,84nm,1.5s
SCHQ **Schefferville** 74.58 1 P **P** 20 14 50.4 0.0
comp=Z,11nm,0.8s,baz=152,slow=4.8,SNR=10
SCHQ pP **pP** 20 15 18.6 +0.1
comp=Z,11nm,0.9s,baz=150,slow=6.0,SNR=4.3
comp=Z,11nm,0.8s
SCHQ **Schefferville** 74.58 1 P **P** 20 14 51.8 +1.5
YFT **Old Faithful** 74.68 330 P **P** 20 14 52.0 +0.5
YNR **Norris Junctio** 74.81 331 P **P** 20 14 53.2 +1.0
YMR **Madison River** 74.90 330 P **P** 20 14 54.9 +2.2
YHH **Holmes Hill** 74.94 331 P **P** 20 14 55.1 +2.1
YHH IAmb IAmb 20 14 57.4
comp=Z,55nm,1.3s
DGMT **Dagmar** 75.09 337 P **P** 20 14 54.6 +1.1
DGMT **Dagmar** 75.09 337 P **P** 20 14 54.4 +1.0
baz=146
YHL **Hebgen Lake** 75.14 330 P **P** 20 14 55.7 +1.5
YERR **Yerington** 75.19 322 P **P** 20 14 55.8 +1.3
YERR IAmb IAmb 20 16 30.4
comp=Z,22nm,0.7s
CMB **Columbia Colle** 75.25 320 P **P** 20 14 56.4 +1.8
CMB **Columbia Colle** 75.25 320 P **P** 20 14 56.4 +1.8
CMB pmax pmax
comp=Z,49nm,1.4s
PNTR **Pine Nut** 75.47 322 P **P** 20 14 58.0 +1.8
PNTR pP **pP** 20 15 23.6 -0.3
VCNR **Virginia City** 75.64 322 P **P** 20 14 58.8 +1.7
HLID **Hailey** 75.75 328 P **P** 20 14 59.6 +2.1
HLID **Hailey** 75.75 328 P **P** 20 14 58.8 +1.3
baz=137,SNR=23
PAHR **Pah Rah Range** 75.75 322 P **P** 20 14 59.6 +2.0
PAHR IAmb IAmb 20 15 28.8
comp=Z,29nm,0.9s
BOZ **Bozeman (W)** 75.91 331 P **P** 20 14 59.3 +0.9
BOZ **Bozeman (W)** 75.91 331 P **P** 20 14 59.3 +0.9
BOZ pmax pmax
comp=Z,32nm,1.2s
BOZ **Bozeman (W)** 75.91 331 P **P** 20 14 59.7 +1.3
baz=139,SNR=15
AFDM **Forest Hills D** 76.19 321 P **P** 20 15 00.5 +0.5
MFID **Camas Ranch** 76.36 327 P **P** 20 15 02.4 +1.5

BEKR **Beckworth** 76.43 322 P **P** 20 15 02.4 +0.9
LRM **Limekiln Ridge** 76.46 330 P **P** 20 15 01.9 +0.2
ORV **Oroville** 76.89 321 P **P** 20 15 05.7 +1.8
ORV IAmb IAmb 20 15 08.1
comp=Z,65nm,1.4s
ORV pP **pP** 20 15 33.1 +1.5
ORV **Oroville** 76.89 321 P **P** 20 15 05.7 +1.8
ORV *PP **pP** 20 15 33.2 +1.5
ORV pmax pmax
comp=Z,65nm,1.5s
EGMT **Eagleton** 76.94 333 P **P** 20 15 05.2 +1.2
EGMT **Eagleton** 76.94 333 P **P** 20 15 05.3 +1.2
baz=141
TOA0 **Torodi Ar. Sit** 76.97 71 P **P** 20 15 03.9 -1.0
TOA0 IAmb IAmb 20 15 07.1
comp=Z,31nm,0.8s
TORD **Torodi Ar. Bea** 76.97 71 P **P** 20 15 04.2 -0.7
comp=Z,22nm,0.6s,baz=252,slow=5.3,SNR=231
TORD pP **pP** 20 15 33.5 +0.5
comp=Z,16nm,0.5s,baz=252,slow=5.4,SNR=5.4
TORD sP **sP** 20 15 45.0 +0.1
comp=Z,27nm,0.9s,baz=251,slow=5.5,SNR=4.5
TORD S **S** 20 24 41.1 -3.9
comp=Z,4.0nm,0.9s,baz=245,slow=13,SNR=14
comp=Z,22nm,0.6s
TORD **Torodi Ar. Bea** 76.97 71 P **P** 20 15 04.1 -0.7
WVOR **Wild Horse Val** 77.17 325 P **P** 20 15 06.5 +1.1
WVOR **Wild Horse Val** 77.17 325 P **P** 20 15 06.6 +1.1
WVOR pmax pmax
comp=Z,87nm,1.7s
SBA **Scott Base** 77.25 190 P **P** 20 15 08.1 +2.8
SBA IAmb IAmb 20 15 09.6
comp=Z,49nm,1.3s
SBA **Scott Base** 77.25 190 P **P** 20 15 08.1 +2.8
SBA pmax pmax
comp=Z,49nm,1.3s
J08A **Circle Bar Ran** 77.71 325 P **P** 20 15 10.0 +1.5
MOD **Modoc Plateau** 77.73 323 P **P** 20 15 10.3 +1.6
MOD IAmb IAmb 20 16 17.0
comp=Z,115nm,1.4s
MSO **Missoula** 77.90 330 P **P** 20 15 10.6 +1.1
MSO **Missoula** 77.90 330 P **P** 20 15 10.4 +0.9
baz=137
BMO **Blue Mountains** 78.13 327 P **P** 20 15 11.6 +0.8
BMO IAmb IAmb 20 16 14.6
comp=Z,71nm,1.6s
BMO **Blue Mountains** 78.13 327 P **P** 20 15 11.6 +0.8
BMO pmax pmax
comp=Z,71nm,1.6s
VNDA **Vanda** 78.27 190 P **P** 20 15 12.5 +1.4
comp=Z,10nm,1.1s,baz=139,slow=6.1,SNR=19
comp=Z,10nm,1.1s
VNDA **Vanda** 78.27 190 P **P** 20 15 12.4 +1.4
VNDA IAmb IAmb 20 15 15.0
comp=Z,67nm,1.9s
VNDA **Vanda** 78.27 190 P **P** 20 15 12.4 +1.4
I07A **Izee** 78.75 325 P **P** 20 15 15.2 +0.9
I07A IAmb IAmb 20 16 09.1
comp=Z,59nm,1.4s
F10A **Beach Ranch, E** 78.87 328 P **P** 20 15 14.8 0.0
YBH **Yreka Blue Hor** 78.99 322 P **P** 20 15 16.3 +0.8
comp=Z,3.3nm,0.8s,baz=162,slow=4.3,SNR=1.9
comp=Z,3.3nm,0.8s
K04D **Chiloquin, OR** 79.02 323 P **P** 20 15 16.5 +0.8
baz=131
L04D **Klamath Falls** 79.07 323 P **P** 20 15 17.2 +1.2
baz=130
J05D **Fort Rock, OR** 79.16 324 P **P** 20 15 17.8 +1.3
baz=131
G08A **Pilot Rock** 79.28 327 P **P** 20 15 18.8 +1.7
PINE **Pine Mountain** 79.33 325 P **P** 20 15 19.0 +1.5
SUR **Sutherland** 79.41 121 LR LR 20 49 03.6
comp=Z,77nm,18.3s,baz=214,slow=34
SUR **Sutherland** 79.41 121 P **P** 20 15 20.3 +2.0
SUR IAmb IAmb 20 15 21.3
comp=Z,42nm,0.8s
WALA **Waterton Lakes** 79.53 332 P **P** 20 15 19.9 +1.6
FFC **Flin Flon** 79.61 341 P **P** 20 15 19.2 +0.7
FFC **Flin Flon** 79.61 341 P **P** 20 15 19.2 +0.7
FFC pmax pmax
comp=Z,38nm,1.2s
E09A **Wood Farm, Sta** 79.71 328 P **P** 20 15 20.8 +1.6
E09A IAmb IAmb 20 16 02.4
comp=Z,58nm,1.0s
L02F **Cave Junction** 79.73 322 P **P** 20 15 20.8 +1.3
baz=129
I05D **Terrebonne, OR** 79.91 325 P **P** 20 15 21.4 +1.0
baz=131
I04A **Tendick Farm,** 80.14 324 P **P** 20 15 22.6 +0.9
baz=130
K02D **Willamette Mer** 80.15 322 P **P** 20 15 22.6 +0.8
baz=129
DBO **Dodson Butte** 80.18 323 P **P** 20 15 24.0 +2.1
DBO IAmb IAmb 20 15 58.9
comp=Z,44nm,1.0s
F07A **Phinny Hill Vi** 80.19 327 P **P** 20 15 23.4 +1.6
HAWA **Hanford** 80.32 327 P **P** 20 15 23.4 +0.9
NEW **Newport** 80.43 330 P **P** 20 15 23.7 +0.6
NEW **Newport** 80.43 330 P **P** 20 15 23.7 +0.6
NEW **Newport** 80.43 330 P **P** 20 15 24.2 +1.0
baz=135
D08A **Wollman Farm,** 80.47 328 P **P** 20 15 25.1 +1.9
D08A IAmb IAmb 20 15 56.4
comp=Z,53nm,1.4s
G05D **Wamic, OR** 80.48 325 P **P** 20 15 24.6 +1.1
baz=131
TSUM **Tsumeb** 80.57 107 P **P** 20 15 25.4 +0.7
H04A **Detroit Lake** 80.59 325 P **P** 20 15 25.0 +0.9
J01E **Myrtle Point** 80.59 323 P **P** 20 15 24.6 +0.6
baz=129
I03D **Drain, OR** 80.60 323 P **P** 20 15 25.3 +1.3
baz=130
C09A **Chrisman Ranch** 80.66 329 P **P** 20 15 25.2 +0.9
HOOD **Mount Hood Mea** 80.72 325 P **P** 20 15 25.4 +0.5
BUCK **Buck Mountain** 80.72 324 P **P** 20 15 25.6 +0.8
I02E **Swisshome, OR** 81.14 323 P **P** 20 15 28.3 +1.4
baz=129
LTY **Liberty** 81.48 327 P **P** 20 15 29.7 +0.9
LTY IAmb IAmb 20 16 01.9
comp=Z,75nm,1.4s
G03D **McMinnville, O** 81.52 325 P **P** 20 15 30.2 +1.3
baz=130
B08A **Colville Reser** 81.56 329 P **P** 20 15 30.1 +1.0
B08A IAmb IAmb 20 15 48.7
comp=Z,52nm,1.1s
EDM **Edmonton** 82.39 335 P **P** 20 15 32.9 -0.5
EDM **Edmonton** 82.39 335 P **P** 20 15 32.9 -0.5
EDM pmax pmax
comp=Z,195nm,1.2s
SOE **Somerset East** 83.12 122 P **P** 20 15 37.6 -0.2
SOE IAmb IAmb 20 15 40.2
comp=Z,72nm,0.9s
BOSA **Boshof** 84.23 118 P **P** 20 15 44.2 +0.6
comp=Z,40nm,1.0s,baz=248,slow=4.2,SNR=35
BOSA pP **pP** 20 16 13.2 +0.9
comp=Z,12nm,0.9s,baz=260,slow=7.1,SNR=3.7
comp=Z,40nm,1.0s
BOSA **Boshof** 84.23 118 P **P** 20 15 43.9 +0.3
BOSA IAmb IAmb 20 15 45.8
comp=Z,43nm,0.9s
ESDC **Sonseca Array** 84.87 45 P **P** 20 15 46.6 +0.2
comp=Z,3.1nm,1.0s,baz=245,slow=5.6,SNR=13
ESDC pP **pP** 20 16 16.0 +0.8
comp=Z,5.8nm,1.0s,baz=237,slow=5.8,SNR=6.2
comp=Z,3.1nm,1.0s
ESDC **Sonseca Array** 84.87 45 P **P** 20 15 46.8 +0.4
ESBB **Sonseca Array** 84.87 45 P **P** 20 15 47.8 +1.4
LBTB **Lobatse** 85.73 115 LR LR 20 53 20.5
comp=Z,103nm,18.2s,baz=342,slow=35
LBTB **Lobatse** 85.73 115 P **P** 20 15 52.0 +0.8
LBTB IAmb IAmb 20 15 53.7
comp=Z,35nm,1.0s
LBTB **Lobatse** 85.73 115 P **P** 20 15 52.0 +0.8
LBTB pmax pmax
comp=Z,35nm,1.0s
MAW **Mawson** 85.76 163 P **P** 20 15 51.3 +1.1
comp=Z,15nm,0.8s,baz=212,slow=6.0,SNR=21
comp=Z,15nm,0.8s
MAW **Mawson** 85.76 163 P **P** 20 15 51.8 +1.5
MAW **Mawson** 85.76 163 P **P** 20 15 51.8 +1.5
YKA **Yellowknife Ar** 89.77 341 P **P** 20 16 09.8 +0.5
comp=Z,12nm,0.9s,baz=131,slow=4.5,SNR=15
YKA pP **pP** 20 16 38.9 +0.6
comp=Z,26nm,0.8s,baz=135,slow=4.8,SNR=13
YKA sP **sP** 20 16 49.9 +0.1
comp=Z,22nm,0.8s,baz=134,slow=4.7,SNR=8.3

comp=Z,12nm,0.9s
T35M **Bob Quinn** 92.13 331 P **P** 20 16 21.6 +1.2
baz=125
KEST **Kesra** 92.51 53 P **P** 20 16 23.2 +0.4
comp=Z,5.6nm,1.1s,baz=155,slow=3.5,SNR=4.0
comp=Z,5.6nm,1.1s
CRAG **Craig** 92.64 329 P **P** 20 16 23.6 +0.8
baz=122
WRAK **Wrangell Islan** 92.78 330 P **P** 20 16 24.1 +0.7
baz=123
DLBC **Dease Lake** 92.86 333 P **P** 20 16 24.1 +0.2
baz=125
S34M **Telegraph Cree** 93.05 332 P **P** 20 16 25.7 +1.1
baz=124
WTLY **Watson Lake, Y** 93.31 334 P **P** 20 16 27.0 +1.2
baz=126
R33M **Jennings River** 93.80 333 P **P** 20 16 28.4 +0.1
baz=124
CASY **Casey** 93.95 180 P **P** 20 16 30.7 +1.9
R32K **Eaglecrest** 94.76 331 P **P** 20 16 32.8 +0.3
baz=121
P33M **Teslin, Yukon** 95.03 333 P **P** 20 16 34.7 +0.9
baz=122
P32M **Atlin** 95.09 333 P **P** 20 16 33.7 -0.3
baz=122
MMPY **Sheldon Lake,** 95.71 336 P **P** 20 16 36.8 0.0
baz=123
KIP **Kipapa** 96.21 290 *i* P **P** 20 16 40.3 +0.3
P30M **Million Dollar** 96.77 332 P **P** 20 16 41.7 0.0
baz=119
HYT **Haines Junctio** 97.34 333 P **P** 20 16 43.8 -0.5
baz=118
N30M **Aishikik Lake** 97.47 333 P **P** 20 16 43.8 -1.0
baz=119
O29M **Mount Kennedy** 97.57 332 P **P** 20 16 44.5 -0.9
baz=117
CLL **Collm** 100.56 39 *i* pPdif pPdif 20 17 28.1 +0.1
comp=Z,9.0nm,1.3s
KONO **Kongsberg** 101.49 31 *i* P **Pdif** 20 17 04.5 +1.8
KONO pmax pmax
comp=Z,13nm,1.2s
ILAR **Eielson Array** 102.88 335 PP **PKiKP** 20 21 28.5 0.0
comp=Z,1.3nm,1.1s,baz=100,slow=4.9,SNR=4.5
OBN **Obninsk** 115.08 38 *e* PKIKP **PKPdf** 20 21 51.8 +0.2
OBN *e* 20 22 20.6
OBN *e* 20 22 51.1
OBN pmax pmax
comp=Z,6.0nm,0.7s
KLMR **Klimovskoe** 116.31 31 *e* PKIKP **PKPdf** 20 21 51.4 -2.4
KLMR *e* 20 22 22.3
KLMR pmax pmax
comp=Z,9.0nm,1.0s
KLMR **Klimovskoe** 116.31 31 *e* PKPdf **PKPdf** 20 21 51.4 -2.4
KLMR AMP 20 21 53.5
comp=Z,9.0nm,1.0s
KLMR *e* pPKPdf pPKPdf 20 22 22.4 -1.7
KLMR *e* PKKPbc **PKKPbc** 20 32 18.9 -6.3
PRGR **Permogore** 119.11 30 *e* PKiKP **PKiKP** 20 21 59.6 +0.4
KIV **Kislovodsk** 119.12 50 *i* PKiKP **PKiKP** 20 22 01.1 +1.1
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ **Khabaz** 119.28 50 PKP **PKPdf** 20 21 59.6 -0.5
comp=Z,6.0nm,0.9s,baz=270,slow=1.0,SNR=4.3
KBZ pPKP **pPKPdf** 20 22 31.0 +0.7
comp=Z,7.4nm,0.9s,baz=105,slow=1.2,SNR=4.1
KBZ **Khabaz** 119.28 50 *i* PKiKP **PKiKP** 20 22 00.6 +0.5
KBZ pmax pmax
comp=Z,9.0nm,0.9s
GNI **Garni** 120.61 55 PKP **PKPdf** 20 22 02.1 -0.9
comp=Z,5.2nm,0.6s,baz=236,slow=21,SNR=1.8
BILL **Bilibino** 121.12 339 *i* PKIKP **PKiKP** 20 22 04.5 +1.4
BILL pmax pmax
comp=Z,4.0nm,0.9s
ARU **Arti** 126.99 33 PKP **PKPdf** 20 22 14.4 -0.1
comp=Z,5.3nm,0.6s,baz=346,slow=4.2,SNR=6.4
ARU pPKP **pPKPdf** 20 22 45.5 +0.7
comp=Z,4.9nm,0.6s,baz=317,slow=3.0,SNR=4.9
ARU **Arti** 126.99 33 *i* PKIKP **PKiKP** 20 22 15.4 +0.4
ARU 20 24 14.2
ARU PPP PPP 20 27 00.0
ARU 20 29 17.1
ARU SP SP 20 34 07.1 +0.6
ARU SSS SSS 20 46 01.2
H11S2 **WAKE ISLAND Hyl** 27.58 278 T T 22 42 04.4
baz=101,slow=74,SNR=214
H11S1 **WAKE ISLAND Hyl** 27.58 278 T T 22 42 04.9
baz=101,slow=74,SNR=205
H11S3 **WAKE ISLAND Hyl** 27.59 278 T T 22 42 02.6
baz=101,slow=74,SNR=203
H11N3 **WAKE ISLAND Hyl** 27.62 280 T T 22 42 10.5
baz=102,slow=75,SNR=180
H11N2 **WAKE ISLAND Hyl** 27.63 280 T T 22 42 06.5
baz=102,slow=75,SNR=133
H11N1 **WAKE ISLAND Hyl** 27.63 280 T T 22 42 05.0
baz=102,slow=75,SNR=137
AKTO **Aktyubinsk** 128.61 41 PKP **PKPdf** 20 22 17.1 -0.6
comp=Z,2.9nm,0.9s,baz=225,slow=4.3,SNR=3.2
AKTO pPKP **pPKPdf** 20 22 48.9 +0.9
comp=Z,3.8nm,0.9s,baz=299,slow=1.9,SNR=4.6
NRIK **Noril'sk** 128.65 10 *i* PKIKP **PKiKP** 20 22 17.8 -0.2
NRIK pmax pmax
comp=Z,3.0nm,1.1s
SEY **Seymchan** 128.71 337 PKP **PKiKP** 20 22 18.8 +0.6
comp=Z,7.3nm,0.9s,baz=45,slow=3.9,SNR=11
SEY pPKP **pPKPdf** 20 22 48.9 +1.1
comp=Z,4.4nm,0.9s,baz=61,slow=1.7,SNR=4.9
SEY sPKP 20 22 59.8
comp=Z,4.4nm,0.8s,baz=70,slow=3.7,SNR=5.9
ABKAR **Akbulak array** 130.14 42 **PKiKP** 20 22 22.1 +0.5
ABKAR **Akbulak array** 130.14 42 **PKiKP** 20 22 22.4 +0.8
ASAR **Alice Springs** 131.15 208 PKP **PKPdf** 20 22 23.4 -0.2
comp=Z,4.0nm,0.5s,baz=133,slow=1.7,SNR=21
ASAR pPKP **pPKPdf** 20 22 53.1 -0.3
comp=Z,3.5nm,1.0s,baz=95,slow=1.4,SNR=3.0
ASAR SKPbc **SKPbc** 20 25 39.0 +0.1
comp=Z,3.7nm,1.0s,baz=148,slow=4.0,SNR=7.4
PETK **Petropavlovsk-** 131.32 324 PKP **PKiKP** 20 22 24.2 +0.4
comp=Z,4.1nm,0.9s,baz=168,slow=2.9,SNR=3.7
WRA **Warramunga Arr** 134.15 211 PKP **PKPdf** 20 22 29.1 -0.2
comp=Z,3.5nm,0.5s,baz=148,slow=1.6,SNR=24
WRA SKPbc **SKPbc** 20 25 49.5 +0.3
comp=Z,3.8nm,1.0s,baz=144,slow=2.4,SNR=6.2
WRA **Warramunga Arr** 134.15 211 **PKPdf** 20 22 29.2 -0.1
BVAR **Borovoye Array** 134.64 34 PKP **PKPdf** 20 22 29.0 -0.1
comp=Z,1.7nm,0.7s,baz=272,slow=3.9,SNR=5.2
BVAR pPKP **pPKPdf** 20 22 59.9 +0.5
comp=Z,2.7nm,0.7s,baz=270,slow=3.0,SNR=6.1
KURK **Kurchatov** 140.16 32 PKIKP **PKiKP** 20 22 40.9 -0.9
KURK 20 23 10.5
KURBB **Kurchatov Arra** 140.17 32 PKhKP PKPpre 20 22 34.1
comp=Z,0.6nm,0.6s,baz=302,slow=2.5,SNR=2.9
KURBB PKP **PKiKP** 20 22 40.9 -0.9
comp=Z,3.5nm,0.8s,baz=299,slow=2.6,SNR=12
KURBB pPKP pPKPdf 20 23 10.5 +0.8
comp=Z,3.6nm,0.8s,baz=300,slow=2.4,SNR=5.1
KURBB SKPbc **SKPbc** 20 26 06.7 +0.8
comp=Z,1.2nm,1.0s,baz=312,slow=3.5,SNR=7.6
KURBB SKPab **SKPab** 20 26 17.1 -0.6
comp=Z,0.6nm,0.8s,baz=299,slow=3.8,SNR=2.6
ZAA0 **Zalesovo Array** 140.67 24 **PKPdf** 20 22 40.4 +0.3
ZALV **Zalesovo Beam** 140.67 24 PKhKP PKPpre 20 22 35.2
comp=Z,1.7nm,0.6s,baz=2.9,slow=2.9,SNR=3.9
ZALV PKP **PKPdf** 20 22 41.0 +0.8
comp=Z,12nm,0.8s,baz=287,slow=2.5,SNR=17
ZALV pPKP pPKPdf 20 23 10.3 -0.2
comp=Z,8.1nm,0.8s,baz=294,slow=2.5,SNR=4.5
ZALV SKPbc **SKPbc** 20 26 07.0 -0.1
comp=Z,3.9nm,1.0s,baz=308,slow=5.1,SNR=4.2
ZALV SKPab **SKPab** 20 26 19.7 -0.1
comp=Z,3.6nm,1.1s,baz=301,slow=3.0,SNR=2.7
ZALV **Zalesovo Beam** 140.67 24 **PKPdf** 20 22 37.9 -2.3
NRN **Naryn** 143.49 46 PKPdf **PKPdf** 20 22 46.7 +0.6
NRN **Naryn** 143.49 46 PKIKP **PKPdf** 20 22 46.7 +0.6
GENI **Genyem** 143.58 235 PKP PKPbc 20 22 45.3 +1.1
KSH **Kashi** 144.25 49 PKP **PKPdf** 20 22 47.0 -0.2
KSH pPKP pPKPdf 20 23 15.9 -1.6
KSH sPKP 20 23 28.8
KSH PP **PP** 20 26 02.5 -0.6
KSH LR LR
comp=Z,4μm,17.2s
KSH LR LR
comp=Z,7μm,16.1s
KSH LR LR
comp=Z,3μm,13.1s
MAKZ **Makanchi** 144.32 35 PKPbc 20 22 45.8 +0.2
MAKZ **Makanchi** 144.32 35 PKIKP PKPbc 20 22 45.8 +0.3

MK31	**Makanchi Array**	**144.50**	**35**			**PKPab**	**20 22 45.1**	**-0.8**
MK31	**Makanchi Array**	**144.50**	**35**	PKIKP		**PKPab**	**20 22 45.1**	**-0.8**
MKAR	**Makanchi Array**	**144.50**	**35**	PKP	PKPbc		20 22 46.5	+0.4
	comp=Z,4.3nm,0.7s,baz=346,slow=2.5,SNR=30							
MKAR				pPKP	pPKPdf		20 23 16.9	-0.6
	comp=Z,6.5nm,0.8s,baz=294,slow=3.9,SNR=5.3							
MKAR				SKPbc		**SKiKP**	**20 26 17.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=302,slow=3.1,SNR=4.2							
MKAR	**Makanchi Array**	**144.50**	**35**		PKPbc		20 22 46.1	0.0
MKAR	**Makanchi Array**	**144.50**	**35**	PKIKP	PKPbc		20 22 46.1	0.0
TARG	**Taragay, Kyrgy**	**144.58**	**45**			**PKPdf**	**20 22 48.2**	**+0.1**
TARG	**Taragay, Kyrgy**	**144.58**	**45**	PKIKP		**PKPdf**	**20 22 48.2**	**+0.1**
SMPI	**Sarmi**	**145.08**	**234**	PKP		**PKiKP**	**20 22 52.1**	**-1.0**
KLR	**Kul'dur**	**146.45**	**335**	PKPbc		**PKPbc**	**20 22 52.0**	**0.0**
	comp=Z,3.6nm,0.5s,baz=58,slow=2.9,SNR=11							
KLR				pPKPbc		**pPKPdf**	**20 23 21.0**	**+0.2**
	comp=Z,5.4nm,0.9s,baz=2.4,slow=8.8,SNR=3.7							
KLR	**Kul'dur**	**146.45**	**335**	PKP2		**PKPbc**	**20 22 52.0**	**0.0**
GUMO	**Guam**	**146.97**	**264**	PKPbc		**PKPbc**	**20 22 54.5**	**0.0**
	comp=Z,70nm,0.6s,baz=116,slow=5.3,SNR=11							
GUMO	**Guam**	**146.97**	**264**			**PKPdf**	**20 22 53.0**	**+0.7**
GUMO	**Guam**	**146.97**	**264**	PKIKP		**PKPdf**	**20 22 53.0**	**+0.7**
SRPI	**Serui, Papua**	**147.02**	**232**	PKP		**PKPdf**	**20 22 53.5**	**+1.0**
IRK	**Irkutsk**	**147.43**	**8**	*e*PKP2		**PKPbc**	**20 22 53.5**	**-1.2**
IRK				pmax	pmax			
	comp=Z,75nm,1.7s							
MOY	**Mondy**	**147.47**	**12**	*e*PKP2		**PKiKP**	**20 22 56.6**	**-0.4**
MOY				pmax	pmax			
	comp=Z,64nm,1.7s							
CIT	**Chita**	**148.01**	**357**	*e*PKIKP		**PKPbc**	**20 22 54.8**	**-1.5**
CIT				*e*			20 23 16.1	
CIT				*e*			20 23 25.4	
CIT				*e*			20 29 49.6	
ZAK	**Zakamensk**	**149.10**	**10**	*e*PKIKP		**PKPdf**	**20 22 54.9**	**-0.1**
ZAK				pmax	pmax			
	comp=Z,20nm,1.7s							
HYBB	**Hyderabad (bro**	**149.21**	**89**	*e*PKiKP		**PKPbc**	**20 23 00.8**	**+0.4**
WMQ	**Urumqi**	**149.33**	**34**	*e*PKPbc		**PKPdf**	**20 22 56.5**	**+1.0**
WMQ				LR	LR			
	comp=Z,5μm,19.9s							
WMQ				LR	LR			
	comp=Z,3μm,18.7s							
WMQ				LR	LR			
	comp=Z,980nm,22.9s							
MMRI	**Maumere**	**149.43**	**202**			**PKPbc**	**20 22 59.3**	**-1.7**
HIA	**Hailar**	**150.00**	**348**	PKPdf		**PKPdf**	**20 22 55.9**	**-0.4**
HIA	**Hailar**	**150.00**	**348**	PKIKP		**PKPdf**	**20 22 55.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**150.21**	**329**	PKPbc		**PKiKP**	**20 23 02.8**	**+0.1**
	comp=Z,11nm,0.8s,baz=3.2,slow=0.8,SNR=27							
USRK				pPKP		**pPKPdf**	**20 23 27.7**	**+0.6**
	comp=Z,6.2nm,0.8s,baz=323,slow=0.6,SNR=4.3							
USRK				pPKPbc		**pPKPbc**	**20 23 33.0**	**+1.2**
	comp=Z,16nm,0.8s,baz=35,slow=1.9,SNR=10							
JCJ	**Chichijima**	**150.60**	**290**	PKPbc		**PKPbc**	**20 23 02.8**	**-0.6**
	comp=Z,28nm,0.4s,baz=258,slow=6.4,SNR=11							
JCJ	**Chichijima**	**150.60**	**290**			**PKPbc**	**20 23 02.9**	**-0.5**
BNX	**BinXian**	**151.00**	**336**	PKPbc		**PKiKP**	**20 23 04.5**	**+0.2**
BNX				AMB	AMB			
	comp=Z,920nm,11.0s							
MJAR	**Matsushiro Arr**	**151.06**	**310**	PKPbc		**PKPbc**	**20 23 03.9**	**-0.4**
	comp=Z,3.4nm,0.4s,baz=94,slow=3.4,SNR=12							
MJAR				pPKPbc		**pPKPbc**	**20 23 34.7**	**+0.5**
	comp=Z,7.3nm,0.8s,baz=98,slow=3.9,SNR=6.9							
MAJO	**Matsushiro**	**151.06**	**310**			**PKPbc**	**20 23 04.5**	**+0.2**
MAJO	**Matsushiro**	**151.06**	**310**	PKIKP		**PKPbc**	**20 23 04.5**	**+0.2**
SONM	**Songino Array**	**152.02**	**7**	PKPdf		**PKPdf**	**20 23 00.9**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=314,slow=1.3,SNR=12							
SONM				PKPbc		**PKiKP**	**20 23 07.2**	**+0.6**
	comp=Z,5.1nm,0.4s,baz=304,slow=1.5,SNR=54							
SONM				pPKP		**pPKPdf**	**20 23 27.7**	**-2.1**
	comp=Z,2.8nm,0.5s,baz=272,slow=1.6,SNR=3.4							
SONM				pPKPbc		**pPKPbc**	**20 23 37.0**	**+0.8**
	comp=Z,15nm,1.0s,baz=302,slow=1.2,SNR=6.4							
SONM	**Songino Array**	**152.02**	**7**	PKPdf		**PKPdf**	**20 22 59.7**	**+0.1**
ULN	**Ulaanbaatar**	**152.05**	**6**			**PKPdf**	**20 22 59.7**	**0.0**
ULN	**Ulaanbaatar**	**152.05**	**6**	PKIKP		**PKPdf**	**20 22 59.7**	**0.0**
KSRS	**Korea Array**	**157.21**	**323**	PKP		**PKPdf**	**20 23 06.7**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=7.5,slow=0.8,SNR=13							
KSRS				PKPab		**PKPab**	**20 23 38.1**	**-0.1**
	comp=Z,7.2nm,1.2s,baz=74,slow=1.4,SNR=11							
KSRS				pPKPab		**pPKPab**	**20 24 08.0**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=56,slow=4.5,SNR=5.2							
KSAR	**Wonju Array Be**	**157.24**	**323**	PKPdf		**PKPdf**	**20 23 06.5**	**-0.5**
KSAR	**Wonju Array Be**	**157.24**	**323**	PKIKP		**PKPdf**	**20 23 06.5**	**-0.5**
GTA	**Gaotai**	**158.43**	**24**	⇑PKP		**PKPdf**	**20 23 10.3**	**+1.8**
GTA				pPKP	pPKPdf		20 23 39.8	+0.8
GTA				sPKP			20 23 52.4	
HHC	**Hu-ho-hao-te**	**159.24**	**359**	*e*PKP		**PKPdf**	**20 23 10.3**	**+0.9**
BJI	**Beijing**	**159.56**	**349**	PKP		**PKPdf**	**20 23 11.4**	**+1.8**
BJI				pPKP		**pPKPdf**	**20 23 38.6**	**-1.4**
BJI				sPKP			20 23 48.9	
HNS	**HongShan**	**162.39**	**350**	⇑PKP		**PKPdf**	**20 23 14.9**	**+2.1**
LZH	**Lanzhou**	**162.82**	**20**	*e*PKP		**PKPdf**	**20 23 05.8**	**-7.7**
XAN	**Xi'an**	**165.93**	**7**	PKP		**PKPdf**	**20 23 17.8**	**+1.7**
CD2	**Chengdu**	**167.36**	**30**	PKP		**PKPdf**	**20 23 17.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**168.53**	**96**	PKP		**PKPdf**	**20 23 18.7**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=303,slow=1.6,SNR=7.5							
CMAR				pPKP		**pPKPdf**	**20 23 49.0**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=255,slow=6.8,SNR=13							
CMAR				PKPab		**PKPab**	**20 24 28.4**	**-0.2**
PZH	**PanZhiHua**	**169.35**	**51**	PKP		**PKPdf**	**20 23 20.0**	**+1.1**
KMI	**Kunming**	**170.86**	**55**	⇑PKP		**PKPdf**	**20 23 19.8**	**-0.1**
KMI				pPKP	pPKPdf		20 23 49.9	-0.5
GYA	**Guiyang**	**172.47**	**31**	PKP		**PKPdf**	**20 23 21.1**	**+0.6**

GUC 07 20:05:17.1±0.8,32.91S×70.15W,h122km±5km,ML3.7,
5C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA03	**San Esteban**	**0.37**	**293**	⇑*i*P		Pn	20 05 34.1	-0.6
VA03				*i* S		Sn	20 05 47.1	-0.8
VA03				IAML			20 05 49.0	
	comp=E,5μm,0.3s							
FCH	**Farellones**	**0.43**	**196**	⇓*i*P		Pn	20 05 34.8	-0.5
FCH				*i* S		Sn	20 05 48.5	-0.5
FCH				IAML			20 05 49.3	
	comp=E,2μm,0.5s							
MT03	**Universidad Ad**	**0.66**	**208**	⇓*i*P		Pn	20 05 36.2	-0.3
MT03				*i* S		Sn	20 05 50.8	-0.2
MT05	**Renca**	**0.69**	**226**	*e*P		Pn	20 05 36.4	-0.2
MT05				*i* S		Sn	20 05 51.0	-0.4
MT05				IAML			20 05 52.6	
	comp=E,4μm,0.6s							
ROCH	**El Roble**	**0.73**	**265**	⇑*i*P		Pn	20 05 36.6	-0.5
ROCH				*i* S		Sn	20 05 51.2	-1.1
ROCH				IAML			20 05 54.0	
	comp=N,3μm,0.6s							
MT02	**Curacav**	**0.90**	**247**	⇑*i*P		Pn	20 05 37.7	-0.7
MT02				*i* S		Sn	20 05 52.7	-1.8
LMEL	**Las Melosas**	**0.93**	**183**	*e*P		Pn	20 05 38.6	-0.3
LMEL				IAML			20 06 01.6	
	comp=E,1μm,0.2s							
MT09	**Talagante**	**1.11**	**219**	⇑*i*P		Pn	20 05 39.9	-0.7
MT09				*i* S		Sn	20 05 57.5	-0.8
MT09				IAML			20 05 58.0	
	comp=E,2μm,0.7s							
VA01	**Torpederas**	**1.27**	**265**	*e*P		Pn	20 05 41.7	-0.3
MT01	**Popeta**	**1.32**	**224**	⇑*i*P		Pn	20 05 41.6	-1.1
MT01				*i* S		Sn	20 06 00.5	-1.7
MT01				IAML			20 06 00.9	
	comp=N,1μm,0.1s							
VA05	**Santo Domingo**	**1.44**	**238**	*e*P		Pn	20 05 43.1	-0.8
VA05				*i* S		Sn	20 06 02.8	-1.5
VA05				IAML			20 06 04.8	
	comp=N,1μm,0.3s							
BO03	**Pichilemu**	**2.19**	**223**	*e*P		Pn	20 05 51.6	-1.4
BO03				*i* S		Sn	20 06 17.6	-2.8

*KRSC **07** 20:07:34.3±1.8,54.36N×168.70E,h42km±43km,ML5.6*
*IDC **07** 20:07:34.9±0.3,54.62N×168.49E,h0km,mb5.1/54,*
mbtmp5.1/55,ML4.1/2,MS5.1/83,Error ellipse:
s-maj=8.2km s-min=5.6km az=163.0
*BJI **07** 20:07:35.9±0.0,54.95N×168.26E,h10km,mb5.1/80,*
mB5.4/73,Ms5.7/88,Ms7 5.4/86
*NEIC **07** 20:07:36.6±1.5,54.55N±0.07×168.65E±0.10,h10km±1km,*
mb5.5/726,Mww5.4,Error ellipse: s-maj=12.7km
s-min=9.5km az=9.0
*GCMT **07** 20:07:38.6±0.1,54.69N±0.01×168.65E±0.01,h12km,*
MW5.5/157,Moment Tensor Solution. s112,c188;
s157,c305; Duration: 1ˢ4 Moment tensor: Scale 10¹⁷
Nm; M_{rr}1.21±.03; $M_{\theta\theta}$-2.52±.02; $M_{\phi\phi}$1.31±.02;
$M_{r\theta}$-0.68±.07; $M_{r\phi}$0.49±.02; $M_{\theta\phi}$-0.33±.07; Best double
couple: M_o2.21600×10¹⁷ NP1:ϕ_s243.00000°,δ69.00000°,
λ39.00000°. NP2:ϕ_s136.00000°,δ54.00000°,λ153.00000°.
Principal axes: T 1.7460, Plg42.0000°, Azm105.0000°;
N 0.9400, Plg46.0000°, Azm266.0000°; P -2.6850,
Plg9.0000°, Azm6.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*MOS **07** 20:07:38.0±0.8,54.50N×168.55E,h37km,mb5.4/60,*
MS5.3/42 Error ellipse: s-maj=5.4km s-min=4.7km
az=22.3
*NEIC **07** 20:07:40,54.18N×168.46E,h12km,Moment Tensor*
Solution. Duration: 8ˢ0 Moment tensor: Scale 10¹⁷Nm;
M_{rr}0.79; $M_{\theta\theta}$-1.79; $M_{\phi\phi}$1.00; $M_{r\theta}$-0.73; $M_{\theta\phi}$0.11; $M_{r\phi}$-0.57;
Fault plane solution: M_o1.82000×10¹⁷ NP1:
ϕ_s131.00000°,δ49.00000°,λ156.00000°. NP2:
ϕ_s237.00000°,δ73.00000°,λ44.00000°. Principal axes: T
1.5751, Plg43.0000°, Azm103.0000°; N 0.4106,
Plg43.0000°, Azm255.0000°; P -1.9856, Plg15.0000°,
Azm359.0000°;

ISC 07 20:07:38.0±0.4,54.54N±0.03×168.61E±0.02,h18km±1km,
h18km:pP-P,n1923,σ1ˢ33/2436,mb5.5/572,MS5.3/154,
55C-58D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**1.67**	**295**	PN		Pn	**20 08 04.0**	**-2.2**
BKI				S		Sn	**20 08 25.1**	**-1.9**
BKI	**Bering**	**1.67**	**295**	*e*P		Pn	20 08 04.0	-2.2
BKI				*e*S		Sn	**20 08 25.1**	**-1.9**
KBTR	**Krutoberegovo**	**3.70**	**299**	PN		Pn	**20 08 33.3**	**-0.9**
KBTR				S		Sn	**20 09 16.9**	**-0.4**
KBTR	**Krutoberegovo**	**3.70**	**299**	*e*P		Pn	20 08 33.3	-0.9
KBTR				*e*S		Sn	20 09 16.9	-0.4
SHEM	**Shemya Is, Ala**	**3.74**	**117**	Pn		Pn	**20 08 31.8**	**-2.8**
	607nm,0.3s,baz=3.5,slow=3.9,SNR=142							
SHEM				Sn		Sn	**20 09 15.1**	**-3.0**
	488nm,0.3s,baz=312,slow=18,SNR=17							
SMY	**Shemya**	**3.74**	**117**	Pn		Pn	**20 08 31.4**	**-3.2**
SMY	**Shemya**	**3.74**	**117**	PN		Pn	20 08 32.0	-2.6
SMY	**Shemya**	**3.74**	**117**	*e*P		Pn	20 08 32.0	-2.6
SMY				*e*S		Sn	20 09 15.4	-2.7
KBG	**Krutoberegovo**	**3.78**	**299**	PN		Pn	20 08 34.0	-1.3
KBG				S		Sn	**20 09 19.9**	**+0.7**
KBG	**Krutoberegovo**	**3.78**	**299**	*e*P		Pn	20 08 34.0	-1.3
KBG				*e*S		Sn	20 09 19.9	+0.7
SMKR	**Semkarok**	**4.54**	**300**	PN		Pn	20 08 46.4	+0.6
SMKR				S		Sn	20 09 41.4	+3.3
SMKR	**Semkarok**	**4.54**	**300**	*e*P		Pn	20 08 46.4	+0.6
SMKR				*e*S		Sn	20 09 41.4	+3.3
BDR	**Baidarnaya**	**4.67**	**299**	PN		Pn	20 08 48.6	+1.0
BDR				S		Sn	20 09 44.3	+3.0
BDR	**Baidarnaya**	**4.67**	**299**	*e*P		Pn	20 08 48.6	+1.0
BDR				*e*S		Sn	20 09 44.3	+3.0
SRKR	**Sorokina**	**4.72**	**300**	PN		Pn	20 08 49.3	+1.0
SRKR				S		Sn	20 09 45.2	+2.6
SRKR	**Sorokina**	**4.72**	**300**	*e*P		Pn	20 08 49.3	+1.0
SRKR				*e*S		Sn	20 09 45.2	+2.6
BZGR	**Bezymyannyi-Gr**	**4.74**	**290**	PN		Pn	20 08 49.9	+1.3
BZGR				S		Sn	20 09 43.3	+0.2
BZGR	**Bezymyannyi-Gr**	**4.74**	**290**	*e*P		Pn	20 08 49.9	+1.3
BZGR				*e*S		Sn	20 09 43.3	+0.2
BZMR	**Bezymyannaya**	**4.85**	**290**	PN		Pn	20 08 50.9	+0.7
BZMR				S		Sn	20 09 47.2	+1.3
BZMR	**Bezymyannaya**	**4.85**	**290**	*e*P		Pn	20 08 50.9	+0.7
BZMR				*e*S		Sn	20 09 47.2	+1.3
BZWR	**Bezymyannyi-We**	**4.86**	**290**	PN		Pn	20 08 51.6	+1.4
BZWR				S		Sn	20 09 48.0	+2.0
BZWR	**Bezymyannyi-We**	**4.86**	**290**	*e*P		Pn	20 08 51.6	+1.4
BZWR				*e*S		Sn	20 09 48.0	+2.0
KLY	**Klyuchi**	**4.87**	**295**	PN		Pn	20 08 49.5	-0.7
KLY				S		Sn	20 09 45.2	-0.8
KLY	**Klyuchi**	**4.87**	**295**	*e*P		Pn	20 08 49.5	-0.7
KLY				*e*S		Sn	20 09 45.2	-0.8
KRSR	**Krestovskiy**	**4.89**	**293**	PN		Pn	20 08 52.3	+1.7
KRSR				S		Sn	20 09 49.8	+3.1
KRSR	**Krestovskiy**	**4.89**	**293**	*e*P		Pn	20 08 52.3	+1.7
KRSR				*e*S		Sn	20 09 49.8	+3.1
KIRR	**Kirishev**	**4.94**	**290**	PN		Pn	20 08 52.9	+1.6
KIRR				S		Sn	20 09 49.6	+1.6
KIRR	**Kirishev**	**4.94**	**290**	*e*P		Pn	20 08 52.9	+1.6
KIRR				*e*S		Sn	20 09 49.6	+1.6
TUMR	**Tumrok**	**4.94**	**282**	PN		Pn	20 08 51.8	+0.5
TUMR				S		Sn	20 09 48.0	0.0
TUMR	**Tumrok**	**4.94**	**282**	*e*P		Pn	20 08 51.8	+0.5
TUMR				*e*S		Sn	20 09 48.0	0.0
KMNR	**Kamenistaya**	**4.96**	**288**	PN		Pn	20 08 53.6	+2.1
KMNR				S		Sn	20 09 50.6	+2.2
KMNR	**Kamenistaya**	**4.96**	**288**	*e*P		Pn	20 08 53.6	+2.1
KMNR				*e*S		Sn	20 09 50.6	+2.2
KPT	**Kopyto**	**5.01**	**290**	PN		Pn	20 08 52.7	+0.5
KPT				S		Sn	20 09 52.6	+3.0
KPT	**Kopyto**	**5.01**	**290**	P		Pn	20 08 52.7	+0.5
KPT				*e*S		Sn	20 09 52.6	+3.0
KOZ	**Kozyrevsk**	**5.22**	**291**	PN		Pn	20 08 56.7	+1.6
KOZ				S		Sn	20 09 57.0	+2.3
KOZ	**Kozyrevsk**	**5.22**	**291**	*e*P		Pn	20 08 56.7	+1.6
KOZ				*e*S		Sn	20 09 57.0	+2.3
SPN	**Mys Shipunski**	**5.29**	**258**	PN		Pn	20 08 54.5	-1.5
SPN	**Mys Shipunski**	**5.29**	**258**	*e*P		Pn	20 08 54.5	-1.5
SPN				*e*S		Sn	20 09 53.1	-3.3
SRDR	**Sredinnyy**	**5.37**	**293**	PN		Pn	20 08 59.0	+1.8
SRDR				S		Sn	20 10 00.6	+2.1
SRDR	**Sredinnyy**	**5.37**	**293**	*e*P		Pn	20 08 59.0	+1.8
SRDR				*e*S		Sn	20 10 00.6	+2.1
KII	**Karymskiy**	**5.39**	**268**	PN		Pn	20 08 56.8	-0.7
KII				S		Sn	20 09 59.5	+0.5
KII	**Karymskiy**	**5.39**	**268**	*e*P		Pn	20 08 56.8	-0.7
KII				*e*S		Sn	20 09 59.5	+0.5
ESO	**Esso**	**5.84**	**288**	PN		Pn	20 09 05.3	+1.7
ESO	**Esso**	**5.84**	**288**	*e*P		Pn	20 09 05.3	+1.7
ESO				*e*S		Sn	20 10 10.1	+0.1
SDLR	**Sedlovina**	**5.89**	**262**	PN		Pn	20 09 03.6	-0.7
SDLR	**Sedlovina**	**5.89**	**262**	*e*P		Pn	20 09 03.6	-0.7
SMAR	**Somma**	**5.94**	**262**	PN		Pn	20 09 04.8	-0.3
SMAR	**Somma**	**5.94**	**262**	*e*P		Pn	20 09 04.8	-0.3
SMAR				*e*S		Sn	20 10 11.6	-1.1
UGLR	**Uglovaya**	**5.94**	**261**	PN		Pn	20 09 04.3	-0.8
UGLR	**Uglovaya**	**5.94**	**261**	*e*P		Pn	20 09 04.3	-0.8
UGLR				*e*S		Sn	20 10 09.4	-3.2
KRER	**Koryakskii**	**5.96**	**262**	PN		Pn	20 09 05.4	0.0
KRER	**Koryakskii**	**5.96**	**262**	*e*P		Pn	20 09 05.4	0.0
KRER				*e*S		Sn	20 10 09.4	-3.8
AVH	**Avacha**	**5.97**	**262**	PN		Pn	20 09 05.4	-0.1
AVH				S		Sn	20 10 14.1	+0.7
AVH	**Avacha**	**5.97**	**262**	*e*P		Pn	20 09 05.4	-0.1
AVH				*e*S		Sn	20 10 14.1	+0.7
KRX	**Arik**	**6.00**	**263**	PN		Pn	20 09 05.4	-0.5
KRX	**Arik**	**6.00**	**263**	*e*P		Pn	20 09 05.4	-0.5
KRX				*e*S		Sn	20 10 12.6	-1.5
TILK	**Tilichiki**	**6.07**	**348**	PN		Pn	20 09 06.4	-0.3
TILK	**Tilichiki**	**6.07**	**348**	*e*P		Pn	20 09 06.4	-0.3
TILK				*e*S		Sn	20 10 17.0	+1.4
PET	**Petropavlovsk**	**6.10**	**260**			Pn	20 09 05.6	-1.5
PET	**Petropavlovsk**	**6.10**	**260**	*c i*PN		Pn	20 09 06.4	-0.6
PET				pmax	pmax			
	comp=Z,900nm,13.4s							
PET				pmax	pmax			
	comp=Z,2μm,5.9s							
PET				pmax	pmax			
	comp=Z,495nm,0.5s							
PET				MLR	MLR			
	comp=Z,17μm,12.0s							
PET				MLR	MLR			
	comp=Z,14μm,12.0s							
PET	**Petropavlovsk**	**6.10**	**260**	P		Pn	20 09 07.7	+0.7
PET	**Petropavlovsk**	**6.10**	**260**	*e*P		Pn	20 09 08.4	+1.4
PET				*e*S		Sn	20 10 15.1	-1.1
GNL	**Ganaly**	**6.33**	**267**	PN		Pn	20 09 10.8	+0.4
GNL	**Ganaly**	**6.33**	**267**	*e*P		Pn	20 09 10.8	+0.4
RUS	**Russkaya**	**6.39**	**255**	PN		Pn	20 09 10.3	-0.7
RUS	**Russkaya**	**6.39**	**255**	*e*P		Pn	20 09 10.3	-0.7
RUS				*e*S		Sn	20 10 19.4	-4.0
MTVR	**Mutnovka**	**6.55**	**256**	PN		Pn	20 09 12.7	-0.8
MTVR	**Mutnovka**	**6.55**	**256**	*e*P		Pn	20 09 12.7	-0.8
MTVR				*e*S		Sn	20 10 24.3	-3.4
GRL	**Gorelyy**	**6.59**	**257**	PN		Pn	20 09 14.2	+0.2
GRL	**Gorelyy**	**6.59**	**257**	*e*P		Pn	20 09 14.2	+0.2
PEA0B	**Petropavlovsk-**	**6.62**	**262**	Pn		Pn	20 09 13.7	-0.5
PEA0B	**Petropavlovsk-**	**6.62**	**262**	*ce*PN		Pn	20 09 13.8	-0.5
PETK	**Petropavlovsk-**	**6.62**	**262**	Pn		Pn	20 09 14.4	+0.1
	comp=Z,16nm,0.3s,baz=93,slow=13,SNR=56							
PETK				Sn		Sn	20 10 30.0	+0.9
	comp=Z,38nm,0.3s,baz=95,slow=17,SNR=8.6							
PETK				LR		LR	20 11 53.5	
	comp=Z,5μm,18.6s,baz=84,slow=39							
	comp=Z,56nm,0.6s							
PETK	**Petropavlovsk-**	**6.62**	**262**	Pn		Pn	20 09 13.3	-1.0
ASAK	**Asacha**	**6.75**	**256**	PN		Pn	20 09 16.3	+0.2
ASAK	**Asacha**	**6.75**	**256**	*e*P		Pn	20 09 16.3	+0.2
ASAK				*e*S		Sn	20 10 29.2	-3.3
AMKA	**Amchitka**	**7.19**	**112**	Pn		Pn	20 09 19.9	-2.1
SKR	**Severo-Kuril's**	**8.53**	**248**	*e*PN		Pn	20 09 40.5	+0.1
SKR				pmax	pmax			
	comp=Z,177nm,0.5s							
SKR				MLR	MLR			
	comp=Z,6μm,17.0s							
KIWB	**Kanaga Island**	**8.96**	**102**			Pn	20 09 44.6	-1.8
ADK	**Adak**	**9.22**	**101**	Pn		Pn	20 09 47.6	-2.2
ADK	**Adak**	**9.22**	**101**	PN		Pn	20 09 47.6	-2.2
ADK	**Adak**	**9.22**	**101**	P		Pn	20 09 48.2	-1.6
GSTR	**Great Sitkin T**	**9.50**	**99**			Pn	20 09 52.7	-1.1
MA2	**Magadan**	**10.93**	**305**	Pn		Pn	20 10 12.1	-1.2
	comp=Z,0.1nm,0.3s,baz=90,slow=9.0,SNR=2.2							
MA2				LR		LR	20 14 21.2	
	comp=Z,8μm,18.3s,baz=108,slow=38							
MA2	**Magadan**	**10.93**	**305**	Pn		Pn	20 10 11.7	-1.6
MA2	**Magadan**	**10.93**	**305**	*i* PN		Pn	20 10 12.6	-0.7
MA2				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MA2				MLR	MLR			
	comp=Z,10μm,11.0s							
SEY	**Seymchan**	**11.88**	**322**	Pn		Pn	20 10 28.2	+2.0
	comp=Z,0.5nm,0.3s,baz=122,slow=12,SNR=48							
SEY				LR		LR	20 14 49.1	
	comp=Z,15μm,20.1s,baz=123,slow=37							
SEY	**Seymchan**	**11.88**	**322**	*di*PN		Pn	20 10 26.4	+0.2
SEY				pmax	pmax			
	comp=Z,61nm,1.6s							
SEY				MLR	MLR			
	comp=Z,17μm,17.0s							
SPIA	**Saint Paul Isl**	**12.16**	**69**	Pn		Pn	20 10 28.7	-1.2
SPIA	**Saint Paul Isl**	**12.16**	**69**	P		Pn	20 10 28.8	-1.2
	baz=266							
NIKH	**Nikolski High**	**13.41**	**87**	Pn		Pn	20 10 46.4	-0.8
NIKH	**Nikolski High**	**13.41**	**87**	P		Pn	20 10 47.3	+0.1
	baz=286,SNR=32							
NIKH				S		Sn	20 13 19.6	+4.0
	baz=286							
BILL	**Bilibino**	**13.59**	**356**			Pn	20 10 48.8	-0.8
BILL	**Bilibino**	**13.59**	**356**	*ci*P		Pn	20 10 51.0	+1.4
BILL				pmax	pmax			
	comp=Z,114nm,1.3s							
BILL				MLR	MLR			
	comp=Z,19μm,14.0s							
GAMB	**Gambell**	**13.63**	**39**	P		Pn	20 10 49.5	-0.6
	baz=236							
UNV	**Unalaska Valle**	**14.56**	**83**	Pn		Pn	20 11 02.5	-0.4
UNV	**Unalaska Valle**	**14.56**	**83**	P		Pn	20 11 02.9	0.

P16K baz=271 S **S** **20 15 28.2 +1.0**
R16K **Pilot Point** baz=271 **19.01 67** P **P** **20 11 57.1 -1.3**
R16K S **S** **20 15 33.1 -0.1**
O17K **Koliganek Bris** baz=275 **19.17 60** P **Pn** **20 12 01.3 +0.2**
O17K S **S** **20 15 36.8 +0.3**
Q16K **King Salmon** baz=269 **19.41 64** P **Pn** **20 12 04.6 +0.5**
Q16K baz=273,SNR=23 S **S** **20 15 42.1 +0.7**
P17K **Kvichak River** baz=273 **19.51 62** P **Pn** **20 12 05.3 +0.2**
P17K baz=272,SNR=24 S **Sn** **20 15 44.8 +1.5**
R17K **Ugashik Creek** baz=272 **19.64 67** P **Pn** **20 12 06.9 +0.2**
R17K baz=276,SNR=96 S **S** **20 15 46.0 +0.1**
GRNR **Gornyy** baz=276 **19.79 272** ⇑*i*P **Pn** **20 12 09.4 +0.8**
GRNR comp=N,30nm,0.8s pmax pmax
GRNR comp=E,50nm,0.8s pmax pmax
GRNR comp=Z,90nm,0.8s pmax pmax
GRNR comp=E,4µm,14.0s MLR MLR
GRNR comp=N,2µm,13.0s MLR MLR
GRNR comp=Z,4µm,15.0s MLR MLR
N18K **Kilae Creek** comp=Z,388nm,1.6s **19.79 58** P **Pn** **20 12 07.9 -0.7**
N18K IAmb IAmb 20 12 10.4
N18K **Kilae Creek** baz=268,SNR=47 **19.79 58** P **Pn** **20 12 08.3 -0.3**
N18K S **Sn** **20 15 50.7 +0.5**
GCSA **Galena City Sc** baz=268 **19.93 45** P **Pn** **20 12 09.8 -0.3**
GCSA baz=256,SNR=84 S **Sn** **20 15 53.2 -0.3**
TTA **Tatalina** comp=Z,247nm,1.2s **19.95 51** **P** **20 12 09.3 +0.6**
TTA IAmb IAmb 20 12 13.2
TTA **Tatalina** comp=Z,247nm,1.2s **19.95 51** P **P** **20 12 09.3 +0.6**
TTA pmax pmax
TTA **Tatalina** baz=262,SNR=204 **19.95 51** P **Pn** **20 12 09.9 -0.6**
TTA S **Sn** **20 15 55.0 +1.0**
SVW2 **Sparrevohn** baz=262 **19.96 56** **P** **20 12 08.9 0.0**
SVW2 IAmb IAmb 20 12 16.1
O18K **Koktuh Hills** comp=Z,264nm,1.6s **20.12 60** P **P** **20 12 11.0 +0.4**
O18K IAmb IAmb 20 12 14.1
O18K **Koktuh Hills** comp=Z,482nm,1.4s **20.12 60** P Pn 20 12 11.7 -0.8
O18K baz=271,SNR=44 S Sn 20 15 57.4 -0.8
P18K **Big Mountain,** baz=271 **20.12 61** P **P** **20 12 10.7 +0.1**
P18K IAmb IAmb 20 12 14.6
P18K **Big Mountain,** comp=Z,370nm,1.1s baz=272 **20.12 61** P **P** **20 12 11.3 +0.7**
CHIR **Chirikof Islan** **20.33 72** P **P** **20 12 12.6 -0.2**
CHIR **Chirikof Islan** baz=281 **20.33 72** P **P** **20 12 12.5 -0.3**
CHIR S **S** **20 15 58.5 -1.1**
L19K **White Mountain** baz=281 **20.39 53** P **P** **20 12 13.9 +0.5**
L19K IAmb IAmb 20 12 17.8
L19K **White Mountain** comp=Z,334nm,1.0s **20.39 53** P Pn 20 12 14.6 -1.0
L19K baz=265,SNR=263 S **S** **20 16 02.0 +1.1**
N19K **Bonanza Creek** baz=265 **20.49 57** P **P** **20 12 14.8 +0.2**
N19K IAmb IAmb 20 12 20.4
N19K **Bonanza Creek** comp=Z,196nm,0.8s **20.49 57** P **P** **20 12 15.6 +1.0**
N19K baz=269,SNR=87 S **S** **20 16 03.3 +0.3**
O19K **Port Alsworth** baz=269 **20.57 59** P **P** **20 12 15.8 +0.5**
O19K IAmb IAmb 20 12 19.3
O19K **Port Alsworth** comp=Z,316nm,1.1s **20.57 59** P **P** **20 12 16.3 +1.0**
O19K baz=271,SNR=47 S **S** **20 16 06.3 +2.0**
M19K **Big River Lodg** baz=271 **20.59 54** P **P** **20 12 15.8 +0.2**
M19K IAmb IAmb 20 12 19.8
M19K **Big River Lodg** comp=Z,264nm,1.1s **20.59 54** P **P** **20 12 16.6 +1.1**
M19K baz=266,SNR=120 S Sn 20 16 07.2 -2.1
L20K **Farewell, AK** baz=266 **20.87 53** P **P** **20 12 19.7 +1.0**
L20K baz=265,SNR=31 S **S** **20 16 12.2 +1.8**
K20K **Telida** baz=265 **20.88 50** P **P** **20 12 18.7 -0.1**
K20K IAmb IAmb 20 12 22.1
K20K **Telida** comp=Z,472nm,1.6s **20.88 50** P **P** **20 12 19.4 +0.6**
K20K baz=262,SNR=107 S **S** **20 16 13.0 +2.4**
ERM **Erimo** baz=262 **20.93 244** P **P** **20 12 19.1 -0.3**
ERM **Erimo** **20.93 244** *de*P **P** **20 12 20.1 +0.7**
ERM pmax pmax
ERM **Erimo** comp=Z,204nm,1.3s **20.93 244** P Pn 20 12 20.7 -1.3
Q19K **Cape Douglas,** **20.96 63** P **P** **20 12 19.3 -0.4**
Q19K **Cape Douglas,** baz=274,SNR=31 **20.96 63** P **P** **20 12 20.2 +0.5**
Q19K S **S** **20 16 13.7 +1.4**
J20K **Nowinta River** baz=274 **20.97 48** P **P** **20 12 19.0 -0.7**
J20K **Nowinta River** baz=260,SNR=166 **20.97 48** P **P** **20 12 19.9 +0.1**
J20K S **S** **20 16 14.0 +1.7**
SII **Sitkinak Islan** baz=260 **20.98 69** P **P** **20 12 17.9 -2.0**
SII IAmb IAmb 20 12 21.1
SII **Sitkinak Islan** comp=Z,308nm,1.0s **20.98 69** P **P** **20 12 18.5 -1.4**
SII baz=280,SNR=18 S **S** **20 16 14.7 +2.0**
SII **Sitkinak Islan** baz=280 **20.98 69** P **P** **20 12 20.0 +0.1**
P19K **Oil Pt** **21.13 60** P **P** **20 12 22.6 +1.2**
P19K IAmb IAmb 20 12 25.7
P19K **Oil Pt** comp=Z,388nm,1.1s **21.13 60** P **P** **20 12 22.5 +1.0**
P19K baz=273,SNR=20 S **S** **20 16 17.9 +2.3**
ILSW **Iliamna Southw** baz=273 **21.16 60** P **P** **20 12 21.7 -0.2**
M20K **Styx River** **21.18 54** P **P** **20 12 21.8 -0.3**
M20K IAmb IAmb 20 12 32.6
M20K **Styx River** comp=Z,252nm,1.4s **21.18 54** P **P** **20 12 23.4 +1.4**
M20K baz=267,SNR=59 S **S** **20 16 18.1 +1.5**
JEW **Eniwo** baz=267 **21.26 248** P **P** **20 12 23.3 +0.3**
JEW IAmb IAmb 20 12 32.5
RSO **Redoubt South** comp=Z,264nm,1.1s **21.34 58** P **P** **20 12 24.2 +0.3**
OHAK **Old Harbor** **21.35 67** P **P** **20 12 22.4 -1.5**
OHAK **Old Harbor** baz=279,SNR=43 **21.35 67** P **P** **20 12 22.9 -0.9**
OHAK S **S** **20 16 17.5 -2.5**
O20K **Slope Mountain** baz=279 **21.42 59** P **P** **20 12 25.6 +1.0**
O20K baz=272,SNR=14 S **S** **20 16 21.2 -0.1**
baz=272

YAK **Yakutsk** **21.50 306** P **P** **20 12 24.4 -1.0**
comp=Z,20nm,0.6s,baz=92,slow=12,SNR=20
YAK S **S** **20 16 18.2 -4.6**
YAK comp=Z,2.0nm,0.4s,baz=303,slow=3.9,SNR=1.2 LR LR 20 20 45.9
YAK comp=Z,4µm,19.9s,baz=108,slow=37 comp=Z,20nm,0.6s
YAK **Yakutsk** **21.50 306** P **P** **20 12 22.6 -2.8**
YAK **Yakutsk** **21.50 306** *d*iP **P** **20 12 23.1 -2.3**
YAK *e*S **S** **20 16 20.1 -2.7**
YAK *e* 20 23 45.7
YAK pmax pmax
YAK comp=N,10.0nm,0.9s pmax pmax
YAK comp=Z,114nm,0.9s pmax pmax
YAK comp=E,76nm,1.0s smax smax
YAK comp=N,4µm,4.9s smax smax
YAK comp=E,1µm,3.5s MLR MLR
YAK comp=Z,3µm,13.0s MLR MLR
YAK comp=E,3µm,14.0s
IMAR **Indian Mountai** **21.51 43** P **P** **20 12 24.9 -0.6**
N20K **Mount Spurr** baz=270,SNR=44 **21.60 56** P **P** **20 12 25.6 -0.9**
N20K S **S** **20 16 25.8 +0.9**
SPCR **Spurr Chakacha** baz=270 **21.60 56** P **P** **20 12 25.8 -0.8**
Q20K **Shuyak Island** baz=276,SNR=37 **21.64 63** P **P** **20 12 27.0 +0.1**
Q20K S **S** **20 16 23.6 -2.0**
KDAK **Kodiak Island** comp=E,91nm,0.5s,baz=329,slow=10,SNR=70 **21.64 66** P **P** **20 12 26.6 -0.4**
KDAK S **S** **20 16 24.0 -1.7**
comp=E,8.3nm,0.7s,baz=198,slow=3.2,SNR=2.2
KDAK **Kodiak Island** comp=E,91nm,0.5s **21.64 66** P **P** **20 12 26.0 -1.0**
KDAK IAmb IAmb 20 12 30.0
KDAK **Kodiak Island** comp=Z,106nm,0.6s **21.64 66** *d*iP **P** **20 12 26.9 -0.1**
KDAK pmax pmax
KDAK **Kodiak Island** comp=Z,107nm,0.6s **21.64 66** P **P** **20 12 26.6 -0.4**
KDAK baz=278 S **S** **20 16 24.9 -0.8**
SPU **Mount Spurr** baz=278 **21.68 56** P **P** **20 12 27.7 +0.3**
PPLA **Purkeypile** **21.68 52** P **P** **20 12 28.0 +0.5**
PPLA IAmb IAmb 20 12 40.0
PPLA **Purkeypile** comp=Z,370nm,1.3s **21.68 52** P **P** **20 12 28.4 +0.9**
PPLA baz=266,SNR=80 S **S** **20 16 29.1 +2.4**
CHUM **Lake Minchumin** baz=266 **21.73 49** P **P** **20 12 28.8 +1.0**
CHUM baz=263,SNR=32 S **S** **20 16 29.3 +2.1**
G21K **Allakaket** baz=263 **21.74 42** P **P** **20 12 28.6 +0.6**
G21K baz=255,SNR=50 S **S** **20 16 29.4 +1.9**
CAST **Castle Rocks** baz=255 **21.78 50** P **P** **20 12 28.6 +0.2**
CAST **Castle Rocks** baz=264,SNR=119 **21.78 50** P **P** **20 12 29.0 +0.6**
CAST S **S** **20 16 31.0 +2.8**
H21K **Melozitna Rive** baz=264 **21.82 44** P **P** **20 12 28.4 -0.4**
H21K IAmb IAmb 20 12 42.4
H21K **Melozitna Rive** comp=Z,319nm,1.3s **21.82 44** P **P** **20 12 29.6 +0.8**
H21K baz=258,SNR=134 S **S** **20 16 31.9 +2.9**
HOM **Homer** baz=258 **21.93 60** P **P** **20 12 29.0 -1.1**
HOM **Homer** baz=274 **21.93 60** P **P** **20 12 30.6 +0.6**
HOM S **S** **20 16 32.0 +0.7**
SKT **Skwentna** baz=274 **21.94 54** P **P** **20 12 30.8 +0.6**
SKT IAmb IAmb 20 12 42.6
SKT **Skwentna** comp=Z,455nm,1.5s **21.94 54** P **P** **20 12 31.1 +0.9**
SKT baz=268,SNR=97 S **S** **20 16 34.0 +2.6**
F21K **Alatna River** baz=268 **21.94 40** P **P** **20 12 30.4 +0.2**
F21K baz=253,SNR=36 S **S** **20 16 33.7 +2.3**
I21K **Tanana** baz=253 **22.06 46** P **P** **20 12 31.4 0.0**
I21K **Tanana** baz=260,SNR=56 **22.06 46** P **P** **20 12 32.0 +0.6**
I21K S **S** **20 16 36.2 +2.6**
CAPN **Captain Cook N** baz=260 **22.12 57** P **P** **20 12 32.4 +0.4**
CNPM **China Poot** baz=272 **22.15 61** P **P** **20 12 32.0 -0.4**
CNPM IAmb IAmb 20 12 36.2
SUA **Susitna One** comp=Z,99nm,0.6s **22.31 55** P **P** **20 12 34.0 -0.2**
SUA IAmb IAmb 20 12 38.0
SUA **Susitna One** comp=Z,125nm,0.8s **22.31 55** P **P** **20 12 34.5 +0.3**
SUA baz=270,SNR=82 S **S** **20 16 39.3 +0.8**
BRLK **Bradley Lake** baz=270 **22.31 60** P **P** **20 12 33.4 -0.8**
KTH **Kantishna Hill** **22.31 50** P **P** **20 12 34.5 +0.3**
KTH IAmb IAmb 20 12 52.3
BPAW **Bear Paw Mtn.** comp=Z,361nm,1.2s **22.33 49** P **P** **20 12 34.3 -0.1**
BPAW **Bear Paw Mtn.** baz=264,SNR=84 **22.33 49** P **P** **20 12 34.9 +0.5**
BPAW S **S** **20 16 39.1 +0.2**
BRSE **Bradley Lake S** baz=264 **22.38 60** P **P** **20 12 33.8 -1.2**
BRSE baz=275,SNR=17 S **S** **20 16 39.0 -0.9**
H22K **Ishtalitna Cre** baz=275 **22.44 44** P **P** **20 12 35.7 +0.2**
H22K baz=259,SNR=54 S **S** **20 16 41.9 +1.1**
F22K **John River** baz=259 **22.51 39** P **P** **20 12 36.7 +0.5**
CUT **Chulitna** baz=254 **22.54 53** P **P** **20 12 36.5 0.0**
CUT **Chulitna** baz=269,SNR=18 **22.54 53** P **P** **20 12 36.6 0.0**
CUT S **S** **20 16 41.8 -0.8**
A21K **Barrow** baz=269 **22.55 29** P **P** **20 12 36.0 -0.5**
A21K baz=240 S **S** **20 16 41.4 -1.2**
MLY **Manley** baz=240 **22.56 46** P **P** **20 12 35.9 -0.9**
MLY IAmb IAmb 20 12 53.7
MLY **Manley** comp=Z,188nm,1.2s **22.56 46** P **P** **20 12 36.6 -0.2**
MLY baz=262,SNR=164 S **S** **20 16 41.9 -1.1**
TEY **Ternei** baz=262 **22.57 258** ⇑*e*P **P** **20 12 41.6 +4.7**
TEY *e* 20 16 43.7
TEY pmax pmax
TEY comp=N,20nm,0.9s pmax pmax
TEY comp=E,30nm,0.9s pmax pmax
TEY comp=Z,40nm,0.9s pmax pmax
TRF **Thorofare Moun** **22.58 50** P **P** **20 12 36.4 -0.8**
TRF IAmb IAmb 20 12 41.3
TRF **Thorofare Moun** comp=Z,145nm,0.7s **22.58 50** P **P** **20 12 37.7 +0.5**
TRF baz=266,SNR=167 S **S** **20 16 44.1 +0.4**
M22K **Willow** baz=266 **22.61 55** P **P** **20 12 36.2 -1.0**
M22K baz=270,SNR=11 S **S** **20 16 41.5 -2.2**
G22K **Bettles** baz=270 **22.61 41** P **P** **20 12 36.9 -0.3**
baz=256,SNR=13
G22K S **S** **20 16 42.7 -1.1**
RC01 **Rabbit Creek A** baz=256 **22.80 56** P **P** **20 12 37.9 -1.5**
RC01 **Rabbit Creek A** baz=272,SNR=8.8 **22.80 56** P **P** **20 12 37.6 -1.7**
RC01 S **S** **20 16 47.2 -0.1**
E22K **Anaktuvuk Pass** baz=272 **22.82 38** P **P** **20 12 39.7 +0.2**
O22K **Cooper Landing** baz=253 **22.84 58** P **P** **20 12 39.2 -0.5**
O22K **Cooper Landing** baz=274,SNR=8.6 **22.84 58** P **P** **20 12 38.7 -1.0**
O22K S **S** **20 16 46.9 -1.0**
JTM **Tenmabayashi** baz=274 **22.91 244** P **P** **20 12 39.1 -1.5**
JTM IAmb IAmb 20 12 52.4
SEW **Seward** comp=Z,225nm,1.2s **23.00 59** P **P** **20 12 40.1 -1.3**
SEW **Seward** baz=275,SNR=17 **23.00 59** P **P** **20 12 40.1 -1.3**
SEW S **S** **20 16 49.5 -1.2**
BWN **Browne** baz=275 **23.00 48** P **P** **20 12 42.2 +0.8**
PMR **Palmer** **23.08 55** P **P** **20 12 40.2 -2.0**
PMR **Palmer** **23.08 55** P **P** **20 12 40.2 -2.0**
PMR pmax pmax
PMR **Palmer** comp=Z,47nm,0.5s **23.08 55** P **P** **20 12 41.3 -0.8**
PMR baz=272,SNR=12 S **S** **20 16 50.8 -1.2**
G23K **Bananza Creek** baz=272 **23.14 42** P **P** **20 12 42.2 -0.6**
G23K baz=259,SNR=35 S **S** **20 16 54.0 +0.9**
KLR **Kul'dur** baz=259 **23.17 272** P **P** **20 12 42.4 -0.8**
KLR comp=Z,42nm,0.8s,baz=60,slow=10.0,SNR=44 S **S** **20 16 54.9 +1.1**
KLR comp=Z,3.3nm,1.1s,baz=156,slow=22,SNR=1.4 LR LR 20 21 29.3
KLR comp=Z,2µm,21.8s,baz=68,slow=36 ScS **ScS** **20 23 53.0 -0.6**
KLR **Kul'dur** comp=Z,2.5nm,0.8s,baz=337,slow=7.7,SNR=1.4 comp=Z,42nm,0.8s **23.17 272** *ce*P **P** **20 12 42.0 -1.2**
KLR pmax pmax
KLR comp=Z,107nm,1.3s MLR MLR
KLR comp=Z,5µm,13.0s MLR MLR
H23K **Yukon River** **23.17 44** P **P** **20 12 43.0 -0.2**
H23K IAmb IAmb 20 12 55.5
H23K **Yukon River** comp=Z,228nm,1.1s **23.17 44** P **P** **20 12 43.2 0.0**
H23K baz=261,SNR=59 S **S** **20 16 54.6 +1.0**
GHO **Glory Hole Cre** baz=261 **23.17 55** P **P** **20 12 42.2 -1.1**
COLD **Coldfoot** **23.18 41** P **P** **20 12 42.9 -0.3**
COLD IAmb IAmb 20 12 55.1
COLD **Coldfoot** comp=Z,337nm,1.6s **23.18 41** P **P** **20 12 42.7 -0.5**
COLD baz=257,SNR=44 S **S** **20 16 54.7 +1.0**
MCK **McKinley** baz=257 **23.21 50** P **P** **20 12 42.9 -0.6**
MCK IAmb IAmb 20 12 54.8
MCK **McKinley** comp=Z,331nm,1.4s **23.21 50** P **P** **20 12 42.9 -0.6**
MCK pmax pmax
MCK **McKinley** comp=Z,331nm,1.4s **23.21 50** P **P** **20 12 43.0 -0.5**
MCK baz=267,SNR=45 S **S** **20 16 54.0 -0.2**
NEA2 **Nenana** baz=267 **23.21 47** P **P** **20 12 42.7 -0.9**
NEA2 **Nenana** baz=264,SNR=98 **23.21 47** P **P** **20 12 43.0 -0.5**
NEA2 S **S** **20 16 53.9 -0.4**
RND **Reindeer** baz=264 **23.23 50** P **P** **20 12 42.2 -1.6**
RND IAmb IAmb 20 12 45.4
RND **Reindeer** comp=Z,121nm,0.7s **23.23 50** P **P** **20 12 42.2 -1.6**
RND pmax pmax
WAT1 **Susitna Watana** comp=Z,121nm,0.7s baz=269 **23.35 52** P **P** **20 12 43.8 -1.2**
WAT1 S **S** **20 16 55.8 -0.8**
KNK **Knik Glacier** baz=269 **23.41 56** P **P** **20 12 44.0 -1.6**
KNK IAmb IAmb 20 12 57.7
KNK **Knik Glacier** comp=Z,114nm,0.7s **23.41 56** P **P** **20 12 44.4 -1.1**
KNK baz=272,SNR=60 S **S** **20 16 56.4 -1.1**
SML **Sawmill** baz=272 **23.45 55** P **P** **20 12 44.2 -1.8**
SML **Sawmill** baz=272,SNR=201 **23.45 55** P **P** **20 12 44.9 -1.1**
SML S **S** **20 16 57.1 -1.2**
D23K **Nanushuk River** baz=272 **23.46 36** P **P** **20 12 46.0 0.0**
D23K baz=253,SNR=26 S **S** **20 16 56.9 -1.3**
PWL **Port Wells** baz=253 **23.50 57** P **P** **20 12 43.9 -2.5**
PWL **Port Wells** baz=274,SNR=106 **23.50 57** P **P** **20 12 45.1 -1.3**
PWL S **S** **20 16 57.1 -1.9**
MDM **Murphy Dome** baz=274 **23.61 47** P **P** **20 12 46.8 -0.7**
MDM IAmb IAmb 20 12 50.3
WRH **Wood River Hil** comp=Z,82nm,0.7s **23.63 48** P **P** **20 12 46.9 -0.7**
WAT6 **Susitna Watana** baz=270,SNR=67 **23.72 53** P **P** **20 12 47.4 -1.3**
WAT6 S **S** **20 16 59.9 -2.9**
M23K **Glacier View** baz=270 **23.74 55** P **P** **20 12 47.9 -0.8**
M23K baz=272,SNR=28 S **S** **20 17 02.2 -0.7**
TOLK **Toolik Lake Re** baz=272 **23.76 37** P **P** **20 12 48.2 -0.7**
TOLK **Toolik Lake Re** baz=255,SNR=166 **23.76 37** P **P** **20 12 49.2 +0.3**
TOLK S **S** **20 17 03.5 +0.5**
TCOL **CIGO, UAF Yank** baz=255 **23.76 47** P **P** **20 12 48.4 -0.5**
TCOL **CIGO, UAF Yank** baz=265,SNR=67 **23.76 47** P **P** **20 12 48.6 -0.2**
TCOL S **S** **20 17 03.3 +0.3**
C23K **Itkillik River** baz=265 **23.76 34** P **P** **20 12 48.6 -0.2**
C23K baz=251,SNR=15 S **S** **20 17 04.3 +1.3**
COLA **College** baz=251 **23.76 47** P **P** **20 12 48.2 -0.7**
COLA **College** **23.76 47** *d*iP **P** **20 12 48.3 -0.6**
COLA pmax pmax
COLA **College** comp=Z,135nm,0.8s **23.76 47** P **P** **20 12 48.5 -0.4**
COLA baz=265 S **S** **20 17 03.1 0.0**
CCB **Clear Creek Bu** baz=265 **23.76 47** P **P** **20 12 47.7 -1.2**
H24K **Noodor Dome** **23.85 44** P **P** **20 12 49.4 -0.4**
H24K IAmb IAmb 20 13 01.7
H24K **Noodor Dome** comp=Z,122nm,1.1s **23.85 44** P **P** **20 12 49.7 -0.1**
H24K baz=263,SNR=84 S **S** **20 17 06.1 +1.4**
DHY **Denali Highway** baz=263 **23.89 51** P **P** **20 12 48.3 -2.0**
DHY IAmb IAmb 20 13 01.0
DHY **Denali Highway** comp=Z,147nm,1.0s **23.89 51** P **P** **20 12 49.6 -0.7**
DHY baz=270,SNR=147 S **S** **20 17 06.4 +1.0**
SCM **Sheep Creek Mo** baz=270 **23.93 54** P **P** **20 12 49.2 -1.4**
SCM IAmb IAmb 20 12 59.9
SCM **Sheep Creek Mo** comp=Z,192nm,0.9s **23.93 54** P **P** **20 12 49.2 -1.4**
SCM pmax pmax
SCM **Sheep Creek Mo** comp=Z,192nm,0.9s **23.93 54** P **P** **20 12 50.1 -0.6**

baz=272,SNR=87
SCM S **S** **20 17 06.1 +0.1**
baz=272
POKR Poker Plat Res 23.96 46 P **P** **20 12 50.5 -0.3**
POKR Poker Plat Res 23.96 46 P **P** **20 12 50.2 -0.6**
baz=265,SNR=60
POKR S **S** **20 17 06.1 -0.2**
baz=265
ZEA Zeya 24.00 285 *e*P **P** **20 12 50.7 -0.6**
ZEA *e* 20 13 24.4
ZEA eS **S** **20 17 01.0 -6.1**
ZEA pmax pmax
comp=E,800nm,6.1s
ZEA pmax pmax
comp=Z,1μm,6.5s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=E,40nm,1.4s
ZEA pmax pmax
comp=Z,70nm,1.4s
ZEA pmax pmax
comp=E,600nm,5.3s
ZEA pmax pmax
comp=N,200nm,2.9s
ZEA pmax pmax
comp=Z,700nm,5.8s
ZEA smax smax
comp=E,2μm,8.8s
ZEA smax smax
comp=N,3μm,7.0s
E24K Your Creek 24.01 39 P **P** **20 12 51.3 0.0**
baz=257,SNR=144
E24K S **S** **20 17 06.3 -0.8**
baz=257
P23K Montague Islan 24.04 59 P **P** **20 12 50.8 -0.8**
baz=277,SNR=24
P23K S **S** **20 17 07.1 -0.4**
baz=277
GLI Glacier Island 24.10 57 P **P** **20 12 50.4 -1.8**
GLI IAmb IAmb 20 13 00.6
comp=Z,276nm,1.4s
GLI Glacier Island 24.10 57 P **P** **20 12 50.5 -1.6**
baz=275,SNR=62
GLI S **S** **20 17 06.5 -2.1**
baz=275
TIXI Tiksi 24.11 330 P **P** **20 12 51.4 -0.8**
comp=Z,96nm,1.0s,baz=92,slow=24,SNR=29
TIXI PcP **PcP** **20 16 31.7 -0.8**
comp=Z,5.2nm,0.5s,baz=27,slow=2.3,SNR=6.7
TIXI S **S** **20 17 08.9 +0.4**
comp=Z,4.6nm,0.9s,baz=271,slow=23,SNR=1.5
TIXI LR LR 20 22 21.3
comp=Z,5μm,18.6s,baz=174,slow=37
comp=Z,96nm,1.0s
TIXI Tiksi 24.11 330 P **P** **20 12 50.6 -1.5**
TIXI IAmb IAmb 20 13 05.4
comp=Z,80nm,0.8s
F24K Squaw Lake 24.12 40 P **P** **20 12 52.1 -0.2**
baz=259,SNR=54
F24K S **S** **20 17 09.0 +0.1**
baz=259
HDA Harding Lake 24.12 48 P **P** **20 12 50.4 -1.9**
HDA IAmb IAmb 20 12 55.1
comp=Z,97nm,0.8s
HDA Harding Lake 24.12 48 P **P** **20 12 50.8 -1.5**
baz=267,SNR=92
HDA S **S** **20 17 07.3 -1.5**
baz=267
HDA S **S** **20 17 07.3 -1.5**
baz=267
G24K Hadweenzic Riv 24.14 42 P **P** **20 12 52.4 0.0**
baz=261,SNR=37
G24K S **S** **20 17 10.6 +1.5**
baz=261
D24K Happy Valley 24.16 36 P **P** **20 12 52.3 -0.2**
baz=254
IL31 24.17 47 P **P** **20 12 51.3 -1.4**
IL31 IAmb IAmb 20 12 54.8
comp=Z,108nm,0.8s
ILAR Eielson Array 24.17 47 P **P** **20 12 52.1 -0.6**
comp=Z,66nm,0.7s,baz=248,slow=7.2,SNR=236
ILAR PcP **PcP** **20 16 32.4 -0.3**
comp=Z,3.0nm,0.9s,baz=268,slow=2.6,SNR=3.6
ILAR S **S** **20 17 10.5 +0.9**
comp=Z,0.7nm,0.9s,baz=247,slow=20,SNR=1.7
ILAR ScP **ScP** **20 20 11.6 +1.5**
comp=Z,0.7nm,0.8s,baz=289,slow=2.7,SNR=2.1
ILAR LR LR 20 22 49.1
comp=Z,7μm,18.4s,baz=256,slow=38
comp=Z,66nm,0.7s
ILAR Eielson Array 24.17 47 P **P** **20 12 50.9 -1.9**
C24K Franklin Bluff 24.36 35 P **P** **20 12 53.8 -0.6**
baz=253,SNR=20
C24K S **S** **20 17 11.4 -1.1**
baz=253
FID Port Fidalgo 24.41 57 P **P** **20 12 54.0 -1.1**
FID IAmb IAmb 20 13 05.6
comp=Z,165nm,1.1s
HIN Hinchinbrook I 24.44 58 P **P** **20 12 54.6 -0.7**
HIN IAmb IAmb 20 13 04.3
comp=Z,148nm,1.2s
M24K Tolsona, Glenn 24.46 54 P **P** **20 12 54.9 -0.6**
M24K Tolsona, Glenn 24.46 54 P **P** **20 12 55.1 -0.4**
baz=273,SNR=149
M24K S **S** **20 17 14.3 -0.2**
baz=273
K24K Donnelly Dome 24.61 50 P **P** **20 12 56.2 -0.6**
baz=269,SNR=32
K24K S **S** **20 17 16.3 -0.5**
baz=269
KLU Klutina 24.62 55 P **P** **20 12 55.9 -1.0**
KLU IAmb IAmb 20 13 02.2
comp=Z,122nm,0.8s
KLU Klutina 24.62 55 P **P** **20 12 56.2 -0.7**
baz=274,SNR=100
KLU S **S** **20 17 18.1 +1.0**
baz=274
Q23K Middleton Isla 24.64 60 P **P** **20 12 56.7 -0.3**
Q23K Middleton Isla 24.64 60 P **P** **20 12 56.9 -0.2**
baz=279
Q23K S **S** **20 17 15.5 -1.7**
baz=279
MID Middleton Isla 24.64 60 P **P** **20 12 56.8 -0.3**
MID Middleton Isla 24.64 60 P **P** **20 12 56.8 -0.3**
MID pmax pmax
comp=Z,437nm,1.4s
DIV Divide 24.72 56 P **P** **20 12 56.4 -1.5**
DIV IAmb IAmb 20 13 08.2
comp=Z,179nm,1.2s
H25K Birch Creek 24.74 44 P **P** **20 12 57.1 -0.8**
baz=264,SNR=43
H25K S **S** **20 17 20.8 +2.1**
baz=264
PAX Paxson 24.76 52 P **P** **20 12 57.4 -0.9**
PAX IAmb IAmb 20 13 09.1
comp=Z,95nm,1.0s
PAX Paxson 24.76 52 P **P** **20 12 57.4 -0.9**
PAX pmax pmax
comp=Z,95nm,1.0s
PAX Paxson 24.76 52 P **P** **20 12 57.3 -0.9**
baz=272,SNR=120
PAX S **S** **20 17 19.8 +0.5**
baz=272
EYAK Cordova Ski Ar 24.79 57 P **P** **20 12 57.5 -0.9**
EYAK IAmb IAmb 20 13 07.9
comp=Z,115nm,1.1s
EYAK Cordova Ski Ar 24.79 57 P **P** **20 12 57.4 -1.0**
baz=277,SNR=36
EYAK S **S** **20 17 19.5 -0.2**
baz=277
PRP Porcupine Dome 24.79 46 P **P** **20 12 57.6 -1.0**
PRP Porcupine Dome 24.79 46 P **P** **20 12 57.6 -1.0**
baz=266,SNR=385
PRP S **S** **20 17 19.4 -0.5**
baz=266
J25K Salcha River, 24.81 48 P **P** **20 12 56.6 -2.1**
J25K IAmb IAmb 20 13 01.8
comp=Z,86nm,0.9s
J25K Salcha River, 24.81 48 P **P** **20 12 56.9 -1.7**
baz=268,SNR=152
J25K S **S** **20 17 18.4 -1.7**
baz=268
HARP HAARP 24.92 53 P **P** **20 12 59.5 -0.2**
baz=273,SNR=22
HARP S **S** **20 17 22.1 +0.2**
baz=273

F25K Christian Rive 24.98 41 P **P** **20 12 59.9 -0.2**
baz=261,SNR=108
F25K S **S** **20 17 23.5 +0.8**
baz=261
FYU Fort Yukon 25.00 43 P **P** **20 12 59.8 -0.5**
RIDG Independent Ri 25.02 50 P **P** **20 12 58.8 -1.8**
RIDG IAmb IAmb 20 13 02.0
comp=Z,101nm,0.9s
RIDG Independent Ri 25.02 50 P **P** **20 12 58.8 -1.8**
baz=270,SNR=86
RIDG S **S** **20 17 21.3 -2.2**
baz=270
D25K Kavik River 25.04 36 P **P** **20 13 00.3 -0.4**
baz=257,SNR=48
D25K S **S** **20 17 23.1 -0.6**
baz=257
E25K Arctic Village 25.09 39 P **P** **20 13 00.5 -0.6**
baz=260,SNR=54
E25K S **S** **20 17 23.8 -0.7**
baz=260
JMM Marumori 25.23 240 P **P** **20 13 02.4 -0.1**
JMM IAmb IAmb 20 13 08.4
comp=Z,82nm,1.0s
N25K Chitina, Valde 25.24 55 P **P** **20 13 01.6 -1.0**
N25K Chitina, Valde 25.24 55 P **P** **20 13 01.8 -0.8**
baz=275,SNR=62
N25K S **S** **20 17 25.9 -1.2**
baz=275
BMRM Bremner River 25.30 56 P **P** **20 13 02.2 -0.9**
BMRM Bremner River 25.30 56 P **P** **20 13 02.2 -0.9**
baz=276,SNR=53
BMRM S **S** **20 17 27.4 -0.6**
baz=276
RAGM Ragged Mountai 25.34 58 P **P** **20 13 03.5 0.0**
BMAR Burnt Mountain 25.36 41 P **P** **20 13 03.3 -0.3**
DOT Dot Lake 25.38 50 P **P** **20 13 02.0 -1.7**
SCRK Sand Creek 25.40 49 P **P** **20 13 02.2 -1.8**
SCRK IAmb IAmb 20 13 14.1
comp=Z,155nm,1.1s
SCRK Sand Creek 25.40 49 P **P** **20 13 02.6 -1.5**
baz=271,SNR=146
SCRK S **S** **20 17 27.1 -2.6**
baz=271
KAIM Kayak Island 25.53 59 P **P** **20 13 04.0 -1.2**
KAIM Kayak Island 25.53 59 P **P** **20 13 04.9 -0.2**
baz=279,SNR=28
KAIM S **S** **20 17 31.2 -0.3**
baz=279
HMT Hamilton 25.55 58 P **P** **20 13 04.4 -0.9**
HMT IAmb IAmb 20 13 19.7
comp=Z,181nm,1.2s
MENT Mentasta 25.56 52 P **P** **20 13 05.2 -0.2**
MENT IAmb IAmb 20 13 10.2
comp=Z,63nm,0.6s
F26K Sheenjek River 25.56 41 P **P** **20 13 05.5 +0.2**
baz=263,SNR=35
F26K S **S** **20 17 34.0 +2.1**
baz=263
J26L Joseph Creek 25.59 48 P **P** **20 13 03.5 -2.2**
J26L IAmb IAmb 20 13 18.6
comp=Z,125nm,1.1s
J26L Joseph Creek 25.59 48 P **P** **20 13 03.6 -2.1**
baz=270,SNR=135
J26L S **S** **20 17 32.6 +0.1**
baz=270
G26K Porcupine Rive 25.61 42 P **P** **20 13 05.7 -0.1**
baz=265,SNR=107
G26K S **S** **20 17 34.3 +1.6**
baz=265
GLB Gilahina Butte 25.63 55 P **P** **20 13 05.2 -1.0**
GLB IAmb IAmb 20 13 10.9
comp=Z,91nm,0.8s
C26K Camden Bay 25.68 35 P **P** **20 13 06.5 +0.1**
baz=257
C26K S **S** **20 17 34.1 +0.5**
baz=257
USRK Ussuriysk Ar. 25.71 261 P **P** **20 13 06.7 -0.2**
comp=Z,6.5nm,0.7s,baz=64,slow=6.1,SNR=11
USRK PcP **PcP** **20 16 36.0 -0.5**
comp=Z,3.2nm,0.8s,baz=67,slow=2.2,SNR=4.0
USRK S **S** **20 17 35.0 +0.4**
comp=Z,1.3nm,0.8s,baz=313,slow=52,SNR=1.9
USRK ScP **ScP** **20 20 15.7 +1.0**
comp=Z,2.7nm,0.9s,baz=114,slow=7.1,SNR=5.6
USRK LR LR 20 22 31.7
comp=Z,11μm,19.6s,baz=287,slow=35
comp=Z,6.5nm,0.7s
USRK Ussuriysk Ar. 25.71 261 P **P** **20 13 06.4 -0.5**
L26K Log Cabin Wild 25.72 51 P **P** **20 13 06.3 -0.6**
L26K Log Cabin Wild 25.72 51 P **P** **20 13 05.9 -1.0**
baz=273,SNR=34
L26K S **S** **20 17 35.5 +1.0**
baz=273
I26K Coal Creek Min 25.77 46 P **P** **20 13 05.9 -1.4**
I26K IAmb IAmb 20 13 41.0
comp=Z,152nm,1.6s
I26K Coal Creek Min 25.77 46 P **P** **20 13 05.1 -2.2**
baz=269
BERG Berg Lake 25.82 57 P **P** **20 13 06.4 -1.3**
BERG IAmb IAmb 20 13 22.7
comp=Z,185nm,1.2s
SUCK Suckling Hills 25.83 58 P **P** **20 13 07.6 -0.2**
M26K Nabesna, AK 25.93 53 P **P** **20 13 08.2 -0.5**
M26K IAmb IAmb 20 13 28.6
comp=Z,244nm,1.9s
M26K Nabesna, AK 25.93 53 P **P** **20 13 08.0 -0.8**
baz=275,SNR=32
M26K S **S** **20 17 39.3 +1.4**
baz=275
MCARA McCarthy VSAT 26.02 55 P **P** **20 13 09.2 -0.3**
MCARA McCarthy VSAT 26.02 55 P **P** **20 13 07.5 -2.0**
baz=277,SNR=27
MCARA S **S** **20 17 38.4 -0.7**
baz=277
C27K Jago River 26.02 36 P **P** **20 13 09.2 -0.4**
baz=259,SNR=21
C27K S **S** **20 17 38.9 -0.2**
baz=259
BGLC Bering Glacier 26.07 58 P **P** **20 13 09.9 0.0**
baz=279
BGLC S **S** **20 17 40.8 +0.9**
baz=279
TGL Tana Glacier 26.19 57 P **P** **20 13 10.6 -0.6**
TGL IAmb IAmb 20 13 20.5
comp=Z,111nm,1.1s
WAX Waxell Ridge 26.23 57 P **P** **20 13 11.1 -0.4**
WAX IAmb IAmb 20 13 29.7
comp=Z,65nm,0.9s
K27K Chicken 26.24 49 P **P** **20 13 10.7 -0.8**
K27K Chicken 26.24 49 P **P** **20 13 11.4 -0.2**
baz=272
SNH Sunshine Point 26.28 58 P **P** **20 13 11.9 0.0**
JSD Sado 26.40 244 P **P** **20 13 13.1 0.0**
JSD IAmb IAmb 20 13 17.8
comp=Z,88nm,0.9s
L27K Beaver Creek, 26.41 51 P **P** **20 13 12.6 -0.5**
L27K IAmb IAmb 20 13 17.9
comp=Z,104nm,0.8s
L27K Beaver Creek, 26.41 51 P **P** **20 13 13.3 +0.2**
baz=274,SNR=159
L27K S **S** **20 17 45.3 -0.1**
baz=274
I27K Kandik River 26.42 45 P **P** **20 13 11.9 -1.3**
baz=269,SNR=21
I27K S **S** **20 17 45.9 +0.3**
baz=269
BCAR Beaver Creek A 26.43 51 P **P** **20 13 12.8 -0.5**
G27K Doyon Strip 26.44 43 P **P** **20 13 11.8 -1.6**
baz=267,SNR=67
G27K S **S** **20 17 48.0 +2.1**
baz=267
M27K Edge Creek, AK 26.45 53 P **P** **20 13 12.6 -1.0**
M27K IAmb IAmb 20 13 47.1
comp=Z,278nm,1.8s
M27K Edge Creek, AK 26.45 53 P **P** **20 13 11.4 -2.2**
baz=276,SNR=48
M27K S **S** **20 17 46.9 +0.6**
baz=276
ISLE Juniper Island 26.45 57 P **P** **20 13 12.6 -1.1**
ISLE IAmb IAmb 20 13 22.8
comp=Z,103nm,0.9s
H27K Steamboat Moun 26.47 44 P **P** **20 13 12.4 -1.2**
baz=268,SNR=60
H27K S **S** **20 17 47.7 +1.4**
baz=268
E27K Coleen River 26.57 40 P **P** **20 13 13.9 -0.6**
baz=264,SNR=9.8

E27K S **S** **20 17 48.9 +1.0**
baz=264
EGAK Eagle 26.62 47 P **P** **20 13 13.1 -1.8**
EGAK IAmb IAmb 20 13 19.0
comp=Z,110nm,0.8s
EGAK Eagle 26.62 47 P **P** **20 13 13.6 -1.3**
baz=272,SNR=110
MESA MESA 26.71 58 P **P** **20 13 15.9 -0.2**
MESA IAmb IAmb 20 13 43.1
comp=Z,143nm,1.1s
MESA MESA 26.71 58 P **P** **20 13 15.8 -0.3**
baz=280,SNR=11
MESA S **S** **20 17 52.4 +1.8**
baz=280
YAH Yahtse 26.78 57 P **P** **20 13 16.6 -0.1**
YAH IAmb IAmb 20 13 19.7
comp=Z,94nm,0.7s
JYT Yasato 26.80 239 P **P** **20 13 16.8 +0.1**
JYT IAmb IAmb 20 13 39.2
comp=Z,88nm,1.2s
MDJ Mudanjiang 26.85 265 P **P** **20 13 16.7 -0.5**
MDJ IAmb IAmb 20 13 32.8
comp=Z,143nm,1.7s
MDJ Mudanjiang 26.85 265 P **P** **20 13 17.0 -0.2**
MDJ S **S** **20 17 51.0 -1.6**
MDJ pmax pmax
comp=Z,26nm,0.9s
MDJ pmax pmax
comp=Z,480nm,4.5s
MDJ LR LR
comp=Z,10μm,22.6s
MDJ LR LR
comp=Z,7μm,14.7s
MDJ LR LR
comp=Z,7μm,19.1s
CTG Chitna Glacier 26.88 56 P **P** **20 13 16.7 -0.8**
baz=279,SNR=15
CTGM Chitina Glacie 26.89 56 P **P** **20 13 17.1 -0.4**
CTGM IAmb IAmb 20 13 52.5
comp=Z,126nm,1.4s
BVCY Beaver Creek 26.91 53 S **S** **20 17 54.6 +1.2**
baz=276
TABL Table Mountain 27.06 57 P **P** **20 13 18.1 -1.2**
TABL IAmb IAmb 20 13 31.5
comp=Z,179nm,1.2s
LOGN Logan Glacier 27.07 56 P **P** **20 13 17.5 -1.7**
LOGN IAmb IAmb 20 13 59.7
comp=Z,112nm,1.5s
YUK3 Moose Creek 27.18 54 P **P** **20 13 19.4 -0.9**
baz=278,SNR=32
YUK3 S **S** **20 17 58.7 +0.8**
baz=278
MSHR Mys Shultsa 27.19 259 *i* P **P** **20 13 22.7 +2.5**
MSHR pmax pmax
comp=Z,44nm,1.1s
MSHR MLR MLR
comp=Z,2μm,17.0s
DAWY Dawson 27.42 49 P **P** **20 13 20.8 -1.5**
DAWY IAmb IAmb 20 13 28.4
comp=Z,131nm,0.8s
DAWY Dawson 27.42 49 P **P** **20 13 20.7 -1.5**
baz=274,SNR=124
O28M Mount Upton 27.47 56 P **P** **20 13 21.7 -1.2**
baz=280,SNR=28
O28M S **S** **20 18 02.7 +0.1**
baz=280
BNX BinXian 27.48 268 ⇓P **P** **20 13 22.9 0.0**
BNX pP **pP** **20 13 27.4 -0.3**
BNX sP **sP** **20 13 29.7 +0.6**
BNX PP **PnPn** **20 14 10.4 +2.8**
BNX S **S** **20 18 03.9 +1.3**
BNX pmax pmax
comp=Z,6.0nm,0.5s
BNX pmax pmax
comp=Z,340nm,4.4s
BNX LR LR
comp=Z,10μm,15.2s
BNX LR LR
comp=Z,6μm,16.1s
BNX LR LR
comp=Z,4μm,17.7s
MAJO Matsushiro 27.56 242 P **P** **20 13 22.9 -0.8**
MAJO IAmb IAmb 20 13 27.4
comp=Z,107nm,0.8s
MAJO Matsushiro 27.56 242 *c i*P **P** **20 13 24.9 +1.3**
MAJO pmax pmax
comp=Z,123nm,0.9s
MAJO Matsushiro 27.56 242 P **P** **20 13 24.9 +1.3**
MJAR Matsushiro Arr 27.56 242 P **P** **20 13 22.4 -1.2**
comp=Z,28nm,0.9s,baz=37,slow=8.9,SNR=29
MJAR PcP **PcP** **20 16 40.0 -1.1**
comp=Z,2.7nm,0.9s,baz=53,slow=3.1,SNR=3.1
MJAR S **S** **20 18 03.9 0.0**
comp=Z,0.6nm,0.5s,baz=358,slow=14,SNR=1.3
MJAR ScP **ScP** **20 20 21.7 +1.3**
comp=Z,2.1nm,1.1s,baz=345,slow=3.8,SNR=1.5
MJAR LR LR 20 26 15.0
comp=Z,1μm,18.3s,baz=56,slow=41
comp=Z,28nm,0.9s
PCA Pinnacle 27.56 57 P **P** **20 13 22.8 -0.7**
PCA IAmb IAmb 20 13 32.1
comp=Z,116nm,1.0s
PINM Pinnacle 27.56 57 P **P** **20 13 22.3 -1.3**
baz=281,SNR=12
I29M Ogilvie Camp, 27.80 46 P **P** **20 13 24.3 -1.3**
I29M Ogilvie Camp, 27.80 46 P **P** **20 13 24.1 -1.5**
baz=273,SNR=11
BCPM Bancas Point 27.90 58 P **P** **20 13 25.9 -0.5**
BCPM IAmb IAmb 20 13 38.4
comp=Z,82nm,0.9s
J29M Klondike Camp 27.90 48 P **P** **20 13 25.4 -1.1**
J29M IAmb IAmb 20 13 43.0
comp=Z,56nm,0.8s
M29M Somme Creek 28.02 52 P **P** **20 13 26.8 -0.8**
baz=278,SNR=22
M29M S **S** **20 18 12.4 +1.5**
baz=278
PNL Peninsula 28.07 58 P **P** **20 13 27.1 -1.0**
baz=283
YUK4 Talbot Arm 28.11 55 P **P** **20 13 26.8 -1.7**
baz=280,SNR=18
YUK4 S **S** **20 18 13.7 +1.2**
baz=280
K29M Barlow Dome 28.27 49 P **P** **20 13 29.3 -0.5**
baz=276,SNR=96
K29M S **S** **20 18 14.6 -0.2**
baz=276
YUK6 Outpost Mounta 28.32 55 P **P** **20 13 29.2 -1.2**
baz=281,SNR=13
YUK6 S **S** **20 18 14.6 -1.3**
baz=281
O29M Mount Kennedy 28.34 57 P **P** **20 13 29.2 -1.4**
baz=282,SNR=19
O29M S **S** **20 18 16.0 -0.1**
baz=282
EPYK Eagle Plains 28.41 44 P **P** **20 13 30.7 -0.3**
EPYK Eagle Plains 28.41 44 P **P** **20 13 30.0 -1.0**
baz=272,SNR=47
EPYK S **S** **20 18 17.3 +0.4**
baz=272
HYT Haines Junctio 28.75 55 P **P** **20 13 34.3 +0.1**
HYT IAmb IAmb 20 13 43.8
comp=Z,80nm,0.8s
HYT Haines Junctio 28.75 55 P **P** **20 13 34.6 +0.4**
baz=282,SNR=34
HYT S **S** **20 18 22.3 -0.2**
baz=282
M30M Minto, Yukon 28.76 52 P **P** **20 13 34.0 -0.2**
M30M Minto, Yukon 28.76 52 P **P** **20 13 34.5 +0.3**
baz=279,SNR=17
M30M S **S** **20 18 23.8 +1.3**
baz=279
N30M Aishikik Lake 28.82 54 P **P** **20 13 33.2 -1.6**
baz=281,SNR=6.9
N30M S **S** **20 18 24.8 +1.3**
baz=281
P29M Windy Craggy 28.90 58 P **P** **20 13 35.5 0.0**
P29M IAmb IAmb 20 13 50.0
comp=Z,97nm,1.1s
P29M Windy Craggy 28.90 58 P **P** **20 13 33.6 -1.8**
baz=284,SNR=7.5
P29M S **S** **20 18 25.1 +0.3**
baz=284
P30M Million Dollar 29.17 57 P **P** **20 13 36.8 -1.0**
baz=284,SNR=11
P30M S **S** **20 18 30.1 +1.1**
baz=284

N31M Braeburn, Yuko 29.43 54 P **P** **20 13 41.9 +1.8**
N31M Braeburn, Yuko 29.43 54 P **P** **20 13 40.2 +0.1**
baz=282,SNR=6.5
N31M S **S** **20 18 33.6 +0.5**
baz=282
O30N Mendenhall 29.44 55 P **P** **20 13 39.2 -1.0**
baz=283,SNR=13
O30N S **S** **20 18 33.6 +0.5**
baz=283
F31M Tsiigehtchic 29.54 41 P **P** **20 13 39.7 -1.2**
baz=273,SNR=14
F31M S **S** **20 18 34.6 +0.3**
baz=273
INK Inuvik 29.58 40 P **P** **20 13 41.1 -0.1**
comp=Z,34nm,0.6s,baz=283,slow=6.9,SNR=29
INK S **S** **20 18 36.5 +1.5**
comp=Z,1.4nm,0.3s,baz=55,slow=19,SNR=1.4
INK LR LR 20 26 50.0
comp=Z,2µm,18.9s,baz=261,slow=39
comp=Z,34nm,0.6s
INK Inuvik 29.58 40 P **P** **20 13 40.6 -0.7**
INK Inuvik 29.58 40 P **P** **20 13 40.6 -0.7**
baz=272,SNR=16
INK S **S** **20 18 35.5 +0.5**
baz=272
PLBC Pleasant Camp 29.62 58 P **P** **20 13 41.5 -0.2**
baz=285
PLBC S **S** **20 18 37.0 +1.0**
baz=285
CN2 Changchun 29.74 267 P **P** **20 13 42.5 -0.5**
CN2 S **S** **20 18 34.0 -4.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,8µm,14.0s
CN2 LR LR
comp=Z,5µm,14.0s
CN2 LR LR
comp=Z,4µm,14.0s
BOD Bodaibo 29.88 299 *e*P **P** **20 13 43.2 -0.8**
BOD pmax pmax
comp=Z,65nm,1.5s
M31M Drury Creek, Y 29.93 52 P **P** **20 13 44.8 +0.2**
M31M IAmb IAmb 20 13 48.1
comp=Z,67nm,0.8s
M31M Drury Creek, Y 29.93 52 P **P** **20 13 44.1 -0.5**
baz=282,SNR=75
M31M S **S** **20 18 42.5 +1.7**
baz=282
WHY Whitehorse 30.05 55 P **P** **20 13 45.6 0.0**
WHY Whitehorse 30.05 55 P **P** **20 13 45.6 0.0**
baz=284,SNR=6.8
WHY S **S** **20 18 44.7 +1.9**
baz=284
HIA Hailar 30.10 280 P **P** **20 13 45.5 -0.6**
HIA Hailar 30.10 280 P **P** **20 13 45.6 -0.6**
SKAG Skagway 30.13 58 P **P** **20 13 47.0 +0.7**
SKAG Skagway 30.13 58 P **P** **20 13 45.6 -0.7**
baz=286,SNR=5.3
SKAG S **S** **20 18 46.7 +2.8**
baz=286
FARO Faro, Yukon 30.40 52 P **P** **20 13 47.9 -0.8**
baz=282,SNR=11
FARO S **S** **20 18 50.0 +1.8**
baz=282
BESE Bessie Mountai 30.62 59 P **P** **20 13 50.7 0.0**
BESE IAmb IAmb 20 14 00.5
comp=Z,72nm,1.2s
N32M Quiet Lake 30.78 54 P **P** **20 13 51.9 -0.2**
baz=284
SIT Sitka 30.86 62 P **P** **20 13 52.4 -0.3**
SIT IAmb IAmb 20 14 06.7
comp=Z,101nm,1.1s
SIT Sitka 30.86 62 P **P** **20 13 52.4 -0.3**
SIT pmax pmax
comp=Z,101nm,1.1s
SIT Sitka 30.86 62 P **P** **20 13 52.9 +0.2**
baz=290
SIT S **S** **20 18 57.5 +2.1**
baz=290
R32K Eaglecrest 30.88 60 P **P** **20 13 52.5 -0.4**
baz=288,SNR=8.0
R32K S **S** **20 18 58.8 +3.1**
baz=288
P32M Atlin 30.89 57 P **P** **20 13 53.6 +0.5**
baz=286,SNR=20
P32M S **S** **20 18 58.4 +2.5**
baz=286
JIS Juneau Island 30.95 60 P **P** **20 13 54.0 +0.5**
JIS IAmb IAmb 20 14 03.6
comp=Z,93nm,1.0s
HHU Hamhung 30.99 259 P **P** **20 13 54.9 +0.9**
HHU pP **sP** **20 14 00.5 +0.2**
HHU S **S** **20 19 00.7 +3.1**
HHU AmB
comp=Z,288nm,2.7s
HHU AMS AMS
comp=N,6µm,14.8s
HHU AMS AMS
comp=E,4µm,8.3s
HHU AMS AMS
comp=Z,6µm,14.0s
P33M Teslin, Yukon 31.15 55 P **P** **20 13 55.8 +0.4**
P33M IAmb IAmb 20 14 05.6
comp=Z,75nm,1.0s
P33M Teslin, Yukon 31.15 55 P **P** **20 13 55.3 0.0**
baz=286,SNR=31
P33M S **S** **20 19 02.3 +2.3**
baz=286
MMPY Sheldon Lake, 31.26 51 P **P** **20 13 57.4 +1.1**
baz=283,SNR=34
SEHB SEOHWA 31.70 256 P **P** **20 14 00.8 +0.4**
Q32M Nakina River 31.79 58 P **P** **20 13 59.7 -1.4**
baz=288
SNY Shenyang 32.04 265 ⇑P **P** **20 14 03.6 +0.4**
SNY S **S** **20 19 16.5 +2.5**
SNY pmax pmax
comp=Z,21nm,0.9s
SNY pmax pmax
comp=Z,430nm,5.3s
SNY LR LR
comp=Z,9µm,16.7s
SNY LR LR
comp=Z,7µm,17.5s
SNY LR LR
comp=Z,8µm,13.5s
A36M Sachs Harbour 32.26 32 P **P** **20 14 03.0 -1.9**
baz=273
R33M Jennings River 32.28 56 P **P** **20 14 06.1 +0.7**
baz=288,SNR=22
R33M S **S** **20 19 20.2 +2.3**
baz=288
CIT Chita 32.31 289 *e*P **P** **20 14 06.7 +1.1**
CIT *e* 20 14 15.5
CIT *e* 20 14 25.1
CIT *e* 20 15 14.8
CIT *e* 20 15 27.1
CIT *e*S **S** **20 19 18.8 +0.6**
CIT *e* 20 19 39.6
CIT pmax pmax
comp=Z,134nm,1.2s
KS19 Wonju Array Si 32.46 255 P **P** **20 14 07.1 +0.1**
KS19 IAmb IAmb 20 14 17.9
comp=Z,107nm,1.9s
KSRS Korea Array 32.46 255 P **P** **20 14 07.5 +0.5**
comp=Z,11nm,0.7s,baz=44,slow=8.9,SNR=46
KSRS PcP **PcP** **20 16 54.0 +0.3**
comp=Z,1.6nm,1.0s,baz=15,slow=1.9,SNR=2.8
KSRS S **S** **20 19 22.4 +1.8**
comp=Z,0.3nm,0.4s,baz=128,slow=25,SNR=1.8
KSRS ScP **ScP** **20 20 38.4 +2.1**
comp=Z,0.6nm,0.9s,baz=38,slow=4.6,SNR=1.8
KSRS LR LR 20 27 18.5
comp=Z,2µm,18.6s,baz=50,slow=36
comp=Z,11nm,0.7s
KSAR Wonju Array Be 32.49 255 P **P** **20 14 06.8 -0.4**
KSAR Wonju Array Be 32.49 255 P **P** **20 14 06.8 -0.4**
CRAG Craig 32.59 64 P **P** **20 14 08.5 +0.6**
baz=293
PYAG Pyongyang 32.59 259 P **P** **20 14 09.4 +1.3**
SUJ Sinuiju 32.62 262 P **P** **20 14 08.9 +0.6**
SUJ pP **sP** **20 14 15.2 +0.7**
SUJ S **S** **20 19 24.4 +1.4**
SUJ AmB
comp=Z,450nm,3.1s
SUJ AMS AMS
comp=N,1µm,14.6s
SUJ AMS AMS
comp=E,926nm,10.6s
SUJ AMS AMS
comp=Z,454nm,5.2s
WRAK Wrangell Islan 32.63 62 P **P** **20 14 07.3 -0.9**
WRAK IAmb IAmb 20 14 19.5
comp=Z,68nm,0.9s
WRAK Wrangell Islan 32.63 62 P **P** **20 14 08.8 +0.6**
baz=292,SNR=7.5
WRAK S **S** **20 19 26.6 +3.7**
baz=292
S34M Telegraph Cree 32.70 59 P **P** **20 14 08.4 -0.5**
baz=291,SNR=17
S34M S **S** **20 19 25.5 +1.5**
baz=291
KSCHJ Chungju 32.84 254 P **P** **20 14 09.9 -0.4**
TGTN Hyland Airport 32.91 52 P **P** **20 14 10.1 -0.6**
baz=287,SNR=14
TGTN S **S** **20 19 29.9 +2.5**
baz=287
C36M Paulatuk 32.91 37 P **P** **20 14 09.9 -0.6**
C36M Paulatuk 32.91 37 P **P** **20 14 09.8 -0.8**
baz=278,SNR=17
C36M S **S** **20 19 27.2 +0.2**
baz=278
DLBC Dease Lake 33.06 58 P **P** **20 14 13.5 +1.4**
comp=Z,35nm,1.0s,baz=297,slow=8.8,SNR=42
comp=Z,35nm,1.0s
DLBC Dease Lake 33.06 58 P **P** **20 14 13.3 +1.1**
DLBC IAmb IAmb 20 14 23.1
comp=Z,75nm,1.1s
DLBC Dease Lake 33.06 58 P **P** **20 14 12.9 +0.7**
baz=290,SNR=24
DLBC S **S** **20 19 32.5 +2.6**
baz=290
WTLY Watson Lake, Y 33.10 55 P **P** **20 14 12.8 +0.4**
WTLY Watson Lake, Y 33.10 55 P **P** **20 14 12.3 -0.1**
baz=289,SNR=12
WTLY S **S** **20 19 32.3 +2.0**
baz=289
HJU Haeju 33.30 258 P **P** **20 14 15.2 +0.9**
HJU pP **sP** **20 14 20.6 +0.1**
HJU S **S** **20 19 34.5 +0.9**
HJU AmB
comp=Z,553nm,3.8s
HJU AMS AMS
comp=N,549nm,9.7s
HJU AMS AMS
comp=E,739nm,13.0s
HJU AMS AMS
comp=Z,126nm,2.2s
V35K Ketchikan 33.43 64 P **P** **20 14 15.1 -0.1**
baz=294
V35K S **S** **20 19 39.1 +3.7**
baz=294
T35M Bob Quinn 33.48 60 P **P** **20 14 17.3 +1.5**
baz=292,SNR=15
T35M S **S** **20 19 40.7 +4.4**
baz=292
TJN Taejon 33.54 254 P **P** **20 14 17.8 +1.4**
TJN IAmb IAmb 20 14 18.5
comp=Z,74nm,0.8s
TJN Taejon 33.54 254 *ce*P **P** **20 14 17.1 +0.7**
JCJ Chichijima 33.55 226 P **P** **20 14 17.2 +0.7**
comp=Z,92nm,0.8s,baz=26,slow=8.1,SNR=12
JCJ S **S** **20 19 38.8 +1.1**
comp=Z,10nm,0.6s,baz=292,slow=23,SNR=1.2
comp=Z,92nm,0.8s
JCJ Chichijima 33.55 226 P **P** **20 14 16.3 -0.3**
H02S1 DAWSON INLET T 33.88 68 P **P** **20 14 19.9 +0.8**
SNR=5.0
WRGLY Wrigley 34.54 48 S **S** **20 19 53.8 +1.4**
baz=288
H11N2 WAKE ISLAND Hy 34.77 183 P **P** **20 14 26.9 0.0**
H11N2 T T 20 51 04.2
baz=1.4,slow=76
H11N3 WAKE ISLAND Hy 34.78 183 P **P** **20 14 27.0 0.0**
baz=173,slow=74,SNR=3.9
H11N3 T T 20 51 06.7
baz=1.4,slow=76
H11N1 WAKE ISLAND Hy 34.79 183 P **P** **20 14 27.1 0.0**
baz=340,slow=74,SNR=4.7
H11N1 T T 20 51 05.8
baz=1.4,slow=76
DL2 Dalian 35.07 263 P **P** **20 14 29.6 0.0**
DL2 S **S** **20 19 58.5 -2.4**
DL2 pmax pmax
comp=Z,22nm,1.2s
DL2 pmax pmax
comp=Z,160nm,5.2s
DL2 LR LR
comp=Z,4µm,14.2s
DL2 LR LR
comp=Z,4µm,15.3s
DL2 LR LR
comp=Z,4µm,15.2s
XLT XiLinHaoTe 35.14 275 ⇓*i*P **P** **20 14 30.1 -0.2**
XLT pP pP 20 14 34.3 -1.0
XLT sP pwP 20 14 37.5 -0.4
XLT PcP **PcP** **20 17 02.2 +0.9**
XLT S **S** **20 20 01.4 -0.8**
XLT sS pS 20 20 08.5 0.0
XLT SS **SnSn** **20 22 15.0 -3.9**
XLT pmax pmax
comp=Z,12nm,0.8s
XLT pmax pmax
comp=Z,300nm,5.7s
XLT LR LR
comp=Z,660nm,15.8s
XLT LR LR
comp=Z,5µm,15.6s
XLT LR LR
comp=Z,4µm,15.5s
WAKE Wake Island 35.22 183 P **P** **20 14 31.0 0.0**
H11S1 WAKE ISLAND Hy 35.99 183 T T 20 52 41.5
baz=1.5,slow=76,SNR=5835
H11S3 WAKE ISLAND Hy 36.01 183 T T 20 52 38.5
baz=1.5,slow=76,SNR=2760
H11S2 WAKE ISLAND Hy 36.01 183 T T 20 52 42.9
baz=1.5,slow=76
BBB Bella Bella 36.71 67 P **P** **20 14 44.2 +0.7**
comp=Z,19nm,0.8s,baz=334,slow=8.5,SNR=3.5
comp=Z,19nm,0.8s
IRK Irkutsk 37.25 294 *e*P **P** **20 14 45.8 -2.3**
IRK pmax pmax
comp=Z,94nm,3.2s
BJI Beijing 37.49 269 P **P** **20 14 51.4 +1.1**
BJI PP **PnPn** **20 16 17.2 +0.7**
BJI PcP **PcP** **20 17 08.3 +0.1**
BJI S **S** **20 20 37.3 -0.6**
BJI ScS **ScS** **20 25 02.3 -0.2**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI pmax pmax
comp=Z,370nm,5.6s
BJI LR LR
comp=Z,2µm,13.3s
BJI LR LR
comp=Z,8µm,14.4s
BJI LR LR
comp=Z,5µm,13.8s
BJT Baijiatuau 37.51 269 P **P** **20 14 50.0 -0.5**
BJT Baijiatuau 37.51 269 P **P** **20 14 50.0 -0.5**
NRIK Noril'sk 37.64 325 P **P** **20 14 50.2 -1.0**
comp=Z,12nm,0.9s,baz=80,slow=7.6,SNR=15
NRIK S **S** **20 20 37.2 -2.4**
comp=Z,1.2nm,0.3s,baz=132,slow=5.2,SNR=1.4
NRIK ScP **ScP** **20 20 55.5 +1.2**
comp=Z,1.0nm,0.3s,baz=153,slow=2.3,SNR=3.9
NRIK LR LR 20 30 51.9
comp=Z,5µm,18.4s,baz=80,slow=37
comp=Z,12nm,0.9s
NRIK Noril'sk 37.64 325 P **P** **20 14 50.2 -1.0**
NRIK Noril'sk 37.64 325 *de*P **P** **20 14 50.4 -0.8**
NRIK pmax pmax
comp=Z,28nm,1.2s
NRIK MLR MLR
comp=Z,6µm,17.0s
ULN Ulaanbaatar 38.03 286 P **P** **20 14 54.3 -0.7**
ULN Ulaanbaatar 38.03 286 *ce*P **P** **20 14 54.8 -0.2**
ULN pmax pmax
comp=Z,63nm,1.3s
SONM Songino Array 38.41 286 P **P** **20 14 57.7 -0.5**
comp=Z,31nm,0.6s,baz=60,slow=7.3,SNR=244
SONM PcP **PcP** **20 17 11.1 -0.1**
comp=Z,4.7nm,1.0s,baz=36,slow=2.3,SNR=2.9
SONM S **S** **20 20 51.8 -0.4**
comp=Z,0.1nm,0.5s,baz=235,slow=24,SNR=1.0
SONM ScS **ScS** **20 25 08.4 +0.4**
comp=Z,0.9nm,0.7s,baz=324,slow=4.1,SNR=1.0
SONM LR LR 20 32 07.7
comp=Z,6µm,18.0s,baz=58,slow=38
comp=Z,31nm,0.6s
SONM Songino Array 38.41 286 P **P** **20 14 57.2 -1.0**
YKA Yellowknife Ar 38.59 46 P **P** **20 14 58.9 -0.4**
comp=Z,19nm,0.7s,baz=294,slow=8.1,SNR=33
YKA ScP **ScP** **20 21 00.0 +1.9**
comp=Z,2.3nm,0.7s,baz=305,slow=3.7,SNR=3.8
comp=Z,19nm,0.7s
YKA Yellowknife Ar 38.59 46 P **P** **20 14 59.0 -0.3**
YKA Yellowknife Ar 38.59 46 *i*P **P** **20 14 59.4 +0.1**
ZAK Zakamensk 38.74 292 *e*P **P** **20 15 00.7 -0.2**
ZAK pmax pmax
comp=Z,31nm,1.0s
MOY Mondy 39.28 295 *e*P **P** **20 15 02.9 -2.5**
MOY pmax pmax
comp=Z,67nm,1.3s
CBB Campbell River 39.30 68 P **P** **20 15 06.1 +0.6**
HHC Hu-ho-hao-te 39.65 274 *e*P **P** **20 15 10.3 +1.7**
HHC S **S** **20 21 09.7 -1.1**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,790nm,5.8s
HHC LR LR
comp=Z,6µm,11.7s
HHC LR LR
comp=Z,9µm,11.7s
HHC LR LR
comp=Z,8µm,11.8s
RES Resolute Bay 40.01 24 LR LR 20 34 27.7
comp=Z,2µm,19.9s,baz=286,slow=40
HNS HongShan 40.10 267 ⇑P **P** **20 15 13.1 +0.9**
HNS PP **PnPn** **20 16 50.7 +2.8**
HNS S **S** **20 21 15.6 -1.8**
HNS ScS **ScS** **20 25 18.6 +0.8**
HNS pmax pmax
comp=Z,35nm,1.4s
HNS pmax pmax
comp=Z,360nm,5.8s
HNS LR LR
comp=Z,4µm,15.5s
HNS LR LR
comp=Z,7µm,14.2s
HNS LR LR
comp=Z,4µm,15.6s
JOW Kunigami 40.38 243 LR LR 20 32 49.5
comp=Z,790nm,20.7s,baz=76,slow=38
BTO Baotou 40.70 275 *e*P **P** **20 15 18.0 +0.7**
LLLB Lillooet 40.86 66 P **P** **20 15 19.1 +0.7**
SSE Sheshan 40.90 255 P **P** **20 15 17.8 -1.1**
SSE S **S** **20 21 29.6 +0.2**
SSE pmax pmax
comp=Z,18nm,0.7s
SSE pmax pmax
comp=Z,87nm,3.5s
SSE LR LR
comp=Z,990nm,19.1s
SSE LR LR
comp=Z,670nm,18.5s
C03A Quillayute Air 40.91 71 P **P** **20 15 18.4 -0.3**
C03A IAmb IAmb 20 15 29.5
comp=Z,210nm,1.4s
PGC Sidney 41.11 69 P **P** **20 15 21.2 +0.8**
TIY Taiyuan 41.21 270 *e*P **P** **20 15 24.5 +3.0**
TIY PP **PnPn** **20 17 03.4 +2.3**
TIY S **S** **20 21 36.4 +2.3**
TIY pmax pmax
comp=Z,410nm,5.7s
TIY LR LR
comp=Z,6µm,13.4s
TIY LR LR
comp=Z,5µm,14.1s
TIY LR LR
comp=Z,3µm,14.3s
B04A Port Angeles 41.42 70 P **P** **20 15 23.4 +0.3**
B04A IAmb IAmb 20 15 32.4
comp=Z,105nm,1.4s
NJ2 Nanjing 41.51 258 *e*P **P** **20 15 22.1 -1.8**
NJ2 sP **pP** **20 15 28.6 -0.2**
NJ2 S **S** **20 21 38.4 0.0**
NJ2 ScS **ScS** **20 25 26.7 +0.3**
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 pmax pmax
comp=Z,510nm,4.7s
NJ2 LR LR
comp=Z,2µm,16.1s
NJ2 LR LR
comp=Z,3µm,13.3s
NJ2 LR LR
comp=Z,4µm,18.6s
KIP Kipapa 41.54 129 P **P** **20 15 23.7 -0.4**
KIP IAmb IAmb 20 15 27.0
comp=Z,105nm,0.9s
KIP Kipapa 41.54 129 *ce*P **P** **20 15 26.2 +2.0**
KIP pmax pmax
comp=Z,180nm,1.7s
NLWA Neilton Lookou 41.61 71 P **P** **20 15 25.2 +0.6**
NLWA IAmb IAmb 20 15 34.9
comp=Z,176nm,1.5s
WISH Wishkah 41.83 71 P **P** **20 15 26.1 -0.2**
WISH IAmb IAmb 20 15 52.3
comp=Z,100nm,1.1s
E03A Lebam 42.28 72 P **P** **20 15 30.1 +0.1**
E03A IAmb IAmb 20 15 40.1
comp=Z,104nm,1.1s
D05A Enumclaw 42.77 70 P **P** **20 15 32.9 -1.1**
D05A IAmb IAmb 20 15 43.5
comp=Z,151nm,1.3s
F04D Rainier, OR 42.87 72 P **P** **20 15 32.4 -2.4**
baz=307
G03D McMinnville, O 43.26 73 P **P** **20 15 36.2 -1.7**
baz=308
LYN LuoYang 43.38 266 ⇑*i*P **P** **20 15 39.4 +0.3**
LYN PP **PcP** **20 17 24.5 -2.9**
LYN S **S** **20 22 02.8 -3.2**
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN pmax pmax
comp=Z,390nm,5.6s
LYN LR LR
comp=Z,6µm,18.5s
LYN LR LR
comp=Z,4µm,19.1s
LYN LR LR
comp=Z,3µm,17.7s
B08A Colville Reser 43.51 67 P **P** **20 15 39.8 -0.3**
I02E Swisshome, OR 43.61 75 P **P** **20 15 40.9 0.0**
I02E IAmb IAmb 20 15 44.3
comp=Z,80nm,1.1s
I02E Swisshome, OR 43.61 75 P **P** **20 15 40.8 0.0**
baz=309
COR Corvallis 43.62 74 P **P** **20 15 40.3 -0.6**
COR Corvallis 43.62 74 P **P** **20 15 40.3 -0.6**
COR pmax pmax
comp=Z,223nm,1.6s
EDM Edmonton 43.78 58 P **P** **20 15 42.3 +0.1**
H04D Lebanon 43.98 74 P **P** **20 15 43.9 +0.1**
baz=309
H04D S **S** **20 22 16.5 +2.0**
baz=309
BUCK Buck Mountain 44.04 74 P **P** **20 15 45.8 +1.4**
BUCK IAmb IAmb 20 16 33.4
comp=Z,114nm,1.5s
HOOD Mount Hood Mea 44.08 72 P **P** **20 15 45.6 +0.8**
HOOD IAmb IAmb 20 15 54.3
comp=Z,133nm,1.2s
I03D Drain, OR 44.15 75 P **P** **20 15 44.3 -0.9**
baz=309,SNR=6.3
I03D S **S** **20 22 17.0 -0.1**
baz=309
J01E Myrtle Point 44.16 76 P **P** **20 15 45.4 +0.1**
baz=310
J01E S **S** **20 22 17.8 +0.6**
baz=310
H04A Detroit Lake 44.18 73 P **P** **20 15 46.7 +1.2**
H04A IAmb IAmb 20 15 54.9
comp=Z,131nm,1.5s
G05D Wamic, OR 44.32 72 P **P** **20 15 46.1 -0.4**
baz=308

C09A Chrisman Ranch 44.41 67 P **P** **20 15 47.5 +0.2**
C09A IAmb IAmb 20 15 56.6
comp=Z,122nm,1.6s
D08A Wollman Farm, 44.52 68 P **P** **20 15 48.2 +0.1**
DBO Dodson Butte 44.58 76 P **P** **20 15 49.6 +0.9**
HAWA Hanford 44.59 70 P **P** **20 15 48.9 +0.2**
HAWA IAmb IAmb 20 15 57.4
comp=Z,59nm,1.1s
K02D Willamette Mer 44.61 76 P **P** **20 15 48.3 -0.7**
baz=310
K02D S **S** **20 22 25.0 +1.1**
baz=310
I04A Tendick Farm, 44.62 74 P **P** **20 15 48.0 -1.0**
baz=309,SNR=11
I04A S **S** **20 22 23.5 -0.4**
baz=309
F07A Phinny Hill Vi 44.68 70 P **P** **20 15 49.2 -0.2**
F07A IAmb IAmb 20 15 58.3
comp=Z,56nm,0.8s
NEW Newport 44.75 66 P **P** **20 15 50.3 +0.3**
NEW Newport 44.75 66 P **P** **20 15 50.3 +0.3**
NEW Newport 44.75 66 P **P** **20 15 48.6 -1.4**
baz=307,SNR=8.7
NEW S **S** **20 22 25.9 +0.1**
baz=307
E08A Dider Farm, El 44.79 69 P **P** **20 15 50.0 -0.2**
I05D Terrebonne, OR 44.87 73 P **P** **20 15 50.2 -0.8**
baz=309
I05D S **S** **20 22 27.0 -0.7**
baz=309
GUMO Guam 44.89 214 P **P** **20 15 50.0 -1.3**
comp=Z,55nm,0.9s,baz=45,slow=4.3,SNR=4.1
GUMO S **S** **20 22 30.5 +2.3**
comp=Z,8.1nm,0.4s,baz=236,slow=22,SNR=1.3
GUMO LR LR 20 32 58.9
comp=Z,2µm,20.3s,baz=32,slow=34
comp=Z,55nm,0.9s
L02F Cave Junction 45.03 77 P **P** **20 15 51.9 -0.3**
baz=310
HUMO Hull Mountain 45.07 76 P **P** **20 15 52.2 -0.3**
WHN Wuhan 45.20 261 ⇑P **P** **20 15 55.4 +1.7**
WHN pP **sP** **20 15 59.8 -0.2**
WHN sP **pwP** **20 16 05.1 +3.4**
WHN S **S** **20 22 33.8 +1.3**
WHN pmax pmax
comp=Z,52nm,1.0s
WHN LR LR
comp=Z,5µm,13.1s
WHN LR LR
comp=Z,9µm,14.3s
WHN LR LR
comp=Z,8µm,14.5s
PINE Pine Mountain 45.44 73 P **P** **20 15 55.3 -0.4**
PINE IAmb IAmb 20 16 04.8
comp=Z,59nm,1.1s
G08A Pilot Rock 45.59 70 P **P** **20 15 55.7 -1.1**
J05D Fort Rock, OR 45.60 74 P **P** **20 15 56.8 -0.1**
baz=310,SNR=8.9
J05D S **S** **20 22 37.1 -1.3**
baz=310
L04D Klamath Falls 45.69 76 P **P** **20 15 57.8 +0.2**
L04D IAmb IAmb 20 16 06.5
comp=Z,85nm,1.0s
L04D Klamath Falls 45.69 76 P **P** **20 15 56.3 -1.3**
baz=311,SNR=12
L04D S **S** **20 22 40.7 +1.1**
baz=311
K04D Chiloquin, OR 45.73 75 P **P** **20 15 56.4 -1.6**
baz=310
K04D S **S** **20 22 41.3 +1.0**
baz=310
KHMM Horse Mountain 45.75 78 P **P** **20 15 58.6 +0.5**
KHMM IAmb IAmb 20 16 01.4
comp=Z,50nm,0.9s
YBH Yreka Blue Hor 45.77 77 P **P** **20 15 57.3 -0.9**
comp=Z,17nm,0.5s,baz=341,slow=8.6,SNR=20
YBH LR LR 20 34 00.6
comp=Z,2µm,19.4s,baz=308,slow=35
comp=Z,17nm,0.5s
YBH Yreka Blue Hor 45.77 77 P **P** **20 15 57.2 -1.0**
XAN Xi'an 45.81 269 ⇑P **P** **20 15 58.5 -0.1**
XAN pP pP 20 16 03.6 -0.1
XAN PP **PP** **20 17 48.6 +2.8**
XAN S **S** **20 22 38.3 -3.1**
XAN sS pS 20 22 47.7 -0.2
XAN SS **ScS** **20 25 51.5 -2.0**
XAN pmax pmax
comp=Z,14nm,1.2s
XAN pmax pmax
comp=Z,300nm,5.5s
XAN LR LR
comp=Z,5µm,14.8s
XAN LR LR
comp=Z,6µm,14.3s
XAN LR LR
comp=Z,5µm,13.2s
WALA Waterton Lakes 45.96 63 P **P** **20 15 59.7 +0.1**
NEEM North Greenlan 45.98 11 *i* P **P** **20 15 59.0 -0.7**
NEEM IAmb IAmb 20 16 03.6
comp=Z,26nm,0.7s
KBS Kingsbay 46.06 354 *e*P **P** **20 16 01.1 +1.1**
KBS IAmb IAmb 20 16 35.3
comp=Z,47nm,1.4s
K05A Summer Lake 46.15 74 P **P** **20 16 01.1 -0.2**
K05A IAmb IAmb 20 16 11.4
comp=Z,87nm,1.2s
ZAA0 Zalesovo Array 46.15 305 P **P** **20 15 60.0 -1.0**
ZALV Zalesovo Beam 46.15 305 P **P** **20 15 59.2 -1.7**
comp=Z,5.6nm,0.6s,baz=45,slow=7.3,SNR=21
ZALV PcP **PcP** **20 17 36.4 -0.2**
comp=Z,6.0nm,0.7s,baz=55,slow=2.6,SNR=4.5
ZALV ScP **ScP** **20 21 29.7 +1.2**
comp=Z,1.1nm,0.6s,baz=57,slow=5.3,SNR=2.8
ZALV LR LR 20 37 26.1
comp=Z,4µm,18.2s,baz=52,slow=39
comp=Z,5.6nm,0.6s
ZALV Zalesovo Beam 46.15 305 P **P** **20 15 59.1 -1.8**
SPA0 Spitsbergen Ar 46.46 352 *e*P **P** **20 16 03.1 0.0**
SPA0 IAmb IAmb 20 16 14.7
comp=Z,130nm,1.0s
SPITS Spitsbergen Ar 46.46 352 LR LR 20 35 43.9
comp=Z,2µm,19.8s,baz=346,slow=36
SPITS Spitsbergen Ar 46.46 352 P **P** **20 16 02.1 -1.0**
SPB2 Spitsbergen Ar 46.46 352 P **P** **20 16 02.6 -0.5**
JTMT Jette 46.57 65 P **P** **20 16 04.1 -0.4**
JTMT IAmb IAmb 20 16 17.7
comp=Z,60nm,0.9s
SSLB Suanglung 46.73 248 P **P** **20 16 06.0 +0.2**
YULB Yu-li 46.86 248 P **P** **20 16 07.2 +0.4**
YULB IAmb IAmb 20 16 18.1
comp=Z,49nm,1.2s
MOD Modoc Plateau 47.02 75 P **P** **20 16 07.9 -0.2**
J08A Circle Bar Ran 47.09 72 P **P** **20 16 08.5 -0.1**
QZH Quanzhou 47.10 252 ⇓*i* P P 20 16 15.0 +6.3
QZH S **S** **20 23 03.5 +3.7**
QZH pmax pmax
comp=Z,340nm,5.2s
QZH LR LR
comp=Z,1µm,14.7s
QZH LR LR
comp=Z,1µm,14.2s
QZH LR LR
comp=Z,2µm,15.2s
TPUB Ta-pu 47.29 248 P **P** **20 16 09.7 -0.5**
LZH Lanzhou 47.33 275 ⇓P **P** **20 16 11.2 +0.6**
LZH pP sP 20 16 16.3 -0.6
LZH PP **PP** **20 18 00.9 -0.7**
LZH ScP **ScP** **20 21 33.8 -0.2**
LZH S S 20 22 53.1 -10
LZH pmax pmax
comp=Z,120nm,1.4s
LZH pmax pmax
comp=Z,270nm,5.5s
LZH LR LR
comp=Z,9µm,14.4s
LZH LR LR
comp=Z,8µm,14.1s
LZH LR LR
comp=Z,4µm,15.5s
MSO Missoula 47.33 66 P **P** **20 16 10.8 +0.4**
MSO IAmb IAmb 20 16 19.5
comp=Z,52nm,1.2s
MSO Missoula 47.33 66 P **P** **20 16 08.4 -2.0**
baz=309
MSO S **S** **20 23 00.1 -2.9**
baz=309

GTA Gaotai 47.38 281 *e*P **P** **20 16 10.7 -0.2**
GTA pP pP 20 16 13.8 -2.3
GTA sP sP 20 16 16.7 -0.5
GTA PP **PP** **20 18 02.1 +0.2**
GTA PcS **PcS** **20 21 37.9 +1.2**
GTA S **S** **20 23 04.2 +0.3**
GTA sS sS 20 23 15.4 +4.0
GTA ScS **ScS** **20 26 04.8 +1.0**
GTA pmax pmax
comp=Z,24nm,1.0s
GTA pmax pmax
comp=Z,390nm,7.1s
GTA LR LR
comp=Z,6µm,13.5s
GTA LR LR
comp=Z,4µm,14.9s
GTA LR LR
comp=Z,6µm,15.3s
HOPS Hopland Field 47.39 80 P **P** **20 16 11.9 +1.1**
DGZ Jazzator, Alta 47.46 299 *d* P **P** **20 16 10.7 -0.8**
WVOR Wild Horse Val 47.60 73 P **P** **20 16 12.3 -0.3**
WVOR IAmb IAmb 20 16 21.3
comp=Z,87nm,1.6s
WVOR Wild Horse Val 47.60 73 P **P** **20 16 12.3 -0.3**
WVOR pmax pmax
comp=Z,87nm,1.7s
HSPB Hornsund (broa 47.63 352 *i* P **P** **20 16 12.0 -0.1**
HSPB *e*PP **PP** **20 18 05.3 +1.9**
HSPB *e*S **S** **20 23 11.0 +4.7**
HSPB *e*L L 20 36 49.5
comp=Z,3µm,20.0s
GDXM Geysers 47.67 80 P **P** **20 16 13.4 +0.3**
GDXM IAmb IAmb 20 16 22.4
comp=Z,88nm,1.5s
CNSH ChangSha 47.79 260 ⇑P **P** **20 16 14.4 +0.4**
CNSH S **S** **20 23 12.0 +2.3**
CNSH pmax pmax
comp=Z,31nm,1.0s
CNSH LR LR
comp=Z,2µm,13.9s
CNSH LR LR
comp=Z,3µm,13.4s
CNSH LR LR
comp=Z,2µm,14.3s
ORV Oroville 47.91 78 P **P** **20 16 14.5 -0.3**
ORV IAmb IAmb 20 16 23.6
comp=Z,66nm,1.6s
ORV Oroville 47.91 78 P **P** **20 16 14.5 -0.3**
ORV pmax pmax
comp=Z,66nm,1.6s
ENH Enshi 48.22 265 P **P** **20 16 17.4 0.0**
ENH IAmb IAmb 20 16 45.7
comp=Z,45nm,1.1s
PATS Pohnpei 48.28 194 P **P** **20 16 18.2 +0.3**
PLTX Planet X, Gerl 48.28 76 P **P** **20 16 17.6 -0.3**
FFC Flin Flon 48.28 51 P **P** **20 16 17.3 -0.3**
FFC IAmb IAmb 20 16 26.0
comp=Z,38nm,1.2s
BEKR Beckworth 48.34 77 P **P** **20 16 18.3 -0.1**
BEKR IAmb IAmb 20 16 27.8
comp=Z,83nm,1.6s
MFID Camas Ranch 48.52 70 P **P** **20 16 19.8 +0.2**
MFID IAmb IAmb 20 16 27.9
comp=Z,42nm,1.3s
AFDM Forest Hills D 48.62 78 P **P** **20 16 21.2 +0.8**
EGMT Eagleton 48.76 62 P **P** **20 16 21.3 -0.1**
EGMT Eagleton 48.76 62 P **P** **20 16 20.9 -0.4**
baz=310
EGMT S **S** **20 23 22.3 -0.8**
baz=310
DAG Danmarks Havn 48.88 2 *i* P **P** **20 16 22.3 +0.5**
DAG IAmb IAmb 20 16 23.2
comp=Z,22nm,0.5s
MPK Martis Peak 48.92 77 P **P** **20 16 22.7 -0.2**
MPK IAmb IAmb 20 16 25.4
comp=Z,46nm,0.7s
PAHR Pah Rah Range 49.01 76 P **P** **20 16 23.0 -0.5**
PAHR IAmb IAmb 20 16 25.8
comp=Z,85nm,1.5s
FCC Fort Churchill 49.08 43 P **P** **20 16 23.2 -0.4**
FCC IAmb IAmb 20 16 32.9
comp=Z,70nm,1.1s
FCC Fort Churchill 49.08 43 P **P** **20 16 23.2 -0.4**
FCC pmax pmax
comp=Z,70nm,1.1s
EMB Emerald Bay 49.09 78 P **P** **20 16 23.7 -0.6**
VCNR Virginia City 49.13 77 P **P** **20 16 24.7 +0.1**
VCNR IAmb IAmb 20 16 28.8
comp=Z,31nm,0.7s
HLID Hailey 49.19 69 P **P** **20 16 24.6 -0.3**
HLID Hailey 49.19 69 P **P** **20 16 24.7 -0.3**
baz=312
HLID S **S** **20 23 28.7 -0.8**
baz=312
UPNV Upernavik 49.27 16 *i* P **P** **20 16 23.3 -1.5**
UPNV IAmb IAmb 20 16 26.6
comp=Z,58nm,0.6s
PNTR Pine Nut 49.30 77 P **P** **20 16 26.1 +0.3**
PNTR IAmb IAmb 20 16 34.8
comp=Z,64nm,0.8s
BOZ Bozeman (W) 49.35 66 P **P** **20 16 26.0 -0.1**
BOZ Bozeman (W) 49.35 66 P **P** **20 16 26.0 -0.1**
BOZ pmax pmax
comp=Z,32nm,1.2s
BOZ Bozeman (W) 49.35 66 P **P** **20 16 24.5 -1.5**
baz=311,SNR=10
BOZ S **S** **20 23 31.5 -0.2**
baz=311
CMB Columbia Colle 49.58 79 P **P** **20 16 27.9 +0.2**
CMB IAmb IAmb 20 16 31.9
comp=Z,49nm,1.4s
CMB Columbia Colle 49.58 79 P **P** **20 16 27.9 +0.2**
YERR Yerington 49.58 77 P **P** **20 16 27.9 0.0**
BJO1 Bjornoya 49.64 350 *e*P **P** **20 16 28.4 +0.8**
BMN Battle Mountai 49.73 74 P **P** **20 16 29.4 +0.4**
BMN IAmb IAmb 20 16 37.9
comp=Z,88nm,1.5s
BMN Battle Mountai 49.73 74 P **P** **20 16 29.4 +0.4**
BMN pmax pmax
comp=Z,88nm,1.5s
QLMT Earthquake Lak 49.96 66 P **P** **20 16 30.2 -0.6**
YHL Hebgen Lake 50.08 66 P **P** **20 16 32.2 +0.4**
YHL IAmb IAmb 20 16 40.5
comp=Z,46nm,1.0s
KVN Kaiserville 50.18 76 P **P** **20 16 32.4 -0.1**
KVN IAmb IAmb 20 16 41.3
comp=Z,84nm,1.5s
KVN Kaiserville 50.18 76 P **P** **20 16 32.4 -0.1**
KVN pmax pmax
comp=Z,84nm,1.5s
BBGB Big Mountain B 50.21 81 P **P** **20 16 32.6 0.0**
BBGB IAmb IAmb 20 17 07.5
comp=Z,90nm,1.1s
ZSN Zaisan 50.21 299 *d* P **P** **20 16 31.7 -0.7**
ZSN *e*S **S** **20 23 44.1 +0.7**
ZSN Zaisan 50.21 299 ⇓*i* P **P** **20 16 31.7 -0.7**
baz=298
ZSN *e*S **S** **20 23 44.1 +0.7**
baz=298
RYN Ryan 50.23 77 P **P** **20 16 32.4 -0.5**
YHH Holmes Hill 50.30 66 P **P** **20 16 32.9 -0.6**
YMR Madison River 50.32 66 P **P** **20 16 33.3 -0.2**
YMR IAmb IAmb 20 16 42.2
comp=Z,120nm,1.5s
YNR Norris Junctio 50.44 66 P **P** **20 16 34.1 -0.3**
NVAR Mina Array Bea 50.49 77 P **P** **20 16 34.9 0.0**
comp=Z,10nm,0.7s,baz=296,slow=7.4,SNR=33
NVAR PcP **PcP** **20 17 52.7 -0.1**
comp=Z,6.4nm,0.9s,baz=303,slow=3.2,SNR=4.6
NVAR ScP **ScP** **20 21 49.5 +1.9**
comp=Z,0.6nm,0.8s,baz=318,slow=2.6,SNR=1.2
NVAR S **S** **20 23 51.2 +3.3**
comp=Z,0.1nm,0.4s,baz=234,slow=37,SNR=1.6
comp=Z,10nm,0.7s
LHV Little Huntoon 50.50 77 P **P** **20 16 35.2 +0.6**
LHV IAmb IAmb 20 16 45.1
comp=Z,136nm,1.7s
YFT Old Faithful 50.53 66 P **P** **20 16 35.5 +0.4**
YFT IAmb IAmb 20 16 47.0
comp=Z,49nm,0.9s
SEM Semipalatinsk 50.57 304 *e*P **P** **20 16 33.2 -2.1**
SEM *e*S **S** **20 23 47.4 -1.2**
SEM pmax pmax
comp=Z,50nm,2.1s
SEM Semipalatinsk 50.57 304 *e*P **P** **20 16 33.2 -2.1**
comp=Z,50nm,2.1s,baz=304
SEM *e*S **S** **20 23 47.5 -1.2**
baz=304
SEM LR LR 20 39 21.1
NV11 Mina Array Sit 50.57 77 P **P** **20 16 35.4 -0.1**
NV11 IAmb IAmb 20 16 38.7
comp=Z,104nm,1.8s
MDPB Devils Postpil 50.60 78 P **P** **20 16 36.5 +0.8**
MDPB IAmb IAmb 20 16 38.5
comp=Z,122nm,1.7s
ELK Elko 50.63 73 LR LR 20 35 28.7
comp=Z,1µm,21.8s,baz=306,slow=33
ELK Elko 50.63 73 P **P** **20 16 36.3 +0.4**
ELK Elko 50.63 73 P **P** **20 16 36.3 +0.4**
OMMB Old Mammoth Mi 50.66 78 P **P** **20 16 36.1 -0.1**
OMMB IAmb IAmb 20 16 45.3
comp=Z,82nm,1.7s
H17A Grant Village 50.71 66 P **P** **20 16 36.5 +0.1**
H17A IAmb IAmb 20 16 47.2
comp=Z,81nm,1.4s
MLAC Mammoth, Mammo 50.74 78 P **P** **20 16 36.8 0.0**
baz=314
IMW Indian Meadow 50.85 67 P **P** **20 16 37.7 +0.2**
Q09A Carvers 50.85 76 P **P** **20 16 38.1 +0.6**
Q09A IAmb IAmb 20 16 40.5
comp=Z,44nm,0.7s
RLMT Red Lodge 50.91 65 P **P** **20 16 38.3 +0.3**
RLMT IAmb IAmb 20 16 47.1
comp=Z,61nm,1.1s
RLMT Red Lodge 50.91 65 P **P** **20 16 37.8 -0.2**
baz=312,SNR=14
RLMT S **S** **20 23 53.7 +0.1**
baz=312
FXWY Fox Creek 50.97 67 P **P** **20 16 38.7 +0.2**
MOOW Moose Ponds 51.05 67 P **P** **20 16 38.6 -0.5**
CD2 Chengdu 51.08 270 P **P** **20 16 39.9 +0.7**
CD2 PP **PP** **20 18 36.8 +1.1**
CD2 S **S** **20 23 55.7 -0.1**
CD2 pmax pmax
comp=Z,60nm,1.3s
CD2 pmax pmax
comp=Z,290nm,5.9s
CD2 LR LR
comp=Z,3µm,16.1s
CD2 LR LR
comp=Z,5µm,14.2s
CD2 LR LR
comp=Z,4µm,14.2s
TPAW Teton Pass 51.11 67 P **P** **20 16 39.0 -0.6**
KURK Kurchatov 51.14 305 P **P** **20 16 37.8 -1.5**
KURK IAmb IAmb 20 16 40.7
comp=Z,52nm,0.8s
KURK Kurchatov 51.14 305 *ce*P **P** **20 16 38.2 -1.1**
KURK pmax pmax
comp=Z,89nm,1.3s
WMQ Urumqi 51.15 293 *e*P **P** **20 16 40.2 +0.6**
WMQ PcP **PcP** **20 17 57.5 +2.6**
WMQ S **S** **20 23 57.3 +0.8**
WMQ pmax pmax
comp=Z,57nm,0.9s
WMQ pmax pmax
comp=Z,480nm,5.9s
WMQ LR LR
comp=Z,14µm,18.9s
WMQ LR LR
comp=Z,10µm,19.9s
WMQ LR LR
comp=Z,3µm,21.1s
LOHW Long Hollow 51.22 67 P **P** **20 16 40.2 0.0**
SNOW Snow King Moun 51.24 67 P **P** **20 16 40.3 -0.2**
KURBB Kurchatov Arra 51.25 305 P **P** **20 16 39.0 -1.2**
comp=Z,32nm,0.7s,baz=53,slow=7.6,SNR=113
KURBB PcP **PcP** **20 17 53.8 -1.2**
comp=Z,4.1nm,0.7s,baz=46,slow=2.9,SNR=1.5
KURBB ScP **ScP** **20 21 51.5 +1.2**
comp=Z,1.3nm,0.9s,baz=44,slow=2.9,SNR=3.4
KURBB S **S** **20 23 54.0 -3.5**
comp=Z,0.2nm,0.5s,baz=94,slow=19,SNR=2.0
KURBB LR LR 20 39 53.7
comp=Z,1µm,18.0s,baz=30,slow=38
comp=Z,32nm,0.7s
REDW Red Top Meadow 51.25 67 P **P** **20 16 39.4 -1.2**
REDW IAmb IAmb 20 16 55.0
comp=Z,94nm,1.9s
PAGB Antelope Grade 51.26 81 P **P** **20 16 39.7 -0.8**
PAGB IAmb IAmb 20 16 49.4
comp=Z,114nm,1.7s
DGMT Dagmar 51.28 58 P **P** **20 16 40.5 0.0**
DGMT Dagmar 51.28 58 P **P** **20 16 40.1 -0.3**
baz=312,SNR=7.4
DGMT S **S** **20 23 57.2 -0.9**
baz=312
HVU Hansel Valley 51.28 70 P **P** **20 16 41.1 +0.4**
HVU Hansel Valley 51.28 70 P **P** **20 16 41.2 +0.4**
HVU pmax pmax
comp=Z,44nm,1.5s
DBG Daneborg 51.30 3 *i* P **P** **20 16 39.8 -0.3**
DBG IAmb IAmb 20 16 40.9
comp=Z,11nm,0.7s
VOG Valley Oaks Go 51.34 80 P **P** **20 16 41.5 +0.5**
baz=315
TPH Tonopah 51.35 76 P **P** **20 16 41.6 +0.3**
TPH Tonopah 51.35 76 P **P** **20 16 41.6 +0.3**
TPH pmax pmax
comp=Z,131nm,0.7s
DSP Deep Springs 51.42 78 P **P** **20 16 42.0 +0.4**
LAO LASA Array 51.45 61 P **P** **20 16 42.4 +0.6**
LAO IAmb IAmb 20 16 50.7
comp=Z,85nm,1.2s
LAO LASA Array 51.45 61 P **P** **20 16 43.2 +1.4**
baz=312
LAO LASA Array 51.45 61 P **P** **20 16 41.9 +0.1**
baz=312
LAO S **S** **20 23 59.7 -0.8**
baz=312
TIN Tinemaha, Big 51.49 78 P **P** **20 16 41.9 -0.4**
baz=315,SNR=6.4
MZP Montezuma Peak 51.52 77 P **P** **20 16 43.0 +0.3**
AHID Auburn Hatcher 51.52 68 P **P** **20 16 42.3 -0.3**
LCH Last Change Ra 51.70 78 P **P** **20 16 44.4 +0.5**
SMMC Simmler 51.70 81 P **P** **20 16 42.5 -1.3**
baz=315
BGU Big Grassy Mou 51.73 71 P **P** **20 16 43.5 -0.6**
SUMG Summit 51.79 10 P **P** **20 16 42.4 -2.0**
SUMG IAmb IAmb 20 16 59.3
comp=Z,46nm,1.0s
SUMG Summit 51.79 10 P **P** **20 16 42.4 -2.0**
SUMG Summit 51.79 10 *i* P **P** **20 16 43.7 -0.7**
VES Vestal, Richgr 51.85 80 P **P** **20 16 44.9 0.0**
baz=315
GMN Gold Mountain 51.87 77 P **P** **20 16 45.2 0.0**
MK31 Makanchi Array 51.96 299 P **P** **20 16 43.2 -2.4**
MK31 Makanchi Array 51.96 299 *i* P **P** **20 16 44.3 -1.3**
MK31 pmax pmax
comp=Z,15nm,0.6s
MKAR Makanchi Array 51.96 299 P **P** **20 16 43.9 -1.7**
comp=Z,15nm,0.7s,baz=50,slow=5.9,SNR=109
MKAR ScP **ScP** **20 21 54.3 +0.7**
comp=Z,0.8nm,0.8s,baz=54,slow=5.2,SNR=1.4
MKAR S **S** **20 24 04.5 -3.1**
comp=Z,1.0nm,0.8s,baz=193,slow=11,SNR=0.7
MKAR LR LR 20 41 17.1
comp=Z,2µm,18.1s,baz=41,slow=39
comp=Z,15nm,0.7s
MKAR Makanchi Array 51.96 299 P **P** **20 16 43.6 -2.0**
CWC Cottonwood Cre 52.01 79 P **P** **20 16 46.3 +0.1**
baz=315
CWC S **S** **20 24 09.7 +0.9**
baz=315
GRAC Grapevine Rang 52.02 78 P **P** **20 16 46.8 +0.6**
GRAC Grapevine Rang 52.02 78 P **P** **20 16 46.8 +0.6**
baz=315
GRAC S **S** **20 24 11.2 +2.5**
baz=315
HWUT Hardware Ranch 52.06 69 P **P** **20 16 46.0 -0.6**
HWUT IAmb IAmb 20 16 55.5
comp=Z,102nm,1.8s
R11A Troy Canyon, C 52.08 75 P **P** **20 16 46.0 -0.8**
R11A IAmb IAmb 20 16 55.5
comp=Z,89nm,1.7s
R11A Troy Canyon, C 52.08 75 P **P** **20 16 46.5 -0.2**
baz=314,SNR=15
R11A S **S** **20 24 11.3 +1.5**
baz=314
PKM Mcpherson Peak 52.11 81 P **P** **20 16 45.8 -1.2**

baz=316
MAKZ Makanchi 52.11 300 P P 20 16 44.3 -2.4
MAKZ Makanchi 52.11 300 P P 20 16 44.3 -2.4
MAKZ pmax pmax
comp=Z,31nm,1.0s
BCW Bitter Crk WRg 52.30 81 P P 20 16 48.6 +0.2
BCW IAmb IAmb 20 16 58.3
comp=Z,127nm,1.5s
ISA Isabella, Lake 52.33 80 P P 20 16 47.1 -1.4
ISA Isabella, Lake 52.33 80 P P 20 16 47.1 -1.4
ISA pmax pmax
comp=Z,21nm,1.2s
ISA Isabella, Lake 52.33 80 P P 20 16 48.1 -0.4
baz=315,SNR=8.8
SPR3 Spring Creek 3 52.34 74 P P 20 16 48.6 -0.2
SPR3 IAmb IAmb 20 16 59.3
comp=Z,56nm,1.2s
DUG Dugway, Tooele 52.35 71 P P 20 16 49.2 +0.5
DUG Dugway, Tooele 52.35 71 P P 20 16 49.2 +0.5
DUG pmax pmax
comp=Z,27nm,1.2s
DUG Dugway, Tooele 52.35 71 P P 20 16 47.3 -1.4
baz=314,SNR=9.9
DUG S S 20 24 12.2 -1.1
baz=314
BW06 Boulder Array 52.35 67 P P 20 16 48.5 -0.3
BW06 IAmb IAmb 20 16 58.1
comp=Z,45nm,1.1s
BW06 Boulder Array 52.35 67 P P 20 16 47.2 -1.6
baz=313,SNR=16
PD31 Pinedale Array 52.35 67 P P 20 16 48.7 -0.1
PDAR Pinedale Array 52.35 67 P P 20 16 48.5 -0.3
comp=Z,9.1nm,0.8s,baz=303,slow=2.9,SNR=23
PDAR S S 20 24 15.5 +2.0
comp=Z,0.4nm,0.7s,baz=79,slow=11,SNR=2.1
comp=Z,9.1nm,0.8s
PDAR Pinedale Array 52.35 67 P P 20 16 48.3 -0.5
GOMU GeErMu 52.46 282 P P 20 16 49.6 -0.2
GOMU PcP PcP 20 18 04.2 +3.9
GOMU S S 20 24 14.6 -0.7
GOMU pmax pmax
comp=Z,9.0nm,0.9s
GOMU pmax pmax
comp=Z,250nm,4.8s
GOMU LR LR
comp=Z,3µm,16.5s
GOMU LR LR
comp=Z,4µm,16.7s
GOMU LR LR
comp=Z,1µm,19.1s
TCUT Toone Canyon 52.48 70 P P 20 16 50.1 +0.3
S11A Rachel 52.49 76 P P 20 16 50.4 +0.6
S11A IAmb IAmb 20 18 14.7
comp=Z,92nm,1.3s
ARVC Arvin 52.51 80 P P 20 16 49.9 +0.2
baz=316
ARVC S S 20 24 17.5 +2.2
baz=316
WCT Wildcat Mounta 52.59 77 P P 20 16 50.4 0.0
CTU Camp Tracy 52.59 70 P P 20 16 50.8 +0.3
MPMC Manual Prospec 52.61 78 P P 20 16 49.5 -1.3
baz=315,SNR=15
MPMC S S 20 24 18.7 +1.6
baz=315
FURC Furnace Creek, 52.68 78 P P 20 16 50.2 -0.7
baz=315,SNR=27
FURC S S 20 24 19.7 +2.1
baz=315
TPNV Topopah Spring 52.69 77 P P 20 16 51.6 +0.3
TPNV IAmb IAmb 20 17 00.3
comp=Z,131nm,1.5s
TPNV Topopah Spring 52.69 77 P P 20 16 51.6 +0.3
TPNV pmax pmax
comp=Z,131nm,1.5s
TPNV Topopah Spring 52.69 77 P P 20 16 51.1 -0.2
baz=315,SNR=22
TPNV S S 20 24 20.0 +1.9
baz=315
GYA Guiyang 52.71 264 ⇓P P 20 16 52.7 +1.2
GYA S S 20 24 18.1 -0.4
GYA SS SS 20 27 57.3 +0.5
GYA pmax pmax
comp=Z,42nm,1.4s
GYA pmax pmax
comp=Z,200nm,3.5s
GYA LR LR
comp=Z,2µm,16.4s
GYA LR LR
comp=Z,2µm,17.4s
GYA LR LR
comp=Z,1µm,19.8s
JLU Jordanelle 52.82 70 P P 20 16 52.2 -0.1
SCZ2 Santa Cruz Isl 52.85 82 P P 20 16 51.1 -1.3
baz=316
LRMC Laurel Mtn Rad 52.91 79 P P 20 16 52.0 -0.9
baz=316,SNR=7.7
NLU North Lily Min 52.92 71 P P 20 16 52.9 -0.1
PSUT Pine Spring 52.93 74 P P 20 16 53.6 +0.6
PSUT IAmb IAmb 20 17 02.0
comp=Z,91nm,1.7s
OSI Osito Audit: C 52.93 81 P P 20 16 51.1 -1.9
baz=316
OSI S S 20 24 24.8 +3.5
baz=316
GWY Greenwater Val 52.99 78 P P 20 16 53.8 +0.3
QSM Queen of Sheba 53.03 78 P P 20 16 53.9 +0.2
PRN Pahroc Range 53.05 76 P P 20 16 53.8 0.0
PRN IAmb IAmb 20 16 56.7
comp=Z,158nm,1.8s
MPU Maple Canyon 53.12 71 P P 20 16 54.4 -0.1
EDW2 Edwards Air Fo 53.16 80 P P 20 16 52.7 -1.9
baz=316,SNR=12
EDW2 S S 20 24 26.7 +2.3
baz=316
LVZ Lovozero 53.19 340 P P 20 16 53.3 -1.1
LVZ Lovozero 53.19 340 *ce*P P 20 16 54.1 -0.3
LVZ pmax pmax
comp=Z,30nm,1.0s
ILULI Ilulissat 53.20 17 *i* P P 20 16 52.6 -1.7
ILULI IAmb IAmb 20 16 56.6
comp=Z,19nm,0.6s
BVAR Borovoye Array 53.32 312 P P 20 16 54.8 -0.8
comp=Z,20nm,0.6s,baz=52,slow=7.6,SNR=157
BVAR PcP PcP 20 18 02.0 -0.8
comp=Z,4.5nm,0.7s,baz=106,slow=3.1,SNR=0.8
BVAR LR LR 20 41 54.0
comp=Z,4µm,19.3s,baz=47,slow=39
comp=Z,20nm,0.6s
BRVK Borovoye 53.35 312 P P 20 16 54.8 -0.9
BRVK IAmb IAmb 20 16 58.8
comp=Z,107nm,1.2s
BRVK Borovoye 53.35 312 *ce*P P 20 16 54.9 -0.8
BRVK pmax pmax
comp=Z,66nm,0.8s
ARA0 ARCESS Array S 53.36 345 *e*P P 20 16 55.2 -0.4
ARA0 IAmb IAmb 20 17 06.9
comp=Z,112nm,1.7s
ARCES ARCESS Array B 53.36 345 P P 20 16 54.7 -0.8
comp=Z,12nm,0.8s,baz=27,slow=8.3,SNR=45
ARCES LR LR 20 43 49.0
comp=Z,2µm,18.2s,baz=24,slow=41
comp=Z,12nm,0.8s
ARCES ARCESS Array B 53.36 345 P P 20 16 55.0 -0.6
ARCES IAmb IAmb 20 17 07.4
comp=Z,88nm,1.6s
ARCES ARCESS Array B 53.36 345 P P 20 16 55.0 -0.6
DECC Green Verdugo 53.42 81 P P 20 16 56.4 -0.1
baz=316
SHOC Shoshone, Teco 53.42 78 P P 20 16 56.4 0.0
baz=316
SNCC San Nicolas Is 53.45 82 P P 20 16 56.3 -0.5
baz=317
SNCC S S 20 24 29.6 +1.4
baz=317
GSC Goldstone, Bar 53.54 79 P P 20 16 57.6 +0.1
GSC Goldstone, Bar 53.54 79 P P 20 16 57.6 +0.1
GSC pmax pmax
comp=Z,178nm,1.8s
GSC Goldstone, Bar 53.54 79 P P 20 16 57.2 -0.3
baz=316,SNR=26
GSC S S 20 24 31.6 +2.0
baz=316
SHPR Sheep Range 53.62 76 P P 20 16 57.8 -0.3
TCRU Three Creeks R 53.66 73 P P 20 16 59.6 +1.1
APA Apatity 53.72 340 ⇓*i* P P 20 16 52.5 -5.7
APA *i* 20 18 02.5
APA *i* S S 20 24 24.0 -6.9
APA *i* 20 26 43.0
APA pmax pmax
comp=Z,9.0nm,0.9s
APA MLR MLR
comp=Z,2µm,17.0s
BFSC Mount Baldy Ra 53.81 80 P P 20 17 00.0 +0.5
baz=316,SNR=6.9
TMUT Trail Mountain 53.86 71 P P 20 17 00.1 +0.1
TMUT IAmb IAmb 20 17 09.1
comp=Z,60nm,1.1s
MVU Marysvale 53.86 73 P P 20 17 00.4 +0.4
RDMU Red Mountain 53.87 69 P P 20 17 00.3 +0.3
RDMU IAmb IAmb 20 17 09.1
comp=Z,69nm,1.0s
MSU Marysvale 53.88 73 P P 20 17 00.5 +0.4
MSU Marysvale 53.88 73 P P 20 17 00.5 +0.4
CCUT Cedar City 53.89 74 P P 20 17 00.6 +0.4
CCUT IAmb IAmb 20 17 09.4
comp=Z,64nm,1.5s
WTNK Soaring Height 53.93 77 P P 20 17 01.3 +1.0
TUQ Turquoise Moun 53.95 78 P P 20 17 01.3 +0.8
baz=316,SNR=12
TUQ S S 20 24 37.7 +2.5
baz=316
MDND Maddock 53.95 56 P P 20 17 00.6 +0.3
MDND Maddock 53.95 56 P P 20 17 00.9 +0.6
baz=314
MDND Maddock 53.95 56 P P 20 17 00.7 +0.5
baz=314,SNR=21
MDND S S 20 24 36.7 +2.0
baz=314
CIS Catalina Islan 53.98 81 P P 20 17 00.5 -0.2
baz=317
P17A Butcher Ranch, 54.00 71 P P 20 17 01.4 +0.5
P17A IAmb IAmb 20 17 09.9
comp=Z,117nm,1.7s
SZCU Shurtz Canyon 54.02 74 P P 20 17 01.1 0.0
FRB Frobisher Bay 54.03 27 P P 20 16 59.4 -1.1
comp=Z,44nm,0.6s,baz=333,slow=8.4,SNR=35
FRB LR LR 20 43 18.3
comp=Z,1µm,19.7s,baz=323,slow=40
comp=Z,44nm,0.6s
ULM Lac du Bonnet 54.05 52 P P 20 17 00.4 -0.4
comp=Z,12nm,0.5s,baz=310,slow=7.0,SNR=10
ULM LR LR 20 40 57.2
comp=Z,3µm,18.8s,baz=319,slow=37
comp=Z,12nm,0.5s
ULM Lac du Bonnet 54.05 52 P P 20 17 00.7 -0.1
ULM Lac du Bonnet 54.05 52 P P 20 17 00.7 -0.1
K22A Casper 54.05 65 P P 20 17 00.8 -0.4
K22A Casper 54.05 65 P P 20 17 00.5 -0.7
baz=314
K22A S S 20 24 35.9 -0.5
baz=314
JETT Jettan, Norway 54.07 347 *e*P P 20 17 02.0 +1.2
JETT IAmb IAmb 20 17 04.7
comp=Z,62nm,1.2s
HEC Hector,Ludlow 54.15 79 P P 20 17 01.1 -0.8
baz=316,SNR=17
HEC S S 20 24 38.0 +0.2
baz=316
Q16A Castle Valley 54.15 72 P P 20 17 02.4 +0.3
Q16A IAmb IAmb 20 17 11.2
comp=Z,104nm,1.5s
KTK1 Kautokeino 54.17 345 *e*P P 20 17 01.1 -0.4
KTK1 IAmb IAmb 20 17 02.4
comp=Z,40nm,0.9s
TRO Tromso 54.19 347 *e*P P 20 17 02.7 +1.1
TRO IAmb IAmb 20 17 05.4
comp=Z,39nm,1.1s
MTPU Mount Pierson 54.21 73 P P 20 17 03.9 +1.2
MTPU IAmb IAmb 20 17 07.5
comp=Z,49nm,1.3s
E28A Huff 54.31 58 P P 20 17 02.9 0.0
E28A Huff 54.31 58 P P 20 17 03.0 +0.1
baz=314
RSSD Black Hills 54.33 62 P P 20 17 02.7 -0.6
RSSD IAmb IAmb 20 17 05.3
comp=Z,34nm,0.7s
RSSD Black Hills 54.33 62 P P 20 17 02.7 -0.6
RSSD pmax pmax
comp=Z,34nm,0.7s
RSSD Black Hills 54.33 62 P P 20 17 02.9 -0.3
baz=314
RSSD Black Hills 54.33 62 P P 20 17 03.5 +0.2
baz=314
RSSD S S 20 24 40.0 -0.2
baz=314
LCMT Little Creek M 54.34 75 P P 20 17 03.8 +0.4
V12A Nelson 54.35 77 P P 20 17 03.4 0.0
V12A IAmb IAmb 20 17 12.6
comp=Z,97nm,1.6s
RWWY Rawlins 54.36 66 P P 20 17 02.8 -0.8
RWWY IAmb IAmb 20 17 42.2
comp=Z,41nm,1.1s
SRU San Rafael Swe 54.37 71 P P 20 17 03.8 +0.2
SRU San Rafael Swe 54.37 71 P P 20 17 03.8 +0.2
SRU pmax pmax
comp=Z,79nm,0.9s
ELS Elsinore Mount 54.37 81 P P 20 17 02.7 -0.9
BRZS Berezniki 54.43 308 *i* P P 20 17 02.0 -1.6
BRZS *i* S S 20 24 39.9 -1.1
BRZS pmax pmax
comp=Z,45nm,1.9s
BRZS Berezniki 54.43 308 *i* P P 20 17 02.1 -1.6
comp=Z,45nm,1.9s,baz=308
BRZS *i* S S 20 24 40.0 -1.1
baz=308
MURC Murrieta 54.54 80 P P 20 17 05.1 +0.4
baz=317
MURC S S 20 24 44.2 +1.2
baz=317
PKCU Pink Cliffs 54.56 74 P P 20 17 05.3 +0.2
GMRC Granite Mounta 54.57 78 P P 20 17 05.5 +0.5
baz=316,SNR=21
GMRC S S 20 24 44.3 +0.9
baz=316
KNB Kanab 54.58 74 P P 20 17 05.5 +0.4
KNB IAmb IAmb 20 17 33.5
comp=Z,107nm,1.4s
KNB Kanab 54.58 74 P P 20 17 05.5 +0.4
KNB pmax pmax
comp=Z,107nm,1.4s
TGY Tagaytay City 54.73 241 P P 20 17 07.0 +0.8
baz=90,slow=7.5
JMIC Jan Mayen 54.76 359 LR LR 20 39 14.1
comp=Z,1µm,20.3s,baz=6.5,slow=35
O20A White River Ci 54.90 69 P P 20 17 07.8 +0.4
O20A IAmb IAmb 20 17 16.9
comp=Z,52nm,0.9s
O20A White River Ci 54.90 69 P P 20 17 07.6 +0.2
baz=315,SNR=10
BELC Belle Mtn. Jos 54.94 79 P P 20 17 07.6 -0.2
baz=317,SNR=16
PFO Pinyon Flats O 54.96 80 P P 20 17 07.4 -0.4
comp=Z,5.0nm,0.6s,baz=326,slow=12,SNR=8.2
PFO LR LR 20 38 37.9
comp=Z,1µm,19.3s,baz=298,slow=34
comp=Z,5.0nm,0.6s
PFO Pinyon Flats O 54.96 80 P P 20 17 07.5 -0.4
PFO IAmb IAmb 20 17 16.2
comp=Z,50nm,1.5s
PFO Pinyon Flats O 54.96 80 P P 20 17 08.1 +0.3
baz=317,SNR=7.1
PFO S S 20 24 48.2 -0.5
baz=317
TPFO Pinon Flats 54.96 80 P P 20 17 08.1 +0.2
baz=317,SNR=9.2
TPFO S S 20 24 49.7 +0.8
baz=317
PMD Palm Desert 54.98 80 P P 20 17 06.9 -0.9
109C Camp Elliot, M 55.11 81 P P 20 17 08.0 -0.8
109C IAmb IAmb 20 17 17.5
comp=Z,39nm,1.1s
109C Camp Elliot, M 55.11 81 P P 20 17 08.7 -0.1
baz=317
109C S S 20 24 51.4 +0.9
baz=317
TDK Taldyqorghan 55.16 300 *d* *i*P P 20 17 07.7 -1.3
TDK *i* S S 20 24 49.7 -1.3
TDK pmax pmax
comp=Z,55nm,1.2s
TDK MLR MLR
comp=Z,3µm,13.0s
TDK Taldyqorghan 55.16 300 ⇓*i*P P 20 17 07.8 -1.3
comp=Z,55nm,1.2s,baz=300
TDK *i* S S 20 24 49.7 -1.3
baz=300
TDK LR LR 20 41 34.0
comp=Z,3µm,12.9s,baz=300
NEE2 Needles Airpor 55.17 77 P P 20 17 09.4 +0.1
baz=316
NEE2 S S 20 24 52.1 +0.7
baz=316
SFJD Kangerlussuaq 55.26 18 LR LR 20 41 41.6
comp=Z,3µm,21.9s,baz=340,slow=37
SFJD Kangerlussuaq 55.26 18 P P 20 17 09.1 -0.3
SFJD Kangerlussuaq 55.26 18 P P 20 17 09.1 -0.3
SFJD pmax pmax
comp=Z,18nm,0.9s
U15A North Rim 55.29 74 P P 20 17 10.2 -0.2
IRM Iron Mountain 55.31 78 P P 20 17 10.9 +0.6
baz=317,SNR=21
IRM S S 20 24 55.5 +2.1
baz=317
W13A Hualapai Mount 55.35 77 P P 20 17 10.6 -0.2
W13A IAmb IAmb 20 17 13.4
comp=Z,108nm,1.8s
AGMN Agassiz Nation 55.43 54 P P 20 17 10.3 -0.6
AGMN IAmb IAmb 20 17 20.8
comp=Z,35nm,0.7s
AGMN Agassiz Nation 55.43 54 P P 20 17 10.9 0.0
baz=315
AGMN Agassiz Nation 55.43 54 P P 20 17 10.5 -0.3
baz=315,SNR=14
AGMN S S 20 24 53.6 -0.8
baz=315
MONP2 Monument Peak 55.50 80 P P 20 17 12.1 +0.2
baz=317,SNR=7.5
MONP2 S S 20 24 58.2 +2.0
baz=317
BC3 Big Chuckawall 55.50 79 P P 20 17 12.0 +0.2
baz=317,SNR=9.5
BAR Barrett 55.51 81 P P 20 17 11.3 -0.4
BAR IAmb IAmb 20 17 20.3
comp=Z,82nm,1.6s
PZH PanZhiHua 55.54 268 P P 20 17 12.6 +0.5
PZH pP **pP** 20 17 16.9 -0.4
PZH S **S** 20 24 55.7 -1.0
PZH ScS **ScS** 20 26 57.9 -2.5
PZH SS **SS** 20 28 35.4 -5.9
PZH pmax pmax
comp=Z,40nm,1.2s
PZH pmax pmax
comp=Z,240nm,4.9s
PZH LR LR
comp=Z,3µm,15.1s
PZH LR LR
comp=Z,4µm,15.0s
PZH LR LR
comp=Z,2µm,16.6s
PHWY Pilot Hill 55.56 66 P P 20 17 11.5 -0.8
PHWY IAmb IAmb 20 17 31.7
comp=Z,74nm,1.9s
N23A Red Feather La 55.59 66 P P 20 17 12.7 +0.2
N23A IAmb IAmb 20 17 21.6
comp=Z,49nm,1.1s
N23A Red Feather La 55.59 66 P P 20 17 11.5 -1.0
baz=315,SNR=13
PV21 Cone Mtn., Par 55.61 70 P P 20 17 12.7 0.0
ARU Arti 55.62 321 P P 20 17 11.4 -0.8
comp=Z,20nm,0.6s,baz=16,slow=4.5,SNR=24
ARU LR LR 20 43 08.2
comp=Z,4µm,18.6s,baz=42,slow=38
comp=Z,20nm,0.6s
ARU Arti 55.62 321 P P 20 17 10.7 -1.4
ARU IAmb IAmb 20 17 15.3
comp=Z,34nm,0.9s
ARU Arti 55.62 321 *ce*P P 20 17 11.3 -0.8
ARU pmax pmax
comp=Z,78nm,1.7s
ARU MLR MLR
comp=Z,3µm,18.0s
PV23 Carpenter Ridg 55.67 70 P P 20 17 12.9 -0.2
PV23 IAmb IAmb 20 17 22.0
comp=Z,57nm,0.9s
PV10 Paradox Valley 55.71 71 P P 20 17 13.8 +0.4
PRGR Permogore 55.77 331 *e*P P 20 17 13.2 +0.1
PRGR pmax pmax
comp=Z,112nm,0.9s
PDMCI Parker Dam,Lak 55.78 78 P P 20 17 12.3 -1.3
baz=317,SNR=11
CBX Cerro Bola 55.78 81 P P 20 17 13.7 -0.1
PDGK Podgornoye 55.79 298 *i* P P 20 17 12.8 -1.0
PDGK pmax pmax
comp=Z,35nm,1.3s
SWSC Sam W. Stewart 55.82 80 P P 20 17 14.4 +0.6
baz=317
IKP In-Ko-Pah, Jac 55.86 80 P P 20 17 14.9 +0.6
baz=317,SNR=6.0
PV07 Paradox Valley 55.88 70 P P 20 17 14.4 -0.1
SHLS Shalkode 55.93 298 *e*P P 20 17 12.0 -2.7
SHLS *e*S S 20 24 57.2 -4.3
SHLS pmax pmax
comp=Z,15nm,0.9s
SHLS Shalkode 55.93 298 *e*P P 20 17 12.1 -2.7
comp=Z,15nm,0.9s,baz=298
SHLS *e*S S 20 24 57.2 -4.3
baz=298
BLYC Blythe 55.96 78 P P 20 17 14.2 -0.7
YUH Yuha Desert 55.97 80 P P 20 17 14.6 -0.3
PV13 Radium Mtn., P 55.98 71 P P 20 17 15.4 +0.1
KMI Kunming 56.01 266 ⇓P P 20 17 17.0 +1.4
KMI pP sP 20 17 21.4 -0.6
KMI S S 20 25 03.6 +0.5
KMI ScS **ScS** 20 27 04.5 +0.4
KMI pmax pmax
comp=Z,19nm,1.5s
KMI pmax pmax
comp=Z,410nm,5.4s
KMI LR LR
comp=Z,3µm,21.6s
KMI LR LR
comp=Z,3µm,23.0s
KMI LR LR
comp=Z,2µm,15.3s
ARXS Arharly 56.01 300 *i* P P 20 17 14.2 -1.1
PV15 Paradox Valley 56.04 70 P P 20 17 15.8 +0.1
PV15 IAmb IAmb 20 17 25.2
comp=Z,93nm,1.3s
KPKS Kokpek 56.11 299 *d* *i*P P 20 17 14.7 -1.2
KPKS *e*S S 20 25 03.4 -0.4
KPKS pmax pmax
comp=Z,22nm,1.2s
KPKS Kokpek 56.11 299 ⇓*i*P P 20 17 14.8 -1.2
comp=Z,22nm,1.2s,baz=299
KPKS *e*S S 20 25 03.4 -0.4
baz=299
UZB Uzynbulak 56.16 298 *e*P P 20 17 15.6 -0.8
UZB *e*S S 20 25 04.9 +0.2
UZB Uzynbulak 56.16 298 *e*P P 20 17 15.6 -0.8
baz=298
UZB *e*S S 20 25 05.0 +0.2
baz=298
STEI Steigen 56.25 348 *e*P P 20 17 17.2 +0.8
STEI IAmb IAmb 20 17 19.9
comp=Z,22nm,0.7s
LOF Lofoten 56.26 349 *e*P P 20 17 16.7 +0.2
LOF IAmb IAmb 20 17 19.9
comp=Z,22nm,0.7s
SMCO Snowmass 56.26 68 P P 20 17 17.4 -0.1
SMCO IAmb IAmb 20 17 31.8
comp=Z,62nm,1.4s
GLA Glamis 56.30 79 P P 20 17 17.6 +0.2
GLA Glamis 56.30 79 P P 20 17 17.6 +0.2
GLA pmax pmax
comp=Z,184nm,1.7s
GLA Glamis 56.30 79 P P 20 17 18.1 +0.7
baz=317,SNR=16
GLA S S 20 25 04.9 -1.6
baz=317
B35A Bob, Littlefor 56.38 53 P P 20 17 17.1 -0.6
B35A IAmb IAmb 20 17 26.6
comp=Z,41nm,1.1s
B35A Bob, Littlefor 56.38 53 P P 20 17 16.9 -0.8
baz=316
ESJX Sierra Juarez 56.42 81 P P 20 17 18.5 +0.1
ESJX IAmb IAmb 20 17 20.9
comp=Z,98nm,1.7s
WUAZ Wupatki 56.47 75 P P 20 17 19.3 +0.6
WUAZ Wupatki 56.47 75 P P 20 17 19.6 +0.9

baz=317,SNR=20
WUAZ S **S** **20 25 12.0 +3.1**
baz=317
DY2G Dye2 **56.47 16** *i* P **P** **20 17 17.3 -1.1**
DY2G IAmb IAmb 20 17 19.6
comp=Z,26nm,0.7s
SATY Saty **56.54 299** *d i* P **P** **20 17 18.0 -1.1**
SATY *e*S **S** **20 25 09.7 +0.1**
SATY pmax pmax
comp=Z,34nm,1.9s
SATY Saty **56.54 299** ⇓ *i* P **P** **20 17 18.1 -1.1**
comp=Z,34nm,1.9s,baz=298
SATY *e*S **S** **20 25 09.8 +0.1**
baz=298
ISCO Idaho Springs **56.55 67** P **P** **20 17 19.9 +0.5**
ISCO IAmb IAmb 20 17 24.3
comp=Z,70nm,1.4s
ISCO Idaho Springs **56.55 67** P **P** **20 17 19.9 +0.5**
ISCO pmax pmax
comp=Z,71nm,1.4s
ISCO Idaho Springs **56.55 67** P **P** **20 17 20.5 +1.1**
baz=316
ISCO S **S** **20 25 11.6 +1.4**
baz=316
ISCO Idaho Springs **56.55 67** P **P** **20 17 20.9 +1.5**
baz=316,SNR=24
ISCO S **S** **20 25 13.0 +2.8**
baz=316
SUSD Miller **56.68 59** P **P** **20 17 20.2 +0.3**
baz=316
SUSD S **S** **20 25 10.4 -0.8**
baz=316
QIZ Qiongzhong **56.69 255** ⇓ *i* P **P** **20 17 19.1 -1.1**
QIZ PcP **PcP** **20 18 14.7 -1.5**
QIZ S **S** **20 25 16.7 +4.9**
QIZ pmax pmax
comp=Z,560nm,6.7s
QIZ LR LR
comp=Z,1μm,17.5s
QIZ LR LR
comp=Z,2μm,19.1s
QIZ LR LR
comp=Z,2μm,17.5s
Y14A Wickenburg **56.69 77** P **P** **20 17 20.7 +0.5**
CHKK Chushkaly **56.69 300** *e*P **P** **20 17 18.5 -1.5**
CHKK Chushkaly **56.69 300** *e*P **P** **20 17 18.5 -1.5**
baz=300
FAUS Fauske **56.77 348** *e*P **P** **20 17 20.2 0.0**
FAUS IAmb IAmb 20 17 23.3
comp=Z,111nm,1.3s
MVCO Mesa Verde **56.84 71** P **P** **20 17 21.8 +0.3**
MVCO IAmb IAmb 20 17 35.8
comp=Z,82nm,1.5s
MVCO Mesa Verde **56.84 71** P **P** **20 17 22.0 +0.6**
baz=316,SNR=7.2
MVCO S **S** **20 25 16.0 +2.0**
baz=316
F33A 5 Mile Ranch, **56.98 56** P **P** **20 17 21.6 -0.4**
F33A 5 Mile Ranch, **56.98 56** S **S** **20 25 15.7 +0.6**
baz=316
KUU Kurty **56.99 301** *e*P **P** **20 17 20.7 -1.4**
KUU *e*S **S** **20 25 13.4 -2.0**
KUU pmax pmax
comp=Z,62nm,1.7s
KUU MLR MLR
comp=Z,1μm,13.0s
KUU Kurty **56.99 301** *e*P **P** **20 17 20.8 -1.4**
comp=Z,62nm,1.7s,baz=300
KUU *e*S **S** **20 25 13.4 -2.0**
baz=300
KUU LR LR 20 41 55.7
comp=Z,1μm,12.8s,baz=300
KIRV Kirov **57.09 327** P **P** **20 17 22.1 -0.4**
comp=Z,36nm,0.8s,baz=45,slow=6.3,SNR=13
KIRV PcP **PcP** **20 18 17.0 -0.1**
comp=Z,11nm,0.6s,baz=76,slow=4.4,SNR=1.2
KIRV S **S** **20 25 14.8 -1.2**
comp=Z,2.6nm,0.5s,baz=78,slow=20,SNR=1.2
KIRV LR LR 20 43 19.1
comp=Z,3μm,21.3s,baz=37,slow=38
comp=Z,36nm,0.8s
113A Mohawk Valley, **57.11 79** P **P** **20 17 23.4 +0.3**
113A IAmb IAmb 20 17 26.4
comp=Z,133nm,1.9s
MDOK Medeo **57.16 299** *i* P **P** **20 17 22.3 -1.2**
MDOK *e*S **S** **20 25 17.1 -0.7**
MDOK MLR MLR
comp=Z,3μm,13.0s
MDOK Medeo **57.16 299** *i* P **P** **20 17 22.3 -1.2**
baz=299
MDOK *e*S **S** **20 25 17.1 -0.7**
baz=299
MDOK LR LR 20 42 46.4
comp=Z,3μm,13.0s,baz=299
AAA Alma-Ata **57.19 300** *e*P **P** **20 17 22.7 -0.9**
AAA *e*S **S** **20 25 18.9 +0.8**
AAA pmax pmax
comp=Z,27nm,0.8s
AAA Alma-Ata **57.19 300** *e*P **P** **20 17 22.7 -0.9**
comp=Z,27nm,0.8s,baz=300
AAA *e*S **S** **20 25 18.9 +0.8**
baz=300
X16A Lo Mia Camp, P **57.23 75** P **P** **20 17 24.7 +0.5**
X16A IAmb IAmb 20 19 06.9
comp=Z,26nm,0.7s
BTLS Baital **57.30 303** *i* P **P** **20 17 23.3 -0.9**
BTLS *e*S **S** **20 25 17.7 -1.6**
BTLS pmax pmax
comp=Z,28nm,1.9s
BTLS Baital **57.30 303** *i* P **P** **20 17 23.4 -0.9**
comp=Z,28nm,1.9s,baz=303
BTLS *e*S **S** **20 25 17.8 -1.6**
baz=303
S22A 4UR Ranch, Cre **57.37 70** P **P** **20 17 25.0 -0.2**
S22A IAmb IAmb 20 17 35.0
comp=Z,62nm,1.2s
S22A 4UR Ranch, Cre **57.37 70** P **P** **20 17 26.5 +1.2**
baz=317,SNR=21
S22A S **S** **20 25 24.0 +2.9**
baz=317
Q24A Divide **57.40 67** P **P** **20 17 25.0 -0.5**
Q24A Divide **57.40 67** P **P** **20 17 26.0 +0.6**
baz=316
Q24A S **S** **20 25 25.1 +3.6**
baz=316
OGNE Ogallala **57.62 64** P **P** **20 17 27.1 +0.4**
OGNE IAmb IAmb 20 17 30.4
comp=Z,65nm,1.0s
OGNE Ogallala **57.62 64** P **P** **20 17 27.5 +0.7**
baz=316,SNR=5.5
OGNE Ogallala **57.62 64** P **P** **20 17 27.6 +0.9**
baz=316,SNR=5.5
OGNE S **S** **20 25 24.9 +1.0**
baz=316
W18A Petrified Fore **57.67 74** P **P** **20 17 28.5 +1.2**
W18A IAmb IAmb 20 17 36.6
comp=Z,81nm,1.4s
W18A Petrified Fore **57.67 74** P **P** **20 17 27.4 +0.1**
baz=317,SNR=7.3
W18A S **S** **20 25 26.5 +1.7**
baz=317
EYMN Ely **57.71 52** P **P** **20 17 26.8 -0.3**
EYMN IAmb IAmb 20 17 36.2
comp=Z,65nm,1.1s
EYMN Ely **57.71 52** P **P** **20 17 27.2 +0.1**
baz=317,SNR=12
EYMN S **S** **20 25 21.4 -3.2**
baz=317
EYMN Ely **57.71 52** P **P** **20 17 26.2 -0.9**
baz=317,SNR=12
EYMN S **S** **20 25 24.2 -0.4**
baz=317
TARG Taragay, Kyrgy **57.81 298** P **P** **20 17 28.6 +0.2**
TARG Taragay, Kyrgy **57.81 298** P **P** **20 17 28.6 +0.2**
TARG pmax pmax
comp=Z,65nm,2.0s
KONS Konsvik **57.87 349** *e*P **P** **20 17 28.1 +0.2**
KONS IAmb IAmb 20 17 32.5
comp=Z,85nm,1.4s
X18A Snowflake **57.98 74** P **P** **20 17 30.7 +1.2**
X18A IAmb IAmb 20 17 39.0
comp=Z,76nm,1.4s
STOK Stokkvaagen **58.04 349** *e*P **P** **20 17 30.1 +1.0**
TKM2 Tokmak 2 **58.07 300** P **P** **20 17 30.1 +0.1**
SNR=17
TKM2 Tokmak 2 **58.07 300** *i* P **P** **20 17 28.2 -1.8**
TKM2 pmax pmax

comp=Z,18nm,0.8s
KLMR Klimovskoe **58.08 333** *e*P **P** **20 17 26.9 -2.5**
KLMR *e*S **S** **20 25 28.8 -0.3**
KLMR *e*SS **SS** **20 29 20.7 +1.3**
KLMR pmax pmax
comp=Z,66nm,0.8s
KLMR MLR MLR
comp=Z,4μm,18.0s
KLMR Klimovskoe **58.08 333** *e*P **P** **20 17 27.0 -2.5**
KLMR AMP 20 17 33.9
comp=Z,66nm,0.8s
KLMR *e*S **S** **20 25 28.8 -0.3**
KLMR *e*S **S** **20 25 28.8 -0.3**
KLMR *e*SS **SS** **20 29 20.8 +1.3**
KLMR *e*SS **SS** **20 29 20.8 +1.3**
KLMR LQ LQ 20 37 56.3
KLMR LQ LQ 20 37 56.3
KLMR LR LR 20 41 17.7
KLMR AMP 20 45 32.2
comp=Z,4μm,18.0s
SDCO Great Sand Dun **58.09 69** P **P** **20 17 30.5 +0.2**
SDCO IAmb IAmb 20 17 34.9
comp=Z,60nm,1.5s
SDCO Great Sand Dun **58.09 69** P **P** **20 17 31.1 +0.8**
baz=317,SNR=19
SDCO S **S** **20 25 34.4 +3.8**
baz=317
SGDS Sogindy **58.17 301** *e*P **P** **20 17 29.6 -0.8**
SGDS *e*S **S** **20 25 30.2 -0.7**
SGDS pmax pmax
comp=Z,32nm,2.0s
SGDS Sogindy **58.17 301** *e*P **P** **20 17 29.7 -0.8**
comp=Z,32nm,2.0s,baz=301
SGDS *e*S **S** **20 25 30.2 -0.7**
baz=301
PIX Pinacate **58.18 79** P **P** **20 17 30.9 +0.3**
PIX IAmb IAmb 20 17 34.8
comp=Z,50nm,1.4s
BOOM Boomskoye usch **58.21 300** P **P** **20 17 30.3 -0.6**
BOOM Boomskoye usch **58.21 300** P **P** **20 17 30.3 -0.6**
BOOM pmax pmax
comp=Z,18nm,0.9s
ULHL Ulahol **58.23 299** P **P** **20 17 34.2 +3.0**
SNR=6.9
214A Organ Pipe Nat **58.26 78** P **P** **20 17 31.6 +0.4**
214A IAmb IAmb 20 17 40.2
comp=Z,99nm,1.4s
214A Organ Pipe Nat **58.26 78** P **P** **20 17 32.1 +0.9**
baz=318,SNR=7.1
214A S **S** **20 25 34.1 +1.9**
baz=318
F36A Milaca **58.29 54** P **P** **20 17 30.6 -0.6**
F36A Milaca **58.29 54** P **P** **20 17 30.7 -0.5**
baz=317,SNR=9.6
F36A S **S** **20 25 32.5 +0.2**
baz=317
LKP Lekhapani **58.35 273** *e*P **P** **20 17 32.7 +0.8**
LKP IAmb IAmb 20 17 41.5
comp=Z,36nm,1.0s
ECSD EROS Data Cent **58.35 58** P **P** **20 17 31.4 -0.3**
ECSD EROS Data Cent **58.35 58** P **P** **20 17 31.4 -0.3**
baz=317,SNR=12
ECSD S **S** **20 25 31.8 -1.5**
baz=317
ECSD EROS Data Cent **58.35 58** P **P** **20 17 31.5 -0.3**
baz=317,SNR=12
ECSD S **S** **20 25 33.2 0.0**
baz=317
USP Ospenovka **58.37 301** P **P** **20 17 31.4 -0.5**
SNR=24
CHMS Chumysh **58.44 301** P **P** **20 17 32.6 +0.3**
SNR=8.1
ANGG Ammasalik, Gr **58.51 12** P **P** **20 17 32.3 -0.1**
KBK Karagaybulak **58.59 300** P **P** **20 17 36.6 +3.1**
SNR=8.5
E38A The Farm, Brul **58.67 53** P **P** **20 17 33.4 -0.5**
E38A The Farm, Brul **58.67 53** P **P** **20 17 33.1 -0.7**
baz=318,SNR=6.4
KSCO Kaye Shedlock' **58.72 66** P **P** **20 17 34.8 +0.3**
KSCO Kaye Shedlock' **58.72 66** S **S** **20 25 40.6 +2.4**
baz=317
KSCO Kaye Shedlock' **58.72 66** P **P** **20 17 35.6 +1.1**
baz=317,SNR=5.5
KSCO S **S** **20 25 39.3 +1.0**
baz=317
AAK Ala-Archa **58.83 301** P **P** **20 17 38.2 +3.0**
SNR=12
AAK Ala-Archa **58.83 301** P **P** **20 17 34.7 -0.5**
baz=41,slow=8.3
AAK LR LR 20 45 12.1
comp=Z,2μm,20.3s,baz=38,slow=38
AAK Ala-Archa **58.83 301** P **P** **20 17 33.5 -1.7**
AAK Ala-Archa **58.83 301** *c e*P **P** **20 17 34.3 -0.9**
AAK pmax pmax
comp=Z,48nm,1.7s
AAK Ala-Archa **58.83 301** P **P** **20 17 34.0 -1.2**
NRN Naryn **58.95 299** P **P** **20 17 35.0 -1.3**
NRN Naryn **58.95 299** P **P** **20 17 35.0 -1.3**
NRN pmax pmax
comp=Z,10.0nm,0.8s
SPMN Marine on St. **59.10 55** P **P** **20 17 36.7 -0.2**
SPMN Marine on St. **59.10 55** P **P** **20 17 36.8 0.0**
baz=318,SNR=6.6
SPMN Marine on St. **59.10 55** P **P** **20 17 36.9 0.0**
baz=318,SNR=6.6
UCH Uchtor **59.12 300** P **P** **20 17 38.0 +0.4**
SNR=9.5
T25A Trinidad **59.13 68** P **P** **20 17 37.8 +0.3**
T25A Trinidad **59.13 68** P **P** **20 17 38.3 +0.9**
baz=318,SNR=13
T25A S **S** **20 25 46.6 +2.7**
baz=318
TUC Tucson **59.15 77** P **P** **20 17 37.4 -0.1**
TUC Tucson **59.15 77** P **P** **20 17 37.4 -0.1**
TUC pmax pmax
comp=Z,99nm,0.7s
TUC Tucson **59.15 77** P **P** **20 17 38.1 +0.6**
baz=318
TUC S **S** **20 25 47.0 +3.1**
baz=318
EKS2 Erkin-Say **59.17 301** P **P** **20 17 37.0 -0.5**
SNR=21
BGNE Belgrade **59.29 61** P **P** **20 17 38.0 -0.2**
BGNE Belgrade **59.29 61** P **P** **20 17 37.9 -0.3**
baz=318
BGNE S **S** **20 25 44.8 -0.6**
baz=318
LSA Lhasa **59.29 279** P **P** **20 17 39.0 0.0**
LSA Lhasa **59.29 279** P **P** **20 17 39.8 +0.8**
LSA S **S** **20 25 48.6 +2.0**
LSA LR LR
comp=Z,2μm,16.9s
LSA LR LR
comp=Z,1μm,16.3s
LSA LR LR
comp=Z,980nm,17.3s
LSA Lhasa **59.29 279** P **P** **20 17 39.0 0.0**
LSA pmax pmax
comp=Z,19nm,1.0s
LSA Lhasa **59.29 279** P **P** **20 17 38.9 -0.1**
AML Almayashu **59.60 301** P **P** **20 17 37.1 -3.7**
SNR=6.6
ANMO Albuquerque **59.62 72** P **P** **20 17 40.5 -0.4**
ANMO Albuquerque **59.62 72** *c e*P **P** **20 17 40.8 -0.1**
ANMO Albuquerque **59.62 72** P **P** **20 17 41.3 +0.4**
baz=318,SNR=12
ANMO S **S** **20 25 54.0 +3.8**
baz=318
ANMO Albuquerque **59.62 72** P **P** **20 17 41.0 +0.2**
baz=318
ANMO S **S** **20 25 53.1 +2.9**
baz=318
D41A Chassel **59.69 51** P **P** **20 17 41.0 +0.1**
D41A Chassel **59.69 51** P **P** **20 17 40.6 -0.3**
baz=319,SNR=9.9
I37A Lemond, Waseca **59.72 56** P **P** **20 17 41.2 0.0**
I37B Waseca **59.72 56** P **P** **20 17 41.6 +0.5**
baz=318,SNR=11
I37B S **S** **20 25 51.9 +1.1**
baz=318
ITAN ITANAGAR **59.72 275** *e*P **P** **20 17 41.8 +0.4**
ITAN IAmb IAmb 20 17 50.7
comp=Z,135nm,1.3s
L34A Svendsen Farm, **59.77 59** P **P** **20 17 40.8 -0.7**
L34A Svendsen Farm, **59.77 59** P **P** **20 17 40.7 -0.9**
baz=318,SNR=15

NSS Namsos **59.91 349** *e*P **P** **20 17 42.6 +0.6**
NSS IAmb IAmb 20 17 46.8
comp=Z,35nm,1.0s
LENM Lemitar **59.91 73** P **P** **20 17 44.1 +1.3**
Y22A Socorro **60.09 73** P **P** **20 17 44.7 +0.7**
baz=318,SNR=11
RABL Rabaul **60.10 199** P **P** **20 17 42.8 -1.2**
BNM Barren Site **60.12 72** P **P** **20 17 43.8 -0.5**
N33A J Bar K, Exete **60.14 61** P **P** **20 17 43.6 -0.5**
N33A IAmb IAmb 20 18 23.5
comp=Z,40nm,0.7s
COWI Conover **60.16 52** P **P** **20 17 43.8 -0.4**
COWI IAmb IAmb 20 17 52.8
comp=Z,43nm,1.2s
COWI Conover **60.16 52** S **S** **20 25 55.2 -1.3**
baz=319
CRNM Carthage **60.20 72** P **P** **20 17 45.0 +0.1**
DZA Taraz **60.21 303** *e*P **P** **20 17 43.4 -1.2**
DZA Taraz **60.21 303** *e*P **P** **20 17 43.4 -1.2**
baz=303
KRVT Keravat (AS076 **60.24 199** P **P** **20 17 45.2 +0.2**
comp=Z,137nm,0.9s,baz=256,slow=2.9,SNR=18
KRVT LR LR 20 38 50.5
comp=Z,2μm,21.9s,baz=159,slow=31
comp=Z,137nm,0.9s
G40A Rib Lake **60.29 53** P **P** **20 17 44.3 -0.8**
G40A IAmb IAmb 20 17 53.9
comp=Z,42nm,1.2s
KSH Kashi **60.38 297** P **P** **20 17 48.9 +3.0**
KSH S **S** **20 26 05.4 +5.7**
KSH ScS **ScS** **20 27 38.7 +3.1**
KSH pmax pmax
comp=Z,41nm,1.1s
KSH LR LR
comp=Z,4μm,17.9s
KSH LR LR
comp=Z,7μm,16.5s
KSH LR LR
comp=Z,3μm,13.7s
CBKS Cedar Bluff **60.38 64** P **P** **20 17 45.3 -0.6**
CBKS IAmb IAmb 20 17 59.5
comp=Z,59nm,1.1s
CBKS Cedar Bluff **60.38 64** P **P** **20 17 45.3 -0.6**
CBKS pmax pmax
comp=Z,59nm,1.1s
CBKS Cedar Bluff **60.38 64** P **P** **20 17 45.9 0.0**
baz=318,SNR=8.0
CBKS S **S** **20 26 01.6 +1.9**
baz=318
CBKS Cedar Bluff **60.38 64** P **P** **20 17 44.6 -1.3**
baz=318,SNR=8.0
CBKS S **S** **20 26 00.8 +1.2**
baz=318
AKTO Aktyubinsk **60.42 316** P **P** **20 17 44.9 -0.9**
comp=Z,20nm,1.0s,baz=24,slow=5.6,SNR=28
AKTO LR LR 20 46 28.8
comp=Z,4μm,19.5s,baz=35,slow=39
comp=Z,20nm,1.0s
KK31 Karatay Array **60.45 304** P **P** **20 17 45.0 -1.2**
KK31 Karatay Array **60.45 304** *i* P **P** **20 17 45.0 -1.2**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array **60.45 304** P **P** **20 17 44.6 -1.6**
KKAR Karatay Array **60.45 304** P **P** **20 17 45.0 -1.2**
KKAR Karatay Array **60.45 304** P **P** **20 17 44.6 -1.6**
AB31 Akbulak array **60.55 315** *i* P **P** **20 17 45.1 -1.6**
AB31 pmax pmax
comp=Z,28nm,1.2s
ABKAR Akbulak array **60.55 315** P **P** **20 17 45.8 -0.9**
ABKAR Akbulak array **60.55 315** P **P** **20 17 45.2 -1.5**
KOHI KOHIMA **60.58 274** *e*P **P** **20 17 47.1 -0.4**
KOHI IAmb IAmb 20 17 59.5
comp=Z,43nm,1.0s
FIA1 FINESS Array S **60.63 340** P **P** **20 17 47.2 +0.2**
FIA1 IAmb IAmb 20 17 50.4
comp=Z,30nm,1.1s
FINES FINESS Array B **60.63 340** P **P** **20 17 46.2 -0.9**
comp=Z,13nm,0.7s,baz=23,slow=6.8,SNR=29
FINES LR LR 20 46 11.0
comp=Z,2μm,21.1s,baz=30,slow=38
comp=Z,13nm,0.7s
FINES FINESS Array B **60.63 340** P **P** **20 17 46.6 -0.5**
FINES FINESS Array B **60.63 340** *i* P **P** **20 17 46.7 -0.4**
121A Cookes Peak, D **60.67 74** P **P** **20 17 49.3 +1.2**
121A IAmb IAmb 20 19 48.4
comp=Z,42nm,1.0s
121A Cookes Peak, D **60.67 74** P **P** **20 17 49.6 +1.5**
baz=319,SNR=11
121A S **S** **20 26 05.1 +1.4**
baz=319
121A Cookes Peak, D **60.67 74** P **P** **20 17 49.6 +1.5**
baz=319,SNR=11
121A S **S** **20 26 05.8 +2.0**
baz=319
319A Douglas **60.69 76** P **P** **20 17 48.3 +0.2**
BORG Borgarnes **60.80 5** LR LR 20 43 38.8
comp=Z,2μm,20.3s,baz=347,slow=36
F42A Maple Grove Fa **60.87 51** P **P** **20 17 49.4 +0.4**
F42A IAmb IAmb 20 17 57.5
comp=Z,36nm,0.6s
E43A Lone Tree Farm **60.92 50** P **P** **20 17 49.4 +0.1**
E43A IAmb IAmb 20 17 58.0
comp=Z,30nm,0.9s
E43A Lone Tree Farm **60.92 50** S **S** **20 26 06.3 +0.2**
baz=320
N35A Tabor **60.96 60** P **P** **20 17 49.7 0.0**
N35A Tabor **60.96 60** P **P** **20 17 50.0 +0.3**
baz=319,SNR=12
N35A S **S** **20 26 08.3 +1.4**
baz=319
K38A Parkersburg **61.04 56** P **P** **20 17 50.2 0.0**
K38A IAmb IAmb 20 17 58.2
comp=Z,86nm,1.6s
I40A Norwalk **61.14 54** P **P** **20 17 49.9 -0.9**
I40A IAmb IAmb 20 17 54.1
comp=Z,26nm,0.9s
I40A Norwalk **61.14 54** P **P** **20 17 50.7 -0.1**
baz=319
CRAI Chiangrai **61.17 265** P **P** **20 17 51.7 +0.3**
TBLU Trondheim **61.34 349** *e*P **P** **20 17 49.8 -2.1**
TBLU IAmb IAmb 20 17 52.0
comp=Z,29nm,0.7s
SCIA State Center **61.38 57** P **P** **20 17 51.7 -0.8**
SCIA State Center **61.38 57** P **P** **20 17 52.2 -0.4**
baz=319,SNR=11
SCIA State Center **61.38 57** P **P** **20 17 52.0 -0.5**
baz=319,SNR=11
SCIA S **S** **20 26 11.8 -0.4**
baz=319
IUG Iuzhnay **61.40 303** *e*P **P** **20 17 52.1 -0.7**
IUG *i* S **S** **20 26 13.1 +0.5**
IUG Iuzhnay **61.40 303** *e*P **P** **20 17 52.1 -0.7**
baz=303
IUG *i* S **S** **20 26 13.1 +0.5**
baz=303
HSIG **61.51 79** P **P** **20 17 52.7 -0.8**
HSIG IAmb IAmb 20 17 56.0
comp=Z,76nm,1.6s
SMPI Sarmi **61.52 215** P **P** **20 17 54.9 +1.2**
comp=Z,957nmcomp=Z,86nm,1.1s
SGSI Sangihe **61.53 231** P **P** **20 17 53.9 +0.1**
comp=Z,42nm,0.8s
GENI Genyem **61.62 213** P **P** **20 17 55.6 +1.3**
comp=Z,2μmcomp=Z,181nm,0.8s
BAKI Biak **61.67 218** P **P** **20 17 56.1 +1.4**
comp=Z,3μmcomp=Z,230nm,1.2s
KSU1 Kansas State U **61.79 62** P **P** **20 17 54.0 -1.3**
KSU1 IAmb IAmb 20 17 58.1
comp=Z,22nm,0.7s
KSU1 Kansas State U **61.79 62** P **P** **20 17 53.5 -1.8**
baz=319
KSU1 S **S** **20 26 14.4 -3.1**
baz=319
RAF Rauma **61.82 342** *e*P **P** **20 17 55.6 +0.4**
SCHQ Schefferville **61.86 33** P **P** **20 17 55.1 -0.4**
comp=Z,20nm,0.7s,baz=342,slow=6.4,SNR=15
comp=Z,20nm,0.7s
SCHQ Schefferville **61.86 33** P **P** **20 17 54.4 -1.1**
I42A Draeger Farm, **61.94 53** P **P** **20 17 55.5 -0.8**
I42A IAmb IAmb 20 17 58.2
comp=Z,23nm,0.7s
I42A Draeger Farm, **61.94 53** P **P** **20 17 55.7 -0.6**
baz=320,SNR=7.5
I42A S **S** **20 26 18.4 -0.7**
baz=320
SHL Shillong **61.99 275** P **P** **20 17 56.4 -0.6**

SHL	**Shillong**	**61.99**	**275**		P	**P**	**20 17 56.4**	**-0.6**
SHL					pmax	pmax		
	comp=Z,100nm,1.6s							
H43A	**Windswept, Lux**	**62.02**	**52**		P	**P**	**20 17 55.9**	**-0.9**
H43A	**Windswept, Lux**	**62.02**	**52**		P	**P**	**20 17 56.1**	**-0.7**
	baz=320,SNR=7.0							
JFWS	**Jewell Farm**	**62.05**	**55**		P	**P**	**20 17 55.8**	**-1.2**
JFWS					IAmb	IAmb	20 17 58.1	
	comp=Z,17nm,0.6s							
JFWS	**Jewell Farm**	**62.05**	**55**		P	**P**	**20 17 55.8**	**-1.2**
JFWS					pmax	pmax		
	comp=Z,17nm,0.6s							
JFWS	**Jewell Farm**	**62.05**	**55**		S	**S**	**20 26 20.7**	**0.0**
	baz=320							
JFWS	**Jewell Farm**	**62.05**	**55**		P	**P**	**20 17 55.4**	**-1.6**
	baz=320							
JFWS					S	**S**	**20 26 19.3**	**-1.4**
	baz=320							
MEF	**Metsahovi**	**62.09**	**341**	*e*	P	**P**	**20 17 56.7**	**-0.2**
E46A	**Sault Ste Mari**	**62.11**	**48**		P	**P**	**20 17 56.0**	**-1.4**
E46A					IAmb	IAmb	20 18 00.0	
	comp=Z,22nm,0.7s							
E46A	**Sault Ste Mari**	**62.11**	**48**		P	**P**	**20 17 56.1**	**-1.3**
	baz=321,SNR=9.7							
UBPT	**Khong Chiam**	**62.16**	**257**		P	**P**	**20 17 58.1**	**0.0**
UBPT					IAmb	IAmb	20 18 00.1	
	comp=Z,31nm,0.7s							
N38A	**Joes South For**	**62.22**	**58**		P	**P**	**20 17 57.2**	**-1.0**
N38A	**Joes South For**	**62.22**	**58**		P	**P**	**20 17 57.3**	**-0.9**
	baz=319							
L40A	**Anamosa**	**62.24**	**56**		P	**P**	**20 17 57.2**	**-1.1**
L40A					IAmb	IAmb	20 18 25.8	
	comp=Z,30nm,1.1s							
L40A	**Anamosa**	**62.24**	**56**		P	**P**	**20 17 57.2**	**-1.1**
	baz=320,SNR=6.2							
SRPI	**Serui, Papua**	**62.25**	**217**		P	**P**	**20 18 02.3**	**+3.7**
	comp=Z,2µmcomp=Z,51nm,1.4s							
AMTX	**Amarillo**	**62.28**	**68**		P	**P**	**20 17 58.7**	**-0.1**
AMTX					IAmb	IAmb	20 18 07.3	
	comp=Z,80nm,1.8s							
AMTX	**Amarillo**	**62.28**	**68**		P	**P**	**20 17 57.6**	**-1.2**
	baz=319							
AMTX					S	**S**	**20 26 23.2**	**-0.7**
	baz=319							
MOL	**Molde**	**62.29**	**350**	*e*	P	**P**	**20 17 57.4**	**-0.8**
MOL					IAmb	IAmb	20 17 59.7	
	comp=Z,37nm,0.8s							
MSTX	**Muleshoe**	**62.38**	**70**		P	**P**	**20 17 59.3**	**-0.2**
MSTX					IAmb	IAmb	20 18 03.2	
	comp=Z,30nm,0.8s							
MSTX	**Muleshoe**	**62.38**	**70**		P	**P**	**20 17 59.4**	**0.0**
	baz=319,SNR=12							
MSTX					S	**S**	**20 26 28.3**	**+3.2**
	baz=319							
MSTX	**Muleshoe**	**62.38**	**70**		P	**P**	**20 17 58.5**	**-0.9**
	baz=319,SNR=12							
MSTX					S	**S**	**20 26 28.6**	**+3.4**
	baz=319							
NOKA	**Waynoka**	**62.44**	**65**			**P**	**20 17 59.2**	**-0.6**
NOKA					IAmb	IAmb	20 18 01.1	
	comp=Z,26nm,0.8s							
DRK	**Karamyk**	**62.54**	**300**		P	**P**	**20 18 00.2**	**-0.5**
G45A	**Suttons Bay**	**62.54**	**50**		P	**P**	**20 17 59.7**	**-0.6**
G45A	**Suttons Bay**	**62.54**	**50**		P	**P**	**20 17 60.0**	**-0.3**
	baz=321,SNR=6.6							
G45A					P	**P**	**20 17 60.0**	**-0.3**
	baz=321,SNR=6.6							
GTK	**Tadong**	**62.55**	**279**	*e*	P	**P**	**20 18 00.7**	**-0.1**
GTK					IAmb	IAmb	20 18 08.8	
	comp=Z,19nm,0.9s							
U32A	**Winter Ranch,**	**62.59**	**65**			**P**	**20 18 00.2**	**-0.6**
U32A					IAmb	IAmb	20 18 03.8	
	comp=Z,36nm,0.7s							
BTK	**Batken**	**62.59**	**301**		P	**P**	**20 17 59.8**	**-1.0**
BTK					IAmb	IAmb	20 18 20.9	
	comp=Z,34nm,1.0s							
BTK	**Batken**	**62.59**	**301**		P	**P**	**20 17 59.8**	**-1.0**
ELIS	**Ellis County**	**62.61**	**66**		P	**P**	**20 18 00.6**	**-0.3**
ELIS					IAmb	IAmb	20 18 13.9	
	comp=Z,48nm,1.2s							
PHRA	**Phrae**	**62.61**	**264**		P	**P**	**20 18 01.4**	**+0.3**
MNTX	**Cornudas Mount**	**62.64**	**73**		P	**P**	**20 18 01.5**	**+0.4**
MNTX					IAmb	IAmb	20 18 05.5	
	comp=Z,28nm,0.9s							
MNTX	**Cornudas Mount**	**62.64**	**73**		P	**P**	**20 18 01.6**	**+0.4**
	baz=319,SNR=39							
MNTX	**Cornudas Mount**	**62.64**	**73**		P	**P**	**20 18 00.9**	**-0.3**
	baz=319,SNR=39							
MNTX					S	**S**	**20 26 33.1**	**+4.7**
	baz=319							
DOMB	**Dombas**	**62.65**	**349**	*e*	P	**P**	**20 18 00.5**	**-0.2**
DOMB					IAmb	IAmb	20 18 02.6	
	comp=Z,46nm,0.6s							
OK032	**Salt Plains WL**	**62.69**	**64**		P	**P**	**20 18 00.6**	**-0.8**
OK032					IAmb	IAmb	20 19 36.0	
	comp=Z,25nm,0.9s							
KAN14	**Manchester OK**	**62.70**	**64**		P	**P**	**20 18 01.2**	**-0.3**
BELG	**Belogornoye**	**62.72**	**324**		P	**P**	**20 18 00.7**	**-0.6**
	comp=Z,46nm,0.9s,baz=317,slow=1.0,SNR=11							
BELG					LR	LR	20 47 50.6	
	comp=Z,3µm,18.4s,baz=40,slow=39							
	comp=Z,46nm,0.9s							
BELG	**Belogornoye**	**62.72**	**324**	*d*	iP	**P**	**20 18 00.9**	**-0.4**
BELG					pmax	pmax		
	comp=Z,7.0nm,1.0s							
AKN	**Aaknes**	**62.73**	**350**	*e*	P	**P**	**20 18 01.6**	**+0.3**
AKN					IAmb	IAmb	20 18 03.9	
	comp=Z,52nm,0.8s							
DHUB	**DHUBRI**	**62.74**	**277**	*e*	P	**P**	**20 17 59.1**	**-2.7**
GDL2	**Guadalupe Moun**	**62.83**	**72**		P	**P**	**20 18 02.7**	**+0.2**
P38A	**Dawn**	**62.95**	**59**		P	**P**	**20 18 01.7**	**-1.4**
P38A					IAmb	IAmb	20 18 05.3	
	comp=Z,25nm,0.6s							
P38A	**Dawn**	**62.95**	**59**		P	**P**	**20 18 01.8**	**-1.3**
	baz=320,SNR=7.3							
P38A					S	**S**	**20 26 30.5**	**-1.6**
	baz=320							
CLN7	**Carlsbad 7**	**62.98**	**72**		P	**P**	**20 18 02.7**	**-0.7**
MOS	**Moscow**	**63.00**	**331**	*e*	P	**P**	**20 18 00.8**	**-2.3**
MOS				*e*			20 18 37.3	
MOS				*e*	S	**S**	**20 26 29.6**	**-2.4**
MOS					pmax	pmax		
	comp=Z,72nm,0.9s							
MOS					MLR	MLR		
	comp=Z,3µm,19.0s							
MOS					MLR	MLR		
	comp=E,1µm,16.0s							
MOS					MLR	MLR		
	comp=N,2µm,19.0s							
L42A	**Oliver, Polo**	**63.03**	**55**		P	**P**	**20 18 02.2**	**-1.4**
L42A					IAmb	IAmb	20 18 04.4	
	comp=Z,24nm,0.7s							
L42A	**Oliver, Polo**	**63.03**	**55**		P	**P**	**20 18 02.0**	**-1.6**
	baz=320,SNR=6.8							
HTMS	**Hat Mesa**	**63.03**	**71**		P	**P**	**20 18 03.8**	**-0.1**
CROK	**Carrier**	**63.03**	**64**		P	**P**	**20 18 03.0**	**-0.7**
CROK					IAmb	IAmb	20 18 13.7	
	comp=Z,29nm,0.9s							
TAPN	**Taplejung**	**63.04**	**280**	*e*	P	**P**	**20 18 03.2**	**-1.0**
	comp=Z,113nm,0.8s							
I45A	**Fountain**	**63.06**	**51**		S	**S**	**20 26 35.1**	**+1.9**
	baz=321							
I45A					S	**S**	**20 26 35.1**	**+1.9**
	baz=321							
CHTO	**Chiang Mai**	**63.11**	**265**		P	**P**	**20 18 04.2**	**-0.2**
CHTO	**Chiang Mai**	**63.11**	**265**		P	**P**	**20 18 04.2**	**-0.2**
K43A	**Burlington**	**63.12**	**54**		S	**S**	**20 26 32.7**	**-1.3**
	baz=321							
GLMI	**Grayling**	**63.17**	**50**		P	**P**	**20 18 03.7**	**-0.8**
GLMI	**Grayling**	**63.17**	**50**		P	**P**	**20 18 04.0**	**-0.5**
	baz=321,SNR=6.5							
GLMI	**Grayling**	**63.17**	**50**		P	**P**	**20 18 02.9**	**-1.6**
	baz=321,SNR=6.5							
GLMI					S	**S**	**20 26 33.7**	**-1.0**
	baz=321							
NC303	**NORSAR Array S**	**63.18**	**348**		P	**P**	**20 18 03.6**	**-0.7**
NC303					IAmb	IAmb	20 18 08.6	
	comp=Z,47nm,1.0s							
NC303	**NORSAR Array S**	**63.18**	**348**	*e*	P	**P**	**20 18 04.1**	**-0.1**
NC303					IAmb	IAmb	20 18 08.3	
	comp=Z,46nm,1.0s							
SWI	**Sorong**	**63.19**	**223**		P	**P**	**20 18 06.0**	**+1.1**
	comp=Z,4µmcomp=Z,302nm,1.0s							
SIJI	**Sorong**	**63.19**	**223**		LR	LR	20 39 40.9	
	comp=Z,1µm,21.7s,baz=42,slow=30							
NC204	**NORSAR Array S**	**63.20**	**348**		P	**P**	**20 18 04.1**	**-0.4**
VSU	**Vasula**	**63.23**	**339**	*i*	P	**P**	**20 18 04.1**	**-0.5**
VSU					pmax	pmax		
	comp=Z,96nm,1.2s							
VSU					MLR	MLR		
	comp=Z,6µm,20.0s							
VSU	**Vasula**	**63.23**	**339**	*e*	P	**P**	**20 18 05.0**	**+0.4**
NC405	**NORSAR Array S**	**63.25**	**348**		P	**P**	**20 18 04.1**	**-0.6**
WAMI	**Wamena**	**63.30**	**214**		P	P	20 18 18.9	+13
TNTI	**Ternate**	**63.32**	**228**		P	**P**	**20 18 05.1**	**-0.7**
TNTI					IAmb	IAmb	20 18 12.1	
	comp=Z,40nm,0.9s							
TNTI	**Ternate**	**63.32**	**228**		P	P	20 18 11.0	+5.3
	comp=Z,877nmcomp=Z,50nm,1.0s							
NB201	**NORSAR Array S**	**63.36**	**348**		P	**P**	**20 18 05.2**	**-0.3**
NB2	**NORSAR Subarra**	**63.38**	**348**		P	**P**	**20 18 05.2**	**-0.5**
	comp=Z,25nm,0.7s,baz=16,slow=6.9							
NB2	**NORSAR Subarra**	**63.38**	**348**		P	**P**	**20 18 05.2**	**-0.5**
	baz=16,slow=6.9							
NOA	**NORSAR Array B**	**63.38**	**348**		P	**P**	**20 18 05.2**	**-0.5**
	comp=Z,13nm,0.6s,baz=16,slow=6.7,SNR=115							
NOA					LR	LR	20 47 14.3	
	comp=Z,1µm,19.0s,baz=10.0,slow=38							
	comp=Z,13nm,0.6s							
CM31	**Chiang Mai Arr**	**63.39**	**265**		P	**P**	**20 18 06.0**	**-0.2**
CM31					IAmb	IAmb	20 18 09.0	
	comp=Z,24nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.39**	**265**		P	**P**	**20 18 06.3**	**+0.1**
	comp=Z,17nm,0.7s,baz=24,slow=6.9,SNR=152							
CMAR					S	**S**	**20 26 38.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=21,slow=7.9,SNR=1.1							
CMAR					LR	LR	20 47 44.7	
	comp=Z,1µm,18.9s,baz=40,slow=38							
	comp=Z,17nm,0.7s							
CMAR	**Chiang Mai Arr**	**63.39**	**265**		P	**P**	**20 18 05.9**	**-0.4**
NBO00	**NORSAR Array S**	**63.44**	**348**		P	**P**	**20 18 05.8**	**-0.2**
N41A	**Harden Midland**	**63.45**	**57**		P	**P**	**20 18 05.1**	**-1.2**
FOO	**Floro**	**63.48**	**351**	*e*	P	**P**	**20 18 07.8**	**+1.6**
FOO					IAmb	IAmb	20 18 12.1	
	comp=Z,62nm,1.3s							
MYLDM	**Lahad Datu**	**63.57**	**239**		P	**P**	**20 18 09.8**	**+2.3**
MTSE	**Matsula**	**63.59**	**340**	*e*	P	**P**	**20 18 07.5**	**+0.6**
VLDQ	**Val d'Or**	**63.59**	**43**		P	**P**	**20 18 04.6**	**-2.5**
VLDQ					IAmb	IAmb	20 18 13.8	
	comp=Z,58nm,1.2s							
NAO01	**NORSAR Array S**	**63.61**	**348**		P	**P**	**20 18 06.4**	**-0.7**
NC602	**NORSAR Array S**	**63.63**	**348**		P	**P**	**20 18 06.7**	**-0.5**
GAR	**Garm**	**63.65**	**301**		P	**P**	**20 18 07.5**	**-0.4**
GUN	**Gumba**	**63.66**	**282**	*e*	P	**P**	**20 18 08.1**	**-0.3**
	comp=Z,84nm,0.7s							
JIRN	**Jiri**	**63.68**	**281**	*e*	P	**P**	**20 18 08.2**	**-0.3**
	comp=Z,58nm,0.8s							
L44A	**Lake County Fo**	**63.73**	**54**		P	**P**	**20 18 07.5**	**-0.7**
L44A	**Lake County Fo**	**63.73**	**54**		P	**P**	**20 18 06.8**	**-1.3**
	baz=321							
L44A					S	**S**	**20 26 40.5**	**-1.1**
	baz=321							
P40A	**Paris**	**63.77**	**58**		P	**P**	**20 18 07.6**	**-0.9**
P40A	**Paris**	**63.77**	**58**		P	**P**	**20 18 07.3**	**-1.1**
	baz=320,SNR=14							
P40A					S	**S**	**20 26 41.8**	**-0.3**
	baz=320							
HYA	**Hoyanger**	**63.80**	**351**	*e*	P	**P**	**20 18 08.7**	**+0.4**
HYA					IAmb	IAmb	20 18 12.6	
	comp=Z,49nm,0.6s							
OBN	**Obninsk**	**63.84**	**332**		P	**P**	**20 18 08.7**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=54,slow=6.0,SNR=7.4							
OBN					S	**S**	**20 26 41.0**	**-1.5**
	comp=Z,2.4nm,0.5s,baz=239,slow=5.5,SNR=2.0							
OBN					LR	LR	20 48 58.2	
	comp=Z,749nm,18.7s,baz=20,slow=39							
OBN	**Obninsk**	**63.84**	**332**		P	**P**	**20 18 08.5**	**-0.2**
OBN					IAmb	IAmb	20 18 40.2	
	comp=Z,65nm,1.3s							
OBN	**Obninsk**	**63.84**	**332**	*de*	P	**P**	**20 18 07.8**	**-0.8**
OBN				*e*			20 18 42.2	
OBN				*e*			20 20 28.3	
OBN				*e*	PPP	PPP	20 21 55.4	
OBN				*e*	S	**S**	**20 26 42.1**	**-0.4**
OBN				*e*	SS	**SS**	**20 30 47.7**	**-2.0**
OBN					pmax	pmax		
	comp=Z,53nm,1.7s							
OBN					MLR	MLR		
	comp=Z,4µm,17.0s							
OK029	**Liberty Lake**	**63.85**	**65**			**P**	**20 18 08.3**	**-0.8**
OK029					IAmb	IAmb	20 18 11.6	
	comp=Z,32nm,0.7s							
HFS	**Hagfors**	**63.94**	**346**		LR	LR	20 47 21.2	
	comp=Z,2µm,18.4s,baz=8.0,slow=37							
WMOK	**Wichita Mounta**	**63.95**	**66**			**P**	**20 18 09.3**	**-0.5**
WMOK					IAmb	IAmb	20 18 18.1	
	comp=Z,52nm,1.2s							
WMOK	**Wichita Mounta**	**63.95**	**66**		P	**P**	**20 18 09.3**	**-0.5**
WMOK					pmax	pmax		
	comp=Z,53nm,1.3s							
WMOK	**Wichita Mounta**	**63.95**	**66**		P	**P**	**20 18 09.7**	**-0.1**
	baz=320,SNR=15							
WMOK	**Wichita Mounta**	**63.95**	**66**		P	**P**	**20 18 10.1**	**+0.3**
	baz=320,SNR=15							
WMOK					S	**S**	**20 26 45.6**	**+1.0**
	baz=320							
KKM	**Kota Kinabalu**	**63.98**	**241**		P	**P**	**20 18 09.8**	**-0.5**
RAMN	**Ramite**	**63.98**	**280**	*e*	P	**P**	**20 18 09.2**	**-1.2**
	comp=Z,185nm,0.8s							
SUE	**Sulen**	**64.04**	**351**	*e*	P	**P**	**20 18 10.8**	**+0.9**
SUE					IAmb	IAmb	20 18 12.9	
	comp=Z,26nm,0.7s							
SKAR	**Skarslia**	**64.06**	**349**	*e*	P	**P**	**20 18 10.3**	**+0.2**
SKAR					IAmb	IAmb	20 18 14.4	
	comp=Z,39nm,0.9s							
HNR	**Honiara**	**64.14**	**190**		LR	LR	20 41 24.8	
	comp=Z,25µm,21.7s,baz=28,slow=32							
PKI	**Pulchoki**	**64.19**	**282**	*e*	P	**P**	**20 18 10.6**	**-1.2**
	comp=Z,69nm,0.7s							
PKIN	**Phulchoki**	**64.19**	**282**	*e*	P	**P**	**20 18 10.4**	**-1.4**
	comp=Z,50nm,0.6s							
M44A	**Midewin, Midew**	**64.28**	**54**		P	**P**	**20 18 10.6**	**-1.2**
FNO	**Franklin**	**64.29**	**65**		P	**P**	**20 18 11.1**	**-0.8**
GKN	**Gorkha**	**64.30**	**283**	*e*	P	**P**	**20 18 12.0**	**-0.3**
	comp=Z,42nm,0.7s							
DEOK	**Depew**	**64.32**	**64**			**P**	**20 18 11.1**	**-1.1**
DEOK					IAmb	IAmb	20 18 19.7	
	comp=Z,32nm,1.2s							
HDIL	**Hopedale**	**64.32**	**56**		P	**P**	**20 18 11.3**	**-0.8**
HDIL	**Hopedale**	**64.32**	**56**		P	**P**	**20 18 11.6**	**-0.5**
	baz=321,SNR=9.6							
HDIL	**Hopedale**	**64.32**	**56**		P	**P**	**20 18 11.8**	**-0.3**
	baz=321,SNR=9.6							
HDIL					S	**S**	**20 26 47.8**	**-1.2**
	baz=321							
J47A	**Sunmer**	**64.32**	**51**		P	**P**	**20 18 11.4**	**-0.6**
DMN	**Daman**	**64.33**	**282**	*e*	P	**P**	**20 18 12.6**	**-0.1**
	comp=Z,39nm,0.6s							
BRDH	**Bariadhala**	**64.35**	**273**		LR	LR	20 48 13.6	
	comp=Z,2µm,18.1s,baz=54,slow=38							
CHGR	**Chuyangaron**	**64.49**	**301**		P	**P**	**20 18 12.9**	**-0.5**
CHGR	**Chuyangaron**	**64.49**	**301**		P	**P**	**20 18 12.9**	**-0.5**
CHGR					pmax	pmax		
	comp=Z,48nm,0.8s							
OSL	**Oslo**	**64.51**	**348**	*e*	P	**P**	**20 18 12.8**	**-0.1**
DANN	**Dangsing**	**64.53**	**284**	*e*	P	**P**	**20 18 13.6**	**-0.4**
	comp=Z,89nm,0.7s							
X34A	**Smith Ranch, M**	**64.56**	**66**			**P**	**20 18 13.3**	**-0.4**
ASK	**Askoy**	**64.57**	**351**	*e*	P	**P**	**20 18 13.5**	**+0.2**
ASK					IAmb	IAmb	20 18 17.1	
	comp=Z,80nm,1.2s							
R40A	**Maddies Statio**	**64.61**	**59**		P	**P**	**20 18 12.8**	**-1.1**
R40A					IAmb	IAmb	20 18 21.2	
	comp=Z,39nm,1.0s							
R40A	**Maddies Statio**	**64.61**	**59**		P	**P**	**20 18 12.9**	**-1.1**
	baz=321,SNR=14							
R40A					S	**S**	**20 26 51.0**	**-1.6**
	baz=321							
TUL1	**Leonard**	**64.63**	**63**		P	**P**	**20 18 14.0**	**-0.2**
	baz=320							
TUL1					S	**S**	**20 26 51.4**	**-1.6**
	baz=320							
BER	**Bergen**	**64.65**	**351**	*e*	P	**P**	**20 18 14.4**	**+0.5**
BER					IAmb	IAmb	20 18 18.2	
	comp=Z,37nm,0.9s							
I49A	**Point Hope**	**64.67**	**49**		P	**P**	**20 18 14.1**	**-0.2**
FAKI	**Fak Fak**	**64.69**	**221**		P	**P**	**20 18 14.6**	**-0.1**
FAKI	**Fak Fak**	**64.69**	**221**		P	**P**	**20 18 15.9**	**+1.2**
	comp=Z,2µmcomp=Z,134nm,0.9s							
FAKI	**Fak Fak**	**64.69**	**221**		P	**P**	**20 18 15.6**	**+0.9**
P43A	**Skaggs, Pawnee**	**64.92**	**57**		P	**P**	**20 18 15.6**	**-0.4**
KONO	**Kongsberg**	**64.93**	**348**		P	**P**	**20 18 16.0**	**+0.3**
KONO					IAmb	IAmb	20 18 28.6	
	comp=Z,39nm,1.1s							
KONO	**Kongsberg**	**64.93**	**348**	*ce*	P	**P**	**20 18 17.0**	**+1.3**
KONO					pmax	pmax		
	comp=Z,59nm,1.7s							
KONO	**Kongsberg**	**64.93**	**348**	*e*	P	**P**	**20 18 15.9**	**+0.2**
KONO					IAmb	IAmb	20 18 17.1	
	comp=Z,21nm,0.9s							
U38A	**Gravette**	**64.96**	**62**			**P**	**20 18 15.0**	**-1.4**
KMSI	**Cibinong**	**64.99**	**231**		P	**P**	**20 18 18.2**	**+1.5**
	comp=Z,122nm,0.7s							
ODD1	**Odda**	**64.99**	**350**	*e*	P	**P**	**20 18 16.4**	**+0.2**
ODD1					IAmb	IAmb	20 18 17.1	
	comp=Z,36nm,1.1s							
O44A	**Mansfield**	**65.03**	**55**		P	**P**	**20 18 15.9**	**-0.8**
ABTX	**Abilene, Hawle**	**65.10**	**68**		P	**P**	**20 18 16.7**	**-0.6**
ABTX	**Abilene, Hawle**	**65.10**	**68**		P	**P**	**20 18 17.2**	**-0.2**
	baz=320							
ABTX					S	**S**	**20 26 57.3**	**-1.6**
	baz=320							
PYUN	**Piuthan**	**65.16**	**284**	*e*	P	**P**	**20 18 17.3**	**-0.7**
	comp=Z,95nm,1.0s							
CCM	**Cathedral Cave**	**65.30**	**59**		P	**P**	**20 18 16.9**	**-1.6**
CCM					IAmb	IAmb	20 18 25.8	
	comp=Z,21nm,0.9s							
CCM	**Cathedral Cave**	**65.30**	**59**		P	**P**	**20 18 16.9**	**-1.6**
CCM					pmax	pmax		
	comp=Z,21nm,1.0s							
CCM	**Cathedral Cave**	**65.30**	**59**		P	**P**	**20 18 17.5**	**-1.0**
	baz=321							
CCM					S	**S**	**20 26 59.5**	**-1.6**
	baz=321							
CCM	**Cathedral Cave**	**65.30**	**59**		P	**P**	**20 18 17.9**	**-0.6**
	baz=321							
CCM					S	**S**	**20 26 59.6**	**-1.5**
	baz=321							
HHAR	**Hobbs**	**65.31**	**62**		P	**P**	**20 18 17.1**	**-1.5**
HHAR					IAmb	IAmb	20 18 25.5	
	comp=Z,42nm,1.3s							
SLM	**Saint Louis**	**65.35**	**58**		P	**P**	**20 18 17.3**	**-1.5**
SLM	**Saint Louis**	**65.35**	**58**		P	**P**	**20 18 17.3**	**-1.5**
SLM					pmax	pmax		
	comp=Z,118nm,1.5s							
LPSR	**Galich'ya Gora**	**65.35**	**329**	*e*	P	**P**	**20 18 18.1**	**-0.5**
LPSR					pmax	pmax		
	comp=Z,30nm,0.8s							
LPSR					MLR	MLR		
	comp=Z,2µm,16.0s							
LOOK	**Love County**	**65.37**	**66**			**P**	**20 18 19.2**	**+0.1**
GTOI	**Gorontalo**	**65.38**	**232**		P	**P**	**20 18 21.0**	**+1.8**
	comp=Z,326nmcomp=Z,21nm,0.9s							
TX31	**Lajitas Ar. Si**	**65.40**	**74**		P	**P**	**20 18 18.7**	**-0.7**
TX31	**Lajitas Ar. Si**	**65.40**	**74**		P	**P**	**20 18 19.5**	**+0.1**
	baz=320,SNR=67							
TX32	**Lajitas Array**	**65.40**	**74**		P	**P**	**20 18 18.9**	**-0.5**
TX32					IAmb	IAmb	20 18 23.9	
	comp=Z,56nm,1.3s							
TXAR	**Lajitas Array**	**65.40**	**74**		P	**P**	**20 18 19.4**	**0.0**
	comp=Z,12nm,0.5s,baz=303,slow=4.8,SNR=163							
TXAR					S	**S**	**20 27 03.2**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=229,slow=36,SNR=2.3							
TXAR					PKP2bc		20 47 05.3	
	comp=Z,0.8nm,1.0s,baz=139,slow=4.6,SNR=4.6							
	comp=Z,12nm,0.5s							
TXAR	**Lajitas Array**	**65.40**	**74**		P	**P**	**20 18 19.0**	**-0.4**
MGMO	**Mountain Grove**	**65.49**	**60**		P	**P**	**20 18 17.9**	**-1.9**
BLS5	**Blasjo**	**65.49**	**350**	*e*	P	**P**	**20 18 19.8**	**+0.3**
BLS5					IAmb	IAmb	20 18 20.8	
	comp=Z,22nm,0.5s							
SFIN	**Lafayette**	**65.51**	**54**		P	**P**	**20 18 18.7**	**-1.1**
SFIN					IAmb	IAmb	20 18 27.3	
	comp=Z,22nm,0.9s							
SFIN	**Lafayette**	**65.51**	**54**		P	**P**	**20 18 19.2**	**-0.6**
	baz=322,SNR=5.6							
SFIN	**Lafayette**	**65.51**	**54**		P	**P**	**20 18 19.5**	**-0.4**
	baz=322,SNR=5.6							
SFIN					S	**S**	**20 27 00.9**	**-2.8**
	baz=322							
L48A	**N Adams**	**65.52**	**52**		P	**P**	**20 18 19.2**	**-0.7**
L48A	**N Adams**	**65.52**	**52**		P	**P**	**20 18 19.1**	**-0.7**
	baz=322,SNR=7.3							
L48A					P	**P**	**20 18 19.1**	**-0.7**
	baz=322,SNR=7.3							
AAM	**Ann Arbor**	**65.59**	**51**		P	**P**	**20 18 20.1**	**-0.2**
AAM	**Ann Arbor**	**65.59**	**51**		P	**P**	**20 18 20.1**	**-0.2**
AAM					pmax	pmax		
	comp=Z,28nm,0.5s							
AAM	**Ann Arbor**	**65.59**	**51**		P	**P**	**20 18 19.7**	**-0.6**
	baz=323							
SADO	**Sadowa**	**65.59**	**46**		LR	LR	20 48 10.7	
	comp=Z,2µm,18.1s,baz=355,slow=37							
SADO	**Sadowa**	**65.59**	**46**		P	**P**	**20 18 19.1**	**-1.4**
LPIG	**La Paz**	**65.63**	**82**		P	**P**	**20 18 20.9**	**+0.1**
	comp=Z,31nm,0.4s,baz=270,slow=7.1,SNR=1.3							
LPIG					LR	LR	20 41 05.3	
	comp=Z,496nm,21.8s,baz=314,slow=31							
	comp=Z,31nm,0.4s							
K50A	**Casco**	**65.68**	**50**		P	**P**	**20 18 19.7**	**-1.2**
**VRH

O48B	**Farmland**	**66.52**	**53**	P	**P**	**20 18 25.7**	**-0.6**
	baz=322							
O48B				S	**S**	**20 27 13.7**	**-2.2**
	baz=322							
FCAR	**Ozark Folk Cen**	**66.54**	**61**	P	**P**	**20 18 24.9**	**-1.6**
FCAR				IAmb	IAmb	20 18 33.3		
	comp=Z,41nm,0.9s							
PABE	**Paberze**	**66.55**	**339**	P	**P**	**20 18 26.6**	**+0.4**
PABE				IAmb	IAmb	20 18 35.0		
	comp=Z,45nm,0.9s							
PABE	**Paberze**	**66.55**	**339**	*e*P	**P**	**20 18 26.6**	**+0.4**
S44A	**Carbondale**	**66.57**	**58**	P	**P**	**20 18 25.8**	**-0.9**
S44A				IAmb	IAmb	20 18 29.5		
	comp=Z,38nm,0.8s							
S44A	**Carbondale**	**66.57**	**58**	P	**P**	**20 18 26.0**	**-0.6**
	baz=322,SNR=6.6							
SIUC	**Southern Illin**	**66.57**	**58**	P	**P**	**20 18 25.5**	**-1.2**
SIUC				IAmb	IAmb	20 18 29.5		
	comp=Z,36nm,0.8s							
MNK	**Minsk**	**66.61**	**336**	*i* P	**P**	**20 18 27.9**	**+1.3**
MNK				*i*		20 18 57.1		
MNK				*i*		20 20 54.2		
MNK				*i* PPP	PPP	20 22 33.2		
MNK				*i* S	**S**	**20 27 18.0**	**+1.5**
MNK				pmax	pmax			
	comp=N,7.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,93nm,0.9s							
MNK				pmax	pmax			
	comp=E,6.0nm,1.0s							
MNK				MLR	MLR			
	comp=Z,2µm,19.0s							
MNK				MLR	MLR			
	comp=E,240nm,20.0s							
MNK	**Minsk**	**66.61**	**336**	*i* P	**P**	**20 18 27.9**	**+1.3**
	comp=E,6.0nm,1.0s							
MNK				*i* P	**P**	**20 18 27.9**	**+1.3**
	comp=N,7.0nm,0.8s							
MNK				*i* P	**P**	**20 18 27.9**	**+1.3**
	comp=Z,93nm,0.9s,baz=24							
MNK				*i* PcP	**PcP**	**20 18 57.2**	**+1.4**
MNK				*i* PP	**PP**	**20 20 54.2**	**+1.5**
MNK				*i* PPP	PPP	20 22 33.3		
MNK				*i* S	**S**	**20 27 18.1**	**+1.5**
MNK				*i* SS	**SS**	**20 31 37.4**	**+4.6**
MNK				*i* SSS	SSS	20 34 47.1		
MNK				*i* LQ	LQ	20 42 02.1		
MNK				*i* LR	LR	20 47 28.2		
MNK				*i* LRM	MLR	20 50 04.1		
	comp=E,240nm,19.8s							
MNK				*i* LRM	MLR	20 50 04.1		
	comp=N,16nm,19.2s							
MNK				*i* LRM	MLR	20 50 04.1		
	comp=Z,2µm,18.6s							
JCT	**Junction City**	**66.66**	**70**	P	**P**	**20 18 26.9**	**-0.5**
JCT	**Junction City**	**66.66**	**70**	P	**P**	**20 18 26.9**	**-0.5**
JCT				pmax	pmax			
	comp=Z,237nm,2.0s							
JCT	**Junction City**	**66.66**	**70**	P	**P**	**20 18 27.2**	**-0.2**
	baz=321,SNR=7.2							
JCT				S	**S**	**20 27 19.9**	**+1.9**
	baz=321							
JCT	**Junction City**	**66.66**	**70**	P	**P**	**20 18 26.4**	**-1.0**
	baz=321,SNR=7.2							
JCT				S	**S**	**20 27 18.4**	**+0.4**
	baz=321							
BLO	**Bloomington**	**66.73**	**55**	P	**P**	**20 18 26.7**	**-1.0**
BLO				IAmb	IAmb	20 18 35.8		
	comp=Z,52nm,1.4s							
BLO	**Bloomington**	**66.73**	**55**	P	**P**	**20 18 26.7**	**-1.0**
BLO				pmax	pmax			
	comp=Z,52nm,1.4s							
WHTX	**Lake Whitney,**	**66.77**	**67**	P	**P**	**20 18 26.8**	**-1.2**
WHTX				IAmb	IAmb	20 18 36.9		
	comp=Z,21nm,0.8s							
WHTX	**Lake Whitney,**	**66.77**	**67**	P	**P**	**20 18 27.5**	**-0.5**
	baz=321							
WHTX				S	**S**	**20 27 18.7**	**-0.5**
	baz=321							
WHTX	**Lake Whitney,**	**66.77**	**67**	P	**P**	**20 18 26.4**	**-1.6**
	baz=321							
WHTX				S	**S**	**20 27 19.7**	**+0.6**
	baz=321							
LMQ	**La Malbaie**	**66.79**	**39**	P	**P**	**20 18 27.6**	**-0.3**
LMQ				IAmb	IAmb	20 18 29.0		
	comp=Z,26nm,0.7s							
MIAR	**Mount Ida**	**66.84**	**63**	P	**P**	**20 18 27.8**	**-0.6**
MIAR				IAmb	IAmb	20 18 36.2		
	comp=Z,30nm,1.1s							
MIAR	**Mount Ida**	**66.84**	**63**	P	**P**	**20 18 27.8**	**-0.6**
MIAR				pmax	pmax			
	comp=Z,30nm,1.1s							
MIAR	**Mount Ida**	**66.84**	**63**	S	**S**	**20 27 21.2**	**+1.2**
	baz=321							
MIAR	**Mount Ida**	**66.84**	**63**	P	**P**	**20 18 27.0**	**-1.4**
	baz=321							
MIAR				S	**S**	**20 27 20.0**	**+0.1**
	baz=321							
LCAR	**Lake Charles**	**66.89**	**60**	P	**P**	**20 18 26.9**	**-1.9**
WHAR	**Wooly Hollow**	**66.92**	**61**	P	**P**	**20 18 28.1**	**-0.9**
WHAR				IAmb	IAmb	20 18 31.6		
	comp=Z,29nm,0.9s							
O49A	**Covington**	**66.96**	**53**	P	**P**	**20 18 28.0**	**-1.1**
O49A				IAmb	IAmb	20 18 36.5		
	comp=Z,50nm,1.3s							
LUWI	**Luwuk**	**66.97**	**231**	P	**P**	**20 18 28.4**	**-1.0**
J54A	**Appleton**	**67.02**	**47**	P	**P**	**20 18 28.9**	**-0.5**
J54A				IAmb	IAmb	20 18 37.5		
	comp=Z,51nm,1.1s							
J54A	**Appleton**	**67.02**	**47**	P	**P**	**20 18 29.4**	**0.0**
	baz=324							
J54A				P	**P**	**20 18 29.4**	**0.0**
	baz=324							
P48A	**Milroy**	**67.02**	**54**	P	**P**	**20 18 28.0**	**-1.6**
P48A				IAmb	IAmb	20 18 37.3		
	comp=Z,62nm,1.3s							
P48A	**Milroy**	**67.02**	**54**	P	**P**	**20 18 28.4**	**-1.2**
	baz=323							
P48A				P	**P**	**20 18 28.4**	**-1.2**
	baz=323							
Z38A	**Mt. Pleasant**	**67.10**	**65**	P	**P**	**20 18 29.2**	**-0.9**
Z38A				IAmb	IAmb	20 18 37.7		
	comp=Z,34nm,0.8s							
Z38A	**Mt. Pleasant**	**67.10**	**65**	S	**S**	**20 27 24.5**	**+1.4**
	baz=321							
USIN	**University of**	**67.13**	**56**	P	**P**	**20 18 29.7**	**-0.6**
PECO	**Prince Edward**	**67.17**	**46**	P	**P**	**20 18 29.1**	**-1.3**
PECO				IAmb	IAmb	20 18 37.8		
	comp=Z,51nm,1.3s							
MEDO	**Medina**	**67.18**	**47**	P	**P**	**20 18 30.0**	**-0.5**
M52A	**Chesterland**	**67.23**	**50**	P	**P**	**20 18 30.4**	**-0.5**
M52A	**Chesterland**	**67.23**	**50**	P	**P**	**20 18 30.3**	**-0.5**
	baz=324							
M52A				P	**P**	**20 18 30.3**	**-0.5**
	baz=324							
MNTQ	**Montreal, Queb**	**67.25**	**42**	P	**P**	**20 18 29.0**	**-1.8**
MNTQ				IAmb	IAmb	20 18 31.3		
	comp=Z,25nm,0.6s							
N51A	**Ashland**	**67.27**	**51**	P	**P**	**20 18 30.1**	**-1.0**
N51A	**Ashland**	**67.27**	**51**	P	**P**	**20 18 30.5**	**-0.6**
	baz=323,SNR=10							
N51A				P	**P**	**20 18 30.5**	**-0.6**
	baz=323,SNR=10							
P49A	**Miami Univ. Ec**	**67.30**	**53**	P	**P**	**20 18 30.2**	**-1.1**
P49A				IAmb	IAmb	20 18 39.1		
	comp=Z,56nm,1.2s							
P49A	**Miami Univ. Ec**	**67.30**	**53**	P	**P**	**20 18 30.5**	**-0.8**
	baz=323							
P49A				S	**S**	**20 27 24.0**	**-1.3**
	baz=323							
ERPA	**Erie**	**67.37**	**49**	P	**P**	**20 18 30.3**	**-1.4**
ERPA	**Erie**	**67.37**	**49**	P	**P**	**20 18 30.1**	**-1.6**
	baz=324,SNR=6.9							
J55A	**Hilton**	**67.37**	**46**	P	**P**	**20 18 29.9**	**-1.7**
J55A				IAmb	IAmb	20 18 39.4		
	comp=Z,58nm,1.2s							
BMNY	**Brushton-Moira**	**67.44**	**43**	P	**P**	**20 18 30.3**	**-1.7**
	baz=326,SNR=12							
ACSO	**Alum Creek Sta**	**67.55**	**52**	P	**P**	**20 18 32.0**	**-0.8**
ACSO				IAmb	IAmb	20 18 35.7		
	comp=Z,32nm,0.9s							
ACSO	**Alum Creek Sta**	**67.55**	**52**	P	**P**	**20 18 31.0**	**-1.9**
	baz=323							
WCI	**Wyandotte Cave**	**67.59**	**55**	P	**P**	**20 18 32.1**	**-1.0**
WCI				IAmb	IAmb	20 18 36.0		
	comp=Z,39nm,0.8s							
WCI	**Wyandotte Cave**	**67.59**	**55**	P	**P**	**20 18 32.1**	**-1.0**
WCI				pmax	pmax			
	comp=Z,39nm,0.8s							
WCI	**Wyandotte Cave**	**67.59**	**55**	P	**P**	**20 18 31.3**	**-1.8**
	baz=323							
WCI				S	**S**	**20 27 28.9**	**+0.1**
	baz=323							
LONY	**Lake Ozonia**	**67.59**	**44**	P	**P**	**20 18 31.6**	**-1.5**
LONY				IAmb	IAmb	20 18 39.5		
	comp=Z,32nm,1.3s							
LONY	**Lake Ozonia**	**67.59**	**44**	P	**P**	**20 18 31.4**	**-1.7**
	baz=326,SNR=7.1							
LONY				S	**S**	**20 27 26.7**	**-2.1**
	baz=326							
M53A	**WI Miller and**	**67.61**	**50**	P	**P**	**20 18 32.3**	**-1.0**
M53A	**WI Miller and**	**67.61**	**50**	P	**P**	**20 18 31.9**	**-1.4**
	baz=324,SNR=14							
M53A				S	**S**	**20 27 27.3**	**-1.8**
	baz=324							
435B	**Jarrell**	**67.63**	**68**	P	**P**	**20 18 32.5**	**-1.0**
435B				IAmb	IAmb	20 18 43.8		
	comp=Z,34nm,0.8s							
435B	**Jarrell**	**67.63**	**68**	P	**P**	**20 18 31.1**	**-2.4**
	baz=321							
435B				S	**S**	**20 27 30.6**	**+1.0**
	baz=321							
D62A	**Allapoint, All**	**67.65**	**39**	P	**P**	**20 18 32.5**	**-0.8**
D62A				IAmb	IAmb	20 18 35.3		
	comp=Z,24nm,0.8s							
D62A	**Allapoint, All**	**67.65**	**39**	P	**P**	**20 18 32.5**	**-0.8**
	baz=328,SNR=9.8							
D62A				P	**P**	**20 18 32.5**	**-0.8**
	baz=328,SNR=9.8							
ALLY	**Alegheny Colle**	**67.68**	**49**	P	**P**	**20 18 32.9**	**-0.8**
KBL	**Kabul**	**67.75**	**298**	P	**P**	**20 18 32.4**	**-2.1**
KBL				IAmb	IAmb	20 18 36.7		
	comp=Z,39nm,1.4s							
KBL	**Kabul**	**67.75**	**298**	P	**P**	**20 18 32.4**	**-2.1**
KBL				pmax	pmax			
	comp=Z,39nm,1.4s							
WLAR	**White Oak Lake**	**67.75**	**63**	P	**P**	**20 18 32.9**	**-1.3**
J56A	**Wolcott**	**67.77**	**46**	P	**P**	**20 18 32.7**	**-1.5**
J56A				IAmb	IAmb	20 18 41.5		
	comp=Z,55nm,1.2s							
J56A	**Wolcott**	**67.77**	**46**	P	**P**	**20 18 32.2**	**-1.9**
	baz=325,SNR=9.0							
J56A				P	**P**	**20 18 32.2**	**-1.9**
	baz=325,SNR=9.0							
MMNY	**Mt. Morris Dam**	**67.77**	**47**	P	**P**	**20 18 32.9**	**-1.3**
E62A	**Clayton Lake**	**67.87**	**39**	P	**P**	**20 18 33.8**	**-1.0**
E62A	**Clayton Lake**	**67.87**	**39**	P	**P**	**20 18 33.3**	**-1.5**
	baz=328,SNR=8.3							
E62A				P	**P**	**20 18 33.3**	**-1.5**
	baz=328,SNR=8.3							
J57A	**Williamstown**	**68.01**	**45**	P	**P**	**20 18 34.4**	**-1.3**
J57A				IAmb	IAmb	20 18 43.3		
	comp=Z,43nm,1.2s							
N53A	**Lisbon**	**68.05**	**50**	P	**P**	**20 18 35.2**	**-0.8**
N53A				IAmb	IAmb	20 18 38.9		
	comp=Z,35nm,0.8s							
N53A	**Lisbon**	**68.05**	**50**	P	**P**	**20 18 35.0**	**-1.1**
	baz=324,SNR=8.2							
N53A				P	**P**	**20 18 35.0**	**-1.1**
	baz=324,SNR=8.2							
R49A	**Shelbyville**	**68.07**	**55**	P	**P**	**20 18 35.3**	**-0.9**
R49A				IAmb	IAmb	20 18 44.2		
	comp=Z,52nm,1.4s							
P51A	**Williamsport**	**68.11**	**52**	P	**P**	**20 18 35.3**	**-1.1**
P51A				IAmb	IAmb	20 18 38.8		
	comp=Z,18nm,0.7s							
O52A	**Adamsville**	**68.16**	**51**	P	**P**	**20 18 35.5**	**-1.3**
O52A	**Adamsville**	**68.16**	**51**	P	**P**	**20 18 36.0**	**-0.8**
	baz=324,SNR=24							
O52A				P	**P**	**20 18 36.0**	**-0.8**
	baz=324,SNR=24							
T47A	**Sharon Grove**	**68.18**	**57**	P	**P**	**20 18 36.5**	**-0.4**
T47A	**Sharon Grove**	**68.18**	**57**	P	**P**	**20 18 36.5**	**-0.4**
	baz=323							
CCAR	**Cane Creek**	**68.26**	**62**	P	**P**	**20 18 36.6**	**-0.8**
NCB	**Newcomb**	**68.28**	**44**	P	**P**	**20 18 36.3**	**-1.1**
NCB	**Newcomb**	**68.28**	**44**	P	**P**	**20 18 35.2**	**-2.2**
	baz=326							
O53A	**New Philadelph**	**68.33**	**51**	P	**P**	**20 18 36.8**	**-1.0**
O53A				IAmb	IAmb	20 18 40.5		
	comp=Z,34nm,0.8s							
O53A	**New Philadelph**	**68.33**	**51**	P	**P**	**20 18 35.4**	**-2.4**
	baz=324,SNR=11							
O53A				S	**S**	**20 27 34.5**	**-3.2**
	baz=324							
Q51A	**Peebles**	**68.34**	**53**	P	**P**	**20 18 37.5**	**-0.5**
Q51A	**Peebles**	**68.34**	**53**	P	**P**	**20 18 37.2**	**-0.7**
	baz=324,SNR=7.9							
Q51A				P	**P**	**20 18 37.2**	**-0.7**
	baz=324,SNR=7.9							
J58A	**Remsen**	**68.35**	**45**	P	**P**	**20 18 36.5**	**-1.4**
J58A				IAmb	IAmb	20 18 45.3		
	comp=Z,49nm,1.1s							
J58A	**Remsen**	**68.35**	**45**	P	**P**	**20 18 36.7**	**-1.2**
	baz=326,SNR=9.6							
J58A				P	**P**	**20 18 36.7**	**-1.2**
	baz=326,SNR=9.6							
K57A	**Scipio Center**	**68.36**	**46**	P	**P**	**20 18 36.5**	**-1.4**
K57A	**Scipio Center**	**68.36**	**46**	P	**P**	**20 18 36.9**	**-1.0**
	baz=325,SNR=5.6							
L56A	**Greenwood**	**68.40**	**47**	P	**P**	**20 18 36.7**	**-1.6**
L56A	**Greenwood**	**68.40**	**47**	P	**P**	**20 18 36.5**	**-1.7**
	baz=325,SNR=21							
L56A				P	**P**	**20 18 36.5**	**-1.7**
	baz=325,SNR=21							
P52A	**Corning**	**68.41**	**52**	P	**P**	**20 18 37.2**	**-1.1**
P52A				IAmb	IAmb	20 18 40.7		
	comp=Z,32nm,0.8s							
P52A	**Corning**	**68.41**	**52**	P	**P**	**20 18 36.5**	**-1.9**
	baz=324							
P52A				S	**S**	**20 27 35.7**	**-3.0**
	baz=324							
M55A	**Ridgway**	**68.43**	**48**	P	**P**	**20 18 37.3**	**-1.2**
M55A	**Ridgway**	**68.43**	**48**	P	**P**	**20 18 37.3**	**-1.2**
	baz=325,SNR=19							
M55A				P	**P**	**20 18 37.3**	**-1.2**
	baz=325,SNR=19							
NATX	**Nacogdoches**	**68.44**	**65**	P	**P**	**20 18 37.5**	**-1.1**
NATX	**Nacogdoches**	**68.44**	**65**	P	**P**	**20 18 38.6**	**0.0**
	baz=322							
E63A	**Oxbow**	**68.44**	**39**	P	**P**	**20 18 37.3**	**-1.0**
	baz=328							
E63A				P	**P**	**20 18 37.3**	**-1.0**
	baz=328							
R50A	**Paris**	**68.48**	**54**	P	**P**	**20 18 38.6**	**-0.2**
R50A				IAmb	IAmb	20 18 46.6		
	comp=Z,55nm,1.5s							
WVT	**Waverly**	**68.50**	**58**	P	**P**	**20 18 37.6**	**-1.3**
WVT				IAmb	IAmb	20 18 41.7		
	comp=Z,22nm,0.9s							
WVT	**Waverly**	**68.50**	**58**	P	**P**	**20 18 37.6**	**-1.3**
WVT				pmax	pmax			
	comp=Z,22nm,0.9s							
WVT	**Waverly**	**68.50**	**58**	P	**P**	**20 18 38.2**	**-0.7**
	baz=323,SNR=17							
WVT	**Waverly**	**68.50**	**58**	P	**P**	**20 18 38.8**	**-0.1**
	baz=323							
WVT				S	**S**	**20 27 40.8**	**+0.9**
	baz=323							
BATG	**Bathurst New B**	**68.55**	**37**	P	**P**	**20 18 39.0**	**0.0**
BATG				IAmb	IAmb	20 18 40.5		
	comp=Z,24nm,0.6s							
833A	**Chaparral WMA,**	**68.55**	**71**	P	**P**	**20 18 39.6**	**+0.3**
833A				IAmb	IAmb	20 18 47.4		
	comp=Z,26nm,0.8s							
833A	**Chaparral WMA,**	**68.55**	**71**	P	**P**	**20 18 38.7**	**-0.6**
	baz=321							
833A				S	**S**	**20 27 43.2**	**+2.5**
	baz=321							
J59A	**Piesco**	**68.58**	**44**	P	**P**	**20 18 37.5**	**-1.8**
J59A				IAmb	IAmb	20 18 39.6		
	comp=Z,16nm,0.6s							
J59A	**Piesco**	**68.58**	**44**	P	**P**	**20 18 37.7**	**-1.6**
	baz=326,SNR=8.4							
J59A				P	**P**	**20 18 37.7**	**-1.6**
	baz=326,SNR=8.4							
BSD	**Bornholm Skovb**	**68.59**	**344**	*e*P	**P**	**20 18 40.1**	**+0.9**
W45A	**Hickory Valley**	**68.60**	**59**	P	**P**	**20 18 39.0**	**-0.5**
G62A	**West of Eustis**	**68.68**	**41**	P	**P**	**20 18 39.3**	**-0.6**
G62A				IAmb	IAmb	20 18 41.8		
	comp=Z,41nm,1.1s							
G62A	**West of Eustis**	**68.68**	**41**	P	**P**	**20 18 38.0**	**-1.9**
	baz=328,SNR=10							
G62A				P	**P**	**20 18 38.0**	**-1.9**
	baz=328,SNR=10							
UPAO	**U. Pittsburgh**	**68.68**	**50**	P	**P**	**20 18 39.3**	**-0.7**
	baz=324							
PSDB	**Penn State Uni**	**68.71**	**48**	P	**P**	**20 18 39.2**	**-1.0**
	baz=325							
KUDL	**Kundal**	**68.76**	**289**	*e*P	**P**	**20 18 39.3**	**-1.3**
O54A	**Avella**	**68.76**	**50**	P	**P**	**20 18 39.5**	**-1.0**
O54A	**Avella**	**68.76**	**50**	P	**P**	**20 18 39.6**	**-0.9**
	baz=324							
O54A				P	**P**	**20 18 39.6**	**-0.9**
	baz=324							
MCVT	**Middlebury Col**	**68.78**	**43**	P	**P**	**20 18 39.2**	**-1.4**
	baz=327							
F63A	**Nahmakanta, Br**	**68.80**	**39**	P	**P**	**20 18 40.0**	**-0.6**
F63A				IAmb	IAmb	20 18 48.3		
	comp=Z,38nm,1.4s							
P53A	**Whipple**	**68.87**	**51**	P	**P**	**20 18 40.6**	**-0.6**
P53A				IAmb	IAmb	20 18 49.4		
	comp=Z,56nm,1.4s							
Q52A	**Bidwell**	**68.89**	**52**	P	**P**	**20 18 40.0**	**-1.3**
F64A	**Sherman**	**68.94**	**39**	P	**P**	**20 18 40.4**	**-1.1**
F64A				IAmb	IAmb	20 18 42.6		
	comp=Z,18nm,0.7s							
F64A	**Sherman**	**68.94**	**39**	P	**P**	**20 18 40.1**	**-1.4**
	baz=328,SNR=6.6							
F64A				P	**P**	**20 18 40.1**	**-1.4**
	baz=328,SNR=6.6							
LBNH	**Lisbon**	**68.96**	**42**	P	**P**	**20 18 40.6**	**-1.0**
LBNH				IAmb	IAmb	20 18 49.7		
	comp=Z,39nm,1.1s							
LBNH	**Lisbon**	**68.96**	**42**	P	**P**	**20 18 40.6**	**-1.0**
LBNH				pmax	pmax			
	comp=Z,39nm,1.2s							
LBNH	**Lisbon**	**68.96**	**42**	P	**P**	**20 18 40.7**	**-1.0**
	baz=327							
LBNH	**Lisbon**	**68.96**	**42**	P	**P**	**20 18 40.8**	**-0.9**
	baz=327							
H62A	**Milan**	**68.98**	**41**	P	**P**	**20 18 41.1**	**-0.6**
H62A				IAmb	IAmb	20 18 43.6		
	comp=Z,30nm,0.7s							
H62A	**Milan**	**68.98**	**41**	P	**P**	**20 18 40.5**	**-1.3**
	baz=328,SNR=11							
H62A				P	**P**	**20 18 40.5**	**-1.3**
	baz=328,SNR=11							
ACCN	**Adirondack Com**	**68.99**	**44**	P	**P**	**20 18 40.1**	**-1.8**
ACCN				IAmb	IAmb	20 18 42.5		
	comp=Z,25nm,0.7s							
ACCN	**Adirondack Com**	**68.99**	**44**	P	**P**	**20 18 40.3**	**-1.5**
	baz=327,SNR=9.0							
OXF	**Oxford**	**69.00**	**60**	P	**P**	**20 18 41.6**	**-0.3**
OXF	**Oxford**	**69.00**	**60**	P	**P**	**20 18 41.7**	**-0.3**
OXF				pmax	pmax			
	comp=Z,94nm,1.0s							
OXF	**Oxford**	**69.00**	**60**	P	**P**	**20 18 40.0**	**-2.0**
	baz=322							
OXF				S	**S**	**20 27 45.6**	**-0.1**
	baz=322							
BINY	**Binghamton**	**69.02**	**46**	P	**P**	**20 18 40.5**	**-1.5**
BINY				IAmb	IAmb	20 18 49.1		
	comp=Z,42nm,1.2s							
BINY	**Binghamton**	**69.02**	**46**	P	**P**	**20 18 41.1**	**-0.9**
	baz=326							
BINY				S	**S**	**20 27 43.0**	**-2.8**
	baz=326							
SBUM	**Sibu**	**69.10**	**243**	P	**P**	**20 18 42.7**	**-0.2**
PKME	**Peaks-Kenny Pk**	**69.10**	**40**	P	**P**	**20 18 41.4**	**-1.1**
	baz=328							
U49A	**Red Boiling Sp**	**69.20**	**56**	P	**P**	**20 18 42.2**	**-1.0**
U49A				IAmb	IAmb	20 18 51.1		
	comp=Z,25nm,1.0s							
U49A	**Red Boiling Sp**	**69.20**	**56**	P	**P**	**20 18 42.5**	**-0.8**
	baz=323,SNR=14							
U49A				S	**S**	**20 27 47.3**	**-0.8**
	baz=323							
HKT	**Hockley**	**69.22**	**68**	P	**P**	**20 18 43.2**	**-0.2**
HKT				IAmb	IAmb	20 18 51.9		
	comp=Z,74nm,1.8s							
HKT	**Hockley**	**69.22**	**68**	P	**P**	**20 18 43.2**	**-0.2**
HKT				pmax	pmax			
	comp=Z,75nm,1.8s							
M57A	**Sunshine Farm,**	**69.24**	**47**	P	**P**	**20 18 42.0**	**-1.4**
M57A	**Sunshine Farm,**	**69.24**	**47**	P	**P**	**20 18 42.1**	**-1.3**
	baz=326,SNR=16							
M57A				P	**P**	**20 18 42.1**	**-1.3**
	baz=326,SNR=16							
CLTN	**Cedars of Leba**	**69.27**	**57**	P	**P**	**20 18 43.4**	**-0.3**
CLTN				IAmb	IAmb	20 18 47.1		
	comp=Z,36nm,0.8s							
HNH	**Hanover**	**69.27**	**43**	P	**P**	**20 18 43.2**	**-0.3**
HNH				IAmb	IAmb	20 18 47.3		
	comp=Z,33nm,1.2s							
PLAL	**Pickwick Lake**	**69.29**	**59**	P	**P**	**20 18 42.9**	**-0.9**
PLAL				IAmb	IAmb	20 18 45.5		
	comp=Z,27nm,0.6s							
V48A	**Smith Brothers**	**69.31**	**57**	P	**P**	**20 18 43.3**	**-0.6**
V48A	**Smith Brothers**	**69.31**	**57**	P	**P**	**20 18 43.0**	**-1.0**
	baz=323,SNR=11							
S51A	**Beattyville**	**69.34**	**54**	P	**P**	**20 18 43.9**	**-0.2**
S51A	**Beattyville**	**69.34**	**54**	P	**P**	**20 18 44.2**	**0.0**
	baz=324							
S51A				P	**P**	**20 18 44.2**	**0.0**
	baz=324							
RGN	**Rugen**	**69.39**	**345**	P	**P**	**20 18 44.1**	**0.0**
L59A	**Walton**	**69.42**	**45**	P	**P**	**20 18 43.3**	**-1.3**
L59A				IAmb	IAmb	20 18 45.7		
	comp=Z,31nm,0.9s							
MCWV	**Mont Chateau**	**69.43**	**50**	P	**P**	**20 18 43.9**	**-0.7**
MCWV	**Mont Chateau**	**69.43**	**50**	P	**P**	**20 18 44.5**	**-0.2**
	baz=325,SNR=7.7							
MCWV	**Mont Chateau**	**69.43**	**50**	P	**P**	**20 18 43.3**	**-1.3**
	baz=325,SNR=7.7							
Y45A	**Yeager Farm, C**	**69.44**	**60**	P	**P**	**20 18 44.3**	**-0.5**
J61A	**Chester**	**69.46**	**43**	P	**P**	**20 18 44.4**	**-0.3**
J61A				IAmb	IAmb	20 18 51.9		
	comp=Z,82nm,1.6s							
SSPA	**Standing Stone**	**69.49**	**48**	P	**P**	**20 18 43.6**	**-1.3**
SSPA				IAmb	IAmb	20 18 47.7		
	comp=Z,26nm,0.8s							
SSPA	**Standing Stone**	**69.49**	**48**	P	**P**	**20 18 44.3**	**-0.7**
	baz=325,SNR=15							
SSPA	**Standing Stone**	**69.49**	**48**	P	**P**	**20 18 44.1**	**-0.9**
	baz=325							
SSPA				S	**S**	**20 27 49.4**	**-2.1**
	baz=325							
Q54A	**Coxs Mills**	**69.53**	**51**	P	**P**	**20 18 44.8**	**-0.4**
Q54A				IAmb	IAmb	20 18 46.6		
	comp=Z,23nm,0.6s							
Q54A	**Coxs Mills**	**69.53**	**51**	P	**P**	**20 18 44.9**	**-0.4**
	baz=324,SNR=5.9							
Q54A				P	**P**	**20 18 44.9**	**-0.4**
	baz=324,SNR=5.9							
R53A	**Hurricane**	**69.55**	**52**	P	**P**	**20 18 44.4**	**-1.0**
R53A	**Hurricane**	**69.55**	**52**	P	**P**	**20 18 44.9**	**-0.5

	comp=Z,28nm,0.7s								
BKB	**Balikpapan**	**69.93**	**237**		P	**P**	**20 18 47.1**	**-0.8**
GKP	**Gorka Klasztor**	**69.97**	**342**	*e*	P	**P**	**20 18 47.4**	**-0.3**
GGN	**Saint George**	**70.13**	**38**		P	**P**	**20 18 48.5**	**-0.3**
GGN					IAmb	IAmb	20 19 01.9	
	comp=Z,25nm,0.9s								
SWET	**Sewanee**	**70.16**	**57**		P	**P**	**20 18 48.3**	**-1.0**
SWET					IAmb	IAmb	20 18 56.5	
	comp=Z,64nm,1.4s								
L61B	**Northampton**	**70.17**	**44**		P	**P**	**20 18 48.3**	**-0.8**
	baz=327								
AFI	**Afiamalu**	**70.19**	**160**		LR	LR	20 44 22.5		
	comp=Z,2µm,20.4s,baz=347,slow=31								
LMN	**Caledonia Moun**	**70.22**	**37**		P	**P**	**20 18 48.5**	**-0.9**
LMN					IAmb	IAmb	20 21 13.5	
	comp=Z,45nm,1.5s								
X48A	**Hartselle**	**70.22**	**58**		P	**P**	**20 18 48.4**	**-1.2**
X48A	**Hartselle**	**70.22**	**58**		S	**S**	**20 27 58.8**	**-1.4**
	baz=323								
VBMS	**Vicksburg**	**70.24**	**62**		S	**S**	**20 28 01.4**	**+1.0**
	baz=323								
TZTN	**Tazewell**	**70.24**	**55**		P	**P**	**20 18 49.6**	**-0.1**
TZTN					IAmb	IAmb	20 18 57.7	
	comp=Z,51nm,1.2s								
TZTN	**Tazewell**	**70.24**	**55**		P	**P**	**20 18 49.4**	**-0.3**
	baz=324,SNR=6.0								
TZTN					S	**S**	**20 28 00.6**	**+0.2**
	baz=324								
TZTN	**Tazewell**	**70.24**	**55**		P	**P**	**20 18 49.3**	**-0.4**
	baz=324,SNR=6.0								
TZTN					S	**S**	**20 27 59.5**	**-0.9**
	baz=324								
EMMW	**East Machias**	**70.26**	**39**		P	**P**	**20 18 48.9**	**-0.7**
S54A	**Dingess, Beckl**	**70.27**	**52**		P	**P**	**20 18 49.0**	**-0.9**
S54A					IAmb	IAmb	20 18 51.2	
	comp=Z,19nm,0.7s								
S54A	**Dingess, Beckl**	**70.27**	**52**		P	**P**	**20 18 49.3**	**-0.6**
	baz=325,SNR=6.5								
S54A					P	**P**	**20 18 49.3**	**-0.6**
	baz=325,SNR=6.5								
EKA	**Eskdalemuir Ar**	**70.28**	**355**		LR	LR	20 47 37.5		
	comp=Z,1µm,20.3s,baz=360,slow=34								
ESK	**Eskdalemuir**	**70.30**	**355**		P	**P**	**20 18 50.0**	**+0.3**
ESK					IAmb	IAmb	20 19 02.0	
	comp=Z,35nm,1.0s								
ESK	**Eskdalemuir**	**70.30**	**355**		P	**P**	**20 18 50.0**	**+0.3**
ESK					pmax	pmax			
	comp=Z,35nm,1.0s								
GEYT	**Alibeck**	**70.36**	**308**		P	**P**	**20 18 49.6**	**-0.8**
	comp=Z,9.8nm,0.7s,baz=336,slow=1.8,SNR=16								
GEYT					S	**S**	**20 28 00.2**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=248,slow=24,SNR=1.5								
GEYT					LR	LR	20 52 56.6		
	comp=Z,4µm,18.3s,baz=47,slow=39								
	comp=Z,9.8nm,0.7s								
GEYT	**Alibeck**	**70.36**	**308**		P	**P**	**20 18 49.8**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**70.36**	**308**		P	**P**	**20 18 50.8**	**+0.3**
P57A	**Homestead Farm**	**70.38**	**49**		P	**P**	**20 18 50.2**	**-0.3**
V51A	**Loudon**	**70.46**	**56**		P	**P**	**20 18 50.4**	**-0.6**
V51A					IAmb	IAmb	20 18 52.0	
	comp=Z,29nm,0.7s								
V51A	**Loudon**	**70.46**	**56**		P	**P**	**20 18 49.9**	**-1.1**
	baz=324,SNR=7.0								
V51A					S	**S**	**20 28 01.2**	**-1.7**
	baz=324								
W50A	**Signal Mountai**	**70.48**	**57**		P	**P**	**20 18 50.1**	**-1.1**
W50A					IAmb	IAmb	20 18 58.8	
	comp=Z,41nm,0.8s								
W50A	**Signal Mountai**	**70.48**	**57**		P	**P**	**20 18 50.4**	**-0.8**
	baz=324,SNR=20								
W50A					S	**S**	**20 28 03.0**	**-0.2**
	baz=324								
GOF	**Gofitskoye**	**70.55**	**322**	⇑	*e*P	**P**	**20 18 51.4**	**0.0**
GOF					pmax	pmax			
	comp=Z,36nm,0.9s								
HRV	**Adam Dziewonsk**	**70.56**	**43**		P	**P**	**20 18 50.8**	**-0.8**
	baz=328								
LUPA	**Lehigh Univers**	**70.60**	**47**		P	**P**	**20 18 51.3**	**-0.5**
LUPA					IAmb	IAmb	20 19 16.2	
	comp=Z,47nm,1.4s								
BEL	**Belsk**	**70.66**	**340**	*e*	P	**P**	**20 18 53.5**	**+1.6**
BEL				*e*	L	L	20 50 46.2		
	comp=Z,3µm,21.5s								
146A	**Union**	**70.66**	**61**		P	**P**	**20 18 51.6**	**-0.7**
CPCT	**Cooper Cave**	**70.66**	**56**		P	**P**	**20 18 51.5**	**-0.8**
CPCT					IAmb	IAmb	20 18 59.8	
	comp=Z,42nm,1.1s								
MVL	**Millersville**	**70.68**	**48**		P	**P**	**20 18 51.8**	**-0.5**
MAK	**Makhachkala**	**70.68**	**318**	*e*	P	P	20 18 44.6	-7.6
MAK				*e*			20 21 26.5	
MAK				*e*	PPP	PPP	20 23 03.1	
MAK				*e*	S	S	20 27 54.8	-10
MAK				*e*	SS	**SS**	**20 32 34.8**	**-1.3**
MAK					pmax	pmax			
	comp=Z,232nm,1.6s								
MAK					MLR	MLR			
	comp=Z,3µm,18.0s								
Z47A	**Carrollton**	**70.71**	**60**		P	**P**	**20 18 52.1**	**-0.5**
Z47A	**Carrollton**	**70.71**	**60**		P	**P**	**20 18 52.0**	**-0.5**
	baz=323,SNR=5.9								
WES	**Weston**	**70.76**	**43**		P	**P**	**20 18 52.8**	**+0.1**
WES					IAmb	IAmb	20 19 40.3	
	comp=Z,77nm,1.6s								
WES	**Weston**	**70.76**	**43**		P	**P**	**20 18 52.8**	**+0.1**
WES					pmax	pmax			
	comp=Z,77nm,1.6s								
V52A	**Sevierville**	**70.79**	**55**		P	**P**	**20 18 52.7**	**-0.3**
V52A					IAmb	IAmb	20 19 01.4	
	comp=Z,31nm,1.1s								
V52A	**Sevierville**	**70.79**	**55**		P	**P**	**20 18 52.7**	**-0.3**
	baz=324,SNR=6.9								
V52A					S	**S**	**20 28 05.6**	**-1.2**
	baz=324								
TKL	**Tuckaleechee C**	**70.85**	**55**		LR	LR	20 51 17.0		
	comp=Z,4µm,19.2s,baz=332,slow=37								
TKL	**Tuckaleechee C**	**70.85**	**55**		P	**P**	**20 18 52.8**	**-0.6**
TKL	**Tuckaleechee C**	**70.85**	**55**		P	**P**	**20 18 52.8**	**-0.6**
TKL					pmax	pmax			
	comp=Z,25nm,1.2s								
TKL	**Tuckaleechee C**	**70.85**	**55**		S	**S**	**20 28 05.3**	**-2.2**
	baz=324								
FPAL	**Fort Paine**	**70.86**	**57**		P	**P**	**20 18 52.6**	**-1.0**
FPAL					IAmb	IAmb	20 18 56.4	
	comp=Z,39nm,1.0s								
BRNJ	**Basking Ridge**	**70.87**	**46**		P	**P**	**20 18 52.5**	**-0.9**
PAL	**Palisades**	**70.87**	**45**		P	**P**	**20 18 52.5**	**-0.9**
PAL					IAmb	IAmb	20 18 54.0	
	comp=Z,26nm,0.6s								
PAL	**Palisades**	**70.87**	**45**		P	**P**	**20 18 52.5**	**-0.9**
PAL					pmax	pmax			
	comp=Z,26nm,0.6s								
PAL	**Palisades**	**70.87**	**45**		P	**P**	**20 18 51.5**	**-1.9**
	baz=327								
PAL	**Palisades**	**70.87**	**45**		P	**P**	**20 18 52.5**	**-0.9**
	baz=327								
SRIT	**Nakonsritamara**	**70.91**	**258**		P	**P**	**20 18 53.8**	**-0.2**
SRIT					IAmb	IAmb	20 18 57.4	
	comp=Z,75nm,1.4s								
SDMD	**Soldier's Deli**	**70.96**	**48**		P	**P**	**20 18 53.1**	**-0.8**
SDMD	**Soldier's Deli**	**70.96**	**48**		P	**P**	**20 18 52.5**	**-1.5**
	baz=326								
CPNY	**Central Park**	**71.03**	**45**		P	**P**	**20 18 53.3**	**-1.1**
CPNY					IAmb	IAmb	20 18 53.8	
	comp=Z,57nm,1.2s								
TUPA	**Temple Univers**	**71.04**	**47**		P	**P**	**20 18 53.3**	**-1.1**
	baz=327								
WUPA	**West Chester U**	**71.05**	**47**		P	**P**	**20 18 53.8**	**-0.8**
U54A	**Nelsons Funny**	**71.08**	**53**		P	**P**	**20 18 54.3**	**-0.6**
U54A					IAmb	IAmb	20 18 56.5	
	comp=Z,28nm,0.6s								
U54A	**Nelsons Funny**	**71.08**	**53**		P	**P**	**20 18 54.3**	**-0.6**
	baz=325								
U54A					P	**P**	**20 18 54.3**	**-0.6**
	baz=325								
AJM	**Ajmer**	**71.08**	**289**	*e*	P	**P**	**20 18 53.1**	**-1.8**
ZAIG	**Zacatecas**	**71.11**	**77**		P	**P**	**20 18 55.3**	**-0.2**
BLA	**Blacksburg**	**71.16**	**52**		P	**P**	**20 18 54.7**	**-0.6**
BLA					IAmb	IAmb	20 19 10.2	
	comp=Z,26nm,0.8s								
BLA	**Blacksburg**	**71.16**	**52**		P	**P**	**20 18 54.7**	**-0.6**
BLA					pmax	pmax			
	comp=Z,26nm,0.8s								
BLA	**Blacksburg**	**71.16**	**52**		P	**P**	**20 18 53.8**	**-1.6**
	baz=325								
BLA					S	**S**	**20 28 08.4**	**-2.7**
	baz=325								
X51A	**Calhoun**	**71.21**	**57**		P	**P**	**20 18 55.4**	**-0.2**
X51A					IAmb	IAmb	20 18 58.7	
	comp=Z,29nm,0.9s								
X51A	**Calhoun**	**71.21**	**57**		P	**P**	**20 18 55.4**	**-0.2**
	baz=324								
X51A					P	**P**	**20 18 55.4**	**-0.2**
	baz=324								
W52A	**Murphy**	**71.23**	**56**		P	**P**	**20 18 55.2**	**-0.5**
W52A					IAmb	IAmb	20 18 58.9	
	comp=Z,34nm,0.9s								
W52A	**Murphy**	**71.23**	**56**		P	**P**	**20 18 55.3**	**-0.5**
	baz=324								
HRA	**Herat**	**71.27**	**303**		P	**P**	**20 18 56.3**	**+0.1**
V53A	**Saluda**	**71.30**	**55**		P	**P**	**20 18 55.5**	**-0.7**
V53A					IAmb	IAmb	20 19 04.0	
	comp=Z,41nm,1.2s								
V53A	**Saluda**	**71.30**	**55**		P	**P**	**20 18 55.9**	**-0.3**
	baz=324,SNR=7.3								
V53A					P	**P**	**20 18 55.9**	**-0.3**
	baz=324,SNR=7.3								
S57A	**Dark Hollow, R**	**71.38**	**51**		P	**P**	**20 18 56.0**	**-0.6**
S57A					IAmb	IAmb	20 19 05.2	
	comp=Z,46nm,1.2s								
S57A	**Dark Hollow, R**	**71.38**	**51**		P	**P**	**20 18 56.2**	**-0.3**
	baz=326,SNR=6.1								
S57A					P	**P**	**20 18 56.2**	**-0.3**
	baz=326,SNR=6.1								
LRAL	**Lakeview Retre**	**71.38**	**59**		P	**P**	**20 18 55.4**	**-1.3**
LRAL					IAmb	IAmb	20 18 58.4	
	comp=Z,20nm,0.7s								
LRAL	**Lakeview Retre**	**71.38**	**59**		P	**P**	**20 18 55.4**	**-1.3**
	baz=324,SNR=15								
LRAL					S	**S**	**20 28 11.9**	**-1.8**
	baz=324								
LRAL	**Lakeview Retre**	**71.38**	**59**		P	**P**	**20 18 55.6**	**-1.1**
	baz=324,SNR=15								
LRAL					S	**S**	**20 28 10.6**	**-3.1**
	baz=324								
COEN	**Coen**	**71.57**	**206**		P	**P**	**20 18 58.6**	**+0.8**
KVAR	**Kislovodsk Arr**	**71.63**	**322**		P	**P**	**20 18 58.3**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=338,slow=5.4,SNR=1.6								
KVAR					LR	LR	20 53 51.2		
	comp=Z,2µm,18.8s,baz=272,slow=39								
	comp=Z,0.9nm,0.4s								
KIV	**Kislovodsk**	**71.63**	**322**		P	**P**	**20 18 58.5**	**+0.4**
KIV	**Kislovodsk**	**71.63**	**322**	*d*	P	**P**	**20 18 58.2**	**+0.1**
KIV				*i*			20 19 09.9	
KIV				*i*			20 21 33.8	
KIV				*i*	S	**S**	**20 28 09.2**	**-7.3**
KIV					pmax	pmax			
	comp=Z,8.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,1µm,17.0s								
KIV	**Kislovodsk**	**71.63**	**322**		P	**P**	**20 18 56.6**	**-1.5**
R58B	**Mineral**	**71.69**	**50**		P	**P**	**20 18 56.6**	**-1.8**
KBZ	**Khabaz**	**71.75**	**322**		P	**P**	**20 18 58.8**	**+0.1**
	comp=Z,14nm,0.9s,baz=20,slow=1.8,SNR=14								
KBZ					S	**S**	**20 28 18.9**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=356,slow=22,SNR=1.0								
KBZ					LR	LR	20 54 43.0		
	comp=Z,2µm,18.7s,baz=26,slow=40								
	comp=Z,14nm,0.9s								
KBZ	**Khabaz**	**71.75**	**322**	*ce*	P	**P**	**20 18 58.3**	**-0.4**
KBZ					pmax	pmax			
	comp=Z,19nm,0.9s								
RAGD	**RAYAGADA**	**71.77**	**278**	*e*	P	**P**	**20 18 58.4**	**-0.8**
BG3	**Lake Jocassee**	**71.79**	**55**		P	**P**	**20 18 58.9**	**-0.2**
BG3					IAmb	IAmb	20 19 00.8	
	comp=Z,31nm,0.6s								
CASEE	**Lake Jocassee**	**71.79**	**55**		P	**P**	**20 18 58.8**	**-0.3**
	baz=325,SNR=9.7								
SHA1	**Shidzhatmaz**	**71.83**	**322**	*e*	P	**P**	**20 19 00.5**	**+1.0**
LVV	**L'vov**	**71.85**	**337**	*e*	P	**P**	**20 18 59.8**	**+0.6**
LVV				*e*	S	**S**	**20 28 16.7**	**-1.9**
LVV				*e*	SS	**SS**	**20 32 51.2**	**-2.4**
LVV				*e*	SSS	SSS	20 36 03.2	
LVV					MLR	MLR			
	comp=E,800nm,18.9s								
LVV					MLR	MLR			
	comp=N,2µm,15.4s								
LVV					MLR	MLR			
	comp=Z,2µm,16.7s								
T57A	**Hurt**	**71.87**	**51**		P	**P**	**20 18 58.7**	**-0.8**
T57A	**Hurt**	**71.87**	**51**		P	**P**	**20 18 58.8**	**-0.8**
	baz=326,SNR=7.0								
T57A					P	**P**	**20 18 58.8**	**-0.8**
	baz=326,SNR=7.0								
U56A	**King**	**71.89**	**52**		P	**P**	**20 18 59.0**	**-0.6**
U56A					IAmb	IAmb	20 19 07.3	
	comp=Z,60nm,1.4s								
V55A	**Taylorsville**	**71.91**	**53**		P	**P**	**20 18 58.7**	**-1.0**
V55A					IAmb	IAmb	20 19 07.5	
	comp=Z,34nm,1.2s								
V55A	**Taylorsville**	**71.91**	**53**		P	**P**	**20 18 59.2**	**-0.6**
	baz=325,SNR=6.0								
V55A					P	**P**	**20 18 59.2**	**-0.6**
	baz=325,SNR=6.0								
Z51A	**Franklin**	**72.06**	**58**		P	**P**	**20 18 59.4**	**-1.3**
Z51A	**Franklin**	**72.06**	**58**		P	**P**	**20 18 59.4**	**-1.3**
	baz=324								
Z51A					S	**S**	**20 28 19.6**	**-1.9**
	baz=324								
Y52A	**Lilburn**	**72.16**	**57**		P	**P**	**20 19 00.8**	**-0.5**
Y52A					IAmb	IAmb	20 19 02.4	
	comp=Z,26nm,0.5s								
Y52A	**Lilburn**	**72.16**	**57**		P	**P**	**20 19 00.4**	**-0.9**
	baz=324,SNR=12								
Y52A					P	**P**	**20 19 00.4**	**-0.9**
	baz=324,SNR=12								
Y52A					S	**S**	**20 28 21.2**	**-1.4**
	baz=324								
Y52A					S	**S**	**20 28 21.2**	**-1.4**
	baz=324								
ZEI	**Tsey**	**72.20**	**321**	*e*	P	**P**	**20 19 00.6**	**-1.1**
ZEI					pmax	pmax			
	comp=Z,9.0nm,0.9s								
KWP	**Kalwaria Pacla**	**72.32**	**338**	*e*	P	**P**	**20 19 02.8**	**+0.7**
KWP				*e*	S	**S**	**20 28 27.2**	**+3.1**
KWP				*e*	L	L	20 53 09.7	
	comp=Z,2µm,21.5s								
KWP	**Kalwaria Pacla**	**72.32**	**338**		P	**P**	**20 19 02.3**	**+0.2**
KWP	**Kalwaria Pacla**	**72.32**	**338**		P	**P**	**20 19 02.3**	**+0.2**
OJC	**Ojcow**	**72.39**	**340**	*e*	P	**P**	**20 19 02.4**	**0.0**
OJC				*e*	S	**S**	**20 28 25.5**	**+0.7**
OJC				*e*	L	L	20 51 38.7	
	comp=Z,2µm,21.7s								
OJC	**Ojcow**	**72.39**	**340**		P	**P**	**20 19 01.8**	**-0.6**
OJC					IAmb	IAmb	20 19 20.7	
	comp=Z,34nm,1.0s								
OJC	**Ojcow**	**72.39**	**340**		P	**P**	**20 19 01.8**	**-0.6**
OJC					pmax	pmax			
	comp=Z,34nm,1.0s								
KMSC	**Kings Mountain**	**72.43**	**54**		P	**P**	**20 19 01.6**	**-1.3**
KMSC					IAmb	IAmb	20 19 10.4	
	comp=Z,39nm,1.2s								
KMSC	**Kings Mountain**	**72.43**	**54**		P	**P**	**20 19 02.0**	**-0.9**
	baz=325,SNR=6.8								
KMSC	**Kings Mountain**	**72.43**	**54**		P	**P**	**20 19 01.7**	**-1.2**
	baz=325,SNR=6.8								
MSVF	**Nonsavu**	**72.43**	**171**		LR	LR	20 43 39.8		
	comp=Z,1µm,21.6s,baz=351,slow=30								
PAULI	**Pauline**	**72.46**	**54**		P	**P**	**20 19 02.2**	**-0.9**
PAULI	**Pauline**	**72.46**	**54**		P	**P**	**20 19 02.4**	**-0.7**
	baz=325								
KSP	**Ksiaz**	**72.47**	**342**	*e*	P	**P**	**20 19 03.4**	**+0.5**
KSP				*e*	L	L	20 51 22.2		
	comp=Z,2µm,21.4s								
ONI	**Oni**	**72.53**	**321**		P	**P**	**20 19 03.1**	**-0.4**
ONI	**Oni**	**72.53**	**321**		P	**P**	**20 19 03.1**	**-0.4**
ONI					pmax	pmax			
	comp=Z,10.0nm,1.0s								
CLL	**Collm**	**72.57**	**344**		P	**P**	**20 19 03.6**	**+0.1**
CLL	**Collm**	**72.57**	**344**	⇑	*i*P	**P**	**20 19 03.8**	**+0.3**
CLL					*e*S	**S**	**20 28 25.0**	**-1.8**
CLL					pmax	pmax			
	comp=Z,24nm,1.3s								
CLL					MLR	MLR			
	comp=Z,2µm,20.1s								
CLL	**Collm**	**72.57**	**344**	⇑	*i*P	**P**	**20 19 03.8**	**+0.3**
	comp=Z,24nm,1.3s								
CLL					*ex*	x	20 19 10.0		
CLL					*e*PP	**PP**	**20 21 47.0**	**+2.8**
CLL					*e*S	**S**	**20 28 25.0**	**-1.8**
CLL					*e*SS	**SS**	**20 33 04.0**	**-0.6**
CLL					*e*SSS	SSS	20 36 24.0	
CLL					*e*SSSS		20 37 54.0		
CLL					Lm	MLR	20 51 00.0		
	comp=N,2µm,21.9s								
CLL					Lm	MLR	20 51 00.0		
	comp=E,1µm,21.5s								
CLL					Lm	MLR	20 51 00.0		
	comp=Z,2µm,21.8s								
CLL					LmV		20 52 00.0		
	comp=Z,2µm,20.1s								
250A	**Grady**	**72.60**	**59**		P	**P**	**20 19 03.0**	**-0.9**
250A					IAmb	IAmb	20 19 05.2		
	comp=Z,28nm,0.7s								
T59A	**Double "B" Far**	**72.66**	**50**		P	**P**	**20 19 03.7**	**-0.6**
ANN	**Anapa**	**72.69**	**326**	*e*	P	**P**	**20 19 03.3**	**-1.0**
ANN				*e*			20 21 37.0		
ANN				*e*	S	**S**	**20 28 27.5**	**-0.8**
ANN				*e*			20 29 06.2		
ANN					pmax	pmax			
	comp=Z,22nm,0.8s								
ANN					pmax	pmax			
	comp=Z,453nm,5.7s								
ANN					MLR	MLR			
	comp=Z,2µm,15.0s								
HODGE	**Hodges**	**72.73**	**55**		P	**P**	**20 19 03.8**	**-0.9**
HODGE					IAmb	IAmb	20 19 12.5		
	comp=Z,33nm,0.8s								
HODGE	**Hodges**	**72.73**	**55**		P	**P**	**20 19 03.9**	**-0.9**
	baz=325,SNR=15								
CHVC	**Chvalec**	**72.75**	**342**	*e*	P	**P**	**20 19 04.7**	**+0.1**
CHVC					AMS	AMS	20 56 40.0		
	comp=Z,2µm,16.1s								
OSTC	**Ostas**	**72.75**	**342**	*e*	P	**P**	**20 19 04.4**	**-0.2**
OSTC				*e*	S	**S**	**20 28 25.3**	**-3.7**
OSTC					AMS	AMS	20 56 40.0		
	comp=Z,2µm,16.6s								
152A	**Waverly Hall**	**72.81**	**58**		P	**P**	**20 19 03.7**	**-1.5**
152A					IAmb	IAmb	20 19 12.3		
	comp=Z,45nm,1.4s								
152A	**Waverly Hall**	**72.81**	**58**		P	**P**	**20 19 03.9**	**-1.3**
	baz=324,SNR=6.1								
GOGA	**Godfrey**	**72.82**	**56**		P	**P**	**20 19 04.3**	**-0.9**
GOGA	**Godfrey**	**72.82**	**56**		P	**P**	**20 19 04.3**	**-0.9**
GOGA					pmax	pmax			
	comp=Z,25nm,1.4s								
GOGA	**Godfrey**	**72.82**	**56**		P	**P**	**20 19 03.0**	**-2.2**
	baz=325								
GOGA					S	**S**	**20 28 28.9**	**-1.3**
	baz=325								
UPC	**Upice**	**72.84**	**342**	*e*	P	**P**	**20 19 05.0**	**-0.1**
UPC				*e*	S	**S**	**20 28 30.6**	**+0.7**
UPC					MLR	MLR			
	comp=Z,2µm,15.6s								
UPC	**Upice**	**72.84**	**342**	*e*	P	**P**	**20 19 05.0**	**-0.1**
UPC				*e*	S	**S**	**20 28 30.6**	**+0.7**
UPC					AMS	AMS	20 56 50.0		
	comp=Z,2µm,15.6s								
BRG	**Berggiesshubel**	**72.84**	**344**	*e*	P	**P**	**20 19 06.0**	**+0.9**
BRG					Amp		20 19 07.6		
	comp=Z,10nm,1.1s								
BRG				*e*	x	x	20 19 17.5		
BRG					Amp		20 19 20.6		
	comp=Z,7.1nm,1.0s								
BRG				*e*	x	x	20 19 39.0		
BRG					Amp		20 19 41.3		
	comp=Z,12nm,1.1s								
BRG	**Berggiesshubel**	**72.84**	**344**		SS	SS	20 32 55.0	-14	
BRG					Amp		20 53 35.0		
	comp=Z,1.5nm,19.6s								
BRG					Amp		20 53 39.0		
	comp=N,1.6nm,17.6s								
BRG					Amp		20 53 46.0		
	comp=E,1.1nm,14.2s								
BRG	**Berggiesshubel**	**72.84**	**344**	*e*	P	**P**	**20 19 06.0**	**+0.9**
BRG				*e*			20 19 17.4		
BRG					S	**S**	**20 28 22.0**	**-7.9**
BRG					pmax	pmax			
	comp=Z,10.0nm,1.1s								
BRG					MLR	MLR			
	comp=N,2µm,17.6s								
BRG					MLR	MLR			
	comp=E,1µm,14.2s								
V58A	**Windy Hill, Pi**	**72.92**	**52**		P	**P**	**20 19 05.4**	**-0.4**
V58A					IAmb	IAmb	20 19 13.6		
	comp=Z,37nm,0.9s								
V58A	**Windy Hill, Pi**	**72.92**	**52**		P	**P**	**20 19 05.1**	**-0.7**
	baz=326,SNR=7.1								
V58A					P	**P**	**20 19 05.1**	**-0.7**
	baz=326,SNR=7.1								
DPC	**Dobruska-Polom**	**72.93**	**342**	*e*	P	**P**	**20 19 06.4**	**+0.7**
DPC				*e*	S	**S**	**20 28 27.0**	**-4.1**
DPC					MLR	MLR			
	comp=Z,1µm,16.8s								
DPC	**Dobruska-Polom**	**72.93**	**342**	*e*	P	**P**	**20 19 06.4**	**+0.7**
DPC				*e*	S	**S**	**20 28 27.0**	**-4.1**
DPC					AMS	AMS	20 54 00.0		
	comp=Z,1µm,16.8s								
SOC	**Sochi**	**73.00**	**324**	*e*	P	**P**	**20 19 03.9**	**-2.3**
SOC				*e*			20 21 41.1		
SOC				*e*	PPP	PPP	20 23 29.8		
SOC				*e*	S	**S**	**20 28 31.5**	**-0.4**
SOC					MLR	MLR			
	comp=Z,2µm,19.0s								
KULM	**Kulim**	**73.01**	**255**		P	**P**	**20 19 05.8**	**-0.7**
KULM					IAmb	IAmb	20 19 09.6		
	comp=Z,87nm,1.5s								
NIE	**Niedzica**	**73.05**	**339**	*e*	P	**P**	**20 19 07.5**	**+1.1**
NIE				*e*	PP	**PP**	**20 21 50.0**	**+1.7**
NIE				*e*	L	L	20 52 25.0		
	comp=Z,2µm,22.1s								
W57A	**Gilead**	**73.05**	**53**		P	**P**	**20 19 04.6**	**-2.0**
U59A	**Littleton**	**73.06**	**51**		P	**P**	**20 19 05.7**	**-1.0**
PVCC	**Panska Ves**	**73.07**	**343**	*e*	P	**P**	**20 19 07.3**	**+0.8**
PVCC					MLR	MLR			
	comp=Z,2µm,13.6s								
PVCC	**Panska Ves**	**73.07**	**343**	*e*	P	**P**	**20 19 07.3**	**+0.8**
PVCC					AMS	AMS	20 59 00.0		
	comp=Z,2µm,13.6s								
KOLS	**Kolonicke sedl**	**73.08**	**338**	*e*	P	**P**	**20 19 07.2**	**+0.6**
KOLS					pmax	pmax			
	comp=Z,25nm,0.8s								
KOLS	**Kolonicke sedl**	**73.08

UZH MLR MLR
comp=N,380nm,17.0s
UZH MLR MLR
comp=E,400nm,17.0s
UZH MLR MLR
comp=Z,220nm,17.0s
IPM Ipoh 73.47 254 P **P 20 19 09.1 -0.2**
LANS Liptovska Anna 73.47 339 *e*P **P 20 19 10.5 +1.6**
LANS pmax pmax
comp=Z,28nm,1.4s
LANS Liptovska Anna 73.47 339 *e*P **P 20 19 10.5 +1.6**
MAUC Maruska 73.59 341 *e*P **P 20 19 10.9 +1.3**
MAUC *e*S **SKiKP 20 28 36.0 -2.3**
MAUC AMS AMS 20 54 20.0
comp=Z,3μm,17.0s
PRU Pruhonice 73.60 343 *e*P **P 20 19 09.6 0.0**
PRU *e*S SKiKP 20 28 22.2 -16
PRU MLR MLR
comp=Z,2μm,20.4s
PRU Pruhonice 73.60 343 *e*P **P 20 19 09.6 0.0**
PRU *e*S SKiKP 20 28 22.2 -16
PRU AMS AMS 20 53 20.0
comp=Z,2μm,20.4s
BUR08 Bucovina Ar. S 73.60 335 P **P 20 19 09.6 -0.2**
SIM Simferopol' 73.61 328 *e*P **P 20 19 06.3 -3.4**
SIM *e* 20 19 25.2
SIM *e*S SKiKP 20 28 25.3 -13
SIM pmax pmax
comp=Z,17nm,1.0s
BURAR Bucovina Array 73.63 335 ⇑P **P 20 19 10.9 +0.9**
BURAR Bucovina Array 73.63 335 P **P 20 19 09.6 -0.4**
BURAR IAmb IAmb 20 19 14.4
comp=Z,21nm,0.7s
154A Montrose 73.64 57 P **P 20 19 09.3 -0.8**
154A IAmb IAmb 20 19 17.6
comp=Z,74nm,1.1s
352A Blakely 73.67 59 P **P 20 19 09.2 -1.1**
352A IAmb IAmb 20 19 11.5
comp=Z,30nm,0.6s
NKC Novy Kostel 73.70 344 *e*P **P 20 19 09.8 -0.4**
NKC MLR MLR
comp=Z,2μm,19.6s
NKC Novy Kostel 73.70 344 *e*P **P 20 19 09.8 -0.4**
NKC AMS AMS 20 53 10.0
comp=Z,2μm,19.6s
HAW Hawthorne Fire 73.75 55 P **P 20 19 10.1 -0.6**
baz=325,SNR=8.6
VRAC Vranov 73.88 341 ⇓P **P 20 19 12.0 +0.7**
VRAC Vranov 73.88 341 LR LR 20 55 16.9
comp=Z,1μm,20.4s,baz=22,slow=39
VRAC Vranov 73.88 341 ⇓*i*P **P 20 19 11.9 +0.6**
BIZ Bicaz 74.03 334 ⇑P **P 20 19 13.5 +1.3**
TREC Trest 74.10 342 *e*S **SKiKP 20 28 35.7 -3.3**
TREC AMS AMS 20 57 10.0
comp=Z,2μm,15.6s
JAVC Velka Javorina 74.11 341 ⇓*i*P **P 20 19 14.1 +1.4**
MYKOM Kota Tinggi 74.12 250 P **P 20 19 13.8 +0.7**
GNI Garni 74.16 319 P **P 20 19 13.7 +0.4**
comp=Z,8.0nm,0.9s,baz=12,slow=6.0,SNR=5.7
GNI LR LR 20 56 10.1
comp=Z,3μm,19.3s,baz=30,slow=39
comp=Z,8.0nm,0.9s
GNI Garni 74.16 319 P **P 20 19 12.1 -1.1**
KRUC Moravsky ⇓*i*P **P 20 19 13.3 +0.4**
MEM Membach 74.22 349 *d*P **P 20 19 13.5 +0.3**
BTNL Ternell 74.22 348 *d*P **P 20 19 13.6 +0.3**
BTNL *d*PcP **PcP 20 19 29.3 +1.1**
VYHS Vyhne 74.23 340 *e*P **P 20 19 14.2 +0.9**
VYHS pmax pmax
comp=Z,31nm,1.3s
VYHS Vyhne 74.23 340 *e*P **P 20 19 14.2 +0.9**
VYHS *e*S **S 20 28 45.6 -0.1**
VYHS *e*L L 20 51 55.8
MTN Manton Dam 74.24 218 P **P 20 19 14.1 +0.4**
BSTI Sart Tilman 74.29 349 *d*P **P 20 19 13.8 +0.2**
TESR Tescani 74.29 334 ⇑P **P 20 19 13.8 +0.1**
ARCR ARCALIA 74.33 336 ⇓P **P 20 19 15.2 +1.2**
TIGA Tifton 74.36 58 P **P 20 19 13.7 -0.6**
TIGA Tifton 74.36 58 P **P 20 19 12.8 -1.5**
baz=325
GRA1 Grafenberg Arr 74.42 345 P **P 20 19 14.7 +0.3**
GRA1 IAmb IAmb 20 19 50.3
comp=Z,60nm,1.4s
GRF Grafenberg Arr 74.42 345 P **P 20 19 14.7 +0.3**
GRF pmax pmax
comp=Z,60nm,1.4s
GRFO Grafenberg 74.42 345 P **P 20 19 14.7 +0.3**
GRFO IAmb IAmb 20 19 50.3
comp=Z,54nm,1.3s
GRFO Grafenberg 74.42 345 P **P 20 19 14.7 +0.3**
GRFO pmax pmax
comp=Z,54nm,1.3s
BCLA Clavier 74.48 349 *d*P **P 20 19 14.8 +0.1**
BCLA *d*PcP **PcP 20 19 28.2 -1.0**
SMOL Smolenice 74.49 341 *e*P **P 20 19 16.2 +1.4**
SMOL pmax pmax
comp=Z,21nm,1.4s
255A Hazlehurst 74.51 57 P **P 20 19 15.3 +0.1**
255A IAmb IAmb 20 19 23.2
comp=Z,59nm,0.9s
GHRR 74.51 333 ⇓P **P 20 19 15.8 +0.8**
VLDR Vladesti 74.53 333 ⇓P **P 20 19 15.9 +0.8**
PSZ Piszkesteto 74.56 339 ⇑P **P 20 19 15.7 +0.4**
PSZ Piszkesteto 74.56 339 P **P 20 19 16.2 +0.9**
PSZ Piszkesteto 74.56 339 P **P 20 19 16.2 +0.9**
PSZ pmax pmax
comp=Z,45nm,1.4s
PSZ Piszkesteto 74.56 339 P **P 20 19 15.7 +0.4**
KHC Kasperske Hory 74.59 343 P **P 20 19 15.6 +0.1**
KHC Kasperske Hory 74.59 343 *e*P **P 20 19 15.9 +0.5**
KHC *e*PCP **PcP 20 19 32.0 +2.2**
KHC *e*S **SKiKP 20 28 42.0 +2.2**
KHC AMS AMS 20 54 40.0
comp=Z,2μm,20.4s
KHC Kasperske Hory 74.59 343 *e*P **P 20 19 15.9 +0.5**
KHC *e*PCP **PcP 20 19 32.0 +2.2**
KHC *e*S **SKiKP 20 28 42.0 +2.2**
KHC AMS AMS 20 54 40.0
comp=Z,2μm,20.4s
MODS Modra-Piesok 74.65 341 *e*P **P 20 19 17.6 +1.8**
MODS pmax pmax
comp=Z,79nm,1.4s
MODS Modra-Piesok 74.65 341 *e*P **P 20 19 17.6 +1.8**
MODS *e*S **S 20 28 51.4 +1.0**
MODS *e*L L 20 53 29.2
BMRD Maredsous 74.66 349 *d*P **P 20 19 15.8 +0.1**
SCTR Scanteiesti 74.71 333 ⇑P **P 20 19 17.8 +1.6**
RCHB Rochefort 74.75 349 *d*P **P 20 19 13.8 -2.4**
BATI Baumata 74.76 226 LR LR 20 49 06.2
comp=Z,214nm,20.9s,baz=20,slow=33
CKRC Cesky Krumlov 74.76 343 *e*P **P 20 19 16.4 0.0**
CKRC *e*S **SKiKP 20 28 45.8 +5.7**
GEC2 GERESS Array S 74.84 343 P **P 20 19 16.8 -0.2**
GERES GERESS Array B 74.84 343 P **P 20 19 16.9 -0.1**
comp=Z,4.6nm,0.7s,baz=27,slow=4.5,SNR=31
GERES LR LR 20 55 20.0
comp=Z,2μm,21.1s,baz=21,slow=38
comp=Z,4.6nm,0.7s
GERES GERESS Array B 74.84 343 P **P 20 19 16.6 -0.4**
GERES GERESS Array B 74.84 343 P **P 20 19 16.6 -0.4**
ZST Bratislava 74.85 341 *e*P **P 20 19 19.1 +2.2**
ZST pmax pmax
comp=Z,192nm,1.7s
ZST Bratislava 74.85 341 *e*P **P 20 19 19.1 +2.2**
CJR Cluj-Napoca 74.86 336 ⇑P **P 20 19 18.6 +1.5**
VRI Vrincioaia 74.87 333 ⇑P **P 20 19 18.1 +1.0**
DOU Dourbes 74.88 349 *d*P **P 20 19 17.0 0.0**
PLOR Plostina 74.91 334 ⇓P **P 20 19 18.6 +1.3**
TLCR 74.94 332 ⇑P **P 20 19 17.7 +0.2**
DRGR 75.00 336 ⇑P **P 20 19 19.0 +1.1**
COVR Voineasa-Covas 75.03 334 ⇓P **P 20 19 19.0 +0.9**
DOPR Dopca 75.12 334 ⇑P **P 20 19 19.2 +0.6**
WLF Walferdange 75.13 348 *d*P **P 20 19 19.2 +0.7**
CFR Carcaliu 75.13 332 ⇑P **P 20 19 19.5 +0.9**
BUD Budapest 75.15 339 P **P 20 19 20.9 +2.2**
JURR Jurilovca 75.31 332 ⇓P **P 20 19 20.2 +0.6**
CONA Conrad Observa 75.34 341 *i* P **P 20 19 21.0 +1.2**
comp=Z,26nm,1.1s,SNR=9.2
TPGR Topolog 75.35 332 ⇑P **P 20 19 20.5 +0.6**
CSKK Cskako 75.42 340 P **P 20 19 21.9 +1.7**
MLR Muntele Rosu 75.42 334 ⇓P **P 20 19 21.8 +1.4**
MLR Muntele Rosu 75.42 334 LR LR 20 56 04.3
comp=Z,3μm,20.0s,baz=29,slow=39
MLR Muntele Rosu 75.42 334 P **P 20 19 20.0 -0.4**
MLR Muntele Rosu 75.42 334 P **P 20 19 20.0 -0.4**
SOP Sopron 75.45 341 P **P 20 19 22.2 +1.8**
RONA Rosalia, Austr 75.48 341 *i* P **P 20 19 22.8 +2.2**
comp=Z,27nm,1.3s,SNR=12
EGYH Egyhazaskeszo 75.56 340 P **P 20 19 22.8 +1.8**
ISR Istrita 75.61 333 ⇑P **P 20 19 22.8 +1.3**
HARR Harsova 75.64 332 ⇑P **P 20 19 22.1 +0.6**
VOIR 75.70 334 ⇑P **P 20 19 23.0 +1.1**
MOA Molln 75.71 342 *i* P **P 20 19 22.5 +0.6**
comp=Z,19nm,1.1s,SNR=10
TIRR Tirgusor 75.72 332 ⇓P **P 20 19 22.5 +0.6**
TIRR Tirgusor 75.72 332 P **P 20 19 22.1 +0.2**
TIRR Tirgusor 75.72 332 P **P 20 19 22.1 +0.2**
TIRR pmax pmax
comp=Z,116nm,1.5s
MPLH Magyarpolny 75.75 340 P **P 20 19 23.2 +1.1**
KOPT Kop Dagi 75.86 321 P **P 20 19 23.1 -0.1**
ARR Arges 75.87 335 ⇑P **P 20 19 24.2 +1.3**
TIH Tihany 75.94 340 P **P 20 19 25.8 +2.7**
BIOA Bad Ischl, Aus 75.97 343 *e*P **P 20 19 25.2 +1.8**
comp=Z,21nm,1.1s
LOT Lotru 76.01 335 ⇓P **P 20 19 24.9 +1.1**
PSI Prapat 76.03 255 LR LR 20 56 33.1
comp=Z,620nm,18.1s,baz=20,slow=39
PSI Prapat 76.03 255 P **P 20 19 24.3 +0.1**
PSI pmax pmax
comp=Z,24nm,0.7s
HYBB Hyderabad (bro 76.04 280 *e*P **P 20 19 23.7 -0.5**
ARSA Arzberg 76.06 341 *i* P **P 20 19 25.1 +1.1**
comp=Z,22nm,1.1s,SNR=6.3
RPSI Rantau Prapat 76.11 255 P **P 20 19 24.3 -0.3**
RPSI IAmb IAmb 20 19 26.1
comp=Z,24nm,0.7s
PLAI Plampang 76.12 232 P **P 20 19 24.5 -0.1**
BFO Black Forest 76.16 347 P **P 20 19 24.2 -0.3**
BFO Black Forest 76.16 347 P **P 20 19 24.2 -0.3**
BFO pmax pmax
comp=Z,12nm,1.1s
DIKM Dikmen 76.22 326 ⇓P **P 20 19 26.1 +1.2**
GZR Gura Zlata 76.30 336 ⇑P **P 20 19 26.6 +1.2**
DZM Mont Dzumac 76.32 182 *e*LR LR 20 42 57.8
comp=Z,4μm,24.1s
DZM Mont Dzumac 76.32 182 LR LR 20 46 47.5
comp=Z,1μm,21.7s,baz=31,slow=31
TAOE Nuku Hiva Isla 76.33 128 *e*LR LR 20 42 59.2
comp=Z,2μm,23.2s
BZS Buzias 76.36 337 ⇑P **P 20 19 26.2 +0.7**
MORH Mrgy, Hungar 76.44 339 ⇓P **P 20 19 26.2 +0.2**
MORH Mrgy, Hungar 76.44 339 P **P 20 19 26.7 +0.6**
656A Willston 76.58 58 P **P 20 19 27.1 0.0**
656A IAmb IAmb 20 19 29.3
comp=Z,32nm,0.8s
KBA Koelnbreinsper 76.61 343 *i* P **P 20 19 28.6 +1.3**
comp=Z,69nm,1.4s,SNR=19
RETA Reutte 76.64 345 *e*P **P 20 19 29.3 +2.1**
comp=Z,9.4nm,1.1s
WATA Walderalm 76.66 344 *e*P **P 20 19 28.7 +1.2**
comp=Z,22nm,1.1s
KOVH Kovagotottos 76.67 339 P **P 20 19 28.2 +0.8**
SOKA Soboth 76.70 342 *i* P **P 20 19 28.6 +1.0**
comp=Z,15nm,0.7s,SNR=12
WTTA Wattenberg 76.72 344 *i* P **P 20 19 28.8 +0.9**
comp=Z,28nm,1.0s,SNR=8.2
MOTA Moosalm 76.72 344 *e*P **P 20 19 28.9 +1.1**
comp=Z,25nm,1.3s
CTA Charters Tower 76.76 202 LR LR 20 49 43.9
comp=Z,223nm,20.4s,baz=28,slow=33
CTA Charters Tower 76.76 202 P **P 20 19 28.7 +0.7**
CTAO Charters Tower 76.76 202 P **P 20 19 28.3 +0.3**
CTAO Charters Tower 76.76 202 P **P 20 19 28.3 +0.3**
CTAO pmax pmax
comp=Z,172nm,1.6s
CTAO Charters Tower 76.76 202 P **P 20 19 28.5 +0.5**
GROS Grobnik 76.82 341 *i* P **P 20 19 29.1 +0.8**
SQTA Sankt Quirin 76.83 344 *i* P **P 20 19 29.2 +0.8**
comp=Z,28nm,1.1s,SNR=12
HERR Herculane 76.86 336 ⇑P **P 20 19 28.6 +0.2**
OBKA Obir 76.95 342 *i* P **P 20 19 30.4 +1.3**
comp=Z,72nm,1.3s,SNR=12
DAVA Damuels 76.97 345 *e*P **P 20 19 33.1 +3.9**
comp=Z,8.6nm,1.2s
MYKA Terra Mystica 77.00 343 *e*P **P 20 19 30.4 +1.1**
comp=Z,24nm,1.4s
ABTA Abfaltersbach 77.08 343 *i* P **P 20 19 31.1 +1.4**
comp=Z,30nm,1.2s,SNR=10
FETA Feichten 77.10 345 *i* P **P 20 19 31.3 +1.3**
comp=Z,22nm,1.1s,SNR=10
MDVR Moldvita 77.12 336 ⇓P **P 20 19 30.5 +0.5**
CLF Chambon-Foret 77.16 351 P **P 20 19 30.4 +0.3**
CLF IAmb IAmb 20 19 49.4
comp=Z,41nm,1.1s
PRED Cave del Predi 77.19 343 P **P 20 19 29.2 -1.2**
FRGS Fruska Gora 77.20 338 ⇑P **P 20 19 31.0 +0.6**
ILGA Ilgaz 77.26 327 P **P 20 19 31.8 +0.8**
DAVOX Davos/Dischmat 77.46 345 LR LR 20 54 23.5
comp=Z,1μm,21.5s,baz=12,slow=36
TLIG Tlapa 77.50 77 P **P 20 19 33.3 +0.7**
CIMO Cimolais 77.51 343 P **P 20 19 32.2 +0.1**
FUORN Ofenpass-Fuorn 77.56 345 P **P 20 19 33.3 +0.7**
KNRA Kununurra 77.72 219 P **P 20 19 33.9 +0.4**
BOJS Bojanci 77.79 341 *i* P **P 20 19 34.3 +0.5**
CTI Castel Tesino 77.90 344 P **P 20 19 34.9 +0.5**
CTI Castel Tesino 77.90 344 P **P 20 19 34.9 +0.5**
CTI pmax pmax
comp=Z,15nm,0.9s
MPEP Malo Peshtene 77.98 335 P **P 20 19 37.2 +2.5**
BLKB Belogradchik 77.99 335 ⇑P **P 20 19 34.6 -0.2**
GSI Gunungsitoli 78.01 255 P **P 20 19 35.8 +0.5**
GSI IAmb IAmb 20 19 37.4
comp=Z,39nm,0.7s
GSI Gunungsitoli 78.01 255 P **P 20 19 36.5 +1.2**
MARD Mardin 78.14 320 P **P 20 19 35.4 -0.5**
DIVS Divibare 78.16 337 P **P 20 19 35.9 0.0**
BOVS Bovan 78.21 336 ⇑P **P 20 19 35.8 -0.2**
SENIN Lac Senin/Sane 78.23 347 P **P 20 19 36.1 -0.3**
BR131 Keskin Array S 78.48 326 P **P 20 19 37.5 -0.3**
BR131 Keskin Array S 78.48 326 P **P 20 19 37.5 -0.3**
BR131 pmax pmax
comp=Z,23nm,1.1s
BRTR Keskin Array B 78.48 326 P **P 20 19 37.6 -0.1**
comp=Z,4.8nm,0.7s,baz=56,slow=3.1,SNR=25
BRTR LR LR 20 56 47.1
comp=Z,1μm,21.1s,baz=35,slow=38
comp=Z,4.8nm,0.7s
BRTR Keskin Array B 78.48 326 P **P 20 19 37.0 -0.8**
BRTR Keskin Array B 78.48 326 *i* P **P 20 19 38.0 +0.2**
SALO Salr 78.50 344 P **P 20 19 36.7 -0.9**
BNN Bunyan 78.54 324 P **P 20 19 37.5 -0.5**
BNN IAmb IAmb 20 19 38.9
comp=Z,39nm,0.8s
TEOL Teolo 78.56 344 P **P 20 19 36.9 -1.0**
MDUB Mudurnu 78.57 328 P **P 20 19 36.6 -1.6**
ANTO Ankara 78.62 327 P **P 20 19 38.5 0.0**
ANTO IAmb IAmb 20 19 42.9
comp=Z,70nm,1.6s
ANTO Ankara 78.62 327 P **P 20 19 38.5 0.0**
ANTO pmax pmax
comp=Z,70nm,1.7s
PGB Panagyurishte 78.63 334 P **P 20 19 38.9 +0.5**
DIM Dimitrovgrad 78.74 333 P **P 20 19 40.3 +1.4**
VTS Vitosha 78.80 335 ⇓P **P 20 19 40.8 +1.3**
VTS Vitosha 78.80 335 P **P 20 19 39.1 -0.4**
VTS Vitosha 78.80 335 P **P 20 19 39.1 -0.4**
VTS pmax pmax
comp=Z,10.0nm,0.8s
VTS Vitosha 78.80 335 P **P 20 19 40.2 +0.7**
RZN Rozhen 79.29 333 P **P 20 19 42.5 +0.3**
BORA Eskisehir 79.34 329 P **P 20 19 43.0 +0.5**
LEM Lembang 79.36 242 LR LR 20 59 21.2
comp=Z,223nm,18.9s,baz=8.5,slow=39
KKB Krupnik 79.54 335 P **P 20 19 44.3 +0.9**
RDO Rodhopi 79.58 333 P **P 20 19 44.2 +0.7**
WB0 Warramunga Arr 79.59 213 P **P 20 19 43.9 +0.2**
BNI Bardonecchia 79.60 347 P **P 20 19 45.0 +1.2**
BNI Bardonecchia 79.60 347 P **P 20 19 45.0 +1.2**
BNI pmax pmax
comp=Z,25nm,1.0s
SSB Saint Sauveur 79.64 349 P **P 20 19 43.9 0.0**
SSB Saint Sauveur 79.64 349 P **P 20 19 43.9 0.0**
SSB pmax pmax
comp=Z,30nm,1.5s
MMB Musomiste 79.64 334 P **P 20 19 44.1 +0.2**
ZCCA Zocca 79.66 344 P **P 20 19 45.3 +1.3**
ZCCA IAmb IAmb 20 19 49.9
comp=Z,86nm,1.2s
WR0 Warramunga Arr 79.73 212 P **P 20 19 44.2 -0.2**
WRAB Tennant Creek 79.76 213 P **P 20 19 44.5 -0.1**
WRAB Tennant Creek 79.76 213 *ce*P **P 20 19 44.6 -0.1**
WRAB pmax pmax
comp=Z,132nm,1.7s
WRAB Tennant Creek 79.76 213 P **P 20 19 45.1 +0.5**
WB2 Warramunga Arr 79.77 213 P **P 20 19 44.6 -0.1**
WRA Warramunga Arr 79.78 213 P **P 20 19 44.4 -0.3**
comp=Z,19nm,0.8s,baz=24,slow=6.0,SNR=124
WRA LR LR 20 53 06.2
comp=Z,857nm,20.9s,baz=24,slow=34
comp=Z,19nm,0.8s
WRA Warramunga Arr 79.78 213 P **P 20 19 44.5 -0.3**
WRA Warramunga Arr 79.78 213 P **P 20 19 44.5 -0.3**
PDG Podgorica 79.92 337 ⇑P **P 20 19 46.4 +1.0**
PDG Podgorica 79.92 337 P **P 20 19 44.5 -0.8**
MSSA Maissana 79.92 345 P **P 20 19 44.6 -0.8**
VLC Villacollemand 79.94 344 P **P 20 19 45.6 +0.1**
CMIG Matias Romero 79.97 75 P **P 20 19 46.0 0.0**
comp=Z,5.9nm,0.6s,baz=20,slow=4.1,SNR=8.5
CMIG LR LR 20 53 36.3
comp=Z,661nm,20.1s,baz=326,slow=34
comp=Z,5.9nm,0.6s
RAR Rarotonga 80.17 150 LR LR 20 47 40.2
comp=Z,953nm,21.6s,baz=312,slow=30
PPT Papeete 80.18 140 LR LR 20 49 54.7
comp=Z,1μm,19.2s,baz=332,slow=32
PPT2 Papeete2 80.20 140 *e*P **P 20 19 48.3 +1.2**
PPT2 Papeete2 80.20 140 *e*SS SS 20 35 04.5 +1.8
comp=Z,220nm,24.0s
PPT2 *e*LR LR 20 44 45.8
comp=Z,3μm,23.5s
OSSC Osservatorio P 80.42 344 P **P 20 19 48.8 +0.6**
OSSC IAmb IAmb 20 20 02.5
comp=Z,37nm,0.9s
MURB Monte Urbino 80.46 343 P **P 20 19 46.8 -1.5**
MURB IAmb IAmb 20 20 03.6
comp=Z,54nm,0.8s
FDMO Fiordimonte 80.58 342 P **P 20 19 49.9 +0.9**
FDMO IAmb IAmb 20 20 06.5
comp=Z,41nm,0.9s
TEIG Tepich 81.07 68 P **P 20 19 51.8 -0.1**
FITZ Fitzroy Crossi 81.10 221 LR LR 20 53 57.2
comp=Z,321nm,21.1s,baz=25,slow=34
FITZ Fitzroy Crossi 81.10 221 P **P 20 19 52.6 +0.8**
FITZ IAmb IAmb 20 19 54.2
comp=Z,49nm,1.2s
FITZ Fitzroy Crossi 81.10 221 P **P 20 19 52.8 +1.0**
SHME Shamm 81.11 303 P **P 20 19 51.1 -1.0**
UOSS Minazif 82.00 302 P **P 20 19 56.3 -0.5**
HATD Hatta, Dubai 82.13 302 P **P 20 19 55.6 -1.8**
WSAR Wadi Sarin 82.20 299 P **P 20 19 57.3 -0.6**
comp=Z,4.6nm,0.8s,baz=21,slow=6.2,SNR=4.5
WSAR LR LR 20 59 01.5
comp=Z,1μm,20.4s,baz=76,slow=38
comp=Z,4.6nm,0.8s
PAOL Paolisi 82.24 340 P **P 20 19 57.7 -0.1**
ELL Elmali 82.39 328 P **P 20 19 58.5 -0.3**
ELL IAmb IAmb 20 20 11.4
comp=Z,50nm,1.0s
ELL Elmali 82.39 328 P **P 20 19 58.5 -0.3**
ELL pmax pmax
comp=Z,50nm,1.0s
ASUD Al Ashush, Dub 82.70 303 P **P 20 19 59.2 -1.2**
PCHI Peechi 82.82 278 *e*P **P 20 20 00.6 -0.5**
ALNE Al Ain 82.97 302 P **P 20 19 59.1 -2.7**
AS31 Alice Springs 83.40 212 P **P 20 20 04.0 +0.2**
ASAR Alice Springs 83.40 212 P **P 20 20 03.9 0.0**
comp=Z,26nm,0.7s,baz=16,slow=4.6,SNR=175
ASAR LR LR 20 54 44.3
comp=Z,1μm,20.6s,baz=82,slow=34
comp=Z,26nm,0.7s
ASAR Alice Springs 83.40 212 P **P 20 20 04.2 +0.3**
TIP Timpagrande 83.57 338 ⇓P **P 20 20 06.0 +1.1**
TIP Timpagrande 83.57 338 P **P 20 20 05.2 +0.4**
PGAV Gavieira, Arco 83.83 358 *e*S **S 20 30 25.6 -2.8**
PGAV Gavieira, Arco 83.83 358 *e*LR LR 20 47 55.4
MMAI Mount Meron Ar 83.94 322 P **P 20 20 07.0 +0.2**
comp=Z,2.8nm,0.6s,baz=44,slow=4.4,SNR=6.2
MMAI LR LR 21 02 04.6
comp=Z,850nm,19.3s,baz=230,slow=39
comp=Z,2.8nm,0.6s
PBRG Braganca 83.95 357 *e*P **P 20 20 06.3 -0.4**
comp=Z,44nm,1.7s
PCAB Cabril 84.08 357 *e*P **P 20 20 08.9 +1.6**
comp=Z,49nm,2.1s
ASF Jabal al Asfar 84.16 320 P **P 20 20 07.7 -0.2**
comp=Z,4.6nm,0.8s,baz=49,slow=1.6,SNR=5.4
ASF LR LR 21 03 30.6
comp=Z,1μm,18.8s,baz=42,slow=40
comp=Z,4.6nm,0.8s
POLO Lamas de Olo 84.41 357 *e*P **P 20 20 08.4 -0.7**
comp=Z,19nm,1.5s
PVRL Vila Real 84.51 357 *e*P **P 20 20 10.3 +0.8**
comp=Z,73nm,1.5s
MVO Moncorvo 84.60 357 *e*P **P 20 20 11.0 +1.0**
comp=Z,46nm,1.4s
MVO Moncorvo 84.60 357 *e*PP PP 20 23 35.1 +10
MVO *e*S **S 20 30 30.6 -5.4**
MVO *e*SS SS 20 36 17.6 +12
MVO Moncorvo 84.60 357 *e*LR LR 20 48 10.7
comp=Z,601nm,20.0s
MZR Muzera 84.97 303 P **P 20 20 11.5 -0.5**
PVIS Viseu 85.07 357 *e*P **P 20 20 13.0 +0.6**
comp=Z,36nm,1.4s
MTO3 Montecristo 85.23 72 P **P 20 20 13.7 0.0**
IDI Anoyia 85.24 331 ⇑P **P 20 20 13.2 -0.1**
IDI Anoyia 85.24 331 LR LR 21 02 44.7
comp=Z,1μm,18.2s,baz=17,slow=39
MTE Manteigas 85.38 357 *e*P **P 20 20 15.1 +1.2**
comp=Z,41nm,1.6s
MTE Manteigas 85.38 357 *e*PP **PP 20 23 36.0 +5.0**
MTE *e*S **S 20 30 41.3 -2.4**
MTE *e*SS **SS 20 36 25.6 +8.7**
MTE Manteigas 85.38 357 *e*LR LR 20 48 36.7
comp=Z,962nm,20.0s
MTE Manteigas 85.38 357 P **P 20 20 14.4 +0.5**
MTE IAmb IAmb 20 20 18.7
comp=Z,34nm,1.3s
TBI Tubuai 85.51 142 *e*LR LR 20 47 14.1
comp=Z,2μm,24.8s
PCAS Casmilo, Conde 85.75 358 *e*P **P 20 20 14.8 -0.9**
ARMA Armidale 85.87 195 P **P 20 20 17.3 +1.1**
ARMA IAmb IAmb 20 20 20.3
comp=Z,70nm,1.6s
PCBR Castelo Branco 85.93 357 *e*P **P 20 20 15.9 -0.7**
comp=Z,35nm,2.0s
ESBB Sonseca Array 85.94 354 P **P 20 20 16.7 0.0**
ESBB IAmb IAmb 20 20 21.6
comp=Z,34nm,1.4s
ESDC Sonseca Array 85.94 354 P **P 20 20 17.6 +0.8**
comp=Z,8.7nm,1.1s,baz=358,slow=5.0,SNR=26
comp=Z,8.7nm,1.1s
ESDC Sonseca Array 85.94 354 P **P 20 20 17.5 +0.8**
PAB San Pablo 86.09 355 P **P 20 20 18.7 +1.2**
PAB IAmb IAmb 20 20 21.4
comp=Z,47nm,1.8s
PAB San Pablo 86.09 355 P **P 20 20 18.7 +1.2**
PAB pmax pmax
comp=Z,47nm,1.8s
MBWA Marble Bar 86.21 225 P **P 20 20 17.6 -0.3**
MBWA IAmb IAmb 20 20 19.8
comp=Z,35nm,0.8s
MBWA Marble Bar 86.21 225 P **P 20 20 18.1 +0.1**
PMRV Marv??o 86.34 357 *e*LR LR 20 49 01.7
comp=Z,925nm,20.0s
WRKA Warakurna 86.50 216 P **P 20 20 19.1 -0.3**
PSA00 Pilbara Seismi 86.53 225 P **P 20 20 19.4 -0.2**
PSA00 IAmb IAmb 20 20 21.5
comp=Z,21nm,0.9s
PSA00 Pilbara Seismi 86.53 225 P **P 20 20 18.9 -0.6**
PMTG Montargil 86.72 358 *e*P **P 20 20 19.9 -0.6**
OOD Oodnadatta 86.77 209 P **P 20 20 20.8 +0.3**
PESTR Estremoz 86.91 357 *e*P **P 20 20 20.4 -1.0**
comp=Z,23nm,1.8s
EIL Elat 87.13 321 LR LR 21 05 42.0
comp=Z,2μm,18.1s,baz=44,slow=40
EVO Evora 87.25 357 *e*P **P 20 20 23.0 -0.1**
comp=Z,24nm,1.9s
PBAR Barrancos 87.58 357 *e*P **P 20 20 22.1 -2.6**
comp=Z,25nm,1.7s
MESJ Messejana 87.95 357 *e*P **P 20 20 25.9 -0.6**
MESJ IAmb IAmb 20 20 27.5
comp=Z,86nm,2.2s

MESJ				*e*PP	**PP**	**20 23 52.5**	**+0.7**
MESJ	**Messejana**	**87.95**	**357**	*e*P	**P**	**20 20 25.9**	**-0.6**
MESJ				*e*		20 23 52.5	
CMSA	**Cobar Meteorol**	**87.98**	**199**	P	**P**	**20 20 27.5**	**+1.2**
PCVE	**Castro Verde**	**88.15**	**357**	*e*P	**P**	**20 20 27.0**	**-0.4**
	comp=Z,32nm,1.7s						
RAYN	**Ar Rayn**	**88.26**	**310**	P	**P**	**20 20 28.0**	**-0.2**
RAYN	**Ar Rayn**	**88.26**	**310**	P	**P**	**20 20 28.0**	**-0.2**
RAYN				pmax	pmax		
	comp=Z,20nm,1.4s						
RAYN	**Ar Rayn**	**88.26**	**310**	P	**P**	**20 20 27.5**	**-0.7**
KEST	**Kesra**	**88.33**	**343**	P	**P**	**20 20 27.4**	**-1.0**
	comp=Z,5.0nm,0.9s,baz=343,slow=6.8,SNR=4.2 comp=Z,5.0nm,0.9s						
PVAQ	**Vaqueiros**	**88.37**	**357**	*e*PP	**PP**	**20 24 00.0**	**+4.9**
PVAQ				*e*S	**S**	**20 31 14.3**	**+1.7**
PVAQ				*e*SS	SS	20 37 17.1	+16
PVAQ	**Vaqueiros**	**88.37**	**357**	*e*LR	LR	20 49 58.3	
	comp=Z,1µm,20.0s						
LCRK	**Leigh Creek**	**88.61**	**206**	P	**P**	**20 20 31.1**	**+1.8**
STKA	**Stephens Creek**	**89.16**	**203**	P	**P**	**20 20 32.4**	**+0.4**
	comp=Z,20nm,0.7s,baz=355,slow=6.9,SNR=36						
STKA				LR	LR	20 57 50.8	
	comp=Z,915nm,21.0s,baz=11,slow=34 comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**89.16**	**203**	P	**P**	**20 20 32.3**	**+0.4**
STKA	**Stephens Creek**	**89.16**	**203**	P	**P**	**20 20 32.3**	**+0.4**
STKA	**Stephens Creek**	**89.16**	**203**	P	**P**	**20 20 32.6**	**+0.7**
MULG	**Mulgathing**	**89.57**	**209**	P	**P**	**20 20 34.6**	**+0.7**
FORT	**Forrest**	**91.88**	**214**	P	**P**	**20 20 43.7**	**-0.8**
MDT	**Midelt**	**92.81**	**354**	LR	LR	21 00 28.8	
	comp=Z,347nm,21.6s,baz=3.5,slow=34						
PMOZ	**Porto Moniz, M**	**92.85**	**5**	*e*PP	PP	20 24 01.9	-29
PMOZ				*e*S	**SKSac**	**20 31 24.7**	**+2.2**
PMOZ	**Porto Moniz, M**	**92.85**	**5**	*e*LR	LR	20 51 44.3	
	comp=Z,493nm,22.0s						
SJG	**San Juan**	**93.94**	**51**	LR	LR	21 05 23.3	
	comp=Z,802nm,18.8s,baz=330,slow=37						
NWAO	**Narrogin (SRO)**	**97.69**	**222**	LR	LR	21 06 08.7	
	comp=Z,780nm,18.7s,baz=292,slow=36						
RPZ	**Rata Peaks**	**97.90**	**178**	LR	LR	21 02 14.0	
	comp=Z,791nm,18.4s,baz=352,slow=34						
SDV	**Santo Domingo**	**99.77**	**60**	LR	LR	21 08 47.2	
	comp=Z,596nm,18.5s,baz=343,slow=37						
ATD	**Arta Tunnel**	**99.93**	**306**	LR	LR	21 11 38.2	
	comp=Z,1µm,19.0s,baz=22,slow=38						
TORD	**Torodi Ar. Bea**	**111.67**	**346**	PKiKP	**PKiKP**	**20 26 10.3**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=350,slow=1.5,SNR=2.6						
TORD				PP	**PP**	**20 26 48.8**	**-3.5**
	comp=Z,2.0nm,1.0s,baz=355,slow=6.0,SNR=4.2						
TORD				PKKPab	**PKKPab**	**20 37 13.7**	**-3.0**
	comp=Z,1.9nm,1.0s,baz=179,slow=3.4,SNR=4.4						
DBIC	**Dimbokro**	**118.77**	**353**	PKP	**PKPdf**	**20 26 24.1**	**-1.1**
	comp=Z,3.0nm,0.5s,baz=46,slow=2.0,SNR=7.7						
LPAZ	**La Paz**	**122.24**	**72**	PKP	**PKiKP**	**20 26 32.6**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=16,slow=4.8,SNR=5.5						
VILB	**Vilhena**	**123.72**	**62**	*e*P	**PKiKP**	**20 26 36.4**	**+1.6**
CLDB	**Colider**	**124.14**	**56**	*e*P	**PKiKP**	**20 26 37.0**	**+1.3**
PDRB	**Porto dos Gac**	**124.32**	**58**	*e*P	**PKiKP**	**20 26 39.3**	**+3.3**
SMTB	**Santa Maria do**	**126.09**	**46**	*e*P	**PKiKP**	**20 26 39.9**	**+0.3**
PTLB	**Pontes e Lacer**	**126.37**	**62**		**PKPdf**	**20 26 39.0**	**-0.5**
PTLB	**Pontes e Lacer**	**126.37**	**62**	*e*P	**PKiKP**	**20 26 41.1**	**+1.1**
LVC	**Limon Verde**	**126.86**	**77**	*e*P	**PKiKP**	**20 26 41.1**	**-0.2**
SNDB	**Serra Nova Dou**	**127.22**	**52**	*e*P	**PKiKP**	**20 26 42.2**	**+0.5**
RCBR	**Riachuelo**	**127.55**	**31**	*e*P	**PKPdf**	**20 26 42.2**	**+0.3**
CASY	**Casey**	**128.21**	**206**		**PKiKP**	**20 26 41.9**	**-0.2**
SALV	**Santo Antonio**	**128.50**	**59**	*e*P	**PKiKP**	**20 26 45.7**	**+1.5**
PP1B	**Ponte de Pedra**	**130.35**	**59**	*e*P	**PKiKP**	**20 26 48.1**	**+0.1**
SDBA	**SAO DESIDERIO**	**130.40**	**45**	*e*P	**PKiKP**	**20 26 49.5**	**+1.4**
NBLA	**Lagarto - SE**	**131.80**	**36**	*e*P	**PKPdf**	**20 26 49.5**	**-0.4**
VNDA	**Vanda**	**131.86**	**182**	PKP	**PKPdf**	**20 26 47.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=327,slow=3.2,SNR=4.5						
VNDA				SKPbc	**SKPab**	**20 30 14.6**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=340,slow=4.0,SNR=8.8						
BDFB	**Brasilia**	**131.94**	**51**	PKP	**PKPdf**	**20 26 49.5**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=271,slow=3.2,SNR=3.6						
BDFB	**Brasilia**	**131.94**	**51**	*e*P	**PKiKP**	**20 26 51.0**	**-0.3**
SBA	**Scott Base**	**132.13**	**181**	PKPdf	**PKiKP**	**20 26 49.3**	**-0.4**
SBA	**Scott Base**	**132.13**	**181**	PKIKP	**PKiKP**	**20 26 49.3**	**-0.4**
JANB	**Januaria**	**133.03**	**46**	*e*P	**PKPdf**	**20 26 51.6**	**-0.7**
GDU01	**Guandu, BA**	**133.69**	**39**	*e*P	**PKiKP**	**20 26 54.5**	**-0.2**
MC01	**Montes Claros**	**134.66**	**46**	*e*P	**PKiKP**	**20 26 58.0**	**+1.3**
BO02	**Sierra Bellavi**	**134.89**	**89**		**PKPdf**	**20 26 55.5**	**+0.3**
CMC01	**Camacan, BA**	**135.21**	**40**	*e*P	**PKiKP**	**20 26 57.4**	**-0.3**
CPUP	**Villa Florida**	**136.24**	**69**	PKP	**PKPdf**	**20 26 58.1**	**+0.2**
	comp=Z,5.5nm,1.0s,baz=3.9,slow=5.0,SNR=6.4						
CPUP				SKPbc	**SKPbc**	**20 30 29.3**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=266,slow=3.5,SNR=3.2						
NAN01	**Guarapari, ES**	**137.24**	**42**	*e*P	**PKiKP**	**20 27 00.9**	**-0.9**
SJMB	**Sao Joao De Ma**	**137.59**	**44**	*e*P	**PKPdf**	**20 27 01.5**	**+0.9**
VAO	**Valinhos**	**138.81**	**54**	*e*P	**PKPdf**	**20 27 03.3**	**+0.4**
PLCA	**Paso Flores**	**139.05**	**95**	PKP	**PKPdf**	**20 27 03.2**	**+0.5**
	comp=Z,6.4nm,1.0s,baz=269,slow=6.1,SNR=6.3						
PLTB	**Pedras Altas**	**142.50**	**70**	*e*P	**PKPdf**	**20 27 10.0**	**+0.8**
BOSA	**Boshof**	**142.96**	**299**	PKhKP	PKPpre	20 27 06.2	
	comp=Z,3.9nm,0.6s,baz=26,slow=3.4,SNR=11						
MAW	**Mawson**	**144.21**	**219**	PKP	PKPbc	20 27 09.5	+0.3
	comp=Z,18nm,0.9s,baz=71,slow=4.7,SNR=25						
MAW	**Mawson**	**144.21**	**219**	PKPdf	**PKPab**	**20 27 08.9**	**+0.1**
MAW	**Mawson**	**144.21**	**219**	PKiKP	**PKPab**	**20 27 08.9**	**+0.1**
SMAI	**San Martin Ant**	**151.22**	**140**	PKPdf	**PKPdf**	**20 27 21.8**	**-0.7**
SMAI				PKPbc	**sPKPdf**	**20 27 29.1**	**-0.2**
TROLL	**Troll, Antarti**	**161.48**	**194**	PKPab	**PKPab**	**20 28 22.8**	**+2.1**
SNAA	**Sanae**	**162.41**	**189**	PKPab	**PKPab**	**20 28 24.1**	**-0.7**
SNAA	**Sanae**	**162.41**	**189**		**PKPab**	**20 28 23.1**	**-1.6**
SNAA	**Sanae**	**162.41**	**189**	PKP2	**PKPab**	**20 28 23.1**	**-1.6**
VNA3	**Neumayer Olymp**	**163.21**	**182**	PKPab	**PKPab**	**20 28 27.1**	**-1.1**
VNA2	**Neumayer--Watz**	**163.46**	**185**	PKPab	**PKPab**	**20 28 27.1**	**-2.1**
	baz=185,slow=4.0						
VNA2	**Neumayer--Watz**	**163.46**	**185**	PKPdf	**PKPdf**	**20 27 37.0**	**-0.8**
	baz=236,slow=1.0						
VNA1	**Neumayer--Stat**	**163.77**	**184**	PKPab	**PKPab**	**20 28 29.0**	**-1.6**
VNA1	**Neumayer--Stat**	**163.77**	**184**	PKPdf	**PKPdf**	**20 27 37.4**	**-0.7**

*NNC **07** 20:10:09.7±3.2, 38.69N×72.40E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=24.6km s-min=17.4km az=177.0*
*IDC **07** 20:10:09.0±8.7, 38.37N×72.34E, h134km±66km, mb3.9/1, mbtmp3.6/5, Error ellipse: s-maj=74.7km s-min=61.5km az=177.0*
*SOME **07** 20:10:11.3, 39.75N×72.67E, h0km*

ISC 07 20:10:08.8±3.9, 38.4N±0.2×72.35E±0.10, h30km, n13, σ1§44/19, 5C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**4.17**	**335**	*e*P	**Pn**	**20 11 11.0**	**+0.6**
	33nm,0.2s						
IUG				*e*S	**Sn**	**20 11 59.3**	**+1.1**
	54nm,0.1s						
AAK	**Ala-Archa**	**4.56**	**20**	P	**Pn**	**20 11 16.8**	**+0.9**
	2.1nm,0.3s,baz=189,slow=6.2,SNR=4.4						
AAK				S	**Sn**	**20 12 09.4**	**+1.5**
	3.1nm,0.4s,baz=86,slow=7.9,SNR=4.0						
KK31	**Karatay Array**	**4.93**	**344**	⇑P	**Pn**	**20 11 20.9**	**+0.1**
	0.6nm,0.2s,baz=171,slow=12,SNR=32						
KK31				⇓S	**Sn**	**20 12 16.9**	**+0.1**
	12nm,0.5s,baz=175,slow=22,SNR=22						
CHMS	**Chumysh**	**4.97**	**21**	⇑P	**Pn**	**20 11 21.5**	**+0.2**
	2.1nm,0.4s						
CHMS				⇑S	**Sn**	**20 12 17.9**	**+0.1**
	11nm,1.1s						
TKM2	**Tokmak 2**	**5.17**	**27**	⇑P	**Pn**	**20 11 24.9**	**+0.6**
	1.1nm,0.8s						
TKM2				⇑S	**Sn**	**20 12 22.1**	**-0.9**
	5.1nm,0.7s						
SGDS	**Sogindy**	**5.36**	**18**	*e*P	**Pn**	**20 11 26.0**	**-0.7**
	3.1nm,0.2s						
SGDS				*e*S	**Sn**	**20 12 26.1**	**-1.4**
	3.6nm,0.3s						
KST	**Kastek**	**5.41**	**29**	*e*P	**Pn**	**20 11 27.8**	**+0.3**
	1.2nm,0.3s						
KST				*e*S	**Sn**	**20 12 29.4**	**+0.5**
	7.6nm,0.5s						
DGS	**Degeres**	**5.51**	**27**	*e*P	**Pn**	**20 11 29.2**	**+0.3**
	0.9nm,0.2s						
DGS				*e*S	**Sn**	**20 12 31.9**	**+0.6**
	3.6nm,0.4s						
MKAR	**Makanchi Array**	**11.15**	**38**	P	**Pn**	**20 12 44.2**	**-1.8**
	0.4nm,0.7s,baz=225,slow=14,SNR=5.0						
KURBB	**Kurchatov Arra**	**13.01**	**18**	P	**Pn**	**20 13 14.5**	**+3.1**
	1.1nm,0.8s,baz=210,slow=10,SNR=5.6						
BVAR	**Borovoye Array**	**14.72**	**355**	P	**Pn**	**20 13 31.4**	**-3.3**
	0.5nm,0.4s,baz=162,slow=12,SNR=2.3						
ZALV	**Zalesovo Beam**	**17.77**	**25**	P	Pn	20 14 07.2	-6.4
	1.0nm,0.4s,baz=217,slow=11,SNR=7.3						
FINES	**FINESS Array B**	**36.56**	**324**	P	P	20 17 01.0	-11
	4.5nm,1.0s,baz=115,slow=9.8,SNR=3.4 4.5nm,1.0s						

*NEIC **07** 20:12:02.9±1.9, 53.9N±0.2×168.92E±0.04, h10km±1km, mb4.4/24, Error ellipse: s-maj=29.0km s-min=3.7km az=176.0*
*IDC **07** 20:12:07.0±0.9, 54.68N×168.59E, h0km, mb3.8/14, mbtmp3.8/15, ML3.1/1, Error ellipse: s-maj=29.4km s-min=17.8km az=173.0*

ISC 07 20:12:03.3±0.8, 53.8N±0.2×168.92E±0.06, h10km, n52, σ1§75/50, mb4.2/23, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**3.29**	**107**	Pn	**Pn**	**20 12 54.2**	**-0.7**
PET	**Petropavlovsk**	**6.19**	**267**	Pn	**Pn**	**20 13 32.2**	**-2.4**
PET					**Pb**	**20 13 52.6**	**+1.6**
PEA0B	**Petropavlovsk-**	**6.74**	**269**	Pn	**Pn**	**20 13 41.5**	**-0.7**
PEA0B					**Pb**	**20 13 58.9**	**-1.6**
PETK	**Petropavlovsk-**	**6.74**	**269**	Pn	**Pn**	**20 13 45.8**	**+3.6**
	1.8nm,0.3s,baz=102,slow=18,SNR=1.9 16nm,0.9s						
PETK	**Petropavlovsk-**	**6.74**	**269**	Pn	**Pn**	**20 13 43.4**	**+1.2**
PETK					**Pb**	**20 13 59.3**	**-1.2**
TTA	**Tatalina**	**20.28**	**49**	P	**P**	**20 16 37.7**	**-1.2**
L19K	**White Mountain**	**20.69**	**52**	P	**P**	**20 16 42.8**	**-0.5**
N19K	**Bonanza Creek**	**20.74**	**56**		Pn	20 16 46.1	-0.2
N19K				IAmb	IAmb	20 16 51.1	
	comp=Z,27nm,1.3s						
K20K	**Telida**	**21.22**	**49**	P	**P**	**20 16 50.1**	**+1.1**
RSO	**Redoubt South**	**21.58**	**57**	P	**P**	**20 16 47.4**	**-5.7**
KDAK	**Kodiak Island**	**21.80**	**64**	P	**P**	**20 16 53.5**	**-1.5**
KDAK				IAmb	IAmb	20 16 58.5	
	comp=Z,19nm,1.1s						
IMAR	**Indian Mountai**	**21.93**	**42**	P	**P**	**20 16 55.0**	**-1.5**
PWL	**Port Wells**	**23.75**	**56**	P	**P**	**20 17 14.8**	**-0.6**
PWL				IAmb	IAmb	20 17 18.1	
	comp=Z,8.6nm,0.8s						
WRH	**Wood River Hil**	**23.99**	**47**	P	**P**	**20 17 19.6**	**+1.9**
WRH				IAmb	IAmb	20 17 27.0	
	comp=Z,14nm,1.0s						
CCB	**Clear Creek Bu**	**24.13**	**46**	P	**P**	**20 17 20.4**	**+1.4**
CCB				IAmb	IAmb	20 17 28.3	
	comp=Z,6.3nm,0.8s						
DHY	**Denali Highway**	**24.21**	**50**	P	**P**	**20 17 21.0**	**+1.1**
TOLK	**Toolik Lake Re**	**24.23**	**36**	P	**P**	**20 17 21.3**	**+1.3**
H24K	**Noodor Dome**	**24.26**	**43**	P	**P**	**20 17 17.4**	**-2.8**
IL31		**24.54**	**46**	P	**P**	**20 17 20.8**	**-1.9**
ILAR	**Eielson Array**	**24.54**	**46**	P	**P**	**20 17 23.6**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=252,slow=7.5,SNR=4.1 comp=Z,1.9nm,0.6s						
M24K	**Tolsona, Glenn**	**24.76**	**52**	P	**P**	**20 17 22.1**	**-2.7**
KLU	**Klutina**	**24.90**	**54**	P	**P**	**20 17 25.5**	**-0.6**
KLU				IAmb	IAmb	20 17 26.6	
	comp=Z,8.1nm,1.2s						
J25K	**Salcha River,**	**25.18**	**47**	P	**P**	**20 17 25.8**	**-2.7**
PRP	**Porcupine Dome**	**25.18**	**44**		**P**	**20 17 27.7**	**-0.9**
RAGM	**Ragged Mountai**	**25.59**	**56**	P	**P**	**20 17 30.9**	**-1.3**
DOT	**Dot Lake**	**25.71**	**49**	P	**P**	**20 17 32.4**	**-1.0**
DOT				IAmb	IAmb	20 17 35.9	
	comp=Z,14nm,1.3s						
L27K	**Beaver Creek,**	**26.73**	**50**	P	**P**	**20 17 41.8**	**-0.9**
L27K				IAmb	IAmb	20 17 45.9	
	comp=Z,4.7nm,0.8s						
BCAR	**Beaver Creek A**	**26.75**	**50**	P	**P**	**20 17 39.0**	**-3.8**
BCPM	**Bancas Point**	**28.14**	**57**	P	**P**	**20 17 54.2**	**-1.1**
YKU2	**Yakutat**	**28.21**	**57**	P	**P**	**20 17 54.8**	**-1.0**
SONM	**Songino Array**	**38.80**	**287**	P	**P**	**20 19 28.8**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=69,slow=7.9,SNR=1.4 comp=Z,0.7nm,0.8s						
NEW	**Newport**	**44.88**	**66**	P	**P**	**20 20 17.4**	**-0.3**
NEW				IAmb	IAmb	20 20 18.1	
	comp=Z,10nm,1.4s						
SPB2	**Spitsbergen Ar**	**47.21**	**353**	P	**P**	**20 20 34.4**	**-1.2**
NVAR	**Mina Array Bea**	**50.48**	**77**	P	P	20 21 06.8	+5.3
	comp=Z,0.5nm,0.6s,baz=320,slow=8.3,SNR=2.5 comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**51.82**	**306**	P	**P**	**20 21 10.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=54,slow=7.4,SNR=2.0 comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**52.48**	**67**	P	**P**	**20 21 19.4**	**+3.0**
	comp=Z,0.2nm,0.6s,baz=314,slow=5.6,SNR=1.5 comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**52.48**	**300**	P	**P**	**20 21 15.8**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=46,slow=8.7,SNR=1.9 comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**53.95**	**312**	P	**P**	**20 21 26.8**	**0.0**
	comp=Z,1.3nm,0.5s,baz=54,slow=7.4,SNR=4.6 comp=Z,1.3nm,0.5s						
BRVK	**Borovoye**	**53.97**	**312**	P	**P**	**20 21 27.2**	**+0.3**
ULM	**Lac du Bonnet**	**54.35**	**52**	P	**P**	**20 21 31.7**	**+2.0**
	comp=Z,4.0nm,0.8s,baz=327,slow=9.4,SNR=2.8 comp=Z,4.0nm,0.8s						
ISCO	**Idaho Springs**	**56.67**	**67**	P	**P**	**20 21 46.9**	**-0.1**
ISCO				IAmb	IAmb	20 21 49.5	
	comp=Z,6.4nm,1.3s						
ABKAR	**Akbulak array**	**61.19**	**315**	P	**P**	**20 22 15.9**	**-1.9**
NC204	**NORSAR Array S**	**63.96**	**348**	P	**P**	**20 22 35.8**	**-0.3**
NB201	**NORSAR Array S**	**64.11**	**348**	P	**P**	**20 22 37.1**	**-0.1**
NOA	**NORSAR Array B**	**64.13**	**348**	P	**P**	**20 22 37.3**	**0.0**
	comp=Z,1.4nm,0.6s,baz=17,slow=6.8,SNR=4.6 comp=Z,1.4nm,0.6s						
TXAR	**Lajitas Array**	**65.43**	**74**	P	P	20 22 51.2	+5.0
	comp=Z,0.4nm,0.5s,baz=311,slow=4.5,SNR=2.1 comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**65.43**	**74**	P	**P**	**20 22 46.1**	**-0.1**
FCAR	**Ozark Folk Cen**	**66.74**	**61**	P	**P**	**20 22 55.1**	**+0.6**
AKASG	**Malin Array Be**	**70.50**	**334**	P	**P**	**20 23 17.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=37,slow=0.5,SNR=1.3 comp=Z,0.5nm,0.5s						
GERES	**GERESS Array B**	**75.60**	**343**	P	**P**	**20 23 48.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=358,slow=3.2,SNR=1.5 comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**79.26**	**213**	P	P	20 24 17.1	+8.5
	comp=Z,0.8nm,0.9s,baz=21,slow=6.2,SNR=1.7 comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**82.88**	**212**	P	P	20 24 37.2	+9.3
	comp=Z,0.7nm,0.8s,baz=5.3,slow=5.0,SNR=2.1 comp=Z,0.7nm,0.8s						

*IDC **07** 20:12:22.3±0.8, 54.59N×168.68E, h0km, mb3.9/14, mbtmp4.0/16, ML3.9/2, Error ellipse: s-maj=25.9km s-min=16.5km az=177.0*
*NEIC **07** 20:12:24.7±1.4, 54.5N±0.1×168.9E±0.1, h10km±1km, mb4.5/47, Error ellipse: s-maj=21.7km s-min=11.0km az=175.0*

ISC 07 20:12:23.9±0.5, 54.5N±0.1×168.81E±0.06, h10km, n80, σ1§01/71, mb4.4/36, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**3.62**	**117**	Pn	**Pn**	**20 13 19.7**	**-0.1**
	25nm,0.3s,baz=91,slow=23,SNR=2.2						
SHEM				Sn	**Sn**	**20 14 00.8**	**-1.7**
	24nm,0.3s,baz=284,slow=21,SNR=1.8 72nm,0.3s						
SMY	**Shemya**	**3.62**	**117**	Pn	**Pn**	**20 13 19.9**	**0.0**
PET	**Petropavlovsk**	**6.20**	**260**	Pn	**Pn**	**20 13 57.0**	**+1.7**
PEA0B	**Petropavlovsk-**	**6.73**	**263**	Pn	**Pn**	**20 14 04.9**	**+2.2**
PETK	**Petropavlovsk-**	**6.73**	**263**	Pn	**Pn**	**20 14 02.7**	**+0.1**
	3.9nm,0.3s,baz=84,slow=20,SNR=2.2 10nm,0.5s						
PETK	**Petropavlovsk-**	**6.73**	**263**	Pn	**Pn**	**20 14 04.9**	**+2.3**
AMKA	**Amchitka**	**7.07**	**112**	Pn	**Pn**	**20 14 08.1**	**+0.8**
KIWB	**Kanaga Island**	**8.84**	**102**	Pn	**Pn**	**20 14 32.1**	**+0.6**
ADK	**Adak**	**9.10**	**101**	Pn	**Pn**	**20 14 34.8**	**-0.2**
N18K	**Kilae Creek**	**19.72**	**57**	P	**P**	**20 16 54.5**	**+1.3**
N18K				IAmb	IAmb	20 16 56.1	
	comp=Z,31nm,1.4s						
TTA	**Tatalina**	**19.88**	**51**	Pn	**Pn**	**20 16 57.3**	**+0.7**
TTA				IAmb	IAmb	20 16 58.6	
	comp=Z,26nm,1.1s						
O18K	**Koktuh Hills**	**20.04**	**60**	Pn	Pn	20 16 59.3	+0.7
O18K				IAmb	IAmb	20 17 00.2	
	comp=Z,29nm,1.1s						
L19K	**White Mountain**	**20.32**	**53**	Pn	Pn	20 17 02.1	+0.3
L19K				IAmb	IAmb	20 17 03.2	
	comp=Z,26nm,1.0s						
N19K	**Bonanza Creek**	**20.41**	**57**		Pn	20 17 03.1	+0.1
M19K	**Big River Lodg**	**20.51**	**54**	P	**P**	**20 17 03.2**	**+1.4**
K20K	**Telida**	**20.82**	**50**	P	**P**	**20 17 06.5**	**+1.4**
SII	**Sitkinak Islan**	**20.88**	**69**	P	**P**	**20 17 06.3**	**+0.4**
J20K	**Nowinta River**	**20.91**	**48**	P	**P**	**20 17 07.6**	**+1.5**
OHAK	**Old Harbor**	**21.26**	**67**	P	**P**	**20 17 10.5**	**+0.6**
OHAK				IAmb	IAmb	20 17 29.9	
	comp=Z,47nm,1.4s						
KDAK	**Kodiak Island**	**21.55**	**65**	P	**P**	**20 17 13.5**	**+0.4**
KDAK	**Kodiak Island**	**21.55**	**65**	pmax	pmax		
	comp=Z,58nm,1.4s						
KDAK	**Kodiak Island**	**21.55**	**65**	P	**P**	**20 17 13.5**	**+0.4**
CAST	**Castle Rocks**	**21.71**	**50**	P	**P**	**20 17 15.4**	**+0.7**
CNPM	**China Poot**	**22.07**	**61**	P	**P**	**20 17 19.6**	**+1.0**
CNPM				IAmb	IAmb	20 17 23.6	
	comp=Z,18nm,1.0s						
SUA	**Susitna One**	**22.23**	**55**	P	**P**	**20 17 21.9**	**+1.4**
SUA				IAmb	IAmb	20 17 23.5	
	comp=Z,13nm,0.9s						
TRF	**Thorofare Moun**	**22.52**	**50**	P	**P**	**20 17 24.2**	**+0.6**
TRF				IAmb	IAmb	20 17 26.9	
	comp=Z,13nm,0.8s						
NEA2	**Nenana**	**23.16**	**47**	P	**P**	**20 17 30.3**	**+0.3**
NEA2				IAmb	IAmb	20 17 42.3	
	comp=Z,18nm,1.4s						
RND	**Reindeer**	**23.16**	**50**	P	**P**	**20 17 30.5**	**+0.3**
RND				IAmb	IAmb	20 17 32.2	
	comp=Z,14nm,0.9s						
KNK	**Knik Glacier**	**23.33**	**55**	P	**P**	**20 17 32.6**	**+0.7**
KNK				IAmb	IAmb	20 17 50.3	
	comp=Z,19nm,1.1s						
SML	**Sawmill**	**23.38**	**54**	P	**P**	**20 17 32.7**	**+0.3**
PWL	**Port Wells**	**23.42**	**57**	P	**P**	**20 17 32.7**	**-0.1**
PWL				IAmb	IAmb	20 17 34.6	
	comp=Z,10nm,0.7s						
MDM	**Murphy Dome**	**23.55**	**47**	P	**P**	**20 17 35.0**	**+0.9**
WRH	**Wood River Hil**	**23.57**	**48**	P	**P**	**20 17 34.7**	**+0.6**
WRH				IAmb	IAmb	20 17 42.8	
	comp=Z,23nm,1.3s						
CCB	**Clear Creek Bu**	**23.70**	**47**	P	**P**	**20 17 36.0**	**+0.6**
CCB				IAmb	IAmb	20 17 38.3	
	comp=Z,12nm,1.0s						
TOLK	**Toolik Lake Re**	**23.71**	**37**	P	**P**	**20 17 36.9**	**+1.2**
H24K	**Noodor Dome**	**23.80**	**44**	P	**P**	**20 17 38.0**	**+1.6**
H24K				IAmb	IAmb	20 18 08.1	
	comp=Z,24nm,1.5s						
DHY	**Denali Highway**	**23.82**	**51**	P	**P**	**20 17 37.2**	**+0.4**
SCM	**Sheep Creek Mo**	**23.86**	**54**	P	**P**	**20 17 37.6**	**+0.5**
SCM				IAmb	IAmb	20 17 38.6	
	comp=Z,21nm,0.9s						
IL31		**24.11**	**47**	P	**P**	**20 17 39.1**	**-0.1**
IL31				IAmb	IAmb	20 17 41.5	
	comp=Z,14nm,1.1s						
ILAR	**Eielson Array**	**24.11**	**47**	P	**P**	**20 17 38.8**	**-0.5**
	comp=Z,5.9nm,0.9s,baz=253,slow=7.3,SNR=5.1 comp=Z,5.9nm,0.9s						
ILAR	**Eielson Array**	**24.11**	**47**	P	**P**	**20 17 39.3**	**0.0**
HIN	**Hinchinbrook I**	**24.36**	**58**	P	**P**	**20 17 42.8**	**+1.1**
HIN				IAmb	IAmb	20 17 49.1	
	comp=Z,14nm,1.0s						
KLU	**Klutina**	**24.55**	**55**	P	**P**	**20 17 44.2**	**+0.8**
KLU				IAmb	IAmb	20 18 28.0	
	comp=Z,22nm,1.4s						
PRP	**Porcupine Dome**	**24.73**	**45**	P	**P**	**20 17 46.8**	**+1.6**
FYU	**Fort Yukon**	**24.95**	**43**	P	**P**	**20 17 48.0**	**+1.1**
BMRM	**Bremner River**	**25.23**	**56**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.16**	**130**	⇑Pg	Pg	20 13 56.7	-1.2
EQES				Sg	Sg	20 13 59.1	-1.4
EQES				*i* Vmb_Lg		20 13 59.4	
EQUE	**Quentar**	**0.72**	**194**	Pg	Pg	20 14 07.0	-1.1
EQUE				Sg	Sg	20 14 16.6	-1.0
EQUE				*i* Vmb_Lg		20 14 17.5	
EBER	**Berja**	**1.04**	**165**	Pg	Pg	20 14 13.9	-0.3
EBER				Sg	Sb	20 14 27.9	0.0
EBER				*i* Vmb_Lg		20 14 33.0	
EGOR	**Sierra Gorda,**	**1.06**	**222**	Pg	Pb	20 14 13.9	-0.7
EGOR				Sg	Sb	20 14 29.0	+0.5
EGOR				*i* Vmb_Lg		20 14 31.5	
ELGU	**Los Guajares,**	**1.08**	**197**	Pg	Pb	20 14 14.3	-0.6
ELGU				*i* Vmb_Lg		20 14 26.2	
ELGU				Sg	Sb	20 14 28.2	-0.9
EADA	**Adamuz**	**1.10**	**284**	Pg	Pb	20 14 13.0	-2.3
EADA				Sg	Sb	20 14 29.1	-0.6
EADA				*i* Vmb_Lg		20 14 32.2	
EZAR	**Zarzadilla de**	**1.21**	**91**	Pg	Pn	20 14 15.3	-1.8
EZAR				Sg	Sb	20 14 31.7	-1.1
ETOB	**Tobarra**	**1.51**	**60**	Pg	Pn	20 14 20.7	-0.5
ETOB				Sg	Sn	20 14 40.7	-0.2
ETOB				*i* Vmb_Lg		20 14 44.5	
EMUR	**La Murta**	**1.57**	**92**	Pg	Pn	20 14 22.4	+0.4
EMUR				Sg	Sg	20 14 44.3	-0.4
EMUR				*i* Vmb_Lg		20 14 45.9	
ECAB	**El Cabril**	**1.74**	**276**	Pg	Pb	20 14 25.9	-0.3
ECAB				Sg	Sb	20 14 48.0	-0.1
ECAB				*i* Vmb_Lg		20 14 51.9	
ESDC	**Sonseca Array**	**1.86**	**342**	Sg	Sb	20 14 52.3	+0.8
ESDC				*i* Vmb_Lg		20 14 55.2	
PAB	**San Pablo**	**1.86**	**332**	Pg	Pb	20 14 28.6	+0.3
PAB				Sg	Sb	20 14 52.2	+0.6
PAB				*i* Vmb_Lg		20 14 55.3	
EMIN	**Mina Concepcio**	**2.73**	**268**	Sg	Sb	20 15 18.1	+1.5
EMIN				*i* Vmb_Lg		20 15 20.5	
PBAR	**Barrancos**	**3.03**	**276**	*e*Sg	Sg	20 15 29.5	-1.9
PBAR				A	A	20 15 33.4	
	2.9nm,0.8s						
PMRV	**Marv??o**	**3.60**	**296**	*e*Sg	Sg	20 15 47.5	-2.4

ROM 07 20:19:49.4±0.2, 42°.783N±0°.005×13°.127E±0°.009, h3km±3km, Md1.4/8, 4C-1D, Error ellipse: s-maj=0.7km s-min=0.4km az=246.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**350**	⇑P	Pg	20 19 50.4	-0.2
NRCA				S	Sg	20 19 51.4	-0.1
NRCA				END			
NRCA	**Norcia**	**0.05**	**350**	P	Pg	20 19 50.2	-0.4
T1202	**Accumoli, Fraz**	**0.11**	**138**	P	Pg	20 19 51.7	+0.1
T1202				S	Sg	20 19 54.0	+0.9
T1202				END			
T1216	**Preci, Frazion**	**0.13**	**324**	P	Pg	20 19 52.7	+0.7
T1216				S	Sg	20 19 55.4	+1.5
T1216				END			
MC2	**Monte Cornacci**	**0.14**	**20**	P	Pg	20 19 52.3	+0.1
MC2				S	Sg	20 19 55.2	+1.1
MC2				END			
T1217	**Poggiodomo (PG**	**0.16**	**244**	P	Pg	20 19 52.8	+0.2
T1217				END			
T1204	**Amatrice, Fraz**	**0.18**	**127**	⇑P	Pg	20 19 53.1	+0.2
T1204				S	Sg	20 19 56.5	+1.3
T1204				AML	AML		
	comp=E,195μm,1.6s						
T1204				AML	AML		
	comp=N,184μm,1.6s						
T1204				END			
MMO1	**Montemonaco**	**0.19**	**52**	⇑P	Pg	20 19 51.5	-1.5
LNSS	**Leonessa**	**0.19**	**200**	P	Pg	20 19 53.3	+0.2
LNSS				S	Sg	20 19 57.4	+1.8
LNSS				AML	AML		
	comp=E,104μm,1.5s						
LNSS				AML	AML		
	comp=N,85μm,0.7s						
LNSS				AML	AML		
	comp=E,111μm,0.9s						
LNSS				AML	AML		
	comp=N,97μm,1.4s						
LNSS				END			
T1215	**Vallo di Nera,**	**0.19**	**276**	P	Pg	20 19 53.3	+0.2
T1215				S	Sg	20 19 57.1	+1.5
T1215				END			
T1243	**Rocca Santa Ma**	**0.25**	**110**	⇑P	Pg	20 19 53.6	-0.7
CSP1	**Cessapalombo**	**0.31**	**10**	⇓P	Pg	20 19 55.6	+0.1

*IDC **07** 20:23:14.8±1.0, 41°.76N×123°.89E, h0km, mb3.6/6, mbtmp3.5/7, ML2.2/1, Error ellipse: s-maj=20.9km s-min=17.8km az=28.0*

ISC 07 20:23:16.7±0.8, 41°.74N±0°.09×123°.75E±0°.10, h10km, n9, σ1§52/9, mb3.6/6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**5.36**	**142**	Pg	**Pb**	**20 24 51.7**	**+1.3**
	0.2nm,0.3s,baz=329,slow=18,SNR=1.5						
KSRS				Lg	Lg	20 26 04.3	
	3.1nm,0.3s,baz=328,slow=30,SNR=13						
USRK	**Ussuriysk Ar.**	**6.53**	**65**	Pn	**Pn**	**20 24 51.0**	**-1.7**
	0.5nm,0.3s,baz=257,slow=12,SNR=7.6						
USRK				Pg	**Pb**	**20 25 12.3**	**+2.1**
	0.4nm,0.3s,baz=244,slow=16,SNR=4.7						
USRK				Lg	Lg	20 26 37.3	
	1.2nm,0.3s,baz=261,slow=29,SNR=11						
	1.2nm,0.4s						
KLR	**Kul'dur**	**9.36**	**34**	Lg	Lg	20 28 08.9	
	0.2nm,0.3s,baz=199,slow=9.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**31.40**	**230**	P	**P**	**20 29 39.2**	**+1.3**
	0.3nm,0.4s,baz=37,slow=9.2,SNR=2.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**32.10**	**302**	P	**P**	**20 29 43.9**	**+0.1**
	0.2nm,0.5s,baz=83,slow=8.8,SNR=1.9						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**54.33**	**335**	P	**P**	**20 32 43.4**	**+0.6**
	1.6nm,0.8s,baz=46,slow=5.2,SNR=3.7						
	1.6nm,0.8s						
AKASG	**Malin Array Be**	**61.68**	**314**	P	**P**	**20 33 34.1**	**-0.5**
	0.2nm,0.4s,baz=44,slow=6.8,SNR=4.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**62.15**	**169**	P	**P**	**20 33 36.5**	**-1.5**
	0.4nm,0.9s,baz=354,slow=7.4,SNR=2.4						
	0.4nm,0.9s						
NVAR	**Mina Array Bea**	**82.24**	**44**	P	**P**	**20 35 37.9**	**-0.5**
	0.3nm,0.5s,baz=339,slow=4.8,SNR=2.7						
	0.3nm,0.5s						

*IDC **07** 20:26:46.9±6.1, 55°.16N×161°.07E, h123km±43km, mb3.1/4, mbtmp3.4/5, Error ellipse: s-maj=70.2km s-min=33.1km az=87.0*

*KRSC **07** 20:26:47.5±0.8, 54°.91N×160°.91E, h118km±14km, ML3.8*

ISC 07 20:26:48.1±0.8, 54°.94N±0°.04×160°.85E±0°.05, h127km±7km, n37, σ1§25/50, mb3.1/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.53**	**311**	*e*P	**Pn**	**20 27 07.1**	**0.0**
TUMR				*e*S	**Sn**	**20 27 21.0**	**-0.5**
KMNR	**Kamenistaya**	**0.89**	**337**	*e*P	**Pn**	**20 27 09.8**	**0.0**
BZMR	**Bezymyannaya**	**1.02**	**349**	*e*P	**Pn**	**20 27 11.1**	**+0.1**
KPT	**Kopyto**	**1.09**	**341**	*e*P	**Pn**	**20 27 11.4**	**-0.3**
KII	**Karymskiy**	**1.22**	**223**	*e*P	**Pn**	**20 27 13.2**	**+0.3**
KOZ	**Kozyrevsk**	**1.25**	**334**	*e*P	**Pn**	**20 27 13.0**	**-0.2**
KLY	**Klyuchi**	**1.38**	**356**	*e*P	**Pn**	**20 27 14.8**	**+0.2**
SRDR	**Sredinnyy**	**1.52**	**336**	*e*P	**Pn**	**20 27 15.8**	**-0.4**
ESO	**Esso**	**1.57**	**310**	*e*P	**Pn**	**20 27 17.5**	**+0.7**
BDR	**Baidarnaya**	**1.65**	**7**	*e*P	**Pn**	**20 27 18.6**	**+0.9**
SMKR	**Semkarok**	**1.69**	**12**	*e*P	**Pn**	**20 27 18.7**	**+0.6**
KBG	**Krutoberegovo**	**1.69**	**38**	*e*P	**Pn**	**20 27 19.4**	**+1.3**
KBG				*e*S	**Sn**	**20 27 42.4**	**+1.4**
KBTR	**Krutoberegovo**	**1.70**	**41**	*e*P	**Pn**	**20 27 19.2**	**+1.0**
KBTR				*e*S	**Sn**	**20 27 41.9**	**+0.7**
SPN	**Mys Shipunski**	**1.91**	**195**	*e*P	**Pn**	**20 27 19.9**	**-0.8**
SPN				*e*S	**Sn**	**20 27 43.9**	**-1.7**
NLC	**Nalytchevo**	**1.98**	**207**	*e*P	**Pn**	**20 27 21.6**	**0.0**
NLC				*e*S	**Sn**	**20 27 46.6**	**-0.6**
SDLR	**Sedlovina**	**2.02**	**216**	*e*P	**Pn**	**20 27 23.1**	**+0.8**
KRX	**Arik**	**2.04**	**220**	*e*P	**Pn**	**20 27 23.6**	**+1.1**
KRER	**Koryakskii**	**2.05**	**218**	*e*P	**Pn**	**20 27 23.9**	**+1.2**
SMAR	**Somma**	**2.06**	**216**	*e*P	**Pn**	**20 27 23.6**	**+0.7**
SMAR				*e*S	**Sn**	**20 27 50.3**	**+0.8**
AVH	**Avacha**	**2.08**	**217**	*e*P	**Pn**	**20 27 24.0**	**+1.0**
KOK	**Koryaka**	**2.10**	**219**	*e*P	**Pn**	**20 27 24.2**	**+1.0**
UGLR	**Uglovaya**	**2.10**	**215**	*e*P	**Pn**	**20 27 24.2**	**+1.0**
GNL	**Ganaly**	**2.11**	**235**	*e*P	**Pn**	**20 27 23.6**	**+0.3**
DALK	**Dalny**	**2.27**	**214**	*e*P	**Pn**	**20 27 25.7**	**+0.5**
DALK				*e*S	**Sn**	**20 27 53.9**	**+0.2**
PET	**Petropavlovsk**	**2.31**	**215**	*e*P	**Pn**	**20 27 26.5**	**+0.8**
PET				*e*S	**Sn**	**20 27 55.2**	**+0.6**
PETK	**Petropavlovsk-**	**2.61**	**227**	P	**Pn**	**20 27 29.9**	**+0.4**
	2.1nm,0.4s,baz=72,slow=14,SNR=8.3						
PETK				S	**Sn**	**20 28 06.8**	**+5.5**
	2.8nm,0.5s,baz=99,slow=20,SNR=4.1						
KRMR	**Karymshinskiy**	**2.65**	**218**	*e*P	**Pn**	**20 27 30.7**	**+0.7**
KRMR				*e*S	**Sn**	**20 28 04.3**	**+2.0**
RUS	**Russkaya**	**2.87**	**210**	*e*P	**Pn**	**20 27 32.7**	**-0.1**
RUS				*e*S	**Sn**	**20 28 05.9**	**-1.3**
GRL	**Gorelyy**	**2.90**	**216**	*e*P	**Pn**	**20 27 34.6**	**+1.2**
MTVR	**Mutnovka**	**2.92**	**214**	*e*P	**Pn**	**20 27 34.3**	**+0.6**
BKI	**Bering**	**2.96**	**83**	*e*P	**Pn**	**20 27 35.2**	**+1.2**
BKI				*e*S	**Sn**	**20 28 08.3**	**-1.1**
ASAK	**Asacha**	**3.10**	**216**	*e*P	**Pn**	**20 27 37.3**	**+1.4**
KDTR	**Khodutka, Kamc**	**3.54**	**209**	*e*S	**Sn**	**20 28 21.0**	**-2.1**
KURBB	**Kurchatov Arra**	**47.26**	**301**	P	**P**	**20 35 06.1**	**-1.8**
	0.2nm,0.4s,baz=57,slow=7.5,SNR=3.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**77.94**	**205**	P	**P**	**20 38 32.4**	**+0.5**
	0.1nm,0.5s,baz=23,slow=6.2,SNR=1.4						
WRA				pP	**pP**	**20 39 03.7**	**0.0**
	0.2nm,0.6s,baz=12,slow=5.4,SNR=1.3						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**81.62**	**205**	P	**P**	**20 38 52.1**	**+0.5**
	0.2nm,0.7s,baz=11,slow=5.7,SNR=2.0						
	0.2nm,0.7s						
ESDC	**Sonseca Array**	**84.86**	**348**	P	**P**	**20 39 08.1**	**-0.3**
	0.5nm,0.6s,baz=0.0,slow=5.3,SNR=3.1						
	0.5nm,0.6s						

*BJI **07** 20:37:09.8±0.0, 54°.73N×168°.79E, h8km, mb4.5/37, Ms5.0/2, Ms7 4.7/2*

*IDC **07** 20:37:11.0±0.5, 54°.62N×168°.74E, h0km, mb4.3/36, mbtmp4.3/38, ML3.7/3, Error ellipse: s-maj=14.0km s-min=9.3km az=169.0*

*KRSC **07** 20:37:10.2±2.0, 54°.31N×168°.75E, h40km±47km, ML5.0*

*NEIC **07** 20:37:13.2±1.6, 54°.57N±0°.09×168°.7E±0°.1, h10km±1km, mb4.9/288, Error ellipse: s-maj=14.6km s-min=9.9km az=180.0*

*MOS **07** 20:37:14.8±1.0, 54°.47N×168°.59E, h40km, mb4.7/28, MS4.0/4, Error ellipse: s-maj=5.1km s-min=5.1km az=0.1*

ISC 07 20:37:12.7±1.8, 54°.41N±0°.05×168°.73E±0°.04, h13km±11km, n754, σ1§36/799, mb4.8/218, MS4.5/5, 13C-5D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.78**	**298**	PN	**Pn**	**20 37 39.9**	**-3.2**
BKI				S	**Sn**	**20 38 02.1**	**-3.5**
BKI	**Bering**	**1.78**	**298**	*e*P	**Pn**	**20 37 39.9**	**-3.2**
BKI				*e*S	**Sn**	**20 38 02.1**	**-3.5**
SHEM	**Shemya Is, Ala**	**3.62**	**116**	Pn	**Pn**	**20 38 08.2**	**-0.2**
	53nm,0.3s,baz=314,slow=1.3,SNR=23						
SHEM				Sn	**Sn**	**20 38 49.2**	**-1.8**
	70nm,0.3s,baz=258,slow=22,SNR=10						
	142nm,0.3s						
SMY	**Shemya**	**3.62**	**116**		**Pn**	**20 38 07.7**	**-0.8**
SMY	**Shemya**	**3.62**	**116**	PN	**Pn**	**20 38 07.9**	**-0.5**
SMY	**Shemya**	**3.62**	**116**	*e*P	**Pn**	**20 38 07.9**	**-0.5**
SMY				*e*S	**Sn**	**20 38 50.1**	**-0.6**
KBTR	**Krutoberegovo**	**3.82**	**300**	PN	**Pn**	**20 38 10.2**	**-1.0**
KBTR				S	**Sn**	**20 38 55.6**	**-0.4**
KBTR	**Krutoberegovo**	**3.82**	**300**	*e*P	**Pn**	**20 38 10.2**	**-1.0**
KBTR				*e*S	**Sn**	**20 38 55.6**	**-0.4**
KBG	**Krutoberegovo**	**3.90**	**301**	PN	**Pn**	**20 38 11.2**	**-1.1**
KBG				S	**Sn**	**20 38 57.6**	**-0.3**
KBG	**Krutoberegovo**	**3.90**	**301**	*e*P	**Pn**	**20 38 11.2**	**-1.1**
KBG				*e*S	**Sn**	**20 38 57.6**	**-0.3**
SMKR	**Semkarok**	**4.66**	**301**	PN	**Pn**	**20 38 23.3**	**+0.5**
SMKR				S	**Sn**	**20 39 19.2**	**+2.4**
SMKR	**Semkarok**	**4.66**	**301**	*e*P	**Pn**	**20 38 23.3**	**+0.5**
SMKR				*e*S	**Sn**	**20 39 19.2**	**+2.4**
BDR	**Baidarnaya**	**4.79**	**300**	PN	**Pn**	**20 38 24.9**	**+0.3**
BDR				S	**Sn**	**20 39 22.3**	**+2.4**
BDR	**Baidarnaya**	**4.79**	**300**	*e*P	**Pn**	**20 38 24.9**	**+0.3**
BDR				*e*S	**Sn**	**20 39 22.3**	**+2.4**
SRKR	**Sorokina**	**4.84**	**301**	*e*S	**Sn**	**20 39 23.6**	**+2.3**
BZZR	**Bezymyannyi-Gr**	**4.85**	**292**	*e*S	**Sn**	**20 39 21.5**	**0.0**
KLY	**Klyuchi**	**4.98**	**296**	*e*S	**Sn**	**20 39 24.3**	**-0.3**
KRSR	**Krestovskiy**	**5.00**	**294**	*e*S	**Sn**	**20 39 27.4**	**+2.3**
TUMR	**Tumrok**	**5.04**	**283**	PN	**Pn**	**20 38 28.3**	**+0.3**
TUMR				S	**Sn**	**20 39 27.2**	**+1.2**
TUMR	**Tumrok**	**5.04**	**283**	*e*P	**Pn**	**20 38 28.3**	**+0.3**
TUMR				*e*S	**Sn**	**20 39 27.2**	**+1.2**
KIRR	**Kirishev**	**5.05**	**291**	*e*S	**Sn**	**20 39 27.0**	**+0.6**
KMNR	**Kamenistaya**	**5.06**	**289**	PN	**Pn**	**20 38 30.4**	**+2.1**
KMNR				S	**Sn**	**20 39 27.2**	**+0.6**
KMNR	**Kamenistaya**	**5.06**	**289**	*e*P	**Pn**	**20 38 30.4**	**+2.1**
KMNR				*e*S	**Sn**	**20 39 27.2**	**+0.6**
KPT	**Kopyto**	**5.12**	**291**	*e*S	**Sn**	**20 39 29.6**	**+1.6**
KOZ	**Kozyrevsk**	**5.33**	**292**	*e*S	**Sn**	**20 39 34.5**	**+1.4**
SPN	**Mys Shipunski**	**5.33**	**259**	PN	**Pn**	**20 38 31.2**	**-0.7**
SPN	**Mys Shipunski**	**5.33**	**259**	*e*P	**Pn**	**20 38 31.2**	**-0.7**
SPN				*e*S	**Sn**	**20 39 30.3**	**-2.8**
KII	**Karymskiy**	**5.46**	**270**	PN	**Pn**	**20 39 34.0**	**+0.3**
KII	**Karymskiy**	**5.46**	**270**	*e*P	**Pn**	**20 38 34.0**	**+0.3**
KII				*e*S	**Sn**	**20 39 34.7**	**-1.7**
SRDR	**Sredinnyy**	**5.48**	**294**	PN	**Pn**	**20 38 35.7**	**+1.7**
SRDR				S	**Sn**	**20 39 39.6**	**+2.7**
SRDR	**Sredinnyy**	**5.48**	**294**	*e*P	**Pn**	**20 38 35.7**	**+1.7**
SRDR				*e*S	**Sn**	**20 39 39.6**	**+2.7**
NLC	**Nalytchevo**	**5.70**	**261**	PN	**Pn**	**20 38 37.5**	**+0.6**
NLC	**Nalytchevo**	**5.70**	**261**	*e*P	**Pn**	**20 38 37.5**	**+0.6**
NLC				*e*S	**Sn**	**20 39 38.1**	**-4.1**
SDLR	**Sedlovina**	**5.94**	**263**	PN	**Pn**	**20 38 41.1**	**+0.7**
SDLR	**Sedlovina**	**5.94**	**263**	*e*P	**Pn**	**20 38 41.1**	**+0.7**
ESO	**Esso**	**5.94**	**289**	PN	**Pn**	**20 38 42.8**	**+2.5**
ESO	**Esso**	**5.94**	**289**	*e*P	**Pn**	**20 38 42.8**	**+2.5**
SMAR	**Somma**	**5.99**	**263**	PN	**Pn**	**20 38 41.8**	**+0.6**
SMAR	**Somma**	**5.99**	**263**	P	**Pn**	**20 38 41.8**	**+0.6**
SMAR				*e*S	**Sn**	**20 39 48.5**	**-1.2**
UGLR	**Uglovaya**	**5.99**	**262**	PN	**Pn**	**20 38 41.4**	**+0.3**
UGLR	**Uglovaya**	**5.99**	**262**	*e*P	**Pn**	**20 38 41.4**	**+0.3**
UGLR				*e*S	**Sn**	**20 39 45.7**	**-3.8**
KRER	**Koryakskii**	**6.01**	**263**	PN	**Pn**	**20 38 40.2**	**-1.2**
KRER	**Koryakskii**	**6.01**	**263**	*e*P	**Pn**	**20 38 40.2**	**-1.2**
AVH	**Avacha**	**6.03**	**263**	PN	**Pn**	**20 38 41.9**	**+0.4**
AVH				S	**Sn**	**20 39 50.7**	**+0.3**
AVH	**Avacha**	**6.03**	**263**	*e*P	**Pn**	**20 38 41.9**	**+0.4**
AVH				*e*S	**Sn**	**20 39 50.7**	**+0.3**
KRX	**Arik**	**6.05**	**264**	PN	**Pn**	**20 38 41.4**	**-0.6**
KRX	**Arik**	**6.05**	**264**	*e*P	**Pn**	**20 38 41.4**	**-0.6**
KRX				*e*S	**Sn**	**20 39 49.4**	**-1.7**
KOK	**Koryaka**	**6.08**	**263**	PN	**Pn**	**20 38 42.5**	**+0.2**
KOK	**Koryaka**	**6.08**	**263**	*e*P	**Pn**	**20 38 42.5**	**+0.2**
KOK				*e*S	**Sn**	**20 39 51.4**	**-0.3**
DALK	**Dalny**	**6.08**	**261**	PN	**Pn**	**20 38 42.1**	**-0.1**
DALK	**Dalny**	**6.08**	**261**	*e*P	**Pn**	**20 38 42.1**	**-0.1**
DALK				*e*S	**Sn**	**20 39 47.3**	**-4.3**
PET	**Petropavlovsk**	**6.14**	**261**	Pn	**Pn**	**20 38 43.8**	**+0.8**
PET	**Petropavlovsk**	**6.14**	**261**	*e*PN	**Pn**	**20 38 44.8**	**+1.8**
PET				pmax	pmax		
	comp=Z,50nm,0.4s						
PET	**Petropavlovsk**	**6.14**	**261**	*e*P	**Pn**	**20 38 45.1**	**+2.1**
PET				*e*S	**Sn**	**20 39 50.8**	**-2.3**
TILK	**Tilichiki**	**6.21**	**348**	PN	**Pn**	**20 38 44.0**	**+0.1**
TILK	**Tilichiki**	**6.21**	**348**	*e*P	**Pn**	**20 38 44.0**	**+0.1**
GNL	**Ganaly**	**6.39**	**268**	PN	**Pn**	**20 38 47.2**	**+0.6**
GNL	**Ganaly**	**6.39**	**268**	P	**Pn**	**20 38 47.2**	**+0.6**
GNL				*e*S	**Sn**	**20 39 58.9**	**-0.6**
RUS	**Russkaya**	**6.42**	**256**	PN	**Pn**	**20 38 46.8**	**0.0**
RUS	**Russkaya**	**6.42**	**256**	*e*P	**Pn**	**20 38 46.8**	**0.0**
RUS				*e*S	**Sn**	**20 39 56.3**	**-3.6**
KRMR	**Karymshinskiy**	**6.50**	**260**	PN	**Pn**	**20 38 48.6**	**+0.6**
KRMR	**Karymshinskiy**	**6.50**	**260**	*e*P	**Pn**	**20 38 48.6**	**+0.6**
KRMR				*e*S	**Sn**	**20 39 59.9**	**-2.0**
MTVR	**Mutnovka**	**6.59**	**257**	PN	**Pn**	**20 38 49.5**	**+0.2**
MTVR	**Mutnovka**	**6.59**	**257**	*e*P	**Pn**	**20 38 49.5**	**+0.2**
MTVR				*e*S	**Sn**	**20 40 00.9**	**-3.4**
GRL	**Gorelyy**	**6.63**	**258**	PN	**Pn**	**20 38 51.2**	**+1.4**
GRL	**Gorelyy**	**6.63**	**258**	*e*P	**Pn**	**20 38 51.2**	**+1.4**
GRL				*e*S	**Sn**	**20 40 05.0**	**-0.2**
PEA0B	**Petropavlovsk-**	**6.67**	**263**	Pn	**Pn**	**20 38 51.3**	**+0.9**
PEA0B	**Petropavlovsk-**	**6.67**	**263**	*ce*PN	**Pn**	**20 38 51.2**	**+0.9**
PETK	**Petropavlovsk-**	**6.67**	**263**	Pn	**Pn**	**20 38 51.1**	**+0.8**
	comp=Z,3.8nm,0.3s,baz=88,slow=20,SNR=51						
PETK				Sn	**Sn**	**20 40 04.8**	**-1.4**
	comp=Z,6.7nm,0.3s,baz=211,slow=46,SNR=2.5						
	comp=Z,5.7nm,0.3s						
ASAK	**Asacha**	**6.79**	**257**	PN	**Pn**	**20 38 52.8**	**+0.8**
ASAK	**Asacha**	**6.79**	**257**	*e*P	**Pn**	**20 38 52.8**	**+0.8**
ASAK				*e*S	**Sn**	**20 40 05.8**	**-3.3**
KDTR	**Khodutka, Kamc**	**6.92**	**252**	*e*P	**Pn**	**20 38 53.6**	**-0.1**
KDTR				*e*S	**Sn**	**20 40 07.5**	**-4.8**
APC	**Apacha**	**7.04**	**262**	PN	**Pn**	**20 38 57.3**	**+2.0**
APC	**Apacha**	**7.04**	**262**	*e*P	**Pn**	**20 38 57.3**	**+2.0**
AMKA	**Amchitka**	**7.08**	**111**	Pn	**Pn**	**20 38 56.3**	**+0.4**
KMSK	**Kamenskaya**	**8.18**	**352**	PN	**Pn**	**20 39 11.7**	**+0.7**
KMSK	**Kamenskaya**	**8.18**	**352**	P	**Pn**	**20 39 11.7**	**+0.7**
KMSK				S	**Sn**	**20 40 42.4**	**-0.8**
SKR	**Severo-Kuril's**	**8.54**	**249**	*e*PN	**Pn**	**20 39 16.1**	**+0.1**
SKR				pmax	pmax		
	comp=Z,62nm,1.0s						
SKR				MLR	MLR		
	comp=Z,1μm,11.0s						
SKR	**Severo-Kuril's**	**8.54**	**249**	S	**Sn**	**20 40 46.6**	**-5.5**
KIWB	**Kanaga Island**	**8.87**	**101**		**Pn**	**20 39 21.3**	**+0.8**
ADK	**Adak**	**9.13**	**100**	Pn	**Pn**	**20 39 23.6**	**-0.4**
ADK	**Adak**	**9.13**	**100**	PN	**Pn**	**20 39 23.6**	**-0.4**
SEY	**Seymchan**	**12.01**	**322**	Pn	**Pn**	**20 39 60.0**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=132,slow=23,SNR=1.4						
SEY	**Seymchan**	**12.01**	**322**	*ce*PN	**Pn**	**20 40 04.3**	**+0.9**
SEY				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SPIA	**Saint Paul Isl**	**12.14**	**68**	P	**Pn**	**20 40 04.2**	**-0.9**
	baz=266						
NIKH	**Nikolski High**	**13.35**	**87**		**Pn**	**20 40 22.0**	**+0.3**
NIKH	**Nikolski High**	**13.35**	**87**	P	**Pn**	**20 40 20.2**	**-1.5**
	baz=286						
BILL	**Bilibino**	**13.72**	**356**	*e*P	**Pn**	**20 40 26.5**	**-0.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,849nm,12.0s						
UNV	**Unalaska Valle**	**14.51**	**82**		**Pn**	**20 40 38.2**	**+0.7**
UNV	**Unalaska Valle**	**14.51**	**82**	P	**Pn**	**20 40 36.0**	**-1.6**
	baz=282						
TNA	**Tin City**	**16.03**	**37**	P	**Pn**	**20 40 55.6**	**-2.0**
	baz=237						
TYV	**Tymovskoe**	**16.18**	**268**	*e*P	**P**	**20 41 07.4**	**+4.7**
TYV				pmax	pmax		
	comp=Z,900nm,6.4s						
TYV				pmax	pmax		
	comp=Z,25nm,1.2s						
ANM	**Nome**	**16.48**	**42**	P	**Pn**	**20 41 02.2**	**-1.2**
	baz=244						
UGL	**Uglegorsk**	**17.29**	**263**	*e*P	**P**	**20 41 19.4**	**+4.4**
UGL				pmax	pmax		
	comp=Z,100nm,0.9s						
SDPT	**Sand Point**	**17.68**	**74**	P	**Pn**	**20 41 15.7**	**-2.6**
	baz=280						
YSS	**Yuzh-Sakhalins**	**18.00**	**256**	*i* P	**P**	**20 41 24.2**	**+1.4**
YSS				pmax	pmax		
	comp=Z,28nm,1.1s						
S14K	**Fog Glacier**	**18.05**	**71**	P	**Pn**	**20 41 20.0**	**-3.1**
	baz=278						
CHNA	**Chernabura Isl**	**18.27**	**76**	P	**Pn**	**20 41 25.4**	**-0.3**
	baz=282						
CNBA	**Chernabura Isl**	**18.28**	**76**	P	**P**	**20 41 27.0**	**+1.2**
N16K	**Nishlik Lake**	**18.37**	**58**	P	**Pn**	**20 41 26.7**	**-0.2**
	baz=265						
O16K	**Kokwok River B**	**18.66**	**60**	P	**P**	**20 41 30.1**	**+0.1**
	baz=269						
CHGN	**Chignik**	**18.68**	**71**	P	**Pn**	**20 41 31.8**	**+1.2**
CHGN	**Ch

baz=279,SNR=6.9
IMAR Indian Mountai 21.56 43 P **P** **20 42 01.3 -0.1**
SPCR Spurr Chakacha 21.61 56 P **P** **20 42 02.4 +0.2**
baz=270
N20K Mount Spurr 21.62 56 P **P** **20 42 01.8 -0.4**
baz=270
YAK Yakutsk 21.63 306 P **P** **20 41 59.4 -2.8**
comp=Z,5.4nm,0.4s,baz=24,slow=2.2,SNR=4.8
YAK S **S** **20 45 57.4 -3.8**
comp=Z,1.3nm,0.3s,baz=156,slow=2.8,SNR=1.1
comp=Z,5.4nm,0.4s
YAK Yakutsk 21.63 306 P **P** **20 41 59.0 -3.2**
YAK Yakutsk 21.63 306 *e*P **P** **20 41 59.2 -3.1**
YAK *e*S **S** **20 45 56.7 -4.6**
YAK *e*SS Sn 20 46 17.1 +7.0
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,23nm,1.0s
YAK smax smax
comp=N,225nm,5.2s
YAK smax smax
comp=E,158nm,4.9s
YAK MLR MLR
comp=Z,503nm,13.0s
YAK MLR MLR
comp=N,159nm,11.0s
YAK MLR MLR
comp=E,402nm,13.0s
KDAK Kodiak Island 21.64 65 P **P** **20 41 59.7 -2.7**
comp=E,4.8nm,0.4s,baz=285,slow=8.0,SNR=22
comp=E,4.8nm,0.4s
KDAK Kodiak Island 21.64 65 P **P** **20 42 02.1 -0.2**
baz=278
Q20K Shuyak Island 21.64 63 P **P** **20 42 02.4 +0.1**
baz=276,SNR=7.4
PPLA Purkeypile 21.71 51 P **P** **20 42 04.3 +1.0**
PPLA Purkeypile 21.71 51 P **P** **20 42 03.7 +0.4**
baz=265,SNR=30
CHUM Lake Minchumin 21.76 49 P **P** **20 42 03.3 -0.3**
baz=263,SNR=7.1
G21K Allakaket 21.79 41 P **P** **20 42 03.6 -0.4**
baz=255,SNR=9.8
CAST Castle Rocks 21.80 50 P **P** **20 42 05.1 +0.9**
CAST IAmb IAmb 20 42 08.9
comp=Z,61nm,1.6s
CAST Castle Rocks 21.80 50 P **P** **20 42 03.8 -0.4**
baz=264,SNR=26
H21K Melozitna Rive 21.86 44 P **P** **20 42 05.0 +0.2**
H21K IAmb IAmb 20 42 09.7
comp=Z,94nm,1.4s
H21K Melozitna Rive 21.86 44 P **P** **20 42 04.4 -0.4**
baz=258,SNR=37
HOM Homer 21.94 60 P **P** **20 42 05.2 -0.4**
baz=274
SKT Skwentna 21.96 54 P **P** **20 42 06.0 +0.2**
SKT IAmb IAmb 20 42 11.3
comp=Z,74nm,1.5s
SKT Skwentna 21.96 54 P **P** **20 42 05.1 -0.7**
baz=268,SNR=22
F21K Alatna River 22.00 40 P **P** **20 42 03.3 -2.9**
baz=253
I21K Tanana 22.10 45 P **P** **20 42 07.6 +0.3**
I21K Tanana 22.10 45 P **P** **20 42 04.2 -3.2**
baz=260,SNR=16
CNPM China Poot 22.15 60 P **P** **20 42 08.3 +0.4**
CNPM IAmb IAmb 20 42 11.6
comp=Z,34nm,1.1s
SUA Susitna One 22.32 55 P **P** **20 42 10.3 +0.5**
SUA IAmb IAmb 20 42 13.1
comp=Z,88nm,1.6s
SUA Susitna One 22.32 55 P **P** **20 42 06.7 -3.2**
baz=270,SNR=16
KTH Kantishna Hill 22.34 50 P **P** **20 42 12.0 +2.1**
KTH IAmb IAmb 20 42 14.6
comp=Z,88nm,1.4s
BPAW Bear Paw Mtn. 22.37 48 P **P** **20 42 10.5 +0.3**
BPAW IAmb IAmb 20 42 14.6
comp=Z,34nm,1.2s
BPAW Bear Paw Mtn. 22.37 48 P **P** **20 42 07.0 -3.2**
baz=263,SNR=24
BRSE Bradley Lake S 22.39 60 P **P** **20 42 07.3 -3.2**
baz=274
H22K Ishtalitna Cre 22.48 44 P **P** **20 42 07.9 -3.5**
baz=259,SNR=15
CUT Chulitna 22.56 53 P **P** **20 42 12.2 -0.1**
CUT IAmb IAmb 20 42 16.3
comp=Z,75nm,1.4s
MLY Manley 22.60 46 P **P** **20 42 12.2 -0.4**
MLY IAmb IAmb 20 42 16.8
comp=Z,41nm,1.2s
MLY Manley 22.60 46 P **P** **20 42 08.1 -4.5**
baz=261,SNR=37
TRF Thorofare Moun 22.61 50 P **P** **20 42 13.0 0.0**
TRF Thorofare Moun 22.61 50 P **P** **20 42 09.9 -3.1**
baz=266,SNR=16
M22K Willow 22.62 54 P **P** **20 42 11.0 -1.9**
baz=270
G22K Bettles 22.66 41 P **P** **20 42 09.8 -3.5**
baz=256
E22K Anaktuvuk Pass 22.88 38 P **P** **20 42 10.9 -4.7**
baz=253
JTM Tenmabayashi 22.91 245 P **P** **20 42 16.9 +0.8**
JTM IAmb IAmb 20 42 24.9
comp=Z,71nm,1.3s
SEW Seward 23.01 59 P **P** **20 42 16.9 -0.1**
SEW Seward 23.01 59 P **P** **20 42 14.5 -2.4**
baz=274
BWN Browne 23.04 48 P **P** **20 42 18.7 +1.4**
PMR Palmer 23.09 55 P **P** **20 42 17.5 -0.3**
baz=271
G23K Bananza Creek 23.19 42 P **P** **20 42 16.7 -2.1**
baz=258,SNR=7.2
GHO Glory Hole Cre 23.19 54 P **P** **20 42 19.3 +0.4**
I23K Minto, Yukon-K 23.19 46 P **P** **20 42 18.7 -0.1**
I23K IAmb IAmb 20 42 20.6
comp=Z,61nm,1.6s
H23K Yukon River 23.21 44 P **P** **20 42 19.4 +0.3**
H23K Yukon River 23.21 44 P **P** **20 42 17.5 -1.6**
baz=261,SNR=12
COLD Coldfoot 23.23 40 P **P** **20 42 19.6 +0.5**
COLD Coldfoot 23.23 40 P **P** **20 42 16.0 -3.2**
baz=257,SNR=11
MCK McKinley 23.24 49 P **P** **20 42 19.3 0.0**
MCK IAmb IAmb 20 42 21.3
comp=Z,68nm,1.6s
MCK McKinley 23.24 49 P **P** **20 42 19.3 0.0**
MCK pmax pmax
comp=Z,68nm,1.6s
MCK McKinley 23.24 49 P **P** **20 42 15.7 -3.6**
baz=266,SNR=11
KLR Kul'dur 23.24 272 P **P** **20 42 19.1 -0.4**
comp=Z,13nm,1.0s,baz=51,slow=10.0,SNR=14
KLR S **S** **20 46 25.4 -5.7**
comp=Z,0.4nm,0.3s,baz=272,slow=20,SNR=1.4
comp=Z,13nm,1.0s
KLR Kul'dur 23.24 272*ce*P **P** **20 42 20.0 +0.5**
KLR pmax pmax
comp=Z,23nm,1.3s
NEA2 Nenana 23.25 47 P **P** **20 42 18.2 -1.2**
NEA2 IAmb IAmb 20 42 20.6
comp=Z,42nm,1.7s
NEA2 Nenana 23.25 47 P **P** **20 42 17.9 -1.5**
baz=264,SNR=10
RND Reindeer 23.25 50 P **P** **20 42 19.0 -0.5**
RND Reindeer 23.25 50 P **P** **20 42 19.0 -0.5**
RND pmax pmax
comp=Z,108nm,1.8s
WAT1 Susitna Watana 23.37 52 P **P** **20 42 18.2 -2.5**
baz=269
KNK Knik Glacier 23.42 55 P **P** **20 42 20.9 -0.3**
KNK Knik Glacier 23.42 55 P **P** **20 42 19.1 -2.1**
baz=272,SNR=9.8
SML Sawmill 23.47 54 P **P** **20 42 21.5 -0.2**
SML IAmb IAmb 20 42 24.2
comp=Z,66nm,1.4s
SML Sawmill 23.47 54 P **P** **20 42 19.9 -1.8**
baz=271,SNR=14
PWL Port Wells 23.51 57 P **P** **20 42 21.4 -0.6**
PWL IAmb IAmb 20 42 24.6
comp=Z,22nm,0.8s
PWL Port Wells 23.51 57 P **P** **20 42 19.7 -2.4**
baz=274,SNR=14
D23K Nanushuk River 23.52 36 P **P** **20 42 19.9 -2.2**
baz=252,SNR=7.3

MDM Murphy Dome 23.65 46 P **P** **20 42 22.1 -1.2**
MDM IAmb IAmb 20 42 25.4
comp=Z,60nm,1.6s
WRH Wood River Hil 23.66 48 P **P** **20 42 23.0 -0.5**
WAT6 Susitna Watana 23.74 52 P **P** **20 42 22.5 -2.0**
baz=270,SNR=9.8
M23K Glacier View 23.76 54 P **P** **20 42 21.9 -2.6**
baz=272,SNR=13
TCOL CIGO, UAF Yank 23.79 47 P **P** **20 42 24.6 -0.1**
TCOL IAmb IAmb 20 42 26.3
comp=Z,36nm,0.8s
TCOL CIGO, UAF Yank 23.79 47 P **P** **20 42 23.1 -1.6**
baz=265,SNR=6.3
CCB Clear Creek Bu 23.80 47 P **P** **20 42 24.2 -0.5**
COLA College 23.80 47 P **P** **20 42 24.6 -0.1**
COLA College 23.80 47*c i*P **P** **20 42 25.0 +0.3**
COLA pmax pmax
comp=Z,37nm,1.4s
COLA College 23.80 47 P **P** **20 42 22.6 -2.1**
baz=265
TOLK Toolik Lake Re 23.82 37 P **P** **20 42 24.8 -0.2**
TOLK Toolik Lake Re 23.82 37 P **P** **20 42 23.1 -1.9**
baz=254,SNR=17
C23K Itkillik River 23.82 34 P **P** **20 42 23.0 -1.9**
baz=251
H24K Noodor Dome 23.89 44 P **P** **20 42 26.0 +0.2**
H24K IAmb IAmb 20 42 29.2
comp=Z,37nm,1.3s
H24K Noodor Dome 23.89 44 P **P** **20 42 24.2 -1.6**
baz=262,SNR=18
DHY Denali Highway 23.91 51 P **P** **20 42 25.2 -0.8**
DHY IAmb IAmb 20 42 29.0
comp=Z,49nm,1.3s
DHY Denali Highway 23.91 51 P **P** **20 42 24.9 -1.2**
baz=269,SNR=26
SCM Sheep Creek Mo 23.95 54 P **P** **20 42 26.6 +0.2**
SCM Sheep Creek Mo 23.95 54 P **P** **20 42 26.6 +0.2**
SCM pmax pmax
comp=Z,76nm,1.3s
SCM Sheep Creek Mo 23.95 54 P **P** **20 42 24.9 -1.4**
baz=272,SNR=17
POKR Poker Plat Res 24.00 46 P **P** **20 42 26.5 -0.2**
POKR Poker Plat Res 24.00 46 P **P** **20 42 26.5 -0.2**
baz=265,SNR=6.1
P23K Montague Islan 24.04 59 P **P** **20 42 26.3 -0.8**
baz=276
E24K Your Creek 24.06 39 P **P** **20 42 27.2 -0.1**
baz=257,SNR=17
ZEA Zeya 24.10 285 *e*P **P** **20 42 28.9 +1.2**
ZEA pmax pmax
comp=E,10.0nm,1.5s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
GLI Glacier Island 24.11 57 P **P** **20 42 26.4 -1.4**
GLI Glacier Island 24.11 57 P **P** **20 42 26.6 -1.2**
baz=274,SNR=11
HDA Harding Lake 24.15 48 P **P** **20 42 27.4 -0.7**
HDA IAmb IAmb 20 42 31.5
comp=Z,30nm,1.2s
HDA Harding Lake 24.15 48 P **P** **20 42 27.0 -1.1**
baz=267,SNR=19
F24K Squaw Lake 24.17 40 P **P** **20 42 27.8 -0.5**
baz=259
G24K Hadweenzic Riv 24.18 42 P **P** **20 42 27.6 -0.8**
baz=261,SNR=8.6
IL31 24.20 47 P **P** **20 42 26.9 -1.6**
IL31 IAmb IAmb 20 42 31.7
comp=Z,34nm,1.1s
ILAR Eielson Array 24.20 47 P **P** **20 42 27.0 -1.6**
comp=Z,20nm,0.9s,baz=255,slow=8.6,SNR=57
comp=Z,20nm,0.9s
ILAR Eielson Array 24.20 47 P **P** **20 42 26.9 -1.6**
ILAR Eielson Array 24.20 47 P **P** **20 42 26.9 -1.6**
D24K Happy Valley 24.22 36 P **P** **20 42 28.4 -0.3**
baz=254
TIXI Tiksi 24.25 330 P **P** **20 42 27.8 -1.1**
comp=Z,13nm,1.1s,baz=91,slow=23,SNR=4.5
comp=Z,13nm,1.1s
TIXI Tiksi 24.25 330 P **P** **20 42 28.1 -0.9**
TIXI IAmb IAmb 20 42 34.9
comp=Z,46nm,1.6s
TIXI Tiksi 24.25 330*ce*P **P** **20 42 29.2 +0.2**
TIXI pmax pmax
comp=Z,21nm,1.3s
C24K Franklin Bluff 24.42 35 P **P** **20 42 29.6 -0.8**
baz=253
FID Port Fidalgo 24.43 57 P **P** **20 42 30.4 -0.3**
FID IAmb IAmb 20 42 33.0
comp=Z,46nm,1.5s
HIN Hinchinbrook I 24.45 58 P **P** **20 42 30.7 -0.2**
HIN IAmb IAmb 20 42 34.8
comp=Z,42nm,1.4s
M24K Tolsona, Glenn 24.48 54 P **P** **20 42 31.9 +0.6**
M24K Tolsona, Glenn 24.48 54 P **P** **20 42 30.7 -0.5**
baz=272,SNR=31
KLU Klutina 24.64 55 P **P** **20 42 32.3 -0.4**
KLU Klutina 24.64 55 P **P** **20 42 32.6 0.0**
baz=274,SNR=31
K24K Donnelly Dome 24.64 49 P **P** **20 42 31.7 -1.0**
baz=269,SNR=7.5
DIV Divide 24.73 56 P **P** **20 42 33.2 -0.4**
DIV IAmb IAmb 20 42 44.0
comp=Z,37nm,1.3s
H25K Birch Creek 24.78 43 P **P** **20 42 34.1 +0.3**
baz=264,SNR=12
PAX Paxson 24.78 51 P **P** **20 42 33.6 -0.4**
PAX IAmb IAmb 20 42 37.1
comp=Z,43nm,1.3s
PAX Paxson 24.78 51 P **P** **20 42 33.6 -0.4**
PAX pmax pmax
comp=Z,43nm,1.3s
PAX Paxson 24.78 51 P **P** **20 42 33.6 -0.4**
baz=271,SNR=32
EYAK Cordova Ski Ar 24.80 57 P **P** **20 42 33.6 -0.4**
EYAK IAmb IAmb 20 42 37.2
comp=Z,21nm,1.1s
EYAK Cordova Ski Ar 24.80 57 P **P** **20 42 34.2 +0.1**
baz=276,SNR=7.1
PRP Porcupine Dome 24.83 45 P **P** **20 42 34.1 -0.4**
PRP Porcupine Dome 24.83 45 P **P** **20 42 33.5 -0.9**
baz=266,SNR=85
J25K Salcha River, 24.84 47 P **P** **20 42 32.5 -2.0**
J25K IAmb IAmb 20 42 36.9
comp=Z,56nm,1.7s
J25K Salcha River, 24.84 47 P **P** **20 42 33.7 -0.8**
baz=268,SNR=20
HARP HAARP 24.94 53 P **P** **20 42 34.6 -0.8**
baz=273
F25K Christian Rive 25.03 40 P **P** **20 42 35.1 -1.0**
baz=261,SNR=19
FYU Fort Yukon 25.05 43 P **P** **20 42 36.5 +0.3**
RIDG Independent Ri 25.05 50 P **P** **20 42 36.4 0.0**
RIDG IAmb IAmb 20 42 38.4
comp=Z,28nm,1.0s
RIDG Independent Ri 25.05 50 P **P** **20 42 35.2 -1.1**
baz=270,SNR=17
D25K Kavik River 25.10 36 P **P** **20 42 35.3 -1.5**
baz=257,SNR=8.6
E25K Arctic Village 25.14 39 P **P** **20 42 35.9 -1.3**
baz=260,SNR=10.0
N25K Chitina, Valde 25.26 55 P **P** **20 42 39.1 +0.8**
N25K IAmb IAmb 20 42 42.3
comp=Z,26nm,1.4s
N25K Chitina, Valde 25.26 55 P **P** **20 42 37.1 -1.2**
baz=275,SNR=12
BMRM Bremner River 25.32 56 P **P** **20 42 38.7 0.0**
BMRM Bremner River 25.32 56 P **P** **20 42 37.8 -0.9**
baz=276,SNR=9.7
RAGM Ragged Mountai 25.35 57 P **P** **20 42 39.2 +0.1**
RAGM IAmb IAmb 20 42 42.6
comp=Z,38nm,1.0s
DOT Dot Lake 25.40 50 P **P** **20 42 38.1 -1.4**
BMAR Burnt Mountain 25.41 41 P **P** **20 42 39.2 -0.3**
SCRK Sand Creek 25.43 49 P **P** **20 42 38.4 -1.5**
SCRK IAmb IAmb 20 42 42.0
comp=Z,24nm,1.2s
SCRK Sand Creek 25.43 49 P **P** **20 42 40.1 +0.2**
baz=270,SNR=23
KAIM Kayak Island 25.54 58 P **P** **20 42 42.2 +1.4**
KAIM Kayak Island 25.54 58 P **P** **20 42 40.5 -0.2**
baz=279,SNR=7.1
MENT Mentasta 25.58 51 P **P** **20 42 41.4 +0.3**
MENT IAmb IAmb 20 42 56.5
comp=Z,26nm,1.4s
F26K Sheenjek River 25.61 40 P **P** **20 42 41.1 -0.3**
baz=262

J26L Joseph Creek 25.62 48 P **P** **20 42 40.5 -1.0**
J26L IAmb IAmb 20 42 44.2
comp=Z,26nm,1.2s
J26L Joseph Creek 25.62 48 P **P** **20 42 40.9 -0.7**
baz=270,SNR=21
GLB Gilahina Butte 25.65 55 P **P** **20 42 41.9 +0.1**
GLB IAmb IAmb 20 42 45.4
comp=Z,16nm,1.0s
G26K Porcupine Rive 25.66 42 P **P** **20 42 41.5 -0.2**
baz=264,SNR=23
L26K Log Cabin Wild 25.75 51 P **P** **20 42 42.9 +0.3**
L26K Log Cabin Wild 25.75 51 P **P** **20 42 41.7 -1.0**
baz=273
I26K Coal Creek Min 25.81 46 P **P** **20 42 43.8 +0.7**
I26K Coal Creek Min 25.81 46 P **P** **20 42 44.0 +0.9**
baz=268
M26K Nabesna, AK 25.95 53 P **P** **20 42 45.5 +0.9**
M26K Nabesna, AK 25.95 53 P **P** **20 42 42.7 -1.8**
baz=274,SNR=6.6
MCARA McCarthy VSAT 26.03 55 P **P** **20 42 45.9 +0.7**
MCARA IAmb IAmb 20 42 52.0
comp=Z,25nm,1.2s
MCARA McCarthy VSAT 26.03 55 P **P** **20 42 44.3 -0.9**
baz=277
C27K Jago River 26.09 36 P **P** **20 42 44.8 -0.8**
baz=259
TGL Tana Glacier 26.20 56 P **P** **20 42 47.6 +0.7**
TGL IAmb IAmb 20 42 49.3
comp=Z,45nm,1.6s
K27K Chicken 26.27 49 P **P** **20 42 46.9 -0.5**
K27K Chicken 26.27 49 P **P** **20 42 47.4 0.0**
baz=272
L27K Beaver Creek, 26.44 51 P **P** **20 42 48.9 0.0**
L27K Beaver Creek, 26.44 51 P **P** **20 42 48.2 -0.7**
baz=274,SNR=25
BCAR Beaver Creek A 26.45 51 P **P** **20 42 49.2 +0.1**
I27K Kandik River 26.46 45 P **P** **20 42 48.2 -0.9**
baz=269
M27K Edge Creek, AK 26.47 53 P **P** **20 42 49.9 +0.6**
M27K IAmb IAmb 20 42 54.9
comp=Z,33nm,1.4s
M27K Edge Creek, AK 26.47 53 P **P** **20 42 48.0 -1.3**
baz=276,SNR=7.4
G27K Doyon Strip 26.49 43 P **P** **20 42 48.2 -1.2**
baz=267,SNR=8.4
H27K Steamboat Moun 26.51 44 P **P** **20 42 48.2 -1.3**
baz=268,SNR=6.7
EGAK Eagle 26.65 47 P **P** **20 42 49.5 -1.3**
EGAK IAmb IAmb 20 42 51.7
comp=Z,30nm,1.2s
EGAK Eagle 26.65 47 P **P** **20 42 49.6 -1.1**
baz=271,SNR=14
YAH Yahtse 26.79 57 P **P** **20 42 52.8 +0.4**
CTG Chitna Glacier 26.90 56 P **P** **20 42 51.4 -1.8**
baz=279
TABL Table Mountain 27.08 57 P **P** **20 42 55.5 +0.6**
TABL IAmb IAmb 20 43 11.8
comp=Z,23nm,0.8s
LOGN Logan Glacier 27.08 56 P **P** **20 42 55.4 +0.5**
YUK3 Moose Creek 27.20 54 P **P** **20 42 54.8 -1.2**
baz=278
DAWY Dawson 27.45 49 P **P** **20 42 58.7 +0.7**
DAWY IAmb IAmb 20 43 04.2
comp=Z,20nm,0.8s
DAWY Dawson 27.45 49 P **P** **20 42 57.2 -0.9**
baz=274
O28M Mount Upton 27.48 56 P **P** **20 42 58.0 -0.6**
baz=280
MAJO Matsushiro 27.56 242 P **P** **20 43 01.5 +2.3**
MAJO IAmb IAmb 20 43 04.8
comp=Z,26nm,1.1s
MAJO Matsushiro 27.56 242 P **P** **20 43 01.5 +2.3**
MAJO pmax pmax
comp=Z,26nm,1.1s
MJAR Matsushiro Arr 27.56 242 P **P** **20 42 59.9 +0.7**
comp=Z,2.9nm,0.7s,baz=34,slow=8.8,SNR=8.4
comp=Z,2.9nm,0.7s
M29M Somme Creek 28.04 52 P **P** **20 43 03.0 -0.4**
baz=278
YUK4 Talbot Arm 28.12 54 P **P** **20 43 03.0 -1.2**
baz=280
K29M Barlow Dome 28.30 49 P **P** **20 43 04.2 -1.5**
baz=276,SNR=15
YUK6 Outpost Mounta 28.33 55 P **P** **20 43 05.2 -0.9**
baz=281
O29M Mount Kennedy 28.35 57 P **P** **20 43 05.2 -1.0**
baz=282
EPYK Eagle Plains 28.45 44 P **P** **20 43 07.8 +0.9**
EPYK Eagle Plains 28.45 44 P **P** **20 43 04.4 -2.6**
baz=272,SNR=9.4
HYT Haines Junctio 28.77 55 P **P** **20 43 11.4 +1.5**
HYT IAmb IAmb 20 43 25.4
comp=Z,16nm,1.1s
HYT Haines Junctio 28.77 55 P **P** **20 43 08.1 -1.8**
baz=282,SNR=5.3
M30M Minto, Yukon 28.79 51 P **P** **20 43 07.5 -2.4**
baz=279
N30M Aishikik Lake 28.84 54 P **P** **20 43 10.4 -0.1**
baz=281
P29M Windy Craggy 28.91 58 P **P** **20 43 11.4 +0.3**
baz=284
O30N Mendenhall 29.46 55 P **P** **20 43 15.3 -0.6**
baz=283
INK Inuvik 29.64 39 P **P** **20 43 17.6 +0.3**
comp=Z,4.0nm,0.5s,baz=293,slow=6.0,SNR=5.2
comp=Z,4.0nm,0.5s
INK Inuvik 29.64 39 P **P** **20 43 18.4 +1.1**
INK IAmb IAmb 20 43 19.7
comp=Z,30nm,1.4s
INK Inuvik 29.64 39 P **P** **20 43 18.4 +1.1**
INK pmax pmax
comp=Z,30nm,1.4s
INK Inuvik 29.64 39 P **P** **20 43 16.3 -1.0**
baz=271
M31M Drury Creek, Y 29.96 52 P **P** **20 43 21.1 +0.8**
M31M IAmb IAmb 20 43 23.4
comp=Z,34nm,1.4s
M31M Drury Creek, Y 29.96 52 P **P** **20 43 19.5 -0.7**
baz=281,SNR=7.1
BOD Bodaibo 29.99 299 *e*P **P** **20 43 19.6 -1.0**
BOD pmax pmax
comp=Z,17nm,1.6s
SKAG Skagway 30.14 57 P **P** **20 43 22.0 +0.1**
baz=286
FARO Faro, Yukon 30.43 52 P **P** **20 43 24.2 -0.3**
baz=282
N32M Quiet Lake 30.80 54 P **P** **20 43 27.4 -0.3**
baz=284
R32K Eaglecrest 30.89 59 P **P** **20 43 28.4 0.0**
baz=288
JIS Juneau Island 30.95 59 P **P** **20 43 29.5 +0.5**
P33M Teslin, Yukon 31.16 55 P **P** **20 43 31.9 +0.9**
P33M IAmb IAmb 20 43 34.1
comp=Z,18nm,1.2s
P33M Teslin, Yukon 31.16 55 P **P** **20 43 31.7 +0.7**
baz=286,SNR=6.5
MMPY Sheldon Lake, 31.29 50 P **P** **20 43 32.1 0.0**
baz=283
R33M Jennings River 32.30 56 P **P** **20 43 41.1 0.0**
baz=286
CIT Chita 32.41 289 *e*P **P** **20 43 42.2 +0.2**
CIT *e* 20 43 49.2
CIT *e* 20 44 00.6
CIT *e* 20 44 46.0
KSRS Korea Array 32.49 255 P **P** **20 43 43.4 +0.6**
comp=Z,2.3nm,0.8s,baz=44,slow=8.7,SNR=10
comp=Z,2.3nm,0.8s
KSAR Wonju Array Be 32.52 255 P **P** **20 43 45.1 +2.0**
KSAR Wonju Array Be 32.52 255 P **P** **20 43 45.1 +2.0**
WRAK Wrangell Islan 32.62 62 P **P** **20 43 43.8 +0.1**
baz=292
S34M Telegraph Cree 32.70 59 P **P** **20 43 45.0 +0.6**
baz=290
TGTN Hyland Airport 32.93 52 P **P** **20 43 46.2 -0.2**
baz=287
C36M Paulatuk 32.97 37 P **P** **20 43 46.0 -0.6**
baz=278
DLBC Dease Lake 33.07 58 P **P** **20 43 47.1 -0.6**
comp=Z,5.9nm,1.0s,baz=289,slow=9.9,SNR=6.1
comp=Z,5.9nm,1.0s
DLBC Dease Lake 33.07 58 P **P** **20 43 48.9 +1.1**
DLBC IAmb IAmb 20 43 51.9
comp=Z,21nm,1.4s
DLBC Dease Lake 33.07 58 P **P** **20 43 47.7 -0.1**
baz=290
H11N2 WAKE ISLAND Hy 34.65 183 T T 21 20 41.3
baz=1.5,slow=76,SNR=106

H11N3 WAKE ISLAND Hy 34.66 183 T T 21 20 41.5
baz=1.5,slow=76,SNR=66
H11N1 WAKE ISLAND Hy 34.67 183 T T 21 20 42.7
baz=1.5,slow=76,SNR=84
H11S1 WAKE ISLAND Hy 35.87 183 T T 21 22 13.1
baz=1.6,slow=76,SNR=90
H11S3 WAKE ISLAND Hy 35.89 183 T T 21 22 15.8
baz=1.6,slow=76,SNR=75
H11S2 WAKE ISLAND Hy 35.89 183 T T 21 22 15.5
baz=1.6,slow=76,SNR=185
NRIK Noril'sk 37.78 325 P **P** **20 44 27.5 -0.4**
comp=Z,1.3nm,0.4s,baz=99,slow=6.6,SNR=1.7
NRIK comp=Z,1.3nm,0.4s pmax pmax
NRIK Noril'sk 37.78 325 P **P** **20 44 27.2 -0.8**
NRIK Noril'sk 37.78 325 *ce*P **P** **20 44 28.5 +0.6**
NRIK pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 38.13 286 P **P** **20 44 31.9 +0.5**
ULN Ulaanbaatar 38.13 286 *i* P **P** **20 44 31.8 +0.4**
ULN pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 38.51 287 P **P** **20 44 35.8 +1.2**
comp=Z,2.4nm,0.7s,baz=57,slow=8.1,SNR=13
SONM PcP **PcP** **20 46 47.6 +0.4**
comp=Z,1.0nm,0.9s,baz=102,slow=3.4,SNR=3.1
comp=Z,2.4nm,0.7s
SONM Songino Array 38.51 287 P **P** **20 44 34.7 +0.1**
SONM Songino Array 38.51 287 P **P** **20 44 34.7 +0.1**
SONM pmax pmax
comp=Z,10.0nm,1.4s
YKA Yellowknife Ar 38.63 46 P **P** **20 44 33.9 -1.3**
comp=Z,2.4nm,0.7s,baz=288,slow=7.3,SNR=5.2
comp=Z,2.4nm,0.7s
YKA Yellowknife Ar 38.63 46 *i* P **P** **20 44 36.0 +0.8**
YKA pmax pmax
comp=Z,2.0nm,0.6s
ZAK Zakamensk 38.85 292 *e*P **P** **20 44 37.8 +0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
MOY Mondy 39.40 295 *e*P **P** **20 44 42.7 +0.8**
MOY pmax pmax
comp=Z,22nm,1.7s
HHC Hu-ho-hao-te 39.73 274 *e*P **P** **20 44 45.6 +0.8**
HHC pmax pmax
comp=Z,37nm,0.7s
HNS HongShan 40.16 268 ⇓P **P** **20 44 50.1 +1.8**
HNS pmax pmax
comp=Z,11nm,1.5s
LLLB Lillooet 40.85 66 P **P** **20 44 53.9 0.0**
LLLB lAmb lAmb 20 44 57.5
comp=Z,39nm,1.8s
NJ2 Nanjing 41.55 258 *e*P **P** **20 44 57.7 -2.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NLWA Neilton Lookou 41.59 71 P **P** **20 45 01.7 +1.7**
NLWA lAmb lAmb 20 45 04.2
comp=Z,21nm,1.2s
LTY Liberty 43.42 69 P **P** **20 45 15.5 +0.6**
LTY lAmb lAmb 20 45 17.7
comp=Z,28nm,1.8s
B08A Colville Reser 43.50 67 P **P** **20 45 15.6 +0.1**
I02E Swisshome, OR 43.58 75 P **P** **20 45 16.1 -0.1**
baz=309
HPAH Hawaii Prepara 43.67 128 P **P** **20 45 17.6 +0.4**
EDM Edmonton 43.79 58 P **P** **20 45 18.3 +0.5**
EDM Edmonton 43.79 58 P **P** **20 45 18.3 +0.5**
EDM pmax pmax
comp=Z,58nm,1.5s
HOOD Mount Hood Mea 44.06 72 P **P** **20 45 21.2 +1.0**
HOOD lAmb lAmb 20 45 23.0
comp=Z,40nm,1.6s
I03D Drain, OR 44.12 75 P **P** **20 45 21.1 +0.7**
baz=309
H04A Detroit Lake 44.16 73 P **P** **20 45 22.0 +1.1**
H04A lAmb lAmb 20 45 23.6
comp=Z,17nm,1.4s
G05D Wamic, OR 44.29 72 P **P** **20 45 21.6 -0.3**
baz=308
C09A Chrisman Ranch 44.40 67 P **P** **20 45 23.3 +0.6**
C09A lAmb lAmb 20 45 25.1
comp=Z,23nm,1.6s
HAWA Hanford 44.57 69 P **P** **20 45 24.8 +0.8**
I04A Tendick Farm, 44.59 74 P **P** **20 45 24.2 -0.1**
baz=309
F07A Phinny Hill Vi 44.66 70 P **P** **20 45 24.4 -0.3**
F07A lAmb lAmb 20 46 26.6
comp=Z,12nm,0.5s
NEW Newport 44.74 66 P **P** **20 45 24.0 -1.4**
comp=Z,2.0nm,0.8s,baz=304,slow=6.5,SNR=3.1
comp=Z,2.0nm,0.8s
NEW Newport 44.74 66 P **P** **20 45 24.9 -0.6**
NEW Newport 44.74 66 P **P** **20 45 24.9 -0.6**
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW Newport 44.74 66 P **P** **20 45 24.7 -0.7**
baz=307
E08A Dider Farm, El 44.77 69 P **P** **20 45 25.0 -0.6**
E09A Wood Farm, Sta 45.25 69 P **P** **20 45 30.0 +0.5**
E09A lAmb lAmb 20 45 31.8
comp=Z,16nm,1.4s
PINE Pine Mountain 45.41 73 P **P** **20 45 31.4 +0.4**
PINE lAmb lAmb 20 45 34.4
comp=Z,15nm,1.4s
G08A Pilot Rock 45.57 70 P **P** **20 45 33.1 +0.9**
J05D Fort Rock, OR 45.57 74 P **P** **20 45 31.5 -0.7**
baz=310,SNR=8.6
L04D Klamath Falls 45.65 76 P **P** **20 45 31.9 -1.0**
baz=310
YBH Yreka Blue Hor 45.74 77 P **P** **20 45 34.2 +0.7**
comp=Z,2.2nm,0.5s,baz=328,slow=4.3,SNR=3.6
comp=Z,2.2nm,0.5s
WALA Waterton Lakes 45.95 63 P **P** **20 45 35.6 +0.4**
I07A Izee 46.03 72 P **P** **20 45 35.9 +0.1**
F10A Beach Ranch, E 46.09 69 P **P** **20 45 37.6 +1.4**
F10A lAmb lAmb 20 45 38.6
comp=Z,23nm,1.9s
NEEM North Greenlan 46.09 11 *i* P **P** **20 45 35.7 -0.4**
K05A Summer Lake 46.12 74 P **P** **20 45 38.5 +1.8**
ZAA0 Zalesovo Array 46.28 306 P **P** **20 45 36.3 -1.2**
ZALV Zalesovo Beam 46.28 306 P **P** **20 45 36.4 -1.1**
comp=Z,1.5nm,0.7s,baz=54,slow=7.5,SNR=5.8
ZALV PcP **PcP** **20 47 13.2 +0.5**
comp=Z,0.5nm,0.3s,baz=45,slow=4.3,SNR=2.4
comp=Z,1.5nm,0.7s
ZALV Zalesovo Beam 46.28 306 P **P** **20 45 37.0 -0.5**
ZALV Zalesovo Beam 46.28 306 *i* P **P** **20 45 37.0 -0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
JTMT Jette 46.56 65 P **P** **20 45 40.7 +0.7**
SPITS Spitsbergen Ar 46.59 352 P **P** **20 45 37.1 -2.5**
comp=Z,5.8nm,0.7s,baz=59,slow=6.9,SNR=7.6
comp=Z,5.8nm,0.7s
BMO Blue Mountains 46.75 70 P **P** **20 45 42.4 +0.9**
BMO Blue Mountains 46.75 70 P **P** **20 45 42.4 +0.9**
BMO pmax pmax
comp=Z,6.0nm,1.3s
MOD Modoc Plateau 46.99 75 P **P** **20 45 43.5 0.0**
MOD lAmb lAmb 20 45 46.5
comp=Z,17nm,1.4s
J08A Circle Bar Ran 47.07 72 P **P** **20 45 43.8 -0.2**
MSO Missoula 47.32 66 P **P** **20 45 45.9 0.0**
MSO lAmb lAmb 20 45 48.2
comp=Z,11nm,1.3s
MSO Missoula 47.32 66 P **P** **20 45 45.2 -0.7**
baz=309
LZH Lanzhou 47.41 275 ⇓P **P** **20 45 46.9 +0.1**
LZH pP sP 20 45 51.9 +0.2
LZH sP pwP 20 45 54.4 +0.7
LZH pmax pmax
comp=Z,18nm,1.4s
GTA Gaotai 47.47 281 *e*P **P** **20 45 47.2 0.0**
GTA pP sP 20 45 51.8 +0.8
GTA sP pwP 20 45 54.2 +0.3
GTA PcP **PcP** **20 47 19.1 +1.8**
GTA pmax pmax
comp=Z,3.0nm,1.5s
WVOR Wild Horse Val 47.58 73 P **P** **20 45 49.3 +1.3**
WVOR lAmb lAmb 20 45 57.4
comp=Z,11nm,1.6s
WVOR Wild Horse Val 47.58 73 P **P** **20 45 49.3 +1.3**
WVOR pmax pmax
comp=Z,11nm,1.6s
DGZ Jazzator, Alta 47.58 300 *i* P **P** **20 45 47.8 -0.1**
DGZ pmax pmax
comp=Z,14nm,1.9s
PLTX Planet X, Gerl 48.25 75 P **P** **20 45 53.5 +0.4**
PLTX lAmb lAmb 20 46 05.9
comp=Z,38nm,0.3s
ENH Enshi 48.27 265 P **P** **20 45 54.2 +0.9**
BEKR Beckworth 48.31 77 P **P** **20 45 53.6 -0.1**
BEKR lAmb lAmb 20 45 56.4
comp=Z,20nm,1.8s
FFC Flin Flon 48.31 51 P **P** **20 45 53.3 0.0**
FFC lAmb lAmb 20 46 22.7
comp=Z,19nm,1.8s
FFC Flin Flon 48.31 51 P **P** **20 45 53.3 0.0**
FFC pmax pmax
comp=Z,19nm,1.8s
MFID Camas Ranch 48.49 70 P **P** **20 45 54.2 -0.8**
AFDM Forest Hills D 48.58 78 P **P** **20 45 55.3 -0.3**
EGMT Eagleton 48.76 62 P **P** **20 45 56.0 -0.9**
EGMT lAmb lAmb 20 46 24.3
comp=Z,6.8nm,0.7s
EGMT Eagleton 48.76 62 P **P** **20 45 56.4 -0.5**
baz=310
PAHR Pah Rah Range 48.97 76 P **P** **20 45 59.1 +0.3**
PAHR lAmb lAmb 20 46 01.6
comp=Z,15nm,1.4s
VCNR Virginia City 49.10 77 P **P** **20 46 01.5 +1.7**
FCC Fort Churchill 49.13 43 P **P** **20 45 59.5 +0.1**
FCC Fort Churchill 49.13 43 P **P** **20 45 59.6 +0.1**
FCC pmax pmax
comp=Z,25nm,1.3s
HLID Hailey 49.17 69 P **P** **20 46 01.1 +0.8**
HLID Hailey 49.17 69 P **P** **20 45 59.8 -0.5**
baz=311
MCMT McKenzie Canyo 49.19 67 P **P** **20 46 00.7 +0.2**
PNTR Pine Nut 49.27 77 P **P** **20 46 01.1 0.0**
BOZ Bozeman (W) 49.34 66 P **P** **20 46 02.4 +0.8**
BOZ lAmb lAmb 20 46 04.0
comp=Z,17nm,1.7s
BOZ Bozeman (W) 49.34 66 P **P** **20 46 02.4 +0.8**
BOZ pmax pmax
comp=Z,17nm,1.7s
BOZ Bozeman (W) 49.34 66 P **P** **20 45 59.7 -1.9**
baz=311
CMB Columbia Colle 49.54 79 P **P** **20 46 05.3 +2.3**
CMB Columbia Colle 49.54 79 P **P** **20 46 05.3 +2.3**
CMB pmax pmax
comp=Z,8.0nm,1.3s
YERR Yerington 49.54 77 P **P** **20 46 04.0 +0.8**
BMN Battle Mountai 49.70 74 P **P** **20 46 05.2 +0.8**
BMN lAmb lAmb 20 46 13.9
comp=Z,20nm,1.7s
BMN Battle Mountai 49.70 74 P **P** **20 46 05.2 +0.8**
BMN pmax pmax
comp=Z,19nm,1.7s
YHL Hebgen Lake 50.07 66 P **P** **20 46 07.1 -0.2**
YHL lAmb lAmb 20 46 09.8
comp=Z,25nm,1.7s
KVN Kaiserville 50.14 76 P **P** **20 46 07.4 -0.4**
KVN lAmb lAmb 20 46 11.0
comp=Z,13nm,1.4s
KVN Kaiserville 50.14 76 P **P** **20 46 07.4 -0.4**
KVN pmax pmax
comp=Z,13nm,1.4s
RYN Ryan 50.19 77 P **P** **20 46 08.2 0.0**
YHH Holmes Hill 50.29 66 P **P** **20 46 08.3 -0.6**
YMR Madison River 50.31 66 P **P** **20 46 07.6 -1.4**
YNR Norris Junctio 50.43 66 P **P** **20 46 09.2 -0.7**
NVAR Mina Array Bea 50.45 77 P **P** **20 46 09.8 -0.3**
comp=Z,1.2nm,0.6s,baz=298,slow=8.1,SNR=9.5
comp=Z,1.2nm,0.6s
NVAR Mina Array Bea 50.45 77 P **P** **20 46 10.7 +0.5**
LHV Little Huntoon 50.46 77 P **P** **20 46 11.5 +1.5**
LHV lAmb lAmb 20 46 13.6
comp=Z,12nm,1.4s
YFT Old Faithful 50.52 66 P **P** **20 46 10.2 -0.4**
YFT lAmb lAmb 20 46 37.8
comp=Z,4.6nm,0.5s
NV11 Mina Array Sit 50.54 77 P **P** **20 46 11.7 +1.0**
ELK Elko 50.60 73 P **P** **20 46 12.0 +0.7**
ELK Elko 50.60 73 P **P** **20 46 12.0 +0.7**
ELK pmax pmax
comp=Z,7.0nm,1.5s
IMW Indian Meadow 50.83 67 P **P** **20 46 14.0 +0.9**
RLMT Red Lodge 50.91 65 P **P** **20 46 13.1 -0.4**
RLMT Red Lodge 50.91 65 P **P** **20 46 12.5 -1.0**
baz=312
FXWY Fox Creek 50.96 67 P **P** **20 46 14.7 +0.7**
LOHW Long Hollow 51.20 67 P **P** **20 46 16.5 +0.8**
WMQ Urumqi 51.26 294 *e*P **P** **20 46 17.4 +1.4**
WMQ sP pwP 20 46 25.2 +2.7
WMQ pmax pmax
comp=Z,18nm,0.7s
KURK Kurchatov 51.27 305 P **P** **20 46 15.4 -0.5**
KURK lAmb lAmb 20 46 16.5
comp=Z,13nm,0.9s
KURK Kurchatov 51.27 305 *ce*P **P** **20 46 15.7 -0.1**
KURK pmax pmax
comp=Z,27nm,1.7s
TPH Tonopah 51.31 76 P **P** **20 46 17.0 +0.4**
TPH Tonopah 51.31 76 P **P** **20 46 17.0 +0.4**
TPH pmax pmax
comp=Z,97nm,1.6s
LCH Last Change Ra 51.66 78 P **P** **20 46 20.5 +1.3**
GMN Gold Mountain 51.83 77 P **P** **20 46 21.3 +0.8**
SUMG Summit 51.90 10 P **P** **20 46 21.1 +0.3**
SUMG lAmb lAmb 20 46 21.9
comp=Z,20nm,1.3s
SUMG Summit 51.90 10 P **P** **20 46 21.1 +0.3**
SUMG pmax pmax
comp=Z,20nm,1.3s
SUMG Summit 51.90 10 *i* P **P** **20 46 19.5 -1.3**
GRAC Grapevine Rang 51.98 78 P **P** **20 46 21.9 +0.4**
HWUT Hardware Ranch 52.04 69 P **P** **20 46 20.9 -1.2**
R11A Troy Canyon, C 52.05 75 P **P** **20 46 22.5 +0.4**
R11A Troy Canyon, C 52.05 75 P **P** **20 46 20.9 -1.2**
baz=314
MK31 Makanchi Array 52.08 300 P **P** **20 46 21.1 -1.0**
MK31 Makanchi Array 52.08 300 *d* P **P** **20 46 20.8 -1.2**
MKAR Makanchi Array 52.08 300 P **P** **20 46 20.7 -1.3**
comp=Z,2.0nm,0.7s,baz=51,slow=7.1,SNR=21
comp=Z,2.0nm,0.7s
MAKZ Makanchi 52.23 300 P **P** **20 46 22.1 -1.1**
MAKZ Makanchi 52.23 300 P **P** **20 46 22.1 -1.1**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
SPR3 Spring Creek 3 52.31 74 P **P** **20 46 26.8 +2.6**
SPR3 lAmb lAmb 20 46 33.6
comp=Z,16nm,1.5s
DUG Dugway, Tooele 52.33 71 P **P** **20 46 24.5 +0.4**
DUG Dugway, Tooele 52.33 71 P **P** **20 46 24.5 +0.4**
DUG pmax pmax
comp=Z,14nm,1.8s
BW06 Boulder Array 52.34 67 P **P** **20 46 24.3 0.0**
BW06 lAmb lAmb 20 47 27.4
comp=Z,5.4nm,0.5s
PD31 Pinedale Array 52.34 67 P **P** **20 46 25.1 +0.9**
PD31 lAmb lAmb 20 46 26.8
comp=Z,17nm,1.7s
PDAR Pinedale Array 52.34 67 P **P** **20 46 23.5 -0.8**
comp=Z,1.3nm,0.8s,baz=316,slow=4.1,SNR=11
comp=Z,1.3nm,0.8s
PDAR Pinedale Array 52.34 67 P **P** **20 46 25.0 +0.7**
GOMU GeErMu 52.55 282 P **P** **20 46 26.4 +0.4**
GOMU pP sP 20 46 30.8 +0.9
GOMU sP pwP 20 46 31.8 -1.0
GOMU PcP **PcP** **20 47 31.8 -4.5**
GOMU pmax pmax
comp=Z,2.0nm,1.0s
GOMU LR LR
comp=Z,600nm,14.0s
GOMU LR LR
comp=Z,350nm,12.8s
GOMU LR LR
comp=Z,490nm,14.5s
MPMC Manual Prospec 52.57 78 P **P** **20 46 24.6 -1.5**
baz=315
FURC Furnace Creek, 52.64 78 P **P** **20 46 25.4 -0.8**
baz=315
TPNV Topopah Spring 52.65 77 P **P** **20 46 27.4 +0.8**
TPNV lAmb lAmb 20 46 29.7
comp=Z,14nm,1.3s
TPNV Topopah Spring 52.65 77 P **P** **20 46 27.4 +0.8**
TPNV pmax pmax
comp=Z,14nm,1.3s
TPNV Topopah Spring 52.65 77 P **P** **20 46 24.9 -1.6**
baz=315,SNR=5.8
GYA Guiyang 52.77 264 ⇓P **P** **20 46 31.4 +3.9**
GYA pmax pmax
comp=Z,10.0nm,1.7s
JLU Jordanelle 52.80 70 P **P** **20 46 27.2 -0.5**
JLU lAmb lAmb 20 46 30.0
comp=Z,18nm,1.8s
PSUT Pine Spring 52.90 74 P **P** **20 46 28.2 -0.2**
NLU North Lily Min 52.90 71 P **P** **20 46 29.2 +0.8**
GWY Greenwater Val 52.95 78 P **P** **20 46 29.8 +1.0**
GWY lAmb lAmb 20 46 31.8
comp=Z,15nm,1.4s
QSM Queen of Sheba 52.99 78 P **P** **20 46 28.7 -0.2**
PRN Pahroc Range 53.01 76 P **P** **20 46 28.8 -0.4**
PRN lAmb lAmb 20 46 32.5
comp=Z,18nm,1.5s
BRVK Borovoye 53.48 312 P **P** **20 46 32.1 -0.1**
BRVK lAmb lAmb 20 46 33.1
comp=Z,11nm,0.8s
BRVK Borovoye 53.48 312 *ce*P **P** **20 46 32.2 -0.1**
BRVK pmax pmax
comp=Z,25nm,1.7s
ARCES ARCESS Array B 53.49 345 P **P** **20 46 31.3 -0.8**
comp=Z,3.3nm,0.8s,baz=26,slow=9.2,SNR=12
comp=Z,3.3nm,0.8s
GSC Goldstone, Bar 53.50 79 P **P** **20 46 33.4 +0.7**
GSC lAmb lAmb 20 46 35.8
comp=Z,9.4nm,1.1s
GSC Goldstone, Bar 53.50 79 P **P** **20 46 33.4 +0.7**
GSC pmax pmax
comp=Z,9.0nm,1.1s
TCRU Three Creeks R 53.63 73 P **P** **20 46 33.8 -0.1**
MVU Marysvale 53.84 73 P **P** **20 46 36.6 +1.3**
TMUT Trail Mountain 53.84 71 P **P** **20 46 36.1 +0.6**
TMUT lAmb lAmb 20 46 38.6
comp=Z,14nm,1.3s
RDMU Red Mountain 53.85 69 P **P** **20 46 36.1 +0.7**
RDMU lAmb lAmb 20 46 38.5
comp=Z,27nm,1.6s
MSU Marysvale 53.85 73 P **P** **20 46 35.5 +0.1**
MSU Marysvale 53.85 73 P **P** **20 46 35.5 +0.1**
CCUT Cedar City 53.86 74 P **P** **20 46 37.4 +1.9**
CCUT lAmb lAmb 20 46 47.2
comp=Z,21nm,2.0s
WTNK Soaring Height 53.89 77 P **P** **20 46 35.9 +0.3**
WTNK lAmb lAmb 20 47 28.8
comp=Z,2.7nm,0.5s
MDND Maddock 53.97 56 P **P** **20 46 35.5 -0.4**
P17A Butcher Ranch, 53.97 71 P **P** **20 46 37.1 +0.8**
P17A lAmb lAmb 20 46 39.7
comp=Z,27nm,1.8s
SZCU Shurtz Canyon 53.99 74 P **P** **20 46 36.9 +0.5**
SZCU lAmb lAmb 20 46 46.0
comp=Z,15nm,1.8s
K22A Casper 54.04 65 P **P** **20 46 37.2 +0.5**
ULM Lac du Bonnet 54.07 52 P **P** **20 46 36.7 +0.1**
comp=Z,1.5nm,0.4s,baz=342,slow=6.0,SNR=2.8
comp=Z,1.5nm,0.4s
ULM Lac du Bonnet 54.07 52 P **P** **20 46 37.2 +0.6**
ULM lAmb lAmb 20 47 58.8
comp=Z,15nm,1.6s
ULM Lac du Bonnet 54.07 52 P **P** **20 46 37.2 +0.6**
Q16A Castle Valley 54.12 72 P **P** **20 46 37.4 -0.1**
Q16A lAmb lAmb 20 46 47.2
comp=Z,18nm,1.6s
MTPU Mount Pierson 54.18 73 P **P** **20 46 39.7 +1.7**
MTPU lAmb lAmb 20 46 41.0
comp=Z,10nm,1.3s
LCMT Little Creek M 54.31 75 P **P** **20 46 38.6 -0.1**
LCMT lAmb lAmb 20 46 42.2
comp=Z,12nm,1.3s
V12A Nelson 54.31 77 P **P** **20 46 39.9 +1.2**
V12A lAmb lAmb 20 46 42.2
comp=Z,19nm,1.6s
E28A Huff 54.31 58 P **P** **20 46 39.1 +0.7**
RSSD Black Hills 54.32 62 P **P** **20 46 38.1 -0.7**
RSSD lAmb lAmb 20 46 40.2
comp=Z,4.6nm,0.6s
RSSD Black Hills 54.32 62 P **P** **20 46 38.1 -0.7**
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD Black Hills 54.32 62 P **P** **20 46 37.6 -1.2**
baz=314
ELS Elsinore Mount 54.33 81 P **P** **20 46 37.8 -1.0**
RWWY Rawlins 54.34 66 P **P** **20 46 38.3 -0.7**
RWWY lAmb lAmb 20 46 50.7
comp=Z,15nm,1.1s
SRU San Rafael Swe 54.35 71 P **P** **20 46 40.1 +1.1**
SRU lAmb lAmb 20 46 42.1
comp=Z,6.4nm,0.7s
SRU San Rafael Swe 54.35 71 P **P** **20 46 40.1 +1.1**
SRU pmax pmax
comp=Z,6.0nm,0.7s
GMRC Granite Mounta 54.53 78 P **P** **20 46 38.4 -1.9**
baz=316
KNB Kanab 54.55 74 P **P** **20 46 40.9 +0.4**
KNB lAmb lAmb 20 46 44.1
comp=Z,18nm,1.4s
KNB Kanab 54.55 74 P **P** **20 46 40.9 +0.4**
KNB pmax pmax
comp=Z,18nm,1.4s
O20A White River Ci 54.88 68 P **P** **20 46 43.5 +0.6**
O20A lAmb lAmb 20 46 44.8
comp=Z,24nm,1.5s
O20A White River Ci 54.88 68 P **P** **20 46 40.3 -2.5**
baz=315
BELC Belle Mtn. Jos 54.90 79 P **P** **20 46 41.3 -1.7**
baz=316
PFO Pinyon Flats O 54.91 80 P **P** **20 46 42.8 -0.3**
PFO Pinyon Flats O 54.91 80 P **P** **20 46 42.8 -0.3**
PFO pmax pmax
comp=Z,5.0nm,1.2s
PFO Pinyon Flats O 54.91 80 P **P** **20 46 41.3 -1.8**
baz=317
TPFO Pinon Flats 54.92 80 P **P** **20 46 42.0 -1.1**
baz=317
U15A North Rim 55.26 74 P **P** **20 46 47.0 +1.3**
U15A lAmb lAmb 20 46 49.3
comp=Z,16nm,1.4s
IRM Iron Mountain 55.27 78 P **P** **20 46 44.4 -1.2**
baz=316
W13A Hualapai Mount 55.31 77 P **P** **20 46 46.6 +0.5**
W13A lAmb lAmb 20 46 49.1
comp=Z,10nm,1.4s
AGMN Agassiz Nation 55.45 54 P **P** **20 46 46.6 0.0**
AGMN lAmb lAmb 20 46 48.6
comp=Z,16nm,1.4s
AGMN Agassiz Nation 55.45 54 P **P** **20 46 45.1 -1.5**
baz=315
MONP2 Monument Peak 55.45 80 P **P** **20 46 46.1 -1.0**
baz=317
PHWY Pilot Hill 55.55 66 P **P** **20 46 48.2 +0.4**
N23A Red Feather La 55.58 66 P **P** **20 46 46.6 -1.4**
N23A lAmb lAmb 20 46 57.6
comp=Z,12nm,1.4s
PZH PanZhiHua 55.60 268 P **P** **20 46 50.7 +2.6**
PZH pmax pmax
comp=Z,20nm,1.1s
PDMCI Parker Dam,Lak 55.74 78 P **P** **20 46 48.2 -0.7**
baz=317
ARU Arti 55.76 321 P **P** **20 46 48.0 -0.7**
ARU lAmb lAmb 20 46 57.7
comp=Z,7.3nm,1.0s
ARU Arti 55.76 321 *c i*P **P** **20 46 48.4 -0.3**
ARU 20 47 44.8
ARU S **S** **20 54 35.5 +0.8**
ARU SS **SS** **20 58 15.5 -3.8**
ARU pmax pmax
comp=Z,9.0nm,1.0s
PV07 Paradox Valley 55.86 70 P **P** **20 46 49.3 -0.7**
PV07 lAmb lAmb 20 46 58.6
comp=Z,16nm,1.4s
PRGR Permogore 55.91 331 *e*P **P** **20 46 48.9 -0.8**
BLYC Blythe 55.92 78 P **P** **20 46 51.3 +1.1**
BLYC lAmb lAmb 20 46 58.2
comp=Z,18nm,1.4s
PV13 Radium Mtn., P 55.96 71 P **P** **20 46 50.9 +0.2**
PV15 Paradox Valley 56.02 70 P **P** **20 46 52.3 +1.1**
PV15 lAmb lAmb 20 46 58.7
comp=Z,28nm,1.7s
KMI Kunming 56.07 266 ⇑P **P** **20 46 53.9 +2.3**
KMI pmax pmax
comp=Z,7.0nm,1.2s
KMI LR LR
comp=Z,390nm,15.1s
KMI LR LR
comp=Z,730nm,17.1s
KMI LR LR

comp=Z,700nm,21.4s
SMCO Snowmass 56.25 68 P P 20 46 52.2 -0.7
SMCO IAmb IAmb 20 46 55.3
comp=Z,21nm,1.8s
WUAZ Wupatki 56.43 75 P P 20 46 55.0 +1.0
WUAZ IAmb IAmb 20 46 57.6
comp=Z,22nm,1.6s
WUAZ Wupatki 56.43 75 P P 20 46 53.2 -0.8
baz=316
ISCO Idaho Springs 56.54 67 P P 20 46 56.5 +1.6
ISCO IAmb IAmb 20 46 59.4
comp=Z,17nm,1.6s
ISCO Idaho Springs 56.54 67 P P 20 46 56.5 +1.6
ISCO pmax pmax
comp=Z,17nm,1.6s
ISCO Idaho Springs 56.54 67 P P 20 46 53.6 -1.3
baz=316
113A Mohawk Valley, 57.07 79 P P 20 46 58.9 +0.5
X16A Lo Mia Camp, P 57.19 75 P P 20 46 59.0 -0.5
S22A 4UR Ranch, Cre 57.35 70 P P 20 47 00.6 -0.1
S22A IAmb IAmb 20 47 04.5
comp=Z,16nm,1.4s
S22A 4UR Ranch, Cre 57.35 70 P P 20 46 58.6 -2.1
baz=316,SNR=6.3
Q24A Divide 57.39 67 P P 20 47 00.1 -0.8
baz=316
OGNE Ogallala 57.62 64 P P 20 47 03.0 +0.7
OGNE IAmb IAmb 20 47 28.1
comp=Z,15nm,1.0s
OGNE Ogallala 57.62 64 P P 20 47 02.0 -0.3
baz=316
EYMN Ely 57.73 52 P P 20 47 02.3 -0.6
baz=317
TARG Taragay, Kyrgy 57.93 298 P P 20 47 04.1 -0.7
TARG Taragay, Kyrgy 57.93 298 P P 20 47 04.1 -0.7
TARG pmax pmax
comp=Z,3.0nm,1.0s
X18A Snowflake 57.95 74 P P 20 47 06.0 +1.2
X18A IAmb IAmb 20 47 14.9
comp=Z,28nm,1.8s
SDCO Great Sand Dun 58.08 69 P P 20 47 06.9 +1.1
SDCO IAmb IAmb 20 47 17.1
comp=Z,12nm,1.6s
SDCO Great Sand Dun 58.08 69 P P 20 47 05.2 -0.6
baz=317
KLMR Klimovskoe 58.22 333 eP P 20 47 05.2 -0.8
KLMR pmax pmax
comp=Z,20nm,1.0s
KLMR Klimovskoe 58.22 333 eP P 20 47 05.2 -0.8
KLMR AMP 20 47 07.6
comp=Z,20nm,1.0s
KSCO Kaye Shedlock' 58.71 66 P P 20 47 10.1 +0.1
AAK Ala-Archa 58.95 301 P P 20 47 10.4 -1.3
AAK Ala-Archa 58.95 301 ceP P 20 47 10.5 -1.2
AAK pmax pmax
comp=Z,11nm,1.7s
TUC Tucson 59.11 77 P P 20 47 11.7 -1.1
baz=318
ANMO Albuquerque 59.60 72 P P 20 47 16.3 0.0
comp=Z,0.8nm,0.4s,baz=332,slow=5.7,SNR=4.4
comp=Z,0.8nm,0.4s
ANMO Albuquerque 59.60 72 ceP P 20 47 17.1 +0.8
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 59.60 72 P P 20 47 16.0 -0.3
baz=318
I37A Lemond, Waseca 59.73 56 P P 20 47 15.3 -1.5
LENM Lemitar 59.89 73 P P 20 47 21.1 +2.9
BNM Barren Site 60.09 72 P P 20 47 20.0 +0.3
KK31 Karatay Array 60.58 304 P P 20 47 21.8 -0.8
KK31 IAmb IAmb 20 47 23.3
comp=Z,23nm,1.9s
KK31 Karatay Array 60.58 304 P P 20 47 21.8 -0.8
KK31 pmax pmax
comp=Z,23nm,2.0s
KKAR Karatay Array 60.58 304 P P 20 47 21.8 -0.8
KKAR Karatay Array 60.58 304 P P 20 47 21.2 -1.4
KKAR IAmb IAmb 20 47 23.3
comp=Z,23nm,1.9s
KKAR Karatay Array 60.58 304 P P 20 47 21.8 -0.8
KKAR pmax pmax
comp=Z,23nm,2.0s
ABKAR Akbulak array 60.68 315 P 20 47 23.1 -0.1
ABKAR Akbulak array 60.68 315 P 20 47 22.4 -0.8
ABKAR IAmb IAmb 20 47 24.0
comp=Z,5.6nm,1.1s
FINES FINESS Array B 60.77 340 P P 20 47 22.3 -1.3
comp=Z,2.7nm,0.7s,baz=16,slow=7.7,SNR=11
comp=Z,2.7nm,0.7s
FINES FINESS Array B 60.77 340 P P 20 47 23.7 +0.1
FINES FINESS Array B 60.77 340 iP P 20 47 23.7 +0.1
FINES pmax pmax
comp=Z,3.0nm,0.7s
F42A Maple Grove Fa 60.90 51 P P 20 47 24.5 -0.3
CRAI Chiangrai 61.23 265 P P 20 47 28.1 +0.7
CRAI IAmb IAmb 20 47 37.0
comp=Z,14nm,1.6s
SCHQ Schefferville 61.93 33 P P 20 47 31.2 -0.4
comp=Z,4.6nm,0.8s,baz=344,slow=7.0,SNR=3.1
comp=Z,4.6nm,0.8s
UBPT Khong Chiam 62.20 257 P P 20 47 34.5 +0.6
UBPT IAmb IAmb 20 47 37.4
comp=Z,14nm,1.2s
MSTX Muleshoe 62.36 70 P P 20 47 35.8 +0.8
MSTX IAmb IAmb 20 47 37.4
comp=Z,14nm,1.3s
MSTX Muleshoe 62.36 70 P P 20 47 34.2 -0.8
baz=319
MNTX Cornudas Mount 62.62 73 P P 20 47 37.0 +0.4
MNTX Cornudas Mount 62.62 73 P P 20 47 36.7 +0.1
baz=319,SNR=6.1
PHRA Phrae 62.66 264 P P 20 47 38.2 +1.2
BTK Batken 62.72 301 P P 20 47 36.1 -1.1
BTK IAmb IAmb 20 47 45.3
comp=Z,17nm,1.6s
BTK Batken 62.72 301 P P 20 47 36.1 -1.1
BTK pmax pmax
comp=Z,17nm,1.6s
SIJI Sorong 63.15 223 P P 20 47 42.3 +2.1
comp=Z,22nm,1.1s,baz=33,slow=9.8,SNR=8.2
comp=Z,22nm,1.1s
CHTO Chiang Mai 63.16 265 P P 20 47 41.3 +1.0
CHTO Chiang Mai 63.16 265 P P 20 47 41.3 +1.0
CHTO pmax pmax
comp=Z,1.0nm,1.7s
NC303 NORSAR Array S 63.32 348 P P 20 47 41.3 +0.6
NC204 NORSAR Array S 63.34 348 P P 20 47 41.2 +0.2
NC405 NORSAR Array S 63.38 348 P P 20 47 41.3 +0.1
CM31 Chiang Mai Arr 63.45 265 P P 20 47 43.1 +0.9
CMAR Chiang Mai Arr 63.45 265 P P 20 47 43.2 +1.1
comp=Z,1.6nm,0.7s,baz=22,slow=7.6,SNR=11
comp=Z,1.6nm,0.7s
CMAR Chiang Mai Arr 63.45 265 P P 20 47 43.5 +1.3
CMAR Chiang Mai Arr 63.45 265 iP P 20 47 43.5 +1.3
CMAR pmax pmax
comp=Z,2.0nm,0.8s
N41A Harden Midland 63.46 57 P P 20 47 41.8 -0.3
NB201 NORSAR Array S 63.50 348 P P 20 47 42.2 +0.2
NB2 NORSAR Subarra 63.52 348 P P 20 47 42.1 0.0
comp=Z,4.5nm,0.7s,baz=15,slow=6.9
NOA NORSAR Array B 63.52 348 P P 20 47 41.4 -0.7
comp=Z,6.7nm,0.8s,baz=16,slow=6.6,SNR=24
comp=Z,6.7nm,0.8s
VLDQ Val d'Or 63.64 43 P P 20 47 41.9 -1.2
VLDQ IAmb IAmb 20 47 42.5
comp=Z,6.8nm,0.8s
GAR Garm 63.77 301 P P 20 47 44.1 -0.2
P40A Paris 63.77 58 P P 20 47 44.3 +0.2
P40A IAmb IAmb 20 47 45.9
comp=Z,8.6nm,1.0s
WMOK Wichita Mounta 63.94 66 P P 20 47 45.0 -0.3
WMOK IAmb IAmb 20 48 30.2
comp=Z,4.9nm,0.8s
WMOK Wichita Mounta 63.94 66 P P 20 47 45.0 -0.3
WMOK pmax pmax
comp=Z,5.0nm,0.8s
OBN Obninsk 63.98 332 eP P 20 47 44.5 -0.6
OBN e 20 48 19.8
OBN e 20 50 08.3
OBN ePPP PPP 20 51 36.1
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,202nm,14.0s
HDIL Hopedale 64.34 56 P P 20 47 46.8 -1.0
baz=321

R40A Maddies Statio 64.61 59 P P 20 47 49.5 -0.1
R40A IAmb IAmb 20 47 49.9
comp=Z,10nm,1.2s
TX31 Lajitas Ar. Si 65.37 74 P P 20 47 55.1 +0.3
TX32 Lajitas Array 65.37 74 P P 20 47 55.2 +0.4
TX32 IAmb IAmb 20 47 56.8
comp=Z,12nm,1.4s
TXAR Lajitas Array 65.37 74 P P 20 47 55.0 +0.2
comp=Z,2.1nm,0.5s,baz=301,slow=5.2,SNR=37
comp=Z,2.1nm,0.5s
TXAR Lajitas Array 65.37 74 P P 20 47 54.8 0.0
TXAR Lajitas Array 65.37 74 P P 20 47 54.8 0.0
P46A Rosedale 66.07 55 P P 20 47 59.2 +0.1
P46A IAmb IAmb 20 47 59.9
comp=Z,13nm,1.1s
VORR Voronezh 66.22 328 eP P 20 48 03.8 +4.0
VORR pmax pmax
comp=Z,10.0nm,0.5s
TRQ Mont Tremblant 66.33 43 P P 20 48 00.4 -0.3
FCAR Ozark Folk Cen 66.54 61 P P 20 48 01.4 -0.7
JCT Junction City 66.64 70 P P 20 48 03.0 +0.1
JCT IAmb IAmb 20 48 04.3
comp=Z,4.8nm,0.7s
JCT Junction City 66.64 70 P P 20 48 03.0 +0.1
JCT pmax pmax
comp=Z,5.0nm,0.7s
MNK Minsk 66.75 336 iP P 20 48 04.5 +1.4
MNK i 20 48 33.3
MNK i 20 50 31.2
MNK iPPP PPP 20 52 06.6
MNK iS S 20 56 56.2 +1.7
MNK iSS SS 21 01 15.6 +4.5
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK MLR MLR
comp=N,11nm,21.0s
MNK MLR MLR
comp=E,33nm,17.0s
MNK MLR MLR
comp=Z,204nm,17.0s
MNK Minsk 66.75 336 iP P 20 48 04.5 +1.4
comp=E,2.0nm,1.2s
MNK iP P 20 48 04.5 +1.4
comp=N,7.0nm,0.9s
MNK iP P 20 48 04.5 +1.4
comp=Z,17nm,1.0s,baz=24
MNK iPcP PcP 20 48 33.4 +1.3
MNK iPP PP 20 50 31.2 +1.8
MNK iPPP PPP 20 52 06.6
MNK iS S 20 56 56.2 +1.7
MNK iSS SS 21 01 15.6 +4.5
MNK iSSS SSS 21 04 26.0
MNK iLR LR 21 17 51.3
MNK iLRM MLR 21 19 54.4
comp=N,11nm,21.3s
MNK iLRM MLR 21 19 56.3
comp=E,33nm,16.8s
MNK iLRM MLR 21 20 21.4
comp=Z,204nm,16.8s
MIAR Mount Ida 66.83 63 P P 20 48 02.5 -1.5
baz=321
LONY Lake Ozonia 67.64 44 P P 20 48 07.1 -1.9
baz=326
M53A WI Miller and 67.64 50 P P 20 48 08.6 -0.5
baz=324
KBL Kabul 67.86 299 P P 20 48 08.6 -2.2
KBL IAmb IAmb 20 49 10.0
comp=Z,24nm,2.0s
KBL Kabul 67.86 299 P P 20 48 08.6 -2.2
KBL pmax pmax
comp=Z,24nm,2.0s
E62A Clayton Lake 67.92 39 P P 20 48 10.0 -0.7
O52A Adamsville 68.19 51 P P 20 48 12.0 -0.5
LBNH Lisbon 69.01 42 P P 20 48 17.7 +0.1
LBNH Lisbon 69.01 42 P P 20 48 17.7 +0.1
LBNH pmax pmax
comp=Z,46nm,1.5s
LBNH Lisbon 69.01 42 P P 20 48 16.5 -1.0
baz=327
PKME Peaks-Kenny Pk 69.16 40 P P 20 48 16.6 -1.8
baz=328
U49A Red Boiling Sp 69.21 56 P P 20 48 17.2 -1.7
M57A Sunshine Farm, 69.28 47 P P 20 48 18.7 -0.6
CLTN Cedars of Leba 69.28 57 P P 20 48 19.3 0.0
CLTN IAmb IAmb 20 48 21.2
comp=Z,11nm,1.1s
AKASG Malin Array Be 69.91 334 P P 20 48 22.9 0.0
comp=Z,2.1nm,0.6s,baz=26,slow=6.3,SNR=13
comp=Z,2.1nm,0.6s
AKASG Malin Array Be 69.91 334 iP P 20 48 22.8 -0.2
AKASG pmax pmax
comp=Z,2.0nm,0.6s
GEYT Alibeck 70.49 308 P P 20 48 25.2 -1.6
comp=Z,3.4nm,0.8s,baz=31,slow=3.4,SNR=5.8
comp=Z,3.4nm,0.8s
GEYT Alibeck 70.49 308 P P 20 48 26.7 -0.1
KIV Kislovodsk 71.77 322 iP P 20 48 34.7 +0.2
KIV pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 71.89 322 P P 20 48 34.7 -0.4
comp=Z,2.9nm,0.8s,baz=27,slow=2.3,SNR=6.2
comp=Z,2.9nm,0.8s
KBZ Khabaz 71.89 322 ceP P 20 48 35.9 +0.8
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KWP Kalwaria Pacla 72.47 338 P P 20 48 39.3 +0.8
KWP Kalwaria Pacla 72.47 338 P P 20 48 39.3 +0.8
KWP pmax pmax
comp=Z,371nm,1.4s
OJC Ojcow 72.53 340 eP P 20 48 38.9 0.0
OJC Ojcow 72.53 340 P P 20 48 38.4 -0.5
OJC IAmb IAmb 20 48 40.1
comp=Z,8.8nm,0.9s
OJC Ojcow 72.53 340 P P 20 48 38.4 -0.5
OJC pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 72.71 344 eP P 20 48 40.0 +0.1
CLL pmax pmax
comp=Z,12nm,1.5s
CLL Collm 72.71 344 eP P 20 48 40.0 +0.1
comp=Z,12nm,1.5s
DPC Dobruska-Polom 73.07 342 eP P 20 48 42.6 +0.5
DPC Dobruska-Polom 73.07 342 eP P 20 48 42.6 +0.5
KOLS Kolonicke sedl 73.22 338 eP P 20 48 44.6 +1.6
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 73.22 338 eP P 20 48 44.6 +1.6
KRLC Kraliky 73.25 342 eP P 20 48 42.7 -0.5
KRLC Kraliky 73.25 342 eP P 20 48 42.7 -0.5
MORC Moravsky Berou 73.39 341 eP P 20 48 44.4 +0.3
UZH Uzhgorod 73.50 338 eP P 20 48 44.7 +0.1
UZH e 20 48 56.1
UZH e 20 48 59.7
LANS Liptovska Anna 73.61 340 eP P 20 48 47.9 +2.6
LANS pmax pmax
comp=Z,7.0nm,1.1s
LANS Liptovska Anna 73.61 340 eP P 20 48 47.9 +2.6
BUR08 Bucovina Ar. S 73.74 335 P P 20 48 47.1 +0.9
BUR08 IAmb IAmb 20 49 21.5
comp=Z,12nm,1.5s
BURAR Bucovina Array 73.77 335 P P 20 48 47.0 +0.7
VRAC Vranov 74.02 341 eP P 20 48 48.6 +0.9
JAVC Velka Javorina 74.25 341 eP P 20 48 50.8 +1.7
KRUC Moravsky 74.30 342 eP P 20 48 50.0 +0.7
VYHS Vyhne 74.37 340 eP P 20 48 51.1 +1.4
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS Vyhne 74.37 340 eP P 20 48 51.1 +1.4
SMOL Smolenice 74.62 341 eP P 20 48 52.9 +1.7
KHC Kasperske Hory 74.73 343 P P 20 48 52.6 +0.8
KHC IAmb IAmb 20 48 54.3
comp=Z,9.3nm,1.2s
KHC Kasperske Hory 74.73 343 eP P 20 48 53.3 +1.5
KHC Kasperske Hory 74.73 343 eP P 20 48 53.3 +1.5
MODS Modra-Piesok 74.79 341 eP P 20 48 54.7 +2.5
MODS Modra-Piesok 74.79 341 eP P 20 48 54.7 +2.5
CKRC Cesky Krumlov 74.90 343 eP P 20 48 53.1 +0.3
GEC2 GERESS Array S 74.98 343 P P 20 48 53.2 -0.2
GERES GERESS Array B 74.98 343 P P 20 48 52.4 -1.0
comp=Z,1.6nm,0.9s,baz=25,slow=3.5,SNR=13
comp=Z,1.6nm,0.9s

GERES GERESS Array B 74.98 343 P P 20 48 54.0 +0.6
CONA Conrad Observa 75.48 342 eP P 20 48 58.2 +1.9
comp=Z,9.2nm,1.5s
RONA Rosalia, Austr 75.62 341 eP P 20 48 59.2 +2.2
comp=Z,6.5nm,1.2s
ARSA Arzberg 76.20 342 eP P 20 49 02.5 +2.1
comp=Z,4.3nm,0.8s
KBA Koelnbreinsper 76.75 343 eP P 20 49 05.9 +2.3
comp=Z,18nm,1.2s
WATA Walderalm 76.80 344 eP P 20 49 05.2 +1.4
comp=Z,8.3nm,1.4s
SOKA Soboth 76.84 342 eP P 20 49 06.0 +2.0
comp=Z,12nm,1.2s
WTTA Wattenberg 76.86 344 eP P 20 49 05.8 +1.6
comp=Z,9.2nm,1.6s
MOTA Moosalm 76.86 345 eP P 20 49 05.3 +1.1
comp=Z,4.3nm,0.9s
SQTA Sankt Quirin 76.97 344 eP P 20 49 06.2 +1.4
comp=Z,7.9nm,1.2s
OBKA Obir 77.09 342 eP P 20 49 07.4 +1.9
comp=Z,16nm,0.9s
ABTA Abfaltersbach 77.21 343 eP P 20 49 07.6 +1.5
comp=Z,11nm,1.4s
FETA Feichten 77.23 345 eP P 20 49 07.2 +0.9
comp=Z,6.4nm,1.1s
BRTR Keskin Array B 78.62 326 P P 20 49 13.1 -1.1
comp=Z,1.6nm,0.8s,baz=37,slow=4.4,SNR=7.5
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 78.62 326 P P 20 49 14.2 0.0
BRTR Keskin Array B 78.62 326 iP P 20 49 15.0 +0.8
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BNN Bunyan 78.68 324 P P 20 49 14.0 -0.4
BNN IAmb IAmb 20 49 15.3
comp=Z,13nm,0.9s
TEOL Teolo 78.70 344 P P 20 49 15.2 +0.9
VTS Vitosha 78.94 335 P P 20 49 16.3 +0.4
VTS Vitosha 78.94 335 P P 20 49 16.3 +0.4
VTS pmax pmax
comp=Z,6.0nm,1.3s
WRAB Tennant Creek 79.69 213 P P 20 49 21.2 +1.3
WRAB IAmb IAmb 20 49 25.9
comp=Z,27nm,1.6s
WRAB Tennant Creek 79.69 213 P P 20 49 21.2 +1.3
WRAB pmax pmax
comp=Z,27nm,1.6s
WB2 Warramunga Arr 79.70 213 P P 20 49 21.8 +1.9
WRA Warramunga Arr 79.71 213 P P 20 49 20.6 +0.6
comp=Z,3.2nm,0.9s,baz=24,slow=6.3,SNR=25
comp=Z,3.2nm,0.9s
WRA Warramunga Arr 79.71 213 P P 20 49 21.8 +1.9
WRA Warramunga Arr 79.71 213 iP P 20 49 21.6 +1.6
WRA pmax pmax
comp=Z,3.0nm,0.9s
FITZ Fitzroy Crossi 81.06 221 P P 20 49 29.4 +2.3
PALK Pallekele 82.99 273 iP P 20 49 39.1 +1.4
AS31 Alice Springs 83.33 212 P P 20 49 41.3 +2.2
ASAR Alice Springs 83.33 212 P P 20 49 40.8 +1.6
comp=Z,3.7nm,0.9s,baz=22,slow=5.0,SNR=22
comp=Z,3.7nm,0.9s
ASAR Alice Springs 83.33 212 P P 20 49 40.0 +0.9
ASAR Alice Springs 83.33 212 P P 20 49 40.0 +0.9
TIP Timpagrande 83.71 338 P P 20 49 41.6 +0.5
ESDC Sonseca Array 86.07 354 P P 20 49 52.8 -0.2
comp=Z,2.7nm,1.1s,baz=5.8,slow=4.7,SNR=9.8
comp=Z,2.7nm,1.1s
ESDC Sonseca Array 86.07 354 P P 20 49 53.9 +0.9
ESDC IAmb IAmb 20 49 55.0
comp=Z,7.0nm,1.3s
MAW Mawson 144.16 219 PKP PKPdf 20 56 45.8 -0.7
comp=Z,2.3nm,0.9s,baz=101,slow=5.2,SNR=3.9

*NEIC **07** 20:40:15.7±1.8,54.1°N±0.2°×168.45°E±0.06,h10km±2km, mb4.3/38, Error ellipse: s-maj=30.1km s-min=3.1km az=190.0*
*KRSC **07** 20:40:16.7±1.6,54.36°N×168.61°E,h30km±36km, ML4.3 IDC **07** 20:40:17.3±0.8,54.56°N×168.69°E,h0km,mb3.7/14, mbtmp3.8/16,ML3.5/2, Error ellipse: s-maj=25.6km s-min=16.3km az=176.0*
*MOS **07** 20:40:19.8±1.4,54.25°N×168.61°E,h48km,mb4.4/3, Error ellipse: s-maj=12.2km s-min=8.5km az=5.0*

ISC 07 20:40:20.0±0.6,54.40N±0.07°×168.65E±0.05,h24km,n114,
σ1§41/118,mb4.1/33,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.75**	**298**	PN	**Pn**	**Pn**	**20 40 46.2**	**-2.6**
BKI				S		**Sn**	**20 41 07.8**	**-2.5**
BKI	**Bering**	**1.75**	**298**	*e*P	**Pn**	**Pn**	**20 40 46.2**	**-2.6**
BKI				*i* S		**Sn**	**20 41 07.8**	**-2.5**
SHEM	**Shemya Is, Ala**	**3.65**	**115**	Pn	**Pn**	**Pn**	**20 41 14.4**	**-0.5**
	10nm,0.3s,baz=291,slow=16,SNR=1.9							
SHEM				Sn		**Sn**	**20 41 54.9**	**-2.4**
	5.6nm,0.3s,baz=303,slow=15,SNR=1.1							
	22nm,0.3s							
SMY	**Shemya**	**3.65**	**115**	Pn	Pn		20 41 10.2	-4.8
SMY	**Shemya**	**3.65**	**115**	PN	Pn		20 41 10.2	-4.8
SMY	**Shemya**	**3.65**	**115**	*e*S	**Sn**		**20 41 58.5**	**+1.2**
KBTR	**Krutoberegovo**	**3.79**	**301**	PN	**Pn**		**20 41 16.0**	**-0.9**
KBTR	**Krutoberegovo**	**3.79**	**301**	*e*P	**Pn**		**20 41 16.0**	**-0.9**
SMKR	**Semkarok**	**4.63**	**301**	PN	**Pn**		**20 41 28.7**	**+0.2**
SMKR	**Semkarok**	**4.63**	**301**	P	**Pn**		**20 41 28.7**	**+0.2**
TUMR	**Tumrok**	**5.00**	**284**	PN	**Pn**		**20 41 34.1**	**+0.6**
TUMR	**Tumrok**	**5.00**	**284**	P	**Pn**		**20 41 34.1**	**+0.6**
KMNR	**Kamenistaya**	**5.02**	**289**	PN	**Pn**		**20 41 35.4**	**+1.5**
KMNR				S	**Sn**		**20 42 33.2**	**+2.0**
KMNR	**Kamenistaya**	**5.02**	**289**	P	**Pn**		**20 41 35.4**	**+1.5**
KMNR				S	**Sn**		**20 42 33.2**	**+2.0**
SPN	**Mys Shipunski**	**5.29**	**259**	PN	**Pn**		**20 41 37.5**	**+0.1**
SPN				S	**Sn**		**20 42 36.2**	**-1.3**
SPN	**Mys Shipunski**	**5.29**	**259**	P	**Pn**		**20 41 37.5**	**+0.1**
SPN				S	**Sn**		**20 42 36.2**	**-1.3**
KII	**Karymskiy**	**5.41**	**270**	PN	**Pn**		**20 41 39.5**	**+0.3**
KII				S	**Sn**		**20 42 40.8**	**0.0**
KII	**Karymskiy**	**5.41**	**270**	*e*P	**Pn**		**20 41 39.5**	**+0.3**
KII				*e*S	**Sn**		**20 42 40.8**	**0.0**
NLC	**Nalytchevo**	**5.65**	**261**	*e*S	**Sn**		**20 42 44.3**	**-2.2**
SDLR	**Sedlovina**	**5.89**	**263**	PN	**Pn**		**20 41 46.3**	**+0.4**
SDLR	**Sedlovina**	**5.89**	**263**	*e*P	**Pn**		**20 41 46.3**	**+0.4**
UGLR	**Uglovaya**	**5.95**	**262**	PN	**Pn**		**20 41 47.2**	**+0.6**
UGLR				S	**Sn**		**20 42 56.3**	**+2.4**
UGLR	**Uglovaya**	**5.95**	**262**	*e*P	**Pn**		**20 41 47.2**	**+0.6**
UGLR				*e*S	**Sn**		**20 42 56.3**	**+2.4**
AVH	**Avacha**	**5.98**	**263**	PN	**Pn**		**20 41 48.1**	**+1.1**
AVH				S	**Sn**		**20 42 57.4**	**+2.7**
AVH	**Avacha**	**5.98**	**263**	*e*P	**Pn**		**20 41 48.1**	**+1.1**
AVH				*e*S	**Sn**		**20 42 57.4**	**+2.7**
KRX	**Arik**	**6.01**	**264**	PN	**Pn**		**20 41 48.3**	**+0.8**
KRX				S	**Sn**		**20 42 55.9**	**+0.4**
KRX	**Arik**	**6.01**	**264**	*e*P	**Pn**		**20 41 48.3**	**+0.8**
KRX				*e*S	**Sn**		**20 42 55.9**	**+0.4**
KOK	**Koryaka**	**6.03**	**263**	PN	**Pn**		**20 41 48.3**	**+0.5**
KOK	**Koryaka**	**6.03**	**263**	*e*P	**Pn**		**20 41 48.3**	**+0.5**
DALK	**Dalny**	**6.04**	**261**	*e*S	**Sn**		**20 42 56.0**	**+0.1**
PET	**Petropavlovsk**	**6.10**	**261**	Pn	Pn		20 41 42.6	-5.9
GNL	**Ganaly**	**6.35**	**268**	PN	**Pn**		**20 41 52.9**	**+0.8**
GNL	**Ganaly**	**6.35**	**268**	*e*P	**Pn**		**20 41 52.9**	**+0.8**
RUS	**Russkaya**	**6.38**	**256**	PN	**Pn**		**20 41 53.2**	**+0.9**
RUS	**Russkaya**	**6.38**	**256**	P	**Pn**		**20 41 53.2**	**+0.9**
KRMR	**Karymshinskiy**	**6.46**	**260**	PN	**Pn**		**20 41 54.1**	**+0.6**
KRMR	**Karymshinskiy**	**6.46**	**260**	P	**Pn**		**20 41 54.1**	**+0.6**
KRMR				S	**Sn**		**20 43 05.4**	**-0.9**
GRL	**Gorelyy**	**6.58**	**258**	PN	**Pn**		**20 41 56.9**	**+1.6**
GRL				S	**Sn**		**20 43 09.7**	**+0.1**
GRL	**Gorelyy**	**6.58**	**258**	P	**Pn**		**20 41 56.9**	**+1.6**
GRL				S	**Sn**		**20 43 09.7**	**+0.1**
PEA0B	**Petropavlovsk-**	**6.62**	**263**	Pn	**Pn**		**20 41 53.0**	**-2.8**
PEA0B	**Petropavlovsk-**	**6.62**	**263**	PN	**Pn**		**20 41 53.0**	**-2.8**
PETK	**Petropavlovsk-**	**6.62**	**263**	Pn	**Pn**		**20 41 56.7**	**+0.9**
	1.8nm,0.3s,baz=81,slow=17,SNR=3.5							
PETK				Sn		**Sn**	**20 43 12.0**	**+1.5**
	1.3nm,0.3s,baz=40,slow=22,SNR=2.7							
	6.3nm,0.5s							
PETK	**Petropavlovsk-**	**6.62**	**263**	Pn	Pn		20 41 50.6	-5.2
PETK	**Petropavlovsk-**	**6.62**	**263**	PN	Pn		20 41 50.6	-5.2
ASAK	**Asacha**	**6.74**	**257**	S	**Sn**		**20 43 12.1**	**-1.4**
KDTR	**Khodutka, Kamc**	**6.88**	**252**	S	**Sn**		**20 43 14.3**	**-2.3**
BILL	**Bilibino**	**13.73**	**356**	*e*P	**P**		**20 43 39.1**	**-2.2**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.1s							
N18K	**Kilae Creek**	**19.85**	**57**	P	**Pn**		**20 44 50.3**	**-0.3**
TTA	**Tatalina**	**20.02**	**51**	P	**Pn**		**20 44 52.6**	**0.0**

TTA	**Tatalina**	**20.02**	**51**	P	**Pn**	**20 44 52.6**	**0.0**		
TTA				pmax	pmax				
	comp=Z,14nm,1.4s								
L19K	**White Mountain**	**20.45**	**53**	P	Pn	20 44 57.0	-0.7		
L19K				IAmb	IAmb	20 45 04.5			
	comp=Z,18nm,1.2s								
N19K	**Bonanza Creek**	**20.54**	**57**	P	Pn	20 44 57.6	-1.2		
M19K	**Big River Lodg**	**20.65**	**54**	P	Pn	20 44 59.0	-0.9		
ERM	**Erimo**	**20.89**	**244**	P	**P**	**20 44 54.9**	**-5.4**		
ERM	**Erimo**	**20.89**	**244**	P	**P**	**20 44 54.9**	**-5.4**		
K20K	**Telida**	**20.95**	**50**	P	Pn	20 45 02.0	-1.5		
J20K	**Nowinta River**	**21.05**	**48**	P	**P**	**20 45 02.9**	**+1.1**		
OHAK	**Old Harbor**	**21.38**	**67**	P	**P**	**20 45 05.2**	**-0.2**		
OHAK				IAmb	IAmb	20 45 31.8			
	comp=Z,24nm,1.2s								
IMAR	**Indian Mountai**	**21.60**	**43**	P	**P**	**20 45 09.4**	**+1.6**		
YAK	**Yakutsk**	**21.60**	**306**	P	**P**	**20 45 06.8**	**-1.0**		
	comp=Z,4.8nm,0.6s,baz=212,slow=2.2,SNR=2.6								
	comp=Z,4.8nm,0.6s								
KDAK	**Kodiak Island**	**21.68**	**65**	P	**P**	**20 45 09.1**	**+0.4**		
	comp=Z,8.6nm,1.0s,baz=75,slow=18,SNR=1.8								
	comp=Z,8.6nm,1.0s								
KDAK	**Kodiak Island**	**21.68**	**65**	P	**P**	**20 45 09.3**	**+0.6**		
KDAK	**Kodiak Island**	**21.68**	**65**	P	**P**	**20 45 09.3**	**+0.6**		
H21K	**Melozitna Rive**	**21.90**	**44**	P	**P**	**20 45 13.0**	**+2.0**		
H21K				IAmb	IAmb	20 45 21.2			
	comp=Z,6.5nm,0.8s								
CNPM	**China Poot**	**22.20**	**60**	P	**P**	**20 45 15.3**	**+1.0**		
SUA	**Susitna One**	**22.36**	**55**	P	**P**	**20 45 17.7**	**+1.5**		
SUA				IAmb	IAmb	20 45 24.7			
	comp=Z,11nm,1.0s								
KTH	**Kantishna Hill**	**22.38**	**50**	P	**P**	**20 45 17.5**	**+1.3**		
KTH				IAmb	IAmb	20 45 25.5			
	comp=Z,12nm,1.2s								
MLY	**Manley**	**22.64**	**46**	P	**P**	**20 45 19.8**	**+0.8**		
MLY				IAmb	IAmb	20 45 27.7			
	comp=Z,6.8nm,1.0s								
TRF	**Thorofare Moun**	**22.65**	**50**	P	**P**	**20 45 19.5**	**+0.2**		
TRF				IAmb	IAmb	20 45 22.5			
	comp=Z,8.1nm,0.8s								
I23K	**Minto, Yukon-K**	**23.23**	**46**	P	**P**	**20 45 25.8**	**+0.8**		
RND	**Reindeer**	**23.30**	**50**	P	**P**	**20 45 25.4**	**-0.3**		
RND				IAmb	IAmb	20 45 27.0			
	comp=Z,7.5nm,0.9s								
RND	**Reindeer**	**23.30**	**50**	P	**P**	**20 45 25.4**	**-0.3**		
RND				pmax	pmax				
	comp=Z,7.0nm,0.9s								
SML	**Sawmill**	**23.51**	**54**	P	**P**	**20 45 28.2**	**+0.3**		
PWL	**Port Wells**	**23.55**	**57**	P	**P**	**20 45 27.2**	**-1.0**		
PWL				IAmb	IAmb	20 45 35.6			
	comp=Z,12nm,0.9s								
WRH	**Wood River Hil**	**23.70**	**48**	P	**P**	**20 45 29.5**	**-0.1**		
WRH				IAmb	IAmb	20 45 38.1			
	comp=Z,10nm,1.1s								
TCOL	**CIGO, UAF Yank**	**23.83**	**47**	P	**P**	**20 45 30.9**	**0.0**		
CCB	**Clear Creek Bu**	**23.84**	**47**	P	**P**	**20 45 31.3**	**+0.4**		
CCB				IAmb	IAmb	20 45 39.3			
	comp=Z,17nm,1.3s								
COLA	**College**	**23.84**	**47**	P	**P**	**20 45 31.0**	**+0.1**		
COLA				IAmb	IAmb	20 45 38.4			
	comp=Z,9.5nm,0.7s								
COLA	**College**	**23.84**	**47**	P	**P**	**20 45 31.0**	**+0.1**		
COLA				pmax	pmax				
	comp=Z,9.0nm,0.7s								
TOLK	**Toolik Lake Re**	**23.85**	**37**	P	**P**	**20 45 31.6**	**+0.6**		
H24K	**Noodor Dome**	**23.93**	**44**	P	**P**	**20 45 32.5**	**+0.6**		
HDA	**Harding Lake**	**24.19**	**48**	P	**P**	**20 45 33.6**	**-0.6**		
HDA				IAmb	IAmb	20 45 43.5			
	comp=Z,3.6nm,0.7s								
IL31		**24.24**	**47**	P	**P**	**20 45 34.0**	**-0.6**		
IL31				IAmb	IAmb	20 45 43.8			
	comp=Z,7.1nm,1.0s								
ILAR	**Eielson Array**	**24.24**	**47**	P	**P**	**20 45 34.1**	**-0.5**		
	comp=Z,1.6nm,0.7s,baz=258,slow=7.7,SNR=7.4								
	comp=Z,1.6nm,0.7s								
ILAR	**Eielson Array**	**24.24**	**47**	P	**P**	**20 45 33.9**	**-0.8**		
M24K	**Tolsona, Glenn**	**24.52**	**53**	P	**P**	**20 45 36.6**	**-0.7**		
PRP	**Porcupine Dome**	**24.87**	**45**	P	**P**	**20 45 41.3**	**+0.8**		
J25K	**Salcha River,**	**24.88**	**47**	P	**P**	**20 45 40.9**	**+0.3**		
DOT	**Dot Lake**	**25.45**	**50**	P	**P**	**20 45 45.7**	**0.0**		
DOT				IAmb	IAmb	20 45 53.8			
	comp=Z,9.3nm,0.9s								
SCRK	**Sand Creek**	**25.48**	**49**	P	**P**	**20 45 45.4**	**-0.6**		
SCRK				IAmb	IAmb	20 45 52.7			
	comp=Z,4.5nm,0.9s								
J26L	**Joseph Creek**	**25.66**	**48**	P	**P**	**20 45 47.9**	**+0.3**		
J26L				IAmb	IAmb	20 45 55.7			
	comp=Z,5.2nm,1.1s								
L26K	**Log Cabin Wild**	**25.79**	**51**	P	**P**	**20 45 48.7**	**-0.1**		
L26K				IAmb	IAmb	20 46 09.7			
	comp=Z,4.2nm,0.9s								
L27K	**Beaver Creek,**	**26.48**	**51**	P	**P**	**20 45 55.9**	**+0.9**		
L27K				IAmb	IAmb	20 46 03.1			
	comp=Z,7.9nm,0.9s								
BCAR	**Beaver Creek A**	**26.50**	**51**	P	**P**	**20 45 55.5**	**+0.3**		
EGAK	**Eagle**	**26.70**	**47**	P	**P**	**20 45 56.1**	**-0.7**		
EGAK				IAmb	IAmb	20 46 04.2			
	comp=Z,6.9nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**34.64**	**183**	T	T	21 23 46.5			
	baz=0.9,slow=74								
H11N3	**WAKE ISLAND Hy**	**34.65**	**183**	T	T	21 23 47.8			
	baz=0.9,slow=74								
H11N1	**WAKE ISLAND Hy**	**34.65**	**183**	T	T	21 23 49.8			
	baz=0.9								
H11S1	**WAKE ISLAND Hy**	**35.86**	**183**	T	T	21 25 21.9			
	baz=1.6								
H11S3	**WAKE ISLAND Hy**	**35.87**	**183**	T	T	21 25 19.4			
	baz=1.6								
H11S2	**WAKE ISLAND Hy**	**35.88**	**183**	T	T	21 25 19.7			
	baz=1.6								
SONM	**Songino Array**	**38.48**	**287**	P	**P**	**20 47 41.5**	**+1.5**		
	comp=Z,1.0nm,0.6s,baz=61,slow=8.4,SNR=5.4								
	comp=Z,1.0nm,0.6s								
NVAR	**Mina Array Bea**	**50.50**	**77**	P	**P**	**20 49 17.5**	**+1.3**		
	comp=Z,0.7nm,0.8s,baz=281,slow=7.2,SNR=2.9								
	comp=Z,0.7nm,0.8s								
MKAR	**Makanchi Array**	**52.05**	**300**	P	**P**	**20 49 26.5**	**-1.0**		
	comp=Z,0.5nm,0.6s,baz=50,slow=3.9,SNR=4.2								
	comp=Z,0.5nm,0.6s								
CMAR	**Chiang Mai Arr**	**63.40**	**265**	P	**P**	**20 50 49.2**	**+1.7**		
	comp=Z,0.6nm,0.5s,baz=21,slow=7.2,SNR=4.2								
	comp=Z,0.6nm,0.5s								
NB2	**NORSAR Subarra**	**63.52**	**348**	P	**P**	**20 50 47.5**	**-0.2**		
	comp=Z,1.5nm,0.8s,baz=16,slow=6.9								
NOA	**NORSAR Array B**	**63.52**	**348**	P	**P**	**20 50 47.6**	**-0.1**		
	comp=Z,0.6nm,0.7s,baz=18,slow=6.7,SNR=3.1								
	comp=Z,0.6nm,0.7s								
TXAR	**Lajitas Array**	**65.41**	**74**	P	**P**	**20 51 00.8**	**+0.1**		
	comp=Z,0.5nm,0.8s,baz=307,slow=6.5,SNR=3.9								
	comp=Z,0.5nm,0.8s								
AKASG	**Malin Array Be**	**69.90**	**334**	P	**P**	**20 51 28.2**	**-0.3**		
	comp=Z,0.3nm,0.3s,baz=28,slow=6.4,SNR=3.1								
	comp=Z,0.3nm,0.3s								
GERES	**GERESS Array B**	**74.98**	**343**	P	**P**	**20 51 60.0**	**+1.0**		
	comp=Z,0.1nm,0.3s,baz=335,slow=6.7,SNR=2.1								
	comp=Z,0.1nm,0.3s								
GERES	**GERESS Array B**	**74.98**	**343**	P	**P**	**20 52 00.0**	**+1.0**		
BRTR	**Keskin Array B**	**78.61**	**326**	P	**P**	**20 52 21.1**	**+1.4**		
	comp=Z,0.5nm,0.6s,baz=20,slow=4.1,SNR=2.5								
	comp=Z,0.5nm,0.6s								
WRA	**Warramunga Arr**	**79.67**	**213**	P	**P**	**20 52 26.9**	**+1.5**		
	comp=Z,0.2nm,0.6s,baz=25,slow=6.1,SNR=2.1								
	comp=Z,0.2nm,0.6s								
ASAR	**Alice Springs**	**83.30**	**212**	P	**P**	**20 52 46.8**	**+2.3**		
	comp=Z,0.7nm,0.9s,baz=17,slow=3.9,SNR=4.7								
	comp=Z,0.7nm,0.9s								

*BJI **07** 20:47:04.5±0.0,54.6˚63N×168.6˚91E,h16km,mb4.8/67, mB5.4/32,Ms5.1/44,Ms7 4.7/43*
*KRSC **07** 20:47:04.9±1.7,54.3˚32N×168.6˚68E,h38km±26km,ML5.5*
*IDC **07** 20:47:05.8±0.4,54.5˚57N×168.6˚61E,h0km,mb4.8/53, mbtmp4.8/55,ML4.4/2,MS4.5/2,Error ellipse: s-maj=10.6km s-min=7.9km az=156.0*
*NEIC **07** 20:47:07.5±2.1,54.5˚50N±0.0˚08×168.7˚77E±0.0˚10,h10km±1km, mb5.2/591,Error ellipse: s-maj=13.3km s-min=9.5km az=4.0*
*MOS **07** 20:47:08.0±0.8,54.4˚44N×168.6˚62E,h32km,mb5.1/56, MS4.4/7,Error ellipse: s-maj=5.0km s-min=4.5km az=15.7*
*GCMT **07** 20:47:08.5±0.2,54.6˚66N±0.0˚02×168.7˚71E±0.0˚01,h12km, MW5.1/105,Moment Tensor Solution. s64,c82; s105,c175; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.72±.14; $M_{\theta\theta}$-1.96±.15; $M_{\phi\phi}$4.67±.09; $M_{r\theta}$4.34±.41; $M_{\theta\phi}$-2.57±.10; $M_{\phi r}$0.15±.28; Best double couple:*

M_o6.39600×10^{16} NP1:ϕ_s304.00000°,δ69.00000°, λ-137.00000°. NP2:ϕ_s195.00000°,δ51.00000°, λ-28.00000°. Principal axes: T 5.7940, Plg11.0000°, Azm66.0000°; N 1.1940, Plg43.0000°, Azm325.0000°; P -6.9980, Plg45.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 07 20:47:07.8±1.3,54.45N±0.04×168.67E±0.03,h15km±8km, n1564,σ1.02/1614,mb5.2/446,MS4.6/70,54C-36D,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BKI	**Bering**	**1.74**	**297**	PN	**Pn**	**20 47 34.8**	**-2.6**
BKI				S	**Sn**	**20 47 56.6**	**-2.7**
BKI	**Bering**	**1.74**	**297**	*e*P	**Pn**	**20 47 34.8**	**-2.6**
BKI				*e*S	**Sn**	**20 47 56.6**	**-2.7**
SHEM	**Shemya Is, Ala**	**3.66**	**116**	Pn	**Pn**	**20 48 01.9**	**-2.0**
	343nm,0.3s,baz=14,slow=4.0,SNR=90						
SHEM				LR	LR	20 48 39.1	
	comp=Z,1μm,21.0s,baz=334,slow=25						
SHEM				Sn	**Sn**	**20 48 44.9**	**-1.9**
	108nm,0.3s,baz=265,slow=21,SNR=11						
SMY	**Shemya**	**3.66**	**116**	Pn	**Pn**	**20 48 01.7**	**-2.2**
SMY	**Shemya**	**3.66**	**116**	PN	**Pn**	**20 48 01.7**	**-2.2**
SMY	**Shemya**	**3.66**	**116**	*e*P	**Pn**	**20 48 01.7**	**-2.2**
SMY				*e*S	**Sn**	**20 48 44.7**	**-2.1**
KBTR	**Krutoberegovo**	**3.78**	**300**	PN	**Pn**	**20 48 04.7**	**-0.8**
KBTR				S	**Sn**	**20 48 50.1**	**+0.4**
KBTR	**Krutoberegovo**	**3.78**	**300**	*e*P	**Pn**	**20 48 04.7**	**-0.8**
KBTR				*e*S	**Sn**	**20 48 50.1**	**+0.4**
KBG	**Krutoberegovo**	**3.86**	**300**	PN	**Pn**	**20 48 06.4**	**-0.2**
KBG				S	**Sn**	**20 48 51.0**	**-0.6**
KBG	**Krutoberegovo**	**3.86**	**300**	*e*P	**Pn**	**20 48 06.4**	**-0.2**
KBG				*e*S	**Sn**	**20 48 51.0**	**-0.6**
SMKR	**Semkarok**	**4.62**	**300**	PN	**Pn**	**20 48 17.8**	**+0.7**
SMKR	**Semkarok**	**4.62**	**300**	*e*P	**Pn**	**20 48 17.8**	**+0.7**
BDR	**Baidarnaya**	**4.75**	**300**	PN	**Pn**	**20 48 19.9**	**+1.1**
BDR				S	**Sn**	**20 49 15.8**	**+2.2**
BDR	**Baidarnaya**	**4.75**	**300**	*e*P	**Pn**	**20 48 19.9**	**+1.1**
BDR				*e*S	**Sn**	**20 49 15.8**	**+2.2**
SRKR	**Sorokina**	**4.80**	**300**	PN	**Pn**	**20 48 20.5**	**+0.9**
SRKR	**Sorokina**	**4.80**	**300**	*e*P	**Pn**	**20 48 20.5**	**+0.9**
KLY	**Klyuchi**	**4.94**	**295**	PN	**Pn**	**20 48 21.5**	**+0.1**
KLY				S	**Sn**	**20 49 17.1**	**-1.2**
KLY	**Klyuchi**	**4.94**	**295**	*e*P	**Pn**	**20 48 21.5**	**+0.1**
KLY				*e*S	**Sn**	**20 49 17.1**	**-1.2**
TUMR	**Tumrok**	**5.00**	**283**	PN	**Pn**	**20 48 23.4**	**+1.1**
TUMR				S	**Sn**	**20 49 20.6**	**+0.7**
TUMR	**Tumrok**	**5.00**	**283**	*e*P	**Pn**	**20 48 23.4**	**+1.1**
TUMR				*e*S	**Sn**	**20 49 20.6**	**+0.7**
KIRR	**Kirishev**	**5.00**	**291**	PN	**Pn**	**20 48 23.0**	**+0.5**
KIRR				S	**Sn**	**20 49 20.9**	**+0.8**
KIRR	**Kirishev**	**5.00**	**291**	*e*P	**Pn**	**20 48 23.0**	**+0.5**
KIRR				*e*S	**Sn**	**20 49 20.9**	**+0.8**
KMNR	**Kamenistaya**	**5.02**	**289**	*e*S	**Sn**	**20 49 21.5**	**+1.1**
KPT	**Kopyto**	**5.07**	**291**	PN	**Pn**	**20 48 25.3**	**+1.9**
KPT				S	**Sn**	**20 49 23.1**	**+1.4**
KPT	**Kopyto**	**5.07**	**291**	*e*P	**Pn**	**20 48 25.3**	**+1.9**
KPT				*e*S	**Sn**	**20 49 23.1**	**+1.4**
KOZ	**Kozyrevsk**	**5.29**	**291**	PN	**Pn**	**20 48 27.4**	**+1.2**
KOZ				S	**Sn**	**20 49 28.2**	**+1.4**
KOZ	**Kozyrevsk**	**5.29**	**291**	*e*P	**Pn**	**20 48 27.4**	**+1.2**
KOZ				*e*S	**Sn**	**20 49 28.2**	**+1.4**
SPN	**Mys Shipunski**	**5.31**	**259**	PN	**Pn**	**20 48 25.6**	**-0.9**
SPN	**Mys Shipunski**	**5.31**	**259**	*e*P	**Pn**	**20 48 25.6**	**-0.9**
KII	**Karymskiy**	**5.43**	**269**	PN	**Pn**	**20 48 28.2**	**0.0**
KII	**Karymskiy**	**5.43**	**269**	*e*P	**Pn**	**20 48 28.2**	**0.0**
SRDR	**Sredinnyy**	**5.44**	**294**	PN	**Pn**	**20 48 30.2**	**+1.8**
SRDR	**Sredinnyy**	**5.44**	**294**	*e*P	**Pn**	**20 48 30.2**	**+1.8**
NLC	**Nalytchevo**	**5.67**	**261**	PN	**Pn**	**20 48 30.9**	**-0.6**
NLC	**Nalytchevo**	**5.67**	**261**	*e*P	**Pn**	**20 48 30.9**	**-0.6**
NLC				*e*S	**Sn**	**20 49 33.6**	**-2.7**
ESO	**Esso**	**5.90**	**289**	PN	**Pn**	**20 48 36.6**	**+1.9**
ESO				S	**Sn**	**20 49 43.5**	**+1.5**
ESO	**Esso**	**5.90**	**289**	*e*P	**Pn**	**20 48 36.6**	**+1.9**
ESO				*e*S	**Sn**	**20 49 43.5**	**+1.5**
SDLR	**Sedlovina**	**5.91**	**263**	PN	**Pn**	**20 48 34.3**	**-0.6**
SDLR	**Sedlovina**	**5.91**	**263**	*e*P	**Pn**	**20 48 34.3**	**-0.6**
SMAR	**Somma**	**5.96**	**263**	PN	**Pn**	**20 48 35.4**	**-0.3**
SMAR	**Somma**	**5.96**	**263**	*e*P	**Pn**	**20 48 35.4**	**-0.3**
SMAR				*e*S	**Sn**	**20 49 40.5**	**-3.3**
UGLR	**Uglovaya**	**5.96**	**262**	PN	**Pn**	**20 48 35.6**	**0.0**
UGLR	**Uglovaya**	**5.96**	**262**	*e*P	**Pn**	**20 48 35.6**	**0.0**
UGLR				*e*S	**Sn**	**20 49 41.2**	**-2.5**
KRER	**Koryakskii**	**5.98**	**263**	PN	**Pn**	**20 48 35.9**	**-0.1**
KRER	**Koryakskii**	**5.98**	**263**	*e*P	**Pn**	**20 48 35.9**	**-0.1**
KRER				*e*S	**Sn**	**20 49 40.6**	**-3.7**
AVH	**Avacha**	**6.00**	**263**	PN	**Pn**	**20 48 36.8**	**+0.7**
AVH	**Avacha**	**6.00**	**263**	*e*P	**Pn**	**20 48 36.8**	**+0.7**
AVH				*e*S	**Sn**	**20 49 42.2**	**-2.3**
KRX	**Arik**	**6.03**	**264**	PN	**Pn**	**20 48 36.5**	**0.0**
KRX	**Arik**	**6.03**	**264**	*e*P	**Pn**	**20 48 36.5**	**0.0**
KRX				*e*S	**Sn**	**20 49 43.2**	**-2.1**
KOK	**Koryaka**	**6.05**	**263**	PN	**Pn**	**20 48 36.9**	**+0.1**
KOK	**Koryaka**	**6.05**	**263**	*e*P	**Pn**	**20 48 36.9**	**+0.1**
DALK	**Dalny**	**6.06**	**260**	PN	**Pn**	**20 48 36.8**	**0.0**
DALK	**Dalny**	**6.06**	**260**	*e*P	**Pn**	**20 48 36.8**	**0.0**
DALK				*e*S	**Sn**	**20 49 42.9**	**-2.9**
PET	**Petropavlovsk**	**6.12**	**261**	Pn	**Pn**	**20 48 37.0**	**-0.5**
PET	**Petropavlovsk**	**6.12**	**261**	*e*PN	**Pn**	**20 48 39.0**	**+1.4**
PET				pmax	pmax		
	comp=Z,243nm,0.7s						
PET				MLR	MLR		
	comp=Z,7μm,16.0s						
PET				MLR	MLR		
	comp=Z,7μm,14.0s						
PET	**Petropavlovsk**	**6.12**	**261**	P	**Pn**	**20 48 39.5**	**+1.9**
TILK	**Tilichiki**	**6.17**	**348**	PN	**Pn**	**20 48 39.0**	**+0.8**
TILK	**Tilichiki**	**6.17**	**348**	*e*P	**Pn**	**20 48 39.0**	**+0.8**
RUS	**Russkaya**	**6.40**	**256**	PN	**Pn**	**20 48 40.0**	**-1.5**
RUS	**Russkaya**	**6.40**	**256**	*e*P	**Pn**	**20 48 40.0**	**-1.5**
RUS				*e*S	**Sn**	**20 49 50.5**	**-3.7**
KRMR	**Karymshinskiy**	**6.48**	**260**	PN	**Pn**	**20 48 42.5**	**-0.1**
KRMR	**Karymshinskiy**	**6.48**	**260**	*e*P	**Pn**	**20 48 42.5**	**-0.1**
KRMR				*e*S	**Sn**	**20 49 53.1**	**-3.0**
MTVR	**Mutnovka**	**6.57**	**257**	PN	**Pn**	**20 48 43.8**	**-0.1**
MTVR	**Mutnovka**	**6.57**	**257**	*e*P	**Pn**	**20 48 43.8**	**-0.1**
MTVR				*e*S	**Sn**	**20 49 54.7**	**-3.9**
GRL	**Gorelyy**	**6.61**	**258**	PN	**Pn**	**20 48 44.8**	**+0.4**
GRL	**Gorelyy**	**6.61**	**258**	*e*P	**Pn**	**20 48 44.8**	**+0.4**
GRL				*e*S	**Sn**	**20 49 58.4**	**-1.1**
PEA0B	**Petropavlovsk-**	**6.64**	**263**	Pn	**Pn**	**20 48 45.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**6.64**	**263**	*e*PN	**Pn**	**20 48 45.4**	**+0.5**
PETK	**Petropavlovsk-**	**6.64**	**263**	Pn	**Pn**	**20 48 44.9**	**0.0**
	comp=Z,8.6nm,0.3s,baz=90,slow=20,SNR=42						
PETK				Sn	**Sn**	**20 49 56.6**	**-3.6**
	comp=Z,4.1nm,0.3s,baz=103,slow=20,SNR=1.3						
PETK				LR	LR	20 51 24.6	
	comp=Z,4μm,21.6s,baz=78,slow=39						
	comp=Z,33nm,0.4s						
PETK	**Petropavlovsk-**	**6.64**	**263**	Pn	**Pn**	**20 48 44.6**	**-0.3**
PALN	**Palana**	**6.67**	**318**	Pn	**Pn**	**20 48 48.0**	**+2.8**
PALN	**Palana**	**6.67**	**318**	*e*P	**Pn**	**20 48 48.0**	**+2.8**
ASAK	**Asacha**	**6.77**	**257**	Pn	**Pn**	**20 48 46.7**	**+0.1**
ASAK	**Asacha**	**6.77**	**257**	*e*P	**Pn**	**20 48 46.7**	**+0.1**
ASAK				*e*S	**Sn**	**20 50 00.4**	**-3.0**
KDTR	**Khodutka, Kamc**	**6.90**	**252**	PN	**Pn**	**20 48 47.5**	**-0.9**
KDTR	**Khodutka, Kamc**	**6.90**	**252**	*e*P	**Pn**	**20 48 47.5**	**-0.9**
KDTR				*e*S	**Sn**	**20 50 01.3**	**-5.3**
APC	**Apacha**	**7.01**	**262**	PN	**Pn**	**20 48 50.7**	**+0.9**
APC	**Apacha**	**7.01**	**262**	*e*P	**Pn**	**20 48 50.7**	**+0.9**
APC				*e*S	**Sn**	**20 50 07.6**	**-1.6**
AMKA	**Amchitka**	**7.12**	**111**	Pn	**Pn**	**20 48 50.4**	**-1.0**
PAU	**Pauzhetka**	**7.76**	**252**	PN	**Pn**	**20 49 01.2**	**+1.0**
PAU	**Pauzhetka**	**7.76**	**252**	*e*P	**Pn**	**20 49 01.2**	**+1.0**
KMSK	**Kamenskaya**	**8.14**	**352**	PN	**Pn**	**20 49 05.6**	**+0.3**
KMSK	**Kamenskaya**	**8.14**	**352**	*e*P	**Pn**	**20 49 05.6**	**+0.3**
SKR	**Severo-Kuril's**	**8.53**	**249**	*e*PN	**Pn**	**20 49 09.2**	**-1.4**
SKR				pmax	pmax		
	comp=Z,106nm,1.0s						
SKR				MLR	MLR		
	comp=Z,1μm,15.0s						
SKR	**Severo-Kuril's**	**8.53**	**249**	*e*P	**Pn**	**20 49 10.0**	**-0.6**
KIWB	**Kanaga Island**	**8.91**	**101**		**Pn**	**20 49 14.0**	**-1.8**
ADK	**Adak**	**9.16**	**100**	Pn	**Pn**	**20 49 17.0**	**-2.4**
ADK	**Adak**	**9.16**	**100**	PN	**Pn**	**20 49 17.0**	**-2.4**
ADK	**Adak**	**9.16**	**100**	P	**Pn**	**20 49 18.8**	**-0.6**
GSTR	**Great Sitkin T**	**9.45**	**98**		**Pn**	**20 49 21.6**	**-1.6**
MA2	**Magadan**	**11.01**	**305**	Pn	**Pn**	**20 49 43.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=84,slow=11,SNR=2.1						
	comp=Z,2.0nm,0.3s						
MA2	**Magadan**	**11.01**	**305**	Pn	**Pn**	**20 49 44.0**	**-0.7**
MA2	**Magadan**	**11.01**	**305**	*i* PN	**Pn**	**20 49 43.9**	**-0.8**
MA2				pmax	pmax		
	comp=Z,15nm,1.1s						
SEY	**Seymchan**	**11.97**	**322**	Pn	**Pn**	**20 49 56.3**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=153,slow=23,SNR=1.6						
SEY	**Seymchan**	**11.97**	**322**	*i* PN	**Pn**	**20 49 57.3**	**-0.4**
SEY				pmax	pmax		
	comp=Z,19nm,1.0s						
SPIA	**Saint Paul Isl**	**12.15**	**68**	Pn	**Pn**	**20 49 58.5**	**-1.7**
SPIA	**Saint Paul Isl**	**12.15**	**68**	P	**Pn**	**20 49 59.6**	**-0.6**
	baz=266						
NIKH	**Nikolski High**	**13.38**	**87**	Pn	**Pn**	**20 50 16.1**	**-0.9**
NIKH	**Nikolski High**	**13.38**	**87**	P	**Pn**	**20 50 16.7**	**-0.3**
	baz=285,SNR=16						
GAMB	**Gambell**	**13.68**	**39**	Pn	**Pn**	**20 50 19.2**	**-1.8**
GAMB	**Gambell**	**13.68**	**39**	P	**Pn**	**20 50 20.7**	**-0.3**
	baz=236						
BILL	**Bilibino**	**13.68**	**356**	*i* P	**Pn**	**20 50 21.5**	**+0.4**
BILL				pmax	pmax		
	comp=Z,147nm,1.9s						
UNV	**Unalaska Valle**	**14.54**	**82**	Pn	**Pn**	**20 50 31.0**	**-1.9**
UNV	**Unalaska Valle**	**14.54**	**82**	P	**Pn**	**20 50 32.4**	**-0.4**
	baz=282,SNR=12						
AKUT	**Akutan**	**14.90**	**81**	Pn	**Pn**	**20 50 35.7**	**-2.0**
TNA	**Tin City**	**16.02**	**37**		**Pn**	**20 50 52.6**	**+0.3**
TNA	**Tin City**	**16.02**	**37**	P	**Pn**	**20 50 52.6**	**+0.3**
	baz=237						
FALS	**False Pass**	**16.12**	**77**	P	**Pn**	**20 50 53.2**	**-0.3**
	baz=280						
TYV	**Tymovskoe**	**16.15**	**268**	*e*P	**P**	**20 51 00.5**	**+3.2**
TYV				pmax	pmax		
	comp=Z,700nm,3.9s						
TYV				pmax	pmax		
	comp=Z,95nm,1.3s						
ANM	**Nome**	**16.48**	**42**	P	**P**	**20 51 02.5**	**+1.7**
ANM				IAmb	IAmb	20 51 04.4	
	comp=Z,519nm,1.7s						
ANM	**Nome**	**16.48**	**42**	P	**P**	**20 51 02.5**	**+1.7**
ANM				pmax	pmax		
	comp=Z,519nm,1.7s						
ANM	**Nome**	**16.48**	**42**	P	**Pn**	**20 50 58.4**	**+0.2**
	baz=244						
UGL	**Uglegorsk**	**17.27**	**263**	*e*P	**P**	**20 51 12.7**	**+3.1**
UGL				pmax	pmax		
	comp=Z,160nm,1.1s						
UGL				MLR	MLR		
	comp=Z,2μm,11.0s						
UGL				MLR	MLR		
	comp=N,2μm,11.0s						
UGL				MLR	MLR		
	comp=E,800nm,6.0s						
SDPT	**Sand Point**	**17.70**	**74**	P	**Pn**	**20 51 12.9**	**-0.5**
SDPT	**Sand Point**	**17.70**	**74**	P	**Pn**	**20 51 12.7**	**-0.7**
	baz=280						
YSS	**Yuzh-Sakhalins**	**17.98**	**256**		**Pn**	**20 51 16.6**	**-0.3**
YSS				IAmb	IAmb	20 51 24.7	
	com

SII	**Sitkinak Islan**	**20.98**	**69**	P	**P**		**20 51 49.4**	**-0.8**
SII				IAmb	IAmb		20 51 50.1	
	comp=Z,132nm,0.8s							
SII	**Sitkinak Islan**	**20.98**	**69**	P	**P**		**20 51 49.2**	**-1.0**
	baz=280,SNR=10.0							
SII	**Sitkinak Islan**	**20.98**	**69**	P	**P**		**20 51 49.4**	**-0.8**
J20K	**Nowinta River**	**21.00**	**48**	P	**P**		**20 51 51.2**	**+0.8**
J20K	**Nowinta River**	**21.00**	**48**	P	**P**		**20 51 51.3**	**+0.9**
	baz=260,SNR=96							
P19K	**Oil Pt**	**21.14**	**60**	P	**P**		**20 51 52.6**	**+0.7**
P19K				IAmb	IAmb		20 52 01.9	
	comp=Z,189nm,1.1s							
P19K	**Oil Pt**	**21.14**	**60**	P	**P**		**20 51 53.1**	**+1.2**
	baz=272,SNR=8.9							
ILSW	**Iliamna Southw**	**21.17**	**59**	P	**P**		**20 51 52.6**	**+0.2**
ILSW				IAmb	IAmb		20 52 06.3	
	comp=Z,216nm,1.2s							
M20K	**Styx River**	**21.20**	**54**	P	**P**		**20 51 52.7**	**+0.1**
M20K				IAmb	IAmb		20 52 07.8	
	comp=Z,101nm,1.1s							
M20K	**Styx River**	**21.20**	**54**	P	**P**		**20 51 53.6**	**+0.9**
	baz=267,SNR=47							
OHAK	**Old Harbor**	**21.35**	**67**	P	**P**		**20 51 53.4**	**-0.7**
OHAK				IAmb	IAmb		20 51 54.3	
	comp=Z,176nm,1.0s							
OHAK	**Old Harbor**	**21.35**	**67**	P	**P**		**20 51 53.1**	**-1.1**
	baz=279,SNR=23							
RSO	**Redoubt South**	**21.36**	**58**	P	**P**		**20 51 54.9**	**+0.4**
O20K	**Slope Mountain**	**21.43**	**59**	P	**P**		**20 51 56.0**	**+0.9**
	baz=272,SNR=8.8							
IMAR	**Indian Mountai**	**21.55**	**43**	P	**P**		**20 51 56.7**	**+0.5**
YAK	**Yakutsk**	**21.59**	**306**	P	**P**		**20 51 56.3**	**-0.3**
	comp=Z,15nm,0.5s,baz=94,slow=8.0,SNR=16							
YAK				S	**S**		20 55 51.5	**-3.6**
	comp=Z,7.8nm,0.4s,baz=336,slow=3.9,SNR=2.9							
YAK				LR	LR		20 59 34.8	
	comp=Z,377nm,18.2s,baz=97,slow=35							
	comp=Z,15nm,0.5s							
YAK	**Yakutsk**	**21.59**	**306**	P	**P**		**20 51 56.9**	**+0.3**
YAK				IAmb	IAmb		20 52 08.7	
	comp=Z,152nm,1.0s							
YAK	**Yakutsk**	**21.59**	**306**	*e*PP	**P**		**20 51 55.6**	**-1.0**
YAK				*e*PPP	PPP		20 52 25.2	
YAK				*e*S	**S**		**20 55 53.9**	**-1.2**
YAK				*e*SSS	SSS		20 56 26.6	
YAK				pmax	pmax			
	comp=Z,137nm,0.9s							
YAK				pmax	pmax			
	comp=N,18nm,1.0s							
YAK				pmax	pmax			
	comp=E,54nm,1.0s							
YAK				pmax	pmax			
	comp=Z,143nm,2.0s							
YAK				pmax	pmax			
	comp=N,49nm,1.5s							
YAK				pmax	pmax			
	comp=E,92nm,1.5s							
YAK				smax	smax			
	comp=N,314nm,3.0s							
YAK				smax	smax			
	comp=E,297nm,2.3s							
YAK				MLR	MLR			
	comp=Z,703nm,13.0s							
YAK				MLR	MLR			
	comp=N,914nm,15.0s							
YAK				MLR	MLR			
	comp=E,458nm,12.0s							
N20K	**Mount Spurr**	**21.62**	**56**	P	**P**		**20 51 58.1**	**+0.9**
	baz=269,SNR=19							
SPCR	**Spurr Chakacha**	**21.62**	**56**	P	**P**		**20 51 57.6**	**+0.5**
	baz=269							
KDAK	**Kodiak Island**	**21.65**	**65**	P	**P**		**20 51 56.8**	**-0.5**
	comp=E,40nm,0.6s,baz=296,slow=6.7,SNR=43							
KDAK				LR	LR		21 01 27.9	
	comp=E,2µm,18.0s,baz=278,slow=40							
	comp=E,40nm,0.6s							
KDAK	**Kodiak Island**	**21.65**	**65**	P	**P**		**20 51 56.9**	**-0.4**
KDAK	**Kodiak Island**	**21.65**	**65**	P	**P**		**20 51 56.9**	**-0.4**
KDAK				pmax	pmax			
	comp=Z,40nm,0.6s							
KDAK	**Kodiak Island**	**21.65**	**65**	P	**P**		**20 51 57.1**	**-0.2**
	baz=278							
Q20K	**Shuyak Island**	**21.65**	**63**	P	**P**		**20 51 57.1**	**-0.2**
	baz=276,SNR=20							
SPU	**Mount Spurr**	**21.70**	**56**	P	**P**		**20 51 58.3**	**+0.4**
PPLA	**Purkeypile**	**21.71**	**51**	P	**P**		**20 51 59.1**	**+1.0**
PPLA	**Purkeypile**	**21.71**	**51**	P	**P**		**20 51 58.5**	**+0.3**
	baz=265,SNR=70							
CHUM	**Lake Minchumin**	**21.76**	**49**	P	**P**		**20 51 58.4**	**0.0**
	baz=263,SNR=20							
G21K	**Allakaket**	**21.78**	**41**	P	**P**		**20 51 59.5**	**+0.7**
	baz=255,SNR=23							
CAST	**Castle Rocks**	**21.80**	**50**	P	**P**		**20 51 59.5**	**+0.4**
CAST				IAmb	IAmb		20 52 12.1	
	comp=Z,82nm,1.0s							
CAST	**Castle Rocks**	**21.80**	**50**	P	**P**		**20 51 59.6**	**+0.6**
	baz=264,SNR=49							
H21K	**Melozitna Rive**	**21.86**	**44**	P	**P**		**20 51 59.8**	**+0.2**
H21K	**Melozitna Rive**	**21.86**	**44**	P	**P**		**20 52 00.1**	**+0.5**
	baz=258,SNR=76							
HOM	**Homer**	**21.95**	**60**	P	**P**		**20 52 00.5**	**-0.1**
	baz=274							
SKT	**Skwentna**	**21.96**	**54**	P	**P**		**20 52 01.8**	**+1.1**
SKT				IAmb	IAmb		20 52 13.8	
	comp=Z,157nm,1.1s							
SKT	**Skwentna**	**21.96**	**54**	P	**P**		**20 52 01.5**	**+0.8**
	baz=268,SNR=35							
F21K	**Alatna River**	**21.99**	**40**	P	**P**		**20 52 01.7**	**+0.8**
	baz=253,SNR=20							
I21K	**Tanana**	**22.10**	**45**	P	**P**		**20 52 02.3**	**+0.2**
I21K				IAmb	IAmb		20 52 18.2	
	comp=Z,77nm,0.9s							
I21K	**Tanana**	**22.10**	**45**	P	**P**		**20 52 02.6**	**+0.5**
	baz=260,SNR=32							
CAPN	**Captain Cook N**	**22.14**	**57**	P	**P**		**20 52 02.8**	**+0.2**
	baz=271							
CNPM	**China Poot**	**22.16**	**60**	P	**P**		**20 52 02.8**	**-0.1**
CNPM				IAmb	IAmb		20 52 13.5	
	comp=Z,219nm,1.4s							
BRLK	**Bradley Lake**	**22.32**	**60**	P	**P**		**20 52 04.2**	**-0.4**
BRLK				IAmb	IAmb		20 52 18.4	
	comp=Z,86nm,1.0s							
SUA	**Susitna One**	**22.33**	**55**	P	**P**		**20 52 04.9**	**+0.2**
SUA				IAmb	IAmb		20 52 07.0	
	comp=Z,130nm,1.0s							
SUA	**Susitna One**	**22.33**	**55**	P	**P**		**20 52 05.2**	**+0.4**
	baz=270,SNR=58							
KTH	**Kantishna Hill**	**22.34**	**50**	P	**P**		**20 52 05.2**	**+0.4**
BPAW	**Bear Paw Mtn.**	**22.36**	**48**	P	**P**		**20 52 05.6**	**+0.5**
BPAW				IAmb	IAmb		20 52 25.6	
	comp=Z,118nm,1.2s							
BPAW	**Bear Paw Mtn.**	**22.36**	**48**	P	**P**		**20 52 05.5**	**+0.5**
	baz=263,SNR=46							
BRSE	**Bradley Lake S**	**22.40**	**60**	P	**P**		**20 52 04.4**	**-1.0**
	baz=274							
H22K	**Ishtalitna Cre**	**22.48**	**44**	P	**P**		**20 52 06.8**	**+0.5**
	baz=259,SNR=40							
F22K	**John River**	**22.55**	**39**	P	**P**		**20 52 07.4**	**+0.4**
	baz=254							
CUT	**Chulitna**	**22.57**	**53**	P	**P**		**20 52 07.1**	**0.0**
CUT	**Chulitna**	**22.57**	**53**	P	**P**		**20 52 06.5**	**-0.7**
	baz=268							
MLY	**Manley**	**22.59**	**46**	P	**P**		**20 52 07.7**	**+0.2**
MLY				IAmb	IAmb		20 52 18.1	
	comp=Z,89nm,1.0s							
MLY	**Manley**	**22.59**	**46**	P	**P**		**20 52 08.0**	**+0.5**
	baz=261,SNR=54							
A21K	**Barrow**	**22.61**	**29**	P	**P**		**20 52 08.1**	**+0.6**
	baz=240							
TRF	**Thorofare Moun**	**22.61**	**50**	P	**P**		**20 52 08.2**	**+0.3**
TRF				IAmb	IAmb		20 52 24.2	
	comp=Z,146nm,1.0s							
TRF	**Thorofare Moun**	**22.61**	**50**	P	**P**		**20 52 08.2**	**+0.3**
	baz=266,SNR=64							
M22K	**Willow**	**22.63**	**55**	P	**P**		**20 52 07.4**	**-0.4**
M22K				IAmb	IAmb		20 52 18.2	
	comp=Z,81nm,1.1s							
M22K	**Willow**	**22.63**	**55**	P	**P**		**20 52 07.4**	**-0.4**
	baz=270,SNR=6.8							
G22K	**Bettles**	**22.65**	**41**	P	**P**		**20 52 07.7**	**-0.4**
	baz=256,SNR=5.9							
RC01	**Rabbit Creek A**	**22.82**	**56**	P	**P**		**20 52 10.3**	**+0.4**
RC01				IAmb	IAmb		20 52 33.5	
	comp=Z,144nm,1.7s							
RC01	**Rabbit Creek A**	**22.82**	**56**	P	**P**		**20 52 08.3**	**-1.6**
	baz=272,SNR=7.1							
O22K	**Cooper Landing**	**22.86**	**58**	P	**P**		**20 52 09.2**	**-1.0**
O22K				IAmb	IAmb		20 52 32.0	
	comp=Z,92nm,0.7s							
O22K	**Cooper Landing**	**22.86**	**58**	P	**P**		**20 52 09.9**	**-0.3**
	baz=273							
E22K	**Anaktuvuk Pass**	**22.86**	**38**	P	**P**		**20 52 10.7**	**+0.4**
	baz=253							
SEW	**Seward**	**23.02**	**59**	P	**P**		**20 52 10.7**	**-1.1**
SEW				IAmb	IAmb		20 52 22.2	
	comp=Z,73nm,0.9s							
SEW	**Seward**	**23.02**	**59**	P	**P**		**20 52 10.5**	**-1.4**
	baz=274,SNR=11							
BWN	**Browne**	**23.04**	**48**	P	**P**		**20 52 13.5**	**+1.4**
PMR	**Palmer**	**23.10**	**55**	P	**P**		**20 52 12.3**	**-0.3**
PMR	**Palmer**	**23.10**	**55**	P	**P**		**20 52 12.4**	**-0.3**
PMR				pmax	pmax			
	comp=Z,25nm,0.7s							
PMR	**Palmer**	**23.10**	**55**	P	**P**		**20 52 11.4**	**-1.3**
	baz=271,SNR=9.3							
G23K	**Bananza Creek**	**23.18**	**42**	P	**P**		**20 52 12.6**	**-1.0**
	baz=258,SNR=19							
I23K	**Minto, Yukon-K**	**23.19**	**46**	P	**P**		**20 52 13.6**	**0.0**
I23K	**Minto, Yukon-K**	**23.19**	**46**	P	**P**		**20 52 13.8**	**+0.2**
	baz=263							
GHO	**Glory Hole Cre**	**23.20**	**54**	P	**P**		**20 52 13.1**	**-0.7**
GHO				IAmb	IAmb		20 52 25.7	
	comp=Z,50nm,0.9s							
H23K	**Yukon River**	**23.21**	**44**	P	**P**		**20 52 14.0**	**+0.1**
H23K				IAmb	IAmb		20 52 25.9	
	comp=Z,121nm,1.1s							
H23K	**Yukon River**	**23.21**	**44**	P	**P**		**20 52 13.7**	**-0.2**
	baz=261,SNR=35							
KLR	**Kul'dur**	**23.21**	**272**	P	**P**		**20 52 14.0**	**0.0**
	comp=Z,32nm,1.0s,baz=64,slow=9.2,SNR=32							
KLR				S	**S**		**20 56 27.8**	**+2.6**
	comp=Z,1.1nm,0.7s,baz=296,slow=20,SNR=1.6							
KLR				LR	LR		21 01 33.3	
	comp=Z,1µm,19.5s,baz=69,slow=37							
	comp=Z,32nm,1.0s							
KLR	**Kul'dur**	**23.21**	**272**	*ce*P	**P**		**20 52 13.5**	**-0.5**
KLR				pmax	pmax			
	comp=Z,51nm,1.3s							
COLD	**Coldfoot**	**23.22**	**40**	P	**P**		**20 52 13.4**	**-0.5**
COLD				IAmb	IAmb		20 52 15.9	
	comp=Z,65nm,0.9s							
COLD	**Coldfoot**	**23.22**	**40**	P	**P**		**20 52 14.0**	**+0.1**
	baz=257,SNR=37							
MCK	**McKinley**	**23.24**	**49**	P	**P**		**20 52 13.7**	**-0.5**
MCK	**McKinley**	**23.24**	**49**	P	**P**		**20 52 13.7**	**-0.5**
MCK				pmax	pmax			
	comp=Z,180nm,1.2s							
MCK	**McKinley**	**23.24**	**49**	P	**P**		**20 52 13.9**	**-0.3**
	baz=266,SNR=20							
NEA2	**Nenana**	**23.25**	**47**	P	**P**		**20 52 13.4**	**-0.8**
NEA2	**Nenana**	**23.25**	**47**	P	**P**		**20 52 14.0**	**-0.2**
	baz=264,SNR=36							
RND	**Reindeer**	**23.25**	**50**	P	**P**		**20 52 12.8**	**-1.5**
RND				IAmb	IAmb		20 52 25.1	
	comp=Z,98nm,0.9s							
RND	**Reindeer**	**23.25**	**50**	P	**P**		**20 52 12.9**	**-1.5**
RND				pmax	pmax			
	comp=Z,98nm,0.9s							
WAT1	**Susitna Watana**	**23.37**	**52**	P	**P**		**20 52 14.2**	**-1.3**
	baz=269							
KNK	**Knik Glacier**	**23.43**	**55**	P	**P**		**20 52 14.7**	**-1.4**
KNK				IAmb	IAmb		20 52 26.8	
	comp=Z,103nm,0.9s							
KNK	**Knik Glacier**	**23.43**	**55**	P	**P**		**20 52 15.0**	**-1.1**
	baz=272,SNR=35							
SML	**Sawmill**	**23.48**	**54**	P	**P**		**20 52 15.5**	**-1.1**
SML	**Sawmill**	**23.48**	**54**	P	**P**		**20 52 15.7**	**-0.9**
	baz=271,SNR=60							
D23K	**Nanushuk River**	**23.51**	**36**	P	**P**		**20 52 17.2**	**+0.4**
	baz=252,SNR=20							
PWL	**Port Wells**	**23.52**	**57**	P	**P**		**20 52 15.3**	**-1.6**
PWL	**Port Wells**	**23.52**	**57**	P	**P**		**20 52 15.9**	**-1.0**
	baz=274,SNR=72							
MDM	**Murphy Dome**	**23.64**	**46**	P	**P**		**20 52 17.6**	**-0.6**
MDM				IAmb	IAmb		20 52 28.6	
	comp=Z,91nm,1.1s							
WRH	**Wood River Hil**	**23.66**	**48**	P	**P**		**20 52 17.9**	**-0.4**
WAT6	**Susitna Watana**	**23.74**	**52**	P	**P**		**20 52 18.1**	**-1.2**
	baz=270,SNR=26							
M23K	**Glacier View**	**23.76**	**54**	P	**P**		**20 52 18.6**	**-0.8**
	baz=272,SNR=32							
TCOL	**CIGO, UAF Yank**	**23.79**	**47**	P	**P**		**20 52 19.5**	**0.0**
TCOL	**CIGO, UAF Yank**	**23.79**	**47**	P	**P**		**20 52 19.5**	**0.0**
	baz=265,SNR=12							
CCB	**Clear Creek Bu**	**23.80**	**47**	P	**P**		**20 52 18.7**	**-0.9**
COLA	**College**	**23.80**	**47**	P	**P**		**20 52 19.5**	**0.0**
COLA	**College**	**23.80**	**47**	*c iP*	**P**		**20 52 19.6**	**0.0**
COLA				pmax	pmax			
	comp=Z,79nm,0.8s							
COLA	**College**	**23.80**	**47**	P	**P**		**20 52 19.6**	**+0.1**
	baz=265							
TOLK	**Toolik Lake Re**	**23.80**	**37**	P	**P**		**20 52 19.7**	**0.0**
TOLK	**Toolik Lake Re**	**23.80**	**37**	P	**P**		**20 52 19.7**	**0.0**
	baz=254,SNR=61							
C23K	**Itkillik River**	**23.81**	**34**	P	**P**		**20 52 19.6**	**0.0**
	baz=251,SNR=7.5							
H24K	**Noodor Dome**	**23.89**	**44**	P	**P**		**20 52 20.3**	**-0.3**
H24K				IAmb	IAmb		20 52 30.9	
	comp=Z,104nm,1.1s							
H24K	**Noodor Dome**	**23.89**	**44**	P	**P**		**20 52 20.8**	**+0.2**
	baz=262,SNR=59							
DHY	**Denali Highway**	**23.91**	**51**	P	**P**		**20 52 19.6**	**-1.3**
DHY	**Denali Highway**	**23.91**	**51**	P	**P**		**20 52 19.8**	**-1.1**
	baz=269,SNR=63							
SCM	**Sheep Creek Mo**	**23.95**	**54**	P	**P**		**20 52 20.4**	**-0.8**
SCM	**Sheep Creek Mo**	**23.95**	**54**	P	**P**		**20 52 20.4**	**-0.8**
SCM				pmax	pmax			
	comp=Z,612nm,1.8s							
SCM	**Sheep Creek Mo**	**23.95**	**54**	P	**P**		**20 52 20.8**	**-0.4**
	baz=272,SNR=46							
POKR	**Poker Plat Res**	**24.00**	**46**	P	**P**		**20 52 21.5**	**0.0**
POKR				IAmb	IAmb		20 52 31.6	
	comp=Z,93nm,0.8s							
POKR	**Poker Plat Res**	**24.00**	**46**	P	**P**		**20 52 21.8**	**+0.3**
	baz=265,SNR=24							
P23K	**Montague Islan**	**24.05**	**59**	P	**P**		**20 52 21.3**	**-0.8**
	baz=276							
E24K	**Your Creek**	**24.05**	**39**	P	**P**		**20 52 21.9**	**-0.2**
	baz=257,SNR=43							
ZEA	**Zeya**	**24.06**	**285**	*e*P	**P**		**20 52 21.8**	**-0.4**
ZEA				*e*S	**S**		**20 56 30.9**	**-7.8**
ZEA				pmax	pmax			
	comp=E,20nm,0.8s							
ZEA				pmax	pmax			
	comp=N,10.0nm,0.6s							
ZEA				pmax	pmax			
	comp=Z,50nm,0.9s							
ZEA				pmax	pmax			
	comp=Z,300nm,2.9s							
ZEA				smax	smax			
	comp=E,400nm,10.7s							
ZEA				smax	smax			
	comp=N,800nm,9.5s							
ZEA				MLR	MLR			
	comp=E,1µm,14.0s							
ZEA				MLR	MLR			
	comp=N,900nm,13.0s							
ZEA				MLR	MLR			
	comp=Z,900nm,15.0s							
GLI	**Glacier Island**	**24.12**	**57**	P	**P**		**20 52 21.3**	**-1.4**
GLI	**Glacier Island**	**24.12**	**57**	P	**P**		**20 52 21.5**	**-1.1**
	baz=274,SNR=30							
HDA	**Harding Lake**	**24.15**	**48**	P	**P**		**20 52 21.6**	**-1.3**
HDA				IAmb	IAmb		20 52 33.4	
	comp=Z,73nm,0.9s							
HDA	**Harding Lake**	**24.15**	**48**	P	**P**		**20 52 21.6**	**-1.3**
	baz=267,SNR=37							
F24K	**Squaw Lake**	**24.16**	**40**	P	**P**		**20 52 22.8**	**-0.3**
	baz=255,SNR=21							
G24K	**Hadweenzic Riv**	**24.18**	**42**	P	**P**		**20 52 23.3**	**+0.1**
	baz=261,SNR=36							
IL31		**24.20**	**47**	P	**P**		**20 52 22.2**	**-1.1**
ILAR	**Eielson Array**	**24.20**	**47**	P	**P**		**20 52 22.4**	**-1.0**
	comp=Z,49nm,1.0s,baz=248,slow=7.5,SNR=135							
ILAR				PcP	**PcP**		20 56 02.5	**-0.7**
	comp=Z,1.0nm,0.8s,baz=285,slow=3.7,SNR=1.6							
ILAR				S	**S**		**20 56 45.2**	**+4.4**
	comp=Z,0.2nm,0.8s,baz=252,slow=27,SNR=0.7							
ILAR				LR	LR		21 02 20.0	
	comp=Z,2µm,18.2s,baz=258,slow=38							
	comp=Z,49nm,1.0s							
ILAR	**Eielson Array**	**24.20**	**47**	P	**P**		**20 52 22.0**	**-1.4**
D24K	**Happy Valley**	**24.20**	**36**	P	**P**		**20 52 22.9**	**-0.5**
	baz=254							
TIXI	**Tiksi**	**24.21**	**330**	P	**P**		**20 52 23.5**	**+0.1**
	comp=Z,21nm,0.7s,baz=89,slow=23,SNR=13							
TIXI				PcP	**PcP**		**20 56 03.3**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=90,slow=23,SNR=2.4							
	comp=Z,21nm,0.7s							
TIXI	**Tiksi**	**24.21**	**330**	P	**P**		**20 52 22.8**	**-0.6**
TIXI				IAmb	IAmb		20 52 35.4	
	comp=Z,76nm,1.1s							
TIXI	**Tiksi**	**24.21**	**330**	*ce*P	**P**		**20 52 23.9**	**+0.5**
TIXI				pmax	pmax			
	comp=Z,99nm,1.7s							
C24K	**Franklin Bluff**	**24.41**	**35**	P	**P**		**20 52 24.8**	**-0.4**
	baz=253							
FID	**Port Fidalgo**	**24.43**	**57**	P	**P**		**20 52 24.1**	**-1.5**
HIN	**Hinchinbrook I**	**24.45**	**58**	P	**P**		**20 52 24.9**	**-0.8**
HIN				IAmb	IAmb		20 52 36.5	
	comp=Z,62nm,0.9s							
M24K	**Tolsona, Glenn**	**24.48**	**54**	P	**P**		**20 52 26.1**	**-0.1**
M24K	**Tolsona, Glenn**	**24.48**	**54**	P	**P**		**20 52 26.0**	**-0.1**
	baz=272,SNR=58							
KLU	**Klutina**	**24.64**	**55**	P	**P**		**20 52 26.5**	**-1.0**
KLU				IAmb	IAmb		20 52 36.5	
	comp=Z,91nm,1.0s							
KLU	**Klutina**	**24.64**	**55**	P	**P**		**20 52 26.5**	**-1.0**
	baz=274,SNR=47							
K24K	**Donnelly Dome**	**24.64**	**49**	P	**P**		**20 52 26.4**	**-1.1**
	baz=269,SNR=22							
Q23K	**Middleton Isla**	**24.65**	**60**	P	**P**		**20 52 27.0**	**-0.5**
	baz=278							
DIV	**Divide**	**24.74**	**56**	P	**P**		**20 52 27.7**	**-0.7**
DIV				IAmb	IAmb		20 52 42.9	
	comp=Z,70nm,0.9s							
H25K	**Birch Creek**	**24.78**	**44**	P	**P**		**20 52 28.0**	**-0.6**
	baz=264,SNR=31							
PAX	**Paxson**	**24.78**	**51**	P	**P**		**20 52 28.5**	**-0.3**
PAX				IAmb	IAmb		20 52 38.2	
	comp=Z,100nm,1.2s							
PAX	**Paxson**	**24.78**	**51**	P	**P**		**20 52 28.5**	**-0.3**
PAX				pmax	pmax			
	comp=Z,100nm,1.2s							
PAX	**Paxson**	**24.78**	**51**	P	**P**		**20 52 28.1**	**-0.7**
	baz=271,SNR=55							
EYAK	**Cordova Ski Ar**	**24.81**	**57**	P	**P**		**20 52 28.2**	**-0.7**
EYAK				IAmb	IAmb		20 52 40.1	
	comp=Z,79nm,1.1s							
EYAK	**Cordova Ski Ar**	**24.81**	**57**	P	**P**		**20 52 28.3**	**-0.7**
	baz=276,SNR=27							
PRP	**Porcupine Dome**	**24.83**	**45**	P	**P**		**20 52 28.0**	**-1.3**
PRP	**Porcupine Dome**	**24.83**	**45**	P	**P**		**20 52 28.7**	**-0.6**
	baz=266,SNR=200							
J25K	**Salcha River,**	**24.84**	**48**	P	**P**		**20 52 27.3**	**-2.0**
J25K				IAmb	IAmb		20 52 38.1	
	comp=Z,81nm,0.9s							
J25K	**Salcha River,**	**24.84**	**48**	P	**P**		**20 52 28.2**	**-1.1**
	baz=268,SNR=56							
HARP	**HAARP**	**24.95**	**53**	P	**P**		**20 52 30.0**	**-0.2**
	baz=273,SNR=5.3							
F25K	**Christian Rive**	**25.02**	**40**	P	**P**		**20 52 30.5**	**-0.4**
	baz=261,SNR=47							
FYU	**Fort Yukon**	**25.04**	**43**	P	**P**		**20 52 31.1**	**+0.1**
RIDG	**Independent Ri**	**25.05**	**50**	P	**P**		**20 52 29.6**	**-1.6**
RIDG	**Independent Ri**	**25.05**	**50**	P	**P**		**20 52 30.0**	**-1.2**
	baz=270,SNR=33							
D25K	**Kavik River**	**25.09**	**36**	P	**P**		**20 52 31.5**	**0.0**
	baz=257,SNR=21							
E25K	**Arctic Village**	**25.14**	**39**	P	**P**		**20 52 31.9**	**0.0**
	baz=260,SNR=24							
JMM	**Marumori**	**25.21**	**240**	P	**P**		**20 52 33.1**	**+0.3**
JMM				IAmb	IAmb		20 52 51.2	
	comp=Z,64nm,0.9s							
N25K	**Chitina, Valde**	**25.26**	**55**	P	**P**		**20 52 32.8**	**-0.4**
N25K				IAmb	IAmb		20 52 56.3	
	comp=Z,60nm,0.9s							
N25K	**Chitina, Valde**	**25.26**	**55**	P	**P**		**20 52 32.4**	**-0.8**
	baz=275,SNR=28							
BMRM	**Bremner River**	**25.32**	**56**	P	**P**		**20 52 33.0**	**-0.7**
BMRM	**Bremner River**	**25.32**	**56**	P	**P**		**20 52 33.5**	**-0.1**
	baz=276,SNR=32							
RAGM	**Ragged Mountai**	**25.36**	**57**	P	**P**		**20 52 34.3**	**+0.3**
BMAR	**Burnt Mountain**	**25.40**	**41**	P	**P**		**20 52 34.5**	**+0.2**
DOT	**Dot Lake**	**25.40**	**50**	P	**P**		**20 52 32.6**	**-1.7**
SCRK	**Sand Creek**	**25.43**	**49**	P	**P**		**20 52 33.0**	**-1.7**
SCRK	**Sand Creek**	**25.43**	**49**	P	**P**		**20 52 33.5**	**-1.2**
	baz=270,SNR=47							
KAIM	**Kayak Island**	**25.55**	**59**	P	**P**		**20 52 34.9**	**-0.7**
KAIM	**Kayak Island**	**25.55**	**59**	P	**P**		**20 52 36.0**	**+0.3**
	baz=278,SNR=9.3							
HMT	**Hamilton**	**25.57**	**58**	P	**P**		**20 52 35.5**	**-0.4**
MENT	**Mentasta**	**25.58**	**51**	P	**P**		**20 52 36.0**	**0.0**
MENT				IAmb	IAmb		20 52 53.7	
	comp=Z,53nm,0.9s							
F26K	**Sheenjek River**	**25.60**	**40**	P	**P**		**20 52 36.3**	**+0.2**
	baz=262,SNR=14							
J26L	**Joseph Creek**	**25.62**	**48**	P	**P**		**20 52 34.5**	**-1.9**
J26L				IAmb	IAmb		20 52 47.2	
	comp=Z,63nm,0.9s							
J26L	**Joseph Creek**	**25.62**	**48**	P	**P**		**20 52 36.3**	**-0.1**
	baz=270,SNR=49							
GLB	**Gilahina Butte**	**25.65**	**55**	P	**P**		**20 52 36.3**	**-0.4**
G26K	**Porcupine Rive**	**25.66**	**42**	P	**P**		**20 52 36.7**	**+0.1**
	baz=264,SNR=61							
C26K	**Camden Bay**	**25.73**	**35**	P	**P**		**20 52 36.9**	**-0.3**
	baz=257							
USA0B	**Ussuriysk Arra**	**25.73**	**262**	P	**P**		**20 52 36.5**	**-1.0**
USA0B	**Ussuriysk Arra**	**25.73**	**262**	P	**P

EGAK **Eagle** 26.65 47 P **P** 20 52 44.1 -1.5
EGAK **Eagle** 26.65 47 P **P** 20 52 44.5 -1.0
baz=271,SNR=96
MESA **MESA** 26.73 58 P **P** 20 52 47.0 +0.4
MESA IAmb IAmb 20 52 57.5
comp=Z,77nm,1.0s
MESA **MESA** 26.73 58 P **P** 20 52 46.4 -0.2
baz=280
YAH **Yahtse** 26.80 57 P **P** 20 52 47.5 +0.2
MDJ **Mudanjiang** 26.88 265 P **P** 20 52 48.1 +0.2
MDJ **Mudanjiang** 26.88 265 P **P** 20 52 48.6 +0.8
MDJ pmax pmax
comp=Z,21nm,1.1s
MDJ pmax pmax
comp=Z,550nm,9.7s
CTG **Chitna Glacier** 26.90 56 P **P** 20 52 47.9 -0.1
baz=279,SNR=7.3
CTGM **Chitina Glacie** 26.90 56 P **P** 20 52 47.6 -0.5
CTGM IAmb IAmb 20 53 10.5
comp=Z,57nm,1.1s
BVCY **Beaver Creek** 26.94 52 P **P** 20 52 48.4 +0.1
baz=276
TABL **Table Mountain** 27.08 57 P **P** 20 52 49.5 -0.3
TABL IAmb IAmb 20 53 00.4
comp=Z,86nm,1.1s
LOGN **Logan Glacier** 27.09 56 P **P** 20 52 49.5 -0.2
YUK3 **Moose Creek** 27.20 54 P **P** 20 52 50.4 -0.4
baz=278,SNR=19
DAWY **Dawson** 27.45 49 P **P** 20 52 52.5 -0.3
DAWY **Dawson** 27.45 49 P **P** 20 52 53.0 +0.1
baz=274,SNR=47
O28M **Mount Upton** 27.49 56 P **P** 20 52 53.1 -0.4
baz=280,SNR=15
BNX **BinXian** 27.52 269 ⇑P **P** 20 52 55.0 +1.4
BNX pmax pmax
comp=Z,11nm,0.8s
BNX pmax pmax
comp=Z,280nm,5.8s
MAJO **Matsushiro** 27.55 242 P **P** 20 52 55.0 +1.1
MAJO **Matsushiro** 27.55 242 *d* iP **P** 20 52 55.2 +1.3
MAJO pmax pmax
comp=Z,110nm,1.1s
MJAR **Matsushiro Arr** 27.55 242 P **P** 20 52 53.1 -0.8
comp=Z,27nm,1.0s,baz=36,slow=7.1,SNR=21
MJAR LR LR 21 05 53.9
comp=Z,489nm,19.0s,baz=44,slow=41
comp=Z,27nm,1.0s
PCA **Pinnacle** 27.58 57 P **P** 20 52 53.8 -0.3
PCA IAmb IAmb 20 53 10.7
comp=Z,59nm,0.9s
PINM **Pinnacle** 27.58 57 P **P** 20 52 53.6 -0.5
baz=281
I29M **Ogilvie Camp,** 27.84 46 P **P** 20 52 55.3 -1.0
I29M **Ogilvie Camp,** 27.84 46 P **P** 20 52 55.7 -0.6
baz=273,SNR=19
BCPM **Bancas Point** 27.91 58 P **P** 20 52 56.8 -0.2
J29M **Klondike Camp** 27.93 48 P **P** 20 52 56.3 -0.9
J29M IAmb IAmb 20 53 18.2
comp=Z,35nm,0.6s
M29M **Somme Creek** 28.04 52 P **P** 20 52 58.4 +0.1
baz=278,SNR=8.8
PNL **Peninsula** 28.09 58 P **P** 20 52 58.0 -0.6
baz=282
YUK4 **Talbot Arm** 28.13 54 P **P** 20 52 58.9 -0.2
baz=280,SNR=8.0
K29M **Barlow Dome** 28.30 49 P **P** 20 53 00.4 -0.1
baz=276,SNR=36
YUK6 **Outpost Mounta** 28.34 55 P **P** 20 53 00.6 -0.4
baz=281
O29M **Mount Kennedy** 28.36 57 P **P** 20 53 00.9 -0.1
baz=282
EPYK **Eagle Plains** 28.45 44 P **P** 20 53 01.9 +0.2
EPYK **Eagle Plains** 28.45 44 P **P** 20 53 02.2 +0.5
baz=272,SNR=18
HYT **Haines Junctio** 28.77 55 P **P** 20 53 05.0 +0.2
HYT IAmb IAmb 20 53 15.6
comp=Z,48nm,0.8s
HYT **Haines Junctio** 28.77 55 P **P** 20 53 05.3 +0.6
baz=282,SNR=13
M30M **Minto, Yukon** 28.79 52 P **P** 20 53 04.9 +0.1
M30M **Minto, Yukon** 28.79 52 P **P** 20 53 04.8 0.0
baz=279,SNR=9.5
N30M **Aishikik Lake** 28.84 54 P **P** 20 53 05.0 -0.3
baz=281
P29M **Windy Craggy** 28.92 58 P **P** 20 53 05.7 -0.2
P29M IAmb IAmb 20 53 21.8
comp=Z,52nm,1.1s
P29M **Windy Craggy** 28.92 58 P **P** 20 53 05.0 -1.0
baz=284
MAYO **Mayo, Yukon** 29.04 49 P **P** 20 53 05.5 -1.5
INU **Inuyama** 29.08 242 P **P** 20 53 07.2 -0.3
P30M **Million Dollar** 29.19 57 P **P** 20 53 08.0 -0.3
baz=283
N31M **Braeburn, Yuko** 29.46 54 P **P** 20 53 10.7 -0.1
N31M **Braeburn, Yuko** 29.46 54 P **P** 20 53 10.5 -0.2
baz=282
O30N **Mendenhall** 29.46 55 P **P** 20 53 10.6 -0.2
baz=283
F31M **Tsiigehtchic** 29.58 41 P **P** 20 53 11.5 -0.1
baz=273
INK **Inuvik** 29.63 40 P **P** 20 53 12.5 +0.4
comp=Z,9.0nm,0.5s,baz=272,slow=7.4,SNR=11
INK S **S** 20 58 07.8 +1.3
comp=Z,1.5nm,0.3s,baz=208,slow=28,SNR=1.1
INK LR LR 21 06 03.7
comp=Z,866nm,19.0s,baz=217,slow=38
comp=Z,9.0nm,0.5s
INK **Inuvik** 29.63 40 P **P** 20 53 12.0 -0.1
INK IAmb IAmb 20 53 22.9
comp=Z,79nm,1.4s
INK **Inuvik** 29.63 40 P **P** 20 53 12.0 -0.1
INK pmax pmax
comp=Z,79nm,1.4s
INK **Inuvik** 29.63 40 P **P** 20 53 12.4 +0.4
baz=271
PLBC **Pleasant Camp** 29.64 58 P **P** 20 53 11.8 -0.5
baz=285
CN2 **Changchun** 29.77 267 *e*P **P** 20 53 13.1 -0.5
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
BOD **Bodaibo** 29.95 299 *e*P **P** 20 53 14.4 -0.6
BOD pmax pmax
comp=Z,40nm,1.8s
M31M **Drury Creek, Y** 29.96 52 P **P** 20 53 15.2 +0.1
M31M IAmb IAmb 20 53 26.6
comp=Z,42nm,0.8s
M31M **Drury Creek, Y** 29.96 52 P **P** 20 53 15.8 +0.6
baz=281,SNR=26
WHY **Whitehorse** 30.07 55 P **P** 20 53 14.6 -1.5
WHY IAmb IAmb 20 53 33.0
comp=Z,61nm,1.8s
WHY **Whitehorse** 30.07 55 P **P** 20 53 15.9 -0.3
baz=284
SKAG **Skagway** 30.15 57 P **P** 20 53 16.8 0.0
SKAG IAmb IAmb 20 53 27.1
comp=Z,79nm,1.7s
SKAG **Skagway** 30.15 57 P **P** 20 53 17.3 +0.6
baz=285
HIA **Hailar** 30.16 281 P **P** 20 53 17.0 0.0
HIA IAmb IAmb 20 53 26.4
comp=Z,62nm,1.6s
HIA **Hailar** 30.16 281 *i* P **P** 20 53 15.6 -1.4
HIA pmax pmax
comp=Z,10.0nm,0.9s
FARO **Faro, Yukon** 30.43 52 P **P** 20 53 19.6 +0.3
FARO **Faro, Yukon** 30.43 52 P **P** 20 53 19.7 +0.4
baz=282
BESE **Bessie Mountai** 30.63 59 P **P** 20 53 20.5 -0.7
N32M **Quiet Lake** 30.80 54 P **P** 20 53 22.8 +0.2
baz=284
SIT **Sitka** 30.87 62 P **P** 20 53 22.3 -0.9
SIT IAmb IAmb 20 53 40.1
comp=Z,64nm,1.1s
SIT **Sitka** 30.87 62 P **P** 20 53 22.3 -0.9
SIT pmax pmax
comp=Z,64nm,1.1s
SIT **Sitka** 30.87 62 P **P** 20 53 22.9 -0.3
baz=289
R32K **Eaglecrest** 30.89 59 P **P** 20 53 24.2 +0.8
baz=288

P32M **Atlin** 30.91 57 P **P** 20 53 24.5 +1.0
baz=286,SNR=6.2
JIS **Juneau Island** 30.96 59 P **P** 20 53 24.9 +1.0
P33M **Teslin, Yukon** 31.17 55 P **P** 20 53 26.8 +0.9
P33M IAmb IAmb 20 53 37.5
comp=Z,35nm,0.9s
P33M **Teslin, Yukon** 31.17 55 P **P** 20 53 26.9 +1.0
baz=286,SNR=26
MMPY **Sheldon Lake,** 31.29 50 P **P** 20 53 27.4 +0.4
baz=283,SNR=24
JHS **Saijyo** 31.40 246 P **P** 20 53 27.9 -0.2
SEHB **SEOHWA** 31.72 256 P **P** 20 53 32.3 +1.4
Q32M **Nakina River** 31.80 57 P **P** 20 53 32.9 +1.2
baz=288
R33M **Jennings River** 32.30 56 P **P** 20 53 37.0 +1.1
baz=288,SNR=10
A36M **Sachs Harbour** 32.31 32 P **P** 20 53 36.2 +0.5
baz=273
CIT **Chita** 32.37 289 *e*P **P** 20 53 36.6 +0.1
CIT *e* 20 53 45.5
CIT *e* 20 53 49.9
CIT pmax pmax
comp=Z,103nm,0.9s
KS19 **Wonju Array Si** 32.47 255 P **P** 20 53 39.2 +1.7
KSRS **Korea Array** 32.48 255 P **P** 20 53 38.9 +1.4
comp=Z,9.5nm,0.9s,baz=44,slow=9.0,SNR=39
KSRS PcP **PcP** 20 56 25.1 +1.0
comp=Z,1.1nm,0.9s,baz=57,slow=4.5,SNR=2.5
KSRS LR LR 21 07 00.6
comp=Z,676nm,19.3s,baz=50,slow=37
comp=Z,9.5nm,0.9s
KSAR **Wonju Array Be** 32.51 255 P **P** 20 53 38.5 +0.8
KSAR **Wonju Array Be** 32.51 255 P **P** 20 53 38.5 +0.8
CRAG **Craig** 32.59 64 P **P** 20 53 38.5 +0.2
baz=293
WRAK **Wrangell Islan** 32.63 62 P **P** 20 53 36.5 -2.1
WRAK IAmb IAmb 20 53 45.1
comp=Z,32nm,0.8s
WRAK **Wrangell Islan** 32.63 62 P **P** 20 53 38.4 -0.2
baz=292
S34M **Telegraph Cree** 32.71 59 P **P** 20 53 40.5 +1.1
baz=290,SNR=7.3
TGTN **Hyland Airport** 32.93 52 P **P** 20 53 41.7 +0.3
baz=287
C36M **Paulatuk** 32.96 37 P **P** 20 53 41.3 0.0
C36M **Paulatuk** 32.96 37 P **P** 20 53 41.4 0.0
baz=278
DLBC **Dease Lake** 33.08 58 P **P** 20 53 44.0 +1.3
comp=Z,23nm,0.9s,baz=284,slow=11,SNR=21
DLBC LR LR 21 07 44.5
comp=Z,1μm,18.5s,baz=294,slow=38
comp=Z,23nm,0.9s
DLBC **Dease Lake** 33.08 58 P **P** 20 53 43.8 +1.1
DLBC IAmb IAmb 20 53 55.1
comp=Z,54nm,1.1s
DLBC **Dease Lake** 33.08 58 P **P** 20 53 44.0 +1.3
baz=290,SNR=12
WTLY **Watson Lake, Y** 33.12 54 P **P** 20 53 43.7 +0.8
WTLY **Watson Lake, Y** 33.12 54 P **P** 20 53 43.5 +0.6
baz=288
V35K **Ketchikan** 33.44 64 P **P** 20 53 46.4 +0.8
baz=294
T35M **Bob Quinn** 33.50 60 P **P** 20 53 46.9 +0.7
baz=292,SNR=5.6
JCJ **Chichijima** 33.52 226 P **P** 20 53 47.3 +0.7
comp=Z,101nm,1.2s,baz=22,slow=6.7,SNR=6.2
JCJ LR LR 21 04 30.7
comp=Z,364nm,20.8s,baz=22,slow=31
comp=Z,101nm,1.2s
JCJ **Chichijima** 33.52 226 P **P** 20 53 47.9 +1.3
TJN **Taejon** 33.55 255 P **P** 20 53 48.5 +1.6
TJN **Taejon** 33.55 255 *ce*P **P** 20 53 47.9 +1.0
WRGLY **Wrigley** 34.58 48 P **P** 20 53 55.9 +0.4
baz=288
H11N2 **WAKE ISLAND Hy** 34.69 183 T T 21 30 33.3
baz=1.6,slow=76,SNR=536
H11N3 **WAKE ISLAND Hy** 34.70 183 T T 21 30 35.1
baz=1.6,slow=76,SNR=574
H11N1 **WAKE ISLAND Hy** 34.70 183 T T 21 30 34.6
baz=1.6,slow=76,SNR=573
DL2 **Dalian** 35.09 263 P **P** 20 54 00.0 -0.2
DL2 pmax pmax
comp=Z,17nm,0.9s
DL2 LR LR
comp=Z,1μm,22.9s
DL2 LR LR
comp=Z,1μm,17.8s
DL2 LR LR
comp=Z,2μm,22.3s
XLT **XiLinHaoTe** 35.18 275 *e*P **P** 20 54 02.1 +1.1
XLT pP sP 20 54 07.1 +0.2
XLT sP pP 20 54 09.9 +4.7
XLT pmax pmax
comp=Z,12nm,0.9s
XLT LR LR
comp=Z,200nm,16.8s
XLT LR LR
comp=Z,2μm,17.1s
XLT LR LR
comp=Z,2μm,13.0s
H11S1 **WAKE ISLAND Hy** 35.91 183 T T 21 32 05.5
baz=1.5,slow=76,SNR=428
H11S3 **WAKE ISLAND Hy** 35.92 183 T T 21 32 12.9
baz=1.5,slow=76,SNR=195
H11S2 **WAKE ISLAND Hy** 35.92 183 T T 21 32 07.9
baz=1.5,slow=76,SNR=400
BBB **Bella Bella** 36.71 67 LR LR 21 07 24.0
comp=Z,1μm,20.9s,baz=278,slow=33
IRK **Irkutsk** 37.32 294 *e*P **P** 20 54 19.1 0.0
IRK pmax pmax
comp=Z,40nm,2.4s
BJI **Beijing** 37.52 270 P **P** 20 54 20.4 -0.5
BJI PcP **PcP** 20 56 43.2 +4.4
BJI LR LR
comp=Z,350nm,17.6s
BJI LR LR
comp=Z,1μm,17.6s
BJI LR LR
comp=Z,810nm,21.2s
NRIK **Noril'sk** 37.73 325 P **P** 20 54 22.1 -0.3
comp=Z,2.6nm,0.5s,baz=73,slow=8.7,SNR=7.3
NRIK LR LR 21 11 09.5
comp=Z,402nm,20.1s,baz=74,slow=38
comp=Z,2.6nm,0.5s
NRIK **Noril'sk** 37.73 325 P **P** 20 54 22.3 -0.1
NRIK **Noril'sk** 37.73 325 *ce*P **P** 20 54 21.7 -0.7
NRIK pmax pmax
comp=Z,20nm,1.2s
ULN **Ulaanbaatar** 38.09 286 P **P** 20 54 26.0 +0.1
ULN **Ulaanbaatar** 38.09 286 *ce*P **P** 20 54 26.6 +0.7
ULN pmax pmax
comp=Z,35nm,1.0s
SONM **Songino Array** 38.48 287 P **P** 20 54 29.7 +0.6
comp=Z,22nm,0.8s,baz=58,slow=8.3,SNR=106
SONM PcP **PcP** 20 56 42.4 +0.6
comp=Z,4.2nm,1.0s,baz=46,slow=4.2,SNR=3.2
SONM LR LR 21 11 16.3
comp=Z,730nm,18.3s,baz=61,slow=38
comp=Z,22nm,0.8s
SONM **Songino Array** 38.48 287 P **P** 20 54 29.5 +0.4
YKA **Yellowknife Ar** 38.63 46 P **P** 20 54 30.0 0.0
comp=Z,11nm,0.8s,baz=312,slow=27,SNR=10
comp=Z,11nm,0.8s
YKA **Yellowknife Ar** 38.63 46 P **P** 20 54 29.6 -0.3
YKA **Yellowknife Ar** 38.63 46 *ce*P **P** 20 54 29.7 -0.3
YKA pmax pmax
comp=Z,1.0nm,0.3s
ZAK **Zakamensk** 38.81 292 *e*P **P** 20 54 31.8 0.0
ZAK pmax pmax
comp=Z,21nm,1.0s
MOY **Mondy** 39.35 295 *e*P **P** 20 54 36.9 +0.5
MOY pmax pmax
comp=Z,49nm,1.7s
HHC **Hu-ho-hao-te** 39.69 274 *e*P **P** 20 54 39.6 +0.3
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,670nm,6.2s
OZB **Mount Ozzard** 39.82 70 P **P** 20 54 39.2 -1.0
RES **Resolute Bay** 40.08 24 LR LR 21 13 51.1
comp=Z,332nm,21.0s,baz=284,slow=40
HNS **HongShan** 40.13 268 ⇓P **P** 20 54 43.5 +0.6
HNS S **S** 21 00 50.2 +1.6
HNS pmax pmax
comp=Z,38nm,1.2s
HNS LR LR
comp=Z,1μm,15.1s

HNS LR LR
comp=Z,900nm,15.8s
HNS LR LR
comp=Z,2μm,17.0s
JOW **Kunigami** 40.37 243 LR LR 21 11 05.8
comp=Z,441nm,21.9s,baz=84,slow=36
LLLB **Lillooet** 40.86 66 P **P** 20 54 49.4 +0.6
NJ2 **Nanjing** 41.52 258 *e*P **P** 20 54 54.3 -0.1
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 LR LR
comp=Z,600nm,14.5s
NJ2 LR LR
comp=Z,730nm,13.4s
NJ2 LR LR
comp=Z,600nm,19.1s
NLWA **Neilton Lookou** 41.61 71 P **P** 20 54 55.5 +0.5
NLWA IAmb IAmb 20 55 01.1
comp=Z,42nm,1.0s
WISH **Wishkah** 41.82 71 P **P** 20 54 58.0 +1.3
WISH IAmb IAmb 20 55 03.0
comp=Z,68nm,1.1s
E03A **Lebam** 42.27 72 P **P** 20 54 60.0 -0.4
E03A IAmb IAmb 20 55 06.8
comp=Z,31nm,0.8s
D05A **Enumclaw** 42.76 70 P **P** 20 55 05.1 +0.8
D05A IAmb IAmb 20 55 16.4
comp=Z,27nm,0.7s
F04D **Rainier, OR** 42.86 72 P **P** 20 55 04.9 -0.2
baz=307
G03D **McMinnville, O** 43.25 73 P **P** 20 55 08.9 +0.7
baz=308
LYN **LuoYang** 43.42 266 ⇓ *i* P **P** 20 55 09.7 0.0
LYN sP sP 20 55 17.4 +1.8
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN pmax pmax
comp=Z,530nm,9.6s
LYN LR LR
comp=Z,1μm,19.3s
LYN LR LR
comp=Z,360nm,18.3s
LYN LR LR
comp=Z,1μm,18.8s
LTY **Liberty** 43.44 69 P **P** 20 55 09.5 -0.4
LTY IAmb IAmb 20 55 26.4
comp=Z,87nm,1.9s
B08A **Colville Reser** 43.51 67 P **P** 20 55 10.4 0.0
B08A IAmb IAmb 20 55 21.7
comp=Z,26nm,0.7s
I02E **Swisshome, OR** 43.60 75 P **P** 20 55 11.4 +0.3
baz=309
COR **Corvallis** 43.61 74 P **P** 20 55 10.9 -0.3
COR IAmb IAmb 20 55 17.2
comp=Z,38nm,0.9s
COR **Corvallis** 43.61 74 P **P** 20 55 10.9 -0.3
COR pmax pmax
comp=Z,38nm,1.0s
EDM **Edmonton** 43.80 58 P **P** 20 55 12.9 +0.2
EDM **Edmonton** 43.80 58 P **P** 20 55 12.9 +0.2
EDM pmax pmax
comp=Z,193nm,1.6s
H04D **Lebanon** 43.97 74 P **P** 20 55 14.7 +0.6
H04D IAmb IAmb 20 55 19.8
comp=Z,29nm,0.9s
H04D **Lebanon** 43.97 74 P **P** 20 55 14.2 +0.1
baz=308
BUCK **Buck Mountain** 44.03 74 P **P** 20 55 14.2 -0.5
HOOD **Mount Hood Mea** 44.08 72 P **P** 20 55 15.6 +0.4
HOOD IAmb IAmb 20 55 27.3
comp=Z,43nm,0.9s
I03D **Drain, OR** 44.14 75 P **P** 20 55 15.6 +0.1
baz=309
J01E **Myrtle Point** 44.15 76 P **P** 20 55 15.7 +0.1
baz=309
H04A **Detroit Lake** 44.17 73 P **P** 20 55 16.3 +0.5
H04A IAmb IAmb 20 55 27.8
comp=Z,55nm,1.3s
G05D **Wamic, OR** 44.31 72 P **P** 20 55 16.9 0.0
baz=308
C09A **Chrisman Ranch** 44.41 67 P **P** 20 55 17.6 -0.1
D08A **Wollman Farm,** 44.51 68 P **P** 20 55 18.1 -0.4
DBO **Dodson Butte** 44.56 75 P **P** 20 55 19.9 +0.9
HAWA **Hanford** 44.59 69 P **P** 20 55 19.4 +0.3
HAWA IAmb IAmb 20 55 30.9
comp=Z,76nm,1.6s
K02D **Willamette Mer** 44.59 76 P **P** 20 55 19.7 +0.5
baz=310
I04A **Tendick Farm,** 44.60 74 P **P** 20 55 19.4 +0.1
baz=309,SNR=8.7
F07A **Phinny Hill Vi** 44.68 70 P **P** 20 55 19.5 -0.2
F07A IAmb IAmb 20 55 31.2
comp=Z,30nm,0.6s
NEW **Newport** 44.75 66 LR LR 21 12 05.0
comp=Z,1μm,21.6s,baz=303,slow=34
NEW **Newport** 44.75 66 P **P** 20 55 20.0 -0.4
NEW **Newport** 44.75 66 P **P** 20 55 20.0 -0.4
NEW pmax pmax
comp=Z,12nm,0.8s
NEW **Newport** 44.75 66 P **P** 20 55 20.2 -0.2
baz=307
E08A **Dider Farm, El** 44.78 69 P **P** 20 55 20.7 +0.1
GUMO **Guam** 44.84 214 LR LR 21 11 58.1
comp=Z,326nm,20.0s,baz=31,slow=33
I05D **Terrebonne, OR** 44.86 73 P **P** 20 55 21.7 +0.3
baz=309
L02F **Cave Junction** 45.02 77 P **P** 20 55 23.5 +1.0
baz=310
HUMO **Hull Mountain** 45.05 76 P **P** 20 55 23.6 +0.8
HUMO IAmb IAmb 20 55 45.7
comp=Z,41nm,1.8s
J04D **Umpqua Nationa** 45.13 75 P **P** 20 55 24.3 +0.7
J04D **Umpqua Nationa** 45.13 75 P **P** 20 55 24.8 +1.2
baz=310,SNR=9.8
WHN **Wuhan** 45.23 261 ⇑P **P** 20 55 24.8 +0.5
E09A **Wood Farm, Sta** 45.27 69 P **P** 20 55 24.5 +0.1
E09A IAmb IAmb 20 55 35.4
comp=Z,23nm,0.9s
PINE **Pine Mountain** 45.43 73 P **P** 20 55 26.8 +0.8
PINE IAmb IAmb 20 55 37.9
comp=Z,24nm,1.0s
G08A **Pilot Rock** 45.58 70 P **P** 20 55 26.9 -0.2
J05D **Fort Rock, OR** 45.59 74 P **P** 20 55 27.6 +0.4
baz=310,SNR=28
L04D **Klamath Falls** 45.67 76 P **P** 20 55 28.7 +0.8
L04D **Klamath Falls** 45.67 76 P **P** 20 55 28.4 +0.5
baz=310,SNR=11
K04D **Chiloquin, OR** 45.72 75 P **P** 20 55 28.5 +0.3
baz=310
YBH **Yreka Blue Hor** 45.76 77 LR LR 21 11 54.0
comp=Z,726nm,20.1s,baz=315,slow=32
YBH **Yreka Blue Hor** 45.76 77 P **P** 20 55 29.5 +1.0
YBH IAmb IAmb 20 55 34.6
comp=Z,22nm,1.1s
YBH **Yreka Blue Hor** 45.76 77 P **P** 20 55 29.5 +1.0
YBH pmax pmax
comp=Z,22nm,1.1s
XAN **Xi'an** 45.85 269 P **P** 20 55 28.7 -0.5
XAN sP sP 20 55 36.9 +2.5
XAN pmax pmax
comp=Z,8.0nm,1.4s
XAN LR LR
comp=Z,1μm,15.8s
XAN LR LR
comp=Z,1μm,15.8s
XAN LR LR
comp=Z,1μm,14.6s
WALA **Waterton Lakes** 45.96 63 P **P** 20 55 30.0 0.0
I07A **Izee** 46.05 72 P **P** 20 55 31.4 +0.6
I07A IAmb IAmb 20 55 45.5
comp=Z,28nm,1.5s
NEEM **North Greenlan** 46.06 11 *i* P **P** 20 55 29.3 -1.4
NEEM IAmb IAmb 20 55 43.0
comp=Z,32nm,0.8s
F10A **Beach Ranch, E** 46.10 69 P **P** 20 55 30.8 -0.3
F10A IAmb IAmb 20 55 42.1
comp=Z,21nm,1.1s
K05A **Summer Lake** 46.14 74 P **P** 20 55 32.5 +0.9
K05A IAmb IAmb 20 55 59.4
comp=Z,37nm,1.1s
KBS **Kingsbay** 46.15 354 P **P** 20 55 29.1 -1.9
KBS IAmb IAmb 20 55 31.8
comp=Z,47nm,1.4s
KBS **Kingsbay** 46.15 354 *ce*P **P** 20 55 28.9 -2.1
KBS pmax pmax
comp=Z,26nm,1.0s

ZAA0 Zalesovo Array 46.23 306 P **P** **20 55 31.2 -0.7**
ZALV Zalesovo Beam 46.23 306 P **P** **20 55 31.3 -0.7**
comp=Z,6.8nm,0.9s,baz=62,slow=7.4,SNR=12
ZALV PcP **PcP** **20 57 07.2 -0.1**
comp=Z,2.9nm,0.6s,baz=350,slow=3.2,SNR=1.9
ZALV ScP **ScP** **21 00 58.4 -1.3**
comp=Z,0.9nm,0.7s,baz=83,slow=4.9,SNR=2.4
ZALV LR LR 21 15 45.5
comp=Z,303nm,20.3s,baz=44,slow=37
comp=Z,6.8nm,0.9s
ZALV Zalesovo Beam 46.23 306 P **P** **20 55 31.0 -1.0**
ZALV Zalesovo Beam 46.23 306 *i* P **P** **20 55 31.2 -0.7**
ZALV pmax pmax
comp=Z,6.0nm,0.9s
SPITS Spitsbergen Ar 46.55 352 P **P** **20 55 33.4 -0.8**
SPITS pmax pmax
comp=Z,58nm,1.0s
SPB2 Spitsbergen Ar 46.55 352 P **P** **20 55 33.5 -0.7**
JTMT Jette 46.58 65 P **P** **20 55 34.9 -0.1**
BMO Blue Mountains 46.77 70 P **P** **20 55 36.5 +0.1**
BMO Blue Mountains 46.77 70 P **P** **20 55 36.5 +0.1**
BMO pmax pmax
comp=Z,20nm,1.3s
MOD Modoc Plateau 47.01 75 P **P** **20 55 38.8 +0.4**
MOD IAmb IAmb 20 55 43.9
comp=Z,17nm,0.8s
J08A Circle Bar Ran 47.08 72 P **P** **20 55 39.4 +0.4**
TPUB Ta-pu 47.29 249 P **P** **20 55 41.8 +1.1**
MSO Missoula 47.33 66 P **P** **20 55 40.3 -0.5**
MSO IAmb IAmb 20 55 53.2
comp=Z,34nm,1.4s
MSO Missoula 47.33 66 P **P** **20 55 40.8 0.0**
baz=309,SNR=5.4
LZH Lanzhou 47.37 275 ⇓P **P** **20 55 42.3 +1.0**
LZH sP sP 20 55 49.0 +2.5
LZH pmax pmax
comp=Z,60nm,1.5s
LZH LR LR
comp=Z,2μm,13.7s
LZH LR LR
comp=Z,2μm,14.1s
LZH LR LR
comp=Z,680nm,14.4s
GTA Gaotai 47.43 281 ⇓P **P** **20 55 42.0 +0.3**
GTA pP pP 20 55 44.8 -0.7
GTA sP pwP 20 55 48.2 -0.9
GTA ScS ScS 21 05 35.5 +0.5
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,250nm,4.5s
GTA LR LR
comp=Z,1μm,15.6s
GTA LR LR
comp=Z,1μm,16.7s
GTA LR LR
comp=Z,1μm,15.6s
DGZ Jazzator, Alta 47.54 300 *i* P **P** **20 55 42.1 -0.3**
DGZ pmax pmax
comp=Z,16nm,0.9s
WVOR Wild Horse Val 47.59 73 P **P** **20 55 43.2 +0.3**
WVOR Wild Horse Val 47.59 73 P **P** **20 55 43.2 +0.3**
WVOR pmax pmax
comp=Z,13nm,1.1s
ORV Oroville 47.89 78 P **P** **20 55 44.4 -0.7**
ORV Oroville 47.89 78 P **P** **20 55 44.4 -0.7**
ORV pmax pmax
comp=Z,11nm,0.8s
PATS Pohnpei 48.21 194 P **P** **20 55 49.7 +2.0**
ENH Enshi 48.24 265 P **P** **20 55 47.7 -0.2**
ENH IAmb IAmb 20 55 50.9
comp=Z,26nm,0.9s
PLTX Planet X, Gerl 48.27 75 P **P** **20 55 48.3 +0.1**
PLTX IAmb IAmb 20 56 03.0
comp=Z,32nm,0.9s
FFC Flin Flon 48.31 51 P **P** **20 55 48.0 -0.1**
FFC Flin Flon 48.31 51 P **P** **20 55 48.0 -0.1**
FFC pmax pmax
comp=Z,19nm,1.3s
BEKR Beckworth 48.33 77 P **P** **20 55 48.6 -0.1**
BEKR IAmb IAmb 20 56 03.2
comp=Z,26nm,1.3s
MFID Camas Ranch 48.51 70 P **P** **20 55 49.7 -0.2**
HRY Holter Researc 48.53 65 P **P** **20 55 50.0 -0.1**
AFDM Forest Hills D 48.60 78 P **P** **20 55 50.9 +0.2**
EGMT Eagleton 48.77 62 P **P** **20 55 51.2 -0.7**
EGMT Eagleton 48.77 62 P **P** **20 55 51.1 -0.7**
baz=310
LRM Limekiln Ridge 48.77 66 P **P** **20 55 52.0 -0.1**
MPK Martis Peak 48.90 77 P **P** **20 55 53.1 -0.1**
PAHR Pah Rah Range 48.99 76 P **P** **20 55 54.1 +0.3**
PAHR IAmb IAmb 20 55 59.0
comp=Z,18nm,1.0s
EMB Emerald Bay 49.08 78 P **P** **20 55 55.8 +1.2**
VCNR Virginia City 49.12 77 P **P** **20 55 55.4 +0.6**
VCNR IAmb IAmb 20 55 56.2
comp=Z,14nm,0.8s
FCC Fort Churchill 49.12 43 P **P** **20 55 54.2 0.0**
FCC IAmb IAmb 20 56 16.5
comp=Z,34nm,1.0s
FCC Fort Churchill 49.12 43 P **P** **20 55 54.3 0.0**
FCC pmax pmax
comp=Z,34nm,1.0s
HLID Hailey 49.19 69 P **P** **20 55 54.9 -0.3**
HLID Hailey 49.19 69 P **P** **20 55 55.5 +0.2**
baz=311,SNR=8.0
MCMT McKenzie Canyo 49.20 67 P **P** **20 55 55.1 -0.4**
PNTR Pine Nut 49.29 77 P **P** **20 55 56.8 +0.7**
PNTR IAmb IAmb 20 56 09.2
comp=Z,31nm,0.7s
UPNV Upernavik 49.34 16 *eP* **P** **20 55 52.0 -3.8**
UPNV IAmb IAmb 20 55 58.0
comp=Z,21nm,0.7s
BOZ Bozeman (W) 49.35 66 P **P** **20 55 56.2 -0.3**
BOZ Bozeman (W) 49.35 66 P **P** **20 55 56.2 -0.3**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ Bozeman (W) 49.35 66 P **P** **20 55 56.6 +0.1**
baz=311,SNR=9.1
CMB Columbia Colle 49.56 79 P **P** **20 55 58.7 +0.7**
CMB Columbia Colle 49.56 79 P **P** **20 55 58.7 +0.7**
CMB pmax pmax
comp=Z,9.0nm,1.0s
YERR Yerington 49.56 77 P **P** **20 55 58.2 0.0**
BMN Battle Mountai 49.72 74 P **P** **20 59 59.7 +0.4**
BMN Battle Mountai 49.72 74 P **P** **20 55 59.7 +0.4**
QLMT Earthquake Lak 49.96 66 P **P** **20 56 01.0 -0.2**
YHL Hebgen Lake 50.08 66 P **P** **20 56 02.2 0.0**
YHL IAmb IAmb 20 56 15.6
comp=Z,25nm,1.0s
KVN Kaiserville 50.16 76 P **P** **20 56 03.2 +0.4**
KVN Kaiserville 50.16 76 P **P** **20 56 03.2 +0.4**
KVN pmax pmax
comp=Z,17nm,1.0s
BBGB Big Mountain B 50.19 81 P **P** **20 56 04.2 +1.4**
RYN Ryan 50.22 77 P **P** **20 56 03.5 +0.3**
ZSN Zaisan 50.29 299 *eP* **P** **20 56 02.4 -1.0**
ZSN pmax pmax
comp=Z,14nm,1.6s
ZSN Zaisan 50.29 299 *eP* **P** **20 56 02.4 -1.0**
comp=Z,14nm,1.6s,baz=299
YHH Holmes Hill 50.30 66 P **P** **20 56 03.9 0.0**
YMR Madison River 50.32 66 P **P** **20 56 03.4 -0.5**
YMR IAmb IAmb 20 56 16.1
comp=Z,70nm,1.6s
YNR Norris Junctio 50.44 66 P **P** **20 56 05.6 +0.8**
YNR IAmb IAmb 20 56 20.7
comp=Z,30nm,1.4s
NVAR Mina Array Bea 50.48 77 P **P** **20 56 06.0 +0.8**
comp=Z,8.0nm,0.7s,baz=298,slow=7.7,SNR=41
NVAR LR LR 21 15 55.7
comp=Z,504nm,19.7s,baz=298,slow=34
comp=Z,8.0nm,0.7s
NVAR Mina Array Bea 50.48 77 P **P** **20 56 05.4 +0.3**
LHV Little Huntoon 50.48 77 P **P** **20 56 06.5 +1.6**
LHV IAmb IAmb 20 56 20.4
comp=Z,51nm,1.4s
YUF Upper Falls 50.53 66 P **P** **20 56 04.9 -0.7**
YUF IAmb IAmb 20 56 53.8
comp=Z,26nm,1.0s
YFT Old Faithful 50.53 66 P **P** **20 56 05.9 +0.3**
YFT IAmb IAmb 20 56 18.1
comp=Z,22nm,0.9s
NV11 Mina Array Sit 50.56 77 P **P** **20 56 06.3 +0.6**
MDPB Devils Postpil 50.58 78 P **P** **20 56 06.1 +0.1**
MDPB IAmb IAmb 20 56 11.9
comp=Z,24nm,1.1s
ELK Elko 50.62 73 LR LR 21 14 56.0
comp=Z,705nm,21.4s,baz=314,slow=33
ELK Elko 50.62 73 P **P** **20 56 06.5 +0.3**
ELK Elko 50.62 73 P **P** **20 56 06.5 +0.3**
ELK pmax pmax
comp=Z,21nm,1.4s
OMMB Old Mammoth Mi 50.64 78 P **P** **20 56 07.7 +1.1**
SEM Semipalatinsk 50.65 304 *eP* **P** **20 56 04.7 -1.5**
SEM Semipalatinsk 50.65 304 *eP* **P** **20 56 04.8 -1.5**
baz=304
H17A Grant Village 50.71 66 P **P** **20 56 07.2 +0.3**
H17A IAmb IAmb 20 56 21.1
comp=Z,24nm,1.1s
Q09A Carvers 50.83 76 P **P** **20 56 06.6 -1.2**
Q09A IAmb IAmb 20 56 27.9
comp=Z,23nm,0.9s
IMW Indian Meadow 50.85 67 P **P** **20 56 08.4 +0.4**
RLMT Red Lodge 50.92 65 P **P** **20 56 08.8 +0.4**
RLMT IAmb IAmb 20 56 20.1
comp=Z,18nm,0.7s
RLMT Red Lodge 50.92 65 P **P** **20 56 09.1 +0.6**
baz=312,SNR=14
FXWY Fox Creek 50.97 67 P **P** **20 56 09.5 +0.6**
MOOW Moose Ponds 51.05 67 P **P** **20 56 09.4 -0.1**
TPAW Teton Pass 51.12 67 P **P** **20 56 09.1 -0.9**
CD2 Chengdu 51.12 270 P **P** **20 56 10.1 +0.2**
CD2 pmax pmax
comp=Z,40nm,0.9s
WMQ Urumqi 51.22 293 *eP* **P** **20 56 13.5 +3.0**
WMQ sP pwP 20 56 20.0 +2.4
WMQ pmax pmax
comp=Z,29nm,1.3s
WMQ LR LR
comp=Z,5μm,19.3s
WMQ LR LR
comp=Z,3μm,19.3s
WMQ LR LR
comp=Z,960nm,21.7s
LOHW Long Hollow 51.22 67 P **P** **20 56 11.1 +0.4**
LOHW IAmb IAmb 20 56 23.8
comp=Z,35nm,1.6s
KURK Kurchatov 51.23 305 P **P** **20 56 09.4 -0.9**
KURK IAmb IAmb 20 56 15.2
comp=Z,33nm,1.0s
KURK Kurchatov 51.23 305 *ce*P **P** **20 56 09.6 -0.7**
KURK pmax pmax
comp=Z,42nm,1.3s
SNOW Snow King Moun 51.24 67 P **P** **20 56 10.9 0.0**
REDW Red Top Meadow 51.25 67 P **P** **20 56 11.4 +0.5**
HVU Hansel Valley 51.28 70 P **P** **20 56 11.5 +0.4**
HVU Hansel Valley 51.28 70 P **P** **20 56 11.5 +0.4**
HVU pmax pmax
comp=Z,11nm,0.7s
DGMT Dagmar 51.29 58 P **P** **20 56 09.9 -1.0**
DGMT IAmb IAmb 20 56 25.2
comp=Z,53nm,1.6s
DGMT Dagmar 51.29 58 P **P** **20 56 10.6 -0.3**
baz=312
KURBB Kurchatov Arra 51.33 305 LR LR 21 21 12.3
comp=Z,330nm,21.2s,baz=21,slow=40
TPH Tonopah 51.34 76 P **P** **20 56 12.3 +0.7**
TPH Tonopah 51.34 76 P **P** **20 56 12.3 +0.7**
TPH pmax pmax
comp=Z,64nm,0.7s
DSP Deep Springs 51.40 78 P **P** **20 56 12.7 +0.9**
LAO LASA Array 51.46 61 P **P** **20 56 12.0 -0.2**
LAO IAmb IAmb 20 56 24.6
comp=Z,42nm,1.1s
LAO LASA Array 51.46 61 P **P** **20 56 13.2 +0.9**
baz=312
LAO LASA Array 51.46 61 P **P** **20 56 12.6 +0.3**
baz=312
MZP Montezuma Peak 51.50 77 P **P** **20 56 13.7 +0.8**
AHID Auburn Hatcher 51.52 68 P **P** **20 56 12.9 -0.1**
LCH Last Change Ra 51.68 78 P **P** **20 56 15.0 +0.9**
SMMC Simmler 51.68 81 P **P** **20 56 14.6 +0.5**
baz=315
BGU Big Grassy Mou 51.72 71 P **P** **20 56 14.5 +0.1**
GMN Gold Mountain 51.85 77 P **P** **20 56 16.3 +0.8**
SUMG Summit 51.87 10 P **P** **20 56 14.9 -0.4**
SUMG IAmb IAmb 20 56 24.6
comp=Z,36nm,1.0s
SUMG Summit 51.87 10 P **P** **20 56 14.9 -0.4**
SUMG pmax pmax
comp=Z,36nm,1.0s
SUMG Summit 51.87 10 *i* P **P** **20 56 13.7 -1.6**
SUMG IAmb IAmb 20 56 17.9
comp=Z,15nm,0.9s
CWC Cottonwood Cre 51.99 79 P **P** **20 56 16.9 +0.4**
baz=315
GRAC Grapevine Rang 52.01 78 P **P** **20 56 17.2 +0.7**
GRAC Grapevine Rang 52.01 78 P **P** **20 56 17.4 +0.9**
baz=315
MK31 Makanchi Array 52.04 300 P **P** **20 56 15.1 -1.4**
MK31 Makanchi Array 52.04 300 *i* P **P** **20 56 15.2 -1.4**
MK31 pmax pmax
comp=Z,14nm,0.9s
MKAR Makanchi Array 52.04 300 P **P** **20 56 15.2 -1.3**
comp=Z,6.3nm,0.7s,baz=52,slow=7.2,SNR=60
MKAR LR LR 21 19 21.1
comp=Z,787nm,19.0s,baz=50,slow=37
comp=Z,6.3nm,0.7s
HWUT Hardware Ranch 52.06 69 P **P** **20 56 17.1 +0.1**
R11A Troy Canyon, C 52.07 75 P **P** **20 56 16.9 -0.2**
R11A Troy Canyon, C 52.07 75 P **P** **20 56 17.6 +0.5**
baz=314,SNR=16
PKM Mcpherson Peak 52.09 81 P **P** **20 56 17.7 +0.5**
baz=316
MAKZ Makanchi 52.19 300 P **P** **20 56 16.1 -1.5**
MAKZ Makanchi 52.19 300 P **P** **20 56 16.1 -1.5**
MAKZ pmax pmax
comp=Z,17nm,1.0s
ISA Isabella, Lake 52.31 80 P **P** **20 56 18.3 -0.4**
ISA Isabella, Lake 52.31 80 P **P** **20 56 18.3 -0.4**
ISA pmax pmax
comp=Z,21nm,1.5s
ISA Isabella, Lake 52.31 80 P **P** **20 56 18.7 -0.1**
baz=315
SPR3 Spring Creek 3 52.33 74 P **P** **20 56 20.3 +1.1**
SPR3 IAmb IAmb 20 56 35.4
comp=Z,26nm,1.2s
DUG Dugway, Tooele 52.34 71 P **P** **20 56 19.4 +0.4**
DUG Dugway, Tooele 52.34 71 P **P** **20 56 19.4 +0.4**
DUG pmax pmax
comp=Z,19nm,1.3s
DUG Dugway, Tooele 52.34 71 P **P** **20 56 19.3 +0.2**
baz=314
BW06 Boulder Array 52.35 67 P **P** **20 56 19.0 -0.2**
BW06 IAmb IAmb 20 56 31.0
comp=Z,35nm,1.4s
BW06 Boulder Array 52.35 67 P **P** **20 56 19.4 +0.2**
baz=313,SNR=11
PD31 Pinedale Array 52.35 67 P **P** **20 56 19.1 -0.1**
PDAR Pinedale Array 52.35 67 P **P** **20 56 19.3 +0.1**
comp=Z,8.6nm,1.0s,baz=302,slow=3.2,SNR=30
comp=Z,8.6nm,1.0s
SBC Santa Barbara 52.46 82 P **P** **20 56 19.3 -0.5**
baz=316
S11A Rachel 52.47 76 P **P** **20 56 20.7 +0.6**
S11A IAmb IAmb 20 56 45.9
comp=Z,35nm,1.2s
ARVC Arvin 52.49 80 P **P** **20 56 20.4 +0.5**
baz=316
GOMU GeErMu 52.51 282 P **P** **20 56 20.5 -0.1**
GOMU pP sP 20 56 26.7 +0.8
GOMU sP pwP 20 56 28.7 +0.8
GOMU PcP **PcP** **20 57 28.4 -2.5**
GOMU PP **PP** **20 58 20.6 +1.4**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU pmax pmax
comp=Z,670nm,9.9s
GOMU LR LR
comp=Z,970nm,15.3s
GOMU LR LR
comp=Z,710nm,15.1s
GOMU LR LR
comp=Z,1μm,16.3s
WCT Wildcat Mounta 52.57 77 P **P** **20 56 21.0 +0.3**
CTU Camp Tracy 52.59 70 P **P** **20 56 20.0 -0.9**
MPMC Manual Prospec 52.60 78 P **P** **20 56 20.8 -0.3**
baz=315,SNR=8.4
FURC Furnace Creek, 52.66 78 P **P** **20 56 21.8 +0.6**
baz=315,SNR=13
TPNV Topopah Spring 52.67 77 P **P** **20 56 22.0 +0.5**
TPNV IAmb IAmb 20 56 27.2
comp=Z,29nm,1.0s
TPNV Topopah Spring 52.67 77 P **P** **20 56 22.0 +0.5**
TPNV pmax pmax
comp=Z,29nm,1.0s
TPNV Topopah Spring 52.67 77 P **P** **20 56 21.5 0.0**
baz=315,SNR=29
GYA Guiyang 52.74 264 ⇑P **P** **20 56 22.8 +0.7**
GYA pmax pmax
comp=Z,20nm,1.0s
JLU Jordanelle 52.81 70 P **P** **20 56 22.5 -0.1**
SCZ2 Santa Cruz Isl 52.83 82 P **P** **20 56 23.0 +0.5**
baz=316
LRMC Laurel Mtn Rad 52.90 79 P **P** **20 56 23.1 -0.1**
baz=316
OSI Osito Audit: C 52.91 81 P **P** **20 56 22.9 -0.3**
baz=316
PSUT Pine Spring 52.92 74 P **P** **20 56 23.9 +0.6**
NLU North Lily Min 52.92 71 P **P** **20 56 23.7 +0.3**
GWY Greenwater Val 52.97 78 P **P** **20 56 24.2 +0.5**
GWY IAmb IAmb 20 56 39.3
comp=Z,59nm,1.5s
QSM Queen of Sheba 53.02 78 P **P** **20 56 24.4 +0.5**
PRN Pahroc Range 53.03 76 P **P** **20 56 24.8 +0.7**
PRN IAmb IAmb 20 56 37.5
comp=Z,36nm,1.2s
MPU Maple Canyon 53.12 71 P **P** **20 56 24.6 -0.2**
MPU IAmb IAmb 20 56 49.7
comp=Z,47nm,1.9s
EDW2 Edwards Air Fo 53.14 80 P **P** **20 56 24.6 -0.3**
baz=316
DECC Green Verdugo 53.40 81 P **P** **20 56 27.2 +0.5**
baz=316
BVAR Borovoye Array 53.41 312 P **P** **20 56 25.8 -0.8**
comp=Z,10.0nm,0.7s,baz=48,slow=6.4,SNR=5.2
comp=Z,10.0nm,0.7s
SNCC San Nicolas Is 53.43 82 P **P** **20 56 27.0 +0.1**
baz=316
BRVK Borovoye 53.43 312 P **P** **20 56 25.9 -0.7**
BRVK IAmb IAmb 20 56 31.8
comp=Z,29nm,0.8s
BRVK **S** **21 03 57.9 -0.3**
BRVK Borovoye 53.43 312 *ce*P **P** **20 56 26.2 -0.5**
BRVK pmax pmax
comp=Z,74nm,1.7s
ARCES ARCESS Array B 53.45 345 P **P** **20 56 25.3 -1.4**
comp=Z,6.4nm,0.8s,baz=25,slow=9.3,SNR=20
ARCES LR LR 21 23 47.7
comp=Z,363nm,18.0s,baz=106,slow=41
comp=Z,6.4nm,0.8s
ARCES ARCESS Array B 53.45 345 P **P** **20 56 25.8 -0.8**
ARCES IAmb IAmb 20 56 30.5
comp=Z,78nm,1.7s
ARCES ARCESS Array B 53.45 345 P **P** **20 56 25.8 -0.8**
ARCES pmax pmax
comp=Z,77nm,1.7s
GSC Goldstone, Bar 53.52 79 P **P** **20 56 27.6 -0.1**
GSC IAmb IAmb 20 56 33.2
comp=Z,30nm,1.3s
GSC Goldstone, Bar 53.52 79 P **P** **20 56 27.6 -0.1**
GSC pmax pmax
comp=Z,30nm,1.3s
GSC Goldstone, Bar 53.52 79 P **P** **20 56 27.6 -0.1**
baz=316,SNR=11
SHPR Sheep Range 53.61 76 P **P** **20 56 29.1 +0.6**
TCRU Three Creeks R 53.65 73 P **P** **20 56 28.6 -0.2**
BFSC Mount Baldy Ra 53.79 80 P **P** **20 56 30.3 +0.5**
baz=316
APA Apatity 53.82 340 ⇓*i* P **P** **20 56 28.5 -0.8**
APA pmax pmax
comp=Z,8.0nm,1.1s
MVU Marysvale 53.85 73 P **P** **20 56 31.6 +1.2**
TMUT Trail Mountain 53.86 71 P **P** **20 56 30.9 +0.5**
TMUT IAmb IAmb 20 56 36.0
comp=Z,33nm,1.1s
RDMU Red Mountain 53.87 69 P **P** **20 56 30.9 +0.6**
RDMU IAmb IAmb 20 56 46.1
comp=Z,48nm,1.3s
MSU Marysvale 53.87 73 P **P** **20 56 31.0 +0.6**
MSU Marysvale 53.87 73 P **P** **20 56 31.0 +0.6**
CCUT Cedar City 53.88 74 P **P** **20 56 31.3 +0.8**
WTNK Soaring Height 53.91 77 P **P** **20 56 30.7 +0.2**
WTNK IAmb IAmb 20 56 43.3
comp=Z,8.5nm,1.2s
TUQ Turquoise Moun 53.93 78 P **P** **20 56 31.1 +0.3**
baz=316
CIS Catalina Islan 53.96 81 P **P** **20 56 31.4 +0.5**
baz=316
MDND Maddock 53.97 56 P **P** **20 56 30.8 0.0**
MDND Maddock 53.97 56 P **P** **20 56 31.3 +0.6**
baz=314,SNR=5.8
MDND Maddock 53.97 56 P **P** **20 56 30.6 -0.2**
baz=314,SNR=5.8
P17A Butcher Ranch, 53.99 71 P **P** **20 56 31.7 +0.5**
P17A IAmb IAmb 20 57 03.4
comp=Z,40nm,1.4s
SZCU Shurtz Canyon 54.01 74 P **P** **20 56 31.7 +0.3**
K22A Casper 54.05 65 P **P** **20 56 30.6 -1.0**
K22A IAmb IAmb 20 56 46.0
comp=Z,34nm,1.4s
K22A Casper 54.05 65 P **P** **20 56 31.8 +0.1**
baz=314
ULM Lac du Bonnet 54.07 52 P **P** **20 56 31.2 -0.2**
comp=Z,7.2nm,0.7s,baz=323,slow=4.7,SNR=8.7
ULM LR LR 21 21 54.6
comp=Z,462nm,18.7s,baz=304,slow=39
comp=Z,7.2nm,0.7s
ULM Lac du Bonnet 54.07 52 P **P** **20 56 31.2 -0.2**
FRB Frobisher Bay 54.09 27 LR LR 21 22 10.4
comp=Z,570nm,20.2s,baz=323,slow=39
HEC Hector,Ludlow 54.13 79 P **P** **20 56 31.7 -0.4**
baz=316
Q16A Castle Valley 54.14 72 P **P** **20 56 32.7 +0.3**
Q16A IAmb IAmb 20 56 45.1
comp=Z,59nm,1.6s
SCI2 San Clemente I 54.19 82 P **P** **20 56 32.7 +0.2**
baz=317
MTPU Mount Pierson 54.20 73 P **P** **20 56 33.1 +0.1**
MTPU IAmb IAmb 20 56 48.6
comp=Z,23nm,1.2s
BBRC Big Bear Solar 54.20 80 P **P** **20 56 32.3 -0.6**
baz=316
E28A Huff 54.32 58 P **P** **20 56 33.2 -0.1**
E28A IAmb IAmb 20 56 45.4
comp=Z,43nm,1.1s
E28A Huff 54.32 58 P **P** **20 56 34.0 +0.6**
baz=314
LCMT Little Creek M 54.33 75 P **P** **20 56 34.2 +0.5**
LCMT IAmb IAmb 20 56 47.1
comp=Z,23nm,1.0s
RSSD Black Hills 54.33 62 P **P** **20 56 33.5 -0.2**
RSSD IAmb IAmb 20 56 45.4
comp=Z,46nm,1.4s
RSSD Black Hills 54.33 62 P **P** **20 56 33.5 -0.2**
RSSD pmax pmax
comp=Z,47nm,1.5s
RSSD Black Hills 54.33 62 P **P** **20 56 33.8 +0.1**
baz=314,SNR=11
RSSD Black Hills 54.33 62 P **P** **20 56 32.7 -1.0**
baz=314
V12A Nelson 54.34 77 P **P** **20 56 34.8 +1.1**
V12A IAmb IAmb 20 56 47.1
comp=Z,31nm,1.3s
ELS Elsinore Mount 54.35 80 P **P** **20 56 33.9 +0.1**
RWWY Rawlins 54.36 66 P **P** **20 56 33.3 -0.7**
RWWY IAmb IAmb 20 56 49.1
comp=Z,30nm,1.2s
SRU San Rafael Swe 54.36 71 P **P** **20 56 34.4 +0.5**
SRU San Rafael Swe 54.36 71 P **P** **20 56 34.4 +0.5**
SRU pmax pmax
comp=Z,34nm,0.8s
BRZS Berezniki 54.51 308 *eP* **P** **20 56 33.3 -1.3**
BRZS Berezniki 54.51 308 *eP* **P** **20 56 33.4 -1.3**
baz=308
MURC Murrieta 54.52 80 P **P** **20 56 34.7 -0.2**
baz=316
PKCU Pink Cliffs 54.55 74 P **P** **20 56 37.0 +1.6**
GMRC Granite Mounta 54.55 78 P **P** **20 56 34.9 -0.4**
baz=316,SNR=12
KNB Kanab 54.56 74 P **P** **20 56 36.5 +1.0**
KNB IAmb IAmb 20 56 41.6
comp=Z,32nm,1.1s
KNB Kanab 54.56 74 P **P** **20 56 36.5 +1.0**
KNB pmax pmax

comp=Z,32nm,1.1s
TGY Tagaytay City 54.72 242 P **P** **20 56 36.1 -0.5**
baz=90,slow=9.1
JMIC Jan Mayen 54.85 359 LR LR 21 20 19.9
comp=Z,164nm,19.3s,baz=46,slow=36
O20A White River Ci 54.89 68 P **P** **20 56 37.5 -0.3**
O20A IAmb IAmb 20 56 53.3
comp=Z,42nm,1.2s
O20A White River Ci 54.89 68 P **P** **20 56 37.0 -0.8**
baz=315
BELC Belle Mtn. Jos 54.92 79 P **P** **20 56 37.7 -0.3**
baz=316,SNR=7.0
PFO Pinyon Flats O 54.94 80 LR LR 21 15 50.4
comp=Z,667nm,21.6s,baz=304,slow=31
PFO Pinyon Flats O 54.94 80 P **P** **20 56 37.8 -0.3**
PFO Pinyon Flats O 54.94 80 *i* P **P** **20 56 36.6 -1.5**
PFO pmax pmax
comp=Z,8.0nm,0.9s
PFO Pinyon Flats O 54.94 80 P **P** **20 56 38.0 -0.1**
baz=317
TPFO Pinon Flats 54.94 80 P **P** **20 56 38.0 -0.1**
baz=317
PMD Palm Desert 54.96 80 P **P** **20 56 37.9 -0.2**
PMD IAmb IAmb 20 56 42.9
comp=Z,14nm,1.1s
ICESG Greenland Ices 55.03 12 *e*P **P** **20 56 36.4 -2.1**
ICESG IAmb IAmb 20 56 40.4
comp=Z,12nm,0.7s
109C Camp Elliot, M 55.09 81 P **P** **20 56 39.0 0.0**
baz=317
NEE2 Needles Airpor 55.16 77 P **P** **20 56 39.4 -0.1**
baz=316
TDK Taldyqorghan 55.24 300 *e*P **P** **20 56 38.9 -1.1**
TDK pmax pmax
comp=Z,13nm,1.3s
TDK Taldyqorghan 55.24 300 *e*P **P** **20 56 38.9 -1.1**
comp=Z,13nm,1.3s,baz=300
U15A North Rim 55.28 74 P **P** **20 56 41.6 +0.9**
IRM Iron Mountain 55.30 78 P **P** **20 56 40.5 0.0**
baz=316,SNR=11
SFJD Kangerlussuaq 55.33 18 P **P** **20 56 38.4 -1.9**
comp=Z,6.2nm,0.7s,baz=337,slow=5.9,SNR=2.0
SFJD LR LR 21 23 30.2
comp=Z,405nm,18.5s,baz=338,slow=40
comp=Z,6.2nm,0.7s
W13A Hualapai Mount 55.33 77 P **P** **20 56 41.6 +0.5**
W13A IAmb IAmb 20 56 56.0
comp=Z,61nm,1.8s
AGMN Agassiz Nation 55.45 54 P **P** **20 56 41.5 +0.1**
AGMN IAmb IAmb 20 56 50.5
comp=Z,23nm,1.1s
AGMN Agassiz Nation 55.45 54 P **P** **20 56 41.7 +0.3**
baz=315,SNR=7.5
MONP2 Monument Peak 55.48 80 P **P** **20 56 42.0 -0.1**
baz=317
BC3 Big Chuckawall 55.48 79 P **P** **20 56 41.8 -0.2**
baz=317
BAR Barrett 55.49 81 P **P** **20 56 42.4 +0.5**
PHWY Pilot Hill 55.57 66 P **P** **20 56 42.2 -0.6**
PZH PanZhiHua 55.57 268 P **P** **20 56 44.5 +1.7**
PZH S **S** **21 04 27.7 -0.2**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,390nm,9.6s
PZH LR LR
comp=Z,660nm,21.8s
PZH LR LR
comp=Z,590nm,19.0s
PZH LR LR
comp=Z,650nm,19.1s
N23A Red Feather La 55.59 66 P **P** **20 56 43.4 +0.4**
N23A IAmb IAmb 20 57 29.8
comp=Z,28nm,1.2s
N23A Red Feather La 55.59 66 P **P** **20 56 42.6 -0.3**
baz=315,SNR=7.3
PV23 Carpenter Ridg 55.66 70 P **P** **20 56 44.0 +0.5**
ARU Arti 55.71 321 P **P** **20 56 42.4 -0.7**
comp=Z,10nm,0.7s,baz=28,slow=6.5,SNR=20
comp=Z,10nm,0.7s
ARU Arti 55.71 321 P **P** **20 56 42.5 -0.7**
ARU IAmb IAmb 20 56 47.9
comp=Z,23nm,1.0s
ARU Arti 55.71 321 *c i* P **P** **20 56 42.5 -0.7**
ARU 20 57 37.7
ARU S **S** **21 04 28.1 -0.6**
ARU 21 06 25.3
ARU SS **SS** **21 08 05.6 -7.6**
ARU SSS SSS 21 10 19.0
ARU pmax pmax
comp=Z,27nm,1.7s
CBX Cerro Bola 55.76 81 P **P** **20 56 44.8 +0.8**
PDMCI Parker Dam,Lak 55.76 78 P **P** **20 56 44.0 +0.1**
baz=317,SNR=5.6
SWSC Sam W. Stewart 55.80 80 P **P** **20 56 43.8 -0.4**
baz=317
IKP In-Ko-Pah, Jac 55.84 80 P **P** **20 56 44.6 +0.1**
baz=317
PRGR Permogore 55.87 331 *e*P **P** **20 56 43.3 -0.9**
PDGK Podgornoye 55.87 298 *i* P **P** **20 56 42.5 -2.2**
PDGK pmax pmax
comp=Z,21nm,1.2s
PV07 Paradox Valley 55.88 70 P **P** **20 56 45.2 +0.3**
PV07 IAmb IAmb 20 56 57.1
comp=Z,37nm,1.3s
YUH Yuha Desert 55.94 80 P **P** **20 56 45.4 +0.2**
BLYC Blythe 55.95 78 P **P** **20 56 45.7 +0.5**
PV13 Radium Mtn., P 55.98 71 P **P** **20 56 46.1 +0.4**
SHLS Shalkode 56.00 298 *e*P **P** **20 56 43.8 -1.8**
SHLS pmax pmax
comp=Z,13nm,1.3s
SHLS Shalkode 56.00 298 *e*P **P** **20 56 43.9 -1.8**
comp=Z,13nm,1.3s,baz=298
PV15 Paradox Valley 56.03 70 P **P** **20 56 46.4 +0.3**
PV15 IAmb IAmb 20 56 58.2
comp=Z,45nm,1.1s
KMI Kunming 56.04 266 ⇑P **P** **20 56 47.0 +0.8**
KMI pP pP 20 56 49.6 -0.4
KMI pmax pmax
comp=Z,10.0nm,1.0s
KMI LR LR
comp=Z,390nm,15.1s
KMI LR LR
comp=Z,730nm,17.1s
KMI LR LR
comp=Z,700nm,21.6s
ARXS Arharly 56.09 300 *i* P **P** **20 56 45.2 -1.0**
KPKS Kokpek 56.19 299 *e*P **P** **20 56 46.2 -0.7**
KPKS pmax pmax
comp=Z,13nm,1.5s
KPKS Kokpek 56.19 299 *e*P **P** **20 56 46.2 -0.7**
comp=Z,13nm,1.5s,baz=299
UZB Uzynbulak 56.24 298 *e*P **P** **20 56 46.2 -1.1**
UZB Uzynbulak 56.24 298 *e*P **P** **20 56 46.3 -1.1**
baz=298
SMCO Snowmass 56.26 68 P **P** **20 56 48.1 +0.2**
SMCO IAmb IAmb 20 57 08.7
comp=Z,37nm,1.6s
GLA Glamis 56.28 79 P **P** **20 56 47.2 -0.4**
GLA IAmb IAmb 20 57 03.2
comp=Z,27nm,1.1s
GLA Glamis 56.28 79 P **P** **20 56 47.3 -0.4**
GLA pmax pmax
comp=Z,27nm,1.2s
GLA Glamis 56.28 79 P **P** **20 56 48.3 +0.7**
baz=317,SNR=6.4
ESJX Sierra Juarez 56.40 81 P **P** **20 56 49.4 +0.7**
B35A Bob, Littlefor 56.40 53 P **P** **20 56 47.8 -0.5**
B35A Bob, Littlefor 56.40 53 P **P** **20 56 48.1 -0.1**
baz=316,SNR=6.0
WUAZ Wupatki 56.45 75 P **P** **20 56 49.9 +0.9**
WUAZ IAmb IAmb 20 57 01.9
comp=Z,59nm,1.4s
WUAZ Wupatki 56.45 75 P **P** **20 56 49.7 +0.7**
baz=316,SNR=8.9
DY2G Dye2 56.54 16 *e*P **P** **20 56 46.9 -2.4**
DY2G IAmb IAmb 20 56 49.8
comp=Z,7.7nm,0.9s
ISCO Idaho Springs 56.55 67 P **P** **20 56 50.6 +0.8**
ISCO IAmb IAmb 20 57 02.8
comp=Z,20nm,1.1s
ISCO Idaho Springs 56.55 67 P **P** **20 56 50.6 +0.8**
ISCO pmax pmax
comp=Z,20nm,1.1s
ISCO Idaho Springs 56.55 67 P **P** **20 56 51.1 +1.3**
baz=316,SNR=13
ISCO Idaho Springs 56.55 67 P **P** **20 56 49.3 -0.5**
baz=316,SNR=13
SATY Saty 56.62 299 *e*P **P** **20 56 49.5 -0.5**
SATY Saty 56.62 299 *e*P **P** **20 56 49.6 -0.5**
baz=299
Y14A Wickenburg 56.67 77 P **P** **20 56 51.2 +0.7**
SUSD Miller 56.69 59 P **P** **20 56 50.5 +0.1**
SUSD Miller 56.69 59 P **P** **20 56 50.4 -0.1**
baz=316
CHKK Chushkaly 56.77 300 *e*P **P** **20 56 49.4 -1.5**
CHKK Chushkaly 56.77 300 *e*P **P** **20 56 49.5 -1.5**
baz=300
MVCO Mesa Verde 56.84 71 P **P** **20 56 52.0 +0.2**
MVCO IAmb IAmb 20 57 09.6
comp=Z,43nm,1.6s
MVCO Mesa Verde 56.84 71 P **P** **20 56 51.8 0.0**
baz=316
F33A 5 Mile Ranch, 57.00 56 P **P** **20 56 52.4 -0.1**
KUU Kurty 57.07 301 *d i* P **P** **20 56 51.6 -1.5**
KUU pmax pmax
comp=Z,41nm,1.7s
KUU Kurty 57.07 301 ⇓ *i* P **P** **20 56 51.6 -1.5**
comp=Z,41nm,1.7s,baz=301
113A Mohawk Valley, 57.09 79 P **P** **20 56 53.5 +0.1**
KIRV Kirov 57.18 327 P **P** **20 56 52.2 -1.4**
comp=Z,10nm,0.8s,baz=35,slow=5.4,SNR=6.2
comp=Z,10nm,0.8s
KIRV Kirov 57.18 327 *ce* P **P** **20 56 54.3 +0.7**
X16A Lo Mia Camp, P 57.21 75 P **P** **20 56 55.4 +1.0**
MDOK Medeo 57.23 300 *i* P **P** **20 56 53.6 -0.8**
MDOK Medeo 57.23 300 *i* P **P** **20 56 53.6 -0.8**
baz=300
AAA Alma-Ata 57.27 300 *e*P **P** **20 56 54.1 -0.5**
AAA pmax pmax
comp=Z,16nm,1.0s
AAA Alma-Ata 57.27 300 *e*P **P** **20 56 54.1 -0.5**
comp=Z,16nm,1.0s,baz=300
BTLS Baital 57.38 303 *i* P **P** **20 56 54.3 -0.9**
BTLS pmax pmax
comp=Z,23nm,2.5s
BTLS Baital 57.38 303 *e*P **P** **20 56 54.3 -0.9**
comp=Z,37nm,3.4s,baz=303
Q24A Divide 57.40 67 P **P** **20 56 54.5 -1.3**
Q24A Divide 57.40 67 P **P** **20 56 56.1 +0.3**
baz=316
OGNE Ogallala 57.63 64 P **P** **20 56 57.4 +0.3**
OGNE Ogallala 57.63 64 P **P** **20 56 57.4 +0.3**
baz=316
W18A Petrified Fore 57.66 74 P **P** **20 56 57.9 +0.3**
W18A IAmb IAmb 20 57 13.7
comp=Z,20nm,1.1s
W18A Petrified Fore 57.66 74 P **P** **20 56 58.2 +0.6**
baz=317
EYMN Ely 57.73 52 P **P** **20 56 57.5 -0.2**
EYMN IAmb IAmb 20 57 06.9
comp=Z,30nm,1.1s
EYMN Ely 57.73 52 P **P** **20 56 57.9 +0.2**
baz=317,SNR=5.3
TARG Taragay, Kyrgy 57.88 298 P **P** **20 56 58.6 -0.7**
TARG Taragay, Kyrgy 57.88 298 P **P** **20 56 58.7 -0.7**
TARG pmax pmax
comp=Z,6.0nm,0.9s
X18A Snowflake 57.97 74 P **P** **20 57 00.2 +0.4**
X18A IAmb IAmb 20 57 12.8
comp=Z,26nm,1.2s
SDCO Great Sand Dun 58.09 69 P **P** **20 57 01.1 +0.4**
SDCO Great Sand Dun 58.09 69 P **P** **20 57 01.8 +1.1**
baz=317,SNR=13
SDCO Great Sand Dun 58.09 69 P **P** **20 57 00.9 +0.2**
baz=317,SNR=13
TKM2 Tokmak 2 58.15 300 P **P** **20 57 00.5 -0.4**
SNR=6.4
TKM2 Tokmak 2 58.15 300 *i* P **P** **20 56 59.6 -1.3**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s
KLMR Klimovskoe 58.17 333 *e*P **P** **20 56 59.5 -1.0**
KLMR pmax pmax
comp=Z,72nm,1.3s
KLMR Klimovskoe 58.17 333 *e*P **P** **20 56 59.6 -1.0**
KLMR AMP 20 57 09.7
comp=Z,72nm,1.3s
KLMR *e*PcP **PcP** **20 57 49.1 -2.8**
KLMR *e*SS **SS** **21 08 53.1 +1.4**
KLMR *e*SS **SS** **21 08 53.1 +1.4**
214A Organ Pipe Nat 58.24 78 P **P** **20 57 02.5 +1.0**
214A IAmb IAmb 20 57 07.2
comp=Z,24nm,1.1s
214A Organ Pipe Nat 58.24 78 P **P** **20 57 02.1 +0.6**
baz=318
SGDS Sogindy 58.24 301 *d i* P **P** **20 57 01.0 -0.4**
SGDS Sogindy 58.24 301 ⇓ *i* P **P** **20 57 01.0 -0.4**
baz=301
BOOM Boomskoye usch 58.28 300 P **P** **20 57 01.7 -0.1**
BOOM IAmb IAmb 20 57 09.8
comp=Z,21nm,1.1s
BOOM Boomskoye usch 58.28 300 P **P** **20 57 01.7 -0.1**
BOOM pmax pmax
comp=Z,21nm,1.2s
F36A Milaca 58.31 54 P **P** **20 57 01.6 -0.2**
F36A IAmb IAmb 20 57 24.1
comp=Z,62nm,2.0s
F36A Milaca 58.31 54 P **P** **20 57 01.7 0.0**
baz=317,SNR=5.6
ECSD EROS Data Cent 58.37 58 P **P** **20 57 01.8 -0.4**
ECSD EROS Data Cent 58.37 58 P **P** **20 57 02.2 0.0**
baz=317,SNR=6.4
ECSD EROS Data Cent 58.37 58 P **P** **20 57 02.0 -0.2**
baz=317,SNR=6.4
USP Ospenovka 58.44 301 P **P** **20 57 02.6 -0.1**
SNR=8.8
DAV Davao City (W) 58.50 233 LR LR 21 17 54.7
comp=Z,122nm,21.7s,baz=57,slow=32
KBK Karagaybulak 58.66 300 P **P** **20 57 03.7 -0.8**
SNR=7.9
E38A The Farm, Brul 58.69 53 P **P** **20 57 04.2 -0.2**
E38A IAmb IAmb 20 57 16.0
comp=Z,22nm,1.0s
KSCO Kaye Shedlock' 58.72 66 P **P** **20 57 05.3 +0.4**
KSCO IAmb IAmb 20 57 18.3
comp=Z,32nm,1.1s
KSCO Kaye Shedlock' 58.72 66 P **P** **20 57 05.0 +0.1**
baz=317
AAK Ala-Archa 58.91 301 P **P** **20 57 05.7 -0.4**
SNR=8.3
AAK Ala-Archa 58.91 301 P **P** **20 57 05.7 -0.4**
comp=Z,9.8nm,0.9s,baz=158,slow=0.9,SNR=11
AAK LR LR 21 22 09.1
comp=Z,532nm,18.6s,baz=47,slow=36
comp=Z,9.8nm,0.9s
AAK Ala-Archa 58.91 301 P **P** **20 57 05.4 -0.8**
AAK Ala-Archa 58.91 301 *ce* P **P** **20 57 05.8 -0.4**
AAK pmax pmax
comp=Z,20nm,1.3s
MANU Manus Island 59.00 205 P **P** **20 57 08.1 +1.3**
NRN Naryn 59.02 299 P **P** **20 57 07.3 +0.1**
NRN Naryn 59.02 299 P **P** **20 57 07.3 +0.1**
NRN pmax pmax
comp=Z,13nm,1.2s
SPMN Marine on St. 59.12 55 P **P** **20 57 06.7 -0.8**
SPMN IAmb IAmb 20 57 19.5
comp=Z,26nm,1.1s
T25A Trinidad 59.13 68 P **P** **20 57 08.3 +0.4**
T25A IAmb IAmb 20 57 13.5
comp=Z,42nm,1.5s
T25A Trinidad 59.13 68 P **P** **20 57 08.3 +0.4**
baz=317
TUC Tucson 59.13 77 P **P** **20 57 08.4 +0.7**
TUC Tucson 59.13 77 P **P** **20 57 08.5 +0.7**
TUC pmax pmax
comp=Z,14nm,1.1s
TUC Tucson 59.13 77 P **P** **20 57 08.5 +0.7**
baz=318
EKS2 Erkin-Say 59.25 301 P **P** **20 57 08.0 -0.5**
SNR=13
BGNE Belgrade 59.30 61 P **P** **20 57 08.7 -0.1**
BGNE Belgrade 59.30 61 P **P** **20 57 08.5 -0.2**
baz=317
LSA Lhasa 59.34 279 P **P** **20 57 10.2 +0.5**
LSA IAmb IAmb 20 57 18.9
comp=Z,27nm,1.3s
LSA Lhasa 59.34 279 P **P** **20 57 10.2 +0.5**
LSA pmax pmax
comp=Z,27nm,1.3s
ANMO Albuquerque 59.62 72 P **P** **20 57 11.5 +0.3**
ANMO Albuquerque 59.62 72 *ce* P **P** **20 57 10.7 -0.5**
ANMO pmax pmax
comp=Z,13nm,1.7s
ANMO Albuquerque 59.62 72 P **P** **20 57 11.5 +0.3**
baz=318
I37A Lemond, Waseca 59.74 56 P **P** **20 57 11.8 +0.2**
I37B Waseca 59.74 56 P **P** **20 57 12.2 +0.5**
baz=318,SNR=11
L34A Svendsen Farm, 59.79 59 P **P** **20 57 11.8 -0.3**
L34A Svendsen Farm, 59.79 59 P **P** **20 57 11.8 -0.3**
baz=318
LENM Lemitar 59.91 72 P **P** **20 57 14.1 +0.9**
SBM South Baldy 59.93 73 P **P** **20 57 15.7 +2.0**
RABL Rabaul 60.03 199 P **P** **20 57 14.8 +0.8**
BNM Barren Site 60.11 72 P **P** **20 57 15.2 +0.5**
N33A J Bar K, Exete 60.15 61 P **P** **20 57 14.1 -0.5**
N33A IAmb IAmb 20 57 33.2
comp=Z,26nm,0.9s
KRVT Keravat (AS076 60.17 199 P **P** **20 57 16.4 +1.5**
comp=Z,43nm,0.6s,baz=256,slow=6.4,SNR=10
KRVT LR LR 21 17 23.5
comp=Z,264nm,20.5s,baz=162,slow=30
comp=Z,43nm,0.6s
COWI Conover 60.18 52 P **P** **20 57 13.9 -0.8**
COWI IAmb IAmb 20 57 19.0
comp=Z,17nm,1.1s
COWI Conover 60.18 52 P **P** **20 57 14.3 -0.4**
baz=319
G40A Rib Lake 60.32 53 P **P** **20 57 15.2 -0.5**
CBKS Cedar Bluff 60.39 64 P **P** **20 57 16.2 -0.1**
CBKS IAmb IAmb 20 57 28.0
comp=Z,28nm,1.1s
CBKS Cedar Bluff 60.39 64 P **P** **20 57 16.2 -0.1**
CBKS pmax pmax
comp=Z,28nm,1.1s
CBKS Cedar Bluff 60.39 64 P **P** **20 57 15.9 -0.4**
baz=318
KSH Kashi 60.45 297 P **P** **20 57 20.0 +3.2**
KSH sP pwP 20 57 27.4 +3.6
KSH pmax pmax
comp=Z,16nm,1.7s
KSH LR LR
comp=Z,2μm,18.6s
KSH LR LR
comp=Z,2μm,15.8s
AKTO Aktyubinsk 60.51 317 P **P** **20 57 15.1 -1.8**
comp=Z,9.9nm,0.9s,baz=352,slow=4.3,SNR=21
AKTO LR LR 21 24 06.2
comp=Z,278nm,20.0s,baz=28,slow=37
comp=Z,9.9nm,0.9s
KK31 Karatay Array 60.53 304 P **P** **20 57 16.3 -0.9**
KK31 Karatay Array 60.53 304 *ce* P **P** **20 57 16.0 -1.2**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 60.53 304 P **P** **20 57 16.1 -1.0**
KKAR Karatay Array 60.53 304 P **P** **20 57 15.6 -1.6**
KKAR Karatay Array 60.53 304 P **P** **20 57 15.6 -1.6**
AB31 Akbulak array 60.63 315 *ce* P **P** **20 57 16.5 -1.2**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 60.63 315 P **P** **20 57 16.4 -1.3**
ABKAR Akbulak array 60.63 315 P **P** **20 57 16.8 -0.9**
ABKAR IAmb IAmb 20 57 22.3
comp=Z,12nm,1.1s
121A Cookes Peak, D 60.66 74 P **P** **20 57 18.4 0.0**
121A IAmb IAmb 20 57 52.6
comp=Z,25nm,1.4s
121A Cookes Peak, D 60.66 74 P **P** **20 57 17.5 -0.9**
baz=318
319A Douglas 60.68 76 P **P** **20 57 18.5 +0.1**
FIA1 FINESS Array S 60.72 340 P **P** **20 57 17.2 -1.0**
FIA1 IAmb IAmb 20 57 38.2
comp=Z,20nm,0.9s
FINES FINESS Array B 60.73 340 P **P** **20 57 17.5 -0.7**
comp=Z,8.6nm,0.9s,baz=29,slow=6.6,SNR=13
comp=Z,8.6nm,0.9s
FINES FINESS Array B 60.73 340 P **P** **20 57 17.6 -0.5**
FINES FINESS Array B 60.73 340 *ce* P **P** **20 57 17.7 -0.4**
FINES pmax pmax
comp=Z,9.0nm,0.9s
F42A Maple Grove Fa 60.90 51 P **P** **20 57 18.3 -1.3**
F42A IAmb IAmb 20 57 20.1
comp=Z,15nm,0.7s
E43A Lone Tree Farm 60.94 50 P **P** **20 57 19.1 -0.7**
E43A IAmb IAmb 20 57 28.8
comp=Z,35nm,1.6s
N35A Tabor 60.98 60 P **P** **20 57 20.3 +0.1**
K38A Parkersburg 61.06 56 P **P** **20 57 19.8 -1.0**
K38A IAmb IAmb 20 58 02.9
comp=Z,29nm,1.4s
CRAI Chiangrai 61.20 265 P **P** **20 57 22.5 +0.6**
CRAI IAmb IAmb 20 57 25.8
comp=Z,19nm,1.0s
SCIA State Center 61.40 57 P **P** **20 57 22.8 -0.3**
SCIA State Center 61.40 57 P **P** **20 57 22.6 -0.4**
baz=319
SMPI Sarmi 61.47 215 P **P** **20 57 25.3 +1.6**
comp=Z,49nm,1.3s
IUG luzhnay 61.48 303 *d i* P **P** **20 57 23.4 -0.3**
IUG luzhnay 61.48 303 ⇓ *i* P **P** **20 57 23.5 -0.3**
baz=303
BAKI Biak 61.62 218 P **P** **20 57 26.2 +1.4**
comp=Z,2μmcomp=Z,128nm,1.3s
KSU1 Kansas State U 61.80 62 P **P** **20 57 24.9 -0.9**
baz=319
SCHQ Schefferville 61.92 33 P **P** **20 57 25.5 -0.8**
comp=Z,14nm,0.8s,baz=342,slow=6.5,SNR=7.2
SCHQ LR LR 21 26 01.1
comp=Z,382nm,19.4s,baz=316,slow=38
comp=Z,14nm,0.8s
SCHQ Schefferville 61.92 33 P **P** **20 57 25.5 -0.8**
SCHQ IAmb IAmb 20 57 26.7
comp=Z,30nm,1.1s
RAF Rauma 61.92 342 *e*P **P** **20 57 26.4 +0.2**
I42A Draeger Farm, 61.96 53 P **P** **20 57 26.2 -0.6**
I42A IAmb IAmb 20 57 35.4
comp=Z,34nm,1.4s
I42A Draeger Farm, 61.96 53 P **P** **20 57 26.2 -0.6**
baz=320
SHL Shillong 62.03 275 P **P** **20 57 26.9 -0.9**
SHL IAmb IAmb 20 57 36.1
comp=Z,33nm,1.2s
SHL Shillong 62.03 275 P **P** **20 57 26.9 -0.9**
SHL pmax pmax
comp=Z,33nm,1.2s
JFWS Jewell Farm 62.08 55 P **P** **20 57 26.7 -0.9**
baz=320
E46A Sault Ste Mari 62.14 48 P **P** **20 57 26.8 -1.1**
E46A IAmb IAmb 20 57 35.5
comp=Z,14nm,0.9s
E46A Sault Ste Mari 62.14 48 P **P** **20 57 25.5 -2.5**
baz=321
UBPT Khong Chiam 62.18 257 P **P** **20 57 30.0 +1.4**
MEF Metsahovi 62.18 341 *e*P **P** **20 57 28.5 +0.6**
L40A Anamosa 62.26 56 P **P** **20 57 27.6 -1.2**
L40A IAmb IAmb 20 57 58.9
comp=Z,16nm,1.1s
AMTX Amarillo 62.28 68 P **P** **20 57 28.7 -0.5**
baz=319
MSTX Muleshoe 62.37 70 P **P** **20 57 29.8 0.0**
MSTX IAmb IAmb 20 57 41.9
comp=Z,28nm,1.1s
MSTX Muleshoe 62.37 70 P **P** **20 57 30.2 +0.3**
baz=319
MSTX Muleshoe 62.37 70 P **P** **20 57 29.2 -0.6**
baz=319
DRK Karamyk 62.62 300 P **P** **20 57 31.7 +0.1**
MNTX Cornudas Mount 62.63 73 P **P** **20 57 31.2 -0.3**
MNTX IAmb IAmb 20 57 37.2
comp=Z,23nm,1.1s
MNTX Cornudas Mount 62.63 73 P **P** **20 57 32.4 +0.9**
baz=319,SNR=24
MNTX Cornudas Mount 62.63 73 P **P** **20 57 31.5 0.0**
baz=319,SNR=24
PHRA Phrae 62.64 264 P **P** **20 57 32.5 +0.8**
BTK Batken 62.67 301 P **P** **20 57 31.1 -0.6**
BTK IAmb IAmb 20 57 48.7
comp=Z,35nm,1.3s
BTK Batken 62.67 301 P **P** **20 57 31.1 -0.6**
BTK pmax pmax
comp=Z,35nm,1.3s
BELG Belogornoye 62.81 324 P **P** **20 57 31.2 -1.1**
comp=Z,20nm,1.0s,baz=97,slow=1.3,SNR=5.6
BELG LR LR 21 26 21.1
comp=Z,395nm,19.7s,baz=55,slow=38
comp=Z,20nm,1.0s
BELG Belogornoye 62.81 324 *i* P **P** **20 57 31.8 -0.5**
BELG pmax pmax

comp=Z,4.0nm,0.9s
GDL2 Guadalupe Moun 62.82 72 P **P** **20 57 32.7 -0.2**
P38A Dawn 62.97 59 P **P** **20 57 32.6 -1.0**
P38A IAmb IAmb 20 57 42.0
comp=Z,29nm,1.4s
P38A Dawn 62.97 59 P **P** **20 57 33.1 -0.5**
baz=320
CLN7 Carlsbad 7 62.97 72 P **P** **20 57 33.0 -0.8**
HTMS Hat Mesa 63.02 71 P **P** **20 57 34.3 +0.1**
L42A Oliver, Polo 63.05 55 **P** **20 57 32.9 -1.2**
L42A IAmb IAmb 20 58 04.0
comp=Z,15nm,0.9s
L42A Oliver, Polo 63.05 55 P **P** **20 57 33.1 -1.0**
baz=320
MOS Moscow 63.09 331 *e*P **P** **20 57 33.0 -1.1**
MOS pmax pmax
comp=Z,44nm,1.0s
TAPN Taplejung 63.09 280 *e*P **P** **20 57 34.5 -0.5**
comp=Z,100nm,1.1s
CHTO Chiang Mai 63.14 265 P **P** **20 57 35.0 0.0**
CHTO Chiang Mai 63.14 265 P **P** **20 57 35.0 0.0**
CHTO pmax pmax
comp=Z,1.0nm,1.0s
CHTO Chiang Mai 63.14 265 P **P** **20 57 35.7 +0.7**
GLMI Grayling 63.20 50 P **P** **20 57 34.6 -0.5**
GLMI Grayling 63.20 50 P **P** **20 57 34.7 -0.4**
baz=321
NC303 NORSAR Array S 63.27 348 P **P** **20 57 34.5 -0.8**
TNTI Ternate 63.29 228 P **P** **20 57 35.2 -0.8**
NC204 NORSAR Array S 63.30 348 P **P** **20 57 35.0 -0.5**
VSU Vasula 63.33 339 *e*P **P** **20 57 35.6 -0.1**
NC405 NORSAR Array S 63.34 348 P **P** **20 57 35.4 -0.3**
CM31 Chiang Mai Arr 63.42 265 P **P** **20 57 37.1 +0.3**
CM31 IAmb IAmb 20 57 40.6
comp=Z,20nm,0.9s
CMAR Chiang Mai Arr 63.42 265 P **P** **20 57 37.5 +0.7**
comp=Z,14nm,0.8s,baz=22,slow=7.4,SNR=77
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 63.42 265 P **P** **20 57 37.1 +0.3**
NB201 NORSAR Array S 63.45 348 P **P** **20 57 35.7 -0.8**
N41A Harden Midland 63.47 57 P **P** **20 57 35.8 -1.1**
N41A Harden Midland 63.47 57 P **P** **20 57 36.4 -0.5**
baz=320
NB2 NORSAR Subarra 63.47 348 P **P** **20 57 36.1 -0.6**
comp=Z,30nm,0.9s,baz=16,slow=6.9
NB2 NORSAR Subarra 63.47 348 P **P** **20 57 36.1 -0.6**
baz=16,slow=6.9
NOA NORSAR Array B 63.47 348 P **P** **20 57 36.3 -0.4**
comp=Z,15nm,0.9s,baz=15,slow=6.6,SNR=45
comp=Z,15nm,0.9s
NBO00 NORSAR Array S 63.53 348 P **P** **20 57 35.6 -1.5**
MYLDM Lahad Datu 63.56 239 P **P** **20 57 39.4 +1.7**
VLDQ Val d'Or 63.63 43 P **P** **20 57 35.1 -2.7**
VLDQ IAmb IAmb 20 57 46.2
comp=Z,16nm,0.8s
ODAN Odare 63.65 280 *e*P **P** **20 57 38.1 -0.5**
GUN Gumba 63.72 282 *e*P **P** **20 57 38.6 -0.5**
GAR Garm 63.73 301 P **P** **20 57 37.7 -1.1**
NC602 NORSAR Array S 63.73 348 P **P** **20 57 37.5 -0.7**
JIRN Jiri 63.73 281 *e*P **P** **20 57 38.7 -0.6**
L44A Lake County Fo 63.75 54 P **P** **20 57 37.7 -1.0**
baz=321
P40A Paris 63.78 58 P **P** **20 57 38.1 -0.8**
P40A IAmb IAmb 20 57 49.7
comp=Z,17nm,0.9s
P40A Paris 63.78 58 P **P** **20 57 38.5 -0.4**
baz=320,SNR=7.7
OBN Obninsk 63.93 332 P **P** **20 57 39.4 -0.2**
comp=Z,2.2nm,0.5s,baz=121,slow=8.1,SNR=6.1
comp=Z,2.2nm,0.5s
OBN Obninsk 63.93 332 P **P** **20 57 39.5 -0.2**
OBN IAmb IAmb 20 57 48.5
comp=Z,31nm,1.1s
OBN Obninsk 63.93 332 *e*P **P** **20 57 39.5 -0.2**
OBN pmax pmax
comp=Z,18nm,1.0s
WMOK Wichita Mounta 63.95 66 P **P** **20 57 39.6 -0.6**
WMOK IAmb IAmb 20 57 49.0
comp=Z,13nm,0.7s
WMOK Wichita Mounta 63.95 66 P **P** **20 57 39.7 -0.6**
WMOK pmax pmax
comp=Z,13nm,0.7s
WMOK Wichita Mounta 63.95 66 P **P** **20 57 40.0 -0.2**
baz=320,SNR=6.4
WMOK Wichita Mounta 63.95 66 P **P** **20 57 39.6 -0.6**
baz=320
KKM Kota Kinabalu 63.97 241 P **P** **20 57 41.0 +0.4**
RAMN Ramite 64.03 280 *e*P **P** **20 57 40.4 -0.7**
comp=Z,120nm,0.9s
HNR Honiara 64.06 190 LR LR 21 22 57.5
comp=Z,2μm,20.3s,baz=8.5,slow=34
PKI Pulchoki 64.24 282 *e*P **P** **20 57 41.9 -0.7**
comp=Z,35nm,0.7s
PKIN Phulchoki 64.25 282 *e*P **P** **20 57 41.8 -0.7**
comp=Z,47nm,0.8s
HDIL Hopedale 64.34 56 P **P** **20 57 41.8 -0.8**
HDIL Hopedale 64.34 56 P **P** **20 57 42.1 -0.5**
baz=321
HDIL Hopedale 64.34 56 P **P** **20 57 42.0 -0.6**
baz=321
GKN Gorkha 64.36 283 *e*P **P** **20 57 42.4 -0.7**
CHGR Chuyangaron 64.57 301 P **P** **20 57 43.0 -1.3**
CHGR Chuyangaron 64.57 301 P **P** **20 57 43.0 -1.3**
CHGR pmax pmax
comp=Z,35nm,1.0s
DANN Dangsing 64.59 284 *e*P **P** **20 57 44.1 -0.7**
R40A Maddies Statio 64.62 59 P **P** **20 57 43.1 -1.4**
R40A IAmb IAmb 20 57 57.4
comp=Z,22nm,1.2s
R40A Maddies Statio 64.62 59 P **P** **20 57 43.5 -1.1**
baz=320,SNR=5.8
TUL1 Leonard 64.64 63 P **P** **20 57 43.9 -0.7**
baz=320
FAKI Fak Fak 64.64 221 P **P** **20 57 45.7 +0.9**
FAKI Fak Fak 64.64 221 P **P** **20 57 45.7 +0.9**
KONO Kongsberg 65.02 348 *ce*P **P** **20 57 47.4 +0.7**
KONO pmax pmax
comp=Z,29nm,1.7s
ABTX Abilene, Hawle 65.10 68 P **P** **20 57 47.0 -0.7**
baz=320
PYUN Piuthan 65.22 284 *e*P **P** **20 57 48.1 -0.7**
CCM Cathedral Cave 65.32 59 P **P** **20 57 47.9 -1.1**
CCM IAmb IAmb 20 58 03.3
comp=Z,20nm,1.3s
CCM Cathedral Cave 65.32 59 P **P** **20 57 47.9 -1.1**
CCM pmax pmax
comp=Z,20nm,1.3s
CCM Cathedral Cave 65.32 59 P **P** **20 57 48.0 -1.0**
baz=321
CCM Cathedral Cave 65.32 59 P **P** **20 57 47.8 -1.2**
baz=321
HHAR Hobbs 65.32 62 P **P** **20 57 47.3 -1.8**
SLM Saint Louis 65.37 58 P **P** **20 57 48.1 -1.2**
SLM Saint Louis 65.37 58 P **P** **20 57 48.1 -1.2**
SLM pmax pmax
comp=Z,21nm,0.6s
LOOK Love County 65.38 66 P **P** **20 57 49.2 -0.3**
LOOK IAmb IAmb 20 58 16.5
comp=Z,19nm,0.7s
TX31 Lajitas Ar. Si 65.39 74 P **P** **20 57 49.3 -0.5**
TX31 Lajitas Ar. Si 65.39 74 P **P** **20 57 49.9 +0.2**
baz=320,SNR=33
TX32 Lajitas Array 65.39 74 P **P** **20 57 49.8 +0.1**
TX32 IAmb IAmb 20 58 27.7
comp=Z,18nm,1.1s
TXAR Lajitas Array 65.39 74 P **P** **20 57 50.2 +0.4**
comp=Z,5.5nm,0.6s,baz=302,slow=4.8,SNR=71
comp=Z,5.5nm,0.6s
TXAR Lajitas Array 65.39 74 P **P** **20 57 49.8 +0.1**
LPSR Galich'ya Gora 65.45 329 *e*P **P** **20 57 49.4 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
MGMO Mountain Grove 65.50 60 P **P** **20 57 48.4 -1.9**
SFIN Lafayette 65.53 54 P **P** **20 57 49.9 -0.6**
SFIN IAmb IAmb 20 57 54.2
comp=Z,16nm,1.1s
SFIN Lafayette 65.53 54 P **P** **20 57 49.8 -0.6**
baz=322
L48A N Adams 65.55 52 P **P** **20 57 49.4 -1.1**
L48A N Adams 65.55 52 P **P** **20 57 49.8 -0.7**
baz=322
L48A P **P** **20 57 49.8 -0.7**
baz=322
SADO Sadowa 65.63 46 LR LR 21 28 05.1
comp=Z,1μm,18.3s,baz=350,slow=38

SADO Sadowa 65.63 46 P **P** **20 57 49.2 -1.7**
Q44A Meyer Farm, Va 65.76 57 P **P** **20 57 50.8 -1.1**
Q44A IAmb IAmb 20 58 22.9
comp=Z,20nm,1.0s
FVM French Village 65.78 58 P **P** **20 57 50.6 -1.4**
FVM IAmb IAmb 20 57 51.8
comp=Z,8.7nm,0.7s
FVM French Village 65.78 58 P **P** **20 57 50.6 -1.4**
FVM pmax pmax
comp=Z,9.0nm,0.7s
VRH Novokhopyorsk 65.79 327 *e*P **P** **20 57 50.3 -1.5**
VRH pmax pmax
comp=Z,20nm,0.8s
LATQ La Tuque 66.05 41 P **P** **20 57 52.6 -1.0**
P46A Rosedale 66.08 55 P **P** **20 57 53.1 -0.8**
P46A IAmb IAmb 20 58 08.5
comp=Z,24nm,1.1s
PMG Port Moresby 66.15 203 P **P** **20 57 55.3 +0.8**
comp=Z,26nm,1.0s,baz=42,slow=6.0,SNR=4.1
PMG LR LR 21 23 06.0
comp=Z,228nm,19.2s,baz=24,slow=33
comp=Z,26nm,1.0s
PMG Port Moresby 66.15 203 *ce*P **P** **20 57 55.8 +1.3**
PMG pmax pmax
comp=Z,30nm,1.0s
VORR Voronezh 66.17 328 *e*P **P** **20 57 56.0 +1.7**
VORR pmax pmax
comp=Z,10.0nm,0.4s
TRQ Mont Tremblant 66.32 43 P **P** **20 57 53.9 -1.6**
TRQ IAmb IAmb 20 58 03.0
comp=Z,21nm,1.0s
OLIL Olney 66.34 56 P **P** **20 57 54.5 -1.1**
OLIL IAmb IAmb 20 58 04.2
comp=Z,15nm,0.7s
DELO Deloro Mine 66.47 46 P **P** **20 57 54.9 -1.4**
DELO IAmb IAmb 20 58 03.9
comp=Z,16nm,1.1s
O48B Farmland 66.54 53 P **P** **20 57 55.5 -1.4**
baz=322
FCAR Ozark Folk Cen 66.55 61 P **P** **20 57 55.5 -1.4**
FCAR IAmb IAmb 20 58 11.0
comp=Z,13nm,0.8s
VSR Storozhevoye 66.58 328 *e*P **P** **20 57 55.6 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
S44A Carbondale 66.59 58 P **P** **20 57 56.6 -0.6**
S44A IAmb IAmb 20 59 53.1
comp=Z,17nm,0.9s
SIUC Southern Illin 66.59 58 P **P** **20 57 56.2 -1.0**
SIUC IAmb IAmb 20 58 11.8
comp=Z,19nm,0.9s
NACGM Naroch 66.59 337 *e*P **P** **20 57 57.0 +0.1**
baz=22
PABE Paberze 66.65 339 P **P** **20 57 56.8 -0.4**
PABE Paberze 66.65 339 *e*P **P** **20 57 57.6 +0.4**
JCT Junction City 66.65 70 P **P** **20 57 57.4 -0.4**
JCT IAmb IAmb 20 58 09.5
comp=Z,23nm,1.2s
JCT Junction City 66.65 70 P **P** **20 57 57.4 -0.4**
JCT pmax pmax
comp=Z,23nm,1.2s
JCT Junction City 66.65 70 P **P** **20 57 57.4 -0.4**
baz=321
MNK Minsk 66.71 336 *i* P **P** **20 57 58.7 +1.1**
MNK pmax pmax
comp=Z,66nm,1.0s
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK Minsk 66.71 336 *i* P **P** **20 57 58.8 +1.1**
comp=E,3.0nm,0.8s
MNK *i* P **P** **20 57 58.8 +1.1**
comp=N,8.0nm,1.0s
MNK *i* P **P** **20 57 58.8 +1.1**
comp=Z,66nm,1.0s,baz=24
MNK *i* PcP **PcP** **20 58 27.4 +0.7**
MNK *i* PP **PP** **21 00 25.8 +1.9**
MNK *i* PPP PPP 21 02 01.8
MNK *i* S **S** **21 06 49.0 +0.5**
MNK *i* SS **SS** **21 11 08.1 +3.1**
MNK *i* SSS SSS 21 14 26.0
MNK *i* LQ LQ 21 22 41.9
MNK *i* LR LR 21 27 35.6
MNK *i* LRM MLR 21 29 45.0
comp=E,49nm,18.0s
MNK *i* LRM MLR 21 29 45.0
comp=Z,167nm,18.1s
MNK *i* LRM MLR 21 29 56.7
comp=N,20nm,22.6s
WHTX Lake Whitney, 66.77 67 P **P** **20 57 57.9 -0.5**
baz=321
MIAR Mount Ida 66.84 63 P **P** **20 57 58.5 -0.4**
MIAR IAmb IAmb 20 58 35.9
comp=Z,13nm,0.9s
MIAR Mount Ida 66.84 63 P **P** **20 57 58.5 -0.4**
MIAR pmax pmax
comp=Z,13nm,1.0s
MIAR Mount Ida 66.84 63 P **P** **20 57 58.7 -0.2**
baz=321,SNR=5.9
MIAR Mount Ida 66.84 63 P **P** **20 57 58.0 -0.9**
baz=321,SNR=5.9
WHAR Wooly Hollow 66.93 61 P **P** **20 57 58.5 -0.9**
WHAR IAmb IAmb 20 58 13.7
comp=Z,20nm,1.2s
P48A Milroy 67.05 54 P **P** **20 57 58.7 -1.4**
P48A IAmb IAmb 20 58 08.0
comp=Z,22nm,1.1s
USIN University of 67.15 56 P **P** **20 57 60.0 -0.8**
PECO Prince Edward 67.21 46 P **P** **20 57 59.6 -1.4**
PECO IAmb IAmb 20 58 04.1
comp=Z,23nm,1.0s
M52A Chesterland 67.26 50 P **P** **20 58 00.9 -0.5**
M52A IAmb IAmb 20 58 09.5
comp=Z,22nm,0.8s
MNTQ Montreal, Queb 67.29 42 P **P** **20 58 00.0 -1.5**
MNTQ IAmb IAmb 20 58 08.8
comp=Z,15nm,0.8s
N51A Ashland 67.30 51 P **P** **20 58 00.6 -1.1**
N51A Ashland 67.30 51 P **P** **20 58 00.9 -0.8**
baz=323
N51A P **P** **20 58 00.9 -0.8**
baz=323
P49A Miami Univ. Ec 67.32 53 P **P** **20 58 00.5 -1.4**
P49A IAmb IAmb 20 58 09.9
comp=Z,22nm,1.0s
P49A Miami Univ. Ec 67.32 53 P **P** **20 58 00.9 -0.9**
baz=323
P49A Miami Univ. Ec 67.32 53 P **P** **20 58 01.2 -0.6**
baz=323
ERPA Erie 67.40 49 P **P** **20 58 01.5 -0.8**
ERPA Erie 67.40 49 P **P** **20 58 01.1 -1.2**
baz=324
J55A Hilton 67.41 47 P **P** **20 58 01.0 -1.2**
J55A IAmb IAmb 20 58 10.1
comp=Z,27nm,0.9s
J55A Hilton 67.41 47 P **P** **20 58 01.1 -1.2**
baz=325
J55A P **P** **20 58 01.1 -1.2**
baz=325
BMNY Brushton-Moira 67.48 43 P **P** **20 58 00.8 -1.9**
baz=326
ACSO Alum Creek Sta 67.57 52 P **P** **20 58 02.3 -1.1**
ACSO IAmb IAmb 20 58 07.3
comp=Z,11nm,0.8s
ACSO Alum Creek Sta 67.57 52 P **P** **20 58 02.1 -1.3**
baz=323
WCI Wyandotte Cave 67.61 55 P **P** **20 58 02.8 -0.9**
WCI IAmb IAmb 20 58 12.2
comp=Z,16nm,1.0s
WCI Wyandotte Cave 67.61 55 P **P** **20 58 02.8 -0.9**
WCI pmax pmax
comp=Z,17nm,1.0s
WCI Wyandotte Cave 67.61 55 P **P** **20 58 02.2 -1.5**
baz=322
435B Jarrell 67.63 68 **P** **20 58 03.2 -0.7**
LONY Lake Ozonia 67.63 44 P **P** **20 58 01.9 -1.8**
LONY Lake Ozonia 67.63 44 P **P** **20 58 02.2 -1.5**
baz=326
M53A WI Miller and 67.64 50 P **P** **20 58 02.8 -1.1**
M53A WI Miller and 67.64 50 P **P** **20 58 02.6 -1.2**
baz=324,SNR=8.9
D62A Allapoint, All 67.70 39 P **P** **20 58 03.0 -1.0**
D62A IAmb IAmb 20 58 06.7
comp=Z,13nm,0.8s
D62A Allapoint, All 67.70 39 P **P** **20 58 03.3 -0.8**
baz=328
D62A P **P** **20 58 03.3 -0.8**
baz=328
ALLY Alegheny Colle 67.71 49 P **P** **20 58 03.5 -0.8**
WLAR White Oak Lake 67.75 63 P **P** **20 58 03.7 -0.9**
J56A Wolcott 67.80 46 P **P** **20 58 03.0 -1.8**
J56A IAmb IAmb 20 58 12.2
comp=Z,18nm,0.8s
J56A Wolcott 67.80 46 P **P** **20 58 03.0 -1.8**
baz=325
J56A P **P** **20 58 03.0 -1.8**
baz=325
MMNY Mt. Morris Dam 67.80 47 P **P** **20 58 03.2 -1.6**
KBL Kabul 67.82 298 P **P** **20 58 03.5 -1.8**
KBL IAmb IAmb 20 58 11.4
comp=Z,19nm,1.2s
KBL Kabul 67.82 298 P **P** **20 58 03.5 -1.8**
KBL pmax pmax
comp=Z,19nm,1.3s
E62A Clayton Lake 67.91 39 P **P** **20 58 04.5 -0.9**
N53A Lisbon 68.08 50 P **P** **20 58 05.8 -0.8**
N53A IAmb IAmb 20 58 16.7
comp=Z,18nm,0.9s
N53A Lisbon 68.08 50 P **P** **20 58 06.1 -0.5**
baz=324
N53A P **P** **20 58 06.1 -0.5**
baz=324
R49A Shelbyville 68.09 55 P **P** **20 58 06.0 -0.7**
R49A IAmb IAmb 20 58 07.5
comp=Z,40nm,1.8s
O52A Adamsville 68.19 51 P **P** **20 58 06.4 -1.0**
O52A Adamsville 68.19 51 P **P** **20 58 06.6 -0.7**
baz=324,SNR=10
O52A P **P** **20 58 06.6 -0.7**
baz=324,SNR=10
T47A Sharon Grove 68.20 57 P **P** **20 58 07.0 -0.4**
T47A IAmb IAmb 20 58 16.4
comp=Z,22nm,1.1s
T47A Sharon Grove 68.20 57 P **P** **20 58 07.1 -0.3**
baz=322
NCB Newcomb 68.31 44 P **P** **20 58 07.5 -0.6**
NCB IAmb IAmb 20 58 12.4
comp=Z,14nm,1.0s
O53A New Philadelph 68.36 51 P **P** **20 58 07.5 -0.9**
O53A IAmb IAmb 20 58 16.5
comp=Z,25nm,0.9s
O53A New Philadelph 68.36 51 P **P** **20 58 07.1 -1.3**
baz=324
Q51A Peebles 68.37 53 P **P** **20 58 07.3 -1.1**
Q51A IAmb IAmb 20 58 10.2
comp=Z,14nm,0.7s
Q51A Peebles 68.37 53 P **P** **20 58 07.7 -0.8**
baz=323
Q51A P **P** **20 58 07.7 -0.8**
baz=323
J58A Remsen 68.39 45 P **P** **20 58 06.9 -1.6**
J58A IAmb IAmb 20 58 15.5
comp=Z,16nm,0.9s
J58A Remsen 68.39 45 P **P** **20 58 07.2 -1.3**
baz=326
J58A P **P** **20 58 07.2 -1.3**
baz=326
K57A Scipio Center 68.39 46 P **P** **20 58 07.1 -1.5**
K57A Scipio Center 68.39 46 P **P** **20 58 07.4 -1.2**
baz=325
L56A Greenwood 68.44 47 P **P** **20 58 07.5 -1.4**
L56A Greenwood 68.44 47 P **P** **20 58 07.6 -1.3**
baz=325,SNR=11
L56A P **P** **20 58 07.6 -1.3**
baz=325,SNR=11
P52A Corning 68.44 52 P **P** **20 58 06.8 -2.1**
baz=324
NATX Nacogdoches 68.44 65 P **P** **20 58 07.9 -1.1**
baz=322
M55A Ridgway 68.46 48 P **P** **20 58 08.0 -1.1**
M55A Ridgway 68.46 48 P **P** **20 58 07.8 -1.2**
baz=325,SNR=11
M55A P **P** **20 58 07.8 -1.2**
baz=325,SNR=11
R50A Paris 68.50 54 P **P** **20 58 08.3 -1.0**
R50A IAmb IAmb 20 58 28.8
comp=Z,35nm,1.6s
WVT Waverly 68.52 58 P **P** **20 58 09.0 -0.5**
WVT Waverly 68.52 58 P **P** **20 58 09.0 -0.5**
WVT pmax pmax
comp=Z,8.0nm,0.7s
WVT Waverly 68.52 58 P **P** **20 58 08.9 -0.5**
baz=322,SNR=8.5
WVT Waverly 68.52 58 P **P** **20 58 08.0 -1.4**
baz=322
833A Chaparral WMA, 68.54 71 P **P** **20 58 10.2 +0.5**
833A IAmb IAmb 20 58 21.7
comp=Z,15nm,0.9s
833A Chaparral WMA, 68.54 71 P **P** **20 58 08.8 -0.8**
baz=321
BATG Bathurst New B 68.60 37 P **P** **20 58 09.0 -0.8**
J59A Piesco 68.62 44 P **P** **20 58 08.9 -1.0**
G62A West of Eustis 68.72 41 P **P** **20 58 10.0 -0.5**
G62A IAmb IAmb 20 58 18.4
comp=Z,16nm,0.8s
PSDB Penn State Uni 68.74 48 P **P** **20 58 09.7 -1.1**
baz=325
O54A Avella 68.79 50 P **P** **20 58 10.2 -0.9**
O54A Avella 68.79 50 P **P** **20 58 09.9 -1.2**
baz=324
O54A P **P** **20 58 09.9 -1.2**
baz=324
P53A Whipple 68.90 51 P **P** **20 58 11.5 -0.2**
P53A IAmb IAmb 20 58 15.6
comp=Z,14nm,0.9s
F64A Sherman 68.99 39 P **P** **20 58 11.0 -1.2**
LBNH Lisbon 69.00 42 P **P** **20 58 11.5 -0.8**
LBNH IAmb IAmb 20 58 14.4
comp=Z,20nm,0.9s
LBNH Lisbon 69.00 42 P **P** **20 58 11.5 -0.8**
LBNH pmax pmax
comp=Z,20nm,0.9s
LBNH Lisbon 69.00 42 P **P** **20 58 11.5 -0.8**
baz=327
LBNH Lisbon 69.00 42 P **P** **20 58 11.4 -0.8**
baz=327
OXF Oxford 69.01 60 P **P** **20 58 11.6 -0.9**
baz=322
H62A Milan 69.02 41 P **P** **20 58 11.5 -1.0**
H62A IAmb IAmb 20 58 20.7
comp=Z,21nm,0.8s
H62A Milan 69.02 41 P **P** **20 58 11.9 -0.6**
baz=327
H62A P **P** **20 58 11.9 -0.6**
baz=327
ACCN Adirondack Com 69.03 44 P **P** **20 58 10.6 -1.8**
ACCN IAmb IAmb 20 58 23.1
comp=Z,16nm,0.9s
ACCN Adirondack Com 69.03 44 P **P** **20 58 11.1 -1.4**
baz=326
BINY Binghamton 69.05 46 P **P** **20 58 10.9 -1.8**
BINY Binghamton 69.05 46 P **P** **20 58 11.2 -1.5**
baz=326
SBUM Sibu 69.09 243 P **P** **20 58 14.0 +0.8**
PKME Peaks-Kenny Pk 69.15 40 P **P** **20 58 12.2 -1.0**
baz=328
U49A Red Boiling Sp 69.22 56 P **P** **20 58 13.5 -0.3**
U49A IAmb IAmb 20 58 28.6
comp=Z,12nm,0.9s
U49A Red Boiling Sp 69.22 56 P **P** **20 58 13.5 -0.3**
baz=323
HKT Hockley 69.22 68 P **P** **20 58 13.4 -0.4**
HKT IAmb IAmb 20 58 19.9
comp=Z,28nm,1.6s
HKT Hockley 69.22 68 P **P** **20 58 13.4 -0.4**
HKT pmax pmax
comp=Z,28nm,1.6s
M57A Sunshine Farm, 69.28 47 P **P** **20 58 13.0 -1.0**
M57A IAmb IAmb 20 58 22.0
comp=Z,22nm,0.8s
M57A Sunshine Farm, 69.28 47 P **P** **20 58 13.2 -0.8**
baz=325,SNR=6.8
M57A P **P** **20 58 13.2 -0.8**
baz=325,SNR=6.8
CLTN Cedars of Leba 69.29 57 P **P** **20 58 13.5 -0.7**
CLTN IAmb IAmb 20 58 15.0
comp=Z,20nm,1.0s
PLAL Pickwick Lake 69.31 59 P **P** **20 58 13.0 -1.3**
PLAL IAmb IAmb 20 58 14.6
comp=Z,13nm,0.9s
HNH Hanover 69.31 43 P **P** **20 58 13.2 -1.0**

baz=327
V48A Smith Brothers 69.33 57 P P 20 58 14.1 -0.4
V48A IAmb IAmb 20 58 29.3
comp=Z,13nm,0.9s
V48A Smith Brothers 69.33 57 P P 20 58 14.1 -0.4
baz=323
S51A Beattyville 69.36 54 P P 20 58 13.5 -1.1
L59A Walton 69.45 45 P P 20 58 13.3 -1.9
L59A IAmb IAmb 20 58 16.8
comp=Z,16nm,0.8s
MCWV Mont Chateau 69.46 50 P P 20 58 14.3 -0.9
MCWV Mont Chateau 69.46 50 P P 20 58 14.4 -0.8
baz=325
SSPA Standing Stone 69.52 48 P P 20 58 14.3 -1.3
SSPA IAmb IAmb 20 58 19.2
comp=Z,20nm,0.9s
SSPA Standing Stone 69.52 48 P P 20 58 14.4 -1.2
baz=325
SSPA Standing Stone 69.52 48 P P 20 58 15.3 -0.3
baz=325
R53A Hurricane 69.57 52 P P 20 58 15.0 -1.0
R53A Hurricane 69.57 52 P P 20 58 15.6 -0.4
baz=324,SNR=8.3
R53A P P 20 58 15.6 -0.4
baz=324,SNR=8.3
AKASG Malin Array Be 69.86 334 P P 20 58 17.1 -0.4
comp=Z,3.1nm,0.6s,baz=28,slow=6.4,SNR=17
comp=Z,3.1nm,0.6s
AKASG Malin Array Be 69.86 334 P P 20 58 16.6 -0.9
AKBB Malin Array Si 69.86 334 P P 20 58 17.1 -0.4
AKBB IAmb IAmb 20 58 26.2
comp=Z,19nm,0.9s
AKBB Malin Array Si 69.86 334 *ce*P P 20 58 17.6 +0.1
N58A Sunbury 69.86 47 P P 20 58 16.4 -1.3
N58A IAmb IAmb 20 58 25.4
comp=Z,18nm,0.8s
BKB Balikpapan 69.91 237 P P 20 58 16.9 -1.3
GKP Gorka Klasztor 70.06 342 *eP* P 20 58 19.4 +0.7
GGN Saint George 70.17 38 P P 20 58 18.2 -1.3
GGN IAmb IAmb 20 58 21.6
comp=Z,16nm,0.9s
SWET Sewanee 70.18 57 P P 20 58 18.7 -1.1
SWET IAmb IAmb 20 58 27.9
comp=Z,13nm,0.8s
X48A Hartselle 70.24 58 P P 20 58 18.8 -1.3
X48A IAmb IAmb 20 58 38.0
comp=Z,34nm,1.4s
TZTN Tazewell 70.27 55 P P 20 58 19.7 -0.6
TZTN IAmb IAmb 20 58 56.7
comp=Z,37nm,1.6s
TZTN Tazewell 70.27 55 P P 20 58 19.9 -0.3
baz=324
ESK Eskdalemuir 70.39 355 P P 20 58 20.7 0.0
ESK IAmb IAmb 20 58 29.4
comp=Z,19nm,0.9s
ESK Eskdalemuir 70.39 355 P P 20 58 20.7 0.0
ESK pmax pmax
comp=Z,19nm,0.9s
GEYT Alibeck 70.44 308 P P 20 58 21.0 -0.4
comp=Z,5.1nm,0.7s,baz=18,slow=10.0,SNR=9.3
GEYT LR LR 21 32 25.2
comp=Z,488nm,19.2s,baz=32,slow=39
comp=Z,5.1nm,0.7s
GEYT Alibeck 70.44 308 P P 20 58 20.8 -0.6
GYA0B ALIBECK ARRAY 70.44 308 P P 20 58 20.8 -0.6
GYA0B IAmb IAmb 20 58 26.1
comp=Z,13nm,0.9s
V51A Loudon 70.48 56 P P 20 58 20.8 -0.7
V51A IAmb IAmb 20 58 30.1
comp=Z,19nm,0.9s
V51A Loudon 70.48 56 P P 20 58 21.0 -0.6
baz=324,SNR=7.5
W50A Signal Mountai 70.50 57 P P 20 58 20.8 -0.9
W50A IAmb IAmb 20 58 25.1
comp=Z,14nm,0.7s
W50A Signal Mountai 70.50 57 P P 20 58 21.2 -0.5
baz=324,SNR=8.2
HRV Adam Dziewonsk 70.61 43 P P 20 58 20.9 -1.3
baz=328
CPCT Cooper Cave 70.68 56 P P 20 58 22.3 -0.5
CPCT IAmb IAmb 20 58 53.8
comp=Z,15nm,1.0s
MVL Millersville 70.71 48 P P 20 58 21.9 -1.0
MVL IAmb IAmb 21 00 18.1
comp=Z,48nm,1.7s
BEL Belsk 70.75 340 *eP* P 20 58 28.5 +5.6
MAK Makhachkala 70.77 318 *eP* P 20 58 20.6 -2.6
V52A Sevierville 70.81 55 P P 20 58 22.7 -0.9
V52A IAmb IAmb 20 58 27.9
comp=Z,31nm,1.6s
TKL Tuckaleechee C 70.87 55 LR LR 21 30 39.8
comp=Z,1µm,19.0s,baz=334,slow=37
TKL Tuckaleechee C 70.87 55 P P 20 58 23.4 -0.6
TKL Tuckaleechee C 70.87 55 P P 20 58 23.4 -0.6
TKL pmax pmax
comp=Z,9.0nm,0.9s
FPAL Fort Paine 70.88 57 P P 20 58 23.1 -0.9
FPAL IAmb IAmb 20 58 23.8
comp=Z,11nm,0.8s
PAL Palisades 70.91 45 P P 20 58 23.2 -0.8
baz=327
Y49A Blount Mountai 71.03 58 P P 20 58 24.0 -0.9
Y49A IAmb IAmb 20 58 35.4
comp=Z,34nm,1.3s
Y49A Blount Mountai 71.03 58 P P 20 58 24.1 -0.8
baz=324
ZAIG Zacatecas 71.09 77 P P 20 58 25.2 -0.6
U54A Nelsons Funny 71.10 53 P P 20 58 24.8 -0.7
U54A IAmb IAmb 20 58 33.6
comp=Z,17nm,0.8s
U54A Nelsons Funny 71.10 53 P P 20 58 24.7 -0.7
baz=324
U54A P P 20 58 24.7 -0.7
baz=324
BLA Blacksburg 71.19 52 P P 20 58 25.3 -0.6
BLA IAmb IAmb 20 58 31.1
comp=Z,17nm,0.9s
BLA Blacksburg 71.19 52 P P 20 58 25.3 -0.6
BLA pmax pmax
comp=Z,17nm,0.9s
BLA Blacksburg 71.19 52 P P 20 58 24.9 -1.0
baz=325
X51A Calhoun 71.23 57 P P 20 58 25.4 -0.7
X51A IAmb IAmb 20 58 59.1
comp=Z,19nm,1.1s
X51A Calhoun 71.23 57 P P 20 58 25.8 -0.3
baz=324
X51A P P 20 58 25.8 -0.3
baz=324
W52A Murphy 71.25 56 P P 20 58 25.5 -0.8
W52A IAmb IAmb 20 58 34.9
comp=Z,22nm,1.1s
W52A Murphy 71.25 56 P P 20 58 26.0 -0.3
baz=324
V53A Saluda 71.32 55 P P 20 58 26.1 -0.7
V53A Saluda 71.32 55 P P 20 58 26.5 -0.2
baz=324
V53A P P 20 58 26.5 -0.2
baz=324
HRA Herat 71.35 303 P P 20 58 26.7 -0.4
HRA IAmb IAmb 20 58 30.2
comp=Z,48nm,1.9s
LRAL Lakeview Retre 71.39 59 P P 20 58 25.6 -1.5
LRAL IAmb IAmb 20 58 41.1
comp=Z,14nm,0.9s
LRAL Lakeview Retre 71.39 59 P P 20 58 25.9 -1.2
baz=323
LRAL Lakeview Retre 71.39 59 P P 20 58 25.8 -1.4
baz=323
S57A Dark Hollow, R 71.41 51 P P 20 58 26.6 -0.5
S57A IAmb IAmb 20 58 35.9
comp=Z,23nm,1.1s
RUE Ruedersdorf 71.41 344 *eP* P 20 58 27.1 +0.2
KVAR Kislovodsk Arr 71.72 322 P P 20 58 28.5 -0.6
comp=Z,0.6nm,0.4s,baz=114,slow=23,SNR=1.8
comp=Z,0.6nm,0.4s
KIV Kislovodsk 71.72 322 ⇓P P 20 58 33.6 +4.6
KIV Kislovodsk 71.72 322 *i* P P 20 58 28.3 -0.8
KIV pmax pmax
comp=Z,3.0nm,0.9s
BG3 Lake Jocassee 71.81 55 P P 20 58 29.3 -0.3
BG3 IAmb IAmb 20 58 44.7
comp=Z,24nm,1.2s
CASEE Lake Jocassee 71.81 55 P P 20 58 29.3 -0.4
baz=324,SNR=7.1
KBZ Khabaz 71.84 322 P P 20 58 29.9 +0.2
comp=Z,4.2nm,0.8s,baz=191,slow=4.1,SNR=8.3
KBZ LR LR 21 32 41.0
comp=Z,334nm,18.9s,baz=55,slow=38
comp=Z,4.2nm,0.8s
KBZ Khabaz 71.84 322 *ce*P P 20 58 30.0 +0.4
KBZ pmax pmax
comp=Z,11nm,0.9s
T57A Hurt 71.90 51 P P 20 58 28.9 -1.2
T57A IAmb IAmb 20 58 44.8
comp=Z,69nm,2.0s
T57A Hurt 71.90 51 P P 20 58 29.4 -0.7
baz=325
T57A P P 20 58 29.4 -0.7
baz=325
U56A King 71.91 52 P P 20 58 29.6 -0.6
U56A IAmb IAmb 20 58 33.9
comp=Z,17nm,1.1s
LVV L'vov 71.94 337 *eP* P 20 58 29.7 -0.5
Z51A Franklin 72.08 58 P P 20 58 30.1 -1.2
Z51A Franklin 72.08 58 P P 20 58 30.4 -0.9
baz=324
Y52A Lilburn 72.18 57 P P 20 58 31.2 -0.6
Y52A IAmb IAmb 20 58 36.1
comp=Z,18nm,1.0s
Y52A Lilburn 72.18 57 P P 20 58 31.3 -0.6
baz=324
Y52A P P 20 58 31.3 -0.6
baz=324
ZEI Tsey 72.29 321 *eP* P 20 58 31.6 -1.0
ZEI pmax pmax
comp=Z,6.0nm,0.9s
KWP Kalwaria Pacla 72.42 338 P P 20 58 33.9 +0.8
KWP Kalwaria Pacla 72.42 338 P P 20 58 33.9 +0.8
KMSC Kings Mountain 72.45 54 P P 20 58 32.5 -1.0
KMSC Kings Mountain 72.45 54 P P 20 58 32.5 -1.0
baz=325
KMSC Kings Mountain 72.45 54 P P 20 58 32.6 -0.9
baz=325
OJC Ojcow 72.48 340 *eP* P 20 58 33.0 -0.4
OJC Ojcow 72.48 340 P P 20 58 32.7 -0.7
OJC IAmb IAmb 20 58 41.7
comp=Z,25nm,0.9s
OJC Ojcow 72.48 340 P P 20 58 32.7 -0.7
OJC pmax pmax
comp=Z,25nm,0.9s
ONI Oni 72.62 321 P P 20 58 35.1 +0.7
ONI Oni 72.62 321 P P 20 58 35.1 +0.7
ONI pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 72.67 344 P P 20 58 34.0 -0.4
CLL Collm 72.67 344 P P 20 58 34.1 -0.4
CLL pmax pmax
comp=Z,20nm,1.3s
CLL Collm 72.67 344 *i* P P 20 58 33.9 -0.6
comp=Z,6.0nm,1.0s
CLL *i* Pmax 20 58 36.7
comp=Z,24nm,1.4s
CLL *ex* x 20 58 42.0
HODGE Hodges 72.75 55 P P 20 58 34.7 -0.6
HODGE IAmb IAmb 20 58 35.7
comp=Z,14nm,0.7s
HODGE Hodges 72.75 55 P P 20 58 34.9 -0.3
baz=325,SNR=9.1
152A Waverly Hall 72.82 58 P P 20 58 34.5 -1.2
152A IAmb IAmb 20 58 39.4
comp=Z,18nm,1.2s
152A Waverly Hall 72.82 58 P P 20 58 34.6 -1.1
baz=324
GOGA Godfrey 72.84 56 P P 20 58 35.0 -0.8
baz=324
CHVC Chvalec 72.85 342 *eP* P 20 58 35.0 -0.6
OSTC Ostas 72.85 342 *eP* P 20 58 36.0 +0.4
UPC Upice 72.93 342 *eP* P 20 58 35.9 -0.2
UPC Upice 72.93 342 *eP* P 20 58 35.9 -0.2
BRG Berggiesshubel 72.94 344 *eP* P 20 58 35.9 -0.2
BRG Amp 20 58 40.9
comp=Z,18nm,1.5s
BRG *ex* x 20 58 44.5
BRG Amp 20 58 46.3
comp=Z,16nm,1.1s
BRG *ex* x 20 59 04.2
BRG Amp 20 59 06.0
comp=Z,7.8nm,1.2s
BRG Berggiesshubel 72.94 344 *eP* P 20 58 35.9 -0.2
BRG pmax pmax
comp=Z,18nm,1.5s
V58A Windy Hill, Pi 72.95 52 P P 20 58 35.6 -0.8
V58A IAmb IAmb 20 58 45.0
comp=Z,19nm,0.9s
V58A Windy Hill, Pi 72.95 52 P P 20 58 35.9 -0.5
baz=326
V58A P P 20 58 35.9 -0.5
baz=326
DPC Dobruska-Polom 73.03 342 *eP* P 20 58 36.7 0.0
DPC Dobruska-Polom 73.03 342 *eP* P 20 58 36.7 0.0
DPC *ex* x 20 58 45.4
W57A Gilead 73.07 53 P P 20 58 36.0 -1.1
W57A IAmb IAmb 20 58 51.6
comp=Z,24nm,1.4s
SOC Sochi 73.09 324 *eP* P 20 58 35.2 -1.9
NIE Niedzica 73.14 339 *eP* P 20 58 36.4 -1.0
KOLS Kolonicke sedl 73.17 338 *eP* P 20 58 38.1 +0.6
KOLS pmax pmax
comp=Z,15nm,0.9s
KOLS Kolonicke sedl 73.17 338 *eP* P 20 58 38.1 +0.6
JSC Jenkinsville 73.19 54 P P 20 58 37.0 -0.8
JSC Jenkinsville 73.19 54 P P 20 58 37.0 -0.8
JSC pmax pmax
comp=Z,16nm,1.3s
KRLC Kraliky 73.21 342 *eP* P 20 58 37.7 -0.1
KRLC Kraliky 73.21 342 *eP* P 20 58 37.7 -0.1
BIRD Birdtown, Kers 73.27 54 P P 20 58 37.3 -1.0
BIRD IAmb IAmb 21 00 08.8
comp=Z,23nm,1.5s
MORC Moravsky Berou 73.35 341 ⇓P P 20 58 39.6 +1.0
MORC Moravsky Berou 73.35 341 P P 20 58 39.0 +0.4
MORC IAmb IAmb 20 58 48.5
comp=Z,29nm,1.4s
MORC Moravsky Berou 73.35 341 *eP* P 20 58 39.1 +0.5
MORC Moravsky Berou 73.35 341 P P 20 58 39.0 +0.4
MORC pmax pmax
comp=Z,29nm,1.4s
MILM Milestii Mici 73.44 333 ⇑P P 20 58 40.9 +1.8
MILM Milestii Mici 73.44 333 ⇑P P 20 58 40.9 +1.8
UZH Uzhgorod 73.45 337 *eP* P 20 58 38.7 -0.5
LANS Liptovska Anna 73.57 339 *eP* P 20 58 41.7 +1.8
LANS pmax pmax
comp=Z,16nm,0.9s
LANS Liptovska Anna 73.57 339 *eP* P 20 58 41.7 +1.8
KDU Kakadu 73.58 217 P P 20 58 40.3 +0.1
MAUC Maruska 73.69 341 *eP* P 20 58 41.3 +0.7
PRU Pruhonice 73.69 343 *eP* P 20 58 40.9 +0.4
PRU pmax pmax
comp=Z,3.0nm,0.4s
PRU Pruhonice 73.69 343 *eP* P 20 58 40.9 +0.4
BUR08 Bucovina Ar. S 73.70 335 P P 20 58 40.9 +0.1
BURAR Bucovina Array 73.72 335 ⇑P P 20 58 41.7 +0.8
BURAR Bucovina Array 73.72 335 P P 20 58 41.0 +0.1
BURAR IAmb IAmb 20 58 50.7
comp=Z,16nm,0.8s
BURAR Bucovina Array 73.72 335 ⇑P P 20 58 41.7 +0.8
HAW Hawthorne Fire 73.78 55 P P 20 58 39.9 -1.4
baz=325,SNR=6.4
NKC Novy Kostel 73.80 344 *eP* P 20 58 41.0 -0.2
NKC Novy Kostel 73.80 344 *eP* P 20 58 41.0 -0.2
VRAC Vranov 73.98 341 ⇓P P 20 58 42.1 -0.2
VRAC Vranov 73.98 341 P P 20 58 42.5 +0.3
comp=Z,6.7nm,0.9s,baz=9.2,slow=6.3,SNR=10.0
comp=Z,6.7nm,0.9s
VRAC Vranov 73.98 341 *eP* P 20 58 42.8 +0.5
VRAC Vranov 73.98 341 ⇓P P 20 58 42.1 -0.2
GIRR Girov 74.01 334 P P 20 58 42.9 +0.4
BIZ Bicaz 74.13 334 ⇑P P 20 58 45.1 +1.9
MTN Manton Dam 74.20 218 P P 20 58 44.5 +0.7
MTN Manton Dam 74.20 218 P P 20 58 44.5 +0.7
JAVC Velka Javorina 74.20 341 *eP* P 20 58 45.1 +1.4
GNI Garni 74.25 319 P P 20 58 44.3 +0.1
comp=Z,2.7nm,0.5s,baz=6.9,slow=12,SNR=1.2
GNI LR LR 21 36 08.0
comp=Z,397nm,18.1s,baz=26,slow=40
comp=Z,2.7nm,0.5s
KRUC Moravsky 74.25 341 *eP* P 20 58 44.2 +0.4
MEM Membach 74.31 349 *dP* P 20 58 43.9 -0.2
BTNL Ternell 74.32 349 *dP* P 20 58 44.5 +0.2
VYHS Vyhne 74.32 340 *eP* P 20 58 45.1 +0.8
VYHS pmax pmax
comp=Z,21nm,1.2s
VYHS Vyhne 74.32 340 *e*P P 20 58 45.1 +0.8
TESR Tescani 74.39 334 ⇑P P 20 58 44.5 -0.2
ARCR ARCALIA 74.43 336 ⇑P P 20 58 46.7 +1.8
GRA1 Grafenberg Arr 74.51 345 P P 20 58 45.7 +0.3
GRA1 IAmb IAmb 20 58 54.7
comp=Z,22nm,1.1s
GRF Grafenberg Arr 74.51 345 P P 20 58 45.7 +0.3
GRF pmax pmax
comp=Z,22nm,1.1s
GRFO Grafenberg 74.52 345 P P 20 58 45.6 +0.2
GRFO Grafenberg 74.52 345 P P 20 58 45.6 +0.2
GRFO pmax pmax
comp=Z,17nm,1.0s
255A Hazlehurst 74.53 57 P P 20 58 45.1 -0.6
255A IAmb IAmb 20 58 54.2
comp=Z,27nm,0.8s
255A Hazlehurst 74.53 57 P P 20 58 45.3 -0.4
baz=325
SMOL Smolenice 74.58 341 *eP* P 20 58 47.7 +1.9
SMOL pmax pmax
comp=Z,11nm,1.2s
PSZ Piszkesteto 74.65 339 ⇓P P 20 58 45.0 -1.3
PSZ Piszkesteto 74.65 339 P P 20 58 47.4 +1.1
PSZ IAmb IAmb 20 58 56.1
comp=Z,23nm,1.1s
PSZ Piszkesteto 74.65 339 ⇓P P 20 58 45.0 -1.3
PSZ Piszkesteto 74.65 339 P P 20 58 47.5 +1.3
KHC Kasperske Hory 74.68 343 P P 20 58 46.6 +0.2
KHC IAmb IAmb 20 58 56.4
comp=Z,22nm,1.1s
KHC Kasperske Hory 74.68 343 *eP* P 20 58 46.3 -0.1
KHC Kasperske Hory 74.68 343 *eP* P 20 58 46.3 -0.1
KHC *ex* x 20 58 53.6
KHC *ex* x 20 59 07.1
BATI Baumata 74.72 226 P P 20 58 47.1 +0.1
comp=Z,22nm,0.6s,baz=343,slow=2.1,SNR=3.9
comp=Z,22nm,0.6s
MODS Modra-Piesok 74.75 341 *eP* P 20 58 48.6 +1.8
MODS pmax pmax
comp=Z,53nm,1.1s
MODS Modra-Piesok 74.75 341 *eP* P 20 58 48.5 +1.8
BMRD Maredsous 74.75 349 *dP* P 20 58 46.0 -0.6
BMRD *d*PcP **PcP 20 58 59.0 -1.8**
CKRC Cesky Krumlov 74.86 343 *eP* P 20 58 47.3 -0.1
CKRC *ex* x 20 58 55.8
GEC2 GERESS Array S 74.94 343 P P 20 58 47.8 -0.2
GERES GERESS Array B 74.94 343 P P 20 58 48.0 0.0
comp=Z,3.2nm,0.9s,baz=46,slow=3.9,SNR=19
comp=Z,3.2nm,0.9s
GERES GERESS Array B 74.94 343 P P 20 58 47.8 -0.2
GERES GERESS Array B 74.94 343 P P 20 58 47.8 -0.2
ZST Bratislava 74.95 341 *eP* P 20 58 49.4 +1.5
ZST pmax pmax
comp=Z,49nm,1.1s
ZST Bratislava 74.95 341 *eP* P 20 58 49.4 +1.5
CJR Cluj-Napoca 74.96 336 ⇓P P 20 58 49.5 +1.5
CJR Cluj-Napoca 74.96 336 ⇓P P 20 58 49.5 +1.5
VRI Vrincioaia 74.97 334 ⇑P P 20 58 50.2 +2.1
VRI Vrincioaia 74.97 334 ⇑P P 20 58 50.2 +2.1
OZUR 75.00 334 ⇑P P 20 58 50.2 +2.0
PLOR Plostina 75.00 334 ⇑P P 20 58 49.1 +0.8
PLOR Plostina 75.00 334 ⇑P P 20 58 49.1 +0.8
DRGR 75.09 337 ⇑P P 20 58 50.0 +1.2
DRGR 75.09 337 ⇑P P 20 58 50.0 +1.2
COVR Voineasa-Covas 75.12 334 ⇓P P 20 58 50.9 +1.9
DOPR Dopca 75.22 334 ⇓P P 20 58 50.9 +1.4
CFR Carcaliu 75.23 332 ⇓P P 20 58 50.9 +1.3
CONA Conrad Observa 75.44 341 *eP* P 20 58 51.6 +0.7
comp=Z,9.7nm,0.9s
TPGR Topolog 75.45 332 ⇑P P 20 58 51.9 +1.0
CSKK Cskako 75.52 340 P P 20 58 52.5 +1.4
MLR Muntele Rosu 75.52 334 ⇓P P 20 58 52.9 +1.5
MLR Muntele Rosu 75.52 334 P P 20 58 51.7 +0.3
comp=Z,3.1nm,0.7s,baz=188,slow=3.9,SNR=7.7
comp=Z,3.1nm,0.7s
MLR Muntele Rosu 75.52 334 P P 20 58 52.4 +1.0
MLR Muntele Rosu 75.52 334 ⇓P P 20 58 52.9 +1.5
SOP Sopron 75.55 341 P P 20 58 52.9 +1.6
RONA Rosalia, Austr 75.58 341 *eP* P 20 58 52.6 +1.0
comp=Z,16nm,1.2s
EGYH Egyhazaskeszo 75.65 340 P P 20 58 52.2 +6.2
VOIR 75.80 334 ⇓P P 20 58 54.1 +1.2
VOIR 75.80 334 ⇓P P 20 58 54.1 +1.2
MOA Molln 75.80 343 *eP* P 20 58 52.9 0.0
comp=Z,21nm,1.5s
MPLH Magyarpolny 75.85 340 P P 20 58 54.2 +1.1
KOPT Kop Dagi 75.95 322 P P 20 58 54.7 +0.5
ARR Arges 75.97 335 ⇓P P 20 58 55.4 +1.6
PSI Prapat 76.04 255 P P 20 58 55.0 +0.3
PSI pmax pmax
comp=Z,19nm,0.9s
BIOA Bad Ischl, Aus 76.07 343 *eP* P 20 58 55.8 +1.5
comp=Z,17nm,1.2s
HYBB Hyderabad (bro 76.09 280 *eP* P 20 58 56.2 +1.2
PLAI Plampang 76.10 232 P P 20 58 54.7 -0.1
LOT Lotru 76.10 335 ⇑P P 20 58 54.9 +0.2
RPSI Rantau Prapat 76.12 255 P P 20 58 55.0 0.0
RPSI IAmb IAmb 20 58 58.7
comp=Z,19nm,0.9s
ARSA Arzberg 76.16 342 *eP* P 20 58 55.9 +1.1
comp=Z,18nm,1.1s
DZM Mont Dzumac 76.23 182 *e*LR LR 21 22 26.7
comp=Z,258nm,22.9s
TAOE Nuku Hiva Isla 76.25 128 *e*LR LR 21 22 25.9
comp=Z,254nm,22.7s
GZR Gura Zlata 76.39 336 ⇑P P 20 58 56.6 +0.3
GZR Gura Zlata 76.39 336 ⇑P P 20 58 56.6 +0.3
BZS Buzias 76.45 337 P P 20 58 56.6 +0.1
BZS Buzias 76.45 337 P P 20 58 56.6 +0.1
MORH Mrgy, Hungar 76.53 339 ⇑P P 20 58 57.2 +0.2
MORH Mrgy, Hungar 76.53 339 P P 20 58 56.8 -0.2
CTAO Charters Tower 76.69 202 P P 20 58 59.0 +1.0
CTAO IAmb IAmb 20 59 00.1
comp=Z,29nm,0.9s
CTAO Charters Tower 76.69 202 P P 20 58 59.0 +1.0
CTAO pmax pmax
comp=Z,29nm,1.0s
SGRR Singureni 76.69 333 ⇑P P 20 58 59.5 +1.6
KBA Koelnbreinsper 76.71 343 *eP* P 20 58 59.7 +1.5
comp=Z,34nm,1.3s
WATA Walderalm 76.75 344 *eP* P 20 58 58.3 -0.1
comp=Z,20nm,1.0s
KOVH Kovagotottos 76.77 339 P P 20 58 58.9 +0.6
SOKA Soboth 76.80 342 *i* P P 20 59 00.3 +1.7
comp=Z,32nm,1.3s,SNR=6.1
WTTA Wattenberg 76.81 344 *i* P P 20 58 59.3 +0.5
comp=Z,21nm,1.0s,SNR=5.3
MOTA Moosalm 76.82 345 *eP* P 20 58 59.0 +0.2
comp=Z,25nm,1.3s
SQTA Sankt Quirin 76.92 344 *eP* P 20 58 59.4 +0.1
comp=Z,26nm,1.0s
HERR Herculane 76.96 336 ⇓P P 20 58 59.8 +0.4
OBKA Obir 77.05 342 *i* P P 20 59 01.2 +1.2
comp=Z,54nm,0.9s,SNR=19
MYKA Terra Mystica 77.09 343 *eP* P 20 59 01.1 +0.8
comp=Z,14nm,1.1s
ABTA Abfaltersbach 77.17 343 *i* P P 20 59 01.1 +0.4
comp=Z,30nm,1.0s,SNR=6.5
FETA Feichten 77.19 345 *eP* P 20 59 02.1 +1.2
comp=Z,12nm,1.0s
MDVR Moldovita 77.22 337 ⇑P P 20 59 01.9 +0.9
CLF Chambon-Foret 77.25 351 P P 20 59 03.2 +2.2
PRED Cave del Predi 77.29 343 P P 20 59 02.1 +0.8
FRGS Fruska Gora 77.29 338 ⇑P P 20 59 02.0 +0.7
ILGA Ilgaz 77.35 327 P P 20 59 01.4 -0.6
ILGA IAmb IAmb 20 59 12.3
comp=Z,30nm,0.8s
CLUD Cludinico 77.39 343 P P 20 59 00.6 -1.3
TLIG Tlapa 77.49 77 P P 20 59 02.5 -0.4
TLIG IAmb IAmb 20 59 09.0
comp=Z,38nm,1.6s
KNRA Kununurra 77.67 219 P P 20 59 03.1 -0.5
KNRA Kununurra 77.67 219 P P 20 59 03.8 +0.2
CTI Castel Tesino 77.99 344 P P 20 59 05.4 +0.1
CTI IAmb IAmb 20 59 14.2
comp=Z,18nm,1.1s
CTI Castel Tesino 77.99 344 P P 20 59 05.4 +0.1
CTI pmax pmax
comp=Z,18nm,1.1s
BLKB Belogradchik 78.08 335 ⇑P P 20 59 05.9 +0.1
DIVS Divibare 78.26 338 P P 20 59 06.5 -0.4

BOVS	Bovan	78.31	336	⇑P		P	20 59 07.1	+0.1
BR131	Keskin Array S	78.58	326	P		P	20 59 08.1	-0.6
BR131	Keskin Array S	78.58	326	P		P	20 59 08.1	-0.6
BR131	comp=Z,9.0nm,0.8s			pmax		pmax		
BRTR	Keskin Array B	78.58	326	P		P	20 59 08.7	0.0
	comp=Z,1.8nm,0.6s,baz=51,slow=4.0,SNR=13							
BRTR	comp=Z,1.8nm,0.6s Keskin Array B	78.58	326	P		P	20 59 08.4	-0.3
BNN	Bunyan	78.63	324	P		P	20 59 08.3	-0.7
BNN				IAmb		IAmb	20 59 17.9	
	comp=Z,32nm,0.8s							
TEOL	Teolo	78.66	344	P		P	20 59 08.9	0.0
VTS	Vitosha	78.89	335	⇑P		P	20 59 10.4	0.0
VTS	Vitosha	78.89	335	P		P	20 59 09.8	-0.6
VTS	Vitosha	78.89	335	P		P	20 59 09.8	-0.6
VTS	comp=Z,7.0nm,0.9s			pmax		pmax		
LEM	Lembang	79.35	242	LR		LR	21 39 09.6	
	comp=Z,111nm,18.6s,baz=350,slow=39							
WB0	Warramunga Arr	79.54	213	P		P	20 59 13.8	-0.1
WB0				IAmb		IAmb	20 59 19.1	
	comp=Z,32nm,0.9s							
WR0	Warramunga Arr	79.67	212	P		P	20 59 14.7	+0.1
WR0				IAmb		IAmb	20 59 19.7	
	comp=Z,20nm,1.0s							
RDO	Rodhopi	79.68	333	P		P	20 59 14.8	+0.3
BNI	Bardonecchia	79.69	347	P		P	20 59 13.7	-1.0
BNI	Bardonecchia	79.69	347	P		P	20 59 13.7	-1.0
BNI	comp=Z,16nm,1.0s			pmax		pmax		
WRAB	Tennant Creek	79.71	213	P		P	20 59 15.1	+0.3
WRAB				IAmb		IAmb	20 59 20.1	
	comp=Z,30nm,0.9s							
WRAB	Tennant Creek	79.71	213	*ceP*		P	20 59 15.6	+0.8
WRAB	comp=Z,41nm,1.3s			pmax		pmax		
WRAB	Tennant Creek	79.71	213	P		P	20 59 15.4	+0.6
WB2	Warramunga Arr	79.72	213	P		P	20 59 14.9	+0.1
WB2				IAmb		IAmb	20 59 20.1	
	comp=Z,26nm,0.9s							
WRA	Warramunga Arr	79.72	213	P		P	20 59 15.3	+0.4
	comp=Z,25nm,1.0s,baz=25,slow=6.3,SNR=83							
WRA				PP		PP	21 02 12.1	-4.2
	comp=Z,2.3nm,1.1s,baz=19,slow=8.8,SNR=3.5							
WRA				LR		LR	21 34 44.2	
	comp=Z,130nm,19.7s,baz=18,slow=36							
WRA	comp=Z,25nm,1.0s Warramunga Arr	79.72	213	P		P	20 59 14.9	+0.1
WRA	Warramunga Arr	79.72	213	P		P	20 59 14.9	+0.1
WRA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
ZCCA	Zocca	79.75	344	P		P	20 59 17.0	+2.0
PDG	Podgorica	80.01	338	⇓P		P	20 59 16.4	+0.1
PDG	Podgorica	80.01	338	P		P	20 59 15.9	-0.4
PDG				IAmb		IAmb	20 59 25.5	
	comp=Z,21nm,1.0s							
MSSA	Maissana	80.02	345	P		P	20 59 16.1	-0.3
MSSA				IAmb		IAmb	20 59 24.8	
	comp=Z,21nm,0.9s							
RAR	Rarotonga	80.08	150	LR		LR	21 28 02.4	
	comp=Z,123nm,19.7s,baz=315,slow=31							
OSSC	Osservatorio P	80.52	344	P		P	20 59 19.8	+0.8
OSSC				IAmb		IAmb	20 59 40.0	
	comp=Z,27nm,1.1s							
MURB	Monte Urbino	80.55	343	P		P	20 59 20.4	+1.1
NRCA	Norcia	80.86	342	P		P	20 59 22.0	+1.0
FITZ	Fitzroy Crossi	81.06	221	P		P	20 59 23.0	+0.9
FITZ				IAmb		IAmb	20 59 24.3	
	comp=Z,45nm,1.4s							
FITZ	Fitzroy Crossi	81.06	221	P		P	20 59 23.1	+1.1
WSAR	Wadi Sarin	82.28	299	LR		LR	21 37 41.1	
	comp=Z,449nm,19.8s,baz=70,slow=37							
PAOL	Paolisi	82.33	341	P		P	20 59 29.5	+0.7
PAOL				IAmb		IAmb	20 59 38.1	
	comp=Z,23nm,1.3s							
AS31	Alice Springs	83.35	212	P		P	20 59 34.6	+0.6
ASAR	Alice Springs	83.35	212	P		P	20 59 35.0	+1.0
	comp=Z,22nm,0.9s,baz=18,slow=4.1,SNR=45							
ASAR	comp=Z,22nm,0.9s Alice Springs	83.35	212	P		P	20 59 34.6	+0.6
ASAR	Alice Springs	83.35	212	P		P	20 59 35.0	+1.0
TIP	Timpagrande	83.67	338	P		P	20 59 36.0	+0.3
MMAI	Mount Meron Ar	84.04	322	P		P	20 59 38.2	+0.5
	comp=Z,3.8nm,0.8s,baz=28,slow=7.2,SNR=2.8							
ASF	comp=Z,3.8nm,0.8s Jabal al Asfar	84.25	321	P		P	20 59 38.2	-0.6
	comp=Z,2.8nm,0.9s,baz=85,slow=11,SNR=3.3							
POLO	comp=Z,2.8nm,0.9s Lamas de Olo	84.50	357	*eP*		P	20 59 39.5	-0.5
	comp=Z,19nm,1.4s							
PVRL	Vila Real	84.60	357	*eP*		P	20 59 40.8	+0.4
	comp=Z,50nm,1.6s							
MVO	Moncorvo	84.69	357	*eP*		P	20 59 41.4	+0.5
	comp=Z,32nm,1.3s							
PVIS	Viseu	85.16	357	*eP*		P	20 59 43.7	+0.5
	comp=Z,32nm,1.6s							
TBI	Tubuai	85.42	142	*e*LR		LR	21 26 41.4	
	comp=Z,206nm,27.5s							
MTE	Manteigas	85.47	357	*eP*		P	20 59 44.6	-0.2
	comp=Z,46nm,1.7s							
PCAS	Casmilo, Conde	85.84	358	*eP*		P	20 59 46.5	-0.1
	comp=Z,42nm,1.6s							
PCBR	Castelo Branco	86.02	357	*eP*		P	20 59 48.0	+0.5
ESBB	Sonseca Array	86.03	354	P		P	20 59 47.7	+0.1
ESBB				IAmb		IAmb	20 59 53.3	
	comp=Z,23nm,1.2s							
ESDC	Sonseca Array	86.03	354	P		P	20 59 47.9	+0.3
	comp=Z,4.8nm,0.9s,baz=1.2,slow=5.2,SNR=20							
MBWA	comp=Z,4.8nm,0.9s Marble Bar	86.17	225	P		P	20 59 49.3	+1.0
MBWA	Marble Bar	86.17	225	P		P	20 59 48.1	-0.1
PMRV	Marv??o	86.43	357	*eP*		P	20 59 50.4	+0.9
	comp=Z,27nm,1.8s							
WRKA	Warakurna	86.45	216	P		P	20 59 50.2	+0.6
PSA00	Pilbara Seismi	86.50	225	P		P	20 59 49.8	-0.1
PSA00				IAmb		IAmb	20 59 52.7	
	comp=Z,41nm,1.9s							
OOD	Oodnadatta	86.71	209	P		P	20 59 51.7	+1.0
EIL	Elat	87.22	321	P		P	20 59 53.5	-0.1
	comp=Z,8.3nm,0.8s,baz=49,slow=11,SNR=2.5							
EVO	comp=Z,8.3nm,0.8s Evora	87.34	357	*eP*		P	20 59 54.3	+0.4
	comp=Z,18nm,2.3s							
PBAR	Barrancos	87.67	357	*eP*		P	20 59 54.7	-0.8
KEST	Kesra	88.43	343	P		P	20 59 59.0	-0.3
	comp=Z,3.4nm,0.9s,baz=193,slow=18,SNR=2.0							
LCRK	comp=Z,3.4nm,0.9s Leigh Creek	88.54	206	P		P	21 00 00.3	+0.9
STKA	Stephens Creek	89.10	203	P		P	21 00 03.1	+1.1
	comp=Z,16nm,0.9s,baz=347,slow=8.6,SNR=16							
STKA	comp=Z,16nm,0.9s Stephens Creek	89.10	203	P		P	21 00 02.9	+0.9
STKA	Stephens Creek	89.10	203	P		P	21 00 02.9	+0.9
STKA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
STKA	Stephens Creek	89.10	203	P		P	21 00 03.1	+1.1
MDT	Midelt	92.90	354	LR		LR	21 41 28.0	
	comp=Z,114nm,20.5s,baz=76,slow=35							
NWAO	Narrogin (SRO)	97.64	222	LR		LR	21 42 11.0	
	comp=Z,152nm,21.5s,baz=150,slow=34							
SDV	Santo Domingo	99.79	60	LR		LR	21 47 55.6	
	comp=Z,223nm,20.3s,baz=339,slow=37							
ATD	Arta Tunnel	100.01	306	LR		LR	21 52 07.3	
	comp=Z,153nm,20.8s,baz=25,slow=39							
TORD	Torodi Ar. Bea	111.76	346	PKiKP		PKiKP	21 05 41.1	-1.0
	comp=Z,0.8nm,1.0s,baz=327,slow=4.2,SNR=3.1							
TORD				PP		PP	21 06 23.2	-0.2
	comp=Z,1.8nm,1.0s,baz=7.0,slow=5.9,SNR=5.1							
NPGB	Novo Progresso	121.04	54	*eP*		PKiKP	21 06 01.5	+1.5
ROSB	Rosrio	122.08	40	*eP*		PKiKP	21 06 03.1	+1.1
LPAZ	La Paz	122.23	72	PKP		PKPdf	21 06 00.8	-2.0
	comp=Z,0.4nm,0.4s,baz=237,slow=12,SNR=1.6							
LPAZ	La Paz	122.23	72	*eP*		PKiKP	21 06 04.1	+1.2
VILB	Vilhena	123.73	62	*eP*		PKPdf	21 06 05.0	0.0
SMTB	Santa Maria do	126.13	46	*eP*		PKiKP	21 06 10.8	+0.8
PTLB	Pontes e Lacer	126.38	63	*eP*		PKiKP	21 06 12.1	+1.7
RCBR	Riachuelo	127.61	31	*eP*		PKiKP	21 06 14.1	+1.0
NBAN	Anadia - AL	131.11	34	*eP*		PKiKP	21 06 21.6	+1.6
VNDA	Vanda	131.77	182	PKP		PKPdf	21 06 18.3	-0.1
	comp=Z,1.0nm,1.0s,baz=301,slow=5.9,SNR=2.3							
VNDA				SKPbc		SKPbc	21 09 43.7	+0.4
	comp=Z,0.7nm,0.8s,baz=323,slow=2.6,SNR=2.3							
NBLA	Lagarto - SE	131.84	36	*eP*		PKiKP	21 06 22.0	+0.5
C2SB	Chapadao do Su	132.37	58	*eP*		PKiKP	21 06 23.4	+1.0
JANB	Januaria	133.06	46	*eP*		PKiKP	21 06 24.9	+0.9
GDU01	Guandu, BA	133.73	40	*eP*		PKPdf	21 06 24.2	+0.3
IPMB	Ipameri, GO	133.92	52	*eP*		PKiKP	21 06 27.3	+1.6
ITRB	Iturama	134.38	56	*eP*		PKiKP	21 06 26.5	0.0
CMC01	Camacan, BA	135.25	40	*eP*		PKiKP	21 06 28.7	+0.4
PCMB	Pacaembu	135.55	59	*eP*		PKiKP	21 06 29.1	+0.3
CPUP	Villa Florida	136.23	69	PKP		PKPdf	21 06 28.1	-0.3
	comp=Z,1.4nm,0.7s,baz=315,slow=4.3,SNR=1.8							
PLCA	Paso Flores	139.00	96	PKP		PKPdf	21 06 33.1	0.0
	comp=Z,3.0nm,1.0s,baz=135,slow=1.4,SNR=2.5							
PARB	Paraibuna	139.75	53	*eP*		PKPdf	21 06 35.8	+0.8
TIJ01	Guaruva-PR	139.78	59	*eP*		PKiKP	21 06 36.6	-0.8
VAS01	Vassouras-RJ	139.83	50	*eP*		PKiKP	21 06 37.0	-0.5
BOSA	Boshof	143.04	299	PKhKP		PKPpre	21 06 37.2	
	comp=Z,4.3nm,0.7s,baz=338,slow=2.5,SNR=10							
MAW	Mawson	144.17	219	PKP		PKPbc	21 06 40.0	+0.5
	comp=Z,14nm,1.0s,baz=61,slow=4.3,SNR=14							
SMAI	San Martin Ant	151.12	140			PKiKP	21 06 59.2	0.0
PMSA	Palmer Station	152.25	133	*eP*		PKPdf	21 06 57.7	+3.1
BELA	Belgrano 2	155.07	169			PKPdf	21 07 05.2	+6.9
TROLL	Troll, Antarti	161.40	193	PKPdf		PKPdf	21 07 08.2	+1.9
SNAA	Sanae	162.33	189			PKPab	21 07 54.3	-0.5
SNAA	Sanae	162.33	189	PKP2		PKPab	21 07 54.3	-0.5
VNA3	Neumayer Olymp	163.13	182	PKPab		PKPab	21 07 57.2	-1.1
VNA3	Neumayer Olymp	163.13	182	PKPdf		PKPdf	21 07 09.8	+1.9
VNA2	Neumayer--Watz baz=330,slow=1.0	163.37	185	PKPdf		PKPdf	21 07 09.6	+1.4
VNA1	Neumayer--Stat	163.68	184	PKPdf		PKPdf	21 07 10.2	+1.8

KRSC 07 20:55:27.5±1.8, 54°41N×168°51E, h17km±26km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.67**	**299**	*eP*		Pb		20 55 57.2	-0.6
BKI				*eS*		Sb		20 56 18.4	-0.1
KBTR	**Krutoberegovo**	**3.72**	**301**	*eP*		Pn		20 56 26.4	+2.3
TUMR	**Tumrok**	**4.91**	**284**	*eP*		Pn		20 56 45.5	+4.9
TUMR				S		Sn		20 57 43.3	+6.3
KII	**Karymskiy**	**5.33**	**270**	*eP*		Pn		20 56 50.1	+3.8
KRER	**Koryakskii**	**5.88**	**263**	P		Pn		20 56 58.6	+4.6
GNL	**Ganaly**	**6.26**	**268**	P		Pn		20 57 04.7	+5.5
KRMR	**Karymshinskiy**	**6.38**	**260**	S		Sn		20 58 16.7	+3.8

*TUL **07** 21:04:24.9±0.7, 36°.95N×0°.02×97°.90W±0°.02, h4km±6km, ML3.3, mb_Lg3.0/76(NEIC), Error ellipse: s-maj=2.7km s-min=1.5km az=151.0*
*ANF **07** 21:04:25.1±0.7, 36°.91N×97°.90W, h2km±4km, ML3.9/16, Error ellipse: s-maj=3.5km s-min=3.0km az=130.0*
*NEIC **07** 21:04:25.8±0.7, 36°.94N±0°.01×97°.90W±0°.02, h2km±7km, Error ellipse: s-maj=2.6km s-min=1.5km az=141.0*

ISC 07 21:04:25.4±0.9, 36°.93N±0°.02×97°.90W±0°.02, h7km±5km, n123, σ0s59/129, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.06**	**296**	Pg		**Pg**		**21 04 26.7**	**-0.3**
KAN14				Sg		**Sg**		21 04 27.8	-0.4
GC02	**Grant County #**	**0.08**	**160**	Pg		**Pg**		**21 04 27.3**	**0.0**
GC02				Sg		**Sg**		21 04 29.0	+0.2
KAN17	**Caldwell West**	**0.15**	**43**	Pg		**Pg**		**21 04 28.5**	**0.0**
KAN17				Sg		**Sg**		21 04 30.8	+0.1
KAN05	**Bluff City Nor**	**0.18**	**6**			**Pg**		**21 04 28.9**	**-0.1**
KAN05				Sg		**Sg**		21 04 31.6	+0.2
KAN01	**Argonia South**	**0.25**	**26**	Pg		**Pg**		**21 04 30.2**	**-0.1**
KAN01				Sg		**Sg**		21 04 33.6	0.0
OK032	**Salt Plains WL**	**0.28**	**244**			**Pg**		**21 04 31.0**	**+0.1**
OK032				Sg		**Sg**		21 04 35.1	+0.4
KAN08	**Anthony NE Sta**	**0.30**	**348**			**Pg**		**21 04 31.3**	**0.0**
KAN08				Sg		**Sg**		21 04 35.8	+0.5
KAN09	**Caldwell North**	**0.30**	**47**	Pg		**Pg**		**21 04 31.2**	**-0.1**
KAN09				Sg		**Sg**		21 04 34.3	-1.0
KAN06	**Argonia West S**	**0.32**	**5**			**Pg**		**21 04 31.6**	**0.0**
KAN06				Sg		**Sg**		21 04 36.1	+0.3
KAN16	**Harper SW Stat**	**0.32**	**335**	Pg		**Pg**		**21 04 31.6**	**-0.1**
KAN16				Sg		**Sg**		21 04 36.1	0.0
KAN13	**South Haven SW**	**0.34**	**76**	Pg		**Pg**		**21 04 32.1**	**0.0**
KAN12	**Harper NE Stat**	**0.38**	**347**	Pg		**Pg**		**21 04 32.4**	**-0.3**
KAN12				Sg		**Sg**		21 04 37.6	-0.1
KS21	**Milan North St**	**0.40**	**27**	Pg		**Pg**		**21 04 33.0**	**-0.2**
KS21				Sg		**Sg**		21 04 38.5	+0.1
KS20	**Mayfield South**	**0.40**	**42**	Pg		**Pg**		**21 04 33.0**	**-0.2**
KS20				Sg		**Sg**		21 04 38.5	0.0
CROK	**Carrier**	**0.43**	**190**	Pg		**Pg**		**21 04 33.8**	**+0.1**
BLOK	**Blackwell**	**0.57**	**107**	Pg		**Pg**		**21 04 36.2**	**-0.1**
BLOK				Sg		**Sg**		21 04 44.2	+0.4
OK035	**E0210 Rd and N**	**0.69**	**252**	Pg		**Pg**		**21 04 38.5**	**-0.1**
OK038	**West end E0370**	**0.82**	**237**	Pg		**Pg**		**21 04 40.9**	**-0.1**
OK038				Sg		**Sg**		21 04 51.1	-0.6
NOKA	**Waynoka**	**0.88**	**251**	Pg		**Pg**		**21 04 41.6**	**-0.7**
NOKA				Sg		**Sg**		21 04 53.6	-0.2
OK045	**Pawnee Station**	**0.92**	**121**			**Pg**		**21 04 42.5**	**-0.4**
OK045						**Sg**		21 04 54.7	-0.2
OK046	**Pawnee Station**	**0.96**	**124**	Pg		**Pg**		**21 04 43.2**	**-0.5**
OK046				Sg		**Sg**		21 04 56.1	0.0
OK044	**Pawnee Station**	**1.04**	**122**	Pg		**Pg**		**21 04 44.8**	**-0.6**
OK044				Sg		**Sg**		21 04 58.8	-0.2
U32A	**Winter Ranch,**	**1.05**	**239**			**Pg**		**21 04 44.8**	**-0.7**
U32A				Sg		**Sg**		21 04 58.3	-0.7
U32A	**Winter Ranch,** baz=57	**1.05**	**239**	P		**Pg**		**21 04 44.9**	**-0.5**
U32A	baz=57			S		**Sg**		**21 04 59.2**	**+0.2**
T35A	**Sooner Cattle**	**1.11**	**90**			**Pg**		**21 04 46.0**	**-0.6**
T35A				Sg		**Sg**		21 05 00.6	-0.4
T35B	**Sooner Cattle** baz=272,SNR=155	**1.11**	**90**	P		**Pg**		**21 04 46.0**	**-0.6**
T35B	baz=272			S		**Sg**		**21 05 00.8**	**-0.2**
OK033	**Mehan**	**1.17**	**139**	Pg		**Pg**		**21 04 47.2**	**-0.6**
OK033				Sg		**Sg**		21 05 03.3	+0.3
OK029	**Liberty Lake**	**1.19**	**162**	Pg		**Pg**		**21 04 47.5**	**-0.6**
OK029				Sg		**Sg**		21 05 03.5	0.0
QUOK	**Quay**	**1.22**	**128**	Pg		**Pg**		**21 04 47.9**	**-0.9**
QUOK				Sg		**Sg**		21 05 04.7	+0.1
BCOK	**Bluff Creek, N**	**1.29**	**170**			**Pg**		**21 04 49.1**	**-1.0**
OK031	**S. Brethren Rd**	**1.29**	**139**			**Pg**		**21 04 49.1**	**-1.1**
OK034	**N. Norfolk Rd.**	**1.32**	**134**			**Pg**		**21 04 49.7**	**-1.0**
OK030	**Cody Creek RV**	**1.34**	**138**			**Pn**		**21 04 50.0**	**-0.6**
OK025	**Westminster Rd**	**1.42**	**161**			**Pn**		**21 04 51.5**	**-0.2**
CSTR	**Hydro, Custer**	**1.43**	**207**			**Pn**		**21 04 51.7**	**-0.2**
ELIS	**Ellis County**	**1.50**	**235**			**Pn**		**21 04 53.0**	**+0.1**
DEOK	**Depew**	**1.56**	**134**			**Pn**		**21 04 53.5**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.57**	**166**			**Pn**		**21 04 54.1**	**+0.4**
R32A	**Long Quarter,**	**1.62**	**337**			**Pn**		**21 04 54.8**	**+0.3**
R32A	**Long Quarter,** baz=156	**1.62**	**337**	P		**Pn**		**21 04 55.1**	**+0.6**
R32A	baz=156			S		**Sb**		**21 05 16.3**	**-0.1**
FNO	**Franklin**	**1.72**	**166**	Pn		**Pn**		**21 04 56.3**	**+0.5**
TUL1	**Leonard**	**1.98**	**120**	Pn		**Pn**		**21 05 00.1**	**+0.8**
TUL1	**Leonard** baz=302,SNR=13	**1.98**	**120**	P		**Pn**		**21 05 00.1**	**+0.8**
TUL1	baz=302			S		**Sb**		**21 05 27.1**	**+0.5**
WMOK	**Wichita Mounta**	**2.30**	**198**	Pn		**Pn**		**21 05 04.6**	**+0.8**
WMOK	**Wichita Mounta** baz=18	**2.30**	**198**	P		**Pn**		**21 05 04.4**	**+0.5**
WMOK	baz=18			S		**Sn**		**21 05 34.1**	**+1.7**
X34A	**Smith Ranch, M**	**2.33**	**179**	Pn		**Pn**		**21 05 05.4**	**+1.3**
X34A	comp=Z,104nm,0.7s			IAmb_Lg				21 05 39.4	
CBKS	**Cedar Bluff**	**2.38**	**323**	Pn		**Pn**		**21 05 05.7**	**+0.8**
CBKS	**Cedar Bluff** baz=142	**2.38**	**323**	P		**Pn**		**21 05 05.5**	**+0.5**
CBKS	baz=142			S		**Sb**		**21 05 38.1**	**-0.2**
KSU1	**Kansas State U**	**2.39**	**25**	Pn		**Pn**		**21 05 04.8**	**-0.3**
KSU1	**Kansas State U** baz=206	**2.39**	**25**	S		**Sb**		**21 05 38.2**	**-0.4**
RLO	**Rose Lookout**	**2.44**	**107**	Pn		**Pn**		**21 05 06.3**	**+0.7**
U38A	**Gravette**	**2.86**	**99**	Pn		**Pn**		**21 05 12.1**	**+0.6**
U38A	**Gravette** baz=281	**2.86**	**99**	P		**Pn**		**21 05 12.4**	**+0.9**
LOOK	**Love County**	**2.99**	**169**	Pn		**Pn**		**21 05 14.2**	**+1.0**
LOOK	comp=Z,30nm,0.7s			IAmb_Lg				21 06 06.6	
X37A	**Clayton**	**3.11**	**138**	Pn		**Pn**		**21 05 15.4**	**+0.5**
X37A	**Clayton** baz=320	**3.11**	**138**	S		**Sn**		**21 05 54.1**	**+1.8**
HHAR	**Hobbs**	**3.25**	**100**	Pn		**Pn**		**21 05 17.6**	**+0.8**
HHAR	comp=Z,47nm,0.8s			IAmb_Lg				21 06 12.7	
HHAR	**Hobbs** baz=283	**3.25**	**100**	P		**Pn**		**21 05 17.7**	**+0.8**
Z35A	**Perchaven, San**	**3.63**	**171**	Pn		**Pn**		**21 05 22.8**	**+0.7**
Z35A	**Perchaven, San** baz=352	**3.63**	**171**	S		**Sn**		**21 06 06.3**	**+1.2**
AMTX	**Amarillo**	**3.69**	**238**	Pn		**Pn**		**21 05 23.8**	**+0.8**
S39A	**Bolivar**	**3.72**	**77**	Pn		**Pn**		**21 05 23.3**	**-0.1**
N33B	**J Bar K, Exete** baz=185	**3.82**	**5**	S		**Sn**		**21 06 09.4**	**-0.4**
N33A	**J Bar K, Exete**	**3.82**	**5**	Pn		**Pn**		**21 05 24.0**	**-0.6**
N33A	comp=Z,26nm,0.8s			IAmb_Lg				21 06 35.6	
MIAR	**Mount Ida**	**4.24**	**123**	Pn		**Pn**		**21 05 31.6**	**+1.2**
MIAR	comp=Z,29nm,0.8s			IAmb_Lg				21 06 44.8	
KSCO	**Kaye Shedlock'**	**4.28**	**300**	Pn		**Pn**		**21 05 31.2**	**+0.2**
KSCO	comp=Z,31nm,0.9s			IAmb_Lg				21 06 48.1	
P38A	**Dawn**	**4.36**	**51**	Pn		**Pn**		**21 05 32.4**	**+0.3**
P38A	**Dawn** baz=233	**4.36**	**51**	P		**Pn**		**21 05 33.1**	**+1.0**
BGNE	**Belgrade**	**4.48**	**358**	Pn		**Pn**		**21 05 34.1**	**+0.4**
BGNE	comp=Z,45nm,0.8s			IAmb_Lg				21 06 59.0	
MGMO	**Mountain Grove**	**4.51**	**85**	Pn		**Pn**		**21 05 34.7**	**+0.6**
MGMO	comp=Z,22nm,0.8s			IAmb_Lg				21 06 55.8	
ABTX	**Abilene, Hawle** baz=18	**4.53**	**199**	S		**Sn**		**21 06 28.0**	**+0.5**
R40A	**Maddies Statio**	**4.67**	**71**	Pn		**Pn**		**21 05 36.4**	**+0.1**
FCAR	**Ozark Folk Cen**	**4.77**	**101**	IAmb_Lg				21 06 56.3	
WHAR	comp=Z,25nm,0.7s **Wooly Hollow**	**4.83**	**108**	Pn		**Pn**		**21 05 38.3**	**-0.2**
WHTX	**Lake Whitney,**	**4.94**	**176**	Pn		**Pn**		**21 05 39.8**	**-0.2**
MSTX	**Muleshoe**	**4.96**	**235**	Pn		**Pn**		**21 05 40.4**	**0.0**
MSTX	**Muleshoe** baz=52	**4.96**	**235**	P		**Pn**		**21 05 40.8**	**+0.4**
WLAR	**White Oak Lake** comp=Z,36nm,0.8s	**5.08**	**128**	IAmb_Lg				21 07 14.5	
OGNE	**Ogallala**	**5.14**	**322**	Pn		**Pn**		**21 05 43.7**	**+0.8**
L34A	**Svendsen Farm,**	**5.17**	**13**	Pn		**Pn**		**21 05 42.8**	**-0.3**
237A	**Washetta, Mont** comp=Z,28nm,0.9s	**5.21**	**160**	IAmb_Lg				21 07 23.0	
237A	**Washetta, Mont** baz=341	**5.21**	**160**	S		**Sn**		**21 06 42.5**	**-1.6**
T25A	**Trinidad**	**5.22**	**274**	Pn		**Pn**		**21 05 43.7**	**-0.4**
T25A	comp=Z,19nm,0.8s			IAmb_Lg				21 07 19.5	
P40A	**Paris**	**5.28**	**59**	Pn		**Pn**		**21 05 45.7**	**+0.9**
P40A	comp=Z,28nm,0.7s			IAmb_Lg				21 07 15.0	
N38A	**Joes South For**	**5.30**	**42**	Pn		**Pn**		**21 05 44.8**	**-0.2**
N38A	comp=Z,35nm,0.7s			IAmb_Lg				21 07 16.9	
N38A	**Joes South For** baz=225	**5.30**	**42**	P		**Pn**		**21 05 45.3**	**+0.3**
CCM	**Cathedral Cave**	**5.41**	**76**	Pn		**Pn**		**21 05 46.6**	**+0.1**
CCM	comp=Z,27nm,0.9s			IAmb_Lg				21 07 22.7	
CCM	**Cathedral Cave** baz=260	**5.41**	**76**	P		**Pn**		**21 05 47.1**	**+0.6**
LCAR	**Lake Charles**	**5.50**	**97**	Pn		**Pn**		**21 05 48.3**	**+0.6**
K31A	**O'Neill**	**5.72**	**354**	Pn		**Pn**		**21 05 51.6**	**+0.7**
SDCO	**Great Sand Dun**	**6.12**	**280**	Pn		**Pn**		**21 05 57.0**	**+0.5**
435B	**Jarrell** comp=Z,25nm,0.8s	**6.14**	**178**	IAmb_Lg				21 07 51.9	
CPRX	**Cap Rock**	**6.26**	**233**	Pn		**Pn**		**21 05 58.5**	**+0.2**
SLM	**Saint Louis** comp=Z,21nm,0.7s	**6.30**	**72**	IAmb_Lg				21 07 43.5	
CGM3	**Cape Girardeau** comp=Z,16nm,

HOWZ	**Holdsworth Sta**	**1.31**	**150**	P		**Pn**	**21 05 12.7**	**+0.5**
KRHZ	**Kereru**	**1.33**	**85**	P		**Pn**	**21 05 12.4**	**-0.1**
WPHZ	**Waipukurau**	**1.41**	**103**	P		**Pn**	**21 05 14.1**	**+0.7**
KWHZ	**Kaweka Forest**	**1.41**	**76**	P		**Pn**	**21 05 12.9**	**-0.7**
TCW	**Tory Channel**	**1.47**	**191**	P		**Pn**	**21 05 13.7**	**-0.5**
BFZ	**Birch Farm**	**1.52**	**127**	P		**Pn**	**21 05 17.0**	**+2.0**
MTW	**Mount Morrison**	**1.53**	**155**	P		**Pn**	**21 05 16.4**	**+1.3**
SNZO	**South Karori**	**1.54**	**179**	P		**Pn**	**21 05 16.3**	**+1.1**
BKZ	**Black Stump Fm**	**1.54**	**68**	P		**Pn**	**21 05 13.8**	**-1.4**
BKZ	**Black Stump Fm**	**1.54**	**68**	P		**Pn**	**21 05 13.9**	**-1.4**
TLZ	**Tolley Road**	**1.59**	**26**	P		**Pn**	**21 05 15.3**	**-0.6**
KAHZ	**Kahuranaki**	**1.71**	**92**	P		**Pn**	**21 05 19.1**	**+1.7**
NNZ	**Nelson**	**1.75**	**213**	P		**Pn**	**21 05 17.9**	**+0.1**
TUWZ	**Tuamarina**	**1.75**	**198**	P		**Pn**	**21 05 16.9**	**-1.0**
TKNZ	**Takaka Hill**	**1.81**	**225**	P		**Pn**	**21 05 17.9**	**-0.9**
QRZ	**Quartz Range**	**1.94**	**236**	P		**Pn**	**21 05 20.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**2.03**	**197**	P		**Pn**	**21 05 21.4**	**-0.2**
RAHZ	**Arahi**	**2.07**	**66**	P		**Pn**	**21 05 23.6**	**+1.5**
MRNZ	**Matariki Terra**	**2.18**	**221**	P		**Pn**	**21 05 23.1**	**-0.5**
THZ	**Tophouse**	**2.40**	**213**	P		**Pn**	**21 05 25.9**	**-0.6**
URZ	**Urewera**	**2.43**	**53**	P		**Pn**	**21 05 26.4**	**-0.6**
MKAZ	**Moumakai**	**2.69**	**9**	P		**Pn**	**21 05 30.5**	**0.0**
KHZ	**Kahutara**	**2.78**	**197**	P		Pn	21 05 36.0	+4.4
DSZ	**Denniston Nort**	**2.93**	**227**	P		**Pn**	**21 05 33.4**	**-0.4**

IDC 07 21:06:12.5±7.7, 53°87N×169°06E, h0km, mb3.2/2, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=253.3km s-min=29.8km az=163.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SHEM	**Shemya Is, Ala**	**3.23**	**109**	Sn	Sb		21 07 52.0	+1.4
	0.6nm,0.3s,baz=325,slow=17,SNR=1.6							
PETK	**Petropavlovsk-**	**6.82**	**268**	Pn	Pn		21 07 53.9	+0.1
	0.5nm,0.3s,baz=81,slow=19,SNR=3.1							
PETK				Sn	Sn		21 09 08.9	-3.2
	0.1nm,0.3s,baz=119,slow=19,SNR=1.3 1.7nm,0.5s							
ILAR	**Eielson Array**	**24.43**	**46**	P	P		21 11 32.4	-0.1
	0.5nm,0.9s,baz=256,slow=8.3,SNR=7.2 0.5nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**34.12**	**184**	T	T		21 49 45.0	
	baz=1.5,slow=76,SNR=17							
H11N3	**WAKE ISLAND Hy**	**34.13**	**184**	T	T		21 49 46.1	
	baz=1.5,slow=76,SNR=20							
H11N1	**WAKE ISLAND Hy**	**34.13**	**184**	T	T		21 49 46.4	
	baz=1.5,slow=76,SNR=23							
SONM	**Songino Array**	**38.86**	**287**	P	P		21 13 39.2	-0.1
	0.3nm,0.6s,baz=58,slow=6.1,SNR=2.1 0.3nm,0.6s							

*HVO **07** 21:06:31.9±0.8, 19°.36N±0°.02×155°.470W±0°.008, h4km±3km, ML2.5/20, ML2.2/46(NEIC), Error ellipse: s-maj=2.3km s-min=0.9km az=196.0*

NEIC 07 21:06:32.0±0.6, 19°.35N±0°.02×155°.484W±0°.006, h8km±2km, Error ellipse: s-maj=2.4km s-min=0.5km az=193.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AIN	**Ainahou**	**0.04**	**44**	Pg	Pg		21 06 33.3	-0.5
AIN					Sg		21 06 34.4	-0.8
HTC	**Hot Caves**	**0.14**	**143**		Pg		21 06 35.3	+0.3
KHU	**Kahuku**	**0.16**	**231**		Pg		21 06 35.9	+0.4
KHU					Sg		21 06 38.9	+1.0
KHU	**Kahuku**	**0.16**	**231**	IAML			21 06 39.1	
	comp=N,1μm,0.2s							
KHU				IAML			21 06 39.4	
	comp=E,706nm,0.1s							
MLH	**Mauna Loa**	**0.17**	**32**		Pg		21 06 35.5	-0.2
MLH	**Mauna Loa**	**0.17**	**32**	IAML			21 06 40.3	
	comp=N,579nm,0.1s							
MLH				IAML			21 06 40.4	
	comp=E,465nm,0.1s							
HLP	**Hilina Pali**	**0.17**	**107**		Pg		21 06 35.8	+0.2
HLP					Sg		21 06 39.0	+0.8
HLP	**Hilina Pali**	**0.17**	**107**	IAML			21 06 40.4	
	comp=E,764nm,0.4s							
HLP				IAML			21 06 40.6	
	comp=N,636nm,0.3s							
MWH	**Moku'aweowe**	**0.17**	**322**		Pg		21 06 35.8	0.0
MWH					Sg		21 06 39.1	+0.5
MWH	**Moku'aweowe**	**0.17**	**322**	IAML			21 06 40.6	
	comp=E,793nm,0.5s							
MWH				IAML			21 06 40.8	
	comp=N,681nm,0.3s							
SDHHI	**Sand Hill**	**0.18**	**77**		Pg		21 06 35.7	-0.1
SDHHI					Sg		21 06 38.6	0.0
SDHHI	**Sand Hill**	**0.18**	**77**	IAML			21 06 40.6	
	comp=E,1μm,0.2s							
SDHHI				IAML			21 06 40.8	
	comp=N,2μm,0.1s							
WRMHI	**West Rim**	**0.18**	**71**		Pg		21 06 35.8	-0.1
WRMHI					Sg		21 06 38.9	+0.4
WRMHI	**West Rim**	**0.18**	**71**	IAML			21 06 39.7	
	comp=E,3μm,0.2s							
WRMHI				IAML			21 06 39.8	
	comp=N,2μm,0.1s							
UWE	**Uwekahuna**	**0.20**	**68**		Pg		21 06 36.0	-0.1
UWE	**Uwekahuna**	**0.20**	**68**	IAML			21 06 39.9	
	comp=E,1μm,0.3s							
UWE				IAML			21 06 41.3	
	comp=N,724nm,0.3s							
NPH	**North Pit**	**0.20**	**71**		Pg		21 06 36.4	+0.2
NPH	**North Pit**	**0.20**	**71**	IAML			21 06 39.9	
	comp=E,219nm,0.4s							
NPH				IAML			21 06 41.6	
	comp=N,462nm,0.2s							
OBL	**Observatory Le**	**0.20**	**69**		Pg		21 06 36.0	-0.2
OBL	**Observatory Le**	**0.20**	**69**	IAML			21 06 40.0	
	comp=N,1μm,0.6s							
OBL				IAML			21 06 41.6	
	comp=E,1μm,0.4s							
RIM	**Rim**	**0.20**	**76**		Pg		21 06 36.0	-0.2
RIM	**Rim**	**0.20**	**76**	IAML			21 06 39.4	
	comp=E,602nm,0.4s							
RIM				IAML			21 06 41.8	
	comp=N,704nm,0.5s							
MLOA	**Mauna Loa Obse**	**0.21**	**335**		Pg		21 06 36.4	0.0
MLOA					Sg		21 06 39.7	+0.2
MLOA	**Mauna Loa Obse**	**0.21**	**335**	IAML			21 06 39.8	
	comp=E,959nm,0.5s							
MLOA				IAML			21 06 39.8	
	comp=N,1μm,0.2s							
UWB	**Uwekahuna B**	**0.21**	**68**		Pg		21 06 36.0	-0.3
UWB					Sg		21 06 39.1	-0.1
UWB	**Uwekahuna B**	**0.21**	**68**	IAML			21 06 39.5	
	comp=N,317nm,0.5s							
UWB				IAML			21 06 39.8	
	comp=E,185nm,0.3s							
KKO	**Keanakako`i**	**0.21**	**76**		Pg		21 06 36.2	-0.2
KKO					Sg		21 06 39.4	+0.1
KKO	**Keanakako`i**	**0.21**	**76**	IAML			21 06 39.6	
	comp=E,487nm,0.4s							
KKO				IAML			21 06 42.5	
	comp=N,790nm,0.6s							
SBLHI	**Steaming Bluff**	**0.22**	**69**		Pg		21 06 36.2	-0.3
SBLHI					Sg		21 06 39.5	0.0
SBLHI	**Steaming Bluff**	**0.22**	**69**	IAML			21 06 40.6	
	comp=N,575nm,0.4s							
SBLHI				IAML			21 06 42.9	
	comp=E,435nm,0.4s							
BYL	**Byron's Ledge**	**0.22**	**73**		Pg		21 06 36.5	-0.1
BYL	**Byron's Ledge**	**0.22**	**73**	IAML			21 06 40.7	
	comp=N,302nm,0.8s							
BYL				IAML			21 06 41.8	
	comp=E,377nm,1.1s							
HATHI	**Halema'uma'u T**	**0.22**	**70**		Pg		21 06 36.4	-0.2
HATHI					Sg		21 06 39.8	+0.1
HATHI	**Halema'uma'u T**	**0.22**	**70**	IAML			21 06 41.8	
	comp=N,425nm,0.6s							
HATHI				IAML			21 06 42.0	
	comp=E,414nm,0.3s							
RSD	**Rainshed**	**0.23**	**59**		Pg		21 06 37.0	+0.3
RSD					Sg		21 06 39.9	+0.1
ALEP	**Alea Permanent**	**0.24**	**322**		Pg		21 06 36.9	-0.2
ALEP					Sg		21 06 40.8	+0.3
HMH	**Humu'ula Sheep**	**0.26**	**0**		Pg		21 06 37.1	-0.1
HMH	**Humu'ula Sheep**	**0.26**	**0**	IAML			21 06 42.5	
	comp=N,200nm,0.4s							
HMH				IAML			21 06 45.0	
	comp=E,243nm,0.3s							
PUH	**Pauahi**	**0.26**	**84**		Pg		21 06 36.7	-0.4
	comp=N,268nm,1.8s							
PUH					IAML		21 06 40.7	
	comp=E,263nm,0.4s							
KNHH	**Kane Nui o Ham**	**0.30**	**84**			Pg	21 06 37.4	-0.6
NPOC	**North of Pu'u**	**0.36**	**83**			Sg	21 06 44.8	+1.0
NPOC	**North of Pu'u**	**0.36**	**83**			Pg	21 06 38.8	-0.3
NPOC					IAML		21 06 44.9	
	comp=E,564nm,0.5s							
NPOC					IAML		21 06 44.9	
	comp=N,606nm,0.5s							
JCUZ	**Jacuzzi**	**0.36**	**84**			Sg	21 06 45.0	+1.0
JCUZ	**Jacuzzi**	**0.36**	**84**	Pg		Pg	21 06 39.1	-0.1
JCUZ					IAML		21 06 45.1	
	comp=E,555nm,0.2s							
JCUZ					IAML		21 06 50.8	
	comp=N,406nm,0.6s							
POHA	**Pohakuloa**	**0.41**	**354**			Pg	21 06 40.0	-0.2
POHA					IAML		21 06 46.8	
	comp=N,238nm,0.1s							
POHA					IAML		21 06 52.9	
	comp=N,240nm,0.5s							
KHLU	**Kahalu`u**	**0.46**	**302**			Pg	21 06 40.9	-0.1
KHLU						Sg	21 06 47.7	+0.7
KHLU	**Kahalu`u**	**0.46**	**302**	IAML			21 06 48.7	
	comp=N,196nm,0.1s							
KHLU					IAML		21 06 52.4	
	comp=E,304nm,0.7s							
JOKA	**Jonika Flow**	**0.46**	**79**			Pg	21 06 40.3	-0.7
JOKA						Sg	21 06 48.1	+1.0
HUH	**Hualalai**	**0.47**	**315**			Pg	21 06 41.8	+0.5
HUH	**Hualalai**	**0.47**	**315**	IAML			21 06 57.7	
	comp=N,320nm,0.3s							

WEL 07 21:08:34.8±1.2, 37°S±4°×17°9E±1°0, h8km±5km, M3.3/13, ML3.6/18, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=81.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MXZ	**Matakaoa Point**	**0.60**	**204**	P	Pg		21 08 45.4	-0.9
MXZ				S	Sb		21 08 55.1	-0.9
WMGZ	**Waiomatatini S**	**0.82**	**191**	P	Pg		21 08 50.4	-0.1
WMGZ				S	Sn		21 09 04.4	-0.5
PKGZ	**Pakihiroa**	**0.97**	**206**	P	Pg		21 08 52.4	-1.0
PKGZ				S	Sn		21 09 09.1	+0.3
HAZ	**Te Kaha**	**0.99**	**222**	P	Pg		21 08 52.8	-1.0
HAZ				S	Sn		21 09 11.9	+2.8
PUZ	**Puketiti**	**1.09**	**195**	P	Pg		21 08 54.3	-1.4
PUZ				S	Sb		21 09 10.3	-0.1
RUGZ	**Raukumara Rang**	**1.20**	**218**	P	Pg		21 08 57.3	-0.6
MWZ	**Matawai**	**1.57**	**213**	P	Pn		21 09 02.2	-0.8
MWZ				S	Sg		21 09 27.7	+2.4
RAHZ	**Arahi**	**2.25**	**212**	P	Pn		21 09 12.1	-0.2
RAHZ				S	Sn		21 09 40.1	-0.2
MTHZ	**Maungataniwha**	**2.31**	**217**	P	Pn		21 09 12.9	-0.2
KUZ	**Kuaotunu**	**2.33**	**276**	P	Pn		21 09 13.1	-0.3
KUZ				S	Sn		21 09 40.3	-2.0
NMHZ	**Naumai**	**2.52**	**214**	P	Pn		21 09 15.8	-0.3
TOZ	**Tahuroa Road**	**2.58**	**253**	P	Pn		21 09 16.5	-0.3
GRZ	**Great Barrier**	**2.65**	**286**	P	Pn		21 09 19.8	+2.0
BKZ	**Black Stump Fm**	**2.72**	**217**	P	Pn		21 09 17.8	-1.0
MKAZ	**Moumakai**	**2.76**	**267**	P	Pn		21 09 19.4	+0.1
KWHZ	**Kaweka Forest**	**2.96**	**215**	P	Pn		21 09 21.0	-1.1
MBAZ	**Motutapu North**	**2.99**	**274**	P	Pn		21 09 25.0	+2.6
BHHZ	**Black Hill Sta**	**3.18**	**218**	P	Pn		21 09 24.8	-0.4
BHHZ				S	Sn		21 10 03.2	-0.2
SNVZ	**South Ngauruho**	**3.19**	**226**	P	Pn		21 09 25.1	-0.3
MOVZ	**Moawhango**	**3.28**	**222**	P	Pn		21 09 25.0	-1.6
HIZ	**Hauiti**	**3.33**	**242**	P	Pn		21 09 29.4	+2.2
WCZ	**Waipu Caves**	**3.60**	**286**	P	Pn		21 09 32.2	+1.3
DCZ	**Deep Cove**	**12.06**	**222**	P	Pn		21 11 27.9	+1.1

DJA 07 21:10:03.5±1.7, 1°S±5°×120°0E±°, h11km±17km, M3.6/7, MLv3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.16**	**346**	P	Pg	21 10 25.9	0.0
APSI	**Ampana**	**1.47**	**94**	P	Pn	21 10 28.0	-2.0
MRSI	**Marisa**	**2.17**	**54**	P	Pn	21 10 39.4	-0.2
TTSI	**Tana Toraja**	**2.26**	**189**	P	Pn	21 10 40.2	-0.6
LUWI	**Luwuk**	**2.60**	**95**	P	Pn	21 10 47.2	+1.7
GTOI	**Gorontalo**	**3.17**	**63**	P	Pn	21 10 54.1	+0.8
SPSI	**Sidrap Palu**	**3.17**	**187**	P	Pn	21 10 52.5	-0.9
MTKI	**Muara Teweh, K**	**5.29**	**268**	P	Pn	21 11 20.0	-2.5

IDC 07 21:10:11.3±2.5, 9°24S×113°49E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=130.4km s-min=21.0km az=53.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.78**	**120**	P	P	21 15 14.2	-1.4
	0.6nm,0.6s,baz=301,slow=11,SNR=4.9 0.6nm,0.6s						
ASAR	**Alice Springs**	**24.22**	**129**	P	P	21 15 30.9	+0.9
	0.6nm,0.6s,baz=302,slow=8.8,SNR=13 0.6nm,0.6s						
STKA	**Stephens Creek**	**34.44**	**135**	P	P	21 17 00.8	0.0
	1.2nm,0.6s,baz=324,slow=8.7,SNR=4.3 1.2nm,0.6s						
SONM	**Songino Array**	**57.17**	**354**	P	P	21 20 00.3	+0.2
	0.5nm,0.4s,baz=173,slow=8.2,SNR=5.0 0.5nm,0.4s						
MKAR	**Makanchi Array**	**62.34**	**336**	P	P	21 20 35.3	-0.3
	0.3nm,0.5s,baz=152,slow=7.1,SNR=5.6 0.3nm,0.5s						

*IDC **07** 21:29:34.0±0.5, 41°.82N×46°.54E, h0km, mb3.9/21, mbtmp3.9/32, ML3.5/12, MS3.7/1, Error ellipse: s-maj=9.0km s-min=6.9km az=157.0*
*NORS **07** 21:29:34.8±0.0, 41°.72N×46°.60E, h5km, MPVA4.5*
*MOS **07** 21:29:35.9±0.0, 41°.87N×46°.67E, h7km, MPVA4.8*
*TIF **07** 21:29:36.3, 41°.84N×46°.62E, h15km±1km*
*NEIC **07** 21:29:36.6±1.8, 41°.94N±0°.07×46°.65E±0°.08, h10km±1km, mb4.2/50, Error ellipse: s-maj=11.3km s-min=10.6km az=161.0*
*AZER **07** 21:29:36.4±0.1, 41°.75N×46°.46E, h6km, Error ellipse: s-maj=1.1km s-min=0.6km az=15.0*
*NSSP **07** 21:29:36.7, 41°.78N×46°.53E, h17km, Ms4.3*
*DRS **07** 21:29:37.7±0.0, 41°.83N×46°.57E, h14km*
*NNC **07** 21:29:40.4±1.9, 42°.17N×47°.21E, h0km, mb4.2, Error ellipse: s-maj=28.6km s-min=14.1km az=114.0*
*DDA **07** 21:29:49.0±0.0, 41°.79N×46°.12E, h49km, MW4.1*

ISC 07 21:29:38.2±0.5, 41°.84N±0°.01×46°.57E±0°.01, h28km±3km, n379, σ2.218/516, mb4.0/56, 40C-21D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ZKTA	**Zakatala**	**0.21**	**169**	P	**Pb**		**21 29 42.2**	**-2.1**
ZKTA				S	**Sb**		**21 29 45.9**	**-2.5**
LGD	**Lagodekhi**	**0.25**	**268**	P	**Pb**		**21 29 43.1**	**-1.7**
LGD				S	**Sb**		**21 29 47.0**	**-2.2**
LGD	**Lagodekhi**	**0.25**	**268**	PG	**Pb**		**21 29 43.1**	**-1.7**
KMKR	**Kumukh**	**0.49**	**54**	*i* PG	**Pb**		**21 29 46.8**	**-1.7**
KMKR				*e*S	**Sb**		**21 29 53.7**	**-1.8**
KMKR	**Kumukh**	**0.49**	**54**	*i* Pg	**Pb**		**21 29 46.8**	**-1.7**
KMKR				*e*Sg	**Sb**		**21 29 53.7**	**-1.8**
DDFL	**Dedoflistskaro**	**0.52**	**221**	P	**Pn**		**21 29 49.6**	**-0.3**
DDFL	**Dedoflistskaro**	**0.52**	**221**	PG	**Pn**		**21 29 49.6**	**-0.3**
GNBR	**Gunib**	**0.62**	**28**	*i* PG	**Pb**		**21 29 49.3**	**-1.3**
GNBR				*e*S	**Sb**		**21 29 58.0**	**-1.0**
GNBR				pmax	pmax			
	comp=Z,1μm,0.6s							
GNBR				smax	smax			
	comp=N,10μm,0.5s							
GNBR				smax	smax			
	comp=E,10μm,0.6s							
GNBR	**Gunib**	**0.62**	**28**	*i* Pg	**Pb**		**21 29 49.4**	**-1.2**
GNBR				*i* Sg	**Sb**		**21 29 58.1**	**-0.9**
XNZR	**Khunzakh**	**0.70**	**8**	*i* PG	**Pb**		**21 29 51.2**	**-0.9**
XNZR				*i* S	**Sb**		**21 30 01.4**	**-0.1**
XNZR				pmax	pmax			
	comp=Z,2μm,0.4s							
XNZR				smax	smax			
	comp=N,11μm,0.6s							
XNZR	**Khunzakh**	**0.70**	**8**	*i* Pg	**Pb**		**21 29 51.3**	**-0.9**
XNZR				*e*Sg	**Sb**		**21 30 00.9**	**-0.6**
SEKA	**Sheki**	**0.79**	**143**	PG	**Pb**		**21 29 51.9**	**-1.5**
SEKA	**Sheki**	**0.79**	**143**	Pg	**Pb**		**21 29 52.0**	**-1.4**
	SNR=277							
SEKA				Sg	**Sn**		**21 30 04.5**	**0.0**
ARKR	**Arakani**	**0.82**	**22**	*e*PG	**Pb**		**21 29 53.2**	**-0.8**
ARKR				*e*S	**Sb**		**21 30 04.4**	**-0.3**
ARKR	**Arakani**	**0.82**	**22**	*e*Pg	**Pb**		**21 29 53.2**	**-0.8**
ARKR				*e*Sg	**Sb**		**21 30 04.4**	**-0.3**
URKR	**Urkarakh**	**0.85**	**68**	*e*PG	**Pb**		**21 29 53.6**	**-1.0**
URKR				*e*S	**Sb**		**21 30 05.4**	**-0.3**
URKR	**Urkarakh**	**0.85**	**68**	*e*Pg	**Pb**		**21 29 53.6**	**-1.0**
URKR				*e*Sg	**Sb**		**21 30 05.4**	**-0.3**
UNCR	**Uncukul**	**0.89**	**11**	*e*PG	**Pb**		**21 29 54.5**	**-0.5**
UNCR				*e*S	**Sn**		**21 30 06.5**	**-0.4**
UNCR	**Uncukul**	**0.89**	**11**	*e*Pg	**Pb**		**21 29 54.5**	**-0.5**
UNCR				*e*Sg	**Sn**		**21 30 06.5**	**-0.4**
AKT	**Akhty**	**0.94**	**112**	*e*PG	**Pb**		**21 29 54.9**	**-1.1**
AKT				*e*S	**Sb**		**21 30 07.8**	**-0.4**
AKT				pmax	pmax			
	comp=Z,568nm,0.5s							
AKT				smax	smax			
	comp=N,3μm,0.4s							
AKT				smax	smax			
	comp=E,2μm,0.3s							
AKT				smax	smax			
	comp=N,3μm,0.7s							
AKT	**Akhty**	**0.94**	**112**	*i* Pg	**Pb**		**21 29 54.3**	**-1.7**
AKT				*e*Sg	**Sb**		**21 30 07.8**	**-0.4**
DGRG	**David-gareji**	**0.98**	**247**	P	**Pn**		**21 29 56.2**	**0.0**
DGRG				S	**Sn**		**21 30 12.1**	**+2.9**
DGRG	**David-gareji**	**0.98**	**247**	PG	**Pn**		**21 29 56.2**	**0.0**
DGRG				S	**Sn**		**21 30 12.1**	**+2.9**
KRNR	**Karanay**	**1.01**	**14**	*e*PG	**Pb**		**21 29 56.6**	**-0.6**
KRNR				*i* S	**Sn**		**21 30 10.8**	**+0.7**
KRNR				pmax	pmax			
	comp=Z,788nm,0.4s							
KRNR				smax	smax			
	comp=E,4μm,0.7s							
KRNR	**Karanay**	**1.01**	**14**	*e*Pg	**Pb**		**21 29 56.7**	**-0.6**
KRNR				*e*Sg	**Sn**		**21 30 11.2**	**+1.1**
SGKR	**Sergokala**	**1.02**	**52**	*e*PG	**Pb**		**21 29 56.6**	**-0.6**
SGKR				*e*S	**Sn**		**21 30 10.5**	**+0.4**
SGKR				pmax	pmax			
	comp=Z,6.0nm,0.4s							
SGKR				smax	smax			
	comp=E,3μm,0.6s							
SGKR				smax	smax			
	comp=N,4μm,0.5s							
SGKR				smax	smax			
	comp=N,4μm,0.6s							
SGKR	**Sergokala**	**1.02**	**52**	*e*Pg	**Pb**		**21 29 56.7**	**-0.6**
SGKR				*e*Sg	**Sn**		**21 30 10.5**	**+0.4**
BUJR	**Buynaksk**	**1.06**	**22**	*e*PG	**Pb**		**21 29 57.7**	**-0.2**
BUJR				*e*S	**Sn**		**21 30 12.3**	**+1.2**
BUJR	**Buynaksk**	**1.06**	**22**	*e*Pg	**Pb**		**21 29 57.7**	**-0.2**
BUJR				*e*Sg	**Sn**		**21 30 12.3**	**+1.2**
MNGR	**Mingechevir, A**	**1.14**	**160**	PG	**Pb**		**21 29 59.3**	**0.0**
MNGR	**Mingechevir, A**	**1.14**	**160**	P	**Pb**		**21 29 59.2**	**0.0**
	SNR=92							
MNGR				S	**Sb**		**21 30 16.9**	**+3.3**
DVE	**Vedeno**	**1.16**	**344**	*i* PG	**Pb**		**21 29 59.4**	**-0.3**
DVE				*e*S	**Sb**		**21 30 16.2**	**+1.8**
DVE	**Vedeno**	**1.16**	**344**	*i* Pg	**Pb**		**21 29 59.4**	**-0.3**
DVE				*e*Sg	**Sb**		**21 30 16.2**	**+1.8**
KSMR	**Kasumkent**	**1.19**	**101**	*e*PG	**Pb**		**21 29 59.8**	**-0.4**
KSMR				*e*S	**Sb**		**21 30 16.1**	**+0.9**
KSMR	**Kasumkent**	**1.19**	**101**	*e*Pg	**Pb**		**21 29 59.8**	**-0.4**
KSMR				*e*Sg	**Sb**		**21 30 16.1**	**+0.9**
DBC	**Dubki**	**1.19**	**9**	*e*PG	**Pb**		**21 29 59.7**	**-0.5**
DBC				*i* S	**Sb**		**21 30 16.7**	**+1.4**
DBC				pmax	pmax			
	comp=Z,660nm,0.6s							
DBC				smax	smax			
	comp=E,2μm,0.4s							
DBC	**Dubki**	**1.19**	**9**	*e*Pg	**Pb**		**21 29 59.8**	**-0.5**
DBC				*e*Sg	**Sb**		**21 30 16.3**	**+1.0**
QZX	**Qazax, Azerbai**	**1.20**	**229**	P	**Pn**		**21 29 59.1**	**0.0**
	SNR=826							
QZX				S	**Sb**		**21 30 16.6**	**+1.3**
GANJ	**Ganja**	**1.21**	**189**	PG	**Pn**		**21 29 59.4**	**0.0**
GANJ	**Ganja**	**1.21**	**189**	P	**Pn**		**21 29 59.2**	**-0.1**
	SNR=266							
GANJ				S	**Sb**		**21 30 15.7**	**0.0**
DLMR	**Dylym**	**1.23**	**2**	*e*PG	**Pb**		**21 30 01.1**	**+0.3**
DLMR				*e*S	**Sb**		**21 30 18.0**	**+1.8**
DLMR	**Dylym**	**1.23**	**2**	*e*Pg	**Pb**		**21 30 01.1**	**+0.3**
DLMR				*e*Sg	**Sb**		**21 30 18.0**	**+1.8**
GDB	**GEDABAY**	**1.28**	**209**	P	**Pn**		**21 29 60.0**	**-0.5**
	SNR=164							
GDB				S	**Sb**		**21 30 17.5**	**-0.3**
QSAR	**Qusar**	**1.31**	**104**	Pn	**Pb**		**21 30 01.8**	**-0.4**
	SNR=20							
QSAR				Sn	**Sb**		**21 30 24.3**	**+5.7**
MAK	**Makhachkala**	**1.31**	**31**	*e*PG	**Pb**		**21 30 01.8**	**-0.4**
MAK				*e*			21 30 20.0	
MAK				pmax	pmax			
	comp=Z,2μm,0.9s							
MAK				smax	smax			
	comp=N,8μm,0.5s							
MAK				smax	smax			
	comp=N,6μm,0.6s							
MAK	**Makhachkala**	**1.31**	**31**	*e*Pg	**Pb**		**21 30 05.0**	**+2.8**
MAK				*e*Sg	**Sb**		**21 30 24.3**	**+5.6**
SEAG	**Tbilisi Sea**	**1.32**	**267**	P	**Pb**		**21 30 01.9**	**-0.5**
SEAG				S	**

KDMR Sn **Sb** **21 30 37.5 +1.9**
SIZA **Siyzn** **1.91 113** Pn **Pb** **21 30 12.2 -0.2**
SNR=48
SIZA Sn **Sb** **21 30 42.0 +6.1**
LACR **Lac** **1.95 301** *e*Pn **Pb** **21 30 12.6 -0.6**
LACR pmax pmax
comp=Z,446nm,0.3s
LACR **Lac** **1.95 301** *e*Pg **Pb** **21 30 14.4 +1.3**
LACR *e*Sg **Sb** **21 30 41.2 +4.1**
ATGJ **Altiaghaj** **2.03 118** Pn **Pb** **21 30 14.7 +0.2**
SNR=90
ATGJ Sn **Sb** **21 30 43.6 +4.1**
BRNG **Burnasheti** **2.06 265** P **Pn** **21 30 12.9 +1.6**
BRNG S **Sb** **21 30 40.9 +0.5**
KAPZ **Kaputan** **2.08 224** ⇓ *i*P **Pn** **21 30 13.1 +1.7**
KAPZ ⇑ *i*S **Sb** **21 30 41.4 +0.7**
BTKR **Batakoyurt** **2.14 316** *i* PN **Pb** **21 30 16.2 -0.1**
BTKR *e*S **Sb** **21 30 46.5 +4.1**
BTKR **Batakoyurt** **2.14 316** *i* Pg **Pb** **21 30 16.2 -0.1**
BTKR *e*Sg **Sb** **21 30 46.5 +4.1**
ARNR **Ardon** **2.15 309** *e*PN **Pb** **21 30 15.9 -0.7**
ARNR pmax pmax
comp=Z,302nm,0.5s
ARNR **Ardon** **2.15 309** *e*Pg **Pb** **21 30 15.8 -0.7**
ARNR *e*Sg **Sb** **21 30 46.4 +3.5**
GNI **Garni** **2.19 220** Pn **Pn** **21 30 14.7 +1.8**
comp=Z,522nm,0.3s,baz=316,slow=1.8,SNR=1208
GNI Lg Lg 21 30 44.3
comp=Z,138nm,0.3s,baz=52,slow=15,SNR=6.9
GNI **Garni** **2.19 220** ⇓ *i*P **Pn** **21 30 14.8 +1.8**
GNI ⇓ *i*S **Sb** **21 30 46.0 +2.0**
GNI **Garni** **2.19 220** Pn **Pb** **21 30 15.2 -2.0**
GNI **Garni** **2.19 220** *ce*PN **Pb** **21 30 15.0 -2.2**
GNI pmax pmax
comp=Z,1μm,0.5s
ALIG **Mtskhetisjvari** **2.19 278** P **Pb** **21 30 15.1 -2.2**
ALIG S **Sb** **21 30 43.7 -0.4**
ZEI **Tsey** **2.19 296** *e*PN **Pb** **21 30 17.2 -0.1**
ZEI *e*S **Sb** **21 30 47.0 +2.8**
ZEI **Tsey** **2.19 296** *e*Pg **Pb** **21 30 17.0 -0.3**
ZEI *e*Sg **Sb** **21 30 46.9 +2.7**
GBS **Qobustan** **2.22 125** Pg **Pb** **21 30 19.4 +1.8**
SNR=10
GBS Sn **Sb** **21 30 48.3 +3.6**
KORR **Kora** **2.23 305** *e*PN **Pb** **21 30 16.6 -1.3**
KORR pmax pmax
comp=Z,384nm,0.4s
KORR **Kora** **2.23 305** *e*Pn **Pb** **21 30 16.7 -1.1**
KORR *e*Sn **Sb** **21 30 46.5 +1.5**
BLQ **Beylaqan** **2.25 160** Pn **Pn** **21 30 14.9 +1.3**
SNR=84
BLQ Sn **Sb** **21 30 47.6 +2.0**
AMBZ **Amberd** **2.27 231** ⇓ *i*P **Pb** **21 30 17.4 -1.3**
AMBZ ⇑ *i*S **Sb** **21 30 50.0 +3.5**
BKRG **Bakuriani** **2.28 269** P **Pn** **21 30 16.0 +1.8**
BKRG S **Sb** **21 30 47.2 +0.6**
BKRG **Bakuriani** **2.28 269** PN **Pn** **21 30 16.0 +1.8**
BKRG S **Sb** **21 30 47.2 +0.6**
TRKR **Terskaya** **2.32 325** *i* PN **Pb** **21 30 18.5 -0.8**
TRKR *e*S **Sb** **21 30 50.3 +2.9**
TRKR **Terskaya** **2.32 325** *i* Pn **Pb** **21 30 18.5 -0.8**
TRKR *e*Sn **Sb** **21 30 50.3 +2.9**
NRKZ **NAREK** **2.34 219** ⇓ *i*P **Pb** **21 30 17.5 -2.3**
NRKZ ⇓ *i*S **Sb** **21 30 49.6 +1.3**
AKH **Akhalkalaki** **2.35 260** P **Pn** **21 30 17.0 +1.9**
AKH S **Sb** **21 30 48.9 +0.3**
AKH **Akhalkalaki** **2.35 260** PN **Pn** **21 30 17.0 +1.9**
AKH S **Sb** **21 30 48.9 +0.3**
GRS **Goris** **2.35 184** ⇑ *i*P **Pb** **21 30 17.6 -2.4**
GRS ⇑ *i*S **Sb** **21 30 48.6 0.0**
STDR **Stavd-Durt** **2.40 310** *e*PN **Pb** **21 30 19.0 -1.7**
STDR *e*S **Sb** **21 30 51.7 +1.9**
STDR **Stavd-Durt** **2.40 310** *e*Pn **Pb** **21 30 19.0 -1.7**
STDR *e*Sn **Sb** **21 30 51.7 +1.9**
SAAT **Saatly** **2.43 144** Pn **Pn** **21 30 16.4 +0.3**
SNR=6.2
SAAT Sn **Sb** **21 30 48.6 -2.1**
ONI **Oni** **2.43 289** Pn **Pb** **21 30 18.7 -2.6**
ONI **Oni** **2.43 289** P **Pb** **21 30 19.3 -2.0**
ONI **Oni** **2.43 289** PN **Pb** **21 30 18.7 -2.6**
QRD **Qoradiz** **2.45 166** Pg **Pn** **21 30 17.2 +0.9**
SNR=91
QRD Sn **Sb** **21 30 50.8 -0.5**
DIGR **Digorskoe uzhe** **2.45 296** *e*PN **Pb** **21 30 20.3 -1.5**
DIGR *e*S **Sb** **21 30 53.5 +1.8**
DIGR **Digorskoe uzhe** **2.45 296** *e*Pn **Pb** **21 30 20.9 -0.9**
DIGR *e*Sn **Sb** **21 30 53.4 +1.8**
LSNR **Lesken** **2.48 306** *e*PN **Pb** **21 30 22.5 +0.3**
LSNR *e*S **Sb** **21 30 55.5 +3.2**
LSNR **Lesken** **2.48 306** *e*Pn **Pb** **21 30 22.4 +0.3**
LSNR *e*Sn **Sb** **21 30 55.5 +3.2**
HYR **Heyderabad** **2.49 212** Pn **Pb** **21 30 19.6 -2.8**
SNR=176
HYR Sn **Sb** **21 30 52.6 0.0**
EAK **Akyaka** **2.52 244** P **Pn** **21 30 18.6 +1.2**
EAK S **Sb** **21 30 50.3 -3.1**
AZMN **Azmana** **2.52 259** P **Pn** **21 30 17.6 +0.1**
AZMN S **Sb** **21 30 51.7 -1.9**
METS **Metsamor** **2.53 229** ⇓ *i*P **Pb** **21 30 20.5 -2.6**
METS ⇑ *i*S **Sb** **21 30 54.3 +0.5**
PRTR **Priterechnaya** **2.54 319** *e*PN **Pb** **21 30 21.1 -2.1**
PRTR pmax pmax
comp=Z,180nm,0.5s
PRTR **Priterechnaya** **2.54 319** *i* Pn **Pb** **21 30 21.2 -2.1**
PRTR *e*Sn **Sb** **21 30 54.5 +0.5**
SBZ **Shahbuz** **2.56 198** Pn **Pn** **21 30 20.1 +2.1**
SNR=304
SBZ Sn **Sb** **21 30 53.2 -1.5**
ALIB **Äli-Bayra** **2.64 135** Pg **Pb** **21 30 24.6 -0.2**
SNR=13
ALIB Sg **Sb** **21 30 59.2 +2.6**
TKB **Tkibuli** **2.71 282** P **Pb** **21 30 22.9 -3.1**
TKB S **Sb** **21 30 58.8 -0.1**
TKB **Tkibuli** **2.71 282** PN **Pb** **21 30 22.9 -3.1**
TKB S **Sb** **21 30 58.8 -0.1**
VNNZ **Vanand** **2.71 231** ⇓ *i*P **Pb** **21 30 24.9 -1.2**
VNNZ ⇓ *i*S **Sb** **21 31 01.1 +2.2**
IGDI **IGDIR** **2.73 225** P **Pn** **21 30 22.3 +2.0**
IGDI S **Sb** **21 31 00.2 +0.7**
NCK **Nalchik** **2.75 308** *i* PN **Pb** **21 30 23.4 -3.2**
NCK pmax pmax
comp=Z,35nm,0.6s
NCK MLR MLR
comp=Z,471nm,3.0s
NCK **Nalchik** **2.75 308** *e*Pn **Pb** **21 30 26.4 -0.2**
NCK *e*Sn **Sb** **21 31 01.6 +1.7**
NAX **Nakhchivan** **2.79 197** PN **Pn** **21 30 24.0 +2.9**
NAX **Nakhchivan** **2.79 197** Pn **Pn** **21 30 23.6 +2.5**
SNR=98
NAX Sn **Sb** **21 30 59.5 -1.6**
ABS **Abastumani** **2.81 269** P **Pn** **21 30 21.7 +0.2**
ABS S **Sb** **21 30 59.5 -2.4**
ABS **Abastumani** **2.81 269** PN **Pn** **21 30 21.7 +0.2**
ABS S **Sb** **21 30 59.5 -2.4**
ORD **Ordubad** **2.94 189** Pn **Pn** **21 30 25.3 +2.0**
SNR=97
ORD Sn **Sn** **21 31 01.2 +3.5**
GLBA **Clilabad** **2.95 151** Pn **Pn** **21 30 24.7 +1.5**
SNR=49
GLBA Sn **Sb** **21 31 02.5 -3.1**
NEY **Neytrino** **3.17 298** *e*PN **Pb** **21 30 33.5 -0.5**
NEY *e*S **Sb** **21 31 14.0 +1.7**
NEY **Neytrino** **3.17 298** *e*Pn **Pb** **21 30 33.5 -0.5**
NEY *e*Sn **Sb** **21 31 14.0 +1.7**
DYDN **Diyadin** **3.17 225** P **Pb** **21 30 32.8 -1.3**
YRD **Yardimli** **3.19 156** Pn **Pn** **21 30 26.6 -0.2**
SNR=51
YRD Sn **Sn** **21 31 06.6 +2.7**
KOTA **Agri, Merkez-K** **3.27 232** P **Pb** **21 30 36.3 +0.7**
KBZ **Khabaz** **3.30 306** Pn **Pn** **21 30 29.5 +1.5**
comp=Z,2.4nm,0.3s,baz=119,slow=8.6,SNR=21
KBZ Lg Lg 21 31 16.7
comp=Z,8.1nm,0.3s,baz=112,slow=23,SNR=5.6
comp=Z,7.5nm,0.2s
KBZ **Khabaz** **3.30 306** *e*PN **Pn** **21 30 30.6 +2.6**
KBZ pmax pmax
comp=Z,2.0nm,0.3s
KBZ **Khabaz** **3.30 306** *i* Pn **Pn** **21 30 31.2 +3.2**
KBZ *e*Sn **Sb** **21 31 12.1 -3.5**
CLDR **Caldiran** **3.37 218** P **Pb** **21 30 35.4 -2.0**
SHA1 **Shidzhatmaz** **3.45 305** *e*PN **Pn** **21 30 33.3 +3.0**
SHA1 *e*S **Sb** **21 31 17.1 -3.1**
SHA1 **Shidzhatmaz** **3.45 305** *e*Pn **Pn** **21 30 33.3 +3.0**
SHA1 *e*Sn **Sb** **21 31 17.1 -3.1**
LRK **Lerik** **3.47 156** Pn **Pn** **21 30 31.9 +1.3**
SNR=48
LRK Sn **Sn** **21 31 15.3 +4.4**
KVAR **Kislovodsk Arr** **3.54 308** Pn **Pn** **21 30 33.9 +2.4**
baz=92,slow=23
KVAR Lg Lg 21 31 24.2
baz=275,slow=22
comp=Z,7.9nm,0.4s
KIV **Kislovodsk** **3.55 308** Pn **Pn** **21 30 33.1 +1.5**
KIV **Kislovodsk** **3.55 308** *i* PN **Pn** **21 30 33.3 +1.7**
KIV *i* S **Sb** **21 31 19.1 -3.9**
KIV pmax pmax
comp=Z,10.0nm,0.7s
KIV MLR MLR
comp=Z,142nm,1.0s
KIV **Kislovodsk** **3.55 308** *e*Pn **Pn** **21 30 33.5 +1.9**
KIV *e*Sn **Sn** **21 31 15.8 +3.1**
LKRN **Lenkeran, Azer** **3.56 151** PN **Pn** **21 30 33.8 +2.2**
LKRN **Lenkeran, Azer** **3.56 151** Pn **Pn** **21 30 33.3 +1.8**
LKRN Sn **Sn** **21 31 16.4 +3.8**
DAGI **Agillar** **3.58 259** P **Pb** **21 30 40.5 -0.5**
EATA **Eleskirt** **3.67 239** P **Pb** **21 30 42.5 -0.1**
ASTR **Astara** **3.69 152** Pn **Pn** **21 30 34.8 +1.3**
SNR=15
ASTR Sn **Sn** **21 31 18.9 +2.8**
OZAP **Van, Ozalp-Mer** **3.74 213** P **Pb** **21 30 43.4 -0.3**
DBAD **Bademkaya** **3.76 259** P **Pb** **21 30 42.2 -1.7**
ALER **Alexandrovskoy** **3.96 319** *e*PN **Pn** **21 30 38.6 +1.5**
ALER *e*S **Sn** **21 31 26.2 +3.7**
ALER **Alexandrovskoy** **3.96 319** *e*Pn **Pn** **21 30 38.6 +1.5**
ALER *e*Sn **Sn** **21 31 26.2 +3.7**
TVAN **Van** **4.10 217** P **Pb** **21 30 50.5 +0.6**
GOF **Gofitskoye** **4.11 323** *i* PN **Pn** **21 30 42.0 +2.8**
GOF *e*S **Sn** **21 31 31.6 +5.2**
GOF **Gofitskoye** **4.11 323** *i* Pn **Pn** **21 30 42.0 +2.8**
GOF *e*Sn **Sn** **21 31 31.6 +5.2**
NVNR **Nevinnomyssk** **4.36 311** *e*PN **Pn** 21 30 47.8 +5.2
NVNR *e*S **Sb** **21 31 40.2 -6.0**
NVNR **Nevinnomyssk** **4.36 311** *e*Pn **Pn** 21 30 47.8 +5.2
NVNR *e*Sn **Sb** **21 31 40.2 -6.0**
KRIK **Erzurum-spir** **4.52 252** P **Pb** **21 30 54.3 -2.7**
YOVA **Hakkari_Yksek** **4.60 203** P **Pb** **21 30 59.6 +1.3**
AHMR **Akhmetovskaya** **4.67 302** *e*PN **Pb** **21 31 00.1 +0.8**
AHMR **Akhmetovskaya** **4.67 302** *e*Pn **Pb** **21 31 00.1 +0.8**
AHMR *e*Sn **Sb** **21 31 54.9 -0.2**
GURO **Guroymak-BITLI** **4.78 228** Pn **Pn** **21 30 49.2 +0.6**
PERV **Siirt/Pervari-** **4.97 220** P **Pn** **21 30 54.8 +3.5**
BAYB **BAYBURT** **5.03 254** P Pb 21 31 10.0 +4.4
LABN **Labinsk** **5.11 305** *e*PN **Pn** **21 30 56.9 +4.1**
LABN *e*S **Sn** **21 31 55.1 +4.3**
LABN **Labinsk** **5.11 305** *e*Pn **Pn** **21 30 56.9 +4.1**
LABN *e*Sn **Sn** **21 31 55.1 +4.3**
MARD **Mardin** **6.36 227** Pn **Pn** **21 30 13.4 +3.1**
GEYT **Alibeck** **9.70 110** Pn **Pn** **21 31 54.8 -1.1**
comp=Z,0.3nm,0.3s,baz=302,slow=14,SNR=2.2
GEYT Sn **Sn** **21 33 42.6 -1.3**
comp=Z,0.4nm,0.3s,baz=313,slow=9.9,SNR=1.0
comp=Z,0.7nm,0.3s
GEYT **Alibeck** **9.70 110** Pn **Pn** **21 31 56.6 +0.8**
GYA0B **ALIBECK ARRAY** **9.70 110** Pn **Pn** **21 31 56.5 +0.6**
GYA0B **ALIBECK ARRAY** **9.70 110** ⇑ P **Pn** **21 31 59.0 +3.1**
GYA0B ⇑ S **Sn** **21 33 44.1 +0.2**
BRTR **Keskin Array B** **10.04 262** Pn **Pn** **21 32 01.8 +1.1**
comp=Z,0.1nm,0.3s,baz=63,slow=16,SNR=1.3
BELG **Belogornoye** **10.58 4** Pn **Pn** **21 32 06.1 -1.7**
comp=Z,6.1nm,0.3s,baz=22,slow=1.8,SNR=18
BELG Sn **Sn** **21 33 59.0 -6.3**
comp=Z,0.8nm,0.3s,baz=183,slow=13,SNR=1.4
BELG **Belogornoye** **10.58 4** *i* P **Pn** **21 32 05.6 -2.2**
BELG pmax pmax
comp=Z,4.0nm,0.4s
BELG MLR MLR
comp=Z,25nm,12.0s
VORR **Voronezh** **11.04 335** *e*P Pn 21 32 08.5 -5.7
VORR pmax pmax
comp=Z,10.0nm,0.4s
AKTO **Aktyubinsk** **11.69 39** Pn **Pn** **21 32 21.8 -1.3**
comp=Z,1.1nm,0.3s,baz=217,slow=9.6,SNR=14
AKTO Sn **Sn** **21 34 26.7 -5.8**
comp=Z,0.5nm,0.3s,baz=30,slow=20,SNR=1.7
comp=Z,2.8nm,0.3s
AKTO **Aktyubinsk** **11.69 39** *i* P **Pn** **21 32 21.7 -1.3**
AKTO pmax pmax
comp=Z,7.0nm,0.5s
AKTO **Aktyubinsk** **11.69 39** ⇑ P **Pn** **21 32 21.7 -1.3**
comp=Z,7.2nm,0.5s
AKTO ⇓ S **Sn** **21 34 28.1 -4.3**
comp=Z,16nm,0.8s
AB31 **Akbulak array** **11.94 47** *ce*P **Pn** **21 32 24.8 -1.6**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
AB31 **Akbulak array** **11.94 47** P **Pn** **21 32 24.9 -1.6**
comp=Z,1.8nm,0.4s,baz=221,slow=12,SNR=84
AB31 ⇓ S **Sn** **21 34 34.7 -3.9**
comp=Z,6.2nm,0.6s,baz=218,slow=17,SNR=6.7
ABKAR **Akbulak array** **11.94 47** Pn **Pn** **21 32 25.0 -1.5**
ABKAR **Akbulak array** **11.94 47** Pn **Pn** **21 32 25.1 -1.5**
ELL **Elmali** **13.87 254** Pn **Pn** **21 32 56.6 +3.6**
ELL **Elmali** **13.87 254** P **Pn** **21 32 56.6 +3.6**
HARR **Harsova** **13.88 288** ⇑ P **P** **21 33 00.6 -0.3**
HARR **Harsova** **13.88 288** ⇑ P **P** **21 33 00.6 -0.3**
GHRR **14.43 293** ⇑ P **P** **21 33 08.4 +1.4**
OBN **Obninsk** **14.82 337** Pn **Pn** **21 33 01.3 -4.4**
comp=Z,0.1nm,0.3s,baz=76,slow=17,SNR=3.7
OBN Sn **Sn** **21 35 47.0 -1.8**
comp=Z,0.3nm,0.3s,baz=29,slow=22,SNR=1.4
comp=Z,1.3nm,0.4s
OBN **Obninsk** **14.82 337** Pn **Pn** **21 33 02.9 -2.8**
OBN **Obninsk** **14.82 337** *e*P **P** **21 33 10.3 -1.0**
OBN *e*S **Sn** **21 35 51.0 +2.2**
OBN pmax pmax
comp=Z,8.0nm,0.3s
OBN MLR MLR
comp=Z,268nm,12.0s
VRI **Vrincioaia** **14.86 292** ⇑ P **P** **21 33 13.2 +1.3**
VRI **Vrincioaia** **14.86 292** ⇑ P **P** **21 33 13.2 +1.3**
AKASG **Malin Array Be** **14.88 312** Pn Pn 21 33 01.7 -4.8
comp=Z,0.4nm,0.3s,baz=116,slow=14,SNR=1.4
comp=Z,0.3nm,0.4s
AKBB **Malin Array Si** **14.88 312** Pn **Pn** **21 33 06.4 -0.2**
AKBB **Malin Array Si** **14.88 312** P **Pn** **21 33 06.4 -0.2**
PLOR **Plostina** **14.92 292** ⇑ P **P** **21 33 13.7 +1.2**
PLOR **Plostina** **14.92 292** ⇑ P **P** **21 33 13.7 +1.2**
TESR **Tescani** **15.03 295** ⇑ P **P** **21 33 15.8 +2.1**
MOS **Moscow** **15.08 340** *e*P **Pn** **21 33 09.9 +0.7**
MOS *e*S **Sn** **21 35 57.2 +2.0**
MOS pmax pmax
comp=Z,25nm,0.8s
COVR **Voineasa-Covas** **15.22 292** ⇑ P **P** **21 33 18.1 +2.2**
MLR **Muntele Rosu** **15.36 291** ⇓ P **P** **21 33 19.2 +1.7**
MLR **Muntele Rosu** **15.36 291** Pn **Pn** **21 33 13.0 -0.1**
comp=Z,0.2nm,0.3s,baz=120,slow=16,SNR=3.4
comp=Z,1.0nm,0.9s
MLR **Muntele Rosu** **15.36 291** **Pn** **21 33 14.4 +1.3**
MLR IAmb IAmb 21 33 31.9
comp=Z,16nm,1.3s
MLR **Muntele Rosu** **15.36 291** P **Pn** **21 33 14.4 +1.3**
MLR pmax pmax
comp=Z,16nm,1.3s
BIZ **Bicaz** **15.48 296** ⇑ P **P** **21 33 21.3 +2.6**
DOPR **Dopca** **15.80 292** ⇑ P **P** **21 33 25.2 +2.8**
VOIR **15.98 290** ⇓ P **P** **21 33 27.5 +3.2**
VOIR **15.98 290** ⇓ P **P** **21 33 27.5 +3.2**
BURAR **Bucovina Array** **16.21 298** ⇑ P **P** **21 33 30.2 +3.3**
BURAR **Bucovina Array** **16.21 298** Pn **Pn** **21 33 24.6 +0.6**
BURAR IAmb IAmb 21 33 31.1
comp=Z,11nm,0.6s
BUR08 **Bucovina Ar. S** **16.23 298** P **P** **21 33 25.9 -1.2**
KARP **Karpathos** **16.39 254** Pn **Pn** **21 33 26.1 -0.2**
KARP IAmb IAmb 21 33 46.7
comp=Z,17nm,1.0s
ARU **Arti** **16.53 24** Pn **Pn** **21 33 24.4 -3.5**
comp=Z,0.1nm,0.3s,baz=209,slow=7.8,SNR=29
ARU Sn Sn 21 36 19.2 -11
baz=126,slow=22,SNR=2.4
comp=Z,7.9nm,0.5s
ARU **Arti** **16.53 24** Pn **Pn** **21 33 27.1 -0.9**
ARU **Arti** **16.53 24** *c* P **Pn** **21 33 27.8 -0.1**
ARU S **Sn** **21 36 32.3 +1.9**
ARU pmax pmax
comp=Z,23nm,0.6s
KIRV **Kirov** **16.86 5** Pn **Pn** **21 33 27.6 -4.4**
comp=Z,11nm,0.6s,baz=208,slow=8.1,SNR=5.6
KIRV Sn Sn 21 36 25.6 -13
baz=13,slow=23
KIRV **Kirov** **16.86 5** *ce*P **Pn** **21 33 29.0 -2.9**
LOT **Lotru** **16.88 290** ⇑ P **P** **21 33 37.7 +3.4**
CHGR **Chuyangaron** **17.52 93** Pn **Pn** **21 33 39.5 -1.1**
CHGR IAmb IAmb 21 33 53.3
comp=Z,12nm,0.7s
CHGR **Chuyangaron** **17.52 93** P **Pn** **21 33 39.5 -1.1**
CHGR pmax pmax
comp=Z,12nm,0.7s
MNK **Minsk** **17.70 322** *i* P **P** **21 33 44.9 +1.8**
MNK *i* S **S** **21 37 03.4 -1.9**
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,4.0nm,0.6s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,17nm,15.0s
MNK MLR MLR
comp=Z,125nm,19.0s
MNK MLR MLR
comp=N,13nm,17.8s
KK31 **Karatay Array** **17.70 78** Pn **Pn** **21 33 40.8 -1.8**
KK31 **Karatay Array** **17.70 78** *ce*P **Pn** **21 33 41.9 -0.7**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KK31 **Karatay Array** **17.70 78** P **Pn** **21 33 41.9 -0.7**
comp=Z,3.6nm,0.7s,baz=291,slow=8.6,SNR=34
KKAR **Karatay Array** **17.70 78** Pn **Pn** **21 33 41.1 -1.5**
KKAR **Karatay Array** **17.70 78** P **Pn** **21 33 41.1 -1.5**
DRGR **17.75 294** ⇓ P **P** **21 33 48.0 +4.1**
IDI **Anoyia** **18.15 256** P **Pn** **21 33 47.3 -1.0**
comp=Z,0.1nm,0.3s,baz=47,slow=19,SNR=1.0
comp=Z,1.2nm,0.5s
IDI **Anoyia** **18.15 256** **P** **21 33 49.0 +0.6**
IDI IAmb IAmb 21 34 04.4
comp=Z,21nm,1.5s
GAR **Garm** **18.29 91** P **Pn** **21 33 48.9 -1.1**
GAR IAmb IAmb 21 34 02.5
comp=Z,13nm,0.8s
RAYN **Ar Rayn** **18.29 183** P **P** **21 33 50.5 +0.5**
RAYN pmax pmax
comp=Z,8.0nm,1.2s
KWP **Kalwaria Pacla** **18.33 303** **P** **21 33 50.2 0.0**
KWP **Kalwaria Pacla** **18.33 303** P **P** **21 33 50.3 0.0**
KWP pmax pmax
comp=Z,124nm,1.2s
UZH **Uzhgorod** **18.35 300** *e*P **Pn** **21 33 51.0 +0.5**
BTK **Batken** **18.39 87** P **Pn** **21 33 51.2 0.0**
BTK **Batken** **18.39 87** P **Pn** **21 33 51.2 0.0**
BTK pmax pmax
comp=Z,7.0nm,0.8s
KOLS **Kolonicke sedl** **18.43 301** *e*P **Pn** **21 33 55.6 +4.1**
KOLS **Kolonicke sedl** **18.43 301** *e*P **Pn** **21 33 55.6 +4.1**
KBL **Kabul** **19.08 105** P **Pn** **21 33 59.5 -0.2**
KBL **Kabul** **19.08 105** P **Pn** **21 33 59.5 -0.2**
KBL pmax pmax
comp=Z,7.0nm,1.1s
OTUK **Ortayu** **19.25 62** ⇑ P **P** **21 33 59.3 -1.0**
comp=Z,2.3nm,0.5s
DRK **Karamyk** **19.27 89** P **P** **21 34 00.2 -0.7**
DRK IAmb IAmb 21 34 24.5
comp=Z,6.0nm,0.6s
BRVK **Borovoye** **19.47 47** P **P** **21 34 02.5 -0.2**
BRVK **Borovoye** **19.47 47** *ce*P **P** **21 34 03.0 +0.3**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK **Borovoye** **19.47 47** ⇑ P **P** **21 34 02.5 -0.2**
comp=Z,11nm,0.6s
BRVK ⇑ S **S** **21 37 33.1 -7.9**
comp=Z,4.5nm,1.2s
BVA0 **Borovoye Array** **19.51 47** P **P** **21 34 03.1 -0.1**
comp=Z,7.4nm,0.7s,baz=253,slow=8.0,SNR=57
BVA0 ⇑ S **S** **21 37 38.1 -3.8**
comp=Z,6.9nm,1.0s,baz=248,slow=24,SNR=5.1
BVAR **Borovoye Array** **19.51 47** P **P** **21 34 02.4 -0.7**
comp=Z,1.0nm,0.3s,baz=251,slow=8.5,SNR=74
BVAR S **S** **21 37 32.3 -10**
comp=Z,1.0nm,0.9s,baz=234,slow=14,SNR=1.9
comp=Z,5.2nm,0.6s
KLMR **Klimovskoe** **19.52 350** *e*P **P** **21 34 00.7 -2.3**
KLMR *e* 21 37 35.7
KLMR pmax pmax
comp=Z,13nm,0.8s
KLMR **Klimovskoe** **19.52 350** *e*Pn **P** **21 34 00.8 -2.3**
KLMR AMP 21 34 08.3
comp=Z,13nm,0.8s
KLMR *e*Sn **S** **21 37 35.7 -6.1**
KLMR *e*Sn **S** **21 37 35.7 -6.1**
DIVS **Divibare** **19.55 286** P **Pn** **21 34 06.0 +0.8**
PSZ **Piszkesteto** **19.80 297** ⇑ P **Pn** **21 34 10.5 +2.5**
PRGR **Permogore** **19.83 359** *e*P **P** **21 34 04.0 -2.5**
PRGR *e* 21 37 38.5
PABE **Paberze** **20.11 321** P **P** **21 34 09.9 +0.3**
PABE IAmb IAmb 21 34 38.0
comp=Z,11nm,0.8s
OJC **Ojcow** **20.30 303** P Pn 21 34 13.2 -0.6
OJC IAmb IAmb 21 34 16.8
comp=Z,9.9nm,0.8s
OJC **Ojcow** **20.30 303** P Pn 21 34 13.2 -0.7
OJC pmax pmax
comp=Z,10.0nm,0.8s
MORH **Mrgy, Hungar** **20.50 292** ⇓ P Pn 21 34 17.7 +1.5
AAK **Ala-Archa** **20.66 78** P **P** **21 34 15.9 +0.1**
comp=Z,2.0nm,0.6s,baz=240,slow=10,SNR=4.9
comp=Z,2.0nm,0.6s
AAK **Ala-Archa** **20.66 78** P **P** **21 34 15.8 -0.1**
AAK **Ala-Archa** **20.66 78** *ce*P Pn 21 34 17.4 -0.9
AAK pmax pmax
comp=Z,8.0nm,1.7s
WSAR **Wadi Sarin** **21.11 148** P **P** **21 34 20.3 -0.4**
comp=Z,7.5nm,0.9s,baz=70,slow=1.5,SNR=3.1
comp=Z,7.5nm,0.9s
MODS **Modra-Piesok** **21.60 298** *e*P **P** **21 34 30.6 +4.9**
MODS **Modra-Piesok** **21.60 298** *e*P **P** **21 34 30.6 +4.9**
MORC **Moravsky Berou** **21.63 301** ⇑ P **P** **21 34 27.9 +1.8**
MORC **Moravsky Berou** **21.63 301** P **P** **21 34 26.6 +0.4**
MORC **Moravsky Berou** **21.63 301** *e*P **P** **21 34 25.6 -0.5**
MORC **Moravsky Berou** **21.63 301** P **P** **21 34 26.6 +0.4**
MORC pmax pmax
comp=Z,6.0nm,1.2s
BOOM **Boomskoye usch** **21.73 78** P **P** **21 34 27.8 +0.3**
BOOM **Boomskoye usch** **21.73 78** P **P** **21 34 27.8 +0.3**
BOOM pmax pmax
comp=Z,5.0nm,1.1s
NRN **Naryn** **21.95 81** P **P** **21 34 29.2 -0.7**
NRN **Naryn** **21.95 81** P **P** **21 34 29.3 -0.7**
NRN pmax pmax
comp=Z,4.0nm,1.2s
VRAC **Vranov** **22.16 300** P **P** **21 34 31.8 0.0**
comp=Z,1.8nm,0.6s,baz=96,slow=14,SNR=2.5
comp=Z,1.8nm,0.6s
KRLC **Kraliky** **22.17 302** *e*P **P** **21 34 32.5 +0.6**
KRLC **Kraliky** **22.17 302** *e*P **P** **21 34 32.5 +0.6**
KSH **Kashi** **22.37 86** P **P** **21 34 33.4 -0.9**
KSH pmax pmax
comp=Z,7.0nm,0.7s
DPC **Dobruska-Polom** **22.51 303** *e*P **P** **21 34 38.5 +2.9**
DPC **Dobruska-Polom** **22.51 303** *e*P **P** **21 34 38.5 +2.9**
OSTC **Ostas** **22.61 303** *e*P **P** **21 34 39.2 +2.6**
SOKA **Soboth** **23.01 293** *e*P **P** **21 34 43.0 +2.2**
comp=Z,1.1nm,0.5s
FIA1 **FINESS Array S** **23.20 335** P **P** **21 34 41.0 -1.4**
FIA1 IAmb IAmb 21 34 54.5
comp=Z,8.3nm,0.7s

FINES	**FINESS Array B**	23.20	335	P		**P**	21 34 41.2	-1.3	
	comp=Z,1.0nm,0.3s,baz=142,slow=11,SNR=13								
	comp=Z,1.0nm,0.3s								
FINES	**FINESS Array B**	23.20	335	P		**P**	21 34 40.5	-2.0	
FINES	**FINESS Array B**	23.20	335	*e*P		**P**	21 34 41.4	-1.1	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.3s								
TARG	**Taragay, Kyrgy**	23.23	80	P		**P**	21 34 42.9	-0.6	
TARG	**Taragay, Kyrgy**	23.23	80	P		**P**	21 34 42.9	-0.6	
TARG				pmax	pmax				
	comp=Z,3.0nm,0.8s								
CKRC	**Cesky Krumlov**	23.60	298	*e*P		**P**	21 34 47.6	+0.9	
KURBB	**Kurchatov Arra**	23.63	57	P		**P**	21 34 46.9	0.0	
	comp=Z,1.8nm,0.8s,baz=264,slow=10,SNR=10								
	comp=Z,1.8nm,0.8s								
KURBB	**Kurchatov Arra**	23.63	57	⇓P		**P**	21 34 48.5	+1.6	
	comp=Z,5.2nm,0.6s								
PVCC	**Panska Ves**	23.64	303	*e*P		**P**	21 34 49.4	+2.4	
PVCC	**Panska Ves**	23.64	303	*e*P		**P**	21 34 49.4	+2.4	
KURK	**Kurchatov**	23.70	57	P		**P**	21 34 47.6	+0.1	
KURK				IAmb	IAmb		21 34 58.5		
	comp=Z,8.3nm,0.7s								
KURK	**Kurchatov**	23.70	57	*ce*P		**P**	21 34 49.7	+2.1	
KURK				pmax	pmax				
	comp=Z,12nm,1.0s								
KURK	**Kurchatov**	23.70	57	⇓P		**P**	21 34 48.2	+0.7	
	comp=Z,8.7nm,0.8s								
GEC2	**GERESS Array S**	24.00	298	P		**P**	21 34 50.6	+0.1	
GEC2				IAmb	IAmb		21 35 02.3		
	comp=Z,6.6nm,1.4s								
GERES	**GERESS Array B**	24.00	298	P		**P**	21 34 50.8	+0.2	
	comp=Z,1.8nm,0.6s,baz=96,slow=9.5,SNR=24								
	comp=Z,1.8nm,0.6s								
GERES	**GERESS Array B**	24.00	298	P		**P**	21 34 50.5	0.0	
BRG	**Berggiesshubel**	24.09	303	*e*P		**P**	21 34 54.0	+2.7	
BRG				Amp			21 34 54.6		
	comp=Z,3.4nm,0.7s								
BRG	**Berggiesshubel**	24.09	303	*e*P		**P**	21 34 53.9	+2.7	
BRG				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KHC	**Kasperske Hory**	24.11	299	P		**P**	21 34 52.1	+0.7	
KHC				IAmb	IAmb		21 34 54.1		
	comp=Z,4.2nm,0.8s								
KHC	**Kasperske Hory**	24.11	299	P		**P**	21 34 52.1	+0.7	
KHC				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KHC	**Kasperske Hory**	24.11	299	*e*P		**P**	21 34 52.0	+0.5	
KHC				*ex*		x	21 35 01.0		
KHC				*ep*P		**sP**	21 35 09.2	+5.3	
KBA	**Koelnbreinsper**	24.17	294	*e*P		**P**	21 34 53.6	+1.4	
	comp=Z,3.5nm,0.5s								
PDGK	**Podgornoye**	24.20	75	⇓P		**P**	21 34 52.9	+0.4	
	comp=Z,3.5nm,0.7s								
FDMO	**Fiordimonte**	24.65	284	P		**P**	21 34 57.0	+0.5	
FDMO				IAmb	IAmb		21 35 19.0		
	comp=Z,15nm,1.2s								
CLL	**Collm**	24.75	304	P		**P**	21 34 57.7	+0.5	
CLL				IAmb	IAmb		21 35 00.8		
	comp=Z,6.8nm,0.7s								
CLL	**Collm**	24.75	304	P		**P**	21 34 57.7	+0.5	
CLL				pmax	pmax				
	comp=Z,7.0nm,0.7s								
CLL	**Collm**	24.75	304	*i* P		**P**	21 34 59.6	+2.4	
	comp=Z,8.0nm,0.7s								
CLL				LmV			23 58 00.0		
	comp=Z,100nm,18.2s								
NKC	**Novy Kostel**	24.95	301	*e*P		**P**	21 35 01.9	+2.8	
NKC	**Novy Kostel**	24.95	301	*e*P		**P**	21 35 01.9	+2.8	
MURB	**Monte Urbino**	25.02	285	P		**P**	21 35 00.6	+0.7	
WTTA	**Wattenberg**	25.33	294	*e*P		**P**	21 35 03.8	+1.1	
	comp=Z,3.0nm,0.6s								
WATA	**Walderalm**	25.37	294	*e*P		**P**	21 35 05.4	+2.3	
	comp=Z,3.5nm,0.4s								
SQTA	**Sankt Quirin**	25.63	294	*e*P		**P**	21 35 06.6	+1.2	
	comp=Z,3.3nm,0.4s								
MAKZ	**Makanchi**	25.67	67	P		**P**	21 35 06.0	+0.4	
MAKZ				IAmb	IAmb		21 35 09.3		
	comp=Z,5.2nm,1.3s								
MAKZ	**Makanchi**	25.67	67	P		**P**	21 35 06.0	+0.4	
MAKZ				pmax	pmax				
	comp=Z,5.0nm,1.3s								
MAKZ	**Makanchi**	25.67	67	⇑P		**P**	21 35 06.1	+0.5	
	comp=Z,5.7nm,1.3s								
MOTA	**Moosalm**	25.70	294	*e*P		**P**	21 35 07.3	+1.3	
	comp=Z,0.7nm,0.3s								
MK31	**Makanchi Array**	25.88	67	P		**P**	21 35 07.2	-0.3	
MK31	**Makanchi Array**	25.88	67	*i* P		**P**	21 35 06.9	-0.7	
MK31				pmax	pmax				
	comp=Z,2.0nm,0.6s								
MK31	**Makanchi Array**	25.88	67	⇑P		**P**	21 35 07.8	+0.2	
	comp=Z,3.3nm,0.8s,baz=266,slow=8.4,SNR=5.0								
MKAR	**Makanchi Array**	25.88	67	P		**P**	21 35 08.3	+0.8	
	comp=Z,3.3nm,0.8s,baz=276,slow=7.7,SNR=22								
	comp=Z,3.3nm,0.8s								
MKAR	**Makanchi Array**	25.88	67	P		**P**	21 35 07.6	0.0	
MKAR	**Makanchi Array**	25.88	67	*e*P		**P**	21 35 08.9	+1.3	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
DAVA	**Damuels**	26.53	294	*e*P		**P**	21 35 15.0	+1.5	
	comp=Z,2.0nm,0.5s								
DAVOX	**Davos/Dischmat**	26.55	293	P		**P**	21 35 13.1	-0.7	
	comp=Z,0.8nm,0.4s,baz=163,slow=11,SNR=2.3								
	comp=Z,0.8nm,0.4s								
LVZ	**Lovozero**	26.89	350	P		**P**	21 35 13.9	-2.6	
LVZ	**Lovozero**	26.89	350	P		**P**	21 35 13.9	-2.6	
LVZ				pmax	pmax				
	comp=Z,23nm,1.1s								
HFS	**Hagfors**	27.20	324	P		**P**	21 35 18.6	-0.6	
	comp=Z,1.5nm,0.5s,baz=91,slow=15,SNR=2.6								
	comp=Z,1.5nm,0.5s								
ZAA0	**Zalesovo Array**	28.00	51	P		**P**	21 35 25.9	-0.6	
ZAA0				IAmb	IAmb		21 35 26.8		
	comp=Z,1.9nm,0.7s								
ZALV	**Zalesovo Beam**	28.00	51	P		**P**	21 35 26.2	-0.2	
	comp=Z,2.9nm,0.6s,baz=265,slow=10,SNR=11								
ZALV				LR		LR	21 48 22.7		
	comp=Z,139nm,18.4s,baz=20,slow=40								
	comp=Z,2.9nm,0.6s								
ZALV	**Zalesovo Beam**	28.00	51	P		**P**	21 35 25.8	-0.7	
SENIN	**Lac Senin/Sane**	28.35	293	P		**P**	21 35 28.8	-1.2	
SENIN				IAmb	IAmb		21 35 30.8		
	comp=Z,2.7nm,0.7s								
NC405	**NORSAR Array S**	28.51	324	P		**P**	21 35 29.9	-1.0	
NB2	**NORSAR Subarra**	28.70	324	P		**P**	21 35 31.1	-1.6	
	comp=Z,0.2nm,0.5s,baz=112,slow=10								
NOA	**NORSAR Array B**	28.70	324	P		**P**	21 35 31.6	-1.1	
	comp=Z,0.4nm,0.7s,baz=113,slow=8.1,SNR=4.2								
	comp=Z,0.4nm,0.7s								
BNI	**Bardonecchia**	28.94	290	P		**P**	21 35 35.0	-0.1	
BNI				IAmb	IAmb		21 35 55.0		
	comp=Z,5.4nm,1.1s								
BNI	**Bardonecchia**	28.94	290	P		**P**	21 35 35.0	-0.1	
BNI				pmax	pmax				
	comp=Z,5.0nm,1.1s								
ARCES	**ARCESS Array B**	29.84	345	P		**P**	21 35 43.5	+0.8	
	comp=Z,0.8nm,0.5s,baz=150,slow=8.4,SNR=8.8								
	comp=Z,0.8nm,0.5s								
ARCES	**ARCESS Array B**	29.84	345	P		**P**	21 35 41.8	-1.0	
ARCES	**ARCESS Array B**	29.84	345	*e*P		**P**	21 35 46.9	+4.2	
ARCES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WMQ	**Urumqi**	30.01	72	*e*P		**P**	21 35 46.7	+2.2	
SSB	**Saint Sauveur**	30.40	291	P		**P**	21 35 47.8	-0.1	
SSB				IAmb	IAmb		21 35 49.7		
	comp=Z,4.1nm,0.9s								
SSB	**Saint Sauveur**	30.40	291	P		**P**	21 35 47.8	-0.1	
SSB				pmax	pmax				
	comp=Z,4.0nm,0.9s								
NRIK	**Noril'sk**	34.76	24	P		**P**	21 36 26.5	+0.8	
	comp=Z,1.9nm,0.4s,baz=292,slow=3.2,SNR=4.2								
	comp=Z,1.9nm,0.4s								
NRIK	**Noril'sk**	34.76	24	*i* P		**P**	21 36 26.8	+1.1	
NRIK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
NRIK				MLR	MLR				
	comp=Z,174nm,14.0s								
EKA	**Eskdalemuir Ar**	34.77	310	P		**P**	21 36 25.9	-0.2	
	comp=Z,0.5nm,0.5s,baz=92,slow=8.6,SNR=2.9								
	comp=Z,0.5nm,0.5s								
ESDC	**Sonseca Array**	37.89	284	P		**P**	21 36 57.3	+4.4	
	comp=Z,1.1nm,0.8s,baz=59,slow=8.0,SNR=7.3								
SPB2	**Spitsbergen Ar**	38.41	350	P		**P**	21 36 56.4	-0.3	
SPITS	**Spitsbergen Ar**	38.42	350	P		**P**	21 36 56.8	0.0	
SPITS				pmax	pmax				
	comp=Z,12nm,1.2s								
SONM	**Songino Array**	41.91	61	P		**P**	21 37 25.5	-0.7	
	comp=Z,0.3nm,0.5s,baz=279,slow=9.5,SNR=3.0								
	comp=Z,0.3nm,0.5s								
BOD	**Bodaibo**	44.37	45	*e*P		**P**	21 37 45.3	-0.5	
BOD				pmax	pmax				
	comp=Z,13nm,0.7s								
PZH	**PanZhiHua**	47.36	91	P		**P**	21 38 11.5	+1.5	
PZH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
PZH				pmax	pmax				
	comp=Z,100nm,5.0s								
HHC	**Hu-ho-hao-te**	47.73	68	*e*P		**P**	21 38 13.7	+1.0	
HHC				pmax	pmax				
	comp=Z,14nm,0.7s								
HHC				pmax	pmax				
	comp=Z,100nm,5.5s								
TOA0	**Torodi Ar. Sit**	48.24	247	P		**P**	21 38 17.3	+0.5	
TOA0				IAmb	IAmb		21 38 30.5		
	comp=Z,4.5nm,1.4s								
TORD	**Torodi Ar. Bea**	48.24	247	P		**P**	21 38 16.2	-0.6	
	comp=Z,1.5nm,1.0s,baz=40,slow=8.1,SNR=11								
	comp=Z,1.5nm,1.0s								
TIXI	**Tiksi**	48.54	25	P		**P**	21 38 18.9	+0.6	
TIXI	**Tiksi**	48.54	25	P		**P**	21 38 18.9	+0.6	
TIXI				pmax	pmax				
	comp=Z,11nm,1.3s								
CMAR	**Chiang Mai Arr**	50.05	101	P		**P**	21 38 30.9	+0.4	
	comp=Z,1.0nm,0.6s,baz=304,slow=8.4,SNR=7.5								
	comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**	50.05	101	*e*P		**P**	21 38 31.4	+0.8	
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KLR	**Kul'dur**	57.11	51	P		**P**	21 39 21.1	-0.8	
	comp=Z,0.4nm,0.3s,baz=288,slow=13,SNR=2.4								
	comp=Z,0.4nm,0.3s								
USRK	**Ussuriysk Ar.**	59.69	56	P		**P**	21 39 39.7	-0.3	
	comp=Z,1.5nm,0.7s,baz=308,slow=7.2,SNR=2.1								
	comp=Z,1.5nm,0.7s								
USRK	**Ussuriysk Ar.**	59.69	56	P		**P**	21 39 40.9	+0.9	
USRK	**Ussuriysk Ar.**	59.69	56	*e*P		P	21 39 45.6	+5.6	
USRK				pmax	pmax				
	comp=Z,1.0nm,0.7s								
SEY	**Seymchan**	60.14	30	P		**P**	21 39 41.4	-1.4	
	comp=Z,3.7nm,0.6s,baz=297,slow=6.8,SNR=13								
	comp=Z,3.7nm,0.6s								
SEY	**Seymchan**	60.14	30	*ce*P		**P**	21 39 44.7	+1.9	
SEY				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MJAR	**Matsushiro Arr**	67.86	60	P		**P**	21 40 33.6	-0.4	
	comp=Z,0.7nm,0.5s,baz=297,slow=10,SNR=4.8								
	comp=Z,0.7nm,0.5s								
BMAR	**Burnt Mountain**	70.72	5	P		**P**	21 40 52.0	+0.8	
IMAR	**Indian Mountai**	71.36	9	P		**P**	21 40 55.2	+0.1	
H21K	**Melozitna Rive**	71.78	8	P		**P**	21 40 58.4	+0.7	
H21K				IAmb	IAmb		21 40 59.0		
	comp=Z,4.3nm,1.1s								
J20K	**Nowinta River**	73.06	9	P		**P**	21 41 06.1	+0.9	
J25K	**Salcha River,**	73.47	5	P		**P**	21 41 07.7	-0.1	
J25K				IAmb	IAmb		21 41 12.6		
	comp=Z,3.2nm,1.2s								
BCAR	**Beaver Creek A**	75.22	4	P		**P**	21 41 18.4	+0.4	
L27K	**Beaver Creek,**	75.23	4	P		**P**	21 41 19.1	+1.1	
L27K				IAmb	IAmb		21 41 31.6		
	comp=Z,2.9nm,0.9s								
SCM	**Sheep Creek Mo**	76.06	7	P		**P**	21 41 23.3	+0.5	
SCM	**Sheep Creek Mo**	76.06	7	P		**P**	21 41 23.3	+0.5	
SCM				pmax	pmax				
	comp=Z,10.0nm,1.2s								

*KRSC **07** 21:35:16.6±1.8, 52°.65N×162°.68E, h43km±33km, ML4.3*
*IDC **07** 21:35:16.3±0.7, 52°.72N×162°.55E, h0km, mb3.9/18, mbtmp4.0/21, ML5.1/3, Error ellipse: s-maj=18.9km s-min=12.9km az=9.0*
*NEIC **07** 21:35:18.1±1.6, 52°.6N±0°.1×162°.5E±0°.1, h10km±1km, mb4.4/37, Error ellipse: s-maj=21.2km s-min=10.5km az=185.0*
*MOS **07** 21:35:19.6±0.9, 52°.65N×162°.63E, h39km, mb4.3/7, Error ellipse: s-maj=7.0km s-min=4.5km az=116.6*

ISC 07 21:35:19.9±2.3, 52°.62N±0°.05×162°.68E±0°.04, h25km±17km, n172, σ1°48/196, mb4.3/43, 5C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	1.68	288	Op PN		**Pn**	21 35 45.8	-1.8
SPN				S		**Sn**	21 36 04.8	-3.5
SPN	**Mys Shipunski**	1.68	288	*e*P		**Pn**	21 35 45.8	-1.8
SPN				S		**Sn**	21 36 04.8	-3.5
MKZ	**Mys Kozlova**	2.02	344	PN		**Pn**	21 35 50.7	-1.6
MKZ				S		**Sn**	21 36 13.9	-2.9
MKZ	**Mys Kozlova**	2.02	344	*e*P		**Pn**	21 35 50.7	-1.6
MKZ				*e*S		**Sn**	21 36 13.9	-2.9
NLC	**Nalytchevo**	2.10	287	PN		**Pn**	21 35 52.1	-1.2
NLC				S		**Sn**	21 36 15.7	-2.8
NLC	**Nalytchevo**	2.10	287	*e*P		**Pn**	21 35 52.1	-1.2
NLC				*e*S		**Sn**	21 36 15.7	-2.8
SDLR	**Sedlovina**	2.39	288	PN		**Pn**	21 35 56.8	-0.7
SDLR	**Sedlovina**	2.39	288	*e*P		**Pn**	21 35 56.8	-0.7
KII	**Karymskiy**	2.40	308	PN		**Pn**	21 35 56.4	-1.2
KII	**Karymskiy**	2.40	308	*e*P		**Pn**	21 35 56.4	-1.2
UGLR	**Uglovaya**	2.41	286	PN		**Pn**	21 35 57.2	-0.5
UGLR	**Uglovaya**	2.41	286	*e*P		**Pn**	21 35 57.2	-0.5
DALK	**Dalny**	2.42	281	PN		**Pn**	21 35 56.7	-1.0
DALK				S		**Sn**	21 36 23.7	-2.8
DALK	**Dalny**	2.42	281	*e*P		**Pn**	21 35 56.7	-1.0
DALK				S		**Sn**	21 36 23.7	-2.8
SMAR	**Somma**	2.44	287	PN		**Pn**	21 35 57.1	-1.1
SMAR	**Somma**	2.44	287	*e*P		**Pn**	21 35 57.1	-1.1
AVH	**Avacha**	2.47	287	PN		**Pn**	21 35 58.1	-0.5
AVH	**Avacha**	2.47	287	*e*P		**Pn**	21 35 58.1	-0.5
KRER	**Koryakskii**	2.48	288	PN		**Pn**	21 35 58.2	-0.5
KRER				S		**Sn**	21 36 26.4	-1.8
KRER	**Koryakskii**	2.48	288	*e*P		**Pn**	21 35 58.2	-0.5
KRER				S		**Sn**	21 36 26.4	-1.8
PET	**Petropavlovsk**	2.48	281	Pn		**Pn**	21 35 57.6	-1.0
PET	**Petropavlovsk**	2.48	281	*e*PN		**Pn**	21 35 57.5	-1.0
PET				*e*S		**Sn**	21 36 26.3	-1.6
PET				pmax	pmax			
	comp=Z,323nm,0.4s							
PET				smax	smax			
	comp=N,565nm,0.6s							
PET				smax	smax			
	comp=E,417nm,0.6s							
PET	**Petropavlovsk**	2.48	281	*e*P		**Pn**	21 35 57.6	-1.0
PET				*e*S		**Sn**	21 36 26.3	-1.6
KOK	**Koryaka**	2.54	287	PN		**Pn**	21 35 58.8	-0.7
KOK	**Koryaka**	2.54	287	P		**Pn**	21 35 58.8	-0.7
KRX	**Arik**	2.55	289	PN		**Pn**	21 35 59.0	-0.7
KRX				S		**Sn**	21 36 27.9	-2.0
KRX	**Arik**	2.55	289	P		**Pn**	21 35 59.0	-0.7
KRX				*e*S		**Sn**	21 36 27.9	-2.0
RUS	**Russkaya**	2.55	268	PN		**Pn**	21 35 58.6	-1.0
RUS				S		**Sn**	21 36 27.3	-2.5
RUS	**Russkaya**	2.55	268	*e*P		**Pn**	21 35 58.6	-1.0
RUS				S		**Sn**	21 36 27.3	-2.5
MTVR	**Mutnovka**	2.75	269	PN		**Pn**	21 36 01.7	-0.7
MTVR				S		**Sn**	21 36 32.2	-2.7
MTVR	**Mutnovka**	2.75	269	*e*P		**Pn**	21 36 01.7	-0.7
MTVR				*e*S		**Sn**	21 36 32.2	-2.7
KRMR	**Karymshinskiy**	2.77	276	PN		**Pn**	21 36 01.5	-1.1
KRMR	**Karymshinskiy**	2.77	276	P		**Pn**	21 36 01.5	-1.1
GRL	**Gorelyy**	2.81	271	PN		**Pn**	21 36 02.9	-0.4
GRL	**Gorelyy**	2.81	271	*e*P		**Pn**	21 36 02.9	-0.4
ASAK	**Asacha**	2.93	267	PN		**Pn**	21 36 04.6	-0.3
ASAK	**Asacha**	2.93	267	*e*P		**Pn**	21 36 04.6	-0.3
KDTR	**Khodutka, Kamc**	2.94	256	PN		**Pn**	21 36 03.7	-1.3
KDTR	**Khodutka, Kamc**	2.94	256	*e*P		**Pn**	21 36 03.7	-1.3
GNL	**Ganaly**	3.05	293	PN		**Pn**	21 36 06.5	-0.1
GNL	**Ganaly**	3.05	293	*e*P		**Pn**	21 36 06.5	-0.1
PEA0B	**Petropavlovsk-**	3.06	281	Pn		**Pn**	21 36 06.3	-0.3
PEA0B	**Petropavlovsk-**	3.06	281	PN		**Pn**	21 36 06.3	-0.3
PETK	**Petropavlovsk-**	3.06	281	Pn		**Pn**	21 36 05.5	-1.1
	comp=E,103nm,0.4s,baz=99,slow=17,SNR=210							
PETK				Sn		**Sn**	21 36 41.3	-1.0
	comp=E,24nm,0.3s,baz=161,slow=9.4,SNR=10							
TUMR	**Tumrok**	3.06	332	PN		**Pn**	21 36 06.8	+0.1
TUMR				S		**Sn**	21 36 42.4	-0.2
TUMR	**Tumrok**	3.06	332	*e*P		**Pn**	21 36 06.8	+0.1
TUMR				*e*S		**Sn**	21 36 42.4	-0.2
BKI	**Bering**	3.24	36	PN		**Pn**	21 36 07.0	-2.1
BKI	**Bering**	3.24	36	*e*P		**Pn**	21 36 07.0	-2.1
BKI				*e*S		**Sn**	21 36 41.8	-5.0

APC	**Apacha**	3.37	277	PN		**Pn**	21 36 11.2	+0.4	
APC	**Apacha**	3.37	277	*e*P		**Pn**	21 36 11.2	+0.4	
KMNR	**Kamenistaya**	3.46	336	PN		**Pn**	21 36 12.3	+0.2	
KMNR	**Kamenistaya**	3.46	336	*e*P		**Pn**	21 36 12.3	+0.2	
KBTR	**Krutoberegovo**	3.60	1	PN		**Pn**	21 36 12.1	-1.9	
KBTR	**Krutoberegovo**	3.60	1	*e*P		**Pn**	21 36 12.1	-1.9	
KBG	**Krutoberegovo**	3.65	0	PN		**Pn**	21 36 12.8	-1.8	
KBG	**Krutoberegovo**	3.65	0	*e*P		**Pn**	21 36 12.8	-1.8	
KPT	**Kopyto**	3.65	338	PN		**Pn**	21 36 15.3	+0.5	
KPT	**Kopyto**	3.65	338	*e*P		**Pn**	21 36 15.3	+0.5	
PAU	**Pauzhetka**	3.80	255	PN		**Pn**	21 36 15.9	-0.8	
PAU	**Pauzhetka**	3.80	255	*e*P		**Pn**	21 36 15.9	-0.8	
KOZ	**Kozyrevsk**	3.82	336	PN		**Pn**	21 36 16.0	-1.0	
KOZ	**Kozyrevsk**	3.82	336	*e*P		**Pn**	21 36 16.0	-1.0	
KLY	**Klyuchi**	3.89	343	PN		**Pn**	21 36 17.1	-0.8	
KLY	**Klyuchi**	3.89	343	*e*P		**Pn**	21 36 17.1	-0.8	
SMKR	**Semkarok**	4.04	350	PN		**Pn**	21 36 19.9	-0.2	
SMKR	**Semkarok**	4.04	350	*e*P		**Pn**	21 36 19.9	-0.2	
BDR	**Baidarnaya**	4.05	348	PN		**Pn**	21 36 20.1	-0.2	
BDR	**Baidarnaya**	4.05	348	*e*P		**Pn**	21 36 20.1	-0.2	
ESO	**Esso**	4.05	326	PN		**Pn**	21 36 21.9	+1.7	
ESO	**Esso**	4.05	326	*e*P		**Pn**	21 36 21.9	+1.7	
SRDR	**Sredinnyy**	4.09	336	PN		**Pn**	21 36 20.7	-0.1	
SRDR	**Sredinnyy**	4.09	336	*e*P		**Pn**	21 36 20.7	-0.1	
SRKR	**Sorokina**	4.14	348	PN		**Pn**	21 36 21.0	-0.5	
SRKR	**Sorokina**	4.14	348	*e*P		**Pn**	21 36 21.0	-0.5	
SKR	**Severo-Kuril's**	4.52	247	*e*PN		**Pn**	21 36 26.1	-0.5	
SKR				pmax	pmax				
	comp=Z,27nm,1.0s								
SKR				MLR	MLR				
	comp=Z,100nm,11.0s								
SKR	**Severo-Kuril's**	4.52	247	*e*P		**Pn**	21 36 25.2	-1.4	
SHEM	**Shemya Is, Ala**	6.95	85	Pn		**Pn**	21 37 01.4	+1.5	
	comp=Z,16nm,0.3s,baz=93,slow=2.0,SNR=5.9								
SHEM				Sn		**Sn**	21 38 11.3	-6.7	
	comp=Z,10nm,0.3s,baz=107,slow=4.7,SNR=6.6								
	comp=Z,41nm,0.4s								
MA2	**Magadan**	9.63	321	Pn		**Pn**	21 37 36.7	+0.1	
	comp=Z,1.6nm,0.3s,baz=124,slow=10.0,SNR=5.8								
	comp=Z,9.9nm,0.5s								
MA2	**Magadan**	9.63	321	Pn		**Pn**	21 37 36.5	-0.1	
MA2	**Magadan**	9.63	321	*i* PN		**Pn**	21 37 36.4	-0.3	
MA2				pmax	pmax				
	comp=Z,13nm,0.6s								
AMKA	**Amchitka**	10.33	90	Pn		**Pn**	21 37 47.9	+1.6	
YSS	**Yuzh-Sakhalins**	14.04	254	*e*P		Pn	21 38 33.0	-4.0	
YSS				pmax	pmax				
	comp=Z,40nm,1.2s								
BILL	**Bilibino**	15.57	5	*i* P		**Pn**	21 38 58.9	+1.5	
BILL				pmax	pmax				
	comp=Z,5.0nm,1.3s								
ERM	**Erimo**	16.90	239			**Pn**	21 39 14.2	-0.3	
ERM				IAmb	IAmb		21 39 14.4		
	comp=Z,38nm,1.0s								
ERM	**Erimo**	16.90	239	P		**Pn**	21 39 14.2	-0.3	
ERM				pmax	pmax				
	comp=Z,38nm,1.0s								
KLR	**Kul'dur**	19.71	273	P		**P**	21 39 47.1	0.0	
	comp=Z,0.7nm,0.4s,baz=60,slow=8.1,SNR=3.9								
KLR	**Kul'dur**	19.71	273	*i* P		**P**	21 39 46.6	-0.6	
KLR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
YAK	**Yakutsk**	19.93	311	P		**P**	21 39 46.9	-2.5	
	comp=

ARU	**Arti**	**54.80**	**319***c i*	P	**P**	**21 44 48.1**	**+1.0**
ARU						21 45 49.6	
ARU						21 46 49.9	
ARU				S	**S**	**21 52 30.3**	**+4.2**
ARU				SS	**SS**	**21 56 03.1**	**-5.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BOOM	**Boomskoye usch**	**56.01**	**297**	P	**P**	**21 44 56.4**	**+0.1**
BOOM				IAmb	IAmb	21 44 59.2	
	comp=Z,2.6nm,0.9s						
BOOM	**Boomskoye usch**	**56.01**	**297**	P	**P**	**21 44 56.4**	**+0.1**
BOOM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PDAR	**Pinedale Array**	**56.37**	**62**	P	**P**	**21 44 59.8**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=318,slow=2.0,SNR=4.7						
	comp=Z,0.9nm,0.6s						
AAK	**Ala-Archa**	**56.69**	**298**	P	**P**	**21 45 02.1**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=163,slow=5.8,SNR=5.3						
	comp=Z,2.2nm,0.6s						
AAK	**Ala-Archa**	**56.69**	**298**	P	**P**	**21 45 01.3**	**+0.2**
AAK				IAmb	IAmb	21 45 14.2	
	comp=Z,3.7nm,0.8s						
AAK	**Ala-Archa**	**56.69**	**298***ce*	P	**P**	**21 45 02.4**	**+1.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**58.48**	**301**	P	**P**	**21 45 13.5**	**0.0**
KK31				IAmb	IAmb	21 45 26.0	
	comp=Z,2.4nm,0.8s						
KK31	**Karatay Array**	**58.48**	**301**	P	**P**	**21 45 13.5**	**0.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	**Karatay Array**	**58.48**	**301**	P	**P**	**21 45 13.8**	**+0.2**
KKAR	**Karatay Array**	**58.48**	**301**	P	**P**	**21 45 13.8**	**+0.2**
ABKAR	**Akbulak array**	**59.29**	**312**	P	**P**	**21 45 18.7**	**-0.2**
ABKAR	**Akbulak array**	**59.29**	**312**	P	**P**	**21 45 19.5**	**+0.5**
ABKAR				IAmb	IAmb	21 45 31.8	
	comp=Z,3.9nm,1.2s						
CMAR	**Chiang Mai Arr**	**59.63**	**261**	P	**P**	**21 45 23.5**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=46,slow=6.4,SNR=4.3						
	comp=Z,0.6nm,0.3s						
PV13	**Radium Mtn., P**	**59.98**	**66**	P	**P**	**21 45 24.4**	**+0.1**
PV13				IAmb	IAmb	21 45 26.1	
	comp=Z,3.6nm,0.8s						
DRK	**Karamyk**	**60.35**	**297**	P	**P**	**21 45 26.8**	**0.0**
DRK				IAmb	IAmb	21 45 28.7	
	comp=Z,3.7nm,0.8s						
BTK	**Batken**	**60.47**	**298**	P	**P**	**21 45 27.5**	**+0.1**
BTK				IAmb	IAmb	21 45 40.4	
	comp=Z,3.5nm,0.8s						
BTK	**Batken**	**60.47**	**298**	P	**P**	**21 45 27.5**	**+0.1**
BTK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**61.17**	**338**	P	**P**	**21 45 32.2**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=36,slow=7.4,SNR=8.1						
	comp=Z,1.6nm,0.7s						
GAR	**Garm**	**61.50**	**298**	P	**P**	**21 45 34.7**	**+0.3**
CHGR	**Chuyangaron**	**62.37**	**298**	P	**P**	**21 45 41.0**	**+0.8**
CHGR	**Chuyangaron**	**62.37**	**298**	P	**P**	**21 45 41.0**	**+0.8**
CHGR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NOA	**NORSAR Array B**	**64.42**	**345**	P	**P**	**21 45 52.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=19,slow=6.6,SNR=2.4						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**64.87**	**343**	P	**P**	**21 45 55.0**	**-1.3**
	comp=Z,2.5nm,1.0s,baz=0.0,slow=2.9,SNR=2.5						
	comp=Z,2.5nm,1.0s						
HFS	**Hagfors**	**64.87**	**343**	P	**P**	**21 45 55.0**	**-1.3**
KBL	**Kabul**	**65.45**	**295**	P	**P**	**21 45 59.8**	**-0.9**
KBL				IAmb	IAmb	21 46 01.9	
	comp=Z,4.1nm,0.9s						
KBL	**Kabul**	**65.45**	**295**	P	**P**	**21 45 59.8**	**-0.9**
KBL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TX31	**Lajitas Ar. Si**	**69.37**	**69**	P	**P**	**21 46 25.0**	**-0.4**
TX32	**Lajitas Array**	**69.37**	**69**	P	**P**	**21 46 26.2**	**+0.7**
TX32				IAmb	IAmb	21 46 26.9	
	comp=Z,1.8nm,0.7s						
TXAR	**Lajitas Array**	**69.37**	**69**	P	**P**	**21 46 26.1**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=300,slow=4.6,SNR=22						
	comp=Z,1.7nm,0.7s						
AKASG	**Malin Array Be**	**69.82**	**331**	P	**P**	**21 46 27.6**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=32,slow=5.9,SNR=5.0						
	comp=Z,1.4nm,0.5s						
AKASG	**Malin Array Be**	**69.82**	**331***ce*	P	**P**	**21 46 31.0**	**+3.3**
BURAR	**Bucovina Array**	**73.76**	**332**	P	**P**	**21 46 52.8**	**+1.2**
BURAR				IAmb	IAmb	21 46 56.9	
	comp=Z,1.6nm,0.7s						
MLR	**Muntele Rosu**	**75.46**	**330**	P	**P**	**21 47 03.8**	**+2.3**
MLR				IAmb	IAmb	21 47 11.6	
	comp=Z,7.1nm,1.4s						
MLR	**Muntele Rosu**	**75.46**	**330**	P	**P**	**21 47 03.8**	**+2.3**
MLR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GERES	**GERESS Array B**	**75.53**	**339**	P	**P**	**21 47 02.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=33,slow=5.8,SNR=2.4						
	comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**	**76.34**	**207**	P	**P**	**21 47 05.8**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=23,slow=6.1,SNR=7.0						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**76.34**	**207**	*eP*	**P**	**21 47 05.1**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**80.00**	**207**	P	**P**	**21 47 27.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=17,slow=5.1,SNR=10						
	comp=Z,0.7nm,0.5s						

KRSC 07 21:49:32.9±2.8, 54.47N×168.70E, h16km±31km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.74**	**296**	P	Pb	21 50 03.6	-0.7
BKI				S	Sb	21 50 25.2	-0.7
KBTR	**Krutoberegovo**	**3.78**	**300**	P	Pn	21 50 33.2	+2.8
TUMR	**Tumrok**	**5.00**	**283**	P	Pn	21 50 53.2	+5.9
KII	**Karymskiy**	**5.44**	**269**	P	Pn	21 50 57.2	+3.9
KRER	**Koryakskii**	**6.00**	**263**	P	Pn	21 51 05.2	+4.2
KOK	**Koryaka**	**6.07**	**263**	P	Pn	21 51 06.7	+4.8

*IDC **07** 21:50:57.9±0.9, 54.64N×168.63E, h0km, mb3.6/10, mbtmp3.7/12, ML3.5/2, Error ellipse: s-maj=28.9km s-min=17.7km az=170.0*
*MOS **07** 21:50:58.7±0.9, 54.61N×168.54E, h19km, mb3.8/1, Error ellipse: s-maj=17.0km s-min=8.3km az=166.4*
*KRSC **07** 21:51:00.1±1.8, 54.30N×168.09E, h15km±27km, ML4.2*

ISC 07 21:51:00.9±0.7, 54.42N±0.08×168.59E±0.06, h24km, n60, σ1§60/70, mb3.6/10, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.71**	**299**	PN	**Pn**	**21 51 26.8**	**-2.3**
BKI				S	**Sn**	**21 51 46.4**	**-3.7**
BKI	**Bering**	**1.71**	**299**	*eP*	**Pn**	**21 51 26.8**	**-2.3**
BKI				*eS*	**Sn**	**21 51 46.4**	**-3.7**
SHEM	**Shemya Is, Ala**	**3.69**	**115**	Pn	**Pn**	**21 51 56.4**	**+0.1**
	12nm,0.3s,baz=82,slow=8.0,SNR=4.5						
SHEM				Sn	**Sn**	**21 52 35.6**	**-3.4**
	3.7nm,0.3s,baz=154,slow=22,SNR=1.8						
	23nm,0.3s						
KBTR	**Krutoberegovo**	**3.75**	**301**	PN	**Pn**	**21 51 56.1**	**-1.1**
KBTR				S	**Sn**	**21 52 39.6**	**-1.0**
KBTR	**Krutoberegovo**	**3.75**	**301**	*eP*	**Pn**	**21 51 56.1**	**-1.1**
KBTR				S	**Sn**	**21 52 39.6**	**-1.0**
SMKR	**Semkarok**	**4.59**	**301**	S	**Sn**	**21 53 03.6**	**+2.2**
BDR	**Baidarnaya**	**4.72**	**300**	S	**Sn**	**21 53 06.5**	**+2.0**
TUMR	**Tumrok**	**4.96**	**284**	PN	**Pn**	**21 52 14.8**	**+1.0**
TUMR				S	**Sn**	**21 53 10.5**	**+0.1**
TUMR	**Tumrok**	**4.96**	**284**	P	**Pn**	**21 52 14.8**	**+1.0**
TUMR				S	**Sn**	**21 53 10.5**	**+0.1**
KMNR	**Kamenistaya**	**4.98**	**289**	S	**Sn**	**21 53 10.9**	**-0.1**
SPN	**Mys Shipunski**	**5.25**	**259**	PN	**Pn**	**21 52 17.1**	**-0.7**
SPN	**Mys Shipunski**	**5.25**	**259**	P	**Pn**	**21 52 17.1**	**-0.7**
SPN				S	**Sn**	**21 53 14.6**	**-2.9**
KII	**Karymskiy**	**5.38**	**270**	PN	**Pn**	**21 52 20.0**	**+0.4**
KII	**Karymskiy**	**5.38**	**270**	P	**Pn**	**21 52 20.0**	**+0.4**
KII				S	**Sn**	**21 53 18.8**	**-1.9**
NLC	**Nalytchevo**	**5.62**	**261**	S	**Sn**	**21 53 23.3**	**-3.2**
SDLR	**Sedlovina**	**5.86**	**263**	PN	**Pn**	**21 52 27.1**	**+0.9**
SDLR	**Sedlovina**	**5.86**	**263**	P	**Pn**	**21 52 27.1**	**+0.9**
SMAR	**Somma**	**5.91**	**263**	PN	**Pn**	**21 52 28.0**	**+1.0**
SMAR	**Somma**	**5.91**	**263**	P	**Pn**	**21 52 28.0**	**+1.0**
UGLR	**Uglovaya**	**5.91**	**262**	PN	**Pn**	**21 52 27.7**	**+0.8**
UGLR	**Uglovaya**	**5.91**	**262**	P	**Pn**	**21 52 27.7**	**+0.8**
				S	**Sn**	**21 53 32.8**	**-1.1**
KRER	**Koryakskii**	**5.93**	**263**	PN	**Pn**	**21 52 28.0**	**+0.7**
KRER	**Koryakskii**	**5.93**	**263**	P	**Pn**	**21 52 28.0**	**+0.7**
KRER				S	**Sn**	**21 53 33.3**	**-1.2**
AVH	**Avacha**	**5.95**	**263**	PN	**Pn**	**21 52 28.0**	**+0.6**
AVH	**Avacha**	**5.95**	**263**	P	**Pn**	**21 52 28.0**	**+0.6**
KRX	**Arik**	**5.97**	**264**	PN	**Pn**	**21 52 28.3**	**+0.5**
KRX	**Arik**	**5.97**	**264**	P	**Pn**	**21 52 28.3**	**+0.5**
KOK	**Koryaka**	**6.00**	**263**	PN	**Pn**	**21 52 29.0**	**+0.9**
KOK	**Koryaka**	**6.00**	**263**	P	**Pn**	**21 52 29.0**	**+0.9**
DALK	**Dalny**	**6.00**	**261**	PN	**Pn**	**21 52 28.3**	**+0.2**
DALK	**Dalny**	**6.00**	**261**	P	**Pn**	**21 52 28.3**	**+0.2**
DALK				S	**Sn**	**21 53 33.5**	**-2.5**
GNL	**Ganaly**	**6.31**	**268**	PN	**Pn**	**21 52 33.5**	**+1.0**
GNL	**Ganaly**	**6.31**	**268**	P	**Pn**	**21 52 33.5**	**+1.0**
GNL				S	**Sn**	**21 53 43.0**	**-0.8**
RUS	**Russkaya**	**6.34**	**256**	PN	**Pn**	**21 52 34.1**	**+1.4**
RUS	**Russkaya**	**6.34**	**256**	P	**Pn**	**21 52 34.1**	**+1.4**
KRMR	**Karymshinskiy**	**6.42**	**260**	S	**Sn**	**21 53 43.8**	**-2.5**
GRL	**Gorelyy**	**6.55**	**258**	PN	**Pn**	**21 52 35.8**	**+0.1**
GRL	**Gorelyy**	**6.55**	**258**	P	**Pn**	**21 52 35.8**	**+0.1**
PETK	**Petropavlovsk-**	**6.59**	**263**	Pn	**Pn**	**21 52 36.9**	**+0.8**
	1.4nm,0.3s,baz=76,slow=17,SNR=20						
PETK				Sn	**Sn**	**21 53 49.0**	**-1.5**
	1.3nm,0.3s,baz=126,slow=7.5,SNR=1.8						
	1.8nm,0.3s						
ASAK	**Asacha**	**6.71**	**257**	PN	**Pn**	**21 52 39.5**	**+1.6**
ASAK	**Asacha**	**6.71**	**257**	P	**Pn**	**21 52 39.5**	**+1.6**
ASAK				S	**Sn**	**21 53 51.5**	**-2.0**
KDTR	**Khodutka, Kamc**	**6.85**	**252**	PN	**Pn**	**21 52 40.5**	**+0.9**
KDTR	**Khodutka, Kamc**	**6.85**	**252**	P	**Pn**	**21 52 40.5**	**+0.9**
KDTR				S	**Sn**	**21 53 52.1**	**-4.6**
KDAK	**Kodiak Island**	**21.71**	**65**	P	**P**	**21 55 49.2**	**-0.5**
	5.1nm,0.7s,baz=294,slow=10.0,SNR=4.5						
	5.1nm,0.7s						
ILAR	**Eielson Array**	**24.26**	**47**	P	**P**	**21 56 14.9**	**-0.7**
	1.0nm,0.6s,baz=252,slow=7.5,SNR=17						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**24.26**	**47**	P	**P**	**21 56 15.0**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**34.65**	**183**	T	T	22 34 35.4	
	baz=1.4,slow=76,SNR=151						
H11N3	**WAKE ISLAND Hy**	**34.66**	**183**	T	T	22 34 37.8	
	baz=1.4,slow=76,SNR=152						
H11N1	**WAKE ISLAND Hy**	**34.67**	**183**	T	T	22 34 34.0	
	baz=1.4,slow=76,SNR=163						
H11S1	**WAKE ISLAND Hy**	**35.87**	**183**	T	T	22 36 04.1	
	baz=1.4,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**35.88**	**183**	T	T	22 36 04.8	
	baz=1.4,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**35.89**	**183**	T	T	22 36 05.9	
	baz=1.4,slow=76,SNR=86						
SONM	**Songino Array**	**38.44**	**287**	P	**P**	**21 58 21.8**	**+1.3**
	0.5nm,0.5s,baz=62,slow=7.6,SNR=4.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**52.01**	**300**	P	**P**	**22 00 07.2**	**-0.8**
	0.2nm,0.5s,baz=55,slow=6.1,SNR=5.1						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**63.37**	**265**	P	**P**	**22 01 29.8**	**+1.7**
	0.5nm,0.3s,baz=39,slow=5.8,SNR=1.2						
	0.5nm,0.3s						
NOA	**NORSAR Array B**	**63.50**	**348**	P	**P**	**22 01 28.3**	**-0.2**
	0.4nm,0.5s,baz=1.6,slow=5.9,SNR=3.8						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**65.44**	**74**	P	**P**	**22 01 42.4**	**+0.7**
	0.2nm,0.5s,baz=284,slow=3.6,SNR=3.3						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**78.58**	**326**	P	**P**	**22 02 58.7**	**-1.6**
	0.2nm,0.3s,baz=321,slow=1.8,SNR=1.7						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**79.67**	**213**	P	**P**	**22 03 07.8**	**+1.7**
	0.5nm,0.8s,baz=23,slow=6.0,SNR=2.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**83.29**	**212**	P	**P**	**22 03 27.6**	**+2.3**
	0.2nm,0.4s,baz=32,slow=3.7,SNR=2.6						
	0.2nm,0.4s						

TEH 07 22:05:40.3, 35.01N×58.26E, h8km, ML3.7, 1C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBHD	**Torbat heydari**	**0.90**	**63**	*e*Pg	Pb	22 05 58.6	+0.4
TBHD				*e*		22 06 13.7	
	comp=Z,87µm,0.2s						
IMOG	**Moghan**	**1.41**	**38**	*e*Pg	Pg	22 06 08.2	+0.9
SBZV	**Sabzevar**	**1.48**	**339**	*e*		22 06 36.0	
	comp=Z,5µm,0.6s						
SBZV				*e*Pg	Pg	22 06 09.3	+0.7
IPAY	**Payeh**	**1.56**	**22**	*e*Pg	Pg	22 06 10.8	+0.6
IPAY				*e*		22 06 22.2	
	comp=Z,4µm,0.2s						
IAKL	**Akhelmad**	**1.64**	**14**	*e*Pg	Pg	22 06 11.9	+0.1
IAKL				*e*		22 06 40.7	
	comp=Z,6µm,0.4s						
TABS	**Tabas**	**1.65**	**215**	*e*Pg	Pg	22 06 12.2	+0.2
TKDS	**Koohdasht(Taba**	**1.68**	**214**	*e*Pn	Pg	22 06 12.6	0.0
TKDS				*e*		22 06 38.9	
	comp=Z,20µm,0.5s						
AFRZ	**Afriz**	**1.70**	**158**	*e*Pg	Pg	22 06 13.2	+0.3
AFRZ				*e*		22 06 15.6	
	comp=Z,9µm,0.2s						
TBJM	**Torbat-e-JAM**	**1.71**	**81↑**	*e*Pg	Pg	22 06 13.2	0.0
TBJM				*e*		22 06 42.9	
	comp=Z,42µm,0.3s						
TNSJ	**Nastanj**	**1.72**	**233**	*e*Pn	Pg	22 06 12.9	-0.3
TNSJ				*e*		22 06 42.2	
	comp=Z,18µm,0.3s						
JRKH	**Jarkhoshk**	**1.93**	**62**	*e*Pn	Pg	22 06 16.8	-0.4
IMYA	**Miami**	**2.00**	**48**	*e*Pg	Pg	22 06 18.6	-0.1
IKRD	**Kardeh**	**2.04**	**30**	*e*Pg	Pg	22 06 19.8	+0.4
IKRD				*e*		22 06 53.0	
	comp=Z,3µm,0.4s						
SHRO	**Shahrood**	**2.08**	**299**	*e*Pn	Pb	22 06 18.0	-0.4
IMON	**Monand**	**2.15**	**147**	*e*Pn	Pb	22 06 20.3	+0.6
IMON				*e*		22 06 30.5	
	comp=Z,8µm,0.2s						
SHRT	**Shahrakht**	**2.16**	**128**	*e*Pn	Pb	22 06 19.0	-0.7
TPRV	**Parvadeh(Tabas**	**2.37**	**214**	*e*Pn	Pb	22 06 22.4	-0.9
IEMG	**Emamgholi**	**2.42**	**7**	*e*Pn	Pb	22 06 23.5	-0.8
IEMG				*e*		22 06 31.4	
	comp=Z,2µm,0.3s						
IDAH	**Dahanechah**	**2.63**	**149**	*e*Pn	Pn	22 06 25.3	+2.1
IDAH				*e*		22 07 16.2	
	comp=Z,2µm,0.4s						
IKOO	**Kooshah**	**2.65**	**166**	*e*Pn	Pb	22 06 26.3	-1.9
IKOO				*e*		22 06 37.8	
	comp=Z,2µm,0.2s						
BJRD	**Bojnurd**	**2.77**	**346**	*e*Pn	Pb	22 06 28.2	-2.0
BSRN	**Basiran**	**3.12**	**166**	*e*Pn	Pn	22 06 32.7	+2.8
MRVT	**Maraveh tapeh**	**3.17**	**327**	*e*Pn	Pn	22 06 33.5	+2.9
MRVT				*e*Pn	Pb	22 06 33.7	-3.2
IMND	**Minoodasht**	**3.22**	**315**	*e*Pn	Pn	22 06 34.1	+3.0
IGLO	**Ghaloghah**	**3.90**	**294**	*e*Pn	Pn	22 06 44.5	+3.8
IGLO				*e*		22 08 20.5	
	comp=Z,824nm,0.9s						
YZKH	**Yazd**	**4.02**	**231**	*e*Pn	Pn	22 06 44.9	+2.7
IBAF	**Bafgh**	**4.09**	**214**	*e*Pn	Pn	22 06 46.2	+3.0
IBAF				*e*		22 08 01.6	
	comp=Z,1µm,0.4s						
ANAR	**Anarak**	**4.17**	**246**	*e*Pn	Pn	22 06 46.6	+2.2
ICHK	**Chekchek**	**4.24**	**230**	*e*Pn	Pn	22 06 48.4	+3.1
ICHK				*e*		22 08 04.0	
	comp=Z,1µm,0.3s						
IMEH	**Mehriz**	**4.73**	**221**	*e*Pn	Pn	22 06 55.5	+3.4
KHGB	**Koh Gabri**	**4.86**	**199**	*e*Pn	Pn	22 06 57.0	+3.1
NASN	**Na'in**	**5.04**	**246**	*e*Pn	Pn	22 06 58.5	+2.0
KRSH	**Karshahi**	**5.16**	**260**	*e*Pn	Pn	22 07 00.9	+2.9
KRBR	**Kerman**	**5.17**	**195**	*e*Pn	Pn	22 07 01.3	+3.1
DAMV	**Damavand**	**5.18**	**279**	*e*Pn	Pn	22 07 01.0	+2.7
IZEF	**Zefreh**	**5.36**	**249**	*e*Pn	Pn	22 07 03.7	+2.9
IVRN	**Varamin**	**5.36**	**272**	*e*Pn	Pn	22 07 02.9	+2.2
ZHSF	**Zahedan**	**5.79**	**158**	*e*Pn	Pn	22 07 08.8	+2.2
IKLH	**Kolahrood**	**5.79**	**255**	*e*Pn	Pn	22 07 09.6	+2.9
IGAR	**Gharneh**	**5.80**	**245**	*e*Pn	Pn	22 07 09.4	+2.6
KBAM	**BAM**	**5.86**	**178**	*e*Pn	Pn	22 07 10.2	+2.7
CHTH	**Charan**	**5.89**	**281**	*e*Pn	Pn	22 07 11.5	+3.4
ASAO	**Ashtian**	**6.79**	**268**	*e*Pn	Pn	22 07 22.6	+2.1
KLNJ	**Kolanjah**	**6.88**	**236**	*e*Pn	Pn	22 07 25.6	+3.9
KHMZ	**Khomeyn**	**6.98**	**262**	*e*Pn	Pn	22 07 26.0	+3.0

*BJI **07** 22:20:43.9±0.0, 54.41N×168.48E, h6km, mb4.5/22, mB4.8/13, Ms4.5/11, Ms7 4.1/5*

*IDC **07** 22:20:45.4±0.5, 54.52N×168.64E, h0km, mb4.3/34, mbtmp4.3/36, ML4.1/2, MS3.7/30, Error ellipse: s-maj=14.3km s-min=10.0km az=159.0*
*NEIC **07** 22:20:46.6±1.8, 54.44N±0.09×168.8E±0.1, h10km±1km, mb4.7/115, Error ellipse: s-maj=15.9km s-min=10.3km az=182.0*
*MOS **07** 22:20:47.2±1.0, 54.39N×168.66E, h29km, mb4.5/23, Error ellipse: s-maj=6.3km s-min=5.4km az=10.5*
*KRSC **07** 22:20:47.2±1.9, 54.32N×168.18E, h20km±32km, ML4.8*

ISC 07 22:20:48.7±0.3, 54.39N±0.05×168.73E±0.04, h24km, n570, σ1§22/572, mb4.5/107, MS3.8/34, 10C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.79**	**298**	PN	**Pn**	**22 21 14.3**	**-3.7**
BKI				S	**Sn**	**22 21 35.5**	**-4.5**
BKI	**Bering**	**1.79**	**298**	*eP*	**Pn**	**22 21 14.3**	**-3.7**
BKI				*eS*	**Sn**	**22 21 35.5**	**-4.5**
SHEM	**Shemya Is, Ala**	**3.61**	**115**	Pn	**Pn**	**22 21 41.9**	**-1.1**
	103nm,0.3s,baz=29,slow=4.2,SNR=62						
SHEM				Sn	**Sn**	**22 22 24.2**	**-0.5**
	107nm,0.3s,baz=152,slow=21,SNR=16						
SHEM				LR	LR	22 23 10.7	
	comp=Z,916nm,18.6s,baz=332,slow=39						
	210nm,0.4s						
SMY	**Shemya**	**3.61**	**115**	Pn	**Pn**	**22 21 41.7**	**-1.2**
SMY	**Shemya**	**3.61**	**115**	PN	**Pn**	**22 21 41.7**	**-1.2**
KBTR	**Krutoberegovo**	**3.84**	**301**	PN	**Pn**	**22 21 43.6**	**-2.6**
KBTR	**Krutoberegovo**	**3.84**	**301**	*eP*	**Pn**	**22 21 43.6**	**-2.6**
MKZ	**Mys Kozlova**	**4.09**	**275**	PN	**Pn**	**22 21 47.7**	**-1.8**
MKZ	**Mys Kozlova**	**4.09**	**275**	*eP*	**Pn**	**22 21 47.7**	**-1.8**
MKZ				*eS*	**Sn**	**22 22 31.1**	**-5.5**
SMKR	**Semkarok**	**4.68**	**301**	PN	**Pn**	**22 21 56.2**	**-1.6**
SMKR	**Semkarok**	**4.68**	**301**	*eP*	**Pn**	**22 21 56.2**	**-1.6**
SMKR				*eS*	**Sn**	**22 22 49.5**	**-1.8**
BDR	**Baidarnaya**	**4.80**	**300**	PN	**Pn**	**22 22 00.0**	**+0.5**
BDR	**Baidarnaya**	**4.80**	**300**	*eP*	**Pn**	**22 22 00.0**	**+0.5**
BDR				*eS*	**Sn**	**22 22 53.4**	**-1.0**
SRKR	**Sorokina**	**4.86**	**301**	PN	**Pn**	**22 22 00.0**	**-0.2**
SRKR	**Sorokina**	**4.86**	**301**	*eP*	**Pn**	**22 22 00.0**	**-0.2**
TUMR	**Tumrok**	**5.04**	**284**	PN	**Pn**	**22 22 02.7**	**-0.1**
TUMR	**Tumrok**	**5.04**	**284**	*eP*	**Pn**	**22 22 02.7**	**-0.1**
TUMR				*eS*	**Sn**	**22 22 58.5**	**-1.8**
KMNR	**Kamenistaya**	**5.07**	**289**	PN	**Pn**	**22 22 03.8**	**+0.6**
KMNR	**Kamenistaya**	**5.07**	**289**	*eP*	**Pn**	**22 22 03.8**	**+0.6**
SPN	**Mys Shipunski**	**5.33**	**260**	PN	**Pn**	**22 22 05.0**	**-1.6**
SPN	**Mys Shipunski**	**5.33**	**260**	*eP*	**Pn**	**22 22 05.0**	**-1.6**
SPN				*eS*	**Sn**	**22 23 01.1**	**-6.0**
KII	**Karymskiy**	**5.46**	**270**	PN	**Pn**	**22 22 07.1**	**-1.4**
KII	**Karymskiy**	**5.46**	**270**	*eP*	**Pn**	**22 22 07.1**	**-1.4**
SRDR	**Sredinnyy**	**5.49**	**294**	PN	**Pn**	**22 22 09.8**	**+0.9**
SRDR	**Sredinnyy**	**5.49**	**294**	*eP*	**Pn**	**22 22 09.8**	**+0.9**
NLC	**Nalytchevo**	**5.70**	**261**	PN	**Pn**	**22 22 10.5**	**-1.1**
NLC	**Nalytchevo**	**5.70**	**261**	*eP*	**Pn**	**22 22 10.5**	**-1.1**
NLC				*eS*	**Sn**	**22 23 10.8**	**-5.4**
SDLR	**Sedlovina**	**5.94**	**263**	PN	**Pn**	**22 22 14.6**	**-0.5**
SDLR	**Sedlovina**	**5.94**	**263**	*eP*	**Pn**	**22 22 14.6**	**-0.5**
SMAR	**Somma**	**5.99**	**263**	PN	**Pn**	**22 22 14.7**	**-1.2**
SMAR	**Somma**	**5.99**	**263**	*eP*	**Pn**	**22 22 14.7**	**-1.2**
UGLR	**Uglovaya**	**5.99**	**263**	PN	**Pn**	**22 22 15.4**	**-0.4**
UGLR	**Uglovaya**	**5.99**	**263**	*eP*	**Pn**	**22 22 15.4**	**-0.4**
KRER	**Koryakskii**	**6.01**	**264**	PN	**Pn**	**22 22 15.3**	**-0.8**
KRER	**Koryakskii**	**6.01**	**264**	*eP*	**Pn**	**22 22 15.3**	**-0.8**
AVH	**Avacha**	**6.02**	**263**	PN	**Pn**	**22 22 15.5**	**-0.7**
AVH	**Avacha**	**6.02**	**263**	*eP*	**Pn**	**22 22 15.5**	**-0.7**
KRX	**Arik**	**6.05**	**264**	PN	**Pn**	**22 22 15.7**	**-1.0**
KRX	**Arik**	**6.05**	**264**	*eP*	**

Q16K	King Salmon	19.42	63	P		P		22 25 12.2	-0.6
	baz=272								
P17K	Kvichak River	19.52	62	P		P		22 25 13.0	-0.9
	baz=271								
R17K	Ugashik Creek	19.63	66	P		P		22 25 13.5	-1.7
	baz=276,SNR=11								
N18K	Kilae Creek	19.82	57	P		P		22 25 17.9	+0.7
N18K	Kilae Creek	19.82	57	P		P		22 25 15.5	-1.7
	baz=267,SNR=6.1								
TTA	Tatalina	19.99	51	P		P		22 25 19.5	+0.4
TTA				IAmb		IAmb		22 25 21.7	
	comp=Z,30nm,1.0s								
TTA	Tatalina	19.99	51	P		P		22 25 19.5	+0.4
TTA				pmax		pmax			
	comp=Z,30nm,1.0s								
TTA	Tatalina	19.99	51	P		P		22 25 18.4	-0.7
	baz=261,SNR=23								
SVW2	Sparrevohn	19.99	56	P		P		22 25 18.9	-0.1
GCSA	Galena City Sc	19.99	45	P		P		22 25 17.7	-1.3
	baz=255								
P18K	Big Mountain,	20.14	61	P		P		22 25 19.9	-0.7
	baz=272								
O18K	Koktuh Hills	20.14	60	P		P		22 25 19.6	-1.1
	baz=270								
CHIR	Chirikof Islan	20.31	71	P		P		22 25 21.2	-1.3
L19K	White Mountain	20.43	53	P		P		22 25 24.6	+0.8
L19K				IAmb		IAmb		22 25 26.3	
	comp=Z,57nm,0.9s								
L19K	White Mountain	20.43	53	P		P		22 25 23.7	-0.1
	baz=264,SNR=36								
N19K	Bonanza Creek	20.51	57	P		P		22 25 25.3	+0.5
N19K				IAmb		IAmb		22 25 27.2	
	comp=Z,34nm,0.8s								
N19K	Bonanza Creek	20.51	57	P		P		22 25 25.0	+0.1
	baz=268,SNR=23								
O19K	Port Alsworth	20.58	59	P		P		22 25 25.9	+0.4
O19K				IAmb		IAmb		22 25 27.8	
	comp=Z,47nm,0.8s								
O19K	Port Alsworth	20.58	59	P		P		22 25 26.1	+0.6
	baz=270								
M19K	Big River Lodg	20.62	54	P		P		22 25 26.2	+0.3
M19K				IAmb		IAmb		22 25 28.3	
	comp=Z,30nm,1.0s								
M19K	Big River Lodg	20.62	54	P		P		22 25 25.9	0.0
	baz=266,SNR=20								
L20K	Farewell, AK	20.91	52	P		P		22 25 28.6	-0.4
	baz=264								
ERM	Erimo	20.93	244	P		P		22 25 29.8	+0.5
ERM	Erimo	20.93	244	P		P		22 25 29.8	+0.5
ERM				pmax		pmax			
	comp=Z,74nm,1.3s								
K20K	Telida	20.93	50	P		P		22 25 29.0	-0.2
K20K				IAmb		IAmb		22 25 31.0	
	comp=Z,25nm,0.8s								
K20K	Telida	20.93	50	P		P		22 25 29.6	+0.4
	baz=262,SNR=22								
SII	Sitkinak Islan	20.97	69	P		P		22 25 28.5	-1.2
SII	Sitkinak Islan	20.97	69	P		P		22 25 28.7	-1.0
	baz=280								
Q19K	Cape Douglas,	20.97	62	P		P		22 25 29.5	-0.3
	baz=274								
J20K	Nowinta River	21.02	47	P		P		22 25 30.0	-0.2
	baz=260,SNR=22								
P19K	Oil Pt	21.14	60	P		P		22 25 31.7	+0.1
	baz=272								
ILSW	Iliamna Southw	21.18	59	P		P		22 25 32.2	+0.2
ILSW				IAmb		IAmb		22 25 48.0	
	comp=Z,44nm,1.4s								
M20K	Styx River	21.21	54	P		P		22 25 31.9	-0.5
M20K	Styx River	21.21	54	P		P		22 25 32.2	-0.2
	baz=267								
OHAK	Old Harbor	21.35	67	P		P		22 25 32.2	-1.5
OHAK	Old Harbor	21.35	67	P		P		22 25 32.4	-1.3
	baz=279,SNR=10								
O20K	Slope Mountain	21.43	59	P		P		22 25 33.9	-0.8
	baz=272								
IMAR	Indian Mountai	21.58	43	P		P		22 25 35.8	-0.3
N20K	Mount Spurr	21.63	56	P		P		22 25 36.0	-0.8
	baz=269								
SPCR	Spurr Chakacha	21.63	56	P		P		22 25 36.1	-0.7
	baz=269								
KDAK	Kodiak Island	21.64	65	P		P		22 25 36.4	-0.5
	comp=Z,17nm,0.7s,baz=286,slow=8.4,SNR=20								
KDAK				LR		LR		22 34 09.8	
	comp=Z,226nm,19.1s,baz=277,slow=37								
	comp=Z,17nm,0.7s								
KDAK	Kodiak Island	21.64	65	P		P		22 25 36.0	-0.9
KDAK				IAmb		IAmb		22 25 49.3	
	comp=Z,29nm,1.1s								
KDAK	Kodiak Island	21.64	65	P		P		22 25 36.0	-0.9
KDAK				pmax		pmax			
	comp=Z,29nm,1.1s								
KDAK	Kodiak Island	21.64	65	P		P		22 25 37.0	+0.1
	baz=278								
Q20K	Shuyak Island	21.65	63	P		P		22 25 36.4	-0.5
	baz=276,SNR=5.6								
YAK	Yakutsk	21.65	306	P		P		22 25 39.0	+2.1
	comp=Z,10nm,0.4s,baz=47,slow=4.4,SNR=1.9								
YAK				LR		LR		22 32 51.8	
	comp=Z,52nm,21.5s,baz=89,slow=34								
YAK	Yakutsk	21.65	306	P		P		22 25 37.0	+0.1
YAK	Yakutsk	21.65	306	*e*P		P		22 25 38.8	+1.9
YAK				*e*S		S		22 29 36.4	+1.2
YAK				*e*SS		SnSn		22 30 00.9	+1.4
YAK				pmax		pmax			
	comp=Z,19nm,1.0s								
YAK				pmax		pmax			
	comp=N,2.0nm,1.0s								
YAK				pmax		pmax			
	comp=E,9.0nm,1.0s								
YAK				smax		smax			
	comp=E,36nm,2.5s								
YAK				smax		smax			
	comp=N,42nm,2.5s								
YAK				MLR		MLR			
	comp=Z,112nm,15.0s								
YAK				MLR		MLR			
	comp=N,268nm,17.0s								
YAK				MLR		MLR			
	comp=E,76nm,15.0s								
SPU	Mount Spurr	21.70	56	P		P		22 25 37.7	+0.1
PPLA	Purkeypile	21.72	51	P		P		22 25 37.9	0.0
	baz=265,SNR=13								
CHUM	Lake Minchumin	21.77	49	P		P		22 25 38.7	+0.5
	baz=262								
G21K	Allakaket	21.81	41	P		P		22 25 38.8	+0.2
	baz=255								
CAST	Castle Rocks	21.82	50	P		P		22 25 38.3	-0.5
CAST	Castle Rocks	21.82	50	P		P		22 25 39.0	+0.2
	baz=264,SNR=14								
H21K	Melozitna Rive	21.88	44	P		P		22 25 38.0	-1.4
H21K				IAmb		IAmb		22 25 42.5	
	comp=Z,55nm,1.4s								
H21K	Melozitna Rive	21.88	44	P		P		22 25 39.4	0.0
	baz=258,SNR=17								
HOM	Homer	21.95	60	P		P		22 25 39.7	-0.4
	baz=274								
SKT	Skwentna	21.97	54	P		P		22 25 40.4	0.0
SKT				IAmb		IAmb		22 25 56.8	
	comp=Z,20nm,1.1s								
SKT	Skwentna	21.97	54	P		P		22 25 40.4	0.0
	baz=268,SNR=8.3								
F21K	Alatna River	22.02	40	P		P		22 25 40.7	-0.2
	baz=253								
I21K	Tanana	22.12	45	P		P		22 25 41.6	-0.3
I21K				IAmb		IAmb		22 25 48.8	
	comp=Z,25nm,1.1s								
I21K	Tanana	22.12	45	P		P		22 25 41.7	-0.3
	baz=260,SNR=14								
CNPM	China Poot	22.16	60	P		P		22 25 41.8	-0.7
CNPM				IAmb		IAmb		22 25 58.1	
	comp=Z,27nm,1.0s								
SUA	Susitna One	22.34	55	P		P		22 25 43.8	-0.6
SUA				IAmb		IAmb		22 25 46.4	
	comp=Z,38nm,1.0s								
SUA	Susitna One	22.34	55	P		P		22 25 44.1	-0.4
	baz=270,SNR=14								
BPAW	Bear Paw Mtn.	22.38	48	P		P		22 25 44.8	-0.1
	baz=263,SNR=12								
BRSE	Bradley Lake S	22.40	60	P		P		22 25 45.2	+0.2
	baz=274								
H22K	Ishtalitna Cre	22.50	43	P		P		22 25 45.9	-0.2
	baz=259								
CUT	Chulitna	22.58	53	P		P		22 25 46.0	-0.9
CUT				IAmb		IAmb		22 25 48.3	
	comp=Z,27nm,0.8s								
CUT	Chulitna	22.58	53	P		P		22 25 46.6	-0.2
	baz=268								
MLY	Manley	22.61	46	P		P		22 25 46.6	-0.7
	baz=261,SNR=16								
TRF	Thorofare Moun	22.63	50	P		P		22 25 47.1	-0.5
TRF				IAmb		IAmb		22 25 49.6	
	comp=Z,31nm,0.8s								
TRF	Thorofare Moun	22.63	50	P		P		22 25 47.3	-0.3
	baz=266,SNR=22								
RC01	Rabbit Creek A	22.83	56	P		P		22 25 48.9	-0.7
	baz=272								
E22K	Anaktuvuk Pass	22.89	38	P		P		22 25 49.1	-1.1
	baz=253								
SEW	Seward	23.02	59	P		P		22 25 50.1	-1.4
SEW	Seward	23.02	59	P		P		22 25 51.2	-0.3
	baz=274								
BWN	Browne	23.05	48	P		P		22 25 50.8	-1.0
G23K	Bananza Creek	23.20	42	P		P		22 25 52.3	-1.1
	baz=258								
I23K	Minto, Yukon-K	23.21	46	P		P		22 25 51.9	-1.5
I23K				IAmb		IAmb		22 25 54.0	
	comp=Z,11nm,0.7s								
I23K	Minto, Yukon-K	23.21	46	P		P		22 25 52.7	-0.6
	baz=262								
H23K	Yukon River	23.23	44	P		P		22 25 52.3	-1.4
H23K				IAmb		IAmb		22 25 55.5	
	comp=Z,14nm,0.9s								
H23K	Yukon River	23.23	44	P		P		22 25 53.9	+0.2
	baz=261,SNR=8.6								
KLR	Kul'dur	23.25	272	P		P		22 25 53.5	-0.4
	comp=Z,6.7nm,0.9s,baz=55,slow=13,SNR=9.8								
KLR				LR		LR		22 35 20.4	
	comp=Z,126nm,18.7s,baz=64,slow=38								
	comp=Z,6.7nm,0.9s								
KLR	Kul'dur	23.25	272	*ce*P		P		22 25 54.4	+0.5
KLR				pmax		pmax			
	comp=Z,13nm,1.3s								
COLD	Coldfoot	23.25	40	P		P		22 25 52.7	-1.1
COLD				IAmb		IAmb		22 25 55.2	
	comp=Z,18nm,0.9s								
COLD	Coldfoot	23.25	40	P		P		22 25 53.2	-0.6
	baz=257,SNR=8.3								
MCK	McKinley	23.25	49	P		P		22 25 53.0	-0.9
MCK	McKinley	23.25	49	P		P		22 25 53.0	-0.9
MCK				pmax		pmax			
	comp=Z,14nm,1.0s								
MCK	McKinley	23.25	49	P		P		22 25 53.1	-0.8
	baz=266,SNR=6.4								
NEA2	Nenana	23.27	47	P		P		22 25 53.1	-0.9
	baz=264,SNR=14								
WAT1	Susitna Watana	23.39	52	P		P		22 25 53.6	-1.6
	baz=269								
KNK	Knik Glacier	23.44	55	P		P		22 25 54.5	-1.2
	baz=272,SNR=7.9								
SML	Sawmill	23.49	54	P		P		22 25 55.2	-1.0
SML	Sawmill	23.49	54	P		P		22 25 55.3	-1.0
	baz=271,SNR=22								
PWL	Port Wells	23.52	57	P		P		22 25 55.0	-1.6
	baz=274,SNR=20								
D23K	Nanushuk River	23.54	36	P		P		22 25 56.1	-0.5
	baz=252,SNR=5.1								
MDM	Murphy Dome	23.66	46	P		P		22 25 56.8	-1.1
WAT6	Susitna Watana	23.75	52	P		P		22 25 57.9	-1.0
	baz=270,SNR=8.2								
M23K	Glacier View	23.77	54	P		P		22 25 57.7	-1.3
	baz=272,SNR=7.9								
TCOL	CIGO, UAF Yank	23.81	47	P		P		22 25 58.8	-0.4
	baz=265								
COLA	College	23.82	47	P		P		22 25 58.2	-1.1
COLA	College	23.82	47	*c i*	P	P		22 25 59.0	-0.3
COLA				pmax		pmax			
	comp=Z,23nm,0.8s								
COLA	College	23.82	47	P		P		22 25 58.8	-0.5
	baz=265								
TOLK	Toolik Lake Re	23.84	37	P		P		22 25 59.0	-0.6
TOLK	Toolik Lake Re	23.84	37	P		P		22 25 59.7	+0.2
	baz=254,SNR=19								
C23K	Itkillik River	23.84	34	P		P		22 25 58.9	-0.6
	baz=250								
H24K	Nondor Dome	23.91	44	P		P		22 25 59.7	-0.6
	baz=262,SNR=9.1								
DHY	Denali Highway	23.93	51	P		P		22 25 59.6	-0.9
	baz=269								
SCM	Sheep Creek Mo	23.96	54	P		P		22 25 60.0	-0.8
SCM	Sheep Creek Mo	23.96	54	P		P		22 26 00.0	-0.8
SCM				pmax		pmax			
	comp=Z,29nm,0.8s								
SCM	Sheep Creek Mo	23.96	54	P		P		22 26 00.3	-0.5
	baz=272,SNR=12								
POKR	Poker Plat Res	24.02	46	P		P		22 26 00.4	-0.8
POKR				IAmb		IAmb		22 26 01.9	
	comp=Z,18nm,0.8s								
POKR	Poker Plat Res	24.02	46	P		P		22 26 01.0	-0.2
	baz=264								
P23K	Montague Islan	24.05	59	P		P		22 26 01.2	-0.4
	baz=276								
E24K	Your Creek	24.08	39	P		P		22 26 01.5	-0.4
	baz=257								
ZEA	Zeya	24.11	286	*e*P		P		22 26 01.4	-0.7
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.1s								
ZEA				MLR		MLR			
	comp=E,200nm,14.0s								
ZEA				MLR		MLR			
	comp=Z,100nm,14.0s								
GLI	Glacier Island	24.13	57	P		P		22 26 01.3	-0.9
GLI				IAmb		IAmb		22 26 02.1	
	comp=Z,14nm,0.8s								
GLI	Glacier Island	24.13	57	P		P		22 26 01.1	-1.1
	baz=274,SNR=10.0								
HDA	Harding Lake	24.17	48	P		P		22 26 02.2	-0.4
	baz=267,SNR=7.4								
F24K	Squaw Lake	24.19	40	P		P		22 26 02.1	-0.7
	baz=259								
G24K	Hadweenzic Riv	24.20	42	P		P		22 26 02.8	-0.1
	baz=261,SNR=11								
IL31		24.22	47	P		P		22 26 01.6	-1.4
IL31				IAmb		IAmb		22 26 05.6	
	comp=Z,13nm,0.6s								
ILAR	Eielson Array	24.22	47	P		P		22 26 02.2	-0.9
	comp=Z,11nm,0.8s,baz=249,slow=7.6,SNR=63								
ILAR				PcP		PcP		22 29 43.1	+0.4
	comp=Z,0.3nm,0.8s,baz=269,slow=3.6,SNR=2.6								
ILAR				LR		LR		22 36 00.2	
	comp=Z,358nm,18.4s,baz=258,slow=38								
	comp=Z,11nm,0.8s								
ILAR	Eielson Array	24.22	47	P		P		22 26 01.8	-1.3
D24K	Happy Valley	24.24	36	P		P		22 26 02.4	-0.8
	baz=254								
TIXI	Tiksi	24.28	330	P		P		22 26 02.3	-1.2
	comp=Z,5.5nm,0.8s,baz=90,slow=20,SNR=2.3								
TIXI				LR		LR		22 36 04.0	
	comp=Z,63nm,18.2s,baz=190,slow=38								
	comp=Z,5.5nm,0.8s								
TIXI	Tiksi	24.28	330	*i* P		P		22 26 04.0	+0.5
TIXI				pmax		pmax			
	comp=Z,9.0nm,0.9s								
FID	Port Fidalgo	24.44	57	P		P		22 26 04.1	-1.0
FID				IAmb		IAmb		22 26 05.0	
	comp=Z,11nm,0.8s								
C24K	Franklin Bluff	24.44	35	P		P		22 26 04.0	-1.0
	baz=253								
M24K	Tolsona, Glenn	24.50	53	P		P		22 26 05.2	-0.4
M24K	Tolsona, Glenn	24.50	53	P		P		22 26 05.1	-0.6
	baz=272,SNR=18								
KLU	Klutina	24.65	55	P		P		22 26 06.6	-0.6
KLU				IAmb		IAmb		22 26 08.6	
	comp=Z,28nm,1.0s								
KLU	Klutina	24.65	55	P		P		22 26 06.9	-0.2
	baz=274,SNR=14								
Q23K	Middleton Isla	24.65	60	P		P		22 26 06.8	-0.2
	baz=278								
K24K	Donnelly Dome	24.66	49	P		P		22 26 06.0	-1.1
	baz=269								
PAX	Paxson	24.80	51	P		P		22 26 07.7	-0.7
PAX				IAmb		IAmb		22 26 17.6	
	comp=Z,12nm,0.9s								
PAX	Paxson	24.80	51	P		P		22 26 07.7	-0.7
PAX				pmax		pmax			
	comp=Z,13nm,0.9s								
PAX	Paxson	24.80	51	P		P		22 26 08.3	-0.2
	baz=271,SNR=16								
H25K	Birch Creek	24.80	43	P		P		22 26 07.4	-0.9
	baz=264,SNR=5.8								
EYAK	Cordova Ski Ar	24.82	57	P		P		22 26 08.0	-0.5
	baz=276,SNR=5.3								
PRP	Porcupine Dome	24.85	45	P		P		22 26 08.3	-0.7
PRP	Porcupine Dome	24.85	45	P		P		22 26 08.2	-0.7
	baz=266,SNR=48								
J25K	Salcha River,	24.86	47	P		P		22 26 06.7	-2.3
J25K				IAmb		IAmb		22 26 09.8	
	comp=Z,12nm,0.7s								
J25K	Salcha River,	24.86	47	P		P		22 26 07.4	-1.5
	baz=268,SNR=19								
HARP	HAARP	24.96	53	P		P		22 26 08.9	-0.9
	baz=273								
F25K	Christian Rive	25.05	40	P		P		22 26 10.2	-0.5
	baz=261,SNR=10								
FYU	Fort Yukon	25.07	43	P		P		22 26 10.0	-0.7
RIDG	Independent Ri	25.07	50	P		P		22 26 09.4	-1.5
	baz=270,SNR=8.2								
D25K	Kavik River	25.12	36	P		P		22 26 09.9	-1.4
	baz=256,SNR=5.4								
E25K	Arctic Village	25.16	39	P		P		22 26 09.7	-1.9
	baz=260,SNR=7.9								
N25K	Chitina, Valde	25.27	55	P		P		22 26 12.0	-0.7
N25K				IAmb		IAmb		22 26 22.2	
	comp=Z,14nm,1.1s								
N25K	Chitina, Valde	25.27	55	P		P		22 26 11.4	-1.3
	baz=275,SNR=7.9								
BMRM	Bremner River	25.33	56	P		P		22 26 12.7	-0.5
BMRM				IAmb		IAmb		22 26 22.7	
	comp=Z,22nm,1.0s								
BMRM	Bremner River	25.33	56	P		P		22 26 11.9	-1.4
	baz=276,SNR=10								
DOT	Dot Lake	25.42	50	P		P		22 26 12.7	-1.3
BMAR	Burnt Mountain	25.43	41	P		P		22 26 13.7	-0.4
SCRK	Sand Creek	25.45	49	P		P		22 26 13.0	-1.4
	baz=270,SNR=18								
KAIM	Kayak Island	25.55	58	P		P		22 26 14.8	-0.4
KAIM	Kayak Island	25.55	58	P		P		22 26 14.4	-0.8
	baz=278								
HMT	Hamilton	25.57	57	P		P		22 26 14.7	-0.7
HMT				IAmb		IAmb		22 26 28.6	
	comp=Z,18nm,1.2s								
MENT	Mentasta	25.60	51	P		P		22 26 14.8	-0.8
MENT				IAmb		IAmb		22 26 18.6	
	comp=Z,11nm,0.8s								
F26K	Sheenjek River	25.63	40	P		P		22 26 13.6	-2.3
	baz=262								
J26L	Joseph Creek	25.64	48	P		P		22 26 14.8	-1.2
	baz=270,SNR=12								
G26K	Porcupine Rive	25.68	42	P		P		22 26 14.2	-2.1
	baz=264,SNR=19								
USRK	Ussuriysk Ar.	25.76	262	P		P		22 26 16.7	-0.5
	comp=Z,1.1nm,0.7s,baz=32,slow=8.5,SNR=2.9								
	comp=Z,1.1nm,0.7s								
USRK	Ussuriysk Ar.	25.76	262	P		P		22 26 16.6	-0.6
L26K	Log Cabin Wild	25.76	51	P		P		22 26 16.9	-0.2
L26K	Log Cabin Wild	25.76	51	P		P		22 26 17.4	+0.3
	baz=273,SNR=7.3								
I26K	Coal Creek Min	25.83	46	P		P		22 26 17.2	-0.5
	baz=268								
M26K	Nabesna, AK	25.96	53	P		P		22 26 18.3	-0.7
	baz=274								
MCARA	McCarthy VSAT	26.05	55	P		P		22 26 19.6	-0.1
MCARA				IAmb		IAmb		22 26 31.9	
	comp=Z,23nm,1.0s								
MCARA	McCarthy VSAT	26.05	55	P		P		22 26 19.6	-0.1
	baz=276								
C27K	Jago River	26.11	36	P		P		22 26 19.9	-0.3
	baz=259								
K27K	Chicken	26.29	49	P		P		22 26 21.3	-0.5
K27K				IAmb		IAmb		22 26 25.3	
	comp=Z,23nm,1.1s								
K27K	Chicken	26.29	49	P		P		22 26 21.3	-0.5
	baz=272								
L27K	Beaver Creek,	26.45	51	P		P		22 26 23.1	-0.3
	baz=274,SNR=24								
BCAR	Beaver Creek A	26.47	51	P		P		22 26 23.7	+0.1
I27K	Kandik River	26.48	45	P		P		22 26 23.0	-0.6
	baz=269								
M27K	Edge Creek, AK	26.49	53	P		P		22 26 22.9	-0.9
	baz=275,SNR=8.1								
G27K	Doyon Strip	26.51	43	P		P		22 26 22.6	-1.3
	baz=267,SNR=5.7								
H27K	Steamboat Moun	26.53	44	P		P		22 26 22.5	-1.6
	baz=268								
E27K	Coleen River	26.65	39	P		P		22 26 24.2	-0.9
	baz=264								
EGAK	Eagle	26.67	47	P		P		22 26 23.9	-1.4
EGAK				IAmb		IAmb		22 26 25.0	
	comp=Z,17nm,0.9s								
EGAK	Eagle	26.67	47	P		P		22 26 24.1	-1.2
	baz=271,SNR=14								
MESA	MESA	26.74	57	P		P		22 26 25.5	-0.6
	baz=280								
YAH	Yahtse	26.81	57	P		P		22 26 26.7	-0.1
YAH				IAmb		IAmb		22 26 28.1	
	comp=Z,17nm,0.8s								
CTG	Chitna Glacier	26.91	56	P		P		22 26 27.0	-0.6
	baz=279								
YUK3	Moose Creek	27.21	54	P		P		22 26 29.7	-0.7
	baz=278								
DAWY	Dawson	27.47	49	P		P		22 26 31.8	-0.8
DAWY				IAmb		IAmb		22 26 36.9	
	comp=Z,18nm,0.8s								
DAWY	Dawson	27.47	49	P		P		22 26 31.4	-1.1
	baz=274,SNR=6.2								
O28M	Mount Upton	27.50	56	P		P		22 26 31.4	-1.7
	baz=280								
MJAR	Matsushiro Arr	27.55	242	P		P		22 26 33.3	-0.1
	comp=Z,5.2nm,0.9s,baz=27,slow=9.4,SNR=8.5								
MJAR				LR		LR		22 38 21.9	
	comp=Z,75nm,19.7s,baz=36,slow=38								
	comp=Z,5.2nm,0.9s								
MAJO	Matsushiro	27.55	242	P		P		22 26 33.6	+0.2
MAJO	Matsushiro	27.55	242	*i* P		P		22 26 35.2	+1.8
MAJO				pmax		pmax			
	comp=Z,25nm,0.9s								
PINM	Pinnacle	27.59	57	P		P		22 26 32.4	-1.2
	baz=281								
M29M	Somme Creek	28.06	52	P		P		22 26 37.3	-0.6
	baz=278								
PNL	Peninsula	28.10	58	P		P		22 26 37.4	-0.7
	baz=282								
K29M	Barlow Dome	28.31	49	P		P		22 26 39.7	-0.4
	baz=276,SNR=8.6								
YUK6	Outpost Mounta	28.34	55	P		P		22 26 39.5	-1.1
	baz=281								
O29M	Mount Kennedy	28.37	56	P		P		22 26 40.3	-0.4
	baz=282								
EPYK	Eagle Plains	28.47	44	P		P		22 26 40.9	-0.5
	baz=272								
HYT	Haines Junctio	28.78	55	P		P		22 26 44.4	+0.1
	baz=282,SNR=5.7								
M30M	Minto, Yukon	28.80	51	P		P		22 26 44.2	-0.2
	baz=279								
N30M	Aishikik Lake	28.86	54	P		P		22 26 44.6	-0.3
	baz=281								
P29M	Windy Craggy	28.93	58	P		P		22 26 45.2	-0.3

baz=292
S34M Telegraph Cree 32.72 59 P **P** **22 27 19.8 +0.9**
baz=290
TGTN Hyland Airport 32.95 52 P **P** **22 27 21.3 +0.3**
baz=287
C36M Paulatuk 32.99 37 P **P** **22 27 21.5 +0.3**
baz=278
DLBC Dease Lake 33.09 58 LR LR 22 41 23.8
comp=Z,274nm,18.1s,baz=278,slow=38
DLBC Dease Lake 33.09 58 P **P** **22 27 22.7 +0.5**
DLBC IAmb IAmb 22 27 24.6
comp=Z,9.0nm,0.9s
DLBC Dease Lake 33.09 58 P **P** **22 27 22.6 +0.5**
baz=290
WTLY Watson Lake, Y 33.13 54 P **P** **22 27 22.9 +0.4**
baz=288
JCJ Chichijima 33.50 226 LR LR 22 38 09.6
comp=Z,40nm,20.3s,baz=134,slow=31
T35M Bob Quinn 33.50 60 P **P** **22 27 27.0 +1.2**
baz=292
H11N2 WAKE ISLAND Hy 34.62 183 T T 23 04 11.6
baz=1.5,slow=76,SNR=2891
H11N3 WAKE ISLAND Hy 34.64 183 T T 23 04 12.6
baz=1.5,slow=76,SNR=2424
H11N1 WAKE ISLAND Hy 34.64 183 T T 23 04 15.6
baz=1.5,slow=76,SNR=3534
H11S1 WAKE ISLAND Hy 35.85 183 T T 23 05 46.4
baz=1.7,slow=76,SNR=924
H11S3 WAKE ISLAND Hy 35.86 183 T T 23 05 49.6
baz=1.7,slow=76,SNR=286
H11S2 WAKE ISLAND Hy 35.86 183 T T 23 05 44.9
baz=1.7,slow=76,SNR=1068
BBB Bella Bella 36.70 67 LR LR 22 41 54.4
comp=Z,170nm,19.1s,baz=268,slow=35
NRIK Noril'sk 37.80 325 *i* P **P** **22 28 05.3 +2.9**
NRIK pmax pmax
comp=Z,3.0nm,1.3s
ULN Ulaanbaatar 38.14 286 P **P** **22 28 05.2 -0.5**
ULN Ulaanbaatar 38.14 286 *ce*P **P** **22 28 06.0 +0.2**
ULN pmax pmax
comp=Z,9.0nm,1.3s
SONM Songino Array 38.52 287 P **P** **22 28 09.1 +0.2**
comp=Z,3.0nm,0.6s,baz=59,slow=8.2,SNR=27
SONM PcP **PcP** **22 30 21.5 +0.2**
comp=Z,0.7nm,0.8s,baz=64,slow=3.4,SNR=3.3
SONM LR LR 22 44 33.7
comp=Z,107nm,20.6s,baz=60,slow=37
comp=Z,3.0nm,0.6s
SONM Songino Array 38.52 287 P **P** **22 28 08.2 -0.8**
SONM Songino Array 38.52 287 P **P** **22 28 08.2 -0.8**
SONM pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 38.65 46 P **P** **22 28 09.9 +0.2**
comp=Z,2.2nm,0.7s,baz=291,slow=8.4,SNR=4.7
comp=Z,2.2nm,0.7s
ZAK Zakamensk 38.86 292 *e*P **P** **22 28 11.7 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
HHC Hu-ho-hao-te 39.73 274 *e*P **P** **22 28 18.7 -0.4**
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,130nm,6.2s
NLWA Neilton Lookou 41.60 71 P **P** **22 28 35.0 +0.7**
NLWA IAmb IAmb 22 28 47.1
comp=Z,11nm,0.9s
B08A Colville Reser 43.51 67 P **P** **22 28 49.7 -0.1**
I02E Swisshome, OR 43.59 75 P **P** **22 28 51.4 +0.9**
baz=309
EDM Edmonton 43.80 58 P **P** **22 28 52.2 0.0**
EDM IAmb IAmb 22 28 53.6
comp=Z,9.4nm,0.7s
EDM Edmonton 43.80 58 P **P** **22 28 52.2 0.0**
EDM pmax pmax
comp=Z,9.0nm,0.7s
H04D Lebanon 43.95 74 P **P** **22 28 54.4 +1.0**
baz=308
I03D Drain, OR 44.12 75 P **P** **22 28 55.5 +0.7**
baz=309
J01E Myrtle Point 44.13 76 P **P** **22 28 55.5 +0.6**
baz=309
K02D Willamette Mer 44.58 76 P **P** **22 28 59.3 +0.7**
baz=310
I04A Tendick Farm, 44.59 74 P **P** **22 28 59.2 +0.6**
baz=309
F07A Phinny Hill Vi 44.67 70 P **P** **22 28 59.2 +0.1**
NEW Newport 44.75 66 LR LR 22 45 45.4
comp=Z,162nm,21.1s,baz=324,slow=34
NEW Newport 44.75 66 P **P** **22 29 00.0 +0.2**
baz=307
GUMO Guam 44.81 214 LR LR 22 45 56.1
comp=Z,62nm,18.9s,baz=96,slow=34
J04D Umpqua Nationa 45.11 75 P **P** **22 29 03.9 +1.0**
baz=310
J05D Fort Rock, OR 45.58 74 P **P** **22 29 07.7 +1.2**
baz=310,SNR=5.6
L04D Klamath Falls 45.66 76 P **P** **22 29 07.4 +0.2**
L04D IAmb IAmb 22 29 09.2
comp=Z,11nm,0.8s
L04D Klamath Falls 45.66 76 P **P** **22 29 07.9 +0.7**
baz=310
YBH Yreka Blue Hor 45.74 77 LR LR 22 44 53.5
comp=Z,140nm,20.7s,baz=312,slow=32
WALA Waterton Lakes 45.96 63 P **P** **22 29 09.6 +0.1**
K05A Summer Lake 46.13 74 P **P** **22 29 11.0 +0.1**
K05A IAmb IAmb 22 29 38.3
comp=Z,8.8nm,1.2s
ZALV Zalesovo Beam 46.30 306 P **P** **22 29 12.2 +0.2**
comp=Z,1.2nm,0.7s,baz=30,slow=7.2,SNR=6.0
ZALV PcP **PcP** **22 30 46.8 0.0**
comp=Z,0.9nm,0.5s,baz=45,slow=4.3,SNR=2.3
comp=Z,1.2nm,0.7s
ZALV Zalesovo Beam 46.30 306 P **P** **22 29 11.7 -0.2**
ZALV Zalesovo Beam 46.30 306 *i* P **P** **22 29 12.6 +0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
MOD Modoc Plateau 46.99 75 P **P** **22 29 18.1 +0.3**
MOD IAmb IAmb 22 29 19.2
comp=Z,5.0nm,0.8s
MSO Missoula 47.33 66 P **P** **22 29 20.8 +0.6**
baz=309
LZH Lanzhou 47.41 275 *e*P **P** **22 29 21.9 +0.8**
LZH sP sP 22 29 30.3 -0.6
LZH pmax pmax
comp=Z,21nm,1.4s
LZH LR LR
comp=Z,310nm,13.1s
GTA Gaotai 47.48 281 *e*P **P** **22 29 21.6 +0.1**
GTA pP pP 22 29 29.5 +0.7
GTA sP sP 22 29 33.2 +1.7
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,19nm,5.1s
GTA LR LR
comp=Z,150nm,16.0s
GTA LR LR
comp=Z,200nm,16.0s
GTA LR LR
comp=Z,190nm,18.9s
DGZ Jazzator, Alta 47.60 300 *i* P **P** **22 29 21.9 -0.4**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
EGMT Eagleton 48.77 62 P **P** **22 29 31.2 -0.1**
baz=310
HLID Hailey 49.18 69 P **P** **22 29 34.7 0.0**
baz=311
MCMT McKenzie Canyo 49.20 67 P **P** **22 29 34.6 -0.2**
BOZ Bozeman (W) 49.35 66 P **P** **22 29 34.4 -1.5**
baz=311
NVAR Mina Array Bea 50.46 77 P **P** **22 29 45.6 +1.2**
comp=Z,2.5nm,0.8s,baz=295,slow=7.1,SNR=20
NVAR LR LR 22 49 16.0
comp=Z,74nm,20.2s,baz=206,slow=34
comp=Z,2.5nm,0.8s
NVAR Mina Array Bea 50.46 77 P **P** **22 29 44.7 +0.2**
LHV Little Huntoon 50.47 77 P **P** **22 29 44.9 +0.7**
LHV IAmb IAmb 22 29 46.4
comp=Z,5.9nm,1.0s
ELK Elko 50.61 73 LR LR 22 48 46.5
comp=Z,115nm,20.3s,baz=352,slow=33
RLMT Red Lodge 50.92 65 P **P** **22 29 47.8 -0.1**
RLMT IAmb IAmb 22 30 00.1
comp=Z,5.9nm,0.8s
RLMT Red Lodge 50.92 65 P **P** **22 29 48.5 +0.6**
baz=312
WMQ Urumqi 51.27 294 *e*P **P** **22 29 52.6 +2.3**
WMQ LR LR
comp=Z,530nm,19.5s
WMQ LR LR
comp=Z,160nm,19.5s
KURK Kurchatov 51.29 305 P **P** **22 29 48.7 -1.5**
KURK IAmb IAmb 22 29 53.0
comp=Z,8.6nm,0.8s
KURK Kurchatov 51.29 305 *ce*P **P** **22 29 49.5 -0.7**
KURK pmax pmax
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 51.39 305 P **P** **22 29 49.9 -1.1**
comp=Z,5.8nm,0.7s,baz=52,slow=7.5,SNR=20
comp=Z,5.8nm,0.7s
CWC Cottonwood Cre 51.97 79 P **P** **22 29 56.2 +0.4**
baz=315
R11A Troy Canyon, C 52.06 75 P **P** **22 29 57.0 +0.6**
baz=314,SNR=5.2
PKM Mcpherson Peak 52.07 81 P **P** **22 29 57.0 +0.5**
baz=316
MK31 Makanchi Array 52.10 300 P **P** **22 29 54.9 -1.5**
MK31 Makanchi Array 52.10 300 *i* P **P** **22 29 54.9 -1.5**
MKAR Makanchi Array 52.10 300 P **P** **22 29 54.9 -1.6**
comp=Z,1.4nm,0.6s,baz=48,slow=6.9,SNR=18
MKAR LR LR 22 53 11.8
comp=Z,103nm,19.2s,baz=329,slow=37
comp=Z,1.4nm,0.6s
MAKZ Makanchi 52.25 300 P **P** **22 29 56.6 -0.9**
MAKZ Makanchi 52.25 300 P **P** **22 29 56.6 -0.9**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
SPR3 Spring Creek 3 52.31 74 P **P** **22 29 58.2 -0.2**
SPR3 IAmb IAmb 22 30 12.7
comp=Z,4.3nm,1.0s
DUG Dugway, Tooele 52.33 71 P **P** **22 29 58.8 +0.4**
baz=314
BW06 Boulder Array 52.35 67 P **P** **22 29 58.6 0.0**
baz=313
PD31 Pinedale Array 52.35 67 P **P** **22 29 58.1 -0.5**
PDAR Pinedale Array 52.35 67 P **P** **22 29 59.0 +0.4**
comp=Z,1.1nm,0.6s,baz=303,slow=4.2,SNR=13
comp=Z,1.1nm,0.6s
PDAR Pinedale Array 52.35 67 P **P** **22 29 57.7 -0.9**
MPMC Manual Prospec 52.58 78 P **P** **22 30 00.6 +0.2**
baz=315
FURC Furnace Creek, 52.65 78 P **P** **22 30 02.3 +1.7**
baz=315,SNR=5.0
TPNV Topopah Spring 52.66 77 P **P** **22 30 00.2 -0.6**
TPNV IAmb IAmb 22 30 13.3
comp=Z,4.9nm,0.8s
TPNV Topopah Spring 52.66 77 P **P** **22 30 00.2 -0.6**
TPNV pmax pmax
comp=Z,5.0nm,0.8s
TPNV Topopah Spring 52.66 77 P **P** **22 30 01.4 +0.6**
baz=315
SHOC Shoshone, Teco 53.38 78 P **P** **22 30 06.7 +0.7**
baz=315
SNCC San Nicolas Is 53.41 82 P **P** **22 30 07.1 +0.9**
baz=316
BRVK Borovoye 53.50 312 P **P** **22 30 05.2 -1.4**
BRVK IAmb IAmb 22 30 14.0
comp=Z,7.7nm,0.7s
BRVK Borovoye 53.50 312 P **P** **22 30 05.2 -1.4**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
GSC Goldstone, Bar 53.50 79 P **P** **22 30 07.0 0.0**
GSC IAmb IAmb 22 30 08.5
comp=Z,4.0nm,0.8s
GSC Goldstone, Bar 53.50 79 P **P** **22 30 07.0 0.0**
GSC pmax pmax
comp=Z,4.0nm,0.8s
GSC Goldstone, Bar 53.50 79 P **P** **22 30 07.8 +0.7**
baz=316
ARCES ARCESS Array B 53.52 345 P **P** **22 30 06.3 -0.3**
comp=Z,1.8nm,0.7s,baz=27,slow=8.2,SNR=10
comp=Z,1.8nm,0.7s
ARCES ARCESS Array B 53.52 345 P **P** **22 30 06.0 -0.6**
ARCES IAmb IAmb 22 30 34.7
comp=Z,8.7nm,1.4s
ARCES ARCESS Array B 53.52 345 P **P** **22 30 06.0 -0.6**
ARCES pmax pmax
comp=Z,9.0nm,1.5s
BFSC Mount Baldy Ra 53.77 80 P **P** **22 30 09.6 +0.5**
baz=316
FMP Fort Macarthur 53.78 81 P **P** **22 30 09.7 +0.8**
baz=316
MSU Marysvale 53.86 73 P **P** **22 30 10.1 +0.4**
MSU Marysvale 53.86 73 P **P** **22 30 10.1 +0.4**
MDND Maddock 53.98 56 P **P** **22 30 10.6 +0.3**
baz=314
ULM Lac du Bonnet 54.08 52 LR LR 22 53 26.6
comp=Z,140nm,21.0s,baz=96,slow=36
HEC Hector,Ludlow 54.11 79 P **P** **22 30 11.7 +0.2**
baz=316
RSSD Black Hills 54.34 62 P **P** **22 30 13.0 -0.1**
RSSD IAmb IAmb 22 30 14.7
comp=Z,3.9nm,0.7s
RSSD Black Hills 54.34 62 P **P** **22 30 13.0 -0.1**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 54.34 62 P **P** **22 30 13.2 0.0**
baz=314
MURC Murrieta 54.50 80 P **P** **22 30 15.4 +1.1**
baz=316
GMRC Granite Mounta 54.53 78 P **P** **22 30 15.3 +0.7**
baz=316
O20A White River Ci 54.89 68 P **P** **22 30 17.5 +0.4**
baz=315
BELC Belle Mtn. Jos 54.90 79 P **P** **22 30 17.2 -0.1**
baz=316
PFO Pinyon Flats O 54.91 80 LR LR 22 50 02.4
comp=Z,127nm,20.2s,baz=324,slow=32
TPFO Pinon Flats 54.92 80 P **P** **22 30 17.7 +0.3**
baz=317
U15A North Rim 55.27 74 P **P** **22 30 20.1 0.0**
IRM Iron Mountain 55.28 78 P **P** **22 30 20.7 +0.8**
baz=316
AGMN Agassiz Nation 55.46 54 P **P** **22 30 20.9 0.0**
baz=315
BC3 Big Chuckawall 55.46 79 P **P** **22 30 21.7 +0.4**
baz=317
PZH PanZhiHua 55.60 268 P **P** **22 30 23.1 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.5s
PDMCI Parker Dam,Lak 55.74 78 P **P** **22 30 24.1 +1.0**
baz=317
SWSC Sam W. Stewart 55.78 80 P **P** **22 30 23.8 +0.4**
baz=317
ARU Arti 55.78 321 P **P** **22 30 21.6 -1.4**
ARU IAmb IAmb 22 30 30.1
comp=Z,4.7nm,0.6s
ARU Arti 55.78 321 *c i*P **P** **22 30 24.2 +1.1**
ARU 22 31 20.6
ARU 22 32 25.0
ARU S **S** **22 38 11.3 +3.2**
ARU SS **SS** **22 41 47.1 -5.8**
ARU pmax pmax
comp=Z,3.0nm,0.7s
IKP In-Ko-Pah, Jac 55.81 80 P **P** **22 30 24.3 +0.5**
baz=317
PRGR Permogore 55.94 331 *e*P **P** **22 30 21.9 -2.2**
GLA Glamis 56.26 79 P **P** **22 30 27.3 +0.4**
baz=317
ESJX Sierra Juarez 56.38 81 P **P** **22 30 28.6 +0.6**
WUAZ Wupatki 56.44 75 P **P** **22 30 29.0 +0.6**
baz=316
ISCO Idaho Springs 56.55 67 P **P** **22 30 29.6 +0.4**
baz=316
OGNE Ogallala 57.63 64 P **P** **22 30 37.0 +0.4**
baz=316
EYMN Ely 57.74 52 P **P** **22 30 37.3 +0.1**
baz=317
SDCO Great Sand Dun 58.09 69 P **P** **22 30 40.6 +0.5**
baz=317
214A Organ Pipe Nat 58.22 78 P **P** **22 30 41.0 +0.2**
baz=318
KLMR Klimovskoe 58.25 334 *e*P **P** **22 30 38.6 -1.9**
KLMR pmax pmax
comp=Z,7.0nm,0.9s
KLMR Klimovskoe 58.25 334 *e*P **P** **22 30 38.6 -1.9**
KLMR AMP 22 30 40.8
comp=Z,7.0nm,0.9s
BOOM Boomskoye usch 58.34 300 P **P** **22 30 42.1 +0.4**
BOOM Boomskoye usch 58.34 300 P **P** **22 30 42.1 +0.4**
BOOM pmax pmax
comp=Z,3.0nm,0.9s
ECSD EROS Data Cent 58.38 58 P **P** **22 30 41.7 0.0**
baz=317
DAV Davao City (W) 58.49 233 LR LR 23 01 20.0
comp=Z,24nm,18.0s,baz=172,slow=42
KSCO Kaye Shedlock' 58.72 66 P **P** **22 30 44.6 +0.3**
baz=317
AAK Ala-Archa 58.97 301 P **P** **22 30 45.8 -0.2**
comp=Z,1.0nm,0.4s,baz=50,slow=4.9,SNR=4.9
AAK LR LR 22 56 36.3
comp=Z,107nm,19.6s,baz=290,slow=36
comp=Z,1.0nm,0.4s
AAK Ala-Archa 58.97 301 P **P** **22 30 45.3 -0.7**
AAK Ala-Archa 58.97 301 *ce*P **P** **22 30 46.9 +0.9**
AAK pmax pmax
comp=Z,5.0nm,1.3s
TUC Tucson 59.11 77 P **P** **22 30 47.9 +0.9**
baz=318
BGNE Belgrade 59.30 61 P **P** **22 30 48.0 -0.2**
baz=317
ANMO Albuquerque 59.60 72 LR LR 22 55 06.8
comp=Z,60nm,18.7s,baz=322,slow=35
ANMO Albuquerque 59.60 72 *i* P **P** **22 30 50.5 -0.1**
ANMO pmax pmax
comp=Z,5.0nm,2.0s
ANMO Albuquerque 59.60 72 P **P** **22 30 50.3 -0.2**
baz=318
CBKS Cedar Bluff 60.39 64 P **P** **22 30 55.6 -0.1**
baz=318
KSH Kashi 60.51 297 P **P** **22 31 01.2 +4.6**
KSH sP pwP 22 31 09.4 +2.1
KSH pmax pmax
comp=Z,4.0nm,1.3s
KSH LR LR
comp=Z,240nm,16.1s
KK31 Karatay Array 60.59 304 P **P** **22 30 55.4 -1.6**
KK31 Karatay Array 60.59 304 P **P** **22 30 55.4 -1.6**
KK31 pmax pmax
comp=Z,4.0nm,1.3s
KKAR Karatay Array 60.59 304 P **P** **22 30 55.3 -1.7**
KKAR Karatay Array 60.59 304 P **P** **22 30 55.3 -1.7**
121A Cookes Peak, D 60.65 74 P **P** **22 30 58.2 +0.5**
baz=318
ABKAR Akbulak array 60.70 315 P **P** **22 30 56.2 -1.4**
FINES FINESS Array B 60.80 340 P **P** **22 30 57.3 -0.7**
comp=Z,3.4nm,0.8s,baz=32,slow=8.2,SNR=6.6
comp=Z,3.4nm,0.8s
FINES FINESS Array B 60.80 340 P **P** **22 30 57.1 -1.0**
FINES FINESS Array B 60.80 340 *i* P **P** **22 30 57.5 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.8s
SCHQ Schefferville 61.95 33 P **P** **22 31 06.0 0.0**
comp=Z,3.5nm,0.8s,baz=314,slow=8.2,SNR=3.1
SCHQ LR LR 23 02 33.1
comp=Z,130nm,18.1s,baz=76,slow=40
comp=Z,3.5nm,0.8s
JFWS Jewell Farm 62.09 55 P **P** **22 31 06.1 -1.0**
baz=320
UBPT Khong Chiam 62.20 257 P **P** **22 31 08.8 +0.7**
MNTX Cornudas Mount 62.62 73 P **P** **22 31 11.1 +0.3**
MNTX IAmb IAmb 22 31 32.7
comp=Z,5.0nm,1.1s
MNTX Cornudas Mount 62.62 73 P **P** **22 31 11.9 +1.0**
baz=319
SIJI Sorong 63.13 223 P **P** **22 31 15.3 +1.0**
comp=Z,15nm,0.7s,baz=19,slow=7.6,SNR=6.1
comp=Z,15nm,0.7s
CHTO Chiang Mai 63.16 265 P **P** **22 31 14.7 +0.2**
CHTO Chiang Mai 63.16 265 P **P** **22 31 14.7 +0.2**
NC204 NORSAR Array S 63.37 348 P **P** **22 31 14.6 -0.8**
CMAR Chiang Mai Arr 63.44 265 P **P** **22 31 17.1 +0.7**
comp=Z,1.6nm,0.3s,baz=23,slow=7.2,SNR=11
CMAR LR LR 22 59 41.8
comp=Z,65nm,21.8s,baz=150,slow=37
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 63.44 265 P **P** **22 31 16.1 -0.3**
N41A Harden Midland 63.48 57 P **P** **22 31 15.3 -1.0**
NB201 NORSAR Array S 63.52 348 P **P** **22 31 15.8 -0.6**
NB2 NORSAR Subarra 63.54 348 P **P** **22 31 15.6 -0.9**
comp=Z,1.1nm,0.5s,baz=15,slow=6.9
NOA Ramite 63.54 348 P **P** **22 31 15.9 -0.6**
comp=Z,3.7nm,0.8s,baz=16,slow=6.7,SNR=16
comp=Z,3.7nm,0.8s
GUN Gumba 63.76 282 *e*P **P** **22 31 18.5 -0.3**
GAR Garm 63.79 301 P **P** **22 31 17.9 -0.7**
WMOK Wichita Mounta 63.95 66 P **P** **22 31 20.2 +0.6**
baz=320
OBN Obninsk 64.00 332 *e*P **P** **22 31 21.6 +2.1**
OBN *e* 22 31 55.3
OBN *e* 22 33 40.6
OBN *e*PPP PPP 22 35 10.4
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,78nm,18.0s
RAMN Ramite 64.08 281 *e*P **P** **22 31 19.8 -1.0**
comp=Z,22nm,0.5s
PKI Pulchoki 64.29 282 *e*P **P** **22 31 21.3 -1.0**
comp=Z,8.4nm,0.5s
PKIN Phulchoki 64.29 282 *e*P **P** **22 31 21.2 -1.0**
comp=Z,10.0nm,0.5s
HDIL Hopedale 64.35 56 P **P** **22 31 21.1 -1.0**
baz=321
CHGR Chuyangaron 64.63 301 P **P** **22 31 23.0 -1.1**
CHGR IAmb IAmb 22 31 27.2
comp=Z,7.6nm,1.0s
CHGR Chuyangaron 64.63 301 P **P** **22 31 23.0 -1.1**
CHGR pmax pmax
comp=Z,8.0nm,1.0s
TUL1 Leonard 64.64 63 P **P** **22 31 23.6 -0.5**
baz=320
PYUN Piuthan 65.26 284 *e*P **P** **22 31 27.4 -1.1**
comp=Z,4.1nm,0.4s
CCM Cathedral Cave 65.32 59 P **P** **22 31 27.4 -1.1**
baz=321
TX31 Lajitas Ar. Si 65.37 74 P **P** **22 31 29.3 +0.2**
TXAR Lajitas Array 65.37 74 P **P** **22 31 29.7 +0.7**
comp=Z,3.3nm,0.9s,baz=303,slow=4.8,SNR=23
comp=Z,3.3nm,0.9s
TXAR Lajitas Array 65.37 74 P **P** **22 31 29.5 +0.4**
LPIG La Paz 65.58 82 LR LR 22 54 04.2
comp=Z,61nm,21.5s,baz=273,slow=30
FCAR Ozark Folk Cen 66.55 61 P **P** **22 31 35.4 -1.0**
FCAR IAmb IAmb 22 31 35.7
comp=Z,5.7nm,0.8s
MNK Minsk 66.78 336 *i* P **P** **22 31 38.1 +0.6**
MNK *i* 22 32 07.0
MNK *i* 22 34 04.9
MNK *i* PPP PPP 22 35 40.3
MNK *i* S **S** **22 40 30.6 +2.8**
MNK *i* 22 41 35.2
MNK *i* SS **SS** **22 44 49.3 +4.6**
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK MLR MLR
comp=Z,24nm,18.0s
MNK MLR MLR
comp=N,10.0nm,16.0s
MNK MLR MLR
comp=E,16nm,18.0s
MNK Minsk 66.78 336 *i* P **P** **22 31 38.2 +0.6**
comp=E,1.0nm,0.8s
MNK *i* P **P** **22 31 38.2 +0.6**
comp=N,6.0nm,0.8s
MNK *i* P **P** **22 31 38.2 +0.6**
comp=Z,7.0nm,0.9s,baz=204
MNK *i* PcP **PcP** **22 32 07.0 +0.7**
MNK *i* PP **PP** **22 34 04.9 +0.9**
MNK *i* PPP PPP 22 35 40.3
MNK *i* S **S** **22 40 30.7 +2.8**
MNK *i* SS **SS** **22 44 49.3 +4.6**
MNK *i* SSS SSS 22 47 59.8
MNK *i* LR LR 23 00 57.7
MNK *i* LRM MLR 23 03 35.6
comp=Z,24nm,18.1s
MNK *i* LRM MLR 23 03 38.2
comp=N,10.0nm,16.3s
MNK *i* LRM MLR 23 03 40.8
comp=E,16nm,18.0s
MIAR Mount Ida 66.84 63 P **P** **22 31 37.7 -0.6**
baz=321
P49A Miami Univ. Ec 67.33 53 P **P** **22 31 40.3 -1.0**
baz=323

ACSO	Alum Creek Sta	67.58	52	P		P	22 31 42.2	-0.7	
	baz=323								
O53A	New Philadelph	68.38	51	P		P	22 31 47.3	-0.6	
	baz=324								
P52A	Corning	68.45	52	P		P	22 31 47.7	-0.7	
	baz=324								
WVT	Waverly	68.53	58	P		P	22 31 48.4	-0.5	
	baz=322								
833A	Chaparral WMA,	68.53	71	P		P	22 31 49.2	+0.2	
	baz=321								
LBNH	Lisbon	69.03	42	P		P	22 31 51.3	-0.6	
	baz=327								
BINY	Binghamton	69.07	46	P		P	22 31 51.7	-0.5	
	baz=326								
MCWV	Mont Chateau	69.47	50	P		P	22 31 54.1	-0.6	
	baz=325								
SSPA	Standing Stone	69.54	48	P		P	22 31 53.9	-1.2	
	baz=325								
AKASG	Malin Array Be	69.93	334	P		P	22 31 56.4	-0.9	
	comp=E,0.8nm,0.4s,baz=31,slow=6.5,SNR=4.3								
	comp=E,0.8nm,0.4s								
AKASG	Malin Array Be	69.93	334	*i* P		P	22 31 56.2	-1.1	
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.6s								
TZTN	Tazewell	70.28	55	P		P	22 31 58.8	-0.9	
	baz=324								
GEYT	Alibeck	70.51	308	P		P	22 32 01.1	0.0	
	comp=Z,1.1nm,0.5s,baz=44,slow=10,SNR=2.6								
	comp=Z,1.1nm,0.5s								
TKL	Tuckaleechee C	70.88	55	LR		LR	23 04 19.7		
	comp=Z,183nm,19.0s,baz=9.5,slow=37								
PAL	Palisades	70.93	45	P		P	22 32 02.1	-1.4	
	baz=327								
SRIT	Nakonsritamara	70.94	258	P		P	22 32 05.5	+1.5	
LRAL	Lakeview Retre	71.40	59	P		P	22 32 05.2	-1.3	
	baz=323								
M65A	Busby, Falmout	71.79	43	P		P	22 32 07.3	-1.5	
	baz=328								
KIV	Kislovodsk	71.79	322	*i* P		P	22 32 12.3	+3.4	
KIV				*i*			22 32 28.6		
KIV				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KBZ	Khabaz	71.91	322	P		P	22 32 09.4	-0.1	
	comp=Z,0.9nm,0.5s,baz=7.1,slow=5.4,SNR=2.5								
	comp=Z,0.9nm,0.5s								
KWP	Kalwaria Pacla	72.49	338	P		P	22 32 12.7	-0.2	
KWP	Kalwaria Pacla	72.49	338	P		P	22 32 12.7	-0.2	
KWP				pmax		pmax			
	comp=Z,116nm,1.2s								
DPC	Dobruska-Polom	73.10	342	*e*P		P	22 32 17.2	+0.7	
KOLS	Kolonicke sedl	73.24	338	*e*P		P	22 32 17.9	+0.6	
KOLS	Kolonicke sedl	73.24	338	*e*P		P	22 32 17.9	+0.6	
KRLC	Kraliky	73.28	342	*e*P		P	22 32 16.0	-1.6	
BUR08	Bucovina Ar. S	73.77	335	P		P	22 32 20.2	-0.4	
BURAR	Bucovina Array	73.79	335	P		P	22 32 20.2	-0.5	
VYHS	Vyhne	74.39	340	*e*P		P	22 32 25.1	+1.0	
VYHS	Vyhne	74.39	340	*e*P		P	22 32 25.1	+1.0	
KHC	Kasperske Hory	74.75	343	*e*P		P	22 32 21.4	-4.8	
GERES	GERESS Array B	75.01	343	P		P	22 32 27.7	-0.1	
	comp=Z,0.5nm,0.6s,baz=40,slow=5.2,SNR=5.9								
	comp=Z,0.5nm,0.6s								
GERES	GERESS Array B	75.01	343	P		P	22 32 27.2	-0.5	
CTA	Charters Tower	76.64	202	P		P	22 32 38.4	+1.3	
	comp=Z,9.2nm,1.1s,baz=75,slow=4.3,SNR=4.0								
	comp=Z,9.2nm,1.1s								
KBA	Koelnbreinsper	76.78	343	*e*P		P	22 32 39.1	+1.1	
	comp=Z,2.5nm,0.8s								
OBKA	Obir	77.12	342	*e*P		P	22 32 41.0	+1.2	
	comp=Z,4.6nm,0.8s								
BRTR	Keskin Array B	78.65	326	P		P	22 32 48.4	-0.1	
	comp=Z,1.0nm,0.8s,baz=21,slow=3.7,SNR=5.7								
	comp=Z,1.0nm,0.8s								
BRTR	Keskin Array B	78.65	326	*i* P		P	22 32 51.7	+3.2	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
TEOL	Teolo	78.73	344	P		P	22 32 49.3	+0.6	
WB0	Warramunga Arr	79.50	213	P		P	22 32 53.0	0.0	
WB0				IAmb		IAmb	22 33 02.6		
	comp=Z,12nm,1.2s								
WR0	Warramunga Arr	79.64	213	P		P	22 32 54.2	+0.5	
WR0				IAmb		IAmb	22 32 56.2		
	comp=Z,5.6nm,1.1s								
WRAB	Tennant Creek	79.67	213	*ce*P		P	22 32 57.8	+3.9	
WRAB				pmax		pmax			
	comp=Z,5.0nm,0.7s								
WRA	Warramunga Arr	79.69	213	P		P	22 32 54.8	+0.8	
	comp=Z,2.7nm,0.8s,baz=27,slow=6.0,SNR=18								
	comp=Z,2.7nm,0.8s								
WRA	Warramunga Arr	79.69	213	P		P	22 32 53.8	-0.2	
WRA	Warramunga Arr	79.69	213	*i* P		P	22 32 54.7	+0.7	
WRA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
FITZ	Fitzroy Crossi	81.04	221	P		P	22 33 02.5	+1.3	
	comp=Z,3.0nm,0.9s,baz=7.5,slow=7.9,SNR=2.8								
	comp=Z,3.0nm,0.9s								
FITZ	Fitzroy Crossi	81.04	221	P		P	22 33 02.4	+1.1	
FITZ				IAmb		IAmb	22 33 04.4		
	comp=Z,8.3nm,1.2s								
PALK	Pallekele	82.99	273	*i* P		P	22 33 13.9	+2.0	
AS31	Alice Springs	83.31	212	P		P	22 33 13.4	+0.2	
ASAR	Alice Springs	83.31	212	P		P	22 33 14.6	+1.4	
	comp=Z,4.5nm,0.8s,baz=17,slow=4.6,SNR=23								
	comp=Z,4.5nm,0.8s								
ASAR	Alice Springs	83.31	212	P		P	22 33 13.5	+0.4	
ESDC	Sonseca Array	86.10	354	P		P	22 33 26.8	-0.5	
	comp=Z,0.8nm,0.9s,baz=2.3,slow=4.4,SNR=4.6								
	comp=Z,0.8nm,0.9s								
STKA	Stephens Creek	89.05	203	P		P	22 33 42.5	+1.3	
	comp=Z,4.3nm,0.8s,baz=333,slow=4.2,SNR=6.6								
	comp=Z,4.3nm,0.8s								
MAW	Mawson	144.14	219	PKP		PKPbc	22 40 19.4	+0.6	
	comp=Z,1.1nm,0.6s,baz=111,slow=3.2,SNR=2.6								
TROLL	Troll, Antarti	161.35	193	sPKPab		sPKPab	22 41 38.6	-1.0	
VNA3	Neumayer Olymp	163.06	182	sPKPab		sPKPab	22 41 44.0	-3.0	
VNA2	Neumayer--Watz	163.31	184	sPKPab		sPKPab	22 41 45.7	-2.4	
	baz=173,slow=5.0								
VNA1	Neumayer--Stat	163.62	184	sPKPab		sPKPab	22 41 47.0	-2.4	

*NDI **07** 22:21:15.9±1.6,28°.35N×95°.02E,h10km,ML4.1*
*IDC **07** 22:21:16.5±2.0,28°.24N×95°.27E,h0km,mb3.3/4,*
mbtmp3.4/4,Error ellipse: s-maj=86.3km s-min=26.1km az=71.0

ISC 07 22:21:20.5±1.1,28°.27N±0°.08×94°.95E±0°.06,h35km,n9, σ1§46/13,mb4.0/3,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKP	Lekhapani	1.23	139	*e*P	Pn	22 21 39.7	-1.5
LKP				*e*S	Sn	22 21 56.4	-0.2
LKP				IAML		22 21 58.8	
	comp=E,1μm,0.2s						
JORH	JORHAT	1.64	202	*e*S	Sn	22 22 09.0	+2.3
JORH				IAML		22 22 11.1	
	comp=N,2μm,0.3s						
KOHI	KOHIMA	2.65	197	*e*P	Pn	22 22 00.4	-0.5
KOHI				*e*S	Sn	22 22 33.3	+1.5
KOHI				IAML		22 22 34.9	
	comp=E,263nm,0.5s						
GUWA	GUWAHATI	3.56	235	*e*P	Pn	22 22 12.0	-1.3
GUWA				*e*S	Sn	22 22 52.3	-1.8
GUWA				IAML		22 23 10.4	
	comp=N,3μm,0.3s						
GUWA				IAML		22 23 10.5	
	comp=E,2μm,0.2s						
DHUB	DHUBRI	4.95	244	*e*P	Pn	22 22 31.7	-0.6
DHUB				*e*S	Sn	22 23 27.5	-0.8
DHUB				IAML		22 23 32.3	
	comp=E,1μm,0.2s						
DHUB				IAML		22 23 32.7	
	comp=N,1μm,0.2s						
MKAR	Makanchi Array	20.99	335	P	P	22 26 03.1	+2.3
	comp=N,0.2nm,0.7s,baz=146,slow=10,SNR=2.1						
	comp=N,0.2nm,0.7s						
SONM	Songino Array	21.47	21	P	P	22 26 05.7	-0.3
	comp=N,0.3nm,0.5s,baz=219,slow=11,SNR=2.9						
	comp=N,0.3nm,0.5s						
WRA	Warramunga Arr	61.22	137	P	P	22 31 31.9	-0.2
	comp=N,1.0nm,0.6s,baz=325,slow=7.6,SNR=18						
	comp=N,1.0nm,0.6s						
ASAR	Alice Springs	63.84	140	P	P	22 31 49.7	+0.1
	comp=N,0.9nm,0.6s,baz=324,slow=6.9,SNR=8.9						
	comp=N,0.9nm,0.6s						

*IDC **07** 22:24:43.7±1.2,54°.42N×168°.84E,h0km,mb3.5/5,*
mbtmp3.5/6,ML3.4/1,Error ellipse: s-maj=34.5km s-min=24.1km az=10.0

ISC 07 22:24:46.6±0.9,54°.4N±0°.2×168°.83E±0°.08,h20km,n13, σ1§24/8,mb3.4/5,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHEM	Shemya Is, Ala	3.56	116	Pn	Pn	22 25 38.8	-1.9
	2.9nm,0.3s,baz=284,slow=19,SNR=1.4						
SHEM				Sn	Sn	22 26 23.2	+1.0
	6.5nm,0.3s,baz=107,slow=19,SNR=2.4						
	16nm,0.3s						
PETK	Petropavlovsk-	6.73	263	Sn	Sn	22 27 39.7	-0.6
	2.0nm,0.3s,baz=107,slow=20,SNR=2.7						
ILAR	Eielson Array	24.16	47	P	P	22 30 00.9	-0.2
	0.7nm,0.9s,baz=254,slow=6.5,SNR=5.8						
	0.7nm,0.9s						
H11N2	WAKE ISLAND Hy	34.65	183	T	T	23 08 12.4	
	baz=1.3						
H11N3	WAKE ISLAND Hy	34.67	183	T	T	23 08 14.2	
	baz=1.3						
H11N1	WAKE ISLAND Hy	34.67	183	T	T	23 08 14.5	
	baz=1.3						
H11S1	WAKE ISLAND Hy	35.88	183	T	T	23 09 42.7	
	baz=1.7						
H11S3	WAKE ISLAND Hy	35.89	183	T	T	23 09 43.1	
	baz=1.7						
H11S2	WAKE ISLAND Hy	35.89	183	T	T	23 09 46.7	
	baz=1.7						
SONM	Songino Array	38.57	287	P	P	22 32 07.8	-0.1
	0.4nm,0.6s,baz=61,slow=7.8,SNR=3.0						
	0.4nm,0.6s						
NOA	NOA Array B	63.53	348	P	P	22 35 14.6	-0.4
	0.4nm,0.6s,baz=16,slow=6.8,SNR=3.4						
	0.4nm,0.6s						
TXAR	Lajitas Array	65.31	74	P	P	22 35 28.3	+1.2
	0.1nm,0.5s,baz=316,slow=6.2,SNR=2.2						
	0.1nm,0.5s						
WRA	Warramunga Arr	79.74	213	P	P	22 36 54.0	+1.1
	0.5nm,0.9s,baz=25,slow=6.3,SNR=2.3						
	0.5nm,0.9s						

*NOU **07** 22:28:51.0,20°.49S×168°.12E,h0km,MLv4.6/12,Loyalty Islands*
*IDC **07** 22:28:51.4±0.7,20°.61S×168°.14E,h0km,mb4.3/13,*
mbtmp4.3/15,ML4.4/2,MS3.7/13,Error ellipse: s-maj=21.2km s-min=18.5km az=134.0
*NEIC **07** 22:28:54.6±1.3,20°.68S±0°.04×168°.00E±0°.04,h10km±1km,*
mb4.8/21,Error ellipse: s-maj=8.4km s-min=2.9km az=42.0

ISC 07 22:28:53.3±0.5,20°.63S±0°.05×168°.07E±0°.05,h10km,n81, σ0§98/79,mb4.5/21,MS3.7/10,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	LIFOU	0.79	259		Pg	22 29 07.6	-0.9
LIFNC				Sg	Sg	22 29 17.8	-1.0
LIFNC	LIFOU	0.79	259	P	Pg	22 29 07.5	-0.9
MARNC	Mare, Loyalty	0.85	182		Pg	22 29 09.1	-0.6
MARNC				Sg	Sg	22 29 20.3	-0.4
MARNC	Mare, Loyalty	0.85	182	P	Pg	22 29 09.8	+0.1
YATNC	Mamie plateau,	1.80	217	P	Pn	22 29 23.4	-1.0
PINNC	Pines Island,	2.06	196		Pn	22 29 28.1	+0.2
PINNC	Pines Island,	2.06	196	P	Pb	22 29 29.7	-1.0
DZM	Mont Dzumac	2.09	226	Pn	Pn	22 29 28.5	+0.1
	20nm,0.3s,baz=108,slow=10,SNR=369						
DZM				Sn	Sn	22 29 54.1	-0.4
	119nm,0.3s,baz=90,slow=20,SNR=6.0						
DZM				LR	LR	22 30 07.1	
	comp=Z,878nm,19.7s,baz=36,slow=35						
	60nm,0.4s						
DZM	Mont Dzumac	2.09	226		Pn	22 29 27.9	-0.5
DZM	Mont Dzumac	2.09	226	P	Pn	22 29 28.7	+0.3
OUENC	Ouen Island, N	2.12	212		Pn	22 29 29.3	+0.6
OUENC	Ouen Island, N	2.12	212	P	Pn	22 29 29.8	+1.1
NOUC	Port Laguerre	2.20	228	P	Pn	22 29 30.9	+1.0
ONTNC	Ouen Toro	2.25	222		Pn	22 29 31.0	+0.4
ONTNC	Ouen Toro	2.25	222	P	Pn	22 29 31.4	+0.9
KOUNC	Koumac, New Ca	3.54	271		Pn	22 29 48.9	+0.5
KOUNC	Koumac, New Ca	3.54	271	P	Pn	22 29 49.2	+0.8
MSVF	Nonsavu	9.86	75	Pn	Pn	22 31 13.5	-1.8
	0.3nm,0.3s,baz=229,slow=19,SNR=1.4						
MSVF				LR	LR	22 34 20.2	
	comp=Z,433nm,20.1s,baz=287,slow=34						
	2.6nm,0.7s						
ARMA	ARNISAR Array B	17.73	233	P	P	22 33 04.0	+2.7
URZ	Urewera	19.23	158	LR	LR	22 38 54.6	
	comp=Z,228nm,18.5s,baz=208,slow=31						
AFI	Afiamalu	20.36	74	LR	LR	22 40 45.4	
	comp=Z,96nm,20.2s,baz=122,slow=35						
PMG	Port Moresby	23.04	296	LR	LR	22 41 44.1	
	comp=Z,140nm,19.5s,baz=194,slow=34						
LBZ	Lake Benmore	23.76	176	P	P	22 34 06.9	+1.1
STKA	Stephens Creek	26.18	239	P	P	22 34 29.5	+1.4
	4.4nm,0.8s,baz=61,slow=8.2,SNR=4.5						
	4.4nm,0.9s						
STKA	Stephens Creek	26.18	239	P	P	22 34 29.0	+0.9
RAR	Rarotonga	30.02	97	LR	LR	22 45 22.0	
	comp=Z,65nm,20.7s,baz=180,slow=33						
BBOO	Buckleboo	30.94	240	P	P	22 35 11.2	+0.7
BBOO				IAmb	IAmb	22 35 14.0	
	comp=Z,23nm,1.4s						
WR0	Warramunga Arr	31.42	265	P	P	22 35 13.9	-1.0
WR0				IAmb	IAmb	22 35 22.3	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	31.61	265	P	P	22 35 15.8	-0.9
	comp=Z,2.1nm,0.9s,baz=91,slow=8.5,SNR=21						
WRA				PcP	PcP	22 38 07.8	-1.1
	comp=Z,0.8nm,0.9s,baz=91,slow=3.2,SNR=3.4						
	comp=Z,2.1nm,0.9s						
WRA	Warramunga Arr	31.61	265	P	P	22 35 15.3	-1.3
AS31	Alice Springs	31.74	258	P	P	22 35 17.9	+0.1
AS31				IAmb	IAmb	22 35 18.7	
	comp=Z,6.8nm,0.7s						
ASAR	Alice Springs	31.74	258	P	P	22 35 17.7	-0.1
	comp=Z,17nm,0.7s,baz=83,slow=9.0,SNR=132						
ASAR				PcP	PcP	22 38 08.5	-0.8
	comp=Z,0.8nm,0.8s,baz=90,slow=3.7,SNR=3.5						
ASAR				LR	LR	22 47 55.4	
	comp=Z,249nm,18.2s,baz=93,slow=36						
	comp=Z,17nm,0.7s						
ASAR	Alice Springs	31.74	258	P	P	22 35 17.2	-0.5
FORT	Forrest	37.27	246	P	P	22 36 05.5	0.0
KNRA	Kununurra	37.61	271	P	P	22 36 08.1	-0.4
KNRA				IAmb	IAmb	22 36 09.1	
	comp=Z,10nm,1.0s						
FITZ	Fitzroy Crossi	40.03	266	P	P	22 36 29.2	+0.4
	comp=Z,9.3nm,0.7s,baz=125,slow=8.1,SNR=17						
FITZ				LR	LR	22 51 33.7	
	comp=Z,56nm,20.3s,baz=141,slow=34						
	comp=Z,9.3nm,0.7s						
FITZ	Fitzroy Crossi	40.03	266	P	P	22 36 29.1	+0.4
FITZ				IAmb	IAmb	22 36 29.9	
	comp=Z,9.1nm,0.8s						
PSA00	Pilbara Seismi	44.85	260	P	P	22 37 07.7	-0.3
PSA00				IAmb	IAmb	22 37 13.4	
	comp=Z,8.2nm,1.3s						
PSA00	Pilbara Seismi	44.85	260	P	P	22 37 07.9	-0.1
PSA00				IAmb	IAmb	22 37 22.1	
	comp=Z,23nm,1.3s						
MBWA	Marble Bar	45.02	260	P	P	22 37 09.3	-0.1
MBWA				IAmb	IAmb	22 37 19.7	
	comp=Z,13nm,1.1s						
NWAO	Narrogin (SRO)	46.61	244	P	P	22 37 21.7	-0.1
VNDA	Vanda	57.02	182	P	P	22 38 38.8	0.0
	comp=Z,1.7nm,0.7s,baz=356,slow=8.0,SNR=7.6						
VNDA				LR	LR	23 00 22.0	
	comp=Z,51nm,18.2s,baz=151,slow=33						
	comp=Z,1.7nm,0.7s						
VNDA	Vanda	57.02	182	P	P	22 38 39.1	+0.4
SBA	Scott Base	57.27	180	P	P	22 38 41.4	+0.8
SBA				IAmb	IAmb	22 38 42.8	
	comp=Z,12nm,0.8s						
LEM	Lembang	59.99	274	LR	LR	23 08 59.3	
	comp=Z,63nm,18.9s,baz=141,slow=40						
QSPA	South Pole Qui	69.43	180	P	P	22 40 01.5	0.0
	comp=Z,8.7nm,0.8s,baz=59,slow=3.0,SNR=29						
	comp=Z,8.7nm,0.8s						
QSPA	South Pole Qui	69.43	180	P	P	22 40 01.3	-0.2
QSPA				IAmb	IAmb	22 40 02.2	
	comp=Z,8.3nm,0.8s						
USRK	Ussuriysk Ar.	72.47	334	P	P	22 40 20.6	+0.7
	comp=Z,2.2nm,0.9s,baz=114,slow=7.0,SNR=2.3						
	comp=Z,2.2nm,0.9s						
MAW	Mawson	76.74	202	P	P	22 40 44.8	+0.4
	comp=Z,3.3nm,0.9s,baz=77,slow=6.2,SNR=4.7						
	comp=Z,3.3nm,0.9s						
CMAR	Chiang Mai Arr	78.08	295	P	P	22 40 53.9	+1.1
	comp=Z,0.7nm,0.4s,baz=122,slow=4.0,SNR=8.0						
	comp=Z,0.7nm,0.4s						
CMAR	Chiang Mai Arr	78.08	295	P	P	22 40 53.4	+0.6
BELA	Belgrano 2	80.81	175	P	P	22 41 05.9	-0.9
SMAI	San Martin Ant	82.86	162	P	P	22 41 18.3	+0.6
SMAI				IAmb	IAmb	22 41 19.3	
	comp=Z,9.5nm,0.9s						
KDAK	Kodiak Island	84.70	20	LR	LR	23 12 26.3	
	comp=Z,166nm,21.8s,baz=120,slow=31						
ULN	Ulaanbaatar	87.32	324	P	P	22 41 42.0	+1.5
SONM	Songino Array	87.67	324	P	P	22 41 40.9	-1.2
	comp=Z,0.5nm,0.9s,baz=131,slow=5.9,SNR=2.4						
	comp=Z,0.5nm,0.9s						
SNAA	Sanae	87.73	183	sPKPab	P	22 41 41.3	-0.7
SNAA	Sanae	87.73	183	P	P	22 41 41.2	-0.9
	comp=Z,6.4nm,0.9s,baz=181,slow=9.2,SNR=8.9						
	comp=Z,6.4nm,0.9s						
SNAA	Sanae	87.73	183	P	P	22 41 40.9	-1.2
YBH	Yreka Blue Hor	89.06	44	LR	LR	23 14 50.2	
	comp=Z,51nm,18.5s,baz=219,slow=31						
NVAR	Mina Array Bea	90.54	49	P	P	22 41 56.0	0.0
	comp=Z,0.5nm,0.6s,baz=245,slow=5.9,SNR=3.8						
NVAR				LR	LR	23 14 31.5	
	comp=Z,75nm,21.4s,baz=173,slow=30						
	comp=Z,0.5nm,0.6s						
ILAR	Eielson Array	91.88	18	P	P	22 41 60.0	-1.3
	comp=Z,0.4nm,0.6s,baz=254,slow=4.7,SNR=4.5						
	comp=Z,0.4nm,0.6s						
ARCES	ARCESS Array B	126.12	345	PKP	PKPdf	22 47 54.5	-0.7
	comp=Z,2.1nm,1.1s,baz=49,slow=2.2,SNR=4.8						
OKC	Ostrava-Krasne	142.34	328	*e*PKP	PKPdf	22 48 27.1	+1.1
RONA	Rosalia, Austr	144.66	326	*e*P	PKPab	22 48 29.9	+1.0
	comp=Z,3.2nm,0.9s						
NKC	Novy Kostel	144.72	333	*e*PKP	PKPab	22 48 29.1	+0.1
CKRC	Cesky Krumlov	144.89	329	*e*PKP	PKPab	22 48 29.9	+0.2
KHC	Kasperske Hory	145.02	330	*e*PKP	PKPbc	22 48 29.9	-0.3
GERES	GERESS Array B	145.16	330	PKPbc	PKPbc	22 48 30.6	-0.2
	comp=Z,0.8nm,0.7s,baz=20,slow=3.1,SNR=9.1						
MOA	Molln	145.58	328	*e*P	PKPdf	22 48 32.4	+0.6
	comp=Z,3.8nm,0.7s						
SOKA	Soboth	145.97	326	*e*P	PKPdf	22 48 33.5	+0.9
	comp=Z,0.3nm,0.3s						
OBKA	Obir	146.34	326	*e*P	PKPbc	22 48 35.3	+0.8
	comp=Z,1.3nm,0.4s						
KBA	Koelnbreinsper	146.57	328	*e*P	PKPdf	22 48 34.5	+0.8
	comp=Z,1.3nm,0.6s						
ABTA	Abfaltersbach	147.21	328	*e*P	PKPdf	22 48 36.1	+1.4
	comp=Z,1.7nm,0.6s						
WATA	Walderalm	147.24	330	*e*P	PKPdf	22 48 36.7	+1.9
	comp=Z,0.7nm,0.3s						
MOTA	Moosalm	147.45	330	*e*P	PKPdf	22 48 37.3	+2.2
	comp=Z,3.2nm,0.7s						
SQTA	Sankt Quirin	147.50	330	*e*P	PKPdf	22 48 37.8	+2.6
	comp=Z,1.8nm,0.4s						
FETA	Feichten	147.86	330	*e*P	PKPdf	22 48 38.3	+2.4
	comp=Z,3.6nm,0.8s						
DAVA	Damuels	148.05	331	*e*P	PKPbc	22 48 39.4	0.0
	comp=Z,2.7nm,0.9s						
DBIC	Dimbokro	164.52	207	PKPab	PKPab	22 49 52.9	0.0
	comp=Z,2.0nm,0.8s,baz=192,slow=3.9,SNR=3.3						
TORD	Torodi Ar. Bea	164.99	242	PKPab	PKPab	22 49 54.7	-0.4
	comp=Z,1.0nm,0.9s,baz=136,slow=5.3,SNR=4.3						

ROM 07 22:29:27.6±0.1,42°.749N±0°.004×13°.184E±0°.005, h11km±2km,Md1.3/3,3C-4D,Error ellipse: s-maj=0.4km s-min=0.4km az=64.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1204	Amatrice, Fraz	0.12	127	P	Pg	22 29 30.7	0.0
T1204				END			
SMA1	SAN MARTINO	0.16	137	P	Pb	22 29 32.2	-0.5
SMA1				S	Sg	22 29 34.6	+0.7
MC2	Monte Cornacci	0.16	2	P	Pg	22 29 32.1	+0.6
MC2				S	Sg	22 29 34.9	+0.8
MC2				END			
LNSS	Leonessa	0.18	216	⇓P	Pg	22 29 32.3	+0.7
LNSS				S	Sg	22 29 35.2	+0.8
MMO1	Montemonaco	0.18	35	⇑P	Pg	22 29 32.2	+0.5
MMO1				S	Sg	22 29 35.4	+0.9
MMO1				END			
T1216	Preci, Frazion	0.19	319	⇓P	Pg	22 29 32.3	+0.6
T1216				S	Sg	22 29 35.6	+1.1
T1217	Poggiodomo (PG	0.19	259	⇑P	Pb	22 29 32.5	-0.7
T1217				S	Sg	22 29 35.5	+0.9
T1241	Roccafluvione,	0.21	59	P	Pg	22 29 32.8	+0.6
T1241				S	Sg	22 29 36.1	+0.9
T1215	Vallo di Nera,	0.24	283	P	Pg	22 29 32.8	+0.2
T1215				S	Sg	22 29 36.8	+0.8
TERO	Teramo	0.33	112	⇓P	Pg	22 29 34.8	+0.5
TERO				S	Sg	22 29 39.7	+0.9
CSP1	Cessapalombo	0.34	3	⇓P	Pb	22 29 35.3	-0.5
APEC	Apecchio	0.98	326	S	Sn	22 30 03.0	+1.7
SF04	Casetta	1.12	275	⇑P	Pb	22 29 48.8	-0.3
GIUL	Giuliano Di Ro	1.19	177	S	Sb	22 30 05.0	-0.6

**IDC 07 22:37:29.1±2.0,11°.38S×118°.38E,h0km,mb3.4/1, mbtmp3.5/5,ML3.6/4,MS3.6/2,Error ellipse: s-ma

DZM	**Mont Dzumac**	**5.31**	**194**	Pn		**Pn**	**22 55 36.3**	**0.0**	
	4.5nm,0.3s,baz=102,slow=9.4,SNR=44								
DZM				Sn		**Sn**	**22 56 35.9**	**-1.1**	
	baz=311,slow=19								
	10.0nm,0.3s								
DZM	**Mont Dzumac**	**5.31**	**194**	P		**Pn**	**22 55 36.6**	**+0.2**	
NOUC	**Port Laguerre**	**5.37**	**195**	P		**Pn**	**22 55 37.6**	**+0.5**	
QUENC	**Quen Island, N**	**5.58**	**189**	P		**Pn**	**22 55 41.7**	**+1.8**	
STKA	**Stephens Creek**	**28.04**	**233**	P		**P**	**23 00 08.7**	**+0.6**	
	2.9nm,0.8s,baz=42,slow=8.4,SNR=5.1								
	2.9nm,0.8s								
WRA	**Warramunga Arr**	**31.85**	**259**	P		**P**	**23 00 40.9**	**-1.0**	
	0.5nm,0.6s,baz=84,slow=7.2,SNR=10								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**32.43**	**252**	P		**P**	**23 00 46.5**	**-0.5**	
	7.4nm,0.5s,baz=79,slow=8.6,SNR=76								
	7.4nm,0.5s								

SJA ***07*** *22:54:26.7±0.8,32°.33S×71°.93W,h5km±4km,ML4.6, MW4.4*

GUC ***07*** *22:54:31.9±0.8,32°.31S×71°.58W,h42km±3km,ML4.5*

VAO ***07*** *22:54:31.5±0.3,32°.38S×71°.65W,h34km,mb4.8*

NEIC ***07*** *22:54:32.6±1.1,32°.32S±0°.04×71°.62W±0°.06,h30km±3km, mb5.0/100,Mwr4.6/69,Mwr4.9(GUC), Error ellipse: s-maj=8.0km s-min=5.0km az=82.0*

IDC ***07*** *22:54:32.4±0.6,32°.28S×71°.45W,h30km±3km,mb4.6/11, mbtmp4.6/16,ML4.3/5,MS4.0/30,Error ellipse: s-maj=18.5km s-min=13.8km az=87.0*

NEIC ***07*** *22:54:32.6,32°.32S×71°.62W,h34km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.33; $M_{\theta\theta}$2.01; $M_{\phi\phi}$-7.34; $M_{r\theta}$-3.00; $M_{r\phi}$1.99; $M_{\theta\phi}$-3.91; Fault plane solution: M_o8.45000×10^{15} NP1:ϕ_s319.51000°, δ40.17000°,λ40.08000°. NP2:ϕ_s196.76000°,δ65.46000°, λ122.85000°. Principal axes: T 8.3229, Plg57.0000°, Azm151.0000°; N 0.2442, Plg30.0000°, Azm2.0000°; P -8.5672, Plg14.0000°, Azm263.0000°;*

ISC ***07*** **22:54:32.0±0.4,32°.29S±0°.02×71°.63W±0°.03,h30km±2km, h30km;pP-P,n340,σ1s22/379,mb5.0/61,MS4.0/27,7C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res	ISC
				Op			h m s		
VA06	**Catapilco**	**0.39**	**134**			**Pb**	**22 54 40.7**	**0.0**	
VA06				Sg		**Sb**	**22 54 46.6**	**0.0**	
VA06	**Catapilco**	**0.39**	**134**	↓*i*	P	**Pb**	**22 54 40.8**	**+0.2**	
VA06				*i*	S	**Sb**	**22 54 46.7**	**0.0**	
VA06					IAML		22 54 48.2		
	comp=E,166μm,0.5s								
VA01	**Torpederas**	**0.73**	**181**			**Pb**	**22 54 45.6**	**-0.6**	
VA01				Sn		**Sb**	**22 54 55.6**	**-0.3**	
VA01	**Torpederas**	**0.73**	**181**	*e*P		**Pb**	**22 54 45.6**	**-0.6**	
VA01				*i*	S	**Sb**	**22 54 55.5**	**-0.3**	
VA01					IAML		22 54 58.2		
	comp=E,31μm,0.8s								
VA01	**Torpederas**	**0.73**	**181**	*e*P		Pb	22 54 40.1	-6.1	
VA01					IAML		22 54 58.8		
	comp=Z,8μm,0.3s								
ROCH	**El Roble**	**0.86**	**143**	↓*i*	P	**Pn**	**22 54 47.6**	**-0.7**	
ROCH				*i*	S	**Sb**	**22 54 58.3**	**-1.4**	
ROCH					IAML		22 55 04.4		
	comp=E,23μm,0.8s								
ROC1	**El Roble**	**0.86**	**143**			**Pn**	**22 54 47.5**	**-0.8**	
ROC1				Sn		**Sb**	**22 54 58.6**	**-1.1**	
ROC1	**El Roble**	**0.86**	**143**	*e*P		Pn	22 54 42.1	-6.1	
ROC1				*e*P		**Pb**	**22 54 47.0**	**-1.5**	
VA03	**San Esteban**	**1.02**	**118**			**Pn**	**22 54 50.0**	**-0.4**	
VA03	**San Esteban**	**1.02**	**118**	↓*i*	P	**Pn**	**22 54 50.0**	**-0.4**	
VA03				*i*	S	**Sn**	**22 55 03.6**	**-0.3**	
VA03					IAML		22 55 04.7		
	comp=E,61μm,0.1s								
MT02	**Curacav**	**1.05**	**157**			**Pn**	**22 54 50.3**	**-0.5**	
MT02						**Sn**	**22 55 03.9**	**-0.5**	
MT02	**Curacav**	**1.05**	**157**	↓*i*	P	**Pn**	**22 54 50.2**	**-0.5**	
MT02				*i*	S	**Sn**	**22 55 04.0**	**-0.5**	
MT02					IAML		22 55 07.1		
	comp=E,21μm,0.9s								
MT02	**Curacav**	**1.05**	**157**	*e*P		**Pn**	**22 54 50.0**	**-0.7**	
MT02					IAML		22 55 08.8		
	comp=Z,8μm,0.6s								
PEL	**Peldehue**	**1.16**	**137**	Pn		**Pn**	**22 54 52.3**	**0.0**	
CO02	**Combarbal**	**1.21**	**26**	Pn		**Pn**	**22 54 53.6**	**+0.7**	
CO02	**Combarbal**	**1.21**	**26**	*i*	P	**Pn**	**22 54 53.6**	**+0.7**	
CO02				*i*	S	**Sb**	**22 55 09.4**	**-0.2**	
CO02	**Combarbal**	**1.21**	**26**	*e*P		**Pn**	**22 54 53.0**	**0.0**	
CO02				*e*S		**Sb**	**22 55 10.1**	**+0.5**	
CO02					IAML		22 55 14.1		
	comp=Z,20μm,0.7s								
MT05	**Renca**	**1.33**	**146**	Pn		**Pn**	**22 54 54.6**	**0.0**	
MT05	**Renca**	**1.33**	**146**	*e*P		**Pn**	**22 54 54.5**	**-0.1**	
MT05				*i*	S	**Sn**	**22 55 11.5**	**+0.1**	
MT05					IAML		22 55 14.7		
	comp=E,13μm,0.6s								
MT05	**Renca**	**1.33**	**146**	*e*P		**Pn**	**22 54 55.0**	**+0.4**	
MT05				*e*S		**Sb**	**22 55 13.1**	**+0.1**	
MT05					IAML		22 55 21.9		
	comp=Z,7μm,0.7s								
VA05	**Santo Domingo**	**1.36**	**180**	Pn		**Pn**	**22 54 55.1**	**+0.1**	
VA05	**Santo Domingo**	**1.36**	**180**	*e*P		**Pn**	**22 54 55.2**	**+0.2**	
VA05				*i*	S	**Sb**	**22 55 13.1**	**-0.9**	
VA05					IAML		22 55 17.9		
	comp=E,24μm,0.5s								
MT03	**Universidad Ad**	**1.52**	**142**	Pn		**Pn**	**22 54 57.7**	**+0.4**	
MT03	**Universidad Ad**	**1.52**	**142**	↓*i*	P	**Pn**	**22 54 57.7**	**+0.4**	
MT03				*i*	S	**Sn**	**22 55 17.0**	**+0.8**	
MT03					IAML		22 55 21.9		
	comp=N,14μm,0.1s								
MT03	**Universidad Ad**	**1.52**	**142**	*e*P		**Pn**	**22 54 58.0**	**+0.7**	
MT03				*e*S		**Sb**	**22 55 18.4**	**-0.2**	
MT03					IAML		22 55 34.4		
	comp=Z,7μm,0.8s								
FCH	**Farellones**	**1.53**	**133**	↓*i*	P	**Pn**	**22 54 57.9**	**+0.3**	
FCH				*i*	S	**Sn**	**22 55 17.0**	**+0.4**	
FCH					IAML		22 55 19.7		
	comp=E,6μm,0.1s								
MT09	**Talagante**	**1.58**	**160**	Pn		**Pn**	**22 54 58.5**	**+0.4**	
MT09	**Talagante**	**1.58**	**160**	*e*P		**Pn**	**22 54 58.5**	**+0.4**	
MT09				*i*	S	**Sn**	**22 55 18.7**	**+1.1**	
MT09					IAML		22 55 23.9		
	comp=N,9μm,0.8s								
MT01	**Popeta**	**1.60**	**169**			**Pn**	**22 54 59.0**	**+0.7**	
MT01	**Popeta**	**1.60**	**169**	↑*i*	P	**Pn**	**22 54 59.0**	**+0.7**	
MT01				*i*	S	**Sn**	**22 55 19.1**	**+1.1**	
MT01					IAML		22 55 25.5		
	comp=E,7μm,0.6s								
MT01	**Popeta**	**1.60**	**169**	*e*P		**Pn**	**22 54 59.0**	**+0.7**	
MT01				*e*S		**Sb**	**22 55 20.6**	**-0.1**	
MT01					IAML		22 55 24.4		
	comp=Z,6μm,0.7s								
CO06	**Fray Jorge**	**1.61**	**360**			**Pn**	**22 54 59.1**	**+0.7**	
CO06	**Fray Jorge**	**1.61**	**360**	*e*P		**Pn**	**22 54 59.1**	**+0.7**	
CO06				*i*	S	**Sb**	**22 55 20.4**	**-0.6**	
CO06					IAML		22 55 26.9		
	comp=N,7μm,0.3s								
LMEL	**Las Melosas**	**1.96**	**143**			**Pn**	**22 55 04.3**	**+0.9**	
LMEL	**Las Melosas**	**1.96**	**143**	↓*i*	P	**Pn**	**22 55 04.2**	**+0.9**	
LMEL					IAML		22 55 32.9		
	comp=N,7μm,0.1s								
RTLS	**Leoncito**	**2.04**	**77**	*e*P		**Pb**	**22 55 08.4**	**-0.2**	
RTLS				*e*S		**Sb**	**22 55 37.1**	**+3.5**	
RTLS					IAML		22 55 43.2		
	comp=Z,2μm,0.9s								
BO03	**Pichilemu**	**2.22**	**187**	↑*i*	P	**Pn**	**22 55 06.4**	**-0.3**	
GO04	**Tololo Observa**	**2.23**	**19**	Pn		**Pn**	**22 55 08.4**	**+1.4**	
GO04	**Tololo Observa**	**2.23**	**19**	↑*i*	P	**Pn**	**22 55 08.5**	**+1.4**	
GO04				*i*	S	**Sb**	**22 55 37.3**	**-1.7**	
GO04	**Tololo Observa**	**2.23**	**19**	*e*P		**Pn**	**22 55 08.8**	**+1.7**	
GO04				*e*S		**Sb**	**22 55 41.1**	**+2.2**	
ARCO	**CERRO ARCO**	**2.34**	**104**	*e*P		**Pb**	**22 55 12.9**	**-0.6**	
ARCO				*e*P		**Pb**	**22 55 13.0**	**-0.6**	
ARCO				*e*P		**Pb**	**22 55 13.4**	**-0.2**	
ARCO					IAML		22 55 53.1		
	comp=Z,3μm,0.6s								
ASAL	**Salagasta**	**2.38**	**98**	*e*P		**Pb**	**22 55 13.0**	**-1.2**	
ASAL				*e*S		Sn	22 55 26.9	-10	
ASAL					IAML		22 55 28.7		
	comp=Z,1μm,0.7s								
CO05	**La Serena**	**2.39**	**8**			**Pn**	**22 55 10.7**	**+1.6**	
AAGR	**Agrelo**	**2.49**	**109**	*e*P		**Pb**	**22 55 14.9**	**-1.1**	
AAGR				*e*P		**Pb**	**22 55 15.0**	**-1.1**	
AAGR				*e*S		Sn	22 55 30.2	-10	
AAGR					IAML		22 56 13.4		
	comp=Z,2μm,1.7s								
BO02	**Sierra Bellavi**	**2.59**	**164**			**Pn**	**22 55 12.8**	**+0.9**	
BO02	**Sierra Bellavi**	**2.59**	**164**	↑*i*	P	**Pn**	**22 55 13.0**	**+1.0**	
BO02				*i*	S	**Sb**	**22 55 47.8**	**-1.5**	
BO02	**Sierra Bellavi**	**2.59**	**164**	*e*P		**Pn**	**22 55 12.9**	**+0.9**	
BO02				*e*P		Pb	22 55 13.0	-4.8	
BO02				*e*P		**Pn**	**22 55 13.1**	**+1.1**	
BO02				*e*S		Sn	22 55 28.4	-14	
BO02					IAML		22 55 55.9		
	comp=Z,6μm,0.9s								
ZON	**Zonda**	**2.62**	**74**	*e*P		**Pb**	**22 55 17.0**	**-1.2**	
ZON					IAML		22 56 06.0		
	comp=Z,4μm,0.8s								
CO01	**Juntas del Tor**	**2.66**	**30**	Pn		**Pn**	**22 55 15.5**	**+2.5**	
CO01	**Juntas del Tor**	**2.66**	**30**	*e*P		**Pn**	**22 55 15.7**	**+2.7**	
CO01				*i*	S	**Sb**	**22 55 49.0**	**-2.2**	
CO01	**Juntas del Tor**	**2.66**	**30**	*e*P		**Pn**	**22 55 10.1**	**-2.9**	
CO01				*e*P		**Pb**	**22 55 15.0**	**-4.0**	
CO01				*e*S		**Sb**	**22 55 52.0**	**+0.7**	
CO01					IAML		22 56 00.2		
	comp=Z,4μm,0.6s								
RTCV	**Cerro Valdivia**	**2.66**	**82**	*e*P		**Pb**	**22 55 18.0**	**-0.9**	
RTCV				*e*S		**Sb**	**22 55 53.1**	**+2.0**	
RTCV					IAML		22 56 04.0		
	comp=Z,34nm,0.9s								
GO05	**Huala**	**2.72**	**185**	Pn		**Pn**	**22 55 13.4**	**-0.3**	
GO05	**Huala**	**2.72**	**185**	*e*P		**Pn**	**22 55 13.0**	**-0.7**	
GO05				*e*P		Pb	22 55 13.4	-6.6	
GO05				*e*S		**Sb**	**22 55 51.6**	**-1.4**	
ACCO	**Cerro Coronel**	**2.77**	**53**	*e*P		**Pb**	**22 55 19.0**	**-2.0**	
ACCO				*e*S		**Sb**	**22 56 00.7**	**+6.1**	
ACCO					IAML		22 56 08.6		
	comp=Z,2μm,1.0s								
AROD	**Rodeo**	**2.81**	**42**	*e*P		**Pb**	**22 55 19.0**	**-2.7**	
AROD				*e*S		**Sb**	**22 55 59.4**	**+3.7**	
RTLL	**Cerro Villicun**	**2.85**	**71**	*e*P		**Pb**	**22 55 19.0**	**-3.2**	
ACDV	**Cuesta del Vie**	**3.01**	**46**	*e*P		**Pb**	**22 55 23.0**	**-2.0**	
ACDV				*e*S		Sb	22 56 14.2	+13	
ACDV					IAML		22 56 22.7		
	comp=Z,2μm,0.9s								
LCO	**Las Campanas**	**3.37**	**14**			**Pn**	**22 55 24.0**	**+1.2**	
LCO	**Las Campanas**	**3.37**	**14**	*e*P		**Pn**	**22 55 24.0**	**+1.2**	
ML02	**Panimavida**	**3.47**	**177**	Pn		**Pn**	**22 55 23.6**	**-0.3**	
RFA	**San Rafael**	**3.62**	**134**	*e*P		**Pn**	**22 55 29.1**	**+3.1**	
RFA					IAML		22 56 29.8		
	comp=Z,705nm,1.1s								
AC05	**El Transito**	**3.64**	**19**	Pn		**Pn**	**22 55 28.0**	**+1.6**	
AC05	**El Transito**	**3.64**	**19**	*e*P		**Pn**	**22 55 28.0**	**+1.6**	
AC05				*e*S		**Sn**	**22 56 10.1**	**+1.8**	
AC05				*e*S		**Sb**	**22 56 13.1**	**-6.2**	
AC05					IAML		22 56 24.1		
	comp=Z,3μm,0.8s								
AVFE	**Valle Fertil**	**3.92**	**67**	*e*P		**Pn**	**22 55 33.7**	**+3.5**	
AVFE				*e*S		**Sb**	**22 56 25.0**	**-2.4**	
AVFE					IAML		22 56 40.7		
	comp=Z,3μm,0.7s								
AC04	**Llanos de Chal**	**4.10**	**7**	Pn		**Pn**	**22 55 32.9**	**+0.3**	
AC04	**Llanos de Chal**	**4.10**	**7**	*e*P		**Pn**	**22 55 29.1**	**-3.5**	
AC04				*e*S		**Sn**	**22 56 25.1**	**+5.5**	
AC04					IAML		22 56 39.1		
	comp=Z,2μm,0.8s								
VCA	**Vinchina**	**4.61**	**41**	*e*S		**Sb**	**22 56 44.6**	**-2.8**	
VCA					IAML		22 57 09.4		
	comp=Z,3μm,1.5s								
BI05	**Punta Hualpn**	**4.63**	**196**	Pn		**Pn**	**22 55 38.9**	**-1.0**	
APLL	**PUNTA DE LOS L**	**4.75**	**68**	*e*P		**Pn**	**22 55 44.0**	**+2.3**	
APLL				*e*P		**Pn**	**22 55 44.7**	**+3.0**	
MRA	**San Martin**	**5.00**	**93**	*e*S		**Sb**	**22 56 50.6**	**-8.1**	
MRA					IAML		22 57 18.2		
	comp=Z,925nm,0.9s								
AC06	**Mina Casimiro**	**5.04**	**13**	Pn		**Pn**	**22 55 46.5**	**+1.0**	
AC02	**Maricunga**	**5.86**	**22**	Pn		**Pn**	**22 55 58.5**	**+1.3**	
AC01	**Pan de Azucar**	**6.19**	**9**			**Pn**	**22 55 59.8**	**-1.5**	
VA04	**Juan Fernndez**	**6.20**	**256**	Pn		**Pn**	**22 56 01.5**	**0.0**	
H03N1	**Juan Fernandez**	**6.24**	**257**	Pn		**Pn**	**22 56 02.9**	**+1.2**	
H03N1					T	T	23 02 34.4		
	baz=86,slow=73,SNR=3374								
H03N3	**Juan Fernandez**	**6.25**	**257**	Pn		**Pn**	**22 56 03.0**	**+1.1**	
H03N3					T	T	23 02 32.3		
	baz=86,slow=73,SNR=3801								
H03N2	**Juan Fernandez**	**6.25**	**257**	Pn		**Pn**	**22 56 03.0**	**+1.1**	
H03N2					T	T	23 02 32.4		
	baz=86,slow=73,SNR=4791								
H03S3	**Juan Fernandez**	**6.30**	**254**	Pn		**Pn**	**22 56 02.9**	**+0.3**	
H03S3					T	T	23 02 29.4		
	baz=84								
H03S1	**Juan Fernandez**	**6.30**	**254**	Pn		**Pn**	**22 56 02.7**	**0.0**	
H03S1					T	T	23 02 29.1		
	baz=84								
H03S2	**Juan Fernandez**	**6.32**	**254**	Pn		**Pn**	**22 56 02.8**	**0.0**	
H03S2					T	T	23 02 29.3		
	baz=84								
GO06	**Curarrehue**	**7.28**	**179**	Pn		**Pn**	**22 56 16.4**	**0.0**	
GO02	**Mina Guanaco**	**7.32**	**15**	Pn		**Pn**	**22 56 17.1**	**-0.1**	
LR03	**Panguipulli**	**7.35**	**184**			**Pn**	**22 56 16.2**	**-1.1**	
LR04	**Corral**	**7.71**	**190**			**Pn**	**22 56 20.9**	**-1.3**	
PLCA	**Paso Flores**	**8.47**	**174**	Pn		**Pn**	**22 56 33.1**	**+0.4**	
	comp=Z,1.3nm,0.3s,baz=340,slow=12,SNR=26								
PLCA					LR	LR	23 00 34.8		
	comp=Z,453nm,18.4s,baz=346,slow=43								
	comp=Z,5.1nm,0.5s								
PLCA	**Paso Flores**	**8.47**	**174**	Pn		**Pn**	**22 56 33.5**	**+0.8**	
PLCA	**Paso Flores**	**8.47**	**174**	*e*P		**Pn**	**22 56 31.7**	**-1.0**	
PB10	**IPOC Station P**	**8.79**	**6**	Pn		**Pn**	**22 56 38.1**	**+0.9**	
LL03	**Petrohue**	**8.85**	**184**	Pn		**Pn**	**22 56 37.0**	**-0.9**	
PB15	**IPOC Station P**	**9.25**	**12**			**Pn**	**22 56 44.2**	**+0.7**	
PB06	**IPOC Station P**	**9.72**	**11**	Pn		**Pn**	**22 56 50.3**	**+0.4**	
TRQA	**Tornquist**	**9.77**	**129**	Pn		**Pn**	**22 56 50.4**	**0.0**	
LVC	**Limon Verde**	**9.94**	**15**	Pn		**Pn**	**22 56 53.5**	**+0.3**	
	comp=Z,0.9nm,0.3s,baz=196,slow=11,SNR=3.8								
LVC					LR	LR	23 01 08.6		
	comp=Z,614nm,20.9s,baz=210,slow=40								
	comp=Z,2.2nm,0.3s								
LVC	**Limon Verde**	**9.94**	**15**	Pn		**Pn**	**22 56 53.3**	**+0.1**	
LVC	**Limon Verde**	**9.94**	**15**	*e*P		**Pn**	**22 56 54.0**	**+0.8**	
LL02	**Futaleuf**	**10.88**	**181**	Pn		**Pn**	**22 57 06.6**	**+0.9**	
PB01	**IPOC Station P**	**11.36**	**10**	Pn		**Pn**	**22 57 14.2**	**+1.8**	
ITQB	**Itaqui**	**13.14**	**82**			**Pn**	**22 57 36.6**	**+0.1**	
ITQB	**Itaqui**	**13.14**	**82**	*e*P		**Pn**	**22 57 37.0**	**+0.5**	
CPUP	**Villa Florida**	**13.81**	**68**	Pn		**Pn**	**22 57 45.6**	**-0.2**	
	comp=Z,0.4nm,0.3s,baz=245,slow=14,SNR=4.7								
CPUP					Sn	Sn	23 00 05.8	-12	
	comp=Z,0.1nm,0.3s,baz=319,slow=20,SNR=1.5								
CPUP					LR	LR	23 03 29.6		
	comp=Z,656nm,20.4s,baz=246,slow=39								
	comp=Z,2.0nm,0.5s								
CPUP	**Villa Florida**	**13.81**	**68**	Pn		**Pn**	**22 57 43.7**	**-2.1**	
CPUP	**Villa Florida**	**13.81**	**68**	*e*P		**Pn**	**22 57 46.7**	**+1.0**	
PB16	**IPOC Station P**	**14.03**	**8**	Pn		**Pn**	**22 57 50.7**	**+1.4**	
RODS	**Rosario do Sul**	**14.18**	**86**	*e*P		**Pn**	**22 57 50.1**	**-0.7**	
UNIS	**Unistalda (Bra**	**14.61**	**82**	*e*P		**Pn**	**22 57 55.6**	**-0.9**	
PB18	**Visviri**	**14.77**	**8**			**Pn**	**22 58 01.0**	**+1.7**	
PLTB	**Pedras Altas**	**15.30**	**93**	Pn		**Pn**	**22 58 03.9**	**-1.9**	
PLTB	**Pedras Altas**	**15.30**	**93**	*e*P		**Pn**	**22 58 04.7**	**-1.2**	
CPSB	**Cacapava Do Su**	**15.66**	**88**	*e*P		**Pn**	**22 58 09.5**	**-0.9**	
CRSM	**Crissiumal (Br**	**15.98**	**77**	*e*P		**Pn**	**22 58 15.1**	**+0.4**	
LPAZ	**La Paz**	**16.25**	**12**	Pn		**Pn**	**22 58 19.6**	**+1.0**	
	comp=Z,0.5nm,0.3s,baz=189,slow=8.3,SNR=20								
	comp=Z,6.0nm,0.6s								
LPAZ	**La Paz**	**16.25**	**12**			**Pn**	**22 58 19.0**	**+0.3**	
LPAZ	**La Paz**	**16.25**	**12**	*e*P		**Pn**	**22 58 19.8**	**+1.1**	
ALGR	**Alto Alegre (B**	**16.40**	**83**	*e*P		**Pn**	**22 58 19.8**	**-0.3**	
ANTJ	**Antonio Joao (**	**17.25**	**57**	*e*P		**Pn**	**22 58 30.6**	**-0.2**	
MCR1	**Marechal Candi**	**17.32**	**68**	*e*P		**Pn**	**22 58 31.7**	**0.0**	
FRBT	**Francisco Belt**	**17.39**	**74**	*e*P		**Pn**	**22 58 32.3**	**-0.2**	
ITAB	**Concordia**	**17.66**	**78**			**P**	**22 58 37.8**	**+1.3**	
ITAB	**Concordia**	**17.66**	**78**	*e*P		**Pn**	**22 58 35.6**	**-0.2**	
CNLB	**Canela**	**18.09**	**86**	*e*P		**Pn**	**22 58 40.7**	**-0.5**	
AQDB	**Aquidauana**	**18.47**	**54**	P		**Pn**	**22 58 46.0**	**+0.3**	
AQDB	**Aquidauana**	**18.47**	**54**	*e*P		**Pn**	**22 58 46.9**	**+1.1**	
PTGB	**Pitanga**	**18.76**	**71**	*e*P		**P**	**22 58 47.7**	**-1.1**	
SIV	**San Ignacio**	**18.85**	**33**	P		**P**	**22 58 49.8**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=203,slow=9.6,SNR=41								
SIV					LR	LR	23 07 22.9		
	comp=Z,506nm,21.3s,baz=222,slow=41								
	comp=Z,17nm,0.8s								
TRCB	**Terra Rica**	**19.29**	**65**	*e*P		**Pn**	**22 58 55.9**	**+0.2**	
TER01	**Tubaro-SC**	**19.76**	**85**	*e*P		**P**	**22 58 59.4**	**-0.2**	
PTLB	**Pontes e Lacer**	**20.26**	**37**	P		**P**	**22 59 05.1**	**+0.1**	
PTLB					IAmb	IAmb	22 59 19.4		
	comp=Z,96nm,2.0s								
PTLB	**Pontes e Lacer**	**20.26**	**37**	*e*P		**P**	**22 59 05.3**	**+0.3**	
NNA	**Nana**	**20.77**	**345**	LR		LR	23 05 31.4		
	comp=Z,266nm,20.6s,baz=178,slow=32								
TIJ01	**Guaruva-PR**	**20.98**	**76**	*e*P		**P**	**22 59 13.8**	**+0.8**	
PCMB	**Pacaembu**	**21.01**	**65**	*e*P		**P**	**22 59 11.7**	**-1.5**	
PP1B	**Ponte de Pedra**	**21.04**	**50**	*e*P		**P**	**22 59 13.1**	**-0.5**	
C2SB	**Chapadao do Su**	**21.61**	**56**	*e*P		**P**	**22 59 17.9**	**-1.7**	
EFI	**East Falkland**	**21.77**	**157**	P		**P**	**22 59 21.3**	**+0.2**	
EFI					IAmb	IAmb	22 59 29.1		
	comp=Z,72nm,1.1s								
SALV	**Santo Antonio**	**21.81**	**45**	*e*P		**P**	**22 59 21.3**	**-0.5**	
VILB	**Vilhena**	**21.92**	**31**	P		**P**	**22 59 23.0**	**+0.1**	
VILB					IAmb	IAmb	22 59 35.5		
	comp=Z,40nm,0.7s								
ITRB	**Iturama**	**22.81**	**62**	*e*P		**P**	**22 59 31.3**	**-1.1**	
PET01	**Itanhaem-SP**	**22.84**	**76**	*e*P		**P**	**22 59 32.6**	**-0.2**	
ETMB	**Extrema**	**22.92**	**14**	P		**P**	**22 59 33.5**	**-0.1**	
ETMB					IAmb	IAmb	22 59 53.3		
	comp=Z,24nm,1.0s								
ETMB	**Extrema**	**22.92**	**14**	*e*P		**P**	**22 59 34.2**	**+0.6**	
BB19B	**Bebedouro**	**23.42**	**67**	*e*P		**P**	**22 59 38.3**	**-0.4**	
VAO	**Valinhos**	**23.68**	**73**	*e*P		**P**	**22 59 40.0**	**-1.3**	
CZSB	**Cruzeiro do Su**	**24.46**	**357**	P		**P**	**22 59 47.9**	**-0.5**	
CZSB					IAmb	IAmb	23 00 08.3		
	comp=Z,18nm,0.6s								
CZSB	**Cruzeiro do Su**	**24.46**	**357**	*e*P		**P**	**22 59 49.8**	**+1.4**	
PARB	**Paraibuna**	**24.62**	**75**	*e*P		**P**	**22 59 50.0**	**+0.1**	
PDRB	**Porto dos Gac**	**24.73**	**37**	*e*P		**P**	**22 59 50.0**	**-0.9**	
IPMB	**Ipameri, GO**	**25.46**	**62**	*e*P		**P**	**22 59 56.1**	**-1.4**	
ATAH	**Átahualpa**	**25.81**	**344**	LR		LR	23 08 53.8		
	comp=Z,156nm,19.3s,baz=194,slow=33								
CLDB	**Colider**	**25.84**	**38**	*e*P		**P**	**23 00 01.1**	**+0.2**	
PMNB	**Patos De Minas**	**26.47**	**65**	*e*P		**P**	**23 00 06.2**	**-0.6**	
BDFB	**Brasilia**	**27.11**	**58**	P		**P**	**23 00 11.2**	**-1.3**	
	comp=Z,14nm,0.9s,baz=234,slow=7.6,SNR=14								
BDFB					LR	LR	23 12 04.7		
	comp=Z,1μm,18.1s,baz=216,slow=39								
	comp=Z,14nm,0.9s								
BDFB	**Brasilia**	**27.11**	**58**	P		**P**	**23 00 11.2**	**-1.3**	
BDFB					IAmb	IAmb	23 00 31.2		
	comp=Z,24nm,0.9s								
BDFB	**Brasilia**	**27.11**	**58**	*e*P		**P**	**23 00 11.9**	**-0.6**	
SNDB	**Serra Nova Dou**	**27.54**	**47**	*e*P		**P**	**23 00 15.6**	**-0.6**	
TBTG	**Tabatinga, AM**	**28.00**	**4**	P		**P**	**23 00 21.2**	**+0.8**	
TBTG					IAmb	IAmb	23 00 22.0		
	comp=Z,63nm,1.0s								
TBTG	**Tabatinga, AM**	**28.00**	**4**	*e*P		**P**	**23 00 21.6**	**+1.2**	
DIAM	**Diamantina, MG**	**28.76**	**68**	*e*P		**P**	**23 00 26.9**	**-0.4**	
NPGB	**Novo Progresso**	**29.34**	**35**

SIUC				IAmb	IAmb	23 05 51.9		
	comp=Z,9.3nm,0.6s							
P57A	**Homestead Farm**	**71.66**	**355**	P	**P**	**23 05 51.3**	**+0.7**	
MGMO	**Mountain Grove**	**71.73**	**343**	P	**P**	**23 05 51.4**	**+0.3**	
WUPA	**West Chester U**	**71.95**	**357**	P	**P**	**23 05 53.1**	**+0.8**	
WUPA				IAmb	IAmb	23 05 54.6		
	comp=Z,12nm,0.9s							
MSTX	**Muleshoe**	**72.14**	**333**	P	**P**	**23 05 53.9**	**+0.1**	
P52A	**Corning**	**72.22**	**351**	P	**P**	**23 05 53.7**	**-0.3**	
CCM	**Cathedral Cave**	**72.33**	**344**	P	**P**	**23 05 54.8**	**+0.1**	
CCM				IAmb	IAmb	23 05 56.0		
	comp=Z,17nm,1.0s							
P48A	**Milroy**	**72.53**	**349**	P	**P**	**23 05 55.6**	**-0.2**	
SSPA	**Standing Stone**	**72.79**	**355**	P	**P**	**23 05 57.9**	**+0.5**	
SSPA				IAmb	IAmb	23 06 53.4		
	comp=Z,22nm,1.4s							
R40A	**Maddies Statio**	**72.81**	**343**	P	**P**	**23 05 57.5**	**0.0**	
R40A				IAmb	IAmb	23 05 58.7		
	comp=Z,15nm,0.8s							
ACSO	**Alum Creek Sta**	**72.92**	**351**	P	**P**	**23 05 58.2**	**+0.1**	
ACSO				IAmb	IAmb	23 05 59.0		
	comp=Z,16nm,0.8s							
M55A	**Ridgway**	**73.69**	**354**	P	**P**	**23 06 02.7**	**0.0**	
M55A				IAmb	IAmb	23 06 04.6		
	comp=Z,18nm,0.9s							
LIC	**Lamto**	**73.91**	**72⇑**	*i*P	**P**	**23 06 04.1**	**-0.5**	
	comp=Z,19nm,0.5s							
TIC	**Toumodi**	**74.16**	**71⇑**	*i*P	**P**	**23 06 05.5**	**-0.6**	
	comp=Z,4.0nm,0.2s							
KIC	**Kosan Boka**	**74.22**	**72⇑**	*i*P	**P**	**23 06 05.9**	**-0.5**	
	comp=Z,13nm,0.5s							
L56A	**Greenwood**	**74.26**	**355**	P	**P**	**23 06 06.7**	**+0.6**	
DBIC	**Dimbokro**	**74.31**	**71**	P	**P**	**23 06 06.6**	**-0.3**	
	comp=Z,14nm,0.7s,baz=247,slow=5.0,SNR=19							
DBIC				pP	**pP**	**23 06 15.9**	**-0.3**	
	comp=Z,12nm,0.8s,baz=243,slow=6.3,SNR=7.2							
DBIC				LR	LR	23 39 03.3		
	comp=Z,70nm,18.1s,baz=214,slow=36							
	comp=Z,14nm,0.7s							
DBIC	**Dimbokro**	**74.31**	**71**	P	**P**	**23 06 06.4**	**-0.5**	
DBIC				IAmb	IAmb	23 06 07.4		
	comp=Z,16nm,0.8s							
P38A	**Dawn**	**74.38**	**343**	P	**P**	**23 06 06.7**	**0.0**	
ANMO	**Albuquerque**	**74.46**	**331**	LR	LR	23 34 32.0		
	comp=Z,100nm,20.1s,baz=148,slow=32							
MAW	**Mawson**	**74.72**	**164**	P	**P**	**23 06 09.0**	**+0.6**	
	comp=Z,17nm,0.9s,baz=214,slow=5.5,SNR=25							
	comp=Z,17nm,0.9s							
MAW	**Mawson**	**74.72**	**164**	P	**P**	**23 06 08.9**	**+0.6**	
MMNY	**Mt. Morris Dam**	**74.88**	**355**	P	**P**	**23 06 10.1**	**+0.6**	
MMNY				IAmb	IAmb	23 06 11.1		
	comp=Z,21nm,1.1s							
ACCN	**Adirondack Com**	**75.33**	**358**	P	**P**	**23 06 13.3**	**+1.1**	
J56A	**Wolcott**	**75.35**	**356**	P	**P**	**23 06 12.7**	**+0.5**	
J56A				IAmb	IAmb	23 06 13.4		
	comp=Z,15nm,0.9s							
SUR	**Sutherland**	**75.35**	**119**	LR	LR	23 37 42.3		
	comp=Z,55nm,18.2s,baz=202,slow=34							
SUR	**Sutherland**	**75.35**	**119**	P	**P**	**23 06 13.6**	**+0.6**	
SUR				IAmb	IAmb	23 06 15.0		
	comp=Z,20nm,0.9s							
CBKS	**Cedar Bluff**	**75.42**	**338**	P	**P**	**23 06 13.4**	**+0.6**	
CBKS				IAmb	IAmb	23 06 14.8		
	comp=Z,14nm,1.1s							
J59A	**Piesco**	**75.44**	**358**	P	**P**	**23 06 13.5**	**+0.7**	
T25A	**Trinidad**	**75.56**	**333**	P	**P**	**23 06 15.0**	**+1.1**	
I63A	**Otisfield**	**75.98**	**1**	P	**P**	**23 06 17.1**	**+1.3**	
PECO	**Prince Edward**	**76.02**	**356**	P	**P**	**23 06 16.6**	**+0.6**	
PECO				IAmb	IAmb	23 06 17.3		
	comp=Z,12nm,0.8s							
L40A	**Anamosa**	**76.15**	**345**	P	**P**	**23 06 16.7**	**-0.2**	
L40A				IAmb	IAmb	23 06 17.8		
	comp=Z,20nm,0.9s							
LBNH	**Lisbon**	**76.17**	**360**	P	**P**	**23 06 17.9**	**+1.0**	
SDCO	**Great Sand Dun**	**76.50**	**333**	P	**P**	**23 06 20.4**	**+1.1**	
LONY	**Lake Ozonia**	**76.59**	**358**	P	**P**	**23 06 20.0**	**+0.7**	
LONY				IAmb	IAmb	23 06 29.9		
	comp=Z,13nm,1.0s							
EMMW	**East Machias**	**76.73**	**3**	P	**P**	**23 06 21.1**	**+1.1**	
SADO	**Sadowa**	**77.00**	**355**	P	**P**	**23 06 21.7**	**+0.1**	
SADO				IAmb	IAmb	23 06 22.6		
	comp=Z,11nm,1.1s							
WUAZ	**Wupatki**	**77.07**	**328**	P	**P**	**23 06 22.8**	**+0.4**	
G62A	**West of Eustis**	**77.15**	**1**	P	**P**	**23 06 23.5**	**+1.1**	
GGN	**Saint George**	**77.17**	**3**	P	**P**	**23 06 23.1**	**+0.7**	
GGN				IAmb	IAmb	23 06 24.8		
	comp=Z,16nm,0.9s							
PKME	**Peaks-Kenny Pk**	**77.22**	**2**	P	**P**	**23 06 23.5**	**+0.8**	
PKME				IAmb	IAmb	23 06 25.3		
	comp=Z,23nm,1.1s							
F64A	**Sherman**	**77.84**	**2**	P	**P**	**23 06 27.5**	**+1.2**	
F64A				IAmb	IAmb	23 06 28.5		
	comp=Z,17nm,0.9s							
PFO	**Pinyon Flats O**	**77.98**	**323**	LR	LR	23 34 15.6		
	comp=Z,111nm,19.4s,baz=158,slow=30							
TRQ	**Mont Tremblant**	**78.19**	**358**	P	**P**	**23 06 28.6**	**+0.3**	
TRQ				IAmb	IAmb	23 06 29.6		
	comp=Z,15nm,0.9s							
E62A	**Clayton Lake**	**78.57**	**1**	P	**P**	**23 06 31.5**	**+1.2**	
E62A				IAmb	IAmb	23 06 32.4		
	comp=Z,17nm,0.8s							
K31A	**O'Neill**	**78.60**	**340**	P	**P**	**23 06 31.4**	**+0.8**	
SOE	**Somerset East**	**78.66**	**121**	P	**P**	**23 06 31.8**	**+0.3**	
ECSD	**EROS Data Cent**	**79.03**	**342**	P	**P**	**23 06 33.5**	**+0.6**	
ECSD				IAmb	IAmb	23 06 34.8		
	comp=Z,17nm,1.0s							
D62A	**Allapoint, All**	**79.04**	**2**	P	**P**	**23 06 33.6**	**+0.8**	
D62A				IAmb	IAmb	23 06 34.7		
	comp=Z,14nm,0.8s							
E46A	**Sault Ste Mari**	**79.13**	**351**	P	**P**	**23 06 33.4**	**+0.1**	
E46A				IAmb	IAmb	23 06 33.8		
	comp=Z,12nm,0.9s							
TSUM	**Tsumeb**	**79.35**	**106**	LR	LR	23 36 26.9		
	comp=Z,136nm,21.8s,baz=141,slow=32							
TSUM	**Tsumeb**	**79.35**	**106**	P	**P**	**23 06 35.1**	**-0.4**	
TSUM				IAmb	IAmb	23 06 36.8		
	comp=Z,15nm,1.2s							
KOWA	**Kowa**	**79.62**	**66**	P	**P**	**23 06 36.3**	**-0.4**	
KOWA				IAmb	IAmb	23 06 37.5		
	comp=Z,14nm,0.8s							
MSU	**Marysvale**	**79.91**	**329**	P	**P**	**23 06 39.0**	**+0.9**	
PRN	**Pahroc Range**	**80.31**	**326**	P	**P**	**23 06 41.4**	**+1.2**	
BOSA	**Boshof**	**80.56**	**118**	P	**P**	**23 06 41.5**	**-0.4**	
	comp=Z,11nm,1.0s,baz=240,slow=4.4,SNR=12							
BOSA				pP	**pP**	**23 06 51.6**	**+0.3**	
	comp=Z,5.1nm,0.9s,baz=223,slow=6.0,SNR=3.3							
	comp=Z,11nm,1.0s							
BOSA	**Boshof**	**80.56**	**118**	P	**P**	**23 06 41.6**	**-0.4**	
RSSD	**Black Hills**	**81.60**	**337**	P	**P**	**23 06 47.4**	**+0.4**	
CASY	**Casey**	**81.73**	**181**	P	**P**	**23 06 47.7**	**+0.4**	
CASY				IAmb	IAmb	23 06 49.2		
	comp=Z,14nm,1.0s							
EYMN	**Ely**	**81.84**	**347**	P	**P**	**23 06 48.9**	**+1.0**	
EYMN				IAmb	IAmb	23 06 50.4		
	comp=Z,26nm,1.4s							
HWUT	**Hardware Ranch**	**82.22**	**331**	P	**P**	**23 06 50.6**	**+0.3**	
HWUT				IAmb	IAmb	23 09 38.1		
	comp=Z,6.6nm,0.4s							
PDAR	**Pinedale Array**	**82.40**	**333**	P	**P**	**23 06 52.0**	**+0.7**	
	comp=Z,1.0nm,0.9s,baz=145,slow=6.6,SNR=7.8							
PDAR				LR	LR	23 40 14.6		
	comp=Z,77nm,20.1s,baz=149,slow=33							
	comp=Z,1.0nm,0.9s							
PDAR	**Pinedale Array**	**82.40**	**333**	P	**P**	**23 06 52.0**	**+0.7**	
NVAR	**Mina Array Bea**	**82.68**	**325**	P	**P**	**23 06 54.2**	**+1.4**	
	comp=Z,2.1nm,0.8s,baz=159,slow=5.7,SNR=14							
NVAR				pP	**pP**	**23 07 03.0**	**+0.9**	
	comp=Z,1.2nm,0.7s,baz=152,slow=6.4,SNR=6.0							
	comp=Z,2.1nm,0.8s							
LBTB	**Lobatse**	**82.71**	**115**	LR	LR	23 41 33.5		
	comp=Z,75nm,18.3s,baz=184,slow=34							
LBTB	**Lobatse**	**82.71**	**115**	P	**P**	**23 06 53.0**	**-0.3**	
LBTB				IAmb	IAmb	23 06 54.0		
	comp=Z,12nm,0.9s							
TOA0	**Torodi Ar. Sit**	**83.30**	**70**	P	**P**	**23 06 55.9**	**-0.4**	
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**	**23 06 55.9**	**-0.4**	
	comp=Z,17nm,0.8s,baz=259,slow=4.7,SNR=80							
TORD				pP	**pP**	**23 07 05.6**	**-0.1**	
	comp=Z,9.1nm,0.7s,baz=260,slow=4.6,SNR=14							
TORD				LR	LR	23 41 11.5		
	comp=Z,67nm,21.9s,baz=225,slow=34							
	comp=Z,17nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**	**23 06 56.1**	**-0.2**	
MDND	**Maddock**	**83.63**	**341**	P	**P**	**23 06 57.5**	**+0.3**	
YHH	**Holmes Hill**	**84.61**	**333**	P	**P**	**23 07 03.7**	**+1.1**	
YHH				IAmb	IAmb	23 07 04.9		
	comp=Z,7.2nm,1.0s							
ULM	**Lac du Bonnet**	**84.94**	**345**	P	**P**	**23 07 03.5**	**-0.2**	
	comp=Z,8.6nm,0.9s,baz=139,slow=5.3,SNR=9.0							
	comp=Z,8.6nm,0.9s							
DGMT	**Dagmar**	**85.51**	**339**	P	**P**	**23 07 07.2**	**+0.5**	
SCHQ	**Schefferville**	**86.87**	**3**	P	**P**	**23 07 13.2**	**0.0**	
	comp=Z,7.5nm,0.9s,baz=201,slow=7.5,SNR=5.3							
SCHQ				pP	**pP**	**23 07 23.2**	**+0.6**	
	comp=Z,3.2nm,0.6s,baz=195,slow=5.7,SNR=4.0							
	comp=Z,7.5nm,0.9s							
SCHQ	**Schefferville**	**86.87**	**3**	P	**P**	**23 07 13.2**	**0.0**	
BMO	**Blue Mountains**	**87.29**	**329**	P	**P**	**23 07 16.6**	**+1.0**	
LSZ	**Lusaka**	**90.01**	**108**	LR	LR	23 45 05.6		
	comp=Z,91nm,18.5s,baz=244,slow=34							
MDT	**Midelt**	**90.48**	**51**	LR	LR	23 48 47.0		
	comp=Z,47nm,18.3s,baz=226,slow=36							
AFI	**Afiamalu**	**91.03**	**253**	LR	LR	23 40 20.6		
	comp=Z,61nm,18.1s,baz=89,slow=30							
ESDC	**Sonseca Array**	**95.14**	**46**	LR	LR	23 47 41.3		
	comp=Z,40nm,21.4s,baz=274,slow=34							
MBAR	**Mbarara**	**100.13**	**97**	LR	LR	23 50 19.0		
	comp=Z,85nm,19.4s,baz=230,slow=34							
ASAR	**Alice Springs**	**119.24**	**207**	PKP	**PKPdf**	**23 13 17.7**	**-1.1**	
	comp=Z,1.0nm,0.7s,baz=150,slow=2.2,SNR=7.3							
BRTR	**Keskin Array B**	**120.69**	**60**	PKP	**PKPdf**	**23 13 20.7**	**-0.3**	
	comp=Z,1.0nm,0.8s,baz=202,slow=3.1,SNR=6.0							
AKASG	**Malin Array Be**	**120.78**	**47**	PKP	**PKPdf**	**23 13 19.8**	**-0.9**	
	comp=Z,1.4nm,0.7s,baz=280,slow=1.8,SNR=5.0							
MNK	**Minsk**	**120.90**	**42**	*i* PKP	**PKPdf**	**23 13 19.8**	**-1.0**	
	comp=E,1.0nm,0.8s							
MNK				*i* PKP	**PKPdf**	**23 13 19.8**	**-1.0**	
	comp=N,6.0nm,0.8s							
MNK				*i* PKP	**PKPdf**	**23 13 19.8**	**-1.0**	
	comp=Z,7.0nm,0.9s,baz=257							
MNK				*i* PP	**PP**	**23 14 49.3**	**-1.1**	
MNK				*i* PPP	PPP	23 17 23.6		
MNK				*i* SKS	**SKSdf**	**23 20 29.1**	**-1.2**	
MNK				*i* PS	**PS**	**23 24 41.4**	**-0.6**	
MNK				*i* SS	**SS**	**23 31 20.5**	**+0.5**	
MNK				*i* SSS	SSS	23 35 49.2		
MNK				*i* LQ	LQ	23 59 24.6		
MNK				*i* LR	LR	00 04 06.0		
MNK				*i* LRM	MLR	00 04 25.8		
	comp=E,35nm,21.7s							
MNK				*i* LRM	MLR	00 04 49.5		
	comp=N,8.0nm,15.3s							
MNK				*i* LRM	MLR	00 05 05.8		
	comp=Z,37nm,15.3s							
WRA	**Warramunga Arr**	**122.42**	**209**	PKP	**PKPdf**	**23 13 23.9**	**-1.0**	
	comp=Z,4.2nm,0.9s,baz=170,slow=1.6,SNR=27							
WRA	**Warramunga Arr**	**122.42**	**209**		**PKPdf**	**23 13 24.0**	**-0.9**	
H11S2	**WAKE ISLAND Hyl**	**126.12**	**270**	T	T	01 32 33.5		
	baz=118,slow=75,SNR=847							
H11S1	**WAKE ISLAND Hyl**	**126.14**	**270**	T	T	01 32 35.2		
	baz=118,slow=75,SNR=539							
H11S3	**WAKE ISLAND Hyl**	**126.14**	**270**	T	T	01 32 35.1		
	baz=118,slow=75,SNR=601							
FITZ	**Fitzroy Crossi**	**127.24**	**201**	PKP	**PKPdf**	**23 13 34.1**	**0.0**	
	comp=Z,2.0nm,0.6s,baz=135,slow=1.4,SNR=3.6							
KLMR	**Klimovskoe**	**127.82**	**35**	*e*PKPdf	**PKPdf**	**23 13 32.4**	**-1.4**	
KLMR				AMP		23 13 34.6		
	comp=Z,7.0nm,1.0s							
SEY	**Seymchan**	**138.71**	**331**	PKP	**PKiKP**	**23 13 55.5**	**-0.9**	
	comp=Z,5.4nm,0.7s,baz=106,slow=5.2,SNR=11							
PETK	**Petropavlovsk-**	**139.20**	**316**	PKP	**PKPdf**	**23 13 56.5**	**+1.1**	
	comp=Z,1.7nm,0.4s,baz=89,slow=6.2,SNR=3.7							
YAK	**Yakutsk**	**147.23**	**342**	PKPbc	**PKPbc**	**23 14 11.5**	**0.0**	
	comp=Z,19nm,0.5s,baz=230,slow=0.6,SNR=11							
RPSI	**Rantau Prapat**	**149.25**	**161**		**PKPbc**	**23 14 18.1**	**-0.3**	
HYBB	**Hyderabad (bro**	**149.29**	**112**	*e*PKPbc	**PKPbc**	**23 14 17.9**	**-0.5**	
PSI	**Prapat**	**149.35**	**161**	PKPbc	**PKPbc**	**23 14 18.1**	**-0.7**	
	comp=Z,12nm,0.8s,baz=225,slow=1.4,SNR=4.1							
EKS2	**Erkin-Say**	**150.84**	**59**	P	**PKiKP**	**23 14 22.2**	**+0.1**	
	SNR=11							
AML	**Almayashu**	**150.86**	**60**	P	**PKiKP**	**23 14 22.5**	**-0.1**	
	SNR=8.9							
USP	**Ospenovka**	**151.25**	**58**	P	**PKiKP**	**23 14 22.8**	**-0.1**	
	SNR=11							
AAK	**Ala-Archa**	**151.37**	**59**	P	**PKiKP**	**23 14 23.6**	**+0.3**	
	SNR=9.2							
AAK	**Ala-Archa**	**151.37**	**59**	PKPbc	**PKiKP**	**23 14 23.3**	**0.0**	
	baz=204,slow=2.8							
UCH	**Uchtor**	**151.45**	**60**	P	**PKiKP**	**23 14 24.2**	**+0.4**	
	SNR=17							
TKM2	**Tokmak 2**	**152.11**	**58**	P	**PKPbc**	**23 14 24.6**	**0.0**	
	SNR=12							
ZALV	**Zasovo Beam**	**152.59**	**31**	PKP	**PKPdf**	**23 14 17.9**	**-0.1**	
	comp=Z,1.0nm,0.6s,baz=243,slow=3.0,SNR=5.2							
ZALV				PKPbc	**PKPbc**	**23 14 24.8**	**-0.1**	
	comp=Z,15nm,0.6s,baz=289,slow=2.9,SNR=59							
ZALV				PKPab	**PKPab**	**23 14 35.3**	**-0.3**	
	comp=Z,11nm,0.8s,baz=295,slow=3.8,SNR=13							
KSH	**Kashi**	**152.89**	**65**	PKP	**PKPbc**	**23 14 26.3**	**0.0**	
KSH				sPKP		23 14 36.7		
MKAR	**Makanchi Array**	**155.36**	**46**	PKP	**PKPdf**	**23 14 21.8**	**-0.4**	
	comp=Z,0.4nm,0.7s,baz=318,slow=1.6,SNR=4.9							
MKAR				PKPbc	**pPKPdf**	**23 14 31.0**	**-0.9**	
	comp=Z,2.6nm,0.9s,baz=298,slow=1.8,SNR=15							
MKAR				PKPab	**PKPab**	**23 14 47.3**	**-0.4**	
	comp=Z,3.9nm,0.7s,baz=292,slow=3.5,SNR=17							
MKAR				pPKPab	**pPKPab**	**23 14 56.9**	**-0.5**	
	comp=Z,2.7nm,0.7s,baz=299,slow=3.6,SNR=8.1							
WMQ	**Urumqi**	**160.12**	**49**	*e*P	**PKPdf**	**23 14 28.5**	**+0.3**	
KSRS	**Korea Array**	**163.16**	**293**	PKPab	**PKPab**	**23 15 23.2**	**+1.4**	
	comp=Z,1.3nm,0.8s,baz=85,slow=4.7,SNR=5.0							
CMAR	**Chiang Mai Arr**	**163.82**	**146**	PKP	**PKPdf**	**23 14 32.9**	**+0.2**	
	comp=Z,0.5nm,0.3s,baz=229,slow=2.5,SNR=5.7							
CMAR				PKPab	**PKPab**	**23 15 24.6**	**-0.4**	
	comp=Z,0.7nm,0.3s,baz=218,slow=5.1,SNR=4.7							
SONM	**Songino Array**	**164.40**	**5**	PKPab	**PKPab**	**23 15 27.4**	**+0.4**	
	comp=Z,1.1nm,0.9s,baz=360,slow=2.9,SNR=6.9							
GTA	**Gaotai**	**170.07**	**42**	*e*PKPbc	**PKPdf**	**23 14 37.7**	**+0.8**	
GTA				pPKP	pPKPdf	23 14 47.4	+0.8	
GTA				sPKP		23 14 50.9		
GTA				PKPab	**PKPab**	**23 15 52.7**	**+0.4**	
HHC	**Hu-ho-hao-te**	**171.08**	**344**	*e*P	**PKPdf**	**23 14 36.5**	**-0.9**	
PZH	**PanZhiHua**	**171.84**	**133**	PKP	**PKPdf**	**23 14 37.0**	**-1.2**	

KRSC 07 22:54:47.4±1.6, 54°24.24N×168°02.68E, h18km±36km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.53**	**310**	P	Pn	22 55 13.2	-0.5
BKI				S	Sb	22 55 35.5	+1.3
MKZ	**Mys Kozlova**	**3.69**	**277**	P	Pn	22 55 47.2	+3.8
MKZ				S	Sn	22 56 30.9	+4.5
TUMR	**Tumrok**	**4.68**	**286**	P	Pn	22 56 01.6	+4.5
SPN	**Mys Shipunski**	**4.89**	**260**	P	Pn	22 56 03.9	+4.0
SPN				S	Sn	22 57 00.5	+4.5
SDLR	**Sedlovina**	**5.51**	**264**	P	Pn	22 56 13.5	+5.0
KRER	**Koryakskii**	**5.58**	**264**	P	Pn	22 56 13.7	+4.2
KRX	**Arik**	**5.62**	**265**	P	Pn	22 56 15.3	+5.2
KOK	**Koryaka**	**5.65**	**264**	P	Pn	22 56 15.5	+5.1

IDC 07 22:55:02.7±71.0, 17°03S×166°89E, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1197.0km s-min=116.9km az=70.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.04**	**185**	Sn	Sn	22 57 16.8	-1.8
	3.6nm,0.3s,baz=315,slow=22,SNR=1.9						
STKA	**Stephens Creek**	**27.27**	**232**	P	P	23 00 49.2	+0.4
	1.6nm,0.6s,baz=45,slow=11,SNR=3.6						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**30.98**	**260**	P	P	23 01 21.8	-0.2
	0.4nm,0.6s,baz=90,slow=9.2,SNR=4.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**31.57**	**252**	P	P	23 01 27.1	-0.1
	7.1nm,0.6s,baz=80,slow=8.6,SNR=21						
	7.1nm,0.6s						

*IDC **07** 23:00:39.1±1.5,54°.43N×168°.84E,h0km,mb3.2/3, mbtmp3.3/5,ML3.4/2,Error ellipse: s-maj=77.5km s-min=23.5km az=10.0*

ISC 07 23:00:42.4±1.0,54°2N±0°.3×168°.74E±0°.08,h24km,n11, σ0°.72/7,mb3.2/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**3.54**	**113**	Pn	**Pn**	**23 01 35.6**	**-0.2**
	22nm,0.3s,baz=256,slow=17,SNR=15						
SHEM				Sn	**Sn**	**23 02 17.1**	**+0.2**
	3.2nm,0.3s,baz=68,slow=22,SNR=1.7						
	43nm,0.3s						
PETK	**Petropavlovsk-**	**6.66**	**265**	Pn	**Pn**	**23 02 18.6**	**0.0**
	0.5nm,0.3s,baz=86,slow=18,SNR=11						
PETK				Sn	**Sn**	**23 03 33.2**	**-0.4**
	0.4nm,0.3s,baz=99,slow=18,SNR=1.4						
	1.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.48**	**183**	T	T	23 44 06.6	
	baz=1.5,slow=76,SNR=167						
H11N3	**WAKE ISLAND Hy**	**34.49**	**183**	T	T	23 44 07.9	
	baz=1.5,slow=76,SNR=128						
H11N1	**WAKE ISLAND Hy**	**34.50**	**183**	T	T	23 44 08.3	
	baz=1.5,slow=76,SNR=151						
H11S1	**WAKE ISLAND Hy**	**35.70**	**183**	T	T	23 45 39.1	
	baz=1.7,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**35.72**	**183**	T	T	23 45 40.6	
	baz=1.7,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**35.72**	**183**	T	T	23 45 40.4	
	baz=1.7,slow=76,SNR=72						
SONM	**Songino Array**	**38.57**	**287**	P	**P**	**23 08 04.2**	**+1.1**
	0.3nm,0.6s,baz=59,slow=9.4,SNR=2.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**52.17**	**300**	P	**P**	**23 09 50.0**	**-0.7**
	0.1nm,0.6s,baz=48,slow=6.0,SNR=1.4						
	0.1nm,0.6s						
TXAR	**Lajitas Array**	**65.41**	**74**	P	**P**	**23 11 22.8**	**-0.2**
	0.1nm,0.5s,baz=318,slow=5.3,SNR=2.3						
	0.1nm,0.5s						

*IDC **07** 23:00:57.1±1.0,54°.62N×168°.57E,h0km,mb3.7/8, mbtmp3.7/9,ML2.8/1,Error ellipse: s-maj=39.3km s-min=17.7km az=168.0*
*KRSC **07** 23:01:00.6±1.9,54°.37N×168°.04E,h24km±22km,ML3.9*

ISC 07 23:01:00.6±0.8,54°50N±0°.10×168°53E±0°.07,h24km,n20, σ1°56/25,mb3.7/8,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.64**	**297**	P	**Pn**	**23 01 26.3**	**-1.6**
BKI				S	**Sn**	**23 01 45.9**	**-2.3**
KBTR	**Krutoberegovo**	**3.68**	**300**	P	**Pn**	**23 01 55.4**	**-0.6**
KBTR				S	**Sn**	**23 02 38.3**	**-0.3**
KBG	**Krutoberegovo**	**3.76**	**300**	S	**Sn**	**23 02 41.9**	**+1.4**
SMKR	**Semkarok**	**4.52**	**300**	P	**Pn**	**23 02 09.1**	**+1.5**
BDR	**Baidarnaya**	**4.65**	**299**	P	**Pn**	**23 02 11.5**	**+2.2**
BDR				S	**Sn**	**23 03 04.4**	**+1.9**
TUMR	**Tumrok**	**4.90**	**283**	P	**Pn**	**23 02 14.7**	**+1.8**
TUMR				S	**Sn**	**23 03 07.0**	**-1.8**
SPN	**Mys Shipunski**	**5.23**	**258**	S	**Sn**	**23 03 13.4**	**-3.4**
SDLR	**Sedlovina**	**5.83**	**262**	P	**Pn**	**23 02 25.3**	**-0.3**
SMAR	**Somma**	**5.89**	**262**	P	**Pn**	**23 02 28.1**	**+1.7**
GNL	**Ganaly**	**6.28**	**267**	P	**Pn**	**23 02 32.5**	**+0.7**
PETK	**Petropavlovsk-**	**6.57**	**262**	Pn	**Pn**	**23 02 37.3**	**+1.7**
	0.9nm,0.3s,baz=78,slow=14,SNR=6.3						
PETK				Sn	**Sn**	**23 03 50.7**	**+1.1**
	0.7nm,0.3s,baz=67,slow=22,SNR=1.8						
	3.6nm,0.6s						
ILAR	**Eielson Array**	**24.23**	**47**	P	**P**	**23 06 13.1**	**-2.0**
	1.5nm,0.6s,baz=253,slow=7.4,SNR=11						
	1.5nm,0.6s						
SONM	**Songino Array**	**38.38**	**286**	P	**P**	**23 08 20.6**	**+0.9**
	0.8nm,0.6s,baz=56,slow=7.5,SNR=8.4						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**50.55**	**77**	P	**P**	**23 09 57.8**	**+0.7**
	0.3nm,0.6s,baz=322,slow=5.7,SNR=2.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**51.94**	**299**	P	**P**	**23 10 06.4**	**-0.8**
	0.3nm,0.5s,baz=49,slow=6.7,SNR=4.8						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**63.

σ1ᵗ**30**/12, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.22**	**354**	P	Pn	23 26 04.5	+8.8
BBSI	**Bau Bau**	**2.26**	**191**	P	**Pn**	**23 25 56.3**	**0.0**
APSI	**Ampana**	**2.70**	**330**	P	**Pn**	**23 26 01.3**	**-1.1**
TTSI	**Tana Toraja**	**3.20**	**274**	P	**Pn**	**23 26 08.3**	**-0.9**
SPSI	**Sidrap Palu**	**3.31**	**258**	P	**Pn**	**23 26 11.6**	**+0.8**
BKSI	**Bulukumba**	**3.54**	**235**	P	**Pn**	**23 26 14.1**	**+0.2**
MRSI	**Marisa**	**3.86**	**344**	P	**Pn**	**23 26 21.0**	**+2.6**
GTOI	**Gorontalo**	**3.87**	**360**	P	**Pn**	**23 26 19.3**	**+0.9**
MPSI	**Mapaga**	**4.74**	**319**	P	**Pn**	**23 26 31.3**	**+0.9**
EDFI	**Ende, Flores**	**5.61**	**194**	P	**Pn**	**23 26 41.7**	**-0.8**
WRA	**Warramunga Arr**	**19.93**	**147**	P	**P**	**23 29 49.5**	**-0.9**
	0.2nm,0.8s,baz=338,slow=11,SNR=2.0 0.2nm,0.8s						
ASAR	**Alice Springs**	**22.86**	**154**	P	**P**	**23 30 23.4**	**+1.6**
	0.7nm,0.7s,baz=338,slow=12,SNR=2.0 0.7nm,0.7s						
GUMO	**Guam**	**27.39**	**52**	LR	LR	23 39 48.2	
	comp=Z,24nm,18.8s,baz=118,slow=38						
MKAR	**Makanchi Array**	**61.39**	**329**	P	**P**	**23 35 33.5**	**-0.5**
	0.4nm,0.6s,baz=116,slow=8.3,SNR=4.5 0.4nm,0.6s						

*IDC **07** 23:30:53.9±1.1, 55°.30S×30°.63W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=37.1km s-min=27.4km az=34.0*

*NEIC **07** 23:30:56.1±2.4, 55°.28S±0°.06×30°.6W±0°.2, h10km±1km, mb4.3/12, Error ellipse: s-maj=17.3km s-min=10.2km az=106.0*

ISC 07 23:30:55.9±0.7, **55°.2S**±0°.1×**30°.7W**±0°.1, **h10**km, **n29,**
σ1ᵗ**12**/24, **mb4.3/8, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.48**	**283**		**Pn**	**23 31 49.4**	**-0.6**
VNA1	**Neumayer--Stat**	**18.35**	**156**	P	**Pn**	**23 35 09.4**	**-0.7**
VNA3	**Neumayer Olymp**	**18.48**	**159**	P	**Pn**	**23 35 14.1**	**+2.4**
VNA2	**Neumayer--Watz**	**18.75**	**156**	P	**Pn**	**23 35 16.0**	**+1.0**
	baz=307,slow=12						
SNAA	**Sanae**	**20.34**	**155**	P	**P**	**23 35 32.9**	**+0.9**
SNAA	**Sanae**	**20.34**	**155**	P	**P**	**23 35 30.1**	**-1.9**
TROLL	**Troll, Antarti**	**21.90**	**153**	P	**P**	**23 35 50.3**	**+1.5**
CPUP	**Villa Florida**	**34.78**	**315**	P	**P**	**23 37 46.1**	**-0.3**
	1.8nm,0.6s,baz=154,slow=12,SNR=6.0 1.8nm,0.6s						
CPUP	**Villa Florida**	**34.78**	**315**	P	**P**	**23 37 45.2**	**-1.2**
CPUP				IAmb	IAmb	23 38 02.1	
	comp=Z,5.5nm,1.3s						
QSPA	**South Pole Qui**	**35.04**	**180**		**P**	**23 37 48.4**	**-0.1**
MT02	**Curacav**	**35.62**	**291**	P	**P**	**23 37 54.5**	**+0.8**
CO02	**Combarbal**	**37.15**	**293**	P	**P**	**23 38 08.7**	**+1.8**
CO01	**Juntas del Tor**	**37.65**	**296**	P	**P**	**23 38 12.4**	**+1.1**
AC05	**El Transito**	**38.66**	**297**	P	**P**	**23 38 19.4**	**-0.2**
AC05				IAmb	IAmb	23 38 40.0	
	comp=Z,9.3nm,1.2s						
PTLB	**Pontes e Lacer**	**45.34**	**320**	P	**P**	**23 39 15.3**	**+1.2**
PTLB				IAmb	IAmb	23 39 18.7	
	comp=Z,2.9nm,0.9s						
VNDA	**Vanda**	**47.30**	**184**	P	**P**	**23 39 27.4**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=168,slow=6.9,SNR=2.0 comp=Z,0.8nm,0.9s						
BOSA	**Boshof**	**47.74**	**80**	P	**P**	**23 39 32.5**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=199,slow=11,SNR=3.5 comp=Z,3.1nm,1.0s						
BOSA	**Boshof**	**47.74**	**80**	P	**P**	**23 39 32.5**	**-0.5**
BOSA				IAmb	IAmb	23 39 54.5	
	comp=Z,4.3nm,1.1s						
H10S2	**ASCENSION HYDR**	**47.86**	**22**	T	T	00 31 25.6	
	baz=191						
H10S3	**ASCENSION HYDR**	**47.87**	**22**	T	T	00 31 11.9	
	baz=29						
LPAZ	**La Paz**	**48.28**	**309**	P	**P**	**23 39 38.6**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=126,slow=5.3,SNR=8.2 comp=Z,1.4nm,0.5s						
LPAZ	**La Paz**	**48.28**	**309**	P	**P**	**23 39 38.0**	**+0.2**
LPAZ				IAmb	IAmb	23 39 42.6	
	comp=Z,2.0nm,0.7s						
H10N1	**ASCENSION HYDR**	**48.98**	**22**	T	T	00 32 42.3	
	baz=192,slow=76,SNR=7.3						
H10N3	**ASCENSION HYDR**	**48.98**	**22**	T	T	00 32 47.3	
	baz=192,slow=76,SNR=14						
H10N2	**ASCENSION HYDR**	**48.99**	**22**	T	T	00 32 46.2	
	baz=192,slow=76,SNR=13						
LBTB	**Lobatse**	**50.72**	**77**	P	**P**	**23 39 56.2**	**+0.3**
TOA0	**Torodi Ar. Sit**	**73.37**	**33**	P	**P**	**23 42 27.9**	**0.0**
TOA0				IAmb	IAmb	23 42 47.4	
	comp=Z,4.9nm,1.5s						
TORD	**Torodi Ar. Bea**	**73.37**	**33**	P	**P**	**23 42 27.6**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=204,slow=5.6,SNR=6.1 comp=Z,1.2nm,0.9s						
SONM	**Songino Array**	**152.68**	**88**	PKPbc	**PKPbc**	**23 50 51.3**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=211,slow=3.0,SNR=5.1						

*IDC **07** 23:45:57.6±1.0, 54°.52N×168°.72E, h0km, mb3.7/7, mbtmp3.7/8, ML2.8/1, Error ellipse: s-maj=32.3km s-min=24.0km az=165.0*

*KRSC **07** 23:45:59.8±1.9, 54°.33N×168°.23E, h21km±31km, ML4.1*

ISC 07 23:46:01.0±0.8, **54°.5N**±0°.1×**168°.63E**±0°.06, **h24**km, **n28,**
σ1ᵗ**12**/25, **mb3.7**/7, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.69**	**296**	eP	**Pn**	**23 46 27.3**	**-1.7**
BKI				S	**Sn**	**23 46 48.6**	**-1.2**
SHEM	**Shemya Is, Ala**	**3.71**	**116**	Sn	**Sn**	**23 47 37.5**	**-2.1**
	baz=282,slow=22						
KBTR	**Krutoberegovo**	**3.73**	**300**	P	**Pn**	**23 46 57.5**	**+0.5**
MKZ	**Mys Kozlova**	**4.02**	**274**	P	**Pn**	**23 47 00.8**	**-0.2**
MKZ				S	**Sn**	**23 47 44.9**	**-2.4**
TUMR	**Tumrok**	**4.96**	**283**	P	**Pn**	**23 47 15.7**	**+1.7**
SPN	**Mys Shipunski**	**5.29**	**258**	P	**Pn**	**23 47 17.9**	**-0.6**
UGLR	**Uglovaya**	**5.95**	**261**	P	**Pn**	**23 47 27.0**	**-0.6**
KRER	**Koryakskii**	**5.96**	**262**	P	**Pn**	**23 47 28.3**	**+0.4**
AVH	**Avacha**	**5.98**	**262**	P	**Pn**	**23 47 28.6**	**+0.6**
KRX	**Arik**	**6.01**	**263**	eP	**Pn**	**23 47 28.9**	**+0.5**
KOK	**Koryaka**	**6.03**	**262**	P	**Pn**	**23 47 29.3**	**+0.6**
GNL	**Ganaly**	**6.34**	**267**	P	**Pn**	**23 47 34.2**	**+1.2**
GRL	**Gorelyy**	**6.59**	**257**	P	**Pn**	**23 47 36.9**	**+0.5**
PETK	**Petropavlovsk-**	**6.62**	**262**	Pn	**Pn**	**23 47 38.4**	**+1.6**
	0.9nm,0.3s,baz=99,slow=18,SNR=4.3						
PETK				Sn	**Sn**	**23 48 50.8**	**-0.6**
	1.0nm,0.3s,baz=112,slow=27,SNR=5.2 2.0nm,0.4s						
ASAK	**Asacha**	**6.75**	**256**	P	**Pn**	**23 47 38.8**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**34.74**	**183**	T	T	00 29 26.0	
	baz=1.4,slow=76,SNR=278						
H11N3	**WAKE ISLAND Hy**	**34.75**	**183**	T	T	00 29 26.9	
	baz=1.4,slow=76,SNR=338						
H11N1	**WAKE ISLAND Hy**	**34.75**	**183**	T	T	00 29 28.2	
	baz=1.4,slow=76,SNR=369						
H11S1	**WAKE ISLAND Hy**	**35.96**	**183**	T	T	00 30 58.0	
	baz=1.7,slow=76,SNR=75						
H11S3	**WAKE ISLAND Hy**	**35.97**	**183**	T	T	00 30 59.9	
	baz=1.7,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**35.98**	**183**	T	T	00 30 59.3	
	baz=1.7,slow=76,SNR=105						
SONM	**Songino Array**	**38.44**	**286**	P	**P**	**23 53 21.3**	**+0.7**
	0.7nm,0.6s,baz=52,slow=12,SNR=3.9 0.7nm,0.6s						
NVAR	**Mina Array Bea**	**50.49**	**77**	P	**P**	**23 54 57.9**	**+0.9**
	0.3nm,0.6s,baz=300,slow=6.1,SNR=1.8 0.3nm,0.6s						
ARCES	**ARCESS Array B**	**53.40**	**345**	P	**P**	**23 55 18.1**	**+0.1**
	6.1nm,1.1s,baz=27,slow=8.5,SNR=2.1 6.1nm,1.1s						
NOA	**NORSAR Array B**	**63.42**	**348**	P	**P**	**23 56 27.9**	**-0.2**
	0.5nm,0.5s,baz=17,slow=6.7,SNR=5.4 0.5nm,0.5s						
TXAR	**Lajitas Array**	**65.40**	**74**	P	**P**	**23 56 41.3**	**-0.3**
	0.3nm,0.6s,baz=290,slow=5.6,SNR=4.7 0.3nm,0.6s						
WRA	**Warramunga Arr**	**79.75**	**213**	P	**P**	**23 58 06.0**	**-0.8**
	0.8nm,1.1s,baz=18,slow=5.4,SNR=2.2 0.8nm,1.1s						
ASAR	**Alice Springs**	**83.38**	**212**	P	**P**	**23 58 27.2**	**+1.4**
	0.5nm,0.7s,baz=21,slow=8.0,SNR=4.1 0.5nm,0.7s						

*IDC **07** 23:47:47.3±1.7, 61°.43N×150°.98W, h121km±41km, mb3.3/3, mbtmp3.8/6, Error ellipse: s-maj=77.5km s-min=14.7km az=115.0*

*NEIC **07** 23:47:47.7±1.1, 61°.66N±0°.03×151°.72W±0°.05, h99km±4km, Error ellipse: s-maj=4.8km s-min=2.4km az=140.0*

*AEIC **07** 23:47:48±1.0, 61°.67N±0°.03×151°.69W±0°.05, h97km±4km, ML3.3, ML3.5/174(NEIC), Error ellipse: s-maj=4.6km s-min=3.3km az=212.0*

ISC 07 23:47:47.5±0.8, **61°.66N**±0°.03×**151°.69W**±0°.03,
h107km±5km, **n221**, σ**0°.76**/247, **mb3.8**/3, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.18**	**203**		**Pn**	**23 48 02.0**	**-0.6**
SKT	**Skwentna**	**0.33**	**13**	Pn	**Pn**	**23 48 02.4**	**-0.6**
SKT				Sn	**Sn**	**23 48 13.1**	**-1.7**
SKT	**Skwentna**	**0.33**	**13**	P	**Pn**	**23 48 02.5**	**-0.6**
	baz=194						
SKT				S	**Sn**	**23 48 13.3**	**-1.4**
	baz=194						
CRP	**Crater Peak**	**0.46**	**210**		**Pn**	**23 48 03.5**	**-0.4**
CRP					**Sn**	**23 48 14.9**	**-1.2**
SPCP	**Crater Peak Br**	**0.46**	**209**		**Pn**	**23 48 03.5**	**-0.4**
SPCP					**Sn**	**23 48 15.2**	**-1.0**
SUA	**Susitna One**	**0.49**	**113**		**Pn**	**23 48 04.4**	**+0.4**
SUA				Sn	**Sn**	**23 48 16.2**	**-0.4**
SUA	**Susitna One**	**0.49**	**113**	P	**Pn**	**23 48 04.5**	**+0.4**
	baz=295						
SUA				S	**Sn**	**23 48 16.2**	**-0.4**
	baz=295						
SPU	**Mount Spurr**	**0.51**	**200**		**Pn**	**23 48 03.6**	**-0.5**
CKT	**Bend**	**0.53**	**208**		**Pn**	**23 48 03.8**	**-0.5**
N20K	**Mount Spurr**	**0.53**	**209**	P	**Pn**	**23 48 03.7**	**-0.6**
	baz=27						
N20K				S	**Sn**	**23 48 14.9**	**-1.9**
	baz=27						
SPCR	**Spurr Chakacha**	**0.53**	**209**		**Pn**	**23 48 03.7**	**-0.6**
SPCR					**Sn**	**23 48 14.9**	**-1.9**
SPCR	**Spurr Chakacha**	**0.53**	**209**	P	**Pn**	**23 48 03.7**	**-0.6**
	baz=27						
CKL	**Chakachamna La**	**0.56**	**214**		**Pn**	**23 48 04.1**	**-0.5**
M20K	**Styx River**	**0.72**	**288**		**Pn**	**23 48 05.4**	**-0.4**
M20K					**Sn**	**23 48 18.5**	**-1.1**
M20K	**Styx River**	**0.72**	**288**	P	**Pn**	**23 48 05.4**	**-0.4**
	baz=107						
M20K				S	**Sn**	**23 48 18.5**	**-1.1**
	baz=107						
M22K	**Willow**	**0.75**	**82**	Sn	**Sn**	**23 48 19.6**	**-0.2**
M22K	**Willow**	**0.75**	**82**	P	**Pn**	**23 48 06.5**	**+0.6**
	baz=264						
M22K				S	**Sn**	**23 48 20.3**	**+0.5**
	baz=264						
FIS	**Fire Island**	**0.88**	**126**		**Pn**	**23 48 08.2**	**+1.1**
FIS				IAML		23 48 25.7	
	comp=N,2μm,0.7s						
FIS				IAML		23 48 29.0	
	comp=E,1μm,0.3s						
CAPN	**Captain Cook N**	**0.93**	**164**		**Pn**	**23 48 09.3**	**+1.6**
CAPN				IAML		23 48 27.0	
	comp=E,3μm,0.8s						
CAPN	**Captain Cook N**	**0.93**	**164**	P	**Pn**	**23 48 09.4**	**+1.7**
	baz=344						
CUT	**Chulitna**	**1.00**	**41**		**Pn**	**23 48 08.6**	**+0.2**
CUT				Sn	**Sn**	**23 48 24.0**	**-0.2**
CUT	**Chulitna**	**1.00**	**41**	P	**Pn**	**23 48 08.8**	**+0.4**
	baz=223						
CUT				S	**Sn**	**23 48 24.3**	**+0.1**
	baz=223						
RC01	**Rabbit Creek A**	**1.10**	**121**		**Pn**	**23 48 09.8**	**+0.3**
RC01				Sn	**Sn**	**23 48 25.9**	**-0.2**
RC01				IAML		23 48 27.6	
	comp=N,907nm,0.4s						
RC01				IAML		23 48 28.2	
	comp=E,951nm,0.2s						
RC01	**Rabbit Creek A**	**1.10**	**121**	P	**Pn**	**23 48 09.8**	**+0.3**
	baz=302						
RC01				S	**Sn**	**23 48 26.3**	**+0.2**
	baz=302						
DFR	**Drift River**	**1.18**	**205**		**Pn**	**23 48 10.6**	**+0.1**
DFR					**Sn**	**23 48 27.5**	**-0.2**
RDJH	**Redoubt Jeurge**	**1.20**	**207**		**Pn**	**23 48 11.1**	**+0.3**
PMR	**Palmer**	**1.22**	**92**		**Pn**	**23 48 10.3**	**-0.5**
PMR				Sn	**Sn**	**23 48 27.4**	**-1.0**
PMR				IAML		23 48 28.7	
	comp=N,875nm,0.5s						
PMR				IAML		23 48 29.3	
	comp=E,804nm,0.3s						
PMR	**Palmer**	**1.22**	**92**	P	**Pn**	**23 48 10.8**	**0.0**
	baz=275						
NCT	**North Crescent**	**1.26**	**209**		**Pn**	**23 48 11.7**	**+0.3**
PPLA	**Purkeypile**	**1.26**	**350**	Pn	**Pn**	**23 48 11.3**	**-0.1**
PPLA	**Purkeypile**	**1.26**	**350**		**Sn**	**23 48 28.6**	**-0.9**
PPLA	**Purkeypile**	**1.26**	**350**	P	**Pn**	**23 48 11.4**	**-0.1**
	baz=169						
PPLA				S	**Sn**	**23 48 28.6**	**-0.9**
	baz=169						
RDWB	**Redoubt West**	**1.30**	**206**		**Pn**	**23 48 12.1**	**+0.2**
RDWB					**Sn**	**23 48 30.1**	**-0.3**
M19K	**Big River Lodg**	**1.31**	**282**		**Pn**	**23 48 11.7**	**-0.1**
M19K	**Big River Lodg**	**1.31**	**282**	P	**Pn**	**23 48 11.7**	**-0.1**
	baz=99						
RSO	**Redoubt South**	**1.31**	**204**	Pn	**Pn**	**23 48 12.0**	**0.0**
L20K	**Farewell, AK**	**1.32**	**309**		**Pn**	**23 48 11.6**	**-0.4**
L20K	**Farewell, AK**	**1.32**	**309**	P	**Pn**	**23 48 11.6**	**-0.4**
	baz=128						
GHO	**Glory Hole Cre**	**1.32**	**84**	Pn	**Pn**	**23 48 12.0**	**-0.1**
GHO				IAML		23 48 31.8	
	comp=N,1μm,0.4s						
GHO				IAML		23 48 35.0	
	comp=E,1μm,0.5s						
RED	**Redoubt Volcan**	**1.35**	**203**		**Pn**	**23 48 12.6**	**+0.1**
RED					**Sn**	**23 48 31.1**	**-0.2**
O22K	**Cooper Landing**	**1.52**	**140**		**Pn**	**23 48 14.7**	**+0.4**
O22K	**Cooper Landing**	**1.52**	**140**	P	**Pn**	**23 48 15.0**	**+0.7**
	baz=322						
KNK	**Knik Glacier**	**1.57**	**98**		**Pn**	**23 48 14.6**	**-0.3**
KNK	**Knik Glacier**	**1.57**	**98**	P	**Pn**	**23 48 14.7**	**-0.3**
	baz=281						
L19K	**White Mountain**	**1.59**	**291**	Pn	**Pn**	**23 48 15.2**	**+0.1**
L19K	**White Mountain**	**1.59**	**291**		**Sn**	**23 48 35.5**	**-0.6**
L19K	**White Mountain**	**1.59**	**291**	P	**Pn**	**23 48 15.2**	**+0.1**
	baz=108						
L19K				S	**Sn**	**23 48 35.5**	**-0.6**
	baz=108						
N19K	**Bonanza Creek**	**1.60**	**239**	Pn	**Pn**	**23 48 15.5**	**+0.2**
N19K	**Bonanza Creek**	**1.60**	**239**	P	**Pn**	**23 48 15.6**	**+0.2**
	baz=56						
SML	**Sawmill**	**1.60**	**83**		**Pn**	**23 48 15.1**	**-0.3**
SML				IAML		23 48 37.8	
	comp=N,1μm,0.5s						
SML				IAML		23 48 39.0	
	comp=E,1μm,0.6s						
SML	**Sawmill**	**1.60**	**83**	P	**Pn**	**23 48 15.2**	**-0.2**
	baz=266						
O20K	**Slope Mountain**	**1.65**	**196**		**Pn**	**23 48 16.4**	**+0.4**
O20K	**Slope Mountain**	**1.65**	**196**	P	**Pn**	**23 48 16.4**	**+0.4**
	baz=15						
CAST	**Castle Rocks**	**1.77**	**354**		**Pn**	**23 48 17.2**	**-0.2**
CAST	**Castle Rocks**	**1.77**	**354**	P	**Pn**	**23 48 17.2**	**-0.2**
	baz=174						
IVE	**Iliamna Volcan**	**1.77**	**202**		**Pn**	**23 48 17.6**	**0.0**
WAT7	**Susitna Watana**	**1.77**	**47**		**Pn**	**23 48 17.6**	**+0.1**
WAT7					**Sn**	**23 48 40.3**	**-0.2**
PWL	**Port Wells**	**1.81**	**115**		**Pn**	**23 48 17.4**	**-0.5**
PWL	**Port Wells**	**1.81**	**115**	P	**Pn**	**23 48 17.4**	**-0.5**
	baz=298						
ILSW	**Iliamna Southw**	**1.83**	**204**	Pn	**Pn**	**23 48 18.3**	**0.0**
ILSW				IAML		23 48 46.9	
	comp=N,108nm,0.6s						
ILSW				IAML		23 48 48.0	
	comp=E,160nm,0.7s						
WAT1	**Susitna Watana**	**1.88**	**50**		**Pn**	**23 48 19.0**	**+0.2**
WAT1	**Susitna Watana**	**1.88**	**50**	P	**Pn**	**23 48 19.0**	**+0.2**
	baz=233						
M23K	**Glacier View**	**1.89**	**84**		**Pn**	**23 48 18.6**	**-0.4**
M23K					**Sn**	**23 48 42.7**	**-0.3**
M23K	**Glacier View**	**1.89**	**84**	P	**Pn**	**23 48 18.6**	**-0.4**
	baz=268						
M23K				S	**Sn**	**23 48 42.7**	**-0.3**
	baz=268						
SEW	**Seward**	**1.91**	**144**	Pn	**Pn**	**23 48 18.9**	**-0.1**
SEW	**Seward**	**1.91**	**144**	P	**Pn**	**23 48 18.8**	**-0.2**
	baz=326						
TRF	**Thorofare Moun**	**1.91**	**19**	Pn	**Pn**	**23 48 19.4**	**+0.2**
TRF				IAML		23 48 44.8	
	comp=N,610nm,0.5s						
TRF				IAML		23 48 45.8	
	comp=E,390nm,0.5s						
TRF	**Thorofare Moun**	**1.91**	**19**	P	**Pn**	**23 48 19.5**	**+0.2**
	baz=201						
KTH	**Kantishna Hill**	**1.93**	**10**	Pn	**Pn**	**23 48 19.4**	**-0.1**
KTH				IAML		23 48 46.0	
	comp=N,401nm,0.8s						
KTH				IAML		23 48 46.6	
	comp=E,370nm,0.7s						
BRLK	**Bradley Lake**	**1.94**	**168**	Pn	**Pn**	**23 48 19.6**	**-0.1**
BRLK	**Bradley Lake**	**1.94**	**168**		**Sn**	**23 48 44.0**	**-0.1**
BRLK	**Bradley Lake**	**1.94**	**168**	IAML		23 48 47.6	
	comp=N,641nm,0.1s						
BRLK				IAML		23 48 47.6	
	comp=E,514nm,0.2s						
O19K	**Port Alsworth**	**1.95**	**222**	Pn	**Pn**	**23 48 19.6**	**-0.1**
O19K				IAML		23 48 45.8	
	comp=N,210nm,0.5s						
O19K				IAML		23 48 46.0	
	comp=E,356nm,0.5s						
O19K	**Port Alsworth**	**1.95**	**222**	P	**Pn**	**23 48 20.1**	**+0.5**
	baz=40						
SVW2	**Sparrevohn**	**1.96**	**255**	Pn	**Pn**	**23 48 19.6**	**-0.2**
BRSE	**Bradley Lake S**	**1.98**	**166**		**Pn**	**23 48 19.9**	**-0.3**
BRSE	**Bradley Lake S**	**1.98**	**166**	P	**Pn**	**23 48 19.8**	**-0.3**
	baz=347						
HOM	**Homer**	**2.01**	**179**	Pn	**Pn**	**23 48 20.1**	**-0.3**
HOM				IAML		23 48 49.8	
	comp=E,758nm,0.5s						
K20K	**Telida**	**2.03**	**328**		**Pn**	**23 48 20.4**	**-0.3**
K20K				IAML		23 48 45.4	
	comp=N,160nm,0.7s						
K20K	**Telida**	**2.03**	**328**		**Sn**	**23 48 44.1**	**-1.9**
K20K	**Telida**	**2.03**	**328**	P	**Pn**	**23 48 20.4**	**-0.3**
	baz=146						
K20K				S	**Sn**	**23 48 44.1**	**-1.9**
	baz=146						
WAT6	**Susitna Watana**	**2.07**	**62**		**Pn**	**23 48 21.4**	**0.0**
WAT6	**Susitna Watana**	**2.07**	**62**	P	**Pn**	**23 48 21.4**	**0.0**
	baz=246						
SCM	**Sheep Creek Mo**	**2.08**	**83**	Pn	**Pn**	**23 48 21.1**	**-0.3**
SCM	**Sheep Creek Mo**	**2.08**	**83**	P	**Pn**	**23 48 21.1**	**-0.3**
	baz=267						
CNPM	**China Poot**	**2.15**	**174**		**Pn**	**23 48 22.0**	**-0.3**
CNPM				IAML		23 48 50.6	
	comp=E,399nm,0.9s						
CNPM				IAML		23 48 53.3	
	comp=N,354nm,0.5s						
CNPM	**China Poot**	**2.15**	**174**		**Sn**	**23 48 47.6**	**-1.4**
OPT	**Oil Point**	**2.15**	**201**		**Pn**	**23 48 23.1**	**+0.8**
OPT	**Oil Point**	**2.15**	**201**	P	**Pn**	**23 48 23.1**	**+0.8**
	baz=20						
P19K	**Oil Pt**	**2.15**	**201**	Pn	**Pn**	**23 48 22.5**	**+0.2**
P19K				IAML		23 48 51.9	
	comp=E,404nm,0.6s						
P19K				IAML		23 48 53.2	
	comp=N,342nm,0.3s						
P19K	**Oil Pt**	**2.15**	**201**	P	**Pn**	**23 48 22.9**	**+0.5**
	baz=20						
RND	**Reindeer**	**2.19**	**36**		**Pn**	**23 48 22.7**	**-0.1**
RND				IAML		23 48 49.3	
	comp=N,151nm,0.6s						
N18K	**Kilae Creek**	**2.26**	**246**		**Pn**	**23 48 23.7**	**0.0**
N18K	**Kilae Creek**	**2.26**	**246**	P	**Pn**	**23 48 23.7**	**0.0**
	baz=62						
GLI	**Glacier Island**	**2.35**	**107**	Pn	**Pn**	**23 48 23.6**	**-1.2**
GLI	**Glacier Island**	**2.35**	**107**	P	**Pn**	**23 48 23.7**	**-1.2**
	baz=292						
TT01	**Tatalina**	**2.38**	**304**		**Pn**	**23 48 24.9**	**-0.2**
TTA	**Tatalina**	**2.39**	**304**	Pn	**Pn**	**23 48 24.9**	**-0.4**
TTA	**Tatalina**	**2.39**	**304**	P	**Pn**	**23 48 25.0**	**-0.4**
	baz=120						
MCK	**McKinley**	**2.44**	**30**	Pn	**Pn**	**23 48 26.2**	**+0.3**
MCK				IAML		23 49 13.3	
	comp=N,120nm,0.8s						
MCK				IAML		23 49 13.7	
	comp=E,114nm,0.8s						
DHY	**Denali Highway**	**2.46**	**53**	Pn	**Pn**	**23 48 26.3**	**0.0**
DHY				IAML		23 48 57.2	
	comp=N,285nm,0.7s						
DHY				IAML		23 48 58.9	
	comp=E,374nm,0.3s						
DHY	**Denali Highway**	**2.46**	**53**	P	**Pn**	**23 48 26.6**	**+0.2**
	baz=237						
AUCH	**Augustine Cone**	**2.46**	**201**		**Pn**	**23 48 27.4**	**+1.0**
AUQ	**Augustine Qik'**	**2.47**	**201**		**Pn**	**23 48 27.2**	**+0.8**
Q18K	**Koktuh Hills**	**2.50**	**225**		**Pn**	**23 48 27.3**	**+0.5**
JPK	**Jack Peak**	**2.53**	**102**		**Pn**	**23 48 26.4**	**-0.7**
M24K	**Tolsona, Glenn**	**2.65**	**78**	Pn	**Pn**	**23 48 29.2**	**+0.5**
M24K	**Tolsona, Glenn**	**2.65**	**78**	P	**Pn**	**23 48 29.4**	**+0.6**
	baz=263						
FID	**Port Fidalgo**	**2.68**	**108**		**Pn**	**23 48 27.5**	**-1.7**
P23K	**Montague Islan**	**2.68**	**127**		**Pn**	**23 48 28.2**	**-1.0**
P23K	**Montague Islan**	**2.68**	**127**	P	**Pn**	**23 48 28.2**	**-1.0**
	baz=310						
BWN	**Browne**	**2.72**	**21**	Pn	**Pn**	**23 48 29.5**	**0.0**
BWN				IAML		23 49 22.0	
	comp=E,213nm,0.7s						
BWN				IAML		23 49 36.9	
	comp=N,206nm,0.8s						
J20K	**Nowinta River**	**2.76**	**337**	Pn	**Pn**	**23 48 29.8**	**-0.4**
J20K				IAML		23 49 04.0	
	comp=N,182nm,0.9s						
J20K				IAML		23 49 04.5	
	comp=E,134nm,0.9s						
KLU	**Klutina**	**2.76**	**91**	Pn	**Pn**	**23 48 29.3**	**-1.0**
KLU	**Klutina**	**2.76**	**91**	P	**Pn**	**23 48 29.6**	**-0.7**
	baz=276						
HIN	**Hinchinbrook I**	**2.83**	**114**	Pn	**Pn**	**23 48 29.6**	**-1.5**
H

CCB				IAML			23 49 49.6	
	comp=E,44nm,0.8s							
BMRM	**Bremner River**	**3.49**	**98**	Pn	**Pn**		**23 48 38.5**	**-1.4**
BMRM	**Bremner River**	**3.49**	**98**	P	**Pn**		**23 48 38.7**	**-1.2**
	baz=285							
HDA	**Harding Lake**	**3.50**	**36**	Pn	**Pn**		**23 48 39.7**	**-0.3**
HDA				IAML			23 49 43.1	
	comp=E,84nm,0.6s							
HDA				IAML			23 49 45.4	
	comp=N,93nm,0.6s							
GOAT	**Goat Mountain**	**3.55**	**105**		**Pn**		**23 48 39.5**	**-1.1**
PS08	**TAPS Pump Stn8**	**3.64**	**35**		**Pn**		**23 48 42.1**	**+0.2**
N16K	**Nishlik Lake**	**3.64**	**254**		**Pn**		**23 48 42.4**	**+0.4**
N16K	**Nishlik Lake**	**3.64**	**254**	P	**Pn**		**23 48 42.4**	**+0.4**
	baz=68							
RAGM	**Ragged Mountai**	**3.65**	**107**	Pn	**Pn**		**23 48 40.9**	**-1.1**
I23K	**Minto, Yukon-K**	**3.65**	**16**	Pn	**Pn**		**23 48 42.6**	**+0.6**
I23K				IAML			23 50 00.2	
	comp=N,39nm,0.9s							
TCOL	**CIGO, UAF Yank**	**3.66**	**27**	Pn	**Pn**		**23 48 42.2**	**+0.1**
TCOL	**CIGO, UAF Yank**	**3.66**	**27**	P	**Pn**		**23 48 42.4**	**+0.3**
	baz=210							
MDM	**Murphy Dome**	**3.66**	**24**	Pn	**Pn**		**23 48 41.6**	**-0.5**
COLA	**College**	**3.66**	**27**	Pn	**Pn**		**23 48 42.3**	**+0.3**
O16K	**Kokwok River B**	**3.78**	**239**		**Pn**		**23 48 44.1**	**+0.5**
O16K	**Kokwok River B**	**3.78**	**239**	P	**Pn**		**23 48 44.1**	**+0.5**
	baz=54							
GLB	**Gilahina Butte**	**3.78**	**90**	Pn	**Pn**		**23 48 43.7**	**0.0**
GLB				IAML			23 49 28.4	
	comp=E,95nm,0.4s							
GLB				IAML			23 49 30.2	
	comp=N,80nm,0.5s							
RIDG	**Independent Ri**	**3.78**	**54**	Pn	**Pn**		**23 48 44.6**	**+0.8**
RIDG				IAML			23 49 35.7	
	comp=E,131nm,0.6s							
RIDG				IAML			23 49 43.0	
	comp=N,80nm,0.6s							
RIDG	**Independent Ri**	**3.78**	**54**	P	**Pn**		**23 48 44.8**	**+1.0**
	baz=240							
IL31		**3.80**	**33**	Pn	**Pn**		**23 48 43.9**	**-0.1**
ILAR	**Eielson Array**	**3.80**	**33**	P	**Pn**		**23 48 43.6**	**-0.4**
	comp=N,14nm,0.4s,baz=210,slow=13,SNR=19							
ILAR				S	**Sn**		**23 49 24.6**	**-3.2**
	comp=N,7.5nm,0.5s,baz=217,slow=19,SNR=5.0							
HMT	**Hamilton**	**3.85**	**107**	Pn	**Pn**		**23 48 43.4**	**-1.3**
KDAK	**Kodiak Island**	**3.92**	**187**	P	**Pn**		**23 48 44.1**	**-1.5**
	comp=N,6.4nm,0.2s,baz=18,slow=12,SNR=29							
KDAK				S	**Sn**		**23 49 27.1**	**-3.5**
	comp=N,17nm,0.5s,baz=342,slow=20,SNR=6.1							
KDAK	**Kodiak Island**	**3.92**	**187**	Pn	**Pn**		**23 48 44.7**	**-0.9**
KDAK				IAML			23 49 41.2	
	comp=N,38nm,0.6s							
KDAK				IAML			23 49 50.1	
	comp=N,44nm,1.0s							
MENT	**Mentasta**	**3.94**	**68**	Pn	**Pn**		**23 48 46.0**	**+0.1**
POKR	**Poker Flat Res**	**3.96**	**27**	Pn	**Pn**		**23 48 46.5**	**+0.4**
KAIM	**Kayak Island**	**3.96**	**113**	Pn	**Pn**		**23 48 45.6**	**-0.6**
KAIM				IAML			23 49 33.3	
	comp=N,64nm,1.6s							
KAIM				IAML			23 49 34.2	
	comp=E,62nm,0.5s							
KAIM	**Kayak Island**	**3.96**	**113**	P	**Pn**		**23 48 45.0**	**-1.3**
	baz=299							
NICHA	**Nichawak Mount**	**4.03**	**107**		**Pn**		**23 48 45.8**	**-1.2**
DOT	**Dot Lake**	**4.04**	**57**	Pn	**Pn**		**23 48 47.5**	**+0.2**
BERG	**Berg Lake**	**4.09**	**105**	Pn	**Pn**		**23 48 47.0**	**-0.9**
J25K	**Salcha River,**	**4.12**	**41**	Pn	**Pn**		**23 48 49.2**	**+0.8**
J25K				IAML			23 49 39.0	
	comp=E,40nm,0.6s							
J25K				IAML			23 49 40.3	
	comp=N,41nm,0.5s							
MCARA	**McCarthy VSAT**	**4.16**	**90**	Pn	**Pn**		**23 48 49.1**	**+0.2**
M26K	**Nabesna, AK**	**4.16**	**76**	Pn	**Pn**		**23 48 49.1**	**+0.2**
M26K				IAML			23 49 53.9	
	comp=N,85nm,0.6s							
M26K				IAML			23 49 56.2	
	comp=E,64nm,0.5s							
SUCK	**Suckling Hills**	**4.18**	**109**	Pn	**Pn**		**23 48 48.7**	**-0.5**
SUCK				IAML			23 49 39.6	
	comp=N,71nm,0.3s							
SUCK				IAML			23 49 55.9	
	comp=E,46nm,1.2s							
SCRK	**Sand Creek**	**4.23**	**53**	Pn	**Pn**		**23 48 49.9**	**+0.1**
SCRK				IAML			23 49 38.2	
	comp=E,40nm,0.6s							
SCRK				IAML			23 49 56.5	
	comp=N,38nm,0.5s							
H23K	**Yukon River**	**4.29**	**12**	Pn	**Pn**		**23 48 51.0**	**+0.5**
TGL	**Tana Glacier**	**4.38**	**98**	Pn	**Pn**		**23 48 52.9**	**+1.0**
TGL				IAML			23 49 44.6	
	comp=N,98nm,0.5s							
IMAR	**Indian Mountai**	**4.43**	**349**	Pn	**Pn**		**23 48 51.7**	**-0.8**
WAX	**Waxell Ridge**	**4.46**	**102**	Pn	**Pn**		**23 48 52.1**	**-0.9**
H24K	**Noodor Dome**	**4.52**	**20**	Pn	**Pn**		**23 48 53.9**	**+0.2**
OHAK	**Old Harbor**	**4.53**	**191**	Pn	**Pn**		**23 48 52.8**	**-1.0**
OHAK				IAML			23 49 51.5	
	comp=N,25nm,1.8s							
OHAK				IAML			23 49 58.0	
	comp=E,24nm,1.3s							
SNH	**Sunshine Point**	**4.57**	**105**	Pn	**Pn**		**23 48 53.8**	**-0.6**
SNH				IAML			23 49 48.9	
	comp=E,73nm,0.6s							
SNH				IAML			23 49 51.2	
	comp=N,84nm,1.2s							
ISLE	**Juniper Island**	**4.66**	**99**	Pn	**Pn**		**23 48 55.6**	**0.0**
ISLE				IAML			23 49 50.5	
	comp=E,80nm,0.4s							
J26L	**Joseph Creek**	**4.66**	**49**	Pn	**Pn**		**23 48 56.2**	**+0.6**
J26L				IAML			23 49 50.4	
	comp=E,50nm,0.6s							
J26L				IAML			23 49 50.6	
	comp=N,54nm,0.6s							
M27K	**Edge Creek, AK**	**4.68**	**77**	Pn	**Pn**		**23 48 56.5**	**+0.5**
M27K				IAML			23 49 52.1	
	comp=N,36nm,0.8s							
M27K				IAML			23 50 14.7	
	comp=E,36nm,0.9s							
PRP	**Porcupine Dome**	**4.75**	**33**	Pn	**Pn**		**23 48 58.0**	**+1.2**
PRP				IAML			23 49 53.7	
	comp=E,25nm,0.6s							
PRP				IAML			23 50 24.2	
	comp=N,30nm,0.6s							
L27K	**Beaver Creek,**	**4.80**	**69**		**Pn**		**23 48 57.5**	**-0.1**
L27K				IAML			23 50 15.2	
	comp=N,22nm,0.7s							
BCAR	**Beaver Creek A**	**4.82**	**69**	Pn	**Pn**		**23 48 57.5**	**-0.3**
MESA	**MESA**	**4.98**	**103**	Pn	**Pn**		**23 48 59.9**	**-0.2**
K27K	**Chicken**	**5.00**	**57**		**Pn**		**23 49 00.0**	**-0.2**
K27K				IAML			23 50 01.1	
	comp=E,16nm,0.8s							
K27K				IAML			23 50 25.0	
	comp=N,18nm,0.7s							
YAH	**Yahtse**	**5.01**	**101**	Pn	**Pn**		**23 49 00.7**	**+0.1**
YAH				IAML			23 49 58.7	
	comp=N,57nm,0.4s							
YAH				IAML			23 50 33.6	
	comp=E,38nm,0.8s							
CTGM	**Chitina Glacie**	**5.04**	**93**	Pn	**Pn**		**23 49 01.5**	**+0.7**
CTGM				IAML			23 50 00.4	
	comp=E,50nm,0.4s							
LOGN	**Logan Glacier**	**5.23**	**95**	Pn	**Pn**		**23 49 03.3**	**-0.1**
LOGN				IAML			23 50 05.6	
	comp=N,53nm,0.4s							
TABL	**Table Mountain**	**5.27**	**99**	Pn	**Pn**		**23 49 03.7**	**-0.3**
TABL				IAML			23 50 06.2	
	comp=E,36nm,0.8s							
TABL				IAML			23 50 09.9	
	comp=N,43nm,0.9s							
I26K	**Coal Creek Min**	**5.29**	**43**	Pn	**Pn**		**23 49 04.6**	**+0.6**
I26K				IAML			23 50 52.7	
	comp=N,37nm,0.8s							
I26K				IAML			23 50 57.4	
	comp=E,30nm,0.8s							
FYU	**Fort Yukon**	**5.67**	**27**	Pn	**Pn**		**23 49 08.9**	**-0.3**
EGAK	**Eagle**	**5.69**	**52**	Pn	**Pn**		**23 49 09.3**	**-0.2**
PCA	**Pinnacle**	**5.80**	**101**	Pn	**Pn**		**23 49 11.1**	**0.0**
DAWY	**Dawson**	**6.12**	**61**	Pn	**Pn**		**23 49 15.7**	**+0.3**
BCPM	**Bancas Point**	**6.14**	**101**	Pn	**Pn**		**23 49 16.1**	**+0.5**
CHGN	**Chignik**	**6.40**	**216**	Pn	**Pn**		**23 49 19.6**	**+0.5**
BMAR	**Burnt Mountain**	**6.55**	**25**	Pn	**Pn**		**23 49 21.4**	**+0.3**
HYT	**Haines Junctio**	**6.90**	**91**	Pn	**Pn**		**23 49 26.0**	**0.0**
I29M	**Ogilvie Camp,**	**7.04**	**52**	Pn	**Pn**		**23 49 26.9**	**-0.9**
TOLK	**Toolik Lake Re**	**7.07**	**6**	Pn	**Pn**		**23 49 30.4**	**+2.3**
P29M	**Windy Craggy**	**7.15**	**100**	Pn	**Pn**		**23 49 29.3**	**-0.1**
SDPT	**Sand Point**	**7.82**	**220**	Pn	**Pn**		**23 49 40.2**	**+1.8**
CNBA	**Chernabura Isl**	**8.02**	**215**	Pn	**Pn**		**23 49 40.1**	**-1.0**
EPYK	**Eagle Plains**	**8.08**	**48**	Pn	**Pn**		**23 49 41.9**	**0.0**
FARO	**Faro, Yukon**	**8.66**	**78**	Pn	**Pn**		**23 49 50.0**	**+0.3**
BESE	**Bessie Mountai**	**8.95**	**103**	Pn	**Pn**		**23 49 54.2**	**+0.5**
JIS	**Juneau Island**	**9.31**	**104**	Pn	**Pn**		**23 49 59.0**	**+0.4**
INK	**Inuvik**	**10.14**	**41**	P	**Pn**		**23 50 10.1**	**+0.4**
	comp=E,13nm,0.8s,baz=237,slow=14,SNR=6.0							
INK	**Inuvik**	**10.14**	**41**	Pn	**Pn**		**23 50 09.9**	**+0.2**
ARCES	**ARCESS Array B**	**49.08**	**1**	P	**P**		**23 56 23.0**	**-0.1**
	comp=E,1.1nm,0.8s,baz=353,slow=6.5,SNR=1.2							
	comp=E,1.1nm,0.8s							
SONM	**Songino Array**	**54.34**	**306**	P	**P**		**23 57 04.5**	**+1.8**
	comp=E,1.2nm,0.7s,baz=36,slow=6.6,SNR=7.4							
	comp=E,1.2nm,0.7s							
MKAR	**Makanchi Array**	**63.53**	**322**	P	**P**		**23 58 05.8**	**-0.2**
	comp=E,0.2nm,0.5s,baz=19,slow=4.9,SNR=2.3							
	comp=E,0.2nm,0.5s							

IDC 07 23:47:54.8±1.5, 13°61N×142°65E, h0km, mb3.6/3, mbtmp3.9/4, ML4.8/1, MS3.4/1, Error ellipse: s-maj=141.9km s-min=25.9km az=103.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**13.43**	**358**	Pn	Pn	23 51 07.4	+0.7
	4.6nm,0.3s,baz=95,slow=18,SNR=2.1						
	10nm,0.3s						
WRA	**Warramunga Arr**	**34.33**	**194**	P	P	23 54 43.3	0.0
	1.3nm,0.7s,baz=16,slow=9.4,SNR=21						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**38.02**	**193**	P	P	23 55 14.9	-0.1
	0.4nm,0.7s,baz=14,slow=12,SNR=2.3						
	0.4nm,0.7s						
BRDH	**Bariadhala**	**49.10**	**288**	LR	LR	00 18 53.4	
	comp=Z,39nm,18.1s,baz=192,slow=38						
ILAR	**Eielson Array**	**69.48**	**26**	P	P	23 59 04.6	-0.2
	0.2nm,0.4s,baz=247,slow=6.0,SNR=3.0						
	0.2nm,0.4s						

IDC 07 23:48:25.7±4.5, 54°90S×31°72W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=154.9km s-min=56.4km az=178.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**47.63**	**309**	P	P	23 57 04.0	-0.1
	0.6nm,0.6s,baz=173,slow=7.2,SNR=3.9						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.43**	**34**	P	P	23 59 59.7	0.0
	0.5nm,0.7s,baz=203,slow=5.7,SNR=2.8						
	5nm,0.7s						
ILAR	**Eielson Array**	**147.44**	**314**	PKPbc	PKPbc	00 08 09.3	-0.7
	0.4nm,0.6s,baz=130,slow=1.9,SNR=5.2						

IDC 08 00:09:57.7±5.4, 15°61S×69°93W, h188km±39km, mb3.3/1, mbtmp3.8/1, Error ellipse: s-maj=113.9km s-min=63.1km az=167.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.86**	**111**	P	Pn	00 10 34.8	+0.2
	22nm,0.3s,baz=297,slow=10,SNR=216						
LPAZ				S	Sn	00 11 03.3	+0.2
	18nm,0.5s,baz=351,slow=19,SNR=14						
TORD	**Torodi Ar. Bea**	**76.38**	**72**	P	P	00 21 27.0	+0.1
	0.4nm,0.4s,baz=269,slow=5.1,SNR=13						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**137.37**	**215**	PKP	PKPdf	00 28 58.3	-1.4
	0.8nm,1.2s,baz=134,slow=2.1,SNR=1.8						

*GII **08** 00:26:45.9±0.0, 28°.64N×32°.84E, h1km, MD3.3/4, Mm3.2/3*
*HLW **08** 00:26:50.8, 28°.69N×32°.99E, h18km±1km, Md3.8*
ISC 08 00:26:49.6±1.3, 28°68N±0°.04×32°96E±0°.03, h16km±14km, n34, σ0°75/44, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRDS	**Abu Rudays**	**0.30**	**83**	P	**Pb**	**00 26 57.6**	**+1.1**
	baz=86						
GRB	**Gharib**	**0.43**	**201**	P	**Pn**	**00 27 00.2**	**-1.0**
	baz=203						
ZNM	**Zenema**	**0.70**	**354**	P	**Pb**	**00 27 03.9**	**+0.4**
	baz=352						
ZAF	**Zafarana**	**0.70**	**329**	P	**Pb**	**00 27 03.9**	**+0.4**
	baz=327						
ZAF				S	**Sb**	**00 27 13.5**	**+0.5**
	baz=327						
HKAT	**Jabal Katrina**	**0.92**	**99**	P	**Pb**	**00 27 07.3**	**0.0**
	baz=100						
HKAT				S	**Sg**	**00 27 19.5**	**0.0**
	baz=100						
SUZ	**Suez**	**1.17**	**354**	P	**Pn**	**00 27 11.0**	**-0.3**
	baz=354						
GLL	**Jalalah**	**1.42**	**310**	P	**Pb**	**00 27 15.8**	**+0.1**
	baz=309						
HDHB	**Dhahab**	**1.46**	**88**	P	**Pn**	**00 27 15.1**	**-0.1**
	baz=88						
NBNS	**Bani Suef**	**1.47**	**268**	P	**Pb**	**00 27 16.1**	**-0.4**
	baz=268						
NBNS				S	**Sg**	**00 27 36.5**	**-0.4**
	baz=268						
HHAG	**Hagoal**	**1.48**	**330**	P	**Pn**	**00 27 15.9**	**+0.3**
	baz=329						
NUB	**Nuweibaa**	**1.52**	**76**	P	**Pn**	**00 27 15.8**	**-0.3**
	baz=78						
HHRG	**Al Ghardaqah**	**1.55**	**160**	P	**Pg**	**00 27 19.4**	**0.0**
	baz=161						
HSAF	**As Saff**	**1.55**	**308**	P	**Pn**	**00 27 17.2**	**+0.6**
	baz=307						
KOT	**Kottamia**	**1.59**	**322**	P	**Pn**	**00 27 17.6**	**+0.4**
	baz=321						
HBST	**Basata**	**1.64**	**70**	P	**Pn**	**00 27 17.9**	**+0.1**
	baz=70						
ASUT		**1.78**	**224**	P	**Pn**	**00 27 19.9**	**+0.3**
	baz=225						
EIL	**Elat**	**2.00**	**60**	Pn	**Pn**	**00 27 22.5**	**-0.3**
EIL				Sn	**Sb**	**00 27 50.3**	**0.0**
MBRI	**Mt Berech**	**2.04**	**56**	Pn	**Pn**	**00 27 23.5**	**+0.2**
MBRI				Sn	**Sb**	**00 27 52.5**	**+1.1**
TAMRE	**El Minia**	**2.06**	**242**	P	**Pn**	**00 27 23.8**	**+0.2**
	baz=242						
KRMI	**Paran Flat**	**2.10**	**47**	Pn	**Pn**	**00 27 24.0**	**-0.2**
KRMI				Sn	**Sb**	**00 27 53.7**	**+0.4**
HRFI	**Mount Harif**	**2.26**	**53**	Pn	**Pn**	**00 27 26.5**	**+0.1**
HRFI				Sn	**Sb**	**00 27 58.0**	**+0.1**
HNAT	**Natroun**	**2.26**	**295**	P	**Pn**	**00 27 27.4**	**+1.0**
	baz=295						
RYAN	**Fayoum**	**2.39**	**280**	P	**Pn**	**00 27 28.4**	**+0.3**
	baz=280						
PRNI	**Paran**	**2.44**	**46**	Pn	**Pn**	**00 27 28.8**	**0.0**
PRNI				Sn	**Sb**	**00 28 02.0**	**-1.0**
KZIT	**Kziot**	**2.55**	**29**	Pn	**Pn**	**00 27 30.1**	**-0.2**
KZIT				Sn	**Sb**	**00 28 03.6**	**-2.5**
ZFRI	**Zfri**	**2.69**	**45**	Pn	**Pn**	**00 27 32.2**	**0.0**
ZFRI				Sn	**Sb**	**00 28 07.5**	**-2.5**
YTIR	**Yattir**	**3.26**	**34**	Pn	**Pn**	**00 27 39.7**	**-0.5**
AMAZ	**Amatzia**	**3.31**	**30**	Pn	**Pn**	**00 27 41.1**	**+0.3**
GHAJ	**Ghor Haditha**	**3.46**	**40**	Pn	**Pn**	**00 27 43.0**	**+0.2**
DSI	**Dead Sea**	**3.56**	**35**	Pn	**Pn**	**00 27 44.8**	**+0.5**
HMDT	**Nahal Hemdat**	**4.20**	**31**	Pn	**Pn**	**00 27 53.3**	**+0.4**
MMLI	**Mount Malkishu**	**4.31**	**29**	Pn	**Pn**	**00 27 54.7**	**+0.2**
HAGS	**Hagol**	**4.65**	**157**	P	**Pn**	**00 28 00.3**	**+1.1**
	baz=156						
MMA0B	**Mount Meron ar**	**4.81**	**25**	Pn	**Pn**	**00 28 01.6**	**+0.2**

KRSC 08 00:34:47.8±0.9, 54°33N×168°13E, h21km±17km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.53**	**306**	P	Pn	00 35 14.5	+0.6
BKI				S	Sb	00 35 35.3	+1.0
KBTR	**Krutoberegovo**	**3.58**	**304**	P	Pn	00 35 46.0	+4.0
MKZ	**Mys Kozlova**	**3.75**	**276**	P	Pn	00 35 47.8	+3.5
MKZ				S	Sn	00 36 32.0	+4.3
TUMR	**Tumrok**	**4.72**	**285**	P	Pn	00 36 02.2	+4.4
KRER	**Koryakskii**	**5.65**	**263**	P	Pn	00 36 15.3	+4.6
KRX	**Arik**	**5.70**	**264**	P	Pn	00 36 16.2	+4.9
KOK	**Koryaka**	**5.72**	**263**	P	Pn	00 36 16.3	+4.7
GNL	**Ganaly**	**6.04**	**268**	P	Pn	00 36 20.8	+4.8

WEL 08 00:41:58.9±1.1, 37°S×6°×17°9E±°, h17km±6km, M3.2/12, ML3.6/19, MLv3.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=115.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.56**	**244**	P	Pb	00 42 10.4	+0.1
MXZ				S	Sg	00 42 17.6	-0.1
WMGZ	**Waiomatatini S**	**0.66**	**220**	P	Pn	00 42 13.5	+0.2
WMGZ				S	Sn	00 42 23.6	+0.3
PKGZ	**Pakihiroa**	**0.90**	**230**	P	Pn	00 42 16.6	-0.1
PKGZ				S	Sn	00 42 29.1	-0.2
PUZ	**Puketiti**	**0.93**	**216**	P	Pn	00 42 17.3	+0.2
PUZ				S	Sg	00 42 29.5	+0.3
HAZ	**Te Kaha**	**1.02**	**244**	P	Pb	00 42 17.8	-0.3
HAZ				S	Sn	00 42 32.3	0.0
TWGZ	**Tauwhareparae**	**1.15**	**222**	P	Pb	00 42 20.6	+0.3
TWGZ				S	Sg	00 42 36.5	+0.3
RUGZ	**Raukumara Rang**	**1.20**	**237**	P	Pb	00 42 21.5	+0.3
RUGZ				S	Sg	00 42 37.5	-0.2
CNGZ	**Carnagh Statio**	**1.30**	**206**	P	Pb	00 42 23.0	+0.1
TKGZ	**Te Karaka**	**1.42**	**218**	P	Pn	00 42 23.8	0.0
TKGZ				S	Sn	00 42 41.4	-0.7
MWZ	**Matawai**	**1.51**	**228**	P	Pn	00 42 25.3	+0.1
URZ	**Urewera**	**1.73**	**237**	P	Pn	00 42 28.7	+0.6
URZ				S	Sn	00 42 50.7	+0.9
MUGZ	**Murupara**	**2.07**	**235**	P	Pn	00 42 33.2	+0.3
MTHZ	**Maungataniwha**	**2.26**	**227**	P	Pn	00 42 35.9	+0.5
MTHZ				S	Sn	00 43 03.4	+0.4
NMHZ	**Naumai**	**2.45**	**223**	P	Pn	00 42 38.5	+0.4
BKZ	**Black Stump Fm**	**2.67**	**226**	P	Pn	00 42 40.9	-0.3
MCHZ	**McNeill Hill**	**2.76**	**219**	P	Pn	00 42 41.8	-0.5
TOZ	**Tahuroa Road**	**2.77**	**260**	P	Pn	00 42 41.6	-0.8
GRZ	**Great Barrier**	**3.00**	**290**	P	Pn	00 42 45.9	+0.4
MKAZ	**Moumakai**	**3.03**	**273**	P	Pn	00 42 46.3	+0.4
KRHZ	**Kereru**	**3.08**	**220**	P	Pn	00 42 45.2	-1.5
BHHZ	**Black Hill Sta**	**3.13**	**225**	P	Pn	00 42 46.9	-0.6
MOVZ	**Moawhango**	**3.26**	**229**	P	Pn	00 42 48.8	-0.5
PNHZ	**Pukenui**	**3.37**	**219**	P	Pn	00 42 49.0	-1.7
WCZ	**Waipu Caves**	**3.95**	**289**	P	Pn	00 42 58.8	+0.2
MRZ	**Mangatainoka R**	**4.25**	**217**	P	Pn	00 43 00.4	-2.3
THZ	**Tophouse**	**6.44**	**225**	P	Pn	00 43 32.9	0.0

*NEIC **08** 00:52:55.5±1.2, 18°.79N±0°.08×145°.7E±0°.2, h195km±7km, mb4.4/29, Error ellipse: s-maj=22.1km s-min=12.1km az=91.0*
*IDC **08** 00:52:59.0±4.5, 18°.79N×145°.73E, h236km±42km, mb3.5/16, mbtmp4.1/17, Error ellipse: s-maj=21.3km s-min=10.5km az=80.0*
ISC 08 00:52:55.4±0.5, 18°78N±0°.06×145°7E±0°.1, h200km, n62, σ0°80/67, mb4.2/29, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.22**	**189**	S	**Sn**	**00 55 13.4**	**-0.4**
	52nm,0.3s,baz=210,slow=22,SNR=7.1						
GUMO	**Guam**	**5.22**	**189**	Pn	**Pn**	**00 54 14.2**	**+1.4**
MJAR	**Matsushiro Arr**	**18.88**	**341**	P	**Pn**	**00 57 02.7**	**-1.1**
	2.4nm,0.7s,baz=173,slow=9.8,SNR=2.7						
KSRS	**Korea Array**	**24.24**	**324**	P	**P**	**00 57 53.4**	**-0.6**
	0.8nm,0.6s,baz=137,slow=10.0,SNR=1.7						
	0.8nm,0.6s						
FAKI	**Fak Fak**	**25.30**	**213**	P	**P**	**00 58 03.2**	**-0.6**
COEN	**Coen**	**32.63**	**185**	P	**P**	**00 59 07.9**	**-0.7**
COEN				IAmb	IAmb	00 59 34.8	
	comp=Z,18nm,1.2s						
SBUM	**Sibu**	**36.56**	**248**	P	**P**	**00 59 43.1**	**+0.7**
SBUM				IAmb	IAmb	00 59 51.8	
	comp=Z,17nm,1.3s						
KNRA	**Kununurra**	**38.08**	**207**	P	**P**	**00 59 55.3**	**+0.3**
KNRA				IAmb	IAmb	00 59 57.0	
	comp=Z,11nm,0.7s						
WB0	**Warramunga Arr**	**39.88**	**197**	P	**P**	**01 00 10.1**	**+0.1**
WRA	**Warramunga Arr**	**40.06**	**197**	P	**P**	**01 00 11.8**	**+0.4**
	comp=Z,5.2nm,0.3s,baz=21,slow=8.5,SNR=117						
WRA				PcP	**PcP**	**01 02 11.2**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=13,slow=3.4,SNR=6.7						
	comp=Z,5.2nm,0.3s						
WRA	**Warramunga Arr**	**40.06**	**197**	P	**P**	**01 00 10.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**41.61**	**209**	P	**P**	**01 00 24.5**	**+0.4**
FITZ				IAmb	IAmb	01 00 26.4	
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**43.07**	**321**	P	**P**	**01 00 35.1**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=135,slow=7.3,SNR=5.4						
SONM				PcP	**PcP**	**01 02 22.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=89,slow=27,SNR=2.0						
	comp=Z,0.7nm,0.5s						
AS31	**Alice Springs**	**43.73**	**196**	P	**P**	**01 00 41.1**	**0.0**
ASAR	**Alice Springs**	**43.73**	**196**	P	**P**	**01 00 41.0**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=13,slow=8.1,SNR=22						
ASAR				PcP	**PcP**	**01 02 23.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=29,slow=4.2,SNR=5.9						
	comp=Z,1.4nm,0.5s						
ASAR	**Alice Springs**	**43.73**	**196**	P	**P**	**01 00 40.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**44.20**	**277**	P	**P**	**01 00 46.5**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=58,slow=7.6,SNR=5.5						
CMAR				PcP	**PcP**	**01 02 26.4**

BKZ	**Black Stump Fm**	**64.45**	**154**	P		**P**	**01 03 10.0**	**-0.5**
BMAR	**Burnt Mountain**	**65.05**	**24**	P		**P**	**01 03 16.3**	**+2.2**
PCA	**Pinnacle**	**65.96**	**32**	P		**P**	**01 03 20.9**	**+0.8**
PCA				IAmb		IAmb	01 03 36.3	
	comp=Z,16nm,1.2s							
BRVK	**Borovoye**	**66.47**	**320**	P		**P**	**01 03 23.6**	**+0.2**
BRVK				IAmb		IAmb	01 03 24.7	
	comp=Z,5.2nm,0.8s							
KK31	**Karatay Array**	**66.71**	**310**	P		**P**	**01 03 25.3**	**+0.2**
KKAR	**Karatay Array**	**66.71**	**310**	P		**P**	**01 03 25.4**	**+0.3**
ABKAR	**Akbulak array**	**73.27**	**317**	P		**P**	**01 04 04.1**	**-0.8**
ABKAR				IAmb		IAmb	01 04 05.4	
	comp=Z,3.1nm,0.7s							
ABKAR	**Akbulak array**	**73.27**	**317**	P		**P**	**01 04 04.0**	**-0.8**
GEYT	**Alibeck**	**76.84**	**306**	P		**P**	**01 04 25.7**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=61,slow=15,SNR=2.3							
	comp=Z,1.2nm,0.8s							
YKA	**Yellowknife Ar**	**77.92**	**28**	P		**P**	**01 04 31.7**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=294,slow=5.4,SNR=2.5							
	comp=Z,0.8nm,0.7s							
ARCES	**ARCESS Array B**	**82.41**	**342**	P		**P**	**01 04 54.6**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=52,slow=6.6,SNR=7.8							
	comp=Z,1.4nm,0.6s							
NVAR	**Mina Array Bea**	**83.10**	**52**	P		**P**	**01 04 60.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=274,slow=5.9,SNR=6.3							
	comp=Z,0.5nm,0.6s							
FIA1	**FINESS Array S**	**86.80**	**335**	P		**P**	**01 05 15.2**	**-1.7**
FIA1				IAmb		IAmb	01 05 20.0	
	comp=Z,12nm,1.1s							
FINES	**FINESS Array B**	**86.81**	**335**	P		**P**	**01 05 15.3**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=67,slow=4.7,SNR=24							
	comp=Z,1.9nm,0.5s							
FINES	**FINESS Array B**	**86.81**	**335**	P		**P**	**01 05 15.0**	**-2.0**
TORD	**Torodi Ar. Bea**	**132.39**	**309**	PKP		**PKPdf**	**01 11 46.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=338,slow=0.2,SNR=1.8							
LPAZ	**La Paz**	**147.69**	**91**	PKPbc		**PKPdf**	**01 12 14.2**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=274,slow=9.0,SNR=4.0							

*JMA **08** 00:54:28.1±0.6,32°N±5°×13°8E±°, h382km,MV3.3/31, FAR S OFF TOKAI DISTRICT*
*IDC **08** 00:54:29.4±1.0,32'.09N×137'.88E,h374km±8km, mb3.0/7, mbtmp3.7/11, Error ellipse: s-maj=21.1km s-min=16.1km az=38.0*
ISC 08 00:54:29.2±0.8,32°21N±0'.08×138°14E±0'.08,h380km,n21, σ1§95/26,mb3.0/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.66**	**56**	P		**Pn**	**00 55 22.6**	**+1.5**
	45nm,0.2s,baz=254,slow=7.4,SNR=5.7							
JHJ				S		**S**	**00 56 05.7**	**+2.6**
	49nm,0.3s,baz=74,slow=22,SNR=6.1							
TTO1	**TONANKAI O.B.S**	**1.81**	**321**	P		**Pn**	**00 55 22.7**	**+1.0**
JIE	**Ise**	**2.49**	**332**	P		**Pn**	**00 55 27.2**	**+0.6**
JKN2	**Miekihoku**	**2.56**	**323**	P		**Pn**	**00 55 27.2**	**0.0**
JTNC	**Tanabenakahech**	**2.66**	**308**	P		**Pn**	**00 55 27.6**	**-0.4**
BSO3	**Boso 3**	**3.26**	**37**	P		**Pn**	**00 55 32.7**	**0.0**
BSO1	**Boso 1**	**3.40**	**43**	P		**Pn**	**00 55 34.0**	**+0.3**
JWT	**Wachi**	**3.82**	**324**	P		**Pn**	**00 55 38.3**	**+0.1**
MJAR	**Matsushiro Arr**	**4.33**	**1**	P		**Pn**	**00 55 43.0**	**-0.2**
	1.2nm,0.5s,baz=160,slow=10,SNR=4.7							
MJAR				S		**S**	**00 56 42.1**	**-1.1**
	1.2nm,0.3s,baz=134,slow=49,SNR=1.9							
JAG	**Ashikaga**	**4.35**	**14**	P		**Pn**	**00 55 43.2**	**-0.2**
JYT	**Yasato**	**4.36**	**22**	P		**Pn**	**00 55 43.0**	**-0.5**
JYT				S		**S**	**00 56 37.7**	**-6.0**
JCJ	**Chichijima**	**6.19**	**144**	P		**Pn**	**00 56 01.9**	**-1.4**
	31nm,0.4s,baz=333,slow=6.2,SNR=5.4							
JCJ				S		**S**	**00 57 15.7**	**-4.2**
	27nm,0.3s,baz=295,slow=22,SNR=6.3							
KSRS	**Korea Array**	**9.89**	**305**	P		**P**	**00 56 45.8**	**-0.2**
	0.7nm,0.3s,baz=129,slow=12,SNR=4.1							
KSRS				S		**S**	**00 58 37.7**	**-0.1**
	0.7nm,0.3s,baz=111,slow=27,SNR=3.1							
USRK	**Ussuriysk Ar.**	**12.91**	**340**	P		**Pn**	**00 57 19.7**	**-1.3**
	1.9nm,0.8s,baz=145,slow=10,SNR=1.7							
SONM	**Songino Array**	**28.64**	**312**	P		**P**	**00 59 52.5**	**+0.1**
	0.4nm,0.6s,baz=111,slow=7.9,SNR=2.0							
	0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**43.35**	**316**	P		**P**	**01 01 55.1**	**-0.2**
	0.5nm,0.4s,baz=121,slow=12,SNR=2.5							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**44.57**	**306**	P		**P**	**01 02 04.2**	**-0.8**
	0.5nm,0.5s,baz=88,slow=8.1,SNR=5.2							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**51.98**	**185**	P		**P**	**01 03 01.5**	**+0.3**
	0.2nm,0.5s,baz=360,slow=7.8,SNR=1.5							
	0.2nm,0.5s							
KDAK	**Kodiak Island**	**52.51**	**39**	P		**P**	**01 03 06.7**	**+2.1**
	3.2nm,0.6s,baz=44,slow=21,SNR=1.3							
	3.2nm,0.6s							
ILAR	**Eielson Array**	**55.01**	**30**	P		**P**	**01 03 24.4**	**+2.1**
	0.4nm,0.6s,baz=258,slow=6.6,SNR=6.2							
	0.4nm,0.6s							
TXAR	**Lajitas Array**	**95.23**	**51**	P		**P**	**01 07 13.9**	**+2.9**
	0.3nm,0.7s,baz=319,slow=4.0,SNR=4.6							
	0.3nm,0.7s							

IDC 08 01:06:54.3±5.5,0'.93S×101°.88E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=298.6km s-min=26.0km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.95**	**123**	P		P	01 14 06.1	+0.6
	0.2nm,0.8s,baz=302,slow=9.5,SNR=1.1							
	0.2nm,0.8s							
ASAR	**Alice Springs**	**38.40**	**128**	P		P	01 14 17.2	-0.5
	0.3nm,0.5s,baz=302,slow=7.9,SNR=2.5							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**50.54**	**343**	P		P	01 15 54.5	0.0
	0.4nm,0.5s,baz=155,slow=8.6,SNR=4.7							
	0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**56.49**	**348**	P		P	01 16 38.2	+0.2
	0.4nm,0.3s,baz=154,slow=7.0,SNR=2.1							
	0.4nm,0.3s							
TXAR	**Lajitas Array**	**142.71**	**38**	PKP		PKPdf	01 26 27.5	-3.0
	0.2nm,0.7s,baz=280,slow=1.6,SNR=3.4							

*SNET **08** 01:09:20.6±0.6, 12'.88N×88'.80W, h39km±63km, ML2.9*
*INET **08** 01:09:20.3±0.2, 12'.84N×88'.74W, h14km±5km, MW3.2*
ISC 08 01:09:20.6±2.0,12°.9N±0°.1×88°.80W±0°.08,h55km,n9, σ0§42/15,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COEB	**Comit de Eme**	**0.66**	**24**	eP		**Pn**	**01 09 33.8**	**-0.3**
COEB				eS		**Sn**	**01 09 44.5**	**+0.5**
COEB				IAML			01 09 46.5	
	comp=Z,490nm,0.2s							
COEG	**Centro de Oper**	**0.73**	**354**	eP		**Pn**	**01 09 34.5**	**-0.5**
COEG				eS		**Sn**	**01 09 45.6**	**+0.1**
COEG				IAML			01 09 49.3	
	comp=Z,325nm,0.2s							
PACA	**Pacayal**	**0.74**	**39**	eP		**Pn**	**01 09 34.9**	**-0.3**
PAVA	**Las Pavas**	**0.83**	**351**	eP		**Pn**	**01 09 36.2**	**-0.1**
PAVA				eS		**Sn**	**01 09 48.7**	**+0.9**
LCND	**La Caada**	**0.98**	**65**	eP		**Pn**	**01 09 37.8**	**-0.4**
LCND				eS		**Sn**	**01 09 51.4**	**+0.2**
LCND				IAML			01 09 53.7	
	comp=Z,430nm,0.3s							
JAYA	**Jayaque - finc**	**0.99**	**320**	eP		**Pn**	**01 09 38.4**	**0.0**
JAYA				eS		**Sn**	**01 09 51.4**	**-0.2**
JAYA				IAML			01 09 53.5	
	comp=Z,413nm,0.1s							
CSGN	**Cosiguina Volc**	**1.21**	**86**	eP		**Pn**	**01 09 40.9**	**-0.5**
CRIN	**San Cristobal**	**1.72**	**96**	eP		**Pn**	**01 09 48.0**	**-0.3**
CRIN				eS		**Sn**	**01 10 09.4**	**+0.3**
CNGN	**Cerro Negro**	**2.09**	**101**	eP		**Pn**	**01 09 53.4**	**+0.2**

*CRAAG **08** 01:42:43.0,36'.49N×3'.09E, Ml3.5*
*MDD **08** 01:42:47.0±0.7,36'.42N×3'.06E,h30km, Mb4.3/11, M_mb3.7/11, Error ellipse: s-maj=5.8km s-min=3.5km az=149.0*
*LDG **08** 01:42:47.8±0.3,36'.52N×2'.92E,h10km, Ml3.0/21, Error ellipse: s-maj=6.5km s-min=3.3km az=155.0*
*CNRM **08** 01:42:49.1,36'.48N×2'.43E,h0km, ml3.3*
ISC 08 01:42:44.6±0.8,36°.56N±0°.04×3°.08E±0°.04,h18km,n65, σ2§26/108,7C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.24**	**351**	P		**Pb**	**01 42 50.5**	**+0.1**
ABMS	**Boumerdes**	**0.37**	**59**	P		**Pb**	**01 42 52.8**	**+0.1**
AKET	**Djebel Ketaf**	**0.82**	**128**	P		**Pb**	**01 43 00.0**	**-0.5**
ECHA	**Ech Chlef**	**1.44**	**254**	P		**Pn**	**01 43 10.0**	**+0.2**
EANR	**'Ain N'Sour**	**1.71**	**250**	P		**Pn**	**01 43 12.0**	**-1.6**
SET	**Setif**	**1.90**	**100**	P		**Pg**	**01 43 21.0**	**-0.2**
EIBI	**Ibiza**	**2.82**	**331**	P		**Pn**	**01 43 30.0**	**+1.2**
EIBI				↑↑iVmb_V			01 43 31.7	
	715nm,SNR=5.5							
EIBI				S		**Sn**	**01 44 01.9**	**-0.4**
ETOS	**Mallorca**	**3.21**	**356**	P		**Pn**	**01 43 34.9**	**+0.8**
ETOS				↑↑iVmb_V			01 43 40.9	
	418nm,SNR=3.2							
ETOS				S		**Sn**	**01 44 09.9**	**-2.0**
ETRV	**Los Montesinos**	**3.40**	**297**	P		**Pn**	**01 43 38.0**	**+1.3**
ETRV				S		**Sn**	**01 44 13.6**	**-2.8**
CART	**Cartagena**	**3.42**	**289**	P		**Pn**	**01 43 36.0**	**-1.0**
CART				S		**Sn**	**01 44 11.7**	**-5.4**
CART	**Cartagena**	**3.42**	**289**	P		**Pb**	**01 43 44.0**	**-0.7**
CART	**Cartagena**	**3.42**	**289**	P		**Pb**	**01 43 44.0**	**-0.7**
CART				S		**Sn**	**01 44 13.1**	**-4.0**
MAHO	**Mahon**	**3.46**	**15**	P		**Pn**	**01 43 37.1**	**-0.4**
MAHO				S		**Sn**	**01 44 13.8**	**-4.2**
AFON	**Font Roja**	**3.56**	**307**	P		**Pn**	**01 43 40.6**	**+1.5**
AFON				↑↑iVmb_V			01 43 48.4	
	186nm,SNR=2.1							
AFON				S		**Sn**	**01 44 19.1**	**-1.6**
EMUR	**La Murta**	**3.68**	**292**	P		**Pn**	**01 43 41.4**	**+0.8**
EMUR				S		**Sn**	**01 44 20.9**	**-2.6**
ECOL	**Islas Columbre**	**3.83**	**331**	P		**Pn**	**01 43 43.8**	**+1.2**
ECOL				S		**Sn**	**01 44 25.9**	**-1.2**
EZAR	**Zarzadilla de**	**4.03**	**290**	P		**Pn**	**01 43 46.1**	**+0.6**
EZAR				S		**Sn**	**01 44 28.9**	**-3.4**
ETOB	**Tobarra**	**4.22**	**301**	P		**Pn**	**01 43 49.5**	**+1.3**
ETOB				↑↑iVmb_V			01 43 56.0	
	188nm,SNR=3.8							
ETOB				S		**Sn**	**01 44 35.3**	**-1.7**
ENIJ	**Nijar**	**4.27**	**277**	S		**Sn**	**01 44 35.2**	**-2.8**
ECHE	**Chera**	**4.40**	**315**	P		**Pn**	**01 43 52.6**	**+2.1**
ECHE				↑↑iVmb_V			01 43 55.5	
	207nm,SNR=1.8							
ECHE				S		**Sn**	**01 44 39.9**	**-1.4**
EMOS	**Mosqueruela**	**4.71**	**325**	P		**Pn**	**01 43 56.7**	**+1.8**
EMOS				↑↑iVmb_V			01 43 59.4	
	270nm,SNR=3.6							
EMOS				S		**Sn**	**01 44 47.3**	**-1.8**
TAF	**Taforalt**	**4.80**	**250**	P		**Pn**	**01 43 56.2**	**+0.1**
TAF	**Taforalt**	**4.80**	**250**	P		**Pn**	**01 43 55.7**	**-0.3**
TAF				S		**Sn**	**01 44 48.5**	**-2.8**
ERTA	**Horta de San J**	**4.89**	**335**	P		**Pn**	**01 43 59.3**	**+2.1**
EPOB	**Poblet**	**5.03**	**343**	P		**Pn**	**01 44 00.6**	**+1.4**
EPOB				S		**Sn**	**01 44 55.8**	**-1.2**
EQES	**Quesada**	**5.07**	**286**	P		**Pn**	**01 44 02.4**	**+2.7**
EQES				↑↑iVmb_V			01 44 10.8	
	122nm,SNR=2.0							
EQES				S		**Sn**	**01 44 58.8**	**+0.9**
JBK	**JBK**	**5.12**	**246**	P		**Pn**	**01 44 01.0**	**+0.5**
JBK	**JBK**	**5.12**	**246**	P		**Pn**	**01 44 01.0**	**+0.5**
JBK				S		**Sn**	**01 44 55.5**	**-3.7**
EMIR	**Miracle**	**5.48**	**348**	P		**Pn**	**01 44 08.3**	**+2.9**
FIGM	**Figuig**	**5.69**	**220**	P		**Pn**	**01 44 09.0**	**+0.6**
FIGM	**Figuig**	**5.69**	**220**	P		**Pn**	**01 44 09.0**	**+0.6**
FIGM				S		**Sn**	**01 45 11.8**	**-1.5**
ETOR	**Torete**	**5.85**	**318**	P		**Pn**	**01 44 14.2**	**+3.7**
ETOR				S		**Sn**	**01 45 18.1**	**+1.0**
EJON	**La Jonquera**	**5.88**	**359**	P		**Pn**	**01 44 13.0**	**+2.1**
AKLM	**AKL**	**6.02**	**252**	P		**Pn**	**01 44 14.0**	**+1.2**
AKLM	**AKL**	**6.02**	**252**	P		**Pn**	**01 44 13.4**	**+0.6**
AKLM				S		**Sn**	**01 45 17.1**	**-4.2**
PAB	**San Pablo**	**6.58**	**299**	P		**Pn**	**01 44 20.5**	**+0.1**
PAB				S		**Sn**	**01 45 34.0**	**-1.0**
EPF	**Esparros**	**6.80**	**343**	ePn		**Pn**	**01 44 25.2**	**+1.8**
EPF				eSn		**Sn**	**01 45 38.3**	**-2.1**
	2.5nm,0.5s							
MTLF	**Montolieu**	**6.80**	**355**	ePn		**Pn**	**01 44 25.7**	**+2.2**
MTLF				eSn		**Sn**	**01 45 39.0**	**-1.5**
	0.8nm,0.3s							
ETSF	**Etsaut**	**6.92**	**337**	ePn		**Pn**	**01 44 27.3**	**+2.1**
ETSF				eSn		**Sn**	**01 45 41.3**	**-2.2**
	5.3nm,0.8s							
EORO	**Oroz-Betelu**	**7.17**	**333**	P		**Pn**	**01 44 30.7**	**+2.1**
EORO				S		**Sn**	**01 45 49.4**	**-0.2**
LMR	**La Mourre**	**7.26**	**20**	ePn		**Pn**	**01 44 30.2**	**+0.5**
LMR				eSn		**Sn**	**01 45 48.1**	**-3.5**
	4.4nm,0.3s							
SJPF	**Ste Jean**	**7.33**	**334**	ePn		**Pn**	**01 44 33.4**	**+2.6**
SJPF				eSn		**Sn**	**01 45 51.3**	**-2.2**
	0.4nm,0.2s							
MDT	**Midelt**	**7.35**	**242**	P		**Pn**	**01 44 31.8**	**+0.7**
MDT				S		**Sn**	**01 45 53.9**	**-0.3**
MD31	**MD31**	**7.43**	**243**	P		**Pn**	**01 44 32.5**	**+0.3**
MD31				S		**Sn**	**01 45 54.3**	**-1.9**
PGF	**Pioggiola**	**7.53**	**36**	ePn		**Pn**	**01 44 34.1**	**+0.6**
PGF				eSn		**Sn**	**01 45 54.0**	**-4.3**
	5.9nm,0.4s							
LASF	**Ste Croix**	**7.53**	**4**	ePn		**Pn**	**01 44 35.2**	**+1.7**
LASF				eSn		**Sn**	**01 45 56.8**	**-1.6**
	1.2nm,0.4s							
SMRF	**Simiane la Rot**	**7.65**	**14**	ePn		**Pn**	**01 44 37.9**	**+2.8**
SMRF				eSn		**Sn**	**01 46 00.6**	**-0.7**
	1.9nm,0.4s							
SBF	**Sospel**	**8.02**	**23**	ePn		**Pn**	**01 44 40.8**	**+0.6**
SBF				eSn		**Sn**	**01 46 06.7**	**-3.7**
	5.9nm,0.4s							
ELAN	**Lanestosa**	**8.33**	**325**	P		**Pn**	**01 44 47.0**	**+2.5**
VIVF	**Saint-Julien-l**	**8.37**	**8**	ePn		**Pn**	**01 44 47.7**	**+2.7**
VIVF				eSn		**Sn**	**01 46 17.5**	**-1.6**
	2.1nm,0.5s							
CAF	**Calviac**	**8.39**	**355**	ePn		**Pn**	**01 44 48.9**	**+3.6**
CAF				eSn		**Sn**	**01 46 17.0**	**-2.6**
	0.6nm,0.3s							
ORIF	**Oris-en-Rattie**	**8.61**	**13**	ePn		**Pn**	**01 44 51.5**	**+3.1**
ORIF				eSn		**Sn**	**01 46 23.4**	**-1.7**
	0.9nm,0.4s							
MBDF	**Montbardon**	**8.62**	**18**	ePn		**Pn**	**01 44 51.5**	**+2.9**
MBDF				eSn		**Sn**	**01 46 24.6**	**-0.9**
	0.8nm,0.4s							
EARI	**Arriondas**	**9.26**	**319**	P		**Pn**	**01 45 00.3**	**+3.0**
EARI				S		**Sn**	**01 46 36.0**	**-5.0**
LPG	**La Plagne**	**9.35**	**16**	ePn		**Pn**	**01 45 01.9**	**+3.3**
LPG				eSn		**Sn**	**01 46 41.5**	**-1.9**
	0.3nm,0.3s							
LPL	**La Plagne**	**9.36**	**16**	ePn		**Pn**	**01 45 01.9**	**+3.2**
LPL				eSn		**Sn**	**01 46 41.7**	**-1.9**
	0.3nm,0.3s							
TCF	**Toulx Ste Croi**	**9.74**	**356**	ePn		**Pn**	**01 45 06.0**	**+2.2**
TCF				eSn		**Sn**	**01 46 49.4**	**-3.3**
	0.4nm,0.3s							
BGF	**Bois d'Agland**	**9.99**	**359**	ePn		**Pn**	**01 45 09.8**	**+2.6**
BGF				eSn		**Sn**	**01 46 55.4**	**-3.4**
	3.7nm,0.6s							
SMF	**Signal de Mont**	**10.09**	**3**	ePn		**Pn**	**01 45 10.9**	**+2.3**
SMF				eSn		**Sn**	**01 46 58.2**	**-3.1**
	0.5nm,0.3s							
AVF	**Avril sur Loir**	**10.22**	**1**	ePn		**Pn**	**01 45 12.6**	**+2.3**
CABF	**La Chapelle**	**10.29**	**12**	ePn		**Pn**	**01 45 14.1**	**+2.8**
SSF	**Saint Saulge**	**10.50**	**2**	ePn		**Pn**	**01 45 16.4**	**+2.3**
LOR	**Lormes**	**10.71**	**3**	ePn		**Pn**	**01 45 19.3**	**+2.2**
HINF	**Hinteralfeld**	**11.59**	**13**	ePn		**Pn**	**01 45 31.5**	**+2.4**
HAU	**Haudompre**	**11.69**	**11**	ePn		**Pn**	**01 45 32.8**	**+2.4**

*IDC **08** 01:48:16.4±3.6,4'.42S×153°.59E,h104km±27km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=39.9km s-min=19.8km az=100.0*
ISC 08 01:48:15.9±1.1,4°.4S±0°.1×153°.6E±0°.1,h100km,n9, σ0§45/11,mb3.6/6,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.60**	**274**	P		**Pn**	**01 48 43.6**	**+0.1**
	172nm,0.4s,baz=251,slow=1.3,SNR=18							
KRVT				S		**Sn**	**01 49 04.4**	**0.0**
	184nm,0.3s,baz=359,slow=21,SNR=11							
PMG	**Port Moresby**	**8.11**	**232**	P		**Pn**	**01 50 11.2**	**+0.3**
	17nm,0.3s,baz=268,slow=5.4,SNR=6.3							
PMG				S		**Sn**	**01 51 40.5**	**-0.6**
	16nm,0.4s,baz=301,slow=22,SNR=5.8							
WRA	**Warramunga Arr**	**24.32**	**229**	P		**P**	**01 53 24.7**	**+0.3**
	5.4nm,0.7s,baz=53,slow=9.7,SNR=6.3							
	5.4nm,0.7s							

ASAR	**Alice Springs**	**26.99**	**223**	P		**P**	**01 53 48.4**	**-0.3**
	1.2nm,0.8s,baz=58,slow=9.0,SNR=9.1							
	1.2nm,0.8s							
STKA	**Stephens Creek**	**29.56**	**201**	P		**P**	**01 54 11.1**	**-0.2**
	2.0nm,0.6s,baz=49,slow=12,SNR=5.9							
	2.0nm,0.6s							
VNDA	**Vanda**	**73.18**	**178**	P		**P**	**01 59 36.0**	**+0.6**
	0.8nm,0.8s,baz=34,slow=10,SNR=3.9							
	0.8nm,0.8s							
MKAR	**Makanchi Array**	**80.58**	**319**	P		**P**	**02 00 17.9**	**+0.4**
	1.0nm,1.0s,baz=116,slow=9.8,SNR=4.3							
	1.0nm,1.0s							
ILAR	**Eielson Array**	**81.50**	**22**	P		**P**	**02 00 21.4**	**-0.5**
	0.4nm,0.8s,baz=242,slow=3.9,SNR=1.9							
	0.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**150.97**	**289**	PKPbc		**PKPbc**	**02 07 57.7**	**-0.5**
	1.9nm,0.8s,baz=58,slow=1.5,SNR=9.2							

*REN **08** 01:52:09.7±1.8,37'.62N±0'.02×118'.90W±0'.01,h3km±4km, Error ellipse: s-maj=2.2km s-min=1.5km az=173.0*
*NCEDC **08** 01:52:10.0±1.3,37'.62N±0'.01×118'.895W±0'.007, h1km±5km, ML3.3/26, ML2.9/30(REN), ML2.9/100(NEIC), Error ellipse: s-maj=2.1km s-min=0.7km az=169.0*
*NEIC **08** 01:52:11.0±1.6,37'.60N±0'.02×118'.90W±0'.02, h2km±6km, Error ellipse: s-maj=2.4km s-min=1.6km az=159.0*
*ANF **08** 01:52:10.2±0.3,37'.57N×118'.87W, h0km, ML3.1/13, Error ellipse: s-maj=3.0km s-min=1.5km az=114.0*
ISC 08 01:52:10.4±0.8,37°.61N±0'.02×118°.91W±0'.02,h10km, n238,σ1§07/236,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLCM	**Laurel Creek C**	**0.01**	**254**			**Pg**	**01 52 10.9**	**-1.7**
MGPM	**Gravel Pit**	**0.01**	**19**			**Pg**	**01 52 10.7**	**-1.8**
MCBM	**Casa Benchmark**	**0.03**	**16**			**Pg**	**01 52 11.0**	**-1.7**
MCSM	**Casa Diablo Ho**	**0.04**	**3**			**Pg**	**01 52 11.1**	**-1.6**
MEMM	**East Mammoth H**	**0.06**	**334**			**Pg**	**01 52 11.6**	**-1.3**
MLAC	**Mammoth, Mammo**	**0.06**	**74**			**Pg**	**01 52 11.5**	**-1.3**
MLAC	**Mammoth, Mammo**	**0.06**	**74**	P		**Pg**	**01 52 11.4**	**-1.3**
	baz=262							
MDRNC	**Doe Ridge**	**0.06**	**67**			**Pg**	**01 52 11.5**	**-1.3**
MCVM	**Convict Lake**	**0.07**	**111**			**Pg**	**01 52 11.5**	**-1.4**
MMLB	**Mammoth Lakes**	**0.07**	**309**			**Pg**	**01 52 12.1**	**-0.9**
OMMB	**Old Mammoth Mi**	**0.07**	**270**			**Pg**	**01 52 11.9**	**-1.0**
OMMB	**Old Mammoth Mi**	**0.07**	**270**	IAML			01 52 12.2	
	comp=E,4µm,0.2s							
MLIM	**Lincoln Peak**	**0.09**	**285**			**Pg**	**01 52 12.6**	**-0.6**
MDYM	**Dry Creek**	**0.09**	**298**			**Pg**	**01 52 12.6**	**-0.7**
MMPM	**Mammoth Pass**	**0.10**	**268**			**Pg**	**01 52 12.5**	**-0.8**
MMSM	**Mammoth Summit**	**0.10**	**280**			**Pg**	**01 52 12.7**	**-0.7**
MRDM	**Red Cones**	**0.12**	**262**			**Pg**	**01 52 13.0**	**-0.6**
MINS	**Minaret Summit**	**0.13**	**288**			**Pg**	**01 52 14.6**	**+1.0**
MDPB	**Devils Postpil**	**0.14**	**278**			**Pg**	**01 52 13.2**	**-0.5**
MDPB						**Sg**	**01 52 15.5**	**-0.7**
MDPB	**Devils Postpil**	**0.14**	**278**	IAML			01 52 15.7	
	comp=N,11µm,0.6s							
MDPB				IAML			01 52 15.7	
	comp=E,9µm,0.3s							
MDCM	**Deadman Creek**	**0.14**	**312**			**Pg**	**01 52 13.1**	**-0.7**
RCCR	**Rock Creek Can**	**0.19**	**131**			**Pg**	**01 52 14.0**	**-0.7**
ORC	**Owens River**	**0.20**	**84**			**Pg**	**01 52 14.1**	**-0.6**
MGNR	**McGee Canyon**	**0.26**	**40**			**Pg**	**01 52 15.1**	**-0.8**
BENR	**Benton**	**0.28**	**69**			**Pg**	**01 52 15.0**	**-0.7**
SCHCA	**Scheelite**	**0.31**	**145**			**Pg**	**01 52 16.2**	**-0.5**
MRCM	**Red Rock Canyo**	**0.32**	**79**			**Pg**	**01 52 16.5**	**-0.5**
MCDM	**Chidago Canyon**	**0.38**	**100**			**Pg**	**01 52 17.7**	**-0.1**
MTUM	**Tungsten Hills**	**0.38**	**133**			**Pg**	**01 52 17.5**	**-0.4**
MFBM	**Five Bridges**	**0.42**	**116**			**Pg**	**01 52 18.7**	**0.0**
KCC	**Kaiser Creek**	**0.44**	**229**			**Pg**	**01 52 18.7**	**-0.3**
KCC						**Sg**	**01 52 24.6**	**-0.1**
MLNR	**Milner Canyon**

VES	**Vestal, Richgr**	**1.77**	**185**	Pb	**Pb**	**01 52 42.8**	**-0.2**
	baz=4.8						
VES				S	**Sb**	**01 53 06.2**	**+0.9**
	baz=4.8						
VCNR	**Virginia City**	**1.78**	**341**		**Pb**	**01 52 43.0**	**-0.2**
VCNR	**Virginia City**	**1.78**	**341**	IAML		01 53 10.1	
	comp=N,83nm,0.6s						
VCNR				IAML		01 53 12.5	
	comp=E,89nm,1.1s						
PARM	**Anticline Ridg**	**1.78**	**221**		**Pb**	**01 52 43.2**	**0.0**
BMSM	**Mercy Hot Spri**	**1.78**	**238**		**Pb**	**01 52 42.9**	**-0.2**
Q09A	**Carvers**	**1.83**	**48**		**Pb**	**01 52 43.8**	**-0.2**
WCSM	**Coso Springs S**	**1.83**	**150**		**Pb**	**01 52 44.2**	**+0.2**
WASM	**Alta Sierra Ča**	**1.89**	**171**		**Pb**	**01 52 45.1**	**-0.1**
MPK	**Martis Peak**	**1.90**	**333**		**Pn**	**01 52 42.5**	**-0.6**
MPK				IAML		01 52 52.5	
	comp=N,116nm,0.6s						
MPK				IAML		01 53 15.7	
	comp=E,130nm,1.2s						
SLD	**San Luis Dam**	**1.92**	**254**		**Pb**	**01 52 44.9**	**-0.6**
MPMC	**Manual Prospec**	**1.93**	**143**	Pb	**Pb**	**01 52 45.5**	**-0.2**
	baz=325						
CMPM	**Mikes Peak**	**1.93**	**263**		**Pb**	**01 52 45.0**	**-0.8**
PJUM	**Juniper Ridge**	**1.93**	**225**		**Pb**	**01 52 45.3**	**-0.5**
WNMM	**Nine Mile Cany**	**1.94**	**155**		**Pb**	**01 52 45.8**	**0.0**
BAVM	**Antelope Valle**	**1.95**	**241**		**Pb**	**01 52 45.5**	**-0.5**
TNK	**Tinkers Knob**	**1.95**	**328**		**Pb**	**01 52 46.7**	**+0.5**
COSM	**Mount Oso**	**1.96**	**268**		**Pb**	**01 52 45.5**	**-0.7**
HPCM	**Pacheco Lake**	**1.97**	**254**		**Pb**	**01 52 45.6**	**-0.7**
ISA	**Isabella, Lake**	**1.98**	**170**		**Pb**	**01 52 46.4**	**-0.1**
ISA	**Isabella, Lake**	**1.98**	**170**	Pb	**Pb**	**01 52 46.4**	**-0.1**
	baz=350						
ISA				Sb	**Sg**	**01 53 12.7**	**-1.2**
	baz=350						
WORM	**Onyx Ranch**	**1.99**	**164**		**Pb**	**01 52 46.6**	**0.0**
PACP	**Pacheco Peak**	**1.99**	**253**		**Pb**	**01 52 46.1**	**-0.6**
BBGB	**Big Mountain B**	**1.99**	**239**		**Pb**	**01 52 46.4**	**-0.4**
FURC	**Furnace Creek,**	**2.00**	**124**	P	**Pg**	**01 52 47.7**	**-0.9**
	baz=306						
WCT	**Wildcat Mounta**	**2.00**	**114**		**Pn**	**01 52 44.1**	**-0.2**
WCT				IAML		01 53 16.5	
	comp=E,60nm,0.5s						
CTM	**Castle Mountai**	**2.03**	**215**		**Pb**	**01 52 47.0**	**-0.5**
PSMM	**Smith Mountain**	**2.05**	**222**		**Pb**	**01 52 46.8**	**-1.0**
VPK	**Verdi Peak**	**2.06**	**335**		**Pb**	**01 52 48.4**	**+0.4**
DONR	**Donner Summit**	**2.06**	**328**		**Pb**	**01 52 48.5**	**+0.5**
PMPB	**Monarch Peak**	**2.06**	**228**		**Pb**	**01 52 47.2**	**-0.8**
CMMM	**Mount Mocho**	**2.06**	**266**		**Pb**	**01 52 46.8**	**-1.1**
LRV	**Little Rabbit**	**2.06**	**236**		**Pb**	**01 52 47.0**	**-0.9**
PSRM	**Scobie Ranch**	**2.07**	**213**		**Pb**	**01 52 47.2**	**-0.9**
GHS	**Gilroy Hot Spr**	**2.09**	**256**		**Pb**	**01 52 47.5**	**-0.9**
PPTM	**Peach Tree Val**	**2.09**	**225**		**Pb**	**01 52 47.5**	**-0.9**
BVL	**Bear Valley**	**2.10**	**241**		**Pb**	**01 52 47.8**	**-0.8**
AFDM	**Forest Hills D**	**2.10**	**310**		**Pb**	**01 52 47.8**	**-0.8**
ARN	**Arnold Ranch**	**2.10**	**264**		**Pb**	**01 52 47.5**	**-1.1**
PHFM	**Heflinger Ranc**	**2.10**	**215**		**Pb**	**01 52 47.5**	**-1.1**
PSTM	**Stockdale Moun**	**2.12**	**218**		**Pb**	**01 52 47.6**	**-1.3**
IND	**Independence**	**2.12**	**330**		**Pn**	**01 52 46.8**	**+0.7**
PKD	**Bear Valley Ra**	**2.12**	**219**		**Pb**	**01 52 47.7**	**-1.2**
BSLM	**Silva Ranch**	**2.12**	**248**		**Pb**	**01 52 48.1**	**-0.8**
PAHR	**Pah Rah Range**	**2.12**	**350**		**Pn**	**01 52 47.4**	**+1.3**
GHC	**Gold Hill**	**2.12**	**214**		**Pn**	**01 52 47.5**	**+1.6**
PHPM	**Hope Ranch**	**2.12**	**220**		**Pb**	**01 52 47.6**	**-1.4**
BPIM	**Pinnacles**	**2.13**	**239**		**Pb**	**01 52 48.1**	**-0.9**
PVCM	**Vineyard Canyo**	**2.13**	**218**		**Pn**	**01 52 47.7**	**+1.6**
CDC	**Canada Road**	**2.14**	**255**		**Pb**	**01 52 48.5**	**-0.7**
HSPM	**Sheep**	**2.14**	**257**		**Pn**	**01 52 47.5**	**+1.4**
PHAM	**Harlan Ranch**	**2.14**	**214**		**Pb**	**01 52 47.9**	**-1.3**
PEAR	**Peavine Mounta**	**2.15**	**338**		**Pb**	**01 52 49.8**	**+0.2**
BJOM	**Mount Johnson**	**2.16**	**244**		**Pb**	**01 52 48.7**	**-0.9**
THIS	**South End of C**	**2.16**	**210**		**Pb**	**01 52 48.5**	**-1.1**
PAGB	**Antelope Grade**	**2.17**	**210**		**Pb**	**01 52 48.4**	**-1.3**
PKLM	**Kerr Lake**	**2.17**	**212**		**Pb**	**01 52 48.4**	**-1.4**
PCMM	**Cholame Hills**	**2.17**	**214**		**Pb**	**01 52 48.4**	**-1.4**
CBSNC	**Byron Hot Spri**	**2.18**	**276**		**Pb**	**01 52 49.0**	**-0.9**
CMLM	**Mount Lewis**	**2.18**	**267**		**Pb**	**01 52 49.0**	**-1.0**
MHC	**Mount Hamilton**	**2.19**	**264**		**Pb**	**01 52 48.9**	**-1.3**
BABR	**Babbit Peak**	**2.20**	**335**		**Pb**	**01 52 50.1**	**-0.2**
SAO	**San Andreas Ge**	**2.20**	**248**		**Pb**	**01 52 49.0**	**-1.3**
PWKM	**Work Ranch**	**2.21**	**216**		**Pn**	**01 52 48.8**	**+1.7**
HSFM	**Saint Francis**	**2.22**	**250**		**Pb**	**01 52 49.4**	**-1.1**
PPO	**Portuguese Can**	**2.22**	**219**		**Pb**	**01 52 49.2**	**-1.4**
TPNV	**Topopah Spring**	**2.22**	**107**		**Pn**	**01 52 48.5**	**+1.0**
TPNV				IAML		01 53 29.4	
	comp=E,68nm,0.7s						
TPNV				IAML		01 53 30.2	
	comp=E,83nm,1.4s						
TPNV	**Topopah Spring**	**2.22**	**107**	P	**Pn**	**01 52 48.1**	**+0.6**
	baz=289						
TRAM	**Private Proper**	**2.22**	**210**		**Pb**	**01 52 49.3**	**-1.4**
BSGM	**Shirttail Gulc**	**2.23**	**238**		**Pb**	**01 52 49.2**	**-1.5**
CCOB	**Coe Ranch Numb**	**2.23**	**262**		**Pb**	**01 52 50.0**	**-0.8**
CSR	**Chase Ranch**	**2.23**	**254**		**Pn**	**01 52 48.0**	**+0.5**
FRP	**Fremont Peak**	**2.23**	**248**		**Pn**	**01 52 49.2**	**+1.7**
SCZ	**Santa Cruz**	**2.24**	**244**		**Pn**	**01 52 49.1**	**+1.6**
PSAM	**San Ardo**	**2.24**	**226**		**Pb**	**01 52 50.3**	**-0.7**
BJCM	**Johnson Can.**	**2.25**	**243**		**Pn**	**01 52 49.5**	**+1.8**
ANZ	**Anzar Road**	**2.26**	**252**		**Pb**	**01 52 49.8**	**-1.5**
WENL	**Wente Vineyard**	**2.26**	**271**		**Pb**	**01 52 50.7**	**-0.6**
TCHL	**Shandon**	**2.27**	**212**		**Pb**	**01 52 50.0**	**-1.3**
SDH	**Striped Hills**	**2.27**	**114**		**Pn**	**01 52 49.3**	**+1.3**
BSRM	**Salinas Radio**	**2.29**	**246**		**Pn**	**01 52 49.4**	**+1.2**
GWY	**Greenwater Val**	**2.29**	**128**		**Pn**	**01 52 48.8**	**+0.4**
LOY	**Loyalton**	**2.29**	**333**		**Pb**	**01 52 52.0**	**0.0**
CALM	**Calaveras Res.**	**2.30**	**267**		**Pb**	**01 52 50.5**	**-1.5**
CMOB	**Morgan Territo**	**2.30**	**276**		**Pb**	**01 52 50.5**	**-1.6**
QSM	**Queen of Sheba**	**2.32**	**135**		**Pn**	**01 52 49.6**	**+1.0**
QSM				IAML		01 53 38.6	
	comp=N,43nm,0.8s						
CVLM	**Vallecito**	**2.33**	**271**		**Pb**	**01 52 51.6**	**-0.7**
BSMM	**Soledad Missio**	**2.36**	**239**		**Pn**	**01 52 51.3**	**+2.0**
PCCM	**Crazy Canyon**	**2.36**	**231**		**Pb**	**01 52 51.5**	**-1.6**
BDM	**Black Diamond**	**2.37**	**279**		**Pb**	**01 52 52.2**	**-0.9**
TSCN	**Private Proper**	**2.37**	**210**		**Pb**	**01 52 51.8**	**-1.4**
CPY	**CP-1**	**2.38**	**106**		**Pn**	**01 52 50.1**	**+0.6**
JHLM	**Holstrom Ranch**	**2.38**	**259**		**Pn**	**01 52 51.5**	**+1.9**
AMC	**Almaden**	**2.38**	**260**		**Pn**	**01 52 51.6**	**+2.1**
TEJ	**El Tejon**	**2.39**	**176**		**Pb**	**01 52 53.0**	**-0.4**
AMDNV	**Amargosa**	**2.40**	**118**		**Pn**	**01 52 51.0**	**+1.3**
TCAS	**Cass Winery, P**	**2.40**	**214**		**Pn**	**01 52 51.7**	**+1.9**
CARC	**Carrizo Plain**	**2.42**	**198**		**Pb**	**01 52 52.5**	**-1.6**
CCCA	**Chr Cany lake**	**2.43**	**149**		**Pb**	**01 52 55.3**	**+1.2**
WVA	**Winnemucca Val**	**2.44**	**343**		**Pb**	**01 52 54.0**	**-0.4**
HAST	**Hastings Reser**	**2.44**	**241**		**Pn**	**01 52 52.3**	**+2.0**
CRGC	**Crocker Grade**	**2.46**	**196**		**Pb**	**01 52 53.0**	**-1.7**
JJOM	**Saint Joseph's**	**2.48**	**261**		**Pn**	**01 52 52.7**	**+1.9**
ARVC	**Arvin**	**2.48**	**179**		**Pb**	**01 52 54.4**	**-0.7**
ARVC	**Arvin**	**2.48**	**179**	Pb	**Pb**	**01 52 55.0**	**0.0**
	baz=359						
ARVC				Sb	**Sb**	**01 53 26.7**	**+1.0**
	baz=359						
BCWM	**Chews Ridge**	**2.50**	**239**		**Pn**	**01 52 52.9**	**+1.7**
CLCB	**Lake Chabot**	**2.51**	**274**		**Pn**	**01 52 53.3**	**+2.1**
BGC	**Bolinger Road**	**2.51**	**276**		**Pn**	**01 52 53.3**	**+2.0**
S11A	**Rachel**	**2.51**	**88**	Pn	**Pn**	**01 52 52.8**	**+1.4**
S11A				IAML		01 53 47.7	
	comp=E,81nm,0.6s						
S11A				IAML		01 53 50.2	
	comp=N,69nm,0.9s						
BEKR	**Beckworth**	**2.52**	**334**		**Pb**	**01 52 56.4**	**+0.6**
BEKR	**Beckworth**	**2.52**	**334**	IAML		01 53 32.5	
	comp=E,71nm,0.4s						
RAMR	**Ramage Ranch**	**2.53**	**219**		**Pn**	**01 52 53.4**	**+1.9**
CCAC	**Calif City Air**	**2.56**	**163**		**Pn**	**01 52 53.7**	**+1.7**
PAPM	**Alder Peak**	**2.60**	**230**		**Pn**	**01 52 54.3**	**+1.7**
BCH	**Branch Mountai**	**2.60**	**202**		**Pn**	**01 52 54.6**	**+2.0**
BLDC	**Black Mountain**	**2.63**	**218**		**Pn**	**01 52 54.7**	**+1.8**
BLDC	**Black Mountain**	**2.63**	**218**		**Pn**	**01 52 54.7**	**+1.8**
JBNB	**Ben Lomond Mou**	**2.63**	**260**		**Pn**	**01 52 55.2**	**+2.2**
PHCM	**Hearst Castle**	**2.64**	**224**		**Pn**	**01 52 55.0**	**+1.9**
PTAM	**Tassajara Cree**	**2.65**	**214**		**Pn**	**01 52 55.2**	**+2.0**
BKS	**Berkeley--Byer**	**2.65**	**277**		**Pn**	**01 52 55.3**	**+2.1**
BCW	**Bitter Crk WRg**	**2.70**	**189**		**Pn**	**01 52 55.3**	**+1.4**
R11A	**Troy Canyon, C**	**2.73**	**73**		**Pn**	**01 52 55.9**	**+1.5**
R11A	**Troy Canyon, C**	**2.73**	**73**	Pb	**Pb**	**01 52 59.4**	**+0.1**
	baz=256						
R11A				Sb	**Sg**	**01 53 36.2**	**-1.8**
	baz=256						
ORV	**Oroville**	**2.81**	**314**		**Pn**	**01 52 56.5**	**+1.2**
ORV				IAML		01 53 38.1	
	comp=N,39nm,0.7s						
ORV				IAML		01 53 39.5	
	comp=E,57nm,0.8s						
EDW2	**Edwards Air Fo**	**2.83**	**165**	Sb	**Sg**	**01 53 38.8**	**-2.3**
	baz=345						
GSC	**Goldstone, Bar**	**2.86**	**143**		**Pn**	**01 52 57.6**	**+1.4**
GSC				IAML		01 53 48.7	
	comp=N,24nm,1.1s						
GSC				IAML		01 54 03.6	
	comp=E,37nm,0.7s						
OGOM	**Van Goodin Ran**	**2.94**	**315**		**Pb**	**01 53 02.0**	**-0.8**
PRN	**Pahroc Range**	**3.07**	**93**		**Pn**	**01 53 00.6**	**+1.5**
PRN				IAML		01 53 49.1	
	comp=N,28nm,0.7s						
PRN				IAML		01 53 58.4	
	comp=E,29nm,0.8s						
BMN	**Battle Mountai**	**3.10**	**24**	Pn	**Pn**	**01 53 00.2**	**+0.6**
PLTX	**Planet X, Gerl**	**3.12**	**352**	Pn	**Pn**	**01 53 00.9**	**+1.2**
SHPR	**Sheep Range**	**3.19**	**109**		**Pn**	**01 53 02.2**	**+1.4**
WTNK	**Soaring Height**	**3.43**	**113**	Pn	**Pn**	**01 53 04.7**	**+0.7**
LRDM	**Redding Peak**	**3.47**	**326**		**Pn**	**01 53 05.6**	**+1.1**
PASC	**Pasadena Art C**	**3.48**	**170**	Pn	**Pn**	**01 53 04.9**	**+0.3**
PASC				IAML		01 54 05.2	
	comp=N,30nm,1.2s						
V12A	**Nelson**	**3.77**	**119**	Pn	**Pn**	**01 53 09.6**	**+1.0**
SPR3	**Spring Creek 3**	**3.86**	**68**	Pn	**Pn**	**01 53 12.1**	**+2.0**
PSUT	**Pine Spring**	**4.09**	**75**	Pn	**Pn**	**01 53 14.5**	**+1.3**
ELS	**Elsinore Mount**	**4.14**	**163**		**Pn**	**01 53 15.9**	**+2.2**
ELS				IAML		01 54 23.8	
	comp=N,17nm,1.4s						
ELS				IAML		01 54 30.3	
	comp=E,15nm,1.4s						
ELK	**Elko**	**4.23**	**41**	Pn	**Pn**	**01 53 16.3**	**+1.2**
CCUT	**Cedar City**	**4.41**	**89**	Pn	**Pn**	**01 53 18.9**	**+1.4**
MOD	**Modoc Plateau**	**4.42**	**346**	Pn	**Pn**	**01 53 18.7**	**+1.1**
MOD				IAML		01 54 47.1	
	comp=N,9.9nm,0.9s						
MOD				IAML		01 55 09.1	
	comp=E,7.9nm,1.4s						
PMD	**Palm Desert**	**4.46**	**152**	Pn	**Pn**	**01 53 19.1**	**+1.0**
PMD				IAML		01 54 47.0	
	comp=N,7.8nm,1.0s						
PMD				IAML		01 54 48.6	
	comp=E,7.8nm,1.2s						
PFO	**Pinyon Flats O**	**4.46**	**153**	Pn	**Pn**	**01 53 19.6**	**+1.3**
PFO				IAML		01 53 58.4	
	comp=E,7.4nm,4.8s						
PFO				IAML		01 54 38.9	
	comp=E,7.4nm,0.6s						
LCMT	**Little Creek M**	**4.55**	**96**	Pn	**Pn**	**01 53 20.7**	**+1.2**
W13A	**Hualapai Mount**	**4.77**	**120**	Pn	**Pn**	**01 53 22.8**	**+0.4**
WVOR	**Wild Horse Val**	**4.82**	**2**	Pn	**Pn**	**01 53 24.4**	**+1.3**
DPP	**Dos Picos Cty**	**4.88**	**160**		**Pn**	**01 53 23.8**	**0.0**
KNB	**Kanab**	**4.89**	**95**	Pn	**Pn**	**01 53 25.8**	**+1.7**
K05A	**Summer Lake**	**5.33**	**344**	Pn	**Pn**	**01 53 31.4**	**+1.2**
MTPU	**Mount Pierson**	**5.34**	**83**	Pn	**Pn**	**01 53 31.4**	**+1.0**
MSU	**Marysvale**	**5.39**	**78**	Pn	**Pn**	**01 53 32.4**	**+1.3**
U15A	**North Rim**	**5.42**	**101**	Pn	**Pn**	**01 53 33.0**	**+1.5**
BGU	**Big Grassy Mou**	**5.63**	**52**	Pn	**Pn**	**01 53 35.6**	**+1.2**

WEL 08 01:56:22.2±1.0, 37°S±4°×17°9E±°, h23km±9km, M3.4/21, ML3.6/29, MLv3.4/21, Error ellipse: s-maj=0.0km s-min=0.0km az=76.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.77**	**217**	P	Pb	01 56 35.8	-1.2
MXZ				S	Sn	01 56 47.9	-0.7
WMGZ	**Waiomatatini S**	**0.95**	**204**	P	Pn	01 56 40.3	+0.1
WMGZ				S	Sn	01 56 55.9	+2.9
PKGZ	**Pakihiroa**	**1.14**	**215**	P	Pn	01 56 42.2	-0.7
PKGZ				S	Sn	01 57 00.1	+2.2
HAZ	**Te Kaha**	**1.20**	**227**	P	Pn	01 56 42.3	-1.2
HAZ				S	Sb	01 57 03.3	+4.0
PUZ	**Puketiti**	**1.23**	**204**	P	Pn	01 56 43.4	-0.7
PUZ				S	Sb	01 57 01.7	+1.4
RUGZ	**Raukumara Rang**	**1.40**	**223**	P	Pn	01 56 46.7	+0.1
TWGZ	**Tauwhareparae**	**1.43**	**210**	P	Pn	01 56 46.9	+0.1
WIZ	**White Island**	**1.48**	**247**	P	Pn	01 56 48.1	+0.6
CNGZ	**Carnagh Statio**	**1.63**	**199**	P	Pn	01 56 49.6	+0.1
TKGZ	**Te Karaka**	**1.70**	**209**	P	Pn	01 56 50.1	-0.4
MWZ	**Matawai**	**1.76**	**218**	P	Pn	01 56 51.2	-0.1
MWZ				S	Sb	01 57 14.7	-0.7
WHRZ	**Whale Island**	**1.78**	**239**	P	Pb	01 56 53.1	-1.0
URZ	**Urewera**	**1.93**	**227**	P	Pn	01 56 54.0	+0.4
RIGZ	**Rimuhau**	**1.97**	**207**	P	Pn	01 56 53.7	-0.6
RIGZ				S	Sn	01 57 19.0	+0.7
OPRZ	**Ohinepanea**	**2.07**	**244**	P	Pn	01 56 55.5	-0.1
MUGZ	**Murupara**	**2.27**	**227**	P	Pn	01 56 58.9	+0.5
TARZ	**Mount Tarawera**	**2.29**	**235**	P	Pn	01 57 00.5	+1.8
RAHZ	**Arahi**	**2.43**	**216**	P	Pn	01 57 00.8	+0.2
RAHZ				S	Sn	01 57 30.8	+1.1
KUZ	**Kuaotunu**	**2.56**	**274**	P	Pn	01 57 01.3	-0.9
KUZ				S	Sn	01 57 31.5	-1.1
NMHZ	**Naumai**	**2.71**	**217**	P	Pn	01 57 04.3	-0.1
NMHZ				S	Sn	01 57 38.0	+1.5
TOZ	**Tahuroa Road**	**2.81**	**253**	P	Pn	01 57 05.5	-0.3
GRZ	**Great Barrier**	**2.85**	**283**	P	Pn	01 57 07.3	+1.0
GRZ				S	Sn	01 57 39.2	-0.8
BKZ	**Black Stump Fm**	**2.91**	**220**	P	Pn	01 57 06.6	-0.6
MKAZ	**Moumakai**	**2.99**	**266**	P	Pn	01 57 08.0	-0.2
WIAZ	**Waiheke Island**	**3.02**	**272**	P	Pn	01 57 09.2	+0.5
KWHZ	**Kaweka Forest**	**3.15**	**218**	P	Pn	01 57 09.4	-1.1
ETAZ	**East Tamaki Re**	**3.18**	**269**	P	Pn	01 57 11.1	+0.3
MBAZ	**Motutapu North**	**3.21**	**272**	P	Pn	01 57 12.7	+1.4
KRHZ	**Kereru**	**3.34**	**216**	P	Pn	01 57 12.0	-1.1
KRHZ				S	Sn	01 57 50.6	-1.6
OTVZ	**Oturere**	**3.37**	**228**	P	Pn	01 57 14.0	+0.3
BHHZ	**Black Hill Sta**	**3.38**	**220**	P	Pn	01 57 12.7	-0.9
SNVZ	**South Ngauruho**	**3.40**	**228**	P	Pn	01 57 13.8	-0.3
NGZ	**Ngauruhoe**	**3.42**	**228**	P	Pn	01 57 13.4	-0.9
RVAZ	**Riverhead Bore**	**3.47**	**272**	P	Pn	01 57 16.4	+1.6
MOVZ	**Moawhango**	**3.49**	**224**	P	Pn	01 57 14.1	-1.1
PNHZ	**Pukenui**	**3.64**	**215**	P	Pn	01 57 15.4	-1.8
WCZ	**Waipu Caves**	**3.81**	**284**	P	Pn	01 57 20.3	+0.9
OUZ	**Omahuta**	**4.63**	**290**	P	Pn	01 57 31.9	+1.2
QRZ	**Quartz Range**	**6.29**	**230**	P	Pn	01 57 51.2	-2.4

IDC 08 01:59:25.4±10.0, 7°43N×94°33E, h0km, mb3.8/3, mbtmp3.8/3, MS3.5/1, Error ellipse: s-maj=506.8km s-min=32.4km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.42**	**236**	T	T	02 31 40.3	
	baz=54,slow=76						
H08S2	**Diego Garcia H**	**26.42**	**236**	T	T	02 31 40.2	
	baz=54,slow=76						
H08S1	**Diego Garcia H**	**26.44**	**236**	T	T	02 31 50.2	
	baz=54,slow=76						
MKAR	**Makanchi Array**	**40.56**	**347**	P	P	02 07 06.2	-0.5
	1.0nm,0.7s,baz=171,slow=8.6,SNR=7.3						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**47.02**	**352**	P	P	02 07 58.9	+0.4
	0.8nm,0.6s,baz=159,slow=9.3,SNR=3.5						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**47.85**	**125**	P	P	02 08 05.3	-0.2
	0.5nm,0.3s,baz=306,slow=8.1,SNR=0.8						
	0.5nm,0.3s						
KBZ	**Khabaz**	**57.54**	**318**	LR	LR	02 36 32.0	
	comp=Z,42nm,20.3s,baz=358,slow=39						

*IDC **08** 02:10:01.7±2.1, 17°.54S×178°.77W, h627km±21km, mb3.1/6, mbtmp4.0/7, Error ellipse: s-maj=91.1km s-min=18.0km az=147.0*

ISC 08 02:09:58.8±1.4, 18°.1S±0°.5×178°.3W±0°.3, h600km, n7, σ1.952/8, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.51**	**275**	P	**P**	**02 11 23.2**	**+2.1**
	46nm,0.9s,baz=107,slow=11,SNR=20						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**02 16 32.4**	**0.0**
	2.2nm,0.4s,baz=92,slow=9.7,SNR=7.8						
	2.2nm,0.4s						
ASAR	**Alice Springs**	**44.85**	**254**	P	**P**	**02 17 20.4**	**-0.9**
	8.5nm,0.5s,baz=87,slow=8.8,SNR=120						
ASAR				PcP	**PcP**	**02 18 48.5**	**-1.4**
	0.2nm,0.4s,baz=86,slow=3.8,SNR=1.7						
	8.5nm,0.5s						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**02 21 05.0**	**+0.4**
	0.4nm,0.7s,baz=227,slow=8.8,SNR=5.0						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**02 21 38.4**	**+1.2**
	0.8nm,0.8s,baz=224,slow=6.1,SNR=11						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**86.05**	**13**	P	**P**	**02 21 34.8**	**-1.7**
	0.3nm,0.4s,baz=220,slow=4.7,SNR=7.8						
	0.3nm,0.4s						
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**	**02 21 43.5**	**-0.2**
	0.4nm,0.6s,baz=185,slow=3.6,SNR=4.2						
	0.4nm,0.6s						

*DJA **08** 02:31:40.4±0.9, 8°S±3°×107°E±°, h20km±8km, M4.1/9, MLv4.1/9*
*IDC **08** 02:31:49.0±1.4, 7°.39S×108°.04E, h98km±11km, mb3.5/4, mbtmp3.9/4, Error ellipse: s-maj=109.9km s-min=22.2km az=48.0*

ISC 08 02:31:40.9±1.9, 8°.2S±0°.1×107°.3E±0°.1, h48km±16km, n16, σ2.951/14, mb3.4/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.89**	**352**	P	Pn	02 31 56.9	-0.2
CNJI				S	Sn	02 32 06.3	-2.6
SKJI	**Sukabumi**	**1.36**	**330**	P	Pn	02 32 04.0	+0.4
SKJI				S	**Sn**	**02 32 18.8**	**-1.7**
LEM	**Lembang**	**1.40**	**15**	P	**Pn**	**02 32 06.3**	**+2.1**
	255nm,0.4s,baz=180,slow=11,SNR=32						
LEM				S	**Sn**	**02 32 20.7**	**-1.0**
	1µm,0.5s,baz=135,slow=19,SNR=18						
LEM	**Lembang**	**1.40**	**15**	P	Pn	02 32 05.3	+1.0
LEM				S	**Sn**	**02 32 22.0**	**+0.3**
DBJI	**Dramaga**	**1.70**	**343**	P	Pn	02 32 08.1	-0.1
DBJI				S	**Sn**	**02 32 28.7**	**-0.1**
SBJI	**Serang**	**2.34**	**332**	P	Pn	02 32 16.6	-0.3
UGM	**Wanagama**	**3.25**	**85**	P	**Pn**	**02 32 30.5**	**+1.0**
PCJI	**Pacitan**	**3.89**	**90**	P	**Pn**	**02 32 38.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**20.42**	**121**	P	**P**	**02 36 16.3**	**+2.1**
	3.2nm,0.6s,baz=301,slow=12,SNR=10						
FITZ				S	**S**	**02 39 54.0**	**-6.4**
	1.3nm,0.8s,baz=293,slow=15,SNR=1.6						
	3.2nm,0.6s						
WRA	**Warramunga Arr**	**28.70**	**117**	P	**P**	**02 37 34.7**	**+0.9**
	0.8nm,0.8s,baz=293,slow=10,SNR=13						
WRA				PcP	**PcP**	**02 40 43.8**	**+0.2**
	0.4nm,0.9s,baz=308,slow=1.5,SNR=1.7						
	0.8nm,0.8s						
H08S2	**Diego Garcia H**	**34.42**	**268**	T	T	03 15 49.8	
	baz=93,slow=76						
H08S3	**Diego Garcia H**	**34.43**	**268**	T	T	03 15 49.9	
	baz=93,slow=76						
H08S1	**Diego Carcia H**	**34.44**	**268**	T	T	03 15 52.1	
	baz=93,slow=76						
STKA	**Stephens Creek**	**39.67**	**131**	P	**P**	**02 39 10.8**	**+2.3**
	4.5nm,0.6s,baz=315,slow=10,SNR=7.1						
	4.5nm,0.6s						
MKAR	**Makanchi Array**	**59.08**	**340**	P	**P**	**02 41 36.1**	**-0.2**
	0.1nm,0.3s,baz=153,slow=8.0,SNR=2.7						
	0.1nm,0.3s						
TXAR	**Lajitas Array**	**144.15**	**50**	PKP	**PKPab**	**02 51 11.0**	**+1.0**
	0.2nm,0.6s,baz=194,slow=1.9,SNR=3.8						

*SJA **08** 02:34:01.7±0.8, 21°.84S×68°.68W, h137km±4km, ML4.9, MW4.7*
*MOS **08** 02:34:02.3±1.4,

PB06 eS Sn 02 34 48.3 -0.7
PB06 IAML 02 34 51.7
comp=Z,19µm,0.3s
PB04 IPOC Station P 1.62 249 Pn Pn 02 34 29.8 -2.4
PB04 IPOC Station P 1.62 249 ⇑*i*P Pn 02 34 31.4 -0.7
PB04 *i* S Sn 02 34 52.2 -2.1
PB04 IAML 02 34 57.5
comp=N,13µm,0.3s
PB04 IPOC Station P 1.62 249 *e*P Pn 02 34 31.0 -1.1
PB04 eS Sn 02 34 52.6 -1.7
PB04 IAML 02 34 56.2
comp=Z,11µm,0.4s
PB15 IPOC Station P 1.70 211 Pn 02 34 31.7 -1.4
PB15 IPOC Station P 1.70 211 ⇑*i*P Pn 02 34 32.8 -0.3
PB15 *i* S Sn 02 34 55.2 -0.8
PB15 IPOC Station P 1.70 211 *e*P Pn 02 34 33.0 -0.1
PB15 eS Sn 02 34 54.2 -1.8
TA01 Diego Aracena 1.95 307 Pn Pn 02 34 35.4 -0.5
TA01 Diego Aracena 1.95 307 ⇑*i*P Pn 02 34 35.2 -0.7
TA01 *i* S Sn 02 34 59.6 -1.4
TA01 IAML 02 35 01.7
comp=N,13µm,0.5s
TA01 Diego Aracena 1.95 307 *e*P Pn 02 34 35.0 -0.9
TA01 eS Sn 02 35 00.6 -0.4
TA01 IAML 02 35 03.9
comp=Z,4µm,0.3s
TA02 Huaiquique 2.11 314 Pn 02 34 37.3 -0.6
TA02 Huaiquique 2.11 314 *e*P Pn 02 34 37.4 -0.6
TA02 *i* S Sn 02 35 03.5 -1.0
TA02 IAML 02 35 06.6
comp=N,14µm,0.1s
TA02 Huaiquique 2.11 314 *e*P Pn 02 34 37.2 -0.6
TA02 eS Sn 02 35 04.8 +0.2
TA02 IAML 02 35 06.6
comp=Z,6µm,0.3s
GO01 Chusmiza 2.17 343 Pn 02 34 39.9 +0.8
GO01 Chusmiza 2.17 343 ⇓*i*P Pn 02 34 40.2 +1.1
GO01 *i* S Sn 02 35 07.6 +1.0
GO01 IAML 02 35 11.2
comp=N,8µm,0.1s
GO01 Chusmiza 2.17 343 *e*P Pn 02 34 40.0 +0.8
GO01 eS Sn 02 35 10.0 +3.4
YJA Yavi 2.82 99 *e*P Pn 02 34 50.0 +2.6
YJA eS Sn 02 35 22.2 +0.7
HJA Humahuaca 3.22 117 *e*P Pn 02 34 55.0 +2.4
PB14 IPOC Station P 3.35 211 Pn Pn 02 34 51.5 -2.8
PB14 IPOC Station P 3.35 211 *e*P Pn 02 34 53.2 -1.0
PB16 IPOC Station P 3.52 344 Pn Pn 02 34 56.3 -0.5
PB16 IPOC Station P 3.52 344 ⇓*i*P Pn 02 34 57.8 +0.9
PB16 IPOC Station P 3.52 344 *e*P Pn 02 34 58.0 +1.2
PB16 IAML 02 36 14.3
comp=Z,1µm,0.8s
GO02 Mina Guanaco 3.54 196 Pn Pn 02 34 54.3 -2.4
GO02 Mina Guanaco 3.54 196 ⇓*i*P Pn 02 34 55.5 -1.2
GO02 Mina Guanaco 3.54 196 *e*P Pn 02 34 55.0 -1.7
GO02 *e*P Pn 02 34 55.7 -1.0
GO02 eS Sn 02 35 36.5 -1.7
PB12 IPOC Station P 3.55 331 Pn Pn 02 34 55.4 -1.4
PB12 IPOC Station P 3.55 331 ⇓*i*P Pn 02 34 55.3 -1.5
PB12 IPOC Station P 3.55 331 *e*P Pn 02 34 55.0 -1.8
PB12 *e*P Pn 02 34 55.5 -1.2
PB12 eS Sn 02 35 22.2 -16
PB12 eS Sn 02 35 36.5 -1.8
PB12 IAML 02 36 05.8
comp=Z,2µm,1.0s
AP01 Chacalluta 3.77 333 Pn 02 34 58.7 -0.9
AP01 Chacalluta 3.77 333 *e*P Pn 02 34 58.9 -0.7
AP01 Chacalluta 3.77 333 *e*P Pn 02 35 00.0 +0.4
AP01 IAML 02 35 48.9
comp=Z,3µm,1.2s
SLA San Lorenzo 4.05 137 *e*P Pn 02 35 06.0 +2.5
AC01 Pan de Azucar 4.78 203 Pn 02 35 10.0 -3.0
AC01 Pan de Azucar 4.78 203 *e*P Pn 02 35 09.9 -3.0
AC01 eS Sn 02 36 02.0 -5.4
AC01 IAML 02 36 03.6
comp=Z,2µm,0.7s
AC02 Maricunga 5.09 186 Pn Pn 02 35 15.4 -2.4
AC02 Maricunga 5.09 186 *e*P Pn 02 35 16.6 -1.1
AC02 eS Sn 02 36 17.5 +1.7
AC02 IAML 02 36 49.4
comp=Z,830nm,0.6s
LPAZ La Paz 5.45 4 P Pn 02 35 24.4 +1.8
comp=Z,215nm,0.4s,baz=192,slow=5.6,SNR=899
LPAZ S Sn 02 36 16.6 -7.9
comp=Z,93nm,0.9s,baz=176,slow=12,SNR=3.8
LPAZ La Paz 5.45 4 Pn 02 35 22.5 -0.1
LPAZ La Paz 5.45 4 *e*P Pn 02 35 22.5 -0.1
AC06 Mina Casimiro 5.83 196 Pn 02 35 23.0 -4.1
AC04 Llanos de Chal 6.83 199 Pn 02 35 35.4 -5.3
AC05 El Transito 7.23 192 Pn 02 35 42.3 -3.9
LCO Las Campanas 7.50 195 Pn 02 35 44.9 -5.0
LCO Las Campanas 7.50 195 *e*P Pn 02 35 44.9 -5.0
CO01 Juntas del Tor 8.32 190 Pn 02 35 57.4 -3.6
CO05 La Serena 8.50 196 Pn 02 35 56.6 -6.5
GO04 Tololo Observa 8.64 193 Pn 02 35 59.8 -5.5
SIV San Ignacio 9.08 52 P Pn 02 36 09.3 -1.9
comp=Z,186nm,0.6s,baz=237,slow=11,SNR=730
SIV S Sn 02 37 43.7 -8.1
comp=Z,39nm,0.7s,baz=139,slow=23,SNR=5.0
PTLB Pontes e Lacer 10.88 56 Pn Pn 02 36 32.6 -2.7
VA06 Catapilco 11.05 192 Pn Pn 02 36 30.8 -6.7
CPUP Villa Florida 11.19 116 P Pn 02 36 37.9 -1.6
comp=Z,18nm,0.8s,baz=289,slow=11,SNR=32
CPUP LR LR 02 41 58.1
comp=Z,222nm,18.1s,baz=298,slow=43
CPUP Villa Florida 11.19 116 *e*P Pn 02 36 37.3 -2.2
ANTJ Antonio Joao (11.62 94 *e*P Pn 02 36 44.1 -1.2
MT02 Curacav 11.70 191 Pn Pn 02 36 39.3 -6.9
VILB Vilhena 11.81 44 Pn Pn 02 36 47.0 -0.9
VILB Vilhena 11.81 44 *e*P Pn 02 36 46.9 -0.9
MT03 Universidad Ad 11.83 188 Pn Pn 02 36 46.4 -1.7
AQDB Aquidauana 12.03 86 Pn Pn 02 36 48.5 -2.1
AQDB Aquidauana 12.03 86 *e*P Pn 02 36 48.0 -2.7
ETMB Extrema 12.07 11 Pn Pn 02 36 48.8 -2.3
NNA Nana 12.55 319 P Pn 02 36 59.0 +1.5
comp=Z,12nm,0.6s,baz=149,slow=12,SNR=2.2
NNA S Sn 02 39 09.1 -6.8
comp=Z,8.4nm,0.5s,baz=228,slow=12,SNR=2.1
NNA Nana 12.55 319 Pn P 02 37 03.6 -0.6
AMBA Amambai (Brazi 12.57 98 *e*P Pn 02 36 56.5 -1.3
ITQB Itaqui 13.30 129 P P 02 37 14.3 +1.9
ITQB Itaqui 13.30 129 *e*P Pn 02 37 06.6 -0.5
SALV Santo Antonio 13.46 67 *e*P Pn 02 37 07.2 -2.1
MCR1 Marechal Candi 13.60 104 *e*P Pn 02 37 09.6 -1.4
UNIS Unistalda (Bra 14.16 124 *e*P Pn 02 37 15.7 -2.5
CRSM Crissiumal (Br 14.35 116 *e*P Pn 02 37 18.1 -2.5
CZSB Cruzeiro do Su 14.51 343 Pn Pn 02 37 19.4 -3.4
RODS Rosario do Sul 14.71 128 *e*P Pn 02 37 25.0 -0.1
TRCB Terra Rica 14.74 97 *e*P Pn 02 37 25.1 -0.6
FRBT Francisco Belt 14.75 110 *e*P Pn 02 37 26.2 +0.5
C2SB Chapadao do Su 15.01 81 *e*P Pn 02 37 28.9 0.0
PTGB Pitanga 15.41 104 *e*P Pn 02 37 32.9 -1.2
ALGR Alto Alegre (B 15.66 120 *e*P Pn 02 37 34.8 -2.3
ITAB Concordia 15.88 113 P Pn 02 37 39.6 -0.2
ITAB Concordia 15.88 113 *e*P P 02 37 40.8 -0.2
PCMB Pacaembu 16.04 93 *e*P Pn 02 37 41.6 -0.2
CPSB Cacapava Do Su 16.04 126 *e*P Pn 02 37 40.8 -1.0
CLDB Colider 16.30 50 *e*P Pn 02 37 44.1 -0.9
PLTB Pedras Altas 16.62 130 P Pn 02 37 46.5 -2.4
ITRB Iturama 17.11 86 *e*P P 02 37 53.7 -1.0
TRQA Tornquist 17.20 162 P P 02 37 53.4 -2.2
TRQA Tornquist 17.20 162 *e*P P 02 37 53.4 -2.2
ATAH Atahualpa 17.38 325 P Pn 02 37 59.9 +1.3
comp=Z,21nm,0.8s,baz=188,slow=6.7,SNR=15
TBTG Tabatinga, AM 17.51 355 P P 02 37 57.3 -1.8
TBTG Tabatinga, AM 17.51 355 *e*P P 02 37 59.2 0.0
CNLB Canela 17.62 119 *e*P P 02 37 59.4 -0.9
LR03 Panguipulli 18.12 190 P P 02 38 01.5 -4.2
TIJ01 Guaruva-PR 18.24 105 *e*P P 02 38 07.1 -0.1
BR19B Bebedouro 18.63 92 *e*P P 02 38 10.9 -0.4
TER01 Tubarao-SC 18.80 115 *e*P P 02 38 10.9 -2.2
PLCA Paso Flores 19.00 185 P P 02 38 15.9 +0.5
comp=Z,4.8nm,0.6s,baz=5.1,slow=8.8,SNR=12
PLCA Paso Flores 19.00 185 P P 02 38 15.0 -0.4
PLCA Paso Flores 19.00 185 *e*P P 02 38 14.5 -0.9
SNDB Serra Nova Dou 19.12 62 *e*P P 02 38 15.9 -0.8
NPGB Novo Progresso 19.37 43 *e*P P 02 38 18.3 -1.1
LL04 Puerto Octay 19.38 189 P P 02 38 16.7 -2.7
IPMB Ipameri, GO 19.46 82 *e*P P 02 38 20.5 +0.1
PET01 Itanhaem-SP 19.71 101 *e*P P 02 38 23.0 -0.1
VAO Valinhos 19.97 98 *e*P P 02 38 25.5 -0.5
MACA Manacapuru-AM 19.98 23 P P 02 38 25.3 -0.8
MACA Manacapuru-AM 19.98 23 *e*P P 02 38 24.9 -1.2
BDFB Brasilia 20.34 76 P P 02 38 29.3 -0.7
comp=Z,59nm,0.5s,baz=243,slow=10,SNR=89
BDFB LR LR 02 47 28.0
comp=Z,108nm,21.4s,baz=5.8,slow=40
comp=Z,59nm,0.5s
BDFB Brasilia 20.34 76 *e*P P 02 38 29.0 -1.0
MCRA Macar, Loja 20.53 326 P P 02 38 33.6 +1.6
PMNB Patos De Minas 20.97 85 *e*P P 02 38 35.9 -0.9
PARB Paraibuna 21.20 99 *e*P P 02 38 36.7 -2.5
ITTB Itaituba 21.27 37 *e*P P 02 38 38.9 -1.0
ARNL Arenillas 21.29 327 P P 02 38 42.2 +2.1
VAS01 Vassouras-RJ 23.25 96 *e*P P 02 38 58.1 -1.8
DIAM Diamantina, MG 23.59 86 *e*P P 02 39 01.9 -1.2
MC01 Montes Claros 23.73 82 *e*P P 02 39 02.8 -1.6
PRPB Paranapebas 23.81 52 *e*P P 02 39 04.4 -0.6
SMTB Santa Maria do 23.87 61 *e*P P 02 39 05.2 -0.3
JANB Januaria 23.89 78 *e*P P 02 39 04.4 -1.4
OTAV Otavalo 23.91 335 P P 02 39 08.9 +2.5
OTAV Otavalo 23.91 335 P P 02 39 08.9 +2.5
OTAV Otavalo 23.91 335 *e*P P 02 39 07.5 +1.2
MALB Monte Alegre 24.16 37 *e*P P 02 39 08.8 +0.7
DUB01 Friburgo-RJ 24.25 96 *e*P P 02 39 08.1 -0.9
SDBA SAO DESIDERIO 24.38 71 *e*P P 02 39 08.5 -1.7
BOAV Boa Vista 25.24 19 P P 02 39 19.1 +1.2
BOAV IAmb IAmb 02 39 19.9
comp=Z,31nm,0.6s
BOAV Boa Vista 25.24 19 *e*P P 02 39 17.8 -0.1
SJMB Sao Joao De Ma 25.81 88 *e*P P 02 39 23.0 -0.1
ALF01 Guarapari-ES 25.93 93 *e*P P 02 39 23.0 -1.1
RIB01 Linhares ES 26.43 90 *e*P P 02 39 27.7 -1.0
NAN01 Guarapari, ES 26.98 87 *e*P P 02 39 32.4 -1.2
ROSC El Rosal 27.03 347 P P 02 39 36.1 +1.6
comp=Z,14nm,0.7s,baz=145,slow=9.3,SNR=7.0
ROSC LR LR 02 51 39.1
comp=Z,85nm,19.3s,baz=48,slow=39
comp=Z,14nm,0.7s
GUA01 Guatinga, BA 27.58 84 *e*P P 02 39 38.7 -0.3
TMAB Tom-Au,PA,Br 27.67 49 *e*P P 02 39 40.3 +0.5
CMC01 Camacan, BA 28.19 82 *e*P P 02 39 42.8 -1.6
GDU01 Guandu, BA 28.66 79 *e*P P 02 39 46.9 -1.8
ROSB Rosrio 30.22 55 *e*P P 02 40 00.6 -1.8
BAUV El Baul 30.50 1 P P 02 40 04.9 +0.1
SDV Santo Domingo 30.52 356 P P 02 40 05.1 0.0
comp=Z,12nm,0.5s,baz=174,slow=7.0,SNR=9.3
SDV LR LR 02 53 34.7
comp=Z,73nm,18.1s,baz=147,slow=38
comp=Z,12nm,0.5s
SDV Santo Domingo 30.52 356 P P 02 40 05.2 0.0
SDV IAmb IAmb 02 40 05.7
comp=Z,34nm,1.1s
SDV Santo Domingo 30.52 356 *e*P P 02 40 04.1 -1.1
MDP Montagnes des 30.89 32 P P 02 40 08.8 +0.5
comp=Z,9.1nm,0.6s,baz=215,slow=8.3,SNR=20
MDP LR LR 02 53 28.7
comp=Z,145nm,20.6s,baz=211,slow=38
comp=Z,9.1nm,0.6s
MPGF Montagnes des 30.89 32 P P 02 40 08.1 -0.2
EFI East Falkland 30.96 167 *i*P P 02 40 07.9 -0.6
EFI pmax pmax
comp=Z,37nm,0.9s
NBLA Lagarto - SE 31.30 75 *e*P P 02 40 09.4 -2.6
PCRV Puerto La Cruz 31.95 7 P P 02 40 18.3 +0.7
comp=Z,8.8nm,0.6s,baz=338,slow=5.4,SNR=7.2
comp=Z,8.8nm,0.6s
NBAN Anadia - AL 33.20 74 *e*P P 02 40 27.2 -1.4
TOSP Speyside 33.76 14 IAmb IAmb 02 40 35.2
comp=Z,26nm,0.7s
NBRF Rio Formoso - 34.65 73 *e*P P 02 40 40.1 -1.0
RCBR Riachuelo 35.29 68 P P 02 40 46.9 +0.3
comp=Z,61nm,0.8s,baz=25,slow=10,SNR=13
RCBR LR LR 02 56 08.1
comp=Z,65nm,20.8s,baz=3.0,slow=38
comp=Z,61nm,0.8s
RCBR Riachuelo 35.29 68 P P 02 40 47.1 +0.5
RCBR Riachuelo 35.29 68 P P 02 40 47.1 +0.5
RCBR pmax pmax
comp=Z,40nm,0.8s
RCBR Riachuelo 35.29 68 *e*P P 02 40 46.9 +0.3
JTS Las Juntas de 35.70 331 P P 02 40 53.5 +3.5
JTS Las Juntas de 35.70 331 *i*P P 02 40 51.8 +1.8
JTS pmax pmax
comp=Z,50nm,1.6s
OBIP Obispado Ponce 39.59 3 P P 02 41 19.9 -2.7
SJG San Juan 39.68 4 P P 02 41 22.2 -1.2
comp=Z,26nm,0.7s,baz=124,slow=6.0,SNR=15
SJG pP pP 02 41 50.8 -1.3
comp=Z,19nm,0.8s,baz=239,slow=3.5,SNR=3.6
comp=Z,26nm,0.7s
PMSA Palmer Station 43.11 177 LR LR 03 01 55.8
comp=Z,82nm,18.3s,baz=92,slow=39
TEIG Tepich 45.97 334 P P 02 42 15.1 +0.9
TEIG IAmb IAmb 02 42 15.2
comp=Z,20nm,0.8s
TEIG Tepich 45.97 334 P P 02 42 13.4 -0.7
TEIG pP pP 02 42 43.4 +0.3
SMAI San Martin Ant 46.39 179 P P 02 42 18.7 +1.9
CMIG Matias Romero 46.45 324 P P 02 42 19.2 +1.3
comp=Z,20nm,1.0s,baz=139,slow=5.0,SNR=16
comp=Z,20nm,1.0s
DWPF Disney Wildern 51.11 345 P P 02 42 54.7 +1.3
baz=165
DWPF Disney Wildern 51.11 345 P P 02 42 54.0 +0.5
baz=165
DWPF Disney Wildern 51.11 345 P P 02 42 53.9 +0.5
656A Willston 52.59 345 P P 02 43 05.7 +1.4
baz=164
456A Hilliard 53.76 346 P P 02 43 14.4 +1.5
baz=165
TIGA Tifton 54.83 344 P P 02 43 21.4 +0.8
baz=163
TIGA Tifton 54.83 344 P P 02 43 21.1 +0.5
baz=163
255A Hazlehurst 55.02 346 P P 02 43 23.0 +1.1
baz=164
352A Blakely 55.22 343 P P 02 43 23.9 +0.5
baz=162,SNR=12
BRAL Brewton 55.54 341 P P 02 43 26.4 +0.7
baz=159,SNR=5.0
BRAL Brewton 55.54 341 P P 02 43 26.5 +0.7
baz=159,SNR=5.0
NHSC New Hope 55.67 348 pP pP 02 43 59.0 +2.2
NHSC New Hope 55.67 348 P P 02 43 28.2 +1.5
baz=167,SNR=17
NHSC New Hope 55.67 348 P P 02 43 28.0 +1.4
baz=167,SNR=17
154A Montrose 55.83 345 P P 02 43 28.3 +0.5
baz=164,SNR=6.0
250A Grady 56.06 342 P P 02 43 29.7 +0.2
baz=160,SNR=5.2
HAW Hawthorne Fire 56.21 347 P P 02 43 31.1 +0.7
baz=166,SNR=11
152A Waverly Hall 56.28 344 P P 02 43 31.2 +0.2
baz=162
Y58A Scranton 56.35 349 P P 02 43 32.3 +0.8
baz=168,SNR=6.8
Y58A P P 02 43 32.3 +0.8
baz=168,SNR=6.8
346A Big Creek Wild 56.52 338 P P 02 43 33.3 +0.6
baz=157
Y57A Sumter 56.60 348 P P 02 43 34.4 +1.2
baz=167
Y57A P P 02 43 34.4 +1.2
baz=167
GOGA Godfrey 56.68 345 P P 02 43 34.0 +0.3
baz=164,SNR=5.9
GOGA Godfrey 56.68 345 P P 02 43 33.9 +0.1
baz=164,SNR=5.9
X58A Rowland 56.93 349 P P 02 43 36.5 +1.0
baz=168,SNR=7.5
X58A P P 02 43 36.5 +1.0
baz=168,SNR=7.5
Z51A Franklin 57.02 343 P P 02 43 36.5 +0.3
baz=162
JSC Jenkinsville 57.02 347 P P 02 43 37.0 +0.8
baz=166,SNR=11
344A Westbrook Farm 57.03 337 P P 02 43 36.8 +0.5
baz=156
HODGE Hodges 57.19 346 P P 02 43 38.0 +0.6
baz=165,SNR=5.2
BIRD Birdtown, Kers 57.22 348 pP pP 02 44 09.8 +1.9
BIRD Birdtown, Kers 57.22 348 P P 02 43 38.7 +1.1
baz=167,SNR=18
Y52A Lilburn 57.25 345 P P 02 43 38.0 +0.1
baz=163,SNR=5.9
Y52A P P 02 43 38.0 +0.1
baz=163,SNR=5.9
LRAL Lakeview Retre 57.26 342 IAmb IAmb 02 43 38.5
comp=Z,12nm,0.9s
LRAL Lakeview Retre 57.26 342 P P 02 43 37.9 0.0
baz=160,SNR=6.1
LRAL Lakeview Retre 57.26 342 P P 02 43 38.0 0.0
baz=160,SNR=6.1
W57A Gilead 57.63 349 P P 02 43 41.3 +0.8
baz=168,SNR=9.9
W57A P P 02 43 41.3 +0.8
baz=168,SNR=9.9
PAULI Pauline 57.66 347 P P 02 43 41.7 +1.0
baz=166,SNR=8.0
HKT Hockley 57.73 332 P P 02 43 42.5 +1.3
HKT IAmb IAmb 02 43 44.9
comp=Z,15nm,1.2s
HKT Hockley 57.73 332 *i*P P 02 43 42.1 +0.9
HKT pmax pmax
comp=Z,27nm,1.9s
HKT Hockley 57.73 332 P P 02 43 42.4 +1.2
baz=150
Z47A Carrollton 57.74 341 P P 02 43 41.4 +0.2
baz=159,SNR=5.6
Y49A Blount Mountai 57.87 342 IAmb IAmb 02 43 43.0
comp=Z,15nm,1.1s
Y49A Blount Mountai 57.87 342 P P 02 43 42.0 -0.1
baz=160,SNR=6.3
KMSC Kings Mountain 57.87 348 P P 02 43 43.3 +1.1
baz=166,SNR=10.0
KMSC Kings Mountain 57.87 348 P P 02 43 43.1 +1.0
baz=166,SNR=10.0
833A Chaparral WMA, 58.02 328 P P 02 43 44.2 +0.8
baz=146,SNR=12
833A Chaparral WMA, 58.02 328 P P 02 43 44.5 +1.2
baz=146,SNR=12
CASEE Lake Jocassee 58.07 346 P P 02 43 44.4 +0.9
baz=164,SNR=7.6
V58A Windy Hill, Pi 58.10 350 P P 02 43 44.6 +0.9
baz=168,SNR=10
V58A P P 02 43 44.6 +0.9
baz=168,SNR=10
X51A Calhoun 58.12 344 P P 02 43 44.3 +0.4
baz=162,SNR=6.2
X51A P P 02 43 44.3 +0.4
baz=162,SNR=6.2
W52A Murphy 58.39 345 P P 02 43 46.3 +0.5
baz=163,SNR=6.4
U59A Littleton 58.45 351 P P 02 43 46.8 +0.7
baz=170,SNR=6.4
U59A P P 02 43 46.8 +0.7
baz=170,SNR=6.4
BELA Belgrano 2 58.45 172 P P 02 43 46.4 +0.7
V55A Taylorsville 58.54 348 P P 02 43 48.1 +1.3
baz=166,SNR=25
V55A P P 02 43 48.1 +1.3
baz=166,SNR=25
X48A Hartselle 58.60 342 P P 02 43 47.6 +0.3
baz=160,SNR=17
V53A Saluda 58.69 346 P P 02 43 48.6 +0.7
baz=165,SNR=11
V53A P P 02 43 48.6 +0.7
baz=165,SNR=11
NATX Nacogdoches 58.81 334 P P 02 43 50.2 +1.4
baz=152
Y45A Yeager Farm, C 58.82 340 P P 02 43 49.3 +0.5
baz=157,SNR=6.6
W50A Signal Mountai 58.84 344 P P 02 43 49.5 +0.6
baz=162,SNR=15
U56A King 58.86 349 P P 02 43 50.4 +1.4
baz=167,SNR=12
U56A P P 02 43 50.4 +1.4
baz=167,SNR=12
TKL Tuckaleechee C 58.90 346 P P 02 43 49.6 +0.3
baz=164,SNR=14
T59A Double "B" Far 59.02 352 P P 02 43 50.8 +0.7
baz=170,SNR=8.3
T59A P P 02 43 50.8 +0.7
baz=170,SNR=8.3
V52A Sevierville 59.03 346 P P 02 43 50.7 +0.5
baz=164,SNR=19
V51A Loudon 59.17 345 IAmb IAmb 02 43 52.4
comp=Z,14nm,0.8s
V51A Loudon 59.17 345 P P 02 43 51.7 +0.5
baz=163,SNR=10
435B Jarrell 59.22 331 P P 02 43 52.3 +0.7
baz=148
T57A Hurt 59.30 350 P P 02 43 53.2 +1.1
baz=168,SNR=13
T57A P P 02 43 53.2 +1.1
baz=168,SNR=13
U54A Nelsons Funny 59.30 348 P P 02 43 53.0 +0.8
baz=166,SNR=29
U54A P P 02 43 53.0 +0.8
baz=166,SNR=29
OXF Oxford 59.37 340 P P 02 43 52.3 -0.3
baz=158
OXF Oxford 59.37 340 P P 02 43 52.1 -0.5
baz=158
PLAL Pickwick Lake 59.40 341 IAmb IAmb 02 43 53.4
comp=Z,24nm,1.1s
TZTN Tazewell 59.69 346 IAmb IAmb 02 43 56.0
comp=Z,12nm,0.8s
TZTN Tazewell 59.69 346 P P 02 43 55.0 +0.2
baz=164,SNR=6.3
TZTN Tazewell 59.69 346 P P 02 43 55.1 +0.3
baz=164,SNR=6.3
BLA Blacksburg 59.71 349 P P 02 43 56.3 +1.4
baz=167,SNR=14
BLA Blacksburg 59.71 349 P P 02 43 56.3 +1.4
baz=167,SNR=14
VNA3 Neumayer Olymp 59.72 161 P P 02 43 55.5 +0.9
V48A Smith Brothers 59.75 343 P P 02 43 55.4 +0.3
baz=160,SNR=11
VNA1 Neumayer--Stat 59.93 160 P P 02 43 57.3 +1.3
S57A Dark Hollow, R 60.00 350 P P 02 43 57.9 +1.1
baz=169,SNR=12
S57A P P 02 43 57.9 +1.1
baz=169,SNR=12
JCT Junction City 60.00 329 P P 02 43 57.8 +0.7
baz=146,SNR=8.9
JCT Junction City 60.00 329 P P 02 43 57.7 +0.7
baz=146,SNR=8.9
R58B Mineral 60.04 351 P P 02 43 58.2 +1.2
baz=170,SNR=9.5
R58B P P 02 43 58.2 +1.2
baz=170,SNR=9.5
WHTX Lake Whitney, 60.19 332 P P 02 43 59.1 +0.9
baz=149
U49A Red Boiling Sp 60.20 344 IAmb IAmb 02 43 58.8
comp=Z,14nm,0.7s
U49A Red Boiling Sp 60.20 344 P P 02 43 58.2 0.0
baz=162,SNR=11
Z38A Mt. Pleasant 60.25 335 P P 02 44 00.0 +1.4
baz=152
HPIG 60.30 322 IAmb IAmb 02 44 01.5
comp=Z,8.1nm,0.7s
VNA2 Neumayer--Watz 60.30 161 P P 02 43 59.4 +0.9
baz=275,slow=8.0
WVT Waverly 60.40 342 P P 02 43 59.3 -0.3
WVT Waverly 60.40 342 P P 02 43 59.3 -0.3
WVT pmax pmax
comp=Z,32nm,0.8s
WVT Waverly 60.40 342 P P 02 43 59.2 -0.3
baz=160,SNR=24
WVT Waverly 60.40 342 P P 02 43 59.3 -0.3
baz=160
WVT Waverly 60.40 342 P P 02 43 58.5 -1.0
WVT pP pP 02 44 29.2 -0.8
S54A Dingess, Beckl 60.44 348 P P 02 44 00.9 +1.0
baz=166,SNR=12
S54A P P 02 44 00.9 +1.0
baz=166,SNR=12
R55A Marlinton 60.70 350 P P 02 44 03.5 +1.9
baz=168,SNR=17
R55A P P 02 44 03.5 +1.9
baz=168,SNR=17
S51A Beattyville 60.75 346 P P 02 44 01.9 0.0
baz=164,SNR=5.1
S51A P P 02 44 01.9 0.0
baz=164,SNR=5.1
MIAR Mount Ida 60.84 336 P P 02 44 03.0 +0.4
baz=153,SNR=18
MIAR Mount Ida 60.84 336 P P 02 44 03.2 +0.6
baz=153,SNR=18
T47A Sharon Grove 61.00 343 P P 02 44 03.9 +0.3
baz=160,SNR=15
TXAR Lajitas Array 61.04 325 P P 02 44 05.1 +0.9
comp=Z,1.6nm,0.6s,baz=151,slow=9.2,SNR=27

TXAR pP **pP** **02 44 33.9 -0.8**
comp=Z,1.6nm,0.8s,baz=132,slow=5.6,SNR=5.0
comp=Z,1.6nm,0.6s
TX31 Lajitas Ar. Si **61.04 325** P **P** **02 44 05.2 +1.0**
baz=143,SNR=8.4
WHAR Wooly Hollow **61.05 338** IAmb IAmb 02 44 05.2
comp=Z,16nm,0.9s
R53A Hurricane **61.08 348** P **P** **02 44 05.0 +0.9**
baz=166,SNR=5.4
R53A P **P** **02 44 05.0 +0.9**
baz=166,SNR=5.4
Q56A Snyder Ridge, **61.29 351** P **P** **02 44 06.7 +1.1**
baz=169
Q56A P **P** **02 44 06.7 +1.1**
baz=169
LCAR Lake Charles **61.37 339** IAmb IAmb 02 44 07.1
comp=Z,14nm,0.8s
T45B Paducah **61.46 342** P **P** **02 44 07.0 +0.4**
baz=159,SNR=13
Q54A Coxs Mills **61.51 349** P **P** **02 44 07.9 +0.9**
baz=167,SNR=12
Q54A P **P** **02 44 07.9 +0.9**
baz=167,SNR=12
R50A Paris **61.53 346** P **P** **02 44 07.6 +0.4**
baz=163
R50A P **P** **02 44 07.6 +0.4**
baz=163
P57A Homestead Farm **61.56 352** P **P** **02 44 09.1 +1.8**
baz=170,SNR=12
P57A P **P** **02 44 09.1 +1.8**
baz=170,SNR=12
X37A Clayton **61.57 335** IAmb IAmb 02 44 09.7
comp=Z,22nm,0.9s
X37A Clayton **61.57 335** P **P** **02 44 08.7 +1.1**
baz=152,SNR=13
ABTX Abilene, Hawle **61.71 330** P **P** **02 44 09.3 +0.8**
baz=147
R49A Shelbyville **61.74 345** P **P** **02 44 08.6 +0.1**
baz=163,SNR=5.6
R49A P **P** **02 44 08.6 +0.1**
baz=163,SNR=5.6
Q52A Bidwell **61.75 348** IAmb IAmb 02 44 10.0
comp=Z,18nm,0.7s
Q52A Bidwell **61.75 348** P **P** **02 44 09.1 +0.5**
baz=166
Q52A P **P** **02 44 09.1 +0.5**
baz=166
TUPA Temple Univers **61.91 354** P **P** **02 44 10.5 +0.8**
baz=173
SNAA Sanae **61.93 161** P **P** **02 44 10.3 +0.7**
SNAA Sanae **61.93 161** P **P** **02 44 10.3 +0.7**
comp=Z,14nm,0.7s,baz=281,slow=6.4,SNR=30
comp=Z,14nm,0.7s
SNAA Sanae **61.93 161** P **P** **02 44 10.2 +0.6**
SNAA IAmb IAmb 02 44 11.3
comp=Z,16nm,0.7s
SNAA Sanae **61.93 161** ⇑*i*P **P** **02 44 10.2 +0.7**
SNAA Sanae **61.93 161** *i* P **P** **02 44 09.5 -0.1**
SNAA pmax pmax
comp=Z,18nm,0.8s
WCI Wyandotte Cave **61.95 344** P **P** **02 44 09.8 -0.2**
WCI Wyandotte Cave **61.95 344** P **P** **02 44 09.8 -0.2**
WCI pmax pmax
comp=Z,27nm,0.8s
WCI Wyandotte Cave **61.95 344** P **P** **02 44 09.6 -0.4**
baz=161,SNR=9.7
WCI Wyandotte Cave **61.95 344** P **P** **02 44 09.8 -0.2**
baz=161
MCWV Mont Chateau **62.00 350** P **P** **02 44 11.8 +1.6**
baz=168,SNR=15
MCWV Mont Chateau **62.00 350** P **P** **02 44 11.6 +1.3**
baz=168,SNR=15
Q51A Peebles **62.03 347** P **P** **02 44 10.9 +0.4**
baz=164
Q51A P **P** **02 44 10.9 +0.4**
baz=164
P53A Whipple **62.09 349** P **P** **02 44 12.1 +1.2**
baz=167,SNR=12
P53A P **P** **02 44 12.1 +1.2**
baz=167,SNR=12
S44A Carbondale **62.27 341** P **P** **02 44 12.2 +0.2**
baz=158,SNR=13
P52A Corning **62.38 348** P **P** **02 44 13.2 +0.4**
baz=166,SNR=7.6
BBTS Babate **62.52 59** LR LR 03 10 52.8
comp=Z,73nm,18.5s,baz=241,slow=35
HHAR Hobbs **62.52 337** IAmb IAmb 02 44 15.4
comp=Z,18nm,0.9s
HHAR Hobbs **62.52 337** P **P** **02 44 14.3 +0.4**
baz=154
O54A Avella **62.60 350** P **P** **02 44 15.2 +0.9**
baz=168,SNR=14
O54A P **P** **02 44 15.2 +0.9**
baz=168,SNR=14
PAL Palisades **62.63 355** P **P** **02 44 15.8 +1.4**
baz=174
SSPA Standing Stone **62.67 352** P **P** **02 44 15.9 +1.2**
SSPA IAmb IAmb 02 44 16.4
comp=Z,13nm,0.8s
SSPA Standing Stone **62.67 352** P **P** **02 44 15.6 +0.8**
baz=170
SSPA Standing Stone **62.67 352** P **P** **02 44 15.8 +1.0**
baz=170
N58A Sunbury **62.73 353** P **P** **02 44 16.3 +1.2**
baz=172,SNR=8.3
N58A P **P** **02 44 16.3 +1.2**
baz=172,SNR=8.3
O52A Adamsville **62.79 349** IAmb IAmb 02 44 16.9
comp=Z,21nm,0.8s
O52A Adamsville **62.79 349** P **P** **02 44 16.2 +0.7**
baz=166,SNR=8.9
O52A P **P** **02 44 16.2 +0.7**
baz=166,SNR=8.9
O53A New Philadelph **62.80 349** P **P** **02 44 16.3 +0.7**
baz=167,SNR=8.4
P49A Miami Univ. Ec **62.82 346** P **P** **02 44 15.5 -0.2**
baz=163,SNR=7.5
P49A Miami Univ. Ec **62.82 346** P **P** **02 44 15.5 -0.2**
baz=163,SNR=7.5
U38A Gravette **62.83 337** P **P** **02 44 16.3 +0.4**
baz=153
UPAO U. Pittsburgh **62.83 350** P **P** **02 44 16.9 +1.1**
baz=168
FVM French Village **62.89 341** P **P** **02 44 16.9 +0.7**
baz=157,SNR=8.6
TUL1 Leonard **62.89 335** IAmb IAmb 02 44 18.0
comp=Z,16nm,0.9s
TUL1 Leonard **62.89 335** P **P** **02 44 17.1 +0.8**
baz=152
TUL1 Leonard **62.89 335** P **P** **02 44 16.7 +0.4**
baz=152
P48A Milroy **62.91 345** IAmb IAmb 02 44 16.6
comp=Z,14nm,0.9s
P48A Milroy **62.91 345** P **P** **02 44 15.8 -0.5**
baz=162,SNR=5.5
P48A P **P** **02 44 15.8 -0.5**
baz=162,SNR=5.5
WMOK Wichita Mounta **63.11 332** P **P** **02 44 17.7 -0.1**
baz=149
ACSO Alum Creek Sta **63.12 348** P **P** **02 44 18.0 +0.3**
baz=165,SNR=8.6
ACSO Alum Creek Sta **63.12 348** P **P** **02 44 17.9 +0.2**
baz=165,SNR=8.6
CCM Cathedral Cave **63.21 340** P **P** **02 44 18.4 +0.1**
CCM IAmb IAmb 02 44 19.5
comp=Z,25nm,0.8s
CCM Cathedral Cave **63.21 340** P **P** **02 44 18.4 +0.1**
CCM pmax pmax
comp=Z,25nm,0.9s
CCM Cathedral Cave **63.21 340** P **P** **02 44 18.5 +0.1**
baz=156,SNR=20
CCM Cathedral Cave **63.21 340** P **P** **02 44 18.5 +0.1**
baz=156
CCM Cathedral Cave **63.21 340** P **P** **02 44 17.4 -0.9**
CCM sP **sP** **02 45 04.5 +1.7**
M57A Sunshine Farm, **63.27 353** IAmb IAmb 02 44 20.6
comp=Z,18nm,0.7s
M57A Sunshine Farm, **63.27 353** P **P** **02 44 20.3 +1.6**
baz=171,SNR=6.3
M57A P **P** **02 44 20.3 +1.6**
baz=171,SNR=6.3
N53A Lisbon **63.28 350** P **P** **02 44 19.3 +0.5**
baz=167,SNR=5.1
N53A P **P** **02 44 19.3 +0.5**
baz=167,SNR=5.1
Q44A Meyer Farm, Va **63.32 342** IAmb IAmb 02 44 20.0
comp=Z,22nm,0.8s
Q44A Meyer Farm, Va **63.32 342** P **P** **02 44 18.8 -0.2**
baz=159,SNR=5.1
KSPA Keystone Colle **63.34 354** P **P** **02 44 20.4 +1.3**
baz=173,SNR=5.3
O49A Covington **63.36 346** IAmb IAmb 02 44 20.2
comp=Z,19nm,1.0s
O49A Covington **63.36 346** P **P** **02 44 19.1 -0.2**
baz=164,SNR=6.9
O49A P **P** **02 44 19.1 -0.2**
baz=164,SNR=6.9
NPNY Mohonk Preserv **63.40 355** P **P** **02 44 20.9 +1.4**
baz=174
OK033 Mehan **63.46 334** IAmb IAmb 02 44 21.6
comp=Z,21nm,0.9s
S39A Bolivar **63.57 338** P **P** **02 44 21.2 +0.4**
baz=154,SNR=15
O48B Farmland **63.61 346** P **P** **02 44 21.0 0.0**
baz=163,SNR=6.5
O48B Farmland **63.61 346** P **P** **02 44 20.7 -0.2**
baz=163,SNR=6.5
M55A Ridgway **63.61 351** IAmb IAmb 02 44 22.9
comp=Z,28nm,0.8s
M55A pP pP 02 44 53.5 +1.8
M55A Ridgway **63.61 351** P **P** **02 44 21.8 +0.9**
baz=170,SNR=11
M55A P **P** **02 44 21.8 +0.9**
baz=170,SNR=11
TROLL Troll, Antarti **63.64 161** P **P** **02 44 22.1 +1.1**
GDL2 Guadalupe Moun **63.67 326** pP pP 02 44 53.5 +1.2
R40A Maddies Statio **63.75 339** P **P** **02 44 22.3 +0.4**
baz=156,SNR=13
MNTX Cornudas Mount **63.81 325** IAmb IAmb 02 44 24.0
comp=Z,15nm,1.2s
MNTX Cornudas Mount **63.81 325** P **P** **02 44 22.9 +0.4**
baz=142,SNR=16
MNTX Cornudas Mount **63.81 325** P **P** **02 44 22.9 +0.4**
baz=142,SNR=16
M53A WI Miller and **63.87 350** pP pP 02 44 54.9 +1.4
M53A WI Miller and **63.87 350** P **P** **02 44 23.4 +0.7**
baz=168,SNR=11
L59A Walton **63.90 355** P **P** **02 44 24.4 +1.5**
baz=173,SNR=6.2
L59A P **P** **02 44 24.4 +1.5**
baz=173,SNR=6.2
ALLY Alegheny Colle **63.99 350** P **P** **02 44 24.0 +0.5**
baz=168
L61B Northampton **63.99 357** P **P** **02 44 23.9 +0.6**
baz=176
HRV Adam Dziewonsk **63.99 357** P **P** **02 44 23.6 +0.2**
baz=177
BINY Binghamton **64.00 354** pP pP 02 44 56.4 +1.8
BINY Binghamton **64.00 354** P **P** **02 44 24.6 +1.1**
baz=172,SNR=11
BINY Binghamton **64.00 354** P **P** **02 44 24.6 +1.1**
baz=172,SNR=11
N49A Columbus Grove **64.03 347** P **P** **02 44 24.0 +0.3**
baz=164,SNR=9.9
N49A P **P** **02 44 24.0 +0.3**
baz=164,SNR=9.9
T35A Sooner Cattle **64.05 335** IAmb IAmb 02 44 25.8
comp=Z,23nm,1.2s
T35B Sooner Cattle **64.05 335** P **P** **02 44 24.9 +0.9**
baz=151,SNR=5.2
M52A Chesterland **64.08 349** P **P** **02 44 24.8 +0.8**
baz=167,SNR=5.8
M52A P **P** **02 44 24.8 +0.8**
baz=167,SNR=5.8
L56A Greenwood **64.11 353** P **P** **02 44 25.0 +0.8**
baz=171,SNR=7.4
L56A P **P** **02 44 25.0 +0.8**
baz=171,SNR=7.4
SFIN Lafayette **64.19 344** P **P** **02 44 23.8 -0.9**
baz=161
MSTX Muleshoe **64.30 329** P **P** **02 44 26.6 +0.8**
baz=145,SNR=12
MSTX Muleshoe **64.30 329** P **P** **02 44 25.9 +0.2**
baz=145,SNR=12
ERPA Erie **64.42 351** P **P** **02 44 26.9 +0.7**
baz=168,SNR=9.6
ERPA Erie **64.42 351** P **P** **02 44 27.0 +0.7**
baz=168,SNR=9.6
AMTX Amarillo **64.53 330** P **P** **02 44 27.4 +0.1**
baz=146
K57A Scipio Center **64.58 353** P **P** **02 44 27.8 +0.5**
baz=172,SNR=6.8
P40A Paris **64.81 340** P **P** **02 44 28.9 +0.1**
baz=156,SNR=8.2
HDIL Hopedale **64.93 343** P **P** **02 44 29.0 -0.6**
baz=159
J59A Piesco **65.12 355** P **P** **02 44 32.2 +1.4**
baz=174,SNR=8.8
J59A P **P** **02 44 32.2 +1.4**
baz=174,SNR=8.8
J56A Wolcott **65.16 353** P **P** **02 44 31.5 +0.6**
baz=172,SNR=9.8
J56A P **P** **02 44 31.5 +0.6**
baz=172,SNR=9.8
P38A Dawn **65.38 339** IAmb IAmb 02 44 33.7
comp=Z,15nm,0.9s
P38A pP pP 02 44 55.3 -8.1
P38A Dawn **65.38 339** P **P** **02 44 32.8 +0.4**
baz=155,SNR=7.0
K50A Casco **65.51 349** P **P** **02 44 33.4 +0.1**
baz=166,SNR=5.5
K50A P **P** **02 44 33.4 +0.1**
baz=166,SNR=5.5
N41A Harden Midland **65.52 341** IAmb IAmb 02 44 37.3
comp=Z,27nm,1.4s
N41A Harden Midland **65.52 341** P **P** **02 44 33.1 -0.3**
baz=157
NCB Newcomb **65.61 355** P **P** **02 44 34.5 +0.6**
baz=174
WCNY West Carthage **65.73 354** P **P** **02 44 35.9 +1.3**
baz=173,SNR=6.4
LBNH Lisbon **65.74 357** P **P** **02 44 35.4 +0.7**
baz=177
121A Cookes Peak, D **65.75 324** IAmb IAmb 02 44 38.7
comp=Z,36nm,1.4s
121A Cookes Peak, D **65.75 324** P **P** **02 44 36.9 +1.7**
baz=140
121A Cookes Peak, D **65.75 324** P **P** **02 44 37.3 +2.1**
baz=140,SNR=11
KSU1 Kansas State U **66.00 336** P **P** **02 44 36.4 -0.1**
baz=152
L44A Lake County Fo **66.09 344** P **P** **02 44 36.7 -0.3**
baz=160
LONY Lake Ozonia **66.28 355** IAmb IAmb 02 44 40.3
comp=Z,18nm,0.9s
LONY pP pP 02 45 11.1 +1.7
LONY Lake Ozonia **66.28 355** P **P** **02 44 38.9 +0.8**
baz=174,SNR=6.4
J47A Sunmer **66.38 347** P **P** **02 44 38.4 -0.5**
baz=164
J47A P **P** **02 44 38.4 -0.5**
baz=164
Y22A Socorro **66.39 326** P **P** **02 44 41.5 +2.2**
baz=141,SNR=7.4
NVL N'lazarevskaya **66.47 159** *e*P **P** **02 44 39.8 +0.7**
NVL pmax pmax
comp=Z,26nm,1.0s
BMNY Brighton-Moira **66.49 355** P **P** **02 44 40.2 +0.7**
baz=174,SNR=11
G62A West of Eustis **66.67 358** IAmb IAmb 02 44 43.2
comp=Z,29nm,0.9s
G62A West of Eustis **66.67 358** P **P** **02 44 42.4 +1.8**
baz=178,SNR=6.7
G62A P **P** **02 44 42.4 +1.8**
baz=178,SNR=6.7
PKME Peaks-Kenny Pk **66.69 359** P **P** **02 44 41.7 +1.0**
baz=179
L40A Anamosa **66.88 342** P **P** **02 44 42.5 +0.5**
baz=157,SNR=5.5
SADO Sadowa **66.90 352** LR LR 03 15 02.5
comp=Z,45nm,20.1s,baz=48,slow=37
ANMO Albuquerque **66.91 327** P **P** **02 44 44.2 +1.6**
ANMO IAmb IAmb 02 44 45.6
comp=Z,29nm,1.5s
ANMO Albuquerque **66.91 327** P **P** **02 44 44.2 +1.6**
ANMO pmax pmax
comp=Z,29nm,1.5s
ANMO Albuquerque **66.91 327** P **P** **02 44 44.3 +1.6**
baz=142,SNR=18
ANMO Albuquerque **66.91 327** P **P** **02 44 44.2 +1.6**
baz=142
ANMO Albuquerque **66.91 327** P **P** **02 44 43.0 +0.4**
ANMO pP **pP** **02 45 14.1 +0.4**
ANMO sP **sP** **02 45 27.9 +0.6**
CBKS Cedar Bluff **66.97 334** P **P** **02 44 43.8 +1.1**
baz=149,SNR=6.7
CBKS Cedar Bluff **66.97 334** P **P** **02 44 43.7 +0.9**
baz=149,SNR=6.7
TUC Tucson **67.26 322** P **P** **02 44 46.7 +1.9**
TUC IAmb IAmb 02 44 48.0
comp=Z,27nm,1.4s
TUC Tucson **67.26 322** P **P** **02 44 46.7 +1.9**
TUC pmax pmax
comp=Z,27nm,1.4s
TUC Tucson **67.26 322** P **P** **02 44 46.6 +1.9**
baz=138
TUC Tucson **67.26 322** P **P** **02 44 46.0 +1.3**
F64A Sherman **67.29 0** P **P** **02 44 46.0 +1.5**
F64A IAmb IAmb 02 44 46.6
comp=Z,19nm,0.7s
SCIA State Center **67.34 340** P **P** **02 44 44.2 -0.7**
baz=155
JFWS Jewell Farm **67.39 343** IAmb IAmb 02 44 46.3
comp=Z,18nm,0.8s
JFWS Jewell Farm **67.39 343** P **P** **02 44 45.3 +0.1**
baz=158
JFWS Jewell Farm **67.39 343** P **P** **02 44 45.0 -0.2**
baz=158
T25A Trinidad **67.64 330** IAmb IAmb 02 44 50.2
comp=Z,28nm,1.6s
T25A Trinidad **67.64 330** P **P** **02 44 48.7 +1.5**
baz=144,SNR=6.4
E63A Oxbow **67.85 0** P **P** **02 44 49.4 +1.4**
baz=180,SNR=6.2
E63A P **P** **02 44 49.4 +1.4**
baz=180,SNR=6.2
GLMI Grayling **67.86 348** P **P** **02 44 49.1 +1.0**
baz=164
TRQ Mont Tremblant **67.87 355** pP pP 02 45 21.0 +1.4
K38A Parkersburg **67.87 341** P **P** **02 44 48.2 0.0**
baz=156
I42A Draeger Farm, **67.95 344** P **P** **02 44 48.8 +0.1**
baz=160
E62A Clayton Lake **68.05 359** P **P** **02 44 50.9 +1.6**
baz=179,SNR=11
E62A P **P** **02 44 50.9 +1.6**
baz=179,SNR=11
LIC Lamto **68.11 73** ⇑*i*P **P** **02 44 50.3 -0.1**
comp=Z,22nm,0.4s
214A Organ Pipe Nat **68.19 320** IAmb IAmb 02 44 54.1
comp=Z,33nm,1.1s
214A Organ Pipe Nat **68.19 320** P **P** **02 44 52.6 +2.1**
baz=138,SNR=11
TIC Toumodi **68.30 73** ⇑*i*P **P** **02 44 51.6 0.0**
comp=Z,27nm,0.6s
KSCO Kaye Shedlock' **68.36 332** IAmb IAmb 02 44 53.6
comp=Z,16nm,0.9s
KSCO Kaye Shedlock' **68.36 332** P **P** **02 44 52.9 +1.3**
baz=146
KIC Kosan Boka **68.42 74** ⇑*i*P **P** **02 44 52.6 +0.3**
comp=Z,37nm,0.4s
L34A Svendsen Farm, **68.44 338** P **P** **02 44 52.3 +0.5**
baz=152
QSPA South Pole Qui **68.44 180** P **P** **02 44 52.1 +0.3**
QSPA pP **pP** **02 45 25.4 +2.9**
QSPA sP **sP** **02 45 38.5 +2.5**
DBIC Dimbokro **68.46 73** P **P** **02 44 52.8 +0.3**
comp=Z,43nm,0.7s,baz=247,slow=6.3,SNR=49
comp=Z,43nm,0.7s
DBIC Dimbokro **68.46 73** IAmb IAmb 02 44 53.7
comp=Z,46nm,0.8s
DBIC Dimbokro **68.46 73** ⇑*i*P **P** **02 44 52.8 +0.3**
DBIC IAmb IAmb 02 44 53.6
comp=Z,45nm,0.8s
D62A Allapoint, All **68.51 360** P **P** **02 44 53.6 +1.5**
baz=180,SNR=16
D62A P **P** **02 44 53.6 +1.5**
baz=180,SNR=16
BGNE Belgrade **68.59 336** P **P** **02 44 53.8 +1.0**
baz=151,SNR=14
BGNE Belgrade **68.59 336** P **P** **02 44 53.4 +0.7**
baz=151,SNR=14
SDCO Great Sand Dun **68.65 329** P **P** **02 44 55.4 +1.8**
baz=143,SNR=34
SDCO Great Sand Dun **68.65 329** P **P** **02 44 55.1 +1.6**
baz=143,SNR=34
BATG Bathurst New B **68.74 2** P **P** **02 44 55.0 +1.5**
BATG IAmb IAmb 02 44 55.6
comp=Z,19nm,0.8s
W18A Petrified Fore **68.76 325** P **P** **02 44 56.2 +2.0**
baz=139,SNR=10
E46A Sault Ste Mari **69.29 348** pP pP 02 45 28.7 +0.4
E46A Sault Ste Mari **69.29 348** P **P** **02 44 57.1 +0.1**
baz=164,SNR=5.7
S22A 4UR Ranch, Cre **69.29 328** P **P** **02 44 59.0 +1.4**
baz=142,SNR=10
I37B Waseca **69.31 341** P **P** **02 44 57.4 +0.3**
baz=156
Q24A Divide **69.46 330** P **P** **02 45 00.2 +1.6**
baz=144,SNR=11
MVCO Mesa Verde **69.70 327** IAmb IAmb 02 45 03.1
comp=Z,32nm,1.1s
MVCO Mesa Verde **69.70 327** P **P** **02 45 01.9 +1.9**
baz=141,SNR=20
OGNE Ogallala **69.72 334** IAmb IAmb 02 45 02.2
comp=Z,68nm,1.9s
OGNE Ogallala **69.72 334** P **P** **02 45 01.3 +1.4**
baz=147
WUAZ Wupatki **69.95 324** P **P** **02 45 04.0 +2.5**
baz=138,SNR=32
VLDQ Val d'Or **70.00 354** IAmb IAmb 02 45 03.2
comp=Z,26nm,0.8s
ECSD EROS Data Cent **70.08 339** P **P** **02 45 02.2 +0.3**
baz=152
ECSD EROS Data Cent **70.08 339** P **P** **02 45 02.2 +0.3**
baz=152
GLA Glamis **70.16 320** P **P** **02 45 04.8 +2.1**
baz=135
SPMN Marine on St. **70.23 342** P **P** **02 45 03.2 +0.4**
baz=156
ISCO Idaho Springs **70.34 330** IAmb IAmb 02 45 06.8
comp=Z,32nm,1.6s
ISCO pP pP 02 45 36.4 +1.1
ISCO Idaho Springs **70.34 330** P **P** **02 45 05.6 +1.6**
baz=144,SNR=13
ISCO Idaho Springs **70.34 330** P **P** **02 45 05.6 +1.6**
baz=144,SNR=13
BLYC Blythe **70.47 321** IAmb IAmb 02 45 08.1
comp=Z,28nm,1.1s
PDMCI Parker Dam,Lak **70.64 321** P **P** **02 45 07.5 +2.0**
baz=136
IKP In-Ko-Pah, Jac **70.66 319** P **P** **02 45 08.4 +2.5**
baz=134
SWSC Sam W. Stewart **70.68 319** P **P** **02 45 08.0 +2.2**
baz=134
BC3 Big Chuckawall **70.96 320** P **P** **02 45 10.0 +2.4**
baz=134,SNR=13
F36A Milaca **71.02 342** P **P** **02 45 07.8 +0.3**
baz=156,SNR=7.4
MONP2 Monument Peak **71.02 319** P **P** **02 45 10.6 +2.5**
baz=133,SNR=5.7
BAR Barrett **71.03 318** IAmb IAmb 02 45 11.3
comp=Z,18nm,0.9s
IRM Iron Mountain **71.12 320** P **P** **02 45 10.8 +2.3**
baz=135,SNR=17
NEE2 Needles Airpor **71.24 321** P **P** **02 45 10.9 +1.8**
baz=135
N23A Red Feather La **71.37 331** P **P** **02 45 11.9 +1.7**
baz=144,SNR=7.2
109C Camp Elliot, M **71.44 318** P **P** **02 45 13.6 +3.2**
baz=133
BELC Belle Mtn. Jos **71.52 320** P **P** **02 45 13.6 +2.5**
baz=134,SNR=5.5
TPFO Pinon Flats **71.53 319** P **P** **02 45 13.6 +2.5**
baz=134,SNR=5.5
PFO Pinyon Flats O **71.53 319** P **P** **02 45 13.5 +2.4**
PFO Pinyon Flats O **71.53 319** P **P** **02 45 13.5 +2.4**
PFO pmax pmax
comp=Z,11nm,0.9s
PFO Pinyon Flats O **71.53 319** P **P** **02 45 13.5 +2.4**
baz=134,SNR=5.5
O20A White River Ci **71.84 329** P **P** **02 45 14.5 +1.6**
baz=142,SNR=25
GMRC Granite Mounta **71.87 321** P **P** **02 45 15.7 +2.7**
baz=134,SNR=32
MURC Murrieta **71.98 319** P **P** **02 45 15.7 +2.1**
baz=133
V12A Nelson **72.05 322** IAmb IAmb 02 45 17.4
comp=Z,20nm,1.0s
ELS Elsinore Mount **72.15 319** P **P** **02 45 17.0 +2.3**
ELS IAmb IAmb 02 45 18.1
comp=Z,18nm,1.1s
BBRC Big Bear Solar **72.26 319** P **P** **02 45 17.8 +2.3**
baz=133

HEC	**Hector,Ludlow**	**72.30**	**320**	P		**P**	**02 45 18.3**	**+2.7**
	baz=134,SNR=6.2							
EYMN	**Ely**	**72.38**	**344**	P		**P**	**02 45 16.3**	**+0.6**
	baz=158							
SCI2	**San Clemente I**	**72.40**	**317**	P		**P**	**02 45 16.7**	**+0.6**
	baz=132							
TUQ	**Turquoise Moun**	**72.47**	**321**	P		**P**	**02 45 18.9**	**+2.2**
	baz=134,SNR=5.2							
BFSC	**Mount Baldy Ra**	**72.69**	**319**	P		**P**	**02 45 20.5**	**+2.5**
	baz=133,SNR=5.7							
KOWA	**Kowa**	**72.78**	**66**	LR		LR	03 18 14.5	
	comp=Z,54nm,18.5s,baz=254,slow=36							
KOWA	**Kowa**	**72.78**	**66**	P		**P**	**02 45 18.9**	**+0.1**
KOWA				IAmb		IAmb	02 45 19.9	
	comp=Z,18nm,0.7s							
GSC	**Goldstone, Bar**	**72.90**	**320**	P		**P**	**02 45 21.7**	**+2.5**
	baz=134,SNR=8.1							
SHOC	**Shoshone, Teco**	**73.00**	**321**	P		**P**	**02 45 21.6**	**+2.0**
	baz=134,SNR=5.5							
K22A	**Casper**	**73.04**	**332**	P		**P**	**02 45 21.9**	**+2.0**
	baz=143,SNR=6.0							
K22A	**Casper**	**73.04**	**332**	P		**P**	**02 45 21.6**	**+1.7**
	baz=143,SNR=6.0							
RSSD	**Black Hills**	**73.18**	**334**	P		**P**	**02 45 22.6**	**+1.9**
RSSD	**Black Hills**	**73.18**	**334**	P		**P**	**02 45 22.6**	**+1.9**
RSSD				pmax		pmax		
	comp=Z,7.0nm,0.7s							
RSSD	**Black Hills**	**73.18**	**334**	P		**P**	**02 45 22.5**	**+1.8**
	baz=146							
RSSD	**Black Hills**	**73.18**	**334**	P		**P**	**02 45 22.1**	**+1.4**
	baz=146							
EDW2	**Edwards Air Fo**	**73.33**	**319**	P		**P**	**02 45 23.7**	**+2.0**
	baz=133,SNR=8.6							
B35A	**Bob, Littlefor**	**73.35**	**343**	pP		pP	02 45 53.4	+0.5
PRN	**Pahroc Range**	**73.36**	**323**	IAmb		IAmb	02 45 25.7	
	comp=Z,18nm,1.0s							
GWY	**Greenwater Val**	**73.43**	**321**	IAmb		IAmb	02 45 25.4	
	comp=Z,20nm,0.9s							
TPNV	**Topopah Spring**	**73.72**	**322**	P		**P**	**02 45 26.7**	**+2.7**
	baz=134,SNR=25							
FURC	**Furnace Creek,**	**73.74**	**321**	P		**P**	**02 45 26.3**	**+2.5**
	baz=134,SNR=17							
MPMC	**Manual Prospec**	**73.82**	**320**	P		**P**	**02 45 26.6**	**+1.9**
	baz=133,SNR=10							
AGMN	**Agassiz Nation**	**73.91**	**341**	P		**P**	**02 45 24.6**	**0.0**
	baz=154							
SPR3	**Spring Creek 3**	**74.10**	**324**	IAmb		IAmb	02 45 29.4	
	comp=Z,15nm,0.9s							
ISA	**Isabella, Lake**	**74.14**	**320**	P		**P**	**02 45 28.9**	**+2.5**
ISA				IAmb		IAmb	02 45 29.9	
	comp=Z,22nm,0.9s							
ISA	**Isabella, Lake**	**74.14**	**320**	P		**P**	**02 45 28.9**	**+2.5**
ISA				pmax		pmax		
	comp=Z,22nm,0.9s							
ISA	**Isabella, Lake**	**74.14**	**320**	P		**P**	**02 45 28.9**	**+2.5**
	baz=132,SNR=14							
DUG	**Dugway, Tooele**	**74.17**	**326**	P		**P**	**02 45 28.3**	**+1.8**
	baz=138,SNR=20							
R11A	**Troy Canyon, C**	**74.32**	**323**	P		**P**	**02 45 30.1**	**+2.6**
	baz=135,SNR=27							
GRAC	**Grapevine Rang**	**74.39**	**321**	P		**P**	**02 45 30.1**	**+2.3**
	baz=134,SNR=8.1							
CWC	**Cottonwood Cre**	**74.43**	**320**	P		**P**	**02 45 30.5**	**+2.3**
	baz=133							
PKM	**Mcpherson Peak**	**74.45**	**318**	P		**P**	**02 45 30.7**	**+2.4**
	baz=131,SNR=6.0							
BW06	**Boulder Array**	**74.51**	**330**	P		**P**	**02 45 29.6**	**+1.0**
	baz=141,SNR=7.4							
PDAR	**Pinedale Array**	**74.51**	**330**	P		**P**	**02 45 29.2**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=154,slow=7.6,SNR=19							
PDAR				pP		**pP**	**02 45 58.8**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=129,slow=8.2,SNR=2.3							
	comp=Z,2.4nm,0.7s							
HWUT	**Hardware Ranch**	**74.59**	**328**	IAmb		IAmb	02 45 33.2	
	comp=Z,16nm,0.8s							
VES	**Vestal, Richgr**	**74.63**	**319**	P		**P**	**02 45 31.0**	**+1.9**
	baz=132,SNR=6.5							
MDND	**Maddock**	**74.69**	**339**	P		**P**	**02 45 30.6**	**+1.4**
	baz=150,SNR=8.1							
MDND	**Maddock**	**74.69**	**339**	P		**P**	**02 45 30.5**	**+1.2**
	baz=150,SNR=8.1							
SMMC	**Simmler**	**74.84**	**318**	P		**P**	**02 45 33.0**	**+2.7**
	baz=131							
TIN	**Tinemaha, Big**	**74.94**	**321**	P		**P**	**02 45 33.5**	**+2.5**
	baz=133,SNR=5.1							
HVU	**Hansel Valley**	**75.32**	**327**	IAmb		IAmb	02 45 35.9	
	comp=Z,16nm,0.9s							
ULM	**Lac du Bonnet**	**75.66**	**342**	P		**P**	**02 45 34.9**	**+0.2**
	comp=Z,5.3nm,0.5s,baz=155,slow=5.9,SNR=19							
ULM				pP		**pP**	**02 46 05.2**	**-1.2**
	comp=Z,5.3nm,0.8s,baz=160,slow=7.3,SNR=2.7							
	comp=Z,5.3nm,0.5s							
MLAC	**Mammoth, Mammo**	**75.68**	**321**	P		**P**	**02 45 37.9**	**+2.5**
	baz=133							
TPAW	**Teton Pass**	**75.72**	**330**	IAmb		IAmb	02 45 37.5	
	comp=Z,17nm,0.8s							
OMMB	**Old Mammoth Mi**	**75.77**	**321**	IAmb		IAmb	02 45 39.1	
	comp=Z,20nm,0.9s							
MOOW	**Moose Ponds**	**75.82**	**330**	IAmb		IAmb	02 45 38.8	
	comp=Z,58nm,2.0s							
NVAR	**Mina Array Bea**	**75.91**	**322**	P		**P**	**02 45 38.7**	**+2.0**
	comp=Z,7.7nm,0.9s,baz=153,slow=6.6,SNR=48							
NVAR				pP		**pP**	**02 46 08.6**	**+0.2**
	comp=Z,2.9nm,1.0s,baz=153,slow=8.1,SNR=2.8							
	comp=Z,7.7nm,0.9s							
AUSN	**Aus**	**76.10**	**113**	*e*P		**P**	**02 45 39.3**	**+1.2**
AUSN				IAmb		IAmb	02 45 40.2	
	comp=Z,79nm,1.6s							
LAO	**LASA Array**	**76.17**	**334**	P		**P**	**02 45 39.6**	**+1.8**
	baz=144							
LAO	**LASA Array**	**76.17**	**334**	P		**P**	**02 45 39.2**	**+1.4**
	baz=144							
RLMT	**Red Lodge**	**76.21**	**332**	IAmb		IAmb	02 45 40.7	
	comp=Z,14nm,0.8s							
RLMT	**Red Lodge**	**76.21**	**332**	P		**P**	**02 45 40.2**	**+2.0**
	baz=142,SNR=16							
KVN	**Kaiserville**	**76.22**	**322**	IAmb		IAmb	02 45 41.3	
	comp=Z,21nm,0.9s							
H17A	**Grant Village**	**76.23**	**330**	P		**P**	**02 45 40.7**	**+2.3**
	baz=140							
SCHQ	**Schefferville**	**76.28**	**1**	P		**P**	**02 45 38.9**	**+0.8**
	comp=Z,6.4nm,0.7s,baz=205,slow=6.0,SNR=7.6							
	comp=Z,6.4nm,0.7s							
ELIM	**Elim**	**76.61**	**122**	*e*P		**P**	**02 45 41.2**	**+0.5**
ELIM				IAmb		IAmb	02 45 42.2	
	comp=Z,23nm,0.8s							
CER	**Ceres**	**76.62**	**121**	*e*P		P	02 45 19.1	-22
CER				IAmb		IAmb	02 45 21.5	
	comp=Z,7.3nm,0.8s							
YHH	**Holmes Hill**	**76.66**	**330**	IAmb		IAmb	02 45 44.6	
	comp=Z,33nm,1.1s							
VNDA	**Vanda**	**76.67**	**190**	P		**P**	**02 45 42.3**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=114,slow=7.3,SNR=4.1							
VNDA	**Vanda**	**76.67**	**190**			sP	02 46 16.9	-7.9
DGMT	**Dagmar**	**76.84**	**337**	P		**P**	**02 45 43.4**	**+2.0**
	baz=146,SNR=9.0							
DGMT	**Dagmar**	**76.84**	**337**	P		**P**	**02 45 43.1**	**+1.6**
	baz=146,SNR=9.0							
TOA0	**Torodi Ar. Sit**	**77.10**	**70**	P		**P**	**02 45 43.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.10**	**70**	P		**P**	**02 45 43.6**	**0.0**
	comp=Z,20nm,0.6s,baz=254,slow=5.1,SNR=86							
TORD				pP		**pP**	**02 46 15.4**	**-0.1**
	comp=Z,5.3nm,1.0s,baz=251,slow=6.8,SNR=1.0							
	comp=Z,20nm,0.6s							
PNTR	**Pine Nut**	**77.11**	**322**	IAmb		IAmb	02 45 46.9	
	comp=Z,21nm,0.8s							
HLID	**Hailey**	**77.45**	**328**	IAmb		IAmb	02 45 48.7	
	comp=Z,26nm,0.8s							
HLID	**Hailey**	**77.45**	**328**	P		**P**	**02 45 47.7**	**+2.6**
	baz=137,SNR=60							
CVNA	**Calvinia**	**77.57**	**119**	*e*P		**P**	**02 45 47.7**	**+1.5**
CVNA				IAmb		IAmb	02 45 48.1	
	comp=Z,20nm,0.8s							
BOZ	**Bozeman (W)**	**77.63**	**331**	P		**P**	**02 45 47.8**	**+1.7**
	baz=140,SNR=10							
MFID	**Camas Ranch**	**78.05**	**327**	IAmb		IAmb	02 45 51.9	
	comp=Z,38nm,1.4s							
WIN	**Windhoek**	**78.10**	**110**	*e*P		**P**	**02 45 50.1**	**+0.7**
WIN				IAmb		IAmb	02 45 51.0	
	comp=Z,6.8nm,0.8s							
ARMS	**Ukamas**	**78.62**	**116**	*e*P		**P**	**02 45 53.0**	**+1.0**
ARMS				IAmb		IAmb	02 45 53.8	
	comp=Z,12nm,0.8s							
EGMT	**Eagleton**	**78.68**	**333**	P		**P**	**02 45 52.6**	**+0.8**
	baz=142,SNR=6.6							
FRAZ	**Fraserburg**	**78.76**	**120**	*e*P		**P**	**02 45 54.2**	**+1.4**
FRAZ				IAmb		IAmb	02 45 54.7	
	comp=Z,29nm,0.7s							
GRAN	**Grantham**	**79.25**	**120**	*e*P		**P**	**02 45 56.1**	**+0.7**
GRAN				IAmb		IAmb	02 45 57.6	
	comp=Z,21nm,0.7s							
MOD	**Modoc Plateau**	**79.39**	**323**	IAmb		IAmb	02 45 58.9	
	comp=Z,26nm,1.0s							
KEIM	**Keimoes**	**79.43**	**117**	*e*P		**P**	**02 45 57.3**	**+0.9**
KEIM				IAmb		IAmb	02 45 58.4	
	comp=Z,57nm,1.5s							
TSUM	**Tsumeb**	**79.62**	**107**	LR		LR	03 18 45.8	
	comp=Z,35nm,18.7s,baz=187,slow=34							
TSUM	**Tsumeb**	**79.62**	**107**	P		**P**	**02 45 58.9**	**+1.2**
TSUM				IAmb		IAmb	02 45 59.8	
	comp=Z,35nm,0.8s							
MSO	**Missoula**	**79.62**	**330**	P		**P**	**02 45 58.7**	**+1.8**
	baz=138,SNR=6.8							
UPI	**Upington**	**79.78**	**116**	*e*P		**P**	**02 45 59.4**	**+1.1**
UPI				IAmb		IAmb	02 46 00.7	
	comp=Z,11nm,0.9s							
BRAK	**Brakfontein**	**80.00**	**120**	*e*P		**P**	**02 46 00.8**	**+1.3**
BRAK				IAmb		IAmb	02 46 06.6	
	comp=Z,227nm,2.5s							
ROOI	**Rooidraai Farm**	**80.29**	**121**	*e*P		**P**	**02 46 02.0**	**+1.0**
ROOI				IAmb		IAmb	02 46 03.0	
	comp=Z,18nm,0.7s							
ROSN	**Rosenhof**	**80.53**	**123**	*e*P		**P**	**02 46 03.4**	**+1.3**
ROSN				IAmb		IAmb	02 46 03.7	
	comp=Z,17nm,0.7s							
PKA	**Prieska**	**80.59**	**118**	*e*P		**P**	**02 46 03.3**	**+0.7**
PKA				IAmb		IAmb	02 46 06.1	
	comp=Z,110nm,2.8s							
BFON	**Badsfontein, M**	**80.64**	**120**	*i*P		**P**	**02 46 03.4**	**+0.5**
BFON				IAmb		IAmb	02 46 03.6	
	comp=Z,55nm,1.6s							
L04D	**Klamath Falls**	**80.72**	**323**	P		**P**	**02 46 04.1**	**+1.2**
	baz=131							
J05D	**Fort Rock, OR**	**80.82**	**324**	P		**P**	**02 46 05.1**	**+1.7**
	baz=132,SNR=16							
PINE	**Pine Mountain**	**81.00**	**324**	IAmb		IAmb	02 46 07.8	
	comp=Z,34nm,0.8s							
GRAF	**Camdeboo Natio**	**81.11**	**121**	*e*P		**P**	**02 46 06.2**	**+0.8**
J04D	**Limpopa Nationa**	**81.27**	**323**	P		**P**	**02 46 07.5**	**+1.6**
	baz=131,SNR=6.9							
L02F	**Cave Junction**	**81.37**	**322**	P		**P**	**02 46 08.1**	**+1.8**
	baz=130							
I05D	**Terrebonne, OR**	**81.57**	**325**	P		**P**	**02 46 09.7**	**+2.4**
	baz=132,SNR=13							
MDT	**Midelt**	**81.63**	**50**	LR		LR	03 22 56.5	
	comp=Z,29nm,18.6s,baz=267,slow=36							
K02D	**Willamette Mer**	**81.79**	**322**	P		**P**	**02 46 10.8**	**+2.2**
	baz=130,SNR=5.4							
I04A	**Tendick Farm,**	**81.80**	**324**	P		**P**	**02 46 09.6**	**+1.0**
	baz=131,SNR=7.9							
SOE	**Somerset East**	**81.81**	**122**	*e*P		**P**	**02 46 09.3**	**+0.3**
SOE				IAmb		IAmb	02 46 10.9	
	comp=Z,29nm,0.9s							
RUDU	**RUNDU**	**81.96**	**106**	*e*P		**P**	**02 46 11.8**	**+1.7**
RUDU				IAmb		IAmb	02 46 12.4	
	comp=Z,14nm,1.1s							
HAWA	**Hanford**	**82.02**	**327**	IAmb		IAmb	02 46 12.0	
	comp=Z,14nm,0.8s							
NEW	**Newport**	**82.14**	**330**	P		**P**	**02 46 10.9**	**+0.7**
	baz=135							
G05D	**Wamic, OR**	**82.16**	**325**	P		**P**	**02 46 12.5**	**+2.1**
	baz=132,SNR=5.5							
J01E	**Myrtle Point**	**82.24**	**323**	P		**P**	**02 46 11.3**	**+0.6**
	baz=130							
I03D	**Drain, OR**	**82.25**	**323**	P		**P**	**02 46 12.3**	**+1.6**
	baz=130							
BUCK	**Buck Mountain**	**82.38**	**324**	IAmb		IAmb	02 46 14.1	
	comp=Z,31nm,0.9s							
H04D	**Lebanon**	**82.45**	**324**	P		**P**	**02 46 13.0**	**+1.2**
	baz=131							
HVD	**Gariep Dam**	**82.50**	**120**	*e*P		**P**	**02 46 13.2**	**+0.4**
HVD				IAmb		IAmb	02 46 14.6	
	comp=Z,40nm,1.0s							
I02E	**Swisshome, OR**	**82.79**	**323**	P		**P**	**02 46 15.0**	**+1.5**
	baz=130							
BOSA	**Boshof**	**83.01**	**118**	P		**P**	**02 46 15.6**	**+0.2**
	comp=Z,14nm,0.8s,baz=265,slow=4.2,SNR=32							
	comp=Z,14nm,0.8s							
BOSA	**Boshof**	**83.01**	**118**	P		**P**	**02 46 15.8**	**+0.5**
BOSA				IAmb		IAmb	02 46 16.8	
	comp=Z,16nm,0.8s							
BOSA	**Boshof**	**83.01**	**118**	*e*P		**P**	**02 46 15.9**	**+0.5**
BOSA				IAmb		IAmb	02 46 16.7	
	comp=Z,16nm,0.8s							
SWZ	**Schweizer**	**83.58**	**117**	*e*P		**P**	**02 46 18.6**	**+0.2**
SWZ				IAmb		IAmb	02 46 19.3	
	comp=Z,16nm,0.7s							
MAW	**Mawson**	**83.99**	**163**	P		**P**	**02 46 20.3**	**+0.9**
	comp=Z,7.2nm,0.7s,baz=214,slow=6.3,SNR=7.2							
MAW				pP		**pP**	**02 46 53.1**	**+1.6**
	comp=Z,4.3nm,0.7s,baz=207,slow=6.8,SNR=3.5							
MAW				LR		LR	03 23 19.6	
	comp=Z,44nm,19.8s,baz=193,slow=35							
	comp=Z,7.2nm,0.7s							
MAW	**Mawson**	**83.99**	**163**	P		**P**	**02 46 20.8**	**+1.4**
EDM	**Edmonton**	**84.14**	**335**	pP		**pP**	**02 46 47.5**	**-5.1**
EDM				IAmb		IAmb	02 46 53.3	
	comp=Z,17nm,0.9s							
LBTB	**Lobatse**	**84.58**	**115**	LR		LR	03 20 09.2	
	comp=Z,18nm,19.0s,baz=244,slow=33							
LBTB	**Lobatse**	**84.58**	**115**	P		**P**	**02 46 24.5**	**+1.1**
LBTB				IAmb		IAmb	02 46 25.1	
	comp=Z,14nm,0.8s							
LBTB	**Lobatse**	**84.58**	**115**	*e*P		**P**	**02 46 24.3**	**+0.9**
LBTB				IAmb		IAmb	02 46 24.9	
	comp=Z,15nm,0.8s							
LBTB	**Lobatse**	**84.58**	**115**	P		**P**	**02 46 24.5**	**+1.1**
LBTB				pmax		pmax		
	comp=Z,15nm,0.8s							
PRYS	**Parys**	**85.36**	**117**	*e*P		**P**	**02 46 27.3**	**-0.1**
PRYS				IAmb		IAmb	02 46 28.2	
	comp=Z,102nm,2.0s							
PAB	**San Pablo**	**85.44**	**44**	P		**P**	**02 46 28.9**	**+1.7**
PAB	**San Pablo**	**85.44**	**44**	P		**P**	**02 46 28.9**	**+1.7**
PAB				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ESDC	**Sonseca Array**	**85.75**	**44**	P		**P**	**02 46 29.3**	**+0.5**
	comp=Z,2.2nm,1.0s,baz=246,slow=6.0,SNR=9.6							
ESDC				pP		**pP**	**02 47 02.3**	**+1.2**
	comp=Z,1.2nm,1.0s,baz=260,slow=4.8,SNR=1.9							
	comp=Z,2.2nm,1.0s							
LLLB	**Lillooet**	**86.01**	**329**	IAmb		IAmb	02 46 31.5	
	comp=Z,12nm,0.9s							
SLR	**Silverton**	**86.57**	**116**	*e*P		**P**	**02 46 33.2**	**-0.1**
SLR				IAmb		IAmb	02 46 37.0	
	comp=Z,81nm,2.1s							
LEPH	**Lephalale, Lim**	**86.87**	**114**	*e*P		**P**	**02 46 35.7**	**+0.9**
LEPH				IAmb		IAmb	02 46 37.0	
	comp=Z,11nm,0.7s							
MATP	**Matopo**	**88.78**	**111**	*e*P		**P**	**02 46 43.7**	**-0.2**
MATP				IAmb		IAmb	02 46 45.7	
	comp=Z,34nm,1.1s							
BLWY	**Bulawayo**	**88.98**	**111**	*e*P		**P**	**02 46 45.9**	**+1.0**
BLWY				IAmb		IAmb	02 46 46.6	
	comp=Z,32nm,0.8s							
MUSN	**Musina, Limpop**	**89.23**	**114**	*e*P		**P**	**02 46 47.2**	**+1.3**
LSZ	**Lusaka**	**90.48**	**107**	LR		LR	03 25 20.6	
	comp=Z,48nm,19.4s,baz=208,slow=34							
YKA	**Yellowknife Ar**	**91.54**	**340**	P		**P**	**02 46 56.4**	**+0.9**
	comp=Z,11nm,0.7s,baz=134,slow=4.5,SNR=41							
YKA				pP		**pP**	**02 47 28.9**	**+0.8**
	comp=Z,8.7nm,0.9s,baz=135,slow=4.7,SNR=6.3							
YKA				LR		LR	03 35 10.7	
	comp=Z,40nm,18.6s,baz=4.5,slow=40							
	comp=Z,11nm,0.7s							
T35M	**Bob Quinn**	**93.86**	**331**	P		**P**	**02 47 07.7**	**+1.3**
	baz=125							
DLBC	**Dease Lake**	**94.59**	**332**	P		**P**	**02 47 11.7**	**+1.9**
	baz=125							
S34M	**Telegraph Cree**	**94.78**	**332**	P		**P**	**02 47 11.8**	**+1.2**
	baz=124							
DAVOX	**Davos/Dischmat**	**98.00**	**43**	LR		LR	03 27 23.2	
	comp=Z,30nm,20.8s,baz=264,slow=33							
MBAR	**Mbarara**	**98.38**	**94**	LR		LR	03 29 47.8	
	comp=Z,19nm,20.9s,baz=272,slow=34							
O28M	**Mount Upton**	**100.22**	**332**	P		**Pdif**	**02 47 35.4**	**0.0**
	baz=116							
M29M	**Somme Creek**	**100.25**	**334**	P		**Pdif**	**02 47 35.6**	**+0.3**
	baz=118							
F31M	**Tsiigehtchic**	**100.93**	**339**	P		**Pdif**	**02 47 38.2**	**+0.2**
	baz=121							
N25K	**Chitina, Valde**	**102.52**	**332**	P		**Pdif**	**02 47 45.4**	**+0.1**
	baz=113							
KLU	**Klutina**	**103.06**	**331**	P		**Pdif**	**02 47 47.7**	**0.0**
	baz=112							
WAT6	**Susitna Watana**	**104.25**	**332**	P		**Pdif**	**02 47 52.3**	**-0.8**
	baz=110							
PRP	**Porcupine Dome**	**104.35**	**335**	P		**Pdif**	**02 47 52.6**	**-0.8**
	baz=111							
F22K	**John River**	**107.49**	**336**	P		**PKiKP**	**02 52 13.2**	**-1.6**
	baz=104							
ANM	**Nome**	**112.35**	**332**	P		**PKiKP**	**02 52 22.5**	**-1.5**
	baz=94							
TNA	**Tin City**	**113.47**	**333**	P		**PKiKP**	**02 52 24.5**	**-1.6**
	baz=91							
OBN	**Obninsk**	**116.14**	**38**	*e*PKiKP		**PKPdf**	**02 52 26.4**	**-5.1**
OBN				*e*			02 53 14.3	
OBN				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KIV	**Kislovodsk**	**119.84**	**51**	*i* PKiKP		**PKPdf**	**02 52 34.4**	**-4.8**
KIV				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BILL	**Bilibino**	**122.89**	**339**	*e*PKiKP		**PKPdf**	**02 52 44.2**	**0.0**
BILL				*e*			02 53 26.9	
BILL				*e*			02 54 28.1	
BILL				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ASAR	**Alice Springs**	**129.86**	**207**	PKP		**PKiKP**	**02 53 00.1**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=147,slow=1.9,SNR=5.1							
ASAR				pPKP		**pPKPdf**	**02 53 34.2**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=141,slow=2.2,SNR=6.8							
SEY	**Seymchan**	**130.47**	**337**	*i* PKiKP		**PKPdf**	**02 52 57.3**	**-1.5**
SEY				pmax		pmax		
	comp=Z,4.0nm,1.0s							
WRA	**Warramunga Arr**	**132.92**	**210**	PKP		**PKiKP**	**02 53 06.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=152,slow=1.8,SNR=9.6							
WRA				pPKP		**pPKPdf**	**02 53 40.3**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=160,slow=1.7,SNR=7.2							
ZALV	**Zalesovo Beam**	**142.02**	**26**	PKP		**PKPdf**	**02 53 21.2**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=317,slow=1.6,SNR=6.3							
ZALV				pPKP		**pPKPdf**	**02 53 55.2**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=296,slow=2.9,SNR=6.0							
KSH	**Kashi**	**144.97**	**52**	PKP		**PKPdf**	**02 53 27.1**	**+0.8**
MKAR	**Makanchi Array**	**145.62**	**36**	PKPbc		**PKPab**	**02 53 28.4**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=321,slow=4.3,SNR=20							
MKAR				pPKPbc		**pPKPdf**	**02 54 02.0**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=310,slow=3.0,SNR=3.9							
ZEA	**Zeya**	**145.88**	**343**	*e*PKP2		**PKPab**	**02 53 29.2**	**+0.6**
ZEA				pmax		pmax		
	comp=Z,20nm,0.8s							
KLR	**Kul'dur**	**148.20**	**334**	PKPbc		**PKiKP**	**02 53 35.5**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=19,slow=3.7,SNR=10							
KLR				pPKPbc		**pPKPbc**	**02 54 08.9**	**+0.5**
	comp=Z,5.0nm,0.8s,baz=15,slow=3.0,SNR=5.3							
HYBB	**Hyderabad (bro**	**148.71**	**92**	*e*PKPab		**PKPab**	**02 53 40.9**	**-0.2**
WMQ	**Urumqi**	**150.45**	**36**	*e*PKPbc		**PKPdf**	**02 53 32.8**	**-2.3**
USRK	**Ussuriysk Ar.**	**151.91**	**328**	PKPbc		**PKiKP**	**02 53 44.6**	**+0.5**
	comp=Z,4.4nm,0.7s,baz=24,slow=1.7,SNR=12							
USRK				pPKPbc		**pPKPbc**	**02 54 18.1**	**+0.6**
	comp=Z,7.4nm,0.8s,baz=14,slow=0.2,SNR=8.0							
MJAR	**Matsushiro Arr**	**152.51**	**308**	PKPbc		**PKiKP**	**02 53 46.4**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=96,slow=0.2,SNR=3.2							
PYUN	**Piuthan**	**153.44**	**70**	*e*P		**PKPab**	**02 54 03.4**	**+2.7**
	comp=Z,14nm,0.5s							
SONM	**Songino Array**	**153.65**	**8**	PKP		**PKPdf**	**02 53 41.8**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=236,slow=0.5,SNR=2.6							
SONM				PKPbc		**PKiKP**	**02 53 49.1**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=339,slow=2.0,SNR=6.0							
DANN	**Dangsing**	**154.07**	**70**	*e*P		**PKPab**	**02 54 06.5**	**+3.0**
	comp=Z,32nm,0.6s							
GKN	**Gorkha**	**154.89**	**70**	*e*P		**PKPab**	**02 54 08.4**	**+1.6**
	comp=Z,18nm,0.5s							
DMN	**Daman**	**155.36**	**71**	*e*P		**PKPab**	**02 54 09.3**	**+0.4**
	comp=Z,11nm,0.6s							
PKIN	**Phulchoki**	**155.62**	**71**	*e*P		**PKPab**	**02 54 09.6**	**-0.5**
	comp=Z,7.2nm,0.5s							
PKI	**Pulchoki**	**155.63**	**71**	*e*P		**PKPab**	**02 54 10.0**	**-0.2**
GUN	**Gumba**	**155.99**	**70**	*e*P		**PKPab**	**02 54 12.0**	**+0.2**
	comp=Z,11nm,0.4s							
JIRN	**Jiri**	**156.30**	**71**	*e*P		**PKPab**	**02 54 13.0**	**-0.1**
RAMN	**Ramite**	**156.76**	**72**	*e*P		**PKPab**	**02 54 12.8**	**-2.2**
	comp=Z,15nm,0.6s

PMG	**Port Moresby**	**8.16**	**232**	P		**Pn**	**02**	**54**	**29.9 +0.9**
	21nm,0.4s,baz=35,slow=9.9,SNR=6.4								
PMG				S		**Sn**	**02**	**55**	**59.1 -0.5**
	18nm,0.5s,baz=150,slow=20,SNR=2.6								
WRA	**Warramunga Arr**	**24.36**	**229**	P		**P**	**02**	**57**	**42.0 -0.2**
	2.9nm,0.6s,baz=54,slow=10.0,SNR=21								
	2.9nm,0.6s								
ASAR	**Alice Springs**	**27.04**	**223**	P		**P**	**02**	**58**	**05.8 -0.6**
	0.2nm,0.3s,baz=56,slow=8.9,SNR=3.0								
	0.2nm,0.3s								
ILAR	**Eielson Array**	**81.44**	**22**	P		**P**	**03**	**04**	**39.6 +0.6**
	0.6nm,1.1s,baz=232,slow=4.4,SNR=3.2								
	0.6nm,1.1s								
BVAR	**Borovoye Array**	**89.39**	**323**	P		**P**	**03**	**05**	**18.5 -0.3**
	0.3nm,0.5s,baz=103,slow=3.1,SNR=3.8								
	0.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**150.96**	**289**	PKPbc		**PKPbc**	**03**	**12**	**14.6 -1.0**
	0.8nm,0.7s,baz=55,slow=2.2,SNR=5.2								

KRSC 08 03:11:33.7±2.1, 54°.36N×168°.21E, h21km±41km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BKI	**Bering**	**1.55**	**304**	*eP*	Pn	03	12	00.8	+0.8
BKI				*eS*	Sb	03	12	22.3	+1.5
KBTR	**Krutoberegovo**	**3.60**	**303**	*eP*	Pn	03	12	30.7	+2.6
MKZ	**Mys Kozlova**	**3.79**	**276**	*eP*	Pn	03	12	33.7	+3.0
MKZ				*eS*	Sn	03	13	18.4	+3.9
TUMR	**Tumrok**	**4.75**	**285**	*eP*	Pn	03	12	49.9	+5.8
SDLR	**Sedlovina**	**5.63**	**263**	P	Pn	03	13	00.6	+4.5
SMAR	**Somma**	**5.68**	**263**	P	Pn	03	13	00.9	+4.0
UGLR	**Uglovaya**	**5.68**	**262**	P	Pn	03	13	02.0	+5.1
KOK	**Koryaka**	**5.77**	**263**	P	Pn	03	13	03.6	+5.5
GNL	**Ganaly**	**6.09**	**268**	*eP*	Pn	03	13	08.6	+6.2
RUS	**Russkaya**	**6.11**	**256**	P	Pn	03	13	07.9	+5.3
GRL	**Gorelyy**	**6.32**	**258**	*eP*	Pn	03	13	10.6	+5.0
ASAK	**Asacha**	**6.48**	**256**	*eP*	Pn	03	13	12.2	+4.4
ASAK				*eS*	Sn	03	14	25.8	+4.8

*IDC **08** 03:11:42.8±1.5, 36°.65S×179°.18E, h0km, mb4.2/3, mbtmp4.2/4, ML3.7/1, MS3.3/2, Error ellipse: s-maj=38.6km s-min=31.0km az=55.0*
*WEL **08** 03:11:48.9±1.1, 37°.5±5°×17°.9E±°, h20km±8km, M3.7/23, ML4.0/26, MLv3.7/23, Error ellipse: s-maj=0.0km s-min=0.0km az=95.7*
ISC 08 03:11:45.2±2.4, 37°.02S±0'.06×179°.23E±0'.09, h6km±13km, n48, σ1§19/54, mb4.1/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MXZ	**Matakaoa Point**	**0.92**	**233**	P	**Pb**	**03**	**12**	**03.8**	**+0.3**
MXZ				S	**Sb**	**03**	**12**	**15.3**	**-0.7**
WMGZ	**Waiomatatini S**	**1.03**	**219**	P	**Pn**	**03**	**12**	**07.5**	**+1.2**
WMGZ				S	**Sn**	**03**	**12**	**22.7**	**+1.6**
PKGZ	**Pakihiroa**	**1.27**	**226**	P	**Pn**	**03**	**12**	**10.8**	**+1.3**
PKGZ				S	**Sn**	**03**	**12**	**27.8**	**+0.9**
PUZ	**Puketiti**	**1.31**	**216**	P	**Pn**	**03**	**12**	**11.2**	**+1.1**
PUZ				S	**Sn**	**03**	**12**	**28.3**	**+0.4**
HAZ	**Te Kaha**	**1.37**	**237**	P	**Pn**	**03**	**12**	**11.9**	**+1.0**
TWGZ	**Tauwhareparae**	**1.53**	**220**	P	**Pb**	**03**	**12**	**14.6**	**+0.6**
RUGZ	**Raukumara Rang**	**1.56**	**232**	P	**Pb**	**03**	**12**	**15.3**	**+0.8**
CNGZ	**Carnagh Statio**	**1.68**	**209**	P	**Pb**	**03**	**12**	**16.5**	**0.0**
TKGZ	**Te Karaka**	**1.79**	**217**	P	**Pn**	**03**	**12**	**17.7**	**+0.9**
TKGZ				S	**Sn**	**03**	**12**	**40.4**	**+0.6**
MWZ	**Matawai**	**1.89**	**225**	P	**Pn**	**03**	**12**	**19.0**	**+0.9**
MWZ				S	**Sn**	**03**	**12**	**42.7**	**+0.5**
WHRZ	**Whale Island**	**1.98**	**244**	P	**Pg**	**03**	**12**	**22.8**	**-0.4**
RIGZ	**Rimuhau**	**2.05**	**214**	P	**Pn**	**03**	**12**	**20.6**	**+0.4**
RIGZ				S	**Sn**	**03**	**12**	**46.1**	**-0.1**
RAGZ	**Rawiri**	**2.06**	**224**	P	**Pn**	**03**	**12**	**21.9**	**+1.4**
URZ	**Urewera**	**2.09**	**233**	Pn	**Pn**	**03**	**12**	**21.8**	**+1.0**
	20nm,0.3s,baz=31,slow=1.5,SNR=66								
URZ				Sn	**Sn**	**03**	**12**	**47.7**	**+0.6**
	19nm,0.3s,baz=211,slow=22,SNR=4.8								
	70nm,0.3s								
URZ	**Urewera**	**2.09**	**233**	P	**Pn**	**03**	**12**	**21.9**	**+1.1**
URZ				S	**Sn**	**03**	**12**	**47.3**	**+0.1**
PRGZ	**Paritu Road**	**2.18**	**209**	P	**Pn**	**03**	**12**	**22.5**	**+0.4**
PRGZ				S	**Sn**	**03**	**12**	**49.5**	**0.0**
EDRZ	**Edgecumbe**	**2.26**	**240**	P	**Pb**	**03**	**12**	**26.3**	**-0.2**
OPRZ	**Ohinepanea**	**2.29**	**248**	P	**Pn**	**03**	**12**	**25.1**	**+1.6**
MYRZ	**Mayor Island**	**2.40**	**263**	P	**Pn**	**03**	**12**	**26.0**	**+0.9**
MUGZ	**Murupara**	**2.44**	**232**	P	**Pn**	**03**	**12**	**26.2**	**+0.6**
RAHZ	**Arahi**	**2.54**	**221**	P	**Pn**	**03**	**12**	**28.2**	**+1.2**
MTMZ	**Maungataniwha**	**2.63**	**225**	P	**Pn**	**03**	**12**	**29.9**	**+1.6**
NMHZ	**Naumai**	**2.83**	**222**	P	**Pn**	**03**	**12**	**32.2**	**+1.2**
ARHZ	**Aropaoanui**	**2.85**	**217**	P	**Pn**	**03**	**12**	**31.6**	**+0.3**
BKZ	**Black Stump Fm**	**3.04**	**224**	P	**Pn**	**03**	**12**	**34.1**	**+0.1**
TOZ	**Tahuroa Road**	**3.06**	**255**	P	**Pn**	**03**	**12**	**34.4**	**+0.4**
GRZ	**Great Barrier**	**3.13**	**283**	P	**Pn**	**03**	**12**	**35.9**	**+0.8**
MCHZ	**McNeill Hill**	**3.14**	**219**	P	**Pn**	**03**	**12**	**35.6**	**+0.3**
MCHZ				S	**Sn**	**03**	**13**	**12.4**	**-0.7**
WIAZ	**Waiheke Island**	**3.29**	**273**	P	**Pn**	**03**	**12**	**38.1**	**+0.8**
ETAZ	**East Tamaki Re**	**3.44**	**270**	P	**Pn**	**03**	**12**	**40.8**	**+1.4**
KRHZ	**Kereru**	**3.46**	**220**	P	**Pn**	**03**	**12**	**39.7**	**0.0**
KRHZ				S	**Sn**	**03**	**13**	**18.2**	**-2.7**
MBAZ	**Motutapu North**	**3.48**	**273**	P	**Pn**	**03**	**12**	**41.1**	**+1.2**
BHHZ	**Black Hill Sta**	**3.51**	**224**	P	**Pn**	**03**	**12**	**40.7**	**+0.3**
OTVZ	**Oturere**	**3.54**	**232**	P	**Pn**	**03**	**12**	**42.1**	**+1.3**
MOVZ	**Moawhango**	**3.63**	**228**	P	**Pn**	**03**	**12**	**43.8**	**+1.7**
PNHZ	**Pukenui**	**3.75**	**218**	P	**Pn**	**03**	**12**	**42.8**	**-0.8**
RPZ	**Rata Peaks**	**9.15**	**220**	Sn	Sn	03	15	28.8	-12
	1.0nm,0.3s,baz=20,slow=7.9,SNR=1.3								
DZM	**Mont Dzumac**	**18.56**	**320**	LR	LR	03	21	30.5	
	comp=Z,135nm,18.8s,baz=226,slow=32								
PPT	**Papeete**	**33.59**	**63**	LR	LR	03	27	46.4	
	comp=Z,28nm,20.8s,baz=290,slow=29								
ASAR	**Alice Springs**	**40.95**	**276**	P	**P**	**03**	**19**	**26.6**	**-2.3**
	3.9nm,0.6s,baz=119,slow=8.1,SNR=47								
	3.9nm,0.6s								
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**03**	**19**	**39.4**	**-2.5**
	2.3nm,0.6s,baz=121,slow=7.6,SNR=20								
	2.3nm,0.6s								
QSPA	**South Pole Qui**	**53.11**	**180**	P	**P**	**03**	**21**	**05.0**	**+1.6**
	1.1nm,0.7s,baz=37,slow=1.8,SNR=6.4								
	1.1nm,0.7s								
H03N3	**Juan Fernandez**	**78.96**	**124**	T	T	04	50	46.5	
	baz=235,slow=72,SNR=8.5								
H03N2	**Juan Fernandez**	**78.96**	**124**	T	T	04	50	37.2	
	baz=235,slow=72,SNR=7.3								
H03N1	**Juan Fernandez**	**78.97**	**124**	T	T	04	50	37.3	
	baz=235,slow=72,SNR=7.5								
ARCES	**ARCESS Array B**	**144.45**	**344**	PKP	**PKPab**	**03**	**31**	**18.9**	**-0.7**
	2.4nm,0.9s,baz=17,slow=0.9,SNR=3.8								
FINES	**FINESS Array B**	**150.33**	**334**	PKPbc	**PKPdf**	**03**	**31**	**34.2**	**+2.9**
	0.9nm,0.6s,baz=38,slow=3.4,SNR=9.2								
TORD	**Torodi Ar. Bea**	**156.13**	**186**	PKPab	**PKPab**	**03**	**32**	**06.9**	**-1.6**
	0.2nm,0.7s,baz=172,slow=3.1,SNR=1.6								

*NNC **08** 03:13:14.7±8.8, 36°.67N×69°.30E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=71.9km s-min=59.0km az=162.0*
*IDC **08** 03:13:17.3±11.0, 35°.68N×69°.73E, h199km±123km, mb3.5/1, mbtmp3.8/3, Error ellipse: s-maj=195.2km s-min=53.8km az=161.0*
ISC 08 03:13:16.7±3.1, 36°.5N±0'.2×69°.3E±0'.1, h100km, n11, σ1§26/13, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AML	**Almayashu**	**6.61**	**30**	P	**Pn**	**03**	**14**	**50.0**	**-1.6**
	SNR=38								
KK31	**Karatay Array**	**6.70**	**8**	⇓P	**Pn**	**03**	**14**	**52.3**	**-0.1**
	1.2nm,0.3s,baz=202,slow=18,SNR=5.8								
KK31				⇑S	**Sn**	**03**	**16**	**09.2**	**+2.0**
	1.5nm,0.2s,baz=191,slow=20,SNR=8.6								
UCH	**Uchtor**	**7.04**	**34**	P	**Pn**	**03**	**14**	**58.9**	**+1.4**
	SNR=26								
EKS2	**Erkin-Say**	**7.10**	**28**	P	**Pn**	**03**	**14**	**58.6**	**+0.7**
	SNR=9.8								
CHMS	**Chumysh**	**7.77**	**31**	P	**Pn**	**03**	**15**	**07.9**	**+0.9**
	SNR=5.5								
CHMS	**Chumysh**	**7.77**	**31**	⇓P	**Pn**	**03**	**15**	**07.1**	**+0.1**
	7.4nm,0.5s								
CHMS				⇑S	**Sn**	**03**	**16**	**31.9**	**-1.4**
	9.5nm,0.8s								
USP	**Ospenovka**	**7.89**	**29**	P	**Pn**	**03**	**15**	**08.5**	**-0.2**
	SNR=6.7								
GEYT	**Alibeck**	**9.03**	**283**	P	Pn	03	15	31.1	+6.9
	1.1nm,0.3s,baz=100,slow=13,SNR=1.7								
MKAR	**Makanchi Array**	**14.16**	**39**	P	**Pn**	**03**	**16**	**34.1**	**+1.5**
	0.9nm,0.6s,baz=219,slow=11,SNR=7.3								
AB31	**Akbulak array**	**14.49**	**335**	⇑P	**Pn**	**03**	**16**	**37.1**	**+0.4**
	0.6nm,0.5s,baz=154,slow=12,SNR=26								
AB31				⇑S	**Sn**	**03**	**19**	**15.6**	**-0.7**
	0.7nm,0.6s,baz=164,slow=22,SNR=3.3								
ZALV	**Zalesovo Beam**	**20.55**	**27**	P	**P**	**03**	**17**	**46.0**	**-1.1**
	2.0nm,0.3s,baz=220,slow=11,SNR=7.7								
	2.0nm,0.3s								

*IDC **08** 03:14:15.1±3.1, 36°.72S×179°.10E, h0km, mb4.1/2, mbtmp4.1/3, ML3.8/1, Error ellipse: s-maj=72.3km s-min=32.3km az=124.0*
*WEL **08** 03:14:19.2±0.7, 37°.5±4°×17°.9E±°, h20km, M3.8/31, ML4.1/37, MLv3.8/31, Error ellipse: s-maj=0.0km s-min=0.0km az=102.5*
ISC 08 03:14:18.4±2.4, 37°.01S±0'.07×179°.4E±0'.1, h32km±13km, n63, σ1§07/79, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MXZ	**Matakaoa Point**	**1.02**	**237**	P	**Pn**	**03**	**14**	**35.4**	**-1.1**
MXZ				S	**Sn**	**03**	**14**	**47.5**	**-2.2**
WMGZ	**Waiomatatini S**	**1.12**	**224**	P	**Pb**	**03**	**14**	**39.4**	**+0.2**
WMGZ				S	**Sb**	**03**	**14**	**54.5**	**+1.1**
PKGZ	**Pakihiroa**	**1.36**	**230**	P	**Pn**	**03**	**14**	**42.5**	**+1.3**
PKGZ				S	**Sb**	**03**	**14**	**59.7**	**-0.7**
PUZ	**Puketiti**	**1.39**	**220**	P	**Pn**	**03**	**14**	**43.1**	**+1.5**
PUZ				S	**Sb**	**03**	**15**	**00.3**	**-0.8**
HAZ	**Te Kaha**	**1.48**	**239**	P	**Pn**	**03**	**14**	**43.8**	**+1.0**
HAZ				S	**Sb**	**03**	**15**	**03.0**	**-0.7**
TWGZ	**Tauwhareparae**	**1.61**	**223**	P	**Pn**	**03**	**14**	**46.2**	**+1.6**
TWGZ				S	**Sb**	**03**	**15**	**06.7**	**-0.9**
RUGZ	**Raukumara Rang**	**1.66**	**235**	P	**Pn**	**03**	**14**	**47.2**	**+1.9**
CNGZ	**Carnagh Statio**	**1.74**	**212**	P	**Pn**	**03**	**14**	**48.3**	**+1.9**
CNGZ				S	**Sb**	**03**	**15**	**10.7**	**-0.5**
TKGZ	**Te Karaka**	**1.87**	**220**	P	**Pn**	**03**	**14**	**49.4**	**+1.2**
TKGZ				S	**Sn**	**03**	**15**	**12.3**	**+1.6**
MWZ	**Matawai**	**1.98**	**228**	P	**Pn**	**03**	**14**	**50.9**	**+1.2**
MWZ				S	**Sn**	**03**	**15**	**14.1**	**+0.7**
WHRZ	**Whale Island**	**2.10**	**246**	P	**Pn**	**03**	**14**	**52.7**	**+1.4**
RIGZ	**Rimuhau**	**2.12**	**217**	P	**Pn**	**03**	**14**	**52.5**	**+0.8**
RIGZ				S	**Sn**	**03**	**15**	**18.4**	**+1.4**
RAGZ	**Rawiri**	**2.15**	**226**	P	**Pn**	**03**	**14**	**53.9**	**+1.7**
RAGZ				S	**Sn**	**03**	**15**	**17.9**	**+0.1**
URZ	**Urewera**	**2.19**	**235**	Pn	**Pn**	**03**	**14**	**53.3**	**+0.7**
	26nm,0.3s,baz=31,slow=9.5,SNR=15								
URZ				Sn	**Sn**	**03**	**15**	**19.9**	**+1.3**
	52nm,0.3s,baz=38,slow=20,SNR=13								
	67nm,0.3s								
URZ	**Urewera**	**2.19**	**235**	P	**Pn**	**03**	**14**	**53.7**	**+1.1**
URZ				S	**Sn**	**03**	**15**	**18.9**	**+0.3**
PRGZ	**Paritu Road**	**2.25**	**211**	P	**Pn**	**03**	**14**	**54.2**	**+0.8**
PRGZ				S	**Sn**	**03**	**15**	**19.9**	**-0.1**
EDRZ	**Edgecumbe**	**2.37**	**242**	P	**Pn**	**03**	**14**	**56.1**	**+1.0**
OPRZ	**Ohinepanea**	**2.40**	**249**	P	**Pn**	**03**	**14**	**55.8**	**+0.4**
KNZ	**Kokohu**	**2.42**	**213**	P	**Pn**	**03**	**14**	**55.8**	**+0.1**
KNZ				S	**Sn**	**03**	**15**	**23.2**	**-1.0**
MYRZ	**Mayor Island**	**2.53**	**263**	P	**Pn**	**03**	**14**	**57.8**	**+0.6**
MUGZ	**Murupara**	**2.54**	**234**	P	**Pn**	**03**	**14**	**58.1**	**+0.8**
RAHZ	**Arahi**	**2.63**	**223**	P	**Pn**	**03**	**15**	**00.0**	**+1.4**
RAHZ				S	**Sn**	**03**	**15**	**30.1**	**+0.7**
KARZ	**Kaharoa**	**2.69**	**247**	P	**Pn**	**03**	**15**	**00.9**	**+1.4**
HLRZ	**Highlands Stat**	**2.71**	**242**	P	**Pn**	**03**	**15**	**01.1**	**+1.4**
MTHZ	**Maungataniwha**	**2.72**	**227**	P	**Pn**	**03**	**15**	**01.3**	**+1.4**
MTHZ				S	**Sn**	**03**	**15**	**31.9**	**+0.1**
NMHZ	**Naumai**	**2.91**	**224**	P	**Pn**	**03**	**15**	**03.6**	**+1.1**
NMHZ				S	**Sn**	**03**	**15**	**36.8**	**+0.4**
ARHZ	**Aropaoanui**	**2.93**	**219**	P	**Pn**	**03**	**15**	**03.7**	**+1.0**
ARHZ				S	**Sn**	**03**	**15**	**36.8**	**0.0**
KUZ	**Kuaotunu**	**2.95**	**274**	P	**Pn**	**03**	**15**	**02.1**	**-0.9**
BKZ	**Black Stump Fm**	**3.13**	**226**	P	**Pn**	**03**	**15**	**04.8**	**+0.8**
BKZ				S	**Sn**	**03**	**15**	**40.6**	**-1.3**
TOZ	**Tahuroa Road**	**3.18**	**256**	P	**Pn**	**03**	**15**	**06.2**	**+0.1**
MCHZ	**McNeill Hill**	**3.22**	**220**	P	**Pn**	**03**	**15**	**07.4**	**+0.7**
MCHZ				S	**Sn**	**03**	**15**	**44.3**	**+0.3**
GRZ	**Great Barrier**	**3.25**	**282**	P	**Pn**	**03**	**15**	**07.4**	**+0.3**
KWHZ	**Kaweka Forest**	**3.35**	**223**	P	**Pn**	**03**	**15**	**09.1**	**+0.5**
KWHZ				S	**Sn**	**03**	**15**	**46.7**	**-0.7**
MKAZ	**Moumakai**	**3.38**	**267**	P	**Pn**	**03**	**15**	**08.8**	**-0.1**
KAHZ	**Kahuranaki**	**3.41**	**215**	P	**Pn**	**03**	**15**	**08.9**	**-0.5**
WIAZ	**Waiheke Island**	**3.42**	**272**	P	**Pn**	**03**	**15**	**09.5**	**+0.1**
KRHZ	**Kereru**	**3.54**	**221**	P	**Pn**	**03**	**15**	**11.1**	**0.0**
ETAZ	**East Tamaki Re**	**3.57**	**270**	P	**Pn**	**03**	**15**	**12.5**	**+1.0**
BHHZ	**Black Hill Sta**	**3.60**	**226**	P	**Pn**	**03**	**15**	**12.6**	**+0.6**
MBAZ	**Motutapu North**	**3.61**	**273**	P	**Pn**	**03**	**15**	**13.0**	**+1.0**
OTVZ	**Oturere**	**3.64**	**233**	P	**Pn**	**03**	**15**	**13.8**	**+1.2**
SNVZ	**South Ngauruho**	**3.67**	**233**	P	**Pn**	**03**	**15**	**13.4**	**+0.4**
MOVZ	**Moawhango**	**3.73**	**229**	P	**Pn**	**03**	**15**	**14.4**	**+0.7**
AWAZ	**Awhitu Peninsu**	**3.79**	**268**	P	**Pn**	**03**	**15**	**16.0**	**+1.4**
WPHZ	**Waihukuru**	**3.82**	**216**	P	**Pn**	**03**	**15**	**14.3**	**-0.7**
PNHZ	**Pukenui**	**3.83**	**220**	P	**Pn**	**03**	**15**	**14.6**	**-0.4**
WTAZ	**Waiatarua**	**3.85**	**270**	P	**Pn**	**03**	**15**	**16.8**	**+1.3**
TSZ	**Takapari Road**	**4.06**	**220**	P	**Pn**	**03**	**15**	**17.1**	**-1.2**
DVHZ	**Dannevirke**	**4.14**	**217**	P	**Pn**	**03**	**15**	**17.8**	**-1.5**
WCZ	**Waipu Caves**	**4.20**	**283**	P	**Pn**	**03**	**15**	**20.6**	**+0.4**
BFZ	**Birch Farm**	**4.41**	**213**	P	**Pn**	**03**	**15**	**21.5**	**-1.6**
PRWZ	**Pori Road**	**4.43**	**216**	P	**Pn**	**03**	**15**	**22.2**	**-1.1**
OUZ	**Omahuta**	**5.02**	**289**	P	**Pn**	**03**	**15**	**32.8**	**+1.4**
CTZ	**Chatham Island**	**7.37**	**157**	P	**Pn**	**03**	**16**	**05.8**	**+2.1**
ASAR	**Alice Springs**	**41.08**	**276**	P	**P**	**03**	**21**	**58.5**	**-0.7**
	2.1nm,0.6s,baz=119,slow=8.1,SNR=15								
	2.1nm,0.6s								
WRA	**Warramunga Arr**	**42.67**	**281**	P	**P**	**03**	**22**	**11.4**	**-0.8**
	1.1nm,0.4s,baz=121,slow=7.6,SNR=16								
	1.1nm,0.4s								
H03S2	**Juan Fernandez**	**78.62**	**124**	T	T	04	52	53.2	
	baz=230								
H03S1	**Juan Fernandez**	**78.63**	**124**	T	T	04	52	53.2	
	baz=230								
H03S3	**Juan Fernandez**	**78.64**	**124**	T	T	04	52	53.2	
	baz=230								
H03N3	**Juan Fernandez**	**78.85**	**123**	T	T	04	53	03.0	
	baz=235								
H03N2	**Juan Fernandez**	**78.86**	**123**	T	T	04	53	03.0	
	baz=235								
H03N1	**Juan Fernandez**	**78.87**	**123**	T	T	04	53	03.0	
	baz=235								
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKPbc**	**03**	**34**	**06.2**	**+0.6**
	1.1nm,0.7s,baz=45,slow=2.4,SNR=5.0								

*IDC **08** 03:26:23.2±1.7, 0°.72N×124°.16E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=186.1km s-min=27.3km az=63.0*
*DJA **08** 03:26:37.3±0.3, 1°.N±3°×12°.5E±°, h64km±7km, M4.3/16, mb4.4/5, mB5.1/2, MLv4.3/16, Mw(mB)4.5/2*
ISC 08 03:26:35.9±1.0, 0°.86N±0'.08×125°.21E±0'.04, h100km, n18, σ1§27/23, mb3.2/3, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KMSI	**Cibinong**	**1.26**	**257**	P	**Pn**	**03**	**26**	**59.3**	**0.0**
KMSI				S	**Sn**	**03**	**27**	**16.1**	**-0.9**
TNTI	**Ternate**	**2.16**	**92**	P	**Pn**	**03**	**27**	**11.7**	**+1.2**
TNTI				S	**Sn**	**03**	**27**	**38.1**	**+1.1**
GTOI	**Gorontalo**	**2.21**	**264**	P	**Pn**	**03**	**27**	**12.7**	**+1.5**
GTOI				S	**Sn**	**03**	**27**	**40.1**	**+1.8**
LBMI	**Labuha**	**2.73**	**123**	P	**Pn**	**03**	**27**	**19.2**	**+1.1**
LBMI				S	**Sn**	**03**	**27**	**51.0**	**+0.5**
SGSI	**Sangihe**	**2.83**	**6**	P	**Pn**	**03**	**27**	**20.6**	**+1.3**
SANI	**Sanana**	**2.99**	**165**	P	**Pn**	**03**	**27**	**20.9**	**-0.7**
LUWI	**Luwuk**	**3.08**	**232**	P	**Pn**	**03**	**27**	**23.0**	**+0.2**
MRSI	**Marisa**	**3.29**	**263**	P	**Pn**	**03**	**27**	**26.8**	**+1.3**
APSI	**Ampana**	**3.97**	**244**	P	**Pn**	**03**	**27**	**35.2**	**+0.5**
NLAI	**Namlea**	**4.49**	**155**	P	**Pn**	**03**	**27**	**42.1**	**+0.4**
MPSI	**Mapaga**	**5.34**	**264**	P	**Pn**	**03**	**27**	**54.7**	**+1.5**
	0.1nm860nm22nm,0.5s								
MSAI	**Masohi**	**5.59**	**138**	P	**Pn**	**03**	**27**	**57.7**	**+1.0**
	0.2nm10nm,0.6s								
TTSI	**Tana Toraja**	**6.64**	**234**	P	**Pn**	**03**	**28**	**12.1**	**+1.2**
	0.2nm35nm,0.6s								
BKSI	**Bulukumba**	**7.97**	**220**	P	**Pn**	**03**	**28**	**30.0**	**+1.0**
	0.1nm10nm,0.7s								
BSSI	**Bau Bau, Buton**	**8.40**	**214**	P	**Pn**	**03**	**28**	**36.1**	**+1.2**
WRA	**Warramunga Arr**	**22.53**	**157**	P	**P**	**03**	**31**	**28.0**	**+0.4**
	0.5nm,0.4s,baz=332,slow=11,SNR=15								
	0.5nm,0.4s								
ASAR	**Alice Springs**	**25.80**	**161**	P	**P**	**03**	**31**	**59.1**	**+1.2**
	0.4nm,0.5s,baz=337,slow=7.6,SNR=9.1								
ASAR				PcP	**PcP**	**03**	**35**	**24.4**	**-0.7**
	0.2nm,0.6s,baz=343,slow=2.9,SNR=2.0								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**59.08**	**327**	P	**P**	**03**	**36**	**22.8**	**-2.9**
	0.2nm,0.3s,baz=126,slow=7.6,SNR=2.4								
	0.2nm,0.3s								

*VAO **08** 03:51:44.8±0.4, 37°.77S×74°.30W, h12km, mb4.3*
*NEIC **08** 03:51:45.8±1.0, 37°.75S±0'.04×74°.1W±0'.1, h13km±5km, mb4.2/13, Mwr4.2/26, ML4.4(GUC), Error ellipse: s-maj=11.9km s-min=5.4km az=94.0*
*NEIC **08** 03:51:46.6, 37°.78S×73°.96W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr2.12; Mθθ-0.12; Mϕϕ-2.00; Mrθ-0.12; Mrϕ0.11; Mθϕ-1.69; Fault plane solution: M0 2.67000×10^15^ NP1:ϕs181.08000°, δ64.76000°, λ93.68000°. NP2:ϕs352.51000°, δ25.49000°, λ82.25000°. Principal axes: T 2.7318, Plg70.0000°, Azm99.0000°; N -0.1229, Plg3.0000°, Azm360.0000°; P -2.6089, Plg20.0000°, Azm268.0000°;*
*IDC **08** 03:51:46.8±1.0, 37°.62S×73°.59W, h0km, mb3.8/10, mbtmp3.8/13, ML3.7/3, MS3.5/6 Error ellipse: s-maj=30.3km s-min=22.4km az=78.0*
*GUC **08** 03:51:47.9±0.7, 37°.75S×73°.99W, h51km±6km, ML4.4*
ISC 08 03:51:44.9±3.6, 37°.76S±0'.05×74°.01W±0'.08, h1km±22km, n121, σ1§19/118, mb3.9/12, MS3.7/4, 6C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CCSP	**San Pedro de C**	**1.16**	**38**	⇑*i*P	**Pb**	**03**	**52**	**08.0**	**+0.4**
CCSP				*i* S	**Sb**	**03**	**52**	**23.5**	**+0.3**
BI05	**Punta Hualpn**	**1.20**	**33**	Pn	**Pn**	**03**	**52**	**08.4**	**-0.3**
BI05				Sn	**Sb**	**03**	**52**	**23.8**	**-0.5**
BI05	**Punta Hualpn**	**1.20**	**33**	⇑*i*P	**Pn**	**03**	**52**	**08.4**	**-0.3**
BI05				*i* S	**Sb**	**03**	**52**	**24.0**	**-0.4**
BI05				IAML		03	52	31.7	
	comp=E,6μm,0.5s								
LR02	**Universidad Au**	**2.13**	**164**	*eP*	**Pn**	**03**	**52**	**21.7**	**+0.1**
LR02				IAML		03	53	03.9	
	comp=N,8μm,0.6s								
LR04	**Corral**	**2.17**	**168**	Pn	**Pn**	**03**	**52**	**22.0**	**0.0**
LR04				Sn	**Sn**	**03**	**52**	**45.2**	**-4.3**
LR04	**Corral**	**2.17**	**168**	*eP*	**Pn**	**03**	**52**	**22.1**	**0.0**
LR04				*i* S	**Sn**	**03**

	comp=Z,2.1nm,0.9s,baz=214,slow=11,SNR=8.1								
	comp=Z,2.1nm,0.9s								
PCMB	**Pacaembu**	**25.38**	**57**	*eP*	**P**		**03 57 14.6**	**+0.9**
PTLB	**Pontes e Lacer**	**25.82**	**35**	P	**P**		**03 57 16.9**	**-0.8**
PTLB				IAmb	IAmb		03 57 27.2	
	comp=Z,5.9nm,1.1s							
PTLB	**Pontes e Lacer**	**25.82**	**35**	*eP*	**P**		**03 57 17.7**	**0.0**
SALV	**Santo Antonio**	**27.12**	**42**	*eP*	**P**		**03 57 29.4**	**-0.1**
VAO	**Valinhos**	**27.45**	**65**	*eP*	**P**		**03 57 33.2**	**+0.7**
PARB	**Paraibuna**	**28.22**	**68**	*eP*	**P**		**03 57 37.8**	**-1.5**
ETMB	**Extrema**	**28.69**	**16**	P	**P**		**03 57 41.7**	**-1.8**
ETMB				IAmb	IAmb		03 57 53.6	
	comp=Z,4.4nm,0.8s							
BSCB	**Bom Sucesso**	**30.29**	**65**	*eP*	**P**		**03 57 58.1**	**+0.3**
PDRB	**Porto dos Gac**	**30.29**	**35**	*eP*	**P**		**03 57 57.2**	**-0.5**
BDFB	**Brasilia**	**31.81**	**53**	LR	LR		04 11 57.3	
	comp=Z,135nm,21.4s,baz=120,slow=38							
BDFB	**Brasilia**	**31.81**	**53**	*eP*	**P**		**03 58 11.7**	**+0.5**
JANB	**Januaria**	**34.65**	**57**	*eP*	**P**		**03 58 35.1**	**-0.9**
SDBA	**SAO DESIDERIO**	**36.22**	**54**	*eP*	**P**		**03 58 49.1**	**-0.3**
GUA01	**Guaratinga, BA**	**36.72**	**64**	*eP*	**P**		**03 58 54.5**	**+0.8**
ITTB	**Itaituba**	**37.19**	**31**	*eP*	**P**		**03 58 56.5**	**-1.2**
SMTB	**Santa Maria do**	**37.36**	**46**	*eP*	**P**		**03 58 59.3**	**+0.1**
MALB	**Monte Alegre**	**40.07**	**32**	*eP*	**P**		**03 59 22.1**	**+0.2**
BOAV	**Boa Vista**	**41.86**	**20**	P	**P**		**03 59 35.5**	**-1.1**
BOAV				IAmb	IAmb		03 59 50.1	
	comp=Z,4.0nm,1.2s							
VNA3	**Neumayer Olymp**	**46.53**	**156**	P	**P**		**04 00 14.5**	**+1.0**
BAUV	**El Baul**	**46.79**	**8**	P	**P**		**04 00 14.6**	**-1.5**
VNA1	**Neumayer--Stat**	**46.89**	**155**	P	**P**		**04 00 17.7**	**+1.4**
VNA2	**Neumayer--Watz**	**47.21**	**156**	P	**P**		**04 00 19.9**	**+1.1**
	baz=285,slow=9.0							
SNAA	**Sanae**	**48.75**	**157**	P	**P**		**04 00 32.1**	**+1.3**
SNAA	**Sanae**	**48.75**	**157**	P	**P**		**04 00 30.1**	**-0.7**
QSPA	**South Pole Qui**	**52.49**	**180**	P	**P**		**04 01 01.5**	**+2.3**
	comp=Z,1.9nm,0.9s,baz=146,slow=4.5,SNR=3.6							
	comp=Z,1.9nm,0.9s							
QSPA	**South Pole Qui**	**52.49**	**180**	P	**P**		**04 00 58.3**	**-0.8**
QSPA				IAmb	IAmb		04 01 02.0	
	comp=Z,6.2nm,1.2s							
VNDA	**Vanda**	**60.11**	**192**	LR	LR		04 21 58.8	
	comp=Z,39nm,21.8s,baz=114,slow=30							
PPT	**Papeete**	**68.20**	**264**	LR	LR		04 26 28.5	
	comp=Z,65nm,18.0s,baz=162,slow=30							
MAW	**Mawson**	**70.03**	**164**	LR	LR		04 34 00.1	
	comp=Z,66nm,18.2s,baz=257,slow=36							
TXAR	**Lajitas Array**	**72.29**	**333**	P	**P**		**04 03 14.3**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=152,slow=7.6,SNR=4.4							
	comp=Z,0.2nm,0.6s							
DBIC	**Dimbokro**	**77.88**	**72**	P	**P**		**04 03 45.1**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=243,slow=6.8,SNR=3.0							
	comp=Z,3.2nm,0.8s							
ANMO	**Albuquerque**	**78.36**	**333**	P	**P**		**04 03 50.4**	**+3.5**
	comp=Z,0.5nm,0.6s,baz=173,slow=8.1,SNR=1.9							
	comp=Z,0.5nm,0.6s							
NVAR	**Mina Array Bea**	**86.09**	**327**	P	**P**		**04 04 30.2**	**+2.8**
	comp=Z,0.4nm,0.8s,baz=148,slow=5.3,SNR=3.1							
	comp=Z,0.4nm,0.8s							
PDAR	**Pinedale Array**	**86.43**	**335**	P	**P**		**04 04 30.8**	**+1.8**
	comp=Z,0.6nm,0.9s,baz=115,slow=4.1,SNR=4.3							
	comp=Z,0.6nm,0.9s							
ELK	**Elko**	**86.77**	**330**	P	**P**		**04 04 32.9**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=129,slow=6.5,SNR=4.0							
	comp=Z,0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**86.97**	**71**	P	**P**		**04 04 32.0**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=214,slow=5.5,SNR=2.9							
	comp=Z,0.6nm,0.8s							
PZH	**PanZhiHua**	**168.22**	**161**	PKP	**PKPdf**		**04 11 52.4**	**-1.2**

*HVO **08** 03:56:54.3±0.8, 19°.20N±0°.02×155°.48W±0°.02, h36km±2km, ML2.7/28, ML2.8/48(NEIC), Error ellipse: s-maj=3.1km s-min=2.4km az=145.0*

NEIC 08 03:56:52.5±0.8, 19°.21N±0°.02×155°.49W±0°.02, h43km±2km, Error ellipse: s-maj=3.6km s-min=2.4km az=155.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**72**		Pn	03 56 60.0	+0.4
KHU	**Kahuku**	**0.12**	**287**		Pn	03 57 00.2	+0.3
KHU				Sn	Sn	03 57 04.3	-0.9
HPO	**Honuapo**	**0.13**	**207**		Pn	03 57 00.0	+0.3
AIN	**Ainahou**	**0.17**	**11**		Pn	03 57 00.4	+0.3
AIN				Sn	Sn	03 57 05.2	-0.3
HLP	**Hilina Pali**	**0.19**	**63**		Pn	03 57 00.5	+0.3
HLP				Sn	Sn	03 57 05.1	-0.4
SDHHI	**Sand Hill**	**0.26**	**46**		Pn	03 57 01.0	+0.2
SDHHI				Sn	Sn	03 57 05.9	-0.7
WRMHI	**West Rim**	**0.27**	**43**		Pn	03 57 00.7	-0.2
WRMHI				Sn	Sn	03 57 06.2	-0.6
WRMHI				IAML		03 57 06.6	
	comp=N,2μm,0.5s						
RIM	**Rim**	**0.28**	**48**		Pn	03 57 01.1	+0.1
RIM				IAML		03 57 08.3	
	comp=E,1μm,0.3s						
RIM				IAML		03 57 09.2	
	comp=N,1μm,0.3s						
UWE	**Uwekahuna**	**0.28**	**42**		Pn	03 57 01.0	0.0
UWE				IAML		03 57 08.6	
	comp=N,2μm,0.2s						
UWE	**Uwekahuna**	**0.28**	**42**		Sn	03 57 06.4	-0.7
KKO	**Keanakako`i**	**0.28**	**48**		Pn	03 57 01.2	+0.1
KKO				IAML		03 57 06.6	
	comp=N,1μm,0.5s						
KKO				IAML		03 57 09.5	
	comp=E,1μm,0.3s						
NPH	**North Pit**	**0.28**	**44**		Pn	03 57 01.0	0.0
NPH					Sn	03 57 06.0	-1.0
NPH	**North Pit**	**0.28**	**44**	IAML		03 57 06.3	
	comp=E,514nm,0.4s						
NPH				IAML		03 57 08.4	
	comp=N,625nm,0.5s						
OBL	**Observatory Le**	**0.28**	**43**		Sn	03 57 07.2	+0.2
OBL	**Observatory Le**	**0.28**	**43**		Pn	03 57 01.1	0.0
OBL				IAML		03 57 08.3	
	comp=N,3μm,0.6s						
OBL	**Observatory Le**	**0.28**	**43**	IAML		03 57 06.9	
	comp=E,2μm,0.5s						
MWH	**Moku'aweowe**	**0.29**	**340**		Pn	03 57 01.5	0.0
MWH				IAML		03 57 07.4	
	comp=E,866nm,0.6s						
MWH				IAML		03 57 08.1	
	comp=N,1μm,0.3s						
UWB	**Uwekahuna B**	**0.29**	**43**		Pn	03 57 00.9	-0.3
BYL	**Byron's Ledge**	**0.30**	**47**		Pn	03 57 01.1	-0.1
BYL				IAML		03 57 08.8	
	comp=E,989nm,0.7s						
MLH	**Mauna Loa**	**0.30**	**19**		Pn	03 57 01.6	+0.3
MLH				IAML		03 57 07.3	
	comp=N,1μm,0.4s						
MLH				IAML		03 57 07.3	
	comp=E,1μm,0.3s						
MLH	**Mauna Loa**	**0.30**	**19**		Sn	03 57 07.1	-0.4
SBLHI	**Steaming Bluff**	**0.30**	**44**		Pn	03 57 01.1	-0.1
SBLHI				IAML		03 57 06.6	
	comp=E,1μm,0.3s						
HATHI	**Halema'uma'u T**	**0.30**	**46**		Pn	03 57 01.1	-0.1
HATHI				IAML		03 57 06.6	
	comp=E,1μm,0.5s						
HATHI				IAML		03 57 06.8	
	comp=N,1μm,0.6s						
PUH	**Pauahi**	**0.31**	**58**		Pn	03 57 01.2	0.0
PUH				IAML		03 57 06.7	
	comp=E,991nm,0.3s						
PUH				IAML		03 57 07.4	
	comp=N,946nm,0.4s						
RSD	**Rainshed**	**0.32**	**38**		Pn	03 57 01.4	0.0
RSD	**Rainshed**	**0.32**	**38**		Sn	03 57 07.1	-0.6
MLOA	**Mauna Loa Obse**	**0.34**	**346**		Pn	03 57 02.0	+0.1
MLOA				IAML		03 57 07.7	
	comp=E,1μm,0.2s						
MLOA	**Mauna Loa Obse**	**0.34**	**346**		Sn	03 57 07.6	-0.9
KNHH	**Kane Nui o Ham**	**0.35**	**61**		Pn	03 57 01.7	+0.1
ALEP	**Alea Permanent**	**0.36**	**336**		Pn	03 57 02.0	0.0
ALEP					Sn	03 57 08.2	-0.6
HMH	**Humu'ula Sheep**	**0.39**	**1**		Pn	03 57 02.9	+0.5
HMH				IAML		03 57 09.8	
	comp=E,590nm,0.2s						
HMH				IAML		03 57 10.0	
	comp=N,923nm,0.5s						
NPOC	**North of Pu'u**	**0.40**	**63**		Sn	03 57 07.9	-1.3
NPOC	**North of Pu'u**	**0.40**	**63**		Pn	03 57 02.2	-0.1
NPOC				IAML		03 57 08.5	
	comp=E,1μm,0.6s						
	comp=N,2μm,0.2s						
JCUZ	**Jacuzzi**	**0.41**	**65**		Sn	03 57 08.3	-0.9
JCUZ	**Jacuzzi**	**0.41**	**65**	Pn	Pn	03 57 02.3	0.0
JCUZ				IAML		03 57 08.7	
	comp=N,1μm,0.4s						
JCUZ				IAML		03 57 08.9	
	comp=E,981nm,0.8s						
CPH	**Captain Cook**	**0.49**	**305**		Pn	03 57 03.4	+0.1
CPH					Sn	03 57 09.4	-1.6
JOKA	**Jonika Flow**	**0.51**	**64**		Pn	03 57 03.4	-0.1
JOKA					Sn	03 57 10.0	-1.4
KHLU	**Kahalu`u**	**0.54**	**315**		Pn	03 57 04.1	+0.1
KHLU	**Kahalu`u**	**0.54**	**315**		Sn	03 57 11.5	-0.7
POHA	**Pohakuloa**	**0.55**	**356**		Pn	03 57 04.3	+0.1
POHA				IAML		03 57 16.0	
	comp=E,420nm,0.3s						
POHA				IAML		03 57 18.6	
	comp=E,580nm,0.2s						
HUH	**Hualalai**	**0.57**	**326**		Pn	03 57 05.0	+0.4
HUH	**Hualalai**	**0.57**	**326**		Sn	03 57 12.9	-0.3
HPAH	**Hawaii Prepara**	**0.84**	**347**		Pn	03 57 07.9	-0.1
HLK	**Haleakala**	**1.70**	**335**		Sn	03 57 38.8	-1.8

*NNC **08** 04:09:53.9±1.7, 41°.49N×73°.89E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=12.6km s-min=6.3km az=1.0*
*SOME **08** 04:09:53.0, 41°.43N×73°.93E, h10km*
*KRNET **08** 04:09:54.2±0.1, 41°.51N×73°.95E, h18km, mb2.3*

ISC 08 04:09:53.3±1.9, 41°.47N±0°.07×73°.93E±0°.03, h7km±14km, n21, σ0s75/36, 10C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.49**	**37**	⇑*eP*	**Pg**	**04 10 03.1**	**+0.3**
	baz=39						
ARLS				⇑*iS*	**Sg**	**04 10 09.1**	**-0.1**
	baz=39						
UCH	**Uchtor**	**0.87**	**30**	⇓*iP*	**Pg**	**04 10 10.2**	**+0.1**
	baz=30						
UCH				⇓*iS*	**Sg**	**04 10 21.6**	**+0.1**
	baz=30						
EKS2	**Erkin-Say**	**1.20**	**354**	⇑*iP*	**Pb**	**04 10 15.5**	**-0.9**
	baz=54						
EKS2				⇑*iS*	**Sb**	**04 10 31.3**	**-0.9**
	baz=54						
MRKS	**Merke**	**1.38**	**338**	*eP*	**Pn**	**04 10 19.1**	**-0.1**
	2.6nm,0.2s						
MRKS				*eS*	**Sg**	**04 10 37.6**	**0.0**
	6.3nm,0.2s						
MRKS	**Merke**	**1.38**	**338**	P	**Pn**	**04 10 19.0**	**-0.1**
	3.0nm,0.3s						
MRKS				S	**Sg**	**04 10 37.6**	**0.0**
	6.7nm,0.4s						
MRKS	**Merke**	**1.38**	**338**	*eP*	**Pn**	**04 10 19.1**	**-0.1**
	baz=37						
MRKS				*eS*	**Sg**	**04 10 37.7**	**0.0**
	baz=37						
BOOM	**Boomskoye usch**	**1.81**	**55**	⇑*iP*	**Pb**	**04 10 26.7**	**-0.2**
	baz=56						
BOOM				⇑*iS*	**Sb**	**04 10 50.2**	**+0.3**
	baz=56						
ULHL	**Ulahol**	**1.89**	**65**	⇑*iP*	**Pb**	**04 10 28.1**	**-0.2**
	baz=66						
ULHL				⇑*iS*	**Sb**	**04 10 52.6**	**+0.4**
	baz=66						
TKM2	**Tokmak 2**	**1.91**	**40**	⇑Pg	**Pb**	**04 10 28.9**	**+0.4**
	0.7nm,0.3s						
TKM2				⇓Lg	Lg	04 10 57.8	
	0.4nm,0.2s						
SGDS	**Sogindy**	**2.05**	**14**	*eP*	**Pb**	**04 10 31.2**	**+0.3**
	0.9nm,0.2s						
SGDS				*eS*	**Sg**	**04 10 58.5**	**-0.6**
	10nm,0.4s						
SGDS	**Sogindy**	**2.05**	**14**	Pg	**Pb**	**04 10 31.1**	**+0.3**
	2.0nm,0.3s						
SGDS				Lg	Lg	04 10 58.4	
	5.3nm,0.7s						
TRKS	**Terek-Say**	**2.10**	**273**	⇓*iP*	**Pb**	**04 10 31.3**	**-0.5**
	baz=70						
TRKS				⇓*iS*	**Sb**	**04 10 57.7**	**-0.5**
	baz=70						
KST	**Kastek**	**2.18**	**43**	*eP*	**Pb**	**04 10 34.1**	**+0.9**
	2.1nm,0.2s						
KST				*eS*	**Sg**	**04 11 03.1**	**-0.1**
	3.5nm,0.6s						
KST	**Kastek**	**2.18**	**43**	Pg	**Pb**	**04 10 33.6**	**+0.5**
	2.1nm,0.4s						
KST				Lg	Lg	04 11 03.0	
	3.7nm,0.6s						
DGS	**Degeres**	**2.23**	**37**	*eP*	**Pb**	**04 10 34.9**	**+0.8**
	2.6nm,0.4s						
DGS				*eS*	**Sg**	**04 11 04.6**	**-0.5**
	5.0nm,0.5s						
MTBS	**Maitube**	**2.48**	**47**	*eP*	**Pb**	**04 10 39.2**	**+0.9**
	2.1nm,0.3s						
MTBS				*eS*	**Sg**	**04 11 12.3**	**-0.8**
	6.4nm,0.2s						
KRBS	**Karabastau**	**2.57**	**29**	*eP*	**Pb**	**04 10 40.6**	**+0.8**
	6.3nm,0.3s						
KRBS				*eS*	**Sg**	**04 11 14.9**	**-0.9**
	3.5nm,0.3s						
KRBS	**Karabastau**	**2.57**	**29**	Pg	**Pb**	**04 10 40.3**	**+0.5**
	6.3nm,0.3s						
KRBS				Lg	Lg	04 11 14.6	
	3.5nm,0.5s						
KK31	**Karatay Array**	**3.02**	**304**	⇓Pg	**Pb**	**04 10 49.3**	**+1.9**
	0.2nm,0.3s,baz=121,slow=16,SNR=5.2						
KK31				⇑Lg	Lg	04 11 28.5	
	0.4nm,0.3s,baz=127,slow=30,SNR=3.6						
KTBS	**Karatobe**	**3.02**	**41**	*eP*	**Pb**	**04 10 48.6**	**+1.1**
	2.4nm,0.5s						
KTBS				*eS*	**Sg**	**04 11 28.3**	**-2.1**
	5.3nm,0.2s						
KTBS	**Karatobe**	**3.02**	**41**	Pg	**Pb**	**04 10 48.2**	**+0.7**
	2.4nm,0.4s						
KTBS				Lg	Lg	04 11 27.7	
	5.3nm,0.2s						

WEL 08 04:12:32.6±0.8, 45°S±4°×167°E±°, h86km±6km, M4.0/13, ML4.3/12, MLv4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=117.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.31**	**213**	P	Pn	04 12 46.4	+0.8
DCZ				S	Sn	04 12 57.0	+1.7
MLZ	**Mavora Lakes**	**0.54**	**108**	P	Pn	04 12 48.8	+1.5
MLZ				S	Sn	04 13 01.4	+3.2
MSZ	**Milford Sound**	**0.65**	**36**	P	Pn	04 12 49.8	+1.5
MSZ				S	Sn	04 13 02.9	+3.0
WHZ	**Wether Hill Ro**	**0.79**	**151**	P	Pn	04 12 50.9	+1.1
WHZ				S	Sn	04 13 04.6	+2.1
PYZ	**Puysegur Point**	**1.08**	**207**	P	Pn	04 12 53.5	+0.5
PYZ				S	Sn	04 13 08.1	-0.2
WKZ	**Wanaka**	**1.22**	**72**	P	Pn	04 12 56.0	+1.3
EAZ	**Earnscleugh**	**1.36**	**92**	P	Pn	04 12 57.5	+1.2
EAZ				S	Sn	04 13 15.1	+0.9
JCZ	**Jackson Bay**	**1.51**	**42**	P	Pn	04 12 58.6	+0.2
JCZ				S	Sn	04 13 17.6	-0.2
APZ	**The Paps**	**1.68**	**166**	P	Pn	04 13 00.5	0.0
APZ				S	Sn	04 13 22.4	+0.7
TUZ	**Tuapeka**	**1.74**	**116**	P	Pn	04 13 02.1	+0.8
TUZ				S	Sn	04 13 22.8	-0.2
SYZ	**Scrubby Hill**	**1.81**	**138**	P	Pn	04 13 02.7	+0.6
SYZ				S	Sn	04 13 25.0	+0.4
LBZ	**Lake Benmore**	**2.15**	**69**	P	Pn	04 13 06.1	-0.6
ODZ	**Otahua Downs**	**2.31**	**87**	P	Pn	04 13 08.5	-0.3
HHSZ	**Highcliff Hill**	**2.35**	**108**	P	Pn	04 13 09.7	+0.4
HHSZ				S	Sn	04 13 36.1	-1.4
FOZ	**Fox Glacier**	**2.41**	**47**	P	Pn	04 13 09.1	-1.1
TMZ	**Timaru**	**2.70**	**74**	P	Pn	04 13 12.9	-1.2
GCSZ	**Gaunt Creek Bo**	**2.83**	**49**	P	Pn	04 13 14.3	-1.5
ARCZ	**Arundel**	**2.98**	**66**	P	Pn	04 13 16.1	-1.8
RPZ	**Rata Peaks**	**3.02**	**62**	P	Pn	04 13 16.6	-1.6
WVZ	**Waitaha Valley**	**3.22**	**50**	P	Pn	04 13 19.6	-1.3
WACZ	**Wakanui South**	**3.42**	**70**	P	Pn	04 13 22.1	-1.5
RACZ	**Rakaia**	**3.71**	**68**	P	Pn	04 13 27.3	-0.3
OXZ	**Oxford**	**3.83**	**62**	P	Pn	04 13 28.1	-1.2
INZ	**Inchbonnie**	**3.84**	**51**	P	Pn	04 13 27.6	-1.7
MQZ	**McQueen's Vall**	**4.06**	**70**	P	Pn	04 13 30.5	-1.8
LTZ	**Lake Taylor**	**4.27**	**57**	P	Pn	04 13 32.9	-2.5
AMCZ	**Amberley**	**4.29**	**64**	P	Pn	04 13 34.4	-1.1
OKCZ	**Okains Bay**	**4.32**	**72**	P	Pn	04 13 35.6	-0.3
THZ	**Tophouse**	**5.29**	**51**	P	Pn	04 13 46.7	-2.4
MRNZ	**Matariki Terra**	**5.46**	**48**	P	Pn	04 13 50.5	-1.0
QRZ	**Quartz Range**	**5.77**	**43**	P	Pn	04 13 54.8	-0.9
NNZ	**Nelson**	**5.92**	**50**	P	Pn	04 13 57.6	-0.1
TUWZ	**Tuamarina**	**6.09**	**54**	P	Pn	04 14 01.0	+1.0
CAW	**Cannon Point**	**6.95**	**57**	P	Pn	04 14 10.4	-1.3

*IDC **08** 04:45:03.3±0.6, 26°.08S×11°.59W, h0km, mb4.3/17, mbtmp4.3/17, MS3.7/34, Error ellipse: s-maj=17.3km s-min=15.2km az=118.0*
*NEIC **08** 04:45:05.1±0.9, 26°.1S±0°.1×11°.5W±0°.1, h10km±1km, mb4.9/33, Error ellipse: s-maj=20.8km s-min=18.9km az=126.0*

ISC 08 04:45:05.0±0.5, 26°.12S±0°.09×11°.51W±0°.08, h10km, n110, σ0s88/88, mb4.8/33, MS3.8/34, 3C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**10.97**	**183**	T	T	04 58 54.3	
	SNR=9.0						
TSUM	**Tsumeb**	**27.68**	**82**	P	**P**	**04 50 54.9**	**+1.4**
	1.9nm,0.6s,baz=248,slow=11,SNR=3.5						
TSUM				LR	LR	04 59 41.7	
	comp=Z,133nm,21.4s,baz=252,slow=32						
	1.9nm,0.6s						
SUR	**Sutherland**	**28.81**	**110**	LR	LR	05 00 32.0	
	comp=Z,207nm,18.3s,baz=287,slow=32						
GDU01	**Guandu, BA**	**29.05**	**290**	*eP*	**P**	**04 51 06.8**	**+1.2**
RCBR	**Riachuelo**	**30.82**	**307**	LR	LR	05 00 51.9	
	comp=Z,116nm,18.6s,baz=304,slow=31						
PARB	**Paraibuna**	**31.06**	**268**	*eP*	**P**	**04 51 24.4**	**+1.0**
VAO	**Valinhos**	**32.34**	**268**	*eP*	**P**	**04 51 34.7**	**-0.1**
PET01	**Itanhaem-SP**	**32.35**	**265**	*eP*	**P**	**04 51 35.0**	**+0.3**
BOSA	**Boshof**	**32.66**	**103**	P	**P**	**04 51 36.6**	**-1.0**
	9.8nm,0.9s,baz=270,slow=7.8,SNR=16						
BOSA				LR	LR	05 03 12.5	
	comp=Z,197nm,18.4s,baz=240,slow=33						
	9.8nm,0.9s						
BOSA	**Boshof**	**32.66**	**103**	P	**P**	**04 51 36.7**	**-0.9**
BOSA				IAmb	IAmb	04 51 38.6	
	comp=Z,13nm,0.9s						
LIC	**Lamto**	**32.76**	**12**	⇑*iP*	**P**	**04 51 39.7**	**+1.4**
	comp=Z,1.1nm,0.1s						
KIC	**Kosan Boka**	**32.95**	**12**	⇑*iP*	**P**	**04 51 41.2**	**+1.3**
	comp=Z,2.8nm,0.2s						
PMNB	**Patos De Minas**	**33.10**	**276**	*eP*	**P**	**04 51 41.5**	**0.0**
TIC	**Toumodi**	**33.17**	**12**	⇑*iP*	**P**	**04 51 43.1**	**+1.2**
	comp=Z,2.2nm,0.2s						
DBIC	**Dimbokro**	**33.23**	**12**	P	**P**	**04 51 41.9**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=122,slow=3.5,SNR=4.8						
DBIC				LR	LR	05 01 58.2	
	comp=Z,47nm,18.9s,baz=174,slow=31						
	comp=Z,3.7nm,0.6s						
DBIC	**Dimbokro**	**33.23**	**12**	P	**P**	**04 51 42.0**	**-0.4**
DBIC				IAmb	IAmb	04 51 44.1	
	comp=Z,16nm,1.1s						
LBTB	**Lobatse**	**33.42**	**96**	LR	LR	05 03 22.9	
	comp=Z,158nm,18.6s,baz=256,slow=33						
LBTB	**Lobatse**	**33.42**	**96**	P	**P**	**04 51 44.1**	**-0.1**
LBTB				IAmb	IAmb	04 51 45.2	
	comp=Z,14nm,1.0s						
BDFB	**Brasilia**	**35.56**	**280**	P	**P**	**04 52 01.6**	**-1.2**
	comp=Z,4.8nm,0.8s,baz=82,slow=13,SNR=5.2						
BDFB				LR	LR	05 04 50.2	
	comp=Z,186nm,18.2s,baz=130,slow=34						
	comp=Z,4.8nm,0.8s						
BDFB	**Brasilia**	**35.56**	**280**	P	**P**	**04 52 01.6**	**-1.2**
BDFB				IAmb	IAmb	04 53 15.1	
	comp=Z,51nm,1.9s						
BDFB	**Brasilia**	**35.56**	**280**	*eP*	**P**	**04 52 03.4**	**+0.6**
ITAB	**Concordia**	**36.21**	**259**	*eP*	**P**	**04 52 09.6**	**+1.4**
ITRB	**Iturama**	**36.25**	**272**	*eP*	**P**	**04 52 08.9**	**+0.2**
LSZ	**Lusaka**	**38.53**	**82**	LR	LR	05 06 32.0	
	comp=Z,116nm,20.3s,baz=236,slow=33						
ITQB	**Itaqui**	**39.84**	**254**	*eP*	**P**	**04 52 39.9**	**+1.1**
SNDB	**Serra Nova Dou**	**39.98**	**283**	*eP*	**P**	**04 52 40.9**	**+0.9**
BBTS	**Babate**	**40.83**	**353**	P	**P**	**04 52 46.6**	**-0.3**
	comp=Z,32nm,0.9s,baz=156,slow=23,SNR=5.3						
BBTS				LR	LR	05 06 19.3	
	comp=Z,195nm,18.7s,baz=190,slow=31						
	comp=Z,32nm,0.9s						
AQDB	**Aquidauana**	**40.83**	**268**	*eP*	**P**	**04 52 47.9**	**+0.9**
CPUP	**Villa Florida**	**40.94**	**259**	P	**P**	**04 52 47.6**	**-0.3**
	comp=Z,4.1nm,1.0s,baz=111,slow=11,SNR=3.9						
CPUP				LR	LR	05 06 02.3	
	comp=Z,78nm,21.3s,baz=108,slow=31						
	comp=Z,4.1nm,1.0s						
CPUP	**Villa Florida**	**40.94**	**259**	P	**P**	**04 52 45.7**	**-2.2**
CPUP	**Villa Florida**	**40.94**	**259**	*eP*	**P**	**04 52 48.5**	**+0.6**
KOWA	**Kowa**	**41.02**	**11**	P	**P**	**04 52 48.1**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=190,slow=8.3,SNR=10						
KOWA				LR	LR	05 05 30.9	
	comp=Z,79nm,21.2s,baz=82,slow=30						
	comp=Z,5.0nm,0.8s						
KOWA	**Kowa**	**41.02**	**11**	P	**P**	**04 52 47.9**	**-0.7**
TOAO	**Torodi Ar. Sit**	**41.09**	**20**	P	**P**	**04 52 49.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**41.09**	**20**	P	**P**	**04 52 48.2**	**-0.9**
	comp=Z,5.5nm,1.1s,baz=195,slow=7.6,SNR=12						
TORD			

KMBO	**Kilima Mbogo**	**53.05**	**70**	LR	LR	05 15 03.9		
	comp=Z,94nm,20.2s,baz=275,slow=34							
PB07	**IPOC Station P**	**53.17**	**262**	P	**P**	**04 54 23.3**	**-0.4**	
GO01	**Chusmiza**	**53.17**	**264**	P	**P**	**04 54 22.9**	**-1.2**	
GO01				IAmb	IAmb	04 54 24.8		
	comp=Z,25nm,1.4s							
PB02	**IPOC Station P**	**53.30**	**262**	P	**P**	**04 54 23.5**	**-1.1**	
LPAZ	**La Paz**	**53.34**	**269**	P	**P**	**04 54 23.9**	**-1.7**	
	comp=Z,4.1nm,1.2s,baz=67,slow=4.7,SNR=7.3							
LPAZ				LR	LR	05 14 59.4		
	comp=Z,147nm,21.4s,baz=88,slow=34							
	comp=Z,4.1nm,1.2s							
LPAZ	**La Paz**	**53.34**	**269**	P	**P**	**04 54 24.2**	**-1.3**	
LPAZ	**La Paz**	**53.34**	**269**	*eP*	**P**	**04 54 25.0**	**-0.6**	
SMAI	**San Martin Ant**	**53.40**	**203**	P	**P**	**04 54 24.4**	**0.0**	
SMAI				IAmb	IAmb	04 54 27.2		
	comp=Z,12nm,1.1s							
PB16	**IPOC Station P**	**53.88**	**266**	P	**P**	**04 54 28.4**	**-1.1**	
ETMB	**Extrema**	**54.12**	**277**	P	**P**	**04 54 30.3**	**-0.2**	
ETMB				IAmb	IAmb	04 54 31.3		
	comp=Z,26nm,1.8s							
ETMB	**Extrema**	**54.12**	**277**	*eP*	**P**	**04 54 31.0**	**+0.4**	
PB12	**IPOC Station P**	**54.53**	**265**	P	**P**	**04 54 33.1**	**-0.5**	
BOAV	**Boa Vista**	**55.18**	**293**	P	**P**	**04 54 37.8**	**-0.5**	
BOAV				IAmb	IAmb	04 55 09.2		
	comp=Z,22nm,1.8s							
BOAV	**Boa Vista**	**55.18**	**293**	*eP*	**P**	**04 54 38.8**	**+0.6**	
MDT	**Midelt**	**58.97**	**7**	LR	LR	05 17 22.6		
	comp=Z,59nm,20.3s,baz=198,slow=33							
TBTG	**Tabatinga, AM**	**59.89**	**281**	*eP*	**P**	**04 55 12.1**	**+0.6**	
MAW	**Mawson**	**60.19**	**155**	P	**P**	**04 55 13.0**	**+0.3**	
	comp=Z,2.5nm,0.8s,baz=286,slow=16,SNR=4.2							
MAW				LR	LR	05 15 28.9		
	comp=Z,63nm,18.2s,baz=279,slow=30							
	comp=Z,2.5nm,0.8s							
CZSB	**Cruzeiro do Su**	**60.80**	**276**	P	**P**	**04 55 16.4**	**-1.4**	
CZSB				IAmb	IAmb	04 55 18.1		
	comp=Z,58nm,1.6s							
CZSB	**Cruzeiro do Su**	**60.80**	**276**	*eP*	**P**	**04 55 17.6**	**-0.2**	
NNA	**Nana**	**62.77**	**270**	LR	LR	05 21 13.2		
	comp=Z,56nm,19.2s,baz=85,slow=35							
QSPA	**South Pole Qui**	**64.10**	**180**	LR	LR	05 19 15.0		
	comp=Z,87nm,21.1s,baz=220,slow=32							
QSPA	**South Pole Qui**	**64.10**	**180**	P	**P**	**04 55 39.8**	**+0.6**	
ESDC	**Sonseca Array**	**65.83**	**6**	P	**P**	**04 55 49.8**	**-0.7**	
	comp=Z,0.9nm,0.8s,baz=176,slow=6.7,SNR=7.0							
ESDC				LR	LR	05 22 13.1		
	comp=Z,33nm,18.5s,baz=232,slow=34							
	comp=Z,0.9nm,0.8s							
ATAH	**Atahualpa**	**66.16**	**274**	LR	LR	05 24 29.8		
	comp=Z,134nm,19.1s,baz=124,slow=36							
SDV	**Santo Domingo**	**67.12**	**293**	LR	LR	05 23 17.7		
	comp=Z,161nm,19.2s,baz=88,slow=34							
SDV	**Santo Domingo**	**67.12**	**293**	*eP*	**P**	**04 56 00.2**	**+0.7**	
VAE	**Valguarnera**	**67.79**	**22**	LR	LR	05 24 29.8		
	comp=Z,32nm,18.4s,baz=258,slow=35							
BOSC	**San Juan Bosco**	**67.98**	**278**	P	**P**	**04 56 04.1**	**-0.9**	
BOSC				IAmb	IAmb	04 56 06.5		
	comp=Z,16nm,1.3s							
ROSC	**El Rosal**	**68.12**	**287**	LR	LR	05 24 50.3		
	comp=Z,183nm,18.3s,baz=72,slow=35							
SBA	**Scott Base**	**76.26**	**180**	P	**P**	**04 56 53.4**	**+0.1**	
VNDA	**Vanda**	**76.52**	**179**	P	**P**	**04 56 55.6**	**+0.8**	
	comp=Z,2.7nm,1.1s,baz=217,slow=5.4,SNR=7.4							
	comp=Z,2.7nm,1.1s							
VNDA	**Vanda**	**76.52**	**179**	P	**P**	**04 56 54.8**	**-0.1**	
BRTR	**Keskin Array B**	**77.86**	**34**	P	**P**	**04 57 04.8**	**+1.9**	
	comp=Z,2.0nm,1.0s,baz=222,slow=5.0,SNR=8.8							
	comp=Z,2.0nm,1.0s							
BRTR	**Keskin Array B**	**77.86**	**34**	P	**P**	**04 57 02.4**	**-0.5**	
MLR	**Muntele Rosu**	**79.00**	**26**	P	**P**	**04 57 08.1**	**-1.0**	
MLR				IAmb	IAmb	04 57 11.4		
	comp=Z,16nm,1.4s							
VRAC	**Vranov**	**79.16**	**18**	LR	LR	05 31 20.0		
	comp=Z,51nm,19.0s,baz=259,slow=35							
AKASG	**Malin Array Be**	**84.53**	**25**	P	**P**	**04 57 37.2**	**-0.7**	
	comp=Z,0.3nm,0.4s,baz=217,slow=5.2,SNR=13							
	comp=Z,0.3nm,0.4s							
RPN	**Rapa Nui**	**84.87**	**242**	LR	LR	05 29 36.6		
	comp=Z,29nm,18.0s,baz=218,slow=32							
NOA	**NORSAR Array B**	**88.79**	**11**	P	**P**	**04 57 58.9**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=198,slow=4.6,SNR=3.4							
NOA				LR	LR	05 36 46.0		
	comp=Z,16nm,20.2s,baz=300,slow=35							
	comp=Z,0.4nm,0.7s							
TKL	**Tuckaleechee C**	**91.78**	**309**	LR	LR	05 33 05.3		
	comp=Z,33nm,19.6s,baz=23,slow=31							
SCHQ	**Schefferville**	**93.51**	**332**	LR	LR	05 32 00.3		
	comp=Z,63nm,18.9s,baz=90,slow=30							
KLR	**Kul'dur**	**143.41**	**41**	PKhKP	PKPpre	05 04 35.2		
	comp=Z,0.9nm,0.5s,baz=272,slow=3.0,SNR=3.6							
MJAR	**Matsushiro Arr**	**152.23**	**61**	PKPbc	**PKPbc**	**05 05 01.0**	**-0.2**	
	comp=Z,1.6nm,0.5s,baz=333,slow=3.0,SNR=4.3							

*NNC **08** 04:50:57.5±0.3, 43.˙14N×78.˙67E, h0km, mb3.5, mpv3.4,*
Error ellipse: s-maj=4.1km s-min=1.2km az=173.0
*SOME **08** 04:50:59.1, 43.˙17N×78.˙63E, h10km*
*KRNET **08** 04:51:00.8±0.1, 43.˙03N×78.˙56E, h18km, mb3.0*

ISC 08 04:50:57.9±0.8, 43.˙13N±0.˙02×78.˙62E±0.˙02, h14km±5km, n54, σ1$56/100, 22C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZHN	**Zhinishke**	**0.14**	**286**	*eP*	**Pg**	**04 51 01.7**	**0.0**
ZHN	93nm,0.1s			*eS*	**Sb**	**04 51 03.4**	**-2.0**
	2μm,0.2s						
ZHN	**Zhinishke**	**0.14**	**286**	P	**Pg**	**04 51 01.7**	**0.0**
ZHN	35nm,0.1s			S	**Sb**	**04 51 03.4**	**-2.0**
	2μm,0.2s						
SATY	**Saty**	**0.17**	**246**	*eP*	**Pg**	**04 51 02.5**	**+0.4**
SATY	354nm,0.1s			*eS*	**Sg**	**04 51 05.5**	**+0.5**
	2μm,0.2s						
SATY	**Saty**	**0.17**	**246**	P	**Pg**	**04 51 02.5**	**+0.4**
SATY	354nm,0.2s			S	**Sg**	**04 51 05.4**	**+0.5**
	2μm,0.2s						
UZB	**Uzynbulak**	**0.30**	**86**	*eP*	**Pg**	**04 51 03.6**	**-0.5**
UZB	36nm,0.1s			*eS*	**Sb**	**04 51 07.2**	**-2.7**
	704nm,0.1s						
UZB	**Uzynbulak**	**0.30**	**86**	P	**Pg**	**04 51 03.6**	**-0.5**
UZB	33nm,0.1s			S	**Sb**	**04 51 07.1**	**-2.8**
	704nm,0.1s						
KPKS	**Kokpek**	**0.34**	**8**	*eP*	**Pb**	**04 51 04.5**	**-1.3**
KPKS	631nm,0.1s			*eS*	**Sg**	**04 51 08.9**	**-0.8**
	608nm,0.2s						
KPKS	**Kokpek**	**0.34**	**8**	P	**Pb**	**04 51 04.5**	**-1.3**
KPKS	631nm,0.1s			S	**Sg**	**04 51 08.9**	**-0.8**
	608nm,0.1s						
KURS	**Kuram**	**0.48**	**318**	*eP*	**Pb**	**04 51 08.1**	**-0.2**
KURS	4.1nm,0.1s			*eS*	**Sb**	**04 51 14.5**	**-0.8**
	30nm,0.2s						
KURS	**Kuram**	**0.48**	**318**	P	**Pb**	**04 51 08.1**	**-0.2**
KURS	9.4nm,0.2s			S	**Sb**	**04 51 14.5**	**-0.8**
	30nm,0.2s						
SHLS	**Shalkode**	**0.62**	**87**	*eP*	**Pn**	**04 51 15.2**	**+2.8**
SHLS	7.2nm,0.1s			*eS*	**Sn**	**04 51 27.2**	**+5.0**
	35nm,0.3s						
SHLS	**Shalkode**	**0.62**	**87**	P	**Pn**	**04 51 15.2**	**+2.8**
SHLS	6.8nm,0.1s			S	**Sn**	**04 51 27.2**	**+5.0**
	35nm,0.3s						
PDGK	**Podgornoye**	**0.67**	**72**	⇓P	**Pg**	**04 51 10.0**	**-0.9**
PDGK	11nm,0.2s			⇓S	**Sb**	**04 51 18.2**	**-2.4**
	27nm,0.5s						
ANVS	**Anan'yevo**	**0.78**	**244**	⇓*iP*	**Pn**	**04 51 14.2**	**-0.4**
ANVS	baz=50			⇓*iS*	**Sg**	**04 51 24.1**	**+0.8**
	baz=50						
MDOK	**Medeo**	**1.15**	**272**	*eP*	**Pg**	**04 51 20.1**	**+0.1**
MDOK	3.8nm,0.3s			*eS*	**Sg**	**04 51 35.2**	**+0.1**
	33nm,0.4s						
MDOK	**Medeo**	**1.15**	**272**	⇑P	**Pg**	**04 51 20.0**	**-0.1**
MDOK	4.0nm,0.3s			Pg	**Pg**	**04 51 20.1**	**+0.1**
MDOK	8.4nm,0.2s			Lg	Lg	04 51 35.2	
MDOK	31nm,0.4s			⇑S	**Sg**	**04 51 35.2**	**+0.1**
	22nm,0.6s						
ARXS	**Arharly**	**1.23**	**332**	*eP*	**Pg**	**04 51 21.4**	**-0.2**
ARXS	3.8nm,0.5s			*eS*	**Sg**	**04 51 37.4**	**-0.1**
	52nm,0.2s						
KTMS	**Ketmen**	**1.31**	**75**	*eP*	**Pg**	**04 51 22.5**	**-0.5**
KTMS	4.9nm,0.2s			*eS*	**Sg**	**04 51 39.2**	**-0.8**
	18nm,0.2s						
KTMS	**Ketmen**	**1.31**	**75**	P	**Pb**	**04 51 21.3**	**-1.0**
KTMS	7.9nm,0.2s			S	**Sg**	**04 51 37.8**	**-2.2**
	24nm,0.3s						
CHKK	**Chushkaly**	**1.39**	**302**	*eP*	**Pg**	**04 51 24.1**	**-0.5**
CHKK	14nm,0.2s			*eS*	**Sg**	**04 51 42.1**	**-0.6**
	89nm,0.3s						
CHKK	**Chushkaly**	**1.39**	**302**	P	**Pg**	**04 51 24.1**	**-0.5**
CHKK	14nm,0.2s			S	**Sg**	**04 51 42.1**	**-0.6**
	89nm,0.3s						
DJR	**Jarkent**	**1.47**	**35**	*eP*	**Pg**	**04 51 25.1**	**-1.2**
DJR	54nm,0.2s			*eS*	**Sg**	**04 51 44.5**	**-0.9**
	322nm,0.4s						
DJR	**Jarkent**	**1.47**	**35**	P	**Pg**	**04 51 25.1**	**-1.2**
DJR	54nm,0.2s			S	**Sg**	**04 51 44.4**	**-0.9**
	322nm,0.4s						
TARG	**Taragay, Kyrgy**	**1.52**	**204**	⇑*iP*	**Pg**	**04 51 27.1**	**-0.1**
TARG	baz=4.0			⇑*iS*	**Sg**	**04 51 46.2**	**-0.8**
	baz=4.0						
KTBS	**Karatobe**	**1.53**	**293**	*eP*	**Pg**	**04 51 26.9**	**-0.4**
KTBS	20nm,0.1s			*eS*	**Sg**	**04 51 47.6**	**+0.5**
	142nm,0.3s						
KTBS	**Karatobe**	**1.53**	**293**	P	**Pg**	**04 51 26.9**	**-0.4**
KTBS	20nm,0.1s			S	**Sg**	**04 51 47.6**	**+0.5**
	142nm,0.3s						
MTBS	**Maitube**	**1.60**	**271**	*eP*	**Pg**	**04 51 29.0**	**+0.3**
MTBS	12nm,0.2s			*eS*	**Sg**	**04 51 50.4**	**+0.9**
	53nm,0.2s						
MTBS	**Maitube**	**1.60**	**271**	P	**Pg**	**04 51 29.0**	**+0.3**
MTBS	12nm,0.2s			S	**Sg**	**04 51 50.3**	**+0.9**
	53nm,0.2s						
TDK	**Taldyqorghan**	**1.88**	**355**	*eP*	**Pg**	**04 51 33.8**	**-0.2**
TDK	96nm,0.3s			*eS*	**Sg**	**04 51 58.5**	**+0.2**
	222nm,0.4s						
KST	**Kastek**	**1.95**	**268**	*eP*	**Pg**	**04 51 34.7**	**-0.5**
KST	6.2nm,0.2s			*eS*	**Sg**	**04 52 00.2**	**-0.3**
	21nm,0.3s						
KST	**Kastek**	**1.95**	**268**	Pg	**Pg**	**04 51 34.7**	**-0.5**
KST	6.2nm,0.2s			Lg	Lg	04 52 00.2	
	21nm,0.3s						
ULHL	**Ulahol**	**1.96**	**244**	⇓*iP*	**Pg**	**04 51 35.3**	**-0.2**
ULHL	baz=46			⇓*iS*	**Sg**	**04 52 00.1**	**-0.9**
	baz=46						
BOOM	**Boomskoye usch**	**2.07**	**253**	⇓*iP*	**Pg**	**04 51 36.9**	**-0.7**
BOOM	baz=55			⇓*iS*	**Sg**	**04 52 03.5**	**-1.0**
	baz=55						
DGS	**Degeres**	**2.08**	**274**	*eP*	**Pg**	**04 51 37.9**	**0.0**
DGS	11nm,0.4s			*eS*	**Sg**	**04 52 06.1**	**+1.2**
	54nm,0.4s						
DGS	**Degeres**	**2.08**	**274**	Pg	**Pg**	**04 51 36.4**	**-1.4**
DGS	10nm,0.3s			Lg	Lg	04 52 03.3	
	56nm,0.4s						
KRBS	**Karabastau**	**2.22**	**286**	*eP*	**Pg**	**04 51 39.3**	**-1.1**
KRBS	9.4nm,0.3s			*eS*	**Sg**	**04 52 09.0**	**-0.2**
	51nm,0.4s						
KRBS	**Karabastau**	**2.22**	**286**	Pg	**Pb**	**04 51 38.4**	**+0.6**
KRBS	12nm,0.3s			Lg	Lg	04 52 07.5	
	51nm,0.4s						
TKM2	**Tokmak 2**	**2.23**	**266**	⇑Pg	**Pg**	**04 51 39.3**	**-1.3**
TKM2	3.7nm,0.4s			⇑Lg	Lg	04 52 10.4	
	29nm,0.5s						
TKM2	**Tokmak 2**	**2.23**	**266**	⇑*iP*	**Pg**	**04 51 39.3**	**-1.3**
TKM2	baz=68			⇑*iS*	**Sg**	**04 52 07.3**	**-2.1**
	baz=68						
NRN	**Naryn**	**2.58**	**230**	⇑*iP*	**Pb**	**04 51 44.1**	**0.0**
NRN	baz=31			⇑*iS*	**Sb**	**04 52 15.0**	**-0.7**
	baz=31						
CHMS	**Chumysh**	**2.84**	**269**	⇓Pg	**Pg**	**04 51 51.4**	**-0.8**
CHMS	2.2nm,0.4s			⇑Lg	Lg	04 52 26.9	
	12nm,0.7s						
CHMS	**Chumysh**	**2.84**	**269**	⇓*iP*	**Pb**	**04 51 48.2**	**-0.1**
CHMS	baz=71			⇓*iS*	**Sb**	**04 52 22.5**	**-0.4**
	baz=71						
SGDS	**Sogindy**	**2.93**	**278**	*eP*	**Pg**	**04 51 52.8**	**-1.2**
SGDS	1.1nm,0.1s			*eS*	**Sg**	**04 52 31.8**	**-0.2**
	7.5nm,0.3s						
USP	**Ospenovka**	**3.01**	**274**	⇑*iP*	**Pb**	**04 51 50.6**	**-0.7**
USP	baz=76			⇑*iS*	**Sb**	**04 52 26.8**	**-1.2**
	baz=76						
AAK	**Ala-Archa**	**3.07**	**262**	⇑*iP*	**Pb**	**04 51 50.9**	**-1.5**
AAK	baz=64			⇑*iS*	**Sb**	**04 52 27.7**	**-2.0**
	baz=64						
UCH	**Uchtor**	**3.16**	**255**	⇑*iP*	**Pb**	**04 51 52.5**	**-1.5**
UCH	baz=56			⇑*iS*	**Sb**	**04 52 29.9**	**-2.6**
	baz=56						
ARLS	**Aral**	**3.42**	**250**	⇑*iP*	**Pb**	**04 51 55.6**	**-2.7**
ARLS	baz=51			⇑*iS*	**Sb**	**04 52 35.5**	**-4.3**
	baz=51						
BTLS	**Baital**	**3.81**	**302**	*eP*	**Pg**	**04 52 08.3**	**-2.5**
BTLS	1.8nm,0.3s			*eS*	**Sg**	**04 52 58.5**	**-1.6**
	4.2nm,0.3s						
BTLS	**Baital**	**3.81**	**302**	Pg	**Pb**	**04 52 06.2**	**+1.4**
BTLS	1.6nm,0.2s			Lg	Lg	04 52 54.7	
	2.9nm,0.3s						
MRKS	**Merke**	**3.98**	**266**	*eP*	**Pg**	**04 52 11.7**	**-2.4**
MRKS	1.7nm,0.2s			*eS*	**Sg**	**04 53 03.5**	**-2.0**
	6.5nm,0.3s						
MRKS	**Merke**	**3.98**	**266**	Pg	**Pg**	**04 52 11.7**	**-2.4**
MRKS	1.7nm,0.2s			Lg	Lg	04 53 03.5	
	6.5nm,0.3s						
MAKZ	**Makanchi**	**4.38**	**32**	⇓Pn	**Pn**	**04 52 03.3**	**-0.7**
MAKZ	2.1nm,0.8s			⇑Sn	**Sn**	**04 52 58.5**	**+3.7**
	1.5nm,0.5s						
MAKZ				⇓Lg	Lg	04 53 15.4	
	2.4nm,0.6s						
MK31	**Makanchi Array**	**4.50**	**34**	⇑Pn	**Pn**	**04 52 07.6**	**+2.1**
	0.3nm,0.2s,baz=217,slow=13,SNR=14						
MK31				⇑Sn	**Sn**	**04 53 00.4**	**+2.7**
	0.5nm,0.2s,baz=214,slow=21,SNR=9.9						
MK31				Lg	Lg	04 53 18.6	
	3.8nm,0.6s,baz=209,slow=28,SNR=8.7						
KK31	**Karatay Array**	**5.93**	**273**	⇓Lg	Lg	04 54 04.8	
	0.6nm,0.3s,baz=80,slow=29,SNR=4.5						

*KRSC **08** 04:58:10.8±1.5, 54.˙34N×168.˙35E, h24km±27km, ML3.9*
*IDC **08** 04:58:10.5±1.9, 54.˙53N×168.˙69E, h0km, mb3.5/5,*
mbtmp3.5/7, ML3.4/2, MS3.6/4, Error ellipse: s-maj=52.3km
s-min=31.2km az=172.0

ISC 08 04:58:12.9±0.8, 54.˙4N±0.˙1×168.˙60E±0.˙05, h24km, n33, σ1$19/28, mb3.5/5, MS3.6/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.72**	**299**	*eP*	**Pn**	**04 58 38.9**	**-2.4**
BKI				*eS*	**Sn**	**04 59 00.8**	**-1.6**
SHEM	**Shemya Is, Ala**	**3.68**	**115**	Pn	**Pn**	**04 59 08.6**	**+0.4**
	25nm,0.3s,baz=40,slow=4.4,SNR=20						
SHEM				Sn	**Sn**	**04 59 48.3**	**-2.5**
	1.6nm,0.3s,baz=288,slow=23,SNR=1.3						
	49nm,0.3s						
KBTR	**Krutoberegovo**	**3.77**	**301**	*eP*	**Pn**	**04 59 09.9**	**+0.5**
MKZ	**Mys Kozlova**	**4.01**	**275**	*eP*	**Pn**	**04 59 12.6**	**-0.1**
MKZ				*eS*	**Sn**	**04 59 57.2**	**-1.7**
TUMR	**Tumrok**	**4.97**	**284**	*eP*	**Pn**	**04 59 27.5**	**+1.5**
TUMR				S	**Sn**	**05 00 21.9**	**-0.8**
SPN	**Mys Shipunski**	**5.26**	**259**	S	**Sn**	**05 00 28.0**	**-1.6**
KII	**Karymskiy**	**5.38**	**270**	P	**Pn**	**04 59 31.5**	**-0.2**
SDLR	**Sedlovina**	**5.87**	**263**	P	**Pn**	**04 59 38.9**	**+0.6**
SMAR	**Somma**	**5.92**	**263**	P	**Pn**	**04 59 39.4**	**+0.3**
UGLR	**Uglovaya**	**5.92**	**262**	*eP*	**Pn**	**04 59 39.1**	**+0.1**
KRER	**Koryakskii**	**5.94**	**263**	P	**Pn**	**04 59 40.1**	**+0.7**
KRX	**Arik**	**5.98**	**264**	P	**Pn**	**04 59 41.1**	**+1.2**
KOK	**Koryaka**	**6.00**	**263**	*eP*	**Pn**	**04 59 40.8**	**+0.6**
GNL	**Ganaly**	**6.32**	**268**	P	**Pn**	**04 59 44.8**	**+0.2**
KRMR	**Karymshinskiy**	**6.43**	**260**	S	**Sn**	**05 00 58.9**	**+0.4**
GRL	**Gorelyy**	**6.55**	**258**	*eP*	**Pn**	**04 59 49.0**	**+1.2**
PETK	**Petropavlovsk-**	**6.60**	**263**	Pn	**Pn**	**04 59 49.5**	**+1.3**
	0.4nm,0.3s,baz=90,slow=19,SNR=2.3						
PETK				Sn	**Sn**	**05 01 01.2**	**-1.5**
	0.2nm,0.3s,baz=97,slow=25,SNR=1.6						
	1.1nm,0.5s						
ASAK	**Asacha**	**6.71**	**257**	*eP*	**Pn**	**04 59 50.1**	**+0.1**
KDAK	**Kodiak Island**	**21.70**	**65**	P	**P**	**05 03 01.1**	**-0.6**
	2.9nm,0.8s,baz=273,slow=10,SNR=4.5						
	2.9nm,0.8s						
ILAR	**Eielson Array**	**24.26**	**47**	P	**P**	**05 03 27.2**	**-0.5**
	1.0nm,0.7s,baz=251,slow=7.4,SNR=6.5						
	1.0nm,0.7s						
KSRS	**Korea Array**	**32.42**	**255**	LR	LR	05 16 56.3	
	comp=Z,96nm,19.6s,baz=125,slow=35						
JCJ	**Chichijima**	**33.45**	**226**	LR	LR	05 15 14.1	
	comp=Z,98nm,21.6s,baz=288,slow=30						
H11N2	**WAKE ISLAND Hy**	**34.64**	**183**	T	T	05 41 40.8	
	baz=1.3,slow=74,SNR=29						
H11N3	**WAKE ISLAND Hy**	**34.65**	**183**	T	T	05 41 40.6	
	baz=1.3,slow=74,SNR=20						
H11N1	**WAKE ISLAND Hy**	**34.66**	**183**	T	T	05 41 41.5	
	baz=1.3						
H11S1	**WAKE ISLAND Hy**	**35.86**	**183**	T	T	05 43 12.3	
	baz=1.3,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**35.87**	**183**	T	T	05 43 13.4	
	baz=1.3,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**35.88**	**183**	T	T	05 43 13.6	
	baz=1.3,slow=76,SNR=21						
NVAR	**Mina Array Bea**	**50.53**	**77**	P	**P**	**05 07 09.9**	**+0.7**
	0.3nm,0.7s,baz=294,slow=6.8,SNR=3.7						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**52.41**	**67**	P	**P**	**05 07 24.8**	**+1.5**
	0.3nm,0.8s,baz=289,slow=2.8,SNR=3.0						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**65.44**	**74**	P	**P**	**05 08 54.6**	**+0.9**
	0.3nm,0.5s,baz=302,slow=5.2,SNR=5.6						
	0.3nm,0.5s						
SADO	**Sadowa**	**65.69**	**46**	LR	LR	05 39 22.1	
	comp=Z,50nm,18.2s,baz=142,slow=38						
PMG	**Port Moresby**	**66.10**	**203**	LR	LR	05 38 29.9	
	comp=Z,53nm,18.0s,baz=136,slow=36						

IDC 08 04:59:48.0±17.0, 4.˙92S×149.˙30E, h495km±169km, mb3.0/4, mbtmp3.8/4, Error ellipse: s-maj=134.8km s-min=60.3km az=71.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.86**	**223**	P	P	05 03 54.9	+0.1
	3.4nm,0.4s,baz=46,slow=9.6,SNR=106						
	3.4nm,0.4s						
ASAR	**Alice Springs**	**23.82**	**217**	P	P	05 04 20.9	-0.5
	0.6nm,0.4s,baz=43,slow=8.8,SNR=7.1						
	0.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**26.57**	**239**	P	P	05 04 46.2	+0.3
	1.0nm,0.2s,baz=61,slow=9.2,SNR=40						
	1.0nm,0.2s						
MKAR	**Makanchi Array**	**78.14**	**320**	P	P	05 10 55.6	0.0
	0.1nm,0.4s,baz=116,slow=6.6,SNR=1.8						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**147.01**	**287**	PKPbc	PKPbc	05 18 35.0	-0.8
	0.6nm,0.9s,baz=80,slow=2.8,SNR=4.3						

*MOS **08** 05:10:43.8±0.8, 31.˙23N×138.˙31E, h355km, mb5.2/49,*
Error ellipse: s-maj=7.6km s-min=3.6km az=119.0
*JMA **08** 05:10:44.9±0.4, 31.˚N±2.˚×13.˚9E±.˚, h379km±3km, MV4.5/31,*
NEAR TORISHIMA IS
*NIED **08** 05:10:44.9, 31.˙30N×138.˙60E, h379km, MW5.1, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm;
M_{rr}-1.11; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$ 1.37; $M_{r\theta}$-1.14; $M_{\theta\phi}$-1.42;
$M_{\phi r}$-3.73; Fault plane solution: $M_0$4.32000×10^{16} NP1:
ϕ_s118.00000°, δ24.00000°, λ-162.00000°. NP2:
ϕ_s11.00000°, δ83.00000°, λ-67.00000°.
*NEIC **08** 05:10:45.3±1.2, 31.˙24N±0.˙07×138.˙45E±0.˙09,*
h358km±5km, mb4.7/396 Error ellipse: s-maj=11.3km
s-min=9.6km az=79.0
*IDC **08** 05:10:45.7±0.6, 31.˙27N×138.˙31E, h359km±5km, mb4.3/33,*
mbtmp5.1/39, Error ellipse: s-maj=8.8km s-min=6.8km
az=87.0
*BJI **08** 05:10:46.4±0.0, 31.˙42N×137.˙97E, h360km, mb5.0/80,*
mB4.8/48

ISC 08 05:10:45.6±0.3, 31.˙24N±0.˙03×138.˙38E±0.˙03, h363km±2km, h363km:pP-P, n1129, σ1$17/1096, mb4.8/344, 87C-64D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.70**	**44**	P	**Pn**	**05 11 36.7**	**+0.6**
JHCJ	**Hachijojimakas**	**2.19**	**33**	P	**Pn**	**05 11 39.6**	**+0.3**
JHJ	**Hachijo jima 2**	**2.22**	**32**	P	**Pn**	**05 11 39.6**	**+0.1**
	1μm,0.6s,baz=327,slow=19,SNR=88						
JHJ				S	**S**	**05 12 22.6**	**-0.4**
	1μm,0.3s,baz=73,slow=23,SNR=7.8						
JHJ2	**Mitsune**	**2.23**	**33**		**Pn**	**05 11 39.6**	**0.0**
JHJ2				Sn	**S**	**05 12 19.6**	**-3.5**
JHJ2	**Mitsune**	**2.23**	**33**	P	**Pn**	**05 11 39.5**	**0.0**
JHJ2	**Mitsune**	**2.23**	**33**	P	**Pn**	**05 11 39.5**	**0.0**
TTO1	**TONANKAI O.B.S**	**2.73**	**331**	P	**Pn**	**05 11 45.2**	**+2.1**
TK02	**Tokai 2**	**2.75**	**349**	P	**Pn**	**05 11 45.3**	**+1.9**
JMKN	**Mikurajimanish**	**2.84**	**21**	P	**Pn**	**05 11 44.7**	**+0.3**
JIE	**Ise**	**3.44**	**336**	P	**Pn**	**05 11 51.5**	**+1.7**
JIE		

JSU Suzuyama 6.78 274 Pn 05 12 26.3 +0.6
JSD Sado 6.78 359 Pn 05 12 24.3 -1.3
JMM Marumori 6.91 16 Pn 05 12 25.6 -1.4
JSJ Shimokoshiki 7.41 276 P P 05 12 34.9 +0.7
JMK Ichinoseki 8.04 16 P Pn 05 12 38.6 -1.6
JTU Tsushima 8.23 296 Pn P 05 12 44.6 0.0
JTU Tsushima 8.23 296 P P 05 12 44.8 +0.1
JAMN Amaminishikomi 8.54 252 P Pn 05 12 47.2 +1.0
KSBUS Busan 8.73 300 P 05 12 50.5 +0.3
JTM Tenmabayashi 9.77 12 Pn 05 13 00.5 -0.1
JOW Kunigami 9.87 246 P 05 13 04.8 +1.8
JOW Kunigami 9.87 246 P P 05 13 04.0 +1.0
JOW Kunigami 9.87 246 P P 05 13 04.1 +1.0
NAWB Namwon 10.09 297 P P 05 13 06.2 +0.9
KSCHJ Chungju 10.29 306 P P 05 13 08.3 +0.7
TJN Taejon 10.49 302 P P 05 13 10.5 +0.7
TJN Taejon 10.49 302 *d* iP P P 05 13 10.6 +0.8
TJN Taejon 10.49 302 P P 05 13 10.8 +1.0
2µm,1.6s
KSRS Korea Array 10.63 308 P P 05 13 11.8 +0.4
75nm,0.8s,baz=121,slow=10,SNR=128
KSRS S **S 05 15 10.4 +0.3**
0.8nm,0.4s,baz=127,slow=22,SNR=1.1
KSRS ScP **ScP 05 21 35.8 +0.7**
3.7nm,0.7s,baz=208,slow=0.2,SNR=14
KSAR Wonju Array Be 10.65 308 P P 05 13 11.5 0.0
KSAR Wonju Array Be 10.65 308 P P 05 13 11.5 0.0
KS19 Wonju Array Si 10.69 309 P P 05 13 11.9 -0.2
SEHB SEOHWA 10.88 313 P P 05 13 14.3 +0.2
ERM Erimo 11.42 18 P Pn 05 13 20.2 +0.2
ERM Erimo 11.42 18 *ce* P **Pn 05 13 20.0 -0.1**
ERM pmax pmax
comp=Z,144nm,1.3s
ERM Erimo 11.42 18 P Pn 05 13 20.3 +0.2
INCN Inchon 11.53 306 P P 05 13 21.1 -0.2
INCN Inchon 11.53 306 P P 05 13 21.1 -0.2
INCN Inchon 11.53 306 P Pn 05 13 22.6 +1.1
comp=Z,193nm,1.0s
JEW Eniwo 11.84 11 P P 05 13 24.4 -0.2
VLA Vladivostok 12.93 338 *i* P **P 05 13 32.6 -4.1**
VLA pmax pmax
comp=Z,34nm,0.5s
USA0B Ussuriysk Arra 13.88 341 P 05 13 47.0 -0.2
USA0B Ussuriysk Arra 13.88 341 P P 05 13 47.0 -0.2
USRK Ussuriysk Ar. 13.88 341 P P 05 13 47.0 -0.2
comp=Z,41nm,0.5s,baz=147,slow=9.9,SNR=60
USRK ScP **ScP 05 21 40.1 +0.3**
comp=Z,5.6nm,0.8s,baz=201,slow=0.6,SNR=9.1
USRK Ussuriysk Ar. 13.88 341 P P 05 13 46.9 -0.3
USRK Ussuriysk Ar. 13.88 341 P P 05 13 47.0 -0.2
SSE Sheshan 14.72 274 P P 05 13 52.7 -3.8
SSE S **S 05 16 31.9 -2.9**
SSE pmax pmax
comp=Z,15nm,0.9s
SSE pmax pmax
comp=Z,160nm,6.2s
SSE LR LR
comp=Z,170nm,16.5s
SSE LR LR
comp=Z,170nm,16.9s
MDJ Mudanjiang 15.03 335 P P 05 13 59.6 -0.1
MDJ IAmb IAmb 05 14 01.1
comp=Z,45nm,1.0s
MDJ Mudanjiang 15.03 335 P P 05 14 00.1 +0.4
MDJ sP sP 05 15 25.7 -11
MDJ S **S 05 16 42.5 +1.8**
MDJ ScP **ScP 05 21 42.4 +0.5**
MDJ ScS **ScS 05 25 20.1 +0.1**
MDJ pmax pmax
comp=Z,47nm,1.1s
MDJ pmax pmax
comp=Z,320nm,3.5s
YOJ Yonaguni jima 15.17 247 P P 05 14 01.4 0.0
YOJ Yonaguni jima 15.17 247 P P 05 14 01.4 0.0
YOJ pmax pmax
comp=Z,393nm,1.0s
YOJ Yonaguni jima 15.17 247 P P 05 14 02.2 +0.8
DL2 Dalian 15.69 304 P P 05 14 06.5 -0.4
DL2 sP sP 05 15 33.6 -11
DL2 S **S 05 16 49.0 -4.9**
DL2 pmax pmax
comp=Z,60nm,1.1s
DL2 pmax pmax
comp=Z,160nm,3.6s
SNY Shenyang 15.89 316 ⇓P P **05 14 09.3 +0.3**
SNY sP sP 05 15 35.5 -11
SNY S **S 05 16 54.4 -3.3**
SNY pmax pmax
comp=Z,130nm,1.4s
SNY pmax pmax
comp=Z,670nm,3.5s
SNY LR LR
comp=Z,400nm,11.0s
SNY LR LR
comp=Z,220nm,8.3s
SNY LR LR
comp=Z,480nm,9.4s
YSS Yuzh-Sakhalins 16.05 11 P P 05 14 11.3 +0.6
YSS Yuzh-Sakhalins 16.05 11 *α* iP **P 05 14 11.3 +0.6**
YSS *e*S **S 05 16 55.8 -5.1**
YSS pmax pmax
comp=Z,50nm,0.5s
YSS MLR MLR
comp=Z,500nm,12.0s
YSS Yuzh-Sakhalins 16.05 11 P P 05 14 11.7 +1.0
TATO Taipei 16.15 251 P P 05 14 12.6 +0.5
CN2 Changchun 16.17 324 *e*P **P 05 14 11.9 -0.2**
CN2 S **S 05 16 55.8 -7.6**
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,13.7s
CN2 LR LR
comp=Z,200nm,13.7s
CN2 LR LR
comp=Z,200nm,11.0s
YHNB Yeheng 16.38 251 P P 05 14 14.4 -0.2
YHNB Yeheng 16.38 251 P P 05 14 15.0 +0.4
NACB Ninganchiao 16.43 249 P P 05 14 14.2 -0.9
NJ2 Nanjing 16.65 278 *e*P **P 05 14 16.7 -0.7**
NJ2 S **S 05 17 14.2 +1.2**
NJ2 pmax pmax
comp=Z,57nm,0.9s
BNX BinXian 16.81 333 ⇓P **P 05 14 18.6 -0.3**
BNX S **S 05 17 11.3 -4.5**
BNX pmax pmax
comp=Z,230nm,1.1s
BNX pmax pmax
comp=Z,170nm,3.5s
YULB Yu-li 17.06 247 P P 05 14 21.2 -0.7
SSLB Suanglung 17.13 249 P P 05 14 22.7 0.0
SSLB Suanglung 17.13 249 P P 05 14 23.9 +1.2
TPUB Ta-pu 17.63 248 P P 05 14 28.1 0.0
TPUB Ta-pu 17.63 248 P P 05 14 29.2 +1.2
UGL Uglegorsk 18.04 8 *e*P **P 05 14 33.8 +1.8**
UGL *e*S **S 05 17 41.4 +1.8**
UGL pmax pmax
comp=Z,100nm,0.9s
UGL smax smax
comp=N,1µm,5.0s
UGL smax smax
comp=E,1µm,5.0s
QZH Quanzhou 18.54 255 ⇓iP **P 05 14 36.4 -1.2**
QZH S **S 05 17 47.1 -2.8**
GUMO Guam 18.55 160 P P 05 14 39.2 +1.4
comp=E,332nm,0.8s,baz=348,slow=20,SNR=17
GUMO Guam 18.55 160 P P 05 14 38.6 +0.8
GUMO Guam 18.55 160 P P 05 14 39.1 +1.2
KLR Kul'dur 18.66 346 P P 05 14 37.5 -1.1
comp=E,28nm,0.4s,baz=162,slow=8.5,SNR=124
KLR ScP **ScP 05 21 49.2 +0.1**
comp=E,18nm,0.9s,baz=319,slow=2.7,SNR=30
KLR Kul'dur 18.66 346 *de* P **P 05 14 37.2 -1.4**
KLR pmax pmax
comp=Z,85nm,1.3s
KNMB Chin-men Tao 18.91 254 P P 05 14 41.2 -0.3
GRNR Gornyy 19.57 356 ⇓*i* P **P 05 14 48.2 +0.1**
GRNR pmax pmax
comp=N,10,0nm,1.1s
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=Z,70nm,15.0s
GRNR MLR MLR
comp=E,60nm,16.0s
GRNR MLR MLR
comp=N,70nm,14.0s
BJT Baijiatuau 20.03 302 P P 05 14 50.5 -2.3
BJT IAmb IAmb 05 14 52.6
comp=Z,71nm,1.4s
BJT Baijiatuau 20.03 302 P P 05 14 50.5 -2.3
BJT pmax pmax
comp=Z,71nm,1.4s
BJI Beijing 20.03 302 P P 05 14 50.5 -2.3
BJI sP **sP 05 16 31.6 -1.0**
BJI S **S 05 18 15.8 +0.8**
BJI ScP **ScP 05 21 53.3 +0.8**
BJI ScS **ScS 05 25 37.6 +2.2**
BJI pmax pmax
comp=Z,17nm,0.9s
BJI pmax pmax
comp=Z,330nm,3.5s
HNS HongShan 20.47 294 ⇓P **P 05 14 54.6 -2.3**
HNS sP **sP 05 16 33.1 -4.3**
HNS S **S 05 18 19.9 -2.3**
HNS pmax pmax
comp=Z,40nm,0.9s
HNS LR LR
comp=Z,170nm,16.0s
HNS LR LR
comp=Z,270nm,13.5s
HNS LR LR
comp=Z,200nm,13.9s
WHN Wuhan 20.62 274 ⇓*i* P **P 05 14 58.1 -0.3**
WHN sP **sP 05 16 39.4 +0.6**
LYN LuoYang 21.98 286 ⇓*i* P **P 05 15 08.7 -2.0**
LYN sP sP 05 16 52.9 -0.9
LYN S **S 05 18 38.8 -8.0**
LYN pmax pmax
comp=Z,30nm,1.1s
LYN pmax pmax
comp=Z,320nm,8.9s
CNSH ChangSha 22.30 269 ⇓P **P 05 15 13.0 -0.5**
CNSH S **S 05 18 54.6 +2.7**
CNSH pmax pmax
comp=Z,110nm,1.1s
CNSH LR LR
comp=Z,350nm,7.0s
CNSH LR LR
comp=Z,230nm,6.7s
TIY Taiyuan 22.30 294 *e*P **P 05 15 13.6 0.0**
TIY sP **sP 05 16 56.8 -0.9**
TIY S **S 05 18 54.3 +2.3**
TIY pmax pmax
comp=Z,51nm,0.5s
TIY pmax pmax
comp=Z,430nm,5.2s
HIA Hailar 22.84 327 P P 05 15 18.6 +0.3
HIA Hailar 22.84 327 P P 05 15 18.6 +0.3
HIA pmax pmax
comp=Z,327nm,1.2s
HHC Hu-ho-hao-te 23.63 301 *e*P **P 05 15 25.2 -0.4**
HHC sP sP 05 17 08.5 -3.5
HHC pmax pmax
comp=Z,78nm,0.9s
HHC pmax pmax
comp=Z,610nm,5.0s
ZEA Zeya 23.88 344 *e*P **P 05 15 28.0 +0.5**
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,40nm,1.1s
ZEA pmax pmax
comp=Z,100nm,5.7s
BTO Baotou 24.70 300 *e*P **P 05 15 35.4 +0.1**
BTO LR LR
comp=Z,620nm,10.0s
BTO LR LR
comp=Z,1µm,14.7s
ENH Enshi 24.82 275 P P 05 15 35.5 -0.9
XAN Xi'an 24.92 284 ⇓P **P 05 15 36.4 -0.8**
XAN sP sP 05 17 23.3 -1.9
XAN S **S 05 19 33.0 -0.4**
XAN pmax pmax
comp=Z,100nm,0.9s
XAN pmax pmax
comp=Z,380nm,3.6s
PETK Petropavlovsk- 25.97 27 P P 05 15 47.0 +0.8
comp=Z,4.0nm,0.8s,baz=223,slow=7.9,SNR=4.0
PETK PcP **PcP 05 19 02.8 -0.8**
comp=Z,2.0nm,0.8s,baz=207,slow=3.0,SNR=2.4
PETK ScP **ScP 05 22 06.9 -1.2**
comp=Z,6.5nm,0.9s,baz=177,slow=2.9,SNR=7.0
comp=Z,4.0nm,0.8s
PETK Petropavlovsk- 25.97 27 P P 05 15 46.0 -0.2
PET Petropavlovsk 26.28 28 P P 05 15 48.4 -0.6
PET IAmb IAmb 05 15 50.8
comp=Z,33nm,1.3s
CIT Chita 27.61 326 *e*P **P 05 16 01.9 +1.0**
CIT pmax pmax
comp=Z,229nm,1.4s
GYA Guiyang 28.13 268 ⇓*i* P **P 05 16 04.9 -0.9**
GYA pP pP 05 17 11.9 +0.5
GYA S **S 05 20 25.0 +0.9**
GYA sS sS 05 22 23.3 -2.4
GYA pmax pmax
comp=Z,45nm,1.1s
ULN Ulaanbaatar 29.05 314 P P 05 16 14.1 +0.4
ULN Ulaanbaatar 29.05 314 *ce* P **P 05 16 14.1 +0.4**
ULN pmax pmax
comp=Z,142nm,1.3s
ULN Ulaanbaatar 29.05 314 P P 05 16 13.7 0.0
LZH Lanzhou 29.05 289 ⇓P **P 05 16 13.4 -0.5**
LZH PP **PnPn 05 17 27.9 -0.2**
LZH PcP **PcP 05 19 12.9 +1.2**
LZH ScP **ScP 05 22 18.6 +0.4**
LZH SS **SS 05 22 49.3 -11**
LZH PcS **PcS 05 22 56.5 +1.4**
LZH pmax pmax
comp=Z,55nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.8s
SONM Songino Array 29.44 313 P P 05 16 17.4 +0.3
comp=Z,39nm,0.9s,baz=119,slow=8.0,SNR=142
SONM PcP **PcP 05 19 13.3 +0.9**
comp=Z,6.2nm,0.6s,baz=131,slow=1.7,SNR=8.3
SONM ScP **ScP 05 22 19.1 -0.1**
comp=Z,5.5nm,0.9s,baz=129,slow=4.6,SNR=16
comp=Z,39nm,0.9s
SONM Songino Array 29.44 313 P P 05 16 17.2 0.0
SONM IAmb IAmb 05 16 18.8
comp=Z,62nm,1.0s
MA2 Magadan 29.54 13 P P 05 16 18.7 +1.0
comp=Z,29nm,0.7s,baz=190,slow=9.4,SNR=17
comp=Z,29nm,0.7s
MA2 Magadan 29.54 13 P P 05 16 18.3 +0.6
MA2 IAmb IAmb 05 16 19.2
comp=Z,31nm,0.7s
MA2 Magadan 29.54 13 *ce* P **P 05 16 18.8 +1.1**
MA2 pmax pmax
comp=Z,30nm,0.7s
MA2 Magadan 29.54 13 P P 05 16 18.5 +0.8
comp=Z,53nm,0.8s
PATS Pohnpei 30.62 138 P P 05 16 26.7 -0.9
PATS IAmb IAmb 05 16 28.8
comp=Z,74nm,0.9s
PATS Pohnpei 30.62 138 P P 05 16 28.5 +0.9
YAK Yakutsk 31.32 352 P P 05 16 33.0 -0.2
comp=Z,11nm,0.3s,baz=267,slow=6.1,SNR=5.3
comp=Z,11nm,0.3s
YAK Yakutsk 31.32 352 P P 05 16 32.9 -0.2
YAK IAmb IAmb 05 16 33.7
comp=Z,53nm,1.1s
YAK Yakutsk 31.32 352 *e*P **P 05 16 32.2 -0.9**
YAK *e* 05 17 52.9
YAK *e* 05 19 16.7
YAK *e*S **S 05 21 11.3 -1.3**
YAK *e*SS **SS 05 23 44.4 -1.1**
YAK *e* 05 26 17.6
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,14nm,0.5s
YAK pmax pmax
comp=N,20nm,1.6s
YAK pmax pmax
comp=E,22nm,1.8s
YAK smax smax
comp=E,68nm,2.3s
YAK smax smax
comp=N,56nm,2.1s
KMI Kunming 31.90 268 ⇓P **P 05 16 38.3 -0.7**
KMI PP **PnPn 05 18 03.8 +1.7**
KMI sP sP 05 18 23.8 -3.2
KMI S **S 05 21 22.5 -0.5**
KMI SS **SS 05 23 50.2 -8.5**
KMI pmax pmax
comp=N,25nm,1.2s
KMI pmax pmax
comp=N,180nm,4.6s
KMI LR LR
comp=N,210nm,17.4s
KMI LR LR
comp=N,140nm,16.1s
KMI LR LR
comp=N,180nm,15.1s
MYLDM Lahad Datu 31.94 220 IAmb IAmb 05 16 42.0
comp=Z,42nm,0.9s
GTA Gaotai 32.31 295 ⇓P **P 05 16 41.5 -0.7**
GTA pP pP 05 17 51.6 +2.9
GTA sP sP 05 18 27.7 -2.6
GTA PcP **PcP 05 19 21.2 +0.8**
GTA ScP **ScP 05 22 28.3 -0.6**
GTA PcS **PcS 05 23 05.6 -0.3**
GTA pmax pmax
comp=Z,34nm,1.1s
GTA pmax pmax
comp=Z,200nm,4.8s
GTA LR LR
comp=Z,180nm,13.1s
GTA LR LR
comp=Z,200nm,14.2s
GTA LR LR
comp=Z,230nm,13.8s
ZAK Zakamensk 32.32 316 *e*P **P 05 16 41.9 -0.2**
ZAK pmax pmax
comp=Z,47nm,1.1s
ZAK pmax pmax
comp=Z,10.0nm,1.3s
PZH PanZhiHua 32.33 271 P P 05 16 42.3 -0.2
PZH PP **PnPn 05 18 08.6 +1.6**
PZH sP **sP 05 18 29.3 -1.4**
PZH S **S 05 21 24.6 -4.8**
PZH sS **sS 05 23 32.3 +0.3**
PZH pmax pmax
comp=Z,70nm,0.9s
PZH pmax pmax
comp=Z,150nm,5.2s
KKM Kota Kinabalu 32.55 224 P P 05 16 46.0 +1.5
KKM IAmb IAmb 05 16 55.7
comp=Z,25nm,0.9s
KKM Kota Kinabalu 32.55 224 P P 05 16 45.3 +0.8
SEY Seymchan 32.96 12 P P 05 16 48.2 +1.0
comp=Z,4.7nm,0.8s,baz=203,slow=10,SNR=11
SEY ScP **ScP 05 22 30.1 -0.3**
comp=Z,2.9nm,0.2s,baz=214,slow=2.1,SNR=14
comp=Z,4.7nm,0.8s
SEY Seymchan 32.96 12 *ce* P **P 05 16 48.5 +1.3**
SEY pmax pmax
comp=Z,3.0nm,0.8s
DLV T Lat 33.60 242 P P 05 16 54.7 +1.1
comp=Z,101nm,1.1s
GTOI Gorontalo 33.74 208 P P 05 16 53.3 -1.2
comp=Z,20nm,1.5s
UBPT Khong Chiam 33.98 250 P P 05 16 57.0 +0.3
UBPT IAmb IAmb 05 16 58.5
comp=Z,55nm,1.0s
MOY Mondy 34.14 318 *e*P **P 05 16 57.8 +0.1**
MOY pmax pmax
comp=Z,55nm,1.9s
MANU Manus Island 34.19 164 P P 05 16 58.1 -0.3
MANU IAmb IAmb 05 17 00.6
comp=Z,20nm,0.7s
TOLI2 Tolitoli 34.28 212 P P 05 16 58.6 -0.6
TOLI2 Tolitoli 34.28 212 P P 05 16 59.0 -0.2
MRSI Marisa 34.33 210 P P 05 17 01.5 +1.9
comp=Z,73nm,1.3s
SANI Sanana 35.14 202 P P 05 17 05.6 -0.8
APSI Ampana 35.70 210 P P 05 17 12.0 +0.8
comp=Z,71nm,1.0s
AMKA Amchitka 36.12 44 P P 05 17 15.0 +0.8
GOMU GeErMu 36.34 290 *e*P **P 05 17 17.0 +0.2**
GOMU SS SS 05 25 09.9 -18
GOMU pmax pmax
comp=Z,210nm,0.9s
CHTO Chiang Mai 37.62 260 P P 05 17 27.2 +0.1
CHTO Chiang Mai 37.62 260 P P 05 17 27.3 +0.1
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 37.62 260 P P 05 17 27.6 +0.4
CHTO Chiang Mai 37.62 260 P P 05 17 27.3 +0.1
CM31 Chiang Mai Arr 37.78 260 IAmb IAmb 05 17 29.9
comp=Z,47nm,0.8s
CM31 Chiang Mai Arr 37.78 260 P P 05 17 29.1 +0.6
SNR=14
CMAR Chiang Mai Arr 37.78 260 P P 05 17 28.9 +0.3
comp=Z,28nm,0.8s,baz=49,slow=7.6,SNR=126
CMAR PcP **PcP 05 19 37.6 +0.9**
comp=Z,3.9nm,0.7s,baz=4.0,slow=1.0,SNR=6.1
CMAR ScP **ScP 05 22 50.3 +1.3**
comp=Z,2.3nm,0.4s,baz=32,slow=2.9,SNR=14
comp=Z,28nm,0.8s
SBUM Sibu 37.81 226 P P 05 17 28.6 -0.2
BKB Balikpapan 38.22 216 P P 05 17 32.3 +0.1
KIWB Kanaga Island 38.38 44 P P 05 17 32.9 -0.1
ADK Adak 38.67 44 P P 05 17 35.4 0.0
ADK Adak 38.67 44 P P 05 17 35.4 0.0
ADK pmax pmax
comp=Z,27nm,1.1s
ADK Adak 38.67 44 P P 05 17 36.0 +0.6
MND Mandalay 38.69 267 P P 05 17 35.8 -0.1
MND IAmb IAmb 05 17 36.9
comp=Z,121nm,1.4s
STKI Sintang 40.14 225 P P 05 17 50.6 +2.7
KAPI Kappang 40.20 210 P P 05 17 47.8 -0.5
KAPI IAmb IAmb 05 17 50.6
comp=Z,61nm,1.2s
KAPI Kappang 40.20 210 P P 05 17 47.8 -0.5
KAPI pmax pmax
comp=Z,61nm,1.2s
KAPI Kappang 40.20 210 P P 05 17 49.1 +0.8
BILL Bilibino 40.28 16 P P 05 17 49.2 +0.9
BILL Bilibino 40.28 16 *de* P **P 05 17 49.3 +1.0**
BILL *e**PP **pP 05 18 58.5 -0.2**
BILL *e**SP **sP 05 19 40.6 +0.7**
BILL *e* 05 19 44.4
BILL pmax pmax
comp=Z,26nm,0.9s
LSA Lhasa 40.49 280 P P 05 17 51.1 -0.1
LSA Lhasa 40.49 280 P P 05 17 51.1 -0.1
LSA pmax pmax
comp=Z,17nm,1.1s
TIXI Tiksi 40.79 355 P P 05 17 52.0 -0.4
comp=Z,7.7nm,0.5s,baz=96,slow=22,SNR=8.0
comp=Z,7.7nm,0.5s
TIXI Tiksi 40.79 355 *ce* P **P 05 17 52.7 +0.3**
TIXI pmax pmax
comp=Z,16nm,1.0s
SHL Shillong 41.05 274 P P 05 17 54.6 -0.8
SHL IAmb IAmb 05 17 56.5
comp=Z,24nm,0.7s
SHL Shillong 41.05 274 P P 05 17 54.6 -0.8
SHL pmax pmax
comp=Z,25nm,0.7s
SHL Shillong 41.05 274 P P 05 17 55.2 -0.2
SNR=7.7
BBKI Banjar Baru 41.16 217 P P 05 17 56.6 +0.5
comp=Z,4µmcomp=Z,41nm,0.9s
WMQ Urumqi 41.50 302 ⇓P **P 05 17 59.1 +0.4**
WMQ sP sP 05 19 49.0 -0.4
WMQ pmax pmax
comp=Z,53nm,1.3s
WMQ pmax pmax
comp=Z,100nm,4.1s
DGZ Jazzator, Alta 42.02 311 *d* iP **P 05 18 03.2 +0.4**
DGZ pmax pmax
comp=Z,141nm,0.9s
SRIT Nakonsritamara 42.52 246 IAmb IAmb 05 18 09.0

comp=Z,37nm,0.8s
EDFI Ende, Flores 42.85 205 P P 05 18 09.9 +0.1
comp=Z,20nm,1.1s
SOEI Soe 42.95 201 P P 05 18 09.9 -0.5
SOEI IAmb IAmb 05 18 27.3
comp=Z,40nm,0.8s
SOEI Soe 42.95 201 P P 05 18 10.0 -0.5
ZSN Zaisan 43.55 308 *d* iP P 05 18 15.3 +0.4
ZSN pmax pmax
comp=Z,65nm,1.4s
ZSN Zaisan 43.55 308 ⇓ iP P 05 18 15.3 +0.4
comp=Z,64nm,1.4s,baz=308
BATI Baumata 43.56 201 P P 05 18 17.2 +2.0
comp=Z,58nm,1.1s
NIKH Nikolski High 43.58 44 P P 05 18 14.4 -0.5
NIKH IAmb IAmb 05 18 15.7
comp=Z,71nm,1.0s
NIKH Nikolski High 43.58 44 P P 05 18 14.6 -0.3
baz=262
KULM Kulim 43.79 242 P P 05 18 16.8 -0.3
KULM IAmb IAmb 05 18 18.7
comp=Z,57nm,0.8s
IPM Ipoh 44.04 240 IAmb IAmb 05 18 20.0
comp=Z,63nm,0.8s
IPM Ipoh 44.04 240 P P 05 18 19.2 +0.1
KDU Kakadu 44.04 188 P P 05 18 18.8 -0.1
TAPN Taplejung 44.05 278 *eP* P 05 18 19.2 -0.2
comp=Z,20nm,0.4s
ZAA0 Zalesovo Array 44.19 317 P P 05 18 18.9 -0.9
ZAA0 IAmb IAmb 05 18 20.3
comp=Z,62nm,1.1s
ZALV Zalesovo Beam 44.19 317 P P 05 18 19.1 -0.6
comp=Z,28nm,0.7s,baz=104,slow=6.3,SNR=99
ZALV PcP PcP 05 19 57.0 -0.1
comp=Z,42nm,0.7s,baz=97,slow=3.4,SNR=30
ZALV ScP ScP 05 23 12.9 -0.8
comp=Z,13nm,0.9s,baz=99,slow=4.7,SNR=15
comp=Z,28nm,0.7s
ZALV Zalesovo Beam 44.19 317 P P 05 18 19.3 -0.4
MTN Manton Dam 44.38 190 P P 05 18 21.0 -0.6
MTN IAmb IAmb 05 18 23.3
comp=Z,63nm,1.4s
MTN Manton Dam 44.38 190 P P 05 18 21.4 -0.2
ODAN Odare 44.47 278 *eP* P 05 18 21.4 -1.2
comp=Z,19nm,1.0s
TPI Tanjungpandan 44.70 227 P P 05 18 25.3 +1.1
comp=Z,413nmcomp=Z,39nm,1.0s
TWSI Taliwang, Sumb 44.77 211 P P 05 18 25.0 +0.3
comp=Z,52nm,1.0s
RAMN Ramite 45.11 278 *eP* P 05 18 27.2 -0.4
comp=Z,279nm,1.0s
COEN Coen 45.17 173 P P 05 18 28.6 +0.8
COEN Coen 45.17 173 P P 05 18 28.6 +0.8
PPBI Pangkal Pinang 45.20 229 P P 05 18 29.5 +1.4
JIRN Jiri 45.24 279 *eP* P 05 18 29.1 +0.3
comp=Z,125nm,0.4s
MK31 Makanchi Array 45.31 307 P P 05 18 29.0 +0.4
MK31 IAmb IAmb 05 18 29.7
comp=Z,68nm,0.8s
MK31 Makanchi Array 45.31 307 P P 05 18 29.0 +0.4
MK31 pmax pmax
comp=Z,68nm,0.9s
MKAR Makanchi Array 45.31 307 P P 05 18 28.5 -0.1
comp=Z,68nm,0.8s,baz=92,slow=9.3,SNR=402
MKAR PcP PcP 05 20 01.6 +0.3
comp=Z,15nm,0.8s,baz=84,slow=5.0,SNR=7.9
MKAR ScP ScP 05 23 17.9 -0.7
comp=Z,4.4nm,0.6s,baz=81,slow=5.5,SNR=11
comp=Z,68nm,0.8s
MKAR Makanchi Array 45.31 307 P P 05 18 28.9 +0.3
GUN Gumba 45.43 280 *eP* P 05 18 30.5 +0.3
comp=Z,293nm,0.9s
MAKZ Makanchi 45.52 307 P P 05 18 30.4 +0.2
MAKZ IAmb IAmb 05 18 31.5
comp=Z,150nm,1.4s
MAKZ Makanchi 45.52 307 P P 05 18 30.4 +0.2
MAKZ pmax pmax
comp=Z,150nm,1.4s
PKI Pulchoki 45.93 279 *eP* P 05 18 33.4 -0.7
PKIN Phulchoki 45.94 280 *eP* P 05 18 33.3 -0.8
KKN Kakani 45.97 280 *eP* P 05 18 34.4 +0.1
comp=Z,26nm,1.1s
DMN Daman 46.17 280 *eP* P 05 18 35.6 -0.3
GKN Gorkha 46.45 280 *eP* P 05 18 37.6 -0.3
PWJI Pagerwojo 46.60 218 P P 05 18 38.1 -0.7
comp=Z,107nm,0.8s
SEM Semipalatinsk 46.69 312 *eP* P 05 18 38.5 -0.9
SEM pmax pmax
comp=Z,38nm,0.9s
SEM Semipalatinsk 46.69 312 *eP* P 05 18 38.5 -0.9
comp=Z,38nm,0.9s,baz=312
RPSI Rantau Prapat 46.78 241 IAmb IAmb 05 18 40.9
comp=Z,33nm,0.8s
BKNI Bangkinang 46.85 236 P P 05 18 41.3 +0.5
BKNI Bangkinang 46.85 236 P P 05 18 42.3 +1.5
comp=Z,185nm,1.0s
BKNI Bangkinang 46.85 236 P P 05 18 41.7 +0.9
DANN Dangsing 47.08 281 *eP* P 05 18 43.1 +0.2
UGM Wanagama 47.19 219 P P 05 18 42.6 -0.8
UGM Wanagama 47.19 219 P P 05 18 44.1 +0.7
comp=Z,294nm,1.7s
UGM Wanagama 47.19 219 P P 05 18 43.0 -0.4
KOLN Koldanda 47.39 280 *eP* P 05 18 43.6 -1.6
SDSI Sungai Dareh 47.46 235 P P 05 18 45.7 +0.2
comp=Z,6μmcomp=Z,38nm,1.4s
PDGK Podgornoye 47.48 302 P P 05 18 45.2 -0.3
SHLS Shalkode 47.52 302 *d* iP P 05 18 43.1 -2.7
SHLS Shalkode 47.52 302 ⇓ iP P 05 18 43.1 -2.7
baz=302
KNRA Kununurra 47.55 193 P P 05 18 45.9 -0.2
KNRA Kununurra 47.55 193 P P 05 18 46.3 +0.2
NRIK Noril'sk 47.58 338 P P 05 18 45.9 +0.2
comp=Z,48nm,0.4s,baz=114,slow=8.1,SNR=83
NRIK ScP ScP 05 23 27.3 -0.3
comp=Z,6.1nm,0.8s,baz=126,slow=3.8,SNR=3.7
comp=Z,48nm,0.4s
NRIK Noril'sk 47.58 338 P P 05 18 45.8 +0.1
NRIK Noril'sk 47.58 338 *de* P P 05 18 45.7 +0.1
NRIK pmax pmax
comp=Z,155nm,1.1s
KURK Kurchatov 47.73 312 P P 05 18 46.6 -0.4
KURK Kurchatov 47.73 312 *ce* P P 05 18 46.4 -0.7
KURK pmax pmax
comp=Z,167nm,1.3s
KURK Kurchatov 47.73 312 P P 05 18 47.1 0.0
KURBB Kurchatov Arra 47.79 312 P P 05 18 47.0 -0.5
PYUN Piuthan 47.81 281 *eP* P 05 18 48.3 0.0
UZB Uzynbulak 47.84 302 *i* P P 05 18 48.0 -0.2
UZB Uzynbulak 47.84 302 *i* P P 05 18 48.1 -0.2
baz=302
KPKS Kokpek 48.05 302 *d* iP P 05 18 49.5 -0.3
KPKS Kokpek 48.05 302 ⇓ iP P 05 18 49.5 -0.3
baz=302
KLI Kotabumi 48.08 228 P P 05 18 50.6 +0.4
comp=Z,410nm,1.0s
TDK Taldyqorghan 48.10 304 *eP* P 05 18 50.2 +0.2
TDK pmax pmax
comp=Z,57nm,0.6s
TDK Taldyqorghan 48.10 304 *eP* P 05 18 50.2 +0.2
comp=Z,57nm,0.6s,baz=304
DBJI Dramaga 48.23 224 P P 05 18 52.3 +1.0
ZHN Zhinishke 48.26 302 *eP* P 05 18 51.0 -0.4
ZHN Zhinishke 48.26 302 *eP* P 05 18 51.1 -0.4
baz=302
SATY Saty 48.30 302 *d* iP P 05 18 51.6 -0.1
SATY Saty 48.30 302 ⇓ iP P 05 18 51.6 -0.1
baz=302
MASI Maura Aman, Be 48.50 232 P P 05 18 54.0 +0.6
comp=Z,4μmcomp=Z,451nm,0.9s
ARXS Arharly 48.59 303 *eP* P 05 18 53.3 -0.5
KSI Kapahiang 48.64 231 P P 05 18 55.1 +0.6
GSI Gunungsitoli 48.71 240 P P 05 18 54.8 -0.2
GSI Gunungsitoli 48.71 240 P P 05 18 55.0 0.0
comp=Z,4μmcomp=Z,376nm,1.0s
GSI Gunungsitoli 48.71 240 P P 05 18 55.2 +0.2
SDPT Sand Point 48.73 42 P P 05 18 53.9 -0.6
baz=266
KASI Kota Agung 48.81 228 P P 05 18 54.5 -1.2
comp=Z,76nm,0.8s
CHNA Chernabura Isl 49.21 42 P P 05 18 57.8 -0.3
baz=268
CNBA Chernabura Isl 49.21 42 P P 05 18 57.8 -0.4
CNBA IAmb IAmb 05 19 00.7
comp=Z,28nm,1.1s
CHKK Chushkaly 49.23 303 *eP* P 05 18 58.3 -0.3
CHKK Chushkaly 49.23 303 *eP* P 05 18 58.3 -0.3
baz=303
MDOK Medeo 49.27 302 P P 05 18 59.5 +0.5
MDOK Medeo 49.27 302 *i* P P 05 18 59.5 +0.5
baz=302
AAA Alma-Ata 49.36 302 *eP* P 05 19 00.2 +0.6
AAA pmax pmax
comp=Z,105nm,0.6s
AAA Alma-Ata 49.36 302 *eP* P 05 19 00.3 +0.6
comp=Z,105nm,0.6s,baz=302
CHGN Chignik 49.94 41 P P 05 19 03.2 -0.3
baz=268
ULHL Ulahol 49.99 301 P P 05 19 05.1 +0.6
SNR=9.8
N16K Nishlik Lake 50.07 35 P P 05 19 05.4 +0.9
baz=264,SNR=14
BOOM Boomskoye usch 50.17 301 IAmb IAmb 05 19 07.2
comp=Z,45nm,0.8s
NRN Naryn 50.30 300 IAmb IAmb 05 19 08.3
comp=Z,34nm,0.8s
O16K Kokwok River B 50.32 36 P P 05 19 06.8 +0.5
baz=265
TKM2 Tokmak 2 50.36 302 P P 05 19 07.8 +0.6
SNR=53
TKM2 Tokmak 2 50.36 302 *i* P P 05 19 07.9 +0.6
TKM2 pmax pmax
comp=Z,112nm,1.4s
FITZ Fitzroy Crossi 50.56 196 IAmb IAmb 05 19 10.0
comp=Z,22nm,0.8s
FITZ Fitzroy Crossi 50.56 196 P P 05 19 09.3 +0.7
KSH Kashi 50.66 298 P P 05 19 13.1 +3.7
KSH pmax pmax
comp=Z,94nm,0.8s
O17K Koliganek Bris 50.84 36 P P 05 19 10.8 +0.6
baz=266
WB0 Warramunga Arr 50.86 185 IAmb IAmb 05 19 11.6
comp=Z,32nm,0.6s
KBK Karagaybulak 50.87 302 P P 05 19 11.5 +0.5
SNR=39
CHMS Chumysh 50.96 302 P P 05 19 11.6 +0.1
SNR=16
SGDS Sogindy 50.98 303 *d* iP P 05 19 11.4 -0.2
SGDS Sogindy 50.98 303 ⇓ iP P 05 19 11.4 -0.2
baz=303
Q16K King Salmon 51.00 38 P P 05 19 11.4 +0.1
baz=267
WRAB Tennant Creek 51.02 185 P P 05 19 11.8 -0.2
WRAB IAmb IAmb 05 19 12.8
comp=Z,21nm,0.7s
WRAB Tennant Creek 51.02 185 *ce* P P 05 19 12.5 +0.5
WRAB pmax pmax
comp=Z,20nm,0.8s
WRAB Tennant Creek 51.02 185 P P 05 19 12.3 +0.3
WB2 Warramunga Arr 51.03 185 P P 05 19 11.5 -0.6
WB2 IAmb IAmb 05 19 12.9
comp=Z,23nm,0.7s
WRA Warramunga Arr 51.03 185 P P 05 19 11.9 -0.2
comp=Z,25nm,0.6s,baz=12,slow=7.0,SNR=328
WRA PcP PcP 05 20 23.5 +1.2
comp=Z,8.0nm,0.9s,baz=358,slow=4.1,SNR=6.3
WRA ScP ScP 05 23 43.9 +0.8
comp=Z,3.3nm,1.0s,baz=359,slow=4.7,SNR=6.0
WRA S S 05 25 58.3 -2.8
comp=Z,2.1nm,0.8s,baz=2.2,slow=13,SNR=9.0
comp=Z,25nm,0.6s
WRA Warramunga Arr 51.03 185 P P 05 19 11.5 -0.6
WRA Warramunga Arr 51.03 185 *ce* P P 05 19 10.6 -1.5
WRA pmax pmax
comp=Z,8.0nm,0.3s
WR0 Warramunga Arr 51.04 185 IAmb IAmb 05 19 12.9
comp=Z,30nm,0.6s
R17K Ugashik Creek 51.10 39 P P 05 19 12.0 -0.1
baz=268
USP Ospenovka 51.10 303 P P 05 19 12.6 +0.1
SNR=23
P17K Kvichak River 51.14 37 P P 05 19 12.8 +0.5
baz=267
BTLS Baital 51.17 305 *d* iP P 05 19 12.7 -0.2
BTLS pmax pmax
comp=Z,58nm,1.0s
BTLS Baital 51.17 305 ⇓ iP P 05 19 12.7 -0.2
comp=Z,58nm,1.0s,baz=305
AAK Ala-Archa 51.20 302 P P 05 19 13.6 +0.2
SNR=27
AAK Ala-Archa 51.20 302 P P 05 19 13.5 0.0
AAK IAmb IAmb 05 19 14.6
comp=Z,43nm,0.8s
AAK Ala-Archa 51.20 302 *ce* P P 05 19 13.4 0.0
AAK pmax pmax
comp=Z,43nm,0.7s
AAK Ala-Archa 51.20 302 P P 05 19 13.3 -0.1
AAK Ala-Archa 51.20 302 *i* P P 05 19 13.7 +0.3
SNR=32
UCH Uchtor 51.26 301 P P 05 19 15.0 +0.9
SNR=81
CHIR Chirikof Islan 51.49 41 P P 05 19 15.4 +0.3
baz=270
N18K Kilae Creek 51.50 35 P P 05 19 16.4 +1.3
baz=266,SNR=6.0
QIS Mount Isa 51.51 179 P P 05 19 16.0 +0.4
BRZS Berezniki 51.56 311 *d* iP P 05 19 15.4 -0.3
BRZS pmax pmax
comp=Z,36nm,0.8s
BRZS Berezniki 51.56 311 ⇓ iP P 05 19 15.4 -0.3
comp=Z,36nm,0.8s,baz=311
CTAO Charters Tower 51.59 171 P P 05 19 16.3 +0.1
CTAO Charters Tower 51.59 171 P P 05 19 16.3 +0.1
CTAO pmax pmax
comp=Z,20nm,1.0s
CTAO Charters Tower 51.59 171 P P 05 19 16.9 +0.7
TTA Tatalina 51.63 32 P P 05 19 16.5 +0.4
baz=264
SVW2 Sparrevohn 51.68 34 P P 05 19 16.8 +0.4
EKS2 Erkin-Say 51.72 302 P P 05 19 17.3 +0.1
SNR=29
P18K Big Mountain, 51.77 37 P P 05 19 17.6 +0.6
baz=268
O18K Koktuh Hills 51.80 36 P P 05 19 18.2 +1.0
baz=267
AML Almayashu 51.88 301 P P 05 19 19.4 +0.8
SNR=158
OTUK Ortayu 51.95 309 P P 05 19 18.6 0.0
L19K White Mountain 52.10 33 P P 05 19 20.4 +0.9
baz=266,SNR=5.3
N19K Bonanza Creek 52.20 35 P P 05 19 21.3 +1.0
baz=267,SNR=5.4
O19K Port Alsworth 52.26 36 IAmb IAmb 05 19 22.7
comp=Z,18nm,0.4s
O19K Port Alsworth 52.26 36 P P 05 19 21.6 +1.0
baz=266
SII Sitkinak Islan 52.29 40 P P 05 19 21.9 +1.0
comp=Z,29nm,1.1s
M19K Big River Lodg 52.30 33 P P 05 19 22.4 +1.5
baz=266
K20K Telida 52.55 32 P P 05 19 23.8 +1.1
baz=266,SNR=14
Q19K Cape Douglas, 52.57 37 P P 05 19 23.6 +0.7
baz=269
L20K Farewell, AK 52.58 33 P P 05 19 24.2 +1.3
baz=266,SNR=6.0
J20K Nowinta River 52.58 31 P P 05 19 24.0 +1.1
baz=265,SNR=11
OHAK Old Harbor 52.77 39 P P 05 19 24.5 +0.2
baz=271
P19K Oil Pt 52.79 36 P P 05 19 25.0 +0.5
baz=269
BRVK Borovoye 52.82 315 P P 05 19 24.9 +0.2
BRVK Borovoye 52.82 315 *ce* P P 05 19 24.6 -0.2
BRVK pmax pmax
comp=Z,146nm,1.0s
BRVK Borovoye 52.82 315 P P 05 19 25.4 +0.6
M20K Styx River 52.90 34 P P 05 19 26.6 +1.2
baz=268
G21K Allakaket 53.08 28 P P 05 19 27.7 +1.2
baz=264
KDAK Kodiak Island 53.14 39 P P 05 19 26.3 -0.6
comp=Z,12nm,0.5s,baz=322,slow=2.6,SNR=39
comp=Z,12nm,0.5s
KDAK Kodiak Island 53.14 39 P P 05 19 27.0 0.0
baz=271
F21K Alatna River 53.17 27 P P 05 19 27.3 +0.2
baz=263
Q20K Shuyak Island 53.22 38 P P 05 19 27.4 -0.2
baz=271
H21K Melozitna Rive 53.28 29 P P 05 19 28.9 +1.0
baz=265,SNR=10
N20K Mount Spurr 53.32 34 P P 05 19 29.2 +0.9
baz=269
SPCR Spurr Chakacha 53.32 34 P P 05 19 29.4 +1.0
baz=269
CHUM Lake Minchumin 53.37 31 P P 05 19 29.7 +1.2
baz=267
PPLA Purkeypile 53.38 32 P P 05 19 30.2 +1.4
baz=268,SNR=7.1
CAST Castle Rocks 53.45 32 P P 05 19 30.3 +1.1
baz=267,SNR=14
DZA Taraz 53.45 303 *d* iP P 05 19 29.5 -0.1
DZA Taraz 53.45 303 ⇓ iP P 05 19 29.6 -0.1
baz=303
I21K Tanana 53.59 29 P P 05 19 31.4 +1.3
baz=266
SKT Skwentna 53.66 33 P P 05 19 31.7 +1.0
baz=269,SNR=6.5
F22K John River 53.70 27 P P 05 19 32.1 +1.2
baz=264
H22K Ishtalitna Cre 53.88 29 P P 05 19 33.8 +1.5
baz=266,SNR=17
E22K Anaktuvuk Pass 53.90 26 P P 05 19 33.6 +1.2
baz=264
G22K Bettles 53.91 27 P P 05 19 32.9 +0.6
baz=265
BPAW Bear Paw Mtn. 53.96 31 P P 05 19 33.6 +0.8
baz=268,SNR=9.6
BRLK Bradley Lake 53.98 36 IAmb IAmb 05 19 34.8
comp=Z,37nm,1.4s
KK31 Karatay Array 54.00 303 P P 05 19 33.5 0.0
KK31 Karatay Array 54.00 303 *i* P P 05 19 33.6 +0.1
KKAR Karatay Array 54.00 303 P P 05 19 33.6 +0.1
KKAR Karatay Array 54.00 303 P P 05 19 33.6 +0.1
KKAR pmax pmax
comp=Z,119nm,0.9s
SUA Susitna One 54.03 34 IAmb IAmb 05 19 35.8
comp=Z,36nm,1.4s
SUA Susitna One 54.03 34 P P 05 19 33.6 +0.2
baz=270
BRSE Bradley Lake S 54.05 36 P P 05 19 34.6 +1.0
baz=271
MLY Manley 54.10 30 P P 05 19 34.6 +0.8
baz=268,SNR=10
CUT Chulitna 54.25 33 P P 05 19 35.4 +0.5
baz=270
TRF Thorofare Moun 54.25 32 P P 05 19 35.8 +0.7
baz=269
M22K Willow 54.33 34 P P 05 19 36.3 +0.9
baz=270
D23K Nanushuk River 54.39 25 P P 05 19 36.9 +1.0
baz=265
BTK Batken 54.42 299 P P 05 19 36.2 -0.4
BTK IAmb IAmb 05 19 37.7
comp=Z,63nm,0.9s
BTK Batken 54.42 299 P P 05 19 36.2 -0.4
BTK pmax pmax
comp=Z,63nm,0.9s
COLD Coldfoot 54.44 27 P P 05 19 37.1 +0.9
baz=266
G23K Bananza Creek 54.48 28 P P 05 19 37.3 +0.8
baz=267,SNR=12
C23K Itkillik River 54.50 24 P P 05 19 37.6 +1.1
baz=264
RC01 Rabbit Creek A 54.52 35 P P 05 19 37.1 +0.3
baz=271
IUG Iuzhnay 54.55 302 *d* iP P 05 19 38.0 +0.5
IUG Iuzhnay 54.55 302 ⇓ iP P 05 19 38.1 +0.5
baz=302
H23K Yukon River 54.63 29 P P 05 19 38.5 +0.9
baz=268,SNR=6.8
SEW Seward 54.69 36 IAmb IAmb 05 19 39.2
comp=Z,17nm,0.8s
SEW Seward 54.69 36 P P 05 19 38.2 +0.2
baz=272
AS31 Alice Springs 54.76 185 P P 05 19 39.3 +0.2
ASAR Alice Springs 54.76 185 P P 05 19 39.5 +0.4
comp=Z,10nm,0.4s,baz=17,slow=12,SNR=139
ASAR PcP PcP 05 20 38.0 +1.5
comp=Z,3.3nm,0.9s,baz=7.7,slow=4.6,SNR=6.2
ASAR ScP ScP 05 23 59.8 +0.4
comp=Z,1.2nm,0.7s,baz=24,slow=2.1,SNR=4.2
ASAR S S 05 26 50.4 -0.6
comp=Z,1.9nm,0.7s,baz=16,slow=18,SNR=7.8
comp=Z,10nm,0.4s
TOLK Toolik Lake Re 54.77 25 P P 05 19 39.3 +0.7
baz=266
PMR Palmer 54.80 34 P P 05 19 39.1 +0.3
baz=271
NEA2 Nenana 54.81 30 P P 05 19 39.9 +1.0
baz=269,SNR=15
MCK McKinley 54.86 31 P P 05 19 39.7 +0.4
MCK McKinley 54.86 31 P P 05 19 39.7 +0.4
MCK pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 54.86 31 P P 05 19 39.5 +0.2
baz=270,SNR=8.0
RND Reindeer 54.90 32 IAmb IAmb 05 19 40.8
comp=Z,18nm,0.8s
WAT1 Susitna Watana 55.04 32 P P 05 19 40.9 +0.3
baz=271
GAR Garm 55.05 298 P P 05 19 41.2 +0.1
D24K Happy Valley 55.07 25 P P 05 19 41.5 +0.8
baz=266
MBWA Marble Bar 55.09 201 P P 05 19 41.4 +0.1
MBWA Marble Bar 55.09 201 P P 05 19 41.5 +0.2
KNK Knik Glacier 55.13 34 P P 05 19 41.0 -0.2
baz=272,SNR=6.3
E24K Your Creek 55.14 26 P P 05 19 42.0 +0.8
baz=267
C24K Franklin Bluff 55.15 24 P P 05 19 42.0 +0.9
baz=266,SNR=6.1
SML Sawmill 55.17 34 IAmb IAmb 05 19 43.0
comp=Z,27nm,1.2s
SML Sawmill 55.17 34 P P 05 19 41.9 +0.4
baz=272,SNR=6.2
PWL Port Wells 55.21 35 P P 05 19 41.6 -0.2
baz=273,SNR=7.3
H24K Noodor Dome 55.32 29 P P 05 19 43.8 +1.3
H24K Noodor Dome 55.32 29 P P 05 19 43.4 +0.9
baz=270,SNR=9.4
F24K Squaw Lake 55.35 27 P P 05 19 43.6 +0.9
baz=268,SNR=11
WAT6 Susitna Watana 55.42 33 P P 05 19 43.5 +0.1
baz=272,SNR=9.4
PSA00 Pilbara Seismi 55.44 201 P P 05 19 43.6 -0.2
PSA00 IAmb IAmb 05 19 44.7
comp=Z,23nm,0.7s
PSA00 Pilbara Seismi 55.44 201 P P 05 19 44.2 +0.4
M23K Glacier View 55.46 34 P P 05 19 44.2 +0.7
baz=272
G24K Hadweenzic Riv 55.49 28 P P 05 19 45.2 +1.5
baz=269,SNR=7.6
POKR Poker Plat Res 55.51 30 P P 05 19 44.5 +0.7
baz=270
DHY Denali Highway 55.58 32 P P 05 19 44.4 -0.1
baz=272
HYBB Hyderabad (bro 55.63 270 *eP* P 05 19 45.1 -0.3
HYBB IVmB_BB 05 19 45.5
comp=Z,198nm,0.9s
HYBB *e*PcP PcP 05 20 39.9 -0.2
HYBB *e*pP pP 05 21 00.9 +0.8
HYBB *e*sP sP 05 21 40.3 +0.9
HYBB *e*ScP ScP 05 24 02.6 -0.9
HYBB *e*S S 05 27 04.3 +1.5
SCM Sheep Creek Mo 55.65 34 IAmb IAmb 05 19 46.7
comp=Z,29nm,1.1s
SCM Sheep Creek Mo 55.65 34 P P 05 19 45.3 +0.4
baz=273,SNR=8.3
P23K Montague Islan 55.72 36 P P 05 19 46.0 +0.6
baz=273,SNR=6.1
HDA Harding Lake 55.73 30 P P 05 19 45.0 -0.3
baz=271,SNR=7.7
ILAR Eielson Array 55.74 30 P P 05 19 45.4 -0.1
comp=Z,2.3nm,0.7s,baz=279,slow=6.1,SNR=20
comp=Z,2.3nm,0.7s
GLI Glacier Island 55.81 35 IAmb IAmb 05 19 47.5
comp=Z,44nm,1.2s
GLI Glacier Island 55.81 35 P P 05 19 46.2 +0.1
baz=274,SNR=9.5
D25K Kavik River 55.95 24 P P 05 19 47.7 +0.8
baz=268
CHGR Chuyangaron 56.01 298 P P 05 19 48.1 +0.2
CHGR Chuyangaron 56.01 298 P P 05 19 48.1 +0.2
CHGR pmax pmax
comp=Z,702nm,0.7s
FID Port Fidalgo 56.12 35 IAmb IAmb 05 19 49.8
comp=Z,32nm,1.1s
HIN Hinchinbrook I 56.14 35 IAmb IAmb 05 19 50.3
comp=Z,34nm,0.9s

H25K Birch Creek 56.16 28 P P 05 19 49.3 +1.0
baz=271
M24K Tolsona, Glenn 56.18 33 P P 05 19 49.7 +1.1
baz=274
F25K Christian Rive 56.21 27 P P 05 19 50.5 +1.8
baz=270,SNR=6.5
E25K Arctic Village 56.23 26 P P 05 19 50.6 +1.7
baz=270
K24K Donnelly Dome 56.26 31 P P 05 19 49.3 +0.2
baz=273
PRP Porcupine Dome 56.30 29 P P 05 19 50.1 +0.6
baz=272
KLU Klutina 56.34 34 P P 05 19 50.1 +0.4
KLU Klutina 56.34 34 P P 05 19 50.5 +0.7
baz=274,SNR=10
FYU Fort Yukon 56.39 28 IAmb IAmb 05 19 53.4
comp=Z,29nm,1.4s
J25K Salcha River, 56.40 30 P P 05 19 50.4 +0.3
baz=273
PAX Paxson 56.45 32 P P 05 19 51.0 +0.5
baz=274
EYAK Cordova Ski Ar 56.50 35 P P 05 19 51.4 +0.6
baz=275,SNR=6.0
HARP HAARP 56.63 33 P P 05 19 52.8 +1.1
baz=274,SNR=5.6
RIDG Independent Ri 56.68 31 P P 05 19 53.3 +1.3
baz=274
F26K Sheenjek River 56.78 26 P P 05 19 54.2 +1.5
baz=272,SNR=8.6
WRKA Warakurna 56.78 191 P P 05 19 53.9 +0.7
C27K Jago River 56.89 24 P P 05 19 53.7 +0.3
baz=271
G26K Porcupine Rive 56.95 27 P P 05 19 55.1 +1.3
baz=272
N25K Chitina, Valde 56.96 34 P P 05 19 55.2 +1.1
baz=275,SNR=5.5
BMRM Bremner River 57.02 35 IAmb IAmb 05 19 57.2
comp=Z,58nm,1.0s
BMRM Bremner River 57.02 35 P P 05 19 55.3 +0.9
baz=276,SNR=25
SCRK Sand Creek 57.04 31 P P 05 19 54.9 +0.3
baz=274,SNR=11
RAGM Ragged Mountai 57.05 35 IAmb IAmb 05 19 57.0
comp=Z,36nm,1.2s
J26L Joseph Creek 57.19 30 P P 05 19 55.3 -0.4
baz=274,SNR=12
KAIM Kayak Island 57.22 36 P P 05 19 56.2 +0.4
baz=276
KBL Kabul 57.26 293 P P 05 19 56.5 -0.3
KBL Kabul 57.26 293 P P 05 19 56.5 -0.3
KBL pmax pmax
comp=Z,78nm,0.9s
KBL Kabul 57.26 293 P P 05 19 56.8 0.0
SNR=32
I26K Coal Creek Min 57.30 29 P P 05 19 57.0 +0.7
baz=274
GLB Gilahina Butte 57.35 34 IAmb IAmb 05 19 59.6
comp=Z,32nm,1.2s
L26K Log Cabin Wild 57.41 32 P P 05 19 58.0 +0.9
baz=275,SNR=16
BERG Berg Lake 57.52 35 IAmb IAmb 05 20 00.7
comp=Z,41nm,0.7s
M26K Nabesna, AK 57.63 33 P P 05 19 59.6 +0.9
baz=276,SNR=12
E27K Coleen River 57.72 26 P P 05 20 00.3 +1.1
baz=274
MCARA McCarthy VSAT 57.74 34 IAmb IAmb 05 20 02.1
comp=Z,43nm,1.0s
MCARA McCarthy VSAT 57.74 34 P P 05 20 00.2 +0.8
baz=277,SNR=13
QLP Quilpie 57.77 174 P P 05 20 00.0 +0.1
G27K Doyon Strip 57.80 27 P P 05 20 00.5 +0.8
baz=274
K27K Chicken 57.88 31 P P 05 20 01.0 +0.8
baz=276
H27K Steamboat Moun 57.90 28 P P 05 20 01.6 +1.2
baz=275
TGL Tana Glacier 57.91 35 IAmb IAmb 05 20 03.1
comp=Z,26nm,0.9s
I27K Kandik River 57.92 29 P P 05 20 01.1 +0.5
baz=275
WAX Waxell Ridge 57.94 35 IAmb IAmb 05 20 03.0
comp=Z,35nm,0.8s
SNH Sunshine Point 57.98 35 IAmb IAmb 05 20 04.4
comp=Z,25nm,0.9s
L27K Beaver Creek, 58.09 32 P P 05 20 02.8 +0.9
baz=277,SNR=9.7
M27K Edge Creek, AK 58.16 33 P P 05 20 03.3 +0.9
baz=277
ISLE Juniper Island 58.17 35 IAmb IAmb 05 20 04.2
comp=Z,24nm,0.9s
EGAK Eagle 58.19 30 P P 05 20 02.8 +0.3
baz=276
RMQ Roma 58.25 169 P P 05 20 04.4 +1.1
MESA MESA 58.42 35 P P 05 20 04.7 +0.4
baz=278
YAH Yahtse 58.49 35 IAmb IAmb 05 20 06.9
comp=Z,20nm,1.0s
CTG Chitna Glacier 58.60 34 P P 05 20 06.2 +0.7
baz=278,SNR=5.9
BVCY Beaver Creek 58.62 33 P P 05 20 06.3 +0.9
baz=278,SNR=5.1
INKA Innaminka 58.69 178 P P 05 20 06.9 +0.7
OOD Oodnadatta 58.76 183 P P 05 20 07.3 +0.6
YUK3 Moose Creek 58.90 33 P P 05 20 08.1 +0.6
baz=279,SNR=14
DAWY Dawson 59.04 31 P P 05 20 09.0 +0.7
baz=278
ARU Arti 59.12 320 P P 05 20 08.9 0.0
ARU Arti 59.12 320 *d* iP P 05 20 08.6 -0.3
ARU 05 20 51.4
ARU *PP pP 05 21 20.8 -3.8
ARU 05 22 20.0
ARU S S 05 27 49.6 +2.9
ARU SS SS 05 31 49.8 +2.5
ARU pmax pmax
comp=Z,147nm,0.8s
O28M Mount Upton 59.19 34 P P 05 20 10.0 +0.3
baz=280,SNR=9.2
PCA Pinnacle 59.27 35 IAmb IAmb 05 20 12.0
comp=Z,20nm,0.8s
PINM Pinnacle 59.27 35 P P 05 20 10.6 +0.7
baz=280
I29M Ogilvie Camp, 59.32 29 P P 05 20 11.1 +1.0
baz=278,SNR=5.4
NOUC Port Laguerre 59.41 150 P P 05 20 12.0 +0.7
DZM Mont Dzumac 59.45 150 P P 05 20 11.3 -0.3
DZM IAmb IAmb 05 20 14.4
comp=Z,58nm,1.1s
DZM Mont Dzumac 59.45 150 P P 05 20 12.5 +0.9
BCPM Bancas Point 59.60 35 IAmb IAmb 05 20 30.4
comp=Z,31nm,0.7s
YATNC Mamie plateau, 59.63 149 P P 05 20 13.4 +0.6
M29M Somme Creek 59.72 32 P P 05 20 14.2 +1.3
baz=280,SNR=19
PNL Peninsula 59.77 36 P P 05 20 13.9 +0.6
baz=281
EPYK Eagle Plains 59.81 28 IAmb IAmb 05 20 15.6
comp=Z,32nm,0.6s
EPYK Eagle Plains 59.81 28 P P 05 20 14.8 +1.4
baz=279,SNR=16
YUK4 Talbot Arm 59.83 34 P P 05 20 15.1 +1.2
baz=280,SNR=7.6
AB31 Akbulak array 59.84 312 *eP* P 05 20 13.8 -0.1
ABKAR Akbulak array 59.84 312 P P 05 20 13.8 -0.1
K29M Barlow Dome 59.90 31 P P 05 20 15.2 +1.0
baz=280,SNR=15
OUENC Ouen Island, N 59.93 149 P P 05 20 13.9 -0.8
YUK6 Outpost Mounta 60.04 34 P P 05 20 17.1 +1.8
baz=281,SNR=5.9
O29M Mount Kennedy 60.06 35 P P 05 20 16.6 +1.3
baz=281,SNR=16
M30M Minto, Yukon 60.45 32 P P 05 20 17.7 -0.1
M30M Minto, Yukon 60.45 32 P P 05 20 19.2 +1.3
baz=281,SNR=11
HYT Haines Junctio 60.47 34 IAmb IAmb 05 20 20.9
comp=Z,19nm,0.9s
HYT Haines Junctio 60.47 34 P P 05 20 19.8 +1.7
baz=282,SNR=18
N30M Aishikik Lake 60.54 33 P P 05 20 19.7 +1.3
baz=282,SNR=5.9
MEEK Meekatharra 60.57 200 P P 05 20 18.8 -0.2
P29M Windy Craggy 60.60 35 IAmb IAmb 05 20 21.8
comp=Z,21nm,0.8s
P29M Windy Craggy 60.60 35 P P 05 20 20.4 +1.5
baz=282,SNR=7.7
MAYO Mayo, Yukon 60.65 31 P P 05 20 21.0 +1.9
baz=282
INK Inuvik 60.68 25 P P 05 20 19.8 +0.6
comp=Z,5.7nm,0.5s,baz=260,slow=5.3,SNR=12
comp=Z,5.7nm,0.5s
INK Inuvik 60.68 25 P P 05 20 18.7 -0.5
baz=281
AKTO Aktyubinsk 60.76 314 P P 05 20 19.5 -0.5
F31M Tsiigehtchic 60.77 26 P P 05 20 19.7 -0.1
baz=281
P30M Million Dollar 60.88 35 P P 05 20 22.0 +1.3
baz=282
N31M Braeburn, Yuko 61.15 33 IAmb IAmb 05 20 25.6
comp=Z,29nm,1.0s
N31M Braeburn, Yuko 61.15 33 P P 05 20 23.7 +1.2
baz=283,SNR=9.8
O30N Mendenhall 61.16 34 P P 05 20 23.9 +1.3
baz=283,SNR=6.3
MULG Mulgathing 61.32 184 P P 05 20 24.3 +0.4
PLBC Pleasant Camp 61.33 35 P P 05 20 24.9 +1.2
baz=283,SNR=11
LCRK Leigh Creek 61.35 180 P P 05 20 24.8 +0.8
M31M Drury Creek, Y 61.63 32 IAmb IAmb 05 20 27.8
comp=Z,13nm,0.7s
M31M Drury Creek, Y 61.63 32 P P 05 20 26.3 +0.7
baz=284,SNR=15
WHY Whitehorse 61.77 34 IAmb IAmb 05 20 29.2
comp=Z,20nm,1.1s
WHY Whitehorse 61.77 34 P P 05 20 27.5 +0.9
baz=284,SNR=6.6
SKAG Skagway 61.84 35 IAmb IAmb 05 20 30.3
comp=Z,41nm,1.4s
SKAG Skagway 61.84 35 P P 05 20 28.1 +1.1
baz=284,SNR=6.4
FARO Faro, Yukon 62.09 32 IAmb IAmb 05 20 30.9
comp=Z,14nm,0.9s
FARO Faro, Yukon 62.09 32 P P 05 20 29.7 +1.0
baz=284,SNR=16
FORT Forrest 62.45 190 P P 05 20 32.1 +0.8
FORT Forrest 62.45 190 P P 05 20 32.0 +0.7
N32M Quiet Lake 62.49 33 P P 05 20 32.3 +1.0
baz=285
R32K Eaglecrest 62.55 36 P P 05 20 33.0 +1.3
baz=285
P32M Atlin 62.60 35 P P 05 20 33.3 +1.2
baz=285
JIS Juneau Island 62.62 36 IAmb IAmb 05 20 34.8
comp=Z,26nm,1.0s
CMSA Cobar Meteorol 62.82 173 P P 05 20 34.3 +0.6
STKA Stephens Creek 62.85 177 P P 05 20 34.6 +0.7
comp=Z,6.1nm,0.4s,baz=1.6,slow=6.4,SNR=17
STKA S S 05 28 31.5 -2.4
comp=Z,3.0nm,0.8s,baz=351,slow=5.9,SNR=3.0
comp=Z,6.1nm,0.4s
STKA Stephens Creek 62.85 177 P P 05 20 33.8 -0.1
P33M Teslin, Yukon 62.87 34 P P 05 20 34.9 +1.0
baz=286,SNR=5.8
MMPY Sheldon Lake, 62.93 31 P P 05 20 35.7 +1.5
baz=286,SNR=6.5
KIRV Kirov 63.40 324 *ceP* P 05 20 35.3 -1.9
C36M Paulatuk 63.73 23 P P 05 20 39.9 +0.8
baz=289
BBOO Buckleboo 63.74 182 P P 05 20 40.3 +0.6
R33M Jennings River 64.00 35 P P 05 20 42.6 +1.3
baz=288
PRGR Permogore 64.29 328 *eP* P 05 20 42.6 -0.3
PRGR pmax pmax
comp=Z,147nm,1.1s
HTT Hallett 64.32 179 P P 05 20 44.2 +0.7
S34M Telegraph Cree 64.38 36 P P 05 20 44.3 +0.7
baz=288
GEYT Alibeck 64.50 300 P P 05 20 45.2 +0.4
comp=Z,56nm,0.9s,baz=58,slow=3.6,SNR=56
comp=Z,56nm,0.9s
GYA0B ALIBECK ARRAY 64.50 300 P P 05 20 45.0 +0.2
TGTN Hyland Airport 64.60 32 P P 05 20 45.6 +0.6
baz=288,SNR=10.0
DLBC Dease Lake 64.76 36 P P 05 20 46.8 +0.6
baz=289
WTLY Watson Lake, Y 64.82 34 IAmb IAmb 05 20 48.7
comp=Z,13nm,1.1s
WTLY Watson Lake, Y 64.82 34 P P 05 20 47.8 +1.4
baz=289
T35M Bob Quinn 65.13 37 P P 05 20 49.6 +1.1
baz=289
SPA0 Spitsbergen Ar 65.71 349 *eP* P 05 20 52.6 +0.8
SPA0 IAmb IAmb 05 20 53.1
comp=Z,34nm,0.9s
SPB2 Spitsbergen Ar 65.71 349 IAmb IAmb 05 20 53.3
comp=Z,31nm,0.9s
SPITS Spitsbergen Ar 65.71 349 P P 05 20 52.5 +0.7
comp=Z,20nm,0.8s,baz=20,slow=4.6,SNR=14
comp=Z,20nm,0.8s
KBS Kingsbay 65.92 350 P P 05 20 53.6 +0.6
KBS Kingsbay 65.92 350 *ceP* P 05 20 54.3 +1.2
KBS pmax pmax
comp=Z,43nm,1.0s
KBS Kingsbay 65.92 350 *i* P P 05 20 52.8 -0.3
KBS IAmb IAmb 05 20 54.8
comp=Z,344nm,0.8s
KBS Kingsbay 65.92 350 *eP* P 05 20 54.0 +1.0
KBS IAmb IAmb 05 20 54.8
comp=Z,37nm,0.9s
BELG Belogornoye 66.36 318 *diP* P 05 20 56.2 0.0
BELG pmax pmax
comp=Z,37nm,0.9s
LVZ Lovozero 66.37 336 *ceP* P 05 20 56.9 +0.8
LVZ pmax pmax
comp=Z,60nm,1.7s
HSPB Hornsund (broa 66.58 348 *i* P P 05 20 57.9 +0.7
NWAO Narrogin (SRO) 66.88 199 P P 05 20 59.8 +0.2
NWAO Narrogin (SRO) 66.88 199 P P 05 20 59.8 +0.2
NWAO pmax pmax
comp=Z,39nm,0.8s
NWAO Narrogin (SRO) 66.88 199 P P 05 20 59.7 +0.2
KLMR Klimovskoe 67.33 328 *di*P P 05 21 01.7 -0.4
KLMR *e* 05 23 35.2
KLMR pmax pmax
comp=Z,95nm,1.0s
KLMR Klimovskoe 67.33 328 ⇓*i*P P 05 21 01.7 -0.4
KLMR ⇑*i*P P 05 21 01.7 -0.4
KLMR ⇑*i*P P 05 21 01.7 -0.4
KLMR AMP 05 21 03.1
comp=Z,95nm,1.0s
KLMR *e*PP PP 05 23 35.3 -0.2
KEV Kevo 67.97 340 P P 05 21 06.0 +0.1
KEV Kevo 67.97 340 P P 05 21 06.0 +0.1
KEV pmax pmax
comp=Z,43nm,1.0s
HAMF Hammerfest 68.46 341 *eP* P 05 21 09.1 +0.2
HAMF IAmb IAmb 05 21 09.8
comp=Z,67nm,1.2s
ARA0 ARCESS Array S 68.53 340 *eP* P 05 21 10.1 +0.6
ARA0 IAmb IAmb 05 21 10.8
comp=Z,29nm,1.0s
ARCES ARCESS Array B 68.53 340 P P 05 21 09.8 +0.5
comp=Z,11nm,0.4s,baz=67,slow=8.9,SNR=152
comp=Z,11nm,0.4s
ARCES ARCESS Array B 68.53 340 P P 05 21 09.9 +0.5
ARCES IAmb IAmb 05 21 11.0
comp=Z,38nm,1.1s
KTK1 Kautokeino 69.49 340 *eP* P 05 21 15.2 -0.1
KTK1 IAmb IAmb 05 21 16.5
comp=Z,48nm,1.2s
WBK Wadi Bani Khal 69.95 285 P P 05 21 19.5 +0.6
WSAR Wadi Sarin 69.96 286 P P 05 21 18.8 -0.1
JETT Jettan, Norway 70.00 341 *eP* P 05 21 18.8 +0.4
JETT IAmb IAmb 05 21 19.6
comp=Z,29nm,0.9s
YKA Yellowknife Ar 70.08 28 P P 05 21 19.5 +0.6
comp=Z,4.4nm,0.8s,baz=298,slow=5.6,SNR=8.6
comp=Z,4.4nm,0.8s
VRH Novokhopyorsk 70.20 318 *eP* P 05 21 19.6 -0.2
VRH pmax pmax
comp=Z,150nm,0.7s
BIDO Bidbid 70.25 286 P P 05 21 22.0 +1.3
SNR=5.2
TRO Tromso 70.37 341 *eP* P 05 21 20.8 +0.3
TRO IAmb IAmb 05 21 20.9
comp=Z,38nm,1.0s
MOS Moscow 70.41 324 *eP* P 05 21 19.9 -1.1
MOS *e* 05 21 38.9
MOS *e**PP pP 05 22 41.0 +1.1
MOS *e* 05 23 58.6
MOS *eS S 05 30 00.3 -3.1
MOS pmax pmax
comp=Z,196nm,1.1s
MOS pmax pmax
comp=Z,300nm,1.4s
SMDO Samad 70.52 286 P P 05 21 22.7 +0.3
BANOM Banah 70.69 289 P P 05 21 23.8 +0.5
BANOM Banah 70.69 289 P P 05 21 23.9 +0.5
SHME Shamm 70.76 289 *i* P P 05 21 24.2 +0.5
SNR=12
JMDO Jabal Madar 70.78 285 P P 05 21 24.0 +0.1
HOQ Hoqain 70.89 286 P P 05 21 26.0 +1.4
SNR=8.4
MDH Madha 70.96 288 P P 05 21 25.5 +0.5
MDH Madha 70.96 288 P P 05 21 25.4 +0.5
MASF Masafi 71.04 289 P P 05 21 26.0 +0.5
MSFE Esma-Masafi 71.05 289 P P 05 21 26.1 +0.6
GROC Groznyy 71.11 309 *eP* P 05 21 25.6 +0.2
GROC *e* 05 21 42.5
GROC *e**PP pP 05 22 46.6 +2.1
GROC *e**SP sP 05 23 26.1 +3.4
GROC pmax pmax
comp=Z,316nm,1.2s
LPSR Galich'ya Gora 71.14 321 *eP* P 05 21 25.1 -0.3
LPSR pmax pmax
comp=Z,140nm,0.9s
UOSS Minazif 71.19 288 P P 05 21 25.7 -0.6
UOSS IAmb IAmb 05 21 27.2
comp=Z,32nm,1.0s
UOSS Minazif 71.19 288 P P 05 21 26.0 -0.3
UOSS Minazif 71.19 288 P P 05 21 26.2 -0.1
OBN Obninsk 71.23 324 P P 05 21 25.8 -0.1
OBN Obninsk 71.23 324 *deP* P 05 21 25.6 -0.3
OBN *e* 05 21 40.8
OBN *e**PP pP 05 22 45.7 +0.7
OBN *e**SP sP 05 23 25.0 +1.7
OBN *e* 05 24 07.7
OBN pmax pmax
comp=Z,203nm,1.3s
SOHO SOHO 71.28 287 P P 05 21 27.1 +0.2
SOHO SOHO 71.28 287 *i* P P 05 21 27.0 +0.2
SNR=28
DAG Danmarks Havn 71.30 355 *i* P P 05 21 24.8 -1.2
DAG IAmb IAmb 05 21 27.5
comp=Z,8.3nm,0.9s
HATD Hatta, Dubai 71.31 288 P P 05 21 27.0 +0.1
HATD Hatta, Dubai 71.31 288 *i* P P 05 21 27.5 +0.6
SNR=10.0
BSY Bisya 71.36 286 P P 05 21 27.8 +0.5
VORR Voronezh 71.41 320 *eP* P 05 21 26.9 -0.1
VORR pmax pmax
comp=Z,120nm,0.5s
NEEM North Greenlan 71.42 2 *i* P P 05 21 26.5 -0.5
NEEM IAmb IAmb 05 21 28.3
comp=Z,12nm,0.9s
ASHO Ashiyiah 71.43 288 P P 05 21 28.1 +0.3
ASHO Ashiyiah 71.43 288 *i* P P 05 21 28.0 +0.3
SNR=7.2
MHTO MHTO 71.51 284 P P 05 21 29.1 +0.9
SNR=6.1
NAZ Nazwa, Dubai 71.62 288 P P 05 21 28.9 +0.1
VSR Storozhevoye 71.64 319 *eP* P 05 21 28.5 +0.1
VSR pmax pmax
comp=Z,150nm,0.6s
ARQ Araqi 71.65 287 P P 05 21 30.0 +1.0
SNR=8.2
FAQ Al Faqa, Dubai 71.78 288 *i* P P 05 21 29.7 0.0
SNR=9.1
PUL Pulkovo 71.89 330 *ceP* P 05 21 31.0 +1.3
PUL pmax pmax
comp=Z,86nm,0.4s
ALNE Al Ain 71.96 288 P P 05 21 31.2 +0.3
SNR=6.7
ALNE Al Ain 71.96 288 *i* P P 05 21 31.2 +0.3
SNR=6.9
ASUD Al Ashush, Dub 72.05 288 P P 05 21 31.8 +0.5
ASUD Al Ashush, Dub 72.05 288 P P 05 21 32.0 +0.7
GOF Gofitskoye 72.08 312 ⇑*eP* P 05 21 31.5 +0.3
GOF pmax pmax
comp=Z,182nm,0.9s
LLLB Lillooet 72.22 41 IAmb IAmb 05 21 33.9
comp=Z,9.7nm,0.9s
DQM DQM 72.35 283 P P 05 21 32.9 -0.2
STEI Steigen 72.49 341 *eP* P 05 21 33.1 0.0
STEI IAmb IAmb 05 21 33.7
comp=Z,50nm,1.0s
NLWA Neilton Lookou 72.54 45 IAmb IAmb 05 21 36.8
comp=Z,15nm,0.8s
ZEI Tsey 72.54 310 *eP* P 05 21 32.5 -1.6
ZEI pmax pmax
comp=Z,48nm,1.0s
WISH Wishkah 72.72 45 IAmb IAmb 05 21 40.9
comp=Z,24nm,0.9s
FIA1 FINESS Array S 72.76 332 P P 05 21 34.4 -0.4
FINES FINESS Array B 72.76 332 P P 05 21 34.7 -0.1
comp=Z,34nm,0.4s,baz=70,slow=5.4,SNR=347
comp=Z,34nm,0.4s
KBZ Khabaz 72.77 311 P P 05 21 35.7 +0.5
comp=Z,104nm,0.8s,baz=79,slow=3.9,SNR=189
KBZ Khabaz 72.77 311 *ceP* P 05 21 35.6 +0.5
KBZ pmax pmax
comp=Z,129nm,0.8s
KIV Kislovodsk 72.81 311 ⇑P P 05 21 36.7 +1.1
KIV Kislovodsk 72.81 311 P P 05 21 35.7 +0.1
KIV Kislovodsk 72.81 311 *di*P P 05 21 35.8 +0.3
KIV *i* 05 21 47.6
KIV *i **PP pP 05 22 56.1 +1.1
KIV *i* SS SS 05 35 22.5 +3.4
KIV pmax pmax
comp=Z,141nm,1.0s
KIV Kislovodsk 72.81 311 *i* P P 05 21 36.3 +0.8
SNR=18
LOF Lofoten 72.83 341 *eP* P 05 21 35.6 +0.6
LOF IAmb IAmb 05 21 37.6
comp=Z,47nm,1.2s
FAUS Fauske 72.84 340 *eP* P 05 21 35.5 +0.4
FAUS IAmb IAmb 05 21 36.2
comp=Z,57nm,0.9s
SHA1 Shidzhatmaz 72.92 311 *di*P P 05 21 36.6 +0.2
E03A Lebam 73.11 46 IAmb IAmb 05 21 40.2
comp=Z,35nm,1.2s
GNI Garni 73.15 307 P P 05 21 38.6 +0.9
GNI Garni 73.15 307 *ceP* P 05 21 38.4 +0.7
GNI pmax pmax
comp=Z,154nm,1.7s
GNI Garni 73.15 307 P P 05 21 38.5 +0.8
GNI Garni 73.15 307 P P 05 21 39.0 +1.3
G03D McMinnville, O 73.92 47 P P 05 21 43.1 +1.3
baz=298
KONS Konsvik 74.07 340 *eP* P 05 21 43.4 +1.1
MEF Metsahovi 74.14 332 *eP* P 05 21 42.6 -0.2
VSU Vasula 74.16 329 *di*P P 05 21 43.0 +0.1
VSU pmax pmax
comp=Z,261nm,0.9s
VSU Vasula 74.16 329 *eP* P 05 21 43.0 +0.1
MZR Muzera 74.29 288 P P 05 21 44.4 0.0
SNR=5.4
MZR Muzera 74.29 288 *i* P P 05 21 44.4 0.0
SNR=6.8
J01E Myrtle Point 74.46 49 P P 05 21 46.1 +1.2
baz=298
H04D Lebanon 74.58 47 P P 05 21 47.1 +1.5
baz=299
I03D Drain, OR 74.58 48 P P 05 21 47.0 +1.4
baz=298,SNR=7.8
RAF Rauma 74.70 333 *eP* P 05 21 46.2 +0.3
B08A Colville Reser 74.76 42 IAmb IAmb 05 21 48.6
comp=Z,15nm,1.1s
SHAO Shalim 74.84 282 P P 05 21 47.9 +0.4
H04A Detroit Lake 74.84 47 IAmb IAmb 05 21 49.3
comp=Z,20nm,1.0s
K02D Willamette Mer 74.86 49 P P 05 21 48.1 +0.8
baz=299
HOOD Mount Hood Mea 74.87 46 IAmb IAmb 05 21 49.8
comp=Z,24nm,0.9s
SOC Sochi 74.88 312 *eP* P 05 21 45.6 -1.7
SOC *e**PP pP 05 23 05.6 -1.7
SOC *e**SP sP 05 23 46.7 +1.3
SOC *e* 05 24 38.6
SOC *ePPP PPP 05 26 23.5
SOC *eS S 05 30 52.2 -1.8
SOC *eSS SS 05 35 50.1 -0.1
SOC *eSSS SSS 05 39 10.1
SOC pmax pmax
comp=Z,71nm,0.8s
SHMA Al-Shehemyia 75.01 291 P P 05 21 48.2 -0.2
G05D Wamic, OR 75.11 46 P P 05 21 49.9 +1.2
baz=299

I04A	Tendick Farm, baz=299,SNR=9.2	75.13	48	P		P		05 21 49.8	+0.9	
L02F	Cave Junction baz=299	75.19	50	P		P		05 21 50.2	+1.0	
MTSE	Matsula	75.26	331	eP		P		05 21 49.2	+0.1	
EDM	Edmonton comp=Z,20nm,1.1s	75.47	36	IAmb		IAmb		05 21 52.2		
I05D	Terrebonne, OR baz=300,SNR=6.8	75.54	47	P		P		05 21 52.2	+1.1	
DMTO	DMTO	75.55	282	P		P		05 21 51.6	0.0	
J04D	Umpqua Nationa baz=299,SNR=10	75.59	48	P		P		05 21 52.8	+1.2	
HAWA	Hanford comp=Z,15nm,1.2s	75.62	44	IAmb		IAmb		05 21 53.7		
F07A	Phinny Hill Vi comp=Z,18nm,1.0s	75.64	45	IAmb		IAmb		05 21 54.0		
SMRA	Abu-Samra	75.64	290	P		P		05 21 51.6	-0.3	
D08A	Wollman Farm, comp=Z,12nm,0.9s	75.65	44	IAmb		IAmb		05 21 53.6		
C09A	Chrisman Ranch comp=Z,16nm,0.8s	75.65	43	IAmb		IAmb		05 21 56.6		
ANN	Anapa	75.72	314	*i* P		P		05 21 51.9	-0.1	
NSS	Namsos	75.79	339	eP		P		05 21 52.1	+0.1	
NSS	comp=Z,29nm,0.8s				IAmb	IAmb		05 21 52.6		
E08A	Dider Farm, El comp=Z,9.5nm,0.8s	75.86	44	IAmb		IAmb		05 21 54.9		
MNK	Minsk	75.86	326	*i* P		P		05 21 52.9	+0.3	
MNK				*i*				05 22 03.4		
MNK				*i* *PP		pP		05 23 13.8	+0.9	
MNK				*i* *SP		sP		05 23 52.1	+1.2	
MNK				*i*				05 24 51.3		
MNK				*i* S		S		05 31 05.1	+0.9	
MNK				*i* SS		SS		05 36 06.7	+2.4	
MNK				*i* SSS		SSS		05 39 31.9		
MNK	comp=E,7.0nm,0.9s			pmax		pmax				
MNK	comp=E,125nm,0.9s			pmax		pmax				
MNK	Minsk comp=E,7.0nm,0.9s	75.86	326	*i* P		P		05 21 52.9	+0.3	
MNK				*i* P		P		05 21 52.9	+0.3	
MNK	comp=Z,125nm,0.9s,baz=56			*i* P		P		05 21 52.9	+0.3	
MNK				*i* PcP		PcP		05 22 03.5	+0.1	
MNK				*i* pP		pP		05 23 13.8	+0.9	
MNK				*i* sP		sP		05 23 52.2	+1.2	
MNK				*i* PP		PP		05 24 51.3	+3.3	
MNK				*i* PPP		PPP		05 26 22.8		
MNK				*i* S		S		05 31 05.1	+0.9	
MNK				*i* sS		sS		05 33 29.3	+0.7	
MNK				*i* SS		SS		05 36 06.8	+2.4	
MNK				*i* SSS		SSS		05 39 31.9		
YBH	Yreka Blue Hor comp=Z,7.5nm,0.9s,baz=297,slow=4.5,SNR=12 comp=Z,7.5nm,0.9s	75.94	50	P		P		05 21 55.0	+1.5	
YBH	Yreka Blue Hor comp=Z,11nm,0.9s	75.94	50	IAmb		IAmb		05 21 56.0		
L04D	Klamath Falls comp=Z,20nm,0.9s	75.97	49	IAmb		IAmb		05 21 55.9		
L04D	Klamath Falls baz=299	75.97	49	P		P		05 21 54.7	+1.0	
NEW	Newport comp=Z,10.0nm,0.8s,baz=300,slow=3.9,SNR=16 comp=Z,10.0nm,0.8s	76.08	42	P		P		05 21 54.8	+0.8	
NEW	Newport comp=Z,11nm,0.8s	76.08	42	IAmb		IAmb		05 21 58.9		
NEW	Newport baz=301,SNR=12	76.08	42	P		P		05 21 54.7	+0.6	
ISAL	Salakas	76.08	327	eP		P		05 21 55.2	+1.4	
KTUT	Trabzon	76.11	310	⇑P		P		05 21 54.2	-0.1	
K04D	Chiloquin, OR baz=300,SNR=5.2	76.12	49	P		P		05 21 55.3	+0.7	
J05D	Fort Rock, OR baz=300,SNR=16	76.13	48	P		P		05 21 56.0	+1.4	
NACGM	Naroch baz=55	76.16	326	⇓eP		P		05 21 54.7	+0.4	
IIGN	Ignalina	76.17	327	eP		P		05 21 55.5	+1.2	
RBK	Rabkut	76.28	282	P		P		05 21 55.3	-0.3	
E09A	Wood Farm, Sta comp=Z,23nm,1.2s	76.39	44	IAmb		IAmb		05 21 58.0		
WHFO	Wadi Hawf	76.44	283	P		P		05 21 55.9	-0.7	
SUMG	Summit comp=Z,24nm,1.0s	76.44	359	IAmb		IAmb		05 21 58.4		
SUMG	Summit	76.44	359	*i* P		P		05 21 56.0	0.0	
SUMG	comp=Z,9.6nm,0.9s				IAmb	IAmb		05 22 00.5		
G08A	Pilot Rock comp=Z,16nm,1.4s	76.53	45	IAmb		IAmb		05 21 59.0		
SLIT	Slitere, Latvi	76.56	330	eP		P		05 21 56.0	-0.5	
K05A	Summer Lake comp=Z,28nm,0.9s	76.62	48	IAmb		IAmb		05 22 00.1		
VSVD	Vaisvydziai	76.84	328	eP		P		05 21 58.7	+0.6	
ABTO	Aybut	77.11	283	P		P		05 22 00.1	-0.2	
PABE	Paberze	77.11	328	eP		P		05 21 60.0	+0.4	
TBLU	Trondheim	77.23	339	eP		P		05 21 58.5	-1.6	
AKASG	Malin Array Be comp=Z,47nm,0.5s,baz=50,slow=6.3,SNR=279	77.32	322	P		P		05 22 00.5	-0.3	
AKASG	comp=Z,3.5nm,0.8s,baz=49,slow=8.8,SNR=5.1 comp=Z,47nm,0.5s				PP	PP		05 24 59.1	-1.1	
AKBB	Malin Array Si	77.32	322	ceP		P		05 22 00.3	-0.5	
WALA	Waterton Lakes comp=Z,13nm,0.8s	77.45	40	IAmb		IAmb		05 22 06.7		
SCO	Scoresbysund	77.59	353	*i* P		P		05 22 00.3	-1.6	
PBUR	Paburge	77.71	329	eP		P		05 22 03.0	+0.1	
BMO	Blue Mountains comp=Z,8.0nm,0.8s	77.76	45	IAmb		IAmb		05 22 08.4		
J08A	Circle Bar Ran comp=Z,19nm,0.9s	77.82	47	IAmb		IAmb		05 22 06.3		
ORV	Oroville comp=Z,17nm,1.2s	77.82	51	IAmb		IAmb		05 22 05.3		
JTMT	Jette comp=Z,15nm,1.0s	77.97	41	IAmb		IAmb		05 22 06.7		
WVOR	Wild Horse Val comp=Z,12nm,0.9s	78.20	47	IAmb		IAmb		05 22 08.2		
NC303	NORSAR Array S	78.34	337	eP		P		05 22 06.5	+0.3	
BEKR	Beckworth comp=Z,15nm,0.9s	78.42	50	IAmb		IAmb		05 22 09.0		
AFDM	Forest Hills D comp=Z,9.7nm,1.1s	78.48	51	IAmb		IAmb		05 22 09.2		
DOMB	Dombas	78.50	338	eP		P		05 22 07.2	+0.1	
DOMB	comp=Z,38nm,0.9s				IAmb	IAmb		05 22 07.9		
NB2	NORSAR Subarra comp=Z,51nm,1.0s,baz=44,slow=5.6	78.52	337	P		P		05 22 06.7	-0.5	
NB2	NORSAR Subarra baz=44,slow=5.6	78.52	337	P		P		05 22 06.7	-0.5	
NOA	NORSAR Array B comp=Z,17nm,0.7s,baz=45,slow=5.4,SNR=70	78.52	337	P		P		05 22 06.9	-0.3	
NOA	comp=Z,8.0nm,1.1s,baz=45,slow=8.2,SNR=8.4 comp=Z,17nm,0.7s				PP	PP		05 25 09.7	-0.2	
MOL	Molde	78.58	339	eP		P		05 22 07.3	-0.1	
NC602	NORSAR Array S	78.63	336	eP		P		05 22 07.3	-0.5	
MSO	Missoula baz=304	78.67	42	P		P		05 22 09.9	+1.5	
AKN	Aaknes	79.04	339	eP		P		05 22 10.6	+0.7	
AKN	comp=Z,30nm,0.8s				IAmb	IAmb		05 22 11.2		
EMB	Emerald Bay comp=Z,16nm,1.0s	79.05	51	IAmb		IAmb		05 22 12.7		
PAHR	Pah Rah Range comp=Z,9.9nm,0.9s	79.15	50	IAmb		IAmb		05 22 13.0		
PURM	Purcari	79.30	318	⇑P		P		05 22 11.2	-0.4	
PNTR	Pine Nut comp=Z,8.1nm,0.8s	79.33	51	IAmb		IAmb		05 22 19.9		
CMB	Columbia Colle comp=Z,13nm,1.1s	79.35	52	IAmb		IAmb		05 22 14.0		
MFID	Camas Ranch comp=Z,12nm,1.0s	79.43	46	IAmb		IAmb		05 22 14.8		
OSL	Oslo	79.49	336	eP		P		05 22 12.8	+0.5	
YERR	Yerington comp=Z,11nm,1.0s	79.62	51	IAmb		IAmb		05 22 15.7		
MILM	Milestii Mici	79.68	319	⇑P		P		05 22 13.4	-0.2	
MILM	Milestii Mici	79.68	319	⇑P		P		05 22 13.4	-0.2	
SKAR	Skarslia	79.76	337	eP		P		05 22 13.6	-0.3	
SKAR	comp=Z,23nm,1.0s				IAmb	IAmb		05 22 15.2		
ICESG	Greenland Ices	79.96	359	*i* P		P		05 22 15.2	0.0	
ICESG	comp=Z,12nm,0.8s				IAmb	IAmb		05 22 16.6		
HYA	Hoyanger	80.07	339	eP		P		05 22 16.1	+0.7	
HYA	comp=Z,40nm,1.0s				IAmb	IAmb		05 22 16.5		
LRM	Limekiln Ridge	80.09	42	P		P		05 22 17.3	+1.1	
KONO	Kongsberg	80.09	336	P		P		05 22 15.5	0.0	
KONO	comp=Z,28nm,1.2s				IAmb	IAmb		05 22 16.4		
KONO	Kongsberg	80.09	336	ceP		P		05 22 16.1	+0.5	
KONO	comp=Z,54nm,2.5s				pmax	pmax				
KONO	Kongsberg	80.09	336	eP		P		05 22 15.6	0.0	
BMN	Battle Mountai comp=Z,16nm,1.2s	80.17	49	IAmb		IAmb		05 22 18.9		
HLID	Hailey	80.20	45	IAmb		IAmb		05 22 19.1		
HLID	comp=Z,7.2nm,0.9s Hailey baz=304,SNR=14	80.20	45	P		P		05 22 17.7	+1.0	
IAS	Iasi	80.23	320	⇑P		P		05 22 17.0	+0.5	
IAS	Iasi	80.23	320	⇑P		P		05 22 17.0	+0.5	
RYN	Ryan comp=Z,7.9nm,0.9s	80.28	51	IAmb		IAmb		05 22 19.3		
EGMT	Eagleton baz=306,SNR=11	80.31	39	IAmb		IAmb		05 22 22.3		
EGMT	Eagleton comp=Z,17nm,0.8s	80.31	39	P		P		05 22 17.6	+0.4	
KVN	Kaiserville comp=Z,12nm,1.0s	80.34	50	IAmb		IAmb		05 22 19.5		
VASR	Vaslui	80.42	319	⇑P		P		05 22 18.3	+0.7	
MDPB	Devils Postpil comp=Z,9.7nm,1.1s	80.44	52	IAmb		IAmb		05 22 20.2		
RAYN	Ar Rayn	80.48	292	P		P		05 22 18.4	0.0	
RAYN	Ar Rayn	80.48	292	⇑P		P		05 22 18.2	-0.2	
RAYN	Ar Rayn	80.48	292	P		P		05 22 18.7	+0.3	
RAYN	Ar Rayn SNR=46	80.48	292	*i* P		P		05 22 18.7	+0.3	
LHV	Little Huntoon comp=Z,14nm,1.1s	80.50	51	IAmb		IAmb		05 22 20.9		
LVV	L'vov	80.53	323	eP		P		05 22 17.6	-0.5	
NVAR	Mina Array Bea comp=Z,2.3nm,0.5s,baz=282,slow=5.7,SNR=35 comp=Z,2.3nm,0.5s	80.54	51	P		P		05 22 19.8	+1.1	
MLAC	Mammoth, Mammo baz=302	80.61	52	P		P		05 22 20.2	+1.1	
PAGB	Antelope Grade comp=Z,23nm,1.0s	80.64	54	IAmb		IAmb		05 22 21.3		
TLCR		80.67	318	⇑P		P		05 22 19.3	+0.4	
BOZ	Bozeman (W) comp=Z,8.2nm,0.8s	80.69	42	IAmb		IAmb		05 22 21.1		
BOZ	Bozeman (W) baz=305,SNR=9.9	80.69	42	P		P		05 22 20.1	+0.9	
VLDR	Vladesti	80.72	318	⇑P		P		05 22 20.1	+1.0	
BR131	Keskin Array S	80.77	311	P		P		05 22 19.6	-0.1	
BR131	Keskin Array S SNR=27	80.77	311	P		P		05 22 20.1	+0.3	
BRTR	Keskin Array B comp=Z,30nm,0.7s,baz=100,slow=4.2,SNR=117 comp=Z,30nm,0.7s	80.77	311	P		P		05 22 19.8	0.0	
BEL	Belsk	80.88	326	eP		P		05 22 20.5	+0.7	
JURR	Jurilovca	80.88	317	⇓P		P		05 22 20.0	0.0	
ODD1	Odda	80.89	338	eP		P		05 22 20.2	+0.4	
ASK	Askoy	80.90	339	eP		P		05 22 20.7	+0.9	
ASK	comp=Z,78nm,1.1s				IAmb	IAmb		05 22 21.0		
BER	Bergen	80.94	338	eP		P		05 22 21.0	+1.0	
SMMC	Simmler baz=302	81.04	54	P		P		05 22 22.5	+1.4	
CFR	Carcaliu	81.07	318	⇓P		P		05 22 20.7	-0.3	
TPGR	Topolog	81.09	317	⇑P		P		05 22 21.1	-0.1	
TESR	Tescani	81.13	320	⇑P		P		05 22 21.2	-0.1	
BIZ	Bicaz	81.17	320	⇑P		P		05 22 22.4	+0.8	
PANC	Panciu	81.23	319	⇑P		P		05 22 22.6	+0.8	
ANTO	Ankara	81.23	311	⇓P		P		05 22 21.5	-0.6	
ANTO	Ankara	81.23	311	P		P		05 22 21.8	-0.3	
ANTO	Ankara	81.23	311	P		P		05 22 22.7	+0.6	
BURAR	Bucovina Array	81.25	321	⇑P		P		05 22 22.9	+0.8	
BSD	Bornholm Skovb	81.31	331	eP		P		05 22 21.5	-0.5	
BSD	Bornholm Skovb	81.31	331	*i* P		P		05 22 20.4	-1.7	
BSD	comp=Z,27nm,0.9s				IAmb	IAmb		05 22 22.3		
BLS5	Blasjo	81.32	337	eP		P		05 22 22.4	+0.4	
BLS5	comp=Z,48nm,1.0s				IAmb	IAmb		05 22 23.2		
KWP	Kalwaria Pacla	81.33	324	*i* P		P		05 22 22.9	+0.6	
DSP	Deep Springs comp=Z,9.5nm,1.1s	81.33	52	IAmb		IAmb		05 22 25.0		
TIRR	Tirgusor	81.33	317	P		P		05 22 22.4	0.0	
TIRR	Tirgusor	81.33	317	P		P		05 22 22.4	0.0	
TIRR	comp=Z,61nm,1.0s				pmax	pmax				
YHL	Hebgen Lake comp=Z,12nm,0.9s	81.38	42	IAmb		IAmb		05 22 25.4		
VES	Vestal, Richgr baz=302	81.39	53	P		P		05 22 23.5	+0.7	
PKM	Mcpherson Peak baz=302	81.39	54	P		P		05 22 23.9	+0.7	
VRI	Vrincioaia	81.47	319	⇓P		P		05 22 23.9	+0.8	
VRI	Vrincioaia	81.47	319	⇓P		P		05 22 23.9	+0.8	
HARR	Harsova	81.47	317	⇑P		P		05 22 23.8	+0.7	
HARR	Harsova	81.47	317	⇑P		P		05 22 23.8	+0.7	
TLBR	Topalu	81.49	317	⇑P		P		05 22 24.1	+0.9	
HOMB	Homborsund	81.49	336	eP		P		05 22 22.7	-0.2	
HOMB	comp=Z,36nm,1.0s				IAmb	IAmb		05 22 23.3		
PLOR	Plostina	81.52	319	⇓P		P		05 22 24.1	+0.7	
PLOR	Plostina	81.52	319	⇓P		P		05 22 24.1	+0.7	
GKP	Gorka Klasztor	81.57	329	eP		P		05 22 23.8	+0.3	
YMR	Madison River comp=Z,12nm,0.8s	81.61	42	IAmb		IAmb		05 22 26.8		
GRER		81.62	318	⇑P		P		05 22 24.7	+0.9	
SBC	Santa Barbara baz=302	81.70	55	P		P		05 22 24.2	-0.2	
YNR	Norris Junctio comp=Z,11nm,1.0s	81.75	42	IAmb		IAmb		05 22 28.1		
CWC	Cottonwood Cre baz=303	81.75	52	P		P		05 22 25.5	+0.5	
COVR	Voineasa-Covas	81.77	319	⇑P		P		05 22 25.6	+0.9	
SFJD	Kangerlussuaq	81.83	4	P		P		05 22 24.8	+0.3	
SFJD	comp=Z,20nm,1.0s				IAmb	IAmb		05 22 26.4		
SFJD	Kangerlussuaq	81.83	4	P		P		05 22 24.8	+0.3	
SFJD	comp=Z,19nm,1.0s				pmax	pmax				
SFJD	Kangerlussuaq	81.83	4	*i* P		P		05 22 23.2	-1.4	
OZUR		81.86	320	⇑P		P		05 22 26.0	+0.8	
KMY	Karmoy	81.88	338	eP		P		05 22 25.2	+0.3	
ICOR	Ion Corvin	81.88	317	⇑P		P		05 22 25.6	+0.4	
SNART	Snartemo	81.89	336	eP		P		05 22 25.3	+0.3	
SNART	comp=Z,91nm,0.8s				IAmb	IAmb		05 22 25.9		
ISA	Isabella, Lake baz=303	81.90	53	P		P		05 22 25.5	-0.2	
COP	Copenhagen	81.92	332	*i* P		P		05 22 24.6	-0.6	
COP	comp=Z,101nm,0.5s				IAmb	IAmb		05 22 26.0		
GRAC	Grapevine Rang comp=Z,16nm,1.1s	81.93	52	IAmb		IAmb		05 22 27.9		
GRAC	Grapevine Rang comp=Z,30nm,0.9s,baz=9.4	81.93	52	P		P		05 22 26.5	+0.8	
ARVC	Arvin baz=303	81.94	54	P		P		05 22 26.4	+0.6	
NEHR	Nehoiu	81.97	319	⇑P		P		05 22 25.5	-0.3	
KOLS	Kolonicke sedl	81.99	323	eP		P		05 22 26.1	+0.4	
KOLS	comp=Z,32nm,1.0s				pmax	pmax				
KOLS	Kolonicke sedl	81.99	323	eP		P		05 22 26.1	+0.4	
H17A	Grant Village comp=Z,18nm,0.8s	82.00	43	IAmb		IAmb		05 22 30.2		
H17A	Grant Village baz=306,SNR=16	82.00	43	P		P		05 22 28.7	+2.5	
ISR	Istrita	82.02	318	⇑P		P		05 22 26.5	+0.5	
ISR	Istrita	82.02	318	⇑P		P		05 22 26.5	+0.5	
ARCR	ARCALIA	82.04	321	⇑P		P		05 22 26.3	+0.3	
IMW	Indian Meadow comp=Z,12nm,0.9s	82.08	43	IAmb		IAmb		05 22 32.3		
MLR	Muntele Rosu	82.13	319	⇑P		P		05 22 27.4	+0.7	
MLR	Muntele Rosu	82.13	319	⇑P		P		05 22 27.4	+0.7	
BMR	Baia Mare	82.14	322	⇑P		P		05 22 27.4	+0.9	
BMR	Baia Mare	82.14	322	⇑P		P		05 22 27.4	+0.9	
DOPR	Dopca	82.16	320	⇑P		P		05 22 27.5	+0.9	
GOET	G??ttrup	82.16	335	*i* P		P		05 22 25.3	-1.1	
UZH	Uzhgorod	82.17	323	⇓*i* P		P		05 22 27.0	+0.4	
HVU	Hansel Valley comp=Z,10.0nm,0.8s	82.21	46	IAmb		IAmb		05 22 29.6		
TPAW	Teton Pass comp=Z,9.0nm,0.9s	82.31	43	IAmb		IAmb		05 22 32.7		
RLMT	Red Lodge comp=Z,11nm,0.9s	82.31	41	IAmb		IAmb		05 22 30.1		
RLMT	Red Lodge baz=307,SNR=13	82.31	41	P		P		05 22 28.9	+1.1	
MPMC	Manual Prospec baz=303,SNR=6.3	82.36	52	P		P		05 22 28.7	+0.6	
R11A	Troy Canyon, C comp=Z,10nm,1.1s	82.37	50	IAmb		IAmb		05 22 30.2		
R11A	Troy Canyon, C baz=304,SNR=14	82.37	50	P		P		05 22 29.0	+0.9	
OJC	Ojcow	82.40	325	*i* P		P		05 22 26.9	-0.9	
SNOW	Snow King Moun comp=Z,8.1nm,0.9s	82.44	43	IAmb		IAmb		05 22 31.0		
SULR		82.44	318	⇑P		P		05 22 28.9	+0.8	
SNCC	San Nicolas Is baz=302	82.46	56	P		P		05 22 29.2	+0.7	
CCAC	Calif City Air comp=Z,18nm,1.1s	82.49	53	IAmb		IAmb		05 22 30.6		
DY2G	Dye2	82.53	2	*i* P		P		05 22 28.3	-0.1	
DY2G	comp=Z,5.3nm,0.6s				IAmb	IAmb		05 22 32.1		
WCT	Wildcat Mounta comp=Z,16nm,1.4s	82.54	51	IAmb		IAmb		05 22 30.8		
LRMC	Laurel Mtn Rad baz=303	82.55	53	P		P		05 22 29.4	+0.3	
FURC	Furnace Creek, baz=303,SNR=11	82.56	52	P		P		05 22 29.4	+0.6	
MUD	Monsted U'grnd	82.61	334	*i* P		P		05 22 27.7	-1.0	
MUD	comp=Z,22nm,0.9s				IAmb	IAmb		05 22 29.3		
S11A	Rachel comp=Z,20nm,1.2s	82.66	50	IAmb		IAmb		05 22 31.6		
EDW2	Edwards Air Fo baz=303,SNR=6.4	82.66	54	P		P		05 22 30.5	+1.0	
PRD	Provadia	82.66	316	P		P		05 22 30.1	+0.9	
VOIR		82.67	319	⇑P		P		05 22 29.8	+0.4	
VOIR		82.67	319	⇑P		P		05 22 29.8	+0.4	
NIE	Niedzica	82.67	324	*i* P		P		05 22 30.0	+0.8	
CJR	Cluj-Napoca	82.68	321	⇑P		P		05 22 29.6	+0.2	
CJR	Cluj-Napoca	82.68	321	⇑P		P		05 22 29.6	+0.2	
TPNV	Topopah Spring comp=Z,14nm,0.9s	82.71	51	IAmb		IAmb		05 22 31.7		
TPNV	Topopah Spring baz=304,SNR=18	82.71	51	P		P		05 22 30.7	+0.8	
SPR3	Spring Creek 3 comp=Z,5.7nm,1.2s	82.82	49	IAmb		IAmb		05 22 33.9		
QSM	Queen of Sheba comp=Z,19nm,1.0s	82.83	52	IAmb		IAmb		05 22 32.2		
GWY	Greenwater Val comp=Z,21nm,1.1s	82.85	52	IAmb		IAmb		05 22 32.3		
ARR	Arges	82.94	319	⇓P		P		05 22 31.7	+0.9	
DGMT	Dagmar baz=310	82.96	37	P		P		05 22 30.5	-0.2	
RAZG	Razgrad	82.96	317	⇑P		P		05 22 31.3	+0.4	
LAO	LASA Array comp=Z,15nm,0.9s	83.03	39	IAmb		IAmb		05 22 36.6		
LAO	LASA Array baz=309,SNR=8.6	83.03	39	P		P		05 22 32.1	+0.9	
HWUT	Hardware Ranch comp=Z,22nm,1.0s	83.05	45	IAmb		IAmb		05 22 33.9		
DUG	Dugway, Tooele comp=Z,12nm,0.8s	83.10	47	IAmb		IAmb		05 22 34.0		
DUG	Dugway, Tooele baz=305,SNR=18	83.10	47	P		P		05 22 32.9	+1.1	
DRGR		83.11	321	⇑P		P		05 22 32.4	+0.8	
DRGR		83.11	321	⇑P		P		05 22 32.4	+0.8	
CIS	Catalina Islan baz=303	83.16	55	P		P		05 22 32.3	+0.2	
BFSC	Mount Baldy Ra baz=303	83.24	54	P		P		05 22 32.7	+0.1	
GSC	Goldstone, Bar comp=Z,17nm,1.1s	83.24	53	IAmb		IAmb		05 22 34.3		
GSC	Goldstone, Bar baz=304,SNR=9.1	83.24	53	P		P		05 22 33.0	+0.5	
PRN	Pahroc Range comp=Z,12nm,1.1s	83.25	50	IAmb		IAmb		05 22 34.8		
LANS	Liptovska Anna	83.26	325	eP		P		05 22 33.2	+0.9	
LANS	comp=Z,11nm,0.8s				pmax	pmax				
LANS	Liptovska Anna	83.26	325	eP		P		05 22 33.2	+0.9	
SHOC	Shoshone, Teco baz=304,SNR=5.5	83.27	52	P		P		05 22 32.8	+0.2	
SCI2	San Clemente I baz=303	83.30	56	P		P		05 22 33.0	+0.3	
RRX	Edison Barstow baz=304	83.34	53	P		P		05 22 33.7	+0.7	
PSUT	Pine Spring comp=Z,8.8nm,0.8s	83.39	49	IAmb		IAmb		05 22 38.4		
TCUT	Toone Canyon comp=Z,14nm,0.8s	83.43	46	IAmb		IAmb		05 22 35.7		
OKC	Ostrava-Krasne	83.45	326	eP		P		05 22 33.8	+0.7	
OKC	Ostrava-Krasne	83.45	326	eP		P		05 22 33.8	+0.7	
CTU	Camp Tracy comp=Z,8.6nm,0.7s	83.47	46	IAmb		IAmb		05 22 38.5		
SZH	Strazhica	83.48	317	P		P		05 22 33.4	0.0	
BW06	Boulder Array baz=307,SNR=7.6	83.56	43	P		P		05 22 34.2	+0.1	
PDAR	Pinedale Array comp=Z,3.9nm,0.9s,baz=326,slow=2.1,SNR=25 comp=Z,3.9nm,0.9s	83.56	43	P		P		05 22 34.5	+0.3	
JMB	Yambol	83.58	316	P		P		05 22 32.1	-1.8	
RUE	Ruedersdorf	83.64	330	eP		P		05 22 34.4	+0.4	
KSP	Ksiaz	83.65	327	eP		P		05 22 34.4	+0.3	
NLU	North Lily Min comp=Z,8.2nm,0.8s	83.70	47	IAmb		IAmb		05 22 37.0		
JLU	Jordanelle comp=Z,7.8nm,0.9s	83.71	46	IAmb		IAmb		05 22 39.1		
ELS	Elsinore Mount comp=Z,12nm,1.2s	83.72	54	IAmb		IAmb		05 22 38.9		
BBRC	Big Bear Solar baz=304	83.73	54	P		P		05 22 35.5	+0.3	
TUQ	Turquoise Moun baz=304,SNR=6.0	83.77	52	P		P		05 22 35.8	+0.6	
MORC	Moravsky Berou	83.78	326	⇑P		P		05 22 35.5	+0.6	
MORC	Moravsky Berou comp=Z,18nm,0.8s	83.78	326	IAmb		IAmb		05 22 36.0		
MORC	Moravsky Berou	83.78	326	eP		P		05 22 34.7	-0.2	
MORC	Moravsky Berou	83.78	326	⇑P		P		05 22 35.5	+0.6	
HEC	Hector,Ludlow baz=304,SNR=6.6	83.82	53	P		P		05 22 35.8	+0.4	
PSZ	Piszkesteto	83.85	324	⇑P		P		05 22 35.1	-0.2	
PSZ	Piszkesteto	83.85	324	⇑P		P		05 22 35.1	-0.2	
PSZ	Piszkesteto	83.85	324	P		P		05 22 34.8	-0.5	
OSTC	Ostas	83.88	327	eP		P		05 22 36.2	+0.9	
MURC	Murrieta baz=304	83.91	54	P		P		05 22 36.1	+0.2	
MAUC	Maruska	83.92	326	eP		P		05 22 36.0	+0.4	
MPU	Maple Canyon comp=Z,11nm,0.8s	83.94	47	IAmb		IAmb		05 22 38.1		
KRLC	Kraliky	83.94	327	eP		P		05 22 35.8	+0.1	
KRLC

LCMT	Little Creek M	84.66	50	IAmb	IAmb	05 22 41.7			
	comp=Z,7.7nm,1.0s								
MPEP	Malo Peshtene	84.69	318	P	P	05 22 39.6	+0.1		
SMOL	Smolenice	84.69	325	*e*P	P	05 22 40.3	+0.9		
SMOL				pmax	pmax				
	comp=Z,19nm,1.1s								
BRG	Berggiesshubel	84.70	328	*i* P	P	05 22 39.5	+0.1		
BRG				Amp		05 22 40.3			
	comp=Z,26nm,0.9s								
BRG	Berggiesshubel	84.70	328	*i* P	P	05 22 39.4	+0.1		
BRG				pmax	pmax				
	comp=Z,26nm,0.9s								
MTPU	Mount Pierson	84.75	48	IAmb	IAmb	05 22 42.8			
	comp=Z,7.0nm,0.9s								
KDZ	Kurdzhali	84.76	316	P	P	05 22 40.1	+0.2		
BAR	Barrett	84.78	55	IAmb	IAmb	05 22 41.8			
	comp=Z,9.3nm,1.0s								
CLL	Collm	84.81	329	⇓*i* P	P	05 22 39.4	-0.5		
CLL				*e**PP	pwP	05 24 07.0	-0.5		
CLL				pmax	pmax				
	comp=Z,42nm,1.0s								
CLL	Collm	84.81	329	⇓*i* P	P	05 22 39.4	-0.5		
	comp=Z,42nm,1.0s								
CLL				*e*(pP)	pwP	05 24 07.0	-0.5		
CLL				*e*PP	PP	05 25 59.0	-2.3		
CLL				Lm	MLR	08 32 00.0			
	comp=N,100nm,19.3s								
CLL				Lm	MLR	08 32 00.0			
	comp=E,100nm,20.1s								
CLL				Lm	MLR	08 32 00.0			
	comp=Z,200nm,18.1s								
P17A	Butcher Ranch,	84.81	47	IAmb	IAmb	05 22 42.6			
	comp=Z,15nm,0.9s								
KRUC	Moravsky	84.82	326	*e*P	P	05 22 39.9	-0.1		
MONP2	Monument Peak	84.84	55	P	P	05 22 41.0	+0.3		
	baz=304,SNR=8.9								
ALN	Alexandroupoli	84.84	315	IAmb	IAmb	05 22 41.3			
	comp=Z,19nm,0.9s								
MODS	Modra-Piesok	84.86	325	*e*P	P	05 22 40.9	+0.7		
MODS				pmax	pmax				
	comp=Z,86nm,1.4s								
MODS	Modra-Piesok	84.86	325	*e*P	P	05 22 40.9	+0.7		
RDMU	Red Mountain	84.88	45	IAmb	IAmb	05 22 42.8			
	comp=Z,14nm,0.7s								
MDVR	Moldovita	84.92	320	⇑P	P	05 22 40.7	+0.1		
KNB	Kanab	84.93	50	IAmb	IAmb	05 22 43.4			
	comp=Z,13nm,0.9s								
PGB	Panagyurishte	84.94	317	P	P	05 22 41.0	+0.2		
GOPC	GO Pecny, Ondr	84.99	327	*e*P	P	05 22 41.1	+0.3		
GOPC	GO Pecny, Ondr	84.99	327	*e*P	P	05 22 41.1	+0.3		
RDO	Rodhopi	85.00	316	IAmb	IAmb	05 22 42.3			
	comp=Z,22nm,0.8s								
IRM	Iron Mountain	85.01	53	P	P	05 22 41.8	+0.4		
	baz=305,SNR=5.4								
CSKK	Cskako	85.05	324	P	P	05 22 42.5	+1.3		
PRU	Pruhonice	85.05	327	*e*P	P	05 22 40.9	-0.2		
PRU	Pruhonice	85.05	327	*e*P	P	05 22 40.9	-0.2		
ZST	Bratislava	85.06	325	*e*P	P	05 22 41.7	+0.5		
ZST				pmax	pmax				
	comp=Z,54nm,1.2s								
ZST	Bratislava	85.06	325	*e*P	P	05 22 41.7	+0.5		
BC3	Big Chuckawall	85.08	54	P	P	05 22 42.2	+0.5		
	baz=304								
BLKB	Belogradchik	85.12	319	⇑P	P	05 22 41.3	-0.4		
RZN	Rozhen	85.16	316	P	P	05 22 42.3	+0.3		
SRU	San Rafael Swe	85.16	47	IAmb	IAmb	05 22 43.9			
	comp=Z,10nm,0.9s								
IKP	In-Ko-Pah, Jac	85.19	55	P	P	05 22 42.8	+0.5		
	baz=304								
SWSC	Sam W. Stewart	85.24	54	P	P	05 22 43.0	+0.6		
	baz=304								
YUH	Yuha Desert	85.32	55	IAmb	IAmb	05 22 44.6			
	comp=Z,13nm,1.2s								
K22A	Casper	85.39	42	IAmb	IAmb	05 22 48.0			
	comp=Z,9.5nm,0.8s								
K22A	Casper	85.39	42	P	P	05 22 43.2	0.0		
	baz=309								
VTS	Vitosha	85.44	318	⇑P	P	05 22 43.9	+0.5		
VTS	Vitosha	85.44	318	⇑P	P	05 22 43.9	+0.5		
VTS	Vitosha	85.44	318	P	P	05 22 43.4	0.0		
MPLH	Magyarpolny	85.54	324	P	P	05 22 43.7	+0.1		
RWWY	Rawlins	85.60	43	IAmb	IAmb	05 22 46.0			
	comp=Z,9.5nm,0.8s								
PDMCI	Parker Dam,Lak	85.61	52	P	P	05 22 44.6	+0.4		
	baz=305								
MORH	Mrgy, Hungar	85.62	323	⇑P	P	05 22 43.7	-0.2		
BOVS	Bovan	85.66	319	⇑P	P	05 22 43.3	-0.9		
ESJX	Sierra Juarez	85.67	55	IAmb	IAmb	05 22 46.8			
	comp=Z,12nm,1.2s								
MDND	Maddock	85.67	35	P	P	05 22 44.6	+0.4		
	baz=313								
FRGS	Fruska Gora	85.70	321	⇑P	P	05 22 44.6	+0.2		
ULM	Lac du Bonnet	85.73	31	P	P	05 22 44.5	0.0		
	comp=Z,2.0nm,0.6s,baz=289,slow=2.8,SNR=3.8								
	comp=Z,2.0nm,0.6s								
MMB	Musomiste	85.80	317	P	P	05 22 44.4	-0.6		
RONA	Rosalia, Austr	85.80	325	*i* P	P	05 22 44.8	-0.1		
	comp=Z,15nm,1.0s,SNR=5.3								
MCD	Coleburn Disti	85.81	340	*e*P	P	05 22 44.7	0.0		
RSSD	Black Hills	85.85	40	P	P	05 22 45.1	-0.3		
RSSD				IAmb	IAmb	05 22 51.1			
	comp=Z,6.6nm,0.8s								
RSSD	Black Hills	85.85	40	P	P	05 22 45.1	-0.3		
RSSD				pmax	pmax				
	comp=Z,7.0nm,0.9s								
RSSD	Black Hills	85.85	40	P	P	05 22 45.5	+0.1		
	baz=310								
CONA	Conrad Observa	85.86	325	*i* P	P	05 22 45.4	+0.2		
	comp=Z,9.5nm,0.8s,SNR=10								
GLA	Glamis	85.86	54	P	P	05 22 46.0	+0.6		
	baz=305								
O20A	White River Ci	85.94	45	IAmb	IAmb	05 22 47.7			
	comp=Z,7.2nm,0.8s								
O20A	White River Ci	85.94	45	P	P	05 22 46.3	+0.3		
	baz=308,SNR=6.5								
CKRC	Cesky Krumlov	85.98	327	*e*P	P	05 22 45.3	-0.4		
KOVH	Kovagotottos	85.98	323	P	P	05 22 44.9	-0.9		
KKB	Krupnik	86.00	317	P	P	05 22 45.4	-0.5		
KHC	Kasperske Hory	86.10	327	IAmb	IAmb	05 22 47.1			
	comp=Z,14nm,0.8s								
KHC	Kasperske Hory	86.10	327	*e*P	P	05 22 46.2	-0.1		
KHC				*e*		05 26 06.5			
KHC	Kasperske Hory	86.10	327	*e*P	P	05 22 46.2	-0.1		
KHC				*e*PP	PP	05 26 12.5	+0.7		
GEC2	GERESS Array S	86.24	327	IAmb	IAmb	05 22 47.4			
	comp=Z,13nm,0.9s								
GERES	GERESS Array B	86.24	327	P	P	05 22 46.4	-0.7		
	comp=Z,8.7nm,0.8s,baz=46,slow=4.6,SNR=43								
	comp=Z,8.7nm,0.8s								
DIVS	Divibare	86.30	321	IAmb	IAmb	05 22 47.8			
	comp=Z,22nm,1.0s								
KAC	Achnashellach	86.45	341	*e*P	P	05 22 48.0	+0.2		
ARSA	Arzberg	86.49	325	*e*P	P	05 22 48.0	-0.3		
	comp=Z,9.6nm,0.8s								
PV23	Carpenter Ridg	86.50	47	IAmb	IAmb	05 22 50.8			
	comp=Z,17nm,1.1s								
STIP	Stip	86.63	318	*i* P	P	05 22 47.4	-1.6		
VAY	Valandovo	86.64	317	*i* P	P	05 22 48.1	-0.9		
MOA	Molln	86.68	326	*e*P	P	05 22 48.9	-0.2		
	comp=Z,7.9nm,0.8s								
PV11	David Mesa, Pa	86.68	47	IAmb	IAmb	05 22 51.6			
	comp=Z,13nm,1.3s								
KPL	Plockton	86.69	341	*e*P	P	05 22 48.5	-0.4		
KPL				IAmb	IAmb	05 22 50.1			
	comp=Z,87nm,0.9s								
WUAZ	Wupatki	86.75	50	P	P	05 22 50.4	+0.5		
	baz=306								
N23A	Red Feather La	86.84	43	IAmb	IAmb	05 22 52.8			
	comp=Z,16nm,1.1s								
N23A	Red Feather La	86.84	43	P	P	05 22 51.2	+0.9		
	baz=309,SNR=7.6								
PHWY	Pilot Hill	86.86	43	IAmb	IAmb	05 22 52.3			
	comp=Z,12nm,1.2s								
SKO	Skopje	86.88	318	*i* P	P	05 22 50.0	-0.1		
INVG	Invergeldie, C	87.02	340	*e*P	P	05 22 50.4	-0.1		
BIOA	Bad Ischl, Aus	87.09	326	*i* P	P	05 22 51.0	-0.1		
	comp=Z,18nm,1.1s,SNR=5.1								
PERS	Pernice	87.12	325	*e*P	P	05 22 50.5	-0.8		
SOKA	Soboth	87.13	325	*i* P	P	05 22 50.7	-0.6		
	comp=Z,16nm,0.8s,SNR=8.3								
AGMN	Agassiz Nation	87.14	33	P	P	05 22 52.0	+0.7		
	baz=316								
OBKA	Obir	87.49	325	*e*P	P	05 22 52.2	-0.9		
	comp=Z,7.2nm,0.8s								
LEGS	Legarje	87.50	324	*i* P	P	05 22 52.0	-1.0		
MVCO	Mesa Verde	87.58	47	P	P	05 22 55.0	+1.1		
	baz=308								
KBA	Koelnbreinsper	87.67	326	*e*P	P	05 22 52.9	-1.1		
	comp=Z,10nm,0.8s								
ISCO	Idaho Springs	87.73	44	P	P	05 22 55.2	+0.6		
	baz=310								
OHR	Ohrid	87.80	318	*i* P	P	05 22 53.7	-0.8		
PDG	Podgorica	87.81	320	⇑P	P	05 22 54.1	-0.3		
PDG	Podgorica	87.81	320	IAmb	IAmb	05 22 54.7			
	comp=Z,23nm,1.0s								
MYKA	Terra Mystica	87.84	325	*e*P	P	05 22 53.5	-1.2		
	comp=Z,8.6nm,0.6s								
BTNL	Ternell	88.25	332	*d*P	P	05 22 55.9	-0.6		
S22A	4UR Ranch, Cre	88.29	46	P	P	05 22 57.8	+0.5		
	baz=309								
ABTA	Abfaltersbach	88.30	326	*i* P	P	05 22 55.7	-1.1		
	comp=Z,31nm,0.9s,SNR=12								
WATA	Walderalm	88.32	327	*e*P	P	05 22 56.3	-0.7		
	comp=Z,15nm,1.1s								
WTTA	Wattenberg	88.34	327	*i* P	P	05 22 56.3	-0.8		
	comp=Z,23nm,1.2s,SNR=5.4								
BSTI	Sart Tilman	88.48	332	*d*P	P	05 22 57.6	+0.2		
MOTA	Moosalm	88.53	327	*i* P	P	05 22 57.6	-0.4		
	comp=Z,13nm,0.8s,SNR=7.3								
SQTA	Sankt Quirin	88.58	327	*i* P	P	05 22 57.7	-0.4		
	comp=Z,16nm,0.8s,SNR=5.8								
RETA	Reutte	88.59	327	*i* P	P	05 22 57.8	-0.4		
	comp=Z,19nm,0.9s,SNR=11								
WACR	West Acre	88.62	336	*e*P	P	05 22 57.6	-0.5		
WACR				IAmb	IAmb	05 22 58.5			
	comp=Z,78nm,1.0s								
CIMO	Cimolais	88.65	326	IAmb	IAmb	05 22 57.6			
	comp=Z,18nm,0.9s								
F33A	5 Mile Ranch,	88.70	35	IAmb	IAmb	05 23 03.1			
	comp=Z,9.0nm,0.8s								
BCLA	Clavier	88.71	332	*d*P	P	05 22 58.2	-0.4		
CLGH	Cloghs, Cushen	88.78	340	*e*P	P	05 22 59.2	+0.4		
CLGH				IAmb	IAmb	05 22 59.5			
	comp=Z,71nm,1.0s								
FETA	Feichten	88.94	327	*i* P	P	05 22 59.7	-0.3		
	comp=Z,34nm,1.0s,SNR=12								
RCHB	Rochefort	88.95	332	*d*P	P	05 22 58.8	-0.9		
WLF	Walferdange	88.96	331	*d*P	P	05 22 59.4	-0.3		
BMRD	Maredsous	89.02	332	*d*P	P	05 22 59.3	-0.7		
BFO	Black Forest	89.05	329	P	P	05 22 59.0	-1.3		
BFO	Black Forest	89.05	329	P	P	05 22 59.0	-1.3		
BFO				pmax	pmax				
	comp=Z,22nm,0.9s								
OGNE	Ogallala	89.06	41	P	P	05 23 00.5	0.0		
	baz=312								
SDCO	Great Sand Dun	89.11	45	P	P	05 23 01.8	+0.8		
	baz=310,SNR=7.1								
DAVA	Damuels	89.14	328	*i* P	P	05 23 00.3	-0.5		
	comp=Z,30nm,0.8s,SNR=16								
CTI	Castel Tesino	89.22	326	IAmb	IAmb	05 23 00.6			
	comp=Z,18nm,0.9s								
CWF	Charnwood Fore	89.28	337	*e*P	P	05 22 59.7	-1.4		
GMM	Mts of Mourne	89.47	340	*e*P	P	05 23 01.8	-0.2		
ECH	Echery	89.65	330	IAmb	IAmb	05 23 03.4			
	comp=Z,16nm,1.0s								
FOEL	Foel Wylfa	89.78	338	*e*P	P	05 23 02.5	-1.0		
FOEL				IAmb	IAmb	05 23 03.4			
	comp=Z,43nm,0.8s								
WLF1	Llynfaes	89.81	339	*e*P	P	05 23 03.6	0.0		
WLF1				IAmb	IAmb	05 23 04.3			
	comp=Z,116nm,1.1s								
KSCO	Kaye Shedlock'	90.00	43	P	P	05 23 05.6	+0.6		
	baz=312								
ECSD	EROS Data Cent	90.04	36	IAmb	IAmb	05 23 06.3			
	comp=Z,8.1nm,1.3s								
ECSD	EROS Data Cent	90.04	36	P	P	05 23 05.3	+0.4		
	baz=316								
T25A	Trinidad	90.16	45	P	P	05 23 06.4	+0.5		
	baz=310,SNR=5.2								
ANMO	Albuquerque	90.28	48	P	P	05 23 05.7	-0.8		
ANMO	Albuquerque	90.28	48	*ce*P	P	05 23 07.8	+1.3		
ANMO				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ANMO	Albuquerque	90.28	48	P	P	05 23 07.7	+1.2		
	baz=309								
MONM	Monmouth	90.53	337	*e*P	P	05 23 07.0	0.0		
MONM				IAmb	IAmb	05 23 07.9			
	comp=Z,47nm,0.8s								
121A	Cookes Peak, D	90.93	51	IAmb	IAmb	05 23 11.2			
	comp=Z,8.5nm,1.2s								
121A	Cookes Peak, D	90.93	51	P	P	05 23 10.4	+0.9		
	baz=308								
SENIN	Lac Senin/Sane	91.00	329	IAmb	IAmb	05 23 09.8			
	comp=Z,17nm,1.1s								
SCHQ	Schefferville	91.57	14	P	P	05 23 12.1	+0.4		
	comp=Z,5.3nm,1.0s,baz=48,slow=7.0,SNR=3.3								
	comp=Z,5.3nm,1.0s								
BNI	Bardonecchia	92.28	328	IAmb	IAmb	05 23 16.6			
	comp=Z,7.1nm,0.8s								
MNTX	Cornudas Mount	93.04	50	P	P	05 23 20.3	+1.3		
	baz=310								
AMTX	Amarillo	93.31	46	P	P	05 23 20.6	+0.3		
	baz=312								
KSU1	Kansas State U	93.34	40	IAmb	IAmb	05 23 24.6			
	comp=Z,12nm,0.8s								
KSU1	Kansas State U	93.34	40	P	P	05 23 20.7	+0.5		
	baz=315								
JFWS	Jewell Farm	93.78	34	P	P	05 23 22.6	+0.4		
	baz=320								
P38A	Dawn	94.61	38	IAmb	IAmb	05 23 30.4			
	comp=Z,5.5nm,0.8s								
TX31	Lajitas Ar. Si	95.69	51	IAmb	IAmb	05 23 33.1			
	comp=Z,7.9nm,1.1s								
TXAR	Lajitas Array	95.69	51	P	P	05 23 32.2	+0.9		
	comp=Z,1.0nm,0.6s,baz=301,slow=2.9,SNR=16								
	comp=Z,1.0nm,0.6s								
KEST	Kesra	97.98	320	P	P	05 23 41.2	-0.2		
	comp=Z,7.3nm,1.0s,baz=203,slow=14,SNR=3.9								
	comp=Z,7.3nm,1.0s								
ESDC	Sonseca Array	101.26	331	P	Pdif	05 23 54.3	-1.5		
	comp=Z,0.4nm,0.4s,baz=15,slow=5.3,SNR=2.5								
ESDC				PP	PP	05 27 57.3	-12		
	comp=Z,1.8nm,0.8s,baz=29,slow=6.8,SNR=8.9								
TOA0	Torodi Ar. Sit	119.37	310	PKPdf	PKPdf	05 28 52.6	-0.3		
TORD	Torodi Ar. Bea	119.37	310	PKP	PKPdf	05 28 52.5	-0.4		
	comp=Z,3.5nm,0.7s,baz=61,slow=1.5,SNR=23								
TORD				PP	PP	05 30 12.3	-6.9		
	comp=Z,3.2nm,1.0s,baz=24,slow=7.8,SNR=8.0								
QSPA	South Pole Qui	121.00	180		PKiKP	05 28 54.8	+0.1		
LBTB	Lobatse	121.19	258	PKPdf	PKiKP	05 28 57.0	+0.6		
LBTB	Lobatse	121.19	258	PKIKP	PKiKP	05 28 57.0	+0.6		
KOWA	Kowa	121.93	316	PKPdf	PKiKP	05 28 58.0	0.0		
BOSA	Boshof	122.79	254	PKP	PKPdf	05 28 58.8	-0.5		
	comp=Z,4.2nm,0.7s,baz=78,slow=3.1,SNR=10								
DBIC	Dimbokro	128.47	311	PKP	PKPdf	05 29 09.9	-0.5		
	comp=Z,7.5nm,0.7s,baz=47,slow=3.7,SNR=9.5								
TIC	Toumodi	128.59	311	⇓*e*PKIKP	PKPdf	05 29 10.7	0.0		
	comp=Z,11nm,0.3s								
KIC	Kosan Boka	128.62	310	⇓*i*PKIKP	PKiKP	05 29 11.3	-0.1		
	comp=Z,7.8nm,0.5s								
LIC	Lamto	128.91	310	⇑*i*PKIKP	PKPdf	05 29 11.3	0.0		
	comp=Z,12nm,0.4s								
TROLL	Troll, Antarti	132.96	197	SKPbc	SKPbc	05 32 10.7	+0.4		
SNAA	Sanae	134.49	196	SKPbc	SKPbc	05 32 15.0	-0.1		
VNA2	Neumayer--Watz	136.07	195	PKPdf	PKPdf	05 29 23.3	+0.4		
	baz=114,slow=3.0								
VNA2	Neumayer--Watz	136.07	195	SKPbc	SKPbc	05 32 20.0	0.0		
	baz=119,slow=2.0								
VNA3	Neumayer Olymp	136.34	194	PKPdf	PKPdf	05 29 23.8	+0.3		
VNA3	Neumayer Olymp	136.34	194	SKPbc	SKPbc	05 32 20.4	-0.5		
VNA1	Neumayer--Stat	136.47	195	PKPdf	PKPdf	05 29 23.5	-0.2		
VNA1	Neumayer--Stat	136.47	195	SKPbc	SKPbc	05 32 21.2	+0.1		
MACA	Manacapuru-AM	146.79	37		PKPbc	05 29 47.1	+0.9		
MACA	Manacapuru-AM	146.79	37	*e*P	PKPdf	05 29 44.6	+0.8		
MALB	Monte Alegre	148.42	25	*e*P	PKPbc	05 29 48.6	-1.8		
ETMB	Extrema	148.76	52		PKPbc	05 29 51.1	-0.2		
ETMB	Extrema	148.76	52	*e*P	PKPdf	05 29 47.5	+0.6		
ITTB	Itaituba	150.15	29	*e*P	PKPdf	05 29 51.1	+1.9		
LPAZ	La Paz	151.64	64	PKPbc	PKiKP	05 30 00.1	+1.0		
	comp=Z,4.1nm,0.7s,baz=273,slow=2.6,SNR=25								
ROSB	Rosrio	151.71	5	*e*P	PKPdf	05 29 51.5	-0.1		
PLCA	Paso Flores	154.84	120	PKPab	PKPab	05 30 23.2	+1.9		
	comp=Z,7.8nm,0.7s,baz=231,slow=3.4,SNR=18								
CPUP	Villa Florida	165.39	74	PKPab	PKPab	05 31 08.4	+0.7		
	comp=Z,2.3nm,0.9s,baz=253,slow=3.5,SNR=3.0								

MAN 08 05:17:59.3, 8.44N×126.07E, h18km, mb4.2, ML3.0, MS2.7, 6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	0.38	131	⇓*i*P	Pb	05 18 08.3	+0.7
BIPH				*e*S	Sn	05 18 18.2	+1.3
BUTP	Butuan	0.69	320	⇓*e*P	Pg	05 18 13.1	+0.2
BUTP				*e*S	Sn	05 18 25.5	+1.0
BUKP	Musuan	1.14	241	⇓*e*P	Pn	05 18 18.2	-2.3
BUKP				*e*S	Sg	05 18 37.3	+0.8
CGP	Cagayan de Oro	1.36	271	⇓*e*P	Pn	05 18 22.1	-1.3
CGP				*e*S	Sn	05 18 38.6	-2.5
KCP	Kidapawan	1.72	214	⇓*i*P	Pn	05 18 27.6	-0.8
KCP				*i* S	Sn	05 18 49.5	-0.5
DDMP	Don Marcelino,	2.34	189	⇓*e*P	Pn	05 18 36.6	-0.4
DDMP				*e*S	Sn	05 19 07.2	+1.9

MAN 08 05:31:42.1, 12.24N×122.18E, h23km, mb4.0, ML2.7, MS2.3, 2C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	Roxas	0.87	140	⇓*e*P	Pn	05 31 58.9	-0.1
RCP				*e*S	Sn	05 32 11.4	+0.4
SJMP	San Jose	1.06	282	⇓*e*P	Pn	05 32 00.7	-0.7
SJMP				*e*S	Sn	05 32 16.4	+0.9
BOAC	Boac	1.26	345	⇓*e*P	Pn	05 32 03.8	-0.5
BOAC				*e*S	Sb	05 32 21.1	+0.2
PGP	Puerto Galera	1.73	317	⇑*e*P	Pn	05 32 10.0	-0.9
PGP				*i* S	Sn	05 32 33.1	+0.9
BUSP	Coron	1.95	263	⇓*e*P	Pn	05 32 13.6	-0.1
BUSP				*e*S	Sb	05 32 43.2	+2.5
LQP	Lukban	1.96	342	⇑*e*P	Pb	05 32 16.1	-1.2
LUBP	Lubang	2.40	309	⇓*e*P	Pn	05 32 21.2	+1.2
LUBP				*e*S	Sn	05 32 48.3	-0.3

IDC 08 05:32:50.0±3.1, 54.35N×86.72E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.6km s-min=16.4km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.19	251	*i*		05 40 30.0	
	baz=71,slow=316,SNR=1.2						
ZALV	Zalesovo Beam	1.19	251	Pg	Pg	05 33 11.3	-1.5
	0.8nm,0.3s,baz=68,slow=17,SNR=9.4						
ZALV				Lg	Lg	05 33 29.1	
	0.6nm,0.3s,baz=69,slow=29,SNR=14						
KURBB	Kurchatov Arra	6.24	237	Pn	Pn	05 34 24.4	+1.1
	0.1nm,0.3s,baz=53,slow=14,SNR=11						
KURBB				Lg	Lg	05 36 06.5	
	baz=56,slow=27						
	1.9nm,0.9s						
MKAR	Makanchi Array	8.07	202	Pn	Pn	05 34 49.1	+0.6
	0.1nm,0.3s,baz=28,slow=14,SNR=2.2						
MKAR				Lg	Lg	05 37 08.8	
	0.1nm,0.3s,baz=20,slow=22,SNR=7.3						
	0.1nm,0.3s						

IDC 08 05:36:42.8±3.4, 54.21N×87.36E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=29.4km s-min=20.2km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.52	261	*i*		05 45 54.1	
	baz=78,slow=318,SNR=1.0						
ZALV	Zalesovo Beam	1.52	261	Pg	Pn	05 37 10.6	-0.6
	0.9nm,0.3s,baz=78,slow=16,SNR=11						
ZALV				Lg	Lg	05 37 31.0	
	0.9nm,0.3s,baz=81,slow=31,SNR=7.6						
KURBB	Kurchatov Arra	6.49	240	Pn	Pn	05 38 19.5	+0.1
	baz=53,slow=14,SNR=3.2						
KURBB				Lg	Lg	05 40 09.5	
	baz=55,slow=31,SNR=4.7						
	0.3nm,0.5s						
MKAR	Makanchi Array	8.10	206	Pn	Pn	05 38 42.9	+1.4
	0.1nm,0.3s,baz=24,slow=14,SNR=1.2						
	0.1nm,0.3s						

*HVO **08** 05:38:22.5±0.7, 19.19N±0.05×155.35W±0.06, h46km±4km, ML2.7/9, ML2.5/48(NEIC), Error ellipse: s-maj=10.0km s-min=4.0km az=135.0*

NEIC 08 05:38:21.2±0.5, 19.20N±0.04×155.37W±0.03, h49km±3km, Error ellipse: s-maj=6.3km s-min=2.2km az=140.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	Hot Caves	0.05	325		Pn	05 38 29.3	+0.5
HLP	Hilina Pali	0.11	29		Pn	05 38 29.4	+0.4
AIN	Ainahou	0.20	334		P

HMH				Sn		05 38 39.2	-0.1
ALEP	**Alea Permanent**	**0.43**	**323**	Pn		05 38 31.7	-0.2
POHA	**Pohakuloa**	**0.58**	**344**	Pn		05 38 33.5	-0.1
POHA	**Pohakuloa**	**0.58**	**344**	Sn		05 38 42.0	-0.5
CPH	**Captain Cook**	**0.60**	**299**	Pn		05 38 33.4	-0.2
KHLU	**Kahalu`u**	**0.63**	**308**	Pn		05 38 34.1	-0.1
KHLU				IAML		05 38 43.5	
	comp=E,344nm,0.1s						
HUH	**Hualalai**	**0.66**	**318**	Pn		05 38 34.9	+0.3
HPAH	**Hawaii Prepara**	**0.89**	**339**	Pn		05 38 37.1	-0.3
MHA	**Mahukona**	**1.11**	**333**	Pn	Pn	05 38 40.2	-0.1
HLK	**Haleakala**	**1.76**	**332**	Pn		05 38 48.7	-0.8
HON	**Honolulu**	**3.25**	**311**	Pn	Pn	05 39 08.8	-1.0

MAN 08 06:01:25.6, 8.30N×125.90E, h27km, mb4.7, ML3.5, MS3.4, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.47**	**104**⇓	*eP*	Pb	06 01 34.7	-0.9
BIPH				*eS*	Sb	06 01 42.3	0.0
BUKP	**Musuan**	**0.93**	**243**⇑	*iP*	Pn	06 01 42.2	-0.7
BUKP				*eS*	Sb	06 01 54.6	-0.4
CGP	**Cagayan de Oro**	**1.20**	**277**⇑	*iP*	Pn	06 01 45.9	-0.8
CGP				*i* S	Sn	06 02 01.9	-0.1
KCP	**Kidapawan**	**1.51**	**212**⇑	*eP*	Pn	06 01 50.1	-0.9
KCP				*i* S	Sb	06 02 15.9	+4.1
SCPH	**Surigao**	**1.53**	**345**⇑	*eP*	Pn	06 01 52.0	+0.9
TBP	**Tagbilaran**	**2.44**	**305**	*eP*	Pn	06 02 04.8	+1.1
TBP				*i* S	Sb	06 02 37.3	-1.2

IDC 08 06:04:03.0±2.7, 53.57N×86.94E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=22.3km s-min=15.8km az=81.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**288**	*i*		06 11 50.0	
	baz=104,slow=319,SNR=0.4						
ZALV	**Zalesovo Beam**	**1.32**	**288**	Pg	Pg	06 04 27.0	-1.2
	0.7nm,0.3s,baz=103,slow=18,SNR=4.7						
ZALV				Lg	Lg	06 04 47.0	
	1.1nm,0.3s,baz=109,slow=30,SNR=7.1						
KURBB	**Kurchatov Arra**	**5.96**	**244**	Pn	Pn	06 05 32.1	-0.4
	baz=63,slow=14,SNR=1.6						
KURBB				Sn	Sn	06 06 39.2	-2.2
	baz=59,slow=14						
KURBB				Lg	Lg	06 07 13.4	
	baz=52,slow=27,SNR=2.1						
	0.2nm,0.2s						
MKAR	**Makanchi Array**	**7.41**	**206**	Pn	Pn	06 05 54.8	+2.5
	0.1nm,0.3s,baz=29,slow=10,SNR=2.4						
	0.1nm,0.2s						

*IDC **08** 06:06:51.9±1.2, 27.37S×70.54W, h0km, mb3.8/4, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=41.8km s-min=31.0km az=87.0*

*GUC **08** 06:06:59.1±0.8, 27.18S×70.80W, h57km±5km, ML3.5*

ISC 08 06:06:59.2±1.0, 27.17S±0.04×70.80W±0.08, h54km±9km, n18, σ1°05/22, mb3.7/4, 6C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.44**	**115**⇑	*iP*	**Pn**	**06 07 10.2**	**+0.1**
AC06				*i* S	**Sn**	**06 07 17.8**	**-0.2**
AC06				IAML		06 07 18.8	
	comp=N,5μm,0.1s						
AC01	**Pan de Azucar**	**1.04**	**10**⇑	*iP*	**Pn**	**06 07 18.2**	**+0.7**
AC01				*i* S	**Sn**	**06 07 30.6**	**-0.5**
AC01				*i* S		06 07 31.8	
AC01				IAML		06 07 32.6	
	comp=N,2μm,0.3s						
AC04	**Llanos de Chal**	**1.06**	**193**⇑	*iP*	**Pn**	**06 07 18.0**	**+0.2**
AC04				*i* S	**Sn**	**06 07 32.3**	**+0.7**
AC04				IAML		06 07 33.4	
	comp=N,1μm,0.3s						
AC02	**Maricunga**	**1.53**	**78**⇓	*iP*	**Pn**	**06 07 25.5**	**+0.8**
AC02				*i* S	**Sn**	**06 07 44.5**	**+0.8**
AC02				IAML		06 07 45.8	
	comp=E,3μm,0.1s						
AC05	**El Transito**	**1.72**	**164**⇑	*iP*	**Pn**	**06 07 27.8**	**+0.8**
AC05				*i* S	**Sn**	**06 07 49.3**	**+1.3**
AC05				IAML		06 07 51.3	
	comp=E,649nm,0.4s						
LCO	**Las Campanas**	**1.83**	**177**⇓	*iP*	**Pn**	**06 07 28.7**	**+0.1**
LCO				*i* S	**Sn**	**06 07 51.6**	**+0.8**
GO02	**Mina Guanaco**	**2.28**	**29**⇑	*iP*	**Pn**	**06 07 35.4**	**+0.6**
GO02				*i* S	**Sn**	**06 08 03.1**	**+1.3**
GO02				IAML		06 08 04.6	
	comp=E,422nm,0.1s						
CO05	**La Serena**	**2.76**	**188**	*i* P	**Pn**	**06 07 40.9**	**-0.2**
GO04	**Tololo Observa**	**2.99**	**180**⇑	*iP*	**Pn**	**06 07 44.8**	**+0.4**
H03N1	**Juan Fernandez**	**9.39**	**226**	T	T	06 18 46.0	
	baz=52,slow=72,SNR=105						
H03N2	**Juan Fernandez**	**9.40**	**226**	T	T	06 18 45.3	
	baz=52,slow=72,SNR=124						
H03N3	**Juan Fernandez**	**9.40**	**226**	T	T	06 18 46.7	
	baz=52,slow=72,SNR=108						
LPAZ	**La Paz**	**11.11**	**13**	Pn	**Pn**	**06 09 34.5**	**-1.5**
	comp=E,0.1nm,0.3s,baz=198,slow=6.4,SNR=2.2						
	comp=E,0.4nm,0.5s						
BDFB	**Brasilia**	**24.08**	**66**	P	**P**	**06 12 07.7**	**-2.1**
	comp=E,2.1nm,1.0s,baz=234,slow=14,SNR=3.1						
	comp=E,2.1nm,1.0s						
TXAR	**Lajitas Array**	**64.40**	**328**	P	**P**	**06 17 31.7**	**+1.8**
	comp=E,0.3nm,0.8s,baz=157,slow=9.5,SNR=3.8						
	comp=E,0.3nm,0.8s						
MAW	**Mawson**	**79.41**	**164**	P	**P**	**06 18 58.1**	**-1.1**
	comp=E,1.2nm,0.4s,baz=207,slow=5.9,SNR=12						
	comp=E,1.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**80.89**	**70**	P	**P**	**06 19 07.7**	**-0.3**
	comp=E,0.6nm,0.5s,baz=239,slow=5.6,SNR=6.6						
	comp=E,0.6nm,0.5s						
MKAR	**Makanchi Array**	**151.15**	**40**	PKPbc	**PKiKP**	**06 26 47.6**	**+0.8**
	comp=E,0.1nm,0.4s,baz=294,slow=1.4,SNR=1.4						

*JMA **08** 06:08:39.7±0.1, 36.4N±0.3×141.1E±0.8, h45km±1km, MV3.9/35, E OFF IBARAKI PREF*

JMA Felt II J1 at E OFF IBARAKI PREF .

*IDC **08** 06:08:39.9±3.6, 36.44N×141.14E, h38km±31km, mb3.4/9, mbtmp3.7/12, ML2.2/2, MS2.8/4, Error ellipse: s-maj=26.5km s-min=17.0km az=84.0*

*NIED **08** 06:08:39.7, 36.44N×141.12E, h45km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=1.08; Mθθ=0.11; Mφφ=0.97; Mrθ=4.82; Mθφ=-2.46; Mφr=1.12; Fault plane solution: M₀5.61000×10¹⁴ NP1: φs=180.00000°, δ=26.00000°, λ=-15.00000°. NP2: φs=284.00000°, δ=83.00000°, λ=-115.00000°.*

ISC 08 06:08:40.0±0.8, 36.46N±0.05×141.11E±0.09, h40km±7km, n32, σ0°74/27, mb3.7/10, MS2.9/4, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.44**	**254**	P	**Pn**	**06 08 50.1**	**+0.2**
JHYU				*e*S	**Sn**	**06 08 57.2**	**+0.4**
JHO	**Hitachi**	**0.46**	**289**	P	**Pn**	**06 08 50.2**	**0.0**
JHO				S	**Sn**	**06 08 57.4**	**0.0**
JIHU	**Itakohorinouch**	**0.68**	**224**	P	**Pn**	**06 08 53.6**	**+0.4**
JYT	**Yasato**	**0.78**	**253**	P	**Pn**	**06 08 54.4**	**-0.1**
JYT				S	**Sn**	**06 09 04.4**	**-0.5**
JFK	**Kawauchi**	**0.92**	**348**	⇓P	**Pn**	**06 08 56.0**	**-0.5**
JFT	**Otama**	**1.22**	**330**	⇓P	**Pn**	**06 09 01.8**	**+1.1**
JFT				⇓S	**Sn**	**06 09 17.4**	**+1.3**
JAG	**Ashikaga**	**1.34**	**269**	P	**Pn**	**06 09 02.5**	**+0.3**
JAG				S	**Sn**	**06 09 19.1**	**+0.4**
MJAR	**Matsushiro Arr**	**2.34**	**273**	Pn	**Pn**	**06 09 15.1**	**-0.9**
	2.5nm,0.3s,baz=116,slow=10,SNR=61						
MJAR				Sn	**Sn**	**06 09 45.4**	**+1.9**
	3.1nm,0.3s,baz=95,slow=26,SNR=3.0						
MJAR				LR	LR	06 10 32.1	
	comp=Z,75nm,19.0s,baz=99,slow=47						
	16nm,0.5s						
JHJ	**Hachijo jima 2**	**3.51**	**199**	Pn	**Pn**	**06 09 32.6**	**+0.6**
	72nm,0.3s,baz=349,slow=21,SNR=10						
JHJ				Sn	**Sn**	**06 10 12.8**	**+0.5**
	62nm,0.3s,baz=128,slow=23,SNR=7.7						
USRK	**Ussuriysk Ar.**	**10.40**	**321**	Pn	**Pn**	**06 11 05.6**	**-0.9**
	baz=123,slow=24,SNR=2.9						
	3.9nm,1.0s						
PETK	**Petropavlovsk-**	**20.30**	**30**	LR	LR	06 21 39.4	
	comp=Z,36nm,19.1s,baz=227,slow=38						
MA2	**Magadan**	**23.96**	**12**	LR	LR	06 25 20.2	
	comp=Z,22nm,19.1s,baz=288,slow=42						
H11N2	**WAKE ISLAND Hy**	**28.07**	**119**	T	T	06 43 56.0	
	baz=312,slow=75,SNR=47						
H11N1	**WAKE ISLAND Hy**	**28.08**	**119**	T	T	06 43 48.4	
	baz=312,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hy**	**28.09**	**119**	T	T	06 43 52.2	
	baz=312,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**28.76**	**122**	T	T	06 44 37.6	
	baz=314,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**28.76**	**122**	T	T	06 44 55.5	
	baz=314,slow=76,SNR=105						
H11S2	**WAKE ISLAND Hy**	**28.78**	**122**	T	T	06 44 38.8	
	baz=314,slow=76,SNR=87						
CMAR	**Chiang Mai Arr**	**41.12**	**256**	P	**P**	**06 16 20.2**	**-0.2**
	1.6nm,0.3s,baz=60,slow=5.5,SNR=1.6						
	1.6nm,0.3s						
MKAR	**Makanchi Array**	**44.22**	**303**	P	**P**	**06 16 45.1**	**-0.1**
	0.3nm,0.8s,baz=84,slow=15,SNR=1.9						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**46.16**	**308**	P	**P**	**06 17 01.4**	**+0.8**
	0.7nm,0.6s,baz=84,slow=8.0,SNR=5.0						
KURBB				LR	LR	06 38 27.8	
	comp=Z,22nm,18.5s,baz=9.6,slow=39						
	0.7nm,0.6s						
HNR	**Honiara**	**48.97**	**155**	LR	LR	06 38 16.5	
	comp=Z,309nm,19.3s,baz=113,slow=36						
ILAR	**Eielson Array**	**50.11**	**32**	P	**P**	**06 17 31.1**	**+0.3**
	0.6nm,0.7s,baz=271,slow=6.1,SNR=6.8						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**56.46**	**188**	P	**P**	**06 18 17.6**	**-0.3**
	1.3nm,0.6s,baz=4.7,slow=7.4,SNR=25						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**60.19**	**188**	P	**P**	**06 18 43.6**	**-0.3**
	0.8nm,0.8s,baz=13,slow=5.7,SNR=7.0						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**74.60**	**322**	P	**P**	**06 20 15.7**	**+0.9**
	0.2nm,3s,baz=52,slow=1.5,SNR=2.1						
	0.2nm,0.3s						
NOA	**NORSAR Array B**	**74.62**	**337**	P	**P**	**06 20 14.1**	**-0.7**
	0.1nm,0.3s,baz=39,slow=5.8,SNR=1.2						
NOA				pP	**pP**	**06 20 26.0**	**-0.6**
	0.7nm,0.8s,baz=38,slow=6.0,SNR=3.2						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**78.24**	**45**	P	**P**	**06 20 35.8**	**-0.1**
	0.3nm,0.7s,baz=357,slow=3.1,SNR=3.5						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**90.66**	**52**	pP	pP	06 21 52.0	+1.1
	0.4nm,0.9s,baz=319,slow=2.6,SNR=2.9						
H03N2	**Juan Fernandez**	**147.20**	**97**	T	T	09 13 00.7	
	baz=291,slow=76						
H03N3	**Juan Fernandez**	**147.21**	**97**	T	T	09 12 57.6	
	baz=291,slow=76						
H03N1	**Juan Fernandez**	**147.22**	**97**	T	T	09 13 28.9	
	baz=291,slow=76						

IDC 08 06:15:08.8±2.4, 54.12N×86.41E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=19.1km s-min=12.5km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**261**	*i*		06 21 20.0	
	baz=80,slow=317,SNR=0.6						
ZALV	**Zalesovo Beam**	**0.95**	**261**	Pg	Pg	06 15 26.0	-1.0
	1.7nm,0.3s,baz=75,slow=16,SNR=7.6						
ZALV				Lg	Lg	06 15 40.7	
	2.8nm,0.3s,baz=78,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	06 16 39.2	+1.1
	0.2nm,0.3s,baz=54,slow=13,SNR=16						
KURBB				Sn	Sn	06 17 45.9	-1.2
	baz=84,slow=8.7						
KURBB				Lg	Lg	06 18 19.2	
	baz=54,slow=31,SNR=2.1						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	06 17 04.2	+1.0
	0.2nm,0.3s,baz=21,slow=12,SNR=11						
MKAR				Sn	Sn	06 18 31.4	-0.7
	0.1nm,0.3s,baz=18,slow=29,SNR=3.0						
MKAR				Lg	Lg	06 19 13.5	
	baz=18,slow=28,SNR=2.9						
	0.3nm,0.3s						

*NIED **08** 06:15:44.7, 32.79N×130.75E, h7km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=2.49; Mθθ=1.95; Mφφ=0.54; Mrθ=1.70; Mθφ=-1.19; Mφr=0.33; Fault plane solution: M₀3.09000×10¹⁴ NP1: φs=131.00000°, δ=30.00000°, λ=-71.00000°. NP2: φs=289.00000°, δ=62.00000°, λ=-100.00000°.*

JMA 08 06:15:44.7±0.0, 32.8N±0.1×130.8E±0.2, h7km±1km, MV3.5/20, NW KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.25**	**168**	*i* P	Pg	06 15 49.9	+0.2
JIU3				S	Sg	06 15 53.6	+0.7
JTA	**Tamana**	**0.25**	**313**	*i* P	Pg	06 15 49.9	+0.2
JTA				S	Sg	06 15 53.7	+0.6
JTZ	**Takazaki**	**0.93**	**162**	S	Sb	06 16 15.7	0.0

*IDC **08** 06:30:46.1±2.0, 24.27S×179.89W, h506km±20km, mb3.2/7, mbtmp4.0/9, Error ellipse: s-maj=24.8km s-min=17.1km az=142.0*

*NEIC **08** 06:30:51.0±1.0, 24.21S±0.09×180.0W±0.1, h561km±13km, mb4.3/27, Error ellipse: s-maj=19.3km s-min=13.4km az=87.0*

ISC 08 06:30:46.6±0.6, 24.29S±0.08×179.89W±0.09, h505km, n44, σ1°33/47, mb4.3/22, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.80**	**343**	P	**P**	**06 32 31.2**	**0.0**
	1.3nm,0.4s,baz=218,slow=19,SNR=1.7						
NIUE	**Niue**	**10.61**	**63**	P	P	06 33 16.5	+6.0
NIUE				S	**S**	**06 35 12.2**	**+3.2**
MARNC	**Mare, Loyalty**	**11.48**	**282**	P	**P**	**06 33 22.6**	**+2.9**
DZM	**Mont Dzumac**	**12.76**	**277**	P	**P**	**06 33 36.3**	**+2.9**
	6.1nm,0.7s,baz=32,slow=19,SNR=1.9						
DZM	**Mont Dzumac**	**12.76**	**277**	P	**P**	**06 33 36.7**	**+3.4**
URZ	**Urewera**	**14.16**	**190**	P	**P**	**06 33 47.3**	**-0.4**
	2.6nm,0.3s,baz=31,slow=9.3,SNR=1.7						
URZ				S	**S**	**06 36 18.2**	**+1.1**
	16nm,1.1s,baz=31,slow=21,SNR=8.4						
QRZ	**Quartz Range**	**17.67**	**199**	P	**P**	**06 34 23.4**	**-0.1**
ARMA	**Armidale**	**25.98**	**250**	P	**P**	**06 35 39.8**	**+1.1**
ARMA				IAmb	IAmb	06 35 49.7	
	comp=Z,17nm,1.4s						
EIDS	**Eidsvold**	**26.35**	**262**	P	**P**	**06 35 42.5**	**+0.8**
EIDS				IAmb	IAmb	06 36 05.8	
	comp=Z,22nm,1.4s						
CAN	**Canberra**	**29.04**	**241**	P	**P**	**06 36 06.3**	**+1.0**
CAN				IAmb	IAmb	06 36 34.1	
	comp=Z,26nm,1.5s						
CTAO	**Charters Tower**	**31.58**	**271**	P	**P**	**06 36 27.9**	**+0.5**
TOO	**Toolangi**	**32.32**	**238**	P	**P**	**06 36 34.4**	**+0.9**
TAU	**Tasmania Unive**	**32.74**	**227**	P	**P**	**06 36 37.9**	**+0.9**
STKA	**Stephens Creek**	**34.67**	**249**	P	**P**	**06 36 53.4**	**0.0**
	comp=Z,2.6nm,0.6s,baz=100,slow=10,SNR=8.4						
	comp=Z,2.6nm,0.6s						
STKA	**Stephens Creek**	**34.67**	**249**	P	**P**	**06 36 54.0**	**+0.5**
BBOO	**Buckleboo**	**39.39**	**247**	P	**P**	**06 37 31.4**	**-0.8**
BBOO				IAmb	IAmb	06 37 44.3	
	comp=Z,18nm,1.5s						
AS31	**Alice Springs**	**42.07**	**261**	P	**P**	**06 37 53.5**	**-0.3**
AS31				IAmb	IAmb	06 37 55.5	
	comp=Z,1.7nm,0.4s						
ASAR	**Alice Springs**	**42.07**	**261**	P	**P**	**06 37 53.4**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=95,slow=7.2,SNR=30						
	comp=Z,2.5nm,0.5s						
ASAR	**Alice Springs**	**42.07**	**261**	P	**P**	**06 37 53.1**	**-0.7**
WR0	**Warramunga Arr**	**42.29**	**267**	P	**P**	**06 37 54.7**	**-0.9**
WR0				IAmb	IAmb	06 38 10.4	
	comp=Z,2.6nm,0.9s						
WB2	**Warramunga Arr**	**42.47**	**267**	P	**P**	**06 37 56.2**	**-0.8**
WB2				IAmb	IAmb	06 37 56.4	
	comp=Z,9.2nm,0.6s						
WRAB	**Tennant Creek**	**42.47**	**267**	P	**P**	**06 37 56.2**	**-0.9**
WRAB				IAmb	IAmb	06 37 56.3	
	comp=Z,6.9nm,0.5s						
WB0	**Warramunga Arr**	**42.48**	**267**	P	**P**	**06 37 56.3**	**-0.8**
WB0				IAmb	IAmb	06 37 56.7	
	comp=Z,9.2nm,0.7s						
WRA	**Warramunga Arr**	**42.48**	**267**	P	**P**	**06 37 56.1**	**-1.0**
	comp=Z,6.3nm,0.5s,baz=99,slow=8.1,SNR=200						
WRA				ScP	**ScP**	**06 42 41.9**	**+0.8**
	comp=Z,2.3nm,1.1s,baz=99,slow=3.7,SNR=9.4						
	comp=Z,6.3nm,0.5s						
WRA	**Warramunga Arr**	**42.48**	**267**	P	**P**	**06 37 56.3**	**-0.8**
FORT	**Forrest**	**46.27**	**250**	P	**P**	**06 38 25.4**	**-0.8**
MTN	**Manton Dam**	**47.59**	**275**	P	**P**	**06 38 35.4**	**-1.0**
MTN				IAmb	IAmb	06 38 48.1	
	comp=Z,15nm,1.2s						
KNRA	**Kununurra**	**48.79**	**270**	P	**P**	**06 38 45.2**	**-0.1**
KNRA				IAmb	IAmb	06 39 06.3	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.90**	**266**	P	**P**	**06 39 00.7**	**-0.2**
FITZ				IAmb	IAmb	06 39 01.5	
	comp=Z,4.9nm,0.8s						
VNDA	**Vanda**	**54.00**	**185**	P	**P**	**06 39 23.4**	**+1.2**
PSA00	**Pilbara Seismi**	**55.19**	**260**	P	**P**	**06 39 30.3**	**-1.2**
PSA00				IAmb	IAmb	06 39 55.5	
	comp=Z,6.8nm,1.4s						
MBWA	**Marble Bar**	**55.41**	**260**	P	**P**	**06 39 32.1**	**-0.9**
MBWA				IAmb	IAmb	06 39 50.8	
	comp=Z,23nm,1.5s						
MORW	**Morawa**	**56.84**	**250**	P	**P**	**06 39 42.0**	**-0.8**
MORW				IAmb	IAmb	06 39 45.4	
	comp=Z,34nm,1.5s						
CASY	**Casey**	**59.81**	**206**	P	**P**	**06 40 01.3**	**-0.9**
QSPA	**South Pole Qui**	**65.80**	**180**	P	**P**	**06 40 41.5**	**+0.4**
JHS	**Saijyo**	**73.89**	**321**	P	**P**	**06 41 28.5**	**-1.2**
MAW	**Mawson**	**77.42**	**200**	P	**P**	**06 41 49.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=149,slow=8.7,SNR=6.3						
	comp=Z,0.8nm,0.5s						
MAW	**Mawson**	**77.42**	**200**	P	**P**	**06 41 49.2**	**+0.5**
NVAR	**Mina Array Bea**	**84.96**	**44**	P	**P**	**06 42 27.9**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=238,slow=8.4,SNR=2.1						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**90.55**	**58**	P	**P**	**06 42 54.5**	**-0.2**
	comp=Z,6.6nm,0.7s,baz=213,slow=5.4,SNR=9.7						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**92.90**	**44**	P	**P**	**06 43 05.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=184,slow=5.4,SNR=1.8						
	comp=Z,0.1nm,0.3s						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	**PKPdf**	**06 49 25.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=45,slow=4.2,SNR=4.0						
BRTR	**Keskin Array B**	**147.89**	**307**	PKPbc	**PKPbc**	**06 49 33.3**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=90,slow=4.3,SNR=2.2						
BRTR				PKPab	**PKPab**	**06 49 37.6**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=91,slow=2.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**168.82**	**188**	PKPab	**PKPab**	**06 51 06.7**	**-3.2**
	comp=Z,0.3nm,0.9s,baz=153,slow=3.0,SNR=1.6						

IDC 08 06:32:12.5±3.0, 53.49N×87.33E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=27.0km s-min=14.4km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**288**	*i*		06 42 51.7	
	baz=106,slow=323,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.56**	**288**	Pg	Pn	06 32 40.6	-0.9
	1.5nm,0.3s,baz=105,slow=14,SNR=11						
ZALV				Lg	Lg	06 33 02.5	
	1.6nm,0.3s,baz=111,slow=21,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.14**	**246**	Pn	Pn	06 33 44.5	+0.1
	0.1nm,0.3s,baz=64,slow=14,SNR=2.3						
KURBB				Lg	Lg	06 35 26.9	
	baz=60,slow=33,SNR=1.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.44**	**208**	Pn	Pn	06 34 03.3	+1.0
	0.1nm,0.3s,baz=23,slow=12,SNR=5.9						
MKAR				Sn	Sn	06 35 29.1	+1.7
	baz=18,slow=30,SNR=2.7						
MKAR				Lg	Lg	06 36 06.5	
	0.1nm,0.3s,baz=17,slow=26,SNR=5.1						
	0.3nm,0.5s						

*IDC **08** 06:34:35.3±3.2, 28.79N×142.77E, h0km, mb3.8/5, mbtmp3.8/8, ML2.7/2, MS2.7/1, Error ellipse: s-maj=108.8km s-min=18.2km az=76.0*

ISC 08 06:34:40.1±2.0, 28.8N±0.1×142.8E±0.4, h41km, n9, σ1°41/9, mb3.9/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.79**	**197**	Pn	**Pn**	**06 35 07.0**	**-1.5**
	6.4nm,0.3s,baz=280,slow=23,SNR=2.0						
MJAR	**Matsushiro Arr**	**8.62**	**335**	Pn	**Pn**	**06 36 41.4**	**-1.0**
	0.2nm,0.3s,baz=164,slow=12,SNR=5.5						
	1.5nm,0.4s						
KSRS	**Korea Array**	**15.13**	**309**	Pn	**Pn**	**06 38 11.1**	**+0.1**
	0.4nm,0.3s,baz=113,slow=11,SNR=4.2						
KSRS				LR	LR	06 44 10.4	
	comp=Z,28nm,18.7s,baz=15,slow=38						
USRK	**Ussuriysk Ar.**	**17.62**	**334**	P	**Pn**	**06 38 41.4**	**-1.0**
	0.1nm,0.3s,baz=157,slow=15,SNR=3.0						
	3.9nm,1.1s						
SONM	**Songino Array**	**33.88**	**314**	P	**P**	**06 41 18.4**	**-0.5**
	0.4nm,0.6s,baz=110,slow=6.3,SNR=2.6						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**48.56**	**318**	P	**P**	**06 43 21.0**	**+1.9**
	0.8nm,0.4s,baz=90,slow=7.2,SNR=2.6						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**49.15**	**191**	P	**P**	**06 43 24.2**	**+0.3**
	2.9nm,0.6s,baz=16,slow=9.0,SNR=31						
	2.9nm,0.6s						
MKAR	**Makanchi Array**	**49.81**	**308**	P	**P**	**06 43 30.4**	**+1.5**
	0.8nm,0.7s,baz=92,slow=11,SNR=7.4						
	0.8nm,0.7s						
**

baz=1.5,slow=76,SNR=27
TXAR Lajitas Array 65.47 74 P P 07 25 20.3 +0.1
0.2nm,0.7s,baz=285,slow=3.5,SNR=2.1
0.2nm,0.7s

IDC 08 07:16:55.3±2.4, 6°56S×130°12E, h0km, mb3.7/1, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=106.5km s-min=28.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.27**	**200**	Pn	Pn	07 19 52.1	+0.7
	0.1nm,0.3s,baz=17,slow=7.9,SNR=11						
FITZ				Sn	Sn	07 21 52.8	-16
	0.4nm,0.3s,baz=81,slow=16,SNR=7.2						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**13.92**	**163**	Pn	Pn	07 20 13.1	-0.9
	0.3nm,0.3s,baz=335,slow=13,SNR=20						
WRA				Sn	Sn	07 22 35.1	-14
	0.3nm,0.3s,baz=337,slow=21,SNR=9.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.39**	**168**	P	Pn	07 20 59.8	+0.1
	0.1nm,0.3s,baz=352,slow=10,SNR=6.2						
ASAR				S	Sn	07 23 59.7	-14
	0.5nm,0.9s,baz=331,slow=15,SNR=4.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**67.93**	**327**	P	P	07 27 56.0	0.0
	0.4nm,0.4s,baz=118,slow=8.1,SNR=5.7						
	0.4nm,0.4s						

KRSC 08 07:25:03.3±1.3, 54°15N×168°00E, h6km±23km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.58**	**313**	P	Pn	07 25 30.9	-0.9
BKI				S	Sn	07 25 51.9	-0.6
MKZ	**Mys Kozlova**	**3.69**	**279**	P	Pn	07 26 04.4	+3.7
MKZ				S	Sn	07 26 48.6	+4.1
TUMR	**Tumrok**	**4.69**	**287**	P	Pn	07 26 19.5	+4.9
TUMR				S	Sn	07 27 15.0	+5.6
SPN	**Mys Shipunski**	**4.86**	**261**	P	Pn	07 26 20.3	+3.5
SPN				S	Sn	07 27 17.5	+4.1
KII	**Karymskiy**	**5.03**	**272**	P	Pn	07 26 23.5	+4.2
KII				S	Sn	07 27 23.6	+5.9
SDLR	**Sedlovina**	**5.48**	**265**	P	Pn	07 26 30.3	+4.8
UGLR	**Uglovaya**	**5.53**	**264**	P	Pn	07 26 31.3	+5.1
KRX	**Arik**	**5.60**	**266**	P	Pn	07 26 31.5	+4.3
RUS	**Russkaya**	**5.94**	**257**	P	Pn	07 26 36.1	+4.4
GNL	**Ganaly**	**5.96**	**270**	P	Pn	07 26 36.5	+4.5
KRMR	**Karymshinskiy**	**6.04**	**261**	P	Pn	07 26 38.0	+5.0
GRL	**Gorelyy**	**6.16**	**259**	P	Pn	07 26 39.8	+5.1
ASAK	**Asacha**	**6.31**	**258**	P	Pn	07 26 41.4	+4.6

*IDC **08** 07:28:41.8±2.7, 16°45S×174°17W, h112km±24km, mb3.6/7, mbtmp4.0/8, MS3.0/1, Error ellipse: s-maj=39.6km s-min=15.6km az=138.0*
ISC 08 07:28:41.6±0.9, 16°4S±0°3×174°2W±0°2, h111km, n13, σ1§16/13, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.35**	**44**	P	**Pn**	**07 29 33.5**	**+1.1**
	234nm,0.4s,baz=190,slow=3.6,SNR=85						
AFI				S	**Sn**	**07 30 08.9**	**-2.6**
	217nm,0.3s,baz=36,slow=19,SNR=3.5						
AFI	**Afiamalu**	**3.35**	**44**	P	**Pn**	**07 29 33.3**	**+0.9**
MSVF	**Nonsavu**	**7.58**	**258**	LR	LR	07 33 00.9	
	comp=Z,118nm,19.4s,baz=175,slow=34						
URZ	**Urewera**	**23.13**	**198**	P	**P**	**07 33 37.0**	**-1.1**
	6.6nm,0.3s,baz=219,slow=0.9,SNR=24						
	6.6nm,0.3s						
WRA	**Warramunga Arr**	**48.92**	**258**	P	**P**	**07 37 16.8**	**-0.1**
	0.2nm,0.5s,baz=94,slow=7.0,SNR=8.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**49.12**	**253**	P	**P**	**07 37 18.1**	**-0.2**
	1.4nm,0.7s,baz=86,slow=8.5,SNR=22						
	1.4nm,0.7s						
NVAR	**Mina Array Bea**	**75.52**	**42**	P	**P**	**07 40 14.9**	**+0.6**
	0.5nm,0.7s,baz=229,slow=9.6,SNR=5.4						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**81.75**	**56**	P	**P**	**07 40 49.5**	**+1.1**
	0.3nm,0.7s,baz=215,slow=7.2,SNR=5.7						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**83.46**	**42**	P	**P**	**07 40 57.6**	**+0.4**
	1.5nm,0.6s,baz=210,slow=3.3,SNR=17						
	1.5nm,0.6s						
ILAR	**Eielson Array**	**83.52**	**11**	P	**P**	**07 40 56.9**	**+0.2**
	1.2nm,0.5s,baz=221,slow=5.5,SNR=16						
	1.2nm,0.5s						
ARCES	**ARCESS Array B**	**125.44**	**352**	PKP	**PKPdf**	**07 47 27.9**	**-1.1**
	1.9nm,0.8s,baz=0.0,slow=1.2,SNR=6.2						
BRTR	**Keskin Array B**	**146.42**	**319**	PKPbc	**PKPbc**	**07 48 09.9**	**-0.3**
	1.0nm,0.5s,baz=36,slow=2.7,SNR=5.2						
ESDC	**Sonseca Array**	**155.24**	**18**	PKPab	**PKPab**	**07 48 47.6**	**+0.1**
	0.4nm,0.7s,baz=318,slow=1.7,SNR=4.3						

*OSPL **08** 07:32:02.4±0.6, 18°60N×67°34W, h30km±6km, ML2.1*
*NEIC **08** 07:32:02.3±1.8, 18°53N±0°05×67°40W±0°08, h32km±12km, Error ellipse: s-maj=11.9km s-min=4.2km az=119.0*
*RSPR **08** 07:32:02.2, 18°59N×67°43W, h14km±1km, MD3.0/16*
ISC 08 07:32:01.7±1.1, 18°55N±0°06×67°41W±0°03, h27km±7km, n60, σ0§46/64, 18C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.17**	**202**	⇑*eP*	**Pb**	**07 32 07.0**	**-0.4**
IDE	**Isla Desecheo**	**0.17**	**202**	*eS*	**Sb**	**07 32 10.7**	**-0.4**
AGPR	**Aguadilla, PR**	**0.29**	**106**	⇑*eP*	**Pb**	**07 32 08.8**	**0.0**
AGPR	**Aguadilla, PR**	**0.29**	**106**		**Pb**	**07 32 08.8**	**0.0**
AGPR					**Sb**	**07 32 13.8**	**+0.2**
AGPR	**Aguadilla, PR**	**0.29**	**106**	IAML		07 32 14.0	
	comp=N,316nm,0.2s						
AGPR				IAML		07 32 14.1	
	comp=E,270nm,0.2s						
AGPR	**Aguadilla, PR**	**0.29**	**106**	*i* P	**Pb**	**07 32 08.8**	**0.0**
AGPR				*eS*	**Sb**	**07 32 13.3**	**-0.3**
AGPR				IAML		07 32 14.8	
	comp=Z,227nm,0.2s						
PRSN	**Puerto Rico Se**	**0.41**	**143**	⇑*eP*	**Pb**	**07 32 10.7**	**+0.1**
PRSN	**Puerto Rico Se**	**0.41**	**143**	*eS*	**Sb**	**07 32 17.3**	**+0.6**
PRSN	**Puerto Rico Se**	**0.41**	**143**		**Pb**	**07 32 10.7**	**+0.1**
PRSN					**Sb**	**07 32 17.3**	**+0.6**
PRSN	**Puerto Rico Se**	**0.41**	**143**	IAML		07 32 17.7	
	comp=N,2μm,0.2s						
PRSN				IAML		07 32 18.4	
	comp=E,2μm,0.2s						
LSP	**Las Mesas**	**0.48**	**141**	⇑*eP*	**Pb**	**07 32 12.0**	**+0.3**
LSP	**Las Mesas**	**0.48**	**141**	*eS*	**Sn**	**07 32 19.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.61**	**152**	⇑*eP*	**Pb**	**07 32 13.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.61**	**152**		**Pb**	**07 32 13.7**	**-0.1**
CRPR					**Sb**	**07 32 22.7**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.61**	**152**	IAML		07 32 22.9	
	comp=N,76nm,0.4s						
CRPR				IAML		07 32 23.3	
	comp=E,63nm,0.2s						
CRPR	**Cabo Rojo, PR**	**0.61**	**152**	*i* P	**Pb**	**07 32 13.7**	**-0.1**
CRPR				*eS*	**Sb**	**07 32 22.4**	**+0.3**
CRPR				IAML		07 32 23.6	
	comp=Z,97nm,0.1s						
AOPR	**Arecibo Observ**	**0.65**	**108**	⇑*eP*	**Pb**	**07 32 14.3**	**-0.2**
AOPR	**Arecibo Observ**	**0.65**	**108**	*eS*	**Sn**	**07 32 24.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.65**	**108**		**Pb**	**07 32 14.3**	**-0.2**
AOPR	**Arecibo Observ**	**0.65**	**108**	IAML		07 32 23.8	
	comp=E,184nm,0.4s						
AOPR				IAML		07 32 25.3	
	comp=N,148nm,0.2s						
AOPR	**Arecibo Observ**	**0.65**	**108**		**Sn**	**07 32 24.1**	**-0.5**
MLPR	**Magueyes Islan**	**0.67**	**149**	⇑*eP*	**Pb**	**07 32 14.6**	**-0.2**
MLPR	**Magueyes Islan**	**0.67**	**149**	*eS*	**Sb**	**07 32 24.3**	**+0.5**
MLPR	**Magueyes Islan**	**0.67**	**149**	IAML		07 32 24.9	
	comp=E,133nm,0.2s						
MLPR				IAML		07 32 25.1	
	comp=N,67nm,0.2s						
MLPR	**Magueyes Islan**	**0.67**	**149**		**Pb**	**07 32 14.6**	**-0.2**
MLPR					**Sb**	**07 32 24.3**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.71**	**114**	*eS*	**Sb**	**07 32 25.1**	**0.0**
UUPR	**Utuado, UPR, P**	**0.71**	**114**	⇑*eP*	**Pb**	**07 32 15.3**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.71**	**114**		**Pb**	**07 32 15.3**	**-0.3**
UUPR					**Sb**	**07 32 25.1**	**0.0**
GBPR	**Guanica, Bosqu**	**0.76**	**139**	⇑*eP*	**Pb**	**07 32 16.3**	**-0.1**
GBPR				*eS*	**Sn**	**07 32 27.4**	**+0.1**
OBIP	**Obispado Ponce**	**0.91**	**123**	⇑*eP*	**Pn**	**07 32 17.4**	**-1.3**
OBIP	**Obispado Ponce**	**0.91**	**123**	*eS*	**Sb**	**07 32 29.8**	**-0.9**
OBIP	**Obispado Ponce**	**0.91**	**123**		**Pn**	**07 32 17.4**	**-1.3**
OBIP					**Sb**	**07 32 29.8**	**-0.9**
OBIP	**Obispado Ponce**	**0.91**	**123**	IAML		07 32 33.2	
	comp=N,47nm,0.3s						
CELP	**Cerrillos**	**0.92**	**121**	⇑*eP*	**Pn**	**07 32 18.8**	**0.0**
CELP	**Cerrillos**	**0.92**	**121**	*eS*	**Sn**	**07 32 31.7**	**+0.6**
CELP	**Cerrillos**	**0.92**	**121**		**Pn**	**07 32 18.8**	**0.0**
CELP	**Cerrillos**	**0.92**	**121**		**Sn**	**07 32 31.7**	**+0.6**
CELP	**Cerrillos**	**0.92**	**121**	IAML		07 32 31.5	
	comp=E,68nm,0.2s						
CELP	**Cerrillos**	**0.92**	**121**	IAML		07 32 33.5	
	comp=N,70nm,0.3s						
PCDR	**Punta Cana, DR**	**0.93**	**268**	*i* P	**Pn**	**07 32 18.9**	**0.0**
PCDR				*eS*	**Sb**	**07 32 31.3**	**+0.2**
PCDR				IAML		07 32 33.0	
	comp=Z,54nm,0.6s						
GCPR	**Guaynabo City**	**1.28**	**101**	⇑*eP*	**Pn**	**07 32 24.2**	**+0.4**
GCPR	**Guaynabo City**	**1.28**	**101**	*eS*	**Sn**	**07 32 39.9**	**-0.2**
GCPR	**Guaynabo City**	**1.28**	**101**		**Pn**	**07 32 24.2**	**+0.4**
GCPR					**Sn**	**07 32 39.9**	**-0.2**
GCPR	**Guaynabo City**	**1.28**	**101**	IAML		07 32 43.5	
	comp=N,35nm,0.3s						
GCPR				IAML		07 32 44.3	
	comp=E,33nm,0.4s						
IGPR	**InterUniversit**	**1.36**	**115**	⇑*eP*	**Pb**	**07 32 25.9**	**-0.6**
IGPR	**InterUniversit**	**1.36**	**115**	*eS*	**Sb**	**07 32 43.7**	**0.0**
CBYP	**Canovanas**	**1.50**	**100**	⇑*eP*	**Pn**	**07 32 27.4**	**+0.5**
CBYP	**Canovanas**	**1.50**	**100**		**Pn**	**07 32 27.4**	**+0.5**
HUMP	**Col San Antoni**	**1.53**	**105**	⇑*eP*	**Pn**	**07 32 28.0**	**+0.7**
HUMP	**Col San Antoni**	**1.53**	**105**		**Pn**	**07 32 28.0**	**+0.7**
MTP	**Monte Pirata**	**1.82**	**104**	⇑*eP*	**Pn**	**07 32 31.7**	**+0.5**
MTP	**Monte Pirata**	**1.82**	**104**	*eS*	**Sn**	**07 32 53.5**	**+0.2**
MTP	**Monte Pirata**	**1.82**	**104**		**Pn**	**07 32 31.7**	**+0.5**
MTP					**Sn**	**07 32 53.5**	**+0.2**
MTP	**Monte Pirata**	**1.82**	**104**	IAML		07 33 17.3	
	comp=N,14nm,2.1s						
CUPR	**Culebra, Puert**	**2.03**	**96**	⇑*eP*	**Pn**	**07 32 34.0**	**-0.1**
CUPR	**Culebra, Puert**	**2.03**	**96**	*eS*	**Sn**	**07 32 58.5**	**-0.1**
CUPR	**Culebra, Puert**	**2.03**	**96**		**Pn**	**07 32 34.0**	**-0.1**
CUPR					**Sn**	**07 32 58.5**	**-0.1**
SJVI	**Gifft Hill Sch**	**2.51**	**95**	⇑*eP*	**Pn**	**07 32 41.2**	**+0.5**
SJVI	**Gifft Hill Sch**	**2.51**	**95**	*eS*	**Sn**	**07 33 10.7**	**+0.2**
SJVI	**Gifft Hill Sch**	**2.51**	**95**		**Pn**	**07 32 41.2**	**+0.5**
SJVI					**Sn**	**07 33 10.7**	**+0.2**

IDC 08 07:35:40.1±2.7, 53°62N×86°85E, h0km, mbtmp3.1/2, ML2.7/1, Error ellipse: s-maj=24.3km s-min=14.9km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.25**	**286**	Pg	Pg	07 36 02.5	-1.6
	0.7nm,0.3s,baz=106,slow=16,SNR=4.6						
ZALV				Lg	Lg	07 36 21.0	
	0.9nm,0.3s,baz=107,slow=29,SNR=3.8						
I46RU	**ZALESOVO INFRA**	**1.25**	**286**	*i*		07 43 50.0	
	baz=104,slow=320,SNR=0.8						
KURBB	**Kurchatov Arra**	**5.94**	**243**	Pn	Pn	07 37 10.6	+1.4
	1.4nm,0.2s,baz=58,slow=12,SNR=1.3						
KURBB				Lg	Lg	07 38 47.9	
	baz=62,slow=30						
MKAR	**Makanchi Array**	**7.43**	**205**	Pn	Pn	07 37 31.0	+1.3
	0.1nm,0.3s,baz=27,slow=14,SNR=5.3						
MKAR				Lg	Lg	07 39 34.6	
	0.1nm,0.3s,baz=20,slow=26,SNR=2.1						
	0.2nm,0.3s						

*OSPL **08** 07:41:07.9±1.4, 19°80N×66°80W, h28km±24km, ML2.7*
*NEIC **08** 07:41:09.3±0.7, 19°7N±0°1×66°90W±0°06, h56km±49km, Error ellipse: s-maj=19.0km s-min=7.7km az=172.0*
*RSPR **08** 07:41:09.7, 19°72N×66°88W, h61km±8km, MD3.5/18*
ISC 08 07:41:08.0±1.4, 19°78N±0°06×66°91W±0°04, h35km, n67, σ0§60/74, 16C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.32**	**188**	⇑*eP*	**Pn**	**07 41 30.0**	**0.0**
AGPR	**Aguadilla, PR**	**1.32**	**188**	IAML		07 41 45.8	
	comp=E,179nm,0.6s						
AGPR				IAML		07 41 46.2	
	comp=N,163nm,0.7s						
AGPR	**Aguadilla, PR**	**1.32**	**188**		**Pn**	**07 41 30.0**	**0.0**
AGPR					**Sn**	**07 41 45.5**	**-0.9**
AGPR	**Aguadilla, PR**	**1.32**	**188**	*i* P	**Pn**	**07 41 29.7**	**-0.3**
AGPR				*eS*	**Sn**	**07 41 45.1**	**-1.3**
AGPR				IAML		07 41 47.3	
	comp=Z,76nm,1.6s						
EMPR	**Esperanza - Ma**	**1.35**	**165**	⇑*eP*	**Pn**	**07 41 30.8**	**+0.4**
EMPR	**Esperanza - Ma**	**1.35**	**165**	*eS*	**Sn**	**07 41 47.0**	**0.0**
EMPR	**Esperanza - Ma**	**1.35**	**165**		**Pn**	**07 41 30.8**	**+0.4**
EMPR					**Sn**	**07 41 47.0**	**0.0**
EMPR	**Esperanza - Ma**	**1.35**	**165**	IAML		07 41 47.6	
	comp=N,129nm,1.5s						
EMPR				IAML		07 41 55.9	
	comp=E,233nm,0.5s						
AOPR	**Arecibo Observ**	**1.44**	**174**	⇑*eP*	**Pn**	**07 41 31.7**	**+0.1**
AOPR	**Arecibo Observ**	**1.44**	**174**	*eS*	**Sn**	**07 41 49.2**	**-0.1**
AOPR	**Arecibo Observ**	**1.44**	**174**		**Pn**	**07 41 31.7**	**+0.1**
AOPR					**Sn**	**07 41 49.2**	**-0.1**
AOPR	**Arecibo Observ**	**1.44**	**174**	IAML		07 42 02.9	
	comp=N,214nm,0.5s						
IDE	**Isla Desecheo**	**1.49**	**201**	⇑*eP*	**Pn**	**07 41 32.9**	**+0.6**
IDE	**Isla Desecheo**	**1.49**	**201**	*eS*	**Sn**	**07 41 51.4**	**+0.8**
UUPR	**Utuado, UPR, P**	**1.53**	**173**	⇑*eP*	**Pn**	**07 41 33.0**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.53**	**173**		**Pn**	**07 41 33.0**	**+0.1**
LSP	**Las Mesas**	**1.61**	**186**	⇑*eP*	**Pn**	**07 41 34.1**	**+0.1**
LSP	**Las Mesas**	**1.61**	**186**	*eS*	**Sn**	**07 41 53.5**	**0.0**
CELP	**Cerrillos**	**1.73**	**170**	⇑*eP*	**Pn**	**07 41 35.7**	**+0.1**
CELP	**Cerrillos**	**1.73**	**170**	*eS*	**Sn**	**07 41 55.8**	**-0.7**
CELP	**Cerrillos**	**1.73**	**170**		**Pn**	**07 41 35.7**	**+0.1**
CELP					**Sn**	**07 41 55.8**	**-0.7**
CELP	**Cerrillos**	**1.73**	**170**	IAML		07 41 57.8	
	comp=N,73nm,0.5s						
CELP				IAML		07 41 60.0	
	comp=E,69nm,0.6s						
OBIP	**Obispado Ponce**	**1.75**	**171**	⇑*eP*	**Pn**	**07 41 35.2**	**-0.8**
OBIP	**Obispado Ponce**	**1.75**	**171**	*eS*	**Sn**	**07 41 55.4**	**-1.7**
OBIP	**Obispado Ponce**	**1.75**	**171**		**Pn**	**07 41 35.2**	**-0.8**
OBIP					**Sn**	**07 41 55.4**	**-1.7**
OBIP	**Obispado Ponce**	**1.75**	**171**	IAML		07 41 57.6	
	comp=N,72nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.78**	**186**	⇑*eP*	**Pn**	**07 41 36.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.78**	**186**	*eS*	**Sn**	**07 41 57.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.78**	**186**		**Pn**	**07 41 36.7**	**+0.4**
CRPR					**Sn**	**07 41 57.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.78**	**186**	IAML		07 42 02.7	
	comp=N,83nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.78**	**186**	*i* P	**Pn**	**07 41 36.3**	**0.0**
CRPR				*eS*	**Sn**	**07 41 56.7**	**-0.9**
CRPR				IAML		07 42 02.6	
	comp=Z,75nm,0.3s						
GBPR	**Guanica, Bosqu**	**1.80**	**179**	⇑*eP*	**Pn**	**07 41 37.4**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.80**	**179**	*eS*	**Sn**	**07 41 57.8**	**-0.3**
CBYP	**Canovanas**	**1.80**	**146**	⇑*eP*	**Pn**	**07 41 36.4**	**-0.3**
CBYP	**Canovanas**	**1.80**	**146**		**Pn**	**07 41 36.4**	**-0.3**
MLPR	**Magueyes Islan**	**1.81**	**184**	⇓*eP*	**Pn**	**07 41 37.1**	**+0.4**
MLPR	**Magueyes Islan**	**1.81**	**184**	*eS*	**Sn**	**07 41 58.5**	**+0.1**
MLPR	**Magueyes Islan**	**1.81**	**184**		**Pn**	**07 41 37.1**	**+0.4**
MLPR					**Sn**	**07 41 58.5**	**+0.1**
PCDR	**Punta Cana, DR**	**1.88**	**228**	⇑*eP*	**Pn**	**07 41 38.5**	**+0.9**
PCDR	**Punta Cana, DR**	**1.88**	**228**		**Pn**	**07 41 38.5**	**+0.9**
PCDR					**Sn**	**07 42 01.0**	**+0.8**
PCDR	**Punta Cana, DR**	**1.88**	**228**	*i* P	**Pn**	**07 41 38.7**	**+1.0**
PCDR				*eS*	**Sn**	**07 42 00.7**	**+0.5**
PCDR				IAML		07 42 01.6	
	comp=Z,187nm,0.6s						
HUMP	**Col San Antoni**	**1.91**	**148**	⇑*eP*	**Pn**	**07 41 38.3**	**+0.1**
HUMP	**Col San Antoni**	**1.91**	**148**	*eS*	**Sn**	**07 42 01.3**	**+0.2**
HUMP	**Col San Antoni**	**1.91**	**148**		**Pn**	**07 41 38.3**	**+0.1**
HUMP	**Col San Antoni**	**1.91**	**148**	IAML		07 42 00.7	
	comp=N,118nm,0.5s						
HUMP	**Col San Antoni**	**1.91**	**148**		**Sn**	**07 42 01.3**	**+0.2**
IGPR	**InterUniversit**	**1.96**	**157**	⇑*eP*	**Pn**	**07 41 39.2**	**+0.5**
IGPR	**InterUniversit**	**1.96**	**157**	*eS*	**Sn**	**07 42 01.5**	**-0.7**
IGPR	**InterUniversit**	**1.96**	**157**		**Sn**	**07 42 01.5**	**-0.7**
MTP	**Monte Pirata**	**2.11**	**142**	⇑*eP*	**Pn**	**07 41 40.8**	**-0.1**
MTP	**Monte Pirata**	**2.11**	**142**	*eS*	**Sn**	**07 42 05.8**	**-0.1**
MTP	**Monte Pirata**	**2.11**	**142**		**Pn**	**07 41 40.8**	**-0.1**
MTP					**Sn**	**07 42 05.8**	**-0.1**
MTP	**Monte Pirata**	**2.11**	**142**	IAML		07 42 08.3	
	comp=N,63nm,0.3s						
MTP				IAML		07 42 08.3	
	comp=E,56nm,0.4s						
CUPR	**Culebra, Puert**	**2.12**	**133**	⇓*eP*	**Pn**	**07 41 40.8**	**-0.2**
CUPR	**Culebra, Puert**	**2.12**	**133**		**Pn**	**07 41 40.8**	**-0.2**
STVI	**Saint Thomas**	**2.33**	**127**	⇑*eP*	**Pn**	**07 41 44.4**	**+0.5**
STVI	**Saint Thomas**	**2.33**	**127**	*eS*	**Sn**	**07 42 11.3**	**-0.1**
STVI	**Saint Thomas**	**2.33**	**127**		**Pn**	**07 41 44.4**	**+0.5**
STVI					**Sn**	**07 42 11.3**	**-0.1**
STVI	**Saint Thomas**	**2.33**	**127**	IAML		07 42 13.7	
	comp=N,45nm,0.3s						
SJVI	**Gifft Hill Sch**	**2.48**	**125**	⇓*eP*	**Pn**	**07 41 46.5**	**+0.5**
SJVI	**Gifft Hill Sch**	**2.48**	**125**	*eS*	**Sn**	**07 42 15.2**	**+0.2**
SJVI	**Gifft Hill Sch**	**2.48**	**125**		**Pn**	**07 41 46.5**	**+0.5**
SJVI					**Sn**	**07 42 15.2**	**+0.2**
DR12	**Loma Pena Alta**	**2.54**	**247**	⇑*eP*	**Pn**	**07 41 46.8**	**0.0**
TBVI	**Tortola**	**2.56**	**122**	⇑*eP*	**Pn**	**07 41 47.8**	**+0.8**
TBVI	**Tortola**	**2.56**	**122**	*eS*	**Sn**	**07 42 16.6**	**-0.3**
TBVI	**Tortola**	**2.56**	**122**		**Pn**	**07 41 47.8**	**+0.8**
TBVI					**Sn**	**07 42 16.6**	**-0.3**
GRTK	**Grand Turk**	**4.32**	**294**	*i* P	**Pn**	**07 42 11.5**	**+0.3**
GRTK				*eS*	**Sn**	**07 42 58.4**	**-1.9**
GRTK				IAML		07 43 01.7	
	comp=Z,37nm,1.5s						

ROM 08 07:49:36.9±0.8, 42°88N±0°03×13°23E±0°03, h22km±4km, Md0.9/6, 2D, Error ellipse: s-maj=3.3km s-min=1.7km az=200.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**316**	P	Pb	07 49 42.5	+1.5
MC2				END			
MMO1	**Montemonaco**	**0.07**	**77**	P	Pb	07 49 41.4	+0.3
MMO1				S	Sb	07 49 44.1	+0.2
MMO1				END			
NRCA	**Norcia**	**0.10**	**240**	⇓P	Pb	07 49 42.0	+0.7
NRCA				S	Sb	07 49 44.1	-0.1
NRCA				AML	AML		
	comp=E,152μm,0.9s						
NRCA				AML	AML		
	comp=N,104μm,1.2s						
NRCA				AML	AML		
	comp=E,482μm,0.5s						
NRCA				AML	AML		
	comp=N,564μm,0.1s						
NRCA				END			
T1216	**Preci, Frazion**	**0.15**	**273**	END			
FDMO	**Fiordimonte**	**0.19**	**326**	P	Pb	07 49 41.5	-1.0
FDMO				END			
T1243	**Rocca Santa Ma**	**0.25**	**139**	⇓P	Pb	07 49 43.6	+0.5
T1243				S	Sb	07 49 47.2	-0.1
T1243				END			

*NIED **08** 07:55:53.4, 45°44N×151°05E, h30km, MW3.9, Moment Tension Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.37; $M_{\theta\theta}$5.60; $M_{\phi\phi}$-5.24; $M_{r\theta}$1.96; $M_{\theta\phi}$-1.68; $M_{\phi r}$6.05; Fault plane solution: $M_0$7.96000×10^{14} NP1: ϕ_s135.00000°, δ52.00000°, λ-13.00000°. NP2: ϕ_s233.00000°, δ80.00000°, λ-142.00000°.*
*JMA **08** 07:55:53.4±0.6, 45°N±4°×151°1E±°, h30km, MV4.2/10, KURILE ISLANDS REGION*
*SKHL **08** 07:55:54.3±1.8, 45°20N×151°10E, h45km±5km, mb4.5/2*
*IDC **08** 07:55:56.2±0.8, 45°37N×151°06E, h49km±8km, mb3.6/8, mbtmp3.8/11, MS3.0/5, Error ellipse: s-maj=29.5km s-min=19.4km az=112.0*
ISC 08 07:55:54.3±0.8, 45°2N±0°1×151°07E±0°08, h35km, n37, σ1§42/36, mb3.8/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.27**	**273**	*eP*	**Pn**	**07 56 29.9**	**+0.7**
KUR				AMB	AMB	07 56 31.6	
	70nm,0.7s						
KUR				*eS*	**Sn**	**07 56 56.4**	**+0.5**
KUR				A	A	07 57 13.7	
	180nm,0.6s						
KUR				A	A	07 57 13.7	
	60nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.89**	**255**	*eP*	**Pn**	**07 56 51.0**	**-0.5**
Y

TXAR pP **sP** **08 08 10.5 +0.1**
comp=Z,0.3nm,0.5s,baz=295,slow=3.8,SNR=4.2
comp=Z,0.2nm,0.8s
H03N2 Juan Fernandez 140.16 91 T T 10 51 53.9
baz=306
H03N3 Juan Fernandez 140.18 91 T T 10 51 53.9
baz=306
H03N1 Juan Fernandez 140.18 91 T T 10 51 53.3
baz=306

NOU 08 07:58:35.9, 17°11'S × 168°26'E, h25km, MLv3.9/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**0.70**	**167**	P	Pn	07 58 50.3	+0.1
MARNC	**Mare, Loyalty**	**4.35**	**183**	P	Pn	07 59 40.3	-0.2
YATNC	**Mamie plateau,**	**5.09**	**194**	P	Pn	07 59 49.1	-1.5
NOUC	**Port Laguerre**	**5.30**	**200**	P	Pn	07 59 53.2	-0.3
ONTNC	**Ouen Toro**	**5.44**	**198**	P	Pn	07 59 56.8	+1.3
OUENC	**Ouen Island, N**	**5.45**	**194**	P	Pn	07 59 55.9	+0.4

ROM 08 07:58:47.8±0.1, 42°769N±0°004 × 13°148E±0°005, h10km, Md1.5/5, 2D, Error ellipse: s-maj=0.4km s-min=0.3km az=152.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.07**	**339**	P	Pg	07 58 50.1	0.0
NRCA				S	Sg	07 58 51.4	-0.3
NRCA				END			
NRCA	**Norcia**	**0.07**	**339**	P	Pg	07 58 50.1	0.0
NRCA				S	Sg	07 58 51.4	-0.3
T1202	**Accumoli, Fraz**	**0.09**	**139**	P	Pg	07 58 50.6	+0.3
T1202				S	Sg	07 58 52.7	+0.6
T1202				END			
T1202	**Accumoli, Fraz**	**0.09**	**139**	P	Pg	07 58 50.6	+0.4
T1202				S	Sg	07 58 52.7	+0.6
MC2	**Monte Cornacci**	**0.15**	**12**	P	Pg	07 58 51.8	+0.6
MC2				S	Sg	07 58 54.8	+1.2
MC2				END			
MC2	**Monte Cornacci**	**0.15**	**12**	P	Pg	07 58 51.8	+0.6
T1216	**Preci, Frazion**	**0.15**	**322**	P	Pg	07 58 51.7	+0.5
T1216				S	Sg	07 58 54.5	+1.0
T1216				END			
T1216	**Preci, Frazion**	**0.15**	**322**	P	Pg	07 58 52.0	+0.8
T1204	**Amatrice, Fraz**	**0.15**	**127**	⇓P	Pg	07 58 52.0	+0.7
T1204				S	Sg	07 58 55.3	+1.6
T1217	**Poggiodomo (PG**	**0.17**	**250**	P	Pg	07 58 52.1	+0.6
T1217				S	Sg	07 58 55.4	+1.3
T1217	**Poggiodomo (PG**	**0.17**	**250**	P	Pg	07 58 52.2	+0.8
T1217				S	Sg	07 58 55.5	+1.4
LNSS	**Leonessa**	**0.18**	**206**	P	Pg	07 58 52.3	+0.6
LNSS				S	Sg	07 58 55.1	+0.7
LNSS	**Leonessa**	**0.18**	**206**	P	Pg	07 58 52.3	+0.6
LNSS				S	Sg	07 58 55.5	+1.1
LNSS				AML	AML		
	comp=E,162μm,1.2s						
LNSS				AML	AML		
	comp=N,204μm,0.2s						
LNSS				AML	AML		
	comp=E,162μm,1.2s						
LNSS				AML	AML		
	comp=N,204μm,0.2s						
LNSS				AML	AML		
	comp=N,204μm,0.2s						
LNSS				AML	AML		
	comp=E,162μm,1.2s						
MMO1	**Montemonaco**	**0.18**	**45**	P	Pg	07 58 52.3	+0.5
MMO1				S	Sg	07 58 55.6	+1.1
MMO1	**Montemonaco**	**0.18**	**45**	P	Pg	07 58 52.4	+0.6
MMO1				S	Sg	07 58 56.2	+1.7
SMA1	**SAN MARTINO**	**0.20**	**135**	P	Pg	07 58 52.9	+1.0
SMA1				AML	AML		
	comp=E,156μm,0.3s						
SMA1				AML	AML		
	comp=N,136μm,1.1s						
SMA1				AML	AML		
	comp=E,156μm,0.3s						
SMA1				AML	AML		
	comp=N,136μm,1.1s						
T1215	**Vallo di Nera,**	**0.21**	**279**	P	Pg	07 58 52.7	+0.5
T1215				S	Sg	07 58 56.8	+1.7
T1215				END			
T1215	**Vallo di Nera,**	**0.21**	**279**	P	Pg	07 58 52.7	+0.5
T1241	**Roccafluvione,**	**0.23**	**67**	P	Pg	07 58 53.2	+0.8
T1241				S	Sg	07 58 57.1	+1.5
T1241	**Roccafluvione,**	**0.23**	**67**	P	Pg	07 58 53.5	+1.0
T1241				S	Sg	07 58 57.0	+1.4
T1243	**Rocca Santa Ma**	**0.23**	**108**	P	Pg	07 58 53.1	+0.5
T1243				S	Sg	07 58 57.0	+1.1
RM33	**Pellescritta (**	**0.27**	**169**	P	Pg	07 58 53.8	+0.6
RM33				S	Sb	07 58 58.3	-1.0
RM33				AML	AML		
	comp=E,78μm,0.3s						
RM33				AML	AML		
	comp=N,106μm,0.2s						
RM33				AML	AML		
	comp=E,78μm,0.3s						
RM33				AML	AML		
	comp=N,106μm,0.2s						
RM33				AML	AML		
	comp=N,106μm,0.2s						
RM33				AML	AML		
	comp=E,78μm,0.3s						
FDMO	**Fiordimonte**	**0.27**	**351**	P	Pg	07 58 53.8	+0.5
FDMO				S	Sg	07 58 58.2	+1.2
CESI	**CESI - Serrava**	**0.30**	**323**	P	Pg	07 58 54.2	+0.5
CESI				S	Sb	07 58 59.2	-1.0
CAMP	**Campotosto**	**0.30**	**140**	P	Pg	07 58 54.5	+0.7
CAMP				S	Sb	07 58 59.4	-1.1
CSP1	**Cessapalombo**	**0.33**	**7**	P	Pg	07 58 55.0	+0.7
CSP1				S	Sb	07 59 00.4	-0.8
TERO	**Teramo**	**0.37**	**113**	⇓P	Pg	07 58 55.5	+0.5
TERO				S	Sb	07 59 01.6	-0.7
ASSB	**Assisi San Ben**	**0.45**	**307**	P	Pg	07 58 57.0	+0.4
ASSB				S	Sb	07 59 04.5	-0.2
EL6	**Elcito**	**0.56**	**357**	S	Sb	07 59 09.0	+1.1
TOLF	**Tolfa**	**1.10**	**231**	P	Pg	07 59 08.6	-0.4
TOLF				AML	AML		
	comp=E,44μm,1.5s						
TOLF				AML	AML		
	comp=N,108μm,0.0s						
TOLF				AML	AML		
	comp=N,108μm,0.0s						
TOLF				AML	AML		
	comp=E,44μm,1.5s						

*IDC **08** 08:14:48.9±0.6, 39°95N × 29°74W, h0km, mb4.1/18, mbtmp4.1/19, ML4.3/1, MS3.7/64, Error ellipse: s-maj=18.4km s-min=11.2km az=171.0*
*NEIC **08** 08:14:49.9±1.0, 39°7N±0°1 × 29°68W±0°08, h10km±1km, mb4.6/64, Error ellipse: s-maj=21.2km s-min=10.5km az=182.0*
*SVSA **08** 08:14:52.7±0.8, 40°02N × 29°51W, h10km, ML3.7(INMG), Error ellipse: s-maj=3.0km s-min=2.0km az=36.0*
ISC 08 08:14:48.9±1.5, 39°76N±0°06 × 29°59W±0°03, h4km±10km, n188, σ1§09/150, mb4.6/51, MS3.7/64, 2C-1D, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.18**	**267**	Pn	**Pb**	**08 15 10.4**	**-1.5**
H07N1				T	T	08 16 23.0	
	SNR=568						
H07N1	**FLORES T-PHASE**	**1.18**	**267**	*e*P	**Pg**	**08 15 11.7**	**+0.1**
PCAPE	**Capelo, Faial**	**1.30**	**153**	*e*P	**Sg**	**08 15 30.1**	**-0.7**
H07S1	**FLORES T-PHASE**	**1.31**	**254**	Pn	**Pn**	**08 15 13.2**	**-0.7**
H07S1	**FLORES T-PHASE**	**1.31**	**254**	*e*P	**Pg**	**08 15 14.6**	**+0.6**
H07S1				*e*S	**Sn**	**08 15 31.0**	**-0.8**
PCED	**Cedros**	**1.32**	**148**	*e*P	**Pg**	**08 15 14.9**	**+0.6**
PCED				*e*S	**Sg**	**08 15 32.1**	**+0.7**
PCED				A	A	08 15 34.0	
	214nm,0.2s						
CALA	**Caldeira**	**1.36**	**149**	*e*P	**Pg**	**08 15 15.8**	**+0.7**
CALA				*e*S	**Sg**	**08 15 33.4**	**+0.7**
CALA				A	A	08 15 36.9	
	532nm,0.3s						
PRIB2	**Ribeirinha**	**1.39**	**147**	*e*S	**Sg**	**08 15 33.7**	**+0.1**
PRIB2				A	A	08 15 37.1	
	550nm,0.3s						
SRBC	**Serra Branca**	**1.40**	**121**	⇑*i*P	**Pb**	**08 15 14.7**	**-0.9**
SRBC				*e*S	**Sn**	**08 15 31.9**	**-2.2**
SRBC				A	A	08 15 34.8	
	1μm,0.3s						
PFCBR	**Castelo Branco**	**1.41**	**151**	*e*P	**Pg**	**08 15 16.6**	**+0.7**
PFCBR				*e*S	**Sg**	**08 15 34.6**	**+0.4**
PFCBR				A	A	08 15 35.7	
	95nm,0.4s						
HOR	**Horta**	**1.44**	**149**	*e*P	**Pg**	**08 15 16.9**	**+0.4**
HOR				*e*S	**Sg**	**08 15 34.9**	**-0.3**
HOR				A	A	08 15 37.6	
	266nm,0.3s						
PGRA	**Graciosa**	**1.44**	**120**	*e*P	**Pb**	**08 15 15.3**	**-1.0**
PGRA				*e*S	**Sn**	**08 15 32.7**	**-2.4**
PGRA				A	A	08 15 35.5	
	333nm,0.3s						
ROSA	**Rosais**	**1.47**	**134**	*e*P	**Pb**	**08 15 16.4**	**-0.5**
ROSA				*e*S	**Sn**	**08 15 34.8**	**-1.1**
ROSA				A	A	08 15 38.6	
	201nm,0.3s						
ROSA	**Rosais**	**1.47**	**134**	Pn	**Pb**	**08 15 16.1**	**-0.8**
PMAD	**Madalena**	**1.48**	**145**	*e*S	**Sb**	**08 15 35.9**	**-0.3**
PMAD				A	A	08 15 38.0	
	212nm,0.1s						
PICO	**Pico**	**1.55**	**144**	⇑*i*P	**Pg**	**08 15 18.2**	**-0.4**
PICO				*e*S	**Sb**	**08 15 37.5**	**-0.6**
PICO				A	A	08 15 39.2	
	772nm,0.4s						
PCAN	**Candelaria**	**1.55**	**146**	*e*P	**Pg**	**08 15 18.3**	**-0.4**
PCAN				*e*S	**Sb**	**08 15 37.8**	**-0.4**
PCAN				A	A	08 15 39.7	
	705nm,0.3s						
PMAN	**Manadas**	**1.62**	**134**	*e*P	**Pb**	**08 15 18.4**	**-0.9**
PMAN				*e*S	**Sn**	**08 15 38.4**	**-1.1**
PMAN				A	A	08 15 40.9	
	126nm,0.3s						
PPNO	**Prainha do Nor**	**1.65**	**141**	*e*P	**Pb**	**08 15 19.1**	**-0.8**
PPNO				*e*S	**Sb**	**08 15 39.9**	**-1.1**
PPNO				A	A	08 15 43.3	
	151nm,0.3s						
PID	**Ribeirinha**	**1.74**	**139**	*e*P	**Pb**	**08 15 20.8**	**-0.7**
PID				*e*S	**Sn**	**08 15 42.0**	**-0.6**
PID				A	A	08 15 47.5	
	269nm,0.4s						
PAGU	**Agualva, Azore**	**2.11**	**117**	*e*P	**Pn**	**08 15 24.7**	**-0.3**
PAGU				*e*S	**Sn**	**08 15 49.0**	**-2.7**
PAGU				A	A	08 15 53.6	
	242nm,0.3s						
PSCM	**Serra do Cume**	**2.19**	**118**	*e*P	**Pn**	**08 15 25.7**	**-0.4**
PPV	**Praia da Vit**	**2.21**	**117**	*e*P	**Pn**	**08 15 25.8**	**-0.6**
PSET	**Sete Cidades**	**3.59**	**121**	*e*P	**Pn**	**08 15 45.6**	**+0.3**
PDA	**Ponta Delgada**	**3.67**	**122**	*e*P	**Pn**	**08 15 46.7**	**+0.3**
CMLA	**Cha da Macela**	**3.75**	**121**	*e*P	**Pn**	**08 15 47.8**	**+0.3**
CMLA				*e*S	**Sn**	**08 16 28.7**	**-3.4**
CMLA				A	A	08 16 34.4	
	98nm,0.2s						
CMLA	**Cha da Macela**	**3.75**	**121**		**Pn**	**08 15 47.7**	**+0.2**
PGRON	**Lagoa das Cont**	**3.85**	**120**	*e*P	**Pn**	**08 15 49.0**	**+0.1**
BART	**Pico Bartolome**	**3.98**	**118**	*e*P	**Pn**	**08 15 51.1**	**+0.3**
PSMA	**Santa Maria**	**4.46**	**127**	*e*P	**Pn**	**08 15 57.7**	**+0.4**
PSMN	**Pico do Norte,**	**4.50**	**126**	*e*P	**Pn**	**08 15 58.2**	**+0.5**
PMOZ	**Porto Moniz, M**	**12.15**	**121**	*e*LR	LR	08 20 36.9	
	401nm,20.0s						
COI	**Coimbra**	**16.24**	**82**		**P**	**08 18 38.4**	**-2.6**
COI				IAmb	IAmb	08 18 43.6	
	comp=Z,45nm,1.1s						
PGAV	**Gavieira, Arco**	**16.27**	**75**	*e*LR	LR	08 22 36.2	
	comp=Z,382nm,20.0s						
PTEO	**Sao Teotonio**	**16.45**	**91**	*e*P	**P**	**08 18 41.3**	**-2.0**
PNCL	**Nicolau / Gran**	**16.47**	**89**	*e*P	**P**	**08 18 41.4**	**-2.1**
PFVI	**Vila Bisbo**	**16.47**	**93**		**P**	**08 18 41.1**	**-2.5**
PFVI				IAmb	IAmb	08 19 09.1	
	comp=Z,38nm,1.0s						
PMTG	**Montargil**	**16.52**	**86**	*e*P	**P**	**08 18 41.7**	**-2.4**
	comp=Z,34nm,1.4s						
MESJ	**Messejana**	**16.77**	**90**	*e*P	**P**	**08 18 46.2**	**-0.6**
	comp=Z,38nm,1.5s						
MTE	**Manteigas**	**16.88**	**81**	*e*LR	LR	08 22 38.0	
	comp=Z,354nm,22.0s						
PCVE	**Castro Verde**	**16.95**	**90**	*e*P	**P**	**08 18 48.7**	**-0.2**
PCBR	**Castelo Branco**	**16.99**	**83**	*e*P	**P**	**08 18 51.2**	**+1.9**
	comp=Z,31nm,1.5s						
PESTR	**Estremoz**	**17.05**	**86**		**Pn**	**08 18 46.8**	**-1.3**
PMRV	**Marv??o**	**17.11**	**84**	*e*P	**P**	**08 18 50.6**	**0.0**
	comp=Z,23nm,1.8s						
PMRV				*e*LR	LR	08 23 02.6	
	comp=Z,369nm,20.0s						
MVO	**Moncorvo**	**17.22**	**78**	*e*LR	LR	08 22 53.2	
	comp=Z,357nm,20.0s						
PVAQ	**Vaqueiros**	**17.26**	**91**	*e*LR	LR	08 23 00.8	
	comp=Z,312nm,20.0s						
PBAR	**Barrancos**	**17.60**	**88**	*e*P	**P**	**08 18 57.6**	**+1.5**
PAB	**San Pablo**	**19.42**	**83**		**Pn**	**08 19 17.3**	**0.0**
ESDC	**Sonseca Array**	**19.70**	**82**	P	**Pn**	**08 19 20.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=291,slow=10.0,SNR=15						
ESDC				LR	LR	08 25 59.5	
	comp=Z,389nm,18.3s,baz=268,slow=34						
	comp=Z,4.2nm,1.0s						
ESDC	**Sonseca Array**	**19.70**	**82**	P	**Pn**	**08 19 19.8**	**-0.8**
ESBB	**Sonseca Array**	**19.70**	**82**	P	**Pn**	**08 19 21.1**	**+0.6**
MDT	**Midelt**	**21.26**	**101**	P	**P**	**08 19 37.7**	**+1.5**
	comp=Z,8.5nm,1.1s,baz=264,slow=8.9,SNR=6.6						
MDT				LR	LR	08 25 58.5	
	comp=Z,189nm,21.7s,baz=313,slow=31						
	comp=Z,8.5nm,1.1s						
EKA	**Eskdalemuir Ar**	**23.48**	**40**	P	**P**	**08 19 59.0**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=246,slow=6.3,SNR=5.3						
EKA				LR	LR	08 27 13.6	
	comp=Z,186nm,19.2s,baz=189,slow=32						
	comp=Z,2.0nm,0.7s						
BORG	**Borgarnes**	**25.49**	**8**	LR	LR	08 27 26.3	
	comp=Z,126nm,20.3s,baz=231,slow=30						
WLF	**Walferdange**	**27.03**	**57**	P	**P**	**08 20 32.5**	**+0.5**
WLF				IAmb	IAmb	08 20 33.0	
	comp=Z,14nm,1.1s						
BATG	**Bathurst New B**	**27.30**	**298**	P	**P**	**08 20 34.3**	**-0.1**
BATG				IAmb	IAmb	08 20 39.1	
	comp=Z,14nm,1.3s						
BBTS	**Babate**	**27.50**	**152**	LR	LR	08 28 59.7	
	comp=Z,157nm,20.9s,baz=0,slow=31						
SCHQ	**Schefferville**	**29.00**	**314**	P	**P**	**08 20 48.0**	**-1.5**
	comp=Z,4.3nm,1.0s,baz=73,slow=17,SNR=2.9						
SCHQ				LR	LR	08 31 06.3	
	comp=Z,110nm,18.5s,baz=40,slow=34						
	comp=Z,4.3nm,1.0s						
D62A	**Allapoint, All**	**29.34**	**298**	P	**P**	**08 20 51.5**	**-1.1**
D62A				IAmb	IAmb	08 20 58.3	
	comp=Z,11nm,1.2s						
DAVOX	**Davos/Dischmat**	**29.34**	**63**	LR	LR	08 30 36.3	
	comp=Z,114nm,20.8s,baz=262,slow=32						
SFJD	**Kangerlussuaq**	**29.71**	**343**	LR	LR	08 29 55.4	
	comp=Z,84nm,19.9s,baz=156,slow=31						
KEST	**Kesra**	**30.88**	**85**	LR	LR	08 32 40.7	
	comp=Z,159nm,20.2s,baz=59,slow=35						
KHC	**Kasperske Hory**	**31.83**	**58**	P	**P**	**08 21 14.8**	**+0.2**
GERES	**GERESS Array B**	**31.91**	**59**	P	**P**	**08 21 15.2**	**-0.1**
NOA	**NORSAR Array B**	**32.81**	**36**	LR	LR	08 32 48.1	
	comp=Z,85nm,20.0s,baz=245,slow=33						
JMIC	**Jan Mayen**	**33.12**	**12**	LR	LR	08 31 18.2	
	comp=Z,74nm,21.5s,baz=161,slow=30						
FRB	**Frobisher Bay**	**33.16**	**329**	LR	LR	08 31 27.1	
	comp=Z,119nm,19.0s,baz=24,slow=30						
PAOL	**Paolisi**	**33.39**	**73**	P	**P**	**08 21 29.4**	**+1.1**
HFS	**Hagfors**	**33.66**	**38**	LR	LR	08 33 45.3	
	comp=Z,134nm,19.2s,baz=251,slow=34						
KOWA	**Kowa**	**33.70**	**131**	P	**P**	**08 21 34.2**	**+3.0**
	comp=Z,0.7nm,0.3s,baz=236,slow=1.4,SNR=1.6						
KOWA				LR	LR	08 34 21.7	
	comp=Z,129nm,19.4s,baz=335,slow=35						
	comp=Z,0.7nm,0.3s						
VRAC	**Vranov**	**33.80**	**58**	LR	LR	08 35 20.4	
	comp=Z,56nm,18.7s,baz=267,slow=36						
OJC	**Ojcow**	**35.85**	**56**		**P**	**08 21 48.7**	**-0.8**
OJC				IAmb	IAmb	08 21 50.0	
	comp=Z,8.0nm,1.1s						
PSZ	**Piszkesteto**	**36.08**	**60**	P	**P**	**08 21 52.0**	**+0.4**
PSZ				IAmb	IAmb	08 21 53.8	
	comp=Z,14nm,1.5s						
SSPA	**Standing Stone**	**36.53**	**287**	P	**P**	**08 21 55.2**	**-0.3**
SSPA				IAmb	IAmb	08 22 06.6	
	comp=Z,18nm,1.4s						
SADO	**Sadowa**	**36.55**	**294**	LR	LR	08 35 42.5	
	comp=Z,313nm,20.2s,baz=37,slow=34						
TORD	**Torodi Ar. Bea**	**38.21**	**125**	P	**P**	**08 22 11.7**	**+1.8**
	comp=Z,5.9nm,1.3s,baz=325,slow=4.7,SNR=9.3						
TORD				LR	LR	08 37 18.0	
	comp=Z,105nm,18.3s,baz=208,slow=35						
	comp=Z,5.9nm,1.3s						
SJG	**San Juan**	**38.22**	**246**	LR	LR	08 34 01.0	
	comp=Z,76nm,21.1s,baz=63,slow=30						
BUR08	**Bucovina Ar. S**	**39.66**	**60**	P	**P**	**08 22 22.1**	**+0.2**
BURAR	**Bucovina Array**	**39.67**	**60**	P	**P**	**08 22 21.8**	**-0.2**
DBIC	**Dimbokro**	**39.74**	**139**	P	**P**	**08 22 25.1**	**+2.5**
	comp=Z,7.4nm,1.0s,baz=327,slow=2.6,SNR=3.3						
DBIC				LR	LR	08 37 30.7	
	comp=Z,68nm,18.2s,baz=336,slow=34						
	comp=Z,7.4nm,1.0s						
FINES	**FINESS Array B**	**39.86**	**38**	P	**P**	**08 22 22.4**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=298,slow=4.1,SNR=7.8						
FINES				LR	LR	08 37 06.9	
	comp=Z,147nm,20.5s,baz=298,slow=34						
	comp=Z,4.0nm,0.8s						
NACGM	**Naroch**	**39.95**	**48**	⇓*e*P	P	08 22 28.7	+4.7
	baz=272						
MDP	**Montagnes des**	**40.29**	**217**	LR	LR	08 35 11.7	
	comp=Z,80nm,22.0s,baz=34,slow=30						
MLR	**Muntele Rosu**	**40.57**	**63**	LR	LR	08 39 44.9	
	comp=Z,77nm,19.4s,baz=268,slow=37						
MLR	**Muntele Rosu**	**40.57**	**63**	P	**P**	**08 22 29.6**	**+0.1**
MLR				IAmb	IAmb	08 22 33.4	
	comp=Z,16nm,1.4s						
TULEG	**Thule**	**40.61**	**347**	P	**P**	**08 22 30.8**	**+1.6**
ARCES	**ARCESS Array B**	**41.28**	**26**	LR	LR	08 35 53.2	
	comp=Z,102nm,20.1s,baz=288,slow=31						
AKASG	**Malin Array Be**	**41.80**	**55**	P	**P**	**08 22 38.0**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=276,slow=8.3,SNR=10						
	comp=Z,2.3nm,0.8s						
AKBB	**Malin Array Si**	**41.80**	**55**	P	**P**	**08 22 38.6**	**-0.7**
TKL	**Tuckaleechee C**	**42.52**	**282**	LR	LR	08 38 41.5	
	comp=Z,128nm,19.3s,baz=63,slow=34						
KLMR	**Klimovskoe**	**46.37**	**39**	*e*P	**P**	**08 23 15.1**	**-0.7**
KLMR				AMP		08 23 18.4	
	comp=Z,14nm,1.4s						
KLMR				*e*PcP	**PcP**	**08 24 51.9**	**+1.2**
ULM	**Lac du Bonnet**	**46.57**	**306**	LR	LR	08 41 49.6	
	comp=Z,202nm,18.3s,baz=42,slow=35						
SCIA	**State Center**	**47.20**	**294**	P	**P**	**08 23 21.7**	**-0.9**
SCIA				IAmb	IAmb	08 23 51.2	
	comp=Z,7.3nm,1.1s						
OXF	**Oxford**	**47.21**	**283**	P	**P**	**08 23 21.9**	**-0.9**
Y45A	**Yeager Farm, C**	**47.59**	**283**	P	**P**	**08 23 25.7**	**0.0**
BR131	**Keskin Array S**	**47.68**	**69**	P	**P**	**08 23 27.2**	**+0.7**
BRTR	**Keskin Array B**	**47.68**	**69**	P	**P**	**08 23 27.8**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=276,slow=5.3,SNR=6.3						
	comp=Z,1.5nm,0.8s						
BRTR	**Keskin Array B**	**47.68**	**69**	P	**P**	**08 23 26.4**	**-0.2**
SDV	**Santo Domingo**	**47.76**	**241**	LR	LR	08 40 13.8	
	comp=Z,59nm,21.4s,baz=76,slow=32						
R40A	**Maddies Statio**	**47.82**	**289**	P	**P**	**08 23 26.6**	**-0.8**
R40A				IAmb	IAmb	08 23 33.3	
	comp=Z,9.5nm,1.2s						
MGMO	**Mountain Grove**	**48.26**	**288**	P	**P**	**08 23 30.2**	**-0.8**
ECSD	**EROS Data Cent**	**48.93**	**298**	P	**P**	**08 23 35.9**	**-0.1**
ECSD				IAmb	IAmb	08 23 36.6	
	comp=Z,6.7nm,1.1s						
BNN	**Bunyan**	**49.59**	**69**	P	**P**	**08 23 41.1**	**-0.2**
MIAR	**Mount Ida**	**50.31**	**285**	P	**P**	**08 23 46.2**	**-0.4**
MIAR				IAmb	IAmb	08 23 47.4	
	comp=Z,9.3nm,1.1s						
T35A	**Sooner Cattle**	**51.45**	**289**	P	**P**	**08 23 54.4**	**-0.9**
T35A				IAmb	IAmb	08 23 55.2	
	comp=Z,10nm,0.9s						
KIRV	**Kirov**	**51.71**	**41**	LR	LR	08 45 05.2	
	comp=Z,87nm,18.9s,baz=294,slow=35						
R32A	**Long Quarter,**	**52.41**	**292**	P	**P**	**08 24 01.5**	**-0.9**
R32A				IAmb	IAmb	08 24 02.2	
	comp=Z,7.2nm,0.6s						
KAN16	**Harper SW Stat**	**52.45**	**291**	P	**P**	**08 24 02.1**	**-0.6**
KAN14	**Manchester OK**	**52.49**	**290**	P	**P**	**08 24 02.2**	**-0.7**
BELG	**Belogornoye**	**52.56**	**49**	LR	LR	08 46 25.5	
	comp=Z,88nm,18.5s,baz=126,slow=36						
KBZ	**Khabaz**	**52.63**	**60**	P	**P**	**08 24 06.0**	**+2.2**
	comp=Z,1.3nm,0.3s,baz=85,slow=22,SNR=3.9						
KBZ				LR	LR	08 46 23.1	
	comp=Z,27nm,20.4s,baz=332,slow=36						
	comp=Z,1.3nm,0.3s						
ROSC	**El Rosal**	**53.20**	**241**	LR	LR	08 43 14.4	
	comp=Z,189nm,21.2s,baz=57,slow=32						
YKA	**Yellowknife Ar**	**53.47**	**325**	LR	LR	08 45 18.9	
	comp=Z,59nm,18.2s,baz=95,slow=34						
WMOK	**Wichita Mounta**	**54.07**	**288**	P	**P**	**08 24 13.8**	**-0.8**
GNI	**Garni**	**55.34**	**64**	LR	LR	08 49 46.3	
	comp=Z,17nm,18.7s,baz=250,slow=38						
AMTX	**Amarillo**	**56.12**	**290**	P	**P**	**08 24 29.0**	**-0.5**
N23A	**Red Feather La**	**56.41**	**298**	P	**P**	**08 24 31.4**	**-0.4**
N23A				IAmb	IAmb	08 24 32.9	
	comp=Z,11nm,1.1s						
ISCO	**Idaho Springs**	**56.66**	**297**	P	**P**	**08 24 32.9**	**-0.7**
JCT	**Junction City**	**56.85**	**284**	P	**P**	**08 24 34.1**	**-0.7**
JCT				IAmb	IAmb	08 24 35.4	
	comp=Z,8.3nm,1.1s						
T25A	**Trinidad**	**57.03**	**293**	P	**P**	**08 24 35.6**	**-0.6**
T25A				IAmb	IAmb	08 24 38.4	
	comp=Z,6.7nm,1.0s						
ARU	**Arti**	**57.08**	**41**	LR	LR	08 48 22.1	
	comp=Z,68nm,19.2s,baz=282,slow=35						
MSTX	**Muleshoe**	**57.34**	**289**	P	**P**	**08 24 37.8**	**-0.5**
833A	**Chaparral WMA,**	**57.64**	**282**	P	**P**	**08 24 39.8**	**-0.5**
833A				IAmb	IAmb	08 24 46.7	
	comp=Z,4.5nm,0.8s						
SMCO	**Snowmass**	**57.88**	**296**	P	**P**	**08 24 41.6**	**-0.7**
WALA	**Waterton Lakes**	**58.00**	**309**	P	**P**	**08 24 42.0**	**-0.6**
WALA				IAmb	IAmb	08 24 42.5	
	comp=Z,7.4nm,1.0s						
BW06	**Boulder Array**	**58.01**	**301**	P	**P**	**08 24 41.4**	**-1.5**
BW06				IAmb	IAmb	08 24 42.8	
	comp=Z,4.8nm,1.0s						
PD31	**Pinedale Array**	**58.01**	**301**	P	**P**	**08 24 41.4**	**-1.5**
PDAR

PRN					IAmb	IAmb	08 25 27.4		
	comp=Z,7.9nm,1.1s								
BBB	**Bella Bella**	**64.43**	**318**		LR	LR	08 53 04.5		
	comp=Z,35nm,18.2s,baz=66,slow=36								
BVAR	**Borovoye Array**	**64.72**	**41**		LR	LR	08 53 03.1		
	comp=Z,69nm,18.1s,baz=301,slow=36								
ATAH	**Atahualpa**	**64.84**	**236**		LR	LR	08 51 13.5		
	comp=Z,63nm,21.6s,baz=10,slow=34								
MZP	**Montezuma Peak**	**65.70**	**300**		P	**P**	**08 25 34.1**	**-0.8**	
MZP					IAmb	IAmb	08 25 35.7		
	comp=Z,3.4nm,1.0s								
NVAR	**Mina Array Bea**	**65.93**	**301**		P	**P**	**08 25 35.4**	**-1.0**	
	comp=Z,0.3nm,0.6s,baz=60,slow=5.8,SNR=4.8								
NVAR					LR	LR	08 54 28.9		
	comp=Z,109nm,19.5s,baz=48,slow=36								
	comp=Z,0.3nm,0.6s								
LPAZ	**La Paz**	**66.33**	**221**		P	**P**	**08 25 41.2**	**+1.8**	
	comp=Z,0.6nm,0.6s,baz=10.0,slow=8.2,SNR=3.5								
LPAZ					LR	LR	08 52 35.9		
	comp=Z,63nm,18.8s,baz=357,slow=34								
	comp=Z,0.6nm,0.6s								
GLA	**Glamis**	**66.45**	**294**		P	**P**	**08 25 40.0**	**+0.4**	
YBH	**Yreka Blue Hor**	**66.98**	**306**		LR	LR	08 53 48.5		
	comp=Z,116nm,19.9s,baz=41,slow=35								
PFO	**Pinyon Flats O**	**67.29**	**295**		P	**P**	**08 25 45.8**	**+0.9**	
	comp=Z,2.0nm,0.7s,baz=44,slow=11,SNR=2.6								
PFO					LR	LR	08 55 32.5		
	comp=Z,88nm,18.0s,baz=55,slow=36								
	comp=Z,2.0nm,0.7s								
NNA	**Nana**	**67.64**	**231**		LR	LR	08 53 26.9		
	comp=Z,49nm,20.7s,baz=354,slow=34								
MBAR	**Mbarara**	**67.98**	**110**		LR	LR	08 54 38.1		
	comp=Z,57nm,20.1s,baz=356,slow=35								
LPIG	**La Paz**	**68.14**	**284**		LR	LR	08 53 59.4		
	comp=Z,72nm,21.4s,baz=94,slow=35								
ATD	**Arta Tunnel**	**69.24**	**92**		LR	LR	08 57 40.3		
	comp=Z,36nm,18.1s,baz=336,slow=37								
KKAR	**Karatay Array**	**70.44**	**50**		P	**P**	**08 26 04.5**	**+0.2**	
CPUP	**Villa Florida**	**70.66**	**206**		LR	LR	08 56 38.8		
	comp=Z,33nm,18.1s,baz=2.0,slow=36								
ZAA0	**Zalesovo Array**	**71.00**	**35**		P	**P**	**08 26 07.9**	**+0.4**	
ZALV	**Zalesovo Beam**	**71.00**	**35**		P	**P**	**08 26 07.8**	**+0.3**	
	comp=Z,1.3nm,0.6s,baz=310,slow=9.3,SNR=4.0								
ZALV					LR	LR	08 56 55.1		
	comp=Z,26nm,21.4s,baz=306,slow=36								
	comp=Z,1.3nm,0.6s								
ZALV	**Zalesovo Beam**	**71.00**	**35**		P	**P**	**08 26 08.2**	**+0.7**	
KDAK	**Kodiak Island**	**71.76**	**332**		LR	LR	08 56 55.6		
	comp=Z,62nm,18.3s,baz=81,slow=35								
LVC	**Limon Verde**	**72.09**	**218**		LR	LR	08 56 51.6		
	comp=Z,42nm,18.1s,baz=20,slow=35								
AAK	**Ala-Archa**	**73.05**	**48**		LR	LR	08 59 59.6		
	comp=Z,62nm,19.4s,baz=334,slow=37								
KMBO	**Kilima Mbogo**	**73.10**	**106**		LR	LR	08 58 30.2		
	comp=Z,36nm,18.2s,baz=94,slow=36								
TSUM	**Tsumeb**	**73.33**	**134**		LR	LR	08 55 58.5		
	comp=Z,60nm,21.2s,baz=326,slow=34								
WSAR	**Wadi Sarin**	**74.22**	**73**		LR	LR	09 02 21.7		
	comp=Z,27nm,18.4s,baz=31,slow=38								
MK31	**Makanchi Array**	**74.60**	**41**		P	**P**	**08 26 28.9**	**-0.1**	
MKAR	**Makanchi Array**	**74.60**	**41**		P	**P**	**08 26 29.6**	**+0.6**	
	comp=Z,1.0nm,0.8s,baz=325,slow=6.2,SNR=9.7								
MKAR					LR	LR	08 59 08.6		
	comp=Z,87nm,19.6s,baz=314,slow=36								
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**74.60**	**41**		P	**P**	**08 26 29.0**	**0.0**	
KSH	**Kashi**	**75.89**	**50**		P	**P**	**08 26 39.2**	**+2.5**	
LSZ	**Lusaka**	**76.71**	**123**		LR	LR	09 00 34.7		
	comp=Z,139nm,19.1s,baz=299,slow=36								
WMQ	**Urumqi**	**79.41**	**41**	*eP*		**P**	**08 26 57.1**	**+0.9**	
WMQ					pmax	pmax			
	comp=Z,39nm,0.7s								
WMQ					LR	LR			
	comp=Z,38nm,22.9s								
LBTB	**Lobatse**	**82.45**	**131**		LR	LR	09 02 49.9		
	comp=Z,36nm,20.0s,baz=317,slow=35								
SONM	**Songino Array**	**84.42**	**28**		P	**P**	**08 27 23.5**	**+0.9**	
	comp=Z,0.5nm,0.4s,baz=337,slow=3.3,SNR=2.8								
	comp=Z,0.5nm,0.4s								
BOSA	**Boshof**	**85.02**	**134**		LR	LR	09 02 49.1		
	comp=Z,68nm,20.8s,baz=7.0,slow=34								
SUR	**Sutherland**	**85.63**	**139**		LR	LR	09 04 05.0		
	comp=Z,28nm,18.3s,baz=336,slow=34								
GOMU	**GeErMu**	**88.72**	**42**		P	**P**	**08 27 43.9**	**-0.3**	
GOMU					pP	sP	08 27 47.8	+2.3	
GOMU					sP	pP	08 27 49.7	+4.5	
GOMU					pmax	pmax			
	comp=Z,2.0nm,0.5s								
GOMU					pmax	pmax			
	comp=Z,32nm,5.4s								
HHC	**Hu-ho-hao-te**	**92.31**	**28**	*eP*		**P**	**08 27 57.5**	**-3.0**	
HHC					pmax	pmax			
	comp=Z,25nm,1.0s								
HHC					pmax	pmax			
	comp=Z,110nm,5.2s								
VNDA	**Vanda**	**141.82**	**184**		PKP	**PKiKP**	**08 34 21.0**	**-2.3**	
	comp=Z,1.0nm,0.9s,baz=181,slow=2.3,SNR=5.1								
WRA	**Warramunga Arr**	**155.90**	**40**		PKPab	**PKPab**	**08 35 12.2**	**+0.8**	
	comp=Z,0.9nm,0.9s,baz=341,slow=2.4,SNR=5.0								
ASAR	**Alice Springs**	**158.73**	**46**		PKPab	**PKPab**	**08 35 23.4**	**-0.2**	
	comp=Z,0.7nm,0.8s,baz=329,slow=4.2,SNR=4.3								

MAN 08 08:22:07.5,9.8↓1N×123.7↑0E,h4km,mb3.7,ML2.5,MS2.0, 2C-3D,Negros

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
TBP	**Tagbilaran**	**0.20**	**125**	↓	*eP*	Pg	08 22 11.9		+0.6
TBP					*i* S	Sg	08 22 14.5		+0.6
LLP	**Lapu-Lapu**	**0.57**	**27**	↑	*iP*	Pg	08 22 19.0		+0.5
LLP					*i* S	Sb	08 22 27.5		-1.1
SNPH	**Sibulan**	**0.65**	**225**	↑	*iP*	Pg	08 22 20.3		+0.4
SNPH					*i* S	Sb	08 22 29.7		-1.1
MSLP	**Maasin**	**1.19**	**74**	↓	*eP*	Pg	08 22 30.1		-0.2
MSLP					eS	Sn	08 22 47.5		-0.1
PAGZ	**Pagadian**	**1.97**	**189**	↓	*eP*	Pn	08 22 41.0		-0.7
PAGZ					eS	Sb	08 23 08.0		-0.8

*IDC **08** 08:37:25.9±1.0,8.4↑1N×126.2↑0E,h0km,mb3.9/6, mbtmp3.9/6,MS3.3/4,Error ellipse: s-maj=37.9km s-min=12.4km az=102.0*
*MAN **08** 08:37:28.9,8.3↑0N×125.9↑3E,h9km,mb4.6,ML3.5,MS3.3*
ISC 08 08:37:29.9±1.0,8.2↑3N±0.0↑3×125.9↑9E±0.0↑4,h30km±8km, n32,σ1°54/34,mb3.6/6,MS3.4/4,5C-9D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
BIPH	**Bislig**	**0.37**	**97**	↓	*eP*	**Pb**	**08 37 37.8**		**-0.6**
BIPH					*i* S	**Sb**	**08 37 44.2**		**+0.1**
BUTP	**Butuan**	**0.82**	**334**	↓	*eP*	**Pn**	**08 37 43.1**		**-2.3**
BUTP					eS	**Sb**	**08 37 55.6**		**-0.8**
BUKP	**Musuan**	**0.98**	**249**	↑	*eP*	**Pn**	**08 37 47.0**		**-0.7**
BUKP					eS	**Sb**	**08 38 02.1**		**+1.0**
DAV	**Davao City (W)**	**1.23**	**199**		Pg	**Pb**	**08 37 53.8**		**+1.3**
	264nm,0.3s,baz=56,slow=4.1,SNR=19								
DAV					LR	LR	08 38 08.8		
	comp=Z,70nm,20.3s,baz=5.0,slow=29								
DAV					Lg	Lg	08 38 12.8		
	128nm,0.3s,baz=257,slow=22,SNR=10.0								
CGP	**Cagayan de Oro**	**1.30**	**280**	↑	*eP*	**Pn**	**08 37 51.0**		**-1.0**
CGP					*i* S	**Sn**	**08 38 07.8**		**-0.6**
MATI	**Mati**	**1.31**	**168**	↓	*eP*	**Pn**	**08 37 50.1**		**-2.0**
MATI					eS	**Sb**	**08 38 12.4**		**+2.2**
KCP	**Kidapawan**	**1.51**	**216**	↓	*iP*	**Pb**	**08 37 56.3**		**-1.0**
KCP					*i* S	**Sb**	**08 38 17.5**		**+1.5**
SCPH	**Surigao**	**1.62**	**342**	↑	*eP*	**Pn**	**08 37 56.4**		**0.0**
SCPH					eS	**Sb**	**08 38 18.3**		**-0.9**
CTBH	**Cotabato--PC H**	**2.00**	**240**	↓	*iP*	**Pb**	**08 38 03.7**		**-1.9**
CTBH					*i* S	**Sb**	**08 38 30.9**		**+0.8**
DDMP	**Don Marcelino,**	**2.13**	**187**	↓	*eP*	**Pn**	**08 38 04.0**		**+0.5**
DDMP					eS	**Sb**	**08 38 35.2**		**+1.2**
MSLP	**Maasin**	**2.19**	**330**	↓	*eP*	**Pn**	**08 38 04.7**		**+0.4**
MSLP					eS	**Sb**	**08 38 40.6**		**+4.8**
SKMP	**Bagumbayan, Su**	**2.23**	**220**	↓	*eP*	**Pn**	**08 38 02.7**		**-2.1**
TBP	**Tagbilaran**	**2.55**	**305**		*eP*	**Pn**	**08 38 09.5**		**+0.2**
TBP					*i* S	**Sn**	**08 38 40.5**		**+1.2**
PAGZ	**Pagadian**	**2.61**	**262**	↓	*eP*	**Pb**	**08 38 14.4**		**-1.7**
LLP	**Lapu-Lapu**	**2.88**	**316**	↑	*eP*	**Pn**	**08 38 15.1**		**+1.3**
LLP					*i* S	**Sn**	**08 38 48.5**		**+1.1**
RCP	**Roxas**	**4.60**	**316**	↑	*eP*	**Pn**	**08 38 38.2**		**+0.8**
WRA	**Warramunga Arr**	**29.18**	**164**		P	**P**	**08 43 29.3**		**+0.5**
	0.3nm,0.7s,baz=345,slow=8.6,SNR=1.6								
	0.3nm,0.7s								
MJAR	**Matsushiro Arr**	**30.30**	**20**		LR	LR	08 56 31.3		
	comp=Z,19nm,18.2s,baz=216,slow=38								
ASAR	**Alice Springs**	**32.63**	**166**		P	**P**	**08 44 00.9**		**+1.6**
	0.4nm,0.5s,baz=342,slow=7.7,SNR=12								
	0.4nm,0.5s								
USRK	**Ussuriysk Ar.**	**36.21**	**7**		P	**P**	**08 44 29.7**		**-0.3**
	4.7nm,0.7s,baz=182,slow=7.1,SNR=12								
	4.7nm,0.7s								
H11S3	**WAKE ISLAND Hy**	**40.80**	**71**		T	T	09 28 03.3		
	baz=298,slow=13,SNR=13								
H11S1	**WAKE ISLAND Hy**	**40.81**	**71**		T	T	09 28 05.0		
	baz=298,slow=13,SNR=6.4								
H11S2	**WAKE ISLAND Hy**	**40.81**	**71**		T	T	09 28 04.6		
	baz=298,slow=13,SNR=5.5								
KLR	**Kul'dur**	**41.15**	**6**		P	**P**	**08 45 10.3**		**-1.0**
	0.9nm,0.6s,baz=170,slow=7.6,SNR=2.1								
	0.9nm,0.6s								
H11N1	**WAKE ISLAND Hy**	**41.19**	**70**		T	T	09 28 55.7		
	baz=260,slow=75,SNR=4.8								
H11N2	**WAKE ISLAND Hy**	**41.20**	**69**		T	T	09 28 54.6		
	baz=260								
H11N3	**WAKE ISLAND Hy**	**41.21**	**70**		T	T	09 28 59.7		
	baz=260,slow=75,SNR=4.0								
MKAR	**Makanchi Array**	**53.48**	**324**		P	**P**	**08 46 48.0**		**+0.5**
	0.3nm,0.4s,baz=108,slow=7.8,SNR=5.2								
	0.3nm,0.4s								
TIXI	**Tiksi**	**63.38**	**1**		LR	LR	09 18 27.5		
	comp=Z,28nm,18.1s,baz=184,slow=39								
RAO	**Raoul Island**	**65.58**	**127**		LR	LR	09 18 39.4		
	comp=Z,43nm,18.0s,baz=232,slow=38								
GEYT	**Alibeck**	**67.55**	**308**		LR	LR	09 19 39.4		
	comp=Z,20nm,19.5s,baz=170,slow=38								
FINES	**FINESS Array B**	**87.54**	**332**		P	**P**	**08 50 13.6**		**-1.2**
	3.2nm,1.0s,baz=60,slow=3.4,SNR=5.7								
	3.2nm,1.0s								

*IDC **08** 09:00:24.5±2.8,53.5↑54N×87.6↑7E,h0km,mbtmp3.3/2, ML3.1/2,Error ellipse: s-maj=23.4km s-min=14.2km az=58.0*
ISC 08 09:00:26.6±4.1,53.6↑6N±0.1↑1×87.9↑9E±0.2↑2,h35km,n6,σ1°29/9, 4C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**282**		*i*		09 11 40.0		
	baz=100,slow=318,SNR=1.4								
ZAA0	**Zalesovo Array**	**1.87**	**282**	↓	Pn	**Pn**	**09 00 55.4**		**-0.7**
	0.5nm,0.3s								
ZAA0				↑	Sn	**Sn**	**09 01 20.1**		**+1.6**
	1.6nm,0.4s								
ZALV	**Zalesovo Beam**	**1.87**	**282**		Pg	**Pn**	**09 00 55.5**		**-0.6**
	3.5nm,0.3s,baz=98,slow=16,SNR=20								
ZALV					Lg	Lg	09 01 20.1		
	3.4nm,0.3s,baz=101,slow=26,SNR=9.0								
KURBB	**Kurchatov Arra**	**6.50**	**247**		Pn	**Pn**	**09 02 00.1**		**+0.5**
	0.2nm,0.3s,baz=46,slow=11,SNR=5.8								
KURBB					Sn	**Sn**	**09 03 11.1**		**-1.3**
	baz=320,slow=18								
KURBB					Lg	Lg	09 03 45.5		
	baz=63,slow=32,SNR=5.6								
	0.8nm,0.3s								
MK31	**Makanchi Array**	**7.70**	**210**	↑	Pn	**Pn**	**09 02 14.6**		**-1.5**
	0.2nm,0.2s,baz=30,slow=14,SNR=33								
MK31				↑	Sn	**Sn**	**09 03 42.1**		**+0.1**
	1.1nm,0.8s								
MK31				↑	Lg	Lg	09 04 24.3		
	0.8nm,0.6s,baz=26,slow=28								
MKAR	**Makanchi Array**	**7.70**	**210**		Pn	**Pn**	**09 02 17.6**		**+1.6**
	0.7nm,0.3s,baz=31,slow=14,SNR=28								
MKAR					Sn	**Sn**	**09 03 42.0**		**+0.1**
	0.1nm,0.3s,baz=14,slow=24,SNR=3.4								
MKAR					Lg	Lg	09 04 25.1		
	0.2nm,0.3s,baz=27,slow=30,SNR=3.3								
	1.0nm,0.3s								

*IDC **08** 09:06:38.8±4.7,12.2↓45N×87.8↓1W,h27km±24km,mb3.8/9, mbtmp4.0/9,MS3.2/10,Error ellipse: s-maj=48.4km s-min=25.5km az=24.0*
*SNET **08** 09:06:41.3±3.1,12.2↓52N×88.1↑6W,h10km,ML4.6*
*NEIC **08** 09:06:43.7±2.6,12.4↓6N±0.0↑7×88.1↑4W±0.0↑6,h50km±12km, mb4.3/52,Md4.7(SNET),Error ellipse: s-maj=11.5km s-min=6.9km az=215.0*
*UCR **08** 09:06:43.1±1.9,12.5↑0N×88.2↑8W,h35km±999km,ML4.5, mb4.3(NEIC)*
*INET **08** 09:06:43.5±0.9,12.2↓51N×88.0↑4W,h14km±6km,MW4.0*
*UPA **08** 09:06:44.2±1.7,13.3↑1N×87.3↑3W,h10km±173km*
*GCG **08** 09:06:47.9±3.0,12.5↑5N×89.0↑3W,h217km±114km,MD4.3*
ISC 08 09:06:43.0±0.9,12.5↑2N±0.0↑5×88.1↑2W±0.0↑3,h54km±8km, n210,σ1°12/237,mb4.3/30,MS3.2/8,2D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
CSGN	**Cosiguina Volc**	**0.71**	**50**		*eP*	**Pn**	**09 06 57.2**		**0.0**
CNCH	**Conchagua**	**0.81**	**20**		*i* P	**Pn**	**09 06 58.4**		**0.0**
CNCH					eS	**Sn**	**09 07 10.3**		**+0.6**
CNCH					IAML		09 07 15.3		
	comp=Z,44μm,0.4s								
CNCH	**Conchagua**	**0.81**	**20**		*i* P	**Pn**	**09 06 58.4**		**0.0**
CNCH					eS	**Sn**	**09 07 10.3**		**+0.6**
CNCH					IAML		09 07 15.3		
	comp=Z,44μm,0.4s								
LCND	**La Caada**	**0.82**	**15**		*eP*	**Pn**	**09 06 58.4**		**-0.1**
LCND					eS	**Sn**	**09 07 10.2**		**+0.3**
LCND	**La Caada**	**0.82**	**15**		*eP*	**Pn**	**09 06 58.2**		**-0.3**
LCND					eP	**Pn**	**09 06 58.4**		**-0.1**
LCND					eS	**Sn**	**09 07 10.2**		**+0.3**
LCND					eS	**Sn**	**09 07 10.7**		**+0.9**
LCY	**Lacayo**	**0.92**	**349**		*eP*	**Pn**	**09 06 59.9**		**0.0**
LCY	**Lacayo**	**0.92**	**349**		*eP*	**Pn**	**09 06 59.9**		**0.0**
RANC	**El Ranchito**	**0.93**	**350**		*eP*	**Pn**	**09 07 00.1**		**0.0**
RANC					eS	**Sn**	**09 07 13.1**		**+0.5**
RANC					IAML		09 07 14.2		
	comp=Z,19μm,0.2s								
RANC	**El Ranchito**	**0.93**	**350**		*eP*	**Pn**	**09 07 00.1**		**0.0**
RANC					eS	**Sn**	**09 07 13.1**		**+0.5**
RANC					IAML		09 07 14.2		
	comp=Z,19μm,0.2s								
CNRM	**Centro Naciona**	**0.96**	**357**		*eP*	**Pn**	**09 07 00.5**		**+0.2**
CNRM					eS	**Sn**	**09 07 14.3**		**+1.3**
CNRM	**Centro Naciona**	**0.96**	**357**		*eP*	**Pn**	**09 07 00.5**		**+0.2**
CNRM					eS	**Sn**	**09 07 14.3**		**+1.3**
CRIN	**San Cristobal**	**1.06**	**80**			**Pn**	**09 07 02.3**		**+0.6**
CRIN	**San Cristobal**	**1.06**	**80**		*eP*	**Pn**	**09 07 02.3**		**+0.6**
COEB	**Comit de Eme**	**1.06**	**338**	↓	*iP*	**Pn**	**09 07 01.4**		**-0.3**
COEB					eS	**Sn**	**09 07 15.5**		**-0.1**
COEB					IAML		09 07 20.2		
	comp=Z,13μm,0.3s								
COEB	**Comit de Eme**	**1.06**	**338**	↓	*iP*	**Pn**	**09 07 01.4**		**-0.3**
COEB					eS	**Sn**	**09 07 15.5**		**-0.1**
COEB					IAML		09 07 20.2		
	comp=Z,13μm,0.3s								
PQSS	**Presa 15 de Se**	**1.19**	**339**		*eP*	**Pn**	**09 07 03.9**		**+0.5**
PQSS					eS	**Sn**	**09 07 19.5**		**+1.1**
PQSS	**Presa 15 de Se**	**1.19**	**339**		*eP*	**Pn**	**09 07 03.9**		**+0.5**
PQSS					eS	**Sn**	**09 07 19.5**		**+1.1**
TEL3	**Telica 3**	**1.24**	**87**		*eP*	**Pn**	**09 07 04.1**		**0.0**
UESV	**Universidad de**	**1.29**	**330**		*eP*	**Pn**	**09 07 04.7**		**-0.2**
UESV					eS	**Sn**	**09 07 21.4**		**+0.2**
UESV	**Universidad de**	**1.29**	**330**		*eP*	**Pn**	**09 07 04.7**		**-0.2**
UESV					eS	**Sn**	**09 07 21.4**		**+0.2**
SNVI	**San Vicente**	**1.30**	**327**		*eP*	**Pn**	**09 07 05.0**		**0.0**
SNVI	**San Vicente**	**1.30**	**327**		*eP*	**Pn**	**09 07 05.0**		**0.0**
COEG	**Centro de Oper**	**1.33**	**326**		*eP*	**Pn**	**09 07 05.0**		**-0.4**
COEG					eS	**Sn**	**09 07 21.7**		**-0.4**
COEG	**Centro de Oper**	**1.33**	**326**		*eP*	**Pn**	**09 07 05.0**		**-0.4**
COEG					eS	**Sn**	**09 07 21.7**		**-0.4**
CNGN	**Cerro Negro**	**1.38**	**90**			**Pn**	**09 07 06.0**		**-0.1**
CNGN	**Cerro Negro**	**1.38**	**90**		*eP*	**Pn**	**09 07 05.8**		**-0.3**
SJTE	**Alcalda de S**	**1.40**	**322**		*eP*	**Pn**	**09 07 05.8**		**-0.4**
SJTE					eS	**Sn**	**09 07 23.4**		**-0.4**
SJTE	**Alcalda de S**	**1.40**	**322**		*eP*	**Pn**	**09 07 05.8**		**-0.4**
SJTE					eS	**Sn**	**09 07 23.4**		**-0.4**
PAVA	**Las Pavas**	**1.44**	**326**		*eP*	**Pn**	**09 07 07.1**		**+0.2**
PAVA					eS	**Sn**	**09 07 25.4**		**+0.7**
PAVA	**Las Pavas**	**1.44**	**326**		*eP*	**Pn**	**09 07 07.1**		**+0.2**
PAVA					eS	**Sn**	**09 07 25.4**		**+0.7**
LFRS	**El Faro**	**1.44**	**320**		*iP*	**Pn**	**09 07 06.7**		**-0.2**
LFRS	**El Faro**	**1.44**	**320**		*iP*	**Pn**	**09 07 06.7**		**-0.2**
LBRS	**Las Brisas**	**1.52**	**323**		*eP*	**Pn**	**09 07 08.4**		**+0.5**
LBRS	**Las Brisas**	**1.52**	**323**		*eP*	**Pn**	**09 07 08.4**		**+0.5**
COPN	**Copaltepe**	**1.52**	**102**		*eP*	**Pn**	**09 07 07.3**		**-0.6**
AEIL	**Aeropuerto Ilo**	**1.53**	**320**		*eP*	**Pn**	**09 07 08.2**		**+0.2**
AEIL					eS	**Sn**	**09 07 27.4**		**+0.6**
AEIL					IAML		09 07 35.8		
	comp=Z,8μm,0.3s								
AEIL	**Aeropuerto Ilo**	**1.53**	**320**		*eP*	**Pn**	**09 07 08.2**		**+0.2**
AEIL					eS	**Sn**	**09 07 27.4**		**+0.6**
AEIL					IAML		09 07 35.8		
	comp=Z,8μm,0.3s								
MOMN	**Momotombo**	**1.54**	**94**		*eP*	**Pn**	**09 07 08.0**		**-0.2**
MOMN					eS	**Sn**	**09 07 26.5**		**-0.7**
LFU	**La Fuente**	**1.57**	**322**		*i P*	**Pn**	**09 07 08.9**		**+0.3**
LFU	**La Fuente**	**1.57**	**322**		*i P*	**Pn**	**09 07 08.9**		**+0.3**
IGN	**Direccin Gen**	**1.57**	**319**		*eP*	**Pn**	**09 07 07.5**		**-1.1**
IGN					eS	**Sn**	**09 07 28.2**		**+0.2**
IGN	**Direccin Gen**	**1.57**	**319**		*eP*	**Pn**	**09 07 07.5**		**-1.1**
IGN					eS	**Sn**	**09 07 28.2**		**+0.2**
UTEC	**Universidad Te**	**1.58**	**318**		*eP*	**Pn**	**09 07 08.8**		**-0.1**
UTEC					eS	**Sn**	**09 07 27.9**		**-0.3**
UTEC					IAML		09 07 29.1		
	comp=Z,6μm,0.3s								
UTEC	**Universidad Te**	**1.58**	**318**		*eP*	**Pn**	**09 07 08.8**		**-0.1**
UTEC					eS	**Sn**	**09 07 27.9**		**-0.3**
UTEC					IAML		09 07 29.1		
	comp=Z,6μm,0.3s								
P5NO	**Presa 5 de nov**	**1.59**	**337**		*eP*	**Pn**	**09 07 09.1**		**+0.2**
P5NO					eS	**Sn**	**09 07 28.9**		**+0.5**
SNET	**Serv Nac Est T**	**1.59**	**317**			**Pn**	**09 07 08.4**		**-0.6**
SNET	**Serv Nac Est T**	**1.59**	**317**		*eP*	**Pn**	**09 07 08.7**		**-0.2**
SNET					eS	**Sn**	**09 07 28.0**		**-0.5**
SNET	**Serv Nac Est T**	**1.59**	**317**		*eP*	**Pn**	**09 07 08.7**		**-0.2**
SNET					eS	**Sn**	**09 07 28.0**		**-0.5**
UESS	**Universidad de**	**1.60**	**319**		*eP*	**Pn**	**09 07 09.0**		**0.0**
UESS					eS	**Sn**	**09 07 28.9**		**+0.2**
UESS	**Universidad de**	**1.60**	**319**		*eP*	**Pn**	**09 07 09.0**		**0.0**
UESS					eS	**Sn**	**09 07 28.9**		**+0.2**
ITCA	**Escuela Especi**	**1.62**	**316**		*eP*	**Pn**	**09 07 09.2**		**-0.1**
ITCA					eS	**Sn**	**09 07 28.9**		**-0.2**
ITCA	**Escuela Especi**	**1.62**	**316**		*eP*	**Pn**	**09 07 09.2**		**-0.1**
ITCA					eS	**Sn**	**09 07 28.9**		**-0.2**
UEES	**Universidad Ev**	**1.62**	**318**		*eP*	**Pn**	**09 07 09.2**		**-0.2**
UEES					eS	**Sn**	**09 07 28.2**		**-0.9**
UEES	**Universidad Ev**	**1.62**	**318**		*eP*	**Pn**	**09 07 09.2**		**-0.2**
UEES					eS	**Sn**	**09 07 28.2**		**-0.9**
BOQS	**Boqueron**	**1.66**	**317**		*eP*	**Pn**	**09 07 10.1**		**+0.1**
BOQS	**Boqueron**	**1.66**	**317**		*eP*	**Pn**	**09 07 10.1**		**+0.1**
BRAN	**Las Pilas**	**1.73**	**83**		*eP*	**Pn**	**09 07 10.2**		**-0.6**
TGUH	**Tegucigalpa,Un**	**1.74**	**28**		Pn	**Pn**	**09 07 11.8**		**+0.8**
TGUH	**Tegucigalpa,Un**	**1.74**	**28**		*eP*	**Pn**	**09 07 11.8**		**+0.8**
TGUH	**Tegucigalpa,Un**	**1.74**	**28**		*eP*	**Pn**	**09 07 11.8**		**+0.8**
TGUH	**Tegucigalpa,Un**	**1.74**	**28**		*eP*	**Pn**	**09 07 11.8**		**+0.8**
APYN	**Apoyeque**	**1.75**	**99**		*eP*	**Pn**	**09 07 10.5**		**-0.5**
CEDA	**San Andres**	**1.79**	**316**		*eP*	**Pn**	**09 07 11.6**		**0.0**
CEDA					eS	**Sn**	**09 07 33.5**		**+0.4**
CEDA	**San Andres**	**1.79

TULM					IAmb	IAmb	09 10 34.1		
	comp=Z,14nm,0.9s								
ROSC	**El Rosal**	**15.62**	**118**		LR	LR	09 17 08.3		
	comp=Z,51nm,20.6s,baz=44,slow=41								
PORT	**Chimborazo Vol**	**16.70**	**146**		P	**Pn**	**09 10 34.0**	**0.0**	
SDV	**Santo Domingo**	**17.55**	**100**		LR	LR	09 17 57.7		
	comp=Z,38nm,20.1s,baz=262,slow=39								
833A	**Chaparral WMA,**	**18.93**	**328**		P	**Pn**	**09 11 00.4**	**-0.3**	
833A					IAmb	IAmb	09 11 02.4		
	comp=Z,14nm,0.7s								
TIGA	**Tifton**	**19.29**	**12**		P	**Pn**	**09 11 06.1**	**+1.1**	
TIGA					IAmb	IAmb	09 11 09.7		
	comp=Z,18nm,0.9s								
VBMS	**Vicksburg**	**19.74**	**354**		P	**Pn**	**09 11 10.7**	**+0.5**	
VBMS					IAmb	IAmb	09 11 12.9		
	comp=Z,16nm,0.7s								
154A	**Montrose**	**20.53**	**12**		IAmb	IAmb	09 11 22.1		
	comp=Z,16nm,0.7s								
GOGA	**Godfrey**	**21.23**	**11**		P	**P**	**09 11 26.3**	**+1.8**	
ATAH	**Atahualpa**	**21.78**	**153**		LR	LR	09 19 14.9		
	comp=Z,44nm,19.5s,baz=13,slow=35								
SJG	**San Juan**	**21.89**	**73**		LR	LR	09 19 50.5		
	comp=Z,41nm,19.6s,baz=308,slow=37								
TXAR	**Lajitas Array**	**22.12**	**322**		P	**P**	**09 11 35.2**	**+1.0**	
	comp=Z,8.1nm,0.6s,baz=137,slow=10,SNR=144								
TXAR					ScP	**ScP**	**09 19 05.9**	**+2.9**	
	comp=Z,0.2nm,0.7s,baz=159,slow=5.1,SNR=4.8								
TXAR					LR	LR	09 21 06.6		
	comp=Z,37nm,19.1s,baz=72,slow=39								
	comp=Z,8.1nm,0.6s								
TX31	**Lajitas Ar. Si**	**22.12**	**322**		P	**P**	**09 11 35.0**	**+0.8**	
TX32	**Lajitas Array**	**22.12**	**322**		P	**P**	**09 11 34.7**	**+0.5**	
TX32					IAmb	IAmb	09 11 36.4		
	comp=Z,8.7nm,0.8s								
HODGE	**Hodges**	**22.27**	**13**		P	**P**	**09 11 37.4**	**+1.8**	
HODGE					IAmb	IAmb	09 11 39.8		
	comp=Z,7.3nm,0.8s								
MIAR	**Mount Ida**	**22.49**	**348**		P	**P**	**09 11 38.2**	**+0.3**	
MIAR					IAmb	IAmb	09 11 40.6		
	comp=Z,6.7nm,0.6s								
UALR	**University of**	**22.49**	**351**		P	**P**	**09 11 39.7**	**+1.7**	
UALR					IAmb	IAmb	09 11 41.7		
	comp=Z,6.9nm,0.6s								
JSC	**Jenkinsville**	**22.55**	**15**		IAmb	IAmb	09 11 55.7		
	comp=Z,13nm,1.3s								
BG3	**Lake Jocassee**	**22.87**	**11**		P	**P**	**09 11 43.3**	**+1.3**	
WHAR	**Wooly Hollow**	**22.99**	**351**		P	**P**	**09 11 43.8**	**+0.6**	
STVI	**Saint Thomas**	**23.06**	**73**		P	**P**	**09 11 43.8**	**-0.2**	
PCRV	**Puerto La Cruz**	**23.14**	**93**		P	**P**	**09 11 40.7**	**-4.2**	
	comp=Z,6.8nm,0.8s,baz=267,slow=1.3,SNR=3.0								
	comp=Z,6.8nm,0.8s								
KMSC	**Kings Mountain**	**23.35**	**14**		IAmb	IAmb	09 11 50.6		
	comp=Z,7.7nm,0.8s								
TKL	**Tuckaleechee C**	**23.37**	**9**		P	**P**	**09 11 46.7**	**-0.3**	
	comp=Z,2.4nm,0.5s,baz=182,slow=14,SNR=8.9								
	comp=Z,2.4nm,0.5s								
V53A	**Saluda**	**23.55**	**11**		IAmb	IAmb	09 12 32.3		
	comp=Z,12nm,1.4s								
X34A	**Smith Ranch, M**	**23.69**	**340**		P	**P**	**09 11 51.1**	**+1.1**	
FNO	**Franklin**	**24.15**	**341**		P	**P**	**09 11 54.2**	**+0.1**	
T47A	**Sharon Grove**	**24.39**	**2**		IAmb	IAmb	09 12 12.6		
	comp=Z,10nm,1.3s								
V58A	**Windy Hill, Pi**	**24.56**	**18**		IAmb	IAmb	09 12 01.1		
	comp=Z,9.1nm,0.6s								
U54A	**Nelsons Funny**	**24.57**	**12**		IAmb	IAmb	09 12 03.4		
	comp=Z,11nm,0.8s								
MNTX	**Cornudas Mount**	**24.84**	**323**		P	**P**	**09 12 00.8**	**+0.3**	
S39A	**Bolivar**	**25.50**	**350**		IAmb	IAmb	09 12 26.3		
	comp=Z,6.7nm,0.7s								
CCM	**Cathedral Cave**	**25.59**	**354**		P	**P**	**09 12 07.0**	**-0.2**	
NOKA	**Waynoka**	**25.91**	**340**		IAmb	IAmb	09 12 13.0		
	comp=Z,19nm,0.6s								
ANMO	**Albuquerque**	**27.84**	**326**		P	**P**	**09 12 28.8**	**+1.0**	
	comp=Z,0.7nm,0.6s,baz=135,slow=12,SNR=5.0								
	comp=Z,0.7nm,0.6s								
ETMB	**Extrema**	**31.07**	**135**		P	**P**	**09 12 56.6**	**+0.3**	
ETMB					IAmb	IAmb	09 12 58.2		
	comp=Z,7.6nm,0.8s								
O20A	**White River Ci**	**32.73**	**331**		IAmb	IAmb	09 13 27.6		
	comp=Z,5.2nm,0.8s								
PFO	**Pinyon Flats O**	**33.29**	**314**		LR	LR	09 26 44.2		
	comp=Z,61nm,19.2s,baz=148,slow=36								
PDAR	**Pinedale Array**	**35.41**	**332**		P	**P**	**09 13 34.0**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=127,slow=10,SNR=11								
	comp=Z,0.8nm,0.6s								
HWUT	**Hardware Ranch**	**35.48**	**329**		IAmb	IAmb	09 13 38.1		
	comp=Z,3.2nm,0.8s								
PB16	**IPOC Station P**	**35.73**	**149**		P	**P**	**09 13 39.0**	**+1.6**	
PB16					IAmb	IAmb	09 13 40.0		
	comp=Z,3.3nm,0.9s								
LOHW	**Long Hollow**	**36.55**	**332**		IAmb	IAmb	09 13 45.4		
	comp=Z,3.2nm,0.7s								
TPAW	**Teton Pass**	**36.61**	**332**		IAmb	IAmb	09 13 49.6		
	comp=Z,4.7nm,0.9s								
MOOW	**Moose Ponds**	**36.72**	**332**		IAmb	IAmb	09 13 46.6		
	comp=Z,2.0nm,0.7s								
IMW	**Indian Meadow**	**36.92**	**332**		IAmb	IAmb	09 13 49.4		
	comp=Z,2.3nm,0.6s								
NVAR	**Mina Array Bea**	**37.23**	**319**		P	**P**	**09 13 51.0**	**+1.4**	
	comp=Z,0.6nm,0.8s,baz=121,slow=7.7,SNR=5.0								
NVAR					PcP	**PcP**	**09 16 08.6**	**0.0**	
	comp=Z,0.2nm,0.5s,baz=159,slow=2.8,SNR=2.4								
NVAR					ScP	**ScP**	**09 19 53.2**	**+1.9**	
	comp=Z,0.3nm,0.7s,baz=145,slow=5.4,SNR=3.6								
	comp=Z,0.6nm,0.8s								
VILB	**Vilhena**	**37.51**	**131**		P	**P**	**09 13 52.1**	**+0.1**	
VILB					IAmb	IAmb	09 13 52.6		
	comp=Z,14nm,0.8s								
YHL	**Hebgen Lake**	**37.77**	**333**		IAmb	IAmb	09 13 58.5		
	comp=Z,3.0nm,0.8s								
ULM	**Lac du Bonnet**	**38.16**	**352**		P	**P**	**09 13 54.6**	**-2.5**	
	comp=Z,4.0nm,0.9s,baz=171,slow=6.2,SNR=4.4								
	comp=Z,4.0nm,0.9s								
BOZ	**Bozeman (W)**	**38.55**	**333**		IAmb	IAmb	09 14 02.3		
	comp=Z,7.1nm,1.4s								
YBH	**Yreka Blue Hor**	**41.89**	**320**		LR	LR	09 33 17.5		
	comp=Z,28nm,20.9s,baz=249,slow=38								
EDM	**Edmonton**	**45.32**	**339**		P	**P**	**09 14 54.7**	**-0.9**	
EDM					IAmb	IAmb	09 14 55.7		
	comp=Z,3.9nm,0.6s								
SCHQ	**Schefferville**	**45.41**	**17**		P	**P**	**09 14 54.5**	**-1.7**	
	comp=Z,3.2nm,0.9s,baz=224,slow=9.7,SNR=8.0								
	comp=Z,3.2nm,0.9s								
BBB	**Bella Bella**	**50.93**	**329**		LR	LR	09 41 50.6		
	comp=Z,42nm,19.1s,baz=72,slow=41								
YKA	**Yellowknife Ar**	**53.38**	**345**		LR	LR	09 39 42.0		
	comp=Z,44nm,18.5s,baz=42,slow=37								
INK	**Inuvik**	**62.95**	**343**		LR	LR	09 47 07.0		
	comp=Z,38nm,18.6s,baz=192,slow=38								
ILAR	**Eielson Array**	**65.70**	**336**		P	**P**	**09 17 20.8**	**-0.9**	
	comp=Z,0.3nm,0.7s,baz=175,slow=5.4,SNR=1.6								
	comp=Z,0.3nm,0.7s								
WRA	**Warramunga Arr**	**138.66**	**254**		PKP	**PKPdf**	**09 26 02.7**	**-1.2**	
	comp=Z,0.4nm,0.9s,baz=93,slow=3.2,SNR=1.6								
ASAR	**Alice Springs**	**138.69**	**248**		PKP	**PKPdf**	**09 26 01.9**	**-2.0**	
	comp=Z,0.7nm,1.1s,baz=117,slow=3.5,SNR=2.9								

TAP 08 09:10:33.6, 24.89N×121.58E, h71km±1km, ML1.8, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NHDH	**Xindian Distri**	**0.09**	**327**	P	Pn	09 10 44.5	+0.5
	baz=327						
NHDH				*i* S	Sn	09 10 51.9	+0.4
	baz=327						
TWA	**Mucha**	**0.09**	**4**	P	Pn	09 10 44.0	0.0
	baz=9.0						
TWA				S	Sn	09 10 52.3	+0.8
	baz=9.0						
TATO	**Taipei**	**0.12**	**316**	P	Pn	09 10 44.1	0.0
	baz=319						
TATO				*i* S	Sn	09 10 52.1	+0.5
	baz=319						
FUSB	**Fushanzhiwuyua**	**0.13**	**176**	*i* P	Pn	09 10 44.4	+0.2
	baz=175						
FUSB				S	Sn	09 10 52.2	+0.4
	baz=175						
TWE	**Neicheng**	**0.19**	**154**	P	Pn	09 10 44.1	-0.1
	baz=150						
TWE				*i* S	Sn	09 10 52.6	+0.5
	baz=150						
TIPB	**Shuangxi**	**0.24**	**70**	*i* P	Pn	09 10 44.8	+0.3
	baz=70						
TIPB				S	Sn	09 10 53.1	+0.5
	baz=70						
ENTT	**Nioudou**	**0.25**	**182**	*e*P	Pn	09 10 44.1	-0.5
	baz=180						
ENTT				*e*S	Sn	09 10 52.3	-0.3
	baz=180						
YHNB	**Yeheng**	**0.29**	**220**	P	Pn	09 10 44.9	0.0
	baz=219						
YHNB				*i* S	Sn	09 10 53.4	+0.2
	baz=219						
NDT	**Datong Townshi**	**0.29**	**192**	P	Pn	09 10 45.3	+0.4
	baz=191						
NDT				S	Sn	09 10 53.9	+0.8
	baz=191						
LATG	**Datong**	**0.36**	**187**	P	Pn	09 10 45.9	+0.4
	baz=187						
TWB1	**Santiao Chiao**	**0.39**	**72**	P	Pn	09 10 45.6	0.0
	baz=73						
TWB1				S	Sn	09 10 55.1	+0.8
	baz=73						
NFF	**Wufeng Townshi**	**0.49**	**238**	*e*P	Pn	09 10 47.4	+0.9
	baz=238						
NFF				*e*S	Sn	09 10 55.0	-0.9
	baz=238						
NNSB	**Datong**	**0.49**	**201**	P	Pn	09 10 47.2	+0.6
	baz=200						
NNSH	**Datong**	**0.49**	**201**	*i* P	Pn	09 10 47.0	+0.4
	baz=200						
NNSH				S	Sn	09 10 56.4	+0.3
	baz=200						
LIOB	**Emei**	**0.56**	**245**	*e*P	Pn	09 10 48.4	+1.2
	baz=244						
LIOB				S	Sn	09 10 57.8	+0.7
	baz=244						

MAN 08 09:15:42.5, 8.31N×125.95E, h11km, mb4.5, ML3.3, MS3.1, 3C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.42**	**107**	*e*P	Pg	09 15 51.4	+0.4
BIPH				*i* S	Sb	09 15 57.9	-0.6
BUTP	**Butuan**	**0.73**	**333**	*e*P	Pg	09 15 52.2	-4.5
BUTP				*e*S	Sn	09 16 09.1	-0.9
BUKP	**Musuan**	**0.98**	**244**	*e*P	Pg	09 16 00.6	-0.9
BUKP				*i* S	Sg	09 16 10.7	-3.5
CGP	**Cagayan de Oro**	**1.25**	**277**	*e*P	Pn	09 16 04.7	-1.3
CGP				*e*S	Sb	09 16 21.2	-1.1
MATI	**Mati**	**1.39**	**167**	*e*P	Pb	09 16 08.8	+0.2
SCPH	**Surigao**	**1.53**	**343**	*i*P	Pg	09 16 12.2	+0.2
KCP	**Kidapawan**	**1.55**	**213**	*e*P	Pn	09 16 10.0	-0.2
KCP				*i* S	Sb	09 16 31.1	0.0
DDMP	**Don Marcelino,**	**2.21**	**186**	*e*P	Pn	09 16 19.0	-0.1
DDMP				*e*S	Sb	09 16 51.1	+1.2

*IDC **08** 09:16:45.1±4.8, 17.84N×145.71E, h192km±32km, mb3.3/5, mbtmp3.9/6, Error ellipse: s-maj=93.9km s-min=30.0km az=121.0*

ISC 08 09:16:46.1±1.7, 17.8N±0.2×145.8E±0.5, h200km, n6, σ0.36/7, mb3.6/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.26**	**192**	P	**Pn**	**09 17 51.4**	**+0.3**
	9.2nm,0.3s,baz=16,slow=19,SNR=1.3						
GUMO				S	**Sn**	**09 18 41.9**	**-0.4**
	39nm,0.9s,baz=53,slow=13,SNR=2.1						
CTA	**Charters Tower**	**37.63**	**179**	P	**P**	**09 23 42.2**	**+0.3**
	5.7nm,0.9s,baz=49,slow=9.3,SNR=3.2						
	5.7nm,0.9s						
WRA	**Warramunga Arr**	**39.13**	**197**	P	**P**	**09 23 54.6**	**+0.1**
	0.8nm,0.5s,baz=18,slow=8.3,SNR=17						
	0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.79**	**210**	P	**P**	**09 24 08.2**	**+0.1**
	1.4nm,0.6s,baz=45,slow=10.0,SNR=1.9						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**42.80**	**196**	P	**P**	**09 24 24.0**	**-0.3**
	0.6nm,0.6s,baz=15,slow=8.8,SNR=12						
	0.6nm,0.6s						
NVAR	**Mina Array Bea**	**83.64**	**52**	P	**P**	**09 28 52.5**	**-0.2**
	0.2nm,0.5s,baz=262,slow=4.5,SNR=1.9						
	0.2nm,0.5s						

*IDC **08** 09:18:48.0±1.4, 54.84N×167.79E, h0km, mb3.4/3, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=51.5km s-min=23.2km az=160.0*

*KRSC **08** 09:18:50.0±2.1, 54.65N×167.34E, h30km±28km, ML3.7*

ISC 08 09:18:50.4±1.0, 54.69N±0.09×167.72E±0.06, h24km, n35, σ1.89/45, mb3.4/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.13**	**298**	*e*P	Pn	09 19 07.5	-3.1
BKI				*e*S	**Sn**	**09 19 21.0**	**-4.4**
KBTR	**Krutoberegovo**	**3.17**	**301**	*e*P	**Pn**	**09 19 36.4**	**-2.4**
KBTR				*e*S	**Sn**	**09 20 13.3**	**-2.5**
MKZ	**Mys Kozlova**	**3.48**	**270**	*e*P	**Pn**	**09 19 41.5**	**-1.5**
MKZ				*e*S	**Sn**	**09 20 20.9**	**-2.5**
SHEM	**Shemya Is, Ala**	**4.27**	**115**	Pn	**Pn**	**09 19 54.1**	**+0.2**
	1.7nm,0.3s,baz=33,slow=12,SNR=2.3						
SHEM				Sn	**Sn**	**09 20 40.6**	**-2.2**
	1.8nm,0.3s,baz=104,slow=20,SNR=2.2						
	64nm,1.0s						
TUMR	**Tumrok**	**4.40**	**281**	*e*P	**Pn**	**09 19 56.5**	**+0.8**
TUMR				*e*S	**Sn**	**09 20 46.2**	**0.0**
SPN	**Mys Shipunski**	**4.82**	**254**	*e*P	**Pn**	**09 20 00.8**	**-0.6**
SPN				*e*S	**Sn**	**09 20 52.8**	**-3.6**
SRDR	**Sredinnyy**	**4.83**	**293**	*e*P	**Pn**	**09 20 04.4**	**+2.8**
KII	**Karymskiy**	**4.88**	**266**	*e*P	**Pn**	**09 20 02.8**	**+0.5**
NLC	**Nalytchevo**	**5.18**	**256**	*e*S	**Sn**	**09 21 03.6**	**-1.5**
SDLR	**Sedlovina**	**5.40**	**258**	*e*P	**Pn**	**09 20 10.2**	**+0.7**
SDLR				*e*S	**Sn**	**09 21 09.6**	**-1.3**
SMAR	**Somma**	**5.45**	**258**	*e*P	**Pn**	**09 20 11.9**	**+1.6**
SMAR				*e*S	**Sn**	**09 21 10.3**	**-2.0**
UGLR	**Uglovaya**	**5.46**	**258**	*e*P	**Pn**	**09 20 11.1**	**+0.8**
KRER	**Koryakskii**	**5.47**	**259**	*e*P	**Pn**	**09 20 11.1**	**+0.6**
AVH	**Avacha**	**5.49**	**259**	*e*P	**Pn**	**09 20 11.8**	**+1.2**
AVH				*e*S	**Sn**	**09 21 12.0**	**-1.0**
KRX	**Arik**	**5.51**	**260**	*e*P	**Pn**	**09 20 11.8**	**+0.8**
KRX				*e*S	**Sn**	**09 21 12.7**	**-0.9**
KOK	**Koryaka**	**5.54**	**259**	*e*P	**Pn**	**09 20 12.2**	**+0.9**
DALK	**Dalny**	**5.56**	**256**	*e*P	**Pn**	**09 20 13.5**	**+2.0**
DALK				*e*S	**Sn**	**09 21 13.1**	**-1.5**
PET	**Petropavlovsk**	**5.62**	**256**	*e*S	**Sn**	**09 21 15.1**	**-0.9**
GNL	**Ganaly**	**5.83**	**264**	*e*P	**Pn**	**09 20 16.3**	**+1.0**
RUS	**Russkaya**	**5.93**	**251**	*e*P	**Pn**	**09 20 17.2**	**+0.6**
RUS				*e*S	**Sn**	**09 21 19.7**	**-4.1**
KRMR	**Karymshinskiy**	**5.98**	**256**	*e*P	**Pn**	**09 20 17.2**	**-0.2**
KRMR				*e*S	**Sn**	**09 21 23.4**	**-1.6**
MTVR	**Mutnovka**	**6.09**	**253**	*e*P	**Pn**	**09 20 20.7**	**+1.7**
MTVR				*e*S	**Sn**	**09 21 26.3**	**-1.7**
GRL	**Gorelyy**	**6.13**	**253**	*e*P	**Pn**	**09 20 20.6**	**+1.2**
GRL				S	**Sn**	**09 21 28.4**	**-0.3**
PETK	**Petropavlovsk-**	**6.13**	**259**	Pn	**Pn**	**09 20 21.1**	**+1.7**
	0.5nm,0.3s,baz=93,slow=18,SNR=6.3						
PETK				Sn	**Sn**	**09 21 30.6**	**+1.9**
	0.3nm,0.3s,baz=78,slow=22,SNR=1.9						
	0.8nm,0.3s						
ASAK	**Asacha**	**6.29**	**252**	*e*P	**Pn**	**09 20 22.6**	**+0.9**
ASAK				*e*S	**Sn**	**09 21 31.9**	**-0.9**
KDTR	**Khodutka, Kamc**	**6.47**	**247**	*e*S	**Sn**	**09 21 33.0**	**-3.9**
ILAR	**Eielson Array**	**24.44**	**48**	P	**P**	**09 24 06.7**	**-0.2**
	0.3nm,0.7s,baz=262,slow=6.3,SNR=4.1						
	0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.91**	**181**	T	T	10 02 43.7	
	baz=0.5,slow=76,SNR=305						
H11N3	**WAKE ISLAND Hy**	**34.92**	**181**	T	T	10 02 45.4	
	baz=0.5,slow=76,SNR=194						
H11N1	**WAKE ISLAND Hy**	**34.93**	**181**	T	T	10 02 45.0	
	baz=0.5,slow=76,SNR=210						
H11S1	**WAKE ISLAND Hy**	**36.13**	**182**	T	T	10 04 17.5	
	baz=4.0,slow=74,SNR=31						
H11S3	**WAKE ISLAND Hy**	**36.14**	**182**	T	T	10 04 16.9	
	baz=4.0,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**36.15**	**182**	T	T	10 04 16.0	
	baz=4.0,slow=74,SNR=46						
TXAR	**Lajitas Array**	**65.85**	**73**	P	**P**	**09 29 34.6**	**+0.7**
	0.2nm,0.6s,baz=288,slow=4.7,SNR=5.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**83.27**	**211**	P	**P**	**09 31 17.4**	**+2.7**
	0.5nm,0.8s,baz=18,slow=6.1,SNR=5.2						
	0.5nm,0.8s						

*GUC **08** 09:26:30.6±0.5, 23.64S×67.71W, h271km±8km, ML4.2*

*IDC **08** 09:26:32.3±10.0, 23.46S×66.80W, h227km±74km, mb3.4/1, mbtmp3.9/3, Error ellipse: s-maj=113.0km s-min=45.9km az=27.0*

ISC 08 09:26:30.6±1.2, 23.64S±0.06×67.2W±0.2, h241km±24km, n14, σ0.92/25, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**2.13**	**281**	*e*P	**Pn**	**09 27 14.2**	**+0.6**
PB15				*i* S	**S**	**09 27 47.4**	**-0.1**
PB15				IAML		09 27 51.1	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**2.37**	**293**	*e*P	**Pn**	**09 27 16.6**	**+0.6**
PB06				*i* S	**S**	**09 27 51.4**	**-0.3**
PB06				IAML		09 27 53.5	
	comp=E,289nm,0.1s						
PB09	**IPOC Station P**	**2.63**	**314**	*e*P	**Pn**	**09 27 20.0**	**+1.3**
PB09				*i* S	**S**	**09 27 57.1**	**+0.6**
GO02	**Mina Guanaco**	**2.65**	**235**	*i*P	**Pn**	**09 27 19.7**	**+0.6**
GO02				*i* S	**S**	**09 27 57.5**	**+0.3**
GO02				IAML		09 28 00.3	
	comp=E,442nm,0.2s						
GO02				IAML		09 28 02.1	
	comp=N,518nm,0.1s						
PB04	**IPOC Station P**	**3.01**	**295**	*e*P	**Pn**	**09 27 23.9**	**+1.1**
PB04				*i* S	**S**	**09 28 02.5**	**-1.4**
PB04				*e*S	S	09 28 02.6	-1.3
PB04				IAML		09 28 07.9	
	comp=N,224nm,0.2s						
PB07	**IPOC Station P**	**3.12**	**307**	*e*P	**Pn**	**09 27 24.9**	**+0.8**
PB07				*i* S	**S**	**09 28 05.2**	**-1.0**
PB07				IAML		09 28 07.1	
	comp=E,214nm,0.4s						
PB01	**IPOC Station P**	**3.34**	**320**	*e*P	**Pn**	**09 27 27.1**	**+0.6**
PB01				*e*S	**S**	**09 28 09.5**	**-1.0**
PB01				IAML		09 28 11.4	
	comp=E,200nm,0.2s						
PB02	**IPOC Station P**	**3.39**	**312**	*e*P	**Pn**	**09 27 27.9**	**+0.8**
PB02				*e*S	**S**	**09 28 10.4**	**-1.3**
PB02				IAML		09 28 19.2	
	comp=E,201nm,0.2s						
AC02	**Maricunga**	**3.63**	**208**	*i*P	**Pn**	**09 27 30.2**	**+0.1**
AC01	**Pan de Azucar**	**3.97**	**230**	*e*P	**Pn**	**09 27 33.5**	**-0.1**
AC01				*e*S	**S**	**09 28 22.4**	**-1.1**
AC01				IAML		09 28 23.9	
	comp=N,141nm,0.2s						
GO01	**Chusmiza**	**4.36**	**335**	*e*P	**Pn**	**09 27 39.6**	**+0.8**
GO01				*i* S	**S**	**09 28 32.7**	**-0.2**
LPAZ	**La Paz**	**7.36**	**353**	P	**Pn**	**09 28 16.6**	**+0.1**
	comp=N,3.3nm,0.3s,baz=154,slow=5.5,SNR=34						
LPAZ				S	**S**	**09 29 40.4**	**-0.8**
	comp=N,1.0nm,0.5s,baz=286,slow=19,SNR=2.0						
BDFB	**Brasilia**	**19.73**	**70**	P	**P**	**09 30 41.0**	**-1.6**
	comp=N,1.5nm,0.4s,baz=219,slow=14,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.61**	**69**	P	**P**	**09 37 56.2**	**+1.0**
	comp=N,0.5nm,0.4s,baz=254,slow=5.8,SNR=7.5						
	comp=N,0.5nm,0.4s						

*LVSN **08** 09:29:11.6±1.3, 59.37N×20.91E, h0km±6km, ML2.1*

HEL 08 09:29:10.5±0.2, 62.26N×24.66E, h0km, ML1.9, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEF	**Keuruu**	**0.14**	**134**	PG	Pg	09 29 12.7	-0.5
KEF				SG	Sg	09 29 13.2	-1.8
KAF	**Kangasniemi**	**0.79**	**100**	PB	Pg	09 29 25.3	-0.3
KAF				SB	Sg	09 29 36.2	+0.4
FIA0	**FINESS Array S**	**1.06**	**140**	PB	Pg	09 29 30.1	-0.7
	baz=322						
FIA0				SN	Sb	09 29 46.9	+0.7
VAF	**Ylistaro**	**1.20**	**311**	PG	Pg	09 29 32.2	-1.3
VAF				MSG		09 29 47.1	
	comp=Z,6.0nm,0.2s						
VAF				SG	Sg	09 29 48.5	-0.7
PVF	**Pernaja**	**1.82**	**161**	PG	Pb	09 29 44.2	-0.4
PVF				MSG		09 30 04.7	
	comp=Z,4.2nm,0.2s						
PVF				SG	Sb	09 30 08.2	+0.3
RAF	**Rauma**	**1.86**	**229**	*e*P	Pn	09 29 43.7	+0.1
RAF				*e*S	Sn	09 30 07.0	-0.6
RAF				AML	AML	09 30 09.2	
	comp=N,26nm,0.4s						
RAF				AML	AML	09 30 11.2	
	comp=Z,15nm,0.4s						
RAF				AML	AML	09 30 11.3	
	comp=E,25nm,0.4s						
RAF	**Rauma**	**1.86**	**229**	PG	Pn	09 29 43.7	+0.1
RAF				MSG		09 30 06.0	
	comp=Z,11nm,0.2s						
RAF				SG	Sn	09 30 07.1	-0.6
MEF	**Metsahovi**	**2.06**	**184**	*e*P	Pn	09 29 47.1	+0.8
MEF				*e*S	Sb	09 30 13.9	-0.9
MEF				AML	AML	09 30 17.2	
	comp=N,30nm,0.3s						
MEF				AML	AML	09 30 17.3	
	comp=Z,31nm,0.3s						
MEF				AML	AML	09 30 17.3	
	comp=E,20nm,0.4s						
MEF	**Metsahovi**	**2.06**	**184**	PG	Pn	09 29 47.1	+0.8
	baz=359

PB16	**IPOC Station P**	**2.83**	**160**			**Pn**		**09 39 35.6**	**+2.7**
PB16	**IPOC Station P**	**2.83**	**160**	⇑	*eP*	**Pn**		**09 39 35.5**	**+2.7**
PB16					*eS*	**Sn**		**09 40 12.3**	**+2.0**
PB16					IAML			09 40 15.1	
	comp=N,221nm,0.5s								
PB12	**IPOC Station P**	**2.94**	**176**			**Pn**		**09 39 34.3**	**+0.7**
PB12	**IPOC Station P**	**2.94**	**176**	⇑	*eP*	**Pn**		**09 39 34.4**	**+0.7**
PB12					*eS*	**Sn**		**09 40 09.7**	**-2.2**
PB12					IAML			09 40 12.1	
	comp=E,516nm,0.2s								
GO01	**Chusmiza**	**4.18**	**163**			**Pn**		**09 39 51.1**	**+1.9**
GO01	**Chusmiza**	**4.18**	**163**	⇑	*eP*	**Pn**		**09 39 51.0**	**+1.7**
GO01					*eS*	**Sn**		**09 40 40.4**	**+0.6**
TA02	**Huaiquique**	**4.60**	**175**			**Pn**		**09 39 54.1**	**+0.1**
TA01	**Diego Aracena**	**4.89**	**176**	Pn		**Pn**		**09 39 57.8**	**0.0**
PB01	**IPOC Station P**	**5.45**	**170**			**Pn**		**09 40 05.0**	**0.0**
PB02	**IPOC Station P**	**5.66**	**174**			**Pn**		**09 40 08.2**	**+0.4**
PB07	**IPOC Station P**	**6.07**	**174**			**Pn**		**09 40 13.7**	**+0.6**
PB09	**IPOC Station P**	**6.22**	**169**			**Pn**		**09 40 15.2**	**+0.1**
PB04	**IPOC Station P**	**6.65**	**177**	Pn		**Pn**		**09 40 20.7**	**0.0**
PB06	**IPOC Station P**	**7.07**	**173**			**Pn**		**09 40 25.6**	**-0.6**
LVC	**Limon Verde**	**7.08**	**168**	P		**Pn**		**09 40 27.8**	**+1.3**
	comp=E,69nm,0.4s,baz=351,slow=8.2,SNR=215								
LVC				S		**Sn**		**09 41 42.1**	**-4.9**
	comp=E,124nm,0.5s,baz=228,slow=20,SNR=14								
LVC	**Limon Verde**	**7.08**	**168**	Pn		**Pn**		**09 40 27.4**	**+0.9**
LVC	**Limon Verde**	**7.08**	**168**	*eP*		**Pn**		**09 40 27.6**	**+1.1**
NNA	**Nana**	**7.14**	**300**	P		**Pn**		**09 40 26.8**	**-0.2**
	comp=E,24nm,0.5s,baz=130,slow=10,SNR=12								
NNA				S		**Sn**		**09 41 45.5**	**-2.5**
	comp=E,13nm,0.3s,baz=41,slow=5.0,SNR=4.2								
NNA	**Nana**	**7.14**	**300**	Pn		**Pn**		**09 40 26.6**	**-0.5**
ETMB	**Extrema**	**7.17**	**36**	Pn		**Pn**		**09 40 27.1**	**-0.2**
ETMB	**Extrema**	**7.17**	**36**	*eP*		**Pn**		**09 40 27.2**	**-0.2**
PB15	**IPOC Station P**	**7.58**	**173**			**Pn**		**09 40 33.3**	**+0.5**
SIV	**San Ignacio**	**9.10**	**93**	P		**Pn**		**09 40 51.3**	**-1.3**
	comp=E,13nm,0.6s,baz=280,slow=10.0,SNR=100								
GO02	**Mina Guanaco**	**9.50**	**175**			**Pn**		**09 40 58.4**	**+0.3**
VILB	**Vilhena**	**10.36**	**76**			**Pn**		**09 41 08.2**	**-0.8**
VILB	**Vilhena**	**10.36**	**76**	*eP*		**Pn**		**09 41 08.2**	**-0.8**
AC01	**Pan de Azucar**	**10.44**	**180**	Pn		**Pn**		**09 41 10.3**	**+0.3**
PTLB	**Pontes e Lacer**	**10.97**	**90**			**Pn**		**09 41 16.6**	**-0.3**
PTLB	**Pontes e Lacer**	**10.97**	**90**	*eP*		**Pn**		**09 41 16.7**	**-0.2**
AC02	**Maricunga**	**11.20**	**174**			**Pn**		**09 41 21.5**	**+1.3**
AC06	**Mina Casimiro**	**11.64**	**179**			**Pn**		**09 41 25.8**	**+0.3**
AC05	**El Transito**	**13.12**	**179**			**Pn**		**09 41 46.3**	**+2.1**
SALV	**Santo Antonio**	**14.28**	**93**	*eP*		**P**		**09 41 59.6**	**-0.7**
MCRA	**Macar, Loja**	**14.56**	**319**			**P**		**09 42 02.4**	**-1.1**
BOSC	**San Juan Bosco**	**14.70**	**327**	Pn		**Pn**		**09 42 02.7**	**-1.3**
AQDB	**Aquidauana**	**14.88**	**111**	*eP*		**P**		**09 42 06.3**	**-0.7**
CLDB	**Colider**	**15.10**	**73**	*eP*		**P**		**09 42 09.9**	**+0.4**
ANTJ	**Antonio Joao (**	**15.12**	**117**	*eP*		**P**		**09 42 10.9**	**+1.2**
ARNL	**Arenillas**	**15.27**	**321**	P		**P**		**09 42 12.6**	**+1.3**
ARNL				IAmb		IAmb		09 42 14.9	
	comp=Z,20nm,1.1s								
MACA	**Manacapuru-AM**	**15.75**	**39**	P		**P**		**09 42 16.7**	**+0.1**
MACA				IAmb		IAmb		09 42 21.0	
	comp=Z,34nm,0.6s								
MACA	**Manacapuru-AM**	**15.75**	**39**	*eP*		**P**		**09 42 16.6**	**-0.1**
CPUP	**Villa Florida**	**16.25**	**133**	P		**Pn**		**09 42 24.3**	**+1.7**
	comp=Z,2.9nm,0.7s,baz=329,slow=8.6,SNR=5.3								
CPUP	**Villa Florida**	**16.25**	**133**	*eP*		**Pn**		**09 42 23.8**	**+1.2**
PORT	**Chimborazo Vol**	**16.29**	**329**	P		**Pn**		**09 42 25.8**	**+2.0**
PORT				IAmb		IAmb		09 42 38.4	
	comp=Z,25nm,1.0s								
SLOR	**San Lorenzo -**	**16.79**	**331**	IAmb		IAmb		09 42 39.4	
	comp=Z,24nm,0.8s								
NPGB	**Novo Progresso**	**17.14**	**62**	*eP*		**Pn**		**09 42 32.6**	**-0.8**
C2SB	**Chapadao do Su**	**17.17**	**103**	*eP*		**Pn**		**09 42 34.0**	**+0.2**
OTAV	**Otavalo**	**17.63**	**333**			**Pn**		**09 42 41.0**	**+1.5**
OTAV				IAmb		IAmb		09 42 49.2	
	comp=Z,12nm,0.9s								
OTAV	**Otavalo**	**17.63**	**333**	*eP*		**Pn**		**09 42 37.9**	**-1.7**
ITTB	**Itaituba**	**18.36**	**54**	*eP*		**Pn**		**09 42 46.0**	**-1.7**
ITQB	**Itaqui**	**18.92**	**140**	*eP*		**P**		**09 42 52.1**	**+0.9**
SNDB	**Serra Nova Dou**	**19.02**	**81**	*eP*		**Pn**		**09 42 53.6**	**-1.9**
PCMB	**Pacaembu**	**19.18**	**111**	*eP*		**Pn**		**09 42 55.5**	**-1.8**
FRBT	**Francisco Belt**	**19.26**	**125**	*eP*		**Pn**		**09 42 56.5**	**-1.7**
CRSM	**Crissiumal (Br**	**19.30**	**130**	*eP*		**Pn**		**09 42 57.5**	**-1.2**
PTGB	**Pitanga**	**19.51**	**120**	*eP*		**Pn**		**09 42 59.8**	**-1.5**
UNIS	**Unistalda (Bra**	**19.52**	**136**	*eP*		**Pn**		**09 42 59.8**	**-1.5**
ITRB	**Iturama**	**19.62**	**105**	*eP*		**P**		**09 42 59.6**	**+0.7**
RODS	**Rosario do Sul**	**20.28**	**139**	*eP*		**P**		**09 43 06.5**	**+0.7**
BOAV	**Boa Vista**	**20.48**	**30**			Pn		09 43 08.8	-4.5
BOAV				IAmb		IAmb		09 43 12.2	
	comp=Z,14nm,1.2s								
BOAV	**Boa Vista**	**20.48**	**30**	*eP*		**P**		**09 43 08.2**	**+0.1**
ITAB	**Concordia**	**20.60**	**127**	*eP*		**P**		**09 43 10.1**	**+0.8**
ALGR	**Alto Alegre (B**	**20.78**	**132**	*eP*		**P**		**09 43 11.6**	**+0.4**
MALB	**Monte Alegre**	**21.10**	**51**	*eP*				09 43 16.0	
CPSB	**Cacapava Do Su**	**21.46**	**136**	*eP*		**P**		**09 43 21.1**	**+2.8**
IPMB	**Ipameri, GO**	**21.48**	**99**	*eP*		**P**		**09 43 17.6**	**-1.1**
BB19B	**Bebedouro**	**21.55**	**108**	*eP*		**P**		**09 43 19.4**	**+0.1**
PLTB	**Pedras Altas**	**22.24**	**139**	*eP*		**P**		**09 43 27.5**	**+1.4**
PRPB	**Parauapebas**	**22.39**	**67**	*eP*		**P**		**09 43 28.8**	**+1.3**
JANB	**Januaria**	**25.28**	**92**	*eP*		**P**		**09 43 53.4**	**-0.4**
NBLA	**Lagarto - SE**	**32.16**	**86**	*eP*		**P**		**09 44 53.8**	**-1.0**
MTP	**Monte Pirata**	**33.90**	**8**	P		**P**		**09 45 08.4**	**-1.3**
MTP				IAmb		IAmb		09 45 09.2	
	comp=Z,36nm,1.5s								
NBAN	**Anadia - AL**	**33.91**	**84**	*eP*		**P**		**09 45 09.0**	**-0.9**
MTO3	**Montecristo**	**35.20**	**327**	P		**P**		**09 45 21.4**	**+0.3**
MTO3				IAmb		IAmb		09 45 24.1	
	comp=Z,22nm,1.4s								
PETF	**Flores**	**37.58**	**329**	P		**P**		**09 45 43.1**	**+2.1**
PETF				IAmb		IAmb		09 45 44.7	
	comp=Z,16nm,0.8s								
TEIG	**Tepich**	**39.70**	**333**	P		**P**		**09 45 59.1**	**+0.5**
TEIG				IAmb		IAmb		09 46 00.2	
	comp=Z,18nm,0.7s								
344A	**Westbrook Farm**	**50.70**	**338**	IAmb		IAmb		09 47 26.1	
	comp=Z,15nm,0.9s								
LRAL	**Lakeview Retre**	**50.92**	**342**	P		**P**		**09 47 25.7**	**-0.8**
	baz=159								
KMSC	**Kings Mountain**	**51.55**	**349**	P		**P**		**09 47 30.6**	**-0.6**
	baz=167								
833A	**Chaparral WMA,**	**51.89**	**327**	IAmb		IAmb		09 47 35.6	
	comp=Z,7.2nm,0.7s								
833A	**Chaparral WMA,**	**51.89**	**327**	P		**P**		**09 47 34.6**	**+0.7**
	baz=144								
143A	**Socs Landing,**	**52.07**	**338**	IAmb		IAmb		09 47 38.1	
	comp=Z,9.1nm,0.8s								
NATX	**Nacogdoches**	**52.53**	**334**	P		**P**		**09 47 39.2**	**+0.7**
	baz=150								
JCT	**Junction City**	**53.84**	**328**	P		**P**		**09 47 48.4**	**+0.3**
	baz=144								
WVT	**Waverly**	**54.05**	**343**	P		**P**		**09 47 48.0**	**-1.5**
WVT	**Waverly**	**54.05**	**343**	P		**P**		**09 47 47.4**	**-2.0**
	baz=159								
MIAR	**Mount Ida**	**54.53**	**337**	P		**P**		**09 47 52.5**	**-0.4**
	baz=152,SNR=6.2								
T47A	**Sharon Grove**	**54.65**	**344**	IAmb		IAmb		09 47 57.1	
	comp=Z,8.2nm,1.2s								
WHAR	**Wooly Hollow**	**54.72**	**338**	IAmb		IAmb		09 47 54.8	
	comp=Z,7.7nm,0.9s								
TXAR	**Lajitas Array**	**55.00**	**324**	P		**P**		**09 47 57.1**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=150,slow=9.2,SNR=37								
TXAR				PcP		**PcP**		**09 48 57.3**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=161,slow=5.7,SNR=1.7								
	comp=Z,1.3nm,0.5s								
TX31	**Lajitas Ar. Si**	**55.00**	**324**	IAmb		IAmb		09 47 58.0	
	comp=Z,5.4nm,0.6s								
LCAR	**Lake Charles**	**55.03**	**340**	IAmb		IAmb		09 47 56.5	
	comp=Z,3.6nm,0.6s								
FCAR	**Ozark Folk Cen**	**55.20**	**339**	IAmb		IAmb		09 47 57.7	
	comp=Z,7.2nm,0.6s								
X37A	**Clayton**	**55.28**	**335**	IAmb		IAmb		09 48 00.1	
	comp=Z,10nm,0.7s								
SIUC	**Southern Illin**	**55.92**	**342**	IAmb		IAmb		09 48 03.2	
	comp=Z,18nm,0.7s								
HHAR	**Hobbs**	**56.20**	**337**	IAmb		IAmb		09 48 05.3	
	comp=Z,7.1nm,0.5s								
X34A	**Smith Ranch, M**	**56.33**	**333**	IAmb		IAmb		09 48 07.6	
	comp=Z,20nm,0.9s								
MGMO	**Mountain Grove**	**56.39**	**339**	IAmb		IAmb		09 48 06.5	
	comp=Z,9.0nm,0.7s								
RLO	**Rose Lookout**	**56.51**	**336**	IAmb		IAmb		09 48 08.6	
	comp=Z,14nm,0.7s								
TUL1	**Leonard**	**56.59**	**335**	IAmb		IAmb		09 48 08.8	
	comp=Z,14nm,0.7s								
TUL1	**Leonard**	**56.59**	**335**	P		**P**		**09 48 07.2**	**-0.4**
	baz=150,SNR=5.8								
DEOK	**Depew**	**56.82**	**335**	IAmb		IAmb		09 48 10.5	
	comp=Z,32nm,0.6s								
WMOK	**Wichita Mounta**	**56.86**	**332**	P		**P**		**09 48 10.5**	**+0.9**
	baz=147								
CCM	**Cathedral Cave**	**56.86**	**341**	P		**P**		**09 48 07.7**	**-1.8**
CCM				IAmb		IAmb		09 48 10.2	
	comp=Z,6.3nm,0.9s								
CCM	**Cathedral Cave**	**56.86**	**341**	P		**P**		**09 48 09.5**	**0.0**
	baz=156								
BCOK	**Bluff Creek, N**	**57.12**	**334**	IAmb		IAmb		09 48 12.8	
	comp=Z,17nm,0.6s								
QUOK	**Quay**	**57.19**	**335**	IAmb		IAmb		09 48 13.1	
	comp=Z,29nm,0.8s								
S39A	**Bolivar**	**57.23**	**339**	IAmb		IAmb		09 48 12.4	
	comp=Z,15nm,0.6s								
OK047	**Pawnee, Statio**	**57.45**	**335**	IAmb		IAmb		09 48 15.0	
	comp=Z,19nm,0.8s								
OK046	**Pawnee Station**	**57.47**	**335**	IAmb		IAmb		09 48 15.2	
	comp=Z,17nm,0.9s								
M53A	**WI Miller and**	**57.58**	**351**	P		**P**		**09 48 13.3**	**-1.2**
	baz=168								
T35A	**Sooner Cattle**	**57.75**	**335**	IAmb		IAmb		09 48 16.9	
	comp=Z,10nm,0.7s								
MNTX	**Cornudas Mount**	**57.76**	**325**			**P**		**09 48 14.9**	**-1.0**
MNTX	**Cornudas Mount**	**57.76**	**325**	P		**P**		**09 48 16.0**	**+0.1**
	baz=140,SNR=5.7								
BLOK	**Blackwell**	**57.90**	**335**	IAmb		IAmb		09 48 18.2	
	comp=Z,27nm,0.8s								
CROK	**Carrier**	**58.00**	**334**	IAmb		IAmb		09 48 18.7	
	comp=Z,12nm,0.6s								
MSTX	**Muleshoe**	**58.13**	**329**	IAmb		IAmb		09 48 19.8	
	comp=Z,8.1nm,0.9s								
MSTX	**Muleshoe**	**58.13**	**329**	P		**P**		**09 48 18.4**	**-0.2**
	baz=143								
OK038	**West end E0370**	**58.31**	**333**	IAmb		IAmb		09 48 20.9	
	comp=Z,14nm,0.9s								
U32A	**Winter Ranch,**	**58.34**	**333**	IAmb		IAmb		09 48 21.9	
	comp=Z,14nm,0.8s								
OK032	**Salt Plains Wi**	**58.35**	**334**	IAmb		IAmb		09 48 21.3	
	comp=Z,18nm,0.7s								
KAN17	**Caldwell West**	**58.37**	**335**	IAmb		IAmb		09 48 21.5	
	comp=Z,20nm,0.9s								
P40A	**Paris**	**58.46**	**341**	IAmb		IAmb		09 48 20.7	
	comp=Z,8.1nm,0.7s								
P38A	**Dawn**	**59.04**	**339**	P		**P**		**09 48 24.1**	**-0.5**
P38A				IAmb		IAmb		09 48 25.1	
	comp=Z,8.6nm,0.5s								
KSU1	**Kansas State U**	**59.69**	**337**	P		**P**		**09 48 28.7**	**-0.3**
KSU1	**Kansas State U**	**59.69**	**337**	P		**P**		**09 48 28.9**	**-0.2**
	baz=151,SNR=6.5								
121A	**Cookes Peak, D**	**59.73**	**324**	P		**P**		**09 48 30.5**	**+0.8**
	baz=138								
CBKS	**Cedar Bluff**	**60.70**	**334**	IAmb		IAmb		09 48 38.2	
	comp=Z,21nm,0.9s								
CBKS	**Cedar Bluff**	**60.70**	**334**	P		**P**		**09 48 36.6**	**+0.6**
	baz=147,SNR=6.1								
ANMO	**Albuquerque**	**60.80**	**326**	P		**P**		**09 48 37.3**	**+0.4**
ANMO	**Albuquerque**	**60.80**	**326**	P		**P**		**09 48 38.3**	**+1.3**
	baz=140								
SCIA	**State Center**	**60.99**	**341**	P		**P**		**09 48 37.1**	**-0.7**
	baz=155								
T25A	**Trinidad**	**61.46**	**330**	P		**P**		**09 48 42.3**	**+1.0**
	baz=142								
KSCO	**Kaye Shedlock'**	**62.12**	**332**	IAmb		IAmb		09 48 47.5	
	comp=Z,7.1nm,0.8s								
KSCO	**Kaye Shedlock'**	**62.12**	**332**	P		**P**		**09 48 46.3**	**+0.7**
	baz=145								
BGNE	**Belgrade**	**62.27**	**337**	P		**P**		**09 48 47.2**	**+0.8**
BGNE	**Belgrade**	**62.27**	**337**	P		**P**		**09 48 46.8**	**+0.4**
	baz=150,SNR=7.1								
214A	**Organ Pipe Nat**	**62.32**	**320**	P		**P**		**09 48 48.3**	**+1.3**
	baz=133								
SDCO	**Great Sand Dun**	**62.47**	**329**	IAmb		IAmb		09 48 51.0	
	comp=Z,4.3nm,0.5s								
SDCO	**Great Sand Dun**	**62.47**	**329**	P		**P**		**09 48 48.9**	**+0.8**
	baz=142,SNR=14								
S22A	**4UR Ranch, Cre**	**63.13**	**328**	P		**P**		**09 48 54.3**	**+1.7**
	baz=140								
Q24A	**Divide**	**63.26**	**330**	P		**P**		**09 48 54.0**	**+0.6**
	baz=142								
OGNE	**Ogallala**	**63.45**	**334**	P		**P**		**09 48 55.3**	**+1.0**
	baz=146								
MVCO	**Mesa Verde**	**63.59**	**327**	IAmb		IAmb		09 48 59.1	
	comp=Z,6.3nm,1.3s								
MVCO	**Mesa Verde**	**63.59**	**327**	P		**P**		**09 48 56.4**	**+0.9**
	baz=139								
ECSD	**EROS Data Cent**	**63.74**	**339**	IAmb		IAmb		09 48 58.1	
	comp=Z,6.4nm,0.8s								
ECSD	**EROS Data Cent**	**63.74**	**339**	P		**P**		**09 48 55.6**	**-0.4**
	baz=152,SNR=8.8								
WUAZ	**Wupatki**	**63.94**	**324**	P		**P**		**09 48 59.4**	**+1.6**
	baz=136								
ISCO	**Idaho Springs**	**64.14**	**331**	P		**P**		**09 49 00.5**	**+1.4**
	baz=142,SNR=5.5								
PV15	**Paradox Valley**	**64.43**	**328**	IAmb		IAmb		09 49 04.8	
	comp=Z,8.4nm,0.7s								
PV13	**Radium Mtn., P**	**64.47**	**327**	IAmb		IAmb		09 49 03.2	
	comp=Z,3.9nm,0.7s								
BC3	**Big Chuckawall**	**65.11**	**320**	P		**P**		**09 49 07.1**	**+1.8**
	baz=132								
N23A	**Red Feather La**	**65.15**	**331**	P		**P**		**09 49 07.2**	**+1.6**
	baz=142								
SUSD	**Miller**	**65.19**	**338**	P		**P**		**09 49 05.5**	**+0.1**
	baz=150								
IRM	**Iron Mountain**	**65.25**	**320**	P		**P**		**09 49 08.1**	**+2.0**
	baz=132								
PHWY	**Pilot Hill**	**65.25**	**332**	IAmb		IAmb		09 49 08.5	
	comp=Z,4.0nm,0.6s								
O20A	**White River Ci**	**65.67**	**329**	IAmb		IAmb		09 49 10.9	
	comp=Z,5.0nm,0.7s								
O20A	**White River Ci**	**65.67**	**329**	P		**P**		**09 49 10.4**	**+1.5**
	baz=140								
BELC	**Belle Mtn. Jos**	**65.68**	**319**	P		**P**		**09 49 10.7**	**+1.8**
	baz=131								
TPFO	**Pinon Flats**	**65.71**	**319**	P		**P**		**09 49 11.2**	**+2.1**
	baz=131								
PFO	**Pinyon Flats O**	**65.71**	**319**	P		**P**		**09 49 11.3**	**+2.1**
	baz=131								
GMRC	**Granite Mounta**	**65.98**	**320**	P		**P**		**09 49 12.6**	**+1.7**
	baz=132								
SRU	**San Rafael Swe**	**66.07**	**327**	IAmb		IAmb		09 49 13.3	
	comp=Z,3.3nm,0.6s								
HEC	**Hector,Ludlow**	**66.43**	**320**	P		**P**		**09 49 15.3**	**+1.6**
	baz=131								
SCI2	**San Clemente I**	**66.66**	**317**	P		**P**		**09 49 14.9**	**-0.1**
	baz=129								
RDMU	**Red Mountain**	**66.66**	**328**	IAmb		IAmb		09 49 16.9	
	comp=Z,4.0nm,0.7s								
K22A	**Casper**	**66.80**	**332**	P		**P**		**09 49 17.5**	**+1.6**
	baz=142								
BFSC	**Mount Baldy Ra**	**66.88**	**319**	P		**P**		**09 49 17.5**	**+0.9**
	baz=130								
RSSD	**Black Hills**	**66.90**	**334**	P		**P**		**09 49 16.8**	**+0.2**
RSSD				IAmb		IAmb		09 49 18.7	
	comp=Z,7.8nm,1.1s								
RSSD	**Black Hills**	**66.90**	**334**	P		**P**		**09 49 17.9**	**+1.3**
	baz=145								
GSC	**Goldstone, Bar**	**67.03**	**320**	P		**P**		**09 49 18.6**	**+1.2**
	baz=131								
SHOC	**Shoshone, Teco**	**67.10**	**321**	P		**P**		**09 49 19.6**	**+1.8**
	baz=132								
EDW2	**Edwards Air Fo**	**67.50**	**319**	P		**P**		**09 49 20.1**	**-0.3**
	baz=130								
AGMN	**Agassiz Nation**	**67.56**	**342**	IAmb		IAmb		09 49 21.1	
	comp=Z,11nm,0.8s								
AGMN	**Agassiz Nation**	**67.56**	**342**	P		**P**		**09 49 20.3**	**0.0**
	baz=154,SNR=8.3								
TPNV	**Topopah Spring**	**67.78**	**322**	P		**P**		**09 49 24.1**	**+1.9**
	baz=132,SNR=5.3								
FURC	**Furnace Creek,**	**67.83**	**321**	P		**P**		**09 49 23.8**	**+1.6**
	baz=131,SNR=5.6								
MPMC	**Manual Prospec**	**67.94**	**320**	P		**P**		**09 49 24.4**	**+1.1**
	baz=131								
SPR3	**Spring Creek 3**	**68.06**	**324**	IAmb		IAmb		09 49 26.3	
	comp=Z,2.6nm,0.8s								
DUG	**Dugway, Tooele**	**68.07**	**326**	P		**P**		**09 49 25.4**	**+1.4**
	baz=136								
SNAA	**Sanae**	**68.27**	**162**	P		**P**		**09 49 26.4**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=241,slow=13,SNR=2.3								
SNAA				PcP		**PcP**		**09 49 49.1**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=294,slow=13,SNR=8.6								
	comp=Z,0.7nm,0.5s								
ISA	**Isabella, Lake**	**68.30**	**319**	P		**P**		**09 49 27.4**	**+2.1**
	baz=130								
PDAR	**Pinedale Array**	**68.31**	**330**	P		**P**		**09 49 26.0**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=122,slow=8.6,SNR=38								
PDAR				PcP		**PcP**		**09 49 50.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=130,slow=8.4,SNR=1.8								
	comp=Z,1.1nm,0.4s								
BW06	**Boulder Array**	**68.31**	**330**	P		**P**		**09 49 26.3**	**+0.8**
	baz=139								
R11A	**Troy Canyon, C**	**68.33**	**323**	P		**P**		**09 49 27.3**	**+1.7**
	baz=133								
MDND	**Maddock**	**68.36**	**339**	P		**P**		**09 49 26.0**	**+0.7**
	baz=150,SNR=5.4								
CWC	**Cottonwood Cre**	**68.56**	**320**	P		**P**		**09 49 28.1**	**+1.1**
	baz=130								
PKM	**Mcpherson Peak**	**68.67**	**318**	P		**P**		**09 49 28.5**	**+0.7**
	baz=128								
DBIC	**Dimbokro**	**68.69**	**76**	P		**P**		**09 49 27.4**	**-0.7**
	comp=Z,3.5nm,0.5s,baz=278,slow=3.3,SNR=11								
	comp=Z,3.5nm,0.5s								
ULM	**Lac du Bonnet**	**69.31**	**343**	P		**P**		**09 49 30.6**	**-0.6**
	comp=Z,8.8nm,0.4s,baz=155,slow=5.7,SNR=22								
	comp=Z,8.8nm,0.4s								
ULM	**Lac du Bonnet**	**69.31**	**343**	P		**P**		**09 49 29.3**	**-1.8**
ULM				IAmb		IAmb		09 49 31.6	
	comp=Z,11nm,0.7s								
SNOW	**Snow King Moun**	**69.41**	**330**	IAmb		IAmb		09 49 34.3	
	comp=Z,3.5nm,0.7s								
LOHW	**Long Hollow**	**69.45**	**330**	IAmb		IAmb		09 49 42.5	
	comp=Z,3.4nm,0.5s								
IMW	**Indian Meadow**	**69.83**	**330**	IAmb		IAmb		09 49 36.9	
	comp=Z,4.0nm,0.6s								
LAO	**LASA Array**	**69.88**	**335**	IAmb		IAmb		09 49 37.0	
	comp=Z,4.3nm,0.8s								
LAO	**LASA Array**	**69.88**	**335**	P		**P**		**09 49 36.3**	**+1.5**
	baz=143								
RLMT	**Red Lodge**	**69.97**	**332**	P		**P**		**09 49 37.3**	**+1.7**
	baz=140								
NVAR	**Mina Array Bea**	**69.98**	**322**	P		**P**		**09 49 37.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=121,slow=5.9,SNR=10								
NVAR				PcP		**PcP**		**09 49 56.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=121,slow=5.4,SNR=5.3								
	comp=Z,1.0nm,0.7s								
DGMT	**Dagmar**	**70.53**	**337**	IAmb		IAmb		09 49 41.0	
	comp=Z,15nm,0.7s								
DGMT	**Dagmar**	**70.53**	**337**	P		**P**		**09 49 40.4**	**+1.7**
	baz=146,SNR=7.4								
HLID	**Hailey**	**71.31**	**328**	P		**P**		**09 49 45.2**	**+1.5**
	baz=135,SNR=5.8								
BOZ	**Bozeman (W)**	**71.42**	**331**	P		**P**		**09 49 46.0**	**+1.8**
	baz=138,SNR=5.2								
MFID	**Camas Ranch**	**71.94**	**327**	IAmb		IAmb		09 49 50.1	
	comp=Z,4.6nm,0.7s								
EGMT	**Eagleton**	**72.42**	**334**	IAmb		IAmb		09 49 52.5	
	comp=Z,13nm,1.4s								
EGMT	**Eagleton**	**72.42**	**334**	P		**P**		**09 49 50.7**	**+0.6**
	baz=140								
MOD	**Modoc Plateau**	**73.39**	**323**	IAmb		IAmb		09 49 58.5	
	comp=Z,4.1nm,0.8s								
MSO	**Missoula**	**73.42**	**330**	P		**P**		**09 49 57.1**	**+1.1**
	baz=136								
J05D	**Fort Rock, OR**	**74.80**	**324**	P		**P**		**09

RUSC	**La Rusia**	**0.91**	**177**	*eP*	Pn	09 42 00.9	-0.7
RUSC				eS	Sn	09 42 19.3	-0.9
RUSC				IAML		09 42 20.9	
	comp=Z,198nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	*eP*	Pn	09 42 03.4	-1.4
PTBC				eS	Sn	09 42 25.0	-1.1
PTBC				IAML		09 42 29.9	
	comp=Z,117nm,0.1s						
TAMC	**Tame, Arauca**	**1.39**	**105**⇑	*iP*	Pn	09 42 05.3	0.0
TAMC				IAML		09 42 26.3	
	comp=Z,61nm,0.4s						
TAMC				eS	Sn	09 42 26.9	-0.1
OCAC	**Ocana**	**1.44**	**353**	*eP*	Pn	09 42 05.1	-0.9
OCAC				eS	Sn	09 42 27.9	-0.4
OCAC				IAML		09 42 30.6	
	comp=Z,213nm,0.2s						
SPBC	**San Pablo de B**	**1.47**	**219**	*eP*	Pn	09 42 05.8	-0.6
SPBC				eS	Sn	09 42 28.0	-0.9
SPBC				IAML		09 42 32.9	
	comp=Z,237nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*eP*	Pn	09 42 09.5	-0.7
ZARC				eS	Sn	09 42 35.4	-0.4
ZARC				IAML		09 42 40.3	
	comp=Z,108nm,0.3s						
NORC	**Norcasia**	**2.12**	**235**	*eP*	Pn	09 42 13.2	-0.2
NORC				eS	Sn	09 42 42.4	+0.8
NORC				IAML		09 42 46.5	
	comp=Z,116nm,0.2s						
CHIC	**Chingaza**	**2.24**	**195**⇑	*eP*	Pn	09 42 15.3	0.0
CHIC				eS	Sn	09 42 44.5	-0.3
CHIC				IAML		09 42 54.5	
	comp=Z,62nm,0.4s						
ROSC	**El Rosal**	**2.28**	**211**	*eP*	Pn	09 42 16.8	+1.0
ROSC				eS	Sn	09 42 48.8	+3.1
ROSC				IAML		09 42 51.7	
	comp=Z,149nm,0.5s						
HELC	**Santa Helena**	**2.45**	**256**	*eP*	Pn	09 42 17.6	-0.2
HELC				eS	Sn	09 42 50.1	+0.8
HELC				IAML		09 42 57.3	
	comp=Z,70nm,0.4s						
UREC	**San Jos de Ur**	**2.56**	**292**	*eP*	Pn	09 42 16.8	-1.9
UREC				eS	Sn	09 42 47.2	-3.8
UREC				IAML		09 42 55.4	
	comp=Z,54nm,0.1s						
SOCV	**Socops**	**2.70**	**57**⇑	*iP*	Pn	09 42 19.8	-0.7
SOCV				eS	Sn	09 42 50.0	-4.1
GUY2C	**Guyana, Caldas**	**2.71**	**235**	*eP*	Pn	09 42 21.2	0.0
GUY2C				eS	Sn	09 42 55.4	+0.2
GUY2C				IAML		09 43 02.3	
	comp=Z,74nm,0.4s						
VILC	**Villavicencio,**	**2.73**	**192**	*eP*	Pn	09 42 20.4	-0.7
VILC				eS	Sn	09 42 55.0	-0.1
LL1C	**La Loma 1 Cana**	**2.75**	**351**	*eP*	Pn	09 42 22.3	+1.1
LL1C				eS	Sn	09 42 57.5	+2.1
PTGC	**Puerto Gaitan,**	**2.77**	**159**⇓	*iP*	Pn	09 42 20.1	-1.3
PTGC				eS	Sn	09 42 53.5	-2.4
PTGC				IAML		09 42 53.6	
	comp=Z,58nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.92**	**357**	*eP*	Pn	09 42 22.5	-0.7
LL6C				eS	Sn	09 42 57.1	-2.0
LL6C				IAML		09 43 10.9	
	comp=Z,26nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.01**	**252**	*eP*	Pn	09 42 24.6	+0.1
CBOC				eS	Sn	09 43 01.5	+0.1
CBOC				IAML		09 43 05.1	
	comp=Z,20nm,0.2s						
DBBC	**Dabeiba**	**3.06**	**274**⇑	*eP*	Pn	09 42 25.0	-0.1
DBBC				eS	Sn	09 43 01.6	-0.8
DBBC				IAML		09 43 04.6	
	comp=Z,31nm,0.5s						
ANIL	**Santa Ana**	**3.22**	**225**	*eP*	Pn	09 42 29.2	+1.8
ANIL				eS	Sn	09 43 07.8	+1.4
ARGC	**Ariguani, Magd**	**3.23**	**340**	*eP*	Pn	09 42 27.2	0.0
ARGC				eS	Sn	09 43 07.0	+0.8
ARGC				IAML		09 43 13.1	
	comp=Z,16nm,0.2s						
PLMC	**San Jos del P**	**3.65**	**239**	*eP*	Pn	09 42 32.5	-0.2
PLMC				eS	Sn	09 43 14.8	-1.3
PLMC				IAML		09 43 19.0	
	comp=Z,29nm,0.2s						
SJCC	**San Jacinto, Guaj**	**3.68**	**327**	*eP*	Pn	09 42 30.8	-2.3
SJCC				eS	Sn	09 43 12.2	-4.4
SJCC				IAML		09 43 15.7	
	comp=Z,14nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	*eP*	Pn	09 42 37.4	-2.4
CRJC				eS	Sn	09 43 24.8	-4.0
CRJC				IAML		09 43 26.2	
	comp=Z,12nm,0.3s						
YOTC	**Yotoco, Valle**	**4.25**	**229**	*eP*	Pn	09 42 39.8	-0.8
SMRC	**Santa Marta, M**	**4.46**	**346**	*eP*	Pn	09 42 42.5	-0.8
SMRC				eS	Sn	09 43 30.2	-4.7
MACC	**Macarena, Meta**	**4.68**	**189**	*eP*	Pn	09 42 44.0	-2.2
MACC				eS	Sn	09 43 35.4	-4.8
MACC				IAML		09 43 42.7	
	comp=Z,11nm,0.4s						
DABV	**Dabajuro**	**4.78**	**31**	*eP*	Pn	09 42 46.7	-0.8
DABV				eS	Sn	09 43 38.4	-4.0
URIC	**Uribia, Colomb**	**5.00**	**13**	*eP*	Pn	09 42 47.7	-2.6
URIC				eS	Sn	09 43 46.2	-1.4
URIC				IAML		09 43 46.3	
	comp=Z,5.3nm,0.6s						
GARC	**Garzon, Huila**	**5.15**	**207**	*eP*	Pn	09 42 49.5	-3.1
GARC				eS	Sn	09 43 48.4	-3.2
GARC				IAML		09 43 53.4	
	comp=Z,17nm,0.3s						
FLOC	**Florencia**	**5.76**	**206**	*eP*	Pn	09 42 59.7	-0.8
FLOC				eS	Sn	09 44 04.7	-1.2

*UPA **08** 09:43:05.9±0.7, 9.°32N×83.°73W, h10km±2km, MW3.7*
*INET **08** 09:43:07.8±0.3, 9.°50N×83.°66W, h15km±1km, MW3.1*
*UCR **08** 09:43:07.4±1.8, 9.°41N×83.°66W, h18km±2km, MW3.6*
ISC 08 09:43:06.9±0.9, 9.°40N±0.°03×83.°67W±0.°03, h20km±1km, n60, σ0s84/93, 18C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEZE	**Perez Zeledon,**	**0.02**	**211**	⇓*iP*	**Pb**	**09 43 11.7**	**+1.1**
PEZE				eS	**Sb**	**09 43 15.2**	**+2.1**
CDM	**Cerro de Muert**	**0.18**	**327**	⇑*iP*	**Pb**	**09 43 13.0**	**0.0**
CDM				eS	**Sb**	**09 43 17.5**	**+0.2**
CDM	**Cerro de Muert**	**0.18**	**327**	*i* P	**Pb**	**09 43 13.0**	**0.0**
CDM				eS	**Sb**	**09 43 17.4**	**+0.1**
EDDO	**Dominical**	**0.24**	**233**	⇑*iP*	**Pb**	**09 43 13.6**	**+0.7**
EDDO				eS	**Sb**	**09 43 18.5**	**+1.5**
SRBA	**San Rafael, Bu**	**0.35**	**119**	*eP*	**Pb**	**09 43 14.5**	**+0.1**
SRBA				eS	**Sb**	**09 43 19.8**	**+0.4**
RIMA	**Rio Macho**	**0.41**	**332**	⇑*iP*	**Pb**	**09 43 15.7**	**+0.2**
RIMA				eS	**Sb**	**09 43 22.1**	**+0.7**
RIMA	**Rio Macho**	**0.41**	**332**	*eP*	**Pb**	**09 43 15.7**	**+0.2**
DRK0	**Durika**	**0.44**	**108**	*eP*	**Pb**	**09 43 16.9**	**+0.9**
DRK0				eS	**Sb**	**09 43 23.5**	**+1.4**
DRK0	**Durika**	**0.44**	**108**	*eP*	**Pb**	**09 43 16.9**	**+0.9**
DRK0				eS	**Sb**	**09 43 23.6**	**+1.4**
EDBA	**Buenos Aires**	**0.45**	**122**⇑	*eP*	**Pb**	**09 43 15.8**	**-0.4**
EDBA				eS	**Sb**	**09 43 22.4**	**-0.1**
MRVA	**Moravia de Chi**	**0.47**	**28**⇓	*iP*	**Pb**	**09 43 16.9**	**+0.2**
MRVA				eS	**Sb**	**09 43 23.9**	**+0.7**
LCR2	**La Lucha 2**	**0.47**	**315**	⇑*iP*	**Pb**	**09 43 16.6**	**-0.1**
LCR2				eS	**Sb**	**09 43 23.9**	**+0.6**
EDPN	**Palmar Norte**	**0.48**	**155**⇓	*eP*	**Pb**	**09 43 17.0**	**+0.3**
EDPN				eS	**Sb**	**09 43 24.5**	**+1.1**
OCM	**Ochomogo**	**0.57**	**329**	⇑*iP*	**Pb**	**09 43 18.2**	**-0.2**
OCM				eS	**Sb**	**09 43 26.4**	**+0.1**
RAFA	**San Farael, Vo**	**0.57**	**346**⇓	*eP*	**Pb**	**09 43 18.7**	**+0.2**
RAFA				eS	**Sb**	**09 43 27.4**	**+1.0**
CVTR	**Volcan Turrial**	**0.62**	**352**⇑	*eP*	**Pb**	**09 43 19.6**	**+0.1**
CVTR				eS	**Sb**	**09 43 28.7**	**+0.7**
POTG	**Potrero Grande**	**0.64**	**123**⇑	*eP*	**Pb**	**09 43 19.2**	**-0.3**
POTG				eS	**Sb**	**09 43 28.6**	**+0.4**
SJS	**Escuela Geolog**	**0.66**	**324**	⇑*iP*	**Pb**	**09 43 19.8**	**-0.1**
SJS				eS	**Sb**	**09 43 29.4**	**+0.8**
HDC3	**Heredia 3**	**0.74**	**324**	⇑*iP*	**Pb**	**09 43 21.4**	**+0.2**
HDC3				eS	**Sn**	**09 43 31.9**	**-1.2**
HDC3	**Heredia 3**	**0.74**	**324**	*eP*	**Pb**	**09 43 21.4**	**+0.2**
HDC3				eS	**Sn**	**09 43 31.9**	**-1.2**
HDC	**Heredia**	**0.74**	**323**	⇑*iP*	**Pb**	**09 43 21.3**	**+0.1**
HDC				eS	**Sn**	**09 43 31.9**	**-1.2**
HDC	**Heredia**	**0.74**	**323**	⇑*eP*	**Pb**	**09 43 21.4**	**+0.1**
HDC				⇓eS	**Sn**	**09 43 32.0**	**-1.1**
BATAN	**Batan**	**0.75**	**22**	*eP*	**Pb**	**09 43 20.9**	**-0.4**
BATAN	**Batan**	**0.75**	**22**	*eP*	**Pn**	**09 43 22.0**	**-0.4**

EDSV	**San Vito**	**0.90**	**130**⇑	*eP*	**Pb**	**09 43 23.7**	**-0.1**
RIFO	**Rio Frio, Sara**	**0.94**	**344**	*eP*	**Pb**	**09 43 24.4**	**-0.2**
CRPO	**Crater poas**	**0.96**	**325**	*eP*	**Pb**	**09 43 25.1**	**0.0**
JACO	**JACO, Garabito**	**1.01**	**285**	*eP*	**Pb**	**09 43 25.0**	**-0.8**
JACO	**JACO, Garabito**	**1.01**	**285**	*eP*	**Pb**	**09 43 25.4**	**-0.4**
JACO				eS	**Sn**	**09 43 39.5**	**-0.1**
BRU2	**Volcan**	**1.14**	**122**⇑	*iP*	**Pn**	**09 43 26.8**	**-1.0**
BRU2				eS	**Sb**	**09 43 42.4**	**0.0**
BRU2	**Volcan**	**1.14**	**122**⇑	*iP*	**Pn**	**09 43 27.2**	**-0.6**
BRU2				eS	**Sn**	**09 43 42.8**	**-0.1**
CDITO	**Canoas**	**1.14**	**136**	*eP*	**Pn**	**09 43 25.9**	**-1.7**
CDITO	**Canoas**	**1.14**	**136**	*eP*	**Pn**	**09 43 25.9**	**-1.7**
CDITO				eS	**Sb**	**09 43 42.1**	**-0.1**
CNI2	**El Empalme, Bo**	**1.18**	**89**⇑	*eP*	**Pn**	**09 43 27.7**	**-0.6**
CNI2				eS	**Sn**	**09 43 43.5**	**-0.2**
BC3P	**Paso Ancho**	**1.19**	**119**	*eP*	**Pn**	**09 43 28.4**	**-0.3**
BC3P				eS	**Sn**	**09 43 45.1**	**+0.7**
LAFE	**Finca La Fe, P**	**1.29**	**288**	*eP*	**Pb**	**09 43 30.4**	**-0.1**
BCO2	**Palmira**	**1.31**	**121**	*eP*	**Pn**	**09 43 30.2**	**-0.1**
BCO2				eS	**Sb**	**09 43 47.9**	**+0.5**
PTAR3	**Potrerillos Ar**	**1.35**	**121**	*eP*	**Pn**	**09 43 30.0**	**-0.7**
PTAR3				eS	**Sb**	**09 43 49.0**	**+0.4**
LNBQ3	**Los Naranjos,**	**1.35**	**117**	*eP*	**Pn**	**09 43 30.6**	**-0.2**
LNBQ3				eS	**Sb**	**09 43 48.7**	**+0.1**
FORC	**Fortuna**	**1.45**	**317**	*eP*	**Pb**	**09 43 32.7**	**-0.5**
CASO	**Castillo**	**1.47**	**314**	*eP*	**Pb**	**09 43 33.0**	**-0.6**
CEDE	**Laguna Cedeo**	**1.49**	**317**	*eP*	**Pb**	**09 43 33.6**	**-0.3**
COVE	**Coope Vega, Sa**	**1.50**	**331**	*eP*	**Pn**	**09 43 32.8**	**+0.1**
DVD	**David**	**1.54**	**129**	*eP*	**Pn**	**09 43 32.1**	**-1.1**
DVD				eS	**Sn**	**09 43 52.9**	**+0.4**
JTS	**Las Juntas de**	**1.54**	**305**	*eP*	**Pn**	**09 43 33.5**	**+0.2**
JTS	**Las Juntas de**	**1.54**	**305**	*eP*	**Pn**	**09 43 33.7**	**+0.3**
JTS				eS	**Sn**	**09 43 53.0**	**+0.2**
CHGR2	**Aguacate**	**1.57**	**107**	*eP*	**Pn**	**09 43 33.9**	**+0.3**
CHGR2				eS	**Sb**	**09 43 54.7**	**-0.1**
ACAL	**Aguas Claras**	**1.82**	**312**	*eP*	**Pb**	**09 43 38.5**	**-1.1**
PTEN	**Parque Tenorio**	**1.84**	**315**	*eP*	**Pb**	**09 43 38.8**	**-1.2**
DUNO	**Dulce Nombre,**	**1.92**	**291**	*eP*	**Pn**	**09 43 38.3**	**-0.2**
CUI	**Cuipilapa**	**1.93**	**310**	*eP*	**Pb**	**09 43 40.2**	**-1.3**
COLC	**Colonia**	**1.97**	**310**	*eP*	**Pb**	**09 43 40.7**	**-1.3**
HORNC	**Hornillas**	**1.98**	**311**	*eP*	**Pn**	**09 43 40.5**	**+1.2**
ORTG	**Ortega, Santa**	**2.01**	**299**	*eP*	**Pn**	**09 43 40.6**	**+0.9**
GUAB	**Guayabo de Bag**	**2.01**	**310**	*eP*	**Pb**	**09 43 41.7**	**-1.2**
GPS2	**Hotel Rincn d**	**2.13**	**309**	*eP*	**Pn**	**09 43 42.9**	**+1.5**
BUAI	**Buenos Aires**	**2.20**	**312**	*eP*	**Pn**	**09 43 44.1**	**+1.7**
BUEV	**Buena Vista**	**2.21**	**309**	*eP*	**Pb**	**09 43 44.2**	**-1.9**
LAPC	**Finca la Perla**	**2.21**	**308**	*eP*	**Pn**	**09 43 43.9**	**+1.5**
GB1A	**Borinquen Arri**	**2.21**	**310**	*eP*	**Pb**	**09 43 44.4**	**-1.9**

*THE **08** 09:46:47.0, 39.°51N×23.°62E, h12km±2km, ML2.3/4, Error ellipse: s-maj=2.5km s-min=0.6km az=294.0*
*ATH **08** 09:46:47.6, 39.°47N×23.°56E, h7km±4km, ML2.5/7, Error ellipse: s-maj=6.7km s-min=1.9km az=204.0*
ISC 08 09:46:45.6±1.5, 39.°53N±0.°03×23.°62E±0.°04, h10km±14km, n19, σ0s47/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.37**	**244**	P	**Pb**	**09 46 53.9**	**-0.4**
XOR				S	**Sb**	**09 46 59.9**	**-0.2**
	565nm,0.2s						
NEO	**Neokhori**	**0.38**	**234**	P	**Pb**	**09 46 54.5**	**0.0**
NEO				S	**Sb**	**09 47 00.0**	**-0.4**
	1μm,0.3s						
NEO	**Neokhori**	**0.38**	**234**	P	**Pg**	**09 46 52.9**	**-0.2**
NEO				AML	AML	09 47 01.5	
	comp=E,2274μm,0.2s						
NEO				AML	AML	09 47 11.9	
	comp=N,2032μm,0.5s						
PAIG	**Paliouri**	**0.40**	**7**	P	**Pb**	**09 46 54.9**	**0.0**
PAIG				S	**Sb**	**09 47 01.2**	**+0.2**
	comp=N,452nm,0.2s						
ALNA	**Alonissos**	**0.43**	**153**	P	**Pb**	**09 46 55.3**	**0.0**
ALNA				S	**Sb**	**09 47 01.1**	**-0.6**
ALNA				AML	AML	09 47 07.6	
	comp=E,2241μm,0.4s						
ALNA				AML	AML	09 47 07.6	
	comp=N,1719μm,0.3s						
OUR	**Ouranopolis**	**0.85**	**19**	P	**Pn**	**09 47 03.2**	**-0.5**
OUR				S	**Sn**	**09 47 16.6**	**+0.4**
	comp=N,305nm,0.4s						
ATAL	**Atalanti**	**0.96**	**209**	P	**Pg**	**09 47 03.8**	**-0.2**
ATAL	**Atalanti**	**0.96**	**209**	P	**Pg**	**09 47 03.9**	**-0.2**
ATAL				AML	AML	09 47 21.6	
	comp=N,198μm,0.5s						
ATAL				AML	AML	09 47 28.6	
	comp=E,216μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.97**	**157**	P	**Pn**	**09 47 05.3**	**0.0**
KYMI	**Kymi, Euboea I**	**0.97**	**157**	P	**Pg**	**09 47 04.4**	**+0.1**
KYMI				AML	AML	09 47 30.4	
	comp=E,546μm,0.4s						
KYMI				AML	AML	09 47 30.5	
	comp=N,587μm,0.6s						
AXAR	**Agios Charalam**	**1.07**	**225**	P	**Pg**	**09 47 06.0**	**-0.1**
HORT	**Hortiatis**	**1.14**	**340**	P	**Pn**	**09 47 07.8**	**0.0**
THL	**Klokotos Trika**	**1.24**	**272**	P	**Pg**	**09 47 10.2**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.27**	**246**	P	**Pg**	**09 47 10.5**	**+0.5**
MAKR				AML	AML	09 47 30.8	
	comp=N,424μm,0.9s						
MAKR				AML	AML	09 47 34.0	
	comp=E,487μm,0.8s						
SOH	**Sokhos**	**1.31**	**351**	P	**Pg**	**09 47 10.6**	**-0.2**
VIL2	**Platees**	**1.34**	**192**	P	**Pg**	**09 47 12.8**	**+1.4**
DION	**Dionisos Attik**	**1.47**	**170**	P	**Pb**	**09 47 13.5**	**+0.5**
DION				AML	AML	09 47 39.9	
	comp=E,566μm,0.4s						
DION				AML	AML	09 47 40.2	
	comp=N,576μm,0.5s						
ATHU	**Athens Univers**	**1.56**	**175**	P	**Pb**	**09 47 14.6**	**0.0**
VLY	**Voula,Athens**	**1.68**	**175**	P	**Pg**	**09 47 17.6**	**-0.2**
VLY				AML	AML	09 47 44.3	
	comp=E,389μm,0.7s						
VLY				AML	AML	09 47 46.9	
	comp=N,415μm,0.5s						

*BER **08** 09:59:56.8±1.9, 64.°40N×31.°74E, h0km, ML2.2, Suspected explosion*
*UPP **08** 10:00:00.6±2.7, 64.°52N×30.°66E, h0km, ML2.2, Suspected explosion*
*IDC **08** 10:00:01.1±2.5, 64.°61N×30.°81E, h0km, mbtmp3.0/3, ML2.3/3, Error ellipse: s-maj=38.8km s-min=9.3km az=102.0*
*HEL **08** 10:00:02.7±0.5, 64.°76N×30.°39E, h0km, ML2.3, Explosion*
*KOLA **08** 10:00:04.0, 64.°72N×30.°33E, h0km, ML2.5*
ISC 08 10:00:04.0±0.9, 64.°82N±0.°03×30.°13E±0.°04, h0km, n49, σ1s52/65, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSF	**Maaselka**	**1.19**	**338**	PG	**Pg**	**10 00 25.8**	**-0.9**
	baz=154						
MSF				SN	**Sn**	**10 00 47.4**	**+2.7**
KU6	**Riekki**	**1.21**	**355**	PG	**Pg**	**10 00 25.3**	**-1.9**
	baz=167						
KU6				MSG		10 00 41.6	
	comp=Z,25nm,0.2s						
KU6				SN	**Sn**	**10 00 45.4**	**+0.1**
OBF4	**Vikkela, Lumij**	**2.15**	**272**	PB	**Pn**	**10 00 41.2**	**+0.3**
OUF	**Merijarvi**	**2.37**	**261**	PN	**Pn**	**10 00 43.9**	**-0.1**
	baz=77						
OUF				MSG		10 01 15.8	
	comp=Z,29nm,0.2s						
OUF				SG	**Sg**	**10 01 19.5**	**-0.5**
RNF	**Rovaniemi**	**2.47**	**318**	PN	**Pn**	**10 00 45.7**	**+0.2**
	baz=130						
OBF0	**Syolatti, Pyha**	**2.56**	**265**	PN	**Pn**	**10 00 47.0**	**+0.5**
TOF	**Tornio**	**2.73**	**300**	PN	**Pn**	**10 00 49.5**	**+0.5**
TOF				MSG		10 01 26.6	
	comp=Z,16nm,0.2s						
OBF8	**Ulkokalla**	**2.92**	**263**	PN	**Pn**	**10 00 52.2**	**+0.6**
VRF	**Varrio**	**2.95**	**356**	PN	**Pn**	**10 00 50.6**	**-1.3**
VRF				MSG		10 01 31.3	
	comp=Z,5.2nm,0.2s						
SGF	**Sodankyl**	**3.01**	**333**	PN	**Pn**	**10 00 53.1**	**+0.3**
SGF				SG	**Sb**	**10 01 37.1**	**+1.5**
APA0	**Apatity Array**	**3.03**	**21**	S	**Sn**	**10 01 30.9**	**+0.9**
APA	**Apatity**	**3.06**	**24**	P	**Pn**	**10 00 54.9**	**+1.4**
APA				S	**Sn**	**10 01 30.6**	**-0.2**
KAF	**Kangasniemi**	**3.21**	**214**	PN	**Pn**	**10 00 56.0**	**+0.4**
KAF				MSG		10 01 37.5	

	comp=Z,5.8nm,0.2s							
RUFX	**Ruokolahti**	**3.45**	**189**	PN	**Pn**	**10 00 57.2**	**-1.6**
KLF	**Kolari**	**3.49**	**317**	PN	**Pn**	**10 00 59.6**	**+0.1**
KEF	**Keuruu**	**3.56**	**224**	PN	**Pn**	**10 00 59.8**	**-0.5**
LVZ	**Lovozero**	**3.59**	**28**	P	**Pn**	**10 01 00.8**	**+0.1**
LVZ				S	**Sn**	**10 01 42.3**	**-1.5**
LVZ	**Lovozero**	**3.59**	**28**	PN	**Pn**	**10 01 01.4**	**+0.7**
LVZ				SN	**Sn**	**10 01 43.9**	**0.0**
PAJU	**Pajala**	**3.63**	**311**	PN	**Pn**	**10 01 01.7**	**+0.3**
SJUU	**Sjulsmark**	**3.66**	**285**	P	**Pn**	**10 01 01.9**	**+0.2**
SJUU				S	**Sb**	**10 01 51.4**	**-2.9**
ERTU	**Ertsjaerv**	**3.72**	**301**	PN	**Pn**	**10 01 03.1**	**+0.6**
ERTU				SB	**Sb**	**10 01 55.2**	**-0.7**
VAF	**Ylistaro**	**3.74**	**245**	PN	**Pn**	**10 01 03.6**	**+0.8**
BURU	**Burvik**	**3.76**	**270**	P	**Pn**	**10 01 02.5**	**-0.7**
BURU	**Burvik**	**3.76**	**270**	PN	**Pn**	**10 01 02.4**	**-0.7**
FIA0	**FINESS Array S**	**3.86**	**210**	PN	**Pn**	**10 01 04.3**	**-0.1**
	baz=30						
FIA0				SG	**Sb**	**10 02 02.4**	**+2.5**
FINES	**FINESS Array B**	**3.86**	**210**	Pn	**Pn**	**10 01 01.5**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=35,slow=13,SNR=17						
FINES				Pg	**Pb**	**10 01 12.4**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=32,slow=14,SNR=5.8						
FINES				Lg	Lg	10 02 02.4	
	comp=Z,2.4nm,0.3s,baz=35,slow=25,SNR=8.9						
	comp=Z,0.8nm,0.2s						
ODEU	**Stanfors**	**4.07**	**268**	P	**Pn**	**10 01 06.2**	**-1.2**
ODEU				S	**Sn**	**10 01 57.9**	**+2.2**
LILU	**Lilltraesk**	**4.38**	**281**	P	**Pn**	**10 01 11.5**	**-0.1**
HEF	**Hetta**	**4.43**	**327**	*eP*	**Pn**	**10 01 14.6**	**+2.3**
HEF	**Hetta**	**4.43**	**327**	PN	**Pn**	**10 01 11.7**	**-0.6**
VJF	**Virojoki**	**4.46**	**197**	SG	**Sb**	**10 02 19.1**	**+1.9**
SVAU	**Svanoeiden**	**4.55**	**271**	P	**Pn**	**10 01 12.8**	**-1.1**
LANU	**Lannavaara**	**4.60**	**318**	PN	**Pn**	**10 01 14.0**	**-0.7**
	baz=129						
PVF	**Pernaja**	**4.72**	**207**	SG	**Sb**	**10 02 28.6**	**+3.9**
KTK1	**Kautokeino**	**5.00**	**330**	*eP*	**Pn**	**10 01 20.5**	**+0.3**
KTK1				IAML		10 02 28.2	
	comp=Z,2.8nm,0.4s						
HUSU	**Husum**	**5.01**	**258**	P	**Pn**	**10 01 19.4**	**-0.8**
ARA0	**ARCESS Array S**	**5.07**	**341**	*eP*	**Pn**	**10 01 19.8**	**-1.2**
ARA0				*e*S	**Sn**	**10 02 21.8**	**+1.7**
ARA0				IAML		10 02 25.0	
	comp=Z,2.4nm,0.2s						
ARCES	**ARCESS Array B**	**5.07**	**341**	Pn	**Pn**	**10 01 19.9**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=155,slow=14,SNR=31						
ARCES				Sn	**Sn**	**10 02 21.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=157,slow=26,SNR=5.3						
ARCES				Lg	Lg	10 02 41.8	
	comp=Z,1.3nm,0.3s,baz=159,slow=31,SNR=7.5						
	comp=Z,1.2nm,0.3s						
ARCES	**ARCESS Array B**	**5.07**	**341**	P	**Pn**	**10 01 21.1**	**+0.1**
ARCES				S	**Sn**	**10 02 20.0**	**-0.2**
KEV	**Kevo**	**5.10**	**348**	*eP*	**Pn**	**10 01 19.6**	**-1.9**
KEV				*e*S	**Sn**	**10 02 21.4**	**+0.4**
BREU	**Bredtraesk**	**5.10**	**265**	P	**Pn**	**10 01 20.5**	**-1.1**
KOVU	**Salmi**	**5.25**	**315**	P	**Pn**	**10 01 24.5**	**+1.0**
SALU	**Saltoluokta**	**5.38**	**304**	*eP*	**Pn**	**10 01 26.1**	**+0.7**
SALU	**Saltoluokta**	**5.38**	**304**	P	**Pn**	**10 01 25.6**	**+0.2**
KIF	**Kilpisjarvi**	**5.57**	**323**	*eP*	**Pn**	**10 01 30.8**	**+2.9**
KIF				*e*S	**Sn**	**10 02 37.7**	**+5.1**
JETT	**Jettan, Norway**	**6.07**	**326**	*eP*	**Pn**	**10 01 35.2**	**+0.4**
JETT				IAML		10 03 21.2	
	comp=Z,16nm,0.5s						
I37NO	**I37NO**	**6.21**	**318**	*i*		10 42 25.0	
	comp=Z,0.1nm,1.4s,baz=130,slow=323,SNR=12						
STEI	**Steigen**	**6.74**	**304**	*eP*	**Pn**	**10 01 43.6**	**-0.3**
NOA	**NORSAR Array B**	**9.40**	**255**	Pn	Pn	10 02 15.1	-5.4
	baz=77,slow=14,SNR=1.6						
NOA				Sn	**Sn**	**10 04 03.8**	**-3.1**
	baz=60,slow=22,SNR=1.1						
NOA				Lg	Lg	10 04 55.4	
	baz=43,slow=23,SNR=1.9						
	comp=Z,0.3nm,0.7s						

*IDC **08** 10:15:14.7±0.8, 1.°08N×90.°76W, h0km, mb4.2/16, mbtmp4.2/19, ML3.4/3, MS4.1/55, Error ellipse: s-maj=29.0km s-min=12.3km az=51.0*
*NEIC **08** 10:15:17.9±2.8,

comp=Z,3.7nm,1.1s,baz=290,slow=8.5,SNR=6.5
LPAZ LR LR 10 31 56.4
comp=Z,542nm,21.2s,baz=307,slow=36
comp=Z,3.7nm,1.1s
SJG San Juan 29.51 53 LR LR 10 31 55.1
comp=Z,522nm,19.5s,baz=232,slow=34
29.51 332 P **P** **10 21 21.9 +0.2**
HPIG IAmb IAmb 10 21 27.6
comp=Z,9.4nm,1.4s
LPIG La Paz 29.79 322 LR LR 10 30 17.1
comp=Z,269nm,19.3s,baz=100,slow=30
BOAV Boa Vista 30.21 87 *eP* **P** **10 21 29.3 +1.4**
TXAR Lajitas Array 30.76 337 P **P** **10 21 31.9 -0.7**
comp=Z,0.7nm,0.8s,baz=150,slow=10,SNR=6.6
TXAR LR LR 10 32 39.3
comp=Z,176nm,19.2s,baz=148,slow=34
comp=Z,0.7nm,0.8s
LVC Limon Verde 31.66 139 P **P** **10 21 42.4 +1.4**
comp=Z,6.2nm,0.8s,baz=239,slow=5.9,SNR=1.8
LVC LR LR 10 31 56.6
comp=Z,194nm,21.2s,baz=308,slow=32
comp=Z,6.2nm,0.8s
LVC Limon Verde 31.66 139 *eP* **P** **10 21 39.1 -1.8**
RPN Rapa Nui 33.22 211 LR LR 10 31 57.0
comp=Z,466nm,18.1s,baz=42,slow=30
MNTX Cornudas Mount 33.53 337 P **P** **10 21 56.8 -0.1**
SIV San Ignacio 33.80 121 P **P** **10 21 58.9 -0.5**
comp=Z,3.1nm,0.7s,baz=289,slow=7.5,SNR=19
SIV LR LR 10 35 27.0
comp=Z,374nm,18.3s,baz=281,slow=36
comp=Z,3.1nm,0.7s
SWET Sewanee 34.33 7 P **P** **10 22 05.7 +2.0**
AC02 Maricunga 34.62 145 P **P** **10 22 08.5 +1.5**
FCAR Ozark Folk Cen 34.73 358 IAmb IAmb 10 22 11.5
comp=Z,5.6nm,0.9s
CPCT Cooper Cave 34.75 9 IAmb IAmb 10 22 11.2
comp=Z,7.0nm,0.9s
WVT Waverly 35.05 4 P **P** **10 22 12.1 +2.2**
WVT IAmb IAmb 10 22 13.2
comp=Z,5.7nm,0.9s
TKL Tuckaleechee C 35.08 10 P **P** **10 22 08.8 -1.4**
comp=Z,6.0nm,0.8s,baz=184,slow=10.0,SNR=8.5
TKL LR LR 10 35 58.7
comp=Z,151nm,19.1s,baz=190,slow=36
comp=Z,6.0nm,0.8s
TKL Tuckaleechee C 35.08 10 IAmb IAmb 10 22 13.8
comp=Z,7.6nm,0.8s
V51A Loudon 35.12 9 P **P** **10 22 12.0 +1.5**
PTLB Pontes e Lacer 35.23 119 P **P** **10 22 11.3 -0.5**
PTLB IAmb IAmb 10 22 14.2
comp=Z,4.4nm,1.1s
V53A Saluda 35.26 11 IAmb IAmb 10 22 15.6
comp=Z,6.4nm,0.9s
U49A Red Boiling Sp 35.62 7 IAmb IAmb 10 22 18.3
comp=Z,7.3nm,0.8s
MGMO Mountain Grove 36.00 358 IAmb IAmb 10 22 22.6
comp=Z,8.0nm,1.1s
PDRB Porto dos Gac 36.02 111 *eP* **P** **10 22 20.2 +1.6**
BNM Barren Site 36.18 337 P **P** **10 22 20.0 0.0**
CLDB Colider 36.67 110 *eP* **P** **10 22 23.2 -1.0**
ANMO Albuquerque 36.82 338 LR LR 10 36 38.0
comp=Z,207nm,19.0s,baz=160,slow=35
ANMO Albuquerque 36.82 338 P **P** **10 22 25.3 -0.1**
CCM Cathedral Cave 36.87 359 P **P** **10 22 24.7 -0.9**
S51A Beattyville 37.04 9 IAmb IAmb 10 22 30.4
comp=Z,11nm,1.0s
R40A Maddies Statio 37.13 358 IAmb IAmb 10 22 31.9
comp=Z,7.5nm,1.1s
T57A Hurt 37.35 15 IAmb IAmb 10 22 33.0
comp=Z,8.4nm,0.9s
T25A Trinidad 38.12 342 IAmb IAmb 10 22 43.4
comp=Z,9.3nm,1.1s
MDP Montagnes des 38.23 83 LR LR 10 39 33.0
comp=Z,185nm,18.1s,baz=290,slow=38
113A Mohawk Valley, 38.32 328 IAmb IAmb 10 22 43.4
comp=Z,7.3nm,1.0s
SALV Santo Antonio 38.45 117 *eP* **P** **10 22 40.0 +0.8**
P46A Rosedale 38.56 4 IAmb IAmb 10 22 43.6
comp=Z,17nm,1.1s
P48A Milroy 38.58 7 IAmb IAmb 10 22 43.0
comp=Z,18nm,1.1s
P51A Williamsport 38.93 9 IAmb IAmb 10 22 46.7
comp=Z,9.3nm,0.8s
P53A Whipple 39.23 11 IAmb IAmb 10 22 49.2
comp=Z,11nm,0.9s
WUAZ Wupatki 39.35 333 IAmb IAmb 10 22 53.2
comp=Z,11nm,1.0s
S22A 4UR Ranch, Cre 39.46 340 IAmb IAmb 10 23 03.7
comp=Z,13nm,1.4s
W13A Hualapai Mount 40.21 330 IAmb IAmb 10 23 00.5
comp=Z,7.8nm,1.1s
AQDB Aquidauana 40.38 124 *eP* **P** **10 22 55.0 -0.3**
PFO Pinyon Flats O 40.43 326 P **P** **10 22 55.6 -0.1**
comp=Z,2.4nm,0.9s,baz=168,slow=3.9,SNR=2.7
PFO LR LR 10 36 39.2
comp=Z,147nm,19.3s,baz=140,slow=32
comp=Z,2.4nm,0.9s
PV13 Radium Mtn., P 40.55 338 IAmb IAmb 10 23 02.4
comp=Z,11nm,1.4s
L42A Oliver, Polo 40.82 1 P **P** **10 23 00.8 +2.3**
L42A IAmb IAmb 10 23 02.0
comp=Z,9.7nm,0.8s
ISCO Idaho Springs 40.93 342 IAmb IAmb 10 23 06.3
comp=Z,6.0nm,0.8s
V12A Nelson 41.19 330 P **P** **10 23 00.3 -1.5**
V12A IAmb IAmb 10 23 08.1
comp=Z,10nm,1.0s
SNDB Serra Nova Dou 41.22 109 *eP* **P** **10 23 00.9 -1.3**
PRPB Parauapebas 41.45 100 *eP* **P** **10 23 02.5 -1.8**
GSC Goldstone, Bar 41.88 327 IAmb IAmb 10 23 13.4
comp=Z,9.3nm,1.1s
CCUT Cedar City 41.93 333 P **P** **10 23 08.8 +0.7**
SHPR Sheep Range 41.95 330 P **P** **10 23 08.9 +0.7**
CPUP Villa Florida 42.14 133 P **P** **10 23 09.4 -0.2**
comp=Z,1.9nm,0.7s,baz=216,slow=14,SNR=2.1
CPUP LR LR 10 41 27.0
comp=Z,205nm,20.7s,baz=316,slow=37
comp=Z,1.9nm,0.7s
GWY Greenwater Val 42.48 328 IAmb IAmb 10 23 24.2
comp=Z,9.5nm,1.2s
S11A Rachel 43.14 331 IAmb IAmb 10 23 26.7
comp=Z,13nm,1.1s
DSP Deep Springs 44.05 328 IAmb IAmb 10 23 31.3
comp=Z,9.3nm,1.1s
TCUT Toone Canyon 44.10 337 P **P** **10 23 25.2 -0.4**
SADO Sadowa 44.77 12 LR LR 10 42 25.4
comp=Z,180nm,19.0s,baz=192,slow=36
MDPB Devils Postpil 44.84 328 IAmb IAmb 10 23 37.8
comp=Z,12nm,1.2s
PDAR Pinedale Array 44.88 340 P **P** **10 23 30.4 -1.4**
comp=Z,0.6nm,0.8s,baz=165,slow=6.2,SNR=6.7
PDAR LR LR 10 41 46.9
comp=Z,157nm,19.4s,baz=160,slow=36
comp=Z,0.6nm,0.8s
NV11 Mina Array Sit 44.95 329 IAmb IAmb 10 23 38.2
comp=Z,8.7nm,1.0s
NVAR Mina Array Bea 45.03 329 P **P** **10 23 33.5 +0.4**
comp=Z,9.1nm,0.9s,baz=163,slow=8.9,SNR=26
NVAR LR LR 10 39 59.0
comp=Z,94nm,18.5s,baz=134,slow=33
comp=Z,9.1nm,0.9s
RYN Ryan 45.29 329 P **P** **10 23 36.7 +1.7**
RYN IAmb IAmb 10 23 42.0
comp=Z,10.0nm,1.3s
BDFB Brasilia 45.31 113 P **P** **10 23 34.4 -1.1**
comp=Z,1.6nm,0.5s,baz=326,slow=7.7,SNR=3.3
BDFB LR LR 10 43 03.0
comp=Z,202nm,18.7s,baz=358,slow=37
comp=Z,1.6nm,0.5s
ELK Elko 45.37 334 LR LR 10 41 26.8
comp=Z,154nm,19.4s,baz=150,slow=35
KVN Kaiserville 45.39 330 IAmb IAmb 10 23 41.8
comp=Z,10nm,1.1s
PLCA Paso Flores 45.42 158 P **P** **10 23 35.8 -0.1**
comp=Z,2.0nm,0.9s,baz=305,slow=16,SNR=2.4
PLCA LR LR 10 38 57.5
comp=Z,131nm,18.7s,baz=332,slow=31
comp=Z,2.0nm,0.9s
REDW Red Top Meadow 45.85 340 IAmb IAmb 10 23 59.1
comp=Z,10nm,1.2s
SNOW Snow King Moun 45.90 340 IAmb IAmb 10 23 45.7
comp=Z,7.9nm,0.9s
TPAW Teton Pass 45.99 340 IAmb IAmb 10 23 44.1
comp=Z,3.5nm,0.8s
BMN Battle Mountai 46.03 332 IAmb IAmb 10 23 46.6
comp=Z,10nm,1.1s
FXWY Fox Creek 46.15 340 IAmb IAmb 10 23 47.4
comp=Z,4.8nm,1.1s

BEKR Beckworth 47.16 329 IAmb IAmb 10 23 55.2
comp=Z,6.5nm,1.0s
YHL Hebgen Lake 47.27 340 IAmb IAmb 10 23 58.2
comp=Z,7.0nm,1.1s
HLID Hailey 47.35 337 IAmb IAmb 10 23 56.1
comp=Z,4.4nm,0.8s
MFID Camas Ranch 47.80 335 IAmb IAmb 10 24 03.4
comp=Z,3.6nm,1.0s
WVOR Wild Horse Val 48.26 332 IAmb IAmb 10 24 03.3
comp=Z,6.9nm,1.4s
ULM Lac du Bonnet 49.26 356 LR LR 10 45 12.9
comp=Z,191nm,21.7s,baz=174,slow=37
K05A Summer Lake 49.56 331 P **P** **10 24 08.2 -0.1**
K05A IAmb IAmb 10 24 13.7
comp=Z,7.4nm,1.0s
YBH Yreka Blue Hor 49.74 329 LR LR 10 45 15.0
comp=Z,94nm,18.8s,baz=152,slow=36
PINE Pine Mountain 50.38 332 IAmb IAmb 10 24 32.1
comp=Z,11nm,1.3s
NEW Newport 52.31 338 LR LR 10 46 26.6
comp=Z,182nm,18.2s,baz=152,slow=36
RCBR Riachuelo 55.15 98 LR LR 10 48 38.9
comp=Z,261nm,18.5s,baz=60,slow=36
SCHQ Schefferville 57.10 16 LR LR 10 49 01.9
comp=Z,173nm,21.8s,baz=228,slow=36
PPT Papeete 60.79 249 LR LR 10 45 42.5
comp=Z,144nm,18.1s,baz=82,slow=30
PPT2 Papeete2 60.80 249 *eS* **S** **10 33 48.8 +1.2**
comp=Z,84nm,29.2s
PPT2 *eLR* LR 10 43 28.1
comp=Z,442nm,26.0s
TBI Tubuai 61.97 243 *eS* **S** **10 34 03.1 +0.9**
comp=Z,74nm,26.0s
TBI *eLR* LR 10 44 01.3
comp=Z,498nm,27.0s
TBI Tubuai 61.97 243 *eT* T 11 32 22.3
comp=Z,3.9nm,0.3s
YKA Yellowknife Ar 63.90 348 P **P** **10 25 47.3 -2.2**
comp=Z,1.3nm,0.7s,baz=146,slow=6.3,SNR=4.7
YKA LR LR 10 55 45.3
comp=Z,83nm,18.2s,baz=66,slow=38
comp=Z,1.3nm,0.7s
FRB Frobisher Bay 64.69 11 LR LR 10 53 23.7
comp=Z,211nm,21.0s,baz=194,slow=35
DLBC Dease Lake 65.06 338 LR LR 10 54 25.0
comp=Z,127nm,18.6s,baz=138,slow=36
PMSA Palmer Station 68.46 168 LR LR 10 48 30.1
comp=Z,110nm,21.6s,baz=338,slow=29
RAR Rarotonga 70.90 247 LR LR 10 49 17.5
comp=Z,135nm,20.6s,baz=98,slow=29
SFJD Kangerlussuaq 71.54 15 LR LR 10 56 50.2
comp=Z,112nm,20.4s,baz=212,slow=35
INK Inuvik 73.21 345 LR LR 11 00 37.7
comp=Z,58nm,18.1s,baz=50,slow=37
RES Resolute Bay 73.63 359 LR LR 11 01 10.1
comp=Z,84nm,19.1s,baz=182,slow=38
J26L Joseph Creek 73.91 339 IAmb IAmb 10 26 57.8
comp=Z,6.3nm,1.1s
BBTS Babate 74.44 75 LR LR 10 56 31.0
comp=Z,99nm,21.1s,baz=248,slow=33
PRP Porcupine Dome 75.17 339 P **P** **10 27 02.5 +3.2**
PRP IAmb IAmb 10 27 04.1
comp=Z,9.1nm,1.4s
ILAR Eielson Array 75.27 338 P **P** **10 26 57.6 -2.2**
comp=Z,0.9nm,0.7s,baz=156,slow=4.4,SNR=8.6
comp=Z,0.9nm,0.7s
H24K Noodor Dome 76.17 339 P **P** **10 27 06.0 +1.1**
H24K IAmb IAmb 10 27 10.4
comp=Z,5.8nm,1.1s
BPAW Bear Paw Mtn. 76.50 337 P **P** **10 27 09.3 +2.5**
BPAW IAmb IAmb 10 27 11.1
comp=Z,5.5nm,1.2s
BORG Borgarnes 80.40 24 LR LR 11 00 30.4
comp=Z,95nm,20.1s,baz=256,slow=34
MDT Midelt 86.18 57 LR LR 10 59 33.4
comp=Z,56nm,20.6s,baz=301,slow=31
JMIC Jan Mayen 86.51 19 LR LR 11 05 08.1
comp=Z,54nm,19.6s,baz=277,slow=35
KOWA Kowa 86.55 76 LR LR 11 03 25.8
comp=Z,68nm,21.4s,baz=236,slow=33
ESDC Sonseca Array 86.86 51 P **P** **10 28 00.8 -1.3**
comp=Z,2.4nm,0.9s,baz=278,slow=4.5,SNR=10
ESDC LR LR 11 00 11.1
comp=Z,104nm,21.4s,baz=292,slow=31
comp=Z,2.4nm,0.9s
EKA Eskdalemuir Ar 87.78 35 LR LR 11 02 14.1
comp=Z,106nm,18.8s,baz=225,slow=32
VNA3 Neumayer Olymp 88.06 161 P **P** **10 28 06.5 -0.6**
VNA1 Neumayer--Stat 88.43 161 P **P** **10 28 10.8 +2.0**
VNA2 Neumayer--Watz 88.75 161 P **P** **10 28 10.3 -0.1**
baz=308,slow=5.0
SNAA Sanae 90.28 162 P **P** **10 28 17.8 +0.2**
QSPA South Pole Qui 91.04 180 LR LR 11 02 20.8
comp=Z,202nm,19.1s,baz=138,slow=31
TORD Torodi Ar. Bea 92.12 77 LR LR 11 06 16.8
comp=Z,62nm,20.6s,baz=208,slow=33
SPITS Spitsbergen Ar 92.49 11 LR LR 11 10 11.7
comp=Z,157nm,20.1s,baz=210,slow=36
VNDA Vanda 94.72 192 LR LR 11 02 26.9
comp=Z,111nm,19.6s,baz=116,slow=30
NOA NORSAR Array B 94.89 29 LR LR 11 07 56.6
comp=Z,69nm,20.7s,baz=275,slow=33
HFS Hagfors 96.28 29 LR LR 11 11 29.4
comp=Z,68nm,18.8s,baz=254,slow=35
DAVOX Davos/Dischmat 96.53 43 LR LR 11 05 08.0
comp=Z,70nm,21.2s,baz=259,slow=31
RPZ Rata Peaks 96.65 226 LR LR 11 02 50.6
comp=Z,167nm,19.8s,baz=82,slow=30
KEST Kesra 97.58 54 LR LR 11 04 19.7
comp=Z,32nm,21.1s,baz=295,slow=30
ARCES ARCESS Array B 97.99 19 LR LR 11 11 35.7
comp=Z,60nm,19.4s,baz=358,slow=34
GERES GERESS Array B 98.70 40 LR LR 11 07 49.8
comp=Z,134nm,20.6s,baz=277,slow=32
H11N3 WAKE ISLAND Hyl 01.31 290 T T 12 22 01.6
baz=85,slow=75,SNR=7.4
H11N2 WAKE ISLAND Hyl 01.32 290 T T 12 21 59.7
baz=85,slow=75,SNR=5.0
H11N1 WAKE ISLAND Hyl 01.32 290 T T 12 22 01.8
baz=85,slow=75,SNR=6.1
H11S2 WAKE ISLAND Hyl 01.61 289 T T 12 22 24.2
baz=86,slow=74,SNR=119
H11S1 WAKE ISLAND Hyl 01.61 289 T T 12 22 24.5
baz=86,slow=74,SNR=89
H11S3 WAKE ISLAND Hyl 01.62 289 T T 12 22 25.5
baz=86,slow=74,SNR=113
WRA Warramunga Arr 132.10 244 PKP **PKPdf** **10 34 30.2 -1.7**
comp=Z,0.5nm,0.9s,baz=106,slow=1.9,SNR=2.4
PZH PanZhiHua 150.13 337 PKPbc **PKPdf** **10 35 04.0 +0.1**
CMAR Chiang Mai Arr 158.45 334 PKPab **PKPab** **10 35 48.1 -1.8**
comp=Z,0.5nm,0.3s,baz=10,slow=5.6,SNR=1.6

*OSPL **08** 10:19:16.7±0.4, 18°.72N×67°.18W, h41km±4km, ML1.6*
*RSPR **08** 10:19:17.1, 18°.70N×67°.35W, h30km±2km, MD2.5/9*
ISC 08 10:19:16.2±1.3, 18°.64N±0°.08×67°.29W±0°.04, h27km, n21,
σ0°.63/24, 10C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.25**	**135**	*eP*	**Pn**	**10 19 24.0**	**-0.1**
AGPR	**Aguadilla, PR**	**0.25**	**135**	*i* P	**Pn**	**10 19 24.0**	**-0.1**
AGPR				*eS*	**Sn**	**10 19 29.4**	**+2.4**
AGPR				IAML		10 19 30.6	
comp=Z,54nm,0.3s							
IDE	**Isla Desecheo**	**0.31**	**214**	*eP*	**Pn**	**10 19 24.7**	**-0.3**
LSP	**Las Mesas**	**0.51**	**157**	*eP*	**Pn**	**10 19 27.6**	**-0.1**
LSP	**Las Mesas**	**0.51**	**157**	*eS*	**Sn**	**10 19 35.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.66**	**165**	*eP*	**Pn**	**10 19 29.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.66**	**165**	*eS*	**Sn**	**10 19 39.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.66**	**165**	*i* P	**Pn**	**10 19 29.6**	**-0.1**
CRPR				*eS*	**Sn**	**10 19 38.8**	**-0.5**
CRPR				IAML		10 19 39.7	
comp=Z,23nm,1.6s							
MLPR	**Magueyes Islan**	**0.71**	**160**	*eP*	**Pn**	**10 19 30.3**	**-0.2**
MLPR	**Magueyes Islan**	**0.71**	**160**	*eS*	**Sn**	**10 19 40.5**	**-0.1**
EMPR	**Esperanza - Ma**	**0.74**	**103**	*eP*	**Pn**	**10 19 30.7**	**-0.2**
EMPR	**Esperanza - Ma**	**0.74**	**103**	*eS*	**Sn**	**10 19 41.6**	**+0.2**
CELP	**Cerrillos**	**0.88**	**130**	*eP*	**Pb**	**10 19 33.0**	**0.0**
CELP	**Cerrillos**	**0.88**	**130**	*eS*	**Sn**	**10 19 45.5**	**+0.6**
OBIP	**Obispado Ponce**	**0.89**	**132**	*eP*	**Pn**	**10 19 32.1**	**-0.8**
OBIP	**Obispado Ponce**	**0.89**	**132**	*eS*	**Sb**	**10 19 44.2**	**-0.2**
PCDR	**Punta Cana, DR**	**1.04**	**263**	*i* P	**Pb**	**10 19 35.3**	**-0.3**
PCDR				*eS*	**Sb**	**10 19 49.4**	**+0.6**
PCDR				IAML		10 19 50.9	
comp=Z,66nm,1.0s							
CBYP	**Canovanas**	**1.41**	**105**	*eP*	**Pn**	**10 19 39.7**	**-0.6**
CBYP	**Canovanas**	**1.41**	**105**	*eS*	**Sn**	**10 19 57.9**	**-0.1**
MTP	**Monte Pirata**	**1.74**	**108**	*eP*	**Pn**	**10 19 44.5**	**-0.1**
MTP	**Monte Pirata**	**1.74**	**108**	*eS*	**Sn**	**10 20 06.3**	**+0.3**

*IDC **08** 10:36:31.9±8.0, 56°.45S×27°.15W, h93km±71km, mb3.8/5, mbtmp4.2/6, ML4.3/1, Error ellipse: s-maj=32.0km s-min=21.6km az=63.0*
*NEIC **08** 10:36:33.3±0.8, 56°.5S±0°.1×27°.0W±0°.2, h110km±4km, mb4.2/12, Error ellipse: s-maj=21.2km s-min=16.2km az=220.0*
ISC 08 10:36:32.4±0.6, 56°.4S±0°.1×27°.0W±0°.1, h101km, n34,
σ0°.61/29, mb4.2/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.82**	**288**	Pn	**Pn**	**10 37 57.1**	**+1.0**
VNA1	**Neumayer--Stat**	**16.40**	**158**	P	**P**	**10 40 17.4**	**+0.2**
VNA3	**Neumayer Olymp**	**16.60**	**160**	P	**P**	**10 40 19.3**	**0.0**
VNA2	**Neumayer--Watz**	**16.80**	**158**	P	**Pn**	**10 40 21.1**	**0.0**
baz=315,slow=13							
SNAA	**Sanae**	**18.35**	**156**	P	**P**	**10 40 38.4**	**-0.3**
SNAA	**Sanae**	**18.35**	**156**	P	**P**	**10 40 37.9**	**-0.8**
1.1nm,0.3s,baz=303,slow=10,SNR=91							
5.3nm,0.5s							
SNAA	**Sanae**	**18.35**	**156**	P	**P**	**10 40 38.3**	**-0.3**
SNAA				IAmb	IAmb	10 40 41.2	
comp=Z,6.7nm,0.7s							
TROLL	**Troll, Antarti**	**19.86**	**153**	P	**P**	**10 40 54.6**	**-0.6**
BELA	**Belgrano 2**	**21.70**	**184**	P	**P**	**10 41 13.7**	**-1.0**
QSPA	**South Pole Qui**	**33.82**	**180**	P	**P**	**10 43 04.8**	**+0.2**
comp=Z,1.3nm,0.5s,baz=189,slow=1.9,SNR=13							
comp=Z,1.3nm,0.5s							
QSPA	**South Pole Qui**	**33.82**	**180**	P	**P**	**10 43 04.8**	**+0.2**
MAW	**Mawson**	**39.78**	**143**	P	**P**	**10 43 55.5**	**+0.7**
comp=Z,0.8nm,0.5s,baz=222,slow=6.7,SNR=9.7							
comp=Z,0.8nm,0.5s							
AC05	**El Transito**	**41.07**	**294**	P	**P**	**10 44 05.4**	**-0.7**
AC05				IAmb	IAmb	10 44 08.9	
comp=Z,15nm,1.5s							
AC02	**Maricunga**	**42.14**	**297**	P	**P**	**10 44 15.4**	**+0.2**
AC02				IAmb	IAmb	10 44 36.5	
comp=Z,6.0nm,1.5s							
VNDA	**Vanda**	**46.20**	**183**	P	**P**	**10 44 46.7**	**+0.3**
comp=Z,0.7nm,0.5s,baz=198,slow=7.0,SNR=12							
comp=Z,0.7nm,0.5s							
VNDA	**Vanda**	**46.20**	**183**	P	**P**	**10 44 46.9**	**+0.6**
GO01	**Chusmiza**	**48.23**	**302**	P	**P**	**10 45 03.2**	**-0.2**
GO01				IAmb	IAmb	10 45 04.5	
comp=Z,2.6nm,0.8s							
H10S2	**ASCENSION HYDR**	**48.34**	**16**	T	T	11 37 53.8	
baz=189,slow=74,SNR=4.4							
H10S3	**ASCENSION HYDR**	**48.34**	**16**	T	T	11 37 55.1	
baz=31,slow=74,SNR=6.5							
LBTB	**Lobatse**	**49.02**	**73**	P	**P**	**10 45 08.4**	**-0.5**
H10N1	**ASCENSION HYDR**	**49.46**	**16**	T	T	11 39 11.7	
baz=188,slow=76,SNR=4.9							
H10N3	**ASCENSION HYDR**	**49.46**	**16**	T	T	11 39 20.0	
baz=188,slow=76,SNR=4.1							
H10N2	**ASCENSION HYDR**	**49.47**	**16**	T	T	11 39 20.0	
baz=188,slow=76,SNR=6.3							
LPAZ	**La Paz**	**50.68**	**305**	P	**P**	**10 45 21.9**	**-0.2**
comp=Z,2.8nm,0.4s,baz=106,slow=5.5,SNR=16							
comp=Z,2.8nm,0.4s							
LPAZ	**La Paz**	**50.68**	**305**	P	**P**	**10 45 21.8**	**-0.4**
BOAV	**Boa Vista**	**64.64**	**322**	P	**P**	**10 46 58.0**	**-1.2**
BOAV				IAmb	IAmb	10 47 17.4	
comp=Z,6.1nm,1.4s							
TOA0	**Torodi Ar. Sit**	**73.34**	**29**	P	**P**	**10 47 54.2**	**+1.3**
TOA0				IAmb	IAmb	10 47 55.1	
comp=Z,3.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**73.34**	**29**	P	**P**	**10 47 53.9**	**+1.0**
comp=Z,2.9nm,0.5s,baz=198,slow=6.6,SNR=24							
comp=Z,2.9nm,0.5s							
FINES	**FINESS Array B**	**124.67**	**28**	PKP	**PKPdf**	**10 55 18.4**	**-0.1**
comp=Z,1.8nm,0.9s,baz=245,slow=2.9,SNR=1.4							
ARCES	**ARCESS Array B**	**131.26**	**22**	PKP	**PKPdf**	**10 55 30.6**	**-0.2**
comp=Z,1.0nm,0.6s,baz=298,slow=1.9,SNR=1.7							
YKA	**Yellowknife Ar**	**136.52**	**318**	PKP	**PKPdf**	**10 55 41.0**	**+0.1**
comp=Z,0.6nm,0.8s,baz=111,slow=3.5,SNR=4.4							
INK	**Inuvik**	**146.16**	**320**	PKPbc	**PKPbc**	**10 55 59.2**	**0.0**
comp=Z,3.1nm,0.7s,baz=121,slow=3.6,SNR=7.0							
ILAR	**Eielson Array**	**150.44**	**311**	PKPbc	**PKPbc**	**10 56 10.1**	**-0.5**
comp=Z,2.2nm,0.9s,baz=136,slow=1.4,SNR=17							
SONM	**Songino Array**	**150.65**	**87**	PKPbc	**PKPbc**	**10 56 11.9**	**+0.2**
comp=Z,0.6nm,0.5s,baz=290,slow=4.2,SNR=2.3							

*IDC **08** 10:37:50.3±1.2, 13°.00N×145°.78E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=28.2km s-min=19.5km az=62.0*
ISC 08 10:37:56.3±1.1, 13°.0N±0°.2×145°.7E±0°.2, h43km, n6,
σ0°.82/7, mb3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.99**	**307**	Pn	**Pn**	**10 38 12.9**	**-0.9**
150nm,0.3s,baz=121,slow=9.6,SNR=118							
GUMO				Sn	**Sn**	**10 38 27.0**	**+0.4**
266nm,0.3s,baz=162,slow=20,SNR=9.9							
GUMO				LR	LR	10 38 55.4	
comp=Z,139nm,19.5s,baz=52,slow=61							
WRA	**Warramunga Arr**	**34.58**	**199**	P	**P**	**10 44 41.3**	**0.0**
0.4nm,0.6s,baz=22,slow=9.7,SNR=8.7							
0.4nm,0.6s							
ASAR	**Alice Springs**	**38.21**	**198**	P	**P**	**10 45 12.1**	**-0.2**
0.4nm,0.5s,baz=22,slow=9.3,SNR=5.9							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**62.47**	**316**	P	**P**	**10 48 16.5**	**+1.2**
0.2nm,0.4s,baz=100,slow=8.1,SNR=2.3							
0.2nm,0.4s							
ILAR	**Eielson Array**	**68.77**	**25**	P	**P**	**10 48 55.8**	**+0.2**
0.2nm,0.6s,baz=249,slow=6.3,SNR=2.0							
0.2nm,0.6s							
YKA	**Yellowknife Ar**	**83.02**	**27**	P	**P**	**10 50 16.4**	**-0.6**
1.1nm,1.0s,baz=285,slow=5.5,SNR=1.4							
1.1nm,1.0s							

*BJI **08** 11:00:20.6±0.0, 27°.50N×130°.23E, h24km, mb4.5/46, mB4.6/28, Ms4.4/52, Ms7 4.3/48*
*IDC **08** 11:00:21.4±0.5, 27°.93N×130°.03E, h0km, mb4.4/38, mbtmp4.4/42, ML2.9/3, MS4.0/47, Error ellipse: s-maj=15.2km s-min=11.9km az=73.0*
*NIED **08** 11:00:25.4, 27°.85N×129°.99E, h57km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=0.78; Mθθ=0.13; Mφφ=0.65; Mrθ=0.17; Mrφ=1.03; Mθφ=-1.04; Fault plane solution: M0=1.64000×10^16 NP1: φs=253.00000°, δ41.00000°, λ-28.00000°. NP2:φs=5.00000°, δ72.00000°, λ-128.00000°.*
*JMA **08** 11:00:25.4±0.3, 28°.N±1°.×13°.0E±°, h57km±3km, MD4.6/25, MV4.5/25, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.
*GCMT **08** 11:00:26.5±0.4, 27°.80N±0°.03×130°.04E±0°.03, h27km±1km, MW4.8/68, Moment Tensor Solution. s20, c23; s68, c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.85±.19; Mθθ=0.94±.12; Mφφ=0.90±.12; Mrθ=0.20±.20; Mrφ=1.18±.05; Mθφ=0.50±.17; Best double couple: M=2.05800×10^16 NP1:φs=30.00000°, δ50.00000°, λ-111.00000°. NP2: φs=241.00000°, δ44.00000°, λ-67.00000°. Principal axes: T 2.1160, Plg3.0000°, Azm135.0000°; N -0.1180, Plg16.0000°, Azm44.0000°; P -1.9990, Plg74.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **08** 11:00:27.4±1.9, 27°.86N±0°.07×129°.97E±0°.09, h35km±6km, mb4.9/103 Error ellipse: s-maj=12.9km s-min=7.3km az=126.0*
ISC 08 11:00:26.0±0.4, 27°.79N±0°.03×130°.04E±0°.03, h30km±2km, h31km:pP-P, n248, σ1s89/233, mb4.8/94, MS4.2/65, 3C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.53**	**354**	P	**Pb**	**11 00 36.6**	**-0.2**
JZK				*eS*	**Sn**	**11 00 45.9**	**+0.5**
JAM	**Amami Oshima**	**0.73**	**328**	P	**Pb**	**11 00 39.1**	**-1.0**
JAM				*eS*	**Sb**	**11 00 48.7**	**-1.1**
JAM	**Amami Oshima**	**0.73**	**328**	A	A	11 00 39.1	
comp=E,49nm,1.1s,comp=E,61nm,1.8s							
JAMN	**Amaminishikomi**	**0.89**	**301**	P	**Pn**	**11 00 41.2**	**-1.2**

JAMN eS Sb 11 00 52.9 -1.5
JAMN Amaminishikomi 0.89 301 A A 11 00 41.2
comp=E,68nm,0.8s,comp=E,70nm,1.7s
JTK Tokunoshima 0.96 270 P Pn 11 00 42.8 -0.6
JTK S Sn 11 00 54.2 -2.0
JTK Tokunoshima 0.96 270 A A 11 00 42.8
comp=E,27nm,2.3s,comp=E,43nm,1.2s
JOKE Okinoerabujima 1.37 252 eP Pn 11 00 48.8 -0.3
JOKE Okinoerabujima 1.37 252 A A 11 00 48.8
comp=E,13nm,3.9s,comp=E,17nm,3.1s
JTAJ Takarajima 1.55 332 P Pn 11 00 50.2 -1.3
JTAJ Takarajima 1.55 332 A A 11 00 50.2
comp=E,10.0nm,3.9s,comp=E,11nm,2.1s
JYRO Yoronjima 1.60 242 P Pn 11 00 52.2 0.0
JYRO eS Sn 11 01 10.8 -1.1
JYRO Yoronjima 1.60 242 A A 11 00 52.2
comp=E,7.0nm,5.7s,comp=E,15nm,4.4s
JOW Kunigami 1.84 239 Pn Pn 11 00 55.4 -0.1
JOW Kunigami 1.84 239 eP Pn 11 00 55.4 -0.1
JOW eS Sn 11 01 17.4 -0.3
JOW Kunigami 1.84 239 A A 11 00 55.4
comp=E,9.0nm,3.7s,comp=E,8.0nm,4.4s
JIH Iheya 1.99 248 eS Sn 11 01 20.4 -1.0
JIH Iheya 1.99 248 A A 11 01 20.4
comp=E,8.0nm,2.3s,comp=E,9.0nm,2.8s
JNN Nakanoshima 2.05 356 P Pn 11 00 57.5 -0.9
JNN Nakanoshima 2.05 356 A A 11 00 57.5
comp=E,12nm,1.2s,comp=E,8.0nm,2.3s
JKDJ Kitadaitoujima 2.15 148 eP Pn 11 00 59.7 -0.1
JKDJ eS Sn 11 01 24.4 -1.0
JKDJ Kitadaitoujima 2.15 148 A A 11 00 59.7
comp=E,8.0nm,2.8s,comp=E,5.0nm,3.6s
JNTH Nagotoyohara 2.20 235 eP Pn 11 01 00.3 -0.1
JNTH eS Sn 11 01 25.6 -1.0
JMZ Minamidaito 2 2.23 151 P Pn 11 01 00.4 -0.4
JMZ eS Sn 11 01 25.7 -1.6
JMZ Minamidaito 2 2.23 151 A A 11 01 00.4
comp=E,8.0nm,3.6s,comp=E,6.0nm,3.2s
JYAK Yakushimahirau 2.48 9 eP Pn 11 01 03.8 -0.5
JYAK eS Sn 11 01 32.5 -0.9
JJT3 Tamagusuku3 2.60 231 eP Pn 11 01 05.9 0.0
JJT3 eS Sn 11 01 35.2 -1.2
JJT3 Tamagusuku3 2.60 231 A A 11 01 05.9
comp=E,13nm,2.3s,comp=E,23nm,2.0s
JKC Kuchinoerabu 2.67 3 eP Pn 11 01 06.5 -0.3
JKC eS Sn 11 01 36.9 -1.3
JMTN Minamitane 2.71 16 eP Pn 11 01 07.3 -0.1
JAGN Aguni-jima 2.76 245 eP Pn 11 01 07.7 -0.5
JAGN eS Sn 11 01 39.7 -0.9
JAGN Aguni-jima 2.76 245 A A 11 01 07.7
comp=E,5.0nm,3.8s,comp=E,7.0nm,4.4s
JKE Kume jima 2 3.25 244 eP Pn 11 01 14.0 -0.8
JKE eS Sn 11 01 51.5 -1.0
JSU Suzuyama 3.72 5 Pn Pn 11 01 20.9 -0.5
JMN Monobe 6.78 28 Pn Pn 11 02 04.3 +0.9
YOJ Yonaguni jima 7.13 244 Pn Pn 11 02 05.9 -2.3
JHS Saijyo 7.65 19 Pn Pn 11 02 15.2 -0.2
NAWB Namwon 7.94 344 Pn Pn 11 02 20.1 +0.8
YHNB Yeheng 8.38 250 Pn Pn 11 02 25.3 -0.1
SSE Sheshan 8.39 295 P Pn 11 02 22.4 -3.1
SSE S Sn 11 03 55.0 -4.2
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,52nm,4.9s
SSE LR LR
comp=N,360nm,17.1s
SSE LR LR
comp=E,620nm,17.0s
TJN Taejon 8.86 346 Pn 11 02 33.9 +2.0
SSLB Suanglung 9.11 246 Pn 11 02 31.9 -3.4
TWG Pinlang 9.50 241 Pn Pn 11 02 35.0 -5.7
TPJB Ta-pu 9.60 244 Pn Pn 11 02 39.9 -2.3
INJ Inuyama 9.60 37 Pn 11 02 44.6 +2.5
KSRS Korea Array 9.80 350 Pn Pn 11 02 43.0 -1.8
comp=E,0.3nm,0.3s,baz=172,slow=14,SNR=8.2
KSRS LR LR 11 06 46.5
comp=E,434nm,19.8s,baz=170,slow=40
comp=E,2.3nm,0.6s
KS19 Wonju Array Si 9.86 350 Pn 11 02 46.8 +1.2
JHJ Hachijo jima 2 9.94 55 Pn Pn 11 02 47.3 +0.5
comp=E,11nm,0.3s,baz=59,slow=20,SNR=1.0
JHJ LR LR 11 06 12.4
comp=E,653nm,21.1s,baz=106,slow=36
NJ2 Nanjing 10.59 296 eP Pn 11 02 52.3 -3.4
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 LR LR
comp=N,660nm,12.8s
NJ2 LR LR
comp=E,1μm,15.6s
NJ2 LR LR
comp=Z,2μm,16.7s
JCJ Chichijima 10.81 91 Pn Pn 11 02 58.4 -0.3
comp=Z,67nm,0.4s,baz=281,slow=16,SNR=4.7
JCJ LR LR 11 06 44.3
comp=Z,632nm,18.7s,baz=264,slow=35
MJAR Matsushiro Arr 11.13 36 Pn Pn 11 03 01.4 -1.7
comp=Z,0.2nm,0.3s,baz=230,slow=13,SNR=3.7
comp=Z,2.2nm,0.8s
DL2 Dalian 13.12 330 P P 11 03 40.2 +0.2
DL2 S S 11 06 26.6 +7.2
DL2 pmax pmax
comp=Z,24nm,1.2s
DL2 pmax pmax
comp=Z,200nm,4.4s
DL2 LR LR
comp=N,1μm,15.8s
DL2 LR LR
comp=E,610nm,15.4s
DL2 LR LR
comp=Z,1μm,15.3s
WHN Wuhan 13.98 285 ⇓P P 11 03 50.7 +1.1
WHN S S 11 06 36.7 -0.4
WHN LR LR
comp=N,2μm,15.6s
WHN LR LR
comp=E,4μm,21.4s
WHN LR LR
comp=Z,3μm,17.1s
HNS HongShan 16.07 310 ⇑P Pn 11 04 11.0 +1.3
HNS PP sP 11 04 27.1 +2.9
HNS S Sn 11 07 07.9 +1.0
HNS SS SnSn 11 07 29.9 +10
HNS pmax pmax
comp=Z,13nm,0.5s
HNS LR LR
comp=Z,700nm,15.5s
HNS LR LR
comp=Z,1μm,16.3s
HNS LR LR
comp=Z,1μm,16.3s
CN2 Changchun 16.40 348 eP P 11 04 16.8 +0.4
CN2 S Sn 11 07 16.8 +1.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,5.5s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,900nm,14.0s
USRK Ussuriysk Ar. 16.45 5 Pn Pn 11 04 12.8 -1.7
comp=Z,0.1nm,0.3s,baz=176,slow=9.3,SNR=2.1
USRK LR LR 11 10 37.5
comp=Z,265nm,19.6s,baz=235,slow=38
comp=Z,2.0nm,0.9s
LYN LuoYang 16.47 298 ⇑P P 11 04 22.8 +5.5
LYN S S 11 07 23.5 -4.5
LYN sS sS 11 07 35.6 -4.1
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN pmax pmax
comp=Z,200nm,3.5s
LYN LR LR
comp=N,420nm,14.6s
LYN LR LR
comp=E,420nm,16.7s
LYN LR LR
comp=Z,560nm,15.0s
BJT Baijiatuau 16.75 320 P Pn 11 04 17.5 -0.8
BJI Beijing 16.76 320 P P 11 04 23.0 +2.6
BJI pP sP 11 04 31.0 -0.7
BJI sP pP 11 04 32.9 +4.9
BJI pmax pmax
comp=Z,11nm,0.7s
BJI LR LR
comp=Z,110nm,15.8s
BJI LR LR
comp=Z,380nm,15.8s
BJI LR LR
comp=Z,700nm,15.7s
ENH Enshi 18.14 283 Pn 11 04 34.7 -1.0
XAN Xi'an 19.15 294 P P 11 04 47.0 +0.1
XAN sP sP 11 04 57.2 -0.8
XAN S Sn 11 08 19.0 -2.6
XAN sS sS 11 08 30.0 -4.3
XAN SS SnSn 11 08 44.2 +8.5
XAN pmax pmax
comp=Z,160nm,3.6s
XAN LR LR
comp=Z,580nm,11.9s
XAN LR LR
comp=Z,730nm,13.9s
XAN LR LR
comp=Z,1μm,15.1s
GUMO Guam 19.77 133 LR LR 11 11 43.6
comp=Z,251nm,18.4s,baz=345,slow=34
HHC Hu-ho-hao-te 20.01 315 eP Pn 11 04 58.0 -0.2
HHC sP sP 11 05 14.1 +6.3
HHC S S 11 08 36.9 -2.9
HHC pmax pmax
comp=Z,26nm,0.7s
HHC pmax pmax
comp=Z,140nm,3.9s
HHC LR LR
comp=Z,1μm,14.9s
HHC LR LR
comp=Z,790nm,13.3s
HHC LR LR
comp=Z,2μm,15.9s
QIZ Qiongzhong 20.46 249 P P 11 05 00.6 -0.6
QIZ S Sn 11 08 51.9 -1.5
QIZ LR LR
comp=Z,340nm,16.7s
QIZ LR LR
comp=Z,410nm,19.9s
QIZ LR LR
comp=Z,690nm,18.3s
GYA Guiyang 20.84 272 ⇑iP P 11 05 05.7 +0.2
GYA pP pP 11 05 13.0 -0.1
GYA sP sP 11 05 18.0 +1.3
GYA PP PnPn 11 05 29.8 +5.5
GYA S S 11 08 58.7 +2.1
GYA SS SnSn 11 09 22.8 +5.2
GYA pmax pmax
comp=Z,25nm,1.2s
GYA LR LR
comp=Z,500nm,11.1s
GYA LR LR
comp=Z,940nm,15.3s
GYA LR LR
comp=Z,1μm,15.8s
BTO Baotou 20.86 313 eP P 11 05 04.2 -1.3
BTO S S 11 08 53.3 -3.3
BTO LR LR
comp=Z,2μm,13.7s
BTO LR LR
comp=Z,2μm,14.7s
DAV Davao City (W) 21.04 192 LR LR 11 13 01.2
comp=Z,259nm,21.6s,baz=37,slow=36
KLR Kul'dur 21.45 3 P P 11 05 08.4 -3.2
comp=Z,3.2nm,0.7s,baz=192,slow=7.4,SNR=8.0
KLR PcP PcP 11 09 13.1 -0.9
comp=Z,1.3nm,0.6s,baz=53,slow=5.1,SNR=2.8
KLR LR LR 11 14 00.2
comp=Z,233nm,20.0s,baz=183,slow=38
comp=Z,3.2nm,0.7s
LZH Lanzhou 23.67 297 eP P 11 05 33.7 -1.4
LZH sP pwP 11 05 44.5 -0.8
LZH PP PnPn 11 06 02.9 0.0
LZH S S 11 09 44.7 -3.4
LZH SS SnSn 11 10 41.7 +15
LZH pmax pmax
comp=Z,10.0nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.0s
LZH LR LR
comp=Z,720nm,13.1s
LZH LR LR
comp=Z,370nm,12.9s
LZH LR LR
comp=Z,530nm,14.1s
KMI Kunming 24.57 270 ⇓P P 11 05 43.3 -0.3
KMI sP pwP 11 05 53.1 -1.2
KMI S S 11 10 00.0 -2.9
KMI pmax pmax
comp=Z,55nm,1.1s
KMI pmax pmax
comp=Z,130nm,3.5s
KMI LR LR
comp=Z,360nm,14.1s
KMI LR LR
comp=Z,490nm,14.0s
KMI LR LR
comp=Z,360nm,17.0s
PZH PanZhiHua 25.19 274 P P 11 05 47.7 -1.4
PZH pP pP 11 05 58.2 +1.0
PZH S S 11 10 12.8 +0.1
PZH SS SnSn 11 11 07.5 +3.4
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,90nm,3.5s
PZH LR LR
comp=Z,1μm,18.8s
PZH LR LR
comp=Z,1μm,18.4s
PZH LR LR
comp=Z,2μm,18.8s
UBPT Khong Chiam 25.96 246 P P 11 05 56.7 +0.7
UBPT IAmb IAmb 11 06 01.3
comp=Z,39nm,1.2s
ULN Ulaanbaatar 26.87 324 P P 11 06 04.1 0.0
SONM Songino Array 27.19 324 P P 11 06 06.0 -1.0
comp=Z,1.9nm,0.7s,baz=136,slow=9.2,SNR=9.3
SONM LR LR 11 18 28.2
comp=Z,478nm,19.2s,baz=128,slow=40
comp=Z,1.9nm,0.7s
GTA Gaotai 27.59 303 eP P 11 06 09.2 -1.4
GTA pP pP 11 06 17.3 -1.6
GTA sP pwP 11 06 21.3 +0.2
GTA sS sS 11 11 05.2 +0.9
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,39nm,6.3s
GTA LR LR
comp=Z,500nm,16.7s
GTA LR LR
comp=Z,610nm,16.4s
GTA LR LR
comp=Z,970nm,16.7s
CRAI Chiangrai 28.07 261 P P 11 06 15.9 +0.9
PHRA Phrae 28.86 258 P P 11 06 22.2 +0.2
CHTO Chiang Mai 29.86 259 P P 11 06 31.0 +0.2
CMAR Chiang Mai Arr 30.00 259 P P 11 06 31.6 -0.6
comp=Z,5.3nm,0.9s,baz=56,slow=6.8,SNR=20
CMAR PcP PcP 11 09 34.8 +0.7
comp=Z,1.4nm,0.5s,baz=50,slow=0.9,SNR=5.5
CMAR LR LR 11 19 44.5
comp=Z,235nm,18.8s,baz=75,slow=39
comp=Z,5.3nm,0.9s
CMAR Chiang Mai Arr 30.00 259 P P 11 06 31.3 -0.8
GOMU GeErMu 30.90 295 P P 11 06 40.1 -0.2
GOMU pP pP 11 06 43.6 -5.0
GOMU PP PnPn 11 07 41.4 +0.1
GOMU pmax pmax
comp=Z,4.0nm,0.5s
GOMU pmax pmax
comp=Z,58nm,4.5s
GOMU LR LR
comp=Z,140nm,14.3s
GOMU LR LR
comp=Z,140nm,15.6s
GOMU LR LR
comp=Z,130nm,14.5s
PETK Petropavlovsk- 32.53 31 P P 11 06 51.6 -2.5
comp=Z,1.2nm,0.4s,baz=249,slow=12,SNR=5.1
PETK LR LR 11 23 03.0
comp=Z,176nm,18.2s,baz=233,slow=42
comp=Z,1.2nm,0.4s
H11N2 WAKE ISLAND Hy 34.57 95 T T 11 43 57.6
baz=290,slow=74,SNR=31
H11N1 WAKE ISLAND Hy 34.57 95 T T 11 43 53.6
baz=290,slow=74,SNR=22
H11N3 WAKE ISLAND Hy 34.59 95 T T 11 44 04.6
baz=290,slow=74,SNR=28
H11S3 WAKE ISLAND Hy 34.84 97 T T 11 44 15.5
baz=296,slow=77
H11S1 WAKE ISLAND Hy 34.84 97 T T 11 44 15.4
baz=296,slow=77
H11S2 WAKE ISLAND Hy 34.85 97 T T 11 44 15.9
baz=296,slow=77
BRDH Bariadhala 35.01 270 LR LR 11 23 00.5
comp=Z,253nm,18.2s,baz=106,slow=39
IPM Ipoh 36.06 235 P P 11 07 24.9 -0.2
WMQ Urumqi 37.44 307 eP P 11 07 40.5 +3.9
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ LR LR
comp=Z,420nm,14.5s
WMQ LR LR
comp=Z,570nm,17.7s
WMQ LR LR
comp=Z,360nm,17.7s
SEY Seymchan 38.07 16 P P 11 07 40.3 -1.2
comp=Z,2.4nm,0.7s,baz=211,slow=4.6,SNR=6.7
comp=Z,2.4nm,0.7s
BATI Baumata 38.27 190 LR LR 11 25 03.3
comp=Z,108nm,19.2s,baz=328,slow=39
KRVT Keravat (AS076 38.31 143 LR LR 11 22 03.0
comp=Z,126nm,20.5s,baz=83,slow=34
PSI Prapat 38.73 236 LR LR 11 22 34.5
comp=Z,104nm,20.9s,baz=42,slow=34
GUN Gumba 38.88 281 eP P 11 07 48.2 -1.1
PKI Pulchoki 39.36 280 eP P 11 07 52.5 -0.7
comp=Z,53nm,0.7s
PKIN Phulchoki 39.37 280 eP P 11 07 52.9 -0.3
comp=Z,49nm,0.7s
KKN Kakani 39.43 281 eP P 11 07 53.0 -0.7
DMN Daman 39.61 281 eP P 11 07 54.3 -1.0
comp=Z,53nm,0.8s
GKN Gorkha 39.95 281 eP P 11 07 57.4 -0.5
comp=Z,46nm,0.6s
DANN Dangsing 40.64 282 eP P 11 08 03.0 -0.8
comp=Z,54nm,0.7s
LEM Lembang 40.67 216 LR LR 11 25 29.2
comp=Z,127nm,20.4s,baz=39,slow=37
KOLN Koldanda 40.89 281 eP P 11 08 05.1 -0.7
SHEM Shemya Is, Ala 40.95 40 LR LR 11 22 29.6
comp=Z,65nm,21.7s,baz=344,slow=32
PYUN Piuthan 41.36 282 eP P 11 08 09.4 -0.2
MKAR Makanchi Array 41.73 310 P P 11 08 09.9 -2.3
comp=Z,0.7nm,0.4s,baz=97,slow=9.9,SNR=11
MKAR PcP PcP 11 10 07.5 -0.8
comp=Z,0.7nm,0.6s,baz=111,slow=6.3,SNR=2.6
MKAR ScP ScP 11 13 58.7 +2.2
comp=Z,0.4nm,0.9s,baz=127,slow=3.8,SNR=2.4
comp=Z,0.7nm,0.4s
MAKZ Makanchi 41.95 310 P P 11 08 12.0 -2.0
MAKZ Makanchi 41.95 310 P P 11 08 12.0 -2.0
MAKZ pP pwP 11 08 24.2 -0.6
ZALV Zalesovo Beam 42.02 321 P P 11 08 12.9 -1.5
comp=Z,1.7nm,0.6s,baz=106,slow=9.8,SNR=4.8
ZALV PcP PcP 11 10 08.1 -1.0
comp=Z,2.6nm,0.8s,baz=114,slow=3.5,SNR=5.1
ZALV ScP ScP 11 14 00.4 +3.1
comp=Z,0.4nm,0.4s,baz=129,slow=3.9,SNR=1.9
comp=Z,1.7nm,0.6s
ZALV Zalesovo Beam 42.02 321 P P 11 08 13.4 -1.0
KNRA Kununurra 43.23 182 P P 11 08 25.7 +1.2
KNRA pP sP 11 08 36.2 +0.1
TIXI Tiksi 43.91 359 LR LR 11 28 17.2
comp=Z,183nm,18.4s,baz=180,slow=38
TARG Taragay, Kyrgy 44.47 302 IAmb IAmb 11 08 47.5
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 44.87 315 P P 11 08 35.7 -1.7
comp=Z,1.0nm,0.4s,baz=101,slow=9.0,SNR=6.4
KURBB PcP PcP 11 10 18.0 -0.7
comp=Z,0.8nm,0.3s,baz=100,slow=3.2,SNR=1.6
KURBB LR LR 11 29 08.7
comp=Z,550nm,18.8s,baz=74,slow=39
comp=Z,1.0nm,0.4s
FITZ Fitzroy Crossi 45.81 186 LR LR 11 26 35.7
comp=Z,62nm,21.4s,baz=76,slow=34
FITZ Fitzroy Crossi 45.81 186 P P 11 08 46.3 +1.1
FITZ IAmb IAmb 11 08 47.6
comp=Z,24nm,1.2s
FITZ pP pwP 11 08 57.2 +0.5
AAK Ala-Archa 46.93 304 P P 11 08 53.1 -0.9
comp=Z,1.1nm,0.3s,baz=119,slow=17,SNR=2.2
comp=Z,1.1nm,0.3s
WB0 Warramunga Arr 47.46 174 IAmb IAmb 11 08 59.7
comp=Z,16nm,1.1s
WRAB Tennant Creek 47.62 175 P P 11 08 59.7 +0.4
WRAB IAmb IAmb 11 09 01.5
comp=Z,17nm,1.1s
WRA Warramunga Arr 47.63 175 P P 11 09 00.4 +1.0
comp=Z,6.6nm,0.9s,baz=353,slow=8.4,SNR=39
comp=Z,6.6nm,0.9s
WB2 Warramunga Arr 47.63 175 IAmb IAmb 11 09 01.6
comp=Z,16nm,1.1s
NRIK Noril'sk 48.28 341 P P 11 09 02.8 -1.1
comp=Z,2.4nm,0.4s,baz=136,slow=8.5,SNR=3.8
comp=Z,2.4nm,0.4s
NRIK Noril'sk 48.28 341 P P 11 09 03.1 -0.9
NRIK pP pwP 11 09 13.6 -1.4
NIL Nilore 48.66 292 P P 11 09 05.7 -1.7
NIL pP pwP 11 09 18.4 +0.3
KK31 Karatay Array 49.85 304 P P 11 09 15.8 -0.6
KK31 IAmb IAmb 11 09 28.7
comp=Z,10nm,0.9s
KKAR Karatay Array 49.85 304 IAmb IAmb 11 09 28.7
comp=Z,10nm,0.9s
PSA00 Pilbara Seismi 50.05 192 P P 11 09 18.7 +0.7
CTA Charters Tower 50.12 160 P P 11 09 20.0 +1.5
comp=Z,8.5nm,1.0s,baz=354,slow=10,SNR=3.7
comp=Z,8.5nm,1.0s
BVAR Borovoye Array 50.21 317 P P 11 09 17.6 -1.3
comp=Z,2.7nm,0.6s,baz=87,slow=10,SNR=17
BVAR PcP PcP 11 10 36.8 -0.9
comp=Z,3.3nm,0.9s,baz=92,slow=4.5,SNR=4.7
BVAR LR LR 11 32 40.2
comp=Z,655nm,18.7s,baz=86,slow=39
comp=Z,2.7nm,0.6s
BRVK Borovoye 50.27 317 P P 11 09 18.3 -1.1
BRVK IAmb IAmb 11 09 32.9
comp=Z,7.7nm,0.8s
BRVK Borovoye 50.27 317 P P 11 09 17.8 -1.6
BRVK pP pwP 11 09 30.4 0.0
ASAR Alice Springs 51.29 175 P P 11 09 28.6 +1.3
comp=Z,4.9nm,0.9s,baz=354,slow=7.5,SNR=41
ASAR PcP PcP 11 10 43.0 +0.9
comp=Z,1.6nm,0.9s,baz=0.0,slow=4.7,SNR=1.7
comp=Z,4.9nm,0.9s
KBL Kabul 51.95 294 P P 11 09 30.8 -1.8
ARU Arti 57.18 321 P P 11 10 09.0 -0.9
comp=Z,6.7nm,0.2s,baz=70,slow=4.2,SNR=4.5
ARU LR LR 11 37 23.8
comp=Z,477nm,18.6s,baz=83,slow=39
comp=Z,6.7nm,0.2s
ARU Arti 57.18 321 P P 11 10 08.8 -1.1
ARU pP pwP 11 10 20.1 -0.9
ARU IAmb IAmb 11 10 24.0
comp=Z,23nm,1.4s
AKTO Aktyubinsk 57.90 314 P P 11 10 14.8 -0.2
comp=Z,1.3nm,0.6s,baz=90,slow=8.1,SNR=3.2
AKTO PcP PcP 11 11 06.2 -1.0
comp=Z,1.9nm,0.9s,baz=90,slow=11,SNR=1.7
AKTO LR LR 11 37 03.9
comp=Z,189nm,18.8s,baz=75,slow=38
comp=Z,1.3nm,0.6s
L19K White Mountain 58.91 32 P P 11 10 21.1 -0.9
L19K IAmb IAmb 11 10 36.1
comp=Z,15nm,1.1s
J20K Nowinta River 59.20 30 P P 11 10 24.7 +0.8
J20K IAmb IAmb 11 10 37.9
comp=Z,12nm,1.1s
K20K Telida 59.25 31 P P 11 10 24.7 +0.4
K20K pP pwP 11 10 34.3 -1.2
M20K Styx River 59.73 32 IAmb IAmb 11 10 41.6
comp=Z,7.2nm,0.9s
H21K Melozitna Rive 59.76 28 IAmb IAmb 11 10 39.4
comp=Z,9.5nm,1.1s
GEYT Alibeck 59.91 300 P P 11 10 29.8 +0.5

comp=Z,2.8nm,0.6s,baz=75,slow=6.1,SNR=4.0
comp=Z,2.8nm,0.6s
I21K Tanana 60.11 28 P **P** **11 10 30.8 +0.7**
I21K IAmb IAmb 11 10 44.2
comp=Z,14nm,1.1s
PPLA Purkeypile 60.12 31 P **P** **11 10 33.3 +2.9**
PPLA IAmb IAmb 11 10 47.7
comp=Z,12nm,1.0s
CAST Castle Rocks 60.14 30 IAmb IAmb 11 10 44.7
comp=Z,11nm,0.9s
KDAK Kodiak Island 60.31 37 LR LR 11 36 19.1
comp=Z,78nm,21.6s,baz=258,slow=36
STKA Stephens Creek 60.35 169 P **P** **11 10 31.7 -0.3**
comp=Z,1.9nm,0.5s,baz=351,slow=8.5,SNR=5.8
STKA LR LR 11 35 23.7
comp=Z,52nm,21.7s,baz=16,slow=35
comp=Z,1.9nm,0.5s
MLY Manley 60.64 29 IAmb IAmb 11 10 47.6
comp=Z,8.0nm,0.9s
MCK McKinley 61.52 30 IAmb IAmb 11 10 53.4
comp=Z,12nm,0.9s
PMR Palmer 61.65 32 IAmb IAmb 11 10 53.3
comp=Z,11nm,0.9s
H24K Noodor Dome 61.78 28 IAmb IAmb 11 10 55.6
comp=Z,10.0nm,0.9s
KIRV Kirov 61.92 324 LR LR 11 40 38.5
comp=Z,626nm,18.2s,baz=79,slow=39
ILAR Eielson Array 62.30 29 P **P** **11 10 44.8 -0.2**
comp=Z,0.5nm,0.7s,baz=284,slow=6.9,SNR=8.3
ILAR LR LR 11 40 46.3
comp=Z,39nm,18.4s,baz=293,slow=39
comp=Z,0.5nm,0.7s
HDA Harding Lake 62.32 29 IAmb IAmb 11 10 57.8
comp=Z,9.6nm,0.9s
PRP Porcupine Dome 62.78 28 P **P** **11 10 49.0 +0.6**
PRP IAmb IAmb 11 11 02.2
comp=Z,7.8nm,1.0s
SCRK Sand Creek 63.66 29 P **P** **11 10 54.0 -0.2**
SCRK IAmb IAmb 11 11 06.9
comp=Z,7.6nm,0.9s
DOT Dot Lake 63.69 30 IAmb IAmb 11 11 06.8
comp=Z,8.2nm,0.9s
J26L Joseph Creek 63.76 29 IAmb IAmb 11 11 07.6
comp=Z,7.9nm,0.8s
WSAR Wadi Sarin 63.78 284 P **P** **11 10 56.7 +1.2**
comp=Z,8.2nm,0.8s,baz=194,slow=2.3,SNR=4.4
comp=Z,8.2nm,0.8s
MENT Mentasta 63.96 31 IAmb IAmb 11 11 09.7
comp=Z,7.8nm,0.8s
BELG Belogornoye 64.01 317 LR LR 11 40 55.0
comp=Z,273nm,18.2s,baz=98,slow=38
M26K Nabesna, AK 64.39 31 IAmb IAmb 11 11 12.4
comp=Z,8.6nm,0.8s
K27K Chicken 64.48 29 IAmb IAmb 11 11 17.4
comp=Z,9.7nm,1.1s
KLMR Klimovskoe 66.39 328 *e*P **P** **11 11 10.6 -1.2**
KLMR AMP 11 11 26.6
comp=Z,37nm,1.6s
INK Inuvik 66.82 24 P **P** **11 11 12.4 -2.0**
comp=Z,4.4nm,1.2s,baz=270,slow=9.1,SNR=1.0
INK LR LR 11 43 38.8
comp=Z,86nm,18.4s,baz=173,slow=39
comp=Z,4.4nm,1.2s
HYT Haines Junctio 67.31 32 IAmb IAmb 11 11 31.9
comp=Z,8.1nm,1.0s
HSPB Hornsund (broa 68.37 347 *e*P **P** **11 11 24.9 +0.9**
FARO Faro, Yukon 68.78 30 IAmb IAmb 11 11 40.8
comp=Z,10nm,1.0s
ARCES ARCESS Array B 69.15 339 P **P** **11 11 28.5 -0.6**
comp=Z,2.3nm,0.7s,baz=67,slow=6.7,SNR=5.0
ARCES LR LR 11 47 14.6
comp=Z,188nm,19.2s,baz=40,slow=41
comp=Z,2.3nm,0.7s
GNI Garni 69.30 305 LR LR 11 46 01.3
comp=Z,106nm,18.2s,baz=66,slow=40
KBZ Khabaz 69.42 309 P **P** **11 11 31.4 +0.3**
comp=Z,12nm,0.9s,baz=88,slow=2.8,SNR=18
KBZ LR LR 11 46 07.9
comp=Z,122nm,18.1s,baz=56,slow=40
comp=Z,12nm,0.9s
KIV Kislovodsk 69.49 310 P **P** **11 11 32.1 +0.3**
KIV pP **pwP** **11 11 42.8 -0.1**
OBN Obninsk 69.59 322 LR LR 11 44 57.8
comp=Z,89nm,19.0s,baz=14,slow=38
FINES FINESS Array B 72.30 331 P **P** **11 11 47.9 -0.5**
comp=Z,5.9nm,0.5s,baz=64,slow=5.2,SNR=26
comp=Z,5.9nm,0.5s
VSU Vasula 73.30 328 *e*P **P** **11 11 55.3 +1.0**
MEF Metsahovi 73.59 330 *e*P **P** **11 11 56.9 +1.0**
RAF Rauma 74.35 331 *e*P **P** **11 12 01.1 +0.7**
MTSE Matsula 74.55 329 *e*P **P** **11 12 02.7 +1.1**
RAYN Ar Rayn 74.84 289 P **P** **11 12 03.6 -0.4**
AKASG Malin Array Be 75.39 320 P **P** **11 12 05.8 -0.8**
comp=Z,6.7nm,0.6s,baz=54,slow=6.3,SNR=18
AKASG LR LR 11 48 21.0
comp=Z,394nm,18.4s,baz=66,slow=38
comp=Z,6.7nm,0.6s
AKBB Malin Array Si 75.39 320 IAmb IAmb 11 12 19.5
comp=Z,12nm,0.8s
YKA Yellowknife Ar 76.43 26 P **P** **11 12 12.8 +0.5**
comp=Z,2.1nm,0.9s,baz=302,slow=5.5,SNR=3.5
comp=Z,2.1nm,0.9s
BRTR Keskin Array B 77.35 308 P **P** **11 12 17.8 -0.4**
comp=Z,3.2nm,0.7s,baz=97,slow=5.8,SNR=14
BRTR LR LR 11 51 36.1
comp=Z,123nm,19.6s,baz=47,slow=40
comp=Z,3.2nm,0.7s
HFS Hagfors 78.19 333 P **P** **11 12 21.4 -0.9**
comp=Z,6.8nm,0.8s,baz=64,slow=6.6,SNR=19
HFS LR LR 11 50 59.0
comp=Z,134nm,18.1s,baz=26,slow=39
comp=Z,6.8nm,0.8s
ASF Jabal al Asfar 78.20 300 P **P** **11 12 23.2 +0.3**
comp=Z,2.8nm,0.8s,baz=63,slow=5.0,SNR=4.9
comp=Z,2.8nm,0.8s
NB2 NORSAR Subarra 78.62 334 P **P** **11 12 23.7 -1.0**
comp=Z,4.4nm,0.7s,baz=51,slow=5.9
NOA NORSAR Array B 78.62 334 P **P** **11 12 23.3 -1.4**
comp=Z,3.4nm,0.6s,baz=51,slow=5.6,SNR=25
NOA LR LR 11 50 38.0
comp=Z,100nm,20.3s,baz=65,slow=38
comp=Z,3.4nm,0.6s
NC204 NORSAR Array S 78.65 335 P **P** **11 12 24.0 -0.9**
MMAI Mount Meron Ar 78.97 301 P **P** **11 12 28.4 +1.2**
comp=Z,0.6nm,0.3s,baz=54,slow=7.3,SNR=1.7
MMAI LR LR 11 55 45.9
comp=Z,40nm,18.0s,baz=148,slow=42
comp=Z,0.6nm,0.3s
SUMG Summit 79.59 356 *i*P **P** **11 12 30.0 -0.2**
MLR Muntele Rosu 79.75 316 P **P** **11 12 32.8 +1.5**
comp=Z,4.0nm,0.9s,baz=111,slow=14,SNR=2.3
MLR LR LR 11 51 59.7
comp=Z,187nm,18.7s,baz=46,slow=39
comp=Z,4.0nm,0.9s
BSD Bornholm Skovb 80.59 328 *e*P **P** **11 12 36.0 +0.6**
EIL Elat 80.79 299 LR LR 11 54 54.3
comp=Z,65nm,18.9s,baz=85,slow=40
OKC Ostrava-Krasne 81.98 323 AMS AMS 11 52 30.0
comp=Z,300nm,17.5s
ATD Arta Tunnel 82.26 279 LR LR 11 51 23.6
comp=Z,43nm,18.4s,baz=263,slow=37
MORC Moravsky Berou 82.34 323 IAmb IAmb 11 12 59.6
comp=Z,10nm,1.0s
MORC Moravsky Berou 82.34 323 *e*P **P** **11 12 45.7 +0.8**
MAUC Maruska 82.42 322 AMS AMS 11 52 50.0
comp=Z,500nm,15.2s
KRLC Kraliky 82.57 323 *e*P **P** **11 12 50.0 +3.9**
KRLC *ep*P **sP** **11 12 58.2 -0.2**
KRLC AMS AMS 11 53 10.0
comp=Z,300nm,17.7s
OSTC Ostas 82.59 324 AMS AMS 11 52 50.0
comp=Z,300nm,21.0s
DPC Dobruska-Polom 82.66 324 *e*P **P** **11 12 51.1 +4.6**
DPC *ep*P **sP** **11 12 59.1 +0.2**
DPC AMS AMS 11 52 50.0
comp=Z,200nm,18.0s
CHVC Chvalec 82.66 324 AMS AMS 11 53 00.0
comp=Z,300nm,16.2s
UPC Upice 82.73 324 AMS AMS 11 53 00.0
comp=Z,400nm,16.8s
VTS Vitosha 82.89 315 P **P** **11 12 48.4 +0.4**
VTS IAmb IAmb 11 13 04.4
comp=Z,9.3nm,0.9s
VRAC Vranov 83.11 323 P **P** **11 12 49.6 +0.8**
comp=Z,2.3nm,0.4s,baz=57,slow=3.5,SNR=4.1
VRAC LR LR 11 53 42.2
comp=Z,224nm,18.3s,baz=72,slow=39
comp=Z,2.3nm,0.4s

VRAC Vranov 83.11 323 *e*P **P** **11 12 47.1 -1.8**
KRUC Moravsky 83.36 323 *e*P **P** **11 12 51.0 +0.9**
PVCC Panska Ves 83.46 325 AMS AMS 11 54 10.0
comp=Z,300nm,16.8s
BRG Berggiesshubel 83.58 325 *e*P **P** **11 12 52.4 +1.2**
BRG Amp 11 12 53.0
comp=Z,4.8nm,0.9s
BRG *ex* x 11 13 04.0
BRG Amp 11 13 06.5
comp=Z,8.4nm,1.0s
BRG *ex* x 11 13 21.5
BRG Amp 11 13 22.3
comp=Z,4.0nm,0.7s
BRG Amp 11 54 21.0
comp=N,0.2nm,15.3s
BRG Amp 11 54 35.0
comp=Z,0.3nm,17.4s
BRG Amp 11 54 38.0
comp=E,0.2nm,11.6s
YBH Yreka Blue Hor 83.63 46 LR LR 11 46 18.4
comp=E,50nm,18.3s,baz=323,slow=33
PINE Pine Mountain 83.64 44 P **P** **11 12 52.4 +0.5**
PINE pP **pwP** **11 13 02.4 -1.0**
PINE IAmb IAmb 11 13 06.6
comp=Z,11nm,1.1s
TREC Trest 83.71 323 AMS AMS 11 53 50.0
comp=Z,300nm,16.6s
CLL Collm 83.79 326 *i*P **P** **11 12 52.7 +0.5**
comp=Z,12nm,0.9s
CLL *ep*P **sP** **11 13 04.0 -0.6**
comp=Z,21nm,0.8s
PRU Pruhonice 83.80 324 AMS AMS 11 53 40.0
comp=Z,300nm,17.1s
DIVS Divibare 84.10 317 IAmb IAmb 11 13 07.5
comp=Z,8.8nm,0.8s
CONA Conrad Observa 84.31 322 *e*P **P** **11 12 56.9 +1.8**
comp=Z,15nm,1.4s
CKRC Cesky Krumlov 84.62 323 *e*P **P** **11 12 58.2 +1.6**
CKRC AMS AMS 11 54 20.0
comp=Z,300nm,19.4s
NKC Novy Kostel 84.72 325 AMS AMS 11 55 00.0
comp=Z,400nm,17.9s
KHC Kasperske Hory 84.81 324 *e*P **P** **11 12 58.5 +0.9**
KHC *ep*P **sP** **11 13 09.8 -0.2**
KHC AMS AMS 11 54 20.0
comp=Z,300nm,19.9s
ARSA Arzberg 84.89 322 *e*P **P** **11 12 59.0 +1.0**
comp=Z,4.4nm,0.8s
GEC2 GERESS Array S 84.92 324 IAmb IAmb 11 13 12.0
comp=Z,7.6nm,1.0s
GERES GERESS Array B 84.92 324 P **P** **11 12 57.8 -0.4**
comp=Z,1.0nm,0.5s,baz=42,slow=1.6,SNR=9.5
GERES LR LR 11 54 48.6
comp=Z,250nm,19.8s,baz=49,slow=38
comp=Z,1.0nm,0.5s
MOD Modoc Plateau 85.06 45 P **P** **11 12 60.0 +0.9**
MOD IAmb IAmb 11 13 13.3
comp=Z,7.7nm,1.1s
MOA Molln 85.22 323 *e*P **P** **11 13 00.5 +0.9**
comp=Z,5.0nm,0.5s
J08A Circle Bar Ran 85.38 43 IAmb IAmb 11 13 19.7
comp=Z,10.0nm,1.3s
SOKA Soboth 85.50 321 *e*P **P** **11 13 02.1 +1.0**
comp=Z,13nm,1.4s
IDI Anoyia 85.57 308 P **P** **11 13 02.5 +0.9**
comp=Z,8.2nm,0.9s,baz=27,slow=2.3,SNR=3.5
comp=Z,8.2nm,0.9s
OBKA Obir 85.87 321 *e*P **P** **11 13 04.5 +1.6**
comp=Z,10nm,1.4s
ABTA Abfaltersbach 86.84 322 *e*P **P** **11 13 08.8 +1.1**
comp=Z,9.8nm,0.9s
WATA Walderalm 86.97 323 *e*P **P** **11 13 12.0 +3.5**
comp=Z,5.4nm,0.6s
WTTA Wattenberg 86.99 323 *e*P **P** **11 13 11.8 +3.3**
comp=Z,5.9nm,0.9s
CIMO Cimolais 87.15 322 P **P** **11 13 10.8 +1.7**
CIMO IAmb IAmb 11 13 28.0
comp=Z,10nm,0.9s
MOTA Moosalm 87.22 323 *e*P **P** **11 13 12.8 +3.2**
comp=Z,5.2nm,0.6s
FRB Frobisher Bay 87.60 8 LR LR 11 55 02.9
comp=Z,84nm,20.1s,baz=9.0,slow=38
FETA Feichten 87.62 323 *e*P **P** **11 13 11.4 -0.2**
comp=Z,6.0nm,0.9s
DAVA Damuels 87.90 324 *e*P **P** **11 13 16.1 +3.1**
comp=Z,3.5nm,0.5s
EKA Eskdalemuir Ar 88.05 335 LR LR 11 58 19.9
comp=Z,168nm,18.9s,baz=16,slow=40
FUORN Ofenpass-Fuorn 88.12 323 P **P** **11 13 14.4 +0.3**
DAVOX Davos/Dischmat 88.22 324 P **P** **11 13 15.7 +1.2**
comp=Z,9.7nm,0.6s,baz=21,slow=3.2,SNR=16
comp=Z,9.7nm,0.6s
NVAR Mina Array Bea 88.27 47 P **P** **11 13 16.3 +1.4**
comp=Z,0.1nm,0.5s,baz=310,slow=5.6,SNR=2.6
comp=Z,0.1nm,0.5s
PPT Papeete 89.88 110 LR LR 11 45 06.1
comp=Z,31nm,20.0s,baz=252,slow=30
HWUT Hardware Ranch 90.53 41 IAmb IAmb 11 13 43.4
comp=Z,7.6nm,1.1s
PDAR Pinedale Array 90.94 39 P **P** **11 13 27.4 0.0**
comp=Z,0.8nm,0.9s,baz=316,slow=3.8,SNR=4.9
comp=Z,0.8nm,0.9s
KNB Kanab 92.61 45 P **P** **11 13 35.9 +0.8**
KEST Kesra 95.64 315 LR LR 12 03 06.2
comp=Z,68nm,18.5s,baz=339,slow=39
ESDC Sonseca Array 100.38 326 P **Pdif** **11 14 10.1 -0.1**
comp=Z,0.2nm,0.4s,baz=70,slow=6.5,SNR=1.6
TORD Torodi Ar. Bea 115.50 302 PKP **PKiKP** **11 19 04.8 -0.9**
comp=Z,0.6nm,0.8s,baz=50,slow=1.5,SNR=2.2

*SOME **08** 11:00:49.3, 40.°93N×70.°23E, h0km*
*ISU **08** 11:00:50, 41.°09N×69.°62E, h27km*
*KRNET **08** 11:00:52.4±0.1, 41.°06N×70.°20E, h7km, mb3.4*
*NNC **08** 11:00:53.5±1.9, 41.°01N×70.°28E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=14.7km s-min=9.9km az=11.0
ISC 08 11:00:52.4±1.3, 41.°09N±0.°03×70.°07E±0.°04, h6km±11km,
n27, σ2s21/47, 14C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHRV	**Charvak**	**0.56**	**351**	P		**Pb**	**11 01 03.7**	**-1.0**
CHRV				S		**Sb**	**11 01 12.8**	**-0.2**
TAS	**Tashkent**	**0.63**	**292**	⇓*i*P		**Pn**	**11 01 06.7**	**-1.3**
	baz=92							
TAS				⇓*i*S		**Sn**	**11 01 16.6**	**-1.8**
	baz=92							
TRKS	**Terek-Say**	**0.92**	**61**	⇑*i*P		**Pg**	**11 01 08.7**	**-1.4**
	baz=61							
TRKS				⇑*i*S		**Sg**	**11 01 20.2**	**-1.8**
	baz=61							
IUG	**Iuzhnay**	**1.06**	**358**	*e*P		**Pg**	**11 01 12.6**	**-0.1**
	172nm,0.2s							
IUG				*e*S		**Sn**	**11 01 29.4**	**+0.3**
	44nm,0.3s							
IUG	**Iuzhnay**	**1.06**	**358**	*e*P		**Pg**	**11 01 12.6**	**-0.1**
	baz=53							
IUG				*e*S		**Sn**	**11 01 29.5**	**+0.3**
	baz=53							
BTK	**Batken**	**1.18**	**151**	⇑*i*P		**Pb**	**11 01 13.4**	**-1.8**
	baz=55							
BTK				⇑*i*S		**Sb**	**11 01 29.6**	**-1.2**
	baz=55							
CHM	**Chimkent**	**1.28**	**344**	*e*P		**Pg**	**11 01 17.7**	**+0.7**
	163nm,0.2s							
CHM				*e*S		**Sn**	**11 01 37.6**	**+3.2**
	178nm,0.6s							
TCH	**Chimkent**	**1.28**	**344**	*e*P		**Pg**	**11 01 17.7**	**+0.8**
	baz=41							
TCH				*e*S		**Sn**	**11 01 37.6**	**+3.3**
	baz=41							
CHMI	**Chimion**	**1.38**	**126**	P		**Pg**	**11 01 19.8**	**+1.0**
CHMI				S		**Sg**	**11 01 41.2**	**+4.6**
FRG	**Fergana**	**1.48**	**118**	P		**Pg**	**11 01 21.4**	**+0.5**
FRG				S		Sn	11 01 02.7	-37
FRG				S		**Sg**	**11 01 43.8**	**+3.7**
ARK	**Arkit**	**1.59**	**63**	⇑*i*P		**Pn**	**11 01 21.0**	**-0.3**
	baz=60							
ARK				⇑*i*S		**Sn**	**11 01 42.1**	**-0.1**
	baz=60							
DZA	**Taraz**	**2.03**	**27**	*e*P		**Pb**	**11 01 30.1**	**+0.3**
	43nm,0.2s							
DZA				*e*S		**Sg**	**11 01 59.2**	**+1.4**
	108nm,0.2s							
KK31	**Karatay Array**	**2.04**	**9**	Pn		**Pb**	**11 01 30.4**	**+0.5**
	5.0nm,0.3s,baz=193,slow=17,SNR=74							
KK31				⇓Lg		Lg	11 01 59.7	
	4.9nm,0.5s,baz=197,slow=31,SNR=8.0							
KKAR	**Karatay Array**	**2.04**	**9**	⇑*i*P		**Pb**	**11 01 30.1**	**+0.2**
	baz=6.0							
KKAR				⇑*i*S		**Sg**	**11 01 57.4**	**-0.6**
	baz=6.0							
DRK	**Karamyk**	**2.08**	**140**	⇑*i*P		**Pb**	**11 01 29.8**	**-1.0**
	baz=42							
DRK				⇑*i*S		**Sb**	**11 01 56.9**	**-0.1**
	baz=42							
OHH	**Osh**	**2.14**	**104**	⇑*i*P		**Pb**	**11 01 30.1**	**-1.5**
	baz=4.0							
OHH				⇑*i*S		**Sb**	**11 01 57.4**	**-1.0**
	baz=4.0							
MRKS	**Merke**	**2.88**	**54**	*e*P		**Pb**	**11 01 44.1**	**-0.2**
	2.4nm,0.4s							
MRKS				*e*S		**Sg**	**11 02 23.8**	**-1.1**
	21nm,0.4s							
MRKS	**Merke**	**2.88**	**54**	Pg		**Pb**	**11 01 43.9**	**-0.3**
	10nm,0.6s							
MRKS				Lg		Lg	11 02 23.8	
	21nm,0.6s							
SGDS	**Sogindy**	**4.13**	**54**	*e*P		**Pb**	**11 02 06.0**	**+0.5**
	0.5nm,0.3s							
SGDS				*e*S		**Sg**	**11 03 00.8**	**-4.1**
	8.5nm,0.5s							
SGDS	**Sogindy**	**4.13**	**54**	Pg		**Pb**	**11 02 05.8**	**+0.3**
	1.7nm,0.2s							
SGDS				Lg		Lg	11 03 00.8	
	8.7nm,0.5s							
TKM2	**Tokmak 2**	**4.51**	**64**	⇑Pg		**Pb**	**11 02 13.0**	**+0.9**
	1.5nm,0.5s							
TKM2				⇑Lg		Lg	11 03 13.9	
	5.3nm,0.8s							
BTLS	**Baital**	**4.91**	**35**	*e*P		**Pb**	**11 02 22.3**	**+3.5**
	1.5nm,0.3s							
BTLS				*e*S		**Sg**	**11 03 29.5**	**-0.4**
	2.9nm,0.8s							
BTLS	**Baital**	**4.91**	**35**	Pg		**Pb**	**11 02 21.8**	**+3.0**
	1.3nm,0.3s							
BTLS				Lg		Lg	11 03 29.4	
	2.2nm,0.3s							
KTBS	**Karatobe**	**5.55**	**60**	*e*P		**Pb**	**11 02 32.7**	**+2.9**
	0.5nm,0.5s							
KTBS				*e*S		**Sg**	**11 03 47.5**	**-3.2**
	5.5nm,0.5s							
KTBS	**Karatobe**	**5.55**	**60**	Pg		**Pb**	**11 02 33.9**	**+4.1**
	0.9nm,0.3s							
KTBS				Lg		Lg	11 03 48.8	
	5.2nm,0.6s							
ARXS	**Arharly**	**6.52**	**59**	*e*P		**Pb**	**11 02 49.6**	**+3.4**
	1.3nm,0.7s							
ARXS				*e*S		**Sg**	**11 04 16.1**	**-5.4**
	2.8nm,0.9s							
ARXS	**Arharly**	**6.52**	**59**	Pg		**Pb**	**11 02 49.6**	**+3.4**
	1.3nm,0.7s							
ARXS				Lg		Lg	11 04 16.1	
	2.8nm,0.9s							

*NEIC **08** 11:27:29.4±1.2, 18.°0S±0.°2×178.°2W±0.°2, h581km±12km,*
mb4.2/37, Error ellipse: s-maj=36.5km s-min=16.3km
az=151.0
*IDC **08** 11:27:30.4±1.3, 18.°28S×178.°23W, h601km±10km,*
mb3.5/11, mbtmp4.4/13, Error ellipse: s-maj=33.5km
s-min=10.7km az=151.0
ISC 08 11:27:30.0±0.8, 18.°3S±0.°2×178.°2W±0.°1, h600km, n61,
σ0s77/61, mb4.1/30, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.59**	**278**	P		**P**	**11 28 51.5**	**-1.4**
	66nm,0.7s,baz=123,slow=14,SNR=32							
MSVF				S		**S**	**11 30 01.8**	**+1.5**
	15nm,1.1s,baz=34,slow=24,SNR=1.5							
MSVF	**Nonsavu**	**3.59**	**278**	P		**P**	**11 28 51.8**	**-1.1**
AFI	**Afiamalu**	**7.55**	**56**	P		P	11 29 18.2	-7.0
	38nm,0.4s,baz=223,slow=19,SNR=18							
AFI				S		S	11 30 47.7	-12
	23nm,0.6s,baz=13,slow=21,SNR=1.9							
AFI	**Afiamalu**	**7.55**	**56**	P		P	11 29 18.8	-6.4
MARNC	**Mare, Loyalty**	**13.33**	**254**	P		**P**	**11 30 20.8**	**-1.4**
PINNC	**Pines Island,**	**14.12**	**250**	P		**P**	**11 30 28.6**	**-1.4**
DZM	**Mont Dzumac**	**14.89**	**253**	P		**P**	**11 30 37.0**	**-0.3**
	9.8nm,0.7s,baz=94,slow=18,SNR=6.5							
KOUNC	**Koumac, New Ca**	**16.67**	**259**	P		**P**	**11 30 55.2**	**+1.7**
EIDS	**Eidsvold**	**29.32**	**251**	P		**P**	**11 32 46.4**	**+0.4**
EIDS				IAmb		IAmb	11 32 46.6	
	comp=Z,13nm,1.1s							
ARMA	**Armidale**	**29.93**	**240**	P		**P**	**11 32 52.1**	**+0.9**
ARMA				IAmb		IAmb	11 32 59.8	
	comp=Z,11nm,1.1s							
CTAO	**Charters Tower**	**33.57**	**261**	P		**P**	**11 33 22.8**	**+0.6**
CAN	**Canberra**	**33.64**	**233**	P		**P**	**11 33 23.0**	**+0.4**
TOO	**Toolangi**	**37.10**	**231**	P		**P**	**11 33 51.3**	**+0.2**
TOO				IAmb		IAmb	11 33 51.8	
	comp=Z,12nm,0.9s							
COEN	**Coen**	**37.29**	**271**	P		**P**	**11 33 53.9**	**+1.0**
STKA	**Stephens Creek**	**38.63**	**242**	P		**P**	**11 34 04.2**	**+0.7**
	comp=Z,9.7nm,0.8s,baz=90,slow=9.7,SNR=11							
	comp=Z,9.7nm,0.8s							
STKA	**Stephens Creek**	**38.63**	**242**	P		**P**	**11 34 04.5**	**+1.0**
BBOO	**Buckleboo**	**43.40**	**241**	P		**P**	**11 34 41.3**	**+0.1**
WR0	**Warramunga Arr**	**44.56**	**260**	P		**P**	**11 34 51.0**	**+0.7**
WR0				IAmb		IAmb	11 34 58.7	
	comp=Z,6.9nm,1.4s							
WB0	**Warramunga Arr**	**44.72**	**260**	P		**P**	**11 34 52.0**	**+0.5**
WB0				IAmb		IAmb	11 34 52.5	
	comp=Z,5.2nm,0.6s							
WB2	**Warramunga Arr**	**44.74**	**260**	P		**P**	**11 34 51.7**	**0.0**
WB2				IAmb		IAmb	11 34 52.5	
	comp=Z,8.7nm,1.1s							
WRAB	**Tennant Creek**	**44.74**	**260**	P		**P**	**11 34 51.7**	**+0.1**
WRAB				IAmb		IAmb	11 34 54.4	
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**44.75**	**260**	P		**P**	**11 34 51.8**	**0.0**
	comp=Z,2.8nm,0.5s,baz=98,slow=7.1,SNR=141							
WRA				PcP		**PcP**	**11 36 21.1**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=98,slow=6.7,SNR=1.7							
WRA				S		**S**	**11 40 46.6**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=99,slow=12,SNR=3.4							
	comp=Z,2.8nm,0.5s							
WRA	**Warramunga Arr**	**44.75**	**260**	P		**P**	**11 34 52.2**	**+0.4**
AS31	**Alice Springs**	**44.87**	**255**	P		**P**	**11 34 53.5**	**+0.8**
AS31				IAmb		IAmb	11 34 54.4	
	comp=Z,4.0nm,0.6s							
ASAR	**Alice Springs**	**44.88**	**255**	P		**P**	**11 34 53.3**	**+0.6**
	comp=Z,12nm,0.7s,baz=94,slow=7.3,SNR=198							
ASAR				PcP		**PcP**	**11 36 20.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=95,slow=4.6,SNR=2.8							
ASAR				pP		**pP**	**11 36 37.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=86,slow=7.5,SNR=2.5							
ASAR				ScP		**ScP**	**11 39 17.7**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=106,slow=4.7,SNR=1.7							
ASAR				S		**S**	**11 40 47.1**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=86,slow=15,SNR=9.2							
	comp=Z,12nm,0.7s							
FITZ	**Fitzroy Crossi**	**53.15**	**261**	P		**P**	**11 35 52.6**	**-1.0**
MJAR	**Matsushiro Arr**	**68.29**	**323**	P		**P**	**11 37 33.0**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=150,slow=6.9,SNR=5.6							
	comp=Z,2.7nm,0.7s							
KIWB	**Kanaga Island**	**69.81**	**1**	P		**P**	**11 37 40.8**	**-0.3**
ADK	**Adak**	**69.85**	**1**	P		**P**	**11 37 41.0**	**-0.3**
UNV	**Unalaska Valle**	**72.51**	**7**	P		**P**	**11 37 56.0**	**-0.7**
SSLB	**Suanglung**	**72.58**	**303**	P		**P**	**11 37 57.1**	**-0.8**
PETK	**Petropavlovsk-**	**74.06**	**345**	P		**P**	**11 38 06.8**	**+1.2**
	comp=Z,3.6nm,0.6s,baz=136,slow=7.2,SNR=7.7							
	comp=Z,3.6nm,0.6s							
PETK	**Petropavlovsk-**	**74.06**	**345**	P		**P**	**11 38 06.3**	**+0.7**
NVAR	**Mina Array Bea**	**79.55**	**44**	P		**P**	**11 38 36.3**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=221,slow=7.8,SNR=16							
	comp=Z,1.3nm,0.7s							
O19K	**Port Alsworth**	**80.54**	**12**	P		**P**	**11 38 40.6**	**+0.2**
PINE	**Pine Mountain**	**80.95**	**38**	P		**P**	**11 38 43.5**	**+0.3**
I07A	**Izee**	**81.96**	**38**	P		**P**	**11 38 48.8**	**+0.6**
U15A	**North Rim**	**82.61**	**48**	P		**P**	**11 38 52.6**	**+0.7**
GHO	**Glory Hole Cre**	**83.10**	**14**	P		**P**	**11 38 53.4**	**-0.1**
GHO				IAmb		IAmb	11 38 54.4	
	comp=Z,9.6nm,0.8s							
CAST	**Castle Rocks**	**83.93**	**11**	P		**P**	**11 38 56.4**	**-1.1**
CAST				IAmb		IAmb	11 38 57.7	
	comp=Z,4.9nm,0.6s							
N25K	**Chitina, Valde**	**83.98**	**15**	P		**P**	**11 38 57.9**	**0.0**
N25K				IAmb		IAmb	11 38 59.0	
	comp=Z,6.7nm,0.7s							
GLB	**Gilahina Butte**	**84.05**	**16**	P		**P**	**11 38 58.4**	**+0.3**
GLB				IAmb		IAmb	11 38 58.8	

comp=Z,4.0nm,0.6s
J20K **Nowinta River** **84.25** **10** P **P** **11 38 59.4 +0.4**
J20K IAmb IAmb 11 39 00.1
comp=Z,3.8nm,1.1s
TRF **Thorofare Moun** **84.31** **12** IAmb IAmb 11 39 00.3
comp=Z,8.1nm,0.7s
RND **Reindeer** **84.56** **13** P **P** **11 39 00.7 0.0**
RND IAmb IAmb 11 39 01.6
comp=Z,6.9nm,0.7s
HLID **Hailey** **84.77** **41** P **P** **11 39 02.4 +0.1**
MLY **Manley** **85.64** **11** IAmb IAmb 11 39 07.5
comp=Z,5.6nm,1.5s
WRH **Wood River Hil** **85.67** **13** IAmb IAmb 11 39 06.5
comp=Z,4.6nm,1.1s
TX32 **Lajitas Array** **86.02** **58** P **P** **11 39 09.8 +1.3**
TX32 IAmb IAmb 11 39 10.3
comp=Z,2.8nm,0.9s
TXAR **Lajitas Array** **86.03** **58** P **P** **11 39 09.3 +0.8**
comp=Z,1.7nm,0.8s,baz=218,slow=5.6,SNR=27
comp=Z,1.7nm,0.8s
MDM **Murphy Dome** **86.07** **12** IAmb IAmb 11 39 08.1
comp=Z,2.8nm,0.8s
ILAR **Eielson Array** **86.18** **13** P **P** **11 39 07.7 -0.6**
comp=Z,1.3nm,0.4s,baz=220,slow=4.8,SNR=47
comp=Z,1.3nm,0.4s
PDAR **Pinedale Array** **87.47** **43** P **P** **11 39 15.1 -0.1**
comp=Z,0.9nm,0.8s,baz=212,slow=3.1,SNR=8.9
comp=Z,0.9nm,0.8s
CMAR **Chiang Mai Arr** **89.17** **290** P **P** **11 39 23.5 +0.2**
comp=Z,1.0nm,0.9s,baz=104,slow=2.9,SNR=5.1
comp=Z,1.0nm,0.9s
YKA **Yellowknife Ar** **94.57** **25** P **P** **11 39 46.8 -0.2**
comp=Z,0.8nm,0.8s,baz=230,slow=4.9,SNR=1.7
comp=Z,0.8nm,0.8s
MKAR **Makanchi Array** **109.51** **314** PKiKP **PKiKP** **11 44 52.5 -0.8**
comp=Z,0.1nm,0.4s,baz=96,slow=0.5,SNR=3.9
ARCES **ARCESS Array B** **126.69** **350** PKP **PKiKP** **11 45 25.2 -0.9**
comp=Z,1.1nm,0.7s,baz=20,slow=3.4,SNR=11
AKASG **Malin Array Be** **140.95** **332** PKhKP PKPpre 11 45 47.5
comp=Z,0.9nm,0.3s,baz=41,slow=3.6,SNR=7.7
BRTR **Keskin Array B** **145.16** **315** PKPbc **PKPab** **11 46 01.9 -0.9**
comp=Z,1.3nm,0.6s,baz=113,slow=3.9,SNR=6.5
CLL **Collm** **145.84** **347** ↓*i* PKPbc **PKPab** **11 46 03.7 -1.3**
comp=Z,11nm,0.9s
GERES **GERESS Array B** **147.99** **345** PKPbc **PKiKP** **11 46 09.4 -0.8**
comp=Z,1.2nm,0.6s,baz=44,slow=3.0,SNR=9.0

MAN 08 11:44:52.9, 12°.93N×122°.27E, h166km, mb4.4, ML3.2, MS3.0, 2C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.98**	**10**	↑*e*P		Pn	11 45 49.6 +31
SJMP	**San Jose**	**1.21**	**247**	↓*e*P		Pn	11 45 23.6 +2.7
SJMP				*e*S		Sn	11 45 42.2 -0.3
PGP	**Puerto Galera**	**1.40**	**294**	↑*e*P		Pn	11 45 25.7 +3.0
PGP				*i* S		Sn	11 45 44.6 -1.0
MACP	**Maragondon, Ca**	**2.00**	**311**	↓*e*P		Pn	11 45 32.3 +3.3
MACP				*e*S		Sn	11 45 56.1 -0.9
LUBP	**Lubang**	**2.12**	**292**	↓*e*P		Pn	11 45 20.9 -9.4
LUBP				*e*S		Sn	11 45 36.4 -23
BUSP	**Coron**	**2.22**	**246**	↓*e*P		Pn	11 45 14.8 -17
BUSP				*e*S		Sn	11 45 25.3 -36

JMA ***08*** *11:58:37.3±0.1, 24°.2N±0°.6×121°.9E±0°.5, h54km±1km, MV2.6/9, TAIWAN REGION*
TAP ***08*** *11:58:38.2, 24°.34N×121°.94E, h26km, ML3.4, C*
ISC 08 11:58:38.5±0.9, 24°.31N±0°.01×121°.97E±0°.02, h18km±2km, n110, σ0°.81/204, 4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village** baz=261	**0.21**	**270**	P	**Pg**	**11 58 44.3**	**+0.6**
EHP				*e*S	**Sg**	**11 58 48.8**	**+1.5**
	baz=261						
EWUT	**Wuta** baz=313	**0.22**	**307**	P	**Pb**	**11 58 43.2**	**-0.6**
EWUT				S	**Sb**	**11 58 47.7**	**+0.5**
	baz=313						
ENA	**Nanau** baz=303	**0.24**	**299**	↓*i* P	**Pg**	**11 58 44.1**	**0.0**
ENA				*i* S	**Sg**	**11 58 48.8**	**+0.8**
	baz=303						
TWC	**Suao** baz=349	**0.32**	**339**	*i* P	**Pg**	**11 58 45.3**	**-0.1**
TWC				*i* S	**Sg**	**11 58 50.1**	**0.0**
	baz=349						
ETL	**Fush Village** baz=243	**0.35**	**245**	P	**Pg**	**11 58 46.4**	**+0.4**
ETL				S	**Sb**	**11 58 53.0**	**+1.3**
	baz=243						
NACB	**Ninganchiao** baz=251	**0.37**	**249**	↓P	**Pg**	**11 58 46.3**	**0.0**
NACB				S	**Sb**	**11 58 52.8**	**+0.7**
	baz=251						
NDS	**Dongshan** baz=325	**0.40**	**324**	S	**Sg**	**11 58 50.5**	**-1.9**
TWD	**Chiawan** baz=240	**0.41**	**236**	*i* P	**Pg**	**11 58 47.4**	**+0.3**
TWD				*i* S	**Sb**	**11 58 54.6**	**+1.2**
	baz=240						
ETLH	**Xiulin Townshi** baz=254	**0.46**	**257**	P	**Pg**	**11 58 47.9**	**0.0**
ETLH				S	**Sb**	**11 58 55.6**	**+0.8**
	baz=254						
LATG	**Datong** baz=302	**0.47**	**299**	↓P	**Pg**	**11 58 47.7**	**-0.3**
LATG				S	**Sg**	**11 58 54.7**	**+0.2**
	baz=302						
HWA	**Hwalien** baz=220	**0.47**	**225**	*i* P	**Pg**	**11 58 48.2**	**+0.1**
HWA				*e*S	**Sb**	**11 58 56.5**	**+1.6**
	baz=220						
ENTT	**Nioudou** baz=313	**0.49**	**311**	*i* P	**Pg**	**11 58 47.0**	**-1.5**
ENTT				*i* S	**Sg**	**11 58 54.2**	**-1.1**
	baz=313						
TWE	**Neicheng** baz=329	**0.49**	**326**	*i* P	**Pg**	**11 58 47.8**	**-0.7**
TWE				*i* S	**Sg**	**11 58 55.4**	**+0.1**
	baz=329						
ILA	**Ilan** baz=333	**0.50**	**336**	P	**Pg**	**11 58 48.2**	**-0.4**
ILA				*i* S	**Sb**	**11 58 56.5**	**+0.9**
	baz=333						
NDT	**Datong Townshi** baz=305	**0.51**	**305**	P	**Pg**	**11 58 48.7**	**-0.1**
NDT				S	**Sg**	**11 58 55.9**	**+0.1**
	baz=305						
EGS	baz=357	**0.53**	**356**	*i* P	**Pg**	**11 58 49.2**	**0.0**
EGS				*i* S	**Sg**	**11 58 56.5**	**+0.1**
	baz=357						
NNSB	**Datong** baz=287	**0.55**	**282**	↓P	**Pg**	**11 58 49.2**	**-0.5**
NNSB				S	**Sg**	**11 58 56.9**	**-0.2**
	baz=287						
NTC	**Toucheng** baz=349	**0.56**	**346**	*e*P	**Pg**	**11 58 49.2**	**-0.5**
NTC				S	**Sb**	**11 58 57.9**	**+0.6**
	baz=349						
NNS	**Nan Shan** baz=287	**0.56**	**283**	*i* P	**Pg**	**11 58 48.3**	**-1.5**
NNS				*i* S	**Sg**	**11 58 56.1**	**-1.4**
	baz=287						
FUSB	**Fushanzhiwuyua** baz=323	**0.57**	**322**	P	**Pb**	**11 58 49.9**	**-0.1**
FUSB				S	**Sg**	**11 58 57.4**	**-0.2**
	baz=323						
YHNB	**Yeheng** baz=310	**0.65**	**303**	*e*P	**Pb**	**11 58 50.6**	**-0.7**
YHNB				S	**Sb**	**11 59 00.1**	**0.0**
	baz=310						
WHF	**Hehuan Shan** baz=253	**0.67**	**256**	*i* P	**Pb**	**11 58 51.4**	**-0.4**
WHF				*i* S	**Sg**	**11 59 01.3**	**+0.4**
	baz=253						
FUSS	**Fushou** baz=263	**0.67**	**265**	*i* P	**Pb**	**11 58 51.5**	**-0.3**
FUSS				*i* S	**Sb**	**11 59 01.2**	**+0.4**
	baz=263						
NSK	**Sanguang** baz=303	**0.67**	**303**	*i* P	**Pb**	**11 58 50.4**	**-1.3**
NSK				*i* S	**Sb**	**11 58 58.8**	**-1.8**
	baz=303						
TIPB	**Shuangxi** baz=351	**0.67**	**348**	*i* P	**Pb**	**11 58 51.9**	**+0.2**
TIPB				S	**Sg**	**11 59 01.3**	**+0.5**
	baz=351						
TWB1	**Santiao Chiao** baz=358	**0.69**	**1**	P	**Pb**	**11 58 51.8**	**-0.3**
TWB1				*i* S	**Sb**	**11 59 01.3**	**0.0**
	baz=358						
ESL	**Shilin** baz=236	**0.70**	**225**	*i* P	**Pb**	**11 58 51.9**	**-0.2**
ESL				*i* S	**Sg**	**11 59 02.6**	**+0.9**
	baz=236						
TWT	**Tachien** baz=257	**0.73**	**266**	*i* P	**Pb**	**11 58 52.9**	**+0.1**
TWT				*i* S	**Sb**	**11 59 03.0**	**+0.4**
	baz=257						
TDCB	**Techi** baz=264	**0.75**	**266**	P	**Pb**	**11 58 52.9**	**-0.2**
TDCB				S	**Sb**	**11 59 02.7**	**-0.3**
	baz=264						
TWA	**Mucha** baz=326	**0.76**	**332**	*i* P	**Pb**	**11 58 53.5**	**+0.3**
TWA				*i* S	**Sb**	**11 59 03.3**	**+0.2**
	baz=326						
NHDH	**Xindian Distri** baz=323	**0.77**	**328**	*i* P	**Pg**	**11 58 54.0**	**+0.4**
NHDH				*i* S	**Sg**	**11 59 04.1**	**+0.3**
	baz=323						
CHGB	**Renai** baz=240	**0.77**	**251**	P	**Pb**	**11 58 53.4**	**-0.2**
CHGB				S	**Sg**	**11 59 04.7**	**+0.7**
	baz=240						
NWF	**Wu-fen Shan** baz=343	**0.78**	**347**	P	**Pb**	**11 58 52.2**	**-1.4**
NWF				*i* S	**Sg**	**11 59 04.6**	**+0.5**
	baz=343						
SXI1	**Grass Mountain** baz=357	**0.79**	**353**	P	**Pb**	**11 58 53.7**	**0.0**
SXI1				*e*S	**Sg**	**11 59 05.5**	**+1.1**
	baz=357						
OWD	**Renai** baz=242	**0.81**	**244**	*i* P	**Pb**	**11 58 53.6**	**-0.6**
OWD				*i* S	**Sb**	**11 59 05.2**	**+0.4**
	baz=242						
EGFH	**Guangfu** baz=230	**0.81**	**218**	*e*P	**Pb**	**11 58 54.2**	**+0.1**
EGFH				*e*S	**Sn**	**11 59 06.9**	**+0.3**
	baz=230						
TAP	**Taipei** baz=316	**0.84**	**330**	P	**Pb**	**11 58 54.7**	**+0.1**
TAP				*i* S	**Sg**	**11 59 06.3**	**+0.2**
	baz=316						
NFF	**Wufeng Townshi** baz=296	**0.84**	**292**	P	**Pb**	**11 58 55.0**	**+0.3**
NFF				S	**Sb**	**11 59 05.1**	**-0.6**
	baz=296						
WUSB	**Renai** baz=237	**0.84**	**248**	P	**Pb**	**11 58 54.6**	**-0.1**
WUSB				S	**Sb**	**11 59 05.8**	**0.0**
	baz=237						
JYNG	**Yonaguni jima**	**0.90**	**81**	P	**Pg**	**11 58 56.1**	**+0.1**
JYNG				*e*S	**Sn**	**11 59 09.0**	**+0.3**
YM01	**YM01** baz=350	**0.91**	**336**	P	**Pb**	**11 58 55.9**	**+0.1**
YM01				*e*S	**Sg**	**11 59 08.7**	**+0.4**
	baz=350						
LIOB	**Emei** baz=291	**0.94**	**291**	*i* P	**Pb**	**11 58 56.4**	**+0.2**
LIOB				*i* S	**Sg**	**11 59 09.1**	**0.0**
	baz=291						
TWS1	**Kuangyinshan** baz=339	**0.94**	**327**	P	**Pb**	**11 58 55.8**	**-0.4**
TWS1				S	**Sn**	**11 59 09.7**	**+0.1**
	baz=339						
WHP	**Taichung City** baz=267	**0.94**	**268**	*i* P	**Pb**	**11 58 56.9**	**+0.6**
WHP				*i* S	**Sg**	**11 59 09.6**	**+0.4**
	baz=267						
NSTT	**Nanjuang** baz=289	**0.94**	**290**	*i* P	**Pb**	**11 58 56.8**	**+0.5**
NSTT				*i* S	**Sb**	**11 59 07.4**	**-1.0**
	baz=289						
VWDT	**VWDT** baz=232	**0.94**	**234**	P	**Pb**	**11 58 56.4**	**+0.1**
VWDT				S	**Sb**	**11 59 08.6**	**+0.1**
	baz=232						
YOJ	**Yonaguni jima** baz=76	**0.96**	**81**	P	**Pb**	**11 58 56.8**	**+0.2**
YOJ				S	**Sn**	**11 59 10.8**	**+0.6**
	baz=76						
YOJ	**Yonaguni jima**	**0.96**	**81**	P	**Pb**	**11 58 56.8**	**+0.2**
YOJ				S	**Sn**	**11 59 10.3**	**+0.1**
HGSD	**Ruisui** baz=209	**0.96**	**212**	P	**Pg**	**11 58 57.6**	**+0.4**
HGSD				S	**Sn**	**11 59 11.0**	**+0.8**
	baz=209						
NCU	**National Centr** baz=300	**0.97**	**313**	P	**Pn**	**11 58 57.6**	**+0.3**
NCU				*i* S	**Sg**	**11 59 10.5**	**+0.3**
	baz=300						
NCUH	**Zhongli** baz=312	**0.97**	**312**	*e*P	**Pb**	**11 58 56.8**	**0.0**
NCUH				S	**Sn**	**11 59 11.3**	**+0.7**
	baz=312						
NTST	**Danshui** baz=341	**0.97**	**331**	*e*P	**Pb**	**11 58 56.7**	**-0.2**
NTST				*e*S	**Sg**	**11 59 10.8**	**+0.4**
	baz=341						
EHY	**Hungye** baz=214	**1.00**	**217**	*i* P	**Pb**	**11 58 56.4**	**-0.9**
EHY				*i* S	**Sg**	**11 59 11.2**	**0.0**
	baz=214						
WCS	**Beigang Elemen** baz=254	**1.00**	**256**	P	**Pb**	**11 58 57.8**	**+0.5**
WCS				S	**Sb**	**11 59 10.5**	**+0.3**
	baz=254						
TWY	**Chenhua** baz=342	**1.02**	**341**	P	**Pb**	**11 58 56.4**	**-1.2**
TWY				S	**Sb**	**11 59 10.8**	**+0.1**
	baz=342						
SBCB	**Hsinchu** baz=298	**1.02**	**298**	P	**Pb**	**11 58 57.7**	**0.0**
SBCB				S	**Sg**	**11 59 13.1**	**+1.3**
	baz=298						
HSN	**Hsinchu** baz=300	**1.04**	**298**	S	**Sn**	**11 59 12.2**	**0.0**
SSLB	**Suanglung** baz=239	**1.07**	**241**	P	**Pb**	**11 58 57.7**	**-0.8**
SSLB				S	**Sb**	**11 59 11.3**	**-0.9**
	baz=239						
SMLT	**Sun Moon Lake** baz=238	**1.07**	**247**	*i* P	**Pb**	**11 58 58.6**	**0.0**
SMLT				S	**Sn**	**11 59 13.6**	**+0.4**
	baz=238						
TWQ1	**Liyutan** baz=270	**1.10**	**272**	*i* P	**Pn**	**11 58 59.6**	**+0.6**
TWQ1				*i* S	**Sn**	**11 59 13.7**	**0.0**
	baz=270						
TYC	**Yuchr** baz=236	**1.10**	**249**	*i* P	**Pn**	**11 58 58.5**	**-0.5**
TYC				S	**Sb**	**11 59 13.2**	**+0.3**
	baz=236						
NMLH	**Miaoli** baz=281	**1.10**	**282**	*e*P	**Pb**	**11 58 59.5**	**+0.4**
NMLH				*e*S	**Sg**	**11 59 14.9**	**+0.5**
	baz=281						
YULB	**Yu-li** baz=212	**1.10**	**214**	*e*P	**Pn**	**11 58 57.2**	**-1.9**
YULB				S	**Sb**	**11 59 12.2**	**-1.0**
	baz=212						
EYUL	**Yuli** baz=225	**1.13**	**212**	*e*P	**Pn**	**11 58 58.5**	**-1.0**
EYUL				*e*S	**Sb**	**11 59 13.5**	**-0.5**
	baz=225						
WHYT	**Xinyi Township** baz=238	**1.19**	**239**	*e*P	**Pn**	**11 59 00.4**	**0.0**
WHYT				*e*S	**Sn**	**11 59 16.8**	**+0.7**
	baz=238						
TCU	**Taichung** baz=260	**1.20**	**262**	S	**Sg**	**11 59 18.6**	**+1.2**
WDJ	**Dajia District** baz=271	**1.22**	**272**	S	**Sg**	**11 59 18.6**	**+0.5**
WJS	**Zhushan** baz=232	**1.24**	**247**	*e*P	**Pb**	**11 59 01.5**	**+0.1**
WJS				S	**Sg**	**11 59 19.7**	**+1.0**
	baz=232						
YUS	**Yu-Shan** baz=213	**1.24**	**229**	*i* P	**Pn**	**11 59 01.1**	**-0.3**
YUS				S	**Sb**	**11 59 16.7**	**-0.9**
	baz=213						
WNT	**Mingjian** baz=248	**1.25**	**250**	P	**Pb**	**11 59 01.9**	**+0.3**
WNT				S	**Sg**	**11 59 19.0**	**-0.3**
	baz=248						
WCHH	**Zhanghua** baz=258	**1.31**	**260**	*e*S	**Sg**	**11 59 21.9**	**+0.8**
ALS	**Alishan** baz=232	**1.33**	**234**	P	**Pn**	**11 59 03.1**	**+0.6**
ALS				S	**Sg**	**11 59 21.4**	**-0.4**
	baz=232						
ELDTW	**Lidau** baz=204	**1.42**	**218**	P	**Pn**	**11 59 03.7**	**+0.2**
WDLH	**Douliu** baz=244	**1.45**	**245**	*e*P	**Pn**	**11 59 04.7**	**+0.9**
WDLH				S	**Sg**	**11 59 25.5**	**0.0**
	baz=244						
EDH	**Donghe** baz=191	**1.47**	**205**	*e*P	**Pn**	**11 59 04.0**	**-0.1**
EDH				S	**Sn**	**11 59 21.9**	**-0.9**
	baz=191						
WRL	**Guolierlin Hig** baz=253	**1.52**	**255**	*e*P	**Pn**	**11 59 04.1**	**-0.6**
WRL				S	**Sn**	**11 59 24.7**	**+0.7**
	baz=253						
WCKO	**Fanlu** baz=234	**1.52**	**236**	P	**Pn**	**11 59 05.6**	**+0.8**
WCKO				S	**Sb**	**11 59 26.8**	**+1.5**
	baz=234						
STYH	**Taoyuan** baz=213	**1.58**	**224**	*e*P	**Pn**	**11 59 05.1**	**-0.5**
STYH				*e*S	**Sb**	**11 59 26.9**	**+0.1**
	baz=213						
TPUB	**Ta-pu** baz=218	**1.59**	**231**	P	**Pb**	**11 59 07.0**	**-0.3**
TPUB				S	**Sb**	**11 59 28.1**	**+0.9**
	baz=218						
LONT	**Longtian** baz=208	**1.60**	**209**	*e*S	**Sn**	**11 59 25.6**	**-0.4**
IRIF	**Iriomote-Funau**	**1.60**	**89**	*e*P	**Pn**	**11 59 05.4**	**-0.5**
IRIF				*e*S	**Sn**	**11 59 26.4**	**+0.3**
CHY	**Chiayi** baz=239	**1.63**	**241**	*e*P	**Pb**	**11 59 07.9**	**-0.2**
CHY				*e*S	**Sg**	**11 59 30.2**	**-1.0**
	baz=239						
WTP	**Ta-pu** baz=218	**1.64**	**230**	P	**Pb**	**11 59 08.2**	**0.0**
WTP				S	**Sg**	**11 59 30.5**	**-0.9**
	baz=218						
LDUT	**Ludao** baz=186	**1.69**	**196**	*e*P	**Pn**	**11 59 05.2**	**-1.9**
LDUT				*e*S	**Sn**	**11 59 25.4**	**-3.0**
	baz=186						
TWGBT	**Beinan** baz=196	**1.70**	**209**	*e*P	**Pn**	**11 59 05.4**	**-1.9**
TWGBT				*e*S	**Sn**	**11 59 27.7**	**-0.8**
	baz=196						
TWK	**Hsinying** baz=218	**1.71**	**233**	P	**Pn**	**11 59 08.7**	**+1.2**
TWK				S	**Sb**	**11 59 31.5**	**+0.8**
	baz=218						
SNST	**Tainan City** baz=218	**1.73**	**232**	*e*P	**Pn**	**11 59 08.7**	**+0.9**
SNST				*e*S	**Sb**	**11 59 31.4**	**+0.1**
	baz=218						
CHN1	**Nanshi** baz=229	**1.74**	**230**	P	**Pb**	**11 59 09.2**	**-0.6**
CHN1				S	**Sb**	**11 59 32.2**	**+0.8**
	baz=229						
WSF	**Szhu** baz=246	**1.74**	**248**	S	**Sb**	**11 59 31.7**	**+0.3**
SGST	**Jiashian** baz=212	**1.77**	**226**	P	**Pn**	**11 59 08.7**	**+0.5**
SGST				*i* S	**Sb**	**11 59 32.2**	**-0.1**
	baz=212						
WSL	**Shuilin Townsh** baz=243	**1.78**	**244**	*e*P	**Pn**	**11 59 08.2**	**-0.2**
WSL				*e*S	**Sb**	**11 59 32.6**	**0.0**
	baz=243						
ICHU	**Yijhu** baz=222	**1.82**	**239**	*e*S	**Sb**	**11 59 34.1**	**+0.4**
JKRS	**Kuro-shima**	**1.86**	**92**	*e*P	**Pn**	**11 59 09.4**	**-0.1**
CHN8	**Yiju** baz=224	**1.88**	**240**	*e*S	**Sb**	**11 59 36.0**	**+0.6**
CHN3	**Shinhua** baz=229	**1.92**	**231**	S	**Sb**	**11 59 38.7**	**+2.1**
SCST	**Cishan** baz=223	**1.96**	**224**	*e*P	**Pn**	**11 59 12.4**	**+1.5**
SCST				*e*S	**Sb**	**11 59 39.4**	**+1.5**
	baz=223						
JIJ	**Ishigaki jima**	**1.98**	**88**	P	**Pn**	**11 59 11.0**	**-0.1**
JIJ				*e*S	**Sn**	**11 59 35.8**	**+0.4**
SSD	**Sandimen** baz=217	**1.99**	**219**	*i* P	**Pb**	**11 59 13.1**	**-1.1**
SSD				*i* S	**Sb**	**11 59 37.9**	**-0.6**
	baz=217						
TSMG	**Majia** baz=216	**2.01**	**218**	*e*P	**Pn**	**11 59 13.2**	**+1.6**
TSMG				*e*S	**Sb**	**11 59 39.5**	**+0.2**
	baz=216						
TSCK	**Chigu Township** baz=221	**2.08**	**237**	*e*P	**Pb**	**11 59 15.1**	**-0.6**
TSCK				*e*S	**Sn**	**11 59 39.2**	**+1.2**
	baz=221						
MASBT	**Mashibuluo** baz=215	**2.09**	**216**	P	**Pn**	**11 59 14.5**	**+1.8**
MASBT				S	**Sn**	**11 59 40.1**	**+1.9**
	baz=215						
EAST	**Anshuo** baz=198	**2.18**	**209**	*e*P	**Pn**	**11 59 14.1**	**+0.2**
EAST				*e*S	**Sn**	**11 59 38.6**	**-1.9**
	baz=198						
TAWH	**Dawu Township** baz=206	**2.20**	**207**	*e*S	**Sn**	**11 59 38.5**	**-2.5**
SCZT	**Fangliau** baz=200	**2.30**	**213**	P	**Pn**	**11 59 16.9**	**+1.4**
SCZT				S	**Sb**	**11 59 46.4**	**-1.1**
	baz=200						
PNG	**Penghu** baz=250	**2.33**	**252**	P	**Pn**	**11 59 15.0**	**-1.0**
PNG				S	**Sn**	**11 59 44.0**	**-0.2**
	baz=250						
PHUB	**P'eng-hu** baz=249	**2.34**	**251**	*e*P	**Pn**	**11 59 15.9**	**-0.1**
PHUB				*e*S	**Sn**	**11 59 43.3**	**-1.0**
	baz=249						
WDGT	**Dungji** baz=243	**2.36**	**244**	P	**Pn**	**11 59 16.5**	**+0.1**
WDGT				S	**Sn**	**11 59 46.0**	**+1.1**
	baz=243						
JTJ	**Tarama**	**2.51**	**82**	*e*P	**Pn**	**11 59 18.8**	**+0.4**
MATB	**Ma-tsu** baz=313	**2.59**	**315**	*e*P	**Pn**	**11 59 20.2**	**+0.7**
MHZQ	**Yeshan** baz=300	**3.21**	**304**	*e*P	**Pn**	**11 59 26.7**	**-1.3**

BJI ***08*** *12:13:48.1±0.0, 44°.49N×149°.57E, h34km, mb4.8/60, mB4.7/40, Ms4.5/55, Ms7 4.2/54*
JMA ***08*** *12:13:50.4±0.9, 45°N±3°×14°9E±°, h30km, MD4.9/15, MV5.4/15, SE OFF ETOROFU*
NIED ***08*** *12:13:50.4, 44°.75N×149°.19E, h30km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr=0.78; Mθθ=2.05; Mϕϕ=-1.27; Mrθ=0.34; Mθϕ=0.05; Mϕr=1.62; Fault plane solution: M0=2.39000×10^16 NP1: ϕs=125.00000°, δ=54.00000°, λ=-25.00000°. NP2: ϕs=230.00000°, δ=70.00000°, λ=-142.00000°.*
MOS ***08*** *12:13:51.5±1.1, 44°.51N×149°.13E, h42km, mb5.3/40, MS4.4/11 Error ellipse: s-maj=5.9km s-min=4.6km az=107.6*
MOS Felt (II) at Kuril'sk.
SKHL ***08*** *12:13:52.0±0.3, 44°.40N×149°.20E, h47km±3km, mb5.4/11, mbv5.1/2, ms4.2/8*
IDC ***08*** *12:13:53.6±0.4, 44°.55N×149°.05E, h45km±4km, mb4.6/45, mbtmp4.8/50, MS4.0/75, Error ellipse: s-maj=10.7km s-min=8.3km az=152.0*
NEIC ***08*** *12:13:53.6±2.0, 44°.48N±0°.08×149°.16E±0°.07, h44km±4km, mb5.2/591, Error ellipse: s-maj=11.3km s-min=7.6km az=171.0*
GCMT ***08*** *12:13:54.6±0.3, 44°.50N±0°.02×149°.21E±0°.03, h38km±1km, MW4.9/93, Moment Tensor Solution. s18, c19; s93, c125; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.43±.23;*

$M_{\theta\theta}$3.03±.15; $M_{\phi\phi}$-1.60±.13; $M_{r\theta}$-0.44±.12; $M_{\theta\phi}$-0.11±.08; M_{rr}1.48±.11; Best double couple: $M_0$3.04700×10^{16} NP1:ϕ_s127.00000°,δ66.00000°,λ-39.00000°. NP2: ϕ_s235.00000°,δ55.00000°,λ-150.00000°. Principal axes: T 3.0880, Plg7.0000°, Azm183.0000°; N -0.0830, Plg46.0000°, Azm280.0000°; P -3.0060, Plg44.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 08 12:13:51.1±0.3,**44°49N**±0'.04×**149°12E**±0'.03,**h27**km±1km, **h27**km:**pP-P,n1234,**σ1s**34**/1031,**mb5.2**/387,**MS4.1**/97, **35C-20D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.16**	**310**	*d*	*i*PN	**Pb**	**12 14 12.2**	**-0.3**
KUR					*i* S	**Sn**	**12 14 26.7**	**+0.2**
KUR	comp=N,3μm,0.4s				pmax	pmax		
KUR	comp=E,741nm,0.4s				pmax	pmax		
KUR	comp=Z,8μm,0.4s				pmax	pmax		
KUR	comp=N,60μm,0.5s				smax	smax		
KUR	comp=E,18μm,0.5s				smax	smax		
KUR	**Kuril'sk**	**1.16**	**310**	*i*	P	**Pb**	**12 14 12.2**	**-0.3**
KUR	comp=E,8μm,0.4s				AMB	AMB	12 14 13.0	
KUR				*i*	S	**Sn**	**12 14 26.8**	**+0.2**
KUR	comp=E,6μm,0.5s				A	A	12 14 30.3	
KUR	comp=E,18μm,0.5s				A	A	12 14 30.3	
YUK	**Yuzh-Kuril'sk**	**2.39**	**260**	*e*	PN	**Pn**	**12 14 29.3**	**+0.9**
YUK				*e*	S	**Sn**	**12 14 57.5**	**+0.8**
YUK	comp=N,586nm,0.2s				pmax	pmax		
YUK	comp=E,364nm,0.2s				pmax	pmax		
YUK	comp=Z,3μm,0.2s				pmax	pmax		
YUK	comp=N,3μm,0.3s				smax	smax		
YUK	comp=E,6μm,0.4s				smax	smax		
YUK	comp=Z,3μm,12.0s				MLR	MLR		
YUK	comp=E,2μm,9.0s				MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**2.39**	**260**	*e*	P	**Pn**	**12 14 29.3**	**+0.9**
YUK	comp=E,3μm,0.2s				AMB	AMB	12 14 34.1	
YUK				*e*	S	**Sn**	**12 14 57.5**	**+0.8**
YUK	comp=E,3μm,0.4s				A	A	12 15 06.3	
YUK	comp=E,6μm,0.4s				A	A	12 15 06.3	
YUK	comp=E,2μm,12.0s				AMS	AMS	12 15 28.0	
YUK	comp=E,3μm,12.0s				AMS	AMS	12 15 28.0	
NEM2	**Nemuro 2**	**2.69**	**246**	*e*	P	**Pn**	**12 14 32.6**	**+0.1**
NEM2				*e*	S	**Sn**	**12 15 04.3**	**+0.2**
NMR	**Nemuro--Hokkai**	**2.70**	**247**	*e*	PN	**Pn**	**12 14 32.7**	**+0.1**
NMR				*e*	S	**Sn**	**12 15 05.5**	**+1.1**
NMR	**Nemuro--Hokkai**	**2.70**	**247**	*e*	P	**Pn**	**12 14 32.7**	**+0.1**
NMR				*e*	S	**Sn**	**12 15 05.5**	**+1.1**
RUSJ	**Misakicho**	**2.81**	**263**	*e*	PN	**Pn**	**12 14 35.4**	**+1.2**
RUSJ				*e*	S	**Sn**	**12 15 07.0**	**-0.2**
JRA	**Rausu**	**2.93**	**261**	*e*	P	**Pn**	**12 14 37.5**	**+1.6**
JRA	**Rausu**	**2.93**	**261**		A	A	12 14 37.5	
JNSB	**Nemuroshibetsu**	**3.05**	**258**	comp=E,6.0nm,0.8s,comp=E,9.0nm,1.6s	A	A	12 14 37.1	
JKHN	**Kushirohamanak**	**3.20**	**245**	comp=E,12nm,1.3s,comp=E,9.0nm,2.7s	A	A	12 14 39.8	
JNK	**Nakash**	**3.30**	**256**	comp=E,6.0nm,1.0s,comp=E,8.0nm,3.6s	P	**Pn**	**12 14 41.8**	**+0.8**
JAK	**Akkeshi**	**3.54**	**247**	*e*	P	**Pn**	**12 14 44.4**	**+0.2**
JAK				*e*	S	**Sn**	**12 15 24.8**	**-0.4**
JAK	**Akkeshi**	**3.54**	**247**		A	A	12 14 44.4	
JTKR	**Abashiri--Toko**	**3.78**	**264**	comp=E,6.0nm,0.9s,comp=E,7.0nm,3.3s	eP	**Pn**	**12 14 49.6**	**+2.0**
JAR	**Ashorobuto**	**4.05**	**255**	*e*	P	**Pn**	**12 14 53.4**	**+2.2**
JAR	**Ashorobuto**	**4.05**	**255**		A	A	12 14 53.4	
JOB	**Onbets**	**4.15**	**249**	comp=E,3.0nm,2.0s,comp=E,3.0nm,0.7s	eP	**Pn**	**12 14 53.8**	**+1.2**
JCH	**Churui**	**4.59**	**248**	*e*	P	**Pn**	**12 14 59.7**	**+1.1**
JCH				*e*	S	**Sn**	**12 15 51.0**	**0.0**
JCH	**Churui**	**4.59**	**248**	comp=E,3.0nm,1.7s,comp=E,6.0nm,0.7s	A	A	12 14 59.7	
JKK2	**Kamakawa 2**	**4.63**	**265**	*e*	P	**Pn**	**12 15 02.4**	**+3.2**
ERM	**Erimo**	**5.01**	**242**		Pn	**Pn**	**12 15 07.0**	**+2.6**
ERM	**Erimo**	**5.01**	**242**		PN	**Pn**	**12 15 07.7**	**+3.3**
ERM	**Erimo**	**5.01**	**242**		P	**Pn**	**12 15 07.2**	**+2.8**
JAB	**Ashibetsu**	**5.08**	**261**	*e*	P	**Pn**	**12 15 09.3**	**+4.0**
JAB	**Ashibetsu**	**5.08**	**261**		A	A	12 15 09.3	
YSS	**Yuzh-Sakhalins**	**5.09**	**301**	comp=E,3.0nm,3.2s,comp=E,3.0nm,2.6s	Pn	**Pn**	**12 15 07.3**	**+1.7**
YSS	**Yuzh-Sakhalins**	**5.09**	**301**	⇑*e*	PN	**Pn**	**12 15 08.1**	**+2.5**
YSS				*e*	S	**Sn**	**12 16 04.7**	**+1.2**
YSS	comp=Z,170nm,0.5s				pmax	pmax		
YSS	comp=N,410nm,0.9s				smax	smax		
YSS	comp=E,360nm,0.7s				smax	smax		
YSS	comp=Z,3μm,16.0s				MLR	MLR		
YSS	comp=E,2μm,17.0s				MLR	MLR		
YSS	**Yuzh-Sakhalins**	**5.09**	**301**		P	**Pn**	**12 15 08.3**	**+2.7**
YSS	**Yuzh-Sakhalins**	**5.09**	**301**	*e*	P	**Pn**	**12 15 08.1**	**+2.5**
YSS	comp=E,170nm,0.5s				AMB	AMB	12 15 15.5	
YSS					*e*S	**Sn**	**12 16 04.7**	**+1.2**
YSS	comp=E,410nm,0.8s				A	A	12 16 08.5	
YSS	comp=E,360nm,0.8s				A	A	12 16 08.5	
YSS	comp=E,2μm,16.0s				AMS	AMS	12 17 00.0	
YSS	comp=E,3μm,16.0s				AMS	AMS	12 17 00.0	
JNBK	**Urakawa-nobuka**	**5.14**	**247**	*e*	P	**Pn**	**12 15 07.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**5.14**	**247**		A	A	12 15 07.4	
JIAM	**Iburiatsuma**	**5.56**	**253**	comp=E,27nm,1.3s,comp=E,12nm,0.8s	A	A	12 15 11.9	
JISS	**Ishikarishitsu**	**5.70**	**260**	comp=E,8.0nm,1.0s,comp=E,14nm,1.2s	A	A	12 15 13.4	
JEW	**Eniwo**	**5.80**	**256**	comp=E,8.0nm,3.9s,comp=E,6.0nm,3.1s	Pn	**Pn**	**12 15 19.5**	**+4.1**
JKB	**Kayabe**	**6.46**	**249**		A	A	12 15 24.5	
JAHD	**Aomorihigashid**	**6.56**	**243**	comp=E,6.0nm,2.6s,comp=E,6.0nm,1.5s	A	A	12 15 26.2	
UGL	**Uglegorsk**	**6.67**	**316**	comp=E,11nm,1.3s,comp=E,11nm,1.8s	ePN	**Pn**	**12 15 29.7**	**+2.5**
UGL	comp=Z,110nm,0.8s				pmax	pmax		
UGL	comp=E,2μm,14.0s				MLR	MLR		
UGL	comp=N,2μm,20.0s				MLR	MLR		
UGL	comp=Z,2μm,19.0s				MLR	MLR		
UGL	**Uglegorsk**	**6.67**	**316**	*e*	P	**Pn**	**12 15 30.9**	**+3.7**
UGL	comp=Z,110nm,0.8s				AMB	AMB	12 15 34.7	
UGL				*e*	S	**Sn**	**12 16 43.1**	**+0.8**
UGL	comp=Z,180nm,0.9s				A	A	12 16 46.0	
UGL	comp=Z,90nm,0.9s				A	A	12 16 46.0	
UGL	comp=Z,2μm,16.0s				AMS	AMS	12 18 06.0	
UGL	comp=Z,2μm,16.0s				AMS	AMS	12 18 06.0	
UGL	comp=Z,2μm,16.0s				AMS	AMS	12 18 06.0	
JOT	**Ohata**	**6.69**	**245**	comp=Z,3.0nm,1.9s,comp=Z,3.0nm,1.8s	A	A	12 15 27.9	
JANG	**Nango**	**6.97**	**236**	*e*	P	**Pn**	**12 15 31.0**	**-0.4**
JANG				*e*	S	**Sn**	**12 16 43.6**	**-6.1**
JTM	**Tenmabayashi**	**7.00**	**241**		Pn	**Pn**	**12 15 33.3**	**+1.6**
JTH	**Tanohata**	**7.05**	**232**	*e*	P	**Pn**	**12 15 31.1**	**-1.4**
JTH				*e*	S	**Sn**	**12 16 44.1**	**-7.6**
TYV	**Tymovskoe**	**7.72**	**328**	*e*	PN	**Pn**	**12 15 44.6**	**+2.9**
TYV	comp=Z,200nm,2.3s				pmax	pmax		
TYV	comp=Z,84nm,0.7s				pmax	pmax		
TYV	**Tymovskoe**	**7.72**	**328**	*e*	P	**Pn**	**12 15 44.6**	**+2.9**
TYV	comp=Z,200nm,2.3s				AMB	AMB	12 15 48.7	
TYV	comp=Z,80nm,0.7s				AMB	AMB	12 15 51.0	
TYV				*e*	S	**Sn**	**12 17 09.0**	**+0.8**
TYV	comp=Z,20nm,1.0s				A	A	12 17 11.3	
TYV	comp=Z,20nm,1.0s				A	A	12 17 11.3	
TYV	comp=Z,2μm,18.0s				AMS	AMS	12 18 06.0	
TYV	comp=Z,2μm,18.0s				AMS	AMS	12 18 06.0	
TYV	comp=Z,2μm,18.0s				AMS	AMS	12 18 06.0	
SKR	**Severo-Kuril's**	**7.79**	**35**	*e*	PN	**Pn**	**12 15 44.2**	**+1.6**
SKR	comp=Z,191nm,0.7s				pmax	pmax		
SKR	comp=Z,100nm,3.2s				pmax	pmax		
SKR	comp=Z,700nm,15.0s				MLR	MLR		
SKR	**Severo-Kuril's**	**7.79**	**35**	*e*	P	**Pn**	**12 15 44.2**	**+1.6**
SKR	comp=Z,190nm,0.7s				AMB	AMB	12 15 45.4	
SKR	comp=Z,100nm,3.2s				AMB	AMB	12 15 47.8	
SKR				*e*	S	**Sn**	**12 17 06.6**	**-3.2**
SKR	comp=Z,90nm,0.9s				A	A	12 17 09.0	
SKR	comp=Z,110nm,0.9s				A	A	12 17 09.0	
SKR	comp=Z,700nm,15.0s				AMS	AMS	12 19 08.2	
PAU	**Pauzhetka**	**8.68**	**34**	*e*	P	**Pn**	**12 15 56.6**	**+1.9**
PAU	comp=Z,180nm,0.7s				AMB	AMB	12 16 04.2	
PAU				*e*	S	**Sn**	**12 17 30.9**	**-0.6**
PAU	comp=Z,210nm,0.7s				A	A	12 17 50.7	
PAU	comp=Z,180nm,0.7s				A	A	12 17 50.7	
TEY	**Ternei**	**8.93**	**278**	⇑*e*	PN	Pn	12 16 05.5	+7.3
TEY	comp=N,20nm,0.9s				pmax	pmax		
TEY	comp=E,70nm,0.9s				pmax	pmax		
TEY	comp=Z,60nm,0.9s				pmax	pmax		
TEY	comp=E,100nm,14.0s				MLR	MLR		
TEY	comp=Z,100nm,15.0s				MLR	MLR		
TEY	**Ternei**	**8.93**	**278**	*e*	P	**Pn**	**12 16 01.5**	**+3.3**
TEY	comp=Z,60nm,0.9s				AMB	AMB	12 16 06.7	
TEY				*e*rx		rx	12 19 45.0	
OKH	**Okha**	**9.93**	**338**	*e*	P	**Pn**	**12 16 15.0**	**+3.1**
OKH	comp=Z,100nm,0.3s				AMB	AMB	12 16 19.8	
OKH	comp=Z,600nm,15.0s				AMS	AMS	12 21 47.7	
OKH	comp=Z,200nm,15.0s				AMS	AMS	12 21 47.7	
OKH	comp=Z,400nm,15.0s				AMS	AMS	12 21 47.7	
PEA0B	**Petropavlovsk-**	**10.31**	**30**		Pn	**Pn**	**12 16 18.5**	**+1.5**
PEA0B	**Petropavlovsk-**	**10.31**	**30**	*ce*	PN	**Pn**	**12 16 18.2**	**+1.1**
PETK	**Petropavlovsk-**	**10.31**	**30**		P	**Pn**	**12 16 18.8**	**+1.8**
PETK	comp=Z,27nm,0.5s,baz=213,slow=15,SNR=47				LR	LR	12 20 05.4	
PETK	**Petropavlovsk-**	**10.31**	**30**		Pn	**Pn**	**12 16 18.3**	**+1.2**
PETK	**Petropavlovsk-**	**10.31**	**30**		PN	**Pn**	**12 16 18.3**	**+1.2**
JSD	**Sado**	**10.41**	**235**		Pn	**Pn**	**12 16 18.1**	**-0.3**
PET	**Petropavlovsk**	**10.60**	**33**		Pn	**Pn**	**12 16 21.2**	**+0.2**
PET	**Petropavlovsk**	**10.60**	**33**	*i*	PN	**Pn**	**12 16 21.2**	**+0.2**
PET	**Petropavlovsk**	**10.60**	**33**		P	**Pn**	**12 16 21.5**	**+0.5**
PET	comp=Z,150nm,0.6s **Petropavlovsk**	**10.60**	**33**	*e*	P	**Pn**	**12 16 22.2**	**+1.2**
PET	comp=Z,60nm,0.9s				AMB	AMB	12 16 29.2	
PET				*e*	S	**Sn**	**12 18 15.8**	**-2.9**
PET	comp=Z,2μm,16.0s				AMS	AMS	12 20 45.8	
PET	comp=Z,2μm,16.0s				AMS	AMS	12 20 45.8	
GRNR	**Gornyy**	**10.62**	**311**	⇓*i*	PN	**Pn**	**12 16 26.1**	**+4.7**
GRNR				*e*	S	Sn	12 18 29.4	+10
GRNR	comp=E,6.0nm,0.7s				pmax	pmax		
GRNR	comp=N,5.0nm,0.6s				pmax	pmax		
GRNR	comp=Z,4.0nm,0.7s				pmax	pmax		
GRNR	comp=N,4.0nm,0.5s				smax	smax		
GRNR	comp=N,370nm,16.0s				MLR	MLR		
GRNR	comp=E,460nm,16.0s				MLR	MLR		
GRNR	comp=Z,620nm,14.0s				MLR	MLR		
GRNR	**Gornyy**	**10.62**	**311**	*e*	P	**Pn**	**12 16 26.1**	**+4.7**
GRNR	comp=Z,10.0nm,0.7s				AMB	AMB	12 16 27.6	
GRNR	comp=Z,370nm,15.0s				AMS	AMS	12 20 33.0	
GRNR	comp=Z,460nm,15.0s				AMS	AMS	12 20 33.0	
GRNR	comp=Z,620nm,15.0s				AMS	AMS	12 20 33.0	
JYT	**Yasato**	**10.70**	**223**		Pn	**Pn**	**12 16 21.3**	**-1.1**
MAJO	**Matsushiro**	**11.48**	**230**		Pn	**Pn**	**12 16 33.0**	**-0.2**
MAJO	**Matsushiro**	**11.48**	**230**		PN	**Pn**	**12 16 33.0**	**-0.2**
MAJO	**Matsushiro**	**11.48**	**230**		P	**Pn**	**12 16 34.4**	**+1.2**
MJAR	**Matsushiro Arr**	**11.48**	**230**		P	**Pn**	**12 16 31.4**	**-1.8**
USA0B	comp=Z,10nm,0.5s,baz=30,slow=14,SNR=30 **Ussuriysk Arra**	**12.28**	**275**		Pn	**Pn**	**12 16 44.8**	**+0.8**
USA0B	**Ussuriysk Arra**	**12.28**	**275**		PN	**Pn**	**12 16 44.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**12.28**	**275**		P	**Pn**	**12 16 47.8**	**+3.9**
USRK	comp=Z,36nm,0.8s,baz=86,slow=13,SNR=43				LR	LR	12 21 29.1	
USRK	comp=Z,476nm,18.4s,baz=164,slow=37 **Ussuriysk Ar.**	**12.28**	**275**			**Pn**	**12 16 47.4**	**+3.4**
USRK	**Ussuriysk Ar.**	**12.28**	**275**		PN	**Pn**	**12 16 47.4**	**+3.4**
KLR	**Kul'dur**	**12.79**	**298**		P	Pn	12 16 55.9	+4.9
KLR	comp=Z,8.3nm,0.8s,baz=103,slow=15,SNR=18				LR	LR	12 22 13.6	
KLR	comp=Z,1μm,18.2s,baz=115,slow=39 **Kul'dur**	**12.79**	**298**	*ce*	PN	**P**	**12 16 57.3**	**-4.5**
KLR	comp=Z,24nm,1.5s				pmax	pmax		
KLR	**Kul'dur**	**12.79**	**298**	*e*	P	**Pn**	**12 16 52.7**	**+1.6**
INU	**Inuyama**	**13.01**	**230**		Pn	**Pn**	**12 16 55.2**	**+1.1**
INU	**Inuyama**	**13.01**	**230**		P	**Pn**	**12 16 57.0**	**+2.9**
MDJ	comp=Z,28nm,1.6s **Mudanjiang**	**13.93**	**277**			**Pn**	**12 17 08.6**	**+2.0**
MDJ	**Mudanjiang**	**13.93**	**277**		P	**Pn**	**12 17 07.7**	**+1.1**
MDJ					pP	P	12 17 14.5	+0.1
MDJ					sP		12 17 19.8	
MDJ					S	**Sn**	**12 19 42.5**	**+2.2**
MDJ					sS	S	12 19 54.2	-7.4
MDJ					ScP	**ScP**	**12 25 59.5**	**+0.8**
MDJ					PcS	**PcS**	**12 26 02.8**	**+1.0**
MDJ	comp=Z,16nm,1.7s				pmax	pmax		
MDJ	comp=Z,350nm,3.5s				pmax	pmax		
MDJ	comp=Z,650nm,11.5s				LR	LR		
MDJ	comp=Z,750nm,16.3s				LR	LR		
MDJ	comp=Z,1μm,17.7s				LR	LR		
MA2	**Magadan**	**15.14**	**3**		P	**Pn**	**12 17 24.0**	**+1.1**
MA2	comp=Z,28nm,0.6s,baz=180,slow=14,SNR=21				LR	LR	12 23 32.0	
MA2	comp=Z,348nm,18.2s,baz=192,slow=38 **Magadan**	**15.14**	**3**			**Pn**	**12 17 24.0**	**+1.1**
MA2	**Magadan**	**15.14**	**3**	*i*	P	**Pn**	**12 17 23.9**	**+1.0**
MA2	comp=Z,32nm,0.6s				pmax	pmax		
MA2	**Magadan**	**15.14**	**3**		P	**Pn**	**12 17 24.7**	**+1.8**
MA2	**Magadan**	**15.14**	**3**	*e*	P	**Pn**	**12 17 23.9**	**+1.0**
BNX	**BinXian**	**15.38**	**282**	⇓	P	**P**	**12 17 29.2**	**-1.3**
BNX					pP	**pP**	**12 17 32.4**	**-5.0**
BNX					sP	**sP**	**12 17 36.0**	**-4.7**
BNX					S	**S**	**12 20 25.0**	**-6.2**
BNX					sS	**sS**	**12 20 36.0**	**-6.1**
BNX	comp=Z,15nm,0.6s				pmax	pmax		
BNX	comp=Z,200nm,5.2s				pmax	pmax		
BNX	comp=Z,290nm,13.0s				LR	LR		
BNX	comp=Z,930nm,15.5s				LR	LR		
BNX	comp=Z,1μm,15.5s				LR	LR		
JHS	**Saijyo**	**15.51**	**238**		Pn	**Pn**	**12 17 28.2**	**+0.3**
SEHB	**SEOHWA**	**16.83**	**256**			**Pn**	**12 17 44.4**	**-0.4**
ZEA	**Zeya**	**16.99**	**311**	*e*	P	**P**	**12 17 49.4**	**+1.1**
ZEA	comp=E,10.0nm,0.9s				pmax	pmax		
ZEA	comp=N,20nm,0.8s				pmax	pmax		
ZEA	comp=Z,20nm,1.1s				pmax	pmax		
ZEA	comp=Z,400nm,16.0s				MLR	MLR		
ZEA	**Zeya**	**16.99**	**311**	*e*	P	**Pn**	**12 17 43.7**	**-2.9**
ZEA	comp=Z,20nm,0.9s				AMB	AMB	12 17 53.7	
ZEA	comp=Z,300nm,16.0s				AMS	AMS	12 24 34.0	
ZEA	comp=Z,400nm,16.0s				AMS	AMS	12 24 34.0	
CN2	**Changchun**	**17.00**	**276**	*e*	P	**P**	**12 17 48.7**	**+0.2**
CN2					S	**Sn**	**12 20 59.4**	**+4.6**
CN2	comp=E,10.0nm,0.6s				pmax	pmax		
CN2	comp=Z,100nm,8.3s				pmax	pmax		
CN2	comp=Z,500nm,14.0s				LR	LR		
CN2	comp=Z,400nm,14.0s				LR	LR		
CN2	comp=Z,500nm,14.0s				LR	LR		
KSRS	**Korea Array**	**17.46**	**254**		P	**Pn**	**12 17 51.7**	**-0.8**
KSRS	comp=Z,6.5nm,0.8s,baz=60,slow=12,SNR=18				LR	LR	12 24 48.2	
KS19	comp=Z,717nm,18.0s,baz=60,slow=38 **Wonju Array Si**	**17.47**	**254**		P	**Pn**	**12 17 53.0**	**+0.3**
KSAR	**Wonju Array Be**	**17.49**	**254**		P	**Pn**	**12 17 52.8**	**-0.2**
KSAR	**Wonju Array Be**	**17.49**	**254**		P	**Pn**	**12 17 52.8**	**-0.2**
SHEM	**Shemya Is, Ala**	**18.39**	**55**		P	**P**	**12 18 03.6**	**-0.1**
SHEM	comp=Z,88nm,0.7s,baz=277,slow=8.1,SNR=6.8				LR	LR	12 24 40.0	
SMY	comp=Z,291nm,21.3s,baz=252,slow=35 **Shemya**	**18.39**	**55**		P	**Pn**	**12 18 05.8**	**+2.0**
SMY					IAmb	IAmb	12 18 13.6	
SMY	comp=Z,94nm,0.7s **Shemya**	**18.39**	**55**		P	**Pn**	**12 18 05.8**	**+2.0**
SMY	comp=Z,95nm,0.7s				pmax	pmax		
TJN	**Taejon**	**18.40**	**251**		IAmb	IAmb	12 18 09.4	
SEY	comp=Z,117nm,1.0s **Seymchan**	**18.57**	**5**		P	**P**	**12 18 04.8**	**-0.8**
SNY	comp=Z,46nm,0.9s,baz=181,slow=7.8,SNR=64 **Shenyang**	**18.80**	**271**	⇑	P	**Pn**	**12 18 12.1**	**+3.1**
SNY					S	**S**	**12 21 42.8**	**+2.3**
SNY	comp=Z,23nm,0.8s				pmax	pmax		
SNY	comp=Z,160nm,4.6s				pmax	pmax		
SNY	comp=Z,410nm,13.2s				LR	LR		
SNY	comp=Z,530nm,16.3s				LR	LR		
SNY	comp=Z,880nm,21.2s				LR	LR		
YAK	**Yakutsk**	**20.92**	**334**		P	**P**	**12 18 31.0**	**-0.2**
YAK	comp=Z,11nm,0.4s,baz=131,slow=5.3,SNR=6.4				LR	LR	12 27 02.7	
YAK	comp=Z,588nm,19.5s,baz=92,slow=38							
YAK	comp=Z,11nm,0.4s **Yakutsk**	**20.92**	**334**		P	**P**	**12 18 30.4**	**-0.9**
YAK	**Yakutsk**	**20.92**	**334**	*e*	P	**P**	**12 18 31.6**	**+0.4**
YAK				*e*			12 18 48.6	
YAK				*e*	S	**S**	**12 22 24.5**	**+1.7**
YAK				*e*			12 22 38.2	
YAK				*e*	SSS	SSS	12 22 57.3	
YAK				*e*			12 29 54.8	
YAK	comp=Z,243nm,1.3s				pmax	pmax		
YAK	comp=N,125nm,1.1s				pmax	pmax		
YAK	comp=E,85nm,1.2s				pmax	pmax		
YAK	comp=Z,49nm,0.8s				pmax	pmax		
YAK	comp=N,15nm,0.9s				pmax	pmax		
YAK	comp=E,34nm,1.1s				smax	smax		
YAK	comp=E,98nm,2.0s				smax	smax		
YAK	comp=N,124nm,1.9s				MLR	MLR		
YAK	comp=Z,576nm,19.0s				MLR	MLR		
YAK	comp=N,281nm,20.0s				MLR	MLR		
YAK	comp=E,253nm,16.0s				MLR	MLR		
YAK	**Yakutsk**	**20.92**	**334**	*e*	P	**P**	**12 18 31.6**	**+0.4**
AMKA	**Amchitka**	**21.25**	**60**		P	**P**	**12 18 35.1**	**+0.2**
KIWB	**Kanaga Island**	**23.50**	**60**		P	**P**	**12 18 58.5**	**-0.1**
XLT	**XiLinHaoTe**	**23.61**	**280**	⇓*i*	P	**P**	**12 19 01.1**	**+1.3**
XLT					pP	pwP	12 19 09.1	0.0
XLT					S	**S**	**12 23 18.2**	**+5.6**
XLT					sS	sS	12 23 26.1	+1.1
XLT	comp=E,21nm,0.6s				pmax	pmax		
XLT	comp=E,80nm,6.3s				pmax	pmax		
XLT	comp=E,490nm,13.5s				LR	LR		
XLT	comp=E,650nm,13.9s				LR	LR		
ADK	**Adak**	**23.80**	**60**		P	**P**	**12 19 00.9**	**-0.4**
ADK	**Adak**	**23.80**	**60**		P	**P**	**12 19 00.9**	**-0.4**
ADK	comp=Z,50nm,1.1s				pmax	pmax		
ADK	**Adak**	**23.80**	**60**		P	**P**	**12 19 03.4**	**+2.1**
GSTR	**Great Sitkin T**	**24.20**	**59**		P	**P**	**12 19 05.5**	**+0.3**
JOW	**Kunigami**	**24.33**	**231**		LR	LR	12 29 14.8	
BJI	comp=Z,316nm,21.0s,baz=354,slow=38 **Beijing**	**24.69**	**271**		P	**P**	**12 19 11.7**	**+2.1**
BJI					pP	**pwP**	**12 19 20.0**	**-0.3**
BJI					sP	**sP**	**12 19 22.7**	**+3.3**
BJI	comp=Z,8.0nm,0.6s				pmax	pmax		
BJI	comp=Z,75nm,15.4s				LR	LR		
BJI	comp=Z,340nm,18.5s				LR	LR		
BJI	comp=Z,650nm,20.6s				LR	LR		
BJT	**Baijiatuau**	**24.70**	**271**		P	**P**	**12 19 10.1**	**+0.3**
BJT	**Baijiatuau**	**24.70**	**271**		P	**P**	**12 19 10.1**	**+0.3**
BJT	comp=Z,11nm,0.6s				pmax	pmax		
BILL	**Bilibino**	**25.27**	**15**		P	**P**	**12 19 13.9**	**-0.7**
BILL	**Bilibino**	**25.27**	**15**	*c*	P	**P**	**12 19 12.4**	**-2.2**
BILL				*e*	PPP	PPP	12 19 59.2	
BILL				*e*			12 22 47.6	
BILL	comp=Z,6.0nm,0.5s				pmax	pmax		
BILL	comp=Z,411nm,15.0s				MLR	MLR		
BOD	**Bodaibo**	**25.41**	**314**	*e*	P	**P**	**12 19 14.1**	**-1.9**

BOD					pmax	pmax					
	comp=Z,21nm,1.7s										
HNS	**HongShan**	**26.80**	**267**	⇑P	**P**	**12 19 32.3 +3.5**					
HNS				S	**S**	**12 24 08.3 +5.1**					
HNS				SS	SnSn	12 25 24.4 +16					
HNS				pmax	pmax						
	comp=Z,26nm,1.0s										
HNS				LR	LR						
	comp=Z,280nm,14.8s										
HNS				LR	LR						
	comp=Z,150nm,13.6s										
HNS				LR	LR						
	comp=Z,240nm,16.9s										
HHC	**Hu-ho-hao-te**	**27.69**	**276**	*e*P	**P**	**12 19 38.0 +1.0**					
HHC				S	**S**	**12 24 25.7 +8.2**					
HHC				pmax	pmax						
	comp=Z,32nm,0.7s										
HHC				pmax	pmax						
	comp=Z,200nm,5.4s										
HHC				LR	LR						
	comp=Z,620nm,14.0s										
HHC				LR	LR						
	comp=Z,1µm,14.9s										
HHC				LR	LR						
	comp=Z,1µm,15.7s										
NIKH	**Nikolski High**	**28.63**	**58**	P	**P**	**12 19 45.6 +0.6**					
	baz=270										
H11N2	**WAKE ISLAND Hy**	**28.79**	**143**	T	T	12 50 39.0					
	baz=334,slow=76,SNR=4622										
H11N1	**WAKE ISLAND Hy**	**28.80**	**143**	T	T	12 50 37.5					
	baz=334,slow=76,SNR=2666										
H11N3	**WAKE ISLAND Hy**	**28.80**	**143**	T	T	12 50 40.3					
	baz=334,slow=76,SNR=2779										
BTO	**Baotou**	**28.88**	**276**	*e*P	**P**	**12 19 47.9 +0.4**					
BTO				S	**S**	**12 24 37.9 +1.8**					
BTO				LR	LR						
	comp=Z,790nm,13.1s										
BTO				LR	LR						
	comp=Z,2µm,16.6s										
TIXI	**Tiksi**	**28.94**	**347**	P	**P**	**12 19 44.3 -3.3**					
	comp=Z,3.7nm,0.4s,baz=90,slow=20,SNR=6.1										
TIXI				LR	LR	12 32 13.4					
	comp=Z,217nm,18.2s,baz=180,slow=38										
ULN	**Ulaanbaatar**	**29.06**	**292**	P	**P**	**12 19 49.7 +0.6**					
ULN	**Ulaanbaatar**	**29.06**	**292**	*ce*P	**P**	**12 19 50.1 +1.0**					
ULN				pmax	pmax						
	comp=Z,2.0nm,0.6s										
ULN	**Ulaanbaatar**	**29.06**	**292**	*e*P	**P**	**12 19 50.1 +1.0**					
SONM	**Songino Array**	**29.51**	**292**	P	**P**	**12 19 53.2 +0.2**					
	comp=Z,2.2nm,0.5s,baz=79,slow=8.4,SNR=9.2										
SONM				PcP	**PcP**	**12 22 57.6 -0.2**					
	comp=Z,0.6nm,0.3s,baz=88,slow=2.9,SNR=2.4										
SONM				LR	LR	12 32 46.0					
	comp=Z,664nm,18.7s,baz=81,slow=38										
	comp=Z,2.2nm,0.5s										
SONM	**Songino Array**	**29.51**	**292**	P	**P**	**12 19 53.2 +0.2**					
H11S1	**WAKE ISLAND Hy**	**29.79**	**145**	T	T	12 51 52.9					
	baz=334,slow=76,SNR=3778										
H11S3	**WAKE ISLAND Hy**	**29.80**	**145**	T	T	12 51 52.2					
	baz=334,slow=76,SNR=2064										
H11S2	**WAKE ISLAND Hy**	**29.81**	**145**	T	T	12 51 48.6					
	baz=334,slow=76,SNR=2583										
GUMO	**Guam**	**31.01**	**188**	LR	LR	12 30 25.0					
	comp=Z,117nm,22.0s,baz=4.0,slow=32										
TNA	**Tin City**	**31.46**	**33**	P	**P**	**12 20 10.6 +0.8**					
TNA	**Tin City**	**31.46**	**33**	P	**P**	**12 20 10.6 +0.8**					
	baz=249										
XAN	**Xi'an**	**32.53**	**265**	P	**P**	**12 20 20.0 +0.2**					
XAN				pP	sP	12 20 29.2 -0.4					
XAN				sP	pwP	12 20 33.1 +2.8					
XAN				PP	**PP**	**12 21 35.6 +2.2**					
XAN				S	**S**	**12 25 33.6 +0.2**					
XAN				sS	sS	12 25 47.4 +1.9					
XAN				pmax	pmax						
	comp=Z,9.0nm,0.9s										
XAN				pmax	pmax						
	comp=Z,51nm,5.2s										
XAN				LR	LR						
	comp=Z,230nm,14.4s										
XAN				LR	LR						
	comp=Z,180nm,14.4s										
XAN				LR	LR						
	comp=Z,320nm,16.1s										
CHNA	**Chernabura Isl**	**34.04**	**54**	P	**P**	**12 20 31.2 -1.4**					
	baz=274										
CNBA	**Chernabura Isl**	**34.05**	**54**	IAmb	IAmb	12 20 33.9					
	comp=Z,33nm,0.8s										
N16K	**Nishlik Lake**	**34.47**	**44**	P	**P**	**12 20 37.3 +1.0**					
	baz=266,SNR=34										
CHGN	**Chignik**	**34.62**	**51**	P	**P**	**12 20 37.2 -0.4**					
	baz=273										
O16K	**Kokwok River B**	**34.77**	**45**	P	**P**	**12 20 39.5 +0.7**					
	baz=268,SNR=6.8										
P16K	**Nushagak River**	**34.81**	**46**	P	**P**	**12 20 40.2 +1.1**					
	baz=269										
LZH	**Lanzhou**	**35.17**	**272**	⇑P	**P**	**12 20 44.0 +1.3**					
LZH				pP	sP	12 20 52.5 0.0					
LZH				sP	pwP	12 20 56.3 +2.8					
LZH				pmax	pmax						
	comp=Z,52nm,1.0s										
LZH				LR	LR						
	comp=Z,330nm,14.4s										
LZH				LR	LR						
	comp=Z,280nm,12.9s										
LZH				LR	LR						
	comp=Z,380nm,17.3s										
O17K	**Koliganek Bris**	**35.28**	**45**	P	**P**	**12 20 44.4 +1.2**					
	baz=269,SNR=16										
Q16K	**King Salmon**	**35.50**	**47**	P	**P**	**12 20 46.0 +0.9**					
	baz=271,SNR=6.5										
P17K	**Kvichak River**	**35.61**	**46**	P	**P**	**12 20 46.9 +0.9**					
	baz=270										
R17K	**Ugashik Creek**	**35.67**	**49**	P	**P**	**12 20 46.0 -0.6**					
	baz=272										
GCSA	**Galena City Sc**	**35.77**	**36**	P	**P**	**12 20 47.4 0.0**					
	baz=262,SNR=22										
N18K	**Kilae Creek**	**35.90**	**43**	P	**P**	**12 20 49.9 +1.4**					
N18K	**Kilae Creek**	**35.90**	**43**	P	**P**	**12 20 50.1 +1.5**					
	baz=269,SNR=27										
TTA	**Tatalina**	**35.96**	**40**	P	**P**	**12 20 49.9 +0.8**					
	baz=265,SNR=60										
CHIR	**Chirikof Islan**	**36.22**	**52**	P	**P**	**12 20 51.3 0.0**					
	baz=276										
P18K	**Big Mountain,**	**36.23**	**46**	P	**P**	**12 20 52.1 +0.7**					
	baz=271,SNR=15										
O18K	**Koktuh Hills**	**36.23**	**45**	IAmb	IAmb	12 20 53.7					
	comp=Z,47nm,1.1s										
O18K	**Koktuh Hills**	**36.23**	**45**	P	**P**	**12 20 52.4 +1.0**					
	baz=270,SNR=9.9										
L19K	**White Mountain**	**36.45**	**41**	IAmb	IAmb	12 20 57.9					
	comp=Z,22nm,0.8s										
L19K	**White Mountain**	**36.45**	**41**	P	**P**	**12 20 54.2 +0.9**					
	baz=268,SNR=23										
GTA	**Gaotai**	**36.57**	**280**	⇑P	**P**	**12 20 55.9 +1.2**					
GTA				pP	sP	12 21 04.9 -0.3					
GTA				sP	pP	12 21 09.1 +6.8					
GTA				S	**S**	**12 26 40.6 +4.9**					
GTA				sS	sS	12 26 52.2 +3.9					
GTA				pmax	pmax						
	comp=Z,11nm,0.9s										
GTA				pmax	pmax						
	comp=Z,38nm,4.4s										
GTA				LR	LR						
	comp=Z,240nm,14.5s										
GTA				LR	LR						
	comp=Z,310nm,13.5s										
GTA				LR	LR						
	comp=Z,320nm,14.5s										
N19K	**Bonanza Creek**	**36.59**	**43**	IAmb	IAmb	12 20 57.0					
	comp=Z,43nm,1.0s										
N19K	**Bonanza Creek**	**36.59**	**43**	P	**P**	**12 20 55.6 +1.1**					
	baz=270,SNR=17										
M19K	**Big River Lodg**	**36.65**	**41**	IAmb	IAmb	12 20 57.4					
	comp=Z,29nm,0.8s										
M19K	**Big River Lodg**	**36.65**	**41**	P	**P**	**12 20 56.4 +1.4**					
	baz=268										
O19K	**Port Alsworth**	**36.67**	**44**	IAmb	IAmb	12 20 59.1					
	comp=Z,21nm,0.8s										
O19K	**Port Alsworth**	**36.67**	**44**	P	**P**	**12 20 56.1 +1.0**					
	baz=271										
K20K	**Telida**	**36.87**	**39**	IAmb	IAmb	12 20 58.9					
	comp=Z,64nm,1.4s										
K20K	**Telida**	**36.87**	**39**	P	**P**	**12 20 57.8 +1.0**					
	baz=267,SNR=30										
J20K	**Nowinta River**	**36.89**	**38**	P	**P**	**12 20 58.0 +1.0**					
	baz=265,SNR=80										
L20K	**Farewell, AK**	**36.91**	**40**	P	**P**	**12 20 58.2 +1.0**					
	baz=268,SNR=28										
SII	**Sitkinak Islan**	**36.95**	**50**	P	**P**	**12 20 57.1 -0.4**					
SII	**Sitkinak Islan**	**36.95**	**50**	P	**P**	**12 20 57.2 -0.3**					
	baz=276										
SII	**Sitkinak Islan**	**36.95**	**50**	P	**P**	**12 20 59.9 +2.3**					
Q19K	**Cape Douglas,**	**37.06**	**46**	P	**P**	**12 20 58.4 -0.1**					
Q19K				IAmb	IAmb	12 20 59.9					
	comp=Z,50nm,1.1s										
Q19K	**Cape Douglas,**	**37.06**	**46**	P	**P**	**12 20 57.8 -0.7**					
	baz=273										
P19K	**Oil Pt**	**37.24**	**45**	P	**P**	**12 21 00.4 +0.4**					
	baz=272										
M20K	**Styx River**	**37.25**	**41**	P	**P**	**12 21 01.8 +1.7**					
	baz=269,SNR=37										
A21K	**Barrow**	**37.27**	**26**	P	**P**	**12 21 00.5 +0.5**					
	baz=254										
ILSW	**Iliamna Southw**	**37.27**	**45**	IAmb	IAmb	12 21 06.5					
	comp=Z,18nm,1.0s										
OHAK	**Old Harbor**	**37.37**	**49**	IAmb	IAmb	12 21 01.7					
	comp=Z,33nm,0.8s										
OHAK	**Old Harbor**	**37.37**	**49**	P	**P**	**12 21 00.5 -0.6**					
	baz=275,SNR=10.0										
G21K	**Allakaket**	**37.39**	**34**	P	**P**	**12 21 02.1 +0.9**					
	baz=263										
RSO	**Redoubt South**	**37.45**	**44**	P	**P**	**12 21 03.0 +1.0**					
F21K	**Alatna River**	**37.49**	**33**	P	**P**	**12 21 02.4 +0.3**					
	baz=262,SNR=18										
O20K	**Slope Mountain**	**37.53**	**44**	P	**P**	**12 21 03.0 +0.5**					
	baz=272										
H21K	**Melozitna Rive**	**37.58**	**35**	P	**P**	**12 21 03.7 +0.9**					
	baz=265,SNR=56										
CHUM	**Lake Minchumin**	**37.68**	**38**	P	**P**	**12 21 04.9 +1.3**					
	baz=268,SNR=20										
N20K	**Mount Spurr**	**37.70**	**43**	P	**P**	**12 21 05.1 +1.2**					
	baz=271,SNR=11										
SPCR	**Spurr Chakacha**	**37.70**	**43**	P	**P**	**12 21 05.1 +1.2**					
	baz=271,SNR=8.8										
KDAK	**Kodiak Island**	**37.70**	**48**	P	**P**	**12 21 03.5 -0.3**					
	comp=Z,73nm,0.7s,baz=292,slow=6.2,SNR=110										
KDAK				PcP	**PcP**	**12 23 20.6 +0.1**					
	comp=Z,5.8nm,0.7s,baz=256,slow=2.8,SNR=2.6										
	comp=Z,73nm,0.7s										
KDAK	**Kodiak Island**	**37.70**	**48**	P	**P**	**12 21 03.5 -0.3**					
KDAK	**Kodiak Island**	**37.70**	**48**	P	**P**	**12 21 03.5 -0.3**					
	baz=275										
KDAK	**Kodiak Island**	**37.70**	**48**	P	**P**	**12 21 02.3 -1.5**					
PPLA	**Purkeypile**	**37.70**	**40**	P	**P**	**12 21 05.9 +1.8**					
	baz=269,SNR=19										
Q20K	**Shuyak Island**	**37.73**	**47**	P	**P**	**12 21 03.9 -0.2**					
	baz=274,SNR=7.1										
CAST	**Castle Rocks**	**37.76**	**39**	P	**P**	**12 21 06.0 +1.6**					
	baz=268,SNR=82										
I21K	**Tanana**	**37.89**	**36**	P	**P**	**12 21 06.8 +1.4**					
I21K	**Tanana**	**37.89**	**36**	P	**P**	**12 21 06.6 +1.2**					
	baz=266,SNR=43										
CD2	**Chengdu**	**37.89**	**265**	P	**P**	**12 21 04.7 -1.2**					
CD2				pmax	pmax						
	comp=Z,80nm,0.8s										
SKT	**Skwentna**	**38.01**	**41**	P	**P**	**12 21 07.0 +0.5**					
SKT	**Skwentna**	**38.01**	**41**	P	**P**	**12 21 07.1 +0.6**					
	baz=271,SNR=11										
F22K	**John River**	**38.03**	**32**	P	**P**	**12 21 07.5 +0.9**					
	baz=263,SNR=36										
HOM	**Homer**	**38.04**	**45**	P	**P**	**12 21 05.6 -1.2**					
	baz=274										
H22K	**Ishtalitna Cre**	**38.19**	**35**	P	**P**	**12 21 09.1 +1.2**					
	baz=266,SNR=35										
G22K	**Bettles**	**38.23**	**33**	P	**P**	**12 21 08.9 +0.7**					
	baz=264										
E22K	**Anaktuvuk Pass**	**38.25**	**31**	P	**P**	**12 21 09.0 +0.5**					
	baz=263										
CNPM	**China Poot**	**38.26**	**45**	IAmb	IAmb	12 21 10.3					
	comp=Z,34nm,0.9s										
BPAW	**Bear Paw Mtn.**	**38.27**	**38**	IAmb	IAmb	12 21 10.6					
	comp=Z,26nm,0.7s										
BPAW	**Bear Paw Mtn.**	**38.27**	**38**	P	**P**	**12 21 09.6 +1.0**					
	baz=268,SNR=25										
SUA	**Susitna One**	**38.39**	**42**	P	**P**	**12 21 09.9 +0.1**					
	baz=272										
MLY	**Manley**	**38.41**	**36**	IAmb	IAmb	12 21 12.0					
	comp=Z,38nm,0.7s										
MLY	**Manley**	**38.41**	**36**	P	**P**	**12 21 11.0 +1.2**					
	baz=268,SNR=61										
BRLK	**Bradley Lake**	**38.42**	**45**	IAmb	IAmb	12 21 10.8					
	comp=Z,48nm,1.3s										
BRSE	**Bradley Lake S**	**38.49**	**45**	P	**P**	**12 21 10.1 -0.5**					
	baz=274										
TRF	**Thorofare Moun**	**38.57**	**39**	IAmb	IAmb	12 21 13.7					
	comp=Z,20nm,0.7s										
TRF	**Thorofare Moun**	**38.57**	**39**	P	**P**	**12 21 11.9 +0.5**					
	baz=270,SNR=26										
CUT	**Chulitna**	**38.59**	**41**	IAmb	IAmb	12 21 12.5					
	comp=Z,40nm,0.8s										
CUT	**Chulitna**	**38.59**	**41**	P	**P**	**12 21 11.2 -0.1**					
	baz=271,SNR=6.4										
M22K	**Willow**	**38.68**	**42**	P	**P**	**12 21 11.2 -0.9**					
	baz=272,SNR=12										
COLD	**Coldfoot**	**38.76**	**33**	IAmb	IAmb	12 21 14.4					
	comp=Z,24nm,0.7s										
COLD	**Coldfoot**	**38.76**	**33**	P	**P**	**12 21 13.4 +0.7**					
	baz=265,SNR=32										
D23K	**Nanushuk River**	**38.77**	**30**	P	**P**	**12 21 13.7 +0.9**					
	baz=263,SNR=7.0										
G23K	**Bananza Creek**	**38.79**	**34**	P	**P**	**12 21 13.5 +0.5**					
	baz=266,SNR=28										
RC01	**Rabbit Creek A**	**38.90**	**43**	IAmb	IAmb	12 21 15.2					
	comp=Z,37nm,0.7s										
RC01	**Rabbit Creek A**	**38.90**	**43**	P	**P**	**12 21 14.0 +0.1**					
	baz=273,SNR=14										
C23K	**Itkillik River**	**38.91**	**29**	P	**P**	**12 21 14.4 +0.5**					
	baz=262,SNR=13										
H23K	**Yukon River**	**38.94**	**35**	P	**P**	**12 21 15.7 +1.5**					
	baz=268,SNR=74										
O22K	**Cooper Landing**	**38.95**	**44**	P	**P**	**12 21 14.3 0.0**					
	baz=274,SNR=10										
SEW	**Seward**	**39.11**	**44**	IAmb	IAmb	12 21 28.7					
	comp=Z,30nm,0.9s										
SEW	**Seward**	**39.11**	**44**	P	**P**	**12 21 15.4 -0.2**					
	baz=275,SNR=7.1										
NEA2	**Nenana**	**39.11**	**37**	P	**P**	**12 21 16.6 +0.9**					
	baz=270,SNR=19										
TOLK	**Toolik Lake Re**	**39.13**	**31**	IAmb	IAmb	12 21 20.2					
	comp=Z,22nm,0.6s										
TOLK	**Toolik Lake Re**	**39.13**	**31**	P	**P**	**12 21 16.6 +0.7**					
	baz=264,SNR=16										
PMR	**Palmer**	**39.16**	**42**	P	**P**	**12 21 16.3 +0.2**					
	baz=273,SNR=9.7										
MCK	**McKinley**	**39.17**	**38**	IAmb	IAmb	12 21 19.2					
	comp=Z,41nm,0.8s										
MCK	**McKinley**	**39.17**	**38**	P	**P**	**12 21 16.4 +0.2**					
	baz=271,SNR=9.4										
RND	**Reindeer**	**39.22**	**39**	IAmb	IAmb	12 21 17.8					
	comp=Z,30nm,0.8s										
NRIK	**Noril'sk**	**39.30**	**330**	LR	LR	12 38 15.7					
	comp=Z,301nm,21.5s,baz=93,slow=37										
WAT1	**Susitna Watana**	**39.37**	**40**	P	**P**	**12 21 17.9 -0.1**					
	baz=272										
D24K	**Happy Valley**	**39.45**	**30**	P	**P**	**12 21 19.0 +0.6**					
	baz=264										
E24K	**Your Creek**	**39.48**	**32**	P	**P**	**12 21 19.9 +1.0**					
	baz=266,SNR=46										
KNK	**Knik Glacier**	**39.49**	**42**	P	**P**	**12 21 19.2 +0.3**					
	baz=274,SNR=13										
SML	**Sawmill**	**39.53**	**41**	P	**P**	**12 21 19.6 +0.3**					
	baz=274,SNR=27										
C24K	**Franklin Bluff**	**39.55**	**29**	P	**P**	**12 21 19.9 +0.6**					
	baz=264										
PWL	**Port Wells**	**39.60**	**43**	IAmb	IAmb	12 21 20.8					
	comp=Z,37nm,0.6s										
PWL	**Port Wells**	**39.60**	**43**	P	**P**	**12 21 19.6 -0.2**					
	baz=275,SNR=16										
H24K	**Noodor Dome**	**39.63**	**35**	IAmb	IAmb	12 21 22.4					
	comp=Z,32nm,0.9s										
H24K	**Noodor Dome**	**39.63**	**35**	P	**P**	**12 21 21.0 +1.0**					
	baz=269,SNR=37										
TCOL	**CIGO, UAF Yank**	**39.63**	**37**	P	**P**	**12 21 20.9 +0.9**					
	baz=270,SNR=11										
COLA	**College**	**39.63**	**37**	P	**P**	**12 21 20.9 +0.8**					
COLA	**College**	**39.63**	**37** *d*	*i*P	**P**	**12 21 20.7 +0.7**					
COLA				pmax	pmax						
	comp=Z,65nm,0.8s										
COLA	**College**	**39.63**	**37**	P	**P**	**12 21 20.8 +0.8**					
	baz=270										
COLA	**College**	**39.63**	**37**	P	**P**	**12 21 19.5 -0.5**					
COLA				pP	**pwP**	**12 21 32.1 +2.2**					
COLA				sP	**sP**	**12 21 36.9 +6.9**					
CCB	**Clear Creek Bu**	**39.66**	**37**	IAmb	IAmb	12 21 23.3					
	comp=Z,23nm,0.8s										
F24K	**Squaw Lake**	**39.67**	**32**	P	**P**	**12 21 21.2 +0.8**					
	baz=267,SNR=22										
WAT6	**Susitna Watana**	**39.76**	**40**	P	**P**	**12 21 21.3 0.0**					
	baz=273,SNR=23										
G24K	**Hadweenzic Riv**	**39.80**	**34**	P	**P**	**12 21 23.0 +1.6**					
	baz=268,SNR=59										
POKR	**Poker Plat Res**	**39.81**	**36**	P	**P**	**12 21 22.9 +1.4**					
	baz=270,SNR=20										
M23K	**Glacier View**	**39.82**	**41**	P	**P**	**12 21 21.9 +0.3**					
	baz=274,SNR=8.5										
DHY	**Denali Highway**	**39.90**	**39**	IAmb	IAmb	12 21 23.6					
	comp=Z,30nm,0.8s										
DHY	**Denali Highway**	**39.90**	**39**	P	**P**	**12 21 22.5 +0.1**					
	baz=273,SNR=32										
SCM	**Sheep Creek Mo**	**40.00**	**41**	IAmb	IAmb	12 21 24.8					
	comp=Z,48nm,1.1s										
SCM	**Sheep Creek Mo**	**40.00**	**41**	P	**P**	**12 21 23.7 +0.5**					
	baz=274,SNR=7.6										
HDA	**Harding Lake**	**40.03**	**37**	IAmb	IAmb	12 21 24.8					
	comp=Z,41nm,0.8s										
HDA	**Harding Lake**	**40.03**	**37**	P	**P**	**12 21 23.1 -0.2**					
	baz=272,SNR=52										
IL31		**40.05**	**37**	IAmb	IAmb	12 21 26.4					
	comp=Z,25nm,0.7s										
ILAR	**Eielson Array**	**40.05**	**37**	P	**P**	**12 21 23.5 0.0**					
	comp=Z,20nm,0.7s,baz=256,slow=8.1,SNR=142										
	comp=Z,20nm,0.7s										
P23K	**Montague Islan**	**40.14**	**44**	P	**P**	**12 21 24.9 +0.6**					
	baz=277,SNR=6.6										
GLI	**Glacier Island**	**40.20**	**43**	IAmb	IAmb	12 21 25.8					
	comp=Z,32nm,0.8s										
GLI	**Glacier Island**	**40.20**	**43**	P	**P**	**12 21 24.8 0.0**					
	baz=276,SNR=5.5										
D25K	**Kavik River**	**40.33**	**30**	P	**P**	**12 21 26.4 +0.5**					
	baz=266,SNR=31										
H25K	**Birch Creek**	**40.47**	**34**	P	**P**	**12 21 28.5 +1.6**					
	baz=270,SNR=23										
M24K	**Tolsona, Glenn**	**40.52**	**41**	P	**P**	**12 21 28.8 +1.3**					
	baz=275,SNR=10.0										
F25K	**Christian Rive**	**40.54**	**32**	P	**P**	**12 21 29.2 +1.6**					
	baz=269,SNR=19										
K24K	**Donnelly Dome**	**40.57**	**38**	P	**P**	**12 21 28.0 +0.1**					
	baz=274,SNR=45										
E25K	**Arctic Village**	**40.58**	**32**	P	**P**	**12 21 29.2 +1.4**					
	baz=269,SNR=16										
PRP	**Porcupine Dome**	**40.60**	**36**	IAmb	IAmb	12 21 30.1					
	comp=Z,38nm,0.8s										
PRP	**Porcupine Dome**	**40.60**	**36**	P	**P**	**12 21 28.9 +0.7**					
	baz=272,SNR=59										
KLU	**Klutina**	**40.70**	**42**	IAmb	IAmb	12 21 31.4					
	comp=Z,55nm,1.0s										
KLU	**Klutina**	**40.70**	**42**	P	**P**	**12 21 29.8 +0.8**					
	baz=276,SNR=19										
J25K	**Salcha River,**	**40.70**	**37**	P	**P**	**12 21 28.2 -0.8**					
	baz=273,SNR=30										
Q23K	**Middleton Isla**	**40.75**	**45**	P	**P**	**12 21 29.4 +0.1**					
	baz=278										
PAX	**Paxson**	**40.77**	**40**	P	**P**	**12 21 30.3 +0.7**					
	baz=275,SNR=22										
DIV	**Divide**	**40.81**	**42**	P	**P**	**12 21 30.3 +0.4**					
DIV				IAmb	IAmb	12 21 31.8					
	comp=Z,45nm,1.0s										
EYAK	**Cordova Ski Ar**	**40.90**	**43**	P	**P**	**12 21 30.8 +0.3**					
EYAK	**Cordova Ski Ar**	**40.90**	**43**	P	**P**	**12 21 31.5 +1.0**					
	baz=277										
BMAR	**Burnt Mountain**	**40.95**	**33**	P	**P**	**12 21 32.0 +1.1**					
HARP	**HAARP**	**40.97**	**40**	P	**P**	**12 21 32.3 +1.2**					
	baz=276,SNR=15										
RIDG	**Independent Ri**	**40.99**	**38**	IAmb	IAmb	12 21 32.8					
	comp=Z,41nm,0.9s										
RIDG	**Independent Ri**	**40.99**	**38**	P	**P**	**12 21 31.2 -0.1**					
	baz=274,SNR=34										
F26K	**Sheenjek River**	**41.11**	**32**	P	**P**	**12 21 33.8 +1.5**					
	baz=270,SNR=22										
G26K	**Porcupine Rive**	**41.27**	**33**	P	**P**	**12 21 35.2 +1.7**					
	baz=272,SNR=32										
DGZ	**Jazzator, Alta**	**41.28**	**300**	*i*P	**P**	**12 21 35.6 +1.6**					
DGZ				pmax	pmax						
	comp=Z,2.0nm,0.6s										
C27K	**Jago River**	**41.29**	**29**	P	**P**	**12 21 34.6 +1.0**					
	baz=269,SNR=10										
N25K	**Chitina, Valde**	**41.32**	**42**	P	**P**	**12 21 31.7 -2.4**					

K27K	**Chicken**	**42.18**	**38**	P	**P**	**12 21 42.2 +1.2**
	baz=276					
H27K	**Steamboat Moun**	**42.20**	**34**	P	**P**	**12 21 42.9 +1.6**
	baz=274,SNR=38					
I27K	**Kandik River**	**42.22**	**35**	P	**P**	**12 21 41.5 +0.1**
	baz=275					
TGL	**Tana Glacier**	**42.29**	**43**	IAmb	IAmb	12 21 44.4
	comp=Z,48nm,1.2s					
SNH	**Sunshine Point**	**42.38**	**43**	IAmb	IAmb	12 21 45.6
	comp=Z,62nm,0.9s					
L27K	**Beaver Creek,**	**42.41**	**39**	IAmb	IAmb	12 21 45.5
	comp=Z,41nm,0.8s					
L27K	**Beaver Creek,**	**42.41**	**39**	P	**P**	**12 21 44.5 +1.6**
	baz=278,SNR=59					
M27K	**Edge Creek, AK**	**42.49**	**40**	IAmb	IAmb	12 21 46.8
	comp=Z,39nm,1.0s					
M27K	**Edge Creek, AK**	**42.49**	**40**	P	**P**	**12 21 45.3 +1.6**
	baz=278,SNR=29					
EGAK	**Eagle**	**42.50**	**37**	IAmb	IAmb	12 21 44.8
	comp=Z,40nm,0.8s					
EGAK	**Eagle**	**42.50**	**37**	P	**P**	**12 21 43.9 +0.3**
	baz=276,SNR=46					
ISLE	**Juniper Island**	**42.55**	**43**	IAmb	IAmb	12 21 46.3
	comp=Z,39nm,0.8s					
MESA	**MESA**	**42.82**	**43**	P	**P**	**12 21 47.9 +1.4**
	baz=281,SNR=5.4					
BVCY	**Beaver Creek**	**42.95**	**40**	P	**P**	**12 21 48.6 +1.2**
	baz=279,SNR=31					
CTG	**Chitna Glacier**	**42.97**	**42**	P	**P**	**12 21 48.8 +1.2**
	baz=280,SNR=24					
CTGM	**Chitina Glacie**	**42.97**	**42**	IAmb	IAmb	12 21 49.9
	comp=Z,50nm,0.8s					
WMQ	**Urumqi**	**43.14**	**292**	*eP*	**P**	**12 21 52.6 +3.4**
WMQ				LR	LR	
	comp=Z,440nm,19.3s					
WMQ				LR	LR	
	comp=Z,540nm,19.3s					
WMQ				LR	LR	
	comp=Z,500nm,20.5s					
TABL	**Table Mountain**	**43.16**	**43**	IAmb	IAmb	12 21 51.2
	comp=Z,43nm,0.8s					
YUK3	**Moose Creek**	**43.24**	**41**	P	**P**	**12 21 50.9 +0.9**
	baz=280,SNR=31					
DAWY	**Dawson**	**43.35**	**37**	P	**P**	**12 21 51.2 +0.7**
	baz=279,SNR=13					
O28M	**Mount Upton**	**43.56**	**42**	P	**P**	**12 21 53.3 +0.8**
	baz=281,SNR=17					
I29M	**Ogilvie Camp,**	**43.62**	**35**	IAmb	IAmb	12 21 54.6
	comp=Z,55nm,0.8s					
I29M	**Ogilvie Camp,**	**43.62**	**35**	P	**P**	**12 21 53.8 +1.1**
	baz=278,SNR=50					
PCA	**Pinnacle**	**43.66**	**43**	IAmb	IAmb	12 21 54.6
	comp=Z,27nm,0.7s					
PINM	**Pinnacle**	**43.67**	**43**	P	**P**	**12 21 53.8 +0.6**
	baz=282					
M29M	**Somme Creek**	**44.04**	**40**	P	**P**	**12 21 57.6 +1.4**
	baz=281,SNR=16					
EPYK	**Eagle Plains**	**44.12**	**34**	P	**P**	**12 21 57.8 +1.1**
	baz=278,SNR=31					
YUK4	**Talbot Arm**	**44.18**	**41**	P	**P**	**12 21 58.7 +1.2**
	baz=282,SNR=11					
K29M	**Barlow Dome**	**44.20**	**38**	P	**P**	**12 21 58.7 +1.2**
	baz=280					
YUK6	**Outpost Mounta**	**44.40**	**42**	P	**P**	**12 22 00.4 +1.2**
	baz=283					
O29M	**Mount Kennedy**	**44.44**	**43**	P	**P**	**12 22 00.6 +1.1**
	baz=283					
M30M	**Minto, Yukon**	**44.77**	**39**	P	**P**	**12 22 03.4 +1.4**
	baz=282,SNR=14					
HYT	**Haines Junctio**	**44.83**	**42**	P	**P**	**12 22 04.5 +2.0**
	baz=283,SNR=72					
N30M	**Aishikik Lake**	**44.88**	**41**	P	**P**	**12 22 04.1 +1.2**
	baz=283,SNR=9.0					
MAYO	**Mayo, Yukon**	**44.96**	**38**	P	**P**	**12 22 05.0 +1.6**
	baz=282,SNR=7.8					
P29M	**Windy Craggy**	**45.01**	**43**	P	**P**	**12 22 05.8 +1.9**
	baz=284,SNR=42					
INK	**Inuvik**	**45.04**	**31**	P	**P**	**12 22 04.8 +0.9**
	comp=Z,31nm,0.8s,baz=279,slow=11,SNR=26					
	comp=Z,31nm,0.8s					
INK	**Inuvik**	**45.04**	**31**	P	**P**	**12 22 04.7 +0.8**
INK				IAmb	IAmb	12 22 07.3
	comp=Z,40nm,0.9s					
INK	**Inuvik**	**45.04**	**31**	P	**P**	**12 22 05.0 +1.0**
	baz=279,SNR=18					
F31M	**Tsiigehtchic**	**45.11**	**32**	P	**P**	**12 22 05.4 +0.9**
	baz=280,SNR=9.0					
P30M	**Million Dollar**	**45.27**	**43**	P	**P**	**12 22 07.6 +1.6**
	baz=284					
SEM	**Semipalatinsk**	**45.43**	**303**	*eP*	**P**	**12 22 07.2 -0.4**
SEM	**Semipalatinsk**	**45.43**	**303**	*eP*	**P**	**12 22 07.2 -0.4**
	baz=303					
N31M	**Braeburn, Yuko**	**45.49**	**41**	IAmb	IAmb	12 22 10.7
	comp=Z,41nm,0.9s					
N31M	**Braeburn, Yuko**	**45.49**	**41**	P	**P**	**12 22 09.5 +1.9**
	baz=284,SNR=16					
MK31	**Makanchi Array**	**45.50**	**298**	*i* P	**P**	**12 22 07.7 -0.2**
MKAR	**Makanchi Array**	**45.50**	**298**	P	**P**	**12 22 07.9 -0.1**
	comp=Z,4.6nm,0.7s,baz=76,slow=9.3,SNR=19					
MKAR				PcP	**PcP**	**12 23 46.2 -0.2**
	comp=Z,3.5nm,0.7s,baz=55,slow=4.7,SNR=4.8					
MKAR				LR	LR	12 42 22.4
	comp=Z,682nm,18.9s,baz=88,slow=38					
	comp=Z,4.6nm,0.7s					
MKAR	**Makanchi Array**	**45.50**	**298**	P	**P**	**12 22 08.4 +0.5**
O30N	**Mendenhall**	**45.52**	**42**	P	**P**	**12 22 09.6 +1.6**
	baz=284,SNR=9.9					
MAKZ	**Makanchi**	**45.69**	**298**	P	**P**	**12 22 10.1 +0.6**
MAKZ	**Makanchi**	**45.69**	**298**	P	**P**	**12 22 10.1 +0.6**
MAKZ				pmax	pmax	
	comp=Z,5.0nm,0.7s					
MAKZ	**Makanchi**	**45.69**	**298**	P	**P**	**12 22 08.2 -1.3**
MAKZ				pP	**sP**	**12 22 21.2 +1.2**
PLBC	**Pleasant Camp**	**45.73**	**43**	P	**P**	**12 22 11.3 +1.8**
	baz=286,SNR=16					
M31M	**Drury Creek, Y**	**45.95**	**39**	IAmb	IAmb	12 22 13.7
	comp=Z,25nm,0.8s					
M31M	**Drury Creek, Y**	**45.95**	**39**	P	**P**	**12 22 12.9 +1.6**
	baz=284,SNR=21					
WHY	**Whitehorse**	**46.12**	**42**	IAmb	IAmb	12 22 15.4
	comp=Z,19nm,0.9s					
WHY	**Whitehorse**	**46.12**	**42**	P	**P**	**12 22 14.3 +1.5**
	baz=286,SNR=9.5					
SKAG	**Skagway**	**46.24**	**43**	P	**P**	**12 22 15.1 +1.6**
	baz=286					
KURK	**Kurchatov**	**46.30**	**304**	P	**P**	**12 22 13.6 -0.5**
KURK	**Kurchatov**	**46.30**	**304**	P	**P**	**12 22 14.2 +0.1**
KURK						12 23 49.1
KURK	**Kurchatov**	**46.30**	**304**	*eP*	**P**	**12 22 14.2 +0.1**
KURBB	**Kurchatov Arra**	**46.38**	**304**	P	**P**	**12 22 14.2 -0.6**
	comp=Z,4.7nm,0.3s,baz=70,slow=8.3,SNR=12					
KURBB				PcP	**PcP**	**12 23 49.1 -0.2**
	comp=Z,4.0nm,0.2s,baz=56,slow=2.3,SNR=7.7					
KURBB				ScP	**ScP**	**12 27 38.1 -2.7**
	comp=Z,0.2nm,0.3s,baz=83,slow=4.0,SNR=2.0					
KURBB				LR	LR	12 42 42.3
	comp=Z,186nm,18.5s,baz=43,slow=37					
	comp=Z,4.7nm,0.3s					
FARO	**Faro, Yukon**	**46.41**	**39**	IAmb	IAmb	12 22 17.1
	comp=Z,22nm,0.8s					
FARO	**Faro, Yukon**	**46.41**	**39**	P	**P**	**12 22 16.4 +1.4**
	baz=285,SNR=27					
N32M	**Quiet Lake**	**46.83**	**41**	P	**P**	**12 22 19.2 +0.9**
	baz=286					
CRAI	**Chiangrai**	**46.91**	**255**	P	**P**	**12 22 19.8 +0.5**
SIT	**Sitka**	**46.96**	**46**	P	**P**	**12 22 20.5 +1.3**
	baz=288					
P32M	**Atlin**	**46.99**	**43**	P	**P**	**12 22 21.0 +1.5**
	baz=287,SNR=6.0					
R32K	**Eaglecrest**	**46.99**	**45**	P	**P**	**12 22 21.2 +1.7**
	baz=288,SNR=10					
JIS	**Juneau Island**	**47.06**	**45**	IAmb	IAmb	12 22 22.9
	comp=Z,39nm,0.9s					
P33M	**Teslin, Yukon**	**47.23**	**42**	IAmb	IAmb	12 22 25.0
	comp=Z,32nm,0.9s					
P33M	**Teslin, Yukon**	**47.23**	**42**	P	**P**	**12 22 23.1 +1.7**
	baz=288,SNR=33					
MMPY	**Sheldon Lake,**	**47.24**	**38**	P	**P**	**12 22 23.1 +1.7**
	baz=286,SNR=18					
SIJI	**Sorong**	**47.88**	**204**	P	**P**	**12 22 27.6 +0.8**
	comp=Z,4.0nm,0.6s,baz=14,slow=16,SNR=1.9					
SIJI				LR	LR	12 43 18.8
	comp=Z,60nm,18.9s,baz=78,slow=37					
	comp=Z,4.0nm,0.6s					
Q32M	**Nakina River**	**47.89**	**43**	P	**P**	**12 22 28.0 +1.3**
	baz=289					
C36M	**Paulatuk**	**48.16**	**28**	P	**P**	**12 22 28.7 +0.4**
	baz=286					
PHRA	**Phrae**	**48.18**	**254**	P	**P**	**12 22 30.2 +1.0**
R33M	**Jennings River**	**48.38**	**42**	P	**P**	**12 22 32.2 +1.8**
	baz=290,SNR=16					
KRVT	**Keravat (AS076**	**48.65**	**176**	LR	LR	12 39 40.9
	comp=Z,106nm,22.0s,baz=133,slow=32					
CRAG	**Craig**	**48.66**	**48**	P	**P**	**12 22 34.3 +2.0**
	baz=291					
TDK	**Taldyqorghan**	**48.71**	**297**	*eP*	**P**	**12 22 33.3 +0.3**
TDK				pmax	pmax	
	comp=Z,11nm,1.0s					
TDK	**Taldyqorghan**	**48.71**	**297**	*eP*	**P**	**12 22 33.4 +0.3**
	comp=Z,11nm,1.0s,baz=297					
WRAK	**Wrangell Islan**	**48.72**	**46**	IAmb	IAmb	12 22 36.0
	comp=Z,26nm,0.9s					
WRAK	**Wrangell Islan**	**48.72**	**46**	P	**P**	**12 22 34.8 +2.0**
	baz=291,SNR=5.1					
PDGK	**Podgornoye**	**48.76**	**295**	P	**P**	**12 22 33.3 -0.2**
S34M	**Telegraph Cree**	**48.81**	**44**	P	**P**	**12 22 35.6 +2.1**
	baz=291,SNR=7.9					
CHTO	**Chiang Mai**	**48.85**	**255**	P	**P**	**12 22 34.9 +0.6**
CHTO	**Chiang Mai**	**48.85**	**255**	P	**P**	**12 22 34.9 +0.6**
CHTO				pmax	pmax	
	comp=Z,1.0nm,0.9s					
CHTO	**Chiang Mai**	**48.85**	**255**	P	**P**	**12 22 35.1 +0.7**
CHTO				pP	**pwP**	**12 22 46.1 +1.3**
SHLS	**Shalkode**	**48.85**	**294**	*eP*	**P**	**12 22 31.8 -2.4**
SHLS	**Shalkode**	**48.85**	**294**	*eP*	**P**	**12 22 31.9 -2.3**
	baz=294					
TGTN	**Hyland Airport**	**48.92**	**39**	P	**P**	**12 22 35.8 +1.4**
	baz=290,SNR=7.9					
CMAR	**Chiang Mai Arr**	**49.09**	**255**	P	**P**	**12 22 36.5 +0.3**
	comp=Z,2.1nm,0.6s,baz=43,slow=7.6,SNR=16					
CMAR				LR	LR	12 45 26.1
	comp=Z,298nm,18.3s,baz=60,slow=39					
	comp=Z,2.1nm,0.6s					
UZB	**Uzynbulak**	**49.14**	**295**	*eP*	**P**	**12 22 36.7 +0.2**
UZB	**Uzynbulak**	**49.14**	**295**	*eP*	**P**	**12 22 36.8 +0.2**
	baz=295					
WTLY	**Watson Lake, Y**	**49.16**	**41**	P	**P**	**12 22 37.7 +1.4**
	baz=290,SNR=11					
DLBC	**Dease Lake**	**49.17**	**43**	P	**P**	**12 22 38.2 +1.9**
	comp=Z,14nm,0.8s,baz=290,slow=9.6,SNR=29					
DLBC				LR	LR	12 44 10.5
	comp=Z,101nm,20.5s,baz=296,slow=37					
	comp=Z,14nm,0.8s					
DLBC	**Dease Lake**	**49.17**	**43**	IAmb	IAmb	12 22 39.5
	comp=Z,22nm,1.0s					
DLBC	**Dease Lake**	**49.17**	**43**	P	**P**	**12 22 38.4 +2.0**
	baz=291,SNR=12					
KPKS	**Kokpek**	**49.22**	**295**	*eP*	**P**	**12 22 37.0 0.0**
KPKS	**Kokpek**	**49.22**	**295**	*eP*	**P**	**12 22 37.0 0.0**
	baz=295					
SHL	**Shillong**	**49.49**	**267**	IAmb	IAmb	12 22 51.3
	comp=Z,36nm,1.2s					
V35K	**Ketchikan**	**49.51**	**48**	P	**P**	**12 22 40.4 +1.5**
	baz=292					
T35M	**Bob Quinn**	**49.59**	**45**	P	**P**	**12 22 42.1 +2.6**
	baz=292,SNR=13					
MRSI	**Marisa**	**50.03**	**217**	P	**P**	**12 22 44.4 +1.1**
	comp=Z,78nm,1.2s					
BRZS	**Berezniki**	**50.09**	**305**	*eP*	**P**	**12 22 43.0 -0.4**
BRZS	**Berezniki**	**50.09**	**305**	*eP*	**P**	**12 22 43.0 -0.4**
	baz=305					
BVAR	**Borovoye Array**	**50.13**	**309**	P	**P**	**12 22 44.3 +0.6**
	comp=Z,0.6nm,0.3s,baz=76,slow=9.3,SNR=9.0					
BVAR				PcP	**PcP**	**12 24 02.3 -0.5**
	comp=Z,2.9nm,0.8s,baz=73,slow=4.8,SNR=5.3					
BVAR				pPcP		12 24 14.4
	comp=Z,2.3nm,0.6s,baz=103,slow=3.3,SNR=4.9					
BVAR				ScP	**ScP**	**12 27 53.6 -3.1**
	comp=Z,0.2nm,0.4s,baz=72,slow=4.7,SNR=1.9					
BVAR				LR	LR	12 45 34.5
	comp=Z,284nm,19.2s,baz=67,slow=38					
	comp=Z,0.6nm,0.3s					
CHKK	**Chushkaly**	**50.13**	**296**	*eP*	**P**	**12 22 43.9 +0.1**
CHKK	**Chushkaly**	**50.13**	**296**	*eP*	**P**	**12 22 44.0 +0.1**
	baz=296					
BRVK	**Borovoye**	**50.18**	**310**	P	**P**	**12 22 43.7 -0.3**
BRVK	**Borovoye**	**50.18**	**310**	*ceP*	**P**	**12 22 44.4 +0.4**
BRVK				pmax	pmax	
	comp=Z,4.0nm,0.8s					
BRVK	**Borovoye**	**50.18**	**310**	*eP*	**P**	**12 22 44.4 +0.4**
MDOK	**Medeo**	**50.42**	**295**	*eP*	**P**	**12 22 47.1 +0.9**
MDOK	**Medeo**	**50.42**	**295**	*eP*	**P**	**12 22 47.1 +0.9**
	baz=296					
BTLS	**Baital**	**51.45**	**299**	*eP*	**P**	**12 22 53.6 -0.1**
BTLS	**Baital**	**51.45**	**299**	*eP*	**P**	**12 22 53.6 -0.1**
	baz=299					
BRDH	**Bariadhala**	**51.46**	**265**	LR	LR	12 48 17.4
	comp=Z,125nm,18.0s,baz=90,slow=40					
TKM2	**Tokmak 2**	**51.47**	**296**	P	**P**	**12 22 54.8 +0.6**
SGDS	**Sogindy**	**51.83**	**297**	*c iP*	**P**	**12 22 57.4 +0.7**
SGDS	**Sogindy**	**51.83**	**297**	*i iP*	**P**	**12 22 57.5 +0.7**
	baz=297					
ALE	**Alert**	**52.25**	**5**	P	**P**	**12 22 58.3 -1.0**
AAK	**Ala-Archa**	**52.31**	**296**	P	**P**	**12 23 00.5 +0.1**
	comp=Z,3.3nm,0.5s,baz=73,slow=8.4,SNR=6.4					
AAK				LR	LR	12 47 20.1
	comp=Z,207nm,18.4s,baz=71,slow=38					
	comp=Z,3.3nm,0.5s					
AAK	**Ala-Archa**	**52.31**	**296**	P	**P**	**12 23 00.7 +0.3**
AAK	**Ala-Archa**	**52.31**	**296**	*ceP*	**P**	**12 23 01.0 +0.6**
AAK				pmax	pmax	
	comp=Z,4.0nm,0.6s					
AAK	**Ala-Archa**	**52.31**	**296**	*eP*	**P**	**12 23 01.0 +0.6**
GUN	**Gumba**	**52.39**	**274**	*eP*	**P**	**12 23 01.0 -0.3**
	comp=Z,45nm,0.5s					
BBB	**Bella Bella**	**52.71**	**50**	P	**P**	**12 23 03.5 +0.5**
	comp=Z,35nm,1.1s,baz=284,slow=3.9,SNR=3.9					
BBB				LR	LR	12 46 31.9
	comp=Z,66nm,19.5s,baz=278,slow=37					
	comp=Z,35nm,1.1s					
KSH	**Kashi**	**52.91**	**292**	P	**P**	**12 23 09.4 +4.6**
KSH				pmax	pmax	
	comp=Z,7.0nm,0.6s					
KSH				LR	LR	
	comp=Z,430nm,17.5s					
KSH				LR	LR	
	comp=Z,290nm,19.6s					
KSH				LR	LR	
	comp=Z,450nm,18.2s					
PKI	**Pulchoki**	**52.92**	**274**	*eP*	**P**	**12 23 05.4 +0.1**
	comp=Z,17nm,0.6s					
PKIN	**Phulchoki**	**52.93**	**274**	*eP*	**P**	**12 23 05.6 +0.3**
	comp=Z,14nm,0.5s					
DMN	**Daman**	**53.12**	**274**	*eP*	**P**	**12 23 06.6 0.0**
	comp=Z,29nm,0.5s					
GKN	**Gorkha**	**53.22**	**275**	*eP*	**P**	**12 23 07.9 +0.6**
	comp=Z,25nm,0.6s					
DANN	**Dangsing**	**53.64**	**276**	*eP*	**P**	**12 23 11.6 +1.1**
	comp=Z,51nm,0.7s					
PMG	**Port Moresby**	**53.67**	**182**	LR	LR	12 43 39.5
	comp=Z,57nm,21.9s,baz=312,slow=33					
RES	**Resolute Bay**	**53.85**	**17**	P	**P**	**12 23 10.9 -0.1**
	comp=Z,50nm,0.7s,baz=319,slow=11,SNR=11					
	comp=Z,50nm,0.7s					
PYUN	**Piuthan**	**54.33**	**276**	*eP*	**P**	**12 23 15.9 +0.4**
YKA	**Yellowknife Ar**	**54.39**	**35**	P	**P**	**12 23 15.7 +0.5**
	comp=Z,28nm,0.7s,baz=298,slow=6.9,SNR=58					
YKA				PcP	**PcP**	**12 24 18.9 +0.3**
	comp=Z,2.0nm,0.8s,baz=296,slow=3.3,SNR=1.1					
YKA				LR	LR	12 48 21.5
	comp=Z,64nm,20.0s,baz=273,slow=38					
	comp=Z,28nm,0.7s					
HNR	**Honiara**	**54.55**	**167**	LR	LR	12 45 04.3
	comp=Z,2µm,20.3s,baz=334,slow=34					
KK31	**Karatay Array**	**54.62**	**298**	*i* P	**P**	**12 23 17.2 +0.1**
ARU	**Arti**	**54.77**	**317**	P	**P**	**12 23 17.7 -0.4**
	comp=Z,4.4nm,0.3s,baz=63,slow=7.8,SNR=6.2					
ARU				LR	LR	12 49 07.9
	comp=Z,456nm,18.3s,baz=56,slow=39					
	comp=Z,4.4nm,0.3s					
ARU	**Arti**	**54.77**	**317**	P	**P**	**12 23 16.9 -1.2**
ARU	**Arti**	**54.77**	**317**	*c iP*	**P**	**12 23 17.2 -0.8**
ARU						12 25 17.0
ARU				S	**S**	**12 30 55.2 -1.5**
ARU				SS	**SS**	**12 34 36.8 -2.5**
ARU				pmax	pmax	
	comp=Z,5.0nm,0.7s					
ARU				MLR	MLR	
	comp=Z,387nm,16.0s					
IUG	**Iuzhnay**	**55.42**	**298**	*i* P	**P**	**12 23 23.1 +0.1**
IUG	**Iuzhnay**	**55.42**	**298**	*i* P	**P**	**12 23 23.1 +0.1**
	baz=298					
BTK	**Batken**	**56.01**	**295**	IAmb	IAmb	12 23 33.0
	comp=Z,33nm,1.6s					
LLLB	**Lillooet**	**56.89**	**50**	IAmb	IAmb	12 23 35.1
	comp=Z,28nm,1.2s					
GAR	**Garm**	**56.91**	**294**	IAmb	IAmb	12 23 38.0
	comp=Z,21nm,0.8s					
B04A	**Port Angeles**	**57.32**	**53**	IAmb	IAmb	12 23 38.3
	comp=Z,15nm,1.0s					
NLWA	**Neilton Lookou**	**57.47**	**54**	IAmb	IAmb	12 23 40.2
	comp=Z,23nm,0.9s					
AB31	**Akbulak array**	**57.70**	**309**	*i* P	**P**	**12 23 39.1 +0.1**
ABKAR	**Akbulak array**	**57.70**	**309**	P	**P**	**12 23 38.9 -0.1**
ABKAR	**Akbulak array**	**57.70**	**309**	IAmb	IAmb	12 23 42.8
	comp=Z,7.6nm,0.6s					
PRGR	**Permogore**	**57.73**	**327**	*eP*	**P**	**12 23 36.4 -2.6**
PRGR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CHGR	**Chuyangaron**	**57.85**	**294**	P	**P**	**12 23 40.8 +0.4**
CHGR	**Chuyangaron**	**57.85**	**294**	P	**P**	**12 23 40.8 +0.4**
CHGR				pmax	pmax	
	comp=Z,37nm,0.7s					
KIRV	**Kirov**	**57.88**	**322**	LR	LR	12 50 42.7
	comp=Z,221nm,18.8s,baz=50,slow=38					
NIL	**Nilore**	**57.93**	**287**	P	**P**	**12 23 41.6 +0.6**
NIL				IAmb	IAmb	12 23 43.1
	comp=Z,34nm,1.1s					
NIL	**Nilore**	**57.93**	**287**	P	**P**	**12 23 41.6 +0.6**
NIL				pmax	pmax	
	comp=Z,34nm,1.2s					
NIL	**Nilore**	**57.93**	**287**	P	**P**	**12 23 41.5 +0.6**
E03A	**Lebam**	**58.09**	**54**	IAmb	IAmb	12 23 46.6
	comp=Z,26nm,0.9s					
AKTO	**Aktyubinsk**	**58.12**	**311**	P	**P**	**12 23 41.3 -0.7**
	comp=Z,2.6nm,0.5s,baz=74,slow=7.4,SNR=7.2					
AKTO				LR	LR	12 50 33.5
	comp=Z,176nm,20.3s,baz=51,slow=38					
	comp=Z,2.6nm,0.5s					
AKTO	**Aktyubinsk**	**58.12**	**311**	P	**P**	**12 23 42.1 +0.1**
D05A	**Enumclaw**	**58.65**	**53**	IAmb	IAmb	12 23 48.2
	comp=Z,36nm,1.2s					
G03D	**McMinnville, O**	**59.00**	**55**	P	**P**	**12 23 49.4 +1.2**
	baz=304					
ARCES	**ARCESS Array B**	**59.04**	**340**	P	**P**	**12 23 46.3 -1.8**
	comp=Z,2.4nm,0.8s,baz=50,slow=8.1,SNR=5.7					
ARCES				PcP	**PcP**	**12 24 36.7 0.0**
	comp=Z,2.5nm,0.8s,baz=46,slow=2.6,SNR=4.7					
ARCES				LR	LR	12 52 11.5
	comp=Z,103nm,20.9s,baz=48,slow=39					
	comp=Z,2.4nm,0.8s					
I02E	**Swisshome, OR**	**59.26**	**57**	IAmb	IAmb	12 23 52.2
	comp=Z,28nm,1.0s					
I02E	**Swisshome, OR**	**59.26**	**57**	P	**P**	**12 23 51.6 +1.6**
	baz=304					
COR	**Corvallis**	**59.32**	**56**	P	**P**	**12 23 51.8 +1.4**
COR	**Corvallis**	**59.32**	**56**	P	**P**	**12 23 51.8 +1.4**
COR				pmax	pmax	
	comp=Z,29nm,1.0s					
LTY	**Liberty**	**59.37**	**52**	IAmb	IAmb	12 23 52.4
	comp=Z,24nm,1.3s					
B08A	**Colville Reser**	**59.50**	**51**	IAmb	IAmb	12 23 53.2
	comp=Z,25nm,1.1s					
J01E	**Myrtle Point**	**59.74**	**58**	P	**P**	**12 23 54.9 +1.7**
	baz=304					
I03D	**Drain, OR**	**59.79**	**57**	P	**P**	**12 23 55.2 +1.6**
	baz=304,SNR=6.2					
KTK1	**Kautokeino**	**59.98**	**340**	*eP*	**P**	**12 23 55.6 +1.1**
KTK1				IAmb	IAmb	12 24 05.2
	comp=Z,40nm,1.6s					
G05D	**Wamic, OR**	**60.12**	**55**	P	**P**	**12 23 57.4 +1.5**
	baz=304,SNR=10					
K02D	**Willamette Mer**	**60.16**	**58**	P	**P**	**12 23 57.3 +0.9**
	baz=305					
JETT	**Jettan, Norway**	**60.23**	**342**	*eP*	**P**	**12 23 55.0 -1.3**
JETT				IAmb	IAmb	12 24 00.7
	comp=Z,71nm,1.7s					
KBL	**Kabul**	**60.27**	**291**	P	**P**	**12 23 55.6 -1.7**
KBL				IAmb	IAmb	12 24 00.1
	comp=Z,16nm,1.1s					
KBL	**Kabul**	**60.27**	**291**	P	**P**	**12 23 55.6 -1.7**
KBL				pmax	pmax	
	comp=Z,16nm,1.1s					
I04A	**Tendick Farm,**	**60.30**	**56**	P	**P**	**12 23 58.1 +0.9**
	baz=305,SNR=8.6					
C09A	**Chrisman Ranch**	**60.40**	**51**	IAmb	IAmb	12 23 59.3
	comp=Z,23nm,0.9s					
D08A	**Wollman Farm,**	**60.47**	**52**	IAmb	IAmb	12 23 59.8
	comp=Z,26nm,1.3s					
HAWA	**Hanford**	**60.50**	**53**	IAmb	IAmb	12 24 00.4
	comp=Z,31nm,1.2s					
TRO	**Tromso**	**60.50**	**342**	*eP*	**P**	**12 23 57.8 -0.2**
TRO				IAmb	IAmb	12 24 00.1
	comp=Z,25nm,0.3s					
L02F	**Cave Junction**	**60.55**	**59**	P	**P**	**12 24 00.0 +1.1**
	baz=305					
PSI	**Prapat**	**60.56**	**242**	LR	LR	12 52 13.3
	comp=Z,80nm,18.2s,baz=42,slow=38					
KLMR	**Klimovskoe**	**60.57**	**328**	*eP*	**P**	**12 23 58.2 -0.4**
KLMR				pmax	pmax	
	comp=Z,17nm,1.8s					
KLMR				MLR	MLR	
	comp=Z,448nm,22.0s					
KLMR	**Klimovskoe**	**60.57**	**328**	*eP*	**P**	**12 23 58.3 -0.4**
KLMR				AMP		12 24 12.1
	comp=Z,17nm,1.8s					
KLMR				LR	LR	12 47 34.4
KLMR				AMP		12 50 12.3
	comp=Z,448nm,22.2s					
I05D	**Terrebonne, OR**	**60.62**	**55**	P	**P**	**12 24 00.3 +0.9**
	baz=305,SNR=10					
E08A	**Ider Farm, EI**	**60.71**	**52**	IAmb	IAmb	12 24 01.7
	comp=Z,16nm,0.9s					
NEW	**Newport**	**60.77**	**50**	P	**P**	**12 24 00.8 +0.4**
	comp=Z,20nm,0.9s,baz=309,slow=6.3,SNR=22					
NEW				LR	LR	12 50 33.2
	comp=Z,59nm,20.2s,baz=308,slow=36					
	comp=Z,20nm,0.9s					
NEW	**Newport**	**60.77**	**50**	IAmb	IAmb	12 24 01.9
	comp=Z,27nm,1.0s					
NEW	**Newport**	**60.77**	**50**	P	**P**	**12 24 01.0 +0.6**
	baz=305,SNR=17					
J04D	**Umpqua Nationa**	**60.79**

FFC pmax pmax
comp=Z,39nm,0.9s
FFC Flin Flon 64.25 38 P P 12 24 23.0 -0.5
FFC pP **pwP 12 24 35.6 +0.6**
FFC sP sP 12 24 41.9 +8.2
MOR8 Moi Rana 64.30 341 *e*P **P 12 24 20.8 -2.8**
CTA Charters Tower 64.31 183 LR LR 12 48 31.3
comp=Z,54nm,21.3s,baz=60,slow=32
PAHR Pah Rah Range 64.53 59 IAmb IAmb 12 26 29.7
comp=Z,14nm,0.6s
EMB Emerald Bay 64.54 60 IAmb IAmb 12 24 27.6
comp=Z,26nm,1.2s
FCC Fort Churchill 64.66 31 P **P 12 24 25.8 -0.2**
FCC IAmb IAmb 12 24 26.5
comp=Z,23nm,0.8s
FCC Fort Churchill 64.66 31 P **P 12 24 25.8 -0.2**
FCC pmax pmax
comp=Z,23nm,0.9s
PNTR Pine Nut 64.78 59 IAmb IAmb 12 24 29.3
comp=Z,23nm,1.0s
EGMT Eagleton 64.85 47 P **P 12 24 28.2 +0.6**
baz=309,SNR=22
FIA1 FINESS Array S 64.85 334 P **P 12 24 26.9 -0.2**
FIA1 IAmb IAmb 12 24 30.6
comp=Z,12nm,0.7s
FINES FINESS Array B 64.85 334 P **P 12 24 25.8 -1.4**
comp=Z,11nm,0.6s,baz=46,slow=8.2,SNR=24
FINES LR LR 12 56 49.1
comp=Z,194nm,18.1s,baz=66,slow=40
comp=Z,11nm,0.6s
FINES FINESS Array B 64.85 334 *i* P **P 12 24 28.2 +1.0**
FINES pmax pmax
comp=Z,14nm,0.7s
YERR Yerington 65.06 59 IAmb IAmb 12 24 31.1
comp=Z,26nm,1.0s
HLID Hailey 65.10 53 P **P 12 24 30.1 +0.7**
baz=308,SNR=16
GEYT Alibeck 65.32 300 P **P 12 24 30.9 +0.2**
comp=Z,9.7nm,0.8s,baz=37,slow=3.7,SNR=9.4
GEYT LR LR 12 55 31.2
comp=Z,224nm,18.1s,baz=72,slow=38
comp=Z,9.7nm,0.8s
WB0 Warramunga Arr 65.35 195 P **P 12 24 30.1 -0.7**
WB0 pP **sP 12 24 40.0 -1.0**
WB0 IAmb IAmb 12 24 46.4
comp=Z,16nm,0.9s
BOZ Bozeman (W) 65.38 50 IAmb IAmb 12 24 32.9
comp=Z,26nm,0.8s
BOZ Bozeman (W) 65.38 50 P **P 12 24 31.8 +0.7**
baz=309,SNR=44
BMN Battle Mountai 65.40 57 IAmb IAmb 12 24 33.2
comp=Z,20nm,0.8s
WRAB Tennant Creek 65.52 195 P **P 12 24 30.9 -1.0**
WRAB IAmb IAmb 12 24 47.0
comp=Z,15nm,0.9s
WRAB Tennant Creek 65.52 195 P **P 12 24 30.9 -1.0**
WRAB pmax pmax
comp=Z,15nm,0.9s
WRAB Tennant Creek 65.52 195 P **P 12 24 30.9 -1.0**
WRAB pP **pwP 12 24 44.4 -0.2**
WRAB sP PcP 12 24 53.2 -10
WB2 Warramunga Arr 65.53 195 P **P 12 24 31.5 -0.5**
WB2 pP **pwP 12 24 45.0 +0.4**
WRA Warramunga Arr 65.53 195 P **P 12 24 31.7 -0.3**
comp=Z,7.5nm,0.9s,baz=15,slow=6.9,SNR=35
WRA pP **pwP 12 24 45.6 +0.9**
comp=Z,12nm,0.9s,baz=14,slow=6.7,SNR=23
WRA LR LR 12 50 53.5
comp=Z,49nm,22.0s,baz=342,slow=34
comp=Z,7.5nm,0.9s
OBN Obninsk 65.55 324 *e*P **P 12 24 31.5 -0.3**
OBN *e* 12 25 05.1
OBN *e* 12 27 02.2
OBN *e*PPP PPP 12 28 29.7
OBN pmax pmax
comp=Z,21nm,1.4s
OBN MLR MLR
comp=Z,210nm,18.0s
OBN Obninsk 65.55 324 *e*P **P 12 24 31.5 -0.3**
KVN Kaiserville 65.72 59 IAmb IAmb 12 24 35.3
comp=Z,30nm,1.0s
RYN Ryan 65.72 59 IAmb IAmb 12 24 35.2
comp=Z,16nm,0.9s
NVAR Mina Array Bea 65.98 59 P **P 12 24 36.0 +0.8**
comp=Z,12nm,0.7s,baz=293,slow=7.2,SNR=112
NVAR LR LR 12 50 57.8
comp=Z,61nm,20.3s,baz=324,slow=34
comp=Z,12nm,0.7s
NV11 Mina Array Sit 66.07 59 IAmb IAmb 12 24 37.5
comp=Z,19nm,1.1s
YHL Hebgen Lake 66.10 50 IAmb IAmb 12 24 37.9
comp=Z,20nm,1.0s
MLAC Mammoth, Mammo 66.15 60 P **P 12 24 37.3 +1.0**
baz=309
YHH Holmes Hill 66.32 50 P **P 12 24 37.4 0.0**
YHH IAmb IAmb 12 24 39.2
comp=Z,20nm,0.9s
YMR Madison River 66.33 50 IAmb IAmb 12 24 39.4
comp=Z,22nm,1.0s
ELK Elko 66.38 56 P **P 12 24 38.5 +0.7**
comp=Z,4.2nm,0.7s,baz=296,slow=6.9,SNR=23
ELK LR LR 12 54 24.4
comp=Z,47nm,18.8s,baz=322,slow=37
comp=Z,4.2nm,0.7s
PAGB Antelope Grade 66.44 63 IAmb IAmb 12 24 39.9
comp=Z,50nm,1.6s
YNR Norris Junctio 66.46 50 IAmb IAmb 12 24 41.4
comp=Z,35nm,1.3s
YFT Old Faithful 66.55 50 IAmb IAmb 12 24 42.9
comp=Z,20nm,0.9s
H17A Grant Village 66.72 50 IAmb IAmb 12 24 43.4
comp=Z,34nm,1.0s
H17A Grant Village 66.72 50 P **P 12 24 42.2 +2.3**
baz=310,SNR=11
IMW Indian Meadow 66.84 51 IAmb IAmb 12 24 43.2
comp=Z,23nm,0.9s
DSP Deep Springs 66.85 60 IAmb IAmb 12 24 42.7
comp=Z,22nm,1.0s
SMMC Simmler 66.86 63 P **P 12 24 41.4 +0.7**
baz=309
FXWY Fox Creek 66.96 51 IAmb IAmb 12 24 43.8
comp=Z,23nm,1.1s
RLMT Red Lodge 66.97 49 IAmb IAmb 12 24 44.2
comp=Z,25nm,1.0s
RLMT Red Lodge 66.97 49 P **P 12 24 42.3 +0.9**
baz=310,SNR=24
MOOW Moose Ponds 67.05 51 IAmb IAmb 12 24 44.3
comp=Z,25nm,1.1s
VES Vestal, Richgr 67.11 62 P **P 12 24 41.9 -0.2**
baz=309
HVU Hansel Valley 67.16 53 IAmb IAmb 12 24 44.5
comp=Z,13nm,0.9s
SNOW Snow King Moun 67.22 51 IAmb IAmb 12 24 45.6
comp=Z,25nm,1.0s
REDW Red Top Meadow 67.23 51 IAmb IAmb 12 24 45.5
comp=Z,26nm,1.0s
PKM Mcpherson Peak 67.25 63 P **P 12 24 44.1 +0.8**
baz=309
MSVF Nonsavu 67.32 150 LR LR 12 56 39.2
comp=Z,44nm,18.0s,baz=281,slow=38
CWC Cottonwood Cre 67.36 61 P **P 12 24 44.3 +0.3**
baz=309
DGMT Dagmar 67.38 44 P **P 12 24 44.1 +0.4**
baz=312,SNR=25
DGMT Dagmar 67.38 44 P **P 12 24 44.1 +0.4**
baz=312,SNR=25
GRAC Grapevine Rang 67.46 60 IAmb IAmb 12 24 46.4
comp=Z,29nm,0.9s
GRAC Grapevine Rang 67.46 60 P **P 12 24 45.3 +0.9**
baz=309,SNR=6.6
AHID Auburn Hatcher 67.48 52 IAmb IAmb 12 24 46.4
comp=Z,15nm,1.0s
LAO LASA Array 67.55 46 P **P 12 24 45.6 +0.7**
baz=312,SNR=21
LAO LASA Array 67.55 46 P **P 12 24 45.8 +1.0**
baz=312,SNR=21
ISA Isabella, Lake 67.61 62 P **P 12 24 44.9 -0.5**
baz=309
R11A Troy Canyon, C 67.69 58 IAmb IAmb 12 24 47.6
comp=Z,19nm,1.0s
R11A Troy Canyon, C 67.69 58 P **P 12 24 46.6 +0.6**
baz=310,SNR=33
SFJD Kangerlussuaq 67.83 8 P **P 12 24 45.7 -0.4**
comp=Z,25nm,0.9s,baz=329,slow=5.0,SNR=8.4
SFJD LR LR 12 55 29.5
comp=Z,59nm,18.7s,baz=347,slow=37
comp=Z,25nm,0.9s
SFJD Kangerlussuaq 67.83 8 P **P 12 24 45.7 -0.4**
SFJD IAmb IAmb 12 24 47.8
comp=Z,27nm,0.9s
HWUT Hardware Ranch 67.97 53 IAmb IAmb 12 24 49.6
comp=Z,24nm,1.2s
MPMC Manual Prospec 67.98 61 P **P 12 24 48.3 +0.4**
baz=310,SNR=18
SPR3 Spring Creek 3 68.03 57 IAmb IAmb 12 24 50.5
comp=Z,13nm,0.8s
WCT Wildcat Mounta 68.04 60 IAmb IAmb 12 24 49.8
comp=Z,18nm,1.2s
FRB Frobisher Bay 68.06 17 P **P 12 24 47.3 -0.3**
comp=Z,14nm,0.6s,baz=328,slow=7.9,SNR=10
FRB LR LR 12 57 46.3
comp=Z,140nm,19.5s,baz=5.0,slow=39
comp=Z,14nm,0.6s
FURC Furnace Creek, 68.11 60 P **P 12 24 49.3 +0.9**
baz=310,SNR=35
DUG Dugway, Tooele 68.16 55 IAmb IAmb 12 24 50.8
comp=Z,19nm,0.8s
DUG Dugway, Tooele 68.16 55 P **P 12 24 49.8 +0.9**
baz=310,SNR=17
TPNV Topopah Spring 68.18 59 IAmb IAmb 12 24 50.8
comp=Z,30nm,1.1s
TPNV Topopah Spring 68.18 59 P **P 12 24 49.9 +0.8**
baz=310,SNR=22
CCAC Calif City Air 68.22 62 IAmb IAmb 12 24 50.6
comp=Z,13nm,0.8s
LRMC Laurel Mtn Rad 68.22 61 P **P 12 24 49.4 0.0**
baz=310
BW06 Boulder Array 68.34 51 IAmb IAmb 12 24 51.5
comp=Z,14nm,0.8s
BW06 Boulder Array 68.34 51 P **P 12 24 50.5 +0.3**
baz=311,SNR=24
PDAR Pinedale Array 68.34 51 P **P 12 24 50.3 +0.2**
comp=Z,10.0nm,0.8s,baz=262,slow=1.9,SNR=95
PDAR LR LR 12 55 55.6
comp=Z,40nm,18.6s,baz=318,slow=37
comp=Z,10.0nm,0.8s
TCUT Toone Canyon 68.37 53 IAmb IAmb 12 24 52.1
comp=Z,14nm,0.8s
MAK Makhachkala 68.38 309 *e*P **P 12 24 49.5 -0.5**
MAK *e* 12 27 25.8
MAK *e*S **S 12 33 48.5 -1.0**
MAK pmax pmax
comp=Z,130nm,1.1s
GWY Greenwater Val 68.41 60 IAmb IAmb 12 24 52.0
comp=Z,20nm,0.7s
EDW2 Edwards Air Fo 68.41 62 P **P 12 24 51.0 +0.6**
baz=310,SNR=10
QSM Queen of Sheba 68.42 60 IAmb IAmb 12 24 52.0
comp=Z,21nm,0.8s
SNCC San Nicolas Is 68.47 64 P **P 12 24 51.4 +0.7**
baz=310
PRN Pahroc Range 68.62 58 IAmb IAmb 12 24 53.2
comp=Z,11nm,0.6s
SHOC Shoshone, Teco 68.83 60 P **P 12 24 53.4 +0.4**
baz=310
GSC Goldstone, Bar 68.89 61 P **P 12 24 53.7 +0.3**
baz=310,SNR=8.7
BFSC Mount Baldy Ra 69.03 62 P **P 12 24 54.6 +0.2**
baz=310,SNR=6.2
DOMB Dombas 69.06 341 *e*P **P 12 24 53.5 -0.5**
CIS Catalina Islan 69.09 63 P **P 12 24 54.6 -0.1**
baz=310
SHPR Sheep Range 69.13 59 IAmb IAmb 12 24 57.0
comp=Z,20nm,1.0s
NC303 NORSAR Array S 69.22 340 IAmb IAmb 12 27 24.9
comp=Z,39nm,1.8s
NC405 NORSAR Array S 69.23 339 IAmb IAmb 12 24 56.0
comp=Z,21nm,0.8s
ASAR Alice Springs 69.24 195 P **P 12 24 56.1 +0.7**
comp=Z,5.5nm,0.8s,baz=13,slow=5.0,SNR=41
ASAR pP **pwP 12 25 10.2 +2.0**
comp=Z,9.8nm,0.8s,baz=12,slow=5.6,SNR=26
ASAR LR LR 12 52 56.0
comp=Z,44nm,21.6s,baz=72,slow=34
comp=Z,5.5nm,0.8s
ASAR Alice Springs 69.24 195 P **P 12 24 55.4 -0.1**
ASAR pP **pwP 12 25 08.5 +0.3**
ASAR Alice Springs 69.24 195 P **P 12 24 55.4 -0.1**
ASAR *PP **pwP 12 25 08.5 +0.3**
SCI2 San Clemente I 69.27 64 P **P 12 24 55.8 0.0**
baz=310
NC204 NORSAR Array S 69.32 340 IAmb IAmb 12 24 56.2
comp=Z,24nm,0.9s
TUQ Turquoise Moun 69.35 60 P **P 12 24 56.9 +0.5**
baz=310,SNR=5.8
NB201 NORSAR Array S 69.39 340 IAmb IAmb 12 24 56.5
comp=Z,33nm,0.9s
NB2 NORSAR Subarra 69.42 340 P **P 12 24 55.6 -0.6**
comp=Z,12nm,1.0s,baz=30,slow=6.2
NB2 NORSAR Subarra 69.42 340 P **P 12 24 55.6 -0.6**
baz=30,slow=6.2
NOA NORSAR Array B 69.42 340 P **P 12 24 55.4 -0.8**
comp=Z,9.1nm,0.8s,baz=30,slow=6.3,SNR=33
NOA LR LR 12 58 33.1
comp=Z,77nm,21.6s,baz=30,slow=39
comp=Z,9.1nm,0.8s
WTNK Soaring Height 69.43 59 IAmb IAmb 12 24 58.5
comp=Z,3.8nm,0.7s
MNK Minsk 69.47 328 *i* P **P 12 24 55.4 -1.2**
MNK *i* 12 25 18.1
MNK *i* 12 27 29.1
MNK *i* PPP PPP 12 29 10.5
MNK *i* S **S 12 34 01.4 -0.5**
MNK pmax pmax
comp=Z,21nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK MLR MLR
comp=Z,248nm,18.0s
MNK MLR MLR
comp=E,15nm,18.0s
MNK Minsk 69.47 328 *i* P **P 12 24 55.4 -1.2**
comp=E,1.0nm,1.0s
MNK *i* P **P 12 24 55.4 -1.2**
MNK *i* P **P 12 24 55.4 -1.2**
comp=Z,21nm,1.0s,baz=41
MNK *i* PcP **PcP 12 25 18.2 -1.6**
MNK *i* PP **PP 12 27 29.1 -0.5**
MNK *i* PPP PPP 12 29 10.5
MNK *i* S **S 12 34 01.5 -0.5**
MNK *i* SS SS 12 37 40.5 -48
MNK *i* SSS SSS 12 41 48.4
MNK *i* LQ LQ 12 50 20.1
MNK *i* LR LR 12 52 02.3
MNK *i* LRM MLR 12 57 21.2
comp=Z,248nm,17.9s
MNK *i* LRM MLR 12 57 30.1
comp=E,15nm,17.9s
MNK *i* LRM MLR 12 58 04.2
BBRC Big Bear Solar 69.48 62 P **P 12 24 57.6 +0.2**
baz=310
HEC Hector,Ludlow 69.49 61 P **P 12 24 57.6 +0.4**
baz=310,SNR=12
NBO00 NORSAR Array S 69.53 340 IAmb IAmb 12 24 57.8
comp=Z,22nm,0.9s
HFS Hagfors 69.55 338 LR LR 12 57 47.6
comp=Z,128nm,21.8s,baz=34,slow=38
NACGM Naroch 69.57 329‖ *e*P **P 12 24 57.8 +0.6**
baz=40
PALK Pallekele 69.58 260 LR LR 12 58 14.9
comp=Z,89nm,18.2s,baz=163,slow=38
NC602 NORSAR Array S 69.60 339 *e*P **P 12 24 56.7 -0.6**
MVU Marysvale 69.61 56 IAmb IAmb 12 25 00.1
comp=Z,40nm,1.0s
NAO01 NORSAR Array S 69.67 340 IAmb IAmb 12 25 00.8
comp=Z,36nm,1.1s
MURC Murrieta 69.74 63 P **P 12 24 58.8 +0.2**
baz=310
P17A Butcher Ranch, 69.84 54 IAmb IAmb 12 25 01.1
comp=Z,27nm,1.0s
GMRC Granite Mounta 69.94 61 P **P 12 25 00.5 +0.5**
baz=311,SNR=12
LCMT Little Creek M 69.97 58 IAmb IAmb 12 25 02.2
comp=Z,26nm,0.8s
MDND Maddock 70.05 42 P **P 12 25 00.9 +0.6**
baz=315,SNR=14
MDND Maddock 70.05 42 P **P 12 25 00.7 +0.4**
baz=315,SNR=14
ULM Lac du Bonnet 70.05 38 P **P 12 24 60.0 -0.2**
comp=Z,21nm,0.5s,baz=315,slow=8.0
ULM LR LR 12 59 18.0
comp=Z,64nm,18.9s,baz=80,slow=39
comp=Z,21nm,0.5s
ULM Lac du Bonnet 70.05 38 IAmb IAmb 12 25 00.5
comp=Z,22nm,0.6s
ULM Lac du Bonnet 70.05 38 P **P 12 25 00.0 -0.2**
K22A Casper 70.09 49 P **P 12 25 01.0 +0.1**
baz=313,SNR=10
K22A Casper 70.09 49 P **P 12 25 00.9 +0.1**
baz=313,SNR=10
PFO Pinyon Flats O 70.20 62 P **P 12 25 01.0 -0.6**
comp=Z,6.8nm,1.1s,baz=327,slow=4.1,SNR=6.4
PFO LR LR 12 49 32.1
comp=Z,94nm,21.3s,baz=303,slow=30
comp=Z,6.8nm,1.1s
PFO Pinyon Flats O 70.20 62 P **P 12 25 02.0 +0.4**
PFO Pinyon Flats O 70.20 62 P **P 12 25 01.8 +0.2**
baz=311
PFO Pinyon Flats O 70.20 62 P **P 12 25 01.3 -0.3**
PFO pP **pwP 12 25 15.3 +2.6**
SRU San Rafael Swe 70.20 54 IAmb IAmb 12 25 03.1
comp=Z,33nm,0.8s
TPFO Pinon Flats 70.20 62 P **P 12 25 01.8 +0.1**
baz=311,SNR=7.4
KNB Kanab 70.22 57 IAmb IAmb 12 25 04.0
comp=Z,30nm,1.0s
PMD Palm Desert 70.22 62 IAmb IAmb 12 25 03.4
comp=Z,15nm,1.5s
BELC Belle Mtn. Jos 70.23 62 P **P 12 25 01.7 -0.2**
baz=311,SNR=7.5
109C Camp Elliot, M 70.26 63 P **P 12 25 02.0 +0.2**
baz=311
KVAR Kislovodsk Arr 70.31 313 LR LR 13 00 16.5
comp=Z,290nm,20.0s,baz=286,slow=40
KIV Kislovodsk 70.32 313 P **P 12 25 04.0 +1.8**
KIV IAmb IAmb 12 25 06.7
comp=Z,16nm,0.7s
KIV Kislovodsk 70.32 313*c* *i*P **P 12 25 03.2 +1.1**
KIV pmax pmax
comp=Z,16nm,0.7s
KIV MLR MLR
comp=Z,276nm,18.0s
RWWY Rawlins 70.36 51 IAmb IAmb 12 25 03.9
comp=Z,24nm,1.1s
KBZ Khabaz 70.36 312 P **P 12 25 03.1 +0.8**
comp=Z,11nm,0.9s,baz=65,slow=6.3,SNR=13
KBZ LR LR 13 00 35.2
comp=Z,486nm,19.0s,baz=42,slow=40
comp=Z,11nm,0.9s
E28A Huff 70.41 43 P **P 12 25 02.7 +0.1**
baz=315,SNR=6.5
RSSD Black Hills 70.42 47 P **P 12 25 02.9 0.0**
RSSD IAmb IAmb 12 25 04.1
comp=Z,44nm,1.2s
RSSD Black Hills 70.42 47 P **P 12 25 02.9 0.0**
RSSD pmax pmax
comp=Z,44nm,1.2s
RSSD Black Hills 70.42 47 P **P 12 25 03.1 +0.1**
baz=313,SNR=19
RSSD Black Hills 70.42 47 P **P 12 25 03.0 +0.1**
baz=313
RSSD Black Hills 70.42 47 P **P 12 25 01.9 -1.0**
RSSD pP **pwP 12 25 15.1 +0.8**
RSSD sP **PcP 12 25 19.7 -4.6**
ZEI Tsey 70.47 311 *e*P **P 12 25 02.2 -1.0**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
IRM Iron Mountain 70.67 61 P **P 12 25 04.9 +0.5**
baz=311,SNR=16
MONP2 Monument Peak 70.69 63 P **P 12 25 04.9 +0.2**
baz=311
BC3 Big Chuckawall 70.80 62 P **P 12 25 05.2 -0.1**
baz=311,SNR=7.7
O20A White River Ci 70.83 52 P **P 12 25 05.5 +0.1**
baz=312,SNR=11
U15A North Rim 70.93 58 IAmb IAmb 12 25 08.3
comp=Z,23nm,0.9s
KONO Kongsberg 71.03 340 P **P 12 25 08.4 +2.4**
KONO Kongsberg 71.03 340 P **P 12 25 08.4 +2.4**
KONO pmax pmax
comp=Z,12nm,0.9s
KONO Kongsberg 71.03 340 *e*P **P 12 25 05.7 -0.3**
KONO Kongsberg 71.03 340 P **P 12 25 06.0 -0.1**
IKP In-Ko-Pah, Jac 71.05 63 P **P 12 25 06.9 +0.2**
baz=311,SNR=5.0
SWSC Sam W. Stewart 71.05 62 P **P 12 25 06.7 0.0**
baz=311
PDMCI Parker Dam,Lak 71.20 60 P **P 12 25 07.9 +0.4**
baz=311,SNR=14
BLYC Blythe 71.32 61 IAmb IAmb 12 25 09.8
comp=Z,18nm,0.8s
AGMN Agassiz Nation 71.47 40 IAmb IAmb 12 25 09.6
comp=Z,32nm,0.9s
AGMN Agassiz Nation 71.47 40 P **P 12 25 08.7 -0.3**
baz=317,SNR=15
AGMN Agassiz Nation 71.47 40 P **P 12 25 08.6 -0.3**
baz=317,SNR=15
PV23 Carpenter Ridg 71.52 54 IAmb IAmb 12 25 11.3
comp=Z,28nm,1.0s
GLA Glamis 71.59 62 IAmb IAmb 12 25 11.5
comp=Z,19nm,0.8s
GLA Glamis 71.59 62 P **P 12 25 10.4 +0.4**
baz=312,SNR=5.7
N23A Red Feather La 71.60 51 IAmb IAmb 12 25 12.8
comp=Z,26nm,1.1s
N23A Red Feather La 71.60 51 P **P 12 25 10.8 +0.6**
baz=313,SNR=17
GNI Garni 71.80 309 LR LR 13 01 55.2
comp=Z,76nm,18.6s,baz=49,slow=40
AKASG Malin Array Be 71.81 325 P **P 12 25 10.2 -0.8**
comp=Z,14nm,0.7s,baz=38,slow=6.3,SNR=43
AKASG LR LR 12 59 42.8
comp=Z,264nm,18.1s,baz=60,slow=38
comp=Z,14nm,0.7s
AKASG Malin Array Be 71.81 325 *i* P **P 12 25 10.5 -0.4**
AKASG pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 71.81 325 IAmb IAmb 12 25 14.1
comp=Z,16nm,0.7s
PV13 Radium Mtn., P 71.83 54 IAmb IAmb 12 25 13.1
comp=Z,34nm,0.9s
WUAZ Wupatki 72.09 58 IAmb IAmb 12 25 15.1
comp=Z,20nm,1.0s
WUAZ Wupatki 72.09 58 P **P 12 25 13.8 +0.7**
baz=312,SNR=14
SOC Sochi 72.12 314 *e*P **P 12 25 15.4 +2.5**
SOC *e*PPP PPP 12 29 35.1
SOC *e*S **S 12 34 39.0 +5.8**
SOC *e*SSS SSS 12 42 27.2
SOC pmax pmax
comp=Z,20nm,0.5s
SOC MLR MLR
comp=Z,249nm,22.0s
SMCO Snowmass 72.20 52 IAmb IAmb 12 25 18.6
comp=Z,19nm,1.0s
B35A Bob, Littlefor 72.39 39 P **P 12 25 14.1 -0.4**
baz=318,SNR=12
ANN Anapa 72.42 316 *e*P **P 12 25 17.3 +2.7**
ANN pmax pmax
comp=Z,31nm,0.7s
ISCO Idaho Springs 72.54 51 P **P 12 25 16.3 +0.5**
baz=314,SNR=24
ISCO Idaho Springs 72.54 51 P **P 12 25 16.5 +0.6**
baz=314,SNR=24
MVCO Mesa Verde 72.66 55 IAmb IAmb 12 25 18.1
comp=Z,17nm,0.8s
MVCO Mesa Verde 72.66 55 P **P 12 25 17.0 +0.5**
baz=313,SNR=16
SNART Snartemo 72.77 340 *e*P **P 12 25 16.7 +0.2**
SUSD Miller 72.79 44 IAmb IAmb 12 25 17.6
comp=Z,29nm,0.8s
SUSD Miller 72.79 44 P **P 12 25 16.7 -0.2**
baz=316
SUSD Miller 72.79 44 P **P 12 25 16.7 -0.2**
baz=316
X16A Lo Mia Camp, P 72.79 59 IAmb IAmb 12 25 19.3
comp=Z,23nm,0.8s
F33A 5 Mile Ranch, 73.07 42 P **P 12 25 18.3 -0.2**
baz=317,SNR=11
S22A 4UR Ranch, Cre 73.26 53 P **P 12 25 21.2 +1.0**
baz=314,SNR=28
W18A Petrified Fore 73.35 57 P **P 12 25 21.3 +0.7**
baz=313
Q24A Divide 73.37 52 P **P 12 25 21.3 +0.4**
baz=314,SNR=8.1
214A Organ Pipe Nat 73.59 61 IAmb IAmb 12 25 23.4
comp=Z,34nm,1.4s
214A Organ Pipe Nat 73.59 61 P **P 12 25 22.4 +0.5**
baz=312,SNR=7.5
EYMN Ely 73.69 38 P **P 12 25 21.9 -0.3**
baz=320,SNR=6.8

EYMN Ely 73.69 38 P P 12 25 21.8 -0.3
baz=320,SNR=6.8
OGNE Ogallala 73.69 48 P P 12 25 22.7 +0.3
baz=315,SNR=16
OGNE Ogallala 73.69 48 P P 12 25 22.8 +0.4
baz=315,SNR=16
SIM Simferopol' 73.93 318 *e*P **P 12 25 23.6 0.0**
SIM *e* 12 25 39.9
SIM 12 35 25.0
SIM pmax pmax
comp=Z,35nm,1.2s
SIM pmax pmax
comp=Z,41nm,1.5s
SIM pmax pmax
comp=N,19nm,3.0s
SIM MLR MLR
comp=Z,180nm,18.6s
SDCO Great Sand Dun 74.02 53 P P 12 25 25.2 +0.6
baz=314,SNR=13
SDCO Great Sand Dun 74.02 53 P P 12 25 25.2 +0.6
baz=314,SNR=13
K31A O'Neill 74.20 45 P P 12 25 25.1 -0.2
baz=316,SNR=5.5
F36A Milaca 74.35 40 IAmb IAmb 12 25 26.4
comp=Z,31nm,1.4s
F36A Milaca 74.35 40 P P 12 25 25.3 -0.7
baz=319,SNR=7.5
WSAR Wadi Sarin 74.44 287 LR LR 13 03 27.3
comp=Z,136nm,18.1s,baz=48,slow=40
ECSD EROS Data Cent 74.46 43 IAmb IAmb 12 25 28.2
comp=Z,34nm,1.0s
ECSD EROS Data Cent 74.46 43 P P 12 25 26.5 -0.2
baz=317,SNR=25
ECSD EROS Data Cent 74.46 43 P P 12 25 26.6 -0.2
baz=317,SNR=25
LVV L'vov 74.60 327 *e*P **P 12 25 27.2 -0.2**
TUC Tucson 74.62 60 P P 12 25 28.4 +0.5
TUC Tucson 74.62 60 P P 12 25 28.4 +0.5
TUC pmax pmax
comp=Z,14nm,1.1s
TUC Tucson 74.62 60 P P 12 25 28.3 +0.3
baz=313
E38A The Farm, Brul 74.68 39 P P 12 25 27.6 -0.4
baz=320,SNR=8.6
T25A Trinidad 75.06 52 P P 12 25 30.9 +0.3
baz=315,SNR=11
SPMN Marine on St. 75.16 40 IAmb IAmb 12 25 31.5
comp=Z,35nm,1.0s
SPMN Marine on St. 75.16 40 P P 12 25 30.4 -0.3
baz=319,SNR=5.9
SPMN Marine on St. 75.16 40 P P 12 25 30.6 -0.1
baz=319,SNR=5.9
KWP Kalwaria Pacla 75.27 327 *e*P **P 12 25 32.3 +1.0**
KWP *e*L L 13 01 13.9
comp=Z,304nm,19.7s
BGNE Belgrade 75.39 46 P P 12 25 32.4 +0.2
baz=317
BGNE Belgrade 75.39 46 P P 12 25 31.8 -0.4
baz=317
ANMO Albuquerque 75.42 55 P P 12 25 32.3 -0.4
comp=Z,7.0nm,0.8s,baz=306,slow=7.6,SNR=27
ANMO LR LR 13 00 35.7
comp=Z,40nm,18.1s,baz=330,slow=37
comp=Z,7.0nm,0.8s
ANMO Albuquerque 75.42 55 P P 12 25 33.1 +0.4
ANMO Albuquerque 75.42 55 P P 12 25 33.1 +0.4
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 75.42 55 P P 12 25 33.3 +0.7
baz=314,SNR=16
ANMO Albuquerque 75.42 55 P P 12 25 33.3 +0.7
baz=314
DIKM Dikmen 75.80 315 ⇑P **P 12 25 33.8 -0.6**
I37B Waseca 75.80 41 P P 12 25 35.0 +0.5
baz=319,SNR=16
Y22A Socorro 75.82 56 P P 12 25 35.9 +0.9
baz=314,SNR=9.3
GIRR Girov 75.85 323 P P 12 25 35.1 +0.4
BURAR Bucovina Array 75.87 325 ⇓P **P 12 25 35.0 +0.1**
BURAR Bucovina Array 75.87 325 IAmb IAmb 12 25 39.1
comp=Z,15nm,0.7s
L34A Svendsen Farm, 75.88 44 IAmb IAmb 12 25 35.3
comp=Z,30nm,0.8s
OJC Ojcow 75.89 329 *e*P **P 12 25 34.4 -0.5**
OJC Ojcow 75.89 329 IAmb IAmb 12 25 38.2
comp=Z,14nm,0.6s
KOLS Kolonicke sedl 76.00 327 *e*P **P 12 25 36.3 +0.8**
KOLS pmax pmax
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 76.00 327 *e*P **P 12 25 36.3 +0.8**
BIZ Bicaz 76.03 324 ⇑P **P 12 25 36.4 +0.7**
TESR Tescani 76.13 323 ⇑P **P 12 25 36.6 +0.3**
COWI Conover 76.14 38 P P 12 25 35.9 -0.5
baz=321
319A Douglas 76.19 60 IAmb IAmb 12 25 38.8
comp=Z,38nm,1.0s
TLCR 76.21 321 ⇓P **P 12 25 37.3 +0.6**
121A Cookes Peak, D 76.30 58 IAmb IAmb 12 25 39.9
comp=Z,28nm,1.1s
121A Cookes Peak, D 76.30 58 P P 12 25 38.8 +1.1
baz=314,SNR=14
STKA Stephens Creek 76.31 187 P P 12 25 38.6 +1.4
comp=Z,2.6nm,0.6s,baz=9.5,slow=6.1,SNR=3.9
STKA pP **pwP 12 25 50.6 +0.6**
comp=Z,7.0nm,0.8s,baz=7.8,slow=7.0,SNR=3.8
STKA LR LR 12 56 19.2
comp=Z,53nm,22.0s,baz=26,slow=33
comp=Z,2.6nm,0.6s
G40A Rib Lake 76.31 39 IAmb IAmb 12 25 37.9
comp=Z,27nm,0.8s
G40A Rib Lake 76.31 39 P P 12 25 37.0 -0.4
baz=321,SNR=10.0
NIE Niedzica 76.36 328 *e*P **P 12 25 38.8 +1.2**
SCHQ Schefferville 76.44 20 P P 12 25 37.5 -0.4
comp=Z,9.8nm,0.8s,baz=1.9,slow=6.2,SNR=8.8
SCHQ LR LR 13 02 59.3
comp=Z,90nm,19.3s,baz=40,slow=39
comp=Z,9.8nm,0.8s
CBKS Cedar Bluff 76.45 49 P P 12 25 37.5 -0.7
baz=317
CFR Carcaliu 76.52 321 ⇑P **P 12 25 38.8 +0.3**
VRI Vrincioaia 76.61 323 ⇑P **P 12 25 39.6 +0.6**
KSP Ksiaz 76.61 331 *e*P **P 12 25 39.5 +0.6**
TPGR Topolog 76.64 321 ⇑P **P 12 25 39.9 +0.7**
F42A Maple Grove Fa 76.84 37 P P 12 25 40.4 0.0
baz=322
E43A Lone Tree Farm 76.84 36 P P 12 25 40.0 -0.3
baz=322,SNR=6.2
COVR Voineasa-Covas 76.85 323 ⇑P **P 12 25 41.2 +0.8**
LANS Liptovska Anna 76.89 329 *e*P **P 12 25 41.9 +1.3**
LANS pmax pmax
comp=Z,10.0nm,0.9s
LANS Liptovska Anna 76.89 329 *e*P **P 12 25 41.9 +1.3**
CHVC Chvalec 76.91 331 *e*P **P 12 25 41.3 +0.7**
UPC Upice 76.99 331 *e*P **P 12 25 42.1 +1.0**
UPC MLR MLR
comp=Z,200nm,18.1s
UPC Upice 76.99 331 *e*P **P 12 25 42.1 +1.0**
UPC AMS AMS 13 02 40.0
comp=Z,200nm,18.1s
HARR Harsova 76.99 321 ⇑P **P 12 25 42.2 +1.1**
DPC Dobruska-Polom 77.01 331 *e*P **P 12 25 41.9 +0.6**
DPC Dobruska-Polom 77.01 331 *e*P **P 12 25 41.9 +0.6**
MORC Moravsky Berou 77.07 330 ⇑P **P 12 25 42.4 +0.8**
MORC Moravsky Berou 77.07 330 IAmb IAmb 12 25 43.0
comp=Z,16nm,0.9s
MORC Moravsky Berou 77.07 330 *e*P **P 12 25 42.0 +0.4**
N35A Tabor 77.07 45 P P 12 25 41.5 -0.2
baz=318,SNR=6.3
KRLC Kraliky 77.09 331 *e*P **P 12 25 41.9 +0.2**
KRLC Kraliky 77.09 331 *e*P **P 12 25 41.9 +0.2**
K38A Parkersburg 77.14 42 IAmb IAmb 12 25 42.6
comp=Z,24nm,1.0s
K38A Parkersburg 77.14 42 P P 12 25 41.6 -0.4
baz=320
I40A Norwalk 77.19 40 IAmb IAmb 12 25 42.9
comp=Z,28nm,1.1s
I40A Norwalk 77.19 40 P P 12 25 42.0 -0.3
baz=321
MLR Muntele Rosu 77.24 323 LR LR 13 02 30.3
comp=Z,158nm,18.8s,baz=53,slow=38
ISR Istrita 77.27 322 ⇑P **P 12 25 43.6 +0.8**
CLL Collm 77.30 334 *i* P **P 12 25 42.5 -0.3**
CLL pmax pmax
comp=Z,26nm,0.9s
CLL Collm 77.30 334 *i* P **P 12 25 42.5 -0.3**
comp=Z,26nm,0.9s
CLL *i* x x 12 25 45.3
comp=Z,28nm,1.0s
MAUC Maruska 77.31 330 *e*P **P 12 25 43.7 +0.8**
BRG Berggiesshubel 77.37 333 *e*P **P 12 25 43.4 +0.2**
BRG Amp 12 25 44.7
comp=Z,12nm,1.1s
BRG Berggiesshubel 77.37 333 *e*P **P 12 25 43.3 +0.2**
BRG 12 36 12.5
BRG pmax pmax
comp=Z,12nm,1.1s
SCIA State Center 77.48 43 P P 12 25 44.3 +0.3
baz=320
SCIA State Center 77.48 43 P P 12 25 44.1 +0.1
baz=320
VYHS Vyhne 77.67 329 *e*P **P 12 25 45.7 +0.8**
VYHS pmax pmax
comp=Z,13nm,1.2s
VYHS Vyhne 77.67 329 *e*P **P 12 25 45.6 +0.7**
VOIR 77.67 323 ⇑P **P 12 25 45.9 +0.8**
PSZ Piszkesteto 77.74 328 ⇑P **P 12 25 46.1 +0.7**
PSZ Piszkesteto 77.74 328 P P 12 25 45.1 -0.4
JAVC Velka Javorina 77.79 330 *e*P **P 12 25 47.2 +1.5**
VRAC Vranov 77.80 330 LR LR 13 04 32.8
comp=Z,150nm,18.5s,baz=36,slow=39
VRAC Vranov 77.80 330 *e*P **P 12 25 46.4 +0.8**
EKA Eskdalemuir Ar 77.81 344 LR LR 13 04 36.8
comp=Z,122nm,21.0s,baz=6.0,slow=39
KSU1 Kansas State U 77.89 47 P P 12 25 45.4 -0.9
baz=318
KSU1 Kansas State U 77.89 47 P P 12 25 45.4 -0.9
baz=318
PRU Pruhonice 77.93 332 *e*P **P 12 25 46.7 +0.4**
PRU MLR MLR
comp=Z,200nm,21.7s
PRU Pruhonice 77.93 332 *e*P **P 12 25 46.7 +0.4**
PRU AMS AMS 13 03 30.0
comp=Z,200nm,21.7s
E46A Sault Ste Mari 77.96 35 IAmb IAmb 12 25 48.1
comp=Z,24nm,0.8s
I42A Draeger Farm, 77.96 39 IAmb IAmb 12 25 47.2
comp=Z,29nm,0.8s
I42A Draeger Farm, 77.96 39 P P 12 25 46.2 -0.4
baz=322,SNR=5.4
BRTR Keskin Array B 78.05 315 P P 12 25 47.8 +0.4
comp=Z,3.1nm,0.6s,baz=57,slow=4.6,SNR=14
BRTR LR LR 13 06 32.4
comp=Z,116nm,18.1s,baz=66,slow=40
comp=Z,3.1nm,0.6s
KRUC Moravsky 78.08 330 *e*P **P 12 25 47.7 +0.5**
JFWS Jewell Farm 78.12 40 P P 12 25 46.6 -0.9
baz=321
JFWS Jewell Farm 78.12 40 P P 12 25 46.8 -0.7
baz=321
SMOL Smolenice 78.17 330 *e*P **P 12 25 49.0 +1.3**
SMOL pmax pmax
comp=Z,9.0nm,1.0s
AMTX Amarillo 78.22 52 IAmb IAmb 12 25 49.8
comp=Z,24nm,0.9s
AMTX Amarillo 78.22 52 P P 12 25 48.8 +0.5
baz=316,SNR=7.1
AMTX Amarillo 78.22 52 P P 12 25 48.9 +0.5
baz=316
MSTX Muleshoe 78.25 54 P P 12 25 48.7 +0.1
baz=316
MSTX Muleshoe 78.25 54 P P 12 25 48.5 -0.1
baz=316
L40A Anamosa 78.32 41 IAmb IAmb 12 25 49.0
comp=Z,29nm,0.9s
L40A Anamosa 78.32 41 P P 12 25 48.2 -0.4
baz=321,SNR=6.6
N38A Joes South For 78.32 43 P P 12 25 48.4 -0.3
baz=320
MNTX Cornudas Mount 78.33 57 P P 12 25 49.2 +0.3
baz=315,SNR=25
MNTX Cornudas Mount 78.33 57 P P 12 25 49.4 +0.5
baz=315,SNR=25
MODS Modra-Piesok 78.34 330 *e*P **P 12 25 49.8 +1.1**
MODS pmax pmax
comp=Z,32nm,1.0s
MODS Modra-Piesok 78.34 330 *e*P **P 12 25 49.8 +1.1**
ANTO Ankara 78.37 315 P P 12 25 49.7 +0.6
ANTO IAmb IAmb 12 25 53.1
comp=Z,19nm,0.7s
ANTO Ankara 78.37 315 P P 12 25 49.7 +0.6
ANTO pmax pmax
comp=Z,19nm,0.7s
SIRR Siria 78.40 326 ⇓P **P 12 25 50.0 +0.9**
NKC Novy Kostel 78.41 333 *e*P **P 12 25 48.5 -0.5**
NKC Novy Kostel 78.41 333 *e*P **P 12 25 48.5 -0.5**
G45A Suttons Bay 78.47 36 P P 12 25 49.4 0.0
baz=323
G45A P **P 12 25 49.4 0.0**
baz=323
KAN16 Harper SW Stat 78.51 49 IAmb IAmb 12 25 50.2
comp=Z,19nm,0.8s
ZST Bratislava 78.55 330 *e*P **P 12 25 51.1 +1.3**
ZST Bratislava 78.55 330 *e*P **P 12 25 51.1 +1.3**
KAN08 Anthony NE Sta 78.56 49 IAmb IAmb 12 25 50.4
comp=Z,22nm,0.8s
KAN10 Anthony SW Sta 78.57 49 IAmb IAmb 12 25 50.6
comp=Z,18nm,0.8s
ELIS Ellis County 78.63 50 IAmb IAmb 12 25 51.9
comp=Z,116nm,1.9s
GZR Gura Zlata 78.66 325 ⇑P **P 12 25 50.8 +0.2**
KAN01 Argonia South 78.73 49 IAmb IAmb 12 25 51.5
comp=Z,24nm,0.9s
KAN17 Caldwell West 78.81 49 IAmb IAmb 12 25 52.0
comp=Z,60nm,1.5s
CSKK Cskako 78.82 328 P P 12 25 52.4 +1.1
BZS Buzias 78.95 325 ⇑P **P 12 25 52.1 0.0**
KHC Kasperske Hory 78.99 332 IAmb IAmb 12 25 53.7
comp=Z,18nm,0.9s
KHC Kasperske Hory 78.99 332 *e*P **P 12 25 52.7 +0.5**
KHC MLR MLR
comp=Z,200nm,17.1s
KHC Kasperske Hory 78.99 332 *e*P **P 12 25 52.7 +0.5**
KHC *ex* x 12 26 17.0
KHC AMS AMS 13 04 20.0
comp=Z,200nm,17.1s
CKRC Cesky Krumlov 79.01 331 *e*P **P 12 25 52.7 +0.4**
P38A Dawn 79.06 44 P P 12 25 52.7 -0.1
baz=320,SNR=12
GLMI Grayling 79.08 36 P P 12 25 53.0 +0.2
baz=324
CROK Carrier 79.09 49 IAmb IAmb 12 25 53.8
comp=Z,27nm,0.8s
L42A Oliver, Polo 79.09 40 IAmb IAmb 12 25 53.0
comp=Z,23nm,0.9s
L42A Oliver, Polo 79.09 40 P P 12 25 52.2 -0.7
baz=322,SNR=5.4
VLDQ Val d'Or 79.13 30 IAmb IAmb 12 25 52.5
comp=Z,51nm,1.2s
K43A Burlington 79.16 39 IAmb IAmb 12 25 54.1
comp=Z,42nm,1.1s
K43A Burlington 79.16 39 P P 12 25 52.6 -0.6
baz=322
SOP Sopron 79.18 330 P P 12 25 54.5 +1.2
GERES GERESS Array B 79.19 332 P P 12 25 53.2 -0.2
comp=Z,2.2nm,0.3s,baz=46,slow=5.8,SNR=22
comp=Z,2.2nm,0.3s
CONA Conrad Observa 79.22 330 *e*P **P 12 25 54.3 +0.7**
comp=Z,12nm,0.9s
CONA *i* P **pP 12 25 54.5 -7.1**
SNR=9.3
MPLH Magyarpolny 79.25 329 P P 12 25 53.9 +0.3
RONA Rosalia, Austr 79.26 330 *e*P **P 12 25 54.8 +1.0**
comp=Z,18nm,1.0s
RONA *i* P **pP 12 25 55.0 -6.7**
SNR=7.8
GRFO Grafenberg 79.27 334 P P 12 25 55.0 +1.3
GRFO Grafenberg 79.27 334 P P 12 25 55.1 +1.3
GRFO pmax pmax
comp=Z,159nm,0.4s
BLOK Blackwell 79.31 48 IAmb IAmb 12 25 55.0
comp=Z,24nm,1.0s
N41A Harden Midland 79.54 42 P P 12 25 55.1 -0.3
baz=321,SNR=16
T35A Sooner Cattle 79.57 48 IAmb IAmb 12 25 56.5
comp=Z,36nm,0.9s
T35B Sooner Cattle 79.57 48 P P 12 25 55.7 +0.1
baz=319,SNR=12
MDVR Moldovita 79.59 325 ⇓P **P 12 25 55.2 -0.4**
MORH Mrgy, Hungar 79.63 328 ⇓P **P 12 25 56.1 +0.3**
MORH Mrgy, Hungar 79.63 328 P P 12 25 55.0 -0.8
OK045 Pawnee Station 79.70 48 IAmb IAmb 12 25 57.2
comp=Z,24nm,0.9s
OK046 Pawnee Station 79.75 49 IAmb IAmb 12 25 57.5
comp=Z,31nm,0.9s
OK047 Pawnee, Statio 79.79 48 IAmb IAmb 12 25 57.8
comp=Z,29nm,0.9s
OK044 Pawnee Station 79.82 48 IAmb IAmb 12 25 58.0
comp=Z,31nm,1.0s
MOA Molln 79.85 331 *e*P **P 12 25 57.3 +0.3**
comp=Z,9.6nm,0.8s
P40A Paris 79.87 43 IAmb IAmb 12 25 58.9
comp=Z,60nm,1.4s
P40A Paris 79.87 43 P P 12 25 57.3 +0.1
baz=320,SNR=6.7
OK029 Liberty Lake 79.90 49 IAmb IAmb 12 25 58.4
comp=Z,24nm,0.7s
ARSA Arzberg 79.92 330 *e*P **P 12 25 58.2 +0.8**
comp=Z,3.4nm,0.8s
KOVH Kovagotottos 79.95 328 P P 12 25 57.7 +0.2
WMOK Wichita Mounta 79.95 51 P P 12 25 57.7 -0.1
baz=318,SNR=7.7
WMOK Wichita Mounta 79.95 51 P P 12 25 57.9 +0.1
baz=318,SNR=7.7
OK033 Mehan 79.99 49 IAmb IAmb 12 25 58.8
comp=Z,24nm,1.0s
BTNL Ternell 79.99 337 *d*P **P 12 25 57.9 +0.2**
comp=Z,7.6nm,1.1s
MEM Membach 80.01 337 *d*P **P 12 25 55.8 -1.9**
QUOK Quay 80.02 49 IAmb IAmb 12 25 59.1
comp=Z,25nm,1.1s
FRGS Fruska Gora 80.06 326 ⇓P **P 12 25 58.8 +0.7**
OK031 S. Brethren Rd 80.11 49 IAmb IAmb 12 25 59.5
comp=Z,22nm,1.0s
BLKB Belogradchik 80.14 324 ⇑P **P 12 25 59.0 +0.4**
OK034 N. Norfolk Rd. 80.14 49 IAmb IAmb 12 25 59.6
comp=Z,47nm,1.4s
BSTI Sart Tilman 80.15 337 *d*P **P 12 25 59.7 +1.2**
BIOA Bad Ischl, Aus 80.21 331 *e*P **P 12 25 59.9 +1.0**
comp=Z,16nm,1.1s
J47A Sunmer 80.28 37 P P 12 25 59.7 +0.4
baz=324,SNR=6.4
J47A P **P 12 25 59.7 +0.4**
baz=324,SNR=6.4
RAR Rarotonga 80.32 133 LR LR 12 53 33.4
comp=Z,51nm,20.7s,baz=273,slow=30
M44A Midewin, Midew 80.33 40 P P 12 25 59.0 -0.6
baz=322,SNR=9.2
BCLA Clavier 80.37 337 *d*P **P 12 25 59.4 -0.2**
HDIL Hopedale 80.40 41 P P 12 26 00.0 0.0
baz=322,SNR=6.2
HDIL Hopedale 80.40 41 P P 12 25 59.8 -0.2
baz=322,SNR=6.2
BOVS Bovan 80.53 324 ⇑P **P 12 25 59.9 -0.7**
X34A Smith Ranch, M 80.58 50 IAmb IAmb 12 26 02.6
comp=Z,18nm,0.9s
LPIG La Paz 80.58 66 LR LR 12 53 37.6
comp=Z,55nm,20.1s,baz=313,slow=30
SOKA Soboth 80.58 330 *e*P **P 12 26 01.1 +0.1**
comp=Z,16nm,0.9s
SOKA *i* P **PcP 12 26 01.6 -6.2**
SNR=8.9
PERS Pernice 80.59 330 *i* P **P 12 26 01.1 +0.1**
BMRD Maredsous 80.62 338 *d*P **P 12 26 01.1 +0.1**
comp=Z,16nm,0.9s
RCHB Rochefort 80.63 337 *d*P **P 12 26 01.5 +0.4**
TUL1 Leonard 80.71 48 P P 12 26 01.8 +0.1
baz=319
TUL1 Leonard 80.71 48 P P 12 26 01.6 -0.1
baz=319
VTS Vitosha 80.71 323 ⇓P **P 12 26 02.1 +0.3**
R40A Maddies Statio 80.72 44 IAmb IAmb 12 26 01.8
comp=Z,18nm,0.7s
R40A Maddies Statio 80.72 44 P P 12 26 01.3 -0.5
baz=320,SNR=16
KBA Koelnbreinsper 80.84 331 *e*P **P 12 26 03.1 +0.7**
comp=Z,26nm,0.8s
KBA *i* P **PcP 12 26 03.3 -5.7**
SNR=15
DOU Dourbes 80.86 338 *d*P **P 12 26 02.2 -0.1**
RLO Rose Lookout 80.92 48 IAmb IAmb 12 26 03.2
comp=Z,14nm,0.7s
P43A Skaggs, Pawnee 81.01 42 IAmb IAmb 12 26 04.1
comp=Z,22nm,0.9s
P43A Skaggs, Pawnee 81.01 42 P P 12 26 03.3 0.0
baz=322
U38A Gravette 81.05 47 P P 12 26 03.3 -0.3
baz=320
TX31 Lajitas Ar. Si 81.05 58 P P 12 26 04.3 +0.4
baz=316,SNR=88
TX32 Lajitas Array 81.05 58 IAmb IAmb 12 26 05.1
comp=Z,24nm,0.7s
TXAR Lajitas Array 81.06 58 P P 12 26 04.3 +0.5
comp=Z,19nm,0.6s,baz=300,slow=4.0,SNR=379
TXAR LR LR 13 00 16.2
comp=Z,37nm,20.2s,baz=344,slow=34
comp=Z,19nm,0.6s
LEGS Legarje 81.10 329 *i* P **P 12 26 03.3 -0.4**
MYKA Terra Mystica 81.12 331 *e*P **P 12 26 04.3 +0.5**
comp=Z,4.7nm,0.5s
WATA Walderalm 81.21 332 *e*P **P 12 26 05.0 +0.6**
comp=Z,15nm,0.6s
WATA *i* P **P 12 26 05.1 +0.6**
SNR=7.0
WTTA Wattenberg 81.25 332 *i* P **P 12 26 05.2 +0.5**
SNR=9.0
WTTA *e*P **P 12 26 05.2 +0.5**
comp=Z,26nm,0.9s
LJU Ljubljana 81.31 330 *i* P **P 12 26 05.1 +0.3**
SADO Sadowa 81.33 33 P P 12 26 04.0 -0.9
comp=Z,5.5nm,0.6s,baz=300,slow=3.7,SNR=4.2
SADO LR LR 13 03 18.8
comp=Z,62nm,20.1s,baz=2.0,slow=36
comp=Z,5.5nm,0.6s
RETA Reutte 81.35 333 *e*P **P 12 26 06.2 +1.2**
comp=Z,18nm,1.2s
RETA *i* P **P 12 26 06.2 +1.2**
SNR=5.7
MOTA Moosalm 81.36 333 *e*P **P 12 26 05.3 +0.1**
comp=Z,26nm,0.9s
MOTA *i* P **PcP 12 26 05.8 -5.5**
SNR=10
BFO Black Forest 81.37 335 P P 12 26 03.7 -1.4
BFO Black Forest 81.37 335 P P 12 26 03.7 -1.4
BFO pmax pmax
comp=Z,17nm,1.2s
HHAR Hobbs 81.40 47 P P 12 26 05.2 -0.3
baz=320
ABTA Abfaltersbach 81.41 331 *e*P **P 12 26 06.7 +1.4**
comp=Z,6.0nm,0.9s
CCM Cathedral Cave 81.41 44 P P 12 26 04.8 -0.6
CCM IAmb IAmb 12 26 06.2
comp=Z,26nm,0.9s
CCM Cathedral Cave 81.41 44 P P 12 26 04.8 -0.6
CCM pmax pmax
comp=Z,26nm,1.0s
CCM Cathedral Cave 81.41 44 P P 12 26 05.2 -0.2
baz=321,SNR=17
CCM Cathedral Cave 81.41 44 P P 12 26 05.2 -0.2
baz=321
SQTA Sankt Quirin 81.44 332 *i* P **P 12 26 06.3 +0.8**
SNR=6.9
SQTA *e*P **P 12 26 06.4 +0.8**
comp=Z,29nm,1.2s
L48A N Adams 81.50 37 P P 12 26 06.1 +0.2
baz=324,SNR=6.6
L48A P **P 12 26 06.1 +0.2**
baz=324,SNR=6.6
SFIN Lafayette 81.57 40 IAmb IAmb 12 26 07.1
comp=Z,20nm,0.8s
SFIN Lafayette 81.57 40 P P 12 26 06.2 -0.1
baz=323,SNR=5.4
SFIN Lafayette 81.57 40 P P 12 26 06.0 -0.2
baz=323,SNR=5.4
TRQ Mont Tremblant 81.76 29 IAmb IAmb 12 26 07.6
comp=Z,27nm,0.8s
FETA Feichten 81.77 333 *e*P **P 12 26 07.8 +0.4**
comp=Z,15nm,1.2s
FETA *i* P **PcP 12 26 08.6 -4.5**
SNR=6.6
N47A Urbana 81.80 39 P P 12 26 07.0 -0.4
baz=324,SNR=10
N47A P **P 12 26 07.0 -0.4**
baz=324,SNR=10
DAVA Damuels 81.81 333 *e*P **P 12 26 08.2 +0.6**
comp=Z,18nm,1.3s
CIMO Cimolais 81.81 331 IAmb IAmb 12 26 09.0
comp=Z,8.2nm,1.1s
Q44A Meyer Farm, Va 81.83 42 IAmb IAmb 12 26 08.6
comp=Z,33nm,0.9s

Q44A	**Meyer Farm, Va**	**81.83**	**42**	P	**P**	**12 26 07.5**	**-0.1**		
	baz=322,SNR=6.6								
FVM	**French Village**	**81.87**	**43**	IAmb	IAmb	12 26 08.2			
	comp=Z,15nm,0.8s								
FVM	**French Village**	**81.87**	**43**	P	**P**	**12 26 08.0**	**+0.1**		
	baz=322								
X37A	**Clayton**	**81.93**	**49**	P	**P**	**12 26 08.0**	**-0.3**		
	baz=319								
LMQ	**La Malbaie**	**81.99**	**26**	IAmb	IAmb	12 26 09.0			
	comp=Z,27nm,0.8s								
DELO	**Deloro Mine**	**82.12**	**32**	IAmb	IAmb	12 26 09.3			
	comp=Z,18nm,0.9s								
P46A	**Rosedale**	**82.12**	**40**	P	**P**	**12 26 09.1**	**0.0**		
	baz=323,SNR=8.9								
MMAI	**Mount Meron Ar**	**82.14**	**309**	LR	LR	13 07 40.9			
	comp=Z,123nm,18.6s,baz=215,slow=39								
DAVOX	**Davos/Dischmat**	**82.26**	**333**	LR	LR	13 05 29.5			
	comp=Z,84nm,18.4s,baz=77,slow=38								
PMOR	**Pomariorio Ree**	**82.27**	**120**	*e*T	T	13 57 00.1			
	comp=Z,29nm,0.2s								
NWAO	**Narrogin (SRO)**	**82.34**	**207**	P	**P**	**12 26 09.0**	**-1.1**		
	comp=Z,17nm,1.1s,baz=348,slow=10,SNR=2.8								
NWAO				pP	**pwP**	**12 26 23.9**	**+2.9**		
	comp=Z,22nm,0.9s,baz=289,slow=3.4,SNR=5.0								
	comp=Z,17nm,1.1s								
OLIL	**Olney**	**82.41**	**42**	IAmb	IAmb	12 26 11.8			
	comp=Z,34nm,1.1s								
OLIL	**Olney**	**82.41**	**42**	P	**P**	**12 26 11.1**	**+0.4**		
	baz=323								
N49A	**Columbus Grove**	**82.44**	**38**	IAmb	IAmb	12 26 11.6			
	comp=Z,34nm,1.0s								
N49A	**Columbus Grove**	**82.44**	**38**	P	**P**	**12 26 09.9**	**-0.9**		
	baz=325,SNR=7.3								
N49A				P	**P**	**12 26 09.9**	**-0.9**		
	baz=325,SNR=7.3								
JCT	**Junction City**	**82.51**	**54**	IAmb	IAmb	12 26 11.9			
	comp=Z,18nm,0.7s								
JCT	**Junction City**	**82.51**	**54**	P	**P**	**12 26 11.4**	**0.0**		
	baz=318,SNR=5.5								
JCT	**Junction City**	**82.51**	**54**	P	**P**	**12 26 11.4**	**0.0**		
	baz=318,SNR=5.5								
PDG	**Podgorica**	**82.54**	**325**	⇑P	**P**	**12 26 11.1**	**-0.2**		
O48B	**Farmland**	**82.55**	**39**	P	**P**	**12 26 11.3**	**-0.1**		
	baz=324,SNR=7.1								
O48B	**Farmland**	**82.55**	**39**	P	**P**	**12 26 11.1**	**-0.3**		
	baz=324,SNR=7.1								
FCAR	**Ozark Folk Cen**	**82.64**	**46**	IAmb	IAmb	12 26 12.3			
	comp=Z,22nm,0.9s								
S44A	**Carbondale**	**82.67**	**43**	P	**P**	**12 26 12.1**	**0.0**		
	baz=322,SNR=11								
WHTX	**Lake Whitney,**	**82.73**	**52**	IAmb	IAmb	12 26 13.6			
	comp=Z,19nm,0.8s								
WHTX	**Lake Whitney,**	**82.73**	**52**	P	**P**	**12 26 12.8**	**+0.3**		
	baz=319,SNR=5.3								
WHTX	**Lake Whitney,**	**82.73**	**52**	P	**P**	**12 26 12.7**	**+0.2**		
	baz=319,SNR=5.3								
J54A	**Appleton**	**82.78**	**33**	P	**P**	**12 26 12.1**	**-0.4**		
	baz=328								
J54A				P	**P**	**12 26 12.1**	**-0.4**		
	baz=328								
CGM3	**Cape Girardeau**	**82.79**	**43**	IAmb	IAmb	12 26 13.5			
	comp=Z,53nm,1.7s								
D62A	**Allapoint, All**	**82.80**	**25**	IAmb	IAmb	12 26 13.3			
	comp=Z,21nm,0.7s								
D62A	**Allapoint, All**	**82.80**	**25**	P	**P**	**12 26 12.8**	**+0.2**		
	baz=334,SNR=7.4								
D62A				P	**P**	**12 26 12.8**	**+0.2**		
	baz=334,SNR=7.4								
MIAR	**Mount Ida**	**82.92**	**48**	P	**P**	**12 26 13.5**	**+0.1**		
	baz=320,SNR=24								
MIAR	**Mount Ida**	**82.92**	**48**	P	**P**	**12 26 13.4**	**0.0**		
	baz=320,SNR=24								
RAYN	**Ar Rayn**	**82.97**	**296**	P	**P**	**12 26 14.4**	**+0.5**		
RAYN	**Ar Rayn**	**82.97**	**296**	P	**P**	**12 26 14.4**	**+0.5**		
RAYN				pmax	pmax				
	comp=Z,7.0nm,1.1s								
O49A	**Covington**	**82.97**	**38**	IAmb	IAmb	12 26 14.4			
	comp=Z,46nm,1.4s								
BMNY	**Brushton-Moira**	**82.98**	**30**	P	**P**	**12 26 13.0**	**-0.5**		
	baz=330,SNR=7.5								
P48A	**Milroy**	**83.07**	**39**	IAmb	IAmb	12 26 14.7			
	comp=Z,32nm,1.2s								
E62A	**Clayton Lake**	**83.07**	**26**	IAmb	IAmb	12 26 14.6			
	comp=Z,24nm,0.7s								
E62A	**Clayton Lake**	**83.07**	**26**	P	**P**	**12 26 13.7**	**-0.2**		
	baz=333,SNR=12								
E62A				P	**P**	**12 26 13.7**	**-0.2**		
	baz=333,SNR=12								
J55A	**Hilton**	**83.11**	**33**	IAmb	IAmb	12 26 14.6			
	comp=Z,25nm,0.8s								
J55A	**Hilton**	**83.11**	**33**	P	**P**	**12 26 13.8**	**-0.4**		
	baz=328								
J55A				P	**P**	**12 26 13.8**	**-0.4**		
	baz=328								
LONY	**Lake Ozonia**	**83.14**	**30**	P	**P**	**12 26 14.5**	**+0.1**		
	baz=330								
PPT	**Papeete**	**83.20**	**123**	LR	LR	13 02 49.4			
	comp=Z,73nm,19.3s,baz=316,slow=35								
ERPA	**Erie**	**83.22**	**35**	P	**P**	**12 26 14.6**	**-0.2**		
	baz=327								
PPT2	**Papeete2**	**83.22**	**123**	*e*LR	LR	12 52 25.0			
	comp=Z,203nm,26.2s								
PPT2	**Papeete2**	**83.22**	**123**	*e*T	T	13 58 13.2			
	comp=Z,5.1nm,0.3s								
P49A	**Miami Univ. Ec**	**83.33**	**39**	P	**P**	**12 26 14.8**	**-0.7**		
	baz=324								
P49A	**Miami Univ. Ec**	**83.33**	**39**	P	**P**	**12 26 15.3**	**-0.2**		
	baz=324,SNR=7.0								
J56A	**Wolcott**	**83.47**	**32**	P	**P**	**12 26 15.5**	**-0.6**		
	baz=329								
J56A				P	**P**	**12 26 15.5**	**-0.6**		
	baz=329								
PQI	**Presque Isle**	**83.48**	**25**	IAmb	IAmb	12 26 16.6			
	comp=Z,14nm,0.7s								
BATG	**Bathurst New B**	**83.50**	**23**	IAmb	IAmb	12 26 17.3			
	comp=Z,22nm,0.7s								
M53A	**WI Miller and**	**83.50**	**35**	P	**P**	**12 26 16.2**	**-0.1**		
	baz=327,SNR=6.3								
ACSO	**Alum Creek Sta**	**83.53**	**37**	IAmb	IAmb	12 26 17.4			
	comp=Z,27nm,1.0s								
ACSO	**Alum Creek Sta**	**83.53**	**37**	P	**P**	**12 26 16.5**	**0.0**		
	baz=325								
E63A	**Oxbow**	**83.58**	**25**	P	**P**	**12 26 15.9**	**-0.7**		
	baz=334								
E63A				P	**P**	**12 26 15.9**	**-0.7**		
	baz=334								
WCI	**Wyandotte Cave**	**83.66**	**41**	P	**P**	**12 26 17.7**	**+0.6**		
WCI				IAmb	IAmb	12 26 18.3			
	comp=Z,29nm,1.1s								
WCI	**Wyandotte Cave**	**83.66**	**41**	P	**P**	**12 26 17.7**	**+0.6**		
WCI				pmax	pmax				
	comp=Z,29nm,1.1s								
WCI	**Wyandotte Cave**	**83.66**	**41**	P	**P**	**12 26 17.3**	**+0.1**		
	baz=324								
NCB	**Newcomb**	**83.83**	**30**	IAmb	IAmb	12 26 18.6			
	comp=Z,15nm,1.1s								
NCB	**Newcomb**	**83.83**	**30**	P	**P**	**12 26 17.8**	**-0.2**		
	baz=330								
N53A	**Lisbon**	**83.97**	**36**	P	**P**	**12 26 19.1**	**+0.4**		
	baz=327,SNR=6.8								
N53A				P	**P**	**12 26 19.1**	**+0.4**		
	baz=327,SNR=6.8								
J58A	**Remsen**	**83.98**	**31**	IAmb	IAmb	12 26 19.2			
	comp=Z,32nm,1.1s								
J58A	**Remsen**	**83.98**	**31**	P	**P**	**12 26 18.2**	**-0.6**		
	baz=330,SNR=5.4								
J58A				P	**P**	**12 26 18.2**	**-0.6**		
	baz=330,SNR=5.4								
G62A	**West of Eustis**	**84.00**	**27**	IAmb	IAmb	12 26 20.2			
	comp=Z,25nm,0.8s								
F63A	**Nahmakanta, Br**	**84.02**	**26**	IAmb	IAmb	12 26 19.3			
	comp=Z,15nm,1.1s								
F63A	**Nahmakanta, Br**	**84.02**	**26**	P	**P**	**12 26 19.0**	**+0.1**		
	baz=334								
F63A				P	**P**	**12 26 19.0**	**+0.1**		
	baz=334								
VT1	**Waterbury**	**84.04**	**29**	IAmb	IAmb	12 26 19.9			
	comp=Z,19nm,0.6s								
VT1	**Waterbury**	**84.04**	**29**	P	**P**	**12 26 19.2**	**+0.2**		
	baz=331								
F64A	**Sherman**	**84.11**	**25**	P	**P**	**12 26 19.2**	**-0.1**		
	baz=334,SNR=5.4								
F64A				P	**P**	**12 26 19.2**	**-0.1**		
	baz=334,SNR=5.4								
P51A	**Williamsport**	**84.11**	**38**	IAmb	IAmb	12 26 20.0			
	comp=Z,33nm,1.1s								
P51A	**Williamsport**	**84.11**	**38**	P	**P**	**12 26 19.4**	**0.0**		
	baz=325								
P51A				P	**P**	**12 26 19.4**	**0.0**		
	baz=325								
O52A	**Adamsville**	**84.12**	**37**	IAmb	IAmb	12 26 20.3			
	comp=Z,26nm,0.9s								
O52A	**Adamsville**	**84.12**	**37**	P	**P**	**12 26 19.6**	**+0.1**		
	baz=326,SNR=5.8								
O52A				P	**P**	**12 26 19.6**	**+0.1**		
	baz=326,SNR=5.8								
L56A	**Greenwood**	**84.17**	**33**	P	**P**	**12 26 19.4**	**-0.4**		
	baz=328,SNR=8.0								
L56A				P	**P**	**12 26 19.4**	**-0.4**		
	baz=328,SNR=8.0								
J59A	**Piesco**	**84.17**	**30**	IAmb	IAmb	12 26 20.5			
	comp=Z,16nm,0.9s								
J59A	**Piesco**	**84.17**	**30**	P	**P**	**12 26 19.5**	**-0.2**		
	baz=330,SNR=6.3								
J59A				P	**P**	**12 26 19.5**	**-0.2**		
	baz=330,SNR=6.3								
M55A	**Ridgway**	**84.26**	**34**	P	**P**	**12 26 20.2**	**0.0**		
	baz=328,SNR=8.6								
M55A				P	**P**	**12 26 20.2**	**0.0**		
	baz=328,SNR=8.6								
O53A	**New Philadelph**	**84.27**	**36**	P	**P**	**12 26 20.1**	**-0.1**		
	baz=326,SNR=7.1								
T47A	**Sharon Grove**	**84.27**	**42**	P	**P**	**12 26 21.1**	**+0.8**		
	baz=323,SNR=8.2								
MCVT	**Middlebury Col**	**84.28**	**29**	P	**P**	**12 26 20.1**	**-0.1**		
	baz=331								
833A	**Chaparral WMA,**	**84.34**	**56**	P	**P**	**12 26 21.2**	**+0.4**		
	baz=318								
PKME	**Peaks-Kenny Pk**	**84.35**	**26**	IAmb	IAmb	12 26 21.8			
	comp=Z,17nm,0.9s								
PKME	**Peaks-Kenny Pk**	**84.35**	**26**	P	**P**	**12 26 19.9**	**-0.6**		
	baz=334								
PKME	**Peaks-Kenny Pk**	**84.35**	**26**	P	**P**	**12 26 20.7**	**+0.2**		
	baz=334								
MEH	**Mehetia**	**84.35**	**122**	*e*T	T	13 59 41.6			
	comp=Z,12nm,0.2s								
Q51A	**Peebles**	**84.36**	**38**	P	**P**	**12 26 21.1**	**+0.4**		
	baz=325,SNR=10.0								
Q51A				P	**P**	**12 26 21.1**	**+0.4**		
	baz=325,SNR=10.0								
H62A	**Milan**	**84.36**	**28**	P	**P**	**12 26 21.2**	**+0.5**		
	baz=332,SNR=15								
H62A				P	**P**	**12 26 21.2**	**+0.5**		
	baz=332,SNR=15								
P52A	**Corning**	**84.39**	**37**	IAmb	IAmb	12 26 21.4			
	comp=Z,27nm,1.1s								
P52A	**Corning**	**84.39**	**37**	P	**P**	**12 26 20.4**	**-0.4**		
	baz=326								
VLC	**Villacollemand**	**84.40**	**332**	IAmb	IAmb	12 27 18.9			
	comp=Z,16nm,1.1s								
LBNH	**Lisbon**	**84.40**	**28**	P	**P**	**12 26 21.5**	**+0.6**		
	baz=332								
LBNH	**Lisbon**	**84.40**	**28**	P	**P**	**12 26 21.3**	**+0.5**		
	baz=332								
FDMO	**Fiordimonte**	**84.42**	**329**	IAmb	IAmb	12 26 22.8			
	comp=Z,20nm,0.9s								
MURB	**Monte Urbino**	**84.43**	**330**	IAmb	IAmb	12 26 23.6			
	comp=Z,22nm,0.8s								
R50A	**Paris**	**84.52**	**39**	IAmb	IAmb	12 26 22.7			
	comp=Z,18nm,1.1s								
R50A	**Paris**	**84.52**	**39**	P	**P**	**12 26 22.0**	**+0.4**		
	baz=325,SNR=5.1								
R50A				P	**P**	**12 26 22.0**	**+0.4**		
	baz=325,SNR=5.1								
ACCN	**Adirondack Com**	**84.54**	**30**	IAmb	IAmb	12 26 22.3			
	comp=Z,19nm,1.0s								
ACCN	**Adirondack Com**	**84.54**	**30**	P	**P**	**12 26 21.5**	**-0.1**		
	baz=331								
PSDB	**Penn State Uni**	**84.55**	**34**	P	**P**	**12 26 21.9**	**+0.3**		
	baz=328								
UPAO	**U. Pittsburgh**	**84.58**	**35**	P	**P**	**12 26 22.3**	**+0.5**		
	baz=327								
WVT	**Waverly**	**84.61**	**43**	P	**P**	**12 26 21.4**	**-0.5**		
WVT				IAmb	IAmb	12 26 23.0			
	comp=Z,14nm,0.8s								
WVT	**Waverly**	**84.61**	**43**	P	**P**	**12 26 21.5**	**-0.5**		
WVT				pmax	pmax				
	comp=Z,14nm,0.8s								
WVT	**Waverly**	**84.61**	**43**	P	**P**	**12 26 22.2**	**+0.2**		
	baz=323,SNR=11								
WVT	**Waverly**	**84.61**	**43**	P	**P**	**12 26 22.0**	**0.0**		
	baz=323								
O54A	**Avella**	**84.68**	**36**	IAmb	IAmb	12 26 23.6			
	comp=Z,32nm,1.1s								
O54A	**Avella**	**84.68**	**36**	P	**P**	**12 26 22.7**	**+0.4**		
	baz=327,SNR=5.1								
O54A				P	**P**	**12 26 22.7**	**+0.4**		
	baz=327,SNR=5.1								
BINY	**Binghamton**	**84.72**	**32**	P	**P**	**12 26 22.2**	**-0.3**		
	baz=329								
HNH	**Hanover**	**84.75**	**29**	IAmb	IAmb	12 26 23.8			
	comp=Z,17nm,0.8s								
HNH	**Hanover**	**84.75**	**29**	P	**P**	**12 26 23.1**	**+0.6**		
	baz=332								
P53A	**Whipple**	**84.83**	**37**	IAmb	IAmb	12 26 24.0			
	comp=Z,19nm,1.1s								
P53A	**Whipple**	**84.83**	**37**	P	**P**	**12 26 23.2**	**+0.1**		
	baz=326								
P53A				P	**P**	**12 26 23.2**	**+0.1**		
	baz=326								
WVL	**Waterville**	**84.86**	**27**	P	**P**	**12 26 23.5**	**+0.3**		
	baz=333								
Q52A	**Bidwell**	**84.88**	**38**	IAmb	IAmb	12 26 24.2			
	comp=Z,29nm,1.3s								
EIL	**Elat**	**84.90**	**307**	LR	LR	13 09 22.4			
	comp=Z,142nm,19.4s,baz=85,slow=39								
G65A	**Princeton**	**84.94**	**25**	IAmb	IAmb	12 26 24.6			
	comp=Z,25nm,0.9s								
G65A	**Princeton**	**84.94**	**25**	P	**P**	**12 26 23.9**	**+0.4**		
	baz=335,SNR=5.4								
G65A				P	**P**	**12 26 23.9**	**+0.4**		
	baz=335,SNR=5.4								
J61A	**Chester**	**84.97**	**29**	IAmb	IAmb	12 26 24.9			
	comp=Z,19nm,0.8s								
J61A	**Chester**	**84.97**	**29**	P	**P**	**12 26 23.8**	**+0.1**		
	baz=332,SNR=5.0								
J61A				P	**P**	**12 26 23.8**	**+0.1**		
	baz=332,SNR=5.0								
I63A	**Otisfield**	**85.02**	**28**	P	**P**	**12 26 24.5**	**+0.6**		
	baz=333,SNR=7.0								
I63A				P	**P**	**12 26 24.5**	**+0.6**		
	baz=333,SNR=7.0								
M57A	**Sunshine Farm,**	**85.02**	**33**	P	**P**	**12 26 24.2**	**+0.2**		
	baz=329,SNR=15								
M57A				P	**P**	**12 26 24.2**	**+0.2**		
	baz=329,SNR=15								
L59A	**Walton**	**85.08**	**31**	P	**P**	**12 26 24.2**	**-0.2**		
	baz=330,SNR=10								
L59A				P	**P**	**12 26 24.2**	**-0.2**		
	baz=330,SNR=10								
OXF	**Oxford**	**85.10**	**45**	P	**P**	**12 26 24.8**	**+0.2**		
	baz=322								
OXF	**Oxford**	**85.10**	**45**	P	**P**	**12 26 24.4**	**-0.1**		
	baz=322								
GGN	**Saint George**	**85.24**	**25**	IAmb	IAmb	12 26 25.9			
	comp=Z,16nm,0.8s								
U49A	**Red Boiling Sp**	**85.28**	**41**	IAmb	IAmb	12 26 26.6			
	comp=Z,24nm,0.9s								
U49A	**Red Boiling Sp**	**85.28**	**41**	P	**P**	**12 26 25.6**	**+0.2**		
	baz=324,SNR=12								
SSPA	**Standing Stone**	**85.32**	**34**	P	**P**	**12 26 25.9**	**+0.4**		
SSPA				IAmb	IAmb	12 26 26.2			
	comp=Z,13nm,0.8s								
SSPA	**Standing Stone**	**85.32**	**34**	P	**P**	**12 26 25.8**	**+0.3**		
	baz=328,SNR=6.4								
SSPA	**Standing Stone**	**85.32**	**34**	P	**P**	**12 26 25.5**	**0.0**		
	baz=328								
MCWV	**Mont Chateau**	**85.34**	**36**	P	**P**	**12 26 26.1**	**+0.5**		
	baz=327								
KSPA	**Keystone Colle**	**85.35**	**32**	IAmb	IAmb	12 26 26.2			
	comp=Z,12nm,0.7s								
CLTN	**Cedars of Leba**	**85.36**	**42**	IAmb	IAmb	12 26 27.0			
	comp=Z,17nm,0.8s								
S51A	**Beattyville**	**85.38**	**39**	IAmb	IAmb	12 26 26.8			
	comp=Z,24nm,1.2s								
S51A	**Beattyville**	**85.38**	**39**	P	**P**	**12 26 26.0**	**+0.2**		
	baz=325,SNR=5.7								
S51A				P	**P**	**12 26 26.0**	**+0.2**		
	baz=325,SNR=5.7								
PLAL	**Pickwick Lake**	**85.40**	**44**	IAmb	IAmb	12 26 26.1			
	comp=Z,12nm,0.8s								
V48A	**Smith Brothers**	**85.41**	**43**	IAmb	IAmb	12 26 26.5			
	comp=Z,12nm,0.7s								
V48A	**Smith Brothers**	**85.41**	**43**	P	**P**	**12 26 26.3**	**+0.3**		
	baz=324,SNR=5.5								
Q54A	**Coxs Mills**	**85.49**	**37**	P	**P**	**12 26 26.9**	**+0.5**		
	baz=327,SNR=9.2								
Q54A				P	**P**	**12 26 26.9**	**+0.5**		
	baz=327,SNR=9.2								
N58A	**Sunbury**	**85.61**	**33**	IAmb	IAmb	12 26 27.9			
	comp=Z,19nm,0.8s								
N58A	**Sunbury**	**85.61**	**33**	P	**P**	**12 26 26.9**	**0.0**		
	baz=329,SNR=6.3								
N58A				P	**P**	**12 26 26.9**	**0.0**		
	baz=329,SNR=6.3								
L61B	**Northampton**	**85.71**	**30**	P	**P**	**12 26 28.1**	**+0.6**		
	baz=332								
UNH	**University of**	**85.77**	**28**	P	**P**	**12 26 28.4**	**+0.7**		
	baz=333,SNR=5.5								
IDI	**Anoyia**	**85.86**	**317**	⇑P	**P**	**12 26 27.6**	**-0.7**		
HRV	**Adam Dziewonsk**	**86.06**	**29**	P	**P**	**12 26 29.5**	**+0.4**		
	baz=332								
Q56A	**Snyder Ridge,**	**86.14**	**36**	P	**P**	**12 26 29.9**	**+0.2**		
	baz=328								
Q56A				P	**P**	**12 26 29.9**	**+0.2**		
	baz=328								
URZ	**Urewera**	**86.17**	**158**	LR	LR	12 59 08.0			
	comp=Z,53nm,19.4s,baz=340,slow=32								
P57A	**Homestead Farm**	**86.25**	**35**	IAmb	IAmb	12 26 31.2			
	comp=Z,14nm,0.9s								
S54A	**Dingess, Beckl**	**86.27**	**38**	IAmb	IAmb	12 26 31.5			
	comp=Z,26nm,1.2s								
TRNY	**Table Rock, Ra**	**86.29**	**31**	IAmb	IAmb	12 26 30.8			
	comp=Z,14nm,0.7s								
TZTN	**Tazewell**	**86.30**	**40**	P	**P**	**12 26 30.7**	**+0.2**		
	baz=325,SNR=6.3								
TZTN	**Tazewell**	**86.30**	**40**	P	**P**	**12 26 30.7**	**+0.2**		
	baz=325,SNR=6.3								
X48A	**Hartselle**	**86.33**	**43**	IAmb	IAmb	12 26 31.0			
	comp=Z,9.4nm,0.7s								
R55A	**Marlinton**	**86.38**	**37**	P	**P**	**12 26 31.2**	**+0.3**		
	baz=327,SNR=9.8								
R55A				P	**P**	**12 26 31.2**	**+0.3**		
	baz=327,SNR=9.8								
MVL	**Millersville**	**86.47**	**33**	IAmb	IAmb	12 26 32.2			
	comp=Z,22nm,1.1s								
PAL	**Palisades**	**86.53**	**31**	P	**P**	**12 26 31.2**	**-0.3**		
	baz=331								
V51A	**Loudon**	**86.53**	**41**	IAmb	IAmb	12 26 32.7			
	comp=Z,17nm,1.1s								
V51A	**Loudon**	**86.53**	**41**	P	**P**	**12 26 31.8**	**+0.1**		
	baz=325,SNR=5.9								
BRNJ	**Basking Ridge**	**86.56**	**32**	P	**P**	**12 26 32.0**	**+0.4**		
	baz=330								
CPCT	**Cooper Cave**	**86.74**	**41**	IAmb	IAmb	12 26 33.7			
	comp=Z,15nm,1.0s								
PANJ	**Princeton**	**86.78**	**32**	P	**P**	**12 26 32.9**	**+0.2**		
	baz=330								
V52A	**Sevierville**	**86.85**	**40**	P	**P**	**12 26 33.5**	**+0.3**		
	baz=325								
M63A	**Gales Ferry**	**86.86**	**30**	P	**P**	**12 26 33.3**	**+0.3**		
	baz=332								
M63A				P	**P**	**12 26 33.3**	**+0.3**		
	baz=332								
TKL	**Tuckaleechee C**	**86.92**	**41**	LR	LR	13 05 37.7			
	comp=Z,81nm,21.9s,baz=354,slow=36								
TKL	**Tuckaleechee C**	**86.92**	**41**	IAmb	IAmb	12 26 34.6			
	comp=Z,22nm,1.1s								
TKL	**Tuckaleechee C**	**86.92**	**41**	P	**P**	**12 26 33.5**	**0.0**		
	baz=325,SNR=10								
FPAL	**Fort Paine**	**86.96**	**42**	IAmb	IAmb	12 26 34.0			
	comp=Z,13nm,0.9s								
U54A	**Nelsons Funny**	**87.10**	**39**	IAmb	IAmb	12 26 36.2			
	comp=Z,21nm,1.0s								
Y49A	**Blount Mountai**	**87.12**	**43**	IAmb	IAmb	12 26 34.6			
	comp=Z,9.7nm,0.8s								
Y49A	**Blount Mountai**	**87.12**	**43**	P	**P**	**12 26 34.4**	**-0.1**		
	baz=324,SNR=5.8								
BLA	**Blacksburg**	**87.15**	**37**	IAmb	IAmb	12 26 35.8			
	comp=Z,20nm,0.9s								
BLA	**Blacksburg**	**87.15**	**37**	P	**P**	**12 26 34.8**	**+0.2**		
	baz=327								
BLA	**Blacksburg**	**87.15**	**37**	P	**P**	**12 26 34.8**	**+0.2**		
	baz=327								
S57A	**Dark Hollow, R**	**87.31**	**36**	IAmb	IAmb	12 26 36.8			
	comp=Z,14nm,0.9s								
V53A	**Saluda**	**87.36**	**40**	IAmb	IAmb	12 26 37.5			
	comp=Z,22nm,1.4s								
LRAL	**Lakeview Retre**	**87.49**	**44**	P	**P**	**12 26 35.8**	**-0.5**		
	baz=324								
R58B	**Mineral**	**87.59**	**35**	IAmb	IAmb	12 26 38.4			
	comp=Z,16nm,1.1s								
TBI	**Tubuai**	**87.74**	**126**	*e*LR	LR	12 54 30.2			
	comp=Z,142nm,24.8s								
TBI	**Tubuai**	**87.74**	**126**	*e*T	T	14 04 02.1			
	comp=Z,6.2nm,0.2s								
T57A	**Hurt**	**87.83**	**37**	IAmb	IAmb	12 26 39.0			
	comp=Z,26nm,1.2s								
CASEE	**Lake Jocassee**	**87.86**	**40**	P	**P**	**12 26 38.3**	**+0.2**		
	baz=326,SNR=6.5								
Z51A	**Franklin**	**88.16**	**43**	P	**P**	**12 26 39.2**	**-0.4**		
	baz=324								
Y52A	**Lilburn**	**88.25**	**42**	IAmb	IAmb	12 26 43.9			
	comp=Z,16nm,1.1s								
KMSC	**Kings Mountain**	**88.47**	**39**	IAmb	IAmb	12 26 41.4			
	comp=Z,10nm,0.8s								
KMSC	**Kings Mountain**	**88.47**	**39**	P	**P**	**12 26 41.0**	**0.0**		
	baz=327								
KMSC	**Kings Mountain**	**88.47**	**39**	P	**P**	**12 26 41.1**	**+0.2**		
	baz=327								
PAULI	**Pauline**	**88.52**	**40**	IAmb	IAmb	12 26 42.1			

CLDB	Colider	140.22	40	*e*P		PKPdf	12 33 17.5	-0.2
H03N2	Juan Fernandez	141.54	90	T	T		15 11 05.1	
	baz=305,slow=77							
H03N3	Juan Fernandez	141.56	90	T	T		15 11 03.1	
	baz=305,slow=77							
H03N1	Juan Fernandez	141.56	90	T	T		15 11 15.9	
	baz=305,slow=77							
PTLB	Pontes e Lacer	142.45	49	*e*P		PKPdf	12 33 22.2	+0.7
NBRF	Rio Formoso -	144.13	7	*e*P		PKPbc	12 33 23.4	+0.7
SALV	Santo Antonio	144.61	44	*e*P		PKPdf	12 33 25.9	+0.6
AC02	Maricunga	144.67	73	PKPdf		PKPdf	12 33 25.5	-0.3
LCO	Las Campanas	144.93	77			PKPbc	12 33 25.4	+0.3
LCO	Las Campanas	144.93	77	PKIKP		PKPbc	12 33 25.5	+0.3
NBAN	Anadia - AL	144.99	9	*e*P		PKPbc	12 33 25.5	+0.1
GO04	Tololo Observa	145.55	79	PKPdf		PKPdf	12 33 26.4	-0.5
SDBA	SAO DESIDERIO	145.84	25	*e*P		PKPbc	12 33 28.1	0.0
NBLA	Lagarto - SE	146.09	12	*e*P		PKPbc	12 33 28.6	-0.3
NVL	N'lazarevskaya	146.43	204	*e*PKP2		PKPdf	12 33 27.0	+0.2
NVL				pmax	pmax			
	comp=Z,6.0nm,0.5s							
BELA	Belgrano 2	146.47	179	PKPdf		PKPdf	12 33 27.3	+0.6
GO05	Huala	147.34	88			PKPbc	12 33 31.9	0.0
BDFB	Brasilia	147.79	32	PKPbc		PKPbc	12 33 33.6	-0.2
	comp=Z,8.3nm,0.6s,baz=318,slow=2.3,SNR=13							
BDFB				pPKPbc		sPKPab	12 33 47.7	+0.6
	comp=Z,8.6nm,0.8s,baz=18,slow=20,SNR=4.4							
BDFB	Brasilia	147.79	32			PKPdf	12 33 32.0	+1.1
TROLL	Troll, Antarti	148.16	199	PKPbc		PKPbc	12 33 32.7	-0.5
GDU01	Guandu, BA	148.45	16	*e*P		PKPdf	12 33 32.6	+0.7
SNAA	Sanae	149.58	197	PKPbc		PKPbc	12 33 35.9	-0.8
SNAA	Sanae	149.58	197			PKPbc	12 33 35.0	-1.7
SNAA	Sanae	149.58	197	PKHKP		PKPpre	12 33 35.0	
GO06	Curarrehue	149.68	95			PKPdf	12 33 35.6	+2.3
SMAI	San Martin Ant	149.75	154			PKPbc	12 33 36.7	-0.3
IPMB	Ipameri, GO	149.83	34	*e*P		PKPdf	12 33 35.1	+1.0
PLCA	Paso Flores	150.76	97	PKPbc		PKPbc	12 33 40.4	-0.1
	comp=Z,15nm,0.8s,baz=301,slow=4.7,SNR=26							
PLCA				pPKPbc		sPKPbc	12 33 52.7	+1.8
	comp=Z,6.9nm,0.9s,baz=329,slow=2.9,SNR=4.0							
PLCA	Paso Flores	150.76	97			PKiKP	12 33 41.0	-0.2
VNA2	Neumayer--Watz	151.09	196	PKPbc		PKPbc	12 33 40.2	0.0
	baz=91,slow=1.0							
VNA3	Neumayer Olymp	151.25	194	PKPbc		PKPbc	12 33 40.3	-0.3
VNA1	Neumayer--Stat	151.48	196	PKPbc		PKiKP	12 33 41.3	-0.2
PCMB	Pacaembu	151.64	43	*e*P		PKPdf	12 33 36.4	-0.4
CPUP	Villa Florida	152.03	58	PKPbc		PKPbc	12 33 43.0	-0.7
	comp=Z,4.9nm,0.8s,baz=314,slow=2.9,SNR=8.2							
CPUP				PKPab		PKPab	12 33 53.0	-0.2
	comp=Z,4.6nm,0.9s,baz=322,slow=6.0,SNR=4.4							
SJMB	Sao Joao De Ma	152.88	22	*e*P		PKPdf	12 33 38.4	-0.2
ALF01	Guarapari-ES	154.83	22	*e*P		PKPdf	12 33 41.7	+0.3
UNIS	Unistalda (Bra	155.38	59	*e*P		PKPdf	12 33 43.7	+1.8
CAM01	Campos-RJ	155.71	25	*e*P		PKPdf	12 33 43.1	+0.7

*AZER **08** 12:16:06.7±0.1,37.°95N×47.°14E,h4km±1km,Error ellipse: s-maj=4.0km s-min=1.3km az=2.0*
*TEH **08** 12:16:07.2,37.°87N×47.°10E,h6km,ML3.6*
ISC 08 12:16:07.6±1.0,37.°87N±0.°02×47.°09E±0.°02,h7km±11km, n65,σ1°73/94,Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.23	224	*e*Pg	Pg	12 16 11.9	-0.3
IBST				*e*Sg	Sg	12 16 15.6	+0.3
IBST				*e*		12 16 15.7	
	comp=Z,32μm,0.2s						
IHRS	Heris	0.45	355	*e*Pg	Pg	12 16 16.0	-0.4
IHRS				*e*		12 16 16.3	
	comp=Z,56μm,0.3s						
ISRB	Sarab	0.46	95	*e*Pg	Pg	12 16 15.9	-0.6
TAB1	Tabriz	0.63	287	*e*Pg	Pg	12 16 19.2	-0.5
TVRZ	Varzaqan	0.72	332	*e*Pg	Pg	12 16 21.3	-0.2
TVRZ				*e*		12 16 27.0	
	comp=Z,26μm,0.3s						
TVRZ				*e*Sg	Sg	12 16 31.6	+0.7
ITBZ	Tabriz	0.83	296	*e*Pg	Pg	12 16 22.6	-1.0
ITBZ				*e*Sg	Sb	12 16 35.5	-0.5
ITBZ				*e*		12 16 36.7	
	comp=Z,17μm,0.2s						
IAZR	Azarshahr	0.90	258	*e*Pg	Pg	12 16 24.6	-0.3
IAZR				*e*		12 16 43.2	
	comp=Z,33μm,0.3s						
GRMI	Germi	1.13	34	*e*Pg	Pb	12 16 28.0	-1.6
GRMI				*e*Sg	Sg	12 16 43.8	-0.2
GRMI				*e*		12 16 44.4	
	comp=Z,99nm,0.4s						
ISHB	Shabestar	1.24	290	*e*Pg	Pn	12 16 29.7	-1.8
ISHB				*e*		12 16 49.6	
	comp=Z,19μm,0.3s						
LRK	Lerik	1.25	51	P	Pn	12 16 30.5	-1.2
LRK				S	Sg	12 16 48.6	+0.7
ORD	Ordubad	1.37	321	P	Pn	12 16 33.3	+0.1
ORD				S	Sg	12 16 54.0	+2.4
IMRD	Marand	1.38	308	*e*Pg	Pn	12 16 33.3	-0.2
IMRD				*e*		12 17 01.4	
	comp=Z,23μm,0.4s						
YRD	Yardimli	1.38	40	P	Pn	12 16 32.7	-0.9
YRD				S	Sg	12 16 52.8	+0.7
GAS1	Astara - Iran	1.47	69	*e*Pg	Pn	12 16 34.3	-0.2
GAS1				*e*		12 16 56.1	
	comp=Z,10μm,0.3s						
ASTR	Astara	1.51	62	P	Pn	12 16 35.1	+0.1
ASTR				S	Sg	12 16 57.0	+1.0
MAHB	Mahabad	1.56	226	*e*Pg	Pn	12 16 35.9	+0.1
MAHB				*e*		12 17 03.2	
	comp=Z,10μm,0.4s						
LKRN	Lenkeran, Azer	1.57	57	P	Pb	12 16 36.9	-0.1
LKRN				S	Sg	12 16 59.2	+1.1
QRD	Qoradiz	1.60	6	P	Pn	12 16 37.0	+0.6
QRD				S	Sg	12 17 01.0	+1.9
CSN1	Caspian	1.62	100	*e*Pn	Pn	12 16 37.0	+0.5
CSN1				*e*Sg	Sg	12 17 00.5	+1.0
CSN1				*e*		12 17 05.5	
	comp=Z,18μm,0.5s						
GLBA	Clilabad	1.71	36	P	Pb	12 16 39.5	+0.1
GLBA				S	Sg	12 17 04.4	+1.8
ZNJK	Zanjan	1.74	133	*e*Pn	Pn	12 16 38.9	+0.4
NAX	Nakhchivan	1.81	317	P	Pb	12 16 41.2	+0.1
NAX				S	Sg	12 17 08.4	+2.6
BLQ	Beylaqan	1.89	11	P	Pb	12 16 42.3	-0.1
BLQ				S	Sg	12 17 08.6	+0.4
SBZ	Shahbuz	1.95	322	P	Pb	12 16 43.5	+0.1
SBZ				S	Sg	12 17 11.7	+1.6
AGDM	Agdam	2.24	0	P	Pb	12 16 47.4	-1.0
AGDM				S	Sb	12 17 18.1	+1.7
SAAT	Saatly	2.25	27	S	Sg	12 17 19.2	-0.5
BRDA	Brd	2.40	2	P	Pb	12 16 49.8	-1.3
BRDA				S	Sg	12 17 23.1	-1.4
MAKU	Maku	2.40	309	*e*Pn	Pn	12 16 49.0	+1.5
GIDE	GILAN DEYLAMAN	2.43	112	*e*Pn	Pn	12 16 49.1	+1.2
ZRD	Zardab	2.45	11	P	Pb	12 16 50.8	-1.2
ZRD				S	Sg	12 17 25.1	-1.3
HYR	Heyderabad	2.55	317	P	Pb	12 16 52.5	-1.2
HYR				S	Sb	12 17 25.4	+0.2
ALIB	Äli-Bayra	2.57	35	S	Sb	12 17 26.7	+1.0
KDMR	Kurdemir	2.65	18	S	Sb	12 17 30.0	+2.0
SNGE	Sanandaj	2.77	176	*e*Pn	Pb	12 16 55.4	-2.2
GANJ	Ganja	2.84	348	P	Pb	12 16 56.3	-2.3
GANJ				S	Sb	12 17 32.4	-1.2
IGZV	Ghazvin	2.90	120	*e*Pn	Pn	12 16 56.0	+1.6
IGZV				*e*		12 17 45.3	
	comp=Z,4μm,0.5s						
GDB	GEDABAY	3.04	340	P	Pn	12 16 58.7	+2.5
GDB				S	Sb	12 17 39.4	+0.1
IML	Ismayilli	3.04	16	P	Pn	12 16 58.6	+2.4
IML				S	Sb	12 17 40.7	+1.2
QALM	Alamut, Qazvin	3.18	116	*e*Pn	Pn	12 16 59.6	+1.3
IDHR	Dehrash	3.21	190	*e*Pn	Pn	12 17 00.9	+2.3
SEKA	Sheki	3.34	1	P	Pn	12 17 02.7	+2.4
SEKA				S	Sb	12 17 45.7	-2.3
IRAZ	Razeghan	3.35	136	*e*Pn	Pn	12 17 02.3	+1.7
XNQ	Khinaliq	3.40	13	P	Pn	12 17 03.6	+2.3
XNQ				S	Sb	12 17 47.8	-2.1
QZX	Qazax, Azerbai	3.46	338	P	Pn	12 17 04.8	+3.0
QZX				S	Sb	12 17 48.6	-2.7
HAGD	Aghdareh	3.46	151	*e*Pn	Pn	12 17 03.9	+1.8
SIZA	Siyzn	3.50	23	P	Pn	12 17 05.1	+2.6
SIZA				S	Sb	12 17 50.7	-1.9
IMHD	Mahdasht	3.60	126	*e*Pn	Pn	12 17 05.0	+1.1
QUBA	Quba, Azerbaij	3.65	17	P	Pn	12 17 07.8	+3.3
QUBA				S	Sb	12 17 53.8	-3.1
QSAR	Qusar	3.75	14	P	Pn	12 17 09.4	+3.4
QSAR				S	Sb	12 17 55.6	-4.4
CHTH	Charan	3.78	120	*e*Pn	Pn	12 17 08.0	+1.5
ZKTA	Zakatala	3.79	355	P	Pn	12 17 09.9	+3.5
ZKTA				S	Sb	12 17 56.3	-4.5
HSAM	Samen	3.85	161	*e*Pn	Pn	12 17 09.3	+1.9
ASAO	Ashtian	4.07	144	*e*Pn	Pn	12 17 12.8	+2.3
IKFM	Kafar-mosalman	4.38	172	*e*Pn	Pn	12 17 16.1	+1.7
IQOM	Qom	4.41	132	*e*Pn	Pn	12 17 16.0	+0.9
IPRN	Peran	4.50	110	*e*Pn	Pn	12 17 17.9	+1.6
IDMV	Damavand	4.58	118	*e*Pn	Pn	12 17 19.7	+2.2
IVRN	Varamin	4.71	126	*e*Pn	Pn	12 17 20.5	+1.4
GHVR	GHOM	4.79	134	*e*Pn	Pn	12 17 21.6	+1.3
ISFB	Sefidab	5.45	129	*e*Pn	Pn	12 17 30.9	+1.6
IGLO	Ghaloghah	5.55	102	*e*Pn	Pn	12 17 32.3	+1.5
KRSH	Karshahi	5.64	132	*e*Pn	Pn	12 17 33.9	+1.8
MRVT	Maraveh tapeh	7.13	89	*e*Pn	Pn	12 17 52.8	+0.4
BJRD	Bojnurd	8.17	88	*e*Pn	Pn	12 18 06.8	+0.1
SBZV	Sabzevar	8.53	97	*e*Pn	Pn	12 18 13.5	+1.8

KRSC 08 12:24:58.8±1.5,54.°75N×167.°22E,h37km±19km,ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.85	303	*e*P	Pn	12 25 14.4	+0.2
BKI				*e*S	Sn	12 25 28.1	+2.6
KBTR	Krutoberegovo	2.90	302	*e*P	Pn	12 25 44.9	+2.6
KBG	Krutoberegovo	2.98	302	*e*S	Sn	12 26 22.1	+4.3
MKZ	Mys Kozlova	3.19	269	P	Pn	12 25 49.8	+3.4
MKZ				S	Sn	12 26 27.2	+4.1
TUMR	Tumrok	4.11	280	P	Pn	12 26 04.5	+5.5
SPN	Mys Shipunski	4.56	252	P	Pn	12 26 09.7	+4.5
SPN				S	Sn	12 27 01.3	+4.4
SDLR	Sedlovina	5.13	257	P	Pn	12 26 17.8	+4.7
UGLR	Uglovaya	5.19	256	P	Pn	12 26 19.1	+5.2
KRER	Koryakskii	5.20	257	P	Pn	12 26 19.0	+4.9
AVH	Avacha	5.22	257	P	Pn	12 26 19.0	+4.7
AVH				S	Sn	12 27 19.8	+6.6
KRX	Arik	5.24	258	P	Pn	12 26 19.2	+4.4
KOK	Koryaka	5.27	257	P	Pn	12 26 19.5	+4.5
DALK	Dalny	5.29	254	S	Sn	12 27 19.6	+4.7
GNL	Ganaly	5.54	263	P	Pn	12 26 24.3	+5.5
MTVR	Mutnovka	5.84	251	P	Pn	12 26 28.0	+5.2
MTVR				S	Sn	12 27 34.0	+5.5
GRL	Gorelyy	5.87	252	P	Pn	12 26 28.0	+4.8
ASAK	Asacha	6.04	251	P	Pn	12 26 31.1	+5.6
ASAK				S	Sn	12 27 37.2	+3.9

PRU 08 12:35:36.9±0.0,50.°23N×19.°02E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.50	91	*e*Pg	Pg	12 35 45.6	-0.8
OJC				*e*Sg	Sg	12 35 53.2	+0.2
MORC	Moravsky Berou	1.06	245	*e*PG	Pg	12 35 56.0	-1.1
MORC				*e*SG	Sg	12 36 10.9	+0.1
LANS	Liptovska Anna	1.12	165	*e*PG	Pg	12 35 58.6	+0.3
LANS				*e*SG	Sb	12 36 13.6	-0.7
LANS				*e*LG	Lg	12 36 17.4	
MAUC	Maruska	1.16	222	*e*PG	Pg	12 35 59.1	0.0
MAUC				*e*SG	Sb	12 36 15.6	+0.2
	comp=Z,14nm,0.5s						
KRLC	Kraliky	1.45	265	*e*PG	Pn	12 36 03.1	-1.3
KRLC				*e*SG	Sg	12 36 22.2	-1.2
	comp=Z,5.6nm,0.5s						
DPC	Dobruska-Polom	1.73	275	*e*PG	Pn	12 36 08.9	+0.6
DPC				*e*SG	Sg	12 36 32.3	-0.3
	comp=Z,7.4nm,0.6s						
DPC	Dobruska-Polom	1.73	275	*e*	Sg	12 36 32.3	-0.3
DPC	Dobruska-Polom	1.73	275	*e*	Pn	12 36 08.9	+0.6
VYHS	Vyhne	1.74	184	*e*PN	Pn	12 36 07.6	-0.8
VYHS				*e*SN	Sn	12 36 31.5	+0.2
VRAC	Vranov	1.82	241	*e*PN	Pn	12 36 10.0	+0.5
VRAC				*e*SG	Sb	12 36 34.3	-0.2

IDC 08 12:38:43.0±6.4,22.°05S×178.°80E,h648km±62km,mb2.9/4, mbtmp3.8/5,Error ellipse: s-maj=199.0km s-min=24.8km az=158.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.35	351	P	P	12 40 14.6	0.0
	4.3nm,0.4s,baz=129,slow=19,SNR=10						
ASAR	Alice Springs	41.27	259	P	P	12 45 33.7	-1.1
	0.6nm,0.5s,baz=94,slow=7.0,SNR=26						
ASAR				PcP	PcP	12 47 17.2	-0.1
	0.3nm,0.8s,baz=99,slow=5.8,SNR=1.7						
	0.6nm,0.5s						
WRA	Warramunga Arr	41.45	264	P	P	12 45 36.5	+0.3
	1.6nm,0.4s,baz=98,slow=8.2,SNR=68						
	1.6nm,0.4s						
FITZ	Fitzroy Crossi	49.89	264	P	P	12 46 40.9	+1.1
	1.4nm,0.6s,baz=88,slow=6.7,SNR=7.7						
	1.4nm,0.6s						
TXAR	Lajitas Array	90.40	58	P	P	12 50 37.5	-0.1
	0.3nm,0.7s,baz=225,slow=6.9,SNR=3.8						
	0.3nm,0.7s						

*UPP **08** 12:55:07.7±0.1,58.°99N×18.°20E,h0km,ML2.4,Explosion*
*IDC **08** 12:55:08.7±3.0,58.°92N×18.°22E,h0km,mbtmp2.8/4, ML2.2/3,Error ellipse: s-maj=45.2km s-min=12.0km az=172.0*
*DNK **08** 12:55:08.2±0.5,59.°00N×18.°19E,h0km,ML2.4(UPP), Explosion*
ISC 08 12:55:06.8±0.8,58.°99N±0.°03×18.°13E±0.°04,h0km,n27, σ0°63/36,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	Norrtaelje	0.74	20	P	Pg	12 55 21.4	+0.4
NRTU				S	Sg	12 55 30.7	+0.2
NRTU	Norrtaelje	0.74	20	P	Pg	12 55 21.4	+0.4
NRTU				S	Sg	12 55 30.7	+0.2
VIKU	Vikbolandet	0.89	237	P	Pb	12 55 25.2	+0.1
VIKU				S	Sb	12 55 37.2	-0.3
VIKU	Vikbolandet	0.89	237	P	Pb	12 55 25.2	+0.1
VIKU				S	Sb	12 55 37.2	-0.3
ESKU	Eskilstuna	0.93	286	P	Pb	12 55 38.5	-0.1
ESKU				S	Sb	12 55 38.5	0.0
ESKU	Eskilstuna	0.93	286	P	Pb	12 55 25.6	-0.1
ESKU				S	Sb	12 55 38.5	0.0
FLYU	Flymyra	1.15	354	P	Pg	12 55 29.3	+0.4
FLYU	Flymyra	1.15	354	P	Pg	12 55 29.3	+0.4
GOTU	Gotland	1.33	170	P	Pg	12 55 32.0	-0.3
GOTU				S	Sb	12 55 50.3	+0.2
GOTU	Gotland	1.33	170	P	Pg	12 55 32.0	-0.3
GOTU				S	Sb	12 55 50.3	+0.2
OSTU	Oestervaala	1.34	338	P	Pn	12 55 32.9	+0.1
OSTU	Oestervaala	1.34	338	P	Pn	12 55 32.9	+0.1
GRAU	Graesoe	1.37	9	P	Pg	12 55 33.1	+0.1
GRAU	Graesoe	1.37	9	P	Pg	12 55 33.1	+0.1
FORU	Forsmark	1.40	1	P	Pn	12 55 33.7	+0.1
FORU	Forsmark	1.40	1	P	Pn	12 55 33.7	+0.1
AAL	Aland	1.53	38	P	Pn	12 55 35.4	+0.1
LNKU	Linkoeping	1.57	242	P	Pg	12 55 37.1	+0.2
LNKU	Linkoeping	1.57	242	P	Pg	12 55 37.1	+0.2
VSTU	Vaestervik	1.57	213	P	Pg	12 55 37.2	+0.2
VSTU	Vaestervik	1.57	213	P	Pg	12 55 37.2	+0.2
ASKU	Askersund	1.71	268	P	Pg	12 55 39.6	0.0
ASKU	Askersund	1.71	268	P	Pg	12 55 39.6	0.0
HFS	Hagfors	2.53	299	Pn	Pb	12 55 51.4	-1.7
	0.8nm,0.3s,baz=113,slow=18,SNR=3.3						
HFS				Lg	Lg	12 56 24.5	
	2.8nm,0.3s,baz=119,slow=30,SNR=25						
	1.2nm,0.2s						
NOA	NORSAR Array B	4.03	304	Pn	Pn	12 56 11.0	+1.2
	0.1nm,0.4s,baz=123,slow=14,SNR=5.7						
NOA				Lg	Lg	12 57 11.3	
	baz=143,slow=20,SNR=2.5						
FINES	FINESS Array B	4.67	55	Pn	Pn	12 56 20.2	+1.8
	0.2nm,0.3s,baz=246,slow=13,SNR=17						
FINES				Sn	Sn	12 57 13.4	+0.2
	0.6nm,0.3s,baz=243,slow=22,SNR=9.4						
FINES				Lg	Lg	12 57 31.1	
	0.9nm,0.3s,baz=246,slow=26,SNR=10						
	2.4nm,0.9s						
ARCES	ARCESS Array B	11.05	14	Pn	Pn	12 57 44.0	-2.0
	0.1nm,0.3s,baz=196,slow=13,SNR=11						
	0.4nm,0.3s						

*IDC **08** 13:20:18.2±1.3,31.°35S×179.°89W,h357km±11km,mb3.4/6, mbtmp4.3/10,Error ellipse: s-maj=17.7km s-min=16.2km az=80.0*
*WEL **08** 13:20:24.0±0.6,32.°5S±6.°×18.°0W±1.°5,h273km±12km, M4.4/20,mB4.7/12,ML5.2/23,MLv5.2/20,Mw(mB)4.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=109.1*
ISC 08 13:20:20.0±1.0,31.°55S±0.°09×179.°8W±0.°2,h300km,n57, σ2°41/61,mb3.5/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.81	36	P	Pn	13 21 14.7	+0.8
GLKZ				S	S	13 21 58.5	+1.5
RAO	Raoul Island	2.81	36	P	Pn	13 21 15.5	+1.5
	122nm,0.3s,baz=139,slow=19,SNR=2.0						
RAO				S	S	13 21 56.0	-1.1
	263nm,0.3s,baz=80,slow=22,SNR=3.2						
RIZ	Raoul Island	2.81	36	S	S	13 21 59.2	+2.0
GRZ	Great Barrier	6.12	219	P	Pn	13 21 54.6	+4.0
MXZ	Matakaoa Point	6.19	194	P	Pn	13 21 54.9	+3.4
MXZ				S	S	13 23 04.6	-0.8
KUZ	Kuaotunu	6.37	214	P	Pn	13 21 55.3	+1.6
WMGZ	Waiomatatini S	6.42	193	P	Pn	13 21 58.1	+3.8
WMGZ				S	S	13 23 11.4	+1.1
HAZ	Te Kaha	6.50	197	P	Pn	13 21 57.8	+2.6
HAZ				S	S	13 23 12.6	+0.6
WCZ	Waipu Caves	6.54	226	P	Pn	13 21 59.6	+3.8
PKGZ	Pakihiroa	6.56	195	P	Pn	13 22 00.2	+4.2
PKGZ				S	S	13 23 15.6	+2.2
PUZ	Puketiti	6.70	193	P	Pn	13 22 01.7	+4.1
PUZ				S	S	13 23 17.2	+0.7
WIAZ	Waiheke Island	6.70	217	P	Pn	13 22 01.5	+3.9
RUGZ	Raukumara Rang	6.72	197	P	Pn	13 22 01.0	+2.9
RUGZ				S	S	13 23 16.5	-0.8
TWGZ	Tauwhareparae	6.85	195	P	Pn	13 22 03.4	+3.8
TWGZ				S	S	13 23 21.0	+1.0
OPRZ	Ohinepanea	6.95	205	P	Pn	13 22 01.8	+1.1
CNGZ	Carnagh Statio	7.10	193	P	Pn	13 22 04.4	+1.8
MWZ	Matawai	7.11	197	P	Pn	13 22 05.8	+3.1
MWZ				S	S	13 23 25.6	-0.1
TKGZ	Te Karaka	7.13	195	P	Pn	13 22 04.5	+1.6
TKGZ				S	S	13 23 25.4	-0.7
URZ	Urewera	7.15	200	P	Pn	13 22 04.2	+1.1
	15nm,0.3s,baz=31,slow=18,SNR=18						
URZ				S	S	13 23 25.3	-1.2
	82nm,0.5s,baz=31,slow=22,SNR=15						
URZ	Urewera	7.15	200	P	Pn	13 22 03.8	+0.6
URZ				S	S	13 23 26.4	-0.1
TOZ	Tahuroa Road	7.27	211	P	Pn	13 22 08.2	+3.6
RIGZ	Rimuhau	7.41	195	P	Pn	13 22 08.9	+2.6
RIGZ				S	S	13 23 31.9	-0.4
MUGZ	Murupara	7.46	201	P	Pn	13 22 07.8	+1.0
MUGZ				S	S	13 23 33.3	0.0
GRRZ	Galatos Road	7.56	205	P	Pn	13 22 12.6	+4.4
ALRZ	Allen Road	7.67	203	P	Pn	13 22 10.7	+1.2
TLZ	Tolley Road	7.76	208	P	Pn	13 22 14.8	+4.2
RAHZ	Arahi	7.77	198	P	Pn	13 22 12.9	+2.2
RAHZ				S	S	13 23 37.7	-2.7
MTHZ	Maungataniwha	7.78	200	P	Pn	13 22 13.4	+2.5
MTHZ				S	S	13 23 40.3	-0.3
NMHZ	Naumai	8.02	199	P	Pn	13 22 16.2	+2.4
NMHZ				S	S	13 23 45.6	-0.5
BKZ	Black Stump Fm	8.17	201	P	Pn	13 22 15.4	-0.3
BKZ				S	S	13 23 45.8	-3.7
MCHZ	McNeill Hill	8.37	199	P	Pn	13 22 19.9	+1.8
MCHZ				S	S	13 23 51.0	-2.9
KWHZ	Kaweka Forest	8.43	200	P	Pn	13 22 20.2	+1.3
KWHZ				S	S	13 23 50.9	-4.5
FWVZ	Far West T-bar	8.57	205	P	Pn	13 22 21.5	+0.8
BHHZ	Black Hill Sta	8.60	202	P	Pn	13 22 20.3	-0.6
BHHZ				S	S	13 23 56.2	-3.0
WNVZ	Wahianoa	8.61	205	P	Pn	13 22 21.5	+0.3
MOVZ	Moawhango	8.63	204	P	Pn	13 22 21.0	-0.3
KAHZ	Kahuranaki	8.65	197	P	Pn	13 22 21.6	+0.1
RPZ	Rata Peaks	14.12	208	P	P	13 23 22.8	-4.5
	41nm,1.2s,baz=85,slow=15,SNR=2.0						
RPZ				S	S	13 25 51.0	-12
	12nm,0.6s,baz=135,slow=23,SNR=10						
DZM	Mont Dzumac	15.47	304	P	P	13 23 37.8	-4.7
	24nm,1.2s,baz=160,slow=17,SNR=5.8						
STKA	Stephens Creek	32.72	259	P	P	13 26 20.0	-5.2
	4.2nm,0.6s,baz=109,slow=12,SNR=12						
	4.2nm,0.6s						
ASAR	Alice Springs	41.52	269	P	P	13 27 30.9	-7.9
	0.7nm,0.4s,baz=106,slow=7.4,SNR=39						
ASAR				PcP	PcP	13 29 20.3	+8.6
	0.3nm,0.8s,baz=122,slow=3.8,SNR=

KII	**Karymskiy**	**4.84**	**264**	*eP*	**Pn**	**13 25 52.5**	**-0.1**
NLC	**Nalytchevo**	**5.15**	**255**	*eS*	**Sn**	**13 26 53.4**	**-1.5**
ESO	**Esso**	**5.23**	**286**	*eP*	**Pn**	**13 25 58.2**	**+0.4**
SDLR	**Sedlovina**	**5.37**	**257**	*eP*	**Pn**	**13 25 59.7**	**-0.2**
SDLR				*eS*	**Sn**	**13 26 59.6**	**-1.0**
SMAR	**Somma**	**5.42**	**257**	*eP*	**Pn**	**13 26 01.7**	**+1.0**
SMAR				*eS*	**Sn**	**13 26 58.6**	**-3.4**
UGLR	**Uglovaya**	**5.43**	**257**	*eP*	**Pn**	**13 26 00.2**	**-0.5**
UGLR				*eS*	**Sn**	**13 27 01.3**	**-0.7**
KRER	**Koryakskii**	**5.44**	**258**	*eP*	**Pn**	**13 26 01.5**	**+0.6**
KRER				*eS*	**Sn**	**13 27 01.1**	**-1.2**
AVH	**Avacha**	**5.46**	**257**	*eP*	**Pn**	**13 26 02.3**	**+1.2**
AVH				*eS*	**Sn**	**13 27 02.7**	**+0.1**
KRX	**Arik**	**5.48**	**259**	*eP*	**Pn**	**13 26 01.8**	**+0.8**
KOK	**Koryaka**	**5.51**	**258**	*eP*	**Pn**	**13 26 02.2**	**+0.4**
KOK				*eS*	**Sn**	**13 27 02.2**	**-1.7**
DALK	**Dalny**	**5.54**	**255**	*eP*	**Pn**	**13 26 01.9**	**-0.1**
DALK				*eS*	**Sn**	**13 27 02.3**	**-2.0**
PET	**Petropavlovsk**	**5.59**	**255**	*eP*	**Pn**	**13 26 05.0**	**+2.2**
PET				*eS*	**Sn**	**13 27 04.3**	**-1.5**
GNL	**Ganaly**	**5.79**	**263**	*eP*	**Pn**	**13 26 06.7**	**+1.1**
GNL				*eS*	**Sn**	**13 27 10.7**	**0.0**
RUS	**Russkaya**	**5.92**	**250**	*eP*	**Pn**	**13 26 09.3**	**+2.1**
RUS				*eS*	**Sn**	**13 27 14.4**	**+0.7**
KRMR	**Karymshinskiy**	**5.96**	**255**	*eP*	**Pn**	**13 26 08.5**	**+0.7**
KRMR				*eS*	**Sn**	**13 27 15.2**	**+0.4**
PALN	**Palana**	**6.02**	**319**	P	Pn	13 26 13.9	+5.3
MTVR	**Mutnovka**	**6.08**	**252**	*eP*	**Pn**	**13 26 10.1**	**+0.5**
MTVR				*eS*	**Sn**	**13 27 15.0**	**-2.9**
PETK	**Petropavlovsk-**	**6.10**	**258**	Pn	**Pn**	**13 26 11.6**	**+1.8**
	0.4nm,0.3s,baz=88,slow=17,SNR=4.4						
PETK				Sn	**Sn**	**13 27 20.9**	**+2.6**
	0.7nm,0.3s,baz=9.0,slow=29,SNR=4.0						
PETK				LR	LR	13 29 04.3	
	comp=Z,33nm,18.9s,baz=65,slow=43 1.8nm,0.5s						
GRL	**Gorelyy**	**6.11**	**252**	*eP*	**Pn**	**13 26 10.9**	**+0.9**
GRL				*eS*	**Sn**	**13 27 17.9**	**-0.7**
ASAK	**Asacha**	**6.28**	**251**	*eP*	**Pn**	**13 26 13.7**	**+1.4**
ASAK				*eS*	**Sn**	**13 27 22.0**	**-0.7**
KDTR	**Khodutka, Kamc**	**6.46**	**246**	*eS*	**Sn**	**13 27 24.0**	**-3.0**
KDAK	**Kodiak Island**	**22.06**	**66**	P	**P**	**13 29 33.2**	**-0.4**
	2.5nm,0.8s,baz=285,slow=12,SNR=1.3 2.5nm,0.8s						
ILAR	**Eielson Array**	**24.42**	**48**	P	**P**	**13 29 56.0**	**-1.1**
	0.3nm,0.5s,baz=270,slow=7.2,SNR=5.7						
ILAR				LR	LR	13 39 33.4	
	comp=Z,49nm,20.4s,baz=139,slow=37						
H11N2	**WAKE ISLAND Hy**	**34.99**	**181**	T	T	14 08 26.7	
	baz=0.8,slow=76,SNR=468						
H11N3	**WAKE ISLAND Hy**	**35.01**	**181**	T	T	14 08 27.8	
	baz=0.8,slow=76,SNR=348						
H11N1	**WAKE ISLAND Hy**	**35.01**	**181**	T	T	14 08 27.8	
	baz=0.8,slow=76,SNR=313						
H11S1	**WAKE ISLAND Hy**	**36.21**	**182**	T	T	14 09 58.1	
	baz=0.8,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**36.23**	**182**	T	T	14 10 01.0	
	baz=0.8,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**36.23**	**181**	T	T	14 09 59.5	
	baz=0.8,slow=76,SNR=56						
NVAR	**Mina Array Bea**	**50.99**	**76**	P	**P**	**13 33 40.0**	**-0.5**
	0.3nm,0.6s,baz=297,slow=8.0,SNR=3.6 0.3nm,0.6s						
MKAR	**Makanchi Array**	**51.35**	**299**	P	**P**	**13 33 42.4**	**-0.4**
	0.4nm,0.4s,baz=55,slow=6.8,SNR=7.6 0.4nm,0.4s						
PDAR	**Pinedale Array**	**52.78**	**67**	P	**P**	**13 33 54.5**	**+0.7**
	0.3nm,0.6s,baz=335,slow=6.3,SNR=2.8 0.3nm,0.6s						
BRDH	**Bariadhala**	**63.77**	**273**	LR	LR	14 08 28.7	
	comp=Z,72nm,18.6s,baz=269,slow=41						
TXAR	**Lajitas Array**	**65.87**	**73**	P	**P**	**13 35 25.5**	**+1.3**
	0.7nm,0.6s,baz=303,slow=5.1,SNR=15 0.7nm,0.6s						
LPIG	**La Paz**	**66.16**	**82**	LR	LR	14 01 16.4	
	comp=Z,40nm,18.1s,baz=162,slow=33						
WRA	**Warramunga Arr**	**79.68**	**212**	P	**P**	**13 36 46.9**	**+0.9**
	0.5nm,0.8s,baz=22,slow=6.0,SNR=3.0 0.5nm,0.8s						
ASAR	**Alice Springs**	**83.32**	**211**	P	**P**	**13 37 07.1**	**+2.0**
	1.3nm,0.8s,baz=15,slow=5.5,SNR=14 1.3nm,0.8s						

IDC 08 13:31:31.0±582.0, 59°09'N×137°16'E, h0km, Error ellipse: s-maj=273.8km s-min=177.7km az=115.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK**	**12.92**	**109**	*i*		14 48 50.0	
	baz=307,slow=328,SNR=2.7						
I45RU	**USSURIYSK INFR**	**15.25**	**194**	*i*		15 07 10.0	
	baz=9.3,slow=321,SNR=3.0						
I53US	**FAIRBANKS INFR**	**33.74**	**48**	*i*		16 59 30.0	
	baz=297,slow=324,SNR=3.2						

*UPA **08** 13:35:13.4±0.5, 11°.21N×85°.95W, h47km±19km, MW4.3*
*NEIC **08** 13:35:14.5±1.8, 11°.16N±0°.04×85°.76W±0°.05, h85km±8km, mb4.5/37, Error ellipse: s-maj=7.4km s-min=5.1km az=86.0*
*SNET **08** 13:35:14.1±1.3, 11°.24N×85°.65W, h86km, ML4.6*
*UCR **08** 13:35:14.5±1.4, 11°.14N×85°.78W, h88km±3km, ML4.2, MW4.7, mb4.5(NEIC)*
*IDC **08** 13:35:14.3±1.0, 11°.20N×85°.87W, h93km±8km, mb3.8/15, mbtmp4.2/16, MS3.3/8, Error ellipse: s-maj=22.6km s-min=11.9km az=52.0*
*INET **08** 13:35:14.5±0.7, 11°.15N×85°.76W, h87km±4km, MW4.5*

ISC 08 13:35:13.6±0.5, 11°.16N±0°.03×85°.77W±0°.04, h89km±4km, n177, σ1§30/210, mb4.4/30, 16C-10D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.47**	**158**		**Pn**	**13 35 28.8**	**+0.6**
HZTE	**Horizontes, Gu**	**0.47**	**158**	*iP*	**Pn**	**13 35 28.9**	**+0.6**
HZTE	**Horizontes, Gu**	**0.47**	**158**	*eP*	**Pn**	**13 35 28.7**	**+0.6**
GBS3	**Finca Las Img**	**0.49**	**140**	*iP*	**Pn**	**13 35 28.6**	**+0.3**
GBS3				*eS*	**Sn**	**13 35 39.8**	**+0.7**
GB1A	**Borinquen Arri**	**0.50**	**132**	*eP*	**Pn**	**13 35 29.0**	**+0.5**
BUEV	**Buena Vista**	**0.51**	**135**	*eP*	**Pn**	**13 35 29.0**	**+0.5**
BUEV				*eS*	**Sn**	**13 35 40.6**	**+1.1**
LAPC	**Finca la Perla**	**0.51**	**139**	*iP*	**Pn**	**13 35 28.7**	**+0.2**
BUAI	**Buenos Aires**	**0.52**	**123**	*iP*	**Pn**	**13 35 29.1**	**+0.6**
BUAI				*eS*	**Sn**	**13 35 41.2**	**+1.7**
GPS3	**Bodega del ICE**	**0.57**	**135**	*iP*	**Pn**	**13 35 29.5**	**+0.5**
GPS3				*eS*	**Sn**	**13 35 41.3**	**+0.9**
GPS2	**Hotel Rincn d**	**0.58**	**134**	*iP*	**Pn**	**13 35 29.7**	**+0.7**
GPS2				*eS*	**Sn**	**13 35 41.5**	**+1.0**
LIM1	**Limonal**	**0.69**	**132**	*iP*	**Pn**	**13 35 30.6**	**+0.6**
GUAB	**Guayabo de Bag**	**0.70**	**130**	*iP*	**Pn**	**13 35 30.6**	**+0.5**
VMAR	**Armenia, Volca**	**0.73**	**118**	*iP*	**Pn**	**13 35 31.1**	**+0.6**
VMAR				*eS*	**Sn**	**13 35 44.2**	**+1.2**
HORNC	**Hornillas**	**0.73**	**127**	*eP*	**Pn**	**13 35 31.0**	**+0.5**
COLC	**Colonia**	**0.74**	**131**	*eP*	**Pn**	**13 35 31.0**	**+0.5**
COLC				*eS*	**Sn**	**13 35 44.8**	**+1.6**
CUI	**Cuipilapa**	**0.78**	**130**	*iP*	**Pn**	**13 35 31.6**	**+0.7**
ORTG	**Ortega, Santa**	**0.85**	**159**		**Pn**	**13 35 32.2**	**+0.4**
ORTG				Sn	**Sn**	**13 35 45.8**	**+0.6**
ORTG	**Ortega, Santa**	**0.85**	**159**	*eP*	**Pn**	**13 35 32.1**	**+0.4**
PTEN	**Parque Tenorio**	**0.89**	**120**	*iP*	**Pn**	**13 35 33.1**	**+0.9**
ACAL	**Aguas Claras**	**0.89**	**126**	*iP*	**Pn**	**13 35 33.0**	**+0.9**
ACAL				*eS*	**Sn**	**13 35 47.5**	**+1.4**
MASN	**Masaya**	**0.90**	**336**	*eP*	**Pn**	**13 35 32.7**	**+0.4**
VERA	**Finca Concepci**	**0.94**	**109**	*iP*	**Pn**	**13 35 33.6**	**+1.0**
VERA				*eS*	**Sn**	**13 35 48.8**	**+2.0**
ACON	**Acoyapa**	**1.00**	**36**		**Pn**	**13 35 33.8**	**+0.6**
ACON				Sn	**Sn**	**13 35 47.3**	**-0.6**
ACON	**Acoyapa**	**1.00**	**36**	*iP*	**Pn**	**13 35 34.0**	**+0.7**
ACON				*eS*	**Sn**	**13 35 49.1**	**+1.2**
ACON	**Acoyapa**	**1.00**	**36**	*eP*	**Pn**	**13 35 34.0**	**+0.7**
ACON				*eS*	**Sn**	**13 35 49.1**	**+1.2**
MGAN	**Managua**	**1.09**	**335**	*eP*	**Pn**	**13 35 34.9**	**+0.6**
MGAN				*eP*	**Pn**	**13 35 34.9**	**+0.6**
SAJU	**San Juanillo,**	**1.09**	**177**	*iP*	**Pn**	**13 35 34.4**	**+0.1**
TISN	**Laguna Tiscapa**	**1.09**	**334**	*eP*	**Pn**	**13 35 35.0**	**+0.6**
DUNO	**Dulce Nombre,**	**1.11**	**166**		**Pn**	**13 35 35.1**	**+0.6**
DUNO				Sn	**Sn**	**13 35 49.8**	**-0.4**
DUNO	**Dulce Nombre,**	**1.11**	**166**	*eP*	**Pn**	**13 35 35.1**	**+0.6**
JTS	**Las Juntas de**	**1.18**	**137**	Pn	**Pn**	**13 35 35.8**	**+0.3**
JTS	**Las Juntas de**	**1.18**	**137**	*eP*	**Pn**	**13 35 35.7**	**+0.3**
JTS	**Las Juntas de**	**1.18**	**137**	*eP*	**Pn**	**13 35 35.8**	**+0.3**
JTS				*eS*	**Sn**	**13 35 52.1**	**+0.3**
JTS	**Las Juntas de**	**1.18**	**137**	*eP*	**Pn**	**13 35 35.8**	**+0.3**
APYN	**Apoyeque**	**1.21**	**332**	*eP*	**Pn**	**13 35 35.8**	**+0.1**
HUEN		**1.23**	**342**	*eP*	**Pn**	**13 35 36.9**	**+0.9**
CEDE	**Laguna Cedeo**	**1.25**	**122**	*iP*	**Pn**	**13 35 37.4**	**+1.1**
CASO	**Castillo**	**1.25**	**125**	*iP*	**Pn**	**13 35 37.4**	**+1.1**
CASO				*eS*	**Sn**	**13 35 54.8**	**+1.4**
FORC	**Fortuna**	**1.28**	**122**	*eP*	**Pn**	**13 35 37.5**	**+0.8**
BOAB	**BOACO BROADBAN**	**1.29**	**5**		**Pn**	**13 35 36.8**	**+0.1**
BOAB	**BOACO BROADBAN**	**1.29**	**5**	*eP*	**Pn**	**13 35 37.4**	**+0.6**
BOAB				*eS*	**Sn**	**13 35 54.6**	**+0.5**
COPN	**Copaltepe**	**1.29**	**322**	*eP*	**Pn**	**13 35 37.2**	**+0.4**
INDI	**Punta indio, G**	**1.31**	**168**	*iP*	**Pn**	**13 35 37.2**	**+0.2**
COVE	**Coope Vega, Sa**	**1.42**	**108**		**Pn**	**13 35 38.5**	**+0.3**
COVE	**Coope Vega, Sa**	**1.42**	**108**	*eP*	**Pn**	**13 35 38.6**	**+0.3**
MOMN	**Momotombo**	**1.45**	**329**	*eP*	**Pn**	**13 35 39.2**	**+0.4**
LAFE	**Finca La Fe, P**	**1.59**	**148**	*iP*	**Pn**	**13 35 41.1**	**+0.6**
LAFE	**Finca La Fe, P**	**1.59**	**148**	*eP*	**Pn**	**13 35 41.0**	**+0.5**
LAFE				*eS*	**Sn**	**13 36 00.1**	**-0.8**
CNGN	**Cerro Negro**	**1.61**	**326**		**Pn**	**13 35 41.5**	**+0.6**
CNGN	**Cerro Negro**	**1.61**	**326**	*eP*	**Pn**	**13 35 41.4**	**+0.6**
BRAN	**Las Pilas**	**1.65**	**340**	*eP*	Pn	13 35 35.7	-5.6
TEL3	**Telica 3**	**1.75**	**323**	*eP*	**Pn**	**13 35 43.4**	**+0.8**
MATN	**Matagalpa**	**1.77**	**355**	Pn	**Pn**	**13 35 43.7**	**+0.8**
MATN	**Matagalpa**	**1.77**	**355**	*eP*	**Pn**	**13 35 43.7**	**+0.8**
JACO	**JACO, Garabito**	**1.85**	**143**	Pn	**Pn**	**13 35 44.8**	**+0.9**
JACO	**JACO, Garabito**	**1.85**	**143**	*iP*	**Pn**	**13 35 44.8**	**+0.9**
JACO	**JACO, Garabito**	**1.85**	**143**	*eP*	**Pn**	**13 35 44.8**	**+0.9**
CRIN	**San Cristobal**	**1.98**	**321**		**Pn**	**13 35 46.4**	**+0.7**
CRIN	**San Cristobal**	**1.98**	**321**	*eP*	**Pn**	**13 35 46.3**	**+0.7**
HDC	**Heredia**	**2.00**	**125**		**Pn**	**13 35 47.2**	**+1.2**
HDC	**Heredia**	**2.00**	**125**	*iP*	**Pn**	**13 35 47.2**	**+1.2**
HDC	**Heredia**	**2.00**	**125**	*eP*	**Pn**	**13 35 47.2**	**+1.2**
HDC				*eS*	**Sn**	**13 36 13.2**	**+2.7**
HDC3	**Heredia 3**	**2.00**	**125**	*eP*	**Pn**	**13 35 47.1**	**+1.2**
LCR2	**La Lucha 2**	**2.24**	**129**	*eP*	**Pn**	**13 35 49.9**	**+0.7**
CVTR	**Volcan Turrial**	**2.28**	**120**		**Pn**	**13 35 51.0**	**+1.1**
RIMA	**Rio Macho**	**2.33**	**126**		**Pn**	**13 35 51.5**	**+1.1**
RIMA	**Rio Macho**	**2.33**	**126**	*iP*	**Pn**	**13 35 51.7**	**+1.2**
RIMA	**Rio Macho**	**2.33**	**126**	*eP*	**Pn**	**13 35 51.5**	**+1.1**
RIMA				*eS*	**Sn**	**13 36 19.5**	**+0.9**
CSGN	**Cosiguina Volc**	**2.51**	**316**	*eP*	**Pn**	**13 35 53.6**	**+0.9**
CDM	**Cerro de Muert**	**2.54**	**129**	*eP*	**Pn**	**13 35 54.2**	**+0.8**
CDM	**Cerro de Muert**	**2.54**	**129**	*eP*	**Pn**	**13 35 54.4**	**+1.0**
BATAN	**Batan**	**2.58**	**114**		**Pn**	**13 35 54.9**	**+1.4**
BATAN	**Batan**	**2.58**	**114**	*iP*	**Pn**	**13 35 55.1**	**+1.5**
BATAN				*eS*	**Sn**	**13 36 26.7**	**+2.5**
EDDO	**Dominical**	**2.67**	**135**	*eP*	**Pn**	**13 35 56.7**	**+2.0**
PEZE	**Perez Zeledon,**	**2.71**	**130**		**Pn**	**13 35 57.4**	**+1.9**
PEZE	**Perez Zeledon,**	**2.71**	**130**	*eP*	**Pn**	**13 35 57.0**	**+1.5**
CNCH	**Conchagua**	**2.91**	**316**	*eP*	**Pn**	**13 35 58.9**	**+0.8**
CNCH				*eS*	**Sn**	**13 36 35.1**	**+2.8**
CNCH				IAML		13 36 40.9	
	comp=Z,2µm,0.4s						
CNCH	**Conchagua**	**2.91**	**316**	*eP*	**Pn**	**13 35 58.9**	**+0.8**
CNCH				*eS*	**Sn**	**13 36 35.1**	**+2.8**
CNCH				IAML		13 36 40.9	
	comp=Z,2µm,0.4s						
LCND	**La Caada**	**2.98**	**316**	*eP*	**Pn**	**13 35 59.6**	**+0.7**
LCND				*eS*	**Sn**	**13 36 36.5**	**+2.8**
LCND	**La Caada**	**2.98**	**316**	*eP*	**Pn**	**13 35 59.6**	**+0.7**
LCND				*eS*	**Sn**	**13 36 36.0**	**+2.4**
LCND				*eS*	**Sn**	**13 36 36.5**	**+2.8**
SRBA	**San Rafael, Bu**	**3.05**	**129**		**Pn**	**13 36 01.4**	**+1.4**
SRBA	**San Rafael, Bu**	**3.05**	**129**	*eP*	**Pn**	**13 36 00.9**	**+0.9**
DRK0	**Durika**	**3.12**	**127**	Pn	**Pn**	**13 36 02.7**	**+1.7**
DRK0	**Durika**	**3.12**	**127**	*eP*	**Pn**	**13 36 03.2**	**+2.2**
DRK0				*eS*	**Sn**	**13 36 40.1**	**+2.6**
TGUH	**Tegucigalpa,Un**	**3.23**	**333**	Pn	**Pn**	**13 36 04.2**	**+1.8**
TGUH	**Tegucigalpa,Un**	**3.23**	**333**	*eP*	**Pn**	**13 36 04.2**	**+1.8**
TGUH	**Tegucigalpa,Un**	**3.23**	**333**	*eP*	**Pn**	**13 36 04.2**	**+1.8**
RANC	**El Ranchito**	**3.34**	**313**	*eP*	**Pn**	**13 36 05.5**	**+1.6**
RANC				*eS*	**Sn**	**13 36 45.4**	**+2.7**
RANC	**El Ranchito**	**3.34**	**313**	*eP*	**Pn**	**13 36 05.5**	**+1.6**
RANC				*eS*	**Sn**	**13 36 45.4**	**+2.7**
PACA	**Pacayal**	**3.39**	**313**	*eP*	**Pn**	**13 36 06.9**	**+2.4**
PACA				*eS*	**Sn**	**13 36 45.7**	**+1.9**
PACA	**Pacayal**	**3.39**	**313**	*eP*	**Pn**	**13 36 06.9**	**+2.4**
PACA				*eS*	**Sn**	**13 36 45.7**	**+1.9**
COEB	**Comit de Eme**	**3.56**	**311**	*eP*	**Pn**	**13 36 09.2**	**+2.3**
COEB	**Comit de Eme**	**3.56**	**311**	*eP*	**Pn**	**13 36 09.2**	**+2.3**
BRU2	**Volcan**	**3.84**	**127**		**Pn**	**13 36 12.1**	**+1.4**
BRU2	**Volcan**	**3.84**	**127**	*eP*	**Pn**	**13 36 12.5**	**+1.8**
BRU2				*eS*	**Sn**	**13 36 57.7**	**+2.9**
CDITO	**Canoas**	**3.84**	**132**		**Pn**	**13 36 11.7**	**+1.1**
CDITO	**Canoas**	**3.84**	**132**	*eP*	**Pn**	**13 36 12.3**	**+1.7**
CDITO				*eS*	**Sn**	**13 36 57.2**	**+2.5**
BC3P	**Paso Ancho**	**3.89**	**126**	*eP*	**Pn**	**13 36 13.5**	**+2.1**
COEG	**Centro de Oper**	**3.90**	**309**	*eP*	**Pn**	**13 36 13.6**	**+2.2**
COEG	**Centro de Oper**	**3.90**	**309**	*eP*	**Pn**	**13 36 13.6**	**+2.2**
SJTE	**Alcalda de S**	**3.99**	**308**	*eP*	**Pn**	**13 36 14.1**	**+1.4**
SJTE	**Alcalda de S**	**3.99**	**308**	*eP*	**Pn**	**13 36 14.1**	**+1.4**
PAVA	**Las Pavas**	**4.00**	**310**	*eP*	**Pn**	**13 36 13.8**	**+1.0**
PAVA	**Las Pavas**	**4.00**	**310**	*eP*	**Pn**	**13 36 13.8**	**+1.0**
LFRS	**El Faro**	**4.04**	**308**	*eP*	**Pn**	**13 36 15.0**	**+1.7**
LFRS	**El Faro**	**4.04**	**308**	*eP*	**Pn**	**13 36 15.0**	**+1.7**
CHGR2	**Aguacate**	**4.20**	**121**	*eP*	**Pn**	**13 36 17.4**	**+1.9**
CHGR2				*eS*	**Sn**	**13 37 06.1**	**+2.7**
JAYA	**Jayaque - finc**	**4.36**	**305**	*eP*	**Pn**	**13 36 19.7**	**+1.9**
JAYA	**Jayaque - finc**	**4.36**	**305**	*eP*	**Pn**	**13 36 19.7**	**+1.9**
CEVE	**Cerro Verde**	**4.60**	**306**	*eP*	**Pn**	**13 36 23.7**	**+2.6**
CEVE				IAML		13 37 21.5	
	comp=Z,435nm,0.3s						
CEVE	**Cerro Verde**	**4.60**	**306**	*eP*	**Pn**	**13 36 23.7**	**+2.6**
CEVE				IAML		13 37 21.5	
	comp=Z,435nm,0.3s						
MTO3	**Montecristo**	**4.75**	**313**		**Pn**	**13 36 24.3**	**+1.1**
ESQI	**Esquipulas**	**4.85**	**315**	Pn	**Pn**	**13 36 26.3**	**+1.9**
BCIP	**Isla Barro Col**	**6.17**	**108**	Pn	**Pn**	**13 36 43.1**	**+0.9**
BCIP	**Isla Barro Col**	**6.17**	**108**	*eP*	**Pn**	**13 36 44.1**	**+1.9**
TULM	**Tulcn-Chalpat**	**13.06**	**142**	Pn	**Pn**	**13 38 16.9**	**+0.6**
PORT	**Chimborazo Vol**	**14.34**	**151**	Pn	**Pn**	**13 38 33.0**	**-0.1**
SDV	**Santo Domingo**	**15.08**	**97**	P	**P**	**13 38 44.7**	**-0.7**
	comp=Z,4.8nm,0.4s,baz=17,slow=9.2,SNR=2.4						
BAUV	**El Baul**	**17.60**	**96**	P	**P**	**13 39 12.1**	**-1.0**
BAUV				IAmb	IAmb	13 39 13.5	
	comp=Z,15nm,0.6s						
BIRV	**Birongo**	**19.17**	**90**	P	**P**	**13 39 30.0**	**-0.3**
ATAH	**Atahualpa**	**19.60**	**158**	P	**Pn**	**13 39 39.6**	**+2.1**
	comp=Z,12nm,0.8s,baz=321,slow=10,SNR=4.6						
ATAH				LR	LR	13 46 23.3	
	comp=Z,99nm,18.0s,baz=323,slow=34						
SJG	**San Juan**	**20.20**	**68**	P	Pn	13 39 43.0	-1.0
	comp=Z,11nm,0.4s,baz=264,slow=19,SNR=3.8						
SJG				LR	LR	13 46 29.9	
	comp=Z,40nm,19.1s,baz=160,slow=33						
	comp=Z,11nm,0.4s						
PCRV	**Puerto La Cruz**	**20.80**	**91**	P	Pn	13 39 51.6	+0.4
	comp=Z,6.2nm,0.5s,baz=297,slow=9.0,SNR=2.3 comp=Z,6.2nm,0.5s						
833A	**Chaparral WMA,**	**21.32**	**325**	P	**P**	**13 39 51.5**	**-1.9**
152A	**Waverly Hall**	**21.43**	**2**	P	**P**	**13 39 55.8**	**+1.2**
154A	**Montrose**	**21.49**	**6**	P	**P**	**13 39 56.0**	**+0.8**
LRAL	**Lakeview Retre**	**21.80**	**357**	P	**P**	**13 39 58.1**	**-0.4**
LRAL				IAmb	IAmb	13 40 02.8	
	comp=Z,24nm,1.1s						
GOGA	**Godfrey**	**22.25**	**5**	P	**P**	**13 40 04.5**	**+1.2**
GOGA				IAmb	IAmb	13 40 06.3	
	comp=Z,31nm,1.2s						
Y49A	**Blount Mountai**	**22.60**	**359**	P	**P**	**13 40 07.7**	**+0.7**
Y49A				IAmb	IAmb	13 40 08.8	
	comp=Z,15nm,0.6s						
HODGE	**Hodges**	**23.19**	**7**	P	**P**	**13 40 12.8**	**0.0**
HODGE				IAmb	IAmb	13 40 14.6	
	comp=Z,15nm,0.7s						
JCT	**Junction City**	**23.23**	**328**	P	**P**	**13 40 12.6**	**-0.6**
JCT				IAmb	IAmb	13 40 14.0	
	comp=Z,6.7nm,0.4s						
WHTX	**Lake Whitney,**	**23.37**	**334**	P	**P**	**13 40 12.5**	**-1.9**
WHTX				IAmb	IAmb	13 40 16.4	
	comp=Z,15nm,0.6s						
PLAL	**Pickwick Lake**	**23.81**	**355**	P	**P**	**13 40 18.9**	**+0.5**
PAULI	**Pauline**	**23.83**	**8**	P	**P**	**13 40 20.1**	**+1.5**
PAULI				IAmb	IAmb	13 40 20.7	
	comp=Z,16nm,0.8s						
W50A	**Signal Mountai**	**23.94**	**1**	P	**P**	**13 40 18.6**	**-1.0**
W50A				IAmb	IAmb	13 40 22.3	
	comp=Z,19nm,0.9s						
CPCT	**Cooper Cave**	**24.21**	**2**	P	**P**	**13 40 21.0**	**-1.0**
CPCT				IAmb	IAmb	13 40 25.9	
	comp=Z,16nm,0.9s						
KMSC	**Kings Mountain**	**24.21**	**9**	P	**P**	**13 40 22.3**	**+0.3**
KMSC				IAmb	IAmb	13 40 24.2	
	comp=Z,22nm,0.9s						
MIAR	**Mount Ida**	**24.34**	**344**	P	**P**	**13 40 22.6**	**-0.6**
TKL	**Tuckaleechee C**	**24.46**	**4**	P	**P**	**13 40 25.3**	**+1.1**
	comp=Z,6.4nm,0.7s,baz=159,slow=5.9,SNR=8.9						
TKL				LR	LR	13 50 33.0	
	comp=Z,38nm,18.7s,baz=164,slow=38 comp=Z,6.4nm,0.7s						
TKL	**Tuckaleechee C**	**24.46**	**4**	P	**P**	**13 40 25.0**	**+0.8**
TKL				IAmb	IAmb	13 40 28.5	
	comp=Z,36nm,1.4s						
V53A	**Saluda**	**24.55**	**6**	P	**P**	**13 40 25.2**	**+0.1**
V53A				IAmb	IAmb	13 40 29.6	
	comp=Z,15nm,0.9s						
TXAR	**Lajitas Array**	**24.61**	**320**	P	**P**	**13 40 25.9**	**+0.1**
	comp=Z,12nm,0.7s,baz=142,slow=8.3,SNR=116						
TXAR				pP	**pP**	**13 40 44.9**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=143,slow=11,SNR=3.4						
TXAR				LR	LR	13 51 55.7	
	comp=Z,29nm,20.6s,baz=330,slow=41 comp=Z,12nm,0.7s						
TXAR	**Lajitas Array**	**24.61**	**320**	P	**P**	**13 40 26.0**	**+0.2**
TX31	**Lajitas Ar. Si**	**24.61**	**320**	P	**P**	**13 40 26.1**	**+0.2**
TX32	**Lajitas Array**	**24.61**	**320**	P	**P**	**13 40 26.1**	**+0.2**
TX32				IAmb	IAmb	13 40 28.6	
	comp=Z,14nm,0.8s						
CLTN	**Cedars of Leba**	**24.83**	**359**	P	**P**	**13 40 27.9**	**+0.3**
WVT	**Waverly**	**24.93**	**356**	P	**P**	**13 40 28.3**	**-0.2**
U49A	**Red Boiling Sp**	**25.24**	**360**	P	**P**	**13 40 31.0**	**-0.4**
TZTN	**Tazewell**	**25.35**	**4**	P	**P**	**13 40 33.5**	**+1.1**
TZTN				IAmb	IAmb	13 40 36.8	
	comp=Z,14nm,0.9s						
U54A	**Nelsons Funny**	**25.50**	**7**	P	**P**	**13 40 34.7**	**+0.9**
WMOK	**Wichita Mounta**	**26.30**	**335**	P	**P**	**13 40 41.3**	**+0.3**
S51A	**Beattyville**	**26.44**	**4**	P	**P**	**13 40 41.3**	**-0.9**
S51A				IAmb	IAmb	13 40 43.5	
	comp=Z,12nm,0.8s						
Q51A	**Peebles**	**27.84**	**4**	P	**P**	**13 40 54.0**	**-0.7**
P52A	**Corning**	**28.54**	**6**	P	**P**	**13 41 00.5**	**-0.4**
N53A	**Lisbon**	**29.85**	**8**	P	**P**	**13 41 11.5**	**-1.0**
N53A				IAmb	IAmb	13 41 13.6	
	comp=Z,12nm,0.7s						
SADO	**Sadowa**	**33.97**	**8**	LR	LR	13 56 21.9	
	comp=Z,59nm,18.8s,baz=358,slow=37						
SIV	**San Ignacio**	**36.41**	**137**	P	**P

mb4.4/6,Mwr4.4/61,ML4.3(GUC),Error ellipse: s-maj=6.7km s-min=4.1km az=279.0

*VAO **08** 13:59:06.2±0.5, 30°.48S×72°.33W, h10km, mb4.3*

*NEIC **08** 13:59:06.1, 30°.45S×72°.26W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_r=3.73; $M_{\theta\theta}$=0.82; $M_{\phi\phi}$=4.55; M_{rr}=0.17; $M_{\theta\phi}$=-0.34; $M_{r\theta}$=-2.68; Fault plane solution: M_0=5.00000×10^{15} NP1:ϕ_0=9.71000°, δ=28.92000°, λ=99.54000°. NP2:ϕ_0=178.84000°, δ=61.52000°, λ=84.77000°. Principal axes: T 4.5409, Plg73.0000°, Azm76.0000°; N 0.8142, Plg5.0000°, Azm181.0000°; P -5.3551, Plg16.0000°, Azm273.0000°;*

*IDC **08** 13:59:07.3±1.0, 30°.51S×71°.88W, h0km, mb4.0/5, mbtmp3.9/10, ML3.9/5, MS3.8/17 Error ellipse: s-maj=35.3km s-min=20.1km az=99.0*

*GUC **08** 13:59:07.8±0.6, 30°.51S×72°.06W, h32km±2km, ML4.3*

ISC 08 13:59:05.2±1.4, 30°.46S±0°.02×72°.25W±0°.04, h2km±8km, n141, σ1$ 74/167, mb4.2/9, MS3.8/14, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.57**	**112**			**Pg**	**13 59 17.4**	**+1.1**
CO06				Sg		**Sg**	**13 59 24.2**	**+0.6**
CO06	**Fray Jorge**	**0.57**	**112**	*eP*		**Pg**	**13 59 17.3**	**+1.1**
CO06				*i* S		**Sg**	**13 59 23.9**	**+0.2**
CO06	**Fray Jorge**	**0.57**	**112**	*i* P		**Pg**	**13 59 17.3**	**+1.1**
CO06				*i* S		**Sg**	**13 59 23.7**	**+0.1**
CO06				IAML			13 59 28.3	
	comp=E,18μm,0.3s							
CO05	**La Serena**	**1.03**	**59**			**Pg**	**13 59 25.3**	**+0.4**
CO05	**La Serena**	**1.03**	**59**	*eP*		**Pg**	**13 59 25.3**	**+0.4**
CO05				*i* S		**Sg**	**13 59 38.7**	**+0.4**
CO05				IAML			13 59 41.9	
	comp=N,21μm,0.3s							
CO05	**La Serena**	**1.03**	**59**	*i* P		**Pg**	**13 59 25.4**	**+0.4**
CO05				*i* S		**Sg**	**13 59 39.1**	**+0.8**
CO05				IAML			13 59 41.9	
	comp=N,21μm,0.3s							
GO04	**Tololo Observa**	**1.29**	**77**			**Pn**	**13 59 29.2**	**-1.2**
GO04				Sn		**Sb**	**13 59 45.9**	**-1.5**
GO04	**Tololo Observa**	**1.29**	**77**	*eP*		**Pn**	**13 59 29.2**	**-1.2**
GO04				*i* S		**Sb**	**13 59 46.0**	**-1.3**
GO04	**Tololo Observa**	**1.29**	**77**	⇩*iP*		**Pn**	**13 59 29.3**	**-1.2**
GO04				*i* S		**Sb**	**13 59 43.6**	**-3.8**
GO04	**Tololo Observa**	**1.29**	**77**	*eP*		**Pn**	**13 59 29.4**	**-1.1**
GO04				*eS*		**Sb**	**13 59 47.6**	**+0.2**
CO02	**Combarbal**	**1.31**	**125**			**Pn**	**13 59 29.4**	**-1.1**
CO02	**Combarbal**	**1.31**	**125**	*eP*		**Pn**	**13 59 29.2**	**-1.3**
CO02				*i* S		**Sb**	**13 59 45.8**	**-2.0**
CO02				IAML			13 59 47.8	
	comp=N,25μm,0.5s							
CO02	**Combarbal**	**1.31**	**125**	*eP*		**Pn**	**13 59 29.7**	**-0.9**
CO02				*eS*		**Sb**	**13 59 47.8**	**0.0**
CO02				IAML			13 59 49.2	
	comp=Z,10μm,0.7s							
CO01	**Juntas del Tor**	**1.93**	**76**			**Pn**	**13 59 39.7**	**+0.5**
CO01	**Juntas del Tor**	**1.93**	**76**	*eP*		**Pn**	**13 59 40.0**	**+0.7**
CO01				*i* S		**Sn**	**14 00 03.7**	**-0.5**
CO01				IAML			14 00 08.3	
	comp=N,3μm,0.5s							
CO01	**Juntas del Tor**	**1.93**	**76**	⇧*iP*		**Pn**	**13 59 39.9**	**+0.7**
CO01				*i* S		**Sn**	**14 00 03.1**	**-1.2**
CO01				IAML			14 00 08.3	
	comp=N,3μm,0.3s							
CO01	**Juntas del Tor**	**1.93**	**76**	*eP*		**Pn**	**13 59 40.1**	**+0.8**
CO01				*eS*		**Sb**	**14 00 06.3**	**+0.4**
CO01				IAML			14 00 07.2	
	comp=Z,3μm,0.8s							
LCO	**Las Campanas**	**1.98**	**43**			**Pn**	**13 59 39.9**	**0.0**
LCO	**Las Campanas**	**1.98**	**43**	*eP*		**Pn**	**13 59 40.0**	**0.0**
LCO				*i* S		**Sb**	**14 00 07.0**	**-0.2**
LCO	**Las Campanas**	**1.98**	**43**	*eP*		**Pn**	**13 59 40.0**	**0.0**
LCO				*eS*		**Sb**	**14 00 07.7**	**+0.5**
VA06	**Catapilco**	**2.25**	**159**			**Pn**	**13 59 43.7**	**+0.3**
VA06	**Catapilco**	**2.25**	**159**	*eP*		**Pn**	**13 59 43.6**	**+0.3**
VA06				*i* S		**Sn**	**14 00 11.3**	**-0.4**
VA06				IAML			14 00 21.6	
	comp=N,3μm,0.5s							
AC05	**El Transito**	**2.36**	**47**	Pn		**Pn**	**13 59 45.6**	**+0.5**
AC05	**El Transito**	**2.36**	**47**	*eP*		**Pn**	**13 59 45.8**	**+0.7**
AC05				*i* S		**Sb**	**14 00 16.3**	**-1.9**
AC05				IAML			14 00 31.3	
	comp=N,2μm,0.6s							
AC05	**El Transito**	**2.36**	**47**	⇧*iP*		**Pn**	**13 59 45.8**	**+0.7**
AC05				*i* S		**Sb**	**14 00 16.4**	**-1.8**
AC05				IAML			14 00 31.4	
	comp=N,2μm,0.5s							
AC05	**El Transito**	**2.36**	**47**	*eP*		**Pn**	**13 59 45.8**	**+0.7**
AC05				*eS*		**Sb**	**14 00 19.5**	**+1.3**
AC05				IAML			14 00 26.6	
	comp=Z,2μm,0.6s							
AROD	**Rodeo**	**2.42**	**84**	*eP*		**Pb**	**13 59 48.3**	**-1.3**
AROD				*eS*		**Sb**	**14 00 20.3**	**+0.3**
AC04	**Llanos de Chal**	**2.47**	**25**	Pn		**Pn**	**13 59 46.1**	**-0.4**
AC04	**Llanos de Chal**	**2.47**	**25**	*eP*		**Pn**	**13 59 46.0**	**-0.4**
AC04				*eS*		**Sn**	**14 00 16.0**	**-1.3**
AC04				IAML			14 00 31.0	
	comp=Z,1μm,0.7s							
VA01	**Torpederas**	**2.61**	**169**			**Pn**	**13 59 47.6**	**-0.7**
VA03	**San Esteban**	**2.72**	**148**			**Pn**	**13 59 51.1**	**+1.2**
VA03	**San Esteban**	**2.72**	**148**	*eP*		**Pn**	**13 59 46.5**	**-3.4**
VA03				*eP*		**Pb**	**13 59 51.3**	**-3.3**
VA03				*eS*		**Sb**	**14 00 26.0**	**-2.4**
VA03				IAML			14 00 42.0	
	comp=Z,2μm,0.7s							
ROCH	**El Roble**	**2.72**	**157**	*eP*		**Pn**	**13 59 50.5**	**+0.5**
ROCH				*i* S		**Sn**	**14 00 24.3**	**+0.6**
ROCH				IAML			14 00 42.1	
	comp=N,2μm,0.4s							
ROCH	**El Roble**	**2.72**	**157**	*e*		Sn	14 00 10.3	-13
ROC1	**El Roble**	**2.72**	**158**			**Pn**	**13 59 50.2**	**+0.1**
ROC1	**El Roble**	**2.72**	**158**	*eP*		**Pn**	**13 59 50.5**	**+0.4**
ROC1				*eS*		**Sn**	**14 00 23.0**	**-0.7**
ACDV	**Cuesta del Vie**	**2.72**	**85**	*eP*		**Pb**	**13 59 53.2**	**-1.5**
ACDV				*eS*		**Sb**	**14 00 26.5**	**-2.1**
ACDV				IAML			14 00 34.2	
	comp=Z,1μm,0.5s							
ACCO	**Cerro Coronel**	**2.75**	**93**	*eP*		**Pb**	**13 59 53.8**	**-1.5**
ACCO				*eS*		**Sb**	**14 00 28.4**	**-1.2**
RTLS	**Leoncito**	**2.86**	**119**	*eP*		**Pb**	**13 59 55.6**	**-1.6**
RTLS				*eS*		**Sb**	**14 00 34.1**	**+1.3**
RTLS				IAML			14 00 41.6	
	comp=Z,2μm,0.6s							
MT02	**Curacav**	**2.95**	**162**	Pn		**Pn**	**13 59 54.1**	**+1.0**
MT02	**Curacav**	**2.95**	**162**	*eP*		**Pn**	**13 59 53.5**	**+0.4**
MT02				*i* S		**Sn**	**14 00 29.5**	**+0.5**
MT02				IAML			14 00 49.5	
	comp=E,603nm,0.6s							
MT02	**Curacav**	**2.95**	**162**	*eP*		**Pn**	**13 59 53.5**	**+0.4**
MT02				*eS*		**Sb**	**14 00 32.8**	**-2.1**
MT02				IAML			14 00 44.1	
	comp=Z,731nm,1.2s							
PEL	**Peldehue**	**2.99**	**154**			**Pn**	**13 59 55.3**	**+1.7**
PEL	**Peldehue**	**2.99**	**154**	*eP*		**Pn**	**13 59 55.0**	**+1.4**
PEL				*eP*		**Pb**	**13 59 55.6**	**-3.6**
PEL				*eS*		**Sg**	**14 00 42.6**	**+1.4**
MT05	**Renca**	**3.19**	**157**			**Pn**	**13 59 57.7**	**+1.2**
MT05	**Renca**	**3.19**	**157**	*i* S		**Sn**	**14 00 35.5**	**+0.3**
MT05	**Renca**	**3.19**	**157**	*eP*		**Sn**	**13 59 57.0**	**+0.5**
MT05				*eS*		**Sn**	**14 00 38.2**	**+3.1**
MT05				IAML			14 00 51.8	
	comp=Z,2μm,1.6s							
ZON	**Zonda**	**3.25**	**110**	*eP*		Pn	13 59 48.0	-9.3
ZON				*eS*		**Sb**	**14 00 46.5**	**+2.7**
ZON				IAML			14 00 53.8	
	comp=Z,1μm,0.7s							
RTLL	**Cerro Villicun**	**3.36**	**106**	*eP*		**Pn**	**14 00 01.0**	**+2.2**
RTLL				*eS*		**Sb**	**14 00 44.0**	**-2.8**
MT03	**Universidad Ad**	**3.37**	**154**			**Pn**	**14 00 00.3**	**+1.4**
MT03	**Universidad Ad**	**3.37**	**154**	*eP*		**Pn**	**14 00 00.8**	**+1.9**
MT03				*eS*		**Sn**	**14 00 40.3**	**+0.8**
MT03				IAML			14 01 02.9	
	comp=Z,793nm,0.7s							
MT09	**Talagante**	**3.48**	**162**			**Pn**	**14 00 00.7**	**+0.3**
MT01	**Popeta**	**3.50**	**166**			**Pn**	**14 00 00.6**	**0.0**
MT01	**Popeta**	**3.50**	**166**	*i* P		**Pn**	**14 00 00.7**	**+0.1**
MT01				*i* S		**Sg**	**14 00 55.4**	**-2.2**
MT01				IAML			14 01 03.9	
	comp=E,481nm,0.5s							
MT01	**Popeta**	**3.50**	**166**	*eP*		**Pn**	**14 00 00.7**	**+0.1**
MT01				*eS*		**Sb**	**14 00 54.5**	**+3.7**
MT01				IAML			14 01 00.7	
	comp=Z,424nm,0.8s							
AC06	**Mina Casimiro**	**3.51**	**29**	Pn		**Pn**	**14 00 00.6**	**-0.2**
ASAL	**Salagasta**	**3.61**	**127**	*eP*		**Pn**	**14 00 06.1**	**+3.9**
ASAL				*eS*		**Sg**	**14 00 59.0**	**-2.1**
ARCO	**CERRO ARCO**	**3.69**	**131**	*eP*		**Pn**	**14 00 03.0**	**-0.4**
ARCO				*eS*		**Sb**	**14 00 57.0**	**+0.4**
ARCO				IAML			14 01 07.5	
	comp=Z,517nm,0.7s							
LMEL	**Las Melosas**	**3.80**	**153**			**Pn**	**14 00 06.4**	**+1.5**
LMEL	**Las Melosas**	**3.80**	**153**	*eP*		**Pn**	**14 00 05.8**	**+1.0**
LMEL				*i* S		**Sn**	**14 00 50.4**	**+0.2**
LMEL	**Las Melosas**	**3.80**	**153**	⇧*iP*		**Pn**	**14 00 06.4**	**+1.5**
LMEL				*i* S		**Sn**	**14 00 49.4**	**-0.9**
LMEL				IAML			14 01 15.2	
	comp=E,440nm,0.7s							
AAGR	**Agrelo**	**3.92**	**133**	*eP*		**Pn**	**14 00 10.5**	**+4.0**
AAGR				*eS*		**Sg**	**14 01 09.5**	**-1.5**
VCA	**Vinchina**	**3.92**	**65**	*eP*		**Pn**	**14 00 10.4**	**+3.8**
VCA				*eS*		**Sg**	**14 01 13.5**	**+2.3**
VCA				IAML			14 01 21.6	
	comp=Z,2μm,0.7s							
AVFE	**Valle Fertil**	**4.14**	**94**	*eP*		**Pn**	**14 00 11.8**	**+2.2**
AVFE				*eS*		**Sb**	**14 01 09.5**	**+0.1**
AVFE				IAML			14 01 15.6	
	comp=Z,1μm,0.8s							
AC02	**Maricunga**	**4.54**	**38**	Pn		**Pn**	**14 00 16.2**	**+0.9**
AC02	**Maricunga**	**4.54**	**38**	*eP*		**Pn**	**14 00 16.1**	**+0.9**
AC02				*eS*		**Sb**	**14 01 19.5**	**-1.6**
AC02				IAML			14 01 36.0	
	comp=Z,413nm,1.1s							
AC01	**Pan de Azucar**	**4.54**	**19**			**Pn**	**14 00 13.5**	**-1.4**
AC01	**Pan de Azucar**	**4.54**	**19**	*eP*		**Pn**	**14 00 13.8**	**-1.1**
AC01				*eS*		**Sb**	**14 01 24.5**	**+3.8**
AC01				IAML			14 01 39.1	
	comp=Z,294nm,0.9s							
GO05	**Huala**	**4.54**	**177**	Pn		**Pn**	**14 00 13.7**	**-1.3**
GO05	**Huala**	**4.54**	**177**	*eP*		**Pn**	**14 00 14.9**	**-0.1**
GO05				*eS*		**Sn**	**14 01 04.7**	**-3.7**
ACLC	**CERRO LA CRUZ**	**4.71**	**79**	*eS*		**Sn**	**14 01 16.2**	**+3.3**
ACLC				IAML			14 01 36.2	
	comp=Z,992nm,0.5s							
GO02	**Mina Guanaco**	**5.78**	**25**	Pn		**Pn**	**14 00 32.5**	**+0.3**
BI05	**Punta Hualpn**	**6.32**	**187**	Pn		**Pn**	**14 00 38.3**	**-1.0**
H03N1	**Juan Fernandez**	**6.39**	**241**	T		T	14 07 41.0	
	baz=70,slow=72							
H03N2	**Juan Fernandez**	**6.41**	**241**	T		T	14 07 44.4	
	baz=70,slow=72							
H03N3	**Juan Fernandez**	**6.41**	**241**	T		T	14 07 41.2	
	baz=70,slow=72							
VA04	**Juan Fernndez**	**6.42**	**239**	Pn		**Pn**	**14 00 40.5**	**-0.3**
PB15	**IPOC Station P**	**7.64**	**20**	Pn		**Pn**	**14 00 56.8**	**-0.9**
PB06	**IPOC Station P**	**8.09**	**18**	Pn		**Pn**	**14 01 03.3**	**-0.6**
LVC	**Limon Verde**	**8.37**	**22**	Pn		**Pn**	**14 01 09.2**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=262,slow=19,SNR=2.6							
LVC				Sn		**Sn**	**14 02 38.6**	**-4.6**
	comp=Z,0.5nm,0.3s,baz=195,slow=20,SNR=1.6							
	comp=Z,1.8nm,0.3s							
LVC	**Limon Verde**	**8.37**	**22**	*eP*		**Pn**	**14 01 09.3**	**+1.4**
LR04	**Coral**	**9.45**	**186**	Pn		**Pn**	**14 01 20.8**	**-1.4**
PLCA	**Paso Flores**	**10.34**	**173**	Pn		**Pn**	**14 01 35.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=349,slow=11,SNR=7.8							
PLCA				LR		LR	14 05 52.9	
	comp=Z,255nm,19.0s,baz=351,slow=40							
	comp=Z,1.2nm,0.4s							
PLCA	**Paso Flores**	**10.34**	**173**	Pn		**Pn**	**14 01 33.4**	**-1.3**
PLCA	**Paso Flores**	**10.34**	**173**	*eP*		**Pn**	**14 01 35.6**	**+0.9**
TRQA	**Tornquist**	**11.38**	**134**	Pn		**Pn**	**14 01 50.7**	**+1.9**
ITQB	**Itaqui**	**13.56**	**91**	Pn		**Pn**	**14 02 16.7**	**-1.9**
ITQB	**Itaqui**	**13.56**	**91**	*eP*		**Pn**	**14 02 18.3**	**-0.3**
CPUP	**Villa Florida**	**13.78**	**16**	Pn		**Pn**	**14 02 20.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=240,slow=16,SNR=1.2							
CPUP				LR		LR	14 07 57.1	
	comp=Z,448nm,18.8s,baz=246,slow=39							
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**14.60**	**16**	Pn		**Pn**	**14 02 36.6**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=215,slow=5.5,SNR=4.8							
	comp=Z,0.8nm,0.4s							
PLTB	**Pedras Altas**	**16.03**	**99**	Pn		**Pn**	**14 02 51.0**	**-0.7**
CRSM	**Crissiumal (Br**	**16.21**	**84**	*eP*		**Pn**	**14 02 55.0**	**+1.0**
SIV	**San Ignacio**	**17.67**	**38**	P		**P**	**14 03 14.4**	**+0.8**
	baz=223,slow=11,SNR=23							
SIV				S		**Sn**	**14 06 20.7**	**-9.4**
	comp=Z,1.1nm,0.4s,baz=323,slow=21,SNR=2.6							
SIV				LR		LR	14 11 14.7	
	comp=Z,250nm,18.7s,baz=226,slow=42							
	comp=Z,5.9nm,0.8s							
PTGB	**Pitanga**	**18.78**	**77**	*eP*		**Pn**	**14 03 27.9**	**+1.7**
PTLB	**Pontes e Lacer**	**19.18**	**42**	*eP*		**Pn**	**14 03 30.9**	**-0.2**
VILB	**Vilhena**	**20.68**	**35**	*eP*		**P**	**14 04 19.1**	**+0.9**
PCMB	**Paiembu**	**20.79**	**70**	*eP*		**P**	**14 03 48.4**	**+0.6**
SALV	**Santo Antonio**	**20.98**	**50**	*eP*		**P**	**14 03 50.1**	**+0.3**
MG02	**Cerro Sombrero**	**22.41**	**175**	P		**P**	**14 04 03.0**	**-1.9**
PDRB	**Porto dos Gac**	**23.65**	**41**	*eP*		**P**	**14 04 18.5**	**+0.5**
CLDB	**Colider**	**24.78**	**42**	*eP*		**P**	**14 04 28.9**	**+0.4**
IPMB	**Ipameri, GO**	**25.14**	**66**	*eP*		**P**	**14 04 31.4**	**-0.4**
PMNB	**Patos De Minas**	**26.25**	**69**	*eP*		**P**	**14 04 42.0**	**0.0**
BDFB	**Brasilia**	**26.66**	**62**	P		**P**	**14 04 45.4**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=213,slow=12,SNR=4.2							
	comp=Z,2.4nm,0.5s							
BDFB	**Brasilia**	**26.66**	**62**	*eP*		**P**	**14 04 46.0**	**+0.4**
SNDB	**Serra Nova Dou**	**26.75**	**51**	*eP*		**P**	**14 04 46.2**	**-0.2**
DUB01	**Friburgo-RJ**	**28.00**	**80**	*eP*		**P**	**14 04 59.1**	**+1.4**
NPGB	**Novo Progresso**	**28.18**	**38**	*eP*		**P**	**14 04 59.2**	**0.0**
JANB	**Januaria**	**29.87**	**65**	*eP*		**P**	**14 05 14.1**	**-0.2**
RPN	**Rapa Nui**	**32.57**	**266**	LR		LR	14 14 59.1	
	comp=Z,147nm,19.2s,baz=240,slow=29							
BOAV	**Boa Vista**	**34.54**	**21**	P		**P**	**14 05 52.7**	**-2.5**
BOAV				IAmb		IAmb	14 06 06.4	
	comp=Z,3.8nm,1.0s							
PMSA	**Palmer Station**	**34.72**	**174**	LR		LR	14 20 23.1	
	comp=Z,154nm,18.2s,baz=288,slow=37							
SMAI	**San Martin Ant**	**37.83**	**177**	P		**P**	**14 06 21.6**	**-1.1**
SMAI				IAmb		IAmb	14 06 58.2	
	comp=Z,4.9nm,1.4s							
MDP	**Montagnes des**	**40.04**	**31**	LR		LR	14 25 23.8	
	comp=Z,171nm,18.4s,baz=203,slow=40							
BCIP	**Isla Barro Col**	**40.07**	**348**	P		**P**	**14 06 41.4**	**-0.7**
BCIP				IAmb		IAmb	14 06 45.1	
	comp=Z,44nm,1.4s							
RCBR	**Riachuelo**	**42.03**	**62**	LR		LR	14 24 56.6	
	comp=Z,90nm,18.4s,baz=356,slow=37							
VNA2	**Neumayer--Watz**	**53.35**	**158**	pP		pP	14 08 27.4	+2.3
	baz=285,slow=8.0							
SNAA	**Sanae**	**54.93**	**159**	pP		pP	14 08 38.7	+2.0
SNAA	**Sanae**	**54.93**	**159**	P		**P**	**14 08 38.5**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=263,slow=6.5,SNR=19							
	comp=Z,1.6nm,0.6s							
TROLL	**Troll, Antarti**	**56.64**	**159**	pP		pP	14 08 51.1	+2.0
QSPA	**South Pole Qui**	**59.77**	**180**	P		**P**	**14 09 12.0**	**+0.5**
QSPA				IAmb		IAmb	14 09 28.6	
	comp=Z,4.5nm,1.1s							
TXAR	**Lajitas Array**	**66.57**	**330**	P		**P**	**14 10 00.4**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=161,slow=8.6,SNR=2.1							
	comp=Z,0.2nm,0.3s							
BBTS	**Babate**	**69.89**	**58**	LR		LR	14 41 16.8	
	comp=Z,87nm,18.5s,baz=268,slow=36							
DBIC	**Dimbokro**	**74.25**	**72**	LR		LR	14 40 46.5	
	comp=Z,92nm,19.7s,baz=250,slow=34							
MAW	**Mawson**	**76.62**	**164**	P		**P**	**14 10 59.2**	**+2.3**
	comp=Z,0.7nm,0.6s,baz=203,slow=7.7,SNR=1.6							
	comp=Z,0.7nm,0.6s							
SUR	**Sutherland**	**76.72**	**120**	LR		LR	14 42 49.3	
	comp=Z,34nm,18.1s,baz=173,slow=34							
RAR	**Rarotonga**	**77.51**	**253**	LR		LR	14 36 49.5	
	comp=Z,34nm,21.8s,baz=200,slow=29							
TSUM	**Tsumeb**	**80.37**	**107**	LR		LR	14 42 42.7	
	comp=Z,52nm,19.0s,baz=156,slow=33							
BOSA	**Boshof**	**81.89**	**118**	LR		LR	14 43 03.7	
	comp=Z,35nm,20.4s,baz=190,slow=32							
TORD	**Torodi Ar. Bea**	**83.19**	**71**	P		**P**	**14 11 34.0**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=262,slow=5.0,SNR=9.4							
	comp=Z,2.3nm,0.8s							
LBTB	**Lobatse**	**83.97**	**115**	LR		LR	14 45 02.8	
	comp=Z,63nm,19.1s,baz=201,slow=33							
MDT	**Midelt**	**89.74**	**51**	LR		LR	14 53 32.1	
	comp=Z,36nm,18.2s,baz=216,slow=36							
LSZ	**Lusaka**	**91.08**	**108**	LR		LR	14 48 20.3	
	comp=Z,53nm,20.3s,baz=156,slow=32							
ESDC	**Sonseca Array**	**94.26**	**46**	LR		LR	14 54 39.7	
	comp=Z,31nm,18.4s,baz=283,slow=35							
WRA	**Warramunga Arr**	**123.74**	**210**	PKP		**PKiKP**	**14 18 08.8**	**+3.3**
	comp=Z,0.4nm,1.0s,baz=156,slow=1.8,SNR=1.8							
H11S2	**WAKE ISLAND Hyl**	**25.56**	**272**	T		T	16 36 52.7	
	baz=116,slow=75							
H11S1	**WAKE ISLAND Hyl**	**25.57**	**272**	T		T	16 36 56.9	
	baz=116,slow=75							
H11S3	**WAKE ISLAND Hyl**	**25.58**	**272**	T		T	16 36 53.9	
	baz=116,slow=75							
ZALV	**Zalesovo Beam**	**151.27**	**29**	PKPbc		**PKiKP**	**14 19 01.9**	**+1.6**
	comp=Z,3.2nm,0.4s,baz=302,slow=2.9,SNR=23							
MKAR	**Makanchi Array**	**154.44**	**43**	PKPbc		**PKiKP**	**14 19 07.4**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=22,slow=0.8,SNR=2.4							
PZH	**PanZhiHua**	**173.41**	**125**	PKP		**PKPdf**	**14 19 16.0**	**-0.7**

IDC 08 14:38:44.4±31.0, 16°.52S×176°.17W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=590.5km s-min=159.9km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**41.17**	**240**	P		P	14 46 31.3	+0.6
	2.6nm,0.9s,baz=58,slow=9.5,SNR=2.9							
	2.6nm,0.9s							
WRA	**Warramunga Arr**	**47.00**	**258**	P		P	14 47 17.1	-0.6
	0.5nm,0.8s,baz=96,slow=7.6,SNR=12							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**47.23**	**253**	P		P	14 47 19.4	-0.2
	2.4nm,0.6s,baz=88,slow=8.1,SNR=53							
	2.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**55.38**	**259**	P		P	14 48 20.8	+0.1
	1.0nm,0.8s,baz=90,slow=5.1,SNR=1.3							
	1.0nm,0.8s							

*NEIC **08** 14:50:10.4±1.9, 12°.36S±0°.08×167°.0E±0°.2, h205km±6km, mb4.3/20, Error ellipse: s-maj=25.2km s-min=11.5km az=90.0*

*IDC **08** 14:50:14.8±3.4, 12°.51S×166°.86E, h247km±32km, mb3.6/18, mbtmp4.2/20, Error ellipse: s-maj=18.1km s-min=15.3km az=85.0*

ISC 08 14:50:11.8±0.5, 12°.44S±0°.06×166°.9E±0°.1, h220km, n63, σ0$ 93/66, mb4.1/27, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LIFNC	**LIFOU**	**8.29**	**178**	Pn		**Pn**	**14 52 07.3**	**-1.4**
MARNC	**Mare, Loyalty**	**9.05**	**174**	Pn		**Pn**	**14 52 18.0**	**-0.4**
DZM	**Mont Dzumac**	**9.59**	**183**	P		**Pn**	**14 52 28.5**	**+3.0**
	4.3nm,0.5s,baz=65,slow=17,SNR=9.6							
DZM				S		**S**	**14 54 11.9**	**-1.4**
	3.5nm,0.8s,baz=135,slow=20,SNR=1.2							
KRVT	**Keravat (AS076**	**16.82**	**297**	P		**Pn**	**14 53 54.6**	**-0.4**
	14nm,0.9s,baz=146,slow=15,SNR=1.7							
EIDS	**Eidsvold**	**19.73**	**227**	P		**P**	**14 54 26.0**	**+1.0**
CTA	**Charters Tower**	**21.25**	**246**	P		**P**	**14 54 41.2**	**+0.1**
	4.0nm,0.8s,baz=72,slow=18,SNR=2.1							
	4.0nm,0.8s							
CTAO	**Charters Tower**	**21.25**	**246**	P		**P**	**14 54 40.7**	**-0.4**
CTAO				IAmb		IAmb	14 54 48.3	
	comp=Z,8.0nm,1.1s							
ARMA	**Armidale**	**22.82**	**216**	P		**P**	**14 54 56.1**	**+0.1**
ARMA				IAmb		IAmb	14 54 59.4	
	comp=Z,11nm,0.9s							
BKZ	**Black Stump Fm**	**27.93**	**164**	P		**P**	**14 55 42.4**	**+0.7**
THZ	**Tophouse**	**29.67**	**171**	P		**P**	**14 55 57.9**	**+0.9**
STKA	**Stephens Creek**	**30.28**	**226**	P		**P**	**14 56 03.0**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=54,slow=10,SNR=12							
	comp=Z,1.3nm,0.3s							
STKA	**Stephens Creek**	**30.28**	**226**	P		**P**	**14 56 03.6**	**+1.1**
**

comp=Z,2.3nm,0.8s,baz=19,slow=2.2,SNR=14
ESDC PKPab **PKPab** **15 09 51.0 +0.9**
comp=Z,1.7nm,0.8s,baz=9.7,slow=3.7,SNR=7.4
PCAS Casmilo, Conde 152.21 352 *e*PKPbc **PKiKP** **15 09 42.1 +0.3**
PCBR Castelo Branco 152.27 351 *e*PKPbc **PKiKP** **15 09 42.2 +0.3**
PMRV Marv??o 152.66 350 *e*PKPbc **PKiKP** **15 09 43.5 +0.7**
TORD Torodi Ar. Bea 165.59 274 PKPab **PKPab** **15 10 51.3 +0.2**
comp=Z,1.6nm,0.9s,baz=86,slow=5.3,SNR=7.0

NEIC ***08*** *15:00:47.9±1.9, 43.02N±0.06×126.39W±0.10, h10km±2km, ML2.9/66, Error ellipse: s-maj=12.2km s-min=9.7km az=256.0*
IDC ***08*** *15:00:48.5±12.0, 42.88N×126.90W, h0km, mb2.9/2, mbtmp2.9/3, ML2.7/1, MS2.6/4, Error ellipse: s-maj=511.9km s-min=25.3km az=47.0*
ANF ***08*** *15:00:48.8±0.8, 43.01N×126.17W, h0km, ML2.9/13, Error ellipse: s-maj=8.9km s-min=5.8km az=53.0*
ISC 08 15:00:50.2±1.4, 43.04N±0.05×126.34W±0.08, h14km, n63, σ1s74/61, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KEBM	**Edson Butte**	**1.48**	**96**			**Pn**	**15 01 13.9**	**-2.7**
KEBM				IAML			15 01 39.2	
	comp=E,235nm,1.0s							
KEBM				IAML			15 01 46.2	
	comp=N,130nm,0.7s							
KBO	**Bosley Butte**	**1.77**	**117**	Pn		**Pn**	**15 01 18.8**	**-1.7**
KBO				IAML			15 01 45.9	
	comp=E,93nm,2.3s							
J01E	**Myrtle Point**	**1.77**	**85**			**Pn**	**15 01 18.5**	**-2.0**
J01E				Sn		**Sn**	**15 01 41.7**	**-1.1**
J01E				IAML			15 01 42.6	
	comp=N,98nm,0.5s							
J01E				IAML			15 01 46.9	
	comp=E,90nm,0.5s							
J01E	**Myrtle Point**	**1.77**	**85**	P		**Pn**	**15 01 18.5**	**-2.0**
	baz=266,SNR=47							
J01E				S		**Sn**	**15 01 41.8**	**-1.0**
	baz=266							
K02D	**Willamette Mer**	**2.00**	**99**	P		**Pn**	**15 01 21.9**	**-1.7**
	baz=280,SNR=24							
K02D				S		**Sn**	**15 01 47.6**	**-1.0**
	baz=280							
I02E	**Swisshome, OR**	**2.11**	**59**			**Pn**	**15 01 22.1**	**-2.9**
I02E	**Swisshome, OR**	**2.11**	**59**	P		**Pn**	**15 01 23.1**	**-1.9**
	baz=240,SNR=28							
I02E				S		**Sn**	**15 01 49.3**	**-1.8**
	baz=240							
KSXB	**Camp Six Broad**	**2.19**	**123**	Pn		**Pn**	**15 01 24.6**	**-1.7**
L02F	**Cave Junction**	**2.24**	**113**	P		**Pn**	**15 01 25.6**	**-1.4**
	baz=294							
L02F				S		**Sn**	**15 01 53.5**	**-1.0**
	baz=294							
DBO	**Dodson Butte**	**2.27**	**87**			**Pn**	**15 01 26.3**	**-1.2**
DBO				Sn		**Sn**	**15 01 55.3**	**0.0**
I03D	**Drain, OR**	**2.28**	**72**	P		**Pn**	**15 01 25.9**	**-1.6**
	baz=254,SNR=10							
I03D				S		**Sn**	**15 01 54.8**	**-0.6**
	baz=254							
KRMB	**Red Mountain**	**2.36**	**129**	Pn		**Pn**	**15 01 26.9**	**-1.7**
HUMO	**Hull Mountain**	**2.53**	**99**	Pn		**Pn**	**15 01 28.5**	**-2.4**
KRPM	**Rodgers**	**2.55**	**137**	Pn		**Pn**	**15 01 28.8**	**-2.4**
KRPM				IAML			15 02 55.5	
	comp=E,77nm,2.4s							
KRPM				IAML			15 03 04.9	
	comp=N,80nm,2.6s							
COR	**Corvallis**	**2.69**	**54**			**Pn**	**15 01 31.9**	**-1.1**
COR				IAML			15 02 13.2	
	comp=N,64nm,0.8s							
COR				IAML			15 02 13.8	
	comp=N,42nm,0.7s							
BUCK	**Buck Mountain**	**2.70**	**63**	Pn		**Pn**	**15 01 32.8**	**-0.5**
BUCK				IAML			15 02 11.3	
	comp=E,36nm,0.5s							
BUCK				IAML			15 02 38.0	
	comp=N,30nm,3.0s							
JCC	**Jacoby Creek,**	**2.81**	**141**	Pn		**Pn**	**15 01 32.8**	**-1.9**
JCC				IAML			15 02 00.3	
	comp=N,34nm,3.0s							
JCC				IAML			15 02 35.3	
	comp=E,32nm,2.6s							
KHMM	**Horse Mountain**	**2.91**	**137**	Pn		**Pn**	**15 01 34.4**	**-1.8**
KHMM				IAML			15 01 57.4	
	comp=N,27nm,2.5s							
KHMM				IAML			15 02 43.8	
	comp=E,35nm,2.8s							
I04A	**Tendick Farm,**	**2.96**	**74**	P		**Pn**	**15 01 36.3**	**-0.6**
	baz=256							
YBH	**Yreka Blue Hor**	**2.99**	**115**	LR		LR	15 02 47.8	
	comp=E,80nm,18.7s,baz=324,slow=36							
YBH	**Yreka Blue Hor**	**2.99**	**115**	Pn		**Pn**	**15 01 37.4**	**+0.1**
H04D	**Lebanon**	**3.01**	**59**			**Pn**	**15 01 37.1**	**-0.3**
H04D				IAML			15 01 55.7	
	comp=N,48nm,0.5s							
H04D				IAML			15 02 17.2	
	comp=E,60nm,0.5s							
H04D	**Lebanon**	**3.01**	**59**	P		**Pn**	**15 01 36.7**	**-0.8**
	baz=242							
L04D	**Klamath Falls**	**3.09**	**104**			**Pn**	**15 01 36.4**	**-2.3**
L04D				IAML			15 02 26.6	
	comp=E,27nm,2.0s							
L04D				IAML			15 02 40.8	
	comp=N,21nm,2.5s							
L04D	**Klamath Falls**	**3.09**	**104**	P		**Pn**	**15 01 39.2**	**+0.5**
	baz=286							
J04D	**Umpqua Nationa**	**3.11**	**85**			**Pn**	**15 01 39.6**	**+0.6**
J04D	**Umpqua Nationa**	**3.11**	**85**	P		**Pn**	**15 01 39.5**	**+0.5**
	baz=267,SNR=26							
G03D	**McMinnville, O**	**3.11**	**44**			**Pn**	**15 01 37.8**	**-1.0**
G03D				IAML			15 02 22.8	
	comp=E,55nm,0.7s							
G03D	**McMinnville, O**	**3.11**	**44**	P		**Pn**	**15 01 38.4**	**-0.4**
	baz=227							
G03D				S		**Sn**	**15 02 15.1**	**-0.7**
	baz=227							
H04A	**Detroit Lake**	**3.43**	**60**	Pn		**Pn**	**15 01 42.7**	**-0.6**
H04A				IAML			15 02 30.9	
	comp=N,29nm,0.4s							
H04A				IAML			15 02 33.4	
	comp=E,32nm,0.5s							
KMRM	**Mail Ridge**	**3.44**	**144**	Pn		**Pn**	**15 01 41.7**	**-1.7**
KMRM				IAML			15 02 44.3	
	comp=N,49nm,2.3s							
J05D	**Fort Rock, OR**	**3.75**	**84**	P		**Pn**	**15 01 47.3**	**-0.5**
	baz=268,SNR=13							
RADR	**Rader Ridge**	**3.84**	**27**	Pn		**Pn**	**15 01 47.7**	**-1.2**
RADR				IAML			15 03 41.8	
	comp=N,42nm,1.6s							
RADR				IAML			15 03 55.2	
	comp=E,39nm,2.0s							
I05D	**Terrebonne, OR**	**3.86**	**69**	P		**Pn**	**15 01 48.5**	**-0.6**
	baz=252,SNR=12							
KCPM	**Cahto Peak**	**3.94**	**147**	Pn		**Pn**	**15 01 49.6**	**-0.8**
PINE	**Pine Mountain**	**4.01**	**77**			**Pn**	**15 01 49.6**	**-1.8**
PINE				IAML			15 02 46.7	
	comp=E,12nm,3.7s							
K05A	**Summer Lake**	**4.02**	**93**	Pn		**Pn**	**15 01 49.3**	**-2.3**
K05A				IAML			15 02 44.8	
	comp=N,14nm,3.2s							
K05A				IAML			15 02 46.1	
	comp=E,11nm,2.6s							
E03A	**Lebam**	**4.03**	**28**	Pn		**Pn**	**15 01 49.7**	**-1.8**
E03A				IAML			15 02 37.7	
	comp=E,28nm,0.5s							
HOOD	**Mount Hood Mea**	**4.08**	**54**	Pn		**Pn**	**15 01 52.3**	**0.0**
HOOD				IAML			15 02 43.9	
	comp=N,27nm,1.3s							
G05D	**Wamic, OR**	**4.24**	**57**	P		**Pn**	**15 01 54.1**	**-0.3**
	baz=240							
WISH	**Wishkah**	**4.47**	**23**	Pn		**Pn**	**15 01 55.8**	**-1.7**
NLWA	**Neilton Lookou**	**4.69**	**21**	Pn		**Pn**	**15 01 59.1**	**-1.6**
NLWA				IAML			15 03 10.8	
	comp=N,17nm,3.7s							
NLWA				IAML			15 03 34.7	
	comp=N,16nm,2.4s							
C03A	**Quillayute Air**	**5.07**	**14**	Pn		**Pn**	**15 02 03.7**	**-2.0**
I07A	**Izee**	**5.08**	**76**	Pn		**Pn**	**15 02 05.5**	**-0.5**
I07A				IAML			15 03 51.2	
	comp=E,6.0nm,4.4s							
I07A				IAML			15 04 47.0	
	comp=N,5.1nm,3.5s							
D05A	**Enumclaw**	**5.17**	**35**			**Pn**	**15 02 06.7**	**-0.4**
WVOR	**Wild Horse Val**	**5.71**	**93**	Pn		**Pn**	**15 02 11.3**	**-3.4**
LTY	**Liberty**	**5.82**	**42**			**Pn**	**15 02 15.8**	**-0.4**
OZB	**Mount Ozzard**	**5.96**	**5**	Pn		**Pn**	**15 02 16.0**	**-2.0**
BMO	**Blue Mountains**	**6.77**	**71**	Pn		**Pn**	**15 02 28.9**	**-0.4**
B08A	**Colville Reser**	**7.24**	**40**	Pn		**Pn**	**15 02 33.1**	**-2.4**
NVAR	**Mina Array Bea**	**7.64**	**124**	Pn		**Pn**	**15 02 45.4**	**+4.0**
	comp=N,0.1nm,0.3s,baz=297,slow=14,SNR=2.6							
	comp=N,0.4nm,0.6s							
PLID	**Pearl Lake**	**7.73**	**71**	Pn		**Pn**	**15 02 40.8**	**-1.7**
NEW	**Newport**	**8.31**	**48**	LR		LR	15 06 07.2	
	comp=N,72nm,21.7s,baz=296,slow=37							
ELK	**Elko**	**8.59**	**102**	LR		LR	15 06 23.1	
	comp=N,38nm,20.9s,baz=236,slow=37							
PDAR	**Pinedale Array**	**12.32**	**86**	LR		LR	15 09 24.5	
	comp=N,24nm,19.3s,baz=352,slow=40							
TXAR	**Lajitas Array**	**22.75**	**120**	P		**P**	**15 05 57.3**	**+5.2**
	comp=N,0.4nm,0.8s,baz=301,slow=9.3,SNR=2.8							
	comp=N,0.4nm,0.8s							
ILAR	**Eielson Array**	**24.68**	**339**	P		**P**	**15 06 10.5**	**+0.1**
	comp=N,0.2nm,0.6s,baz=135,slow=9.0,SNR=2.0							
	comp=N,0.2nm,0.6s							
H11N3	**WAKE ISLAND Hy**	**59.95**	**270**	T		T	16 15 30.3	
	baz=51,slow=75,SNR=67							
H11N2	**WAKE ISLAND Hy**	**59.95**	**270**	T		T	16 15 30.4	
	baz=51,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hy**	**59.97**	**270**	T		T	16 15 31.5	
	baz=51,slow=75,SNR=62							
H11S1	**WAKE ISLAND Hy**	**60.86**	**269**	T		T	16 16 47.0	
	baz=50,slow=75,SNR=207							
H11S2	**WAKE ISLAND Hy**	**60.87**	**269**	T		T	16 16 49.9	
	baz=50,slow=75,SNR=151							
H11S3	**WAKE ISLAND Hy**	**60.88**	**269**	T		T	16 16 51.0	
	baz=50,slow=75,SNR=137							

MAN 08 15:10:30.0, 13.71N×120.55E, h81km, mb3.8, ML2.5, MS2.1, 3C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.29**	**274**	*e*P	Pn	15 10 44.6	+2.2
LUBP				*e*S	Sn	15 10 56.0	+4.5
PGP	**Puerto Galera**	**0.45**	**118**	*e*P	Pn	15 10 44.8	+1.3
PGP				*i* S	Sn	15 10 56.7	+3.2
MACP	**Maragondon, Ca**	**0.57**	**17**	*e*P	Pn	15 10 45.5	+1.0
MACP				*e*S	Sn	15 10 58.3	+3.1
LQP	**Lukban**	**1.04**	**68**	*e*P	Pn	15 10 50.8	+0.9
LQP				*e*S	Sn	15 11 09.5	+4.9
BUSP	**Coron**	**1.73**	**191**	*e*P	Pn	15 10 58.1	-0.4
BUSP				*e*S	Sn	15 11 20.1	+0.1
PCPH	**Palayan**	**1.91**	**16**	*e*P	Pn	15 11 00.9	0.0

DNK ***08*** *15:14:44.3±3.0, 78.91N×19.87W, h9km±24km, ML2.7*
BER ***08*** *15:14:45.2±2.8, 78.77N×13.93W, h17km±15km, ML2.2, Confirmed Earthquake*
IEPN ***08*** *15:14:50.0, 79.00N×18.02W, h10km*
ISC 08 15:14:44.8±0.8, 78.87N±0.04×17.83W±0.07, h10km, n22, σ1s87/31, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAG	**Danmarks Havn**	**2.12**	**185**	*e*		**Pn**	**15 15 18.9**	**-1.3**
	baz=2.5,slow=16							
DAG				*i* P		**Pn**	**15 15 20.2**	**0.0**
DAG				*i* S		**Sg**	**15 15 52.7**	**-0.1**
DAG				IAML			15 15 53.1	
	comp=Z,374nm,0.3s							
DAG	**Danmarks Havn**	**2.12**	**185**	*e*P		**Pn**	**15 15 20.2**	**0.0**
DAG				*e*Pg		**Pb**	**15 15 23.6**	**+0.4**
DAG				*e*S		**Sn**	**15 15 47.2**	**+0.6**
DAG				*e*Sg		**Sg**	**15 15 52.1**	**-0.7**
NOR	**Nord**	**2.75**	**4**	*i* P		**Pn**	**15 15 28.7**	**-0.2**
NOR				*i* S		**Sn**	**15 16 01.1**	**-1.0**
NOR				IAML			15 16 09.1	
	comp=Z,331nm,0.4s							
NOR	**Nord**	**2.75**	**4**	*e*P		**Pn**	**15 15 28.7**	**-0.2**
NOR				*e*S		**Sn**	**15 16 00.9**	**-1.2**
NOR				*e*Sg		**Sb**	**15 16 06.5**	**-1.1**
DBG	**Daneborg**	**4.63**	**188**	*i* P		**Pn**	**15 15 53.4**	**-1.3**
DBG				*i* S		**Sn**	**15 16 45.4**	**-2.9**
DBG				IAML			15 17 16.7	
	comp=Z,63nm,0.4s							
DBG	**Daneborg**	**4.63**	**188**	*e*P		**Pn**	**15 15 52.4**	**-2.2**
DBG				*e*S		**Sn**	**15 16 44.1**	**-4.2**
KBS	**Kingsbay**	**5.71**	**75**	*i* P		**Pn**	**15 16 11.3**	**+1.9**
KBS				*i* S		**Sn**	**15 17 14.9**	**+0.1**
KBS	**Kingsbay**	**5.71**	**75**	*e*Pg		**Pn**	**15 16 11.2**	**+1.8**
KBS				*e*Sg		**Sn**	**15 17 15.0**	**+0.2**
KBS				IAML			15 17 16.2	
	comp=Z,8.7nm,0.6s							
KBS	**Kingsbay**	**5.71**	**75**	*e*P		**Pn**	**15 16 10.9**	**+1.5**
KBS				*e*S		**Sn**	**15 17 11.5**	**-3.4**
BRBB	**Barentsburg B**	**6.40**	**81**	*e*P		Pn	15 16 06.0	-13
BRBB				*e*Pg		Pb	15 16 22.6	-13
BRBA	**Barentsburg A**	**6.42**	**81**	*e*Sg		**Sn**	**15 17 31.2**	**-1.1**
SPA0	**Spitsbergen Ar**	**6.78**	**79**	*e*		Pn	15 16 07.2	-17
SPA0				*e*Pg		Pb	15 16 27.0	-16
SPA0				*e*Sg		**Sn**	**15 17 42.5**	**+1.2**
SPA0	**Spitsbergen Ar**	**6.78**	**79**	*e*P		**Pn**	**15 16 26.6**	**+2.4**
SPA0				S		**Sn**	**15 17 38.5**	**-2.9**
NEEM	**North Greenlan**	**6.91**	**275**	*e*P		Pn	15 16 19.3	-6.9
NEEM				*i* S		Sn	15 17 30.9	-14
NEEM				IAML			15 17 32.4	
	comp=Z,31nm,0.4s							
SCO	**Scoresbysund**	**8.50**	**189**	*e*P		**Pn**	**15 16 51.1**	**+3.4**
SCO				*e*S		**Sn**	**15 18 23.5**	**-0.1**
SCO				IAML			15 19 15.2	
	comp=Z,3.0nm,0.4s							
HOPEN	**Hopen**	**9.26**	**83**	*e*S		**Sn**	**15 18 39.3**	**-2.7**
TULEG	**Thule**	**10.80**	**284**	*e*P		Pn	15 17 09.5	-10
TULEG				*e*S		Sn	15 18 56.4	-23
TULEG				IAML			15 19 06.5	
	comp=Z,13nm,0.4s							
UPNV	**Upernavik**	**10.94**	**257**	*i* P		Pn	15 17 12.2	-8.8
UPNV				*e*S		Sn	15 19 00.9	-22
UPNV				IAML			15 19 10.0	
	comp=Z,22nm,0.5s							
ZFI2	**Zemlya Franca-**	**11.14**	**49**	P		**Pn**	**15 17 25.2**	**+1.4**
ZFI2				S		Sn	15 19 17.8	-10
ZFI	**Zemlya Franca-**	**11.14**	**49**	*e*P		**Pn**	**15 17 25.0**	**+1.2**
ZFI				*e*S		Sn	15 19 18.1	-10
ICESG	**Greenland Ices**	**11.39**	**222**	*e*P		Pn	15 17 22.4	-5.2
ICESG				*e*S		Sn	15 19 22.3	-13
ICESG				IAML			15 20 02.7	
	comp=Z,2.3nm,0.3s							
DY2G	**Dye2**	**14.76**	**229**	*e*P		Pn	15 18 05.2	-8.2
DY2G				*e*S		Sn	15 20 37.3	-20
DY2G				IAML			15 21 12.8	
	comp=Z,1.7nm,0.3s							

IDC ***08*** *15:30:58.3±2.8, 37.50N×19.83E, h0km, mb3.9/7, mbtmp3.8/13, ML4.0/5, MS2.7/3, Error ellipse: s-maj=46.9km s-min=20.6km az=34.0*
TIR ***08*** *15:31:02.0, 37.95N×19.91E, h6km±3km, Md3.8, Ml4.0*
THE ***08*** *15:31:05.7, 37.97N×20.26E, h18km, ML4.1/4, Error ellipse: s-maj=1.8km s-min=0.8km az=68.0*
ATH ***08*** *15:31:05.6, 37.98N×20.23E, h23km±3km, ML3.9/12, Error ellipse: s-maj=4.9km s-min=1.5km az=49.0*
PDG ***08*** *15:31:05.8±0.7, 38.04N×20.17E, h19km±1km, ML4.1/13, Error ellipse: s-maj=1.3km s-min=1.6km az=0.0*
ISC 08 15:31:04.6±1.2, 37.95N±0.04×20.17E±0.04, h17km±7km, n117, σ1s37/145, mb3.8/7, 8C-9D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.29**	**30**	P		**Pb**	**15 31 11.7**	**+0.3**
KEF3				S		**Sg**	**15 31 15.4**	**+0.2**
KEF3	**Kipouria, Keph**	**0.29**	**30**	P		**Pb**	**15 31 11.7**	**+0.3**
KEF3				S		**Sb**	**15 31 16.1**	**+0.2**
DMLN	**Damoulianata-K**	**0.33**	**29**	P		**Pb**	**15 31 11.9**	**-0.2**
DMLN				S		**Sg**	**15 31 16.5**	**+0.1**
	71μm,0.5s							
ARGA	**Argostoli. Kep**	**0.34**	**47**	P		**Pb**	**15 31 12.7**	**+0.6**
ARGA				S		**Sb**	**15 31 16.8**	**-0.4**
ARGA				AML		AML	15 31 17.3	
ARGA				AML		AML	15 31 17.6	
PSDA	**Pessada-Kefalo**	**0.37**	**63**	P		**Pg**	**15 31 12.0**	**-0.2**
PSDA				S		**Sg**	**15 31 16.5**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.37**	**63**	P		**Pg**	**15 31 12.1**	**-0.2**
PSDA				S		**Sg**	**15 31 16.7**	**-0.7**
KEF4	**Livadi, Kephal**	**0.37**	**33**	P		**Pg**	**15 31 12.4**	**+0.2**
KEF4				S		**Sg**	**15 31 17.6**	**+0.2**
KEF4	**Livadi, Kephal**	**0.37**	**33**	P		**Pg**	**15 31 12.4**	**+0.2**
KEF4				S		**Sg**	**15 31 17.6**	**+0.2**
VLS	**Valsamata**	**0.41**	**56**	P		**Pg**	**15 31 12.5**	**-0.3**
VLS				S		**Sg**	**15 31 17.7**	**-0.8**
	91μm,0.3s							
VLS	**Valsamata**	**0.41**	**56**	P		**Pg**	**15 31 12.6**	**-0.3**
VLS				S		**Sg**	**15 31 17.7**	**-0.8**
VLS				AML		AML	15 31 17.8	
VLS				AML		AML	15 31 18.0	
LTHK	**Lithakia**	**0.58**	**114**	P		**Pg**	**15 31 16.0**	**-0.1**
LTHK				S		**Sb**	**15 31 24.3**	**0.0**
	19μm,0.3s							
LTHK	**Lithakia**	**0.58**	**114**	P		**Pg**	**15 31 16.1**	**-0.1**
LTHK				S		**Sb**	**15 31 24.2**	**0.0**
LTHK				AML		AML	15 31 28.0	
	comp=N,38023μm,0.3s							
LTHK				AML		AML	15 31 28.9	
	comp=E,33874μm,0.4s							
FSK	**Fiskardo**	**0.60**	**31**	P		**Pg**	**15 31 16.8**	**+0.4**
FSK				S		**Sb**	**15 31 25.2**	**+0.5**
	comp=E,15μm,0.6s							
FSK	**Fiskardo**	**0.60**	**31**	P		**Pg**	**15 31 16.7**	**+0.4**
FSK				AML		AML	15 31 28.7	
	comp=E,23922μm,0.5s							
FSK				AML		AML	15 31 30.7	
	comp=N,29580μm,0.5s							
EVGI	**Lefkada island**	**0.77**	**30**	P		**Pb**	**15 31 19.0**	**-0.6**
EVGI	**Lefkada island**	**0.77**	**30**	P		**Pb**	**15 31 19.0**	**-0.6**
DRAG	**Dragano-Lefkad**	**0.80**	**24**	P		**Pb**	**15 31 19.4**	**-0.7**
NYDR	**Nydri-Lefkada**	**0.87**	**29**	P		**Pb**	**15 31 20.4**	**-0.8**
LKD2	**Lefkada island**	**0.92**	**25**	P		**Pb**	**15 31 21.4**	**-0.7**
LKD2	**Lefkada island**	**0.92**	**25**	P		**Pb**	**15 31 21.5**	**-0.7**
	baz=34							
LKD2				S		**Sn**	**15 31 37.1**	**+1.4**
	baz=34							
LKD2	**Lefkada island**	**0.92**	**25**	P		**Pb**	**15 31 21.4**	**-0.7**
LKD2				AML		AML	15 31 40.7	
	comp=N,12019μm,0.3s							
LKD2				AML		AML	15 31 41.1	
	comp=E,15572μm,0.3s							
TSLK	**Tsoukalades, L**	**0.96**	**24**	P		**Pb**	**15 31 22.2**	**-0.5**
TSLK	**Tsoukalades, L**	**0.96**	**24**	P		**Pb**	**15 31 22.2**	**-0.5**
RLS	**Riolos of Patr**	**1.03**	**84**	P		**Pb**	**15 31 23.4**	**-0.6**
RLS	**Riolos of Patr**	**1.03**	**84**	P		**Pb**	**15 31 23.4**	**-0.6**
RLS				AML		AML	15 31 44.7	
	comp=N,8225μm,0.6s							
RLS				AML		AML	15 31 45.4	
	comp=E,4506μm,0.5s							
DRO	**Drossia**	**1.22**	**89**	P		**Pn**	**15 31 26.8**	**-0.1**
DRO				AML		AML	15 31 51.5	
	comp=E,19155μm,0.5s							
DRO				AML		AML	15 31 57.9	
	comp=N,15426μm,0.5s							
PVO	**Paravola**	**1.26**	**58**	P		**Pb**	**15 31 27.9**	**0.0**
EFP	**Efpalio**	**1.45**	**70**	AML		AML	15 31 58.8	
	comp=N,4500μm,0.6s							
EFP				AML		AML	15 31 59.2	
	comp=E,5973μm,0.6s							
LAKA	**Lakka**	**1.46**	**78**	P		**Pb**	**15 31 30.8**	**-0.5**
SERG	**Sergoula**	**1.56**	**72**	P		**Pb**	**15 31 32.3**	**-0.7**
KLV	**Kalavryta, Ach**	**1.57**	**86**	P		**Pb**	**15 31 32.8**	**-0.4**
KLV				AML		AML	15 32 03.5	
	comp=E,2718μm,0.6s							
KLV				AML		AML	15 32 04.6	
	comp=N,2838μm,0.7s							
IGT	**Igoumenitsa**	**1.59**	**5**	P		**Pb**	**15 31 33.2**	**-0.2**
	baz=11							
IGT				S		**Sg**	**15 31 56.5**	**+0.8**
	baz=11							
IGT	**Igoumenitsa**	**1.59**	**5**	P		**Pb**	**15 31 33.0**	**-0.5**
IGT				AML		AML	15 32 05.7	
	comp=E,3380μm,0.4s							
IGT				AML		AML	15 32 09.5	
	comp=N,3794μm,0.3s							
EVR	**Evrytania**	**1.61**	**53**	P		**Pb**	**15 31 33.5**	**-0.5**
EVR				AML		AML	15 32 03.3	
	comp=N,2199μm,1.0s							
EVR				AML		AML	15 32 07.5	
	comp=E,3596μm,0.5s							
KEK	**Kerkira**	**1.79**	**351**	P		**Pb**	**15 31 35.9**	**-0.9**
KEK				AML		AML	15 32 15.1	
	comp=E,6406μm,0.5s							
KEK				AML		AML	15 32 15.8	
	comp=N,2922μm,0.5s							
SRN	**Sarande**	**1.93**	**356**	P		**Pb**	**15 31 38.1**	**-1.3**
	baz=2.0							
SRN				S		**Sg**	**15 32 06.4**	**-0.4**
	baz=2.0							
SRN				AMP				
	comp=E,3.5nm,1.0s,baz=2.0							
LSK	**Leskovik**	**2.22**	**9**	P		**Pb**	**15 31 44.2**	**-0.1**
	baz=13							
LSK				S		**Sg**	**15 32 14.6**	**-1.5**
	baz=13							
LSK				AMP				
	comp=E,7.7nm,1.0s,baz=13							
SCTE	**Santa Cesarea**	**2.50**	**329**	P		**Pn**	**15 31 46.0**	**+1.6**
	baz=333							
SCTE				S		**Sb**	**15 32 17.6**	**-1.8**
	baz=333							
KBN	**Korca**	**2.71**	**10**	P		**Pb**	**15 31 50.8**	**-1.9**
	baz=14							
TIP	**Timpagrande**	**2.94**	**296**	P		**Pn**	**15 31 53.5**	**+2.9**
TIR	**Tirane**	**3.40**	**356**	P		**Pn**	**15 31 57.9**	**+1.0**
	baz=0.0							
PHP	**Peshkopia**	**3.74**	**3**	P		**Pn**	**15 32 02.5**	**+1.0**
	baz=6.0							
PHP				AMP				
	comp=N,0.8nm,0.3s,baz=6.0							
MATE	**Matera**	**3.81**	**316**	P		**Pg**	**15 32 19.4**	**+2.0**
VAY	**Valandovo**	**3.84**	**28**	*i* Pn		**Pn**	**15 32 04.7**	**+1.8**
STIP	**Stip**	**4.05**	**22**	*i* Pn		**Pn**	**15 32 09.6**	**+3.8**
ULC	**Ulcinj**	**4.07**	**350**	*i* Pn		**Pn**	**15 32 06.7**	**+0.6**
ULC				*e*Sn		**Sn**	**15 32 53.7**	**+0.3**
SKO	**Skopje**	**4.14**	**13**	*i* Pn		**Pn**	**15 32 08.6**	**+1.6**
DRME	**

FRGS	**Fruska Gora**	**7.21 358**	⇓P		**Pn**		**15 32 49.6**	**+0.5**
FRGS	**Fruska Gora**	**7.21 358**	*e*Pn		**Pn**		**15 32 48.5**	**-0.6**
A051A	**Mrakovica**	**7.47 342**	*e*Pn		**Pn**		**15 32 52.7**	**-0.1**
BZS	**Buzias**	**7.74 8**	⇑P		**Pn**		**15 32 56.5**	**+0.1**
BOJS	**Bojanci**	**8.39 336**	*e*Pn		**Pn**		**15 33 05.9**	**+0.5**
BOJS	**Bojanci**	**8.39 336**	*i* Pn		**Pn**		**15 33 06.3**	**+0.9**
BOJS			*e*Sn		**Sn**		**15 34 36.8**	**-2.9**
CRES	**Cresnjev**	**8.62 337**	*e*Pn		**Pn**		**15 33 08.3**	**-0.2**
CRES	**Cresnjev**	**8.62 337**	*i* Pn		**Pn**		**15 33 08.8**	**+0.4**
MLR	**Muntele Rosu**	**8.68 28**	⇓P		Pn		15 33 04.1	-5.4
MLR	**Muntele Rosu**	**8.68 28**	Pn		Pn		15 33 14.5	+5.1
	comp=N,0.3nm,0.3s,baz=236,slow=11,SNR=3.3							
	comp=N,1.8nm,0.5s							
SKDS	**Skadanscina**	**8.87 331**	*e*Pn		**Pn**		**15 33 11.4**	**-0.6**
CEY	**Cerknica**	**8.88 333**	*e*Pn		**Pn**		**15 33 12.4**	**+0.3**
PERS	**Pernice**	**9.45 338**	*i* Pn		**Pn**		**15 33 19.8**	**-0.1**
OBKA	**Obir**	**9.51 336**	*e*Pn		**Pn**		**15 33 21.6**	**+0.8**
OBKA	**Obir**	**9.51 336**	*e*Pn		**Pn**		**15 33 22.2**	**+1.4**
	comp=N,2.4nm,0.2s							
SOKA	**Soboth**	**9.51 338**	*e*Pn		**Pn**		**15 33 21.2**	**+0.4**
	comp=N,4.6nm,0.3s							
ARSA	**Arzberg**	**9.90 341**	*e*Pn		**Pn**		**15 33 27.2**	**+1.1**
	comp=N,2.4nm,0.3s							
KBA	**Koelnbreinsper**	**10.41 333**	*e*Pn		**Pn**		**15 33 35.7**	**+2.4**
	comp=N,1.2nm,0.3s							
VYHS	**Vyhne**	**10.59 355**	*e*SN		**Sn**		**15 35 28.4**	**-5.1**
BRTR	**Keskin Array B**	**10.66 76**	Pn		**Pn**		**15 33 40.7**	**+4.1**
	comp=N,0.3nm,0.4s,baz=273,slow=12,SNR=1.9							
MOA	**Molln**	**10.79 338**	*e*Pn		**Pn**		**15 33 39.6**	**+1.3**
	comp=N,3.3nm,0.3s							
BIOA	**Bad Ischl, Aus**	**10.85 336**	*e*Pn		**Pn**		**15 33 40.4**	**+1.4**
	comp=N,2.8nm,0.2s							
WTTA	**Wattenberg**	**11.22 329**	*e*Pn		**Pn**		**15 33 47.2**	**+2.9**
	comp=N,1.5nm,0.2s							
SQTA	**Sankt Quirin**	**11.37 327**	*e*Pn		**Pn**		**15 33 49.5**	**+3.2**
	comp=N,2.2nm,0.3s							
DAVOX	**Davos/Dischmat**	**11.64 323**	Sn		**Sn**		**15 35 56.7**	**-3.0**
	comp=N,0.3nm,0.3s,baz=336,slow=20,SNR=1.9							
DAVOX			LR		LR		15 39 04.9	
	comp=N,61nm,19.1s,baz=331,slow=41							
VRAC	**Vranov**	**11.64 348**	LR		LR		15 39 03.9	
	comp=N,31nm,18.2s,baz=326,slow=40							
GERES	**GERESS Array B**	**11.86 339**	Pn		**Pn**		**15 33 53.9**	**+1.0**
	comp=N,0.5nm,0.3s,baz=160,slow=15,SNR=8.9							
GERES			Sn		**Sn**		**15 35 58.4**	**-6.4**
	comp=N,0.7nm,0.3s,baz=151,slow=25,SNR=5.9							
	comp=N,0.7nm,0.3s							
KHC	**Kasperske Hory**	**12.15 339**	*e*P		**Pn**		**15 33 58.0**	**+1.2**
KHC			*ex*		x		15 34 04.0	
KHC			*ex*		x		15 36 06.0	
MMAI	**Mount Meron Ar**	**13.35 107**	Pn		**Pn**		**15 34 12.6**	**-0.7**
	comp=N,0.6nm,0.3s,baz=290,slow=13,SNR=2.0							
MMAI			Sn		Sn		15 36 30.6	-11
	comp=N,0.5nm,0.3s,baz=302,slow=27,SNR=1.2							
	comp=N,0.5nm,0.3s							
AKASG	**Malin Array Be**	**14.29 24**	Pn		**Pn**		**15 34 27.4**	**+1.5**
	comp=N,0.5nm,0.3s,baz=210,slow=11,SNR=1.2							
	comp=N,0.2nm,0.3s							
EIL	**Elat**	**14.79 120**	Pn		**Pn**		**15 34 29.6**	**-3.5**
	comp=N,0.5nm,0.3s,baz=253,slow=3,8,SNR=2.2							
EIL			Sn		Sn		15 37 02.1	-14
	comp=N,0.5nm,0.3s,baz=73,slow=22,SNR=3.1							
	comp=N,3.3nm,0.7s							
HFS	**Hagfors**	**22.58 352**	P		**P**		**15 36 05.5**	**+1.6**
	comp=N,4.1nm,0.7s,baz=156,slow=12,SNR=20							
	comp=N,4.1nm,0.7s							
EKA	**Eskdalemuir Ar**	**23.45 325**	P		**P**		**15 36 11.3**	**-1.5**
	comp=N,2.1nm,0.9s,baz=110,slow=9.9,SNR=2.3							
	comp=N,2.1nm,0.9s							
NB2	**NORSAR Subarra**	**23.79 349**	P		**P**		**15 36 16.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=154,slow=10							
NOA	**NORSAR Array B**	**23.79 349**	P		**P**		**15 36 17.1**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=156,slow=9.3,SNR=2.7							
NOA			LR		LR		15 47 56.9	
	comp=Z,13nm,20.4s,baz=165,slow=42							
	comp=Z,0.6nm,0.7s							
FINES	**FINESS Array B**	**23.81 7**	P		**P**		**15 36 16.0**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=175,slow=11,SNR=7.4							
	comp=Z,1.3nm,0.5s							
BELG	**Belogornoye**	**23.96 44**	P		**P**		**15 36 18.4**	**+0.6**
	comp=Z,7.1nm,0.7s,baz=229,slow=4.1,SNR=2.6							
	comp=Z,7.1nm,0.7s							
MKAR	**Makanchi Array**	**45.66 58**	P		**P**		**15 39 23.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=280,slow=7.2,SNR=9.4							
	comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**46.05 48**	P		**P**		**15 39 26.7**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=283,slow=8.0,SNR=6.1							
	comp=Z,1.6nm,0.3s							

*IDC **08** 15:51:41.1±1.7,6.88S×153.76E,h0km,mb3.7/8, mbtmp3.7/9,ML3.3/1,MS3.2/2,Error ellipse: s-maj=48.5km s-min=21.2km az=116.0*

ISC 08 15:51:46.6±1.1,**6.63S**±0.09×**153.7E**±0.1,**h29**km,**n13,** σ1s**52**/13,**mb3.7/8,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.83**	**325**	Pn		**Pn**	**15 52 30.1**	**+0.3**
	3.8nm,0.3s,baz=221,slow=3.3,SNR=17							
KRVT				Sn		**Sn**	**15 53 01.9**	**-1.1**
	6.1nm,0.3s,baz=4.5,slow=22,SNR=5.8							
	17nm,0.5s							
PMG	**Port Moresby**	**7.00**	**246**	Pn		**Pn**	**15 53 29.1**	**+1.8**
	2.0nm,0.3s,baz=49,slow=8.8,SNR=6.7							
PMG				Sn		**Sn**	**15 54 46.5**	**+0.5**
	0.6nm,0.3s,baz=288,slow=22,SNR=2.1							
CTA	**Charters Tower**	**15.19**	**208**	LR		LR	16 00 13.4	
	comp=Z,62nm,19.9s,baz=86,slow=34							
WRA	**Warramunga Arr**	**22.96**	**233**	P		**P**	**15 56 46.5**	**-2.3**
	1.1nm,0.8s,baz=58,slow=11,SNR=5.7							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**25.45**	**226**	P		**P**	**15 57 10.1**	**-2.1**
	1.0nm,0.9s,baz=59,slow=9.8,SNR=14							
	1.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**29.60**	**245**	P		**P**	**15 57 48.0**	**-1.5**
	1.0nm,0.8s,baz=49,slow=11,SNR=1.3							
	1.0nm,0.8s							
KSRS	**Korea Array**	**50.01**	**333**	P		**P**	**16 00 38.7**	**+0.2**
	1.0nm,0.9s,baz=154,slow=9.0,SNR=4.2							
	1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**59.43**	**296**	P		**P**	**16 01 48.8**	**+1.6**
	0.4nm,0.4s,baz=120,slow=5.3,SNR=4.1							
	0.4nm,0.4s							
PETK	**Petropavlovsk-**	**59.61**	**3**	P		**P**	**16 01 49.1**	**+1.4**
	0.5nm,0.6s,baz=139,slow=6.8,SNR=5.0							
	0.5nm,0.6s							
TIXI	**Tiksi**	**79.81**	**352**	LR		LR	16 37 55.8	
	comp=Z,21nm,19.5s,baz=182,slow=35							
ZALV	**Zalesovo Beam**	**83.14**	**326**	P		**P**	**16 04 09.9**	**+0.2**
	0.3nm,0.3s,baz=104,slow=6.1,SNR=1.7							
	0.3nm,0.3s							
ILAR	**Eielson Array**	**83.53**	**22**	P		**P**	**16 04 11.5**	**0.0**
	0.3nm,0.6s,baz=230,slow=7.0,SNR=2.6							
	0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**151.65**	**285**	PKPbc		**PKPbc**	**16 11 38.0**	**-1.3**
	0.6nm,0.7s,baz=64,slow=2.3,SNR=3.5							

*IDC **08** 16:00:47.0±5.5,2.54N×128.23E,h72km±57km,mb3.0/3, mbtmp3.4/4,ML3.9/1,Error ellipse: s-maj=112.6km s-min=27.7km az=71.0*

ISC 08 16:00:47.1±1.2,**2.8N**±0.4×**128.5E**±0.5,**h100**km,**n11,** σ3s**44/8**,**mb3.2**/3,**1D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**4.29**	**320**	⇓*e*P		**Pn**	**16 01 47.9**	**-2.3**
DDMP				*e*S		**Sn**	**16 02 35.8**	**-3.4**
SIJI	**Sorong**	**4.59**	**143**	P		**Pn**	**16 01 53.5**	**-0.8**
	5.1nm,0.3s,baz=324,slow=19,SNR=67							
SIJI				S		**Sn**	**16 02 41.8**	**-4.7**
	8.4nm,0.5s,baz=171,slow=24,SNR=1.3							
	12nm,0.2s							
WRA	**Warramunga Arr**	**23.33**	**166**	P		**P**	**16 05 47.1**	**+0.4**
	0.7nm,0.6s,baz=346,slow=10,SNR=21							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**26.84**	**169**	P		**P**	**16 06 18.9**	**+0.4**
	0.1nm,0.5s,baz=349,slow=7.6,SNR=1.1							
ASAR				PcP		**PcP**	**16 09 41.7**	**+2.9**
	0.3nm,1.0s,baz=2.2,slow=2.3,SNR=1.7							
	0.1nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**40.50**	**65**	T		T	16 51 43.5	
	baz=252,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**40.52**	**65**	T		T	16 51 40.6	
	baz=252							
H11S1	**WAKE ISLAND Hy**	**40.52**	**65**	T		T	16 51 43.3	
	baz=252							
H11N1	**WAKE ISLAND Hy**	**41.07**	**63**	T		T	16 52 19.2	
	baz=250,slow=75,SNR=15							
H11N2	**WAKE ISLAND Hy**	**41.08**	**63**	T		T	16 52 20.2	
	baz=250,slow=75,SNR=5.1							
H11N3	**WAKE ISLAND Hy**	**41.09**	**63**	T		T	16 52 19.8	
	baz=250,slow=75,SNR=9.5							
MKAR	**Makanchi Array**	**59.31**	**325**	P		**P**	**16 10 41.8**	**+3.3**
	0.2nm,0.4s,baz=124,slow=8.8,SNR=3.0							
	0.2nm,0.4s							

*NEIC **08** 16:24:55.8±2.6,11.90S±0.04×167.6E±0.2,h285km±13km, mb4.1/15,Error ellipse: s-maj=26.6km s-min=6.0km az=87.0*

*IDC **08** 16:24:58.8±5.7,12.05S×167.49E,h321km±64km,mb3.2/7, mbtmp3.9/9,Error ellipse: s-maj=54.7km s-min=21.3km az=156.0*

ISC 08 16:24:58.4±0.8,**12.1S**±0.1×**167.5E**±0.1,**h317**km,**n26,** σ1s**19/27**,**mb3.9**/15,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**8.68**	**182**	Pn		**Pn**	**16 26 58.8**	**-1.6**
MARNC	**Mare, Loyalty**	**9.39**	**177**	Pn		**Pn**	**16 27 08.6**	**-0.4**
DZM	**Mont Dzumac**	**10.02**	**186**	P		**Pn**	**16 27 17.1**	**+0.4**
	3.7nm,0.7s,baz=328,slow=18,SNR=1.1							
MSVF	**Nonsavu**	**11.64**	**120**	P		**Pn**	**16 27 37.1**	**+0.7**
	5.6nm,0.9s,baz=288,slow=19,SNR=1.5							
CTA	**Charters Tower**	**21.92**	**246**	P		**P**	**16 29 28.1**	**+1.5**
	2.8nm,0.8s,baz=99,slow=10,SNR=1.9							
	2.8nm,0.8s							
CTAO	**Charters Tower**	**21.92**	**246**	P		**P**	**16 29 28.1**	**+1.6**
CTAO				IAmb		IAmb	16 30 04.3	
	comp=Z,22nm,1.4s							
LTZ	**Lake Taylor**	**30.89**	**173**	P		**P**	**16 30 44.7**	**-1.5**
STKA	**Stephens Creek**	**30.96**	**226**	P		**P**	**16 30 47.6**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=45,slow=9.3,SNR=11							
	comp=Z,1.4nm,0.5s							
STKA	**Stephens Creek**	**30.96**	**226**	P		**P**	**16 30 47.1**	**+0.1**
WR0	**Warramunga Arr**	**32.61**	**252**	P		**P**	**16 31 00.4**	**-1.1**
WR0				IAmb		IAmb	16 31 32.7	
	comp=Z,7.5nm,1.4s							
WB0	**Warramunga Arr**	**32.72**	**252**	P		**P**	**16 31 01.3**	**-1.1**
WB0				IAmb		IAmb	16 31 40.7	
	comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**32.79**	**252**	P		**P**	**16 31 02.8**	**-0.2**
WB2				IAmb		IAmb	16 31 18.8	
	comp=Z,4.8nm,1.1s							
WRA	**Warramunga Arr**	**32.80**	**252**	P		**P**	**16 31 01.7**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=78,slow=8.5,SNR=10							
	comp=Z,0.2nm,0.4s							
WRA	**Warramunga Arr**	**32.80**	**252**	P		**P**	**16 31 01.5**	**-1.6**
WHZ	**Wether Hill Ro**	**33.73**	**179**	P		**P**	**16 31 13.3**	**+2.6**
AS31	**Alice Springs**	**33.92**	**245**	P		**P**	**16 31 11.3**	**-1.4**
ASAR	**Alice Springs**	**33.93**	**245**	P		**P**	**16 31 11.3**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=73,slow=9.9,SNR=21							
ASAR				PcP		**PcP**	**16 33 42.2**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=74,slow=4.0,SNR=2.3							
	comp=Z,0.4nm,0.5s							
BBOO	**Buckleboo**	**35.45**	**229**	P		**P**	**16 31 24.9**	**-0.7**
BBOO				IAmb		IAmb	16 31 51.7	
	comp=Z,52nm,1.5s							
MTN	**Manton Dam**	**35.52**	**265**	P		**P**	**16 31 26.8**	**+0.4**
MTN				IAmb		IAmb	16 31 54.5	
	comp=Z,10nm,1.1s							
KNRA	**Kununurra**	**37.76**	**260**	P		**P**	**16 31 45.2**	**0.0**
KNRA				IAmb		IAmb	16 32 14.9	
	comp=Z,11nm,1.1s							
FITZ	**Fitzroy Crossi**	**40.81**	**256**	P		**P**	**16 32 10.3**	**+0.1**
FITZ				IAmb		IAmb	16 32 29.3	
	comp=Z,6.2nm,1.4s							
TOLI2	**Tolitoli**	**48.22**	**282**	P		**P**	**16 33 07.8**	**-0.6**
TOLI2				IAmb		IAmb	16 33 36.1	
	comp=Z,4.8nm,1.0s							
CMAR	**Chiang Mai Arr**	**74.10**	**293**	P		**P**	**16 36 02.3**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=131,slow=6.1,SNR=4.1							
	comp=Z,0.4nm,0.6s							
HIN	**Hinchinbrook I**	**80.94**	**21**	P		**P**	**16 36 37.5**	**-0.1**
ILAR	**Eielson Array**	**83.92**	**18**	P		**P**	**16 36 51.8**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=223,slow=7.1,SNR=4.5							
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**95.44**	**317**	P		**P**	**16 37 47.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=88,slow=5.4,SNR=8.4							
	comp=Z,0.7nm,0.6s							

*JMA **08** 16:33:00.5±0.2,34.7N±0.7×139.7E±0.8,h117km±1km, MV2.5/30,SAGAMINADA*

*IDC **08** 16:33:00.1±3.5,34.49N×139.31E,h108km±43km,mb3.0/2, mbtmp3.1/3,Error ellipse: s-maj=102.2km s-min=34.8km az=62.0*

ISC 08 16:33:00.3±1.1,**34.68N**±0.07×**139.64E**±0.08,**h123**km±7km, **n17,** σ0s**47/19**,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.17**	**282**	S		**Sn**	**16 33 29.2**	**-0.7**
JTHY	**Toshimahigashi**	**0.33**	**242**	P		**Pn**	**16 33 17.9**	**+0.3**
JTHY				S		**Sn**	**16 33 30.9**	**+0.2**
JIZS	**Izushimoda**	**0.63**	**274**	P		**Pn**	**16 33 19.5**	**+0.2**
JIZS				S		**Sn**	**16 33 33.7**	**0.0**
BSO3	**Boso 3**	**0.73**	**80**	P		**Pn**	**16 33 20.2**	**+0.5**
JOD2	**Odawara 2**	**0.74**	**322**	P		**Pn**	**16 33 19.9**	**-0.3**
JOD2				S		**Sn**	**16 33 34.5**	**-0.7**
JMKN	**Mikurajimanish**	**0.79**	**183**	P		**Pn**	**16 33 20.7**	**+0.1**
JFNN	**Fujinakano**	**0.94**	**303**	P		**Pn**	**16 33 22.2**	**+0.3**
BSO1	**Boso 1**	**1.10**	**91**	P		**Pn**	**16 33 23.2**	**+0.3**
JYN	**Shimob**	**1.21**	**313**	P		**Pn**	**16 33 25.0**	**+0.2**
SHZ3	**Shizuoka 3**	**1.24**	**289**	P		**Pn**	**16 33 25.7**	**+0.8**
JRY	**Ryogami san**	**1.46**	**336**	P		**Pn**	**16 33 27.9**	**+0.4**
JRY				S		**Sn**	**16 33 48.6**	**+0.5**
MJAR	**Matsushiro Arr**	**2.19**	**328**	P		**Pn**	**16 33 36.1**	**-0.2**
	1.7nm,0.7s,baz=154,slow=14,SNR=7.8							
MJAR				S		**Sn**	**16 34 03.4**	**-0.4**
	2.4nm,0.7s,baz=135,slow=26,SNR=6.0							
H11N2	**WAKE ISLAND Hy**	**28.33**	**115**	T		T	17 08 31.6	
	baz=305							
H11N1	**WAKE ISLAND Hy**	**28.34**	**115**	T		T	17 08 32.8	
	baz=305							
H11N3	**WAKE ISLAND Hy**	**28.35**	**115**	T		T	17 08 33.1	
	baz=305							
MKAR	**Makanchi Array**	**44.19**	**304**	P		**P**	**16 40 57.2**	**+0.3**
	0.3nm,0.5s,baz=91,slow=8.9,SNR=3.6							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**54.55**	**186**	P		**P**	**16 42 15.2**	**-0.5**
	0.3nm,0.9s,baz=1.5,slow=7.4,SNR=1.1							
	0.3nm,0.9s							

*IDC **08** 16:37:42.6±1.3,71.69N×1.49W,h0km,mb3.4/5, mbtmp3.6/10,ML2.7/4,MS3.4/35,Error ellipse: s-maj=25.7km s-min=18.4km az=52.0*

*BER **08** 16:37:48.2±1.6,71.80N×1.39W,h15km±29km,ML2.2, Confirmed Earthquake*

ISC 08 16:37:44.9±1.0,**71.77N**±0.07×**0.93W**±0.09,**h10**km,**n58,** σ1s**52**/36,**mb3.4**/5,**MS3.3**/29,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**6.16**	**119**	*e*P		**Pn**	**16 39 18.1**	**+2.3**
LOF				*e*S		**Sn**	**16 40 24.6**	**-1.5**
LOF				IAML			16 40 34.2	
	comp=Z,4.4nm,0.7s							
BJO1	**Bjornoya**	**6.39**	**55**	*e*P		**Pn**	**16 39 20.2**	**+1.3**
STEI	**Steigen**	**6.77**	**117**	*e*P		**Pn**	**16 39 25.4**	**+1.4**
HSPB	**Hornsund (broa**	**6.85**	**33**	*e*P		**Pn**	**16 39 25.2**	**0.0**
HSPB	**Hornsund (broa**	**6.85**	**33**	*e*S		**Pn**	**16 39 25.0**	**-0.2**
TRO	**Tromso**	**6.91**	**98**	*e*P		**Pn**	**16 39 27.7**	**+1.8**
FAUS	**Fauske**	**7.16**	**120**	*e*P		**Pn**	**16 39 30.5**	**+1.0**
KONS	**Konsvik**	**7.27**	**130**	*e*P		**Pn**	**16 39 31.4**	**+0.5**
KONS				*e*S		**Sn**	**16 40 50.5**	**-2.8**
KONS				IAML			16 40 55.6	
	comp=Z,3.8nm,0.9s							
STOK	**Stokkvaagen**	**7.38**	**131**	*e*P		**Pn**	**16 39 34.3**	**+1.9**
JETT	**Jettan, Norway**	**7.40**	**97**	*e*P		**Pn**	**16 39 34.7**	**+1.9**
BRBB	**Barentsburg B**	**7.45**	**25**	*e*P		**Pn**	**16 39 33.2**	**-0.1**
BRBB	**Barentsburg B**	**7.45**	**25**	*e*Sg		**Pn**	**16 39 33.3**	**-0.1**
KIF	**Kilpisjarvi**	**7.79**	**100**	*e*P		**Pn**	**16 39 39.4**	**+1.3**
SPA0	**Spitsbergen Ar**	**7.81**	**27**	*e*P		**Pn**	**16 39 39.1**	**+0.8**
SPA0	**Spitsbergen Ar**	**7.81**	**27**	*e*S		**Pn**	**16 39 39.0**	**+0.7**
SPITS	**Spitsbergen Ar**	**7.81**	**27**	Pn		**Pn**	**16 39 38.7**	**+0.4**
	comp=Z,2.7nm,0.3s,baz=210,slow=17,SNR=20							
SPITS				Sn		**Sn**	**16 41 05.0**	**-1.5**
	baz=222,slow=23							
MOR8	**Moi Rana**	**7.86**	**128**	*e*P		**Pn**	**16 39 41.1**	**+2.1**
KBS	**Kingsbay**	**7.87**	**18**	*e*		**Pn**	**16 39 43.2**	**+4.0**
KTK1	**Kautokeino**	**8.55**	**97**	*e*P		**Pn**	**16 39 50.2**	**+1.8**
NSS	**Namsos**	**8.69**	**140**	*e*P		**Pn**	**16 39 51.2**	**+0.9**
HEF	**Hetta**	**9.00**	**100**	*e*P		**Pn**	**16 39 55.9**	**+1.3**
ARA0	**ARCESS Array S**	**9.01**	**92**	*e*P		**Pn**	**16 39 55.5**	**+0.7**
ARCES	**ARCESS Array B**	**9.01**	**92**	Pn		**Pn**	**16 39 55.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=302,slow=11,SNR=9.3							
ARCES				Sn		**Sn**	**16 41 34.0**	**-2.2**
	baz=305,slow=22							
ARCES				LR		LR	16 43 09.7	
	comp=Z,108nm,20.2s,baz=301,slow=36							
	comp=Z,1.7nm,0.6s							
NOA	**NORSAR Array B**	**11.78**	**150**	Pn		**Pn**	**16 40 34.3**	**+1.6**
	baz=335,slow=11,SNR=1.9							
NOA				LR		LR	16 44 57.7	
	comp=Z,161nm,20.4s,baz=340,slow=37							
	comp=Z,0.3nm,0.6s							
HFS	**Hagfors**	**13.05**	**146**	Pn		**Pn**	**16 40 50.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=353,slow=11,SNR=15							
HFS				LR		LR	16 45 36.4	
	comp=Z,175nm,20.4s,baz=322,slow=36							
	comp=Z,2.5nm,0.6s							
FINES	**FINESS Array B**	**14.72**	**121**	Pn		**Pn**	**16 41 12.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=334,slow=17,SNR=8.0							
FINES				LR		LR	16 46 26.8	
	comp=Z,204nm,19.8s,baz=318,slow=35							
	comp=Z,3.1nm,0.8s							
EKA	**Eskdalemuir Ar**	**16.52**	**184**	LR		LR	16 46 35.7	
	comp=Z,122nm,21.2s,baz=4.0,slow=32							
SFJD	**Kangerlussuaq**	**17.67**	**279**	LR		LR	16 47 38.8	
	comp=Z,116nm,18.2s,baz=94,slow=34							
KLMR	**Klimovskoe**	**19.10**	**104**	*e*		**P**	**16 42 07.4**	**0.0**
KLMR				AMP			16 42 16.3	
	comp=Z,21nm,1.6s							
VRAC	**Vranov**	**23.92**	**151**	LR		LR	16 52 09.2	
	comp=Z,88nm,20.7s,baz=340,slow=36							
KIRV	**Kirov**	**23.97**	**97**	LR		LR	16 51 48.2	
	comp=Z,56nm,19.9s,baz=327,slow=35							
RES	**Resolute Bay**	**24.60**	**320**	LR		LR	16 51 31.3	
	comp=Z,90nm,21.3s,baz=305,slow=34							
AKASG	**Malin Array Be**	**25.09**	**131**	P		**P**	**16 43 10.1**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=330,slow=9.9,SNR=2.0							
AKASG				LR		LR	16 52 50.2	
	comp=Z,113nm,18.4s,baz=356,slow=36							
	comp=Z,0.5nm,0.5s							
FRB	**Frobisher Bay**	**25.39**	**286**	LR		LR	16 51 19.6	
	comp=Z,82nm,20.8s,baz=170,slow=32							
DAVOX	**Davos/Dischmat**	**25.58**	**163**	LR		LR	16 52 24.0	
	comp=Z,49nm,20.6s,baz=30,slow=34							
ARU	**Arti**	**28.60**	**91**	LR		LR	16 54 49.2	
	comp=Z,56nm,19.3s,baz=301,slow=36							
BELG	**Belogornoye**	**28.63**	**107**	LR		LR	16 54 45.1	
	comp=Z,148nm,18.3s,baz=354,slow=36							
MLR	**Muntele Rosu**	**29.29**	**139**	LR		LR	16 55 54.6	
	comp=Z,139nm,19.3s,baz=358,slow=37							
ESDC	**Sonseca Array**	**32.20**	**184**	LR		LR	16 56 19.2	
	comp=Z,23nm,18.6s,baz=242,slow=35							
AKTO	**Aktyubinsk**	**33.53**	**97**	LR		LR	16 57 53.2	
	comp=Z,55nm,18.8s,baz=340,slow=36							
KBZ	**Khabaz**	**35.07**	**119**	LR		LR	16 58 56.5	
	comp=Z,39nm,18.3s,baz=337,slow=36							
BRTR	**Keskin Array B**	**36.47**	**133**	LR		LR	17 00 30.8	
	comp=Z,40nm,19.6s,baz=350,slow=37							
KEST	**Kesra**	**36.50**	**166**	LR		LR	17 00 05.6	
	comp=Z,77nm,19.1s,baz=183,slow=37							
INK	**Inuvik**	**36.69**	**333**	LR		LR	17 03 04.5	
	comp=Z,64nm,18.3s,baz=5.5,slow=42					

MSWZ	**Moikau Station**	**2.04**	**98**	P	**Pn**	**16 40 23.3**	**+0.8**
OXZ	**Oxford**	**2.19**	**190**	P	**Pn**	**16 40 24.5**	**0.0**
MTW	**Mount Morrison**	**2.22**	**91**	P	**Pn**	**16 40 25.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**2.25**	**84**	P	**Pn**	**16 40 26.3**	**+0.9**
PKE	**Pukeiti**	**2.25**	**30**	P	**Pb**	**16 40 29.2**	**+0.6**
WAZ	**Wanganui**	**2.33**	**53**	P	**Pn**	**16 40 27.5**	**+1.1**
WVZ	**Waitaha Valley**	**2.34**	**215**	P	**Pn**	**16 40 27.0**	**+0.5**
MRZ	**Mangatainoka R**	**2.34**	**79**	P	**Pn**	**16 40 29.4**	**+2.8**
MQZ	**McQueen's Vall**	**2.54**	**178**	P	**Pn**	**16 40 29.3**	**0.0**
POWZ	**Post Office Ro**	**2.56**	**73**	P	**Pb**	**16 40 35.0**	**+1.2**
RACZ	**Rakaia**	**2.58**	**187**	P	**Pn**	**16 40 29.5**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.71**	**217**	P	**Pn**	**16 40 33.0**	**+1.3**
RPZ	**Rata Peaks**	**2.78**	**203**	P	**Pn**	**16 40 32.6**	**-0.1**
RPZ	**Rata Peaks**	**2.78**	**203**	P	**Pn**	**16 40 33.1**	**+0.5**
TSZ	**Takapari Road**	**2.82**	**68**	P	**Pn**	**16 40 36.4**	**+3.2**
BFZ	**Birch Farm**	**2.84**	**81**	P	**Pn**	**16 40 35.4**	**+2.0**
PKVZ	**Pokaka**	**2.84**	**50**	P	**Pn**	**16 40 35.1**	**+1.6**
DVHZ	**Dannevirke**	**2.88**	**74**	P	**Pb**	**16 40 38.5**	**-0.7**
ARCZ	**Arundel**	**2.96**	**200**	P	**Pn**	**16 40 34.6**	**-0.5**
MOVZ	**Moawhango**	**3.01**	**55**	P	**Pb**	**16 40 41.0**	**-0.6**
PNHZ	**Pukenui**	**3.04**	**67**	P	**Pn**	**16 40 39.4**	**+3.1**
FOZ	**Fox Glacier**	**3.12**	**220**	P	**Pn**	**16 40 37.4**	**+0.2**
BHHZ	**Black Hill Sta**	**3.16**	**59**	P	**Pn**	**16 40 41.4**	**+3.4**
HIZ	**Hauiti**	**3.19**	**34**	P	**Pn**	**16 40 37.7**	**-0.5**
HIZ	**Hauiti**	**3.19**	**34**	P	**Pn**	**16 40 37.7**	**-0.5**
TMZ	**Timaru**	**3.41**	**199**	P	**Pn**	**16 40 40.8**	**-0.5**
BKZ	**Black Stump Fm**	**3.62**	**58**	P	**Pb**	**16 40 49.6**	**-2.3**
BKZ	**Black Stump Fm**	**3.62**	**58**	P	**Pn**	**16 40 44.6**	**+0.4**
LBZ	**Lake Benmore**	**3.66**	**208**	P	**Pn**	**16 40 44.0**	**-0.7**
JCZ	**Jackson Bay**	**4.02**	**223**	P	**Pn**	**16 40 49.7**	**-0.1**
TOZ	**Tahuroa Road**	**4.12**	**35**	P	**Pn**	**16 40 50.7**	**-0.4**
ODZ	**Otahua Downs**	**4.12**	**199**	P	**Pn**	**16 40 50.1**	**-1.0**
ODZ	**Otahua Downs**	**4.12**	**199**	P	**Pn**	**16 40 50.5**	**-0.5**
MKAZ	**Moumakai**	**4.53**	**27**	P	**Pn**	**16 40 58.8**	**+2.0**
MSZ	**Milford Sound**	**4.88**	**223**	P	**Pn**	**16 41 01.9**	**+0.5**
WCZ	**Waipu Caves**	**5.41**	**16**	P	**Pn**	**16 41 08.2**	**-0.5**
OUZ	**Omahuta**	**5.99**	**8**	P	**Pn**	**16 41 16.4**	**-0.4**
OUZ	**Omahuta**	**5.99**	**8**	P	**Pn**	**16 41 17.3**	**+0.5**

KRSC 08 16:39:59.6±1.9, 54.75N×167.38E, h42km±22km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.93**	**300**	*eP*	Pn	16 40 16.7	+0.6
BKI				*eS*	Sn	16 40 30.3	+2.0
KBTR	**Krutoberegovo**	**2.98**	**301**	P	Pn	16 40 45.9	+1.7
MKZ	**Mys Kozlova**	**3.29**	**269**	P	Pn	16 40 52.2	+3.8
MKZ				S	Sn	16 41 30.3	+4.1
TUMR	**Tumrok**	**4.20**	**280**	P	Pn	16 41 06.3	+5.2
SPN	**Mys Shipunski**	**4.65**	**252**	P	Pn	16 41 10.8	+3.6
SPN				S	Sn	16 42 03.0	+3.2
KRX	**Arik**	**5.33**	**258**	*eP*	Pn	16 41 21.5	+4.9
KRX				S	Sn	16 42 21.2	+4.5
KOK	**Koryaka**	**5.36**	**258**	P	Pn	16 41 21.7	+4.7
DALK	**Dalny**	**5.38**	**255**	*eS*	Sn	16 42 23.0	+5.2
GNL	**Ganaly**	**5.63**	**263**	P	Pn	16 41 26.5	+5.7
KRMR	**Karymshinskiy**	**5.81**	**254**	*eS*	Sn	16 42 33.7	+5.4
MTVR	**Mutnovka**	**5.92**	**251**	P	Pn	16 41 29.0	+4.2
GRL	**Gorelyy**	**5.95**	**252**	P	Pn	16 41 29.4	+4.2
ASAK	**Asacha**	**6.12**	**251**	*eP*	Pn	16 41 33.1	+5.6
ASAK				*eS*	Sn	16 42 41.7	+5.5
KDTR	**Khodutka, Kamc**	**6.31**	**246**	*eS*	Sn	16 42 44.3	+3.8

*BEO **08** 17:02:52.0±0.6, 45.87N×27.89E, h140km, ML3.3/13*
*SIGU **08** 17:03:00.8, 45.70N×26.55E, h150km, mb4.1*
*SOF **08** 17:03:01.4, 45.63N×26.40E, h18km, MD3.7*
*BUC **08** 17:03:02.3±0.2, 45.64N×26.51E, h138km±1km, ml4.2/52, Error ellipse: s-maj=1.4km s-min=1.1km az=172.0*
*IDC **08** 17:03:07.8±3.2, 46.22N×26.51E, h174km±22km, mb3.1/4, mbtmp3.5/8, Error ellipse: s-maj=40.1km s-min=21.1km az=71.0*
ISC 08 17:03:01.1±0.8, 45.67N±0.03×26.43E±0.02, h155km±4km, n105, σ1s83/169, mb3.5/4, 67C-47D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COVR	**Voineasa-Covas**	**0.24**	**318**	↑P	**Pn**	**17 03 21.5**	**-0.6**
COVR				↑S	**Sn**	**17 03 36.3**	**-1.9**
PLOR	**Plostina**	**0.24**	**40**	↑P	**Pn**	**17 03 21.4**	**-0.6**
PLOR				↓S	**Sn**	**17 03 35.9**	**-2.3**
NEHR	**Nehoiu**	**0.26**	**202**	↓P	**Pn**	**17 03 22.1**	**-0.1**
NEHR				↓S	**Sn**	**17 03 36.7**	**-1.5**
VRI	**Vrincioaia**	**0.28**	**47**	↑P	**Pn**	**17 03 21.7**	**-0.5**
VRI				↑S	**Sn**	**17 03 36.8**	**-1.6**
MLR	**Muntele Rosu**	**0.39**	**242**	↑P	**Pn**	**17 03 22.5**	**-0.2**
MLR				↓S	**Sn**	**17 03 38.2**	**-0.9**
MLR	**Muntele Rosu**	**0.39**	**242**	*e*Pg	**Pn**	**17 03 22.4**	**-0.3**
MLR				*e*Sg	**Sn**	**17 03 37.4**	**-1.7**
PANC	**Panciu**	**0.54**	**68**	↑P	**Pn**	**17 03 22.9**	**-0.2**
PANC				↓S	**Sn**	**17 03 38.3**	**-1.7**
ISR	**Istrita**	**0.56**	**172**	↓P	**Pn**	**17 03 23.2**	**-0.1**
ISR				↓S	**Sn**	**17 03 38.8**	**-1.6**
OZUR		**0.62**	**314**	↓P	**Pn**	**17 03 23.1**	**-0.5**
OZUR				↑S	**Sn**	**17 03 39.4**	**-1.5**
GHRR		**0.79**	**60**	↓P	**Pn**	**17 03 24.4**	**-0.3**
GHRR				↓S	**Sn**	**17 03 41.5**	**-1.2**
DOPR	**Dopca**	**0.79**	**293**	↑P	**Pn**	**17 03 24.7**	**0.0**
DOPR				↓S	**Sn**	**17 03 42.0**	**-0.8**
PLAR	**PLOIESTI**	**0.81**	**201**	↓P	**Pn**	**17 03 25.2**	**+0.4**
TESR	**Tescani**	**0.85**	**10**	↓P	**Pn**	**17 03 24.4**	**-0.8**
TESR				↓S	**Sn**	**17 03 41.3**	**-2.4**
PGOR	**Pogoanele**	**0.86**	**153**	↑P	**Pn**	**17 03 25.2**	**+0.1**
TUDR		**0.87**	**95**	↑P	**Pn**	**17 03 24.7**	**-0.6**
TUDR				↑S	**Sn**	**17 03 41.5**	**-2.2**
SLCR	**Slobozia Conac**	**0.94**	**94**	↑P	**Pn**	**17 03 24.8**	**-1.0**
SLCR				↓S	**Sn**	**17 03 42.4**	**-2.3**
IZVR	**Izvoarele**	**0.95**	**97**	↓P	**Pn**	**17 03 25.0**	**-0.8**
IZVR				↑S	**Sn**	**17 03 42.0**	**-2.7**
SCHL	**Schela**	**1.00**	**99**	↑P	**Pn**	**17 03 25.7**	**-0.6**
SCHL				↑S	**Sn**	**17 03 43.1**	**-2.4**
VOIR		**1.00**	**257**	↑P	**Pn**	**17 03 26.3**	**-0.1**
VOIR				↑S	**Sn**	**17 03 44.6**	**-1.2**
SULR		**1.00**	**187**	↑P	**Pn**	**17 03 26.6**	**+0.3**
VARL	**Varlezi**	**1.02**	**76**	↑P	**Pn**	**17 03 26.0**	**-0.4**
VARL				↑S	**Sn**	**17 03 43.6**	**-2.2**
BIR	**Birlad**	**1.02**	**54**	↓P	**Pn**	**17 03 26.0**	**-0.4**
BIR				↑S	**Sn**	**17 03 43.9**	**-2.1**
MTUR	**Matau**	**1.06**	**246**	↑P	**Pn**	**17 03 27.4**	**+0.5**
SCTR	**Scanteiesti**	**1.10**	**89**	↑P	**Pn**	**17 03 26.8**	**-0.3**
SCTR				↓S	**Sn**	**17 03 44.7**	**-2.3**
GISR	**Galati**	**1.16**	**101**	↑P	**Pn**	**17 03 26.5**	**-1.2**
GISR				↓S	**Sn**	**17 03 45.9**	**-2.2**
VLDR	**Vladesti**	**1.17**	**81**	↓P	**Pn**	**17 03 27.3**	**-0.4**
VLDR				↑S	**Sn**	**17 03 45.9**	**-2.3**
LEHL	**Lehliu**	**1.23**	**167**	↑P	**Pn**	**17 03 28.5**	**+0.2**
LEHL				↑S	**Sn**	**17 03 48.6**	**-0.5**
AMRR	**Amara**	**1.24**	**149**	↑P	**Pn**	**17 03 28.4**	**0.0**
AMRR				↓S	**Sn**	**17 03 48.1**	**-1.2**
INCR	**INCERC-Sediu C**	**1.24**	**189**	↑P	**Pn**	**17 03 28.5**	**0.0**
INCR				↑S	**Sn**	**17 03 48.4**	**-1.0**
GIUM	**Giurgiulesti**	**1.26**	**98**	↑P	**Pn**	**17 03 28.6**	**0.0**
GIUM				↑S	**Sn**	**17 03 47.6**	**-2.1**
GIRR	**Girov**	**1.29**	**2**	↓P	**Pn**	**17 03 29.0**	**+0.2**
BIZ	**Bicaz**	**1.29**	**350**	↓P	**Pn**	**17 03 29.6**	**+0.7**
BIZ				↑S	**Sn**	**17 03 50.4**	**+0.1**
CFR	**Carcaliu**	**1.30**	**112**	↓P	**Pn**	**17 03 28.1**	**-0.8**
CFR				↓S	**Sn**	**17 03 47.8**	**-2.5**
ARR	**Arges**	**1.30**	**257**	↑P	**Pn**	**17 03 30.2**	**+1.1**
ARR				↓S	**Sn**	**17 03 50.6**	**+0.1**
STFAR	**Stefanesti-Arg**	**1.32**	**233**	↓P	**Pn**	**17 03 29.9**	**+0.8**
STFAR				↑S	**Sn**	**17 03 50.3**	**-0.4**
BUC1	**Bucharest**	**1.35**	**192**	↑P	**Pn**	**17 03 29.7**	**+0.2**
BUC1				↓S	**Sn**	**17 03 50.5**	**-0.8**
VASR	**Vaslui**	**1.35**	**44**	↓P	**Pn**	**17 03 29.0**	**-0.4**
VASR				↓S	**Sn**	**17 03 49.0**	**-2.3**
HARR	**Harsova**	**1.44**	**132**	↑P	**Pn**	**17 03 30.0**	**-0.4**
SGRR	**Singureni**	**1.48**	**193**	↑P	**Pn**	**17 03 30.8**	**0.0**
SGRR				↑S	**Sn**	**17 03 52.5**	**-1.1**
LEOM	**Leova**	**1.50**	**57**	↓P	**Pn**	**17 03 30.4**	**-0.4**
LEOM				↑S	**Sn**	**17 03 51.7**	**-2.2**
LEOM	**Leova**	**1.50**	**57**	P	**Pn**	**17 03 30.5**	**-0.4**
LEOM				S	**Sn**	**17 03 51.7**	**-2.2**
HUMR	**Humele**	**1.54**	**222**	↑P	**Pn**	**17 03 31.6**	**+0.2**
HUMR				↑S	**Sn**	**17 03 53.9**	**-0.7**
RASA	**Rasa**	**1.54**	**160**	↑P	**Pn**	**17 03 31.2**	**-0.2**
RASA				↑S	**Sn**	**17 03 53.0**	**-1.7**
TLBR	**Topalu**	**1.60**	**134**	↑P	**Pn**	**17 03 31.8**	**-0.3**
TLBR				↑S	**Sn**	**17 03 53.7**	**-2.2**
TPGR	**Topolog**	**1.62**	**119**	↑P	**Pn**	**17 03 31.5**	**-0.8**
IAS	**Iasi**	**1.71**	**27**	↓P	**Pn**	**17 03 32.8**	**-0.4**
TLCR		**1.75**	**105**	↓P	**Pn**	**17 03 33.0**	**-0.6**
TLCR				↑S	**Sn**	**17 03 56.4**	**-2.2**
CVDA	**Cernavoda**	**1.76**	**139**	↑P	**Pn**	**17 03 33.5**	**-0.2**
CVDA				↓S	**Sn**	**17 03 56.3**	**-2.5**
COPA	**Copaceanca**	**1.76**	**210**	↑P	**Pn**	**17 03 33.9**	**+0.1**
COPA				↓S	**Sn**	**17 03 57.6**	**-1.3**
ICOR	**Ion Corvin**	**1.83**	**147**	↑P	**Pn**	**17 03 34.6**	**0.0**
ICOR				↓S	**Sn**	**17 03 58.2**	**-2.2**
TIRR	**Tirgusor**	**1.85**	**130**	↑P	**Pn**	**17 03 34.4**	**-0.4**
TIRR				↓S	**Sn**	**17 03 58.1**	**-2.6**
LOT	**Lotru**	**1.88**	**264**	↑P	**Pn**	**17 03 36.4**	**+1.1**
JURR	**Jurilovca**	**1.95**	**117**	↑P	**Pn**	**17 03 35.7**	**-0.2**
MILM	**Milestii Mici**	**2.07**	**52**	↓*i*P	**Pn**	**17 03 36.6**	**-0.6**
	1μm,0.2s						
MILM				*e*S	**Sn**	**17 04 01.8**	**-3.3**
	2μm,0.2s						
MILM	**Milestii Mici**	**2.07**	**52**	↓P	**Pn**	**17 03 36.7**	**-0.6**
MILM	**Milestii Mici**	**2.07**	**52**	P	**Pn**	**17 03 36.6**	**-0.6**
MILM				Pm		17 03 36.9	
MILM				S	**Sn**	**17 04 01.8**	**-3.3**
MILM				Sm		17 04 01.9	
MILM				m		17 04 02.2	
RAZG	**Razgrad**	**2.10**	**178**	↑P	**Pn**	**17 03 37.7**	**0.0**
BURAR	**Bucovina Array**	**2.12**	**337**	↑P	**Pn**	**17 03 39.5**	**+1.6**
KIS	**Kishinev**	**2.12**	**50**	↓*i*P	**Pn**	**17 03 37.3**	**-0.5**
	900nm,0.2s						
KIS				*e*S	**Sn**	**17 04 03.2**	**-3.0**
	1μm,0.4s						
KIS	**Kishinev**	**2.12**	**50**	↓P	**Pn**	**17 03 37.4**	**-0.4**
KIS	**Kishinev**	**2.12**	**50**	P	**Pn**	**17 03 37.3**	**-0.5**
KIS				Pm		17 03 37.5	
KIS				S	**Sn**	**17 04 03.2**	**-3.0**
KIS				Sm		17 04 03.4	
KIS				m		17 04 06.1	
ZIMR		**2.15**	**201**	↑P	**Pn**	**17 03 38.5**	**+0.2**
ZIMR				↓S	**Sn**	**17 04 05.4**	**-1.4**
VLAD	**Vladila**	**2.21**	**222**	↑P	**Pn**	**17 03 38.9**	**0.0**
EFOR	**EFORIE**	**2.23**	**135**	↓S	**Sn**	**17 04 06.7**	**-2.0**
PSN	**Preselentsi**	**2.35**	**147**	*i*P	**Pn**	**17 03 40.7**	**+0.1**
TSSL	**Sulina**	**2.38**	**101**	↑S	**Sn**	**17 04 10.3**	**-1.3**
MANR	**Mangalia**	**2.41**	**140**	↑P	**Pn**	**17 03 41.2**	**-0.1**
MANR				↓S	**Sn**	**17 04 10.4**	**-1.9**
SZH	**Strazhica**	**2.43**	**189**	*i*P	**Pn**	**17 03 41.0**	**-0.6**
SRE	**Strehaia**	**2.50**	**247**	↑P	**Pn**	**17 03 42.8**	**+0.5**
SRE				↑S	**Sn**	**17 04 14.0**	**-0.2**
PURM	**Purcari**	**2.54**	**69**	↑P	**Pn**	**17 03 42.5**	**-0.3**
PRD	**Provadia**	**2.56**	**164**	*i*P	**Pn**	**17 03 43.8**	**+0.6**
PVL	**Pavlikeni**	**2.58**	**198**	*i*P	**Pn**	**17 03 44.8**	**+1.5**
GZR	**Gura Zlata**	**2.58**	**265**	↑P	**Pn**	**17 03 44.5**	**+1.0**
GZR				↑S	**Sn**	**17 04 18.0**	**+1.8**
GZR	**Gura Zlata**	**2.58**	**265**	*e*Pn	**Pn**	**17 03 44.3**	**+0.8**
GZR				*e*Sn	**Sn**	**17 04 12.2**	**-4.0**
DRGR		**2.81**	**295**	*e*Pn	**Pn**	**17 03 46.0**	**-0.3**
NSLU	**Nyzhne Selyshc**	**2.87**	**333**	*e*P	Pn	17 03 52.8	+5.9
KMPD	**K-Podol'skiy**	**2.89**	**0**	*e*P	**Pn**	**17 03 45.6**	**-1.6**
KMPD				*e*S	**Sn**	**17 04 19.6**	**-3.4**
HERR	**Herculane**	**2.94**	**256**	↓P	**Pn**	**17 03 48.5**	**+0.6**
NDNU	**Novodnistrovsk**	**2.99**	**12**	*e*P	**Pn**	**17 03 48.0**	**-0.5**
NDNU				Pm		17 03 48.4	
NDNU				*e*S	**Sn**	**17 04 26.0**	**+0.7**
NDNU				Sm		17 04 28.0	
MPEP	**Malo Peshtene**	**3.01**	**221**	*i*P	**Pn**	**17 03 49.1**	**+0.4**
BZS	**Buzias**	**3.38**	**271**	↓P	**Pn**	**17 03 53.9**	**+0.6**
BZS	**Buzias**	**3.38**	**271**	*e*Pn	**Pn**	**17 03 53.7**	**+0.3**
BZS				*e*Sn	**Sn**	**17 04 28.5**	**-5.4**
SIRR	**Siria**	**3.38**	**282**	↑P	**Pn**	**17 03 54.3**	**+0.9**
MDVR	**Moldovita**	**3.45**	**257**	↑P	**Pn**	**17 03 55.4**	**+1.0**
MDVR	**Moldovita**	**3.45**	**257**	*e*Pn	**Pn**	**17 03 55.0**	**+0.6**
MDVR				*e*Sn	**Sn**	**17 04 32.4**	**-3.3**
ZAGS	**Zajecar**	**3.52**	**240**	*e*Pn	**Pn**	**17 03 54.4**	**-0.8**
ZAGS				*e*Sn	**Sn**	**17 04 32.6**	**-4.6**
BRIU	**Brid**	**3.54**	**320**	*e*P	**Pn**	**17 03 55.1**	**-0.4**
HORU	**Horodok**	**3.54**	**360**	*i*P	**Pn**	**17 03 54.6**	**-0.9**
HORU				Pm		17 03 56.1	
HORU				*e*S	**Sn**	**17 04 36.0**	**-1.8**
HORU				Sm		17 04 37.4	
KUBS	**Kucevo**	**3.60**	**251**	*e*Pn	**Pn**	**17 03 55.3**	**-0.9**
KUBS				*e*Sn	**Sn**	**17 04 34.4**	**-4.6**
ZAPS	**Zavoj**	**3.62**	**230**	*e*Pn	**Pn**	**17 03 56.5**	**-0.1**
ZAPS				*e*Sn	**Sn**	**17 04 33.0**	**-6.7**
BOVS	**Bovan**	**3.94**	**241**	*e*Pn	**Pn**	**17 04 00.3**	**-0.3**
BOVS				*e*Sn	**Sn**	**17 04 41.6**	**-5.3**
BOSS	**Bosilegrad**	**4.26**	**223**	*e*Pn	**Pn**	**17 04 05.8**	**+0.9**
BOSS				*e*Sn	**Sn**	**17 04 48.3**	**-6.2**
GRUS	**Gruza**	**4.44**	**248**	*e*Pn	**Pn**	**17 04 07.6**	**+0.4**
GRUS				*e*Sn	**Sn**	**17 04 54.7**	**-4.0**
TRUS	**Trudelj**	**4.52**	**253**	*e*Pn	**Pn**	**17 04 08.8**	**+0.7**
TRUS				*e*Sn	**Sn**	**17 04 56.1**	**-4.3**
SELS	**Selova**	**4.53**	**239**	*e*Pn	**Pn**	**17 04 08.6**	**+0.3**
DIVS	**Divibare**	**4.84**	**253**	*e*Pn	**Pn**	**17 04 12.6**	**+0.1**
DIVS				*e*Sn	**Sn**	**17 05 03.5**	**-4.4**
STIP	**Stip**	**5.03**	**219**	*e*Pn	**Pn**	**17 04 12.9**	**-1.9**
STIP				*e*Sn	Sn	17 05 02.6	-10
AKASG	**Malin Array Be**	**5.37**	**19**	P	**Pn**	**17 04 18.9**	**-0.4**
	3.7nm,0.4s,baz=205,slow=12,SNR=27						
AKASG				S	**Sn**	**17 05 16.3**	**-4.2**
	4.7nm,0.7s,baz=202,slow=21,SNR=11						
BRTR	**Keskin Array B**	**7.96**	**136**	P	Pn	17 05 05.9	+12
	0.4nm,0.6s,baz=309,slow=13,SNR=1.4						
FINES	**FINESS Array B**	**15.80**	**359**	P	**Pn**	**17 06 32.9**	**-1.8**
	2.0nm,0.8s,baz=163,slow=12,SNR=6.9						
NOA	**NORSAR Array B**	**17.80**	**335**	P	**P**	**17 06 58.4**	**+0.9**
	0.3nm,0.5s,baz=133,slow=8.7,SNR=2.5						
ARCES	**ARCESS Array B**	**23.93**	**359**	P	**P**	**17 08 00.5**	**+0.1**
	1.3nm,0.8s,baz=173,slow=9.1,SNR=1.6						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**37.59**	**56**	P	**P**	**17 10 02.3**	**+2.1**
	0.6nm,0.4s,baz=294,slow=9.5,SNR=2.8						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**37.96**	**68**	P	**P**	**17 10 05.9**	**+2.4**
	0.2nm,0.4s,baz=274,slow=8.8,SNR=2.7						
	0.2nm,0.4s						
SONM	**Songino Array**	**52.47**	**57**	P	**P**	**17 12 00.3**	**+2.5**
	0.3nm,0.3s,baz=289,slow=9.0,SNR=2.6						
	0.3nm,0.3s						

IDC 08 17:05:58.9±2.1, 2.27N×125.26E, h0km, mb3.0/3, mbtmp3.0/3, Error ellipse: s-maj=189.8km s-min=28.7km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.81**	**158**	P	P	17 11 13.2	-0.6
	0.4nm,0.9s,baz=337,slow=11,SNR=5.8						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**27.12**	**162**	P	P	17 11 44.8	+0.9
	0.1nm,0.5s,baz=345,slow=11,SNR=1.5						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**57.93**	**326**	P	P	17 15 52.7	-0.3
	0.1nm,0.4s,baz=126,slow=7.3,SNR=1.3						
	0.1nm,0.4s						

*IDC **08** 17:08:28.1±3.4, 11.43N×140.74E, h89km±33km, mb3.3/8, mbtmp3.6/9, MS3.0/5, Error ellipse: s-maj=25.0km s-min=19.9km az=82.0*
ISC 08 17:08:23.6±0.8, 11.3N±0.1×140.6E±0.1, h43km, n16, σ1s70/12, mb3.4/8, MS2.9/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.76**	**62**	P	**Pn**	**17 09 33.8**	**+0.9**
	13nm,0.3s,baz=220,slow=7.3,SNR=5.9						
GUMO				S	**Sn**	**17 10 27.7**	**+0.9**
	32nm,0.8s,baz=197,slow=24,SNR=1.7						
GUMO				LR	LR	17 11 20.5	
	comp=Z,274nm,18.4s,baz=240,slow=38						
JOW	**Kunigami**	**19.27**	**325**	LR	LR	17 19 21.8	
	comp=Z,266nm,21.0s,baz=281,slow=34						
MJAR	**Matsushiro Arr**	**25.18**	**356**	LR	LR	17 23 31.1	
	comp=Z,366nm,18.3s,baz=136,slow=36						
H11S3	**WAKE ISLAND Hy**	**26.20**	**71**	T	T	17 41 37.1	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**26.22**	**71**	T	T	17 41 37.6	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**26.22**	**71**	T	T	17 41 38.8	
	baz=253						
KSRS	**Korea Array**	**28.37**	**339**	LR	LR	17 24 47.9	
	comp=Z,29nm,19.5s,baz=140,slow=34						
WRA	**Warramunga Arr**	**31.69**	**191**	P	**P**	**17 14 44.8**	**+1.5**
	0.3nm,0.8s,baz=6.8,slow=9.8,SNR=2.0						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**35.40**	**191**	P	**P**	**17 15 16.0**	**+0.5**
	0.5nm,1.0s,baz=17,slow=12,SNR=5.3						
	0.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**40.76**	**285**	P	**P**	**17 16 03.6**	**+2.8**
	0.2nm,0.6s,baz=99,slow=7.1,SNR=2.2						
CMAR				LR	LR	17 31 04.0	
	comp=Z,17nm,21.9s,baz=105,slow=33						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**60.24**	**318**	P	**P**	**17 18 29.0**	**+1.4**
	0.2nm,0.8s,baz=104,slow=6.1,SNR=3.3						
	0.2nm,0.8s						
KURBB	**Kurchatov Arra**	**63.66**	**321**	P	**P**	**17 18 49.5**	**-0.9**
	0.6nm,0.2s,baz=112,slow=6.4,SNR=4.9						
	0.6nm,0.2s						
BVAR	**Borovoye Array**	**69.10**	**323**	P	**P**	**17 19 24.0**	**-1.3**
	0.2nm,0.5s,baz=108,slow=7.7,SNR=2.1						
	0.2nm,0.5s						
VNDA	**Vanda**	**89.54**	**175**	P	**P**	**17 21 14.4**	**-1.3**
	0.8nm,1.1s,baz=333,slow=4.5,SNR=1.9						
	0.8nm,1.1s						
FINES	**FINESS Array B**	**91.37**	**334**	P	**P**	**17 21 22.2**	**-2.5**
	1.2nm,0.8s,baz=57,slow=7.0,SNR=5.0						
	1.2nm,0.8s						
LPAZ	**La Paz**	**151.72**	**103**	PKPbc	**PKPbc**	**17 28 14.2**	**-1.1**
	0.5nm,0.4s,baz=243,slow=4.5,SNR=2.8						
LPAZ				PKPab	**PKPab**	**17 28 23.5**	**-0.7**
	1.2nm,0.7s,baz=240,slow=2.6,SNR=5.1						

*IDC **08** 17:13:44.0±3.0, 4.25S×127.66E, h258km±42km, mb2.9/3, mbtmp3.7/6, Error ellipse: s-maj=45.3km s-min=13.7km az=77.0*
*DJA **08** 17:13:44.4±0.6, 4.5±5.5×12.8E±.5, h257km±7km, M3.7/11, mb4.0/4, mB4.6/2, MLv3.5/11, Mw(mB)3.8/2*
ISC 08 17:13:44.2±0.8, 4.25S±0.08×127.60E±0.08, h250km, n14, σ1s57/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.81**	**47**	P	**Pn**	**17 14 19.8**	**+1.5**
NLAI	**Namlea**	**1.12**	**333**	P	**Pn**	**17 14 22.4**	**+2.4**
MSAI	**Masohi**	**1.60**	**56**	P	**Pn**	**17 14 23.6**	**+0.3**
SANI	**Sanana**	**2.71**	**323**	P	**Pn**	**17 14 33.8**	**+0.1**
LBMI	**Labuha**	**3.59**	**358**	P	**Pn**	**17 14 45.6**	**+2.3**
FAKI	**Fak Fak**	**4.82**	**74**	P	**Pn**	**17 14 58.5**	**+0.6**
SIJI	**Sorong**	**4.96**	**48**	P	**Pn**	**17 15 00.6**	**+0.9**
	13nm,0.3s,baz=257,slow=14,SNR=33						
SIJI				S	**S**	**17 15 58.8**	**-0.9**
	7.1nm,0.2s,baz=320,slow=21,SNR=7.6						
RKPI	**Ransiki, Papua**	**7.11**	**68**	P	**Pn**	**17 15 27.2**	**+0.9**
	0.1nm15nm,0.5s						
MRSI	**Marisa**	**7.35**	**310

*KRSZO **08** 17:33:40.2±0.9,46˚.15N×15˚.01E,h2km±7km,ML2.8/16, Error ellipse: s-maj=2.6km s-min=2.3km az=96.0*
*ROM **08** 17:33:40.3±0.1,46˚.14N±0˚.01×15˚.006E±0˚.009,h10km, ML3.0/3,Error ellipse: s-maj=1.2km s-min=0.6km az=350.0*
*LJU **08** 17:33:40.2,46˚.15N×14˚.98E,h8km,ML2.4*
*PRU **08** 17:33:42.8±0.0,46˚.25N×15˚.01E,h4km*

ISC 08 17:33:40.6±0.8,46˚.15N±0˚.01×14˚.98E±0˚.01,h8km±6km, n129,σ0s86/221,13C-6D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.09**	**173**	⇓	*i*Pg		**Pg**	**17 33 42.6**	**-0.2**
PDKS					*i*Sg		**Sg**	**17 33 44.2**	**-0.3**
PDKS					IAML			17 33 44.9	
	comp=Z,1μm,0.2s								
VNDS	**Vrh nad Dolski**	**0.20**	**257**	⇑	*i*Pg		**Pg**	**17 33 44.7**	**0.0**
VNDS					*e*Sg		**Sg**	**17 33 48.0**	**+0.5**
VNDS					IAML			17 33 48.5	
	comp=Z,736nm,0.1s								
LEGS	**Legarje**	**0.31**	**131**	⇑	*i*Pg		**Pg**	**17 33 46.8**	**+0.1**
LEGS					*i*Sg		**Sg**	**17 33 51.2**	**+0.4**
LJU	**Ljubljana**	**0.33**	**252**	⇑	*i*Pg		**Pg**	**17 33 47.2**	**0.0**
LJU					*e*Sg		**Sg**	**17 33 52.0**	**+0.4**
LJU					IAML			17 33 52.9	
	comp=Z,222nm,0.1s								
LJU	**Ljubljana**	**0.33**	**252**		P		**Pg**	**17 33 47.2**	**0.0**
LJU					S		**Sg**	**17 33 52.3**	**+0.6**
DOBS	**Dobrina**	**0.34**	**90**	⇑	*i*Pg		**Pg**	**17 33 47.2**	**-0.1**
DOBS					*i*Sg		**Sb**	**17 33 53.2**	**-1.2**
DOBS					IAML			17 33 53.5	
	comp=Z,307nm,0.2s								
VISS	**Visnje**	**0.36**	**196**		*i*Pg		**Pg**	**17 33 47.4**	**-0.3**
VISS					*i*Sg		**Sg**	**17 33 52.8**	**+0.4**
VISS					IAML			17 33 55.5	
	comp=Z,52nm,0.1s								
MOZS	**Mozjanca**	**0.40**	**291**		*i*Pg		**Pg**	**17 33 48.5**	**0.0**
MOZS					*e*Sg		**Sg**	**17 33 54.1**	**+0.4**
MOZS					IAML			17 33 55.7	
	comp=Z,348nm,0.2s								
GBAS	**Gorenja Brezov**	**0.43**	**241**	⇑	*i*Pg		**Pg**	**17 33 49.0**	**-0.1**
GBAS					*e*Sg		**Sg**	**17 33 54.6**	**-0.2**
GBAS					IAML			17 33 56.0	
	comp=Z,63nm,0.1s								
CRES	**Cresnjev**	**0.46**	**134**	⇑	*i*Pg		**Pg**	**17 33 49.3**	**-0.2**
CRES					*e*Sg		**Sg**	**17 33 56.2**	**+0.6**
CRES	**Cresnjev**	**0.46**	**134**	⇑	*i*Pg		**Pg**	**17 33 49.4**	**-0.2**
CRES	**Cresnjev**	**0.46**	**134**		x		x	17 33 49.4	
	comp=Z,1.8nm,SNR=23								
CRES					Sg		**Sg**	**17 33 55.9**	**+0.3**
GOLS	**Golise**	**0.47**	**107**	⇑	*i*Pg		**Pg**	**17 33 50.0**	**+0.3**
GOLS					*e*Sg		**Sb**	**17 33 57.3**	**-0.8**
GOLS					IAML			17 33 58.6	
	comp=Z,123nm,0.2s								
OBKA	**Obir**	**0.47**	**320**		*e*Pg		**Pg**	**17 33 49.7**	**-0.1**
OBKA					*e*Sg		**Sg**	**17 33 56.2**	**+0.3**
OBKA	**Obir**	**0.47**	**320**		*i*Pg		**Pg**	**17 33 49.7**	**-0.1**
	comp=Z,21nm,0.2s,SNR=335								
OBKA					*i*Sg		**Sg**	**17 33 56.3**	**+0.3**
	comp=Z,259nm,0.2s								
OBKA	**Obir**	**0.47**	**320**		Pg		**Pg**	**17 33 49.7**	**-0.1**
	comp=Z,1.5nm,SNR=73								
OBKA					Sg		**Sg**	**17 33 56.4**	**+0.4**
GROS	**Grobnik**	**0.48**	**49**		*i*Pg		**Pg**	**17 33 49.7**	**-0.2**
GROS					*i*Sg		**Sg**	**17 33 56.0**	**-0.1**
GROS					IAML			17 33 58.2	
	comp=Z,82nm,0.1s								
PERS	**Pernice**	**0.50**	**11**	⇓	*i*Pg		**Pg**	**17 33 50.1**	**-0.2**
PERS					*i*Sg		**Sg**	**17 33 57.1**	**+0.3**
PERS					IAML			17 33 58.6	
	comp=Z,96nm,0.1s								
CRNS	**Crni Vrh**	**0.51**	**263**	⇑	*i*Pg		**Pg**	**17 33 50.4**	**0.0**
CRNS					*i*Sg		**Sg**	**17 33 57.1**	**0.0**
CRNS					IAML			17 33 58.9	
	comp=Z,447nm,0.1s								
GCIS	**Gornji Cirnik**	**0.53**	**122**		*i*Pg		**Pg**	**17 33 50.8**	**0.0**
GCIS					*i*Sg		**Sg**	**17 33 58.1**	**+0.3**
GCIS					IAML			17 34 01.5	
	comp=Z,40nm,0.1s								
SOKA	**Soboth**	**0.53**	**4**		*e*Pg		**Pg**	**17 33 50.7**	**-0.2**
	comp=Z,35nm,0.3s,SNR=89								
SOKA					*e*Sg		**Sg**	**17 33 58.2**	**+0.3**
	comp=Z,103nm,0.2s								
CEY	**Cerknica**	**0.56**	**224**	⇓	*i*Pg		**Pg**	**17 33 51.3**	**-0.2**
CEY					*e*Sg		**Sg**	**17 33 58.9**	**0.0**
CEY	**Cerknica**	**0.56**	**224**		*i*Sg		**Sg**	**17 33 58.7**	**-0.3**
CEY					IAML			17 34 03.5	
	comp=Z,53nm,0.1s								
GBRS	**Gornja Briga**	**0.63**	**191**	⇓	*i*Pg		**Pg**	**17 33 52.6**	**-0.2**
OZLJ	**Ozalj**	**0.63**	**147**		*e*Pg		**Pg**	**17 33 52.3**	**-0.5**
OZLJ					Sg		**Sg**	**17 34 00.5**	**-0.5**
BOJS	**Bojanci**	**0.67**	**164**	⇓	*i*Pg		**Pg**	**17 33 52.7**	**-0.9**
BOJS					*e*Sg		**Sg**	**17 34 01.9**	**-0.4**
BOJS	**Bojanci**	**0.67**	**164**		*i*Pg		**Pg**	**17 33 53.3**	**-0.3**
BOJS					IAML			17 34 09.2	
	comp=Z,66nm,0.2s								
BOJS	**Bojanci**	**0.67**	**164**		P		**Pg**	**17 33 53.2**	**-0.3**
JAVS	**Javornik**	**0.69**	**249**		*i*Pg		**Pg**	**17 33 53.4**	**-0.5**
JAVS					*i*Sg		**Sg**	**17 34 02.7**	**-0.3**
JAVS					IAML			17 34 07.2	
	comp=Z,48nm,0.1s								
GORS	**Gorjuse**	**0.71**	**284**	⇑	*i*Pg		**Pg**	**17 33 53.6**	**-0.6**
PTJ	**Puntijarka**	**0.73**	**109**		*i*Pg		**Pg**	**17 33 54.9**	**+0.3**
PTJ					Sg		**Sg**	**17 34 03.7**	**-0.4**
PTJ	**Puntijarka**	**0.73**	**109**		x		x	17 33 55.0	
	comp=Z,1.0nm,SNR=49								
KNDS	**Knezji Dol**	**0.75**	**214**		*e*Pg		**Pg**	**17 33 54.6**	**-0.4**
KNDS					*e*Sg		**Sb**	**17 34 05.8**	**-0.5**
KNDS					IAML			17 34 09.1	
	comp=Z,112nm,0.3s								
LOBO	**Lobor**	**0.75**	**89**		*e*Pg		**Pg**	**17 33 54.8**	**-0.4**
LOBO					Sg		**Sg**	**17 34 05.0**	**+0.1**
ZAG	**Zagreb**	**0.77**	**114**		*e*Pg		**Pg**	**17 33 55.5**	**+0.1**
ZAG					Sg		**Sg**	**17 34 04.8**	**-0.6**
ZAG	**Zagreb**	**0.77**	**114**		Pg		**Pb**	**17 33 56.1**	**-0.1**
	comp=Z,1.6nm,SNR=8.9								
ZAG					x		**Sn**	**17 34 09.6**	**+0.1**
VOJS	**Vojsko**	**0.77**	**262**		*i*Pg		**Pg**	**17 33 54.9**	**-0.6**
VOJS					*e*Sg		**Sg**	**17 34 06.3**	**+0.7**
VOJS					IAML			17 34 09.2	
	comp=Z,86nm,0.2s								
A020A	**Lannach**	**0.83**	**15**		Pg		**Pg**	**17 33 56.3**	**-0.3**
	comp=Z,0.7nm,SNR=17								
A021A	**Deutsch Goritz**	**0.84**	**43**		Pg		**Pg**	**17 33 56.9**	**+0.1**
	comp=Z,1.3nm,SNR=43								
A021A					Lg		Lg	17 34 08.5	
CADS	**Cadrg**	**0.87**	**276**	⇑	*i*Pg		**Pg**	**17 33 56.5**	**-0.8**
CADS					*e*Sg		**Sg**	**17 34 09.2**	**+0.6**
CADS					IAML			17 34 13.8	
	comp=Z,138nm,0.2s								
RIY	**Rijeka**	**0.90**	**203**		*e*Pg		**Pg**	**17 33 57.9**	**+0.1**
RIY					Sg		**Sg**	**17 34 09.9**	**+0.5**
SKDS	**Skadanscina**	**0.91**	**229**	⇓	*i*Pg		**Pg**	**17 33 57.1**	**-0.9**
SKDS					*e*Sg		**Sg**	**17 34 09.6**	**-0.2**
SKDS	**Skadanscina**	**0.91**	**229**		*i*Pg		**Pg**	**17 33 57.2**	**-0.8**
SKDS					*e*Sg		**Sg**	**17 34 10.1**	**+0.3**
SKDS					IAML			17 34 11.7	
	comp=Z,38nm,0.1s								
KOGS	**Kog**	**0.93**	**71**		*i*Pg		**Pg**	**17 33 58.1**	**-0.3**
KOGS					*e*Sg		**Sb**	**17 34 11.4**	**0.0**
KOGS					IAML			17 34 14.7	
	comp=Z,144nm,0.2s								
KOGS	**Kog**	**0.93**	**71**		Pg		**Pg**	**17 33 58.3**	**-0.2**
	comp=Z,4.9nm,SNR=34								
KOGS					Lg		Lg	17 34 11.7	
KOGS	**Kog**	**0.93**	**71**		P		**Pg**	**17 33 57.6**	**-0.8**
KOGS					S		**Sg**	**17 34 10.4**	**-0.1**
DRE	**Drenchia**	**0.93**	**272**		P		**Pg**	**17 33 57.5**	**-1.0**
DRE					S		**Sg**	**17 34 11.1**	**+0.5**
SABO	**M.te Sabotino**	**0.98**	**261**	⇑	P		**Pg**	**17 33 58.0**	**-1.4**
SABO					S		**Sg**	**17 34 11.5**	**-0.6**
SABO					AML		AML		
	comp=E,3620μm,0.2s								
SABO					AML		AML		
	comp=N,3975μm,1.4s								
SABO					AML		AML		
	comp=E,990μm,0.8s								
SABO					AML		AML		
	comp=N,1045μm,1.4s								
SABO					AML		AML		
	comp=N,1045μm,0.6s								
SABO					AML		AML		
	comp=N,3975μm,0.6s								
KALN	**Kalnik**	**1.02**	**90**		*e*Pg		**Pg**	**17 33 59.5**	**-0.8**
KALN					Sg		**Sb**	**17 34 13.8**	**-0.4**
PRED	**Cave del Predi**	**1.03**	**287**		P		**Pg**	**17 33 59.5**	**-0.9**
PRED					S		**Sg**	**17 34 13.4**	**-0.3**
ROBS	**Robic**	**1.03**	**276**		*i*Pg		**Pg**	**17 33 59.1**	**-1.3**
ROBS					*e*Sg		**Sb**	**17 34 14.3**	**+0.1**
ROBS					IAML			17 34 18.1	
	comp=Z,109nm,0.3s								
MYKA	**Terra Mystica**	**1.05**	**298**		*e*Pg		**Pb**	**17 34 01.2**	**+0.2**
	comp=Z,6.4nm,0.2s,SNR=8.1								
MYKA					*i*Sg		**Sg**	**17 34 14.6**	**+0.3**
	comp=Z,26nm,0.2s								
ACOM	**Acomizza, Ital**	**1.09**	**292**		P		**Pg**	**17 34 00.8**	**-0.8**
ACOM					AML		AML		
	comp=E,752μm,0.3s								
ACOM					AML		AML		
	comp=N,890μm,0.4s								
ACOM					AML		AML		
	comp=E,742μm,0.9s								
ACOM					AML		AML		
	comp=N,864μm,0.4s								
PTCC	**Patocco-Chiusa**	**1.16**	**283**		P		**Pg**	**17 34 01.4**	**-1.4**
PTCC					AML		AML		
	comp=N,244μm,1.1s								
PTCC					AML		AML		
	comp=E,290μm,0.6s								
PTCC					AML		AML		
	comp=N,244μm,0.9s								
ARSA	**Arzberg**	**1.16**	**18**		*i*Pg		**Pg**	**17 34 01.9**	**-1.1**
	comp=N,31nm,0.2s,SNR=49								
ARSA					*e*Sg		**Sb**	**17 34 18.3**	**+0.1**
	comp=N,44nm,0.4s								
ARSA	**Arzberg**	**1.16**	**18**		Pn		**Pg**	**17 34 01.6**	**-1.4**
	comp=Z,0.2nm,SNR=14								
ARSA					Lg		Lg	17 34 19.1	
ARSA	**Arzberg**	**1.16**	**18**		P		**Pg**	**17 34 01.8**	**-1.1**
ARSA					S		**Sg**	**17 34 17.0**	**-1.0**
VINO	**Villanova**	**1.19**	**276**		P		**Pb**	**17 34 01.9**	**-1.4**
VINO					S		**Sb**	**17 34 19.4**	**+0.5**
BAD	**Bernadia**	**1.21**	**275**		P		**Pb**	**17 34 02.1**	**-1.7**
BAD					S		**Sb**	**17 34 19.7**	**+0.1**
SMRN	**Sveta Marina**	**1.26**	**208**		*e*Pg		**Pg**	**17 34 05.1**	**+0.4**
SMRN					Sg		**Sn**	**17 34 21.7**	**+0.3**
A262A	**Szaknyer**	**1.28**	**56**		Pn		**Pg**	**17 34 05.2**	**-0.1**
	comp=Z,1.1nm,SNR=19								
A262A					Lg		Lg	17 34 24.7	
A019A	**Kaintal**	**1.30**	**3**		Pn		**Pn**	**17 34 05.0**	**-0.2**
	comp=Z,0.2nm,SNR=14								
BOO	**Bordano**	**1.32**	**278**		P		**Pn**	**17 34 04.0**	**-1.3**
BOO					S		**Sg**	**17 34 23.1**	**0.0**
PLRO	**Paularo**	**1.33**	**288**		P		**Pn**	**17 34 05.3**	**-0.4**
MOSL	**Moslavina**	**1.35**	**113**		*i*Pg		**Pn**	**17 34 05.3**	**-0.4**
MOSL					Sg		**Sb**	**17 34 23.1**	**-0.3**
PLIT	**Plitvice**	**1.35**	**160**		*e*Pg		**Pb**	**17 34 06.1**	**0.0**
PLIT					Sg		**Sb**	**17 34 22.8**	**0.7**
A251A	**Rujevac**	**1.36**	**138**		*e*Pg		**Pg**	**17 34 06.8**	**+0.1**
A251A					Sg		**Sb**	**17 34 23.6**	**-0.2**
MPRI	**Monte Prat**	**1.39**	**275**		P		**Pn**	**17 34 05.9**	**-0.4**
FUSE	**Fusea**	**1.40**	**282**		P		**Pn**	**17 34 06.0**	**-0.4**
FUSE					S		**Sg**	**17 34 25.5**	**-0.1**
RABC	**Rab**	**1.41**	**186**		*e*Pn		**Pg**	**17 34 07.3**	**-0.2**
RABC					Sg		**Sg**	**17 34 26.4**	**+0.7**
ZOU	**Zoufplan**	**1.45**	**287**		P		**Pn**	**17 34 07.0**	**-0.3**
KBA	**Koelnbreinsper**	**1.46**	**310**		*i*Pg		**Pb**	**17 34 07.9**	**-0.3**
	comp=Z,5.9nm,0.3s,SNR=53								
KBA					*i*Sg		**Sn**	**17 34 26.2**	**-0.6**
	comp=Z,40nm,0.3s								
CLUD	**Cludinico**	**1.49**	**283**		P		**Pn**	**17 34 07.5**	**-0.1**
CLUD					S		**Sb**	**17 34 27.8**	**+0.2**
A012A	**Langenwang**	**1.51**	**16**		Pn		**Pb**	**17 34 09.1**	**+0.1**
	comp=Z,0.1nm,SNR=7.8								
A012A					Lg		Lg	17 34 30.9	
BRJN	**Brijuni**	**1.52**	**215**		*i*Pn		**Pb**	**17 34 09.1**	**+0.1**
BRJN					Sg		**Sg**	**17 34 29.8**	**+0.5**
BRJN	**Brijuni**	**1.52**	**215**		P		**Pn**	**17 34 08.3**	**+0.3**
STAL	**STALIGIAL**	**1.58**	**275**		P		**Pn**	**17 34 09.0**	**+0.1**
NVLJ	**Novalja**	**1.59**	**183**		*e*Pn		**Pb**	**17 34 10.0**	**-0.2**
NVLJ					Sn		**Sg**	**17 34 31.5**	**-0.1**
A264A	**Tarany**	**1.60**	**89**		Lg		Lg	17 34 34.8	
A263A	**Hollad**	**1.69**	**72**		Pg		**Pg**	**17 34 12.7**	**-0.2**
	comp=Z,0.3nm,SNR=5.0								
A261A	**Ohid**	**1.70**	**61**		Pn		**Pn**	**17 34 10.8**	**+0.4**
	comp=Z,0.4nm,SNR=4.8								
UDBI	**Udbina**	**1.71**	**161**		*e*Pn		**Pb**	**17 34 12.5**	**+0.2**
UDBI					Sn		**Sb**	**17 34 34.5**	**+0.5**
A051A	**Mrakovica**	**1.77**	**129**		*e*Pn		**Pn**	**17 34 11.1**	**-0.4**
A051A					*e*Sn		**Sn**	**17 34 34.5**	**+0.4**
MOA	**Molln**	**1.77**	**344**		*e*Pg		**Pb**	**17 34 13.3**	**0.0**
	comp=Z,2.9nm,0.2s,SNR=11								
MOA					*e*Sg		**Sb**	**17 34 36.3**	**+0.6**
	comp=Z,6.2nm,0.2s								
CIMO	**Cimolais**	**1.77**	**276**		P		**Pn**	**17 34 12.0**	**+0.5**
CIMO					S		**Sn**	**17 34 35.1**	**+0.8**
CAE	**Caneva**	**1.78**	**266**		P		**Pn**	**17 34 11.8**	**+0.1**
CAE					S		**Sn**	**17 34 35.1**	**+0.7**
RONA	**Rosalia, Austr**	**1.79**	**30**		*e*Pn		**Pb**	**17 34 13.5**	**-0.3**
	comp=Z,3.9nm,0.1s,SNR=16								
RONA					*e*Sg		**Sg**	**17 34 40.7**	**+2.5**
	comp=Z,27nm,0.5s								
BIOA	**Bad Ischl, Aus**	**1.80**	**330**		Pn		**Pb**	**17 34 13.7**	**-0.1**
	comp=Z,6.8nm,0.3s								
BIOA					*e*Sg		**Sg**	**17 34 38.0**	**-0.4**
	comp=Z,21nm,0.3s								
ABTA	**Abfaltersbach**	**1.81**	**290**		*e*Pg		**Pb**	**17 34 13.8**	**-0.3**
	comp=Z,1.9nm,0.2s,SNR=11								
ABTA					*e*Sg		**Sb**	**17 34 37.9**	**+1.1**
	comp=Z,13nm,0.3s								
FRE8	**Fregona**	**1.83**	**267**		P		**Pn**	**17 34 12.7**	**+0.3**
VIRC	**Vir**	**1.86**	**178**		*e*Pn		**Pb**	**17 34 13.9**	**-0.8**
VIRC					Sn		**Sb**	**17 34 38.6**	**+0.5**
SOP	**Sopron**	**1.88**	**35**		Pn		**Pn**	**17 34 13.4**	**+0.4**
SOP					Sn		**Sg**	**17 34 40.1**	**-0.8**
SOP	**Sopron**	**1.88**	**35**		P		**Pn**	**17 34 13.4**	**+0.4**
SOP					S		**Sg**	**17 34 40.1**	**-0.8**
CONA	**Conrad Observa**	**1.88**	**18**		*e*Pn		**Pn**	**17 34 13.8**	**+0.7**
	comp=Z,1.9nm,0.2s,SNR=9.9								
CONA					*e*Sg		**Sg**	**17 34 44.2**	**+3.2**
	comp=Z,26nm,0.7s								
CONA	**Conrad Observa**	**1.88**	**18**		Pn		**Pn**	**17 34 13.8**	**+0.7**
	comp=Z,0.1nm,SNR=3.3								
A050A	**Klekovaca**	**1.99**	**146**	⇑	*i*Pn		**Pn**	**17 34 14.8**	**+0.2**
A050A					*e*Sn		**Sn**	**17 34 40.2**	**+0.4**
MPLH	**Magyarpolny**	**2.04**	**59**		Pn		**Pn**	**17 34 15.3**	**+0.1**
	comp=Z,0.2nm,SNR=11								
MPLH					Sn		**Sb**	**17 34 42.6**	**-0.7**
MPLH	**Magyarpolny**	**2.04**	**59**		P		**Pn**	**17 34 15.3**	**+0.1**
MPLH					S		**Sb**	**17 34 42.6**	**-0.7**
EGYH	**Egyhazaskeszo**	**2.05**	**51**		Sn		**Sn**	**17 34 41.7**	**+0.5**
EGYH	**Egyhazaskeszo**	**2.05**	**51**		S		**Sn**	**17 34 41.7**	**+0.5**
BLY	**Banja Luka**	**2.09**	**131**		*e*Pn		**Pn**	**17 34 15.9**	**0.0**
BLY					*e*Sn		**Sn**	**17 34 42.1**	**+0.1**
A252A	**Venje**	**2.13**	**109**		*e*Pn		**Pn**	**17 34 17.7**	**+1.3**
A252A					Sn		**Sb**	**17 34 45.0**	**-0.9**
TIH	**Tihany**	**2.15**	**68**		Pg		**Sn**	**17 34 39.3**	**-4.1**
DUGI	**Dugi Otok**	**2.16**	**179**		*e*Pn		**Pn**	**17 34 18.3**	**+1.5**
DUGI					Sn		**Sn**	**17 34 45.1**	**+1.4**
KOVH	**Kovagotottos**	**2.17**	**90**		Pn		**Pn**	**17 34 15.9**	**-1.1**
	comp=Z,0.1nm,SNR=5.0								
KOVH					Sn		**Sn**	**17 34 44.5**	**+0.5**
KOVH	**Kovagotottos**	**2.17**	**90**		P		**Pn**	**17 34 15.9**	**-1.1**
KOVH					S		**Sn**	**17 34 44.5**	**+0.5**
MGRS	**Mrkonjic Grad**	**2.28**	**139**		*e*Pn		**Pn**	**17 34 19.6**	**+1.1**
MGRS					*e*Sn		**Sn**	**17 34 47.5**	**+0.7**
MORI	**Morici**	**2.34**	**167**		*e*Pn		**Pn**	**17 34 20.5**	**+1.2**
MORI					Sn		**Sb**	**17 34 50.2**	**-1.7**
KIJV	**Kijevo**	**2.37**	**154**		*e*Pn		**Pn**	**17 34 20.5**	**+0.8**
KIJV					Sn		**Sb**	**17 34 51.2**	**-1.7**
ZST	**Bratislava**	**2.51**	**34**		*e*SG		**Sg**	**17 35 04.4**	**+3.3**
ZIRJ	**Zirje**	**2.54**	**169**		*e*Pn		**Pn**	**17 34 23.7**	**+1.7**
ZIRJ					Sn		**Sn**	**17 34 54.5**	**+1.4**
MORH	**Mrgy, Hungar**	**2.54**	**87**		Pn		**Pn**	**17 34 20.8**	**-1.3**
	comp=Z,0.1nm,SNR=4.4								
MORH					Sn		**Sn**	**17 34 53.1**	**-0.1**
MORH	**Mrgy, Hungar**	**2.54**	**87**		P		**Pn**	**17 34 20.8**	**-1.3**
MORH					S		**Sn**	**17 34 53.1**	**-0.1**
WTTA	**Wattenberg**	**2.56**	**297**		Pn		**Pb**	**17 34 25.8**	**-1.1**
	comp=Z,2.6nm,0.3s								
WTTA					*e*Sg		**Sb**	**17 34 58.3**	**-0.2**
	comp=Z,8.0nm,0.4s								
SRKY	**Kupres RS**	**2.59**	**143**		*e*Pn		**Pn**	**17 34 23.6**	**+0.7**
SRKY					*e*Sn		**Sn**	**17 34 55.6**	**+1.0**
WATA	**Walderalm**	**2.63**	**298**		*e*Pn		**Pb**	**17 34 27.3**	**-0.6**
	comp=Z,1.9nm,0.3s								
WATA					*e*Sg		**Sb**	**17 35 00.4**	**0.0**
	comp=Z,5.6nm,0.2s								
CKRC	**Cesky Krumlov**	**2.71**	**351**		*e*PN		**Pn**	**17 34 26.2**	**+1.7**
MODS	**Modra-Piesok**	**2.72**	**34**		*e*PN		**Pn**	**17 34 23.4**	**-1.2**
MODS					*e*PG		**Pg**	**17 34 33.8**	**+1.1**
MODS					*e*SG		**Sg**	**17 35 10.8**	**+2.9**
SQTA	**Sankt Quirin**	**2.81**	**294**		*e*Sn		**Sn**	**17 35 00.8**	**+0.7**
	comp=Z,3.1nm,0.4s								
MOTA	**Moosalm**	**2.92**	**296**		Pn		**Pb**	**17 34 32.4**	**-0.6**
	comp=Z,0.8nm,0.2s								
KRUC	**Moravsky**	**3.07**	**18**		*e*PN		**Pn**	**17 34 29.8**	**+0.5**
KHC	**Kasperske Hory**	**3.13**	**343**		*e*PN		**Pn**	**17 34 31.8**	**+1.6**
KHC					*e*PG		**Pb**	**17 34 38.1**	**+1.6**
KHC					*e*SN		**Sn**	**17 35 08.2**	**+0.4**
KHC					*e*SG		**Sg**	**17 35 18.6**	**-2.5**
	comp=Z,5.4nm,0.4s								
JAVC	**Velka Javorina**	**3.27**	**33**		*e*PN		**Pn**	**17 34 32.7**	**+0.6**
VYHS	**Vyhne**	**3.52**	**47**		*e*PN		**Pn**	**17 34 36.1**	**+0.6**
VYHS					*e*SN		**Sn**	**17 35 15.4**	**-1.9**
FRGS	**Fruska Gora**	**3.53**	**105**		*e*Pn		**Pn**	**17 34 35.6**	**-0.1**
FRGS					*e*Sn		**Sn**	**17 35 17.8**	**+0.3**
DAVA	**Damuels**	**3.69**	**290**		*e*Pn		**Pn**	**17 34 40.1**	**+2.0**
	comp=Z,1.0nm,0.2s								
DIVS	**Divibare**	**4.09**	**118**		*e*Pn		**Pn**	**17 34 43.3**	**-0.2**
DIVS					*e*Sn		**Sn**	**17 35 31.3**	**-0.3**
BRG	**Berggiesshubel**	**4.78**	**352**		Sg		**Sg**	**17 36 12.6**	**-1.4**
BRG					Amp			17 36 17.2	
	comp=Z,3.0nm,0.6s								
CLL	**Collm**	**5.33**	**346**		*e*Pg		**Pg**	**17 35 22.0**	**-0.6**
CLL					*ex*		x	17 36 23.0	
CLL					*e*Sg		**Sg**	**17 36 31.0**	**-0.5**
	comp=Z,6.0nm,0.9s								

*IDC **08** 17:48:54.5±0.9,8˚.53S×147˚.07E,h0km,mb3.8/7, mbtmp3.9/10,ML3.9/3,MS3.7/3,Error ellipse: s-maj=29.9km s-min=9.0km az=82.0*

ISC 08 17:48:58.2±0.8,8˚.7S±0˚.1×147˚.2E±0˚.1,h35km,n14, σ2s37/14,mb3.9/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**0.66**	**185**			Pg	**Pn**	**17 49 12.0**	**+0.8**
	613nm,0.3s,baz=51,slow=5.1,SNR=2175								
PMG						Lg	Lg	17 49 23.1	
	1μm,0.3s,baz=131,slow=21,SNR=20								
PMG						LR	LR	17 49 46.3	
	comp=Z,217nm,21.9s,baz=347,slow=59								
KRVT	**Keravat (AS076**	**6.50**	**48**			Pn	**Pn**	**17 50 31.2**	**-0.3**
	8.2nm,0.3s,baz=216,slow=19,SNR=22								
KRVT						Sn	**Sn**	**17 51 43.7**	**-0.7**
	2.0nm,0.3s,baz=327,slow=15,SNR=2.0								
	25nm,0.4s								
HNR	**Honiara**	**12.59**	**94**			LR	LR	17 56 00.7	
	comp=Z,1μm,18.9s,baz=59,slow=33								
WRA	**Warramunga Arr**	**16.71**	**227**			Pn	**Pn**	**17 52 51.3**	**+1.5**
	0.4nm,0.3s,baz=49,slow=12,SNR=15								
WRA						Sn	Sn	17 55 44.4	-10
	0.1nm,0.3s,baz=48,slow=24,SNR=2.2								
	1.3nm,0.5s								
**S

LNSS	**Leonessa**	**0.18**	**200**	P	Pg	17 55 39.0	+0.5
MMO1	**Montemonaco**	**0.19**	**50**	⇑P	Pg	17 55 39.1	+0.4
MMO1				S	Sg	17 55 42.5	+1.0
MMO1	**Montemonaco**	**0.19**	**50**	P	Pg	17 55 39.1	+0.4
MMO1				S	Sg	17 55 42.6	+1.2
MMO1				END			
T1215	**Vallo di Nera,**	**0.19**	**278**	P	Pg	17 55 39.3	+0.6
T1215				S	Sg	17 55 43.3	+1.9
T1215	**Vallo di Nera,**	**0.19**	**278**	P	Pg	17 55 39.3	+0.6
T1215				END			
T1241	**Roccafluvione,**	**0.24**	**70**	⇓P	Pg	17 55 40.2	+0.6
T1241				S	Sg	17 55 44.2	+1.4
T1241				AML	AML		
	comp=E,90μm,1.4s						
T1241				AML	AML		
	comp=N,65μm,1.6s						
T1241				AML	AML		
	comp=E,90μm,1.4s						
T1241				AML	AML		
	comp=N,65μm,1.6s						
T1241				AML	AML		
	comp=E,90μm,1.4s						
T1241				AML	AML		
	comp=N,65μm,1.6s						
T1241	**Roccafluvione,**	**0.24**	**70**	P	Pg	17 55 40.3	+0.7
T1241				S	Sg	17 55 44.4	+1.6
T1243	**Rocca Santa Ma**	**0.25**	**108**	P	Pg	17 55 40.1	+0.3
T1243				S	Sg	17 55 44.3	+1.1
AM05	**Amandola Campo**	**0.26**	**39**	AML	AML		
	comp=E,460μm,0.1s						
AM05				AML	AML		
	comp=E,461μm,0.1s						
AM05				AML	AML		
	comp=N,382μm,0.1s						
FDMO	**Fiordimonte**	**0.26**	**354**	⇑P	Pg	17 55 40.8	+0.8
FDMO				S	Sb	17 55 45.3	-1.1
FDMO				AML	AML		
	comp=E,52μm,0.3s						
FDMO				AML	AML		
	comp=N,49μm,0.5s						
FDMO				AML	AML		
	comp=N,49μm,0.5s						
FDMO				AML	AML		
	comp=E,52μm,0.3s						
FDMO	**Fiordimonte**	**0.26**	**354**	P	Pg	17 55 40.7	+0.7
FDMO				S	Sb	17 55 45.5	-1.0
FDMO				END			
RM33	**Pellescritta (**	**0.27**	**166**	P	Pg	17 55 40.5	+0.3
RM33				S	Sg	17 55 45.2	+1.3
RM33				AML	AML		
	comp=E,74μm,1.1s						
RM33				AML	AML		
	comp=N,75μm,0.2s						
CESI	**CESI - Serrava**	**0.28**	**325**	P	Pg	17 55 41.0	+0.6
CSP1	**Cessapalombo**	**0.32**	**10**	⇑P	Pg	17 55 41.8	+0.6
CSP1				S	Sb	17 55 47.2	-1.0
CSP1	**Cessapalombo**	**0.32**	**10**	P	Pb	17 55 42.0	-0.8
CSP1				S	Sb	17 55 47.3	-1.0
CSP1				END			
TERO	**Teramo**	**0.38**	**113**	⇑P	Pg	17 55 42.5	+0.2
TERO				S	Sg	17 55 48.2	+0.9
EL6	**Elcito**	**0.55**	**358**	⇑P	Pg	17 55 45.8	+0.3
EL6				S	Sb	17 55 54.8	-0.1
EL6				AML	AML		
	comp=E,57μm,1.6s						
EL6				AML	AML		
	comp=N,98μm,1.6s						
EL6				AML	AML		
	comp=N,98μm,1.6s						
EL6				AML	AML		
	comp=E,57μm,1.6s						

*IDC **08** 18:13:24.6±2.7,36°.71S×179°.43E, h0km, mb4.0/3, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=70.8km s-min=39.5km az=141.0*
*NEIC **08** 18:13:28.9±0.9,36°.89S±0°.06×179°.08E±0°.05, h10km±1km, mb4.2/7, Error ellipse: s-maj=10.0km s-min=6.7km az=177.0*
*WEL **08** 18:13:30.2±1.4,37°.5±5°×17°.9E±°, h12km±7km, M3.5/18, ML3.7/24, MLv3.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=97.3*

ISC 08 18:13:30.6±3.5,36°.94S±0°.07×179°.3E±0°.1, h32km±22km, n52, σ1§13/59, mb4.1/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.98**	**231**		**Pn**	**18 13 46.4**	**-1.7**
MXZ	**Matakaoa Point**	**0.98**	**231**	P	**Pn**	**18 13 46.6**	**-1.6**
MXZ				S	**Sn**	**18 13 57.7**	**-3.2**
WMGZ	**Waiomatatini S**	**1.10**	**217**	P	**Pn**	**18 13 50.5**	**+0.7**
WMGZ				S	**Sn**	**18 14 05.2**	**+1.2**
PKGZ	**Pakihiroa**	**1.33**	**225**	P	**Pn**	**18 13 53.9**	**+0.8**
PKGZ				S	**Sn**	**18 14 10.6**	**+0.9**
PUZ	**Puketiti**	**1.38**	**215**	P	**Pn**	**18 13 54.2**	**+0.5**
HAZ	**Te Kaha**	**1.43**	**235**	P	**Pn**	**18 13 53.2**	**-1.1**
HAZ				S	**Sb**	**18 14 14.3**	**-0.2**
TWGZ	**Tauwhareparae**	**1.60**	**219**	P	**Pn**	**18 13 57.7**	**+1.1**
TWGZ				S	**Sn**	**18 14 17.8**	**+1.6**
RUGZ	**Raukumara Rang**	**1.62**	**231**	P	**Pn**	**18 13 58.0**	**+1.0**
CNGZ	**Carnagh Statio**	**1.75**	**208**	P	**Pn**	**18 13 59.6**	**+0.9**
MWZ	**Matawai**	**1.95**	**224**	P	**Pn**	**18 14 01.1**	**-0.5**
URZ	**Urewera**	**2.15**	**232**	Pn	**Pn**	**18 14 04.7**	**+0.4**
	27nm,0.3s,baz=31,slow=3.7,SNR=81						
URZ				Sn	**Sn**	**18 14 30.2**	**+0.4**
	29nm,0.3s,baz=211,slow=21,SNR=15						
	90nm,0.3s						
URZ	**Urewera**	**2.15**	**232**		**Pn**	**18 14 04.5**	**+0.2**
URZ				Sn	**Sn**	**18 14 30.4**	**+0.6**
URZ	**Urewera**	**2.15**	**232**	P	**Pn**	**18 14 04.9**	**+0.7**
MUGZ	**Murupara**	**2.50**	**231**	P	**Pn**	**18 14 09.6**	**+0.5**
TGRZ	**Tauranga**	**2.52**	**251**	P	**Pn**	**18 14 09.7**	**+0.5**
RAHZ	**Arahi**	**2.61**	**220**	P	**Pn**	**18 14 11.6**	**+1.0**
RAHZ				S	**Sn**	**18 14 41.5**	**+0.2**
MTHZ	**Maungataniwha**	**2.70**	**224**	P	**Pn**	**18 14 13.1**	**+1.2**
KUZ	**Kuaotunu**	**2.84**	**273**	P	**Pn**	**18 14 12.9**	**-0.9**
NMHZ	**Naumai**	**2.89**	**221**	P	**Pn**	**18 14 15.1**	**+0.6**
TOZ	**Tahuroa Road**	**3.10**	**254**	P	**Pn**	**18 14 16.6**	**-0.6**
BKZ	**Black Stump Fm**	**3.11**	**224**	Pn	**Pn**	**18 14 17.0**	**-0.5**
BKZ	**Black Stump Fm**	**3.11**	**224**	P	**Pn**	**18 14 17.2**	**-0.3**
MKAZ	**Moumakai**	**3.28**	**266**	P	**Pn**	**18 14 19.4**	**-0.4**
WIAZ	**Waiheke Island**	**3.31**	**271**	P	**Pn**	**18 14 21.6**	**+1.4**
ETAZ	**East Tamaki Re**	**3.47**	**269**	P	**Pn**	**18 14 24.3**	**+1.9**
MBAZ	**Motutapu North**	**3.50**	**272**	P	**Pn**	**18 14 24.1**	**+1.3**
BHHZ	**Black Hill Sta**	**3.58**	**224**	P	**Pn**	**18 14 23.4**	**-0.5**
SNVZ	**South Ngauruho**	**3.63**	**231**	P	**Pn**	**18 14 24.6**	**-0.2**
AWAZ	**Awhitu Peninsu**	**3.70**	**267**	P	**Pn**	**18 14 27.7**	**+2.2**
MOVZ	**Moawhango**	**3.70**	**227**	P	**Pn**	**18 14 25.9**	**+0.3**
HIZ	**Hauiti**	**3.83**	**244**		**Pn**	**18 14 25.9**	**-1.3**
HIZ	**Hauiti**	**3.83**	**244**	P	**Pn**	**18 14 29.0**	**+1.7**
TSZ	**Takapari Road**	**4.05**	**219**	P	**Pn**	**18 14 28.7**	**-1.6**
WCZ	**Waipu Caves**	**4.09**	**283**	P	**Pn**	**18 14 31.5**	**+0.7**
BFZ	**Birch Farm**	**4.41**	**211**	Pn	**Pn**	**18 14 32.9**	**-2.4**
OUZ	**Omahuta**	**4.90**	**289**	Pn	**Pn**	**18 14 40.8**	**-1.2**
OUZ	**Omahuta**	**4.90**	**289**	P	**Pn**	**18 14 43.1**	**+1.1**
LTZ	**Lake Taylor**	**7.93**	**221**	Pn	**Pn**	**18 15 24.0**	**+0.4**
RPZ	**Rata Peaks**	**9.22**	**220**	Sn	Sn	18 17 11.4	-12
	0.5nm,0.3s,baz=350,slow=17,SNR=1.5						
AS31	**Alice Springs**	**40.97**	**276**	P	**P**	**18 21 10.1**	**-0.5**
AS31				IAmb	IAmb	18 21 11.6	
	comp=Z,1.2nm,1.0s						
ASAR	**Alice Springs**	**40.97**	**276**	P	**P**	**18 21 10.3**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=120,slow=8.1,SNR=34						
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**40.97**	**276**	P	**P**	**18 21 09.9**	**-0.6**
WR0	**Warramunga Arr**	**42.39**	**281**	P	**P**	**18 21 21.6**	**-0.6**
WR0				IAmb	IAmb	18 22 05.8	
	comp=Z,8.0nm,1.4s						
WB2	**Warramunga Arr**	**42.55**	**281**	P	**P**	**18 21 22.8**	**-0.6**
WRAB	**Tennant Creek**	**42.55**	**281**	P	**P**	**18 21 22.5**	**-1.0**
WRAB				IAmb	IAmb	18 21 42.1	
	comp=Z,6.3nm,1.4s						
WRA	**Warramunga Arr**	**42.56**	**281**	P	**P**	**18 21 22.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=121,slow=7.6,SNR=26						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**42.56**	**281**	P	**P**	**18 21 23.3**	**-0.3**
WB0	**Warramunga Arr**	**42.61**	**281**	P	**P**	**18 21 23.7**	**-0.2**
WB0				IAmb	IAmb	18 21 29.4	
	comp=Z,9.1nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.45**	**277**	P	**P**	**18 22 24.9**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=106,slow=10,SNR=1.5						
	comp=Z,1.4nm,0.9s						
QSPA	**South Pole Qui**	**53.18**	**180**	P	**P**	**18 22 47.3**	**+1.9**
QSPA				IAmb	IAmb	18 23 18.3	
	comp=Z,4.6nm,1.4s						
ARCES	**ARCESS Array B**	**144.38**	**345**	PKP	**PKPab**	**18 32 59.6**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=33,slow=3.5,SNR=2.1						
FINES	**FINESS Array B**	**150.27**	**334**	PKPbc	**PKPbc**	**18 33 16.5**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=38,slow=3.4,SNR=6.3						

*NNC **08** 18:19:42.2±0.4, 43°.27N×75°.15E, h0km, mb2.4, mpv2.5, Error ellipse: s-maj=3.2km s-min=1.6km az=164.0*
*SOME **08** 18:19:42.3, 43°.27N×75°.12E, h10km*

ISC 08 18:19:42.2±1.1, 43°.30N±0°.03×75°.15E±0°.02, h2km±11km, n21, σ0§50/43, 3C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGDS	**Sogindy**	**0.41**	**293**	*e*P	**Pg**	**18 19 49.8**	**-0.2**
SGDS	3.4nm,0.1s			*e*S	**Sg**	**18 19 54.9**	**-0.3**
	20nm,0.1s						
CHMS	**Chumysh**	**0.41**	**224**	⇓P	**Pb**	**18 19 50.9**	**-1.3**
CHMS	1.0nm,0.4s			⇑S	**Sg**	**18 19 55.3**	**-0.3**
	7.4nm,0.5s						
DGS	**Degeres**	**0.46**	**97**	*e*P	**Pg**	**18 19 51.3**	**+0.3**
DGS	2.0nm,0.1s			*e*S	**Sg**	**18 19 57.7**	**+0.6**
	13nm,0.2s						
DGS	**Degeres**	**0.46**	**97**	P	**Pg**	**18 19 51.3**	**+0.3**
DGS	2.0nm,0.1s			S	**Sg**	**18 19 57.7**	**+0.6**
	7.0nm,0.1s						
TKM2	**Tokmak 2**	**0.50**	**139**	⇓P	**Pg**	**18 19 51.5**	**-0.2**
TKM2	1.1nm,0.3s			⇑S	**Sg**	**18 19 58.3**	**0.0**
	2.8nm,0.3s						
KRBS	**Karabastau**	**0.55**	**44**	*e*P	**Pg**	**18 19 53.0**	**+0.2**
KRBS	1.3nm,0.1s			*e*S	**Sg**	**18 20 00.4**	**+0.4**
	5.6nm,0.1s						
KRBS	**Karabastau**	**0.55**	**44**	P	**Pg**	**18 19 53.0**	**+0.2**
KRBS	0.9nm,0.0s			S	**Sg**	**18 20 00.3**	**+0.3**
	6.5nm,0.2s						
KST	**Kastek**	**0.65**	**113**	*e*P	**Pg**	**18 19 54.8**	**+0.2**
KST	2.2nm,0.1s			*e*S	**Sg**	**18 20 03.6**	**+0.6**
	3.9nm,0.2s						
KST	**Kastek**	**0.65**	**113**	P	**Pg**	**18 19 54.8**	**+0.2**
KST	2.2nm,0.1s			S	**Sg**	**18 20 03.6**	**+0.6**
	3.9nm,0.2s						
KUU	**Kurty**	**1.05**	**55**	P	**Pg**	**18 20 01.8**	**-0.5**
KUU	0.6nm,0.1s			S	**Sg**	**18 20 15.6**	**-0.4**
	4.4nm,0.1s						
KTBS	**Karatobe**	**1.19**	**69**	*e*P	**Pg**	**18 20 04.4**	**-0.6**
KTBS	1.5nm,0.1s			*e*S	**Sg**	**18 20 20.0**	**-0.5**
	6.0nm,0.2s						
KTBS	**Karatobe**	**1.19**	**69**	P	**Pg**	**18 20 04.4**	**-0.6**
KTBS	1.5nm,0.1s			P	**Pg**	**18 20 04.4**	**-0.6**
	1.5nm,0.1s						
KTBS				S	**Sg**	**18 20 20.2**	**-0.2**
	5.9nm,0.2s						
KTBS				S	**Sg**	**18 20 20.2**	**-0.2**
	6.0nm,0.2s						
KNDC	**Almaty**	**1.33**	**93**	⇑P	**Pn**	**18 20 07.5**	**-0.3**
KNDC	8.7nm,0.4s			⇓S	**Sb**	**18 20 25.6**	**+0.2**
	9.4nm,0.5s						
MDOK	**Medeo**	**1.40**	**95**	*e*P	**Pb**	**18 20 09.0**	**-0.1**
MDOK				*e*S	**Sn**	**18 20 28.0**	**+0.2**
MDOK	**Medeo**	**1.40**	**95**	P	**Pb**	**18 20 08.9**	**-0.1**
	1.0nm,0.5s						
MDOK				S	**Sn**	**18 20 27.8**	**0.0**
	0.6nm,0.3s						
MRKS	**Merke**	**1.51**	**249**	*e*P	**Pb**	**18 20 10.7**	**-0.3**
MRKS	0.6nm,0.1s			*e*S	**Sg**	**18 20 30.8**	**+0.1**
	4.0nm,0.1s						
MRKS	**Merke**	**1.51**	**249**	P	**Pg**	**18 20 12.0**	**+0.9**
MRKS	1.4nm,0.1s			S	**Sg**	**18 20 31.7**	**+1.0**
	5.7nm,0.3s						
BTLS	**Baital**	**1.91**	**336**	*e*P	**Pb**	**18 20 17.8**	**0.0**
BTLS	0.8nm,0.2s			*e*S	**Sb**	**18 20 43.1**	**+1.0**
	2.6nm,0.1s						
BTLS	**Baital**	**1.91**	**336**	P	**Pb**	**18 20 17.5**	**-0.2**
BTLS	0.7nm,0.1s			S	**Sb**	**18 20 42.3**	**+0.2**
	2.6nm,0.1s						
ARXS	**Arharly**	**2.15**	**64**	*e*P	**Pb**	**18 20 21.6**	**-0.2**
ARXS	0.4nm,0.2s			*e*S	**Sb**	**18 20 49.4**	**+0.5**
	3.4nm,0.3s						
ARXS	**Arharly**	**2.15**	**64**	Pg	**Pb**	**18 20 21.6**	**-0.2**
ARXS	0.4nm,0.2s			Lg	Lg	18 20 49.4	
	3.4nm,0.3s						

*IDC **08** 18:23:21.7±1.5, 7°.44S×128°.45E, h167km±21km, mb2.8/1, mbtmp4.2/6, Error ellipse: s-maj=24.8km s-min=13.4km az=121.0*
*NEIC **08** 18:23:22.5±1.6, 7°.5S±0°.1×128°.6E±0°.1, h152km±27km, mb4.2/2, Error ellipse: s-maj=16.7km s-min=13.7km az=137.0*

ISC 08 18:23:21.5±0.8, 7°.59S±0°.06×128°.51E±0°.07, h151km, n29, σ2§80/34, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.79**	**98**	Pn	**Pn**	**18 24 07.0**	**+0.7**
SAUI	**Saumlaki**	**2.79**	**98**	P	**Pn**	**18 24 09.2**	**+2.9**
BATI	**Baumata**	**5.45**	**241**	P	**Pn**	**18 24 43.4**	**+2.5**
	70nm,0.4s,baz=73,slow=5.2,SNR=68						
BATI				S	**Sn**	**18 25 44.5**	**+1.5**
	57nm,0.3s,baz=18,slow=15,SNR=9.6						
MTN	**Manton Dam**	**5.83**	**154**		**Pn**	**18 24 49.2**	**+3.3**
MTN	**Manton Dam**	**5.83**	**154**	P	**Pn**	**18 24 49.5**	**+3.6**
FAKI	**Fak Fak**	**5.95**	**39**		**Pn**	**18 24 46.9**	**-0.7**
FAKI	**Fak Fak**	**5.95**	**39**	P	**Pn**	**18 24 47.6**	**0.0**
KDU	**Kakadu**	**6.39**	**143**	P	**Pn**	**18 24 57.1**	**+3.6**
SIJI	**Sorong**	**7.22**	**22**	P	**Pn**	**18 25 04.6**	**+0.1**
	3.5nm,0.3s,baz=230,slow=22,SNR=33						
SIJI				S	**Sn**	**18 26 22.0**	**-3.4**
	6.7nm,0.2s,baz=226,slow=23,SNR=6.5						
KNRA	**Kununurra**	**8.04**	**178**		**Pn**	**18 25 17.4**	**+1.9**
KNRA	**Kununurra**	**8.04**	**178**	P	**Pn**	**18 25 18.1**	**+2.6**
FITZ	**Fitzroy Crossi**	**10.81**	**195**	P	**Pn**	**18 25 52.0**	**-0.3**
	4.0nm,0.3s,baz=26,slow=10,SNR=94						
FITZ				S	**Sn**	**18 27 46.0**	**-6.0**
	3.7nm,0.3s,baz=301,slow=23,SNR=9.5						
FITZ	**Fitzroy Crossi**	**10.81**	**195**	Pn	**Pn**	**18 25 52.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.81**	**195**	P	**Pn**	**18 25 53.8**	**+1.5**
WB0	**Warramunga Arr**	**13.38**	**155**		**Pn**	**18 26 25.9**	**+0.3**
WRAB	**Tennant Creek**	**13.52**	**156**		**Pn**	**18 26 28.1**	**+0.8**
WRA	**Warramunga Arr**	**13.52**	**156**	P	**Pn**	**18 26 27.1**	**-0.3**
	3.0nm,0.7s,baz=334,slow=12,SNR=63						
WRA				S	**Sn**	**18 28 50.8**	**-6.4**
	2.0nm,0.6s,baz=331,slow=22,SNR=4.0						
WB2	**Warramunga Arr**	**13.52**	**156**		**Pn**	**18 26 28.1**	**+0.7**
WR0	**Warramunga Arr**	**13.62**	**155**		**Pn**	**18 26 29.2**	**+0.7**
COEN	**Coen**	**15.73**	**115**	P	**P**	**18 26 58.7**	**+2.9**
COEN				IAmb	IAmb	18 27 06.3	
	comp=Z,25nm,1.4s						
COEN	**Coen**	**15.73**	**115**	P	**P**	**18 26 58.8**	**+2.9**
QIS	**Mount Isa**	**16.78**	**141**	P	**Pn**	**18 27 10.2**	**+2.4**
AS31	**Alice Springs**	**16.80**	**163**	P	**Pn**	**18 27 10.8**	**+2.7**
AS31				IAmb	IAmb	18 27 11.8	
	comp=Z,3.9nm,0.5s						
ASAR	**Alice Springs**	**16.80**	**163**	P	**Pn**	**18 27 10.3**	**+2.2**
	comp=Z,8.1nm,0.5s,baz=339,slow=10,SNR=297						
ASAR				S	**S**	**18 30 11.2**	**-3.7**
	comp=Z,0.4nm,0.5s,baz=341,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**16.80**	**163**	P	**Pn**	**18 27 10.9**	**+2.8**
WRKA	**Warakurna**	**17.35**	**181**	P	**Pn**	**18 27 16.8**	**+2.2**
OOD	**Oodnadatta**	**21.22**	**162**	P	**P**	**18 27 58.6**	**+3.2**
MULG	**Mulgathing**	**23.17**	**168**	P	**P**	**18 28 17.4**	**+2.7**
MKAR	**Makanchi Array**	**67.92**	**328**	P	**P**	**18 34 01.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=111,slow=8.0,SNR=4.1						
	comp=Z,0.1nm,0.3s						

*IDC **08** 18:31:38.0±2.8, 18°.89S×178°.03W, h592km±20km, mb2.9/7, mbtmp3.8/8, Error ellipse: s-maj=94.4km s-min=17.0km az=152.0*

ISC 08 18:31:37.5±0.8, 19°.2S±0°.2×177°.9W±0°.2, h600km, n15, σ1§15/17, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.11**	**291**	P	**P**	**18 33 02.4**	**-1.5**
	17nm,0.5s,baz=94,slow=16,SNR=21						
AFI	**Afiamalu**	**7.91**	**49**	S	S	18 35 01.5	-12
	8.4nm,0.4s,baz=158,slow=19,SNR=1.3						
CTA	**Charters Tower**	**33.71**	**262**	P	**P**	**18 37 31.9**	**+1.1**
	2.3nm,0.5s,baz=107,slow=8.6,SNR=7.5						
	2.3nm,0.5s						
WRA	**Warramunga Arr**	**44.87**	**261**	P	**P**	**18 39 00.4**	**+0.3**
	0.3nm,0.3s,baz=97,slow=7.6,SNR=33						
WRA				PcP	**PcP**	**18 40 29.8**	**+1.2**
	0.6nm,0.9s,baz=93,slow=3.6,SNR=2.9						
WRA				ScP	**ScP**	**18 43 26.4**	**+1.8**
	0.3nm,1.0s,baz=96,slow=5.1,SNR=1.6						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.90**	**255**	P	**P**	**18 39 00.9**	**+0.6**
	1.6nm,0.8s,baz=90,slow=7.7,SNR=28						
ASAR				PcP	**PcP**	**18 40 29.3**	**+0.6**
	0.8nm,0.7s,baz=108,slow=3.7,SNR=6.6						
	1.6nm,0.8s						
NVAR	**Mina Array Bea**	**80.05**	**43**	P	**P**	**18 42 46.6**	**+0.4**
	0.5nm,0.7s,baz=218,slow=6.5,SNR=2.6						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**86.31**	**57**	P	**P**	**18 43 19.0**	**+1.7**
	0.4nm,0.6s,baz=217,slow=6.0,SNR=6.2						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**87.07**	**13**	P	**P**	**18 43 19.4**	**-0.5**
	0.2nm,0.5s,baz=225,slow=3.7,SNR=1.6						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**87.99**	**43**	P	**P**	**18 43 24.8**	**-0.3**
	0.3nm,0.6s,baz=289,slow=2.8,SNR=2.9						
	0.3nm,0.6s						
TROLL	**Troll, Antarti**	**88.99**	**180**	P	**P**	**18 43 28.0**	**-1.1**
VNA3	**Neumayer Olymp**	**89.40**	**176**	P	**P**	**18 43 29.7**	**-1.2**
VNA2	**Neumayer--Watz**	**89.84**	**177**	P	**P**	**18 43 31.8**	**-1.1**
	baz=180,slow=4.0						
ARCES	**ARCESS Array B**	**127.69**	**350**	PKP	**PKPdf**	**18 49 34.7**	**-0.2**
	1.6nm,0.8s,baz=29,slow=2.8,SNR=6.3						
BRTR	**Keskin Array B**	**146.04**	**314**	PKPbc	**PKPab**	**18 50 12.3**	**-1.6**
	0.6nm,0.6s,baz=90,slow=2.9,SNR=3.8						
GERES	**GERESS Array B**	**149.00**	**345**	PKPbc	**PKPbc**	**18 50 18.6**	**-0.3**
	0.9nm,0.7s,baz=35,slow=3.6,SNR=7.7						

*IDC **08** 18:41:45.8±3.6, 19°.48S×177°.76W, h576km±27km, mb2.8/5, mbtmp3.7/6, Error ellipse: s-maj=105.5km s-min=22.1km az=153.0*

ISC 08 18:41:43.0±1.3, 20°.1S±0°.4×177°.5W±0°.2, h550km, n9, σ1§62/11, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.83**	**298**	P	**P**	**18 43 12.1**	**+0.6**
	8.9nm,0.4s,baz=102,slow=19,SNR=23						
ASAR	**Alice Springs**	**45.09**	**256**	P	**P**	**18 49 10.8**	**0.0**
	1.1nm,0.8s,baz=90,slow=8.1,SNR=9.0						
ASAR				PcP	**PcP**	**18 50 39.1**	**-0.6**
	0.5nm,0.7s,baz=107,slow=4.4,SNR=4.0						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**45.15**	**261**	P	**P**	**18 49 10.6**	**-0.5**
	0.2nm,0.3s,baz=97,slow=7.5,SNR=34						
WRA				PcP	**PcP**	**18 50 39.4**	**-0.4**
	0.8nm,1.1s,baz=96,slow=3.2,SNR=2.1						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**86.41**	**57**	P	**P**	**18 53 28.5**	**+0.7**
	0.5nm,0.7s,baz=222,slow=5.0,SNR=5.4						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**88.31**	**43**	P	**P**	**18 53 34.9**	**-1.6**
	0.2nm,0.4s,baz=265,slow=5.3,SNR=1.8						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**90.43**	**289**	P	**P**	**18 53 45.8**	**-0.8**
	0.3nm,0.3s,baz=131,slow=3.7,SNR=1.2						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**128.58**	**350**	PKP	**PKPdf**	**18 59 45.5**	**-1.6**
	3.0nm,1.1s,baz=21,slow=1.3,SNR=5.4						
BRTR	**Keskin Array B**	**146.90**	**313**	PKPbc	**PKPdf**	**19 00 22.6**	**+1.2**
	0.5nm,0.6s,baz=142,slow=6.2,SNR=3.6						
GERES	**GERESS Array B**	**149.91**	**345**	PKPbc	**PKPdf**	**19 00 29.4**	**+3.5**
	0.2nm,0.4s,baz=28,slow=3.6,SNR=5.7						

*IDC **08** 18:54:48.8±3.2, 5°.01S×148°.93E, h145km±36km, mb3.2/4, mbtmp3.8/6, Error ellipse: s-maj=77.1km s-min=14.2km az=140.0*

ISC 08 18:54:48.8±1.0, 5°.1S±0°.2×149°.0E±0°.1, h150km, n7, σ1§81/11, mb3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.17**	**75**	P	**Pn**	**18 55 37.7**	**-0.6**
	22nm,0.4s,baz=237,slow=3.3,SNR=9.8						
KRVT				S	**Sn**	**18 56 17.2**	**+0.6**
	14nm,0.5s,baz=7.5,slow=21,SNR=1.6						
PMG	**Port Moresby**	**4.61**	**203**	P	**Pn**	**18 55 57.8**	**+0.8**
	61nm,0.5s,baz=50,slow=6.1,SNR=20						
PMG				S	**Sn**	**18 56 49.9**	**-0.3**
	25nm,0.4s,baz=314,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	**20.47**	**223**	P	**P**	**18 59 16.1**	**+1.1**
	0.5nm,0.4s,baz=48,slow=11,SNR=6.5						
WRA				S	**S**	**19 02 51.8**	**-4.4**
	1.2nm,0.8s,baz=49,slow=22,SNR=4.8						
WRA				PcP	**PcP**	**19 03 22.2**	**+1.3**
	0.3nm,1.0s,baz=45,slow=2.1,SNR=1.2						

LMD1					*e*Sg	**Sg**	**19 29 36.5**	**-0.3**
QIR1	**Qir**	**1.11**	**357**		*e*Pg	**Pb**	**19 29 51.8**	**-1.1**
QIR1					*e*Sg	**Sn**	**19 30 08.0**	**-0.1**
QIR1					*e*		19 30 16.0	
	comp=Z,19μm,0.7s							
LAR1	**LAR**	**1.16**	**75**		*e*Pg	**Pg**	**19 29 54.6**	**+0.2**
JHRM	**Jahrom**	**1.21**	**20**		*e*Pg	**Pn**	**19 29 53.6**	**-0.8**
JHRM					*e*		19 30 15.2	
	comp=Z,20μm,0.4s							
AHBU	**AHRAM**	**2.19**	**313**		*e*Pn	**Pb**	**19 30 10.6**	**-0.7**
SHI	**Shiraz**	**2.33**	**347**		*e*		19 30 58.1	
	comp=Z,2μm,0.6s							
JRN	**Qarnain Island**	**2.43**	**186**		*e*Pn	**Pn**	**19 30 10.0**	**-1.1**
GHWR	**Ruwais**	**3.40**	**184**		*e*Pn	**Pn**	**19 30 23.3**	**-1.1**
MZWR	**Madinat Zayed**	**3.66**	**169**		*e*Pn	**Pn**	**19 30 30.6**	**+2.6**
KLNJ	**Kolanjah**	**3.86**	**340**		*e*Pn	**Pn**	**19 30 32.7**	**+1.5**
NGRK	**Negar Kerman**	**3.91**	**54**		*e*Pn	**Pn**	**19 30 33.3**	**+1.4**
NGRK					*e*		19 31 54.2	
	comp=Z,425nm,0.9s							
KRBR	**Kerman**	**4.13**	**50**		*e*Pn	**Pn**	**19 30 36.9**	**+2.0**
TVBK	**TV Kerman**	**4.13**	**50**		*e*Pn	**Pn**	**19 30 36.6**	**+1.7**
KHGB	**Koh Gabri**	**4.21**	**44**		*e*Pn	**Pn**	**19 30 38.0**	**+2.2**
KHGB					*e*		19 30 54.7	
	comp=Z,239nm,0.6s							
IMEH	**Mehriz**	**4.22**	**18**		*e*Pn	**Pn**	**19 30 37.8**	**+1.8**
MZR	**Muzera**	**4.36**	**176**		*e*Pn	**Pn**	**19 30 38.0**	**+0.3**
IRAM	**Ramesheh**	**4.47**	**352**		*e*Pn	**Pn**	**19 30 41.3**	**+1.9**
ISAD	**Sadrabad**	**4.56**	**6**		*e*Pn	**Pn**	**19 30 42.0**	**+1.3**
CHMN	**Cheshme madani**	**4.62**	**56**		*e*Pn	**Pn**	**19 30 43.6**	**+2.0**
CHMN					*e*		19 31 44.7	
	comp=Z,262nm,0.5s							
IBAF	**Bafgh**	**4.72**	**26**		*e*Pn	**Pn**	**19 30 44.1**	**+1.3**
UMZA	**Um Al Zommool**	**4.99**	**158**		*e*Pn	**Pn**	**19 30 50.4**	**+4.0**
KBAM	**BAM**	**5.03**	**68**		*e*Pn	**Pn**	**19 30 48.6**	**+1.6**
KBAM					*e*		19 31 55.9	
	comp=Z,296nm,0.6s							
YZKH	**Yazd**	**5.17**	**14**		*e*Pn	**Pn**	**19 30 50.1**	**+1.2**
NASN	**Na'in**	**5.42**	**357**		*e*Pn	**Pn**	**19 30 52.5**	**-0.1**
ANAR	**Anarak**	**5.83**	**5**		*e*Pn	**Pn**	**19 30 58.6**	**+0.6**
TPRV	**Parvadeh(Tabas**	**6.43**	**28**		*e*Pn	**Pn**	**19 31 08.2**	**+1.9**
WSAR	**Wadi Sarin**	**6.47**	**128**		P	**Pn**	**19 31 08.2**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=299,slow=5.0,SNR=11							
WSAR					S	**Sn**	**19 32 21.1**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=41,slow=21,SNR=1.1							
	comp=Z,4.7nm,0.5s							
KRSH	**Karshahi**	**6.63**	**353**		*e*Pn	**Pn**	**19 31 11.5**	**+2.4**
KHMZ	**Khomeyn**	**6.91**	**338**		*e*Pn	**Pn**	**19 31 16.7**	**+3.8**
BSRN	**Basiran**	**6.96**	**47**		*e*Pn	**Pn**	**19 31 15.4**	**+1.9**
TKDS	**Koohdasht(Taba**	**7.12**	**28**		*e*Pn	**Pn**	**19 31 16.2**	**+0.4**
TABS	**Tabas**	**7.15**	**28**		*e*Pn	**Pn**	**19 31 16.5**	**+0.3**
NHDN	**Nehbandan**	**7.26**	**55**		*e*Pn	**Pn**	**19 31 18.4**	**+0.7**
SHRO	**Shahrood**	**8.94**	**15**		*e*Pn	**Pn**	**19 31 43.4**	**+2.6**
SNGE	**Sanandaj**	**9.14**	**329**		*e*Pn	**Pn**	**19 31 47.3**	**+3.7**
MMAI	**Mount Meron Ar**	**16.30**	**294**		P	**P**	**19 33 24.1**	**+0.6**
	baz=94,slow=5.8,SNR=3.9							
	comp=Z,1.5nm,0.7s							
BRTR	**Keskin Array B**	**20.33**	**312**		P	**P**	**19 34 08.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=134,slow=14,SNR=4.2							
	comp=Z,0.5nm,0.5s							
AKASG	**Malin Array Be**	**29.54**	**329**		P	**P**	**19 35 35.0**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=120,slow=7.0,SNR=10.0							
	comp=Z,1.2nm,0.5s							
MKAR	**Makanchi Array**	**30.03**	**42**		P	**P**	**19 35 40.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=228,slow=11,SNR=2.5							
	comp=Z,0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**35.31**	**33**		P	**P**	**19 36 24.7**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=221,slow=15,SNR=2.1							
	comp=Z,0.4nm,0.5s							
FINES	**FINESS Array B**	**38.59**	**340**		P	**P**	**19 36 53.3**	**-0.7**
	comp=Z,3.0nm,1.1s,baz=144,slow=9.5,SNR=8.8							
	comp=Z,3.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**49.94**	**264**		P	**P**	**19 38 24.5**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=65,slow=5.8,SNR=1.7							
	comp=Z,0.4nm,0.8s							

DJA ***08*** *19:36:05.3±1.1,5°S±5°×10°2E±°,h11km±8km,M4.8/20, mb4.9/12,mB5.3/3,MLv4.7/20,Mw(mB)4.7/3*

NEIC ***08*** *19:36:05.2±2.2,4.78S±0.07°×101.94E±0.07,h35km±1km, mb4.6/53,Error ellipse: s-maj=13.6km s-min=10.1km az=235.0*

IDC ***08*** *19:36:07.2±0.7,4.44S×102.12E,h37km±4km,mb4.1/22, mbtmp4.3/23,ML3.6/1,MS3.5/9,Error ellipse: s-maj=21.2km s-min=10.8km az=47.0*

ISC 08 19:36:06.2±0.4,4.59S±0.07°×102.06E±0.06,h37km,n166, σ1s84/158,mb4.6/52,MS3.4/8,5C-2D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.93**	**76**	Pn		**Pn**	**19 36 23.8**	**+1.2**
MNAI	**Manna**	**0.93**	**76**	P		**Pn**	**19 36 24.2**	**+1.6**
MNAI	**Manna**	**0.93**	**76**	P		**Pn**	**19 36 25.6**	**+3.0**
KSI	**Kapahiang**	**1.07**	**30**	P		**Pn**	**19 36 25.9**	**+1.2**
MASI	**Maura Aman, Be**	**1.45**	**7**	P		**Pn**	**19 36 31.5**	**+1.6**
LWLI	**Liwa**	**2.04**	**102**	P		**Pn**	**19 36 40.2**	**+2.2**
KRJI	**Kerinci**	**2.55**	**347**	P		**Pn**	**19 36 47.6**	**+2.5**
KASI	**Kota Agung**	**2.60**	**111**	P		**Pn**	**19 36 48.0**	**+2.3**
PPSI	**Pulau Pagai**	**2.73**	**312**	P		**Pn**	**19 36 50.0**	**+2.5**
KLI	**Kotabumi**	**2.80**	**96**	P		**Pn**	**19 36 52.5**	**+4.1**
PMBI	**Palembang**	**3.17**	**59**	P		Pn	**19 36 52.4**	**-1.1**
BLSI	**Bandar Lampung**	**3.27**	**104**	P		**Pn**	**19 36 56.8**	**+1.9**
JMBI	**JAMBI**	**3.34**	**28**	P		**Pn**	**19 36 58.8**	**+3.0**
SDSI	**Sungai Dareh**	**3.69**	**350**	P		**Pn**	**19 37 02.9**	**+2.3**
PDSI	**Padang**	**3.99**	**336**	P		**Pn**	**19 37 06.7**	**+1.9**
SISI	**Saibi**	**4.39**	**317**	P		**Pn**	**19 37 12.0**	**+1.7**
PPBI	**Pangkal Pinang**	**4.73**	**59**	P		**Pn**	**19 37 18.0**	**+3.0**
DSRI	**Dabo**	**4.80**	**32**	P		**Pn**	**19 37 18.6**	**+2.7**
BKNI	**Bangkinang**	**4.99**	**348**			**Pn**	**19 37 19.3**	**+0.8**
BKNI	**Bangkinang**	**4.99**	**348**	P		**Pn**	**19 37 19.8**	**+1.3**
	1.0nm3μm195nm,0.7s							
DBJI	**Dramaga**	**5.06**	**113**	P		**Pn**	**19 37 23.1**	**+3.6**
	0.7nm108nm,0.9s							
SKJI	**Sukabumi**	**5.08**	**118**	P		**Pn**	**19 37 23.5**	**+3.7**
	1.0nm2μm110nm,1.0s							
CBJI	**Citeko**	**5.11**	**111**	P		Pn	19 37 26.2	+6.1
	1.2nm347nm,0.9s							
CNJI	**Cibinong**	**5.72**	**118**	P		**Pn**	**19 37 30.3**	**+1.7**
	1.3nm3μm85nm,0.8s							
PBSI	**Pulau Batu**	**5.88**	**320**	P		**Pn**	**19 37 31.7**	**+1.0**
	1.5nm239nm,0.7s							
MNSI	**Mandailing Nat**	**5.89**	**335**	P		**Pn**	**19 37 32.5**	**+1.5**
	0.3nm45nm,0.6s							
LEM	**Lembang**	**5.96**	**112**	Pn		**Pn**	**19 37 36.2**	**+4.1**
	11nm,0.3s,baz=356,slow=14,SNR=10							
LEM						Sn	**19 38 42.0**	**+2.8**
	4.2nm,0.3s,baz=322,slow=20,SNR=1.2							
LEM						LR	19 40 10.9	
	comp=Z,338nm,19.3s,baz=318,slow=41							
LEM	**Lembang**	**5.96**	**112**	P		**Pn**	**19 37 35.2**	**+3.1**
	0.2nm56nm,1.0s							
MYKOM	**Kota Tinggi**	**6.59**	**16**			**Pn**	**19 37 44.2**	**+3.7**
XMIS	**Christmas Isla**	**6.85**	**149**	Pn		Pn	19 37 40.5	-3.7
XMIS	**Christmas Isla**	**6.85**	**149**	P		Pn	19 37 40.6	-3.5
GSI	**Gunungsitoli**	**7.37**	**322**	Pn		**Pn**	**19 37 49.5**	**-1.7**
GSI	**Gunungsitoli**	**7.37**	**322**	P		**Pn**	**19 37 52.1**	**+0.8**
	0.4nm50nm,0.5s							
GSI	**Gunungsitoli**	**7.37**	**322**	P		**Pn**	**19 37 52.5**	**+1.2**
RPSI	**Rantau Prapat**	**7.88**	**337**			**Pn**	**19 37 58.2**	**-0.1**
PSI	**Prapat**	**7.98**	**337**	Pn		**Pn**	**19 37 58.2**	**-1.6**
	0.9nm,0.3s,baz=137,slow=19,SNR=1.7							
	3.7nm,0.4s							
UGM	**Wanagama**	**9.04**	**112**	Pn		**Pn**	**19 38 16.3**	**+2.1**
UGM	**Wanagama**	**9.04**	**112**	P		**Pn**	**19 38 16.5**	**+2.3**
	199nm,1.6s							
UGM	**Wanagama**	**9.04**	**112**	P		**Pn**	**19 38 15.8**	**+1.6**
IPM	**Ipoh**	**9.07**	**353**	Pn		Pn	19 38 19.9	+5.3
IPM	**Ipoh**	**9.07**	**353**	P		Pn	19 38 19.8	+5.2
PCJI	**Pacitan**	**9.74**	**112**	P		**Pn**	**19 38 25.6**	**+1.8**
	46nm,1.2s							
KULM	**Kulim**	**9.91**	**352**	Pn		**Pn**	**19 38 26.8**	**+0.6**
PWJI	**Pagerwojo**	**10.27**	**110**	P		**Pn**	**19 38 33.3**	**+2.3**
	43nm,0.5s							
GMJI	**Gumukmas**	**11.89**	**108**	P		**Pn**	**19 38 54.9**	**+1.7**
	37nm,2.0s							
JAGI	**Jajag, Banyuwa**	**12.62**	**108**	Pn		**Pn**	**19 39 02.8**	**-0.4**
JAGI	**Jajag, Banyuwa**	**12.62**	**108**	P		**Pn**	**19 39 03.4**	**+0.2**
	99nm,1.7s							
JAGI	**Jajag, Banyuwa**	**12.62**	**108**	P		**Pn**	**19 39 04.9**	**+1.7**
PBA	**Port Blair**	**18.61**	**330**	P		**P**	**19 40 20.2**	**-0.3**
MYLDM	**Lahad Datu**	**19.08**	**60**	P		**P**	**19 40 25.3**	**-0.3**
MMRI	**Maumere**	**20.44**	**102**	P		**P**	**19 40 37.5**	**-3.1**
MMRI						IAmb	IAmb	19 40 51.7
	comp=Z,24nm,0.8s							

BATI	**Baumata**		**22.13**	**106**	P		**P**	**19 41 00.8**	**+2.0**
	comp=Z,12nm,0.5s,baz=338,slow=5.8,SNR=7.8								
BATI					S		**S**	**19 44 53.2**	**-7.6**
	comp=Z,7.0nm,0.3s,baz=122,slow=22,SNR=4.4								
	comp=Z,12nm,0.5s								
PHRA	**Phrae**		**23.01**	**356**	P		**P**	**19 41 07.8**	**-0.2**
CM31	**Chiang Mai Arr**		**23.11**	**352**	P		**P**	**19 41 05.4**	**-3.6**
CMAR	**Chiang Mai Arr**		**23.11**	**352**	P		**P**	**19 41 08.0**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=182,slow=8.9,SNR=22								
CMAR					LR		LR	19 49 31.6	
	comp=Z,39nm,20.8s,baz=195,slow=35								
	comp=Z,3.2nm,0.8s								
CMAR	**Chiang Mai Arr**		**23.11**	**352**	P		**P**	**19 41 08.1**	**-1.0**
CHTO	**Chiang Mai**		**23.46**	**353**	P		**P**	**19 41 11.6**	**-0.8**
MBWA	**Marble Bar**		**23.79**	**135**	P		**P**	**19 41 12.8**	**-2.8**
MBWA					IAmb		IAmb	19 41 33.6	
	comp=Z,24nm,1.4s								
PSA00	**Pilbara Seismi**		**24.14**	**136**	P		**P**	**19 41 15.1**	**-3.8**
PALK	**Pallekele**		**24.35**	**299**	LR		LR	19 50 19.9	
	comp=Z,106nm,18.6s,baz=239,slow=35								
CRAI	**Chiangrai**		**24.72**	**356**	P		**P**	**19 41 23.4**	**-0.7**
FITZ	**Fitzroy Crossi**		**26.69**	**122**	P		**P**	**19 41 42.6**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=315,slow=7.9,SNR=8.9								
FITZ					LR		LR	19 54 02.3	
	comp=Z,76nm,20.4s,baz=234,slow=40								
	comp=Z,1.6nm,0.5s								
FITZ	**Fitzroy Crossi**		**26.69**	**122**			**P**	**19 41 42.5**	**+0.5**
KNRA	**Kununurra**		**28.46**	**115**	P		P	19 41 53.4	-4.5
KNRA					IAmb		IAmb	19 42 17.3	
	comp=Z,16nm,1.3s								
BRDH	**Bariadhala**		**28.95**	**340**	LR		LR	19 55 22.0	
	comp=Z,146nm,18.4s,baz=121,slow=40								
H08S2	**Diego Garcia H**		**29.55**	**263**	T		T	20 12 37.9	
	baz=86,slow=75,SNR=16								
H08S3	**Diego Garcia H**		**29.55**	**263**	T		T	20 12 57.0	
	baz=86,slow=75,SNR=45								
H08S1	**Diego Carcia H**		**29.57**	**263**	T		T	20 12 52.3	
	baz=86,slow=75,SNR=31								
MTN	**Manton Dam**		**29.86**	**108**	IAmb		IAmb	19 42 07.1	
	comp=Z,22nm,1.4s								
MTN					P		**P**	**19 42 09.8**	**-0.5**
PZH	**PanZhiHua**		**30.91**	**359**	P		**P**	**19 42 21.8**	**+2.2**
PZH					pmax		pmax		
	comp=Z,30nm,1.0s								
PZH					pmax		pmax		
	comp=Z,80nm,4.0s								
SHL	**Shillong**		**31.56**	**342**	P		**P**	**19 42 22.1**	**-3.4**
H01W3	**Cape Leeuwin H**		**32.15**	**161**	T		T	20 16 26.4	
	baz=339,slow=74								
H01W2	**Cape Leeuwin H**		**32.17**	**161**	T		T	20 16 26.7	
	baz=339,slow=74								
H01W1	**Cape Leeuwin H**		**32.17**	**161**	T		T	20 16 26.7	
	baz=339,slow=74								
TAPN	**Taplejung**		**34.65**	**337**	*e*P		**P**	**19 42 53.4**	**+0.9**
RAMN	**Ramite**		**34.74**	**335**	*e*P		**P**	**19 42 54.8**	**+1.6**
WB0	**Warramunga Arr**		**34.92**	**118**	P		**P**	**19 42 55.6**	**+1.0**
WB0					IAmb		IAmb	19 43 01.2	
	comp=Z,10nm,1.3s								
WRA	**Warramunga Arr**		**34.94**	**119**	P		**P**	**19 42 55.5**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=308,slow=9.1,SNR=20								
WRA					PcP		**PcP**	**19 45 26.2**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=302,slow=2.0,SNR=3.2								
WRA					LR		LR	19 58 27.1	
	comp=Z,80nm,18.1s,baz=164,slow=38								
	comp=Z,0.4nm,0.4s								
WRA	**Warramunga Arr**		**34.94**	**119**	P		**P**	**19 42 54.3**	**-0.6**
WRAB	**Tennant Creek**		**34.94**	**119**	P		**P**	**19 42 55.6**	**+0.7**
WRAB					IAmb		IAmb	19 43 12.3	
	comp=Z,6.8nm,1.1s								
WB2	**Warramunga Arr**		**34.95**	**119**	P		**P**	**19 42 55.2**	**+0.3**
WB2					IAmb		IAmb	19 42 59.9	
	comp=Z,15nm,1.5s								
WR0	**Warramunga Arr**		**35.12**	**119**	P		**P**	**19 42 56.8**	**+0.4**
WR0					IAmb		IAmb	19 43 14.9	
	comp=Z,4.8nm,0.8s								
JIRN	**Jiri**		**35.53**	**335**	*e*P		**P**	**19 43 01.5**	**+1.3**
PKI	**Pulchoki**		**35.79**	**334**	*e*P		**P**	**19 43 04.1**	**+1.8**
	comp=Z,2.8nm,0.4s								
PKIN	**Phulchoki**		**35.80**	**334**	*e*P		**P**	**19 43 03.8**	**+1.4**
GUN	**Gumba**		**35.88**	**335**	*e*P		**P**	**19 43 04.3**	**+1.1**
	comp=Z,17nm,0.5s								
ASAR	**Alice Springs**		**36.09**	**125**	P		**P**	**19 43 05.8**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=299,slow=8.0,SNR=14								
ASAR					PcP		**PcP**	**19 45 31.5**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=305,slow=3.3,SNR=4.0								
	comp=Z,0.7nm,0.6s								
ASAR	**Alice Springs**		**36.09**	**125**	P		**P**	**19 43 02.3**	**-2.4**
AS31	**Alice Springs**		**36.09**	**125**	P		**P**	**19 43 02.0**	**-2.7**
GKN	**Gorkha**		**36.50**	**334**	*e*P		**P**	**19 43 09.5**	**+1.3**
	comp=Z,6.7nm,0.3s								
DANN	**Dangsing**		**37.19**	**333**	*e*P		**P**	**19 43 15.1**	**+0.8**
	comp=Z,13nm,0.6s								
PYUN	**Piuthan**		**37.34**	**332**	*e*P		**P**	**19 43 17.5**	**+2.1**
NJ2	**Nanjing**		**39.79**	**23**	*e*P		**P**	**19 43 34.7**	**-1.0**
NJ2					pmax		pmax		
	comp=Z,16nm,0.5s								
GOMU	**GeErMu**		**41.14**	**351**	P		**P**	**19 43 43.7**	**-3.5**
GOMU					pP		pP	19 43 48.3	-9.4
GOMU					sP		sP	19 43 49.7	-13
GOMU					pmax		pmax		
	comp=Z,1.0nm,1.1s								
GOMU					pmax		pmax		
	comp=Z,61nm,5.4s								
COEN	**Coen**		**41.57**	**106**	P		**P**	**19 43 50.0**	**-0.7**
COEN					IAmb		IAmb	19 44 13.9	
	comp=Z,20nm,1.3s								
BBOO	**Buckleboo**		**42.37**	**136**	P		**P**	**19 43 55.7**	**-1.3**
GTA	**Gaotai**		**43.83**	**357**	*e*P		**P**	**19 44 09.2**	**+0.4**
GTA					pP		pP	19 44 16.3	-3.0
GTA					sP		sP	19 44 20.3	-3.7
GTA					pmax		pmax		
	comp=Z,2.0nm,1.1s								
CTA	**Charters Tower**		**45.66**	**114**	P		**P**	**19 44 24.4**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=297,slow=6.8,SNR=1.9								
	comp=Z,2.7nm,0.7s								
STKA	**Stephens Creek**		**45.91**	**131**	P		**P**	**19 44 28.0**	**+2.6**
	comp=Z,1.5nm,0.6s,baz=303,slow=9.0,SNR=4.5								
	comp=Z,1.5nm,0.6s								
STKA	**Stephens Creek**		**45.91**	**131**	P		**P**	**19 44 23.2**	**-2.2**
HHC	**Hu-ho-hao-te**		**46.05**	**10**	*e*P		**P**	**19 44 30.3**	**+3.9**
HHC					pmax		pmax		
	comp=Z,19nm,0.8s								
HHC					pmax		pmax		
	comp=Z,140nm,4.0s								
NIL	**Nilore**		**46.78**	**327**	P		**P**	**19 44 32.8**	**+0.6**
KSRS	**Korea Array**		**48.27**	**28**	P		**P**	**19 44 43.6**	**0.0**
	comp=Z,1.6nm,0.6s,baz=225,slow=6.8,SNR=8.9								
	comp=Z,1.6nm,0.6s								
JHS	**Saijyo**		**49.03**	**34**	P		**P**	**19 44 49.5**	**-0.1**
WMQ	**Urumqi**		**49.90**	**346**	*e*P		**P**	**19 44 58.2**	**+2.1**
KSH	**Kashi**		**50.05**	**334**	P		**P**	**19 44 57.2**	**-0.2**
KSH					pP		pP	19 45 08.0	+0.2
KSH					pmax		pmax		
	comp=Z,6.0nm,0.6s								
TARG	**Taragay, Kyrgy**		**51.13**	**337**	P		**P**	**19 45 05.4**	**-0.5**
TARG					IAmb		IAmb	19 45 30.5	
	comp=Z,11nm,1.5s								
NRN	**Naryn**		**51.61**	**335**	P		**P**	**19 45 09.3**	**-0.1**
NRN					IAmb		IAmb	19 45 10.8	
	comp=Z,7.0nm,1.1s								
SONM	**Songino Array**		**52.34**	**4**	P		**P**	**19 45 15.3**	**+0.8**
	comp=Z,6.1nm,0.6s,baz=186,slow=9.4,SNR=53								
SONM					pP		**pP**	**19 45 26.0**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=189,slow=8.2,SNR=5.2								
SONM					PcP		**PcP**	**19 46 25.5**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=190,slow=4.1,SNR=6.1								
	comp=Z,6.1nm,0.6s								
SONM	**Songino Array**		**52.34**	**4**	P		**P**	**19 45 14.7**	**+0.2**
SONM					IAmb		IAmb	19 45 16.1	
	comp=Z,7.4nm,0.6s								
ULN	**Ulaanbaatar**		**52.42**	**4**	P		**P**	**19 45 14.0**	**-1.0**
ULN					IAmb		IAmb	19 45 16.5	
	comp=Z,6.5nm,1.3s								
CHGR	**Chuyangaron**		**52.71**	**328**	P		**P**	**19 45 14.0**	**-3.3**
CHGR					IAmb		IAmb	19 45 40.1	
	comp=Z,7.2nm,0.7s								
BTK	**Batken**		**52.90**	**330**	P		**P**	**19 45 18.3**	**-0.4**
MJAR	**Matsushiro Arr**		**53.05**	**36**	P		**P**	**19 45 18.2**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=212,slow=7.3,SNR=3.0								
	comp=Z,1.4nm,0.6s								
AAK	**Ala-Archa**		**53.24**	**335**	LR		LR	20 10 12.0	
	comp=Z,31nm,21.0s,baz=154,slow=38								
MK31	**Makanchi Array**		**54.07**	**343**	P		**P**	**19 45 27.1**	**0.0**
MK31					IAmb		IAmb	19 45 28.0	
	comp=Z,6.0nm,0.8s								
MKAR	**Makanchi Array**		**54.07**	**343**	P		**P**	**19 45 27.2**	**+0.1**
	comp=Z,7.5nm,0.6s,baz=146,slow=8.2,SNR=91								
MKAR					pP		**pP**	**19 45 38.0**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=153,slow=9.0,SNR=8.9								
	comp=Z,7.5nm,0.6s								
MKAR	**Makanchi Array**		**54.07**	**343**	P		**P**	**19 45 27.1**	**0.0**
MAKZ	**Makanchi**		**54.17**	**343**	P		**P**	**19 45 26.8**	**-1.0**
MAKZ					IAmb		IAmb	19 45 28.6	
	comp=Z,3.4nm,0.8s								
BNX	**BinXian**		**54.96**	**21**	⇓P		**P**	**19 45 33.7**	**+0.2**
BNX					pmax		pmax		
	comp=Z,9.0nm,0.8s								
BNX					pmax		pmax		
	comp=Z,78nm,4.2s								
KK31	**Karatay Array**		**55.38**	**332**	P		**P**	**19 45 36.7**	**0.0**
KKAR	**Karatay Array**		**55.38**	**332**	P		**P**	**19 45 36.1**	**-0.5**
KKAR	**Karatay Array**		**55.38**	**332**	P		**P**	**19 45 36.2**	**-0.4**
KKAR					IAmb		IAmb	19 46 09.1	
	comp=Z,1.5nm,0.9s								
USRK	**Ussuriysk Ar.**		**55.52**	**26**	P		**P**	**19 45 37.5**	**-0.1**
	comp=Z,4.7nm,0.5s,baz=212,slow=5.4,SNR=38								
	comp=Z,4.7nm,0.5s								
USRK	**Ussuriysk Ar.**		**55.52**	**26**	P		**P**	**19 45 37.1**	**-0.4**
KURK	**Kurchatov**		**58.66**	**343**	P		**P**	**19 45 59.3**	**-0.3**
GEYT	**Alibeck**		**58.74**	**320**	P		**P**	**19 46 01.2**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=133,slow=6.5,SNR=6.0								
GEYT					pP		**pP**	**19 46 11.2**	**0.0**
	comp=Z,2.5nm,0.8s,baz=69,slow=8.3,SNR=3.4								
	comp=Z,3.2nm,0.8s								
GEYT	**Alibeck**		**58.74**	**320**	P		**P**	**19 45 59.8**	**-0.8**
GEYT					IAmb		IAmb	19 46 01.9	
	comp=Z,3.0nm,0.8s								
ZAA0	**Zalesovo Array**		**60.09**	**348**	P		**P**	**19 46 09.0**	**-0.5**
ZALV	**Zalesovo Beam**		**60.09**	**348**	P		**P**	**19 46 09.2**	**-0.2**
	comp=Z,10nm,0.5s,baz=168,slow=5.0,SNR=53								
ZALV					pP		**pP**	**19 46 19.9**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=151,slow=7.5,SNR=4.6								
	comp=Z,10nm,0.5s								
ZALV	**Zalesovo Beam**		**60.09**	**348**	P		**P**	**19 46 08.7**	**-0.7**
BRVK	**Borovoye**		**63.38**	**339**	P		**P**	**19 46 30.6**	**-1.0**
BRVK					IAmb		IAmb	19 46 31.9	
	comp=Z,4.0nm,0.7s								
KMBO	**Kilima Mbogo**		**64.80**	**271**	P		**P**	**19 46 44.5**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=32,slow=21,SNR=1.3								
	comp=Z,0.8nm,0.6s								
ABKAR	**Akbulak array**		**64.88**	**331**	P		**P**	**19 46 41.2**	**-0.4**
ABKAR					IAmb		IAmb	19 46 42.4	
	comp=Z,5.7nm,0.8s								
ABKAR	**Akbulak array**		**64.88**	**331**	P		**P**	**19 46 41.3**	**-0.3**
**G

ISC 08 20:01:38.7±0.7, 1°81N±0.08×126°37E±0.08, h47km, n49, σ1°26/51, mb4.0/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.43**	**136**		**Pn**	**20 02 00.2**	**-2.0**
TNTI	**Ternate**	**1.43**	**136**	P	**Pn**	**20 02 01.1**	**-1.2**
TNTI	**Ternate**	**1.43**	**136**	P	**Pn**	**20 02 01.6**	**-0.7**
SGSI	**Sangihe**	**2.05**	**336**	P	**Pn**	**20 02 08.4**	**-2.3**
LBMI	**Labuha**	**2.68**	**155**	P	**Pn**	**20 02 19.5**	**+0.1**
KMSI	**Cibinong**	**2.69**	**243**	P	**Pn**	**20 02 19.2**	**-0.3**
GTOI	**Gorontalo**	**3.56**	**251**	P	**Pn**	**20 02 31.0**	**-0.5**
SANI	**Sanana**	**3.85**	**186**	P	**Pn**	**20 02 33.2**	**-2.3**
LUWI	**Luwuk**	**4.58**	**232**	Pn	**Pn**	**20 02 45.4**	**-0.1**
LUWI	**Luwuk**	**4.58**	**232**	P	**Pn**	**20 02 44.0**	**-1.5**
LUWI	**Luwuk**	**4.58**	**232**	P	**Pn**	**20 02 46.3**	**+0.8**
MRSI	**Marisa**	**4.62**	**253**	P	**Pn**	**20 02 45.4**	**-0.7**
NLAI	**Namlea** 0.1nm12nm,0.4s	**5.07**	**172**	P	**Pn**	**20 02 52.1**	**-0.1**
APSI	**Ampana** 0.3nm799nm92nm,1.2s	**5.44**	**240**	P	**Pn**	**20 02 58.4**	**+1.1**
MPSI	**Mapaga** 0.1nm25nm,0.8s	**6.64**	**257**	P	**Pn**	**20 03 12.2**	**-1.6**
TTSI	**Tana Toraja** 14nm,0.6s	**8.13**	**234**	P	**Pn**	**20 03 35.5**	**+1.2**
BBSI	**Bau Bau** 2.9nm,0.6s	**8.18**	**208**	P	**Pn**	**20 03 36.1**	**+1.1**
MYLDM	**Lahad Datu**	**8.54**	**293**		**Pn**	**20 03 39.4**	**-0.5**
SPSI	**Sidrap Palu** 13nm,0.9s	**8.74**	**229**	P	**Pn**	**20 03 43.1**	**+0.5**
BKSI	**Bulukumba** 12nm,1.0s	**9.44**	**221**	P	**Pn**	**20 03 52.0**	**-0.2**
BSSI	**Bau Bau, Buton** 14nm,0.5s	**9.84**	**217**	P	**Pn**	**20 03 58.5**	**+0.8**
EDFI	**Ende, Flores**	**11.48**	**204**	P	**Pn**	**20 04 21.6**	**+1.4**
MTN	**Manton Dam**	**15.30**	**162**	Pn	**Pn**	**20 05 10.7**	**-1.0**
MTN	comp=Z,9.5nm,1.1s			IAmb	IAmb	20 05 16.5	
KNRA	**Kununurra**	**17.53**	**172**	P	**Pn**	**20 05 38.3**	**-1.6**
FITZ	**Fitzroy Crossi** comp=Z,0.3nm,0.3s,baz=11,slow=12,SNR=12 comp=Z,3.0nm,0.9s	**19.79**	**182**	P	**P**	**20 06 04.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.79**	**182**	P	**P**	**20 06 04.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.79**	**182**	P	**P**	**20 06 06.0**	**+0.7**
WB0	**Warramunga Arr** comp=Z,6.4nm,0.8s	**22.84**	**160**		**P**	**20 06 37.4**	**-0.7**
WB0				IAmb	IAmb	20 06 41.2	
WRAB	**Tennant Creek** comp=Z,7.9nm,1.1s	**22.98**	**160**	P	**P**	**20 06 38.5**	**-1.0**
WRAB				IAmb	IAmb	20 06 42.2	
WRAB	**Tennant Creek**	**22.98**	**160**	P	**P**	**20 06 40.5**	**+1.0**
WRA	**Warramunga Arr** comp=Z,1.8nm,0.3s,baz=342,slow=9.7,SNR=57	**22.98**	**160**	P	**P**	**20 06 38.0**	**-1.5**
WRA	comp=Z,0.1nm,0.4s,baz=341,slow=2.1,SNR=1.1 comp=Z,1.8nm,0.3s			PcP	**PcP**	**20 10 28.7**	**+0.3**
WRA	**Warramunga Arr**	**22.98**	**160**	P	**P**	**20 06 37.6**	**-1.9**
WB2	**Warramunga Arr** comp=Z,6.9nm,1.0s	**22.99**	**160**	P	**P**	**20 06 39.6**	**0.0**
WB2				IAmb	IAmb	20 06 41.4	
WR0	**Warramunga Arr** comp=Z,5.4nm,1.1s	**23.07**	**160**	P	**P**	**20 06 39.8**	**-0.6**
WR0				IAmb	IAmb	20 06 45.8	
MBWA	**Marble Bar**	**23.73**	**196**	P	**P**	**20 06 48.5**	**+1.8**
QIS	**Mount Isa**	**25.73**	**150**	P	**P**	**20 07 07.9**	**+2.9**
AS31	**Alice Springs** comp=Z,1.6nm,0.5s	**26.36**	**164**	P	**P**	**20 07 10.1**	**-0.6**
AS31				IAmb	IAmb	20 07 16.3	
ASAR	**Alice Springs** comp=Z,1.7nm,0.5s,baz=341,slow=7.4,SNR=35	**26.36**	**164**	P	**P**	**20 07 10.1**	**-0.6**
ASAR	comp=Z,0.2nm,0.5s,baz=350,slow=2.0,SNR=4.2 comp=Z,1.7nm,0.5s			PcP	**PcP**	**20 10 35.4**	**-0.4**
ASAR	**Alice Springs**	**26.36**	**164**	P	**P**	**20 07 10.8**	**+0.1**
WRKA	**Warakurna**	**26.75**	**176**	P	**P**	**20 07 16.0**	**+1.8**
OOD	**Oodnadatta**	**30.77**	**164**	P	**P**	**20 07 52.1**	**+2.3**
KSRS	**Korea Array** comp=Z,0.5nm,0.5s,baz=177,slow=9.8,SNR=2.5 comp=Z,0.5nm,0.5s	**35.50**	**2**	P	**P**	**20 08 31.7**	**+0.7**
STKA	**Stephens Creek** comp=Z,1.5nm,0.6s,baz=339,slow=11,SNR=1.8 comp=Z,1.5nm,0.6s	**36.48**	**158**	P	**P**	**20 08 38.8**	**-0.7**
SONM	**Songino Array** comp=Z,0.3nm,0.6s,baz=152,slow=6.4,SNR=2.4 comp=Z,0.3nm,0.6s	**49.00**	**342**	P	**P**	**20 10 22.3**	**+1.5**
MK31	**Makanchi Array** comp=Z,1.6nm,1.0s	**58.93**	**326**	P	**P**	**20 11 32.1**	**-1.2**
MK31				IAmb	IAmb	20 11 33.2	
MKAR	**Makanchi Array** comp=Z,0.8nm,0.6s,baz=120,slow=7.1,SNR=15 comp=Z,0.8nm,0.6s	**58.93**	**326**	P	**P**	**20 11 31.7**	**-1.5**
MAKZ	**Makanchi**	**59.11**	**326**	P	**P**	**20 11 34.2**	**-0.3**
KURK	**Kurchatov**	**63.17**	**328**	P	**P**	**20 12 00.3**	**-1.6**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=38,slow=2.6,SNR=1.7	**123.15**	**287**	PKP	**PKiKP**	**20 20 32.6**	**+1.1**

*IDC **08** 20:13:00.6±3.2, 35°.73N×140°.49E, h0km, mb3.3/2, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=73.1km s-min=23.4km az=55.0*
*JMA **08** 20:13:08.2±0.1, 35°.7N±0°.3×140°.2E±0°.5, h33km±1km, MV2.9/35, NORTHERN CHIBA PREF*

ISC 08 20:13:07.2±1.1, 35°.68N±0°.04×140°.28E±0°.07, h47km±8km, n18, σ1°21/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.14**	**106**	P	**Pn**	**20 13 14.8**	**0.0**
JCN	**Nagara**	**0.27**	**194**	*i* P	**Pn**	**20 13 16.2**	**+0.5**
JCN				S	**Sn**	**20 13 21.5**	**-0.4**
JIHU	**Itakohorinouch**	**0.35**	**35**	P	**Pn**	**20 13 16.8**	**+0.3**
TOK	**Tokyo**	**0.43**	**271**	P	**Pn**	**20 13 17.6**	**+0.3**
JYT	**Yasato**	**0.55**	**353**	*i* P	**Pn**	**20 13 18.5**	**-0.4**
JYT				S	**Sn**	**20 13 25.7**	**-1.5**
BSO3	**Boso 3**	**0.90**	**168**	P	**Pn**	**20 13 24.1**	**+0.9**
JAG	**Ashikaga**	**1.00**	**318**	*i* P	**Pn**	**20 13 24.8**	**-0.1**
JOD2	**Odawara 2**	**1.06**	**247**	P	**Pn**	**20 13 25.5**	**-0.2**
JOD2				S	**Sn**	**20 13 38.8**	**-0.5**
MJAR	**Matsushiro Arr** 1.3nm,0.3s,baz=117,slow=7.0,SNR=48	**1.89**	**298**	Pn	**Pn**	**20 13 35.6**	**-1.3**
MJAR	1.3nm,0.3s,baz=130,slow=14,SNR=2.5			Sn	**Sn**	**20 14 02.1**	**+2.6**
JHJ	**Hachijo jima 2** 53nm,0.3s,baz=22,slow=11,SNR=3.4	**2.59**	**189**	Pn	**Pn**	**20 13 46.4**	**-0.2**
JHJ	44nm,0.3s,baz=349,slow=19,SNR=6.6 90nm,0.3s			Sn	**Sn**	**20 14 14.5**	**-2.3**
H11N2	**WAKE ISLAND Hy** baz=308,slow=75,SNR=9.4	**28.29**	**117**	T	T	20 48 22.9	
H11N1	**WAKE ISLAND Hy** baz=308,slow=75,SNR=9.1	**28.30**	**117**	T	T	20 48 24.5	
H11N3	**WAKE ISLAND Hy** baz=308,slow=75,SNR=5.9	**28.31**	**117**	T	T	20 48 20.6	
H11S3	**WAKE ISLAND Hy** baz=314,slow=74	**28.94**	**119**	T	T	20 48 56.1	
H11S1	**WAKE ISLAND Hy** baz=314,slow=74	**28.95**	**119**	T	T	20 48 59.8	
H11S2	**WAKE ISLAND Hy** baz=314	**28.96**	**119**	T	T	20 48 59.4	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=80,slow=9.8,SNR=2.2 0.2nm,0.6s	**44.08**	**303**	P	**P**	**20 21 11.5**	**+1.0**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=1.1,slow=7.3,SNR=8.3 0.3nm,0.7s	**55.60**	**187**	P	**P**	**20 22 37.9**	**-0.3**

JMA 08 20:17:45.9±0.1, 35°.0N±0°.1×139°.1E±0°.3, h6km, E OFF IZU PENINSULA, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	**Ajiro2**	**0.05**	**321**	P	Pg	20 17 47.4	+0.1
AJI	**Ajiro2**	**0.05**	**321**	P	Pg	20 17 47.6	+0.3
KTJ3	**Kamata3**	**0.09**	**215**	P	Pg	20 17 47.9	+0.1
KTJ3	**Kamata3**	**0.09**	**215**	P	Pg	20 17 48.3	+0.4
JHTM	**Izuhatsuma**	**0.11**	**245**	P	Pg	20 17 48.6	+0.3
JHTM	**Izuhatsuma**	**0.11**	**245**	P	Pg	20 17 48.8	+0.6

JMA 08 20:17:46.0±0.1, 35°.0N±0°.2×139°.1E±0°.2, h7km, MV2.5/10, E OFF IZU PENINSULA, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	**Ajiro2**	**0.04**	**313**	*eS*	Sg	20 17 48.9	+0.2
KTJ3	**Kamata3**	**0.09**	**212**	S	Sg	20 17 50.1	+0.3
JOD2	**Odawara 2**	**0.25**	**352**	P	Pg	20 17 51.1	+0.1
JOD2				S	Sg	20 17 55.1	+0.7
JIZS	**Izushimoda**	**0.36**	**215**	P	Pg	20 17 53.0	-0.1
JIM2	**Oshima 3**	**0.38**	**140**	P	Pg	20 17 53.6	0.0
JFNN	**Fujinakano**	**0.41**	**296**	P	Pg	20 17 54.0	0.0
JTHY	**Toshimahigashi**	**0.51**	**165**	P	Pg	20 17 56.0	+0.2
JTHY				S	Sg	20 18 03.6	+1.2
JYN	**Shimob**	**0.68**	**315**	P	Pg	20 17 58.7	-0.5
JYN				S	Sg	20 18 08.2	+0.1
MJAR	**Matsushiro Arr** comp=Z,48nm,19.6s,baz=131,slow=47	**1.70**	**334**	LR	LR	20 19 06.6	
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=156,slow=14,SNR=12	**1.70**	**334**	Pn	Pn	20 18 15.6	-0.5
MJAR	**Matsushiro Arr** 3.4nm,0.3s,baz=155,slow=15,SNR=3.2	**1.70**	**334**	Sn	Sg	20 18 44.1	+3.4
MAJO	**Matsushiro**	**1.70**	**334**		Pn	20 18 16.3	+0.2

*IDC **08** 20:17:47.7±0.9, 35°.65N×139°.94E, h0km, mb3.7/8, mbtmp3.9/10, ML4.7/2, MS3.1/5, Error ellipse: s-maj=30.9km s-min=14.8km az=74.0*
*NEIC **08** 20:17:50.0±1.7, 35°.61N±0°.03×139°.88E±0°.06, h10km±5km, mb4.4/8, Error ellipse: s-maj=8.2km s-min=1.6km az=122.0*
*JMA **08** 20:17:53.1±0.1, 35°.7N±0°.3×140°.2E±0°.5, h34km±1km, MV3.3/34, NORTHERN CHIBA PREF*
JMA Felt I J1 at NORTHERN CHIBA PREF .

ISC 08 20:17:52.8±0.7, 35°.66N±0°.04×140°.23E±0°.07, h35km, n49, σ1°37/39, mb3.8/12, MS3.7/3, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.18**	**94**	P	**Pn**	**20 17 59.9**	**+0.5**
JCN	**Nagara**	**0.24**	**186**	⇓P	**Pn**	**20 18 01.3**	**+1.3**
JIHU	**Itakohorinouch**	**0.39**	**38**	*eP*	**Pn**	**20 18 01.9**	**0.0**
JYT	**Yasato**	**0.57**	**357**		**Pn**	**20 18 03.0**	**-1.5**
JYT	**Yasato**	**0.57**	**357**	*i* P	**Pn**	**20 18 03.6**	**-0.8**
JYT				*eS*	**Sn**	**20 18 10.5**	**-2.1**
BSO3	**Boso 3**	**0.88**	**165**	P	**Pn**	**20 18 09.1**	**+0.6**
JAG	**Ashikaga**	**0.99**	**321**	P	**Pn**	**20 18 09.9**	**-0.3**
JOD2	**Odawara 2**	**1.01**	**248**	S	**Sn**	**20 18 23.9**	**+0.3**
JMM	**Marumori**	**2.25**	**11**		**Pn**	**20 18 28.4**	**+0.8**
JGF	**Kuroka**	**2.34**	**269**	Pn	Pn	20 18 23.6	-5.3
JHJ	**Hachijo jima 2** 132nm,0.3s,baz=256,slow=23,SNR=25	**2.56**	**188**	Pn	**Pn**	**20 18 31.3**	**-0.4**
JHJ	131nm,0.3s,baz=261,slow=22,SNR=10 195nm,0.3s			Sn	**Sn**	**20 19 00.7**	**-1.0**
JHJ2	**Mitsune**	**2.56**	**188**	Pn	**Pn**	**20 18 31.8**	**0.0**
INU	**Inuyama**	**2.64**	**264**	Pn	Pn	20 18 28.2	-4.6
JSD	**Sado**	**2.85**	**327**		**Pn**	**20 18 35.4**	**-0.4**
JMN	**Monobe**	**5.57**	**252**	Pn	Pn	20 19 08.4	-4.9
JHS	**Saijyo**	**5.85**	**266**	Pn	**Pn**	**20 19 13.2**	**-3.8**
ERM	**Erimo**	**6.75**	**19**	Pn	**Pn**	**20 19 30.3**	**+1.0**
JCJ	**Chichijima** 19nm,0.3s,baz=294,slow=18,SNR=5.9	**8.70**	**168**	Pn	**Pn**	**20 19 54.2**	**-1.9**
JCJ	comp=Z,46nm,18.7s,baz=64,slow=39 36nm,0.3s			LR	LR	20 23 25.9	
JCJ	**Chichijima**	**8.70**	**168**	Pn	**Pn**	**20 19 54.5**	**-1.6**
KSRS	**Korea Array** 0.2nm,0.3s,baz=91,slow=12,SNR=2.2	**10.06**	**284**	Pn	**Pn**	**20 20 17.4**	**+2.7**
KSRS	comp=Z,24nm,20.7s,baz=65,slow=38			LR	LR	20 24 05.7	
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=135,slow=14,SNR=3.6	**10.62**	**326**	Pn	**Pn**	**20 20 25.9**	**+3.5**
PETK	**Petropavlovsk-**	**21.36**	**30**	P	**P**	**20 22 38.5**	**+1.7**
GUMO	**Guam** comp=Z,33nm,18.8s,baz=163,slow=35	**22.37**	**168**	LR	LR	20 30 55.7	
SONM	**Songino Array** 0.3nm,0.5s,baz=98,slow=9.4,SNR=2.6 0.3nm,0.5s	**27.80**	**306**	P	**P**	**20 23 36.0**	**-2.6**
H11N2	**WAKE ISLAND Hy** baz=308,slow=75,SNR=23	**28.32**	**117**	T	T	20 53 11.2	
H11N1	**WAKE ISLAND Hy** baz=308,slow=75,SNR=21	**28.33**	**117**	T	T	20 53 10.4	
H11N3	**WAKE ISLAND Hy** baz=308,slow=75,SNR=24	**28.34**	**117**	T	T	20 53 13.1	
H11S3	**WAKE ISLAND Hy** baz=313,slow=74	**28.97**	**119**	T	T	20 53 53.7	
H11S1	**WAKE ISLAND Hy** baz=313,slow=74	**28.97**	**119**	T	T	20 53 53.7	
H11S2	**WAKE ISLAND Hy** baz=313	**28.98**	**119**	T	T	20 53 48.8	
ZALV	**Zalesovo Beam** 1.1nm,0.5s,baz=94,slow=6.7,SNR=6.0 1.1nm,0.5s	**42.15**	**314**	P	**P**	**20 25 41.0**	**-0.6**
MK31	**Makanchi Array**	**44.05**	**303**	P	**P**	**20 25 57.2**	**+0.1**
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=87,slow=9.0,SNR=11 0.9nm,0.6s	**44.05**	**303**	P	**P**	**20 25 57.1**	**-0.1**
MKAR	**Makanchi Array**	**44.05**	**303**	P	**P**	**20 25 57.3**	**+0.1**
KURK	**Kurchatov**	**46.04**	**309**	P	**P**	**20 26 12.8**	**0.0**
KURK	comp=Z,4.0nm,0.8s			IAmb	IAmb	20 26 13.5	
TARG	**Taragay, Kyrgy**	**48.16**	**297**	P	**P**	**20 26 30.1**	**+0.1**
TARG	comp=Z,2.5nm,0.6s			IAmb	IAmb	20 26 31.7	
ILAR	**Eielson Array** comp=Z,0.7nm,0.7s,baz=271,slow=6.5,SNR=9.2 comp=Z,0.7nm,0.7s	**51.17**	**32**	P	**P**	**20 26 52.8**	**+0.7**
WB0	**Warramunga Arr**	**55.40**	**187**	P	**P**	**20 27 23.4**	**-0.1**
WB0	comp=Z,4.7nm,1.2s			IAmb	IAmb	20 27 52.1	
WRAB	**Tennant Creek**	**55.56**	**187**	P	**P**	**20 27 24.3**	**-0.5**
WRAB	comp=Z,5.6nm,1.2s			IAmb	IAmb	20 27 30.1	
WB2	**Warramunga Arr**	**55.57**	**187**	P	**P**	**20 27 24.7**	**-0.1**
WR0	**Warramunga Arr**	**55.57**	**186**	P	**P**	**20 27 24.2**	**-0.6**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.5s,baz=1.0,slow=7.5,SNR=20 comp=Z,0.5nm,0.5s	**55.58**	**187**	P	**P**	**20 27 23.7**	**-1.2**
WRA	**Warramunga Arr**	**55.58**	**187**	P	**P**	**20 27 24.3**	**-0.6**
ABKAR	**Akbulak array**	**58.10**	**310**	P	**P**	**20 27 42.5**	**0.0**
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=16,slow=11,SNR=7.1 comp=Z,0.2nm,0.5s	**59.30**	**187**	P	**P**	**20 27 52.1**	**+1.0**
FINES	**FINESS Array B** comp=Z,1.0nm,0.7s,baz=54,slow=7.4,SNR=1.7 comp=Z,1.0nm,0.7s	**69.58**	**332**	P	**P**	**20 28 57.2**	**-0.7**
HFS	**Hagfors** comp=Z,45nm,18.6s,baz=236,slow=39	**74.94**	**335**	LR	LR	21 06 24.8	
NOA	**NORSAR Array B** comp=Z,0.5nm,0.8s,baz=42,slow=5.4,SNR=2.7 comp=Z,0.5nm,0.8s	**75.08**	**337**	P	**P**	**20 29 30.6**	**-0.2**
MLR	**Muntele Rosu** comp=Z,30nm,18.3s,baz=169,slow=39	**79.81**	**319**	LR	LR	21 08 59.8	

*NEIC **08** 20:27:44.8±1.5, 0°.1S±0°.1×18°.2W±0°.1, h10km±2km, mb4.1/3, Error ellipse: s-maj=24.3km s-min=17.3km az=245.0*
*IDC **08** 20:27:47.1±1.6, 0°.29N×18°.00W, h0km, mb3.8/5, mbtmp4.1/8, ML4.2/3, MS3.4/9, Error ellipse: s-maj=45.6km s-min=31.3km az=145.0*

ISC 08 20:27:45.3±0.8, 0°.1S±0°.1×18°.1W±0°.1, h10km, n30, σ1°42/19, mb3.9/6, MS3.4/8, 2C-1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR** baz=335,slow=73,SNR=776	**8.50**	**155**	T	T	20 38 54.6	
H10N3	**ASCENSION HYDR** baz=335,slow=73,SNR=1415	**8.51**	**155**	T	T	20 38 52.6	
H10N1	**ASCENSION HYDR** baz=335,slow=73,SNR=1582	**8.52**	**155**	T	T	20 38 50.8	
ASCN	**Ascension**	**8.65**	**155**	Pn	**Pn**	**20 29 50.0**	**-0.5**
ASCN				Sn	Sn	20 31 19.2	-9.1
H10S3	**ASCENSION HYDR** baz=242,slow=74,SNR=414	**9.46**	**159**	T	T	20 39 59.4	
H10S2	**ASCENSION HYDR** baz=338,slow=74,SNR=46	**9.47**	**159**	T	T	20 39 59.0	
LIC	**Lamto** 16nm,0.5s	**14.47**	**64**	⇑*eP*	**Pn**	**20 31 12.0**	**+1.6**
TIC	**Toumodi** 13nm,0.2s	**14.66**	**63**	⇑*iP*	**Pn**	**20 31 12.7**	**-0.3**
BBTS	**Babate** 3.3nm,0.3s,baz=150,slow=20,SNR=1.7	**14.73**	**6**	Pn	**Pn**	**20 31 11.5**	**-2.3**
BBTS	2.0nm,0.3s,baz=142,slow=23,SNR=1.8			Sn	Sn	20 33 42.0	-15
KIC	**Kosan Boka** 8.4nm,0.3s	**14.79**	**64**	⇓*iP*	**Pn**	**20 31 14.8**	**+0.1**
DBIC	**Dimbokro** 0.6nm,0.3s,baz=255,slow=13,SNR=9.0	**14.82**	**63**	Pn	**Pn**	**20 31 13.2**	**-1.9**
DBIC	0.1nm,0.3s,baz=333,slow=22,SNR=1.4			Sn	Sn	20 33 46.1	-13
DBIC	comp=Z,53nm,18.7s,baz=224,slow=34 6.6nm,0.3s			LR	LR	20 36 01.4	
DBIC	**Dimbokro**	**14.82**	**63**	Pn	**Pn**	**20 31 13.8**	**-1.3**
RCBR	**Riachuelo** 12nm,1.0s,baz=5.9,slow=13,SNR=2.2	**18.66**	**252**	P	**Pn**	**20 32 04.1**	**+0.1**
RCBR	**Riachuelo** comp=Z,12nm,1.1s	**18.66**	**252**	P	**P**	**20 32 01.4**	**-2.2**
RCBR				IAmb	IAmb	20 32 37.1	
KOWA	**Kowa** comp=Z,0.4nm,0.3s,baz=205,slow=9.0,SNR=10	**20.10**	**43**	P	**P**	**20 32 19.1**	**-0.2**
KOWA	comp=Z,2.0nm,0.6s,baz=173,slow=16,SNR=2.7			S	S	20 35 51.6	-14
KOWA	comp=Z,103nm,21.8s,baz=255,slow=34 comp=Z,5.4nm,0.7s			LR	LR	20 38 52.1	
KOWA	**Kowa**	**20.10**	**43**	P	**P**	**20 32 19.8**	**+0.5**
KOWA	comp=Z,8.4nm,0.9s			IAmb	IAmb	20 32 22.3	
TOA0	**Torodi Ar. Sit**	**23.62**	**55**		**P**	**20 32 56.3**	**-0.5**
TOA0	comp=Z,7.2nm,0.9s			IAmb	IAmb	20 32 58.4	
TORD	**Torodi Ar. Bea** comp=Z,4.2nm,0.7s,baz=235,slow=9.5,SNR=16	**23.62**	**55**	P	**P**	**20 32 56.5**	**-0.3**
TORD	comp=Z,78nm,21.8s,baz=242,slow=33 comp=Z,4.2nm,0.7s			LR	LR	20 40 27.5	
MDP	**Montagnes des** comp=Z,52nm,18.3s,baz=182,slow=33	**34.88**	**279**	LR	LR	20 47 02.6	
MDT	**Midelt** comp=Z,59nm,19.6s,baz=194,slow=36	**35.11**	**20**	LR	LR	20 48 32.0	
ESDC	**Sonseca Array** comp=Z,1.3nm,1.1s,baz=218,slow=9.8,SNR=5.1 comp=Z,1.3nm,1.1s	**41.62**	**16**	P	**P**	**20 35 34.5**	**+0.7**
VAE	**Valguarnera** comp=Z,59nm,18.4s,baz=118,slow=39	**47.93**	**35**	LR	LR	20 58 25.0	
DAVOX	**Davos/Dischmat** comp=Z,38nm,18.1s,baz=256,slow=39	**52.71**	**24**	LR	LR	21 01 28.5	
KMBO	**Kilima Mbogo** comp=Z,46nm,21.2s,baz=94,slow=33	**55.36**	**91**	LR	LR	20 57 54.0	
GERES	**GERESS Array B** comp=Z,0.6nm,0.7s,baz=209,slow=7.6,SNR=5.2 comp=Z,0.6nm,0.7s	**55.92**	**25**	P	**P**	**20 37 24.2**	**+0.6**
ATAH	**Atahualpa** comp=Z,43nm,18.3s,baz=186,slow=35	**60.53**	**262**	LR	LR	21 03 12.2	
FINES	**FINESS Array B** comp=Z,0.9nm,0.5s,baz=250,slow=4.1,SNR=8.6 comp=Z,0.9nm,0.5s	**69.92**	**21**	P	**P**	**20 38 57.9**	**+1.5**
TXAR	**Lajitas Array** comp=Z,0.5nm,0.8s,baz=126,slow=6.4,SNR=4.5 comp=Z,0.5nm,0.8s	**86.17**	**299**	P	**P**	**20 40 29.7**	**+2.3**
ASAR	**Alice Springs** comp=Z,0.2nm,0.8s,baz=211,slow=2.7,SNR=1.8	**144.00**	**133**	PKP	**PKiKP**	**20 47 24.0**	**-1.7**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.9s,baz=236,slow=3.0,SNR=2.4	**146.47**	**128**	PKPbc	**PKiKP**	**20 47 32.1**	**+1.3**

*IDC **08** 21:06:29.0±1.7, 6°.25S×147°.88E, h0km, mb3.8/3, mbtmp3.8/6, ML3.7/2, MS2.9/2, Error ellipse: s-maj=44.3km s-min=26.7km az=132.0*
*NEIC **08** 21:06:37.4±1.6, 6°.3S±0°.2×148°.1E±0°.2, h102km±18km, mb4.0/11, Error ellipse: s-maj=30.9km s-min=11.9km az=136.0*

ISC 08 21:06:34.1±1.1, 6°.4S±0°.2×148°.1E±0°.2, h51km, n22, σ1°31/18, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 15nm,0.3s,baz=19,slow=8.6,SNR=16	**3.17**	**196**	Pn	**Pn**	**21 07 22.5**	**+1.0**
PMG	8.2nm,0.3s,baz=328,slow=17,SNR=6.9			Sn	Sn	21 08 05.1	+7.0
PMG	comp=Z,234nm,20.7s,baz=312,slow=48			LR	LR	21 09 01.8	
PMG	**Port Moresby**	**3.17**	**196**		Pn	21 07 26.2	+4.7
KRVT	**Keravat (AS076** 4.3nm,0.3s,baz=254,slow=23,SNR=1.9 27nm,0.5s	**4.43**	**63**	Pn	**Pn**	**21 07 39.5**	**+0.7**
RABL	**Rabaul**	**4.61**	**63**	Pn	Pn	21 07 46.5	+5.3
WB0	**Warramunga Arr** comp=Z,4.0nm,0.9s	**18.83**	**224**		**P**	**21 10 49.6**	**-0.3**
WB0				IAmb	IAmb	21 10 57.6	
WR0	**Warramunga Arr** comp=Z,8.9nm,1.4s	**18.86**	**223**	P	**P**	**21 10 49.5**	**-0.7**
WR0				IAmb	IAmb	21 11 16.9	
WRAB	**Tennant Creek** comp=Z,4.6nm,1.1s	**18.97**	**223**	P	**P**	**21 10 50.6**	**-0.8**
WRAB				IAmb	IAmb	21 11 31.4	
WB2	**Warramunga Arr** comp=Z,6.9nm,1.2s	**18.98**	**223**	P	**P**	**21 10 50.9**	**-0.6**
WB2				IAmb	IAmb	21 11 25.6	
WRA	**Warramunga Arr** comp=Z,0.2nm,0.3s,baz=50,slow=11,SNR=22 comp=Z,0.6nm,0.5s	**18.99**	**223**	P	**P**	**21 10 50.9**	**-0.7**
WRA	**Warramunga Arr**	**18.99**	**223**	P	**P**	**21 10 50.9**	**-0.7**
KNRA	**Kununurra**	**21.08**	**242**	P	**P**	**21 11 13.1**	**-1.2**
KNRA	comp=Z,13nm,1.1s			IAmb	IAmb	21 11 26.1	
AS31	**Alice Springs**	**21.95**	**217**	P	**P**	**21 11 22.1**	**-1.6**
ASAR	**Alice Springs** comp=Z,1.4nm,0.6s,baz=51,slow=9.3,SNR=16 comp=Z,1.4nm,0.6s	**21.96**	**217**	P	**P**	**21 11 24.1**	**+0.3**
ASAR	**Alice Springs**	**21.96**	**217**	P	**P**	**21 11 22.5**	**-1.2**
FITZ	**Fitzroy Crossi** comp=Z,1.7nm,0.4s,baz=55,slow=9.6,SNR=20 comp=Z,1.7nm,0.4s	**24.80**	**240**	P	**P**	**21 11 51.8**	**+0.3**
FITZ	**Fitzroy Crossi** comp=Z,7.9nm,1.2s	**24.80**	**240**	P	**P**	**21 11 51.9**	**+0.3**
FITZ				IAmb	IAmb	21 11 54.5	
STKA	**Stephens Creek** comp=Z,1.1nm,0.5s,baz=18,slow=13,SNR=3.8 comp=Z,1.1nm,0.5s	**26.11**	**193**	P	**P**	**21 12 04.8**	**+1.5**
JCJ	**Chichijima** comp=Z,17nm,19.9s,baz=106,slow=33	**33.73**	**351**	LR	LR	21 24 44.4	
BKZ	**Black Stump Fm** comp=Z,61nm,1.3s	**41.53**	**146**	P	**P**	**21 14 18.0**	**+1.3**
BKZ				IAmb	IAmb	21 14 37.6	
SNZO	**South Karori**	**42.14**	**150**	P	P	21 14 15.6	-5.9
BFZ	**Birch Farm**	**42.47**	**148**	P	**P**	**21 14 20.8**	**-3.4**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=75,slow=3.7,SNR=5.5	**146.20**	**284**	PKPbc	**PKPab**	**21 26 11.3**	**+0.6**

*JMA **08** 21:15:03.9±0.1, 24°.8N±0°.5×122°.1E±0°.2, h26km±1km, MV2.1/8, TAIWAN REGION*
*TAP **08** 21:15:03.9, 24°.80N×122°.15E, h10km, ML2.5, C*

**ISC 08 21:15:03.1±1.0, 24°.82N±0°.

	baz=251							
TWE				*eS*	**Sg**	**21 15 19.1**	**-0.3**	
	baz=251							
EWUT	**Wuta**	**0.54**	**226**	P	**Pg**	**21 15 12.5**	**-1.1**	
	baz=227							
EWUT				*eS*	**Sg**	**21 15 20.3**	**-0.4**	
	baz=227							
FUSB	**Fushanzhiwuyua**	**0.56**	**264**	P	**Pb**	**21 15 14.8**	**-0.2**	
	baz=266							
FUSB				S	**Sg**	**21 15 22.0**	**+0.4**	
	baz=266							
ENA	**Nanau**	**0.57**	**227**	P	**Pg**	**21 15 14.1**	**-0.1**	
	baz=227							
ENA				*eS*	**Sg**	**21 15 21.2**	**-0.6**	
	baz=227							
ENTT	**Nioudou**	**0.60**	**253**	P	**Pg**	**21 15 14.4**	**-0.6**	
	baz=254							
ENTT				S	**Sb**	**21 15 23.8**	**-0.3**	
	baz=254							
YM01	**YM01**	**0.66**	**300**	P	**Pb**	**21 15 17.3**	**+0.7**	
	baz=302							
YM01				*eS*	**Sn**	**21 15 27.2**	**-1.4**	
	baz=302							
NDT	**Datong Townshi**	**0.66**	**251**	*eP*	**Pb**	**21 15 16.4**	**-0.2**	
	baz=252							
NDT				*eS*	**Sg**	**21 15 24.0**	**-0.7**	
	baz=252							
LATG	**Datong**	**0.68**	**246**	P	**Pb**	**21 15 16.7**	**-0.2**	
	baz=247							
LATG				S	**Sg**	**21 15 25.2**	**0.0**	
	baz=247							
TWY	**Chenhua**	**0.71**	**310**	*eP*	**Pn**	**21 15 18.6**	**-0.4**	
	baz=312							
TWY				*eS*	**Sn**	**21 15 29.3**	**-0.6**	
	baz=312							
YHNB	**Yeheng**	**0.77**	**259**	P	**Pb**	**21 15 18.2**	**-0.2**	
	baz=254							
YHNB				*eS*	**Sg**	**21 15 26.9**	**-1.2**	
	baz=254							
JYNG	**Yonagunijimaku**	**0.77**	**118**	P	**Pn**	**21 15 19.4**	**-0.3**	
JYNG				S	**Sn**	**21 15 30.5**	**-0.7**	
NSK	**Sanguang**	**0.78**	**260**	P	**Pg**	**21 15 17.2**	**-1.0**	
	baz=255							
NSK				*eS*	**Sg**	**21 15 27.6**	**-0.9**	
	baz=255							
YOJ	**Yonaguni jima**	**0.82**	**116**	*eP*	**Pb**	**21 15 19.7**	**+0.5**	
	baz=114							
YOJ				S	**Sn**	**21 15 31.9**	**-0.5**	
	baz=114							
YOJ	**Yonaguni jima**	**0.82**	**116**	P	**Pn**	**21 15 20.2**	**-0.2**	
NNSB	**Datong**	**0.84**	**243**	P	**Pg**	**21 15 19.4**	**-0.1**	
	baz=233							
NNSB				S	**Sg**	**21 15 30.0**	**-0.5**	
	baz=233							
ETL	**Fush Village**	**0.84**	**219**	*eP*	**Pg**	**21 15 19.4**	**0.0**	
	baz=219							
ETL				*eS*	**Sb**	**21 15 31.1**	**+0.2**	
	baz=219							
NNS	**Nan Shan**	**0.84**	**244**	*eP*	**Pg**	**21 15 19.1**	**-0.4**	
	baz=233							
NNS				S	**Sg**	**21 15 30.0**	**-0.5**	
	baz=233							
NACB	**Ninganchiao**	**0.85**	**221**	P	**Pg**	**21 15 19.3**	**-0.2**	
	baz=221							
NACB				S	**Sg**	**21 15 29.1**	**-1.5**	
	baz=221							
ETLH	**Xiulin Townshi**	**0.90**	**227**	P	**Pg**	**21 15 20.4**	**-0.1**	
	baz=228							
ETLH				S	**Sg**	**21 15 31.8**	**-0.3**	
	baz=228							
TWD	**Chiawan**	**0.92**	**217**	*eP*	**Pg**	**21 15 21.0**	**+0.1**	
	baz=217							
TWD				*eS*	**Sb**	**21 15 33.9**	**+0.8**	
	baz=217							
NFF	**Wufeng Townshi**	**1.00**	**260**	P	**Pn**	**21 15 23.0**	**-0.1**	
	baz=261							
NFF				*eS*	**Sg**	**21 15 34.9**	**-0.7**	
	baz=261							
FUSS	**Fushou**	**1.04**	**237**	P	**Pn**	**21 15 23.6**	**-0.1**	
	baz=239							
FUSS				S	**Sb**	**21 15 37.3**	**+0.4**	
	baz=239							
WHF	**Hehuan Shan**	**1.08**	**232**	P	**Pb**	**21 15 24.1**	**0.0**	
	baz=233							
WHF				S	**Sb**	**21 15 38.1**	**-0.2**	
	baz=233							
TWT	**Tachien**	**1.09**	**239**	*eP*	**Pn**	**21 15 24.9**	**+0.5**	
	baz=234							
TWT				S	**Sn**	**21 15 39.3**	**-0.2**	
	baz=234							
LIOB	**Emei**	**1.09**	**261**	P	**Pn**	**21 15 24.3**	**+0.1**	
	baz=263							
LIOB				S	**Sn**	**21 15 40.0**	**+0.7**	
	baz=263							
TDCB	**Techi**	**1.10**	**240**	P	**Pb**	**21 15 24.2**	**0.0**	
	baz=234							
TDCB				S	**Sg**	**21 15 39.2**	**+0.4**	
	baz=234							
NSTT	**Nanjuang**	**1.11**	**261**	P	**Pg**	**21 15 25.4**	**+0.9**	
	baz=249							
NSTT				S	**Sn**	**21 15 41.5**	**+1.9**	
	baz=249							
CHGB	**Renai**	**1.20**	**231**	*eP*	**Pg**	**21 15 26.5**	**+0.2**	
	baz=233							
CHGB				*eS*	**Sn**	**21 15 42.5**	**+0.3**	
	baz=233							
ESL	**Shilin**	**1.22**	**215**	*eP*	**Pg**	**21 15 26.8**	**+0.2**	
	baz=225							
ESL				*eS*	**Sg**	**21 15 43.2**	**+0.7**	
	baz=225							
WHP	**Taichung City**	**1.26**	**245**	*eP*	**Pg**	**21 15 27.5**	**0.0**	
	baz=247							
WHP				*eS*	**Sg**	**21 15 44.2**	**+0.3**	
	baz=247							
OWD	**Renai**	**1.27**	**228**	P	**Pg**	**21 15 27.5**	**-0.1**	
	baz=222							
OWD				*eS*	**Sg**	**21 15 44.1**	**0.0**	
	baz=222							
WUSB	**Renai**	**1.29**	**231**	P	**Pg**	**21 15 27.8**	**-0.1**	
	baz=224							
WUSB				*eS*	**Sg**	**21 15 44.7**	**+0.1**	
	baz=224							
WCS	**Beigang Elemen**	**1.40**	**238**	*eP*	**Pb**	**21 15 29.3**	**+0.1**	
	baz=239							
WCS				*eS*	**Sg**	**21 15 48.2**	**0.0**	
	baz=239							
VWDT	**VWDT**	**1.44**	**223**	*eP*	**Pb**	**21 15 29.9**	**+0.2**	
	baz=210							
VWDT				*eS*	**Sb**	**21 15 48.7**	**+0.8**	
	baz=210							
IRIF	**Iriomote-Funau**	**1.47**	**109**	P	**Pb**	**21 15 30.4**	**0.0**	
IRIF				S	**Sb**	**21 15 49.5**	**+0.5**	
HGSD	**Ruisui**	**1.50**	**208**	*eP*	**Pb**	**21 15 31.1**	**+0.3**	
	baz=190							
HGSD				*eS*	**Sg**	**21 15 51.0**	**-0.4**	
	baz=190							
SMLT	**Sun Moon Lake**	**1.51**	**232**	*eP*	**Pb**	**21 15 31.0**	**-0.1**	
	baz=234							
SMLT				*eS*	**Sb**	**21 15 50.8**	**+0.5**	
	baz=234							
TYC	**Yuchr**	**1.53**	**234**	*eP*	**Pb**	**21 15 31.0**	**-0.3**	
	baz=235							
TYC				*eS*	**Sb**	**21 15 50.9**	**+0.3**	
	baz=235							
SSLB	**Suanglung**	**1.53**	**228**	*eP*	**Pb**	**21 15 31.5**	**0.0**	
	baz=230							
SSLB				*eS*	**Sb**	**21 15 51.2**	**+0.4**	
	baz=230							
YULB	**Yu-li**	**1.64**	**210**	*eP*	**Pb**	**21 15 33.4**	**+0.1**	
	baz=210							
YULB				*eS*	**Sb**	**21 15 54.6**	**+0.7**	
	baz=210							
HATJ	**Hateruma jima**	**1.65**	**117**	*eS*	**Sb**	**21 15 54.2**	**+0.1**	
WHYT	**Xinyi Township**	**1.66**	**228**	*eP*	**Pb**	**21 15 34.0**	**+0.3**	
	baz=214							
WHYT				*eS*	**Sb**	**21 15 54.8**	**+0.2**	
	baz=214							
EYUL	**Yuli**	**1.67**	**209**	*eP*	**Pb**	**21 15 33.5**	**-0.3**	
	baz=226							
EYUL				*eS*	**Sb**	**21 15 55.0**	**+0.2**	
	baz=226							
JKRS	**Kuro-shima**	**1.74**	**109**	P	**Pn**	**21 15 34.1**	**+0.9**	
JKRS				S	**Sb**	**21 15 56.9**	**0.0**	
YUS	**Yu-Shan**	**1.75**	**221**	*eP*	**Pb**	**21 15 35.4**	**0.0**	
	baz=221							
YUS				*eS*	**Sb**	**21 15 57.2**	**-0.3**	
	baz=221							
ALS	**Alishan**	**1.82**	**225**	*eP*	**Pb**	**21 15 37.1**	**+0.5**	
	baz=211							
ALS				*eS*	**Sg**	**21 16 01.0**	**-0.8**	
	baz=211							
JIJ	**Ishigaki jima**	**1.82**	**104**	S	**Sb**	**21 15 58.5**	**-0.6**	
ELDTW	**Lidau**	**1.95**	**214**	*eP*	**Pb**	**21 15 37.9**	**-0.8**	
	baz=214							
ELDTW				*eS*	**Sb**	**21 16 02.0**	**-0.9**	
	baz=214							
EDH	**Donghe**	**2.01**	**204**	*eP*	**Pn**	**21 15 37.2**	**+0.3**	
	baz=188							
EDH				*eS*	**Sn**	**21 16 02.3**	**+0.3**	
	baz=188							
TWK	**Hsinying**	**2.20**	**226**	*eP*	**Pb**	**21 15 43.0**	**+0.1**	
	baz=225							
TWK				*eS*	**Sb**	**21 16 12.0**	**+1.9**	
	baz=225							

IDC 08 21:15:51.0±3.9,**29°44S**×**137°77E,h0**km**,mbtmp2.7**/3,
ML2.5/3,**Error ellipse: s-maj=109.5km s-min=18.1km**
az=48.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.09**	**127**	Pn	Pn	21 16 54.4	-0.4
	0.2nm,0.3s,baz=304,slow=14,SNR=6.8						
STKA				Sn	Sn	21 17 40.2	-3.2
	0.5nm,0.3s,baz=274,slow=16,SNR=5.4						
STKA				Lg	Lg	21 18 01.6	
	0.7nm,0.3s,baz=301,slow=18,SNR=6.4						
	0.6nm,0.2s						
ASAR	**Alice Springs**	**6.71**	**328**	Pn	Pn	21 17 30.2	-0.7
	0.1nm,0.3s,baz=145,slow=13,SNR=1.4						
ASAR				Sn	Sn	21 18 48.9	+0.8
	0.1nm,0.3s,baz=113,slow=24,SNR=4.3						
	0.3nm,0.9s						
WRA	**Warramunga Arr**	**9.96**	**341**	Pn	Pn	21 18 15.6	+0.2
	baz=164,slow=13,SNR=2.4						
WRA				Sn	Sn	21 20 11.8	+3.9
	baz=158,slow=13,SNR=1.8						
	0.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.82**	**313**	Sn	Sn	21 22 21.5	-10
	baz=137,slow=18,SNR=1.0						

*ASRS **08** 21:18:29.5*±*0.8,54°N*±*2°×8°1E*±*°,h10km,MLh3.2/6,Error*
ellipse: s-maj=8.6km s-min=3.8km az=89.1,confirmed
ISC 08 21:18:28.6±1.4,**53.68N**±0.04×**80.88E**±0.07,**h10**km,**n15,**
σ1§**16**/26,**2C-1D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSTK	**Bystrovka, Nov**	**1.37**	**49**	Pg	**Pg**	**21 18 55.1**	**+0.1**
BSTK				Sg	**Sg**	**21 19 15.1**	**+2.3**
NVS	**Novosibirsk**	**1.81**	**49**	Pg	**Pb**	**21 19 01.5**	**-0.3**
NVS				Sg	**Sg**	**21 19 24.9**	**-1.8**
NVSII	**Novosibirsk**	**1.81**	**49**	Pg	**Pb**	**21 19 01.5**	**-0.3**
NVSII				Sg	**Sg**	**21 19 25.6**	**-1.1**
KHAR	**Kharino, NSO,**	**1.85**	**59**	Pg	**Pg**	**21 19 04.2**	**+0.2**
KHAR				Sg	**Sg**	**21 19 29.7**	**+1.7**
ELT	**Eltsovka**	**3.23**	**95**	Pg	**Pg**	**21 19 29.1**	**-1.4**
ELT				Sg	**Sg**	**21 20 13.0**	**+0.6**
KURK	**Kurchatov**	**3.28**	**206**	⇑Lg	Lg	21 20 12.8	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**3.39**	**206**	⇑Pg	**Pb**	**21 19 28.8**	**+0.2**
	1.9nm,0.5s,baz=32,slow=16						
KURBB				⇓Lg	Lg	21 20 12.9	
	17nm,0.5s,baz=28,slow=26						
GALT	**Gorno-Altaysk,**	**3.53**	**117**	Sg	**Sg**	**21 20 23.0**	**+1.2**
UKR	**Ust'-Kan**	**3.64**	**137**	Pn	**Pn**	**21 19 25.0**	**-0.1**
UKR				Pg	**Pg**	**21 19 38.0**	**-0.4**
UKR				Sg	**Sg**	**21 20 25.4**	**-0.1**
ARTR	**Artybash**	**4.33**	**113**	Pg	**Pg**	**21 19 51.7**	**+0.3**
ARTR				Sg	**Sg**	**21 20 47.7**	**+0.3**
CHBI	**Chibit, Altay**	**5.30**	**127**	Pg	**Pg**	**21 20 08.8**	**-1.4**
CHBI				Sg	**Sg**	**21 21 18.9**	**+0.1**
ULGR	**Ulagan, Altay**	**5.33**	**122**	Pn	**Pn**	**21 19 47.1**	**-1.1**
ULGR				Sg	**Sg**	**21 21 20.8**	**+1.2**
AKAR	**Aktash**	**5.36**	**126**	Pn	**Pn**	**21 19 49.6**	**+1.0**
AKAR				Pg	**Pg**	**21 20 13.1**	**+2.0**
AKAR				Sg	**Sg**	**21 21 19.4**	**-1.0**
DGZ	**Jazzator, Alta**	**5.70**	**132**	Sg	**Sg**	**21 21 30.1**	**-1.4**
CUR	**Chagan-Uzun**	**5.85**	**125**	Sg	**Sg**	**21 21 37.6**	**+1.2**

*IDC **08** 21:23:07.1*±*1.3,36°.82S×179°.14E,h0km,mb4.1/4,*
mbtmp4.1/5,ML4.2/1,MS3.0/1,Error ellipse: s-maj=36.5km
s-min=31.4km az=57.0
*NEIC **08** 21:23:09.4*±*2.1,37°.09S*±*0°.06×179°.15E*±*0°.07,h11km*±*6km,*
mb4.4/13,Error ellipse: s-maj=8.8km s-min=8.1km
az=158.0
*WEL **08** 21:23:11.4*±*1.0,37°S*±*4°×17°9E*±*°,h15km*±*5km,M3.9/30,*
ML4.1/37,MLv3.9/30,Error ellipse: s-maj=0.0km
s-min=0.0km az=89.9
ISC 08 21:23:09.3±1.9,**37.11S**±0°.05×**179°.14E**±0°.07,**h11**km±10km,
n87,σ1§**24/93,mb4.3**/11,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.81**	**235**		**Pg**	**21 23 25.4**	**+0.4**
MXZ	**Matakaoa Point**	**0.81**	**235**	P	**Pg**	**21 23 25.3**	**+0.4**
MXZ				S	**Sg**	**21 23 34.0**	**-1.4**
WMGZ	**Waiomatatini S**	**0.92**	**219**	P	**Pn**	**21 23 29.8**	**+1.7**
WMGZ				S	**Sn**	**21 23 43.0**	**+1.8**
PKGZ	**Pakihiroa**	**1.15**	**227**	P	**Pg**	**21 23 31.8**	**+0.3**
PKGZ				S	**Sn**	**21 23 48.3**	**+1.1**
PUZ	**Puketiti**	**1.19**	**216**	P	**Pg**	**21 23 33.4**	**+1.2**
PUZ				S	**Sn**	**21 23 48.8**	**+0.6**
HAZ	**Te Kaha**	**1.26**	**239**	P	**Pn**	**21 23 32.9**	**+0.1**
TWGZ	**Tauwhareparae**	**1.41**	**220**	P	**Pg**	**21 23 36.6**	**+0.1**
TWGZ				S	**Sb**	**21 23 54.5**	**+0.9**
RUGZ	**Raukumara Rang**	**1.45**	**233**	P	**Pb**	**21 23 36.6**	**+0.3**
RUGZ				S	**Sg**	**21 23 56.1**	**+0.2**
CNGZ	**Carnagh Statio**	**1.56**	**208**	P	**Pg**	**21 23 39.2**	**-0.1**
WIZ	**White Island**	**1.61**	**254**	P	**Pn**	**21 23 36.8**	**-0.8**
MWZ	**Matawai**	**1.77**	**226**	P	**Pb**	**21 23 41.3**	**-0.5**
RIGZ	**Rimuhau**	**1.93**	**214**	P	**Pn**	**21 23 43.1**	**+1.0**
URZ	**Urewera**	**1.98**	**234**	Pn	**Pn**	**21 23 44.1**	**+1.3**
	70nm,0.3s,baz=212,slow=0.1,SNR=128						
URZ				Sn	**Sn**	**21 24 07.8**	**+0.4**
	88nm,0.3s,baz=211,slow=20,SNR=21						
URZ				LR	LR	21 24 46.9	
	comp=Z,377nm,20.6s,baz=32,slow=46						
	179nm,0.3s						
URZ	**Urewera**	**1.98**	**234**	P	**Pn**	**21 23 44.0**	**+1.3**
URZ				S	**Sn**	**21 24 07.5**	**0.0**
PRGZ	**Paritu Road**	**2.07**	**208**	P	**Pn**	**21 23 45.2**	**+1.2**
OPRZ	**Ohinepanea**	**2.19**	**249**	P	**Pn**	**21 23 46.5**	**+0.9**
SNGZ	**Shannon Statio**	**2.20**	**220**	P	**Pn**	**21 23 47.0**	**+1.3**
SNGZ				S	**Sn**	**21 24 14.3**	**+1.4**
KNZ	**Kokohu**	**2.24**	**211**	P	**Pn**	**21 23 46.9**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.26**	**205**	P	**Pn**	**21 23 47.6**	**+1.0**
MYRZ	**Mayor Island**	**2.32**	**265**	P	**Pn**	**21 23 48.1**	**+0.7**
MUGZ	**Murupara**	**2.32**	**233**	P	**Pn**	**21 23 48.9**	**+1.4**
MUGZ				S	**Sn**	**21 24 15.3**	**-0.7**
TGRZ	**Tauranga**	**2.38**	**254**	P	**Pn**	**21 23 49.3**	**+1.2**
RRRZ	**Republican Roa**	**2.42**	**239**	P	**Pn**	**21 23 51.5**	**-1.3**
RAHZ	**Arahi**	**2.43**	**221**	P	**Pn**	**21 23 50.0**	**+1.1**
MTHZ	**Maungataniwha**	**2.52**	**225**	P	**Pn**	**21 23 51.6**	**+1.4**
KMRZ	**Kaimai**	**2.65**	**253**	P	**Pn**	**21 23 53.2**	**+1.2**
NMHZ	**Naumai**	**2.71**	**222**	P	**Pn**	**21 23 54.4**	**+1.5**
ARHZ	**Aropaoanui**	**2.74**	**217**	P	**Pn**	**21 23 53.9**	**+0.7**
KUZ	**Kuaotunu**	**2.76**	**276**	P	**Pn**	**21 23 52.6**	**-0.9**
BKZ	**Black Stump Fm**	**2.93**	**225**		**Pn**	**21 23 56.8**	**+0.9**
BKZ	**Black Stump Fm**	**2.93**	**225**	P	**Pn**	**21 23 56.6**	**+0.8**
TOZ	**Tahuroa Road**	**2.96**	**257**	P	**Pn**	**21 23 55.7**	**-0.5**
MCHZ	**McNeill Hill**	**3.02**	**219**	P	**Pn**	**21 23 57.6**	**+0.5**
GRZ	**Great Barrier**	**3.08**	**285**	P	**Pn**	**21 23 58.3**	**+0.5**
KWHZ	**Kaweka Forest**	**3.15**	**222**	P	**Pn**	**21 23 59.2**	**+0.3**
MKAZ	**Moumakai**	**3.18**	**269**	P	**Pn**	**21 23 58.7**	**-0.5**
KAHZ	**Kahuranaki**	**3.22**	**213**	P	**Pn**	**21 23 59.5**	**-0.3**
WIAZ	**Waiheke Island**	**3.22**	**274**	P	**Pn**	**21 23 59.6**	**-0.2**
ETAZ	**East Tamaki Re**	**3.37**	**271**	P	**Pn**	**21 24 03.7**	**+1.8**
BHHZ	**Black Hill Sta**	**3.40**	**225**	P	**Pn**	**21 24 02.6**	**+0.3**
MBAZ	**Motutapu North**	**3.42**	**274**	P	**Pn**	**21 24 04.2**	**+1.7**
SNVZ	**South Ngauruho**	**3.45**	**232**	P	**Pn**	**21 24 04.0**	**+0.9**
MOVZ	**Moawhango**	**3.52**	**228**	P	**Pn**	**21 24 04.7**	**+0.7**
AWAZ	**Awhitu Peninsu**	**3.60**	**269**	P	**Pn**	**21 24 05.2**	**+0.2**
PNHZ	**Pukenui**	**3.63**	**219**	P	**Pn**	**21 24 04.6**	**-0.9**
WPHZ	**Waipukurau**	**3.63**	**215**	P	**Pn**	**21 24 04.7**	**-0.8**
WTAZ	**Waiatarua**	**3.66**	**271**	P	**Pn**	**21 24 07.6**	**+1.8**
RVAZ	**Riverhead Bore**	**3.67**	**274**	P	**Pn**	**21 24 08.1**	**+2.1**
HIZ	**Hauiti**	**3.67**	**246**	Pn	**Pn**	**21 24 07.5**	**+1.5**
HIZ	**Hauiti**	**3.67**	**246**	P	**Pn**	**21 24 08.7**	**+2.7**
TSZ	**Takapari Road**	**3.86**	**219**	P	**Pn**	**21 24 07.4**	**-1.2**
DVHZ	**Dannevirke**	**3.95**	**215**	P	**Pn**	**21 24 08.6**	**-1.2**
WCZ	**Waipu Caves**	**4.03**	**285**	P	**Pn**	**21 24 11.7**	**+0.8**
WAZ	**Wanganui**	**4.20**	**230**	P	**Pn**	**21 24 14.3**	**+1.1**
BFZ	**Birch Farm**	**4.22**	**211**	Pn	**Pn**	**21 24 11.6**	**-2.0**
THZ	**Tophouse**	**6.70**	**224**		**Sn**	**21 25 59.5**	**-4.4**
KHZ	**Kahutara**	**6.84**	**217**	Pn	**Pn**	**21 24 50.4**	**+1.0**
LTZ	**Lake Taylor**	**7.74**	**221**	Pn	**Pn**	**21 25 01.2**	**-0.7**
RPZ	**Rata Peaks**	**9.03**	**221**	Pn	**Pn**	**21 25 16.3**	**-3.3**
	0.4nm,0.3s,baz=43,slow=16,SNR=1.2						
RPZ				Sn	Sn	21 26 48.6	-13
	2.7nm,0.3s,baz=15,slow=20,SNR=12						
COEN	**Coen**	**39.45**	**296**	P	**P**	**21 30 41.1**	**+1.5**
COEN				IAmb	IAmb	21 31 12.5	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**40.89**	**276**	P	**P**	**21 30 52.1**	**+0.5**
ASAR	**Alice Springs**	**40.89**	**276**	P	**P**	**21 30 50.9**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=120,slow=8.0,SNR=17						
ASAR				PcP	**PcP**	**21 32 50.7**	**-1.5**
	comp=Z,0.4nm,1.0s,baz=129,slow=3.9,SNR=1.7						
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**40.89**	**276**	P	**P**	**21 30 51.6**	**0.0**
WR0	**Warramunga Arr**	**42.33**	**281**	P	**P**	**21 31 02.5**	**-0.9**
WR0				IAmb	IAmb	21 31 35.2	
	comp=Z,8.4nm,1.4s						
FORT	**Forrest**	**42.43**	**263**	P	**P**	**21 31 02.6**	**-1.4**
WB2	**Warramunga Arr**	**42.48**	**281**	P	**P**	**21 31 03.9**	**-0.7**
WB2				IAmb	IAmb	21 31 34.2	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**42.49**	**281**	P	**P**	**21 31 03.8**	**-0.9**
WRAB				IAmb	IAmb	21 31 35.1	
	comp=Z,9.0nm,1.4s						
WRA	**Warramunga Arr**	**42.49**	**281**	P	**P**	**21 31 03.5**	**-1.2**
	comp=Z,1.7nm,0.4s,baz=121,slow=7.8,SNR=49						
WRA				PcP	**PcP**	**21 32 57.1**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=129,slow=2.9,SNR=1.7						
	comp=Z,1.7nm,0.4s						
WRA	**Warramunga Arr**	**42.49**	**281**	P	**P**	**21 31 03.8**	**-0.9**
WB0	**Warramunga Arr**	**42.55**	**281**	P	**P**	**21 31 04.4**	**-0.8**
WB0				IAmb	IAmb	21 31 06.0	
	comp=Z,3.2nm,0.6s						
KNRA	**Kununurra**	**49.27**	**282**	P	**P**	**21 31 57.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**50.37**	**277**	P	**P**	**21 32 07.2**	**+0.6**
FITZ				IAmb	IAmb	21 32 12.5	
	comp=Z,8.2nm,1.4s						
MORW	**Morawa**	**52.63**	**259**	P	**P**	**21 32 22.5**	**-0.9**
QSPA	**South Pole Qui**	**53.02**	**180**	P	**P**	**21 32 28.0**	**+2.0**
	comp=Z,2.1nm,0.9s,baz=3.8,slow=2.5,SNR=4.9						
	comp=Z,2.1nm,0.9s						
QSPA	**South Pole Qui**	**53.02**	**180**	P	**P**	**21 32 28.6**	**+2.6**
BELA	**Belgrano 2**	**63.47**	**172**	P	**P**	**21 33 39.0**	**+0.3**
BELA				IAmb	IAmb	21 33 40.8	
	comp=Z,2.5nm,1.0s						
H03S2	**Juan Fernandez**	**78.74**	**124**	T	T	23 01 27.2	
	baz=233						
H03S1	**Juan Fernandez**	**78.75**	**124**	T	T	23 01 40.8	
	baz=233						
H03S3	**Juan Fernandez**	**78.75**	**124**	T	T	23 01 33.5	
	baz=233						
H03N3	**Juan Fernandez**	**78.97**	**124**	T	T	23 02 08.0	
	baz=235,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**78.97**	**124**	T	T	23 02 01.3	
	baz=235,slow=72,SNR=11						
H03N1	**Juan Fernandez**	**78.98**	**124**	T	T	23 02 00.7	
	baz=235,slow=72,SNR=12						
CMAR	**Chiang Mai Arr**	**93.43**	**290**	P	**P**	**21 36 25.6**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=134,slow=3.9,SNR=3.4						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**144.51**	**344**	PKP	**PKPab**	**21 42 42.8**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=42,slow=5.6,SNR=3.8						
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKPbc**	**21 42 58.2**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=56,slow=4.8,SNR=6.1						
BRTR	**Keskin Array B**	**152.94**	**286**	PKPbc	**PKPbc**	**21 43 06.0**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=280,slow=30,SNR=3.7						
TORD	**Torodi Ar. Bea**	**156.03**	**186**	PKPab	**PKPab**	**21 43 31.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=216,slow=2.3,SNR=3.2						

*ANF **08** 21:29:28.8*±*0.6,36°.32N×97°.51W,h6km±4km,ML4.1/12,*
Error ellipse: s-maj=3.6km s-min=2.5km az=162.0
*NEIC **08** 21:29:29.2*±*0.9,36°.285N±0°.009×97°.52W±0°.01,h5km±2km,*
Error ellipse: s-maj=3.0km s-min=1.8km az=226.0
*TUL **08** 21:29:29*±*1.3,36°.29N±0°.01×97°.51W±0°.01,h5km±7km,*
ML3.5,mb_Lg3.6/114(NEIC),Mwr3.3/13(SLM),Error
ellipse: s-maj=1.5km s-min=1.4km az=167.0
*NEIC **08** 21:29:29,36°.28N×97°.52W,h5km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=0.07;
Mθθ=0.93; Mϕϕ=-0.86; Mrθ=-0.21; Mrϕ=-0.20; Mθϕ=0.37; Fault
plane solution: M₀1.01000×10¹⁴ NP1:ϕ₁232.00000°,
δ65.00000°,λ₁-174.00000°. NP2:ϕ₂140.00000°,
δ85.00000°,λ₂-25.00000°. Principal axes: T 1.0113,
Plg14.0000°, Azm189.0000°; N 0.0005, Plg65.0000°,
Azm309.0000°; P -1.0117, Plg21.0000°, Azm93.0000°;
*IDC **08** 21:29:32.1*±*2.0,36°.35N×97°.86W,h0km,mb3.8/2,*
mbtmp3.3/5,ML3.2/2,MS2.9/2 Error ellipse:
s-maj=26.6km s-min=14.5km az=96.0
**

FNO	**Franklin**	1.05	175	Pg		**Pg**	21 29 48.3	-2.2	
OK035	**E0210 Rd and N**	1.05	293	Pg		**Pg**	21 29 48.8	-1.8	
CSTR	**Hydro, Custer**	1.16	236	Pg		**Pb**	21 29 50.8	-1.8	
NOKA	**Waynoka**	1.20	286	Pg		**Pb**	21 29 51.4	-1.7	
U32A	**Winter Ranch,**	1.21	274			**Pb**	21 29 51.4	-2.0	
U32A	**Winter Ranch,**	1.21	274	P		**Pb**	21 29 51.0	-2.3	
	baz=94								
U32A				S		**Sb**	21 30 08.2	-0.9	
	baz=94								
TUL1	**Leonard**	1.44	105	IAmb_Lg			21 30 16.7		
	comp=Z,231nm,0.9s								
TUL1	**Leonard**	1.44	105	P		**Pn**	21 29 55.0	-1.5	
	baz=286								
TUL1				S		**Sn**	21 30 14.9	-0.6	
	baz=286								
TUL1	**Leonard**	1.44	105	P		**Pn**	21 29 55.0	-1.5	
	baz=286								
TUL1				S		**Sn**	21 30 14.9	-0.6	
	baz=286								
ELIS	**Ellis County**	1.57	262			**Pn**	21 29 57.5	-0.8	
X34A	**Smith Ranch, M**	1.72	189			**Pn**	21 30 00.3	-0.1	
X34A				IAmb_Lg			21 30 27.1		
	comp=Z,219nm,0.8s								
WMOK	**Wichita Mounta**	1.88	214	Pn		**Pn**	21 30 01.7	-0.8	
WMOK	**Wichita Mounta**	1.88	214	P		**Pn**	21 30 01.1	-1.4	
	baz=33,SNR=264								
WMOK				S		**Sb**	21 30 27.1	-1.2	
	baz=33								
WMOK	**Wichita Mounta**	1.88	214	P		**Pn**	21 30 01.8	-0.8	
	baz=33								
WMOK				S		**Sn**	21 30 26.8	+0.6	
	baz=33								
RLO	**Rose Lookout**	2.01	93	Pn		**Pn**	21 30 04.5	+0.2	
RLO				IAmb_Lg			21 30 33.9		
	comp=Z,232nm,0.7s								
LOOK	**Love County**	2.32	173	Pn		**Pn**	21 30 08.7	+0.1	
LOOK				IAmb_Lg			21 30 47.8		
	comp=Z,140nm,0.8s								
R32A	**Long Quarter,**	2.32	336			**Pb**	21 30 09.8	-2.6	
R32A				IAmb_Lg			21 30 47.1		
	comp=Z,144nm,0.7s								
R32A	**Long Quarter,**	2.32	336	S		**Sn**	21 30 37.7	+0.4	
	baz=156								
X37A	**Clayton**	2.44	134	Pn		**Pn**	21 30 10.3	+0.1	
X37A				IAmb_Lg			21 30 48.6		
	comp=Z,237nm,0.7s								
X37A	**Clayton**	2.44	134	P		**Pn**	21 30 10.1	-0.2	
	baz=315,SNR=28								
HHAR	**Hobbs**	2.88	89			**Pn**	21 30 16.1	-0.2	
KSU1	**Kansas State U**	2.88	14			**Pn**	21 30 16.6	+0.3	
KSU1	**Kansas State U**	2.88	14	P		**Pg**	21 30 23.2	-2.4	
	baz=194								
Z35A	**Perchaven, San**	2.97	176			**Pn**	21 30 17.4	-0.2	
Z35A	**Perchaven, San**	2.97	176	P		**Pn**	21 30 17.7	+0.2	
	baz=356								
CBKS	**Cedar Bluff**	3.07	325			**Pb**	21 30 26.1	+1.0	
CBKS				IAmb_Lg			21 31 10.6		
	comp=Z,160nm,0.8s								
CBKS	**Cedar Bluff**	3.07	325	P		**Pb**	21 30 26.1	+1.0	
	baz=144								
CBKS				Sb		**Sg**	21 31 06.1	-2.9	
	baz=144								
S39A	**Bolivar**	3.62	66			**Pn**	21 30 26.6	0.0	
S39A				IAmb_Lg			21 31 33.2		
	comp=Z,199nm,1.0s								
MIAR	**Mount Ida**	3.66	118			**Pn**	21 30 26.9	0.0	
MIAR				IAmb_Lg			21 31 33.0		
	comp=Z,100nm,0.9s								
MIAR	**Mount Ida**	3.66	118	P		**Pn**	21 30 26.7	-0.2	
	baz=300,SNR=47								
MIAR				S		**Sn**	21 31 10.5	+0.4	
	baz=300								
MIAR	**Mount Ida**	3.66	118	P		**Pn**	21 30 27.0	0.0	
	baz=300								
Z38A	**Mt. Pleasant**	3.68	145	Pn		**Pn**	21 30 26.4	-0.9	
Z38A				Pg		**Pb**	21 30 36.9	+1.5	
AMTX	**Amarillo**	3.69	249			**Pn**	21 30 25.9	-1.5	
AMTX				IAmb_Lg			21 31 26.0		
	comp=Z,146nm,0.7s								
AMTX	**Amarillo**	3.69	249	Sb		**Sb**	21 31 21.7	+1.3	
	baz=66								
ABTX	**Abilene, Hawle**	4.07	206			**Pb**	21 30 44.5	+2.3	
ABTX				IAmb_Lg			21 31 40.1		
	comp=Z,94nm,0.7s								
MGMO	**Mountain Grove**	4.29	77			**Pn**	21 30 35.5	-0.2	
MGMO				IAmb_Lg			21 31 49.1		
	comp=Z,106nm,0.7s								
WHTX	**Lake Whitney,**	4.30	179			**Pn**	21 30 35.3	-0.5	
WHTX	**Lake Whitney,**	4.30	179	P		**Pn**	21 30 34.8	-1.0	
	baz=359								
WHTX	**Lake Whitney,**	4.30	179	P		**Pn**	21 30 35.3	-0.5	
	baz=359								
WHTX				Sb		**Sb**	21 31 39.8	+1.8	
	baz=359								
WHAR	**Wooly Hollow**	4.36	102	IAmb_Lg			21 31 49.7		
	comp=Z,128nm,1.3s								
FCAR	**Ozark Folk Cen**	4.38	94	IAmb_Lg			21 31 50.2		
	comp=Z,80nm,0.9s								
WLAR	**White Oak Lake**	4.45	125	IAmb_Lg			21 32 00.7		
	comp=Z,108nm,0.8s								
UALR	**University of**	4.48	108	IAmb_Lg			21 31 56.5		
	comp=Z,112nm,1.1s								
P38A	**Dawn**	4.57	42	IAmb_Lg			21 31 56.5		
	comp=Z,137nm,0.8s								
R40A	**Maddies Statio**	4.62	63	P		**Pn**	21 30 39.8	-0.4	
	baz=246								
KSCO	**Kaye Shedlock'**	4.88	305	IAmb_Lg			21 32 09.9		
	comp=Z,106nm,0.9s								
MSTX	**Muleshoe**	4.90	243	IAmb_Lg			21 32 14.6		
	comp=Z,81nm,1.1s								
NATX	**Nacogdoches**	5.11	152	IAmb_Lg			21 32 22.1		
	comp=Z,76nm,0.8s								
BGNE	**Belgrade**	5.12	355	IAmb_Lg			21 32 20.2		
	comp=Z,143nm,0.7s								
BGNE	**Belgrade**	5.12	355	P		**Pn**	21 30 46.3	-0.9	
	baz=174								
LCAR	**Lake Charles**	5.14	91	IAmb_Lg			21 32 16.6		
	comp=Z,82nm,0.9s								
CCAR	**Cane Creek**	5.27	115	IAmb_Lg			21 32 25.9		
	comp=Z,95nm,0.9s								
CCM	**Cathedral Cave**	5.30	69	IAmb_Lg			21 32 16.2		
	comp=Z,130nm,0.8s								
435B	**Jarrell**	5.51	181	IAmb_Lg			21 32 28.4		
	comp=Z,61nm,0.8s								
435B	**Jarrell**	5.51	181	P		**Pn**	21 30 51.3	-1.1	
	baz=0.7								
N38A	**Joes South For**	5.59	35	IAmb_Lg			21 32 35.2		
	comp=Z,135nm,0.8s								
T25A	**Trinidad**	5.61	281	IAmb_Lg			21 32 33.5		
	comp=Z,78nm,0.8s								
T25A	**Trinidad**	5.61	281	P		**Pn**	21 30 53.6	-0.5	
	baz=97								
L34A	**Svendsen Farm,**	5.72	8	IAmb_Lg			21 32 45.5		
	comp=Z,130nm,0.7s								
OGNE	**Ogallala**	5.83	324	IAmb_Lg			21 32 43.4		
	comp=Z,145nm,0.8s								
FVM	**French Village**	5.90	71	IAmb_Lg			21 32 40.0		
	comp=Z,122nm,0.8s								
FVM	**French Village**	5.90	71	S		**Sn**	21 32 02.0	-3.4	
	baz=255								
GNAR	**Gosnell**	6.07	91	IAmb_Lg			21 32 45.6		
	comp=Z,136nm,0.9s								
143A	**Socs Landing,**	6.18	124	IAmb_Lg			21 32 58.5		
	comp=Z,72nm,0.8s								
PARMO	**Parma**	6.26	84	IAmb_Lg			21 32 49.0		
	comp=Z,130nm,0.8s								
CGM3	**Cape Girardeau**	6.37	79	IAmb_Lg			21 32 49.3		
	comp=Z,142nm,0.9s								
342A	**Flagon Creek P**	6.54	137	IAmb_Lg			21 33 06.8		
	comp=Z,72nm,1.2s								
SDCO	**Great Sand Dun**	6.56	285	IAmb_Lg			21 33 04.5		
	comp=Z,51nm,1.2s								
HALT	**Halls**	6.62	91	IAmb_Lg			21 33 09.3		
	comp=Z,75nm,0.7s								
Q24A	**Divide**	6.62	296	IAmb_Lg			21 33 04.4		
	comp=Z,71nm,0.7s								
OXF	**Oxford**	6.85	103	IAmb_Lg			21 33 15.8		
	comp=Z,50nm,1.0s								
W45A	**Hickory Valley**	6.86	97	IAmb_Lg			21 33 16.6		
	comp=Z,119nm,1.1s								
Y45A	**Yeager Farm, C**	6.96	108	IAmb_Lg			21 33 22.1		
	comp=Z,45nm,1.0s								
ISCO	**Idaho Springs**	7.29	301	IAmb_Lg			21 33 30.1		
	comp=Z,40nm,0.8s								
ANMO	**Albuquerque**	7.42	262	Pn		**Pn**	21 31 19.1	+0.3	
	comp=Z,0.1nm,0.3s,baz=84,slow=9.2,SNR=1.8								
ANMO				Pg		**Pb**	21 31 43.1	+3.9	
	comp=Z,0.7nm,0.3s,baz=77,slow=16,SNR=7.1								
ANMO				Lg		Lg	21 33 18.5		
	comp=Z,3.9nm,0.3s,baz=17,slow=10.0,SNR=10								
ANMO				LR		LR	21 33 46.8		
	comp=Z,37nm,18.2s,baz=158,slow=36								
	comp=Z,0.5nm,0.4s								
L40A	**Anamosa**	7.54	38	IAmb_Lg			21 33 30.9		
	comp=Z,84nm,0.9s								
PHWY	**Pilot Hill**	7.96	311	IAmb_Lg			21 33 44.2		
	comp=Z,72nm,1.1s								
MNTX	**Cornudas Mount**	7.99	237	IAmb_Lg			21 33 52.5		
	comp=Z,46nm,1.1s								
Y22D	**IRIS PASSCAL I**	8.02	257	IAmb_Lg			21 33 57.7		
	comp=Z,86nm,0.8s								
N23A	**Red Feather La**	8.04	307	IAmb_Lg			21 33 53.6		
	comp=Z,100nm,1.0s								
O44A	**Mansfield**	8.08	59	IAmb_Lg			21 33 46.2		
	comp=Z,102nm,0.8s								
SUSD	**Miller**	8.21	353	IAmb_Lg			21 34 02.7		
	comp=Z,56nm,0.8s								
I37A	**Lemond, Waseca**	8.32	21	IAmb_Lg			21 34 08.5		
	comp=Z,44nm,0.7s								
I37B	**Waseca**	8.32	21	S		**Sn**	21 33 05.6	+0.6	
	baz=204								
L42A	**Oliver, Polo**	8.33	45	IAmb_Lg			21 34 05.6		
	comp=Z,91nm,0.9s								
JFWS	**Jewell Farm**	8.65	38	IAmb_Lg			21 34 25.5		
	comp=Z,69nm,0.8s								
TXAR	**Lajitas Array**	8.67	218	Pn		**Pn**	21 31 35.2	-0.7	
	comp=Z,0.2nm,0.3s,baz=45,slow=12,SNR=10								
TXAR				Pg		Pg	21 32 00.8	-16	
	comp=Z,0.4nm,0.3s,baz=43,slow=13,SNR=6.3								
TXAR				Lg		Lg	21 33 54.7		
	comp=Z,1.0nm,0.3s,baz=35,slow=24,SNR=5.2								
	comp=Z,0.2nm,0.4s								
M44A	**Midewin, Midew**	8.96	53	IAmb_Lg			21 34 11.1		
	comp=Z,78nm,1.0s								
RSSD	**Black Hills**	9.27	329	IAmb_Lg			21 34 24.7		
	comp=Z,29nm,0.9s								
RWWY	**Rawlins**	9.27	308	IAmb_Lg			21 34 49.0		
	comp=Z,59nm,1.1s								
HQIL	**Hanson Quary C**	9.30	51	IAmb_Lg			21 34 32.2		
	comp=Z,52nm,0.8s								
K22A	**Casper**	9.42	315	IAmb_Lg			21 34 43.6		
	comp=Z,61nm,0.9s								
K43A	**Burlington**	9.54	45	IAmb_Lg			21 34 34.0		
	comp=Z,71nm,0.9s								
SPMN	**Marine on St.**	9.60	20	IAmb_Lg			21 34 39.0		
	comp=Z,40nm,1.1s								
TKL	**Tuckaleechee C**	11.15	89	Lg		Lg	21 35 18.8		
	comp=Z,0.7nm,0.3s,baz=17,slow=19,SNR=8.7								
PDAR	**Pinedale Array**	11.32	308	Pn		**Pn**	21 32 13.6	+1.3	
	comp=Z,0.1nm,0.4s,baz=122,slow=15,SNR=1.6								
PDAR				Pg			21 32 54.3		
	comp=Z,0.1nm,0.3s,baz=122,slow=15,SNR=3.9								
PDAR				Lg		Lg	21 35 14.5		
	comp=Z,0.3nm,0.3s,baz=125,slow=15,SNR=4.7								
ULM	**Lac du Bonnet**	13.99	4	Lg		Lg	21 36 46.6		
	comp=Z,0.2nm,0.3s,baz=235,slow=20,SNR=2.9								
NEW	**Newport**	18.74	316	Pn		**Pn**	21 33 52.9	+3.2	
	comp=Z,0.5nm,0.3s,baz=140,slow=4.1,SNR=3.1								
BBB	**Bella Bella**	26.80	316	LR		LR	21 47 11.8		
	comp=Z,60nm,21.3s,baz=326,slow=40								
YKA	**Yellowknife Ar**	28.29	343	P		**P**	21 35 24.5	+0.9	
	comp=Z,2.0nm,0.8s,baz=137,slow=9.3,SNR=2.3								
	comp=Z,2.0nm,0.8s								
ILAR	**Eielson Array**	40.72	330	P		**P**	21 37 13.3	+2.4	
	comp=Z,0.4nm,0.6s,baz=106,slow=8.5,SNR=4.2								
	comp=Z,0.4nm,0.6s								

*TRN **08** 21:39:49.7, 15°.09N×61°.26W, h182km, MD4.0*
*IDC **08** 21:39:50.8±1.0, 15°.00N×61°.46W, h174km±11km, mb3.5/8, mbtmp4.0/8, Error ellipse: s-maj=34.3km s-min=28.2km az=83.0*
*NEIC **08** 21:39:51.7±1.5, 15°.08N±0°.05×61°.43W±0°.08, h173km±5km, mb4.2/49, Error ellipse: s-maj=11.7km s-min=6.8km az=70.0*

ISC 08 21:39:51.4±0.6, **15°.05N**±0°.03×**61°.40W**±0°.06, **h180**km±4km, **n146**,σ1°**15**/175, **mb4.1**/31, **2C-4D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MDN	**Morne-Daniel**	0.26	1	*eP*		**Pn**	21 40 15.3	-0.1
MDN				*eS*		**Sn**	21 40 33.1	-0.9
PCM	**Pelee Case Pet**	0.30	143	*eP*		**Pn**	21 40 14.9	-0.6
SVN	**Savane Anatole**	0.30	134			**Pn**	21 40 15.5	-0.1
SVN	**Savane Anatole**	0.30	134	*iP*		**Pn**	21 40 15.3	-0.3
DLPL	**La Plaine**	0.31	28	Pn		**Pn**	21 40 14.9	-0.6
DLPL						**Sn**	21 40 33.9	-0.4
DLPL	**La Plaine**	0.31	28	*eP*		**Pn**	21 40 15.3	-0.2
DLPL				*eS*		**Sn**	21 40 33.6	-0.7
CXM	**Morne La Croix**	0.33	137	*eP*		**Pn**	21 40 15.6	-0.2
BAMF	**Morne Balai**	0.34	134	*iP*		**Pn**	21 40 15.5	-0.2
GBMF	**Grand Be**	0.34	139	*eP*		**Pn**	21 40 15.3	-0.5
PML	**Morne Lenard**	0.34	143	*eP*		**Pn**	21 40 15.1	-0.5
DSLB	**Salisbury**	0.38	357	*eP*		**Pn**	21 40 15.7	-0.1
DSLB				*eS*		**Sn**	21 40 33.9	-0.8
FDF	**Fort de France**	0.40	143			**Pn**	21 40 15.5	-0.4
FDF	**Fort de France**	0.40	143	*eP*		**Pn**	21 40 15.5	-0.4
FDF				*eS*		**Sn**	21 40 33.8	-0.9
MDVC	**Dominica, Viel**	0.56	359	*eP*		**Pn**	21 40 16.5	+0.1
MDVC				*eS*		**Sn**	21 40 36.1	+0.2
MDCT	**Cottage Hill,**	0.56	354	*eP*		**Pn**	21 40 16.7	+0.2
MDCT				*eS*		**Sn**	21 40 36.1	+0.2
ILAM	**Ilet Lapin Mar**	0.58	119			**Pn**	21 40 15.8	-0.7
ILAM	**Ilet Lapin Mar**	0.58	119	*eP*		**Pn**	21 40 15.8	-0.7
ILAM				*eS*		**Sn**	21 40 34.1	-1.7
ZAM	**Aeronautique**	0.60	143	*eP*		**Pn**	21 40 16.0	-0.6
TRMF	**Trois Ilets**	0.61	147	*eP*		**Pn**	21 40 16.1	-0.6
BIM	**Bigot**	0.62	149			**Pn**	21 40 16.4	-0.4
BIM	**Bigot**	0.62	149	*eP*		**Pn**	21 40 16.3	-0.5
BIM				*eS*		**Sn**	21 40 35.6	-0.7
MVM	**Montagne Vaucl**	0.69	136	*eP*		**Pn**	21 40 16.5	-0.7
MPOM	**Morne Pois Mar**	0.80	139			**Pn**	21 40 17.2	-0.5
MPOM	**Morne Pois Mar**	0.80	139	*eP*		**Pn**	21 40 17.0	-0.7
MPOM				*eS*		**Sn**	21 40 36.6	-1.5
TDBA	**Terre de Bas,**	0.82	344			**Pn**	21 40 17.9	+0.1
TDBA	**Terre de Bas,**	0.82	344	*iP*		**Pn**	21 40 17.8	-0.1
TDBA				*eS*		**Sn**	21 40 38.0	-0.5
H05S1	**Guadeloupe/Mar** SNR=3089	0.83	139	P		**Pn**	21 40 16.9	-1.0
H05S1				S		**Sn**	21 40 36.9	-1.4
TBG	**Guadaloupe-3**	0.83	343	*eP*		**Pn**	21 40 17.7	-0.2
MAGL	**Barre de l'ile**	0.90	7			**Pn**	21 40 18.0	-0.2
MAGL	**Barre de l'ile**	0.90	7	*eP*		**Pn**	21 40 17.9	-0.5
MAGL				*eS*		**Sn**	21 40 38.0	-1.3
CBE	**Ff, Capester**	1.03	349			**Pn**	21 40 19.4	0.0
CBE	**Ff, Capester**	1.03	349	*eP*		**Pn**	21 40 19.2	-0.1
CBE				*eS*		**Sn**	21 40 40.7	-0.4
SLBI	**Saint Lucia, B**	1.10	158	*eP*		**Pn**	21 40 19.1	-0.8
SLBI				*eS*		**Sn**	21 40 40.1	-1.9
SLB	**Belfond**	1.27	164	*eP*		**Pn**	21 40 21.7	+0.3
SLB				*eS*		**Sn**	21 40 43.3	-1.2
GDSD	**La Dsirade Is**	1.29	14			**Pn**	21 40 20.8	-0.7
H05N1	**Guadeloupe/Mar** SNR=8707	1.30	15	P		**Pn**	21 40 20.9	-0.6
H05N1				S		**Sn**	21 40 41.9	-3.1
MCLT	**Moule a Chique**	1.41	162			**Pn**	21 40 21.9	-0.6
MCLT	**Moule a Chique**	1.41	162	*eP*		**Pn**	21 40 21.9	-0.6
MCLT				*eS*		**Sn**	21 40 45.7	-0.9
ABD	**La Joyeuse, An**	1.42	356			**Pn**	21 40 22.1	-0.4
ABD	**La Joyeuse, An**	1.42	356	*eP*		**Pn**	21 40 22.2	-0.4
ABD				*eS*		**Sn**	21 40 45.4	-1.4
SVB	**Belmont**	1.78	175			**Pn**	21 40 25.7	-0.4
SVB	**Belmont**	1.78	175	*iP*		**Pn**	21 40 25.8	-0.4
SVB				*eS*		**Sn**	21 40 52.5	-0.6
MLYT	**Lee's Yard**	1.83	335	*eP*		**Pn**	21 40 26.7	+0.1
MBFL	**Flemmings, Mon**	1.86	335	*eP*		**Pn**	21 40 26.8	-0.1
ANBD	**Bethesda, Anti**	2.02	350	*iP*		**Pn**	21 40 28.0	-0.6
ANBD				*eS*		**Sn**	21 40 54.6	-3.0
ANDO	**Antigua, Disas**	2.09	349	*eP*		**Pn**	21 40 28.9	-0.5
ANDO				*eS*		**Sn**	21 40 56.1	-3.0
GCMP	**Grenada, Carri**	2.55	181	*eP*		**Pn**	21 40 34.1	-0.6
GCMP				*eS*		**Sn**	21 41 07.1	-1.3
BCHC	**Barbados, Cave**	2.56	138	*eP*		**Pn**	21 40 33.9	-0.9
BCHC				*eS*		**Sn**	21 41 05.7	-2.9
BBGH	**Gun Hill**	2.60	137			**Pn**	21 40 36.0	+0.7
BBGH						**Sn**	21 41 11.0	+1.4
BBGH	**Gun Hill**	2.60	137	*eP*		**Pn**	21 40 34.2	-1.2
BBGH				*eS*		**Sn**	21 41 06.2	-3.3
ANWB	**Willy Bob**	2.63	352			**Pn**	21 40 34.3	-1.2
ANWB	**Willy Bob**	2.63	352	*eP*		**Pn**	21 40 34.2	-1.3
ANWB				*eS*		**Sn**	21 41 06.8	-3.2
BBSP	**Saint Philip**	2.70	136	*eP*		**Pn**	21 40 36.0	-0.5
GRGR	**Grenville**	2.91	185			**Pn**	21 40 38.6	-0.5
GRGR					Sn	**Sn**	21 41 16.6	+0.3
GRGR	**Grenville**	2.91	185	*eP*		**Pn**	21 40 38.5	-0.5
GRGR				*eS*		**Sn**	21 41 14.9	-1.3
GRFF	**Grenada Fort F**	3.00	186	*eP*		**Pn**	21 40 40.5	+0.4
GRFF				*eS*		**Sn**	21 41 17.3	-0.9
SMRT	**St. Maarten**	3.39	332			**Pn**	21 40 43.7	-1.1
SMRT					Sn	**Sn**	21 41 22.5	-4.1
SMRT	**St. Maarten**	3.39	332	*eP*		**Pn**	21 40 43.6	-1.1
SMRT				*eS*		**Sn**	21 41 25.1	-1.5
TOSP	**Speyside**	3.83	167			**Pn**	21 40 49.7	-0.5
TOSP	**Speyside**	3.83	167	*eP*		**Pn**	21 40 49.8	-0.5
TOSP				*eS*		**Sn**	21 41 33.4	-3.1
TPR	**Prospect**	3.89	171	*eP*		**Pn**	21 40 50.9	-0.3
TPR				*eS*		**Sn**	21 41 35.6	-2.4
TRN	**Trinidad (W)**	4.38	180	*eP*		**Pn**	21 40 57.3	0.0
TRN	**Trinidad (W)**	4.38	180	*eS*		**Sn**	21 41 45.3	-3.8
TBH	**Brigand Hill**	4.55	176	*eP*		**Pn**	21 40 58.5	-1.1
TPP	**Pointe-a-Pierr**	4.71	181	*eS*		**Sn**	21 41 53.6	-3.1
STVI	**Saint Thomas**	4.73	314	Pn		**Pn**	21 41 01.6	-0.2
CUPR	**Culebra, Puert**	4.93	312	Pn		**Pn**	21 41 05.0	+0.5
MTP	**Monte Pirata**	5.00	308	Pn		**Pn**	21 41 05.2	-0.2
HUMP	**Col San Antoni**	5.26	306	Pn		**Pn**	21 41 08.9	+0.2
CBYP	**Canovanas**	5.34	307	Pn		**Pn**	21 41 10.0	+0.2
GCPR	**Guaynabo City**	5.54	306			**Pn**	21 41 12.8	+0.5
CELP	**Cerrillos**	5.81	302	Pn		**Pn**	21 41 16.2	+0.3
AOPR	**Arecibo Observ**	6.09	303	Pn		**Pn**	21 41 20.6	+1.0
AOPR	**Arecibo Observ**	6.09	303	*eP*		**Pn**	21 41 20.9	+1.4
MLPR	**Magueyes Islan**	6.14	299	Pn		**Pn**	21 41 19.6	-0.7
CRPR	**Cabo Rojo, PR**	6.22	299	Pn		**Pn**	21 41 20.9	-0.3
BIRV	**Virongo**	6.58	227	Pn		**Pn**	21 41 24.4	-1.6
DR12	**Loma Pena Alta**	8.49	297			**Pn**	21 41 50.7	-0.6
SDDR	**Presa de Saban**	10.23	294	Pn		**Pn**	21 42 15.9	+1.8
GRTK	**Grand Turk**	11.26	306	Pn		**Pn**	21 42 26.9	-0.3
SAML	**Samuel**	23.91	184	P		**P**	21 44 49.0	+0.1
Y60A	**Bolivia**	24.23	324	P		**P**	21 44 51.2	-0.3
MCRA	**Macar, Loja**	26.66	225	P		**P**	21 45 14.0	+0.3
MCRA				IAmb		IAmb	21 45 31.9	
	comp=Z,4.5nm,1.2s							
CLTN	**Cedars of Leba**	30.58	318	P		**P**	21 45 46.8	-1.5
CLTN				IAmb		IAmb	21 45 53.4	
	comp=Z,3.6nm,1.1s							
PLAL	**Pickwick Lake**	31.11	314	P		**P**	21 45 53.5	+0.6
PLAL				IAmb		IAmb	21 45 54.4	
	comp=Z,4.6nm,0.5s							
LCAR	**Lake Charles**	33.82	314	P		**P**	21 46 16.3	-0.2
LCAR				IAmb		IAmb	21 46 17.0	
	comp=Z,5.6nm,1.4s							
WHAR	**Wooly Hollow**	34.24	312	P		**P**	21 46 20.1	0.0
WHAR				IAmb		IAmb	21 46 55.2	
	comp=Z,8.9nm,1.4s							
DRLN	**Deer Lake**	34.26	5	P		**P**	21 46 21.0	+0.9
FCAR	**Ozark Folk Cen**	34.41	313	P		**P**	21 46 22.0	+0.4
MGMO	**Mountain Grove**	35.14	315	P		**P**	21 46 28.0	+0.1
MGMO				IAmb		IAmb	21 46 29.3	
	comp=Z,3.5nm,0.6s							
E46A	**Sault Ste Mari**	36.64	333	P		**P**	21 46 41.7	+1.2
WMOK	**Wichita Mounta**	38.87	307	P		**P**	21 46 58.5	-0.8
WMOK				IAmb		IAmb	21 47 13.4	
	comp=Z,3.1nm,0.8s							
SCHQ	**Schefferville**	39.92	355	P		**P**	21 47 08.8	+1.2

SVW2					IAmb	IAmb	21 51 49.7	
	comp=Z,6.7nm,1.4s							
O18K	**Koktuh Hills**	**79.02**	**329**		P	**P**	**21 51 35.8**	**+0.6**
O18K					IAmb	IAmb	21 52 08.6	
	comp=Z,4.3nm,1.1s							
N18K	**Kilae Creek**	**79.20**	**330**		P	**P**	**21 51 36.4**	**+0.3**
N18K					IAmb	IAmb	21 51 39.6	
	comp=Z,6.6nm,1.2s							
SDPT	**Sand Point**	**82.83**	**325**		P	**P**	**21 51 55.6**	**+0.2**

*IDC **08** 21:46:17.9±0.3,54.˚63S×158.˚61E,h0km,mb5.6/27, mbtmp5.6/28,ML4.4/1,MS5.7/43,Error ellipse: s-maj=12.8km s-min=11.2km az=71.0*

*BJI **08** 21:46:18.0±0.0,54.˚65S×158.˚60E,h5km,mb5.7/43, mB6.3/65,Ms5.9/70,Ms7 5.6/68*

*MOS **08** 21:46:19.3±1.4,54.˚54S×158.˚60E,h11km,mb5.8/28, MS5.7/40,Error ellipse: s-maj=15.9km s-min=7.1km az=102.1*

*NEIC **08** 21:46:20.1±1.6,54.˚61S±0.˚05×158.˚7E±0.˚1,h10km±1km, mb6.0/185,Ms_20 5.8/377,Mww6.1,Error ellipse: s-maj=13.9km s-min=8.8km az=98.0*

*NEIC **08** 21:46:26,54.˚46S×158.˚26E,h16km,Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 10^{18}Nm; M_{rr}0.88; $M_{\theta\theta}$0.44; $M_{\phi\phi}$-1.32; $M_{r\theta}$0.58; $M_{\theta\phi}$0.97; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.67000×10^{18} NP1: ϕ_s121.00000°,δ57.00000°,λ33.00000°. NP2:ϕ_s11.00000°, δ62.00000°,λ142.00000°. Principal axes: T 1.5670, Plg45.0000°, Azm334.0000°; N 0.1869, Plg45.0000°, Azm160.0000°; P -1.7540, Plg3.0000°, Azm67.0000°;*

*GCMT **08** 21:46:27.1±0.1,54.˚51S×158.˚47E,h14km,MW6.0/162, Moment Tensor Solution. s162,c382; s156,c543; Duration: 2s6 Moment tensor: Scale 10^{18}Nm; M_{rr}1.02±.01; $M_{\theta\theta}$0.38±.01; $M_{\phi\phi}$-1.40±.01; $M_{r\theta}$0.09±.02; $M_{\theta\phi}$1.08±.01; $M_{\phi r}$0.06±.02; Best double couple: $M_0$1.49600×10^{18} NP1:ϕ_s1.00000°,δ52.00000°, λ129.00000°. NP2:ϕ_s128.00000°,δ52.00000°,λ51.00000°. Principal axes: T 1.0830, Plg60.0000°, Azm334.0000°; N 0.8260, Plg30.0000°, Azm155.0000°; P -1.9100, Plg0.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 08 21:46:20.3±0.4,54.˚60S±0.˚03×158.˚71E±0.˚03,h11km±2km, h11km:pP-P,n1722,σ1961/1683,mb6.0/258,MS5.8/286, 126C-56D,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.18**	**54**	P	**Pg**	**21 46 23.4**	**-0.8**
	baz=0.2,SNR=1000						
MCQ	**Macquarie Isla**	**0.18**	**54**	Pg	**Pg**	**21 46 23.5**	**-0.7**
MCQ	**Macquarie Isla**	**0.18**	**54**	P	**Pg**	**21 46 23.5**	**-0.7**
MCQ	**Macquarie Isla**	**0.18**	**54**	P	**Pg**	**21 46 23.6**	**-0.5**
MCQ	**Macquarie Isla**	**0.18**	**54**	P	**Pg**	**21 46 24.1**	**-0.1**
MCQ	**Macquarie Isla**	**0.18**	**54**	⇑P	**Pg**	**21 46 22.7**	**-1.5**
APZ	**The Paps**	**9.75**	**41**	P	**Pn**	**21 48 37.3**	**-3.1**
PYZ	**Puysegur Point**	**9.85**	**34**	Pn	**Pn**	**21 48 39.7**	**-2.1**
PYZ	**Puysegur Point**	**9.85**	**34**	P	**Pn**	**21 48 39.7**	**-2.1**
PYZ				S	**Sn**	**21 50 26.7**	**-5.7**
SYZ	**Scrubby Hill**	**10.44**	**44**	P	**Pn**	**21 48 47.3**	**-2.5**
SYZ				S	**Sn**	**21 50 37.8**	**-8.9**
WHZ	**Wether Hill Ro**	**10.53**	**38**	Pn	**Pn**	**21 48 49.5**	**-1.6**
WHZ	**Wether Hill Ro**	**10.53**	**38**	P	**Pn**	**21 48 49.2**	**-1.8**
WHZ				S	**Sn**	**21 50 40.5**	**-8.5**
DCZ	**Deep Cove**	**10.63**	**34**	Pn	**Pn**	**21 48 51.5**	**-1.0**
DCZ	**Deep Cove**	**10.63**	**34**	P	**Pn**	**21 48 49.5**	**-3.0**
DCZ				S	**Sn**	**21 50 51.3**	**0.0**
MLZ	**Mavora Lakes**	**11.04**	**37**	Pn	**Pn**	**21 48 57.1**	**-1.1**
MLZ	**Mavora Lakes**	**11.04**	**37**	P	**Pn**	**21 48 57.4**	**-0.8**
MLZ				S	**Sn**	**21 50 55.6**	**-6.0**
TUZ	**Tuapeka**	**11.11**	**43**	P	**Pn**	**21 48 57.1**	**-2.0**
TUZ				S	**Sn**	**21 50 56.7**	**-6.5**
HHSZ	**Highcliff Hill**	**11.56**	**46**	P	**Pn**	**21 49 08.3**	**+3.0**
HHSZ				S	**Sn**	**21 51 07.1**	**-7.2**
MSZ	**Milford Sound**	**11.58**	**35**	P	**Pn**	**21 49 06.5**	**+1.0**
EAZ	**Earnscleugh**	**11.59**	**40**	P	**Pn**	**21 49 04.0**	**-1.6**
EAZ				S	**Sn**	**21 51 11.8**	**-3.2**
WKZ	**Wanaka**	**11.83**	**38**	Pn	**Pn**	**21 49 10.0**	**+1.1**
WKZ	**Wanaka**	**11.83**	**38**	P	**Pn**	**21 49 09.0**	**+0.1**
WKZ				S	**Sn**	**21 51 16.0**	**-4.8**
ODZ	**Otahua Downs**	**12.27**	**44**	Pn	**Pn**	**21 49 14.6**	**-0.3**
ODZ	**Otahua Downs**	**12.27**	**44**	P	**Pn**	**21 49 13.0**	**-1.8**
ODZ				S	**Sn**	**21 51 22.9**	**-8.6**
ODZ	**Otahua Downs**	**12.27**	**44**	P	**Pn**	**21 49 17.1**	**+2.2**
	367nm,2.0s						
ODZ	**Otahua Downs**	**12.27**	**44**	⇓P	**Pn**	**21 49 12.4**	**-2.4**
JCZ	**Jackson Bay**	**12.40**	**36**	P	**Pn**	**21 49 17.4**	**+0.6**
LBZ	**Lake Benmore**	**12.64**	**41**	Pn	**Pn**	**21 49 19.9**	**-0.1**
LBZ	**Lake Benmore**	**12.64**	**41**	P	**Pn**	**21 49 17.4**	**-2.5**
LBZ				S	**Sn**	**21 51 34.0**	**-6.6**
TMZ	**Timaru**	**12.96**	**43**	P	**Pn**	**21 49 22.6**	**-1.7**
FOZ	**Fox Glacier**	**13.24**	**38**	Pn	**Pn**	**21 49 28.6**	**+0.5**
FOZ	**Fox Glacier**	**13.24**	**38**	P	**Pn**	**21 49 29.3**	**+1.2**
ARCZ	**Arundel**	**13.39**	**42**	P	**Pn**	**21 49 28.7**	**-1.6**
RPZ	**Rata Peaks**	**13.54**	**41**	Pn	**Pn**	**21 49 30.3**	**-1.9**
	2.1nm,0.3s,baz=203,slow=5.2,SNR=12						
RPZ				Sn	**Sn**	**21 52 00.7**	**-1.9**
	2.0nm,0.3s,baz=5.4,slow=12,SNR=2.1						
RPZ				LR	LR	21 53 49.9	
	comp=Z,56µm,20.9s,baz=190,slow=33 41nm,0.6s						
RPZ	**Rata Peaks**	**13.54**	**41**	P	**Pn**	**21 49 30.5**	**-1.8**
RPZ	**Rata Peaks**	**13.54**	**41**	P	**Pn**	**21 49 34.6**	**+2.4**
	965nm,1.1s						
GCSZ	**Gaunt Creek Bo**	**13.61**	**39**	P	**Pn**	**21 49 34.1**	**+0.9**
WACZ	**Wakanui South**	**13.66**	**44**	P	**Pn**	**21 49 32.8**	**-1.0**
TAU	**Tasmania Unive**	**13.88**	**323**	Pn	**Pn**	**21 49 34.7**	**-2.2**
TAU	**Tasmania Unive**	**13.88**	**323**	P	**Pn**	**21 49 34.7**	**-2.2**
TAU	**Tasmania Unive**	**13.88**	**323**	P	**Pn**	**21 49 34.8**	**-2.1**
	458nm,0.8s						
TAU	**Tasmania Unive**	**13.88**	**323**	⇑P	**Pn**	**21 49 34.5**	**-2.4**
RACZ	**Rakaia**	**13.96**	**44**	P	**Pn**	**21 49 38.4**	**+0.5**
WVZ	**Waitaha Valley**	**13.97**	**39**	P	**Pn**	**21 49 40.9**	**+2.8**
MQZ	**McQueen's Vall**	**14.19**	**45**	Pn	**Pn**	**21 49 40.9**	**-0.1**
MQZ	**McQueen's Vall**	**14.19**	**45**	P	**Pn**	**21 49 39.0**	**-2.0**
OXZ	**Oxford**	**14.25**	**43**	Pn	**Pn**	**21 49 40.0**	**-2.0**
OXZ	**Oxford**	**14.25**	**43**	P	**Pn**	**21 49 40.0**	**-2.0**
MOO	**Moorlands**	**14.34**	**323**	P	**Pn**	**21 49 40.9**	**-2.3**
	baz=14,SNR=180						
MOO	**Moorlands**	**14.34**	**323**	P	**Pn**	**21 49 42.7**	**-0.5**
	529nm,1.2s						
OKCZ	**Okains Bay**	**14.34**	**46**	P	**Pn**	**21 49 43.6**	**+0.4**
INZ	**Inchbonnie**	**14.53**	**40**	P	**Pn**	**21 49 46.9**	**+1.1**
LTZ	**Lake Taylor**	**14.80**	**43**	Pn	**Pn**	**21 49 48.9**	**-0.7**
LTZ	**Lake Taylor**	**14.80**	**43**	P	**Pn**	**21 49 48.8**	**-0.8**
GVZ	**Greta Valley S**	**14.95**	**45**	P	**Pn**	**21 49 50.8**	**-0.8**
CORO	**Coronation Par**	**15.23**	**325**	P	**Pn**	**21 49 54.8**	**-0.4**
	303nm,1.2s						
GLAD	**Gladstone**	**15.38**	**328**	P	**Pn**	**21 49 55.3**	**-1.9**
	621nm,0.9s						
DSZ	**Denniston Nort**	**15.51**	**39**	P	**Pn**	**21 49 58.2**	**-0.8**
KHZ	**Kahutara**	**15.62**	**45**	Pn	**Pn**	**21 49 59.6**	**-0.6**
KHZ	**Kahutara**	**15.62**	**45**	P	**Pn**	**21 50 02.1**	**+1.9**
KHZ	**Kahutara**	**15.62**	**45**	P	**Pn**	**21 50 00.4**	**+0.1**
	490nm,1.7s						
KHZ	**Kahutara**	**15.62**	**45**	⇓P	**P**	**21 50 02.4**	**-2.1**
THZ	**Tophouse**	**15.92**	**42**	Pn	**Pn**	**21 50 03.0**	**-1.2**
THZ				IAmb	IAmb	21 50 10.0	
	comp=Z,1µm,1.4s						
THZ	**Tophouse**	**15.92**	**42**	P	**Pn**	**21 50 04.9**	**+0.7**
MRNZ	**Matariki Terra**	**16.17**	**41**	P	**Pn**	**21 50 08.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**16.34**	**44**	P	**P**	**21 50 12.0**	**-0.5**
BSWZ	**Blackbirch Sta**	**16.34**	**44**	P	**P**	**21 50 12.4**	**-0.1**
CMWZ	**Cape Campbell**	**16.45**	**45**		**Pn**	**21 50 09.1**	**-1.9**
NNZ	**Nelson**	**16.57**	**42**		**Pn**	**21 50 12.5**	**+0.1**
NNZ				IAmb	IAmb	21 50 19.8	
	comp=Z,1µm,1.3s						
NNZ	**Nelson**	**16.57**	**42**	P	**P**	**21 50 16.7**	**+1.7**
QRZ	**Quartz Range**	**16.58**	**39**	Pn	**Pn**	**21 50 11.9**	**-0.7**
QRZ	**Quartz Range**	**16.58**	**39**	P	**Pn**	**21 50 12.3**	**-0.4**
QRZ	**Quartz Range**	**16.58**	**39**	P	**Pn**	**21 50 12.4**	**-0.3**
	comp=Z,734nm,2.3s						
TUWZ	**Tuamarina**	**16.61**	**44**		**Pn**	**21 50 12.6**	**-0.4**
SNZO	**South Karori**	**17.02**	**45**		**Pn**	**21 50 17.8**	**-0.3**
SNZO	**South Karori**	**17.02**	**45**	P	**P**	**21 50 21.2**	**+1.2**
	comp=Z,811nm,2.3s						
PLWZ	**Palliser**	**17.04**	**47**	Pn	**Pn**	**21 50 18.0**	**-0.4**
DUWZ	**D'Urville Isla**	**17.13**	**43**	P	**P**	**21 50 22.0**	**+0.7**
MSWZ	**Moikau Station**	**17.16**	**47**		**Pn**	**21 50 19.6**	**-0.3**
PAWZ	**Paruwai Farm**	**17.26**	**47**	P	**P**	**21 50 24.4**	**+1.6**
MRZ	**Mangatainoka R**	**17.93**	**46**	P	**P**	**21 50 32.1**	**+2.0**
BFZ	**Birch Farm**	**18.19**	**47**		**Pn**	**21 50 31.6**	**-1.1**
BFZ				IAmb	IAmb	21 50 42.3	
	comp=Z,2µm,1.9s						
BFZ	**Birch Farm**	**18.19**	**47**	P	**P**	**21 50 38.9**	**+6.0**
BFZ	**Birch Farm**	**18.19**	**47**	P	**P**	**21 50 33.7**	**+0.8**
	comp=Z,540nm,2.2s						
DVHZ	**Dannevirke**	**18.47**	**46**	P	**Pn**	**21 50 39.7**	**+3.5**
TSZ	**Takapari Road**	**18.59**	**46**	P	**Pn**	**21 50 42.2**	**+4.6**
MILA	**Mila**	**18.74**	**336**	P	**Pn**	**21 50 39.4**	**-0.1**
	baz=19,SNR=12						
MILA	**Mila**	**18.74**	**336**	⇓P	**Pn**	**21 50 41.4**	**+1.9**
PNHZ	**Pukenui**	**18.81**	**46**	P	**Pn**	**21 50 43.7**	**+3.4**
MOVZ	**Moawhango**	**19.05**	**44**	P	**Pn**	**21 50 45.0**	**+1.7**
BHHZ	**Black Hill Sta**	**19.11**	**45**	P	**Pn**	**21 50 46.3**	**+2.4**
GEXS	**Deakin Univers**	**19.12**	**323**	P	**Pn**	**21 50 45.9**	**+1.9**
	comp=Z,222nm,0.9s						
SNVZ	**South Ngauruho**	**19.20**	**43**	P	**Pn**	**21 50 47.7**	**+2.6**
OTVZ	**Oturere**	**19.23**	**44**	P	**Pn**	**21 50 48.5**	**+3.1**
MLBS	**Spotswood, Mel**	**19.25**	**325**	P	**Pn**	**21 50 46.2**	**+0.7**
TOO	**Toolangi**	**19.29**	**327**	P	**P**	**21 50 45.4**	**+0.3**
	baz=19,SNR=10						
TOO	**Toolangi**	**19.29**	**327**		**P**	**21 50 45.0**	**-0.1**
TOO				IAmb	IAmb	21 50 51.2	
	comp=Z,2µm,1.9s						
TOO	**Toolangi**	**19.29**	**327**	P	**P**	**21 50 45.0**	**-0.1**
TOO				pmax	pmax		
	comp=Z,2µm,1.9s						
TOO	**Toolangi**	**19.29**	**327**	P	**Pn**	**21 50 46.0**	**-0.1**
TOO	**Toolangi**	**19.29**	**327**	⇑P	**Pn**	**21 50 46.0**	**-0.1**
HIZ	**Hauiti**	**19.47**	**41**	P	**P**	**21 50 47.2**	**+0.1**
HIZ	**Hauiti**	**19.47**	**41**	P	**Pn**	**21 50 53.7**	**+5.4**
HIZ	**Hauiti**	**19.47**	**41**	P	**Pn**	**21 50 51.1**	**+2.9**
	comp=Z,768nm,1.3s						
BKZ	**Black Stump Fm**	**19.56**	**45**	P	**P**	**21 50 48.5**	**+0.4**
BKZ				IAmb	IAmb	21 51 00.1	
	comp=Z,1µm,1.2s						
BKZ	**Black Stump Fm**	**19.56**	**45**	P	**Pn**	**21 50 49.8**	**+0.4**
	comp=Z,4µm,1.8s						
BRAT	**Ballarat**	**19.83**	**323**	P	**Pn**	**21 50 52.4**	**-0.1**
	comp=Z,171nm,1.5s						
CNB	**Canberra Magne**	**20.36**	**338**	P	**P**	**21 50 55.9**	**-0.8**
	baz=20,SNR=21						
CNB				P	**P**	**21 50 55.9**	**-0.8**
	baz=20,SNR=21						
CNB	**Canberra Magne**	**20.36**	**338**	P	Pn	21 50 58.2	-0.6
	comp=Z,453nm,1.8s						
OMRZ	**Omania**	**20.42**	**43**	P	Pn	21 51 02.6	+3.2
CAN	**Canberra**	**20.43**	**337**	P	**P**	**21 50 57.5**	**-0.1**
CAN				IAmb	IAmb	21 51 12.4	
	comp=Z,1µm,1.8s						
CAN				IAMs_20	IAMs_20	21 57 04.4	
	comp=Z,52µm,20.0s						
CAN	**Canberra**	**20.43**	**337**	P	**P**	**21 50 57.5**	**-0.1**
CAN				pmax	pmax		
	comp=Z,1µm,1.8s						
CAN				MLR	MLR		
	comp=Z,52µm,20.0s						
CAN	**Canberra**	**20.43**	**337**	P	Pn	21 50 59.0	-0.7
	comp=Z,669nm,1.6s						
CAN	**Canberra**	**20.43**	**337**	⇑P	**P**	**21 50 58.5**	**+1.0**
RIGZ	**Rimuhau**	**20.48**	**47**	P	Pn	21 51 06.6	+6.4
URZ	**Urewera**	**20.59**	**45**	P	**P**	**21 50 59.8**	**+0.7**
	comp=Z,244nm,1.1s,baz=211,slow=6.5,SNR=25						
URZ				S	**S**	**21 54 47.9**	**-1.1**
	comp=Z,3.9nm,0.6s,baz=211,slow=13,SNR=0.8						
URZ				LR	LR	21 58 46.8	
	comp=Z,56µm,18.3s,baz=212,slow=36 comp=Z,244nm,1.1s						
URZ	**Urewera**	**20.59**	**45**	P	**P**	**21 50 59.6**	**+0.4**
URZ				IAmb	IAmb	21 51 04.8	
	comp=Z,1µm,1.6s						
URZ	**Urewera**	**20.59**	**45**	⇑P	Pn	21 51 01.8	+0.4
RUGZ	**Raukumara Rang**	**21.07**	**46**	P	P	21 51 15.8	+11
WIAZ	**Waiheke Island**	**21.09**	**39**	P	P	21 51 15.0	+10
PUZ	**Puketiti**	**21.22**	**47**	P	P	21 51 19.4	+13
ARPS	**Mount Arapiles**	**21.28**	**320**	P	**P**	**21 51 05.7**	**-0.9**
	baz=21,SNR=34						
ARPS	**Mount Arapiles**	**21.28**	**320**	P	**P**	**21 51 07.7**	**+1.1**
	comp=Z,690nm,1.0s						
RIV	**Riverview**	**21.44**	**343**	P	**P**	**21 51 07.9**	**-0.4**
	baz=21,SNR=6.3						
RIV				P	**P**	**21 51 07.9**	**-0.4**
	baz=21,SNR=6.3						
RIV	**Riverview**	**21.44**	**343**	⇑P	**P**	**21 51 11.3**	**+3.0**
SYDH	**Sydney Hard Ro**	**21.58**	**342**	P	**P**	**21 51 11.2**	**+1.4**
	comp=Z,338nm,1.0s						
MXZ	**Matakaoa Point**	**21.67**	**46**	P	**P**	**21 51 12.3**	**+1.4**
MXZ				IAMs_20	IAMs_20	22 00 23.8	
	comp=Z,33µm,19.0s						
OUZ	**Omahuta**	**21.98**	**34**	P	**P**	**21 51 16.0**	**+1.9**
OUZ				IAmb	IAmb	21 51 25.5	
	comp=Z,1µm,1.5s						
OUZ	**Omahuta**	**21.98**	**34**	P	**P**	**21 51 17.1**	**+3.0**
	comp=Z,707nm,1.3s						
OUZ	**Omahuta**	**21.98**	**34**	⇑P	**P**	**21 51 17.6**	**+3.5**
NTLS	**Newcastle Soft**	**22.22**	**344**	P	**P**	**21 51 19.9**	**+3.2**
	comp=Z,761nm,0.4s						
NTLH	**Newcastle Hard**	**22.26**	**344**	P	**P**	**21 51 18.1**	**+1.0**
	comp=Z,378nm,0.9s						
VNDA	**Vanda**	**23.04**	**178**	P	**P**	**21 51 25.2**	**+0.1**
	comp=Z,22nm,1.0s,baz=344,slow=9.4,SNR=24						
VNDA				S	**S**	**21 55 38.6**	**+3.2**
	comp=Z,2.1nm,0.8s,baz=354,slow=10,SNR=0.6						
VNDA				LR	LR	21 58 40.4	
	comp=Z,22µm,20.8s,baz=358,slow=32						
VNDA	**Vanda**	**23.04**	**178**	P	**P**	**21 51 24.3**	**-0.8**
VNDA	**Vanda**	**23.04**	**178**	P	**P**	**21 51 24.3**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,574nm,1.8s						
LHI	**Lord Howe Isla**	**23.07**	**1**	P	**P**	**21 51 26.7**	**+1.0**
	baz=23,SNR=3.9						
LHI	**Lord Howe Isla**	**23.07**	**1**	P	**P**	**21 51 26.9**	**+1.1**
LHI	**Lord Howe Isla**	**23.07**	**1**	P	**P**	**21 51 28.3**	**+2.6**
	comp=Z,359nm,1.4s						
LHI	**Lord Howe Isla**	**23.07**	**1**	⇑P	**P**	**21 51 28.4**	**+2.6**
SBA	**Scott Base**	**23.52**	**176**	P	**P**	**21 51 30.5**	**+0.6**
SBA				IAmb	IAmb	21 51 39.6	
	comp=Z,994nm,2.0s						
SBA	**Scott Base**	**23.52**	**176**	P	**P**	**21 51 30.5**	**+0.6**
SBA				pmax	pmax		
	comp=Z,994nm,2.0s						
TWOA	**Tennyson Woods**	**24.07**	**316**	P	**P**	**21 51 37.0**	**+1.5**
	comp=Z,87nm,1.4s						
ARMA	**Armidale**	**24.70**	**345**	P	**P**	**21 51 41.4**	**-0.1**
	baz=25,SNR=10						
ARMA				P	**P**	**21 51 41.4**	**-0.1**
	baz=25,SNR=10						
ARMA	**Armidale**	**24.70**	**345**	P	**P**	**21 51 41.1**	**-0.4**
ARMA	**Armidale**	**24.70**	**345**	P	**P**	**21 51 43.0**	**+1.5**
	comp=Z,138nm,2.9s						
ARMA	**Armidale**	**24.70**	**345**	⇓P	**P**	**21 51 41.0**	**-0.4**
CMSA	**Cobar Meteorol**	**24.86**	**333**	P	**P**	**21 51 42.9**	**+0.2**
	baz=25,SNR=24						
CMSA	**Cobar Meteorol**	**24.86**	**333**	P	**P**	**21 51 42.7**	**0.0**
	comp=Z,188nm,2.2s						
HTT	**Hallett**	**25.34**	**319**	P	**P**	**21 51 47.6**	**+0.5**
	baz=25,SNR=20						
HTT	**Hallett**	**25.34**	**319**	P	**P**	**21 51 47.3**	**+0.2**
	comp=Z,256nm,1.5s						
HTT	**Hallett**	**25.34**	**319**	⇑P	**P**	**21 51 47.7**	**+0.6**
CASY	**Casey**	**25.74**	**224**	P	**P**	**21 51 49.9**	**-0.5**
CASY	**Casey**	**25.74**	**224**	⇓P	**P**	**21 51 51.0**	**+0.6**
STKA	**Stephens Creek**	**25.78**	**325**	P	**P**	**21 51 51.7**	**+0.7**
	comp=Z,59nm,0.9s,baz=149,slow=11,SNR=34						
STKA				PcP	**PcP**	**21 55 19.6**	**-0.9**
	comp=Z,21nm,1.1s,baz=48,slow=9.4,SNR=3.4						
STKA				S	**S**	**21 56 27.8**	**+7.7**
	comp=Z,3.6nm,0.9s,baz=108,slow=1.0,SNR=1.0						
STKA				LR	LR	22 00 23.8	
	comp=Z,33µm,19.4s,baz=156,slow=33 comp=Z,59nm,0.9s						
STKA	**Stephens Creek**	**25.78**	**325**	P	**P**	**21 51 51.8**	**+0.7**
	baz=26,SNR=56						
STKA	**Stephens Creek**	**25.78**	**325**	P	**P**	**21 51 51.2**	**+0.1**
STKA	**Stephens Creek**	**25.78**	**325**	P	**P**	**21 51 51.2**	**+0.1**
STKA				pmax	pmax		
	comp=Z,118nm,1.6s						
STKA	**Stephens Creek**	**25.78**	**325**	P	**P**	**21 51 52.0**	**+0.9**
	comp=Z,46nm,2.0s						
WHYH	**Whyalla**	**26.22**	**317**	P	**P**	**21 51 55.4**	**+0.4**
	comp=Z,108nm,1.0s						
BBOO	**Buckleboo**	**27.03**	**314**	P	**P**	**21 52 02.6**	**+0.2**
	baz=27,SNR=5.5						
BBOO	**Buckleboo**	**27.03**	**314**	P	**P**	**21 52 02.2**	**-0.2**
BBOO	**Buckleboo**	**27.03**	**314**	P	**P**	**21 52 03.1**	**+0.7**
	comp=Z,166nm,1.5s						
LCRK	**Leigh Creek**	**28.27**	**320**	P	**P**	**21 52 14.3**	**+0.8**
	comp=Z,138nm,1.7s						
RMQ	**Roma**	**29.03**	**341**	P	**P**	**21 52 20.9**	**+0.6**
	baz=29,SNR=39						
RMQ	**Roma**	**29.03**	**341**	P	**P**	**21 52 20.9**	**+0.6**
	comp=Z,115nm,1.4s						
EIDS	**Eidsvold**	**29.74**	**346**	P	**P**	**21 52 26.7**	**+0.1**
	baz=30,SNR=8.4						
EIDS	**Eidsvold**	**29.74**	**346**	P	**P**	**21 52 25.9**	**-0.7**
EIDS	**Eidsvold**	**29.74**	**346**	P	**P**	**21 52 26.1**	**-0.5**
	comp=Z,142nm,1.2s						
EIDS	**Eidsvold**	**29.74**	**346**	⇓P	**P**	**21 52 26.6**	**0.0**
INKA	**Innaminka**	**29.87**	**327**	P	**P**	**21 52 28.5**	**+0.8**
	comp=Z,656nm,1.0s						
QLP	**Quilpie**	**29.95**	**333**	P	**P**	**21 52 29.3**	**+0.9**
	baz=30,SNR=8.3						
QLP	**Quilpie**	**29.95**	**333**	P	**P**	**21 52 28.8**	**+0.4**
	comp=Z,326nm,1.0s						
QLP	**Quilpie**	**29.95**	**333**	⇑P	**P**	**21 52 28.9**	**+0.4**
MULG	**Mulgathing**	**30.06**	**314**	P	**P**	**21 52 30.1**	**+0.7**
	comp=Z,107nm,1.7s						
RAO	**Raoul Island**	**30.45**	**43**	LR	LR	22 03 41.9	
	comp=Z,20µm,20.1s,baz=203,slow=34						
RAO	**Raoul Island**	**30.45**	**43**	IAMs_20	IAMs_20	22 03 21.1	
	comp=Z,19µm,21.0s						
OOD	**Oodnadatta**	**31.61**	**319**	P	**P**	**21 52 43.6**	**+0.6**
	comp=Z,180nm,1.4s						
RK1H	**Rockhampton Ha**	**31.78**	**346**	P	**P**	**21 52 46.9**	**+2.4**
	comp=Z,30nm,1.1s						
FORT	**Forrest**	**32.34**	**305**	P	**P**	**21 52 49.5**	**+0.1**
	baz=32,SNR=23						
FORT	**Forrest**	**32.34**	**305**	P	**P**	**21 52 48.7**	**-0.8**
FORT				IAmb	IAmb	21 52 52.7	
	comp=Z,157nm,0.9s						
FORT	**Forrest**	**32.34**	**305**	P	**P**	**21 52 49.7**	**+0.3**
	comp=Z,188nm,1.7s						
FORT	**Forrest**	**32.34**	**305**	⇑P	**P**	**21 52 48.0**	**-1.4**
PINNC	**Pines Island,**	**32.61**	**15**	P	**P**	**21 52 51.2**	**-0.7**
PINNC				IAmb	IAmb	21 52 58.3	
	comp=Z,218nm,1.3s						
PINNC	**Pines Island,**	**32.61**	**15**	P	**P**	**21 52 55.3**	**+3.4**
	comp=Z,173nm,2.1s						
OUENC	**Ouen Island, N**	**32.72**	**14**	P	**P**	**21 52 51.8**	**-1.0**
OUENC	**Ouen Island, N**	**32.72**	**14**	P	**P**	**21 52 55.5**	**+2.7**
ONTNC	**Ouen Toro**	**32.77**	**13**	P	**P**	**21 52 53.0**	**-0.3**
ONTNC				IAmb	IAmb	21 52 58.3	
	comp=Z,337nm,1.3s						
ONTNC	**Ouen Toro**	**32.77**	**13**	P	**P**	**21 52 55.2**	**+1.9**
	comp=Z,185nm,1.2s						
ONTNC	**Ouen Toro**	**32.77**	**13**	⇓P	**P**	**21 52 55.6**	**+2.3**
NOUC	**Port Laguerre**	**32.96**	**13**	P	**P**	**21 52 55.6**	**+0.7**
	comp=Z,98nm,1.4s						
DZM	**Mont Dzumac**	**33.00**	**13**	eP	**P**	**21 52 55.8**	**+0.4**
	comp=Z,586nm,1.3s						
DZM				eS	**S**	**21 58 15.5**	**+1.8**
	comp=Z,54nm,1.6s						
DZM				eLR	LR	22 01 39.0	
	comp=Z,16µm,29.2s						
DZM	**Mont Dzumac**	**33.00**	**13**	P	**P**	**21 52 56.3**	**+0.8**
	comp=Z,199nm,1.1s,baz=185,slow=10.0,SNR=20						
DZM				LR	LR	22 02 52.4	
	comp=Z,6µm,21.1s,baz=197,slow=30 comp=Z,199nm,1.1s						
DZM	**Mont Dzumac**	**33.00**	**13**	P	**P**	**21 52 55.9**	**+0.4**
DZM				IAmb	IAmb	21 53 00.7	
	comp=Z,282nm,1.2s						
DZM	**Mont Dzumac**	**33.00**	**13**	P	**P**	**21 52 56.8**	**+1.4**
	comp=Z,207nm,1.2s						
DZM	**Mont Dzumac**	**33.00**	**13**	⇑P	**P**	**21

WRKA	**Warakurna**	**37.11**	**310**	P		**P**		**21 53 30.3**	**-0.5**
	comp=Z,354nm,1.1s								
WRKA	**Warakurna**	**37.11**	**310**	⇑P		**P**		**21 53 30.3**	**-0.5**
MUN	**Mundaring**	**37.52**	**289**	P		**P**		**21 53 33.9**	**-0.2**
	baz=37,SNR=19								
MUN	**Mundaring**	**37.52**	**289**	P		**P**		**21 53 33.8**	**-0.3**
	comp=Z,196nm,1.1s								
MTSU	**Mount Surprise**	**38.05**	**337**	P		**P**		**21 53 39.3**	**+0.7**
	baz=38,SNR=24								
MTSU	**Mount Surprise**	**38.05**	**337**	P		**P**		**21 53 39.4**	**+0.7**
	comp=Z,79nm,1.0s								
BLDU	**Ballidu**	**38.29**	**291**	P		**P**		**21 53 40.3**	**-0.4**
	baz=38,SNR=8.5								
BLDU	**Ballidu**	**38.29**	**291**	P		**P**		**21 53 40.2**	**-0.4**
	comp=Z,109nm,1.6s								
WR0	**Warramunga Arr**	**39.17**	**322**	P		**P**		**21 53 46.7**	**-1.4**
WR0				IAmb		IAmb		21 53 50.5	
	comp=Z,343nm,0.9s								
WB2	**Warramunga Arr**	**39.25**	**322**	P		**P**		**21 53 47.5**	**-1.3**
WRA	**Warramunga Arr**	**39.26**	**322**	P		**P**		**21 53 47.6**	**-1.2**
	comp=Z,218nm,1.0s,baz=158,slow=7.1,SNR=155								
WRA				PP		**PP**		**21 55 19.6**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=181,slow=21,SNR=1.0								
WRA				PcP		**PcP**		**21 55 56.3**	**-1.3**
	comp=Z,38nm,1.1s,baz=163,slow=2.8,SNR=7.7								
WRA				LR		LR		22 09 28.4	
	comp=Z,57µm,18.9s,baz=161,slow=35								
	comp=Z,218nm,1.0s								
WRA	**Warramunga Arr**	**39.26**	**322**	P		**P**		**21 53 47.0**	**-1.9**
WRA	**Warramunga Arr**	**39.26**	**322**	P		**P**		**21 53 47.0**	**-1.9**
WRA				pmax		pmax			
	comp=Z,36nm,1.0s								
WRAB	**Tennant Creek**	**39.26**	**322**	P		**P**		**21 53 47.4**	**-1.5**
WRAB	**Tennant Creek**	**39.26**	**322**	P		**P**		**21 53 47.4**	**-1.5**
WRAB				pmax		pmax			
	comp=Z,230nm,1.0s								
WRAB				MLR		MLR			
	comp=Z,57µm,20.0s								
MSVF	**Nonsavu**	**39.70**	**30**	P		**P**		**21 53 52.3**	**-0.3**
	comp=Z,8.3nm,0.9s,baz=194,slow=15,SNR=2.8								
MSVF				LR		LR		22 07 38.7	
	comp=Z,11µm,18.2s,baz=210,slow=32								
MSVF	**Nonsavu**	**39.70**	**30**	P		**P**		**21 53 52.5**	**-0.1**
MSVF	**Nonsavu**	**39.70**	**30**	IAMs_20		IAMs_20		22 07 29.8	
	comp=Z,12µm,18.0s								
MSVF	**Nonsavu**	**39.70**	**30**	*i* P		**P**		**21 53 52.5**	**-0.1**
MSVF				pmax		pmax			
	comp=Z,35nm,0.9s								
MSVF				MLR		MLR			
	comp=Z,12µm,15.0s								
MSVF	**Nonsavu**	**39.70**	**30**	P		**P**		**21 53 55.9**	**+3.3**
	comp=Z,48nm,0.9s								
MSVF	**Nonsavu**	**39.70**	**30**	⇓P		**P**		**21 53 56.5**	**+3.9**
MORW	**Morawa**	**39.86**	**292**	P		**P**		**21 53 53.8**	**0.0**
	baz=40,SNR=14								
MORW	**Morawa**	**39.86**	**292**	P		**P**		**21 53 53.5**	**-0.3**
MORW	**Morawa**	**39.86**	**292**	P		**P**		**21 53 53.8**	**0.0**
	comp=Z,228nm,2.0s								
MORW	**Morawa**	**39.86**	**292**	⇓P		**P**		**21 53 53.9**	**0.0**
LKBA	**Tubou, Lakemba**	**40.19**	**34**	P		**P**		**21 53 58.8**	**+2.2**
	comp=Z,1.9nm,1.1s								
MEEK	**Meekatharra**	**40.44**	**297**	P		**P**		**21 53 58.4**	**-0.3**
	baz=40,SNR=25								
MEEK	**Meekatharra**	**40.44**	**297**	P		**P**		**21 53 58.6**	**-0.1**
	comp=Z,130nm,1.3s								
TAVE	**Taveuni**	**41.27**	**32**	P		**P**		**21 54 09.2**	**+3.7**
	comp=Z,217nm,1.4s								
DGTI	**Dogotuki**	**41.55**	**31**	P		**P**		**21 54 11.0**	**+3.2**
	comp=Z,149nm,1.2s								
COEN	**Coen**	**42.34**	**337**	P		**P**		**21 54 14.2**	**-0.1**
	baz=42,SNR=31								
COEN	**Coen**	**42.34**	**337**	P		**P**		**21 54 13.9**	**-0.4**
COEN				IAmb		IAmb		21 54 20.5	
	comp=Z,689nm,1.9s								
COEN	**Coen**	**42.34**	**337**	P		**P**		**21 54 14.2**	**-0.1**
	comp=Z,194nm,1.2s								
COEN	**Coen**	**42.34**	**337**	⇑P		**P**		**21 54 14.2**	**-0.1**
MAW	**Mawson**	**43.23**	**214**	P		**P**		**21 54 21.0**	**0.0**
	comp=Z,81nm,1.2s,baz=117,slow=10,SNR=27								
MAW				PcP		**PcP**		**21 56 07.5**	**-2.4**
	comp=Z,30nm,1.1s,baz=123,slow=14,SNR=2.9								
MAW				S		**S**		**22 00 49.6**	**+2.3**
	comp=Z,1.2nm,0.8s,baz=76,slow=24,SNR=1.7								
MAW				LR		LR		22 11 48.6	
	comp=Z,7µm,18.8s,baz=114,slow=35								
	comp=Z,81nm,1.2s								
MAW	**Mawson**	**43.23**	**214**	P		**P**		**21 54 21.4**	**+0.4**
	baz=43,SNR=25								
MAW	**Mawson**	**43.23**	**214**	P		**P**		**21 54 21.0**	**0.0**
MAW	**Mawson**	**43.23**	**214**	P		**P**		**21 54 21.0**	**0.0**
MAW				pmax		pmax			
	comp=Z,50nm,1.5s								
MAW	**Mawson**	**43.23**	**214**	⇑P		**P**		**21 54 22.1**	**+1.1**
PSA00	**Pilbara Seismi**	**44.03**	**303**	P		**P**		**21 54 26.8**	**-1.2**
PSA00	**Pilbara Seismi**	**44.03**	**303**	P		**P**		**21 54 26.8**	**-1.2**
PSA00				IAmb		IAmb		21 54 30.8	
	comp=Z,189nm,1.1s								
PSA00	**Pilbara Seismi**	**44.03**	**303**	P		**P**		**21 54 27.5**	**-0.4**
	comp=Z,171nm,1.4s								
FITZ	**Fitzroy Crossi**	**44.37**	**312**	P		**P**		**21 54 30.2**	**-0.4**
	comp=Z,120nm,0.9s,baz=163,slow=13								
FITZ				PP		**PP**		**21 56 13.5**	**-0.6**
	comp=Z,38nm,1.0s,baz=148,slow=5.9,SNR=3.0								
FITZ				S		**S**		**22 01 00.9**	**-4.0**
	comp=Z,2.7nm,0.9s,baz=158,slow=18,SNR=1.3								
FITZ				LR		LR		22 11 51.0	
	comp=Z,11µm,19.9s,baz=152,slow=35								
	comp=Z,120nm,0.9s								
FITZ	**Fitzroy Crossi**	**44.37**	**312**	P		**P**		**21 54 30.5**	**-0.2**
	baz=44,SNR=34								
FITZ	**Fitzroy Crossi**	**44.37**	**312**	P		**P**		**21 54 29.8**	**-0.8**
FITZ				IAmb		IAmb		21 54 34.1	
	comp=Z,180nm,1.0s								
FITZ	**Fitzroy Crossi**	**44.37**	**312**	P		**P**		**21 54 30.9**	**+0.3**
	comp=Z,231nm,1.3s								
FITZ	**Fitzroy Crossi**	**44.37**	**312**	⇑P		**P**		**21 54 30.5**	**-0.2**
MBWA	**Marble Bar**	**44.44**	**303**	P		**P**		**21 54 29.9**	**-1.3**
MBWA				IAmb		IAmb		21 54 34.0	
	comp=Z,173nm,1.0s								
MBWA	**Marble Bar**	**44.44**	**303**	P		**P**		**21 54 31.0**	**-0.2**
	comp=Z,120nm,1.1s								
MBWA	**Marble Bar**	**44.44**	**303**	⇑P		**P**		**21 54 30.5**	**-0.7**
HNR	**Honiara**	**45.06**	**2**	LR		LR		22 10 06.8	
	comp=Z,147µm,18.8s,baz=185,slow=32								
HNR	**Honiara**	**45.06**	**2**	P		**P**		**21 54 35.0**	**-1.2**
HNR				IAmb		IAmb		21 54 45.1	
	comp=Z,317nm,1.1s								
HNR	**Honiara**	**45.06**	**2**	P		**P**		**21 54 35.0**	**-1.2**
HNR				pmax		pmax			
	comp=Z,317nm,1.1s								
HNR				MLR		MLR			
	comp=Z,8µm,18.0s								
HNR	**Honiara**	**45.06**	**2**	P		**P**		**21 54 37.6**	**+1.4**
	comp=Z,367nm,1.1s								
KNRA	**Kununurra**	**45.25**	**317**	P		**P**		**21 54 37.6**	**-0.1**
	baz=45,SNR=61								
KNRA	**Kununurra**	**45.25**	**317**	P		**P**		**21 54 36.7**	**-1.0**
KNRA	**Kununurra**	**45.25**	**317**	P		**P**		**21 54 37.5**	**-0.1**
	comp=Z,698nm,1.0s								
RAR	**Rarotonga**	**45.65**	**60**	P		**P**		**21 54 41.1**	**+0.3**
	comp=Z,18nm,0.7s,baz=182,slow=5.3,SNR=5.2								
RAR				LR		LR		22 12 06.5	
	comp=Z,9µm,18.2s,baz=210,slow=34								
	comp=Z,18nm,0.7s								
RAR	**Rarotonga**	**45.65**	**60**	P		**P**		**21 54 40.9**	**+0.1**
RAR	**Rarotonga**	**45.65**	**60**	IAMs_20		IAMs_20		22 09 10.5	
	comp=Z,11µm,21.0s								
RAR	**Rarotonga**	**45.65**	**60**	P		**P**		**21 54 40.9**	**+0.1**
RAR				pmax		pmax			
	comp=Z,689nm,2.0s								
RAR				MLR		MLR			
	comp=Z,11µm,21.0s								
RAR	**Rarotonga**	**45.65**	**60**	P		**P**		**21 54 41.4**	**+0.6**
	comp=Z,177nm,2.3s								
GIRL	**Giralia**	**45.98**	**296**	P		**P**		**21 54 46.1**	**+2.6**
	comp=Z,428nm,1.1s								
PMG	**Port Moresby**	**46.01**	**344**	LR		LR		22 12 40.0	
	comp=Z,16µm,18.2s,baz=175,slow=34								
PMG	**Port Moresby**	**46.01**	**344**	P		**P**		**21 54 43.4**	**-0.3**
PMG				IAmb		IAmb		21 54 51.6	
	comp=Z,224nm,0.9s								
PMG	**Port Moresby**	**46.01**	**344**	*ce*P		**P**		**21 54 44.2**	**+0.6**
PMG				pmax		pmax			
	comp=Z,230nm,0.9s								
PMG	**Port Moresby**	**46.01**	**344**	P		**P**		**21 54 44.3**	**+0.6**
	comp=Z,242nm,0.9s								
PMG	**Port Moresby**	**46.01**	**344**	P		**P**		**21 54 44.4**	**+0.7**
	comp=Z,242nm,0.9s								
KDU	**Kakadu**	**46.62**	**324**	P		**P**		**21 54 47.8**	**-0.7**
	baz=47,SNR=66								
KDU	**Kakadu**	**46.62**	**324**	P		**P**		**21 54 47.9**	**-0.7**
	comp=Z,350nm,1.0s								
KDU	**Kakadu**	**46.62**	**324**	⇑P		**P**		**21 54 47.8**	**-0.7**
AFI	**Afiamalu**	**46.69**	**41**	P		**P**		**21 54 49.5**	**+0.4**
	comp=Z,26nm,0.2s,baz=139,slow=22,SNR=1.3								
AFI				LR		LR		22 13 11.5	
	comp=Z,4µm,21.7s,baz=194,slow=34								
	comp=Z,26nm,0.2s								
AFI	**Afiamalu**	**46.69**	**41**	P		**P**		**21 54 49.2**	**+0.1**
AFI				IAmb		IAmb		21 54 57.9	
	comp=Z,282nm,1.3s								
AFI	**Afiamalu**	**46.69**	**41**	P		**P**		**21 54 49.2**	**+0.1**
AFI				pmax		pmax			
	comp=Z,282nm,1.3s								
AFI				MLR		MLR			
	comp=Z,5µm,19.0s								
AFI	**Afiamalu**	**46.69**	**41**	P		P		21 54 54.0	+4.9
	comp=Z,174nm,1.1s								
MTN	**Manton Dam**	**46.95**	**322**	P		**P**		**21 54 50.3**	**-0.9**
	baz=47,SNR=44								
MTN	**Manton Dam**	**46.95**	**322**	P		**P**		**21 54 50.2**	**-0.9**
	comp=Z,306nm,1.0s								
MTN	**Manton Dam**	**46.95**	**322**	⇑P		**P**		**21 54 50.2**	**-0.9**
BELA	**Belgrano 2**	**47.53**	**176**	P		**P**		**21 54 54.2**	**-0.7**
TBI	**Tubuai**	**49.38**	**72**	*eP*		**P**		**21 55 13.4**	**+3.6**
	comp=Z,227nm,1.0s								
TBI				*eS*		**S**		**22 02 18.5**	**+2.0**
	comp=Z,13µm,28.2s								
TBI				*e*LR		LR		22 09 14.1	
	comp=Z,42µm,31.8s								
RABL	**Rabaul**	**50.54**	**352**	P		**P**		**21 55 18.0**	**-0.7**
RABL				IAmb		IAmb		21 55 21.5	
	comp=Z,161nm,1.0s								
RABL	**Rabaul**	**50.54**	**352**	P		**P**		**21 55 19.9**	**+1.2**
	comp=Z,232nm,0.8s								
SAUI	**Saumlaki**	**51.41**	**324**	P		**P**		**21 55 22.0**	**-3.2**
BATI	**Baumata**	**52.26**	**314**	LR		LR		22 18 49.5	
	comp=Z,8µm,18.1s,baz=187,slow=37								
BATI	**Baumata**	**52.26**	**314**	P		**P**		**21 55 33.1**	**+1.5**
	comp=Z,5µmcomp=Z,4µmcomp=Z,131nm,1.0s								
TROLL	**Troll, Antarti**	**52.58**	**189**	P		**P**		**21 55 32.4**	**-1.1**
NVL	**N'lazarevskaya**	**52.71**	**193**	*eP*		**P**		**21 55 33.3**	**-0.9**
NVL				*e*				21 57 37.2	
NVL				*e*PPP		PPP		21 58 39.0	
NVL				*eS*		**S**		**22 03 00.6**	**-0.8**
NVL				pmax		pmax			
	comp=Z,458nm,1.4s								
NVL				MLR		MLR			
	comp=Z,6µm,15.0s								
SMAI	**San Martin Ant**	**52.98**	**160**	P		**P**		**21 55 36.8**	**+0.5**
MANU	**Manus Island**	**53.21**	**346**	P		**P**		**21 55 38.7**	**+0.1**
SNAA	**Sanae**	**53.35**	**187**	P		**P**		**21 55 37.7**	**-1.4**
SNAA	**Sanae**	**53.35**	**187**	LR		LR		22 19 00.4	
	comp=Z,7µm,18.5s,baz=168,slow=37								
SNAA	**Sanae**	**53.35**	**187**	P		**P**		**21 55 37.6**	**-1.5**
SNAA	**Sanae**	**53.35**	**187**	⇑P		**P**		**21 55 38.2**	**-0.9**
SNAA	**Sanae**	**53.35**	**187**	*ce*P		**P**		**21 55 38.0**	**-1.1**
SNAA				pmax		pmax			
	comp=Z,344nm,2.5s								
SNAA				MLR		MLR			
	comp=Z,11µm,16.0s								
BASI	**Baing, Sumba**	**53.57**	**311**	P		**P**		**21 55 44.7**	**+3.4**
	comp=Z,4µmcomp=Z,5µmcomp=Z,399nm,1.5s								
PAE	**Paea**	**53.91**	**68**	*eP*		**P**		**21 55 48.0**	**+4.3**
	comp=Z,36nm,1.2s								
PPT2	**Papeete2**	**53.98**	**68**	*eP*		**P**		**21 55 47.1**	**+2.8**
	comp=Z,153nm,1.4s								
PPT2				*eS*		**S**		**22 03 21.2**	**+1.3**
	comp=Z,14µm,29.5s								
PPT2				*e*SS		**SS**		**22 07 04.5**	**+3.4**
	comp=Z,5µm,24.5s								
PPT2				*e*LR		LR		22 11 23.4	
	comp=Z,55µm,28.0s								
PPTF	**Pamatai, Papee**	**53.98**	**68**	P		**P**		**21 55 42.7**	**-1.7**
PPTF				IAmb		IAmb		21 55 52.0	
	comp=Z,274nm,1.3s								
PPTF	**Pamatai, Papee**	**53.98**	**68**	P		**P**		**21 55 48.6**	**+4.3**
	comp=Z,185nm,2.0s								
TVO	**Taravao**	**53.99**	**68**	*eP*		**P**		**21 55 45.2**	**+0.8**
	comp=Z,80nm,1.1s								
PPT	**Papeete**	**53.99**	**68**	P		**P**		**21 55 44.1**	**-0.2**
	comp=Z,64nm,1.1s,baz=228,slow=14,SNR=2.9								
PPT				LR		LR		22 14 13.5	
	comp=Z,13µm,20.7s,baz=222,slow=31								
	comp=Z,64nm,1.1s								
GENI	**Genyem**	**54.01**	**337**	P		**P**		**21 55 46.3**	**+1.8**
	comp=Z,8µmcomp=Z,5µmcomp=Z,232nm,1.0s								
GENI	**Genyem**	**54.01**	**337**	P		**P**		**21 55 46.2**	**+1.8**
	comp=Z,232nm,1.0s								
TIAR	**Tiarei**	**54.12**	**68**	*eP*		**P**		**21 55 46.3**	**+1.0**
	comp=Z,42nm,0.9s								
VNA3	**Neumayer Olymp**	**54.18**	**185**	P		**P**		**21 55 44.0**	**-1.1**
MMRI	**Maumere**	**54.27**	**314**	P		**P**		**21 55 45.9**	**-0.5**
MMRI	**Maumere**	**54.27**	**314**	P		**P**		**21 55 48.0**	**+1.6**
	comp=Z,7µmcomp=Z,7µmcomp=Z,335nm,1.1s								
MMRI	**Maumere**	**54.27**	**314**	P		**P**		**21 55 46.7**	**+0.3**
	comp=Z,335nm,1.1s								
VNA2	**Neumayer--Watz**	**54.38**	**186**	P		**P**		**21 55 45.2**	**-1.3**
	baz=160,slow=7.0								
EDFI	**Ende, Flores**	**54.40**	**313**	P		**P**		**21 55 47.2**	**-0.3**
	comp=Z,4µmcomp=Z,3µmcomp=Z,89nm,1.1s								
WBSI	**Waikabubak, Su**	**54.61**	**310**	P		**P**		**21 55 51.2**	**+2.3**
	comp=Z,5µmcomp=Z,169nm,1.0s								
VNA1	**Neumayer--Stat**	**54.70**	**185**	P		**P**		**21 55 48.0**	**-0.8**
SMPI	**Sarmi**	**54.94**	**335**	P		**P**		**21 55 50.9**	**-0.3**
	comp=Z,5µmcomp=Z,4µmcomp=Z,98nm,1.3s								
AIS	**Amsterdam Isla**	**55.44**	**252**	IAMs_20		IAMs_20		22 13 19.3	
	comp=Z,8µm,20.0s								
FAKI	**Fak Fak**	**55.85**	**327**	P		**P**		**21 55 56.6**	**-1.2**
FAKI				IAmb		IAmb		21 56 00.4	
	comp=Z,190nm,1.1s								
FAKI	**Fak Fak**	**55.85**	**327**	P		**P**		**21 55 58.3**	**+0.5**
	comp=Z,9µmcomp=Z,7µmcomp=Z,184nm,1.7s								
FAKI	**Fak Fak**	**55.85**	**327**	P		**P**		**21 55 57.5**	**-0.3**
	comp=Z,182nm,2.1s								
PLAI	**Plampang**	**56.05**	**309**	P		**P**		**21 56 02.9**	**+3.6**
	comp=Z,7µmcomp=Z,5µmcomp=Z,97nm,1.9s								
PLAI	**Plampang**	**56.05**	**309**	P		**P**		**21 56 01.6**	**+2.3**
	comp=Z,96nm,1.9s								
BAKI	**Biak**	**56.37**	**333**	P		**P**		**21 56 02.6**	**+1.1**
	comp=Z,7µmcomp=Z,264nm,2.0s								
AAI	**Ambon**	**56.48**	**323**	P		P		21 56 09.7	+7.4
PMSA	**Palmer Station**	**56.51**	**160**	LR		LR		22 15 46.8	
	comp=Z,6µm,21.5s,baz=207,slow=31								
PMSA	**Palmer Station**	**56.51**	**160**	P		**P**		**21 56 01.8**	**0.0**
PMSA				IAmb		IAmb		21 56 11.1	
	comp=Z,222nm,1.8s								
PMSA	**Palmer Station**	**56.51**	**160**	IAMs_20		IAMs_20		22 15 22.9	
	comp=Z,7µm,20.0s								
PMSA	**Palmer Station**	**56.51**	**160**	*eP*		**P**		**21 56 04.0**	**+2.1**
TWSI	**Taliwang, Sumb**	**56.54**	**308**	P		**P**		**21 56 03.3**	**+0.6**
	comp=Z,4µmcomp=Z,3µmcomp=Z,144nm,1.1s								
MSAI	**Masohi**	**56.55**	**324**	P		**P**		**21 56 03.7**	**+1.0**
	comp=Z,1µmcomp=Z,13nm,0.6s								
RKPI	**Ransiki, Papua**	**56.60**	**330**	P		**P**		**21 56 03.2**	**0.0**
	comp=Z,186nm,0.9s								
VAH	**Vaihoa**	**56.96**	**68**	*eP*		**P**		**21 56 08.8**	**+3.1**
	comp=Z,232nm,1.4s								
BBSI	**Bau Bau**	**56.98**	**316**	P		**P**		**21 56 07.1**	**+1.3**
	comp=Z,349nmcomp=Z,33nm,1.1s								
TARA	**Tarawa**	**56.99**	**17**	P		**P**		**21 56 05.8**	**-0.1**
TARA				IAmb		IAmb		21 56 15.2	
	comp=Z,158nm,0.8s								
TARA	**Tarawa**	**56.99**	**17**	P		**P**		**21 56 08.5**	**+2.6**
	comp=Z,275nm,1.0s								
BSSI	**Bau Bau, Buton**	**57.25**	**313**	P		**P**		**21 56 08.0**	**+0.2**
	comp=Z,5µmcomp=Z,5µmcomp=Z,325nm,1.1s								
NLAI	**Namlea**	**57.29**	**322**	P		**P**		**21 56 07.9**	**-0.1**
	comp=Z,524nm,1.0s								
SRBI	**Singaraja**	**57.89**	**306**	P		**P**		**21 56 15.0**	**+2.7**
	comp=Z,10µmcomp=Z,6µmcomp=Z,308nm,1.9s								
JAGI	**Jajag, Banyuwa**	**58.05**	**305**	P		**P**		**21 56 12.3**	**-1.2**
JAGI				IAmb		IAmb		21 56 30.3	
	comp=Z,165nm,1.1s								
JAGI	**Jajag, Banyuwa**	**58.05**	**305**	P		**P**		**21 56 15.9**	**+2.5**
	comp=Z,144nm,1.1s								
SIJI	**Sorong**	**58.09**	**327**	LR		LR		22 22 50.2	
	comp=Z,9µm,18.4s,baz=146,slow=38								
BKSI	**Bulukumba**	**58.15**	**313**	P		**P**		**21 56 15.0**	**+1.0**
	comp=Z,7µmcomp=Z,4µmcomp=Z,112nm,1.5s								
GMJI	**Gumukmas**	**58.56**	**305**	P		**P**		**21 56 19.8**	**+2.8**
	comp=Z,5µmcomp=Z,190nm,1.5s								
KAPI	**Kappang**	**58.58**	**313**	P		**P**		**21 56 16.3**	**-0.8**
KAPI				IAmb		IAmb		21 56 20.5	
	comp=Z,242nm,0.9s								
KDU	**Kakadu**	**46.62**	**324**	P		**P**		**21 54 47.8**	**-0.7**
	baz=47,SNR=66								
KDU	**Kakadu**	**46.62**	**324**	P		**P**		**21 54 47.9**	**-0.7**
	comp=Z,350nm,1.0s								
KDU	**Kakadu**	**46.62**	**324**	⇑P		**P**		**21 54 47.8**	**-0.7**
AFI	**Afiamalu**	**46.69**	**41**	P		**P**		**21 54 49.5**	**+0.4**
	comp=Z,26nm,0.2s,baz=139,slow=22,SNR=1.3								
AFI				LR		LR		22 13 11.5	
	comp=Z,4µm,21.7s,baz=194,slow=34								
	comp=Z,26nm,0.2s								
AFI	**Afiamalu**	**46.69**	**41**	P		**P**		**21 54 49.2**	**+0.1**
AFI				IAmb		IAmb		21 54 57.9	
	comp=Z,282nm,1.3s								
AFI	**Afiamalu**	**46.69**	**41**	P		**P**		**21 54 49.2**	**+0.1**
AFI				pmax		pmax			
	comp=Z,282nm,1.3s								
AFI				MLR		MLR			
	comp=Z,5µm,19.0s								
AFI	**Afiamalu**	**46.69**	**41**	P		P		21 54 54.0	+4.9
	comp=Z,174nm,1.1s								
MTN	**Manton Dam**	**46.95**	**322**	P		**P**		**21 54 50.3**	**-0.9**
	baz=47,SNR=44								
MTN	**Manton Dam**	**46.95**	**322**	P		**P**		**21 54 50.2**	**-0.9**
	comp=Z,306nm,1.0s								
MTN	**Manton Dam**	**46.95**	**322**	⇑P		**P**		**21 54 50.2**	**-0.9**
BELA	**Belgrano 2**	**47.53**	**176**	P		**P**		**21 54 54.2**	**-0.7**
TBI	**Tubuai**	**49.38**	**72**	*eP*		**P**		**21 55 13.4**	**+3.6**
	comp=Z,227nm,1.0s								
TBI				*eS*		**S**		**22 02 18.5**	**+2.0**
	comp=Z,13µm,28.2s								
TBI				*e*LR		LR		22 09 14.1	
	comp=Z,42µm,31.8s								
RABL	**Rabaul**	**50.54**	**352**	P		**P**		**21 55 18.0**	**-0.7**
RABL				IAmb		IAmb		21 55 21.5	
	comp=Z,161nm,1.0s								
RABL	**Rabaul**	**50.54**	**352**	P		**P**		**21 55 19.9**	**+1.2**
	comp=Z,232nm,0.8s								
SAUI	**Saumlaki**	**51.41**	**324**	P		**P**		**21 55 22.0**	**-3.2**
BATI	**Baumata**	**52.26**	**314**	LR		LR		22 18 49.5	
	comp=Z,8µm,18.1s,baz=187,slow=37								
BATI	**Baumata**	**52.26**	**314**	P		**P**		**21 55 33.1**	**+1.5**
	comp=Z,5µmcomp=Z,4µmcomp=Z,131nm,1.0s								
TROLL	**Troll, Antarti**	**52.58**	**189**	P		**P**		**21 55 32.4**	**-1.1**
NVL	**N'lazarevskaya**	**52.71**	**193**	*eP*		**P**		**21 55 33.3**	**-0.9**
NVL				*e*				21 57 37.2	
NVL				*e*PPP		PPP		21 58 39.0	
NVL				*eS*		**S**		**22 03 00.6**	**-0.8**
NVL				pmax		pmax			
	comp=Z,458nm,1.4s								
NVL				MLR		MLR			
	comp=Z,6µm,15.0s								
SMAI	**San Martin Ant**	**52.98**	**160**	P		**P**		**21 55 36.8**	**+0.5**
MANU	**Manus Island**	**53.21**	**346**	P		**P**		**21 55 38.7**	**+0.1**
SNAA	**Sanae**	**53.35**	**187**	P		**P**		**21 55 37.7**	**-1.4**
SNAA	**Sanae**	**53.35**	**187**	LR		LR		22 19 00.4	
	comp=Z,7µm,18.5s,baz=168,slow=37								
SNAA	**Sanae**	**53.35**	**187**	P		**P**		**21 55 37.6**	**-1.5**
SNAA	**Sanae**	**53.35**	**187**	⇑P		**P**		**21 55 38.2**	**-0.9**
SNAA	**Sanae**	**53.35**	**187**	*ce*P		**P**		**21 55 38.0**	**-1.1**
SNAA				pmax		pmax			
	comp=Z,344nm,2.5s								
SNAA				MLR		MLR			
	comp=Z,11µm,16.0s								
BASI	**Baing, Sumba**	**53.57**	**311**	P		**P**		**21 55 44.7**	**+3.4**
	comp=Z,4µmcomp=Z,5µmcomp=Z,399nm,1.5s								
PAE	**Paea**	**53.91**	**68**	*eP*		**P**		**21 55 48.0**	**+4.3**
	comp=Z,36nm,1.2s								
PPT2	**Papeete2**	**53.98**	**68**	*eP*		**P**		**21 55 47.1**	**+2.8**
	comp=Z,153nm,1.4s								
PPT2				*eS*		**S**		**22 03 21.2**	**+1.3**
	comp=Z,14µm,29.5s								
PPT2				*e*SS		**SS**		**22 07 04.5**	**+3.4**
	comp=Z,5µm,24.5s								
PPT2				*e*LR		LR		22 11 23.4	
	comp=Z,55µm,28.0s								
PPTF	**Pamatai, Papee**	**53.98**	**68**	P		**P**		**21 55 42.7**	**-1.7**
PPTF				IAmb		IAmb		21 55 52.0	

KRJI **Kerinci** 69.88 296 P **P** 21 57 31.9 +0.6
comp=Z,9µmcomp=Z,9µmcomp=Z,542nm,1.5s
KKM **Kota Kinabalu** 70.03 314 P **P** 21 57 31.6 -0.6
KKM IAmb IAmb 21 57 34.9
comp=Z,142nm,1.2s
PPSI **Pulau Pagai** 70.07 295 P **P** 21 57 36.5 +4.1
comp=Z,7µmcomp=Z,410nm,1.1s
HOPE **Hope Point** 70.75 171 P **P** 21 57 35.8 -0.2
HOPE **Hope Point** 70.75 171 P **P** 21 57 35.8 -0.2
HOPE pmax pmax
comp=Z,568nm,1.9s
HOPE MLR MLR
comp=Z,8µm,21.0s
SDSI **Sungai Dareh** 70.88 297 P **P** 21 57 36.8 -0.5
comp=Z,3µmcomp=Z,2µmcomp=Z,81nm,2.2s
TPRI **Tanjung Pinang** 70.89 301 P **P** 21 57 39.9 +2.5
comp=Z,6µmcomp=Z,181nm,1.1s
COYC **Coyhaique** 71.30 145 P **P** 21 57 39.6 +0.1
COYC IAmb IAmb 21 57 46.6
comp=Z,119nm,1.1s
COYC **Coyhaique** 71.30 145 IAMs_20 IAMs_20 22 20 53.2
comp=Z,6µm,21.0s
COYC **Coyhaique** 71.30 145 ⇑P **P** 21 57 42.7 +3.2
PDSI **Padang** 71.40 296 P **P** 21 57 39.7 -0.8
comp=Z,2µmcomp=Z,114nm,0.8s
SISI **Saibi** 71.77 295 P **P** 21 57 44.5 +1.8
comp=Z,4µmcomp=Z,196nm,1.2s
MYKOM **Kota Tinggi** 71.97 301 P **P** 21 57 43.8 -0.2
MYKOM IAmb IAmb 21 57 47.8
comp=Z,244nm,1.6s
MYKOM IAMs_20 IAMs_20 22 27 15.5
comp=Z,5µm,20.0s
MYKOM **Kota Tinggi** 71.97 301 ⇑P **P** 21 57 44.0 +0.1
AY01 **Puyuhuapi** 72.12 144 P **P** 21 57 43.8 -0.7
BKNI **Bangkinang** 72.15 297 P **P** 21 57 43.0 -2.0
BKNI IAmb IAmb 21 57 47.1
comp=Z,178nm,0.9s
BKNI **Bangkinang** 72.15 297 P **P** 21 57 45.9 +0.9
comp=Z,6µmcomp=Z,3µmcomp=Z,228nm,0.9s
BKNI **Bangkinang** 72.15 297 P **P** 21 57 46.2 +1.2
comp=Z,230nm,0.9s
GO07 **Milladeo Hill,** 72.92 143 P **P** 21 57 48.7 -0.5
GO07 IAmb IAmb 21 57 53.7
comp=Z,284nm,1.4s
H11S2 **WAKE ISLAND Hy** 73.12 8 T T 23 17 50.9
baz=188
H11S3 **WAKE ISLAND Hy** 73.12 8 T T 23 17 51.3
baz=188
H11S1 **WAKE ISLAND Hy** 73.14 8 T T 23 17 49.5
baz=188
LL07 **Hotel Espejo d** 73.23 143 P **P** 21 57 48.8 -2.3
PBSI **Pulau Batu** 73.27 295 P **P** 21 57 56.1 +4.5
comp=Z,15µmcomp=Z,556nm,1.6s
MNSI **Mandailing Nat** 73.31 296 P **P** 21 57 51.1 -0.8
comp=Z,3µmcomp=Z,204nm,1.3s
LL02 **Futaleuf** 73.48 144 P **P** 21 57 51.7 -0.9
WAKE **Wake Island** 73.90 8 P **P** 21 57 55.1 +0.1
WAKE IAmb IAmb 22 00 00.3
comp=Z,246nm,1.3s
LL01 **San Ignacio de** 74.00 143 P **P** 21 57 54.9 -0.8
H11N1 **WAKE ISLAND Hy** 74.34 8 T T 23 19 24.8
baz=188
H11N3 **WAKE ISLAND Hy** 74.35 8 T T 23 19 24.1
baz=188
H11N2 **WAKE ISLAND Hy** 74.36 8 T T 23 19 23.3
baz=188
LL05 **Los Muermos** 74.48 142 P **P** 21 57 58.6 +0.2
GSI **Gunungsitoli** 74.79 295 P **P** 21 57 59.0 -1.5
GSI **Gunungsitoli** 74.79 295 P **P** 21 58 02.5 +1.9
comp=Z,12µmcomp=Z,7µmcomp=Z,322nm,1.2s
GSI **Gunungsitoli** 74.79 295 P **P** 21 58 02.4 +1.9
comp=Z,323nm,1.2s
LL03 **Petrohue** 75.10 143 P **P** 21 58 01.8 -0.3
RPSI **Rantau Prapat** 75.26 297 P **P** 21 58 02.2 -1.0
PSI **Prapat** 75.35 297 P **P** 21 58 01.8 -2.1
comp=Z,68nm,1.0s,baz=179,slow=7.2,SNR=24
PSI S **S** 22 07 40.0 -3.6
comp=Z,2.2nm,0.3s,baz=162,slow=20,SNR=6.2
comp=Z,68nm,1.0s
PSI **Prapat** 75.35 297 P **P** 21 58 02.2 -1.7
PSI pmax pmax
comp=Z,113nm,1.1s
TGY **Tagaytay City** 75.56 322 P **P** 21 58 05.1 +0.2
comp=Z,117nm,0.5s,baz=90,slow=7.1
comp=Z,117nm,0.5s
LR04 **Corral** 75.84 141 P **P** 21 58 05.2 -1.1
LR04 IAmb IAmb 21 58 14.3
comp=Z,147nm,1.1s
JOHN **Johnston Islan** 76.04 31 IAMs_20 IAMs_20 22 25 35.4
comp=Z,5µm,22.0s
PLCA **Paso Flores** 76.11 144 P **P** 21 58 07.7 -0.3
comp=Z,16nm,1.1s,baz=200,slow=4.9,SNR=14
PLCA LR LR 22 23 48.3
comp=Z,4µm,21.5s,baz=208,slow=30
comp=Z,16nm,1.1s
PLCA **Paso Flores** 76.11 144 ⇓P **P** 21 58 08.0 +0.1
PLCA **Paso Flores** 76.11 144 *eP* **P** 21 58 08.1 +0.1
TSI **Tuntungan** 76.13 297 P **P** 21 58 10.6 +2.4
comp=Z,6µmcomp=Z,134nm,1.1s
LR03 **Panguipulli** 76.45 142 P **P** 21 58 10.2 +0.4
LR03 IAmb IAmb 21 58 20.0
comp=Z,233nm,1.5s
KCSI **Kotacane, Aceh** 76.56 296 P **P** 21 58 10.2 -0.5
comp=Z,3µmcomp=Z,137nm,1.2s
KULM **Kulim** 76.58 300 P **P** 21 58 09.4 -1.4
KULM IAmb IAmb 21 58 13.9
comp=Z,205nm,1.1s
KULM **Kulim** 76.58 300 ⇑P **P** 21 58 10.2 -0.6
ROCAM **Rodrigues Isla** 77.16 254 P **P** 21 58 12.3 -1.7
ROCAM IAMs_20 IAMs_20 22 23 32.3
comp=Z,6µm,21.0s
LHMI **Lhok Sumawe** 78.43 296 P **P** 21 58 18.9 -2.2
BI05 **Punta Hualpn** 78.69 140 P **P** 21 58 22.2 -0.2
BI05 IAmb IAmb 21 58 32.3
comp=Z,167nm,1.2s
H03S2 **Juan Fernandez** 78.96 134 T T 23 25 44.3
baz=208
H03S1 **Juan Fernandez** 78.96 134 T T 23 25 45.8
baz=208
H03S3 **Juan Fernandez** 78.97 134 T T 23 25 43.8
baz=208
VA04 **Juan Fernndez** 79.16 134 P **P** 21 58 24.7 -0.3
VA04 IAmb IAmb 21 58 35.5
comp=Z,370nm,1.9s
H03N3 **Juan Fernandez** 79.29 134 T T 23 26 08.1
baz=216,slow=75
H03N2 **Juan Fernandez** 79.30 134 T T 23 26 07.4
baz=216,slow=75
H03N1 **Juan Fernandez** 79.30 134 T T 23 26 07.5
baz=216,slow=75
SRIT **Nakonsritamara** 79.94 300 IAmb IAmb 21 58 32.7
comp=Z,196nm,1.1s
RER **Riviere de l'E** 80.21 247 P **P** 21 58 31.1 +0.1
RER IAmb IAmb 21 58 34.9
comp=Z,215nm,1.1s
RER IAMs_20 IAMs_20 22 24 59.6
comp=Z,6µm,21.0s
ML02 **Panimavida** 80.22 141 IAmb IAmb 21 58 36.9
comp=Z,204nm,1.4s
TRQA **Tornquist** 81.31 149 P **P** 21 58 35.5 -1.1
TRQA IAMs_20 IAMs_20 22 28 53.7
comp=Z,4µm,20.0s
TRQA **Tornquist** 81.31 149 P **P** 21 58 35.5 -1.1
TRQA pmax pmax
comp=Z,145nm,1.4s
TRQA MLR MLR
comp=Z,4µm,20.0s
BO02 **Sierra Bellavi** 81.32 141 IAmb IAmb 21 58 46.6
comp=Z,222nm,1.0s
FOMA **Nahampoana Res** 81.61 238 P **P** 21 58 37.4 -0.8
FOMA IAMs_20 IAMs_20 22 27 36.2
comp=Z,5µm,19.0s
H08S2 **Diego Garcia H** 81.63 269 T T 23 28 35.5
baz=144,slow=76,SNR=2948
H08S1 **Diego Garcia H** 81.64 269 T T 23 28 36.2
baz=144,slow=76
H08S3 **Diego Garcia H** 81.65 269 T T 23 28 36.8
baz=144,slow=76
DGAR **Diego Garcia** 81.84 269 P **P** 21 58 38.9 -0.8
DGAR **Diego Garcia** 81.84 269 *i* P **P** 21 58 39.0 -0.6
DGAR pmax pmax
comp=Z,215nm,1.3s
MT01 **Popeta** 81.97 140 IAmb IAmb 21 58 47.3
comp=Z,117nm,1.1s
VA05 **Santo Domingo** 82.02 140 P **P** 21 58 39.3 -1.0
MT09 **Talagante** 82.15 140 P **P** 21 58 40.0 -1.2

RFA **San Rafael** 82.17 142 *i* P **P** 21 58 41.8 +0.6
LMEL **Las Melosas** 82.38 141 P **P** 21 58 42.1 -0.3
LMEL IAmb IAmb 21 58 54.4
comp=Z,100nm,0.9s
MT02 **Curacav** 82.55 140 P **P** 21 58 42.1 -1.0
VA01 **Torpederas** 82.57 139 P **P** 21 58 42.7 -0.5
VA01 IAmb IAmb 21 58 49.2
comp=Z,126nm,1.1s
MT03 **Universidad Ad** 82.58 140 P **P** 21 58 42.5 -0.9
MT03 IAmb IAmb 21 58 53.0
comp=Z,168nm,1.2s
MT05 **Renca** 82.58 140 P **P** 21 58 42.6 -0.8
JCJ **Chichijima** 82.60 345 P **P** 21 58 43.1 0.0
comp=Z,53nm,0.7s,baz=277,slow=23,SNR=2.6
comp=Z,53nm,0.7s
JCJ **Chichijima** 82.60 345 P **P** 21 58 43.0 -0.1
JCJ IAmb IAmb 21 58 58.9
comp=Z,122nm,1.0s
PEL **Peldehue** 82.83 140 P **P** 21 58 43.7 -0.9
PEL IAmb IAmb 21 58 54.3
comp=Z,174nm,1.4s
PEL IAMs_20 IAMs_20 22 26 52.5
comp=Z,4µm,20.0s
PEL **Peldehue** 82.83 140 P **P** 21 58 43.7 -0.9
PEL pmax pmax
comp=Z,174nm,1.4s
PEL MLR MLR
comp=Z,4µm,20.0s
PEL **Peldehue** 82.83 140 *i* P **P** 21 58 44.0 -0.6
ROC1 **El Roble** 82.85 140 P **P** 21 58 45.0 0.0
ROC1 IAmb IAmb 21 58 58.3
comp=Z,88nm,0.9s
UBPT **Khong Chiam** 82.93 309 P **P** 21 58 45.4 +0.3
UBPT IAmb IAmb 21 58 49.1
comp=Z,208nm,1.4s
UBPT **Khong Chiam** 82.93 309 ⇑P **P** 21 58 45.4 +0.3
VA06 **Catapilco** 83.11 139 P **P** 21 58 45.7 -0.4
VA06 IAmb IAmb 21 58 55.3
comp=Z,121nm,1.1s
VA03 **San Esteban** 83.22 140 P **P** 21 58 46.6 -0.1
AVIZ **Vizcacheras** 83.33 142 *eP* **P** 21 58 47.9 +0.7
AAGR **Agrelo** 83.56 141 *i* P **P** 21 58 48.4 -0.1
TWG **Pinlang** 83.60 325 P **P** 21 58 48.4 0.0
TWG IAmb IAmb 21 59 02.5
comp=Z,216nm,1.9s
HMH **Humu'ula Sheep** 83.62 43 P **P** 21 58 47.9 -1.1
POHA **Pohakuloa** 83.74 43 P **P** 21 58 49.2 -0.3
ARCO **CERRO ARCO** 83.74 141 *eP* **P** 21 58 49.0 -0.5
ASAL **Salagasta** 84.00 141 *eP* **P** 21 58 49.8 -0.9
SOE **Somerset East** 84.15 218 P **P** 21 58 50.4 -1.1
SOE **Somerset East** 84.15 218 *eP* **P** 21 58 50.9 -0.5
SOE IAmb IAmb 21 58 55.1
comp=Z,206nm,1.2s
TPUB **Ta-pu** 84.19 325 P **P** 21 58 51.5 0.0
TPUB IAmb IAmb 21 58 59.8
comp=Z,253nm,1.9s
VOI **Vohitsoka** 84.26 240 P **P** 21 58 50.7 -1.5
VOI IAmb IAmb 21 58 55.6
comp=Z,123nm,1.2s
VOI IAMs_20 IAMs_20 22 28 24.2
comp=Z,4µm,20.0s
VOI **Vohitsoka** 84.26 240 P **P** 21 58 53.8 +1.5
QIZ **Qiongzhong** 84.35 314 P **P** 21 58 52.5 +0.2
QIZ IAmb IAmb 21 59 00.3
comp=Z,151nm,1.4s
QIZ **Qiongzhong** 84.35 314 P **P** 21 58 52.8 +0.5
QIZ sP **sP** 21 58 57.8 +0.9
QIZ PP **PP** 22 02 06.3 -1.2
QIZ S **S** 22 09 21.1 +3.1
QIZ pmax pmax
comp=Z,66nm,1.0s
QIZ pmax pmax
comp=Z,2µm,9.6s
QIZ LR LR
comp=Z,1µm,35.9s
QIZ LR LR
comp=Z,1µm,25.3s
QIZ LR LR
comp=Z,2µm,28.7s
CO02 **Combarbal** 84.44 139 P **P** 21 58 52.9 -0.2
CO02 IAmb IAmb 21 59 01.8
comp=Z,136nm,1.1s
YOJ **Yonaguni jima** 84.51 328 P **P** 21 58 53.0 0.0
YOJ **Yonaguni jima** 84.51 328 P **P** 21 58 53.0 0.0
YOJ pmax pmax
comp=Z,197nm,1.0s
SSLB **Suanglung** 84.54 326 P **P** 21 58 53.0 -0.2
SSLB IAMs_20 IAMs_20 22 35 13.2
comp=Z,4µm,20.0s
OPA **Opana** 84.54 40 P **P** 21 58 53.4 +0.2
OPA **Opana** 84.54 40 P **P** 21 58 53.4 +0.2
OPA pmax pmax
comp=Z,333nm,1.5s
RTLS **Leoncito** 84.55 141 *eP* **P** 21 58 53.1 -0.7
KSTD **Kokstad** 84.62 222 *eP* **P** 21 58 54.9 +0.9
KSTD IAmb IAmb 21 58 56.7
comp=Z,124nm,1.3s
CO06 **Fray Jorge** 84.67 138 P **P** 21 58 54.0 0.0
NACB **Ninganchiao** 84.69 326 P **P** 21 58 54.2 +0.2
NACB IAmb IAmb 21 59 17.9
comp=Z,262nm,2.0s
GRAF **Camdeboo Natio** 84.92 218 *eP* **P** 21 58 54.7 -0.7
GRAF IAmb IAmb 21 58 58.4
comp=Z,162nm,1.3s
ZON **Zonda** 85.00 141 P **P** 21 58 56.5 +0.7
ZON IAmb IAmb 21 59 01.9
comp=Z,180nm,1.9s
ZON **Zonda** 85.00 141 P **P** 21 58 56.5 +0.7
ZON pmax pmax
comp=Z,181nm,1.9s
ZON **Zonda** 85.00 141 *eP* **P** 21 58 56.1 +0.4
ROOI **Rooidraai Farm** 85.05 217 *eP* **P** 21 58 55.1 -1.0
ROOI IAmb IAmb 21 58 59.6
comp=Z,194nm,1.2s
YHNB **Yeheng** 85.22 326 IAMs_20 IAMs_20 22 35 57.3
comp=Z,4µm,20.0s
JOW **Kunigami** 85.23 333 LR LR 22 34 14.1
comp=Z,4µm,22.0s,baz=176,slow=34
MRA **San Martin** 85.27 144 *eP* **P** 21 58 55.3 -1.8
MRA *eP* **P** 21 58 55.9 -1.3
RTLL **Cerro Villicun** 85.27 141 *i* P **P** 21 58 57.2 +0.1
LPA **La Plata** 85.43 151 *ce* P **P** 21 58 57.9 +0.2
LPA **La Plata** 85.43 151 S **S** 22 09 29.3 +0.7
LPA PS 22 10 29.3
LPA SS **SS** 22 15 07.5 +5.3
LPA SSS SSS 22 18 33.2
GO04 **Tololo Observa** 85.44 139 P **P** 21 58 57.9 -0.3
GO04 IAmb IAmb 21 59 05.0
comp=Z,178nm,1.6s
MERW **Merweville** 85.58 215 *eP* **P** 21 58 57.5 -1.2
MERW IAmb IAmb 21 59 01.3
comp=Z,223nm,1.4s
BFON **Badsfontein, M** 85.64 217 *eP* **P** 21 58 58.2 -0.8
BFON IAmb IAmb 21 59 01.7
comp=Z,261nm,1.4s
GRAN **Grantham** 85.70 216 *eP* **P** 21 58 59.2 -0.1
GRAN IAmb IAmb 21 59 02.8
comp=Z,106nm,1.1s
ACCO **Cerro Coronel** 85.72 140 *i* P **P** 21 58 57.8 -1.9
CO01 **Juntas del Tor** 85.88 139 IAmb IAmb 21 59 07.0
comp=Z,155nm,1.4s
BRAK **Brakfontein** 85.93 217 *eP* **P** 21 59 00.1 -0.3
BRAK IAmb IAmb 21 59 11.5
comp=Z,474nm,1.7s
AROD **Rodeo** 85.94 140 *eP* **P** 21 59 00.0 -0.8
PBA **Port Blair** 86.05 296 P **P** 21 59 00.1 -0.8
PBA **Port Blair** 86.05 296 ⇑P **P** 21 59 01.1 +0.2
HVD **Gariep Dam** 86.07 219 *eP* **P** 21 58 59.9 -1.4
HVD IAmb IAmb 21 59 03.7
comp=Z,137nm,1.3s
ACDV **Cuesta del Vie** 86.07 140 *i* P **P** 21 59 00.0 -1.3
ACHE **Chepes** 86.08 142 *eP* **P** 21 58 59.7 -1.5
SUR **Sutherland** 86.09 215 LR LR 22 31 47.5
comp=Z,2µm,21.1s,baz=157,slow=32
SUR **Sutherland** 86.09 215 P **P** 21 59 00.5 -0.9
SUR IAmb IAmb 21 59 04.7
comp=Z,216nm,1.2s
AVFE **Valle Fertil** 86.25 141 *eP* **P** 21 59 00.8 -1.2
FRAZ **Fraserburg** 86.30 215 *eP* **P** 21 59 01.4 -1.0
FRAZ IAmb IAmb 21 59 05.2
comp=Z,199nm,1.3s
QZH **Quanzhou** 86.40 324 ⇑ *i* P **P** 21 59 02.9 +0.5
QZH PP **PP** 22 02 25.5 +1.4
QZH S **S** 22 09 38.7 +0.8

QZH SS **SS** 22 15 19.3 +0.7
QZH pmax pmax
comp=Z,66nm,1.0s
QZH pmax pmax
comp=Z,2µm,3.5s
QZH LR LR
comp=Z,1µm,18.5s
QZH LR LR
comp=Z,2µm,18.9s
LCO **Las Campanas** 86.51 138 P **P** 21 59 03.0 -0.6
LCO **Las Campanas** 86.51 138 IAMs_20 IAMs_20 22 30 44.1
comp=Z,4µm,19.0s
LCO **Las Campanas** 86.51 138 *eP* **P** 21 59 03.0 -0.6
LCO **Las Campanas** 86.51 138 ⇓P **P** 21 59 02.9 -0.7
POGA **Pongola** 86.55 225 IAmb IAmb 21 59 12.1
comp=Z,192nm,1.7s
POGA **Pongola** 86.55 225 *eP* **P** 21 59 04.1 +0.6
POGA IAmb IAmb 21 59 05.7
comp=Z,67nm,1.2s
TCA **Tanti** 86.64 144 *eP* **P** 21 59 02.7 -1.2
APLL **PUNTA DE LOS L** 86.82 142 *eP* **P** 21 59 03.9 -0.9
AC05 **El Transito** 86.83 138 P **P** 21 59 03.9 -1.0
AC05 IAmb IAmb 21 59 11.2
comp=Z,115nm,1.2s
OPO **Ambohidratompo** 86.85 242 P **P** 21 59 03.8 -1.4
comp=Z,51nm,1.1s,baz=122,slow=6.5,SNR=17
OPO LR LR 22 29 17.1
comp=Z,2µm,21.4s,baz=20,slow=30
comp=Z,51nm,1.1s
NWCL **Newcastle** 86.95 224 *eP* **P** 21 59 06.2 +0.7
NWCL IAmb IAmb 21 59 15.9
comp=Z,233nm,1.9s
CVNA **Calvinia** 87.26 214 *eP* **P** 21 59 06.7 -0.3
CVNA IAmb IAmb 21 59 09.9
comp=Z,170nm,1.2s
ACLC **CERRO LA CRUZ** 87.55 141 *eP* **P** 21 59 07.7 -0.8
VCA **Vinchina** 87.71 140 *eP* **P** 21 59 09.4 +0.1
BOSA **Boshof** 87.96 220 P **P** 21 59 09.4 -0.9
comp=Z,24nm,0.7s,baz=159,slow=5.3,SNR=51
BOSA LR LR 22 33 16.4
comp=Z,3µm,19.1s,baz=158,slow=32
comp=Z,24nm,0.7s
BOSA **Boshof** 87.96 220 P **P** 21 59 08.9 -1.5
BOSA IAmb IAmb 21 59 13.0
comp=Z,177nm,1.6s
BOSA **Boshof** 87.96 220 *eP* **P** 21 59 09.7 -0.8
BOSA IAmb IAmb 21 59 12.2
comp=Z,43nm,0.8s
BOSA **Boshof** 87.96 220 P **P** 21 59 08.9 -1.5
BOSA pmax pmax
comp=Z,177nm,1.7s
BOSA **Boshof** 87.96 220 ⇓P **P** 21 59 09.6 -0.8
BOSA ⇓P **P** 21 59 09.6 -0.8
BOSA ⇑P **P** 21 59 11.8 +1.4
AC06 **Mina Casimiro** 88.12 138 P **P** 21 59 10.3 -0.8
AC06 IAmb IAmb 21 59 15.8
comp=Z,96nm,1.4s
PHRA **Phrae** 88.16 306 P **P** 21 59 11.1 +0.1
CRLN **Carolina, Mapu** 88.44 225 *eP* **P** 21 59 13.0 +0.2
CRLN IAmb IAmb 21 59 23.1
comp=Z,94nm,1.7s
PRYS **Parys** 88.67 222 *eP* **P** 21 59 11.8 -2.0
PRYS IAmb IAmb 21 59 15.9
comp=Z,95nm,1.5s
CM31 **Chiang Mai Arr** 88.73 305 P **P** 21 59 13.4 -0.4
CM31 IAmb IAmb 21 59 17.7
comp=Z,142nm,1.2s
CMAR **Chiang Mai Arr** 88.73 305 P **P** 21 59 12.7 -1.1
comp=Z,54nm,1.1s,baz=172,slow=3.7,SNR=71
CMAR PP **PP** 22 02 41.4 -1.6
comp=Z,1.7nm,0.5s,baz=165,slow=6.8,SNR=2.7
CMAR PKKPbc **PKKPbc** 22 16 55.0 +2.8
comp=Z,0.3nm,0.3s,baz=316,slow=2.5,SNR=1.4
CMAR LR LR 22 38 40.2
comp=Z,2µm,20.2s,baz=160,slow=35
comp=Z,54nm,1.1s
CMAR **Chiang Mai Arr** 88.73 305 *ce* P **P** 21 59 14.0 +0.2
CMAR pmax pmax
comp=Z,55nm,1.1s
JHJ **Hachijo jima 2** 88.88 344 LR LR 22 37 58.3
comp=Z,2µm,18.2s,baz=173,slow=35
PALK **Pallekele** 88.99 284 P **P** 21 59 14.7 -0.5
comp=Z,69nm,1.0s,baz=252,slow=4.4,SNR=15
PALK LR LR 22 34 27.3
comp=Z,2µm,18.3s,baz=245,slow=32
comp=Z,69nm,1.0s
PALK **Pallekele** 88.99 284 P **P** 21 59 14.5 -0.8
PALK IAmb IAmb 21 59 18.5
comp=Z,151nm,1.1s
PALK **Pallekele** 88.99 284 ⇓P **P** 21 59 14.2 -1.0
CHTO **Chiang Mai** 89.04 305 P **P** 21 59 14.7 -0.5
CHTO **Chiang Mai** 89.04 305 P **P** 21 59 14.7 -0.5
CHTO pmax pmax
comp=Z,6.0nm,1.4s
CHTO MLR MLR
comp=Z,2µm,19.0s
CHTO **Chiang Mai** 89.04 305 P **P** 21 59 15.0 -0.2
comp=Z,70nm,1.6s
CHTO **Chiang Mai** 89.04 305 ⇑P **P** 21 59 15.3 0.0
AC02 **Maricunga** 89.07 139 P **P** 21 59 15.7 -0.4
AC01 **Pan de Azucar** 89.11 137 P **P** 21 59 14.9 -0.8
AC01 IAmb IAmb 21 59 18.8
comp=Z,167nm,1.7s
JSU **Suzuyama** 89.15 336 P **P** 21 59 15.4 -0.1
JSU IAmb IAmb 21 59 18.6
comp=Z,94nm,1.0s
SLR **Silverton** 89.38 223 *eP* **P** 21 59 17.8 +0.6
SLR IAmb IAmb 21 59 24.6
comp=Z,50nm,1.4s
KEIM **Keimoes** 89.41 216 *eP* **P** 21 59 16.4 -0.8
KEIM IAmb IAmb 21 59 19.7
comp=Z,103nm,1.5s
CRAI **Chiangrai** 89.59 307 P **P** 21 59 18.0 +0.2
CRAI IAmb IAmb 21 59 22.0
comp=Z,220nm,1.8s
PLTB **Pedras Altas** 89.59 153 *eP* **P** 21 59 18.4 +0.5
AUGR **Augrabies** 89.72 216 *eP* **P** 21 59 17.6 -1.1
AUGR IAmb IAmb 21 59 20.3
comp=Z,49nm,1.2s
GULI **GuiLin** 89.74 317 ⇑P **P** 21 59 17.9 -0.5
GULI PP **PP** 22 02 51.7 +0.7
GULI pmax pmax
comp=Z,60nm,1.1s
GULI LR LR
comp=Z,910nm,24.8s
GULI LR LR
comp=Z,1µm,22.5s
GULI LR LR
comp=Z,2µm,25.4s
MOPA **Mopani** 90.06 227 *eP* **P** 21 59 20.0 -0.2
MOPA IAmb IAmb 21 59 23.2
comp=Z,76nm,1.4s
GO02 **Mina Guanaco** 90.39 137 P **P** 21 59 21.6 -0.5
GO02 IAmb IAmb 21 59 29.9
comp=Z,100nm,0.9s
ARMS **Ukamas** 90.44 215 *eP* **P** 21 59 21.8 -0.2
ARMS IAmb IAmb 21 59 29.5
comp=Z,64nm,1.4s
JMN **Monobe** 90.54 340 P **P** 21 59 20.7 -1.3
JMN IAmb IAmb 21 59 32.5
comp=Z,64nm,1.0s
PB14 **IPOC Station P** 90.55 137 IAmb IAmb 21 59 32.6
comp=Z,139nm,1.1s
PB14 **IPOC Station P** 90.55 137 *i* P **P** 21 59 23.5 +0.6
ITQB **Itaqui** 90.72 150 P **P** 21 59 22.7 -0.5
ITQB **Itaqui** 90.72 150 *eP* **P** 21 59 23.4 +0.3
CPSB **Cacapava Do Su** 90.92 153 *eP* **P** 21 59 25.2 +1.1
LBTB **Lobatse** 91.08 221 LR LR 22 33 56.0
comp=Z,3µm,21.5s,baz=137,slow=31
LBTB **Lobatse** 91.08 221 P **P** 21 59 24.2 -0.8
LBTB IAmb IAmb 21 59 27.5
comp=Z,51nm,1.4s
LBTB **Lobatse** 91.08 221 P **P** 21 59 24.2 -0.8
LBTB pmax pmax
comp=Z,52nm,1.4s
LBTB **Lobatse** 91.08 221 ⇑P **P** 21 59 27.4 +2.3
LEPH **Lephalale, Lim** 91.25 224 *eP* **P** 21 59 25.5 -0.3
LEPH IAmb IAmb 21 59 27.6
comp=Z,68nm,1.4s
SSE **Sheshan** 91.27 328 P **P** 21 59 26.0 +0.7
SSE PP **PP** 22 03 01.1 -1.9
SSE S **S** 22 10 27.2 +3.7
SSE SS **SS** 22 16 34.0 +4.7
SSE pmax pmax

comp=Z,30nm,1.0s
SSE pmax pmax
comp=Z,650nm,8.6s
SSE LR LR
comp=Z,570nm,20.5s
CNSH ChangSha 91.37 321 ⇓P **P 21 59 24.6 -1.3**
CNSH PP **PP 22 03 00.0 -3.9**
CNSH SKS **SKSac 22 09 57.4 -0.4**
CNSH S **S 22 10 22.4 -2.2**
CNSH pmax pmax
comp=Z,1μm,8.5s
CNSH LR LR
comp=Z,1μm,20.4s
CNSH LR LR
comp=Z,1μm,22.3s
CNSH LR LR
comp=Z,2μm,24.3s
INU Inuyama 91.52 342 P **P 21 59 25.6 -0.8**
INU IAmb IAmb 21 59 29.8
comp=Z,72nm,1.1s
INU Inuyama 91.52 342 ⇓P **P 21 59 27.5 +1.1**
INU ⇑P **P 21 59 28.1 +1.7**
MUSN Musina, Limpop 91.80 226 *e*P **P 21 59 29.0 +0.7**
MUSN IAmb IAmb 21 59 31.4
comp=Z,48nm,1.3s
JHS Saijyo 91.92 339 P **P 21 59 27.6 -0.7**
JHS IAmb IAmb 21 59 32.1
comp=Z,64nm,1.0s
PB15 IPOC Station P 92.19 137 *e*P **P 21 59 30.6 +0.3**
GYA Guiyang 92.27 315 ⇓ *i*P **P 21 59 30.7 +0.4**
GYA pmax pmax
comp=Z,39nm,2.4s
GYA pmax pmax
comp=Z,2μm,5.0s
GYA LR LR
comp=Z,1μm,25.8s
GYA LR LR
comp=Z,560nm,15.0s
GYA LR LR
comp=Z,2μm,21.4s
MJAR Matsushiro Arr 92.48 344 P **P 21 59 29.3 -1.5**
comp=Z,27nm,1.0s,baz=168,slow=6.3,SNR=32
MJAR PP **PP 22 03 10.7 -1.9**
comp=Z,0.9nm,0.6s,baz=162,slow=4.4,SNR=5.2
MJAR LR LR 22 38 29.6
comp=Z,2μm,21.2s,baz=170,slow=34
comp=Z,27nm,1.0s
MAJO Matsushiro 92.48 344 P **P 21 59 29.4 -1.5**
MAJO IAmb IAmb 21 59 40.8
comp=Z,84nm,1.1s
MAJO Matsushiro 92.48 344 ⇑P **P 21 59 30.9 +0.1**
MAJO Matsushiro 92.48 344 ⇓P **P 21 59 31.2 +0.4**
MAJO ⇓P **P 21 59 31.4 +0.6**
CNLB Canela 92.62 154 *e*P **P 21 59 35.1 +3.0**
KMI Kunming 92.77 311 ⇑P **P 21 59 33.8 +1.1**
KMI sP sP 21 59 39.5 +2.2
KMI PP **PP 22 03 15.1 -0.1**
KMI S **S 22 10 39.7 +1.9**
KMI pmax pmax
comp=Z,32nm,1.6s
KMI pmax pmax
comp=Z,1μm,5.3s
KMI LR LR
comp=Z,540nm,14.8s
KMI LR LR
comp=Z,1μm,19.2s
KMI LR LR
comp=Z,2μm,20.8s
AUSN Aus 92.85 213 *e*P **P 21 59 32.7 -0.6**
AUSN IAmb IAmb 21 59 35.6
comp=Z,42nm,1.1s
NJ2 Nanjing 92.88 327 *e*P **P 21 59 32.9 +0.1**
NJ2 sP **sP 21 59 40.3 +3.0**
NJ2 PP **PP 22 03 18.0 +2.2**
NJ2 SKS **SKSac 22 10 09.4 +3.3**
NJ2 S **ScS 22 10 44.0 +4.1**
NJ2 pmax pmax
comp=Z,65nm,0.9s
NJ2 pmax pmax
comp=Z,360nm,3.5s
NJ2 LR LR
comp=Z,2μm,19.0s
NJ2 LR LR
comp=Z,1μm,20.4s
NJ2 LR LR
comp=Z,2μm,19.1s
LVC Limon Verde 92.95 137 PP **PP 22 03 15.1 -0.8**
comp=Z,1.6nm,0.7s,baz=197,slow=5.2,SNR=5.3
LVC LR LR 22 32 27.4
comp=Z,3μm,19.9s,baz=202,slow=30
LVC Limon Verde 92.95 137 P **P 21 59 33.8 -0.3**
LVC IAmb IAmb 21 59 44.8
comp=Z,113nm,1.4s
LVC Limon Verde 92.95 137 IAMs_20 IAMs_20 22 32 35.8
comp=Z,3μm,20.0s
LVC Limon Verde 92.95 137 *e*P **P 21 59 33.8 -0.3**
LVC Limon Verde 92.95 137 *i* P **P 21 59 35.9 +1.8**
AZAP Zapla 92.96 141 *e*P **P 21 59 33.4 -0.5**
WHN Wuhan 93.00 323 ⇑P **P 21 59 34.4 +1.0**
WHN PP **PP 22 03 18.7 +2.0**
WHN S **S 22 10 41.4 +2.3**
WHN pmax pmax
comp=Z,2μm,9.9s
WHN LR LR
comp=Z,1μm,10.8s
WHN LR LR
comp=Z,3μm,16.0s
WHN LR LR
comp=Z,5μm,22.6s
PB07 IPOC Station P 93.35 136 P **P 21 59 34.4 -1.2**
PB07 IAmb IAmb 21 59 43.9
comp=Z,60nm,1.1s
NAWB Namwon 93.63 335 P **P 21 59 33.9 -2.2**
NAWB IAmb IAmb 21 59 39.5
comp=Z,79nm,1.1s
CPUP Villa Florida 93.64 148 P **P 21 59 36.0 -0.7**
comp=Z,12nm,0.9s,baz=293,slow=0.6,SNR=7.7
CPUP LR LR 22 36 48.8
comp=Z,5μm,20.1s,baz=195,slow=32
comp=Z,12nm,0.9s
CPUP Villa Florida 93.64 148 P **P 21 59 36.4 -0.3**
CPUP IAmb IAmb 21 59 47.1
comp=Z,82nm,1.4s
CPUP Villa Florida 93.64 148 P **P 21 59 36.4 -0.3**
CPUP pmax pmax
comp=Z,82nm,1.4s
CPUP Villa Florida 93.64 148 *e*P **P 21 59 39.2 +2.6**
HJA Humahuaca 93.76 140 *e*P **P 21 59 37.3 -0.6**
TER01 Tubaro-SC 93.80 156 *e*P **P 21 59 37.8 +0.3**
PCHI Peechi 94.11 282 *e*P **P 21 59 37.0 -1.9**
PCHI *e*S **SKSac 22 10 14.2 +0.5**
BLWY Bulawayo 94.23 226 *e*P **P 21 59 39.1 -0.6**
BLWY IAmb IAmb 21 59 42.0
comp=Z,147nm,1.3s
ITAB Concordia 94.28 153 *e*P **P 21 59 41.6 +2.0**
PZH PanZhiHua 94.40 311 P **P 21 59 41.8 +1.7**
PZH PP **PP 22 03 24.7 -3.2**
PZH SKS **SKSac 22 10 18.9 +3.9**
PZH S **ScS 22 10 53.6 +0.5**
PZH SS **SS 22 17 10.0 -4.7**
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,890nm,11.4s
PZH LR LR
comp=Z,5μm,21.2s
PZH LR LR
comp=Z,3μm,20.6s
PZH LR LR
comp=Z,8μm,22.9s
ENH Enshi 94.54 319 IAmb IAmb 21 59 47.3
comp=Z,103nm,1.5s
TJN Taejon 94.55 335 P **P 21 59 40.5 +0.2**
TJN Taejon 94.55 335 *ce*P **P 21 59 42.3 +2.0**
KSAR Wonju Array Be 95.43 336 P **P 21 59 44.2 -0.1**
KSAR Wonju Array Be 95.43 336 P **P 21 59 44.3 -0.1**
KSRS Korea Array 95.44 336 P **P 21 59 43.6 -0.7**
comp=Z,5.8nm,0.9s,baz=162,slow=5.0,SNR=15
KSRS PP **PP 22 03 33.3 -2.3**
comp=Z,3.6nm,0.9s,baz=164,slow=8.4,SNR=4.2
KSRS LR LR 22 41 29.6
comp=Z,2μm,19.8s,baz=165,slow=35
comp=Z,5.8nm,0.9s
PTGB Pitanga 96.69 152 *e*P **P 21 59 53.6 +2.8**
TIJ01 Guaruva-PR 96.90 155 *e*P **P 21 59 52.7 +0.9**

ERM Erimo 97.16 348 IAMs_20 IAMs_20 22 42 32.6
comp=Z,3μm,19.0s
LYN LuoYang 97.30 323 ⇓P **P 21 59 52.5 -0.4**
LYN PP **PP 22 03 48.8 -1.3**
LYN SKS **SKSac 22 10 33.3 +3.7**
LYN S **ScS 22 11 18.3 +1.7**
LYN pmax pmax
comp=Z,10.0nm,0.8s
LYN pmax pmax
comp=Z,660nm,10.2s
LYN LR LR
comp=Z,850nm,22.1s
LYN LR LR
comp=Z,1μm,17.9s
LYN LR LR
comp=Z,1μm,22.1s
CD2 Chengdu 97.39 315 P Pdif 21 59 54.6 +1.0
CD2 PP **PP 22 03 52.2 +1.3**
CD2 SKS **SKSac 22 10 29.3 -1.1**
CD2 S **ScS 22 11 23.3 +5.6**
CD2 SS **SS 22 18 01.3 +4.5**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,920nm,10.6s
CD2 LR LR
comp=Z,2μm,16.7s
CD2 LR LR
comp=Z,2μm,19.1s
CD2 LR LR
comp=Z,2μm,21.6s
XAN Xi'an 98.12 320 ⇑P **P 21 59 56.3 -0.4**
XAN pP sP 22 00 02.5 +1.2
XAN sP pP 22 00 05.7 +5.6
XAN PP **PP 22 03 57.4 +0.9**
XAN SKS **SKSac 22 10 33.8 -0.2**
XAN S **S 22 11 22.4 -1.1**
XAN sS sS 22 11 33.2 +4.0
XAN pmax pmax
comp=Z,34nm,1.3s
XAN pmax pmax
comp=Z,750nm,5.7s
XAN LR LR
comp=Z,2μm,17.5s
XAN LR LR
comp=Z,650nm,17.4s
XAN LR LR
comp=Z,3μm,18.4s
SHL Shillong 98.18 303 P **P 21 59 56.6 -0.8**
SHL IAmb IAmb 22 00 14.7
comp=Z,77nm,1.7s
SHL Shillong 98.18 303 P **P 21 59 56.6 -0.8**
SHL pmax pmax
comp=Z,77nm,1.7s
DL2 Dalian 98.43 332 P Pdif 21 59 58.3 +0.4
DL2 PP **PP 22 03 59.7 +1.0**
DL2 SKS **SKSac 22 10 31.8 -3.3**
DL2 S **S 22 11 22.6 -3.1**
DL2 pmax pmax
comp=Z,14nm,1.2s
DL2 pmax pmax
comp=Z,790nm,9.4s
DL2 LR LR
comp=Z,1μm,23.5s
DL2 LR LR
comp=Z,2μm,18.4s
DL2 LR LR
comp=Z,3μm,25.2s
HYBB Hyderabad (bro 98.46 288 *e*Pdif Pdif 21 59 59.0 +0.4
HYBB *e*PP **PP 22 03 59.3 +0.2**
HYBB *e*SKSac **SKSac 22 10 36.8 +0.3**
HYBB *e*SS **SS 22 18 12.8 +0.9**
HYBB IVMs_BB IVMs_BB 22 35 15.1
comp=Z,408nm,14.3s
LSZ Lusaka 98.74 228 LR LR 22 38 35.6
comp=Z,6μm,19.4s,baz=152,slow=32
NNA Nana 98.87 125 LR LR 22 35 42.3
comp=Z,3μm,18.1s,baz=208,slow=30
NNA Nana 98.87 125 IAMs_20 IAMs_20 22 35 19.8
comp=Z,3μm,19.0s
LPAZ La Paz 98.95 135 P **P 22 00 00.9 -0.8**
comp=Z,1.2nm,0.7s,baz=67,slow=2.1,SNR=5.1
LPAZ PP **PP 22 04 02.6 -0.1**
comp=Z,1.2nm,0.8s,baz=189,slow=5.7,SNR=2.0
LPAZ LR LR 22 34 04.4
comp=Z,2μm,21.0s,baz=184,slow=29
comp=Z,1.2nm,0.7s
LPAZ La Paz 98.95 135 *e*P Pdif 22 00 02.5 +0.8
HNS HongShan 99.13 326 ⇓P **Pdif 22 00 01.6 +0.6**
HNS PP **PP 22 04 05.2 +1.1**
HNS SKS **SKSac 22 10 38.8 +0.1**
HNS S **ScS 22 11 33.6 +1.9**
HNS pmax pmax
comp=Z,16nm,1.1s
HNS pmax pmax
comp=Z,560nm,8.1s
HNS LR LR
comp=Z,2μm,19.2s
HNS LR LR
comp=Z,1μm,19.6s
HNS LR LR
comp=Z,2μm,19.4s
TSUM Tsumeb 99.33 217 LR LR 22 41 51.0
comp=Z,2μm,18.2s,baz=152,slow=34
TSUM Tsumeb 99.33 217 P **Pdif 22 00 02.0 -0.8**
TSUM Tsumeb 99.33 217 IAMs_20 IAMs_20 22 41 30.1
comp=Z,3μm,18.0s
TIY Taiyuan 100.17 324 *e*P **Pdif 22 00 07.8 +2.0**
TIY PP **PP 22 04 13.8 +1.7**
TIY SKS **SKSac 22 10 46.0 +1.9**
TIY S **Sdif 22 11 38.1 -2.5**
TIY pmax pmax
comp=Z,420nm,5.8s
TIY LR LR
comp=Z,1μm,18.6s
TIY LR LR
comp=Z,1μm,21.3s
TIY LR LR
comp=Z,8μm,18.5s
SNY Shenyang 100.65 334 ⇑P **Pdif 22 00 04.8 -2.9**
SNY pmax pmax
comp=Z,9.0nm,0.4s
SNY pmax pmax
comp=Z,630nm,5.7s
SNY LR LR
comp=Z,2μm,20.0s
SNY LR LR
comp=Z,860nm,17.8s
SNY LR LR
comp=Z,3μm,24.5s
USRK Ussuriysk Ar. 101.03 341 P **Pdif 22 00 08.3 -1.0**
comp=Z,1.7nm,0.8s,baz=181,slow=4.1,SNR=2.7
LZH Lanzhou 101.87 317 ⇑P **Pdif 22 00 15.2 +1.7**
LZH pP sPdif 22 00 20.0 +1.9
LZH sP pP 22 00 23.0 +5.8
LZH PP **PP 22 04 23.6 -1.5**
LZH SKS **SKSac 22 10 56.5 +3.9**
LZH S **Sdif 22 11 58.2 +3.1**
LZH sS sS 22 12 09.6 +8.6
LZH SS **SS 22 19 00.5 +0.9**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,560nm,5.3s
LZH LR LR
comp=Z,730nm,15.3s
LZH LR LR
comp=Z,1μm,16.3s
LZH LR LR
comp=Z,1μm,18.9s
MDJ Mudanjiang 101.91 339 P **Pdif 22 00 15.5 +2.3**
MDJ pP sPdif 22 00 21.9 +4.1
MDJ SKS **SKSac 22 10 48.8 -3.1**
MDJ S **Sdif 22 11 58.6 +4.1**
MDJ sS sS 22 12 02.7 +2.4
MDJ pmax pmax
comp=Z,630nm,5.0s
MDJ LR LR
comp=Z,2μm,18.7s
MDJ LR LR
comp=Z,860nm,18.0s
MDJ LR LR
comp=Z,3μm,20.0s
CN2 Changchun 102.05 336 *e*P **Pdif 22 00 15.9 +2.0**
CN2 PP **PP 22 04 29.9 +3.8**

CN2 SKS **SKSac 22 10 54.6 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,500nm,9.6s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,500nm,15.1s
YSS Yuzh-Sakhalins 102.08 349 *e*P **Pdif 22 00 14.6 +0.7**
YSS *e* 22 04 26.0
YSS *e* 22 10 53.0
YSS *e*S **Sdif 22 11 52.4 -3.5**
YSS *e*PS **PS 22 13 34.5 +3.6**
YSS pmax pmax
comp=Z,500nm,4.9s
YSS MLR MLR
comp=Z,2μm,16.0s
BNX BinXian 103.44 338 ⇓PKP **PP 22 04 36.6 +0.1**
XLT XiLinHaoTe 104.63 330 Pdif **Pdif 22 00 26.6 +1.1**
XLT PP **PP 22 04 46.2 +0.6**
XLT AMB AMB
comp=Z,1μm,11.4s
XLT LR LR
comp=Z,200nm,20.2s
XLT LR LR
comp=Z,1μm,19.0s
XLT LR LR
comp=Z,3μm,21.1s
SKR Severo-Kuril's 104.94 358 *e*P **Pdif 22 00 23.3 -3.2**
SKR *e* 22 04 49.5
SKR *e*S **SKKSac 22 11 50.7 -0.2**
SKR pmax pmax
comp=Z,16nm,1.2s
SKR pmax pmax
comp=Z,100nm,6.5s
SKR MLR MLR
comp=Z,700nm,17.0s
KIBK Kibwezi 105.28 243 IAMs_20 IAMs_20 22 41 09.7
comp=Z,3μm,19.0s
GOMU GeErMu 105.73 311 Pdif **Pdif 22 00 35.4 +4.4**
GOMU SKS **SKSac 22 11 06.1 -4.8**
GOMU AMB AMB
comp=Z,360nm,10.2s
GOMU LR LR
comp=Z,910nm,18.9s
GOMU LR LR
comp=Z,650nm,20.7s
GOMU LR LR
comp=Z,1μm,21.6s
KLR Kul'dur 105.92 342 PP **PP 22 04 54.6 -0.3**
comp=Z,1.9nm,0.8s,baz=179,slow=7.4,SNR=4.5
KMBO Kilima Mbogo 106.72 243 PKiKP **PKiKP 22 04 45.5 -0.7**
comp=Z,1.3nm,0.8s,baz=187,slow=0.1,SNR=3.7
KMBO Kilima Mbogo 106.72 243 IAMs_20 IAMs_20 22 39 24.3
comp=Z,3μm,21.0s
PETK Petropavlovsk- 107.35 359 PP **PP 22 05 07.9 +2.6**
comp=Z,1.3nm,0.4s,baz=98,slow=10,SNR=4.2
SHEL Horse Pasture 108.48 196 IAMs_20 IAMs_20 22 44 13.6
comp=Z,4μm,20.0s
SLBS Sierra La Lagu 109.72 77 IAMs_20 IAMs_20 22 41 21.1
comp=Z,3μm,20.0s
MBAR Mbarara 110.46 237 IAMs_20 IAMs_20 22 44 59.6
comp=Z,3μm,19.0s
ULN Ulaanbaatar 110.99 326 IAMs_20 IAMs_20 22 50 13.1
comp=Z,3μm,22.0s
ULN Ulaanbaatar 110.99 326 *c i*PKiKP **PKiKP 22 04 51.6 -1.3**
ULN pmax pmax
comp=Z,10.0nm,2.5s
SONM Songino Array 111.19 325 Pdiff **Pdif 22 00 54.8 +0.2**
comp=Z,0.4nm,0.9s,baz=147,slow=8.1,SNR=2.7
SONM PKiKP **PKiKP 22 04 52.6 -0.7**
comp=Z,1.2nm,0.8s,baz=154,slow=2.5,SNR=5.3
SONM PP **PP 22 05 33.3 -0.2**
comp=Z,4.9nm,1.1s,baz=165,slow=6.1,SNR=6.1
SONM PKKPbc **PKKPbc 22 15 48.7 -0.2**
comp=Z,3.8nm,1.0s,baz=301,slow=2.4,SNR=10
LODK Lodwar 111.56 244 IAMs_20 IAMs_20 22 45 52.2
comp=Z,2μm,20.0s
UNM Universidad Na 112.51 88 IAMs_20 IAMs_20 22 41 52.9
comp=Z,3μm,22.0s
109C Camp Elliot, M 112.95 65 IAMs_20 IAMs_20 22 40 34.1
comp=Z,3μm,22.0s
JTS Las Juntas de 113.48 106 IAMs_20 IAMs_20 22 44 00.6
comp=Z,2μm,18.0s
HDC Heredia 113.71 107 IAMs_20 IAMs_20 22 44 52.6
comp=Z,2μm,18.0s
PFO Pinyon Flats O 113.85 65 PKKPab PKKPab 22 15 43.8 -2.1
comp=Z,2.2nm,0.7s,baz=84,slow=2.9,SNR=2.3
PFO Pinyon Flats O 113.85 65 IAMs_20 IAMs_20 22 41 46.0
comp=Z,4μm,22.0s
ATD Arta Tunnel 114.22 255 IAMs_20 IAMs_20 22 43 20.5
comp=Z,4μm,21.0s
CNBA Chernabura Isl 114.32 25 IAMs_20 IAMs_20 22 46 01.9
comp=Z,2μm,20.0s
ZAK Zakamensk 114.42 325 *e*PKIKP PKPdf 22 04 56.6 -2.7
ZAK pmax pmax
comp=Z,9.0nm,1.5s
SDPT Sand Point 114.59 24 P **PKiKP 22 05 01.7 +2.5**
baz=205
HEC Hector,Ludlow 114.85 65 P **PKiKP 22 05 01.9 +1.3**
baz=220
IRM Iron Mountain 114.97 66 P **PKiKP 22 05 01.3 +0.5**
baz=220
WMQ Urumqi 115.10 311 *e*PKP **PKiKP 22 05 00.9 +0.1**
WMQ PP **PP 22 06 05.8 +4.4**
WMQ AMB AMB
comp=Z,680nm,9.7s
WMQ LR LR
comp=Z,580nm,20.3s
WMQ LR LR
comp=Z,470nm,18.3s
WMQ LR LR
comp=Z,850nm,22.3s
GMRC Granite Mounta 115.17 65 P **PKPdf 22 05 00.7 -0.6**
baz=220
MPMC Manual Prospec 115.19 63 P **PKiKP 22 05 01.6 +0.2**
baz=220
CMB Columbia Colle 115.24 60 IAMs_20 IAMs_20 22 45 16.3
comp=Z,3μm,20.0s
TUQ Turquoise Moun 115.53 64 P **PKPdf 22 05 02.0 0.0**
baz=220
JCC Jacoby Creek, 115.61 55 IAMs_20 IAMs_20 22 53 07.5
comp=Z,2μm,18.0s
IRK Irkutsk 115.68 326 *e*PKIKP **PKPdf 22 05 00.4 -1.1**
IRK *e* 22 06 03.8
IRK pmax pmax
comp=Z,30nm,2.1s
ORV Oroville 115.86 58 IAMs_20 IAMs_20 22 50 41.1
comp=Z,2μm,19.0s
TUC Tucson 115.91 70 P **PKiKP 22 05 02.8 0.0**
baz=220
CHIR Chirikof Islan 116.23 27 IAMs_20 IAMs_20 22 48 50.1
comp=Z,3μm,20.0s
MOY Mondy 116.28 324 *e*PKIKP **PKPdf 22 05 02.2 -0.6**
MOY pmax pmax
comp=Z,31nm,2.1s
NVAR Mina Array Bea 116.59 61 PKP **PKPdf 22 05 03.7 -0.3**
comp=Z,2.0nm,0.8s,baz=212,slow=4.0,SNR=9.2
NVAR PKKPab **PKKPab 22 15 32.5 -1.2**
comp=Z,4.2nm,0.9s,baz=51,slow=4.3,SNR=19
YBH Yreka Blue Hor 116.94 55 PKP **PKPdf 22 05 04.4 0.0**
comp=Z,3.9nm,1.0s,baz=270,slow=5.1,SNR=3.4
YBH Yreka Blue Hor 116.94 55 IAMs_20 IAMs_20 22 43 18.5
comp=Z,3μm,22.0s
PAHR Pah Rah Range 117.02 59 **PKiKP 22 05 05.5 +0.8**
KBL Kabul 117.15 292 PKPdf **PKPdf 22 05 04.5 -0.7**
KBL Kabul 117.15 292 PKIKP **PKPdf 22 05 04.5 -0.7**
K02D Willamette Mer 117.23 54 P **PKiKP 22 05 05.4 +0.5**
baz=220
SII Sitkinak Islan 117.26 27 IAMs_20 IAMs_20 22 49 40.5
comp=Z,3μm,20.0s
SII Sitkinak Islan 117.26 27 P **PKiKP 22 05 05.4 +0.9**
baz=209
KSH Kashi 117.29 300 PKP **PKPdf 22 05 05.1 -0.1**
KSH SS SS 22 22 28.2 +1.4
KSH AMB AMB
comp=Z,1μm,8.5s
KSH LR LR
comp=Z,990nm,20.6s
KSH LR LR
comp=Z,990nm,20.6s
KSH LR LR
comp=Z,2μm,25.1s
SEY Seymchan 117.30 357 PKP **PKPdf 22 05 02.6 -1.6**

comp=Z,2.0nm,0.7s,baz=191,slow=11,SNR=4.3
SEY Seymchan 117.30 357 *i* PKIKP **PKPdf 22 05 03.6 -0.7**
J01E Myrtle Point 117.46 54 IAMs_20 IAMs_20 22 44 57.6
comp=Z,2µm,21.0s
HUMO Hull Mountain 117.50 55 PKiKP 22 05 06.9 +1.5
L04D Klamath Falls 117.51 55 IAMs_20 IAMs_20 22 43 36.4
comp=Z,2µm,22.0s
L04D Klamath Falls 117.51 55 P **PKiKP 22 05 06.0 +0.4**
baz=220
TX31 Lajitas Ar. Si 117.63 78 P **PKPdf 22 05 05.9 -0.2**
baz=220
TXAR Lajitas Array 117.63 78 PKP **PKPdf 22 05 05.0 -1.1**
comp=Z,1.7nm,0.9s,baz=187,slow=3.1,SNR=8.5
TXAR PKKPab **PKKPbc 22 15 27.9 +1.7**
comp=Z,2.3nm,0.9s,baz=69,slow=2.3,SNR=14
TXAR SKKPbc SKKPbc 22 19 10.6 -2.0
comp=Z,0.5nm,0.8s,baz=48,slow=1.3,SNR=3.6
R17K Ugashik Creek 117.65 25 P **PKiKP 22 05 05.9 +0.8**
baz=208
121A Cookes Peak, D 117.73 72 P **PKPdf 22 05 05.9 -0.4**
baz=221
121A Cookes Peak, D 117.73 72 P **PKPdf 22 05 05.5 -0.8**
baz=221
BOD Bodaibo 117.76 335 *e*PKIKP **PKPdf 22 05 02.9 -2.4**
BOD pmax pmax
comp=Z,21nm,1.7s
R11A Troy Canyon, C 117.92 63 P **PKPdf 22 05 06.0 -0.5**
baz=221
OHAK Old Harbor 118.08 27 P **PKiKP 22 05 06.4 +0.5**
baz=209
I03D Drain, OR 118.15 54 P **PKiKP 22 05 07.3 +0.8**
baz=220
I02E Swisshome, OR 118.23 53 IAMs_20 IAMs_20 22 50 59.9
comp=Z,3µm,20.0s
MOD Modoc Plateau 118.24 57 PKPdf **PKiKP 22 05 07.1 +0.1**
MOD IAMs_20 IAMs_20 22 53 04.1
comp=Z,3µm,18.0s
SHLS Shalkode 118.35 305 *e*PKIKP **PKPdf 22 05 04.5 -2.6**
SHLS *e* 22 06 20.6
SHLS Shalkode 118.35 305 *e*PKP **PKPdf 22 05 04.6 -2.6**
baz=306
SHLS *e*PP **PP 22 06 20.7 -3.5**
baz=306
J04D Umpqua Nationa 118.38 55 P **PKiKP 22 05 07.8 +0.5**
baz=220
MNTX Cornudas Mount 118.44 75 PKPdf **PKPdf 22 05 05.9 -1.6**
MNTX IAMs_20 IAMs_20 22 44 36.5
comp=Z,3µm,22.0s
MNTX Cornudas Mount 118.44 75 P **PKPdf 22 05 07.3 -0.2**
baz=221
MNTX Cornudas Mount 118.44 75 P **PKiKP 22 05 07.8 +0.2**
baz=221
P16K Nushagak River 118.50 24 P **PKiKP 22 05 09.0 +2.3**
baz=207
YAK Yakutsk 118.52 345 *c i* PKIKP **PKPdf 22 05 05.9 -0.7**
YAK pmax pmax
comp=Z,13nm,0.7s
RCBR Riachuelo 118.56 163 IAMs_20 IAMs_20 22 53 23.9
comp=Z,2µm,20.0s
W18A Petrified Fore 118.60 69 P **PKiKP 22 05 08.4 +0.4**
baz=221
I04A Tendick Farm, 118.66 54 P **PKiKP 22 05 07.8 +0.2**
baz=220
KDAK Kodiak Island 118.76 27 IAMs_20 IAMs_20 22 47 00.0
comp=Z,3µm,22.0s
KDAK Kodiak Island 118.76 27 P **PKiKP 22 05 08.4 +1.1**
baz=210
SATY Satty 118.78 304 *e*PKIKP **PKPdf 22 05 05.9 -2.0**
SATY Satty 118.78 304 *e*PKP **PKPdf 22 05 05.9 -2.0**
baz=304
J05D Fort Rock, OR 118.83 55 P **PKPdf 22 05 07.8 -0.2**
baz=221
COR Corvallis 118.84 53 IAMs_20 IAMs_20 22 45 08.2
comp=Z,3µm,21.0s
KPKS Kokpek 118.96 305 *e*PKIKP **PKPdf 22 05 06.2 -2.0**
KPKS Kokpek 118.96 305 *e*PKP **PKPdf 22 05 06.3 -2.0**
baz=305
O16K Kokwok River B 118.98 23 P **PKiKP 22 05 08.2 +0.6**
baz=207
P17K Kvichak River 119.02 25 P **PKiKP 22 05 07.8 +0.1**
baz=208
H04D Lebanon 119.06 53 IAMs_20 IAMs_20 22 45 58.9
comp=Z,2µm,22.0s
H04D Lebanon 119.06 53 P **PKPdf 22 05 07.5 -0.8**
baz=221
ZSN Zaisan 119.17 312 *e*PKIKP **PKPdf 22 05 07.0 -1.4**
ZSN Zaisan 119.17 312 *e*PKP **PKPdf 22 05 07.1 -1.4**
baz=312
833A Chaparral WMA, 119.31 82 P **PKPdf 22 05 08.5 -0.7**
baz=221
G03D McMinnville, O 119.34 52 IAMs_20 IAMs_20 22 46 27.2
comp=Z,3µm,20.0s
G03D McMinnville, O 119.34 52 P **PKPdf 22 05 08.2 -0.5**
baz=221
O17K Koliganek Bris 119.37 24 P **PKiKP 22 05 08.5 +0.1**
baz=208
Q19K Cape Douglas, 119.48 26 IAMs_20 IAMs_20 22 47 31.0
comp=Z,3µm,22.0s
Q19K Cape Douglas, 119.48 26 P **PKPdf 22 05 08.3 -0.3**
baz=210
P18K Big Mountain, 119.48 25 P **PKiKP 22 05 08.7 0.0**
baz=209
MDOK Medeo 119.52 304 *i* PKIKP **PKPdf 22 05 07.3 -2.1**
MDOK Medeo 119.52 304 *i* PKP **PKPdf 22 05 07.3 -2.1**
baz=304
Q20K Shuyak Island 119.53 27 P **PKiKP 22 05 09.9 +1.2**
baz=210
I05D Terrebonne, OR 119.58 54 P **PKiKP 22 05 10.2 +0.8**
baz=221
N16K Nishlik Lake 119.61 23 P **PKiKP 22 05 09.8 +0.9**
baz=207
MK31 Makanchi Array 119.81 310 *i* PKIKP **PKiKP 22 05 09.9 +0.2**
MKAR Makanchi Array 119.81 310 PKP **PKPdf 22 05 08.1 -1.6**
comp=Z,12nm,1.0s,baz=172,slow=2.5,SNR=18
MKAR PKKPbc **PKKPab 22 15 19.4 +0.5**
comp=Z,2.0nm,0.8s,baz=235,slow=4.3,SNR=5.9
DGZ Jazzator, Alta 119.82 315 *i* PKIKP **PKPdf 22 05 07.9 -1.9**
ELK Elko 119.89 61 PKP **PKPdf 22 05 09.7 -0.6**
comp=Z,2.1nm,0.7s,baz=150,slow=4.3,SNR=6.3
ELK PKKPbc **PKKPbc 22 15 18.9 +0.4**
comp=Z,2.9nm,0.9s,baz=1.6,slow=2.6,SNR=10
ELK Elko 119.89 61 PKPdf **PKiKP 22 05 11.0 +0.6**
ELK Elko 119.89 61 PKIKP **PKiKP 22 05 11.0 +0.6**
ELK MLR MLR
comp=Z,4µm,20.0s
O18K Koktuh Hills 119.90 25 P **PKiKP 22 05 09.6 +0.1**
baz=209
MAKZ Makanchi 119.96 309 PKPdf **PKPdf 22 05 10.0 0.0**
MAKZ Makanchi 119.96 309 PKIKP **PKPdf 22 05 10.0 0.0**
MAKZ MLR MLR
comp=Z,800nm,21.0s
SDV Santo Domingo 119.96 120 PKP **PKPdf 22 05 10.5 -0.7**
comp=Z,3.1nm,0.3s,baz=338,slow=12,SNR=1.3
SDV PKKPab **PKKPab 22 15 21.1 -1.3**
comp=Z,5.1nm,0.4s,baz=41,slow=5.4,SNR=3.8
TKM2 Tokmak 2 120.04 303 P **PKPdf 22 05 09.3 -1.2**
SNR=12
UCH Uchtor 120.06 301 P **PKPdf 22 05 10.5 -0.4**
SNR=27
CHKK Chushkaly 120.06 304 *i* PKIKP **PKPdf 22 05 08.4 -1.8**
CHKK Chushkaly 120.06 304 *i* PKP **PKPdf 22 05 08.4 -1.8**
baz=304
KBK Karagaybulak 120.16 302 P **PKPdf 22 05 10.0 -0.7**
SNR=9.2
P19K Oil Pt 120.21 26 PKPdf **PKPdf 22 05 10.1 0.0**
P19K IAMs_20 IAMs_20 22 51 22.4
comp=Z,2µm,20.0s
P19K Oil Pt 120.21 26 P **PKPdf 22 05 10.0 0.0**
baz=210
TDK Taldyqorghan 120.24 306 *e*PKIKP **PKPdf 22 05 08.4 -2.1**
TDK *e* 22 06 34.9
TDK Taldyqorghan 120.24 306 *e*PKP **PKPdf 22 05 08.4 -2.1**
baz=306
TDK *e*PP **PP 22 06 35.0 -2.1**
baz=306
ANMO Albuquerque 120.27 71 PKP **PKPdf 22 05 10.9 -0.2**
comp=Z,1.5nm,0.8s,baz=143,slow=11,SNR=2.0
ANMO Albuquerque 120.27 71 P **PKPdf 22 05 11.0 -0.2**
baz=222
G05D Wamic, OR 120.27 54 P **PKiKP 22 05 10.7 0.0**
baz=221
AAK Ala-Archa 120.37 302 P **PKPdf 22 05 10.3 -0.8**
SNR=5.8
AAK Ala-Archa 120.37 302 PKPdf **PKPdf 22 05 11.1 0.0**
AAK Ala-Archa 120.37 302 PKIKP **PKPdf 22 05 11.1 0.0**
AML Almayashu 120.40 301 P **PKPdf 22 05 10.5 -0.9**
SNR=12

O19K Port Alsworth 120.41 25 IAMs_20 IAMs_20 22 47 51.8
comp=Z,2µm,22.0s
O19K Port Alsworth 120.41 25 P **PKPdf 22 05 09.8 -0.5**
baz=210
N18K Kilae Creek 120.46 24 IAMs_20 IAMs_20 22 49 57.9
comp=Z,2µm,20.0s
N18K Kilae Creek 120.46 24 P **PKiKP 22 05 11.1 +0.6**
baz=209
CHMS Chumysh 120.52 302 P **PKPdf 22 05 10.4 -0.8**
SNR=6.6
CNPM China Poot 120.62 27 PKPdf **PKiKP 22 05 12.0 +1.1**
CNPM IAMs_20 IAMs_20 22 48 11.3
comp=Z,3µm,22.0s
HOM Homer 120.63 27 IAMs_20 IAMs_20 22 52 09.3
comp=Z,2µm,20.0s
HOM Homer 120.63 27 P **PKiKP 22 05 11.9 +1.1**
baz=211
JCT Junction City 120.70 80 P **PKPdf 22 05 11.7 -0.3**
baz=221
NLWA Neilton Lookou 120.71 50 IAMs_20 IAMs_20 22 48 34.4
comp=Z,3µm,20.0s
DUG Dugway, Tooele 120.73 63 P **PKiKP 22 05 12.9 +1.0**
baz=222
O20K Slope Mountain 120.74 26 P **PKiKP 22 05 11.6 +0.4**
baz=210
EKS2 Erkin-Say 120.75 301 P **PKPdf 22 05 11.2 -0.5**
SNR=23
MVCO Mesa Verde 120.82 68 P **PKiKP 22 05 12.7 +0.3**
baz=222
USP Ospenovka 120.84 302 P **PKPdf 22 05 11.1 -0.7**
SNR=16
SGDS Sogindy 120.91 302 *e*PKIKP **PKPdf 22 05 10.1 -1.8**
SGDS Sogindy 120.91 302 *e*PKP **PKPdf 22 05 10.2 -1.8**
baz=302
N19K Bonanza Creek 120.91 25 PKPdf **PKiKP 22 05 11.9 +0.4**
N19K IAMs_20 IAMs_20 22 48 08.9
comp=Z,2µm,22.0s
N19K Bonanza Creek 120.91 25 P **PKPdf 22 05 11.2 -0.2**
baz=210
BRLK Bradley Lake 120.92 27 IAMs_20 IAMs_20 22 48 40.7
comp=Z,3µm,22.0s
BRSE Bradley Lake S 120.94 27 P **PKiKP 22 05 11.8 +0.3**
baz=212
SEW Seward 121.59 28 P **PKiKP 22 05 13.7 +1.0**
baz=212
MSTX Muleshoe 121.60 75 P **PKPdf 22 05 13.5 -0.2**
baz=222
MSTX Muleshoe 121.60 75 P **PKPdf 22 05 13.4 -0.2**
baz=222
CAPN Captain Cook N 121.70 26 IAMs_20 IAMs_20 22 49 01.9
comp=Z,2µm,20.0s
N20K Mount Spurr 121.81 26 P **PKPdf 22 05 12.7 -0.4**
baz=211
O22K Cooper Landing 121.83 27 IAMs_20 IAMs_20 22 49 18.4
comp=Z,3µm,21.0s
M19K Big River Lodg 121.88 24 P **PKiKP 22 05 13.7 +0.4**
baz=210
Q23K Middleton Isla 121.89 30 IAMs_20 IAMs_20 22 52 28.8
comp=Z,2µm,20.0s
Q23K Middleton Isla 121.89 30 P **PKiKP 22 05 13.5 +0.2**
baz=214
BMO Blue Mountains 121.89 56 IAMs_20 IAMs_20 22 56 14.8
comp=Z,3µm,18.0s
HAWA Hanford 121.96 54 IAMs_20 IAMs_20 22 53 20.5
comp=Z,2µm,19.0s
ANM Nome 122.01 17 P **PKiKP 22 05 13.9 +0.4**
baz=204
L19K White Mountain 122.02 24 PKPdf **PKPdf 22 05 13.5 +0.1**
L19K IAMs_20 IAMs_20 22 50 35.1
comp=Z,2µm,21.0s
L19K White Mountain 122.02 24 P **PKiKP 22 05 14.2 +0.6**
baz=210
P23K Montague Islan 122.06 29 P **PKiKP 22 05 13.8 +0.2**
baz=214
S22A 4UR Ranch, Cre 122.12 69 P **PKPdf 22 05 14.2 -0.5**
baz=223
DZA Taraz 122.14 300 *e*PKIKP **PKPdf 22 05 13.3 -1.0**
DZA Taraz 122.14 300 *e*PKP **PKPdf 22 05 13.3 -1.0**
baz=300
M20K Styx River 122.17 25 **PKiKP 22 05 14.8 +0.9**
M20K IAMs_20 IAMs_20 22 49 00.3
comp=Z,3µm,22.0s
M20K Styx River 122.17 25 P **PKPdf 22 05 13.6 -0.2**
baz=211
435B Jarrell 122.19 81 IAMs_20 IAMs_20 22 48 00.9
comp=Z,2µm,21.0s
435B Jarrell 122.19 81 P **PKPdf 22 05 14.5 -0.3**
baz=222
RAYN Ar Rayn 122.22 266 IAMs_20 IAMs_20 22 49 11.0
comp=Z,3µm,19.0s
RAYN Ar Rayn 122.22 266 PKIKP **PKPdf 22 05 14.8 -0.3**
RAYN MLR MLR
comp=Z,3µm,19.0s
IUG Iuzhnay 122.26 298 *e*PKIKP **PKPdf 22 05 13.1 -1.5**
IUG Iuzhnay 122.26 298 *e*PKP **PKPdf 22 05 13.1 -1.5**
baz=296
RC01 Rabbit Creek A 122.35 27 P **PKiKP 22 05 14.7 +0.5**
baz=213
BTLS Baital 122.36 303 *e*PKIKP **PKPdf 22 05 12.3 -2.3**
BTLS Baital 122.36 303 *e*PKP **PKPdf 22 05 12.3 -2.3**
baz=303
HLID Hailey 122.38 59 IAMs_20 IAMs_20 22 54 32.6
comp=Z,2µm,18.0s
HLID Hailey 122.38 59 P **PKiKP 22 05 16.2 +1.1**
baz=223
ABTX Abilene, Hawle 122.38 78 P **PKPdf 22 05 14.9 -0.2**
baz=222
SUA Susitna One 122.40 26 IAMs_20 IAMs_20 22 53 00.3
comp=Z,3µm,20.0s
SUA Susitna One 122.40 26 P **PKiKP 22 05 15.0 +0.5**
baz=212
TTA Tatalina 122.41 23 P **PKiKP 22 05 14.8 +0.5**
baz=209
BILL Bilibino 122.46 3 *i* PKIKP **PKiKP 22 05 14.5 +0.3**
BILL *e* 22 06 48.1
BILL *e* 22 12 20.7
BILL *i* SSS SSS 22 28 00.9
BILL pmax pmax
comp=Z,21nm,1.7s
BILL MLR MLR
comp=Z,1µm,20.0s
L20K Farewell, AK 122.50 24 P **PKiKP 22 05 14.6 0.0**
baz=210
TNA Tin City 122.51 16 P **PKiKP 22 05 14.9 +0.5**
baz=202
PWL Port Wells 122.53 28 IAMs_20 IAMs_20 22 48 48.7
comp=Z,2µm,21.0s
PWL Port Wells 122.53 28 P **PKPdf 22 05 14.5 +0.1**
baz=213
HKT Hockley 122.59 83 IAMs_20 IAMs_20 22 52 20.4
comp=Z,2µm,19.0s
HIN Hinchinbrook I 122.64 29 IAMs_20 IAMs_20 22 52 59.8
comp=Z,3µm,20.0s
SKT Skwentna 122.64 25 IAMs_20 IAMs_20 22 52 50.7
comp=Z,3µm,20.0s
SKT Skwentna 122.64 25 P **PKPdf 22 05 14.6 0.0**
baz=212
SDCO Great Sand Dun 122.84 70 P **PKiKP 22 05 16.9 +0.5**
baz=223
KAIM Kayak Island 122.85 30 IAMs_20 IAMs_20 22 53 05.5
comp=Z,2µm,20.0s
KAIM Kayak Island 122.85 30 P **PKiKP 22 05 15.7 +0.4**
baz=215
GLI Glacier Island 122.88 28 IAMs_20 IAMs_20 22 49 30.0
comp=Z,2µm,21.0s
GLI Glacier Island 122.88 28 P **PKiKP 22 05 16.2 +0.9**
baz=214
AMTX Amarillo 122.88 75 IAMs_20 IAMs_20 22 46 22.9
comp=Z,3µm,22.0s
AMTX Amarillo 122.88 75 P **PKiKP 22 05 16.3 0.0**
baz=223
PMR Palmer 122.93 27 P **PKiKP 22 05 15.8 +0.5**
baz=213
FID Port Fidalgo 122.94 29 IAMs_20 IAMs_20 22 53 09.4
comp=Z,3µm,20.0s
KNK Knik Glacier 122.96 27 P **PKiKP 22 05 15.8 +0.3**
baz=214
JAWL J.Aulia 122.97 248 AMP 22 22 39.7
comp=E,1µm,0.1s
JAWL J.Aulia 122.97 248 *i* P **PKPdf 22 05 11.5 -5.2**
JAWL J.Aulia 122.97 248 *i* **PKiKP 22 05 17.0 +0.1**
baz=231,slow=11
JAWL J.Aulia 122.97 248 *i* S **PP 22 06 58.3 +2.8**
EYAK Cordova Ski Ar 122.98 29 P **PKiKP 22 05 16.2 +0.7**
baz=215
T25A Trinidad 123.00 71 P **PKiKP 22 05 17.2 +0.6**
baz=223
CRAG Craig 123.05 39 P **PKiKP 22 05 15.9 +0.2**

baz=220
O20A White River Ci 123.09 66 P **PKiKP 22 05 17.6 +0.9**
baz=224
SUCK Suckling Hills 123.16 30 IAMs_20 IAMs_20 22 52 54.6
comp=Z,2µm,19.0s
WHTX Lake Whitney, 123.16 80 PP **PP 22 06 58.5 +1.5**
WHTX Lake Whitney, 123.16 80 P **PKPdf 22 05 16.3 -0.2**
baz=222
K20K Telida 123.22 23 PP **PP 22 06 56.1 -0.8**
K20K Telida 123.22 23 P **PKiKP 22 05 16.3 +0.4**
baz=211
PPLA Purkeypile 123.26 24 P **PKiKP 22 05 16.3 +0.2**
baz=212
SML Sawmill 123.32 27 P **PKiKP 22 05 16.8 +0.6**
baz=214,SNR=11
CUT Chulitna 123.32 26 IAMs_20 IAMs_20 22 52 48.6
comp=Z,3µm,20.0s
CUT Chulitna 123.32 26 P **PKPdf 22 05 15.9 +0.1**
baz=213
BERG Berg Lake 123.44 30 IAMs_20 IAMs_20 22 53 06.1
comp=Z,3µm,20.0s
M23K Glacier View 123.47 27 P **PKiKP 22 05 16.8 +0.4**
baz=214,SNR=9.3
SIT Sitka 123.48 37 P **PKiKP 22 05 16.5 0.0**
baz=220
V35K Ketchikan 123.50 40 P **PKiKP 22 05 17.4 +0.8**
baz=221
SNH Sunshine Point 123.53 31 IAMs_20 IAMs_20 22 49 50.2
comp=Z,3µm,20.0s
SCM Sheep Creek Mo 123.61 27 P **PKiKP 22 05 17.2 +0.4**
baz=214
HATO Hato, Curacao 123.61 120 IAMs_20 IAMs_20 22 50 59.1
comp=Z,3µm,20.0s
BMRM Bremner River 123.65 29 P **PKiKP 22 05 17.1 +0.2**
baz=216
KLU Klutina 123.71 28 IAMs_20 IAMs_20 22 49 55.0
comp=Z,3µm,22.0s
KLU Klutina 123.71 28 P **PKiKP 22 05 17.2 +0.2**
baz=215
CAST Castle Rocks 123.73 24 IAMs_20 IAMs_20 22 50 11.5
comp=Z,3µm,22.0s
CAST Castle Rocks 123.73 24 P **PKPdf 22 05 16.8 +0.1**
baz=212,SNR=13
WAX Waxell Ridge 123.74 31 IAMs_20 IAMs_20 22 49 47.8
comp=Z,3µm,21.0s
MESA MESA 123.79 31 IAMs_20 IAMs_20 22 55 07.2
comp=Z,2µm,20.0s
MESA MESA 123.79 31 P **PKiKP 22 05 17.3 0.0**
baz=217
GCSA Galena City Sc 123.81 21 P **PKiKP 22 05 17.5 +0.5**
baz=209
J20K Nowinta River 123.91 23 P **PKiKP 22 05 18.0 +0.8**
baz=211
Q24A Divide 123.91 69 P **PKPdf 22 05 16.3 -1.9**
baz=224
TGL Tana Glacier 123.99 30 IAMs_20 IAMs_20 22 50 38.5
comp=Z,2µm,21.0s
YAH Yahtse 124.00 31 IAMs_20 IAMs_20 22 55 22.6
comp=Z,2µm,19.0s
ISLE Juniper Island 124.01 31 IAMs_20 IAMs_20 22 50 06.1
comp=Z,3µm,20.0s
REDW Red Top Meadow 124.03 62 IAMs_20 IAMs_20 22 50 12.5
comp=Z,3µm,20.0s
WRAK Wrangell Islan 124.06 39 P **PKiKP 22 05 17.8 +0.2**
baz=221
TPAW Teton Pass 124.07 61 IAMs_20 IAMs_20 22 50 31.5
comp=Z,3µm,21.0s
CHUM Lake Minchumin 124.08 24 P **PKiKP 22 05 17.6 +0.1**
baz=212
ZALV Zalesovo Beam 124.10 317 PKP **PKPdf 22 05 14.9 -2.7**
comp=Z,4.7nm,0.9s,baz=132,slow=2.2,SNR=14
ZALV PP PP 22 06 55.2 -7.8
comp=Z,12nm,1.2s,baz=126,slow=3.8,SNR=4.6
ZALV PKKPbc **PKKPab 22 14 59.4 -0.8**
comp=Z,1.0nm,0.8s,baz=322,slow=9.4,SNR=3.6
ZALV SKKPbc SKKPbc 22 18 52.3 -1.3
comp=Z,1.0nm,0.8s,baz=332,slow=2.5,SNR=2.1
WAT1 Susitna Watana 124.11 26 P **PKPdf 22 05 17.3 -0.1**
baz=214
WAT6 Susitna Watana 124.12 27 P **PKPdf 22 05 16.9 -0.7**
baz=214,SNR=15
KTH Kantishna Hill 124.13 25 IAMs_20 IAMs_20 22 54 01.9
comp=Z,3µm,21.0s
FXWY Fox Creek 124.14 61 IAMs_20 IAMs_20 22 47 51.4
comp=Z,2µm,22.0s
M24K Tolsona, Glenn 124.14 28 P **PKiKP 22 05 18.3 +0.4**
baz=215
N25K Chitina, Valde 124.17 29 IAMs_20 IAMs_20 22 53 58.2
comp=Z,3µm,21.0s
N25K Chitina, Valde 124.17 29 P **PKPdf 22 05 17.4 -0.3**
baz=213,SNR=11
PNL Peninsula 124.17 33 P **PKPdf 22 05 17.5 -0.2**
baz=218
TRF Thorofare Moun 124.20 25 IAMs_20 IAMs_20 22 51 11.7
comp=Z,3µm,22.0s
TRF Thorofare Moun 124.20 25 P **PKPdf 22 05 17.2 -0.6**
baz=213,SNR=14
PINM Pinnacle 124.24 32 P **PKiKP 22 05 18.4 +0.3**
baz=218
TABL Table Mountain 124.24 31 IAMs_20 IAMs_20 22 55 11.2
comp=Z,2µm,20.0s
ISCO Idaho Springs 124.25 68 P **PKiKP 22 05 19.0 -0.1**
baz=224
ISCO Idaho Springs 124.25 68 P **PKPdf 22 05 17.5 -1.3**
baz=224
GLB Gilahina Butte 124.26 29 IAMs_20 IAMs_20 22 53 26.5
comp=Z,2µm,20.0s
BW06 Boulder Array 124.28 63 P **PKPdf 22 05 17.5 -1.2**
baz=225
PDAR Pinedale Array 124.28 63 PKP **PKPdf 22 05 17.6 -1.0**
comp=Z,3.4nm,0.8s,baz=188,slow=2.2,SNR=12
PDAR PP **PP 22 07 07.4 +2.6**
comp=Z,5.4nm,1.2s,baz=222,slow=2.0,SNR=5.8
PDAR PKKPab **PKKPab 22 14 58.8 -1.9**
comp=Z,0.2nm,0.3s,baz=67,slow=6.9,SNR=1.5
PDAR SKKPbc SKKPbc 22 18 47.4 -4.9
comp=Z,2.8nm,1.1s,baz=64,slow=3.4,SNR=6.5
KURBB Kurchatov Arra 124.32 311 PKP **PKPdf 22 05 15.9 -2.2**
comp=Z,8.5nm,0.8s,baz=148,slow=1.6,SNR=27
KURBB PP **PP 22 07 04.8 +0.3**
comp=Z,2.3nm,0.9s,baz=150,slow=5.1,SNR=7.0
KURK Kurchatov 124.34 311 PKPdf **PKPdf 22 05 16.9 -1.3**
KURK Kurchatov 124.34 311 *c i* PKIKP **PKPdf 22 05 16.7 -1.5**
KURK pmax pmax
comp=Z,43nm,1.7s
MOOW Moose Ponds 124.36 61 IAMs_20 IAMs_20 22 50 22.3
comp=Z,2µm,20.0s
IMW Indian Meadow 124.37 61 IAMs_20 IAMs_20 22 48 08.3
comp=Z,3µm,22.0s
WMOK Wichita Mounta 124.41 77 P **PKPdf 22 05 18.1 -0.8**
baz=223
MCARA McCarthy VSAT 124.44 30 IAMs_20 IAMs_20 22 54 10.3
comp=Z,2µm,20.0s
MCARA McCarthy VSAT 124.44 30 P **PKPdf 22 05 17.3 -0.7**
baz=217
NEW Newport 124.44 54 PKP **PKPdf 22 05 17.7 -0.8**
comp=Z,4.1nm,0.9s,baz=164,slow=1.6,SNR=12
NEW Newport 124.44 54 IAMs_20 IAMs_20 22 49 50.3
comp=Z,3µm,21.0s
NEW Newport 124.44 54 P **PKiKP 22 05 18.8 -0.1**
baz=224
RND Reindeer 124.52 26 IAMs_20 IAMs_20 22 54 37.1
comp=Z,3µm,20.0s
BPAW Bear Paw Mtn. 124.57 24 IAMs_20 IAMs_20 22 52 35.7
comp=Z,2µm,21.0s
BPAW Bear Paw Mtn. 124.57 24 P **PKPdf 22 05 18.1 -0.1**
baz=213,SNR=14
LOGN Logan Glacier 124.59 31 IAMs_20 IAMs_20 22 55 13.3
comp=Z,2µm,20.0s
CTG Chitna Glacier 124.60 31 P **PKPdf 22 05 18.2 -0.4**
baz=218
NATX Nacogdoches 124.60 83 IAMs_20 IAMs_20 22 50 00.5
comp=Z,3µm,21.0s
NATX Nacogdoches 124.60 83 P **PKPdf 22 05 18.1 -1.3**
baz=222
CTGM Chitina Glacie 124.60 31 IAMs_20 IAMs_20 22 50 12.6
comp=Z,2µm,22.0s
DHY Denali Highway 124.62 27 IAMs_20 IAMs_20 22 56 11.0
comp=Z,2µm,20.0s
DHY Denali Highway 124.62 27 P **PKPdf 22 05 18.6 0.0**
baz=215
HARP HAARP 124.66 28 P **PKiKP 22 05 19.2 +0.4**
baz=216
P29M Windy Craggy 124.67 34 IAMs_20 IAMs_20 22 54 33.6
comp=Z,3µm,20.0s
P29M Windy Craggy 124.67 34 P **PKPdf 22 05 18.1 -0.5**
baz=219
R32K Eaglecrest 124.70 36 P **PKPdf 22 05 18.1 -0.5**

baz=220
MCK McKinley 124.77 25 P PKPdf 22 05 18.3 -0.4
baz=214
O28M Mount Upton 124.79 32 P PKPdf 22 05 18.6 -0.5
baz=218
MQOL MQOL 124.84 256 *i* P PKiKP 22 05 21.2 +0.7
N23A Red Feather La 124.86 67 P PKPdf 22 05 18.5 -1.4
baz=225
O29M Mount Kennedy 124.92 33 P PKPdf 22 05 18.7 -0.5
baz=219
MSO Missoula 124.95 57 IAMs_20 IAMs_20 22 53 51.7
comp=Z,3µm,20.0s
MSO Missoula 124.95 57 P PKPdf 22 05 18.7 -1.0
baz=225
PLBC Pleasant Camp 124.98 34 P PKPdf 22 05 18.4 -0.7
baz=220
PAX Paxson 125.04 27 P PKPdf 22 05 18.7 -0.6
baz=216
LKWY Lake 125.11 61 IAMs_20 IAMs_20 22 51 18.2
comp=Z,3µm,19.0s
BOZ Bozeman (W) 125.22 59 P PKPdf 22 05 19.0 -1.3
baz=225
T35M Bob Quinn 125.25 39 P PKPdf 22 05 19.1 -0.6
baz=222
I21K Tanana 125.25 23 IAMs_20 IAMs_20 22 52 57.0
comp=Z,2µm,21.0s
I21K Tanana 125.25 23 P PKPdf 22 05 18.7 -0.8
baz=213,SNR=20
M26K Nabesna, AK 125.26 29 IAMs_20 IAMs_20 22 54 32.0
comp=Z,3µm,20.0s
M26K Nabesna, AK 125.26 29 P PKPdf 22 05 18.4 -1.2
baz=217,SNR=11
P30M Million Dollar 125.30 34 P PKPdf 22 05 19.1 -0.7
baz=220
KSCO Kaye Shedlock' 125.32 71 P PKPdf 22 05 18.9 -1.8
baz=225
SKAG Skagway 125.33 35 P PKPdf 22 05 19.1 -0.6
baz=221
PHWY Pilot Hill 125.40 67 IAMs_20 IAMs_20 22 51 30.7
comp=Z,3µm,20.0s
MLY Manley 125.42 24 P PKPdf 22 05 19.3 -0.6
baz=213
NEA2 Nenana 125.45 25 IAMs_20 IAMs_20 22 51 25.8
comp=Z,3µm,22.0s
NEA2 Nenana 125.45 25 P PKPdf 22 05 19.1 -0.8
baz=214
H21K Melozitna Rive 125.47 22 P PKPdf 22 05 19.4 -0.5
baz=212,SNR=16
YUK6 Outpost Mounta 125.49 32 P PKPdf 22 05 19.3 -1.1
baz=220
YUK3 Moose Creek 125.50 31 P PKPdf 22 05 19.6 -0.8
baz=219
M27K Edge Creek, AK 125.55 30 IAMs_20 IAMs_20 23 07 31.5
comp=Z,2µm,19.0s
M27K Edge Creek, AK 125.55 30 P PKPdf 22 05 19.9 -0.5
baz=218
WRH Wood River Hil 125.59 25 IAMs_20 IAMs_20 22 51 06.5
comp=Z,3µm,22.0s
RDOG Red Dog Mine 125.61 17 P PKPdf 22 05 19.4 -0.7
baz=206
S34M Telegraph Cree 125.62 38 P PKPdf 22 05 19.4 -1.0
baz=222
GEYT Alibeck 125.62 287 PKP PKPdf 22 05 20.1 -1.0
comp=Z,24nm,1.0s,baz=260,slow=2.7,SNR=24
GEYT PP PP 22 07 11.6 -1.9
comp=Z,3.8nm,1.0s,baz=123,slow=5.3,SNR=2.3
K24K Donnelly Dome 125.63 27 P PKPdf 22 05 19.2 -1.1
baz=216
L26K Log Cabin Wild 125.66 28 P PKPdf 22 05 20.6 +0.2
baz=217
HYT Haines Junctio 125.67 33 P PKPdf 22 05 19.7 -0.9
baz=220
YUK4 Talbot Arm 125.71 32 P PKPdf 22 05 20.0 -0.8
baz=220
K22A Casper 125.78 65 P PKPdf 22 05 20.2 -1.3
baz=226
HDA Harding Lake 125.82 26 IAMs_20 IAMs_20 22 55 34.8
comp=Z,2µm,20.0s
HDA Harding Lake 125.82 26 P PKPdf 22 05 19.2 -1.5
baz=216
RIDG Independent Ri 125.83 27 IAMs_20 IAMs_20 22 50 42.1
comp=Z,2µm,22.0s
RIDG Independent Ri 125.83 27 P PKPdf 22 05 20.1 -0.6
baz=217
I23K Minto, Yukon-K 125.84 24 IAMs_20 IAMs_20 22 53 23.1
comp=Z,2µm,21.0s
I23K Minto, Yukon-K 125.84 24 P PKPdf 22 05 20.6 +0.1
baz=214
BVCY Beaver Creek 125.88 30 P PKPdf 22 05 20.2 -0.7
baz=219
MDM Murphy Dome 125.96 25 IAMs_20 IAMs_20 22 51 29.3
comp=Z,3µm,22.0s
P32M Atlin 125.97 36 P PKPdf 22 05 21.2 +0.1
baz=222
TCOL CIGO, UAF Yank 125.98 25 IAMs_20 IAMs_20 22 51 39.8
comp=Z,3µm,21.0s
TCOL CIGO, UAF Yank 125.98 25 P PKPdf 22 05 20.7 -0.2
baz=215
COLA College 125.98 25 IAMs_20 IAMs_20 22 51 39.8
comp=Z,3µm,21.0s
COLA College 125.98 25 ⇑PKIKP PKiKP 22 05 21.3 0.0
COLA College 125.98 25 P PKPdf 22 05 20.7 -0.1
baz=215
Q32M Nakina River 125.99 37 P PKPdf 22 05 20.8 -0.6
baz=222
H22K Ishtalitna Cre 125.99 23 P PKPdf 22 05 20.3 -0.6
baz=213,SNR=13
G21K Allakaket 126.05 22 P PKPdf 22 05 19.0 -2.0
baz=212,SNR=16
O30N Mendenhall 126.07 33 P PKPdf 22 05 20.2 -1.1
baz=221
RLMT Red Lodge 126.08 61 IAMs_20 IAMs_20 22 52 08.7
comp=Z,2µm,20.0s
RLMT Red Lodge 126.08 61 P PKPdf 22 05 20.1 -2.0
baz=226
L27K Beaver Creek, 126.12 29 IAMs_20 IAMs_20 22 52 23.6
comp=Z,2µm,21.0s
L27K Beaver Creek, 126.12 29 P PKPdf 22 05 19.5 -1.8
baz=218,SNR=29
ILAR Eielson Array 126.14 26 PKP PKPdf 22 05 20.0 -1.2
comp=Z,16nm,1.1s,baz=272,slow=3.0,SNR=37
ILAR PP PP 22 07 15.8 -0.7
comp=Z,8.0nm,1.2s,baz=228,slow=4.7,SNR=3.4
ILAR PKKPbc PKKPbc 22 14 55.5 +1.0
comp=Z,1.0nm,1.0s,baz=33,slow=3.3,SNR=4.5
ILAR SKKPbc SKKPbc 22 18 42.0 -5.5
comp=Z,2.5nm,1.1s,baz=348,slow=4.3,SNR=5.1
X37A Clayton 126.25 80 P PKPdf 22 05 21.6 -0.8
baz=224
SCRK Sand Creek 126.25 27 IAMs_20 IAMs_20 22 51 28.0
comp=Z,2µm,22.0s
SCRK Sand Creek 126.25 27 P PKPdf 22 05 20.9 -0.7
baz=217
POKR Poker Plat Res 126.28 25 P PKPdf 22 05 20.7 -0.8
baz=216
N30M Aishikik Lake 126.28 32 P PKPdf 22 05 20.1 -1.5
baz=220
H23K Yukon River 126.36 24 IAMs_20 IAMs_20 22 54 33.8
comp=Z,2µm,20.0s
H23K Yukon River 126.36 24 P PKPdf 22 05 21.1 -0.6
baz=214
WHY Whitehorse 126.38 34 P PKPdf 22 05 20.4 -1.5
baz=221
J25K Salcha River, 126.39 26 P PKPdf 22 05 20.7 -1.1
baz=217
DLBC Dease Lake 126.40 38 P PKPdf 22 05 20.7 -1.3
baz=223
BRZS Berezniki 126.52 307 *e*PKIKP PKPdf 22 05 20.3 -2.1
BRZS Berezniki 126.52 307 *e*PKP PKPdf 22 05 20.3 -2.1
baz=307
M29M Somme Creek 126.61 31 P PKPdf 22 05 21.2 -1.1
baz=220
F21K Alatna River 126.65 21 P PKPdf 22 05 21.1 -1.1
baz=212
N31M Braeburn, Yuko 126.72 33 IAMs_20 IAMs_20 22 56 00.7
comp=Z,2µm,20.0s
N31M Braeburn, Yuko 126.72 33 P PKPdf 22 05 22.5 +0.1
baz=221
P33M Teslin, Yukon 126.73 35 IAMs_20 IAMs_20 22 55 13.2
comp=Z,2µm,20.0s
P33M Teslin, Yukon 126.73 35 P PKPdf 22 05 20.6 -1.9
baz=222
H24K Noodor Dome 126.76 24 IAMs_20 IAMs_20 22 56 55.5
comp=Z,3µm,21.0s
H24K Noodor Dome 126.76 24 P PKPdf 22 05 20.9 -1.5
baz=216
R33M Jennings River 126.77 37 P PKPdf 22 05 21.6 -1.1
baz=223
J26L Joseph Creek 126.78 27 IAMs_20 IAMs_20 22 55 31.1
comp=Z,2µm,20.0s
J26L Joseph Creek 126.78 27 P PKPdf 22 05 21.4 -1.1
baz=218
CBKS Cedar Bluff 126.78 73 P PKiKP 22 05 23.7 -0.1
baz=225
CBKS Cedar Bluff 126.78 73 P PKPdf 22 05 21.8 -1.6
baz=225
K27K Chicken 126.81 28 IAMs_20 IAMs_20 22 55 04.9
comp=Z,3µm,20.0s
K27K Chicken 126.81 28 P PKPdf 22 05 22.0 -0.5
baz=219
OK047 Pawnee, Statio 126.82 77 PKPdf 22 05 23.6 +0.2
G22K Bettles 126.82 22 P PKPdf 22 05 22.1 -0.4
baz=214
TUL1 Leonard 126.95 78 IAMs_20 IAMs_20 22 52 16.6
comp=Z,3µm,20.0s
TUL1 Leonard 126.95 78 P PKPdf 22 05 22.6 -1.1
baz=224
G23K Bananza Creek 126.98 23 P PKPdf 22 05 22.1 -0.7
baz=215,SNR=12
OGNE Ogallala 127.00 69 IAMs_20 IAMs_20 22 54 44.1
comp=Z,3µm,19.0s
OGNE Ogallala 127.00 69 P PKPdf 22 05 23.8 0.0
baz=226
OGNE Ogallala 127.00 69 P PKPdf 22 05 22.2 -1.6
baz=226
R32A Long Quarter, 127.08 74 P PKPdf 22 05 24.1 +0.2
baz=225
PRP Porcupine Dome 127.08 26 P PKPdf 22 05 21.5 -1.6
baz=217
GRGR Grenville 127.11 127 IAMs_20 IAMs_20 22 54 17.2
comp=Z,2µm,19.0s
F22K John River 127.17 21 P PKPdf 22 05 22.6 -0.5
baz=214
M30M Minto, Yukon 127.22 32 IAMs_20 IAMs_20 22 56 15.0
comp=Z,2µm,20.0s
M30M Minto, Yukon 127.22 32 P PKPdf 22 05 22.4 -1.0
baz=221
MIAR Mount Ida 127.24 81 P PKPdf 22 05 22.5 -1.8
baz=224
T35A Sooner Cattle 127.25 77 PKPdf PKPdf 22 05 24.3 0.0
T35B Sooner Cattle 127.25 77 P PKiKP 22 05 24.6 -0.2
baz=225
VBMS Vicksburg 127.33 85 P PKPdf 22 05 22.3 -2.2
baz=223
N32M Quiet Lake 127.34 34 P PKPdf 22 05 22.8 -0.9
baz=223
COLD Coldfoot 127.36 22 P PKPdf 22 05 22.9 -0.6
baz=215,SNR=11
I26K Coal Creek Min 127.52 27 P PKPdf 22 05 22.7 -1.1
baz=218
G24K Hadweenzic Riv 127.56 24 P PKPdf 22 05 22.8 -1.1
baz=216
DAWY Dawson 127.59 29 P PKPdf 22 05 23.1 -1.0
baz=220
H25K Birch Creek 127.61 25 P PKPdf 22 05 22.8 -1.2
baz=217
EGAK Eagle 127.64 28 IAMs_20 IAMs_20 22 56 39.9
comp=Z,2µm,20.0s
EGAK Eagle 127.64 28 P PKPdf 22 05 23.0 -1.0
baz=220
M31M Drury Creek, Y 127.69 33 IAMs_20 IAMs_20 22 56 30.5
comp=Z,2µm,19.0s
M31M Drury Creek, Y 127.69 33 P PKPdf 22 05 23.2 -1.0
baz=222
TIXI Tiksi 127.70 349 PKP PKPdf 22 05 22.9 -1.1
comp=Z,6.8nm,0.7s,baz=90,slow=23,SNR=5.2
TIXI PP PP 22 07 27.6 +1.0
comp=Z,7.1nm,0.9s,baz=90,slow=20,SNR=2.1
TIXI Tiksi 127.70 349 PKiKP 22 05 25.0 +0.4
TIXI IAMs_20 IAMs_20 22 59 49.1
comp=Z,2µm,22.0s
TIXI Tiksi 127.70 349 *c* *i*PKIKP PKiKP 22 05 25.6 +1.1
TIXI pmax pmax
comp=Z,36nm,1.7s
EGMT Eagleton 127.83 58 IAMs_20 IAMs_20 22 58 14.9
comp=Z,2µm,19.0s
EGMT Eagleton 127.83 58 P PKPdf 22 05 23.3 -1.8
baz=227
K29M Barlow Dome 127.96 30 P PKPdf 22 05 23.3 -1.6
baz=221
FYU Fort Yukon 127.99 25 IAMs_20 IAMs_20 22 52 40.1
comp=Z,3µm,22.0s
FARO Faro, Yukon 128.04 33 P PKPdf 22 05 23.9 -1.1
baz=223
WTLY Watson Lake, Y 128.05 37 P PKPdf 22 05 24.5 -0.6
baz=225
RSSD Black Hills 128.11 65 PKPdf PKPdf 22 05 25.3 -0.6
RSSD Black Hills 128.11 65 PKIKP PKPdf 22 05 25.3 -0.6
RSSD MLR MLR
comp=Z,4µm,20.0s
RSSD Black Hills 128.11 65 P PKPdf 22 05 25.3 -0.6
baz=227
RSSD Black Hills 128.11 65 P PKPdf 22 05 24.6 -1.3
baz=227
F24K Squaw Lake 128.12 23 P PKPdf 22 05 24.8 -0.2
baz=216
U38A Gravette 128.13 79 P PKPdf 22 05 25.4 -0.5
baz=225
I27K Kandik River 128.16 27 P PKPdf 22 05 24.4 -0.8
baz=220
J29M Mondike Camp 128.22 29 IAMs_20 IAMs_20 22 52 46.1
comp=Z,2µm,21.0s
MAYO Mayo, Yukon 128.26 31 P PKPdf 22 05 24.5 -0.8
baz=222
HHAR Hobbs 128.27 79 P PKPdf 22 05 25.3 -0.9
baz=225
E24K Your Creek 128.44 22 P PKPdf 22 05 24.8 -0.8
baz=216
BRAL Brewton 128.58 89 P PKPdf 22 05 26.0 -0.9
baz=223
G26K Porcupine Rive 128.65 25 P PKPdf 22 05 25.1 -0.9
baz=219
TOLK Toolik Lake Re 128.66 22 P PKPdf 22 05 25.8 -0.2
baz=216
H27K Steamboat Moun 128.66 27 P PKPdf 22 05 26.3 +0.3
baz=220,SNR=5.6
D23K Nanushuk River 128.69 21 P PKPdf 22 05 25.6 -0.4
baz=215
LAO LASA Array 128.70 61 IAMs_20 IAMs_20 22 50 59.1
comp=Z,3µm,21.0s
LAO LASA Array 128.70 61 P PKPdf 22 05 26.0 -0.8
baz=228
F25K Christian Rive 128.71 24 P PKPdf 22 05 26.0 -0.2
baz=218,SNR=13
KSU1 Kansas State U 128.73 75 P PKPdf 22 05 26.9 0.0
baz=226
KSU1 Kansas State U 128.73 75 P PKPdf 22 05 25.8 -1.1
baz=226
I29M Ogilvie Camp, 128.87 29 IAMs_20 IAMs_20 22 56 55.5
comp=Z,2µm,20.0s
I29M Ogilvie Camp, 128.87 29 P PKPdf 22 05 26.7 +0.3
baz=222,SNR=8.9
MMPY Sheldon Lake, 129.00 34 P PKPdf 22 05 26.8 0.0
baz=225
G27K Doyon Strip 129.07 26 P PKPdf 22 05 26.3 -0.5
baz=220
E25K Arctic Village 129.14 24 P PKPdf 22 05 26.5 -0.3
baz=218
F26K Sheenjek River 129.14 24 P PKPdf 22 05 26.3 -0.6
baz=219,SNR=12
TGTN Hyland Airport 129.23 36 P PKPdf 22 05 26.8 -0.5
baz=226
D24K Happy Valley 129.24 22 P PKPdf 22 05 26.4 -0.6
baz=216
N33B J Bar K, Exete 129.38 73 P PKPdf 22 05 27.7 -0.5
baz=227
C23K Itkillik River 129.42 20 P PKPdf 22 05 26.4 -0.9
baz=216
BGNE Belgrade 129.45 72 P PKPdf 22 05 27.0 -1.3
baz=227
DWPF Disney Wildern 129.57 96 P PKPdf 22 05 27.0 -1.9
baz=221
S39A Bolivar 129.61 78 P PKPdf 22 05 27.6 -1.1
baz=226
OXF Oxford 129.62 84 P PKPdf 22 05 27.6 -1.2
baz=224
OXF Oxford 129.62 84 P PKPdf 22 05 27.0 -1.8
baz=224
BRVK Borovoye 129.70 308 *c* *i*PKIKP PKPdf 22 05 27.9 -0.5
BRVK pmax pmax
comp=Z,52nm,1.7s
C24K Franklin Bluff 129.72 21 P PKPdf 22 05 27.5 -0.3
baz=217
D25K Kavik River 129.90 22 P PKPdf 22 05 28.2 -0.1
baz=218
LRAL Lakeview Retre 129.97 87 P PKPdf 22 05 28.2 -1.3
baz=224
LIC Lamto 130.01 201 ⇑*i*PKP1 PKiKP 22 05 31.2 +0.2
comp=Z,47nm,0.7s
SJG San Juan 130.06 119 PKP PKPdf 22 05 29.2 -0.9
comp=Z,5.3nm,0.3s,baz=122,slow=3.5,SNR=3.4
EPYK Eagle Plains 130.06 28 P PKPdf 22 05 27.4 -1.3
baz=223
FLDN Fort Liard 130.06 40 P PKPdf 22 05 28.8 0.0
baz=228
KIC Kosan Boka 130.08 202 ⇓*i*PKP1 PKiKP 22 05 31.7 +0.5
comp=Z,10nm,0.5s
E27K Coleen River 130.14 25 P PKPdf 22 05 28.8 0.0
baz=221
GRTK Grand Turk 130.23 111 IAMs_20 IAMs_20 22 56 04.1
comp=Z,2µm,20.0s
DBIC Dimbokro 130.40 202 PKP PKPdf 22 05 29.8 -1.1
comp=Z,29nm,1.1s,baz=143,slow=4.6,SNR=9.3
DBIC Dimbokro 130.40 202 PKPdf PKPdf 22 05 30.3 -0.7
DBIC Dimbokro 130.40 202 *e*P PKPdf 22 05 29.9 -1.0
DBIC Dimbokro 130.40 202 ⇑PKIKP PKiKP 22 05 31.6 -0.2
TIC Toumodi 130.41 201 ⇑*i*PKP1 PKPdf 22 05 30.7 -0.3
comp=Z,3.6nm,0.2s
CBE Ff, Capester 130.56 125 IAMs_20 IAMs_20 22 54 37.6
comp=Z,2µm,21.0s
C26K Camden Bay 130.69 22 P PKPdf 22 05 28.8 -0.9
baz=220
C27K Jago River 130.74 23 P PKPdf 22 05 29.0 -0.8
baz=220
TIGA Tifton 130.79 92 P PKPdf 22 05 29.1 -2.1
baz=223
P38A Dawn 130.82 76 P PKPdf 22 05 29.7 -1.2
baz=227
DGMT Dagmar 130.91 61 IAMs_20 IAMs_20 22 54 04.5
comp=Z,3µm,21.0s
DGMT Dagmar 130.91 61 P PKPdf 22 05 29.2 -1.6
baz=230
X48A Hartselle 130.95 86 P PKPdf 22 05 30.1 -1.2
baz=224
SUSD Miller 131.04 68 P PKPdf 22 05 29.5 -1.7
baz=229
CCM Cathedral Cave 131.05 80 PKPdf PKPdf 22 05 29.7 -1.7
CCM Cathedral Cave 131.05 80 PKIKP PKPdf 22 05 29.7 -1.7
CCM MLR MLR
comp=Z,3µm,21.0s
CCM Cathedral Cave 131.05 80 P PKPdf 22 05 29.6 -1.7
baz=226
CCM Cathedral Cave 131.05 80 P PKPdf 22 05 29.4 -2.0
baz=226
P40A Paris 131.60 78 P PKPdf 22 05 30.1 -2.3
baz=227
F31M Tsiigehtchic 131.65 29 P PKPdf 22 05 30.4 -1.1
baz=226
WVT Waverly 131.68 84 PKPdf PKPdf 22 05 30.7 -2.0
WVT Waverly 131.68 84 IAMs_20 IAMs_20 22 54 32.9
comp=Z,2µm,22.0s
WVT Waverly 131.68 84 PKIKP PKPdf 22 05 30.7 -2.0
WVT MLR MLR
comp=Z,2µm,22.0s
WVT Waverly 131.68 84 P PKPdf 22 05 30.2 -2.5
baz=226
WVT Waverly 131.68 84 P PKPdf 22 05 30.1 -2.5
baz=226
ECSD EROS Data Cent 131.84 70 P PKPdf 22 05 31.6 -1.2
baz=229
ECSD EROS Data Cent 131.84 70 P PKPdf 22 05 31.4 -1.3
baz=225
V48A Smith Brothers 131.99 85 P PKPdf 22 05 31.5 -1.7
baz=225
WRGLY Wrigley 132.04 37 P PKPdf 22 05 32.3 -0.2
baz=230
Y52A Lilburn 132.27 89 P PKPdf 22 05 33.7 -0.2
baz=224
Y52A P PKPdf 22 05 33.7 -0.2
baz=224
GOGA Godfrey 132.29 90 P PKPdf 22 05 32.7 -1.2
baz=224
GOGA Godfrey 132.29 90 P PKPdf 22 05 32.2 -1.7
baz=224
INK Inuvik 132.31 28 PKP PKPdf 22 05 31.5 -1.3
comp=Z,7.3nm,0.8s,baz=274,slow=11,SNR=8.2
INK Inuvik 132.31 28 PKPdf PKPdf 22 05 32.3 -0.5
INK Inuvik 132.31 28 PKIKP PKPdf 22 05 32.3 -0.5
INK Inuvik 132.31 28 P PKPdf 22 05 33.3 +0.5
baz=227
W50A Signal Mountai 132.49 87 P PKPdf 22 05 33.9 -0.4
baz=225
SCIA State Center 132.53 74 P PKPdf 22 05 33.9 -0.2
baz=228
T47A Sharon Grove 132.69 84 P PKPdf 22 05 33.6 -1.0
baz=226
MDND Maddock 132.88 64 P PKPdf 22 05 33.9 -0.7
baz=231
U49A Red Boiling Sp 133.13 85 P PKPdf 22 05 34.3 -1.1
baz=226
OLIL Olney 133.31 81 P PKPdf 22 05 34.2 -1.5
baz=227
HAW Hawthorne Fire 133.33 91 P PKPdf 22 05 35.7 -0.2
baz=224
V51A Loudon 133.47 87 P PKPdf 22 05 35.4 -0.7
baz=226
HODGE Hodges 133.58 90 P PKPdf 22 05 35.7 -0.7
baz=224
TKL Tuckaleechee C 133.70 87 PKP PKPdf 22 05 35.6 -0.9
comp=Z,10nm,1.2s,baz=339,slow=2.9,SNR=10
TKL Tuckaleechee C 133.70 87 P PKPdf 22 05 36.1 -0.4
baz=225
CASEE Lake Jocassee 133.72 89 P PKPdf 22 05 36.5 -0.1
baz=225
HDIL Hopedale 133.85 78 P PKPdf 22 05 36.2 -0.4
baz=228
GHAJ Ghor Haditha 133.85 264 IAMs_20 IAMs_20 22 57 06.9
comp=Z,2µm,19.0s
NRIK Noril'sk 133.92 332 PKP PKPdf 22 05 35.1 -0.7
comp=Z,13nm,0.8s,baz=188,slow=1.4,SNR=13
NRIK PP PP 22 08 06.4 -0.6
comp=Z,1.8nm,0.5s,baz=119,slow=2.1,SNR=3.6
NRIK Noril'sk 133.92 332 PKPdf PKPdf 22 05 35.5 -0.3
NRIK Noril'sk 133.92 332 *c* *i*PKIKP PKPdf 22 05 36.0 +0.2
NHSC New Hope 133.99 93 P PKPdf 22 05 36.0 -1.1
baz=224
WCI Wyandotte Cave 134.01 83 PKPdf PKPdf 22 05 36.4 -0.6
WCI Wyandotte Cave 134.01 83 IAMs_20 IAMs_20 22 56 30.7
comp=Z,2µm,20.0s
WCI Wyandotte Cave 134.01 83 PKIKP PKPdf 22 05 36.4 -0.6
WCI MLR MLR
comp=Z,2µm,20.0s
WCI Wyandotte Cave 134.01 83 P PKPdf 22 05 36.2 -0.8
baz=227
WCI Wyandotte Cave 134.01 83 P PKPdf 22 05 35.7 -1.3
baz=227
JSC Jenkinsville 134.19 91 P PKPdf 22 05 37.4 -0.1
baz=224
PAULI Pauline 134.25 90 P PKPdf 22 05 37.8 +0.2
baz=225
V53A Saluda 134.27 88 P PKPdf 22 05 36.5 -1.2
baz=225
V53A P PKPdf 22 05 36.5 -1.2
baz=225
TZTN Tazewell 134.45 87 IAMs_20 IAMs_20 22 57 14.9
comp=Z,2µm,21.0s
TZTN Tazewell 134.45 87 P PKPdf 22 05 36.9 -1.1
baz=226
GNI Garni 134.71 280 *c* *i*PKIKP PKPdf 22 05 38.4 -0.1
GNI pmax pmax
comp=Z,23nm,1.7s
KMSC Kings Mountain 134.76 90 P PKPdf 22 05 37.3 -1.2
baz=225
YKA Yellowknife Ar 134.81 41 PKP PKPdf 22 05 34.7 -2.9
comp=Z,2.6nm,0.9s,baz=239,slow=1.6,SNR=2.5
JFWS Jewell Farm 134.85 75 P PKPdf 22 05 37.3 -1.1
baz=230
TORD Torodi Ar. Bea 134.88 212 PKhKP PKPpre 22 05 25.8
comp=Z,2.4nm,0.8s,baz=155,slow=2.8,SNR=6.2
TORD PKP PKPdf 22 05 36.2 -3.1
comp=Z,15nm,1.1s,baz=164,slow=2.3,SNR=16
TORD PP PP 22 08 11.5 -1.4
comp=Z,6.9nm,1.2s,baz=157,slow=6.2,SNR=3.9
SPMN Marine on St. 134.89 71 P PKPdf 22 05 37.8 -0.6
baz=231
SFIN Lafayette 134.99 80 P PKPdf 22 05 38.5 -0.3
baz=228
AGMN Agassiz Nation 135.13 66 IAMs_20 IAMs_20 23 02 13.3
comp=Z,2µm,19.0s
AGMN Agassiz Nation 135.13 66 P PKPdf 22 05 37.4 -1.4
baz=233
GURO Guroymak-BITLI 135.20 276 PKPdf PKPdf 22 05 40.1 +0.6
V55A Taylorsville 135.33 89 P PKPdf 22 05 39.4 -0.1
baz=226

V55A					P	PKPdf	22 05 39.4	-0.1	
	baz=226								
HQIL	Hanson Quary C	135.49	78		IAMs_20	IAMs_20	22 59 56.6		
	comp=Z,4µm,20.0s								
W57A	Gilead	135.55	91		P	PKPdf	22 05 39.6	-0.4	
	baz=225								
W57A					P	PKPdf	22 05 39.6	-0.4	
	baz=225								
C36M	Paulatuk	135.62	30		IAMs_20	IAMs_20	23 01 57.1		
	comp=Z,2µm,20.0s								
C36M	Paulatuk	135.62	30		P	PKPdf	22 05 38.7	-0.3	
	baz=234								
L44A	Lake County Fo	135.70	78		P	PKPdf	22 05 39.1	-1.0	
	baz=230								
P49A	Miami Univ. Ec	135.80	83		IAMs_20	IAMs_20	22 55 54.1		
	comp=Z,2µm,22.0s								
P49A	Miami Univ. Ec	135.80	83		P	PKPdf	22 05 39.2	-1.1	
	baz=228								
O48B	Farmland	136.03	82		P	PKPdf	22 05 40.0	-0.7	
	baz=229								
GROC	Groznyy	136.09	284		ePKIKP	PKPdf	22 05 37.1	-3.6	
GROC					e		22 12 43.7		
GROC					pmax	pmax			
	comp=Z,107nm,1.2s								
ULM	Lac du Bonnet	136.29	64		PKP	PKPdf	22 05 38.3	-2.5	
	comp=Z,13nm,1.2s,baz=296,slow=3.6,SNR=3.9								
V58A	Windy Hill, Pi	136.51	91		P	PKPdf	22 05 40.7	-1.1	
	baz=226								
V58A					P	PKPdf	22 05 40.7	-1.1	
	baz=226								
BLA	Blacksburg	136.73	89		P	PKPdf	22 05 40.7	-1.5	
	baz=227								
A36M	Sachs Harbour	136.83	26		IAMs_20	IAMs_20	23 06 46.8		
	comp=Z,2µm,19.0s								
A36M	Sachs Harbour	136.83	26		P	PKPdf	22 05 41.1	0.0	
	baz=236								
CNNC	Cliffs of the	136.83	93		P	PKPdf	22 05 42.0	-0.4	
	baz=225								
ZEI	Tsey	136.90	282	*i*	PKIKP	PKPdf	22 05 37.1	-5.4	
ZEI					pmax	pmax			
	comp=Z,14nm,1.2s								
ARU	Arti	137.16	306			PKPpre	22 05 37.3		
ARU	Arti	137.16	306	*c i*	PKIKP	PKPdf	22 05 41.5	-0.7	
ARU					pmax	pmax			
	comp=Z,40nm,1.3s								
ACSO	Alum Creek Sta	137.26	83		IAMs_20	IAMs_20	22 59 34.7		
	comp=Z,2µm,20.0s								
ACSO	Alum Creek Sta	137.26	83		P	PKPdf	22 05 42.1	-0.9	
	baz=229								
EYMN	Ely	137.27	69		P	PKPdf	22 05 41.9	-0.9	
	baz=234								
P52A	Corning	137.36	85		IAMs_20	IAMs_20	22 59 09.3		
	comp=Z,2µm,19.0s								
P52A	Corning	137.36	85		P	PKPdf	22 05 42.3	-0.9	
	baz=228								
NCK	Nalchik	137.52	283	*i*	PKIKP	PKiKP	22 05 45.3	0.0	
KOWA	Kowa	137.77	205		PKPdf	PKPdf	22 05 42.6	-2.0	
CSS	Mathiatis	137.79	265		IAMs_20	IAMs_20	22 58 33.1		
	comp=Z,2µm,20.0s								
NEY	Neytrino	137.86	282	*i*	PKIKP	PKiKP	22 05 46.0	-0.2	
KBZ	Khabaz	138.06	282		PKhKP	PKPpre	22 05 33.9		
	comp=Z,5.1nm,1.1s,baz=195,slow=8.1,SNR=4.9								
KBZ					PP	PP	22 08 34.1	+0.6	
	comp=Z,13nm,1.2s,baz=115,slow=4.8,SNR=5.0								
KBZ	Khabaz	138.06	282	*i*	PKIKP	PKPdf	22 05 43.9	-0.4	
AAM	Ann Arbor	138.21	80		IAMs_20	IAMs_20	22 57 17.8		
	comp=Z,3µm,22.0s								
AAM	Ann Arbor	138.21	80		P	PKPdf	22 05 44.2	-0.5	
	baz=230								
O53A	New Philadelph	138.30	85		P	PKPdf	22 05 43.9	-1.0	
	baz=229								
KIV	Kislovodsk	138.32	283			PKPpre	22 05 37.2		
KIV	Kislovodsk	138.32	283	*c i*	PKIKP	PKPdf	22 05 43.3	-1.7	
KIV				*i*			22 08 34.0		
KIV					pmax	pmax			
	comp=Z,31nm,1.1s								
MCWV	Mont Chateau	138.70	86		P	PKPdf	22 05 44.9	-0.7	
	baz=229								
GOF	Gofitskoye	138.80	284	⇑	ePKHKP	PKPpre	22 05 38.8		
GOF					pmax	pmax			
	comp=Z,50nm,1.2s								
BNN	Bunyan	139.00	272		PKPdf	PKPdf	22 05 46.0	-0.4	
CBN	Corbin Frederi	139.17	90		IAMs_20	IAMs_20	23 07 11.1		
	comp=Z,1µm,18.0s								
CBN	Corbin Frederi	139.17	90		P	PKPdf	22 05 45.2	-1.3	
	baz=228								
GLMI	Grayling	139.22	77		P	PKPdf	22 05 46.2	-0.2	
	baz=233								
M53A	WI Miller and	139.38	84		IAMs_20	IAMs_20	22 58 36.7		
	comp=Z,2µm,22.0s								
M53A	WI Miller and	139.38	84		P	PKPdf	22 05 46.9	0.0	
	baz=230								
SOC	Sochi	139.79	280	*i*	PKIKP	PKiKP	22 05 49.6	-0.3	
SOC				*e*			22 08 43.0		
SOC				*e*	PPP	PPP	22 11 46.8		
SOC				*e*	SS	SS	22 27 03.8	-1.1	
SOC					pmax	pmax			
	comp=Z,19nm,0.9s								
SOC					MLR	MLR			
	comp=Z,618nm,22.0s								
ERPA	Erie	140.20	83		P	PKPdf	22 05 47.6	-0.7	
	baz=231								
BELG	Belogornoye	140.44	296	*i*	PKIKP	PKPdf	22 05 48.9	+0.6	
BELG				*i*			22 05 51.3		
SSPA	Standing Stone	140.48	87			PKPdf	22 05 46.7	-2.2	
SSPA	Standing Stone	140.48	87		IAMs_20	IAMs_20	23 05 53.5		
	comp=Z,2µm,19.0s								
SSPA	Standing Stone	140.48	87		P	PKPdf	22 05 48.5	-0.3	
	baz=230								
BR131	Keskin Array S	140.86	271	*i*	PKIKP	PKPdf	22 05 50.0	+0.2	
BR131				*i*			22 05 52.0		
BRTR	Keskin Array B	140.86	271		PKhKP	PKPpre	22 05 43.1		
	comp=Z,3.3nm,0.9s,baz=133,slow=3.9,SNR=12								
BRTR					PP	PP	22 08 49.5	-1.5	
	comp=Z,9.0nm,1.1s,baz=147,slow=7.0,SNR=10								
N58A	Sunbury	141.29	87		P	PKPdf	22 05 49.1	-1.2	
	baz=230								
N58A					P	PKPdf	22 05 49.1	-1.2	
	baz=230								
PSUB	Penn St. - Bra	141.43	89		P	PKPdf	22 05 50.4	-0.2	
	baz=229								
ANN	Anapa	141.83	280	*i*	PKIKP	PKPdf	22 05 47.3	-3.8	
ANN				*e*			22 08 56.5		
ANN					pmax	pmax			
	comp=N,20nm,1.1s								
ANN					pmax	pmax			
	comp=Z,53nm,1.4s								
ANN					MLR	MLR			
	comp=Z,1µm,20.0s								
ANN					MLR	MLR			
	comp=N,506nm,16.0s								
ANN					MLR	MLR			
	comp=E,285nm,13.0s								
SADO	Sadowa	142.31	81		PKP	PKPdf	22 05 49.5	-2.5	
	comp=E,5.8nm,0.7s,baz=266,slow=4.0,SNR=5.5								
KIRV	Kirov	142.52	306		PP	PP	22 09 01.1	+0.6	
	comp=E,7.0nm,0.8s,baz=135,slow=4.2,SNR=6.3								
BINY	Binghamton	142.57	86		IAMs_20	IAMs_20	23 04 25.3		
	comp=Z,2µm,20.0s								
BINY	Binghamton	142.57	86		P	PKPdf	22 05 52.6	0.0	
	baz=231								
IDI	Anoyia	142.87	258	⇑	P	PKPdf	22 05 51.8	-1.7	
VRH	Novokhopyorsk	142.97	291	*e*	PKHKP	PKPpre	22 05 48.1		
VRH					pmax	pmax			
	comp=Z,60nm,1.4s								
PAL	Palisades	143.03	89		IAMs_20	IAMs_20	23 03 49.0		
	comp=Z,2µm,20.0s								
PAL	Palisades	143.03	89		P	PKPdf	22 05 54.0	+0.6	
	baz=230								
APE	Apeiranthos	143.76	261	⇑	P	PKPbc	22 05 52.6	0.0	
APE	Apeiranthos	143.76	261	⇑	PKIKP	PKPbc	22 05 52.6	0.0	
YLE	Yale	143.79	90		IAMs_20	IAMs_20	23 02 18.7		
	comp=Z,2µm,21.0s								
SIM	Simferopol'	143.83	278	*e*	PKIKP	PKPab	22 05 51.1	-0.6	
SIM				*e*			22 09 11.0		
SIM					SS	SS	22 27 53.0	+1.1	
SIM					pmax	pmax			
	comp=Z,168nm,1.3s								
SIM					pmax	pmax			
	comp=Z,134nm,2.0s								
SIM					pmax	pmax			
	comp=N,470nm,10.3s								
TRY	Troy	144.25	87		IAMs_20	IAMs_20	23 08 30.6		
	comp=Z,2µm,18.0s								
VSR	Storozhevoye	144.37	290	*e*	PKIKP	PKPab	22 05 51.7	-1.9	
VSR					pmax	pmax			
	comp=Z,100nm,1.5s								
VORR	Voronezh	144.57	291	*e*	PKHKP	PKPpre	22 05 50.5		
VORR					pmax	pmax			
	comp=Z,262nm,1.6s								
L61B	Northampton	144.65	88		IAMs_20	IAMs_20	23 05 53.2		
	comp=Z,2µm,19.0s								
L61B	Northampton	144.65	88		P	PKPdf	22 05 55.8	-0.4	
	baz=232								
NCB	Newcomb	144.68	85		P	PKPab	22 05 53.3	-1.7	
	baz=233								
QUA2	Belchertown	144.74	89		IAMs_20	IAMs_20	23 01 46.4		
	comp=Z,2µm,22.0s								
LONY	Lake Ozonia	144.85	84		P	PKPdf	22 05 56.3	-0.2	
	baz=234								
BMNY	Brushton-Moira	145.03	84		P	PKPbc	22 05 55.2	-0.9	
	baz=234								
LPSR	Galich'ya Gora	145.16	292	*e*	PKIKP	PKPbc	22 05 55.4	-1.0	
LPSR					pmax	pmax			
	comp=Z,390nm,1.1s								
J61A	Chester	145.27	87		P	PKPbc	22 05 56.5	-0.5	
	baz=233								
J61A					P	PKPbc	22 05 56.5	-0.5	
	baz=233								
M65A	Busby, Falmout	145.28	91		P	PKPdf	22 05 58.5	+1.2	
	baz=231								
HRV	Adam Dziewonsk	145.34	89			PKPbc	22 05 56.9	-0.4	
HRV	Adam Dziewonsk	145.34	89		IAMs_20	IAMs_20	23 06 36.1		
	comp=Z,2µm,20.0s								
HRV	Adam Dziewonsk	145.34	89		PKIKP	PKPbc	22 05 56.9	-0.4	
HRV					MLR	MLR			
	comp=Z,2µm,20.0s								
HRV	Adam Dziewonsk	145.34	89		P	PKPab	22 05 58.6	+1.2	
	baz=232								
MCVT	Middlebury Col	145.38	86		P	PKPbc	22 05 56.7	-0.7	
	baz=233								
WES	Weston	145.40	90		IAMs_20	IAMs_20	23 06 40.0		
	comp=Z,2µm,18.0s								
PRGR	Permogore	145.44	309	⇑	*i* PKIKP	PKPdf	22 05 55.8	-1.1	
PRGR					pmax	pmax			
	comp=Z,307nm,1.0s								
HNH	Hanover	145.64	87		IAMs_20	IAMs_20	23 04 43.5		
	comp=Z,2µm,20.0s								
HNH	Hanover	145.64	87		P	PKPdf	22 05 57.8	0.0	
	baz=233								
VT1	Waterbury	145.74	86		P	PKPdf	22 05 57.9	-0.2	
	baz=234								
RES	Resolute Bay	145.86	27			PKPab	22 05 58.9	+0.4	
RES	Resolute Bay	145.86	27		PKP2	PKPab	22 05 58.9	+0.4	
FFD	Franklin Falls	145.87	88		IAMs_20	IAMs_20	23 03 10.5		
	comp=Z,2µm,22.0s								
FFD	Franklin Falls	145.87	88		P	PKPbc	22 05 58.6	-0.3	
	baz=233								
UNH	University of	146.10	89		P	PKPdf	22 05 58.9	+0.3	
	baz=232								
LBNH	Lisbon	146.17	87		IAMs_20	IAMs_20	23 02 13.4		
	comp=Z,2µm,20.0s								
LBNH	Lisbon	146.17	87		P	PKPab	22 06 01.1	+0.5	
	baz=234								
I62A	Tamworth	146.30	88		P	PKPdf	22 05 59.1	+0.1	
	baz=233								
I62A					P	PKPdf	22 05 59.1	+0.1	
	baz=233								
MANR	Mangalia	146.36	272	⇑	P	PKPab	22 06 02.2	+1.0	
EFOR	EFORIE	146.49	273	⇑	P	PKiKP	22 06 02.8	-0.8	
JURR	Jurilovca	146.75	274	⇑	P	PKPbc	22 06 01.0	-0.5	
H62A	Milan	146.81	87		P	PKPbc	22 06 01.3	-0.4	
	baz=234								
H62A					P	PKPbc	22 06 01.3	-0.4	
	baz=234								
CVD1	Cernavoda-Powe	146.96	273		P	PKPab	22 06 03.1	-0.5	
TLCR		147.03	274	⇑	P	PKPbc	22 06 01.6	-0.6	
TLCR		147.03	274	⇑	PKP2	PKPbc	22 06 01.6	-0.6	
TPGR	Topolog	147.07	274	⇓	P	PKPdf	22 06 01.3	+1.0	
TLBR	Topalu	147.10	273	⇑	P	PKPbc	22 06 03.3	+0.9	
MOS	Moscow	147.21	297	*e*	PKIKP	PKPdf	22 05 58.1	-2.0	
MOS				*e*			22 09 25.3		
MOS				*e*	SS	SS	22 28 29.2	-0.9	
MOS					pmax	pmax			
	comp=Z,211nm,1.3s								
MOS					MLR	MLR			
	comp=Z,1µm,22.0s								
MOS					MLR	MLR			
	comp=N,1µm,21.0s								
HARR	Harsova	147.26	273	⇓	P	PKPbc	22 06 03.0	+0.1	
HARR	Harsova	147.26	273	⇓	PKP2	PKPbc	22 06 03.0	+0.1	
CFR	Carcaliu	147.42	274	⇑	P	PKPbc	22 06 02.4	-0.9	
CFR	Carcaliu	147.42	274	⇑	PKP2	PKPbc	22 06 02.4	-0.9	
OBN	Obninsk	147.51	295	⇑	P	PKPbc	22 06 02.6	-0.6	
OBN	Obninsk	147.51	295		PKPbc	PKPbc	22 06 02.6	-0.6	
OBN	Obninsk	147.51	295	*e*	PKP2	PKPdf	22 06 01.6	+1.0	
OBN				*e*			22 09 31.3		
OBN				*e*	PPP	PPP	22 12 47.6		
OBN				*e*			22 13 02.9		
OBN				*e*	SSS	SSS	22 34 09.9		
OBN					pmax	pmax			
	comp=Z,594nm,1.4s								
AMRR	Amara	147.56	272	⇑	P	PKiKP	22 06 05.2	-0.6	
AMRR	Amara	147.56	272	⇑	PKP2	PKiKP	22 06 05.2	-0.6	
SCHL	Schela	147.78	274	⇓	P	PKPbc	22 06 05.0	+0.7	
SCTR	Scanteiesti	147.78	275	⇑	P	PKiKP	22 06 05.6	-0.6	
VLDR	Vladesti	147.83	275	⇓	P	PKPbc	22 06 04.4	0.0	
IZVR	Izvoarele	147.84	274	⇑	P	PKPbc	22 06 04.6	+0.1	
SLCR	Slobozia Conac	147.86	274	⇓	P	PKPbc	22 06 05.0	+0.4	
MILM	Milestii Mici	147.99	277	*e*	PKP	PKPdf	22 06 01.9	+0.2	
	comp=Z,4µm,11.0s								
MILM	Milestii Mici	147.99	277	⇑	P	PKPbc	22 06 04.2	-0.7	
MILM	Milestii Mici	147.99	277	*e*	PKIKP	PKPdf	22 06 01.9	+0.2	
MILM				*e*			22 09 32.3		
MILM					pmax	pmax			
	comp=Z,4µm,11.0s								
KLMR	Klimovskoe	148.01	306	*e*	PKP2	PKPdf	22 06 02.6	+1.3	
KLMR				*e*			22 09 35.4		
KLMR					PPP	PPP	22 12 56.1		
KLMR					SS	SS	22 28 31.4	-7.5	
KLMR					pmax	pmax			
	comp=Z,426nm,1.2s								
KLMR	Klimovskoe	148.01	306	*e*	PKPdf	PKPdf	22 06 02.6	+1.3	
KLMR					AMP		22 06 13.1		
	comp=Z,426nm,1.2s								
KLMR				*e*	PP	PP	22 09 35.5	+2.3	
KLMR					PPP	PPP	22 12 56.1		
KLMR					SS	SS	22 28 31.5	-7.4	
KLMR					SS	SS	22 28 31.5	-7.4	
KLMR					LR	LR	23 09 55.8		
KLMR					AMP		23 16 36.6		
	comp=Z,2µm,22.2s								
KIS	Kishinev	148.03	277	⇓	*i* PKP	PKPbc	22 06 04.2	-0.7	
	comp=Z,2µm,11.0s								
KIS	Kishinev	148.03	277	⇑	P	PKPbc	22 06 05.4	+0.5	
KIS	Kishinev	148.03	277	*d i*	PKP2	PKPbc	22 06 04.2	-0.7	
KIS				*e*			22 28 37.9		
KIS					pmax	pmax			
	comp=Z,2µm,11.0s								
SGRR	Singureni	148.12	271	⇑	P	PKPbc	22 06 04.9	-0.3	
ZIMR		148.14	269	⇓	P	PKPbc	22 06 05.4	+0.1	
ZIMR		148.14	269	⇓	PKP2	PKPbc	22 06 05.4	+0.1	
SULR		148.22	272	⇑	P	PKPbc	22 06 05.5	0.0	
PKME	Peaks-Kenny Pk	148.29	87		P	PKiKP	22 06 06.7	-0.6	
	baz=235								
VAY	Valandovo	148.32	264	*i*	P	PKPbc	22 06 04.2	-1.6	
GHRR		148.34	275	⇑	P	PKPbc	22 06 06.1	+0.3	
PANC	Panciu	148.38	274	⇑	P	PKPbc	22 06 06.1	+0.2	
VASR	Vaslui	148.43	276	⇑	P	PKPbc	22 06 05.7	-0.3	
COPA	Copaceanca	148.51	270	⇓	P	PKPbc	22 06 06.6	+0.3	
VRI	Vrincioaia	148.62	274	⇑	P	PKPbc	22 06 06.6	0.0	
VRI	Vrincioaia	148.62	274	⇑	PKP2	PKPbc	22 06 06.6	0.0	
NEHR	Nehoiu	148.63	273	⇓	P	PKPbc	22 06 06.0	-0.6	
PLOR	Plostina	148.66	274	⇓	P	PKPbc	22 06 06.2	-0.5	
PLOR	Plostina	148.66	274	⇑	PKP2	PKPbc	22 06 06.2	-0.5	
STIP	Stip	148.78	264	*i*	P	PKPbc	22 06 07.1	+0.1	
IAS	Iasi	148.87	277	⇑	P	PKPbc	22 06 06.8	-0.3	
IAS	Iasi	148.87	277	⇑	PKP2	PKPbc	22 06 06.8	-0.3	
MLR	Muntele Rosu	148.87	273	⇑	P	PKPbc	22 06 06.2	-1.2	
MLR	Muntele Rosu	148.87	273		PP	PP	22 09 36.8	-2.0	
	comp=Z,41nm,1.3s,baz=156,slow=18,SNR=3.8								
MLR	Muntele Rosu	148.87	273		IAMs_20	IAMs_20	23 07 58.4		
	comp=Z,2µm,22.0s								
MLR	Muntele Rosu	148.87	273	⇑	PKP2	PKPbc	22 06 06.2	-1.2	
HUMR	Humele	148.88	270	⇑	P	PKPbc	22 06 06.7	-0.5	
VLAD	Vladila	148.90	269	⇑	P	PKPbc	22 06 06.6	-0.6	
COVR	Voineasa-Covas	148.92	274	⇓	P	PKPbc	22 06 06.1	-1.2	
TESR	Tescani	149.03	275	⇑	P	PKPdf	22 06 03.7	+0.3	
OHR	Ohrid	149.20	262	*i*	P	PKPbc	22 06 07.5	-0.7	
OZUR		149.30	274	⇑	P	PKPbc	22 06 06.7	-1.6	
GIRR	Girov	149.35	276		P	PKPbc	22 06 07.6	-0.7	
SKO	Skopje	149.38	263	*i*	P	PKPbc	22 06 07.3	-1.2	
DOPR	Dopca	149.46	273	⇑	P	PKPbc	22 06 07.9	-0.8	
BAIL	Bailesti	149.53	268	⇑	P	PKPbc	22 06 09.2	+0.3	
VLO	Vlora	149.53	259			PKiKP	22 06 10.7	+0.7	
VLO					PKPab	pPKPab	22 06 17.5	+0.1	
VLO	Vlora	149.53	259		PKP2	PKiKP	22 06 10.7	+0.7	
ARR	Arges	149.56	272	⇑	P	PKPbc	22 06 07.6	-1.4	
AKASG	Malin Array Be	149.65	284		PKPbc	PKPbc	22 06 07.8	-1.1	
	comp=Z,40nm,0.9s,baz=81,slow=2.6,SNR=24								
AKASG	Malin Array Be	149.65	284		PKPbc	PKiKP	22 06 09.7	-0.2	
AKASG						PKPab	22 06 15.8	+1.6	
BLKB	Belogradchik	149.68	267	⇑	P	PKPdf	22 06 05.7	+1.1	
SCTE	Santa Cesarea	149.85	258			PKPdf	22 06 04.3	-0.6	
SCTE					PKPbc	PKiKP	22 06 11.7	+1.0	
PUNG	Punghina	149.92	268	⇓	P	PKPbc	22 06 09.9	+0.1	
SRE	Strehaia	149.99	269	⇓	P	PKPbc	22 06 09.3	-0.7	
SRE	Strehaia	149.99	269	⇓	PKP2	PKPbc	22 06 09.3	-0.7	
CEL	Celeste	150.05	252		PKPab	PKPab	22 06 18.5	+2.2	
CEL					IAMs_20	IAMs_20	23 07 30.0		
	comp=Z,2µm,22.0s								
BOVS	Bovan	150.25	266	⇑	P	PKPbc	22 06 09.7	-0.9	
BURAR	Bucovina Array	150.44	276	⇑	P	PKPbc	22 06 11.1	0.0	
BURAR	Bucovina Array	150.44	276		PKPbc	PKiKP	22 06 12.0	+0.1	
BURAR	Bucovina Array	150.44	276	⇑	PKIKP	PKPbc	22 06 11.1	0.0	
BUR08	Bucovina Ar. S	150.47	276		PKPbc	PKiKP	22 06 13.6	+1.7	
HERR	Herculane	150.57	269	⇑	P	PKPbc	22 06 10.5	-0.9	
GZR	Gura Zlata	150.66	270	⇑	P	PKPdf	22 06 07.3	+1.2	
GZR	Gura Zlata	150.66	270	⇑	PKIKP	PKPdf	22 06 07.3	+1.2	
ARCR	ARCALIA	150.66	274	⇓	P	PKPbc	22 06 11.7	+0.2	
DEV	Deva	150.86	271	⇑	P	PKPbc	22 06 10.7	-1.3	
DEV	Deva	150.86	271	⇑	PKIKP	PKPbc	22 06 10.7	-1.3	
CJR	Cluj-Napoca	150.90	273	⇑	P	PKPbc	22 06 12.2	0.0	
CJR	Cluj-Napoca	150.90	273	⇑	PKIKP	PKPbc	22 06 12.2	0.0	
MDVR	Moldovita	150.93	268	⇓	P	PKPbc	22 06 11.1	-1.1	
PDG	Podgorica	150.93	262	⇑	P	PKPbc	22 06 11.3	-0.9	
PDG	Podgorica	150.93	262		PKPab	PKPab	22 06 20.2	+0.5	
LVZ	Lovozero	151.18	319			PKPbc	22 06 11.0	-1.1	
LVZ	Lovozero	151.18	319		PKIKP	PKPbc	22 06 11.0	-1.1	
MATE	Matera	151.24	257		P	PKPbc	22 06 12.5	-0.5	
BZS	Buzias	151.46	270	⇑	P	PKPdf	22 06 06.8	-0.5	
BZS	Buzias	151.46	270	⇑	PKIKP	PKPdf	22 06 06.8	-0.5	
DRGR		151.46	272	⇑	P	PKPdf	22 06 08.9	+1.6	
DRGR		151.46	272	⇑	PKIKP	PKPdf	22 06 08.9	+1.6	
BMR	Baia Mare	151.47	275	⇑	P	PKPbc	22 06 11.2	-2.1	
BMR	Baia Mare	151.47	275	⇑	PKIKP	PKPbc	22 06 11.2	-2.1	
MESR	Meseseni	151.51	273	⇑	P	PKPbc	22 06 13.6	+0.1	
APA	Apatity	151.65	319	⇑	PKIKP	PKPbc	22 06 10.9	-2.2	
APA					*i*		22 06 20.4		
APA					*i*		22 09 52.0		
APA					*i* PPP	PPP	22 13 19.0		
APA					*i* PPS	PPS	22 22 48.0		
APA					pmax	pmax			
	comp=Z,60nm,1.0s								
APA					pmax	pmax			
	comp=Z,46nm,1.1s								
APA					MLR	MLR			
	comp=Z,2µm,23.0s								
KEST	Kesra	151.66	241		PKP	PKPdf	22 06 07.1	-0.9	
	comp=Z,17nm,1.1s,baz=190,slow=2.6,SNR=6.8								
KEST					PKPbc	sPKPdf	22 06 13.6	+0.9	
	comp=Z,54nm,1.0s,baz=196,slow=1.1,SNR=8.4								
MNK	Minsk	151.95	290	*i*	PKIKP	PKPdf	22 06 07.3	-0.3	
MNK				*i*			22 06 14.9		
MNK				*i*			22 09 55.5		
MNK				*i*			22 13 11.4		
MNK				*i*	SS	SS	22 29 20.7	-2.4	
MNK				*i*	SSS	SSS	22 35 06.6		
MNK					pmax	pmax			
	comp=Z,9.0nm,1.0s								
MNK					pmax	pmax			
	comp=E,1.0nm,1.1s								
MNK	Minsk	151.95	290	*i*	PKP	PKPdf	22 06 07.3	-0.3	
	comp=E,1.0nm,1.1s								
MNK				*i*	PKP	PKPdf	22 06 07.3	-0.3	
MNK				*i*	PKP	PKPdf	22 06 07.3	-0.3	
	comp=Z,9.0nm,1.1s,baz=111								
MNK				*i*	PKiKP	PKiKP	22 06 14.9	+0.4	
MNK				*i*	SKP		22 09 37.3		
MNK	

ARCES ARCESS Array B 154.35 324 PKPdf **PKPdf** 22 06 11.1 +0.3
ARCES PKPab **PKPab** **22 06 33.5 0.0**
ARCES ARCESS Array B 154.35 324 PKIKP **PKPdf** **22 06 11.1 +0.3**
ARCES 22 06 33.5
PABE Paberze 154.41 291 PKPab **PKPab** **22 06 36.3 +2.3**
PABE IAMs_20 IAMs_20 23 32 08.0
comp=Z,1μm,22.0s
PABE Paberze 154.41 291 *eP* **PKPdf** **22 06 12.8 +1.6**
FIA1 FINESS Array S 154.50 305 PKPab **PKPab** **22 06 35.3 +1.1**
FINES FINESS Array B 154.51 305 PKP **PKPdf** **22 06 10.5 -0.6**
comp=Z,1.2nm,0.6s,baz=40,slow=9.9,SNR=4.7
FINES PKPbc **PKPbc** **22 06 18.5 -1.1**
comp=Z,18nm,0.8s,baz=94,slow=3.3,SNR=55
FINES FINESS Array B 154.51 305 PKPab **PKPab** **22 06 35.5 +1.3**
FINES FINESS Array B 154.51 305 PKP2 **PKPab** **22 06 35.5 +1.3**
BJO1 Bjornoya 154.51 336 *e*PKPdf **PKPdf** **22 06 08.8 -2.0**
BJO1 *e*SKPdf **SKPdf** **22 09 44.4 +1.0**
BJO1 *e*SS **SS** **22 29 51.7 +1.7**
LANS Liptovska Anna 154.53 275 *e*PKIKP **PKiKP** **22 06 20.2 0.0**
LANS *e* 22 06 35.2
LANS Liptovska Anna 154.53 275 *e* **PKPab** **22 06 35.2 +0.4**
LANS Liptovska Anna 154.53 275 *e*PKP **PKiKP** **22 06 20.2 0.0**
VYHS Vyhne 154.58 273 *e*PKIKP **PKPdf** **22 06 12.4 +0.7**
VYHS *e* 22 06 20.3
VYHS Vyhne 154.58 273 *e*PKP **PKPdf** **22 06 12.4 +0.7**
VYHS *e* 22 06 20.3
VYHS *e* 22 06 35.7
HAMF Hammerfest 154.69 327 *e*PKPdf **PKPdf** **22 06 10.0 -1.1**
HAMF IVmB_BB 22 06 16.1
comp=Z,929nm,3.5s
HAMF *e*SS SS 22 29 56.4 +4.2
NEEM North Greenlan 154.70 15 *i* P PKPdf 22 06 03.6 -7.9
OJC Ojcow 154.82 277 *e*L L 23 28 03.6
comp=Z,1μm,22.6s
OJC Ojcow 154.82 277 *e*PKPc **PKPdf** **22 06 11.1 -0.9**
EGYH Egyhazaskeszo 154.92 269 PKP **PKiKP** **22 06 21.3 +0.3**
BEL Belsk 154.93 281 *e*PKP **PKPdf** **22 06 12.3 +0.2**
BEL *e*PP **PP** **22 10 13.1 0.0**
BEL *e*L L 23 24 53.9
comp=Z,2μm,29.2s
MEF Metsahovi 155.18 302 *e*P PKPdf 22 06 23.0 +11
MDT Midelt 155.23 215 PP **PP** **22 10 14.3 +0.1**
comp=Z,4.5nm,1.2s,baz=227,slow=9.5,SNR=3.6
MTSE Matsula 155.24 298 *e*P PKPdf 22 06 23.8 +12
KTK1 Kautokeino 155.25 323 *e*PKPdf **PKPdf** **22 06 11.2 -0.8**
KTK1 *e*PP **PP** **22 10 14.9 +0.5**
KTK1 *e*SS SS 22 30 01.1 +2.7
MODS Modra-Piesok 155.43 271 *e*PKIKP **PKPdf** **22 06 14.0 +1.1**
MODS Modra-Piesok 155.43 271 *e*PKP **PKPdf** **22 06 14.0 +1.1**
MODS *e* 22 06 39.2
JAVC Velka Javorina 155.44 273 *e*PP PP 22 10 16.2 +0.2
JAVC Velka Javorina 155.44 273 *e*PKP **PKPdf** **22 06 14.1 +1.1**
ZST Bratislava 155.45 271 *e*PKP2 **PKPab** **22 06 39.4 +0.7**
MAUC Maruska 155.58 274 *e*PKPAB **PKPab** **22 06 40.2 +0.9**
MAUC AMS AMS 23 30 40.0
comp=Z,2μm,20.5s
OKC Ostrava-Krasne 155.61 275 AMS AMS 23 31 20.0
comp=Z,2μm,19.6s
PBUR Paburge 155.66 291 *e*P PKPdf 22 06 22.4 +9.5
RONA Rosalia, Austr 155.67 269 *e*P **PKPdf** **22 06 14.5 +1.2**
comp=Z,7.5nm,1.2s
RONA *i* P **PKPab** **22 06 40.3 +0.6**
comp=Z,71nm,1.1s,SNR=6.2
PERS Pernice 155.79 266 *e*PKPdf **PKPdf** **22 06 13.6 +0.1**
PERS *e*PP **PP** **22 10 17.0 -1.0**
LJU Ljubljana 155.81 264 *e*PKPdf **PKPdf** **22 06 14.0 +0.5**
LJU *e*PP **PP** **22 10 16.7 -1.3**
SOKA Soboth 155.87 266 *e*P **PKPdf** **22 06 12.5 -1.1**
comp=Z,16nm,1.3s
SOKA *e*P **pPKPab** **22 06 43.1 -0.9**
comp=Z,50nm,1.2s
ARSA Arzberg 155.88 268 *e*P **PKPdf** **22 06 14.4 +0.8**
comp=Z,14nm,1.6s
ARSA *i* P **PKPab** **22 06 40.6 0.0**
comp=Z,87nm,1.2s,SNR=8.7
MORC Moravsky Berou 155.94 275 ⇑P **PKPdf** **22 06 13.9 +0.3**
MORC Moravsky Berou 155.94 275 **PKPab** **22 06 41.9 +1.1**
MORC Moravsky Berou 155.94 275 *e*PP PP 22 10 16.2 -2.6
MORC Moravsky Berou 155.94 275 ⇑PKIKP **PKIPdf** **22 06 13.9 +0.3**
MORC Moravsky Berou 155.94 275 *e*PKP **PKPdf** **22 06 13.8 +0.2**
CRNS Crni Vrh 155.99 264 *e*PKPdf **PKPdf** **22 06 13.9 +0.1**
CRNS *e*PP **PP** **22 10 17.4 -1.7**
CONA Conrad Observa 156.03 269 *e*P **PKPdf** **22 06 14.2 +0.4**
comp=Z,7.6nm,1.3s
CONA *e*P **PKPab** **22 06 41.1 -0.3**
comp=Z,30nm,1.2s
IFR Ifrane 156.04 215 PKP **PKPdf** **22 06 13.7 -0.7**
IFR Ifrane 156.04 215 PP PP 22 10 20.8 +1.8
OBKA Obir 156.06 265 *e*P **PKPdf** **22 06 15.1 +1.1**
comp=Z,11nm,1.3s
OBKA *e*P **pPKPab** **22 06 43.9 -0.9**
comp=Z,30nm,1.2s
JETT Jettan, Norway 156.08 325 *e*PKPdf **PKPdf** **22 06 12.3 -0.8**
JETT *e*PP **PP** **22 10 20.3 +1.3**
VRAC Vranov 156.27 273 PKP **PKPdf** **22 06 12.7 -1.3**
comp=Z,3.1nm,1.0s,baz=213,slow=1.0,SNR=5.6
VRAC PKPab **PKPab** **22 06 40.3 -1.9**
comp=Z,17nm,1.1s,baz=159,slow=3.1,SNR=7.7
VRAC PP **PP** **22 10 21.1 +0.5**
comp=Z,1.0nm,0.5s,baz=131,slow=9.5,SNR=3.4
VRAC Vranov 156.27 273 *e*PP PP 22 10 17.6 -3.0
VRAC Vranov 156.27 273 *e*PKP **PKPdf** **22 06 14.0 0.0**
KRUC Moravsky 156.27 272 *e*PP PP 22 10 16.9 -3.7
KRUC Moravsky 156.27 272 *e*PKP **PKPdf** **22 06 13.7 -0.3**
KRLC Kraliky 156.51 275 *e*PKIKP **PKPdf** **22 06 14.1 -0.2**
KRLC MLR MLR
comp=Z,2μm,20.3s
KRLC Kraliky 156.51 275 *e*PKPDF **PKPdf** **22 06 14.1 -0.2**
KRLC *e*PKPAB **PKPab** **22 06 43.6 +0.3**
KRLC AMS AMS 23 30 10.0
comp=Z,2μm,20.3s
TRO Tromso 156.55 325 *e*PKPdf **PKPdf** **22 06 13.1 -0.5**
TRO IVmBBB 22 06 16.0
comp=Z,476nm,3.5s
TRO *e*PP **PP** **22 10 22.3 +0.8**
TRO *e*SS SS 22 30 16.3 +4.1
RAF Rauma 156.55 303 *e*P **PKPab** **22 06 38.1 -4.9**
AVE Averroes 156.56 210 PKP **PKPdf** **22 06 12.5 -2.3**
CHAS Isla Isabel II 156.57 222 PKP **PKPdf** **22 06 14.8 0.0**
CHAS Isla Isabel II 156.57 222 PP PP 22 10 23.8 +2.1
MYKA Terra Mystica 156.65 265 *e*P **PKPdf** **22 06 15.8 +1.2**
comp=Z,14nm,1.2s
MYKA *e*P **pPKPab** **22 06 45.8 -1.6**
comp=Z,59nm,1.7s
UPNV Upernavik 156.72 26 *i* P PKPdf 22 06 05.5 -8.4
WMELI Melilla 156.89 221 PKP **PKPdf** **22 06 16.4 +1.2**
WMELI Melilla 156.89 221 PP PP 22 10 24.6 +1.2
DPC Dobruska-Polom 156.89 275 *e*PKIKP **PKPdf** **22 06 16.1 +1.3**
DPC MLR MLR
comp=Z,2μm,20.7s
DPC Dobruska-Polom 156.89 275 *e*PKPDF **PKPdf** **22 06 16.1 +1.3**
DPC *e*PKPAB **PKPab** **22 06 44.8 -0.1**
DPC AMS AMS 23 30 00.0
comp=Z,2μm,20.7s
TREC Trest 156.91 272 AMS AMS 23 28 20.0
comp=Z,2μm,22.9s
MOA Molln 156.92 268 *e*P **PKPdf** **22 06 15.1 +0.2**
comp=Z,5.3nm,1.4s
MOA *e*P **PKPab** **22 06 44.2 -0.9**
comp=Z,39nm,1.6s
OSTC Ostas 157.04 275 *e*PKPDF **PKPdf** **22 06 16.3 +1.3**
OSTC *e*PKPAB **PKPab** **22 06 47.0 +1.5**
OSTC AMS AMS 23 30 10.0
comp=Z,2μm,21.4s
KBA Koelnbreinsper 157.06 265 *e*P **PKPdf** **22 06 15.5 +0.2**
comp=Z,7.7nm,1.4s
KBA *e*P **PKPab** **22 06 45.1 -0.8**
comp=Z,36nm,1.2s
KSP Ksiaz 157.12 276 *e*PKP **PKPdf** **22 06 15.1 0.0**
KSP *e*PP **PP** **22 10 26.5 +1.3**
KSP *e*L L 23 26 04.2
comp=Z,2μm,23.9s
UPC Upice 157.14 275 AMS AMS 23 30 20.0
comp=Z,2μm,18.5s
BIOA Bad Ischl, Aus 157.21 267 *e*P **PKPdf** **22 06 15.6 +0.3**
comp=Z,16nm,1.6s
BIOA *e*P **PKPab** **22 06 47.0 +0.7**
comp=Z,56nm,1.5s
PVLZ Peæn de 157.26 218 PKP **PKPdf** **22 06 14.9 -0.8**
PVLZ Peæn de 157.26 218 PP PP 22 10 24.4 -1.1
ABTA Abfaltersbach 157.36 264 *e*P **PKPdf** **22 06 16.5 +1.0**
comp=Z,12nm,1.3s
ABTA *e*P **PKPab** **22 06 46.6 -0.5**
comp=Z,42nm,1.2s

CKRC Cesky Krumlov 157.37 270 *e*PKPDF **PKPdf** **22 06 15.7 +0.3**
CKRC AMS AMS 23 25 20.0
comp=Z,2μm,22.5s
MAHO Mahon 157.43 240 PKP **PKPdf** **22 06 14.2 -1.6**
MAHO Mahon 157.43 240 PP PP 22 10 26.6 -0.1
MAHO Mahon 157.43 240 IAMs_20 IAMs_20 23 15 47.7
comp=Z,2μm,20.0s
GKP Gorka Klasztor 157.47 283 *i* PKPc **PKPdf** **22 06 15.3 0.0**
GKP *e*PP **PP** **22 10 27.7 +0.6**
GKP *e*L L 23 24 28.2
comp=Z,3μm,25.7s
GKP Gorka Klasztor 157.47 283 *e*P **PKPdf** **22 06 16.0 +0.7**
GOPC GO Pecny, Ondr 157.59 273 *e*PKP2 **PKPab** **22 06 48.5 +0.6**
GOPC MLR MLR
comp=Z,2μm,22.0s
GOPC GO Pecny, Ondr 157.59 273 *e*PKPAB **PKPab** **22 06 48.5 +0.6**
GOPC AMS AMS 23 28 20.0
comp=Z,2μm,22.0s
DAG Danmarks Havn 157.72 358 *i* P PKPdf 22 06 05.2 -10
GEC2 GERESS Array S 157.74 269 **PKPdf** **22 06 15.3 -0.7**
GEC2 **PKPab** **22 06 47.8 -0.9**
GERES GERESS Array B 157.74 269 PKP **PKPdf** **22 06 14.0 -2.0**
comp=Z,1.2nm,0.9s,baz=204,slow=2.9,SNR=11
GERES PKPab **PKPab** **22 06 47.9 -0.7**
comp=Z,17nm,1.1s,baz=145,slow=4.9,SNR=20
GERES PP **PP** **22 10 28.3 -0.6**
comp=Z,0.9nm,1.0s,baz=74,slow=5.3,SNR=1.8
GERES GERESS Array B 157.74 269 PKPab **PKPab** **22 06 48.7 0.0**
GERES GERESS Array B 157.74 269 PKP2 **PKPab** **22 06 48.7 0.0**
PRU Pruhonice 157.77 273 AMS AMS 23 29 20.0
comp=Z,2μm,22.1s
PMAR Madeira 157.91 190 *e*PKPdf **PKPdf** **22 06 20.9 +4.1**
PMAR Madeira 157.91 190 *e*PKPab **PKPab** **22 06 51.5 +1.7**
KHC Kasperske Hory 157.94 270 *e*PKIKP **PKPdf** **22 06 15.9 -0.3**
KHC *e* 22 06 48.0
KHC *e* 22 10 26.0
KHC MLR MLR
comp=Z,2μm,22.7s
KHC Kasperske Hory 157.94 270 *e*PKPDF **PKPdf** **22 06 15.9 -0.3**
KHC *e*PKPAB **PKPab** **22 06 48.0 -1.5**
KHC *ex* x 22 06 59.5
KHC *e*PP **PP** **22 10 26.0 -3.9**
KHC AMS AMS 23 28 20.0
comp=Z,2μm,22.7s
PVCC Panska Ves 157.99 274 *e*PKP2 **PKPab** **22 06 50.5 +0.9**
PVCC MLR MLR
comp=Z,1μm,19.6s
PVCC Panska Ves 157.99 274 *e*PKPAB **PKPab** **22 06 50.5 +0.9**
PVCC AMS AMS 23 31 10.0
comp=Z,1μm,19.6s
PMOZ Porto Moniz, M 158.03 189 *e*PKPdf **PKPdf** **22 06 18.8 +1.9**
PMOZ Porto Moniz, M 158.03 189 *e*PKPab **PKPab** **22 06 52.5 +2.2**
PMOZ Porto Moniz, M 158.03 189 *e*PP **PP** **22 10 30.5 +0.9**
PMOZ Porto Moniz, M 158.03 189 *e*LR LR 23 01 20.1
comp=Z,1μm,22.0s
CART Cartagena 158.05 227 PKP **PKPdf** **22 06 16.3 -0.3**
CART Cartagena 158.05 227 PP PP 22 10 33.5 +3.6
CART Cartagena 158.05 227 IAMs_20 IAMs_20 23 16 34.5
comp=Z,2μm,21.0s
WTTA Wattenberg 158.15 264 *e*P **PKPdf** **22 06 17.5 +0.8**
comp=Z,29nm,1.3s
WTTA *e*P **PKPab** **22 06 52.0 +1.5**
comp=Z,108nm,1.8s
NUUG Nuugaatsiaq 158.17 27 *i* P PKPdf 22 06 07.6 -8.0
PMPST Porto Santo, M 158.20 191 *e*PKPdf **PKPdf** **22 06 19.0 +2.0**
PMPST Porto Santo, M 158.20 191 *e*PKPab **PKPab** **22 06 53.1 +2.3**
WATA Walderalm 158.22 264 *e*P **PKPdf** **22 06 18.9 +2.2**
comp=Z,23nm,1.3s
WATA *i* P **PKPab** **22 06 52.3 +1.5**
comp=Z,67nm,1.4s,SNR=6.1
CEU Ceuta 158.29 217 PKP **PKPdf** **22 06 16.5 -0.4**
CEU Ceuta 158.29 217 PP PP 22 10 29.1 -2.0
SQTA Sankt Quirin 158.37 263 *e*P **PKPdf** **22 06 18.0 +1.1**
comp=Z,33nm,1.1s
SQTA *i* P **PKPab** **22 06 52.7 +1.2**
comp=Z,56nm,1.0s,SNR=5.5
STEI Steigen 158.38 322 *e*PKPdf **PKPdf** **22 06 14.3 -1.7**
STEI *e*PP **PP** **22 10 30.2 -1.5**
BRG Berggiesshubel 158.49 275 ⇓ *e*PKPf 22 06 15.7
BRG Amp 22 06 19.1
comp=Z,19nm,1.4s
BRG PKPab **PKPab** **22 06 53.0 +1.3**
BRG Amp 22 06 54.4
comp=Z,56nm,1.2s
BRG *i* x x 22 06 59.1
BRG Amp 22 07 00.2
comp=Z,110nm,1.6s
BRG PP **PP** **22 10 32.1 -0.6**
BRG Amp 22 10 36.9
comp=Z,52nm,1.7s
BRG *ex* x 22 10 50.2
BRG Amp 22 10 52.8
comp=Z,19nm,1.5s
BRG *ex* x 22 11 32.7
BRG Amp 22 11 34.6
comp=Z,17nm,1.5s
BRG Berggiesshubel 158.49 275 PKP2 **PKPab** **22 06 53.0 +1.3**
BRG 22 10 32.1
BRG SS SS 22 30 34.0 -0.1
BRG pmax pmax
comp=Z,56nm,1.2s
BRG pmax pmax
comp=Z,110nm,1.6s
BRG pmax pmax
comp=Z,52nm,1.7s
BRG pmax pmax
comp=Z,19nm,1.5s
BRG pmax pmax
comp=Z,17nm,1.5s
BRG pmax pmax
comp=Z,3μm,22.2s
BRG MLR MLR
comp=N,1μm,25.9s
BRG MLR MLR
comp=E,761nm,20.7s
MOTA Moosalm 158.50 264 *e*P **PKPab** **22 06 52.7 +0.6**
comp=E,58nm,1.1s
FETA Feichten 158.54 263 *e*P **PKPdf** **22 06 18.2 +1.1**
comp=E,16nm,1.2s
FETA *i* P **PKPab** **22 06 52.7 +0.4**
comp=E,69nm,1.1s,SNR=6.4
FAUS Fauske 158.55 321 *e*PKPdf **PKPdf** **22 06 13.1 -3.1**
FAUS IVmBBB 22 06 21.2
comp=Z,814nm,3.5s
FAUS *e*PP **PP** **22 10 34.4 +1.9**
FAUS *e*SS SS 22 30 32.7 -1.0
FUORN Ofenpass-Fuorn 158.59 261 PKPab **PKPab** **22 06 53.0 +0.4**
RETA Reutte 158.77 264 *i* P **PKPab** **22 06 54.1 +0.9**
comp=Z,66nm,1.2s,SNR=7.4
DAVOX Davos/Dischmat 158.90 261 PKP **PKPdf** **22 06 16.7 -0.9**
comp=Z,0.9nm,0.5s,baz=73,slow=3.7,SNR=2.5
DAVOX PKPab **PKPab** **22 06 52.5 -1.4**
comp=Z,47nm,1.0s,baz=146,slow=5.9,SNR=19
DAVOX PP **PP** **22 10 35.0 -0.3**
comp=Z,1.3nm,0.7s,baz=139,slow=4.5,SNR=1.9
LOF Lofoten 158.91 324 *e*PKPdf **PKPdf** **22 06 16.6 -0.1**
LOF *e*PP **PP** **22 10 34.4 -0.1**
LOF *e*SS SS 22 30 38.3 +0.9
SFS San Fernando 159.09 216 PKP **PKPdf** **22 06 17.1 -0.7**
SFS San Fernando 159.09 216 PP PP 22 10 37.0 +1.6
NKC Novy Kostel 159.09 272 *e*PKP2 **PKPab** **22 06 54.7 +0.3**
NKC MLR MLR
comp=Z,2μm,22.9s
NKC Novy Kostel 159.09 272 *e*PKPAB **PKPab** **22 06 54.7 +0.3**
NKC AMS AMS 23 27 20.0
comp=Z,2μm,22.9s
DAVA Damuels 159.17 262 *e*P **PKPdf** **22 06 18.3 +0.5**
comp=Z,18nm,1.4s
DAVA *i* P **PKPab** **22 06 56.6 +1.5**
comp=Z,81nm,1.1s,SNR=9.7
RUE Ruedersdorf 159.18 279 *e*P **PKPab** **22 06 53.7 -0.9**
CLL Collm 159.21 275 *e*PKIKP **PKPdf** **22 06 16.0 -1.5**
CLL *i* 22 06 53.4
CLL *e* 22 10 36.0
CLL pmax pmax
comp=Z,57nm,2.1s
CLL pmax pmax
comp=Z,52nm,1.1s
CLL pmax pmax
comp=Z,58nm,1.6s
CLL MLR MLR
comp=Z,3μm,22.0s
CLL Collm 159.21 275 *e*PKPdf **PKPdf** **22 06 16.0 -1.5**
comp=Z,57nm,2.1s
CLL *ex* x 22 06 22.0

CLL *i* PKPab **PKPab** **22 06 53.4 -1.4**
comp=Z,52nm,1.1s
CLL *e*pPKPab **sPKPab** **22 07 00.0 +0.6**
CLL *e*PP **PP** **22 10 36.0 -0.7**
comp=Z,58nm,1.6s
CLL *e*PPP PPP 22 14 17.0
CLL *e*PPPP 22 16 42.0
CLL *e*SKKSac SKKSac 22 17 36.0 +12
CLL *ex* x 22 19 18.0
CLL *e*PSKS 22 20 54.0
CLL *e*PPS PPS 22 23 54.0
CLL *ex* x 22 25 42.0
CLL *e*SS **SS** **22 30 41.0 -0.7**
CLL *e*PSS PSS 22 31 36.0
CLL *ex* x 22 32 42.0
CLL *e*(SSS) 22 36 30.0
CLL *ex* x 22 38 42.0
CLL *e*SSSS 22 41 00.0
CLL LmV 23 27 00.0
comp=Z,3μm,22.0s
CLL LmH 23 29 00.0
comp=Z,3μm,21.9s
MOR8 Moi Rana 159.24 318 *e*PKPdf PKPdf 22 06 07.4 -10
MOR8 *e*SS SS 22 30 43.2 +2.0
BSD Bornholm Skovb 159.30 286 *e*P **PKPdf** **22 06 22.8 +5.4**
BSD Bornholm Skovb 159.30 286 *i* P **PKPdf** **22 06 10.1 -7.3**
GRFO Grafenberg 159.57 270 PKPab **PKPab** **22 06 56.6 +0.1**
GRFO Grafenberg 159.57 270 PKP2 **PKPab** **22 06 56.6 +0.1**
ILULI Ilulissat 160.04 31 *i* P PKPdf 22 06 08.6 -9.3
PVAQ Vaqueiros 160.45 214 *e*PKPdf **PKPdf** **22 06 22.1 +2.7**
PVAQ Vaqueiros 160.45 214 *e*PKPab **PKPab** **22 07 01.8 +1.3**
PVAQ Vaqueiros 160.45 214 *e*PP **PP** **22 10 47.3 +4.5**
PVAQ Vaqueiros 160.45 214 *e*LR LR 23 02 34.5
comp=Z,2μm,22.0s
HFS Hagfors 160.51 301 PKPab **PKPab** **22 06 59.6 -0.6**
comp=Z,40nm,0.9s,baz=102,slow=3.6,SNR=30
HFS PP **PP** **22 10 42.1 -1.4**
comp=Z,2.7nm,0.9s,baz=65,slow=8.1,SNR=1.5
PFVI Vila Bisbo 160.54 211 *e*PKPdf **PKPdf** **22 06 20.7 +1.2**
PFVI Vila Bisbo 160.54 211 *e*PKPab **PKPab** **22 07 05.1 +4.2**
SUMG Summit 160.56 15 *i* P PKPdf 22 06 10.4 -8.5
MORF Marmelete 160.65 212 *e*PKPdf **PKPdf** **22 06 19.6 -0.1**
MORF IAMs_20 IAMs_20 23 26 51.2
comp=Z,4μm,23.5s
MORF Marmelete 160.65 212 *e*PKPdf **PKPdf** **22 06 19.9 +0.2**
MORF Marmelete 160.65 212 *e*PKPab **PKPab** **22 07 05.7 +4.2**
MORF Marmelete 160.65 212 *e*PKIKP **PKPdf** **22 06 19.6 -0.1**
NSS Namsos 160.69 314 *e*PKPdf **PKPdf** **22 06 18.8 0.0**
PCVE Castro Verde 160.76 214 *e*PKPdf **PKPdf** **22 06 20.9 +1.2**
PCVE Castro Verde 160.76 214 *e*PKPab **PKPab** **22 07 02.3 +0.4**
COP Copenhagen 160.80 287 *i* P PKPdf 22 06 10.8 -8.4
PTEO Sao Teotonio 160.89 212 *e*PKPdf **PKPdf** **22 06 21.9 +2.0**
PBAR Barrancos 160.92 216 *e*PKPdf **PKPdf** **22 06 16.8 -3.1**
PBAR Barrancos 160.92 216 *e*PKPab **PKPab** **22 07 03.3 +0.8**
MESJ Messejana 161.01 213 *e*PKPdf **PKPdf** **22 06 19.9 -0.1**
MESJ IAMs_20 IAMs_20 23 23 06.9
comp=E,2μm,17.8s
MESJ Messejana 161.01 213 *e*PKPdf **PKPdf** **22 06 20.0 -0.1**
MESJ Messejana 161.01 213 *e*PKPab **PKPab** **22 07 07.8 +4.9**
MESJ Messejana 161.01 213 *e*PKIKP **PKPdf** **22 06 19.9 -0.1**
SSB Saint Sauveur 161.03 251 PKPdf **PKPdf** **22 06 20.8 +1.0**
SSB **PKPab** **22 07 03.0 0.0**
ESDC Sonseca Array 161.06 225 PKP **PKPdf** **22 06 18.3 -1.8**
comp=E,20nm,1.3s,baz=357,slow=0.8,SNR=21
ESDC PKPab **PKPab** **22 07 01.9 -1.4**
comp=E,7.5nm,1.0s,baz=163,slow=4.1,SNR=7.0
ESDC PP **PP** **22 10 45.8 -0.5**
comp=E,4.8nm,1.3s,baz=141,slow=4.9,SNR=2.4
PBEJ Beja 161.06 214 *e*PKPdf **PKPdf** **22 06 22.0 +1.9**
PBEJ Beja 161.06 214 *e*PKPab **PKPab** **22 07 04.7 +1.5**
PAB San Pablo 161.10 224 PKPdf **PKPdf** **22 06 20.4 +0.2**
PAB San Pablo 161.10 224 PKIKP **PKPdf** **22 06 20.4 +0.2**
UCM Universidad Co 161.28 228 PKP **PKPdf** **22 06 19.4 -0.8**
UCM Universidad Co 161.28 228 PP PP 22 10 53.1 +5.5
SFJD Kangerlussuaq 161.30 37 *i* P PKPdf 22 06 10.1 -9.2
PNCL Nicolau / Gran 161.35 213 *e*PKPdf **PKPdf** **22 06 21.4 +1.1**
PNCL Nicolau / Gran 161.35 213 *e*PKPab **PKPab** **22 07 10.7 +6.3**
NC602 NORSAR Array S 161.55 303 *e*PKPdf **PKPdf** **22 06 20.2 +0.4**
NC602 IVmB_BB 22 06 25.4
comp=Z,608nm,4.9s
NC602 *e*PP **PP** **22 10 49.2 +0.2**
EVO Evora 161.57 215 PKP **PKPdf** **22 06 19.5 -1.1**
EVO Evora 161.57 215 PP PP 22 10 48.5 -0.3
EVO Evora 161.57 215 *e*PKPdf **PKPdf** **22 06 21.5 +0.9**
EVO Evora 161.57 215 *e*PKPab **PKPab** **22 07 07.2 +1.8**
NB2 NORSAR Subarra 161.68 304 PKP **PKPab** **22 07 02.5 -2.9**
comp=Z,102nm,1.4s,baz=84,slow=4.4
NB2 NORSAR Subarra 161.68 304 *e* **PKPab** **22 07 02.5 -2.9**
baz=84,slow=4.4
NOA NORSAR Array B 161.68 304 PKP **PKPdf** **22 06 16.8 -3.2**
comp=Z,4.4nm,1.1s,baz=85,slow=1.1,SNR=8.6
NOA PKPab **PKPab** **22 07 04.3 -1.1**
comp=Z,15nm,1.0s,baz=80,slow=4.5,SNR=12
NOA PP **PP** **22 10 47.6 -2.2**
comp=Z,0.6nm,0.9s,baz=88,slow=6.7,SNR=2.0
PESTR Estremoz 161.73 216 *e*PKPdf **PKPdf** **22 06 21.5 +0.7**
PESTR Estremoz 161.73 216 *e*PKPab **PKPab** **22 07 08.0 +1.9**
TBLU Trondheim 161.74 311 *e*PKPdf **PKPdf** **22 06 21.0 +1.1**
TBLU *e*PP **PP** **22 10 49.2 -0.7**
TBLU *e*SS SS 22 31 09.2 +1.6
OSL Oslo 162.01 300 *e*PKPdf **PKPdf** **22 06 20.6 +0.4**
PACT Alcochete 162.05 213 *e*PKPdf **PKPdf** **22 06 23.0 +2.0**
PACT Alcochete 162.05 213 *e*PKPab **PKPab** **22 07 11.7 +4.3**
LIS Lisbon 162.10 212 *e*PKPdf **PKPdf** **22 06 21.1 0.0**
LIS IAMs_20 IAMs_20 23 22 47.7
comp=E,9μm,41.9s
LIS Lisbon 162.10 212 *e*PKIKP **PKPdf** **22 06 21.1 0.0**
PMTG Montargil 162.12 215 *e*PKPdf **PKPdf** **22 06 21.5 +0.4**
PMTG Montargil 162.12 215 *e*PKPab **PKPab** **22 07 09.8 +2.0**
PMST Lisbon--Monsan 162.13 212 *e*PKPdf **PKPdf** **22 06 22.0 +0.9**
PMRV Marv??o 162.16 217 *e*PKPdf **PKPdf** **22 06 21.6 +0.4**
PMRV Marv??o 162.16 217 *e*PKPab **PKPab** **22 07 07.5 -0.5**
PMRV Marv??o 162.16 217 *e*PP **PP** **22 10 52.9 +0.9**
PMRV Marv??o 162.16 217 *e*LR LR 23 09 37.6
comp=E,2μm,18.0s
WLF Walferdange 162.50 265 *d*PKPab **PKPab** **22 07 09.7 +0.4**
DOMB Dombas 162.54 307 *e*PKPdf **PKPdf** **22 06 16.7 -4.1**
DOMB IVmB_BB 22 06 20.9
comp=Z,660nm,3.7s
DOMB *e*PP **PP** **22 10 51.1 -3.3**
DOMB *e*SKSdf **SKSdf** **22 13 25.0 +0.1**
DOMB *e*SS **SS** **22 31 19.4 +3.2**
PCBR Castelo Branco 162.56 218 *e*PKPdf **PKPdf** **22 06 22.0 +0.5**
PCBR Castelo Branco 162.56 218 *e*PKPab **PKPab** **22 07 11.0 +1.3**
KONO Kongsberg 162.59 299 PKPdf **PKPdf** **22 06 20.8 -0.1**
KONO **PKPab** **22 07 09.8 +0.4**
KONO Kongsberg 162.59 299 *e*PKPdf **PKPdf** **22 06 21.3 +0.5**
KONO IVmB_BB 22 06 24.9
comp=Z,583nm,4.5s
KONO *e*PP **PP** **22 10 55.0 +0.4**
KONO *e*SS SS 22 31 19.0 +2.2
MUD Monsted U'grnd 162.72 289 *i* P **PKPdf** **22 06 13.9 -7.2**
GOET G??ttrup 162.75 291 *i* P **PKPdf** **22 06 13.6 -7.5**
BHOU Houvegnez 162.89 267 *d*PKPdf **PKPdf** **22 06 20.6 -0.9**
BHOU *d*PKPab **PKPab** **22 07 09.8 -1.2**
BTNL Ternell 162.91 268 *d*PKP **PKPdf** **22 06 25.0 +3.4**
BTNL *d*PKPab **PKPab** **22 07 12.5 +1.4**
MTE Manteigas 163.07 219 *e*PKPdf **PKPdf** **22 06 23.2 +1.1**
MTE Manteigas 163.07 219 *e*PKPab **PKPab** **22 07 13.4 +1.4**
MTE Manteigas 163.07 219 *e*PP **PP** **22 11 04.3 +7.3**
MTE Manteigas 163.07 219 *e*LR LR 23 05 39.6
comp=Z,2μm,20.0s
PCAS Casmilo, Conde 163.10 216 *e*PKPdf **PKPdf** **22 06 23.1 +1.0**
PCAS Casmilo, Conde 163.10 216 *e*PKPab **PKPab** **22 07 13.9 +1.8**
MOL Molde 163.11 310 *e*PKPdf **PKPdf** **22 06 21.6 +0.3**
MOL *e*PP **PP** **22 10 57.8 +0.6**
SKAR Skarslia 163.13 303 *e*PKPdf **PKPdf** **22 06 21.2 -0.3**
SKAR *e*PKPab **PKPab** **22 07 12.7 +0.9**
SKAR IVmB_BB 22 07 17.9
comp=Z,788nm,3.4s
SKAR *e*PP **PP** **22 10 59.1 +1.6**
SKAR *e*SS SS 22 31 25.7 +3.2
HOMB Homborsund 163.20 295 *e*PKPdf **PKPdf** **22 06 21.2 -0.3**
HOMB IVmBBB 22 06 23.9
comp=Z,923nm,5.0s
HOMB *e*PP **PP** **22 10 56.2 -1.7**
HOMB *e*SS SS 22 31 23.6 +0.5
ICESG Greenland Ices 163.20 23 *i* P PKPdf 22 06 12.0 -10
RCHB Rochefort 163.26 265 *d*PKPdf **PKPdf** **22 06 22.3 +0.5**
RCHB *d*PKPab **PKPab** **22 07 11.9 -0.7**
BCLA Clavier 163.33 266 *d*PKPab **PKPab** **22 07 12.7 -0.2**
AKN Aaknes 163.46 309 *e*PKPdf **PKPdf** **22 06 22.0 +0.3**

AKN				IVmBBB		22 06 24.2		
	comp=Z,1μm,4.1s							
AKN				*e*PP	**PP**	**22 10 57.3**	**-1.9**	
AKN				*e*SS	SS	22 31 27.0	+1.3	
PVIS	**Viseu**	**163.48 218**		*e*PKPdf	**PKPdf**	**22 06 23.3**	**+0.8**	
PVIS	**Viseu**	**163.48 218**		*e*PKPab	**PKPab**	**22 07 14.2**	**+0.4**	
MVO	**Moncorvo**	**163.55 221**		*e*PKPdf	**PKPdf**	**22 06 23.4**	**+0.9**	
MVO	**Moncorvo**	**163.55 221**		*e*PKPab	**PKPab**	**22 07 16.2**	**+2.1**	
MVO	**Moncorvo**	**163.55 221**		*e*PP	**PP**	**22 11 03.2**	**+3.7**	
MVO	**Moncorvo**	**163.55 221**		*e*LR	LR	23 07 17.7		
	comp=Z,2μm,20.0s							
BMRD	**Maredsous**	**163.59 266**		*d*PKPab	**PKPab**	**22 07 13.3**	**-0.7**	
DOU	**Dourbes**	**163.60 265**		*d*PKPdf	**PKPdf**	**22 06 22.7**	**+0.5**	
DOU				*d*PKiKP	**sPKPdf**	**22 06 28.4**	**+1.6**	
DOU				*d*PKPab	**PKPab**	**22 07 13.0**	**-1.1**	
CLF	**Chambon-Foret**	**163.92 256**		PKPdf	**PKPdf**	**22 06 22.1**	**-0.5**	
CLF					**PKPab**	**22 07 15.7**	**+0.2**	
PBRG	**Braganca**	**163.98 223**		*e*PKPdf	**PKPdf**	**22 06 24.9**	**+2.0**	
PBRG	**Braganca**	**163.98 223**		*e*PKPab	**PKPab**	**22 07 18.9**	**+2.9**	
POLO	**Lamas de Olo**	**164.01 220**		*e*PKPdf	**PKPdf**	**22 06 23.6**	**+0.6**	
POLO	**Lamas de Olo**	**164.01 220**		*e*PKPab	**PKPab**	**22 07 17.7**	**+1.5**	
SCO	**Scoresbysund**	**164.06 1**		*i* P	PKPdf	22 06 12.0	-10	
HYA	**Hoyanger**	**164.07 305**		*e*PKPdf	**PKPdf**	**22 06 22.8**	**+0.6**	
BLS5	**Blasjo**	**164.21 299**		*e*PKPdf	**PKPdf**	**22 06 19.3**	**-3.2**	
BLS5				IVmB_BB		22 06 22.3		
	comp=Z,771nm,3.0s							
BLS5				*e*PP	**PP**	**22 11 06.2**	**+3.0**	
BLS5				*e*SS	SS	22 31 35.4	+1.9	
PCAB	**Cabril**	**164.39 220**		*e*PKPdf	**PKPdf**	**22 06 23.3**	**0.0**	
FOO	**Floro**	**164.50 307**		*e*PKPdf	**PKPdf**	**22 06 19.0**	**-3.6**	
FOO				*e*PP	**PP**	**22 11 04.3**	**-0.3**	
FOO				*e*SS	SS	22 31 37.7	+1.5	
BER	**Bergen**	**164.63 303**		*e*PKPdf	**PKPdf**	**22 06 19.4**	**-3.3**	
BER				IVmBBB		22 06 22.4		
	comp=Z,999nm,4.1s							
BER				*e*PP	**PP**	**22 11 07.3**	**+1.9**	
BER				*e*SS	SS	22 31 40.0	+2.3	
ASK	**Askoy**	**164.68 303**		*e*PKPdf	**PKPdf**	**22 06 22.5**	**-0.3**	
ASK				*e*PP	**PP**	**22 11 04.0**	**-1.6**	
PGAV	**Gavieira, Arco**	**164.71 220**		*e*PKPdf	**PKPdf**	**22 06 24.7**	**+1.1**	
PGAV	**Gavieira, Arco**	**164.71 220**		*e*PP	**PP**	**22 11 12.9**	**+7.3**	
PGAV	**Gavieira, Arco**	**164.71 220**		*e*LR	LR	23 10 39.2		
	comp=Z,2μm,20.0s							
ANGG	**Ammassalik, Gr**	**166.34 30**		*i* P	PKPdf	22 06 14.5	-9.5	
EKA	**Eskdalemuir Ar**	**169.55 281**		PKPab	**PKPab**	**22 07 39.4**	**-0.9**	
	comp=Z,10.0nm,0.9s,baz=103,slow=6.9,SNR=12							

*IDC **08** 21:56:15.4±5.0, 27.°56N×129.°83E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=214.7km s-min=30.6km az=63.0*
*JMA **08** 21:56:22.5±0.1, 27.°0N±0.°3×130.°3E±0.°4, h61km, MV3.3/21, NEAR MINAMI-DAITOJIMA IS*
ISC 08 21:56:20.8±2.0, 27.°00N±0.°04×130.°32E±0.°04, h13km±14km, n20, σ0.°94/34, mb3.9/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.35**	**347**	*e*P	**Pg**	**21 56 46.4**	**-0.3**
JZK				S	**Sn**	**21 57 03.4**	**+0.2**
JKDJ	**Kitadaitoujima**	**1.36**	**140**	P	**Pn**	**21 56 45.6**	**+0.1**
JKDJ				S	**Sn**	**21 57 02.8**	**-0.7**
JMZ	**Minamidaito 2**	**1.42**	**145**	P	**Pn**	**21 56 46.1**	**-0.3**
JMZ				S	**Sn**	**21 57 03.5**	**-1.5**
JTK	**Tokunoshima**	**1.45**	**303**	P	**Pn**	**21 56 47.1**	**+0.2**
JTK				S	**Sn**	**21 57 05.4**	**-0.3**
JAM	**Amami Oshima**	**1.55**	**336**	P	**Pn**	**21 56 48.5**	**+0.4**
JAM				S	**Sn**	**21 57 07.5**	**-0.6**
JOKE	**Okinoerabujima**	**1.60**	**284**	P	**Pn**	**21 56 49.2**	**+0.3**
JOKE				*e*S	**Sn**	**21 57 08.7**	**-0.8**
JAMN	**Amaminishikomi**	**1.61**	**321**	P	**Pn**	**21 56 49.1**	**+0.1**
JAMN				S	**Sn**	**21 57 08.3**	**-1.3**
JYRO	**Yoronjima**	**1.67**	**271**	P	**Pn**	**21 56 50.0**	**+0.2**
JYRO				S	**Sn**	**21 57 09.8**	**-1.3**
JOW	**Kunigami**	**1.84**	**265**	P	**Pn**	**21 56 52.2**	**+0.1**
JOW				S	**Sn**	**21 57 14.2**	**-1.0**
JIH	**Iheya**	**2.10**	**272**	P	**Pn**	**21 56 56.3**	**+0.6**
JIH				S	**Sn**	**21 57 21.4**	**-0.4**
JNTH	**Nagotoyohara**	**2.11**	**257**	P	**Pn**	**21 56 55.8**	**0.0**
JNTH				S	**Sn**	**21 57 20.1**	**-1.9**
JTAJ	**Takarajima**	**2.37**	**336**	P	**Pn**	**21 56 59.6**	**+0.3**
JTAJ				S	**Sn**	**21 57 26.1**	**-2.2**
JJT3	**Tamagusuku3**	**2.43**	**250**	P	**Pn**	**21 57 00.7**	**+0.4**
JJT3				S	**Sn**	**21 57 28.9**	**-0.9**
JAGN	**Aguni-jima**	**2.78**	**262**	P	**Pn**	**21 57 05.5**	**+0.4**
JAGN				S	**Sn**	**21 57 37.5**	**-1.1**
JKE	**Kume jima 2**	**3.23**	**259**	P	**Pn**	**21 57 11.2**	**-0.2**
JKE				S	**Sn**	**21 57 48.6**	**-1.1**
JYAK	**Yakushimahirau**	**3.23**	**3**	S	**Sn**	**21 57 48.1**	**-1.6**
MKAR	**Makanchi Array**	**42.44**	**311**	P	P	22 04 06.1	-9.2
	0.5nm,0.7s,baz=105,slow=9.0,SNR=1.5 0.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**45.06**	**186**	P	**P**	**22 04 37.5**	**+0.9**
	2.6nm,0.9s,baz=339,slow=8.6,SNR=1.1 2.6nm,0.9s						
WRA	**Warramunga Arr**	**46.82**	**175**	P	**P**	**22 04 51.5**	**+0.9**
	1.1nm,0.6s,baz=354,slow=8.4,SNR=12 1.1nm,0.6s						
ASAR	**Alice Springs**	**50.48**	**176**	P	**P**	**22 05 19.6**	**+0.9**
	0.7nm,0.7s,baz=4.8,slow=14,SNR=12 0.7nm,0.7s						

*GCG **08** 21:57:39.0±0.3, 13.°98N×91.°19W, h50km±26km, MD3.0*
SNET 08 21:57:34.3±0.9, 13.°57N×91.°24W, h46km±114km, ML3.2, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.95**	**24**	*e*P	Pn	21 57 51.7	+0.2
RTAL	**Retalhuleu**	**1.04**	**335**	*e*P	Pn	21 57 52.4	-0.2
NBG	**Las Nubes**	**1.33**	**41**	*e*P	Pn	21 57 57.9	+1.2
NBG				*e*S	Sn	21 58 12.6	-0.8
RTR	**El Retiro**	**1.58**	**78**	*e*P	Pn	21 58 00.7	+0.6
MTO3	**Montecristo**	**2.00**	**66**	*e*P	Pn	21 58 06.0	+0.1
MTO3				IAML		21 58 07.5	
	comp=Z,160nm,0.3s						
MTO3				*e*S	Sn	21 58 32.0	+2.2
ESQI	**Esquipulas**	**2.09**	**62**	*e*P	Pn	21 58 07.2	+0.2
LFRS	**El Faro**	**2.12**	**88**	*e*P	Pn	21 58 08.3	+0.9
LFRS				*e*S	Sn	21 58 33.4	+0.9
MRL	**Marmol**	**2.13**	**45**	*e*P	Pn	21 58 08.8	+1.2

ROM 08 22:04:04.7±0.2, 42.°801N×0.°007×13.°23E±0.°01, h10km, ML1.1/1, 1C, Error ellipse: s-maj=0.9km s-min=0.8km az=305.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**326**	P	Pg	22 04 06.8	0.0
T1242				S	Sg	22 04 07.7	-0.4
T1242				AML	AML		
	comp=E,150μm,0.8s						
T1242				AML	AML		
	comp=N,164μm,1.3s						
T1242				AML	AML		
	comp=N,224μm,1.0s						
T1242				AML	AML		
	comp=E,206μm,0.6s						
T1202	**Accumoli, Fraz**	**0.10**	**183**	P	Pg	22 04 07.9	+0.6
MMO1	**Montemonaco**	**0.12**	**36**	P	Pg	22 04 08.2	+0.6
MMO1				S	Sg	22 04 10.4	+0.7
T1204	**Amatrice, Fraz**	**0.14**	**153**	P	Pg	22 04 08.7	+0.8
T1241	**Roccafluvione,**	**0.16**	**69**	P	Pg	22 04 08.9	+0.8
T1241				S	Sg	22 04 11.8	+1.2
SMA1	**SAN MARTINO**	**0.19**	**156**	P	Pg	22 04 09.3	+0.6
T1243	**Rocca Santa Ma**	**0.19**	**123**	P	Pg	22 04 09.3	+0.5
T1243				S	Sg	22 04 12.4	+0.8
FDMO	**Fiordimonte**	**0.26**	**336**	⇑P	Pb	22 04 10.9	-0.6
T1215	**Vallo di Nera,**	**0.27**	**270**	S	Sg	22 04 12.0	-1.8
TERO	**Teramo**	**0.33**	**123**	P	Pg	22 04 11.7	+0.5
TERO				S	Sb	22 04 16.9	-1.2

HEL 08 22:04:34.0±0.1, 67.°17N×20.°59E, h0km, ML1.0, ML0.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.05**	**188**	*i* P	Pg	22 04 34.8	-0.1
DUNU				*i* S	Sg	22 04 35.8	+0.3
MASU	**Masugnsbyn**	**0.62**	**62**	*i* P	Pg	22 04 44.7	-1.1
MASU				*i* S	Sg	22 04 53.2	-0.6
RATU	**Laukkuluspa**	**0.76**	**330**	*i* P	Pg	22 04 47.5	-1.0
KUA	**Kurravaara**	**0.79**	**353**	*i* P	Pg	22 04 48.3	-0.8
SALU	**Saltoluokta**	**0.83**	**286**	*i* P	Pg	22 04 49.1	-0.9
ERTU	**Ertsjaerv**	**0.89**	**134**	*e*P	Pg	22 04 49.7	-1.3
NIKU	**Nikkaluokta**	**0.92**	**320**	*e*P	Pg	22 04 50.7	-0.9
PAJU	**Pajala**	**1.00**	**97**	*e*P	Pg	22 04 51.5	-1.6
	baz=282						
PAJU				*e*SB	Sg	22 05 05.6	-0.5
HARU	**Harads**	**1.02**	**171**	*e*P	Pg	22 04 52.2	-1.3
LANU	**Lannavaara**	**1.03**	**31**	*e*P	Pg	22 04 52.5	-1.3
	baz=215						
KLF	**Kolari**	**1.32**	**86**	*e*P	Pg	22 04 57.7	-1.5
KLF				*e*SB	Sg	22 05 16.0	-0.3
HEF	**Hetta**	**1.71**	**42**	*e*PN	Pn	22 05 04.9	-0.1
	baz=225						
HEF				MSG		22 05 25.2	
	comp=Z,0.6nm,0.2s						
HEF				*e*SN	Sb	22 05 28.4	+0.2
SJUU	**Sjulsmark**	**1.72**	**166**	*e*P	Pn	22 05 04.3	-0.8
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*PG	Pb	22 05 07.9	-0.7
KIF				MSG		22 05 30.3	
	comp=Z,1.1nm,0.2s						
KIF				*e*SG	Sg	22 05 33.0	-0.2
TOF	**Tornio**	**1.85**	**125**	*e*PG	Pn	22 05 07.4	+0.5
TOF				MSG		22 05 29.0	
	comp=Z,0.7nm,0.2s						
TOF				*e*SG	Sb	22 05 32.8	+0.5
RNF	**Rovaniemi**	**2.21**	**102**	*e*PG	Pn	22 05 13.4	+1.4
RNF				*e*SG	Sb	22 05 42.5	-0.3
SGF	**Sodankyl**	**2.32**	**81**	*e*SG	Sb	22 05 46.0	+0.2
OBF8	**Ulkokalla**	**3.09**	**156**	*e*P	Pn	22 05 24.3	+0.4
KEV	**Kevo**	**3.51**	**39**	*e*SG	Sb	22 06 21.5	+1.4
VRF	**Varrio**	**3.52**	**76**	*e*SB	Sb	22 06 19.8	-0.6
MSF	**Maaselka**	**3.61**	**107**	*e*SG	Sb	22 06 25.4	+2.5
KU6	**Riekki**	**3.89**	**103**	*e*S	Sn	22 06 19.8	-1.3
VAF	**Ylistaro**	**4.24**	**167**	*e*S	Sn	22 06 26.5	-3.3

*ATH **08** 22:04:49.6, 39.°47N×26.°07E, h26km±5km, ML1.7/3, Error ellipse: s-maj=5.9km s-min=1.3km az=183.0*
*DDA **08** 22:04:49.1±0.0, 39.°50N×26.°11E, h14km, ML1.7*
ISK 08 22:04:48.9, 39.°52N×26.°08E, h9km, ML2.1/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.05**	**110**	P	Pg	22 04 51.9	+1.0
KOCA				*i* AML	AML	22 04 53.0	
	comp=N,512nm,0.2s						
KOCA				*i* AML	AML	22 04 53.0	
	comp=E,319nm,0.1s						
KOCA				S	Sg	22 04 53.7	+1.5
GPNR	**Gulpinar-Canak**	**0.08**	**146**	PG	Pg	22 04 51.7	+0.6
GPNR				SG	Sg	22 04 53.5	+0.9
PRK	**Paraskevi**	**0.31**	**151**	P	Pb	22 04 56.5	-0.1
PRK				S	Sb	22 05 00.8	-0.9
PRK				AML	AML	22 05 01.2	
	comp=N,413μm,0.2s						
PRK				AML	AML	22 05 01.2	
	comp=E,479μm,0.5s						
BOZC	**Bozcaada**	**0.32**	**357**	PG	Pg	22 04 56.0	+0.7
BOZC				SG	Sb	22 05 01.0	-1.1
BOZC	**Bozcaada**	**0.32**	**357**	P	Pb	22 04 56.2	-0.6
BOZC				*i* AML	AML	22 05 01.0	
	comp=E,103nm,0.4s						
BOZC				*i* AML	AML	22 05 01.0	
	comp=E,96nm,0.2s						
BOZC				S	Sb	22 05 01.4	-0.7
SIGR	**SIGRI**	**0.35**	**209**	PG	Pg	22 04 56.3	+0.4
SIGR				SG	Sb	22 05 01.8	-1.1
SIGR	**SIGRI**	**0.35**	**209**	P	Pg	22 04 56.2	+0.3
SIGR				S	Sg	22 05 01.4	+0.9
SIGR				AML	AML	22 05 01.9	
	comp=E,273μm,0.3s						
SIGR				AML	AML	22 05 02.3	
	comp=N,260μm,0.3s						
EZN	**Ezine**	**0.36**	**32**	PG	Pg	22 04 56.5	+0.5
EZN				SG	Sg	22 05 01.9	+1.1
AYVA	**Ayvalik**	**0.52**	**114**	P	Pg	22 04 59.2	+0.3
AYVA				S	Sg	22 05 06.3	+0.6
AYVA				*i* AML	AML	22 05 11.0	
	comp=N,47nm,0.2s						
AYVA				*i* AML	AML	22 05 13.0	
	comp=N,22nm,0.2s						
GADA	**Gukgeada**	**0.69**	**348**	PG	Pb	22 05 02.9	-0.1
DKL	**Dikili**	**0.78**	**125**	PG	Pb	22 05 04.5	-0.1
LIA	**Limnos Island**	**0.79**	**299**	P	Pb	22 05 04.9	+0.2
LIA				S	Sb	22 05 16.2	+0.7
GELI	**Tayfur-Gelibol**	**0.93**	**19**	PG	Pg	22 05 06.9	+0.1
ZEDA	**zmir-Bergama**	**0.95**	**125**	P	Pg	22 05 06.6	-0.6
ZEDA				S	Sb	22 05 20.1	-0.1
ZEDA				*i* AML	AML	22 05 21.0	
	comp=N,13nm,0.3s						
ZEDA				*i* AML	AML	22 05 22.0	
	comp=N,16nm,0.3s						
SMTH	**Samothraki Isl**	**1.04**	**336**	P	Pb	22 05 09.1	0.0
CHOS	**Chios island**	**1.13**	**181**	PN	Pg	22 05 10.6	0.0
CHOS	**Chios island**	**1.13**	**181**	P	Pg	22 05 09.3	-1.3
CHOS				AML	AML	22 05 29.7	
	comp=E,117μm,0.3s						
CHOS				AML	AML	22 05 31.0	
	comp=N,75μm,0.2s						
BALY	**Balya**	**1.21**	**79**	P	Pb	22 05 11.4	-0.5
BALY				S	Sb	22 05 27.0	-0.8
BALY				*i* AML	AML	22 05 28.0	
	comp=N,35nm,0.5s						
BALY				*i* AML	AML	22 05 28.0	
	comp=N,16nm,0.8s						
ENEZ	**Enez**	**1.22**	**3**	PN	Pg	22 05 12.4	+0.1
URLA	**Izmir**	**1.23**	**161**	P	Pn	22 05 10.0	-2.2
URLA				S	Sb	22 05 25.9	-2.2
URLA				*i* AML	AML	22 05 29.0	
	comp=N,14nm,0.3s						
URLA				*i* AML	AML	22 05 30.0	
	comp=N,14nm,0.4s						
STEP	**BALIKESIR_Sava**	**1.28**	**96**	P	Pg	22 05 13.3	-0.1
STEP				S	Sn	22 05 31.7	+1.5
STEP				*i* AML	AML	22 05 33.0	
	comp=N,19nm,1.0s						
STEP				*i* AML	AML	22 05 34.0	
	comp=N,16nm,0.8s						
ALN	**Alexandroupoli**	**1.38**	**359**	PN	Pb	22 05 14.7	-0.1
ALN	**Alexandroupoli**	**1.38**	**359**	P	Pb	22 05 14.6	-0.2
RKY	**Sarkoy-Tekirda**	**1.44**	**36**	PN	Pb	22 05 15.6	-0.3
MRMT	**Marmara Adasi**	**1.59**	**47**	PN	Pn	22 05 17.7	+0.4
EDC	**Edincik**	**1.60**	**58**	PN	Pn	22 05 17.8	+0.4

*UPA **08** 22:08:05.1±0.7, 9.°40N×83.°66W, h20km±3km, MW3.5*
*INET **08** 22:08:05.2±0.4, 9.°49N×83.°67W, h14km±2km, MW3.2*
*UCR **08** 22:08:05.0±1.8, 9.°40N×83.°65W, h17km±3km, MW3.7*
ISC 08 22:08:04.6±0.9, 9.°44N±0.°04×83.°65W±0.°03, h28km±5km, n43, σ0.°84/65, 2C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEZE	**Perez Zeledon,**	**0.06**	**204**	*e*P	**Pb**	**22 08 09.0**	**-0.5**
PEZE				*e*S	**Sb**	**22 08 12.6**	**-0.4**
PEZE	**Perez Zeledon,**	**0.06**	**204**	*e*P	**Pb**	**22 08 09.0**	**-0.5**
PEZE				*e*S	**Sb**	**22 08 12.5**	**-0.4**
CDM	**Cerro de Muert**	**0.16**	**316**	*e*P	**Pb**	**22 08 10.4**	**-0.3**
CDM				*e*S	**Sb**	**22 08 14.9**	**+0.2**
CDM	**Cerro de Muert**	**0.16**	**316**	*e*P	**Pb**	**22 08 10.3**	**-0.3**
CDM				*e*S	**Sb**	**22 08 14.8**	**+0.1**
EDDO	**Dominical**	**0.28**	**228**	*e*P	**Pb**	**22 08 10.9**	**-0.6**
EDDO				*e*S	**Sb**	**22 08 15.9**	**-0.4**
SRBA	**San Rafael, Bu**	**0.35**	**126**	*e*P	**Pb**	**22 08 11.9**	**-0.8**
RIMA	**Rio Macho**	**0.39**	**327**	*e*P	**Pb**	**22 08 13.1**	**-0.2**
RIMA	**Rio Macho**	**0.39**	**327**	*e*P	**Pb**	**22 08 13.0**	**-0.2**
RIMA				*e*S	**Sn**	**22 08 19.5**	**-1.5**
DRK0	**Durika**	**0.44**	**114**	*e*P	**Pb**	**22 08 14.4**	**+0.4**
DRK0				*e*S	**Sb**	**22 08 21.0**	**+0.5**
LCR2	**La Lucha 2**	**0.46**	**311**	*e*P	**Pb**	**22 08 14.0**	**-0.4**
EDBA	**Buenos Aires**	**0.46**	**126**	*e*P	**Pb**	**22 08 13.3**	**-1.1**
EDBA				*e*S	**Sb**	**22 08 19.9**	**-1.1**
EDPN	**Palmar Norte**	**0.51**	**158**	⇑*i*P	**Pb**	**22 08 14.5**	**-0.6**
EDPN				*e*S	**Sb**	**22 08 22.2**	**-0.1**
BATAN	**Batan**	**0.71**	**23**	*e*P	**Pn**	**22 08 18.9**	**+0.2**
BATAN				*e*S	**Sn**	**22 08 29.3**	**+0.6**
HDC3	**Heredia 3**	**0.72**	**321**	*e*P	**Pn**	**22 08 18.7**	**-0.3**
HDC3				*e*S	**Sn**	**22 08 29.4**	**+0.2**
HDC	**Heredia**	**0.72**	**321**	*e*P	**Pn**	**22 08 18.8**	**-0.2**
HDC	**Heredia**	**0.72**	**321**	*e*P	**Pn**	**22 08 18.8**	**-0.2**
HDC				*e*S	**Sn**	**22 08 29.5**	**+0.3**
EDSV	**San Vito**	**0.91**	**132**	*e*P	**Pb**	**22 08 21.1**	**-0.8**
EDSV				*e*S	**Sn**	**22 08 35.2**	**+1.3**
BRU2	**Volcan**	**1.15**	**124**	*e*P	**Pn**	**22 08 24.9**	**0.0**
BRU2				*e*S	**Sb**	**22 08 40.2**	**-0.3**
CDITO	**Canoas**	**1.16**	**138**	*e*P	**Pn**	**22 08 24.2**	**-0.7**
CDITO				*e*S	**Sb**	**22 08 39.7**	**-0.8**
CNI2	**El Empalme, Bo**	**1.17**	**91**	*e*P	**Pn**	**22 08 24.8**	**-0.3**
CNI2				*e*S	**Sn**	**22 08 41.3**	**+1.3**
LAFE	**Finca La Fe, P**	**1.29**	**286**	*e*P	**Pb**	**22 08 28.2**	**0.0**
LAFE	**Finca La Fe, P**	**1.29**	**286**	*e*P	**Pn**	**22 08 28.0**	**+1.3**
BCO2	**Palmira**	**1.32**	**123**	⇓*e*P	**Pn**	**22 08 27.4**	**+0.1**
BCO2				*e*S	**Sn**	**22 08 45.0**	**+0.9**
LNBQ3	**Los Naranjos,**	**1.36**	**118**	*e*P	**Pn**	**22 08 27.9**	**+0.1**
LNBQ3				*e*S	**Sn**	**22 08 45.6**	**+0.6**
PTAR3	**Potrerillos Ar**	**1.36**	**123**	*e*P	**Pn**	**22 08 28.0**	**+0.1**
PTAR3				*e*S	**Sn**	**22 08 45.5**	**+0.4**
CASO	**Castillo**	**1.45**	**313**	*e*P	**Pb**	**22 08 30.2**	**-0.8**
CEDE	**Laguna Cedeo**	**1.47**	**315**	⇑*e*P	**Pb**	**22 08 31.1**	**-0.2**
JTS	**Las Juntas de**	**1.54**	**304**	*e*P	**Pn**	**22 08 31.1**	**+1.0**
JTS	**Las Juntas de**	**1.54**	**304**	*e*P	**Pn**	**22 08 31.2**	**+1.1**
JTS				*e*S	**Sn**	**22 08 50.3**	**+1.1**
LIMO3	**Limones**	**1.54**	**150**	*e*P	**Pn**	**22 08 30.1**	**0.0**
DVD	**David**	**1.55**	**130**	*e*P	**Pn**	**22 08 31.6**	**+1.2**
DVD				*e*S	**Sn**	**22 08 49.8**	**+0.3**
GUAL3	**Gualaca, Chiri**	**1.61**	**124**	*e*P	**Pn**	**22 08 31.5**	**+0.3**
CHIR3	**Chiriqui UPA,**	**1.67**	**128**	*e*P	**Pn**	**22 08 32.5**	**+0.6**
CHIR3				*e*S	**Sn**	**22 08 52.7**	**+0.3**
ACAL	**Aguas Claras**	**1.81**	**311**	*e*P	**Pb**	**22 08 36.0**	**-1.0**
PTEN	**Parque Tenorio**	**1.83**	**314**	*e*P	**Pb**	**22 08 36.3**	**-1.1**
CUI	**Cuipilapa**	**1.92**	**309**	*e*P	**Pb**	**22 08 37.8**	**-1.2**
COLC	**Colonia**	**1.95**	**309**	*e*P	**Pb**	**22 08 38.6**	**-1.0**
HORNC	**Hornillas**	**1.96**	**310**	*e*P	**Pb**	**22 08 38.7**	**-1.1**
VMAR	**Armenia, Volca**	**1.99**	**313**	*e*P	**Pb**	**22 08 38.9**	**-1.2**
BUAI	**Buenos Aires**	**2.19**	**311**	*e*P	**Pb**	**22 08 41.5**	**-1.9**
BUEV	**Buena Vista**	**2.19**	**308**	*e*P	**Pb**	**22 08 41.6**	**-2.0**
LAPC	**Finca la Perla**	**2.19**	**307**	*e*P	**Pn**	**22 08 41.2**	**+2.0**
BCIP	**Isla Barro Col**	**3.77**	**94**	*e*P	**Pn**	**22 09 01.9**	**+0.9**

*IDC **08** 22:12:25.3±2.7, 29.°09S×61.°30E, h0km, mb3.7/3, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=319.4km s-min=28.7km az=23.0*
*NEIC **08** 22:12:26.1±1.0, 29.°2S±0.°1×61.°1E±0.°1, h10km±1km, mb4.6/8, Error ellipse: s-maj=23.2km s-min=13.3km az=26.0*
ISC 08 22:12:26.1±0.9, 29.°1S±0.°2×61.°2E±0.°1, h10km, n14, σ0.°95/14, mb4.5/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.33**	**327**	Pn	**Pn**	**22 14 30.5**	**-0.3**
FOMA	**Nahampoana Res**	**13.32**	**285**	Pn	**Pn**	**22 15 34.1**	**-1.2**
VOI	**Vohitsoka**	**14.84**	**296**		**Pn**	**22 15 58.0**	**+1.7**
OPO	**Ambohidratompo**	**16.54**	**306**	Pn	**P**	**22 16 20.2**	**-0.9**
	0.1nm,0.3s,baz=118,slow=15,SNR=1.7						
OPO				Sn	Sn	22 19 06.4	-16
	baz=188,slow=20,SNR=2.0 1.4nm,0.3s						
MSEY	**Mahe Island**	**24.90**	**346**	P	**P**	**22 17 49.6**	**+0.2**
MBAR	**Mbarara**	**40.59**	**309**	P	**P**	**22 20 05.9**	**-0.6**
QSPA	**South Pole Qui**	**61.04**	**180**	P	**P**	**22 22 39.9**	**0.0**
ASAR	**Alice Springs**	**64.43**	**104**	P	**P**	**22 23 03.7**	**+0.6**
	0.5nm,0.7s,baz=246,slow=6.6,SNR=4.9 0.5nm,0.7s						
WRA	**Warramunga Arr**	**66.25**	**100**	P	**P**	**22 23 14.6**	**-0.2**
	1.2nm,1.1s,baz=246,slow=5.7,SNR=4.0 1.2nm,1.1s						
WB2	**Warramunga Arr**	**66.26**	**100**	P	**P**	**22 23 13.9**	**-1.0**
WB2				IAmb	IAmb	22 23 17.7	
	comp=Z,7.0nm,1.4s						
WRAB	**Tennant Creek**	**66.26**	**100**	P	**P**	**22 23 14.2**	**-0.8**
WRAB				IAmb	IAmb	22 23 42.0	
	comp=Z,3.4nm,1.1s						
WB0	**Warramunga Arr**	**66.37**	**100**	P	**P**	**22 23 14.9**	**-0.7**
WB0				IAmb	IAmb	22 23 33.1	
	comp=Z,6.8nm,1.4s						
WR0	**Warramunga Arr**	**66.42**	**100**	P	**P**	**22 23 16.6**	**+0.7**
WR0				IAmb	IAmb	22 23 27.6	
	comp=Z,6.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**71.14**	**298**	P	**P**	**22 23 46.4**	**+1.1**
	comp=Z

VNDA	**Vanda**	**46.09**	**182**	P	**P**	**22 50 00.2**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=171,slow=5.5,SNR=6.6						
	comp=Z,0.7nm,0.7s						
VNDA	**Vanda**	**46.09**	**182**	P	**P**	**22 50 00.9**	**+2.6**
LVC	**Limon Verde**	**46.30**	**299**	P	**P**	**22 50 01.8**	**+0.9**
	comp=Z,9.2nm,0.6s,baz=138,slow=6.4,SNR=15						
	comp=Z,9.2nm,0.6s						
LVC	**Limon Verde**	**46.30**	**299**	P	**P**	**22 50 02.6**	**+1.7**
LVC				IAmb	IAmb	22 50 05.3	
	comp=Z,11nm,0.7s						
PB04	**IPOC Station P**	**47.13**	**298**	P	**P**	**22 50 08.2**	**+1.0**
PB09	**IPOC Station P**	**47.15**	**299**	P	**P**	**22 50 09.8**	**+2.4**
PB07	**IPOC Station P**	**47.52**	**298**	P	**P**	**22 50 11.7**	**+1.4**
PB07				IAmb	IAmb	22 50 12.6	
	comp=Z,11nm,0.7s						
PB01	**IPOC Station P**	**47.91**	**299**	P	**P**	**22 50 14.9**	**+1.7**
PTLB	**Pontes e Lacer**	**48.26**	**315**	P	**P**	**22 50 17.0**	**+1.2**
PTLB				IAmb	IAmb	22 50 17.6	
	comp=Z,6.4nm,1.0s						
SIV	**San Ignacio**	**48.55**	**312**	P	**P**	**22 50 17.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=126,slow=8.7,SNR=5.4						
	comp=Z,0.7nm,0.6s						
GO01	**Chusmiza**	**48.94**	**301**	P	**P**	**22 50 23.2**	**+1.7**
GO01				IAmb	IAmb	22 50 24.2	
	comp=Z,12nm,0.8s						
PB16	**IPOC Station P**	**50.24**	**301**	P	**P**	**22 50 33.5**	**+2.0**
PB16				IAmb	IAmb	22 50 33.9	
	comp=Z,7.4nm,1.4s						
LPAZ	**La Paz**	**51.37**	**304**	P	**P**	**22 50 39.8**	**-0.3**
	comp=Z,6.0nm,0.7s,baz=172,slow=6.2,SNR=26						
	comp=Z,6.0nm,0.7s						
LPAZ	**La Paz**	**51.37**	**304**	P	**P**	**22 50 40.2**	**+0.1**
LPAZ				IAmb	IAmb	22 50 43.7	
	comp=Z,6.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.10**	**28**	P	**P**	**22 53 03.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=200,slow=5.5,SNR=2.2						
	comp=Z,0.5nm,0.6s						
MAGL	**Barre de l'Ile**	**78.14**	**325**	P	**P**	**22 53 32.2**	**-0.8**
MKAR	**Makanchi Array**	**136.25**	**71**	PKP	**PKPdf**	**23 00 51.9**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=204,slow=3.2,SNR=1.4						
SONM	**Songino Array**	**149.91**	**86**	PKPbc	**PKPbc**	**23 01 22.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=242,slow=3.1,SNR=1.9						
ILAR	**Eielson Array**	**151.10**	**311**	PKPbc	**PKiKP**	**23 01 25.1**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=125,slow=2.3,SNR=8.5						

NEIC ***08*** *22:57:56.9±2.5, 28.91S±0.09×62.4E±0.2, h10km±1km, mb4.4/10, Error ellipse: s-maj=29.3km s-min=6.6km az=241.0*

IDC ***08*** *22:58:03.2±1.0, 29.33S×60.91E, h0km, mb3.8/6, mbtmp3.9/7, ML4.5/1, MS4.1/1, Error ellipse: s-maj=31.5km s-min=27.8km az=89.0*

ISC 08 22:57:58.6±0.8, 28.6S±0.1×62.3E±0.2, h10km, n22, σ2s23/15, mb4.2/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.47**	**320**	Pn	**Pn**	**23 00 16.3**	**+1.1**
FOMA	**Nahampoana Res**	**14.11**	**281**	Pn	Pn	23 01 11.3	-7.2
VOI	**Vohitsoka**	**15.48**	**292**	Pn	**Pn**	**23 01 33.8**	**-3.5**
VOI				IAmb	IAmb	23 01 35.0	
	comp=Z,28nm,1.5s						
OPO	**Ambohidratompo**	**17.02**	**303**	Pn	**Pn**	**23 01 55.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=128,slow=17,SNR=9.0						
OPO				Sn	Sn	23 04 46.1	-20
	comp=Z,0.1nm,0.3s,baz=88,slow=20,SNR=2.3						
	comp=Z,2.4nm,0.4s						
NWAO	**Narrogin (SRO)**	**47.00**	**110**	LR	LR	23 23 09.5	
	comp=Z,199nm,20.1s,baz=326,slow=32						
SNAA	**Sanae**	**55.32**	**200**	P	**P**	**23 07 30.8**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=89,slow=9.1,SNR=5.6						
	comp=Z,0.9nm,0.9s						
SNAA	**Sanae**	**55.32**	**200**	P	**P**	**23 07 30.4**	**-1.7**
SNAA				IAmb	IAmb	23 07 34.9	
	comp=Z,5.5nm,1.5s						
CMAR	**Chiang Mai Arr**	**58.71**	**42**	P	P	23 08 12.6	+16
	comp=Z,1.0nm,0.3s,baz=237,slow=6.3,SNR=4.7						
	comp=Z,1.0nm,0.3s						
QSPA	**South Pole Qui**	**61.55**	**180**	P	**P**	**23 08 16.9**	**+1.2**
VNDA	**Vanda**	**64.35**	**166**	P	**P**	**23 08 37.8**	**+3.8**
	comp=Z,0.8nm,0.8s,baz=250,slow=7.4,SNR=3.9						
	comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr**	**65.42**	**100**	P	P	23 08 53.5	+12
	comp=Z,0.6nm,0.8s,baz=248,slow=5.3,SNR=4.4						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**65.42**	**100**	P	**P**	**23 08 38.7**	**-3.3**
WB2	**Warramunga Arr**	**65.44**	**100**	P	**P**	**23 08 38.8**	**-3.2**
WB0	**Warramunga Arr**	**65.54**	**100**	P	P	23 08 38.6	-4.1
WB0				IAmb	IAmb	23 09 04.5	
	comp=Z,8.5nm,1.4s						
WR0	**Warramunga Arr**	**65.59**	**100**	P	P	23 08 38.5	-4.6
TARG	**Taragay, Kyrgy**	**71.44**	**12**	P	**P**	**23 09 18.8**	**-0.7**
TARG				IAmb	IAmb	23 09 32.4	
	comp=Z,2.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**71.73**	**297**	P	**P**	**23 09 22.3**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=111,slow=4.2,SNR=3.4						
	comp=Z,0.8nm,0.9s						
KK31	**Karatay Array**	**71.75**	**6**	P	**P**	**23 09 21.1**	**+0.2**
KK31				IAmb	IAmb	23 09 27.5	
	comp=Z,4.4nm,1.5s						
KKAR	**Karatay Array**	**71.75**	**6**	P	**P**	**23 09 20.8**	**-0.1**
KKAR				IAmb	IAmb	23 09 27.5	
	comp=Z,4.4nm,1.5s						
KKAR	**Karatay Array**	**71.75**	**6**	P	**P**	**23 09 21.4**	**+0.5**
ABKAR	**Akbulak array**	**77.53**	**358**	P	**P**	**23 09 55.1**	**+0.9**
ZALV	**Zalesovo Beam**	**84.50**	**13**	P	P	23 10 43.5	+12
	comp=Z,0.3nm,0.3s,baz=194,slow=5.3,SNR=1.8						
	comp=Z,0.3nm,0.3s						

NEIC ***08*** *23:27:54.5±2.0, 17.93S±0.09×178.5W±0.1, h569km±6km, mb4.5/260, Error ellipse: s-maj=15.3km s-min=12.8km az=125.0*

IDC ***08*** *23:27:54.0±1.3, 17.86S×178.52W, h565km±14km, mb3.9/23, mbtmp4.8/25, Error ellipse: s-maj=14.1km s-min=9.6km az=135.0*

NOU ***08*** *23:27:55.3, 17.85S×178.38W, h590km, mb5.1/89, Fiji Islands Region*

ISC 08 23:27:54.7±0.3, 17.95S±0.05×178.41W±0.05, h579km, n694, σ1s02/695, mb4.6/182, 25C-13D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.48**	**234**	P	**P**	**23 29 05.0**	**+2.1**
TAVE	**Taveuni**	**1.89**	**311**	P	**P**	**23 29 08.7**	**+2.0**
DGTI	**Dogotuki**	**2.42**	**312**	P	**P**	**23 29 10.6**	**+1.5**
MSVF	**Nonsavu**	**3.38**	**273**	P	**P**	**23 29 16.4**	**+1.8**
	358nm,0.8s,baz=124,slow=2.7,SNR=159						
MSVF				S	**S**	**23 30 23.4**	**+3.8**
	30nm,0.9s,baz=18,slow=21,SNR=9.7						
MSVF	**Nonsavu**	**3.38**	**273**	P	**P**	**23 29 16.7**	**+2.1**
AFI	**Afiamalu**	**7.54**	**59**	P	**P**	**23 29 48.0**	**-1.1**
	57nm,0.4s,baz=270,slow=10,SNR=9.1						
AFI				S	**S**	**23 31 16.7**	**-5.9**
	73nm,0.3s,baz=30,slow=18,SNR=2.8						
AFI	**Afiamalu**	**7.54**	**59**		**P**	**23 29 48.1**	**-0.9**
AFI	**Afiamalu**	**7.54**	**59**	P	**P**	**23 29 49.4**	**+0.4**
NIUE	**Niue**	**8.12**	**99**	P	**P**	**23 29 55.0**	**+0.4**
NIUE	**Niue**	**8.12**	**99**	P	**P**	**23 29 55.9**	**+1.4**
RTV	**Rentapao**	**12.54**	**269**	P	**P**	**23 30 40.9**	**+2.0**
	608nm,1.6s						
DVP	**Devils Point**	**12.77**	**269**	P	**P**	**23 30 42.8**	**+1.5**
	2µm,0.7s						
MARNC	**Mare, Loyalty**	**13.25**	**252**	P	**P**	**23 30 45.2**	**-0.9**
MARNC	**Mare, Loyalty**	**13.25**	**252**	P	**P**	**23 30 45.5**	**-0.7**
LIFNC	**LIFOU**	**13.84**	**256**	P	**P**	**23 30 49.1**	**-3.1**
PINNC	**Pines Island,**	**14.06**	**248**	P	**P**	**23 30 53.8**	**-0.6**
YATNC	**Mamie plateau,**	**14.41**	**251**	P	**P**	**23 30 57.0**	**-0.9**
	31nm,0.5s						
OUENC	**Ouen Island, N**	**14.54**	**250**	P	**P**	**23 30 59.0**	**-0.1**
OUENC	**Ouen Island, N**	**14.54**	**250**	P	**P**	**23 31 00.2**	**+1.0**
DZM	**Mont Dzumac**	**14.82**	**251**	P	**P**	**23 31 01.0**	**-0.9**
	52nm,0.6s,baz=88,slow=17,SNR=37						
DZM	**Mont Dzumac**	**14.82**	**251**	P	**P**	**23 31 01.4**	**-0.5**
DZM	**Mont Dzumac**	**14.82**	**251**	P	**P**	**23 31 02.2**	**+0.3**
ONTNC	**Ouen Toro**	**14.86**	**251**	P	**P**	**23 31 02.0**	**-0.2**
ONTNC	**Ouen Toro**	**14.86**	**251**	P	**P**	**23 31 02.2**	**0.0**
	84nm,0.8s						
NOUC	**Port Laguerre**	**14.95**	**251**	P	**P**	**23 31 03.5**	**+0.4**
KOUNC	**Koumac, New Ca**	**16.55**	**258**	P	**P**	**23 31 19.0**	**+0.9**
KOUNC	**Koumac, New Ca**	**16.55**	**258**	P	**P**	**23 31 18.9**	**+0.9**
OUZ	**Omahuta**	**18.61**	**201**	P	**P**	**23 31 39.6**	**+2.9**
	55nm,1.9s						
URZ	**Urewera**	**20.61**	**190**	P	**P**	**23 31 51.2**	**-3.6**
	12nm,0.5s,baz=29,slow=2.7,SNR=3.3						
URZ				S	**S**	**23 35 00.7**	**-7.9**
	11nm,0.8s,baz=31,slow=24,SNR=2.5						
URZ	**Urewera**	**20.61**	**190**	P	**P**	**23 31 53.5**	**-1.2**
TARA	**Tarawa**	**21.00**	**335**	P	**P**	**23 31 57.5**	**-1.0**
TARA	**Tarawa**	**21.00**	**335**	P	**P**	**23 31 58.5**	**0.0**
	84nm,1.0s						
QRZ	**Quartz Range**	**24.10**	**197**	P	**P**	**23 32 28.4**	**+2.6**
	86nm,2.2s						
LHI	**Lord Howe Isla**	**24.46**	**232**	P	**P**	**23 32 30.2**	**+1.1**
BSWZ	**Blackbirch Sta**	**24.59**	**194**	P	**P**	**23 32 31.7**	**+1.5**
LTZ	**Lake Taylor**	**25.99**	**196**	P	**P**	**23 32 41.6**	**-0.9**
RPZ	**Rata Peaks**	**27.18**	**197**	P	**P**	**23 32 51.5**	**-1.4**
	13nm,0.9s,baz=24,slow=10.0,SNR=2.7						
	13nm,0.9s						
RPZ	**Rata Peaks**	**27.18**	**197**	P	**P**	**23 32 51.6**	**-1.4**
FOZ	**Fox Glacier**	**27.38**	**199**	P	**P**	**23 32 53.9**	**-0.7**
LBZ	**Lake Benmore**	**28.05**	**198**	P	**P**	**23 32 59.2**	**-1.3**
WKZ	**Wanaka**	**28.80**	**199**	P	**P**	**23 33 06.0**	**-0.9**
EIDS	**Eidsvold**	**29.26**	**250**		**P**	**23 33 10.7**	**-0.5**
EIDS	**Eidsvold**	**29.26**	**250**	P	**P**	**23 33 10.9**	**-0.3**
MLZ	**Mavora Lakes**	**29.56**	**199**	P	**P**	**23 33 14.6**	**+1.0**
RK1H	**Rockhampton Ha**	**29.56**	**254**	P	**P**	**23 33 13.6**	**-0.3**
ARMA	**Armidale**	**29.92**	**240**	P	**P**	**23 33 17.8**	**+0.8**
ARMA	**Armidale**	**29.92**	**240**	P	**P**	**23 33 17.9**	**+0.8**
DCZ	**Deep Cove**	**29.96**	**201**	P	**P**	**23 33 17.4**	**+0.5**
WHZ	**Wether Hill Ro**	**30.08**	**199**	P	**P**	**23 33 18.7**	**+0.6**
WHZ				IAmb	IAmb	23 33 43.7	
	comp=Z,24nm,1.1s						
MGCD	**Mangrove Creek**	**31.27**	**235**	P	**P**	**23 33 29.2**	**+0.8**
RMQ	**Roma**	**31.49**	**248**	P	**P**	**23 33 30.9**	**+0.5**
SYDH	**Sydney Hard Ro**	**31.76**	**234**	P	**P**	**23 33 33.9**	**+1.3**
CNB	**Canberra Magne**	**33.40**	**232**	P	**P**	**23 33 47.3**	**+0.8**
CTA	**Charters Tower**	**33.44**	**261**	P	**P**	**23 33 46.6**	**-0.4**
CTAO	**Charters Tower**	**33.44**	**261**	P	**P**	**23 33 46.6**	**-0.4**
CTAO	**Charters Tower**	**33.44**	**261**	P	**P**	**23 33 46.5**	**-0.4**
CAN	**Canberra**	**33.68**	**233**	P	**P**	**23 33 49.4**	**+0.6**
CAN	**Canberra**	**33.68**	**233**	P	**P**	**23 33 49.5**	**+0.6**
PATS	**Pohnpei**	**33.69**	**315**	P	**P**	**23 33 48.2**	**-0.9**
PMG	**Port Moresby**	**34.47**	**280**	P	**P**	**23 33 55.5**	**-0.2**
PMG	**Port Moresby**	**34.47**	**280**	P	**P**	**23 33 56.3**	**+0.6**
PMG	**Port Moresby**	**34.47**	**280**	P	**P**	**23 33 56.2**	**+0.6**
CMSA	**Cobar Meteorol**	**35.13**	**240**	P	**P**	**23 34 01.2**	**+0.3**
MTSU	**Mount Surprise**	**35.41**	**264**	P	**P**	**23 34 03.0**	**-0.4**
QLP	**Quilpie**	**35.52**	**249**	P	**P**	**23 34 04.2**	**0.0**
JOHN	**Johnston Islan**	**35.55**	**15**	P	**P**	**23 34 04.7**	**+0.2**
JOHN	**Johnston Islan**	**35.55**	**15**	P	**P**	**23 34 04.3**	**-0.2**
	comp=Z,156nm,0.8s						
GLAD	**Gladstone**	**36.82**	**224**	P	**P**	**23 34 15.1**	**+0.4**
COEN	**Coen**	**37.11**	**270**	P	**P**	**23 34 17.1**	**-0.4**
COEN	**Coen**	**37.11**	**270**	P	**P**	**23 34 17.6**	**+0.2**
MANU	**Manus Island**	**37.12**	**291**	P	**P**	**23 34 17.1**	**-0.4**
TOO	**Toolangi**	**37.15**	**231**	P	**P**	**23 34 17.6**	**+0.2**
TOO	**Toolangi**	**37.15**	**231**	P	**P**	**23 34 17.9**	**+0.3**
CORO	**Coronation Par**	**37.62**	**224**	P	**P**	**23 34 22.7**	**+1.6**
MOO	**Moorlands**	**38.06**	**223**	P	**P**	**23 34 25.0**	**+0.2**
	comp=Z,48nm,1.8s						
TAU	**Tasmania Unive**	**38.21**	**222**	P	**P**	**23 34 26.4**	**+0.5**
TAU				IAmb	IAmb	23 34 27.2	
	comp=Z,26nm,0.9s						
BRAT	**Ballarat**	**38.30**	**232**	P	**P**	**23 34 28.2**	**+1.5**
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**23 34 29.8**	**+0.4**
	comp=Z,70nm,0.5s,baz=91,slow=10,SNR=225						
STKA				PcP	**PcP**	**23 36 26.7**	**+0.2**
	comp=Z,7.5nm,0.6s,baz=53,slow=5.1,SNR=2.9						
	comp=Z,70nm,0.5s						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**23 34 29.5**	**+0.1**
STKA				IAmb	IAmb	23 34 30.8	
	comp=Z,24nm,1.1s						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**23 34 30.0**	**+0.6**
INKA	**Innaminka**	**38.73**	**248**	P	**P**	**23 34 31.3**	**+0.9**
ARPS	**Mount Arapiles**	**39.63**	**234**	P	**P**	**23 34 37.6**	**+0.1**
QIS	**Mount Isa**	**39.65**	**259**	P	**P**	**23 34 37.1**	**-0.8**
WAKE	**Wake Island**	**39.80**	**338**	P	**P**	**23 34 38.9**	**-0.1**
HTT	**Hallett**	**41.13**	**240**	P	**P**	**23 34 49.9**	**+0.4**
LCRK	**Leigh Creek**	**41.24**	**244**	P	**P**	**23 34 50.7**	**+0.3**
TWOA	**Tennyson Woods**	**41.74**	**237**	P	**P**	**23 34 54.5**	**+0.3**
WHYH	**Whyalla**	**42.17**	**240**	P	**P**	**23 34 57.9**	**+0.3**
OOD	**Oodnadatta**	**43.21**	**248**	P	**P**	**23 35 06.3**	**+0.5**
KHU	**Kahuku**	**43.21**	**32**	P	**P**	**23 35 06.6**	**+0.4**
GENI	**Genyem**	**43.38**	**286**	P	**P**	**23 35 07.9**	**+0.6**
	comp=Z,183nm,0.8s						
GENI	**Genyem**	**43.38**	**286**	P	**P**	**23 35 08.6**	**+1.3**
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**23 35 07.0**	**-0.1**
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**23 35 07.3**	**+0.1**
HMH	**Humu'ula Sheep**	**43.58**	**32**	P	**P**	**23 35 09.9**	**+0.8**
WR0	**Warramunga Arr**	**44.44**	**260**	P	**P**	**23 35 14.5**	**-0.9**
WB0	**Warramunga Arr**	**44.59**	**260**	P	**P**	**23 35 15.8**	**-0.9**
WB2	**Warramunga Arr**	**44.62**	**260**	P	**P**	**23 35 15.9**	**-0.9**
WRAB	**Tennant Creek**	**44.62**	**260**	P	**P**	**23 35 15.8**	**-1.0**
WRAB	**Tennant Creek**	**44.62**	**260**	P	**P**	**23 35 15.8**	**-1.0**
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**23 35 15.6**	**-1.3**
	comp=Z,39nm,0.4s,baz=94,slow=7.3,SNR=1305						
WRA				PcP	**PcP**	**23 36 46.5**	**-0.5**
	comp=Z,3.9nm,0.4s,baz=92,slow=3.6,SNR=5.6						
WRA				ScP	**ScP**	**23 39 45.8**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=91,slow=5.1,SNR=3.1						
WRA				S	**S**	**23 41 06.8**	**-5.1**
	comp=Z,0.7nm,0.8s,baz=98,slow=13,SNR=3.0						
	comp=Z,39nm,0.4s						
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**23 35 16.1**	**-0.8**
AS31	**Alice Springs**	**44.78**	**254**	P	**P**	**23 35 18.1**	**0.0**
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**23 35 17.8**	**-0.3**
	comp=Z,295nm,0.5s,baz=88,slow=8.5,SNR=3366						
ASAR				PcP	**PcP**	**23 36 47.2**	**-0.3**
	comp=Z,8.8nm,0.5s,baz=112,slow=3.3,SNR=5.2						
ASAR				ScP	**ScP**	**23 39 46.9**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=99,slow=4.8,SNR=3.0						
ASAR				S	**S**	**23 41 09.6**	**-4.4**
	comp=Z,2.8nm,1.1s,baz=84,slow=17,SNR=9.2						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**23 35 18.1**	**0.0**
MULG	**Mulgathing**	**44.80**	**245**	P	**P**	**23 35 17.9**	**-0.1**
SMPI	**Sarmi**	**44.96**	**286**	P	**P**	**23 35 19.5**	**0.0**
	comp=Z,1µmcomp=Z,52nm,0.8s						
KDU	**Kakadu**	**47.56**	**269**	P	**P**	**23 35 38.5**	**-0.6**
MTN	**Manton Dam**	**48.80**	**268**	P	**P**	**23 35 47.6**	**-0.7**
MTN	**Manton Dam**	**48.80**	**268**	P	**P**	**23 35 47.7**	**-0.7**
RKPI	**Ransiki, Papua**	**49.31**	**284**	P	**P**	**23 35 52.3**	**+0.1**
	comp=Z,39nm,0.7s						
WRKA	**Warakurna**	**49.84**	**252**	P	**P**	**23 35 55.7**	**-0.2**
FORT	**Forrest**	**49.99**	**245**	P	**P**	**23 35 56.1**	**-0.7**
FORT	**Forrest**	**49.99**	**245**	P	**P**	**23 35 56.2**	**-0.7**
KNRA	**Kununurra**	**50.49**	**264**	P	**P**	**23 36 00.0**	**-0.7**
KNRA	**Kununurra**	**50.49**	**264**	P	**P**	**23 36 00.2**	**-0.5**
FAKI	**Fak Fak**	**50.59**	**281**	P	**P**	**23 36 00.9**	**-0.5**
FAKI	**Fak Fak**	**50.59**	**281**	P	**P**	**23 36 00.8**	**-0.7**
	comp=Z,35nm,1.4s						
FAKI	**Fak Fak**	**50.59**	**281**	P	**P**	**23 36 01.0**	**-0.5**
SWI	**Sorong**	**52.26**	**283**	P	**P**	**23 36 13.1**	**-0.4**
	comp=Z,2µmcomp=Z,218nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**	**23 36 18.7**	**-0.2**
FITZ				IAmb	IAmb	23 36 19.0	
	comp=Z,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**	**23 36 18.7**	**-0.2**
AAI	**Ambon**	**54.13**	**279**	P	**P**	**23 36 26.0**	**-0.8**
	comp=Z,3µmcomp=Z,134nm,0.5s						
NLAI	**Namlea**	**55.31**	**279**	P	**P**	**23 36 34.6**	**-0.4**
	comp=Z,2µmcomp=Z,86nm,0.7s						
SOEI	**Soe**	**56.07**	**270**	P	**P**	**23 36 41.4**	**+1.0**
	comp=Z,2µmcomp=Z,172nm,0.8s						
SOEI	**Soe**	**56.07**	**270**	P	**P**	**23 36 41.6**	**+1.2**
TNTI	**Ternate**	**56.47**	**283**	P	**P**	**23 36 42.9**	**-0.1**
	comp=Z,74nm,0.9s						
TNTI	**Ternate**	**56.47**	**283**	P	**P**	**23 36 43.3**	**+0.3**
	comp=Z,76nm,0.9s						
BATI	**Baumata**	**56.53**	**269**	P	**P**	**23 36 44.6**	**+1.1**
	comp=Z,36nm,1.1s						
SANI	**Sanana**	**56.75**	**280**	P	**P**	**23 36 44.3**	**-0.6**
	comp=Z,72nm,0.8s						
SANI	**Sanana**	**56.75**	**280**	P	**P**	**23 36 44.6**	**-0.3**
PSA00	**Pilbara Seismi**	**57.90**	**255**	IAmb	IAmb	23 36 52.7	
	comp=Z,24nm,0.8s						
PSA00	**Pilbara Seismi**	**57.90**	**255**	P	**P**	**23 36 52.0**	**-0.7**
MBWA	**Marble Bar**	**58.07**	**256**	P	**P**	**23 36 53.1**	**-0.7**
MBWA				IAmb	IAmb	23 36 53.3	
	comp=Z,36nm,0.6s						
MBWA	**Marble Bar**	**58.07**	**256**	P	**P**	**23 36 53.0**	**-0.7**
MEEK	**Meekatharra**	**58.42**	**249**	P	**P**	**23 36 55.3**	**-0.8**
EDFI	**Ende, Flores**	**58.79**	**271**	P	**P**	**23 36 57.8**	**-1.1**
	comp=Z,36nm,0.9s						
KLBR	**Kellerberrin**	**58.81**	**244**	P	**P**	**23 36 57.8**	**-0.8**
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**23 37 00.8**	**-0.3**
NWAO				IAmb	IAmb	23 37 01.4	
	comp=Z,29nm,0.7s						
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**23 37 00.8**	**-0.3**
BLDU	**Ballidu**	**59.77**	**245**	P	**P**	**23 37 04.2**	**-0.8**
MUN	**Mundaring**	**60.11**	**243**	P	**P**	**23 37 07.1**	**-0.1**
SBA	**Scott Base**	**60.38**	**184**	P	**P**	**23 37 10.8**	**+2.7**
VNDA	**Vanda**	**60.40**	**185**	P	**P**	**23 37 09.8**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=9.1,slow=5.3,SNR=19						
	comp=Z,2.1nm,0.8s						
VNDA	**Vanda**	**60.40**	**185**	P	**P**	**23 37 09.8**	**+1.4**
MORW	**Morawa**	**60.47**	**246**	P	**P**	**23 37 08.9**	**-0.8**
MORW				IAmb	IAmb	23 37 09.6	
	comp=Z,27nm,0.6s						
MORW	**Morawa**	**60.47**	**246**	P	**P**	**23 37 09.0**	**-0.7**
WBSI	**Waikabubak, Su**	**60.74**	**269**	P	**P**	**23 37 10.9**	**-0.8**
	comp=Z,42nm,0.7s						
APSI	**Ampana**	**61.22**	**279**	P	**P**	**23 37 15.3**	**+0.5**
	comp=Z,726nmcomp=Z,77nm,1.0s						
BKSI	**Bulukumba**	**61.26**	**274**	P	**P**	**23 37 13.8**	**-1.2**
	comp=Z,17nm,0.6s						
PLAI	**Plampang**	**62.50**	**269**	P	**P**	**23 37 22.3**	**-0.8**
	comp=Z,1µmcomp=Z,103nm,0.7s						
PLAI	**Plampang**	**62.50**	**269**	P	**P**	**23 37 22.5**	**-0.6**
GIRL	**Giralia**	**62.89**	**253**	P	**P**	**23 37 26.0**	**+0.5**
GIRL	**Giralia**	**62.89**	**253**	P	**P**	**23 37 26.0**	**+0.5**
MPSI	**Mapaga**	**63.28**	**280**	P	**P**	**23 37 27.6**	**-0.5**
	comp=Z,3µmcomp=Z,55nm,0.8s						
TWSI	**Taliwang, Sumb**	**63.37**	**269**	P	**P**	**23 37 28.2**	**-0.5**
	comp=Z,70nm,0.8s						
JAGI	**Jajag, Banyuwa**	**66.04**	**269**	P	**P**	**23 37 43.9**	**-1.6**
JAGI	**Jajag, Banyuwa**	**66.04**	**269**	P	**P**	**23 37 43.7**	**-1.8**
	comp=Z,123nm,0.7s						
JAGI	**Jajag, Banyuwa**	**66.04**	**269**	P	**P**	**23 37 44.0**	**-1.6**
CASY	**Casey**	**66.10**	**205**	P	**P**	**23 37 45.4**	**+0.5**
CASY				IAmb	IAmb	23 37 46.3	
	comp=Z,26nm,1.1s						
MYLDM	**Lahad Datu**	**66.32**	**284**	P	**P**	**23 37 49.4**	**+2.2**
MYLDM				IAmb	IAmb	23 38 01.2	
	comp=Z,20nm,0.9s						
GMJI	**Gumukmas**	**66.77**	**269**	P	**P**	**23 37 48.8**	**-1.2**
	comp=Z,75nm,0.7s						
MJAR	**Matsushiro Arr**	**67.94**	**323**	P	**P**	**23 37 55.6**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=150,slow=6.1,SNR=7.0						
	comp=Z,2.5nm,0.5s						
PWJI	**Pagerwojo**	**68.40**	**268**	P	**P**	**23 37 59.2**	**-0.7**
	comp=Z,42nm,0.5s						
KKM	**Kota Kinabalu**	**68.75**	**284**	P	**P**	**23 38 01.9**	**-0.3**
KKM	**Kota Kinabalu**	**68.75**	**284**	P	**P**	**23 38 01.9**	**-0.3**
PCJI	**Pacitan**	**68.95**	**268**	P	**P**	**23 38 02.9**	**-0.3**
	comp=Z,250nm,0.7s						
ADK	**Adak**	**69.55**	**1**	P	**P**	**23 38 05.6**	**-0.4**
ADK				IAmb	IAmb	23 38 12.7	
	comp=Z,23nm,1.0s						
ADK	**Adak**	**69.55**	**1**	P	**P**	**23 38 05.3**	**-0.6**

CCAC **Calif City Air** 77.89 47 P P 23 38 54.2 +0.6
RMX **La Rumorosa** 77.94 50 P P 23 38 54.6 +0.5
RMX IAmb IAmb 23 38 56.6
comp=Z,10nm,0.7s
IKP **In-Ko-Pah, Jac** 77.94 50 P P 23 38 55.1 +1.0
baz=240,SNR=5.1
NJ2 **Nanjing** 77.97 309 eP P 23 38 54.9 +0.8
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
AFDM **Forest Hills D** 78.01 42 P P 23 38 55.0 +0.8
ORV **Oroville** 78.02 41 P P 23 38 55.5 +1.3
YUH **Yuha Desert** 78.08 50 P P 23 38 55.9 +1.2
PFO **Pinyon Flats O** 78.18 49 P P 23 38 56.6 +1.2
comp=Z,1.7nm,0.6s,baz=256,slow=7.3,SNR=2.6
comp=Z,1.7nm,0.6s
PFO **Pinyon Flats O** 78.18 49 P P 23 38 56.7 +1.4
baz=239
TPFO **Pinon Flats** 78.18 49 P P 23 38 56.7 +1.4
baz=239
LRMC **Laurel Mtn Rad** 78.29 47 P P 23 38 57.4 +1.4
baz=238
SWSC **Sam W. Stewart** 78.32 50 P P 23 38 57.1 +1.2
baz=240
KDAK **Kodiak Island** 78.44 14 P P 23 38 56.3 +0.3
KDAK IAmb IAmb 23 38 57.8
comp=Z,12nm,0.8s
KDAK **Kodiak Island** 78.44 14 P P 23 38 55.9 -0.1
baz=205
MDPB **Devils Postpil** 78.50 44 P P 23 38 58.5 +1.4
MDPB IAmb IAmb 23 38 59.3
comp=Z,12nm,0.8s
P16K **Nushagak River** 78.51 11 P P 23 38 55.8 -0.5
baz=200
CWC **Cottonwood Cre** 78.53 46 P P 23 38 55.3 -1.9
baz=238
OMMB **Old Mammoth Mi** 78.55 44 P P 23 38 58.8 +1.3
YBH **Yreka Blue Hor** 78.55 39 P P 23 38 59.0 +1.8
YBH IAmb IAmb 23 38 59.5
comp=Z,10nm,0.8s
K02D **Willamette Mer** 78.57 38 P P 23 38 58.0 +0.9
baz=232
SLBS **Sierra La Lagu** 78.58 60 P P 23 38 59.9 +2.2
SLBS IAmb IAmb 23 39 41.4
comp=Z,25nm,1.4s
MLAC **Mammoth, Mammo** 78.66 44 P P 23 38 59.2 +1.2
baz=237
J01E **Myrtle Point** 78.70 37 P P 23 38 58.1 +0.4
J01E IAmb IAmb 23 39 02.2
comp=Z,36nm,1.1s
BELC **Belle Mtn. Jos** 78.71 49 P P 23 38 59.7 +1.5
baz=239,SNR=6.5
MPMC **Manual Prospec** 78.73 46 P P 23 38 59.8 +1.5
baz=238,SNR=8.8
TIN **Tinemaha, Big** 78.76 45 P P 23 38 59.6 +1.3
baz=237
GSC **Goldstone, Bar** 78.81 47 P P 23 38 59.1 +0.5
GSC **Goldstone, Bar** 78.81 47 P P 23 38 59.4 +0.8
baz=239
MPK **Martis Peak** 78.81 42 P P 23 38 59.4 +0.6
HEC **Hector,Ludlow** 78.89 48 P P 23 38 60.0 +0.9
baz=239
MYKOM **Kota Tinggi** 78.90 276 P P 23 38 58.4 -1.1
MYKOM IAmb IAmb 23 39 00.6
comp=Z,25nm,1.2s
BEKR **Beckworth** 78.92 42 P P 23 39 00.3 +1.0
BEKR IAmb IAmb 23 39 00.7
comp=Z,10nm,0.5s
BC3 **Big Chuckawall** 78.92 49 P P 23 39 00.2 +0.9
baz=240
HUMO **Hull Mountain** 78.93 38 P P 23 39 00.3 +1.3
P17K **Kvichak River** 78.95 11 P P 23 38 58.0 -0.7
baz=201,SNR=9.6
PNTR **Pine Nut** 78.97 43 P P 23 39 01.1 +1.5
PNTR IAmb IAmb 23 39 01.8
comp=Z,24nm,0.9s
O16K **Kokwok River B** 79.03 10 P P 23 38 57.8 -1.2
baz=200
GLA **Glamis** 79.08 50 P P 23 39 00.6 +0.5
baz=240
L04D **Klamath Falls** 79.09 39 P P 23 39 01.2 +1.2
L04D IAmb IAmb 23 39 01.9
comp=Z,13nm,0.8s
L04D **Klamath Falls** 79.09 39 P P 23 39 00.2 +0.2
baz=234
DSP **Deep Springs** 79.10 45 P P 23 39 01.7 +1.8
QSM **Queen of Sheba** 79.11 47 P P 23 39 01.6 +1.5
YERR **Yerington** 79.14 43 P P 23 39 01.7 +1.2
YERR IAmb IAmb 23 39 02.1
comp=Z,14nm,0.6s
LHV **Little Huntoon** 79.22 44 P P 23 39 01.9 +1.3
LHV IAmb IAmb 23 39 03.2
comp=Z,14nm,0.9s
Q20K **Shuyak Island** 79.23 14 P P 23 38 59.8 -0.3
baz=205
Q19K **Cape Douglas,** 79.25 13 P P 23 39 00.2 -0.1
Q19K IAmb IAmb 23 39 00.9
comp=Z,24nm,0.9s
Q19K **Cape Douglas,** 79.25 13 P P 23 38 59.7 -0.6
baz=204
GRAC **Grapevine Rang** 79.31 45 P P 23 39 01.8 +0.6
GRAC IAmb IAmb 23 39 03.2
comp=Z,13nm,0.6s
GRAC **Grapevine Rang** 79.31 45 P P 23 39 02.2 +1.0
baz=238
I02E **Swisshome, OR** 79.33 37 P P 23 39 02.4 +1.4
I02E IAmb IAmb 23 39 03.2
comp=Z,45nm,1.1s
I02E **Swisshome, OR** 79.33 37 P P 23 39 01.8 +0.8
baz=232
GMRC **Granite Mounta** 79.35 48 P P 23 39 02.4 +0.9
baz=239
GWY **Greenwater Val** 79.36 46 P P 23 39 02.6 +1.0
P18K **Big Mountain,** 79.36 12 IAmb IAmb 23 39 01.1
comp=Z,23nm,0.7s
P18K **Big Mountain,** 79.36 12 P P 23 39 00.1 -0.8
baz=202
I03D **Drain, OR** 79.36 37 P P 23 39 01.8 +0.6
baz=232
O17K **Koliganek Bris** 79.37 11 P P 23 39 00.3 -0.5
baz=201,SNR=6.7
FURC **Furnace Creek,** 79.37 46 P P 23 39 02.5 +1.1
baz=238,SNR=5.2
IRM **Iron Mountain** 79.40 49 P P 23 39 02.5 +0.8
baz=240,SNR=5.3
NVAR **Mina Array Bea** 79.45 44 P P 23 39 03.3 +1.2
comp=Z,6.5nm,0.7s,baz=224,slow=8.8,SNR=62
NVAR pP pwP 23 41 06.6 +0.2
comp=Z,0.9nm,0.9s,baz=215,slow=7.0,SNR=2.9
comp=Z,6.5nm,0.7s
NVAR **Mina Array Bea** 79.45 44 P P 23 39 03.6 +1.4
NVAR pwP 23 41 05.1 -1.4
PAHR **Pah Rah Range** 79.45 42 P P 23 39 03.2 +1.2
TUQ **Turquoise Moun** 79.49 47 P P 23 39 02.8 +0.5
baz=239
GMN **Gold Mountain** 79.54 45 P P 23 39 04.2 +1.6
K04D **Chiloquin, OR** 79.66 39 P P 23 39 03.7 +0.8
baz=234
MZP **Montezuma Peak** 79.67 45 P P 23 39 04.4 +1.1
113A **Mohawk Valley,** 79.72 51 P P 23 39 05.0 +1.7
N16K **Nishlik Lake** 79.75 10 P P 23 39 03.8 +1.0
baz=199
O18K **Koktuh Hills** 79.79 12 IAmb IAmb 23 39 03.7
comp=Z,37nm,0.9s
O18K **Koktuh Hills** 79.79 12 P P 23 39 02.6 -0.5
baz=202
J04D **Umpqua Nationa** 79.81 38 P P 23 39 05.3 +1.5
J04D **Umpqua Nationa** 79.81 38 P P 23 39 04.2 +0.3
baz=234
BUCK **Buck Mountain** 79.87 37 P P 23 39 05.5 +1.4
BUCK IAmb IAmb 23 39 06.3
comp=Z,22nm,1.1s
KVN **Kaiserville** 79.92 43 P P 23 39 05.6 +1.1
KVN IAmb IAmb 23 39 06.1
comp=Z,8.2nm,0.7s
I04A **Tendick Farm,** 79.96 38 P P 23 39 04.9 +0.4
baz=233
P19K **Oil Pt** 80.00 13 P P 23 39 04.1 -0.2
P19K IAmb IAmb 23 39 04.3
comp=Z,14nm,0.7s
P19K **Oil Pt** 80.00 13 P P 23 39 03.6 -0.7
baz=204
214A **Organ Pipe Nat** 80.04 52 P P 23 39 05.5 +0.4
214A **Organ Pipe Nat** 80.04 52 P P 23 39 07.0 +1.9
baz=242
TPNV **Topopah Spring** 80.05 46 P P 23 39 05.8 +0.6
TPNV **Topopah Spring** 80.05 46 P P 23 39 06.1 +0.9
baz=239,SNR=5.6
MOD **Modoc Plateau** 80.11 40 P P 23 39 06.5 +1.1
MOD IAmb IAmb 23 39 07.4
comp=Z,14nm,0.7s
PDMCI **Parker Dam,Lak** 80.19 49 P P 23 39 07.3 +1.5
baz=240
K05A **Summer Lake** 80.23 39 P P 23 39 07.3 +1.3
K05A IAmb IAmb 23 39 08.4
comp=Z,29nm,1.1s
O19K **Port Alsworth** 80.28 12 P P 23 39 05.3 -0.3
baz=203,SNR=5.2
CNPM **China Poot** 80.32 14 IAmb IAmb 23 39 06.6
comp=Z,13nm,1.0s
ILSW **Iliamna Southw** 80.33 13 P P 23 39 05.7 -0.4
ILSW IAmb IAmb 23 39 06.2
comp=Z,22nm,0.7s
J05D **Fort Rock, OR** 80.35 38 P P 23 39 08.0 +1.4
baz=234
N18K **Kilae Creek** 80.43 11 P P 23 39 06.2 -0.3
N18K **Kilae Creek** 80.43 11 P P 23 39 05.8 -0.7
baz=202
O20K **Slope Mountain** 80.52 13 P P 23 39 06.5 -0.5
baz=205
SHPR **Sheep Range** 80.57 47 P P 23 39 09.1 +1.2
BRLK **Bradley Lake** 80.61 14 P P 23 39 07.5 +0.1
BRLK IAmb IAmb 23 39 08.0
comp=Z,13nm,0.7s
H04A **Detroit Lake** 80.62 37 P P 23 39 08.6 +0.8
H04A IAmb IAmb 23 39 08.9
comp=Z,14nm,0.5s
BRSE **Bradley Lake S** 80.63 14 P P 23 39 07.0 -0.4
baz=207
W13A **Hualapai Mount** 80.77 49 P P 23 39 09.9 +0.8
N19K **Bonanza Creek** 80.82 12 P P 23 39 07.6 -1.0
baz=203,SNR=7.4
PINE **Pine Mountain** 80.82 38 P P 23 39 10.6 +1.5
PINE IAmb IAmb 23 39 11.5
comp=Z,17nm,0.8s
Y14A **Wickenburg** 80.84 50 P P 23 39 09.9 +0.7
SVW2 **Sparrevohn** 80.88 11 P P 23 39 08.2 -0.5
I05D **Terrebonne, OR** 80.91 38 P P 23 39 10.0 +0.6
baz=234
HG4B **Hotspring** 81.06 27 P P 23 39 10.8 +1.0
HG4B IAmb IAmb 23 39 51.1
comp=Z,41nm,1.3s
PRN **Pahroc Range** 81.10 46 P P 23 39 12.5 +1.9
PRN IAmb IAmb 23 39 13.2
comp=Z,13nm,0.9s
R11A **Troy Canyon, C** 81.22 45 P P 23 39 12.2 +0.9
R11A **Troy Canyon, C** 81.22 45 P P 23 39 12.2 +0.9
baz=239,SNR=9.5
BMN **Battle Mountai** 81.24 43 P P 23 39 12.5 +1.2
BMN IAmb IAmb 23 39 13.4
comp=Z,14nm,1.0s
SEW **Seward** 81.25 14 P P 23 39 09.7 -0.9
SEW IAmb IAmb 23 39 10.9
comp=Z,11nm,0.8s
SEW **Seward** 81.25 14 P P 23 39 09.7 -0.9
baz=208
HOLB **Holberg** 81.30 30 P P 23 39 11.8 +0.6
C03A **Quillayute Air** 81.32 33 P P 23 39 12.2 +0.9
NLWA **Neilton Lookou** 81.34 34 P P 23 39 12.6 +1.1
NLWA IAmb IAmb 23 39 39.3
comp=Z,24nm,1.4s
WVOR **Wild Horse Val** 81.44 40 P P 23 39 13.2 +1.1
WVOR IAmb IAmb 23 39 14.4
comp=Z,19nm,1.1s
N20K **Mount Spurr** 81.63 12 P P 23 39 11.2 -1.4
baz=205
SPCR **Spurr Chakacha** 81.63 12 P P 23 39 11.4 -1.2
baz=205
SPU **Mount Spurr** 81.64 13 P P 23 39 11.6 -1.1
TUC **Tucson** 81.72 52 P P 23 39 14.9 +1.1
TUC IAmb IAmb 23 39 17.0
comp=Z,10nm,1.1s
TUC **Tucson** 81.72 52 P P 23 39 15.9 +2.0
baz=243
I07A **Izee** 81.84 39 P P 23 39 15.3 +1.1
I07A IAmb IAmb 23 39 16.4
comp=Z,13nm,0.8s
M19K **Big River Lodg** 81.84 11 P P 23 39 13.4 -0.2
M19K **Big River Lodg** 81.84 11 P P 23 39 13.1 -0.6
baz=203,SNR=5.6
UBPT **Khong Chiam** 81.95 289 P P 23 39 14.6 -0.5
UBPT IAmb IAmb 23 39 16.3
comp=Z,22nm,1.3s
FIS **Fire Island** 82.00 13 pP 23 41 13.0 -4.0
L19K **White Mountain** 82.02 11 P P 23 39 15.0 +0.5
L19K **White Mountain** 82.02 11 P P 23 39 14.6 +0.1
baz=203,SNR=6.2
J08A **Circle Bar Ran** 82.05 40 P P 23 39 15.5 +0.2
J08A IAmb IAmb 23 39 17.3
comp=Z,20nm,1.1s
RC01 **Rabbit Creek A** 82.06 14 P P 23 39 14.2 -0.6
baz=208
M20K **Styx River** 82.06 12 P P 23 39 14.1 -0.8
baz=204
BELA **Belgrano 2** 82.12 173 P P 23 39 14.6 -0.4
BELA IAmb IAmb 23 39 16.0
comp=Z,21nm,0.9s
LCMT **Little Creek M** 82.16 47 P P 23 39 16.7 +0.7
LCMT IAmb IAmb 23 39 18.3
comp=Z,7.7nm,0.8s
SUA **Susitna One** 82.17 13 IAmb IAmb 23 39 15.7
comp=Z,13nm,0.7s
SUA **Susitna One** 82.17 13 P P 23 39 14.4 -1.1
baz=206,SNR=12
PWL **Port Wells** 82.18 14 P P 23 39 15.0 -0.4
PWL IAmb IAmb 23 39 15.7
comp=Z,20nm,0.9s
PWL **Port Wells** 82.18 14 P P 23 39 14.3 -1.1
baz=209
X16A **Lo Mia Camp, P** 82.21 50 IAmb IAmb 23 39 19.2
comp=Z,11nm,1.0s
HIN **Hinchinbrook I** 82.22 15 P P 23 39 15.8 +0.2
D05A **Enumclaw** 82.23 35 P P 23 39 17.3 +1.3
D05A IAmb IAmb 23 39 19.0
comp=Z,22nm,1.1s
CBB **Campbell River** 82.24 31 P P 23 39 16.4 +0.5
CBB IAmb IAmb 23 39 17.6
comp=Z,34nm,1.3s
CCUT **Cedar City** 82.34 47 P P 23 39 18.2 +1.1
BBB **Bella Bella** 82.35 29 P P 23 39 17.4 +1.0
BBB IAmb IAmb 23 39 21.5
comp=Z,32nm,1.3s
SPR3 **Spring Creek 3** 82.39 45 P P 23 39 18.2 +0.8
SPR3 IAmb IAmb 23 39 19.0
comp=Z,5.6nm,0.7s
IPM **Ipoh** 82.43 277 P P 23 39 17.1 -0.7
IPM IAmb IAmb 23 39 18.8
comp=Z,25nm,0.7s
319A **Douglas** 82.45 54 P P 23 39 19.6 +2.0
319A IAmb IAmb 23 39 20.7
comp=Z,13nm,0.8s
KNB **Kanab** 82.45 47 P P 23 39 18.9 +1.4
KNB IAmb IAmb 23 39 20.1
comp=Z,7.9nm,0.8s
L20K **Farewell, AK** 82.47 11 P P 23 39 16.3 -0.5
baz=204,SNR=7.7
SKT **Skwentna** 82.47 12 P P 23 39 16.0 -0.8
SKT **Skwentna** 82.47 12 P P 23 39 15.3 -1.5
baz=206
PSUT **Pine Spring** 82.48 46 P P 23 39 19.0 +1.3
PSUT IAmb IAmb 23 39 19.7
comp=Z,7.7nm,0.7s
GLI **Glacier Island** 82.49 15 P P 23 39 16.6 -0.3
GLI IAmb IAmb 23 39 40.6
comp=Z,24nm,1.0s
GLI **Glacier Island** 82.49 15 P P 23 39 16.0 -0.9
baz=210
TTA **Tatalina** 82.51 10 P P 23 39 17.6 +0.5
TTA **Tatalina** 82.51 10 P P 23 39 17.1 0.0
baz=202,SNR=6.7
U15A **North Rim** 82.54 48 P P 23 39 19.5 +1.4
U15A IAmb IAmb 23 39 20.8
comp=Z,16nm,0.8s
KNK **Knik Glacier** 82.64 14 P P 23 39 17.7 +0.1
KNK IAmb IAmb 23 39 18.2
comp=Z,12nm,0.8s
KNK **Knik Glacier** 82.64 14 P P 23 39 16.9 -0.7
baz=209,SNR=5.4
PMR **Palmer** 82.64 14 P P 23 39 17.7 0.0
baz=208
ELK **Elko** 82.68 43 P P 23 39 19.5 +0.8
comp=Z,5.7nm,0.9s,baz=243,slow=4.8,SNR=9.1
comp=Z,5.7nm,0.9s
ELK **Elko** 82.68 43 P P 23 39 19.5 +0.8
WUAZ **Wupatki** 82.77 49 P P 23 39 19.6 +0.4
WUAZ **Wupatki** 82.77 49 P P 23 39 20.7 +1.5
baz=242
G08A **Pilot Rock** 82.84 38 P P 23 39 19.8 +0.5
G08A IAmb IAmb 23 39 21.1
comp=Z,7.4nm,0.7s
GHO **Glory Hole Cre** 82.85 14 P P 23 39 18.7 -0.1
SML **Sawmill** 83.01 14 P P 23 39 19.3 -0.3
SML **Sawmill** 83.01 14 P P 23 39 18.6 -1.0
baz=209
DIV **Divide** 83.04 15 P P 23 39 19.3 -0.4
DIV IAmb IAmb 23 39 20.3
comp=Z,14nm,0.6s
CUT **Chulitna** 83.12 13 pwP 23 41 27.3 +2.1
HAWA **Hanford** 83.14 37 P P 23 39 21.7 +1.2
HAWA IAmb IAmb 23 39 22.5
comp=Z,15nm,1.0s
M23K **Glacier View** 83.14 14 P P 23 39 18.9 -1.3
baz=209
PPLA **Purkeypile** 83.17 12 P P 23 39 19.7 -0.8
PPLA **Purkeypile** 83.17 12 P P 23 39 19.9 -0.5
baz=205
BMRM **Bremner River** 83.20 16 P P 23 39 20.4 -0.1
BMRM IAmb IAmb 23 39 20.8
comp=Z,11nm,0.6s
BMRM **Bremner River** 83.20 16 P P 23 39 19.9 -0.6
baz=212
WAX **Waxell Ridge** 83.23 17 P P 23 39 21.2 +0.5
WAX IAmb IAmb 23 39 21.9
comp=Z,30nm,1.1s
K20K **Telida** 83.24 11 P P 23 39 20.9 +0.3
K20K IAmb IAmb 23 39 21.5
comp=Z,14nm,0.8s
K20K **Telida** 83.24 11 P P 23 39 20.4 -0.3
baz=203,SNR=11
MESA **MESA** 83.26 17 P P 23 39 21.7 +0.7
MESA **MESA** 83.26 17 P P 23 39 21.2 +0.1
baz=215
SCM **Sheep Creek Mo** 83.27 14 P P 23 39 21.0 +0.1
SCM **Sheep Creek Mo** 83.27 14 P P 23 39 20.3 -0.6
baz=210,SNR=8.2
KLU **Klutina** 83.31 15 P P 23 39 20.9 -0.2
KLU **Klutina** 83.31 15 P P 23 39 21.4 +0.3
baz=211
MTPU **Mount Pierson** 83.39 47 P P 23 39 22.8 +0.4
MTPU IAmb IAmb 23 39 25.4
comp=Z,8.8nm,1.0s
BMO **Blue Mountains** 83.57 39 P P 23 39 23.1 +0.2
MSU **Marysvale** 83.62 46 P P 23 39 25.1 +1.7
CAST **Castle Rocks** 83.67 12 P P 23 39 21.1 -1.7
CAST IAmb IAmb 23 39 22.6
comp=Z,15nm,0.7s
CAST **Castle Rocks** 83.67 12 P P 23 39 20.9 -1.9
baz=205,SNR=23
MFID **Camas Ranch** 83.70 41 P P 23 39 24.0 +0.4
MFID IAmb IAmb 23 39 25.6
comp=Z,8.6nm,1.0s
TABL **Table Mountain** 83.70 18 P P 23 39 23.6 +0.4
TABL IAmb IAmb 23 39 24.2
comp=Z,16nm,0.8s
N25K **Chitina, Valde** 83.74 16 P P 23 39 22.8 -0.5
N25K PcP 23 39 23.2 -2.7
N25K IAmb IAmb 23 39 24.1
comp=Z,17nm,0.7s
N25K **Chitina, Valde** 83.74 16 P P 23 39 23.0 -0.3
baz=212,SNR=8.6
PMSA **Palmer Station** 83.77 157 P P 23 39 25.4 +2.0
comp=Z,2.9nm,0.8s,baz=286,slow=7.4,SNR=1.7
comp=Z,2.9nm,0.8s
W18A **Petrified Fore** 83.77 50 P P 23 39 24.5 +0.3
W18A IAmb IAmb 23 39 26.0
comp=Z,5.7nm,0.6s
M24K **Tolsona, Glenn** 83.78 15 P P 23 39 23.5 +0.2
M24K **Tolsona, Glenn** 83.78 15 P P 23 39 23.6 +0.2
baz=211
GLB **Gilahina Butte** 83.80 16 P P 23 39 23.7 +0.2
GLB IAmb IAmb 23 39 24.2
comp=Z,13nm,0.6s
SEY **Seymchan** 83.82 347 P P 23 39 23.0 -0.5
comp=Z,5.6nm,0.6s,baz=160,slow=5.5,SNR=13
comp=Z,5.6nm,0.6s
MAW **Mawson** 83.82 200 P P 23 39 24.4 +0.8
comp=Z,6.8nm,0.4s,baz=147,slow=4.1,SNR=48
comp=Z,6.8nm,0.4s
MAW **Mawson** 83.82 200 P P 23 39 24.1 +0.5
WAT6 **Susitna Watana** 83.83 14 P P 23 39 23.4 -0.4
baz=209,SNR=9.8
RPSI **Rantau Prapat** 83.86 275 P P 23 39 23.7 -1.1
RPSI IAmb IAmb 23 39 25.1
comp=Z,22nm,0.8s
D08A **Wollman Farm,** 83.86 36 IAmb IAmb 23 39 25.9
comp=Z,12nm,1.0s
WAT1 **Susitna Watana** 83.86 13 P P 23 39 23.0 -0.8
baz=208
PSI **Prapat** 83.89 275 P P 23 39 24.3 -0.9
comp=Z,22nm,0.7s,baz=53,slow=3.3,SNR=7.5
comp=Z,22nm,0.7s
J20K **Nowinta River** 83.99 10 IAmb IAmb 23 39 25.2
comp=Z,6.6nm,0.7s
J20K **Nowinta River** 83.99 10 P P 23 39 24.3 0.0
baz=203,SNR=7.4
KTH **Kantishna Hill** 84.02 12 P P 23 39 23.0 -1.5
KTH IAmb IAmb 23 39 24.1
comp=Z,8.9nm,0.9s
CHUM **Lake Minchumin** 84.05 11 P P 23 39 24.0 -0.6
baz=205
TRF **Thorofare Moun** 84.05 12 P P 23 39 24.1 -0.7
TRF IAmb IAmb 23 39 24.8
comp=Z,21nm,0.8s
TRF **Thorofare Moun** 84.05 12 P P 23 39 23.7 -1.2
baz=207,SNR=22
LOGN **Logan Glacier** 84.06 17 P P 23 39 25.0 0.0
LOGN IAmb IAmb 23 39 25.9
comp=Z,16nm,1.2s
CTG **Chitna Glacier** 84.08 17 P P 23 39 25.4 +0.4
baz=215
P29M **Windy Craggy** 84.08 19 P P 23 39 25.6 +0.6
P29M IAmb IAmb 23 39 26.5
comp=Z,13nm,0.8s
P29M **Windy Craggy** 84.08 19 P P 23 39 25.4 +0.5
baz=219
121A **Cookes Peak, D** 84.09 53 P P 23 39 26.9 +1.1
121A **Cookes Peak, D** 84.09 53 P P 23 39 27.2 +1.4
baz=244
F10A **Beach Ranch, E** 84.23 38 P P 23 39 26.4 +0.3
F10A IAmb IAmb 23 39 28.0
comp=Z,15nm,0.9s
O28M **Mount Upton** 84.25 18 P P 23 39 25.9 -0.1
baz=216
HARP **HAARP** 84.28 15 P P 23 39 25.7 -0.1
baz=212
ENH **Enshi** 84.30 304 P P 23 39 26.8 +0.1
RND **Reindeer** 84.31 13 IAmb IAmb 23 39 26.5
comp=Z,18nm,0.7s
DHY **Denali Highway** 84.34 14 IAmb IAmb 23 39 26.2
comp=Z,5.2nm,0.5s
DHY **Denali Highway** 84.34 14 P P 23 39 25.5 -0.7
baz=210,SNR=6.4
LLLB **Lillooet** 84.35 32 P P 23 39 26.6 +0.2
O29M **Mount Kennedy** 84.35 19 P P 23 39 26.6 +0.3
baz=218
B08A **Colville Reser** 84.37 35 IAmb IAmb 23 39 27.6
comp=Z,8.5nm,0.8s
PLBC **Pleasant Camp** 84.39 20 P P 23 39 26.9 +0.6
baz=220
BPAW **Bear Paw Mtn.** 84.50 12 P P 23 39 25.7 -1.1
BPAW **Bear Paw Mtn.** 84.50 12 P P 23 39 26.2 -0.7
baz=206
MCK **McKinley** 84.58 13 P P 23 39 27.2 -0.1
MCK IAmb IAmb 23 39 27.5
comp=Z,13nm,1.0s
MCK **McKinley** 84.58 13 P P 23 39 27.0 -0.2
baz=208,SNR=6.2
HLID **Hailey** 84.66 41 P P 23 39 29.5 +1.2
HLID IAmb IAmb 23 39 30.6
comp=Z,6.4nm,0.8s
HLID **Hailey** 84.66 41 P P 23 39 29.6 +1.2
baz=239,SNR=12
PAX **Paxson** 84.69 14 P P 23 39 27.1 -0.8
baz=211
GSI **Gunungsitoli** 84.71 273 P P 23 39 28.8 -0.2
GSI **Gunungsitoli** 84.71 273 P P 23 39 29.8 +0.8
comp=Z,52nm,0.8s
P30M **Million Dollar** 84.72 19 P P 23 39 28.7 +0.7
baz=219

HVU	**Hansel Valley**	84.81	43	P		**P**	23 39 29.6	+0.5
M26K	**Nabesna, AK**	84.82	16	P		**P**	23 39 28.6	+0.1
M26K				IAmb		IAmb	23 39 30.1	
	comp=Z,10nm,0.9s							
M26K	**Nabesna, AK**	84.82	16	P		**P**	23 39 28.4	-0.1
	baz=214,SNR=7.9							
BWN	**Browne**	84.86	12	P		**P**	23 39 28.8	+0.2
YUK3	**Moose Creek**	84.99	17	P		**P**	23 39 29.8	+0.3
	baz=216,SNR=7.8							
SRU	**San Rafael Swe**	85.04	46	P		**P**	23 39 30.8	+0.5
SRU				IAmb		IAmb	23 39 32.1	
	comp=Z,6.4nm,0.7s							
M27K	**Edge Creek, AK**	85.08	16	P		**P**	23 39 30.0	+0.2
M27K				IAmb		IAmb	23 39 31.2	
	comp=Z,14nm,1.1s							
M27K	**Edge Creek, AK**	85.08	16	P		**P**	23 39 30.2	+0.4
	baz=215,SNR=5.9							
S34M	**Telegraph Cree**	85.08	23	P		**P**	23 39 30.6	+0.8
	baz=225,SNR=10							
HYT	**Haines Junctio**	85.09	19	P		**P**	23 39 30.2	+0.2
HYT	**Haines Junctio**	85.09	19	P		**P**	23 39 30.3	+0.4
	baz=219							
KCSI	**Kotacane, Aceh**	85.21	275	P		**P**	23 39 31.0	-0.5
	comp=Z,31nm,1.2s							
L26K	**Log Cabin Wild**	85.25	15	P		**P**	23 39 31.1	+0.5
	baz=213							
I21K	**Tanana**	85.29	11	P		**P**	23 39 31.0	+0.4
	baz=205,SNR=5.2							
K24K	**Donnelly Dome**	85.33	14	P		**P**	23 39 30.5	-0.4
	baz=211							
P32M	**Atlin**	85.38	21	P		**P**	23 39 31.4	+0.2
	baz=222							
MLY	**Manley**	85.38	11	P		**P**	23 39 29.8	-1.3
	baz=206,SNR=6.4							
WRH	**Wood River Hil**	85.41	13	IAmb		IAmb	23 39 32.1	
	comp=Z,10.0nm,1.0s							
Q32M	**Nakina River**	85.42	22	P		**P**	23 39 32.1	+0.4
	baz=224							
O30N	**Mendenhall**	85.49	19	P		**P**	23 39 31.9	+0.1
	baz=220							
RIDG	**Independent Ri**	85.50	14	P		**P**	23 39 30.9	-0.8
	baz=212							
NEW	**Newport**	85.54	36	P		**P**	23 39 32.8	+0.5
NEW				IAmb		IAmb	23 39 33.4	
	comp=Z,4.4nm,0.7s							
NEW	**Newport**	85.54	36	P		**P**	23 39 32.5	+0.2
	baz=237							
H21K	**Melozitna Rive**	85.58	10	P		**P**	23 39 31.6	-0.5
	baz=204							
HDA	**Harding Lake**	85.60	13	P		**P**	23 39 31.9	-0.2
HDA				IAmb		IAmb	23 39 32.4	
	comp=Z,9.1nm,1.0s							
HDA	**Harding Lake**	85.60	13	P		**P**	23 39 32.1	0.0
	baz=210							
MNTX	**Cornudas Mount**	85.60	55	P		**P**	23 39 34.4	+1.5
MNTX	**Cornudas Mount**	85.60	55	P		**P**	23 39 33.9	+1.0
	baz=246							
DOT	**Dot Lake**	85.60	15	P		**P**	23 39 32.3	+0.1
DOT				IAmb		IAmb	23 39 32.8	
	comp=Z,6.6nm,0.8s							
CCB	**Clear Creek Bu**	85.62	13	P		**P**	23 39 31.5	-0.7
CCB				IAmb		IAmb	23 39 31.7	
	comp=Z,6.8nm,0.6s							
L27K	**Beaver Creek,**	85.67	16	P		**P**	23 39 33.0	+0.5
	baz=215							
N30M	**Aishikik Lake**	85.72	19	P		**P**	23 39 32.3	-0.5
	baz=219							
I23K	**Minto, Yukon-K**	85.75	12	P		**P**	23 39 32.4	-0.4
	baz=208							
XLT	**XiLinHaoTe**	85.78	319	*e*P		**P**	23 39 34.9	+1.3
XLT				pP		pP	23 41 30.0	-8.0
XLT				sP		sP	23 42 25.1	-11
WHY	**Whitehorse**	85.79	20	P		**P**	23 39 33.2	-0.1
	baz=221							
DLBC	**Dease Lake**	85.87	23	P		**P**	23 39 34.2	+0.6
	baz=226							
SCRK	**Sand Creek**	85.90	14	P		**P**	23 39 33.6	-0.1
	baz=213							
IL31		85.93	13	IAmb		IAmb	23 39 33.7	
	comp=Z,4.7nm,0.7s							
ILAR	**Eielson Array**	85.93	13	P		**P**	23 39 32.8	-0.9
	comp=Z,2.7nm,0.4s,baz=221,slow=5.1,SNR=38							
ILAR				PP		**PP**	23 43 06.4	+1.6
	comp=Z,1.1nm,0.9s,baz=217,slow=8.6,SNR=5.0							
	comp=Z,2.7nm,0.4s							
TX32	**Lajitas Array**	86.01	58	P		**P**	23 39 36.4	+1.4
TX32				IAmb		IAmb	23 39 38.2	
	comp=Z,9.6nm,0.9s							
TXAR	**Lajitas Array**	86.01	58	P		**P**	23 39 37.2	+2.2
	comp=Z,6.3nm,0.8s,baz=219,slow=6.1,SNR=86							
	comp=Z,6.3nm,0.8s							
H22K	**Ishtalitna Cre**	86.04	11	P		**P**	23 39 34.1	-0.1
	baz=206							
M29M	**Somme Creek**	86.09	17	P		**P**	23 39 35.0	+0.4
	baz=218							
POKR	**Poker Plat Res**	86.11	13	P		**P**	23 39 34.2	-0.4
	baz=209							
ANMO	**Albuquerque**	86.12	52	P		**P**	23 39 36.0	+0.4
	comp=Z,2.7nm,0.9s,baz=220,slow=6.3,SNR=7.6							
	comp=Z,2.7nm,0.9s							
ANMO	**Albuquerque**	86.12	52	P		**P**	23 39 35.9	+0.4
	baz=245							
J25K	**Salcha River,**	86.12	14	P		**P**	23 39 34.6	0.0
J25K				IAmb		IAmb	23 39 34.7	
	comp=Z,4.6nm,0.6s							
J25K	**Salcha River,**	86.12	14	P		**P**	23 39 34.3	-0.4
	baz=211,SNR=11							
N31M	**Braeburn, Yuko**	86.14	19	P		**P**	23 39 35.1	+0.3
	baz=220							
P33M	**Teslin, Yukon**	86.14	21	P		**P**	23 39 35.8	+0.9
	baz=223							
R33M	**Jennings River**	86.20	22	P		**P**	23 39 35.8	+0.5
	baz=225							
G21K	**Allakaket**	86.25	10	P		**P**	23 39 35.4	+0.2
	baz=204							
XAN	**Xi'an**	86.29	307	⇑P		**P**	23 39 37.1	+0.9
XAN				pmax		pmax		
	comp=Z,26nm,1.0s							
XAN				pmax		pmax		
	comp=Z,93nm,5.2s							
K27K	**Chicken**	86.41	15	P		**P**	23 39 36.8	+0.9
	baz=214							
J26L	**Joseph Creek**	86.44	14	P		**P**	23 39 36.1	-0.1
J26L				IAmb		IAmb	23 39 37.5	
	comp=Z,6.6nm,0.7s							
J26L	**Joseph Creek**	86.44	14	P		**P**	23 39 36.2	0.0
	baz=213,SNR=12							
MSO	**Missoula**	86.61	38	P		**P**	23 39 37.3	-0.2
	baz=239							
M30M	**Minto, Yukon**	86.67	18	P		**P**	23 39 37.2	-0.1
	baz=219,SNR=7.8							
REDW	**Red Top Meadow**	86.82	42	P		**P**	23 39 39.4	+0.7
REDW				IAmb		IAmb	23 39 40.9	
	comp=Z,13nm,1.1s							
PRP	**Porcupine Dome**	86.86	13	P		**P**	23 39 37.9	-0.4
PRP	**Porcupine Dome**	86.86	13	P		**P**	23 39 37.6	-0.7
	baz=211							
F21K	**Alatna River**	86.90	9	P		**P**	23 39 38.1	-0.2
	baz=204							
IMW	**Indian Meadow**	87.01	42	P		**P**	23 39 40.1	+0.5
IMW				IAmb		IAmb	23 39 41.9	
	comp=Z,9.5nm,0.8s							
G23K	**Bananza Creek**	87.02	11	P		**P**	23 39 39.8	+0.9
	baz=207							
S22A	**4UR Ranch, Cre**	87.03	49	P		**P**	23 39 40.9	+1.0
S22A	**4UR Ranch, Cre**	87.03	49	P		**P**	23 39 41.1	+1.2
	baz=245							
MOOW	**Moose Ponds**	87.07	42	P		**P**	23 39 40.4	+0.5
O20A	**White River Ci**	87.08	46	P		**P**	23 39 40.4	+0.4
O20A				IAmb		IAmb	23 39 42.0	
	comp=Z,6.8nm,1.0s							
O20A	**White River Ci**	87.08	46	P		**P**	23 39 40.2	+0.2
	baz=244							
LOHW	**Long Hollow**	87.09	42	P		**P**	23 39 40.0	0.0
LOHW				IAmb		IAmb	23 39 41.9	
	comp=Z,4.3nm,0.7s							
M31M	**Drury Creek, Y**	87.11	19	P		**P**	23 39 39.8	+0.4
	baz=222							
DAWY	**Dawson**	87.13	16	P		**P**	23 39 39.7	+0.3
	baz=217							
I26K	**Coal Creek Min**	87.21	14	P		**P**	23 39 40.1	+0.4
I26K	**Coal Creek Min**	87.21	14	P		**P**	23 39 40.1	+0.4
	baz=213							
EGAK	**Eagle**	87.25	15	P		**P**	23 39 40.2	+0.3
	baz=215,SNR=5.6							
HHC	**Hu-ho-hao-te**	87.30	314	*e*P		**P**	23 39 44.8	+3.9
HHC				pmax		pmax		
	comp=Z,13nm,0.9s							
HHC				pmax		pmax		
	comp=Z,150nm,5.8s							
HHC				LR		LR		
	comp=N,580nm,16.5s							
HHC				LR		LR		
	comp=E,580nm,17.1s							
HHC				LR		LR		
	comp=Z,950nm,16.5s							
F22K	**John River**	87.37	10	P		**P**	23 39 40.5	+0.1
	baz=205							
BW06	**Boulder Array**	87.38	43	P		**P**	23 39 41.4	+0.1
	baz=243							
PD31	**Pinedale Array**	87.38	43	P		**P**	23 39 41.8	+0.5
PD31				IAmb		IAmb	23 39 42.7	
	comp=Z,4.9nm,0.7s							
PDAR	**Pinedale Array**	87.38	43	P		**P**	23 39 41.8	+0.5
	comp=Z,4.1nm,0.6s,baz=218,slow=3.4,SNR=44							
PDAR				pP		**pwP**	23 41 47.9	-0.7
	comp=Z,0.6nm,0.9s,baz=263,slow=5.1,SNR=2.6							
PDAR				PP		**PP**	23 43 15.4	-1.7
	comp=Z,0.6nm,0.7s,baz=243,slow=6.5,SNR=5.8							
	comp=Z,4.1nm,0.6s							
BOZ	**Bozeman (W)**	87.39	40	P		**P**	23 39 41.9	+0.6
BOZ				IAmb		IAmb	23 39 43.4	
	comp=Z,6.8nm,1.2s							
BOZ	**Bozeman (W)**	87.39	40	P		**P**	23 39 41.8	+0.6
	baz=241,SNR=6.0							
H25K	**Birch Creek**	87.45	13	P		**P**	23 39 40.3	-0.5
	baz=211							
COLD	**Coldfoot**	87.45	11	P		**P**	23 39 40.9	+0.1
	baz=207							
K29M	**Barlow Dome**	87.45	17	P		**P**	23 39 40.9	-0.1
	baz=219							
FARO	**Faro, Yukon**	87.46	19	P		**P**	23 39 40.6	-0.4
	baz=222							
G24K	**Hadweenzic Riv**	87.49	12	P		**P**	23 39 40.6	-0.4
	baz=209							
I27K	**Kandik River**	87.82	14	P		**P**	23 39 42.0	-0.6
	baz=215							
SDCO	**Great Sand Dun**	87.99	49	P		**P**	23 39 44.7	+0.4
	baz=246							
F24K	**Squaw Lake**	88.13	11	P		**P**	23 39 44.3	+0.2
	baz=209							
CRAI	**Chiangrai**	88.22	292			pP	23 41 43.9	-6.7
H27K	**Steamboat Moun**	88.36	14	P		**P**	23 39 45.2	+0.1
	baz=215							
MMPY	**Sheldon Lake,**	88.41	20	P		**P**	23 39 46.3	+0.9
	baz=224,SNR=7.0							
I29M	**Ogilvie Camp,**	88.44	16	P		**P**	23 39 44.8	-0.7
	baz=218							
G26K	**Porcupine Rive**	88.46	13	P		**P**	23 39 46.2	+0.8
	baz=213							
E24K	**Your Creek**	88.51	11	P		**P**	23 39 45.8	0.0
	baz=208							
MSTX	**Muleshoe**	88.51	54	P		**P**	23 39 46.7	0.0
MSTX				IAmb		IAmb	23 39 48.3	
	comp=Z,8.6nm,1.1s							
MSTX	**Muleshoe**	88.51	54	P		**P**	23 39 47.5	+0.8
	baz=247							
F25K	**Christian Rive**	88.62	12	P		**P**	23 39 46.9	+0.5
	baz=211							
RLMT	**Red Lodge**	88.64	41	P		**P**	23 39 47.7	+0.6
RLMT	**Red Lodge**	88.64	41	P		**P**	23 39 48.5	+1.4
	baz=243							
TGTN	**Hyland Airport**	88.65	22	P		**P**	23 39 47.8	+1.2
	baz=227							
GCMT	**Greycliff**	88.70	41			pP	23 41 46.2	-5.9
Q24A	**Divide**	88.74	48	P		**P**	23 39 49.1	+1.3
	baz=246							
ISCO	**Idaho Springs**	88.76	47	P		**P**	23 39 48.9	+1.0
	baz=245							
G27K	**Doyon Strip**	88.81	14	P		**P**	23 39 47.4	+0.2
	baz=215							
CMAR	**Chiang Mai Arr**	88.90	290	P		**P**	23 39 49.9	+1.2
	comp=Z,7.3nm,0.9s,baz=110,slow=2.9,SNR=19							
	comp=Z,7.3nm,0.9s							
CMAR	**Chiang Mai Arr**	88.90	290	P		**P**	23 39 49.1	+0.4
D23K	**Nanushuk River**	88.94	10	P		**P**	23 39 47.7	+0.1
	baz=206							
N23A	**Red Feather La**	88.98	46	P		**P**	23 39 49.0	+0.1
	baz=245							
E25K	**Arctic Village**	89.09	12	P		**P**	23 39 49.0	+0.6
	baz=211							
PZH	**PanZhiHua**	89.18	298	P		**P**	23 39 50.9	+0.9
PZH				pmax		pmax		
	comp=Z,30nm,1.0s							
PZH				pmax		pmax		
	comp=Z,120nm,4.5s							
PZH				pmax		pmax		
	comp=Z,20nm,0.8s							
PZH				pmax		pmax		
	comp=Z,110nm,8.0s							
K22A	**Casper**	89.33	45	P		**P**	23 39 51.1	+0.8
	baz=245							
JCT	**Junction City**	89.55	58	P		**P**	23 39 52.1	+0.6
	baz=249							
EPYK	**Eagle Plains**	89.64	16	P		**P**	23 39 51.4	+0.3
	baz=219							
C23K	**Itkillik River**	89.73	9	P		**P**	23 39 52.2	+0.9
	baz=206							
C24K	**Franklin Bluff**	89.93	10	P		**P**	23 39 52.9	+0.6
	baz=208							
TROLL	**Troll, Antarti**	90.27	180	P		**P**	23 39 53.9	-0.3
SNAA	**Sanae**	90.56	179	P		**P**	23 39 54.9	-0.5
SNAA	**Sanae**	90.56	179	IAmb		IAmb	23 39 55.7	
	comp=Z,5.6nm,0.8s							
VNA3	**Neumayer Olymp**	90.70	176	P		**P**	23 39 56.0	0.0
C27K	**Jago River**	90.73	11	P		**P**	23 39 57.0	+1.0
	baz=213							
LZH	**Lanzhou**	90.92	308	*e*P		**P**	23 39 58.9	+1.1
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
VNA2	**Neumayer--Watz**	91.14	177	P		**P**	23 39 57.8	-0.2
	baz=193,slow=4.0							
F31M	**Tsiigehtchic**	91.22	16	P		**P**	23 39 58.8	+0.6
	baz=222							
VNA1	**Neumayer--Stat**	91.36	177	P		**P**	23 39 59.9	+0.8
435B	**Jarrell**	91.45	58	P		**P**	23 39 59.0	-1.2
	baz=250							
RSSD	**Black Hills**	91.59	44	P		**P**	23 40 00.2	-0.6
RSSD				IAmb		IAmb	23 40 02.1	
	comp=Z,4.7nm,0.9s							
RSSD	**Black Hills**	91.59	44	P		**P**	23 40 01.5	+0.7
	baz=246							
WMOK	**Wichita Mounta**	91.86	54	P		**P**	23 40 00.7	-1.3
	baz=250							
INK	**Inuvik**	91.92	15	P		**P**	23 40 01.1	-0.3
	baz=222							
WHTX	**Lake Whitney,**	91.96	57	P		**P**	23 40 02.5	0.0
	baz=250							
R32A	**Long Quarter,**	93.20	51	P		**P**	23 40 08.3	+0.2
DGMT	**Dagmar**	93.22	40	P		**P**	23 40 08.8	+0.8
	baz=242							
SONM	**Songino Array**	93.58	319	P		**P**	23 40 10.1	+0.3
	comp=Z,0.5nm,0.5s,baz=130,slow=4.0,SNR=6.3							
	comp=Z,0.5nm,0.5s							
YKA	**Yellowknife Ar**	94.37	25	P		**P**	23 40 12.3	-0.4
	comp=Z,1.5nm,0.7s,baz=239,slow=17,SNR=2.4							
	comp=Z,1.5nm,0.7s							
KSU1	**Kansas State U**	94.97	51	P		**P**	23 40 16.5	+0.4
WMQ	**Urumqi**	104.96	312	*e*P		**Pdif**	23 41 01.8	+1.2
ZALV	**Zalesovo Beam**	108.27	322	PKiKP		**PKiKP**	23 45 16.1	-1.4
	comp=Z,1.0nm,0.5s,baz=188,slow=1.4,SNR=3.3							
MKAR	**Makanchi Array**	109.17	314	PKiKP		**PKiKP**	23 45 18.3	-1.2
	comp=Z,1.6nm,0.5s,baz=173,slow=0.7,SNR=28							
KKAR	**Karatay Array**	117.34	310			**PKPdf**	23 45 34.0	-1.2
OPO	**Ambohidratompo**	122.34	233	PKP		**PKiKP**	23 45 45.8	-0.1
	comp=Z,3.1nm,0.7s,baz=173,slow=1.8,SNR=3.2							
ARU	**Arti**	122.89	326			**PKPdf**	23 45 45.0	-0.4
ARCES	**ARCESS Array B**	126.36	350	PKP		**PKPdf**	23 45 51.3	-0.4
	comp=Z,1.5nm,0.7s,baz=64,slow=2.1,SNR=5.8							
GEYT	**Alibek,**	127.06	304	PKP		**PKPdf**	23 45 53.9	-0.2
	comp=Z,2.7nm,0.7s,baz=75,slow=1.6,SNR=4.5							
FINES	**FINESS Array B**	133.23	344	PKhKP	PKPpre		23 45 58.2	
	comp=Z,2.4nm,0.9s,baz=69,slow=5.0,SNR=4.5							
FINES				SKPbc		**SKPbc**	23 48 40.1	+0.8
	comp=Z,1.1nm,0.6s,baz=48,slow=2.8,SNR=4.8							
NOA	**NORSAR Array B**	136.42	353	PKhKP	PKPpre		23 46 01.5	
	comp=Z,0.4nm,0.9s,baz=24,slow=4.4,SNR=1.6							
NOA				PKP		**PKPdf**	23 46 10.8	-0.1
	comp=Z,0.5nm,0.7s,baz=13,slow=4.1,SNR=1.9							
KMBO	**Kilima Mbogo**	140.12	245	PKhKP	PKPpre		23 46 13.7	
	comp=Z,0.7nm,0.6s,baz=193,slow=7.2,SNR=3.7							
AKASG	**Malin Array Be**	140.60	332	PKhKP	PKPpre		23 46 12.3	
	comp=Z,0.6nm,0.4s,baz=45,slow=4.0,SNR=5.1							
AKASG				PKP		**PKiKP**	23 46 20.5	-1.1
	comp=Z,1.9nm,0.4s,baz=46,slow=4.0,SNR=7.9							
LODK	**Lodwar**	143.91	250			PKPbc	23 46 25.2	-0.1
KWP	**Kalwaria Pacla**	144.11	336	*e*PKP		PKPbc	23 46 24.7	0.0
VASR	**Vaslui**	144.15	329	⇑P		**PKPab**	23 46 25.4	+0.2
VLDR	**Vladesti**	144.55	327	⇑P		**PKPab**	23 46 26.9	+0.1
TLCR		144.61	326	⇑P		**PKPab**	23 46 26.8	-0.3
BURAR	**Bucovina Array**	144.65	332	⇑P		**PKPab**	23 46 27.5	+0.2
OJC	**Ojcow**	144.65	340	*e*PKP		**PKPdf**	23 46 25.3	-0.7
GHRR		144.74	328	⇑P		**PKPab**	23 46 27.9	+0.4
BIZ	**Bicaz**	144.75	330	⇑P		**PKPab**	23 46 27.7	+0.2
TESR	**Tescani**	144.79	330	⇑P		**PKPdf**	23 46 26.1	-0.3
BR131	**Keskin Array S**	144.81	315			**PKPdf**	23 46 26.8	0.0
BRTR	**Keskin Array B**	144.81	315	PKP		**PKPdf**	23 46 26.8	0.0
	comp=Z,4.5nm,0.4s,baz=106,slow=3.2,SNR=33							
BRTR				SKPbc		**SKiKP**	23 49 12.8	+0.3
	comp=Z,0.4nm,0.6s,baz=151,slow=3.3,SNR=2.1							
KOLS	**Kolonicke sedl**	144.84	336	*e*PKP		PKPbc	23 46 27.4	+0.4
CFR	**Carcaliu**	144.97	327	⇑P		PKPbc	23 46 27.7	+0.2
TPGR	**Topolog**	145.04	326	⇑P		**PKPbc**	23 46 28.2	+0.5
KSP	**Ksiaz**	145.15	344	*e*PKP		**PKPbc**	23 46 28.4	+0.6
NIE	**Niedzica**	145.16	338	*e*PKP		**PKPab**	23 46 28.7	-0.4
TIRR	**Tirgusor**	145.30	325	⇑P		**PKPbc**	23 46 28.2	-0.3
ANTO	**Ankara**	145.31	316			**PKPbc**	23 46 28.9	+0.1
BMR	**Baia Mare**	145.35	334	⇑P		**PKPbc**	23 46 28.9	+0.4
HARR	**Harsova**	145.41	326	⇑P		**PKPbc**	23 46 29.2	+0.5
OSTC	**Ostas**	145.43	344	*e*PKP		**PKPbc**	23 46 28.6	-0.1
COVR	**Voineasa-Covas**	145.49	329	⇑P		**PKPbc**	23 46 28.3	-0.7
CLL	**Collm**	145.50	347	⇓ *i* PKPbc		**PKPbc**	23 46 28.7	-0.1
	comp=Z,8.0nm,1.0s							
CLL				*e*PKiKP		**PKiKP**	23 46 34.0	+2.4
CLL				*i* x		x	23 46 38.2	
	comp=Z,4.0nm,0.8s							
CLL				*i* x		x	23 46 44.4	
DPC	**Dobruska-Polom**	145.59	343	*e*PKP		**PKPbc**	23 46 29.7	+0.5
LANS	**Liptovska Anna**	145.68	339	*e*PKP		**PKPab**	23 46 30.7	-0.5
BRG	**Berggiesshubel**	145.71	346	*e*P		**PKPbc**	23 46 29.7	+0.3
BRG				Amp			23 46 30.4	
	comp=Z,4.8nm,0.8s							
KRLC	**Kraliky**	145.71	343	*e*PKP		**PKPbc**	23 46 29.7	+0.2
MORC	**Moravsky Berou**	145.75	342	*e*PKP		**PKPbc**	23 46 29.7	+0.1
DOPR	**Dopca**	145.79	330	⇓P		**PKPbc**	23 46 30.6	+0.7
ISR	**Istrita**	145.83	328	⇓P		**PKPbc**	23 46 30.7	+0.7
MLR	**Muntele Rosu**	145.87	329	⇑P		**PKPdf**	23 46 28.7	+0.3
MLR	**Muntele Rosu**	145.87	329			**PKPdf**	23 46 28.8	+0.5
PVCC	**Panska Ves**	145.88	345	*e*PKP		**PKPbc**	23 46 29.4	-0.5
MAUC	**Maruska**	146.03	341	*e*PKP		**PKPbc**	23 46 31.1	+0.7
CBBR	**Cluj-Babes-Bol**	146.03	333	⇓P		**PKPbc**	23 46 30.5	+0.1
CJR	**Cluj-Napoca**	146.05	333	⇑P		**PKPbc**	23 46 31.2	+0.6
LTVH	**Ltavrtes, Hu**	146.24	335	⇓P		**PKPbc**	23 46 31.7	+0.7
VOIR		146.34	330	⇑P		**PKPbc**	23 46 31.5	+0.1
DRGR		146.38	333	⇑P		**PKPbc**	23 46 31.1	-0.4
PRU	**Pruhonice**	146.38	345	*e*PKP		**PKPbc**	23 46 31.5	+0.2
VRAC	**Vranov**	146.45	342	*e*PKP		**PKPbc**	23 46 31.6	0.0
VYHS	**Vyhne**	146.46	339	*e*PKP		**PKPbc**	23 46 32.2	+0.6
JAVC	**Velka Javorina**	146.52	341	*e*PKP		**PKiKP**	23 46 32.9	-1.0
BORR	**Bors**	146.53	335	⇑P		**PKPbc**	23 46 31.7	-0.1
ARR	**Arges**	146.59	330	⇓P		**PKPbc**	23 46 31.5	-0.6
NKC	**Novy Kostel**	146.64	347	*e*PKP		**PKPbc**	23 46 32.4	+0.4
KRUC	**Moravsky**	146.73	342	*e*PKP		**PKPbc**	23 46 32.2	-0.1
HUMR	**Humele**	147.04	329	⇑P		**PKPbc**	23 46 32.7	-0.5
MODS	**Modra-Piesok**	147.07	341	*e*PKP		**PKPbc**	23 46 34.0	+0.7
SIRR	**Siria**	147.24	334	⇑P		**PKPbc**	23 46 34.2	+0.4
KHC	**Kasperske Hory**	147.42	345	*e*PKP		**PKPbc**	23 46 34.3	+0.1
GZR	**Gura Zlata**	147.44	332	⇓P		**PKPbc**	23 46 33.9	-0.5
CKRC	**Cesky Krumlov**	147.52	344	*e*PKP		**PKPbc**	23 46 34.8	+0.4
GERES	**GERESS Array B**	147.65	345	PKP		**PKPdf**	23 46 31.2	0.0
	comp=Z,3.5nm,0.5s,baz=35,slow=3.6,SNR=33							
GERES				PKPbc		**PKPbc**	23 46 34.8	0.0
	comp=Z,3.5nm,0.5s,baz=30,slow=3.4,SNR=47							
BZS	**Buzias**	147.77	333	⇓P		**PKPbc**	23 46 34.8	-0.3
CONA	**Conrad Observa**	147.90	342	*e*P		**PKiKP**	23 46 36.2	-0.6
	comp=Z,5.5nm,0.6s							
RONA	**Rosalia, Austr**	147.98	341	*i* P		**PKiKP**	23 46 36.3	-0.6
	comp=Z,5.3nm,0.6s,SNR=5.3							
HERR	**Herculane**	147.99	332	⇓P		**PKPbc**	23 46 35.5	-0.2
MDVR	**Moldovita**	148.39	332	⇑P		**PKPbc**	23 46 36.8	0.0

CHTO Sn 23 39 50.1 +0.7
PHRA Phrae 11.70 32 Pn 23 37 49.3 +0.5
PALK Pallekele 13.01 265 S Sn 23 40 16.9 -13
8.4nm,1.0s,baz=268,slow=13,SNR=2.0
CRAI Chiangrai 13.23 28 Pn **Pn 23 38 10.2 +0.4**
UBPT Khong Chiam 13.24 59 Pn **Pn 23 38 09.4 -0.4**
DSRI Dabo 14.02 129 P **Pn 23 38 20.0 -0.1**
33nm,0.8s
MNAI Manna 15.77 144 P **P 23 38 44.6 -0.6**
SHL Shillong 17.01 354 P 23 38 59.2 +0.2
KOHI KOHIMA 17.07 1 eP **Pn 23 38 54.3 -4.6**
KOHI IAmb IAmb 23 39 06.1
comp=Z,37nm,0.7s
PCHI Peechi 17.30 278 eP **P 23 39 04.0 +1.8**
KMI Kunming 18.55 26 ⇑P **Pn 23 39 17.9 +0.8**
KMI pP pP 23 39 27.1 -2.8
KMI pmax pmax
comp=Z,3.0nm,0.8s
PZH PanZhiHua 19.38 22 P **Pn 23 39 28.0 +1.2**
RAMN Ramite 19.51 340 eP **P 23 39 26.2 -0.4**
comp=Z,10nm,0.7s
TAPN Taplejung 19.55 344 eP **P 23 39 24.5 -2.6**
comp=Z,15nm,0.6s
JIRN Jiri 20.30 340 eP **P 23 39 34.6 -0.7**
PKI Pulchoki 20.50 338 eP **P 23 39 37.2 -0.2**
PKIN Phulchoki 20.50 338 eP **P 23 39 37.2 -0.2**
GUN Gumba 20.64 340 eP **P 23 39 38.0 -0.9**
LSA Lhasa 21.17 354 P **P 23 39 43.3 -1.5**
LSA IAmb IAmb 23 39 51.4
comp=Z,8.5nm,0.5s
GKN Gorkha 21.17 337 eP **P 23 39 43.6 -0.9**
comp=Z,25nm,0.8s
DANN Dangsing 21.83 336 eP **P 23 39 50.2 -1.4**
PYUN Piuthan 21.94 334 eP **P 23 39 52.5 -0.2**
MYLDM Lahad Datu 24.77 96 P **P 23 40 19.9 -0.2**
MYLDM IAmb IAmb 23 40 25.7
comp=Z,19nm,1.0s
H08S3 Diego Garcia H 26.63 233 T T 00 07 31.1
baz=52,slow=74
H08S2 Diego Garcia H 26.63 233 T T 00 07 24.2
baz=52
H08S1 Diego Garcia H 26.65 233 T T 00 07 27.4
baz=52,slow=74
LYN LuoYang 31.04 31⇓ eP **P 23 41 19.2 +3.3**
LYN pmax pmax
comp=Z,10.0nm,0.3s
GTA Gaotai 31.19 9 eP **P 23 41 17.2 -0.1**
GTA pmax pmax
comp=Z,4.0nm,0.8s
NIL Nilore 31.33 326 P **P 23 41 18.0 -0.5**
NIL IAmb IAmb 23 41 27.1
comp=Z,10nm,0.8s
KBL Kabul 34.41 322 P **P 23 41 45.8 +0.1**
KBL IAmb IAmb 23 42 18.1
comp=Z,5.6nm,1.1s
WMQ Urumqi 35.52 352 eP **P 23 41 56.3 +1.4**
WMQ pP pwP 23 42 16.2 +0.4
WMQ pmax pmax
comp=Z,12nm,0.7s
TARG Taragay, Kyrgy 35.92 339 P **P 23 41 58.6 -0.2**
TARG IAmb IAmb 23 42 30.2
comp=Z,9.3nm,1.4s
GAR Garm 36.90 329 P P 23 42 06.8 0.0
CHGR Chuyangaron 37.25 327 P P 23 42 09.2 -0.5
BTK Batken 37.46 331 P **P 23 42 11.5 0.0**
BTK IAmb IAmb 23 42 20.8
comp=Z,5.5nm,0.8s
AAK Ala-Archa 37.94 337 P **P 23 42 15.6 +0.1**
comp=Z,0.9nm,0.3s,baz=147,slow=8.5,SNR=5.2
comp=Z,0.9nm,0.3s
AAK Ala-Archa 37.94 337 P **P 23 42 15.0 -0.5**
AAK IAmb IAmb 23 42 17.1
comp=Z,5.2nm,1.1s
MK31 Makanchi Array 39.34 348 P **P 23 42 27.9 +0.8**
MK31 IAmb IAmb 23 42 37.0
comp=Z,5.9nm,1.2s
MKAR Makanchi Array 39.34 348 P **P 23 42 26.3 -0.8**
comp=Z,1.4nm,0.8s,baz=152,slow=8.2,SNR=7.7
comp=Z,1.4nm,0.8s
MKAR Makanchi Array 39.34 348 P P 23 42 27.7 +0.6
KK31 Karatay Array 39.99 333 P P 23 42 32.2 -0.3
KKAR Karatay Array 39.99 333 P P 23 42 32.0 -0.5
XLT XiLinHaoTe 40.21 25 eP **P 23 42 35.8 +1.4**
XLT pP pwP 23 42 54.8 -0.7
XLT sP sP 23 43 05.8 +7.2
XLT ScP **ScP 23 48 24.6 +4.2**
XLT PcS **PcS 23 48 30.5 +2.8**
XLT S **S 23 48 34.3 -2.0**
XLT ScS **ScS 23 52 32.2 -1.9**
XLT pmax pmax
comp=Z,16nm,0.8s
XLT pmax pmax
comp=Z,180nm,9.7s
XLT LR LR
comp=N,25nm,20.6s
XLT LR LR
comp=E,410nm,16.0s
XLT LR LR
comp=Z,340nm,22.7s
SONM Songino Array 40.58 13 P **P 23 42 36.8 -0.6**
comp=Z,0.5nm,0.6s,baz=197,slow=7.2,SNR=3.9
SONM PcP **PcP 23 44 39.3 +0.9**
comp=Z,0.8nm,0.7s,baz=187,slow=4.0,SNR=4.9
comp=Z,0.5nm,0.6s
SONM Songino Array 40.58 13 P P 23 42 37.2 -0.2
GEYT Alibeck 43.45 318 P **P 23 43 01.6 +0.7**
comp=Z,4.1nm,0.7s,baz=145,slow=8.1,SNR=8.3
comp=Z,4.1nm,0.7s
GEYT Alibeck 43.45 318 P **P 23 43 01.2 +0.3**
GEYT IAmb IAmb 23 43 11.0
comp=Z,7.4nm,0.7s
GYA0B ALIBECK ARRAY 43.45 318 P **P 23 43 01.2 +0.3**
GYA0B IAmb IAmb 23 43 10.9
comp=Z,8.2nm,0.8s
KURK Kurchatov 43.86 346 P **P 23 43 03.5 -0.4**
ZAA0 Zalesovo Array 45.83 353 P **P 23 43 18.9 -0.6**
ZAA0 IAmb IAmb 23 43 28.1
comp=Z,9.2nm,1.1s
ZALV Zalesovo Beam 45.83 353 P **P 23 43 19.2 -0.3**
comp=Z,5.0nm,0.9s,baz=168,slow=8.8,SNR=18
ZALV PcP **PcP 23 44 54.7 -1.1**
comp=Z,0.9nm,0.5s,baz=163,slow=5.9,SNR=1.7
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 45.83 353 P P 23 43 18.7 -0.7
NWAO Narrogin (SRO) 46.92 153 P **P 23 43 28.6 +0.2**
comp=Z,19nm,0.8s,baz=80,slow=6.1,SNR=6.6
comp=Z,19nm,0.8s
NWAO Narrogin (SRO) 46.92 153 P P 23 43 27.9 -0.4
JGF Kuroka 47.97 49 P P 23 43 35.9 -0.7
WB0 Warramunga Arr 48.91 126 P P 23 43 42.9 -1.0
WB0 IAmb IAmb 23 43 52.3
comp=Z,5.1nm,0.6s
WRA Warramunga Arr 48.95 126 P P 23 43 43.1 -1.1
comp=Z,1.1nm,0.5s,baz=306,slow=8.5,SNR=18
WRA PcP **PcP 23 45 07.4 -0.2**
comp=Z,0.5nm,0.7s,baz=305,slow=2.9,SNR=2.9
comp=Z,1.1nm,0.5s
WRA Warramunga Arr 48.95 126 P P 23 43 43.4 -0.9
WB2 Warramunga Arr 48.96 126 P P 23 43 43.9 -0.5
WB2 IAmb IAmb 23 43 52.9
comp=Z,4.0nm,0.7s
WR0 Warramunga Arr 49.12 126 P P 23 43 44.7 -0.9
WR0 IAmb IAmb 23 43 46.2
comp=Z,12nm,1.4s
ABKAR Akbulak array 49.46 331 P P 23 43 47.9 +0.3
ABKAR IAmb IAmb 23 43 56.6
comp=Z,6.3nm,1.2s
ASAR Alice Springs 50.63 130 P P 23 43 55.8 -1.3
comp=Z,1.5nm,0.7s,baz=302,slow=7.1,SNR=12
ASAR PcP **PcP 23 45 14.2 +0.5**
comp=Z,1.0nm,0.7s,baz=314,slow=3.6,SNR=5.9
comp=Z,1.5nm,0.7s
STKA Stephens Creek 60.84 134 P P 23 45 09.2 -0.7
comp=Z,1.7nm,0.5s,baz=297,slow=10,SNR=3.3
comp=Z,1.7nm,0.5s
NRIK Noril'sk 60.84 357 P **P 23 45 08.8 -0.5**
comp=Z,1.9nm,0.6s,baz=103,slow=3.3,SNR=4.4
comp=Z,1.9nm,0.6s
NRIK Noril'sk 60.84 357 P P 23 45 09.1 -0.2
NRIK IAmb IAmb 23 45 12.2
comp=Z,3.4nm,0.9s
BRTR Keskin Array B 61.71 311 P P 23 45 14.1 -1.8
comp=Z,0.6nm,0.7s,baz=118,slow=7.2,SNR=5.8
TIXI Tiksi 66.63 11 P **P 23 45 46.5 -0.8**
comp=Z,4.8nm,0.7s,baz=301,slow=8.8,SNR=2.0
comp=Z,4.8nm,0.7s

FINES FINESS Array B 71.94 332 P **P 23 46 19.9 -0.3**
comp=Z,1.7nm,0.6s,baz=101,slow=5.8,SNR=5.3
comp=Z,1.7nm,0.6s
PSZ Piszkesteto 72.89 317 P **P 23 46 24.9 -1.5**
PSZ IAmb IAmb 23 46 35.4
comp=Z,4.8nm,0.9s
OJC Ojcow 73.22 320 P **P 23 46 26.2 -2.0**
OJC IAmb IAmb 23 46 29.5
comp=Z,4.7nm,0.8s
MORC Moravsky Berou 74.62 319 P **P 23 46 35.5 -0.9**
MORC IAmb IAmb 23 46 37.4
comp=Z,5.4nm,1.2s
BOSA Boshof 75.65 238 P **P 23 46 44.0 +1.2**
comp=Z,2.9nm,0.6s,baz=94,slow=7.2,SNR=8.3
comp=Z,2.9nm,0.6s
CTI Castel Tesino 78.43 315 P **P 23 46 57.4 -0.7**
NB2 NORSAR Subarra 78.96 331 P **P 23 46 59.8 -0.8**
comp=Z,2.7nm,0.7s,baz=92,slow=5.6
NOA NORSAR Array B 78.96 331 P **P 23 47 00.0 -0.6**
comp=Z,1.3nm,0.7s,baz=93,slow=5.6,SNR=8.0
comp=Z,1.3nm,0.7s
SPB2 Spitsbergen Ar 79.09 348 P **P 23 46 58.7 -2.3**
MAW Mawson 79.13 192 P **P 23 47 02.4 +1.2**
TORD Torodi Ar. Bea 90.09 283 P **P 23 47 57.9 +0.3**
comp=Z,1.1nm,1.0s,baz=86,slow=5.0,SNR=4.0
comp=Z,1.1nm,1.0s
ESDC Sonseca Array 90.50 310 P **P 23 47 59.6 +0.5**
comp=Z,0.5nm,0.8s,baz=60,slow=4.7,SNR=2.9
comp=Z,0.5nm,0.8s
IMAR Indian Mountai 91.13 22 P **P 23 48 01.9 +0.5**
H21K Melozitna Rive 91.62 22 P **P 23 48 03.9 +0.2**
N19K Bonanza Creek 92.90 27 P **P 23 48 10.2 +0.4**
VNDA Vanda 93.67 168 P **P 23 48 12.9 +0.1**
comp=Z,0.4nm,0.8s,baz=310,slow=7.1,SNR=1.9
comp=Z,0.4nm,0.8s
ILAR Eielson Array 94.24 22 P **P 23 48 15.3 -0.5**
comp=Z,0.5nm,0.7s,baz=285,slow=4.5,SNR=4.1
comp=Z,0.5nm,0.7s
NVAR Mina Array Bea 124.51 30 PKP **PKiKP 23 53 57.6 +0.6**
comp=Z,0.5nm,0.7s,baz=263,slow=1.9,SNR=4.7
PDAR Pinedale Array 124.66 21 PKP **PKiKP 23 53 57.0 -0.1**
comp=Z,0.4nm,0.7s,baz=191,slow=0.8,SNR=4.7
TXAR Lajitas Array 138.74 23 PKP **PKPdf 23 54 24.6 +1.0**
comp=Z,0.3nm,0.8s,baz=132,slow=1.3,SNR=3.5
PLCA Paso Flores 145.06 201 PKPbc **PKPdf 23 54 34.9 +0.5**
comp=Z,1.3nm,0.7s,baz=121,slow=5.7,SNR=5.7
CPUP Villa Florida 147.39 234 PKPbc **PKPbc 23 54 42.0 +0.8**
comp=Z,2.4nm,0.8s,baz=84,slow=2.5,SNR=3.7
LPAZ La Paz 160.75 245 PKPab **PKPab 23 55 40.8 +0.1**
comp=Z,1.1nm,0.6s,baz=175,slow=4.4,SNR=4.5

*IDC **08** 23:41:09.0±0.7,54.°49N×168.°73E,h0km,mb3.7/12, mbtmp3.8/14,ML3.3/2,Error ellipse: s-maj=28.6km s-min=15.0km az=169.0*
*MOS **08** 23:41:08.9±0.8,54.°31N×168.°67E,h16km,mb4.3/4,Error ellipse: s-maj=11.6km s-min=7.3km az=173.0*
*NEIC **08** 23:41:10.3±1.8,54.°4N±0.°1×168.°7E±0.°1,h10km±1km, mb4.1/42,Error ellipse: s-maj=20.2km s-min=10.2km az=179.0*
*KRSC **08** 23:41:10.3±2.3,54.°20N×168.°18E,h16km±49km,ML4.3*
ISC 08 23:41:11.7±0.6,54.°27N±0.°07×168.°65E±0.°05,h24km,n124, σ1$46/133,mb4.0/32,1D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.81**	**302**	PN	**Pn**	**23 41 39.1**	**-2.2**
BKI				S	**Sn**	**23 42 00.2**	**-3.3**
BKI	**Bering**	**1.81**	**302**	eP	**Pn**	**23 41 39.1**	**-2.2**
BKI				eS	**Sn**	**23 42 00.2**	**-3.3**
SHEM	**Shemya Is, Ala**	**3.60**	**113**	Pn	**Pn**	**23 42 06.3**	**+0.4**
	11nm,0.3s,baz=300,slow=2.5,SNR=7.3						
SHEM				Sn	**Sn**	**23 42 46.2**	**-1.4**
	10.0nm,0.3s,baz=251,slow=16,SNR=6.6						
	40nm,0.5s						
SMY	**Shemya**	**3.60**	**113**	Pn	**Pn**	**23 42 06.6**	**+0.7**
SMY				Sn	**Sn**	**23 42 47.2**	**-0.5**
KBTR	**Krutoberegovo**	**3.86**	**302**	PN	**Pn**	**23 42 07.5**	**-2.0**
KBTR	**Krutoberegovo**	**3.86**	**302**	eP	**Pn**	**23 42 07.5**	**-2.0**
KBG	**Krutoberegovo**	**3.94**	**303**	eS	**Sn**	**23 42 54.1**	**-1.8**
MKZ	**Mys Kozlova**	**4.05**	**277**	PN	**Pn**	**23 42 12.4**	**+0.3**
MKZ	**Mys Kozlova**	**4.05**	**277**	eP	**Pn**	**23 42 12.4**	**+0.3**
MKZ				eS	**Sn**	**23 42 55.7**	**-3.1**
SMKR	**Semkarok**	**4.70**	**302**	PN	**Pn**	**23 42 23.1**	**+2.0**
SMKR	**Semkarok**	**4.70**	**302**	eP	**Pn**	**23 42 23.1**	**+2.0**
BDR	**Baidarnaya**	**4.82**	**301**	PN	**Pn**	**23 42 24.0**	**+1.2**
BDR	**Baidarnaya**	**4.82**	**301**	eP	**Pn**	**23 42 24.0**	**+1.2**
SRKR	**Sorokina**	**4.88**	**302**	PN	**Pn**	**23 42 25.0**	**+1.4**
SRKR	**Sorokina**	**4.88**	**302**	eP	**Pn**	**23 42 25.0**	**+1.4**
TUMR	**Tumrok**	**5.03**	**285**	PN	**Pn**	**23 42 27.2**	**+1.6**
TUMR	**Tumrok**	**5.03**	**285**	eP	**Pn**	**23 42 27.2**	**+1.6**
SPN	**Mys Shipunski**	**5.26**	**261**	PN	**Pn**	**23 42 28.6**	**-0.2**
SPN	**Mys Shipunski**	**5.26**	**261**	eP	**Pn**	**23 42 28.6**	**-0.2**
SPN				eS	**Sn**	**23 43 24.7**	**-3.9**
KII	**Karymskiy**	**5.42**	**271**	PN	**Pn**	**23 42 30.0**	**-0.9**
KII	**Karymskiy**	**5.42**	**271**	eP	**Pn**	**23 42 30.0**	**-0.9**
NLC	**Nalytchevo**	**5.64**	**262**	PN	**Pn**	**23 42 33.6**	**-0.3**
NLC	**Nalytchevo**	**5.64**	**262**	eP	**Pn**	**23 42 33.6**	**-0.3**
NLC				eS	**Sn**	**23 43 34.9**	**-2.9**
SDLR	**Sedlovina**	**5.88**	**264**	PN	**Pn**	**23 42 38.0**	**+0.7**
SDLR	**Sedlovina**	**5.88**	**264**	eP	**Pn**	**23 42 38.0**	**+0.7**
SDLR				eS	**Sn**	**23 43 39.4**	**-4.5**
SMAR	**Somma**	**5.93**	**264**	PN	**Pn**	**23 42 38.6**	**+0.5**
SMAR	**Somma**	**5.93**	**264**	eP	**Pn**	**23 42 38.6**	**+0.5**
SMAR				eS	**Sn**	**23 43 41.9**	**-3.5**
UGLR	**Uglovaya**	**5.93**	**264**	PN	**Pn**	**23 42 38.3**	**+0.3**
UGLR	**Uglovaya**	**5.93**	**264**	eP	**Pn**	**23 42 38.3**	**+0.3**
UGLR				eS	**Sn**	**23 43 44.1**	**-1.1**
KRER	**Koryakskii**	**5.95**	**265**	PN	**Pn**	**23 42 37.6**	**-0.8**
KRER	**Koryakskii**	**5.95**	**265**	eP	**Pn**	**23 42 37.6**	**-0.8**
KRER				eS	**Sn**	**23 43 45.1**	**-0.8**
AVH	**Avacha**	**5.97**	**264**	PN	**Pn**	**23 42 39.7**	**+1.2**
AVH	**Avacha**	**5.97**	**264**	eP	**Pn**	**23 42 39.7**	**+1.2**
AVH				eS	**Sn**	**23 43 45.3**	**-0.8**
KRX	**Arik**	**6.00**	**265**	PN	**Pn**	**23 42 39.0**	**0.0**
KRX	**Arik**	**6.00**	**265**	eP	**Pn**	**23 42 39.0**	**0.0**
KRX				eS	**Sn**	**23 43 45.1**	**-1.8**
KOK	**Koryaka**	**6.02**	**265**	PN	**Pn**	**23 42 39.9**	**+0.6**
KOK	**Koryaka**	**6.02**	**265**	eP	**Pn**	**23 42 39.9**	**+0.6**
KOK				eS	**Sn**	**23 43 46.7**	**-0.7**
PET	**Petropavlovsk**	**6.08**	**262**	ePN	Pb	23 42 49.0	-7.8
PET				pmax	pmax		
	comp=Z,15nm,0.5s						
RUS	**Russkaya**	**6.35**	**257**	PN	**Pn**	**23 42 43.9**	**+0.3**
RUS	**Russkaya**	**6.35**	**257**	eP	**Pn**	**23 42 43.9**	**+0.3**
RUS				eS	**Sn**	**23 43 52.7**	**-2.5**
GNL	**Ganaly**	**6.35**	**269**	PN	**Pn**	**23 42 45.0**	**+1.3**
GNL	**Ganaly**	**6.35**	**269**	eP	**Pn**	**23 42 45.0**	**+1.3**
KRMR	**Karymshinskiy**	**6.44**	**261**	eS	**Sn**	**23 43 55.8**	**-1.7**
MTVR	**Mutnovka**	**6.52**	**258**	PN	**Pn**	**23 42 46.4**	**+0.3**
MTVR	**Mutnovka**	**6.52**	**258**	eP	**Pn**	**23 42 46.4**	**+0.3**
MTVR				eS	**Sn**	**23 43 56.7**	**-3.0**
PEA0B	**Petropavlovsk-**	**6.61**	**264**	Pn	**Pn**	**23 42 48.4**	**+1.1**
PEA0B				Sn	**Sn**	**23 44 00.9**	**-0.9**
PETK	**Petropavlovsk-**	**6.61**	**264**	Pn	**Pn**	**23 42 48.3**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=100,slow=18,SNR=4.4						
PETK				Sn	**Sn**	**23 44 01.2**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=94,slow=20,SNR=8.7						
	comp=Z,1.9nm,0.5s						
PETK	**Petropavlovsk-**	**6.61**	**264**	Pn	**Pn**	**23 42 48.2**	**+0.9**
ASAK	**Asacha**	**6.71**	**258**	PN	**Pn**	**23 42 49.5**	**+0.7**
ASAK	**Asacha**	**6.71**	**258**	eP	**Pn**	**23 42 49.5**	**+0.7**
ASAK				eS	**Sn**	**23 44 02.7**	**-1.8**
KDTR	**Khodutka, Kamc**	**6.84**	**253**	PN	**Pn**	**23 42 50.3**	**-0.1**
KDTR	**Khodutka, Kamc**	**6.84**	**253**	eP	**Pn**	**23 42 50.3**	**-0.1**
KDTR				eS	**Sn**	**23 44 03.5**	**-3.9**
N18K	**Kilae Creek**	**19.92**	**57**	P	**Pn**	**23 45 42.2**	**-0.8**
TTA	**Tatalina**	**20.10**	**50**		**Pn**	**23 45 44.4**	**-0.8**
TTA	**Tatalina**	**20.10**	**50**	P	**Pn**	**23 45 44.4**	**-0.8**
P18K	**Big Mountain,**	**20.23**	**61**	P	Pn	23 45 45.2	-1.6
P18K				IAmb	IAmb	23 45 46.4	
	comp=Z,6.7nm,1.1s						
O18K	**Koktuh Hills**	**20.23**	**59**	P	Pn	23 45 45.4	-1.5
CHIR	**Chirikof Islan**	**20.39**	**71**	P	**P**	**23 45 44.3**	**-2.2**
L19K	**White Mountain**	**20.53**	**53**	P	Pn	23 45 47.5	-2.8
L19K				IAmb	IAmb	23 45 49.6	
	comp=Z,5.2nm,0.8s						
N19K	**Bonanza Creek**	**20.61**	**57**	P	Pn	23 45 49.5	-1.7
N19K				IAmb	IAmb	23 45 50.9	
	comp=Z,5.2nm,0.8s						
Q19K	**Cape Douglas,**	**21.07**	**62**	P	**P**	**23 45 53.1**	**-0.7**
Q19K				IAmb	IAmb	23 45 54.7	
	comp=Z,11nm,0.7s						

J20K Nowinta River 21.13 47 P **P 23 45 54.6 +0.1**
OHAK Old Harbor 21.43 67 P **P 23 45 55.6 -2.0**
OHAK IAmb IAmb 23 45 57.9
comp=Z,8.2nm,0.8s
IMAR Indian Mountai 21.69 43 P **P 23 46 00.1 -0.3**
KDAK Kodiak Island 21.73 65 P **P 23 45 59.8 -1.1**
comp=Z,3.9nm,0.7s,baz=280,slow=10,SNR=5.8
comp=Z,3.9nm,0.7s
H21K Melozitna Rive 21.99 44 P P 23 46 04.2 +0.6
SUA Susitna One 22.44 55 P **P 23 46 08.5 -0.1**
SUA IAmb IAmb 23 46 10.1
comp=Z,5.5nm,0.9s
CUT Chulitna 22.68 53 S 23 50 18.7 +1.1
MLY Manley 22.73 46 P **P 23 46 11.2 -0.3**
MLY IAmb IAmb 23 46 24.4
comp=Z,6.2nm,1.4s
TRF Thorofare Moun 22.73 50 P **P 23 46 11.8 0.0**
TRF IAmb IAmb 23 46 13.4
comp=Z,6.1nm,0.8s
BWN Browne 23.16 48 P P 23 46 14.6 -1.4
I23K Minto, Yukon-K 23.32 46 P P 23 46 17.1 -0.4
COLD Coldfoot 23.36 40 P P 23 46 17.1 -0.9
RND Reindeer 23.38 50 P **P 23 46 16.3 -1.9**
RND IAmb IAmb 23 46 18.6
comp=Z,3.2nm,0.8s
RND Reindeer 23.38 50 P **P 23 46 16.3 -1.9**
RND pmax pmax
comp=Z,3.0nm,0.8s
NEA2 Nenana 23.38 47 P P 23 46 16.7 -1.4
SML Sawmill 23.59 54 P **P 23 46 18.7 -1.6**
SML IAmb IAmb 23 46 20.6
comp=Z,5.7nm,0.8s
MDM Murphy Dome 23.77 46 P P 23 46 21.6 -0.4
WRH Wood River Hil 23.79 47 P **P 23 46 22.1 +0.1**
WRH IAmb IAmb 23 46 23.5
comp=Z,3.1nm,0.8s
TCOL CIGO, UAF Yank 23.92 46 P P 23 46 22.6 -0.7
CCB Clear Creek Bu 23.92 47 P **P 23 46 23.1 -0.3**
CCB IAmb IAmb 23 46 24.7
comp=Z,3.4nm,0.7s
COLA College 23.93 46 P P 23 46 22.9 -0.4
COLA College 23.93 46 ⇓P **P 23 46 21.8 -1.6**
TOLK Toolik Lake Re 23.95 37 P P 23 46 23.4 -0.3
DHY Denali Highway 24.03 51 P **P 23 46 23.7 -0.9**
DHY IAmb IAmb 23 46 29.2
comp=Z,3.4nm,1.0s
SCM Sheep Creek Mo 24.06 54 P P 23 46 24.1 -0.7
SCM Sheep Creek Mo 24.06 54 P **P 23 46 24.1 -0.7**
SCM pmax pmax
comp=Z,24nm,1.4s
IL31 24.33 47 P **P 23 46 25.9 -1.2**
IL31 IAmb IAmb 23 46 28.1
comp=Z,4.0nm,0.8s
ILAR Eielson Array 24.33 47 P **P 23 46 25.2 -1.9**
comp=Z,1.5nm,0.7s,baz=255,slow=7.5,SNR=21
comp=Z,1.5nm,0.7s
ILAR Eielson Array 24.33 47 P P 23 46 25.8 -1.4
KLU Klutina 24.75 55 P **P 23 46 30.6 -0.4**
KLU IAmb IAmb 23 46 32.3
comp=Z,7.6nm,1.1s
PAX Paxson 24.90 51 P P 23 46 32.0 -0.4
PAX IAmb IAmb 23 46 34.1
comp=Z,3.3nm,1.1s
PAX Paxson 24.90 51 P **P 23 46 32.0 -0.4**
PAX pmax pmax
comp=Z,3.0nm,1.1s
PRP Porcupine Dome 24.96 45 P P 23 46 32.4 -0.6
J25K Salcha River, 24.97 47 P P 23 46 32.5 -0.5
RIDG Independent Ri 25.18 49 P **P 23 46 33.6 -1.2**
RIDG IAmb IAmb 23 46 35.9
comp=Z,3.7nm,0.8s
FYU Fort Yukon 25.18 43 P P 23 46 33.4 -1.4
DOT Dot Lake 25.53 50 P **P 23 46 36.6 -1.4**
DOT IAmb IAmb 23 46 39.2
comp=Z,4.7nm,0.8s
BMAR Burnt Mountain 25.54 41 P P 23 46 37.8 -0.3
SCRK Sand Creek 25.56 49 P P 23 46 37.1 -1.3
L26K Log Cabin Wild 25.87 51 P **P 23 46 41.8 +0.7**
L26K IAmb IAmb 23 46 53.8
comp=Z,5.7nm,1.1s
L27K Beaver Creek, 26.56 51 P **P 23 46 46.4 -1.0**
L27K IAmb IAmb 23 46 48.4
comp=Z,2.9nm,0.8s
BCAR Beaver Creek A 26.58 51 P P 23 46 46.8 -0.8
EGAK Eagle 26.78 47 P **P 23 46 47.8 -1.5**
EGAK IAmb IAmb 23 46 48.8
comp=Z,7.0nm,1.0s
JCJ Chichijima 33.38 226 P P 23 47 49.0 +0.9
H11N2 WAKE ISLAND Hy 34.51 183 T T 00 24 37.4
baz=1.4,slow=76,SNR=239
H11N3 WAKE ISLAND Hy 34.52 183 T T 00 24 36.5
baz=1.4,slow=76,SNR=174
H11N1 WAKE ISLAND Hy 34.53 183 T T 00 24 38.8
baz=1.4,slow=76,SNR=221
H11S1 WAKE ISLAND Hy 35.73 183 T T 00 26 10.8
baz=1.5,slow=76,SNR=88
H11S3 WAKE ISLAND Hy 35.74 183 T T 00 26 10.9
baz=1.5,slow=76,SNR=54
H11S2 WAKE ISLAND Hy 35.75 183 T T 00 26 10.7
baz=1.5,slow=76,SNR=99
SONM Songino Array 38.51 287 P **P 23 48 32.7 +0.8**
comp=Z,0.9nm,0.6s,baz=74,slow=7.4,SNR=5.9
comp=Z,0.9nm,0.6s
YBH Yreka Blue Hor 45.81 76 P **P 23 49 32.9 +1.5**
comp=Z,1.8nm,0.8s,baz=338,slow=5.4,SNR=2.0
comp=Z,1.8nm,0.8s
NVAR Mina Array Bea 50.53 77 P **P 23 50 09.0 +0.9**
comp=Z,0.5nm,0.7s,baz=306,slow=8.2,SNR=4.9
comp=Z,0.5nm,0.7s
MKAR Makanchi Array 52.12 300 P **P 23 50 21.2 +1.6**
comp=Z,0.7nm,0.8s,baz=32,slow=5.6,SNR=2.8
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 52.44 67 P **P 23 50 23.1 +0.8**
comp=Z,0.1nm,0.3s,baz=294,slow=2.9,SNR=2.1
comp=Z,0.1nm,0.3s
GSC Goldstone, Bar 53.57 78 P **P 23 50 28.2 -2.3**
GSC IAmb IAmb 23 50 32.0
comp=Z,6.2nm,1.5s
GSC Goldstone, Bar 53.57 78 P **P 23 50 28.2 -2.3**
GSC pmax pmax
comp=Z,6.0nm,1.5s
ELS Elsinore Mount 54.39 80 P **P 23 50 36.8 +0.2**
CMAR Chiang Mai Arr 63.39 265 P **P 23 51 40.6 +1.5**
comp=Z,0.4nm,0.3s,baz=22,slow=6.8,SNR=0.9
comp=Z,0.4nm,0.3s
NOA NORSAR Array B 63.64 348 P **P 23 51 39.2 -1.0**
comp=Z,0.5nm,0.6s,baz=16,slow=6.8,SNR=3.5
comp=Z,0.5nm,0.6s
TXAR Lajitas Array 65.45 74 P **P 23 51 52.6 +0.1**
comp=Z,0.4nm,0.6s,baz=299,slow=3.7,SNR=8.9
comp=Z,0.4nm,0.6s
WRA Warramunga Arr 79.57 213 P **P 23 53 18.1 +1.7**
comp=Z,1.3nm,0.9s,baz=24,slow=6.3,SNR=4.9
comp=Z,1.3nm,0.9s
ASAR Alice Springs 83.19 212 P **P 23 53 37.8 +2.2**
comp=Z,0.9nm,0.8s,baz=18,slow=4.5,SNR=6.5
comp=Z,0.9nm,0.8s

*IDC **08** 23:42:58.8±6.4,8.°43N×93.°80E,h55km±49km,mb3.4/4, mbtmp3.7/6,ML3.8/2,Error ellipse: s-maj=98.6km s-min=22.5km az=64.0*
ISC 08 23:42:54.9±1.6,8.°3N±0.°1×93.°4E±0.°3,h26km,n9,σ1$30/6, mb3.7/4,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.75**	**135**	P	**Pn**	**23 44 47.4**	**+1.1**
	0.3nm,0.3s,baz=323,slow=15,SNR=1.4						
	2.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.39**	**27**	P	**Pn**	**23 45 36.1**	**+0.1**
	0.6nm,0.3s,baz=208,slow=14,SNR=4.2						
	0.8nm,0.3s						
H08S3	**Diego Garcia H**	**26.23**	**233**	T	T	00 15 22.8	
	baz=52						
H08S2	**Diego Garcia H**	**26.23**	**233**	T	T	00 15 23.4	
	baz=52						
H08S1	**Diego Garcia H**	**26.25**	**233**	T	T	00 15 41.5	
	baz=52						
ZALV	**Zalesovo Beam**	**46.01**	**353**	P	**P**	**23 51 15.6**	**-0.3**
	0.4nm,0.3s,baz=185,slow=6.7,SNR=2.1						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**49.10**	**125**	P	**P**	**23 51 39.5**	**-1.0**
	0.7nm,1.0s,baz=305,slow=8.4,SNR=6.3						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**50.75**	**130**	P	**P**	**23 51 51.6**	**-1.5**

0.3nm,0.7s,baz=307,slow=6.4,SNR=2.4
0.3nm,0.7s
ARCES ARCESS Array B 74.59 340 P P 23 54 32.2 +0.8
3.0nm,1.0s,baz=91,slow=7.6,SNR=2.3
3.0nm,1.0s

SJA ***09*** *00:03:43.9±0.6, 31.35S×65.81W, h170km±4km, ML5.5, MW5.2*
MOS ***09*** *00:03:43.8±1.2, 31.32S×65.78W, h156km, mb5.3/24, Error ellipse: s-maj=9.9km s-min=6.3km az=97.2*
VAO ***09*** *00:03:44.5±0.5, 31.25S×65.77W, h155km±4km, mb5.5*
NEIC ***09*** *00:03:45.0±1.8, 31.38S±0.06×65.83W±0.07, h158km±4km, mb5.4/653, Mww5.6, Md5.1(SJA), Mwr5.6(GUC), Error ellipse: s-maj=9.1km s-min=8.2km az=84.0*
IDC ***09*** *00:03:45.3±0.3, 31.26S×65.64W, h160km±2km, mb4.9/24, mbtmp5.4/28, MS4.2/6, Error ellipse: s-maj=11.5km s-min=7.5km az=79.0*
GUC ***09*** *00:03:46.5±1.8, 31.51S×66.00W, h156km*
BJI ***09*** *00:03:46.0±0.0, 31.40S×65.80W, h153km, mB5.2/17*
GCMT ***09*** *00:03:48.0±0.1, 31.41S±0.01×65.86W±0.01, h178km±1km, MW5.6/130, Moment Tensor Solution. s101,c152; s130,c242; Duration: 1s Moment tensor: Scale 10^{17} Nm; M_{rr}-1.85±.03; $M_{\theta\theta}$0.22±.04; $M_{\phi\phi}$1.63±.04; $M_{r\theta}$-0.03±.03; $M_{r\phi}$-1.54±.04; $M_{\theta r}$-1.64±.04; Best double couple: M_o2.83200×10^{17} NP1:ϕ_s350.00000°,δ65.00000°, λ-64.00000°. NP2:ϕ_s121.00000°,δ35.00000°, λ-133.00000°. Principal axes: T 3.0170, Plg16.0000°, Azm61.0000°; N -0.3710, Plg23.0000°, Azm159.0000°; P -2.6470, Plg61.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***09*** *00:03:48, 31.41S×65.75W, h160km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.19; $M_{\theta\theta}$0.40; $M_{\phi\phi}$1.79; $M_{r\theta}$0.12; $M_{\theta\phi}$-1.41; $M_{\phi r}$-1.15; Fault plane solution: M_o2.73000×10^{17} NP1: ϕ_s133.00000°,δ35.00000°,λ-113.00000°. NP2: ϕ_s341.00000°,δ58.00000°,λ-74.00000°. Principal axes: T 2.8874, Plg12.0000°, Azm60.0000°; N -0.3590, Plg13.0000°, Azm153.0000°; P -2.5284, Plg72.0000°, Azm289.0000°;*
ISC 09 00:03:44.8±0.2, 31.35S±0.03×65.80W±0.03, h160km±1km, h160km:pP-P,n1424,σ1s17/1377, mb5.3/352, 39C-3D, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACHE	**Chepes**	**0.76**	**284**	*eP*		**Pn**	**00 04 09.8**	**+0.8**
TCA	**Tanti**	**1.03**	**89**	*eP*		**Pn**	**00 04 11.9**	**+1.1**
TCA				*eS*		**Sn**	**00 04 31.7**	**+0.9**
MRA	**San Martin**	**1.07**	**176**	*eP*		**Pn**	**00 04 11.8**	**+0.7**
MRA				*eS*		**Sn**	**00 04 32.3**	**+0.8**
MRA				IAML			00 04 33.6	
	comp=Z,73µm,0.7s							
APLL	**PUNTA DE LOS L**	**1.14**	**327**	*eP*		**Pn**	**00 04 12.2**	**+0.5**
AVFE	**Valle Fertil**	**1.58**	**296**	*eP*		**Pn**	**00 04 16.4**	**+0.5**
AVFE				*eS*		**Sn**	**00 04 40.6**	**+0.7**
AVFE				IAML			00 04 41.2	
	comp=Z,36µm,0.4s							
ACLC	**CERRO LA CRUZ**	**2.16**	**332**	*eP*		**Pn**	**00 04 23.1**	**+0.5**
ACLC				*eS*		**Sn**	**00 04 51.7**	**0.0**
ACLC				IAML			00 04 53.8	
	comp=Z,12µm,1.0s							
RTLL	**Cerro Villicun**	**2.29**	**270**	⇑*iP*		**Pn**	**00 04 24.0**	**+0.2**
RTLL				*i* S		**Sn**	**00 04 52.7**	**-1.3**
RTLL	**Cerro Villicun**	**2.29**	**270**	*eP*		**Pn**	**00 04 24.1**	**+0.2**
RTLL				*eS*		**Sn**	**00 04 53.6**	**-0.5**
RTCV	**Cerro Valdivia**	**2.39**	**257**	*eP*		**Pn**	**00 04 25.2**	**+0.2**
RTCV				*eS*		**Sn**	**00 04 56.1**	**-0.1**
ZON	**Zonda**	**2.46**	**265**			**Pn**	**00 04 26.0**	**0.0**
ZON					Sn	**Sn**	**00 04 57.0**	**-0.8**
ZON	**Zonda**	**2.46**	**265**	P		**Pn**	**00 04 26.0**	**0.0**
ZON							00 04 57.0	
ZON	**Zonda**	**2.46**	**265**	*eP*		**Pn**	**00 04 26.1**	**0.0**
ZON				*eS*		**Sn**	**00 04 58.2**	**+0.3**
ZON				IAML			00 05 00.6	
	comp=Z,9µm,0.4s							
ASAL	**Salagasta**	**2.86**	**244**	*eP*		Pn	00 04 26.0	-4.8
RTLS	**Leoncito**	**3.02**	**261**	*eS*		**Sn**	**00 05 10.7**	**+0.4**
RTLS				IAML			00 05 12.0	
	comp=Z,11µm,0.6s							
ARCO	**CERRO ARCO**	**3.04**	**240**	*eP*		**Pn**	**00 04 33.3**	**+0.1**
ARCO				*eS*		**Sn**	**00 05 12.7**	**+1.9**
ARCO				IAML			00 05 14.1	
	comp=Z,10µm,0.6s							
ACDV	**Cuesta del Vie**	**3.09**	**292**	*eP*		**Pn**	**00 04 34.5**	**+0.7**
ACDV				*eS*		**Sn**	**00 05 10.8**	**-0.9**
ACDV				IAML			00 05 14.7	
	comp=Z,9µm,0.4s							
AAGR	**Agrelo**	**3.09**	**235**	*eP*		**Pn**	**00 04 33.9**	**+0.1**
AAGR				*eS*		Sn	00 05 02.0	-10
AVIZ	**Vizcacheras**	**3.12**	**227**	*eP*		**Pn**	**00 04 34.5**	**+0.3**
VCA	**Vinchina**	**3.34**	**321**	*eP*		**Pn**	**00 04 38.3**	**+1.3**
VCA				*eS*		**Sn**	**00 05 18.8**	**+1.3**
VCA				IAML			00 05 44.2	
	comp=Z,5µm,0.4s							
AROD	**Rodeo**	**3.37**	**290**	*eP*		Pn	00 04 32.6	-4.9
CO01	**Juntas del Tor**	**3.94**	**289**			**Pn**	**00 04 46.1**	**+1.3**
CO01					Sn	**Sn**	**00 05 32.1**	**+0.6**
CO01	**Juntas del Tor**	**3.94**	**289**	⇑*eP*		**Pn**	**00 04 45.9**	**+1.1**
CO01				*i* S		**Sn**	**00 05 31.5**	**-0.2**
CO01	**Juntas del Tor**	**3.94**	**289**	*eP*		**Pn**	**00 04 46.0**	**+1.3**
CO01				*i* S		**Sn**	**00 05 30.7**	**-0.7**
RFA	**San Rafael**	**4.08**	**213**	*eP*		**Pn**	**00 04 45.8**	**-0.6**
RFA				*eS*		**Sn**	**00 05 33.1**	**-1.2**
RFA				IAML			00 05 35.0	
	comp=Z,6µm,0.7s							
VA03	**San Esteban**	**4.27**	**250**			**Pn**	**00 04 48.6**	**-0.3**
VA03					Sn	**Sn**	**00 05 38.6**	**-0.2**
VA03	**San Esteban**	**4.27**	**250**	⇑*eP*		**Pn**	**00 04 47.7**	**-1.1**
VA03				*eS*		**Sn**	**00 05 36.8**	**-2.1**
VA03	**San Esteban**	**4.27**	**250**	*i* P		**Pn**	**00 04 48.6**	**-0.3**
FCH	**Farellones**	**4.28**	**241**	⇑*eP*		**Pn**	**00 04 47.9**	**-1.2**
FCH	**Farellones**	**4.28**	**241**	⇑*iP*		**Pn**	**00 04 48.9**	**-0.2**
CO02	**Combarbal**	**4.45**	**271**			**Pn**	**00 04 51.5**	**+0.1**
CO02	**Combarbal**	**4.45**	**271**	⇑*iP*		**Pn**	**00 04 51.4**	**+0.1**
CO02				*i* S		**Sn**	**00 05 41.7**	**-1.4**
CO02	**Combarbal**	**4.45**	**271**	⇑*iP*		**Pn**	**00 04 51.4**	**+0.1**
CO02				*i* S		**Sn**	**00 05 41.7**	**-1.4**
GO04	**Tololo Observa**	**4.46**	**284**	Pn		**Pn**	**00 04 51.6**	**+0.2**
GO04	**Tololo Observa**	**4.46**	**284**	⇑*iP*		**Pn**	**00 04 51.9**	**+0.4**
GO04				*i* S		**Sn**	**00 05 42.9**	**-0.6**
LMEL	**Las Melosas**	**4.47**	**235**			**Pn**	**00 04 51.4**	**-0.1**
LMEL	**Las Melosas**	**4.47**	**235**	⇑*eP*		**Pn**	**00 04 50.4**	**-1.1**
LMEL	**Las Melosas**	**4.47**	**235**	⇑*iP*		**Pn**	**00 04 51.4**	**-0.1**
PEL	**Peldehue**	**4.50**	**245**			**Pn**	**00 04 50.8**	**-1.1**
PEL	**Peldehue**	**4.50**	**245**	P		**Pn**	**00 04 50.8**	**-1.1**
MT03	**Universidad Ad**	**4.52**	**241**	Pn		**Pn**	**00 04 51.5**	**-0.6**
MT03	**Universidad Ad**	**4.52**	**241**	⇑*eP*		**Pn**	**00 04 51.4**	**-0.6**
MT03	**Universidad Ad**	**4.52**	**241**	⇑*iP*		**Pn**	**00 04 51.6**	**-0.6**
MT03				*i* S		**Sn**	**00 05 43.8**	**-0.8**
AC05	**El Transito**	**4.61**	**302**	Pn		**Pn**	**00 04 54.0**	**+0.5**
MT05	**Renca**	**4.64**	**243**	Pn		**Pn**	**00 04 52.7**	**-1.0**
MT05	**Renca**	**4.64**	**243**	⇑*eP*		**Pn**	**00 04 52.6**	**-1.1**
MT05	**Renca**	**4.64**	**243**	⇑*iP*		**Pn**	**00 04 52.7**	**-1.0**
MT05				*i* S		**Sn**	**00 05 46.4**	**-1.1**
ROCH	**El Roble**	**4.70**	**249**	⇑*iP*		**Pn**	**00 04 53.1**	**-1.5**
ROCH				⇑*eP*		**Pn**	**00 04 53.1**	**-1.5**
ROCH				*eS*		**Sn**	**00 05 46.7**	**-2.4**
ROCH	**El Roble**	**4.70**	**249**	⇑*iP*		**Pn**	**00 04 53.1**	**-1.5**
ROCH				*i* S		**Sn**	**00 05 46.9**	**-2.2**
ROC1	**El Roble**	**4.71**	**249**			**Pn**	**00 04 52.9**	**-1.8**
VA06	**Catapilco**	**4.82**	**254**	Pn		**Pn**	**00 04 53.9**	**-2.0**
VA06	**Catapilco**	**4.82**	**254**	⇑*eP*		**Pn**	**00 04 53.9**	**-2.0**
VA06				*eS*		**Sn**	**00 05 48.0**	**-3.6**
VA06	**Catapilco**	**4.82**	**254**	⇑*iP*		**Pn**	**00 04 54.0**	**-2.0**
VA06				*i* S		**Sn**	**00 05 46.5**	**-5.1**
LCO	**Las Campanas**	**4.84**	**298**			**Pn**	**00 04 56.1**	**-0.4**
LCO	**Las Campanas**	**4.84**	**298**	P		**Pn**	**00 04 56.1**	**-0.4**
CO05	**La Serena**	**4.90**	**286**			**Pn**	**00 04 56.5**	**-0.5**
MT02	**Curacav**	**4.90**	**246**	Pn		**Pn**	**00 04 54.9**	**-2.1**
MT02	**Curacav**	**4.90**	**246**	⇑*iP*		**Pn**	**00 04 55.1**	**-1.9**
MT02				*i* S		**Sn**	**00 05 50.3**	**-3.2**
MT02	**Curacav**	**4.90**	**246**	⇑*iP*		**Pn**	**00 04 55.1**	**-1.9**
MT02				*i* S		**Sn**	**00 05 49.0**	**-4.5**
MT09	**Talagante**	**5.00**	**240**			**Pn**	**00 04 56.6**	**-1.9**
MT09	**Talagante**	**5.00**	**240**	*i* P		**Pn**	**00 04 56.5**	**-1.9**
MT09	**Talagante**	**5.00**	**240**	⇑*iP*		**Pn**	**00 04 56.5**	**-2.0**
MT09				*i* S		**Sn**	**00 05 52.1**	**-4.0**
CO06	**Fray Jorge**	**5.05**	**276**			**Pn**	**00 04 57.5**	**-1.6**
CO06	**Fray Jorge**	**5.05**	**276**	⇑*eP*		**Pn**	**00 04 57.5**	**-1.6**
CO06	**Fray Jorge**	**5.05**	**276**	⇑*iP*		**Pn**	**00 04 57.4**	**-1.6**
CO06				*i* S		**Sn**	**00 05 50.9**	**-6.2**
VA01	**Torpederas**	**5.23**	**250**			**Pn**	**00 04 59.0**	**-2.3**
VA01	**Torpederas**	**5.23**	**250**	*eP*		**Pn**	**00 04 58.1**	**-3.2**
VA01	**Torpederas**	**5.23**	**250**	*eP*		**Pn**	**00 04 58.4**	**-2.9**
VA01				*i* S		**Sn**	**00 05 56.1**	**-5.0**
MT01	**Popeta**	**5.24**	**240**			**Pn**	**00 04 58.8**	**-2.7**
MT01	**Popeta**	**5.24**	**240**	*eP*		**Pn**	**00 04 58.7**	**-2.7**
MT01	**Popeta**	**5.24**	**240**	⇑*iP*		**Pn**	**00 04 58.7**	**-2.7**
MT01				*i* S		**Sn**	**00 05 57.2**	**-4.2**
AC02	**Maricunga**	**5.36**	**326**	Pn		**Pn**	**00 05 03.9**	**+0.3**
BO02	**Sierra Bellavi**	**5.41**	**229**			**Pn**	**00 05 02.5**	**-1.3**
BO02	**Sierra Bellavi**	**5.41**	**229**	⇑*iP*		**Pn**	**00 05 02.5**	**-1.3**
VA05	**Santo Domingo**	**5.42**	**243**			**Pn**	**00 05 01.1**	**-2.7**
VA05	**Santo Domingo**	**5.42**	**243**	*eP*		**Pn**	**00 05 01.0**	**-2.9**
VA05	**Santo Domingo**	**5.42**	**243**	*eP*		**Pn**	**00 05 00.9**	**-2.9**
VA05				*i* S		**Sn**	**00 06 01.1**	**-4.6**
AC04	**Llanos de Chal**	**5.55**	**303**	Pn		**Pn**	**00 05 05.2**	**-0.5**
AC06	**Mina Casimiro**	**5.62**	**314**	Pn		**Pn**	**00 05 06.0**	**-0.7**
GO05	**Huala**	**6.30**	**233**	*i* P		**Pn**	**00 05 11.3**	**-4.2**
GO05				*i* S		**Sn**	**00 06 18.7**	**-8.0**
ML02	**Panimavida**	**6.43**	**225**	*eP*		**Pn**	**00 05 14.8**	**-2.4**
ML02				*i* S		**Sn**	**00 06 25.1**	**-4.6**
AC01	**Pan de Azucar**	**6.68**	**320**			**Pn**	**00 05 19.8**	**-0.8**
GO02	**Mina Guanaco**	**7.01**	**331**	Pn		**Pn**	**00 05 25.2**	**-0.2**
TRQA	**Tornquist**	**7.39**	**156**	Pn		**Pn**	**00 05 29.3**	**-0.7**
TRQA	**Tornquist**	**7.39**	**156**	P		**Pn**	**00 05 29.3**	**-0.7**
LPA	**La Plata**	**7.49**	**120**	*c iP*		**Pn**	**00 05 30.5**	**-0.8**
LPA					S	**Sn**	**00 06 49.7**	**-5.5**
PB14	**IPOC Station P**	**7.84**	**328**	Pn		**Pn**	**00 05 35.3**	**-1.0**
ITQB	**Itaqui**	**8.09**	**80**	Pn		**Pn**	**00 05 37.0**	**-2.4**
ITQB	**Itaqui**	**8.09**	**80**	*eP*		**Pn**	**00 05 37.8**	**-1.6**
BI05	**Punta Hualpn**	**8.15**	**227**	Pn		Pn	00 05 35.1	-5.0
AF01	**San Pedro de A**	**8.63**	**345**			**Pn**	**00 05 46.6**	**-0.2**
PB15	**IPOC Station P**	**8.74**	**337**			**Pn**	**00 05 47.4**	**-0.8**
CPUP	**Villa Florida**	**8.96**	**58**	P		**Pn**	**00 05 48.6**	**-2.2**
	comp=Z,191nm,0.6s,baz=235,slow=11,SNR=180							
LVC	**Limon Verde**	**9.14**	**342**	P		**Pn**	**00 05 54.2**	**+0.5**
	comp=Z,75nm,0.4s,baz=180,slow=8.3,SNR=119							
LVC					S	**Sn**	**00 07 32.0**	**-3.4**
	comp=Z,99nm,0.8s,baz=193,slow=18,SNR=2.0							
LVC	**Limon Verde**	**9.14**	**342**	Pn		**Pn**	**00 05 53.4**	**-0.2**
PB06	**IPOC Station P**	**9.24**	**338**			**Pn**	**00 05 53.7**	**-1.1**
GO06	**Curarrehue**	**9.42**	**208**	Pn		**Pn**	**00 05 54.2**	**-2.8**
LR03	**Panguipulli**	**9.83**	**211**			**Pn**	**00 05 57.6**	**-4.6**
PB09	**IPOC Station P**	**10.00**	**341**			**Pn**	**00 06 04.5**	**-0.4**
PLCA	**Paso Flores**	**10.12**	**201**	P		**Pn**	**00 06 04.6**	**-1.5**
	comp=Z,63nm,0.5s,baz=10,slow=12,SNR=229							
PLCA	**Paso Flores**	**10.12**	**201**	Pn		**Pn**	**00 06 04.8**	**-1.4**
PLCA	**Paso Flores**	**10.12**	**201**	P		**Pn**	**00 06 04.8**	**-1.4**
PLTB	**Pedras Altas**	**10.42**	**95**	Pn		**Pn**	**00 06 07.7**	**-2.5**
PLTB	**Pedras Altas**	**10.42**	**95**	*eP*		**Pn**	**00 06 09.2**	**-0.9**
PB02	**IPOC Station P**	**10.64**	**339**			**Pn**	**00 06 10.8**	**-2.4**
CPSB	**Cacapava Do Su**	**10.67**	**88**	*eP*		**Pn**	**00 06 11.3**	**-2.1**
PB01	**IPOC Station P**	**10.78**	**341**			**Pn**	**00 06 13.2**	**-1.9**
VA04	**Juan Fernndez**	**11.23**	**255**	Pn		**Pn**	**00 06 18.1**	**-2.6**
H03N1	**Juan Fernandez**	**11.28**	**256**	P		**Pn**	**00 06 20.7**	**-0.3**
	baz=31,slow=72,SNR=51							
H03N3	**Juan Fernandez**	**11.29**	**256**	P		**Pn**	**00 06 20.4**	**-0.8**
	baz=31,slow=72,SNR=59							
H03N2	**Juan Fernandez**	**11.29**	**256**	P		**Pn**	**00 06 20.6**	**-0.6**
	baz=31,slow=72,SNR=37							
H03S1	**Juan Fernandez**	**11.33**	**254**	P		**Pn**	**00 06 18.7**	**-3.0**
	SNR=37							
H03S3	**Juan Fernandez**	**11.33**	**254**	P		**Pn**	**00 06 18.9**	**-2.8**
	SNR=61							
H03S2	**Juan Fernandez**	**11.34**	**254**	P		**Pn**	**00 06 19.4**	**-2.5**
	SNR=65							
TA02	**Huaiquique**	**11.70**	**340**			**Pn**	**00 06 25.1**	**-1.8**
LL05	**Los Muermos**	**11.78**	**209**	Pn		Pn	00 06 20.8	-7.0
LL01	**San Ignacio de**	**12.21**	**204**	Pn		**Pn**	**00 06 29.2**	**-4.1**
LL02	**Futaleuf**	**12.75**	**200**	Pn		**Pn**	**00 06 38.5**	**-1.9**
LL07	**Hotel Espejo d**	**12.98**	**206**	Pn		**Pn**	**00 06 41.6**	**-1.6**
CNLB	**Canela**	**13.07**	**85**	*eP*		**Pn**	**00 06 43.6**	**-1.0**
PB16	**IPOC Station P**	**13.39**	**345**	Pn		**Pn**	**00 06 47.9**	**-1.3**
PTGB	**Pitanga**	**13.81**	**65**	*eP*		**Pn**	**00 06 53.1**	**-0.9**
PB18	**Visviri**	**14.10**	**345**			**P**	**00 06 59.9**	**-1.1**
AY01	**Puyuhuapi**	**14.11**	**200**	Pn		**Pn**	**00 06 54.0**	**-3.5**
AQDB	**Aquidauana**	**14.13**	**42**	Pn		**Pn**	**00 06 56.6**	**-1.3**
AQDB	**Aquidauana**	**14.13**	**42**	*eP*		**Pn**	**00 06 57.0**	**-1.0**
TRCB	**Terra Rica**	**14.49**	**57**			**Pn**	**00 07 00.8**	**-1.7**
TER01	**Tubaro-SC**	**14.73**	**83**	*eP*		**Pn**	**00 07 05.3**	**-0.1**
COYC	**Coyhaique**	**15.02**	**197**			**Pn**	**00 07 06.9**	**-1.9**
LPAZ	**La Paz**	**15.15**	**351**	P		**Pn**	**00 07 09.9**	**-1.3**
	comp=Z,102nm,0.6s,baz=164,slow=7.2,SNR=168							
LPAZ					S	**Sn**	**00 09 59.1**	**-1.1**
	comp=Z,55nm,0.9s,baz=127,slow=4.2,SNR=4.7							
LPAZ					LR	LR	00 12 54.3	
	comp=Z,1µm,20.3s,baz=160,slow=36							
LPAZ					ScP	**ScP**	**00 15 27.2**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=172,slow=14,SNR=1.7							
LPAZ					ScS	**ScS**	**00 19 03.4**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=225,slow=2.9,SNR=1.7							
LPAZ	**La Paz**	**15.15**	**351**	Pn		**Pn**	**00 07 10.1**	**-1.1**
LPAZ	**La Paz**	**15.15**	**351**	P		**Pn**	**00 07 10.1**	**-1.1**
SIV	**San Ignacio**	**15.89**	**17**	P		**Pn**	**00 07 18.5**	**-1.3**
	comp=Z,390nm,0.7s,baz=192,slow=9.5,SNR=525							
PCMB	**Pacaembu**	**16.22**	**57**	*eP*		**Pn**	**00 07 23.1**	**-0.7**
PCMB				*eS*		**S**	**00 10 23.4**	**-0.3**
PTLB	**Pontes e Lacer**	**16.96**	**23**	P		**P**	**00 07 31.2**	**-0.8**
PTLB	**Pontes e Lacer**	**16.96**	**23**	*eP*		**Pn**	**00 07 32.6**	**-0.2**
PTLB				*eS*		**S**	**00 10 39.8**	**-1.0**
C2SB	**Chapadao do Su**	**17.15**	**46**	*eP*		**P**	**00 07 34.1**	**-0.1**
PET01	**Itanhaem-SP**	**17.82**	**71**	*eP*		**P**	**00 07 40.6**	**-0.8**
PET01				*eS*		**S**	**00 10 58.7**	**+0.6**
SALV	**Santo Antonio**	**17.94**	**33**	*eP*		**P**	**00 07 42.1**	**-0.6**
ITRB	**Iturama**	**18.11**	**54**	*eP*		**P**	**00 07 44.2**	**-0.5**
BB19B	**Bebedouro**	**18.56**	**61**	*eP*		**P**	**00 07 48.6**	**-0.9**
VAO	**Valinhos**	**18.69**	**68**	*eP*		**P**	**00 07 50.7**	**-0.3**
VILB	**Vilhena**	**19.02**	**17**	P		**P**	**00 07 52.9**	**-1.7**
VILB	**Vilhena**	**19.02**	**17**	*eP*		**P**	**00 07 52.8**	**-1.9**
VILB				*eS*		**S**	**00 11 21.6**	**-0.6**
PARB	**Paraibuna**	**19.61**	**71**	*eP*		**P**	**00 08 01.1**	**+0.2**
GO09	**Cerro Castillo**	**20.48**	**192**	P		**P**	**00 08 08.7**	**-1.2**
IPMB	**Ipameri, GO**	**20.76**	**54**	*eP*		**P**	**00 08 12.3**	**-1.0**
MG05	**Puerto Natales**	**20.90**	**192**	P		**P**	**00 08 14.2**	**-0.2**
EFI	**East Falkland**	**21.09**	**167**	P		**P**	**00 08 15.3**	**-1.1**
EFI	**East Falkland**	**21.09**	**167**	P		**P**	**00 08 15.3**	**-1.1**
ETMB	**Extrema**	**21.43**	**359**	P		**P**	**00 08 19.9**	**-0.5**
ETMB	**Extrema**	**21.43**	**359**	*eP*		**P**	**00 08 20.3**	**-0.1**
MG02	**Cerro Sombrero**	**21.56**	**186**	P		**P**	**00 08 20.0**	**-1.4**
PMNB	**Patos De Minas**	**21.66**	**58**	*eP*		**P**	**00 08 20.9**	**-2.0**
NNA	**Nana**	**21.80**	**330**	P		**P**	**00 08 25.0**	**+0.6**
	comp=Z,19nm,0.4s,baz=181,slow=9.0,SNR=11							
	comp=Z,19nm,0.4s							
NNA	**Nana**	**21.80**	**330**	P		**P**	**00 08 24.3**	**0.0**
NNA	**Nana**	**21.80**	**330**	‖*iP*		**P**	**00 08 24.6**	**+0.3**
NNA					pmax	pmax		
	comp=Z,430nm,2.1s							
VAS01	**Vassouras-RJ**	**21.87**	**71**	*eP*		**P**	**00 08 26.6**	**+1.5**
MG04	**Isla Riesco**	**21.90**	**189**	P		**P**	**00 08 24.5**	**-0.4**
GO10	**Punta Arenas**	**22.12**	**188**	P		**P**	**00 08 26.2**	**-1.0**
CLDB	**Colider**	**22.39**	**27**	*eS*		**S**	**00 12 24.8**	**+0.5**
BDFB	**Brasilia**	**22.55**	**50**	P		**P**	**00 08 30.2**	**-1.5**
	comp=Z,127nm,0.5s,baz=229,slow=8.2,SNR=169							
BDFB					PcP	**PcP**	**00 12 19.8**	**+0.1**
	comp=Z,14nm,0.6s,baz=180,slow=2.0,SNR=2.0							
	comp=Z,127nm,0.5s							
BDFB	**Brasilia**	**22.55**	**50**	P		**P**	**00 08 29.3**	**-2.4**
BDFB					IAmb	IAmb	00 08 32.0	
	comp=Z,163nm,0.7s							
BDFB	**Brasilia**	**22.55**	**50**	*eP*		**P**	**00 08 29.8**	**-1.9**
DUB01	**Friburgo-RJ**	**22.84**	**72**	*eP*		**P**	**00 08 35.8**	**+1.5**
SNDB	**Serra Nova Dou**	**23.48**	**58**	*eP*		**P**	**00 08 38.4**	**-1.7**
USHA	**Ushuaia**	**23.54**	**184**	P		**P**	**00 08 41.5**	**+1.2**
	comp=Z,41nm,0.5s,baz=12,slow=5.9,SNR=19							
	comp=Z,41nm,0.5s							
MG01	**Puerto William**	**23.61**	**183**	P		**P**	**00 08 40.9**	**+0.1**
CZSB	**Cruzeiro do Su**	**24.37**	**343**	P		**P**	**00 08 47.8**	**-0.4**
CZSB					IAmb	IAmb	00 08 51.6	
	comp=Z,461nm,0.6s							
CZSB	**Cruzeiro do Su**	**24.37**	**343**	*eP*		**P**	**00 08 47.6**	**-0.6**
MC01	**Montes Claros**	**24.66**	**59**	*eP*		**P**	**00 08 50.3**	**-0.6**
JANB	**Januaria**	**25.48**	**55**	*eP*		**P**	**00 08 56.8**	**-1.5**
JANB				*eS*		**S**	**00 13 14.9**	**+1.1**
NPGB	**Novo Progresso**	**26.08**	**24**	*eP*		**P**	**00 09 01.9**	**-1.7**
ATAH	**Atahualpa**	**26.82**	**331**	P		**P**	**00 09 12.8**	**+2.1**
	comp=Z,7.5nm,0.5s,baz=159,slow=7.4,SNR=10							
ATAH					PcP	**PcP**	**00 12 30.3**	**+0.8**
	comp=Z,6.7nm,0.5s,baz=180,slow=5.1,SNR=2.7							
	comp=Z,7.5nm,0.5s							
TBTG	**Tabatinga, AM**	**27.30**	**351**	P		**P**	**00 09 13.7**	**-0.9**
TBTG				IAmb		IAmb	00 09 26.9	
	comp=Z,218nm,0.9s							
TBTG	**Tabatinga, AM**	**27.30**	**351**	*eP*		**P**	**00 09 14.4**	**-0.1**
GUA01	**Guaratinga, BA**	**27.84**	**64**	*eP*		**P**	**00 09 18.1**	**-1.3**
SMTB	**Santa Maria do**	**28.07**	**41**	*eP*		**P**	**00 09 20.0**	**-1.5**
MACA	**Manacapuru-AM**	**28.45**	**11**	P		**P**	**00 09 23.3**	**-1.5**
MACA				IAmb		IAmb	00 09 24.3	
	comp=Z,53nm,0.6s							
MACA	**Manacapuru-AM**	**28.45**	**11**	*eP*		**P**	**00 09 23.6**	**-1.2**
ITTB	**Itaituba**	**28.46**	**21**	*eP*		**P**	**00 09 23.2**	**-1.8**
ITTB				*eS*		**S**	**00 13 59.1**	**-1.6**
CMC01	**Camacan, BA**	**28.80**	**62**	*eS*		**S**	**00 14 03.8**	**-2.1**
MCRA	**Macar, Loja**	**29.96**	**331**	P		**P**	**00 09 38.2**	**0.0**
BOSC	**San Juan Bosco**	**30.50**	**334**	P		**P**	**00 09 43.5**	**+0.4**
ARNL	**Arenillas**	**30.75**	**331**	P		**P**	**00 09 46.4**	**+1.3**
ARNL				IAmb		IAmb	00 09 50.5	
	comp=Z,45nm,0.6s							
HOPE	**Hope Point**	**31.04**	**146**	P		**P**	**00 09 44.2**	**-3.0**
HOPE				IAmb		IAmb	00 09 49.7	
	comp=Z,130nm,1.1s							
HOPE	**Hope Point**	**31.04**	**146**	P		**P**	**00 09 44.2**	**-3.0**
HOPE				pmax		pmax		
	comp=Z,130nm,1.1s							
COHC	**Cochancay**	**31.41**	**334**	P		**P**	**00 09 51.9**	**+1.0**
PORT	**Chimborazo Vol**	**32.16**	**335**	P		**P**	**00 10 00.0**	**+1.9**
PORT				IAmb		IAmb	00 10 06.2	
	comp=Z,55nm,0.6s							
CHSH	**Refugio Sur-Vo**	**32.16**	**335**	P		**P**	**00 10 00.1**	**+1.9**
CHSH				IAmb		IAmb	00 10 24.6	
	comp=Z,80nm,0.5s							
ORCD	**Orcadas**	**32.52**	**161**	IAmb		IAmb	00 10 04.5	

comp=Z,60nm,0.8s
CDVI St. Croix 48.83 1 P **P** **00 12 13.9 -0.1**
CDVI IAmb IAmb 00 12 50.2
comp=Z,55nm,0.7s
ANWB Willy Bob 48.89 5 P **P** **00 12 13.1 -1.4**
OBIP Obispado Ponce 49.12 359 P **P** **00 12 13.8 -2.4**
MTP Monte Pirata 49.17 0 P **P** **00 12 15.4 -1.2**
SJG San Juan 49.18 360 P **P** **00 12 14.9 -1.8**
SJG IAmb IAmb 00 12 20.0
comp=Z,52nm,0.8s
SJG San Juan 49.18 360 P **P** **00 12 14.9 -1.8**
SJG pmax pmax
comp=Z,52nm,0.8s
SJG San Juan 49.18 360 P **P** **00 12 14.5 -2.1**
SJG pP **pP** **00 12 49.9 -2.8**
SJG sP **sP** **00 13 08.5 -1.9**
SMRT St. Maarten 49.19 3 P **P** **00 12 16.2 -0.5**
SMRT IAmb IAmb 00 13 44.1
comp=Z,65nm,1.2s
HUMP Col San Antoni 49.21 360 P **P** **00 12 16.3 -0.6**
HUMP IAmb IAmb 00 12 20.5
comp=Z,43nm,0.7s
CBYP Canovanas 49.34 360 IAmb IAmb 00 12 19.7
comp=Z,37nm,0.6s
GCPR Guaynabo City 49.38 360 IAmb IAmb 00 12 21.0
comp=Z,59nm,0.6s
CUPR Culebra, Puert 49.38 1 P **P** **00 12 16.8 -1.3**
CUPR IAmb IAmb 00 13 39.4
comp=Z,35nm,0.6s
AOPR Arecibo Observ 49.42 359 IAmb IAmb 00 12 21.7
comp=Z,62nm,0.6s
STVI Saint Thomas 49.42 1 P **P** **00 12 17.8 -0.7**
AGPR Aguadilla, PR 49.55 358 P **P** **00 12 19.1 -0.3**
PCDR Punta Cana, DR 49.64 357 P **P** **00 12 19.3 -0.8**
VNA3 Neumayer Olymp 49.90 159 P **P** **00 12 22.3 +0.7**
DR12 Loma Pena Alta 49.97 356 P **P** **00 12 18.1 -4.6**
VNA1 Neumayer--Stat 50.12 158 P **P** **00 12 24.3 +1.1**
SDDR Presa de Saban 50.32 353 IAmb IAmb 00 12 28.5
comp=Z,54nm,0.6s
VNA2 Neumayer--Watz 50.48 159 P **P** **00 12 26.7 +0.7**
baz=283,slow=9.0
MTDJ Mount Denham 50.56 346 P **P** **00 12 27.4 +0.2**
MTDJ IAmb IAmb 00 12 28.9
comp=Z,49nm,0.7s
SC01 Santiago de lo 50.71 354 P **P** **00 12 29.3 +1.1**
SC01 IAmb IAmb 00 12 31.7
comp=Z,52nm,0.6s
MTO3 Montecristo 50.80 330 P **P** **00 12 29.2 0.0**
MTO3 IAmb IAmb 00 12 31.3
comp=Z,78nm,0.7s
ESQI Esquipulas 50.94 330 P **P** **00 12 30.7 +0.6**
SNAA Sanae 52.11 159 P **P** **00 12 38.5 +0.5**
SNAA S **S** **00 19 51.6 +2.1**
SNAA Sanae 52.11 159 P **P** **00 12 39.1 +1.0**
comp=Z,73nm,0.5s,baz=288,slow=5.9,SNR=750
comp=Z,73nm,0.5s
SNAA Sanae 52.11 159 P **P** **00 12 38.6 +0.5**
HUEH Huehuetenango 52.56 328 P **P** **00 12 43.0 +0.7**
GRTK Grand Turk 52.81 354 P **P** **00 12 43.8 +0.1**
GRTK IAmb IAmb 00 13 49.8
comp=Z,115nm,1.1s
ASCN Ascension 53.19 75 P **P** **00 12 46.1 -0.7**
PETF Flores 53.27 331 P **P** **00 12 47.3 +0.2**
CCIG Comitan 53.69 328 IAmb IAmb 00 12 52.0
comp=Z,98nm,1.3s
TROLL Troll, Antarti 53.82 159 P **P** **00 12 50.6 -0.2**
TROLL S **S** **00 20 14.8 +2.0**
TEIG Tepich 55.63 334 P **P** **00 13 03.5 -0.7**
TEIG Tepich 55.63 334 P **P** **00 13 02.4 -1.7**
TEIG pP **pP** **00 13 41.0 -0.1**
SOR Soroa 56.30 341 P **P** **00 13 08.8 -0.1**
SOR IAmb IAmb 00 13 10.3
comp=Z,37nm,0.9s
SOR **pP** **00 13 46.3 +0.3**
SOR Soroa 56.30 341 P **P** **00 13 08.8 -0.1**
SOR *PP **pP** **00 13 46.3 +0.3**
SOR pmax pmax
comp=Z,37nm,0.9s
SHEL Horse Pasture 56.48 89 P **P** **00 13 10.1 -0.4**
SHEL Horse Pasture 56.48 89 P **P** **00 13 10.1 -0.4**
SHEL pmax pmax
comp=Z,101nm,1.1s
NVL N'lazarevskaya 56.69 157 *eP **P** **00 13 10.6 -0.4**
NVL *eS **ScS** **00 22 45.1 +1.3**
NVL pmax pmax
comp=Z,154nm,1.0s
TLIG Tlapa 57.92 322 P **P** **00 13 20.9 +0.4**
TLIG IAmb IAmb 00 13 23.7
comp=Z,49nm,0.9s
061Z Ochoppi 58.70 344 P **P** **00 13 26.2 +0.7**
061Z Ochoppi 58.70 344 P **P** **00 13 26.1 +0.5**
baz=165
QSPA South Pole Qui 58.88 180 PKP2bc 00 43 06.9
comp=Z,1.8nm,0.6s,baz=273,slow=0.8,SNR=13
QSPA South Pole Qui 58.88 180 P **P** **00 13 27.4 +0.8**
QSPA South Pole Qui 58.88 180 P **P** **00 13 26.1 -0.5**
QSPA pP **pP** **00 14 05.5 +1.5**
QSPA sP **sP** **00 14 22.5 +0.9**
DWPF Disney Wildern 60.98 344 P **P** **00 13 40.0 -1.1**
baz=165
MOIG Morelia 61.06 321 P **P** **00 13 42.6 +0.5**
656A Willston 62.45 344 **PcP** **00 14 29.0 +0.3**
656A Willston 62.45 344 P **P** **00 13 50.7 -0.2**
baz=164,SNR=6.7
BBSR BB Station 63.39 1 P **P** **00 13 58.0 +1.0**
456A Hilliard 63.63 344 P **P** **00 13 59.4 +0.8**
ZAIG Zacatecas 64.32 322 P **P** **00 14 04.9 +1.2**
ZAIG IAmb IAmb 00 14 07.0
comp=Z,66nm,1.4s
TIGA Tifton 64.69 343 IAmb IAmb 00 14 06.5
comp=Z,48nm,0.7s
TIGA Tifton 64.69 343 P **P** **00 14 05.0 -0.5**
baz=163,SNR=7.2
TIGA Tifton 64.69 343 P **P** **00 14 04.7 -0.8**
baz=163,SNR=7.2
255A Hazlehurst 64.89 344 IAmb IAmb 00 14 08.0
comp=Z,53nm,1.0s
255A Hazlehurst 64.89 344 P **P** **00 14 06.5 -0.3**
baz=164,SNR=5.8
352A Blakely 65.07 342 pP 00 14 46.1 0.0
352A Blakely 65.07 342 P **P** **00 14 07.5 -0.5**
baz=162,SNR=12
BRAL Brewton 65.36 340 P **P** **00 14 10.2 +0.3**
BRAL Brewton 65.36 340 P **P** **00 14 09.8 -0.1**
baz=160,SNR=8.5
BRAL Brewton 65.36 340 P **P** **00 14 08.8 -1.1**
baz=160,SNR=8.5
CSU Charleston Sou 65.40 347 P **P** **00 14 09.6 -0.5**
NHSC New Hope 65.53 347 P **P** **00 14 10.3 -0.6**
NHSC IAmb IAmb 00 14 13.1
comp=Z,78nm,1.1s
NHSC New Hope 65.53 347 P **P** **00 14 10.5 -0.5**
baz=167
154A Montrose 65.69 344 pP 00 14 50.5 +0.4
154A Montrose 65.69 344 P **P** **00 14 11.7 -0.3**
baz=164,SNR=14
BBTS Babate 65.79 54 LR LR 00 41 26.6
comp=Z,293nm,19.7s,baz=212,slow=34
250A Grady 65.90 341 IAmb IAmb 00 14 14.2
comp=Z,49nm,0.7s
250A pP 00 14 50.8 -0.7
250A Grady 65.90 341 P **P** **00 14 12.6 -0.7**
baz=161,SNR=7.7
Y60A Bolivia 66.05 349 P **P** **00 14 14.7 +0.5**
KVTX Kingsville 66.08 329 P **P** **00 14 14.9 +0.3**
152A Waverly Hall 66.14 343 IAmb IAmb 00 14 16.8
comp=Z,26nm,0.7s
152A Waverly Hall 66.14 343 P **P** **00 14 14.0 -0.9**
baz=162,SNR=19
Y59A Loris 66.15 348 P **P** **00 14 14.5 -0.3**
Y59A IAmb IAmb 00 14 16.5
comp=Z,49nm,0.6s
Y58A Scranton 66.21 347 P **P** **00 14 14.8 -0.4**
346A Big Creek Wild 66.31 338 IAmb IAmb 00 14 17.4
comp=Z,63nm,0.7s
346A Big Creek Wild 66.31 338 P **P** **00 14 15.9 0.0**
baz=158,SNR=6.6
Y57A Sumter 66.46 347 P **P** **00 14 16.9 0.0**
Y57A IAmb IAmb 00 14 18.5
comp=Z,59nm,0.7s
Y57A Sumter 66.46 347 P **P** **00 14 17.3 +0.4**
baz=166
Y57A P **P** **00 14 17.3 +0.4**
baz=166
GOGA Godfrey 66.54 344 P **P** **00 14 16.6 -0.8**
GOGA Godfrey 66.54 344 P P **00 14 16.6 -0.8**
GOGA pmax pmax
comp=Z,24nm,0.8s
GOGA Godfrey 66.54 344 P **P** **00 14 16.6 -0.8**
baz=164,SNR=21
GOGA Godfrey 66.54 344 P **P** **00 14 16.3 -1.1**
baz=164,SNR=21
SBA Scott Base 66.68 191 P **P** **00 14 19.5 +1.7**
SBA IAmb IAmb 00 14 20.8
comp=Z,52nm,1.3s
SBA Scott Base 66.68 191 P **P** **00 14 19.5 +1.7**
SBA pmax pmax
comp=Z,53nm,1.3s
SBA Scott Base 66.68 191 P **P** **00 14 17.8 0.0**
344A Westbrook Farm 66.78 337 P **P** **00 14 20.0 +1.1**
344A IAmb IAmb 00 14 21.2
comp=Z,58nm,0.9s
344A Westbrook Farm 66.78 337 P **P** **00 14 19.4 +0.4**
baz=157,SNR=7.9
X58A Rowland 66.78 348 P **P** **00 14 19.1 +0.2**
X58A **pP** **00 14 58.6 +1.5**
X58A Rowland 66.78 348 P **P** **00 14 19.2 +0.3**
baz=168,SNR=19
X58A P **P** **00 14 19.2 +0.3**
baz=168,SNR=19
JSC Jenkinsville 66.89 346 P **P** **00 14 19.5 -0.1**
JSC Jenkinsville 66.89 346 P **P** **00 14 19.5 -0.1**
JSC pmax pmax
comp=Z,25nm,0.7s
JSC Jenkinsville 66.89 346 P **P** **00 14 19.4 -0.2**
baz=166,SNR=16
441A DeRidder 67.01 335 P **P** **00 14 21.3 +0.9**
441A IAmb IAmb 00 14 23.4
comp=Z,72nm,0.8s
HODGE Hodges 67.05 345 P **P** **00 14 20.0 -0.6**
baz=165
BIRD Birdtown, Kers 67.08 347 P **P** **00 14 20.6 -0.1**
BIRD IAmb IAmb 00 14 22.4
comp=Z,31nm,0.7s
BIRD pP **pP** **00 14 59.4 +0.4**
BIRD Birdtown, Kers 67.08 347 P **P** **00 14 20.9 +0.2**
baz=166,SNR=13
LRAL Lakeview Retre 67.10 341 P **P** **00 14 20.1 -0.9**
LRAL Lakeview Retre 67.10 341 P **P** **00 14 20.1 -0.9**
baz=160,SNR=24
Y52A Lilburn 67.12 344 IAmb IAmb 00 14 21.7
comp=Z,35nm,0.6s
Y52A Lilburn 67.12 344 P **P** **00 14 20.3 -0.7**
baz=163,SNR=20
Y52A P **P** **00 14 20.3 -0.7**
baz=163,SNR=20
735A Kenedy 67.18 330 P **P** **00 14 22.3 +0.8**
CNNC Cliffs of the 67.21 349 P **P** **00 14 21.4 -0.1**
CNNC IAmb IAmb 00 14 23.4
comp=Z,47nm,0.9s
CNNC Cliffs of the 67.21 349 P **P** **00 14 21.7 +0.1**
baz=169
342B Flagon Creek P 67.26 336 P **P** **00 14 23.1 +1.2**
baz=156,SNR=6.4
HKT Hockley 67.31 332 P **P** **00 14 23.3 +1.0**
HKT IAmb IAmb 00 14 25.7
comp=Z,72nm,1.7s
HKT Hockley 67.31 332 P **P** **00 14 23.3 +1.0**
HKT pmax pmax
comp=Z,72nm,1.7s
HKT Hockley 67.31 332 P **P** **00 14 21.5 -0.8**
HKT pP **pP** **00 15 01.1 +0.4**
HKT sP **sP** **00 15 17.5 -0.4**
146A Union 67.34 339 P **P** **00 14 22.5 +0.1**
146A IAmb IAmb 00 14 24.2
comp=Z,40nm,0.8s
146A Union 67.34 339 P **P** **00 14 23.2 +0.7**
baz=159
VBMS Vicksburg 67.42 337 P **P** **00 14 23.0 +0.1**
VBMS IAmb IAmb 00 14 25.0
comp=Z,82nm,1.2s
VBMS Vicksburg 67.42 337 P **P** **00 14 22.4 -0.5**
baz=157
833A Chaparral WMA, 67.42 328 P **P** **00 14 23.7 +0.6**
baz=149,SNR=44
W57A Gilead 67.49 347 P **P** **00 14 23.3 0.0**
W57A IAmb IAmb 00 14 25.0
comp=Z,72nm,0.7s
W57A Gilead 67.49 347 P **P** **00 14 23.3 0.0**
baz=167,SNR=42
W57A P **P** **00 14 23.3 0.0**
baz=167,SNR=42
PAULI Pauline 67.53 346 P **P** **00 14 23.4 -0.2**
baz=165,SNR=12
Z47A Carrollton 67.56 340 IAmb IAmb 00 14 25.0
comp=Z,71nm,0.7s
Z47A Carrollton 67.56 340 P **P** **00 14 23.4 -0.5**
baz=160,SNR=23
VNDA Vanda 67.67 190 P **P** **00 14 25.9 +1.9**
comp=Z,28nm,1.0s,baz=140,slow=5.4,SNR=67
comp=Z,28nm,1.0s
VNDA Vanda 67.67 190 P **P** **00 14 25.5 +1.5**
VNDA Vanda 67.67 190 P **P** **00 14 24.2 +0.2**
VNDA sP **sP** **00 15 20.6 +0.9**
Y49A Blount Mountai 67.71 342 IAmb IAmb 00 14 37.0
comp=Z,32nm,0.6s
Y49A Blount Mountai 67.71 342 P **P** **00 14 24.1 -0.7**
baz=161,SNR=29
KMSC Kings Mountain 67.74 346 pP 00 15 03.6 +0.4
KMSC Kings Mountain 67.74 346 P **P** **00 14 24.6 -0.3**
baz=166,SNR=11
KMSC Kings Mountain 67.74 346 P **P** **00 14 23.9 -1.0**
baz=166,SNR=11
CASEE Lake Jocassee 67.93 345 P **P** **00 14 26.0 -0.2**
baz=164,SNR=12
V58A Windy Hill, Pi 67.95 348 IAmb IAmb 00 14 27.9
comp=Z,56nm,0.7s
V58A Windy Hill, Pi 67.95 348 P **P** **00 14 26.2 0.0**
baz=168,SNR=39
V58A P **P** **00 14 26.2 0.0**
baz=168,SNR=39
X51A Calhoun 67.98 343 pP pP 00 15 05.2 +0.4
X51A Calhoun 67.98 343 P **P** **00 14 26.1 -0.4**
baz=163,SNR=27
X51A P **P** **00 14 26.1 -0.4**
baz=163,SNR=27
FPAL Fort Paine 68.15 342 IAmb IAmb 00 14 28.5
comp=Z,49nm,0.8s
FPAL pP 00 15 06.1 +0.2
143A Socs Landing, 68.15 337 P **P** **00 14 28.1 +0.6**
baz=157,SNR=21
W52A Murphy 68.26 344 IAmb IAmb 00 14 29.0
comp=Z,30nm,0.5s
U59A Littleton 68.28 350 pP 00 15 07.7 +1.0
U59A Littleton 68.28 350 P **P** **00 14 28.5 +0.2**
baz=169,SNR=7.9
U59A P **P** **00 14 28.5 +0.2**
baz=169,SNR=7.9
V55A Taylorsville 68.40 347 IAmb IAmb 00 14 30.8
comp=Z,38nm,0.7s
V55A Taylorsville 68.40 347 P **P** **00 14 29.1 +0.1**
baz=166,SNR=25
V55A P **P** **00 14 29.1 +0.1**
baz=166,SNR=25
X48A Hartselle 68.44 341 IAmb IAmb 00 14 30.8
comp=Z,54nm,1.0s
X48A Hartselle 68.44 341 P **P** **00 14 29.0 -0.3**
baz=161,SNR=21
NATX Nacogdoches 68.46 334 P **P** **00 14 29.4 -0.1**
baz=154,SNR=9.1
NATX Nacogdoches 68.46 334 P **P** **00 14 29.9 +0.4**
baz=154,SNR=9.1
V53A Saluda 68.56 345 IAmb IAmb 00 14 31.3
comp=Z,32nm,0.8s
V53A Saluda 68.56 345 P **P** **00 14 29.6 -0.5**
baz=164,SNR=30
V53A P **P** **00 14 29.6 -0.5**
baz=164,SNR=30
Y45A Yeager Farm, C 68.63 339 P **P** **00 14 30.5 +0.1**
baz=158,SNR=9.1
W50A Signal Mountai 68.70 343 IAmb IAmb 00 14 32.2
comp=Z,44nm,0.8s
W50A pP pP 00 15 09.1 -0.3
W50A Signal Mountai 68.70 343 P **P** **00 14 30.5 -0.4**
baz=162,SNR=27
U56A King 68.72 347 IAmb IAmb 00 14 33.0
comp=Z,61nm,0.7s
U56A King 68.72 347 P **P** **00 14 31.4 +0.4**
baz=167,SNR=23
U56A P **P** **00 14 31.4 +0.4**
baz=167,SNR=23
CPCT Cooper Cave 68.74 344 IAmb IAmb 00 14 32.2
comp=Z,34nm,0.7s
TKL Tuckaleechee C 68.76 344 IAmb IAmb 00 14 32.1
comp=Z,31nm,0.7s
TKL Tuckaleechee C 68.76 344 P **P** **00 14 30.4 -0.8**
baz=164,SNR=29
435B Jarrell 68.76 331 P **P** **00 14 31.8 +0.4**
435B IAmb IAmb 00 14 33.4
comp=Z,32nm,0.8s
435B Jarrell 68.76 331 P **P** **00 14 32.4 +1.0**
baz=151
435B Jarrell 68.76 331 P **P** **00 14 30.9 -0.5**
baz=151
T59A Double "B" Far 68.85 350 IAmb IAmb 00 14 33.8
comp=Z,101nm,1.9s
T59A pP pP 00 15 10.0 -0.2
T59A Double "B" Far 68.85 350 P **P** **00 14 32.5 +0.8**
baz=169
T59A P **P** **00 14 32.5 +0.8**
baz=169
SWET Sewanee 68.87 342 IAmb IAmb 00 14 33.1
comp=Z,59nm,1.0s
SWET pP pP 00 15 10.3 -0.2
V52A Sevierville 68.90 345 IAmb IAmb 00 14 32.9
comp=Z,39nm,0.7s
V52A Sevierville 68.90 345 P **P** **00 14 31.3 -0.8**
baz=164,SNR=28
T60A Surry 68.90 351 P **P** **00 14 32.6 +0.6**
T60A IAmb IAmb 00 14 34.3
comp=Z,50nm,0.8s
T60A pP **pP** **00 15 10.9 +0.4**
T60A Surry 68.90 351 P **P** **00 14 33.3 +1.3**
baz=170
T60A P **P** **00 14 33.3 +1.3**
baz=170
LIC Lamto 68.93 68 ⇑*i*P **P** **00 14 32.3 -0.5**
comp=Z,109nm,0.4s
V51A Loudon 69.04 344 P **P** **00 14 32.0 -0.9**
baz=163,SNR=19
237A Washetta, Mont 69.12 333 P **P** **00 14 34.3 +0.7**
baz=153,SNR=14
SLBS Sierra La Lagu 69.14 317 P **P** **00 14 35.0 +1.0**
SLBS IAmb IAmb 00 14 37.1
comp=Z,136nm,1.6s
SLBS Sierra La Lagu 69.14 317 P **P** **00 14 33.9 -0.1**
SLBS sP **sP** **00 15 31.8 +1.9**
T57A Hurt 69.15 349 P **P** **00 14 33.6 0.0**
baz=168,SNR=14
T57A P **P** **00 14 33.6 0.0**
baz=168,SNR=14
U54A Nelsons Funny 69.17 346 IAmb IAmb 00 14 35.2
comp=Z,66nm,0.8s
U54A Nelsons Funny 69.17 346 P **P** **00 14 33.5 -0.3**
baz=165,SNR=28
U54A P **P** **00 14 33.5 -0.3**
baz=165,SNR=28
OXF Oxford 69.18 339 P **P** **00 14 33.4 -0.5**
OXF Oxford 69.18 339 P **P** **00 14 33.4 -0.5**
OXF pmax pmax
comp=Z,75nm,0.5s
OXF Oxford 69.18 339 P **P** **00 14 33.3 -0.6**
baz=159,SNR=5.7
OXF Oxford 69.18 339 P **P** **00 14 32.4 -1.5**
baz=159,SNR=5.7
TIC Toumodi 69.19 68 ⇑*i*P **P** **00 14 33.8 -0.6**
comp=Z,47nm,0.4s
PLAL Pickwick Lake 69.23 341 IAmb IAmb 00 14 35.1
comp=Z,44nm,0.8s
KIC Kosan Boka 69.24 68 ⇑*i*P **P** **00 14 34.3 -0.4**
comp=Z,100nm,0.4s
S61A Accomac 69.29 352 P **P** **00 14 34.9 +0.4**
HPIG 69.33 322 IAmb IAmb 00 14 37.1
comp=Z,40nm,0.5s
DBIC Dimbokro 69.33 68 P **P** **00 14 34.5 -0.8**
comp=Z,40nm,0.5s,baz=232,slow=6.5,SNR=127
DBIC LR LR 00 42 08.9
comp=Z,137nm,20.0s,baz=242,slow=33
comp=Z,40nm,0.5s
DBIC Dimbokro 69.33 68 IAmb IAmb 00 14 35.4
comp=Z,56nm,0.6s
DBIC Dimbokro 69.33 68 P **P** **00 14 34.2 -1.0**
DBIC pP **pP** **00 15 13.0 -0.9**
JCT Junction City 69.45 329 IAmb IAmb 00 14 37.4
comp=Z,59nm,0.6s
JCT Junction City 69.45 329 P **P** **00 14 35.6 -0.1**
baz=149,SNR=40
TZTN Tazewell 69.56 345 P **P** **00 14 35.5 -0.6**
baz=164,SNR=10.0
TZTN Tazewell 69.56 345 P **P** **00 14 34.7 -1.4**
baz=164,SNR=10.0
BLA Blacksburg 69.56 348 IAmb IAmb 00 15 17.2
comp=Z,39nm,0.7s
BLA Blacksburg 69.56 348 P **P** **00 14 36.5 +0.3**
baz=167,SNR=14
BLA Blacksburg 69.56 348 P **P** **00 14 35.5 -0.8**
baz=167,SNR=14
V48A Smith Brothers 69.60 342 IAmb IAmb 00 14 37.5
comp=Z,55nm,0.6s
V48A Smith Brothers 69.60 342 P **P** **00 14 35.8 -0.6**
baz=161,SNR=44
JSRW J. Sargeant Re 69.61 350 pP 00 15 16.3 +1.3
W45A Hickory Valley 69.72 340 P **P** **00 14 37.5 +0.3**
baz=159
WHTX Lake Whitney, 69.77 332 IAmb IAmb 00 14 39.1
comp=Z,33nm,0.7s
WHTX Lake Whitney, 69.77 332 P **P** **00 14 37.3 -0.2**
baz=152,SNR=6.8
WHTX Lake Whitney, 69.77 332 P **P** **00 14 37.0 -0.5**
baz=152,SNR=6.8
CLTN Cedars of Leba 69.80 342 IAmb IAmb 00 14 38.6
comp=Z,32nm,0.7s
CLTN pP pP 00 15 15.7 -0.5
S57A Dark Hollow, R 69.84 349 pP pP 00 15 17.1 +0.7
S57A Dark Hollow, R 69.84 349 P **P** **00 14 38.1 +0.2**
baz=168,SNR=16
S57A P **P** **00 14 38.1 +0.2**
baz=168,SNR=16
R58B Mineral 69.87 350 pP 00 15 16.7 +0.1
R58B Mineral 69.87 350 P **P** **00 14 38.4 +0.4**
baz=169,SNR=9.3
R58B P **P** **00 14 38.4 +0.4**
baz=169,SNR=9.3
R61A Willards 69.89 352 P **P** **00 14 39.3 +1.1**
CBN Corbin Frederi 70.04 350 P **P** **00 14 39.3 +0.3**
CBN IAmb IAmb 00 17 12.8
comp=Z,27nm,0.4s
CBN Corbin Frederi 70.04 350 P **P** **00 14 39.0 +0.1**
baz=170
U49A Red Boiling Sp 70.06 343 P **P** **00 14 38.2 -1.0**
baz=162,SNR=26
WVT Waverly 70.24 341 P **P** **00 14 39.4 -0.9**
WVT Waverly 70.24 341 P **P** **00 14 39.4 -0.9**
WVT pmax pmax
comp=Z,74nm,0.7s
WVT Waverly 70.24 341 P **P** **00 14 39.4 -0.9**
baz=160,SNR=70
WVT Waverly 70.24 341 P **P** **00 14 39.2 -1.1**
baz=160
WVT Waverly 70.24 341 P **P** **00 14 38.4 -1.9**
WVT pP **pP** **00 15 18.0 -1.0**
WVT sP **sP** **00 15 35.4 -0.7**
TXAR Lajitas Array 70.28 325 P **P** **00 14 40.9 +0.1**
comp=Z,12nm,0.4s,baz=148,slow=7.5,SNR=269
TXAR pP **pP** **00 15 20.3 +0.7**
comp=Z,5.3nm,0.6s,baz=148,slow=7.6,SNR=3.6
TXAR PKP2bc 00 42 39.8
comp=Z,1.1nm,1.0s,baz=292,slow=4.8,SNR=5.4
comp=Z,12nm,0.4s
TX31 Lajitas Ar. Si 70.28 325 IAmb IAmb 00 14 43.3
comp=Z,52nm,0.6s
TX31 Lajitas Ar. Si 70.28 325 P **P** **00 14 41.0 +0.2**
baz=146,SNR=106
S54A Dingess, Beckl 70.30 347 IAmb IAmb 00 14 42.1
comp=Z,52nm,0.8s
S54A Dingess, Beckl 70.30 347 P **P** **00 14 40.5 -0.2**
baz=166,SNR=18
S54A P **P** **00 14 40.5 -0.2**
baz=166,SNR=18
UALR University of 70.36 337 IAmb IAmb 00 14 42.5
comp=Z,58nm,0.6s
UALR pP 00 15 20.6 +0.8
HALT Halls 70.46 340 P **P** **00 14 41.6 0.0**
R55A Marlinton 70.55 348 IAmb IAmb 00 14 44.7
comp=Z,66nm,0.8s
R55A Marlinton 70.55 348 P **P** **00 14 43.3 +1.0**
baz=167
R55A P **P** **00 14 43.3 +1.0**
baz=167

MIAR	**Mount Ida** baz=155,SNR=22	**70.57**	**336**	P	**P**	**00 14 42.2**	**-0.2**
S51A	**Beattyville** comp=Z,36nm,0.7s	**70.62**	**345**	IAmb	IAmb	00 14 43.7	
S51A	**Beattyville** baz=164,SNR=20	**70.62**	**345**	P	**P**	**00 14 41.9**	**-0.7**
S51A	baz=164,SNR=20			P	**P**	**00 14 41.9**	**-0.7**
LNXT	**Lenox**	**70.69**	**340**	P	**P**	**00 14 43.5**	**+0.5**
GNAR	**Gosnell**	**70.72**	**339**	P	**P**	**00 14 43.9**	**+0.7**
UTMT	**University of**	**70.73**	**340**	P	**P**	**00 14 43.6**	**+0.4**
GLAT	**Glass**	**70.78**	**340**	P	**P**	**00 14 43.8**	**+0.3**
PEBM	**Pemiscott Bayo**	**70.81**	**340**	P	**P**	**00 14 43.6**	**-0.2**
WHAR	**Wooly Hollow** comp=Z,155nm,1.7s	**70.81**	**337**	IAmb	IAmb	00 14 45.3	
T47A	**Sharon Grove** comp=Z,64nm,0.7s	**70.85**	**342**	IAmb	IAmb	00 14 44.7	
T47A	**Sharon Grove** baz=161,SNR=29	**70.85**	**342**	P	**P**	**00 14 42.9**	**-1.1**
Z35A	**Perchaven, San** baz=152,SNR=25	**70.86**	**332**	P	**P**	**00 14 44.4**	**+0.3**
R53A	**Hurricane** comp=Z,30nm,0.7s	**70.94**	**347**	IAmb	IAmb	00 14 45.8	
R53A	**Hurricane** baz=166,SNR=9.8	**70.94**	**347**	P	**P**	**00 14 44.4**	**-0.2**
R53A	baz=166,SNR=9.8			P	**P**	**00 14 44.4**	**-0.2**
HICK	**Hickman**	**71.02**	**340**	P	**P**	**00 14 44.3**	**-0.7**
HICK	comp=Z,91nm,1.0s			IAmb	IAmb	00 14 46.2	
Q56A	**Snyder Ridge,** comp=Z,27nm,0.7s	**71.13**	**349**	IAmb	IAmb	00 14 48.1	
Q56A	**Snyder Ridge,** baz=168,SNR=13	**71.13**	**349**	P	**P**	**00 14 46.2**	**+0.6**
Q56A	baz=168,SNR=13			P	**P**	**00 14 46.2**	**+0.6**
SDMD	**Soldier's Deli**	**71.15**	**351**	P	**P**	**00 14 46.4**	**+0.7**
SDMD	**Soldier's Deli** baz=170	**71.15**	**351**	P	**P**	**00 14 47.0**	**+1.3**
LCAR	**Lake Charles** comp=Z,74nm,0.7s	**71.16**	**338**	IAmb	IAmb	00 14 47.8	
ABTX	**Abilene, Hawle** baz=150	**71.22**	**330**	P	**P**	**00 14 45.6**	**-0.8**
X37A	**Clayton** comp=Z,32nm,0.6s	**71.26**	**335**	IAmb	IAmb	00 14 48.1	
X37A	**Clayton** baz=154,SNR=32	**71.26**	**335**	P	**P**	**00 14 46.5**	**0.0**
T45B	**Paducah** baz=160,SNR=10	**71.29**	**341**	P	**P**	**00 14 46.5**	**-0.1**
FCAR	**Ozark Folk Cen** comp=Z,42nm,0.6s	**71.31**	**338**	IAmb	IAmb	00 14 48.8	
Q54A	**Coxs Mills** comp=Z,27nm,0.6s	**71.36**	**348**	IAmb	IAmb	00 14 48.2	
Q54A	**Coxs Mills** baz=166,SNR=19	**71.36**	**348**	P	**P**	**00 14 46.5**	**-0.6**
Q54A	baz=166,SNR=19			P	**P**	**00 14 46.5**	**-0.6**
P57A	**Homestead Farm** comp=Z,39nm,0.7s	**71.38**	**350**	IAmb	IAmb	00 14 49.7	
P57A	**Homestead Farm** baz=169,SNR=14	**71.38**	**350**	P	**P**	**00 14 48.0**	**+0.8**
P57A	baz=169,SNR=14			P	**P**	**00 14 48.0**	**+0.8**
R50A	**Paris** comp=Z,37nm,0.8s	**71.40**	**345**	IAmb	IAmb	00 14 48.3	
R50A	**Paris** baz=163,SNR=16	**71.40**	**345**	P	**P**	**00 14 46.7**	**-0.6**
R50A	baz=163,SNR=16			P	**P**	**00 14 46.7**	**-0.6**
LOOK	**Love County** comp=Z,65nm,0.5s	**71.41**	**333**	IAmb	IAmb	00 14 48.7	
SUR	**Sutherland**	**71.42**	**117**	P	**P**	**00 14 47.6**	**-0.4**
SUR	comp=Z,44nm,0.8s			IAmb	IAmb	00 15 30.6	
PBMO	**Poplar Bluff** baz=158,SNR=5.5	**71.59**	**339**	P	**P**	**00 14 47.9**	**-0.6**
R49A	**Shelbyville** baz=163,SNR=11	**71.60**	**344**	P	**P**	**00 14 47.8**	**-0.7**
R49A	baz=163,SNR=11			P	**P**	**00 14 47.8**	**-0.7**
Q52A	**Bidwell** comp=Z,31nm,0.7s	**71.61**	**347**	IAmb	IAmb	00 14 49.8	
Q52A	**Bidwell** baz=165	**71.61**	**347**	P	**P**	**00 14 48.3**	**-0.3**
Q52A	baz=165			P	**P**	**00 14 48.3**	**-0.3**
TUPA	**Temple Univers** baz=172,SNR=22	**71.69**	**352**	P	**P**	**00 14 49.4**	**+0.5**
WCI	**Wyandotte Cave**	**71.81**	**343**	P	**P**	**00 14 48.7**	**-1.1**
WCI	comp=Z,78nm,0.7s			IAmb	IAmb	00 14 50.3	
WCI	**Wyandotte Cave**	**71.81**	**343**	P	**P**	**00 14 48.7**	**-1.1**
WCI	comp=Z,77nm,0.7s			pmax	pmax		
WCI	**Wyandotte Cave** baz=162,SNR=36	**71.81**	**343**	P	**P**	**00 14 48.6**	**-1.1**
WCI	**Wyandotte Cave** baz=162	**71.81**	**343**	P	**P**	**00 14 48.2**	**-1.5**
WCI	**Wyandotte Cave**	**71.81**	**343**	P	**P**	**00 14 48.3**	**-1.4**
WCI				pP	**pP**	**00 15 27.7**	**-0.8**
WCI				sP	**sP**	**00 15 44.4**	**-1.2**
PANJ	**Princeton** baz=172,SNR=5.8	**71.84**	**353**	P	**P**	**00 14 50.5**	**+0.7**
MCWV	**Mont Chateau**	**71.84**	**349**		pP	00 15 29.9	+1.3
MCWV	**Mont Chateau** baz=167	**71.84**	**349**	P	**P**	**00 14 50.1**	**+0.2**
MCWV	**Mont Chateau** baz=167,SNR=6.2	**71.84**	**349**	P	**P**	**00 14 49.3**	**-0.6**
CGM3	**Cape Girardeau** comp=Z,36nm,0.7s	**71.85**	**340**	IAmb	IAmb	00 14 50.7	
Q51A	**Peebles** baz=164,SNR=5.9	**71.90**	**346**	P	**P**	**00 14 49.6**	**-0.7**
Q51A	baz=164,SNR=5.9			P	**P**	**00 14 49.6**	**-0.7**
USIN	**University of** comp=Z,49nm,0.7s	**71.92**	**342**	IAmb	IAmb	00 14 50.8	
P53A	**Whipple** baz=166,SNR=11	**71.95**	**347**	P	**P**	**00 14 50.3**	**-0.3**
P53A	baz=166,SNR=11			P	**P**	**00 14 50.3**	**-0.3**
WP01	**e3381**	**72.01**	**104**	*i* P	**P**	**00 14 49.8**	**-1.8**
S44A	**Carbondale** baz=159,SNR=57	**72.10**	**341**	P	**P**	**00 14 50.4**	**-1.0**
SIUC	**Southern Illin** comp=Z,80nm,0.7s	**72.11**	**341**	IAmb	IAmb	00 14 52.2	
BRNJ	**Basking Ridge**	**72.13**	**353**	P	**P**	**00 14 52.3**	**+0.7**
BRNJ	comp=Z,38nm,0.7s			IAmb	IAmb	00 14 53.9	
BRNJ	**Basking Ridge** baz=172	**72.13**	**353**	P	**P**	**00 14 52.4**	**+0.8**
P52A	**Corning** baz=165,SNR=16	**72.24**	**347**	P	**P**	**00 14 51.2**	**-1.0**
HHAR	**Hobbs**	**72.27**	**336**	P	**P**	**00 14 52.6**	**+0.1**
HHAR	comp=Z,50nm,0.5s			IAmb	IAmb	00 14 54.0	
HHAR	**Hobbs** baz=155	**72.27**	**336**	P	**P**	**00 14 52.3**	**-0.3**
PAL	**Palisades** baz=173	**72.39**	**354**	P	**P**	**00 14 52.2**	**-0.8**
SSPA	**Standing Stone**	**72.50**	**350**	P	**P**	**00 14 53.8**	**+0.1**
SSPA	comp=Z,83nm,1.8s			IAmb	IAmb	00 14 55.8	
SSPA	**Standing Stone** baz=169,SNR=7.3	**72.50**	**350**	P	**P**	**00 14 54.0**	**+0.3**
SSPA	**Standing Stone** baz=169	**72.50**	**350**	P	**P**	**00 14 53.7**	**-0.1**
MGMO	**Mountain Grove** comp=Z,73nm,0.9s	**72.51**	**338**	IAmb	IAmb	00 14 55.6	
ODNJ	**Ogdensburg** baz=172,SNR=7.8	**72.53**	**353**	P	**P**	**00 14 54.5**	**+0.6**
N58A	**Sunbury** baz=170	**72.54**	**351**	P	**P**	**00 14 54.6**	**+0.6**
N58A	baz=170			P	**P**	**00 14 54.6**	**+0.6**
RLO	**Rose Lookout** comp=Z,60nm,0.8s	**72.54**	**336**	IAmb	IAmb	00 14 55.6	
U38A	**Gravette** comp=Z,52nm,0.5s	**72.56**	**336**	IAmb	IAmb	00 14 55.3	
U38A	**Gravette** baz=155,SNR=34	**72.56**	**336**	P	**P**	**00 14 54.0**	**-0.3**
TUL1	**Leonard** comp=Z,29nm,0.6s	**72.59**	**335**	IAmb	IAmb	00 14 55.3	
TUL1	**Leonard** baz=154,SNR=16	**72.59**	**335**	P	**P**	**00 14 54.0**	**-0.4**
TUL1	**Leonard** baz=154,SNR=16	**72.59**	**335**	P	**P**	**00 14 54.1**	**-0.4**
YLE	**Yale**	**72.61**	**354**	P	**P**	**00 14 54.8**	**+0.5**
FNO	**Franklin** comp=Z,48nm,0.7s	**72.61**	**333**	IAmb	IAmb	00 14 55.9	
M63A	**Gales Ferry**	**72.62**	**355**	P	**P**	**00 14 55.9**	**+1.4**
O52A	**Adamsville** baz=166,SNR=9.8	**72.65**	**347**	P	**P**	**00 14 54.0**	**-0.6**
O52A	baz=166,SNR=9.8			P	**P**	**00 14 54.0**	**-0.6**
O53A	**New Philadelph** comp=Z,107nm,1.9s	**72.66**	**348**	IAmb	IAmb	00 14 56.0	
O53A	**New Philadelph** baz=166,SNR=6.0	**72.66**	**348**	P	**P**	**00 14 53.9**	**-0.8**
UPAO	**U. Pittsburgh** baz=167	**72.68**	**349**	P	**P**	**00 14 55.2**	**+0.4**
P49A	**Miami Univ. Ec** comp=Z,64nm,0.7s	**72.68**	**345**	IAmb	IAmb	00 14 55.6	
P49A	**Miami Univ. Ec** baz=163,SNR=26	**72.68**	**345**	P	**P**	**00 14 53.9**	**-1.0**
P49A	**Miami Univ. Ec** baz=163,SNR=26	**72.68**	**345**	P	**P**	**00 14 53.6**	**-1.3**
WMOK	**Wichita Mounta** baz=151,SNR=41	**72.70**	**332**	P	**P**	**00 14 54.6**	**-0.5**
WMOK	**Wichita Mounta** baz=151,SNR=41	**72.70**	**332**	P	**P**	**00 14 54.5**	**-0.7**
FVM	**French Village** baz=158,SNR=35	**72.71**	**340**	P	**P**	**00 14 54.4**	**-0.6**
OLIL	**Olney** comp=Z,45nm,0.7s	**72.75**	**342**	IAmb	IAmb	00 14 55.8	
OLIL	**Olney** baz=160,SNR=8.1	**72.75**	**342**	P	**P**	**00 14 54.3**	**-1.0**
OKCSW	**OKLAHOMA CITY**	**72.76**	**333**	P	**P**	**00 14 55.5**	**+0.1**
BLO	**Bloomington** comp=Z,87nm,0.7s	**72.76**	**343**	IAmb	IAmb	00 14 56.1	
P48A	**Milroy** comp=Z,44nm,0.6s	**72.78**	**344**	IAmb	IAmb	00 14 55.9	
P48A	**Milroy** baz=163,SNR=20	**72.78**	**344**	P	**P**	**00 14 54.3**	**-1.2**
P48A	baz=163,SNR=20			P	**P**	**00 14 54.3**	**-1.2**
DEOK	**Depew** comp=Z,147nm,0.5s	**72.79**	**334**	IAmb	IAmb	00 14 56.6	
HTMS	**Hat Mesa**	**72.87**	**327**	P	**P**	**00 14 56.7**	**+0.4**
OK025	**Westminster Rd**	**72.87**	**334**		pP	00 15 36.3	+1.3
OK030	**Cody Creek RV** comp=Z,54nm,0.6s	**72.97**	**334**	IAmb	IAmb	00 14 57.9	
ACSO	**Alum Creek Sta** comp=Z,42nm,0.7s	**72.98**	**346**	IAmb	IAmb	00 14 57.7	
ACSO					pP	00 15 35.4	-0.1
ACSO	**Alum Creek Sta** baz=165,SNR=15	**72.98**	**346**	P	**P**	**00 14 56.0**	**-0.6**
ACSO	**Alum Creek Sta** baz=165,SNR=15	**72.98**	**346**	P	**P**	**00 14 55.7**	**-0.9**
OK031	**S. Brethren Rd** comp=Z,60nm,0.6s	**73.01**	**334**	P	**P**	**00 14 57.3**	**+0.3**
OK031				IAmb	IAmb	00 14 58.2	
OK034	**N. Norfolk Rd.**	**73.02**	**334**		**P**	**00 14 56.7**	**-0.2**
CCM	**Cathedral Cave**	**73.02**	**339**	P	**P**	**00 14 56.4**	**-0.5**
CCM	**Cathedral Cave**	**73.02**	**339**	P	**P**	**00 14 56.4**	**-0.5**
CCM	comp=Z,86nm,0.6s			pmax	pmax		
CCM	**Cathedral Cave** baz=158,SNR=89	**73.02**	**339**	P	**P**	**00 14 56.4**	**-0.5**
CCM	**Cathedral Cave** baz=158	**73.02**	**339**	P	**P**	**00 14 56.3**	**-0.6**
UCCT	**U. Connecticut**	**73.03**	**355**	P	**P**	**00 14 57.3**	**+0.5**
BCOK	**Bluff Creek, N**	**73.04**	**333**		**P**	**00 14 57.5**	**+0.4**
BCOK	comp=Z,58nm,0.8s			IAmb	IAmb	00 14 58.5	
MNTX	**Cornudas Mount** baz=145,SNR=34	**73.06**	**325**	P	**P**	**00 14 56.5**	**-0.8**
MNTX	**Cornudas Mount** baz=145,SNR=34	**73.06**	**325**	P	**P**	**00 14 56.2**	**-1.2**
OTJO	**Outjo**	**73.07**	**103**	*i* P	**P**	**00 14 55.0**	**-2.9**
M57A	**Sunshine Farm,** baz=170	**73.08**	**351**	P	**P**	**00 14 57.9**	**+0.7**
M57A	baz=170			P	**P**	**00 14 57.9**	**+0.7**
BRYW	**Bryant College**	**73.10**	**356**	P	**P**	**00 14 58.8**	**+1.5**
PSDB	**Penn State Uni** baz=168	**73.11**	**350**	P	**P**	**00 14 57.6**	**+0.3**
OK029	**Liberty Lake** comp=Z,67nm,0.6s	**73.11**	**334**		**P**	**00 14 58.0**	**+0.5**
OK029				IAmb	IAmb	00 14 59.0	
KSPA	**Keystone Colle** comp=Z,117nm,1.8s	**73.13**	**352**	IAmb	IAmb	00 14 59.6	
KSPA	**Keystone Colle** baz=171,SNR=6.8	**73.13**	**352**	P	**P**	**00 14 57.9**	**+0.5**
OK033	**Mehan**	**73.13**	**334**		**P**	**00 14 57.6**	**0.0**
OK033	comp=Z,42nm,0.7s			IAmb	IAmb	00 14 59.4	
N53A	**Lisbon** baz=167	**73.13**	**348**	P	**P**	**00 14 57.9**	**+0.4**
N53A	baz=167			P	**P**	**00 14 57.9**	**+0.4**
NPNY	**Mohonk Preserv** baz=173	**73.15**	**353**	P	**P**	**00 14 58.5**	**+0.9**
QUOK	**Quay** comp=Z,73nm,0.5s	**73.16**	**334**	IAmb	IAmb	00 14 58.8	
Q44A	**Meyer Farm, Va** comp=Z,39nm,0.6s	**73.16**	**341**	IAmb	IAmb	00 14 58.0	
Q44A	**Meyer Farm, Va** baz=159,SNR=13	**73.16**	**341**	P	**P**	**00 14 56.6**	**-1.1**
O49A	**Covington** baz=164,SNR=9.7	**73.22**	**345**	P	**P**	**00 14 57.4**	**-0.7**
O49A	baz=164,SNR=9.7			P	**P**	**00 14 57.4**	**-0.7**
SRIG	**Santa Rosalia** comp=Z,110nm,1.5s	**73.25**	**318**	IAmb	IAmb	00 15 00.9	
S39A	**Bolivar** baz=156,SNR=62	**73.34**	**338**	P	**P**	**00 14 58.7**	**-0.1**
P46A	**Rosedale** comp=Z,70nm,0.8s	**73.36**	**343**	IAmb	IAmb	00 15 00.5	
P46A	**Rosedale** baz=161,SNR=34	**73.36**	**343**	P	**P**	**00 14 57.7**	**-1.2**
OK044	**Pawnee Station** comp=Z,78nm,0.6s	**73.37**	**334**	IAmb	IAmb	00 15 00.6	
OK047	**Pawnee, Statio** comp=Z,6nm,0.8s	**73.43**	**334**	IAmb	IAmb	00 15 01.0	
OK046	**Pawnee Station** comp=Z,56nm,0.7s	**73.43**	**334**	IAmb	IAmb	00 15 01.0	
M55A	**Ridgway** comp=Z,56nm,0.8s	**73.44**	**350**	IAmb	IAmb	00 15 01.2	
M55A	**Ridgway** baz=168,SNR=28	**73.44**	**350**	P	**P**	**00 14 59.4**	**+0.1**
M55A	baz=168,SNR=28			P	**P**	**00 14 59.4**	**+0.1**
CSTR	**Hydro, Custer** comp=Z,23nm,1.5s	**73.45**	**333**	IAmb	IAmb	00 15 01.3	
OK048	**Pawnee Station**	**73.46**	**334**	P	**P**	**00 14 59.4**	**-0.1**
O48B	**Farmland** baz=163,SNR=26	**73.47**	**345**	P	**P**	**00 14 58.7**	**-0.8**
N51A	**Ashland** baz=165	**73.53**	**347**	P	**P**	**00 14 59.9**	**+0.1**
N51A	baz=165			P	**P**	**00 14 59.9**	**+0.1**
R40A	**Maddies Statio** baz=157,SNR=77	**73.55**	**339**	P	**P**	**00 14 59.5**	**-0.4**
KIDD	**KIDD Seismic O** baz=145,SNR=6.6	**73.67**	**325**	P	**P**	**00 15 01.0**	**-0.1**
L59A	**Walton** comp=Z,63nm,0.7s	**73.67**	**353**	IAmb	IAmb	00 15 03.2	
L59A	**Walton** baz=172,SNR=15	**73.67**	**353**	P	**P**	**00 15 01.6**	**+0.9**
L59A	baz=172,SNR=15			P	**P**	**00 15 01.6**	**+0.9**
HRV	**Adam Dziewonsk**	**73.69**	**356**	P	**P**	**00 15 01.3**	**+0.6**
HRV					**pP**	**00 15 40.9**	**+1.3**
HRV	**Adam Dziewonsk** baz=167	**73.69**	**356**	P	**P**	**00 15 01.3**	**+0.6**
HRV				*PP	**pP**	**00 15 40.9**	**+1.3**
HRV	**Adam Dziewonsk** baz=175	**73.69**	**356**	P	**P**	**00 15 00.5**	**-0.2**
L61B	**Northampton** baz=174,SNR=6.6	**73.71**	**355**	P	**P**	**00 15 01.2**	**+0.4**
L61B	**Northampton** baz=174,SNR=6.6	**73.71**	**355**	P	**P**	**00 15 01.0**	**+0.2**
M53A	**Wt Miller and** baz=167	**73.72**	**348**	P	**P**	**00 15 00.1**	**-0.8**
MSTX	**Muleshoe** comp=Z,62nm,0.8s	**73.73**	**329**	IAmb	IAmb	00 15 02.8	
MSTX	**Muleshoe** baz=148,SNR=66	**73.73**	**329**	P	**P**	**00 15 01.1**	**-0.2**
MSTX	**Muleshoe** baz=148,SNR=66	**73.73**	**329**	P	**P**	**00 15 00.7**	**-0.6**
T35A	**Sooner Cattle** comp=Z,43nm,0.8s	**73.75**	**335**	IAmb	IAmb	00 15 58.7	
T35B	**Sooner Cattle** baz=153,SNR=17	**73.75**	**335**	P	**P**	**00 15 01.1**	**-0.1**
BINY	**Binghamton**	**73.79**	**352**	pP	pP	00 15 40.2	0.0
BINY	**Binghamton** baz=171,SNR=9.6	**73.79**	**352**	P	**P**	**00 15 01.8**	**+0.4**
BINY	**Binghamton** baz=171,SNR=9.6	**73.79**	**352**	P	**P**	**00 15 01.6**	**+0.2**
HSIG	comp=Z,38nm,0.6s	**73.82**	**320**	IAmb	IAmb	00 15 04.2	
ALLY	**Alegheny Colle** comp=Z,39nm,0.8s	**73.83**	**349**	IAmb	IAmb	00 15 03.1	
ALLY	**Alegheny Colle** baz=167	**73.83**	**349**	P	**P**	**00 15 02.0**	**+0.4**
BLOK	**Blackwell** comp=Z,61nm,0.9s	**73.87**	**334**	IAmb	IAmb	00 15 03.7	
BLOK					pP	00 15 42.3	+1.4
N49A	**Columbus Grove** baz=164,SNR=40	**73.89**	**346**	P	**P**	**00 15 01.2**	**-0.8**
N49A	baz=164,SNR=40			P	**P**	**00 15 01.2**	**-0.8**
L56A	**Greenwood** comp=Z,62nm,0.7s	**73.92**	**351**	IAmb	IAmb	00 15 04.1	
L56A	**Greenwood** baz=170	**73.92**	**351**	P	**P**	**00 15 02.4**	**+0.2**
L56A	baz=170			P	**P**	**00 15 02.4**	**+0.2**
CROK	**Carrier** comp=Z,89nm,0.7s	**73.93**	**333**	IAmb	IAmb	00 15 03.8	
M52A	**Chesterland**	**73.94**	**348**	P	**P**	**00 15 02.2**	**0.0**
M52A	comp=Z,47nm,0.7s			IAmb	IAmb	00 15 03.5	
M52A	**Chesterland** baz=166	**73.94**	**348**	P	**P**	**00 15 02.0**	**-0.2**
M52A	baz=166			P	**P**	**00 15 02.0**	**-0.2**
P43A	**Skaggs, Pawnee** comp=Z,74nm,0.7s	**73.99**	**341**	IAmb	IAmb	00 15 03.3	
P43A	**Skaggs, Pawnee** baz=159,SNR=17	**73.99**	**341**	P	**P**	**00 15 01.6**	**-0.9**
AMTX	**Amarillo** comp=Z,66nm,0.8s	**74.03**	**330**	IAmb	IAmb	00 15 04.6	
AMTX	**Amarillo** baz=149,SNR=32	**74.03**	**330**	P	**P**	**00 15 02.9**	**-0.2**
AMTX	**Amarillo** baz=149	**74.03**	**330**	P	**P**	**00 15 02.8**	**-0.2**
SFIN	**Lafayette** comp=Z,54nm,0.7s	**74.05**	**343**	IAmb	IAmb	00 15 03.1	
SFIN	**Lafayette** baz=161,SNR=5.8	**74.05**	**343**	P	**P**	**00 15 01.7**	**-1.1**
SFIN	**Lafayette** baz=161,SNR=5.8	**74.05**	**343**	P	**P**	**00 15 01.1**	**-1.7**
TRY	**Troy** comp=Z,28nm,0.6s	**74.07**	**354**	P	**P**	**00 15 03.7**	**+0.8**
TRY				IAmb	IAmb	00 15 05.2	
ELIS	**Ellis County** comp=Z,125nm,1.2s	**74.11**	**332**	IAmb	IAmb	00 15 05.4	
HCNY	**Howe Caverns** baz=172,SNR=10	**74.11**	**353**	P	**P**	**00 15 04.1**	**+1.0**
M50A	**Fremont** comp=Z,46nm,0.7s	**74.12**	**347**	IAmb	IAmb	00 15 04.2	
MAW	**Mawson** comp=Z,42nm,1.0s,baz=230,slow=7.1,SNR=48	**74.14**	**162**	P	**P**	**00 15 04.1**	**+1.0**
MAW	comp=Z,33nm,0.7s,baz=214,slow=7.2,SNR=7.4 comp=Z,42nm,1.0s			pP	**pP**	**00 15 42.6**	**+0.5**
O44A	**Mansfield** baz=160,SNR=35	**74.18**	**342**	P	**P**	**00 15 02.4**	**-1.2**
N47A	**Urbana** comp=Z,59nm,0.7s	**74.19**	**344**	IAmb	IAmb	00 15 04.2	
N47A	**Urbana** baz=162,SNR=24	**74.19**	**344**	P	**P**	**00 15 02.5**	**-1.2**
N47A	baz=162,SNR=24			P	**P**	**00 15 02.5**	**-1.2**
KAN13	**South Haven SW**	**74.19**	**334**		pP	00 15 44.2	+1.4
U32A	**Winter Ranch,** baz=151,SNR=9.6	**74.22**	**333**	P	**P**	**00 15 04.0**	**+0.1**
ERPA	**Erie** comp=Z,85nm,0.7s	**74.27**	**349**	IAmb	IAmb	00 15 05.7	
ERPA	**Erie** baz=168	**74.27**	**349**	P	**P**	**00 15 04.2**	**+0.2**
ERPA	**Erie** baz=168,SNR=6.3	**74.27**	**349**	P	**P**	**00 15 03.7**	**-0.3**
OK032	**Salt Plains WL** comp=Z,62nm,0.7s	**74.28**	**333**	IAmb	IAmb	00 15 06.0	
KAN14	**Manchester OK**	**74.32**	**334**		**P**	**00 15 04.7**	**+0.1**
KAN14	comp=Z,46nm,0.7s			IAmb	IAmb	00 15 06.3	
KAN17	**Caldwell West**	**74.33**	**334**		**P**	**00 15 04.9**	**+0.4**
KAN09	**Caldwell North**	**74.35**	**334**	P	**P**	**00 15 04.3**	**-0.4**
K57A	**Scipio Center** comp=Z,33nm,0.7s	**74.38**	**352**	IAmb	IAmb	00 15 06.3	
K57A	**Scipio Center** baz=170,SNR=10	**74.38**	**352**	P	**P**	**00 15 04.7**	**0.0**
KS20	**Mayfield South**	**74.41**	**334**	P	**P**	**00 15 04.7**	**-0.3**
KS20	comp=Z,84nm,0.9s			IAmb	IAmb	00 15 06.8	
NOKA	**Waynoka**	**74.41**	**333**	P	**P**	**00 15 05.3**	**+0.2**
NOKA	comp=Z,51nm,0.7s			IAmb	IAmb	00 15 07.0	
KAN01	**Argonia South**	**74.42**	**334**	P	**P**	**00 15 05.3**	**+0.3**
KAN05	**Bluff City Nor**	**74.42**	**334**	P	**P**	**00 15 05.5**	**+0.4**
KS21	**Milan North St**	**74.50**	**334**	P	**P**	**00 15 05.6**	**+0.1**
KAN10	**Anthony SW Sta**	**74.52**	**334**	P	**P**	**00 15 05.8**	**+0.1**
KAN10	comp=Z,50nm,0.9s			IAmb	IAmb	00 15 07.6	
MMNY	**Mt. Morris Dam** comp=Z,69nm,0.6s	**74.56**	**351**	IAmb	IAmb	00 15 07.5	
KAN08	**Anthony NE Sta** comp=Z,79nm,0.9s	**74.56**	**334**	IAmb	IAmb	00 15 07.9	
KAN08				pP	pP	00 15 45.9	+0.9
J61A	**Chester**	**74.59**	**355**	P	**P**	**00 15 07.2**	**+1.2**
J61A	**Chester** baz=174	**74.59**	**355**	P	**P**	**00 15 07.1**	**+1.2**
J61A	baz=174			P	**P**	**00 15 07.1**	**+1.2**
P40A	**Paris** baz=157,SNR=123	**74.62**	**339**	P	**P**	**00 15 05.7**	**-0.5**
KAN12	**Harper NE Stat**	**74.64**	**334**	P	**P**	**00 15 06.6**	**+0.3**
KAN12	comp=Z,74nm,0.6s			IAmb	IAmb	00 15 41.4	
FFD	**Franklin Falls**	**74.65**	**356**	P	**P**	**00 15 07.5**	**+1.3**
FFD	comp=Z,31nm,0.6s			IAmb	IAmb	00 15 09.2	
FFD	**Franklin Falls** baz=175	**74.65**	**356**	P	**P**	**00 15 07.5**	**+1.3**
ACCN	**Adirondack Com**	**74.72**	**354**	P	**P**	**00 15 06.9**	**+0.3**
ACCN	**Adirondack Com** baz=173	**74.72**	**354**	P	**P**	**00 15 07.5**	**+0.8**
KOWA	**Kowa**	**74.75**	**62**	P	**P**	**00 15 07.2**	**-0.3**
KOWA	comp=Z,208nm,1.8s			IAmb	IAmb	00 15 08.7	
KOWA	**Kowa**	**74.75**	**62**	P	**P**	**00 15 08.0**	**+0.5**
319A	**Douglas**	**74.77**	**322**	P	**P**	**00 15 07.4**	**0.0**
HDIL	**Hopedale** baz=159,SNR=22	**74.78**	**342**	P	**P**	**00 15 06.3**	**-0.8**
HDIL	**Hopedale** baz=159,SNR=22	**74.78**	**342**	P	**P**	**00 15 05.8**	**-1.2**
TSUM	**Tsumeb** comp=Z,165nm,1.9s	**74.79**	**103**	P	**P**	**00 15 07.9**	**0.0**
TSUM				IAmb	IAmb	00 15 49.1	
SOE	**Somerset East** comp=Z,75nm,1.0s	**74.85**	**119**	IAmb	IAmb	00 15 50.6	
J58A	**Remsen** baz=172,SNR=8.3	**74.86**	**353**	P	**P**	**00 15 07.7**	**+0.2**
J58A	baz=172,SNR=8.3			P	**P**	**00 15 07.7**	**+0.2**
J59A	**Piesco**	**74.88**	**353**	PcP	**PcP**	**00 15 18.2**	**-2.5**
J59A					**pP**	**00 15 47.0**	**+0.3**
J59A	**Piesco** baz=172	**74.88**	**353**	P	**P**	**00 15 08.3**	**+0.7**
J59A	baz=172			P	**P**	**00 15 08.3**	**+0.7**
121A	**Cookes Peak, D** comp=Z,64nm,0.8s	**74.92**	**324**	P	**P**	**00 15 08.9**	**+0.6**
121A	**Cookes Peak, D** baz=144,SNR=38	**74.92**	**324**	P	**P**	**00 15 09.4**	**+1.1**
121A	**Cookes Peak, D** baz=144,SNR=38	**74.92**	**324**	P	**P**	**00 15 09.1**	**+0.8**
L48A	**N Adams** comp=Z,46nm,0.7s	**74.93**	**346**	IAmb	IAmb	00 15 08.5	
L48A	**N Adams** baz=164,SNR=10	**74.93**	**346**	P	**P**	**00 15 06.9**	**-1.0**
L48A	baz=164,SNR=10			P	**P**	**00 15 06.9**	**-1.0**
HNH	**Hanover**	**74.93**	**355**	P	**P**	**00 15 08.7**	**+0.8**
HNH	**Hanover** baz=174	**74.93**	**355**	P	**P**	**00 15 09.4**	**+1.5**
J56A	**Wolcott** comp=Z,85nm,0.7s	**74.95**	**352**	IAmb	IAmb	00 15 09.5	

J56A **Wolcott** **74.95 352** P **P** **00 15 08.0 0.0**
baz=170,SNR=20
J56A P **P** **00 15 08.0 0.0**
baz=170,SNR=20
J57A **Williamstown** **74.98 352** IAmb IAmb 00 15 10.0
comp=Z,40nm,0.7s
J57A **Williamstown** **74.98 352** P **P** **00 15 08.5 +0.3**
baz=171
J57A P **P** **00 15 08.5 +0.3**
baz=171
I62A **Tamworth** **75.03 356** P **P** **00 15 08.7 +0.2**
MEDO **Medina** **75.06 350** P **P** **00 15 08.7 +0.1**
J55A **Hilton** **75.07 351** IAmb IAmb 00 15 10.1
comp=Z,30nm,0.7s
J55A **Hilton** **75.07 351** P **P** **00 15 08.3 -0.3**
baz=169,SNR=6.4
J55A P **P** **00 15 08.3 -0.3**
baz=169,SNR=6.4
AAM **Ann Arbor** **75.11 346** P **P** **00 15 08.5 -0.4**
AAM **Ann Arbor** **75.11 346** P **P** **00 15 08.5 -0.4**
AAM pmax pmax
comp=Z,22nm,0.7s
AAM **Ann Arbor** **75.11 346** P **P** **00 15 09.0 +0.1**
baz=164
AAM **Ann Arbor** **75.11 346** P **P** **00 15 08.2 -0.7**
baz=164
I63A **Otisfield** **75.17 356** P **P** **00 15 10.4 +1.3**
I63A IAmb IAmb 00 15 12.4
comp=Z,54nm,0.7s
I63A **Otisfield** **75.17 356** P **P** **00 15 10.7 +1.6**
baz=176,SNR=18
I63A P **P** **00 15 10.7 +1.6**
baz=176,SNR=18
P38A **Dawn** **75.17 338** IAmb IAmb 00 15 10.4
comp=Z,70nm,0.8s
P38A **Dawn** **75.17 338** P **P** **00 15 08.8 -0.6**
baz=156,SNR=66
J54A **Appleton** **75.19 350** P **P** **00 15 09.3 -0.1**
J54A IAmb IAmb 00 15 10.9
comp=Z,34nm,0.7s
J54A **Appleton** **75.19 350** P **P** **00 15 09.8 +0.5**
baz=169,SNR=5.5
J54A P **P** **00 15 09.8 +0.5**
baz=169,SNR=5.5
MCVT **Middlebury Col** **75.23 355** P **P** **00 15 11.0 +1.4**
baz=174
M44A **Midewin, Midew** **75.24 343** IAmb IAmb 00 15 10.3
comp=Z,57nm,1.2s
M44A **Midewin, Midew** **75.24 343** P **P** **00 15 09.6 -0.1**
baz=160,SNR=7.9
NCB **Newcomb** **75.35 354** PcP **PcP** **00 15 20.6 -2.2**
NCB **Newcomb** **75.35 354** P **P** **00 15 10.8 +0.5**
baz=173
N41A **Harden Midland** **75.36 341** IAmb IAmb 00 15 11.2
comp=Z,88nm,0.9s
N41A **Harden Midland** **75.36 341** P **P** **00 15 09.6 -0.8**
baz=158,SNR=16
K50A **Casco** **75.37 347** P **P** **00 15 09.7 -0.7**
baz=165,SNR=14
K50A P **P** **00 15 09.7 -0.7**
baz=165,SNR=14
L46A **Eue Claire** **75.41 344** IAmb IAmb 00 15 11.0
comp=Z,59nm,0.7s
L46A **Eue Claire** **75.41 344** P **P** **00 15 10.0 -0.6**
baz=162
L46A P **P** **00 15 10.0 -0.6**
baz=162
LBNH **Lisbon** **75.44 355** P **P** **00 15 10.7 -0.1**
baz=175,SNR=9.8
WCNY **West Carthage** **75.51 353** P **P** **00 15 11.5 +0.4**
baz=171,SNR=24
CRNM **Carthage** **75.56 326** P **P** **00 15 12.7 +0.8**
HQIL **Hanson Quary C** **75.58 343** P **P** **00 15 10.8 -0.8**
HQIL IAmb IAmb 00 15 12.3
comp=Z,40nm,0.6s
VT1 **Waterbury** **75.59 355** P **P** **00 15 12.2 +0.6**
PECO **Prince Edward** **75.62 352** IAmb IAmb 00 15 13.5
comp=Z,68nm,0.7s
WVL **Waterville** **75.64 357** P **P** **00 15 12.3 +0.5**
WVL **Waterville** **75.64 357** P **P** **00 15 13.0 +1.1**
baz=177,SNR=9.0
HAL **Halifax** **75.65 2** P **P** **00 15 13.1 +1.2**
HAL IAmb IAmb 00 15 21.4
comp=Z,28nm,0.6s
HAL **Halifax** **75.65 2** P **P** **00 15 13.1 +1.2**
HAL pmax pmax
comp=Z,28nm,0.6s
Y22A **Socorro** **75.65 326** P **P** **00 15 13.2 +0.7**
baz=145,SNR=17
EMMW **East Machias** **75.71 359** IAmb IAmb 00 15 22.3
comp=Z,64nm,0.6s
EMMW **East Machias** **75.71 359** P **P** **00 15 13.4 +1.1**
baz=179,SNR=8.6
H62A **Milan** **75.72 356** IAmb IAmb 00 15 23.6
comp=Z,32nm,0.6s
H62A **Milan** **75.72 356** P **P** **00 15 14.3 +1.9**
baz=175,SNR=6.7
H62A P **P** **00 15 14.3 +1.9**
baz=175,SNR=6.7
KSU1 **Kansas State U** **75.73 336** IAmb IAmb 00 15 13.9
comp=Z,88nm,0.7s
KSU1 **Kansas State U** **75.73 336** P **P** **00 15 12.2 -0.3**
baz=153,SNR=19
Y22D **IRIS PASSCAL I** **75.74 326** P **P** **00 15 13.5 +0.6**
Y22D **IRIS PASSCAL I** **75.74 326** P **P** **00 15 14.0 +1.1**
baz=145
PPTF **Pamatai, Papee** **75.87 258** P **P** **00 15 13.8 -0.2**
R32A **Long Quarter,** **75.89 334** P **P** **00 15 13.8 +0.2**
baz=152,SNR=27
L44A **Lake County Fo** **75.95 343** P **P** **00 15 12.6 -1.0**
L44A **Lake County Fo** **75.95 343** P **P** **00 15 13.2 -0.5**
baz=161
L44A **Lake County Fo** **75.95 343** P **P** **00 15 12.4 -1.3**
baz=161,SNR=10
LONY **Lake Ozonia** **76.03 354** P **P** **00 15 14.3 +0.2**
LONY pP **pP** **00 15 53.5 +0.2**
LONY **Lake Ozonia** **76.03 354** P **P** **00 15 14.3 +0.2**
baz=172,SNR=7.8
GGN **Saint George** **76.11 359** IAmb IAmb 00 15 17.2
comp=Z,150nm,1.9s
N38A **Joes South For** **76.14 339** IAmb IAmb 00 15 15.9
comp=Z,50nm,0.7s
G65A **Princeton** **76.21 359** P **P** **00 15 15.1 0.0**
G65A IAmb IAmb 00 15 18.3
comp=Z,118nm,1.9s
ANMO **Albuquerque** **76.23 327** P **P** **00 15 16.5 +0.8**
ANMO IAmb IAmb 00 15 18.3
comp=Z,35nm,0.8s
ANMO **Albuquerque** **76.23 327** ⇩ *i* P **P** **00 15 16.6 +0.8**
ANMO pmax pmax
comp=Z,38nm,0.8s
ANMO **Albuquerque** **76.23 327** P **P** **00 15 16.5 +0.8**
baz=145,SNR=69
ANMO **Albuquerque** **76.23 327** P **P** **00 15 16.6 +0.8**
baz=145
L42A **Oliver, Polo** **76.23 342** IAmb IAmb 00 15 18.1
comp=Z,40nm,0.6s
L42A **Oliver, Polo** **76.23 342** P **P** **00 15 14.6 -0.8**
baz=159,SNR=16
BMNY **Brushton-Moira** **76.24 354** P **P** **00 15 15.9 +0.6**
baz=172,SNR=13
J47A **Sunmer** **76.25 346** P **P** **00 15 15.4 0.0**
J47A IAmb IAmb 00 15 16.2
comp=Z,48nm,0.7s
TUC **Tucson** **76.29 322** P **P** **00 15 16.4 +0.4**
TUC **Tucson** **76.29 322** P **P** **00 15 16.4 +0.4**
TUC pmax pmax
comp=Z,38nm,1.5s
TUC **Tucson** **76.29 322** P **P** **00 15 16.3 +0.4**
baz=142
PKME **Peaks-Kenny Pk** **76.32 357** IAmb IAmb 00 15 18.2
comp=Z,42nm,0.7s
PKME **Peaks-Kenny Pk** **76.32 357** P **P** **00 15 16.2 +0.6**
baz=177,SNR=10
PKME **Peaks-Kenny Pk** **76.32 357** P **P** **00 15 15.9 +0.2**
baz=177,SNR=10
G62A **West of Eustis** **76.33 357** IAmb IAmb 00 15 18.5
comp=Z,44nm,0.8s
G62A **West of Eustis** **76.33 357** P **P** **00 15 16.7 +0.9**
baz=176,SNR=13
G62A P **P** **00 15 16.7 +0.9**
baz=176,SNR=13
I49A **Point Hope** **76.53 347** IAmb IAmb 00 15 17.9
comp=Z,50nm,0.7s
I49A **Point Hope** **76.53 347** P **P** **00 15 16.4 -0.6**
baz=165
I49A P **P** **00 15 16.4 -0.6**
baz=165
BOSA **Boshof** **76.54 115** P **P** **00 15 17.3 -0.4**
comp=Z,16nm,0.5s,baz=253,slow=4.1,SNR=124
BOSA pP **pP** **00 15 57.6 +0.4**
comp=Z,36nm,0.8s,baz=238,slow=4.9,SNR=11
comp=Z,16nm,0.5s
BOSA **Boshof** **76.54 115** pP **pP** **00 15 57.1 0.0**
BOSA IAmb IAmb 00 15 59.3
comp=Z,47nm,0.9s
BOSA **Boshof** **76.54 115** *i* P **P** **00 15 17.7 -0.1**
BOSA **Boshof** **76.54 115** *i* P **P** **00 15 17.7 -0.1**
K43A **Burlington** **76.55 343** pP pP 00 15 56.1 -0.2
K43A **Burlington** **76.55 343** P **P** **00 15 16.6 -0.5**
baz=160,SNR=14
CBKS **Cedar Bluff** **76.62 333** P **P** **00 15 18.1 +0.5**
baz=151,SNR=22
CBKS **Cedar Bluff** **76.62 333** P **P** **00 15 17.9 +0.2**
baz=151,SNR=22
L40A **Anamosa** **76.71 341** pP pP 00 15 57.3 +0.1
L40A **Anamosa** **76.71 341** P **P** **00 15 17.5 -0.5**
baz=158,SNR=50
SADO **Sadowa** **76.73 350** IAmb IAmb 00 15 19.4
comp=Z,50nm,0.7s
F63A **Nahmakanta, Br** **76.75 358** pP pP 00 15 58.3 +0.9
F63A **Nahmakanta, Br** **76.75 358** P **P** **00 15 19.4 +1.3**
baz=177
F63A P **P** **00 15 19.4 +1.3**
baz=177
MNTQ **Montreal, Queb** **76.82 354** IAmb IAmb 00 15 20.9
comp=Z,44nm,0.6s
F64A **Sherman** **76.89 358** P **P** **00 15 19.7 +0.9**
N35A **Tabor** **76.97 337** P **P** **00 15 19.0 -0.5**
baz=154,SNR=18
214A **Organ Pipe Nat** **77.10 320** IAmb IAmb 00 15 23.2
comp=Z,63nm,0.6s
214A **Organ Pipe Nat** **77.10 320** P **P** **00 15 21.0 +0.6**
baz=140,SNR=65
T25A **Trinidad** **77.11 329** IAmb IAmb 00 15 23.4
comp=Z,62nm,0.7s
T25A **Trinidad** **77.11 329** P **P** **00 15 21.6 +1.0**
baz=147,SNR=65
SCIA **State Center** **77.15 339** IAmb IAmb 00 15 23.5
comp=Z,47nm,0.7s
SCIA **State Center** **77.15 339** P **P** **00 15 20.2 -0.3**
baz=156
SCIA **State Center** **77.15 339** P **P** **00 15 18.8 -1.6**
baz=156
PIX **Pinacate** **77.16 320** P **P** **00 15 21.4 +0.7**
JFWS **Jewell Farm** **77.24 342** P **P** **00 15 20.6 -0.4**
baz=159,SNR=41
JFWS **Jewell Farm** **77.24 342** P **P** **00 15 20.1 -0.8**
baz=159,SNR=41
E63A **Oxbow** **77.45 358** P **P** **00 15 23.0 +1.0**
baz=178,SNR=7.4
E63A P **P** **00 15 23.0 +1.0**
baz=178,SNR=7.4
N33B **J Bar K, Exete** **77.48 336** P **P** **00 15 22.5 +0.2**
baz=153
SFX **San Felipe** **77.54 318** P **P** **00 15 23.7 +0.8**
TRQ **Mont Tremblant** **77.62 354** IAmb IAmb 00 15 24.8
comp=Z,75nm,0.7s
E62A **Clayton Lake** **77.68 357** pP pP 00 16 03.8 +1.2
E62A **Clayton Lake** **77.68 357** P **P** **00 15 24.3 +1.0**
baz=177,SNR=9.2
E62A P **P** **00 15 24.3 +1.0**
baz=177,SNR=9.2
PQI **Presque Isle** **77.69 358** P **P** **00 15 24.5 +1.2**
K38A **Parkersburg** **77.70 340** IAmb IAmb 00 15 24.4
comp=Z,81nm,0.7s
K38A **Parkersburg** **77.70 340** P **P** **00 15 23.1 -0.3**
baz=157,SNR=17
GLMI **Grayling** **77.73 346** IAmb IAmb 00 15 24.9
comp=Z,55nm,0.8s
GLMI **Grayling** **77.73 346** P **P** **00 15 24.3 +0.7**
baz=164
GLMI **Grayling** **77.73 346** P **P** **00 15 22.9 -0.7**
baz=164
I42A **Draeger Farm,** **77.81 343** IAmb IAmb 00 15 25.3
comp=Z,58nm,0.6s
I42A pP pP 00 16 03.0 -0.4
I42A **Draeger Farm,** **77.81 343** P **P** **00 15 23.8 -0.3**
baz=160,SNR=25
KSCO **Kaye Shedlock'** **77.94 331** P **P** **00 15 26.0 +0.9**
KSCO IAmb IAmb 00 15 28.5
comp=Z,54nm,0.8s
KSCO **pP** **00 16 06.1 +1.6**
KSCO **Kaye Shedlock'** **77.94 331** P **P** **00 15 25.8 +0.7**
baz=148,SNR=7.7
W18A **Petrified Fore** **77.96 324** IAmb IAmb 00 15 28.0
comp=Z,46nm,0.8s
W18A **Petrified Fore** **77.96 324** P **P** **00 15 25.9 +0.5**
baz=143,SNR=10
H43A **Windswept, Lux** **78.08 344** P **P** **00 15 25.2 -0.3**
baz=161,SNR=13
SDCO **Great Sand Dun** **78.10 329** P **P** **00 15 26.9 +0.7**
baz=146,SNR=62
D62A **Allapoint, All** **78.13 358** pP pP 00 16 05.5 +0.5
D62A **Allapoint, All** **78.13 358** P **P** **00 15 26.3 +0.6**
baz=177,SNR=11
D62A P **P** **00 15 26.3 +0.6**
baz=177,SNR=11
G45A **Suttons Bay** **78.15 346** IAmb IAmb 00 15 28.2
comp=Z,45nm,0.7s
L34A **Svendsen Farm,** **78.20 337** P **P** **00 15 25.9 -0.4**
baz=154,SNR=23
I40A **Norwalk** **78.25 342** IAmb IAmb 00 15 27.4
comp=Z,68nm,0.6s
I40A **Norwalk** **78.25 342** P **P** **00 15 25.9 -0.6**
baz=159,SNR=21
BATG **Bathurst New B** **78.27 360** P **P** **00 15 27.9 +1.4**
X16A **Lo Mia Camp, P** **78.28 323** IAmb IAmb 00 15 29.9
comp=Z,44nm,0.7s
BGNE **Belgrade** **78.31 336** pP pP 00 16 06.6 +0.2
BGNE **Belgrade** **78.31 336** P **P** **00 15 27.1 +0.1**
baz=152,SNR=24
BGNE **Belgrade** **78.31 336** P **P** **00 15 27.1 +0.1**
baz=152,SNR=24
TOA0 **Torodi Ar. Sit** **78.35 67** IAmb IAmb 00 15 29.9
comp=Z,34nm,0.6s
TORD **Torodi Ar. Bea** **78.35 67** P **P** **00 15 27.4 -0.3**
comp=Z,27nm,0.5s,baz=271,slow=5.7,SNR=280
TORD pP **pP** **00 16 06.0 -1.3**
comp=Z,8.6nm,0.6s,baz=261,slow=5.4,SNR=2.1
TORD S **S** **00 25 05.9 -4.4**
comp=Z,2.7nm,1.1s,baz=234,slow=13,SNR=5.2
TORD PKKP **PKKPbc** **00 34 23.1 -0.4**
comp=Z,0.4nm,0.4s,baz=66,slow=2.1,SNR=9.8
comp=Z,27nm,0.5s
TORD **Torodi Ar. Bea** **78.35 67** IAmb IAmb 00 15 28.7
comp=Z,123nm,1.6s
LBTB **Lobatse** **78.54 112** P **P** **00 15 28.4 -0.4**
LBTB pP **pP** **00 16 08.3 -0.1**
LBTB **Lobatse** **78.54 112** *i* P **P** **00 15 29.1 +0.3**
LBTB **Lobatse** **78.54 112** *i* P **P** **00 15 29.1 +0.3**
LATQ **La Tuque** **78.62 355** P **P** **00 15 29.6 +1.2**
S22A **4UR Ranch, Cre** **78.69 328** P **P** **00 15 30.4 +0.9**
baz=145,SNR=35
Q24A **Divide** **78.96 330** IAmb IAmb 00 15 33.5
comp=Z,80nm,0.7s
Q24A **Divide** **78.96 330** P **P** **00 15 31.7 +0.8**
baz=147,SNR=119
MVCO **Mesa Verde** **79.03 327** IAmb IAmb 00 15 33.7
comp=Z,43nm,0.8s
MVCO **Mesa Verde** **79.03 327** P **P** **00 15 32.0 +0.7**
baz=144,SNR=50
GLA **Glamis** **79.04 320** IAmb IAmb 00 15 33.5
comp=Z,30nm,0.6s
GLA **Glamis** **79.04 320** P **P** **00 15 31.7 +0.5**
baz=139,SNR=14
WUAZ **Wupatki** **79.10 324** P **P** **00 15 31.8 +0.2**
WUAZ IAmb IAmb 00 15 34.4
comp=Z,44nm,0.8s
WUAZ **Wupatki** **79.10 324** P **P** **00 15 32.6 +1.1**
baz=142,SNR=34
I37A **Lemond, Waseca** **79.13 340** pP pP 00 16 11.2 +0.4
I37B **Waseca** **79.13 340** P **P** **00 15 31.1 -0.3**
baz=156,SNR=70
E46A **Sault Ste Mari** **79.15 347** IAmb IAmb 00 15 32.6
comp=Z,40nm,0.8s
E46A **Sault Ste Mari** **79.15 347** P **P** **00 15 30.9 -0.4**
baz=164,SNR=7.4
OGNE **Ogallala** **79.35 333** IAmb IAmb 00 15 35.1
comp=Z,44nm,0.8s
OGNE **Ogallala** **79.35 333** P **P** **00 15 32.7 0.0**
baz=149
F42A **Maple Grove Fa** **79.38 344** P **P** **00 15 32.9 +0.2**
F42A IAmb IAmb 00 16 14.7
comp=Z,88nm,1.7s
BLYC **Blythe** **79.40 320** P **P** **00 15 33.8 +0.8**
G40A **Rib Lake** **79.42 343** pP pP 00 16 11.7 -0.7
G40A **Rib Lake** **79.42 343** P **P** **00 15 33.2 +0.3**
baz=159
IKP **In-Ko-Pah, Jac** **79.46 319** P **P** **00 15 34.1 +0.6**
baz=138
SWSC **Sam W. Stewart** **79.50 319** P **P** **00 15 34.3 +0.7**
baz=138
CBX **Cerro Bola** **79.52 318** P **P** **00 15 35.1 +1.2**
K31A **O'Neill** **79.60 336** P **P** **00 15 34.5 +0.5**
baz=152,SNR=25
PDMCI **Parker Dam,Lak** **79.61 321** P **P** **00 15 34.5 +0.4**
baz=140,SNR=6.5
TKX **Tecate** **79.68 318** IAmb IAmb 00 17 20.5
comp=Z,33nm,0.5s
MONP2 **Monument Peak** **79.81 319** P **P** **00 15 35.9 +0.4**
baz=138,SNR=6.3
BC3 **Big Chuckawall** **79.84 320** P **P** **00 15 36.2 +0.6**
baz=139,SNR=24
ISCO **Idaho Springs** **79.85 330** IAmb IAmb 00 15 38.3
comp=Z,30nm,0.7s
ISCO **Idaho Springs** **79.85 330** P **P** **00 15 36.5 +0.8**
baz=146,SNR=48
ECSD **EROS Data Cent** **79.86 338** IAmb IAmb 00 15 36.7
comp=Z,74nm,0.8s
ECSD **EROS Data Cent** **79.86 338** P **P** **00 15 34.8 -0.5**
baz=154,SNR=83
SMCO **Snowmass** **79.93 329** IAmb IAmb 00 15 39.3
comp=Z,58nm,0.7s
PV15 **Paradox Valley** **79.94 327** P **P** **00 15 36.8 +0.6**
PV15 IAmb IAmb 00 15 39.0
comp=Z,40nm,0.7s
PV13 **Radium Mtn., P** **79.95 327** IAmb IAmb 00 15 38.7
comp=Z,46nm,0.8s
IRM **Iron Mountain** **80.05 320** P **P** **00 15 36.8 +0.3**
baz=139,SNR=33
SPMN **Marine on St.** **80.07 341** IAmb IAmb 00 15 36.9
comp=Z,42nm,0.5s
SPMN pP pP 00 16 15.4 -0.5
SPMN **Marine on St.** **80.07 341** P **P** **00 15 35.9 -0.5**
baz=157,SNR=13
SPMN **Marine on St.** **80.07 341** P **P** **00 15 35.4 -0.9**
baz=157,SNR=13
W13A **Hualapai Mount** **80.08 322** IAmb IAmb 00 15 39.6
comp=Z,33nm,0.7s
PV11 **David Mesa, Pa** **80.08 327** P **P** **00 15 36.8 0.0**
109C **Camp Elliot, M** **80.20 318** P **P** **00 15 37.6 +0.2**
109C **Camp Elliot, M** **80.20 318** P **P** **00 15 37.5 +0.2**
baz=138
NEE2 **Needles Airpor** **80.22 321** P **P** **00 15 37.0 -0.4**
baz=139
U15A **North Rim** **80.27 324** IAmb IAmb 00 15 40.9
comp=Z,37nm,0.8s
PMD **Palm Desert** **80.35 319** IAmb IAmb 00 15 40.8
comp=Z,65nm,1.8s
TPFO **Pinon Flats** **80.36 319** P **P** **00 15 38.6 +0.2**
baz=138,SNR=14
PFO **Pinyon Flats O** **80.36 319** PKKP 00 34 13.7
comp=Z,2.7nm,0.6s,baz=340,slow=13,SNR=9.1
PFO **Pinyon Flats O** **80.36 319** **P** **00 15 39.3 +0.9**
PFO **Pinyon Flats O** **80.36 319** *ce* P **P** **00 15 39.2 +0.8**
PFO pmax pmax
comp=Z,46nm,1.0s
PFO **Pinyon Flats O** **80.36 319** P **P** **00 15 38.8 +0.4**
baz=138,SNR=14
BELC **Belle Mtn. Jos** **80.40 320** P **P** **00 15 39.5 +0.9**
baz=138,SNR=16
DRLN **Deer Lake** **80.59 6** IAmb IAmb 00 16 20.7
comp=Z,132nm,1.6s
D41A **Chassel** **80.70 344** P **P** **00 15 40.0 +0.3**
baz=160,SNR=23
MURC **Murrieta** **80.77 319** P **P** **00 15 40.8 +0.3**
baz=138,SNR=7.1
GMRC **Granite Mounta** **80.80 320** P **P** **00 15 41.5 +0.9**
baz=139,SNR=51
F36A **Milaca** **80.86 341** IAmb IAmb 00 15 41.7
comp=Z,41nm,0.6s
F36A **Milaca** **80.86 341** P **P** **00 15 40.0 -0.5**
baz=156,SNR=34
N23A **Red Feather La** **80.90 330** IAmb IAmb 00 15 43.9
comp=Z,139nm,1.8s
N23A **Red Feather La** **80.90 330** P **P** **00 15 42.0 +0.8**
baz=146
KNB **Kanab** **81.00 324** IAmb IAmb 00 15 44.7
comp=Z,78nm,0.8s
E38A **The Farm, Brul** **81.01 342** IAmb IAmb 00 15 42.6
comp=Z,70nm,0.7s
E38A **The Farm, Brul** **81.01 342** P **P** **00 15 41.1 -0.2**
baz=158,SNR=21
PHWY **Pilot Hill** **81.03 331** IAmb IAmb 00 15 44.3
comp=Z,51nm,0.8s
PKCU **Pink Cliffs** **81.07 324** IAmb IAmb 00 15 44.8
comp=Z,38nm,0.7s
SCI2 **San Clemente I** **81.09 317** P **P** **00 15 42.9 +0.8**
baz=137
BBRC **Big Bear Solar** **81.10 319** P **P** **00 15 43.2 +0.8**
baz=138
HEC **Hector,Ludlow** **81.20 320** P **P** **00 15 43.7 +1.0**
baz=138
LCMT **Little Creek M** **81.21 323** P **P** **00 15 42.9 +0.1**
SUSD **Miller** **81.27 337** P **P** **00 15 42.9 +0.1**
baz=152
SUSD **Miller** **81.27 337** P **P** **00 15 42.4 -0.4**
baz=152,SNR=10
O20A **White River Ci** **81.28 328** IAmb IAmb 00 15 46.6
comp=Z,40nm,0.8s
O20A **White River Ci** **81.28 328** P **P** **00 15 44.0 +0.8**
baz=144,SNR=26
CIS **Catalina Islan** **81.32 318** P **P** **00 15 42.3 -1.1**
baz=137
TUQ **Turquoise Moun** **81.42 321** P **P** **00 15 44.3 +0.3**
baz=138,SNR=19
MTPU **Mount Pierson** **81.47 325** IAmb IAmb 00 15 46.8
comp=Z,39nm,0.7s
FMP **Fort Macarthur** **81.48 318** P **P** **00 15 43.1 -1.0**
baz=137
BFSC **Mount Baldy Ra** **81.50 319** P **P** **00 15 44.6 +0.2**
baz=137,SNR=8.7
WTNK **Soaring Height** **81.50 322** P **P** **00 15 45.1 +0.8**
WTNK IAmb IAmb 00 15 46.5
comp=Z,26nm,1.8s
SRU **San Rafael Swe** **81.51 326** IAmb IAmb 00 15 46.5
comp=Z,58nm,0.8s
SZCU **Shurtz Canyon** **81.58 324** IAmb IAmb 00 15 47.7
comp=Z,105nm,1.7s
RRX **Edison Barstow** **81.60 320** P **P** **00 15 45.5 +0.7**
baz=138
F33A **5 Mile Ranch,** **81.65 339** IAmb IAmb 00 15 45.7
comp=Z,82nm,1.6s
F33A pP pP 00 16 24.2 -0.2
F33A **5 Mile Ranch,** **81.65 339** P **P** **00 15 43.9 -0.8**
baz=154,SNR=17
CCUT **Cedar City** **81.68 324** IAmb IAmb 00 15 48.5
comp=Z,49nm,0.8s
PASC **Pasadena Art C** **81.75 318** P **P** **00 15 45.9 +0.4**
GSC **Goldstone, Bar** **81.81 320** IAmb IAmb 00 15 48.5
comp=Z,143nm,1.9s
GSC **Goldstone, Bar** **81.81 320** P **P** **00 15 46.1 +0.2**
baz=138,SNR=24
SNCC **San Nicolas Is** **81.85 317** P **P** **00 15 46.3 +0.2**
SNCC IAmb IAmb 00 15 48.5
comp=Z,45nm,0.7s
SNCC **San Nicolas Is** **81.85 317** P **P** **00 15 45.4 -0.7**
baz=136
DECC **Green Verdugo** **81.89 318** P **P** **00 15 46.8 +0.4**
baz=137
SHOC **Shoshone, Teco** **81.96 321** P **P** **00 15 46.9 +0.3**
baz=138
TCRU **Three Creeks R** **82.04 325** P **P** **00 15 48.2 +0.9**
RWWY **Rawlins** **82.09 330** P **P** **00 15 47.9 +0.4**
RWWY IAmb IAmb 00 15 50.0
comp=Z,80nm,0.8s
POGA **Pongola** **82.12 117** P **P** **00 15 48.5 +0.7**
EDW2 **Edwards Air Fo** **82.16 319** P **P** **00 15 47.5 -0.3**
baz=137,SNR=18
RDMU **Red Mountain** **82.23 328** P **P** **00 15 48.6 +0.4**
EYMN **Ely** **82.24 343** IAmb IAmb 00 15 49.1
comp=Z,39nm,0.6s
EYMN **Ely** **82.24 343** P **P** **00 15 47.3 -0.4**
baz=158,SNR=13
EYMN **Ely** **82.24 343** P **P** **00 15 47.4 -0.4**
baz=158,SNR=13
QSM **Queen of Sheba** **82.33 320** IAmb IAmb 00 15 50.6
comp=Z,29nm,0.7s
CCAC **Calif City Air** **82.37 319** IAmb IAmb 00 15 51.2
comp=Z,49nm,0.7s

OSI **Osito Audit: C** 82.38 318 P **P** 00 15 48.2 -0.6
baz=137
GWY **Greenwater Val** 82.39 321 IAmb IAmb 00 15 51.1
comp=Z,31nm,0.7s
LRMC **Laurel Mtn Rad** 82.42 320 P **P** 00 15 49.5 +0.3
baz=137,SNR=11
PRN **Pahroc Range** 82.44 323 IAmb IAmb 00 15 52.2
comp=Z,48nm,1.0s
RAR **Rarotonga** 82.47 250 P **P** 00 15 49.1 -0.6
RAR IAmb IAmb 00 15 51.0
comp=Z,106nm,1.4s
RAR **Rarotonga** 82.47 250 P **P** 00 15 49.1 -0.6
RAR pmax pmax
comp=Z,106nm,1.5s
K22A **Casper** 82.60 331 P **P** 00 15 50.9 +1.0
baz=146
K22A **Casper** 82.60 331 P **P** 00 15 50.2 +0.2
baz=146,SNR=14
CASY **Casey** 82.64 179 P **P** 00 15 50.7 +1.0
CASY IAmb IAmb 00 15 52.3
comp=Z,91nm,1.0s
PSUT **Pine Spring** 82.69 324 IAmb IAmb 00 15 53.1
comp=Z,37nm,0.7s
FURC **Furnace Creek,** 82.70 321 P **P** 00 15 51.4 +1.0
baz=138,SNR=22
TPNV **Topopah Spring** 82.73 321 IAmb IAmb 00 15 53.5
comp=Z,60nm,1.2s
TPNV **Topopah Spring** 82.73 321 P **P** 00 15 51.8 +1.0
baz=138,SNR=36
MPMC **Manual Prospec** 82.74 320 P **P** 00 15 51.3 +0.4
baz=138,SNR=29
ARVC **Arvin** 82.81 319 P **P** 00 15 51.6 +0.6
baz=137
SBC **Santa Barbara** 82.82 318 P **P** 00 15 52.3 +1.3
baz=136
RSSD **Black Hills** 82.83 333 P **P** 00 15 51.2 0.0
RSSD IAmb IAmb 00 15 53.1
comp=Z,32nm,0.7s
RSSD **Black Hills** 82.83 333 P **P** 00 15 51.2 0.0
RSSD pmax pmax
comp=Z,32nm,0.7s
RSSD **Black Hills** 82.83 333 P **P** 00 15 51.4 +0.2
baz=148
RSSD **Black Hills** 82.83 333 P **P** 00 15 51.2 0.0
baz=148
NLU **North Lily Min** 82.91 326 IAmb IAmb 00 15 54.2
comp=Z,95nm,1.9s
S11A **Rachel** 82.98 322 IAmb IAmb 00 15 55.1
comp=Z,137nm,1.6s
ISA **Isabella, Lake** 83.00 319 IAmb IAmb 00 15 54.7
comp=Z,33nm,0.8s
ISA **Isabella, Lake** 83.00 319 P **P** 00 15 52.9 +0.8
baz=137,SNR=30
D32B **Dogwood Acres,** 83.04 339 P **P** 00 15 52.0 +0.1
baz=154,SNR=14
JLU **Jordanelle** 83.12 327 IAmb IAmb 00 15 55.0
comp=Z,136nm,1.9s
PKM **Mcpherson Peak** 83.19 318 P **P** 00 15 53.6 +0.3
baz=136,SNR=28
B35A **Bob, Littlefor** 83.20 342 P **P** 00 15 52.5 -0.2
baz=156,SNR=53
MUSN **Musina, Limpop** 83.28 112 *i* P **P** 00 15 53.4 -0.5
MUSN **Musina, Limpop** 83.28 112 *i* P **P** 00 15 53.4 -0.5
SPR3 **Spring Creek 3** 83.28 324 IAmb IAmb 00 15 56.0
comp=Z,44nm,1.1s
CTU **Camp Tracy** 83.33 327 P **P** 00 15 54.3 +0.5
CWC **Cottonwood Cre** 83.34 320 P **P** 00 15 53.3 -0.6
baz=137
GRAC **Grapevine Rang** 83.36 321 P **P** 00 15 54.3 +0.4
GRAC IAmb IAmb 00 15 56.6
comp=Z,143nm,1.8s
GRAC **Grapevine Rang** 83.36 321 P **P** 00 15 52.3 -1.6
baz=138
BLWY **Bulawayo** 83.38 109 *i* P **P** 00 15 54.9 +0.3
BLWY **Bulawayo** 83.38 109 *i* P **P** 00 15 54.9 +0.3
R11A **Troy Canyon, C** 83.43 323 IAmb IAmb 00 15 57.0
comp=Z,68nm,1.4s
R11A **Troy Canyon, C** 83.43 323 P **P** 00 15 54.9 +0.5
baz=139,SNR=71
DUG **Dugway, Tooele** 83.45 326 P **P** 00 15 54.8 +0.4
baz=141,SNR=35
VES **Vestal, Richgr** 83.47 319 P **P** 00 15 55.0 +0.6
baz=136,SNR=15
TCUT **Toone Canyon** 83.51 327 IAmb IAmb 00 15 57.7
comp=Z,48nm,0.6s
SMMC **Simmler** 83.60 318 P **P** 00 15 55.9 +0.7
baz=136
E28A **Huff** 83.73 337 P **P** 00 15 55.5 0.0
baz=151
AGMN **Agassiz Nation** 83.74 340 IAmb IAmb 00 15 57.0
comp=Z,56nm,0.7s
AGMN pP pP 00 16 35.4 +0.1
AGMN **Agassiz Nation** 83.74 340 P **P** 00 15 55.3 -0.1
baz=154,SNR=27
TIN **Tinemaha, Big** 83.87 320 P **P** 00 15 57.3 +0.7
baz=137,SNR=6.9
VOG **Valley Oaks Go** 83.98 319 P **P** 00 15 55.7 -1.2
baz=136
PD31 **Pinedale Array** 83.98 329 IAmb IAmb 00 15 59.2
comp=Z,119nm,1.8s
PDAR **Pinedale Array** 83.98 329 P **P** 00 15 57.0 -0.2
comp=Z,22nm,0.7s,baz=129,slow=8.2,SNR=122
PDAR pP **pP** 00 16 37.8 +0.7
comp=Z,12nm,0.7s,baz=118,slow=4.8,SNR=4.6
comp=Z,22nm,0.7s
BW06 **Boulder Array** 83.99 329 IAmb IAmb 00 15 59.2
comp=Z,147nm,1.9s
BW06 **Boulder Array** 83.99 329 P **P** 00 15 56.9 -0.3
baz=144,SNR=8.0
PAGB **Antelope Grade** 84.05 318 IAmb IAmb 00 16 00.0
comp=Z,50nm,0.9s
MDND **Maddock** 84.48 338 P **P** 00 15 59.7 +0.5
baz=152,SNR=12
MDND **Maddock** 84.48 338 P **P** 00 15 59.3 +0.1
baz=152,SNR=12
Q09A **Carvers** 84.62 322 P **P** 00 16 01.8 +1.4
Q09A IAmb IAmb 00 16 02.8
comp=Z,72nm,0.7s
MLAC **Mammoth, Mammo** 84.62 320 P **P** 00 16 01.4 +0.9
baz=137,SNR=9.8
HVU **Hansel Valley** 84.67 327 IAmb IAmb 00 16 02.2
comp=Z,32nm,0.6s
AHID **Auburn Hatcher** 84.67 328 IAmb IAmb 00 16 03.4
comp=Z,40nm,0.7s
OMMB **Old Mammoth Mi** 84.70 320 IAmb IAmb 00 16 03.3
comp=Z,44nm,0.9s
PMPB **Monarch Peak** 84.70 318 P **P** 00 16 01.8 +1.1
NV11 **Mina Array Sit** 84.84 321 IAmb IAmb 00 16 03.9
comp=Z,69nm,1.7s
LHV **Little Huntoon** 84.90 321 IAmb IAmb 00 16 04.3
comp=Z,180nm,1.8s
NVAR **Mina Array Bea** 84.92 321 P **P** 00 16 02.3 +0.3
comp=Z,8.4nm,0.7s,baz=153,slow=5.7,SNR=69
NVAR PKKP **PKKPbc** 00 34 08.6 -1.5
comp=Z,0.5nm,0.5s,baz=255,slow=2.6,SNR=5.8
comp=Z,8.4nm,0.7s
ELK **Elko** 85.06 325 IAmb IAmb 00 16 04.6
comp=Z,34nm,0.7s
SNOW **Snow King Moun** 85.07 329 IAmb IAmb 00 16 07.6
comp=Z,71nm,1.4s
RYN **Ryan** 85.18 321 P **P** 00 16 03.7 +0.6
RYN IAmb IAmb 00 16 05.6
comp=Z,60nm,1.4s
ZHG **ZHG** 85.26 46 P **P** 00 16 05.0 +1.4
KVN **Kaiserville** 85.27 322 IAmb IAmb 00 16 05.6
comp=Z,63nm,1.3s
SAO **San Andreas Ge** 85.46 318 P **P** 00 16 05.2 +0.8
SAO **San Andreas Ge** 85.46 318 P **P** 00 16 05.2 +0.8
SAO pmax pmax
comp=Z,18nm,1.0s
IMW **Indian Meadow** 85.49 329 IAmb IAmb 00 16 07.1
comp=Z,59nm,0.8s
ULM **Lac du Bonnet** 85.51 341 P **P** 00 16 03.7 -0.5
comp=Z,41nm,0.7s,baz=145,slow=4.9,SNR=56
ULM pP **pP** 00 16 43.8 -0.5
comp=Z,45nm,0.8s,baz=150,slow=4.6,SNR=7.7
ULM PKKP **PKKPdf** 00 34 05.0 +2.6
comp=Z,1.9nm,0.7s,baz=336,slow=9.7,SNR=3.2
comp=Z,41nm,0.7s
LSZ **Lusaka** 85.52 105 P **P** 00 16 06.7 +1.3
LSZ IAmb IAmb 00 16 08.1
comp=Z,92nm,1.5s
LSZ pP **pP** 00 16 46.0 +0.4
LSZ **Lusaka** 85.52 105 *i* P **P** 00 16 06.3 +0.9
LSZ **Lusaka** 85.52 105 *i* P **P** 00 16 06.3 +0.9
H17A **Grant Village** 85.73 330 P **P** 00 16 06.8 +0.9
baz=143

YPP **Pitchstone Pla** 85.73 329 P **P** 00 16 06.8 +0.8
RLMT **Red Lodge** 85.76 331 IAmb IAmb 00 16 08.2
comp=Z,95nm,1.2s
RLMT **Red Lodge** 85.76 331 P **P** 00 16 06.7 +0.8
baz=144,SNR=75
LAO **LASA Array** 85.82 333 IAmb IAmb 00 16 07.8
comp=Z,37nm,0.8s
LAO pP 00 16 46.1 0.0
LAO **LASA Array** 85.82 333 P **P** 00 16 06.3 +0.3
baz=146,SNR=7.1
LAO **LASA Array** 85.82 333 P **P** 00 16 05.3 -0.7
baz=146,SNR=7.1
YERR **Yerington** 85.83 321 IAmb IAmb 00 16 09.0
comp=Z,43nm,0.7s
SCHQ **Schefferville** 85.84 359 P **P** 00 16 05.3 -0.5
comp=Z,13nm,0.5s,baz=184,slow=5.1,SNR=40
SCHQ pP **pP** 00 16 45.7 -0.1
comp=Z,13nm,0.7s,baz=160,slow=4.8,SNR=4.7
comp=Z,13nm,0.5s
SCHQ **Schefferville** 85.84 359 IAmb IAmb 00 16 47.0
comp=Z,85nm,1.6s
YFT **Old Faithful** 85.89 329 IAmb IAmb 00 16 10.0
comp=Z,49nm,0.7s
CZD **Col de Zad** 85.98 47 P **P** 00 16 10.0 +2.6
YNR **Norris Junctio** 86.03 330 P **P** 00 16 09.0 +1.6
YNR IAmb IAmb 00 16 10.3
comp=Z,102nm,1.9s
MDT **Midelt** 86.11 48 P **P** 00 16 09.2 +1.4
comp=Z,11nm,0.6s,baz=286,slow=4.4,SNR=40
MDT LR LR 00 53 34.8
comp=Z,76nm,19.4s,baz=243,slow=35
comp=Z,11nm,0.6s
MDT **Midelt** 86.11 48 P **P** 00 16 09.6 +1.8
YMR **Madison River** 86.12 330 P **P** 00 16 08.8 +1.1
EMB **Emerald Bay** 86.28 321 P **P** 00 16 10.0 +1.4
EMB IAmb IAmb 00 16 11.2
comp=Z,25nm,0.7s
YHL **Hebgen Lake** 86.36 330 IAmb IAmb 00 16 11.7
comp=Z,46nm,0.6s
PAHR **Pah Rah Range** 86.42 322 IAmb IAmb 00 16 11.9
comp=Z,48nm,0.9s
MPK **Martis Peak** 86.47 321 P **P** 00 16 10.8 +1.2
MPK IAmb IAmb 00 16 12.5
comp=Z,102nm,1.3s
LCRM **LCR** 86.53 47 P **P** 00 16 12.0 +2.1
DGMT **Dagmar** 86.57 336 P **P** 00 16 10.1 +0.5
baz=148
DGMT **Dagmar** 86.57 336 P **P** 00 16 10.0 +0.5
baz=148,SNR=20
AFDM **Forest Hills D** 86.74 320 IAmb IAmb 00 16 12.6
comp=Z,26nm,0.8s
HLID **Hailey** 86.81 327 IAmb IAmb 00 16 13.7
comp=Z,56nm,0.9s
HLID **Hailey** 86.81 327 P **P** 00 16 11.9 +0.8
baz=140,SNR=110
PTEO **Sao Teotonio** 86.83 42 *e*P **P** 00 16 12.3 +1.3
BEKR **Beckworth** 87.06 321 IAmb IAmb 00 16 14.7
comp=Z,38nm,0.9s
BOZ **Bozeman (W)** 87.14 330 IAmb IAmb 00 16 14.1
comp=Z,21nm,0.6s
BOZ **Bozeman (W)** 87.14 330 P **P** 00 16 12.8 +0.3
baz=142,SNR=45
CHEFC **Chefchaouen** 87.17 46 P **P** 00 16 16.0 +3.1
PLTX **Planet X, Gerl** 87.19 322 IAmb IAmb 00 16 15.3
comp=Z,57nm,0.9s
PCVE **Castro Verde** 87.28 42 *e*P **P** 00 16 14.8 +1.6
PVAQ **Vaqueiros** 87.31 43 *e*P **P** 00 16 15.2 +1.8
PVAQ **Vaqueiros** 87.31 43 P **P** 00 16 15.1 +1.8
MESJ **Messejana** 87.32 42 *e*P **P** 00 16 14.6 +1.2
MESJ IAmb IAmb 00 16 16.7
comp=Z,20nm,0.7s
MESJ **Messejana** 87.32 42 *e*P **P** 00 16 15.1 +1.7
MESJ **Messejana** 87.32 42 *e*P **P** 00 16 14.6 +1.2
PNCL **Nicolau / Gran** 87.33 42 *e*P **P** 00 16 15.0 +1.6
PNCL *e*pP **pP** 00 16 53.7 0.0
PMST **Lisbon--Monsan** 87.39 41 *e*P **P** 00 16 16.0 +2.3
ORV **Oroville** 87.46 320 IAmb IAmb 00 16 16.6
comp=Z,74nm,1.4s
SMIR **Smir Dam** 87.53 45 P **P** 00 16 17.0 +2.5
PBEJ **Beja** 87.65 42 *e*P **P** 00 16 16.9 +1.9
FIGM **Figuig** 87.83 50 P **P** 00 16 19.0 +2.8
EVO **Evora** 87.91 42 *e*P **P** 00 16 17.7 +1.5
WVOR **Wild Horse Val** 88.02 324 IAmb IAmb 00 16 19.1
comp=Z,84nm,1.6s
PALE **Palemas** 88.10 46 P **P** 00 16 20.0 +2.7
PMTG **Montargil** 88.16 41 *e*P **P** 00 16 18.5 +1.1
comp=Z,30nm,1.5s
PMTG *e*pP **pP** 00 16 57.1 -0.7
PBAR **Barrancos** 88.22 42 *e*P **P** 00 16 20.1 +2.4
EGMT **Eagleton** 88.30 332 IAmb IAmb 00 16 19.5
comp=Z,45nm,0.7s
EGMT **Eagleton** 88.30 332 P **P** 00 16 17.3 -0.6
baz=144,SNR=5.3
PESTR **Estremoz** 88.38 42 *e*P **P** 00 16 20.5 +2.1
PESTR **Estremoz** 88.38 42 P **P** 00 16 20.6 +2.1
JBK **JBK** 88.39 48 P **P** 00 16 21.0 +2.2
PCAS **Casmilo, Conde** 88.69 40 *e*P **P** 00 16 20.9 +1.1
GOG **Mont Gurugu** 88.69 47 P **P** 00 16 23.0 +2.9
KCPM **Cahto Peak** 88.70 319 P **P** 00 16 21.3 +1.2
PLID **Pearl Lake** 88.71 327 IAmb IAmb 00 16 22.4
comp=Z,39nm,0.8s
TAF **Taforalt** 88.79 47 P **P** 00 16 24.0 +3.4
PMRV **Marv??o** 88.88 41 *e*P **P** 00 16 22.1 +1.3
LTZ **Lake Taylor** 89.01 219 P **P** 00 16 21.2 -0.4
WHZ **Wether Hill Ro** 89.01 214 P **P** 00 16 21.5 0.0
MSO **Missoula** 89.11 329 IAmb IAmb 00 16 25.3
comp=Z,63nm,1.6s
MSO **Missoula** 89.11 329 P **P** 00 16 22.5 +0.8
baz=140,SNR=12
PCBR **Castelo Branco** 89.11 41 *e*P **P** 00 16 21.4 -0.4
MLZ **Mavora Lakes** 89.31 215 P **P** 00 16 23.8 +0.8
MLZ IAmb IAmb 00 16 25.5
comp=Z,57nm,1.2s
THZ **Tophouse** 89.36 220 P **P** 00 16 23.9 +0.6
MTE **Manteigas** 89.46 41 *e*P **P** 00 16 23.9 +0.4
MTE **Manteigas** 89.46 41 IAmb IAmb 00 16 25.4
comp=Z,53nm,1.6s
NNZ **Nelson** 89.47 220 P **P** 00 16 23.4 -0.4
PVIS **Viseu** 89.48 40 *e*P **P** 00 16 23.1 -0.5
KHMM **Hoss Mountain** 89.60 320 P **P** 00 16 25.0 +0.8
YBH **Yreka Blue Hor** 89.64 321 IAmb IAmb 00 16 25.6
comp=Z,22nm,0.7s
I07A **Izee** 89.65 324 P **P** 00 16 25.3 +0.9
I07A IAmb IAmb 00 16 26.9
comp=Z,90nm,1.7s
DCZ **Deep Cove** 89.70 214 P **P** 00 16 24.0 -0.7
DCZ IAmb IAmb 00 16 30.9
comp=Z,44nm,1.1s
K04D **Chiloquin, OR** 89.76 322 P **P** 00 16 24.3 -0.6
baz=135
L04D **Klamath Falls** 89.76 322 IAmb IAmb 00 16 26.7
comp=Z,33nm,0.7s
L04D **Klamath Falls** 89.76 322 P **P** 00 16 24.5 -0.5
baz=135
J05D **Fort Rock, OR** 89.96 323 P **P** 00 16 26.7 +0.8
baz=135,SNR=16
JTMT **Jette** 89.96 330 P **P** 00 16 26.4 +0.7
JTMT IAmb IAmb 00 17 08.2
comp=Z,22nm,0.7s
PVRL **Vila Real** 89.96 40 *e*P **P** 00 16 26.4 +0.6
comp=Z,40nm,1.8s
POLO **Lamas de Olo** 89.99 40 *e*P **P** 00 16 26.4 +0.4
MVO **Moncorvo** 90.27 40 *e*P **P** 00 16 27.7 +0.4
MVO *e*pP **pP** 00 17 07.5 -0.1
L02F **Cave Junction** 90.37 321 P **P** 00 16 27.6 0.0
baz=134
J04D **Umpqua Nationa** 90.38 323 P **P** 00 16 27.8 -0.1
baz=135,SNR=14
HIZ **Hauiti** 90.45 223 P **P** 00 16 28.3 0.0
PAB **San Pablo** 90.70 43 P **P** 00 16 29.5 +0.2
PAB **San Pablo** 90.70 43 P **P** 00 16 29.5 +0.2
PAB pmax pmax
comp=Z,21nm,1.7s
I05D **Terrebonne, OR** 90.76 324 P **P** 00 16 30.1 +0.7
baz=135,SNR=13
E09A **Wood Farm, Sta** 90.77 327 P **P** 00 16 30.1 +0.7
WALA **Waterton Lakes** 90.81 331 IAmb IAmb 00 16 31.5
comp=Z,28nm,0.6s
K02D **Willamette Mer** 90.82 321 P **P** 00 16 30.6 +0.8
baz=134
PBRG **Braganca** 90.86 40 *e*P **P** 00 16 29.5 -0.5
I04A **Tendick Farm,** 90.92 323 P **P** 00 16 30.2 0.0
baz=134,SNR=6.9
ESDC **Sonseca Array** 91.01 43 P **P** 00 16 31.3 +0.5
comp=Z,4.0nm,0.6s,baz=242,slow=4.4,SNR=34
comp=Z,4.0nm,0.6s
ESBB **Sonseca Array** 91.01 43 P **P** 00 16 30.6 -0.1
F07A **Phinny Hill Vi** 91.17 326 P **P** 00 16 31.4 +0.2
F07A IAmb IAmb 00 16 33.8
comp=Z,17nm,0.9s
J01E **Myrtle Point** 91.28 322 P **P** 00 16 32.8 +1.0
baz=134
HAWA **Hanford** 91.34 326 IAmb IAmb 00 16 34.1
comp=Z,22nm,0.8s
I03D **Drain, OR** 91.34 322 P **P** 00 16 32.3 +0.3
baz=134,SNR=5.2
G05D **Wamic, OR** 91.39 324 P **P** 00 16 33.2 +0.9
baz=135,SNR=10
H04A **Detroit Lake** 91.43 324 IAmb IAmb 00 16 34.2
comp=Z,26nm,0.7s
BUCK **Buck Mountain** 91.50 323 IAmb IAmb 00 16 35.1
comp=Z,46nm,1.0s
D08A **Wollman Farm,** 91.53 327 IAmb IAmb 00 16 34.8
comp=Z,22nm,0.9s
H04D **Lebanon** 91.60 323 P **P** 00 16 33.5 +0.3
baz=134
NEW **Newport** 91.60 329 pP 00 17 13.8 +0.2
NEW **Newport** 91.60 329 P **P** 00 16 33.0 -0.2
baz=138
HOOD **Mount Hood Mea** 91.61 324 IAmb IAmb 00 16 35.7
comp=Z,14nm,0.7s
I02E **Swisshome, OR** 91.89 322 P **P** 00 16 34.0 -0.5
baz=134
COR **Corvallis** 91.93 323 P **P** 00 16 35.9 +1.1
COR **Corvallis** 91.93 323 P **P** 00 16 35.9 +1.1
COR pmax pmax
comp=Z,207nm,1.8s
LTY **Liberty** 92.50 326 IAmb IAmb 00 16 39.0
comp=Z,19nm,0.7s
FCC **Fort Churchill** 92.82 346 IAmb IAmb 00 16 40.0
comp=Z,27nm,0.7s
D05A **Enumclaw** 93.09 325 pP 00 17 20.7 +0.2
B06A **Marblemount** 93.79 327 P **P** 00 16 43.4 +0.2
B06A IAmb IAmb 00 16 44.2
comp=Z,26nm,0.7s
B06A **pP** 00 17 23.7 0.0
LLLB **Lillooet** 95.44 328 P **P** 00 16 50.7 -0.1
LLLB IAmb IAmb 00 16 51.8
comp=Z,16nm,1.2s
LLLB pP **pP** 00 17 31.3 -0.1
KEST **Kesra** 97.04 52 P Pdif 00 16 58.8 +0.2
comp=Z,3.2nm,0.7s,baz=298,slow=0.8,SNR=9.5
KEST LR LR 01 02 35.5
comp=Z,140nm,19.1s,baz=244,slow=36
comp=Z,3.2nm,0.7s
YKA **Yellowknife Ar** 101.36 339 P **Pdif** 00 17 16.9 -0.1
comp=Z,6.1nm,0.6s,baz=138,slow=4.4,SNR=12
YKA pP **pPdif** 00 17 56.9 -0.7
comp=Z,2.0nm,0.5s,baz=142,slow=5.1,SNR=2.5
EKA **Eskdalemuir Ar** 101.55 31 P **Pdif** 00 17 18.5 +0.5
comp=Z,1.0nm,0.5s,baz=213,slow=2.5,SNR=7.0
DAVOX **Davos/Dischmat** 103.34 43 PKPAb 00 33 41.8
comp=Z,0.8nm,0.5s,baz=139,slow=5.7,SNR=3.5
GERES **GERESS Array B** 106.60 43 PKiKP **PKiKP** 00 21 51.4 +0.8
comp=Z,0.6nm,0.6s,baz=196,slow=1.8,SNR=8.5
GERES PKKPbc **PKKPbc** 00 33 11.8 +0.6
comp=Z,0.5nm,0.8s,baz=90,slow=2.9,SNR=5.3
GERES PKKPab **PKKPab** 00 33 26.0 +1.9
comp=Z,0.5nm,0.8s,baz=87,slow=5.5,SNR=6.3
CLL **Collm** 107.39 40 *e*SP SP 00 31 14.0 -4.5
CLL *es*SP 00 32 24.0
M29M **Somme Creek** 109.86 332 P **PKiKP** 00 21 56.1 -0.2
baz=120
K29M **Barlow Dome** 110.19 333 P **PKiKP** 00 21 57.2 +0.3
baz=120
MESA **MESA** 110.25 329 P **PKiKP** 00 21 56.8 -0.4
baz=118
CTG **Chitna Glacier** 110.35 330 P **PKiKP** 00 21 56.9 -0.4
baz=118
NB2 **NORSAR Subarra** 111.02 31 PKPdf **PKiKP** 00 21 58.8 +0.4
comp=Z,0.1nm,0.4s,baz=248,slow=1.9
NOA **NORSAR Array B** 111.02 31 PKiKP **PKiKP** 00 21 59.3 +0.9
comp=Z,0.2nm,0.5s,baz=254,slow=2.1,SNR=5.3
NOA PKKPab **PKKPab** 00 33 04.3 +0.4
comp=Z,1.5nm,1.0s,baz=65,slow=4.5,SNR=3.6
INK **Inuvik** 111.10 338 PKKPab PKKPab 00 33 04.6 +1.4
comp=Z,1.2nm,0.6s,baz=331,slow=2.9,SNR=3.3
INK **Inuvik** 111.10 338 P **PKiKP** 00 21 58.2 0.0
baz=122
M27K **Edge Creek, AK** 111.22 331 P **PKiKP** 00 21 59.1 +0.2
baz=117
L27K **Beaver Creek,** 111.52 332 P **PKiKP** 00 21 59.9 +0.6
baz=117
UZH **Uzhgorod** 111.63 46 *e*PKiKP **PKiKP** 00 21 58.8 -1.0
UZH *i* S **PP** 00 22 39.4 -5.2
UZH *i* 00 22 46.2
HFS **Hagfors** 111.73 32 PKiKP **PKiKP** 00 21 59.0 -0.6
comp=Z,1.1nm,0.5s,baz=193,slow=6.1,SNR=10
HFS PKKPab **PKKPab** 00 33 01.0 +0.2
comp=Z,3.5nm,0.9s,baz=114,slow=6.6,SNR=5.4
K27K **Chicken** 112.05 333 P **PKiKP** 00 22 01.0 +0.8
baz=116
KLU **Klutina** 112.57 329 P **PKiKP** 00 22 01.3 -0.1
baz=114
I27K **Kandik River** 112.57 334 P **PKiKP** 00 22 02.5 +1.2
baz=116
MLR **Muntele Rosu** 112.73 50 PKiKP **PKiKP** 00 22 02.4 +0.1
comp=Z,0.8nm,0.5s,baz=22,slow=2.9,SNR=3.1
SCRK **Sand Creek** 112.79 332 P **PKiKP** 00 22 03.0 +1.2
baz=115
H27K **Steamboat Moun** 112.82 335 P **PKiKP** 00 22 02.2 +0.6
baz=116
J26L **Joseph Creek** 112.84 333 P **PKiKP** 00 22 02.4 +0.6
baz=115
M24K **Tolsona, Glenn** 112.93 330 P **PKiKP** 00 22 03.0 +1.0
baz=114
I26K **Coal Creek Min** 113.03 334 P **PKiKP** 00 22 03.4 +1.4
baz=115
RIDG **Independent Ri** 113.04 332 P **PKiKP** 00 22 03.3 +1.2
baz=114
M23K **Glacier View** 113.48 329 P **PKiKP** 00 22 04.2 +1.1
baz=113
J25K **Salcha River,** 113.60 332 P **PKiKP** 00 22 04.0 +0.7
baz=113
KNK **Knik Glacier** 113.66 329 P **PKiKP** 00 22 03.9 +0.6
baz=112
WAT6 **Susitna Watana** 113.79 330 P **PKiKP** 00 22 04.6 +0.9
baz=112
G26K **Porcupine Rive** 113.94 335 P **PKiKP** 00 22 04.7 +1.0
baz=114
PRP **Porcupine Dome** 114.02 333 P **PKiKP** 00 22 04.4 +0.3
baz=113
PBUR **Paburge** 114.17 38 *e*P **PKiKP** 00 22 05.6 +1.1
ILAR **Eielson Array** 114.27 332 PKP PKPdf 00 22 03.9 -0.5
comp=Z,1.1nm,0.6s,baz=117,slow=1.2,SNR=11
ILAR PP **PP** 00 22 59.5 -3.4
comp=Z,0.6nm,0.7s,baz=108,slow=5.8,SNR=2.8
ILAR PKKPbc **PKKPbc** 00 32 45.0 -1.7
comp=Z,0.9nm,1.0s,baz=293,slow=3.7,SNR=4.5
F26K **Sheenjek River** 114.36 336 P **PKiKP** 00 22 06.1 +1.5
baz=113
Q20K **Shuyak Island** 114.49 325 P **PKiKP** 00 22 05.6 +0.6
baz=110
POKR **Poker Plat Res** 114.61 333 P **PKiKP** 00 22 06.4 +1.4
baz=112
MCK **McKinley** 114.72 331 P **PKiKP** 00 22 06.6 +1.3
baz=111
F25K **Christian Rive** 114.86 335 P **PKiKP** 00 22 06.8 +1.2
baz=112
MMAI **Mount Meron Ar** 114.86 65 PKP PKPdf 00 22 05.6 -1.0
comp=Z,0.7nm,0.4s,baz=289,slow=10,SNR=5.2
MMAI PKKPbc **PKKPbc** 00 32 44.4 +0.8
comp=Z,1.0nm,0.5s,baz=69,slow=4.6,SNR=6.8
MMAI PKKPab **PKKPab** 00 32 51.6 +2.9
comp=Z,1.8nm,0.8s,baz=121,slow=3.2,SNR=5.9
C27K **Jago River** 114.97 338 P PKPdf 00 22 06.6 +0.9
baz=113
E25K **Arctic Village** 115.03 336 P **PKPdf** 00 22 06.6 +0.7
baz=112
H24K **Noodor Dome** 115.04 333 P **PKPdf** 00 22 06.8 +0.9
baz=111
PABE **Paberze** 115.08 39 *e*P **PKiKP** 00 22 07.2 +1.0
TRF **Thorofare Moun** 115.19 330 P **PKiKP** 00 22 07.4 +1.0
baz=110
G24K **Hadweenzic Riv** 115.20 334 P **PKPdf** 00 22 07.4 +1.3
baz=111
Q19K **Cape Douglas,** 115.21 325 P **PKiKP** 00 22 06.8 +0.3
baz=109
FAUS **Fauske** 115.23 25 *e*Pdif **Pdif** 00 18 18.4 -0.1
SKT **Skwentna** 115.23 329 P **PKiKP** 00 22 07.1 +0.7
baz=110
F24K **Squaw Lake** 115.63 335 P **PKiKP** 00 22 08.2 +1.1
baz=110

H23K	**Yukon River**	**115.68**	**333**		P		**PKiKP**	**00 22 07.9**	**+0.8**
	baz=109									
BPAW	**Bear Paw Mtn.**	**115.70**	**331**		pPKPdf		pPKPdf	00 22 49.0		
BPAW	**Bear Paw Mtn.**	**115.70**	**331**		P		**PKiKP**	**00 22 07.5**	**+0.3**
	baz=109									
ASF	**Jabal al Asfar**	**115.71**	**67**		PKKPbc		PKKPbc	00 32 43.0	+2.4	
	comp=Z,0.9nm,0.8s,baz=129,slow=6.5,SNR=1.6									
ASF					PKKPab		**PKKPab**	**00 32 48.7**	**+3.6**	
	comp=Z,0.6nm,0.4s,baz=315,slow=3.4,SNR=4.9									
D25K	**Kavik River**	**115.73**	**337**		P		**PKiKP**	**00 22 07.9**	**+0.7**	
	baz=110									
RAF	**Rauma**	**115.76**	**33**	*eP*			**PKiKP**	**00 22 08.5**	**+1.2**	
PPLA	**Purkeypile**	**115.82**	**329**				**PKiKP**	**00 22 08.3**	**+0.6**	
PPLA	**Purkeypile**	**115.82**	**329**		P		**PKiKP**	**00 22 08.4**	**+0.7**	
	baz=108									
M20K	**Styx River**	**115.92**	**328**		P		**PKiKP**	**00 22 08.0**	**+0.2**	
	baz=108									
CAST	**Castle Rocks**	**115.94**	**330**		P		**PKiKP**	**00 22 07.8**	**+0.1**	
	baz=108									
BRTR	**Keskin Array B**	**115.97**	**58**		PKP		**PKiKP**	**00 22 08.7**	**0.0**	
	comp=Z,1.1nm,0.9s,baz=195,slow=3.6,SNR=4.8									
BRTR					PKKPab		**PKKPab**	**00 32 46.1**	**+2.6**	
	comp=Z,0.6nm,0.7s,baz=49,slow=5.6,SNR=4.7									
MTSE	**Matsula**	**116.02**	**36**	*eP*			**PKiKP**	**00 22 08.4**	**+0.5**	
E24K	**Your Creek**	**116.03**	**336**		P		**PKiKP**	**00 22 08.4**	**+0.5**	
	baz=109									
P18K	**Big Mountain,**	**116.13**	**325**		P		**PKPdf**	**00 22 07.7**	**-0.5**	
	baz=108									
G23K	**Bananza Creek**	**116.16**	**334**		P		**PKiKP**	**00 22 08.5**	**+0.4**	
	baz=108									
R17K	**Ugashik Creek**	**116.18**	**323**		P		**PKiKP**	**00 22 08.6**	**+0.3**	
	baz=108									
CHUM	**Lake Minchumin**	**116.18**	**331**		P		**PKiKP**	**00 22 08.4**	**+0.3**	
	baz=108									
N19K	**Bonanza Creek**	**116.21**	**327**		P		**PKiKP**	**00 22 08.5**	**+0.1**	
	baz=108									
IIGN	**Ignalina**	**116.25**	**40**	*eP*			**PKiKP**	**00 22 10.0**	**+1.5**	
O18K	**Koktuh Hills**	**116.26**	**326**		P		**PKiKP**	**00 22 08.4**	**0.0**	
	baz=108									
ISAL	**Salakas**	**116.26**	**39**	*eP*			**PKiKP**	**00 22 09.8**	**+1.3**	
COLD	**Coldfoot**	**116.38**	**334**		P		**PKiKP**	**00 22 08.5**	**0.0**	
	baz=108									
H22K	**Ishtalitna Cre**	**116.42**	**333**		P		**PKiKP**	**00 22 09.2**	**+0.6**	
	baz=108									
L20K	**Farewell, AK**	**116.43**	**329**		P		**PKiKP**	**00 22 09.0**	**+0.3**	
	baz=107									
I21K	**Tanana**	**116.44**	**332**		P		**PKiKP**	**00 22 09.1**	**+0.6**	
	baz=108									
AKASG	**Malin Array Be**	**116.57**	**45**		PKP		**PKPdf**	**00 22 08.4**	**-0.9**	
	comp=Z,2.8nm,0.4s,baz=263,slow=2.7,SNR=19									
AKASG					pPKP		pPKPdf	00 22 49.8	-1.6	
	comp=Z,1.6nm,0.6s,baz=269,slow=1.6,SNR=2.7									
AKASG					PKKPbc		**PKKPbc**	**00 32 37.8**	**-0.3**	
	comp=Z,0.6nm,0.4s,baz=59,slow=2.7,SNR=2.8									
TOLK	**Toolik Lake Re**	**116.60**	**336**		P		**PKiKP**	**00 22 09.7**	**+0.8**	
	baz=108									
Q16K	**King Salmon**	**116.62**	**324**		P		**PKiKP**	**00 22 09.4**	**+0.3**	
	baz=107									
MEF	**Metsahovi**	**116.75**	**34**	*eP*			**PKPdf**	**00 22 08.8**	**-0.5**	
K20K	**Telida**	**116.77**	**330**		P		**PKiKP**	**00 22 09.5**	**+0.2**	
	baz=107									
N18K	**Kilae Creek**	**116.83**	**327**		P		**PKiKP**	**00 22 10.9**	**+1.4**	
	baz=107									
H21K	**Melozitna Rive**	**116.91**	**332**		P		**PKiKP**	**00 22 10.4**	**+0.8**	
	baz=107									
MNK	**Minsk**	**116.91**	**41**	*i*	PKIKP		**PKPdf**	**00 22 09.7**	**0.0**	
MNK				*i*				00 22 51.3		
MNK				*i*				00 23 19.7		
MNK				*i*	PPP		PPP	00 25 51.7		
MNK				*i*				00 29 09.8		
MNK				*i*	SP		SP	00 32 48.4	+0.8	
MNK				*i*	PS		**PKKPdf**	**00 33 04.3**	**+0.4**	
MNK				*i*	SS		**SS**	**00 39 19.8**	**+3.1**	
MNK					pmax		pmax			
	comp=E,1.0nm,0.8s									
MNK					pmax		pmax			
	comp=Z,16nm,0.8s									
MNK					MLR		MLR			
	comp=E,100nm,18.0s									
MNK					MLR		MLR			
	comp=Z,832nm,18.0s									
MNK	**Minsk**	**116.91**	**41**	*i*	PKP		**PKPdf**	**00 22 09.8**	**0.0**	
	comp=E,1.0nm,0.8s									
MNK				*i*	PKP		**PKPdf**	**00 22 09.8**	**0.0**	
MNK				*i*	PKP		**PKPdf**	**00 22 09.8**	**0.0**	
	comp=Z,16nm,0.8s,baz=253									
MNK				*i*	pPKP		pPKPdf	00 22 51.3	-0.7	
MNK				*i*	PP		**PP**	**00 23 19.8**	**-1.9**	
MNK				*i*	PPP		PPP	00 25 51.8		
MNK				*i*	SKS		**SKSdf**	**00 29 09.8**	**+3.3**	
MNK				*i*	SP		**SP**	**00 32 48.5**	**+0.9**	
MNK				*i*	PS		**PKKPdf**	**00 33 04.4**	**+0.4**	
MNK				*i*	SS		**SS**	**00 39 19.9**	**+3.1**	
MNK				*i*	SSS		SSS	00 44 17.5		
MNK				*i*	LRM		MLR	01 11 00.3		
	comp=E,100nm,17.8s									
MNK				*i*	LRM		MLR	01 11 04.3		
	comp=Z,832nm,17.8s									
MNK				*i*	LRM		MLR	01 12 07.0		
J20K	**Nowinta River**	**117.04**	**331**		P		**PKiKP**	**00 22 11.0**	**+1.2**	
	baz=106									
D23K	**Nanushuk River**	**117.08**	**336**		P		**PKiKP**	**00 22 10.9**	**+1.2**	
	baz=107									
O17K	**Koliganek Bris**	**117.15**	**325**		P		**PKiKP**	**00 22 10.7**	**+0.6**	
	baz=106									
F22K	**John River**	**117.20**	**334**		P		**PKiKP**	**00 22 10.8**	**+0.8**	
	baz=106									
TRO	**Tromso**	**117.22**	**23**	*e*	PKPdf		**PKPdf**	**00 22 09.7**	**-0.2**	
C23K	**Itkillik River**	**117.31**	**337**		P		**PKiKP**	**00 22 10.6**	**+0.4**	
	baz=106									
VSU	**Vasula**	**117.41**	**36**	*i*	PKIKP		**PKPdf**	**00 22 10.5**	**-0.1**	
VSU	**Vasula**	**117.41**	**36**	*eP*			**PKiKP**	**00 22 10.7**	**0.0**	
G21K	**Allakaket**	**117.43**	**333**		P		**PKiKP**	**00 22 11.1**	**+0.6**	
	baz=106									
O16K	**Kokwok River B**	**117.59**	**325**		P		**PKiKP**	**00 22 11.2**	**+0.2**	
	baz=105									
F21K	**Alatna River**	**117.61**	**334**		P		**PKiKP**	**00 22 11.7**	**+0.8**	
	baz=105									
FINES	**FINESS Array B**	**117.88**	**33**		PKP		**PKPdf**	**00 22 10.8**	**-0.6**	
	comp=Z,2.1nm,0.4s,baz=285,slow=1.0,SNR=41									
FINES					pPKP		**pPKPdf**	**00 22 53.2**	**-0.4**	
	comp=Z,1.9nm,0.6s,baz=186,slow=1.9,SNR=3.2									
FINES					PKKPbc		**PKKPab**	**00 32 30.7**	**-3.1**	
	comp=Z,1.0nm,0.6s,baz=80,slow=4.5,SNR=8.7									
N16K	**Nishlik Lake**	**118.14**	**326**		P		**PKiKP**	**00 22 13.3**	**+1.2**	
	baz=104									
KTK1	**Kautokeino**	**118.54**	**24**	*e*	PKPdf		**PKPdf**	**00 22 12.2**	**-0.4**	
KTK1					IAmb		IAmb	00 22 14.3		
	comp=Z,433nm,3.0s									
SPA0	**Spitsbergen Ar**	**118.86**	**13**	*e*	PKPdf		**PKPdf**	**00 22 13.0**	**0.0**	
SPITS	**Spitsbergen Ar**	**118.86**	**13**		PKP		**PKPdf**	**00 22 12.9**	**0.0**	
	comp=Z,2.2nm,0.7s,baz=246,slow=2.0,SNR=4.2									
HAMF	**Hammerfest**	**119.05**	**22**	*e*	PKPdf		**PKPdf**	**00 22 13.4**	**-0.1**	
ARA0	**ARCESS Array S**	**119.44**	**24**	*e*	PKPdf		**PKPdf**	**00 22 14.1**	**-0.2**	
ARCES	**ARCESS Array B**	**119.44**	**24**		PKP		**PKPdf**	**00 22 13.8**	**-0.5**	
	comp=Z,1.9nm,0.6s,baz=262,slow=2.5,SNR=14									
ARCES					PKKPbc		**PKKPab**	**00 32 26.2**	**-0.4**	
	comp=Z,4.8nm,0.9s,baz=75,slow=4.7,SNR=10									
VALR	**Valaam**	**120.11**	**34**	*i*	PKIKP		**PKiKP**	**00 22 15.8**	**0.0**	
VSLR	**Vesyoloye**	**121.66**	**55**	*i*	PKIKP		**PKiKP**	**00 22 19.4**	**-0.1**	
OBN	**Obninsk**	**121.94**	**41**		PKP		**PKiKP**	**00 22 19.5**	**0.0**	
	comp=Z,5.1nm,0.6s,baz=260,slow=18,SNR=6.7									
OBN	**Obninsk**	**121.94**	**41**				**PKiKP**	**00 22 19.9**	**+0.3**	
OBN					pPKPdf		**pPKPdf**	**00 23 01.7**	**+0.1**	
OBN	**Obninsk**	**121.94**	**41**	⇑	*i* PKIKP		**PKiKP**	**00 22 19.6**	**0.0**	
OBN					pmax		pmax			
	comp=Z,41nm,1.2s									
APA	**Apatity**	**122.05**	**27**	⇑	*i* PKIKP		**PKPdf**	**00 22 18.2**	**-1.1**	
APA					*i* *PP		**pPKPdf**	**00 22 58.5**	**-3.0**	
APA					pmax		pmax			
	comp=Z,6.0nm,0.8s									
AS31	**Alice Springs**	**122.13**	**201**		pPKPdf		pPKPdf	00 23 01.7	-1.5	
ASAR	**Alice Springs**	**122.13**	**201**		PKP		**PKPdf**	**00 22 19.9**	**-1.1**	
	comp=Z,7.1nm,0.5s,baz=133,slow=1.6,SNR=76									
ASAR					pPKP		**pPKPdf**	**00 23 01.9**	**-1.2**	
	comp=Z,5.2nm,0.5s,baz=134,slow=1.8,SNR=7.5									
ASAR					PP		**PP**	**00 23 58.2**	**+1.8**	
	comp=Z,1.8nm,1.0s,baz=158,slow=5.2,SNR=5.0									
ASAR					PKKPbc		**PKKPbc**	**00 32 17.9**	**+0.2**	
	comp=Z,0.9nm,0.6s,baz=338,slow=3.5,SNR=8.2									
ASAR					PKKP		**PKKPdf**	**00 32 56.2**	**+4.1**	
	comp=Z,1.6nm,0.8s,baz=348,slow=3.4,SNR=9.5									
LVZ	**Lovozero**	**122.55**	**26**	*c*	*i* PKIKP		**PKPdf**	**00 22 18.7**	**-1.6**	
MOS	**Moscow**	**122.64**	**41**	*i*	PKIKP		**PKPdf**	**00 22 19.4**	**-1.4**	
MOS					*e*			00 23 57.2		
MOS					pmax		pmax			
	comp=Z,35nm,0.9s									
VSR	**Storozhevoye**	**122.79**	**46**		*e*PKIKP		**PKPdf**	**00 22 20.3**	**-0.9**	
VSR					pmax		pmax			
	comp=Z,20nm,1.2s									
LPSR	**Galich'ya Gora**	**122.89**	**45**		*e*PKIKP		**PKPdf**	**00 22 21.1**	**-0.2**	
LPSR					pmax		pmax			
	comp=Z,20nm,0.7s									
VORR	**Voronezh**	**122.89**	**46**		*e*PKIKP		**PKPdf**	**00 22 20.2**	**-1.2**	
VORR					pmax		pmax			
	comp=Z,20nm,0.4s									
TNA	**Tin City**	**123.06**	**331**		P		**PKiKP**	**00 22 22.3**	**+0.8**	
	baz=94									
KIV	**Kislovodsk**	**123.65**	**55**		PKPdf		**PKPdf**	**00 22 23.1**	**-0.2**	
KIV					pPKPdf		**pPKPdf**	**00 23 06.2**	**+0.8**	
KIV	**Kislovodsk**	**123.65**	**55**	*i*	PKIKP		**PKPdf**	**00 22 22.4**	**-0.8**	
KIV				*i*				00 23 05.7		
KIV					pmax		pmax			
	comp=Z,12nm,1.1s									
KVAR	**Kislovodsk Arr**	**123.65**	**55**		PKP		**PKiKP**	**00 22 24.0**	**+0.5**	
	comp=Z,2.9nm,0.9s,baz=273,slow=22,SNR=5.9									
KBZ	**Khabaz**	**123.74**	**56**		PKP		**PKPdf**	**00 22 23.2**	**0.0**	
	comp=Z,5.4nm,1.0s,baz=254,slow=1.7,SNR=8.8									
GOF	**Gofitskoye**	**124.13**	**54**	⇑	*e*PKIKP		**PKiKP**	**00 22 25.0**	**+0.7**	
NCK	**Nalchik**	**124.19**	**56**	*c*	*i* PKIKP		**PKiKP**	**00 22 25.3**	**+0.8**	
KLMR	**Klimovskoe**	**124.20**	**35**		*e*PKIKP		**PKPdf**	**00 22 23.4**	**-0.2**	
KLMR					*e*			00 23 05.4		
KLMR					pmax		pmax			
	comp=Z,36nm,0.9s									
KLMR	**Klimovskoe**	**124.20**	**35**		*e*PKPdf		**PKPdf**	**00 22 23.5**	**-0.2**	
KLMR					AMP			00 22 26.0		
	comp=Z,36nm,0.9s									
KLMR					*ep*PKPdf		**pPKPdf**	**00 23 05.5**	**-0.3**	
GNI	**Garni**	**124.24**	**60**		PKP		**PKiKP**	**00 22 24.9**	**+0.1**	
	comp=Z,4.0nm,0.6s,baz=194,slow=8.3,SNR=4.4									
ZEI	**Tsey**	**124.25**	**57**	*i*	PKIKP		**PKiKP**	**00 22 25.1**	**+0.2**	
ZEI					pmax		pmax			
	comp=Z,6.0nm,1.2s									
VRH	**Novokhopyorsk**	**124.37**	**47**		*e*PKIKP		**PKPdf**	**00 22 23.7**	**-0.5**	
VRH					pmax		pmax			
	comp=Z,10.0nm,0.6s									
WB2	**Warramunga Arr**	**125.45**	**203**		pPKPdf		pPKPdf	00 23 09.3	-0.3	
WRA	**Warramunga Arr**	**125.46**	**203**		PKP		**PKPdf**	**00 22 26.7**	**-0.8**	
	comp=Z,16nm,0.4s,baz=166,slow=1.7,SNR=302									
WRA					pPKP		**pPKPdf**	**00 23 08.8**	**-0.8**	
	comp=Z,12nm,0.5s,baz=170,slow=1.7,SNR=8.6									
WRA					PKKPbc		**PKKPbc**	**00 32 05.5**	**+0.8**	
	comp=Z,0.6nm,0.5s,baz=339,slow=4.4,SNR=7.6									
WRA					PKKP		**PKKPdf**	**00 32 46.8**	**+0.9**	
	comp=Z,0.3nm,0.8s,baz=344,slow=3.9,SNR=4.8									
WRA					SKKPbc		SKKPbc	00 35 38.3	+0.8	
	comp=Z,0.8nm,0.7s,baz=350,slow=5.8,SNR=6.8									
WRA	**Warramunga Arr**	**125.46**	**203**		pPKPdf		pPKPdf	00 23 09.3	-0.3	
WRAB	**Tennant Creek**	**125.46**	**203**				**PKPdf**	**00 22 26.6**	**-0.8**	
WRAB					pPKPdf		**pPKPdf**	**00 23 09.0**	**-0.6**	
WRAB	**Tennant Creek**	**125.46**	**203**	*i*	PKIKP		**PKPdf**	**00 22 26.9**	**-0.5**	
GROC	**Groznyy**	**125.69**	**57**	*i*	PKIKP		**PKPdf**	**00 22 26.7**	**-0.3**	
GROC					pmax		pmax			
	comp=Z,47nm,1.1s									
MAK	**Makhachkala**	**126.88**	**57**		*eP*		**Pdif**	**00 19 05.0**	**-5.9**	
MAK					*i*			00 22 28.0		
MAK					*e*PPP		PPP	00 27 11.0		
MAK					*e*			00 29 20.0		
MAK					*e*SS		SS	00 41 24.0	0.0	
MAK					*e*SSS		SSS	00 46 07.3		
MAK					pmax		pmax			
	comp=Z,81nm,1.2s									
PSA00	**Pilbara Seismi**	**127.10**	**187**		PKPdf		**PKPdf**	**00 22 29.8**	**-0.7**	
PRGR	**Permogore**	**127.17**	**34**		*e*PKIKP		**PKPdf**	**00 22 29.3**	**+0.1**	
PRGR					*e*			00 23 11.3		
PRGR					pmax		pmax			
	comp=Z,19nm,0.8s									
BELG	**Belogornoye**	**128.14**	**46**		PKP		**PKiKP**	**00 22 32.0**	**0.0**	
	comp=Z,18nm,0.5s,baz=249,slow=1.5,SNR=18									
BELG	**Belogornoye**	**128.14**	**46**		PKIKP		**PKiKP**	**00 22 32.0**	**0.0**	
KIRV	**Kirov**	**129.20**	**38**		PKP		**PKPdf**	**00 22 33.4**	**+0.2**	
	comp=Z,14nm,0.5s,baz=227,slow=3.5,SNR=11									
KIRV					SKPbc		SKPbc	00 25 39.9	+0.2	
	comp=Z,6.7nm,0.5s,baz=268,slow=4.8,SNR=8.7									
KIRV	**Kirov**	**129.20**	**38**	*i*	PKIKP		**PKiKP**	**00 22 33.8**	**-0.1**	
FITZ	**Fitzroy Crossi**	**129.62**	**194**		PKP		**PKPdf**	**00 22 35.6**	**+0.2**	
	comp=Z,4.0nm,0.3s,baz=127,slow=2.7,SNR=30									
FITZ					SKPbc		SKPab	00 25 41.2	-0.8	
	comp=Z,8.6nm,1.1s,baz=194,slow=6.9,SNR=4.9									
FITZ					SKKPbc		**SKKPbc**	**00 35 23.9**	**+0.8**	
	comp=Z,1.7nm,0.6s,baz=94,slow=2.4,SNR=18									
FITZ	**Fitzroy Crossi**	**129.62**	**194**				**PKiKP**	**00 22 36.2**	**0.0**	
WSAR	**Wadi Sarin**	**130.40**	**85**		PKP		**PKiKP**	**00 22 37.5**	**0.0**	
	comp=Z,9.7nm,1.0s,baz=269,slow=7.8,SNR=4.3									
BILL	**Bilibino**	**132.65**	**336**	*i*	PKIKP		**PKiKP**	**00 22 41.7**	**+1.0**	
MTN	**Manton Dam**	**133.15**	**203**		PKPdf		**PKiKP**	**00 22 42.9**	**-0.4**	
GEYT	**Alibeck**	**133.98**	**66**		PKP		**PKiKP**	**00 22 44.4**	**0.0**	
	comp=Z,1.9nm,0.5s,baz=286,slow=5.5,SNR=6.3									
GEYT					SKPbc		**SKPbc**	**00 25 56.5**	**-0.9**	
	comp=Z,2.0nm,0.8s,baz=270,slow=1.4,SNR=4.8									
ARU	**Arti**	**134.33**	**40**		PKP		**PKiKP**	**00 22 43.9**	**-0.5**	
	comp=Z,14nm,0.4s,baz=266,slow=0.5,SNR=39									
ARU					pPKP		**pPKPdf**	**00 23 23.7**	**-1.5**	
	comp=Z,3.0nm,0.4s,baz=244,slow=4.9,SNR=1.6									
ARU					SKPbc		**SKPbc**	**00 25 58.0**	**+0.3**	
	comp=Z,6.4nm,0.8s,baz=286,slow=4.8,SNR=5.2									
ARU	**Arti**	**134.33**	**40**		PKPdf		**PKiKP**	**00 22 43.7**	**-0.7**	
ARU					pPKPdf		**pPKPdf**	**00 23 26.2**	**+1.0**	
AKTO	**Aktyubinsk**	**134.63**	**48**		PKP		**PKPdf**	**00 22 44.5**	**+0.7**	
	comp=Z,2.6nm,0.5s,baz=359,slow=0.3,SNR=13									
AKTO					pPKP		**pPKPdf**	**00 23 27.3**	**+1.3**	
	comp=Z,3.1nm,0.8s,baz=274,slow=2.6,SNR=3.7									
AKTO					PP		**PP**	**00 25 17.7**	**-1.6**	
	comp=Z,1.2nm,0.6s,baz=282,slow=5.7,SNR=4.9									
AKTO					SKPbc		**SKPbc**	**00 25 59.6**	**+0.7**	
	comp=Z,3.0nm,0.5s,baz=275,slow=3.2,SNR=7.3									
AB31	**Akbulak array**	**135.94**	**50**	*i*	PKIKP		**PKPdf**	**00 22 46.1**	**-0.1**	
ABKAR	**Akbulak array**	**135.94**	**50**		PKPdf		**PKPdf**	**00 22 47.0**	**+0.7**	
ABKAR					pPKPdf		**pPKPdf**	**00 23 29.1**	**+0.7**	
HRA	**Herat**	**136.65**	**72**		pPKPdf		pPKPdf	00 23 31.1	+0.6	
TIXI	**Tiksi**	**138.87**	**353**		PKP		**PKiKP**	**00 22 52.8**	**-0.4**	
	comp=Z,6.9nm,0.5s,baz=90,slow=20,SNR=5.7									
NRIK	**Noril'sk**	**139.06**	**14**		PKP		**PKiKP**	**00 22 53.0**	**-0.7**	
	comp=Z,2.0nm,0.4s,baz=54,slow=2.1,SNR=5.8									
NRIK					pPKP		**pPKPdf**	**00 23 34.3**	**+0.6**	
	comp=Z,4.0nm,0.9s,baz=357,slow=4.1,SNR=3.0									
SEY	**Seymchan**	**140.18**	**334**		PKP		**PKPdf**	**00 22 54.3**	**+0.7**	
	comp=Z,9.5nm,0.5s,baz=116,slow=2.7,SNR=16									
SEY					pPKP		**pPKPdf**	**00 23 37.4**	**+1.5**	
	comp=Z,12nm,0.8s,baz=119,slow=3.3,SNR=4.2									
PET	**Petropavlovsk**	**141.40**	**317**		*e*PKHKP		PKPpre	00 22 50.6		
PET					pmax		pmax			
	comp=Z,23nm,0.5s									
BRVK	**Borovoye**	**141.70**	**42**		PKPdf		**PKPdf**	**00 22 54.6**	**-2.0**	
BRVK					pPKPdf		**pPKPdf**	**00 23 40.7**	**+1.8**	
BRVK	**Borovoye**	**141.70**	**42**	*i*	PKIKP		**PKiKP**	**00 22 58.4**	**-1.2**	
BVAR	**Borovoye Array**	**141.77**	**43**		PKHKP		PKPpre	00 22 52.9		
	comp=Z,1.5nm,0.6s,baz=343,slow=3.0,SNR=2.9									
BVAR					SKKPbc		SKKPbc	00 34 37.2	-4.6	
	comp=Z,0.5nm,0.8s,baz=94,slow=6.1,SNR=4.5									
PEA0B	**Petropavlovsk-**	**141.92**	**318**		PKPdf		**PKiKP**	**00 22 58.9**	**-1.1**	
PEA0B	**Petropavlovsk-**	**141.92**	**318**	*i*	PKIKP		**PKPdf**	**00 22 58.1**	**+1.0**	
PETK	**Petropavlovsk-**	**141.92**	**318**		PKHKP		PKPpre	00 22 52.0		
	comp=Z,7.3nm,0.5s,baz=79,slow=9.3,SNR=16									
PETK					SKPbc		**SKPbc**	**00 26 17.3**	**-2.2**	
	comp=Z,0.6nm,0.3s,baz=99,slow=2.7,SNR=2.1									
MA2	**Magadan**	**142.69**	**330**		PKHKP		PKPpre	00 22 54.2		
	comp=Z,14nm,0.7s,baz=89,slow=6.1,SNR=6.5									
CHM	**Chimkent**	**143.05**	**60**		PKIKP		**PKiKP**	**00 23 08.2**	**+5.5**	
IUG	**luzhnay**	**143.37**	**60**	*e*	PKIKP		PKPab	00 22 57.0	+0.4	
IUG	**luzhnay**	**143.37**	**60**	*e*	PKP		PKPab	00 22 57.0	+0.4	
	baz=60									
KAPI	**Kappang**	**143.45**	**189**		PKPdf		PKPbc	00 22 59.4	+0.8	
KAPI	**Kappang**	**143.45**	**189**		PKIKP		PKPbc	00 22 59.4	+0.8	
KK31	**Karatay Array**	**143.67**	**59**	*i*	PKIKP		PKPab	00 22 57.5	-0.1	
MASI	**Maura Aman, Be**	**143.86**	**159**		PKP		PKPbc	00 23 00.4	+0.5	
BRZS	**Berezniki**	**143.99**	**47**	*e*	PKIKP		PKPbc	00 22 59.3	+0.1	
BRZS	**Berezniki**	**143.99**	**47**	*e*	PKP		PKPbc	00 22 59.4	+0.2	
	baz=47									
SIJI	**Sorong**	**144.09**	**210**		PKP		PKPbc	00 23 00.7	+0.2	
	comp=Z,92nm,0.9s,baz=111,slow=2.0,SNR=38									
SIJI					pPKP		pPKPdf	00 23 41.9	-2.6	
	comp=Z,13nm,0.4s,baz=9.4,slow=7.9,SNR=2.1									
SWI	**Sorong**	**144.10**	**210**		PKP		PKPbc	00 23 00.8	+0.3	
DZA	**Taraz**	**144.29**	**59**	*e*	PKIKP		PKPbc	00 23 00.5	+0.1	
DZA	**Taraz**	**144.29**	**59**	*e*	PKP		PKPbc	00 23 00.6	+0.2	
	baz=59									
SISI	**Saibi**	**144.47**	**153**		PKP		**PKPdf**	**00 23 03.6**	**+0.8**	
SPSI	**Sidrap Palu**	**144.48**	**190**		PKP		**PKPab**	**00 23 01.3**	**-0.1**	
KRJI	**Kerinci**	**144.60**	**158**		PKP		**PKPdf**	**00 23 03.3**	**+0.1**	
PMBI	**Palembang**	**144.75**	**164**		PKP		**PKPdf**	**00 23 03.6**	**+0.3**	
HYBB	**Hyderabad (bro**	**144.87**	**105**	*e*	PKPbc		PKPbc	00 23 01.7	-1.1	
HYBB				*e*	PKPdf		**PKPab**	**00 23 02.5**	**-0.4**	
SANI	**Sanana**	**144.94**	**201**		PKP		PKPbc	00 23 02.3	-0.8	
PDSI	**Padang**	**145.36**	**155**		PKP		**PKPdf**	**00 23 04.3**	**-0.1**	
BBKI	**Banjar Baru**	**145.37**	**181**		PKP		**PKPdf**	**00 23 04.3**	**-0.1**	
TTSI	**Tana Toraja**	**145.38**	**190**		PKP		**PKPab**	**00 23 05.1**	**+0.3**	
TPI	**Tanjungpandan**	**145.51**	**168**		PKP		**PKPab**	**00 23 05.7**	**+0.4**	
NIL	**Nilore**	**145.55**	**75**				**PKPbc**	**00 23 04.5**	**-0.1**	
NIL	**Nilore**	**145.55**	**75**		PKP2		PKPbc	00 23 04.5	-0.1	
SDSI	**Sungai Dareh**	**145.68**	**157**		PKP		**PKPdf**	**00 23 04.5**	**-0.4**	
LBMI	**Labuha**	**145.77**	**204**		PKP		**PKPbc**	**00 23 06.0**	**+0.3**	
PPBI	**Pangkal Pinang**	**145.80**	**166**		PKP		**PKPbc**	**00 23 05.4**	**+0.3**	
BTLS	**Baital**	**145.97**	**55**	*e*	PKIKP		**PKPdf**	**00 23 04.3**	**0.0**	
BTLS	**Baital**	**145.97**	**55**	*e*	PKP		**PKPdf**	**00 23 04.4**	**0.0**	
	baz=55									
EKS2	**Erkin-Say**	**146.10**	**59**		P		**PKPbc**	**00 23 06.3**	**+0.2**	
	SNR=36									
USP	**Ospenovka**	**146.56**	**58**		P		**PKPbc**

comp=Z,3.3nm,0.7s,baz=79,slow=2.5,SNR=5.8
CMAR Chiang Mai Arr 161.15 129 PKP **PKPdf** **00 23 27.6 +1.0**
comp=Z,2.7nm,0.5s,baz=249,slow=2.4,SNR=5.6
CMAR PKPab **PKPab** **00 24 10.3 -0.5**
comp=Z,8.8nm,1.0s,baz=239,slow=3.3,SNR=15
CMAR pPKPab **pPKPab** **00 24 52.5 +1.1**
comp=Z,4.6nm,0.9s,baz=231,slow=4.2,SNR=2.6
CHTO Chiang Mai 161.41 129 PKPdf **PKPdf** **00 23 27.6 +0.7**
CHTO PKPab **pPKPdf** **00 24 10.6 +1.3**
CHTO pPKPab **pPKPab** **00 24 53.7 +1.1**
CHTO Chiang Mai 161.41 129 PKIKP **PKPdf** **00 23 27.6 +0.7**
CHTO 00 24 10.6
PHRA Phrae 162.02 132 PKPdf **PKPdf** **00 23 29.0 +1.5**
PHRA **pPKPdf** **00 24 12.0 +2.1**
UBPT Khong Chiam 162.12 152 PKPdf **PKPdf** **00 23 28.8 +1.1**
BNX BinXian 162.34 328 ⇑P **PKPab** **00 24 16.2 +1.0**
BNX pmax pmax
comp=Z,41nm,0.7s
BNX pmax pmax
comp=Z,180nm,4.2s
SONM Songino Array 162.49 18 PKP **PKPdf** **00 23 27.8 +0.5**
comp=Z,2.3nm,0.8s,baz=263,slow=0.9,SNR=14
SONM pPKP **pPKPdf** **00 24 10.8 +1.0**
comp=Z,2.4nm,0.8s,baz=301,slow=0.7,SNR=4.6
SONM pPKPab **pPKPab** **00 24 57.0 +0.4**
comp=Z,3.1nm,0.7s,baz=313,slow=2.9,SNR=4.5
SONM PP **PP** **00 28 03.1 +2.8**
comp=Z,0.8nm,0.8s,baz=304,slow=3.4,SNR=3.9
GOMU GeErMu 163.18 68 PKP **PKPdf** **00 23 31.1 +2.5**
GOMU AMB AMB
comp=Z,84nm,4.8s
CRAI Chiangrai 163.36 128 PKPdf **PKPdf** **00 23 30.5 +1.7**
CRAI pPKPab **pPKPab** **00 25 01.8 +0.7**
CN2 Changchun 164.72 328 *e*PKP **PKPdf** **00 23 28.4 -0.9**
CN2 pPKP pPKPdf 00 24 11.1 -0.7
CN2 PP **PP** **00 28 15.1 +2.9**
CN2 SS SS 00 48 32.1 +0.5
CN2 AMB AMB
comp=Z,200nm,6.0s
GTA Gaotai 165.79 52 ⇑PKP **PKPdf** **00 23 32.2 +1.7**
GTA pPKP pPKPdf 00 24 14.6 +1.6
GTA sPKP 00 24 31.6
GTA PKPab PKPab 00 24 39.1 +8.2
GTA LR LR
comp=Z,72nm,17.4s
GTA LR LR
comp=Z,80nm,17.8s
GTA LR LR
comp=Z,100nm,18.2s
KSRS Korea Array 167.14 302 PKP **PKPdf** **00 23 32.2 +0.9**
comp=Z,1.0nm,0.3s,baz=22,slow=3.2,SNR=7.0
KSRS pPKP **pPKPdf** **00 24 14.8 +0.8**
comp=Z,2.1nm,0.8s,baz=103,slow=1.1,SNR=2.2
KSRS PKPab **PKPab** **00 24 38.4 +1.6**
comp=Z,2.9nm,0.6s,baz=65,slow=4.2,SNR=6.2
XLT XiLinHaoTe 167.39 354 *e*PKP **PKPdf** **00 23 32.3 +0.8**
XLT PKPab **PKPab** **00 24 40.0 +2.5**
XLT AMB AMB
comp=Z,420nm,8.4s
PZH PanZhiHua 168.07 111 PKP **PKPdf** **00 23 30.4 -2.2**
KMI Kunming 168.15 119 PKP **PKPdf** **00 23 34.1 +1.3**
BTO Baotou 170.17 19 *e*PKP **PKPdf** **00 23 35.0 +1.6**
BTO LR LR
comp=Z,6μm,7.5s
BTO LR LR
comp=Z,11μm,7.5s
LZH Lanzhou 170.17 59 *e*PKP **PKPdf** **00 23 35.7 +2.0**
LZH sPKP 00 24 31.0
LZH PKPab **PKPab** **00 24 52.3 +1.9**
HHC Hu-ho-hao-te 170.29 12 *e*PKP **PKPdf** **00 23 33.4 -0.1**
CD2 Chengdu 171.04 90 PKP **PKPdf** **00 23 32.5 -1.6**
HNS HongShan 173.95 356 ⇓PKP **PKPdf** **00 23 36.4 +1.3**
XAN Xi'an 174.81 58 PKP **PKPdf** **00 23 36.3 +0.7**
XAN pPKP pPKPdf 00 24 18.5 +0.4
NJ2 Nanjing 175.97 281 *e*PKP **PKPdf** **00 23 35.0 -0.8**
LYN LuoYang 176.49 24 ⇑*i*PKP **PKPdf** **00 23 36.6 +0.7**
LYN AMB AMB
comp=Z,210nm,11.5s

*IDC **09** 00:06:07.3±2.4, 7°.29S×127°.30E, h0km, mb3.5/1, mbtmp4.1/3, ML4.5/2, Error ellipse: s-maj=288.0km s-min=32.8km az=64.0*
*NEIC **09** 00:06:24.6±2.0, 7°.73S±0°.08×128°.37E±0°.1, h99km±10km, mb4.3/4, Error ellipse: s-maj=14.6km s-min=10.9km az=95.0*
ISC 09 00:06:24.5±0.9, 7°.80S±0°.07×128°.37E±0°.08, h100km, n28, σ2ˢ15/31, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.49**	**244**		**Pn**	**00 07 31.5**	**+1.0**
SOEI				Sn	**Sn**	**00 08 21.4**	**-0.3**
SOEI	**Soe**	**4.49**	**244**	P	**Pn**	**00 07 31.9**	**+1.5**
MTN	**Manton Dam**	**5.70**	**152**		**Pn**	**00 07 51.6**	**+4.8**
MTN	**Manton Dam**	**5.70**	**152**	P	**Pn**	**00 07 51.5**	**+4.8**
FAKI	**Fak Fak**	**6.20**	**39**	Pn	**Pn**	**00 07 51.7**	**-1.8**
KDU	**Kakadu**	**6.32**	**141**	P	**Pn**	**00 07 59.8**	**+4.7**
KNRA	**Kununurra**	**7.84**	**177**		**Pn**	**00 08 18.4**	**+2.6**
KNRA				Sn	**Sn**	**00 09 42.9**	**0.0**
KNRA	**Kununurra**	**7.84**	**177**	P	**Pn**	**00 08 18.6**	**+2.8**
FITZ	**Fitzroy Crossi**	**10.57**	**194**	Pn	**Pn**	**00 08 52.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.57**	**194**	P	**Pn**	**00 08 52.0**	**-1.0**
WB0	**Warramunga Arr**	**13.25**	**154**		**Pn**	**00 09 28.9**	**+0.2**
WRAB	**Tennant Creek**	**13.38**	**155**		**Pn**	**00 09 31.5**	**+1.0**
WRAB	**Tennant Creek**	**13.38**	**155**	P	**Pn**	**00 09 30.2**	**-0.2**
WRA	**Warramunga Arr**	**13.39**	**155**	Pn	**Pn**	**00 09 30.2**	**-0.3**
	2.4nm,0.3s,baz=328,slow=13,SNR=74						
WRA				Sn	**Sn**	**00 11 54.3**	**-3.6**
	1.0nm,0.3s,baz=330,slow=23,SNR=2.7						
	5.2nm,0.6s						
WRA	**Warramunga Arr**	**13.39**	**155**		**Pn**	**00 09 29.2**	**-1.3**
WB2	**Warramunga Arr**	**13.39**	**155**		**Pn**	**00 09 30.1**	**-0.5**
WR0	**Warramunga Arr**	**13.49**	**154**		**Pn**	**00 09 31.2**	**-0.6**
COEN	**Coen**	**15.77**	**114**		**Pn**	**00 10 02.0**	**+1.0**
COEN				IAmb	IAmb	00 10 45.3	
	comp=Z,20nm,1.3s						
PSA00	**Pilbara Seismi**	**15.97**	**210**	Pn	**Pn**	**00 10 02.9**	**-0.6**
AS31	**Alice Springs**	**16.64**	**162**		**Pn**	**00 10 12.8**	**+1.0**
ASAR	**Alice Springs**	**16.65**	**162**	P	**P**	**00 10 13.4**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=340,slow=11,SNR=83						
ASAR				S	**Sn**	**00 13 12.8**	**-3.9**
	comp=Z,0.4nm,0.4s,baz=338,slow=25,SNR=1.8						
	comp=Z,6.6nm,0.6s						
ASAR	**Alice Springs**	**16.65**	**162**		**Pn**	**00 10 13.1**	**+1.2**
QIS	**Mount Isa**	**16.70**	**141**	P	**P**	**00 10 14.4**	**+1.2**
WRKA	**Warakurna**	**17.14**	**180**	P	**Pn**	**00 10 18.7**	**+0.8**
OOD	**Oodnadatta**	**21.06**	**162**	P	**P**	**00 11 01.3**	**+0.7**
MULG	**Mulgathing**	**22.99**	**167**	P	**P**	**00 11 20.5**	**-0.2**
JKA	**Kamikawa-asahi**	**53.26**	**13**	P	**P**	**00 15 32.2**	**-0.5**
JKA				IAmb	IAmb	00 15 57.6	
	comp=Z,2.3nm,0.5s						
MKAR	**Makanchi Array**	**68.02**	**328**	P	P	00 17 02.3	-11
	comp=Z,0.2nm,0.5s,baz=121,slow=5.9,SNR=1.6						
	comp=Z,0.2nm,0.5s						

ROM 09 00:11:21.0±0.1, 42°.752N±0°.003×13°.147E±0°.004, h15km, ML1.2/5, 6C-4D, Error ellipse: s-maj=0.3km s-min=0.1km az=329.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.07**	**130**	⇑P	Pg	00 11 24.4	+0.2
T1202				S	Sg	00 11 26.7	+0.5
NRCA	**Norcia**	**0.09**	**344**	⇑P	Pg	00 11 23.6	-0.7
NRCA				AML	AML		
	comp=N,400μm,0.1s						
NRCA				AML	AML		
	comp=E,496μm,0.4s						
T1242	**Castelluccio d**	**0.09**	**29**	⇓P	Pg	00 11 24.0	-0.4
T1242				AML	AML		
	comp=E,108μm,0.3s						
T1242				AML	AML		
	comp=N,184μm,0.4s						
T1242				AML	AML		
	comp=E,108μm,0.3s						
MC2	**Monte Cornacci**	**0.16**	**11**	P	Pg	00 11 25.5	+0.2
MC2				S	Sb	00 11 28.9	-0.3
T1217	**Poggiodomo (PG**	**0.16**	**256**	⇓P	Pg	00 11 25.4	+0.2
T1217				S	Sb	00 11 28.5	-0.5
LNSS	**Leonessa**	**0.17**	**208**	⇑P	Pg	00 11 25.5	+0.3
LNSS				S	Sb	00 11 28.8	-0.4
LNSS				AML	AML		
	comp=E,84μm,0.3s						
LNSS				AML	AML		
	comp=E,84μm,0.3s						
LNSS				AML	AML		
	comp=N,73μm,0.9s						
T1216	**Preci, Frazion**	**0.17**	**326**	P	Pg	00 11 25.5	+0.2
T1216				S	Sg	00 11 28.4	+0.4
SMA1	**SAN MARTINO**	**0.18**	**131**	⇓P	Pb	00 11 25.9	-0.3
SMA1				S	Sb	00 11 29.2	-0.4
SMA1				AML	AML		
	comp=E,156μm,0.3s						
SMA1				AML	AML		
	comp=N,118μm,0.1s						
MMO1	**Montemonaco**	**0.20**	**42**	⇑P	Pg	00 11 26.0	+0.3
MMO1				S	Sb	00 11 29.6	-0.4
T1215	**Vallo di Nera,**	**0.21**	**284**	⇑P	Pg	00 11 26.1	+0.3
T1215				S	Sb	00 11 29.8	-0.6
T1215				AML	AML		
	comp=E,54μm,1.6s						
T1215				AML	AML		
	comp=N,36μm,1.5s						
T1243	**Rocca Santa Ma**	**0.23**	**104**	P	Pg	00 11 26.4	+0.2
T1243				S	Sg	00 11 29.9	+0.3
T1241	**Roccafluvione,**	**0.23**	**63**	P	Pb	00 11 26.7	-0.3
T1241				S	Sb	00 11 30.6	-0.4
RM33	**Pellescritta (**	**0.25**	**168**	P	Pg	00 11 26.8	+0.3
RM33				S	Sb	00 11 31.1	-0.3
FDMO	**Fiordimonte**	**0.29**	**351**	⇑P	Pg	00 11 27.4	+0.3
FDMO				S	Sb	00 11 32.0	-0.5
CSP1	**Cessapalombo**	**0.34**	**7**	⇓P	Pg	00 11 28.4	+0.3
CSP1				S	Sb	00 11 34.1	-0.1
TERO	**Teramo**	**0.36**	**111**	P	Pg	00 11 28.4	+0.1
TERO				S	Sg	00 11 33.8	+0.3

*IPEC **09** 00:12:52.5±0.4, 51°.51N×16°.29E, h0km±1km, ML3.0/5, Error ellipse: s-maj=2.4km s-min=1.2km az=32.0*
*BGR **09** 00:12:53.8±0.8, 51°.46N×16°.21E, h1km, ML3.0/5, Error ellipse: s-maj=12.2km s-min=4.4km az=25.0*
*IDC **09** 00:12:53.3±0.7, 51°.44N×16°.14E, h0km, mbtmp3.2/9, ML3.0/9, Error ellipse: s-maj=12.8km s-min=6.2km az=103.0*
*DNK **09** 00:12:53.1±2.2, 51°.52N×16°.14E, h0km±91km, ML2.5*
*PRU **09** 00:12:54.4±0.0, 51°.43N×16°.17E, h0km*
*UPP **09** 00:12:54.3±3.1, 51°.48N×15°.64E, h0km, ML2.6, Suspected explosion*
*LDG **09** 00:12:55.2±0.4, 51°.42N×16°.27E, h1km, Ml3.5/9, Error ellipse: s-maj=8.8km s-min=3.7km az=20.0, Suspected Mining induced.*
ISC 09 00:12:51.4±0.6, 51°.44N±0°.02×16°.15E±0°.02, h0km, n118, σ2ˢ16/195, 4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**171**	*i* Pg	**Pb**	**00 13 05.6**	**+0.9**
KSP				*i* Sgd		00 13 13.7	
KSP	**Ksiaz**	**0.60**	**171**	*e*Pg	**Pb**	**00 13 05.7**	**+0.9**
CHVC	**Chvalec**	**0.85**	**184**	*e*PG	**Pn**	**00 13 10.5**	**-0.2**
CHVC				*e*SG	**Sb**	**00 13 21.7**	**+0.6**
OSTC	**Ostas**	**0.89**	**177**	*e*PG	**Pn**	**00 13 11.2**	**+0.1**
OSTC				*e*SG	**Sb**	**00 13 22.7**	**+0.7**
UPC	**Upice**	**0.94**	**185**	*e*PG	**Pn**	**00 13 11.8**	**0.0**
UPC				*e*SG	**Sb**	**00 13 24.5**	**+1.1**
	comp=Z,343nm,0.4s						
DPC	**Dobruska-Polom**	**1.10**	**174**	*e*PG	**Pn**	**00 13 14.4**	**+0.4**
DPC				*e*SG	**Sb**	**00 13 29.0**	**+0.9**
DPC	**Dobruska-Polom**	**1.10**	**174**	*e*Pg	**Pn**	**00 13 14.4**	**+0.4**
DPC				*e*Sg	**Sn**	**00 13 29.6**	**-0.3**
PVCC	**Panska Ves**	**1.35**	**228**	*e*PG	**Pb**	**00 13 20.2**	**+2.7**
PVCC				*e*SG	**Sn**	**00 13 38.6**	**+2.5**
KRLC	**Kraliky**	**1.42**	**163**	*e*PG	**Pb**	**00 13 19.8**	**+1.0**
KRLC				*e*SG	**Sn**	**00 13 38.7**	**+0.7**
BRG	**Berggiesshubel**	**1.50**	**249**	Amp		00 13 44.3	
	comp=Z,90nm,0.5s						
BRG	**Berggiesshubel**	**1.50**	**249**	*e*Pn	**Pg**	**00 13 21.2**	**+1.1**
BRG				*e*Sg	**Sn**	**00 13 43.3**	**+3.5**
BRG	**Berggiesshubel**	**1.50**	**249**	Pn	**Pg**	**00 13 21.2**	**+1.1**
BRG	**Berggiesshubel**	**1.50**	**249**	Pg	**Pg**	**00 13 23.0**	**+2.9**
BRG	**Berggiesshubel**	**1.50**	**249**	Sg	**Sn**	**00 13 43.4**	**+3.7**
GOPC	**GO Pecny, Ondr**	**1.75**	**210**	*e*SG	**Sg**	**00 13 50.3**	**+2.6**
PRU	**Pruhonice**	**1.77**	**216**	*e*PN	**Pb**	**00 13 25.4**	**+0.7**
PRU				*e*PG	**Pg**	**00 13 27.1**	**+1.7**
PRU				*e*SG	**Sg**	**00 13 50.8**	**+2.5**
	comp=Z,63nm,0.4s						
RUE	**Ruedersdorf**	**1.80**	**306**	*e*P	**Pb**	**00 13 25.3**	**+0.2**
RUE				*e*S	**Sg**	**00 13 52.5**	**+3.4**
RUE				IAML		00 13 57.8	
	comp=Z,56nm,0.5s						
RAC	**Raciborz**	**1.88**	**135**	*e*PG	**Pg**	**00 13 28.9**	**+1.5**
RAC				*e*SG	**Sg**	**00 13 54.0**	**+2.3**
MORC	**Moravsky Berou**	**1.89**	**151**	⇓P	**Pn**	**00 13 24.8**	**-0.1**
MORC				⇓S	**Sn**	**00 13 44.5**	**-4.9**
MORC	**Moravsky Berou**	**1.89**	**151**	*e*Pn	**Pb**	**00 13 26.2**	**-0.5**
	baz=336						
MORC				*e*Sg	**Sg**	**00 13 52.4**	**+0.5**
	comp=Z,72nm,0.8s,baz=336						
MORC	**Moravsky Berou**	**1.89**	**151**	*e*Pn	**Pb**	**00 13 26.3**	**-0.4**
GKP	**Gorka Klasztor**	**1.95**	**20**	*e*P	**Pg**	**00 13 31.5**	**+2.7**
CLL	**Collm**	**1.98**	**267**	*e*Pn	**Pb**	**00 13 28.0**	**-0.2**
CLL				*e*Pg	**Pg**	**00 13 31.0**	**+1.8**
CLL				*e*Sg	**Sg**	**00 13 58.0**	**+3.2**
	comp=Z,49nm,0.6s						
CLL	**Collm**	**1.98**	**267**	*e*Pn	**Pb**	**00 13 27.7**	**-0.5**
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PG	**Pg**	**00 13 31.8**	**+1.2**
OKC				*e*SG	**Sg**	**00 13 57.3**	**+0.2**
	comp=Z,91nm,0.8s						
VRAC	**Vranov**	**2.15**	**172**	⇓P	**Pg**	**00 13 34.1**	**+1.5**
VRAC				⇓S	**Sg**	**00 14 01.9**	**+1.4**
VRAC	**Vranov**	**2.15**	**172**	Pn	**Pb**	**00 13 30.6**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=346,slow=17,SNR=20						
VRAC				Lg	Lg	00 13 59.3	
	comp=Z,8.2nm,0.3s,baz=255,slow=19,SNR=12						
	comp=Z,10nm,0.4s						
VRAC	**Vranov**	**2.15**	**172**	*e*Pn	**Pb**	**00 13 30.4**	**-0.8**
	baz=355						
VRAC				*e*Sg	**Sg**	**00 14 01.7**	**+1.2**
	comp=Z,66nm,0.8s,baz=355						
TREC	**Trest**	**2.19**	**191**	*e*PG	**Pg**	**00 13 34.4**	**+1.1**
TREC				*e*SG	**Sg**	**00 14 03.6**	**+2.0**
	comp=Z,38nm,0.6s						
KRUC	**Moravsky**	**2.38**	**176**	*e*Pn	**Pb**	**00 13 33.8**	**-1.4**
	baz=358						
KRUC				*e*Sg	**Sg**	**00 14 09.4**	**+1.5**
	comp=Z,54nm,0.7s,baz=358						
OJC	**Ojcow**	**2.62**	**116**	*e*Pg	**Pg**	**00 13 41.3**	**-0.2**
OJC				*e*Sg	**Sg**	**00 14 15.6**	**+0.2**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PN	**Pb**	**00 13 37.8**	**-1.7**
NKC				*e*PG	**Pg**	**00 13 44.2**	**+2.3**
NKC				*e*SG	**Sg**	**00 14 19.1**	**+3.1**
	comp=Z,59nm,0.5s						
JAVC	**Velka Javorina**	**2.76**	**159**	*e*Pn	**Pn**	**00 13 38.6**	**+1.7**
	baz=342						
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**00 13 40.0**	**+2.1**
KHC				*e*PG	**Pg**	**00 13 46.5**	**+0.8**
KHC				*e*SG	**Sg**	**00 14 23.3**	**+0.8**
	comp=Z,25nm,0.5s						
CKRC	**Cesky Krumlov**	**2.88**	**205**	*e*PN	**Pb**	**00 13 41.6**	**-1.9**
CKRC				*e*SG	**Sg**	**00 14 24.5**	**+0.8**
	comp=Z,49nm,0.6s						
MOX	**Moxa**	**2.97**	**256**	*e*Sg	**Sg**	**00 14 28.1**	**+1.4**
GERES	**GERESS Array B**	**3.04**	**212**	Pn	**Pn**	**00 13 42.4**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=35,slow=13,SNR=36						
GERES				Pg	**Pg**	**00 13 49.5**	**0.0**
	comp=Z,8.5nm,0.3s,baz=30,slow=18,SNR=75						
GERES				Lg	Lg	00 14 28.2	
	comp=Z,8.6nm,0.3s,baz=29,slow=30,SNR=11						
	comp=Z,2.4nm,0.5s						
WET	**Wettzell**	**3.11**	**224**	*e*Pn	**Pn**	**00 13 44.3**	**+2.6**
LANS	**Liptovska Anna**	**3.13**	**136**	*e*PN	**Pn**	**00 13 44.3**	**+2.4**
LANS				*e*PG	**Pg**	**00 13 54.3**	**+3.0**
LANS				*e*SG	**Sg**	**00 14 33.6**	**+1.8**
MODS	**Modra-Piesok**	**3.15**	**166**	*e*PG	**Pg**	**00 13 53.4**	**+1.6**
MODS				*e*SG	**Sg**	**00 14 35.2**	**+2.5**
ZST	**Bratislava**	**3.31**	**169**	*e*SG	**Sg**	**00 14 39.4**	**+1.9**
NIE	**Niedzica**	**3.34**	**126**	*e*P	**Pb**	**00 13 52.6**	**+1.1**
NIE				*e*S	**Sg**	**00 14 39.7**	**+1.1**
VYHS	**Vyhne**	**3.42**	**148**	*e*PN	**Pn**	**00 13 47.3**	**+1.4**
VYHS				*e*PG	**Pg**	**00 14 00.0**	**+3.1**
VYHS				*e*SG	**Sg**	**00 14 43.9**	**+2.7**
CONA	**Conrad Observa**	**3.52**	**183**	Pn	**Pn**	**00 13 50.4**	**+3.0**
	comp=Z,0.8nm,0.2s,SNR=5.9						
CONA				*e*Sg	**Sg**	**00 14 45.5**	**+1.1**
	comp=Z,9.6nm,0.3s						
GRF	**Grafenberg Arr**	**3.59**	**243**	*e*Pn	**Pn**	**00 13 51.2**	**+2.9**
RONA	**Rosalia, Austr**	**3.75**	**178**	*e*Pn	**Pn**	**00 13 53.3**	**+2.9**
	comp=Z,0.4nm,0.2s						
RONA				*e*Sg	**Sg**	**00 14 53.1**	**+1.5**
	comp=Z,12nm,0.4s						
BSD	**Bornholm Skovb**	**3.75**	**349**	*e*P	**Pn**	**00 13 51.2**	**+0.7**
BSD				*e*S	**Sn**	**00 14 33.9**	**-1.4**
BSD				IAML		00 14 55.4	
	comp=Z,20μm,1.5s						
BSD	**Bornholm Skovb**	**3.75**	**349**	*i* P	**Pn**	**00 13 51.3**	**+0.8**
BSD				*e*S	**Sn**	**00 14 33.1**	**-2.2**
BSD				IAML		00 14 38.7	
	comp=Z,5.1nm,0.2s						
SOP	**Sopron**	**3.77**	**176**	P	**Pg**	**00 14 05.3**	**+1.8**
MOA	**Molln**	**3.79**	**200**	Pn	**Pn**	**00 13 53.7**	**+2.6**
	comp=Z,0.9nm,0.1s,SNR=12						
MOA				*e*Sg	**Sg**	**00 14 55.6**	**+2.4**
	comp=Z,4.5nm,0.2s						
BIOA	**Bad Ischl, Aus**	**4.09**	**204**	*e*Pn	**Pn**	**00 13 58.1**	**+3.0**
	comp=Z,2.5nm,0.4s						
BIOA				*e*Sg	**Sg**	**00 15 03.7**	**+1.0**
	comp=Z,37nm,0.5s						
ARSA	**Arzberg**	**4.21**	**186**	*e*Pn	**Pn**	**00 13 60.0**	**+3.1**
	comp=Z,1.4nm,0.3s						
ARSA				*e*Sg	**Sg**	**00 15 06.1**	**-0.5**
	comp=Z,8.8nm,0.5s						
LUNU	**Lund**	**4.50**	**340**	P	**Pn**	**00 14 01.1**	**+0.4**
LUNU				*e*P	**Pn**	**00 14 01.1**	**+0.4**
LUNU				*e*S	**Sn**	**00 14 52.4**	**-1.3**
LUNU				S	**Sn**	**00 14 52.5**	**-1.2**
LUNU	**Lund**	**4.50**	**340**	P	**Pn**	**00 14 01.1**	**+0.4**
LUNU				S	**Sn**	**00 14 52.5**	**-1.2**
KOLS	**Kolonicke sedl**	**4.67**	**120**	*e*PN	**Pn**	**00 14 04.6**	**+1.5**
KOLS				*e*PG	Pg	00 14 26.0	+5.2
KOLS				*e*SG	**Sg**	**00 15 23.7**	**+2.5**
KBA	**Koelnbreinsper**	**4.73**	**204**	*e*Pn	**Pn**	**00 14 07.5**	**+3.3**
	comp=Z,1.7nm,0.2s						
KBA				*e*Sg	**Sg**	**00 15 26.5**	**+3.1**
	comp=Z,17nm,0.7s						
SOKA	**Soboth**	**4.82**	**189**	*e*Pn	**Pn**	**00 14 06.3**	**+1.1**
	comp=Z,0.2nm,0.2s						
SOKA				*e*Sg	**Sg**	**00 15 25.0**	**-1.2**
	comp=Z,4.8nm,0.7s						
BLEU	**Blekinge**	**4.88**	**358**	P	**Pn**	**00 14 06.8**	**+0.9**
BLEU				*i* P	**Pn**	**00 14 07.1**	**+1.2**
BLEU				*e*S	**Sn**	**00 15 00.6**	**-2.4**
BLEU	**Blekinge**	**4.88**	**358**	P	**Pn**	**00 14 06.8**	**+0.9**
BJUU	**Bjuv**	**5.00**	**339**	P	**Pn**	**00 14 07.6**	**0.0**
BJUU				*e*P	**Pn**	**00 14 07.8**	**+0.2**
BJUU				S	**Sn**	**00 15 02.8**	**-3.2**
BJUU				*e*S	**Sn**	**00 15 04.8**	**-1.1**
BJUU	**Bjuv**	**5.00**	**339**	P	**Pn**	**00 14 07.6**	**0.0**
BJUU				S	**Sn**	**00 15 02.8**	**-3.2**
OBKA	**Obir**	**5.04**	**193**	*e*Pn	**Pn**	**00 14 11.7**	**+3.4**
	comp=Z,1.9nm,0.8s						
OBKA				*e*Sg	**Sg**	**00 15 33.2**	**-0.2**
	comp=Z,8.1nm,0.8s						
WATA	**Walderalm**	**5.08**	**218**	*e*Pn	**Pn**	**00 14 12.6**	**+3.8**
	comp=Z,5.4nm,0.5s						
WATA				*e*Sg	**Sg**	**00 15 33.3**	**-1.1**
	comp=Z,3.7nm,0.3s						
MYKA	**Terra Mystica**	**5.09**	**200**	*e*Pn	**Pn**	**00 14 12.6**	**+3.8**
	comp=Z,1.2nm,0.3s						
MYKA				*e*Sg	**Sg**	**00 15 32.3**	**-2.4**
	comp=Z,11nm,0.7s						
WTTA	**Wattenberg**	**5.11**	**217**	*e*Pn	**Pn**	**00 14 13.0**	**+3.6**
	comp=Z,3.2nm,0.5s						
WTTA				*e*Sg	**Sg**	**00 15 32.5**	**-3.1**
	comp=Z,10nm,0.6s						
DEL	**Delary**	**5.22**	**346**	*i* P	**Pn**	**00 14 10.0**	**-0.5**
DEL				P	**Pn**	**00 14 11.2**	**+0.7**
DEL				*e*S	**Sn**	**00 15 09.1**	**-2.2**
DEL	**Delary**	**5.22**	**346**	P	**Pn**	**00 14 11.2**	**+0.7**
MOTA	**Moosalm**	**5.26**	**221**	*e*Pn	**Pn**	**00 14 13.9**	**+2.6**
	comp=Z,1.4nm,0.5s						
MOTA				*e*Sg	**Sg**	**00 15 36.6**	**-3.5**
	comp=Z,5.2nm,0.6s						
ABTA	**Abfaltersbach**	**5.27**	**208**	*e*Pn	**Pn**	**00 14 14.5**	**+3.1**
	comp=Z,0.2nm,0.2s						
ABTA				*e*Sg	**Sg**	**00 15 37.6**	**-2.9**
	comp=Z,13nm,0.7s						
RETA	**Reutte**	**5.29**	**224**	Pn	**Pn**	**00 14 13.8**	**+2.1**
	comp=Z,1.5nm,0.4s,SNR=5.7						
RETA				*e*Sg	**Sg**	**00 15 35.6**	**-5.6**
	comp=Z,4.2nm,0.4s						
SQTA	**Sankt Quirin**	**5.31**	**219**	*i* Pn	**Pn**	**00 14 16.0**	**+4.0**
	comp=Z,1.4nm,0.2s,SNR=6.0						
SQTA				*e*Sg	**Sb**	**00 15 35.6**	**+6.1**
	comp=Z,4.3nm,0.6s						
MORH	**Mrgy, Hungar**	**5.48**	**162**	P	**Pb**	**00 14 26.0**	**-1.9**
VXJU	**Vaexsjoe**	**5.54**	**353**	P	**Pn**	**00 14 16.1**	**+1.1**
VXJU	**Vaexsjoe**	**5.54**	**353**	P	**Pn**	**00 14 16.1**	**+1.1**
FETA	**Feichten**	**5.67**	**221**	*e*Pn	**Pn**	**00 14 20.2**	**+3.3**
FETA				*e*Sg	**Sg**	**00 15 50.7**	**-2.6**
	comp=Z,3.9nm,0.7s						
PBUR	**Paburge**	**5.73**	**34**	*e*P	**Pn**	**00 14 19.7**	**+2.1**
PBUR				IAML		00 14 49.1	
	comp=Z,8.0nm,0.6s						
DAVA	**Damuels**	**5.83**	**227**	*e*Pn	Pn	00 14 14.5	-4.7
	comp=Z,1.5nm,0.5s						
FABU	**Falkenberg**	**5.92**	**342**	*e*P	**Pn**	**00 14 21.1**	**+0.9**
EKSU	**Eksjoe**	**6.17**	**356**	P	**Pn**	**00 14 24.7**	**+1.1**
EKSU	**Eksjoe**	**6.17**	**356**	P	**Pn**	**00 14 24.7**	**+1.1**
PABE	**Paberze**	**

comp=Z,0.1nm,0.3s,baz=171,slow=29,SNR=1.6
comp=Z,1.0nm,0.5s

VSU	**Vasula**	**9.30**	**37**	*e*P	**Pn**	**00 15 08.1**	**+1.6**
ORIF	**Oris-en-Rattie**	**9.46**	**230**	*e*Pn	**Pn**	**00 15 11.7**	**+2.8**
ORIF	**Oris-en-Rattie**	**9.46**	**230**	*e*Pg	Pg	00 15 51.4	
SBF	**Sospel**	**9.59**	**221**	*e*Pn	**Pn**	**00 15 11.9**	**+1.3**
SBF	**Sospel**	**9.59**	**221**	*e*Pg	Pg	00 15 52.7	
MEF	**Metsahovi**	**9.94**	**25**	*e*P	**Pn**	**00 15 17.0**	**+1.8**
NOA	**NORSAR Array B**	**10.00**	**346**	Pn	**Pn**	**00 15 15.5**	**-0.7**
	baz=159,slow=12,SNR=4.3						
	comp=Z,0.2nm,0.5s						
BGF	**Bois d'Agland**	**10.01**	**246**	*e*Pn	**Pn**	**00 15 17.6**	**+1.3**
BGF	**Bois d'Agland**	**10.01**	**246**	*e*Sn	**Sn**	**00 17 04.8**	**-4.4**
BGF				*e*Pg	Pg	00 16 00.8	
BGF				*e*Sg		00 18 09.9	
	comp=Z,7.4nm,0.7s						
RAF	**Rauma**	**10.10**	**16**	*e*P	**Pn**	**00 15 18.2**	**+0.8**
LMR	**La Mourre**	**10.40**	**223**	*e*Pn	**Pn**	**00 15 22.4**	**+0.7**
LMR				*e*Sn	**Sn**	**00 17 11.8**	**-7.2**
	comp=Z,1.1nm,0.4s						
FINES	**FINESS Array B**	**11.42**	**25**	Pn	**Pn**	**00 15 33.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=207,slow=14,SNR=14						
FINES				Sn	Sn	00 17 33.8	-10
	comp=Z,0.1nm,0.3s,baz=213,slow=20,SNR=1.8						
	comp=Z,1.1nm,0.5s						
EKA	**Eskdalemuir Ar**	**12.16**	**296**	Pn	**Pn**	**00 15 45.3**	**-0.3**
	baz=101,slow=13						
	comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**18.69**	**10**	Pn	**P**	**00 17 07.3**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=13						
	comp=Z,0.5nm,0.4s						

VIE ***09*** *00:21:11.6±0.4, 49.˚79N×18.˚53E, h0km, mb2.6/15, ml2.6/12, ms3.2/2, Error ellipse: s-maj=4.8km s-min=2.9km az=147.0 21 km ESE of Ostrava Suspected Mining induced.*

IDC ***09*** *00:21:12.4±2.5, 49.˚90N×18.˚38E, h0km, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=40.0km s-min=10.1km az=134.0*

IPEC ***09*** *00:21:12.0±0.2, 49.˚87N×18.˚54E, h1km, ML2.5/4, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0, Mining induced.*

PRU ***09*** *00:21:12.9±0.0, 49.˚86N×18.˚43E, h0km, Mining Induced Event Csa, E=2.0e+06*

ISC 09 00:21:11.4±0.7, 49.˚90N±0.˚02×18.˚48E±0.˚02, h0km, n63, σ1ᵠ02/108, 6C-3D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**254**	*e*PG	**Pg**	**00 21 17.4**	**+1.8**
OKC				*e*SG	**Sg**	**00 21 20.1**	**+1.6**
	comp=Z,646nm,0.3s						
RAC	**Raciborz**	**0.26**	**315**	*e*PG	**Pb**	**00 21 19.2**	**+0.2**
RAC				*e*SG	**Sb**	**00 21 24.5**	**+0.5**
MORC	**Moravsky Berou**	**0.62**	**259**	⇓P	**Pg**	**00 21 24.0**	**+0.8**
MORC				⇑S	**Sg**	**00 21 32.7**	**+1.5**
MORC	**Moravsky Berou**	**0.62**	**259**	*e*Pg	**Pg**	**00 21 24.3**	**+1.1**
	baz=82						
MORC				*e*Sg	**Sg**	**00 21 32.6**	**+1.4**
	119nm,0.4s,baz=82						
MAUC	**Maruska**	**0.68**	**219**	*e*PG	**Pg**	**00 21 25.4**	**+1.0**
MAUC				*e*SG	**Sg**	**00 21 33.3**	**+0.1**
	comp=Z,183nm,0.5s						
OJC	**Ojcow**	**0.91**	**69**	*i* Pg	**Pg**	**00 21 29.0**	**+0.2**
OJC				*i* Sgd		00 21 41.7	
LANS	**Liptovska Anna**	**0.99**	**139**	*e*PG	**Pb**	**00 21 31.4**	**0.0**
LANS				*e*SG	**Sn**	**00 21 46.7**	**-0.5**
LANS				*e*LG	Lg	00 21 50.5	
KRLC	**Kraliky**	**1.11**	**280**	*e*PG	**Pg**	**00 21 32.8**	**+0.2**
KRLC				*e*SG	**Sg**	**00 21 48.2**	**+1.2**
	comp=Z,93nm,0.5s						
JAVC	**Velka Javorina**	**1.17**	**207**	*e*Pg	**Pb**	**00 21 34.6**	**+0.2**
	baz=29						
JAVC	**Velka Javorina**	**1.17**	**207**	*e*PG	**Pb**	**00 21 34.7**	**+0.3**
NIE	**Niedzica**	**1.28**	**111**	*i* Pg	**Pb**	**00 21 36.8**	**+0.5**
NIE				*e*Sg	**Sn**	**00 21 55.1**	**+0.7**
VRAC	**Vranov**	**1.36**	**245**	⇑P	**Pg**	**00 21 37.5**	**0.0**
VRAC				⇑S	**Sb**	**00 21 56.4**	**+0.7**
VRAC	**Vranov**	**1.36**	**245**	*e*Pg	**Pg**	**00 21 37.6**	**+0.1**
	baz=65						
VRAC				*e*Sg	**Sg**	**00 21 55.4**	**+0.4**
	45nm,0.4s,baz=65						
VRAC	**Vranov**	**1.36**	**245**	*e*PG	**Pg**	**00 21 37.7**	**+0.2**
VRAC				*e*SG	**Sg**	**00 21 55.5**	**+0.4**
VYHS	**Vyhne**	**1.42**	**170**	*e*PG	**Pn**	**00 21 38.5**	**0.0**
VYHS				*e*SG	**Sg**	**00 21 57.5**	**+0.4**
VYHS				*e*LG	Lg	00 21 59.5	
DPC	**Dobruska-Polom**	**1.46**	**289**	*e*PG	**Pn**	**00 21 39.6**	**+0.6**
DPC				*e*SG	**Sn**	**00 21 59.8**	**+0.9**
	comp=Z,42nm,0.6s						
KRUC	**Moravsky**	**1.60**	**239**	*e*Pg	**Pn**	**00 21 41.2**	**+0.3**
	baz=59						
KRUC				*e*Sg	**Sn**	**00 22 02.3**	**+0.1**
	36nm,0.4s,baz=59						
OSTC	**Ostas**	**1.60**	**295**	*e*PG	**Pb**	**00 21 42.0**	**+0.2**
OSTC				*e*SG	**Sb**	**00 22 03.0**	**+0.5**
	comp=Z,130nm,1.1s						
KSP	**Ksiaz**	**1.69**	**305**	*e*Pg	**Pn**	**00 21 42.9**	**+0.7**
KSP				*e*Sg	**Sg**	**00 22 07.3**	**+1.7**
UPC	**Upice**	**1.70**	**292**	*e*PG	**Pb**	**00 21 44.0**	**+0.5**
UPC				*e*SG	**Sg**	**00 22 06.9**	**+1.0**
	comp=Z,60nm,0.7s						
CHVC	**Chvalec**	**1.70**	**295**	*e*SG	**Sg**	**00 22 07.9**	**+1.8**
MODS	**Modra-Piesok**	**1.72**	**208**	*e*PG	**Pn**	**00 21 43.0**	**+0.5**
MODS				*e*SG	**Sn**	**00 22 05.4**	**+0.2**
ZST	**Bratislava**	**1.93**	**209**	*e*PG	**Pn**	**00 21 45.7**	**+0.3**
ZST				*e*SN	**Sn**	**00 22 09.1**	**-1.3**
ZST				*e*LG	Lg	00 22 11.7	
PSZ	**Piszkesteto**	**2.19**	**154**	⇑P	**Pn**	**00 21 49.4**	**+0.3**
PSZ	**Piszkesteto**	**2.19**	**154**	P	**Pn**	**00 21 49.3**	**+0.3**
GOPC	**GO Pecny, Ondr**	**2.39**	**272**	*e*PN	**Pn**	**00 21 51.5**	**-0.3**
GOPC				*e*PG	**Pb**	**00 21 54.7**	**-0.5**
CSKK	**Cskako**	**2.54**	**183**	P	**Pn**	**00 21 54.4**	**+0.6**
CSKK				S	**Sn**	**00 22 24.7**	**-0.8**
PRU	**Pruhonice**	**2.55**	**274**	*e*PG	**Pb**	**00 21 58.7**	**+0.8**
PRU				*e*SG	**Sb**	**00 22 30.6**	**+0.9**
	comp=Z,37nm,1.0s						
SOP	**Sopron**	**2.56**	**211**	P	**Pn**	**00 21 54.5**	**+0.5**
SOP				S	**Sn**	**00 22 26.6**	**+0.8**
PVCC	**Panska Ves**	**2.59**	**286**	*e*PG	**Pb**	**00 22 00.3**	**+1.6**
PVCC				*e*SG	**Sg**	**00 22 34.2**	**-0.4**
	comp=Z,35nm,0.4s						
EGYH	**Egyhazaskeszo**	**2.60**	**197**	P	**Pn**	**00 21 54.5**	**-0.1**
EGYH				S	**Sn**	**00 22 26.2**	**-0.6**
CONA	**Conrad Observa**	**2.62**	**222**	*e*Pn	**Pn**	**00 21 54.5**	**-0.6**
	1.7nm,0.3s,SNR=9.8						
CONA				*e*Sn	**Sn**	**00 22 27.1**	**-0.4**
	6.2nm,0.4s						
RONA	**Rosalia, Austr**	**2.63**	**214**	*e*Pn	**Pn**	**00 21 55.2**	**+0.1**
	6.2nm,0.3s						
RONA				*e*Sn	**Sn**	**00 22 25.2**	**-2.6**
	13nm,0.7s						
KOLS	**Kolonicke sedl**	**2.66**	**110**	*e*PKIKP	**PKiKP**	**00 22 04.2**	**+4.1**
KOLS	**Kolonicke sedl**	**2.66**	**110**	*e*PG	**Pg**	**00 22 04.2**	**+1.9**
MPLH	**Magyarpolny**	**2.80**	**193**	S	**Sn**	**00 22 32.2**	**+0.3**
CKRC	**Cesky Krumlov**	**2.93**	**250**	*e*PN	**Pn**	**00 21 59.4**	**+0.2**
CKRC				*e*PG	**Pb**	**00 22 04.9**	**+0.4**
CKRC				*e*SG	**Sg**	**00 22 44.3**	**-1.2**
	comp=Z,18nm,0.4s						
TIH	**Tihany**	**3.03**	**188**	P	**Pn**	**00 22 02.0**	**+1.5**
BRG	**Berggiesshubel**	**3.06**	**290**	Pg	**Pb**	**00 22 08.6**	**+1.9**
BRG				Sg	**Sg**	**00 22 49.3**	**-0.4**
BRG				Amp		00 22 54.6	
	comp=Z,10nm,0.5s						
KHC	**Kasperske Hory**	**3.29**	**258**	*e*PN	**Pn**	**00 22 03.3**	**-0.8**
KHC				*e*PG	**Pb**	**00 22 11.1**	**+0.6**
KHC				*e*SG	**Sg**	**00 22 56.0**	**-0.9**
	comp=Z,18nm,0.4s						
GERES	**GERESS Array B**	**3.30**	**253**	Pn	**Pn**	**00 22 04.7**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=68,slow=13,SNR=9.0						
GERES				Pg	**Pb**	**00 22 10.9**	**+0.2**
	comp=Z,3.3nm,0.3s,baz=69,slow=16,SNR=32						
GERES				Lg	Lg	00 22 52.9	
	comp=Z,2.7nm,0.3s,baz=72,slow=31,SNR=8.1						
	comp=Z,0.5nm,0.3s						
ARSA	**Arzberg**	**3.30**	**218**	*e*Pn	**Pn**	**00 22 04.7**	**+0.5**
	comp=Z,1.2nm,0.3s						
ARSA				*e*Sg	**Sg**	**00 22 57.8**	**+0.5**
	comp=Z,0.6nm,0.2s						
MOA	**Molln**	**3.46**	**235**	*e*Pn	**Pn**	**00 22 06.1**	**-0.4**
	comp=Z,0.4nm,0.2s						
MOA				*e*Sg	**Sg**	**00 23 00.4**	**-1.9**
	comp=Z,5.2nm,0.4s						
MORH	**Mrgy, Hungar**	**3.69**	**178**	⇓P	**Pn**	**00 22 09.6**	**0.0**
MORH	**Mrgy, Hungar**	**3.69**	**178**	P	**Pn**	**00 22 09.6**	**0.0**
MORH				S	**Sn**	**00 22 51.3**	**-2.4**
CLL	**Collm**	**3.76**	**294**	*e*Pn	**Pn**	**00 22 11.0**	**+0.4**
CLL				*e*Pg	**Pg**	**00 22 23.0**	**-0.5**
CLL				*e*Sg	**Sg**	**00 23 12.0**	**-0.2**
	comp=Z,14nm,0.7s						
KOVH	**Kovagotottos**	**3.82**	**184**	P	**Pn**	**00 22 11.9**	**+0.5**
BIOA	**Bad Ischl, Aus**	**3.89**	**237**	*e*Pn	**Pn**	**00 22 13.0**	**+0.6**
	comp=Z,2.1nm,0.3s						
BIOA				*e*Sg	**Sg**	**00 23 17.9**	**+1.7**
	comp=Z,6.8nm,0.4s						
SOKA	**Soboth**	**3.96**	**217**	*e*Pn	**Pn**	**00 22 12.1**	**-1.3**
	comp=Z,0.6nm,0.3s						
SOKA				*e*Sg	**Sg**	**00 23 21.8**	**+3.2**
	comp=Z,1.1nm,0.5s						
DRGR		**4.20**	**136**	⇑P	**Pn**	**00 22 17.3**	**+0.6**
SIRR	**Siria**	**4.21**	**148**	⇓P	**Pn**	**00 22 17.4**	**+0.5**
OBKA	**Obir**	**4.29**	**219**	*e*Pn	**Pn**	**00 22 18.5**	**+0.5**
	comp=Z,1.1nm,0.3s						
OBKA				*e*Sg	**Sg**	**00 23 28.8**	**-0.4**
	comp=Z,1.9nm,0.7s						
BZS	**Buzias**	**4.78**	**153**	⇑P	**Pn**	**00 22 24.4**	**-0.2**
ABTA	**Abfaltersbach**	**5.08**	**234**	*e*Pn	**Pn**	**00 22 29.8**	**+1.1**
	comp=Z,1.1nm,0.4s						
ABTA				*e*Sg	**Sg**	**00 23 56.2**	**+1.8**
	comp=Z,4.5nm,0.7s						
WATA	**Walderalm**	**5.25**	**243**	*e*Sg	**Sg**	**00 24 00.2**	**+0.4**
	comp=Z,4.9nm,0.3s						
WTTA	**Wattenberg**	**5.25**	**242**	*e*Pn	**Pn**	**00 22 29.8**	**-1.4**
	comp=Z,1.1nm,0.3s						
WTTA				Sg	**Sg**	**00 23 59.7**	**-0.3**
	comp=Z,3.9nm,0.4s						
MOTA	**Moosalm**	**5.52**	**245**	*e*Pn	**Pn**	**00 22 35.2**	**+0.3**
	comp=Z,0.4nm,0.3s						
MOTA				*e*Sg	**Sg**	**00 24 10.3**	**+1.7**
	comp=Z,5.1nm,0.6s						
SQTA	**Sankt Quirin**	**5.52**	**244**	*e*Pn	**Pn**	**00 22 35.4**	**+0.5**
	comp=Z,0.8nm,0.4s						
SQTA				*e*Sg	**Sg**	**00 24 10.0**	**+1.4**
	comp=Z,5.7nm,0.4s						
RETA	**Reutte**	**5.65**	**248**	*e*Pn	**Pn**	**00 22 36.8**	**+0.2**
	comp=Z,0.3nm,0.3s						
RETA				*e*Sg	**Sg**	**00 24 10.8**	**-2.0**
	comp=Z,2.7nm,0.5s						
FETA	**Feichten**	**5.90**	**244**	*e*Sg	**Sg**	**00 24 21.3**	**+0.3**
	comp=Z,0.4nm,0.4s						
NOA	**NORAR Array B**	**11.89**	**343**	Pn	**Pn**	**00 23 59.0**	**-3.1**
	baz=162,slow=12,SNR=1.4						
	comp=Z,0.5nm,0.8s						
FINES	**FINESS Array B**	**12.33**	**17**	Pn	Pn	00 24 03.0	-4.9
	comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=7.7						
FINES				Sn	Sn	00 26 14.0	-12
	baz=202,slow=18,SNR=1.2						
	comp=Z,1.2nm,0.9s						
ARCES	**ARCESS Array B**	**19.99**	**7**	P	**P**	**00 25 44.4**	**-0.6**
	baz=192,slow=12,SNR=1.2						
	comp=Z,0.6nm,0.6s						

ANF ***09*** *00:21:33.6±0.9, 36.˚40N×97.˚28W, h9km±6km, ML3.5/13, Error ellipse: s-maj=4.0km s-min=3.3km az=3.0*

NEIC ***09*** *00:21:33.4±1.1, 36.˚38N±0.˚01×97.˚32W±0.˚01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.8km az=51.0*

TUL ***09*** *00:21:33.2±1.0, 36.˚40N±0.˚01×97.˚30W±0.˚01, h7km±6km, ML3.0, mb_Lg3.0/88(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=188.0*

ISC 09 00:21:33.4±1.0, 36.˚40N±0.˚02×97.˚31W±0.˚02, h5km±9km, n111, σ0ᵠ78/91, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.30**	**87**	Pg	**Pg**	**00 21 39.2**	**0.0**
OK048				Sg	**Sg**	**00 21 43.2**	**0.0**
OK045	**Pawnee Station**	**0.32**	**81**	Pg	**Pg**	**00 21 39.6**	**0.0**
OK045				Sg	**Sg**	**00 21 43.9**	**+0.1**
OK046	**Pawnee Station**	**0.33**	**90**	Pg	**Pg**	**00 21 39.8**	**0.0**
OK046				Sg	**Sg**	**00 21 44.1**	**0.0**
BLOK	**Blackwell**	**0.37**	**12**	Pg	**Pg**	**00 21 40.7**	**+0.2**
BLOK				Sg	**Sb**	**00 21 47.7**	**-0.9**
OK044	**Pawnee Station**	**0.42**	**93**	Pg	**Pg**	**00 21 41.4**	**-0.1**
OK044				Sg	**Sg**	**00 21 46.9**	**-0.1**
OK033	**Mehan**	**0.47**	**139**	Pg	**Pg**	**00 21 42.2**	**-0.1**
OK033				Sg	**Sg**	**00 21 48.7**	**+0.2**
OK047	**Pawnee, Statio**	**0.48**	**82**		**Pg**	**00 21 42.6**	**-0.1**
OK047				Sg	**Sg**	**00 21 48.7**	**-0.2**
QUOK	**Quay**	**0.54**	**115**	Pg	**Pg**	**00 21 43.7**	**-0.1**
QUOK				Sg	**Sg**	**00 21 50.5**	**-0.3**
CROK	**Carrier**	**0.55**	**281**	Pg	**Pg**	**00 21 44.2**	**+0.2**
CROK				Sg	**Sg**	**00 21 52.1**	**+0.9**
OK031	**S. Brethren Rd**	**0.59**	**139**		**Pg**	**00 21 44.5**	**-0.2**
OK031				Sg	**Sg**	**00 21 52.3**	**0.0**
OK029	**Liberty Lake**	**0.61**	**191**	Pg	**Pg**	**00 21 45.0**	**-0.1**
OK029				Sg	**Sg**	**00 21 53.3**	**+0.2**
OK034	**N. Norfolk Rd.**	**0.62**	**128**	Pg	**Pg**	**00 21 45.0**	**-0.4**
OK034				Sg	**Sg**	**00 21 53.3**	**-0.1**
KAN13	**South Haven SW**	**0.63**	**348**	Pg	**Pg**	**00 21 45.6**	**+0.1**
GC02	**Grant County #**	**0.63**	**316**		**Pg**	**00 21 45.6**	**+0.1**
OK030	**Cody Creek RV**	**0.64**	**138**	Pg	**Pg**	**00 21 45.4**	**-0.2**
OK030				Sg	**Sg**	**00 21 53.9**	**0.0**
KAN17	**Caldwell West**	**0.74**	**331**	Pg	**Pg**	**00 21 47.6**	**0.0**
OK005	**Luther M Schoo**	**0.75**	**172**	Pg	**Pg**	**00 21 47.6**	**-0.2**
KAN14	**Manchester OK**	**0.76**	**317**	Pg	**Pg**	**00 21 48.0**	**0.0**
KAN09	**Caldwell North**	**0.78**	**342**	Pg	**Pg**	**00 21 48.2**	**-0.1**
BCOK	**Bluff Creek, N**	**0.78**	**198**	Pg	**Pg**	**00 21 48.0**	**-0.3**
OK025	**Westminster Rd**	**0.82**	**181**	Pg	**Pg**	**00 21 48.7**	**-0.4**
OK009	**Oakdale Elemen**	**0.82**	**186**	Pg	**Pg**	**00 21 48.6**	**-0.6**
T35A	**Sooner Cattle**	**0.83**	**51**		**Pg**	**00 21 49.0**	**-0.2**
T35B	**Sooner Cattle**	**0.83**	**51**	P	**Pg**	**00 21 48.9**	**-0.4**
	baz=231,SNR=74						
T35B				S	**Sg**	**00 21 59.8**	**-0.2**
	baz=231						
OK032	**Salt Plains WL**	**0.83**	**299**		**Pg**	**00 21 49.1**	**-0.1**
KAN01	**Argonia South**	**0.83**	**335**		**Pg**	**00 21 49.2**	**-0.2**
KAN05	**Bluff City Nor**	**0.84**	**328**		**Pg**	**00 21 49.1**	**-0.4**
KS20	**Mayfield South**	**0.85**	**347**		**Pg**	**00 21 49.7**	**-0.1**
DEOK	**Depew**	**0.86**	**130**	Pg	**Pg**	**00 21 49.6**	**-0.4**
KS21	**Milan North St**	**0.93**	**343**		**Pg**	**00 21 51.1**	**-0.1**
KAN06	**Argonia West S**	**0.95**	**333**	Pg	**Pg**	**00 21 51.5**	**-0.2**
KAN10	**Anthony SW Sta**	**0.96**	**319**		**Pg**	**00 21 51.6**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**1.00**	**186**	Pg	**Pg**	**00 21 52.1**	**-0.4**
KAN16	**Harper SW Stat**	**1.02**	**324**		**Pg**	**00 21 52.9**	**-0.1**
OK011	**Prague**	**1.04**	**151**	Pn	**Pg**	**00 21 53.8**	**-0.2**
KAN12	**Harper NE Stat**	**1.05**	**329**		**Pg**	**00 21 53.5**	**0.0**
OK038	**West end E0370**	**1.16**	**274**		**Pg**	**00 21 54.9**	**-0.6**
OK035	**E0210 Rd and N**	**1.17**	**286**	Pn	**Pg**	**00 21 55.2**	**-0.6**
TUL1	**Leonard**	**1.32**	**111**	Pn	**Pn**	**00 21 57.9**	**-0.7**
TUL1	**Leonard**	**1.32**	**111**	P	**Pn**	**00 21 57.5**	**-1.2**
	baz=292						
TUL1				S	**Sb**	**00 22 15.2**	**-0.8**
	baz=292						
CSTR	**Hydro, Custer**	**1.34**	**236**		**Pn**	**00 21 58.2**	**-0.7**
U32A	**Winter Ranch,**	**1.36**	**270**	Pn	**Pn**	**00 21 58.5**	**-0.6**
U32A	**Winter Ranch,**	**1.36**	**270**	P	**Pn**	**00 21 58.6**	**-0.6**
	baz=89,SNR=14						
U32A				S	**Sg**	**00 22 17.7**	**+0.5**
	baz=89						
ELIS	**Ellis County**	**1.73**	**260**		**Pn**	**00 22 04.8**	**+0.5**
X34A	**Smith Ranch, M**	**1.84**	**193**		**Pb**	**00 22 06.7**	**-1.0**
X34A				IAmb_Lg		00 22 35.7	
	comp=Z,123nm,0.7s						
RLO	**Rose Lookout**	**1.87**	**97**		**Pn**	**00 22 06.4**	**+0.3**
WMOK	**Wichita Mounta**	**2.04**	**216**		**Pn**	**00 22 09.0**	**+0.5**
WMOK				IAmb_Lg		00 22 41.4	
	comp=Z,60nm,0.8s						
WMOK	**Wichita Mounta**	**2.04**	**216**	P	**Pn**	**00 22 08.8**	**+0.3**
	baz=36						
WMOK				S	**Sb**	**00 22 36.5**	**-0.3**
	baz=36						
R32A	**Long Quarter,**	**2.31**	**332**		**Pn**	**00 22 12.7**	**+0.6**
R32A	**Long Quarter,**	**2.31**	**332**	P	**Pn**	**00 22 13.2**	**+1.0**
	baz=151						
R32A				S	**Sn**	**00 22 42.2**	**+1.3**
	baz=151						
U38A	**Gravette**	**2.36**	**88**		**Pn**	**00 22 13.4**	**+0.6**
U38A	**Gravette**	**2.36**	**88**	Sb	**Sb**	**00 22 46.2**	**+0.2**
	baz=270						
X37A	**Clayton**	**2.40**	**138**		**Pn**	**00 22 13.9**	**+0.4**
X37A	**Clayton**	**2.40**	**138**	P	**Pn**	**00 22 13.8**	**+0.4**
	baz=320						
LOOK	**Love County**	**2.40**	**177**	Pn	**Pn**	**00 22 13.6**	**+0.1**
LOOK				IAmb_Lg		00 22 54.2	
	comp=Z,24nm,0.8s						

HHAR	**Hobbs**	**2.73**	**91**		**Pn**	**00 22 19.1**	**+1.2**
KSU1	**Kansas State U**	**2.75**	**11**		**Pb**	**00 22 20.7**	**-2.4**
Z35A	**Perchaven, San**	**3.06**	**179**		**Pn**	**00 22 22.5**	**0.0**
CBKS	**Cedar Bluff**	**3.08**	**322**		**Pn**	**00 22 21.7**	**-1.2**
CBKS	**Cedar Bluff**	**3.08**	**322**	Sb	**Sb**	**00 23 07.7**	**+0.9**
	baz=141						
S39A	**Bolivar**	**3.44**	**67**		**Pb**	**00 22 36.8**	**+1.8**
S39A				IAmb_Lg		00 23 21.6	
	comp=Z,35nm,0.7s						
S39A	**Bolivar**	**3.44**	**67**	P	**Pn**	**00 22 28.6**	**+0.9**
	baz=249						
MIAR	**Mount Ida**	**3.57**	**120**		**Pn**	**00 22 29.6**	**+0.1**
MIAR				IAmb_Lg		00 23 28.0	
	comp=Z,27nm,0.8s						
MIAR	**Mount Ida**	**3.57**	**120**	P	**Pn**	**00 22 30.4**	**+1.0**
	baz=302						
Z38A	**Mt. Pleasant**	**3.67**	**148**	Pn	**Pn**	**00 22 31.4**	**+0.6**
Z38A				IAmb_Lg		00 23 39.5	
	comp=Z,40nm,0.8s						
AMTX	**Amarillo**	**3.87**	**248**		**Pn**	**00 22 34.0**	**+0.4**
AMTX	**Amarillo**	**3.87**	**248**	P	**Pn**	**00 22 34.4**	**+0.8**
	baz=66,SNR=6.1						
MGMO	**Mountain Grove**	**4.12**	**78**		**Pn**	**00 22 38.0**	**+0.9**
MGMO				IAmb_Lg		00 23 41.8	
	comp=Z,26nm,0.8s						
WHAR	**Wooly Hollow**	**4.23**	**104**	IAmb_Lg		00 23 49.0	
	comp=Z,54nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.23**	**95**	IAmb_Lg		00 23 54.3	
	comp=Z,24nm,0.8s						
N33A	**J Bar K, Exete**	**4.33**	**359**	IAmb_Lg		00 23 53.7	
	comp=Z,32nm,0.8s						
UALR	**University of**	**4.36**	**110**	IAmb_Lg		00 24 01.0	
	comp=Z,23nm,0.8s						
WLAR	**White Oak Lake**	**4.38**	**127**	IAmb_Lg		00 24 00.7	
	comp=Z,26nm,0.7s						
WHTX	**Lake Whitney,**	**4.40**	**182**	Sb	**Sb**	**00 23 48.4**	**+3.9**
	baz=1.7						
R40A	**Maddies Statio**	**4.44**	**63**	IAmb_Lg		00 23 57.4	
	comp=Z,27nm,0.8s						
237A	**Washetta, Mont**	**4.56**	**164**	IAmb_Lg		00 23 57.9	
	comp=Z,28nm,1.3s						
237A	**Washetta, Mont**	**4.56**	**164**	S	**Sn**	**00 23 36.2**	**-0.3**
	baz=345						
LCAR	**Lake Charles**	**4.99**	**92**	IAmb_Lg		00 24 07.5	
	comp=Z,20nm,0.9s						
BGNE	**Belgrade**	**5.04**	**353**	IAmb_Lg		00 24 27.7	
	comp=Z,48nm,0.9s						
CCM	**Cathedral Cave**	**5.12**	**69**	IAmb_Lg		00 24 14.4	
	comp=Z,35nm,0.8s						
NATX	**Nacogdoches**	**5.12**	**154**	IAmb_Lg		00 24 27.8	
	comp=Z,23nm,0.9s						
CCAR	**Cane Creek**	**5.17**	**117**	IAmb_Lg		00 24 19.8	
	comp=Z,21nm,0.8s						
P40A	**Paris**	**5.20**	**52**	IAmb_Lg		00 24 16.8	
	comp=Z,30nm,0.8s						
N38A	**Joes South For**	**5.43**	**35**	IAmb_Lg		00 24 28.4	
	comp=Z,42nm,0.7s						
435B	**Jarrell**	**5.61**	**182**	IAmb_Lg		00 24 44.2	
	comp=Z,15nm,0.7s						
435B	**Jarrell**	**5.61**	**182**	S	**Sn**	**00 24 01.4**	**-0.9**
	baz=2.4						
FVM	**French Village**	**5.72**	**72**	IAmb_Lg		00 24 39.9	
	comp=Z,21nm,0.7s						
FVM	**French Village**	**5.72**	**72**	S	**Sn**	**00 24 03.0**	**-2.2**
	baz=256						
T25A	**Trinidad**	**5.75**	**279**	IAmb_Lg		00 24 38.4	
	comp=Z,22nm,0.8s						
OGNE	**Ogallala**	**5.85**	**322**	IAmb_Lg		00 24 51.0	
	comp=Z,25nm,0.8s						
CGM3	**Cape Girardeau**	**6.20**	**79**	IAmb_Lg		00 24 46.3	
	comp=Z,21nm,0.8s						
JCT	**Junction City**	**6.26**	**200**	IAmb_Lg		00 25 02.1	
	comp=Z,21nm,0.8s						
K31A	**O'Neill**	**6.31**	**350**	IAmb_Lg		00 25 05.9	
	comp

MDJ Mudanjiang 3.36 7 Pg **Pn** **00 30 54.8 +0.3**
MDJ Sg **Sn** **00 31 36.0 +0.9**
MDJ smax smax
comp=N,9μm,0.7s
MDJ smax smax
comp=E,10μm,0.8s
MDJ Mudanjiang 3.36 7 P **Pn** **00 30 54.8 +0.3**
USA0B Ussuriysk Arra 3.63 36 Pn **Pn** **00 30 57.3 -1.0**
USA0B Ussuriysk Arra 3.63 36 *c iP* **Pn** **00 30 57.3 -1.0**
USRK Ussuriysk Ar. 3.63 36 Pn **Pn** **00 30 57.3 -1.0**
comp=E,270nm,0.3s,baz=215,slow=12,SNR=177.1
USRK Pg **Pb** **00 31 05.0 -0.9**
comp=E,568nm,0.3s,baz=205,slow=19,SNR=36
USRK Lg Lg 00 31 54.5
comp=E,180nm,0.3s,baz=192,slow=27,SNR=5.7
comp=E,764nm,0.4s
CN2 Changchun 3.66 315 Pn **Pn** **00 30 58.6 -0.1**
CN2 Pg **Pb** **00 31 07.9 +1.6**
CN2 Sg **Sg** **00 31 59.1 +0.7**
CN2 smax smax
comp=N,3μm,0.6s
CN2 smax smax
comp=E,2μm,0.6s
KS19 Wonju Array Si 3.88 194 **Pn** **00 31 02.9 +1.1**
KSRS Korea Array 3.92 193 Pn **Pn** **00 31 02.8 +0.6**
comp=E,375nm,0.3s,baz=12,slow=13,SNR=970
KSRS Sn **Sn** **00 31 51.4 +2.4**
comp=E,112nm,0.3s,baz=14,slow=24,SNR=10
KSRS Lg Lg 00 32 09.2
comp=E,60nm,0.3s,baz=17,slow=32,SNR=3.0
KSAR Wonju Array Be 3.94 194 Pn **Pn** **00 31 02.8 +0.3**
KSAR Wonju Array Be 3.94 194 P **Pn** **00 31 02.8 +0.3**
SNY Shenyang 4.14 279 ⇑Pn **Pn** **00 31 05.2 0.0**
SNY Pg **Pb** **00 31 16.4 +1.9**
SNY Sn **Sn** **00 31 53.2 -1.1**
SNY Sg **Sg** **00 32 12.6 -1.1**
SNY smax smax
comp=N,2μm,0.7s
SNY smax smax
comp=E,2μm,0.6s
INCN Inchon 4.23 207 Pn **Pn** **00 31 07.2 +0.7**
INCN Inchon 4.23 207 P **Pn** **00 31 07.2 +0.7**
INCN Inchon 4.23 207 P **Pn** **00 31 07.5 +1.0**
KSCHJ Chungju 4.48 191 **Pn** **00 31 10.7 +0.7**
BNX BinXian 4.61 346 ⇑P **Pn** **00 31 11.3 -0.4**
BNX smax smax
comp=N,330nm,0.7s
BNX smax smax
comp=E,690nm,0.8s
TJN Taejon 5.07 196 Pn **Pn** **00 31 18.6 +0.5**
TJN Taejon 5.07 196 *ce*P **Pn** **00 31 18.8 +0.8**
TJN Taejon 5.07 196 P **Pn** **00 31 18.8 +0.8**
NAWB Namwon 5.99 193 Pn **Pn** **00 31 31.6 +0.8**
KSBUS Busan 6.03 179 Pn **Pn** **00 31 32.0 +0.9**
DL2 Dalian 6.16 250 ⇑Pn **Pn** **00 31 33.6 +0.6**
DL2 Pg **Pg** **00 31 56.7 -2.1**
DL2 Sg **Sg** **00 33 15.6 -3.1**
DL2 smax smax
comp=N,2μm,0.8s
DL2 smax smax
comp=E,1μm,0.6s
DL2 LR LR
comp=N,8μm,4.6s
DL2 LR LR
comp=E,5μm,4.2s
DL2 LR LR
comp=Z,8μm,6.0s
TEY Ternei 6.68 53 ⇓*e*P **Pn** **00 31 40.1 0.0**
TEY pmax pmax
comp=N,110nm,0.4s
TEY pmax pmax
comp=E,230nm,0.4s
TEY pmax pmax
comp=Z,230nm,0.4s
JTU Tsushima 6.75 178 **Pn** **00 31 41.9 +0.8**
JHS Saijyo 7.05 152 **Pn** **00 31 43.9 -1.3**
JSD Sado 7.81 112 **Pn** **00 31 54.9 -0.8**
KLR Kul'dur 8.17 13 Pn **Pn** **00 32 01.4 +0.7**
comp=Z,224nm,0.5s,baz=189,slow=13,SNR=662
KLR Lg Lg 00 34 14.1
comp=Z,2.9nm,0.3s,baz=218,slow=12,SNR=3.8
JMN Monobe 8.46 151 **Pn** **00 32 05.4 +0.7**
MAJO Matsushiro 8.57 121 Pn **Pn** **00 32 06.6 +0.5**
MAJO Matsushiro 8.57 121 P **Pn** **00 32 06.6 +0.5**
MAJO Matsushiro 8.57 121 P **Pn** **00 32 06.8 +0.7**
MJAR Matsushiro Arr 8.57 121 Pn **Pn** **00 32 06.2 +0.1**
comp=Z,2.5nm,0.3s,baz=303,slow=12,SNR=34
MJAR LR LR 00 35 00.9
comp=Z,1μm,21.2s,baz=330,slow=35
comp=Z,17nm,0.3s
INU Inuyama 8.62 131 **Pn** **00 32 07.6 +0.9**
INU **Sn** **00 33 44.4 -0.4**
INU Inuyama 8.62 131 P **Pn** **00 32 07.7 +0.9**
JGF Kuroka 8.64 128 **Pn** **00 32 07.0 -0.2**
JTM Tenmabayashi 9.10 89 **Pn** **00 32 12.8 -0.6**
JEW Eniwo 9.36 76 **Pn** **00 32 18.0 +1.1**
JMM Marumori 9.69 107 **Pn** **00 32 22.3 +0.8**
JSU Suzuyama 9.82 173 **Pn** **00 32 23.6 +0.2**
BJI Beijing 9.86 267 P **Pn** **00 32 24.8 +1.1**
BJI pmax pmax
comp=Z,50nm,0.6s
BJI LR LR
comp=N,490nm,8.0s
BJI LR LR
comp=E,3μm,11.4s
BJI LR LR
comp=Z,4μm,11.4s
BJT Baijiatuau 9.87 267 Pn **Pn** **00 32 24.5 +0.6**
BJT Baijiatuau 9.87 267 P **Pn** **00 32 24.5 +0.6**
XLT XiLinHaoTe 9.91 290 *e*P **Pn** **00 32 25.6 +1.0**
XLT S **Sn** **00 34 18.9 +2.4**
XLT SS **SnSn** **00 34 28.6 +0.6**
XLT pmax pmax
comp=Z,66nm,0.8s
XLT LR LR
comp=N,170nm,6.4s
XLT LR LR
comp=E,6μm,6.7s
XLT LR LR
comp=Z,5μm,7.6s
JYT Yasato 10.06 116 **Pn** **00 32 27.4 +0.8**
HIA Hailar 10.32 324 Pn **Pn** **00 32 29.6 -0.5**
HIA Hailar 10.32 324 P **Pn** **00 32 29.6 -0.5**
ASAJ Asahikawa 10.37 70 Pn **Pn** **00 32 31.6 +0.8**
baz=225,slow=16,SNR=4.2
ERM Erimo 10.59 81 Pn **Pn** **00 32 34.8 +1.0**
ERM Erimo 10.59 81 P **Pn** **00 32 34.8 +1.0**
GRNR Gornyy 10.78 26 ⇑*i*P **Pn** **00 32 36.3 0.0**
GRNR *e*S **Sn** **00 34 40.4 +2.8**
GRNR pmax pmax
comp=N,10.0nm,0.3s
GRNR pmax pmax
comp=E,10.0nm,0.3s
GRNR pmax pmax
comp=Z,30nm,0.3s
GRNR smax smax
comp=N,10.0nm,0.5s
GRNR MLR MLR
comp=E,550nm,13.0s
GRNR MLR MLR
comp=N,1μm,10.0s
GRNR MLR MLR
comp=Z,2μm,10.0s
YSS Yuzh-Sakhalins 11.36 55 **Pn** **00 32 45.0 +0.7**
YSS Yuzh-Sakhalins 11.36 55 *e*P **Pn** **00 32 46.6 +2.3**
YSS *e*S **Sn** **00 34 55.0 +3.1**
YSS pmax pmax
comp=Z,300nm,2.5s
YSS pmax pmax
comp=Z,70nm,0.5s
YSS MLR MLR
comp=Z,2μm,8.0s
YSS MLR MLR
comp=E,1μm,9.0s
YSS Yuzh-Sakhalins 11.36 55 P **Pn** **00 32 46.6 +2.3**
HNS HongShan 11.76 255 ⇑P **Pn** **00 32 50.8 +1.1**
HNS S **Sn** **00 35 02.2 +0.6**
HNS pmax pmax
comp=Z,59nm,0.5s
HNS LR LR
comp=N,1μm,12.4s
HNS LR LR
comp=E,2μm,13.2s
HNS LR LR
comp=Z,3μm,12.6s

JHJ Hachijo jima 2 11.81 130 Pn **Pn** **00 32 51.0 +0.5**
comp=Z,7.3nm,0.3s,baz=290,slow=16,SNR=1.4
JHJ LR LR 00 37 12.8
comp=Z,841nm,18.6s,baz=95,slow=36
comp=Z,79nm,0.7s
JHJ2 Mitsune 11.84 130 Pn **Pn** **00 32 51.1 +0.3**
SSE Sheshan 11.98 214 P **Pn** **00 32 51.7 -1.1**
SSE S **Sn** **00 35 06.2 -0.9**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,27nm,3.9s
SSE LR LR
comp=N,480nm,13.6s
SSE LR LR
comp=E,430nm,13.6s
UGL Uglegorsk 12.04 45 *e*P **Pn** **00 32 57.4 +3.9**
UGL pmax pmax
comp=Z,120nm,1.2s
UGL MLR MLR
comp=E,2μm,17.0s
UGL MLR MLR
comp=N,2μm,13.0s
UGL MLR MLR
comp=Z,2μm,14.0s
NJ2 Nanjing 12.31 225 ⇓P **Pn** **00 33 01.2 +3.9**
NJ2 S **Sn** **00 35 14.9 -0.3**
NJ2 pmax pmax
comp=Z,46nm,0.8s
NJ2 LR LR
comp=N,2μm,11.4s
NJ2 LR LR
comp=E,2μm,11.4s
NJ2 LR LR
comp=Z,2μm,12.0s
ZEA Zeya 12.52 355 *e*P **Pn** **00 33 01.3 +1.2**
ZEA *e*S **Sn** **00 35 17.3 -2.9**
ZEA pmax pmax
comp=E,30nm,0.5s
ZEA pmax pmax
comp=N,20nm,0.4s
ZEA pmax pmax
comp=Z,70nm,0.6s
ZEA MLR MLR
comp=N,2μm,9.0s
ZEA MLR MLR
comp=E,800nm,9.0s
ZEA MLR MLR
comp=Z,2μm,8.0s
HHC Hu-ho-hao-te 13.20 274 ⇓P **Pn** **00 33 14.1 +4.5**
HHC S **Sn** **00 35 44.4 +7.3**
HHC SS **S** **00 35 59.4 -3.0**
HHC pmax pmax
comp=Z,290nm,5.5s
HHC LR LR
comp=N,1μm,6.7s
HHC LR LR
comp=E,6μm,8.0s
HHC LR LR
comp=Z,6μm,7.9s
BTO Baotou 14.40 274 *e*P **Pn** **00 33 29.2 +3.3**
BTO S S 00 36 16.6 -10
BTO LR LR
comp=N,6μm,7.4s
BTO LR LR
comp=E,11μm,7.4s
JOW Kunigami 14.43 183 LR LR 00 38 53.7
comp=E,370nm,19.9s,baz=324,slow=37
JOW Kunigami 14.43 183 **P** **00 33 31.6 -1.8**
LYN LuoYang 14.70 248 ⇑*i*P **Pn** **00 33 30.8 +0.9**
LYN S **Sn** **00 36 16.5 +3.0**
LYN pmax pmax
comp=Z,20nm,0.4s
LYN pmax pmax
comp=Z,300nm,5.3s
LYN LR LR
comp=N,740nm,10.6s
LYN LR LR
comp=E,2μm,10.4s
LYN LR LR
comp=Z,2μm,11.0s
CIT Chita 15.08 321 *e*P **Pn** **00 33 37.6 +2.5**
CIT *e* 00 36 33.6
CIT pmax pmax
comp=Z,122nm,1.9s
WHN Wuhan 15.99 233 P **P** **00 33 50.6 -0.1**
WHN S **S** **00 36 52.7 -6.6**
WHN LR LR
comp=N,2μm,7.0s
WHN LR LR
comp=E,2μm,9.5s
WHN LR LR
comp=Z,4μm,7.9s
ULN Ulaanbaatar 16.96 300 **Pn** **00 33 59.2 -0.4**
ULN Ulaanbaatar 16.96 300 *ce*P **Pn** **00 34 00.5 +0.9**
ULN pmax pmax
comp=Z,27nm,1.0s
SONM Songino Array 17.39 300 P **Pn** **00 34 05.5 +0.6**
comp=Z,1.2nm,0.3s,baz=108,slow=12,SNR=51
SONM PcP **PcP** **00 38 46.6 -0.1**
comp=Z,3.6nm,0.7s,baz=172,slow=2.8,SNR=6.4
SONM Lg Lg 00 39 09.1
comp=Z,0.2nm,0.3s,baz=107,slow=32,SNR=3.3
SONM LR LR 00 41 19.8
comp=Z,1μm,18.2s,baz=72,slow=39
comp=Z,11nm,0.7s
SONM Songino Array 17.39 300 **Pn** **00 34 05.0 +0.2**
XAN Xi'an 17.48 252 ⇑P **P** **00 34 08.8 +1.6**
XAN PP **PnPn** **00 34 24.6 +8.6**
XAN S **S** **00 37 28.6 -1.1**
XAN pmax pmax
comp=Z,17nm,0.5s
XAN pmax pmax
comp=Z,86nm,3.5s
XAN LR LR
comp=N,570nm,13.2s
XAN LR LR
comp=E,1μm,13.1s
XAN LR LR
comp=Z,2μm,15.3s
YOJ Yonaguni jima 17.51 199 **P** **00 34 09.9 +2.3**
YOJ Yonaguni jima 17.51 199 P **P** **00 34 09.9 +2.3**
YOJ pmax pmax
comp=Z,160nm,1.2s
YHNB Yeheng 17.76 203 P **P** **00 34 13.2 +2.8**
YHNB IAmb IAmb 00 34 16.3
comp=Z,239nm,1.3s
YHNB Yeheng 17.76 203 P **P** **00 34 11.7 +1.3**
JCJ Chichijima 17.81 139 LR LR 00 40 15.2
comp=Z,353nm,19.3s,baz=12,slow=34
NACB Ninganchiao 18.16 202 **Pn** **00 34 14.2 -0.2**
CNSH ChangSha 18.57 230 ⇓P **Pn** **00 34 20.8 +1.5**
CNSH S **S** **00 37 54.7 +3.0**
CNSH pmax pmax
comp=Z,170nm,1.1s
CNSH LR LR
comp=N,1μm,13.5s
CNSH LR LR
comp=E,1μm,11.8s
CNSH LR LR
comp=Z,2μm,12.0s
SSLB Suanglung 18.71 204 **Pn** **00 34 22.2 +1.0**
SSLB Suanglung 18.71 204 P **Pn** **00 34 22.2 +1.0**
KNMB Chin-men Tao 18.98 211 P **P** **00 34 22.9 -0.9**
YULB Yu-li 18.99 202 **Pn** **00 34 25.2 +0.7**
BOD Bodaibo 19.14 335 *e*P **Pn** **00 34 26.4 +0.3**
BOD pmax pmax
comp=Z,70nm,1.0s
ENH Enshi 19.26 241 **Pn** **00 34 29.3 +1.6**
TPUB Ta-pu 19.27 204 P **Pn** **00 34 27.6 -0.3**
TPUB Ta-pu 19.27 204 P **Pn** **00 34 29.3 +1.4**
ZAK Zakamensk 20.04 306 *e*P Pn 00 34 36.6 -0.5
ZAK pmax pmax
comp=Z,25nm,1.5s
IRK Irkutsk 20.10 311 *e*P Pn 00 34 37.7 +0.1
IRK pmax pmax
comp=Z,89nm,1.8s
YAK Yakutsk 20.78 1 P **P** **00 34 43.2 +0.1**
comp=Z,161nm,0.6s,baz=179,slow=1.8,SNR=32
YAK S **S** **00 38 37.2 +1.5**
comp=Z,12nm,0.4s,baz=118,slow=2.6,SNR=2.6
YAK Lg Lg 00 40 47.8
comp=Z,0.3nm,0.3s,baz=107,slow=1.8,SNR=1.6
YAK LR LR 00 43 21.1
comp=Z,252nm,20.2s,baz=264,slow=38
comp=Z,161nm,0.6s

YAK Yakutsk 20.78 1 P **P** **00 34 42.9 -0.2**
YAK Yakutsk 20.78 1 *e*P **P** **00 34 43.3 +0.1**
YAK *e**PP Pn 00 34 46.7 +1.2
YAK *e* 00 35 02.1
YAK *e*S Sn 00 38 38.2 -2.2
YAK *e**SS **PcP** **00 38 52.7 +0.6**
YAK *e*SS **SnSn** **00 39 07.4 +12**
YAK pmax pmax
comp=Z,84nm,0.9s
YAK pmax pmax
comp=N,46nm,1.0s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,31nm,0.6s
YAK smax smax
comp=E,90nm,2.0s
YAK smax smax
comp=N,176nm,2.3s
YAK MLR MLR
comp=Z,759nm,13.0s
YAK MLR MLR
comp=N,402nm,12.0s
YAK MLR MLR
comp=E,74nm,15.0s
SKR Severo-Kuril's 20.93 54 *ce*P **P** **00 34 44.9 +0.1**
MOY Mondy 21.80 308 *e*P **P** **00 34 56.2 +1.8**
MOY pmax pmax
comp=Z,20nm,1.2s
GULI GuiLin 22.25 230 ⇓P **P** **00 34 58.4 -0.8**
GULI S **S** **00 38 59.9 -5.0**
GULI pmax pmax
comp=Z,80nm,1.2s
GULI LR LR
comp=N,540nm,10.8s
GULI LR LR
comp=E,900nm,10.8s
GULI LR LR
comp=Z,1μm,12.3s
GTA Gaotai 22.31 275 ⇑P **P** **00 35 02.0 +2.0**
GTA pP 00 35 06.9
GTA S **S** **00 38 59.1 -7.2**
GTA pmax pmax
comp=Z,52nm,0.9s
GTA pmax pmax
comp=Z,200nm,5.5s
GTA LR LR
comp=N,610nm,14.5s
GTA LR LR
comp=E,1μm,14.2s
GTA LR LR
comp=Z,2μm,13.1s
PEA0B Petropavlovsk- 22.62 49 P **P** **00 35 03.4 +0.4**
PEA0B Petropavlovsk- 22.62 49 *ce*P **P** **00 35 03.1 +0.1**
PETK Petropavlovsk- 22.62 49 P **P** **00 35 03.0 0.0**
comp=Z,8.1nm,0.7s,baz=218,slow=7.0,SNR=12
PETK PcP **PcP** **00 38 56.0 +0.1**
comp=Z,2.4nm,0.6s,baz=46,slow=6.4,SNR=5.1
PETK LR LR 00 43 33.4
comp=Z,230nm,20.3s,baz=252,slow=36
comp=Z,8.1nm,0.7s
MA2 Magadan 22.77 29 P **P** **00 35 03.8 -0.7**
comp=Z,46nm,0.6s,baz=217,slow=11,SNR=29
MA2 LR LR 00 44 55.8
comp=Z,415nm,18.2s,baz=242,slow=39
comp=Z,46nm,0.6s
MA2 Magadan 22.77 29 P **P** **00 35 04.2 -0.3**
MA2 IAmb IAmb 00 35 05.8
comp=Z,52nm,0.6s
MA2 Magadan 22.77 29 *ce*P **P** **00 35 03.7 -0.8**
MA2 pmax pmax
comp=Z,38nm,0.5s
MA2 Magadan 22.77 29 P **P** **00 35 05.3 +0.8**
CD2 Chengdu 22.83 251 P **P** **00 35 05.9 +0.5**
CD2 S **S** **00 39 13.8 -2.1**
CD2 pmax pmax
comp=Z,110nm,0.8s
CD2 LR LR
comp=N,90μm,10.4s
CD2 LR LR
comp=E,65μm,10.9s
CD2 LR LR
comp=Z,1μm,11.8s
CD2 Chengdu 22.83 251 P **P** **00 35 06.0 +0.5**
CD2 S **S** **00 39 13.5 -2.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=N,920nm,10.2s
CD2 LR LR
comp=E,740nm,11.0s
CD2 LR LR
comp=Z,1μm,11.4s
PET Petropavlovsk 23.13 49 P **P** **00 35 08.1 -0.3**
PET Petropavlovsk 23.13 49 *e*P **P** **00 35 06.9 -1.4**
PET *e*S **S** **00 39 11.4 -9.2**
PET pmax pmax
comp=Z,36nm,1.0s
PET MLR MLR
comp=Z,400nm,14.0s
PET Petropavlovsk 23.13 49 P **P** **00 35 10.5 +2.2**
comp=Z,101nm,1.1s
GYA Guiyang 23.65 238 ⇓*i*P **P** **00 35 14.4 +0.4**
GYA S **S** **00 39 25.2 -4.6**
GYA pmax pmax
comp=Z,75nm,1.0s
GYA LR LR
comp=N,1μm,10.0s
GYA LR LR
comp=E,770nm,9.7s
GYA LR LR
comp=Z,2μm,9.7s
KNGR Kungurtug, Tuv 23.66 304 ⇓*i*P **P** **00 35 15.3 +1.4**
KNGR pmax pmax
comp=Z,40nm,1.0s
SEY Seymchan 25.71 25 P **P** **00 35 32.4 0.0**
comp=Z,16nm,0.5s,baz=206,slow=7.0,SNR=44
comp=Z,16nm,0.5s
SEY Seymchan 25.71 25 *ce*P **P** **00 35 31.9 -0.5**
SEY pmax pmax
comp=Z,19nm,0.6s
PZH PanZhiHua 26.89 245 P **P** **00 35 43.8 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.6s
GOMU GeErMu 27.07 270 ⇑*e*P **P** **00 35 46.1 +0.7**
GOMU S **S** **00 40 26.0 +1.5**
GOMU pmax pmax
comp=Z,19nm,0.9s
GOMU pmax pmax
comp=Z,56nm,5.2s
GOMU LR LR
comp=N,320nm,10.4s
GOMU LR LR
comp=E,500nm,11.8s
GOMU LR LR
comp=Z,590nm,12.8s
KMI Kunming 27.13 242 ⇑P **P** **00 35 45.9 0.0**
KMI pmax pmax
comp=Z,38μm,3.5s
KMI LR LR
comp=N,600nm,12.4s
KMI LR LR
comp=E,320nm,9.6s
KMI LR LR
comp=Z,700nm,14.9s
QIZ Qiongzhong 27.58 222 P **P** **00 35 50.9 +1.2**
QIZ S **S** **00 40 30.8 -1.3**
QIZ LR LR
comp=N,570nm,11.8s
QIZ LR LR
comp=E,510nm,7.8s
QIZ LR LR
comp=Z,770nm,14.7s
DGZ Jazzator, Alta 30.03 301 ⇑*i*P **P** **00 36 13.4 +2.0**
DGZ pmax pmax
comp=Z,11nm,0.8s
WMQ Urumqi 30.34 289 *e*P P 00 36 19.4 +5.3
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ LR LR
comp=N,500nm,15.1s
WMQ LR LR
comp=E,800nm,12.1s
WMQ LR LR

comp=Z,310nm,14.1s
TIXI Tiksi 30.44 360 P **P** **00 36 14.3 -0.3**
comp=Z,48nm,0.5s,baz=87,slow=22,SNR=31
comp=Z,48nm,0.5s
TIXI Tiksi 30.44 360 P **P** **00 36 14.0 -0.6**
TIXI Tiksi 30.44 360 *ce*P **P** **00 36 14.0 -0.6**
TIXI pmax pmax
comp=Z,58nm,0.7s
GUMO Guam 30.85 149 LR LR 00 46 49.8
comp=Z,167nm,21.5s,baz=100,slow=33
GUMO Guam 30.85 149 P **P** **00 36 21.5 +2.8**
ZSN Zaisan 31.84 296 *i* P **P** **00 36 28.5 +1.3**
ZSN Zaisan 31.84 296 *i* P **P** **00 36 28.5 +1.3**
baz=296
ZAA0 Zalesovo Array 31.85 309 P **P** **00 36 28.1 +0.9**
ZALV Zalesovo Beam 31.85 309 P **P** **00 36 27.8 +0.5**
comp=Z,7.5nm,0.6s,baz=99,slow=8.7,SNR=40
ZALV PcP **PcP** **00 39 17.2 -0.7**
comp=Z,14nm,0.8s,baz=78,slow=1.0,SNR=22
ZALV LR LR 00 50 04.4
comp=Z,820nm,18.3s,baz=72,slow=38
comp=Z,7.5nm,0.6s
ZALV Zalesovo Beam 31.85 309 P **P** **00 36 28.1 +0.9**
ZALV Zalesovo Beam 31.85 309 *i* P **P** **00 36 28.0 +0.8**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
CRAI Chiangrai 32.12 238 P **P** **00 36 30.0 +0.1**
CRAI PcP **PcP** **00 39 19.1 -0.2**
SHEM Shemya Is, Ala 32.27 54 LR LR 00 48 31.5
comp=Z,84nm,20.5s,baz=326,slow=34
SMY Shemya 32.27 54 P **P** **00 36 31.5 +0.6**
SMY Shemya 32.27 54 P **P** **00 36 31.5 +0.6**
SMY pmax pmax
comp=Z,181nm,1.5s
UBPT Khong Chiam 32.99 225 P **P** **00 36 37.1 -0.4**
BILL Bilibino 33.41 24 *ce*P **P** **00 36 40.9 +0.2**
BILL *e* 00 37 56.3
BILL *e*SS SS 00 44 31.5 +5.4
BILL pmax pmax
comp=Z,31nm,0.8s
BILL MLR MLR
comp=Z,305nm,16.0s
PHRA Phrae 33.49 236 P **P** **00 36 42.4 +0.4**
MK31 Makanchi Array 33.66 295 P **P** **00 36 43.9 +0.7**
MK31 Makanchi Array 33.66 295 *i* P **P** **00 36 43.9 +0.7**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 33.66 295 P **P** **00 36 44.0 +0.8**
comp=Z,10.0nm,0.6s,baz=90,slow=9.5,SNR=64
MKAR PcP **PcP** **00 39 22.2 -0.9**
comp=Z,2.5nm,0.6s,baz=59,slow=2.0,SNR=8.0
MKAR LR LR 00 51 24.6
comp=Z,422nm,21.0s,baz=60,slow=38
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 33.66 295 P **P** **00 36 44.1 +0.9**
MAKZ Makanchi 33.87 296 P **P** **00 36 45.8 +0.8**
MAKZ Makanchi 33.87 296 P **P** **00 36 45.8 +0.8**
MAKZ pmax pmax
comp=Z,12nm,0.7s
MAKZ MLR MLR
comp=Z,500nm,20.0s
CHTO Chiang Mai 34.07 238 P **P** **00 36 47.5 +0.5**
CHTO Chiang Mai 34.07 238 P **P** **00 36 47.5 +0.5**
CHTO pmax pmax
comp=Z,2.0nm,0.8s
CHTO MLR MLR
comp=Z,400nm,19.0s
CHTO Chiang Mai 34.07 238 P **P** **00 36 47.2 +0.2**
DAV Davao City (W) 34.21 186 LR LR 00 50 59.8
comp=Z,162nm,20.3s,baz=14,slow=37
CM31 Chiang Mai Arr 34.34 238 P **P** **00 36 49.1 -0.2**
CM31 IAmb IAmb 00 36 50.6
comp=Z,34nm,0.8s
CMAR Chiang Mai Arr 34.34 238 P **P** **00 36 49.5 +0.3**
comp=Z,21nm,0.8s,baz=29,slow=8.8,SNR=101
CMAR PcP **PcP** **00 39 25.6 +0.2**
comp=Z,2.0nm,0.5s,baz=34,slow=2.3,SNR=5.5
CMAR LR LR 00 52 06.4
comp=Z,204nm,19.4s,baz=45,slow=39
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 34.34 238 P **P** **00 36 49.4 +0.1**
CMAR Chiang Mai Arr 34.34 238 *i* P **P** **00 36 49.5 +0.3**
CMAR pmax pmax
comp=Z,25nm,0.8s
SHL Shillong 34.45 255 P **P** **00 36 49.3 -1.1**
SHL Shillong 34.45 255 P **P** **00 36 49.3 -1.1**
SHL pmax pmax
comp=Z,12nm,0.7s
NRIK Noril'sk 35.43 336 P **P** **00 36 57.6 -0.5**
comp=Z,8.0nm,0.6s,baz=109,slow=11,SNR=19
NRIK PcP **PcP** **00 39 27.5 -0.2**
comp=Z,2.2nm,0.4s,baz=132,slow=3.7,SNR=4.4
NRIK LR LR 00 53 07.6
comp=Z,296nm,18.6s,baz=146,slow=39
comp=Z,8.0nm,0.6s
NRIK Noril'sk 35.43 336 P **P** **00 36 57.4 -0.8**
NRIK Noril'sk 35.43 336 *ce*P **P** **00 36 57.4 -0.8**
NRIK pmax pmax
comp=Z,6.0nm,0.6s
AMKA Amchitka 35.50 56 P **P** **00 36 58.6 -0.3**
KURK Kurchatov 35.65 303 P **P** **00 37 00.5 +0.2**
KURK IAmb IAmb 00 37 01.9
comp=Z,28nm,0.8s
KURK Kurchatov 35.65 303 IAMs_20 IAMs_20 00 52 12.3
comp=Z,1μm,18.0s
KURK Kurchatov 35.65 303 *ce*P **P** **00 37 01.0 +0.7**
KURK pmax pmax
comp=Z,33nm,0.9s
KURBB Kurchatov Arra 35.71 303 P **P** **00 37 01.4 +0.6**
comp=Z,18nm,0.8s,baz=87,slow=9.2,SNR=131
KURBB PcP **PcP** **00 39 28.1 -0.8**
comp=Z,6.0nm,0.6s,baz=90,slow=3.2,SNR=18
KURBB LR LR 00 52 27.6
comp=Z,946nm,19.2s,baz=72,slow=38
comp=Z,18nm,0.8s
KURBB Kurchatov Arra 35.71 303 P **P** **00 37 01.1 +0.3**
PDGK Podgornoye 36.27 290 P **P** **00 37 05.5 -0.4**
SHLS Shalkode 36.34 290 *e*P **P** **00 37 04.1 -2.3**
SHLS Shalkode 36.34 290 *e*P **P** **00 37 04.1 -2.3**
baz=290
BRDH Bariadhala 36.40 251 PcP **PcP** **00 39 31.8 +0.4**
comp=Z,104nm,0.4s,baz=6.6,slow=19,SNR=1.8
TAPN Taplejung 36.51 261 *e*P **P** **00 37 07.7 -0.5**
TAPN Taplejung 36.51 261 *e*P **P** **00 37 07.8 -0.5**
TDK Taldyqorghan 36.65 293 *e*P **P** **00 37 09.8 +0.9**
TDK pmax pmax
comp=Z,16nm,0.6s
TDK Taldyqorghan 36.65 293 *e*P **P** **00 37 09.8 +0.9**
comp=Z,16nm,0.6s,baz=293
UZB Uzynbulak 36.65 290 *e*P **P** **00 37 09.3 +0.1**
UZB Uzynbulak 36.65 290 *e*P **P** **00 37 09.3 +0.1**
baz=290
KPKS Kokpek 36.81 291 *e*P **P** **00 37 10.9 +0.5**
KPKS Kokpek 36.81 291 *e*P **P** **00 37 10.9 +0.5**
baz=291
ODAN Odare 37.02 260 *e*P **P** **00 37 11.4 -1.1**
SATY Saty 37.11 290 *e*P **P** **00 37 13.3 +0.3**
SATY Saty 37.11 290 *e*P **P** **00 37 13.4 +0.3**
baz=290
JIRN Jiri 37.48 263 *e*P **P** **00 37 16.6 0.0**
comp=Z,29nm,0.6s
RAMN Ramite 37.56 261 *e*P **P** **00 37 16.2 -0.9**
comp=Z,17nm,0.6s
RAMN Ramite 37.56 261 *e*P **P** **00 37 16.1 -1.0**
SGSI Sangihe 37.56 186 P **P** **00 37 17.4 +0.5**
comp=Z,7μmcomp=Z,78nm,0.6s
GUN Gumba 37.58 263 *e*P **P** **00 37 17.1 -0.3**
comp=Z,21nm,0.5s
GUN Gumba 37.58 263 *e*P **P** **00 37 17.2 -0.2**
comp=Z,21nm,0.5s
KIWB Kanaga Island 37.66 55 P **P** **00 37 16.8 -0.7**
ANVS Anan'yevo 37.71 290 P **P** **00 37 19.3 +1.1**
CHKK Chushkaly 37.91 292 *e*P **P** **00 37 20.1 +0.5**
CHKK Chushkaly 37.91 292 *e*P **P** **00 37 20.1 +0.5**
baz=292
TARG Taragay, Kyrgy 37.91 288 P **P** **00 37 21.5 +1.4**
TARG Taragay, Kyrgy 37.91 288 P **P** **00 37 21.5 +1.4**
TARG pmax pmax
comp=Z,12nm,0.7s
ADK Adak 37.95 55 P **P** **00 37 18.9 -0.9**
ADK Adak 37.95 55 P **P** **00 37 18.9 -0.9**
ADK pmax pmax
comp=Z,24nm,1.0s
MDOK Medeo 38.04 291 *i* P **P** **00 37 22.1 +1.2**
MDOK Medeo 38.04 291 *i* P **P** **00 37 22.1 +1.2**
baz=291

KKN Kakani 38.09 263 *e*P **P** **00 37 20.8 -0.8**
PKI Pulchoki 38.11 263 *e*P **P** **00 37 21.3 -0.6**
comp=Z,16nm,0.5s
PKI Pulchoki 38.11 263 *e*P **P** **00 37 21.4 -0.5**
comp=Z,16nm,0.5s
PKIN Phulchoki 38.12 263 *e*P **P** **00 37 21.4 -0.5**
AAA Alma-Ata 38.12 291 *e*P **P** **00 37 22.7 +1.2**
AAA pmax pmax
comp=Z,14nm,0.6s
AAA Alma-Ata 38.12 291 *e*P **P** **00 37 22.8 +1.2**
comp=Z,14nm,0.6s,baz=291
KUU Kurty 38.35 292 *e*P **P** **00 37 23.6 +0.2**
KUU Kurty 38.35 292 *e*P **P** **00 37 23.6 +0.2**
baz=292
GKN Gorkha 38.46 264 *e*P **P** **00 37 23.9 -0.7**
comp=Z,17nm,0.5s
GKN Gorkha 38.46 264 *e*P **P** **00 37 23.9 -0.7**
comp=Z,28nm,0.7s
DANN Dangsing 38.94 265 *e*P **P** **00 37 28.5 -0.3**
comp=Z,38nm,0.5s
BOOM Boomskoye usch 39.01 290 P **P** **00 37 30.0 +0.9**
BOOM Boomskoye usch 39.01 290 P **P** **00 37 30.0 +0.9**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 39.13 291 P **P** **00 37 31.5 +1.3**
SNR=28
TKM2 Tokmak 2 39.13 291 *i* P **P** **00 37 31.2 +1.0**
TKM2 pmax pmax
comp=Z,14nm,0.7s
NRN Naryn 39.28 288 P **P** **00 37 33.1 +1.5**
NRN PcP **PcP** **00 39 39.8 -0.7**
NRN Naryn 39.28 288 P **P** **00 37 31.7 +0.1**
NRN PKP **PcP** **00 39 40.9 +0.4**
KOLN Koldanda 39.36 265 *e*P **P** **00 37 31.9 -0.3**
BRZS Berezniki 39.52 302 *c* *i* P **P** **00 37 33.8 +0.7**
BRZS Berezniki 39.52 302 ⇑ *i* P **P** **00 37 33.8 +0.7**
baz=302
BTLS Baital 39.64 294 *c* *i* P **P** **00 37 34.5 +0.4**
BTLS Baital 39.64 294 ⇑ *i* P **P** **00 37 34.6 +0.4**
baz=294
PYUN Piuthan 39.64 266 *e*P **P** **00 37 34.4 -0.2**
comp=Z,78nm,1.0s
SGDS Sogindy 39.66 292 *e*P **P** **00 37 34.7 +0.3**
SGDS Sogindy 39.66 292 *e*P **P** **00 37 34.8 +0.3**
baz=292
KBK Karagaybulak 39.67 291 P **P** **00 37 36.3 +1.7**
SNR=15
CHMS Chumysh 39.70 291 *i* P **P** **00 37 35.6 +0.8**
CHMS pmax pmax
comp=Z,9.0nm,0.8s
USP Ospenovka 39.80 292 P **P** **00 37 36.5 +0.9**
SNR=9.7
KSH Kashi 39.93 286 P **P** **00 37 40.7 +3.9**
KSH PcP **PcP** **00 39 44.2 +1.9**
KSH pmax pmax
comp=Z,5.0nm,1.0s
KSH LR LR
comp=N,440nm,13.4s
KSH LR LR
comp=E,560nm,12.0s
KSH LR LR
comp=Z,670nm,13.4s
AAK Ala-Archa 39.99 291 P **P** **00 37 38.3 +1.0**
SNR=11
AAK Ala-Archa 39.99 291 P **P** **00 37 38.4 +1.0**
comp=Z,15nm,0.7s,baz=120,slow=5.4,SNR=33
AAK LR LR 00 55 46.4
comp=Z,639nm,18.0s,baz=64,slow=39
comp=Z,15nm,0.7s
AAK Ala-Archa 39.99 291 P **P** **00 37 37.7 +0.4**
AAK Ala-Archa 39.99 291 IAMs_20 IAMs_20 00 55 35.4
comp=Z,618nm,19.0s
AAK Ala-Archa 39.99 291 *ce*P **P** **00 37 38.0 +0.7**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 39.99 291 *i* P **P** **00 37 38.3 +1.0**
SNR=14
OTUK Ortayu 40.06 300 P **P** **00 37 38.3 +0.7**
UCH Uchtor 40.10 290 P **P** **00 37 40.2 +1.7**
SNR=10
ARLS Aral 40.35 290 P **P** **00 37 41.8 +1.5**
TNTI Ternate 40.35 183 P **P** **00 37 40.5 +0.2**
TNTI IAmb IAmb 00 37 41.7
comp=Z,46nm,0.7s
TNTI Ternate 40.35 183 P **P** **00 37 39.5 -0.8**
comp=Z,36nm,0.6s
BVAR Borovoye Array 40.48 307 P **P** **00 37 41.7 +0.7**
comp=Z,5.3nm,0.6s,baz=86,slow=8.8,SNR=60
BVAR PcP **PcP** **00 39 42.7 -0.9**
comp=Z,6.4nm,0.7s,baz=90,slow=3.0,SNR=13
BVAR LR LR 00 55 31.4
comp=Z,602nm,18.6s,baz=51,slow=38
comp=Z,5.3nm,0.6s
EKS2 Erkin-Say 40.49 291 P **P** **00 37 42.2 +0.8**
SNR=11
BRVK Borovoye 40.54 307 P **P** **00 37 41.7 +0.2**
BRVK Borovoye 40.54 307 IAMs_20 IAMs_20 00 55 37.6
comp=Z,420nm,18.0s
BRVK Borovoye 40.54 307 *c* *i* P **P** **00 37 42.1 +0.6**
BRVK pmax pmax
comp=Z,11nm,0.8s
TOLI2 Tolitoli 40.68 193 P **P** **00 37 43.5 +0.5**
TOLI2 Tolitoli 40.68 193 P **P** **00 37 44.0 +1.0**
AML Almayashu 40.71 290 P **P** **00 37 44.9 +1.4**
SNR=12
GTOI Gorontalo 40.83 189 P **P** **00 37 43.3 -0.9**
comp=Z,4.3nm,1.1s
MRSI Marisa 41.12 191 P **P** **00 37 46.4 -0.2**
comp=Z,2μmcomp=Z,48nm,0.8s
SPIA Saint Paul Isl 41.23 46 P **P** **00 37 47.0 -0.1**
SPIA IAmb IAmb 00 37 51.8
comp=Z,92nm,1.0s
SBUM Sibu 41.53 206 P **P** **00 37 50.9 +0.9**
SBUM IAmb IAmb 00 37 52.3
comp=Z,40nm,0.8s
MPSI Mapaga 41.59 194 P **P** **00 37 49.8 -0.7**
comp=Z,2μmcomp=Z,8.0nm,1.2s
SRIT Nakonsritamara 41.70 227 P **P** **00 37 51.5 +0.1**
SRIT IAmb IAmb 00 37 53.1
comp=Z,37nm,0.6s
LBMI Labuha 41.75 182 P **P** **00 37 51.6 -0.2**
comp=Z,2μmcomp=Z,36nm,0.7s
SWI Songa 42.00 177 P **P** **00 37 54.0 +0.2**
comp=Z,14nm,0.9s
SIJI Sorong 42.00 177 P **P** **00 37 53.4 -0.5**
comp=Z,4.1nm,0.3s,baz=287,slow=19,SNR=4.5
SIJI PcP **PcP** **00 39 49.0 -0.1**
comp=Z,5.8nm,0.2s,baz=3.6,slow=7.3,SNR=4.3
SIJI LR LR 00 53 22.9
comp=Z,162nm,20.4s,baz=35,slow=33
comp=Z,4.1nm,0.3s
ARK Arkit 42.04 290 P **P** **00 37 55.8 +1.7**
TNA Tin City 42.28 33 P **P** **00 37 55.5 -0.1**
TNA IAmb IAmb 00 37 57.6
comp=Z,43nm,0.7s
TNA Tin City 42.28 33 P **P** **00 37 56.0 +0.4**
baz=267,SNR=11
APSI Ampana 42.53 191 P **P** **00 37 57.8 -0.3**
comp=Z,25nm,1.1s
KK31 Karatay Array 42.64 293 P **P** **00 37 59.2 +0.3**
KK31 Karatay Array 42.64 293 *i* P **P** **00 37 59.4 +0.5**
KKAR Karatay Array 42.64 293 P **P** **00 37 58.5 -0.4**
KKAR Karatay Array 42.64 293 P **P** **00 37 59.1 +0.3**
KKAR IAmb IAmb 00 38 01.1
comp=Z,9.1nm,1.0s
KKAR Karatay Array 42.64 293 P **P** **00 37 58.5 -0.4**
KKAR 00 37 59.1
TRKS Terek-Say 42.71 290 P **P** **00 38 00.4 +0.8**
BAKI Biak 42.76 170 P **P** **00 38 00.8 +0.8**
comp=Z,32nm,0.9s
PATS Pohnpei 43.07 135 P **P** **00 38 01.9 -0.6**
PATS IAmb IAmb 00 38 04.8
comp=Z,43nm,0.7s
SANI Sanana 43.22 184 P **P** **00 38 03.2 -0.5**
comp=Z,806nmcomp=Z,71nm,0.8s
SANI Sanana 43.22 184 P **P** **00 38 04.6 +0.9**
IUG Iuzhnay 43.28 292 *c* *i* P **P** **00 38 05.1 +0.9**
IUG Iuzhnay 43.28 292 ⇑ *i* P **P** **00 38 05.2 +1.0**
baz=292
ANM Nome 43.34 35 P **P** **00 38 04.8 +0.6**
ANM Nome 43.34 35 P **P** **00 38 04.8 +0.6**
ANM pmax pmax
comp=Z,23nm,0.8s
ANM Nome 43.34 35 P **P** **00 38 05.2 +1.0**
baz=270
BTK Batken 43.45 288 P **P** **00 38 05.9 +0.3**

BTK Batken 43.45 288 P **P** **00 38 05.9 +0.3**
BTK pmax pmax
comp=Z,15nm,1.1s
KULM Kulim 43.91 223 P **P** **00 38 10.2 +0.8**
KULM IAmb IAmb 00 38 11.2
comp=Z,48nm,1.0s
SMPI Sarmi 43.96 166 P **P** **00 38 09.6 -0.1**
comp=Z,19nm,1.3s
FAKI Fak Fak 44.09 175 P **P** **00 38 11.3 +0.6**
FAKI IAmb IAmb 00 38 13.0
comp=Z,42nm,1.1s
FAKI Fak Fak 44.09 175 P **P** **00 38 11.1 +0.4**
comp=Z,36nm,1.1s
GAR Garm 44.21 287 P **P** **00 38 11.8 +0.1**
NIL Nilore 44.28 279 P **P** **00 38 12.6 +0.4**
NIL Nilore 44.28 279 P **P** **00 38 12.6 +0.4**
NIL pmax pmax
comp=Z,15nm,0.6s
NLAI Namlea 44.34 183 P **P** **00 38 12.9 +0.1**
comp=Z,2μmcomp=Z,28nm,1.2s
IPM Ipoh 44.41 222 P **P** **00 38 12.8 -0.6**
MSAI Masohi 44.42 180 P **P** **00 38 13.8 +0.5**
comp=Z,1μmcomp=Z,25nm,0.7s
AAI Ambon 44.76 181 P **P** **00 38 17.2 +1.1**
comp=Z,114nm,0.9s
GENI Genyem 44.83 164 P **P** **00 38 16.5 -0.1**
comp=Z,30nm,0.9s
CHGR Chuyangaron 45.17 287 P **P** **00 38 19.5 +0.1**
CHGR Chuyangaron 45.17 287 P **P** **00 38 19.5 +0.1**
CHGR pmax pmax
comp=Z,99nm,0.6s
BNDI Bandanaira 45.59 179 P **P** **00 38 23.6 +0.9**
comp=Z,238nm,0.6s
SPSI Sidrap Palu 45.82 193 P **P** **00 38 24.2 -0.3**
comp=Z,3μmcomp=Z,24nm,0.6s
MANU Manus Island 46.23 154 P **P** **00 38 28.8 +1.0**
MANU IAmb IAmb 00 38 29.7
comp=Z,38nm,0.8s
ARU Arti 46.66 314 P **P** **00 38 31.3 +0.6**
comp=Z,20nm,0.6s,baz=81,slow=5.2,SNR=57
ARU PcP **PcP** **00 40 03.2 -1.2**
comp=Z,5.1nm,0.7s,baz=152,slow=7.2,SNR=2.5
comp=Z,20nm,0.6s
ARU Arti 46.66 314 P **P** **00 38 31.0 +0.3**
ARU IAmb IAmb 00 38 31.9
comp=Z,23nm,0.7s
N16K Nishlik Lake 46.75 40 P **P** **00 38 32.1 +0.6**
baz=280,SNR=6.2
SDPT Sand Point 46.89 48 P **P** **00 38 31.6 -1.0**
SDPT Sand Point 46.89 48 P **P** **00 38 32.3 -0.3**
baz=283
KCSI Kotacane, Aceh 46.92 225 P **P** **00 38 31.8 -1.4**
comp=Z,1μmcomp=Z,21nm,1.0s
BBSI Bau Bau 46.92 189 P **P** **00 38 33.3 +0.1**
comp=Z,5.5nm,1.1s
PSI Prapat 46.92 223 P **P** **00 38 33.5 +0.2**
comp=Z,30nm,1.0s,baz=360,slow=5.6,SNR=15
PSI LR LR 00 59 33.4
comp=Z,210nm,18.7s,baz=22,slow=38
comp=Z,30nm,1.0s
PSI Prapat 46.92 223 P **P** **00 38 33.7 +0.3**
GCSA Galena City Sc 46.97 34 P **P** **00 38 33.0 0.0**
baz=278
KBL Kabul 47.00 282 P **P** **00 38 34.6 +0.6**
KBL Kabul 47.00 282 P **P** **00 38 34.6 +0.6**
KBL pmax pmax
comp=Z,9.0nm,0.7s
RPSI Rantau Prapat 47.01 223 P **P** **00 38 33.3 -0.6**
RPSI IAmb IAmb 00 38 34.4
comp=Z,22nm,0.8s
DSRI Dabo 47.12 214 P **P** **00 38 34.6 -0.1**
comp=Z,2μmcomp=Z,7.1nm,0.5s
O16K Kokwok River B 47.25 41 P **P** **00 38 36.2 +1.0**
baz=281,SNR=6.9
P16K Nushagak River 47.41 42 P **P** **00 38 37.6 +1.1**
baz=282
CHNA Chernabura Isl 47.51 48 P **P** **00 38 37.4 0.0**
baz=284
CNBA Chernabura Isl 47.52 48 P **P** **00 38 37.3 -0.1**
CNBA IAmb IAmb 00 38 38.9
comp=Z,23nm,0.6s
TTA Tatalina 47.62 37 P **P** **00 38 38.5 +0.3**
TTA Tatalina 47.62 37 P **P** **00 38 38.6 +0.3**
TTA pmax pmax
comp=Z,7.0nm,1.0s
TTA Tatalina 47.62 37 P **P** **00 38 38.5 +0.3**
baz=280,SNR=5.2
O17K Koliganek Bris 47.71 41 P **P** **00 38 39.8 +1.0**
baz=282,SNR=16
AB31 Akbulak array 47.73 304 *i* P **P** **00 38 40.0 +0.8**
ABKAR Akbulak array 47.73 304 P **P** **00 38 39.8 +0.6**
ABKAR IAmb IAmb 00 38 40.9
comp=Z,28nm,0.9s
ABKAR Akbulak array 47.73 304 P **P** **00 38 39.6 +0.4**
BSSI Bau Bau, Buton 47.84 192 P **P** **00 38 39.9 -0.4**
comp=Z,585nmcomp=Z,19nm,1.4s
BKNI Bangkinang 48.00 219 P **P** **00 38 41.8 +0.2**
BKNI Bangkinang 48.00 219 P **P** **00 38 40.9 -0.7**
comp=Z,36nm,1.0s
PPBI Pangkal Pinang 48.00 212 P **P** **00 38 41.3 -0.3**
SBSI Sibolga 48.00 223 P **P** **00 38 39.0 -2.7**
comp=Z,2μmcomp=Z,13nm,0.7s
F21K Alatna River 48.01 31 P **P** **00 38 41.3 +0.2**
baz=278,SNR=20
IMAR Indian Mountai 48.09 32 P **P** **00 38 42.1 +0.4**
G21K Allakaket 48.10 32 P **P** **00 38 42.5 +0.6**
baz=279,SNR=52
N18K Kilae Creek 48.11 40 P **P** **00 38 43.0 +1.0**
N18K IAmb IAmb 00 38 44.2
comp=Z,20nm,0.7s
N18K Kilae Creek 48.11 40 P **P** **00 38 43.2 +1.2**
baz=282,SNR=18
P17K Kvichak River 48.16 42 P **P** **00 38 43.1 +0.7**
baz=283,SNR=6.5
SVW2 Sparrevohn 48.17 39 P **P** **00 38 43.3 +0.8**
SVW2 IAmb IAmb 00 38 44.5
comp=Z,15nm,0.7s
J20K Nowinta River 48.23 35 P **P** **00 38 43.6 +0.8**
J20K Nowinta River 48.23 35 P **P** **00 38 43.6 +0.8**
baz=280,SNR=48
L19K White Mountain 48.29 38 P **P** **00 38 43.0 -0.4**
L19K IAMs_20 IAMs_20 01 01 29.9
comp=Z,285nm,18.0s
L19K White Mountain 48.29 38 P **P** **00 38 44.0 +0.6**
baz=282,SNR=7.0
MNSI Mandailing Nat 48.30 221 P **P** **00 38 43.5 -0.5**
comp=Z,11nm,0.5s
K20K Telida 48.41 36 P **P** **00 38 45.1 +0.9**
K20K IAmb IAmb 00 38 46.2
comp=Z,20nm,0.7s
K20K Telida 48.41 36 P **P** **00 38 45.2 +0.9**
baz=281,SNR=26
F22K John River 48.46 30 P **P** **00 38 45.4 +0.8**
baz=279
E22K Anaktuvuk Pass 48.50 29 P **P** **00 38 45.4 +0.4**
baz=279
H21K Melozitna Rive 48.52 33 P **P** **00 38 45.5 +0.3**
H21K IAmb IAmb 00 38 46.5
comp=Z,18nm,0.8s
H21K Melozitna Rive 48.52 33 P **P** **00 38 45.6 +0.4**
baz=280,SNR=35
AKTO Aktyubinsk 48.55 306 P **P** **00 38 46.1 +0.6**
comp=Z,10nm,0.7s,baz=76,slow=7.2,SNR=24
AKTO LR LR 01 00 37.6
comp=Z,265nm,18.9s,baz=23,slow=38
comp=Z,10nm,0.7s
R17K Ugashik Creek 48.55 44 P **P** **00 38 46.5 +1.1**
baz=284
M19K Big River Lodg 48.56 38 P **P** **00 38 46.3 +0.8**
M19K Big River Lodg 48.56 38 P **P** **00 38 46.5 +1.0**
baz=282,SNR=8.6
O18K Koktuh Hills 48.62 41 P **P** **00 38 46.8 +0.8**
O18K Koktuh Hills 48.62 41 P **P** **00 38 47.0 +1.0**
baz=283
L20K Farewell, AK 48.67 37 P **P** **00 38 47.2 +0.8**
baz=282,SNR=20
C23K Itkillik River 48.67 27 P **P** **00 38 46.6 +0.4**
baz=278,SNR=6.8
P18K Big Mountain, 48.72 41 P **P** **00 38 47.3 +0.6**
P18K IAmb IAmb 00 38 49.4
comp=Z,14nm,0.6s
P18K Big Mountain, 48.72 41 P **P** **00 38 47.5 +0.7**
baz=284
N19K Bonanza Creek 48.75 39 P **P** **00 38 47.6 +0.6**
N19K Bonanza Creek 48.75 39 P **P** **00 38 48.1 +1.0**
baz=283,SNR=7.4
D23K Nanushuk River 48.78 28 P **P** **00 38 47.7 +0.6**

baz=279,SNR=8.7
G22K Bettles 48.82 31 P P 00 38 47.5 +0.2
baz=280
GSI Gunungsitoli 48.89 224 P P 00 38 48.4 -0.1
GSI Gunungsitoli 48.89 224 P P 00 38 48.3 -0.2
comp=Z,87nm,1.2s
GSI Gunungsitoli 48.89 224 P P 00 38 49.9 +1.4
comp=Z,86nm,1.2s
SDSI Sungai Dareh 48.92 218 P P 00 38 48.6 -0.1
comp=Z,24nm,1.2s
I21K Tanana 48.95 33 P P 00 38 49.1 +0.7
I21K Tanana 48.95 33 P P 00 38 49.3 +0.9
baz=281
H22K Ishtalitna Cre 49.06 32 P P 00 38 50.1 +0.8
baz=281,SNR=51
SAUI Saumlaki 49.07 177 P P 00 38 48.3 -1.5
comp=Z,10µmcomp=Z,302nm,0.9s
CHUM Lake Minchumin 49.07 35 P P 00 38 50.4 +1.1
baz=282
M20K Styx River 49.15 38 P P 00 38 51.1 +1.1
M20K IAmb IAmb 00 38 52.4
comp=Z,18nm,0.7s
M20K Styx River 49.15 38 P P 00 38 51.3 +1.2
baz=283
TOLK Toolik Lake Re 49.24 29 P P 00 38 51.0 +0.4
TOLK IAmb IAmb 00 38 51.7
comp=Z,13nm,0.7s
TOLK PcP PcP 00 40 14.7 +1.1
TOLK Toolik Lake Re 49.24 29 P P 00 38 50.8 +0.2
baz=280,SNR=7.5
COLD Coldfoot 49.27 30 P P 00 38 51.2 +0.3
COLD IAmb IAmb 00 38 53.4
comp=Z,13nm,0.6s
COLD PcP PcP 00 40 14.9 +1.2
COLD Coldfoot 49.27 30 P P 00 38 51.1 +0.3
baz=281,SNR=13
CAST Castle Rocks 49.27 36 P P 00 38 51.8 +0.9
CAST IAmb IAmb 00 38 52.7
comp=Z,25nm,0.6s
CAST PcP PcP 00 40 15.9 +2.2
CAST Castle Rocks 49.27 36 P P 00 38 51.6 +0.6
baz=283,SNR=48
PPLA Purkeypile 49.34 36 P P 00 38 52.8 +1.1
PPLA PcP PcP 00 40 14.3 +0.1
PPLA Purkeypile 49.34 36 P P 00 38 52.7 +1.1
baz=283,SNR=9.3
C24K Franklin Bluff 49.35 27 P P 00 38 51.6 +0.2
baz=280,SNR=11
PDSI Padang 49.36 219 P P 00 38 51.5 -0.6
comp=Z,5µmcomp=Z,15nm,0.7s
D24K Happy Valley 49.41 28 P P 00 38 52.1 +0.3
baz=281
G23K Bananza Creek 49.44 31 P P 00 38 52.3 +0.2
baz=282,SNR=38
CHIR Chirikof Islan 49.44 46 P P 00 38 52.7 +0.5
CHIR PcP PcP 00 40 13.8 -0.6
CHIR Chirikof Islan 49.44 46 P P 00 38 52.3 0.0
baz=286
MLY Manley 49.50 33 P P 00 38 53.2 +0.6
MLY PcP PcP 00 40 15.9 +1.4
MLY Manley 49.50 33 P P 00 38 53.4 +0.8
baz=282,SNR=29
BPAW Bear Paw Mtn. 49.60 35 P P 00 38 54.0 +0.6
BPAW IAmb IAmb 00 38 55.0
comp=Z,20nm,0.7s
BPAW PcP PcP 00 40 15.5 +0.6
BPAW Bear Paw Mtn. 49.60 35 P P 00 38 54.1 +0.7
baz=283,SNR=43
ILSW Iliamna Southw 49.60 40 P P 00 38 53.9 +0.3
ILSW IAmb IAmb 00 38 54.6
comp=Z,8.3nm,0.8s
ILSW PcP PcP 00 40 14.9 -0.2
Q19K Cape Douglas, 49.62 42 P P 00 38 53.9 +0.3
Q19K IAmb IAmb 00 38 55.0
comp=Z,52nm,1.2s
Q19K Cape Douglas, 49.62 42 P P 00 38 53.3 -0.4
baz=285,SNR=7.1
P19K Oil Pt 49.64 41 P P 00 38 54.4 +0.6
P19K IAmb IAmb 00 38 55.7
comp=Z,24nm,0.6s
P19K Oil Pt 49.64 41 P P 00 38 54.5 +0.7
baz=285,SNR=7.9
RSO Redoubt South 49.66 40 P P 00 38 55.0 +0.8
N20K Mount Spurr 49.74 38 P P 00 38 55.7 +1.1
baz=284,SNR=9.3
SPCR Spurr Chakacha 49.74 38 P P 00 38 55.3 +0.7
baz=284,SNR=8.1
E24K Your Creek 49.74 29 P P 00 38 54.9 +0.4
baz=282
KTH Kantishna Hill 49.75 35 P P 00 38 55.5 +0.8
KTH IAmb IAmb 00 38 56.5
comp=Z,27nm,0.8s
H23K Yukon River 49.81 32 P P 00 38 56.2 +1.2
H23K IAmb IAmb 00 38 57.5
comp=Z,47nm,0.8s
H23K PcP PcP 00 40 17.1 +1.4
H23K Yukon River 49.81 32 P P 00 38 55.9 +0.9
baz=283,SNR=68
SPU Mount Spurr 49.81 38 P P 00 38 56.7 +1.6
SPU PcP PcP 00 40 15.4 -0.4
SKT Skwentna 49.86 37 P P 00 38 55.6 +0.2
SKT Skwentna 49.86 37 P P 00 38 55.3 -0.1
baz=284,SNR=8.1
KRJI Kerinci 49.93 217 P P 00 38 57.1 +0.6
RABL Rabaul 49.94 149 P P 00 38 57.0 +0.5
RABL Rabaul 49.94 149 P P 00 38 57.2 +0.7
KRVT Keravat (AS076 49.99 149 P P 00 38 57.8 +0.9
comp=Z,99nm,0.6s,baz=315,slow=3.6,SNR=12
comp=Z,99nm,0.6s
SII Sitkinak Islan 50.00 45 P P 00 38 56.6 +0.1
SII IAmb IAmb 00 38 59.7
comp=Z,52nm,1.1s
I23K Minto, Yukon-K 50.04 33 P P 00 38 57.8 +1.1
I23K IAmb IAmb 00 38 58.5
comp=Z,36nm,0.7s
I23K PcP PcP 00 40 17.1 +0.7
I23K Minto, Yukon-K 50.04 33 P P 00 38 57.6 +0.9
baz=284,SNR=45
TRF Thorofare Moun 50.05 35 P P 00 38 57.8 +0.8
TRF IAmb IAmb 00 39 00.9
comp=Z,19nm,0.8s
TRF PcP PcP 00 40 16.0 -0.7
TRF Thorofare Moun 50.05 35 P P 00 38 57.1 +0.1
baz=284,SNR=20
F24K Squaw Lake 50.08 30 P P 00 38 57.5 +0.5
baz=283,SNR=24
BWN Browne 50.23 34 P P 00 38 59.2 +1.0
D25K Kavik River 50.23 27 P P 00 38 58.3 +0.1
baz=283
EDFI Ende, Flores 50.24 189 P P 00 38 57.1 -1.8
comp=Z,9.2nm,0.8s
OHAK Old Harbor 50.28 44 P P 00 38 58.5 -0.1
OHAK IAmb IAmb 00 38 59.3
comp=Z,38nm,0.6s
OHAK PcP PcP 00 40 17.8 +0.3
OHAK Old Harbor 50.28 44 P P 00 38 58.4 -0.1
baz=287,SNR=12
NEA2 Nenana 50.29 34 P P 00 38 59.3 +0.6
NEA2 PcP PcP 00 40 18.4 +1.0
NEA2 Nenana 50.29 34 P P 00 38 59.2 +0.6
baz=284,SNR=72
Q20K Shuyak Island 50.34 42 P P 00 38 58.8 -0.2
baz=286,SNR=5.5
SUA Susitna One 50.35 38 P P 00 38 58.7 -0.6
SUA PcP PcP 00 40 16.8 -1.1
SUA Susitna One 50.35 38 P P 00 38 59.2 -0.1
baz=285,SNR=11
TBJI Tambak Boyo 50.40 202 P P 00 38 59.4 -0.5
comp=Z,132nm,1.5s
G24K Hadweenzic Riv 50.43 31 P P 00 39 00.4 +0.8
baz=284,SNR=35
H24K Noodor Dome 50.48 32 P P 00 39 01.4 +1.4
H24K IAmb IAmb 00 39 02.1
comp=Z,35nm,0.7s
H24K PcP PcP 00 40 19.1 +1.0
H24K Noodor Dome 50.48 32 P P 00 39 01.2 +1.1
baz=284,SNR=55
KDAK Kodiak Island 50.48 43 P P 00 39 00.2 +0.1
comp=Z,30nm,0.7s,baz=299,slow=5.5,SNR=43
KDAK LR LR 01 02 24.7
comp=Z,107nm,18.0s,baz=308,slow=38
comp=Z,30nm,0.7s
KDAK Kodiak Island 50.48 43 P P 00 39 00.1 0.0
KDAK IAmb IAmb 00 39 00.7
comp=Z,28nm,0.7s
KDAK PcP PcP 00 40 18.4 +0.3

KDAK Kodiak Island 50.48 43 P P 00 38 59.5 -0.6
baz=287
MDM Murphy Dome 50.55 33 P P 00 39 01.0 +0.3
MDM IAmb IAmb 00 39 02.7
comp=Z,40nm,0.8s
MDM PcP PcP 00 40 18.5 +0.1
M22K Willow 50.56 37 P P 00 39 00.7 0.0
MCK McKinley 50.57 35 P P 00 39 01.2 +0.4
MCK IAmb IAmb 00 39 03.1
comp=Z,19nm,0.7s
MCK PcP PcP 00 40 18.1 -0.3
MCK McKinley 50.57 35 P P 00 39 00.9 +0.1
baz=285,SNR=15
C26K Camden Bay 50.60 26 P P 00 39 01.8 +0.9
baz=283
CNPM China Poot 50.65 40 P P 00 39 01.2 -0.3
CNPM IAmb IAmb 00 39 03.7
comp=Z,18nm,0.6s
CNPM PcP PcP 00 40 18.9 +0.1
TCOL CIGO, UAF Yank 50.73 33 P P 00 39 02.5 +0.6
baz=285,SNR=9.6
COLA College 50.73 33 P P 00 39 02.7 +0.8
COLA College 50.73 33*c i*P P 00 39 02.8 +0.9
COLA pmax pmax
comp=Z,78nm,0.8s
COLA College 50.73 33 P P 00 39 02.3 +0.4
baz=285
WRH Wood River Hil 50.73 34 IAmb IAmb 00 39 05.5
comp=Z,26nm,0.6s
BRLK Bradley Lake 50.75 40 IAmb IAmb 00 39 04.4
comp=Z,23nm,0.6s
E25K Arctic Village 50.80 29 P P 00 39 03.1 +0.7
baz=284,SNR=18
CCB Clear Creek Bu 50.81 33 IAmb IAmb 00 39 04.6
comp=Z,30nm,0.7s
BRSE Bradley Lake S 50.83 40 P P 00 39 03.0 +0.2
baz=287,SNR=14
POKR Poker Plat Res 50.84 33 P P 00 39 03.7 +1.0
baz=285,SNR=26
KIRV Kirov 50.88 318 P P 00 39 03.4 +0.3
comp=Z,26nm,0.6s,baz=89,slow=3.1,SNR=14
KIRV LR LR 01 02 51.6
comp=Z,272nm,19.2s,baz=47,slow=39
comp=Z,26nm,0.6s
F25K Christian Rive 50.90 29 P P 00 39 04.2 +1.0
baz=285,SNR=16
RC01 Rabbit Creek A 50.92 38 IAmb IAmb 00 39 04.3
comp=Z,21nm,0.6s
RC01 Rabbit Creek A 50.92 38 P P 00 39 03.2 -0.2
baz=286,SNR=9.4
PLAI Plampang 50.93 194 P P 00 39 03.5 -0.4
comp=Z,45nm,0.9s
SOEI Soe 50.97 186 P P 00 39 03.4 -1.0
comp=Z,59nm,0.7s
SOEI Soe 50.97 186 P P 00 39 05.3 +0.9
WAT1 Susitna Watana 50.98 36 P P 00 39 03.3 -0.5
baz=286
TWSI Taliwang, Sumb 51.02 196 P P 00 39 03.5 -1.1
comp=Z,23nm,0.7s
PMR Palmer 51.06 37 P P 00 39 04.4 0.0
baz=286
C27K Jago River 51.07 27 P P 00 39 05.1 +0.6
baz=285,SNR=31
O22K Cooper Landing 51.10 39 P P 00 39 04.9 +0.1
baz=287
GHO Glory Hole Cre 51.10 37 IAmb IAmb 00 39 08.9
comp=Z,32nm,0.6s
IL31 51.16 33 IAmb IAmb 00 39 07.2
comp=Z,30nm,0.6s
ILAR Eielson Array 51.16 33 P P 00 39 05.0 -0.1
comp=Z,28nm,0.7s,baz=282,slow=7.2,SNR=161
ILAR PcP PcP 00 40 19.6 -1.1
comp=Z,4.7nm,0.7s,baz=292,slow=4.1,SNR=5.4
comp=Z,28nm,0.7s
ILAR Eielson Array 51.16 33 P P 00 39 04.8 -0.3
ILAR PcP PcP 00 40 18.9 -1.7
ILAR Eielson Array 51.16 33 P P 00 39 04.8 -0.3
ILAR 00 40 18.9
H25K Birch Creek 51.18 31 P P 00 39 06.5 +1.2
baz=286,SNR=65
HDA Harding Lake 51.23 34 P P 00 39 05.5 -0.2
baz=286,SNR=55
FYU Fort Yukon 51.33 31 P P 00 39 07.1 +0.7
SEW Seward 51.34 39 IAmb IAmb 00 39 07.4
comp=Z,26nm,0.8s
SEW Seward 51.34 39 P P 00 39 06.4 -0.2
baz=287,SNR=7.1
GMJI Gumukmas 51.36 200 P P 00 39 05.6 -1.5
comp=Z,34nm,1.2s
SML Sawmill 51.36 37 IAmb IAmb 00 39 09.3
comp=Z,19nm,0.7s
SML Sawmill 51.36 37 P P 00 39 07.0 +0.2
baz=287,SNR=10
WAT6 Susitna Watana 51.41 36 P P 00 39 07.0 -0.3
baz=287,SNR=7.6
KNK Knik Glacier 51.42 38 P P 00 39 07.6 +0.3
KNK IAmb IAmb 00 39 08.8
comp=Z,21nm,0.6s
KNK Knik Glacier 51.42 38 P P 00 39 07.5 +0.3
baz=287,SNR=12
DHY Denali Highway 51.42 35 P P 00 39 07.1 -0.3
baz=287,SNR=25
F26K Sheenjek River 51.43 29 P P 00 39 08.0 +0.8
baz=286,SNR=30
BATI Baumata 51.47 187 P P 00 39 07.5 -0.5
comp=Z,137nm,0.5s,baz=325,slow=0.4,SNR=20
BATI Baumata 51.47 187 P P 00 39 06.4 -1.6
comp=Z,1µmcomp=Z,110nm,0.7s
PRP Porcupine Dome 51.50 32 P P 00 39 08.7 +0.8
baz=286,SNR=115
PWJI Pagerwojo 51.56 202 P P 00 39 09.2 +0.6
comp=Z,39nm,1.7s
M23K Glacier View 51.64 37 P P 00 39 08.9 +0.1
baz=287,SNR=15
PWL Port Wells 51.65 38 P P 00 39 09.0 +0.1
PWL IAmb IAmb 00 39 09.7
comp=Z,32nm,0.6s
PWL Port Wells 51.65 38 P P 00 39 08.9 0.0
baz=288
LEM Lembang 51.75 208 P P 00 39 10.8 +0.5
comp=Z,16nm,2.2s
G26K Porcupine Rive 51.77 30 P P 00 39 11.0 +1.3
baz=287,SNR=34
PRGR Permogore 51.77 323 *e*P P 00 39 08.9 -0.9
PRGR pmax pmax
comp=Z,26nm,0.6s
SCM Sheep Creek Mo 51.81 37 P P 00 39 10.8 +0.6
baz=288,SNR=28
J25K Salcha River, 51.83 33 P P 00 39 09.0 -1.3
baz=287,SNR=14
K24K Donnelly Dome 51.90 34 P P 00 39 10.6 -0.2
baz=287,SNR=53
E27K Coleen River 52.21 28 P P 00 39 13.6 +0.6
baz=288,SNR=5.4
GLI Glacier Island 52.22 38 P P 00 39 13.3 +0.2
GLI IAmb IAmb 00 39 14.5
comp=Z,42nm,0.6s
GLI IAMs_20 IAMs_20 01 03 46.7
comp=Z,287nm,19.0s
GLI Glacier Island 52.22 38 P P 00 39 13.2 +0.1
baz=289
M24K Tolsona, Glenn 52.24 36 P P 00 39 14.2 +0.9
M24K Tolsona, Glenn 52.24 36 P P 00 39 14.3 +0.9
baz=288,SNR=9.2
PAX Paxson 52.28 35 P P 00 39 13.5 -0.3
baz=288,SNR=9.6
RIDG Independent Ri 52.31 34 IAmb IAmb 00 39 14.3
comp=Z,37nm,0.6s
RIDG Independent Ri 52.31 34 P P 00 39 13.5 -0.4
baz=288,SNR=39
P23K Montague Islan 52.35 39 P P 00 39 14.2 0.0
baz=289,SNR=5.5
CNJI Cibinong 52.37 208 P P 00 39 15.7 +1.0
comp=Z,57nm,1.2s
I26K Coal Creek Min 52.51 32 P P 00 39 14.9 -0.4
baz=288,SNR=20
FID Port Fidalgo 52.54 38 IAmb IAmb 00 39 16.6
comp=Z,19nm,0.7s
KLU Klutina 52.56 37 P P 00 39 16.3 +0.5
KLU IAmb IAmb 00 39 17.1
comp=Z,21nm,0.6s
KLU Klutina 52.56 37 P P 00 39 16.2 +0.4
baz=289,SNR=16
SCRK Sand Creek 52.60 34 IAmb IAmb 00 39 16.6
comp=Z,30nm,0.6s
SCRK Sand Creek 52.60 34 P P 00 39 15.7 -0.3
baz=289,SNR=61

J26L Joseph Creek 52.60 33 IAmb IAmb 00 39 17.6
comp=Z,17nm,0.7s
J26L Joseph Creek 52.60 33 P P 00 39 15.1 -0.9
baz=289,SNR=24
HARP HAARP 52.60 36 P P 00 39 16.8 +0.8
baz=289,SNR=12
G27K Doyon Strip 52.62 30 P P 00 39 17.3 +1.2
baz=288,SNR=33
HIN Hinchinbrook I 52.65 38 IAMs_20 IAMs_20 01 02 09.2
comp=Z,297nm,21.0s
DIV Divide 52.74 37 P P 00 39 17.7 +0.5
H27K Steamboat Moun 52.85 31 P P 00 39 19.2 +1.3
baz=289,SNR=42
EYAK Cordova Ski Ar 52.95 38 P P 00 39 19.6 +1.1
EYAK Cordova Ski Ar 52.95 38 P P 00 39 19.4 +0.9
baz=290
I27K Kandik River 53.02 31 P P 00 39 20.3 +1.1
baz=289,SNR=56
MENT Mentasta 53.05 35 P P 00 39 20.0 +0.7
MENT IAmb IAmb 00 39 21.3
comp=Z,16nm,0.6s
N25K Chitina, Valde 53.12 37 P P 00 39 20.7 +0.8
N25K IAmb IAmb 00 39 21.8
comp=Z,20nm,0.6s
N25K Chitina, Valde 53.12 37 P P 00 39 20.9 +1.0
baz=290,SNR=16
L26K Log Cabin Wild 53.18 35 P P 00 39 20.9 +0.6
L26K Log Cabin Wild 53.18 35 P P 00 39 20.5 +0.3
baz=290,SNR=7.6
BMRM Bremner River 53.33 37 P P 00 39 21.9 +0.4
BMRM IAmb IAmb 00 39 22.9
comp=Z,20nm,0.7s
BMRM Bremner River 53.33 37 P P 00 39 21.7 +0.2
baz=290,SNR=5.3
GEYT Alibeck 53.34 291 P P 00 39 22.8 +1.0
comp=Z,41nm,0.7s,baz=29,slow=3.4,SNR=83
GEYT LR LR 01 04 13.2
comp=Z,265nm,18.4s,baz=8.0,slow=38
comp=Z,41nm,0.7s
GYA0B ALIBECK ARRAY 53.34 291 P P 00 39 22.6 +0.8
GYA0B IAmb IAmb 00 39 24.5
comp=Z,40nm,0.7s
K27K Chicken 53.37 33 IAmb IAmb 00 39 23.2
comp=Z,27nm,0.7s
K27K Chicken 53.37 33 P P 00 39 22.3 +0.7
baz=290
EGAK Eagle 53.49 32 P P 00 39 22.7 +0.2
baz=290,SNR=69
GLB Gilahina Butte 53.53 37 P P 00 39 23.4 +0.6
GLB IAmb IAmb 00 39 27.0
comp=Z,15nm,0.6s
M26K Nabesna, AK 53.55 35 IAmb IAmb 00 39 26.7
comp=Z,26nm,1.1s
KDU Kakadu 53.79 176 P P 00 39 25.5 +0.4
L27K Beaver Creek, 53.82 34 P P 00 39 25.7 +0.7
L27K IAmb IAmb 00 39 27.7
comp=Z,13nm,0.6s
L27K PcP PcP 00 40 31.1 +0.4
L27K Beaver Creek, 53.82 34 P P 00 39 25.6 +0.6
baz=291,SNR=27
BCAR Beaver Creek A 53.83 34 P P 00 39 25.5 +0.4
BCAR PcP PcP 00 40 31.4 +0.6
MTN Manton Dam 53.89 177 P P 00 39 25.4 -0.5
MTN Manton Dam 53.89 177 P P 00 39 26.6 +0.8
MCARA McCarthy VSAT 53.90 37 P P 00 39 26.3 +0.8
MCARA IAmb IAmb 00 39 27.6
comp=Z,29nm,0.8s
MCARA McCarthy VSAT 53.90 37 P P 00 39 26.6 +1.0
baz=291,SNR=9.9
BELG Belogornoye 53.96 311 P P 00 39 26.5 +0.4
comp=Z,82nm,0.8s,baz=336,slow=0.5,SNR=34
comp=Z,82nm,0.8s
BELG Belogornoye 53.96 311*c i*P P 00 39 26.3 +0.2
BELG pmax pmax
comp=Z,12nm,0.8s
M27K Edge Creek, AK 54.05 35 P P 00 39 27.4 +0.6
M27K Edge Creek, AK 54.05 35 P P 00 39 27.6 +0.8
baz=292,SNR=13
TGL Tana Glacier 54.22 37 P P 00 39 28.5 +0.5
SPA0 Spitsbergen Ar 54.32 346 *e*P P 00 39 29.1 +0.6
SPITS Spitsbergen Ar 54.32 346 P P 00 39 28.3 -0.1
comp=Z,8.6nm,0.8s,baz=78,slow=8.6,SNR=9.3
SPITS PcP PcP 00 40 32.1 -0.2
comp=Z,3.9nm,0.6s,baz=96,slow=2.9,SNR=2.5
SPITS LR LR 01 04 44.6
comp=Z,294nm,18.3s,baz=354,slow=38
comp=Z,8.6nm,0.8s
WAX Waxell Ridge 54.33 38 P P 00 39 29.6 +0.9
WAX IAmb IAmb 00 39 30.4
comp=Z,32nm,0.6s
I29M Ogilvie Camp, 54.40 31 P P 00 39 29.9 +0.8
I29M IAmb IAmb 00 39 30.5
comp=Z,15nm,0.7s
I29M Ogilvie Camp, 54.40 31 P P 00 39 29.7 +0.5
baz=292
DAWY Dawson 54.46 33 IAmb IAmb 00 39 31.0
comp=Z,24nm,0.7s
DAWY Dawson 54.46 33 P P 00 39 29.9 +0.2
baz=292,SNR=18
BVCY Beaver Creek 54.47 35 P P 00 39 30.7 +1.0
baz=292
ISLE Juniper Island 54.50 37 P P 00 39 30.3 +0.2
ISLE IAmb IAmb 00 39 31.4
comp=Z,16nm,0.8s
PALK Pallekele 54.58 245 P P 00 39 31.6 +0.6
comp=Z,15nm,1.0s,baz=97,slow=7.8,SNR=3.8
comp=Z,15nm,1.0s
EPYK Eagle Plains 54.62 30 P P 00 39 31.1 +0.4
baz=293,SNR=21
APA Apatity 54.65 332⇧ *i*P P 00 39 30.0 -0.9
APA MLR MLR
comp=Z,600nm,14.0s
KBS Kingsbay 54.66 348 P P 00 39 30.9 +0.1
KBS Kingsbay 54.66 348 P P 00 39 30.9 +0.1
KBS pmax pmax
comp=Z,13nm,0.8s
KBS Kingsbay 54.66 348 IAmb IAmb 00 39 31.4
comp=Z,12nm,0.8s
KBS *e*P P 00 39 31.5 +0.7
CTG Chitna Glacier 54.81 37 P P 00 39 33.2 +0.8
baz=293,SNR=7.9
KLMR Klimovskoe 54.82 323 *e*P P 00 39 30.0 -2.2
KLMR *e* 00 40 31.4
KLMR pmax pmax
comp=Z,47nm,1.5s
KLMR MLR MLR
comp=Z,447nm,14.0s
KLMR Klimovskoe 54.82 323 *e*P P 00 39 30.0 -2.2
KLMR AMP 00 39 32.8
comp=Z,47nm,1.5s
KLMR *e*PcP PcP 00 40 31.5 -3.0
KLMR LR LR 01 03 18.5
KLMR AMP 01 05 32.5
comp=Z,447nm,13.5s
CTGM Chitina Glacie 54.82 37 P P 00 39 33.0 +0.6
MESA MESA 54.84 38 P P 00 39 33.2 +0.5
MESA IAmb IAmb 00 39 34.3
comp=Z,30nm,0.7s
MESA MESA 54.84 38 P P 00 39 33.1 +0.5
baz=293
YUK3 Moose Creek 54.89 36 P P 00 39 33.5 +0.5
baz=293
INK Inuvik 54.98 27 P P 00 39 33.8 +0.6
comp=Z,17nm,0.6s,baz=302,slow=6.3,SNR=18
INK PcP PcP 00 40 35.1 +0.2
comp=Z,4.5nm,0.6s,baz=254,slow=1.8,SNR=3.1
comp=Z,17nm,0.6s
INK Inuvik 54.98 27 P P 00 39 33.0 -0.2
INK IAmb IAmb 00 39 34.4
comp=Z,16nm,0.7s
INK Inuvik 54.98 27 P P 00 39 33.6 +0.4
baz=294,SNR=6.9
LOGN Logan Glacier 55.02 37 P P 00 39 34.0 +0.1
F31M Tsiigehtchic 55.26 28 P P 00 39 35.3 +0.1
baz=295
K29M Barlow Dome 55.31 33 P P 00 39 36.9 +1.0
baz=294,SNR=42
PCHI Peechi 55.35 252⇧ *e*P P 00 39 36.8 +0.1
baz=57,slow=10
O28M Mount Upton 55.41 37 P P 00 39 37.6 +0.8
baz=294,SNR=6.9
M29M Somme Creek 55.49 34 P P 00 39 38.6 +1.5
baz=294,SNR=23
PCA Pinnacle 55.65 37 P P 00 39 39.0 +0.7
PCA IAmb IAmb 00 39 42.6
comp=Z,39nm,1.4s
PINM Pinnacle 55.66 37 P P 00 39 38.8 +0.5

baz=294
YUK4 Talbot Arm 55.86 36 P P 00 39 40.8 +0.8
baz=295
A36M Sachs Harbour 55.86 21 P P 00 39 40.6 +1.1
A36M Sachs Harbour 55.86 21 P P 00 39 40.1 +0.6
baz=299
BCPM Bancas Point 56.00 37 P P 00 39 41.3 +0.6
BCPM IAmb IAmb 00 39 42.7
comp=Z,22nm,0.9s
NOR Nord 56.05 354 *i* P P 00 39 39.4 -1.3
NOR IAmb IAmb 00 39 40.6
comp=Z,12nm,0.6s
TARA Tarawa 56.05 123 P P 00 39 42.4 +0.7
TARA Tarawa 56.05 123 P P 00 39 42.7 +1.1
comp=Z,154nm,0.8s
MAYO Mayo, Yukon 56.07 32 P P 00 39 42.4 +1.2
baz=295
M30M Minto, Yukon 56.13 34 P P 00 39 42.5 +0.7
M30M Minto, Yukon 56.13 34 P P 00 39 42.9 +1.2
baz=295,SNR=11
YUK6 Outpost Mounta 56.15 36 P P 00 39 43.3 +1.2
baz=295,SNR=6.3
PNL Peninsula 56.23 38 P P 00 39 43.3 +0.9
baz=295
O29M Mount Kennedy 56.33 37 P P 00 39 44.6 +1.3
baz=295,SNR=12
ARA0 ARCESS Array S 56.41 336 *e*P P 00 39 43.1 -0.4
ARCES ARCESS Array B 56.41 336 P P 00 39 42.8 -0.8
comp=Z,6.4nm,0.5s,baz=64,slow=8.2,SNR=37
ARCES PcP PcP 00 40 40.0 -0.5
comp=Z,2.1nm,0.5s,baz=58,slow=4.9,SNR=3.8
ARCES LR LR 01 09 03.5
comp=Z,283nm,18.5s,baz=72,slow=42
comp=Z,6.4nm,0.5s
ARCES ARCESS Array B 56.41 336 P P 00 39 44.5 +1.0
HAMF Hammerfest 56.42 337 *e*P P 00 39 42.8 -0.7
HAMF IAmb IAmb 00 39 56.8
comp=Z,180nm,1.9s
N30M Aishikik Lake 56.49 35 P P 00 39 45.4 +1.1
baz=296
HYT Haines Junctio 56.58 36 P P 00 39 46.4 +1.3
HYT IAmb IAmb 00 39 47.4
comp=Z,21nm,0.8s
HYT Haines Junctio 56.58 36 P P 00 39 46.1 +1.1
baz=296,SNR=18
KNRA Kununurra 56.67 180 P P 00 39 46.1 +0.2
P29M Windy Craggy 57.00 37 P P 00 39 49.1 +1.1
P29M IAmb IAmb 00 39 50.8
comp=Z,24nm,1.1s
P29M Windy Craggy 57.00 37 P P 00 39 49.1 +1.1
baz=296,SNR=6.2
N31M Braeburn, Yuko 57.04 35 P P 00 39 49.3 +1.1
N31M Braeburn, Yuko 57.04 35 P P 00 39 49.5 +1.3
baz=297,SNR=11
P30M Million Dollar 57.13 36 P P 00 39 50.1 +1.2
baz=297
O30N Mendenhall 57.23 36 P P 00 39 50.5 +0.9
baz=297,SNR=5.7
M31M Drury Creek, Y 57.30 34 P P 00 39 50.4 +0.4
baz=297
KTK1 Kautokeino 57.37 336 *e*P P 00 39 50.1 -0.3
KTK1 IAmb IAmb 00 39 52.0
comp=Z,19nm,0.7s
C36M Paulatuk 57.53 24 P P 00 39 51.8 +0.4
C36M Paulatuk 57.53 24 P P 00 39 51.2 -0.2
baz=301
PLBC Pleasant Camp 57.70 37 P P 00 39 53.4 +0.6
baz=297
FARO Faro, Yukon 57.73 33 P P 00 39 53.4 +0.4
baz=298,SNR=12
VRH Novokhopyorsk 57.79 312 *e*P P 00 39 53.1 -0.4
VRH pmax pmax
comp=Z,70nm,0.6s
VRH MLR MLR
comp=Z,540nm,14.0s
WHY Whitehorse 57.81 35 P P 00 39 54.4 +0.7
baz=298
MOS Moscow 57.89 318 *e*P P 00 39 53.3 -0.9
MOS pmax pmax
comp=Z,84nm,0.7s
MOS pmax pmax
comp=Z,100nm,0.7s
MOS MLR MLR
comp=Z,700nm,15.0s
JETT Jettan, Norway 57.94 337 *e*P P 00 39 54.2 -0.2
JETT IAmb IAmb 00 39 57.5
comp=Z,22nm,0.7s
MAK Makhachkala 58.15 301 *e*P P 00 39 50.1 -6.1
MAK *e*S S 00 47 49.4 -9.1
MAK pmax pmax
comp=Z,70nm,1.0s
SKAG Skagway 58.17 37 P P 00 39 57.1 +1.0
baz=298
TRO Tromso 58.34 337 *e*P P 00 39 56.3 -0.8
TRO IAmb IAmb 00 39 57.9
comp=Z,10.0nm,0.8s
N32M Quiet Lake 58.35 34 P P 00 39 57.8 +0.4
baz=299,SNR=6.3
VALR Valaam 58.37 326 *i* P P 00 39 56.8 -0.6
VALR pmax pmax
comp=Z,43nm,0.8s
MMPY Sheldon Lake, 58.39 32 P P 00 39 58.4 +0.7
baz=299,SNR=12
LPSR Galich'ya Gora 58.67 314 *e*P P 00 39 59.6 -0.1
LPSR pmax pmax
comp=Z,50nm,0.6s
LPSR MLR MLR
comp=Z,330nm,16.0s
OBN Obninsk 58.72 318 P P 00 39 59.6 -0.3
comp=Z,6.8nm,0.5s,baz=323,slow=20,SNR=8.5
OBN LR LR 01 08 06.7
comp=Z,134nm,18.8s,baz=0.5,slow=39
comp=Z,6.8nm,0.5s
OBN Obninsk 58.72 318 P P 00 39 59.8 -0.1
OBN IAMs_20 IAMs_20 01 08 19.0
comp=Z,444nm,18.0s
OBN Obninsk 58.72 318 *ce*P P 00 39 59.6 -0.3
OBN *e* 00 42 13.2
OBN pmax pmax
comp=Z,33nm,0.7s
OBN MLR MLR
comp=Z,561nm,17.0s
P32M Atlin 58.83 36 P P 00 40 01.5 +0.7
baz=299
P33M Teslin, Yukon 58.92 35 IAmb IAmb 00 40 04.1
comp=Z,23nm,0.9s
P33M Teslin, Yukon 58.92 35 P P 00 40 02.4 +0.9
baz=300,SNR=17
VORR Voronezh 58.96 313 *e*P P 00 40 01.9 +0.2
VORR pmax pmax
comp=Z,70nm,0.5s
R32K Eaglecrest 59.11 38 P P 00 40 04.0 +1.3
baz=299
GROC Groznyy 59.13 302 *e*P P 00 40 03.0 0.0
GROC *e* 00 40 51.0
GROC *e*S S 00 48 09.8 -1.4
GROC pmax pmax
comp=Z,59nm,1.0s
FITZ Fitzroy Crossi 59.16 184 P P 00 40 03.5 +0.1
comp=Z,28nm,0.8s,baz=7.0,slow=6.2,SNR=54
comp=Z,28nm,0.8s
FITZ Fitzroy Crossi 59.16 184 IAmb IAmb 00 40 04.4
comp=Z,29nm,0.8s
FITZ Fitzroy Crossi 59.16 184 P P 00 40 03.9 +0.6
JIS Juneau Island 59.17 38 P P 00 40 04.6 +1.5
JIS IAmb IAmb 00 40 06.0
comp=Z,12nm,0.7s
VSR Storozhevoye 59.20 313 *e*P P 00 40 03.2 -0.2
VSR pmax pmax
comp=Z,40nm,0.6s
VSR MLR MLR
comp=Z,600nm,13.0s
MNCI Minicoy 59.25 253 P P 00 40 03.6 -0.6
SIT Sitka 59.33 39 P P 00 40 06.4 +2.2
SIT IAmb IAmb 00 40 07.2
comp=Z,19nm,0.6s
SIT Sitka 59.33 39 P P 00 40 06.4 +2.2
SIT Sitka 59.33 39 P P 00 40 05.8 +1.6
baz=299
GOF Gofitskoye 59.94 305⇑ *e*P P 00 40 07.2 -1.4
GOF pmax pmax
comp=Z,56nm,0.4s
R33M Jennings River 60.14 36 P P 00 40 11.3 +1.4
baz=301,SNR=14
TGTN Hyland Airport 60.16 33 P P 00 40 11.2 +1.2
baz=302,SNR=7.1
FIA1 FINESS Array S 60.32 327 P P 00 40 10.7 -0.2
FINES FINESS Array B 60.32 327 P P 00 40 10.3 -0.6
comp=Z,41nm,0.6s,baz=75,slow=6.3,SNR=177
FINES LR LR 01 10 25.5
comp=Z,105nm,19.0s,baz=45,slow=40
comp=Z,41nm,0.6s
FINES FINESS Array B 60.32 327 P P 00 40 10.6 -0.4
GUDG Gudauri 60.34 302 P P 00 40 08.6 -3.1
GUDG Gudauri 60.34 302 P P 00 40 08.6 -3.1
GUDG pmax pmax
comp=Z,23nm,0.5s
STEI Steigen 60.42 337 *e*P P 00 40 10.7 -0.8
STEI IAmb IAmb 00 40 11.9
comp=Z,26nm,0.6s
DAG Danmarks Havn 60.47 352 *i* P P 00 40 10.0 -1.7
DAG IAmb IAmb 00 40 11.8
comp=Z,22nm,0.6s
ZEI Tsey 60.54 303 *e*P P 00 40 11.9 -1.1
ZEI pmax pmax
comp=Z,8.0nm,1.0s
WSAR Wadi Sarin 60.64 276 P P 00 40 14.4 +0.6
comp=Z,7.7nm,0.8s,baz=78,slow=3.0,SNR=5.0
comp=Z,7.7nm,0.8s
KBZ Khabaz 60.70 304 P P 00 40 14.4 +0.7
comp=Z,3.9nm,0.7s,baz=20,slow=7.6,SNR=9.4
KBZ LR LR 01 11 11.4
comp=Z,110nm,18.4s,baz=20,slow=41
comp=Z,3.9nm,0.7s
KBZ Khabaz 60.70 304 *ce*P P 00 40 14.1 +0.3
KBZ pmax pmax
comp=Z,7.0nm,1.0s
RES Resolute Bay 60.70 12 P P 00 40 13.0 -0.3
comp=Z,42nm,0.6s,baz=302,slow=6.8,SNR=18
comp=Z,42nm,0.6s
RES Resolute Bay 60.70 12 P P 00 40 13.2 -0.2
KVAR Kislovodsk Arr 60.71 304 P P 00 40 15.6 +1.5
comp=Z,14nm,0.8s,baz=153,slow=9.0,SNR=14
comp=Z,14nm,0.8s
KIV Kislovodsk 60.71 304 ⇓P P 00 40 15.4 +1.4
KIV Kislovodsk 60.71 304 P P 00 40 14.7 +0.6
KIV IAmb IAmb 00 40 15.8
comp=Z,28nm,0.8s
KIV Kislovodsk 60.71 304 *ce* *i*P P 00 40 14.6 +0.6
KIV *i* 00 40 56.5
KIV pmax pmax
comp=Z,32nm,0.8s
KIV MLR MLR
comp=Z,132nm,16.0s
KIV Kislovodsk 60.71 304 *i* P P 00 40 14.8 +0.8
SNR=22
FAUS Fauske 60.75 336 *e*P P 00 40 13.2 -0.6
FAUS IAmb IAmb 00 40 17.4
comp=Z,15nm,0.6s
MTSU Mount Surprise 60.79 163 P P 00 40 15.9 +1.3
S34M Telegraph Cree 60.85 37 P P 00 40 16.3 +1.7
baz=302
BANOM Banah 60.85 280 P P 00 40 15.6 +0.4
SHME Shamm 60.90 280 P P 00 40 15.6 +0.2
ONI Oni 60.92 303 P P 00 40 15.5 0.0
ONI Oni 60.92 303 P P 00 40 15.5 0.0
ONI pmax pmax
comp=Z,111nm,1.1s
DLBC Dease Lake 61.06 36 P P 00 40 17.0 +0.8
comp=Z,8.6nm,0.8s,baz=281,slow=9.2,SNR=22
comp=Z,8.6nm,0.8s
DLBC Dease Lake 61.06 36 P P 00 40 18.0 +1.8
DLBC Dease Lake 61.06 36 P P 00 40 17.4 +1.2
baz=302,SNR=9.0
WRAK Wrangell Islan 61.07 39 P P 00 40 17.3 +1.2
WRAK IAmb IAmb 00 40 19.1
comp=Z,12nm,0.7s
WRAK Wrangell Islan 61.07 39 P P 00 40 17.7 +1.6
baz=302
WRAB Tennant Creek 61.10 174 P P 00 40 16.4 -0.2
WRAB Tennant Creek 61.10 174 *ce*P P 00 40 16.5 -0.2
WRAB pmax pmax
comp=Z,22nm,0.6s
WRAB Tennant Creek 61.10 174 P P 00 40 16.6 -0.1
WRA Warramunga Arr 61.11 174 P P 00 40 16.4 -0.3
comp=Z,23nm,0.5s,baz=354,slow=7.4,SNR=480
WRA PKP2bc 01 09 37.4
comp=Z,0.5nm,0.7s,baz=191,slow=2.8,SNR=5.3
comp=Z,23nm,0.5s
CRAG Craig 61.20 40 P P 00 40 18.8 +1.8
baz=302
GNI Garni 61.35 300 P P 00 40 19.9 +1.4
comp=Z,9.4nm,0.7s,baz=353,slow=16,SNR=9.8
GNI LR LR 01 09 31.4
comp=Z,414nm,18.9s,baz=28,slow=39
comp=Z,9.4nm,0.7s
GNI Garni 61.35 300 P P 00 40 19.6 +1.0
GNI IAmb IAmb 00 40 21.6
comp=Z,12nm,0.8s
GNI Garni 61.35 300 *ce*P P 00 40 20.8 +2.3
GNI pmax pmax
comp=Z,13nm,0.8s
GNI Garni 61.35 300 P P 00 40 19.0 +0.5
UOSS Minazif 61.48 279 P P 00 40 20.1 +0.7
UOSS IAmb IAmb 00 40 23.6
comp=Z,21nm,0.8s
UOSS Minazif 61.48 279 P P 00 40 20.2 +0.8
NEEM North Greenlan 61.55 0 *i* P P 00 40 18.4 -1.0
NEEM IAmb IAmb 00 40 19.4
comp=Z,74nm,0.6s
HATD Hatta, Dubai 61.60 279 P P 00 40 20.4 +0.2
VSU Vasula 61.66 324 *e*P P 00 40 20.3 +0.3
MEF Metsahovi 61.68 327 *e*P P 00 40 19.8 -0.4
ASHO Ashiyiah 61.73 279 P P 00 40 21.7 +0.5
T35M Bob Quinn 61.75 38 P P 00 40 22.5 +1.7
baz=303,SNR=5.8
MOR8 Moi Rana 61.76 335 *e*P P 00 40 18.6 -2.1
MOR8 IAmb IAmb 00 40 19.8
comp=Z,26nm,0.7s
NAZ Nazwa, Dubai 61.85 280 P P 00 40 22.8 +0.9
TULEG Thule 61.91 5 P P 00 40 21.1 -0.4
TULEG Thule 61.91 5 *i* P P 00 40 20.4 -1.0
TULEG IAmb IAmb 00 40 21.2
comp=Z,49nm,0.6s
FAQ Al Faqa, Dubai 62.05 279 P P 00 40 23.7 +0.5
KARS Kars 62.18 301 P P 00 40 25.7 +1.6
KARS Kars 62.18 301 P P 00 40 25.7 +1.6
KARS pmax pmax
comp=Z,32nm,0.7s
RAF Rauma 62.28 328 *e*P P 00 40 24.3 +0.1
QIS Mount Isa 62.30 169 P P 00 40 25.2 +0.4
ASUD Al Ashush, Dub 62.31 279 *i* P P 00 40 25.9 +0.9
SNR=6.2
AJN Ajban 62.60 280 P P 00 40 27.2 +0.3
MBWA Marble Bar 62.72 190 P P 00 40 27.3 -0.2
MBWA IAmb IAmb 00 40 28.1
comp=Z,13nm,0.7s
DIB Dawson Inlet, 62.73 42 P P 00 40 28.7 +1.3
DIB IAmb IAmb 00 40 44.6
comp=Z,48nm,1.5s
SOC Sochi 62.74 305 *e*P P 00 40 27.0 -0.6
SOC *e* 00 42 42.6
SOC *e*S S 00 48 57.6 +0.2
SOC *e*SS SS 00 52 55.5 -5.8
SOC pmax pmax
comp=Z,19nm,0.8s
SOC MLR MLR
comp=Z,192nm,18.0s
MTSE Matsula 62.78 326 *e*P P 00 40 27.9 +0.3
CTA Charters Tower 63.11 162 P P 00 40 30.3 +0.1
comp=Z,15nm,0.7s,baz=351,slow=7.2,SNR=26
comp=Z,15nm,0.7s
CTA Charters Tower 63.11 162 P P 00 40 30.8 +0.6
CTAO Charters Tower 63.11 162 P P 00 40 30.6 +0.4
CTAO IAmb IAmb 00 40 31.1
comp=Z,18nm,0.8s
CTAO Charters Tower 63.11 162 P P 00 40 30.6 +0.4
CTAO pmax pmax
comp=Z,18nm,0.8s
CTAO Charters Tower 63.11 162 P P 00 40 30.8 +0.6
PSA00 Pilbara Seismi 63.11 190 P P 00 40 29.6 -0.5
PSA00 IAmb IAmb 00 40 30.7
comp=Z,16nm,1.2s
PSA00 Pilbara Seismi 63.11 190 P P 00 40 30.2 0.0
PSA00 IAmb IAmb 00 40 30.8
comp=Z,20nm,0.8s
PSA00 Pilbara Seismi 63.11 190 P P 00 40 31.0 +0.9
comp=Z,31nm,1.1s
MNK Minsk 63.33 320 *i* P P 00 40 31.7 +0.4
MNK *i* 00 41 08.9
MNK *i* 00 42 51.0
MNK *i* PPP PPP 00 44 18.5
MNK *i* S S 00 49 04.9 +0.5
MNK *i* SS SS 00 53 14.0 +4.1
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=E,7.0nm,1.0s
MNK pmax pmax
comp=Z,97nm,0.9s
MNK MLR MLR
comp=Z,127nm,20.0s
MNK MLR MLR
comp=N,14nm,17.0s
MNK MLR MLR
comp=E,50nm,14.0s
MNK Minsk 63.33 320 *i* P P 00 40 31.7 +0.4
comp=E,7.0nm,1.0s
MNK *i* P P 00 40 31.7 +0.4
comp=N,6.0nm,0.9s
MNK *i* P P 00 40 31.7 +0.4
comp=Z,97nm,0.9s,baz=55
MNK *i* PcP PcP 00 41 08.9 +0.5
MNK *i* PP PP 00 42 51.0 +1.0
MNK *i* PPP PPP 00 44 18.5
MNK *i* S S 00 49 05.0 +0.5
MNK *i* SS SS 00 53 14.1 +4.1
MNK *i* SSS SSS 00 56 10.7
MNK *i* LR LR 01 08 24.0
MNK *i* LRM MLR 01 10 31.3
comp=N,14nm,16.6s
MNK *i* LRM MLR 01 10 31.3
comp=Z,127nm,20.4s
MNK *i* LRM MLR 01 10 48.4
comp=E,50nm,14.1s
GEVA Gevas 63.43 299 P P 00 40 33.8 +1.3
ANN Anapa 63.48 307 *e*P P 00 40 33.5 +1.0
ANN pmax pmax
comp=Z,33nm,0.7s
ANN MLR MLR
comp=Z,170nm,10.0s
ISAL Salakas 63.56 322 *e*P P 00 40 33.6 +0.8
NSS Namsos 63.62 335 *e*P P 00 40 32.0 -1.0
NSS IAmb IAmb 00 40 41.5
comp=Z,74nm,1.8s
GRNB Grenville Isla 63.62 40 P P 00 40 34.6 +1.2
GRNB IAmb IAmb 00 40 35.6
comp=Z,16nm,0.7s
NACGM Naroch 63.63 321⇑ *i*P P 00 40 33.6 +0.3
IIGN Ignalina 63.64 322 *e*P P 00 40 33.8 +0.4
GURO Guroymak-BITLI 63.98 299 P P 00 40 37.5 +1.5
GURO IAmb IAmb 00 40 38.6
comp=Z,16nm,0.6s
SLIT Slitere, Latvi 64.08 325 *e*P P 00 40 36.1 -0.1
KOPT Kop Dagi 64.17 301 P P 00 40 39.2 +1.7
VSVD Vaisvydziai 64.33 323 *e*P P 00 40 38.4 +0.6
PABE Paberze 64.59 323 P P 00 40 40.5 +0.9
PABE Paberze 64.59 323 *e*P P 00 40 39.8 +0.2
MZR Muzera 64.63 279 *i* P P 00 40 40.4 0.0
SNR=13
YKA Yellowknife Ar 64.73 27 P P 00 40 39.8 -0.6
comp=Z,5.8nm,0.5s,baz=314,slow=6.1,SNR=18
comp=Z,5.8nm,0.5s
YKA Yellowknife Ar 64.73 27 P P 00 40 40.9 +0.5
YKA Yellowknife Ar 64.73 27 P P 00 40 40.9 +0.5
AS31 Alice Springs 64.77 175 P P 00 40 40.9 -0.2
ASAR Alice Springs 64.78 175 P P 00 40 40.6 -0.5
comp=Z,16nm,0.8s,baz=359,slow=6.6,SNR=128
ASAR PKP2bc 01 09 26.6
comp=Z,0.9nm,0.9s,baz=156,slow=3.3,SNR=5.0
comp=Z,16nm,0.8s
AKASG Malin Array Be 64.82 316 P P 00 40 40.9 -0.3
comp=Z,34nm,0.7s,baz=49,slow=7.0,SNR=149
AKASG LR LR 01 10 54.7
comp=Z,358nm,18.1s,baz=32,slow=38
comp=Z,34nm,0.7s
AKASG Malin Array Be 64.82 316 P P 00 40 41.4 +0.2
AKBB Malin Array Si 64.82 316 P P 00 40 41.2 +0.1
AKBB Malin Array Si 64.82 316 *ce*P P 00 40 41.0 -0.1
AK05 Malin Array Si 64.87 316 P P 00 40 41.4 -0.1
PBUR Paburge 65.20 324 *e*P P 00 40 43.9 +0.3
SIM Simferopol' 65.37 309 *e*P P 00 40 45.2 +0.4
SIM pmax pmax
comp=Z,65nm,0.9s
MARD Mardin 65.48 299 P P 00 40 46.9 +1.0
BBB Bella Bella 65.50 41 P P 00 40 46.0 +0.5
comp=Z,10nm,0.9s,baz=124,slow=1.6,SNR=6.1
comp=Z,10nm,0.9s
BBB Bella Bella 65.50 41 P P 00 40 46.0 +0.5
BBB IAmb IAmb 00 41 02.5
comp=Z,44nm,1.4s
HFS Hagfors 65.95 330 P P 00 40 47.3 -1.1
comp=Z,18nm,0.5s,baz=65,slow=7.0,SNR=104
comp=Z,18nm,0.5s
WRKA Warakurna 65.98 181 P P 00 40 49.2 +0.3
NC303 NORSAR Array S 66.06 332 IAmb IAmb 00 40 49.2
comp=Z,22nm,0.8s
NC303 NORSAR Array S 66.06 332 *e*P P 00 40 48.5 -0.5
NC303 IAmb IAmb 00 40 49.0
comp=Z,23nm,0.8s
SUMG Summit 66.11 356 P P 00 40 49.9 +0.2
SUMG Summit 66.11 356 P P 00 40 49.9 +0.2
SUMG pmax pmax
comp=Z,35nm,0.5s
SUMG Summit 66.11 356 *i* P P 00 40 48.6 -1.0
SUMG IAmb IAmb 00 40 50.2
comp=Z,31nm,0.6s
UPNV Upernavik 66.18 2 *i* P P 00 40 48.0 -1.6
UPNV IAmb IAmb 00 40 49.4
comp=Z,316nm,0.5s
NB201 NORSAR Array S 66.20 332 P P 00 40 49.5 -0.6
NC204 NORSAR Array S 66.23 332 P P 00 40 49.8 -0.4
NB2 NORSAR Subarra 66.24 332 P P 00 40 49.2 -1.0
comp=Z,43nm,1.1s,baz=47,slow=6.5
NB2 NORSAR Subarra 66.24 332 P P 00 40 49.2 -1.0
baz=47,slow=6.5
NOA NORSAR Array B 66.24 332 P P 00 40 49.1 -1.1
comp=Z,22nm,0.8s,baz=44,slow=6.3,SNR=82
NOA LR LR 01 12 37.9
comp=Z,110nm,21.5s,baz=245,slow=39
comp=Z,22nm,0.8s
DOMB Dombas 66.28 334 *e*P P 00 40 49.7 -0.8
DOMB IAmb IAmb 00 40 51.0
comp=Z,16nm,0.6s
NC602 NORSAR Array S 66.33 332 *e*P P 00 40 49.8 -1.0
NC602 IAmb IAmb 00 40 50.2
comp=Z,26nm,0.9s
HOLB Holberg 66.40 43 P P 00 40 52.1 +0.6
MOL Molde 66.41 334 *e*P P 00 40 50.2 -1.0
MOL IAmb IAmb 00 40 50.5
comp=Z,17nm,0.6s
NAO01 NORSAR Array S 66.49 332 IAmb IAmb 00 40 53.9
comp=Z,23nm,0.9s
DIKM Dikmen 66.56 305 ⇓P P 00 40 53.5 +1.0
SCO Scoresbysund 66.58 350 P P 00 40 51.8 -0.4
SCO Scoresbysund 66.58 350 P P 00 40 51.8 -0.4
SCO pmax pmax
comp=Z,215nm,1.5s
AKN Aaknes 66.87 334 *e*P P 00 40 54.3 +0.1
AKN IAmb IAmb 00 40 54.6
comp=Z,27nm,0.7s
BZK Bozkurt 67.14 306 P P 00 40 55.3 -1.0
OSL Oslo 67.18 331 *e*P P 00 40 55.6 -0.5
OSL IAmb IAmb 00 40 56.7
comp=Z,44nm,0.8s
MILM Milestii Mici 67.25 313 ⇓P P 00 40 55.9 -0.9
SKAR Skarslia 67.51 333 *e*P P 00 40 58.4 0.0
SKAR IAmb IAmb 00 40 58.9
comp=Z,26nm,0.7s
IAS Iasi 67.77 314 ⇓P P 00 41 00.0 -0.1
KONO Kongsberg 67.79 331 P P 00 40 59.5 -0.5
KONO IAmb IAmb 00 41 00.2
comp=Z,22nm,0.8s
KONO Kongsberg 67.79 331 *ce*P P 00 40 59.8 -0.2
KONO pmax pmax
comp=Z,14nm,0.8s
KONO Kongsberg 67.79 331 *e*P P 00 40 59.3 -0.7
HYA Hoyanger 67.87 334 *e*P P 00 41 00.3 -0.2
HYA IAmb IAmb 00 41 00.7
comp=Z,19nm,0.7s
VASR Vaslui 67.97 313 ⇑P P 00 41 02.3 +0.8
LVV L'vov 68.02 318 *e*P P 00 41 01.6 -0.1
LVV MLR MLR
comp=E,200nm,15.0s
LVV MLR MLR
comp=N,200nm,13.0s
LVV MLR MLR

comp=Z,300nm,14.0s
TLCR 68.28 311 ⇑P P **00 41 03.9 +0.5**
VLDR Vladesti 68.30 312 ⇑P P **00 41 03.9 +0.4**
BEL Belsk 68.35 321 *i* P P **00 41 04.3 +0.6**
SUE Sulen 68.42 334 *eP* P **00 41 03.8 -0.2**
JURR Jurilovca 68.50 311 ⇑P P **00 41 05.5 +0.7**
GHRR 68.54 313 ⇑P P **00 41 05.7 +0.7**
ODD1 Odda 68.64 333 *eP* P **00 41 05.6 +0.2**
ODD1 IAmb IAmb 00 41 05.8
comp=Z,27nm,1.1s
CFR Carcaliu 68.67 312 ⇓P P **00 41 05.6 -0.2**
BR131 Keskin Array S 68.67 304 IAmb IAmb 00 41 06.9
comp=Z,16nm,0.7s
BRTR Keskin Array B 68.68 304 P P **00 41 06.0 -0.1**
comp=Z,7.9nm,0.6s,baz=66,slow=4.1,SNR=57
BRTR LR LR 01 14 55.5
comp=Z,249nm,18.5s,baz=310,slow=39
comp=Z,7.9nm,0.6s
TESR Tescani 68.68 314 ⇑P P **00 41 05.9 0.0**
TPGR Topolog 68.70 311 ⇑P P **00 41 06.4 +0.4**
ASK Askoy 68.71 334 *eP* P **00 41 05.7 -0.1**
ASK IAmb IAmb 00 41 06.4
comp=Z,98nm,1.1s
BIZ Bicaz 68.71 314 ⇑P P **00 41 06.6 +0.5**
BER Bergen 68.73 334 *eP* P **00 41 05.9 0.0**
BER IAmb IAmb 00 41 13.1
comp=Z,51nm,1.3s
BUR08 Bucovina Ar. S 68.76 315 P P **00 41 06.8 +0.3**
BURAR Bucovina Array 68.77 315 ⇓P P **00 41 06.8 +0.2**
BURAR Bucovina Array 68.77 315 P P **00 41 07.0 +0.5**
OZB Mount Ozzard 68.78 43 P P **00 41 07.9 +1.3**
PANC Panciu 68.80 313 ⇑P P **00 41 07.9 +1.3**
KWP Kalwaria Pacla 68.81 318 *i* P P **00 41 07.2 +0.6**
KWP Kalwaria Pacla 68.81 318 P P **00 41 07.3 +0.6**
KWP Kalwaria Pacla 68.81 318 P P **00 41 07.3 +0.6**
KWP pmax pmax
comp=Z,729nm,0.6s
BSD Bornholm Skovb 68.84 326 *eP* P **00 41 06.5 -0.2**
BSD Bornholm Skovb 68.84 326 *i* P P **00 41 05.3 -1.4**
BSD IAmb IAmb 00 41 06.7
comp=Z,71nm,0.6s
TIRR Tirgusor 68.95 311 ⇓P P **00 41 07.6 0.0**
OOD Oodnadatta 69.00 174 P P **00 41 08.3 +0.4**
VRI Vrincioaia 69.03 313 ⇑P P **00 41 08.6 +0.5**
BLS5 Blasjo 69.06 333 *eP* P **00 41 07.9 -0.2**
BLS5 IAmb IAmb 00 41 08.6
comp=Z,24nm,0.8s
GKP Gorka Klasztor 69.06 323 *i* P P **00 41 08.1 +0.1**
GKP Gorka Klasztor 69.06 323 *eP* P **00 41 08.2 +0.1**
HARR Harsova 69.08 311 ⇓P P **00 41 08.6 +0.2**
PLOR Plostina 69.08 313 ⇑P P **00 41 09.1 +0.6**
TLBR Topalu 69.10 311 ⇑P P **00 41 09.0 +0.4**
ANTO Ankara 69.11 305 ⇑P P **00 41 08.7 -0.1**
ANTO Ankara 69.11 305 P P **00 41 09.3 +0.5**
ANTO IAmb IAmb 00 41 09.8
comp=Z,24nm,0.7s
ANTO Ankara 69.11 305 P P **00 41 09.3 +0.5**
ANTO pmax pmax
comp=Z,24nm,0.7s
BR231 Keskin MP Arra 69.14 305 P P **00 41 09.1 +0.1**
BR231 IAmb IAmb 00 41 10.1
comp=Z,22nm,0.8s
HOMB Homborsund 69.17 331 *eP* P **00 41 08.2 -0.4**
HOMB IAmb IAmb 00 41 10.7
comp=Z,33nm,1.1s
COVR Voineasa-Covas 69.33 313 ⇑P P **00 41 10.4 +0.4**
EIDS Eidsvold 69.39 159 P P **00 41 12.4 +2.0**
EIDS IAmb IAmb 00 41 28.1
comp=Z,26nm,1.4s
OZUR 69.41 314 ⇑P P **00 41 11.4 +0.9**
KOLS Kolonicke sedl 69.47 318 *eP* P **00 41 11.1 +0.3**
KOLS pmax pmax
comp=Z,78nm,0.6s
KOLS Kolonicke sedl 69.47 318 *eP* P **00 41 11.1 +0.3**
PGOR Pogoanele 69.48 312 ⇑P P **00 41 11.5 +0.7**
COP Copenhagen 69.48 327 *i* P P **00 41 10.2 -0.5**
COP IAmb IAmb 00 41 11.0
comp=Z,136nm,0.6s
ICOR Ion Corvin 69.50 311 ⇑P P **00 41 11.9 +0.9**
INKA Innaminka 69.53 169 P P **00 41 12.4 +1.3**
comp=Z,72nm,0.9s
LLLB Lillooet 69.53 40 P P **00 41 11.7 +0.5**
LLLB IAmb IAmb 00 41 12.6
comp=Z,12nm,0.8s
NEHR Nehoiu 69.54 313 ⇑P P **00 41 12.0 +0.7**
ARCR ARCALIA 69.56 315 ⇑P P **00 41 12.6 +1.3**
SNART Snartemo 69.59 331 *eP* P **00 41 11.2 -0.1**
SNART IAmb IAmb 00 41 13.9
comp=Z,224nm,1.6s
ICESG Greenland Ices 69.63 356 *i* P P **00 41 10.5 -1.3**
ICESG IAmb IAmb 00 41 12.4
comp=Z,32nm,0.7s
KMY Karmoy 69.64 333 *eP* P **00 41 11.9 +0.4**
BMR Baia Mare 69.64 316 ⇓P P **00 41 12.8 +1.0**
UZH Uzhgorod 69.65 317 ⇑*i*P P **00 41 11.2 -0.7**
MLR Muntele Rosu 69.69 313 ⇑P P **00 41 12.8 +0.4**
MLR Muntele Rosu 69.69 313 P P **00 41 12.6 +0.2**
comp=Z,15nm,0.7s,baz=100,slow=6.1,SNR=27
comp=Z,15nm,0.7s
MLR Muntele Rosu 69.69 313 IAmb IAmb 00 41 14.2
comp=Z,26nm,1.0s
DOPR Dopca 69.70 314 ⇓P P **00 41 13.3 +1.1**
MDUB Mudurnu 69.73 306 P P **00 41 12.7 +0.1**
TGMR Targu Mures 69.82 315 ⇑P P **00 41 14.4 +1.5**
ILULI Ilulissat 69.82 0 *i* P P **00 41 11.5 -1.0**
ILULI IAmb IAmb 00 41 12.5
comp=Z,46nm,0.6s
SOEG Soedalen 69.85 352 *i* P P **00 41 11.9 -0.8**
SOEG IAmb IAmb 00 41 13.3
comp=Z,22nm,0.5s
RMQ Roma 69.86 161 P P **00 41 15.7 +2.4**
OJC Ojcow 69.87 320 *i* P P **00 41 12.4 -0.8**
RGN Rugen 69.90 326 P P **00 41 13.7 +0.4**
C03A Quillayute Air 69.90 43 P P **00 41 14.6 +1.1**
PGC Sidney 70.03 42 P P **00 41 15.3 +1.2**
NIE Niedzica 70.15 319 *i* P P **00 41 16.0 +1.0**
CBBR Cluj-Babes-Bol 70.19 315 ⇑P P **00 41 16.7 +1.5**
CJR Cluj-Napoca 70.19 315 ⇑P P **00 41 16.4 +1.0**
RAYN Ar Rayn 70.20 284 P P **00 41 16.1 +0.4**
RAYN IAmb IAmb 00 41 16.9
comp=Z,18nm,0.8s
RAYN Ar Rayn 70.20 284 P P **00 41 16.1 +0.4**
RAYN pmax pmax
comp=Z,18nm,0.8s
RAYN Ar Rayn 70.20 284 *i* P P **00 41 15.9 +0.2**
SNR=28
VOIR 70.22 313 ⇑P P **00 41 16.3 +0.7**
MUD Monsted U'grnd 70.23 329 *i* P P **00 41 14.1 -1.2**
MUD IAmb IAmb 00 41 15.5
comp=Z,27nm,0.6s
MESR Meseneti 70.26 316 ⇓P P **00 41 16.8 +1.2**
B04A Port Angeles 70.38 43 P P **00 41 17.8 +1.4**
B04A IAmb IAmb 00 41 38.1
comp=Z,19nm,1.1s
ARR Arges 70.49 314 ⇓P P **00 41 18.4 +1.2**
BORA Eskisehir 70.54 306 IAmb IAmb 00 41 18.2
comp=Z,20nm,0.7s
RAZG Razgrad 70.58 311 ⇑P P **00 41 18.1 +0.4**
DRGR 70.61 316 ⇑P P **00 41 18.5 +0.6**
NLWA Neilton Lookou 70.62 44 P P **00 41 19.5 +1.6**
NLWA IAmb IAmb 00 41 20.1
comp=Z,22nm,0.8s
LTVH Ltavrtes, Hu 70.66 317 ⇓P P **00 41 19.4 +1.4**
LTVH Ltavrtes, Hu 70.66 317 P P **00 41 19.8 +1.8**
LANS Liptovska Anna 70.73 319 *eP* P **00 41 19.7 +1.1**
LANS pmax pmax
comp=Z,27nm,0.7s
LANS Liptovska Anna 70.73 319 *eP* P **00 41 19.7 +1.1**
RAC Raciborz 70.74 320 *eP* P **00 41 19.2 +0.7**
RAC LMZ LR 01 15 32.9
comp=Z,0.7nm,17.8s
RAC Raciborz 70.74 320 *eP* P **00 41 19.2 +0.7**
RAC MLR MLR
comp=Z,700nm,17.8s
HUMR Humele 70.83 313 ⇑P P **00 41 19.4 +0.2**
WISH Wishkah 70.85 44 P P **00 41 20.9 +1.7**
WISH IAmb IAmb 00 41 21.7
comp=Z,29nm,0.8s
BORR Bors 70.91 316 ⇑P P **00 41 20.2 +0.6**
LOT Lotru 70.91 314 ⇑P P **00 41 19.9 +0.1**
OKC Ostrava-Krasne 70.92 320 ⇑*i*P P **00 41 19.9 +0.3**
OKC MLR MLR
comp=Z,700nm,14.5s
OKC Ostrava-Krasne 70.92 320 ⇑*i*P P **00 41 19.9 +0.3**
OKC AMS AMS 01 15 30.0
comp=Z,700nm,14.5s
LRW Lerwick 71.00 336 *eP* P **00 41 19.6 -0.3**
LRW IAmb IAmb 00 41 20.6
comp=Z,44nm,0.7s
MORW Morawa 71.03 192 IAmb IAmb 00 41 21.0
comp=Z,28nm,0.8s
MORW Morawa 71.03 192 P P **00 41 20.5 +0.2**
ASF Jabal al Asfar 71.07 296 P P **00 41 21.1 +0.1**
comp=Z,14nm,0.8s,baz=42,slow=2.9,SNR=43
comp=Z,14nm,0.8s
DEV Deva 71.10 315 ⇑P P **00 41 21.9 +1.2**
B06A Marblemount 71.10 41 P P **00 41 20.4 -0.3**
B06A IAmb IAmb 00 41 22.5
comp=Z,16nm,0.8s
KSP Ksiaz 71.12 322 *i* P P **00 41 21.2 +0.4**
RUE Ruedersdorf 71.14 324 *eP* P **00 41 21.1 +0.3**
ZIMR 71.17 312 ⇓P P **00 41 21.6 +0.4**
MORC Moravsky Berou 71.25 320 ⇓P P **00 41 22.3 +0.6**
MORC Moravsky Berou 71.25 320 ⇑P P **00 41 22.1 +0.4**
E03A Lebam 71.33 44 P P **00 41 23.1 +1.0**
PSZ Piszkesteto 71.33 318 ⇑P P **00 41 22.9 +0.6**
PSZ Piszkesteto 71.33 318 IAMs_20 IAMs_20 01 16 00.8
comp=Z,380nm,19.0s
PSZ Piszkesteto 71.33 318 P P **00 41 22.8 +0.6**
OSTC Ostas 71.36 322 ⇑*i*P P **00 41 22.7 +0.4**
OSTC AMS AMS 01 15 10.0
comp=Z,400nm,14.0s
MAUC Maruska 71.39 320 ⇑*i*P P **00 41 23.0 +0.4**
MAUC AMS AMS 01 15 40.0
comp=Z,1μm,15.4s
CHVC Chvalec 71.41 322 ⇑*i*P P **00 41 23.1 +0.5**
CHVC AMS AMS 01 15 30.0
comp=Z,500nm,11.5s
KRLC Kraliky 71.42 321 ⇑*i*P P **00 41 23.1 +0.4**
KRLC MLR MLR
comp=Z,500nm,14.4s
KRLC Kraliky 71.42 321 ⇑*i*P P **00 41 23.1 +0.4**
KRLC AMS AMS 01 15 30.0
comp=Z,500nm,14.4s
DPC Dobruska-Polom 71.45 321 ⇑*i*P P **00 41 23.5 +0.6**
DPC MLR MLR
comp=Z,400nm,12.8s
DPC Dobruska-Polom 71.45 321 ⇑*i*P P **00 41 23.5 +0.6**
DPC AMS AMS 01 15 40.0
comp=Z,400nm,12.8s
GZR Gura Zlata 71.48 314 ⇑P P **00 41 23.7 +0.5**
VYHS Vyhne 71.48 319 *eP* P **00 41 23.8 +0.7**
VYHS pmax pmax
comp=Z,19nm,0.7s
VYHS Vyhne 71.48 319 *eP* P **00 41 23.8 +0.7**
UPC Upice 71.48 322 ⇑*i*P P **00 41 23.5 +0.5**
UPC MLR MLR
comp=Z,500nm,13.8s
UPC Upice 71.48 322 ⇑*i*P P **00 41 23.5 +0.5**
UPC AMS AMS 01 15 30.0
comp=Z,500nm,13.8s
SIRR Siria 71.51 316 ⇑P P **00 41 23.9 +0.7**
BSZH Besenyszg 71.55 317 ⇓P P **00 41 24.9 +1.4**
BSZH Besenyszg 71.55 317 P P **00 41 24.3 +0.9**
MMAI Mount Meron Ar 71.56 298 P P **00 41 23.8 -0.1**
comp=Z,4.5nm,0.6s,baz=44,slow=7.3,SNR=15
MMAI LR LR 01 16 21.6
comp=Z,182nm,19.8s,baz=143,slow=39
comp=Z,4.5nm,0.6s
EDM Edmonton 71.63 34 IAmb IAmb 00 41 25.0
comp=Z,11nm,0.6s
FORT Forrest 71.71 181 P P **00 41 26.4 +2.0**
SRE Strehaia 71.72 314 ⇑P P **00 41 25.8 +1.2**
D05A Enumclaw 71.72 43 P P **00 41 25.9 +1.3**
D05A IAmb IAmb 00 41 26.9
comp=Z,29nm,0.7s
CSS Mathiatis 71.74 301 IAmb IAmb 00 41 26.8
comp=Z,15nm,0.8s
BORG Borgarnes 71.78 347 P P **00 41 24.9 +0.4**
comp=Z,25nm,0.9s,baz=42,slow=3.1,SNR=2.6
comp=Z,25nm,0.9s
BORG Borgarnes 71.78 347 P P **00 41 25.2 +0.7**
BORG Borgarnes 71.78 347 P P **00 41 25.2 +0.7**
BORG pmax pmax
comp=Z,55nm,1.1s
JAVC Velka Javorina 71.81 320 ⇑*i*P P **00 41 26.5 +1.4**
LCRK Leigh Creek 71.87 172 P P **00 41 26.5 +1.1**
comp=Z,50nm,0.8s
DZM Mont Dzumac 71.95 144 P P **00 41 26.9 +0.7**
comp=Z,211nm,0.8s,baz=37,slow=4.2,SNR=10
comp=Z,211nm,0.8s
DZM Mont Dzumac 71.95 144 P P **00 41 28.0 +1.8**
DZM IAmb IAmb 00 41 29.0
comp=Z,22nm,0.8s
BZS Buzias 71.95 315 ⇓P P **00 41 26.2 +0.3**
HERR Herculane 72.01 314 ⇑P P **00 41 26.8 +0.6**
VRAC Vranov 72.03 321 ⇑P P **00 41 27.2 +0.9**
VRAC Vranov 72.03 321 P P **00 41 26.7 +0.4**
comp=Z,38nm,0.8s,baz=53,slow=7.5,SNR=59
VRAC LR LR 01 16 25.7
comp=Z,533nm,18.1s,baz=48,slow=39
comp=Z,38nm,0.8s
VRAC Vranov 72.03 321 ⇑P P **00 41 26.8 +0.4**
SFJD Kangerlussuaq 72.05 360 P P **00 41 25.6 -0.5**
comp=Z,21nm,0.7s,baz=26,slow=4.0,SNR=8.3
SFJD LR LR 01 13 32.3
comp=Z,126nm,18.7s,baz=164,slow=36
comp=Z,21nm,0.7s
SFJD Kangerlussuaq 72.05 360 P P **00 41 26.0 -0.1**
SFJD IAmb IAmb 00 41 26.2
comp=Z,24nm,0.8s
SFJD Kangerlussuaq 72.05 360 P P **00 41 26.0 -0.1**
SFJD pmax pmax
comp=Z,24nm,0.8s
SFJD Kangerlussuaq 72.05 360 *i* P P **00 41 25.0 -1.1**
SFJD IAmb IAmb 00 41 26.2
comp=Z,19nm,0.8s
BUD Budapest 72.06 318 P P **00 41 27.3 +0.8**
DJES Djerdap 72.09 314 ⇑P P **00 41 27.2 +0.4**
PUNG Punghina 72.12 314 ⇑P P **00 41 28.1 +1.1**
PVCC Panska Ves 72.14 322 ⇑*i*P P **00 41 27.5 +0.5**
PVCC MLR MLR
comp=Z,500nm,13.4s
PVCC Panska Ves 72.14 322 ⇑*i*P P **00 41 27.5 +0.5**
PVCC AMS AMS 01 16 30.0
comp=Z,500nm,13.4s
SMOL Smolenice 72.16 320 *eP* P **00 41 28.1 +0.9**
SMOL pmax pmax
comp=Z,17nm,0.7s
BRG Berggiesshubel 72.19 323 ⇑*i*P P **00 41 27.3 +0.1**
BRG Amp 00 41 28.3
comp=Z,26nm,0.7s
BRG *i* x x 00 41 33.6
BRG Amp 00 41 34.9
comp=Z,12nm,0.8s
BRG *i* x x 00 41 42.8
BRG Amp 00 41 43.5
comp=Z,7.6nm,0.7s
BRG Amp 01 16 30.0
comp=Z,0.5nm,15.2s
BRG Amp 01 16 34.0
comp=N,0.2nm,12.9s
BRG Amp 01 16 34.0
comp=E,0.2nm,18.5s
BRG Berggiesshubel 72.19 323 ⇑*i*P P **00 41 27.3 +0.1**
BRG 00 41 42.8
BRG pmax pmax
comp=Z,26nm,0.7s
BRG pmax pmax
comp=Z,12nm,0.8s
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG MLR MLR
comp=Z,473nm,15.2s
BRG MLR MLR
comp=N,237nm,12.9s
BRG MLR MLR
comp=E,230nm,18.5s
KRUC Moravsky 72.29 320 ⇑*i*P P **00 41 28.3 +0.4**
CLL Collm 72.30 324 P P **00 41 28.2 +0.3**
CLL IAMs_20 IAMs_20 01 15 40.1
comp=Z,191nm,20.0s
CLL Collm 72.30 324 ⇑*i*P P **00 41 27.9 0.0**
CLL pmax pmax
comp=Z,72nm,0.7s
CLL Collm 72.30 324 ⇑*i*P P **00 41 27.9 0.0**
comp=Z,72nm,0.7s
MODS Modra-Piesok 72.33 319 *eP* P **00 41 29.0 +0.8**
MODS pmax pmax
comp=Z,48nm,1.0s
MODS Modra-Piesok 72.33 319 *eP* P **00 41 29.0 +0.8**
LTY Liberty 72.35 42 P P **00 41 28.8 +0.4**
LTY IAmb IAmb 00 41 29.6
comp=Z,12nm,0.7s
BANR Banloc 72.36 315 ⇓P P **00 41 29.3 +1.0**
MDVR Moldovita 72.45 315 ⇓P P **00 41 29.1 +0.1**
GOPC GO Pecny, Ondr 72.46 322 ⇑*i*P P **00 41 29.4 +0.4**
GOPC MLR MLR
comp=Z,400nm,20.5s
GOPC GO Pecny, Ondr 72.46 322 ⇑*i*P P **00 41 29.4 +0.4**
GOPC AMS AMS 01 16 10.0
comp=Z,400nm,20.5s
DY2G Dye2 72.51 358 *i* P P **00 41 28.0 -1.2**
DY2G IAmb IAmb 00 41 29.6
comp=Z,68nm,0.7s
PRU Pruhonice 72.53 322 ⇑*i*P P **00 41 29.7 +0.4**
PRU MLR MLR
comp=Z,400nm,13.9s
PRU Pruhonice 72.53 322 ⇑*i*P P **00 41 29.7 +0.4**
PRU AMS AMS 01 16 10.0
comp=Z,400nm,13.9s
CSKK Cskako 72.53 318 P P **00 41 29.8 +0.4**
ALN Alexandroupoli 72.53 309 P P **00 41 29.4 -0.1**
ALN IAmb IAmb 00 41 30.4
comp=Z,17nm,0.9s
ALN Alexandroupoli 72.53 309 P P **00 41 29.4 -0.1**
ALN pmax pmax
comp=Z,17nm,0.9s
PLD Plovdiv 72.53 311 *i* P P **00 41 30.0 +0.5**
ZST Bratislava 72.54 319 *eP* P **00 41 30.5 +1.1**
ZST pmax pmax
comp=Z,51nm,0.6s
ZST Bratislava 72.54 319 *eP* P **00 41 30.5 +1.1**
TREC Trest 72.56 321 ⇑*i*P P **00 41 29.9 +0.3**
TREC MLR MLR
comp=Z,500nm,13.2s
TREC Trest 72.56 321 ⇑*i*P P **00 41 29.9 +0.3**
TREC AMS AMS 01 16 10.0
comp=Z,500nm,13.2s
RDO Rodhopi 72.67 310 IAmb IAmb 00 41 31.6
comp=Z,33nm,0.9s
BLKB Belogradchik 72.69 313 ⇑P P **00 41 30.7 +0.2**
COR Corvallis 72.75 45 P P **00 41 32.1 +1.4**
COR Corvallis 72.75 45 P P **00 41 32.1 +1.4**
COR pmax pmax
comp=Z,42nm,0.8s
I02E Swisshome, OR 72.77 46 P P **00 41 32.4 +1.5**
I02E Swisshome, OR 72.77 46 P P **00 41 32.1 +1.3**
baz=311
ANGG Ammassalik, Gr 72.93 354 P P **00 41 30.6 -0.8**
EGYH Egyhazaskeszo 72.96 319 P P **00 41 32.4 +0.5**
MPLH Magyarpolny 73.02 318 P P **00 41 32.9 +0.6**
TIH Tihany 73.03 318 P P **00 41 32.6 +0.3**
VTS Vitosha 73.03 312 ⇑P P **00 41 33.4 +0.8**
VTS Vitosha 73.03 312 ⇑*i*P P **00 41 33.1 +0.5**
H04D Lebanon 73.10 45 IAmb IAmb 00 41 34.8
comp=Z,26nm,0.8s
H04D Lebanon 73.10 45 P P **00 41 33.5 +0.7**
baz=312,SNR=5.8
MORH Mrgy, Hungar 73.11 317 ⇓P P **00 41 32.7 -0.1**
MORH Mrgy, Hungar 73.11 317 P P **00 41 32.5 -0.3**
HOOD Mount Hood Mea 73.14 44 P P **00 41 34.8 +1.6**
MLA1 Latheron 73.15 336 *eP* P **00 41 32.7 -0.1**
SOP Sopron 73.16 319 P P **00 41 33.9 +0.8**
BUCK Buck Mountain 73.18 46 P P **00 41 34.8 +1.4**
BUCK IAmb IAmb 00 41 35.8
comp=Z,28nm,0.8s
BOVS Bovan 73.21 314 ⇓P P **00 41 32.9 -0.5**
FRGS Fruska Gora 73.21 316 ⇓P P **00 41 33.4 0.0**
FRGS Fruska Gora 73.21 316 ⇑*i*P P **00 41 33.3 -0.2**
RONA Rosalia, Austr 73.27 319 *i* P P **00 41 34.7 +0.9**
comp=Z,30nm,0.8s,SNR=24
H04A Detroit Lake 73.28 45 P P **00 41 34.8 +0.8**
NKC Novy Kostel 73.31 323 ⇑*i*P P **00 41 34.2 +0.2**
NKC MLR MLR
comp=Z,500nm,11.6s
NKC Novy Kostel 73.31 323 ⇑*i*P P **00 41 34.2 +0.2**
NKC AMS AMS 01 17 30.0
comp=Z,500nm,11.6s
I03D Drain, OR 73.31 46 P P **00 41 35.2 +1.2**
baz=312,SNR=10
KEBM Edson Butte 73.32 47 P P **00 41 35.1 +0.9**
CONA Conrad Observa 73.33 320 *i* P P **00 41 35.0 +0.8**
comp=Z,22nm,0.6s,SNR=27
AKAS Kas 73.33 304 P P **00 41 33.6 -0.9**
AKAS IAmb IAmb 00 41 51.1
comp=Z,28nm,0.9s
J01E Myrtle Point 73.35 47 P P **00 41 35.5 +1.2**
J01E Myrtle Point 73.35 47 P P **00 41 35.4 +1.2**
baz=311,SNR=5.2
D08A Wollman Farm, 73.36 41 IAmb IAmb 00 41 35.8
comp=Z,19nm,0.7s
G05D Wamic, OR 73.37 44 P P **00 41 35.6 +1.1**
baz=312
NEW Newport 73.41 40 P P **00 41 35.2 +0.5**
comp=Z,8.1nm,0.8s,baz=318,slow=6.3,SNR=11
comp=Z,8.1nm,0.8s
NEW Newport 73.41 40 P P **00 41 35.1 +0.5**
baz=314,SNR=7.8
CKRC Cesky Krumlov 73.45 321 ⇑*i*P P **00 41 35.1 +0.3**
CKRC AMS AMS 01 16 40.0
comp=Z,500nm,15.8s
KOVH Kovagotottos 73.47 317 P P **00 41 34.7 -0.3**
HAWA Hanford 73.51 42 P P **00 41 36.3 +1.1**
HAWA IAmb IAmb 00 41 36.9
comp=Z,24nm,0.8s
KHC Kasperske Hory 73.58 322 P P **00 41 36.0 +0.4**
KHC Kasperske Hory 73.58 322 ⇑*i*P P **00 41 35.9 +0.3**
KHC MLR MLR
comp=Z,500nm,14.3s
KHC Kasperske Hory 73.58 322 ⇑*i*P P **00 41 35.9 +0.3**
KHC AMS AMS 01 17 00.0
comp=Z,500nm,14.3s
F07A Phinny Hill Vi 73.65 43 P P **00 41 36.8 +0.8**
F07A IAmb IAmb 00 41 38.4
comp=Z,27nm,0.8s
E08A Dider Farm, El 73.68 42 P P **00 41 36.1 -0.1**
E08A IAmb IAmb 00 41 38.4
comp=Z,21nm,1.1s
BARS Barje 73.69 313 *i* P P **00 41 36.3 -0.1**
STKA Stephens Creek 73.71 169 P P **00 41 36.8 +0.4**
comp=Z,7.5nm,0.5s,baz=346,slow=6.1,SNR=22
comp=Z,7.5nm,0.5s
STKA Stephens Creek 73.71 169 P P **00 41 37.1 +0.8**
GEC2 GERESS Array S 73.72 322 IAmb IAmb 00 41 37.3
comp=Z,20nm,0.8s
GERES GERESS Array B 73.72 322 P P **00 41 36.3 -0.2**
comp=Z,16nm,0.7s,baz=44,slow=4.3,SNR=141
comp=Z,16nm,0.7s
GERES GERESS Array B 73.72 322 P P **00 41 36.1 -0.4**
BLJ Bijeljina 73.75 316 *eP* P **00 41 36.3 -0.3**
DBO Dodson Butte 73.75 47 P P **00 41 37.4 +0.6**
DBO IAmb IAmb 00 41 38.8
comp=Z,17nm,0.7s
I04A Tendick Farm, 73.76 46 P P **00 41 37.2 +0.5**
baz=312,SNR=19
K02D Willamette Mer 73.80 47 P P **00 41 38.0 +0.9**
baz=312,SNR=5.1
SRS Serrai 73.81 311 *i* P P **00 41 37.2 +0.1**
DIVS Divibare 73.83 315 IAmb IAmb 00 41 38.3
comp=Z,26nm,0.8s
DIVS Divibare 73.83 315 ⇑*i*P P **00 41 36.7 -0.5**
EIL Elat 73.92 295 P P **00 41 38.0 +0.1**
comp=Z,11nm,0.8s,baz=28,slow=4.7,SNR=8.6
comp=Z,11nm,0.8s
ARSA Arzberg 73.96 319 *i* P P **00 41 38.2 +0.4**
comp=Z,11nm,0.6s,SNR=15
I05D Terrebonne, OR 73.97 45 P P **00 41 38.8 +0.8**
baz=312,SNR=16
DRUM Mains of Drumt 74.01 335 ⇑*eP* P **00 41 37.3 -0.6**
DRUM IAmb IAmb 00 41 38.7
comp=Z,77nm,0.6s
CMSA Cobar Meteorol 74.07 165 P P **00 41 40.0 +1.6**
KMR Kremsmunster 74.07 321 P P 00 41 47.3 +8.8
KMR pmax pmax
comp=Z,42nm,0.7s
FCC Fort Churchill 74.08 22 P P **00 41 38.4 +0.2**
FCC IAmb IAmb 00 41 41.1
comp=Z,18nm,0.9s
FCC Fort Churchill 74.08 22 P P **00 41 38.4 +0.2**
FCC pmax pmax
comp=Z,18nm,0.9s
E09A Wood Farm, Sta 74.12 41 P P **00 41 39.7 +0.9**

E09A IAmb IAmb 00 41 40.5
comp=Z,19nm,0.7s
MOA Molln 74.15 321 *i* P **P** **00 41 39.2 +0.2**
comp=Z,7.2nm,0.6s,SNR=11
KNT Kendrikon 74.17 311 *eP* **P** **00 41 38.7 -0.5**
MSVF Nonsavu 74.20 132 P **P** **00 41 40.3 +0.7**
comp=Z,23nm,0.9s,baz=299,slow=8.5,SNR=10
comp=Z,23nm,0.9s
MSVF Nonsavu 74.20 132 P **P** **00 41 41.2 +1.6**
MSVF IAmb IAmb 00 41 43.6
comp=Z,35nm,0.9s
MSVF Nonsavu 74.20 132 P **P** **00 41 41.2 +1.6**
MSVF pmax pmax
comp=Z,35nm,1.0s
MSVF Nonsavu 74.20 132 P **P** **00 41 40.8 +1.2**
STIP Stip 74.22 312 *i* P **P** **00 41 38.2 -1.2**
L02F Cave Junction 74.24 48 P **P** **00 41 40.6 +1.1**
baz=312
HUMO Hull Mountain 74.25 47 P **P** **00 41 40.6 +0.9**
GRFO Grafenberg 74.25 323 P **P** **00 41 40.2 +0.8**
GRFO Grafenberg 74.25 323 P **P** **00 41 40.3 +0.8**
GRFO pmax pmax
comp=Z,81nm,0.7s
VAY Valandovo 74.25 311 *i* P **P** **00 41 40.0 +0.4**
KSXB Camp Six Broad 74.26 48 P **P** **00 41 40.9 +1.1**
KSXB IAmb IAmb 00 41 41.9
comp=Z,31nm,0.8s
ARG Arkhangelos 74.26 304 IAmb IAmb 00 41 41.1
comp=Z,32nm,1.0s
J04D Umpqua Nationa 74.29 46 P **P** **00 41 40.9 +0.8**
baz=312,SNR=17
ARMA Armidale 74.34 160 P **P** **00 41 41.3 +1.2**
ARMA IAmb IAmb 00 41 42.5
comp=Z,19nm,0.8s
ARMA Armidale 74.34 160 P **P** **00 41 42.2 +2.1**
WALA Waterton Lakes 74.36 37 P **P** **00 41 40.6 +0.4**
FRB Frobisher Bay 74.38 8 P **P** **00 41 39.4 -0.6**
comp=Z,62nm,0.8s,baz=12,slow=5.9,SNR=21
comp=Z,62nm,0.8s
KAC Achnashellach 74.40 336⇑ *eP* **P** **00 41 39.9 -0.4**
A052A Srbac 74.45 317 *eP* **P** **00 41 40.0 -0.7**
SKO Skopje 74.46 312 *i* P **P** **00 41 41.6 +0.8**
RUDO Rudo 74.48 315⇑ *iP* **P** **00 41 40.4 -0.5**
BIOA Bad Ischl, Aus 74.56 321 *i* P **P** **00 41 41.7 +0.3**
comp=Z,26nm,0.6s,SNR=18
GRG Griva 74.59 311 *i* P **P** **00 41 41.5 -0.1**
SOKA Soboth 74.60 319 *i* P **P** **00 41 41.8 +0.1**
comp=Z,31nm,0.8s,SNR=28
NWAO Narrogin (SRO) 74.64 190 P **P** **00 41 41.8 +0.1**
comp=Z,28nm,0.8s,baz=221,slow=5.3,SNR=9.1
comp=Z,28nm,0.8s
BEY Berane 74.70 314 *i* P **P** **00 41 43.2 +0.8**
J05D Fort Rock, OR 74.73 45 P **P** **00 41 43.9 +1.3**
baz=313,SNR=33
A051A Mrakovica 74.82 317⇑ *iP* **P** **00 41 42.3 -0.7**
ESY Stoneypath 74.86 334⇑ *eP* **P** **00 41 42.4 -0.5**
BLY Banja Luka 74.86 317 *eP* **P** **00 41 43.8 +0.7**
L04D Klamath Falls 74.87 47 P **P** **00 41 44.0 +0.6**
baz=312
K04D Chiloquin, OR 74.90 46 P **P** **00 41 44.4 +0.9**
baz=313,SNR=5.1
INVG Invergeldie, C 74.90 335⇑ *eP* **P** **00 41 42.6 -0.5**
INVG IAmb IAmb 00 41 43.2
comp=Z,30nm,0.7s
PRIJ Prijedor 74.94 317 *eP* **P** **00 41 44.1 +0.5**
F10A Beach Ranch, E 74.96 41 P **P** **00 41 44.4 +0.6**
OBKA Obir 74.96 319⇑ *iP* **P** **00 41 43.6 -0.2**
OBKA Obir 74.96 319 *i* P **P** **00 41 43.8 0.0**
comp=Z,18nm,0.6s,SNR=12
YBH Yreka Blue Hor 74.97 47 P **P** **00 41 45.0 +1.1**
comp=Z,8.6nm,0.7s,baz=25,slow=7.0,SNR=23
comp=Z,8.6nm,0.7s
YBH Yreka Blue Hor 74.97 47 P **P** **00 41 44.8 +0.9**
YBH Yreka Blue Hor 74.97 47 P **P** **00 41 45.0 +1.1**
KHMM Horse Mountain 74.98 49 P **P** **00 41 45.2 +1.2**
KHMM IAmb IAmb 00 41 46.6
comp=Z,29nm,0.7s
CRES Cresnjev 74.99 318⇑ *iP* **P** **00 41 42.7 -1.1**
KMPM Mount Pierce 75.06 49 P **P** **00 41 45.6 +1.1**
I07A Izee 75.11 44 P **P** **00 41 45.8 +1.1**
I07A IAmb IAmb 00 41 47.2
comp=Z,26nm,0.8s
LIT Litokhoron 75.11 310 IAmb IAmb 00 41 45.4
comp=Z,26nm,1.1s
LIT Litokhoron 75.11 310 *i* P **P** **00 41 43.9 -0.8**
JTMT Jette 75.13 39 P **P** **00 41 45.5 +0.7**
JTMT IAmb IAmb 00 41 46.8
comp=Z,15nm,0.7s
MGRS Mrkonjic Grad 75.14 317⇓ *iP* **P** **00 41 45.7 +0.9**
KBA Koelnbreinsper 75.14 320 *i* P **P** **00 41 45.0 +0.1**
comp=Z,23nm,0.6s,SNR=11
K05A Summer Lake 75.30 46 P **P** **00 41 46.6 +0.7**
K05A IAmb IAmb 00 41 48.0
comp=Z,29nm,0.7s
MYKA Terra Mystica 75.32 320 *i* P **P** **00 41 45.5 -0.3**
comp=Z,9.7nm,0.7s,SNR=7.1
BOJS Bojanci 75.32 318⇑ *iP* **P** **00 41 45.0 -0.7**
BOJS Bojanci 75.32 318 *i* P **P** **00 41 45.1 -0.7**
BOJS *i* 00 41 46.1
comp=Z,9.6nm,0.6s
SRKY Kupres RS 75.34 316 *eP* **P** **00 41 46.1 +0.1**
PDG Podgorica 75.35 314 IAmb IAmb 00 41 47.1
comp=Z,38nm,0.8s
PDG Podgorica 75.35 314 *i* P **P** **00 41 45.8 -0.1**
A050A Klekovaca 75.38 317⇑ *iP* **P** **00 41 46.2 0.0**
OHR Ohrid 75.39 312 *i* P **P** **00 41 46.7 +0.4**
BRY Bratogost 75.41 315 *eP* **P** **00 41 46.1 -0.4**
KMRM Mail Ridge 75.42 49 P **P** **00 41 47.3 +0.8**
LAWE Loch Awe, Argy 75.47 336⇑ *eP* **P** **00 41 46.0 -0.4**
LAWE IAmb IAmb 00 41 47.0
comp=Z,41nm,0.8s
EKA Eskdalemuir Ar 75.52 334 P **P** **00 41 46.2 -0.5**
comp=Z,21nm,0.7s,baz=42,slow=5.0,SNR=42
EKA LR LR 01 18 40.5
comp=Z,192nm,19.1s,baz=5.5,slow=39
comp=Z,21nm,0.7s
ESK Eskdalemuir 75.54 334⇑ *eP* **P** **00 41 46.4 -0.4**
ESK IAmb IAmb 00 41 47.1
comp=Z,32nm,0.8s
ESK Eskdalemuir 75.54 334 P **P** **00 41 46.8 0.0**
ESK IAmb IAmb 00 41 47.3
comp=Z,32nm,0.8s
ESK Eskdalemuir 75.54 334 P **P** **00 41 46.8 0.0**
ESK pmax pmax
comp=Z,31nm,0.9s
PGBU Glenifferbraes 75.55 335⇑ *eP* **P** **00 41 46.6 -0.2**
PGBU IAmb IAmb 00 41 47.4
comp=Z,71nm,0.7s
CEY Cerknica 75.56 319⇑ *iP* **P** **00 41 46.6 -0.6**
CEY Cerknica 75.56 319 *i* P **P** **00 41 46.6 -0.6**
CEY *i* 00 41 47.6
comp=Z,23nm,0.6s
TREB Trebinje 75.64 315 *eP* **P** **00 41 45.9 -1.7**
BMO Blue Mountains 75.70 42 P **P** **00 41 48.4 +0.3**
BMO IAmb IAmb 00 41 49.7
comp=Z,17nm,0.7s
BMO Blue Mountains 75.70 42 P **P** **00 41 48.4 +0.3**
BMO pmax pmax
comp=Z,17nm,0.7s
KBN Korca 75.72 312 P **P** **00 41 47.4 -0.9**
KBN IAmb IAmb 00 41 49.6
comp=Z,55nm,1.3s
KBN Korca 75.72 312 P **P** **00 41 47.4 -0.9**
KBN pmax pmax
comp=Z,55nm,1.3s
ABTA Abfaltersbach 75.78 321 *i* P **P** **00 41 48.2 -0.2**
comp=Z,4.7nm,0.5s,SNR=6.8
WATA Walderalm 75.80 321 *i* P **P** **00 41 48.5 -0.1**
comp=Z,21nm,0.6s,SNR=17
BTNL Ternell 75.80 326 *dP* **P** **00 41 47.9 -0.6**
comp=Z,17nm,0.8s
CLUD Cludinico 75.81 320 IAmb IAmb 00 41 48.7
comp=Z,30nm,0.8s
WTTA Wattenberg 75.82 321 *i* P **P** **00 41 48.8 0.0**
comp=Z,29nm,0.8s,SNR=18
BEBN Eben Emael 75.82 327 *dP* **P** **00 41 48.0 -0.4**
comp=Z,35nm,0.6s
MEM Membach 75.83 327 *dP* **P** **00 41 48.0 -0.6**
comp=Z,27nm,0.7s
STU Stuttgart 75.83 324 IAmb IAmb 00 41 49.4
comp=Z,22nm,0.7s
STON Ston 75.88 315⇑ *iP* **P** **00 41 46.5 -2.5**
SKDS Skadanscina 75.90 319⇑ *iP* **P** **00 41 48.0 -1.1**
MSO Missoula 75.95 39 P **P** **00 41 50.2 +0.7**
baz=316,SNR=12

MOTA Moosalm 76.01 322 *i* P **P** **00 41 49.7 -0.2**
comp=Z,17nm,0.6s,SNR=12
BHOU Houvegnez 76.03 326 *dP* **P** **00 41 49.6 -0.1**
STAL STALIGIAL 76.03 320 IAmb IAmb 00 41 49.4
comp=Z,27nm,0.6s
BSTI Sart Tilman 76.03 327 *dP* **P** **00 41 49.6 -0.1**
SQTA Sankt Quirin 76.05 322 *i* P **P** **00 41 50.0 -0.1**
comp=Z,9.6nm,0.6s,SNR=11
RETA Reutte 76.06 322 *i* P **P** **00 41 50.2 +0.2**
comp=Z,36nm,0.6s,SNR=27
KESW Keswick, Cumbr 76.11 334⇑ *eP* **P** **00 41 50.2 +0.1**
KESW IAmb IAmb 00 41 50.9
comp=Z,161nm,1.5s
HPK Haverah Park 76.11 333⇑ *eP* **P** **00 41 50.0 -0.1**
HPK IAmb IAmb 00 41 52.0
comp=Z,49nm,0.7s
CIMO Cimolais 76.13 320 IAmb IAmb 00 41 49.8
comp=Z,14nm,0.7s
MOD Modoc Plateau 76.18 46 IAmb IAmb 00 41 52.6
comp=Z,19nm,0.7s
BCLA Clavier 76.27 327 *dP* **P** **00 41 50.5 -0.6**
comp=Z,10.0nm,0.8s
BCLA *dPcP* **PcP** **00 42 02.3 -0.8**
FETA Feichten 76.42 322 *i* P **P** **00 41 52.0 -0.2**
comp=Z,14nm,0.8s,SNR=9.5
WLF Walferdange 76.49 326 IAmb IAmb 00 41 53.1
comp=Z,10nm,0.6s
WLF Walferdange 76.49 326 *dP* **P** **00 41 52.1 -0.2**
RCHB Rochefort 76.50 327 *dP* **P** **00 41 51.7 -0.7**
BFO Black Forest 76.55 324 P **P** **00 41 52.3 -0.4**
BFO Black Forest 76.55 324 P **P** **00 41 52.3 -0.4**
BFO pmax pmax
comp=Z,38nm,0.7s
BMRD Maredsous 76.58 327 *dP* **P** **00 41 52.2 -0.6**
comp=Z,35nm,0.7s
DAVA Damuels 76.62 322 *i* P **P** **00 41 53.4 0.0**
comp=Z,60nm,0.6s,SNR=37
WVOR Wild Horse Val 76.70 45 IAmb IAmb 00 41 55.7
comp=Z,19nm,0.8s
IGT Igoumenitsa 76.72 311 *i* P **P** **00 41 52.8 -1.0**
DOU Douro 76.81 327 *dP* **P** **00 41 53.3 -0.8**
comp=Z,12nm,0.8s
IOMK Kirk Michael 76.86 334 *eP* **P** **00 41 53.6 -0.7**
IDI Anoyia 76.87 305 P **P** **00 41 53.3 -1.5**
comp=Z,25nm,0.8s,baz=34,slow=9.5,SNR=13
comp=Z,25nm,0.8s
IDI Anoyia 76.87 305 IAmb IAmb 00 41 54.6
comp=Z,40nm,1.0s
GDXM Geysers 76.90 50 P **P** **00 41 55.5 +0.5**
GDXM IAmb IAmb 00 41 57.6
comp=Z,21nm,0.9s
DAVOX Davos/Dischmat 76.99 322 P **P** **00 41 55.6 +0.1**
comp=Z,38nm,0.6s,baz=38,slow=3.6,SNR=106
DAVOX LR LR 01 20 01.2
comp=Z,422nm,18.2s,baz=3.0,slow=39
comp=Z,38nm,0.6s
EGMT Eagleton 76.99 36 IAmb IAmb 00 41 56.6
comp=Z,25nm,0.8s
EGMT Eagleton 76.99 36 P **P** **00 41 55.6 +0.3**
baz=319
ORV Oroville 77.13 48 IAmb IAmb 00 41 57.0
comp=Z,17nm,0.7s
ITM Ithomi 77.39 309 IAmb IAmb 00 41 59.6
comp=Z,21nm,0.8s
AFI Afiamalu 77.41 121 LR LR 01 08 37.8
comp=Z,128nm,21.0s,baz=54,slow=30
WME Myndd Eilian 77.49 334⇑ *eP* **P** **00 41 57.3 -0.6**
SALO Salr 77.55 321 P **P** **00 41 58.1 -0.4**
SALO IAmb IAmb 00 41 59.6
comp=Z,16nm,0.7s
BEKR Beckworth 77.55 48 IAmb IAmb 00 42 00.5
comp=Z,25nm,0.8s
LHI Lord Howe Isla 77.56 154 P **P** **00 41 58.9 +0.6**
WLF1 Llynfaes 77.61 333⇑ *eP* **P** **00 41 58.2 -0.3**
WLF1 IAmb IAmb 00 41 59.1
comp=Z,81nm,0.9s
YLL Llanberis 77.66 333⇑ *eP* **P** **00 41 58.8 -0.1**
BOZ Bozeman (W) 77.94 39 IAmb IAmb 00 42 02.4
comp=Z,15nm,0.8s
BOZ Bozeman (W) 77.94 39 P **P** **00 42 01.4 +0.6**
baz=318,SNR=13
HLID Hailey 78.08 42 IAmb IAmb 00 42 04.2
comp=Z,18nm,0.9s
HLID Hailey 78.08 42 P **P** **00 42 02.5 +0.9**
baz=317,SNR=45
MPK Martis Peak 78.13 48 P **P** **00 42 02.7 +0.6**
SWN1 Swindon 78.16 331⇑ *eP* **P** **00 42 01.0 -0.6**
SWN1 IAmb IAmb 00 42 02.5
comp=Z,165nm,1.2s
FDMO Fiordimonte 78.17 318 P **P** **00 42 02.0 +0.1**
FDMO IAmb IAmb 00 42 03.9
comp=Z,23nm,0.7s
MCH1 Michaelchurch 78.20 332⇑ *eP* **P** **00 42 01.1 -0.7**
MCH1 IAmb IAmb 00 42 01.9
comp=Z,53nm,0.6s
PAHR Pah Rah Range 78.20 47 IAmb IAmb 00 42 03.9
comp=Z,23nm,0.8s
MONM Monmouth 78.26 332⇑ *eP* **P** **00 42 01.4 -0.8**
MONM IAmb IAmb 00 42 02.5
comp=Z,43nm,0.6s
ZCCA Zocca 78.26 320 P **P** **00 42 03.5 +1.1**
ZCCA IAmb IAmb 00 42 04.6
comp=Z,26nm,0.7s
PRMA PARMA 78.28 320 P **P** **00 42 03.1 +0.7**
MURB Monte Urbino 78.29 318 IAmb IAmb 00 42 04.7
comp=Z,21nm,0.7s
NRCA Norcia 78.30 317 IAmb IAmb 00 42 04.3
comp=Z,34nm,0.8s
EMB Emerald Bay 78.31 48 P **P** **00 42 04.0 +0.9**
VCNR Virginia City 78.34 48 P **P** **00 42 04.1 +1.0**
VCNR IAmb IAmb 00 42 05.2
comp=Z,24nm,0.8s
CAMP Campotosto 78.36 317 IAmb IAmb 00 42 04.5
comp=Z,30nm,0.8s
CAN Canberra 78.41 163 P **P** **00 42 04.4 +1.4**
CAN IAmb IAmb 00 42 05.8
comp=Z,30nm,0.9s
CAN Canberra 78.41 163 P **P** **00 42 04.4 +1.4**
CAN pmax pmax
comp=Z,30nm,0.9s
CAN Canberra 78.41 163 P **P** **00 42 04.0 +1.0**
PNTR Pine Nut 78.51 48 P **P** **00 42 05.1 +0.9**
QLMT Earthquake Lak 78.61 39 P **P** **00 42 05.6 +1.0**
VLC Villacollemand 78.69 320 P **P** **00 42 05.2 +0.4**
VLC IAMs_20 IAMs_20 01 21 38.2
comp=Z,380nm,21.0s
YHL Hebgen Lake 78.71 39 P **P** **00 42 06.1 +0.9**
YHL IAmb IAmb 00 42 07.1
comp=Z,18nm,0.8s
OSSC Osservatorio P 78.73 319 P **P** **00 42 04.8 -0.2**
OSSC IAmb IAmb 00 42 05.8
comp=Z,20nm,0.7s
YERR Yerington 78.78 48 P **P** **00 42 06.3 +0.7**
YERR IAmb IAmb 00 42 07.3
comp=Z,30nm,0.7s
CMB Columbia Colle 78.80 49 IAmb IAmb 00 42 07.0
comp=Z,17nm,0.7s
RSBS Rosebush, Pemb 78.84 333⇑ *eP* **P** **00 42 04.3 -1.1**
RSBS IAmb IAmb 00 42 05.2
comp=Z,31nm,0.7s
BMN Battle Mountai 78.87 45 IAmb IAmb 00 42 08.0
comp=Z,27nm,0.7s
YMR Madison River 78.95 39 P **P** **00 42 07.0 +0.6**
YMR IAmb IAmb 00 42 27.6
comp=Z,16nm,0.6s
DGMT Dagmar 79.02 33 IAmb IAmb 00 42 07.5
comp=Z,23nm,0.9s
DGMT Dagmar 79.02 33 P **P** **00 42 06.3 -0.2**
baz=322
YNR Norris Junctio 79.05 39 P **P** **00 42 08.1 +1.1**
YFT Old Faithful 79.17 39 IAmb IAmb 00 42 11.2
comp=Z,15nm,0.6s
H17A Grant Village 79.34 39 IAmb IAmb 00 42 12.4
comp=Z,24nm,0.8s
H17A Grant Village 79.34 39 P **P** **00 42 10.6 +2.0**
baz=319
KVN Kaiserville 79.37 47 IAmb IAmb 00 42 10.6
comp=Z,31nm,0.7s
RLMT Red Lodge 79.40 38 IAMs_20 IAMs_20 01 14 19.7
comp=Z,208nm,20.0s
RLMT Red Lodge 79.40 38 P **P** **00 42 09.7 +0.7**
baz=319,SNR=19
RYN Ryan 79.43 47 IAmb IAmb 00 42 10.9
comp=Z,27nm,0.7s
BBGB Big Mountain B 79.44 50 P **P** **00 42 09.9 +0.8**
BBGB IAmb IAmb 00 42 11.8
comp=Z,25nm,0.9s
IMW Indian Meadow 79.54 40 P **P** **00 42 10.8 +1.0**
LAO LASA Array 79.56 35 P **P** **00 42 09.2 -0.3**
LAO LASA Array 79.56 35 P **P** **00 42 09.7 +0.1**
baz=321
FXWY Fox Creek 79.69 40 P **P** **00 42 11.5 +1.0**
FXWY IAMs_20 IAMs_20 01 14 39.5
comp=Z,161nm,18.0s
NVAR Mina Array Bea 79.70 47 P **P** **00 42 11.7 +1.0**
comp=Z,31nm,0.6s,baz=299,slow=5.1,SNR=332
comp=Z,31nm,0.6s
ELK Elko 79.70 44 P **P** **00 42 11.3 +0.7**
comp=Z,6.8nm,0.6s,baz=314,slow=5.3,SNR=27
comp=Z,6.8nm,0.6s
ELK Elko 79.70 44 P **P** **00 42 11.6 +0.9**
ELK Elko 79.70 44 P **P** **00 42 11.6 +0.9**
ELK pmax pmax
comp=Z,8.0nm,0.7s
LHV Little Huntoon 79.71 48 P **P** **00 42 12.1 +1.7**
LHV IAmb IAmb 00 42 12.9
comp=Z,33nm,0.7s
NV11 Mina Array Sit 79.78 47 IAmb IAmb 00 42 12.7
comp=Z,17nm,0.7s
PMPB Monarch Peak 79.83 50 IAmb IAmb 00 42 13.9
comp=Z,19nm,0.8s
TPAW Teton Pass 79.84 40 IAMs_20 IAMs_20 01 14 28.3
comp=Z,255nm,18.0s
OMMB Old Mammoth Mi 79.88 48 P **P** **00 42 12.3 +0.5**
TOO Toolangi 79.91 167 P **P** **00 42 12.2 +1.0**
TOO Toolangi 79.91 167 P **P** **00 42 12.2 +1.0**
TOO pmax pmax
comp=Z,11nm,1.1s
LOHW Long Hollow 79.91 40 IAMs_20 IAMs_20 01 10 44.3
comp=Z,238nm,18.0s
SNOW Snow King Moun 79.95 40 P **P** **00 42 12.5 +0.5**
REDW Red Top Meadow 79.98 40 P **P** **00 42 13.2 +1.1**
Q09A Carvers 80.03 47 P **P** **00 42 13.5 +1.1**
Q09A IAmb IAmb 00 42 14.5
comp=Z,37nm,0.7s
HVU Hansel Valley 80.21 42 P **P** **00 42 14.2 +0.9**
HVU Hansel Valley 80.21 42 P **P** **00 42 14.2 +0.9**
HVU pmax pmax
comp=Z,9.0nm,0.7s
AHID Auburn Hatcher 80.31 40 P **P** **00 42 14.2 +0.3**
PAGB Antelope Grade 80.48 51 P **P** **00 42 15.6 +0.9**
PAGB IAmb IAmb 00 42 16.3
comp=Z,28nm,0.7s
BGU Big Grassy Mou 80.71 43 P **P** **00 42 16.8 +0.8**
ULM Lac du Bonnet 80.72 27 P **P** **00 42 15.1 -0.6**
comp=Z,11nm,0.8s,baz=328,slow=7.8,SNR=12
comp=Z,11nm,0.8s
MZP Montezuma Peak 80.72 47 P **P** **00 42 16.7 +0.4**
LCH Last Change Ra 80.91 48 P **P** **00 42 17.6 +0.4**
SMMC Simmler 80.92 51 P **P** **00 42 17.9 +0.8**
baz=315
HWUT Hardware Ranch 80.94 41 IAmb IAmb 00 42 19.2
comp=Z,25nm,0.7s
BW06 Boulder Array 81.05 40 IAmb IAmb 00 42 18.9
comp=Z,14nm,0.8s
BW06 Boulder Array 81.05 40 P **P** **00 42 18.0 +0.1**
baz=320,SNR=13
PDAR Pinedale Array 81.05 40 P **P** **00 42 17.9 +0.1**
comp=Z,13nm,0.7s,baz=7.1,slow=1.4,SNR=143
PDAR PKKPbc **PKKPbc** **01 00 52.1 -1.3**
comp=Z,0.3nm,0.6s,baz=136,slow=5.7,SNR=3.9
comp=Z,13nm,0.7s
VES Vestal, Richgr 81.08 50 P **P** **00 42 17.6 -0.3**
baz=315,SNR=8.8
CWC Cottonwood Cre 81.23 49 P **P** **00 42 19.0 +0.1**
baz=316
GRAC Grapevine Rang 81.24 48 P **P** **00 42 19.3 +0.6**
baz=316,SNR=8.4
R11A Troy Canyon, C 81.25 46 P **P** **00 42 19.6 +0.7**
baz=317,SNR=14
PKM Mcpherson Peak 81.33 51 P **P** **00 42 20.0 +0.5**
baz=315,SNR=5.7
MDND Maddock 81.35 31 IAmb IAmb 00 42 20.8
comp=Z,39nm,1.4s
MDND Maddock 81.35 31 P **P** **00 42 19.0 -0.1**
baz=325
DUG Dugway, Tooele 81.36 43 P **P** **00 42 20.2 +0.7**
baz=318,SNR=11
SPR3 Spring Creek 3 81.44 45 IAmb IAmb 00 42 22.6
comp=Z,10nm,0.8s
CTU Camp Tracy 81.53 42 P **P** **00 42 20.6 +0.2**
ISA Isabella, Lake 81.56 50 P **P** **00 42 20.0 -0.5**
baz=315,SNR=7.6
S11A Rachel 81.67 47 P **P** **00 42 20.7 -0.4**
S11A IAmb IAmb 00 42 23.5
comp=Z,21nm,0.7s
ARVC Arvin 81.73 50 P **P** **00 42 21.4 +0.1**
baz=315
JLU Jordanelle 81.75 42 P **P** **00 42 22.3 +0.6**
WCT Wildcat Mounta 81.80 48 IAmb IAmb 00 42 23.4
comp=Z,17nm,0.7s
MPMC Manual Prospec 81.84 49 P **P** **00 42 22.8 +0.6**
baz=316,SNR=19
TPNV Topopah Spring 81.89 47 P **P** **00 42 22.7 +0.4**
baz=316,SNR=46
FURC Furnace Creek, 81.90 48 P **P** **00 42 23.0 +0.9**
baz=316,SNR=40
LRMC Laurel Mtn Rad 82.14 49 P **P** **00 42 23.9 +0.3**
baz=316,SNR=12
PRN Pahroc Range 82.22 46 IAmb IAmb 00 42 26.4
comp=Z,9.2nm,0.6s
AGMN Agassiz Nation 82.37 28 IAmb IAmb 00 42 24.9
comp=Z,12nm,0.8s
AGMN Agassiz Nation 82.37 28 P **P** **00 42 23.7 -0.7**
baz=328
AGMN Agassiz Nation 82.37 28 P **P** **00 42 23.4 -1.0**
baz=328,SNR=7.8
EDW2 Edwards Air Fo 82.39 50 P **P** **00 42 25.3 +0.4**
baz=316,SNR=15
RSSD Black Hills 82.53 36 P **P** **00 42 26.1 +0.4**
RSSD IAmb IAmb 00 42 26.9
comp=Z,15nm,0.8s
RSSD Black Hills 82.53 36 P **P** **00 42 26.1 +0.4**
RSSD pmax pmax
comp=Z,15nm,0.9s
RSSD Black Hills 82.53 36 P **P** **00 42 25.9 +0.2**
baz=323
RSSD Black Hills 82.53 36 P **P** **00 42 25.7 +0.1**
baz=323
K22A Casper 82.57 38 P **P** **00 42 25.7 -0.1**
baz=321
K22A Casper 82.57 38 P **P** **00 42 25.3 -0.5**
baz=321,SNR=5.8
SHOC Shoshone, Teco 82.64 48 P **P** **00 42 26.7 +0.6**
baz=316,SNR=6.7
DECC Green Verdugo 82.64 50 P **P** **00 42 26.3 +0.2**
baz=316
SNCC San Nicolas Is 82.65 52 P **P** **00 42 26.6 +0.4**
SNCC IAmb IAmb 00 42 27.8
comp=Z,30nm,0.8s
SNCC San Nicolas Is 82.65 52 P **P** **00 42 27.0 +0.8**
baz=315
RDMU Red Mountain 82.71 41 P **P** **00 42 27.2 +0.5**
RDMU IAmb IAmb 00 42 28.3
comp=Z,19nm,0.7s
TCRU Three Creeks R 82.72 44 P **P** **00 42 27.9 +1.1**
TCRU IAmb IAmb 00 42 29.5
comp=Z,11nm,0.5s
GSC Goldstone, Bar 82.77 49 IAmb IAmb 00 42 28.4
comp=Z,17nm,0.7s
GSC Goldstone, Bar 82.77 49 P **P** **00 42 27.2 +0.4**
baz=316,SNR=23
PASC Pasadena Art C 82.78 50 P **P** **00 42 27.4 +0.6**
PASC IAmb IAmb 00 42 28.0
comp=Z,18nm,0.8s
SHPR Sheep Range 82.82 47 IAmb IAmb 00 42 29.3
comp=Z,14nm,0.8s
TMUT Trail Mountain 82.85 43 IAmb IAmb 00 42 29.5
comp=Z,15nm,0.7s
D32A Dogwood Acres, 82.92 30 P **P** **00 42 26.7 -0.6**
MVU Marysvale 82.93 44 P **P** **00 42 29.1 +1.3**
MSU Marysvale 82.94 44 P **P** **00 42 28.8 +0.9**
MSU Marysvale 82.94 44 P **P** **00 42 28.8 +0.9**
P17A Butcher Ranch, 82.96 42 IAmb IAmb 00 42 29.7
comp=Z,15nm,0.8s
RRX Edison Barstow 82.96 49 P **P** **00 42 28.3 +0.5**
baz=316
BFSC Mount Baldy Ra 83.04 50 P **P** **00 42 28.5 +0.1**
baz=316
B35A Bob, Littlefor 83.06 27 IAmb IAmb 00 42 28.7
comp=Z,20nm,0.7s
B35A Bob, Littlefor 83.06 27 P **P** **00 42 27.6 -0.4**
baz=329

WTNK Soaring Height 83.13 47 P **P** **00 42 29.8 +1.1**
WTNK IAmb IAmb 00 42 30.6
comp=Z,4.1nm,0.9s
SZCU Shurtz Canyon 83.14 45 P **P** **00 42 29.1 +0.2**
Q16A Castle Valley 83.16 43 P **P** **00 42 29.9 +0.9**
TUQ Turquoise Moun 83.17 48 P **P** **00 42 29.8 +0.8**
baz=317,SNR=24
MTPU Mount Pierson 83.29 44 P **P** **00 42 31.0 +1.1**
MTPU IAmb IAmb 00 42 32.4
comp=Z,11nm,0.8s
SCHQ Schefferville 83.30 9 P **P** **00 42 28.8 -0.4**
comp=Z,10nm,0.7s,baz=10.0,slow=5.8,SNR=19
comp=Z,10nm,0.7s
SCHQ Schefferville 83.30 9 IAmb IAmb 00 42 30.3
comp=Z,45nm,1.5s
HEC Hector,Ludlow 83.37 49 P **P** **00 42 30.8 +0.8**
baz=317,SNR=10.0
BBRC Big Bear Solar 83.45 50 P **P** **00 42 30.4 -0.2**
baz=316
LCMT Little Creek M 83.49 45 P **P** **00 42 31.6 +1.0**
V12A Nelson 83.55 47 P **P** **00 42 31.7 +0.8**
V12A IAmb IAmb 00 42 32.9
comp=Z,11nm,0.8s
ELS Elsinore Mount 83.60 50 IAmb IAmb 00 42 32.2
comp=Z,12nm,0.7s
PKCU Pink Cliffs 83.66 45 P **P** **00 42 32.9 +1.2**
PKCU IAmb IAmb 00 42 34.3
comp=Z,14nm,0.8s
O20A White River Ci 83.70 40 IAmb IAmb 00 42 33.0
comp=Z,18nm,0.7s
O20A White River Ci 83.70 40 P **P** **00 42 32.0 +0.3**
baz=320,SNR=14
KNB Kanab 83.71 45 IAmb IAmb 00 42 34.0
comp=Z,9.0nm,0.7s
MURC Murrieta 83.77 50 P **P** **00 42 32.2 +0.2**
baz=316,SNR=5.5
GMRC Granite Mounta 83.79 48 P **P** **00 42 32.9 +0.7**
baz=317,SNR=20
PHWY Pilot Hill 84.12 38 IAmb IAmb 00 42 35.3
comp=Z,13nm,0.8s
BELC Belle Mtn. Jos 84.17 49 P **P** **00 42 34.1 -0.1**
baz=317,SNR=12
EYMN Ely 84.17 26 P **P** **00 42 33.0 -0.8**
baz=331
EYMN Ely 84.17 26 P **P** **00 42 32.6 -1.1**
baz=331
PFO Pinyon Flats O 84.18 50 P **P** **00 42 34.9 +0.7**
comp=Z,14nm,0.8s,baz=323,slow=5.5,SNR=20
comp=Z,14nm,0.8s
PFO Pinyon Flats O 84.18 50 P **P** **00 42 34.7 +0.5**
PFO IAmb IAmb 00 42 35.6
comp=Z,13nm,0.8s
PFO Pinyon Flats O 84.18 50 P **P** **00 42 34.6 +0.5**
baz=317,SNR=10
TPFO Pinon Flats 84.19 50 P **P** **00 42 34.7 +0.4**
baz=317,SNR=10
PMD Palm Desert 84.20 50 IAmb IAmb 00 42 35.4
comp=Z,15nm,0.8s
N23A Red Feather La 84.21 39 IAmb IAmb 00 42 36.2
comp=Z,9.7nm,0.8s
N23A Red Feather La 84.21 39 P **P** **00 42 35.0 +0.6**
baz=322
F33A 5 Mile Ranch, 84.28 30 IAmb IAmb 00 42 35.2
comp=Z,19nm,1.1s
F33A 5 Mile Ranch, 84.28 30 P **P** **00 42 33.8 -0.5**
baz=328
109C Camp Elliot, M 84.33 51 P **P** **00 42 35.0 +0.2**
baz=316
SUSD Miller 84.41 32 P **P** **00 42 35.3 +0.2**
baz=326
SUSD Miller 84.41 32 P **P** **00 42 34.8 -0.2**
baz=326,SNR=6.2
FURI Furi 84.48 277 P **P** **00 42 36.6 +0.4**
FURI IAmb IAmb 00 42 39.4
comp=Z,18nm,0.7s
IRM Iron Mountain 84.54 49 P **P** **00 42 36.7 +0.8**
baz=317,SNR=31
PV21 Cone Mtn., Par 84.54 42 P **P** **00 42 34.3 -1.8**
W13A Hualapai Mount 84.55 47 P **P** **00 42 37.0 +0.9**
W13A IAmb IAmb 00 42 37.9
comp=Z,8.8nm,0.7s
PV23 Carpenter Ridg 84.61 42 P **P** **00 42 36.9 +0.4**
PV23 IAmb IAmb 00 42 38.1
comp=Z,18nm,0.8s
PV10 Paradox Valley 84.65 42 P **P** **00 42 37.1 +0.4**
MONP2 Monument Peak 84.72 50 P **P** **00 42 37.4 +0.3**
baz=317
BC3 Big Chuckawall 84.73 49 P **P** **00 42 37.4 +0.4**
baz=317,SNR=9.2
BAR Barrett 84.73 51 P **P** **00 42 37.2 +0.3**
BAR IAmb IAmb 00 42 38.0
comp=Z,14nm,0.8s
PV07 Paradox Valley 84.80 42 P **P** **00 42 37.8 +0.4**
MAHO Mahon 84.88 321 IAMs_20 IAMs_20 01 24 16.1
comp=Z,246nm,19.0s
PV13 Radium Mtn., P 84.93 42 P **P** **00 42 38.5 +0.4**
PV15 Paradox Valley 84.96 42 P **P** **00 42 38.5 +0.2**
PV15 IAmb IAmb 00 42 40.2
comp=Z,21nm,0.9s
PDMCI Parker Dam,Lak 84.99 48 P **P** **00 42 38.7 +0.5**
baz=318,SNR=19
CBX Cerro Bola 85.00 51 P **P** **00 42 38.8 +0.5**
SWSC Sam W. Stewart 85.05 50 P **P** **00 42 38.2 -0.3**
baz=317
SMCO Snowmass 85.06 40 P **P** **00 42 39.7 +0.7**
SMCO IAmb IAmb 00 42 40.6
comp=Z,18nm,0.7s
IKP In-Ko-Pah, Jac 85.08 50 P **P** **00 42 39.0 +0.3**
baz=317
ISCO Idaho Springs 85.23 39 IAmb IAmb 00 42 41.3
comp=Z,11nm,0.7s
ISCO Idaho Springs 85.23 39 P **P** **00 42 40.8 +1.1**
baz=322
ISCO Idaho Springs 85.23 39 P **P** **00 42 40.2 +0.5**
baz=322,SNR=20
F36A Milaca 85.28 28 P **P** **00 42 38.6 -0.7**
baz=329
E38A The Farm, Brul 85.32 27 IAmb IAmb 00 42 40.1
comp=Z,13nm,0.7s
E38A The Farm, Brul 85.32 27 P **P** **00 42 39.2 -0.4**
baz=331
KEST Kesra 85.51 315 P **P** **00 42 40.6 -0.1**
comp=Z,8.5nm,0.8s,baz=346,slow=2.6,SNR=9.9
comp=Z,8.5nm,0.8s
KEST Kesra 85.51 315 IAmb IAmb 00 42 42.0
comp=Z,16nm,1.1s
GLA Glamis 85.53 49 IAmb IAmb 00 42 42.6
comp=Z,19nm,0.8s
GLA Glamis 85.53 49 P **P** **00 42 41.6 +0.8**
baz=317,SNR=6.1
WUAZ Wupatki 85.61 45 IAmb IAmb 00 42 43.6
comp=Z,11nm,0.8s
WUAZ Wupatki 85.61 45 P **P** **00 42 42.6 +1.2**
baz=319,SNR=12
ESJX Sierra Juarez 85.64 51 P **P** **00 42 41.9 +0.2**
MVCO Mesa Verde 85.82 42 P **P** **00 42 43.2 +0.7**
MVCO IAmb IAmb 00 42 44.2
comp=Z,12nm,0.8s
MVCO Mesa Verde 85.82 42 P **P** **00 42 43.0 +0.5**
baz=320,SNR=9.8
Y14A Wickenburg 85.90 47 P **P** **00 42 43.6 +0.8**
ECSD EROS Data Cent 85.93 31 IAmb IAmb 00 42 43.6
comp=Z,21nm,0.8s
ECSD EROS Data Cent 85.93 31 P **P** **00 42 42.6 -0.1**
baz=327
ECSD EROS Data Cent 85.93 31 P **P** **00 42 42.3 -0.4**
baz=327,SNR=25
OGNE Ogallala 85.96 36 P **P** **00 42 43.5 +0.6**
baz=324
OGNE Ogallala 85.96 36 P **P** **00 42 42.8 -0.1**
baz=324,SNR=8.2
K31A O'Neill 86.00 33 P **P** **00 42 43.7 +0.7**
baz=326,SNR=6.1
SPMN Marine on St. 86.09 28 IAmb IAmb 00 42 44.2
comp=Z,18nm,1.0s
SPMN Marine on St. 86.09 28 P **P** **00 42 42.8 -0.6**
baz=330
SPMN Marine on St. 86.09 28 P **P** **00 42 42.8 -0.6**
baz=330
Q24A Divide 86.11 39 P **P** **00 42 44.5 +0.4**
Q24A Divide 86.11 39 P **P** **00 42 44.4 +0.4**
baz=322,SNR=14
S22A 4UR Ranch, Cre 86.25 41 P **P** **00 42 45.3 +0.6**
baz=321,SNR=15
113A Mohawk Valley, 86.34 49 P **P** **00 42 45.3 +0.5**
X16A Lo Mia Camp, P 86.40 46 IAmb IAmb 00 42 47.6
comp=Z,10nm,0.7s

SDCO Great Sand Dun 86.90 40 P **P** **00 42 48.5 +0.6**
baz=322
SDCO Great Sand Dun 86.90 40 P **P** **00 42 48.1 +0.2**
baz=322,SNR=16
I37A Lemond, Waseca 86.91 29 IAmb IAmb 00 42 48.4
comp=Z,27nm,0.8s
I37B Waseca 86.91 29 P **P** **00 42 47.6 +0.1**
baz=330
G40A Rib Lake 86.95 27 IAmb IAmb 00 42 48.2
comp=Z,19nm,0.7s
G40A Rib Lake 86.95 27 P **P** **00 42 47.5 -0.1**
baz=332,SNR=9.9
X18A Snowflake 87.11 45 P **P** **00 42 49.4 +0.5**
X18A IAmb IAmb 00 42 50.8
comp=Z,9.8nm,0.7s
KSCO Kaye Shedlock' 87.25 38 P **P** **00 42 49.6 +0.2**
baz=324
BGNE Belgrade 87.26 34 P **P** **00 42 49.9 +0.6**
baz=326
BGNE Belgrade 87.26 34 P **P** **00 42 49.1 -0.2**
baz=326
214A Organ Pipe Nat 87.48 49 P **P** **00 42 49.9 -0.6**
214A Organ Pipe Nat 87.48 49 P **P** **00 42 50.7 +0.2**
baz=318
L34A Svendsen Farm, 87.51 32 P **P** **00 42 50.5 +0.1**
baz=328
T25A Trinidad 87.91 40 P **P** **00 42 52.9 +0.3**
T25A IAmb IAmb 00 42 54.0
comp=Z,13nm,0.8s
T25A Trinidad 87.91 40 P **P** **00 42 53.0 +0.3**
baz=323,SNR=10
VLDQ Val d'Or 87.95 17 IAmb IAmb 00 42 52.4
comp=Z,19nm,1.1s
I40A Norwalk 88.02 27 P **P** **00 42 53.1 +0.3**
baz=331,SNR=6.0
PBRG Braganca 88.13 329 *e*P **P** **00 42 52.5 -0.9**
K38A Parkersburg 88.32 29 IAmb IAmb 00 42 55.8
comp=Z,12nm,0.9s
TUC Tucson 88.34 47 P **P** **00 42 55.3 +0.6**
baz=320
I42A Draeger Farm, 88.60 26 P **P** **00 42 55.8 +0.2**
baz=332,SNR=8.6
ANMO Albuquerque 88.62 43 P **P** **00 42 56.7 +0.7**
comp=Z,2.5nm,1.0s,baz=316,slow=3.2,SNR=5.3
comp=Z,2.5nm,1.0s
ANMO Albuquerque 88.62 43 P **P** **00 42 56.7 +0.7**
ANMO Albuquerque 88.62 43 P **P** **00 42 57.5 +1.4**
baz=322
ANMO Albuquerque 88.62 43 P **P** **00 42 56.9 +0.8**
baz=322
CBKS Cedar Bluff 88.72 36 IAmb IAmb 00 42 57.0
comp=Z,20nm,0.7s
CBKS Cedar Bluff 88.72 36 P **P** **00 42 56.7 +0.4**
baz=326
CBKS Cedar Bluff 88.72 36 P **P** **00 42 56.0 -0.3**
baz=326,SNR=5.7
N35A Tabor 88.74 32 P **P** **00 42 56.9 +0.6**
ESDC Sonseca Array 88.78 326 P **P** **00 42 55.5 -1.1**
comp=Z,3.4nm,0.7s,baz=20,slow=4.4,SNR=34
ESDC PP **PP** **00 46 19.4 -5.2**
comp=Z,0.8nm,0.7s,baz=26,slow=6.8,SNR=3.3
ESDC PKKPbc **PKKPbc** **01 00 36.2 +1.0**
comp=Z,0.3nm,0.6s,baz=236,slow=2.2,SNR=4.3
ESDC LR LR 01 27 33.2
comp=Z,102nm,18.8s,baz=343,slow=39
comp=Z,3.4nm,0.7s
MVO Moncorvo 88.79 328 *e*P **P** **00 42 55.6 -1.0**
SCIA State Center 88.80 30 P **P** **00 42 56.3 -0.2**
baz=330
POLO Lamas de Olo 88.91 329 *e*P **P** **00 42 56.5 -0.7**
LENM Lemitar 88.96 43 P **P** **00 42 58.4 +0.7**
PVRL Vila Real 88.96 329 *e*P **P** **00 42 56.7 -0.7**
JFWS Jewell Farm 89.00 28 IAmb IAmb 00 42 57.9
comp=Z,19nm,0.7s
JFWS Jewell Farm 89.00 28 P **P** **00 42 57.1 -0.4**
baz=332,SNR=7.1
JFWS Jewell Farm 89.00 28 P **P** **00 42 57.0 -0.4**
baz=332,SNR=7.1
GLMI Grayling 89.12 23 P **P** **00 42 57.9 -0.1**
baz=335
BNM Barren Site 89.15 43 P **P** **00 42 59.2 +0.6**
CART Cartagena 89.20 323 IAMs_20 IAMs_20 01 26 58.2
comp=Z,194nm,18.0s
L40A Anamosa 89.40 29 P **P** **00 42 59.3 0.0**
baz=331,SNR=13
PVIS Visu 89.51 329 *e*P **P** **00 42 59.0 -1.0**
MTE Manteigas 89.64 328 *e*P **P** **00 42 59.9 -0.7**
MTE Manteigas 89.64 328 IAmb IAmb 00 43 00.9
comp=Z,17nm,0.9s
N38A Joes South For 89.75 31 P **P** **00 43 01.2 +0.2**
N38A IAmb IAmb 00 43 02.6
comp=Z,26nm,0.9s
121A Cookes Peak, D 89.80 45 P **P** **00 43 01.9 +0.2**
baz=321
KSU1 Kansas State U 89.83 34 P **P** **00 43 02.0 +0.6**
baz=328,SNR=7.4
KSU1 Kansas State U 89.83 34 P **P** **00 43 01.4 0.0**
baz=328,SNR=7.4
319A Douglas 89.88 47 P **P** **00 43 02.4 +0.4**
319A IAmb IAmb 00 43 04.5
comp=Z,7.5nm,0.6s
L42A Oliver, Polo 90.01 28 IAmb IAmb 00 43 02.5
comp=Z,20nm,0.8s
L42A Oliver, Polo 90.01 28 P **P** **00 43 01.9 -0.3**
baz=332,SNR=5.5
PMRV Marv??o 90.41 328 *e*P **P** **00 43 05.0 +0.8**
L44A Lake County Fo 90.46 27 P **P** **00 43 04.6 +0.4**
baz=333
L44A Lake County Fo 90.46 27 P **P** **00 43 04.1 -0.2**
baz=333
J47A Sunmer 90.50 24 P **P** **00 43 04.5 +0.1**
J47A Sunmer 90.50 24 P **P** **00 43 05.1 +0.6**
baz=335
J47A P **P** **00 43 05.1 +0.6**
baz=335
RAR Rarotonga 90.55 118 LR LR 01 24 19.3
comp=Z,86nm,18.0s,baz=207,slow=36
P38A Dawn 90.64 32 P **P** **00 43 05.8 +0.6**
baz=330,SNR=12
N41A Harden Midland 90.72 29 IAmb IAmb 00 43 06.2
comp=Z,24nm,0.8s
N41A Harden Midland 90.72 29 P **P** **00 43 05.8 +0.3**
baz=331
KAN08 Anthony NE Sta 90.81 36 IAmb IAmb 00 43 07.6
comp=Z,19nm,0.7s
AMTX Amarillo 91.03 40 IAmb IAmb 00 43 08.9
comp=Z,8.1nm,0.7s
AMTX Amarillo 91.03 40 P **P** **00 43 08.0 +0.8**
baz=324,SNR=5.5
AMTX Amarillo 91.03 40 P **P** **00 43 08.0 +0.8**
baz=324
KAN17 Caldwell West 91.06 36 P **P** **00 43 08.1 +0.9**
KAN17 IAmb IAmb 00 43 09.8
comp=Z,14nm,0.9s
OK038 West end E0370 91.09 37 IAMs_20 IAMs_20 01 13 08.1
comp=Z,109nm,18.0s
M44A Midewin, Midew 91.11 27 IAmb IAmb 00 43 08.2
comp=Z,20nm,0.8s
M44A Midewin, Midew 91.11 27 P **P** **00 43 07.5 +0.2**
baz=333
ELIS Ellis County 91.13 37 P **P** **00 43 08.7 +1.1**
ELIS IAmb IAmb 00 43 09.7
comp=Z,26nm,0.8s
MSTX Muleshoe 91.24 41 P **P** **00 43 08.0 -0.2**
baz=324
MSTX Muleshoe 91.24 41 P **P** **00 43 08.1 -0.1**
baz=324
P40A Paris 91.30 31 P **P** **00 43 08.7 +0.5**
baz=330,SNR=16
HDIL Hopedale 91.42 28 IAmb IAmb 00 43 10.1
comp=Z,17nm,0.8s
HDIL Hopedale 91.42 28 P **P** **00 43 09.3 +0.5**
baz=332
HDIL Hopedale 91.42 28 P **P** **00 43 08.8 +0.1**
baz=332
T35A Sooner Cattle 91.71 35 P **P** **00 43 10.6 +0.4**
T35B Sooner Cattle 91.71 35 P **P** **00 43 10.6 +0.4**
baz=328,SNR=11
MNTX Cornudas Mount 91.72 44 P **P** **00 43 11.1 +0.7**
MNTX IAMs_20 IAMs_20 01 32 32.3
comp=Z,289nm,18.0s
MNTX Cornudas Mount 91.72 44 P **P** **00 43 11.2 +0.9**
baz=322,SNR=5.2
MNTX Cornudas Mount 91.72 44 P **P** **00 43 11.5 +1.1**
baz=322,SNR=5.2
L48A N Adams 91.79 24 P **P** **00 43 10.4 -0.1**
L48A IAmb IAmb 00 43 11.5
comp=Z,16nm,0.8s
L48A N Adams 91.79 24 P **P** **00 43 10.5 -0.1**
baz=336
L48A P **P** **00 43 10.5 -0.1**
baz=336
GDL2 Guadalupe Moun 91.85 43 P **P** **00 43 12.1 +1.0**
LONY Lake Ozonia 91.89 17 P **P** **00 43 10.2 -0.7**
baz=342
OK046 Pawnee Station 91.97 35 P **00 43 12.0 +0.5**
OK046 IAmb IAmb 00 43 13.1
comp=Z,12nm,0.8s
OK046 IAMs_20 IAMs_20 01 27 07.3
comp=Z,319nm,18.0s
OK047 Pawnee, Statio 92.00 35 IAmb IAmb 00 43 13.2
comp=Z,18nm,0.9s
OK044 Pawnee Station 92.04 35 P **00 43 12.3 +0.5**
OK044 IAmb IAmb 00 43 13.5
comp=Z,16nm,0.8s
OK044 IAMs_20 IAMs_20 01 27 17.1
comp=Z,297nm,20.0s
P43A Skaggs, Pawnee 92.14 29 IAmb IAmb 00 43 13.5
comp=Z,16nm,0.8s
P43A Skaggs, Pawnee 92.14 29 P **P** **00 43 12.5 +0.4**
baz=332,SNR=5.4
QUOK Quay 92.25 35 P **00 43 13.2 +0.5**
QUOK IAmb IAmb 00 43 14.3
comp=Z,13nm,0.7s
R40A Maddies Statio 92.28 31 P **P** **00 43 13.2 +0.4**
baz=330,SNR=21
SFIN Lafayette 92.34 27 P **P** **00 43 13.5 +0.5**
SFIN IAmb IAmb 00 43 14.5
comp=Z,22nm,1.1s
SFIN Lafayette 92.34 27 P **P** **00 43 13.0 0.0**
baz=334
N47A Urbana 92.36 26 IAmb IAmb 00 43 14.2
comp=Z,15nm,0.8s
N47A Urbana 92.36 26 P **P** **00 43 13.1 0.0**
baz=335
N47A P **P** **00 43 13.1 0.0**
baz=335
OK031 S. Brethren Rd 92.38 36 P **P** **00 43 14.2 +0.9**
OK031 IAmb IAmb 00 43 16.2
comp=Z,30nm,1.4s
S39A Bolivar 92.38 32 P **P** **00 43 13.1 -0.1**
S39A IAmb IAmb 00 43 14.0
comp=Z,13nm,0.7s
S39A Bolivar 92.38 32 P **P** **00 43 13.2 -0.1**
baz=330,SNR=7.2
OK034 N. Norfolk Rd. 92.39 36 P **00 43 13.7 +0.4**
OK034 IAmb IAmb 00 43 14.9
comp=Z,14nm,0.7s
J55A Hilton 92.42 19 P **P** **00 43 12.9 -0.5**
baz=340
J55A P **P** **00 43 12.9 -0.5**
baz=340
OK030 Cody Creek RV 92.42 36 P **00 43 14.7 +1.2**
OK030 IAmb IAmb 00 43 15.7
comp=Z,29nm,1.5s
OK025 Westminster Rd 92.47 36 IAMs_20 IAMs_20 01 26 19.4
comp=Z,362nm,18.0s
WMOK Wichita Mounta 92.52 38 P **P** **00 43 15.1 +1.1**
baz=326,SNR=8.8
WMOK Wichita Mounta 92.52 38 P **P** **00 43 14.6 +0.6**
baz=326,SNR=8.8
VT1 Waterbury 92.55 15 P **P** **00 43 13.5 -0.4**
baz=344,SNR=6.5
NCB Newcomb 92.59 17 IAmb IAmb 00 43 14.7
comp=Z,14nm,1.0s
NCB Newcomb 92.59 17 P **P** **00 43 14.1 0.0**
baz=343
H62A Milan 92.62 14 IAmb IAmb 00 43 15.6
comp=Z,23nm,1.1s
H62A Milan 92.62 14 P **P** **00 43 13.9 -0.4**
baz=345
H62A P **P** **00 43 13.9 -0.4**
baz=345
J57A Williamstown 92.72 18 IAmb IAmb 00 43 15.2
comp=Z,16nm,0.9s
LBNH Lisbon 92.80 15 P **P** **00 43 15.0 -0.1**
baz=344
N49A Columbus Grove 92.80 25 IAmb IAmb 00 43 16.0
comp=Z,15nm,0.8s
N49A Columbus Grove 92.80 25 P **P** **00 43 15.6 +0.4**
baz=336,SNR=5.4
N49A P **P** **00 43 15.6 +0.4**
baz=336,SNR=5.4
MCVT Middlebury Col 92.86 16 P **P** **00 43 15.8 +0.3**
baz=344
TUL1 Leonard 92.87 35 P **00 43 15.9 +0.4**
TUL1 IAmb IAmb 00 43 17.8
comp=Z,10nm,0.8s
TUL1 IAMs_20 IAMs_20 01 32 05.9
comp=Z,295nm,18.0s
TUL1 Leonard 92.87 35 P **P** **00 43 16.1 +0.5**
baz=328
CCM Cathedral Cave 92.89 31 P **P** **00 43 15.9 +0.3**
CCM IAmb IAmb 00 43 16.5
comp=Z,10nm,0.8s
CCM Cathedral Cave 92.89 31 P **P** **00 43 15.9 +0.3**
CCM pmax pmax
comp=Z,10.0nm,0.8s
CCM Cathedral Cave 92.89 31 P **P** **00 43 15.5 -0.2**
baz=331,SNR=9.6
CCM Cathedral Cave 92.89 31 P **P** **00 43 15.4 -0.2**
baz=331
MMNY Mt. Morris Dam 92.90 20 IAmb IAmb 00 43 15.8
comp=Z,15nm,0.8s
ERPA Erie 92.93 21 P **P** **00 43 15.4 -0.4**
baz=339
J58A Remsen 92.94 18 IAmb IAmb 00 43 15.6
comp=Z,13nm,1.2s
J58A Remsen 92.94 18 P **P** **00 43 15.6 -0.1**
baz=342
J58A P **P** **00 43 15.6 -0.1**
baz=342
P46A Rosedale 92.98 27 IAmb IAmb 00 43 17.0
comp=Z,11nm,0.8s
P46A Rosedale 92.98 27 P **P** **00 43 16.1 +0.1**
baz=334
J59A Piesco 93.01 17 IAmb IAmb 00 43 16.6
comp=Z,9.7nm,0.9s
J59A Piesco 93.01 17 P **P** **00 43 15.7 -0.4**
baz=342
J59A P **P** **00 43 15.7 -0.4**
baz=342
U38A Gravette 93.02 34 IAmb IAmb 00 43 17.3
comp=Z,15nm,0.8s
U38A Gravette 93.02 34 P **P** **00 43 16.6 +0.3**
baz=329,SNR=8.1
O48B Farmland 93.09 26 P **P** **00 43 16.2 -0.3**
baz=335
I63A Otisfield 93.24 14 IAmb IAmb 00 43 18.2
comp=Z,17nm,0.8s
I63A Otisfield 93.24 14 P **P** **00 43 17.6 +0.5**
baz=345
I63A P **P** **00 43 17.6 +0.5**
baz=345
MGMO Mountain Grove 93.27 32 P **P** **00 43 17.6 +0.2**
MGMO IAmb IAmb 00 43 18.3
comp=Z,14nm,1.1s
HHAR Hobbs 93.34 33 P **P** **00 43 17.7 -0.1**
N51A Ashland 93.36 23 P **P** **00 43 17.2 -0.5**
N51A IAmb IAmb 00 43 18.7
comp=Z,18nm,0.8s
M53A WI Miller and 93.37 22 P **P** **00 43 17.6 -0.2**
baz=338
O49A Covington 93.42 25 IAmb IAmb 00 43 18.8
comp=Z,11nm,0.8s
O49A Covington 93.42 25 P **P** **00 43 18.1 +0.1**
baz=336
O49A P **P** **00 43 18.1 +0.1**
baz=336
L56A Greenwood 93.55 19 IAmb IAmb 00 43 18.9
comp=Z,11nm,0.8s
P48A Milroy 93.72 26 IAmb IAmb 00 43 20.1
comp=Z,13nm,1.1s
HCNY Howe Caverns 93.77 17 P **P** **00 43 19.4 -0.1**
baz=343
ACSO Alum Creek Sta 93.80 24 IAmb IAmb 00 43 20.9
comp=Z,16nm,0.8s
ACSO IAMs_20 IAMs_20 01 33 55.9
comp=Z,438nm,21.0s
ACSO Alum Creek Sta 93.80 24 P **P** **00 43 19.6 -0.2**
baz=336
ACSO Alum Creek Sta 93.80 24 P **P** **00 43 19.5 -0.3**
baz=336
M55A Ridgway 93.86 21 IAmb IAmb 00 43 20.6
comp=Z,11nm,0.8s

M55A	**Ridgway**	**93.86**	**21**	P	**P**	**00 43 19.6**	**-0.4**
	baz=340						
M55A				P	**P**	**00 43 19.6**	**-0.4**
	baz=340						
BINY	**Binghamton**	**93.87**	**18**	P	**P**	**00 43 20.2**	**+0.1**
	baz=341						
BINY	**Binghamton**	**93.87**	**18**	P	**P**	**00 43 19.6**	**-0.5**
	baz=341						
P49A	**Miami Univ. Ec**	**93.89**	**26**	P	**P**	**00 43 19.7**	**-0.5**
	baz=335						
N53A	**Lisbon**	**93.91**	**22**	P	**P**	**00 43 20.4**	**+0.2**
	baz=338,SNR=10						
N53A				P	**P**	**00 43 20.4**	**+0.2**
	baz=338,SNR=10						
SIUC	**Southern Illin**	**93.95**	**29**	IAmb	IAmb	00 43 22.5	
	comp=Z,11nm,0.8s						
S44A	**Carbondale**	**93.96**	**30**	IAmb	IAmb	00 43 22.1	
	comp=Z,25nm,1.2s						
S44A	**Carbondale**	**93.96**	**30**	P	**P**	**00 43 20.8**	**+0.3**
	baz=332,SNR=7.3						
L59A	**Walton**	**94.10**	**18**	IAmb	IAmb	00 43 22.1	
	comp=Z,19nm,0.9s						
L59A	**Walton**	**94.10**	**18**	P	**P**	**00 43 21.0**	**-0.2**
	baz=342,SNR=5.3						
L59A				P	**P**	**00 43 21.0**	**-0.2**
	baz=342,SNR=5.3						
PSDB	**Penn State Uni**	**94.19**	**21**	P	**P**	**00 43 21.3**	**-0.3**
	baz=340						
O52A	**Adamsville**	**94.25**	**23**	IAmb	IAmb	00 43 22.9	
	comp=Z,18nm,0.8s						
O52A	**Adamsville**	**94.25**	**23**	P	**P**	**00 43 21.8**	**-0.1**
	baz=337						
O52A				P	**P**	**00 43 21.8**	**-0.1**
	baz=337						
O53A	**New Philadelph**	**94.31**	**23**	IAmb	IAmb	00 43 23.3	
	comp=Z,17nm,0.9s						
O53A	**New Philadelph**	**94.31**	**23**	P	**P**	**00 43 21.9**	**-0.2**
	baz=338,SNR=5.4						
M57A	**Sunshine Farm,**	**94.41**	**19**	IAmb	IAmb	00 43 23.5	
	comp=Z,21nm,0.8s						
M57A	**Sunshine Farm,**	**94.41**	**19**	P	**P**	**00 43 22.2**	**-0.4**
	baz=341,SNR=6.7						
M57A				P	**P**	**00 43 22.2**	**-0.4**
	baz=341,SNR=6.7						
FCAR	**Ozark Folk Cen**	**94.42**	**32**	IAmb	IAmb	00 43 23.5	
	comp=Z,15nm,0.7s						
UPAO	**U. Pittsburgh**	**94.44**	**22**	P	**P**	**00 43 23.0**	**+0.3**
	baz=339						
TX31	**Lajitas Ar. Si**	**94.49**	**44**	IAmb	IAmb	00 43 25.0	
	comp=Z,10nm,0.7s						
TX31	**Lajitas Ar. Si**	**94.49**	**44**	P	**P**	**00 43 24.2**	**+0.9**
	baz=323						
TXAR	**Lajitas Array**	**94.49**	**44**	P	**P**	**00 43 24.1**	**+0.9**
	comp=Z,3.2nm,0.7s,baz=285,slow=3.2,SNR=41						
TXAR				PP	**PP**	**00 47 10.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=297,slow=5.5,SNR=4.5						
TXAR				PKKPbc	**PKKPbc**	**01 00 21.1**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=161,slow=6.0,SNR=4.6						
	comp=Z,3.2nm,0.7s						
WCI	**Wyandotte Cave**	**94.54**	**27**	P	**P**	**00 43 23.9**	**+0.7**
WCI				IAmb	IAmb	00 43 24.0	
	comp=Z,7.3nm,0.8s						
WCI	**Wyandotte Cave**	**94.54**	**27**	IAMs_20	IAMs_20	01 33 10.6	
	comp=Z,519nm,20.0s						
WCI	**Wyandotte Cave**	**94.54**	**27**	P	**P**	**00 43 23.9**	**+0.7**
WCI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WCI	**Wyandotte Cave**	**94.54**	**27**	P	**P**	**00 43 22.9**	**-0.3**
	baz=334						
P52A	**Corning**	**94.61**	**24**	IAmb	IAmb	00 43 24.2	
	comp=Z,16nm,0.9s						
P52A				IAMs_20	IAMs_20	01 33 23.2	
	comp=Z,612nm,22.0s						
P52A	**Corning**	**94.61**	**24**	P	**P**	**00 43 22.8**	**-0.7**
	baz=337,SNR=5.5						
O54A	**Avella**	**94.62**	**22**	IAmb	IAmb	00 43 24.4	
	comp=Z,13nm,0.8s						
MDT	**Midelt**	**94.79**	**322**	P	**P**	**00 43 23.9**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=111,slow=5.1,SNR=8.8						
	comp=Z,4.7nm,0.8s						
WHAR	**Woolly Hollow**	**94.87**	**33**	IAmb	IAmb	00 43 25.8	
	comp=Z,11nm,0.7s						
SSPA	**Standing Stone**	**94.87**	**20**	P	**P**	**00 43 24.1**	**-0.6**
	baz=340						
MIAR	**Mount Ida**	**94.98**	**34**	IAmb	IAmb	00 43 26.8	
	comp=Z,6.0nm,0.8s						
MIAR				IAMs_20	IAMs_20	01 30 51.7	
	comp=Z,200nm,19.0s						
MIAR	**Mount Ida**	**94.98**	**34**	P	**P**	**00 43 25.4**	**+0.1**
	baz=329						
MCWV	**Mont Chateau**	**95.25**	**22**	P	**P**	**00 43 26.2**	**-0.2**
	baz=339						
PAL	**Palisades**	**95.49**	**17**	P	**P**	**00 43 26.9**	**-0.5**
	baz=343						
JCT	**Junction City**	**95.53**	**41**	IAmb	IAmb	00 43 30.4	
	comp=Z,9.1nm,0.6s						
JCT				IAMs_20	IAMs_20	01 26 35.0	
	comp=Z,290nm,22.0s						
JCT	**Junction City**	**95.53**	**41**	P	**P**	**00 43 27.9**	**0.0**
	baz=325						
Q54A	**Coxs Mills**	**95.60**	**23**	IAmb	IAmb	00 43 29.3	
	comp=Z,6.9nm,0.7s						
WVT	**Waverly**	**95.87**	**29**	P	**P**	**00 43 29.6**	**+0.3**
WVT	**Waverly**	**95.87**	**29**	IAMs_20	IAMs_20	01 32 44.9	
	comp=Z,436nm,18.0s						
WVT	**Waverly**	**95.87**	**29**	P	**P**	**00 43 29.6**	**+0.3**
WVT	**Waverly**	**95.87**	**29**	P	**P**	**00 43 29.1**	**-0.2**
	baz=333						
U49A	**Red Boiling Sp**	**96.26**	**28**	IAmb	IAmb	00 43 32.4	
	comp=Z,6.0nm,0.8s						
435B	**Jarrell**	**96.36**	**39**	IAMs_20	IAMs_20	01 30 08.6	
	comp=Z,343nm,20.0s						
V48A	**Smith Brothers**	**96.58**	**29**	IAmb	IAmb	00 43 33.1	
	comp=Z,6.9nm,0.8s						
OXF	**Oxford**	**96.70**	**31**	IAMs_20	IAMs_20	01 32 33.1	
	comp=Z,320nm,19.0s						
PLAL	**Pickwick Lake**	**96.80**	**30**	IAmb	IAmb	00 43 34.5	
	comp=Z,6.9nm,0.8s						
NATX	**Nacogdoches**	**96.88**	**36**	IAMs_20	IAMs_20	01 28 23.3	
	comp=Z,339nm,20.0s						
TZTN	**Tazewell**	**96.99**	**26**	IAMs_20	IAMs_20	01 31 41.4	
	comp=Z,573nm,22.0s						
TZTN	**Tazewell**	**96.99**	**26**	P	**P**	**00 43 33.9**	**-0.5**
	baz=336						
SWET	**Sewanee**	**97.37**	**28**	IAmb	IAmb	00 43 36.3	
	comp=Z,4.4nm,0.8s						
CPCT	**Cooper Cave**	**97.66**	**27**	IAmb	IAmb	00 43 37.8	
	comp=Z,6.3nm,0.8s						
TKL	**Tuckaleechee C**	**97.72**	**26**	P	**P**	**00 43 37.4**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=174,slow=1.8,SNR=6.0						
	comp=Z,3.1nm,0.8s						
HKT	**Hockley**	**97.88**	**38**	IAMs_20	IAMs_20	01 31 01.4	
	comp=Z,409nm,18.0s						
VBMS	**Vicksburg**	**98.27**	**33**	IAMs_20	IAMs_20	01 31 12.7	
	comp=Z,324nm,21.0s						
TORD	**Torodi Ar. Bea**	**107.27**	**306**	PKiKP	**PKiKP**	**00 48 27.8**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=39,slow=1.7,SNR=8.5						
TORD				PP	**PP**	**00 48 39.6**	**-7.4**
	comp=Z,1.8nm,0.9s,baz=46,slow=8.2,SNR=6.5						
TORD				PKKPbc	**PKKPbc**	**00 59 41.6**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=196,slow=3.0,SNR=5.8						
KOWA	**Kowa**	**109.57**	**311**	PP	**PP**	**00 49 01.0**	**-2.6**
	comp=Z,1.5nm,0.7s,baz=4.1,slow=12,SNR=2.4						
KOWA				PKKPbc	**PKKPbc**	**00 59 36.2**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=244,slow=3.8,SNR=5.4						
TEIG	**Tepich**	**109.69**	**37**	IAMs_20	IAMs_20	01 19 17.6	
	comp=Z,316nm,18.0s						
LBTB	**Lobatse**	**115.81**	**259**	PKP	**PKPdf**	**00 48 45.0**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=109,slow=1.0,SNR=4.1						
LBTB				PKKPab	**PKKPab**	**00 59 22.0**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=236,slow=5.6,SNR=5.2						
LBTB	**Lobatse**	**115.81**	**259**	PKIKP	**PKPdf**	**00 48 45.0**	**-0.5**
DBIC	**Dimbokro**	**116.31**	**307**	PKP	**PKPdf**	**00 48 45.5**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=18,slow=1.6,SNR=3.6						
BOSA	**Boshof**	**118.10**	**255**	PKP	**PKPdf**	**00 48 47.6**	**-2.3**
	comp=Z,1.2nm,0.7s,baz=45,slow=1.4,SNR=1.1						
MAW	**Mawson**	**119.37**	**204**	PKP	**PKPdf**	**00 48 50.6**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=52,slow=1.9,SNR=19						
MAW				PKKPbc	**PKKPab**	**00 59 02.7**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=196,slow=5.3,SNR=8.1						
VNDA	**Vanda**	**120.25**	**172**	PKP	**PKPdf**	**00 48 51.5**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=312,slow=4.4,SNR=17						
FDF	**Fort de France**	**123.47**	**12**	IAMs_20	IAMs_20	01 34 00.0	
	comp=Z,336nm,19.0s						
GRGR	**Grenville**	**125.94**	**13**	IAMs_20	IAMs_20	01 35 48.5	
	comp=Z,227nm,19.0s						
SDV	**Santo Domingo**	**126.90**	**25**	PKP	**PKPdf**	**00 49 06.5**	**-0.9**
	comp=Z,27nm,0.6s,baz=196,slow=0.9,SNR=15						
SDV	**Santo Domingo**	**126.90**	**25**	PKPdf	**PKPdf**	**00 49 06.6**	**-0.7**
SDV				IAMs_20	IAMs_20	01 28 51.6	
	comp=Z,156nm,18.0s						
SDV	**Santo Domingo**	**126.90**	**25**	*e*P	**PKPdf**	**00 49 07.5**	**+0.2**
BAUV	**El Baul**	**127.61**	**21**		**PKPdf**	**00 49 06.6**	**-1.9**
ROSC	**El Rosal**	**129.37**	**31**	PKP	**PKPdf**	**00 49 12.3**	**+0.1**
	comp=Z,10nm,0.6s,baz=315,slow=20,SNR=6.4						
QSPA	**South Pole Qui**	**131.02**	**180**	PKhKP	PKPpre	00 48 56.4	
	comp=Z,0.9nm,0.6s,baz=290,slow=1.3,SNR=9.1						
QSPA				PKP	**PKPdf**	**00 49 12.9**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=293,slow=1.6,SNR=15						
OTAV	**Otavalo**	**131.75**	**38**	PKPdf	**PKPdf**	**00 49 17.1**	**+0.2**
OTAV	**Otavalo**	**131.75**	**38**	PKIKP	**PKPdf**	**00 49 17.1**	**+0.2**
OTAV	**Otavalo**	**131.75**	**38**	*e*P	**PKPdf**	**00 49 17.1**	**+0.2**
BOAV	**Boa Vista**	**135.66**	**14**	*e*P	**PKPdf**	**00 49 24.2**	**+0.5**
ATAH	**Atahualpa**	**138.15**	**43**	PKP	**PKPdf**	**00 49 28.1**	**-0.7**
	comp=Z,12nm,1.0s,baz=322,slow=1.9,SNR=5.9						
MALB	**Monte Alegre**	**140.63**	**5**	*e*P	**PKPdf**	**00 49 33.4**	**+0.6**
MACA	**Manacapuru-AM**	**141.05**	**16**	*e*P	**PKPdf**	**00 49 34.1**	**+0.6**
ROSB	**Rosrio**	**141.29**	**349**	*e*P	**PKPdf**	**00 49 33.3**	**-0.7**
CZSB	**Cruzeiro do Su**	**141.40**	**36**	*e*P	**PKPdf**	**00 49 34.9**	**+0.8**
SNAA	**Sanae**	**141.51**	**202**	PKPdf	**PKPdf**	**00 49 26.8**	**-5.9**
SNAA	**Sanae**	**141.51**	**202**	PKhKP	PKPpre	00 49 26.5	
	comp=Z,4.4nm,0.7s,baz=179,slow=6.2,SNR=29						
RCBR	**Riachuelo**	**142.22**	**335**	*e*P	**PKPdf**	**00 49 35.9**	**+0.2**
ITTB	**Itaituba**	**143.00**	**8**	*e*P	**PKPdf**	**00 49 37.7**	**+0.7**
NNA	**Nana**	**143.04**	**45**	PKhKP	PKPpre	00 49 32.5	
	comp=Z,8.0nm,0.6s,baz=312,slow=5.7,SNR=4.6						
VNA2	**Neumayer--Watz**	**143.16**	**202**	PKPdf	PKPab	00 49 31.4	+0.3
	baz=109,slow=3.0						
VNA1	**Neumayer--Stat**	**143.54**	**202**	PKPdf	PKPbc	00 49 33.3	-0.2
VNA3	**Neumayer Olymp**	**143.62**	**201**	PKPdf	PKPab	00 49 33.1	+0.1
NBRF	**Rio Formoso -**	**144.63**	**332**	*e*P	**PKPab**	**00 49 37.9**	**-0.4**
PRPB	**Parauapebas**	**145.03**	**358**	*e*P	**PKPbc**	**00 49 39.2**	**-0.6**
NPGB	**Novo Progresso**	**145.68**	**8**	*e*P	**PKPbc**	**00 49 41.5**	**-0.2**
ETMB	**Extrema**	**145.89**	**28**	PKPdf	**PKPdf**	**00 49 41.2**	**-0.7**
ETMB	**Extrema**	**145.89**	**28**	*e*P	**PKPdf**	**00 49 41.6**	**-0.4**
NBAN	**Anadia - AL**	**145.94**	**333**	*e*P	**PKPdf**	**00 49 41.9**	**-0.2**
SMTB	**Santa Maria do**	**147.57**	**354**	*e*P	**PKPdf**	**00 49 45.4**	**+0.6**
NBLA	**Lagarto - SE**	**147.68**	**335**	*e*P	**PKPdf**	**00 49 45.6**	**+0.6**
CLDB	**Colider**	**149.41**	**9**	*e*P	**PKPdf**	**00 49 48.3**	**+0.5**
SDBA	**SAO DESIDERIO**	**150.75**	**348**	*e*P	**PKPdf**	**00 49 50.0**	**0.0**
SNDB	**Serra Nova Dou**	**150.80**	**1**	*e*P	**PKPdf**	**00 49 49.9**	**-0.1**
LPAZ	**La Paz**	**151.01**	**36**	PKPbc	**PKPbc**	**00 49 56.4**	**-0.4**
	comp=Z,16nm,0.7s,baz=16,slow=5.0,SNR=55						
LPAZ	**La Paz**	**151.01**	**36**	PKPbc	**PKiKP**	**00 49 57.1**	**-0.3**
LPAZ	**La Paz**	**151.01**	**36**	PKIKP	**PKiKP**	**00 49 57.1**	**-0.3**
LPAZ	**La Paz**	**151.01**	**36**	*e*P	**PKPdf**	**00 49 50.9**	**-0.2**
PB18	**Visviri**	**151.53**	**39**∥	*e*P	**PKiKP**	**00 49 59.4**	**+1.1**
PB12	**IPOC Station P**	**151.98**	**42**		**PKPbc**	**00 49 57.6**	**-0.7**
PB12	**IPOC Station P**	**151.98**	**42**∥	*e*P	**PKPbc**	**00 49 58.1**	**-0.2**
PB16	**IPOC Station P**	**152.15**	**40**	PKPdf	**PKPdf**	**00 49 53.6**	**+1.0**
PB16	**IPOC Station P**	**152.15**	**40**∥	*e*P	**PKPbc**	**00 49 59.2**	**-0.1**
CMC01	**Camacan, BA**	**152.33**	**336**	*e*P	**PKPdf**	**00 49 51.9**	**-0.3**
PTLB	**Pontes e Lacer**	**153.30**	**18**		**PKPbc**	**00 50 00.6**	**-0.5**
SIV	**San Ignacio**	**153.32**	**22**	PKP	**PKPdf**	**00 49 53.0**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=42,slow=0.7,SNR=12						
SIV				PKPbc	**PKPbc**	**00 50 01.2**	**0.0**
	comp=Z,8.7nm,0.7s,baz=3.2,slow=1.9,SNR=31						
SIV				PKPab	**PKPab**	**00 50 12.8**	**-0.2**
	comp=Z,18nm,0.6s,baz=327,slow=2.6,SNR=29						
GO01	**Chusmiza**	**153.44**	**41**	*e*P	**PKPdf**	**00 49 51.3**	**-3.1**
BDFB	**Brasilia**	**154.32**	**353**	PKPbc	**PKPbc**	**00 50 02.3**	**-1.2**
	comp=Z,2.9nm,0.6s,baz=281,slow=5.2,SNR=4.4						
BDFB				PKPab	**PKPab**	**00 50 16.8**	**-0.6**
	comp=Z,8.8nm,0.7s,baz=18,slow=4.4,SNR=11						
RIB01	**Linhares ES**	**156.32**	**334**	*e*P	**PKPdf**	**00 49 58.9**	**+1.1**
MT09	**Talagante**	**162.46**	**71**	PKPdf	**PKPdf**	**00 50 03.5**	**-1.2**
MT09					**PKPab**	**00 50 53.4**	**+1.0**
BO02	**Sierra Bellavi**	**163.11**	**74**		**PKPdf**	**00 50 03.3**	**-1.9**
BO02				PKPab	**PKPab**	**00 50 56.2**	**+1.1**
CPUP	**Villa Florida**	**164.18**	**21**	PKP	**PKPdf**	**00 50 05.5**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=37,slow=5.1,SNR=3.0						
CPUP				PKPab	**PKPab**	**00 50 59.0**	**-0.8**
	comp=Z,6.7nm,0.9s,baz=2.3,slow=7.1,SNR=11						
CPUP	**Villa Florida**	**164.18**	**21**	PKPdf	**PKPdf**	**00 50 05.3**	**-1.0**
CPUP					**PKPab**	**00 50 58.6**	**-1.1**
PLCA	**Paso Flores**	**165.19**	**94**	PKPab	**PKPab**	**00 51 04.5**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=269,slow=4.9,SNR=17						
TRQA	**Tornquist**	**170.91**	**73**		**PKPdf**	**00 50 09.4**	**-1.3**
TRQA				PKPab	**PKPab**	**00 51 29.6**	**+0.1**
TRQA	**Tornquist**	**170.91**	**73**	PKIKP	**PKPdf**	**00 50 09.4**	**-1.3**

IDC ***09*** *00:55:09.6±2.2,36.74S×179.14E,h0km,mb3.7/2, mbtmp3.8/3,ML4.0/1,MS3.3/2,Error ellipse: s-maj=47.7km s-min=43.5km az=124.0*
NEIC ***09*** *00:55:11.2±2.4,37.15S±0.08×179.34E±0.09,h10km±2km, mb4.3/6,Error ellipse: s-maj=15.3km s-min=10.6km az=324.0*
WEL ***09*** *00:55:13.8±1.3,37°S±4°×17°9E±°,h16km±9km,M3.9/30, ML4.1/35,MLv3.9/30,Error ellipse: s-maj=0.0km s-min=0.0km az=82.5*

ISC 09 00:55:11.5±3.5,37.02S±0.07×179.26E±0.08,h13km±21km, n73,σ1ᵗ15/78,mb4.2/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.93**	**234**				**Pb**	**00 55 29.3**	**-0.3**
MXZ	**Matakaoa Point**	**0.93**	**234**			P	**Pb**	**00 55 29.1**	**-0.5**
MXZ						S	**Sb**	**00 55 40.2**	**-1.6**
WMGZ	**Waiomatatini S**	**1.04**	**220**			P	**Pn**	**00 55 33.1**	**+1.2**
WMGZ						S	**Sn**	**00 55 47.8**	**+1.4**
PKGZ	**Pakihiroa**	**1.28**	**227**			P	**Pb**	**00 55 36.1**	**+0.6**
PKGZ						S	**Sb**	**00 55 52.6**	**+0.7**
PUZ	**Puketiti**	**1.32**	**217**			P	**Pb**	**00 55 36.7**	**+0.6**
PUZ						S	**Sn**	**00 55 53.2**	**+0.1**
HAZ	**Te Kaha**	**1.39**	**238**			P	**Pn**	**00 55 35.9**	**-0.7**
HAZ						S	**Sb**	**00 55 56.6**	**+1.7**
RUGZ	**Raukumara Rang**	**1.57**	**233**			P	**Pn**	**00 55 40.3**	**+1.0**
CNGZ	**Carnagh Statio**	**1.68**	**209**			P	**Pb**	**00 55 42.5**	**+0.1**
TKGZ	**Te Karaka**	**1.80**	**218**			P	**Pn**	**00 55 43.7**	**+1.3**
TKGZ						S	**Sn**	**00 56 05.5**	**+0.4**
MWZ	**Matawai**	**1.90**	**226**			P	**Pn**	**00 55 44.6**	**+0.9**
MWZ						S	**Sn**	**00 56 06.9**	**-0.6**
RIGZ	**Rimuhau**	**2.06**	**215**			P	**Pn**	**00 55 46.6**	**+0.7**
URZ	**Urewera**	**2.11**	**233**			Pn	**Pn**	**00 55 47.6**	**+1.1**
	39nm,0.3s,baz=31,slow=3.6,SNR=49								
URZ						Sn	**Sn**	**00 56 11.3**	**-1.2**
	32nm,0.3s,baz=307,slow=20,SNR=26								
URZ						LR	LR	00 56 52.5	
	comp=Z,395nm,21.2s,baz=40,slow=46								
	101nm,0.3s								
URZ	**Urewera**	**2.11**	**233**				**Pn**	**00 55 46.8**	**+0.3**
URZ	**Urewera**	**2.11**	**233**	P			**Pn**	**00 55 47.6**	**+1.1**
PRGZ	**Paritu Road**	**2.19**	**209**	P			**Pn**	**00 55 48.3**	**+0.7**
OPRZ	**Ohinepanea**	**2.30**	**248**	P			**Pn**	**00 55 47.5**	**-1.7**
SNGZ	**Shannon Statio**	**2.32**	**220**	P			**Pn**	**00 55 50.2**	**+0.7**
SNGZ				S			**Sn**	**00 56 17.6**	**-0.4**
MHGZ	**Mahia Peninsul**	**2.38**	**206**	P			**Pn**	**00 55 51.1**	**+0.8**
MUGZ	**Murupara**	**2.45**	**233**	P			**Pn**	**00 55 52.1**	**+0.9**
RAHZ	**Arahi**	**2.56**	**222**	P			**Pn**	**00 55 54.0**	**+1.3**
MTHZ	**Maungatapiri**	**2.65**	**226**	P			**Pn**	**00 55 55.2**	**+1.2**
NMHZ	**Naumai**	**2.84**	**222**	P			**Pn**	**00 55 57.6**	**+0.9**
KUZ	**Kuaotunu**	**2.85**	**274**	P			**Pn**	**00 55 56.1**	**-0.6**
ARHZ	**Aropaoanui**	**2.86**	**218**	P			**Pn**	**00 55 57.9**	**+1.0**
BKZ	**Black Stump Fm**	**3.06**	**225**				**Pn**	**00 55 59.6**	**0.0**
BKZ	**Black Stump Fm**	**3.06**	**225**	P			**Pn**	**00 55 60.0**	**+0.3**
TOZ	**Tahuroa Road**	**3.07**	**256**	P			**Pn**	**00 56 00.4**	**+0.6**
MCHZ	**McNeill Hill**	**3.15**	**219**	P			**Pn**	**00 56 02.3**	**+1.4**
GRZ	**Great Barrier**	**3.15**	**283**	P			**Pn**	**00 56 01.4**	**+0.6**
MKAZ	**Moumakai**	**3.28**	**267**	P			**Pn**	**00 56 02.2**	**-0.3**
KWHZ	**Kaweka Forest**	**3.28**	**222**	P			**Pn**	**00 56 03.1**	**+0.4**
WIAZ	**Waiheke Island**	**3.31**	**273**	P			**Pn**	**00 56 02.9**	**-0.2**
KAHZ	**Kahuranaki**	**3.34**	**213**	P			**Pn**	**00 56 03.0**	**-0.6**
KRHZ	**Kereru**	**3.47**	**220**	P			**Pn**	**00 56 05.1**	**-0.1**
ETAZ	**East Tamaki Re**	**3.47**	**270**	P			**Pn**	**00 56 06.6**	**+1.4**
MBAZ	**Motutapu North**	**3.50**	**273**	P			**Pn**	**00 56 06.3**	**+0.6**
BHHZ	**Black Hill Sta**	**3.52**	**225**	P			**Pn**	**00 56 06.2**	**+0.2**
ABAZ	**Army Bay**	**3.58**	**275**	P			**Pn**	**00 56 07.5**	**+0.8**
SNVZ	**South Ngauruho**	**3.58**	**232**	P			**Pn**	**00 56 07.1**	**+0.2**
MOVZ	**Moawhango**	**3.65**	**228**	P			**Pn**	**00 56 07.8**	**0.0**
AWAZ	**Awhitu Peninsu**	**3.69**	**268**	P			**Pn**	**00 56 08.8**	**+0.5**
WTAZ	**Waiatarua**	**3.75**	**270**	P			**Pn**	**00 56 10.3**	**+1.2**
PNHZ	**Pukenui**	**3.75**	**219**	P			**Pn**	**00 56 08.7**	**-0.6**
RVAZ	**Riverhead Bore**	**3.76**	**272**	P			**Pn**	**00 56 10.1**	**+1.0**
HIZ	**Hauiti**	**3.79**	**246**	Pn			**Pn**	**00 56 10.7**	**+1.0**
HIZ	**Hauiti**	**3.79**	**246**	P			**Pn**	**00 56 11.6**	**+1.9**
TSZ	**Takapari Road**	**3.98**	**219**	P			**Pn**	**00 56 11.9**	**-0.5**
WCZ	**Waipu Caves**	**4.10**	**284**	P			**Pn**	**00 56 14.6**	**+0.7**
WAZ	**Wanganui**	**4.33**	**230**	P			**Pn**	**00 56 17.9**	**+0.8**
BFZ	**Birch Farm**	**4.35**	**212**	Pn			**Pn**	**00 56 16.2**	**-1.1**
MRZ	**Mangatainoka R**	**4.63**	**217**	P			**Pn**	**00 56 19.9**	**-1.4**
OUZ	**Omahuta**	**4.92**	**290**	P			**Pn**	**00 56 26.4**	**+1.2**
QRZ	**Quartz Range**	**6.48**	**232**	Pn			**Pn**	**00 56 44.7**	**-1.9**
THZ	**Tophouse**	**6.83**	**224**	Pn			**Pn**	**00 56 49.7**	**-1.7**
KHZ	**Kahutara**	**6.96**	**218**	Pn			**Pn**	**00 56 50.8**	**-2.3**
CTZ	**Chatham Island**	**7.41**	**156**	P			**Pn**	**00 57 01.1**	**+1.8**
CTZ				S			Sn	00 58 16.0	-7.1
LTZ	**Lake Taylor**	**7.87**	**221**	Pn			**Pn**	**00 57 03.7**	**-2.0**
RPZ	**Rata Peaks**	**9.16**	**221**	Pn			**Pn**	**00 57 20.5**	**-2.8**
	0.4nm,0.3s,baz=324,slow=17,SNR=2.0								
RPZ						Sn	Sn	00 58 53.2	-13
	1.1nm,0.3s,baz=138,slow=23,SNR=9.4								
LBZ	**Lake Benmore**	**10.07**	**220**	Pn			**Pn**	**00 57 35.1**	**-0.8**
ASAR	**Alice Springs**	**40.98**	**276**	P			**P**	**01 02 53.2**	**-1.0**
	1.1nm,0.8s,baz=116,slow=7.4,SNR=8.7								
	1.1nm,0.8s								
WR0	**Warramunga Arr**	**42.40**	**281**	P		P	**P**	**01 03 09.8**	**+3.8**
WR0				IAmb		IAmb	IAmb	01 03 34.5	
	comp=Z,4.4nm,1.1s								
WB2	**Warramunga Arr**	**42.56**	**281**	P		P	**P**	**01 03 06.2**	**-1.0**
WB2				IAmb		IAmb	IAmb	01 03 13.1	
	comp=Z,11nm,1.4s								
WRAB	**Tennant Creek**	**42.57**	**281**	P		P	**P**	**01 03 07.2**	**-0.1**
WRAB				IAmb		IAmb	IAmb	01 03 13.1	
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**42.57**	**281**	P		P	**P**	**01 03 06.0**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=121,slow=7.7,SNR=10								
	comp=Z,0.8nm,0.8s								
WB0	**Warramunga Arr**	**42.62**	**281**	P		P	**P**	**01 03 06.7**	**-1.1**
WB0				IAmb		IAmb	IAmb	01 03 31.0	
	comp=Z,9.0nm,1.3s								
NWAO	**Narrogin (SRO)**	**50.20**	**255**	LR		LR	LR	01 26 17.9	
	comp=Z,62nm,18.2s,baz=328,slow=37								
FITZ	**Fitzroy Crossi**	**50.46**	**277**	P		P	**P**	**01 04 08.4**	**-0.8**
MAW	**Mawson**	**65.33**	**202**	P		P	**P**	**01 05 53.0**	**+0.2**
H03N3	**Juan Fernandez

IDC ***09*** *01:01:12.8±1.3,30.°94S×71.°63W,h0km,mb3.7/4, mbtmp3.6/8,ML3.5/4,MS3.2/3,Error ellipse: s-maj=33.9km s-min=32.0km az=79.0*

SJA ***09*** *01:01:14.6±0.8,30.°60S×71.°98W,h22km±3km,ML4.3, MW4.2*

GUC ***09*** *01:01:18.6±0.7,30.°67S×71.°66W,h42km±1km,ML4.4*

NEIC ***09*** *01:01:18.8,30.°61S×71.°89W,h48km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr 1.78; Mθθ-0.01; Mϕϕ -1.77; Mrθ 0.45; Mrϕ -0.45; Mθϕ -0.52; Fault plane solution: M₀1.96000×10¹⁵ NP1:ϕ₁177.45000°, δ53.45000°,λ69.74000°. NP2:ϕ₂29.24000°,δ41.09000°, λ115.04000°. Principal axes: T 1.9882, Plg73.0000°, Azm33.0000°; N -0.0610, Plg16.0000°, Azm190.0000°; P -1.9271, Plg6.0000°, Azm282.0000°;*

NEIC ***09*** *01:01:19.1±2.8,30.°64S±0.°06×71.°8W±0.°1,h42km±7km, mb4.2/2,Mwr4.1/54,Mwr4.3(GUC) Error ellipse: s-maj=15.3km s-min=7.3km az=104.0*

ISC 09 01:01:17.9±0.9,30.°62S±0.°02×71.°83W±0.°04,h29km±5km, n111,σ1§84/148,mb3.9/5,7C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
CO06	**Fray Jorge**	**0.18**	**109**			**Pn**	**01 01 24.7**	**+0.1**
CO06	**Fray Jorge**	**0.18**	**109**	*i*	P	**Pn**	**01 01 24.8**	**+0.1**
CO06				*i*	S	**Sn**	**01 01 28.7**	**+0.9**
CO06					IAML		01 01 29.8	
	comp=E,49μm,0.4s							
CO06	**Fray Jorge**	**0.18**	**109**	⇓*i*	P	**Pn**	**01 01 24.8**	**+0.1**
CO06				*i*	S	**Sn**	**01 01 28.7**	**+0.9**
CO06					IAML		01 01 29.8	
	comp=E,48μm,0.4s							
CO05	**La Serena**	**0.86**	**37**			**Pn**	**01 01 34.5**	**+0.4**
CO05	**La Serena**	**0.86**	**37**	*e*	P	**Pn**	**01 01 34.1**	**0.0**
CO05				*e*	S	**Sn**	**01 01 46.7**	**+0.9**
CO05	**La Serena**	**0.86**	**37**	*i*	P	**Pn**	**01 01 34.5**	**+0.4**
CO05				*i*	S	**Sn**	**01 01 46.9**	**+1.1**
CO02	**Combarbal**	**0.93**	**130**			**Pn**	**01 01 33.4**	**-1.7**
CO02	**Combarbal**	**0.93**	**130**	⇓*i*	P	**Pn**	**01 01 33.4**	**-1.7**
CO02				*i*	S	**Sn**	**01 01 44.0**	**-3.4**
CO02					IAML		01 01 47.6	
	comp=E,39μm,0.4s							
CO02	**Combarbal**	**0.93**	**130**	⇓*i*	P	**Pn**	**01 01 33.4**	**-1.7**
CO02				*i*	S	**Sn**	**01 01 44.4**	**-3.1**
CO02					IAML		01 01 47.6	
	comp=E,38μm,0.4s							
CO02	**Combarbal**	**0.93**	**130**	*e*	P	**Pn**	**01 01 35.1**	**0.0**
CO02				*e*	S	**Sn**	**01 01 45.6**	**-1.9**
CO02					IAML		01 01 47.4	
	comp=Z,7μm,0.4s							
GO04	**Tololo Observa**	**1.00**	**64**			**Pn**	**01 01 35.5**	**-0.6**
GO04	**Tololo Observa**	**1.00**	**64**	*i*	P	**Pn**	**01 01 35.4**	**-0.7**
GO04				*i*	S	**Sn**	**01 01 48.0**	**-1.3**
GO04					IAML		01 01 53.9	
	comp=N,23μm,0.6s							
GO04	**Tololo Observa**	**1.00**	**64**	⇓*i*	P	**Pn**	**01 01 35.5**	**-0.6**
GO04				*i*	S	**Sn**	**01 01 48.2**	**-1.1**
GO04					IAML		01 01 54.0	
	comp=N,23μm,0.6s							
GO04	**Tololo Observa**	**1.00**	**64**	*e*	P	**Pn**	**01 01 35.6**	**-0.6**
GO04				*e*	S	**Sn**	**01 01 48.4**	**-1.0**
CO01	**Juntas del Tor**	**1.63**	**68**	Pn		**Pn**	**01 01 45.0**	**+0.1**
CO01	**Juntas del Tor**	**1.63**	**68**	⇑*i*	P	**Pn**	**01 01 45.1**	**+0.1**
CO01				*i*	S	**Sn**	**01 02 04.2**	**-0.9**
CO01	**Juntas del Tor**	**1.63**	**68**	⇑*i*	P	**Pn**	**01 01 45.0**	**+0.1**
CO01				*i*	S	**Sn**	**01 02 04.9**	**-0.2**
CO01	**Juntas del Tor**	**1.63**	**68**	*e*	P	**Pn**	**01 01 45.2**	**+0.3**
CO01				*e*	S	**Sn**	**01 02 04.9**	**-0.2**
CO01					IAML		01 02 05.7	
	comp=Z,1μm,0.8s							
LCO	**Las Campanas**	**1.88**	**32**			**Pn**	**01 01 49.4**	**+1.1**
LCO	**Las Campanas**	**1.88**	**32**	*i*	P	**Pn**	**01 01 49.4**	**+1.1**
LCO				*e*	S	**Sn**	**01 02 12.7**	**+1.6**
LCO	**Las Campanas**	**1.88**	**32**	⇓*i*	P	**Pn**	**01 01 49.5**	**+1.1**
LCO				*i*	S	**Sn**	**01 02 12.9**	**+1.8**
LCO	**Las Campanas**	**1.88**	**32**	*e*	P	**Pn**	**01 01 49.0**	**+0.7**
VA06	**Catapilco**	**1.99**	**167**			**Pn**	**01 01 50.2**	**+0.6**
VA06	**Catapilco**	**1.99**	**167**	*e*	P	**Pn**	**01 01 49.8**	**+0.2**
VA06					IAML		01 02 22.9	
	comp=N,6μm,0.4s							
AROD	**Rodeo**	**2.09**	**78**	*e*	P	**Pn**	**01 01 53.1**	**+1.9**
AROD				*e*	S	**Sn**	**01 02 18.0**	**+1.6**
AC05	**El Transito**	**2.23**	**38**	Pn		**Pn**	**01 01 54.8**	**+1.7**
AC05	**El Transito**	**2.23**	**38**	⇓*e*	P	**Pn**	**01 01 55.1**	**+2.0**
AC05				*e*	S	**Sn**	**01 02 21.6**	**+1.9**
AC05					IAML		01 02 29.7	
	comp=N,829nm,0.6s							
AC05	**El Transito**	**2.23**	**38**	⇑*i*	P	**Pn**	**01 01 55.2**	**+2.2**
AC05				*i*	S	**Sn**	**01 02 23.4**	**+3.7**
AC05	**El Transito**	**2.23**	**38**	*e*	P	**Pn**	**01 01 55.0**	**+2.0**
AC05				*e*	S	**Sb**	**01 02 25.6**	**+0.7**
ACCO	**Cerro Coronel**	**2.39**	**90**	*e*	P	**Pn**	**01 01 57.0**	**+1.6**
ACCO				*e*	P	Pb	01 01 57.6	-2.8
ACCO				*e*	S	**Sb**	**01 02 30.2**	**+0.7**
VA03	**San Esteban**	**2.41**	**153**			**Pn**	**01 01 55.3**	**-0.1**
VA03	**San Esteban**	**2.41**	**153**	*e*	P	**Pn**	**01 01 56.4**	**+1.0**
VA03					IAML		01 02 34.4	
	comp=N,4μm,0.4s							
VA03	**San Esteban**	**2.41**	**153**	*e*	P	**Pn**	**01 01 56.0**	**+0.6**
VA03				*e*	S	**Sn**	**01 02 28.1**	**+4.2**
VA03					IAML		01 02 32.5	
	comp=Z,2μm,0.2s							
VA01	**Torpederas**	**2.41**	**176**			**Pn**	**01 01 55.5**	**+0.2**
VA01	**Torpederas**	**2.41**	**176**	*e*	P	**Pn**	**01 01 56.2**	**+0.9**
VA01	**Torpederas**	**2.41**	**176**	*e*	P	**Pn**	**01 01 56.0**	**+0.7**
VA01				*e*	S	**Sn**	**01 02 26.9**	**+3.1**
ROCH	**El Roble**	**2.45**	**164**	*e*	P	**Pn**	**01 01 56.7**	**+0.5**
ROCH				*e*	S	**Sn**	**01 02 25.9**	**+0.7**
ROCH					IAML		01 02 34.3	
	comp=N,3μm,0.5s							
ROCH	**El Roble**	**2.45**	**164**	*i*	P	**Pn**	**01 01 56.8**	**+0.7**
ROCH				⇑*i*	P	**Pn**	**01 01 56.8**	**+0.7**
ROCH				*i*	S	**Sn**	**01 02 29.9**	**+4.6**
ROCH				*i*	S	**Sb**	**01 02 31.9**	**+0.6**
ROCH					IAML		01 02 34.4	
	comp=N,3μm,0.5s							
ROCH					IAML		01 02 39.3	
	comp=N,3μm,0.6s							
ROC1	**El Roble**	**2.46**	**164**			**Pn**	**01 01 56.8**	**+0.6**
ROC1	**El Roble**	**2.46**	**164**	*e*	P	**Pn**	**01 01 56.0**	**-0.2**
ROC1				*e*	P	**Pn**	**01 01 56.8**	**+0.6**
ROC1				*e*	S	**Sn**	**01 02 29.2**	**+3.8**
RTLS	**Leoncito**	**2.47**	**119**	*e*	P	**Pn**	**01 01 58.6**	**+2.1**
RTLS				*e*	S	**Sn**	**01 02 30.2**	**+4.3**
RTLS					IAML		01 02 32.4	
	comp=Z,1μm,0.5s							
AC04	**Llanos de Chal**	**2.49**	**16**	Pn		**Pn**	**01 01 57.4**	**+0.9**
AC04	**Llanos de Chal**	**2.49**	**16**	*e*	P	**Pn**	**01 01 57.7**	**+1.2**
AC04					IAML		01 02 39.9	
	comp=E,408nm,0.5s							
AC04	**Llanos de Chal**	**2.49**	**16**	*e*	P	**Pn**	**01 01 57.0**	**+0.5**
AC04				*e*	S	**Sn**	**01 02 27.9**	**+2.0**
MT02	**Curacav**	**2.70**	**168**	Pn		**Pn**	**01 02 00.5**	**+1.1**
MT02	**Curacav**	**2.70**	**168**	*e*	P	**Pn**	**01 01 59.7**	**+0.3**
MT02					IAML		01 02 42.1	
	comp=E,2μm,0.8s							
MT02	**Curacav**	**2.70**	**168**	⇑*i*	P	**Pn**	**01 01 59.8**	**+0.3**
MT02				*i*	S	**Sn**	**01 02 32.0**	**+0.9**
MT02					IAML		01 02 42.0	
	comp=E,892nm,0.6s							
MT02	**Curacav**	**2.70**	**168**	*e*	P	**Pn**	**01 01 59.9**	**+0.6**
MT02				*e*	P	**Pn**	**01 02 00.0**	**+0.6**
MT02				*e*	S	**Sb**	**01 02 36.4**	**-1.9**
MT02					IAML		01 02 47.7	
	comp=Z,836nm,0.6s							
PEL	**Peldehue**	**2.70**	**159**			**Pn**	**01 01 59.2**	**-0.2**
PEL	**Peldehue**	**2.70**	**159**	*e*	P	**Pn**	**01 02 00.1**	**+0.6**
PEL				*e*	S	**Sn**	**01 02 31.4**	**+0.2**
PEL					IAML		01 02 42.3	
	comp=E,2μm,0.7s							
PEL	**Peldehue**	**2.70**	**159**	*e*	P	**Pn**	**01 02 00.0**	**+0.6**
PEL				*e*	P	**Pn**	**01 02 00.5**	**+1.1**
PEL				*e*	S	**Sb**	**01 02 37.1**	**-1.3**
ZON	**Zonda**	**2.86**	**110**			**Pn**	**01 02 03.1**	**+1.4**
ZON	**Zonda**	**2.86**	**110**	*e*	P	**Pn**	**01 02 03.8**	**+2.2**
ZON				*e*	S	**Sn**	**01 02 36.4**	**+1.3**
ZON				*e*	S	**Sb**	**01 02 39.7**	**-3.2**
ZON					IAML		01 02 41.9	
	comp=Z,465nm,0.7s							
MT05	**Renca**	**2.92**	**162**			**Pn**	**01 02 03.9**	**+1.5**
	comp=E,4μm,0.4s							
MT05	**Renca**	**2.92**	**162**	*i*	P	**Pn**	**01 02 03.7**	**+1.3**
MT05				*i*	S	**Sn**	**01 02 39.5**	**+2.9**
MT05	**Renca**	**2.92**	**162**	*e*	P	**Pn**	**01 02 03.8**	**+1.3**
MT05				*e*	S	**Sn**	**01 02 38.9**	**+2.3**
MT05					IAML		01 02 54.2	
	comp=Z,1μm,1.5s							
RTLL	**Cerro Villicun**	**2.97**	**105**	*e*	P	**Pn**	**01 02 04.8**	**+1.7**
RTLL				*e*	S	**Sn**	**01 02 34.4**	**-3.4**
RTLL				*e*	S	Sn	01 02 46.5	+8.7
FCH	**Farellones**	**3.00**	**155**	*e*	P	**Pn**	**01 02 05.4**	**+1.6**
FCH				*e*	S	**Sn**	**01 02 39.8**	**+0.7**
FCH					IAML		01 02 50.4	
	comp=E,992nm,0.2s							
VA05	**Santo Domingo**	**3.04**	**177**			**Pn**	**01 02 03.6**	**-0.4**
VA05	**Santo Domingo**	**3.04**	**177**	*e*	P	**Pn**	**01 02 04.4**	**+0.4**
VA05					IAML		01 02 51.1	
	comp=N,2μm,0.4s							
MT03	**Universidad Ad**	**3.08**	**159**	Pn		**Pn**	**01 02 06.0**	**+1.2**
MT03	**Universidad Ad**	**3.08**	**159**	*e*	P	**Pn**	**01 02 05.6**	**+0.9**
MT03					IAML		01 02 57.9	
	comp=N,2μm,0.2s							
MT03					IAML		01 02 58.1	
	comp=E,2μm,0.4s							
MT03	**Universidad Ad**	**3.08**	**159**	*e*	P	**Pn**	**01 02 05.9**	**+1.2**
MT03				*e*	S	**Sn**	**01 02 43.0**	**+2.4**
MT03					IAML		01 02 51.0	
	comp=Z,1μm,0.6s							
ASAL	**Salagasta**	**3.23**	**128**	*e*	P	**Pn**	**01 02 09.0**	**+2.3**
ASAL				*e*	S	**Sn**	**01 02 46.4**	**+2.2**
MT09	**Talagante**	**3.23**	**167**			**Pn**	**01 02 07.8**	**+0.9**
MT09	**Talagante**	**3.23**	**167**	⇑*i*	P	**Pn**	**01 02 07.7**	**+0.9**
MT09					IAML		01 02 58.2	
	comp=E,1μm,0.3s							
MT09	**Talagante**	**3.23**	**167**	⇑*i*	P	**Pn**	**01 02 07.7**	**+0.9**
MT09				*i*	S	**Sb**	**01 02 51.0**	**-2.7**
MT09					IAML		01 02 56.9	
	comp=E,1μm,0.3s							
MT01	**Popeta**	**3.28**	**171**			**Pn**	**01 02 07.7**	**+0.4**
MT01	**Popeta**	**3.28**	**171**	*e*	P	**Pn**	**01 02 07.7**	**+0.4**
MT01				*e*	S	**Sn**	**01 02 46.2**	**+0.9**
MT01					IAML		01 02 57.0	
	comp=E,962nm,0.2s							
MT01	**Popeta**	**3.28**	**171**	*e*	P	**Pn**	**01 02 08.0**	**+0.7**
MT01				*e*	S	**Sn**	**01 02 45.9**	**+0.6**
MT01				*e*	S	**Sn**	**01 02 47.9**	**+2.6**
MT01					IAML		01 02 57.4	
	comp=Z,648nm,0.6s							
ARCO	**CERRO ARCO**	**3.32**	**133**	*e*	P	**Pn**	**01 02 11.6**	**+3.5**
ARCO				*e*	S	**Sb**	**01 03 01.4**	**+5.1**
ARCO					IAML		01 03 03.3	
	comp=Z,678nm,0.4s							
AC06	**Mina Casimiro**	**3.50**	**22**	Pn		**Pn**	**01 02 11.0**	**+0.7**
AC06	**Mina Casimiro**	**3.50**	**22**	*e*	P	**Pn**	**01 02 11.4**	**+1.1**
AC06					IAML		01 03 11.1	
	comp=E,396nm,0.6s							
LMEL	**Las Melosas**	**3.51**	**157**			**Pn**	**01 02 11.7**	**+1.1**
LMEL	**Las Melosas**	**3.51**	**157**	*e*	P	**Pn**	**01 02 12.2**	**+1.6**
LMEL					IAML		01 03 05.4	
	comp=N,1μm,0.2s							
AAGR	**Agrelo**	**3.55**	**135**	*e*	P	**Pn**	**01 02 14.0**	**+2.9**
AAGR				*e*	S	**Sb**	**01 03 06.2**	**+3.4**
VCA	**Vinchina**	**3.67**	**60**	*e*	P	Pn	01 02 02.8	-10
VCA				*e*	S	**Sn**	**01 02 59.9**	**+4.6**
VCA					IAML		01 03 19.3	
	comp=Z,956nm,1.5s							
AVFE	**Valle Fertil**	**3.77**	**92**	*e*	P	**Pn**	**01 02 15.2**	**+1.0**
AVFE				*e*	S	**Sn**	**01 03 02.4**	**+4.7**
AVFE					IAML		01 03 09.3	
	comp=Z,380nm,0.7s							
BO02	**Sierra Bellavi**	**4.26**	**168**	*e*	P	**Pn**	**01 02 21.6**	**+0.7**
BO02	**Sierra Bellavi**	**4.26**	**168**	*e*	P	**Pn**	**01 02 22.4**	**+1.6**
BO02				*e*	S	**Sn**	**01 03 12.3**	**+2.6**
BO02					IAML		01 03 35.1	
	comp=Z,352nm,0.2s							
GO05	**Huala**	**4.38**	**181**	*e*	P	**Pn**	**01 02 21.9**	**-0.7**
AC02	**Maricunga**	**4.45**	**33**	Pn		**Pn**	**01 02 25.7**	**+1.8**
AC02	**Maricunga**	**4.45**	**33**	*e*	P	**Pn**	**01 02 25.7**	**+1.8**
AC02					IAML		01 03 45.4	
	comp=Z,209nm,0.9s							
AC01	**Pan de Azucar**	**4.58**	**14**	*e*	S	**Sb**	**01 03 27.4**	**-4.9**
RFA	**San Rafael**	**5.02**	**146**	*e*	P	Pn	01 02 27.9	-3.4
H03N1	**Juan Fernandez**	**6.64**	**243**	T		T	01 09 50.5	
	baz=73,slow=72,SNR=3927							
H03N3	**Juan Fernandez**	**6.65**	**243**	T		T	01 09 49.1	
	baz=73,slow=72,SNR=3390							
H03N2	**Juan Fernandez**	**6.65**	**243**	T		T	01 09 50.7	
	baz=73,slow=72,SNR=3636							
H03S3	**Juan Fernandez**	**6.80**	**240**	T		T	01 10 08.0	
	baz=76							
H03S1	**Juan Fernandez**	**6.80**	**240**	T		T	01 10 08.8	
	baz=76							
H03S2	**Juan Fernandez**	**6.81**	**240**	T		T	01 10 08.3	
	baz=76							
LVC	**Limon Verde**	**8.39**	**19**	Pn		**Pn**	**01 03 20.3**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=131,slow=12,SNR=1.9							
LVC					LR	LR	01 06 45.6	
	comp=Z,141nm,21.0s,baz=241,slow=38							
	comp=Z,0.7nm,0.3s							
PLCA	**Paso Flores**	**10.15**	**174**	Pn		Pn	01 03 35.5	-6.1
	comp=Z,0.1nm,0.3s,baz=93,slow=22,SNR=1.7							
PLCA					LR	LR	01 08 11.9	
	comp=Z,94nm,19.1s,baz=66,slow=43							
	comp=Z,1.4nm,1.0s							
TRQA	**Tornquist**	**11.02**	**135**	Pn		**Pn**	**01 03 53.1**	**-0.4**
CPUP	**Villa Florida**	**13.45**	**75**	Pn		**Pn**	**01 04 24.2**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=182,slow=15,SNR=2.9							
CPUP					LR	LR	01 10 03.9	
	comp=Z,163nm,20.1s,baz=274,slow=40							
	comp=Z,0.8nm,0.5s							
LPAZ	**La Paz**	**14.66**	**14**	Pn		**Pn**	**01 04 45.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=185,slow=6.2,SNR=3.0							
	comp=Z,1.1nm,0.7s							
VILB	**Vilhena**	**20.60**	**34**	P		**P**	**01 05 53.1**	**-1.7**
VILB					IAmb	IAmb	01 05 58.6	
	comp=Z,5.9nm,0.8s							
BDFB	**Brasilia**	**26.41**	**61**	P		**P**	**01 06 50.8**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=282,slow=9.1,SNR=3.6							
	comp=Z,1.8nm,0.5s							
PORT	**Chimborazo Vol**	**29.73**	**346**	P		**P**	**01 07 20.0**	**-2.4**
PORT					IAmb	IAmb	01 07 27.8	
	comp=Z,4.4nm,0.6s							
TXAR	**Lajitas Array**	**66.89**	**330**	P		**P**	**01 12 08.5**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=140,slow=7.1,SNR=2.5							
	comp=Z,0.2nm,0.7s							
NVAR	**Mina Array Bea**	**81.22**	**325**	P		**P**	**01 13 33.6**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=177,slow=5.4,SNR=1.4							
	comp=Z,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**82.90**	**70**	P		**P**	**01 13 39.9**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=243,slow=3.1,SNR=7.0							
	comp=Z,1.1nm,1.0s							
H11S2	**WAKE ISLAND Hyl**	**25.93**	**271**	T		T	03 39 03.7	
	baz=116,slow=75,SNR=41							
H11S1	**WAKE ISLAND Hyl**	**25.94**	**271**	T		T	03 39 05.1	
	baz=116,slow=75,SNR=34							
H11S3	**WAKE ISLAND Hyl**	**25.94**	**271**	T		T	03 39 04.5	
	baz=116,slow=75,SNR=35							
H11N3	**WAKE ISLAND Hyl**	**26.25**	**273**	T		T	03 39 35.0	
	baz=108,slow=74							
H11N1	**WAKE ISLAND Hyl**	**26.27**	**273**	T		T	03 39 35.5	
	baz=108							
H11N2	**WAKE ISLAND Hyl**	**26.27**	**273**	T		T	03 39 37.3	
	baz=108,slow=74							
ZALV	**Zalesovo Beam**	**151.23**	**29**	PKPbc		**PKPbc**	**01 21 07.4**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=318,slow=2.0,SNR=8.7							
PZH	**PanZhiHua**	**173.02**	**124**	PKP		**PKPdf**	**01 21 22.4**	**-2.4**

SNET ***09*** *01:16:35.8±1.2,13.°35N×91.°74W,h34km±999km,ML4.4*

UCR ***09*** *01:16:36.0±1.4,13.°36N×91.°72W,h33km±640km,ML4.0, mb4.5(NEIC)*

NEIC ***09*** *01:16:37.6±2.4,13.°45N±0.°07×91.°68W±0.°08,h27km±2km, mb4.5/188,Error ellipse: s-maj=13.1km s-min=7.5km az=224.0*

GCG ***09*** *01:16:38.1±0.7,13.°88N×91.°82W,h115km±15km,MD4.1*

IDC ***09*** *01:16:40.5±5.4,13.°56N×91.°35W,h60km±50km,mb3.8/12, mbtmp4.1/14,ML3.5/2,MS4.0/43,Error ellipse: s-maj=37.0km s-min=13.5km az=50.0*

ISC 09 01:16:36.7±0.5,13.°42N±0.°06×91.°66W±0.°05,h28km,n363, σ1§14/258,mb4.5/95,MS4.0/43,1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
RTAL	**Retalhuleu**	**1.10**	**358**			**Pn**	**01 16 56.1**	**-0.1**
STG3	**Santiaguito 3,**	**1.28**	**4**	*e*	P	**Pn**	**01 16 59.1**	**+0.1**
FUG	**Fuego 3**	**1.29**	**38**	*e*	P	**Pb**	**01 17 01.9**	**+1.4**
PCG	**Pacaya**	**1.41**	**47**	*e*	P	**Pb**	**01 17 01.7**	**-0.7**
PCG				*e*	S	**Sb**	**01 17 23.7**	**+3.6**
NBG	**Las Nubes**	**1.72**	**48**	*e*	P	**Pb**	**01 17 07.2**	**-0.7**
HUEH	**Huehuetenango**	**1.89**	**5**			**Pn**	**01 17 08.2**	**+0.9**
SLOZ	**Alcaldia de Sa**	**1.92**	**72**	*e*	P	**Pn**	**01 17 07.5**	**-0.1**
SLOZ				*e*	S	**Sb**	**01 17 33.0**	**-1.7**
RTR	**El Retiro**	**2.02**	**76**	*e*	P	**Pn**	**01 17 10.0**	**+1.0**
RTR	**El Retiro**	**2.02**	**76**	*e*	P	**Pn**	**01 17 10.0**	**+1.0**
CEVE	**Cerro Verde**	**2.02**	**78**	*e*	P	**Pn**	**01 17 09.1**	**0.0**
CEVE	**Cerro Verde**	**2.02**	**78**	*e*	P	**Pn**	**01 17 09.1**	**0.0**
SBLS	**San Blas**	**2.02**	**78**	*e*	P	**Pn**	**01 17 10.4**	**+1.2**
SBLS	**San Blas**	**2.02**	**78**	*e*	P	**Pn**	**01 17 10.4**	**+1.2**
SNJE	**San Jose**	**2.05**	**77**	*e*	P	**Pn**	**01 17 10.4**	**+1.0**
SNJE	**San Jose**	**2.05**	**77**	*e*	P	**Pn**	**01 17 10.4**	**+1.0**
BOQS	**Boqueron**	**2.34**	**82**	*e*	P	**Pn**	**01 17 13.7**	**+0.2**
BOQS	**Boqueron**	**2.34**	**82**	*e*	P	**Pn**	**01 17 13.7**	**+0.2**
SNET	**Serv Nac Est T**	**2.38**	**83**	Pn		Pn	01 17 13.9	**0.0**
MTO3	**Montecristo**	**2.44**	**66**			**Pn**	**01 17 15.6**	**+0.8**
MTO3	**Montecristo**	**2.44**	**66**	*e*	P	**Pn**	**01 17 15.2**	**+0.4**
MTO3	**Montecristo**	**2.44**	**66**	*e*	P	**Pn**	**01 17 15.2**	**+0.4**
ESQI	**Esquipulas**	**2.52**	**63**			**Pn**	**01 17 17.1**	**+1.2**
MRL	**Marmol**	**2.53**	**49**	*e*	P	**Pb**	**01 17 20.8**	**-0.7**
LFRS	**El Faro**	**2.54**	**85**	*e*	P	**Pn**	**01 17 16.8**	**+0.7**
LFRS	**El Faro**	**2.54**	**85**	*e*	P	**Pn**	**01 17 16.8**	**+0.7**
PAVA	**Las Pavas**	**2.66**	**83**	*e*	P	**Pn**	**01 17 17.7**	**-0.1**
PAVA	**Las Pavas**	**2.66**	**83**	*e*	P	**Pn**	**01 17 17.7**	**-0.1**
COEG	**Centro de Oper**	**2.71**	**86**	*e*	P	**Pn**	**01 17 19.1**	**+0.6**
COEG	**Centro de Oper**	**2.71**	**86**	*e*	P	**Pn**	**01 17 19.1**	**+0.6**
CCIG	**Comitan**	**2.88**	**351**			**Pn**	**01 17 22.6**	**+1.7**
COEB	**Comit de Eme**	**3.05**	**88**	*e*	P	**Pn**	**01 17 22.7**	**-0.4**
COEB	**Comit de Eme**	**3.05**	**88**	*e*	P	**Pn**	**01 17 22.7**	**-0.4**
PACA	**Pacayal**	**3.25**	**89**	*e*	P	**Pn**	**01 17 26.7**	**+0.8**
PACA					IAML		01 18 16.9	
	comp=Z,2μm,0.4s							
PACA	**Pacayal**	**3.25**	**89**	*e*	P	**Pn**	**01 17 26.7**	**+0.8**
PACA					IAML		01 18 16.9	
	comp=Z,2μm,0.4s							
LCND	**La Caada**	**3.67**	**91**	*e*	P	**Pn**	**01 17 31.2**	**-0.4**
LCND					IAML		01 18 18.6	
	comp=Z,249nm,0.4s							
LCND	**La Caada**	**3.67**	**91**	*e*	P	**Pn**	**01 17 31.2**	**-0.4**
LCND					IAML		01 18 18.6	
	comp=Z,249nm,0.4s							
PETF	**Flores**	**3.88**	**26**			**Pn**	**01 17 36.5**	**+2.0**
TGUH	**Tegucigalpa,Un**	**4.31**	**81**			**Pn**	**01 17 41.6**	**+1.0**
CRIN	**San Cristobal**	**4.55**	**99**			**Pn**	**01 17 44.2**	**+0.5**
MATN	**Matagalpa**	**5.61**	**94**	Pn		**Pn**	**01 17 56.9**	**-1.4**
BOAB	**BOACO BROADBAN**	**5.92**	**99**	Pn		**Pn**	**01 18 00.7**	**-1.9**
ACON	**Acoyapa**	**6.49**	**102**	Pn		**Pn**	**01 18 10.6**	**+0.2**
ORTG	**Ortega, Santa**	**6.79**	**116**			**Pn**	**01 18 15.3**	**+0.7**
TEIG	**Tepich**	**7.50**	**25**	Pn		**Pn**	**01 18 26.2**	**+2.0**
TLIG	**Tlapa**	**7.83**	**303**			**Pn**	**01 18 28.8**	**-0.1**
RIMA	**Rio Macho**	**8.46**	**115**			**Pn**	**01 18 39.6**	**+1.9**
SRBA	**San Rafael, Bu**	**9.14**	**116**			**Pn**	**01 18 48.4**	**+1.5**
DRKO	**Durika**	**9.23**	**116**	Pn		**Pn**	**01 18 50.9**	**+2.7**
BRU2	**Volcan**	**9.93**	**117**			**Pn**	**01 18 59.7**	**+2.0**
MOIG	**Morelia**	**11.05**	**306**	Pn		**Pn**	**01 19 13.3**	**+0.2**
ZAIG	**Zacatecas**	**13.92**	**313**	Pn		**Pn**	**01 19 52.8**	**+0.3**
MTDJ	**Mount Denham**	**14.40**	**69**	Pn		**Pn**	**01 20 00.7**	**+1.8**
833A	**Chaparral WMA,**	**16.48**	**335**	Pn		**Pn**	**01 20 25.2**	**-0.8**
833A	**Chaparral WMA,**	**16.48**	**335**	P		**Pn**	**01 20 24.7**	**-1.3**
	baz=152		

baz=161
NHSC New Hope 22.22 26 P P 01 21 29.7 -1.3
baz=211
SWET Sewanee 22.31 12 IAmb IAmb 01 21 53.3
comp=Z,26nm,1.4s
FNO Franklin 22.35 348 IAmb IAmb 01 21 34.7
comp=Z,18nm,0.8s
LCAR Lake Charles 22.56 1 IAmb IAmb 01 21 35.6
comp=Z,18nm,0.7s
V48A Smith Brothers 22.65 10 IAmb IAmb 01 21 37.5
comp=Z,11nm,0.8s
OK025 Westminster Rd 22.65 348 IAmb IAmb 01 21 36.6
comp=Z,17nm,0.7s
TUL1 Leonard 22.70 351 P P 01 21 33.9 -2.3
baz=170
MSTX Muleshoe 22.81 336 IAmb IAmb 01 21 40.8
comp=Z,15nm,0.7s
MSTX Muleshoe 22.81 336 P P 01 21 36.3 -1.2
baz=151
CPCT Cooper Cave 22.86 15 IAmb IAmb 01 21 59.2
comp=Z,16nm,1.2s
WVT Waverly 22.87 8 P P 01 21 36.9 -1.0
WVT IAmb IAmb 01 21 38.7
comp=Z,9.8nm,0.8s
WVT Waverly 22.87 8 P P 01 21 35.8 -2.2
baz=190
BG3 Lake Jocassee 22.88 19 IAmb IAmb 01 21 60.0
comp=Z,14nm,1.1s
CLTN Cedars of Leba 23.08 11 IAmb IAmb 01 21 40.6
comp=Z,12nm,0.9s
AMTX Amarillo 23.21 339 P P 01 21 40.7 -0.8
baz=154
V51A Loudon 23.24 15 IAmb IAmb 01 21 56.7
comp=Z,30nm,1.4s
TKL Tuckaleechee C 23.25 16 P P 01 21 41.7 -0.2
comp=Z,12nm,0.6s,baz=188,slow=11,SNR=29
TKL LR LR 01 31 34.7
comp=Z,558nm,20.8s,baz=224,slow=39
comp=Z,12nm,0.6s
TKL Tuckaleechee C 23.25 16 P P 01 21 41.8 -0.1
TKL IAmb IAmb 01 21 42.9
comp=Z,20nm,0.8s
OK047 Pawnee, Statio 23.39 350 IAmb IAmb 01 21 45.4
comp=Z,11nm,0.8s
V53A Saluda 23.54 18 IAmb IAmb 01 21 54.8
comp=Z,14nm,1.0s
KMSC Kings Mountain 23.55 22 IAmb IAmb 01 21 54.5
comp=Z,21nm,1.4s
KMSC Kings Mountain 23.55 22 P P 01 21 43.3 -1.5
baz=206
BAUV El Baul 23.59 98 P P 01 21 45.4 0.0
BAUV IAmb IAmb 01 21 48.0
comp=Z,16nm,0.9s
U49A Red Boiling Sp 23.59 12 IAmb IAmb 01 21 45.2
comp=Z,8.7nm,0.7s
MGMO Mountain Grove 23.64 359 IAmb IAmb 01 21 46.5
comp=Z,16nm,0.9s
HSIG 23.70 314 P P 01 21 45.4 -0.9
BLOK Blackwell 23.77 349 IAmb IAmb 01 21 47.3
comp=Z,9.5nm,0.7s
T47A Sharon Grove 23.82 9 IAmb IAmb 01 21 48.3
comp=Z,19nm,0.7s
CGM3 Cape Girardeau 23.84 4 IAmb IAmb 01 21 47.1
comp=Z,47nm,1.4s
121A Cookes Peak, D 24.07 325 P P 01 21 51.8 +1.8
baz=138,SNR=9.1
319A Douglas 24.12 321 IAmb IAmb 01 22 21.0
comp=Z,32nm,1.4s
TZTN Tazewell 24.15 16 P P 01 21 49.8 -0.6
TZTN IAmb IAmb 01 21 51.6
comp=Z,16nm,0.9s
TZTN Tazewell 24.15 16 P P 01 21 49.7 -0.6
baz=200,SNR=9.8
S39A Bolivar 24.21 357 IAmb IAmb 01 21 52.0
comp=Z,18nm,0.7s
KAN01 Argonia South 24.25 348 IAmb IAmb 01 21 52.1
comp=Z,9.5nm,0.7s
CCM Cathedral Cave 24.54 1 P P 01 21 52.4 -1.5
CCM Cathedral Cave 24.54 1 P P 01 21 51.8 -2.1
baz=181
U54A Nelsons Funny 24.64 19 IAmb IAmb 01 22 04.3
comp=Z,33nm,1.4s
USIN University of 24.70 8 P P 01 21 53.8 -1.6
R40A Maddies Statio 24.77 359 IAmb IAmb 01 21 58.0
comp=Z,11nm,0.8s
Y22D IRIS PASSCAL I 24.79 329 P P 01 21 57.7 +1.2
baz=142
SJG San Juan 24.98 76 LR LR 01 32 07.6
comp=Z,358nm,19.9s,baz=264,slow=38
CNNC Cliffs of the 25.03 27 P P 01 21 57.7 -0.7
baz=213
WCI Wyandotte Cave 25.16 10 P P 01 21 58.4 -1.2
WCI IAmb IAmb 01 22 01.3
comp=Z,15nm,0.8s
WCI Wyandotte Cave 25.16 10 P P 01 21 57.7 -1.9
baz=192
ANMO Albuquerque 25.26 331 P P 01 22 01.9 +1.1
comp=Z,2.1nm,0.6s,baz=149,slow=10,SNR=13
comp=Z,2.1nm,0.6s
ANMO Albuquerque 25.26 331 P P 01 22 01.3 +0.5
ANMO Albuquerque 25.26 331 P P 01 22 01.9 +1.1
baz=144
R50A Paris 25.60 13 IAmb IAmb 01 22 03.4
comp=Z,7.1nm,0.7s
TUC Tucson 25.69 320 P P 01 22 05.2 +0.7
TUC Tucson 25.69 320 P P 01 22 05.5 +0.9
baz=133
BLA Blacksburg 25.73 21 P P 01 22 06.0 +1.1
baz=206
KSU1 Kansas State U 25.95 351 P P 01 22 09.7 +2.9
baz=169
P43A Skaggs, Pawnee 26.18 4 IAmb IAmb 01 22 19.1
comp=Z,32nm,1.4s
T25A Trinidad 26.23 336 IAmb IAmb 01 22 25.3
comp=Z,16nm,1.4s
T25A Trinidad 26.23 336 P P 01 22 10.5 +1.0
baz=151
CBKS Cedar Bluff 26.28 346 P P 01 22 09.0 -0.8
baz=162
P46A Rosedale 26.39 8 IAmb IAmb 01 22 13.6
comp=Z,15nm,0.9s
Q51A Peebles 26.54 15 P P 01 22 11.3 -0.9
Q51A IAmb IAmb 01 22 12.2
comp=Z,13nm,0.7s
T59A Double "B" Far 26.63 26 IAmb IAmb 01 22 13.1
comp=Z,8.8nm,0.9s
214A Organ Pipe Nat 26.76 317 P P 01 22 13.9 -0.3
baz=129
R55A Marlinton 26.80 20 IAmb IAmb 01 22 15.2
comp=Z,15nm,1.2s
P51A Williamsport 27.05 15 IAmb IAmb 01 22 25.5
comp=Z,9.4nm,0.8s
W18A Petrified Fore 27.08 326 P P 01 22 16.8 -0.4
baz=138
HDIL Hopedale 27.11 4 P P 01 22 14.3 -2.9
baz=185
SFIN Lafayette 27.15 8 IAmb IAmb 01 22 17.3
comp=Z,6.5nm,0.6s
SFIN Lafayette 27.15 8 P P 01 22 13.6 -4.0
baz=190
SDCO Great Sand Dun 27.18 335 P P 01 22 16.0 -2.3
baz=149
Q54A Coxs Mills 27.20 19 IAmb IAmb 01 22 18.4
comp=Z,12nm,0.8s
N38A Joes South For 27.30 357 IAmb IAmb 01 22 21.3
comp=Z,10.0nm,0.7s
O48B Farmland 27.34 11 P P 01 22 16.0 -3.2
baz=194
P53A Whipple 27.50 17 IAmb IAmb 01 22 45.9
comp=Z,24nm,1.4s
S22A 4UR Ranch, Cre 27.74 334 IAmb IAmb 01 22 39.2
comp=Z,12nm,1.4s
S22A 4UR Ranch, Cre 27.74 334 P P 01 22 24.2 +0.9
baz=147,SNR=7.0
ACSO Alum Creek Sta 27.77 14 P P 01 22 21.9 -1.2
ACSO Alum Creek Sta 27.77 14 P P 01 22 21.8 -1.4
baz=198
O52A Adamsville 27.96 16 IAmb IAmb 01 22 25.5
comp=Z,11nm,0.8s
MVCO Mesa Verde 28.06 331 P P 01 22 27.1 +1.0
baz=143,SNR=5.4
Q24A Divide 28.10 337 P P 01 22 26.1 -0.4
baz=151
O53A New Philadelph 28.26 17 P P 01 22 26.3 -1.1
baz=202
O54A Avella 28.44 18 IAmb IAmb 01 22 29.7
comp=Z,11nm,0.8s
GLA Glamis 28.77 317 P P 01 22 32.5 +0.3
baz=127
N53A Lisbon 28.88 17 IAmb IAmb 01 22 33.2
comp=Z,11nm,0.8s
PV15 Paradox Valley 28.97 332 IAmb IAmb 01 22 49.9
comp=Z,12nm,1.4s
SMCO Snowmass 29.00 335 P P 01 22 34.9 +0.3
NNA Nana 29.21 149 LR LR 01 32 17.6
comp=Z,130nm,19.0s,baz=312,slow=32
U15A North Rim 29.45 325 IAmb IAmb 01 23 07.8
comp=Z,10nm,1.4s
M53A WI Miller and 29.51 17 P P 01 22 37.2 -1.4
baz=202
BC3 Big Chuckawall 29.56 317 P P 01 22 40.5 +1.2
baz=127
IRM Iron Mountain 29.66 318 P P 01 22 39.3 -0.8
baz=128
SSPA Standing Stone 29.68 21 P P 01 22 39.2 -0.9
baz=208
KNB Kanab 30.17 325 IAmb IAmb 01 23 09.0
comp=Z,7.1nm,1.2s
PKCU Pink Cliffs 30.19 326 IAmb IAmb 01 23 07.0
comp=Z,19nm,1.5s
PFO Pinyon Flats O 30.21 316 LR LR 01 36 39.7
comp=Z,293nm,18.3s,baz=129,slow=40
O20A White River Ci 30.34 334 P P 01 22 46.0 -0.2
baz=147
V12A Nelson 30.48 321 IAmb IAmb 01 23 07.0
comp=Z,6.7nm,1.1s
ECSD EROS Data Cent 30.50 353 P P 01 22 47.1 -0.3
baz=170
MTPU Mount Pierson 30.56 327 IAmb IAmb 01 23 02.4
comp=Z,14nm,1.4s
SZCU Shurtz Canyon 30.73 325 P P 01 22 49.5 -0.2
SZCU IAmb IAmb 01 23 08.1
comp=Z,12nm,1.3s
SPMN Marine on St. 31.71 358 P P 01 22 56.6 -1.4
baz=178
BINY Binghamton 31.73 22 P P 01 22 56.8 -1.5
baz=210
MPMC Manual Prospec 32.34 319 P P 01 23 05.3 +1.3
baz=128
DUG Dugway, Tooele 32.50 329 P P 01 23 05.6 +0.4
baz=139
COWI Conover 32.64 3 IAmb IAmb 01 23 06.8
comp=Z,6.3nm,0.8s
R11A Troy Canyon, C 32.66 324 P P 01 23 07.7 +1.0
baz=133
HWUT Hardware Ranch 33.00 332 IAmb IAmb 01 23 21.3
comp=Z,16nm,1.4s
J58A Remsen 33.00 22 IAmb IAmb 01 23 10.1
comp=Z,7.0nm,0.8s
SADO Sadowa 33.02 16 LR LR 01 37 18.1
comp=Z,500nm,20.2s,baz=191,slow=38
E38A The Farm, Brul 33.08 0 IAmb IAmb 01 23 10.0
comp=Z,2.2nm,0.8s
BW06 Boulder Array 33.08 336 P P 01 23 10.1 -0.2
PDAR Pinedale Array 33.08 336 P P 01 23 09.9 -0.4
comp=Z,0.4nm,0.5s,baz=136,slow=9.6,SNR=5.9
comp=Z,0.4nm,0.5s
BGU Big Grassy Mou 33.16 330 IAmb IAmb 01 23 24.4
comp=Z,7.9nm,1.4s
ELK Elko 34.15 327 LR LR 01 39 04.3
comp=Z,227nm,20.3s,baz=126,slow=39
LOHW Long Hollow 34.21 335 IAmb IAmb 01 23 21.7
comp=Z,14nm,1.5s
ETMB Extrema 34.22 131 P P 01 23 19.7 -0.5
ETMB IAmb IAmb 01 23 31.0
comp=Z,3.6nm,0.8s
NV11 Mina Array Sit 34.24 321 IAmb IAmb 01 23 48.6
comp=Z,15nm,1.4s
NVAR Mina Array Bea 34.33 321 P P 01 23 23.0 +1.8
comp=Z,1.5nm,0.6s,baz=136,slow=7.9,SNR=13
NVAR LR LR 01 38 31.4
comp=Z,243nm,18.1s,baz=127,slow=38
comp=Z,1.5nm,0.6s
NVAR Mina Array Bea 34.33 321 P P 01 23 21.5 +0.3
LONY Lake Ozonia 34.34 22 P P 01 23 18.7 -2.3
baz=210
EYMN Ely 34.42 0 P P 01 23 19.6 -2.0
baz=180
KVN Kaiserville 34.60 322 IAmb IAmb 01 23 49.6
comp=Z,7.4nm,1.3s
AGMN Agassiz Nation 34.95 355 P P 01 23 26.4 +0.3
baz=173
RLMT Red Lodge 34.96 338 P P 01 23 27.1 +0.5
baz=149
MNTQ Montreal, Queb 35.45 22 P P 01 23 30.2 -0.3
HLID Hailey 35.84 331 IAmb IAmb 01 23 47.0
comp=Z,8.9nm,1.2s
HLID Hailey 35.84 331 P P 01 23 35.0 +0.9
baz=140
BOZ Bozeman (W) 36.26 336 P P 01 23 38.0 +0.3
baz=146
MFID Camas Ranch 36.40 330 IAmb IAmb 01 23 54.1
comp=Z,12nm,1.4s
DGMT Dagmar 36.46 346 P P 01 23 39.2 +0.1
baz=159
ULM Lac du Bonnet 36.89 355 P P 01 23 40.2 -2.5
comp=Z,3.0nm,0.7s,baz=196,slow=8.1,SNR=4.8
ULM LR LR 01 42 39.9
comp=Z,146nm,18.2s,baz=200,slow=42
comp=Z,3.0nm,0.7s
WVOR Wild Horse Val 37.15 326 IAmb IAmb 01 23 49.6
comp=Z,16nm,1.5s
LPAZ La Paz 37.58 141 P P 01 23 48.0 -1.7
comp=Z,0.6nm,0.7s,baz=320,slow=7.9,SNR=2.4
LPAZ LR LR 01 39 10.4
comp=Z,156nm,19.2s,baz=312,slow=36
comp=Z,0.6nm,0.7s
PLID Pearl Lake 37.74 332 IAmb IAmb 01 24 00.8
comp=Z,9.4nm,1.4s
MSO Missoula 38.20 335 IAmb IAmb 01 24 09.2
comp=Z,13nm,1.5s
F10A Beach Ranch, E 38.97 331 IAmb IAmb 01 24 17.9
comp=Z,14nm,1.1s
MDP Montagnes des 39.34 98 LR LR 01 42 06.5
comp=Z,146nm,18.2s,baz=304,slow=39
I04A Tendick Farm, 40.13 325 P P 01 24 11.5 +1.3
baz=130
H04A Detroit Lake 40.57 326 P P 01 24 15.6 +1.7
H04A IAmb IAmb 01 24 17.7
comp=Z,11nm,0.7s
NEW Newport 40.66 334 LR LR 01 42 57.6
comp=Z,107nm,20.0s,baz=150,slow=39
SIV San Ignacio 42.06 133 P P 01 24 25.2 -1.1
comp=Z,1.6nm,0.6s,baz=295,slow=8.6,SNR=10
SIV LR LR 01 40 59.9
comp=Z,177nm,18.8s,baz=290,slow=35
comp=Z,1.6nm,0.6s
EDM Edmonton 43.28 341 P P 01 24 36.1 +0.3
EDM IAmb IAmb 01 24 37.0
comp=Z,8.0nm,0.8s
RPN Rapa Nui 43.81 203 LR LR 01 37 55.6
comp=Z,223nm,21.4s,baz=227,slow=29
SCHQ Schefferville 45.65 20 P P 01 24 52.2 -2.4
comp=Z,4.5nm,0.6s,baz=228,slow=9.2,SNR=9.9
SCHQ LR LR 01 44 39.1
comp=Z,637nm,20.3s,baz=214,slow=37
comp=Z,4.5nm,0.6s
YKA Yellowknife Ar 51.66 347 P P 01 25 40.6 -0.1
comp=Z,5.3nm,0.7s,baz=148,slow=7.5,SNR=6.3
YKA LR LR 01 49 55.5
comp=Z,129nm,21.6s,baz=129,slow=39
comp=Z,5.3nm,0.7s
FRB Frobisher Bay 52.80 13 LR LR 01 49 45.6
comp=Z,245nm,18.8s,baz=204,slow=38
DLBC Dease Lake 53.31 336 P P 01 25 54.8 +1.7
DLBC Dease Lake 53.31 336 P P 01 25 54.3 +1.2
baz=131
R33M Jennings River 54.31 336 P P 01 26 01.3 +0.8
baz=131
TGTN Hyland Airport 54.78 340 P P 01 26 05.5 +1.7
baz=135
P33M Teslin, Yukon 55.55 337 P P 01 26 10.0 +0.6
baz=129
MMPY Sheldon Lake, 56.55 339 P P 01 26 17.9 +1.4
baz=132,SNR=6.4
WHY Whitehorse 56.63 336 P P 01 26 20.2 +3.0
baz=127
FARO Faro, Yukon 57.03 338 P P 01 26 21.9 +2.0
baz=130
PLCA Paso Flores 57.32 161 LR LR 01 46 04.9
comp=Z,113nm,18.2s,baz=316,slow=31
M31M Drury Creek, Y 57.40 338 P P 01 26 23.4 +0.9
baz=128
YUK6 Outpost Mounta 58.19 335 P P 01 26 29.0 +0.7
baz=124
M30M Minto, Yukon 58.52 337 P P 01 26 31.3 +1.0
M30M IAmb IAmb 01 26 48.9
comp=Z,5.5nm,1.2s
M30M Minto, Yukon 58.52 337 P P 01 26 31.7 +1.4
baz=126
RCBR Riachuelo 58.57 105 LR LR 01 52 45.0
comp=Z,124nm,20.5s,baz=108,slow=37
M29M Somme Creek 59.07 337 P P 01 26 35.7 +1.4
baz=124,SNR=7.1
K29M Barlow Dome 59.53 338 P P 01 26 37.9 +0.5
baz=126
SFJD Kangerlussuaq 59.96 17 LR LR 01 52 58.8
comp=Z,451nm,20.5s,baz=217,slow=36
M27K Edge Creek, AK 60.37 336 P P 01 26 44.4 +1.2
baz=121
BCAR Beaver Creek A 60.70 336 P P 01 26 46.4 +1.1
L27K Beaver Creek, 60.71 336 IAmb IAmb 01 26 50.0
comp=Z,4.9nm,1.2s
L27K Beaver Creek, 60.71 336 P P 01 26 46.3 +0.9
baz=121
INK Inuvik 61.08 344 LR LR 01 56 28.0
comp=Z,108nm,21.3s,baz=150,slow=39
N25K Chitina, Valde 61.12 334 P P 01 26 49.7 +1.4
baz=118
RES Resolute Bay 61.28 359 LR LR 01 56 18.8
comp=Z,211nm,18.6s,baz=154,slow=39
K27K Chicken 61.31 337 IAmb IAmb 01 27 15.0
comp=Z,4.8nm,1.1s
K27K Chicken 61.31 337 P P 01 26 50.1 +0.7
baz=121
EGAK Eagle 61.37 338 P P 01 26 50.7 +1.0
baz=122
SCRK Sand Creek 62.01 337 IAmb IAmb 01 27 17.6
comp=Z,8.0nm,1.4s
SCRK Sand Creek 62.01 337 P P 01 26 54.6 +0.3
baz=119
J26L Joseph Creek 62.11 337 P P 01 26 56.0 +1.1
baz=120,SNR=5.1
PAX Paxson 62.12 335 IAmb IAmb 01 27 17.9
comp=Z,4.0nm,1.0s
PAX Paxson 62.12 335 P P 01 26 55.8 +0.8
baz=117
RIDG Independent Ri 62.23 336 P P 01 26 56.0 +0.3
baz=118
H27K Steamboat Moun 62.28 340 P P 01 26 56.1 +0.1
baz=123,SNR=6.2
I26K Coal Creek Min 62.37 338 P P 01 26 57.5 +0.9
baz=121
G27K Doyon Strip 62.64 340 P P 01 26 58.2 -0.2
baz=123
J25K Salcha River, 62.84 337 IAmb IAmb 01 27 04.5
comp=Z,4.6nm,1.2s
J25K Salcha River, 62.84 337 P P 01 27 00.4 +0.6
baz=118
WAT6 Susitna Watana 62.88 334 P P 01 26 59.3 -0.9
baz=115
WAT1 Susitna Watana 63.33 335 P P 01 27 03.6 +0.6
baz=114
PRP Porcupine Dome 63.33 338 P P 01 27 03.6 +0.5
baz=118
HDA Harding Lake 63.36 336 P P 01 27 03.7 +0.5
baz=116
E27K Coleen River 63.38 341 P P 01 27 03.9 +0.6
baz=124
IL31 63.50 337 P P 01 27 05.2 +1.2
ILAR Eielson Array 63.50 337 P P 01 27 04.0 0.0
comp=Z,1.3nm,0.9s,baz=137,slow=4.5,SNR=11
ILAR LR LR 02 00 23.3
comp=Z,104nm,18.6s,baz=174,slow=41
comp=Z,1.3nm,0.9s
Q20K Shuyak Island 63.54 329 P P 01 27 05.1 +0.7
baz=108
POKR Poker Flat Res 63.86 337 P P 01 27 06.9 +0.4
baz=116
F26K Sheenjek River 63.94 340 P P 01 27 07.5 +0.6
baz=121
BMAR Burnt Mountain 63.94 340 P P 01 27 07.7 +0.7
SKT Skwentna 64.28 333 P P 01 27 09.4 +0.1
baz=111
TRF Thorofare Moun 64.30 335 IAmb IAmb 01 27 33.3
comp=Z,7.0nm,1.0s
H24K Noodor Dome 64.35 338 P P 01 27 10.5 +0.8
H24K Noodor Dome 64.35 338 P P 01 27 09.7 +0.1
baz=116
F25K Christian Rive 64.38 340 P P 01 27 09.7 -0.2
baz=119
G24K Hadweenzic Riv 64.59 339 P P 01 27 11.6 +0.4
baz=117
I23K Minto, Yukon-K 64.61 337 P P 01 27 11.2 -0.1
baz=114
E25K Arctic Village 64.62 340 P P 01 27 12.0 +0.6
baz=120
C27K Jago River 64.81 342 P P 01 27 13.2 +0.6
baz=122
BPAW Bear Paw Mtn. 64.83 335 IAmb IAmb 01 27 15.8
comp=Z,5.7nm,1.1s
BPAW Bear Paw Mtn. 64.83 335 P P 01 27 13.8 +0.9
baz=112
PPT Papeete 64.92 243 LR LR 01 46 53.3
comp=Z,116nm,20.7s,baz=1.5,slow=28
M20K Styx River 64.96 333 P P 01 27 14.4 +0.6
baz=109
H23K Yukon River 64.96 337 P P 01 27 13.5 -0.2
baz=114
CAST Castle Rocks 65.03 334 P P 01 27 13.5 -0.7
baz=111
MLY Manley 65.10 336 IAmb IAmb 01 27 38.6
comp=Z,6.2nm,1.1s
MLY Manley 65.10 336 P P 01 27 14.9 +0.3
baz=113,SNR=6.0
F24K Squaw Lake 65.11 339 P P 01 27 15.5 +0.9
baz=117
N19K Bonanza Creek 65.24 331 P P 01 27 15.4 -0.2
baz=108
D25K Kavik River 65.46 341 P P 01 27 17.9 +1.0
baz=119
L20K Farewell, AK 65.48 333 P P 01 27 17.2 +0.1
baz=109
G23K Bananza Creek 65.51 338 P P 01 27 17.8 +0.6
baz=114
M19K Big River Lodg 65.53 332 P P 01 27 17.4 0.0
baz=108
I21K Tanana 65.64 336 P P 01 27 17.9 -0.2
baz=112
H22K Ishtalitna Cre 65.68 337 P P 01 27 18.3 0.0
baz=113
COLD Coldfoot 65.79 339 P P 01 27 19.4 +0.4
baz=114
L19K White Mountain 65.82 333 P P 01 27 19.4 +0.1
baz=108
K20K Telida 65.85 334 P P 01 27 19.3 -0.2
baz=109
N18K Kilae Creek 65.86 331 P P 01 27 18.9 -0.7
baz=106
H21K Melozitna Rive 66.14 337 P P 01 27 21.1 -0.2
baz=111
D24K Happy Valley 66.16 341 P P 01 27 21.7 +0.4
baz=117
J20K Eagowina River 66.16 335 P P 01 27 21.6 +0.3
baz=109
TOLK Toolik Lake Re 66.17 340 P P 01 27 22.6 +1.1
baz=116
O17K Koliganek Bris 66.19 330 P P 01 27 22.3 +0.7
baz=105
C24K Franklin Bluff 66.38 341 P P 01 27 23.6 +0.9
baz=117
GO09 Cerro Castillo 66.59 167 P P 01 27 27.2 +3.0
F22K John River 66.60 339 P P 01 27 25.1 +0.9
baz=113
D23K Nanushuk River 66.68 340 P P 01 27 26.1 +1.4
baz=115
G21K Allakaket 66.71 337 P P 01 27 25.6 +0.6
baz=111
E22K Anaktuvuk Pass 66.72 339 P P 01 27 25.9 +0.9
baz=113
F21K Alatna River 66.96 338 P P 01 27 27.5 +1.0
baz=111,SNR=6.7
C23K Itkillik River 67.02 341 P P 01 27 28.0 +1.2
baz=115
BORG Borgarnes 69.58 26 LR LR 01 57 57.7
comp=Z,81nm,18.8s,baz=279,slow=36
JMIC Jan Mayen 75.17 20 LR LR 02 00 31.1
comp=Z,195nm,21.9s,baz=92,slow=35
RAR Rarotonga 75.20 244 LR LR 01 52 33.3
comp=Z,86nm,18.8s,baz=198,slow=28
EKA Eskdalemuir Ar 78.24 36 LR LR 02 02 23.8
comp=Z,57nm,18.1s,baz=198,slow=35
MDT Midelt 80.42 59 LR LR 01 58 11.3
comp=Z,40nm,19.8s,baz=239,slow=31

SPITS	**Spitsbergen Ar**	**80.58**	**11**	LR	LR	02 06 04.6		
	comp=Z,266nm,20.0s,baz=252,slow=37							
KOWA	**Kowa**	**84.48**	**76**	LR	LR	02 01 54.1		
	comp=Z,59nm,19.4s,baz=282,slow=32							
NOA	**NORSAR Array B**	**84.49**	**28**	LR	LR	02 04 43.8		
	comp=Z,33nm,21.9s,baz=270,slow=34							
MEM	**Membach**	**84.55**	**39**	*d*PcP	**PcP**	**01 29 09.9**	**-0.9**	
DBIC	**Dimbokro**	**85.38**	**84**	LR	LR	02 04 12.7		
	comp=Z,73nm,18.9s,baz=236,slow=34							
ARCES	**ARCESS Array B**	**86.58**	**18**	LR	LR	02 06 59.8		
	comp=Z,155nm,21.6s,baz=302,slow=35							
TORD	**Torodi Ar. Bea**	**90.19**	**77**	P	**P**	**01 29 33.3**	**-2.0**	
	comp=Z,0.5nm,0.8s,baz=299,slow=4.5,SNR=1.8							
TORD				LR	LR	02 08 29.4		
	comp=Z,51nm,19.5s,baz=248,slow=35							
	comp=Z,0.5nm,0.8s							
FINES	**FINESS Array B**	**90.88**	**25**	LR	LR	02 10 51.9		
	comp=Z,77nm,19.7s,baz=314,slow=36							
TIXI	**Tiksi**	**90.89**	**348**	LR	LR	02 15 57.8		
	comp=Z,48nm,19.7s,baz=359,slow=39							
KEST	**Kesra**	**90.98**	**53**	LR	LR	02 05 16.3		
	comp=Z,51nm,18.2s,baz=284,slow=32							
VRAC	**Vranov**	**91.44**	**38**	LR	LR	02 12 16.1		
	comp=Z,84nm,18.0s,baz=296,slow=37							
MA2	**Magadan**	**91.76**	**333**	LR	LR	02 18 43.9		
	comp=Z,37nm,18.5s,baz=106,slow=41							
NRIK	**Noril'sk**	**97.40**	**0**	LR	LR	02 17 32.2		
	comp=Z,174nm,19.9s,baz=3.0,slow=38							
AKASG	**Malin Array Be**	**98.03**	**33**	LR	LR	02 14 21.0		
	comp=Z,38nm,20.6s,baz=352,slow=35							
YAK	**Yakutsk**	**98.11**	**342**	LR	LR	02 20 55.0		
	comp=Z,44nm,19.7s,baz=89,slow=39							
PZH	**PanZhiHua**	**138.23**	**342**	PKP	**PKPdf**	**01 35 58.4**	**-1.8**	
CMAR	**Chiang Mai Arr**	**146.64**	**341**	PKPbc	**PKPbc**	**01 36 16.8**	**+0.1**	
	comp=Z,4.6nm,0.6s,baz=334,slow=3.6,SNR=17							
CMAR	**Chiang Mai Arr**	**146.64**	**341**	PKPdf	**PKPdf**	**01 36 16.1**	**+1.0**	

IDC ***09*** *01:28:24.2±2.5, 11°.34S×162°.96E, h49km±21km, mb3.8/12, mbtmp4.1/13, ML3.8/1, MS3.7/11, Error ellipse: s-maj=24.2km s-min=16.2km az=59.0*

NEIC ***09*** *01:28:28.9±1.5, 11°.14S±0°.04×162°.7E±0°.1, h74km±8km, mb4.4/11, Error ellipse: s-maj=19.7km s-min=5.8km az=85.0*

ISC 09 01:28:22.8±0.6, 11°.22S±0°.08×163°.1E±0°.1, h34km, n49, σ1§32/36, mb4.2/18, MS3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.56**	**300**	P	**Pn**	**01 29 16.3**	**+0.7**
	5μm,0.5s,baz=124,slow=6.2,SNR=10						
HNR				S	**Sn**	**01 29 57.5**	**+1.0**
	2μm,0.4s,baz=190,slow=18,SNR=1.3						
HNR	**Honiara**	**3.56**	**300**	Pn	**Pn**	**01 29 16.6**	**+1.0**
KOUNC	**Koumac, New Ca**	**9.35**	**173**	Pn	Pn	01 30 41.4	+6.1
MARNC	**Mare, Loyalty**	**11.26**	**156**	Pn	Pn	01 31 11.0	+10
DZM	**Mont Dzumac**	**11.26**	**164**	P	**Pn**	**01 31 02.9**	**+1.4**
	0.6nm,0.3s,baz=290,slow=23,SNR=1.0						
DZM				S	**Sn**	**01 33 05.3**	**-1.1**
	4.6nm,0.8s,baz=313,slow=21,SNR=1.4						
	2.2nm,0.4s						
KRVT	**Keravat (AS076**	**12.92**	**301**	LR	LR	01 37 04.1	
	comp=Z,382nm,19.1s,baz=269,slow=40						
PMG	**Port Moresby**	**15.77**	**275**	LR	LR	01 38 34.8	
	comp=Z,543nm,18.2s,baz=99,slow=39						
CTA	**Charters Tower**	**18.43**	**239**	P	**Pn**	**01 32 37.5**	**+1.8**
	5.6nm,0.9s,baz=78,slow=8.7,SNR=4.4						
CTA				LR	LR	01 39 07.0	
	comp=Z,88nm,18.2s,baz=74,slow=35						
STKA	**Stephens Creek**	**28.56**	**221**	LR	LR	01 45 34.1	
	comp=Z,146nm,18.3s,baz=37,slow=36						
WR0	**Warramunga Arr**	**28.79**	**249**	P	**P**	**01 34 16.2**	**-1.6**
WB2	**Warramunga Arr**	**28.96**	**249**	P	**P**	**01 34 18.8**	**-0.6**
WB2				IAmb	IAmb	01 34 25.1	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**28.97**	**249**	P	**P**	**01 34 17.5**	**-2.0**
	comp=Z,1.3nm,0.5s,baz=78,slow=9.5,SNR=21						
WRA				PcP	**PcP**	**01 37 28.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=78,slow=3.3,SNR=5.1						
WRA				LR	LR	01 46 20.9	
	comp=Z,222nm,18.2s,baz=82,slow=37						
	comp=Z,1.3nm,0.5s						
WRA	**Warramunga Arr**	**28.97**	**249**	P	**P**	**01 34 17.9**	**-1.6**
H11S2	**WAKE ISLAND Hy**	**29.73**	**7**	T	T	02 05 20.3	
	baz=188,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**29.74**	**7**	T	T	02 05 20.9	
	baz=188,slow=76,SNR=39						
H11S1	**WAKE ISLAND Hy**	**29.75**	**7**	T	T	02 05 17.9	
	baz=188,slow=76,SNR=38						
ASAR	**Alice Springs**	**30.39**	**242**	P	**P**	**01 34 29.7**	**-2.3**
	comp=Z,1.9nm,0.6s,baz=61,slow=10,SNR=21						
	comp=Z,1.9nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**30.96**	**7**	T	T	02 06 55.4	
	baz=188,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**30.97**	**7**	T	T	02 06 51.6	
	baz=188,slow=76,SNR=23						
H11N2	**WAKE ISLAND Hy**	**30.98**	**7**	T	T	02 06 53.5	
	baz=188,slow=76,SNR=22						
MTN	**Manton Dam**	**31.27**	**264**	P	**P**	**01 34 38.8**	**-1.1**
MTN				IAmb	IAmb	01 34 45.8	
	comp=Z,8.3nm,1.1s						
RPZ	**Rata Peaks**	**33.11**	**169**	LR	LR	01 48 06.4	
	comp=Z,168nm,18.5s,baz=23,slow=36						
KNRA	**Kununurra**	**33.64**	**259**	P	**P**	**01 34 58.5**	**-2.1**
FITZ	**Fitzroy Crossi**	**36.81**	**255**	P	**P**	**01 35 25.5**	**-2.4**
FITZ				IAmb	IAmb	01 35 42.1	
	comp=Z,3.6nm,0.8s						
MJAR	**Matsushiro Arr**	**52.97**	**335**	LR	LR	02 00 41.0	
	comp=Z,43nm,19.3s,baz=146,slow=36						
KSRS	**Korea Array**	**58.58**	**328**	P	**P**	**01 38 16.0**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=139,slow=7.1,SNR=2.0						
KSRS				LR	LR	02 01 40.4	
	comp=Z,30nm,20.3s,baz=135,slow=34						
	comp=Z,0.7nm,0.4s						
PETK	**Petropavlovsk-**	**64.23**	**356**	LR	LR	02 03 21.9	
	comp=Z,42nm,18.6s,baz=101,slow=33						
KLR	**Kul'dur**	**66.20**	**338**	P	**P**	**01 39 07.2**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=104,slow=7.8,SNR=2.6						
	comp=Z,1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**69.79**	**294**	P	**P**	**01 39 29.6**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=117,slow=2.8,SNR=4.6						
	comp=Z,1.6nm,0.3s						
ULN	**Ulaanbaatar**	**76.92**	**325**	P	**P**	**01 40 12.6**	**+0.6**
SONM	**Songino Array**	**77.28**	**325**	P	**P**	**01 40 14.2**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=140,slow=5.7,SNR=16						
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**77.28**	**325**	P	**P**	**01 40 13.8**	**-0.1**
SONM				IAmb	IAmb	01 40 28.9	
	comp=Z,7.5nm,1.2s						
KDAK	**Kodiak Island**	**77.72**	**23**	LR	LR	02 11 04.0	
	comp=Z,67nm,18.5s,baz=194,slow=33						
QSPA	**South Pole Qui**	**78.79**	**180**	LR	LR	02 09 35.9	
	comp=Z,98nm,20.4s,baz=58,slow=31						
ILSW	**Iliamna Southw**	**79.10**	**21**	P	**P**	**01 40 24.4**	**+0.7**
ILSW				IAmb	IAmb	01 40 25.6	
	comp=Z,8.8nm,1.2s						
L19K	**White Mountain**	**80.15**	**19**	P	**P**	**01 40 30.8**	**+1.5**
L19K				IAmb	IAmb	01 40 31.6	
	comp=Z,4.3nm,1.1s						
IMAR	**Indian Mountai**	**83.31**	**16**	P	**P**	**01 40 47.3**	**+1.5**
ILAR	**Eielson Array**	**84.52**	**19**	P	**P**	**01 40 51.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=237,slow=4.6,SNR=4.9						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**88.14**	**50**	P	**P**	**01 41 11.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=216,slow=7.2,SNR=3.6						
	comp=Z,0.3nm,0.7s						
BELA	**Belgrano 2**	**90.50**	**176**	P	**P**	**01 41 22.3**	**+1.5**
BELA				IAmb	IAmb	01 41 35.4	
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**91.86**	**317**	P	**P**	**01 41 27.4**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=101,slow=5.7,SNR=6.7						
	comp=Z,1.4nm,0.7s						
MKAR	**Makanchi Array**	**91.86**	**317**	P	**P**	**01 41 26.0**	**-1.7**
ZALV	**Zalesovo Beam**	**92.17**	**325**	P	**P**	**01 41 26.9**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=102,slow=5.0,SNR=1.5						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**92.17**	**325**	P	**P**	**01 41 27.6**	**-1.3**
KURBB	**Kurchatov Arra**	**95.14**	**320**	P	**P**	**01 41 41.7**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=104,slow=3.9,SNR=2.2						
	comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**95.60**	**48**	P	**P**	**01 41 43.6**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=290,slow=5.4,SNR=1.8						
	comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**100.48**	**322**	P	**Pdif**	**01 42 05.3**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=97,slow=6.1,SNR=1.8						
KEST	**Kesra**	**145.91**	**320**	PKPbc	**PKPab**	**01 47 59.5**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=304,slow=2.4,SNR=5.6						
ESDC	**Sonseca Array**	**149.41**	**340**	PKPbc	**PKPbc**	**01 48 08.7**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=24,slow=6.3,SNR=4.1						

IDC ***09*** *02:06:28.1±1.1, 35°.55N×97°.43W, h0km, mbtmp3.6/6, ML3.7/5, Error ellipse: s-maj=14.2km s-min=10.7km az=156.0*

ANF ***09*** *02:06:30.0±0.7, 35°.53N×97°.39W, h14km±5km, ML4.6/18, Error ellipse: s-maj=2.0km s-min=1.9km az=8.0*

NEIC ***09*** *02:06:29.3±1.2, 35°.56N±0°.03×97°.40W±0°.05, h8km±5km, Error ellipse: s-maj=5.9km s-min=3.2km az=112.0*

TUL ***09*** *02:06:29.1±1.1, 35°.52N±0°.04×97°.40W±0°.05, h7km±5km, ML4.3, mb_Lg3.8/109(NEIC), Mwr3.5/23(NEIC), Error ellipse: s-maj=5.8km s-min=5.2km az=131.0*

NEIC ***09*** *02:06:29.1, 35°.52N×97°.40W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr0.45; Mθθ1.36; Mφφ-1.81; Mrθ-0.53; Mθφ1.56; Mφr-0.36; Fault plane solution: M0 2.35000×10^14 NP1:φ294.31000°, δ74.33000°, λ12.27000°. NP2:φ200.94000°, δ78.19000°, λ163.98000°. Principal axes: T 2.2251, Plg20.0000°, Azm157.0000°; N 0.2315, Plg70.0000°, Azm345.0000°; P -2.4566, Plg3.0000°, Azm248.0000°;*

ISC 09 02:06:28.8±0.7, 35°.53N±0°.02×97°.39W±0°.02, h12km±4km, n192, σ1§04/185, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK009	**Oakdale Elemen**	**0.06**	**334**	Pg	**Pg**	**02 06 31.2**	**-0.1**
OK025	**Westminster Rd**	**0.07**	**41**		**Pg**	**02 06 31.6**	**+0.2**
OK025				Sg	**Sg**	**02 06 33.2**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.13**	**197**	Pg	**Pg**	**02 06 32.0**	**-0.1**
OKCSW				Sg	**Sg**	**02 06 34.2**	**-0.3**
OK005	**Luther M Schoo**	**0.21**	**53**		**Pg**	**02 06 33.6**	**+0.3**
BCOK	**Bluff Creek, N**	**0.22**	**306**	Pg	**Pg**	**02 06 33.8**	**+0.3**
BCOK				Sg	**Sg**	**02 06 37.3**	**+0.6**
OK029	**Liberty Lake**	**0.27**	**349**	Pg	**Pg**	**02 06 35.1**	**+0.6**
FNO	**Franklin**	**0.27**	**181**	Pg	**Pg**	**02 06 34.6**	**+0.1**
FNO				Sg	**Sg**	**02 06 38.6**	**+0.4**
OK011	**Prague**	**0.58**	**94**		**Pg**	**02 06 40.3**	**+0.2**
OK031	**S. Brethren Rd**	**0.62**	**47**		**Pg**	**02 06 41.1**	**+0.2**
OK033	**Mehan**	**0.63**	**36**	Pg	**Pg**	**02 06 41.4**	**+0.3**
OK030	**Cody Creek RV**	**0.64**	**51**	Pg	**Pg**	**02 06 41.3**	**+0.1**
OK034	**N. Norfolk Rd.**	**0.73**	**49**	Pg	**Pg**	**02 06 43.0**	**0.0**
DEOK	**Depew**	**0.79**	**67**		**Pg**	**02 06 43.9**	**-0.2**
DEOK				IAmb_Lg		02 06 54.0	
	comp=Z,264nm,0.8s						
QUOK	**Quay**	**0.85**	**41**		**Pg**	**02 06 45.1**	**-0.1**
OK046	**Pawnee Station**	**0.95**	**24**	Pg	**Pg**	**02 06 47.0**	**-0.1**
OK044	**Pawnee Station**	**0.97**	**30**	Pg	**Pg**	**02 06 47.3**	**-0.3**
X34A	**Smith Ranch, M**	**0.99**	**201**		**Pg**	**02 06 48.2**	**+0.2**
CSTR	**Hydro, Custer**	**1.06**	**277**		**Pg**	**02 06 49.2**	**-0.1**
OK047	**Pawnee, Statio**	**1.08**	**30**		**Pg**	**02 06 49.2**	**-0.4**
CROK	**Carrier**	**1.08**	**334**		**Pg**	**02 06 49.6**	**-0.1**
BLOK	**Blackwell**	**1.24**	**7**	Pn	**Pb**	**02 06 52.0**	**-0.1**
TUL1	**Leonard**	**1.36**	**73**	Pn	**Pn**	**02 06 53.4**	**-0.2**
TUL1	**Leonard**	**1.36**	**73**	P	**Pn**	**02 06 53.5**	**0.0**
	baz=254						
TUL1				S	**Sg**	**02 07 13.3**	**+0.8**
	baz=254						
TUL1	**Leonard**	**1.36**	**73**	P	**Pn**	**02 06 53.4**	**-0.2**
	baz=254,SNR=219						
TUL1				S	**Sn**	**02 07 12.5**	**+1.0**
	baz=254						
GC02	**Grant County #**	**1.37**	**344**		**Pn**	**02 06 54.5**	**+0.8**
WMOK	**Wichita Mounta**	**1.39**	**236**	Pn	**Pn**	**02 06 53.9**	**-0.1**
WMOK	**Wichita Mounta**	**1.39**	**236**	P	**Pn**	**02 06 53.9**	**-0.1**
	baz=55,SNR=1000						
WMOK				S	**Sb**	**02 07 12.5**	**+0.3**
	baz=55						
WMOK	**Wichita Mounta**	**1.39**	**236**	P	**Pn**	**02 06 53.9**	**-0.1**
	baz=55,SNR=320						
WMOK				S	**Sb**	**02 07 12.1**	**-0.1**
	baz=55						
OK032	**Salt Plains WL**	**1.43**	**333**		**Pn**	**02 06 55.2**	**+0.6**
OK038	**West end E0370**	**1.45**	**311**		**Pn**	**02 06 55.5**	**+0.7**
KAN13	**South Haven SW**	**1.48**	**357**		**Pn**	**02 06 55.9**	**+0.6**
KAN17	**Caldwell West**	**1.54**	**349**		**Pn**	**02 06 57.2**	**+1.1**
LOOK	**Love County**	**1.54**	**173**	Pn	**Pn**	**02 06 57.2**	**+1.1**
LOOK				IAmb_Lg		02 07 17.2	
	comp=Z,140nm,0.8s						
T35B	**Sooner Cattle**	**1.56**	**27**	P	**Pn**	**02 06 57.4**	**+1.1**
	baz=207,SNR=314						
T35B				S	**Sg**	**02 07 18.9**	**0.0**
	baz=207						
U32A	**Winter Ranch,**	**1.56**	**303**	P	**Pn**	**02 06 57.4**	**+1.1**
	baz=123,SNR=94						
U32A				S	**Sg**	**02 07 18.9**	**0.0**
	baz=123						
KAN05	**Bluff City Nor**	**1.62**	**346**		**Pn**	**02 06 58.0**	**+0.8**
KS20	**Mayfield South**	**1.70**	**356**	IAmb_Lg		02 07 24.7	
	comp=Z,759nm,0.9s						
ELIS	**Ellis County**	**1.73**	**289**	Pn	**Pb**	**02 07 00.5**	**0.0**
KAN08	**Anthony NE Sta**	**1.76**	**345**	IAmb_Lg		02 07 28.8	
	comp=Z,275nm,0.8s						
X37A	**Clayton**	**1.91**	**119**		**Pn**	**02 07 03.2**	**+2.2**
X37A	**Clayton**	**1.91**	**119**	P	**Pn**	**02 07 02.5**	**+1.5**
	baz=300,SNR=549						
X37A				Sb	**Sg**	**02 07 30.0**	**0.0**
	baz=300						
RLO	**Rose Lookout**	**2.03**	**71**	Pn	**Pn**	**02 07 04.0**	**+1.2**
Z35A	**Perchaven, San**	**2.20**	**177**	IAmb_Lg		02 07 39.1	
	comp=Z,262nm,1.2s						
Z35A	**Perchaven, San**	**2.20**	**177**	P	**Pn**	**02 07 06.6**	**+1.5**
	baz=357,SNR=135						
U38A	**Gravette**	**2.60**	**69**	Pn	**Pn**	**02 07 12.3**	**+1.6**
U38A	**Gravette**	**2.60**	**69**	P	**Pn**	**02 07 12.2**	**+1.6**
	baz=250,SNR=121						
Z38A	**Mt. Pleasant**	**3.02**	**138**	Pn	**Pn**	**02 07 17.2**	**+0.8**
Z38A				IAmb_Lg		02 08 08.8	
	comp=Z,248nm,0.7s						
Z38A	**Mt. Pleasant**	**3.02**	**138**	P	**Pn**	**02 07 17.7**	**+1.4**
	baz=320,SNR=56						
R32A	**Long Quarter,**	**3.07**	**340**	Pn	**Pn**	**02 07 18.2**	**+1.0**
R32A				IAmb_Lg		02 08 15.3	
	comp=Z,149nm,0.9s						
R32A	**Long Quarter,**	**3.07**	**340**	P	**Pn**	**02 07 18.8**	**+1.6**
	baz=160,SNR=69						
MIAR	**Mount Ida**	**3.28**	**106**	IAmb_Lg		02 08 20.5	
	comp=Z,197nm,0.8s						
MIAR	**Mount Ida**	**3.28**	**106**	P	**Pn**	**02 07 21.5**	**+1.5**
	baz=288,SNR=122						
MIAR				S	**Sn**	**02 08 01.5**	**+2.5**
	baz=288						
MIAR	**Mount Ida**	**3.28**	**106**	P	**Pn**	**02 07 21.5**	**+1.5**
	baz=288,SNR=30						
MIAR				S	**Sn**	**02 07 59.0**	**0.0**
	baz=288						
ABTX	**Abilene, Hawle**	**3.45**	**213**	IAmb_Lg		02 08 16.3	
	comp=Z,162nm,0.8s						
WHTX	**Lake Whitney,**	**3.53**	**181**	Pn	**Pn**	**02 07 24.3**	**+0.9**
WHTX	**Lake Whitney,**	**3.53**	**181**	P	**Pn**	**02 07 24.5**	**+1.1**
	baz=0.9,SNR=38						
WHTX				S	**Sn**	**02 08 07.1**	**+2.0**
	baz=0.9						
WHTX	**Lake Whitney,**	**3.53**	**181**	P	**Pn**	**02 07 24.4**	**+0.9**
	baz=0.9,SNR=20						
WHTX				S	**Sn**	**02 08 06.7**	**+1.6**
	baz=0.9						
AMTX	**Amarillo**	**3.57**	**261**	P	**Pn**	**02 07 26.4**	**+2.4**
	baz=78,SNR=76						
AMTX	**Amarillo**	**3.57**	**261**	P	**Pn**	**02 07 26.5**	**+2.4**
	baz=78						
AMTX				S	**Sn**	**02 08 08.8**	**+2.5**
	baz=78						
KSU1	**Kansas State U**	**3.62**	**10**	Pn	**Pn**	**02 07 25.9**	**+1.3**
KSU1				IAmb_Lg		02 08 28.2	
	comp=Z,257nm,0.9s						
KSU1	**Kansas State U**	**3.62**	**10**	P	**Pn**	**02 07 25.9**	**+1.3**
	baz=190,SNR=36						
KSU1	**Kansas State U**	**3.62**	**10**	P	**Pn**	**02 07 25.9**	**+1.3**
	baz=190,SNR=27						
KSU1				S	**Sn**	**02 08 08.3**	**+1.0**
	baz=190						
237A	**Washetta, Mont**	**3.76**	**159**		**Pn**	**02 07 27.5**	**+0.9**
237A				IAmb_Lg		02 08 32.0	
	comp=Z,261nm,1.1s						
237A	**Washetta, Mont**	**3.76**	**159**	P	**Pn**	**02 07 27.4**	**+0.8**
	baz=340,SNR=44						
CBKS	**Cedar Bluff**	**3.77**	**331**	IAmb_Lg		02 08 39.0	
	comp=Z,241nm,0.8s						
CBKS	**Cedar Bluff**	**3.77**	**331**	P	**Pn**	**02 07 28.3**	**+1.5**
	baz=150,SNR=15						
CBKS				S	**Sn**	**02 08 13.4**	**+2.2**
	baz=150						
CBKS	**Cedar Bluff**	**3.77**	**331**	P	**Pn**	**02 07 28.3**	**+1.5**
	baz=150,SNR=11						
CBKS				S	**Sn**	**02 08 13.2**	**+2.0**
	baz=150						
S39A	**Bolivar**	**3.92**	**55**	P	**Pn**	**02 07 30.0**	**+1.2**
	baz=238,SNR=13						
S39A				S	**Sn**	**02 08 16.8**	**+2.1**
	baz=238						
WLAR	**White Oak Lake**	**3.98**	**116**	Pn	**Pn**	**02 07 30.5**	**+0.9**
WLAR				IAmb_Lg		02 08 37.5	
	comp=Z,167nm,0.7s						
WHAR	**Wooly Hollow**	**4.18**	**92**	IAmb_Lg		02 08 44.7	
	comp=Z,151nm,0.8s						
UALR	**University of**	**4.21**	**99**		**Pn**	**02 07 34.5**	**+1.8**
UALR				IAmb_Lg		02 08 46.6	
	comp=Z,224nm,0.7s						
MGMO	**Mountain Grove**	**4.44**	**67**		**Pn**	**02 07 37.6**	**+1.6**
MGMO				IAmb_Lg		02 08 53.0	
	comp=Z,258nm,0.9s						
MSTX	**Muleshoe**	**4.69**	**252**	P	**Pn**	**02 07 40.6**	**+1.0**
	baz=69,SNR=23						
MSTX	**Muleshoe**	**4.69**	**252**	P	**Pn**	**02 07 40.6**	**+1.0**
	baz=69,SNR=15						
435B	**Jarrell**	**4.74**	**182**		**Pn**	**02 07 40.8**	**+0.7**
435B	**Jarrell**	**4.74**	**182**	P	**Pn**	**02 07 41.0**	**+1.0**
	baz=2.0						
435B	**Jarrell**	**4.74**	**182**	P	**Pn**	**02 07 41.0**	**+1.0**
	baz=2.0						
435B				S	**Sn**	**02 08 36.4**	**+1.6**
	baz=2.0						
CCAR	**Cane Creek**	**4.90**	**108**	IAmb_Lg		02 09 09.8	
	comp=Z,161nm,0.9s						
R40A	**Maddies Statio**	**4.95**	**55**	IAmb_Lg		02 09 08.6	
	comp=Z,165nm,0.7s						
LCAR	**Lake Charles**	**5.10**	**82**	IAmb_Lg		02 09 21.9	
	comp=Z,92nm,1.0s						
P38A	**Dawn**	**5.11**	**36**	Pn	**Pn**	**02 07 46.8**	**+1.7**
P38A				IAmb_Lg		02 09 24.3	
	comp=Z,126nm,0.8s						
N33A	**J Bar K, Exete**	**5.20**	**360**	IAmb_Lg		02 09 23.8	
	comp=Z,136nm,0.8s						
JCT	**Junction City**	**5.43**	**203**	Pn	**Pn**	**02 07 50.5**	**+1.0**
JCT	**Junction City**	**5.43**	**203**	P	**Pn**	**02 07 50.7**	**+1.2**
	baz=21,SNR=8.9						
JCT	**Junction City**	**5.43**	**203**	P	**Pn**	**02 07 50.5**	**+1.0**
	baz=21						
JCT				S	**Sn**	**02 08 52.1**	**+0.1**
	baz=21						
KSCO	**Kaye Shedlock'**	**5.43**	**311**	IAmb_Lg		02 09 24.7	
	comp=Z,120nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.43**	**311**	P	**Pn**	**02 07 50.5**	**+0.9**
	baz=128						
KSCO				S	**Sn**	**02 08 51.3**	**-0.9**
	baz=128						
HBAR	**Harrisburg**	**5.49**	**88**	Pn	**Pn**	**02 07 52.7**	**+2.3**
N35A	**Tabor**	**5.50**	**14**	P	**Pn**	**02 07 51.0**	**+0.5**
	baz=195,SNR=12						
CCM	**Cathedral Cave**	**5.54**	**61**	Pn	**Pn**	**02 07 51.1**	**0.0**
CCM				IAmb_Lg		02 09 29.9	
	comp=Z,144nm,0.8s						
CCM	**Cathedral Cave**	**5.54**	**61**	P	**Pn**	**02 07 51.6**	**+0.5**
	baz=245,SNR=14						
CCM	**Cathedral Cave**	**5.54**	**61**	P	**Pn**	**02 07 51.9**	**+0.8**
	baz=245						
CCM				S	**Sn**	**02 08 55.1**	**+0.5**
	baz=245						
143A	**Socs Landing,**	**5.71**	**118**	IAmb_Lg		02 09 33.5	
	comp=Z,103nm,0.8s						
PBMO	**Poplar Bluff**	**5.77**	**75**	IAmb_Lg		02 09 41.2	
	comp=Z,155nm,0.7s						
T25A	**Trinidad**	**5.89**	**288**	Pn	**Pn**	**02 07 56.2**	**+0.2**
T25A				IAmb_Lg		02 09 36.3	
	comp=Z,203nm,0.8s						
T25A	**Trinidad**	**5.89**	**288**	P	**Pn**	**02 07 56.3**	**+0.2**
	baz=104						
T25A				S	**Sn**	**02 09 04.5**	**+0.9**
	baz=104						
BGNE	**Belgrade**	**5.90**	**354**		**Pn**	**02 07 56.8**	**+0.8**
BGNE				IAmb_Lg		02 09 48.9	
	comp=Z,165nm,0.7s						
BGNE	**Belgrade**	**5.90**	**354**	P	**Pn**	**02 07 56.3**	**+0.3**
	baz=174,SNR=17						
BGNE	**Belgrade**	**5.90**	**354**	P	**Pn**	**02 07 56.4**	**+0.3**
	baz=174						
FVM	**French Village**	**6.11**	**64**	IAmb_Lg		02 09 53.9	
	comp=Z,111nm,0.8s						
FVM	**French Village**	**6.11**	**64**	P	**Pn**	**02 07 59.1**	**+0.3**
	baz=248,SNR=13						
PEBM	**Pemiscott

Q44A	Meyer Farm, Va	7.48	61	Sn	Sn	02 09 43.3	+0.9	
	baz=246							
146A	Union	7.49	110	IAmb_Lg		02 10 28.0		
	comp=Z,59nm,0.9s							
MNTX	Cornudas Mount	7.68	242	Pn	Pn	02 08 21.2	+0.8	
MNTX	Cornudas Mount	7.68	242	P	Pn	02 08 21.5	+1.0	
	baz=58							
MNTX	Cornudas Mount	7.68	242	P	Pn	02 08 21.4	+0.9	
	baz=58							
ISCO	Idaho Springs	7.79	306	Pn	Pn	02 08 22.9	+0.7	
ISCO				IAmb_Lg		02 10 43.2		
	comp=Z,60nm,0.8s							
ISCO	Idaho Springs	7.79	306	P	Pn	02 08 23.0	+0.8	
	baz=121,SNR=12							
ISCO	Idaho Springs	7.79	306	P	Pn	02 08 23.0	+0.8	
	baz=121,SNR=6.6							
WVT	Waverly	7.79	83	Pn	Pn	02 08 21.9	0.0	
WVT	Waverly	7.79	83	P	Pn	02 08 21.6	-0.3	
	baz=268							
S22A	4UR Ranch, Cre	7.90	289	Pn	Pn	02 08 24.4	+0.7	
S22A	4UR Ranch, Cre	7.90	289	P	Pn	02 08 25.6	+1.8	
	baz=104							
K38A	Parkersburg	7.96	25	P	Pn	02 08 24.4	+0.1	
	baz=208							
Y22D	IRIS PASSCAL I	7.97	262	IAmb_Lg		02 10 59.4		
	comp=Z,115nm,1.0s							
Z47A	Carrollton	8.05	104	Pn	Pn	02 08 26.5	+1.0	
L40A	Anamosa	8.11	35	IAmb_Lg		02 10 52.4		
	comp=Z,138nm,1.0s							
HDIL	Hopedale	8.12	49	P	Pn	02 08 26.7	+0.2	
	baz=234							
TXAR	Lajitas Array	8.14	222	Pn	Pn	02 08 27.1	+0.3	
	comp=Z,0.3nm,0.3s,baz=42,slow=11,SNR=2.7							
TXAR				Pg	Pb	02 08 49.4	-0.4	
	comp=Z,1.4nm,0.3s,baz=41,slow=12,SNR=4.8							
TXAR				Lg	Lg	02 10 39.0		
	comp=Z,3.5nm,0.3s,baz=42,slow=28,SNR=4.0							
	comp=Z,0.4nm,0.4s							
TXAR	Lajitas Array	8.14	222	Pn	Pn	02 08 28.0	+1.2	
ECSD	EROS Data Cent	8.22	4	Pn	Pn	02 08 27.2	-0.5	
ECSD	EROS Data Cent	8.22	4	P	Pn	02 08 26.9	-0.8	
	baz=184,SNR=15							
O44A	Mansfield	8.43	54	IAmb_Lg		02 11 01.5		
	comp=Z,114nm,0.8s							
SMCO	Snowmass	8.45	298	Pn	Pn	02 08 31.2	-0.2	
PHWY	Pilot Hill	8.56	315	IAmb_Lg		02 11 02.3		
	comp=Z,101nm,1.1s							
N23A	Red Feather La	8.60	311	IAmb_Lg		02 11 13.9		
	comp=Z,119nm,0.8s							
N23A	Red Feather La	8.60	311	P	Pn	02 08 34.0	+0.7	
	baz=126,SNR=7.4							
L42A	Oliver, Polo	8.84	41	Pn	Pn	02 08 36.6	+0.3	
LRAL	Lakeview Retre	8.96	103	Pn	Pn	02 08 38.3	+0.4	
LRAL	Lakeview Retre	8.96	103	P	Pn	02 08 37.9	0.0	
	baz=289							
SUSD	Miller	8.98	353	IAmb_Lg		02 11 29.1		
	comp=Z,69nm,1.0s							
JFWS	Jewell Farm	9.22	35	Pn	Pn	02 08 41.6	+0.1	
JFWS				IAmb_Lg		02 11 32.4		
	comp=Z,93nm,0.8s							
JFWS	Jewell Farm	9.22	35	P	Pn	02 08 41.9	+0.3	
	baz=219							
WCI	Wyandotte Cave	9.29	70	P	Pn	02 08 42.8	+0.2	
	baz=256							
M44A	Midewin, Midew	9.38	49	IAmb_Lg		02 11 30.2		
	comp=Z,108nm,0.9s							
SFIN	Lafayette	9.46	56	Pn	Pn	02 08 45.4	+0.6	
SFIN	Lafayette	9.46	56	P	Pn	02 08 44.8	0.0	
	baz=242							
BRAL	Brewton	9.68	114	P	Pn	02 08 47.6	-0.2	
	baz=300							
FPAL	Fort Paine	9.71	92	Pn	Pn	02 08 48.7	+0.4	
HQIL	Hanson Quary C	9.73	47	IAmb_Lg		02 11 36.6		
	comp=Z,133nm,0.9s							
I40A	Norwalk	9.84	30	IAmb_Lg		02 11 49.1		
	comp=Z,72nm,0.8s							
RSSD	Black Hills	9.98	331	Pn	Pn	02 08 53.3	+1.1	
RSSD				IAmb_Lg		02 12 03.3		
	comp=Z,39nm,1.0s							
RSSD	Black Hills	9.98	331	P	Pn	02 08 52.3	+0.1	
	baz=147							
K22A	Casper	10.04	318		Pn	02 08 53.8	+0.9	
K22A	Casper	10.04	318	P	Pn	02 08 52.0	-1.0	
	baz=132							
SPMN	Marine on St.	10.29	18	Pn	Pn	02 08 57.4	+1.1	
SPMN	Marine on St.	10.29	18	P	Pn	02 08 57.1	+0.8	
	baz=201							
F33A	5 Mile Ranch,	10.33	4	Pn	Pn	02 08 56.3	-0.4	
I42A	Draeger Farm,	10.60	35	Pn	Pn	02 09 00.9	+0.6	
V51A	Loudon	10.62	85		Pn	02 09 01.6	+1.0	
O48B	Farmland	10.76	60	P	Pn	02 09 01.7	-0.9	
	baz=248							
P49A	Miami Univ. Ec	10.83	65	P	Pn	02 09 03.2	-0.4	
	baz=252							
TKL	Tuckaleechee C	11.09	85	Pn	Pn	02 09 06.0	-1.2	
	comp=Z,0.3nm,0.3s,baz=278,slow=14,SNR=4.6							
TKL				Lg	Lg	02 12 10.9		
	comp=Z,1.0nm,0.3s,baz=357,slow=18,SNR=5.7							
	comp=Z,0.8nm,0.3s							
TKL	Tuckaleechee C	11.09	85	Pn	Pn	02 09 09.0	+1.8	
V52A	Sevierville	11.23	84	Pn	Pn	02 09 10.0	+1.0	
PDAR	Pinedale Array	11.88	311	Pn	Pn	02 09 18.4	+0.2	
	comp=Z,0.2nm,0.3s,baz=123,slow=14,SNR=7.3							
PDAR				Pg		02 10 04.3		
	comp=Z,0.3nm,0.3s,baz=118,slow=11,SNR=3.7							
PDAR				Lg	Lg	02 12 38.1		
	comp=Z,0.7nm,0.3s,baz=121,slow=21,SNR=5.9							
	comp=Z,0.5nm,0.4s							
P52A	Corning	12.78	67	P	Pn	02 09 28.4	-1.8	
	baz=256							
AGMN	Agassiz Nation	12.81	5	P	Pn	02 09 27.7	-3.0	
	baz=186							
ULM	Lac du Bonnet	14.75	4	Pn	Pn	02 09 52.2	-5.0	
	comp=Z,1.7nm,0.4s,baz=287,slow=20							
ULM				Sn	Sn	02 12 30.0	-10	
	comp=Z,0.4nm,0.3s,baz=175,slow=12,SNR=2.0							
ULM				Lg	Lg	02 14 04.8		
	comp=Z,0.4nm,0.3s,baz=147,slow=16,SNR=2.2							
SADO	Sadowa	16.70	51	Pn	Pn	02 10 20.7	-1.8	
	comp=Z,0.3nm,0.3s,baz=270,slow=13,SNR=2.0							
SADO				Lg	Lg	02 15 05.8		
	comp=Z,0.6nm,0.3s,baz=274,slow=15,SNR=2.8							
	comp=Z,1.6nm,0.4s							

*IDC **09** 02:22:05.6±1.0, 17°.38N×46°.54W, h0km, mb3.7/7, mbtmp3.8/8, ML3.3/1, MS3.4/16, Error ellipse: s-maj=29.2km s-min=25.0km az=116.0*

ISC 09 02:22:07.5±0.8, 17°.4N±0°.1×46°.5W±0°.2, h12km, n27, σ1§07/8, mb3.7/7, MS3.4/15, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDP	Montagnes des	13.63	207	Pn	Pn	02 25 22.0	+1.1
	0.2nm,0.3s,baz=326,slow=7.3,SNR=1.6						
	8.0nm,1.0s						
SJG	San Juan	18.71	275	LR	LR	02 32 22.2	
	comp=Z,56nm,18.6s,baz=108,slow=33						
SDV	Santo Domingo	24.95	253	LR	LR	02 36 21.8	
	comp=Z,31nm,20.5s,baz=76,slow=34						
BBTS	Babate	28.93	91	LR	LR	02 37 06.3	
	comp=Z,92nm,18.0s,baz=250,slow=31						
ROSC	El Rosal	29.95	249	LR	LR	02 41 25.5	
	comp=Z,40nm,19.2s,baz=62,slow=39						
LPAZ	La Paz	39.70	214	P	P	02 29 38.9	-1.7
	1.2nm,0.8s,baz=11,slow=8.5,SNR=4.6						
LPAZ				LR	LR	02 45 17.3	
	comp=Z,48nm,21.9s,baz=59,slow=35						
	1.2nm,0.8s						
H10N3	ASCENSION HYDR	40.38	126	T	T	03 12 41.2	
	baz=308,slow=75,SNR=74						
H10N2	ASCENSION HYDR	40.39	126	T	T	03 12 41.5	
	baz=308,slow=75,SNR=89						
H10N1	ASCENSION HYDR	40.40	126	T	T	03 12 42.7	
	baz=308,slow=75,SNR=86						
KOWA	Kowa	40.91	88	LR	LR	02 44 08.8	
	comp=Z,42nm,18.1s,baz=286,slow=32						
H10S3	ASCENSION HYDR	40.96	127	T	T	03 13 27.7	
	baz=273,slow=74,SNR=13						
H10S2	ASCENSION HYDR	40.98	127	T	T	03 13 27.5	
	baz=307,slow=74,SNR=5.4						
NNA	Nana	41.85	228	LR	LR	02 45 44.9	
	comp=Z,42nm,21.8s,baz=12,slow=34						
ESDC	Sonseca Array	42.95	50	LR	LR	02 44 14.7	
	comp=Z,58nm,18.2s,baz=268,slow=31						
CPUP	Villa Florida	44.74	194	P	P	02 30 21.2	+0.3
	1.2nm,0.8s,baz=80,slow=5.5,SNR=2.8						
	1.2nm,0.8s						
LVC	Limon Verde	45.42	210	LR	LR	02 48 55.2	
	comp=Z,50nm,20.4s,baz=1.5,slow=36						
TORD	Torodi Ar. Bea	46.61	88	P	P	02 30 35.3	-0.7
	0.9nm,1.1s,baz=310,slow=7.9,SNR=2.2						
	0.9nm,1.1s						
KEST	Kesra	52.49	58	LR	LR	02 51 30.4	
	comp=Z,35nm,20.7s,baz=288,slow=34						
TXAR	Lajitas Array	53.33	294	P	P	02 31 27.1	0.0
	0.3nm,0.8s,baz=60,slow=7.5,SNR=3.9						
TXAR				LR	LR	02 54 13.1	
	comp=Z,19nm,18.8s,baz=62,slow=36						
	0.3nm,0.8s						
ANMO	Albuquerque	55.77	301	LR	LR	02 53 15.7	
	comp=Z,43nm,20.5s,baz=70,slow=34						
PDAR	Pinedale Array	58.67	310	P	P	02 32 05.0	-0.2
	1.5nm,1.2s,baz=93,slow=7.6,SNR=2.7						
PDAR				LR	LR	02 57 11.5	
	comp=Z,28nm,20.1s,baz=46,slow=36						
	1.5nm,1.2s						
H09W1	TRISTAN DA CUN	63.08	150	T	T	03 41 09.6	
	SNR=4.5						
ARCES	ARCESS Array B	67.53	21	LR	LR	02 57 04.1	
	comp=Z,27nm,18.8s,baz=230,slow=31						
BRTR	Keskin Array B	71.62	53	P	P	02 33 30.3	+0.9
	0.6nm,0.9s,baz=314,slow=9.0,SNR=2.4						
	0.6nm,0.9s						
EIL	Elat	74.34	63	LR	LR	03 07 25.5	
	comp=Z,32nm,18.4s,baz=271,slow=37						
MBAR	Mbarara	78.02	94	LR	LR	03 07 38.8	
	comp=Z,51nm,18.2s,baz=66,slow=35						
ILAR	Eielson Array	78.75	335	P	P	02 34 10.0	+0.3
	1.1nm,0.8s,baz=67,slow=4.5,SNR=7.6						
	1.1nm,0.8s						

*IDC **09** 02:49:53.7±1.4, 3°.83N×127°.77E, h0km, mb3.9/6, mbtmp3.9/6, MS3.7/1, Error ellipse: s-maj=97.7km s-min=19.1km az=70.0*

ISC 09 02:50:01.7±1.6, 3°.9N±0°.3×128°.2E±0°.7, h71km, n7, σ1§29/6, mb4.0/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.04	186	P	P	02 54 49.6	-0.9
	0.8nm,0.5s,baz=18,slow=9.6,SNR=1.8						
	0.8nm,0.5s						
WRA	Warramunga Arr	24.49	166	P	P	02 55 14.7	+0.3
	2.1nm,0.7s,baz=342,slow=10,SNR=48						
	2.1nm,0.7s						
ASAR	Alice Springs	28.00	169	P	P	02 55 46.5	+0.5
	2.0nm,0.5s,baz=357,slow=8.3,SNR=51						
	2.0nm,0.5s						
STKA	Stephens Creek	37.83	161	P	P	02 57 11.7	+0.2
	0.6nm,0.3s,baz=354,slow=10,SNR=2.9						
	0.6nm,0.3s						
MSVF	Nonsavu	53.68	115	LR	LR	03 20 25.0	
	comp=Z,81nm,21.1s,baz=165,slow=34						
MKAR	Makanchi Array	58.22	325	P	P	02 59 50.0	+1.3
	0.8nm,0.4s,baz=108,slow=8.9,SNR=11						
	0.8nm,0.4s						
ZALV	Zalesovo Beam	61.07	332	P	P	03 00 06.7	-1.4
	0.5nm,0.3s,baz=142,slow=7.3,SNR=1.5						
	0.5nm,0.3s						

*IDC **09** 02:50:25.2±4.4, 8°.32N×93°.62E, h61km±39km, mb3.4/9, mbtmp3.8/11, ML4.0/2, MS3.2/1, Error ellipse: s-maj=56.0km s-min=17.2km az=56.0*

ISC 09 02:50:24.2±0.8, 8°.4N±0°.1×93°.44E±0°.10, h50km, n13, σ1§42/13, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	7.76	135	P	Pn	02 52 16.4	+1.6
	0.9nm,0.3s,baz=304,slow=14,SNR=4.4						
	3.3nm,0.5s						
CMAR	Chiang Mai Arr	11.38	27	P	Pn	02 53 02.7	-1.5
	0.5nm,0.3s,baz=213,slow=15,SNR=6.4						
	1.5nm,0.3s						
PALK	Pallekele	12.66	266	S	Sn	02 55 40.1	-1.3
	4.5nm,0.6s,baz=36,slow=8.2,SNR=1.9						
PALK				LR	LR	02 57 45.3	
	comp=Z,97nm,19.8s,baz=240,slow=34						
MKAR	Makanchi Array	39.47	348	P	P	02 57 51.2	+1.5
	0.5nm,0.8s,baz=179,slow=7.7,SNR=3.0						
	0.5nm,0.8s						
GEYT	Alibeck	43.38	318	P	P	02 58 22.6	+0.7
	1.0nm,0.5s,baz=148,slow=6.5,SNR=1.7						
	1.0nm,0.5s						
ZALV	Zalesovo Beam	45.99	353	P	P	02 58 42.3	-0.2
	0.9nm,0.5s,baz=168,slow=9.0,SNR=4.1						
	0.9nm,0.5s						
WRA	Warramunga Arr	49.11	125	P	P	02 59 05.7	-1.4
	0.3nm,0.5s,baz=304,slow=8.6,SNR=9.2						
	0.3nm,0.5s						
ASAR	Alice Springs	50.76	130	P	P	02 59 17.4	-2.3
	0.4nm,0.6s,baz=307,slow=7.5,SNR=6.3						
	0.4nm,0.6s						
BRTR	Keskin Array B	61.59	311	P	P	03 00 36.6	-0.4
	0.4nm,0.7s,baz=134,slow=11,SNR=2.4						
	0.4nm,0.7s						
FINES	FINESS Array B	71.96	332	P	P	03 01 43.0	+0.7
	1.1nm,0.8s,baz=86,slow=7.4,SNR=2.3						
	1.1nm,0.8s						
ARCES	ARCESS Array B	74.58	340	P	P	03 01 59.4	+1.8
	1.3nm,0.8s,baz=70,slow=7.8,SNR=1.0						
	1.3nm,0.8s						
NB2	NORSAR Subarra	78.97	331	P	P	03 02 22.8	+0.2
	comp=Z,4.8nm,1.4s,baz=92,slow=5.9						
NOA	NORSAR Array B	78.97	331	P	P	03 02 22.8	+0.2
	comp=Z,0.9nm,0.9s,baz=95,slow=4.8,SNR=2.2						
	comp=Z,0.9nm,0.9s						

*IDC **09** 03:16:41.0±3.1, 36°.50N×71°.33E, h146km±28km, mb3.3/7, mbtmp3.7/14, Error ellipse: s-maj=24.4km s-min=15.8km az=176.0*

*NNC **09** 03:16:48.3±3.5, 37°.00N×71°.28E, h173km±55km, mb2.7, mpv3.8, Error ellipse: s-maj=33.7km s-min=30.3km az=127.0*

ISC 09 03:16:42.6±0.9, 36°.65N±0°.09×71°.28E±0°.07, h150km, n22, σ1§58/28, mb3.4/8, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa	6.47	22	P	Pn	03 18 17.3	+1.6
	7.2nm,0.4s,baz=189,slow=5.8,SNR=14						
AAK				S	Sn	03 19 27.9	-0.7
	5.9nm,0.4s,baz=143,slow=21,SNR=12						
KK31	Karatay Array	6.47	355	P	Pn	03 18 17.3	+1.8
	1.4nm,0.2s,baz=179,slow=12,SNR=98						
CHMS	Chumysh	6.88	22	⇓P	Pn	03 18 21.9	+1.0
	6.1nm,0.6s						
CHMS				⇑S	Sn	03 19 38.3	+0.2
	6.1nm,0.6s						
TKM2	Tokmak 2	7.09	27	⇓P	Pn	03 18 25.1	+1.2
	5.7nm,1.1s						
TKM2				⇓S	Sn	03 19 42.3	-1.1
	4.0nm,0.8s						
GEYT	Alibeck	10.57	281	P	Pn	03 19 09.9	-0.2
	3.7nm,0.7s,baz=107,slow=9.6,SNR=6.1						
GEYT				S	Sn	03 21 07.1	+0.2
	1.3nm,0.5s,baz=51,slow=13,SNR=2.6						
MKAR	Makanchi Array	13.04	36	P	Pn	03 19 42.1	0.0
	0.3nm,0.4s,baz=232,slow=16,SNR=2.6						
KURBB	Kurchatov Arra	14.91	18	P	P	03 20 07.7	+0.1
	0.4nm,0.5s,baz=208,slow=10,SNR=3.5						
AB31	Akbulak array	15.06	330	P	P	03 20 09.3	0.0
	1.9nm,0.8s,baz=142,slow=12,SNR=9.0						
AB31				⇓S	Sn	03 22 50.5	-4.3
	0.4nm,0.4s,baz=151,slow=22,SNR=6.8						
BVA0	Borovoye Array	16.39	358	P	Pn	03 20 25.0	+1.2
	0.1nm,0.9s,baz=208,slow=7.7,SNR=4.7						
BVAR	Borovoye Array	16.39	358	P	P	03 20 23.3	-0.6
	0.4nm,0.5s,baz=197,slow=4.5,SNR=4.6						
AKTO	Aktyubinsk	16.77	329	P	Pn	03 20 29.3	+0.9
	1.6nm,0.7s,baz=141,slow=11,SNR=5.7						
AKTO				S	S	03 23 32.4	-2.3
	0.6nm,0.5s,baz=194,slow=12,SNR=1.4						
AKTO	Aktyubinsk	16.77	329	⇑P	Pn	03 20 29.6	+1.2
	2.2nm,0.8s						
ZALV	Zalesovo Beam	19.69	24	P	P	03 20 59.1	-0.8
	1.0nm,0.3s,baz=224,slow=10,SNR=5.0						
SONM	Songino Array	28.06	55	P	P	03 22 20.6	+0.7
	0.5nm,0.8s,baz=238,slow=8.3,SNR=2.0						
	0.5nm,0.8s						
FINES	FINESS Array B	37.49	326	P	P	03 23 41.7	+0.4
	1.0nm,0.8s,baz=124,slow=12,SNR=4.0						
	1.0nm,0.8s						
ARCES	ARCESS Array B	41.09	337	P	P	03 24 10.9	-0.3
	2.1nm,0.9s,baz=106,slow=8.5,SNR=5.3						
	2.1nm,0.9s						
GERES	GERESS Array B	43.03	305	P	P	03 24 30.7	+3.5
	0.1nm,0.3s,baz=74,slow=10,SNR=1.5						
NB2	NORSAR Subarra	44.40	323	P	P	03 24 38.7	+0.8
	comp=Z,0.4nm,0.5s,baz=93,slow=7.9						
NOA	NORSAR Array B	44.40	323	P	P	03 24 38.2	+0.3
	comp=Z,0.5nm,0.5s,baz=108,slow=7.3,SNR=4.6						
	comp=Z,0.5nm,0.5s						
TORD	Torodi Ar. Bea	65.95	269	P	P	03 27 11.2	-1.7
	comp=Z,0.3nm,0.6s,baz=47,slow=5.0,SNR=5.4						
	comp=Z,0.3nm,0.6s						
WRA	Warramunga Arr	81.88	122	P	P	03 28 43.4	-1.9
	comp=Z,0.4nm,0.7s,baz=325,slow=5.1,SNR=6.8						
	comp=Z,0.4nm,0.7s						
ASAR	Alice Springs	84.15	125	P	P	03 28 55.1	-1.9
	comp=Z,0.5nm,0.6s,baz=300,slow=4.3,SNR=5.0						
	comp=Z,0.5nm,0.6s						

*IDC **09** 03:28:50.5±2.5, 15°.97S×74°.26W, h95km±20km, mb3.0/2, mbtmp3.6/6, Error ellipse: s-maj=61.9km s-min=15.2km az=46.0*

ISC 09 03:28:48.4±1.1, 16°.0S±0°.1×74°.2W±0°.2, h54km, n18, σ2§38/11, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB12	IPOC Station P	4.51	125	⇓eP	Pn	03 29 55.1	+0.8
NNA	Nana	4.76	327	P	Pn	03 29 59.6	+1.9
	17nm,0.5s,baz=159,slow=9.3,SNR=4.1						
NNA				S	Sn	03 30 53.3	+1.7
	26nm,0.4s,baz=162,slow=3.2,SNR=4.3						
PB16	IPOC Station P	5.05	118	eP	Pn	03 30 03.7	+1.6
LPAZ	La Paz	5.85	93	P	Pn	03 30 15.2	+2.1
	3.1nm,0.4s,baz=271,slow=8.7,SNR=40						
GO01	Chusmiza	6.00	128	eP	Pn	03 30 16.9	+1.9
LVC	Limon Verde	8.24	143	P	Pn	03 30 48.8	+3.2
	4.5nm,0.4s,baz=325,slow=10,SNR=22						
LVC				S	Sn	03 32 16.3	-1.3
	6.5nm,0.3s,baz=156,slow=11,SNR=11						
ATAH	Atahualpa	9.74	335	P	Pn	03 31 06.8	+0.6
	1.7nm,0.6s,baz=125,slow=8.6,SNR=1.9						
H03N1	Juan Fernandez	17.85	193	T	T	03 51 30.3	
	baz=16,slow=74						
H03N2	Juan Fernandez	17.86	193	T	T	03 51 30.6	
	baz=16,slow=74						
H03N3	Juan Fernandez	17.87	193	T	T	03 51 29.1	
	baz=16,slow=74						
TXAR	Lajitas Array	53.31	328	P	P	03 37 58.8	-3.5
	0.2nm,0.9s,baz=137,slow=8.6,SNR=2.0						
	0.2nm,0.9s						
TORD	Torodi Ar. Bea	80.44	73	P	P	03 40 53.2	-1.8
	0.2nm,0.4s,baz=242,slow=3.8,SNR=4.3						
	0.2nm,0.4s						
H11N3	WAKE ISLAND Hyl	21.97	283	T	T	06 01 37.4	
	baz=97						
H11N2	WAKE ISLAND Hyl	21.99	283	T	T	06 01 37.0	
	baz=97						
H11N1	WAKE ISLAND Hyl	21.99	283	T	T	06 01 34.3	
	baz=97						
H11S2	WAKE ISLAND Hyl	22.01	282	T	T	06 01 41.1	
	baz=98						
H11S1	WAKE ISLAND Hyl	22.02	282	T	T	06 01 43.6	
	baz=98						
H11S3	WAKE ISLAND Hyl	22.03	282	T	T	06 01 34.8	
	baz=98						

*SOME **09** 03:45:05.4, 43°.82N×83°.88E, h10km*
*NNC **09** 03:45:08.2±1.2, 43°.96N×83°.78E, h2km±5km, mb3.9, mpv3.6, Error ellipse: s-maj=9.6km s-min=4.4km az=128.0*

ISC 09 03:45:07.9±2.1, 43°.78N±0°.08×84°.17E±0°.09, h20km, n33, σ2§48/49, 10C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	Ketmen	2.79	264	eP	Pb	03 45 53.9	-3.3
	14nm,0.4s						
KTMS				eS	Sb	03 46 28.7	-2.3
	67nm,0.3s						
DJR	Jarkent	3.20	281	eP	Pb	03 46 00.7	-3.4
	16nm,0.2s						
DJR				eS	Sb	03 46 40.8	-2.0
	62nm,0.3s						
DJR	Jarkent	3.20	281	Pg	Pb	03 46 00.7	-3.4
	16nm,0.2s						
DJR				Lg	Lg	03 46 40.8	
	62nm,0.3s						
MK31	Makanchi Array	3.29	337	⇓Pn	Pn	03 45 57.2	-1.1
	0.1nm,0.1s,baz=160,slow=14,SNR=75						
MK31				⇓Pg	Pb	03 46 03.9	-1.6
	4.8nm,0.3s,baz=156,slow=17,SNR=29						
MK31				⇓Sn	Sn	03 46 34.7	-2.1
	5.2nm,0.3s,baz=150,slow=26,SNR=3.7						
MK31				Lg	Lg	03 46 43.1	
	4.6nm,0.2s,baz=146,slow=28,SNR=12						
MAKZ	Makanchi	3.40	334	⇑Pn	Pn	03 45 58.3	-1.4
	1.2nm,0.6s						
MAKZ				⇑Pg	Pb	03 46 05.5	-1.8
	3.0nm,0.3s						
MAKZ				⇑Lg	Lg	03 46 45.9	
	18nm,0.5s						
PDGK	Podgornoye	3.43	264	⇑Pg	Pb	03 46 05.7	-2.4
	9.3nm,0.5s						
PDGK				⇑Lg	Lg	03 46 50.1	
	22nm,0.5s						
SHLS	Shalkode	3.48	261	eP	Pn	03 46 00.5	-0.6
	20nm,0.2s						
SHLS				eS	Sn	03 46 40.9	-0.8
	98nm,0.5s						
SHLS	Shalkode	3.48	261	Pg	Pn	03 46 00.5	-0.6
	20nm,0.2s						
SHLS				Lg	Lg	03 46 40.9	
	98nm,0.5s						
ZSN	Zaisan	3.70	7	eP	Pb	03 46 12.3	-0.2
	9.0nm,0.2s						
ZSN				eS	Sb	03 47 00.7	+3.8
	37nm,0.3s					

	4.4nm,0.1s							
CHKK				*e*S		**Sb**	03 47 45.0	**+4.9**
	21nm,0.3s							
CHKK	**Chushkaly**	**5.20**	**273**	Pg		**Pb**	03 46 38.3	**+0.2**
	4.4nm,0.1s							
CHKK				Lg		Lg	03 47 44.9	
	21nm,0.3s							
MDOK	**Medeo**	**5.22**	**266**	*e*P		**Pb**	03 46 37.2	**-1.3**
	4.2nm,0.3s							
MDOK				*e*S		**Sb**	03 47 43.7	**+2.8**
	11nm,0.7s							
MDOK	**Medeo**	**5.22**	**266**	⇑Pg		**Pb**	03 46 39.6	**+1.1**
	3.7nm,0.5s							
MDOK				Pg		**Pb**	03 46 40.2	**+1.7**
	4.2nm,0.3s							
MDOK				⇓Lg		Lg	03 47 46.7	
	12nm,0.6s							
MDOK				Lg		Lg	03 47 48.3	
	11nm,0.7s							
KUU	**Kurty**	**5.67**	**274**	*e*P		**Pb**	03 46 46.2	**+0.2**
	1.7nm,0.4s							
KUU				*e*S		**Sb**	03 47 58.6	**+5.2**
	14nm,0.3s							
KUU	**Kurty**	**5.67**	**274**	Pg		**Pb**	03 46 46.2	**+0.2**
	1.7nm,0.4s							
KUU				Lg		Lg	03 47 58.6	
	14nm,0.3s							
MTBS	**Maitube**	**5.67**	**266**	*e*P		**Pb**	03 46 46.3	**+0.1**
	4.0nm,0.3s							
MTBS				*e*S		**Sb**	03 47 59.3	**+5.6**
	13nm,0.4s							
MTBS	**Maitube**	**5.67**	**266**	Pg		Pb	03 46 50.0	+3.8
	4.0nm,0.3s							
MTBS				Lg		Lg	03 48 04.9	
	13nm,0.4s							
KST	**Kastek**	**6.02**	**266**	*e*P		**Pb**	03 46 53.2	**+1.0**
	3.4nm,0.4s							
KST				*e*S		**Sb**	03 48 10.4	**+6.5**
	6.3nm,0.6s							
KST	**Kastek**	**6.02**	**266**	Pg		**Pb**	03 46 53.2	**+1.0**
	3.4nm,0.4s							
KST				Lg		Lg	03 48 10.4	
	6.3nm,0.6s							
TKM2	**Tokmak 2**	**6.31**	**265**	⇑Pn		**Pn**	03 46 39.9	**0.0**
	1.6nm,0.8s							
TKM2				⇓Pg		**Pb**	03 46 59.6	**+2.4**
	2.9nm,0.8s							
TKM2				⇑Lg		Lg	03 48 21.2	
	8.1nm,0.8s							
KURK	**Kurchatov**	**7.89**	**333**	⇑Lg		Lg	03 49 09.0	
	8.9nm,0.6s							
OTUK	**Ortayu**	**9.36**	**303**	⇑Lg		Lg	03 49 55.8	
	10nm,1.2s							

IDC 09 03:47:16.0±2.8, 8°23N×93°49E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/2, Error ellipse: s-maj=164.6km s-min=26.7km az=54.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.71**	**267**	LR	LR	03 54 51.2	
	comp=Z,67nm,20.1s,baz=222,slow=36						
ZALV	**Zalesovo Beam**	**46.12**	**353**	P	P	03 55 42.1	+0.1
	0.6nm,0.4s,baz=167,slow=6.8,SNR=1.7						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**48.99**	**125**	P	P	03 56 04.6	-0.2
	0.2nm,0.5s,baz=306,slow=8.5,SNR=11						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**50.64**	**130**	P	P	03 56 17.5	+0.1
	0.4nm,0.7s,baz=298,slow=7.3,SNR=2.8						
	0.4nm,0.7s						
MMAI	**Mount Meron Ar**	**58.88**	**304**	LR	LR	04 24 29.3	
	comp=Z,17nm,19.5s,baz=320,slow=38						
FINES	**FINESS Array B**	**72.09**	**332**	P	P	03 58 41.9	-0.1
	0.5nm,0.6s,baz=108,slow=4.5,SNR=3.4						
	0.5nm,0.6s						

*IDC **09** 04:17:50.8±1.1, 54°49S×158°95E, h0km, mb4.2/8, mbtmp4.2/8, MS3.9/24, Error ellipse: s-maj=56.6km s-min=17.8km az=76.0*

*NEIC **09** 04:17:53.5±1.3, 54°51S±0°10×159°0E±0°1, h10km±1km, mb4.5/21, Error ellipse: s-maj=19.2km s-min=10.2km az=214.0*

ISC 09 04:17:53.1±1.2, 54°48S±0°07×158°9E±0°1, h11km±8km, n86, σ0°80/55, mb4.4/16, MS4.0/26, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.04**	**114**	Pg	**Pg**	**04 17 55.0**	**-0.1**
WHZ	**Wether Hill Ro**	**10.37**	**38**		**Pn**	**04 20 21.6**	**0.0**
RPZ	**Rata Peaks**	**13.38**	**41**	LR	LR	04 25 28.9	
	comp=Z,517nm,18.2s,baz=194,slow=34						
TOO	**Toolangi**	**19.25**	**326**	P	**Pn**	**04 22 18.6**	**+0.3**
TOO				IAmb	IAmb	04 22 25.2	
	comp=Z,29nm,1.4s						
URZ	**Urewera**	**20.43**	**45**	LR	LR	04 30 33.7	
	comp=Z,433nm,18.2s,baz=212,slow=37						
VNDA	**Vanda**	**23.16**	**178**	P	**P**	**04 22 58.9**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=349,slow=9.5,SNR=6.3						
VNDA				LR	LR	04 30 13.3	
	comp=Z,166nm,18.8s,baz=340,slow=32						
	comp=Z,1.1nm,0.9s						
VNDA	**Vanda**	**23.16**	**178**	P	**P**	**04 22 57.8**	**-1.2**
SBA	**Scott Base**	**23.64**	**176**	P	**P**	**04 23 04.0**	**+0.2**
STKA	**Stephens Creek**	**25.74**	**324**	P	**P**	**04 23 21.6**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=142,slow=12,SNR=2.7						
STKA				LR	LR	04 32 21.9	
	comp=Z,230nm,18.3s,baz=195,slow=34						
	comp=Z,2.3nm,0.8s						
STKA	**Stephens Creek**	**25.74**	**324**	P	**P**	**04 23 24.0**	**+0.5**
STKA				IAmb	IAmb	04 23 28.4	
	comp=Z,7.6nm,1.5s						
CASY	**Casey**	**25.90**	**224**	P	**P**	**04 23 25.5**	**+0.9**
CASY				IAmb	IAmb	04 23 29.7	
	comp=Z,7.8nm,1.1s						
QSPA	**South Pole Qui**	**35.63**	**180**	P	**P**	**04 24 49.4**	**-1.3**
	comp=Z,4.5nm,1.0s,baz=28,slow=11,SNR=8.2						
	comp=Z,4.5nm,1.0s						
QSPA	**South Pole Qui**	**35.63**	**180**	P	**P**	**04 24 51.4**	**+0.7**
QSPA				IAmb	IAmb	04 24 53.2	
	comp=Z,17nm,1.3s						
CTA	**Charters Tower**	**35.66**	**339**	LR	LR	04 37 47.3	
	comp=Z,146nm,18.4s,baz=90,slow=34						
ASAR	**Alice Springs**	**35.99**	**319**	P	**P**	**04 24 54.0**	**0.0**
	comp=Z,5.5nm,0.8s,baz=156,slow=8.6,SNR=31						
ASAR				PcP	**PcP**	**04 27 19.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=142,slow=3.9,SNR=6.7						
ASAR				LR	LR	04 37 46.6	
	comp=Z,179nm,21.2s,baz=100,slow=33						
	comp=Z,5.5nm,0.8s						
ASAR	**Alice Springs**	**35.99**	**319**	P	**P**	**04 24 54.0**	**0.0**
AS31	**Alice Springs**	**35.99**	**319**	P	**P**	**04 24 53.9**	**-0.1**
AS31				IAmb	IAmb	04 24 56.6	
	comp=Z,2.9nm,0.8s						
NWAO	**Narrogin (SRO)**	**36.29**	**289**	LR	LR	04 36 10.8	
	comp=Z,261nm,20.5s,baz=249,slow=30						
H01W1	**Cape Leeuwin H**	**36.56**	**284**	T	T	05 03 35.9	
	baz=136,slow=75,SNR=2263						
H01W2	**Cape Leeuwin H**	**36.57**	**284**	T	T	05 03 36.4	
	baz=136,slow=75,SNR=2658						
H01W3	**Cape Leeuwin H**	**36.58**	**284**	T	T	05 03 37.2	
	baz=136,slow=75,SNR=1959						
WR0	**Warramunga Arr**	**39.14**	**322**	P	**P**	**04 25 20.6**	**0.0**
WR0				IAmb	IAmb	04 25 23.7	
	comp=Z,23nm,1.4s						
WB2	**Warramunga Arr**	**39.22**	**322**	P	**P**	**04 25 21.3**	**0.0**
WB2				IAmb	IAmb	04 25 25.3	
	comp=Z,9.7nm,1.1s						
WRA	**Warramunga Arr**	**39.22**	**322**	P	**P**	**04 25 20.9**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=154,slow=7.4,SNR=37						
WRA				PcP	**PcP**	**04 27 29.3**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=161,slow=2.9,SNR=7.3						
WRA				LR	LR	04 40 15.8	
	comp=Z,509nm,20.2s,baz=162,slow=34						
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**39.22**	**322**	P	**P**	**04 25 21.2**	**-0.2**
COEN	**Coen**	**42.27**	**337**	P	**P**	**04 25 48.1**	**+1.6**
COEN				IAmb	IAmb	04 25 51.0	
	comp=Z,22nm,1.4s						
MAW	**Mawson**	**43.40**	**214**	P	**P**	**04 25 55.0**	**0.0**
	comp=Z,2.8nm,1.0s,baz=98,slow=10,SNR=3.8						
MAW				LR	LR	04 42 37.7	
	comp=Z,86nm,18.4s,baz=104,slow=34						
	comp=Z,2.8nm,1.0s						
MAW	**Mawson**	**43.40**	**214**	P	**P**	**04 25 56.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**44.37**	**312**	P	**P**	**04 26 04.2**	**+0.8**
FITZ				IAmb	IAmb	04 26 07.5	
	comp=Z,5.7nm,1.1s						
KNRA	**Kununurra**	**45.23**	**317**	P	**P**	**04 26 10.8**	**+0.5**
RAR	**Rarotonga**	**45.50**	**60**	LR	LR	04 41 53.6	
	comp=Z,121nm,21.6s,baz=215,slow=32						
BELA	**Belgrano 2**	**47.64**	**176**	P	**P**	**04 26 28.9**	**+0.3**
TBI	**Tubuai**	**49.25**	**72**	*e*LR	LR	04 40 43.2	
	comp=Z,283nm,31.0s						
TROLL	**Troll, Antarti**	**52.72**	**189**	P	**P**	**04 27 06.0**	**-1.3**
SMAI	**San Martin Ant**	**53.05**	**160**	P	**P**	**04 27 11.1**	**+1.5**
SMAI				IAmb	IAmb	04 27 13.8	
	comp=Z,9.7nm,1.1s						
SNAA	**Sanae**	**53.48**	**187**	P	**P**	**04 27 12.5**	**-0.3**
SNAA	**Sanae**	**53.48**	**187**	LR	LR	04 49 30.8	
	comp=Z,124nm,18.4s,baz=231,slow=36						
SNAA	**Sanae**	**53.48**	**187**	P	**P**	**04 27 12.9**	**+0.1**
PPT2	**Papeete2**	**53.83**	**68**	*e*LR	LR	04 42 51.2	
	comp=Z,281nm,23.2s						
PPT	**Papeete**	**53.85**	**68**	LR	LR	04 45 41.4	
	comp=Z,132nm,20.3s,baz=171,slow=31						
VNA3	**Neumayer Olymp**	**54.31**	**185**	P	**P**	**04 27 19.0**	**+0.2**
VNA1	**Neumayer--Stat**	**54.83**	**185**	P	**P**	**04 27 23.2**	**+0.7**
PMSA	**Palmer Station**	**56.59**	**160**	LR	LR	04 47 50.3	
	comp=Z,63nm,18.5s,baz=182,slow=32						
LEM	**Lembang**	**62.72**	**299**	LR	LR	04 51 23.4	
	comp=Z,148nm,21.5s,baz=172,slow=32						
TOLI2	**Tolitoli**	**63.68**	**316**	P	**P**	**04 28 24.5**	**+0.1**
TAOE	**Nuku Hiva Isla**	**66.16**	**71**	*e*LR	LR	04 48 33.2	
	comp=Z,307nm,25.6s						
RPN	**Rapa Nui**	**69.38**	**108**	LR	LR	04 51 58.5	
	comp=Z,91nm,20.5s,baz=194,slow=30						
PLCA	**Paso Flores**	**76.14**	**144**	LR	LR	04 55 26.6	
	comp=Z,84nm,19.5s,baz=208,slow=30						
H03S2	**Juan Fernandez**	**78.97**	**134**	T	T	05 57 12.8	
	baz=208,SNR=4081						
H03S1	**Juan Fernandez**	**78.97**	**134**	T	T	05 57 14.1	
	baz=208,SNR=3613						
H03S3	**Juan Fernandez**	**78.98**	**134**	T	T	05 57 14.4	
	baz=208,SNR=3936						
H03N3	**Juan Fernandez**	**79.30**	**134**	T	T	05 57 37.5	
	baz=213,slow=76						
H03N2	**Juan Fernandez**	**79.31**	**134**	T	T	05 57 35.9	
	baz=213,slow=76						
H03N1	**Juan Fernandez**	**79.31**	**134**	T	T	05 57 35.7	
	baz=213,slow=76						
BO02	**Sierra Bellavi**	**81.34**	**141**	P	**P**	**04 30 10.6**	**+0.9**
H08S2	**Diego Garcia H**	**81.74**	**268**	T	T	06 00 03.6	
	baz=144,slow=76,SNR=71						
H08S1	**Diego Garcia H**	**81.75**	**268**	T	T	06 00 04.2	
	baz=144,slow=76,SNR=135						
H08S3	**Diego Garcia H**	**81.76**	**268**	T	T	06 00 06.3	
	baz=144,slow=76,SNR=326						
BOSA	**Boshof**	**88.12**	**220**	P	**P**	**04 30 42.1**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=180,slow=2.2,SNR=4.5						
BOSA				LR	LR	05 04 55.1	
	comp=Z,43nm,18.4s,baz=175,slow=32						
	comp=Z,2.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**88.75**	**305**	P	**P**	**04 30 46.1**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=179,slow=4.3,SNR=5.7						
	comp=Z,1.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**88.75**	**305**	P	**P**	**04 30 47.0**	**+0.4**
CHTO	**Chiang Mai**	**89.06**	**305**	P	**P**	**04 30 49.3**	**+1.2**
PALK	**Pallekele**	**89.06**	**284**	LR	LR	05 05 54.7	
	comp=Z,92nm,18.1s,baz=220,slow=32						
CRAI	**Chiangrai**	**89.60**	**307**	P	**P**	**04 30 51.0**	**+0.4**
CRAI				IAmb	IAmb	04 31 03.2	
	comp=Z,3.9nm,1.2s						
LBTB	**Lobatse**	**91.24**	**221**	LR	LR	05 04 39.8	
	comp=Z,34nm,19.4s,baz=145,slow=31						
LVC	**Limon Verde**	**92.97**	**137**	LR	LR	05 03 17.7	
	comp=Z,50nm,19.9s,baz=208,slow=29						
CPUP	**Villa Florida**	**93.68**	**148**	LR	LR	05 08 40.5	
	comp=Z,32nm,19.4s,baz=206,slow=33						
LSZ	**Lusaka**	**98.90**	**228**	LR	LR	05 09 55.1	
	comp=Z,76nm,19.3s,baz=159,slow=32						
LPAZ	**La Paz**	**98.96**	**135**	LR	LR	05 07 21.9	
	comp=Z,29nm,22.0s,baz=105,slow=30						
TSUM	**Tsumeb**	**99.49**	**217**	LR	LR	05 13 38.5	
	comp=Z,44nm,18.4s,baz=152,slow=34						
MKAR	**Makanchi Array**	**119.81**	**310**	PKP	**PKPdf**	**04 36 41.6**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=146,slow=1.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**124.32**	**311**	PKP	**PKPdf**	**04 36 49.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=132,slow=2.6,SNR=4.8						
ILAR	**Eielson Array**	**125.98**	**25**	PKP	**PKPdf**	**04 36 53.4**	**-0.3**
	comp=Z,1.3nm,1.1s,baz=240,slow=3.0,SNR=7.9						
TORD	**Torodi Ar. Bea**	**135.04**	**212**	PKP	**PKPdf**	**04 37 11.2**	**-1.2**
	comp=Z,1.2nm,0.9s,baz=164,slow=1.9,SNR=4.5						
TRQ	**Mont Tremblant**	**145.66**	**81**		**PKPdf**	**04 37 30.0**	**-0.7**
ALN	**Alexandroupoli**	**146.15**	**266**	PKPbc	**PKPab**	**04 37 33.7**	**+0.4**
TIRR	**Tirgusor**	**146.94**	**273**	PKPbc	**PKPbc**	**04 37 35.0**	**+0.3**
OBN	**Obninsk**	**147.56**	**295**	PKPbc	**PKPbc**	**04 37 36.9**	**+0.8**
VTS	**Vitosha**	**148.86**	**266**	PKPbc	**PKPbc**	**04 37 40.1**	**-0.1**
MLR	**Muntele Rosu**	**148.97**	**273**	PKPbc	**PKPbc**	**04 37 39.8**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=143,slow=1.9,SNR=8.0						
MLR	**Muntele Rosu**	**148.97**	**273**	PKPbc	**PKPbc**	**04 37 40.8**	**+0.4**
GGN	**Saint George**	**149.53**	**89**	PKPbc	**PKPbc**	**04 37 41.2**	**-0.4**
AKASG	**Malin Array Be**	**149.72**	**284**	PKPbc	**PKPbc**	**04 37 41.5**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=111,slow=1.5,SNR=11						
AKASG	**Malin Array Be**	**149.72**	**284**	PKPbc	**PKPbc**	**04 37 41.2**	**-0.6**
AKBB	**Malin Array Si**	**149.72**	**284**	PKPbc	**PKPbc**	**04 37 41.2**	**-0.6**
FINES	**FINESS Array B**	**154.52**	**305**	PKPbc	**PKPbc**	**04 37 52.1**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=94,slow=4.2,SNR=9.8						

IDC 09 04:30:52.1±4.3, 5°71S×152°28E, h51km±41km, mb3.5/3, mbtmp3.7/3, Error ellipse: s-maj=51.4km s-min=22.7km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.42**	**350**	P	Pn	04 31 15.4	-0.1
	422nm,0.4s,baz=164,slow=1.0,SNR=39						
KRVT				S	Sn	04 31 33.1	0.0
	1μm,0.4s,baz=168,slow=20,SNR=52						
KRVT				LR	LR	04 31 59.3	
	comp=Z,217nm,20.0s,baz=48,slow=48						
WRA	**Warramunga Arr**	**22.46**	**229**	P	P	04 35 45.5	-1.8
	0.7nm,0.7s,baz=52,slow=9.8,SNR=13						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**25.14**	**223**	P	P	04 36 13.8	+1.1
	0.6nm,0.6s,baz=59,slow=8.5,SNR=7.6						
	0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.77**	**242**	P	P	04 36 45.8	+0.4
	2.5nm,0.6s,baz=57,slow=8.8,SNR=8.3						
	2.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.08**	**286**	PKPbc	PKPbc	04 50 37.6	-0.7
	0.3nm,0.5s,baz=83,slow=2.8,SNR=2.7						

*DJA **09** 04:34:12.9±0.3, 6°3S±2°×13°0E±°, h195km±6km, M4.6/13, mb4.5/9, mB5.1/7, MLv4.8/13, Mw(mB)4.4/7*

*NEIC **09** 04:34:13.2±0.9, 6°27S±0°08×130°08E±0°07, h154km±10km, mb4.4/2, Error ellipse: s-maj=12.3km s-min=9.7km az=164.0*

*IDC **09** 04:34:13.8±2.4, 6°29S×130°22E, h126km±23km, mb3.7/4, mbtmp4.4/7, Error ellipse: s-maj=34.0km s-min=18.8km az=79.0*

ISC 09 04:34:13.0±0.6, 6°36S±0°05×130°21E±0°07, h146km, n39, σ2°76/44, mb4.2/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.85**	**351**	P	**Pn**	**04 34 47.7**	**+1.5**
SAUI	**Saumlaki**	**1.94**	**146**	Pn	**Pn**	**04 34 49.8**	**+2.6**
SAUI	**Saumlaki**	**1.94**	**146**	P	**Pn**	**04 34 50.4**	**+3.2**
SAUI				S	**Sn**	**04 35 18.9**	**+5.5**
MSAI	**Masohi**	**3.26**	**337**	P	**Pn**	**04 35 05.8**	**+2.3**
FAKI	**Fak Fak**	**3.98**	**31**	Pn	**Pn**	**04 35 12.8**	**-0.2**
FAKI	**Fak Fak**	**3.98**	**31**	P	**Pn**	**04 35 12.6**	**-0.3**
NLAI	**Namlea**	**4.38**	**315**	P	**Pn**	**04 35 21.8**	**+3.6**
SIJI	**Sorong**	**5.56**	**11**	P	**Pn**	**04 35 33.3**	**-0.5**
	72nm,0.3s,baz=186,slow=19,SNR=28						
SIJI				S	**Sn**	**04 36 30.8**	**-6.2**
	37nm,0.3s,baz=204,slow=18,SNR=2.4						
SWI	**Sorong**	**5.56**	**11**	P	**Pn**	**04 35 33.4**	**-0.5**
SANI	**Sanana**	**6.01**	**315**	P	**Pn**	**04 35 42.9**	**+3.1**
	0.1nm28nm,1.0s						
RKPI	**Ransiki, Papua**	**6.24**	**40**	P	**Pn**	**04 35 42.1**	**-0.8**
	1.7nm8μm92nm,0.5s						
LBMI	**Labuha**	**6.30**	**334**	P	**Pn**	**04 35 45.0**	**+1.3**
	0.5nm1μm101nm,0.9s						
MTN	**Manton Dam**	**6.50**	**172**	Pn	**Pn**	**04 35 47.9**	**+1.5**
SOEI	**Soe**	**6.78**	**240**		**Pn**	**04 35 49.3**	**-0.9**
BATI	**Baumata**	**7.52**	**239**	P	**Pn**	**04 36 01.6**	**+1.6**
	94nm,0.5s,baz=90,slow=11,SNR=11						
BATI				S	**Sn**	**04 37 21.1**	**-2.9**
	33nm,0.4s,baz=54,slow=18,SNR=1.7						
BATI	**Baumata**	**7.52**	**239**	P	**Pn**	**04 36 01.9**	**+1.9**
	0.4nm853nm62nm,0.6s						
EDFI	**Ende, Flores**	**8.77**	**254**	P	**Pn**	**04 36 19.8**	**+2.9**
	6.8nm,1.4s						
KNRA	**Kununurra**	**9.36**	**189**	Pn	**Pn**	**04 36 24.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.49**	**201**	P	**Pn**	**04 37 03.9**	**-1.8**
	20nm,0.5s,baz=34,slow=12,SNR=62						
FITZ				S	Sn	04 39 13.8	-10
	30nm,0.5s,baz=71,slow=16,SNR=9.2						
FITZ	**Fitzroy Crossi**	**12.49**	**201**	Pn	**Pn**	**04 37 06.4**	**+0.6**
PLAI	**Plampang**	**12.56**	**258**	P	**Pn**	**04 37 06.5**	**-0.3**
	24nm,0.8s						
WRAB	**Tennant Creek**	**14.08**	**164**	Pn	**Pn**	**04 37 26.6**	**+0.5**
WRA	**Warramunga Arr**	**14.08**	**164**	P	**Pn**	**04 37 24.5**	**-1.7**
	22nm,0.6s,baz=346,slow=13,SNR=67						
WRA				S	**Sn**	**04 39 54.2**	**-8.0**
	6.8nm,0.4s,baz=344,slow=26,SNR=4.0						
WRA	**Warramunga Arr**	**14.08**	**164**		**Pn**	**04 37 25.7**	**-0.5**
WB2	**Warramunga Arr**	**14.09**	**164**	Pn	**Pn**	**04 37 25.2**	**-1.1**
JAGI	**Jajag, Banyuwa**	**16.06**	**262**	P	**Pn**	**04 37 50.5**	**-0.3**
AS31	**Alice Springs**	**17.57**	**169**		**Pn**	**04 38 09.5**	**+0.5**
AS31				IAmb	IAmb	04 38 14.9	
	comp=Z,10.0nm,0.4s						
ASAR	**Alice Springs**	**17.57**	**169**	P	**Pn**	**04 38 10.9**	**+2.0**
	comp=Z,10nm,0.5s,baz=350,slow=11,SNR=92						
ASAR				S	**S**	**04 41 17.8**	**-5.4**
	comp=Z,3.7nm,0.6s,baz=352,slow=24,SNR=7.3						
ASAR	**Alice Springs**	**17.57**	**169**		**Pn**	**04 38 10.6**	**+1.6**
STKA	**Stephens Creek**	**27.52**	**159**	P	**P**	**04 39 49.3**	**+3.3**
	comp=Z,2.5nm,0.7s,baz=323,slow=10,SNR=3.8						
	comp=Z,2.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.49**	**309**	P	**P**	**04 41 31.8**	**+2.3**
	comp=Z,3.0nm,0.3s,baz=128,slow=7.3,SNR=5.0						
	comp=Z,3.0nm,0.3s						
XAN	**Xi'an**	**44.95**	**335**	P	P	04 41 58.7	-15
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CN2	**Changchun**	**50.12**	**356**	*e*P	**P**	**04 42 56.0**	**+2.8**
CN2				*ep*P	pwP	04 43 30.5	+0.9
CN2				*e*S	**S**	**04 49 54.7**	**+1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
SONM	**Songino Array**	**57.91**	**341**	P	**P**	**04 43 52.4**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=164,slow=5.9,SNR=2.3						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**04 44 57.9**	**+2.7**
	comp=Z,0.6nm,0.5s,baz=126,slow=6.5,SNR=6.7						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**04 44 53.2**	**-2.1**
ABKAR	**Akbulak array**	**82.14**	**321**	P	**P**	**04 46 15.1**	**-2.3**
RAYN	**Ar Rayn**	**87.68**	**294**	P	**P**	**04 46 43.5**	**-2.2**
RAYN				IAmb	IAmb	04 46 49.7	
	comp=Z,3.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**128.89**	**282**	PKP	**PKiKP**	**04 53 07.4**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=81,slow=2.8,SNR=2.0						

*IDC **09** 04:39:32.4±1.3, 0°71S×120°79E, h0km, mb3.9/4, mbtmp3.9/4, MS3.5/13, Error ellipse: s-maj=152.6km s-min=21.5km az=63.0*

*DJA **09** 04:39:33.4±0.3, 1°S±3°×12°0E±°, h10km, M4.5/13, mb4.6/4, mB4.7/2, MLv4.4/13, Mw(mB)3.9/2*

*NEIC **09** 04:39:40.3±2.3, 0°67S±0°07×120°76E±0°04, h63km±10km, mb4.2/8, Error ellipse: s-maj=10.3km s-min=5.2km az=163.0*

ISC 09 04:39:33.6±0.6, 0°86S±0°06×120°38E±0°04, h10km, n46, σ1°27/36, mb4.1/8, MS3.4/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.27**	**92**	P	**Pb**	**04 39 57.9**	**+0.2**
MPSI	**Mapaga**	**1.29**	**338**	P	**Pn**	**04 39 55.8**	**-1.9**
TOLI2	**Tolitoli**	**2.00**	**12**		**Pn**	**04 40 07.5**	**0.0**
MRSI	**Marisa**	**2.05**	**50**	P	**Pn**	**04 40 05.8**	**-2.4**
TTSI	**Tana Toraja**	**2.24**	**194**	P	**Pn**	**04 40 09.8**	**-1.0**
LUWI	**Luwuk**	**2.40**	**94**	Pn	**Pn**	**04 40 13.2**	**+0.2**
LUWI	**Luwuk**	**2.40**	**94**	P	**Pn**	**04 40 13.6**	**+0.6**
GTOI	**Gorontalo**	**3.02**	**61**	P	**Pn**	**04 40 21.2**	**-0.4**
SPSI	**Sidrap Palu**	**3.14**	**191**	P	**Pn**	**04 40 23.5**	**+0.3**
BKB	**Balikpapan**	**3.50**	**264**	Pn	**Pb**	**04 40 37.4**	**+1.6**
BKB	**Balikpapan**	**3.50**	**264**	P	**Pn**	**04 40 26.9**	**-1.3**
KMSI	**Cibinong**	**3.88**	**68**	P	**Pn**	**04 40 33.6**	**+0.3**
BKSI	**Bulukumba**	**4.44**	**183**	P	**Pn**	**04 40 39.5**	**-1.5**

Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}6.87; $M_{\theta\theta}$-1.57; $M_{\phi\phi}$-5.30; $M_{r\theta}$1.98; $M_{\theta\phi}$-1.00; $M_{r\phi}$3.93; Fault plane solution: $M_0$7.60000×10^{14} NP1: ϕ_s190.00000°,δ28.00000°,λ81.00000°. NP2:ϕ_s21.00000°, δ63.00000°,λ95.00000°.

*IDC **09** 04:47:08.6±2.8, 39.57N×141.97E, h87km±26km, mb3.4/12, mbtmp3.8/15 Error ellipse: s-maj=21.5km s-min=16.9km az=98.0*

ISC 09 04:47:04.7±1.0, 39°63N±0°04×142°17E±0°08, h48km±8km, n35, σ0§98/40, mb3.7/12, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.27**	**258**	⇓*i*P		**Pn**	**04 47 13.2**	**-0.2**
MIYJ				⇓S		**Sn**	**04 47 19.0**	**-0.6**
JTH	**Tanohata**	**0.38**	**323**	⇓*i*P		**Pn**	**04 47 14.3**	**-0.2**
JTH				⇓S		**Sn**	**04 47 20.8**	**-0.7**
JKEN	**Kujiedanarisaw**	**0.67**	**329**	⇓*i*P		**Pn**	**04 47 17.6**	**-0.4**
JKEN				⇓S		**Sn**	**04 47 26.8**	**-0.8**
OFUJ	**Ofunato**	**0.67**	**215**	*i*P		**Pn**	**04 47 17.6**	**-0.4**
OFUJ				S		**Sn**	**04 47 26.6**	**-1.0**
JOM	**Ohasama**	**0.69**	**257**	⇓*i*P		**Pn**	**04 47 18.0**	**-0.3**
JOM				⇓S		**Sn**	**04 47 27.5**	**-0.6**
JKZ	**Kuzumaki**	**0.73**	**299**	⇓*i*P		**Pn**	**04 47 18.6**	**-0.3**
JKZ				⇓S		**Sn**	**04 47 28.1**	**-1.0**
JANG	**Nango**	**0.89**	**326**	⇓*i*P		**Pn**	**04 47 20.4**	**-0.5**
JANG				⇓S		**Sn**	**04 47 32.3**	**-0.5**
JKMT	**Kesennumamotoy**	**0.98**	**213**	⇓*i*P		**Pn**	**04 47 21.9**	**-0.2**
JKMT				⇓S		**Sn**	**04 47 34.0**	**-0.9**
JMK	**Ichinoseki**	**1.00**	**227**	*i*P		**Pn**	**04 47 22.1**	**-0.2**
JMK				S		**Sn**	**04 47 34.4**	**-0.9**
JRG	**Rokugo**	**1.21**	**259**	P		**Pn**	**04 47 24.8**	**-0.3**
JRG				eS		**Sn**	**04 47 40.5**	**+0.1**
JAH	**Hinai**	**1.30**	**296**	⇓*i*P		**Pn**	**04 47 26.3**	**-0.2**
JIO	**Ouri**	**1.34**	**209**	P		**Pn**	**04 47 26.9**	**0.0**
JIO				eS		**Sn**	**04 47 43.3**	**-0.2**
JTM	**Tenmabayashi**	**1.43**	**324**	P		**Pn**	**04 47 28.0**	**-0.1**
MJAR	**Matsushiro Arr**	**4.39**	**227**	P		**Pn**	**04 48 09.6**	**+0.8**
	8.9nm,0.6s,baz=34,slow=13,SNR=18							
USRK	**Ussuriysk Ar.**	**8.85**	**304**	P		**Pn**	**04 49 12.1**	**+2.2**
	3.1nm,0.6s,baz=112,slow=15,SNR=2.1							
KSRS	**Korea Array**	**11.37**	**263**	P		**Pn**	**04 49 47.9**	**+3.6**
	1.2nm,0.3s,baz=68,slow=14,SNR=4.5							
SEY	**Seymchan**	**24.13**	**11**	P		**P**	**04 52 16.6**	**+0.9**
	2.9nm,0.8s,baz=199,slow=9.8,SNR=6.5 2.9nm,0.8s							
SONM	**Songino Array**	**26.92**	**300**	P		**P**	**04 52 40.8**	**-0.6**
	0.5nm,0.5s,baz=101,slow=6.2,SNR=2.4 0.5nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**29.08**	**126**	T		T	05 23 33.5	
	baz=318,slow=76,SNR=488							
H11N1	**WAKE ISLAND Hy**	**29.09**	**126**	T		T	05 23 34.2	
	baz=318,slow=76,SNR=396							
H11N3	**WAKE ISLAND Hy**	**29.10**	**126**	T		T	05 23 34.9	
	baz=318,slow=76,SNR=421							
H11S1	**WAKE ISLAND Hy**	**29.88**	**128**	T		T	05 24 45.2	
	baz=320,slow=76,SNR=70							
H11S3	**WAKE ISLAND Hy**	**29.88**	**128**	T		T	05 24 38.6	
	baz=320,slow=76,SNR=58							
H11S2	**WAKE ISLAND Hy**	**29.89**	**128**	T		T	05 24 44.7	
	baz=320,slow=76,SNR=58							
ZALV	**Zalesovo Beam**	**40.65**	**310**	P		**P**	**04 54 39.5**	**-0.4**
	1.5nm,0.4s,baz=94,slow=7.2,SNR=5.6 1.5nm,0.4s							
MKAR	**Makanchi Array**	**43.29**	**300**	P		**P**	**04 55 00.2**	**-1.3**
	1.2nm,0.6s,baz=84,slow=9.9,SNR=10 1.2nm,0.6s							
KDAK	**Kodiak Island**	**44.79**	**44**	P		**P**	**04 55 14.1**	**+0.8**
	0.6nm,0.3s,baz=300,slow=15,SNR=5.2 0.6nm,0.3s							
ILAR	**Eielson Array**	**46.99**	**34**	P		**P**	**04 55 31.6**	**+1.0**
	0.5nm,0.8s,baz=262,slow=6.2,SNR=6.4 0.5nm,0.8s							
WRA	**Warramunga Arr**	**59.71**	**189**	P		**P**	**04 57 03.3**	**-1.1**
	0.6nm,0.8s,baz=7.0,slow=7.1,SNR=9.0 0.6nm,0.8s							
ASAR	**Alice Springs**	**63.44**	**188**	P		**P**	**04 57 29.0**	**-0.5**
	0.4nm,0.7s,baz=5.2,slow=5.1,SNR=2.7 0.4nm,0.7s							
FINES	**FINESS Array B**	**66.80**	**332**	P		**P**	**04 57 49.9**	**-0.9**
	1.6nm,0.6s,baz=44,slow=9.3,SNR=6.2 1.6nm,0.6s							
NB2	**NORSAR Subarra**	**72.02**	**337**	P		**P**	**04 58 22.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=36,slow=6.5							
NOA	**NORSAR Array B**	**72.02**	**337**	P		**P**	**04 58 22.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=29,slow=8.1,SNR=4.0 comp=Z,0.6nm,0.6s							
AKASG	**Malin Array Be**	**72.61**	**322**	P		**P**	**04 58 25.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=45,slow=6.5,SNR=6.0 comp=Z,0.4nm,0.4s							
PDAR	**Pinedale Array**	**75.43**	**46**	P		**P**	**04 58 44.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=316,slow=2.5,SNR=2.7 comp=Z,0.2nm,0.6s							

*NEIC **09** 05:00:19.9±1.4, 6°46S±0°06×147°90E±0°08, h62km±9km, mb4.2/14, Error ellipse: s-maj=12.7km s-min=7.3km az=70.0*

*IDC **09** 05:00:19.4±2.2, 6°35S×147°76E, h71km±20km, mb3.8/6, mbtmp4.1/10, MS3.5/18, Error ellipse: s-maj=32.3km s-min=12.7km az=118.0*

ISC 09 05:00:17.8±0.7, 6°37S±0°07×147°77E±0°08, h51km, n57, σ1§40/49, mb4.1/11, MS3.4/13, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.08**	**191**	P		**Pn**	**05 01 05.3**	**+1.2**
	78nm,0.5s,baz=24,slow=6.9,SNR=20							
PMG				S		**Sn**	**05 01 42.4**	**+2.8**
	252nm,0.6s,baz=9.1,slow=18,SNR=7.4							
PMG				LR		LR	05 02 49.4	
	comp=Z,478nm,20.2s,baz=15,slow=48							
PMG	**Port Moresby**	**3.08**	**191**	Pn		**Pn**	**05 01 04.7**	**+0.7**
PMG	**Port Moresby**	**3.08**	**191**	P		**Pn**	**05 01 05.8**	**+1.8**
PMG	**Port Moresby**	**3.08**	**191**	P		**Pn**	**05 01 05.5**	**+1.5**
MANU	**Manus Island**	**4.32**	**355**	Pn		**Pn**	**05 01 23.8**	**+2.7**
KRVT	**Keravat (AS076**	**4.71**	**64**	P		**Pn**	**05 01 27.4**	**+1.0**
	44nm,0.5s,baz=202,slow=4.2,SNR=2.9							
KRVT				S		Sn	05 02 30.7	+11
	66nm,0.7s,baz=164,slow=24,SNR=5.8							
KRVT				LR		LR	05 03 16.0	
	comp=Z,427nm,19.0s,baz=31,slow=38							
RABL	**Rabaul**	**4.88**	**64**			**Pn**	**05 01 29.5**	**+0.7**
COEN	**Coen**	**8.79**	**211**			**Pn**	**05 02 24.1**	**+1.6**
COEN	**Coen**	**8.79**	**211**	P		**Pn**	**05 02 22.1**	**-0.3**
HNR	**Honiara**	**12.44**	**105**	LR		LR	05 07 31.4	
	comp=Z,1μm,18.6s,baz=7.0,slow=35							
CTA	**Charters Tower**	**13.72**	**186**	P		**Pn**	**05 03 31.6**	**+1.8**
	1.1nm,0.3s,baz=8.3,slow=17,SNR=1.3							
CTA				LR		LR	05 08 18.5	
	comp=Z,144nm,19.4s,baz=12,slow=35							
QIS	**Mount Isa**	**16.18**	**209**	P		**P**	**05 04 03.8**	**-0.5**
KDU	**Kakadu**	**16.34**	**246**	P		**Pn**	**05 04 05.3**	**+1.4**
WB0	**Warramunga Arr**	**18.61**	**223**	P		**P**	**05 04 31.3**	**+0.1**
WB0					IAmb	IAmb	05 04 43.3	
	comp=Z,6.8nm,0.8s							
WRAB	**Tennant Creek**	**18.76**	**223**	P		**P**	**05 04 32.7**	**-0.1**
WRA	**Warramunga Arr**	**18.77**	**223**	P		**P**	**05 04 32.8**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=52,slow=11,SNR=38							
WRA				S		**Sn**	**05 07 58.2**	**-5.0**
	comp=Z,0.6nm,0.8s,baz=50,slow=22,SNR=2.8							
WRA				LR		LR	05 12 42.4	
	comp=Z,116nm,19.8s,baz=72,slow=40							
WRA	**Warramunga Arr**	**18.77**	**223**	P		**P**	**05 04 32.6**	**-0.3**
EIDS	**Eidsvold**	**19.16**	**171**	P		**P**	**05 04 37.4**	**+0.3**
EIDS					IAmb	IAmb	05 05 06.0	
	comp=Z,23nm,1.3s							
KNRA	**Kununurra**	**20.81**	**242**	P		**P**	**05 04 54.7**	**-0.4**
KNRA					IAmb	IAmb	05 05 21.8	
	comp=Z,33nm,1.4s							
KNRA	**Kununurra**	**20.81**	**242**	P		**P**	**05 04 55.3**	**+0.2**
AS31	**Alice Springs**	**21.76**	**216**	P		**P**	**05 05 05.9**	**+0.5**
AS31					IAmb	IAmb	05 05 26.5	
	comp=Z,3.1nm,0.8s							
ASAR	**Alice Springs**	**21.76**	**216**	P		**P**	**05 05 05.8**	**+0.4**
	comp=Z,7.5nm,0.7s,baz=53,slow=9.2,SNR=70							
ASAR				S		**S**	**05 09 01.9**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=32,slow=22,SNR=5.6							
ASAR				LR		LR	05 14 13.0	
	comp=Z,104nm,21.6s,baz=91,slow=38 comp=Z,7.5nm,0.7s							
ASAR	**Alice Springs**	**21.76**	**216**	P		**P**	**05 05 05.5**	**+0.1**
INKA	**Innaminka**	**22.28**	**197**	P		**P**	**05 05 12.8**	**+2.0**
DZM	**Mont Dzumac**	**23.85**	**133**	P		**P**	**05 05 25.7**	**-1.1**
BATI	**Baumata**	**24.15**	**259**	LR		LR	05 18 02.3	
	comp=Z,308nm,18.3s,baz=216,slow=44							
ARMA	**Armidale**	**24.20**	**172**	P		**P**	**05 05 29.9**	**0.0**
ARMA					IAmb	IAmb	05 05 32.8	
	comp=Z,12nm,1.1s							
OOD	**Oodnadatta**	**24.20**	**207**	P		**P**	**05 05 32.1**	**+2.4**
	comp=Z,22nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.53**	**240**	P		**P**	**05 05 33.1**	**+0.2**
	comp=Z,14nm,0.6s,baz=54,slow=10,SNR=54							
FITZ				LR		LR	05 16 47.9	
	comp=Z,111nm,20.8s,baz=74,slow=40 comp=Z,14nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.53**	**240**	P		**P**	**05 05 33.5**	**+0.6**
FITZ					IAmb	IAmb	05 05 36.5	
	comp=Z,14nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.53**	**240**	P		**P**	**05 05 33.9**	**+1.0**
LCRK	**Leigh Creek**	**25.58**	**199**	P		**P**	**05 05 42.8**	**+0.5**
STKA	**Stephens Creek**	**26.03**	**192**	P		**P**	**05 05 46.8**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=20,slow=8.2,SNR=7.1							
STKA				LR		LR	05 15 45.6	
	comp=Z,110nm,18.5s,baz=27,slow=36 comp=Z,1.8nm,0.3s							
STKA	**Stephens Creek**	**26.03**	**192**	P		**P**	**05 05 47.2**	**+0.9**
WRKA	**Warakurna**	**26.31**	**223**	P		**P**	**05 05 49.1**	**+0.1**
MULG	**Mulgathing**	**27.06**	**207**	P		**P**	**05 05 55.7**	**+0.1**
BBOO	**Buckleboo**	**28.48**	**201**	P		**P**	**05 06 08.3**	**0.0**
FORT	**Forrest**	**30.53**	**215**	P		**P**	**05 06 27.0**	**+0.5**
FORT	**Forrest**	**30.53**	**215**	P		**P**	**05 06 27.7**	**+1.2**
MBWA	**Marble Bar**	**30.87**	**239**	P		**P**	**05 06 28.1**	**-1.5**
JOW	**Kunigami**	**38.03**	**331**	LR		LR	05 23 37.7	
	comp=Z,23nm,18.4s,baz=148,slow=37							
URZ	**Urewera**	**41.41**	**144**	LR		LR	05 24 04.4	
	comp=Z,85nm,18.2s,baz=106,slow=34							
RPZ	**Rata Peaks**	**42.45**	**155**	LR		LR	05 22 59.5	
	comp=Z,119nm,20.9s,baz=302,slow=32							
MJAR	**Matsushiro Arr**	**43.62**	**349**	LR		LR	05 24 24.6	
	comp=Z,30nm,21.7s,baz=164,slow=33							
KSRS	**Korea Array**	**47.37**	**338**	LR		LR	05 26 32.8	
	comp=Z,19nm,21.5s,baz=185,slow=33							
SONM	**Songino Array**	**65.10**	**331**	P		**P**	**05 10 52.4**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=134,slow=6.2,SNR=1.9 comp=Z,0.4nm,0.6s							
MA2	**Magadan**	**65.78**	**2**	LR		LR	05 36 21.8	
	comp=Z,11nm,22.0s,baz=180,slow=33							
VNDA	**Vanda**	**71.50**	**177**	P		**P**	**05 11 32.3**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=338,slow=6.3,SNR=5.2 comp=Z,1.1nm,0.9s							
VNDA	**Vanda**	**71.50**	**177**	P		**P**	**05 11 32.1**	**-0.7**
MAW	**Mawson**	**82.20**	**203**	P		**P**	**05 12 34.3**	**+1.1**
MAW					IAmb	IAmb	05 12 45.3	
	comp=Z,1.3nm,1.1s							
QSPA	**South Pole Qui**	**83.60**	**180**	P		**P**	**05 12 40.0**	**-0.7**
QSPA					IAmb	IAmb	05 12 55.0	
	comp=Z,5.4nm,1.2s							
ILAR	**Eielson Array**	**85.52**	**23**	P		**P**	**05 12 47.3**	**-2.8**
	comp=Z,0.5nm,0.8s,baz=260,slow=5.6,SNR=4.1 comp=Z,0.5nm,0.8s							
INK	**Inuvik**	**91.71**	**21**	LR		LR	05 59 16.5	
	comp=Z,19nm,18.9s,baz=168,slow=39							
PFO	**Pinyon Flats O**	**98.28**	**57**	LR		LR	05 54 27.1	
	comp=Z,39nm,18.2s,baz=260,slow=33							
KIRV	**Kirov**	**99.76**	**328**	LR		LR	05 59 41.4	
	comp=Z,23nm,21.4s,baz=8.9,slow=36							
TORD	**Torodi Ar. Bea**	**145.92**	**284**	PKPbc		**PKPdf**	**05 19 52.1**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=64,slow=3.3,SNR=12							
BDFB	**Brasilia**	**153.12**	**145**	PKPbc		**PKPbc**	**05 20 11.2**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=185,slow=3.9,SNR=4.7							

*IDC **09** 05:03:06.2±0.8, 54°50N×168°79E, h0km, mb3.5/9, mbtmp3.6/11, ML3.3/2, MS3.8/1, Error ellipse: s-maj=33.4km s-min=16.9km az=166.0*

*KRSC **09** 05:03:08.6±1.9, 54°26N×168°10E, h17km±40km, ML4.1*

ISC 09 05:03:08.9±0.7, 54°4N±0°1×168°65E±0°06, h24km, n38, σ1§97/43, mb3.6/9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.77**	**300**	*e*P		**Pn**	**05 03 35.1**	**-2.9**
BKI				eS		**Sn**	**05 03 56.3**	**-3.4**
SHEM	**Shemya Is, Ala**	**3.63**	**114**	Pn		**Pn**	**05 04 03.3**	**-0.3**
	6.4nm,0.3s,baz=307,slow=15,SNR=2.5							
SHEM				Sn		**Sn**	**05 04 41.7**	**-4.0**
	3.2nm,0.3s,baz=110,slow=18,SNR=1.8 32nm,0.5s							
KBTR	**Krutoberegovo**	**3.82**	**302**	*e*P		**Pn**	**05 04 05.5**	**-0.6**
MKZ	**Mys Kozlova**	**4.04**	**276**	*e*P		**Pn**	**05 04 08.7**	**-0.5**
MKZ				eS		**Sn**	**05 04 52.8**	**-3.0**
TUMR	**Tumrok**	**5.01**	**284**	*e*P		**Pn**	**05 04 24.7**	**+2.1**
TUMR				eS		**Sn**	**05 05 18.1**	**-1.6**
SPN	**Mys Shipunski**	**5.28**	**260**	*e*P		**Pn**	**05 04 24.7**	**-1.4**
SPN				eS		**Sn**	**05 05 22.5**	**-3.6**
NLC	**Nalytchevo**	**5.65**	**262**	eS		**Sn**	**05 05 33.0**	**-2.2**
SDLR	**Sedlovina**	**5.89**	**263**	*e*P		**Pn**	**05 04 35.3**	**+0.7**
SMAR	**Somma**	**5.94**	**263**	*e*P		**Pn**	**05 04 36.8**	**+1.4**
UGLR	**Uglovaya**	**5.94**	**263**	*e*P		**Pn**	**05 04 35.6**	**+0.2**
KRER	**Koryakskii**	**5.96**	**264**	*e*P		**Pn**	**05 04 36.1**	**+0.4**
KRER				eS		**Sn**	**05 05 42.4**	**-0.8**
AVH	**Avacha**	**5.97**	**264**	*e*P		**Pn**	**05 04 36.6**	**+0.8**
KRX	**Arik**	**6.00**	**265**	*e*P		**Pn**	**05 04 36.8**	**+0.5**
KRX				eS		**Sn**	**05 05 42.2**	**-2.1**
KOK	**Koryaka**	**6.03**	**264**	*e*P		**Pn**	**05 04 36.6**	**0.0**
GNL	**Ganaly**	**6.35**	**268**	*e*P		**Pn**	**05 04 41.9**	**+0.9**
RUS	**Russkaya**	**6.36**	**257**	*e*P		**Pn**	**05 04 42.5**	**+1.5**
RUS				eS		**Sn**	**05 05 49.9**	**-3.0**
KRMR	**Karymshinskiy**	**6.45**	**261**	eS		**Sn**	**05 05 53.0**	**-2.0**
MTVR	**Mutnovka**	**6.53**	**258**	*e*P		**Pn**	**05 04 44.1**	**+0.6**
MTVR				eS		**Sn**	**05 05 54.4**	**-2.9**
GRL	**Gorelyy**	**6.57**	**258**	*e*P		**Pn**	**05 04 45.6**	**+1.5**
GRL				eS		**Sn**	**05 05 56.5**	**-1.7**
PETK	**Petropavlovsk-**	**6.62**	**264**	Pn		**Pn**	**05 04 45.4**	**+0.8**
	1.0nm,0.3s,baz=82,slow=19,SNR=6.2							
PETK				Sn		**Sn**	**05 05 59.6**	**+0.4**
	0.8nm,0.3s,baz=54,slow=44,SNR=2.9 1.3nm,0.4s							
ASAK	**Asacha**	**6.73**	**257**	*e*P		**Pn**	**05 04 46.6**	**+0.4**
ASAK				eS		**Sn**	**05 05 59.5**	**-2.6**
KDTR	**Khodutka, Kamc**	**6.86**	**253**	eS		**Sn**	**05 06 00.6**	**-4.5**
KDAK	**Kodiak Island**	**21.70**	**65**	P		**P**	**05 07 56.9**	**-0.9**
	3.5nm,0.7s,baz=286,slow=6.4,SNR=6.8 3.5nm,0.7s							
ILAR	**Eielson Array**	**24.27**	**47**	P		**P**	**05 08 22.9**	**-1.0**
	1.2nm,0.8s,baz=253,slow=7.4,SNR=12 1.2nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**34.59**	**183**	T		T	05 46 32.3	
	baz=1.4,slow=76,SNR=253							
H11N3	**WAKE ISLAND Hy**	**34.60**	**183**	T		T	05 46 35.9	
	baz=1.4,slow=76,SNR=185							
H11N1	**WAKE ISLAND Hy**	**34.60**	**183**	T		T	05 46 36.3	
	baz=1.4,slow=76,SNR=210							
H11S1	**WAKE ISLAND Hy**	**35.81**	**183**	T		T	05 48 07.7	
	baz=1.6,slow=76,SNR=60							
H11S3	**WAKE ISLAND Hy**	**35.82**	**183**	T		T	05 48 08.8	
	baz=1.6,slow=76,SNR=59							
H11S2	**WAKE ISLAND Hy**	**35.83**	**183**	T		T	05 48 08.1	
	baz=1.6,slow=76,SNR=144							
SONM	**Songino Array**	**38.49**	**287**	P		**P**	**05 10 30.3**	**+1.3**
	0.4nm,0.5s,baz=72,slow=9.3,SNR=1.8 0.4nm,0.5s							
NVAR	**Mina Array Bea**	**50.51**	**77**	P		**P**	**05 12 05.6**	**+0.5**
	0.2nm,0.3s,baz=302,slow=8.4,SNR=2.9 0.2nm,0.3s							
MKAR	**Makanchi Array**	**52.08**	**300**	P		**P**	**05 12 17.6**	**+1.1**
	0.5nm,0.8s,baz=38,slow=7.9,SNR=3.6 0.5nm,0.8s							
PDAR	**Pinedale Array**	**52.41**	**67**	P		**P**	**05 12 18.4**	**-0.9**
	0.1nm,0.3s,baz=316,slow=7.5,SNR=1.8 0.1nm,0.3s							
FRB	**Frobisher Bay**	**54.19**	**27**	LR		LR	05 38 31.1	
	comp=Z,79nm,18.6s,baz=124,slow=39							
TXAR	**Lajitas Array**	**65.43**	**74**	P		**P**	**05 13 50.6**	**+0.9**
	0.3nm,0.5s,baz=294,slow=4.7,SNR=7.2 0.3nm,0.5s							
WRA	**Warramunga Arr**	**79.63**	**213**	P		**P**	**05 15 15.5**	**+1.5**
	0.9nm,1.0s,baz=24,slow=6.3,SNR=5.2 0.9nm,1.0s							
ASAR	**Alice Springs**	**83.26**	**212**	P		**P**	**05 15 35.9**	**+2.7**
	0.6nm,0.8s,baz=15,slow=6.5,SNR=5.0 0.6nm,0.8s							

*NOU **09** 05:42:41.7, 37°24S×179°88W, h0km, mb4.6/5, East of North Island, N.Z.*

*WEL **09** 05:42:54.8±1.1, 37°S±4°×17°9E±°, h18km±5km, M3.3/19, ML3.6/24, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=93.7*

ISC 09 05:42:52.3±2.5, 37°32S±0°07×179°1E±0°1, h16km±10km, n36, σ1§09/45, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.67**	**249**	P		**Pg**	**05 43 05.5**	**0.0**
MXZ				S		**Sg**	**05 43 12.4**	**-2.1**
WMGZ	**Waiomatatini S**	**0.73**	**227**	P		**Pn**	**05 43 08.8**	**+0.8**
WMGZ				S		**Sg**	**05 43 18.7**	**+2.3**
PKGZ	**Pakihiroa**	**0.99**	**235**	P		**Pg**	**05 43 11.9**	**+0.4**
PKGZ				S		**Sb**	**05 43 23.5**	**-0.3**
PUZ	**Puketiti**	**1.00**	**221**	P		**Pg**	**05 43 12.6**	**+0.9**
PUZ				S		**Sb**	**05 43 24.9**	**+0.7**
HAZ	**Te Kaha**	**1.13**	**247**	P		**Pn**	**05 43 12.9**	**-0.4**
HAZ				S		**Sb**	**05 43 27.3**	**-0.5**
TWGZ	**Tauwhareparae**	**1.23**	**226**	P		**Pg**	**05 43 16.0**	**0.0**
TWGZ				S		**Sn**	**05 43 31.4**	**+0.3**
RUGZ	**Raukumara Rang**	**1.29**	**240**	P		**Pg**	**05 43 17.0**	**-0.3**
CNGZ	**Carnagh Statio**	**1.36**	**211**	P		**Pg**	**05 43 18.6**	**+0.1**
CNGZ				S		**Sb**	**05 43 36.2**	**+1.8**
TKGZ	**Te Karaka**	**1.49**	**221**	P		**Pb**	**05 43 19.2**	**-0.3**
MWZ	**Matawai**	**1.60**	**230**	P		**Pb**	**05 43 20.8**	**-0.7**
RIGZ	**Rimuhau**	**1.74**	**217**	P		**Pb**	**05 43 22.5**	**-1.3**
URZ	**Urewera**	**1.83**	**239**	P		**Pn**	**05 43 24.2**	**+1.2**
URZ				S		**Sn**	**05 43 44.9**	**-0.9**
URZ	**Urewera**	**1.83**	**239**	P		**Pb**	**05 43 24.3**	**-1.0**
PRGZ	**Paritu Road**	**1.86**	**210**	P		**Pb**	**05 43 24.5**	**-1.5**
OPRZ	**Ohinepanea**	**2.08**	**255**	P		**Pn**	**05 43 27.0**	**+0.5**
MTHZ	**Maungataniwha**	**2.34**	**229**	P		**Pn**	**05 43 31.3**	**+1.2**
MTHZ				S		**Sn**	**05 43 58.7**	**0.0**
NMHZ	**Naumai**	**2.53**	**225**	P		**Pn**	**05 43 33.9**	**+1.2**
BKZ	**Black Stump Fm**	**2.75**	**227**	P		**Pn**	**05 43 36.4**	**+0.6**
BKZ	**Black Stump Fm**	**2.75**	**227**	P		**Pn**	**05 43 36.5**	**+0.7**
KUZ	**Kuaotunu**	**2.76**	**281**	P		**Pn**	**05 43 34.8**	**-1.0**
MCHZ	**McNeill Hill**	**2.84**	**221**	P		**Pn**	**05 43 37.3**	**+0.4**
TOZ	**Tahuroa Road**	**2.88**	**261**	P		**Pn**	**05 43 38.5**	**+1.0**
KWHZ	**Kaweka Forest**	**2.97**	**224**	P		**Pn**	**05 43 38.7**	**0.0**
GRZ	**Great Barrier**	**3.11**	**289**	P		**Pn**	**05 43 41.4**	**+0.8**
MKAZ	**Moumakai**	**3.15**	**273**	P		**Pn**	**05 43 40.8**	**-0.4**
WIAZ	**Waiheke Island**	**3.21**	**278**	P		**Pn**	**05 43 42.6**	**+0.6**
BHHZ	**Black Hill Sta**	**3.22**	**227**	P		**Pn**	**05 43 42.3**	**+0.1**
MOVZ	**Moawhango**	**3.35**	**231**	P		**Pn**	**05 43 44.4**	**+0.4**
PNHZ	**Pukenui**	**3.44**	**220**	P		**Pn**	**05 43 44.0**	**-1.2**
PKVZ	**Pokaka**	**3.54**	**235**	P		**Pn**	**05 43 47.5**	**+0.9**
HIZ	**Hauiti**	**3.56**	**249**	P		**Pn**	**05 43 49.7**	**+2.9**
TSZ	**Takapari Road**	**3.67**	**221**	P		**Pn**	**05 43 47.1**	**-1.3**
BFZ	**Birch Farm**	**4.02**	**213**	P		**Pn**	**05 43 52.2**	**-1.0**
WCZ	**Waipu Caves**	**4.06**	**288**	P		**Pn**	**05 43 54.3**	**+0.6**
OUZ	**Omahuta**	**4.91**	**294**	P		**Pn**	**05 44 07.1**	**+1.7**
OUZ	**Omahuta**	**4.91**	**294**	P		**Pn**	**05 44 06.7**	**+1.3**

IDC 09 05:43:56.9±1.7, 18°55S×65°40E, h0km, mb3.8/3, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=59.8km s-min=35.1km az=27.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.27**	**267**	P		**Pn**	**05 47 59.8**	**0.0**
	0.1nm,0.3s,baz=89,slow=18,SNR=2.3 2.3nm,0.6s							
H01W2	**Cape Leeuwin H**	**46.02**	**121**	T		T	06 42 03.1	
	baz=278,slow=75,SNR=90							
H01W3	**Cape Leeuwin H**	**46.02**	**121**	T		T	06 42 05.2	
	baz=278,slow=75,SNR=93							
H01W1	**Cape Leeuwin H**	**46.03**	**

PB12				IAML		05 54 13.0	
	comp=E,149nm,0.7s						
PB16	**IPOC Station P**	**3.39**	**143**	Pn	**Pn**	**05 53 23.2**	**-0.1**
PB16	**IPOC Station P**	**3.39**	**143** ⇑	*i*P	**Pb**	**05 53 29.6**	**-0.8**
LPAZ	**La Paz**	**3.46**	**102**		**Pn**	**05 53 24.5**	**+0.3**
GO01	**Chusmiza**	**4.66**	**150**	Pn	**Pn**	**05 53 41.8**	**+1.1**
TA02	**Huaiquique**	**4.85**	**163**	Pn	**Pn**	**05 53 40.9**	**-1.9**
PB07	**IPOC Station P**	**6.30**	**165**	Pn	**Pn**	**05 54 02.0**	**-0.9**
PB06	**IPOC Station P**	**7.32**	**165**	Pn	**Pn**	**05 54 18.4**	**+1.5**
LVC	**Limon Verde**	**7.42**	**160**	Pn	**Pn**	**05 54 20.4**	**+1.9**
PB15	**IPOC Station P**	**7.82**	**165**	Pn	**Pn**	**05 54 24.4**	**+0.5**
TX31	**Lajitas Ar. Si**	**54.34**	**325**	P	**P**	**06 01 56.7**	**-0.1**
TX31				IAmb	IAmb	06 02 16.2	
	comp=Z,4.0nm,1.3s						
TX32	**Lajitas Array**	**54.34**	**325**	P	**P**	**06 01 56.9**	**0.0**
TX32				IAmb	IAmb	06 02 16.2	
	comp=Z,1.5nm,1.4s						

*MOS **09** 05:59:57.3±0.0,42˚.88N×46˚.78E,h10km,MPVA3.9*
*DRS **09** 05:59:58.1±0.0,42˚.87N×46˚.70E,h12km*
*NORS **09** 05:59:59.0±0.0,42˚.85N×46˚.62E,h4km,MPVA4.1*

ISC 09 05:59:58.6±0.7,**42˚92N**±0˚.02×**46˚80E**±0˚.02,**h13**km±4km,
n87,σ1°09/151,**12C-4D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.10**	**13**	*i* PG	**Pg**	**06 00 01.9**	**+0.2**
DBC				*e*S	**Sg**	**06 00 04.8**	**+0.9**
DBC	**Dubki**	**0.10**	**13**	*i* Pg	**Pg**	**06 00 01.9**	**+0.2**
DBC				*e*Sg	**Sg**	**06 00 04.8**	**+0.9**
KRNR	**Karanay**	**0.12**	**140**	*i* PG	**Pg**	**06 00 01.5**	**-0.5**
KRNR	**Karanay**	**0.12**	**140**	*i* Pg	**Pg**	**06 00 01.5**	**-0.5**
KRNR				*e*Sg	**Sg**	**06 00 03.9**	**-0.5**
DLMR	**Dylym**	**0.19**	**320**	*e*PG	**Pb**	**06 00 02.8**	**-1.2**
DLMR				*i* S	**Sb**	**06 00 07.1**	**-0.5**
DLMR				pmax	pmax		
	comp=Z,2μm,0.3s						
DLMR				smax	smax		
	comp=E,11μm,0.3s						
DLMR	**Dylym**	**0.19**	**320**	*e*Pg	**Pb**	**06 00 02.9**	**-1.2**
DLMR				*e*Sg	**Sb**	**06 00 07.6**	**0.0**
UNCR	**Uncukul**	**0.21**	**181** ⇑	*i*PG	**Pg**	**06 00 02.0**	**-1.2**
UNCR				S	**Sg**	**06 00 05.3**	**-1.0**
UNCR				pmax	pmax		
	comp=Z,1μm,0.2s						
UNCR				smax	smax		
	comp=N,4μm,0.2s						
UNCR	**Uncukul**	**0.21**	**181**	*i* Pg	**Pg**	**06 00 02.1**	**-1.2**
UNCR				*e*Sg	**Sg**	**06 00 04.8**	**-1.5**
BUJR	**Buynaksk**	**0.25**	**113**	*e*PG	**Pb**	**06 00 04.3**	**-0.6**
BUJR				eS	**Sb**	**06 00 08.6**	**-0.6**
BUJR	**Buynaksk**	**0.25**	**113**	*e*Pg	**Pb**	**06 00 04.3**	**-0.6**
BUJR				*e*Sg	**Sb**	**06 00 08.6**	**-0.6**
ARKR	**Arakani**	**0.35**	**156** ⇑	*i*PG	**Pg**	**06 00 05.2**	**-0.4**
ARKR				S	**Sg**	**06 00 10.4**	**0.0**
ARKR				pmax	pmax		
	comp=Z,149nm,0.2s						
ARKR				smax	smax		
	comp=E,778nm,0.3s						
ARKR	**Arakani**	**0.35**	**156**	*i* Pg	**Pg**	**06 00 05.3**	**-0.4**
ARKR				*e*Sg	**Sg**	**06 00 11.2**	**+0.7**
XNZR	**Khunzakh**	**0.39**	**190**	*e*PG	**Pg**	**06 00 05.2**	**-1.2**
XNZR				eS	**Sg**	**06 00 10.8**	**-0.8**
XNZR	**Khunzakh**	**0.39**	**190**	*e*Pg	**Pg**	**06 00 05.2**	**-1.2**
XNZR				*e*Sg	**Sg**	**06 00 10.8**	**-0.8**
DVE	**Vedeno**	**0.50**	**274**	*e*PG	**Pg**	**06 00 06.8**	**-1.6**
DVE				*e*S	**Sg**	**06 00 14.4**	**-0.6**
DVE	**Vedeno**	**0.50**	**274**	*e*Pg	**Pg**	**06 00 06.8**	**-1.6**
DVE				*e*Sg	**Sg**	**06 00 14.4**	**-0.6**
MAK	**Makhachkala**	**0.52**	**85**	*e*PG	**Pn**	**06 00 10.5**	**-1.2**
MAK				*e*		06 00 18.5	
MAK				pmax	pmax		
	comp=Z,120nm,0.3s						
MAK				smax	smax		
	comp=E,2μm,0.4s						
MAK				smax	smax		
	comp=E,1μm,0.4s						
MAK	**Makhachkala**	**0.52**	**85**	*e*Pg	**Pn**	**06 00 11.9**	**+0.3**
MAK				*i* Sg	**Sn**	**06 00 20.7**	**+0.4**
GNBR	**Gunib**	**0.55**	**167**	*e*PG	**Pg**	**06 00 09.1**	**-0.2**
GNBR				*i* S	**Sb**	**06 00 17.7**	**-0.1**
GNBR				pmax	pmax		
	comp=Z,147nm,0.6s						
GNBR				smax	smax		
	comp=N,1μm,0.3s						
GNBR	**Gunib**	**0.55**	**167**	*e*Pg	**Pg**	**06 00 09.4**	**+0.1**
GNBR				*e*Sg	**Sg**	**06 00 17.2**	**+0.7**
KANR	**Karaman**	**0.57**	**61**	*e*PG	**Pn**	**06 00 11.2**	**-1.2**
KANR				eS	**Sn**	**06 00 20.4**	**-1.3**
KANR	**Karaman**	**0.57**	**61**	*e*Pg	**Pn**	**06 00 11.2**	**-1.2**
KANR				*e*Sg	**Sn**	**06 00 20.4**	**-1.3**
SGKR	**Sergokala**	**0.78**	**126**	*e*PG	**Pn**	**06 00 14.7**	**-0.6**
SGKR				eS	**Sn**	**06 00 26.3**	**-0.6**
SGKR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SGKR				smax	smax		
	comp=E,372nm,0.4s						
SGKR				smax	smax		
	comp=N,466nm,0.4s						
SGKR				smax	smax		
	comp=N,413nm,0.4s						
SGKR	**Sergokala**	**0.78**	**126**	*e*Pg	**Pn**	**06 00 14.8**	**-0.6**
SGKR				*e*Sg	**Sn**	**06 00 26.3**	**-0.6**
GROC	**Groznyy**	**0.79**	**291**	*ce*PG	**Pn**	**06 00 14.8**	**-0.6**
GROC	**Groznyy**	**0.79**	**291**	*e*Pg	**Pn**	**06 00 14.6**	**-0.8**
GROC				*e*Sg	**Sn**	**06 00 26.3**	**-0.7**
KMKR	**Kumukh**	**0.82**	**164**	*e*PG	**Pg**	**06 00 13.9**	**-0.6**
KMKR				*i* S	**Sg**	**06 00 25.8**	**+0.5**
KMKR				pmax	pmax		
	comp=Z,112nm,0.2s						
KMKR				smax	smax		
	comp=E,853nm,0.2s						
KMKR	**Kumukh**	**0.82**	**164**	*e*Pg	**Pg**	**06 00 14.0**	**-0.6**
KMKR				*e*Sg	**Sb**	**06 00 26.2**	**+0.3**
URKR	**Urkarakh**	**0.97**	**141**	*e*PG	**Pg**	**06 00 17.1**	**-0.3**
URKR				eS	**Sn**	**06 00 31.6**	**-0.2**
URKR	**Urkarakh**	**0.97**	**141**	*e*Pg	**Pg**	**06 00 17.1**	**-0.3**
URKR				*e*Sg	**Sn**	**06 00 31.6**	**-0.2**
LGD	**Lagodekhi**	**1.16**	**201**	P	**Pn**	**06 00 19.8**	**-0.7**
LGD				S	**Sb**	**06 00 36.0**	**+0.5**
LGD	**Lagodekhi**	**1.16**	**201**	PG	**Pn**	**06 00 19.8**	**-0.7**
LGD				S	**Sb**	**06 00 36.0**	**+0.5**
KMGR	**Komgaron**	**1.43**	**276**	*e*PG	**Pg**	**06 00 25.8**	**-0.1**
KMGR				*e*S	**Sg**	**06 00 45.5**	**+1.0**
KMGR	**Komgaron**	**1.43**	**276**	*e*Pg	**Pg**	**06 00 25.8**	**-0.1**
KMGR				*e*Sg	**Sg**	**06 00 45.5**	**+1.0**
DDFL	**Dedoflistskaro**	**1.56**	**199**	P	**Pg**	**06 00 28.7**	**+0.2**
DDFL	**Dedoflistskaro**	**1.56**	**199**	PG	**Pg**	**06 00 28.7**	**+0.2**
VLKR	**Vladikavkaz**	**1.56**	**275**	*e*PG	**Pg**	**06 00 28.2**	**-0.4**
VLKR				*e*S	**Sg**	**06 00 50.7**	**+1.8**
VLKR	**Vladikavkaz**	**1.56**	**275**	*e*Pg	**Pg**	**06 00 28.2**	**-0.4**
VLKR				*e*Sg	**Sg**	**06 00 50.7**	**+1.8**
AKT	**Akhty**	**1.60**	**154**	*e*PG	**Pn**	**06 00 26.5**	**-0.1**
AKT				*i* S	**Sg**	**06 00 49.3**	**-0.7**
AKT				pmax	pmax		
	comp=Z,65nm,0.5s						
AKT				smax	smax		
	comp=E,198nm,0.2s						
AKT	**Akhty**	**1.60**	**154**	*e*Pg	**Pb**	**06 00 28.2**	**+0.2**
AKT				*e*Sg	**Sg**	**06 00 50.9**	**+0.9**
PNSH	**Pansheti**	**1.63**	**261**	P	**Pn**	**06 00 27.5**	**+0.3**
PNSH				S	**Sn**	**06 00 48.6**	**+0.5**
PNSH	**Pansheti**	**1.63**	**261**	PN	**Pn**	**06 00 27.5**	**+0.3**
TRKR	**Terskaya**	**1.71**	**299**	*e*PN	**Pg**	**06 00 31.2**	**-0.2**
TRKR				eS	**Sg**	**06 00 54.5**	**+1.0**
TRKR	**Terskaya**	**1.71**	**299**	*e*Pg	**Pg**	**06 00 31.2**	**-0.2**
TRKR				*e*Sg	**Sg**	**06 00 54.5**	**+1.0**
BTKR	**Batakoyurt**	**1.71**	**286**	*e*PN	**Pg**	**06 00 30.7**	**-0.7**
BTKR				eS	**Sg**	**06 00 55.3**	**+1.6**
BTKR	**Batakoyurt**	**1.71**	**286**	*e*Pg	**Pg**	**06 00 30.7**	**-0.7**
BTKR				*e*Sg	**Sg**	**06 00 55.3**	**+1.6**
LACR	**Lac**	**1.84**	**268**	*e*PN	**Pb**	**06 00 31.6**	**-0.6**
LACR	**Lac**	**1.84**	**268**	*i* Pg	**Pb**	**06 00 31.5**	**-0.6**
LACR				*e*Sg	**Sg**	**06 00 57.3**	**-0.5**
ARNR	**Ardon**	**1.86**	**279**	*e*PN	**Pg**	**06 00 35.0**	**+0.7**
ARNR				*e*S	**Sg**	**06 00 59.9**	**+1.4**
ARNR	**Ardon**	**1.86**	**279**	*e*Pg	**Pg**	**06 00 33.2**	**-1.1**
ARNR				*e*Sg	**Sg**	**06 00 58.6**	**+0.2**
BTNK	**Botanikuri**	**1.93**	**231**	P	Pn	06 00 26.1	-5.1
BTNK				S	**Sn**	**06 00 53.1**	**-2.2**
BTNK	**Botanikuri**	**1.93**	**231**	PN	Pn	06 00 26.1	-5.1
KORR	**Kora**	**2.01**	**276**	*e*PN	**Pg**	**06 00 37.1**	**0.0**
KORR				*e*S	**Sg**	**06 01 03.7**	**+0.5**
KORR	**Kora**	**2.01**	**276**	*e*Pg	**Pg**	**06 00 37.1**	**0.0**
KORR				*e*Sg	**Sg**	**06 01 03.7**	**+0.5**
PRTR	**Priterechnaya**	**2.02**	**295**	*e*PN	**Pb**	**06 00 35.1**	**+0.1**
PRTR				*e*S	**Sg**	**06 01 02.5**	**-0.9**
PRTR	**Priterechnaya**	**2.02**	**295**	*e*Pg	**Pb**	**06 00 35.1**	**+0.1**
PRTR				*e*Sg	**Sg**	**06 01 02.5**	**-0.9**
STDR	**Stavd-Durt**	**2.05**	**284**	*e*PN	**Pb**	**06 00 36.1**	**+0.4**
STDR				*e*S	**Sg**	**06 01 02.7**	**-1.8**
STDR	**Stavd-Durt**	**2.05**	**284**	*e*Pg	**Pb**	**06 00 36.1**	**+0.4**
STDR				*e*Sg	**Sg**	**06 01 02.7**	**-1.8**
ZEI	**Tsey**	**2.13**	**267**	*i* PN	**Pb**	**06 00 36.5**	**-0.7**
ZEI				*e*S	**Sb**	**06 01 04.8**	**+1.1**
ZEI	**Tsey**	**2.13**	**267**	*i* Pg	**Pb**	**06 00 36.5**	**-0.7**
ZEI				*e*Sg	**Sb**	**06 01 04.8**	**+1.1**
DIGR	**Digorskoe uzhe**	**2.37**	**271**	*e*PN	**Pb**	**06 00 40.0**	**-1.1**
DIGR				*e*S	**Sb**	**06 01 11.6**	**+1.3**
DIGR	**Digorskoe uzhe**	**2.37**	**271**	*e*Pn	**Pb**	**06 00 40.2**	**-1.0**
DIGR				*e*Sn	**Sb**	**06 01 10.7**	**+0.4**
ALIG	**Mtskhetisjvari**	**2.47**	**252**	P	**Pb**	**06 00 41.9**	**-0.9**
ALIG				S	**Sb**	**06 01 14.5**	**+1.4**
ONI	**Oni**	**2.49**	**263**	P	**Pb**	**06 00 41.9**	**-1.3**
ONI				S	**Sg**	**06 01 16.5**	**-2.0**
ONI	**Oni**	**2.49**	**263**	PN	**Pb**	**06 00 41.9**	**-1.2**
ONI				S	**Sg**	**06 01 16.5**	**-2.0**
DMNI	**Dmanisi**	**2.51**	**232**	P	**Pb**	**06 00 42.8**	**-0.8**
DMNI				S	**Sb**	**06 01 14.9**	**+0.5**
DMNI	**Dmanisi**	**2.51**	**232**	PN	**Pb**	**06 00 42.8**	**-0.8**
DMNI				S	**Sb**	**06 01 14.9**	**+0.5**
KBZ	**Khabaz**	**2.96**	**287** ⇓	*e*PN	**Pn**	**06 00 45.5**	**+0.3**
KBZ	**Khabaz**	**2.96**	**287**	*e*Pn	**Pn**	**06 00 51.3**	**+0.2**
KBZ				*e*Sn	**Sb**	**06 01 27.0**	**-0.2**
NEY	**Neytrino**	**3.00**	**278** ⇓	*e*PN	**Pb**	**06 00 49.3**	**-2.7**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NEY	**Neytrino**	**3.00**	**278**	*i* Pn	**Pn**	**06 00 47.0**	**+0.9**
NEY				*e*Sn	**Sn**	**06 01 24.1**	**+2.1**
SHA1	**Shidzhatmaz**	**3.13**	**287**	*d i*PN	**Pn**	**06 00 47.9**	**+0.1**
SHA1	**Shidzhatmaz**	**3.13**	**287**	*e*Pn	**Pn**	**06 00 48.1**	**+0.3**
SHA1				*e*Sn	**Sn**	**06 01 25.8**	**+0.7**
KIV	**Kislovodsk**	**3.17**	**290**	*i* PN	**Pn**	**06 00 48.4**	**+0.2**
KIV				*i* S	**Sb**	**06 01 29.3**	**-4.0**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KIV				smax	smax		
	comp=Z,12nm,0.8s						
KIV	**Kislovodsk**	**3.17**	**290**	*e*Pn	**Pn**	**06 00 50.6**	**+2.4**
KIV				*i* Sn	**Sb**	**06 01 29.8**	**-3.6**
ALER	**Alexandrovskoy**	**3.36**	**305**	*e*PN	**Pn**	**06 00 49.6**	**-1.2**
ALER				*i* S	**Sn**	**06 01 30.2**	**-0.3**
ALER	**Alexandrovskoy**	**3.36**	**305**	*e*Pn	**Pn**	**06 00 49.6**	**-1.2**
ALER				*i* Sn	**Sn**	**06 01 30.2**	**-0.3**
GOF	**Gofitskoye**	**3.45**	**310** ⇓	*e*PN	**Pg**	**06 01 01.5**	**-3.2**
GOF				*e*S	Sg	06 01 59.0	+10
GOF				pmax	pmax		
	comp=Z,33nm,0.6s						
GOF				smax	smax		
	comp=E,56nm,0.4s						
GOF				smax	smax		
	comp=N,105nm,0.6s						
DOMR	**Dombai**	**3.81**	**277** ⇓	*e*PN	**Pn**	**06 00 57.4**	**+0.3**
ARXR	**Arkhyz**	**4.09**	**281** ⇑	*e*PN	**Pn**	**06 01 01.6**	**+0.7**
ANN	**Anapa**	**7.03**	**289**	*ce*P	**Pn**	**06 01 43.2**	**+2.1**
ANN				pmax	pmax		
	comp=Z,42nm,1.1s						
AKTO	**Aktyubinsk**	**10.75**	**42** ⇑	Sn	**Sn**	**06 04 32.4**	**+0.1**
	comp=Z,1.4nm,0.6s						
AB31	**Akbulak array**	**11.10**	**51**	Pn	**Pn**	**06 02 38.9**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=240,slow=24,SNR=12						
AB31				⇑Sn	**Sn**	**06 04 40.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=240,slow=24,SNR=4.1						
AKBB	**Malin Array Si**	**14.31**	**309** ⇑	*e*P	**Pn**	**06 03 22.5**	**+1.8**
ARU	**Arti**	**15.48**	**25** ⇑	*e*P	**Pn**	**06 03 36.7**	**+0.3**
BRVK	**Borovoye**	**18.62**	**49** ⇑	*e*P	**Pn**	**06 04 16.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**20.30**	**81** ⇓	*e*P	Pn	06 04 35.5	-0.7
AAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						

*IDC **09** 06:01:24.0±1.5,6˚.21N×123˚.86E,h554km±18km, mb3.3/11, mbtmp4.3/12,Error ellipse: s-maj=54.9km s-min=8.6km az=65.0*

ISC 09 06:01:23.1±0.6,**6˚4N**±0˚.1×**124˚1E**±0˚.2,**h550**km,**n17,**
σ0°90/22,mb3.9/12,4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.45**	**74**	*e*P	**P**	**06 02 27.6**	**-0.8**
KCP	**Kidapawan**	**1.16**	**58**	*i*P	**P**	**06 02 29.8**	**-0.1**
KCP				eS	**S**	**06 03 24.1**	**0.0**
DDMP	**Don Marcelino,**	**1.62**	**100**	*i*P	**P**	**06 02 29.6**	**-1.7**
MATI	**Mati**	**2.21**	**75**	*i*P	**P**	**06 02 32.8**	**-1.0**
SIJI	**Sorong**	**10.15**	**135**	P	**P**	**06 03 44.4**	**+1.7**
	8.9nm,0.7s,baz=226,slow=18,SNR=3.8						
FITZ	**Fitzroy Crossi**	**24.38**	**176**	P	**P**	**06 05 57.6**	**-0.8**
	1.0nm,0.5s,baz=352,slow=6.7,SNR=15						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**28.04**	**159**	P	**P**	**06 06 29.8**	**-0.9**
	4.5nm,0.4s,baz=331,slow=11,SNR=171						
WRA				ScP	**ScP**	**06 12 16.5**	**-0.2**
	0.5nm,1.0s,baz=331,slow=3.2,SNR=5.5						
	4.5nm,0.4s						
ASAR	**Alice Springs**	**31.37**	**163**	P	**P**	**06 06 59.4**	**0.0**
	3.8nm,0.4s,baz=343,slow=7.0,SNR=74						
ASAR				S	**S**	**06 11 27.9**	**-0.5**
	1.4nm,0.8s,baz=348,slow=25,SNR=10.0						
ASAR				ScP	**ScP**	**06 12 27.4**	**-0.1**
	0.4nm,0.4s,baz=336,slow=3.0,SNR=4.8						
	3.8nm,0.4s						
CTA	**Charters Tower**	**34.16**	**141**	P	**P**	**06 07 23.8**	**+0.7**
	3.1nm,0.7s,baz=355,slow=12,SNR=2.0						
	3.1nm,0.7s						
STKA	**Stephens Creek**	**41.55**	**157**	P	**P**	**06 08 23.5**	**+0.4**
	1.9nm,0.4s,baz=335,slow=7.7,SNR=7.6						
	1.9nm,0.4s						
MKAR	**Makanchi Array**	**53.89**	**325**	P	**P**	**06 09 56.3**	**+1.2**
	3.5nm,0.5s,baz=120,slow=7.8,SNR=49						
MKAR				PcP	**PcP**	**06 10 52.1**	**+0.2**
	0.5nm,0.5s,baz=122,slow=3.8,SNR=2.8						
	3.5nm,0.5s						
KURBB	**Kurchatov Arra**	**58.10**	**328**	P	**P**	**06 10 25.1**	**+1.0**
	3.4nm,0.6s,baz=130,slow=6.3,SNR=35						
	3.4nm,0.6s						
BVAR	**Borovoye Array**	**63.68**	**327**	P	**P**	**06 11 01.7**	**+1.0**
	0.6nm,0.4s,baz=142,slow=5.4,SNR=2.9						
	0.6nm,0.4s						
AKTO	**Aktyubinsk**	**69.96**	**322**	P	**P**	**06 11 40.1**	**+0.7**
	2.1nm,0.6s,baz=101,slow=8.9,SNR=5.2						
	2.1nm,0.6s						
ARU	**Arti**	**71.31**	**328**	P	**P**	**06 11 46.9**	**-0.3**
	6.5nm,0.2s,baz=263,slow=2.9,SNR=3.5						
BRTR	**Keskin Array B**	**86.32**	**309**	P	**P**	**06 13 06.9**	**-0.6**
	0.7nm,0.8s,baz=152,slow=5.6,SNR=3.8						
	0.7nm,0.8s						
FINES	**FINESS Array B**	**88.26**	**332**	P	**P**	**06 13 14.9**	**-1.0**
	0.4nm,0.4s,baz=72,slow=4.5,SNR=4.5						
	0.4nm,0.4s						

*IDC **09** 06:06:28.8±0.9,25˚.05N×125˚.33E,h0km,mb3.8/14, mbtmp3.8/14,ML2.9/1,MS3.3/1,Error ellipse: s-maj=29.0km s-min=20.1km az=63.0*
*JMA **09** 06:06:34.7±0.1,25˚.0N±0˚.7×125˚.6E±0˚.6,h53km,MV3.4/13, NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .
*NIED **09** 06:06:34.7,25˚.00N×125˚.59E,h53km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 1014Nm; Mrr3.05; Mθθ-1.07; Mφφ-1.98; Mrθ3.65; Mθφ-2.12; Mrφ4.07; Fault plane solution: M06.42000×1014 NP1: φs215.00000°,δ16.00000°,λ84.00000°. NP2:φs42.00000°, δ74.00000°,λ92.00000°.*

ISC 09 06:06:35.2±0.8,**25˚05N**±0˚.08×**125˚54E**±0˚.07,**h48**km±7km,
n27,σ0°74/34,mb3.8/14,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.29**	**244**	P	**Pn**	**06 06 44.3**	**+0.2**
JIKM				eS	**Sn**	**06 06 51.3**	**+0.8**
JOGS	**Gusukube**	**0.31**	**203**	*i* P	**Pn**	**06 06 44.0**	**-0.3**
JOGS				S	**Sn**	**06 06 50.8**	**0.0**
JMJ2	**Miyako jima3**	**0.36**	**212**	P	**Pn**	**06 06 44.6**	**-0.2**
JMJ2				S	**Sn**	**06 06 51.8**	**+0.1**
JIRB	**Irabujima**	**0.40**	**236**	P	**Pn**	**06 06 45.1**	**-0.1**
JIRB				eS	**Sn**	**06 06 52.5**	**+0.1**
JTJ	**Tarama**	**0.86**	**242**	P	**Pn**	**06 06 51.2**	**+0.2**
JTJ				S	**Sn**	**06 07 03.1**	**+0.5**
JIJ	**Ishigaki jima**	**1.44**	**242**	P	**Pn**	**06 06 59.0**	**+0.1**
JIJ				S	**Sn**	**06 07 17.0**	**+0.2**
JKRS	**Kuro-shima**	**1.61**	**240**	P	**Pn**	**06 07 01.8**	**+0.6**
JKE	**Kume jima 2**	**1.70**	**41**	P	**Pn**	**06 07 02.2**	**-0.2**
IRIF	**Iriomote-Funau**	**1.79**	**247**	P	**Pn**	**06 07 04.4**	**+0.6**
HATJ	**Hateruma jima**	**1.86**	**238**	P	**Pn**	**06 07 05.7**	**+1.0**
JAGN	**Aguni-jima**	**2.17**	**45**	*e*P	**Pn**	**06 07 08.8**	**-0.1**
JOW	**Kunigami**	**3.03**	**54**	Pn	**Pn**	**06 07 20.9**	**+0.1**
	2.6nm,0.3s,baz=186,slow=14,SNR=6.4						
JOW				Sn	**Sn**	**06 07 57.1**	**+1.2**
	12nm,0.3s,baz=168,slow=14,SNR=2.9						
KSRS	**Korea Array**	**12.53**	**9**	Sn	**Sn**	**06 11 49.5**	**+0.7**
	0.5nm,0.3s,baz=208,slow=24,SNR=6.0						
SONM	**Songino Array**	**27.32**	**331**	P	**P**	**06 12 14.9**	**-0.6**
	0.4nm,0.4s,baz=161,slow=5.8,SNR=3.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**40.55**	**314**	P	**P**	**06 14 09.6**	**-0.2**
	0.2nm,0.3s,baz=96,slow=10,SNR=6.7						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**41.76**	**325**	P	**P**	**06 14 18.5**	**-1.1**
	1.4nm,0.6s,baz=108,slow=7.2,SNR=5.1						
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**44.06**	**318**	P	**P**	**06 14 37.1**	**-1.2**
	0.4nm,0.5s,baz=280,slow=15,SNR=4.8						
KURBB				LR	LR	06 33 12.6	
	comp=Z,34nm,20.5s,baz=73,slow=36						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**45.54**	**168**	P	**P**	**06 14 49.6**	**-0.7**
	0.5nm,0.7s,baz=348,slow=8.8,SNR=3.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**49.10**	**170**	P	**P**	**06 15 19.3**	**+1.3**
	0.3nm,0.6s,baz=2.5,slow=8.0,SNR=4.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**66.61**	**28**	P	**P**	**06 17 20.8**	**+0.5**
	0.2nm,0.6s,baz=248,slow=4.5,SNR=4.4						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**70.21**	**338**	P	**P**	**06 17 42.3**	**-0.4**
	2.8nm,1.0s,baz=67,slow=7.3,SNR=5.0						
	2.8nm,1.0s						
INK	**Inuvik**	**70.92**	**23**	P	**P**	**06 17 49.0**	**+2.0**
	6.1nm,1.1s,baz=336,slow=6.9,SNR=3.2						
	6.1nm,1.1s						
FINES	**FINESS Array B**	**72.68**	**330**	P	**P**	**06 17 57.4**	**-0.3**
	0.5nm,0.4s,baz=50,slow=6.0,SNR=6.7						
	0.5nm,0.4s						
AKASG	**Malin Array Be**	**74.84**	**319**	P	**P**	**06 18 09.8**	**-0.7**
	0.3nm,0.3s,baz=63,slow=6.1,SNR=3.2						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**75.83**	**307**	P	**P**	**06 18 17.3**	**+0.6**
	1.8nm,0.3s,baz=116,slow=5.6,SNR=6.9						
	1.8nm,0.9s						
HFS	**Hagfors**	**78.72**	**332**	P	**P**	**06 18 31.8**	**-0.4**
	0.9nm,0.7s,baz=45,slow=6.3,SNR=1.9						
	0.9nm,0.7s						
GERES	**GERESS Array B**	**84.65**	**322**	P	**P**	**06 19 02.9**	**-0.9**
	0.5nm,0.5s,baz=79,slow=6.9,SNR=4.8						
	0.5nm,0.5s						

GUC 09 06:07:07.2±0.5,**24˚01S×67˚14W,h258**km±10km,**ML3.4,**
7C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.42**	**318**	*e*P	Pn	06 07 45.0	-1.2
AF01				*i* S	S	06 08 15.9	-1.0
LVC	**Limon Verde**	**2.15**	**310** ⇑	*i*P	Pn	06 07 51.5	-0.6
LVC				eS	S	06 08 26.0	-1.6
PB15	**IPOC Station P**	**2.29**	**290** ⇑	*i*P	Pn	06 07 53.6	+0.3
PB15				*i* S	S	06 08 28.4	-1.3
PB15	**IPOC Station P**	**2.29**	**290** ⇓	*i*P	Pn	06 07 53.7	+0.4
PB15				*e*		06 07 54.2	
PB15				*i* S	S	06 08 28.3	-1.3
GO02	**Mina

MJAR	**Matsushiro Arr**	**6.36 341**	P		**Pn**	**06 17 12.4**	**+0.7**
	15nm,0.8s,baz=152,slow=11,SNR=24							
MJAR			S		**Sn**	**06 18 20.4**	**-2.5**
	5.4nm,0.6s,baz=140,slow=17,SNR=1.9							
MJAR			LR		LR	06 19 35.6		
	comp=Z,40nm,21.2s,baz=150,slow=37							
MAJO	**Matsushiro**	**6.36 341**			**Pn**	**06 17 12.2**	**+0.4**
JMN	**Monobe**	**6.68 300**	Pn		**Pn**	**06 17 19.1**	**+3.0**
JTO	**Tosashimizu**	**7.20 291**	P		**Pn**	**06 17 24.7**	**+1.5**
JMM	**Marumori**	**7.30 360**			**Pn**	**06 17 20.3**	**-4.2**
JHS	**Saijyo**	**7.85 306**	Pn		**Pn**	**06 17 35.0**	**+2.9**
JOW	**Kunigami**	**11.61 254**	LR		LR	06 22 24.1		
	comp=Z,36nm,19.7s,baz=64,slow=36							
NAWB	**Namwon**	**12.26 297**	Pn		**Pn**	**06 18 33.4**	**+1.5**
KSRS	**Korea Array**	**12.71 306**	P		**Pn**	**06 18 38.8**	**+0.9**
	2.5nm,0.8s,baz=113,slow=14,SNR=8.1							
KSRS			LR		LR	06 23 26.2		
	comp=Z,24nm,18.4s,baz=135,slow=37							
USA0B	**Ussuriysk Arra**	**15.31 335**	Pn		**P**	**06 19 13.2**	**-1.1**
USA0B			IAmb		IAmb	06 19 17.1		
	comp=Z,24nm,1.4s							
YOJ	**Yonaguni jima**	**16.91 253**			**Pn**	**06 19 30.3**	**-1.3**
GUMO	**Guam**	**17.29 167**	P		**P**	**06 19 37.0**	**+0.6**
	comp=Z,38nm,0.5s,baz=181,slow=22,SNR=4.2							
YHNB	**Yeheng**	**18.18 256**	P		**P**	**06 19 44.9**	**-1.4**
YHNB			IAmb		IAmb	06 20 01.9		
	comp=Z,37nm,1.4s							
TPUB	**Ta-pu**	**19.37 253**	P		**P**	**06 19 55.8**	**-3.4**
TPUB			IAmb		IAmb	06 20 09.6		
	comp=Z,50nm,1.5s							
KLR	**Kul'dur**	**19.89 342**	P		**P**	**06 20 04.6**	**0.0**
	comp=Z,1.7nm,0.4s,baz=160,slow=13,SNR=6.0							
H11N2	**WAKE ISLAND Hy**	**25.90 108**	T		T	06 48 50.1		
	baz=300,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**25.90 109**	T		T	06 48 52.1		
	baz=300,slow=75,SNR=9.2							
H11N3	**WAKE ISLAND Hy**	**25.91 108**	T		T	06 48 43.5		
	baz=300,slow=75,SNR=10							
H11S3	**WAKE ISLAND Hy**	**26.36 111**	T		T	06 49 08.6		
	baz=299							
H11S1	**WAKE ISLAND Hy**	**26.36 111**	T		T	06 49 20.1		
	baz=299,slow=74							
H11S2	**WAKE ISLAND Hy**	**26.37 111**	T		T	06 49 11.4		
	baz=299,slow=74							
SONM	**Songino Array**	**31.44 313**	P		**P**	**06 21 53.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=116,slow=3.4,SNR=3.2							
	comp=Z,0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**39.74 262**	LR		LR	06 41 41.4		
	comp=Z,15nm,18.6s,baz=105,slow=40							
ZALV	**Zalesovo Beam**	**46.12 317**	P		**P**	**06 23 57.2**	**+1.7**
MK31	**Makanchi Array**	**47.39 307**	P		**P**	**06 24 05.6**	**0.0**
MKAR	**Makanchi Array**	**47.39 307**	P		**P**	**06 24 04.1**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=94,slow=8.4,SNR=5.6							
	comp=Z,0.4nm,0.4s							
MKAR	**Makanchi Array**	**47.39 307**	P		**P**	**06 24 04.2**	**-1.5**
NRIK	**Noril'sk**	**49.01 338**	P		**P**	**06 24 17.7**	**+0.1**
	comp=Z,3.4nm,0.3s,baz=112,slow=8.1,SNR=7.3							
	comp=Z,3.4nm,0.3s							
NRIK	**Noril'sk**	**49.01 338**	P		**P**	**06 24 16.7**	**-1.0**
WB2	**Warramunga Arr**	**50.58 188**	P		P	06 24 15.0	-15
WB2			IAmb		IAmb	06 24 34.3		
	comp=Z,5.1nm,1.1s							
WRA	**Warramunga Arr**	**50.58 188**	P		**P**	**06 24 29.3**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=5.1,slow=7.6,SNR=13							
	comp=Z,0.4nm,0.4s							
KDAK	**Kodiak Island**	**52.37 38**	P		**P**	**06 24 43.8**	**+0.7**
	comp=Z,6.3nm,0.8s,baz=106,slow=2.5,SNR=14							
KDAK			LR		LR	06 50 27.1		
	comp=Z,33nm,18.2s,baz=99,slow=40							
	comp=Z,6.3nm,0.8s							
ASAR	**Alice Springs**	**54.31 188**	P		**P**	**06 24 57.5**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=360,slow=4.9,SNR=4.9							
	comp=Z,0.2nm,0.4s							
ILAR	**Eielson Array**	**55.30 30**	P		**P**	**06 25 05.0**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=271,slow=7.2,SNR=9.7							
	comp=Z,1.0nm,0.8s							
KK31	**Karatay Array**	**56.13 304**	P		**P**	**06 25 10.0**	**-0.7**
KK31			IAmb		IAmb	06 25 13.9		
	comp=Z,1.7nm,0.9s							
KKAR	**Karatay Array**	**56.13 304**	P		**P**	**06 25 10.2**	**-0.5**
INK	**Inuvik**	**60.42 25**	P		**P**	**06 25 41.1**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=244,slow=4.8,SNR=1.5							
	comp=Z,1.2nm,0.7s							
ABKAR	**Akbulak array**	**61.85 313**	P		**P**	**06 25 49.1**	**-0.9**
ARCES	**ARCESS Array B**	**69.90 340**	P		**P**	**06 26 41.9**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=50,slow=6.6,SNR=5.4							
	comp=Z,2.6nm,0.8s							
FINES	**FINESS Array B**	**74.33 333**	P		**P**	**06 27 08.2**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=73,slow=5.1,SNR=18							
	comp=Z,1.1nm,0.5s							
KBZ	**Khabaz**	**74.80 312**	P		**P**	**06 27 11.7**	**+0.8**
	comp=Z,9.8nm,0.8s,baz=95,slow=4.0,SNR=16							
AKASG	**Malin Array Be**	**79.14 323**	P		**P**	**06 27 34.8**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=50,slow=5.8,SNR=9.8							
	comp=Z,0.7nm,0.3s							
NVAR	**Mina Array Bea**	**79.34 52**	P		**P**	**06 27 39.1**	**+2.4**
	comp=Z,0.7nm,0.5s,baz=290,slow=5.9,SNR=11							
	comp=Z,0.7nm,0.5s							
NOA	**NORSAR Array B**	**79.97 338**	P		**P**	**06 27 40.9**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=45,slow=5.6,SNR=2.1							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**82.61 44**	P		**P**	**06 27 56.1**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=239,slow=4.9,SNR=2.6							
	comp=Z,0.3nm,0.7s							
BRTR	**Keskin Array B**	**82.79 312**	P		**P**	**06 27 55.5**	**+0.5**
	comp=Z,7.2nm,0.9s,baz=104,slow=4.0,SNR=30							
	comp=Z,7.2nm,0.9s							
TXAR	**Lajitas Array**	**94.48 52**	P		**P**	**06 28 53.1**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=306,slow=3.2,SNR=16							
	comp=Z,1.1nm,0.7s							
LPAZ	**La Paz**	**150.00 68**	PKPbc		**PKiKP**	**06 35 22.8**	**0.0**	
	comp=Z,0.7nm,0.8s,baz=15,slow=2.3,SNR=4.3							

JMA 09 06:16:36.7±0.2, 36°3N±0.4°×14°1E±°, h44km±2km, MV1.8/24, E OFF IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.41**	**284**	P	Pn	06 16 46.6	+0.2
JHYU				S	Sn	06 16 53.2	0.0
JHO	**Hitachi**	**0.55**	**312**	P	Pn	06 16 48.0	-0.2
JHO				S	Sn	06 16 55.6	-0.8
CHOJ	**Chosi**	**0.57**	**198**	S	Sn	06 16 56.4	-0.4
JYT	**Yasato**	**0.71**	**269**	Pn	Sn	06 16 59.5	-0.7
JYT	**Yasato**	**0.71**	**269**	*eP*	Pn	06 16 50.5	+0.1
JYT				S	Sn	06 16 60.0	-0.2
JAG	**Ashikaga**	**1.32**	**278**	P	Pn	06 16 59.7	+1.0
JFT	**Otama**	**1.40**	**335**	S	Sn	06 17 17.9	+0.8

*NOU **09** 06:20:00.9, 37°.12S×179°.86E, h143km, mb4.4/6, Off E. Coast of N. Island, N.Z.*
*IDC **09** 06:20:01.6±5.8, 36°.69S×179°.21E, h0km, mb4.3/2, mbtmp4.3/2, MS3.4/2, Error ellipse: s-maj=291.8km s-min=60.0km az=170.0*
*WEL **09** 06:20:06.5±1.5, 37°S±4°×17°9E±°, h22km±13km, M4.0/39, ML4.1/39, MLv4.0/39, Error ellipse: s-maj=0.0km s-min=0.0km az=82.9*

ISC 09 06:20:01.3±2.4, 37°.05S±0.06°×179°.50E±0°.10, h8km±11km, n78, σ1°45/83, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.08**	**241**	P	**Pb**	**06 20 22.2**	**+0.1**
MXZ				S	**Sg**	**06 20 34.2**	**-1.7**
WMGZ	**Waiomatatini S**	**1.15**	**228**	P	**Pn**	**06 20 26.1**	**+2.4**
WMGZ				S	**Sn**	**06 20 41.3**	**+1.7**
PKGZ	**Pakihiroa**	**1.41**	**233**	P	**Pg**	**06 20 29.1**	**+0.8**
PKGZ				S	**Sb**	**06 20 45.6**	**-0.2**
PUZ	**Puketiti**	**1.42**	**224**	P	**Pg**	**06 20 29.8**	**+1.3**
PUZ				S	**Sg**	**06 20 47.5**	**+0.6**
HAZ	**Te Kaha**	**1.54**	**242**	P	**Pn**	**06 20 29.0**	**+0.1**
HAZ				S	**Sn**	**06 20 49.0**	**0.0**
TWGZ	**Tauwhareparae**	**1.65**	**226**	P	**Pg**	**06 20 33.2**	**+0.4**
RUGZ	**Raukumara Rang**	**1.71**	**237**	P	**Pg**	**06 20 33.9**	**-0.2**
CNGZ	**Carnagh Statio**	**1.76**	**215**	P	**Pg**	**06 20 35.3**	**+0.4**
TKGZ	**Te Karaka**	**1.91**	**223**	P	**Pb**	**06 20 36.3**	**+0.1**
MWZ	**Matawai**	**2.02**	**230**	P	**Pb**	**06 20 37.6**	**-0.6**
RIGZ	**Rimuhau**	**2.15**	**219**	P	**Pb**	**06 20 39.6**	**-0.9**
WHRZ	**Whale Island**	**2.16**	**247**	P	**Pb**	**06 20 40.0**	**-0.6**
URZ	**Urewera**	**2.25**	**237**	LR	LR	06 21 56.0	
	comp=Z,412nm,18.0s,baz=28,slow=50						
URZ	**Urewera**	**2.25**	**237**	P	**Pn**	**06 20 40.4**	**+1.8**
URZ	**Urewera**	**2.25**	**237**	P	**Pn**	**06 20 40.5**	**+1.8**
PRGZ	**Paritu Road**	**2.26**	**214**	P	**Pn**	**06 20 41.0**	**+2.0**
PRGZ				S	**Sn**	**06 21 07.6**	**+0.5**
EDRZ	**Edgecumbe**	**2.43**	**243**	P	**Pn**	**06 20 43.0**	**+1.7**
KNZ	**Kokohu**	**2.44**	**216**	P	**Pn**	**06 20 43.1**	**+1.7**
KNZ				S	**Sn**	**06 21 10.5**	**-0.8**
MHGZ	**Mahia Peninsul**	**2.44**	**210**	P	**Pn**	**06 20 43.6**	**+2.2**
RAHZ	**Arahi**	**2.66**	**225**	P	**Pn**	**06 20 47.1**	**+2.6**
TGRZ	**Tauranga**	**2.66**	**254**	P	**Pn**	**06 20 45.4**	**+0.9**
OMRZ	**Omania**	**2.70**	**246**	P	**Pn**	**06 20 46.6**	**+1.6**
MTHZ	**Maungataniwha**	**2.76**	**229**	P	**Pn**	**06 20 48.4**	**+2.5**
PRRZ	**Plateau Road**	**2.85**	**239**	P	**Pn**	**06 20 48.5**	**+1.5**
HSRZ	**Hossack Road**	**2.87**	**243**	P	**Pb**	**06 20 51.5**	**-1.2**
ALRZ	**Allen Road**	**2.92**	**238**	P	**Pn**	**06 20 49.3**	**+1.3**
KMRZ	**Kaimai**	**2.94**	**253**	P	**Pn**	**06 20 49.0**	**+0.8**
NMHZ	**Naumai**	**2.95**	**225**	P	**Pn**	**06 20 51.1**	**+2.7**
ARHZ	**Aropaoanui**	**2.96**	**221**	P	**Pn**	**06 20 50.6**	**+2.0**
KUZ	**Kuaotunu**	**3.04**	**275**	P	**Pn**	**06 20 48.5**	**-1.1**
BKZ	**Black Stump Fm**	**3.17**	**227**	P	**Pn**	**06 20 53.1**	**+1.6**
BKZ	**Black Stump Fm**	**3.17**	**227**	P	**Pn**	**06 20 53.3**	**+1.8**
KUTZ	**Kaahu Road**	**3.25**	**243**	P	**Pn**	**06 20 54.4**	**+1.9**
MCHZ	**McNeill Hill**	**3.25**	**222**	P	**Pn**	**06 20 54.3**	**+1.8**
TOZ	**Tahuroa Road**	**3.25**	**257**	P	**Pn**	**06 20 52.6**	**+0.1**
GRZ	**Great Barrier**	**3.34**	**283**	P	**Pn**	**06 20 54.9**	**+1.1**
KWHZ	**Kaweka Forest**	**3.39**	**225**	P	**Pn**	**06 20 55.8**	**+1.3**
KAHZ	**Kahuranaki**	**3.43**	**216**	P	**Pn**	**06 20 55.9**	**+0.9**
RITZ	**Rihia Road**	**3.46**	**235**	P	**Pn**	**06 20 57.5**	**+2.1**
MKAZ	**Moumakai**	**3.47**	**268**	P	**Pn**	**06 20 55.1**	**-0.3**
WIAZ	**Waiheke Island**	**3.50**	**273**	P	**Pn**	**06 20 56.0**	**0.0**
KRHZ	**Kereru**	**3.57**	**223**	P	**Pn**	**06 20 58.1**	**+1.2**
BHHZ	**Black Hill Sta**	**3.64**	**227**	P	**Pn**	**06 20 59.2**	**+1.3**
ETAZ	**East Tamaki Re**	**3.66**	**231**	P	**Pn**	**06 20 59.7**	**+1.6**
OTVZ	**Oturere**	**3.69**	**234**	P	**Pn**	**06 21 01.9**	**+3.3**
MBAZ	**Motutapu North**	**3.69**	**273**	P	**Pn**	**06 20 59.9**	**+1.3**
SNVZ	**South Ngauruho**	**3.71**	**234**	P	**Pn**	**06 21 00.9**	**+1.9**
ABAZ	**Army Bay**	**3.77**	**275**	P	**Pn**	**06 21 01.2**	**+1.5**
MOVZ	**Moawhango**	**3.77**	**230**	P	**Pn**	**06 21 00.7**	**+1.0**
EPAZ	**Eden Park BICE**	**3.81**	**271**	P	**Pn**	**06 21 02.2**	**+2.0**
WPHZ	**Waipukurau**	**3.85**	**218**	P	**Pn**	**06 21 01.5**	**+0.8**
PNHZ	**Pukenui**	**3.85**	**221**	P	**Pn**	**06 21 01.5**	**+0.6**
AWAZ	**Awhitu Peninsu**	**3.88**	**268**	P	**Pn**	**06 21 02.7**	**+1.5**
WTAZ	**Waiatarua**	**3.94**	**270**	P	**Pn**	**06 21 03.7**	**+1.7**
RVAZ	**Riverhead Bore**	**3.95**	**273**	P	**Pn**	**06 21 03.6**	**+1.5**
HIZ	**Hauiti**	**3.96**	**247**	P	**Pn**	**06 21 04.5**	**+2.3**
HIZ	**Hauiti**	**3.96**	**247**	P	**Pn**	**06 21 04.1**	**+1.9**
TSZ	**Takapari Road**	**4.09**	**222**	P	**Pn**	**06 21 04.8**	**+0.7**
DVHZ	**Dannevirke**	**4.16**	**218**	P	**Pn**	**06 21 05.1**	**+0.1**
WCZ	**Waipu Caves**	**4.29**	**283**	P	**Pn**	**06 21 07.7**	**+0.9**
BFZ	**Birch Farm**	**4.42**	**214**	P	**Pn**	**06 21 08.4**	**-0.3**
BFZ	**Birch Farm**	**4.42**	**214**	P	**Pn**	**06 21 08.1**	**-0.6**
WAZ	**Wanganui**	**4.45**	**231**	P	**Pn**	**06 21 09.9**	**+1.9**
MRZ	**Mangatainoka R**	**4.73**	**219**	P	**Pn**	**06 21 12.2**	**-0.6**
HOWZ	**Holdsworth Sta**	**4.94**	**218**	P	**Pn**	**06 21 14.7**	**-1.0**
OGWZ	**Otaki Gorge**	**5.05**	**221**	P	**Pn**	**06 21 16.6**	**-0.7**
OUZ	**Omahuta**	**5.11**	**289**	P	**Pn**	**06 21 19.7**	**+1.6**
CAW	**Cannon Point**	**5.32**	**219**	P	**Pn**	**06 21 19.7**	**-1.2**
TUWZ	**Tuamarina**	**6.14**	**223**	P	**Pn**	**06 21 30.8**	**-1.4**
QRZ	**Quartz Range**	**6.61**	**233**	P	**Pn**	**06 21 37.7**	**-1.0**
QRZ	**Quartz Range**	**6.61**	**233**	P	**Pn**	**06 21 37.6**	**-1.0**
MRNZ	**Matariki Terra**	**6.80**	**228**	P	**Pn**	**06 21 39.7**	**-1.5**
THZ	**Tophouse**	**6.94**	**225**	P	**Pn**	**06 21 41.3**	**-1.9**
LTZ	**Lake Taylor**	**7.97**	**222**	P	**Pn**	**06 21 56.0**	**-1.4**
DZM	**Mont Dzumac**	**18.72**	**319**	LR	LR	06 30 24.4	
	comp=Z,171nm,18.6s,baz=323,slow=34						
ASAR	**Alice Springs**	**41.17**	**276**	P	**P**	**06 27 45.5**	**-0.8**
	4.6nm,0.7s,baz=119,slow=8.1,SNR=40						
	4.6nm,0.7s						
WRA	**Warramunga Arr**	**42.76**	**281**	P	**P**	**06 27 58.6**	**-0.8**
	2.6nm,0.7s,baz=123,slow=7.4,SNR=26						
	2.6nm,0.7s						
FINES	**FINESS Array B**	**150.45**	**334**	PKPbc	**PKPbc**	**06 39 53.0**	**+0.6**
	1.4nm,0.7s,baz=48,slow=2.1,SNR=4.2						

IDC 09 06:33:54.8±9.7, 15°.48S×176°.78W, h417km±45km, mb2.8/2, mbtmp3.7/3, Error ellipse: s-maj=388.4km s-min=127.9km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.44**	**245**	P	P	06 35 22.3	+0.2
	5.5nm,0.4s,baz=247,slow=23,SNR=12						
WRA	**Warramunga Arr**	**46.66**	**257**	P	P	06 41 44.1	-0.2
	0.3nm,0.6s,baz=88,slow=7.1,SNR=5.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**46.99**	**252**	P	P	06 41 46.8	-0.1
	0.8nm,0.4s,baz=86,slow=8.3,SNR=16						
	0.8nm,0.4s						
AKASG	**Malin Array Be**	**139.09**	**335**	PKP	PKPdf	06 52 32.3	-0.6
	0.5nm,0.4s,baz=48,slow=1.4,SNR=2.1						

*IDC **09** 06:35:14.7±1.0, 36°.67S×179°.14E, h0km, mb4.5/7, mbtmp4.5/8, ML4.5/1, MS3.7/25, Error ellipse: s-maj=28.5km s-min=27.9km az=0.0km*
*WEL **09** 06:35:15.7±0.7, 37°S±4°×17°9E±°, h5km, M4.5/53, ML4.7/53, MLv4.5/53, Error ellipse: s-maj=0.0km s-min=0.0km az=95.1*
*NEIC **09** 06:35:16.1±1.9, 37°.04S±0°.08×179°.3E±0°.1, h10km±2km, mb4.6/10, Error ellipse: s-maj=19.4km s-min=13.9km az=93.0*
*NOU **09** 06:35:17.0, 37°.09S×179°.56E, h121km, MLv5.1/10, Off E. Coast of N. Island, N.Z.*

ISC 09 06:35:14.6±2.3, 36°.91S±0°.06×179°.36E±0°.08, h3km±12km, n162, σ1°52/140, mb4.5/12, MS3.7/26, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.07**	**232**		**Pg**	**06 35 34.6**	**-0.5**
MXZ	**Matakaoa Point**	**1.07**	**232**	P	**Pg**	**06 35 35.3**	**+0.2**
MXZ				S	**Sg**	**06 35 47.6**	**-1.4**
WMGZ	**Waiomatatini S**	**1.19**	**219**	P	**Pn**	**06 35 39.4**	**+1.3**
WMGZ				S	**Sb**	**06 35 54.8**	**+1.3**
PKGZ	**Pakihiroa**	**1.42**	**226**	P	**Pn**	**06 35 41.7**	**+0.3**
PKGZ				S	**Sb**	**06 35 59.9**	**-0.3**
PUZ	**Puketiti**	**1.46**	**217**	P	**Pn**	**06 35 43.0**	**+1.1**
PUZ				S	**Sn**	**06 36 02.4**	**+0.9**
HAZ	**Te Kaha**	**1.52**	**236**	P	**Pn**	**06 35 41.8**	**-0.9**
HAZ				S	**Sg**	**06 36 05.0**	**+1.5**
TWGZ	**Tauwhareparae**	**1.68**	**221**	P	**Pn**	**06 35 42.3**	**+1.4**
TWGZ				S	**Sg**	**06 36 10.2**	**+1.6**
RUGZ	**Raukumara Rang**	**1.71**	**231**	P	**Pn**	**06 35 46.2**	**+0.8**
RUGZ				S	**Sb**	**06 36 09.6**	**+0.9**
CNGZ	**Carnagh Statio**	**1.82**	**210**	P	**Pn**	**06 35 48.7**	**+1.8**
CNGZ				S	**Sb**	**06 36 13.6**	**+1.7**
WIZ	**White Island**	**1.84**	**250**	P	**Pn**	**06 35 46.0**	**-1.1**
TKGZ	**Te Karaka**	**1.95**	**218**	P	**Pn**	**06 35 49.6**	**+1.1**
MWZ	**Matawai**	**2.04**	**225**	P	**Pn**	**06 35 50.9**	**+1.0**
WHRZ	**Whale Island**	**2.13**	**243**	P	**Pn**	**06 35 52.6**	**+1.6**
RIGZ	**Rimuhau**	**2.20**	**215**	P	**Pn**	**06 35 52.6**	**+0.5**
RAGZ	**Rawiri**	**2.22**	**224**	P	**Pn**	**06 35 54.1**	**+1.7**
URZ	**Urewera**	**2.24**	**232**	Pn	**Pn**	**06 35 53.4**	**+0.8**
	124nm,0.3s,baz=31,slow=1.0,SNR=235						
URZ				Sn	**Sn**	**06 36 19.1**	**-1.7**
	112nm,0.3s,baz=211,slow=22,SNR=19						
	447nm,0.3s						
URZ	**Urewera**	**2.24**	**232**	Pn	**Pn**	**06 35 52.0**	**-0.6**
URZ	**Urewera**	**2.24**	**232**	P	**Pn**	**06 35 53.4**	**+0.8**
URZ	**Urewera**	**2.24**	**232**	P	**Pn**	**06 35 53.6**	**+1.0**
PRGZ	**Paritu Road**	**2.33**	**210**	P	**Pn**	**06 35 54.4**	**+0.5**
MARZ	**Manawahe**	**2.40**	**242**	P	**Pn**	**06 35 55.0**	**+0.3**
EDRZ	**Edgecumbe**	**2.41**	**239**	P	**Pn**	**06 35 56.2**	**+1.3**
OPRZ	**Ohinepanea**	**2.43**	**246**	P	**Pn**	**06 35 55.3**	**+0.1**
SNGZ	**Shannon Statio**	**2.46**	**220**	P	**Pn**	**06 35 58.0**	**+2.3**
KNZ	**Kokohu**	**2.50**	**212**	P	**Pn**	**06 35 55.9**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.52**	**207**	P	**Pn**	**06 35 56.8**	**+0.3**
MYRZ	**Mayor Island**	**2.52**	**261**	P	**Pn**	**06 35 57.5**	**+1.0**
TGRZ	**Tauranga**	**2.61**	**251**	P	**Pn**	**06 35 58.3**	**+0.6**
TARZ	**Mount Tarawera**	**2.63**	**239**	P	**Pb**	**06 36 02.2**	**-0.2**
OMRZ	**Omania**	**2.67**	**242**	P	**Pn**	**06 35 59.8**	**+1.4**
RRRZ	**Republican Roa**	**2.68**	**237**	P	**Pn**	**06 35 59.6**	**+1.0**
RAHZ	**Arahi**	**2.70**	**221**	P	**Pn**	**06 36 00.3**	**+1.4**
KARZ	**Kaharoa**	**2.72**	**245**	P	**Pn**	**06 36 00.2**	**+1.0**
WHHZ	**Waihua**	**2.74**	**217**	P	**Pn**	**06 36 01.8**	**+2.2**
HLRZ	**Highlands Stat**	**2.75**	**240**	P	**Pn**	**06 36 00.9**	**+1.4**
MTHZ	**Maungataniwha**	**2.79**	**225**	P	**Pn**	**06 36 01.2**	**+1.1**
NGRZ	**Ngongotaha**	**2.79**	**244**	P	**Pb**	**06 36 04.0**	**-1.2**
UTU	**Utuhina**	**2.82**	**242**	P	**Pn**	**06 36 03.2**	**+2.6**
PRRZ	**Plateau Road**	**2.84**	**235**	P	**Pn**	**06 36 01.4**	**+0.5**
HSRZ	**Hossack Road**	**2.85**	**240**	P	**Pn**	**06 36 04.4**	**+3.5**
HRRZ	**Handcock Road**	**2.86**	**238**	P	**Pn**	**06 36 02.2**	**+1.0**
KMRZ	**Kaimai**	**2.88**	**250**	P	**Pn**	**06 36 01.5**	**0.0**
ALRZ	**Allen Road**	**2.91**	**234**	P	**Pn**	**06 36 02.5**	**+0.6**
KUZ	**Kuaotunu**	**2.93**	**272**	P	**Pn**	**06 36 01.2**	**-0.9**
GRRZ	**Galatos Road**	**2.96**	**240**	P	**Pn**	**06 36 04.8**	**+2.3**
NMHZ	**Naumai**	**2.98**	**222**	P	**Pn**	**06 36 03.7**	**+0.9**
ARHZ	**Aropaoanui**	**3.00**	**218**	P	**Pn**	**06 36 04.0**	**+0.9**
WPRZ	**Whakapapatarin**	**3.01**	**237**	P	**Pn**	**06 36 05.1**	**+1.9**
TOZ	**Tahuroa Road**	**3.19**	**254**	P	**Pn**	**06 36 05.2**	**-0.4**
BKZ	**Black Stump Fm**	**3.20**	**224**	Pn	**Pn**	**06 36 04.2**	**-1.6**
BKZ	**Black Stump Fm**	**3.20**	**224**	P	**Pn**	**06 36 05.8**	**0.0**
BKZ	**Black Stump Fm**	**3.20**	**224**	P	**Pn**	**06 36 06.1**	**+0.3**
GRZ	**Great Barrier**	**3.21**	**281**	P	**Pn**	**06 36 06.8**	**+0.9**
KUTZ	**Kaahu Road**	**3.22**	**240**	P	**Pn**	**06 36 07.2**	**+1.1**
HATZ	**Hinemaiaia**	**3.26**	**232**	P	**Pn**	**06 36 08.6**	**+2.0**
MCHZ	**McNeill Hill**	**3.29**	**219**	P	**Pn**	**06 36 07.6**	**+0.5**
TLZ	**Tolley Road**	**3.35**	**244**	P	**Pn**	**06 36 09.9**	**+1.9**
MKAZ	**Moumakai**	**3.37**	**265**	P	**Pn**	**06 36 07.8**	**-0.3**
WIAZ	**Waiheke Island**	**3.40**	**271**	P	**Pn**	**06 36 08.3**	**-0.2**
KWHZ	**Kaweka Forest**	**3.42**	**222**	P	**Pn**	**06 36 09.1**	**+0.2**
RATZ	**Rangitukua**	**3.45**	**234**	P	**Pn**	**06 36 10.7**	**+1.4**
RITZ	**Rihia Road**	**3.46**	**232**	P	**Pn**	**06 36 13.1**	**+3.7**
KAHZ	**Kahuranaki**	**3.48**	**213**	P	**Pn**	**06 36 09.2**	**-0.5**
ETAZ	**East Tamaki Re**	**3.56**	**268**	P	**Pn**	**06 36 12.2**	**+1.5**
MBAZ	**Motutapu North**	**3.59**	**271**	P	**Pn**	**06 36 12.2**	**+1.1**
KRHZ	**Kereru**	**3.61**	**220**	P	**Pn**	**06 36 11.6**	**+0.1**
TMVZ	**Te Maari**	**3.64**	**232**	P	**Pn**	**06 36 13.1**	**+1.1**
ABAZ	**Army Bay**	**3.65**	**273**	P	**Pn**	**06 36 13.9**	**+1.9**
BHHZ	**Black Hill Sta**	**3.66**	**224**	P	**Pn**	**06 36 12.1**	**-0.1**
PXZ	**Pawanui**	**3.69**	**211**	P	**Pn**	**06 36 12.1**	**-0.3**
OTVZ	**Oturere**	**3.69**	**231**	P	**Pn**	**06 36 13.5**	**+0.8**
EPAZ	**Eden Park BICE**	**3.70**	**269**	P	**Pn**	**06 36 14.7**	**+2.0**
HBAZ	**Herne Bay Bore**	**3.72**	**269**	P	**Pn**	**06 36 15.1**	**+2.2**
SNVZ	**South Ngauruho**	**3.72**	**231**	P	**Pn**	**06 36 14.0**	**+0.9**
TWVZ	**Taurewa**	**3.78**	**234**	P	**Pn**	**06 36 16.9**	**+3.0**
AWAZ	**Awhitu Peninsu**	**3.78**	**266**	P	**Pn**	**06 36 14.3**	**+0.5**
MOVZ	**Moawhango**	**3.79**	**228**	P	**Pn**	**06 36 13.7**	**-0.2**
WHVZ	**Whangaehu Hut**	**3.81**	**230**	P

JOW	**Kunigami**	**79.55**	**315**	LR	LR		07 17 57.2	
	comp=Z,19nm,21.5s,baz=252,slow=32							
PLCA	**Paso Flores**	**79.66**	**133**	LR	LR		07 13 48.1	
	comp=Z,35nm,19.3s,baz=187,slow=29							
PSI	**Prapat**	**84.03**	**278**	LR	LR		07 27 37.2	
	comp=Z,83nm,18.0s,baz=140,slow=38							
PETK	**Petropavlovsk-**	**91.60**	**347**	P	**P**		**06 48 23.1**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=145,slow=7.8,SNR=2.4							
	comp=Z,1.2nm,0.7s							
PFO	**Pinyon Flats O**	**92.18**	**49**	LR	LR		07 25 33.8	
	comp=Z,28nm,18.2s,baz=270,slow=33							
CMAR	**Chiang Mai Arr**	**93.53**	**290**	P	**P**		**06 48 31.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=167,slow=4.3,SNR=1.2							
CMAR				LR	LR		07 32 13.2	
	comp=Z,17nm,21.2s,baz=180,slow=37							
	comp=Z,0.5nm,0.3s							
NNA	**Nana**	**93.65**	**108**	LR	LR		07 23 06.3	
	comp=Z,38nm,18.6s,baz=238,slow=31							
ATAH	**Atahualpa**	**95.44**	**103**	LR	LR		07 21 37.8	
	comp=Z,54nm,21.8s,baz=265,slow=29							
KLR	**Kul'dur**	**95.58**	**331**	LR	LR		07 26 26.9	
	comp=Z,22nm,19.5s,baz=92,slow=32							
CPUP	**Villa Florida**	**97.54**	**131**	LR	LR		07 25 22.8	
	comp=Z,54nm,19.2s,baz=220,slow=31							
MA2	**Magadan**	**99.00**	**346**	LR	LR		07 30 48.7	
	comp=Z,20nm,18.7s,baz=112,slow=34							
BBB	**Bella Bella**	**99.84**	**30**	LR	LR		07 29 08.8	
	comp=Z,31nm,19.1s,baz=215,slow=32							
MKAR	**Makanchi Array**	**120.15**	**308**	PKP	**PKPdf**		**06 54 04.8**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=116,slow=2.8,SNR=6.1							
ARCES	**ARCESS Array B**	**144.37**	**345**	PKP	PKPbc		06 54 50.4	+0.9
	comp=Z,3.1nm,0.8s,baz=43,slow=2.3,SNR=5.8							
FINES	**FINESS Array B**	**150.28**	**334**	PKPbc	**PKPbc**		**06 55 05.9**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=23,slow=4.7,SNR=15							
BRTR	**Keskin Array B**	**153.06**	**287**	PKPbc	**PKPbc**		**06 55 12.2**	**-1.4**
	comp=Z,1.1nm,0.8s,baz=134,slow=3.6,SNR=4.9							
NOA	**NORSAR Array B**	**154.71**	**346**	PKPbc	**PKiKP**		**06 55 17.1**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=30,slow=2.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**156.25**	**186**	PKPab	**PKPab**		**06 55 39.3**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=175,slow=5.0,SNR=2.8							

*IDC **09** 06:40:00.8±1.2,29°.30N×139°.60E,h396km±15km, mb2.9/5, mbtmp3.7/6, Error ellipse: s-maj=37.2km s-min=17.6km az=73.0*
*JMA **09** 06:40:01.3±0.2,29°.3N±0°.7×13°9E±°, h365km±4km, NEAR TORISHIMA IS*
ISC 09 06:40:01.1±0.9, 29°29N±0°.08×139°6E±0°2, h400km, n10, σ0s50/13, mb3.1/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.16**	**133**	P		**Pn**	**06 41 06.3**	**+0.7**
CBIJ				S		**S**	**06 41 57.3**	**-0.6**
JCJ	**Chichijima**	**3.16**	**133**	P		**Pn**	**06 41 06.0**	**+0.3**
	29nm,0.3s,baz=53,slow=23,SNR=12							
JCJ				S		**S**	**06 41 57.3**	**-0.6**
	153nm,0.3s,baz=282,slow=21,SNR=24							
JHH2	**Haha-jima-NKT2**	**3.49**	**139**	P		**Pn**	**06 41 09.2**	**+0.7**
JHH2				S		**S**	**06 42 02.6**	**-0.5**
BSO1	**Boso 1**	**5.48**	**12**	S		**S**	**06 42 37.8**	**0.0**
BSO3	**Boso 3**	**5.55**	**8**	eS		**S**	**06 42 39.2**	**-0.5**
ZALV	**Zalesovo Beam**	**46.34**	**318**	P		**P**	**06 47 48.6**	**-0.2**
	0.5nm,0.4s,baz=90,slow=8.6,SNR=1.1							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**47.32**	**308**	P		**P**	**06 47 56.2**	**-0.2**
	0.2nm,0.3s,baz=87,slow=10,SNR=6.5							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**49.20**	**187**	P		**P**	**06 48 10.7**	**-0.2**
	1.7nm,0.5s,baz=6.5,slow=8.0,SNR=35							
	1.7nm,0.5s							
ASAR	**Alice Springs**	**52.93**	**187**	P		**P**	**06 48 38.4**	**+0.3**
	0.4nm,0.5s,baz=2.1,slow=8.4,SNR=6.5							
	0.4nm,0.5s							
NVAR	**Mina Array Bea**	**80.95**	**51**	P		**P**	**06 51 32.6**	**0.0**
	0.2nm,0.5s,baz=282,slow=5.6,SNR=2.4							
	0.2nm,0.5s							

*INET **09** 06:54:21.8±0.2, 13°.32N×89°.03W, h2km±1km, MW3.7*
*GCG **09** 06:54:23.5±0.6, 13°.25N×89°.25W, h60km±75km, MD3.8*
*NEIC **09** 06:54:23.8±2.0, 13°.37N±0°.07×89°.08W±0°.07, h52km±3km, mb4.2/6, Md4.0(SNET), Error ellipse: s-maj=12.6km s-min=7.1km az=47.0*
ISC 09 06:54:23.0±1.0, 13°26N±0°.06×89°18W±0°.04, h55km±7km, n66, σ1s08/102, 2C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LFRS	**El Faro**	**0.38**	**18**	*eP*		**Pn**	**06 54 32.8**	**-0.7**
ITCA	**Escuela Especi**	**0.43**	**347**	*eP*		**Pn**	**06 54 33.2**	**-0.8**
ITCA				*eS*		**Sn**	**06 54 41.8**	**0.0**
SNET	**Serv Nac Est T**	**0.43**	**353**			**Pn**	**06 54 33.1**	**-0.9**
SNET					Sn	**Sn**	**06 54 40.7**	**-1.1**
SNET	**Serv Nac Est T**	**0.43**	**353**	*eP*		**Pn**	**06 54 33.3**	**-0.7**
SNET				*eS*		**Sn**	**06 54 42.4**	**+0.5**
AEIL	**Aeropuerto Ilo**	**0.44**	**8**	*eP*		**Pn**	**06 54 33.9**	**-0.2**
AEIL				*eS*		**Sn**	**06 54 43.0**	**+1.0**
UTEC	**Universidad Te**	**0.44**	**357**	*eP*		**Pn**	**06 54 33.6**	**-0.5**
UTEC				*eS*		**Sn**	**06 54 42.9**	**+0.9**
SEMO	**Seminario San**	**0.45**	**355**	*eP*		**Pn**	**06 54 33.5**	**-0.7**
SEMO				*eS*		**Sn**	**06 54 42.6**	**+0.4**
IGN	**Direccin Gen**	**0.46**	**1**	*ıeP*		**Pn**	**06 54 33.9**	**-0.3**
IGN				*eS*		**Sn**	**06 54 43.0**	**+0.7**
UEES	**Universidad Ev**	**0.46**	**353**	*eP*		**Pn**	**06 54 33.8**	**-0.6**
UEES				*eS*		**Sn**	**06 54 43.0**	**+0.5**
COEG	**Centro de Oper**	**0.47**	**39**	*ıeP*		**Pn**	**06 54 33.8**	**-0.5**
COEG				*eS*		**Sn**	**06 54 43.0**	**+0.6**
BOQS	**Boqueron**	**0.49**	**349**	*eP*		**Pn**	**06 54 34.2**	**-0.5**
BOQS				*eS*		**Sn**	**06 54 43.7**	**+0.5**
SNVI	**San Vicente**	**0.49**	**43**	*eP*		**Pn**	**06 54 34.1**	**-0.5**
SNVI				*eS*		**Sn**	**06 54 44.0**	**+1.0**
LFU	**La Fuente**	**0.49**	**8**	*eP*		**Pn**	**06 54 34.6**	**0.0**
LFU				*eS*		**Sn**	**06 54 44.1**	**+1.1**
LBRS	**Las Brisas**	**0.50**	**16**	*eP*		**Pn**	**06 54 34.6**	**-0.1**
LBRS				*eS*		**Sn**	**06 54 44.1**	**+1.0**
PAVA	**Las Pavas**	**0.51**	**28**	*ıeP*		**Pn**	**06 54 34.7**	**-0.2**
PAVA				*eS*		**Sn**	**06 54 44.6**	**+1.1**
CEDA	**San Andres**	**0.58**	**339**	*ıeP*		**Pn**	**06 54 35.0**	**-0.7**
CEDA				*eS*		**Sn**	**06 54 44.5**	**-0.2**
COEB	**Comit de Eme**	**0.68**	**69**	*ıeP*		**Pn**	**06 54 36.1**	**-0.8**
COEB				*eS*		**Sn**	**06 54 47.8**	**+0.9**
PQSS	**Presa 15 de Se**	**0.71**	**59**	*eP*		**Pn**	**06 54 36.8**	**-0.3**
PQSS				*eS*		**Sn**	**06 54 48.9**	**+1.5**
CEVE	**Cerro Verde**	**0.71**	**323**	*ıeP*		**Pn**	**06 54 36.5**	**-1.0**
CEVE				*eS*		**Sn**	**06 54 48.4**	**+0.5**
SBLS	**San Blas**	**0.72**	**324**	*eP*		**Pn**	**06 54 36.4**	**-1.1**
SNJE	**San Jose**	**0.74**	**326**	*eP*		**Pn**	**06 54 36.8**	**-0.9**
SNJE				*eS*		**Sn**	**06 54 48.5**	**+0.2**
RTR	**El Retiro**	**0.78**	**325**	*eP*		**Pn**	**06 54 37.6**	**-0.7**
RTR				*eS*		**Sn**	**06 54 49.4**	**+0.1**
UNIC	**Universidad Ca**	**0.81**	**334**	*eP*		**Pn**	**06 54 37.8**	**-0.6**
UNIC				*eS*		**Sn**	**06 54 50.3**	**+0.6**
P5NO	**Presa 5 de nov**	**0.83**	**29**	*ıeP*		**Pn**	**06 54 38.8**	**0.0**
P5NO				*eS*		**Sn**	**06 54 52.2**	**+1.9**
PACA	**Pacayal**	**0.86**	**76**	*eP*		**Pn**	**06 54 39.1**	**-0.1**
PACA				*eS*		**Sn**	**06 54 52.9**	**+1.8**
LCY	**Lacayo**	**0.88**	**79**	*eP*		**Pn**	**06 54 39.3**	**-0.1**
LCY				*eS*		**Sn**	**06 54 52.5**	**+1.1**
RANC	**El Ranchito**	**0.89**	**78**	*ıeP*		**Pn**	**06 54 39.3**	**-0.2**
VSM	**San Miguel**	**0.90**	**79**	*eP*		**Pn**	**06 54 39.6**	**-0.2**
VSM				*eS*		**Sn**	**06 54 53.3**	**+1.2**
LLGN	**La Laguna**	**0.93**	**14**	*eP*		**Pn**	**06 54 40.0**	**-0.1**
LLGN				*eS*		**Sn**	**06 54 54.6**	**+2.0**
SLOZ	**Alcaldia de Sa**	**0.96**	**323**	*ıeP*		**Pn**	**06 54 39.7**	**-0.8**
SLOZ				*eS*		**Sn**	**06 54 53.7**	**+0.3**
CNRM	**Centro Naciona**	**1.01**	**77**	*eP*		**Pn**	**06 54 40.8**	**-0.2**
CNRM				*eS*		**Sn**	**06 54 55.7**	**+1.4**
MTO3	**Montecristo**	**1.15**	**351**			**Pn**	**06 54 43.0**	**-0.2**
MTO3					Sn	**Sn**	**06 54 55.1**	**-2.9**
MTO3	**Montecristo**	**1.15**	**351**	*ıeP*		**Pn**	**06 54 42.9**	**-0.2**
LCND	**La Caada**	**1.26**	**87**	*eP*		**Pn**	**06 54 43.9**	**-0.5**
LCND				*eS*		**Sn**	**06 55 01.5**	**+1.2**
ESQI	**Esquipulas**	**1.31**	**353**			**Pn**	**06 54 45.5**	**+0.3**
ESQI					Sn	**Sn**	**06 54 57.5**	**-4.1**
ESQI	**Esquipulas**	**1.31**	**353**	*ıeP*		**Pn**	**06 54 45.4**	**+0.3**
CNCH	**Conchagua**	**1.31**	**89**	*eP*		**Pn**	**06 54 44.5**	**-0.7**
CSGN	**Cosiguina Volc**	**1.60**	**100**	*eP*		**Pn**	**06 54 48.1**	**-1.0**
CSGN				*eS*		**Sn**	**06 55 08.4**	**-0.4**
NBG	**Las Nubes**	**1.74**	**320**	*eP*		**Pn**	**06 54 51.8**	**+0.6**
MRL	**Marmol**	**1.88**	**345**	*ıeP*		**Pn**	**06 54 54.1**	**+1.1**
FUG	**Fuego 3**	**2.00**	**307**	*eP*		**Pn**	**06 54 55.4**	**+0.8**
FUG				*eS*		**Sn**	**06 55 19.6**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.02**	**67**			**Pn**	**06 54 54.8**	**-0.1**
CRIN	**San Cristobal**	**2.15**	**105**			**Pn**	**06 54 56.2**	**-0.4**
CRIN	**San Cristobal**	**2.15**	**105**	*eP*		**Pn**	**06 54 55.7**	**-0.8**
CRIN				*eS*		**Sn**	**06 55 22.4**	**+0.3**
STG3	**Santiaguito 3,**	**2.73**	**302**	*eP*		**Pn**	**06 55 05.0**	**+0.3**
STG3				*eS*		**Sn**	**06 55 37.8**	**+1.2**
COPN	**Copaltepe**	**2.74**	**113**	*eP*		**Pn**	**06 55 03.7**	**-0.9**
RTAL	**Retalhuleu**	**2.75**	**298**			**Pn**	**06 55 05.4**	**+0.7**
APYN	**Apoyeque**	**2.94**	**110**	*eP*		**Pn**	**06 55 07.7**	**+0.3**
APYN				*eS*		**Sn**	**06 55 38.3**	**-3.2**
HUEH	**Huehuetenango**	**3.04**	**313**			**Pn**	**06 55 08.7**	**-0.3**
MATN	**Matagalpa**	**3.19**	**95**			**Pn**	**06 55 09.8**	**-1.0**
BOAB	**BOACO BROADBAN**	**3.52**	**103**			**Pn**	**06 55 13.7**	**-1.6**
BOAB	**BOACO BROADBAN**	**3.52**	**103**	*eP*		**Pn**	**06 55 13.5**	**-1.8**
PETF	**Flores**	**3.70**	**350**			**Pn**	**06 55 17.8**	**0.0**
ACON	**Acoyapa**	**4.12**	**108**			**Pn**	**06 55 24.4**	**+0.9**
HZTE	**Horizontes, Gu**	**4.32**	**125**	Pn		**Pn**	**06 55 26.4**	**0.0**
ORTG	**Ortega, Santa**	**4.64**	**128**			**Pn**	**06 55 30.0**	**-0.7**
JTS	**Las Juntas de**	**5.08**	**125**			**Pn**	**06 55 36.4**	**-0.4**
COVE	**Coope Vega, Sa**	**5.31**	**118**	Pn		**Pn**	**06 55 42.8**	**+2.9**
RIMA	**Rio Macho**	**6.26**	**123**			**Pn**	**06 55 54.5**	**+1.5**
SRBA	**San Rafael, Bu**	**6.97**	**124**			**Pn**	**06 56 03.4**	**+0.7**
SOR	**Soroa**	**11.15**	**31**	Pn		**Pn**	**06 56 57.4**	**-2.4**
ZAIG	**Zacatecas**	**15.85**	**309**	Pn		**Pn**	**06 58 04.0**	**+1.0**
KVTX	**Kingsville**	**16.38**	**332**	P		**Pn**	**06 58 10.9**	**+1.5**
DWPF	**Disney Wildern**	**16.45**	**25**	P		**P**	**06 58 11.3**	**-0.9**
DWPF				IAmb		IAmb	06 58 25.0	
	comp=Z,86nm,1.5s							
HKT	**Hockley**	**17.72**	**341**	P		**P**	**06 58 26.4**	**+0.3**
HKT				IAmb		IAmb	06 59 08.6	
	comp=Z,3.5nm,1.1s							
146A	**Union**	**19.29**	**0**	P		**Pn**	**06 58 44.8**	**-0.2**
146A				IAmb		IAmb	06 58 45.3	
	comp=Z,16nm,0.9s							

*IDC **09** 06:54:34.0±1.8,2°.76N×96°.18E, h0km, mb3.7/5, mbtmp3.7/6,ML2.9/1,MS2.8/1, Error ellipse: s-maj=52.0km s-min=20.6km az=47.0*
ISC 09 06:54:37.3±1.6,2°.7N±0°.2×96°.1E±0°.1, h25km, n6, σ0s78/7, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**2.79**	**88**	Pn		**Pn**	**06 55 19.6**	**-1.0**
	1.9nm,0.3s,baz=293,slow=7.4,SNR=5.0							
PSI					Sn	**Sn**	**06 55 54.4**	**+1.0**
	2.4nm,0.3s,baz=219,slow=12,SNR=3.4							
PSI					LR	LR	06 56 21.2	
	comp=Z,143nm,18.4s,baz=232,slow=39							
	5.2nm,0.3s							
WRA	**Warramunga Arr**	**43.75**	**123**	P		**P**	**07 02 41.1**	**0.0**
	1.0nm,0.7s,baz=300,slow=9.0,SNR=11							
	1.0nm,0.7s							
ASAR	**Alice Springs**	**45.16**	**128**	P		**P**	**07 02 52.8**	**+0.4**
	0.4nm,0.7s,baz=297,slow=6.8,SNR=2.8							
	0.4nm,0.7s							
MKAR	**Makanchi Array**	**45.52**	**347**	P		**P**	**07 02 55.4**	**+0.5**
	0.6nm,0.5s,baz=153,slow=9.1,SNR=11							
	0.6nm,0.5s							
SONM	**Songino Array**	**45.80**	**10**	P		**P**	**07 02 56.9**	**-0.3**
	0.5nm,0.5s,baz=185,slow=8.1,SNR=3.1							
	0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**51.90**	**352**	P		**P**	**07 03 43.8**	**+0.1**
	1.4nm,0.6s,baz=182,slow=7.1,SNR=4.7							
	1.4nm,0.6s							

*IDC **09** 07:03:39.3±0.8, 48°.28S×31°.62E, h0km, mb4.0/11, mbtmp4.1/12, ML4.4/1, MS3.6/18, Error ellipse: s-maj=32.5km s-min=16.3km az=66.0*
*NEIC **09** 07:03:41.4±1.9, 48°.30S±0°.03×31°.6E±0°.2, h10km±1km, mb4.4/18, Error ellipse: s-maj=23.9km s-min=5.8km az=89.0*
ISC 09 07:03:42.0±0.6, 48°26S±0°.08×31°7E±0°.1, h18km, n45, σ0s97/33, mb4.3/14, MS3.6/17, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SUR	**Sutherland**	**17.86**	**329**	P		**Pn**	**07 07 48.9**	**-0.7**
	1.6nm,0.3s,baz=148,slow=13,SNR=23							
SUR					LR	LR	07 13 23.4	
	comp=Z,203nm,19.8s,baz=156,slow=33							
	4.5nm,0.4s							
SUR	**Sutherland**	**17.86**	**329**	Pn		**Pn**	**07 07 48.6**	**-1.0**
BOSA	**Boshof**	**20.23**	**344**	P		**P**	**07 08 16.2**	**0.0**
	5.3nm,1.0s,baz=193,slow=13,SNR=4.3							
BOSA					LR	LR	07 14 27.5	
	comp=Z,130nm,21.9s,baz=184,slow=32							
	5.3nm,1.0s							
BOSA	**Boshof**	**20.23**	**344**	P		**P**	**07 08 16.5**	**+0.3**
BOSA					IAmb	IAmb	07 08 28.8	
	comp=Z,20nm,1.5s							
POGA	**Pongola**	**20.88**	**0**	P		**P**	**07 08 21.8**	**-1.3**
POGA					IAmb	IAmb	07 08 38.4	
	comp=Z,22nm,1.3s							
LBTB	**Lobatse**	**23.69**	**346**	LR		LR	07 17 30.0	
	comp=Z,66nm,18.0s,baz=166,slow=35							
LBTB	**Lobatse**	**23.69**	**346**	P		**P**	**07 08 53.3**	**+0.6**
LBTB					IAmb	IAmb	07 09 19.1	
	comp=Z,15nm,1.2s							
MAW	**Mawson**	**25.02**	**152**	P		**P**	**07 09 05.8**	**+1.4**
	comp=Z,7.9nm,0.8s,baz=293,slow=11,SNR=16							
MAW					LR	LR	07 16 43.2	
	comp=Z,80nm,19.1s,baz=352,slow=31							
	comp=Z,7.9nm,0.8s							
MAW	**Mawson**	**25.02**	**152**	P		**P**	**07 09 05.2**	**+0.7**
TROLL	**Troll, Antarti**	**27.31**	**199**	P		**P**	**07 09 23.8**	**-1.5**
SNAA	**Sanae**	**28.36**	**202**	P		**P**	**07 09 36.7**	**+2.1**
SNAA	**Sanae**	**28.36**	**202**	P		**P**	**07 09 36.4**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=69,slow=8.6,SNR=2.7							
SNAA					LR	LR	07 17 50.4	
	comp=Z,44nm,21.0s,baz=30,slow=30							
	comp=Z,1.2nm,0.9s							
SNAA	**Sanae**	**28.36**	**202**	P		**P**	**07 09 35.2**	**+0.7**
SNAA					IAmb	IAmb	07 09 52.7	
	comp=Z,5.5nm,1.1s							
TSUM	**Tsumeb**	**31.16**	**334**	LR		LR	07 22 10.9	
	comp=Z,159nm,18.2s,baz=155,slow=36							
LSZ	**Lusaka**	**33.02**	**354**	LR		LR	07 22 04.3	
	comp=Z,123nm,20.3s,baz=173,slow=34							
LSZ	**Lusaka**	**33.02**	**354**	P		**P**	**07 10 16.0**	**-0.2**
LSZ					IAmb	IAmb	07 10 26.2	
	comp=Z,4.0nm,1.1s							
BELA	**Belgrano 2**	**38.37**	**198**	P		**P**	**07 11 00.3**	**-1.1**
QSPA	**South Pole Qui**	**41.96**	**180**	P		**P**	**07 11 30.3**	**-1.2**
	comp=Z,7.8nm,0.9s,baz=254,slow=3.2,SNR=29							
	comp=Z,7.8nm,0.9s							
QSPA	**South Pole Qui**	**41.96**	**180**	P		**P**	**07 11 30.3**	**-1.2**
QSPA					IAmb	IAmb	07 11 40.3	
	comp=Z,15nm,0.9s							
KMBO	**Kilima Mbogo**	**47.20**	**8**	LR		LR	07 29 41.3	
	comp=Z,67nm,20.3s,baz=115,slow=33							
MBAR	**Mbarara**	**47.48**	**359**	LR		LR	07 29 52.9	
	comp=Z,57nm,22.0s,baz=84,slow=33							
VNDA	**Vanda**	**50.78**	**168**	P		**P**	**07 12 40.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=236,slow=7.5,SNR=6.4							
VNDA					LR	LR	07 33 19.3	
	comp=Z,113nm,19.6s,baz=204,slow=35							
	comp=Z,0.9nm,0.6s							
VNDA	**Vanda**	**50.78**	**168**	P		**P**	**07 12 40.0**	**-0.3**
VNDA					IAmb	IAmb	07 12 49.6	
	comp=Z,3.8nm,0.8s							
DBIC	**Dimbokro**	**63.41**	**319**	P		**P**	**07 14 10.6**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=189,slow=6.3,SNR=5.0							
	comp=Z,3.2nm,0.7s							
DBIC	**Dimbokro**	**63.41**	**319**	P		**P**	**07 14 10.7**	**+0.3**
TRQA	**Tornquist**	**64.96**	**240**	P		**P**	**07 14 21.7**	**+1.2**
TRQA					IAmb	IAmb	07 14 42.5	
	comp=Z,3.9nm,1.1s							
TORD	**Torodi Ar. Sit**	**66.69**	**328**	P		**P**	**07 14 32.6**	**+0.9**
TOA0					IAmb	IAmb	07 14 33.5	
	comp=Z,3.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**66.69**	**328**	P		**P**	**07 14 33.0**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=168,slow=6.4,SNR=8.4							
	comp=Z,1.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**66.69**	**328**	P		**P**	**07 14 32.7**	**+1.1**
PLCA	**Paso Flores**	**67.90**	**233**	P		**P**	**07 14 39.2**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=146,slow=11,SNR=3.3							
PLCA					LR	LR	07 39 47.1	
	comp=Z,26nm,19.0s,baz=144,slow=32							
	comp=Z,0.7nm,0.8s							
CPUP	**Villa Florida**	**70.19**	**252**	P		**P**	**07 14 53.2**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=98,slow=11,SNR=3.4							
	comp=Z,1.2nm,0.8s							
CPUP	**Villa Florida**	**70.19**	**252**	P		**P**	**07 14 53.0**	**-0.7**
CPUP					IAmb	IAmb	07 15 11.8	
	comp=Z,7.9nm,1.4s							
XMIS	**Christmas Isla**	**71.60**	**85**	P		**P**	**07 15 02.7**	**+0.3**
BBTS	**Babate**	**75.88**	**312**	LR		LR	07 41 09.4	
	comp=Z,41nm,19.9s,baz=178,slow=30							
ASAR	**Alice Springs**	**80.39**	**115**	P		**P**	**07 15 52.7**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=223,slow=5.0,SNR=2.7							
	comp=Z,0.5nm,0.8s							
LTZ	**Lake Taylor**	**82.92**	**152**	P		**P**	**07 16 04.9**	**-0.5**
WRA	**Warramunga Arr**	**83.44**	**113**	P		**P**	**07 16 08.1**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=209,slow=3.9,SNR=3.2							
	comp=Z,0.5nm,0.9s							
WRA	**Warramunga Arr**	**83.44**	**113**	P		**P**	**07 16 09.1**	**+0.6**
VAE	**Valguarnera**	**86.74**	**346**	LR		LR	07 57 05.5	
	comp=Z,90nm,18.3s,baz=278,slow=37							
GNI	**Garni**	**88.80**	**10**	LR		LR	07 54 11.3	
	comp=Z,24nm,21.7s,baz=203,slow=34							
GEYT	**Ailbeck**	**88.99**	**21**	LR		LR	07 55 14.2	
	comp=Z,22nm,18.3s,baz=89,slow=35							
CMAR	**Chiang Mai Arr**	**89.38**	**61**	LR		LR	07 50 38.1	
	comp=Z,27nm,18.5s,baz=185,slow=32							
ESDC	**Sonseca Array**	**93.09**	**333**	LR		LR	08 00 20.8	
	comp=Z,36nm,18.3s,baz=160,slow=36							
DAVOX	**Davos/Dischmat**	**96.55**	**345**	LR		LR	08 01 18.2	
	comp=Z,22nm,19.6s,baz=139,slow=36							
PDAR	**Pinedale Array**	**152.49**	**273**	PKPbc		**PKPbc**	**07 23 36.1**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=98,slow=3.8,SNR=4.1							

NNC 09 07:15:51.0±0.2, 50°01N×78°68E, h0km, mb3.6, mpv3.2, 21C-8D, Error ellipse: s-maj=2.5km s-min=1.2km az=69.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.59**	**350**	*ıP*		Pg	07 16 02.8	+0.4
KUR07				*ıS*		Sg	07 16 11.3	+1.4
KUR06	**Kurchatov Arra**	**0.61**	**350**	*ıP*		Pg	07 16 03.2	+0.5
KUR06				*ıS*		Sg	07 16 11.7	+1.1
KUR14	**Kurchatov Arra**	**0.61**	**355**	*ıP*		Pg	07 16 03.1	+0.3
KUR14				*ıS*		Sg	07 16 11.7	+0.9
KUR15	**Kurchatov Arra**	**0.62**	**353**	*ıP*		Pg	07 16 03.2	+0.2
KUR15				*ıS*		Sg	07 16 12.1	+1.1
KURBB	**Kurchatov Arra**	**0.63**	**351**	*ıP*		Pg	07 16 03.3	+0.2
KURBB				*ıS*		Sg	07 16 12.6	+1.4
	209nm,0.6s							
KUR16	**Kurchatov Arra**	**0.63**	**349**	*ıP*		Pg	07 16 03.6	+0.4
KUR16				*ıS*		Sg	07 16 12.5	+1.1
KUR17	**Kurchatov Arra**	**0.64**	**348**	*ıP*		Pg	07 16 03.6	+0.2
KUR17				*ıS*		Sg	07 16 12.7	+1.0
KUR05	**Kurchatov Arra**	**0.65**	**352**	*ıP*		Pg	07 16 03.7	+0.3
KUR05				*ıS*		Sg	07 16 12.6	+0.8
KUR04	**Kurchatov Arra**	**0.66**	**352**	*ıP*		Pg	07 16 04.1	+0.3
KUR04				*ıS*		Sg	07 16 12.9	+0.5
KURK	**Kurchatov**	**0.71**	**357**	*ıP*		Pg	07 16 04.7	0.0
	26nm,0.4s							
KURK				*ıS*		Sg	07 16 14.9	+1.0

MTN					IAmb	IAmb	07 44 12.9		
	comp=Z,12nm,1.1s								
KNRA	**Kununurra**	**19.21**	**176**	P	**P**		**07 44 25.5**	**-0.8**	
KNRA					IAmb	IAmb	07 44 45.9		
	comp=Z,30nm,1.4s								
GUMO	**Guam**	**19.96**	**59**	LR	LR		07 50 42.7		
	comp=Z,40nm,21.1s,baz=257,slow=32								
TWG	**Pinlang**	**20.05**	**343**	P	**P**		**07 44 33.6**	**-2.0**	
TWG					IAmb	IAmb	07 44 41.2		
	comp=Z,19nm,0.5s								
TPUB	**Ta-pu**	**20.63**	**342**	P	**P**		**07 44 40.2**	**-1.7**	
SSLB	**Suanglung**	**20.99**	**343**	P	**P**		**07 44 44.3**	**-1.5**	
FITZ	**Fitzroy Crossi**	**21.63**	**184**	P	**P**		**07 44 49.9**	**-2.7**	
	comp=Z,0.9nm,0.5s,baz=326,slow=4.4,SNR=9.3								
	comp=Z,0.9nm,0.5s								
WRA	**Warramunga Arr**	**24.39**	**164**	P	**P**		**07 45 17.9**	**-2.4**	
	comp=Z,0.9nm,0.5s,baz=344,slow=10,SNR=16								
	comp=Z,0.9nm,0.5s								
WRA	**Warramunga Arr**	**24.39**	**164**	P	**P**		**07 45 17.4**	**-2.9**	
WB2	**Warramunga Arr**	**24.39**	**164**	P	**P**		**07 45 17.6**	**-2.8**	
WB2					IAmb	IAmb	07 45 38.0		
	comp=Z,6.8nm,1.1s								
MBWA	**Marble Bar**	**25.71**	**197**	P	**P**		**07 45 31.9**	**-0.3**	
MBWA					IAmb	IAmb	07 46 15.2		
	comp=Z,27nm,1.3s								
PSA00	**Pilbara Seismi**	**26.07**	**196**	P	**P**		**07 45 35.4**	**-0.2**	
PSA00					IAmb	IAmb	07 45 52.5		
	comp=Z,27nm,1.5s								
AS31	**Alice Springs**	**27.85**	**167**	P	**P**		**07 45 52.6**	**+1.0**	
ASAR	**Alice Springs**	**27.85**	**167**	P	**P**		**07 45 50.4**	**-1.2**	
	comp=Z,0.3nm,0.3s,baz=347,slow=7.8,SNR=10								
	comp=Z,0.3nm,0.3s								
ASAR	**Alice Springs**	**27.85**	**167**	P	**P**		**07 45 53.3**	**+1.8**	
KSRS	**Korea Array**	**33.70**	**1**	LR	LR		08 05 15.2		
	comp=Z,11nm,18.3s,baz=210,slow=45								
MJAR	**Matsushiro Arr**	**34.28**	**16**	LR	LR		07 58 47.8		
	comp=Z,29nm,20.4s,baz=202,slow=33								
STKA	**Stephens Creek**	**37.80**	**160**	P	**P**		**07 47 17.0**	**-1.2**	
	comp=Z,2.2nm,0.6s,baz=336,slow=10,SNR=6.6								
	comp=Z,2.2nm,0.6s								
STKA	**Stephens Creek**	**37.80**	**160**	P	**P**		**07 47 16.7**	**-1.5**	
STKA					IAmb	IAmb	07 47 38.2		
	comp=Z,2.3nm,1.3s								
H11S3	**WAKE ISLAND Hy**	**41.23**	**66**	T	T		08 31 15.0		
	baz=255,slow=74,SNR=8.4								
H11S2	**WAKE ISLAND Hy**	**41.25**	**66**	T	T		08 31 23.7		
	baz=255,slow=74,SNR=7.2								
H11S1	**WAKE ISLAND Hy**	**41.25**	**66**	T	T		08 31 12.3		
	baz=255								
KLR	**Kul'dur**	**45.62**	**4**	P	**P**		**07 48 22.5**	**+0.6**	
	comp=Z,1.8nm,0.6s,baz=220,slow=7.9,SNR=5.0								
	comp=Z,1.8nm,0.6s								
SONM	**Songino Array**	**47.61**	**341**	P	**P**		**07 48 38.5**	**+0.7**	
	comp=Z,0.6nm,0.5s,baz=168,slow=7.4,SNR=2.8								
	comp=Z,0.6nm,0.5s								
PEA0B	**Petropavlovsk-**	**55.32**	**22**	P	**P**		**07 49 36.0**	**+0.8**	
PETK	**Petropavlovsk-**	**55.32**	**22**	P	**P**		**07 49 35.4**	**+0.2**	
	comp=Z,1.4nm,0.6s,baz=226,slow=7.4,SNR=4.2								
	comp=Z,1.4nm,0.6s								
PETK	**Petropavlovsk-**	**55.32**	**22**	P	**P**		**07 49 34.9**	**-0.3**	
MK31	**Makanchi Array**	**58.01**	**325**	P	**P**		**07 49 53.3**	**-1.0**	
MK31					IAmb	IAmb	07 50 06.4		
	comp=Z,1.1nm,0.8s								
MKAR	**Makanchi Array**	**58.01**	**325**	P	**P**		**07 49 55.4**	**+1.0**	
	comp=Z,0.7nm,0.4s,baz=123,slow=8.1,SNR=11								
	comp=Z,0.7nm,0.4s								
MKAR	**Makanchi Array**	**58.01**	**325**	P	**P**		**07 49 53.6**	**-0.8**	
KURBB	**Kurchatov Arra**	**62.17**	**327**	P	**P**		**07 50 23.4**	**+0.6**	
	comp=Z,2.5nm,0.2s,baz=125,slow=6.4,SNR=8.3								
	comp=Z,2.5nm,0.2s								
KURK	**Kurchatov**	**62.17**	**327**	P	**P**		**07 50 22.1**	**-0.7**	
KURK					IAmb	IAmb	07 50 35.7		
	comp=Z,5.0nm,1.1s								
BVAR	**Borovoye Array**	**67.76**	**327**	P	**P**		**07 50 59.5**	**+0.4**	
	comp=Z,2.3nm,0.8s,baz=141,slow=9.6,SNR=9.6								
	comp=Z,2.3nm,0.8s								
AKTO	**Aktyubinsk**	**74.14**	**322**	P	**P**		**07 51 38.1**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=102,slow=12,SNR=5.3								
	comp=Z,1.4nm,0.7s								

IDC 09 07:43:35.8±2.0, 3°24'N×126°95'E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=133.8km s-min=23.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.24**	**183**	P	P	07 48 24.9	+1.3
	4.4nm,1.3s,baz=7.2,slow=12,SNR=1.8						
	4.4nm,1.3s						
WRA	**Warramunga Arr**	**24.15**	**163**	P	P	07 48 53.1	-0.7
	0.5nm,0.8s,baz=339,slow=10,SNR=3.4						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**27.59**	**166**	P	P	07 49 25.0	+0.1
	0.1nm,0.3s,baz=342,slow=12,SNR=1.6						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.08**	**325**	P	P	07 53 31.8	+0.8
	0.1nm,0.4s,baz=125,slow=7.7,SNR=2.8						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**62.27**	**327**	P	P	07 53 58.4	-1.1
	0.8nm,0.2s,baz=122,slow=6.7,SNR=2.7						
	0.8nm,0.2s						

IDC 09 08:02:04.8±3.1, 54°47'N×83°60'E, h0km, mbtmp2.7/1, ML2.5/1, Error ellipse: s-maj=21.4km s-min=12.6km az=143.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**126**	*i*		08 07 00.0	
	baz=306,slow=330,SNR=0.8						
ZALV	**Zalesovo Beam**	**0.89**	**126**	Pg	Pg	08 02 21.1	-0.7
	2.1nm,0.3s,baz=304,slow=14,SNR=12						
ZALV				Lg	Lg	08 02 34.8	
	3.2nm,0.3s,baz=306,slow=29,SNR=15						
ZALV				Rg	Rg	08 02 39.4	
	7.1nm,0.4s,baz=305,slow=29,SNR=7.0						
MKAR	**Makanchi Array**	**7.73**	**187**	Pn	Pn	08 03 59.2	+0.7
	0.1nm,0.3s,baz=10,slow=11,SNR=2.8						
	0.4nm,0.7s						

IDC 09 08:03:34.5±3.4, 53°65N×88°00E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=29.7km s-min=18.6km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**280**	*i*		08 15 30.0	
	baz=97,slow=320,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.91**	**280**	Pg	Pn	08 04 08.9	+0.7
	1.3nm,0.3s,baz=99,slow=17,SNR=6.3						
ZALV				Lg	Lg	08 04 34.9	
	2.0nm,0.3s,baz=98,slow=25,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn	Pn	08 05 12.9	+0.6
	0.1nm,0.3s,baz=63,slow=14,SNR=1.9						
KURBB				Lg	Lg	08 07 03.0	
	0.1nm,0.3s,baz=62,slow=33,SNR=1.4						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**7.78**	**210**	Pn	Pn	08 05 30.3	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=2.3						
MKAR				Lg	Lg	08 07 41.0	
	0.1nm,0.3s,baz=32,slow=32,SNR=5.9						
	0.2nm,0.5s						

IDC 09 08:06:29.9±4.8, 54°09S×160°77E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=428.8km s-min=66.5km az=56.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**36.45**	**316**	P	P	08 13 35.8	-0.6
	1.1nm,1.0s,baz=151,slow=7.3,SNR=4.9						
	1.1nm,1.0s						
H01W1	**Cape Leeuwin H**	**37.55**	**281**	T	T	08 52 18.0	
	baz=136,slow=75,SNR=360						
H01W2	**Cape Leeuwin H**	**37.56**	**281**	T	T	08 52 18.5	
	baz=136,slow=75,SNR=570						
H01W3	**Cape Leeuwin H**	**37.57**	**281**	T	T	08 52 19.3	
	baz=136,slow=75,SNR=407						
WRA	**Warramunga Arr**	**39.62**	**319**	P	P	08 14 03.5	+0.3
	0.7nm,0.9s,baz=158,slow=7.1,SNR=5.7						
	0.7nm,0.9s						
H03S2	**Juan Fernandez**	**78.44**	**133**	T	T	09 45 55.7	
	baz=206,SNR=372						
H03S1	**Juan Fernandez**	**78.44**	**133**	T	T	09 45 56.3	
	baz=206,SNR=371						
H03S3	**Juan Fernandez**	**78.45**	**133**	T	T	09 45 56.0	
	baz=206,SNR=418						
H03N3	**Juan Fernandez**	**78.76**	**133**	T	T	09 46 18.7	
	baz=216,slow=73,SNR=184						
H03N2	**Juan Fernandez**	**78.77**	**133**	T	T	09 46 17.9	
	baz=216,slow=73,SNR=220						
H03N1	**Juan Fernandez**	**78.78**	**133**	T	T	09 46 17.7	
	baz=216,slow=73,SNR=99						
H08S2	**Diego Garcia H**	**82.86**	**267**	T	T	09 48 46.0	
	baz=144,slow=76,SNR=17						
H08S1	**Diego Garcia H**	**82.87**	**267**	T	T	09 48 48.2	
	baz=144,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**82.88**	**267**	T	T	09 48 47.4	
	baz=144,slow=76,SNR=34						
GEYT	**Alibeck**	**126.63**	**286**	PKP	PKPdf	08 25 34.4	-0.2
	3.0nm,0.7s,baz=134,slow=4.2,SNR=3.9						

MAN 09 08:08:41.9, 6°27N×126°50E, h28km, mb4.3, ML3.1, MS2.8, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.71**	**341**	⇑*eP*	Pn	08 08 56.2	+0.1
MATI				*eS*	Sn	08 09 07.1	+0.9
DDMP	**Don Marcelino,**	**0.80**	**258**	⇑*eP*	Pb	08 08 57.0	-0.2
DDMP				*eS*	Sn	08 09 08.3	0.0
GSPH	**General Santos**	**1.55**	**263**	⇓*iP*	Pn	08 09 04.0	-3.7
GSPH				*i* S	Sn	08 09 23.6	-3.4
KCP	**Kidapawan**	**1.58**	**298**	⇓*iP*	Pn	08 09 07.0	-1.2
KCP				*i* S	Sn	08 09 25.8	-1.8
BIPH	**Bislig**	**1.91**	**356**	⇑*eP*	Pn	08 09 12.7	+0.1
BIPH				*eS*	Sn	08 09 34.0	-1.7
SKMP	**Bagumbayan, Su**	**1.96**	**277**	⇑*eP*	Pn	08 09 13.9	+0.6

*GUC **09** 08:14:25.8±0.4, 19°.67S×69°.16W, h100km±2km, ML3.7*
*VAO **09** 08:14:26.9±0.4, 19°.48S×69°.04W, h122km, mb4.0*
*IDC **09** 08:14:26.5±1.2, 19°.77S×68°.84W, h118km±10km, mb3.5/4, mbtmp3.9/8, Error ellipse: s-maj=31.3km s-min=8.6km az=99.0*

ISC 09 08:14:24.3±0.7, 19°68S±0°03×69°18W±0°07, h107km±7km, n65, σ1s29/68, mb3.8/3, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.01**	**305**	*i* P	**Pn**	**08 14 40.0**	**+0.3**
GO01				*i* S	**Sn**	**08 14 51.5**	**+0.3**
TA02	**Huaiquique**	**1.07**	**236**	*eP*	**Pn**	**08 14 46.5**	**+0.6**
TA02				*eS*	**Sn**	**08 15 02.6**	**+0.2**
TA02				IAML		08 15 03.3	
	comp=E,5μm,0.4s						
TA01	**Diego Aracena**	**1.29**	**226**	⇑*iP*	**Pn**	**08 14 48.7**	**+0.2**
TA01				*i* S	**Sn**	**08 15 06.9**	**+0.1**
TA01				IAML		08 15 11.0	
	comp=N,2μm,0.9s						
PB16	**IPOC Station P**	**1.37**	**347**	⇑*iP*	**Pn**	**08 14 51.6**	**+1.7**
PB16				*i* S	**Sn**	**08 15 11.4**	**+2.1**
PB16				IAML		08 15 13.3	
	comp=N,987nm,0.7s						
PB01	**IPOC Station P**	**1.39**	**192**	⇑*iP*	**Pn**	**08 14 50.5**	**+0.8**
PB01				*i* S	**Sn**	**08 15 09.5**	**+0.5**
PB01				IAML		08 15 11.3	
	comp=N,2μm,0.5s						
PB12	**IPOC Station P**	**1.51**	**314**	⇑*iP*	**Pn**	**08 14 51.6**	**+0.4**
PB12				*i* S	**Sn**	**08 15 12.3**	**+0.7**
PB12				IAML		08 15 13.3	
	comp=E,1μm,0.7s						
AP01	**Chacalluta**	**1.70**	**320**	*eP*	**Pn**	**08 14 54.2**	**+0.9**
AP01				IAML		08 15 20.4	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.77**	**202**	*eP*	**Pn**	**08 14 54.9**	**+0.6**
PB02				*eS*	**Sn**	**08 15 17.8**	**+0.6**
PB02				IAML		08 15 25.1	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**2.11**	**181**	*eP*	**Pn**	**08 14 60.0**	**+1.2**
PB09				*eS*	**Sn**	**08 15 26.5**	**+1.4**
PB09				IAML		08 15 33.2	
	comp=N,340nm,0.1s						
PB07	**IPOC Station P**	**2.14**	**198**	⇑*eP*	**Pn**	**08 14 60.0**	**+0.8**
PB07				IAML		08 15 34.9	
	comp=E,386nm,0.6s						
PB04	**IPOC Station P**	**2.79**	**199**	*eP*	**Pn**	**08 15 08.6**	**+1.0**
PB04				IAML		08 15 58.0	
	comp=N,297nm,0.6s						
LVC	**Limon Verde**	**2.93**	**175**	P	**Pn**	**08 15 11.8**	**+2.1**
	comp=N,45nm,0.5s,baz=352,slow=8.4,SNR=102						
LVC				S	**Sn**	**08 15 45.1**	**+0.6**
	comp=N,68nm,0.5s,baz=336,slow=10,SNR=10						
LVC	**Limon Verde**	**2.93**	**175**	*eP*	**Pn**	**08 15 11.0**	**+1.3**
LVC	**Limon Verde**	**2.93**	**175**	*eP*	**Pn**	**08 15 13.4**	**+3.8**
PB06	**IPOC Station P**	**3.04**	**187**	*eP*	**Pn**	**08 15 12.3**	**+1.5**
PB06				IAML		08 15 59.5	
	comp=E,225nm,0.2s						
LPAZ	**La Paz**	**3.52**	**17**	P	**Pn**	**08 15 20.4**	**+2.8**
	comp=E,7.8nm,0.3s,baz=193,slow=5.9,SNR=89						
LPAZ				S	**Sn**	**08 16 02.4**	**+3.5**
	comp=E,8.1nm,0.8s,baz=259,slow=25,SNR=4.6						
SIV	**San Ignacio**	**8.55**	**66**	P	**Pn**	**08 16 23.2**	**-2.1**
	comp=E,4.8nm,0.5s,baz=254,slow=10,SNR=35						
ETMB	**Extrema**	**10.21**	**17**	*eP*	**Pn**	**08 16 47.8**	**-0.1**
VILB	**Vilhena**	**10.91**	**54**	*eP*	**Pn**	**08 16 55.4**	**-1.9**
ANTJ	**Antonio Joao (**	**12.54**	**103**	*eP*	**Pn**	**08 17 18.8**	**-0.2**
CPUP	**Villa Florida**	**12.76**	**123**	P	**Pn**	**08 17 20.2**	**-1.6**
	comp=E,3.3nm,0.9s,baz=298,slow=12,SNR=6.0						
SALV	**Santo Antonio**	**13.38**	**76**	*eP*	**Pn**	**08 17 29.1**	**-1.0**
PP1B	**Ponte de Pedra**	**13.71**	**84**	*eP*	**Pn**	**08 17 34.2**	**-0.2**
ITQB	**Itaqui**	**15.13**	**134**	*eP*	**P**	**08 17 56.4**	**+1.5**
CLDB	**Colider**	**15.59**	**58**	*eP*	**P**	**08 17 58.1**	**-2.1**
UNIS	**Unistalda (Bra**	**15.88**	**129**	*eP*	**P**	**08 18 03.5**	**+0.2**
CRSM	**Crissiumal (Br**	**15.90**	**122**	*eP*	**P**	**08 18 03.5**	**0.0**
FRBT	**Francisco Belt**	**16.12**	**116**	*eP*	**P**	**08 18 06.4**	**+0.4**
RODS	**Rosario do Sul**	**16.52**	**133**	*eP*	**P**	**08 18 12.6**	**+2.2**
PTGB	**Pitanga**	**16.62**	**111**	*eP*	**P**	**08 18 12.6**	**+1.0**
ALGR	**Alto Alegre (B**	**17.29**	**125**	*eP*	**P**	**08 18 19.4**	**+0.5**
ITAB	**Concordia**	**17.35**	**119**	*eP*	**P**	**08 18 20.1**	**+0.6**
ITRB	**Iturama**	**17.73**	**93**	*eP*	**Pn**	**08 18 25.4**	**+1.0**
CPSB	**Cacapava Do Su**	**17.80**	**130**	*eP*	**P**	**08 18 26.0**	**+0.8**
NPGB	**Novo Progresso**	**18.38**	**49**	*eP*	**Pn**	**08 18 30.7**	**-1.6**
SNDB	**Serra Nova Dou**	**18.83**	**69**	*eP*	**Pn**	**08 18 35.4**	**-2.1**
CNLB	**Canela**	**19.22**	**123**	*eP*	**Pn**	**08 18 41.6**	**-0.6**
BB19B	**Bebedouro**	**19.41**	**98**	*eP*	**P**	**08 18 41.4**	**-0.8**
TIJ01	**Guaruva-PR**	**19.46**	**110**	*eP*	**Pn**	**08 18 45.7**	**+0.6**
IPMB	**Ipameri, GO**	**19.92**	**89**	*eP*	**P**	**08 18 47.3**	**-0.5**
ITTB	**Itaituba**	**20.09**	**42**	*eP*	**P**	**08 18 48.3**	**-1.2**
BDFB	**Brasilia**	**20.56**	**82**	P	**P**	**08 18 54.1**	**-0.7**
	comp=E,1.5nm,0.4s,baz=258,slow=11,SNR=3.4						
	comp=E,1.5nm,0.4s						
BDFB	**Brasilia**	**20.56**	**82**	*eP*	Pn	08 18 55.9	-2.0
PET01	**Itanhaem-SP**	**20.82**	**107**	*eP*	**P**	**08 18 58.0**	**+0.7**
VAO	**Valinhos**	**20.95**	**103**	*eP*	**P**	**08 18 59.2**	**+0.3**
PLCA	**Paso Flores**	**21.02**	**183**	P	**P**	**08 18 59.4**	**-0.1**
	comp=E,1.0nm,0.8s,baz=27,slow=9.0,SNR=1.5						
	comp=E,1.0nm,0.8s						
PMNB	**Patos De Minas**	**21.52**	**91**	*eP*	**P**	**08 19 04.6**	**-0.4**
MALB	**Monte Alegre**	**22.95**	**41**	*eP*	**P**	**08 19 18.2**	**-1.4**
SMTB	**Santa Maria do**	**23.50**	**66**	*eP*	**P**	**08 19 24.4**	**-0.3**
MC01	**Montes Claros**	**24.15**	**87**	*eP*	**P**	**08 19 30.0**	**-0.7**
DIAM	**Diamantina, MG**	**24.16**	**91**	*eP*	**P**	**08 19 30.8**	**0.0**
JANB	**Januaria**	**24.17**	**83**	*eP*	**P**	**08 19 30.4**	**-0.4**
SDBA	**SAO DESIDERIO**	**24.41**	**76**	*eP*	**P**	**08 19 32.6**	**-0.4**
DUB01	**Friburgo-RJ**	**25.15**	**100**	*eP*	**P**	**08 19 41.0**	**+1.3**
NBLA	**Lagarto - SE**	**31.44**	**79**	*eP*	**P**	**08 20 34.8**	**-0.9**
DBIC	**Dimbokro**	**68.47**	**74**	P	**P**	**08 25 14.4**	**-1.1**
	comp=E,3.2nm,0.8s,baz=252,slow=7.5,SNR=4.1						
	comp=E,3.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.99**	**71**	P	**P**	**08 26 05.0**	**-0.9**
	comp=E,0.5nm,0.3s,baz=251,slow=5.3,SNR=15						
	comp=E,0.5nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**127.38**	**279**	T	T	10 52 53.2	
	baz=101,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**127.38**	**279**	T	T	10 52 54.4	
	baz=101,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**127.39**	**279**	T	T	10 52 54.7	
	baz=101,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**127.41**	**280**	T	T	10 52 55.3	
	baz=100,slow=75,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**127.42**	**280**	T	T	10 53 00.3	
	baz=100,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**127.42**	**280**	T	T	10 52 60.0	
	baz=100,slow=75,SNR=3.2						
WRA	**Warramunga Arr**	**134.38**	**212**	PKP	**PKPdf**	**08 33 31.7**	**+1.2**
	comp=E,0.2nm,0.5s,baz=157,slow=2.0,SNR=1.6						
SONM	**Songino Array**	**151.68**	**6**	PKPbc	**PKPbc**	**08 34 07.5**	**+1.2**
	comp=E,0.3nm,0.4s,baz=33,slow=3.4,SNR=2.0						

*NEIC **09** 08:15:25.6±1.4, 5°.2S±0°.1×151°.2E±0°.1, h74km±12km, mb4.3/11, Error ellipse: s-maj=23.7km s-min=10.5km az=145.0*
*IDC **09** 08:15:25.5±1.1, 5°.49S×151°.37E, h71km±9km, mb3.8/10, mbtmp4.1/11, MS3.3/6, Error ellipse: s-maj=30.7km s-min=9.2km az=127.0*

ISC 09 08:15:24.0±0.6, 5°36S±0°09×151°3E±0°1, h57km, n34, σ1s35/32, mb4.1/14, MS3.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.29**	**36**	P	**Pn**	**08 15 47.3**	**+1.5**
	4μm,0.3s,baz=299,slow=0.6,SNR=164						
KRVT				S	**Sn**	**08 16 05.8**	**+3.8**
	4μm,0.3s,baz=180,slow=20,SNR=22						
KRVT				LR	LR	08 16 17.6	
	comp=E,2μm,21.7s,baz=175,slow=39						
RABL	**Rabaul**	**1.46**	**38**		**Pn**	**08 15 49.0**	**+0.9**
PMG	**Port Moresby**	**5.73**	**225**	P	**Pn**	**08 16 48.1**	**+1.6**
	17nm,0.3s,baz=41,slow=9.1,SNR=8.1						
PMG				S	**Sn**	**08 17 52.5**	**+1.6**
	22nm,0.5s,baz=227,slow=23,SNR=4.1						
PMG	**Port Moresby**	**5.73**	**225**		**Pn**	**08 16 48.6**	**+2.2**
HNR	**Honiara**	**9.51**	**116**	LR	LR	08 20 19.8	
	comp=Z,964nm,21.0s,baz=191,slow=31						
PATS	**Pohnpei**	**14.01**	**30**	Pn	**Pn**	**08 18 36.8**	**-2.9**
CTA	**Charters Tower**	**15.43**	**198**	LR	LR	08 24 15.0	
	comp=Z,76nm,18.6s,baz=61,slow=34						
CTAO	**Charters Tower**	**15.43**	**198**	Pn	**P**	**08 19 00.6**	**-1.1**
CTAO				IAmb	IAmb	08 19 40.3	
	comp=Z,26nm,1.5s						
FAKI	**Fak Fak**	**19.12**	**277**	P	**P**	**08 19 41.8**	**-0.8**
FAKI				IAmb	IAmb	08 20 15.3	
	comp=Z,40nm,1.2s						
KOUNC	**Koumac, New Ca**	**19.70**	**141**	P	**P**	**08 19 49.1**	**+0.3**
MTN	**Manton Dam**	**21.22**	**248**	P	**P**	**08 20 03.9**	**-1.3**
MTN				IAmb	IAmb	08 20 16.7	
	comp=Z,10nm,0.8s						
WB0	**Warramunga Arr**	**21.79**	**227**	P	**P**	**08 20 10.6**	**-0.8**
WB0				IAmb	IAmb	08 20 21.0	
	comp=Z,9.1nm,0.9s						
WB2	**Warramunga Arr**	**21.93**	**227**	P	**P**	**08 20 14.2**	**+1.3**
WB2				IAmb	IAmb	08 20 15.7	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**21.94**	**227**	P	**P**	**08 20 12.5**	**-0.5**
	comp=Z,7.7nm,0.6s,baz=53,slow=9.8,SNR=57						
WRA				PcP	**PcP**	**08 24 10.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=43,slow=2.1,SNR=3.7						
WRA				LR	LR	08 28 38.0	
	comp=Z,75nm,20.3s,baz=128,slow=36						
	comp=Z,7.7nm,0.6s						
WRA	**Warramunga Arr**	**21.94**	**227**	P	**P**	**08 20 13.2**	**+0.2**
KNRA	**Kununurra**	**24.36**	**243**		**P**	**08 20 36.0**	**-0.9**
KNRA				IAmb	IAmb	08 20 51.9	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**24.72**	**221**	P	**P**	**08 20 40.4**	**+0.2**
ASAR	**Alice Springs**	**24.72**	**221**	P	**P**	**08 20 40.4**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=59,slow=8.8,SNR=49						
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**24.72**	**221**	P	**P**	**08 20 40.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**28.05**	**241**	P	**P**	**08 21 10.6**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=46,slow=8.1,SNR=16						
	comp=Z,4.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.05**	**241**	P	**P**	**08 21 10.1**	**-0.2**
FITZ				IAmb	IAmb	08 21 14.8	
	comp=Z,6.2nm,0.7s						
LUWI	**Luwuk**	**28.77**	**278**	P	**P**	**08 21 15.3**	**-1.4**
JOW	**Kunigami**	**38.98**	**326**	LR	LR	08 38 14.2	
	comp=Z,20nm,18.8s,baz=254,slow=35						
MJAR	**Matsushiro Arr**	**43.44**	**345**	LR	LR	08 40 40.2	
	comp=Z,18nm,21.3s,baz=186,slow=35						
SONM	**Songino Array**	**66.00**	**329**	P	**P**	**08 26 06.1**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=152,slow=5.3,SNR=6.2						
	comp=Z,1.0nm,0.6s						
VNDA	**Vanda**	**72.33**	**178**	P	**P**	**08 26 42.1**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=336,slow=7.0,SNR=3.6						
	comp=Z,0.8nm,0.7s						
MKAR

	2.4nm,0.3s,baz=80,slow=17,SNR=12					
ZALV			Lg	Lg	08 46 43.3	
	3.9nm,0.3s,baz=79,slow=27,SNR=7.2					
KURBB	**Kurchatov Arra**	**6.46 240**	Pn	Pn	08 47 33.3	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=2.7					
KURBB			Sn	Sn	08 48 45.2	-1.4
	0.1nm,0.3s,baz=49,slow=28,SNR=1.9					
KURBB			Lg	Lg	08 49 23.2	
	0.1nm,0.3s,baz=61,slow=31,SNR=1.4					
	0.4nm,0.4s					
MKAR	**Makanchi Array**	**8.09 205**	Pn	Pn	08 47 55.5	+0.9
	0.4nm,0.7s,baz=25,slow=15,SNR=1.3					
MKAR			Sn	Sn	08 49 27.6	+0.9
	0.1nm,0.3s,baz=30,slow=27,SNR=2.5					
MKAR			Lg	Lg	08 50 10.0	
	baz=27,slow=32,SNR=2.7					

IDC 09 08:50:14.8±3.1, 54°19N×87°34E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=26.7km s-min=18.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**262**	*i*		08 59 55.1	
	baz=79,slow=322,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.51**	**262**	Pg	Pn	08 50 41.7	-1.3
	1.6nm,0.3s,baz=79,slow=17,SNR=6.0						
ZALV				Lg	Lg	08 51 03.0	
	1.7nm,0.3s,baz=79,slow=29,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.46**	**240**	Pn	Pn	08 51 52.6	+1.4
	baz=50,slow=13,SNR=2.1						
KURBB				Lg	Lg	08 53 37.5	
	baz=65,slow=26,SNR=0.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.07**	**206**	Pn	Pn	08 52 14.1	+0.9
	0.1nm,0.3s,baz=25,slow=14,SNR=6.9						
MKAR				Lg	Lg	08 54 30.5	
	0.1nm,0.3s,baz=22,slow=24,SNR=2.1						
	0.2nm,0.2s						

*IDC **09** 08:52:21.7±3.0,29°91N×82°22E,h0km,mb3.3/5, mbtmp3.4/6,ML3.2/1,Error ellipse: s-maj=99.4km s-min=25.8km az=74.0*

ISC 09 08:52:25.0±1.2, 30°0N±0°1×82°2E±0°1, h21km, n7, σ0°46/7, mb3.4/4, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.81**	**254**	*eP*	**Pb**	**08 52 57.4**	**0.0**
MKAR	**Makanchi Array**	**16.79**	**0**	Pn	**Pn**	**08 56 18.6**	**-0.3**
	0.1nm,0.3s,baz=182,slow=12,SNR=4.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**20.81**	**353**	P	**P**	**08 57 05.3**	**+0.5**
	0.4nm,0.6s,baz=178,slow=9.9,SNR=5.1						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**24.03**	**4**	P	**P**	**08 57 37.9**	**-0.5**
	0.6nm,0.4s,baz=165,slow=12,SNR=1.9						
	0.6nm,0.4s						
SONM	**Songino Array**	**25.74**	**39**	P	**P**	**08 57 54.4**	**+0.3**
	0.5nm,0.7s,baz=241,slow=5.9,SNR=2.2						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**70.56**	**128**	P	**P**	**09 03 39.1**	**+0.4**
	0.3nm,0.7s,baz=321,slow=6.4,SNR=1.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**72.84**	**131**	P	**P**	**09 03 52.1**	**-0.4**
	0.3nm,0.9s,baz=314,slow=5.8,SNR=1.6						
	0.3nm,0.9s						

*IDC **09** 08:53:20.4±1.0,30°02N×82°56E,h0km,mb3.6/11, mbtmp3.7/13,ML3.9/2,MS3.4/2,Error ellipse: s-maj=31.4km s-min=17.8km az=51.0*

ISC 09 08:53:25.7±0.9, 30°1N±0°1×82°6E±0°1, h35km, n17, σ1°91°/16, mb3.6/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**9.68**	**289**	P	**Pn**	**08 55 44.0**	**+1.5**
CEP	**Cherat**	**9.83**	**295**	P	**Pn**	**08 55 42.8**	**-1.8**
CEP				S	**Sn**	**08 57 34.0**	**+0.2**
MKAR	**Makanchi Array**	**16.64**	**359**	Pn	**Pn**	**08 57 15.6**	**-0.6**
	baz=173,slow=14,SNR=2.4						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.84**	**124**	P	**P**	**08 57 41.9**	**-0.8**
	0.6nm,0.3s,baz=316,slow=11,SNR=1.6						
	1.4nm,0.4s						
KURBB	**Kurchatov Arra**	**20.70**	**353**	P	**P**	**08 58 02.5**	**-0.2**
	0.8nm,0.6s,baz=179,slow=9.6,SNR=6.9						
	0.8nm,0.6s						
GEYT	**Alibeck**	**21.72**	**298**	P	**P**	**08 58 12.5**	**-1.3**
	0.6nm,0.3s,baz=84,slow=13,SNR=1.1						
	0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**23.86**	**3**	P	**P**	**08 58 35.8**	**+0.2**
	0.5nm,0.4s,baz=177,slow=13,SNR=2.3						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**24.58**	**342**	P	**P**	**08 58 42.9**	**+0.7**
	0.4nm,0.4s,baz=169,slow=16,SNR=2.5						
	0.4nm,0.4s						
SONM	**Songino Array**	**25.41**	**39**	P	**P**	**08 58 51.6**	**+1.6**
	0.7nm,0.6s,baz=227,slow=9.7,SNR=4.3						
	0.7nm,0.6s						
ARU	**Arti**	**31.27**	**334**	P	**P**	**08 59 42.4**	**+0.3**
	2.5nm,0.3s,baz=165,slow=13,SNR=3.3						
	2.5nm,0.3s						
BELG	**Belogornoye**	**33.95**	**321**	LR	LR	09 15 01.8	
	comp=Z,27nm,20.9s,baz=283,slow=38						
HFS	**Hagfors**	**53.97**	**325**	P	**P**	**09 02 45.9**	**+0.1**
	1.2nm,0.5s,baz=76,slow=7.7,SNR=1.6						
	1.2nm,0.5s						
NOA	**NORSAR Array B**	**55.21**	**326**	P	**P**	**09 02 54.6**	**-0.2**
	0.5nm,0.6s,baz=93,slow=6.8,SNR=2.0						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**70.38**	**128**	P	**P**	**09 04 36.5**	**+0.2**
	0.3nm,0.4s,baz=320,slow=6.5,SNR=6.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**72.68**	**131**	P	**P**	**09 04 49.5**	**-0.7**
	0.2nm,0.7s,baz=316,slow=5.3,SNR=2.1						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.77**	**277**	P	**P**	**09 05 09.4**	**+1.0**
	0.7nm,0.8s,baz=86,slow=4.5,SNR=3.4						
	0.7nm,0.8s						
INK	**Inuvik**	**78.26**	**13**	LR	LR	09 45 21.8	
	comp=Z,45nm,18.7s,baz=192,slow=40						

*HEL **09** 09:00:00.3±0.7,61°02N×30°11E,h0km,ML2.6,Explosion*
*IDC **09** 09:00:03.1±1.3,61°18N×29°80E,h0km,mbtmp3.3/4, ML3.2/4,Error ellipse: s-maj=12.5km s-min=10.9km az=174.0*
*UPP **09** 09:00:06.5±2.7,61°05N×29°41E,h0km,ML2.2,Suspected explosion*

ISC 09 09:00:05.1±1.4, 61°11N±0°04×29°41E±0°07, h0km, n36, σ1°64/47, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUFX	**Ruokolahti**	**0.39**	**326**	PG	**Pg**	**09 00 13.1**	**+0.6**
	baz=124						
RUFX				SG	**Sb**	**09 00 22.2**	**+0.8**
VJF	**Virojoki**	**1.07**	**238**	PG	**Pg**	**09 00 25.2**	**-0.4**
VJF				MSG		09 00 40.7	
	comp=Z,54nm,0.2s						
FINES	**FINESS Array B**	**1.64**	**283**	Pn	**Pb**	**09 00 36.4**	**+0.2**
	comp=Z,6.2nm,0.3s,baz=100,slow=16,SNR=183						
FINES				Lg	Lg	09 01 00.0	
	comp=Z,12nm,0.3s,baz=99,slow=25,SNR=5.7						
FINES				Rg	Rg	09 01 12.4	
	comp=Z,11nm,0.5s,baz=113,slow=30,SNR=4.2						
KAF	**Kangasniemi**	**1.79**	**305**	PG	**Pb**	**09 00 38.3**	**-0.4**
KAF				MSG		09 01 03.3	
	comp=Z,32nm,0.2s						
KAF				SG	**Sg**	**09 01 05.8**	**+3.3**
PVF	**Pernaja**	**1.83**	**253**	PG	**Pn**	**09 00 38.0**	**+0.3**
PVF				MSG		09 01 03.8	
	comp=Z,78nm,0.2s						
PVF				SG	**Sg**	**09 01 06.8**	**+3.1**
NUR	**Nurmijrvi**	**2.41**	**258**	PB	**Pn**	**09 00 46.8**	**+1.1**
	baz=75						
KEF	**Keuruu**	**2.41**	**298**	PB	**Pn**	**09 00 47.3**	**+1.6**
KEF				MSG		09 01 21.7	
	comp=Z,7.6nm,0.2s						
KEF				SB	**Sg**	**09 01 22.1**	**-0.3**
MEF	**Metsahovi**	**2.62**	**252**	*eP*	**Pn**	**09 00 50.0**	**+1.3**
MEF	**Metsahovi**	**2.62**	**252**	PB	**Pn**	**09 00 49.8**	**+1.2**
MEF				SB	**Sb**	**09 01 26.2**	**+0.6**
MEF				MSG		09 01 26.3	
	comp=Z,38nm,0.2s						
VSU	**Vasula**	**2.98**	**208**	*eP*	**Pn**	**09 00 52.3**	**-1.2**
VSU	**Vasula**	**2.98**	**208**	PB	**Pn**	**09 00 53.3**	**-0.3**
VSU				SB	**Sn**	**09 01 32.0**	**+2.1**
RMF	**Romuvaara**	**3.13**	**4**	PN	**Pn**	**09 00 52.3**	**-3.3**
	baz=174						
RMF				SB	**Sn**	**09 01 33.8**	**+0.2**
MTSE	**Matsula**	**3.70**	**232**	*eP*	**Pn**	**09 01 03.4**	**0.0**
MTSE	**Matsula**	**3.70**	**232**	PB	**Pn**	**09 01 05.0**	**+1.6**
VAF	**Ylistaro**	**3.71**	**304**	PG	**Pg**	**09 01 14.6**	**-1.6**
RAF	**Rauma**	**3.71**	**272**	*eP*	**Pn**	**09 01 05.2**	**+1.6**
OUF	**Merijarvi**	**3.91**	**329**	PB	**Pn**	**09 01 10.2**	**+3.8**
OUF				SG	**Sg**	**09 02 08.7**	**-1.9**
OBF4	**Vikkela, Lumij**	**4.20**	**334**	SG	**Sg**	**09 02 17.9**	**-2.1**
OUL	**Oulu**	**4.29**	**340**	PB	**Pn**	**09 01 15.0**	**+3.5**
	baz=151						
OUL				SB	**Sb**	**09 02 13.0**	**-0.7**
OUL	**Oulu**	**4.29**	**340**	SN	**Sb**	**09 02 13.0**	**-0.7**
AAL	**Aland**	**4.73**	**263**	P	**Pn**	**09 01 17.6**	**+0.1**
AAL				S	**Sn**	**09 02 14.1**	**+1.1**
ODEU	**Stanfors**	**5.18**	**313**	P	**Pn**	**09 01 23.6**	**-0.2**
HUSU	**Husum**	**5.26**	**300**	P	**Pn**	**09 01 25.5**	**+0.6**
GRAU	**Graesoe**	**5.39**	**266**	P	**Pn**	**09 01 26.1**	**-0.5**
GRAU				S	**Sn**	**09 02 27.0**	**-2.3**
NRTU	**Norrtaelje**	**5.53**	**260**	P	**Pn**	**09 01 28.7**	**+0.1**
HEMU	**Hemsoen**	**5.60**	**291**	P	**Pn**	**09 01 30.4**	**+0.9**
SJUU	**Sjulsmark**	**5.64**	**325**	P	**Pn**	**09 01 30.8**	**+0.8**
SVAU	**Svanoeiden**	**5.64**	**311**	P	**Pn**	**09 01 31.9**	**+1.9**
BREU	**Bredtraesk**	**5.74**	**304**	P	**Pn**	**09 01 32.8**	**+1.4**
IGGU	**Iggoen**	**5.89**	**273**	P	**Pn**	**09 01 33.5**	**0.0**
NYNU	**Nynaeshamn**	**6.09**	**255**	P	**Pn**	**09 01 37.0**	**+0.8**
OSTU	**Oestervaala**	**6.10**	**267**	P	**Pn**	**09 01 36.9**	**+0.6**
HFS	**Hagfors**	**7.79**	**270**	Pn	**Pn**	**09 01 59.3**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=84,slow=15,SNR=20						
HFS				Sn	**Sn**	**09 03 25.7**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=77,slow=19,SNR=2.5						
HFS				Lg	Lg	09 04 13.5	
	comp=Z,1.6nm,0.3s,baz=84,slow=29,SNR=6.7						
	comp=Z,1.6nm,0.3s						
ARCES	**ARCESS Array B**	**8.61**	**351**	Pn	Pn	09 02 05.5	-5.3
	comp=Z,0.2nm,0.3s,baz=172,slow=13,SNR=7.1						
ARCES				Sn	Sn	09 03 39.2	-9.3
	comp=Z,0.2nm,0.3s,baz=155,slow=24,SNR=1.5						
	comp=Z,0.3nm,0.3s						
NOA	**NORSAR Array B**	**8.82**	**278**	Pn	**Pn**	**09 02 12.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=28						
NOA				Sn	**Sn**	**09 03 51.5**	**-2.1**
	baz=56,slow=11,SNR=1.9						
NOA				Lg	Lg	09 04 49.1	
	comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=4.3						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**10.44**	**181**	Pn	Pn	09 02 29.1	-6.8
	comp=Z,1.1nm,0.3s,baz=359,slow=13,SNR=3.4						
	comp=Z,0.4nm,0.3s						

HEL 09 09:00:28.0±0.4, 68°95N×28°59E, h0km, ML1.4, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**0.98**	**326**	PG	Pg	09 00 46.1	-0.7
KEV				MSG		09 00 58.1	
	comp=Z,1.7nm,0.2s						
KEV				SG	Sg	09 00 58.4	-1.1
ARA0	**ARCESS Array S**	**1.25**	**300**	PG	Pg	09 00 51.0	-0.8
	baz=112						
ARA0				SG	Sg	09 01 06.6	-1.3
VRF	**Varrio**	**1.27**	**162**	PN	Pg	09 00 52.1	-0.1
VRF				MSG		09 01 06.4	
	comp=Z,1.6nm,0.2s						
VRF				SN	Sn	09 01 12.2	+1.5
SGF	**Sodankyl**	**1.70**	**208**	PG	Pn	09 00 59.3	+0.4
SGF				SG	Sn	09 01 17.0	-4.3
HEF	**Hetta**	**1.88**	**255**	PG	Pn	09 01 01.5	+0.2
	baz=74						
HEF				MSG		09 01 24.0	
	comp=Z,1.3nm,0.2s						
HEF				SG	Sn	09 01 25.5	-0.3
KTK1	**Kautokeino**	**1.93**	**274**	SG	Sn	09 01 26.3	-0.7
KLF	**Kolari**	**2.44**	**227**	SG	Sn	09 01 41.5	+1.8
LANU	**Lannavaara**	**2.59**	**253**	SG	Sn	09 01 45.5	+2.1
KIF	**Kilpisjarvi**	**2.81**	**275**	MSG		09 01 50.7	
	comp=Z,1.2nm,0.2s						
KIF				SB	Sn	09 01 51.1	+2.5
KU6	**Riekki**	**2.98**	**170**	PN	Pn	09 01 15.1	-1.3
KU6				MSG		09 01 55.6	
	comp=Z,3.1nm,0.2s						
MSF	**Maaselka**	**3.06**	**177**	PN	Pn	09 01 15.1	-2.5
MSF				SN	Sn	09 01 51.4	-3.4

KRSC 09 09:04:47.0±1.2, 53°69N×167°97E, h31km±23km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.91**	**323**	P	Pn	09 05 18.2	+0.9
BKI				S	Sb	09 05 43.4	-1.1
MKZ	**Mys Kozlova**	**3.77**	**286**	P	Pn	09 05 46.6	+3.7
MKZ				S	Sn	09 06 31.7	+5.6
KBTR	**Krutoberegovo**	**3.89**	**312**	P	Pn	09 05 49.3	+4.7
SPN	**Mys Shipunski**	**4.79**	**266**	S	Sn	09 06 55.9	+4.6
TUMR	**Tumrok**	**4.83**	**292**	P	Pn	09 06 02.7	+5.1
RUS	**Russkaya**	**5.84**	**261**	P	Pn	09 06 16.5	+5.2
RUS				S	Sn	09 07 22.4	+5.3
GNL	**Ganaly**	**5.96**	**274**	P	Pn	09 06 18.3	+5.3
MTVR	**Mutnovka**	**6.02**	**262**	S	Sn	09 07 26.1	+4.3
ASAK	**Asacha**	**6.21**	**262**	P	Pn	09 06 21.8	+5.3
ASAK				S	Sn	09 07 31.2	+4.7

*IDC **09** 09:07:23.2±1.0,3°34N×127°09E,h0km,mb3.7/7, mbtmp3.7/7,MS2.9/3,Error ellipse: s-maj=44.2km s-min=18.1km az=65.0*
*DJA **09** 09:07:25.8±1.9,4°N±18°×12°7E±1°3,h22km±26km,M4.2/7, mb4.3/5,mB4.9/1,MLv4.1/7,Mw(mB)4.2/1*

ISC 09 09:07:29.2±1.0, 3°5N±0°1×127°4E±0°1, h45km, n16, σ1°34/13, mb3.7/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.82**	**275**	P	**Pn**	**09 07 57.6**	**-0.5**
DAV	**Davao City (W)**	**3.94**	**334**	LR	LR	09 10 25.5	
	comp=Z,88nm,18.3s,baz=166,slow=46						
GTOI	**Gorontalo**	**5.20**	**237**	P	**Pn**	**09 08 46.2**	**+1.7**
	2.1nm17nm,0.5s						
SANI	**Sanana**	**5.70**	**194**	P	**Pn**	**09 08 51.9**	**+0.5**
	0.1nm935nm15nm,0.7s						
SIJI	**Sorong**	**5.86**	**138**	Pn	**Pn**	**09 08 54.9**	**+1.2**
	0.8nm,0.3s,baz=135,slow=20,SNR=2.0						
MRSI	**Marisa**	**6.19**	**241**	P	**Pn**	**09 08 59.2**	**+1.0**
GUMO	**Guam**	**19.98**	**59**	LR	LR	09 18 16.9	
	comp=Z,24nm,21.1s,baz=234,slow=32						
FITZ	**Fitzroy Crossi**	**21.55**	**184**	P	**P**	**09 12 13.2**	**-1.7**
	1.2nm,0.5s,baz=13,slow=11,SNR=8.4						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**24.31**	**164**	P	**P**	**09 12 41.2**	**-1.6**
	0.6nm,0.4s,baz=337,slow=11,SNR=6.8						
	0.6nm,0.4s						
KRVT	**Keravat (AS076**	**25.85**	**107**	P	**P**	**09 12 58.2**	**+1.3**
	42nm,0.5s,baz=31,slow=21,SNR=5.1						
JCJ	**Chichijima**	**27.40**	**30**	LR	LR	09 21 33.5	
	comp=Z,48nm,20.5s,baz=113,slow=31						
ASAR	**Alice Springs**	**27.77**	**167**	P	**P**	**09 13 14.4**	**+0.4**
	0.2nm,0.4s,baz=344,slow=12,SNR=5.7						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**37.72**	**160**	P	**P**	**09 14 38.9**	**-1.8**
	0.9nm,0.6s,baz=324,slow=13,SNR=4.2						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**58.08**	**325**	P	**P**	**09 17 19.0**	**+1.0**
	0.2nm,0.3s,baz=114,slow=8.9,SNR=2.0						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**62.25**	**327**	P	**P**	**09 17 47.0**	**+0.5**
	0.8nm,0.5s,baz=128,slow=6.5,SNR=2.2						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**67.83**	**327**	P	**P**	**09 18 22.4**	**-0.2**
	1.1nm,0.7s,baz=101,slow=7.8,SNR=3.9						
	1.1nm,0.7s						

*MEX **09** 09:07:59.4±0.6, 14°69N×92°62W,h77km±9km,MD4.0*
*GCG **09** 09:08:01.1±0.5, 14°97N×92°55W,h41km±37km,MD3.4*

ISC 09 09:08:00.1±1.6, 14°73N±0°09×92°71W±0°07, h49km±19km, n14, σ0°81/25, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.46**	**67**	*i* P	**Pn**	**09 08 10.9**	**+0.1**
THIG				*i* S	**Sn**	**09 08 18.8**	**+0.3**
PATR	**El Naranjo**	**0.60**	**50**	*i* P	**Pn**	**09 08 12.0**	**-0.8**
PATR				*i* S	**Sn**	**09 08 22.3**	**+0.5**
CHUJ	**Union Juarez**	**0.68**	**58**	*i* P	**Pn**	**09 08 13.0**	**-0.8**
CHUJ				*i* S	**Sn**	**09 08 24.0**	**+0.3**
PAVE	**Pavencul**	**0.69**	**48**	*i* P	**Pn**	**09 08 13.3**	**-0.6**
PAVE				*i* S	**Sn**	**09 08 24.5**	**+0.6**
PCIG		**1.09**	**333**	*eP*	**Pn**	**09 08 19.0**	**0.0**
STG3	**Santiaguito 3,**	**1.10**	**91**	*eP*	**Pn**	**09 08 19.0**	**-0.3**
STG3				*eS*	**Sn**	**09 08 33.0**	**-0.5**
CCIG	**Comitan**	**1.64**	**20**	*i* P	**Pn**	**09 08 27.6**	**+0.9**
CCIG				*i* S	**Sn**	**09 08 47.9**	**+1.2**
FUG	**Fuego 3**	**1.83**	**99**	*eP*	**Pn**	**09 08 29.3**	**+0.1**
FUG				*eS*	**Sn**	**09 08 51.1**	**-0.2**
CARR	**Arriaga**	**1.91**	**323**	*eP*	**Pn**	**09 08 30.8**	**+0.6**
CARR				*i* S	**Sn**	**09 08 54.6**	**+1.6**
PCG	**Pacaya**	**2.06**	**99**	*eS*	**Sn**	**09 08 58.0**	**+0.8**
TGIG		**2.08**	**349**	*i* P	**Pn**	**09 08 31.1**	**-1.4**
TGIG				*eS*	**Sn**	**09 08 56.2**	**-1.1**
UXUV	**UXUV**	**2.92**	**332**	*eP*	**Pn**	**09 08 44.7**	**+0.6**
UXUV				*eS*	**Sn**	**09 09 17.3**	**-0.7**
CMIG	**Matias Romero**	**3.15**	**319**	*eP*	**Pn**	**09 08 47.0**	**-0.2**
CMIG				*eS*	**Sn**	**09 09 22.6**	**-1.0**
NEUV	**Arroyo Zacate**	**4.20**	**315**	*eP*	**Pn**	**09 09 01.4**	**-0.2**
NEUV				*e*		09 09 46.2	

*IDC **09** 09:10:46.1±0.8,30°05N×82°69E,h0km,mb3.9/13, mbtmp3.9/15,ML4.1/2,MS2.9/2,Error ellipse: s-maj=28.6km s-min=15.3km az=47.0*
*NDI **09** 09:10:49.7±3.1,30°05N×82°89E,h20km,ML4.2, mb4.3(NEIC)*
*NEIC **09** 09:10:51.2±1.2,30°4N±0°1×82°9E±0°1,h35km±2km, mb4.3/7,Error ellipse: s-maj=29.5km s-min=14.2km az=216.0*

ISC 09 09:10:50.5±0.6, 30°04N±0°05×82°72E±0°06, h35km, n46, σ2°18/55, mb3.9/14, 2C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**2.23**	**258**	*eP*	**Pn**	**09 11 27.3**	**+2.1**
PTH				*eS*	**Sn**	**09 11 56.6**	**+5.1**
DDI	**Dehra Dun**	**4.04**	**275**	*eP*	**Pn**	**09 11 51.7**	**+1.7**
DDI				*eS*	**Sn**	**09 12 40.0**	**+3.8**
DDI				IAML		09 12 42.0	
	comp=E,851nm,0.5s						
DDI				IAML		09 12 42.3	
	comp=N,1μm,0.3s						
ALBI	**Allahabad**	**4.78**	**190**	*eP*	**Pn**	**09 12 00.6**	**+0.5**
ALBI				*eS*	**Sn**	**09 12 55.2**	**+1.1**
BHK	**Bhakra**	**5.59**	**286**	*eP*	**Pn**	**09 12 13.2**	**+1.9**
BHK				*eS*	**Sn**	**09 13 16.5**	**+2.1**
KUDL	**Kundal**	**5.76**	**252**	*eS*	**Sn**	**09 13 18.6**	**0.0**
JHNI	**Jhansi**	**5.87**	**220**	*eP*	**Pn**	**09 12 17.3**	**+2.3**
JHNI				*eS*	**Sn**	**09 13 19.7**	**-1.3**
KHET	**Khetri**	**6.36**	**254**	*eP*	**Pn**	**09 12 23.3**	**+1.6**
KHET				*eS*	**Sn**	**09 13 32.0**	**-1.1**
THN	**Thein Dam**	**6.45**	**294**	*eS*	**Sn**	**09 13 35.7**	**+0.3**
THN				*eS*	**Sn**	**09 13 36.0**	**+0.6**
AJM	**Ajmer**	**7.95**	**245**	*eP*	**Pn**	**09 12 44.6**	**+0.9**
AJM				*eS*	**Sn**	**09 14 07.2**	**-5.2**
BHPL	**Bhopal**	**8.26**	**216**	*eP*	**Pn**	**09 12 48.9**	**+1.0**
BHPL			⇑	*eS*	**Sn**	**09 14 16.0**	**-4.0**
BHPL				IAML		09 14 19.2	
	comp=N,132nm,0.3s						
NIL	**Nilore**	**8.82**	**297**	Pn	**Pn**	**09 12 54.9**	**-0.7**
SHL	**Shillong**	**9.26**	**117**	Pn	**Pn**	**09 13 02.0**	**+0.3**
THW	**Thamme Wali**	**9.77**	**289**	P	**Pn**	**09 13 07.8**	**-0.8**
CEP	**Cherat**	**9.93**	**295**	P	**Pn**	**09 13 11.6**	**+0.7**
AKL	**Akola**	**10.62**	**210**	*eP*	**Pn**	**09 13 19.9**	**-0.4**
AKL				*eS*	**Sn**	**09 15 12.7**	**-5.3**
TARG	**Taragay, Kyrgy**	**12.33**	**343**	Pn	**Pn**	**09 13 40.1**	**-3.8**
KBL	**Kabul**	**12.41**	**295**	Pn	**Pn**	**09 13 44.5**	**-0.3**
BOOM	**Boomskoye usch**	**13.57**	**338**	Pn	**Pn**	**09 13 58.5**	**-2.2**
BTK	**Batken**	**13.95**	**319**	Pn	**Pn**	**09 14 04.2**	**-1.6**
CHGR	**Chuyangaron**	**14.11**	**311**	Pn	**Pn**	**09 14 04.8**	**-3.2**
AAK	**Ala-Archa**	**14.21**	**335**	LR	LR	09 20 34.8	
	comp=N,40nm,18.3s,baz=166,slow=42						
KKAR	**Karatay Array**	**16.29**	**327**	Pn	**Pn**	**09 14 33.9**	**-2.7**
MK31	**Makanchi Array**	**16.74**	**359**		**Pn**	**09 14 40.1**	**-2.1**
MKAR	**Makanchi Array**	**16.74**	**359**	Pn	**Pn**	**09 14 41.4**	**-0.8**
	comp=N,0.3nm,0.3s,baz=185,slow=13,SNR=11						
	comp=N,1.8nm,0.8s						
MKAR	**Makanchi Array**	**16.74**	**359**	Pn	**Pn**	**09 14 37.5**	**-4.7**
MAKZ	**Makanchi**	**16.76**	**358**		**Pn**	**09 14 40.1**	**-2.3**
MAKZ				IAmb	IAmb	09 15 01.7	
	comp=Z,4.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.73**	**124**	P	**Pn**	**09 15 07.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=311,slow=11,SNR=6.0						
	comp=Z,1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**20.80**	**352**	P	**P**	**09 15 28.2**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=179,slow=9.7,SNR=16						
	comp=Z,1.5nm,0.6s						
KURK	**Kurchatov**	**20.89**	**353**	P	**P**	**09 15 25.8**	**-3.8**
KURK				IAmb	IAmb	09 15 33.9	
	comp=Z,5.4nm,0.8s						
GEYT	**Alibeck**	**21.82**	**298**	P	**P**	**09 15 41.5**	**+1.6**
	comp=Z,1.3nm,0.3s,ba

ZAA0	**Zalesovo Array**	**1.08 254**	⇑P		**Pg**	**09 14 20.7**	**-1.0**	
	0.8nm,0.6s							
ZAA0			⇓S		**Sg**	**09 14 35.5**	**-0.2**	
	3.9nm,0.7s							
ZAA0			⇓Rg		Rg	09 14 40.2		
ZALV	**Zalesovo Beam**	**1.08 254**	Pg		**Pg**	**09 14 20.9**	**-0.9**	
	1.5nm,0.3s,baz=84,slow=18,SNR=9.5							
ZALV			Lg		Lg	09 14 35.9		
	4.3nm,0.3s,baz=81,slow=29,SNR=20							
ZALV			Rg		Rg	09 14 40.1		
	233nm,1.3s,baz=84,slow=28,SNR=11							
KURBB	**Kurchatov Arra**	**6.12 237**	Pn		**Pn**	**09 15 33.7**	**+1.1**	
	0.2nm,0.3s,baz=57,slow=14,SNR=22							
KURBB			Sn		**Sn**	**09 16 44.0**	**+0.8**	
	baz=49,slow=21,SNR=2.3							
KURBB			Lg		Lg	09 17 11.2		
	0.1nm,0.3s,baz=63,slow=33,SNR=5.0							
	4.5nm,0.7s							
KURBB	**Kurchatov Arra**	**6.12 237**	⇑Pn		**Pn**	**09 15 33.6**	**+0.9**	
	2.0nm,0.2s							
MK31	**Makanchi Array**	**7.95 202**	Pn		**Pn**	**09 15 58.2**	**+0.3**	
	0.1nm,0.1s,baz=56,slow=6.7,SNR=12							
MKAR	**Makanchi Array**	**7.95 202**	Pn		**Pn**	**09 15 57.8**	**-0.1**	
	0.2nm,0.3s,baz=23,slow=12,SNR=8.8							
MKAR			Lg		Lg	09 18 05.7		
	0.1nm,0.3s,baz=28,slow=22,SNR=5.9							
	0.6nm,0.5s							

*KRSC **09** 09:22:41.8±1.7,54˚.72N×167˚.62E,h31km±28km,ML4.5*
*BJI **09** 09:22:42.0±0.0,54˚.90N×167˚.60E,h15km,mb4.6/15,*
mB4.9/6
*IDC **09** 09:22:42.8±0.5,54˚.89N×167˚.59E,h0km,mb4.3/26,*
mbtmp4.3/28,ML3.6/2,MS3.4/18,Error ellipse:
s-maj=15.2km s-min=12.1km az=167.0
*MOS **09** 09:22:45.2±0.8,54˚.87N×167˚.60E,h31km,mb4.4/15,Error*
ellipse: s-maj=7.4km s-min=6.1km az=0.9
*NEIC **09** 09:22:45.4±1.7,54˚.7N±0˚.2×167˚.7E±0˚.1,h23km±6km,*
mb4.3/60,Error ellipse: s-maj=21.8km s-min=9.7km
az=182.0

ISC 09 09:22:47.3±0.4,54˚.77N±0˚.05×167˚.67E±0˚.04,h35km,n212,
σ1§30/236,mb4.3/67,MS3.5/16,8C-9D,Komandorsky
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.07**	**295**	PN	**Pn**	**09 23 02.0**	**-3.7**
BKI				S	**Sn**	**09 23 15.3**	**-4.0**
BKI	**Bering**	**1.07**	**295**	*e*P	**Pn**	**09 23 02.0**	**-3.7**
BKI				*e*S	**Sn**	**09 23 15.3**	**-4.0**
KBTR	**Krutoberegovo**	**3.11**	**300**	PN	**Pn**	**09 23 30.8**	**-3.0**
KBTR				S	**Sn**	**09 24 06.8**	**-2.9**
KBTR	**Krutoberegovo**	**3.11**	**300**	*e*P	**Pn**	**09 23 30.8**	**-3.0**
KBTR				*e*S	**Sn**	**09 24 06.8**	**-2.9**
KBG	**Krutoberegovo**	**3.19**	**300**	PN	**Pn**	**09 23 32.4**	**-2.5**
KBG				S	**Sn**	**09 24 09.1**	**-2.5**
KBG	**Krutoberegovo**	**3.19**	**300**	*e*P	**Pn**	**09 23 32.4**	**-2.5**
KBG				*e*S	**Sn**	**09 24 09.1**	**-2.5**
MKZ	**Mys Kozlova**	**3.46**	**269**	PN	**Pn**	**09 23 37.2**	**-1.3**
MKZ	**Mys Kozlova**	**3.46**	**269**	*e*P	**Pn**	**09 23 37.2**	**-1.3**
MKZ				*e*S	**Sn**	**09 24 15.4**	**-2.8**
SMKR	**Semkarok**	**3.95**	**300**	PN	**Pn**	**09 23 44.1**	**-1.3**
SMKR				S	**Sn**	**09 24 31.4**	**+0.9**
SMKR	**Semkarok**	**3.95**	**300**	*e*P	**Pn**	**09 23 44.1**	**-1.3**
SMKR				*e*S	**Sn**	**09 24 31.4**	**+0.9**
BDR	**Baidarnaya**	**4.08**	**299**	PN	**Pn**	**09 23 47.0**	**-0.1**
BDR				S	**Sn**	**09 24 34.7**	**+1.1**
BDR	**Baidarnaya**	**4.08**	**299**	*e*P	**Pn**	**09 23 47.0**	**-0.1**
BDR				*e*S	**Sn**	**09 24 34.7**	**+1.1**
SRKR	**Sorokina**	**4.13**	**300**	PN	**Pn**	**09 23 47.2**	**-0.7**
SRKR	**Sorokina**	**4.13**	**300**	*e*P	**Pn**	**09 23 47.2**	**-0.7**
KLY	**Klyuchi**	**4.27**	**294**	*e*S	**Sn**	**09 24 37.1**	**-1.2**
SHEM	**Shemya Is, Ala**	**4.33**	**116**	Pn	**Pn**	**09 23 49.8**	**-0.8**
	15nm,0.3s,baz=70,slow=2.1,SNR=18						
SHEM				Sn	**Sn**	**09 24 37.7**	**-2.0**
	9.8nm,0.3s,baz=163,slow=19,SNR=2.4						
	48nm,0.5s						
SMY	**Shemya**	**4.33**	**116**	Pn	**Pn**	**09 23 48.1**	**-2.5**
SMY	**Shemya**	**4.33**	**116**	PN	**Pn**	**09 23 49.9**	**-0.6**
SMY	**Shemya**	**4.33**	**116**	*e*P	**Pn**	**09 23 49.9**	**-0.6**
SMY				*e*S	**Sn**	**09 24 38.9**	**-0.8**
TUMR	**Tumrok**	**4.36**	**280**	PN	**Pn**	**09 23 51.4**	**+0.3**
TUMR				S	**Sn**	**09 24 42.3**	**+1.7**
TUMR	**Tumrok**	**4.36**	**280**	*e*P	**Pn**	**09 23 51.4**	**+0.3**
TUMR				*e*S	**Sn**	**09 24 42.3**	**+1.7**
KOZ	**Kozyrevsk**	**4.62**	**289**	PN	**Pn**	**09 23 55.4**	**+0.8**
KOZ				S	**Sn**	**09 24 49.0**	**+2.0**
KOZ	**Kozyrevsk**	**4.62**	**289**	*e*P	**Pn**	**09 23 55.4**	**+0.8**
KOZ				*e*S	**Sn**	**09 24 49.0**	**+2.0**
SRDR	**Sredinnyy**	**4.77**	**292**	PN	**Pn**	**09 23 56.5**	**-0.2**
SRDR				S	**Sn**	**09 24 52.4**	**+1.6**
SRDR	**Sredinnyy**	**4.77**	**292**	*e*P	**Pn**	**09 23 56.5**	**-0.2**
SRDR				*e*S	**Sn**	**09 24 52.4**	**+1.6**
SPN	**Mys Shipunski**	**4.82**	**253**	PN	**Pn**	**09 23 56.5**	**-0.8**
SPN	**Mys Shipunski**	**4.82**	**253**	*e*P	**Pn**	**09 23 56.5**	**-0.8**
SPN				*e*S	**Sn**	**09 24 48.4**	**-3.4**
KII	**Karymskiy**	**4.86**	**265**	PN	**Pn**	**09 23 57.9**	**0.0**
KII	**Karymskiy**	**4.86**	**265**	*e*P	**Pn**	**09 23 57.9**	**0.0**
NLC	**Nalytchevo**	**5.17**	**255**	*e*S	**Sn**	**09 24 58.2**	**-2.2**
ESO	**Esso**	**5.25**	**286**	PN	**Pn**	**09 24 03.1**	**-0.1**
ESO	**Esso**	**5.25**	**286**	*e*P	**Pn**	**09 24 03.1**	**-0.1**
SDLR	**Sedlovina**	**5.39**	**257**	PN	**Pn**	**09 24 04.9**	**-0.3**
SDLR	**Sedlovina**	**5.39**	**257**	*e*P	**Pn**	**09 24 04.9**	**-0.3**
SDLR				*e*S	**Sn**	**09 25 04.6**	**-1.5**
SMAR	**Somma**	**5.44**	**257**	PN	**Pn**	**09 24 05.6**	**-0.4**
SMAR	**Somma**	**5.44**	**257**	*e*P	**Pn**	**09 24 05.6**	**-0.4**
SMAR				*e*S	**Sn**	**09 25 06.7**	**-0.8**
UGLR	**Uglovaya**	**5.45**	**257**	PN	**Pn**	**09 24 05.8**	**-0.2**
UGLR	**Uglovaya**	**5.45**	**257**	*e*P	**Pn**	**09 24 05.8**	**-0.2**
KRER	**Koryakskii**	**5.46**	**258**	PN	**Pn**	**09 24 06.2**	**0.0**
KRER	**Koryakskii**	**5.46**	**258**	*e*P	**Pn**	**09 24 06.2**	**0.0**
KRER				*e*S	**Sn**	**09 25 08.1**	**+0.2**
AVH	**Avacha**	**5.48**	**258**	PN	**Pn**	**09 24 06.3**	**-0.1**
AVH	**Avacha**	**5.48**	**258**	*e*P	**Pn**	**09 24 06.3**	**-0.1**
AVH				*e*S	**Sn**	**09 25 06.9**	**-1.2**
KRX	**Arik**	**5.50**	**259**	PN	**Pn**	**09 24 06.5**	**-0.2**
KRX	**Arik**	**5.50**	**259**	*e*P	**Pn**	**09 24 06.5**	**-0.2**
KRX				*e*S	**Sn**	**09 25 07.2**	**-1.5**
KOK	**Koryaka**	**5.53**	**258**	PN	**Pn**	**09 24 06.8**	**-0.3**
KOK	**Koryaka**	**5.53**	**258**	*e*P	**Pn**	**09 24 06.8**	**-0.3**
DALK	**Dalny**	**5.55**	**255**	PN	**Pn**	**09 24 06.6**	**-0.7**
DALK	**Dalny**	**5.55**	**255**	*e*P	**Pn**	**09 24 06.6**	**-0.7**
DALK				*e*S	**Sn**	**09 25 07.1**	**-2.7**
PET	**Petropavlovsk**	**5.61**	**255**	Pn	**Pn**	**09 24 06.5**	**-1.7**
PET	**Petropavlovsk**	**5.61**	**255**	*e*PN	**Pn**	**09 24 08.5**	**+0.4**
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
GNL	**Ganaly**	**5.81**	**263**	PN	**Pn**	**09 24 11.1**	**+0.2**
GNL	**Ganaly**	**5.81**	**263**	*e*P	**Pn**	**09 24 11.1**	**+0.2**
GNL				*e*S	**Sn**	**09 25 15.4**	**-0.9**
RUS	**Russkaya**	**5.93**	**250**	PN	**Pn**	**09 24 12.5**	**0.0**
RUS	**Russkaya**	**5.93**	**250**	*e*P	**Pn**	**09 24 12.5**	**0.0**
RUS				*e*S	**Sn**	**09 25 17.7**	**-1.5**
KRMR	**Karymshinskiy**	**5.98**	**255**	PN	**Pn**	**09 24 13.0**	**-0.2**
KRMR	**Karymshinskiy**	**5.98**	**255**	*e*P	**Pn**	**09 24 13.0**	**-0.2**
KRMR				*e*S	**Sn**	**09 25 19.6**	**-0.7**
MTVR	**Mutnovka**	**6.09**	**252**	PN	**Pn**	**09 24 14.2**	**-0.7**
MTVR	**Mutnovka**	**6.09**	**252**	*e*P	**Pn**	**09 24 14.2**	**-0.7**
MTVR				*e*S	**Sn**	**09 25 21.5**	**-1.9**
PEA0B	**Petropavlovsk-**	**6.12**	**258**		**Pn**	**09 24 14.7**	**-0.4**
PEA0B	**Petropavlovsk-**	**6.12**	**258**	‖*e*PN	**Pn**	**09 24 15.6**	**+0.5**
PETK	**Petropavlovsk-**	**6.12**	**258**	Pn	**Pn**	**09 24 15.8**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=78,slow=17,SNR=17						
PETK				Sn	**Sn**	**09 25 23.1**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=113,slow=14,SNR=1.5						
PETK				LR	LR	09 27 18.3	
	comp=Z,82nm,18.2s,baz=86,slow=45						
	comp=Z,4.0nm,0.5s						
PETK	**Petropavlovsk-**	**6.12**	**258**		**Pn**	**09 24 14.3**	**-0.8**
GRL	**Gorelyy**	**6.12**	**253**	PN	**Pn**	**09 24 15.6**	**+0.3**
GRL	**Gorelyy**	**6.12**	**253**	*e*P	**Pn**	**09 24 15.6**	**+0.3**
GRL				*e*S	**Sn**	**09 25 23.7**	**-0.4**
ASAK	**Asacha**	**6.29**	**252**	PN	**Pn**	**09 24 17.5**	**-0.1**
ASAK	**Asacha**	**6.29**	**252**	*e*P	**Pn**	**09 24 17.5**	**-0.1**
ASAK				*e*S	**Sn**	**09 25 28.4**	**+0.2**
KDTR	**Khodutka, Kamc**	**6.47**	**247**	*e*S	**Sn**	**09 25 29.0**	**-3.4**
MA2	**Magadan**	**10.35**	**305**	LR	LR	09 29 05.2	
	comp=Z,70nm,19.2s,baz=64,slow=37						
MA2	**Magadan**	**10.35**	**305**	‖*e*PN	**Pn**	**09 25 11.4**	**-1.6**
MA2				pmax	pmax		
	comp=Z,51nm,2.0s						
UNV	**Unalaska Valle**	**15.08**	**83**	Pn	**Pn**	**09 26 15.8**	**-1.6**
UNV				IAmb	IAmb	09 26 36.8	
	comp=Z,16nm,1.1s						
N18K	**Kilae Creek**	**20.13**	**58**	P	**P**	**09 27 18.1**	**+0.1**
TTA	**Tatalina**	**20.23**	**52**		**P**	**09 27 18.4**	**-0.6**
TTA				IAmb	IAmb	09 27 30.2	
	comp=Z,17nm,1.3s						
TTA	**Tatalina**	**20.23**	**52**	P	**P**	**09 27 18.4**	**-0.6**
TTA				pmax	pmax		
	comp=Z,17nm,1.3s						
P18K	**Big Mountain,**	**20.49**	**62**	P	**P**	**09 27 21.1**	**-0.8**
P18K				IAmb	IAmb	09 27 26.3	
	comp=Z,11nm,0.9s						
L19K	**White Mountain**	**20.69**	**54**	P	**P**	**09 27 22.6**	**-1.4**
L19K				IAmb	IAmb	09 27 34.5	
	comp=Z,13nm,0.9s						
N19K	**Bonanza Creek**	**20.82**	**58**	P	**P**	**09 27 23.5**	**-2.0**
M19K	**Big River Lodg**	**20.89**	**55**	P	**P**	**09 27 25.1**	**-1.1**
YAK	**Yakutsk**	**20.92**	**306**	*ce*P	**P**	**09 27 22.8**	**-3.6**
YAK				pmax	pmax		
	comp=Z,27nm,0.8s						
K20K	**Telida**	**21.15**	**51**	P	**P**	**09 27 28.4**	**-0.5**
K20K				IAmb	IAmb	09 27 39.0	
	comp=Z,12nm,1.0s						
J20K	**Nowinta River**	**21.22**	**48**	P	**P**	**09 27 29.9**	**+0.2**
J20K				IAmb	IAmb	09 27 39.4	
	comp=Z,8.2nm,0.8s						
IMAR	**Indian Mountai**	**21.72**	**44**	P	**P**	**09 27 34.7**	**-0.3**
OHAK	**Old Harbor**	**21.77**	**68**	P	**P**	**09 27 35.3**	**-0.3**
SPU	**Mount Spurr**	**22.00**	**57**	P	**P**	**09 27 37.8**	**-0.3**
H21K	**Melozitna Rive**	**22.03**	**45**	P	**P**	**09 27 39.4**	**+1.0**
KDAK	**Kodiak Island**	**22.05**	**66**	LR	LR	09 35 56.0	
	comp=Z,150nm,18.9s,baz=277,slow=36						
KDAK	**Kodiak Island**	**22.05**	**66**	P	**P**	**09 27 37.2**	**-1.4**
KDAK				IAmb	IAmb	09 27 49.6	
	comp=Z,8.3nm,0.8s						
KDAK	**Kodiak Island**	**22.05**	**66**	P	**P**	**09 27 37.2**	**-1.4**
KDAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SKT	**Skwentna**	**22.25**	**55**	P	**P**	**09 27 39.0**	**-1.7**
SKT				IAmb	IAmb	09 28 05.5	
	comp=Z,10nm,1.0s						
I21K	**Tanana**	**22.29**	**46**	P	**P**	**09 27 38.6**	**-2.5**
CNPM	**China Poot**	**22.52**	**61**	P	**P**	**09 27 42.3**	**-1.3**
BPAW	**Bear Paw Mtn.**	**22.59**	**49**	P	**P**	**09 27 43.6**	**-0.8**
KLR	**Kul'dur**	**22.62**	**271**	P	**P**	**09 27 45.4**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=61,slow=10,SNR=7.8						
	comp=Z,2.2nm,0.7s						
KLR	**Kul'dur**	**22.62**	**271**	⇑*e*P	**P**	**09 27 45.3**	**+0.5**
KLR				pmax	pmax		
	comp=Z,14nm,2.5s						
SUA	**Susitna One**	**22.63**	**56**	P	**P**	**09 27 43.2**	**-1.6**
SUA				IAmb	IAmb	09 27 49.0	
	comp=Z,12nm,1.1s						
MLY	**Manley**	**22.79**	**47**	P	**P**	**09 27 46.1**	**-0.4**
TRF	**Thorofare Moun**	**22.86**	**51**	P	**P**	**09 27 47.2**	**-0.1**
TRF				IAmb	IAmb	09 27 52.3	
	comp=Z,13nm,1.2s						
BWN	**Browne**	**23.26**	**49**	P	**P**	**09 27 51.5**	**+0.3**
COLD	**Coldfoot**	**23.36**	**41**	P	**P**	**09 27 51.8**	**-0.4**
COLD				IAmb	IAmb	09 27 54.7	
	comp=Z,8.7nm,1.2s						
H23K	**Yukon River**	**23.39**	**45**	P	**P**	**09 27 52.8**	**+0.3**
NEA2	**Nenana**	**23.46**	**48**	P	**P**	**09 27 53.3**	**+0.1**
NEA2				IAmb	IAmb	09 28 03.4	
	comp=Z,17nm,1.5s						
SML	**Sawmill**	**23.77**	**55**	P	**P**	**09 27 53.8**	**-2.3**
SML				IAmb	IAmb	09 27 56.5	
	comp=Z,9.1nm,0.8s						
PWL	**Port Wells**	**23.83**	**57**	P	**P**	**09 27 55.4**	**-1.4**
MDM	**Murphy Dome**	**23.85**	**47**	P	**P**	**09 27 56.1**	**-0.8**
MDM				IAmb	IAmb	09 28 00.3	
	comp=Z,13nm,1.4s						
WRH	**Wood River Hil**	**23.88**	**48**	P	**P**	**09 27 57.3**	**+0.2**
TOLK	**Toolik Lake Re**	**23.90**	**38**	P	**P**	**09 27 57.9**	**+0.5**
TOLK				IAmb	IAmb	09 28 07.9	
	comp=Z,8.5nm,0.9s						
TCOL	**CIGO, UAF Yank**	**24.00**	**47**	P	**P**	**09 27 56.5**	**-1.7**
TCOL				IAmb	IAmb	09 28 25.4	
	comp=Z,6.2nm,0.7s						
COLA	**College**	**24.00**	**47**	P	**P**	**09 27 56.3**	**-2.0**
COLA	**College**	**24.00**	**47**	*de*P	**P**	**09 27 58.6**	**+0.3**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CCB	**Clear Creek Bu**	**24.01**	**48**	P	**P**	**09 27 56.4**	**-2.0**
CCB				IAmb	IAmb	09 28 08.8	
	comp=Z,11nm,1.1s						
DHY	**Denali Highway**	**24.17**	**52**	P	**P**	**09 27 59.6**	**-0.4**
DHY				IAmb	IAmb	09 28 01.8	
	comp=Z,15nm,1.4s						
HDA	**Harding Lake**	**24.37**	**49**	P	**P**	**09 28 01.3**	**-0.4**
IL31		**24.41**	**48**	P	**P**	**09 28 01.0**	**-1.0**
IL31				IAmb	IAmb	09 28 04.4	
	comp=Z,6.5nm,0.9s						
ILAR	**Eielson Array**	**24.41**	**48**	P	**P**	**09 28 01.6**	**-0.4**
	comp=Z,5.7nm,1.0s,baz=251,slow=8.1,SNR=31						
ILAR				LR	LR	09 37 41.1	
	comp=Z,95nm,19.8s,baz=228,slow=37						
	comp=Z,5.7nm,1.0s						
ILAR	**Eielson Array**	**24.41**	**48**	P	**P**	**09 28 01.0**	**-1.1**
M24K	**Tolsona, Glenn**	**24.77**	**54**	P	**P**	**09 28 06.1**	**+0.8**
KLU	**Klutina**	**24.94**	**56**	P	**P**	**09 28 06.0**	**-0.9**
PRP	**Porcupine Dome**	**25.02**	**46**	P	**P**	**09 28 07.6**	**-0.1**
J25K	**Salcha River,**	**25.06**	**48**	P	**P**	**09 28 07.4**	**-0.5**
J25K				IAmb	IAmb	09 28 18.0	
	comp=Z,8.1nm,1.2s						
FYU	**Fort Yukon**	**25.21**	**43**	P	**P**	**09 28 09.1**	**-0.1**
RIDG	**Independent Ri**	**25.29**	**50**	P	**P**	**09 28 09.6**	**-0.5**
RIDG				IAmb	IAmb	09 28 11.2	
	comp=Z,7.5nm,1.1s						
BMAR	**Burnt Mountain**	**25.55**	**42**	P	**P**	**09 28 12.3**	**-0.1**
DOT	**Dot Lake**	**25.64**	**50**	P	**P**	**09 28 12.9**	**-0.4**
DOT				IAmb	IAmb	09 28 24.2	
	comp=Z,9.4nm,1.1s						
SCRK	**Sand Creek**	**25.67**	**50**	P	**P**	**09 28 12.5**	**-1.0**
J26L	**Joseph Creek**	**25.84**	**48**	P	**P**	**09 28 14.4**	**-0.7**
J26L				IAmb	IAmb	09 28 26.1	
	comp=Z,9.7nm,1.4s						
K27K	**Chicken**	**26.50**	**49**	P	**P**	**09 28 21.1**	**+0.1**
K27K				IAmb	IAmb	09 28 25.1	
	comp=Z,11nm,1.1s						
L27K	**Beaver Creek,**	**26.69**	**51**	P	**P**	**09 28 22.3**	**-0.4**
BCAR	**Beaver Creek A**	**26.71**	**51**	P	**P**	**09 28 22.2**	**-0.7**
EGAK	**Eagle**	**26.86**	**48**	P	**P**	**09 28 23.7**	**-0.5**
EGAK				IAmb	IAmb	09 28 28.5	
	comp=Z,7.4nm,0.9s						
MAJO	**Matsushiro**	**27.20**	**240**	P	**P**	**09 28 28.5**	**+1.0**
MAJO	**Matsushiro**	**27.20**	**240**	*de*P	**P**	**09 28 29.0**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MJAR	**Matsushiro Arr**	**27.20**	**240**	P	**P**	**09 28 27.7**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=34,slow=9.2,SNR=6.0						
	comp=Z,3.7nm,0.9s						
DAWY	**Dawson**	**27.68**	**49**	P	**P**	**09 28 32.0**	**+0.4**
DAWY				IAmb	IAmb	09 28 37.5	
	comp=Z,6.8nm,1.2s						
EPYK	**Eagle Plains**	**28.62**	**44**	P	**P**	**09 28 39.8**	**-0.2**
EPYK				IAmb	IAmb	09 28 41.4	
	comp=Z,5.3nm,0.8s						
M31M	**Drury Creek, Y**	**30.22**	**52**	P	**P**	**09 28 55.3**	**+1.1**
M31M				IAmb	IAmb	09 28 56.2	
	comp=Z,3.8nm,0.8s						
KSRS	**Korea Array**	**32.00**	**254**	P	**P**	**09 29 11.2**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=43,slow=7.2,SNR=2.8						
KSRS				LR	LR	09 41 26.1	
	comp=Z,44nm,21.6s,baz=40,slow=35						
	comp=Z,0.6nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**34.99**	**181**	T	T	10 06 31.1	
	baz=0.8,slow=76,SNR=1924						
H11N3	**WAKE ISLAND Hy**	**35.00**	**181**	T	T	10 06 32.2	
	baz=0.8,slow=76,SNR=1238						
H11N1	**WAKE ISLAND Hy**	**35.00**	**181**	T	T	10 06 32.6	
	baz=0.8,slow=76,SNR=1548						
H11S1	**WAKE ISLAND Hy**	**36.21**	**182**	T	T	10 08 04.2	
	baz=1.0,slow=76,SNR=187						
H11S3	**WAKE ISLAND Hy**	**36.22**	**182**	T	T	10 08 04.3	
	baz=1.0,slow=76,SNR=67						
H11S2	**WAKE ISLAND Hy**	**36.22**	**182**	T	T	10 08 05.9	
	baz=1.0,slow=76,SNR=243						
BBB	**Bella Bella**	**37.12**	**67**	LR	LR	09 42 35.9	
	comp=Z,117nm,20.1s,baz=273,slow=32						
ULN	**Ulaanbaatar**	**37.44**	**285**	*ce*P	**P**	**09 29 58.0**	**+1.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**37.82**	**286**	P	**P**	**09 30 00.9**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=59,slow=8.8,SNR=11						
SONM				PcP	**PcP**	**09 32 15.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=15,slow=6.0,SNR=3.7						
SONM				LR	LR	09 47 16.0	
	comp=Z,45nm,18.7s,baz=70,slow=39						
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**37.82**	**286**	P	**P**	**09 30 00.7**	**+0.4**
SONM	**Songino Array**	**37.82**	**286**	P	**P**	**09 30 00.7**	**+0.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
JOW	**Kunigami**	**40.00**	**242**	LR	LR	09 48 44.9	
	comp=Z,35nm,18.0s,baz=330,slow=39						
NJ2	**Nanjing**	**41.02**	**257**	*e*P	**P**	**09 30 23.8**	**-3.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
B08A	**Colville Reser**	**43.92**	**67**	P	**P**	**09 30 51.0**	**+0.7**
EDM	**Edmonton**	**44.12**	**58**	P	**P**	**09 30 52.4**	**+0.5**
EDM	**Edmonton**	**44.12**	**58**	P	**P**	**09 30 52.4**	**+0.5**
EDM				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NEW	**Newport**	**45.15**	**66**	LR	LR	09 47 29.2	
	comp=Z,70nm,20.4s,baz=284,slow=33						
ZALV	**Zalesovo Beam**	**45.57**	**305**	*i* P	**P**	**09 31 06.8**	**+3.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YBH	**Yreka Blue Hor**	**46.25**	**76**	LR	LR	09 48 01.2	
	comp=Z,68nm,19.1s,baz=322,slow=33						
WALA	**Waterton Lakes**	**46.34**	**63**	P	**P**	**09 31 10.2**	**+0.6**
WALA				IAmb	IAmb	09 31 11.1	
	comp=Z,4.3nm,0.9s						
GTA	**Gaotai**	**46.80**	**280**	⇑P	**P**	**09 31 14.3**	**+1.0**
GTA				pP	pP	09 31 20.4	-3.3
GTA				sP	sP	09 31 24.2	-3.7
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DGZ	**Jazzator, Alta**	**46.87**	**299**	*de*P	**P**	**09 31 13.7**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**50.56**	**305**	P	**P**	**09 31 41.5**	**-0.3**
KURK	**Kurchatov**	**50.56**	**305**	*d* iP	**P**	**09 31 41.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,11nm,0.7s						
KVN	**Kaiserville**	**50.65**	**76**	P	**P**	**09 31 43.4**	**+0.4**
KVN	**Kaiserville**	**50.65**	**76**	P	**P**	**09 31 43.4**	**+0.4**
KVN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**50.66**	**305**	P	**P**	**09 31 42.4**	**-0.3**
	comp=Z,6.8nm,0.6s,baz=55,slow=7.9,SNR=38						
	comp=Z,6.8nm,0.6s						
NVAR	**Mina Bay Bea**	**50.97**	**76**	P	**P**	**09 31 46.9**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=303,slow=7.3,SNR=11						
	comp=Z,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**50.97**	**76**	P	**P**	**09 31 45.8**	**+0.3**
ELK	**Elko**	**51.08**	**72**	LR	LR	09 51 44.5	
	comp=Z,50nm,18.2s,baz=308,slow=34						
MK31	**Makanchi Array**	**51.37**	**299**	P	**P**	**09 31 47.1**	**-1.0**
MK31	**Makanchi Array**	**51.37**	**299**	*c* iP	**P**	**09 31 47.0**	**-1.1**
MKAR	**Makanchi Array**	**51.37**	**299**	P	**P**	**09 31 47.2**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=51,slow=7.0,SNR=25						
MKAR				LR	LR	09 55 58.9	
	comp=Z,20nm,18.4s,baz=264,slow=39						
	comp=Z,1.9nm,0.5s						
MAKZ	**Makanchi**	**51.52**	**299**	P	**P**	**09 31 48.4**	**-0.8**
MAKZ				IAmb	IAmb	09 31 48.9	
	comp=Z,4.2nm,1.1s						
MAKZ	**Makanchi**	**51.52**	**299**	P	**P**	**09 31 48.4**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GOMU	**GeÉrMu**	**51.87**	**281**	P	**P**	**09 31 52.6**	**+0.2**
GOMU				pP	pP	09 31 56.4	-6.5
GOMU				sP	sP

BRTR	**Keskin Array B**	**77.98**	**325**	*i* P	**P**	**09 34 42.5**	**+0.7**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**79.68**	**212**	P	**P**	**09 34 51.8**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=25,slow=6.0,SNR=18							
	comp=Z,3.3nm,0.9s							
WRA	**Warramunga Arr**	**79.68**	**212**	*i* P	**P**	**09 34 51.7**	**+0.7**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ASAR	**Alice Springs**	**83.32**	**211**	P	**P**	**09 35 11.9**	**+1.7**
	comp=Z,4.6nm,0.8s,baz=18,slow=5.6,SNR=48							
	comp=Z,4.6nm,0.8s							
ESDC	**Sonseca Array**	**85.65**	**354**	P	**P**	**09 35 22.9**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=360,slow=4.7,SNR=13							
	comp=Z,3.0nm,1.0s							
STKA	**Stephens Creek**	**89.17**	**202**	P	**P**	**09 35 40.4**	**+1.7**
	comp=Z,4.7nm,0.8s,baz=334,slow=6.5,SNR=8.6							
	comp=Z,4.7nm,0.8s							
MAW	**Mawson**	**144.05**	**219**	PKP	**PKPdf**	**09 42 17.0**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=109,slow=2.4,SNR=8.3							
MAW	**Mawson**	**144.05**	**219**	PKIKP	**PKPdf**	**09 42 17.0**	**-0.4**

*IDC **09** 09:31:34.1±1.0,30.29N×82.99E,h0km,mb3.6/10, mbtmp3.6/12,ML3.1/1,MS2.8/5,Error ellipse: s-maj=31.6km s-min=18.1km az=50.0*

ISC 09 09:31:39.1±0.9,30.3N±0.1×82.9E±0.1,h35km,n18, σ1§62/15,mb3.6/9,MS2.6/3,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**8.83**	**295**	P	**Pn**	**09 33 45.0**	**+0.7**
THW	**Thamme Wali**	**9.82**	**287**	P	**Pn**	**09 33 54.2**	**-3.7**
CEP	**Cherat**	**9.95**	**293**	P	**Pn**	**09 33 58.9**	**-0.8**
AAK	**Ala-Archa**	**14.02**	**334**	LR	LR	09 40 40.5	
	comp=Z,42nm,18.8s,baz=147,slow=39						
MKAR	**Makanchi Array**	**16.46**	**359**	Pn	**Pn**	**09 35 25.8**	**-1.6**
	0.1nm,0.3s,baz=184,slow=12,SNR=2.9						
MKAR				LR	LR	09 42 49.4	
	comp=Z,31nm,20.1s,baz=250,slow=41						
	0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.77**	**125**	P	**P**	**09 35 54.6**	**-0.7**
	0.9nm,0.4s,baz=305,slow=11,SNR=6.1						
KURBB	**Kurchatov Arra**	**20.55**	**352**	P	**P**	**09 36 14.6**	**+0.1**
	1.2nm,0.8s,baz=179,slow=10,SNR=8.5						
	1.2nm,0.8s						
GEYT	**Alibeck**	**21.83**	**297**	P	**P**	**09 36 30.6**	**+2.2**
	3.0nm,0.5s,baz=121,slow=11,SNR=5.4						
	3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**23.66**	**3**	P	**P**	**09 36 47.2**	**+0.1**
	1.3nm,0.7s,baz=203,slow=9.6,SNR=3.8						
	1.3nm,0.7s						
SONM	**Songino Array**	**25.13**	**39**	P	**P**	**09 37 01.7**	**+0.9**
	0.7nm,0.6s,baz=232,slow=11,SNR=3.9						
	0.7nm,0.6s						
AKTO	**Aktyubinsk**	**27.40**	**324**	LR	LR	09 48 04.9	
	comp=Z,16nm,19.2s,baz=135,slow=36						
OBN	**Obninsk**	**41.05**	**321**	LR	LR	09 59 32.9	
	comp=Z,7.8nm,19.8s,baz=46,slow=41						
FINES	**FINESS Array B**	**48.10**	**327**	P	**P**	**09 40 14.3**	**-0.8**
	0.9nm,0.5s,baz=107,slow=8.5,SNR=6.5						
	0.9nm,0.5s						
ARCES	**ARCESS Array B**	**50.65**	**337**	P	**P**	**09 40 34.6**	**+0.1**
	0.8nm,0.5s,baz=96,slow=9.2,SNR=6.1						
	0.8nm,0.5s						
NOA	**NORSAR Array B**	**55.18**	**326**	P	**P**	**09 41 08.3**	**+0.2**
	0.3nm,0.5s,baz=78,slow=7.3,SNR=3.4						
NOA				LR	LR	10 06 04.3	
	comp=Z,18nm,19.8s,baz=295,slow=38						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**70.32**	**129**	P	**P**	**09 42 47.9**	**-1.5**
	0.5nm,0.8s,baz=323,slow=6.0,SNR=4.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**72.64**	**132**	P	**P**	**09 43 04.4**	**+1.0**
	0.2nm,0.7s,baz=318,slow=5.8,SNR=2.7						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.97**	**277**	P	**P**	**09 43 24.9**	**+1.9**
	0.4nm,0.7s,baz=50,slow=4.0,SNR=2.0						
	0.4nm,0.7s						

*IDC **09** 09:31:48.5±1.3,54.93N×167.55E,h0km,mb3.3/4, mbtmp3.4/5,ML3.5/1,MS2.4/1,Error ellipse: s-maj=41.7km s-min=28.6km az=174.0*
*KRSC **09** 09:31:50.4±1.9,54.74N×167.40E,h30km±19km,ML3.6*

ISC 09 09:31:53.3±1.0,54.85N±0.09×167.61E±0.07,h35km,n26, σ1§49/26,mb3.3/4,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.00**	**291**	*eP*	**Pn**	**09 32 07.9**	**-2.9**
BKI				*eS*	**Sn**	**09 32 21.5**	**-2.2**
KBTR	**Krutoberegovo**	**3.04**	**298**	*eP*	**Pn**	**09 32 37.9**	**-0.9**
KBG	**Krutoberegovo**	**3.12**	**299**	*eS*	**Sn**	**09 33 17.0**	**+1.2**
MKZ	**Mys Kozlova**	**3.42**	**267**	*eP*	**Pn**	**09 32 43.8**	**-0.2**
MKZ				*eS*	**Sn**	**09 33 21.5**	**-1.8**
TUMR	**Tumrok**	**4.31**	**279**	*eP*	**Pn**	**09 32 57.1**	**+0.7**
TUMR				*eS*	**Sn**	**09 33 47.6**	**+2.2**
SHEM	**Shemya Is, Ala**	**4.40**	**116**	Pn	**Pn**	**09 32 55.7**	**-1.7**
	2.5nm,0.3s,baz=39,slow=6.5,SNR=3.0						
	56nm,0.8s						
SPN	**Mys Shipunski**	**4.81**	**252**	*eP*	**Pn**	**09 33 02.3**	**-0.8**
SPN				*eS*	**Sn**	**09 33 55.1**	**-2.4**
AVH	**Avacha**	**5.46**	**257**	*eP*	**Pn**	**09 33 13.5**	**+1.4**
KRX	**Arik**	**5.48**	**258**	*eP*	**Pn**	**09 33 12.9**	**+0.5**
KOK	**Koryaka**	**5.51**	**257**	*eP*	**Pn**	**09 33 12.9**	**+0.1**
GNL	**Ganaly**	**5.78**	**262**	*eP*	**Pn**	**09 33 17.9**	**+1.3**
RUS	**Russkaya**	**5.93**	**250**	*eS*	**Sn**	**09 34 25.3**	**+0.3**
MTVR	**Mutnovka**	**6.08**	**251**	*eP*	**Pn**	**09 33 21.1**	**+0.4**
MTVR				*eS*	**Sn**	**09 34 26.7**	**-2.4**
PETK	**Petropavlovsk-**	**6.10**	**257**	LR	LR	09 36 03.1	
	comp=Z,34nm,19.1s,baz=88,slow=42						
GRL	**Gorelyy**	**6.11**	**252**	*eP*	**Pn**	**09 33 22.3**	**+1.2**
GRL				*eS*	**Sn**	**09 34 30.2**	**+0.4**
ASAK	**Asacha**	**6.28**	**251**	*eP*	**Pn**	**09 33 24.7**	**+1.3**
ASAK				*eS*	**Sn**	**09 34 33.4**	**-0.6**
ILAR	**Eielson Array**	**24.38**	**48**	P	**P**	**09 37 07.4**	**-0.4**
	0.6nm,0.8s,baz=261,slow=8.5,SNR=5.4						
	0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.07**	**181**	T	T	10 15 37.9	
	baz=0.6,slow=76,SNR=70						
H11N3	**WAKE ISLAND Hy**	**35.08**	**181**	T	T	10 15 38.9	
	baz=0.6,slow=76,SNR=56						
H11N1	**WAKE ISLAND Hy**	**35.09**	**181**	T	T	10 15 42.8	
	baz=0.6,slow=76,SNR=45						
H11S1	**WAKE ISLAND Hy**	**36.29**	**181**	T	T	10 17 13.4	
	baz=0.1,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**36.30**	**181**	T	T	10 17 09.3	
	baz=0.1,slow=76,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**36.30**	**181**	T	T	10 17 13.6	
	baz=0.1,slow=76,SNR=26						
MKAR	**Makanchi Array**	**51.30**	**299**	P	**P**	**09 40 52.9**	**-0.6**
	0.1nm,0.4s,baz=45,slow=6.3,SNR=1.7						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**65.87**	**73**	P	**P**	**09 42 36.7**	**+1.4**
	0.2nm,0.6s,baz=300,slow=3.5,SNR=5.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**83.37**	**211**	P	**P**	**09 44 17.8**	**+1.3**
	0.4nm,0.9s,baz=17,slow=7.7,SNR=4.2						
	0.4nm,0.9s						

*IDC **09** 09:46:04.5±1.8,55.29N×167.40E,h0km,mb3.1/3, mbtmp3.1/4,ML2.3/1,Error ellipse: s-maj=75.9km s-min=23.5km az=166.0*
*KRSC **09** 09:46:05.6±1.6,54.81N×167.45E,h39km±20km,ML3.8*

ISC 09 09:46:08.8±1.2,55.0N±0.1×167.48E±0.09,h35km,n26, σ1§05/24,mb3.0/3,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.88**	**281**	*eP*	**Pn**	**09 46 23.1**	**-1.6**
BKI				*eS*	**Sn**	**09 46 36.4**	**+0.1**
KBTR	**Krutoberegovo**	**2.89**	**296**	*eP*	**Pn**	**09 46 52.3**	**0.0**
MKZ	**Mys Kozlova**	**3.37**	**264**	*eP*	**Pn**	**09 46 58.7**	**-0.1**
TUMR	**Tumrok**	**4.21**	**276**	*eP*	**Pn**	**09 47 13.3**	**+2.7**
KII	**Karymskiy**	**4.79**	**261**	*eP*	**Pn**	**09 47 19.4**	**+1.0**
SDLR	**Sedlovina**	**5.35**	**254**	*eP*	**Pn**	**09 47 26.1**	**-0.2**
SMAR	**Somma**	**5.40**	**254**	*eP*	**Pn**	**09 47 27.4**	**+0.3**
KRER	**Koryakskii**	**5.42**	**255**	*eP*	**Pn**	**09 47 28.4**	**+1.2**
AVH	**Avacha**	**5.44**	**254**	*eP*	**Pn**	**09 47 27.6**	**+0.2**
KRX	**Arik**	**5.45**	**256**	*eP*	**Pn**	**09 47 27.8**	**+0.1**
KRX				*eS*	**Sn**	**09 48 28.5**	**-0.7**
KOK	**Koryaka**	**5.48**	**255**	*eP*	**Pn**	**09 47 27.8**	**-0.2**
GNL	**Ganaly**	**5.74**	**260**	*eP*	**Pn**	**09 47 32.6**	**+1.1**
RUS	**Russkaya**	**5.93**	**248**	P	**Pn**	**09 47 33.9**	**-0.1**
KRMR	**Karymshinskiy**	**5.95**	**252**	S	**Sn**	**09 48 41.6**	**+0.4**
PETK	**Petropavlovsk-**	**6.08**	**255**	Pn	**Pn**	**09 47 36.3**	**+0.2**
	0.4nm,0.3s,baz=80,slow=30,SNR=13						
PETK					Sn	**Sn**	**09 48 45.9**	**+1.6**
	0.2nm,0.3s,baz=305,slow=15,SNR=2.2						
	0.8nm,0.5s						
MTVR	**Mutnovka**	**6.08**	**249**	P	**Pn**	**09 47 36.5**	**+0.2**
MTVR				*eS*	**Sn**	**09 48 42.5**	**-2.1**
ASAK	**Asacha**	**6.28**	**249**	*eP*	**Pn**	**09 47 39.7**	**+0.7**
ILAR	**Eielson Array**	**24.31**	**48**	P	**P**	**09 51 22.1**	**-0.6**
	0.2nm,0.5s,baz=267,slow=7.9,SNR=4.4						
	0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**35.25**	**181**	T	T	10 29 56.0	
	baz=0.6,slow=76,SNR=123						
H11N3	**WAKE ISLAND Hy**	**35.27**	**181**	T	T	10 29 56.9	
	baz=0.6,slow=76,SNR=94						
H11N1	**WAKE ISLAND Hy**	**35.27**	**181**	T	T	10 29 57.2	
	baz=0.6,slow=76,SNR=104						
H11S1	**WAKE ISLAND Hy**	**36.47**	**181**	T	T	10 31 27.4	
	baz=0.2,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**36.49**	**181**	T	T	10 31 29.1	
	baz=0.2,slow=76,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**36.49**	**181**	T	T	10 31 27.4	
	baz=0.2,slow=76,SNR=18						
KURBB	**Kurchatov Arra**	**50.42**	**304**	P	**P**	**09 55 01.8**	**-0.6**
	0.2nm,0.4s,baz=52,slow=7.4,SNR=2.6						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**65.88**	**73**	P	**P**	**09 56 51.7**	**+0.7**
	0.1nm,0.7s,baz=310,slow=4.6,SNR=3.0						
	0.1nm,0.7s						

*IDC **09** 09:51:46.6±5.5,7.23S×128.38E,h50km±64km,mb3.8/3, mbtmp4.2/6,ML4.2/3,Error ellipse: s-maj=110.0km s-min=21.2km az=77.0*
*DJA **09** 09:51:54.3±0.4,7.5S±4.3×13.0E±.9,h201km±10km,M4.3/7, mB4.8/1,mb4.2/7,MLv4.4/7,Mw(mB)4.0/1*

ISC 09 09:51:54.7±0.7,6.96S±0.06×129.46E±0.08,h150km,n24, σ2§09/27,mb3.9/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.09**	**119**	P	**Pn**	**09 52 32.8**	**+1.9**
SAUI				S	**Sn**	**09 53 00.4**	**+1.7**
FAKI	**Fak Fak**	**4.88**	**35**	P	**Pn**	**09 53 06.8**	**+0.1**
FAKI	**Fak Fak**	**4.88**	**35**	P	**Pn**	**09 53 06.8**	**+0.1**
MTN	**Manton Dam**	**6.07**	**164**	P	**Pn**	**09 53 21.8**	**-0.6**
SIJI	**Sorong**	**6.32**	**17**	P	**Pn**	**09 53 26.1**	**+0.4**
	3.8nm,0.3s,baz=270,slow=23,SNR=35						
SIJI				S	**Sn**	**09 54 34.4**	**-2.6**
	17nm,0.2s,baz=228,slow=23,SNR=10						
	11nm,0.2s						
SWI	**Sorong**	**6.32**	**17**	P	**Pn**	**09 53 26.6**	**+0.9**
	0.2nm27nm,1.2s						
KDU	**Kakadu**	**6.42**	**153**	P	**Pn**	**09 53 26.0**	**-1.0**
BATI	**Baumata**	**6.57**	**240**	P	**Pn**	**09 53 31.2**	**+2.1**
	0.2nm44nm,1.1s						
KNRA	**Kununurra**	**8.69**	**184**	P	**Pn**	**09 53 55.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**11.68**	**198**	P	**Pn**	**09 54 34.3**	**-2.5**
PLAI	**Plampang**	**11.72**	**260**	P	**Pn**	**09 54 37.2**	**-0.2**
WRA	**Warramunga Arr**	**13.74**	**160**	P	**Pn**	**09 54 59.2**	**-4.3**
	1.0nm,0.3s,baz=334,slow=13,SNR=46						
WRA				S	Sn	09 57 21.7	-14
	2.1nm,0.4s,baz=341,slow=23,SNR=9.5						
	2.0nm,0.4s						
COEN	**Coen**	**15.17**	**118**	P	**P**	**09 55 23.3**	**+0.4**
	11nm,1.4s						
QIS	**Mount Isa**	**16.71**	**145**	P	**Pn**	**09 55 40.3**	**+0.1**
ASAR	**Alice Springs**	**17.15**	**166**	P	**P**	**09 55 45.0**	**+0.2**
	1.1nm,0.3s,baz=341,slow=9.9,SNR=132						
ASAR				S	**S**	**09 58 50.6**	**-5.4**
	1.3nm,0.7s,baz=340,slow=14,SNR=5.1						
	6.4nm,0.7s						
PSA00	**Pilbara Seismi**	**17.24**	**212**	P	**P**	**09 55 46.4**	**+0.7**
	17nm,2.2s						
OOD	**Oodnadatta**	**21.55**	**165**	P	**P**	**09 56 31.7**	**-0.5**
MULG	**Mulgathing**	**23.60**	**170**	P	**P**	**09 56 53.0**	**+1.1**
FORT	**Forrest**	**23.73**	**183**	P	**P**	**09 56 54.8**	**+1.7**
LCRK	**Leigh Creek**	**24.77**	**162**	P	**P**	**09 57 04.7**	**+2.1**
BBOO	**Buckleboo**	**26.44**	**167**	P	**P**	**09 57 20.5**	**+2.8**
	19nm,2.5s						
STKA	**Stephens Creek**	**27.25**	**157**	P	**P**	**09 57 27.9**	**+2.9**
	1.0nm,0.5s,baz=346,slow=14,SNR=4.1						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**67.90**	**327**	P	**P**	**10 02 38.4**	**+1.3**
	1.4nm,0.4s,baz=118,slow=8.1,SNR=15						
	1.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.20**	**329**	P	**P**	**10 03 03.6**	**+0.5**
	0.5nm,0.4s,baz=128,slow=5.4,SNR=5.3						
	0.5nm,0.4s						

IDC 09 09:56:12.7±3.2,53.55N×87.61E,h0km,mbtmp2.9/2, ML2.6/2,Error ellipse: s-maj=28.1km s-min=14.6km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**285**	*i*		10 07 20.0	
	baz=98,slow=317,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.70**	**285**	Pg	Pn	09 56 43.5	-0.1
	1.2nm,0.3s,baz=97,slow=16,SNR=11						
ZALV				Lg	Lg	09 57 06.3	
	2.0nm,0.3s,baz=107,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	09 57 48.1	+1.1
	0.1nm,0.3s,baz=63,slow=14,SNR=5.0						
KURBB				Lg	Lg	09 59 31.9	
	baz=63,slow=32,SNR=11						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	Pn	09 58 05.5	+1.2
	0.2nm,0.3s,baz=31,slow=13,SNR=7.5						
MKAR				Sn	Sn	09 59 30.3	-0.6
	0.1nm,0.3s,baz=35,slow=28,SNR=3.7						
MKAR				Lg	Lg	10 00 11.9	
	0.1nm,0.3s,baz=28,slow=25,SNR=10						
	0.4nm,0.5s						

WEL 09 09:58:23.9±0.8,39.3S±3.3×17.9E±.9,h24km±7km,M3.4/17, ML3.7/19,MLv3.4/17,Error ellipse: s-maj=0.0km s-min=0.0km az=83.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.46**	**294**	P	Pb	09 58 33.5	+0.1
PRGZ	**Paritu Road**	**0.72**	**250**	P	Pn	09 58 38.4	-0.2
PRGZ				S	Sn	09 58 50.1	+1.2
PUZ	**Puketiti**	**0.72**	**327**	P	Pb	09 58 37.3	-0.4
TKGZ	**Te Karaka**	**0.74**	**288**	P	Pb	09 58 37.9	-0.3
TKGZ				S	Sn	09 58 49.1	-0.3
RIGZ	**Rimuhau**	**0.77**	**268**	P	Pb	09 58 38.8	+0.2
TWGZ	**Tauwhareparae**	**0.78**	**310**	P	Pb	09 58 38.7	-0.2
TWGZ				S	Sn	09 58 50.4	-0.1
MHGZ	**Mahia Peninsul**	**0.81**	**234**	P	Pn	09 58 40.2	+0.3
WMGZ	**Waiomatatini S**	**0.90**	**343**	P	Pn	09 58 41.1	+0.1
WMGZ				S	Sn	09 58 55.0	+1.8
KNZ	**Kokohu**	**0.91**	**247**	P	Pb	09 58 40.8	-0.1
KNZ				S	Sn	09 58 54.1	+0.7
PKGZ	**Pakihiroa**	**0.95**	**326**	P	Pb	09 58 41.5	-0.2
PKGZ				S	Sn	09 58 54.7	+0.1
MWZ	**Matawai**	**1.01**	**289**	P	Pn	09 58 41.9	-0.8
MWZ				S	Sb	09 58 55.2	-0.5
RAGZ	**Rawiri**	**1.06**	**279**	P	Pn	09 58 43.1	-0.2
RUGZ	**Raukumara Rang**	**1.10**	**310**	P	Pn	09 58 43.1	-0.9
RUGZ				S	Sb	09 58 58.0	-0.3
MXZ	**Matakaoa Point**	**1.17**	**343**	P	Pb	09 58 45.1	-0.2
MXZ				S	Sb	09 59 01.3	+1.3
HAZ	**Te Kaha**	**1.19**	**320**	P	Pn	09 58 44.4	-0.7
RAHZ	**Arahi**	**1.32**	**259**	P	Pb	09 58 47.5	-0.4
URZ	**Urewera**	**1.35**	**288**	P	Pn	09 58 47.1	-0.1
MTHZ	**Maungataniwha**	**1.50**	**263**	P	Pn	09 58 49.9	+0.5
EDRZ	**Edgecumbe**	**1.68**	**289**	P	Pb	09 58 57.9	+3.8
MCHZ	**McNeill Hill**	**1.77**	**244**	P	Pn	09 58 53.5	+0.4
RRRZ	**Republican Roa**	**1.78**	**280**	P	Pb	09 58 58.2	+2.3
BKZ	**Black Stump Fm**	**1.82**	**254**	P	Pn	09 58 53.3	-0.6
ALRZ	**Allen Road**	**1.89**	**273**	P	Pb	09 59 00.1	+2.5
OPRZ	**Ohinepanea**	**1.92**	**295**	P	Pn	09 58 55.9	+0.9
KWHZ	**Kaweka Forest**	**1.96**	**247**	P	Pn	09 58 55.8	+0.1
BHHZ	**Black Hill Sta**	**2.24**	**248**	P	Pn	09 58 59.3	-0.3
WPHZ	**Waipukurau**	**2.26**	**232**	P	Pn	09 58 59.9	+0.1
PNHZ	**Pukenui**	**2.33**	**237**	P	Pn	09 59 00.4	-0.4
MOVZ	**Moawhango**	**2.44**	**252**	P	Pn	09 59 03.3	+1.0
TSZ	**Takapari Road**	**2.56**	**237**	P	Pn	09 59 03.2	-0.8
DVHZ	**Dannevirke**	**2.57**	**230**	P	Pn	09 59 03.0	-1.0
PKVZ	**Pokaka**	**2.72**	**256**	P	Pn	09 59 08.6	+2.5
MRZ	**Mangatainoka R**	**3.15**	**230**	P	Pn	09 59 10.7	-1.2
MTW	**Mount Morrison**	**3.52**	**224**	P	Pn	09 59 14.6	-2.4
MRNZ	**Matariki Terra**	**5.34**	**238**	P	Pn	09 59 39.8	-2.3
CTZ	**Chatham Island**	**6.14**	**147**	P	Pn	09 59 55.3	+2.2
CTZ				S	Sn	10 01 01.2	-1.4

*IDC **09** 10:20:16.1±0.9,22.82N×12.12W,h0km,mb3.8/8, mbtmp3.8/12,ML3.7/4,Error ellipse: s-maj=25.9km s-min=22.2km az=90.0*

ISC 09 10:20:16.6±0.8,22.59N±0.08×12.0W±0.1,h10km,n16, σ2§05/18,mb4.0/8,Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBTS	**Babate**	**8.98**	**209**	Lg	Lg	10 25 02.7	
	3.0nm,0.3s,baz=337,slow=23,SNR=1.9						
KOWA	**Kowa**	**11.04**	**135**	Pn	**Pn**	**10 22 57.8**	**+3.0**
	1.5nm,0.3s,baz=320,slow=11,SNR=19						
KOWA				Sn	**Sn**	**10 24 59.1**	**+0.7**
	1.3nm,0.3s,baz=172,slow=18,SNR=7.0						
KOWA				Lg	Lg	10 26 16.2	
	baz=243,slow=21						
	5.4nm,0.5s						
MDT	**Midelt**	**12.11**	**31**	Pn	**Pn**	**10 23 08.3**	**-1.0**
	0.1nm,0.3s,baz=108,slow=19,SNR=1.5						
MDT				Lg	Lg	10 26 30.9	
	0.7nm,0.3s,baz=323,slow=16,SNR=5.4						
	1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**16.05**	**123**	Pn	**Pn**	**10 24 04.0**	**+1.5**
	0.5nm,0.3s,baz=313,slow=12,SNR=15						
TORD				Sn	**Sn**	**10 26 59.2**	**-1.5**
	0.2nm,0.3s,baz=306,slow=21,SNR=3.9						
TORD				Lg	Lg	10 28 53.0	
	baz=301,slow=46						
	1.4nm,0.5s						
DBIC	**Dimbokro**	**17.26**	**155**	P	**Pn**	**10 24 17.7**	**-0.2**
	3.8nm,0.5s,baz=351,slow=10,SNR=5.5						
DBIC				S	**Sn**	**10 27 24.0**	**-6.0**
	4.2nm,0.8s,baz=15,slow=4.1,SNR=3.3						
ESDC	**Sonseca Array**	**18.36**	**20**	P	**Pn**	**10 24 29.9**	**-1.5**
	baz=213,slow=11,SNR=4.5						
	0.8nm,0.9s						
GERES	**GERESS Array B**	**33.20**	**32**	P	**P**	**10 26 53.0**	**-0.6**
	1.2nm,0.7s,baz=224,slow=11,SNR=8.9						
	1.2nm,0.7s						
BRTR	**Keskin Array B**	**42.15**	**55**	P	**P**	**10 28 11.3**	**+1.9**
	0.5nm,0.6s,baz=249,slow=9.2,SNR=3.8						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**46.81**	**24**	P	**P**	**10 28 45.6**	**-0.6**
	1.2nm,0.5s,baz=233,slow=6.5,SNR=11						
	1.2nm,0.5s						
ARCES	**ARCESS Array B**	**52.02**	**16**	P	**P**	**10 29 25.0**	**-0.9**
	2.5nm,0.9s,baz=233,slow=7.5,SNR=2.0						
	2.5nm,0.9s						
MKAR	**Makanchi Array**	**76.70**	**45**	P	**P**	**10 32 08.6**	**+0.5**
	0.9nm,0.5s,baz=293,slow=5.0,SNR=10						
	0.9nm,0.5s						
TXAR	**Lajitas Array**	**80.64**	**298**	P	**P**	**10 32 30.2**	**0.0**
	0.5nm,0.9s,baz=86,slow=5.1,SNR=4.7						
	0.5nm,0.9s						
PLCA	**Paso Flores**	**83.21**	**221**	P	**P**	**10 32 45.0**	**+1.8**
	0.9nm,0.8s,baz=38,slow=12,SNR=3.1						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**86.25**	**342**	P	**P**	**10 32 57.4**	**-0.8**
	0.3nm,0.8s,baz=28,slow=4.1,SNR=3.6						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**148.56**	**92**	PKPbc	**PKiKP**	**10 40 05.8**	**-0.3**
	0.7nm,0.7s,baz=293,slow=2.2,SNR=14						
ASAR	**Alice Springs**	**148.66**	**99**	PKPbc	**PKiKP**	**10 40 06.4**	**+0.2**
	1.3nm,0.7s,baz=297,slow=1.8,SNR=20						

*IDC **09** 10:29:22.6±0.8,54.89N×167.60E,h0km,mb3.7/10, mbtmp3.7/12,ML3.0/2,MS2.6/1,Error ellipse: s-maj=25.5km s-min=11.2km az=176.0*
*KRSC **09** 10:29:23.9±2.2,54.72N×167.39E,h26km±26km,ML4.0*

ISC 09 10:29:27.5±0.7,54.77N±0.07×167.58E±0.06,h35km,n44, σ1§34/56,mb3.8/10,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.03**	**296**	*eP*	Pn	10 29 40.3	-5.1
BKI				*eS*	**Sn**	**10 29 55.6**	**-2.9**
KBTR	**Krutoberegovo**	**3.07**	**300**	*eP*	**Pn**	**

0.5nm,0.5s,baz=17,slow=6.8,SNR=2.6
0.5nm,0.5s
TXAR Lajitas Array 65.90 73 P **P** **10 40 10.2 +0.5**
0.4nm,0.6s,baz=310,slow=5.3,SNR=11
0.4nm,0.6s
WRA Warramunga Arr 79.65 212 P **P** **10 41 31.8 +0.7**
1.0nm,0.9s,baz=24,slow=5.8,SNR=5.0
1.0nm,0.9s
ASAR Alice Springs 83.29 211 P **P** **10 41 52.0 +1.8**
1.0nm,0.8s,baz=20,slow=5.4,SNR=9.4
1.0nm,0.8s
QSPA South Pole Qui 144.52 180 PKP **PKPab** **10 48 57.2 0.0**
1.5nm,0.8s,baz=297,slow=1.4,SNR=6.1

---

*HEL **09** 10:32:52.6±0.3, 61.04N×30.25E, h0km, ML2.6, Explosion*
*IDC **09** 10:32:56.3±1.2, 61.11N×29.90E, h0km, mbtmp3.4/4, ML3.2/4, Error ellipse: s-maj=11.9km s-min=10.2km az=1.0*
*BER **09** 10:32:58.7±1.9, 61.00N×29.67E, h0km, ML2.1, ML2.6(HEL), Suspected explosion*
*UPP **09** 10:33:00.1±3.2, 61.25N×29.33E, h0km, ML2.2, Suspected explosion*

ISC 09 10:32:55.5±1.2, 61.22N±0.04×29.77E±0.06, h0km, n43, σ1s91/60, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUFX	**Ruokolahti**	**0.45**	**299**	PG	**Pb**	**10 33 06.5**	**+0.2**
	baz=123						
RUFX				SG	**Sb**	**10 33 15.6**	**+2.1**
VJF	**Virojoki**	**1.28**	**239**	PG	**Pg**	**10 33 18.5**	**-1.6**
VJF				MSG		10 33 35.1	
	comp=Z,69nm,0.2s						
VJF	**Virojoki**	**1.28**	**239**	PG	**Pg**	**10 33 18.5**	**-1.6**
VJF				MSG		10 33 35.1	
	comp=Z,69nm,0.2s						
VJF				SN	**Sn**	**10 33 40.6**	**+2.2**
FINES	**FINESS Array B**	**1.79**	**279**	Pg	**Pb**	**10 33 29.3**	**+0.1**
	comp=Z,6.3nm,0.3s,baz=103,slow=16,SNR=199						
FINES				Lg	Lg	10 33 55.2	
	comp=Z,4.3nm,0.3s,baz=96,slow=25,SNR=7.6						
JOF	**Joensuu**	**1.85**	**22**	PG	**Pn**	**10 33 27.6**	**-0.9**
JOF				SG	**Sn**	**10 33 53.4**	**+0.8**
KAF	**Kangasniemi**	**1.88**	**300**	PG	**Pb**	**10 33 31.5**	**+0.8**
KAF				MSG		10 33 56.9	
	comp=Z,25nm,0.2s						
KAF				SG	**Sg**	**10 33 59.9**	**+4.0**
PVF	**Pernaja**	**2.03**	**252**	PG	**Pn**	**10 33 31.7**	**+0.8**
PVF	**Pernaja**	**2.03**	**252**	PG	**Pn**	**10 33 31.7**	**+0.8**
PVF				MSG		10 33 57.9	
	comp=Z,71nm,0.2s						
PVF				SG	**Sb**	**10 34 00.0**	**+1.1**
KEF	**Keuruu**	**2.52**	**294**	PB	**Pb**	**10 33 40.7**	**-0.9**
KEF				MSG		10 34 15.3	
	comp=Z,8.7nm,0.2s						
KEF				SB	**Sb**	**10 34 15.3**	**+2.2**
NUR	**Nurmijrvi**	**2.60**	**256**	PB	**Pn**	**10 33 40.1**	**+1.3**
	baz=72						
NUR				SG	**Sg**	**10 34 20.7**	**+1.6**
MEF	**Metsahovi**	**2.83**	**252**	*eP*	**Pb**	**10 33 45.9**	**-0.9**
MEF	**Metsahovi**	**2.83**	**252**	PB	**Pn**	**10 33 42.9**	**+1.1**
MEF				SB	**Sn**	**10 34 19.2**	**+2.7**
MEF				MSG		10 34 20.7	
	comp=Z,30nm,0.2s						
RMF	**Romuvaara**	**3.01**	**1**	PB	**Pn**	**10 33 45.6**	**+1.2**
RMF				SB	**Sb**	**10 34 27.9**	**+0.7**
VSU	**Vasula**	**3.16**	**210**	*eP*	**Pn**	**10 33 46.2**	**-0.2**
VSU	**Vasula**	**3.16**	**210**	PB	**Pn**	**10 33 46.7**	**+0.2**
VSU				SB	**Sn**	**10 34 25.0**	**+0.2**
RAF	**Rauma**	**3.89**	**271**	*eP*	**Pn**	**10 33 57.8**	**+1.3**
RAF	**Rauma**	**3.89**	**271**	PN	**Pn**	**10 33 58.7**	**+2.3**
	baz=88						
MTSE	**Matsula**	**3.91**	**233**	*eP*	**Pn**	**10 33 56.9**	**+0.2**
MTSE	**Matsula**	**3.91**	**233**	PG	**Pb**	**10 34 05.7**	**+0.5**
OUF	**Merijarvi**	**3.92**	**326**	PB	**Pb**	**10 34 02.6**	**-2.7**
OUF				SG	**Sg**	**10 35 02.6**	**+1.4**
OBF4	**Vikkela, Lumij**	**4.19**	**332**	PG	**Pb**	**10 34 12.1**	**+2.1**
	baz=141						
OBF4				SG	**Sg**	**10 35 11.2**	**+1.3**
OUL	**Oulu**	**4.26**	**337**	PB	**Pb**	**10 34 09.4**	**-1.8**
OUL				SB	**Sb**	**10 35 06.0**	**+2.9**
OBF8	**Ulkokalla**	**4.26**	**320**	PN	**Pn**	**10 34 04.1**	**+2.5**
AAL	**Aland**	**4.92**	**262**	P	**Pn**	**10 34 11.4**	**+0.9**
AAL				S	**Sn**	**10 35 06.5**	**-1.6**
NRTU	**Norrtaelje**	**5.73**	**259**	P	**Pn**	**10 34 21.8**	**+0.1**
FLYU	**Flymyra**	**5.94**	**265**	P	**Pn**	**10 34 24.5**	**-0.1**
IGGU	**Iggoen**	**6.06**	**272**	P	**Pn**	**10 34 26.9**	**+0.7**
IGGU				S	**Sn**	**10 35 32.3**	**-3.9**
OSTU	**Oestervaala**	**6.28**	**266**	P	**Pn**	**10 34 29.4**	**+0.2**
NYNU	**Nynaeshamn**	**6.29**	**255**	P	**Pn**	**10 34 30.4**	**+1.0**
HEF	**Hetta**	**7.67**	**343**	*eS*	**Sn**	**10 36 12.8**	**-3.0**
SALU	**Saltoluokta**	**7.88**	**327**	*eP*	**Pn**	**10 34 53.1**	**+1.9**
HFS	**Hagfors**	**7.97**	**269**	Pn	**Pn**	**10 34 52.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=85,slow=16,SNR=23						
HFS				Sn	**Sn**	**10 36 18.8**	**-4.3**
	comp=Z,0.4nm,0.3s,baz=79,slow=24,SNR=2.6						
HFS				Lg	Lg	10 37 07.0	
	comp=Z,1.3nm,0.3s,baz=73,slow=30,SNR=6.5						
	comp=Z,1.9nm,0.3s						
KTK1	**Kautokeino**	**8.29**	**343**	*eP*	**Pn**	**10 34 59.2**	**+2.4**
KTK1				IAML		10 36 52.8	
	comp=Z,2.4nm,0.4s						
ARA0	**ARCESS Array S**	**8.54**	**350**	*eP*	**Pn**	**10 35 00.9**	**+0.7**
ARA0				*eS*	**Sn**	**10 36 33.0**	**-4.1**
ARA0				IAML		10 36 56.0	
	comp=Z,2.1nm,0.3s						
ARCES	**ARCESS Array B**	**8.54**	**350**	Pn	**Pn**	**10 34 59.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=12						
ARCES				Sn	**Sn**	**10 36 33.0**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=166,slow=23,SNR=1.6						
	comp=Z,1.0nm,0.6s						
KEV	**Kevo**	**8.65**	**354**	*eP*	**Pn**	**10 35 04.2**	**+2.5**
KIF	**Kilpisjarvi**	**8.67**	**338**	*eP*	**Pn**	**10 35 04.5**	**+2.5**
NC602	**NORSAR Array S**	**8.87**	**275**	*eP*	**Pn**	**10 35 04.6**	**-0.2**
NC602				IAML		10 36 48.7	
	comp=Z,0.9nm,0.3s						
NOA	**NORSAR Array B**	**8.98**	**277**	Pn	**Pn**	**10 35 05.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=27						
	comp=Z,0.4nm,0.3s						
KONS	**Konsvik**	**9.04**	**313**	*eP*	**Pn**	**10 35 09.0**	**+1.9**
STEI	**Steigen**	**9.16**	**323**	*eP*	**Pn**	**10 35 10.1**	**+1.4**
SKAR	**Skarslia**	**10.44**	**276**	*eP*	**Pn**	**10 35 25.0**	**-1.4**
AKASG	**Malin Array Be**	**10.55**	**182**	Pn	Pn	10 35 20.8	-7.0
	comp=Z,1.0nm,0.3s,baz=3.7,slow=13,SNR=4.3						
	comp=Z,0.4nm,0.3s						

IDC 09 10:34:47.0±1.2, 55.08S×30.23W, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=53.7km s-min=26.5km az=73.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**20.34**	**155**	P	Pn	10 39 26.4	-0.1
	1.1nm,0.7s,baz=333,slow=14,SNR=5.5						
	1.1nm,0.7s						
QSPA	**South Pole Qui**	**35.17**	**180**	P	P	10 41 41.2	-1.1
	1.2nm,0.8s,baz=186,slow=3.5,SNR=6.2						
	1.2nm,0.8s						
LPAZ	**La Paz**	**48.41**	**308**	P	P	10 43 32.1	+0.6
	0.7nm,0.6s,baz=180,slow=8.1,SNR=3.9						
	0.7nm,0.6s						
H10N1	**ASCENSION HYDR**	**48.76**	**21**	T	T	11 36 03.4	
	baz=192						
H10N3	**ASCENSION HYDR**	**48.76**	**21**	T	T	11 36 03.3	
	baz=192,slow=74						
H10N2	**ASCENSION HYDR**	**48.77**	**21**	T	T	11 36 04.1	
	baz=192,slow=74						
TORD	**Torodi Ar. Bea**	**73.11**	**33**	P	P	10 46 18.9	-0.1
	0.5nm,0.7s,baz=208,slow=6.9,SNR=2.3						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**148.19**	**313**	PKPbc	PKPbc	10 54 32.2	-1.1
	1.2nm,0.8s,baz=128,slow=2.0,SNR=6.3						

IDC 09 10:36:47.5±312.0, 57.89N×162.64E, h0km, Error ellipse: s-maj=144.3km s-min=106.9km az=4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I44RU	**PETROPAVLOVSK-**	**5.55**	**212**	*i*		11 08 25.4	
	baz=28,slow=318,SNR=2.7						
I45RU	**USSURIYSK INFR**	**23.40**	**247**	*i*		13 01 50.0	
	baz=39,slow=324,SNR=2.7						
I53US	**FAIRBANKS INFR**	**24.13**	**53**	*i*		13 04 30.0	
	baz=275,slow=328,SNR=3.0						

IDC 09 10:43:47.5±1.8, 30.18N×103.03E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=394.6km s-min=29.0km az=54.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**23.10**	**322**	P	P	10 48 54.9	0.0
	0.3nm,0.4s,baz=119,slow=10,SNR=4.0						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**58.23**	**145**	P	P	10 53 43.4	-0.4
	0.6nm,0.5s,baz=336,slow=7.9,SNR=4.9						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**61.19**	**148**	P	P	10 54 04.5	+0.3
	0.2nm,0.5s,baz=328,slow=6.7,SNR=7.7						
	0.2nm,0.5s						

---

*VAO **09** 10:52:15.5±0.5, 23.07S×68.72W, h10km, mb4.3*
*GUC **09** 10:52:15.4±0.6, 23.29S×69.18W, h94km±2km, ML4.2*
*NEIC **09** 10:52:15.2±3.4, 23.24S±0.05×69.26W±0.06, h89km±2km, Error ellipse: s-maj=8.1km s-min=7.4km az=91.0*
*IDC **09** 10:52:15.9±0.9, 23.18S×69.05W, h88km±6km, mb4.2/4, mbtmp4.4/7, Error ellipse: s-maj=31.0km s-min=16.6km az=92.0*

ISC 09 10:52:15.0±0.5, 23.29S±0.04×69.19W±0.04, h85km±4km, n82, σ1s35/95, mb4.5/6, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.27**	**287**		**Pn**	**10 52 28.2**	**+0.2**
PB15				Sn	**Sn**	**10 52 40.0**	**+2.3**
PB15	**IPOC Station P**	**0.27**	**287**	⇓*iP*	**Pn**	**10 52 28.9**	**+0.8**
PB15				*i* S	**Sn**	**10 52 39.4**	**+1.6**
PB06	**IPOC Station P**	**0.68**	**329**		**Pn**	**10 52 31.2**	**0.0**
PB06				Sn	**Sn**	**10 52 42.4**	**-0.7**
PB06	**IPOC Station P**	**0.68**	**329**	⇓*iP*	**Pn**	**10 52 32.0**	**+0.8**
PB06				*i* S	**Sn**	**10 52 44.3**	**+1.2**
PB06				IAML		10 52 45.1	
	comp=E,12μm,0.1s						
LVC	**Limon Verde**	**0.72**	**21**	P	**Pn**	**10 52 32.0**	**+0.2**
	comp=E,764nm,0.3s,baz=163,slow=9.7,SNR=3920						
LVC				S	**Sn**	**10 52 44.6**	**+0.3**
	comp=E,7μm,0.3s,baz=101,slow=22,SNR=94						
LVC	**Limon Verde**	**0.72**	**21**	*eP*	**Pn**	**10 52 31.3**	**-0.5**
LVC				*eS*	**Sn**	**10 52 44.6**	**+0.3**
AF01	**San Pedro de A**	**0.99**	**70**		**Pn**	**10 52 35.3**	**+0.7**
AF01				Sn	**Sn**	**10 52 51.0**	**+1.8**
AF01	**San Pedro de A**	**0.99**	**70**	⇑*iP*	**Pn**	**10 52 35.3**	**+0.7**
AF01				*i* S	**Sn**	**10 52 50.4**	**+1.2**
AF01				IAML		10 52 51.3	
	comp=N,15μm,0.2s						
PB04	**IPOC Station P**	**1.30**	**317**	Pn	**Pn**	**10 52 39.1**	**+0.8**
PB04	**IPOC Station P**	**1.30**	**317**	⇓*iP*	**Pn**	**10 52 39.0**	**+0.8**
PB04				*i* S	**Sn**	**10 52 57.2**	**+1.5**
PB04				IAML		10 52 59.5	
	comp=N,4μm,0.2s						
PB09	**IPOC Station P**	**1.49**	**358**		**Pn**	**10 52 41.7**	**+1.0**
PB09	**IPOC Station P**	**1.49**	**358**	⇑*iP*	**Pn**	**10 52 41.9**	**+1.3**
PB09				*eS*	**Sn**	**10 53 01.6**	**+1.7**
PB07	**IPOC Station P**	**1.69**	**337**		**Pn**	**10 52 43.6**	**+0.4**
PB07	**IPOC Station P**	**1.69**	**337**	⇑*iP*	**Pn**	**10 52 43.9**	**+0.8**
PB07				*eS*	**Sn**	**10 53 02.6**	**-1.9**
PB07				IAML		10 53 10.2	
	comp=E,2μm,0.3s						
PB14	**IPOC Station P**	**1.73**	**220**	Pn	**Pn**	**10 52 44.8**	**+0.9**
PB14	**IPOC Station P**	**1.73**	**220**	*eP*	**Pn**	**10 52 45.0**	**+1.0**
PB14				*eS*	**Sn**	**10 53 07.8**	**+2.0**
PB14				IAML		10 53 14.4	
	comp=N,1μm,0.4s						
GO02	**Mina Guanaco**	**1.90**	**191**	Pn	**Pn**	**10 52 47.5**	**+1.4**
GO02	**Mina Guanaco**	**1.90**	**191**	⇑*iP*	**Pn**	**10 52 47.5**	**+1.4**
GO02				IAML		10 53 19.1	
	comp=N,2μm,0.2s						
PB02	**IPOC Station P**	**2.07**	**341**		**Pn**	**10 52 48.4**	**+0.3**
PB02	**IPOC Station P**	**2.07**	**341**	⇑*iP*	**Pn**	**10 52 48.8**	**+0.6**
PB02				IAML		10 53 19.0	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**2.25**	**353**		**Pn**	**10 52 50.8**	**+0.2**
PB01	**IPOC Station P**	**2.25**	**353**	⇑*iP*	**Pn**	**10 52 51.1**	**+0.5**
PB01				*eS*	**Sn**	**10 53 18.9**	**+1.1**
PB01				IAML		10 53 25.9	
	comp=E,2μm,0.3s						
TA01	**Diego Aracena**	**2.86**	**341**		**Pn**	**10 52 57.6**	**-1.0**
TA01	**Diego Aracena**	**2.86**	**341**	*eP*	**Pn**	**10 52 57.6**	**-1.0**
TA01				IAML		10 53 57.2	
	comp=N,609nm,0.5s						
AC01	**Pan de Azucar**	**3.12**	**204**		**Pn**	**10 53 01.7**	**-0.4**
TA02	**Huaiquique**	**3.13**	**344**		**Pn**	**10 53 01.5**	**-0.7**
AC02	**Maricunga**	**3.53**	**179**	Pn	**Pn**	**10 53 09.8**	**+1.7**
GO01	**Chusmiza**	**3.60**	**360**		**Pn**	**10 53 08.8**	**-0.3**
GO01	**Chusmiza**	**3.60**	**360**	*eP*	**Pn**	**10 53 09.0**	**-0.2**
GO01				IAML		10 54 15.6	
	comp=N,640nm,0.3s						
AC06	**Mina Casimiro**	**4.18**	**194**	Pn	**Pn**	**10 53 15.7**	**-0.9**
PB12	**IPOC Station P**	**4.77**	**347**	Pn	**Pn**	**10 53 22.5**	**-2.2**
PB16	**IPOC Station P**	**4.94**	**356**	Pn	**Pn**	**10 53 27.5**	**+0.1**
AC04	**Llanos de Chal**	**5.18**	**199**	Pn	**Pn**	**10 53 27.5**	**-2.6**
AC05	**El Transito**	**5.61**	**190**	Pn	**Pn**	**10 53 34.8**	**-1.3**
CO01	**Juntas del Tor**	**6.71**	**187**	Pn	**Pn**	**10 53 49.0**	**-2.2**
GO04	**Tololo Observa**	**7.00**	**192**	Pn	**Pn**	**10 53 52.9**	**-2.3**
LPAZ	**La Paz**	**7.04**	**8**	P	**Pn**	**10 53 56.8**	**+0.8**
	comp=N,2.6nm,0.3s,baz=57,slow=2.7,SNR=26						
LPAZ	**La Paz**	**7.04**	**8**	Pn	**Pn**	**10 53 56.6**	**+0.5**
LPAZ	**La Paz**	**7.04**	**8**	*eP*	**Pn**	**10 53 56.0**	**-0.1**
CO02	**Combarbal**	**8.04**	**191**	Pn	**Pn**	**10 54 05.8**	**-3.4**
VA03	**San Esteban**	**9.51**	**187**	Pn	**Pn**	**10 54 26.7**	**-2.6**
ROC1	**El Roble**	**9.78**	**189**	Pn	**Pn**	**10 54 30.9**	**-2.1**
SIV	**San Ignacio**	**10.54**	**48**	P	**Pn**	**10 54 40.6**	**-2.7**
	comp=N,9.5nm,0.4s,baz=254,slow=9.1,SNR=57						
SIV				S	Sn	10 56 28.3	-11
	comp=N,1.8nm,0.6s,baz=294,slow=21,SNR=1.4						
CPUP	**Villa Florida**	**11.19**	**108**	P	**Pn**	**10 54 53.5**	**+1.5**
	comp=N,1.5nm,0.6s,baz=264,slow=13,SNR=3.5						
CPUP	**Villa Florida**	**11.19**	**108**	*eP*	**Pn**	**10 54 51.2**	**-0.8**
BO02	**Sierra Bellavi**	**11.55**	**187**	Pn	**Pn**	**10 54 54.7**	**-2.2**
PTLB	**Pontes e Lacer**	**12.28**	**52**	Pn	**Pn**	**10 55 04.7**	**-2.1**
PTLB	**Pontes e Lacer**	**12.28**	**52**	*eP*	**Pn**	**10 55 03.7**	**-3.1**
H03N1	**Juan Fernandez**	**13.24**	**218**	P	**Pn**	**10 55 18.3**	**-1.0**
H03N1				T	T	11 07 46.4	
	baz=42,slow=72,SNR=9.1						
H03N2	**Juan Fernandez**	**13.25**	**218**	P	**Pn**	**10 55 18.6**	**-0.9**
H03N2				T	T	11 07 37.4	
	baz=42,slow=72,SNR=9.3						
H03N3	**Juan Fernandez**	**13.26**	**218**	P	**Pn**	**10 55 18.2**	**-1.4**
H03N3				T	T	11 07 37.1	
	baz=42,slow=72,SNR=11						
VILB	**Vilhena**	**13.36**	**41**	Pn	**Pn**	**10 55 19.8**	**-1.5**
VILB	**Vilhena**	**13.36**	**41**	*eP*	**Pn**	**10 55 19.6**	**-1.7**
MCR1	**Marechal Candi**	**13.91**	**98**	*eP*	**Pn**	**10 55 28.1**	**-0.3**
ALGR	**Alto Alegre (B**	**15.52**	**114**	*eP*	**P**	**10 55 51.0**	**-0.7**
PTGB	**Pitanga**	**15.71**	**99**	*eP*	**P**	**10 55 53.6**	**-0.3**
CZSB	**Cruzeiro do Su**	**15.84**	**347**	*eP*	**P**	**10 55 56.9**	**+1.7**
ITAB	**Concordia**	**15.92**	**108**	*eP*	**P**	**10 55 54.6**	**-1.4**
TRQA	**Tornquist**	**15.96**	**159**	Pn	**Pn**	**10 55 53.9**	**-0.7**
TRQA				IAmb	IAmb	10 56 26.6	
	comp=Z,7.4nm,0.9s						
PDRB	**Porto dos Gac**	**16.60**	**48**	*eP*	**Pn**	**10 56 03.0**	**+0.4**
PCMB	**Pacaembu**	**16.66**	**88**	*eP*	**P**	**10 56 04.1**	**-0.2**
PLCA	**Paso Flores**	**17.43**	**183**	P	**Pn**	**10 56 11.2**	**-1.5**
CLDB	**Colider**	**17.77**	**48**	*eP*	**Pn**	**10 56 17.4**	**+0.5**
ITRB	**Iturama**	**17.88**	**82**	*eP*	**Pn**	**10 56 18.8**	**+0.5**
BB19B	**Bebedouro**	**19.26**	**87**	*eP*	**Pn**	**10 56 34.0**	**-0.8**
PET01	**Itanhaem-SP**	**20.08**	**97**	*eP*	**Pn**	**10 56 43.5**	**-0.8**
NPGB	**Novo Progresso**	**20.92**	**42**	*eP*	**P**	**10 56 52.4**	**+1.5**
PARB	**Paraibuna**	**21.64**	**95**	*eP*	**P**	**10 57 01.9**	**+3.3**
BELA	**Belgrano 2**	**57.02**	**172**	P	**P**	**11 01 50.2**	**-1.3**
BELA				IAmb	IAmb	11 02 03.9	
	comp=Z,2.9nm,1.2s						
SNAA	**Sanae**	**60.68**	**161**	P	**P**	**11 02 17.7**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=276,slow=7.6,SNR=10						
	comp=Z,2.7nm,0.6s						
SNAA	**Sanae**	**60.68**	**161**	P	**P**	**11 02 17.2**	**+0.2**
SNAA				IAmb	IAmb	11 02 18.0	
	comp=Z,2.6nm,0.6s						
QSPA	**South Pole Qui**	**66.91**	**180**	P	**P**	**11 02 59.5**	**+1.4**
QSPA				IAmb	IAmb	11 03 00.2	
	comp=Z,9.2nm,1.4s						
DBIC	**Dimbokro**	**69.50**	**73**	P	**P**	**11 03 14.4**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=220,slow=7.9,SNR=3.0						
	comp=Z,4.0nm,0.8s						
DBIC	**Dimbokro**	**69.50**	**73**	P	**P**	**11 03 14.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**78.20**	**70**	P	**P**	**11 04 05.1**	**-0.7**
	comp=Z,4.8nm,0.4s,baz=252,slow=5.2,SNR=64						
TORD				pP	**pP**	**11 04 29.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=256,slow=5.5,SNR=2.0						
TORD				sP	**sP**	**11 04 37.9**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=258,slow=5.5,SNR=3.8						
	comp=Z,4.8nm,0.4s						
MAW	**Mawson**	**82.70**	**163**	P	**P**	**11 04 30.1**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=213,slow=7.5,SNR=17						
	comp=Z,1.5nm,0.5s						
H11S2	**WAKE ISLAND Hyd**	**27.82**	**276**	T	T	13 31 32.7	
	baz=106,slow=75,SNR=9.0						
H11S1	**WAKE ISLAND Hyd**	**27.83**	**276**	T	T	13 31 21.7	
	baz=106,slow=75,SNR=9.3						
H11S3	**WAKE ISLAND Hyd**	**27.84**	**276**	T	T	13 31 25.7	
	baz=106,slow=75,SNR=11						
ASAR	**Alice Springs**	**128.21**	**207**	PKP	**PKPdf**	**11 11 12.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=131,slow=1.7,SNR=7.7						
WRA	**Warramunga Arr**	**131.28**	**210**	PKP	**PKPdf**	**11 11 18.7**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=151,slow=1.5,SNR=8.6						
WRA				pPKP	**pPKPdf**	**11 11 42.9**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=152,slow=1.7,SNR=1.4						
MKAR	**Makanchi Array**	**147.22**	**37**	PKPbc	**PKPbc**	**11 11 48.9**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=318,slow=1.6,SNR=9.1						

---

*IDC **09** 11:03:08.8±3.5, 35.93N×70.92E, h70km±30km, mb3.7/14, mbtmp4.0/19, ML3.7/6, MS2.8/1, Error ellipse: s-maj=24.3km s-min=16.6km az=169.0*
*NEIC **09** 11:03:13.7±1.2, 36.19N±0.05×70.54E±0.07, h121km±7km, mb4.3/8, Error ellipse: s-maj=8.3km s-min=7.3km az=124.0*
*NNC **09** 11:03:16.3±2.6, 36.52N×70.28E, h75km±69km, mb4.1, mpv4.3, Error ellipse: s-maj=28.9km s-min=13.9km az=155.0*

ISC 09 11:03:13.1±0.5, 36.14N±0.04×70.64E±0.04, h121km, n85, σ2s56/92, mb4.0/14, 9C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.06**	**220**		**Pn**	**11 03 48.4**	**+0.9**
KBL				Sn	**Sn**	**11 04 13.7**	**-0.2**
CHGR	**Chuyangaron**	**2.78**	**335**		**Pn**	**11 03 56.0**	**-0.5**
CHGR				Sn	**Sn**	**11 04 28.5**	**-1.6**
GAR	**Garm**	**2.87**	**355**		**Pn**	**11 03 58.0**	**+0.2**
NIL	**Nilore**	**3.28**	**138**	Pn	**Pn**	**11 04 04.0**	**+0.9**
DRK	**Karamyk**	**3.46**	**15**		**Pn**	**11 04 05.9**	**+0.2**
BTK	**Batken**	**3.92**	**2**		**Pn**	**11 04 13.0**	**+1.5**
JMU	**Jammu**	**4.90**	**133**	*eP*	**Pn**	**11 04 24.9**	**+0.2**
JMU				*eS*	**Sn**	**11 05 17.0**	**-3.4**
THN	**Thein Dam**	**5.59**	**130**	*eP*	**Pn**	**11 04 34.6**	**+0.6**
THN				*eP*	**Pn**	**11 04 35.5**	**+1.5**
THN				*eS*	**Sn**	**11 05 35.1**	**-2.0**
THN				*eS*	**Sn**	**11 05 36.0**	**-1.1**
AML	**Almayashu**	**6.44**	**21**	P	**Pn**	**11 04 46.0**	**+0.4**
	SNR=36						
BHK	**Bhakra**	**6.73**	**133**	*eS*	**Sn**	**11 06 01.4**	**-3.3**
NRN	**Naryn**	**6.74**	**37**	Pn	**Pn**	**11 04 49.0**	**-0.7**
UCH	**Uchtor**	**6.78**	**25**	P	**Pn**	**11 04 50.6**	**+0.2**
	SNR=22						
EKS2	**Erkin-Say**	**6.95**	**19**	P	**Pn**	**11 04 52.8**	**+0.4**
	SNR=17						
KK31	**Karatay Array**	**6.96**	**359**	Pn	**Pn**	**11 04 52.2**	**-0.2**
KK31	**Karatay Array**	**6.96**	**359**	⇑P	**Pn**	**11 04 52.0**	**-0.3**
	13nm,0.4s,baz=188,slow=20,SNR=183						
KK31				S	**Sn**	**11 06 06.9**	**-3.1**
	32nm,0.4s,baz=191,slow=26,SNR=7.1						
KKAR	**Karatay Array**	**6.96**	**359**	Pn	**Pn**	**11 04 52.1**	**-0.2**
AAK	**Ala-Archa**	**7.14**	**24**	P	**Pn**	**11 04 55.6**	**+0.6**
	SNR=14						
AAK	**Ala-Archa**	**7.14**	**24**	P	**Pn**	**11 04 53.6**	**-1.4**
	5.3nm,0.3s,baz=199,slow=3.8,SNR=23						
AAK				S	**Sn**	**11 06 13.1**	**-1.6**
	23nm,0.5s,baz=128,slow=22,SNR=12						
	14nm,0.4s						
AAK	**Ala-Archa**	**7.14**	**24**	Pn	**Pn**	**11 04 55.6**	**+0.6**
CHMS	**Chumysh**	**7.55**	**24**	P	**Pn**	**11 05 00.4**	**0.0**
	SNR=15						
CHMS	**Chumysh**	**7.55**	**24**	⇑P	**Pn**	**11 05 00.3**	**0.0**
	18nm,0.5s						
CHMS				⇓S	**Sn**	**11 06 22.8**	**-1.6**

AKTO	**Aktyubinsk**	**16.95**	**331**	⇓P		**P**	**11 07 05.0**	**+2.3**
	comp=Z,8.7nm,0.8s							
AKTO				⇓S		**Sn**	**11 10 01.3**	**-10**
	comp=Z,12nm,0.9s							
ZAA0	**Zalesovo Array**	**20.36**	**25**	P		**P**	**11 07 40.1**	**+0.3**
ZAA0				IAmb		IAmb	11 07 48.1	
	comp=Z,6.3nm,0.6s							
ZALV	**Zalesovo Beam**	**20.36**	**25**	P		**P**	**11 07 41.2**	**+1.4**
	comp=Z,6.4nm,0.5s,baz=218,slow=12,SNR=23							
	comp=Z,6.4nm,0.5s							
ZALV	**Zalesovo Beam**	**20.36**	**25**	P		**P**	**11 07 41.0**	**+1.2**
GNI	**Garni**	**20.73**	**289**	P		Pn	11 07 48.1	+0.5
	comp=Z,15nm,0.6s,baz=121,slow=7.2,SNR=5.1							
	comp=Z,15nm,0.6s							
SHL	**Shillong**	**21.02**	**114**	P		**P**	**11 07 49.4**	**+2.1**
SHL				IAmb		IAmb	11 07 52.9	
	comp=Z,10nm,0.7s							
ARU	**Arti**	**21.88**	**342**	P		**P**	**11 07 59.3**	**+3.4**
	comp=Z,2.6nm,0.3s,baz=142,slow=12,SNR=8.9							
	comp=Z,2.6nm,0.3s							
KBZ	**Khabaz**	**22.51**	**298**	P		**P**	**11 08 06.6**	**+4.1**
	comp=Z,2.0nm,0.7s,baz=98,slow=7.0,SNR=4.2							
	comp=Z,2.0nm,0.7s							
BELG	**Belogornoye**	**22.99**	**322**	P		**P**	**11 08 09.8**	**+2.7**
	comp=Z,9.5nm,0.6s,baz=162,slow=3.2,SNR=4.1							
	comp=Z,9.5nm,0.6s							
BRTR	**Keskin Array B**	**29.27**	**288**	P		**P**	**11 09 07.2**	**+3.3**
	comp=Z,0.5nm,0.6s,baz=64,slow=6.6,SNR=2.8							
	comp=Z,0.5nm,0.6s							
AKASG	**Malin Array Be**	**32.95**	**309**	P		**P**	**11 09 39.0**	**+3.2**
	comp=Z,0.7nm,0.5s,baz=82,slow=7.4,SNR=6.8							
	comp=Z,0.7nm,0.5s							
FINES	**FINESS Array B**	**37.62**	**326**	P		**P**	**11 10 19.9**	**+4.2**
	comp=Z,2.9nm,0.4s,baz=119,slow=8.8,SNR=27							
	comp=Z,2.9nm,0.4s							
FINES	**FINESS Array B**	**37.62**	**326**	P		**P**	**11 10 14.4**	**-1.3**
ARCES	**ARCESS Array B**	**41.37**	**338**	P		**P**	**11 10 49.6**	**+2.9**
	comp=Z,4.0nm,0.8s,baz=110,slow=7.1,SNR=12							
	comp=Z,4.0nm,0.8s							
NB2	**NORSAR Subarra**	**44.49**	**323**	P		**P**	**11 11 15.2**	**+3.2**
	comp=Z,1.4nm,0.5s,baz=99,slow=7.9							
NOA	**NORSAR Array B**	**44.49**	**323**	P		**P**	**11 11 15.5**	**+3.4**
	comp=Z,2.3nm,0.7s,baz=97,slow=7.9,SNR=13							
	comp=Z,2.3nm,0.7s							
KSRS	**Korea Array**	**45.27**	**70**	LR		LR	11 33 49.0	
	comp=Z,11nm,20.6s,baz=55,slow=41							
TOA0	**Torodi Ar. Sit**	**65.42**	**269**	P		**P**	**11 13 42.4**	**-0.7**
TOA0				IAmb		IAmb	11 14 08.6	
	comp=Z,6.8nm,1.4s							
TORD	**Torodi Ar. Bea**	**65.42**	**269**	P		**P**	**11 13 44.9**	**+1.8**
	comp=Z,0.9nm,0.4s,baz=49,slow=5.7,SNR=13							
	comp=Z,0.9nm,0.4s							
IMAR	**Indian Mountai**	**72.60**	**17**	P		**P**	**11 14 27.2**	**+0.5**
ILAR	**Eielson Array**	**75.20**	**16**	P		**P**	**11 14 42.6**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=316,slow=5.0,SNR=1.9							
	comp=Z,0.3nm,0.7s							
WB0	**Warramunga Arr**	**81.97**	**121**	P		**P**	**11 15 21.6**	**+2.0**
WRA	**Warramunga Arr**	**82.05**	**122**	P		**P**	**11 15 20.2**	**+0.2**
	comp=Z,0.2nm,0.9s,baz=326,slow=5.3,SNR=1.4							
	comp=Z,0.2nm,0.9s							
WB2	**Warramunga Arr**	**82.06**	**122**	P		**P**	**11 15 21.8**	**+1.8**
ASAR	**Alice Springs**	**84.29**	**125**	P		**P**	**11 15 32.9**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=303,slow=5.4,SNR=1.6							
	comp=Z,0.1nm,0.4s							

*NEIC **09** 11:25:08.6±2.3,27.°57S±0.°06×69.°65W±0.°09, h125km±8km, Error ellipse: s-maj=13.2km s-min=6.4km az=115.0*
*GUC **09** 11:25:09.5±0.6,27.°59S×69.°60W, h121km±4km, ML3.6*
*IDC **09** 11:25:10.5±5.0,27.°44S×69.°83W, h118km±38km, mb3.5/1, mbtmp3.9/4, Error ellipse: s-maj=48.0km s-min=33.7km az=60.0*

ISC 09 11:25:08.4±0.7,27.°59S±0.°03×69.°59W±0.°05, h121km±6km, n56, σ1s24/72, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.72**	**289**			**Pn**	**11 25 28.7**	**+0.7**
AC06				Sn		**Sn**	**11 25 42.5**	**-0.2**
AC06	**Mina Casimiro**	**0.72**	**289**	⇓*i*P		**Pn**	**11 25 28.6**	**+0.7**
AC06				*i* S		**Sn**	**11 25 43.1**	**+0.4**
AC06				IAML			11 25 45.3	
	comp=E,2μm,0.1s							
AC02	**Maricunga**	**0.86**	**29**			**Pn**	**11 25 30.8**	**+1.0**
AC02				Sn		**Sn**	**11 25 46.2**	**+0.5**
AC02	**Maricunga**	**0.86**	**29**	⇑*i*P		**Pn**	**11 25 30.8**	**+1.0**
AC02				*i* S		**Sn**	**11 25 46.3**	**+0.5**
AC02				IAML			11 25 47.5	
	comp=E,2μm,0.2s							
AC05	**El Transito**	**1.38**	**206**			**Pn**	**11 25 35.6**	**+1.0**
AC05				Sn		**Sn**	**11 25 55.2**	**+0.7**
AC05	**El Transito**	**1.38**	**206**	⇑*i*P		**Pn**	**11 25 35.6**	**+1.0**
AC05				*i* S		**Sn**	**11 25 55.4**	**+0.9**
AC05				IAML			11 25 57.6	
	comp=E,2μm,0.3s							
AC04	**Llanos de Chal**	**1.45**	**245**			**Pn**	**11 25 36.3**	**+1.1**
AC04	**Llanos de Chal**	**1.45**	**245**	⇓*i*P		**Pn**	**11 25 36.3**	**+1.1**
AC04				*i* S		**Sn**	**11 25 56.8**	**+1.1**
AC04				IAML			11 25 57.7	
	comp=N,1μm,0.4s							
VCA	**Vinchina**	**1.67**	**133**	⇓*i*P		**Pn**	**11 25 39.5**	**+1.5**
VCA				*i* S		**Sn**	**11 26 01.6**	**+1.0**
AC01	**Pan de Azucar**	**1.70**	**328**	*e*P		**Pn**	**11 25 39.1**	**+0.9**
AC01	**Pan de Azucar**	**1.70**	**328**	*e*P		**Pn**	**11 25 39.9**	**+1.7**
AC01				*e*S		**Sn**	**11 26 00.9**	**0.0**
AC01				*i* S		**Sn**	**11 26 01.9**	**+1.0**
AC01				IAML			11 26 04.3	
	comp=E,2μm,0.2s							
LCO	**Las Campanas**	**1.72**	**214**			**Pn**	**11 25 39.4**	**+0.8**
LCO	**Las Campanas**	**1.72**	**214**	⇑*i*P		**Pn**	**11 25 39.5**	**+0.9**
LCO				*i* S		**Sn**	**11 26 02.6**	**+0.9**
CO01	**Juntas del Tor**	**2.42**	**190**			**Pn**	**11 25 49.3**	**+1.9**
CO01	**Juntas del Tor**	**2.42**	**190**	*e*P		**Pn**	**11 25 49.3**	**+1.9**
CO01				IAML			11 26 23.4	
	comp=E,150nm,0.2s							
CO01				IAML			11 26 24.8	
	comp=N,115nm,0.2s							
GO02	**Mina Guanaco**	**2.42**	**0**			**Pn**	**11 25 49.0**	**+1.5**
GO02	**Mina Guanaco**	**2.42**	**0**	⇑*i*P		**Pn**	**11 25 49.0**	**+1.5**
GO02				*i* S		**Sn**	**11 26 19.3**	**+1.9**
CO05	**La Serena**	**2.73**	**212**	Pn		**Pn**	**11 25 51.6**	**+0.5**
CO05	**La Serena**	**2.73**	**212**	*e*P		**Pn**	**11 25 51.4**	**+0.2**
CO05				IAML			11 26 26.5	
	comp=E,300nm,0.5s							
GO04	**Tololo Observa**	**2.78**	**202**			**Pn**	**11 25 52.5**	**+0.4**
GO04	**Tololo Observa**	**2.78**	**202**	⇑*i*P		**Pn**	**11 25 52.5**	**+0.4**
GO04				*i* S		**Sn**	**11 26 26.3**	**+0.7**
PB14	**IPOC Station P**	**3.04**	**346**			**Pn**	**11 25 56.7**	**+1.1**
PB14	**IPOC Station P**	**3.04**	**346**	*e*P		**Pn**	**11 25 56.6**	**+1.1**
CO06	**Fray Jorge**	**3.55**	**210**	Pn		**Pn**	**11 26 01.2**	**-0.7**
CO02	**Combarbal**	**3.80**	**199**			**Pn**	**11 26 02.9**	**-0.2**
CO02	**Combarbal**	**3.80**	**199**	*e*P		**Pn**	**11 26 05.0**	**-0.3**
CO02				*i* S		**Sn**	**11 26 48.4**	**-1.1**
PB15	**IPOC Station P**	**4.37**	**1**			**Pn**	**11 26 13.8**	**+0.8**
PB15	**IPOC Station P**	**4.37**	**1**	⇑*i*P		**Pn**	**11 26 13.8**	**+0.8**
PB15				*i* S		**Sn**	**11 27 03.4**	**+0.1**
PB06	**IPOC Station P**	**4.87**	**0**			**Pn**	**11 26 20.0**	**+0.2**
LVC	**Limon Verde**	**5.00**	**7**	P		**Pn**	**11 26 21.9**	**+0.2**
	comp=E,28nm,0.3s,baz=175,slow=8.7,SNR=23							
LVC				S		**Sn**	**11 27 18.5**	**-0.1**
	comp=E,27nm,0.3s,baz=33,slow=23,SNR=9.7							
VA06	**Catapilco**	**5.17**	**196**	Pn		**Pn**	**11 26 22.2**	**-1.3**
VA03	**San Esteban**	**5.22**	**189**			**Pn**	**11 26 24.5**	**+0.2**
PB04	**IPOC Station P**	**5.26**	**354**			**Pn**	**11 26 23.9**	**-1.1**
ROC1	**El Roble**	**5.50**	**193**	Pn		**Pn**	**11 26 26.9**	**-0.3**
PB09	**IPOC Station P**	**5.78**	**3**			**Pn**	**11 26 32.0**	**0.0**
MT02	**Curacav**	**5.80**	**193**	Pn		**Pn**	**11 26 30.4**	**-1.7**
PB02	**IPOC Station P**	**6.25**	**357**	Pn		**Pn**	**11 26 36.5**	**-1.8**
LMEL	**Las Melosas**	**6.26**	**185**	Pn		**Pn**	**11 26 39.3**	**+0.9**
MT09	**Talagante**	**6.28**	**191**	Pn		**Pn**	**11 26 36.4**	**-2.2**
MT01	**Popeta**	**6.41**	**192**	Pn		**Pn**	**11 26 37.3**	**-3.0**
PB01	**IPOC Station P**	**6.52**	**1**			**Pn**	**11 26 40.6**	**-1.4**
BO02	**Sierra Bellavi**	**7.25**	**188**	Pn		**Pn**	**11 26 51.5**	**-0.2**
GO01	**Chusmiza**	**7.90**	**3**	Pn		**Pn**	**11 26 59.6**	**-1.3**
PB12	**IPOC Station P**	**8.96**	**356**	Pn		**Pn**	**11 27 13.8**	**-1.2**
PB16	**IPOC Station P**	**9.21**	**1**	Pn		**Pn**	**11 27 17.6**	**-1.3**
H03N3	**Juan Fernandez**	**9.94**	**232**	P		**Pn**	**11 27 27.3**	**-0.5**
CPUP	**Villa Florida**	**11.01**	**86**	P		**P**	**11 27 48.8**	**-3.4**
	comp=E,1.1nm,0.5s,baz=262,slow=14,SNR=3.3							
LPAZ	**La Paz**	**11.33**	**7**	P		**Pn**	**11 27 46.3**	**-1.0**
	comp=E,0.6nm,0.3s,baz=246,slow=12,SNR=2.7							
TRQA	**Tornquist**	**12.23**	**150**	Pn		**Pn**	**11 27 57.5**	**-1.1**
QSPA	**South Pole Qui**	**62.62**	**180**	P		**P**	**11 35 20.6**	**+0.9**
QSPA				IAmb		IAmb	11 35 25.0	
	comp=Z,2.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**80.02**	**70**	P		**P**	**11 37 07.0**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=265,slow=6.4,SNR=6.5							
	comp=Z,0.6nm,0.5s							
ASAR	**Alice Springs**	**124.22**	**206**	PKP		**PKiKP**	**11 43 55.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=125,slow=1.7,SNR=5.8							
WRA	**Warramunga Arr**	**127.37**	**209**	PKP		**PKiKP**	**11 44 01.9**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=155,slow=1.8,SNR=5.6							
KURBB	**Kurchatov Arra**	**146.64**	**38**	PKPbc		**PKiKP**	**11 44 38.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=271,slow=3.0,SNR=1.9							
ZALV	**Zalesovo Beam**	**147.65**	**28**	PKPbc		**PKPab**	**11 44 41.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=296,slow=4.3,SNR=2.1							
MKAR	**Makanchi Array**	**150.76**	**42**	PKPbc		**PKiKP**	**11 44 48.6**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=278,slow=3.6,SNR=4.7							

*AEIC **09** 11:26:37.2±1.7,51.°53N±0.°08×177.°74E±0.°07, h52km±8km, ML3.4/26, mb3.8/8(NEIC), Error ellipse: s-maj=11.7km s-min=6.6km az=184.0*
*NEIC **09** 11:26:38.2±1.8,51.°53N±0.°09×177.°80E±0.°08, h50km±13km, Error ellipse: s-maj=13.2km s-min=6.3km az=193.0*

ISC 09 11:26:37.9±1.5,51.°6N±0.°1×177.°80E±0.°06, h58km±13km, n35, σ1s14/40, mb3.8/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.56**	**51**			**Pn**	**11 26 50.7**	**+0.3**
LSNW	**Little Sitkin**	**0.58**	**50**			**Pn**	**11 26 50.8**	**+0.2**
LSSE	**Little Sitkin**	**0.58**	**55**			**Pn**	**11 26 51.0**	**+0.4**
LSPA	**Little Sitkin**	**0.60**	**53**			**Pn**	**11 26 51.1**	**+0.3**
LSPA						**Sn**	**11 27 00.7**	**+0.5**
AMKA	**Amchitka**	**0.96**	**103**			**Pn**	**11 26 55.0**	**-0.3**
AMKA						**Sn**	**11 27 07.5**	**-0.8**
CESW	**Semis' Southwe**	**1.13**	**74**			**Pn**	**11 26 58.0**	**+0.4**
CEPE	**Semis' Perret**	**1.20**	**72**			**Pn**	**11 26 58.9**	**+0.4**
CERAA	**Semis' Rag'd T**	**1.21**	**75**			**Pn**	**11 26 58.9**	**+0.4**
CERAA						**Sn**	**11 27 14.4**	**+0.4**
GASW	**Gareloi Southw**	**2.09**	**84**			**Pn**	**11 27 11.2**	**+0.7**
GALAA	**Gareloi Lava P**	**2.14**	**84**			**Pn**	**11 27 12.1**	**+1.0**
GANE	**Gareloi Northe**	**2.14**	**83**			**Pn**	**11 27 11.7**	**+0.6**
SMY	**Shemya**	**2.55**	**298**			**Pn**	**11 27 17.9**	**+1.2**
SMY						**Sn**	**11 27 46.4**	**-0.1**
TAFP	**Tanaga Falls P**	**2.63**	**82**			**Pn**	**11 27 18.5**	**+0.6**
TAFP						**Sn**	**11 27 49.5**	**+0.7**
TAFL	**Tanaga Flats**	**2.68**	**85**			**Pn**	**11 27 19.5**	**+1.0**
KIMD	**Kanaga Island**	**3.09**	**85**			**Pn**	**11 27 25.0**	**+0.8**
KICM	**Kanaga Island**	**3.12**	**82**			**Pn**	**11 27 25.6**	**+1.0**
KIKV	**Kanaga Island**	**3.14**	**83**			**Pn**	**11 27 25.4**	**+0.6**
KIWB	**Kanaga Island**	**3.15**	**83**			**Pn**	**11 27 25.8**	**+0.9**
ADK	**Adak**	**3.44**	**83**			**Pn**	**11 27 29.5**	**+0.6**
GSCK	**Great Sitkin C**	**3.77**	**81**			**Pn**	**11 27 34.6**	**+1.2**
GSMY	**Great Sitkin M**	**3.83**	**81**			**Pn**	**11 27 35.5**	**+1.1**
GSTR	**Great Sitkin T**	**3.84**	**80**	Pn		**Pn**	**11 27 33.9**	**-0.5**
ATKA	**Atka Island**	**4.99**	**80**			**Pn**	**11 27 51.3**	**+1.2**
UNV	**Unalaska Valle**	**9.78**	**71**	Pn		**Pn**	**11 28 57.7**	**+2.1**
AKUT	**Akutan**	**10.25**	**69**	Pn		**Pn**	**11 29 05.0**	**+3.0**
OHAK	**Old Harbor**	**17.66**	**60**			**Pn**	**11 30 39.4**	**0.0**
J20K	**Nowinta River**	**19.30**	**39**	P		**P**	**11 30 57.2**	**-0.6**
IMAR	**Indian Mountai**	**20.34**	**34**	P		**P**	**11 31 06.6**	**-2.4**
SCM	**Sheep Creek Mo**	**21.43**	**48**	P		**P**	**11 31 18.6**	**-2.2**
SCRK	**Sand Creek**	**23.41**	**43**	P		**P**	**11 31 39.9**	**-1.6**
SCRK				IAmb		IAmb	11 31 59.7	
	comp=Z,4.1nm,1.4s							
J26L	**Joseph Creek**	**23.72**	**42**	P		**P**	**11 31 43.1**	**-1.1**
L27K	**Beaver Creek,**	**24.17**	**46**	P		**P**	**11 31 46.7**	**-1.7**
L27K				IAmb		IAmb	11 31 53.5	
	comp=Z,5.1nm,1.4s							
BCAR	**Beaver Creek A**	**24.19**	**46**	P		**P**	**11 31 47.3**	**-1.2**
EGAK	**Eagle**	**24.79**	**42**	P		**P**	**11 31 54.0**	**0.0**
EGAK				IAmb		IAmb	11 32 33.7	
	comp=Z,4.6nm,1.2s							
DAWY	**Dawson**	**25.41**	**44**	P		**P**	**11 32 00.1**	**+0.5**
DAWY				IAmb		IAmb	11 32 15.7	
	comp=Z,3.2nm,1.1s							

*IDC **09** 11:29:46.8±1.3,29.°92N×82.°47E, h0km, mb3.6/9, mbtmp3.6/11, ML3.8/2, MS3.0/2, Error ellipse: s-maj=46.8km s-min=18.6km az=57.0*

ISC 09 11:29:51.4±0.9,29.°9N±0.°1×82.°4E±0.°1, h35km, n14, σ1s08/12, mb3.6/8, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.92**	**256**	*e*PN		**Pn**	**11 30 20.8**	**-0.7**
LGTI				*e*SN		Sn	11 30 56.9	+12
MKAR	**Makanchi Array**	**16.84**	**360**	Pn		**Pn**	**11 33 42.2**	**-2.2**
	0.1nm,0.3s,baz=171,slow=10,SNR=6.3							
	1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**18.92**	**123**	P		**Pn**	**11 34 09.8**	**-0.4**
	0.3nm,0.3s,baz=302,slow=10,SNR=1.4							
	0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**20.87**	**353**	P		**P**	**11 34 30.1**	**-0.1**
	0.9nm,0.7s,baz=177,slow=10,SNR=2.5							
	0.9nm,0.7s							
ZALV	**Zalesovo Beam**	**24.06**	**4**	P		**P**	**11 35 03.0**	**-0.3**
	1.0nm,0.6s,baz=189,slow=8.5,SNR=2.1							
	1.0nm,0.6s							
BVAR	**Borovoye Array**	**24.69**	**343**	P		**P**	**11 35 09.6**	**+0.5**
	0.4nm,0.5s,baz=134,slow=12,SNR=2.7							
	0.4nm,0.5s							
SONM	**Songino Array**	**25.70**	**39**	P		**P**	**11 35 18.7**	**+0.3**
	0.8nm,0.5s,baz=224,slow=8.3,SNR=3.8							
	0.8nm,0.5s							
AKTO	**Aktyubinsk**	**27.45**	**325**	LR		LR	11 46 44.8	
	comp=Z,22nm,18.9s,baz=306,slow=37							
BELG	**Belogornoye**	**33.96**	**321**	LR		LR	11 51 14.5	
	comp=Z,29nm,18.5s,baz=138,slow=38							
FINES	**FINESS Array B**	**48.18**	**328**	P		**P**	**11 38 29.1**	**+1.1**
	1.0nm,0.7s,baz=103,slow=8.2,SNR=4.3							
	1.0nm,0.7s							
ARCES	**ARCESS Array B**	**50.83**	**338**	P		**P**	**11 38 49.5**	**+1.3**
	2.1nm,0.8s,baz=92,slow=9.9,SNR=1.7							
	2.1nm,0.8s							
HFS	**Hagfors**	**54.00**	**325**	P		**P**	**11 39 13.0**	**+1.2**
	1.1nm,0.7s,baz=96,slow=11,SNR=4.3							
	1.1nm,0.7s							
WRA	**Warramunga Arr**	**70.44**	**128**	P		**P**	**11 41 02.4**	**-0.1**
	0.6nm,0.9s,baz=320,slow=6.4,SNR=5.7							
	0.6nm,0.9s							
ASAR	**Alice Springs**	**72.72**	**131**	P		**P**	**11 41 16.4**	**+0.3**
	0.5nm,0.9s,baz=319,slow=6.2,SNR=3.3							
	0.5nm,0.9s							

*IDC **09** 11:47:47.9±0.9,33.°56S×179.°94E, h0km, mb4.1/6, mbtmp4.2/8, ML4.9/2, MS3.5/4, Error ellipse: s-maj=26.4km s-min=22.8km az=51.0*
*WEL **09** 11:47:50.9±1.5,34.°5S±8.°×17.°9W±1.°3, h17km±15km, M4.7/19, mB5.2/9, ML5.0/20, MLv4.9/19, Mw(mB)4.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=111.1*
*NEIC **09** 11:47:54.4±0.8,33.°7S±0.°1×179.°8E±0.°2, h35km±2km, mb4.5/10, Error ellipse: s-maj=27.9km s-min=20.8km az=104.0*

ISC 09 11:47:52.3±0.7,33.°58S±0.°06×179.°90W±0.°10, h35km, n74, σ1s73/61, mb4.4/13, MS3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.24**	**200**	Pn		**Pn**	**11 48 52.8**	**-1.5**
MXZ	**Matakaoa Point**	**4.24**	**200**	P		**Pn**	**11 48 53.5**	**-0.8**
WMGZ	**Waiomatatini S**	**4.45**	**198**	P		**Pn**	**11 48 57.3**	**+0.1**
WMGZ				S		**Sn**	**11 49 52.2**	**+4.4**
HAZ	**Te Kaha**	**4.58**	**204**	P		**Pn**	**11 48 56.8**	**-2.2**
HAZ				S		**Sn**	**11 49 51.3**	**+0.4**
WIZ	**White Island**	**4.60**	**210**	P		**Pn**	**11 48 59.0**	**-0.3**
PKGZ	**Pakihiroa**	**4.60**	**200**	P		**Pn**	**11 49 00.4**	**+0.9**
PKGZ				S		**Sn**	**11 49 52.6**	**+0.9**
GLKZ	**Green Lake**	**4.62**	**22**	P		**Pn**	**11 49 00.6**	**+0.9**
GRZ	**Great Barrier**	**4.66**	**234**	P		**Pn**	**11 48 58.5**	**-1.6**
PUZ	**Puketiti**	**4.73**	**198**	P		**Pn**	**11 49 00.5**	**-0.6**
PUZ				S		**Sn**	**11 49 56.1**	**+1.4**
KUZ	**Kuaotunu**	**4.78**	**227**	P		**Pn**	**11 49 05.0**	**+3.2**
RUGZ	**Raukumara Rang**	**4.80**	**204**	P		**Pn**	**11 49 03.1**	**+0.9**
TWGZ	**Tauwhareparae**	**4.90**	**200**	P		**Pn**	**11 49 03.4**	**-0.1**
TWGZ				S		**Sn**	**11 50 01.8**	**+2.8**
WHRZ	**Whale Island**	**4.97**	**210**	P		**Pn**	**11 49 07.5**	**+3.1**
CNGZ	**Carnagh Station**	**5.13**	**197**	P		**Pn**	**11 49 06.1**	**-0.5**
OPRZ	**Ohinepanea**	**5.14**	**213**	P		**Pn**	**11 49 08.3**	**+1.5**
TKGZ	**Te Karaka**	**5.18**	**200**	P		**Pn**	**11 49 06.4**	**-0.9**
MWZ	**Matawai**	**5.18**	**203**	P		**Pn**	**11 49 06.8**	**-0.6**
TGRZ	**Tauranga**	**5.19**	**216**	P		**Pn**	**11 49 08.8**	**+1.4**
URZ	**Urewera**	**5.26**	**207**	Pn		**Pn**	**11 49 07.4**	**-1.0**
	17nm,0.3s,baz=31,slow=8.9,SNR=59							
URZ				Sn		**Sn**	**11 50 05.3**	**-2.6**
	33nm,0.3s,baz=211,slow=13,SNR=6.3							
	65nm,0.5s							
URZ	**Urewera**	**5.26**	**207**			**Pn**	**11 49 07.8**	**-0.6**
URZ	**Urewera**	**5.26**	**207**	P		**Pn**	**11 49 07.6**	**-0.8**
URZ				S		**Sn**	**11 50 05.7**	**-2.1**
URZ	**Urewera**	**5.26**	**207**	P		**Pn**	**11 49 07.6**	**-0.8**
EDRZ	**Edgecumbe**	**5.28**	**210**	P		**Pn**	**11 49 10.2**	**+1.5**
MBAZ	**Motutapu North**	**5.32**	**232**	P		Pn	11 49 14.6	+5.4
MKAZ	**Moumakai**	**5.36**	**228**	P		**Pn**	**11 49 13.7**	**+4.0**
ETAZ	**East Tamaki Re**	**5.41**	**230**	P		Pn	11 49 16.7	+6.2
RIGZ	**Rimuhau**	**5.45**	**200**	P		**Pn**	**11 49 09.9**	**-1.2**
RIGZ				S		**Sn**	**11 50 14.4**	**+1.7**
RRRZ	**Republican Roa**	**5.57**	**210**	P		**Pn**	**11 49 13.7**	**+1.0**
MUGZ	**Murupara**	**5.58**	**208**	P		**Pn**	**11 49 13.2**	**+0.3**
ALRZ	**Allen Road**	**5.83**	**210**	P		**Pn**	**11 49 16.6**	**+0.3**
BKZ	**Black Stump Fm**	**6.29**	**207**	P		**Pn**	**11 49 21.2**	**-1.4**
HIZ	**Hauiti**	**6.50**	**219**	P		**Pn**	**11 49 27.5**	**+2.0**
BFZ	**Birch Farm**	**7.73**	**202**	P		**Pn**	**11 49 38.1**	**-4.2**
QRZ	**Quartz Range**	**9.42**	**218**	P		**Pn**	**11 50 01.8**	**-3.7**
KHZ	**Kahutara**	**10.22**	**208**	P		Pn	11 50 11.0	-5.5
RPZ	**Rata Peaks**	**12.34**	**212**	Pn		Pn	11 50 38.6	-6.8
	1.5nm,0.3s,baz=22,slow=1.8,SNR=11							
RPZ				Sn		Sn	11 52 51.4	-10
	1.0nm,0.3s,baz=106,slow=16,SNR=1.7							
RPZ				LR		LR	11 55 30.7	
	comp=Z,306nm,21.9s,baz=36,slow=38							
RPZ	**Rata Peaks**	**12.34**	**212**	P		Pn	11 50 38.7	-6.7
ODZ	**Otahua Downs**	**13.58**	**210**	P		Pn	11 50 56.4	-5.9
MSVF	**Nonsavu**	**15.89**	**353**	Pn		**Pn**	**11 51 34.3**	**+0.9**
	0.3nm,0.3s,baz=128,slow=10,SNR=5.5							
MSVF				LR		LR	11 55 05.9	
	comp=Z,138nm,21.6s,baz=155,slow=28							
	14nm,0.8s							
DZM	**Mont Dzumac**	**16.64**	**310**	*e*LR		LR	11 55 20.0	
	comp=Z,827nm,24.6s							
DZM	**Mont Dzumac**	**16.64**	**310**	LR		LR	11 56 43.5	
	comp=Z,474nm,21.0s,baz=165,slow=32							
AFI	**Afiamalu**	**20.93**	**23**	LR		LR	11 59 07.0	
	comp=Z,57nm,21.3s,baz=182,slow=32							
EIDS	**Eidsvold**	**26.49**	**280**	P		**P**	**11 53 23.5**	**-2.9**
EIDS				IAmb		IAmb	11 53 45.8	
	comp=Z,20nm,1.4s							
TBI	**Tubuai**	**28.54**	**77**	*e*LR		LR	12 00 31.5	
	comp=Z,213nm,30.8s							
TBI	**Tubuai**	**28.54**	**77**	*e*T		T	12 23 14.5	
	comp=Z,32nm,0.3s							
PAE	**Paea**	**31.45**	**67**	*e*T		T	12 26 54.0	

λ90.00000°. NP2:ϕ201.00000°,δ27.00000°,λ89.00000°. Principal axes: T 2.2450, Plg72.0000°, Azm292.0000°; N 0.1900, Plg0.0000°, Azm201.0000°; P -2.4390, Plg18.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 11:53:15.6±0.3,36°41N±0°02×141°04E±0°03,h33km±1km, h33km:pP-P,n1475,σ1°55/1296,mb5.2/342,MS4.9/245, 109C-47D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.37**	**260**	⇓P		**Pn**		**11 53 25.6**	**+1.0**
JHYU				⇓S		**Sn**		**11 53 32.3**	**+1.8**
JHYU	**Hitachinakayam**	**0.37**	**260**	A		A		11 53 25.6	
	comp=E,485nm,2.0s,comp=E,251nm,4.1s								
JHO	**Hitachi**	**0.43**	**299**	⇓P		**Pn**		**11 53 26.1**	**+0.6**
JHO				⇓S		**Sn**		**11 53 33.2**	**+1.1**
JHO	**Hitachi**	**0.43**	**299**	A		A		11 53 26.1	
	comp=E,158nm,5.1s,comp=E,106nm,2.9s								
JIHU	**Itakohorinouch**	**0.60**	**223**	⇓P		**Pb**		**11 53 28.9**	**+1.1**
JIHU				⇓S		**Sn**		**11 53 38.1**	**+1.8**
JIHU	**Itakohorinouch**	**0.60**	**223**	A		A		11 53 28.9	
	comp=E,1μm,1.4s,comp=E,906nm,2.7s								
JYT	**Yasato**	**0.70**	**256**			**Pb**		**11 53 29.6**	**+0.1**
JYT	**Yasato**	**0.70**	**256**	⇓i/P		**Pb**		**11 53 29.5**	**+0.1**
JYT				⇓S		**Sb**		**11 53 38.9**	**0.0**
JYT	**Yasato**	**0.70**	**256**	A		A		11 53 29.5	
	comp=E,118nm,2.4s,comp=E,140nm,0.5s								
CHOJ	**Chosi**	**0.72**	**192**	A		A		11 53 29.7	
	comp=E,509nm,1.4s,comp=E,213nm,2.0s								
JFFD	**Fukushimafurud**	**0.78**	**331**	A		A		11 53 31.1	
	comp=E,73nm,2.9s,comp=E,72nm,4.5s								
JSMT	**Sammumatsuo**	**0.90**	**212**	⇓i/P		**Pb**		**11 53 32.7**	**-0.1**
JSMT				⇓S		**Sb**		**11 53 44.9**	**+0.5**
JSMT	**Sammumatsuo**	**0.90**	**212**	A		A		11 53 32.7	
	comp=E,429nm,5.7s,comp=E,345nm,5.5s								
JFK	**Kawauchi**	**0.97**	**352**	i/P		**Pn**		**11 53 33.0**	**+0.1**
JFK	**Kawauchi**	**0.97**	**352**	A		A		11 53 33.0	
	comp=E,86nm,3.0s,comp=E,41nm,3.7s								
JSB	**Shiboa**	**1.06**	**302**	A		A		11 53 35.0	
	comp=E,178nm,3.1s,comp=E,207nm,2.3s								
JCN	**Nagara**	**1.20**	**215**	A		A		11 53 36.5	
	comp=E,327nm,3.2s,comp=E,302nm,3.3s								
JFT	**Otama**	**1.24**	**333**	⇓i/P		**Pb**		**11 53 38.4**	**-0.2**
JFT				⇓S		**Sb**		**11 53 54.6**	**+0.3**
JFT	**Otama**	**1.24**	**333**	A		A		11 53 38.4	
	comp=E,265nm,2.4s,comp=E,176nm,0.5s								
TOK	**Tokyo**	**1.26**	**236**	A		A		11 53 37.5	
	comp=E,211nm,1.4s,comp=E,355nm,2.0s								
JAG	**Ashikaga**	**1.28**	**271**	⇓i/P		**Pn**		**11 53 37.8**	**+0.7**
JAG				⇓S		**Sn**		**11 53 53.6**	**+0.5**
JAG	**Ashikaga**	**1.28**	**271**	A		A		11 53 37.8	
	comp=E,45nm,2.7s,comp=E,43nm,3.0s								
JMST	**Minamisoumatoc**	**1.32**	**355**	A		A		11 53 38.9	
	comp=E,69nm,1.5s,comp=E,36nm,3.6s								
JKUC	**kamogawauchiur**	**1.42**	**209**	A		A		11 53 39.7	
	comp=E,171nm,2.8s,comp=E,134nm,4.8s								
JFY	**Yanaizu**	**1.46**	**313**	⇓i/P		**Pb**		**11 53 41.1**	**-1.1**
JFY	**Yanaizu**	**1.46**	**313**	A		A		11 53 41.1	
	comp=E,56nm,4.0s,comp=E,57nm,5.1s								
JMM	**Marumori**	**1.47**	**352**			**Pn**		**11 53 40.6**	**+0.8**
JMM	**Marumori**	**1.47**	**352**	⇓i/P		**Pn**		**11 53 40.5**	**+0.7**
JMM				⇓S		**Sn**		**11 53 59.2**	**+1.4**
JMM	**Marumori**	**1.47**	**352**	A		A		11 53 40.5	
	comp=E,71nm,4.7s,comp=E,30nm,2.7s								
JKT	**Katashina**	**1.48**	**285**	⇓i/P		**Pb**		**11 53 41.5**	**-1.1**
JKT	**Katashina**	**1.48**	**285**	A		A		11 53 41.5	
	comp=E,69nm,2.3s,comp=E,45nm,0.3s								
JHU	**Hanno**	**1.52**	**249**	A		A		11 53 41.4	
	comp=E,66nm,3.2s,comp=E,65nm,2.9s								
JYO	**Yokosk**	**1.62**	**224**	A		A		11 53 42.7	
	comp=E,150nm,2.3s,comp=E,143nm,2.6s								
JYAR	**Yonezawaarcadi**	**1.67**	**335**	A		A		11 53 43.7	
	comp=E,81nm,1.0s,comp=E,120nm,1.1s								
JSGW	**Sagamiharawaka**	**1.69**	**242**	A		A		11 53 43.6	
	comp=E,79nm,2.3s,comp=E,63nm,2.9s								
JRY	**Ryogami san**	**1.77**	**258**	A		A		11 53 44.9	
	comp=E,30nm,5.2s,comp=E,42nm,3.1s								
JUON	**Uonuma**	**1.78**	**297**	A		A		11 53 45.2	
	comp=E,27nm,3.3s,comp=E,33nm,7.1s								
JIKH	**Ishinomakikobu**	**1.93**	**10**	A		A		11 53 47.6	
	comp=E,44nm,2.9s,comp=E,26nm,3.5s								
JGK	**Kuni**	**1.94**	**275**	A		A		11 53 47.4	
	comp=E,44nm,3.8s,comp=E,62nm,3.4s								
JOD2	**Odawara 2**	**1.95**	**235**	A		A		11 53 47.4	
	comp=E,69nm,2.9s,comp=E,98nm,3.9s								
JNS	**Sasagawa**	**1.97**	**316**	A		A		11 53 48.1	
	comp=E,39nm,3.3s,comp=E,29nm,3.7s								
JYS	**Shirataka**	**1.97**	**337**	A		A		11 53 48.2	
	comp=E,77nm,1.6s,comp=E,61nm,2.6s								
JOU	**Okura**	**1.98**	**351**	A		A		11 53 48.3	
	comp=E,106nm,2.3s,comp=E,92nm,2.6s								
JIO	**Ouri**	**2.06**	**7**	A		A		11 53 49.5	
	comp=E,32nm,2.2s,comp=E,19nm,6.7s								
JIM2	**Oshima 3**	**2.13**	**218**	A		A		11 53 50.0	
	comp=E,85nm,3.2s,comp=E,89nm,3.6s								
JIZZ	**Izumozaki**	**2.18**	**302**	A		A		11 53 51.0	
	comp=E,90nm,2.3s,comp=E,119nm,3.6s								
JHTM	**Izuhatsuma**	**2.19**	**229**	A		A		11 53 50.9	
	comp=E,125nm,1.9s,comp=E,107nm,2.8s								
JOFO	**Osakifurukawao**	**2.19**	**357**	A		A		11 53 51.4	
	comp=E,208nm,1.8s,comp=E,218nm,4.6s								
JYN	**Shimob**	**2.22**	**247**	A		A		11 53 51.3	
	comp=E,57nm,3.3s,comp=E,71nm,2.2s								
JFNN	**Fujinakano**	**2.26**	**238**	A		A		11 53 51.9	
	comp=E,111nm,3.8s,comp=E,143nm,4.1s								
MJAR	**Matsushiro Arr**	**2.28**	**274**	P		**Pn**		**11 53 50.3**	**-0.7**
MJAR				S		**Sn**		**11 54 20.4**	**+2.4**
	919nm,0.8s,baz=88,slow=16,SNR=3.5								
MJAR				LR		LR		11 54 56.8	
	comp=Z,41μm,21.2s,baz=88,slow=44								
MAJO	**Matsushiro**	**2.29**	**274**	Pn		**Pn**		**11 53 53.0**	**+2.1**
MAJO	**Matsushiro**	**2.29**	**274**	d/P		**Pn**		**11 53 53.0**	**+2.1**
MAJO	**Matsushiro**	**2.29**	**274**	P		**Pn**		**11 53 53.1**	**+2.1**
JTHY	**Toshimahigashi**	**2.38**	**28**	A		A		11 53 53.2	
	comp=E,71nm,6.4s,comp=E,68nm,6.1s								
JNG	**Nsakai**	**2.37**	**271**	A		A		11 53 53.6	
	comp=E,23nm,7.3s,comp=E,21nm,2.9s								
JNT	**Takato**	**2.41**	**258**	A		A		11 53 54.1	
	comp=E,37nm,1.9s,comp=E,37nm,1.5s								
JJN	**Nakama**	**2.41**	**288**	A		A		11 53 54.2	
	comp=E,61nm,3.4s,comp=E,43nm,4.7s								
JYA	**Atsumi**	**2.42**	**335**	A		A		11 53 54.6	
	comp=E,52nm,2.9s,comp=E,38nm,2.5s								
JKMT	**Kesennumamotoy**	**2.43**	**8**	A		A		11 53 54.7	
	comp=E,20nm,2.6s,comp=E,11nm,2.1s								
JIZS	**Izushimoda**	**2.44**	**227**	A		A		11 53 54.3	
	comp=E,36nm,3.6s,comp=E,54nm,3.4s								
JAW	**Awa shima**	**2.49**	**326**	A		A		11 53 55.6	
	comp=E,34nm,8.7s,comp=E,56nm,3.5s								
JNIO	**Niijimaoohara**	**2.50**	**216**	A		A		11 53 55.2	
	comp=E,65nm,2.0s,comp=E,67nm,2.6s								
JMK	**Ichinoseki**	**2.55**	**3**	A		A		11 53 56.4	
	comp=E,19nm,4.4s,comp=E,14nm,2.2s								
JSKK	**Shikinejimakit**	**2.55**	**216**	A		A		11 53 55.9	
	comp=E,53nm,2.5s,comp=E,40nm,2.2s								
JYK	**Kaneyama**	**2.56**	**348**	A		A		11 53 56.7	
	comp=E,28nm,2.8s,comp=E,22nm,1.8s								
SHZ3	**Shizuoka 3**	**2.66**	**241**	A		A		11 53 57.6	
	comp=E,45nm,2.6s,comp=E,48nm,2.5s								
OFUJ	**Ofunato**	**2.72**	**10**	A		A		11 53 58.8	
	comp=E,23nm,2.6s,comp=E,14nm,2.8s								
JSD	**Sado**	**2.75**	**307**			**Pn**		**11 53 59.1**	**+1.8**
JSD	**Sado**	**2.75**	**307**	A		A		11 53 59.2	
	comp=E,16nm,5.6s,comp=E,24nm,3.4s								
JYYZ	**Yamagatayuza**	**2.75**	**342**	A		A		11 53 59.2	
	comp=E,95nm,3.0s,comp=E,121nm,3.6s								
JMKN	**Mikurajimanish**	**2.77**	**206**	A		A		11 53 59.1	
	comp=E,27nm,3.8s,comp=E,22nm,2.2s								
JNY	**Yasuok**	**2.78**	**249**	A		A		11 53 59.3	
	comp=E,35nm,3.5s,comp=E,46nm,2.4s								
JSG	**Sagara**	**2.90**	**234**	A		A		11 54 00.9	
	comp=E,57nm,4.4s,comp=E,75nm,3.5s								
JKKS	**Kakegawashinom**	**2.98**	**237**	A		A		11 54 02.1	
	comp=E,73nm,4.0s,comp=E,57nm,7.2s								
JTT	**Ttatey**	**2.99**	**275**	A		A		11 54 02.4	
	comp=E,35nm,4.3s,comp=E,32nm,4.2s								
JRG	**Rokugo**	**3.00**	**354**	A		A		11 54 02.9	
	comp=E,35nm,4.1s,comp=E,24nm,3.0s								
JGN	**Niukaw**	**3.01**	**268**	A		A		11 54 02.7	
	comp=E,19nm,3.7s,comp=E,19nm,4.9s								
JTB	**Tobi-shima**	**3.02**	**338**	A		A		11 54 03.1	
	comp=E,33nm,3.6s,comp=E,30nm,4.2s								
JOM	**Ohasama**	**3.07**	**4**	A		A		11 54 03.8	
	comp=E,17nm,3.4s,comp=E,11nm,3.2s								
JGF	**Kuroka**	**3.09**	**256**			**Pn**		**11 54 05.5**	**+3.5**
JGF	**Kuroka**	**3.09**	**256**	A		A		11 54 03.7	
	comp=E,33nm,2.3s,comp=E,29nm,2.1s								
HMMJ	**Hamamatsu 2**	**3.11**	**241**	A		A		11 54 04.0	
	comp=E,19nm,9.2s,comp=E,29nm,2.8s								
JSZ	**Suzu**	**3.12**	**291**	A		A		11 54 04.4	
	comp=E,29nm,4.1s,comp=E,19nm,9.0s								
JYW	**Yuwa**	**3.20**	**348**	A		A		11 54 05.6	
	comp=E,56nm,3.2s,comp=E,94nm,3.1s								
MIYJ	**Miyakonagasawa**	**3.23**	**11**	A		A		11 54 06.0	
	comp=E,18nm,3.2s,comp=E,13nm,5.8s								
JSSY	**Shinshiroyabe**	**3.24**	**244**	A		A		11 54 05.7	
	comp=E,20nm,3.0s,comp=E,17nm,4.6s								
JAO	**Obara**	**3.27**	**251**	A		A		11 54 06.3	
	comp=E,25nm,9.3s,comp=E,28nm,3.9s								
JSZI	**Iwateshizukuis**	**3.33**	**359**	A		A		11 54 07.5	
	comp=E,39nm,1.8s,comp=E,47nm,2.9s								
INU	**Inuyama**	**3.43**	**253**			**Pn**		**11 54 09.1**	**+2.4**
INU	**Inuyama**	**3.43**	**253**	P		**Pn**		**11 54 10.0**	**+3.3**
JHJ2	**Mitsune**	**3.44**	**197**	Pn		**Pn**		**11 54 08.2**	**+1.5**
JHJ2	**Mitsune**	**3.44**	**197**	P		**Pn**		**11 54 07.9**	**+1.1**
JHJ2	**Mitsune**	**3.44**	**197**	A		A		11 54 08.4	
	comp=E,30nm,5.6s,comp=E,28nm,5.3s								
JHJ	**Hachijo jima 2**	**3.44**	**198**	P		**Pn**		**11 54 06.7**	**-0.1**
	333nm,0.3s,baz=336,slow=23,SNR=91								
JHJ				S		**Sn**		**11 54 45.7**	**-0.6**
	2μm,0.4s,baz=244,slow=22,SNR=18								
JJH	**Hakui**	**3.46**	**280**	A		A		11 54 09.1	
	comp=E,19nm,3.7s,comp=E,16nm,4.2s								
JHCJ	**Hachijojimakas**	**3.48**	**197**	A		A		11 54 09.1	
	comp=E,20nm,5.6s,comp=E,20nm,3.0s								
JICN	**Ichinomiyachia**	**3.58**	**253**	A		A		11 54 10.6	
	comp=E,39nm,4.9s,comp=E,48nm,2.3s								
JKZ	**Kuzumaki**	**3.58**	**4**	A		A		11 54 11.0	
	comp=E,17nm,2.9s,comp=E,13nm,2.8s								
JYTA	**Yamagatataniai**	**3.58**	**258**	A		A		11 54 10.6	
	comp=E,39nm,2.2s,comp=E,21nm,6.3s								
JTH	**Tanohata**	**3.59**	**10**	A		A		11 54 11.1	
	comp=E,16nm,1.8s,comp=E,14nm,6.2s								
JHG	**Hegura jima**	**3.59**	**295**	A		A		11 54 11.0	
	comp=E,11nm,6.0s,comp=E,14nm,2.8s								
JAA	**Atsumi**	**3.64**	**242**	A		A		11 54 11.4	
	comp=E,9.0nm,4.3s,comp=E,25nm,4.1s								
JAH	**Hinai**	**3.79**	**355**	A		A		11 54 14.0	
	comp=E,31nm,4.0s,comp=E,17nm,3.2s								
JKG	**Kaga**	**3.80**	**269**	A		A		11 54 13.8	
	comp=E,10.0nm,7.2s,comp=E,13nm,4.0s								
JKEN	**Kujiedanarisaw**	**3.83**	**8**	A		A		11 54 14.5	
	comp=E,28nm,3.3s,comp=E,25nm,1.0s								
JOG3	**Oga3**	**3.83**	**337**	A		A		11 54 11.8	
	comp=E,32nm,2.6s,comp=E,35nm,2.7s								
JNTW	**Noshirotokiwa**	**3.92**	**350**	A		A		11 54 15.8	
	comp=E,56nm,2.6s,comp=E,59nm,4.4s								
JANG	**Nango**	**3.98**	**5**	A		A		11 54 16.7	
	comp=E,11nm,3.5s,comp=E,11nm,2.5s								
JEG	**Eigenji**	**3.98**	**253**	A		A		11 54 16.3	
	comp=E,12nm,5.5s,comp=E,20nm,6.7s								
JIE	**Ise**	**4.07**	**242**	A		A		11 54 17.4	
	comp=E,12nm,2.7s,comp=E,13nm,2.6s								
JAOM	**Aogashimamukai**	**4.07**	**195**	A		A		11 54 17.4	
	comp=E,24nm,2.3s,comp=E,21nm,4.6s								
TSUJ	**Tsu 2**	**4.13**	**247**	A		A		11 54 18.3	
	comp=E,21nm,3.4s,comp=E,33nm,3.7s								
JFM	**Mihama**	**4.19**	**259**	A		A		11 54 19.2	
	comp=E,12nm,4.4s,comp=E,15nm,8.3s								
JIW	**Iwasaki**	**4.26**	**349**	A		A		11 54 20.6	
	comp=E,13nm,5.7s,comp=E,11nm,6.0s								
JHHS	**Hirosakihyakuz**	**4.27**	**353**	A		A		11 54 20.7	
	comp=E,43nm,5.4s,comp=E,44nm,4.6s								
JTM	**Tenmabayashi**	**4.38**	**0**	Pn		**Pn**		**11 54 20.4**	**+0.8**
JTM	**Tenmabayashi**	**4.38**	**0**	A		A		11 54 22.2	
	comp=E,18nm,4.2s,comp=E,10.0nm,3.5s								
JKN2	**Miekihoku**	**4.45**	**242**	A		A		11 54 22.8	
	comp=E,8.0nm,3.8s,comp=E,14nm,3.6s								
JARK	**Aomorirokkasho**	**4.60**	**3**	A		A		11 54 25.4	
	comp=E,16nm,4.8s,comp=E,11nm,4.5s								
JSI2	**Shiura 2**	**4.67**	**354**	A		A		11 54 26.3	
	comp=E,12nm,5.4s,comp=E,14nm,4.2s								
JHE	**Heguri**	**4.70**	**250**	A		A		11 54 26.4	
	comp=E,15nm,5.2s,comp=E,26nm,4.8s								
JWT	**Wachi**	**4.71**	**258**	A		A		11 54 26.6	
	comp=E,7.0nm,6.5s,comp=E,12nm,2.8s								
JMMH	**Mimihama**	**4.85**	**239**	A		A		11 54 28.4	
	comp=E,7.0nm,6.9s,comp=E,7.0nm,6.4s								
JAHD	**Aomorihigashid**	**4.86**	**3**	A		A		11 54 28.9	
	comp=E,24nm,2.0s,comp=E,20nm,1.6s								
JKY	**Yasaka**	**4.87**	**263**	A		A		11 54 28.8	
	comp=E,9.0nm,4.0s,comp=E,12nm,2.4s								
JOT	**Ohata**	**4.97**	**0**	A		A		11 54 30.5	
	comp=E,13nm,4.7s,comp=E,10.0nm,4.1s								
JMIK	**Miki**	**5.13**	**254**	A		A		11 54 32.4	
	comp=E,11nm,4.0s,comp=E,13nm,3.5s								
JSR	**Shiriuchi**	**5.14**	**355**	A		A		11 54 32.9	
	comp=E,14nm,4.7s,comp=E,9.0nm,3.9s								
JTNC	**Tanabenakahech**	**5.14**	**241**	A		A		11 54 32.5	
	comp=E,7.0nm,6.8s,comp=E,7.0nm,6.2s								
JOMM	**Oshimamatsumae**	**5.17**	**351**	A		A		11 54 33.4	
	comp=E,7.0nm,4.4s,comp=E,7.0nm,4.9s								
JKSM	**Kasumi**	**5.23**	**263**	A		A		11 54 33.8	
	comp=E,6.0nm,4.9s,comp=E,8.0nm,4.7s								
JWKM	**Wakayamakushim**	**5.24**	**237**	A		A		11 54 33.9	
	comp=E,10.0nm,2.8s,comp=E,8.0nm,6.3s								
JWM	**Minabe**	**5.31**	**243**	A		A		11 54 34.8	
	comp=E,9.0nm,3.7s,comp=E,14nm,3.7s								
JAWN	**Awajishima-nag**	**5.36**	**251**	A		A		11 54 35.6	
	comp=E,9.0nm,3.9s,comp=E,19nm,4.6s								
JKB	**Kayabe**	**5.47**	**360**	A		A		11 54 37.6	
	comp=E,14nm,2.3s,comp=E,10.0nm,2.4s								
JYM2	**Yakumo 2**	**5.73**	**355**	A		A		11 54 41.1	
	comp=E,9.0nm,3.4s,comp=E,9.0nm,4.0s								
JAD	**Aida**	**5.78**	**257**	A		A		11 54 41.5	
	comp=E,4.0nm,6.6s,comp=E,7.0nm,7.9s								
ERM	**Erimo**	**5.84**	**16**			**Pn**		**11 54 39.1**	**-0.7**
ERM	**Erimo**	**5.84**	**16**	i/P		**Pn**		**11 54 40.1**	**+0.4**
ERM	**Erimo**	**5.84**	**16**	P		**Pn**		**11 54 40.4**	**+0.7**
JAI	**Aioi**	**6.00**	**246**	A		A		11 54 44.4	
	comp=E,5.0nm,7.1s,comp=E,9.0nm,3.9s								
JNBK	**Urakawa-nobuka**	**6.01**	**12**	A		A		11 54 45.2	
	comp=E,12nm,5.6s,comp=E,14nm,5.2s								
JSHD	**Hidakashinhida**	**6.10**	**10**	A		A		11 54 46.3	
	comp=E,16nm,3.7s,comp=E,13nm,4.8s								
JIAM	**Iburiatsuma**	**6.25**	**6**	A		A		11 54 48.4	
	comp=E,12nm,4.6s,comp=E,15nm,1.8s								
JEW	**Eniwo**	**6.43**	**3**	Pn		**Pn**		**11 54 48.0**	**0.0**
JMN	**Monobe**	**6.45**	**248**	Pn		**Pn**		**11 54 49.9**	**+1.7**
JMN	**Monobe**	**6.45**	**248**	A		A		11 54 50.8	
	comp=E,6.0nm,2.8s,comp=E,9.0nm,4.0s								
JCH	**Churui**	**6.46**	**15**	A		A		11 54 51.3	
	comp=E,6.0nm,4.9s,comp=E,5.0nm,2.6s								
JHS	**Saijyo**	**6.60**	**260**	Pn		**Pn**		**11 54 52.3**	**+2.1**
JAB	**Ashibetsu**	**7.15**	**7**	A		A		11 55 01.0	
	comp=E,11nm,3.2s,comp=E,10.0nm,2.7s								
NMR	**Nemuro--Hokkai**	**7.83**	**26**	eP		**Pn**		**11 55 05.4**	**-1.7**
NMR				eS		**Sn**		**11 56 27.6**	**-6.9**
RUSJ	**Misakicho**	**8.34**	**21**	eP		**Pn**		**11 55 15.1**	**+1.1**
RUSJ				eS		**Sn**		**11 56 45.0**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**8.46**	**24**	eP		**Pn**		**11 55 14.9**	**-0.8**
YUK				eS		**Sn**		**11 56 44.4**	**-5.7**
YUK					pmax	pmax			
	comp=Z,309nm,0.2s								
YUK					pmax	pmax			
	comp=N,307nm,0.3s								
YUK					pmax	pmax			
	comp=E,382nm,0.3s								
YUK					MLR	MLR			
	comp=Z,3μm,17.0s								
YUK					MLR	MLR			
	comp=E,3μm,13.0s								
YUK					MLR	MLR			
	comp=N,3μm,16.0s								
TEY	**Ternei**	**9.25**	**340**	eP		**Pn**		**11 55 29.5**	**+2.9**
TEY					pmax	pmax			
	comp=N,40nm,0.9s								
TEY					pmax	pmax			
	comp=Z,30nm,0.8s								
TEY					MLR	MLR			
	comp=E,200nm,17.0s								
TEY					MLR	MLR			
	comp=N,200nm,14.0s								
TEY					MLR	MLR			
	comp=Z,200nm,19.0s								
JCJ	**Chichijima**	**9.33**	**174**	P		**Pn**		**11 55 26.0**	**-1.8**
	comp=Z,159nm,0.3s,baz=350,slow=6.7,SNR=18								
JCJ				S		Sn		11 57 01.9	-10
	comp=Z,293nm,0.3s,baz=288,slow=22,SNR=8.2								
JCJ	**Chichijima**	**9.33**	**174**	Pn		**Pn**		**11 55 25.5**	**-2.2**
JCJ	**Chichijima**	**9.33**	**174**	P		**Pn**		**11 55 25.9**	**-1.8**
VLA	**Vladivostok**	**9.72**	**316**	deP		**Pn**		**11 55 34.1**	**+1.1**
KSBUS	**Busan**	**9.75**	**267**			**Pn**		**11 55 32.0**	**-1.5**
MSHR	**Mys Shultsa**	**9.81**	**312**	eP		**Pn**		**11 55 36.1**	**+1.9**
JSU	**Suzuyama**	**10.05**	**244**	Pn		**Pn**		**11 55 40.1**	**+2.5**
KUR	**Kuril'sk**	**10.22**	**28**	eP		**Pn**		**11 55 40.8**	**+1.0**
KUR				eS		**Sn**		**11 57 27.5**	**-5.6**
KUR					pmax	pmax			
	comp=Z,123nm,0.6s								
KUR					pmax	pmax			
	comp=N,50nm,0.5s								
KUR					pmax	pmax			
	comp=E,33nm,0.5s								
KUR					smax	smax			
	comp=N,279nm,0.6s								
KUR					smax	smax			
	comp=E,184nm,0.6s								
KUR					MLR	MLR			
	comp=Z,1μm,11.0s								
SEHB	**SEOHWA**	**10.35**	**284**			**Pn**		**11 55 41.9**	**+0.3**
USA0B	**Ussuriysk Arra**	**10.40**	**321**	Pn		**Pn**		**11 55 43.0**	**+0.7**
USA0B	**Ussuriysk Arra**	**10.40**	**321**	P		**Pn**		**11 55 43.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.40**	**321**	P		**Pn**		**11 55 44.5**	**+2.2**
	comp=Z,13nm,0.5s,baz=139,slow=12,SNR=34								
USRK				S		**Sn**		**11 57 38.3**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=201,slow=2.5,SNR=1.0								
USRK				LR		LR		11 59 35.6	
	comp=Z,7μm,18.9s,baz=243,slow=36								
USRK	**Ussuriysk Ar.**	**10.40**	**321**			**Pn**		**11 55 43.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.40**	**321**	P		**Pn**		**11 55 43.0**	**+0.7**
KSCHJ	**Chungju**	**10.51**	**276**			**Pn**		**11 55 46.1**	**+2.3**
KSRS	**Korea Array**	**10.55**	**280**	P		**Pn**		**11 55 47.7**	**+3.3**
	comp=Z,26nm,0.8s,baz=95,slow=14,SNR=49								
KSRS				LR		LR		11 59 39.7	
	comp=Z,12μm,19.8s,baz=90,slow=36								
KSAR	**Wonju Array Be**	**10.58**	**280**			**Pn**		**11 55 45.4**	**+0.6**
KSAR	**Wonju Array Be**	**10.58**	**280**	P		**Pn**		**11 55 45.4**	**+0.6**
KS19	**Wonju Array Si**	**10.60**	**280**			**Pn**		**11 55 45.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**10.62**	**6**	Pn		**Pn**		**11 55 45.2**	**0.0**
YSS	**Yuzh-Sakhalins**	**10.62**	**6**	eP		**Pn**		**11 55 46.4**	**+1.2**
YSS				eS		**Sn**		**11 57 44.5**	**+1.6**
YSS					pmax	pmax			
	comp=Z,60nm,0.8s								
YSS					MLR	MLR			
	comp=Z,5μm,13.0s								
YSS					MLR	MLR			
	comp=N,4μm,17.0s								
YSS					MLR	MLR			
	comp=E,2μm,13.0s								
YSS	**Yuzh-Sakhalins**	**10.62**	**6**	P		**Pn**		**11 55 46.9**	**+1.7**
TJN	**Taejon**	**11.02**	**274**	eP		**Pn**		**11 55 52.0**	**+1.2**
NAWB	**Namwon**	**11.11**	**269**			**Pn**		**11 55 54.1**	**+2.1**
HHU	**Hamhung**	**11.20**	**292**	P		**Pn**		**11

DL2 S **Sn** **11 59 51.1 +7.1**
DL2 pmax pmax
comp=Z,54nm,0.9s
DL2 pmax pmax
comp=Z,740nm,7.5s
DL2 LR LR
comp=Z,2µm,14.2s
DL2 LR LR
comp=Z,8µm,19.6s
DL2 LR LR
comp=Z,11µm,18.0s
OKH **Okha** **17.20 4***de*P **P** **11 57 14.3 0.0**
OKH *e*S **Sn** **12 00 21.9 -1.2**
OKH pmax pmax
comp=Z,200nm,20.4s
OKH smax smax
comp=N,300nm,13.0s
OKH smax smax
comp=E,500nm,18.3s
OKH MLR MLR
comp=E,3µm,14.0s
OKH MLR MLR
comp=N,4µm,16.0s
OKH MLR MLR
comp=Z,3µm,15.0s
SSE **Sheshan** **17.33 258** P **Pn** **11 57 12.4 -2.4**
SSE S **Sn** **12 00 22.6 -4.0**
SSE pmax pmax
comp=Z,10.0nm,0.8s
SSE pmax pmax
comp=Z,350nm,5.2s
SSE LR LR
comp=Z,2µm,20.3s
SSE LR LR
comp=Z,2µm,18.9s
JMJ **Miyako jima 2** **17.78 234** P **P** **11 57 23.0 +2.0**
SKR **Severo-Kuril's** **17.92 33** *e*P **P** **11 57 27.0 +4.6**
SKR *e*S **Sn** **12 00 40.9 +0.1**
SKR pmax pmax
comp=Z,34nm,0.9s
SKR pmax pmax
comp=Z,100nm,3.2s
SKR MLR MLR
comp=Z,1µm,18.0s
NJ2 **Nanjing** **18.84 263** *e*P **P** **11 57 32.3 -0.3**
NJ2 pP **pP** **11 57 39.6 -1.8**
NJ2 sP **sP** **11 57 44.4 -0.9**
NJ2 S **Sn** **12 01 01.8 -1.4**
NJ2 sS **S** **12 01 09.4 +4.4**
NJ2 SS **SnSn** **12 01 20.9 +3.8**
NJ2 pmax pmax
comp=Z,18nm,0.7s
NJ2 pmax pmax
comp=Z,650nm,6.7s
NJ2 LR LR
comp=Z,3µm,17.5s
NJ2 LR LR
comp=Z,6µm,18.9s
NJ2 LR LR
comp=Z,6µm,17.1s
YOJ **Yonaguni jima** **19.54 237** P **P** **11 57 38.9 -1.4**
YOJ **Yonaguni jima** **19.54 237** P **P** **11 57 38.9 -1.4**
YOJ pmax pmax
comp=Z,88nm,1.0s
YOJ **Yonaguni jima** **19.54 237** P **P** **11 57 40.4 +0.1**
ZEA **Zeya** **19.82 335** *e*P **Pn** **11 57 44.2 -0.6**
ZEA *e*S S 12 01 12.4 -12
ZEA pmax pmax
comp=E,30nm,0.5s
ZEA pmax pmax
comp=N,40nm,0.9s
ZEA pmax pmax
comp=Z,70nm,0.8s
ZEA pmax pmax
comp=E,100nm,3.6s
ZEA pmax pmax
comp=N,200nm,5.6s
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA smax smax
comp=E,300nm,4.9s
ZEA smax smax
comp=N,800nm,8.6s
ZEA MLR MLR
comp=N,2µm,15.0s
ZEA MLR MLR
comp=E,1µm,15.0s
ZEA MLR MLR
comp=Z,2µm,17.0s
BJI **Beijing** **19.85 288** P **P** **11 57 44.1 +0.5**
BJI pP **pP** **11 57 51.7 -0.7**
BJI sP **sP** **11 57 55.8 -0.4**
BJI PcP **PcP** **12 02 00.2 0.0**
BJI pmax pmax
comp=Z,19nm,0.5s
BJI LR LR
comp=Z,520nm,16.6s
BJI LR LR
comp=Z,3µm,17.0s
BJI LR LR
comp=Z,4µm,17.7s
BJT **Baijiatuan** **19.85 288** P **P** **11 57 43.1 -0.5**
BJT **Baijiatuan** **19.85 288** P **P** **11 57 43.2 -0.5**
BJT pmax pmax
comp=Z,28nm,0.6s
HIA **Hailar** **20.14 316** P **P** **11 57 46.6 -0.2**
HIA **Hailar** **20.14 316** IAMs_20 IAMs_20 12 05 34.1
comp=Z,4µm,19.0s
HIA **Hailar** **20.14 316** P **P** **11 57 46.6 -0.2**
HIA pmax pmax
comp=Z,22nm,0.7s
HIA MLR MLR
comp=Z,4µm,19.0s
PEA0B **Petropavlovsk-** **20.38 30** P **P** **11 57 50.4 +1.1**
PEA0B **Petropavlovsk-** **20.38 30***ce*P Pn 11 57 51.3 -0.2
PETK **Petropavlovsk-** **20.38 30** P **P** **11 57 49.9 +0.6**
comp=Z,6.2nm,0.8s,baz=229,slow=4.0,SNR=20
PETK LR LR 12 05 17.0
comp=Z,2µm,21.4s,baz=220,slow=35
comp=Z,6.2nm,0.8s
PETK **Petropavlovsk-** **20.38 30** P **P** **11 57 48.5 -0.8**
XLT **XiLinHaoTe** **20.44 299**⇑ *i*P **P** **11 57 48.8 -1.3**
XLT pP pP 11 57 57.5 -1.4
XLT sP sP 11 58 02.5 -0.2
XLT S **S** **12 01 30.4 -6.8**
XLT sS sS 12 01 48.1 -3.3
XLT SS **SnSn** **12 02 02.0 +5.6**
XLT pmax pmax
comp=Z,85nm,0.9s
XLT LR LR
comp=Z,8µm,19.9s
XLT LR LR
comp=Z,10µm,19.4s
YHNB **Yeheng** **20.54 241** P **P** **11 57 51.2 0.0**
YHNB IAmb IAmb 11 58 09.6
comp=Z,238nm,2.0s
YHNB **Yeheng** **20.54 241** P Pn 11 57 53.4 -0.2
NACB **Ninganchiao** **20.70 239** IAMs_20 IAMs_20 12 06 27.2
comp=Z,3µm,21.0s
PET **Petropavlovsk** **20.71 31** P **P** **11 57 51.5 -1.3**
PET **Petropavlovsk** **20.71 31***c* *i*P Pn 11 57 54.8 -0.5
PET *i* S **S** **12 01 40.1 -2.0**
PET pmax pmax
comp=Z,400nm,14.4s
PET pmax pmax
comp=Z,73nm,1.7s
PET MLR MLR
comp=Z,3µm,21.0s
PET MLR MLR
comp=Z,2µm,18.0s
HNS **HongShan** **21.06 281**⇓ P **P** **11 57 54.9 -1.8**
HNS S **S** **12 01 44.9 -4.5**
HNS pmax pmax
comp=Z,92nm,0.7s
HNS LR LR
comp=Z,2µm,18.2s
HNS LR LR
comp=Z,6µm,18.3s
HNS LR LR
comp=Z,6µm,18.2s
SSLB **Suanglung** **21.40 240** P **P** **11 57 59.1 -1.4**
SSLB IAMs_20 IAMs_20 12 07 27.6
comp=Z,3µm,18.0s
YULB **Yu-li** **21.42 238** P **P** **11 57 59.0 -1.7**
TPUB **Ta-pu** **21.94 239** P **P** **11 58 04.5 -1.9**
TPUB IAMs_20 IAMs_20 12 07 19.0
comp=Z,4µm,20.0s
TWG **Pinlang** **21.95 237** P **P** **11 58 05.0 -1.4**
QZH **Quanzhou** **22.38 246** *e*P **P** **11 58 08.0 -3.0**
QZH S **S** **12 02 05.2 -10**
QZH sS **pS** **12 02 18.8 -7.2**
QZH LR LR
comp=Z,2µm,18.5s
QZH LR LR
comp=Z,2µm,16.1s
QZH LR LR
comp=Z,3µm,18.5s
KNMB **Chin-men Tao** **22.81 245** IAMs_20 IAMs_20 12 07 43.1
comp=Z,4µm,20.0s
TIY **Taiyuan** **22.83 282** *e*P **P** **11 58 17.3 +1.5**
TIY PP **PnPn** **11 58 39.9 -0.6**
TIY S **S** **12 02 22.3 -0.6**
TIY pmax pmax
comp=Z,320nm,5.8s
TIY LR LR
comp=Z,3µm,17.2s
TIY LR LR
comp=Z,5µm,16.5s
TIY LR LR
comp=Z,8µm,18.5s
WHN **Wuhan** **22.98 263**⇓ P **P** **11 58 16.6 -0.7**
WHN pP **sP** **11 58 29.4 -0.6**
WHN S **S** **12 02 22.9 -2.5**
WHN pmax pmax
comp=Z,50nm,0.7s
WHN pmax pmax
comp=Z,850nm,7.0s
WHN LR LR
comp=Z,6µm,13.1s
WHN LR LR
comp=Z,7µm,15.9s
WHN LR LR
comp=Z,12µm,23.7s
GUMO **Guam** **22.98 170** P **P** **11 58 17.0 -0.3**
comp=Z,74nm,1.0s,baz=6.1,slow=19,SNR=1.8
GUMO S **S** **12 02 24.7 -0.8**
comp=Z,59nm,1.0s,baz=233,slow=17,SNR=1.8
comp=Z,74nm,1.0s
LYN **LuoYang** **23.31 274**⇑ *i*P **P** **11 58 17.1 -3.4**
LYN pP sP 11 58 32.4 -1.0
LYN S **S** **12 02 20.4 -10**
LYN sS sS 12 02 46.9 +0.2
LYN pmax pmax
comp=Z,20nm,0.9s
LYN pmax pmax
comp=Z,390nm,7.4s
LYN LR LR
comp=Z,2µm,20.1s
LYN LR LR
comp=Z,5µm,17.6s
LYN LR LR
comp=Z,6µm,16.9s
HHC **Hu-ho-hao-te** **23.39 290** *e*P **P** **11 58 23.1 +1.6**
HHC pP pP 11 58 32.3 +1.7
HHC S **S** **12 02 37.6 +5.3**
HHC pmax pmax
comp=Z,43nm,1.0s
HHC pmax pmax
comp=Z,470nm,5.4s
HHC LR LR
comp=Z,2µm,15.1s
HHC LR LR
comp=Z,7µm,18.6s
HHC LR LR
comp=Z,10µm,17.4s
MA2 **Magadan** **24.03 12** P **P** **11 58 27.4 +0.2**
comp=Z,38nm,0.7s,baz=194,slow=9.1,SNR=14
MA2 S **S** **12 02 36.4 -5.6**
comp=Z,3.4nm,0.5s,baz=185,slow=18,SNR=1.3
MA2 LR LR 12 08 03.8
comp=Z,982nm,21.9s,baz=184,slow=37
comp=Z,38nm,0.7s
MA2 **Magadan** **24.03 12** P **P** **11 58 26.7 -0.5**
MA2 IAmb IAmb 11 58 30.8
comp=Z,49nm,0.8s
MA2 **Magadan** **24.03 12***de*P **P** **11 58 29.6 +2.4**
MA2 pmax pmax
comp=Z,45nm,1.0s
MA2 **Magadan** **24.03 12** P **P** **11 58 28.5 +1.3**
BTO **Baotou** **24.56 289** *e*P **P** **11 58 30.5 -1.9**
BTO S **S** **12 02 53.0 +1.9**
BTO LR LR
comp=Z,5µm,15.3s
BTO LR LR
comp=Z,12µm,16.7s
CNSH **ChangSha** **25.07 259**⇑ P **P** **11 58 35.6 -1.3**
CNSH S **S** **12 02 54.4 -4.8**
CNSH pmax pmax
comp=Z,630nm,4.9s
CNSH LR LR
comp=Z,3µm,18.7s
CNSH LR LR
comp=Z,2µm,17.9s
CNSH LR LR
comp=Z,3µm,20.9s
XAN **Xi'an** **26.28 274**⇑ P **P** **11 58 47.4 -0.6**
XAN pP pP 11 58 55.1 -2.3
XAN sP sP 11 58 58.0 -3.2
XAN pmax pmax
XAN comp=Z,26nm,0.7s pmax pmax
XAN comp=Z,670nm,6.2s LR LR
XAN comp=Z,1µm,16.1s LR LR
XAN comp=Z,3µm,17.2s LR LR
XAN comp=Z,4µm,16.8s LR LR
YAK **Yakutsk** **26.62 348** P **P** **11 58 50.5 -0.1**
comp=Z,63nm,0.7s,baz=163,slow=2.6,SNR=21
YAK S **S** **12 03 18.8 -4.2**
comp=Z,5.9nm,0.3s,baz=34,slow=2.0,SNR=1.1
YAK LR LR 12 09 44.1
comp=Z,3µm,19.3s,baz=162,slow=37
comp=Z,63nm,0.7s
YAK **Yakutsk** **26.62 348** P **P** **11 58 50.2 -0.4**
YAK IAMs_20 IAMs_20 12 09 23.4
comp=Z,4µm,20.0s
YAK **Yakutsk** **26.62 348** *e*P **P** **11 58 50.0 -0.6**
YAK *e**PP **pP** **11 58 56.3 -3.7**
YAK *e*PPP PPP 11 59 38.2
YAK *e*S **S** **12 03 20.7 -2.3**
YAK *e*SSS SSS 12 04 49.6
YAK pmax pmax
comp=Z,172nm,0.9s
YAK pmax pmax
comp=N,65nm,1.2s
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=Z,117nm,1.0s
YAK pmax pmax
comp=N,158nm,1.5s
YAK pmax pmax
comp=E,21nm,1.0s
YAK smax smax
comp=E,200nm,3.0s
YAK smax smax
comp=N,845nm,4.4s
YAK MLR MLR
comp=Z,3µm,19.0s
YAK MLR MLR
comp=E,622nm,22.0s
YAK MLR MLR
comp=N,2µm,17.0s
ENH **Enshi** **26.98 266** P **P** **11 58 52.4 -1.9**
ENH IAmb IAmb 11 59 14.9
comp=Z,78nm,0.8s
ENH IAMs_20 IAMs_20 12 10 13.6
comp=Z,3µm,20.0s
ULN **Ulaanbaatar** **27.46 305** IAMs_20 IAMs_20 12 09 52.0
comp=Z,4µm,20.0s
ULN **Ulaanbaatar** **27.46 305***ce*P **P** **11 58 58.3 -0.3**
ULN pmax pmax
comp=Z,24nm,0.8s
SEY **Seymchan** **27.46 11** P **P** **11 58 58.9 +0.7**
comp=Z,14nm,0.7s,baz=199,slow=5.3,SNR=13
SEY S **S** **12 03 41.4 +5.0**
comp=Z,1.1nm,0.8s,baz=336,slow=22,SNR=0.8
SEY LR LR 12 11 37.6
comp=Z,2µm,18.6s,baz=187,slow=40
comp=Z,14nm,0.7s
SEY **Seymchan** **27.46 11**⇓ *e*P **P** **11 59 00.6 +2.4**
SEY pmax pmax
comp=Z,57nm,1.3s
SONM **Songino Array** **27.89 305** P **P** **11 59 02.0 -0.4**
comp=Z,27nm,0.9s,baz=107,slow=8.8,SNR=89
SONM PcP **PcP** **12 02 18.7 +1.3**
comp=Z,2.8nm,0.7s,baz=125,slow=4.9,SNR=3.2
SONM S **S** **12 03 40.0 -3.8**
comp=Z,0.6nm,0.5s,baz=168,slow=41,SNR=1.0
SONM LR LR 12 10 28.3
comp=Z,4µm,20.3s,baz=92,slow=37
comp=Z,27nm,0.9s
SONM **Songino Array** **27.89 305** P **P** **11 59 01.6 -0.8**
BOD **Bodaibo** **27.90 329** *e*P **P** **11 59 01.8 -0.4**
BOD pmax pmax
comp=Z,38nm,0.8s
H11N2 **WAKE ISLAND Hy** **28.10 119** T T 12 28 16.5
baz=312,slow=75,SNR=239
H11N1 **WAKE ISLAND Hy** **28.10 119** T T 12 28 26.2
baz=312,slow=75,SNR=274
H11N3 **WAKE ISLAND Hy** **28.11 119** T T 12 28 23.3
baz=312,slow=75,SNR=264
WAKE **Wake Island** **28.22 120** IAMs_20 IAMs_20 12 07 47.1
comp=Z,4µm,22.0s
SHEM **Shemya Is, Ala** **28.33 44** LR LR 12 07 48.8
comp=Z,1µm,21.3s,baz=258,slow=31
GULI **GuiLin** **28.45 256**⇑ P **P** **11 59 06.7 -0.8**
GULI sP **sP** **11 59 19.7 -1.1**
GULI PP **PnPn** **12 00 03.6 +6.2**
GULI S **S** **12 03 49.5 -3.2**
GULI LR LR
comp=Z,2µm,20.6s
GULI LR LR
comp=Z,710nm,21.2s
GULI LR LR
comp=Z,2µm,21.4s
H11S1 **WAKE ISLAND Hy** **28.78 121** T T 12 29 24.3
baz=314,slow=75,SNR=730
H11S3 **WAKE ISLAND Hy** **28.78 121** T T 12 29 15.3
baz=314,slow=75,SNR=488
H11S2 **WAKE ISLAND Hy** **28.80 121** T T 12 29 19.1
baz=314,slow=75,SNR=607
LZH **Lanzhou** **29.88 281** *e*P **P** **11 59 21.5 +1.3**
LZH pP pP 11 59 31.5 +1.7
LZH PP **PnPn** **12 00 21.1 +4.2**
LZH S **S** **12 04 09.6 -5.7**
LZH sS sS 12 04 31.5 +0.2
LZH pmax pmax
comp=Z,33nm,1.0s
LZH pmax pmax
comp=Z,370nm,5.7s
LZH LR LR
comp=Z,2µm,15.1s
LZH LR LR
comp=Z,7µm,16.0s
LZH LR LR
comp=Z,9µm,17.0s
IRK **Irkutsk** **30.30 313** *e*P **P** **11 59 23.2 -0.4**
IRK pmax pmax
comp=Z,55nm,3.2s
ZAK **Zakamensk** **30.43 309** *e*P **P** **11 59 24.7 -0.1**
ZAK pmax pmax
comp=Z,10.0nm,0.9s
ZAK pmax pmax
comp=Z,7.0nm,1.0s
GYA **Guiyang** **30.82 261**⇑ *i*P **P** **11 59 27.5 -1.1**
GYA pP pP 11 59 35.9 -2.2
GYA S **S** **12 04 25.3 -4.8**
GYA sS pS 12 04 42.3 +1.4
GYA pmax pmax
comp=Z,18nm,1.0s
GYA pmax pmax
comp=Z,300nm,3.6s
GYA LR LR
comp=Z,2µm,20.6s
GYA LR LR
comp=Z,2µm,20.9s
GYA LR LR
comp=Z,4µm,22.5s
CD2 **Chengdu** **31.38 271** P **P** **11 59 33.7 +0.4**
CD2 pP pP 11 59 42.0 -0.9
CD2 sP sP 11 59 49.4 +2.8
CD2 S **S** **12 04 35.6 -3.0**
CD2 sS sS 12 04 57.0 +2.4
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,330nm,9.0s
CD2 LR LR
comp=Z,3µm,16.8s
CD2 LR LR
comp=Z,4µm,18.6s
CD2 LR LR
comp=Z,5µm,19.8s
MOY **Mondy** **32.12 311** *e*P **P** **11 59 39.7 0.0**
MOY pmax pmax
comp=Z,26nm,2.2s
QIZ **Qiongzhong** **32.40 246** IAMs_20 IAMs_20 12 12 34.1
comp=Z,2µm,20.0s
QIZ **Qiongzhong** **32.40 246** P **P** **11 59 43.6 +1.3**
QIZ pmax pmax
comp=Z,6.0nm,1.0s
QIZ LR LR
comp=Z,2µm,19.8s
QIZ LR LR
comp=Z,1µm,18.0s
QIZ LR LR
comp=Z,2µm,20.4s
DAV **Davao City (W)** **32.44 210** LR LR 12 12 47.8
comp=Z,2µm,20.6s,baz=57,slow=36
DAV **Davao City (W)** **32.44 210** IAMs_20 IAMs_20 12 12 26.5
comp=Z,2µm,20.0s
GTA **Gaotai** **32.46 288**⇑ P **P** **11 59 42.0 -0.9**
GTA pP pP 11 59 50.9 -1.6
GTA sP sP 11 59 54.9 -1.3
GTA PP **PnPn** **12 00 53.3 +2.8**
GTA S **S** **12 04 51.5 -4.1**
GTA SS **SnSn** **12 06 56.2 +6.1**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA pmax pmax
comp=Z,280nm,6.9s
GTA LR LR
comp=Z,2µm,17.8s
GTA LR LR
comp=Z,3µm,19.3s
GTA LR LR
comp=Z,3µm,18.9s
ADK **Adak** **33.52 49** IAMs_20 IAMs_20 12 10 52.3
comp=Z,2µm,21.0s
KMI **Kunming** **34.57 262**⇑ P **P** **12 00 00.7 -0.8**
KMI pP pP 12 00 08.3 -2.8
KMI PP **PP** **12 01 21.8 +1.7**
KMI S **S** **12 05 24.5 -4.2**
KMI SS **SnSn** **12 07 42.8 +1.1**
KMI pmax pmax
comp=Z,24nm,1.4s
KMI pmax pmax
comp=Z,240nm,4.2s
KMI LR LR
comp=Z,2µm,16.3s
KMI LR LR
comp=Z,3µm,16.3s
KMI LR LR
comp=Z,3µm,16.1s
BILL **Bilibino** **34.71 16** P **P** **12 00 03.0 +1.0**
BILL IAmb IAmb 12 00 52.2
comp=Z,22nm,1.0s
BILL **Bilibino** **34.71 16***ce*P **P** **12 00 02.8 +0.8**
BILL *e* 12 01 22.5
BILL *e*S **S** **12 05 30.1 +0.6**
BILL pmax pmax
comp=Z,5.0nm,0.4s
BILL MLR MLR
comp=Z,897nm,18.0s
PZH **PanZhiHua** **34.74 265** P **P** **12 00 01.8 -1.0**
PZH pP **pP** **12 00 13.5 +1.0**
PZH PP **PP** **12 01 22.8 +0.9**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,250nm,5.7s
PZH LR LR
comp=Z,2µm,18.6s
PZH LR LR
comp=Z,3µm,17.3s
PZH LR LR

comp=Z,2µm,18.3s
MIDW Midway 35.87 91 IAMs_20 IAMs_20 12 11 29.3
comp=Z,2µm,21.0s
TIXI Tiksi 35.88 353 LR LR 12 16 00.9
comp=Z,2µm,19.1s,baz=180,slow=38
TIXI Tiksi 35.88 353 P **P** **12 00 11.0 -0.9**
TIXI IAMs_20 IAMs_20 12 15 40.6
comp=Z,2µm,20.0s
TIXI Tiksi 35.88 353 *ce*P **P** **12 00 11.9 0.0**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 35.88 353 P **P** **12 00 12.2 +0.3**
GOMU GeErMu 36.97 284 P **P** **12 00 22.3 +0.1**
GOMU pP pP 12 00 28.2 -3.7
GOMU sP sP 12 00 30.6 -4.9
GOMU S **S** **12 06 02.4 -3.2**
GOMU pmax pmax
comp=Z,13nm,0.8s
GOMU pmax pmax
comp=Z,250nm,5.5s
GOMU LR LR
comp=Z,1µm,17.2s
GOMU LR LR
comp=Z,2µm,19.5s
GOMU LR LR
comp=Z,2µm,19.4s
MYLDM Lahad Datu 37.33 219 IAMs_20 IAMs_20 12 15 21.5
comp=Z,2µm,20.0s
UBPT Khong Chiam 37.99 246 P **P** **12 00 29.6 -1.0**
SWI Sorong 38.18 196 P **P** **12 00 32.3 +0.3**
comp=Z,39nm,0.9s
SIJI Sorong 38.18 196 LR LR 12 13 35.7
comp=Z,856nm,22.0s,baz=19,slow=32
SPIA Saint Paul Isl 38.23 41 P **P** **12 00 33.2 +1.1**
baz=258
RKPI Ransiki, Papua 38.26 191 P **P** **12 00 33.3 +0.6**
comp=Z,3µmcomp=Z,26nm,0.7s
NIKH Nikolski High 38.42 48 P **P** **12 00 34.6 +0.9**
baz=265
CRAI Chiangrai 38.94 257 P **P** **12 00 38.3 -0.2**
GTOI Gorontalo 39.32 209 P **P** **12 00 40.9 -0.7**
comp=Z,252nmcomp=Z,28nm,1.0s
UNV Unalaska Valle 39.89 47 P **P** **12 00 46.9 +0.9**
baz=266
MRSI Marisa 39.90 211 P **P** **12 00 46.4 0.0**
comp=Z,803nmcomp=Z,73nm,1.1s
FAKI Fak Fak 39.97 194 P **P** **12 00 46.1 -0.9**
FAKI IAMs_20 IAMs_20 12 16 00.7
comp=Z,2µm,21.0s
FAKI Fak Fak 39.97 194 P **P** **12 00 47.0 0.0**
comp=Z,1µmcomp=Z,62nm,0.8s
FAKI Fak Fak 39.97 194 P **P** **12 00 47.3 +0.3**
PHRA Phrae 40.02 255 P **P** **12 00 45.8 -1.7**
DGZ Jazzator, Alta 40.52 306 *c i*P **P** **12 00 52.8 +1.3**
DGZ pmax pmax
comp=Z,123nm,0.8s
SANI Sanana 40.75 203 P **P** **12 00 52.6 -0.9**
comp=Z,1µmcomp=Z,82nm,0.6s
SANI Sanana 40.75 203 P **P** **12 00 52.7 -0.8**
CHTO Chiang Mai 40.85 256 P **P** **12 00 53.0 -1.3**
CHTO Chiang Mai 40.85 256 IAMs_20 IAMs_20 12 19 55.0
comp=Z,2µm,20.0s
CHTO Chiang Mai 40.85 256 P **P** **12 00 53.0 -1.3**
CHTO pmax pmax
comp=Z,2.0nm,1.9s
CHTO MLR MLR
comp=Z,2µm,20.0s
WMQ Urumqi 40.86 297 ⇓P **P** **12 00 56.7 +2.5**
WMQ pP pP 12 01 02.9 -1.1
WMQ PcP **PcP** **12 02 51.8 -2.8**
WMQ S **S** **12 07 05.8 +2.5**
WMQ pmax pmax
comp=Z,97nm,0.9s
WMQ pmax pmax
comp=Z,710nm,4.3s
WMQ LR LR
comp=Z,2µm,21.1s
WMQ LR LR
comp=Z,3µm,18.5s
WMQ LR LR
comp=Z,2µm,19.7s
WMQ Urumqi 40.86 297 P **P** **12 00 54.4 +0.2**
MPSI Mapaga 40.90 213 P **P** **12 00 54.5 -0.2**
comp=Z,12nm,0.8s
LUWI Luwuk 40.95 209 P **P** **12 00 53.3 -1.8**
LUWI Luwuk 40.95 209 P **P** **12 00 53.3 -1.8**
comp=Z,8µmcomp=Z,84nm,0.6s
CM31 Chiang Mai Arr 41.05 256 P **P** **12 00 54.6 -1.3**
CMAR Chiang Mai Arr 41.05 256 P **P** **12 00 55.8 -0.2**
comp=Z,4.2nm,0.7s,baz=43,slow=7.1,SNR=24
CMAR LR LR 12 19 50.9
comp=Z,2µm,18.7s,baz=65,slow=39
comp=Z,4.2nm,0.7s
CMAR Chiang Mai Arr 41.05 256 P **P** **12 00 54.5 -1.5**
CMAR Chiang Mai Arr 41.05 256 *ce*P **P** **12 00 57.0 +1.0**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
APSI Ampana 41.27 210 P **P** **12 00 56.8 -1.0**
comp=Z,563nmcomp=Z,48nm,1.2s
NLAI Namlea 41.53 201 P **P** **12 01 00.0 +0.1**
comp=Z,4µmcomp=Z,36nm,1.1s
TNA Tin City 41.55 29 P **P** **12 01 01.4 +1.9**
baz=251
AAI Ambon 41.65 199 P **P** **12 01 02.1 +1.2**
comp=Z,4µmcomp=Z,275nm,1.5s
KRVT Keravat (AS076 41.78 163 LR LR 12 17 25.3
comp=Z,456nm,20.7s,baz=126,slow=35
LSA Lhasa 41.97 276 P **P** **12 01 03.7 -0.3**
LSA IAMs_20 IAMs_20 12 19 54.0
comp=Z,2µm,18.0s
LSA Lhasa 41.97 276 P **P** **12 01 04.7 +0.7**
LSA pmax pmax
comp=Z,11nm,0.9s
LSA Lhasa 41.97 276 P **P** **12 01 03.7 -0.3**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA MLR MLR
comp=Z,2µm,18.0s
LSA Lhasa 41.97 276 *i*P **P** **12 01 05.4 +1.4**
SNR=9.4
LSA Lhasa 41.97 276 P **P** **12 01 04.7 +0.7**
ZAA0 Zalesovo Array 42.12 313 P **P** **12 01 04.4 +0.1**
ZAA0 IAmb IAmb 12 01 06.4
comp=Z,53nm,0.8s
ZALV Zalesovo Beam 42.12 313 P **P** **12 01 04.2 -0.1**
comp=Z,63nm,0.8s,baz=93,slow=7.2,SNR=115
ZALV PcP **PcP** **12 02 58.3 -0.1**
comp=Z,3.0nm,0.5s,baz=99,slow=3.5,SNR=1.4
ZALV LR LR 12 19 27.3
comp=Z,2µm,18.3s,baz=80,slow=37
comp=Z,63nm,0.8s
ZALV Zalesovo Beam 42.12 313 P **P** **12 01 04.1 -0.3**
ANM Nome 42.29 31 P **P** **12 01 06.6 +1.0**
baz=255
ZSN Zaisan 42.37 303 *c i*P **P** **12 01 07.4 +0.9**
ZSN *e*S **S** **12 07 26.2 +0.7**
ZSN pmax pmax
comp=Z,45nm,1.0s
ZSN Zaisan 42.37 303 ⇑ *i*P **P** **12 01 07.5 +0.9**
comp=Z,45nm,1.0s,baz=303
ZSN *e*S **S** **12 07 26.2 +0.7**
baz=303
SBUM Sibu 43.01 225 IAMs_20 IAMs_20 12 22 18.0
comp=Z,893nm,18.0s
SHL Shillong 43.10 270 P **P** **12 01 12.3 -0.5**
SHL IAmb IAmb 12 02 11.8
comp=Z,34nm,0.9s
SHL Shillong 43.10 270 P **P** **12 01 12.4 -0.5**
SHL pmax pmax
comp=Z,34nm,0.9s
SDPT Sand Point 43.46 45 P **P** **12 01 15.2 +0.1**
baz=269
BKB Balikpapan 43.69 216 IAMs_20 IAMs_20 12 19 57.2
comp=Z,1µm,19.0s
NRIK Noril'sk 43.71 336 P **P** **12 01 18.0 +1.0**
comp=Z,4.6nm,0.5s,baz=130,slow=4.8,SNR=6.0
NRIK PcP **PcP** **12 03 03.5 0.0**
comp=Z,11nm,0.7s,baz=95,slow=5.3,SNR=3.5
NRIK LR LR 12 21 10.1
comp=Z,2µm,18.8s,baz=110,slow=38
comp=Z,4.6nm,0.5s
NRIK Noril'sk 43.71 336 P **P** **12 01 16.7 -0.3**
NRIK Noril'sk 43.71 336 ⇓ *eP* **P** **12 01 17.1 +0.1**
NRIK pmax pmax
comp=Z,23nm,1.5s
CHNA Chernabura Isl 43.97 46 P **P** **12 01 19.3 +0.1**
baz=270
CNBA Chernabura Isl 43.97 46 IAMs_20 IAMs_20 12 17 42.5
comp=Z,1µm,21.0s
S14K Fog Glacier 43.99 44 P **P** **12 01 19.4 -0.2**
baz=269
MK31 Makanchi Array 44.20 303 P **P** **12 01 21.4 +0.1**
MK31 Makanchi Array 44.20 303 *c i*P **P** **12 01 21.5 +0.2**
MKAR Makanchi Array 44.20 303 P **P** **12 01 21.6 +0.3**
comp=Z,17nm,0.8s,baz=83,slow=9.9,SNR=48
MKAR LR LR 12 20 34.2
comp=Z,3µm,19.4s,baz=85,slow=37
comp=Z,17nm,0.8s
MAKZ Makanchi 44.41 303 P **P** **12 01 23.3 +0.3**
MAKZ IAmb IAmb 12 01 54.5
comp=Z,98nm,1.6s
MAKZ Makanchi 44.41 303 P **P** **12 01 23.3 +0.3**
MAKZ pmax pmax
comp=Z,98nm,1.7s
MAKZ MLR MLR
comp=Z,3µm,19.0s
MAKZ Makanchi 44.41 303 P **P** **12 01 22.5 -0.5**
N16K Nishlik Lake 44.60 38 P **P** **12 01 26.3 +1.9**
baz=265,SNR=9.5
BRDH Bariadhala 44.65 266 LR LR 12 22 57.9
comp=Z,3µm,19.4s,baz=62,slow=40
SPSI Sidrap Palu 44.81 211 P **P** **12 01 27.0 +0.6**
comp=Z,2µmcomp=Z,29nm,1.0s
O16K Kokwok River B 44.88 39 P **P** **12 01 28.8 +2.2**
baz=267,SNR=6.9
P16K Nushagak River 44.91 40 P **P** **12 01 28.6 +1.8**
baz=268
STKI Sintang 45.38 224 P **P** **12 01 31.9 +0.9**
O17K Koliganek Bris 45.40 39 P **P** **12 01 32.9 +2.3**
baz=268
Q16K King Salmon 45.59 40 P **P** **12 01 33.1 +0.9**
baz=269
TARA Tarawa 45.68 132 P **P** **12 01 31.5 -1.8**
TARA Tarawa 45.68 132 IAMs_20 IAMs_20 12 16 16.0
comp=Z,2µm,22.0s
P17K Kwichak River 45.72 40 P **P** **12 01 34.8 +1.7**
baz=269
R17K Ugashik Creek 45.73 42 P **P** **12 01 33.4 +0.1**
baz=270
KAPI Kappang 45.77 210 P **P** **12 01 32.9 -1.1**
KAPI Kappang 45.77 210 *c i*P **P** **12 01 33.8 -0.2**
KAPI pmax pmax
comp=Z,45nm,1.2s
BKSI Bulukumba 45.90 210 P **P** **12 01 34.7 -0.3**
comp=Z,636nmcomp=Z,36nm,0.9s
GCSA Galena City Sc 45.91 32 P **P** **12 01 35.2 +0.6**
baz=263
PMG Port Moresby 45.93 172 LR LR 12 19 29.1
comp=Z,452nm,20.6s,baz=356,slow=34
PMG Port Moresby 45.93 172 P **P** **12 01 34.5 -0.7**
PMG IAmb IAmb 12 01 51.7
comp=Z,50nm,1.1s
PMG Port Moresby 45.93 172 P **P** **12 01 34.5 -0.7**
PMG pmax pmax
comp=Z,50nm,1.1s
N18K Kilae Creek 46.04 38 P **P** **12 01 34.9 -0.8**
N18K Kilae Creek 46.04 38 P **P** **12 01 37.0 +1.3**
baz=268,SNR=13
KURK Kurchatov 46.08 309 P **P** **12 01 36.2 0.0**
KURK Kurchatov 46.08 309 *c i*P **P** **12 01 35.9 -0.3**
KURK pmax pmax
comp=Z,132nm,0.8s
KURK Kurchatov 46.08 309 P **P** **12 01 35.9 -0.3**
TTA Tatalina 46.11 34 P **P** **12 01 36.6 +0.3**
TTA Tatalina 46.11 34 P **P** **12 01 36.6 +0.3**
TTA pmax pmax
comp=Z,11nm,1.1s
TTA Tatalina 46.11 34 P **P** **12 01 37.8 +1.5**
baz=266
KURBB Kurchatov Arra 46.15 308 P **P** **12 01 36.7 0.0**
comp=Z,65nm,0.5s,baz=85,slow=7.9,SNR=180
KURBB LR LR 12 22 39.9
comp=Z,2µm,18.7s,baz=58,slow=38
comp=Z,65nm,0.5s
KURBB Kurchatov Arra 46.15 308 P **P** **12 01 36.2 -0.5**
SVW2 Sparrevohn 46.20 37 P **P** **12 01 38.6 +1.6**
SVW2 IAmb IAmb 12 01 53.5
comp=Z,23nm,1.0s
P18K Big Mountain, 46.34 39 P **P** **12 01 38.5 +0.4**
P18K IAmb IAmb 12 01 55.9
comp=Z,80nm,1.6s
P18K Big Mountain, 46.34 39 P **P** **12 01 39.6 +1.4**
baz=270
O18K Koktuh Hills 46.35 39 P **P** **12 01 36.9 -1.3**
O18K Koktuh Hills 46.35 39 P **P** **12 01 39.6 +1.4**
baz=269
L19K White Mountain 46.60 36 P **P** **12 01 39.5 -0.6**
L19K IAmb IAmb 12 01 44.2
comp=Z,47nm,1.6s
L19K White Mountain 46.60 36 P **P** **12 01 41.5 +1.4**
baz=267,SNR=12
SRIT Nakonsritamara 46.70 244 P **P** **12 01 40.3 -1.1**
N19K Bonanza Creek 46.73 37 P **P** **12 01 40.5 -0.7**
N19K IAmb IAmb 12 02 20.9
comp=Z,29nm,1.4s
N19K Bonanza Creek 46.73 37 P **P** **12 01 42.9 +1.7**
baz=269
PDGK Podgornoye 46.80 298 P **P** **12 01 41.6 -0.5**
M19K Big River Lodg 46.80 36 P **P** **12 01 40.6 -1.1**
M19K IAmb IAmb 12 01 59.0
comp=Z,29nm,1.5s
M19K Big River Lodg 46.80 36 P **P** **12 01 43.6 +1.9**
baz=268
SHLS Shalkode 46.86 298 *eP* **P** **12 01 40.4 -2.1**
SHLS *e*S **S** **12 08 26.5 -4.5**
SHLS pmax pmax
comp=Z,13nm,0.7s
SHLS Shalkode 46.86 298 *eP* **P** **12 01 40.4 -2.1**
comp=Z,14nm,0.7s,baz=298
SHLS *e*S **S** **12 08 26.5 -4.5**
baz=298
SII Sitkinak Islan 46.97 43 IAMs_20 IAMs_20 12 18 42.9
comp=Z,2µm,22.0s
SII Sitkinak Islan 46.97 43 P **P** **12 01 43.9 +0.9**
baz=273
K20K Telida 47.02 34 P **P** **12 01 42.4 -1.0**
K20K IAmb IAmb 12 01 47.3
comp=Z,22nm,0.7s
K20K Telida 47.02 34 P **P** **12 01 45.4 +2.0**
baz=267,SNR=23
J20K Nowinta River 47.03 33 P **P** **12 01 44.6 +1.2**
J20K Nowinta River 47.03 33 P **P** **12 01 44.9 +1.5**
baz=266,SNR=13
L20K Farewell, AK 47.06 35 P **P** **12 01 45.4 +1.7**
baz=268,SNR=9.1
A21K Barrow 47.15 23 P **P** **12 01 44.8 +0.6**
baz=257
Q19K Cape Douglas, 47.16 40 P **P** **12 01 45.3 +0.8**
baz=271
UZB Uzynbulak 47.18 298 *eP* **P** **12 01 45.5 +0.5**
UZB *e*S **S** **12 08 35.4 -0.2**
UZB Uzynbulak 47.18 298 *eP* **P** **12 01 45.6 +0.5**
baz=298
UZB *e*S **S** **12 08 35.5 -0.2**
baz=298
TDK Taldyqorghan 47.19 301 *eP* **P** **12 01 45.4 +0.5**
TDK pmax pmax
comp=Z,30nm,0.7s
TDK Taldyqorghan 47.19 301 *eP* **P** **12 01 45.4 +0.5**
comp=Z,30nm,0.7s,baz=301
KPKS Kokpek 47.34 299 *eP* **P** **12 01 46.8 +0.6**
KPKS *e*S **S** **12 08 37.8 0.0**
KPKS Kokpek 47.34 299 *eP* **P** **12 01 46.8 +0.6**
baz=299
KPKS *e*S **S** **12 08 37.9 0.0**
baz=299
IMAR Indian Mountai 47.34 30 P **P** **12 01 46.4 +0.6**
P19K Oil Pt 47.36 39 P **P** **12 01 46.7 +0.7**
baz=271
M20K Styx River 47.40 36 P **P** **12 01 48.0 +1.6**
M20K IAmb IAmb 12 01 51.0
comp=Z,53nm,1.8s
M20K Styx River 47.40 36 P **P** **12 01 49.0 +2.6**
baz=269,SNR=6.8
OHAK Old Harbor 47.42 42 P **P** **12 01 47.9 +1.4**
baz=273
G21K Allakaket 47.49 30 P **P** **12 01 48.8 +1.8**
baz=264
F21K Alatna River 47.57 29 P **P** **12 01 48.5 +0.9**
baz=264,SNR=7.2
RSO Redoubt South 47.58 38 P **P** **12 01 47.1 -0.8**
ZHN Zhinishke 47.59 298 *eP* **P** **12 01 47.5 -0.7**
ZHN Zhinishke 47.59 298 *eP* **P** **12 01 47.6 -0.7**
baz=298
SATY Saty 47.64 298 *i*P **P** **12 01 49.2 +0.6**
SATY *e*S **S** **12 08 42.0 0.0**
SATY pmax pmax
comp=Z,28nm,1.7s
SATY Saty 47.64 298 *i*P **P** **12 01 49.3 +0.6**
comp=Z,28nm,1.7s,baz=298
SATY *e*S **S** **12 08 42.1 0.0**
baz=298
O20K Slope Mountain 47.65 38 P **P** **12 01 49.5 +1.1**
baz=271
H21K Melozitna Rive 47.71 31 P **P** **12 01 47.0 -1.7**
H21K Melozitna Rive 47.71 31 P **P** **12 01 50.5 +1.8**
baz=266,SNR=13
KDAK Kodiak Island 47.77 42 LR LR 12 21 35.8
comp=Z,1µm,21.9s,baz=263,slow=36
KDAK Kodiak Island 47.77 42 P **P** **12 01 47.9 -1.3**
KDAK Kodiak Island 47.77 42 IAMs_20 IAMs_20 12 21 13.1
comp=Z,1µm,20.0s
KDAK Kodiak Island 47.77 42 *de*P **P** **12 01 50.0 +0.8**
KDAK pmax pmax
comp=Z,29nm,0.9s
KDAK Kodiak Island 47.77 42 P **P** **12 01 50.5 +1.3**
baz=273
Q20K Shuyak Island 47.82 40 P **P** **12 01 50.9 +1.3**
baz=273
SPCR Spurr Chakacha 47.84 37 P **P** **12 01 51.5 +1.7**
baz=270
N20K Mount Spurr 47.84 37 P **P** **12 01 51.1 +1.3**
baz=270,SNR=6.1
SPU Mount Spurr 47.92 37 P **P** **12 01 51.6 +1.2**
I21K Tanana 48.02 32 P **P** **12 01 50.4 -0.7**
I21K IAmb IAmb 12 02 15.4
comp=Z,25nm,1.1s
I21K Tanana 48.02 32 P **P** **12 01 53.6 +2.5**
baz=267,SNR=7.0
F22K John River 48.10 28 P **P** **12 01 54.0 +2.3**
baz=265,SNR=13
SKT Skwentna 48.16 36 P **P** **12 01 51.6 -0.6**
SKT Skwentna 48.16 36 P **P** **12 01 53.3 +1.1**
baz=270
HOM Homer 48.16 39 P **P** **12 01 53.6 +1.4**
baz=272
MMRI Maumere 48.16 205 P **P** **12 01 52.8 +0.1**
comp=Z,2µmcomp=Z,71nm,2.3s
KULM Kulim 48.24 240 P **P** **12 01 53.8 +0.4**
KULM IAmb IAmb 12 01 55.5
comp=Z,21nm,1.0s
KULM IAMs_20 IAMs_20 12 22 54.9
comp=Z,1µm,20.0s
H22K Ishtalitna Cre 48.31 31 P **P** **12 01 55.6 +2.3**
baz=267,SNR=12
G22K Bettles 48.32 29 P **P** **12 01 54.6 +1.2**
baz=266
CAPN Captain Cook N 48.36 37 P **P** **12 01 55.1 +1.3**
baz=272
TARG Taragay, Kyrgy 48.41 297 P **P** **12 01 55.5 +0.6**
TARG Taragay, Kyrgy 48.41 297 P **P** **12 01 55.5 +0.6**
TARG pmax pmax
comp=Z,68nm,0.8s
BPAW Bear Paw Mtn. 48.41 33 P **P** **12 01 54.5 +0.4**
BPAW IAmb IAmb 12 02 11.2
comp=Z,26nm,1.5s
BPAW Bear Paw Mtn. 48.41 33 P **P** **12 01 55.8 +1.6**
baz=269,SNR=9.3
CHKK Chushkaly 48.44 300 *eP* **P** **12 01 54.6 0.0**
CHKK Chushkaly 48.44 300 *eP* **P** **12 01 54.7 0.0**
baz=300
EDFI Ende, Flores 48.46 206 P **P** **12 01 54.3 -0.8**
comp=Z,613nmcomp=Z,30nm,1.3s
SUA Susitna One 48.54 37 P **P** **12 01 55.7 +0.5**
SUA IAmb IAmb 12 02 36.8
comp=Z,20nm,1.1s
SUA Susitna One 48.54 37 P **P** **12 01 56.8 +1.6**
baz=272
BRLK Bradley Lake 48.54 39 P **P** **12 01 56.7 +1.5**
BRLK IAmb IAmb 12 02 52.7
comp=Z,20nm,1.0s
MLY Manley 48.54 32 P **P** **12 01 56.9 +1.7**
MLY Manley 48.54 32 P **P** **12 01 57.3 +2.1**
baz=268,SNR=22
IPM Ipoh 48.56 239 P **P** **12 01 55.4 -0.4**
IPM IAmb IAmb 12 01 57.2
comp=Z,38nm,0.9s
IPM IAMs_20 IAMs_20 12 24 40.3
comp=Z,1µm,19.0s
MDOK Medeo 48.57 299 *i*P **P** **12 01 56.8 +1.0**
MDOK *e*S **S** **12 08 55.6 +0.2**
MDOK Medeo 48.57 299 *i*P **P** **12 01 56.9 +1.0**
baz=299
MDOK *e*S **S** **12 08 55.6 +0.2**
baz=299
BRSE Bradley Lake S 48.62 39 P **P** **12 01 57.7 +2.0**
baz=273
MYKOM Kota Tinggi 48.65 234 IAMs_20 IAMs_20 12 22 18.6
comp=Z,930nm,22.0s
TRF Thorofare Moun 48.72 34 P **P** **12 01 56.2 -0.5**
TRF Thorofare Moun 48.72 34 P **P** **12 01 58.1 +1.4**
baz=270
CUT Chulitna 48.74 35 P **P** **12 01 58.0 +1.4**
baz=271
D23K Nanushuk River 48.79 26 P **P** **12 01 58.8 +1.9**
baz=265
M22K Willow 48.83 36 P **P** **12 01 58.4 +1.1**
baz=272
COLD Coldfoot 48.85 29 P **P** **12 01 59.4 +2.0**
COLD Coldfoot 48.85 29 P **P** **12 01 59.5 +2.1**
baz=267,SNR=6.5
KUU Kurty 48.89 300 *c i*P **P** **12 01 58.1 0.0**
KUU pmax pmax
comp=Z,13nm,0.7s
KUU Kurty 48.89 300 ⇑ *i*P **P** **12 01 58.2 0.0**
comp=Z,12nm,0.7s,baz=300
G23K Bananza Creek 48.89 30 P **P** **12 01 59.6 +1.8**
baz=268
C23K Itkillik River 48.89 25 P **P** **12 01 59.4 +1.7**
baz=264,SNR=6.8
HNR Honiara 48.94 155 LR LR 12 20 54.1
comp=Z,10µm,21.8s,baz=320,slow=34
HNR Honiara 48.94 155 IAMs_20 IAMs_20 12 23 03.3
comp=Z,1µm,22.0s
RC01 Rabbit Creek A 49.04 37 P **P** **12 01 59.3 +0.3**
RC01 IAMs_20 IAMs_20 12 21 54.8
comp=Z,836nm,22.0s
RC01 Rabbit Creek A 49.04 37 P **P** **12 01 59.8 +0.8**
baz=273
H23K Yukon River 49.06 31 P **P** **12 01 58.2 -0.9**
H23K IAmb IAmb 12 02 21.8
comp=Z,29nm,1.1s
H23K Yukon River 49.06 31 P **P** **12 02 00.9 +1.8**
baz=269,SNR=23
O22K Cooper Landing 49.08 38 P **P** **12 02 00.1 +0.9**
baz=273
BWN Browne 49.08 33 P **P** **12 01 59.9 +0.6**
BATI Baumata 49.17 203 P **P** **12 02 00.5 +0.1**
comp=Z,901nmcomp=Z,62nm,0.7s
TOLK Toolik Lake Re 49.17 27 P **P** **12 01 59.8 -0.1**
TOLK IAmb IAmb 12 02 20.4
comp=Z,19nm,0.9s
TOLK Toolik Lake Re 49.17 27 P **P** **12 02 01.5 +1.6**
baz=266
SEW Seward 49.24 38 P **P** **12 02 01.6 +1.2**
baz=274
NEA2 Nenana 49.25 32 P **P** **12 02 00.6 +0.1**
NEA2 IAmb IAmb 12 02 04.4
comp=Z,58nm,1.4s
NEA2 Nenana 49.25 32 P **P** **12 02 02.1 +1.5**
baz=270,SNR=14
PMR Palmer 49.31 36 P **P** **12 02 00.6 -0.4**
PMR IAmb IAmb 12 02 03.6
comp=Z,43nm,1.4s
PMR Palmer 49.31 36 P **P** **12 02 00.6 -0.4**
PMR pmax pmax
comp=Z,43nm,1.4s
PMR Palmer 49.31 36 P **P** **12 02 01.4 +0.5**
baz=273,SNR=6.6
MCK McKinley 49.32 33 P **P** **12 02 01.1 0.0**
MCK McKinley 49.32 33 P **P** **12 02 01.1 0.0**
MCK pmax pmax
comp=Z,96nm,2.0s
MCK MLR MLR
comp=Z,700nm,21.0s
MCK McKinley 49.32 33 P **P** **12 02 02.1 +1.0**
baz=271,SNR=5.4
D24K Happy Valley 49.47 26 P **P** **12 02 03.1 +1.0**
baz=267
KDU Kakadu 49.49 191 P **P** **12 02 03.0 +0.2**

WAT1 **Susitna Watana** 49.52 35 P P 12 02 03.6 +0.9
baz=272
BOOM **Boomskoye usch** 49.54 298 IAmb IAmb 12 02 06.2
comp=Z,22nm,0.8s
E24K **Your Creek** 49.54 28 P P 12 02 04.7 +2.0
baz=268,SNR=9.8
C24K **Franklin Bluff** 49.55 26 P P 12 02 03.5 +0.8
baz=266
MDM **Murphy Dome** 49.61 32 IAmb IAmb 12 02 07.0
comp=Z,30nm,0.8s
KNK **Knik Glacier** 49.64 37 P P 12 02 03.0 -0.6
KNK **Knik Glacier** 49.64 37 P P 12 02 04.6 +1.0
baz=274,SNR=6.4
TKM2 **Tokmak 2** 49.66 299 P P 12 02 05.3 +1.0
SNR=45
TKM2 **Tokmak 2** 49.66 299 P P 12 02 05.1 +0.8
SML **Sawmill** 49.68 36 P P 12 02 03.8 -0.1
SML IAmb IAmb 12 02 22.8
comp=Z,35nm,0.9s
SML **Sawmill** 49.68 36 P P 12 02 04.5 +0.6
baz=273,SNR=7.2
WRH **Wood River Hil** 49.68 32 P P 12 02 04.8 +1.0
PWL **Port Wells** 49.74 37 P P 12 02 03.6 -0.7
PWL IAmb IAmb 12 02 32.2
comp=Z,22nm,0.8s
PWL **Port Wells** 49.74 37 P P 12 02 05.0 +0.7
baz=274
H24K **Noodor Dome** 49.75 31 IAmb IAmb 12 02 25.7
comp=Z,18nm,1.0s
H24K **Noodor Dome** 49.75 31 P P 12 02 06.6 +2.3
baz=270,SNR=17
F24K **Squaw Lake** 49.75 28 P P 12 02 05.7 +1.3
baz=269,SNR=5.5
TCOL **CIGO, UAF Yank** 49.77 32 IAmb IAmb 12 02 08.5
comp=Z,22nm,0.8s
TCOL **CIGO, UAF Yank** 49.77 32 P P 12 02 06.4 +2.0
baz=271,SNR=8.6
COLA **College** 49.77 32 P P 12 02 06.4 +1.9
COLA IAmb IAmb 12 02 08.5
comp=Z,22nm,0.7s
COLA **College** 49.77 32*c* *i*P P 12 02 06.2 +1.8
COLA pmax pmax
comp=Z,13nm,0.8s
COLA **College** 49.77 32 P P 12 02 06.0 +1.6
baz=271
COLA **College** 49.77 32 P P 12 02 05.7 +1.2
NRN **Naryn** 49.79 297 P P 12 02 06.5 +1.1
NRN IAmb IAmb 12 02 35.6
comp=Z,20nm,0.8s
NRN **Naryn** 49.79 297 P P 12 02 06.5 +1.1
NRN pmax pmax
comp=Z,20nm,0.8s
MTN **Manton Dam** 49.87 193 P P 12 02 05.8 +0.1
G24K **Hadweenzic Riv** 49.91 30 P P 12 02 07.8 +2.3
baz=270,SNR=10
WAT6 **Susitna Watana** 49.91 35 P P 12 02 06.7 +1.0
baz=273,SNR=5.8
POKR **Poker Plat Res** 49.94 32 P P 12 02 07.7 +1.8
baz=271,SNR=11
BRZS **Berezniki** 49.96 308*c* *i*P P 12 02 05.8 -0.3
BRZS *e*S S 12 09 13.5 -0.8
BRZS pmax pmax
comp=Z,13nm,0.8s
BRZS **Berezniki** 49.96 308⇑ *i*P P 12 02 05.9 -0.3
comp=Z,13nm,0.8s,baz=308
BRZS *e*S S 12 09 13.5 -0.8
baz=308
M23K **Glacier View** 49.97 36 P P 12 02 07.3 +1.2
baz=274
PLAI **Plampang** 50.03 211 P P 12 02 05.6 -1.4
comp=Z,44nm,1.1s
PLAI **Plampang** 50.03 211 P P 12 02 06.8 -0.2
DHY **Denali Highway** 50.05 34 IAmb IAmb 12 02 24.0
comp=Z,59nm,1.7s
DHY **Denali Highway** 50.05 34 P P 12 02 07.8 +1.0
baz=273,SNR=8.1
COEN **Coen** 50.13 177 P P 12 02 06.0 -1.7
COEN **Coen** 50.13 177 P P 12 02 08.1 +0.4
SCM **Sheep Creek Mo** 50.15 36 P P 12 02 07.9 +0.4
baz=274
HDA **Harding Lake** 50.17 33 P P 12 02 08.0 +0.5
HDA **Harding Lake** 50.17 33 P P 12 02 08.6 +1.1
baz=272,SNR=16
BTLS **Baital** 50.19 302*c* *i*P P 12 02 07.9 0.0
BTLS pmax pmax
comp=Z,13nm,0.8s
BTLS **Baital** 50.19 302⇑ *i*P P 12 02 08.0 0.0
comp=Z,13nm,0.8s,baz=302
IL31 **50.19 32** P P 12 02 07.3 -0.3
IL31 IAmb IAmb 12 02 10.3
comp=Z,18nm,0.7s
ILAR **Eielson Array** 50.19 32 P P 12 02 08.3 +0.7
comp=Z,14nm,0.6s,baz=267,slow=5.8,SNR=126
ILAR LR LR 12 22 30.7
comp=Z,302nm,21.4s,baz=256,slow=35
comp=Z,14nm,0.6s
ILAR **Eielson Array** 50.19 32 P P 12 02 08.0 +0.4
KBK **Karagaybulak** 50.20 299 P P 12 02 09.4 +1.1
SNR=30
SGDS **Sogindy** 50.20 300*c* *i*P P 12 02 08.6 +0.4
SGDS **Sogindy** 50.20 300⇑ *i*P P 12 02 08.6 +0.4
baz=300
CHMS **Chumysh** 50.24 299 P P 12 02 09.2 +0.8
SNR=6.4
TWSI **Taliwang, Sumb** 50.32 212 P P 12 02 08.6 -0.6
comp=Z,43nm,1.1s
GLI **Glacier Island** 50.34 37 P P 12 02 10.2 +1.3
baz=275
USP **Ospenovka** 50.34 300 P P 12 02 09.9 +0.7
SNR=16
D25K **Kavik River** 50.35 26 P P 12 02 10.0 +1.1
baz=269
KSH **Kashi** 50.39 294 P P 12 02 14.2 +4.5
KSH pP sP 12 02 23.9 +0.5
KSH PP PP 12 04 13.4 +8.2
KSH S S 12 09 28.8 +8.0
KSH pmax pmax
comp=Z,26nm,0.9s
KSH LR LR
comp=Z,3μm,17.5s
KSH LR LR
comp=Z,2μm,18.2s
KSH LR LR
comp=Z,4μm,17.5s
AAK **Ala-Archa** 50.52 299 P P 12 02 11.5 +0.7
SNR=15
AAK **Ala-Archa** 50.52 299 P P 12 02 11.4 +0.7
comp=Z,19nm,0.8s,baz=116,slow=4.2,SNR=24
AAK LR LR 12 24 53.4
comp=Z,6μm,19.2s,baz=72,slow=38
comp=Z,19nm,0.8s
AAK **Ala-Archa** 50.52 299 P P 12 02 10.5 -0.2
AAK IAmb IAmb 12 02 14.4
comp=Z,23nm,0.9s
AAK **Ala-Archa** 50.52 299 P P 12 02 10.5 -0.2
AAK pmax pmax
comp=Z,23nm,1.0s
AAK MLR MLR
comp=Z,6μm,20.0s
H25K **Birch Creek** 50.58 30 P P 12 02 12.5 +1.9
baz=272,SNR=11
F25K **Christian Rive** 50.61 28 P P 12 02 13.4 +2.5
baz=271,SNR=15
UCH **Uchtor** 50.63 298 P P 12 02 13.1 +1.2
SNR=28
E25K **Arctic Village** 50.64 28 P P 12 02 12.8 +1.8
baz=270,SNR=7.9
FID **Port Fidalgo** 50.66 37 IAMs_20 IAMs_20 12 22 27.9
comp=Z,786nm,22.0s
M24K **Tolsona, Glenn** 50.67 36 P P 12 02 13.2 +1.8
baz=275
HIN **Hinchinbrook I** 50.68 38 IAMs_20 IAMs_20 12 21 34.1
comp=Z,868nm,22.0s
K24K **Donnelly Dome** 50.72 33 P P 12 02 12.9 +1.2
baz=274,SNR=11
PRP **Porcupine Dome** 50.73 31 P P 12 02 12.3 +0.4
baz=273,SNR=18
BVA0 **Borovoye Array** 50.77 313 *i*P P 12 02 12.0 -0.2
BVAR **Borovoye Array** 50.77 313 P P 12 02 12.5 +0.2
comp=Z,14nm,0.6s,baz=79,slow=8.0,SNR=76
BVAR LR LR 12 24 56.6
comp=Z,2μm,18.2s,baz=75,slow=37
comp=Z,14nm,0.6s
BRVK **Borovoye** 50.83 313 P P 12 02 13.0 +0.3
BRVK IAmb IAmb 12 02 15.6
comp=Z,46nm,0.9s
BRVK **Borovoye** 50.83 313*c* *i*P P 12 02 12.7 0.0
BRVK pmax pmax
comp=Z,31nm,0.8s
BRVK **Borovoye** 50.83 313 P P 12 02 12.2 -0.4
J25K **Salcha River,** 50.84 32 P P 12 02 12.5 -0.2
J25K **Salcha River,** 50.84 32 P P 12 02 12.9 +0.1
baz=274
KLU **Klutina** 50.85 36 IAmb IAmb 12 02 29.7
comp=Z,26nm,1.0s
KLU **Klutina** 50.85 36 P P 12 02 14.1 +1.3
baz=276,SNR=6.6
C26K **Camden Bay** 50.87 25 P P 12 02 14.7 +2.0
baz=270
Q23K **Middleton Isla** 50.87 39 P P 12 02 14.3 +1.5
baz=277
LHMI **Lhok Sumawe** 50.91 243 IAMs_20 IAMs_20 12 23 06.7
comp=Z,2μm,22.0s
PAX **Paxson** 50.92 34 P P 12 02 15.3 +2.0
PAX **Paxson** 50.92 34 P P 12 02 15.3 +2.0
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX **Paxson** 50.92 34 P P 12 02 14.5 +1.1
baz=275
DIV **Divide** 50.96 37 P P 12 02 14.1 +0.5
EKS2 **Erkin-Say** 51.02 299 P P 12 02 15.2 +0.7
SNR=17
BMAR **Burnt Mountain** 51.03 29 P P 12 02 14.3 +0.3
EYAK **Cordova Ski Ar** 51.03 37 P P 12 02 15.7 +1.7
baz=277
HARP **HAARP** 51.12 35 P P 12 02 16.4 +1.6
baz=276
RIDG **Independent Ri** 51.14 33 P P 12 02 13.5 -1.4
RIDG IAmb IAmb 12 03 20.4
comp=Z,35nm,1.4s
RIDG **Independent Ri** 51.14 33 P P 12 02 15.9 +1.0
baz=275,SNR=7.8
F26K **Sheenjek River** 51.18 28 P P 12 02 17.2 +2.1
baz=272,SNR=23
PSI **Prapat** 51.21 239 P P 12 02 16.3 +0.2
comp=Z,25nm,0.7s,baz=27,slow=4.3,SNR=23
PSI LR LR 12 25 42.7
comp=Z,733nm,18.1s,baz=32,slow=38
comp=Z,25nm,0.7s
PSI **Prapat** 51.21 239 P P 12 02 16.0 -0.1
PSI pmax pmax
comp=Z,27nm,0.9s
PSI MLR MLR
comp=Z,900nm,18.0s
AML **Almayashu** 51.24 298 P P 12 02 17.8 +1.4
SNR=62
C27K **Jago River** 51.29 26 P P 12 02 17.7 +1.8
baz=271
RPSI **Rantau Prapat** 51.29 239 P P 12 02 16.0 -0.6
RPSI IAmb IAmb 12 02 18.2
comp=Z,27nm,0.9s
RPSI IAMs_20 IAMs_20 12 28 03.7
comp=Z,872nm,18.0s
G26K **Porcupine Rive** 51.36 29 P P 12 02 18.4 +2.0
baz=273,SNR=8.3
N25K **Chitna, Valde** 51.47 36 P P 12 02 18.7 +1.2
baz=277
SCRK **Sand Creek** 51.50 33 P P 12 02 17.9 +0.2
SCRK **Sand Creek** 51.50 33 P P 12 02 19.0 +1.4
baz=275,SNR=20
BMRM **Bremner River** 51.54 37 IAmb IAmb 12 03 10.2
comp=Z,34nm,1.1s
BMRM **Bremner River** 51.54 37 P P 12 02 19.0 +1.0
baz=277
RAGM **Raggd Mountai** 51.58 38 IAMs_20 IAMs_20 12 21 29.9
comp=Z,882nm,21.0s
BKNI **Bangkinang** 51.59 235 P P 12 02 19.2 +0.5
J26L **Joseph Creek** 51.63 32 P P 12 02 17.6 -1.0
J26L IAmb IAmb 12 02 35.2
comp=Z,46nm,1.8s
J26L **Joseph Creek** 51.63 32 P P 12 02 18.9 +0.3
baz=275,SNR=8.7
MENT **Mentasta** 51.72 34 P P 12 02 18.3 -1.0
I26K **Coal Creek Min** 51.73 31 P P 12 02 19.9 +0.7
baz=275
KAIM **Kayak Island** 51.77 38 P P 12 02 21.0 +1.4
baz=278
GLB **Gilahina Butte** 51.86 36 IAMs_20 IAMs_20 12 23 26.3
comp=Z,763nm,22.0s
L26K **Log Cabin Wild** 51.88 34 IAMs_20 IAMs_20 12 26 31.9
comp=Z,792nm,18.0s
L26K **Log Cabin Wild** 51.88 34 P P 12 02 22.0 +1.5
baz=277,SNR=23
PWJI **Pagerwojo** 52.03 218 P P 12 02 20.8 -1.2
comp=Z,134nm,0.8s
E27K **Coleen River** 52.12 28 P P 12 02 24.6 +2.5
baz=274,SNR=9.7
M26K **Nabesna, AK** 52.12 35 IAmb IAmb 12 02 40.5
comp=Z,56nm,1.6s
M26K IAMs_20 IAMs_20 12 25 31.1
comp=Z,828nm,21.0s
M26K **Nabesna, AK** 52.12 35 P P 12 02 24.0 +1.8
baz=277
G27K **Doyon Strip** 52.21 29 P P 12 02 25.2 +2.3
baz=275,SNR=6.9
MCARA **McCarthy VSAT** 52.24 36 IAMs_20 IAMs_20 12 23 58.5
comp=Z,794nm,22.0s
MCARA **McCarthy VSAT** 52.24 36 P P 12 02 25.5 +2.4
baz=278
BGLC **Bering Glacier** 52.31 38 P P 12 02 26.0 +2.4
baz=279
H27K **Steamboat Moun** 52.31 30 P P 12 02 25.7 +2.1
baz=276,SNR=21
K27K **Chicken** 52.33 33 IAmb IAmb 12 02 27.4
comp=Z,66nm,1.6s
K27K **Chicken** 52.33 33 P P 12 02 25.4 +1.7
baz=277
I27K **Kandik River** 52.34 31 P P 12 02 25.3 +1.4
baz=276,SNR=6.0
OHH **Osh** 52.39 297 P P 12 02 25.2 +0.6
L27K **Beaver Creek,** 52.56 34 P P 12 02 24.7 -0.8
L27K IAmb IAmb 12 02 42.9
comp=Z,58nm,1.5s
L27K IAMs_20 IAMs_20 12 24 36.9
comp=Z,753nm,22.0s
L27K **Beaver Creek,** 52.56 34 P P 12 02 26.9 +1.4
baz=278,SNR=10
ARK **Arkit** 52.57 298 P P 12 02 27.2 +1.2
UGM **Wanagama** 52.58 219 P P 12 02 27.1 +1.0
BCAR **Beaver Creek A** 52.58 34 P P 12 02 25.4 -0.3
EGAK **Eagle** 52.63 32 P P 12 02 25.8 -0.2
EGAK **Eagle** 52.63 32 P P 12 02 26.0 +0.1
baz=277,SNR=11
M27K **Edge Creek, AK** 52.64 35 P P 12 02 27.4 +1.2
M27K IAmb IAmb 12 02 43.5
comp=Z,48nm,1.5s
M27K IAMs_20 IAMs_20 12 25 30.9
comp=Z,851nm,21.0s
M27K **Edge Creek, AK** 52.64 35 P P 12 02 27.7 +1.5
baz=278,SNR=6.6
DZA **Taraz** 52.67 300 *e*P P 12 02 27.3 +0.7
DZA pmax pmax
comp=Z,22nm,0.8s
DZA **Taraz** 52.67 300 *e*P P 12 02 27.3 +0.7
comp=Z,22nm,0.8s,baz=300
ISLE **Juniper Island** 52.69 37 IAMs_20 IAMs_20 12 22 27.3
comp=Z,920nm,21.0s
MESA **MESA** 52.96 38 P P 12 02 29.0 +0.4
baz=280
KNRA **Kununurra** 53.08 195 P P 12 02 28.9 -0.9
KNRA **Kununurra** 53.08 195 P P 12 02 30.2 +0.5
BVCY **Beaver Creek** 53.10 35 P P 12 02 30.8 +1.3
baz=279,SNR=5.8
CTG **Chitna Glacier** 53.12 37 P P 12 02 31.4 +1.7
baz=280
KK31 **Karatay Array** 53.18 300 P P 12 02 30.1 -0.3
KK31 IAmb IAmb 12 02 32.8
comp=Z,31nm,0.9s
KK31 **Karatay Array** 53.18 300 P P 12 02 30.1 -0.3
KK31 pmax pmax
comp=Z,31nm,0.9s
KKAR **Karatay Array** 53.18 300 P P 12 02 30.5 +0.1
KKAR **Karatay Array** 53.18 300 P P 12 02 30.5 +0.1
LEM **Lembang** 53.21 223 LR LR 12 26 02.9
comp=Z,480nm,19.9s,baz=2.0,slow=37
GSI **Gunungsitoli** 53.22 239 P P 12 02 29.4 -1.6
YUK3 **Moose Creek** 53.39 35 P P 12 02 33.0 +1.1
baz=280
DRK **Karamyk** 53.45 296 P P 12 02 33.1 +0.4
DRK IAmb IAmb 12 02 35.3
comp=Z,29nm,0.8s
DAWY **Dawson** 53.49 33 P P 12 02 33.8 +1.4
DAWY **Dawson** 53.49 33 P P 12 02 33.5 +1.2
baz=279
O28M **Mount Upton** 53.70 37 P P 12 02 35.2 +0.9
baz=281
I29M **Ogilvie Camp,** 53.74 31 IAMs_20 IAMs_20 12 28 35.1
comp=Z,634nm,20.0s
I29M **Ogilvie Camp,** 53.74 31 P P 12 02 36.0 +1.9
baz=279,SNR=27
PINM **Pinnacle** 53.81 38 P P 12 02 36.9 +2.1
baz=281
IUG **luzhnay** 53.82 299 *e*P P 12 02 36.1 +0.9
IUG *e*S S 12 10 08.0 +0.3
IUG **luzhnay** 53.82 299 *e*P P 12 02 36.1 +0.9
baz=300
IUG *e*S S 12 10 08.1 +0.3
baz=300
BTK **Batken** 53.96 297 IAmb IAmb 12 03 05.6
comp=Z,41nm,1.1s
M29M **Somme Creek** 54.19 34 P P 12 02 39.5 +1.9
baz=281,SNR=8.6
EPYK **Eagle Plains** 54.22 29 P P 12 02 38.9 +1.2
baz=280,SNR=34
PNL **Peninsula** 54.32 38 P P 12 02 39.0 +0.6
baz=282
YUK4 **Talbot Arm** 54.33 36 P P 12 02 40.5 +1.8
baz=282
K29M **Barlow Dome** 54.34 33 P P 12 02 40.3 +1.6
baz=281
YUK6 **Outpost Mounta** 54.55 36 P P 12 02 42.4 +2.0
baz=282
O29M **Mount Kennedy** 54.58 37 P P 12 02 42.7 +2.3
baz=282,SNR=5.3
GAR **Garm** 54.70 296 P P 12 02 42.1 +0.5
M30M **Minto, Yukon** 54.92 34 P P 12 02 45.3 +2.5
M30M IAmb IAmb 12 03 00.7
comp=Z,33nm,1.4s
M30M IAMs_20 IAMs_20 12 25 58.3
comp=Z,725nm,22.0s
M30M **Minto, Yukon** 54.92 34 P P 12 02 45.0 +2.2
baz=282
HYT **Haines Junctio** 54.98 36 P P 12 02 45.4 +2.1
baz=283,SNR=7.4
N30M **Aishikik Lake** 55.03 35 P P 12 02 45.6 +1.9
baz=283
INK **Inuvik** 55.08 27 LR LR 12 29 19.8
comp=Z,405nm,19.4s,baz=253,slow=39
INK **Inuvik** 55.08 27 P P 12 02 43.9 +0.1
INK IAmb IAmb 12 02 46.5
comp=Z,17nm,0.7s
INK **Inuvik** 55.08 27 P P 12 02 43.9 +0.1
INK pmax pmax
comp=Z,17nm,0.7s
INK **Inuvik** 55.08 27 P P 12 02 45.2 +1.5
baz=281,SNR=9.3
MAYO **Mayo, Yukon** 55.10 33 P P 12 02 42.9 -1.2
MAYO **Mayo, Yukon** 55.10 33 P P 12 02 46.3 +2.3
baz=282
P29M **Windy Craggy** 55.15 38 P P 12 02 46.6 +2.2
baz=284
F31M **Tsiigehtchic** 55.17 28 P P 12 02 45.7 +1.3
baz=282
P30M **Million Dollar** 55.41 37 P P 12 02 48.1 +1.8
baz=284
N31M **Braeburn, Yuko** 55.64 35 P P 12 02 50.1 +2.2
N31M **Braeburn, Yuko** 55.64 35 P P 12 02 50.1 +2.2
baz=284
O30N **Mendenhall** 55.67 36 P P 12 02 49.5 +1.3
baz=284
PLBC **Pleasant Camp** 55.87 38 P P 12 02 51.4 +1.9
baz=285
M31M **Drury Creek, Y** 56.10 34 P P 12 02 49.4 -1.8
M31M IAmb IAmb 12 03 10.9
comp=Z,22nm,1.2s
M31M **Drury Creek, Y** 56.10 34 P P 12 02 52.7 +1.5
baz=285
FITZ **Fitzroy Crossi** 56.13 198 P P 12 02 49.9 -1.9
FITZ IAmb IAmb 12 03 15.1
comp=Z,46nm,1.2s
FITZ **Fitzroy Crossi** 56.13 198 P P 12 02 52.5 +0.7
WB0 **Warramunga Arr** 56.22 188 P P 12 02 50.8 -1.7
WHY **Whitehorse** 56.27 36 P P 12 02 54.4 +1.9
baz=285
SKAG **Skagway** 56.38 38 P P 12 02 54.5 +1.4
baz=286
WRAB **Tennant Creek** 56.39 188 P P 12 02 52.9 -0.8
WRAB **Tennant Creek** 56.39 188 IAMs_20 IAMs_20 12 24 59.5
comp=Z,1μm,21.0s
WRAB **Tennant Creek** 56.39 188*ce*P P 12 02 53.1 -0.6
WRAB pmax pmax
comp=Z,67nm,2.5s
WRAB **Tennant Creek** 56.39 188 P P 12 02 53.4 -0.3
WRAB **Tennant Creek** 56.39 188 P P 12 02 52.8 -0.8
WR0 **Warramunga Arr** 56.40 187 P P 12 02 52.9 -0.8
WB2 **Warramunga Arr** 56.40 188 P P 12 02 53.5 -0.2
WRA **Warramunga Arr** 56.40 188 P P 12 02 53.1 -0.7
comp=Z,9.7nm,0.6s,baz=5.8,slow=7.4,SNR=156
WRA S S 12 10 38.6 -3.6
comp=Z,0.5nm,1.1s,baz=38,slow=25,SNR=3.1
WRA LR LR 12 26 18.5
comp=Z,453nm,21.3s,baz=3.5,slow=35
comp=Z,9.7nm,0.6s
WRA **Warramunga Arr** 56.40 188 P P 12 02 53.5 -0.2
CTA **Charters Tower** 56.40 174 LR LR 12 26 57.5
comp=Z,443nm,20.9s,baz=346,slow=36
FARO **Faro, Yukon** 56.57 34 P P 12 02 55.4 +0.8
FARO **Faro, Yukon** 56.57 34 P P 12 02 55.6 +1.0
baz=285
ARU **Arti** 56.63 319 P P 12 02 55.2 +0.1
comp=Z,37nm,0.5s,baz=90,slow=3.9,SNR=53
ARU LR LR 12 29 27.0
comp=Z,2μm,18.5s,baz=68,slow=38
comp=Z,37nm,0.5s
ARU **Arti** 56.63 319 P P 12 02 54.8 -0.2
ARU **Arti** 56.63 319*c* *i*P P 12 02 55.0 0.0
ARU pmax pmax
comp=Z,50nm,0.9s
ARU **Arti** 56.63 319 P P 12 02 54.2 -0.8
ARU pP pP 12 03 05.7 +0.6
ARU sP sP 12 03 09.4 +0.6
A36M **Sachs Harbour** 56.95 22 P P 12 02 58.1 +1.1
baz=286
N32M **Quiet Lake** 56.98 35 P P 12 02 59.2 +1.7
baz=286
SIT **Sitka** 57.06 40 P P 12 03 00.0 +2.0
baz=287
R32K **Eaglecrest** 57.12 39 P P 12 02 59.8 +1.3
baz=287
P32M **Atlin** 57.13 37 P P 12 03 00.4 +1.8
baz=287
P33M **Teslin, Yukon** 57.38 36 P P 12 03 02.0 +1.6
baz=287,SNR=7.3
MMPY **Sheldon Lake,** 57.39 33 P P 12 03 02.2 +1.8
baz=287
HYBB **Hyderabad (bro** 57.88 269 *e*P P 12 03 04.7 +0.2
HYBB IVmB_BB 12 03 06.2
comp=Z,254nm,0.9s
HYBB *e*PcP PcP 12 03 56.2 -0.5
HYBB *e*PP PP 12 05 13.7 +0.8
Q32M **Nakina River** 58.03 38 P P 12 03 06.9 +1.8
baz=288
AB31 **Akbulak array** 58.11 310 *i*P P 12 03 04.7 -0.9
ABKAR **Akbulak array** 58.11 310 P P 12 03 05.4 -0.2
ABKAR **Akbulak array** 58.11 310 IAmb IAmb 12 03 07.5
comp=Z,37nm,0.9s
C36M **Paulatuk** 58.12 25 P P 12 03 06.2 +0.9
baz=289
R33M **Jennings River** 58.52 37 P P 12 03 10.4 +1.9
baz=289
CRAG **Craig** 58.73 42 P P 12 03 12.0 +2.3
baz=290
WRAK **Wrangell Islan** 58.82 40 P P 12 03 12.0 +1.6
baz=290
AKTO **Aktyubinsk** 58.87 312 P P 12 03 10.6 -0.3
comp=Z,16nm,0.8s,baz=78,slow=16,SNR=26
AKTO LR LR 12 29 46.5
comp=Z,1μm,19.3s,baz=73,slow=37
comp=Z,16nm,0.8s
AKTO **Aktyubinsk** 58.87 312 P P 12 03 10.0 -0.9
S34M **Telegraph Cree** 58.94 39 P P 12 03 13.3 +2.1
baz=290
TGTN **Hyland Airport** 59.07 34 P P 12 03 13.6 +1.4
baz=290,SNR=7.7
DLBC **Dease Lake** 59.31 38 LR LR 12 29 06.8
comp=Z,141nm,21.9s,baz=304,slow=36
DLBC **Dease Lake** 59.31 38 P P 12 03 16.1 +2.3
baz=290
T35M **Bob Quinn** 59.71 39 P P 12 03 18.0 +1.4
baz=291
AS31 **Alice Springs** 60.12 188 P P 12 03 17.8 -1.9

ASAR Alice Springs 60.13 188 P **P 12 03 19.4 -0.4**
comp=Z,8.2nm,0.7s,baz=14,slow=6.9,SNR=104
ASAR S **S 12 11 37.7 +6.8**
comp=Z,1.4nm,1.1s,baz=13,slow=12,SNR=6.2
ASAR LR LR 12 28 34.7
comp=Z,518nm,21.9s,baz=28,slow=35
comp=Z,8.2nm,0.7s
ASAR Alice Springs 60.13 188 P **P 12 03 18.4 -1.4**
ASAR Alice Springs 60.13 188 P **P 12 03 18.4 -1.4**
WRGLY Wrigley 60.54 31 P **P 12 03 23.4 +1.3**
baz=293
KIRV Kirov 60.57 323 P **P 12 03 22.7 +0.4**
comp=Z,27nm,0.5s,baz=65,slow=9.1,SNR=13
KIRV LR LR 12 31 47.1
comp=Z,1μm,18.6s,baz=65,slow=38
comp=Z,27nm,0.5s
KIRV Kirov 60.57 323*ce***P P 12 03 22.4 0.0**
MBWA Marble Bar 60.69 203 P **P 12 03 23.6 -0.1**
MBWA IAmb IAmb 12 03 47.0
comp=Z,18nm,0.8s
MBWA Marble Bar 60.69 203 P **P 12 03 23.9 +0.3**
MBWA Marble Bar 60.69 203 P **P 12 03 22.9 -0.7**
PSA00 Pilbara Seismi 61.05 203 P **P 12 03 25.5 -0.5**
SPA0 Spitsbergen Ar 61.08 349 *eP* **P 12 03 26.2 +0.5**
SPB2 Spitsbergen Ar 61.08 349 P **P 12 03 26.0 +0.3**
SPITS Spitsbergen Ar 61.08 349 P **P 12 03 25.5 -0.1**
comp=Z,7.6nm,0.6s,baz=78,slow=7.8,SNR=9.1
SPITS LR LR 12 31 05.4
comp=Z,854nm,22.0s,baz=16,slow=37
comp=Z,7.6nm,0.6s
SPITS Spitsbergen Ar 61.08 349 P **P 12 03 25.8 +0.2**
SPITS pmax pmax
comp=Z,93nm,1.9s
PRGR Permogore 61.13 327 *eP* **P 12 03 25.5 -0.6**
PRGR pmax pmax
comp=Z,17nm,0.8s
KBS Kingsbay 61.22 350 P **P 12 03 27.4 +0.8**
KBS IAmb IAmb 12 03 30.1
comp=Z,19nm,0.8s
KBS Kingsbay 61.22 350⇓ *eP* **P 12 03 28.6 +2.0**
KBS pmax pmax
comp=Z,24nm,1.0s
KBS Kingsbay 61.22 350 *eP* **P 12 03 28.1 +1.6**
PALK Pallekele 61.94 258 P **P 12 03 31.8 -0.6**
comp=Z,10nm,0.8s,baz=128,slow=11,SNR=4.2
PALK LR LR 12 32 56.8
comp=Z,826nm,20.3s,baz=152,slow=38
comp=Z,10nm,0.8s
HSPB Hornsund (broa 62.00 348 *eP* **P 12 03 33.3 +1.5**
WRKA Warakurna 62.28 193 P **P 12 03 34.2 -0.2**
HRA Herat 62.49 294 P **P 12 03 35.8 -0.3**
HRA IAmb IAmb 12 03 38.8
comp=Z,20nm,0.9s
BBB Bella Bella 62.73 44 LR LR 12 27 41.1
comp=Z,349nm,21.3s,baz=291,slow=33
DZM Mont Dzumac 62.92 153 *eS* **S 12 12 07.4 +0.9**
comp=Z,537nm,31.8s
DZM Mont Dzumac 62.92 153 *e*LR LR 12 22 23.4
comp=Z,2μm,22.1s
DZM Mont Dzumac 62.92 153 LR LR 12 28 35.8
comp=Z,1μm,20.8s,baz=1,0,slow=34
APA Apatity 63.13 336⇑ *i*P **P 12 03 40.5 +1.0**
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,3μm,16.0s
RES Resolute Bay 63.28 14 LR LR 12 32 46.4
comp=Z,283nm,20.8s,baz=337,slow=37
PCHI Peechi 63.48 263 *eP* **P 12 03 40.4 -2.2**
INKA Innaminka 63.80 180 P **P 12 03 44.5 +0.2**
GEYT Alibeck 63.87 299 P **P 12 03 45.0 0.0**
comp=Z,11nm,0.9s,baz=35,slow=5.4,SNR=10.0
GEYT LR LR 12 33 43.9
comp=Z,2μm,18.3s,baz=66,slow=38
comp=Z,11nm,0.9s
GEYT Alibeck 63.87 299 P **P 12 03 44.4 -0.6**
GEYT IAmb IAmb 12 04 16.4
comp=Z,22nm,1.0s
BELG Belogornoye 64.05 317 P **P 12 03 45.8 0.0**
comp=Z,27nm,0.4s,baz=161,slow=1.7,SNR=7.9
BELG LR LR 12 34 21.9
comp=Z,2μm,18.2s,baz=69,slow=38
comp=Z,27nm,0.4s
BELG Belogornoye 64.05 317*de***P P 12 03 45.3 -0.5**
BELG pmax pmax
comp=Z,7.0nm,0.9s
OOD Oodnadatta 64.06 185 P **P 12 03 46.6 +0.6**
KLMR Klimovskoe 64.12 328 *eP* **P 12 03 45.6 -0.5**
KLMR pmax pmax
comp=Z,22nm,0.8s
KLMR MLR MLR
comp=Z,798nm,14.0s
KLMR Klimovskoe 64.12 328 *eP* **P 12 03 45.7 -0.4**
KLMR AMP 12 03 48.6
comp=Z,22nm,0.8s
KLMR LQ LQ 12 25 13.9
KLMR LQ LQ 12 25 13.9
KLMR LR LR 12 28 10.8
KLMR AMP 12 34 23.8
comp=Z,798nm,13.7s
MSVF Nonsavu 64.21 140 LR LR 12 26 26.2
comp=Z,888nm,22.0s,baz=360,slow=31
ARA0 ARCESS Array S 64.48 339 *eP* **P 12 03 48.7 +0.3**
ARCES ARCESS Array B 64.48 339 P **P 12 03 48.0 -0.3**
comp=Z,7.2nm,0.8s,baz=54,slow=7.7,SNR=18
ARCES LR LR 12 36 18.8
comp=Z,1μm,18.1s,baz=65,slow=40
comp=Z,7.2nm,0.8s
ARCES ARCESS Array B 64.48 339 P **P 12 03 48.9 +0.5**
ARCES ARCESS Array B 64.48 339 P **P 12 03 48.9 +0.5**
ARCES pmax pmax
comp=Z,79nm,2.0s
YKA Yellowknife Ar 64.50 30 P **P 12 03 48.9 +0.3**
comp=Z,5.5nm,0.8s,baz=304,slow=7.0,SNR=7.5
YKA LR LR 12 32 24.5
comp=Z,274nm,20.8s,baz=288,slow=36
comp=Z,5.5nm,0.8s
YKA Yellowknife Ar 64.50 30*ce***P P 12 03 50.2 +1.6**
YKA pmax pmax
comp=Z,4.0nm,0.7s
KTK1 Kautokeino 65.44 339 *eP* **P 12 03 55.4 +0.8**
KTK1 IAmb IAmb 12 04 05.9
comp=Z,176nm,2.2s
TRO Tromso 66.21 341 *eP* **P 12 03 58.8 -0.7**
LCRK Leigh Creek 66.55 183 P **P 12 04 02.7 +0.6**
MULG Mulgathing 66.66 187 P **P 12 04 03.2 +0.4**
AFI Afiamalu 66.97 129 LR LR 12 27 00.2
comp=Z,868nm,21.9s,baz=312,slow=30
NLWA Neilton Lookou 67.36 47 P **P 12 04 07.2 -0.1**
VALR Valaam 67.42 331*de***P P 12 04 07.5 +0.1**
VALR pmax pmax
comp=Z,34nm,0.9s
MOS Moscow 67.57 323 *eP* **P 12 04 06.7 -1.7**
MOS *e* 12 04 25.0
MOS *eS* S 12 13 24.1 +21
MOS pmax pmax
comp=Z,56nm,1.5s
CMSA Cobar Meteorol 67.73 176 P **P 12 04 10.6 +1.0**
VRH Novokhopyorsk 67.84 318 *eP* **P 12 04 09.7 -0.5**
VRH pmax pmax
comp=Z,20nm,1.0s
STKA Stephens Creek 67.93 179 P **P 12 04 10.2 -0.6**
comp=Z,6.5nm,0.9s,baz=346,slow=6.0,SNR=7.3
comp=Z,6.5nm,0.9s
STKA Stephens Creek 67.93 179 P **P 12 04 11.2 +0.4**
STKA Stephens Creek 67.93 179⇓ *eP* **P 12 04 11.9 +1.1**
STKA Stephens Creek 67.93 179 P **P 12 04 10.8 0.0**
FORT Forrest 67.93 192 P **P 12 04 11.3 +0.4**
FORT Forrest 67.93 192 P **P 12 04 11.0 +0.2**
STEI Steigen 68.36 341 *eP* **P 12 04 13.1 0.0**
STEI IAmb IAmb 12 04 16.0
comp=Z,26nm,1.0s
OBN Obninsk 68.42 323 LR LR 12 36 40.7
comp=Z,323nm,18.2s,baz=60,slow=38
OBN Obninsk 68.42 323⇑ *eP* **P 12 04 13.6 -0.1**
OBN *e* 12 06 47.7
OBN pmax pmax
comp=Z,15nm,0.5s
OBN MLR MLR
comp=Z,1μm,17.0s
LPSR Galich'ya Gora 68.59 320 *eP* **P 12 04 15.2 +0.3**
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR MLR MLR
comp=Z,3μm,18.0s
MAK Makhachkala 68.61 308 *eP* **P 12 04 12.3 -2.8**
MAK *e* 12 06 43.5
MAK *eS* **S 12 13 10.1 -5.3**
MAK *eSS* **SS 12 17 37.4 -1.9**
MAK pmax pmax
comp=Z,134nm,1.2s
MAK MLR MLR
comp=Z,2μm,16.0s
FAUS Fauske 68.74 340 *eP* **P 12 04 16.5 +1.0**
FAUS IAmb IAmb 12 04 18.1
comp=Z,22nm,1.0s
G03D McMinnville, O 68.82 49 P **P 12 04 17.4 +1.0**
baz=301
VORR Voronezh 68.94 319 *eP* **P 12 04 19.3 +2.3**
VORR pmax pmax
comp=Z,80nm,0.4s
VSR Storozhevoye 69.20 319 *eP* **P 12 04 18.9 +0.2**
VSR pmax pmax
comp=Z,40nm,0.9s
VSR MLR MLR
comp=Z,2μm,17.0s
FINES FINESS Array B 69.23 332 P **P 12 04 18.5 -0.1**
comp=Z,25nm,0.8s,baz=64,slow=8.7,SNR=18
FINES LR LR 12 37 03.7
comp=Z,1μm,18.4s,baz=48,slow=38
comp=Z,25nm,0.8s
FINES FINESS Array B 69.23 332 *i* P **P 12 04 19.5 +0.8**
FINES pmax pmax
comp=Z,25nm,0.8s
MORW Morawa 69.24 203 P **P 12 04 19.9 +0.8**
LTY Liberty 69.31 46 P **P 12 04 20.0 +0.5**
LTY IAmb IAmb 12 04 45.8
comp=Z,17nm,1.0s
H04D Lebanon 69.49 49 P **P 12 04 21.5 +0.8**
baz=301
B08A Colville Reser 69.50 45 P **P 12 04 20.1 -0.6**
B08A IAmb IAmb 12 04 37.7
comp=Z,40nm,1.4s
I03D Drain, OR 69.54 50 P **P 12 04 22.7 +1.8**
baz=301
SEKA Sheki 69.69 307 P **P 12 04 22.9 +0.9**
HOOD Mount Hood Mea 69.73 48 P **P 12 04 22.6 +0.3**
H04A Detroit Lake 69.75 49 P **P 12 04 19.7 -2.6**
H04A IAmb IAmb 12 04 39.5
comp=Z,46nm,1.2s
MOR8 Moi Rana 69.85 340 *eP* **P 12 04 21.8 -0.7**
MOR8 IAmb IAmb 12 04 24.2
comp=Z,28nm,0.8s
G05D Wamic, OR 69.98 48 P **P 12 04 24.7 +1.0**
baz=302
EDM Edmonton 70.03 38 P **P 12 04 23.3 -0.5**
EDM Edmonton 70.03 38 P **P 12 04 23.3 -0.5**
EDM pmax pmax
comp=Z,59nm,1.3s
I04A Tendick Farm, 70.07 50 P **P 12 04 25.0 +0.8**
baz=302
L02F Cave Junction 70.22 52 P **P 12 04 26.4 +1.3**
baz=301
C09A Chrisman Ranch 70.39 45 IAmb IAmb 12 04 43.2
comp=Z,25nm,1.0s
D08A Wollman Farm, 70.42 46 IAmb IAmb 12 04 43.3
comp=Z,20nm,1.1s
HAWA Hanford 70.43 46 P **P 12 04 26.6 +0.3**
HAWA IAmb IAmb 12 04 46.6
comp=Z,26nm,1.3s
I05D Terrebonne, OR 70.44 49 P **P 12 04 28.0 +1.5**
baz=302
F07A Phinny Hill Vi 70.46 47 P **P 12 04 26.1 -0.4**
F07A IAmb IAmb 12 04 44.0
comp=Z,42nm,1.1s
BLDU Ballidu 70.47 202 P **P 12 04 27.3 +0.7**
J04D Umpqua Nationa 70.55 50 P **P 12 04 27.7 +0.3**
baz=302
GANJ Ganja 70.55 306 P **P 12 04 28.9 +1.6**
JMIC Jan Mayen 70.71 350 LR LR 12 37 16.6
comp=Z,213nm,18.8s,baz=38,slow=37
WSAR Wadi Sarin 70.74 285 P **P 12 04 28.5 -0.2**
comp=Z,14nm,0.8s,baz=86,slow=6.4,SNR=7.9
WSAR LR LR 12 40 23.3
comp=Z,546nm,19.9s,baz=90,slow=40
comp=Z,14nm,0.8s
NEW Newport 70.79 44 LR LR 12 31 55.7
comp=Z,192nm,21.8s,baz=312,slow=33
NEW Newport 70.79 44 IAmb IAmb 12 04 48.5
comp=Z,18nm,1.1s
NEW Newport 70.79 44 P **P 12 04 29.6 +1.0**
baz=303
VSU Vasula 70.84 330*ce***P P 12 04 28.8 +0.2**
VSU pmax pmax
comp=Z,89nm,0.9s
VSU Vasula 70.84 330 *eP* **P 12 04 28.9 +0.3**
ZEI Tsey 70.96 309 *eP* **P 12 04 28.8 -1.1**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
L04D Klamath Falls 70.97 51 P **P 12 04 30.8 +0.9**
baz=302
YBH Yreka Blue Hor 70.97 52 LR LR 12 31 07.2
comp=Z,289nm,21.0s,baz=292,slow=32
YBH Yreka Blue Hor 70.97 52 IAmb IAmb 12 04 46.9
comp=Z,25nm,1.2s
PINE Pine Mountain 70.97 49 P **P 12 04 28.8 -1.2**
J05D Fort Rock, OR 71.07 50 P **P 12 04 31.1 +0.6**
baz=302
KBZ Khabaz 71.08 311 P **P 12 04 30.8 +0.5**
comp=Z,19nm,0.8s,baz=62,slow=3.7,SNR=32
KBZ LR LR 12 37 42.6
comp=Z,980nm,21.9s,baz=50,slow=38
comp=Z,19nm,0.8s
KVAR Kislovodsk Arr 71.08 311 P **P 12 04 30.4 -0.2**
comp=Z,16nm,0.8s,baz=121,slow=18
KVAR LR LR 12 38 23.9
comp=Z,936nm,18.9s,baz=262,slow=38
comp=Z,16nm,0.8s
KIV Kislovodsk 71.09 311⇑ P **P 12 04 32.3 +1.7**
KIV Kislovodsk 71.09 311 P **P 12 04 30.5 0.0**
KIV IAMs_20 IAMs_20 12 39 56.9
comp=Z,860nm,19.0s
KIV Kislovodsk 71.09 311⇑ *i* P **P 12 04 31.3 +0.8**
KIV *i* SS SS 12 18 25.3 +7.6
KIV pmax pmax
comp=Z,29nm,0.8s
KIV MLR MLR
comp=Z,860nm,17.0s
KIV Kislovodsk 71.09 311 *i* P **P 12 04 32.5 +2.0**
SNR=11
KIV Kislovodsk 71.09 311 P **P 12 04 31.9 +1.4**
RAF Rauma 71.09 333 *eP* **P 12 04 30.5 +0.4**
K04D Chiloquin, OR 71.10 51 P **P 12 04 31.8 +1.1**
baz=302
BANOM Banah 71.12 289 P **P 12 04 32.0 +1.0**
E09A Wood Farm, Sta 71.17 46 P **P 12 04 30.2 -0.7**
E09A IAmb IAmb 12 04 48.1
comp=Z,35nm,1.1s
SHME Shamm 71.18 289 P **P 12 04 31.8 +0.6**
SUMG Summit 71.31 360 IAmb IAmb 12 04 34.8
comp=Z,16nm,0.7s
ONI Oni 71.35 309 P **P 12 04 32.6 +0.5**
ONI IAmb IAmb 12 05 05.8
comp=Z,31nm,1.2s
ONI Oni 71.35 309 P **P 12 04 32.6 +0.5**
ONI pmax pmax
comp=Z,31nm,1.2s
G08A Pilot Rock 71.36 47 P **P 12 04 31.7 -0.5**
MSFE Esma-Masafi 71.53 288 x x 12 04 34.6
K05A Summer Lake 71.58 50 P **P 12 04 34.2 +0.6**
I07A Izee 71.69 48 P **P 12 04 34.1 -0.1**
UOSS Minazif 71.71 288 IAMs_20 IAMs_20 12 41 21.9
comp=Z,531nm,19.0s
UOSS Minazif 71.71 288 P **P 12 04 34.5 0.0**
HATD Hatta, Dubai 71.83 288 P **P 12 04 35.8 +0.6**
GNI Garni 71.84 307 P **P 12 04 35.7 +0.5**
comp=Z,5.8nm,0.4s,baz=94,slow=2.4,SNR=8.1
GNI LR LR 12 38 35.9
comp=Z,861nm,20.8s,baz=56,slow=38
comp=Z,5.8nm,0.4s
GNI Garni 71.84 307 P **P 12 04 35.4 +0.1**
GNI IAmb IAmb 12 05 14.2
comp=Z,33nm,0.9s
GNI Garni 71.84 307 IAMs_20 IAMs_20 12 38 24.1
comp=Z,874nm,21.0s
GNI Garni 71.84 307*de***P P 12 04 37.3 +2.1**
GNI pmax pmax
comp=Z,21nm,1.0s
GNI Garni 71.84 307 P **P 12 04 35.7 +0.5**
MTSE Matsula 71.85 331 *eP* **P 12 04 35.4 +0.7**
SOHO SOHO 71.89 287 *i* P **P 12 04 35.7 +0.2**
SNR=6.4
F10A Beach Ranch, E 72.00 46 P **P 12 04 35.5 -0.5**
F10A IAmb IAmb 12 04 53.5
comp=Z,60nm,1.9s
WALA Waterton Lakes 72.11 42 P **P 12 04 37.6 +1.0**
FAQ Al Faqa, Dubai 72.29 288 P **P 12 04 38.3 +0.4**
MOD Modoc Plateau 72.39 51 IAmb IAmb 12 04 58.7
comp=Z,46nm,1.7s
NWAO Narrogin (SRO) 72.48 201 P **P 12 04 38.7 0.0**
comp=Z,13nm,0.8s,baz=278,slow=3.5,SNR=5.3
NWAO LR LR 12 34 49.9
comp=Z,201nm,21.8s,baz=232,slow=34
comp=Z,13nm,0.8s
ALNE Al Ain 72.53 287 *i* P **P 12 04 39.9 +0.5**
SNR=9.3
BMO Blue Mountains 72.58 47 P **P 12 04 38.3 -1.2**
BMO IAmb IAmb 12 04 59.6
comp=Z,30nm,1.3s
BMO Blue Mountains 72.58 47 P **P 12 04 38.3 -1.2**
BMO pmax pmax
comp=Z,30nm,1.3s
JTMT Jette 72.66 43 P **P 12 04 38.0 -1.9**
JTMT IAmb IAmb 12 04 57.2
comp=Z,28nm,1.2s
J08A Circle Bar Ran 72.71 49 P **P 12 04 40.8 +0.5**
J08A IAmb IAmb 12 04 58.0
comp=Z,64nm,1.8s
MNK Minsk 72.84 326 *i* P **P 12 04 40.7 0.0**
MNK *i* *PP **sP 12 04 54.9 +0.3**
MNK *i* *SP **PcP 12 05 00.8 +3.1**
MNK *i* 12 07 22.7
MNK *i* PPP PPP 12 09 08.2
MNK *i* S **S 12 14 02.8 -1.5**
MNK *i* SS **SS 12 18 42.2 -1.5**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,29nm,0.8s
MNK MLR MLR
comp=E,143nm,16.0s
MNK MLR MLR
comp=Z,1μm,16.0s
MNK Minsk 72.84 326 *i* P **P 12 04 40.7 0.0**
comp=E,2.0nm,0.8s
MNK *i* P **P 12 04 40.7 0.0**
MNK *i* P **P 12 04 40.7 0.0**
comp=Z,29nm,0.8s,baz=51
MNK *i* pP **sP 12 04 55.0 +0.3**
MNK *i* sP **PcP 12 05 00.9 +3.1**
MNK *i* PP **PP 12 07 22.8 +0.3**
MNK *i* PPP PPP 12 09 08.3
MNK *i* S **S 12 14 02.8 -1.5**
MNK *i* SS **SS 12 18 42.2 -1.5**
MNK *i* SSS SSS 12 21 48.5
MNK *i* LQ LQ 12 31 53.2
MNK *i* LR LR 12 37 26.3
MNK *i* LRM MLR 12 39 16.2
comp=E,143nm,16.4s
MNK *i* LRM MLR 12 39 58.0
comp=Z,1μm,16.4s
ISAL Salakas 72.94 327 *eP* **P 12 04 42.7 +1.4**
IIGN Ignalina 73.04 327 *eP* **P 12 04 43.0 +1.1**
NACGM Naroch 73.08 327⇓ *eP* **P 12 04 42.8 +0.7**
baz=50
SOC Sochi 73.09 312 *c i*P **P 12 04 42.1 -0.3**
SOC *e* 12 07 23.1
SOC *e*PPP PPP 12 09 05.8
SOC *eS* **S 12 14 07.7 +0.2**
SOC *eSS* **SS 12 18 49.4 +1.3**
SOC *e*SSS SSS 12 22 03.0
SOC pmax pmax
comp=Z,17nm,0.9s
SOC MLR MLR
comp=Z,819nm,14.0s
WVOR Wild Horse Val 73.13 50 P **P 12 04 43.2 +0.4**
WVOR IAmb IAmb 12 05 00.4
comp=Z,81nm,2.0s
WVOR Wild Horse Val 73.13 50 P **P 12 04 43.3 +0.4**
WVOR pmax pmax
comp=Z,81nm,2.0s
SLIT Slitere, Latvi 73.18 330 *eP* **P 12 04 43.6 +1.0**
PLID Pearl Lake 73.21 46 P **P 12 04 42.9 -0.5**
MSO Missoula 73.38 44 P **P 12 04 44.9 +0.7**
baz=306
BEKR Beckworth 73.48 53 IAmb IAmb 12 05 01.2
comp=Z,24nm,1.0s
ANN Anapa 73.75 314 *eP* **P 12 04 45.3 -0.9**
ANN *e**PP **pP 12 04 58.3 +1.8**
ANN *eS* **SKiKP 12 14 13.6 +0.6**
ANN pmax pmax
comp=Z,77nm,2.2s
ANN pmax pmax
comp=Z,216nm,2.3s
ANN MLR MLR
comp=N,739nm,16.0s
ANN MLR MLR
comp=Z,929nm,16.0s
PABE Paberze 73.91 328 P **P 12 04 47.3 +0.3**
PABE Paberze 73.91 328 *eP* **P 12 04 47.3 +0.3**
GEVA Gevas 73.94 306 P **P 12 04 47.2 -0.5**
MPK Martis Peak 74.01 53 P **P 12 04 47.0 -1.2**
EMB Emerald Bay 74.14 53 IAmb IAmb 12 05 05.5
comp=Z,33nm,1.1s
MFID Camas Ranch 74.27 47 IAmb IAmb 12 05 07.0
comp=Z,81nm,1.9s
FFC Flin Flon 74.40 32 P **P 12 04 49.3 -0.5**
FFC IAmb IAmb 12 05 06.2
comp=Z,46nm,1.2s
FFC IAMs_20 IAMs_20 12 38 20.1
comp=Z,460nm,22.0s
FFC Flin Flon 74.40 32 P **P 12 04 49.3 -0.5**
FFC pmax pmax
comp=Z,47nm,1.3s
FFC MLR MLR
comp=Z,500nm,22.0s
PNTR Pine Nut 74.40 53 P **P 12 04 50.2 -0.3**
PNTR IAmb IAmb 12 05 10.9
comp=Z,18nm,0.9s
NC303 NORSAR Array S 74.46 337 IAmb IAmb 12 05 16.2
comp=Z,24nm,1.1s
GURO Guroymak-BITLI 74.47 307 P **P 12 04 52.0 +1.3**
GURO IAmb IAmb 12 05 23.1
comp=Z,19nm,0.9s
CMB Columbia Colle 74.48 54 P **P 12 04 50.6 -0.1**
CMB IAmb IAmb 12 05 07.2
comp=Z,32nm,1.2s
CMB Columbia Colle 74.48 54 P **P 12 04 50.6 -0.1**
CMB pmax pmax
comp=Z,33nm,1.2s
DOMB Dombas 74.52 339 *eP* **P 12 04 50.9 +0.4**
DOMB IAmb IAmb 12 04 53.0
comp=Z,16nm,1.0s
HFS Hagfors 74.53 336 LR LR 12 40 15.9
comp=Z,2μm,19.5s,baz=46,slow=38
MOL Molde 74.54 340 *eP* **P 12 04 50.3 -0.2**
NC204 NORSAR Array S 74.61 338 P **P 12 04 51.1 +0.1**
NC204 NORSAR Array S 74.61 338 *eP* **P 12 04 51.4 +0.4**
NC204 IAmb IAmb 12 04 53.0
comp=Z,25nm,0.7s
AKASG Malin Array Be 74.61 322 P **P 12 04 50.8 -0.3**
comp=Z,11nm,0.5s,baz=47,slow=6.1,SNR=62
AKASG LR LR 12 40 40.9
comp=Z,2μm,18.5s,baz=56,slow=38
comp=Z,11nm,0.5s
AKASG Malin Array Be 74.61 322 P **P 12 04 51.2 +0.1**
AKASG Malin Array Be 74.61 322*ce***P P 12 04 50.7 -0.4**
AKASG pmax pmax
comp=Z,12nm,0.5s
AKBB Malin Array Si 74.61 322 P **P 12 04 50.7 -0.4**
AKBB IAmb IAmb 12 04 52.7
comp=Z,28nm,0.8s
AKBB Malin Array Si 74.61 322 *c i*P **P 12 04 50.8 -0.4**
NB2 NORSAR Subarra 74.65 337 P **P 12 04 51.2 -0.1**
comp=Z,21nm,0.8s,baz=39,slow=6.2
NB2 NORSAR Subarra 74.65 337 P **P 12 04 51.2 -0.1**
baz=39,slow=6.2
NOA NORSAR Array B 74.65 337 P **P 12 04 51.3 +0.1**
comp=Z,12nm,0.8s,baz=39,slow=5.8,SNR=40
NOA LR LR 12 40 52.1
comp=Z,2μm,19.4s,baz=45,slow=38
comp=Z,12nm,0.8s
YERR Yerington 74.69 53 P **P 12 04 51.7 -0.4**
YERR IAmb IAmb 12 05 08.7
comp=Z,36nm,1.2s
FCC Fort Churchill 74.70 26 P **P 12 04 51.5 +0.1**
FCC IAmb IAmb 12 05 19.8

comp=Z,24nm,0.9s
FCC Fort Churchill 74.70 26 P **P** **12 04 51.5 +0.1**
FCC pmax pmax
comp=Z,24nm,1.0s
LRM Limekiln Ridge 74.81 44 P **P** **12 04 52.4 -0.3**
MZR Muzera 74.85 288 P **P** **12 04 52.9 -0.2**
NAO01 NORSAR Array S 74.90 337 P **P** **12 04 53.1 +0.4**
EGMT Eagleton 74.94 41 P **P** **12 04 53.0 -0.3**
EGMT IAmb IAmb 12 05 10.1
comp=Z,34nm,0.9s
EGMT Eagleton 74.94 41 P **P** **12 04 53.5 +0.2**
baz=308,SNR=7.1
AKN Aaknes 75.01 340 *e*P **P** **12 04 54.2 +0.9**
HLID Hailey 75.02 47 P **P** **12 04 53.2 -0.7**
HLID Hailey 75.02 47 P **P** **12 04 55.0 +1.1**
baz=306
BMN Battle Mountai 75.14 51 P **P** **12 04 54.2 -0.5**
BMN Battle Mountai 75.14 51 P **P** **12 04 54.2 -0.5**
BMN pmax pmax
comp=Z,17nm,1.0s
RYN Ryan 75.35 53 IAmb IAmb 12 05 12.5
comp=Z,27nm,1.3s
KVN Kaiserville 75.38 52 P **P** **12 04 55.5 -0.5**
KVN IAmb IAmb 12 05 12.7
comp=Z,44nm,1.3s
KVN Kaiserville 75.38 52 P **P** **12 04 55.6 -0.5**
KVN pmax pmax
comp=Z,44nm,1.3s
BOZ Bozeman (W) 75.40 44 P **P** **12 04 54.9 -1.1**
BOZ IAmb IAmb 12 05 13.1
comp=Z,22nm,1.1s
BOZ Bozeman (W) 75.40 44 P **P** **12 04 54.9 -1.1**
BOZ pmax pmax
comp=Z,22nm,1.1s
BOZ Bozeman (W) 75.40 44 P **P** **12 04 57.2 +1.2**
baz=307,SNR=18
MDPB Devils Postpil 75.56 54 P **P** **12 04 56.1 -1.1**
SIM Simferopol' 75.56 315 *e*P **P** **12 04 56.6 -0.2**
SIM pmax pmax
comp=Z,28nm,0.7s
LHV Little Huntoon 75.58 53 IAmb IAmb 12 05 14.3
comp=Z,44nm,1.1s
NVAR Mina Array Bea 75.61 53 P **P** **12 04 58.3 +0.8**
comp=Z,4.5nm,0.8s,baz=295,slow=5.5,SNR=38
NVAR pP **sP** **12 05 12.2 +0.6**
comp=Z,21nm,1.1s,baz=280,slow=5.9,SNR=19
comp=Z,4.5nm,0.8s
NVAR Mina Array Bea 75.61 53 P **P** **12 04 57.0 -0.5**
NV11 Mina Array Sit 75.70 53 P **P** **12 04 57.9 0.0**
NV11 IAmb IAmb 12 05 14.6
comp=Z,28nm,1.4s
MLAC Mammoth, Mammo 75.72 54 P **P** **12 04 59.6 +1.5**
baz=305
SKAR Skarslia 75.82 338 *e*P **P** **12 04 59.2 +1.2**
PAGB Antelope Grade 75.87 56 P **P** **12 04 58.3 -0.4**
PAGB IAmb IAmb 12 05 15.4
comp=Z,39nm,1.1s
MARD Mardin 75.99 306 IAmb IAmb 12 05 18.8
comp=Z,20nm,0.7s
YHL Hebgen Lake 76.11 44 P **P** **12 04 59.6 -0.7**
YHL IAmb IAmb 12 05 17.6
comp=Z,19nm,1.0s
ELK Elko 76.19 49 LR LR 12 40 29.8
comp=Z,152nm,18.4s,baz=302,slow=37
ELK Elko 76.19 49 P **P** **12 05 00.1 -0.5**
ELK Elko 76.19 49 P **P** **12 05 00.2 -0.5**
ELK pmax pmax
comp=Z,13nm,1.1s
KONO Kongsberg 76.24 337 *ce*P **P** **12 05 00.9 +0.6**
KONO pmax pmax
comp=Z,18nm,1.7s
KONO Kongsberg 76.24 337 *e*P **P** **12 05 01.6 +1.3**
SMMC Simmler 76.28 56 P **P** **12 05 02.4 +1.3**
baz=305
YHH Holmes Hill 76.33 44 P **P** **12 05 00.8 -0.8**
GCMT Greycliff 76.37 43 P **P** **12 05 00.3 -1.3**
TIN Tinemaha, Big 76.45 54 P **P** **12 05 02.8 +0.7**
baz=305
TPH Tonopah 76.51 53 P **P** **12 05 01.9 -0.6**
TPH Tonopah 76.51 53 P **P** **12 05 01.9 -0.6**
TPH pmax pmax
comp=Z,134nm,1.1s
SFJD Kangerlussuaq 76.54 5 LR LR 12 39 47.6
comp=Z,330nm,20.9s,baz=350,slow=36
VES Vestal, Richgr 76.58 55 P **P** **12 05 03.6 +0.9**
baz=305
PKM Mcpherson Peak 76.64 57 P **P** **12 05 04.7 +1.3**
baz=305
H17A Grant Village 76.73 44 P **P** **12 05 02.1 -1.6**
H17A IAmb IAmb 12 05 22.7
comp=Z,42nm,1.0s
H17A Grant Village 76.73 44 P **P** **12 05 05.9 +2.2**
baz=308,SNR=14
IMW Indian Meadow 76.83 45 P **P** **12 05 03.2 -1.2**
IMW IAmb IAmb 12 05 22.3
comp=Z,22nm,0.9s
DIKM Dikmen 76.89 312 ⇑P **P** **12 05 05.1 +0.7**
ASK Askoy 76.89 339 *e*P **P** **12 05 05.6 +1.6**
CWC Cottonwood Cre 76.90 54 P **P** **12 05 05.8 +1.1**
baz=306
ODD1 Odda 76.94 338 *e*P **P** **12 05 05.2 +0.8**
SBC Santa Barbara 76.97 57 P **P** **12 05 06.2 +1.3**
baz=305
RLMT Red Lodge 77.01 43 P **P** **12 05 05.0 -0.2**
RLMT Red Lodge 77.01 43 P **P** **12 05 06.0 +0.8**
baz=309,SNR=10
MOOW Moose Ponds 77.03 45 P **P** **12 05 05.9 +0.5**
MOOW IAmb IAmb 12 05 23.3
comp=Z,40nm,1.6s
GRAC Grapevine Rang 77.04 54 P **P** **12 05 05.4 0.0**
GRAC IAmb IAmb 12 05 21.5
comp=Z,15nm,0.8s
GRAC Grapevine Rang 77.04 54 P **P** **12 05 07.1 +1.7**
baz=306
HVU Hansel Valley 77.06 47 P **P** **12 05 05.6 +0.1**
HVU Hansel Valley 77.06 47 P **P** **12 05 05.6 +0.1**
HVU pmax pmax
comp=Z,19nm,1.1s
TPAW Teton Pass 77.07 45 IAMs_20 IAMs_20 12 42 45.2
comp=Z,417nm,20.0s
ISA Isabella, Lake 77.09 55 P **P** **12 05 06.2 +0.5**
baz=306
ARVC Arvin 77.17 56 P **P** **12 05 06.6 +0.6**
baz=306
KIS Kishinev 77.17 319 *e*P **P** **12 05 07.9 +2.1**
KIS LRM MLR 12 42 07.0
comp=Z,900nm,16.0s
KIS Kishinev 77.17 319 *e*P **P** **12 05 07.9 +2.1**
KIS pmax pmax
comp=Z,900nm,16.0s
SNOW Snow King Moun 77.20 45 IAmb IAmb 12 05 24.2
comp=Z,25nm,1.1s
REDW Red Top Meadow 77.21 45 P **P** **12 05 06.2 -0.3**
REDW IAmb IAmb 12 05 24.1
comp=Z,22nm,1.2s
R11A Troy Canyon, C 77.39 52 P **P** **12 05 05.8 -1.7**
R11A IAmb IAmb 12 05 24.9
comp=Z,42nm,1.6s
R11A Troy Canyon, C 77.39 52 P **P** **12 05 08.7 +1.2**
baz=306,SNR=15
BGU Big Grassy Mou 77.42 48 P **P** **12 05 06.5 -1.1**
BZK Bozkurt 77.44 313 ⇑P **P** **12 05 06.3 -1.1**
FRB Frobisher Bay 77.45 13 LR LR 12 43 55.9
comp=Z,363nm,18.4s,baz=346,slow=39
MPMC Manual Prospec 77.51 54 P **P** **12 05 08.6 +0.3**
baz=306,SNR=8.3
DGMT Dagmar 77.52 38 IAMs_20 IAMs_20 12 34 57.8
comp=Z,476nm,22.0s
DGMT Dagmar 77.52 38 P **P** **12 05 08.1 +0.3**
baz=311
WCT Wildcat Mounta 77.64 53 P **P** **12 05 08.8 0.0**
LAO LASA Array 77.65 41 P **P** **12 05 07.0 -1.7**
LAO IAMs_20 IAMs_20 12 37 00.3
comp=Z,423nm,22.0s
LAO LASA Array 77.65 41 P **P** **12 05 10.1 +1.5**
baz=310
LAO LASA Array 77.65 41 P **P** **12 05 09.6 +1.0**
baz=310
FURC Furnace Creek, 77.68 54 P **P** **12 05 10.1 +1.2**
baz=306,SNR=6.5
CCAC Calif City Air 77.69 55 IAmb IAmb 12 05 25.3
comp=Z,27nm,0.9s
S11A Rachel 77.70 52 IAmb IAmb 12 05 37.3
comp=Z,45nm,1.3s
LVV L'vov 77.71 324 *e*P **P** **12 05 11.6 +2.8**
LVV *e* 12 05 23.5
LVV *e*S **S** **12 14 56.3 -2.1**
LVV *e*PS **PnS** **12 15 47.8 +6.8**
LVV pmax pmax
comp=Z,70nm,1.2s
LVV MLR MLR
comp=E,900nm,16.0s
LVV MLR MLR
comp=N,800nm,18.0s
LVV MLR MLR
comp=Z,1μm,18.0s
LRMC Laurel Mtn Rad 77.72 55 P **P** **12 05 10.5 +1.1**
baz=306
SPR3 Spring Creek 3 77.79 50 IAmb IAmb 12 05 27.9
comp=Z,30nm,1.3s
TPNV Topopah Spring 77.79 53 P **P** **12 05 10.1 +0.4**
TPNV IAmb IAmb 12 05 26.1
comp=Z,21nm,0.9s
TPNV IAMs_20 IAMs_20 12 32 23.6
comp=Z,494nm,21.0s
TPNV Topopah Spring 77.79 53 P **P** **12 05 10.1 +0.4**
TPNV pmax pmax
comp=Z,21nm,1.0s
TPNV Topopah Spring 77.79 53 P **P** **12 05 10.1 +0.4**
baz=306,SNR=9.9
EDW2 Edwards Air Fo 77.87 56 P **P** **12 05 10.3 +0.3**
baz=306
HWUT Hardware Ranch 77.88 47 P **P** **12 05 09.6 -0.6**
GWY Greenwater Val 77.97 54 P **P** **12 05 10.0 -0.7**
GWY IAmb IAmb 12 05 30.6
comp=Z,31nm,1.2s
QSM Queen of Sheba 77.97 54 P **P** **12 05 11.0 +0.4**
QSM IAmb IAmb 12 05 26.9
comp=Z,37nm,1.1s
DUG Dugway, Tooele 78.00 49 P **P** **12 05 11.2 +0.4**
DUG IAmb IAmb 12 05 27.6
comp=Z,24nm,1.1s
DUG Dugway, Tooele 78.00 49 P **P** **12 05 11.2 +0.4**
DUG pmax pmax
comp=Z,24nm,1.1s
DUG Dugway, Tooele 78.00 49 P **P** **12 05 11.7 +0.9**
baz=306,SNR=14
SNART Snartemo 78.03 337 *e*P **P** **12 05 11.3 +0.9**
BNN Bunyan 78.22 310 P **P** **12 05 11.0 -1.0**
BORG Borgarnes 78.23 352 LR LR 12 40 08.8
comp=Z,259nm,21.1s,baz=14,slow=36
TCUT Toone Canyon 78.27 47 IAmb IAmb 12 05 37.1
comp=Z,23nm,0.9s
PRN Pahroc Range 78.29 52 P **P** **12 05 12.3 -0.1**
PRN IAmb IAmb 12 05 29.2
comp=Z,23nm,1.1s
VLDR Vladesti 78.31 319 ⇑P **P** **12 05 12.3 +0.1**
BW06 Boulder Array 78.32 45 P **P** **12 05 12.6 -0.1**
BW06 Boulder Array 78.32 45 P **P** **12 05 13.4 +0.7**
baz=309,SNR=10
PD31 Pinedale Array 78.32 45 P **P** **12 05 12.7 +0.1**
PDAR Pinedale Array 78.32 45 P **P** **12 05 13.2 +0.5**
comp=Z,3.2nm,0.6s,baz=285,slow=1.0,SNR=47
PDAR pP **sP** **12 05 27.4 +0.5**
comp=Z,3.8nm,0.6s,baz=270,slow=2.2,SNR=8.5
PDAR LR LR 12 34 24.3
comp=Z,213nm,21.7s,baz=323,slow=32
comp=Z,3.2nm,0.6s
PDAR Pinedale Array 78.32 45 P **P** **12 05 12.2 -0.5**
FMP Fort Macarthur 78.35 57 P **P** **12 05 13.8 +1.1**
baz=306
PSUT Pine Spring 78.36 51 P **P** **12 05 11.9 -1.0**
SHOC Shoshone, Teco 78.40 54 P **P** **12 05 14.2 +1.3**
baz=307
GSC Goldstone, Bar 78.41 55 P **P** **12 05 11.6 -1.5**
GSC Goldstone, Bar 78.41 55 P **P** **12 05 11.6 -1.5**
GSC pmax pmax
comp=Z,16nm,1.1s
GSC Goldstone, Bar 78.41 55 P **P** **12 05 13.5 +0.5**
baz=306
CIS Catalina Islan 78.45 57 P **P** **12 05 12.7 -0.5**
baz=306
KWP Kalwaria Pacla 78.46 324 *e*P **P** **12 05 13.6 +0.5**
KWP Kalwaria Pacla 78.46 324 P **P** **12 05 13.5 +0.5**
KWP Kalwaria Pacla 78.46 324 P **P** **12 05 13.5 +0.5**
KWP pmax pmax
comp=Z,593nm,1.2s
KWP MLR MLR
comp=Z,13μm,18.0s
BFSC Mount Baldy Ra 78.47 56 P **P** **12 05 13.4 0.0**
baz=306
BUR08 Bucovina Ar. S 78.60 322 P **P** **12 05 14.0 0.0**
SCI2 San Clemente I 78.61 57 P **P** **12 05 14.7 +0.6**
baz=306
BURAR Bucovina Array 78.61 322 ⇑P **P** **12 05 14.6 +0.6**
BURAR Bucovina Array 78.61 322 P **P** **12 05 14.2 +0.2**
BURAR Bucovina Array 78.61 322 ⇑P **P** **12 05 14.6 +0.6**
BIZ Bicaz 78.62 321 ⇑P **P** **12 05 14.5 +0.6**
TESR Tescani 78.62 320 ⇑P **P** **12 05 14.2 +0.3**
CFR Carcaliu 78.71 318 ⇑P **P** **12 05 17.6 +3.2**
CFR Carcaliu 78.71 318 ⇑P **P** **12 05 17.6 +3.2**
SHPR Sheep Range 78.76 53 P **P** **12 05 15.3 +0.3**
SHPR IAmb IAmb 12 05 35.5
comp=Z,24nm,1.1s
TPGR Topolog 78.77 318 ⇑P **P** **12 05 14.9 +0.1**
PANC Panciu 78.78 319 ⇑P **P** **12 05 16.2 +1.4**
MPU Maple Canyon 78.82 48 P **P** **12 05 15.4 0.0**
TUQ Turquoise Moun 78.90 54 P **P** **12 05 16.3 +0.4**
baz=307
BBRC Big Bear Solar 78.94 56 P **P** **12 05 16.5 +0.3**
baz=307
HEC Hector,Ludlow 79.00 55 P **P** **12 05 17.5 +1.2**
baz=307
VRI Vrincioaia 79.01 320 ⇑P **P** **12 05 18.1 +2.0**
VRI Vrincioaia 79.01 320 ⇑P **P** **12 05 18.1 +2.0**
TIRR Tirgusor 79.03 318 ⇑P **P** **12 05 16.3 +0.1**
TIRR Tirgusor 79.03 318 ⇑P **P** **12 05 16.3 +0.1**
BR131 Keskin Array S 79.04 311 P **P** **12 05 16.3 -0.2**
BR131 IAmb IAmb 12 05 36.0
comp=Z,21nm,1.1s
BR131 Keskin Array S 79.04 311 P **P** **12 05 16.3 -0.2**
BR131 pmax pmax
comp=Z,21nm,1.1s
BRTR Keskin Array B 79.04 311 P **P** **12 05 16.1 -0.4**
comp=Z,5.2nm,0.9s,baz=102,slow=5.2,SNR=24
BRTR LR LR 12 44 56.9
comp=Z,673nm,18.4s,baz=64,slow=39
comp=Z,5.2nm,0.9s
BRTR Keskin Array B 79.04 311 *ce*P **P** **12 05 16.5 0.0**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
PLOR Plostina 79.06 320 ⇑P **P** **12 05 16.7 +0.3**
PLOR Plostina 79.06 320 ⇑P **P** **12 05 16.7 +0.3**
HARR Harsova 79.14 318 ⇑P **P** **12 05 17.7 +0.9**
HARR Harsova 79.14 318 ⇑P **P** **12 05 17.7 +0.9**
KOLS Kolonicke sedl 79.15 324 *e*P **P** **12 05 18.1 +1.3**
KOLS Kolonicke sedl 79.15 324 *e*P **P** **12 05 18.1 +1.3**
MURC Murrieta 79.15 56 P **P** **12 05 17.0 -0.2**
baz=307
CCUT Cedar City 79.27 51 P **P** **12 05 16.9 -1.0**
CCUT IAmb IAmb 12 05 34.8
comp=Z,27nm,1.4s
OZUR 79.34 320 ⇑P **P** **12 05 19.1 +1.1**
UZH Uzhgorod 79.35 324 *e*P **P** **12 05 18.0 +0.1**
UZH *i* 12 05 29.4
UZH *e* 12 10 08.5
UZH *e*S **S** **12 15 11.9 -4.1**
UZH *e* 12 15 59.8
UZH MLR MLR
comp=N,170nm,17.0s
UZH MLR MLR
comp=E,250nm,17.0s
UZH MLR MLR
comp=Z,120nm,17.0s
OJC Ojcow 79.39 326 *e*P **P** **12 05 17.6 -0.5**
OJC Ojcow 79.39 326 IAmb IAmb 12 05 18.9
comp=Z,16nm,0.7s
ARCR ARCALIA 79.41 322 ⇑P **P** **12 05 13.8 -4.4**
SZCU Shurtz Canyon 79.42 51 IAmb IAmb 12 05 36.2
comp=Z,35nm,1.8s
ANTO Ankara 79.46 312 ⇑P P 12 05 11.2 -7.6
ANTO Ankara 79.46 312 ⇑P P 12 05 11.2 -7.5
GMRC Granite Mounta 79.47 55 P **P** **12 05 19.3 +0.4**
baz=307
TMUT Trail Mountain 79.52 49 P **P** **12 05 18.1 -1.2**
CRVS Cervenica-Dubn 79.56 324 *e*P **P** **12 05 19.7 +0.7**
CRVS pmax pmax
comp=Z,213nm,2.5s
CRVS Cervenica-Dubn 79.56 324 *e*P **P** **12 05 19.7 +0.7**
ISR Istrita 79.60 319 ⇑P **P** **12 05 19.3 -0.1**
ISR Istrita 79.60 319 ⇑P **P** **12 05 19.3 -0.1**
DOPR Dopca 79.64 320 ⇑P **P** **12 05 20.8 +1.3**
109C Camp Elliot, M 79.64 57 IAMs_20 IAMs_20 12 33 10.6
comp=Z,619nm,19.0s
109C Camp Elliot, M 79.64 57 P **P** **12 05 19.5 -0.2**
baz=307
PFO Pinyon Flats O 79.64 56 P **P** **12 05 19.4 -0.5**
PFO Pinyon Flats O 79.64 56 ⇑*e*P **P** **12 05 19.8 -0.1**
PFO pmax pmax
comp=Z,19nm,1.4s
PFO Pinyon Flats O 79.64 56 P **P** **12 05 20.7 +0.8**
baz=307
TPFO Pinon Flats 79.65 56 P **P** **12 05 20.3 +0.4**
baz=307
MLR Muntele Rosu 79.67 320 ⇓P **P** **12 05 18.5 -1.3**
MLR Muntele Rosu 79.67 320 P **P** **12 05 18.5 -1.3**
comp=Z,2.9nm,0.7s,baz=337,slow=3.9,SNR=4.6
MLR LR LR 12 43 50.8
comp=Z,3μm,18.4s,baz=48,slow=38
comp=Z,2.9nm,0.7s
PMD Palm Desert 79.67 56 IAmb IAmb 12 06 06.8
comp=Z,14nm,1.1s
LCMT Little Creek M 79.67 52 P **P** **12 05 20.8 +0.7**
LCMT IAmb IAmb 12 05 36.9
comp=Z,26nm,1.2s
P17A Butcher Ranch, 79.69 48 IAmb IAmb 12 05 37.6
comp=Z,65nm,1.5s
MTPU Mount Pierson 79.70 50 IAmb IAmb 12 05 37.5
comp=Z,30nm,1.5s
BELC Belle Mtn. Jos 79.71 55 P **P** **12 05 19.2 -1.2**
baz=307
NIE Niedzica 79.73 325 *e*P **P** **12 05 21.2 +1.2**
Q16A Castle Valley 79.78 49 IAmb IAmb 12 07 50.3
comp=Z,17nm,0.7s
KNB Kanab 79.94 51 IAmb IAmb 12 05 39.4
comp=Z,48nm,1.3s
CBBR Cluj-Babes-Bol 80.02 322 ⇓P **P** **12 05 23.7 +2.1**
MDUB Mudurnu 80.03 313 P **P** **12 05 21.0 -0.8**
CJR Cluj-Napoca 80.04 322 ⇓P **P** **12 05 22.6 +0.9**
CJR Cluj-Napoca 80.04 322 ⇓P **P** **12 05 22.6 +0.9**
RAR Rarotonga 80.04 126 LR LR 12 35 59.7
comp=Z,742nm,19.4s,baz=302,slow=32
SRU San Rafael Swe 80.05 49 P **P** **12 05 22.0 -0.1**
SRU IAmb IAmb 12 05 38.5
comp=Z,38nm,1.3s
SRU San Rafael Swe 80.05 49 P **P** **12 05 22.0 -0.1**
SRU pmax pmax
comp=Z,38nm,1.3s
BAR Barrett 80.05 57 IAmb IAmb 12 05 38.0
comp=Z,52nm,1.8s
MONP2 Monument Peak 80.10 56 P **P** **12 05 21.6 -0.9**
baz=307
K22A Casper 80.11 44 P **P** **12 05 22.0 -0.4**
K22A IAmb IAmb 12 05 40.1
comp=Z,40nm,1.5s
K22A Casper 80.11 44 P **P** **12 05 22.3 0.0**
baz=311
NEE2 Needles Airpor 80.16 54 P **P** **12 05 23.0 +0.4**
baz=308
VOIR 80.17 320 ⇑P **P** **12 05 22.2 -0.3**
VOIR 80.17 320 ⇑P **P** **12 05 22.2 -0.3**
IRM Iron Mountain 80.18 55 P **P** **12 05 23.3 +0.6**
baz=307,SNR=5.2
MDND Maddock 80.19 37 P **P** **12 05 22.2 -0.3**
baz=314
ULM Lac du Bonnet 80.19 33 P **P** **12 05 23.3 +0.9**
comp=Z,6.1nm,0.7s,baz=308,slow=5.3
ULM LR LR 12 39 44.6
comp=Z,211nm,21.5s,baz=356,slow=35
comp=Z,6.1nm,0.7s
ULM Lac du Bonnet 80.19 33 ⇑*e*P **P** **12 05 24.4 +2.0**
comp=Z,28nm,1.2s
ULM Lac du Bonnet 80.19 33 ⇑*e*P **P** **12 05 24.4 +2.0**
BC3 Big Chuckawall 80.28 55 P **P** **12 05 22.2 -1.1**
baz=307
LANS Liptovska Anna 80.31 325 *e*P **P** **12 05 25.2 +2.1**
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 80.31 325 *e*P **P** **12 05 25.2 +2.1**
OKC Ostrava-Krasne 80.41 327 AMS AMS 12 44 30.0
comp=Z,800nm,16.6s
ARR Arges 80.43 320 ⇑P **P** **12 05 25.2 +1.3**
IKP In-Ko-Pah, Jac 80.45 57 P **P** **12 05 23.8 -0.4**
baz=307
KSP Ksiaz 80.47 328 *e*P **P** **12 05 24.6 +0.7**
SWSC Sam W. Stewart 80.48 56 P **P** **12 05 24.7 +0.5**
baz=307
RSSD Black Hills 80.50 41 P **P** **12 05 23.4 -1.1**
RSSD IAmb IAmb 12 05 40.9
comp=Z,50nm,1.8s
RSSD Black Hills 80.50 41 IAMs_20 IAMs_20 12 42 50.8
comp=Z,342nm,20.0s
RSSD Black Hills 80.50 41 P **P** **12 05 23.4 -1.1**
RSSD pmax pmax
comp=Z,50nm,1.8s
RSSD MLR MLR
comp=Z,300nm,20.0s
RSSD Black Hills 80.50 41 P **P** **12 05 24.0 -0.5**
baz=312
RAYN Ar Rayn 80.61 292 P **P** **12 05 24.2 -1.0**
RAYN IAmb IAmb 12 05 27.2
comp=Z,22nm,0.8s
RAYN Ar Rayn 80.61 292 ⇑P **P** **12 05 25.2 0.0**
RAYN Ar Rayn 80.61 292 *i* P **P** **12 05 25.1 -0.1**
SNR=32
U15A North Rim 80.64 52 IAmb IAmb 12 05 42.3
comp=Z,50nm,1.6s
MORC Moravsky Berou 80.72 327 ⇑P **P** **12 05 25.6 +0.3**
MORC Moravsky Berou 80.72 327 P **P** **12 05 25.2 -0.1**
MORC Moravsky Berou 80.72 327 *e*P **P** **12 05 25.4 +0.1**
MORC Moravsky Berou 80.72 327 ⇑P **P** **12 05 25.6 +0.3**
OSTC Ostas 80.72 328 AMS AMS 12 44 10.0
comp=Z,1μm,17.3s
PDMCI Parker Dam,Lak 80.75 54 P **P** **12 05 25.6 -0.1**
baz=308,SNR=5.8
O20A White River Ci 80.76 47 P **P** **12 05 25.1 -0.8**
O20A IAmb IAmb 12 05 42.6
comp=Z,19nm,1.0s
O20A White River Ci 80.76 47 P **P** **12 05 26.4 +0.5**
baz=310
DPC Dobruska-Polom 80.83 328 *e*P **P** **12 05 27.0 +1.1**
DPC MLR MLR
comp=Z,900nm,19.1s
DPC Dobruska-Polom 80.83 328 *e*P **P** **12 05 27.0 +1.1**
DPC AMS AMS 12 44 10.0
comp=Z,900nm,19.1s
KRLC Kraliky 80.83 327 *e*P **P** **12 05 26.6 +0.7**
KRLC MLR MLR
comp=Z,1μm,16.7s
KRLC Kraliky 80.83 327 *e*P **P** **12 05 26.6 +0.7**
KRLC AMS AMS 12 45 40.0
comp=Z,1μm,16.7s
BLYC Blythe 80.84 55 P **P** **12 05 25.7 -0.5**
BLYC IAmb IAmb 12 05 42.6
comp=Z,30nm,1.2s
UPC Upice 80.84 328 *e*S **S** **12 15 30.5 -1.2**
UPC AMS AMS 12 44 20.0
comp=Z,1μm,19.0s
MAUC Maruska 80.89 326 AMS AMS 12 44 50.0
comp=Z,2μm,19.6s
ESJX Sierra Juarez 80.95 57 IAmb IAmb 12 05 43.5
comp=Z,30nm,1.3s
PSZ Piszkesteto 80.99 324 ⇑P **P** **12 05 27.7 +0.9**
PSZ Piszkesteto 80.99 324 ⇑P **P** **12 05 27.7 +0.9**
PSZ Piszkesteto 80.99 324 P **P** **12 05 27.3 +0.5**
GLA Glamis 81.07 56 P **P** **12 05 28.3 +0.9**
baz=308
VYHS Vyhne 81.07 325 *e*P **P** **12 05 27.9 +0.7**
VYHS pmax pmax
comp=Z,79nm,2.4s
VYHS Vyhne 81.07 325 *e*P **P** **12 05 27.9 +0.7**
SIRR Siria 81.31 322 ⇑P **P** **12 05 28.5 0.0**
JAVC Velka Javorina 81.33 326 *e*P **P** **12 05 29.9 +1.3**
GZR Gura Zlata 81.36 321 ⇑P **P** **12 05 29.3 +0.4**
GZR Gura Zlata 81.36 321 ⇑P **P** **12 05 29.3 +0.4**
URZ Urewera 81.44 152 LR LR 12 37 38.5
comp=Z,516nm,20.3s,baz=38,slow=33
BRG Berggiesshubel 81.44 329 *e*P **P** **12 05 29.4 +0.3**
BRG Amp 12 05 30.9
comp=Z,16nm,0.8s
BRG *ex* x 12 05 43.9
BRG Amp 12 05 44.7
comp=Z,11nm,1.0s
BRG Berggiesshubel 81.44 329 *e*P **P** **12 05 29.3 +0.3**
BRG *e* 12 05 43.8
BRG S **S** **12 15 39.0 +1.1**

BRG pmax pmax
comp=Z,16nm,0.8s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,1µm,16.0s
BRG MLR MLR
comp=E,690nm,15.9s
BRG MLR MLR
comp=N,705nm,15.6s
PVCC Panska Ves 81.44 329 AMS AMS 12 44 30.0
comp=N,1µm,18.2s
VRAC Vranov 81.48 327 ⇑P **P** **12 05 30.2 +0.9**
VRAC Vranov 81.48 327 P **P** **12 05 29.6 +0.2**
comp=N,9.0nm,0.8s,baz=44,slow=5.5,SNR=13
VRAC LR LR 12 45 27.4
comp=N,1µm,18.8s,baz=39,slow=38
comp=N,9.0nm,0.8s
VRAC Vranov 81.48 327 *e*P **P** **12 05 29.9 +0.6**
VRAC Vranov 81.48 327 ⇑P **P** **12 05 30.2 +0.9**
CLL Collm 81.49 330 IAmb IAmb 12 05 31.2
comp=Z,20nm,0.8s
CLL Collm 81.49 330 ⇑*i*P **P** **12 05 29.2 -0.1**
CLL *e**SP **sP** **12 05 42.0 -1.5**
CLL *e*S **S** **12 15 38.0 -0.4**
CLL pmax pmax
comp=Z,23nm,0.8s
CLL MLR MLR
comp=Z,1µm,18.0s
CLL Collm 81.49 330 ⇑*i*P **P** **12 05 29.2 -0.1**
comp=Z,23nm,0.8s
CLL *e*PcP **PcP** **12 05 37.0 +1.8**
CLL *e*sP **sP** **12 05 42.0 -1.5**
CLL *e*PP **PP** **12 08 37.0 +2.0**
CLL *e*PPP PPP 12 10 30.0
CLL *e*S **S** **12 15 38.0 -0.4**
CLL *e*PS **PnS** **12 16 30.0 +1.7**
CLL *ex* x 12 19 06.0
CLL *e*SS SS 12 21 18.0 +24
CLL *e*SSSS 12 26 54.0
CLL LmH 12 44 00.0
comp=N,900nm,20.9s
CLL LmH 12 44 00.0
comp=E,400nm,19.8s
CLL LmV 12 45 00.0
comp=Z,1µm,18.0s
N23A Red Feather La 81.59 45 P **P** **12 05 30.4 0.0**
N23A IAmb IAmb 12 05 47.9
comp=Z,39nm,1.1s
N23A Red Feather La 81.59 45 P **P** **12 05 31.2 +0.8**
baz=311
PHWY Pilot Hill 81.60 44 P **P** **12 05 28.9 -1.5**
PHWY IAmb IAmb 12 05 47.4
comp=Z,54nm,1.8s
ASF Jabal al Asfar 81.61 304 P **P** **12 05 30.6 +0.1**
comp=Z,6.8nm,0.8s,baz=111,slow=2.5,SNR=15
ASF LR LR 12 45 23.2
comp=Z,507nm,19.1s,baz=98,slow=38
comp=Z,6.8nm,0.8s
PV07 Paradox Valley 81.61 48 P **P** **12 05 29.9 -0.6**
PV07 IAmb IAmb 12 05 47.7
comp=Z,29nm,1.2s
AGMN Agassiz Nation 81.62 34 P **P** **12 05 30.0 -0.1**
AGMN IAmb IAmb 12 05 45.8
comp=Z,23nm,1.3s
AGMN IAMs_20 IAMs_20 12 40 16.3
comp=Z,532nm,22.0s
AGMN Agassiz Nation 81.62 34 P **P** **12 05 29.6 -0.5**
baz=317
SMOL Smolenice 81.69 326 *e*P **P** **12 05 32.2 +1.7**
SMOL pmax pmax
comp=Z,8.0nm,0.8s
KRUC Moravsky 81.75 327 *e*P **P** **12 05 31.0 +0.3**
WUAZ Wupatki 81.78 52 P **P** **12 05 30.8 -0.6**
WUAZ IAmb IAmb 12 05 48.1
comp=Z,28nm,1.1s
WUAZ Wupatki 81.78 52 P **P** **12 05 31.3 -0.1**
baz=309,SNR=5.6
BZS Buzias 81.79 322 ⇑P **P** **12 05 31.2 +0.2**
BZS Buzias 81.79 322 ⇑P **P** **12 05 31.2 +0.2**
GOPC GO Pecny, Ondr 81.81 328 *e*P **P** **12 05 32.7 +1.6**
GOPC MLR MLR
comp=Z,1µm,18.5s
GOPC GO Pecny, Ondr 81.81 328 *e*P **P** **12 05 32.7 +1.6**
GOPC AMS AMS 12 45 10.0
comp=Z,1µm,18.5s
PRU Pruhonice 81.86 328 *e*P **P** **12 05 32.2 +0.9**
PRU *e* 12 05 46.5
PRU *e*S **S** **12 15 42.5 +0.2**
PRU MLR MLR
comp=Z,1µm,17.6s
PRU Pruhonice 81.86 328 *e*P **P** **12 05 32.2 +0.9**
PRU *ex* x 12 05 46.5
PRU *e*S **S** **12 15 42.5 +0.2**
PRU AMS AMS 12 45 30.0
comp=Z,1µm,17.6s
MODS Modra-Piesok 81.87 326 *e*P **P** **12 05 33.1 +1.7**
MODS pmax pmax
comp=Z,314nm,2.6s
MODS Modra-Piesok 81.87 326 *e*P **P** **12 05 33.1 +1.7**
113A Mohawk Valley, 81.94 55 P **P** **12 05 30.5 -1.5**
TREC Trest 81.97 327 AMS AMS 12 45 50.0
comp=Z,1µm,18.6s
ZST Bratislava 82.08 326 *e*P **P** **12 05 34.7 +2.2**
ZST pmax pmax
comp=Z,569nm,3.0s
ZST Bratislava 82.08 326 *e*P **P** **12 05 34.7 +2.2**
MMAI Mount Meron Ar 82.08 305 P **P** **12 05 33.0 +0.1**
comp=Z,11nm,0.7s,baz=56,slow=6.5,SNR=18
MMAI LR LR 12 45 26.7
comp=Z,1µm,21.3s,baz=160,slow=38
comp=Z,11nm,0.7s
ISP Isparta 82.13 312 IAMs_20 IAMs_20 12 47 38.9
comp=Z,493nm,20.0s
CSS Mathiatis 82.21 308 IAmb IAmb 12 05 37.6
comp=Z,20nm,0.8s
MDVR Moldovita 82.33 321 ⇑P **P** **12 05 34.1 +0.2**
MVCO Mesa Verde 82.49 49 IAmb IAmb 12 05 51.7
comp=Z,23nm,1.2s
MVCO Mesa Verde 82.49 49 P **P** **12 05 36.0 +0.9**
baz=310
ISCO Idaho Springs 82.51 46 P **P** **12 05 34.7 -0.6**
ISCO IAmb IAmb 12 05 54.0
comp=Z,32nm,1.8s
ISCO Idaho Springs 82.51 46 P **P** **12 05 34.7 -0.6**
ISCO pmax pmax
comp=Z,32nm,1.8s
ISCO Idaho Springs 82.51 46 P **P** **12 05 36.3 +1.0**
baz=312
ISCO Idaho Springs 82.51 46 P **P** **12 05 35.8 +0.5**
baz=312
B35A Bob, Littlefor 82.54 33 P **P** **12 05 34.6 -0.2**
B35A IAmb IAmb 12 05 50.8
comp=Z,36nm,1.4s
B35A Bob, Littlefor 82.54 33 P **P** **12 05 34.8 -0.1**
baz=318
NKC Novy Kostel 82.54 330 *e*P **P** **12 05 36.2 +1.3**
NKC MLR MLR
comp=Z,1µm,16.5s
NKC Novy Kostel 82.54 330 *e*P **P** **12 05 36.2 +1.3**
NKC AMS AMS 12 45 20.0
comp=Z,1µm,16.5s
SOP Sopron 82.70 326 P **P** **12 05 37.3 +1.6**
RONA Rosalia, Austr 82.81 326 *e*P **P** **12 05 37.3 +0.9**
comp=Z,28nm,1.5s,SNR=9.1
MORH Mrgy, Hungar 82.81 324 ⇑P **P** **12 05 34.6 -1.7**
RDO Rodhopi 82.82 317 P **P** **12 05 36.7 +0.3**
RDO IAmb IAmb 12 06 01.9
comp=Z,24nm,1.2s
CONA Conrad Observa 82.83 326 *e*P **P** **12 05 37.4 +0.9**
comp=Z,17nm,1.2s,SNR=5.9
CKRC Cesky Krumlov 82.84 328 *e*P **P** **12 05 36.9 +0.4**
CKRC *ex* x 12 05 51.4
CKRC *e*S **S** **12 15 55.0 +2.6**
CKRC AMS AMS 12 48 30.0
comp=Z,1µm,16.8s
SUSD Miller 82.92 39 P **P** **12 05 36.7 -0.2**
baz=315
KHC Kasperske Hory 82.92 328 P **P** **12 05 37.1 +0.2**
KHC IAmb IAmb 12 05 38.7
comp=Z,11nm,0.7s
KHC Kasperske Hory 82.92 328 *e*P **P** **12 05 37.5 +0.6**
KHC *e* 12 05 47.8
KHC *e*S **S** **12 15 52.7 -0.5**
KHC MLR MLR
comp=Z,1µm,17.5s
KHC Kasperske Hory 82.92 328 *e*P **P** **12 05 37.5 +0.6**
KHC *e*pP **pP** **12 05 47.8 +0.5**
KHC *e*S **S** **12 15 52.7 -0.5**
KHC AMS AMS 12 45 50.0
comp=Z,1µm,17.5s
FRGS Fruska Gora 83.01 322 ⇑P **P** **12 05 37.7 +0.3**
VTS Vitosha 83.06 319 ⇑P **P** **12 05 38.8 +0.9**
VTS Vitosha 83.06 319 P **P** **12 05 38.8 +0.9**
VTS IAmb IAmb 12 05 41.2
comp=Z,15nm,0.8s
VTS Vitosha 83.06 319 P **P** **12 05 38.8 +0.9**
VTS pmax pmax
comp=Z,15nm,0.8s
W18A Petrified Fore 83.07 51 P **P** **12 05 38.8 +0.6**
baz=310
214A Organ Pipe Nat 83.08 55 P **P** **12 05 38.7 +0.6**
214A IAmb IAmb 12 05 55.5
comp=Z,67nm,2.0s
214A Organ Pipe Nat 83.08 55 P **P** **12 05 38.9 +0.9**
baz=309
GEC2 GERESS Array S 83.08 328 P **P** **12 05 38.1 +0.3**
GERES GERESS Array B 83.08 328 P **P** **12 05 37.8 0.0**
comp=Z,8.5nm,0.9s,baz=46,slow=5.8,SNR=34
comp=Z,8.5nm,0.9s
GERES GERESS Array B 83.08 328 P **P** **12 05 37.5 -0.3**
BOVS Bovan 83.14 320 ⇑P **P** **12 05 37.4 -0.7**
S22A 4UR Ranch, Cre 83.15 48 P **P** **12 05 39.5 +0.8**
S22A IAmb IAmb 12 05 56.5
comp=Z,38nm,1.6s
S22A 4UR Ranch, Cre 83.15 48 P **P** **12 05 38.8 +0.2**
baz=311
KOVH Kovagototos 83.16 324 P **P** **12 05 38.0 -0.2**
ELL Elmali 83.20 311 P **P** **12 05 39.0 +0.3**
ELL Elmali 83.20 311 P **P** **12 05 39.0 +0.3**
ELL pmax pmax
comp=Z,61nm,0.8s
X18A Snowflake 83.31 52 P **P** **12 05 39.2 -0.2**
X18A IAmb IAmb 12 05 56.9
comp=Z,35nm,1.6s
Q24A Divide 83.33 46 P **P** **12 05 39.5 0.0**
baz=312
GRA1 Grafenberg Arr 83.46 330 P **P** **12 05 39.3 -0.3**
GRA1 IAmb IAmb 12 06 12.3
comp=Z,36nm,1.1s
GRF Grafenberg Arr 83.46 330 P **P** **12 05 39.3 -0.3**
GRF pmax pmax
comp=Z,36nm,1.1s
GRF MLR MLR
comp=Z,1µm,19.0s
GRFO Grafenberg 83.46 330 P **P** **12 05 39.3 -0.3**
GRFO Grafenberg 83.46 330 P **P** **12 05 39.3 -0.3**
GRFO pmax pmax
comp=Z,129nm,1.9s
GRFO MLR MLR
comp=Z,1µm,19.0s
ARSA Arzberg 83.49 326 *e*P **P** **12 05 40.5 +0.6**
comp=Z,7.1nm,0.8s
MOA Molln 83.60 327 *e*P **P** **12 05 40.8 +0.3**
comp=Z,12nm,1.1s
EKA Eskdalemuir Ar 83.62 340 P **P** **12 05 40.2 -0.1**
comp=Z,4.8nm,0.8s,baz=24,slow=5.0,SNR=7.6
EKA pP **sP** **12 05 56.2 +1.7**
comp=Z,3.4nm,0.7s,baz=25,slow=4.5,SNR=4.3
EKA LR LR 12 48 01.6
comp=Z,711nm,18.1s,baz=22,slow=39
comp=Z,4.8nm,0.8s
DIVS Divibare 83.68 322 P **P** **12 05 41.4 +0.4**
DIVS IAmb IAmb 12 06 12.4
comp=Z,23nm,1.2s
AKAS Kas 83.72 311 P **P** **12 05 40.5 -0.8**
AKAS IAmb IAmb 12 05 55.4
comp=Z,29nm,0.9s
OGNE Ogallala 83.74 43 P **P** **12 05 41.7 +0.4**
baz=314
EYMN Ely 83.83 32 P **P** **12 05 41.8 +0.2**
EYMN IAmb IAmb 12 05 57.6
comp=Z,27nm,1.1s
EYMN Ely 83.83 32 P **P** **12 05 41.3 -0.3**
baz=320
SDCO Great Sand Dun 83.94 47 P **P** **12 05 43.0 +0.3**
SDCO IAmb IAmb 12 06 00.1
comp=Z,27nm,1.4s
SDCO Great Sand Dun 83.94 47 P **P** **12 05 44.0 +1.3**
baz=312
SDCO Great Sand Dun 83.94 47 P **P** **12 05 42.9 +0.2**
baz=312
BIOA Bad Ischl, Aus 83.99 327 *e*P **P** **12 05 42.8 +0.4**
comp=Z,11nm,0.9s
GROS Grobnik 84.10 326 *i*P **P** **12 05 42.8 -0.3**
SOKA Soboth 84.14 326 *e*P **P** **12 05 43.5 +0.2**
comp=Z,21nm,1.1s,SNR=12
TUC Tucson 84.19 54 P **P** **12 05 43.1 -0.7**
TUC Tucson 84.19 54 P **P** **12 05 43.1 -0.7**
TUC pmax pmax
comp=Z,15nm,1.4s
TUC Tucson 84.19 54 P **P** **12 05 42.3 -1.5**
baz=310
PMOR Pomariorio Ree 84.21 113 *e*T T 13 38 12.0
comp=Z,33nm,0.2s
STIP Stip 84.26 319 *e*Pn **P** **12 05 43.2 -0.7**
RPZ Rata Peaks 84.28 159 LR LR 12 38 23.7
comp=Z,707nm,21.4s,baz=336,slow=32
VAY Valandovo 84.31 318 *e*Pn **P** **12 05 44.6 +0.5**
EIL Elat 84.46 303 P **P** **12 05 45.7 +0.6**
comp=Z,13nm,0.8s,baz=321,slow=5.3,SNR=9.2
EIL pP **sP** **12 06 01.1 +2.0**
comp=Z,18nm,0.8s,baz=336,slow=8.7,SNR=6.9
EIL LR LR 12 47 25.2
comp=Z,445nm,20.5s,baz=78,slow=38
comp=Z,13nm,0.8s
OBKA Obir 84.49 326 *e*P **P** **12 05 45.4 +0.3**
comp=Z,4.7nm,0.8s
KBA Koelnbreinsper 84.59 327 *i*P **P** **12 05 45.8 +0.1**
comp=Z,6.5nm,0.8s
ECSD EROS Data Cent 84.60 38 P **P** **12 05 44.8 -0.8**
ECSD IAmb IAmb 12 06 01.6
comp=Z,17nm,1.0s
ECSD EROS Data Cent 84.60 38 IAMs_20 IAMs_20 12 39 59.1
comp=Z,381nm,20.0s
ECSD EROS Data Cent 84.60 38 P **P** **12 05 45.5 -0.1**
baz=317
ECSD EROS Data Cent 84.60 38 P **P** **12 05 45.0 -0.6**
baz=317
PPT Papeete 84.63 116 LR LR 12 37 29.1
comp=Z,862nm,20.2s,baz=318,slow=31
PPT2 Papeete2 84.64 116 *e*S **S** **12 16 10.9 -0.4**
comp=Z,219nm,23.8s
PPT2 *e*SS **SS** **12 21 44.2 +0.6**
comp=Z,280nm,25.5s
PPT2 Papeete2 84.64 116 *e*LR LR 12 32 28.4
comp=Z,3µm,28.0s
PPT2 Papeete2 84.64 116 *e*T T 13 38 43.4
comp=Z,4.4nm,0.3s
PAE Paea 84.68 116 *e*T T 13 38 51.5
comp=Z,0.7nm,0.2s
MEM Membach 84.73 333 *d*P **P** **12 05 47.0 +0.9**
KSCO Kaye Shedlock' 84.74 45 P **P** **12 05 46.0 -0.5**
baz=314
MYKA Terra Mystica 84.80 327 *i*P **P** **12 05 46.7 +0.1**
comp=Z,5.6nm,0.8s
E38A The Farm, Brul 84.83 33 IAmb IAmb 12 06 02.3
comp=Z,32nm,1.1s
E38A The Farm, Brul 84.83 33 P **P** **12 05 45.9 -0.7**
baz=320
BHOU Houvegnez 84.94 333 *d*P **P** **12 05 47.1 -0.1**
GBAS Gorenja Brezov 84.97 326 *i*P **P** **12 05 47.6 +0.2**
PRED Cave del Predi 84.98 327 P **P** **12 05 47.2 -0.3**
T25A Trinidad 84.99 47 P **P** **12 05 47.5 -0.4**
T25A IAmb IAmb 12 06 08.1
comp=Z,23nm,1.0s
T25A Trinidad 84.99 47 P **P** **12 05 47.6 -0.3**
baz=313
STU Stuttgart 85.00 330 P **P** **12 05 47.2 -0.3**
STU Stuttgart 85.00 330 P **P** **12 05 47.2 -0.3**
STU pmax pmax
comp=Z,26nm,0.7s
STU MLR MLR
comp=Z,800nm,18.0s
BCLA Clavier 85.14 333 *d*P **P** **12 05 47.9 -0.3**
WATA Walderalm 85.16 328 *i*P **P** **12 05 48.2 -0.2**
comp=Z,3.7nm,0.6s
WTTA Wattenberg 85.19 328 *i*P **P** **12 05 48.7 0.0**
comp=Z,4.8nm,0.8s
ABTA Abfaltersbach 85.21 327 *i*P **P** **12 05 48.4 -0.2**
comp=Z,7.1nm,0.8s
LIT Litokhoron 85.22 317 P **P** **12 05 48.4 -0.4**
LIT Litokhoron 85.22 317 P **P** **12 05 48.4 -0.4**
LIT pmax pmax
comp=Z,34nm,0.8s
ANMO Albuquerque 85.22 50 LR LR 12 39 53.6
comp=Z,101nm,19.3s,baz=321,slow=33
ANMO Albuquerque 85.22 50 P **P** **12 05 47.0 -2.1**
ANMO IAmb IAmb 12 06 06.6
comp=Z,27nm,1.4s
ANMO Albuquerque 85.22 50 ⇑*e*P **P** **12 05 50.2 +1.1**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 85.22 50 P **P** **12 05 50.3 +1.2**
baz=312
ANMO Albuquerque 85.22 50 P **P** **12 05 49.7 +0.6**
baz=312
PDG Podgorica 85.26 321 ⇑P **P** **12 05 49.0 +0.1**
CLUD Cludinico 85.27 327 IAmb IAmb 12 05 50.7
comp=Z,19nm,0.9s
SPMN Marine on St. 85.31 35 P **P** **12 05 48.2 -0.9**
baz=319
MOTA Moosalm 85.35 328 *e*P **P** **12 05 49.3 -0.1**
comp=Z,5.3nm,0.8s
RETA Reutte 85.38 329 *e*P **P** **12 05 49.4 -0.1**
comp=Z,8.5nm,0.7s
RCHB Rochefort 85.39 333 *d*P **P** **12 05 49.5 +0.1**
SQTA Sankt Quirin 85.40 328 *e*P **P** **12 05 49.2 -0.5**
comp=Z,4.2nm,0.6s
OHR Ohrid 85.41 319 *e*Pn **P** **12 05 50.3 +0.6**
BMRD Maredsous 85.44 334 *d*P **P** **12 05 49.7 +0.1**
BGNE Belgrade 85.50 40 P **P** **12 05 49.4 -0.7**
baz=316
STAL STALIGIAL 85.50 327 IAmb IAmb 12 05 51.2
comp=Z,12nm,0.6s
Y22D IRIS PASSCAL I 85.51 51 P **P** **12 05 50.4 -0.1**
baz=312
Y22A Socorro 85.58 51 P **P** **12 05 51.3 +0.4**
baz=312
CIMO Cimolais 85.58 327 P **P** **12 05 48.9 -1.6**
CIMO IAmb IAmb 12 05 51.5
comp=Z,5.2nm,0.6s
APE Apeiranthos 85.59 314 ⇑P **P** **12 05 49.7 -1.0**
APE Apeiranthos 85.59 314 ⇑P **P** **12 05 49.7 -1.0**
BNM Barren Site 85.64 50 P **P** **12 05 50.7 -0.6**
KARP Karpathos 85.66 312 IAMs_20 IAMs_20 12 50 04.4
comp=Z,641nm,19.0s
DOU Dourbes 85.67 334 *d*P **P** **12 05 51.1 +0.3**
BFO Black Forest 85.70 331 P **P** **12 05 50.6 -0.4**
BFO IAmb IAmb 12 05 52.4
comp=Z,16nm,0.7s
BFO IAMs_20 IAMs_20 12 48 28.0
comp=Z,566nm,18.0s
BFO Black Forest 85.70 331 P **P** **12 05 50.6 -0.4**
BFO pmax pmax
comp=Z,16nm,0.7s
BFO MLR MLR
comp=Z,600nm,18.0s
TIR Tirane 85.73 320 ⇑P **P** **12 05 52.9 +1.7**
TIR Tirane 85.73 320 ⇑P **P** **12 05 52.9 +1.7**
FETA Feichten 85.76 328 *i*P **P** **12 05 51.3 -0.2**
comp=Z,5.7nm,0.8s
DAVA Damuels 85.91 329 *e*P **P** **12 05 51.7 -0.6**
comp=Z,14nm,0.8s,SNR=5.7
MEH Mehetia 85.92 116 *e*T T 13 40 30.0
comp=Z,26nm,0.3s
I37B Waseca 85.95 36 P **P** **12 05 53.2 +0.9**
baz=319
I37A Lemond, Waseca 85.95 36 P **P** **12 05 51.1 -1.2**
121A Cookes Peak, D 85.98 52 P **P** **12 05 51.7 -1.2**
121A IAmb IAmb 12 06 13.2
comp=Z,13nm,1.0s
121A Cookes Peak, D 85.98 52 P **P** **12 05 52.9 0.0**
baz=311
L34A Svendsen Farm, 86.01 39 P **P** **12 05 53.3 +0.6**
baz=317
SCHQ Schefferville 86.02 16 P **P** **12 05 52.8 +0.4**
comp=Z,5.7nm,0.8s,baz=328,slow=5.1,SNR=5.4
SCHQ LR LR 12 46 17.0
comp=Z,489nm,21.0s,baz=340,slow=37
comp=Z,5.7nm,0.8s
SCHQ Schefferville 86.02 16 IAmb IAmb 12 06 12.2
comp=Z,22nm,1.2s
SANT Santorini 86.11 313 IAMs_20 IAMs_20 12 50 31.4
comp=Z,615nm,18.0s
ECH Echery 86.25 331 IAmb IAmb 12 05 54.9
comp=Z,11nm,0.9s
ECH IAMs_20 IAMs_20 12 49 29.5
comp=Z,561nm,18.0s
FUORN Ofenpass-Fuorn 86.27 328 P **P** **12 05 52.6 -1.5**
FUORN IAmb IAmb 12 06 16.6
comp=Z,12nm,0.9s
DAVOX Davos/Dischmat 86.31 329 P **P** **12 05 54.4 +0.1**
comp=Z,3.5nm,0.6s,baz=23,slow=3.7,SNR=5.9
DAVOX LR LR 12 47 56.5
comp=Z,1µm,18.3s,baz=72,slow=38
comp=Z,3.5nm,0.6s
TAOE Nuku Hiva Isla 86.31 104 *e*S **S** **12 16 27.7 -0.4**
comp=Z,331nm,28.5s
TAOE Nuku Hiva Isla 86.31 104 *e*LR LR 12 33 14.1
comp=Z,2µm,24.4s
CBKS Cedar Bluff 86.49 43 P **P** **12 05 54.9 -0.3**
baz=315
IDI Anoyia 87.19 313 ⇑P **P** **12 05 56.4 -2.3**
IDI Anoyia 87.19 313 P **P** **12 05 57.6 -1.0**
comp=Z,8.3nm,0.8s,baz=187,slow=24,SNR=8.4
IDI LR LR 12 49 45.6
comp=Z,227nm,20.0s,baz=72,slow=39
comp=Z,8.3nm,0.8s
EPT El Paso 87.30 52 IAMs_20 IAMs_20 12 41 00.2
comp=Z,412nm,19.0s
SCIA State Center 87.63 37 IAMs_20 IAMs_20 12 41 47.3
comp=Z,435nm,19.0s
SCIA State Center 87.63 37 P **P** **12 06 00.3 -0.2**
baz=319
SENIN Lac Senin/Sane 87.70 330 IAmb IAmb 12 06 22.5
comp=Z,16nm,1.4s
FDMO Fiordimonte 87.82 325 P **P** **12 06 00.7 -0.8**
NRCA Norcia 87.96 325 P **P** **12 06 02.5 +0.3**
NRCA IAmb IAmb 12 06 03.7
comp=Z,16nm,0.7s
KSU1 Kansas State U 87.98 41 P **P** **12 06 01.1 -1.2**
KSU1 Kansas State U 87.98 41 P **P** **12 06 02.4 +0.2**
baz=317
CAMP Campotosto 88.05 324 P **P** **12 06 01.6 -1.0**
CAMP IAmb IAmb 12 06 21.8
comp=Z,25nm,1.2s
MNTX Cornudas Mount 88.06 51 P **P** **12 06 02.4 -0.4**
baz=312
MSTX Muleshoe 88.12 48 P **P** **12 06 04.7 +1.5**
baz=314
AMTX Amarillo 88.14 47 P **P** **12 06 02.4 -0.9**
AMTX IAmb IAmb 12 06 23.1
comp=Z,21nm,1.0s
AMTX Amarillo 88.14 47 P **P** **12 06 03.5 +0.2**
baz=314
AQU L'Aquila 88.19 324 P **P** **12 06 02.1 -1.2**
AQU L'Aquila 88.19 324 P **P** **12 06 02.1 -1.2**
AQU pmax pmax
comp=Z,32nm,1.0s
AQU MLR MLR
comp=Z,1µm,21.0s
JFWS Jewell Farm 88.27 35 IAMs_20 IAMs_20 12 43 45.1
comp=Z,688nm,22.0s
JFWS Jewell Farm 88.27 35 P **P** **12 06 03.4 -0.1**
baz=321
OSSC Osservatorio P 88.28 326 P **P** **12 06 03.0 -0.6**
OSSC IAmb IAmb 12 06 05.8
comp=Z,18nm,1.1s
TBI Tubuai 88.47 121 *e*P **P** **12 06 05.7 +1.1**
comp=Z,65nm,40.8s
TBI Tubuai 88.47 121 *e*S **S** **12 16 47.8 -0.3**
comp=Z,198nm,25.2s
TBI *e*SS **SS** **12 22 39.9 +0.4**
comp=Z,202nm,32.2s
TBI Tubuai 88.47 121 *e*LR LR 12 34 14.0
comp=Z,2µm,26.8s
TBI Tubuai 88.47 121 *e*T T 13 43 41.5
comp=Z,13nm,0.3s
ELIS Ellis County 88.62 45 P **P** **12 06 04.3 -1.1**
ELIS IAmb IAmb 12 06 22.5
comp=Z,51nm,1.4s
OK038 West end E0370 88.71 44 IAMs_20 IAMs_20 12 45 04.2
comp=Z,340nm,21.0s
KS20 Mayfield South 88.83 43 P **P** **12 06 04.7 -1.6**
TIP Timpagrande 88.93 320 ⇑P **P** **12 06 08.0 +1.1**
VLDQ Val d'Or 89.12 25 P **P** **12 06 06.6 -0.8**
N41A Harden Midland 89.69 37 P **P** **12 06 09.9 -0.4**
N41A IAmb IAmb 12 06 25.9

comp=Z,18nm,1.1s
ATD Arta Tunnel 89.73 284 LR LR 12 49 10.0
comp=Z,309nm,21.7s,baz=25,slow=37
ATD Arta Tunnel 89.73 284 IAMs_20 IAMs_20 12 53 07.6
comp=Z,547nm,18.0s
LPIG La Paz 89.76 60 LR LR 12 40 00.8
comp=Z,253nm,22.0s,baz=308,slow=31
OK046 Pawnee Station 89.79 43 IAMs_20 IAMs_20 12 45 48.8
comp=Z,361nm,20.0s
OK047 Pawnee, Statio 89.84 43 P **P** **12 06 09.7 -1.4**
OK047 IAmb IAmb 12 06 26.9
comp=Z,19nm,1.1s
OK044 Pawnee Station 89.87 43 IAMs_20 IAMs_20 12 47 28.9
comp=Z,286nm,19.0s
L44A Lake County Fo 89.91 34 IAMs_20 IAMs_20 12 44 57.7
comp=Z,560nm,21.0s
OK029 Liberty Lake 89.92 44 IAMs_20 IAMs_20 12 37 58.3
comp=Z,260nm,19.0s
WMOK Wichita Mounta 89.93 45 P **P** **12 06 10.9 -0.6**
WMOK Wichita Mounta 89.93 45 P **P** **12 06 10.9 -0.6**
WMOK pmax pmax
comp=Z,51nm,1.9s
WMOK Wichita Mounta 89.93 45 P **P** **12 06 12.6 +1.0**
baz=316
OK033 Mehan 90.03 43 IAMs_20 IAMs_20 12 51 40.1
comp=Z,307nm,18.0s
CEL Celeste 90.07 320 P **P** **12 06 11.5 -0.7**
OK025 Westminster Rd 90.14 44 IAMs_20 IAMs_20 12 44 35.2
comp=Z,314nm,19.0s
OK031 S. Brethren Rd 90.15 43 IAMs_20 IAMs_20 12 54 27.3
comp=Z,334nm,19.0s
OK034 N. Norfolk Rd. 90.18 43 IAMs_20 IAMs_20 12 41 55.1
comp=Z,353nm,19.0s
OK030 Cody Creek RV 90.20 43 IAMs_20 IAMs_20 12 44 19.6
comp=Z,318nm,20.0s
HDIL Hopedale 90.55 36 IAMs_20 IAMs_20 12 44 14.7
comp=Z,484nm,22.0s
HDIL Hopedale 90.55 36 P **P** **12 06 14.2 -0.1**
baz=322
TX31 Lajitas Ar. Si 90.74 52 P **P** **12 06 14.8 -0.7**
TX31 Lajitas Ar. Si 90.74 52 P **P** **12 06 16.1 +0.6**
baz=313
TX32 Lajitas Array 90.74 52 P **P** **12 06 14.7 -0.8**
TXAR Lajitas Array 90.74 52 P **P** **12 06 15.8 +0.3**
comp=Z,2.0nm,0.8s,baz=289,slow=3.1,SNR=26
TXAR pP **sP** **12 06 30.7 +0.9**
comp=Z,6.2nm,0.8s,baz=299,slow=3.1,SNR=12
TXAR LR LR 12 41 09.9
comp=Z,526nm,21.9s,baz=310,slow=32
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 90.74 52 P **P** **12 06 15.0 -0.6**
S39A Bolivar 90.75 40 P **P** **12 06 15.2 -0.1**
TUL1 Leonard 90.76 43 P **P** **12 06 15.8 +0.5**
baz=318
R40A Maddies Statio 90.84 39 P **P** **12 06 14.3 -1.4**
R40A Maddies Statio 90.84 39 P **P** **12 06 13.6 -2.0**
baz=320
ABTX Abilene, Hawle 90.93 47 P **P** **12 06 16.2 -0.1**
baz=315
U38A Gravette 91.13 42 P **P** **12 06 16.7 -0.4**
U38A IAmb IAmb 12 06 32.5
comp=Z,24nm,1.3s
U38A Gravette 91.13 42 P **P** **12 06 16.7 -0.4**
baz=318
SADO Sadowa 91.39 27 LR LR 12 51 06.4
comp=Z,258nm,20.5s,baz=355,slow=38
VAE Valguarnera 91.42 320 LR LR 12 51 12.9
comp=Z,621nm,19.1s,baz=40,slow=38
HHAR Hobbs 91.49 41 P **P** **12 06 18.2 -0.5**
HHAR IAmb IAmb 12 06 33.9
comp=Z,18nm,1.2s
CCM Cathedral Cave 91.54 39 P **P** **12 06 18.6 -0.3**
CCM IAmb IAmb 12 07 06.1
comp=Z,13nm,1.0s
CCM Cathedral Cave 91.54 39 IAMs_20 IAMs_20 12 45 29.9
comp=Z,361nm,20.0s
CCM Cathedral Cave 91.54 39 P **P** **12 06 18.6 -0.3**
CCM pmax pmax
comp=Z,13nm,1.0s
CCM MLR MLR
comp=Z,400nm,20.0s
CCM Cathedral Cave 91.54 39 P **P** **12 06 19.2 +0.3**
baz=320
MGMO Mountain Grove 91.71 40 P **P** **12 06 18.5 -1.3**
MGMO IAmb IAmb 12 06 38.5
comp=Z,13nm,0.9s
SFIN Lafayette 91.72 35 P **P** **12 06 20.2 +0.5**
baz=323
JCT Junction City 92.36 49 IAMs_20 IAMs_20 12 42 04.0
comp=Z,440nm,20.0s
JCT Junction City 92.36 49 P **P** **12 06 23.0 +0.1**
baz=315
WHTX Lake Whitney, 92.68 46 P **P** **12 06 25.0 +0.7**
baz=317
O48B Farmland 92.69 34 P **P** **12 06 24.5 +0.3**
baz=324
FCAR Ozark Folk Cen 92.74 41 P **P** **12 06 23.5 -1.0**
FCAR IAmb IAmb 12 06 39.7
comp=Z,16nm,1.1s
MIAR Mount Ida 92.98 42 P **P** **12 06 25.0 -0.6**
MIAR IAMs_20 IAMs_20 12 45 32.3
comp=Z,395nm,22.0s
MIAR Mount Ida 92.98 42 P **P** **12 06 25.0 -0.6**
MIAR pmax pmax
comp=Z,25nm,1.2s
MIAR Mount Ida 92.98 42 P **P** **12 06 25.8 +0.1**
baz=319
WHAR Wooly Hollow 93.11 41 P **P** **12 06 25.1 -1.1**
WHAR IAmb IAmb 12 06 45.2
comp=Z,15nm,0.9s
LONY Lake Ozonia 93.14 25 IAMs_20 IAMs_20 12 49 27.6
comp=Z,473nm,20.0s
ERPA Erie 93.32 29 IAMs_20 IAMs_20 12 52 45.8
comp=Z,357nm,20.0s
P49A Miami Univ. Ec 93.48 34 IAMs_20 IAMs_20 12 46 57.0
comp=Z,442nm,20.0s
P49A Miami Univ. Ec 93.48 34 P **P** **12 06 28.6 +0.8**
baz=325
M53A WI Miller and 93.62 30 IAMs_20 IAMs_20 12 50 27.7
comp=Z,282nm,20.0s
M53A WI Miller and 93.62 30 P **P** **12 06 29.1 +0.6**
baz=328
WCI Wyandotte Cave 93.81 35 IAMs_20 IAMs_20 12 46 26.9
comp=Z,451nm,22.0s
VT1 Waterbury 93.99 24 IAMs_20 IAMs_20 12 52 30.6
comp=Z,511nm,20.0s
PKME Peaks-Kenny Pk 94.21 21 IAMs_20 IAMs_20 12 54 28.0
comp=Z,570nm,19.0s
LBNH Lisbon 94.34 23 IAMs_20 IAMs_20 12 54 17.5
comp=Z,397nm,20.0s
HNH Hanover 94.70 24 IAMs_20 IAMs_20 12 54 00.1
comp=Z,411nm,20.0s
WVL Waterville 94.74 21 IAMs_20 IAMs_20 12 53 07.0
comp=Z,519nm,20.0s
WVT Waverly 94.75 38 IAMs_20 IAMs_20 12 54 50.7
comp=Z,318nm,19.0s
TRY Troy 95.11 25 IAMs_20 IAMs_20 12 57 20.0
comp=Z,409nm,19.0s
EMMW East Machias 95.24 20 IAMs_20 IAMs_20 12 45 02.2
comp=Z,382nm,19.0s
KEST Kesra 95.34 322 LR LR 12 55 22.4
comp=Z,674nm,18.2s,baz=0.0,slow=39
SSPA Standing Stone 95.41 29 IAMs_20 IAMs_20 12 58 01.0
comp=Z,366nm,20.0s
MCWV Mont Chateau 95.46 31 IAMs_20 IAMs_20 12 48 02.5
comp=Z,643nm,22.0s
L61B Northampton 95.70 24 IAMs_20 IAMs_20 12 56 58.4
comp=Z,488nm,18.0s
HRV Adam Dziewonsk 96.01 24 IAMs_20 IAMs_20 12 54 10.8
comp=Z,474nm,20.0s
WES Weston 96.20 24 IAMs_20 IAMs_20 12 53 44.7
comp=Z,494nm,20.0s
TZTN Tazewell 96.45 35 IAMs_20 IAMs_20 12 48 35.7
comp=Z,510nm,21.0s
BRYW Bryant College 96.55 24 IAMs_20 IAMs_20 12 54 44.0
comp=Z,464nm,20.0s
PAL Palisades 96.56 26 IAMs_20 IAMs_20 12 57 50.3
comp=Z,429nm,18.0s
YLE Yale 96.62 25 IAMs_20 IAMs_20 12 57 31.9
comp=Z,479nm,19.0s
TKL Tuckaleechee C 97.07 35 LR LR 12 53 19.3
comp=Z,129nm,20.4s,baz=334,slow=37
BLA Blacksburg 97.29 32 IAMs_20 IAMs_20 12 55 36.8
comp=Z,404nm,21.0s
LRAL Lakeview Retre 97.61 39 IAMs_20 IAMs_20 12 49 41.6
comp=Z,329nm,20.0s
ESDC Sonseca Array 97.72 333 P **P** **12 06 46.6 -0.6**
comp=Z,1.3nm,0.8s,baz=16,slow=4.9,SNR=10

ESDC PP **PP** **12 10 49.1 +4.8**
comp=Z,0.9nm,0.8s,baz=37,slow=7.2,SNR=4.5
ESDC LR LR 12 54 56.9
comp=Z,1μm,21.3s,baz=24,slow=38
comp=Z,1.3nm,0.8s
GOGA Godfrey 99.06 36 IAMs_20 IAMs_20 12 58 04.8
comp=Z,296nm,19.0s
NHSC New Hope 100.84 34 IAMs_20 IAMs_20 12 50 39.0
comp=Z,558nm,21.0s
KMBO Kilima Mbogo 101.75 277 IAMs_20 IAMs_20 13 01 40.7
comp=Z,440nm,18.0s
KIBK Kibwezi 101.84 276 IAMs_20 IAMs_20 13 01 33.3
comp=Z,384nm,20.0s
TAM Tamanrasset 107.67 317 IAMs_20 IAMs_20 13 02 16.8
comp=Z,346nm,20.0s
TORD Torodi Ar. Bea 117.56 314 PKP **PKiKP** **12 11 58.8 +0.2**
comp=Z,0.6nm,0.5s,baz=23,slow=4.0,SNR=6.2
TORD PP **PP** **12 13 11.1 +1.0**
comp=Z,2.1nm,0.8s,baz=38,slow=7.2,SNR=4.0
SMRT St. Maarten 121.24 27 IAMs_20 IAMs_20 13 07 04.8
comp=Z,307nm,20.0s
SDV Santo Domingo 126.00 40 IAMs_20 IAMs_20 13 13 47.8
comp=Z,368nm,20.0s
QSPA South Pole Qui 126.15 180 PKP **PKPdf** **12 12 12.8 -0.7**
comp=Z,4.8nm,0.9s,baz=283,slow=0.9,SNR=16
QSPA South Pole Qui 126.15 180 **PKPdf** **12 12 12.7 -0.8**
BOSA Boshof 126.16 259 PKP **PKPdf** **12 12 14.2 -0.6**
comp=Z,3.5nm,0.8s,baz=76,slow=4.9,SNR=3.2
DBIC Dimbokro 126.54 316 PKP **PKPdf** **12 12 15.9 +0.1**
comp=Z,3.7nm,0.7s,baz=255,slow=1.7,SNR=3.4
OTAV Otavalo 128.33 54 *eP* **PKiKP** **12 12 22.3 +1.9**
BELA Belgrano 2 138.38 181 PKPdf **PKPdf** **12 12 34.8 -1.4**
SNAA Sanae 140.06 197 PKhKP PKPpre 12 12 34.6
comp=Z,1.5nm,0.7s,baz=292,slow=4.0,SNR=3.5
MALB Monte Alegre 142.82 26 *eP* **PKiKP** **12 12 48.5 -0.8**
ETMB Extrema 143.80 50 PKPbc 12 12 45.4 0.0
SMAI San Martin Ant 144.53 162 **PKPdf** **12 12 47.6 +0.3**
ITTB Itaituba 144.58 30 *eP* **PKPdf** **12 12 49.7 +0.5**
SAML Samuel 144.91 45 PKPdf **PKPab** **12 12 47.5 -1.4**
SAML Samuel 144.91 45 PKIKP **PKPab** **12 12 47.5 -1.4**
TMAB Tom-Au,PA,Br 145.10 16 *eP* **PKPdf** **12 12 51.1 +1.0**
NPGB Novo Progresso 147.16 31 *eP* **PKPbc** **12 12 55.3 -0.5**
PB12 IPOC Station P 147.22 66 PKPbc **PKPab** **12 12 57.1 -0.6**
H03N2 Juan Fernandez 147.25 97 T T 14 57 37.2
baz=291,slow=76,SNR=298
H03N3 Juan Fernandez 147.27 97 T T 14 57 37.2
baz=291,slow=76,SNR=321
LPAZ La Paz 147.27 60 PKPbc **PKPdf** **12 12 55.4 +1.0**
comp=Z,10.0nm,0.8s,baz=349,slow=4.0,SNR=30
LPAZ La Paz 147.27 60 **PKPbc** **12 12 55.9 -0.9**
LPAZ La Paz 147.27 60 PKP2 **PKPbc** **12 12 55.9 -0.9**
LPAZ La Paz 147.27 60 *eP* **PKPbc** **12 12 55.9 -0.9**
H03N1 Juan Fernandez 147.27 97 T T 14 57 36.8
baz=291,slow=76,SNR=333
PMSA Palmer Station 147.89 160 *eP* **PKPbc** **12 12 55.9 -0.3**
PRPB Parauapebas 148.31 21 *eP* **PKPbc** **12 12 57.6 -1.3**
GO01 Chusmiza 148.71 66 **PKiKP** **12 13 01.2 -0.6**
PB02 IPOC Station P 149.18 69 **PKiKP** **12 13 02.5 +0.2**
CLDB Colider 150.37 35 *eP* **PKPdf** **12 13 01.1 +2.4**
LVC Limon Verde 150.67 70 *eP* **PKPdf** **12 13 01.1 +1.7**
GO02 Mina Guanaco 151.52 75 **PKPbc** **12 13 06.9 +0.1**
PTLB Pontes e Lacer 152.46 46 **PKiKP** **12 13 09.0 0.0**
AC05 El Transito 152.65 83 **PKiKP** **12 13 09.7 +0.4**
AC02 Maricunga 152.69 78 **PKiKP** **12 13 10.1 +0.3**
BO02 Sierra Bellavi 154.14 96 **PKPbc** **12 13 11.7 -0.4**
BO02 PKPab **sPKPbc** **12 13 27.3 +0.9**
PLCA Paso Flores 155.00 110 PKPab **PKPab** **12 13 23.1 -6.3**
comp=Z,3.2nm,1.0s,baz=348,slow=2.7,SNR=3.8
BDFB Brasilia 157.80 24 PKPab **PKPab** **12 13 42.4 +0.6**
comp=Z,3.5nm,0.7s,baz=276,slow=6.1,SNR=3.5
JANB Januaria 158.21 14 *eP* **PKPdf** **12 13 12.0 +2.3**
MC01 Montes Claros 159.89 14 *eP* **PKPdf** **12 13 15.3 +3.6**
BB19B Bebedouro 162.58 31 *eP* **PKPdf** **12 13 17.0 +2.6**
ITQB Itaqui 163.75 71 *eP* **PKPdf** **12 13 17.6 +2.4**
PTGB Pitanga 163.80 48 *eP* **PKPdf** **12 13 18.2 +2.7**

*IDC **09** 11:59:40.4±0.8,30°.00N×82°.54E,h0km,mb4.0/15, mbtmp4.0/16,ML3.3/1,MS3.9/1,Error ellipse: s-maj=26.1km s-min=16.0km az=48.0*
*DMN **09** 11:59:42.6±0.3,30°.42N×82°.51E,h10km,MlS.0/10,Error ellipse: s-maj=6.8km s-min=6.0km az=62.0*
ISC 09 11:59:46.6±0.5,30°.19N±0°.07×82°.61E±0°.05,h35km,n35, σ2s02/44,mb4.0/14,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**2.09**	**151**	*e*Pn	**Pn**	**12 00 19.6**	**+0.1**
DANN				*e*Sn	**Sn**	**12 00 47.1**	**+2.6**
	10μm,0.6s						
PYUN	**Piuthan**	**2.11**	**171**	*e*Pn	**Pn**	**12 00 19.8**	**+0.1**
PYUN				*e*Sn	**Sn**	**12 00 46.7**	**+1.9**
	5μm,0.7s						
LGTI	**Lohaghat**	**2.18**	**251**	*e*PN	Pn	12 00 11.6	-8.8
LGTI				*e*SN	**Sn**	**12 00 43.4**	**-2.9**
KOLN	**Koldanda**	**2.56**	**160**	*e*Pn	**Pn**	**12 00 26.4**	**+0.5**
KOLN				*e*Sn	**Sn**	**12 00 58.1**	**+2.1**
KOLN				*e*Sn	Sn	12 00 58.3	+2.3
	2μm,0.6s						
GKN	**Gorkha**	**2.81**	**140**	*e*Pn	**Pn**	**12 00 29.5**	**+0.2**
GKN				*e*Sn	**Sn**	**12 01 03.7**	**+1.7**
	2μm,0.3s						
KKN	**Kakani**	**3.35**	**135**	*e*Sn	**Sn**	**12 01 22.8**	**+7.5**
	2μm,0.7s						
DMN	**Daman**	**3.38**	**139**	*e*Pn	**Pn**	**12 00 37.2**	**0.0**
DMN				*e*Sn	**Sn**	**12 01 17.0**	**+0.8**
	2μm,0.7s						
PKIN	**Phulchoki**	**3.57**	**136**	*e*Pn	**Pn**	**12 00 39.4**	**-0.4**
PKIN				*e*Sn	**Sn**	**12 01 20.7**	**-0.2**
	1μm,0.6s						
PKI	**Pulchoki**	**3.58**	**136**	*e*Pn	**Pn**	**12 00 39.3**	**-0.7**
PKI				*e*Sn	**Sn**	**12 01 21.6**	**+0.3**
	996nm,0.8s						
GUN	**Gumba**	**3.66**	**128**	*e*Pn	**Pn**	**12 00 40.8**	**-0.2**
GUN				*e*Sn	**Sn**	**12 01 23.9**	**+0.8**
	1μm,0.7s						
JIRN	**Jiri**	**4.03**	**128**	*e*Pn	**Pn**	**12 00 46.0**	**-0.2**
JIRN				*e*Sn	**Sn**	**12 01 32.8**	**+0.5**
	246nm,0.3s						
RAMN	**Ramite**	**4.77**	**132**	*e*Pn	**Pn**	**12 00 55.2**	**-1.1**
NDI	**New Delhi**	**4.94**	**254**	*e*P	Pn	12 01 05.0	+6.6
NDI				*e*S	**Sn**	**12 01 55.0**	**+0.7**
BHK	**Bhakra**	**5.47**	**284**	*e*PN	**Pn**	**12 01 09.2**	**+3.6**
BHK				*e*SN	**Sn**	**12 02 14.4**	**+7.1**
THW	**Thamme Wali**	**9.63**	**288**	P	**Pn**	**12 02 01.8**	**-1.0**
CEP	**Cherat**	**9.78**	**294**	P	**Pn**	**12 02 06.7**	**+1.8**
MKAR	**Makanchi Array**	**16.58**	**359**	Pn	**P**	**12 03 38.8**	**+0.3**
	0.2nm,0.3s,baz=186,slow=12,SNR=2.3						
CMAR	**Chiang Mai Arr**	**18.89**	**124**	P	**P**	**12 04 01.8**	**-2.5**
	baz=306,slow=13,SNR=11						
	3.5nm,0.8s						
KURBB	**Kurchatov Arra**	**20.64**	**353**	P	**P**	**12 04 22.6**	**-0.4**
	2.9nm,0.2s,baz=180,slow=9.5,SNR=4.5						
	2.9nm,0.2s						
ZALV	**Zalesovo Beam**	**23.79**	**3**	P	**P**	**12 04 56.6**	**+0.7**
	2.3nm,0.4s,baz=188,slow=9.5,SNR=3.1						
	2.3nm,0.4s						
BVAR	**Borovoye Array**	**24.51**	**342**	P	**P**	**12 05 03.4**	**+0.8**
	1.4nm,0.5s,baz=140,slow=9.4,SNR=2.0						
	1.4nm,0.5s						
SONM	**Songino Array**	**25.37**	**39**	P	**P**	**12 05 11.8**	**+1.2**
	3.2nm,0.7s,baz=235,slow=11,SNR=6.3						
	3.2nm,0.7s						
ARU	**Arti**	**31.21**	**334**	P	**P**	**12 06 02.3**	**-0.1**
	baz=106,slow=7.4						
KSRS	**Korea Array**	**38.04**	**67**	LR	LR	12 24 01.0	
	comp=Z,168nm,18.1s,baz=115,slow=38						
NRIK	**Noril'sk**	**39.29**	**3**	P	**P**	**12 07 11.9**	**+0.2**
	6.3nm,0.9s,baz=150,slow=7.5,SNR=2.9						
	6.3nm,0.9s						
KLR	**Kul'dur**	**41.48**	**48**	P	**P**	**12 07 30.4**	**+0.3**
	0.5nm,0.3s,baz=240,slow=8.1,SNR=2.0						
	0.5nm,0.3s						
AKASG	**Malin Array Be**	**44.39**	**313**	P	**P**	**12 07 53.7**	**+0.1**
	0.4nm,0.3s,baz=80,slow=5.9,SNR=1.9						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**48.07**	**327**	P	**P**	**12 08 22.6**	**+0.3**
	1.8nm,0.5s,baz=113,slow=7.6,SNR=3.6						
	1.8nm,0.5s						
ARCES	**ARCESS Array B**	**50.67**	**338**	P	**P**	**12 08 42.3**	**+0.2**
	3.0nm,0.8s,baz=91,slow=7.4,SNR=5.0						
	3.0nm,0.8s						
GERES	**GERESS Array B**	**54.45**	**311**	P	**P**	**12 09 09.9**	**-0.6**
	0.9nm,0.8s,baz=92,slow=7.0,SNR=2.5						
	0.9nm,0.8s						

NOA NORSAR Array B 55.14 326 P **P** **12 09 14.7 -0.6**
1.4nm,0.7s,baz=90,slow=7.2,SNR=3.8
1.4nm,0.7s
WRA Warramunga Arr 70.44 128 P **P** **12 10 56.4 -1.3**
1.0nm,0.7s,baz=321,slow=6.3,SNR=9.2
1.0nm,0.7s
ASAR Alice Springs 72.74 131 P **P** **12 11 10.4 -1.0**
0.8nm,0.7s,baz=325,slow=6.4,SNR=5.2
0.8nm,0.7s
TORD Torodi Ar. Bea 75.74 277 P **P** **12 11 28.4 -0.8**
2.0nm,0.9s,baz=54,slow=5.1,SNR=8.2
2.0nm,0.9s
ILAR Eielson Array 77.81 19 P **P** **12 11 39.8 -0.2**
0.6nm,0.9s,baz=287,slow=3.0,SNR=4.4
0.6nm,0.9s

*HEL **09** 12:02:31.6±0.2,61°.05N×30°.26E,h0km,ML2.6,Explosion DNK **09** 12:03:52.9±24.0,59°.86N×17°.92E,h0km,ML2.7(UPP), Suspected explosion*
UPP 09 12:02:35.4±3.3,61°.35N×29°.80E,h0km,ML2.7, Suspected explosion,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUFX	**Ruokolahti**	**0.41**	**282**	PG	Pb	12 02 44.9	-0.6
RUFX				SG	Sb	12 02 54.1	+1.7
VJF	**Virojoki**	**1.36**	**234**	PG	Pg	12 02 57.0	-4.5
VJF				MSG		12 03 14.4	
	comp=Z,60nm,0.2s						
VJF				SN	Sg	12 03 19.4	+0.3
JOF	**Joensuu**	**1.73**	**24**	PG	Pn	12 03 06.3	-0.4
JOF				SG	Sg	12 03 31.8	+0.9
KAF	**Kangasniemi**	**1.83**	**296**	PG	Pg	12 03 10.3	-0.1
KAF				MSG		12 03 35.9	
	comp=Z,20nm,0.2s						
KAF				SG	Sg	12 03 38.6	+4.5
PVF	**Pernaja**	**2.08**	**249**	PB	Pn	12 03 09.9	-1.6
	baz=72						
PVF				MSG		12 03 37.2	
	comp=Z,78nm,0.2s						
PVF				SB	Sn	12 03 38.5	+0.4
KEF	**Keuruu**	**2.48**	**291**	PB	Pb	12 03 19.1	-1.7
KEF				SB	Sg	12 03 54.1	-1.0
KEF				MSG		12 03 54.3	
	comp=Z,9.8nm,0.2s						
NUR	**Nurmijrvi**	**2.65**	**254**	PN	Pn	12 03 18.6	-0.7
	baz=72						
NUR				SG	Sg	12 03 58.8	-1.7
RMF	**Romuvaara**	**2.88**	**1**	PB	Pn	12 03 24.3	+1.9
	baz=175						
RMF				SB	Sg	12 04 06.4	-1.4
MEF	**Metsahovi**	**2.88**	**249**	PN	Pn	12 03 21.2	-1.3
MEF				SN	Sn	12 03 57.6	-0.2
MEF				MSG		12 03 60.0	
	comp=Z,37nm,0.2s						
VSU	**Vasula**	**3.28**	**209**	PN	Pn	12 03 24.0	-4.0
VSU				SB	Sn	12 04 03.6	-4.1
VAF	**Ylistaro**	**3.75**	**300**	PN	Pn	12 03 37.3	+2.9
OUF	**Merijarvi**	**3.82**	**325**	PB	Pb	12 03 41.3	-2.2
OUF				SG	Sg	12 04 40.7	+2.8
RAF	**Rauma**	**3.90**	**269**	PN	Pn	12 03 37.0	+0.5
	baz=86						
MTSE	**Matsula**	**4.00**	**231**	PG	Pb	12 03 44.4	-2.2
MTSE				SG	Sb	12 04 37.3	+1.9
OBF0	**Syolatti, Pyha**	**4.05**	**324**	PG	Pg	12 03 53.0	0.0
OUL	**Oulu**	**4.14**	**336**	PB	Pb	12 03 46.8	-2.3
OUL				SB	Sg	12 04 44.2	-4.2
OBF8	**Ulkokalla**	**4.17**	**319**	PN	Pn	12 03 42.6	+2.4
AAL	**Aland**	**4.95**	**261**	P	Pn	12 03 49.7	-1.1
AAL				S	Sn	12 04 47.5	-1.2
GRAU	**Graesoe**	**5.60**	**264**	P	Pn	12 03 58.0	-1.8
GRAU	**Graesoe**	**5.60**	**264**	P	Pn	12 03 58.0	-1.8
NRTU	**Norrtaelje**	**5.77**	**258**	P	Pn	12 04 00.3	-1.8
NRTU	**Norrtaelje**	**5.77**	**258**	P	Pn	12 04 00.3	-1.8
FLYU	**Flymyra**	**5.97**	**263**	P	Pn	12 04 03.2	-1.6
FLYU	**Flymyra**	**5.97**	**263**	P	Pn	12 04 03.2	-1.6
IGGU	**Iggoen**	**6.07**	**271**	P	Pn	12 04 05.4	-0.8
IGGU	**Iggoen**	**6.07**	**271**	P	Pn	12 04 05.4	-0.8
FIBU	**Brunna**	**6.30**	**262**	P	Pn	12 04 08.2	-1.2
FIBU	**Brunna**	**6.30**	**262**	P	Pn	12 04 08.2	-1.2
NYNU	**Nynaeshamn**	**6.34**	**253**	P	Pn	12 04 08.4	-1.5
NYNU	**Nynaeshamn**	**6.34**	**253**	P	Pn	12 04 08.4	-1.5
VIKU	**Vikbolandet**	**7.17**	**252**	P	Pn	12 04 19.9	-1.5
VIKU	**Vikbolandet**	**7.17**	**252**	P	Pn	12 04 19.9	-1.5

ROM 09 12:04:13.2±0.1,42°.800N±0°.004×13°.126E±0°.005, h6km±1km,Md1.0/7,Error ellipse: s-maj=0.4km s-min=0.1km az=315.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**346**	P	Pg	12 04 14.5	0.0
NRCA				S	Sg	12 04 15.4	-0.1
NRCA				AML	AML		
	comp=E,2920μm,0.1s						
NRCA				AML	AML		
	comp=N,1164μm,1.2s						
NRCA				AML	AML		
	comp=E,3150μm,0.1s						
NRCA				AML	AML		
	comp=N,1295μm,0.1s						
NRCA				END			
T1242	**Castelluccio d**	**0.07**	**63**	P	Pg	12 04 14.9	0.0
T1242				S	Sg	12 04 16.2	0.0
T1242				AML	AML		
	comp=E,166μm,1.5s						
T1242				AML	AML		
	comp=N,130μm,1.5s						
T1242				AML	AML		
	comp=E,402μm,1.1s						
T1242				AML	AML		
	comp=N,404μm,1.0s						
T1242				END			
T1216	**Preci, Frazion**	**0.12**	**319**	P	Pg	12 04 16.1	+0.4
T1216				S	Sg	12 04 18.3	+0.9
T1216				END			
T1202	**Accumoli, Fraz**	**0.12**	**143**	P	Pg	12 04 16.1	+0.3
T1202				S	Sg	12 04 18.5	+1.0
T1202				END			
MC2	**Monte Cornacci**	**0.12**	**23**	P	Pg	12 04 16.2	+0.3
MC2				S	Sg	12 04 19.0	+1.3
MC2				END			
T1217	**Poggiodomo (PG**	**0.17**	**239**	P	Pg	12 04 17.0	+0.5
T1217				S	Sg	12 04 19.9	+1.1
T1217				END			
T1215	**Vallo di Nera,**	**0.19**	**271**	P	Pg	12 04 17.5	+0.6
T1215				S	Sg	12 04 20.8	+1.3
T1215				END			
FDMO	**Fiordimonte**	**0.24**	**353**	P	Pg	12 04 18.5	+0.6
FDMO				S	Sg	12 04 22.6	+1.6
FDMO				AML	AML		
	comp=E,47μm,0.2s						
FDMO				AML	AML		
	comp=N,34μm,1.1s						
AM05	**Amandola Campo**	**0.24**	**43**	P	Pg	12 04 18.5	+0.5
AM05				AML	AML		
	comp=E,228μm,0.1s						
AM05				AML	AML		
	comp=N,328μm,0.1s						
CSP1	**Cessapalombo**	**0.30**	**11**	P	Pg	12 04 19.4	+0.3
CSP1				S	Sg	12 04 24.6	+1.6

IDC 09 12:23:43.4±1.1,3°.65N×123°.00E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=152.9km s-min=20.0km az=65.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.96**	**155**	P	P	12 29 17.8	-0.1
	0.4nm,0.4s,baz=332,slow=11,SNR=11						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**29.16**	**159**	P	P	12 29 47.3	+0.7
	0.1nm,0.3s,baz=342,slow=7.6,SNR=4.4						
	0.1nm,0.3s						
STKA	**Stephens Creek**	**39.51**	**155**	P	P	12 31 15.6	-0.5
	1.4nm,0.7s,baz=334,slow=11,SNR=6.5						
	1.4nm,0.7s						
SONM	**Songino Array**	**46.28**	**345**	P	P	12 32 10.6	-0.3
	0.2nm,0.4s,baz=150,slow=6.1,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.55**	**327**	P	P	12 33 20.6	0.0
	0.6nm,0.4s,baz=123,slow=7.3,SNR=8.7						

MAN 09 12:35:05.1,10°38N×126°05E,h3km,mb4.6,ML3.4,MS3.3, 5C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**223**	*eP*	Pb	12 35 21.7	-0.1
SCPH				*i* S	Sn	12 35 35.9	-0.2
MSLP	**Maasin**	**1.19**	**258**	*eP*	Pg	12 35 28.0	0.0
MSLP				*eS*	Sn	12 35 45.2	-0.3
BESP	**Borongan**	**1.35**	**334**	*eP*	Pn	12 35 30.8	-0.2
BESP				*eS*	Sn	12 35 51.8	+2.4
BUTP	**Butuan**	**1.47**	**197**	*eP*	Pn	12 35 31.6	-0.8
BUTP				*eS*	Sb	12 35 51.1	-1.0
TBP	**Tagbilaran**	**2.26**	**252**	*eP*	Pn	12 35 45.0	+1.6
TBP				*i* S	Sb	12 36 13.8	-1.1
CNP	**Catarman**	**2.51**	**327**	*eP*	Pn	12 35 46.8	-0.1
CNP				*eS*	Sn	12 36 15.5	-2.6
RCP	**Roxas**	**3.45**	**290**	*eP*	Pn	12 36 01.6	+1.8
PVCP	**Virac**	**3.69**	**330**	*eP*	Pn	12 36 04.0	+0.8

IDC 09 12:42:58.3±1.7,30°02S×60°58E,h0km,mb3.6/4, mbtmp3.6/5,ML3.7/1,Error ellipse: s-maj=71.7km s-min=28.6km az=23.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.69**	**310**	Pn	Pn	12 46 54.2	+0.5
	baz=127,slow=16,SNR=1.7						
OPO				Sn	Sn	12 49 42.2	-18
	baz=108,slow=20,SNR=1.5 1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**60.73**	**42**	P	P	12 53 11.9	-0.1
	0.5nm,0.7s,baz=220,slow=8.3,SNR=4.1 0.5nm,0.7s						
ASAR	**Alice Springs**	**64.73**	**104**	P	P	12 53 38.8	0.0
	0.4nm,0.7s,baz=246,slow=6.4,SNR=9.0 0.4nm,0.7s						
WRA	**Warramunga Arr**	**66.61**	**100**	P	P	12 53 51.0	+0.1
	0.3nm,0.7s,baz=242,slow=4.8,SNR=2.3 0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**71.09**	**298**	P	P	12 54 18.6	-0.1
	0.5nm,0.8s,baz=110,slow=5.4,SNR=3.4 0.5nm,0.8s						

*IDC **09** 12:54:19.3±3.8,56°.30N×157°.77W,h47km±33km,mb3.4/11, mbtmp3.7/14,ML3.9/3,Error ellipse: s-maj=34.3km s-min=17.0km az=19.0*
*NEIC **09** 12:54:19.7±1.9,56°.00N±0°.06×157°.54W±0°.07, h41km±21km,Error ellipse: s-maj=9.7km s-min=3.4km az=149.0*
*AEIC **09** 12:54:20±2.1,55°.99N±0°.05×157°.55W±0°.07,h38km±9km, ML3.5/48,ML3.6/36(NEIC),Error ellipse: s-maj=7.9km s-min=4.5km az=150.0*

ISC 09 12:54:19.7±0.9,56°05N±0°06×157°58W±0°04,h58km±9km, n207,σ1§13/211,mb3.5/11,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.53**	**299**		**Pn**	**12 54 31.3**	**-0.6**
CHGN					**Sn**	**12 54 39.7**	**-1.0**
CHGN	**Chignik**	**0.53**	**299**	IAML		12 54 40.1	
	comp=N,18μm,0.1s						
CHGN				IAML		12 54 41.0	
	comp=E,28μm,0.1s						
CHGN	**Chignik**	**0.53**	**299**	P	**Pn**	**12 54 31.3**	**-0.6**
	baz=123						
CHGN				S	**Sn**	**12 54 39.7**	**-1.0**
	baz=123						
S14K	**Fog Glacier**	**1.13**	**283**	P	**Pn**	**12 54 39.7**	**+0.3**
	baz=104						
S14K				S	**Sn**	**12 54 54.7**	**+0.5**
	baz=104						
VNFG	**Fog Glacier, M**	**1.13**	**283**		**Pn**	**12 54 39.7**	**+0.3**
VNFG					**Sn**	**12 54 54.7**	**+0.5**
R16K	**Pilot Point**	**1.52**	**0**		**Pn**	**12 54 45.1**	**+0.5**
R16K					**Sn**	**12 55 03.8**	**+0.4**
R16K	**Pilot Point**	**1.52**	**0**	P	**Pn**	**12 54 45.1**	**+0.5**
	baz=180						
R16K				S	**Sn**	**12 55 03.8**	**+0.4**
	baz=180						
CHNA	**Chernabura Isl**	**1.67**	**224**	P	**Pn**	**12 54 46.0**	**-0.6**
	baz=44						
CNBA	**Chernabura Isl**	**1.68**	**224**		**Pn**	**12 54 46.0**	**-0.7**
PLBL	**Peulik Blue Cr**	**1.71**	**14**		**Pn**	**12 54 48.4**	**+1.2**
R17K	**Ugashik Creek**	**1.73**	**22**		**Pn**	**12 54 48.8**	**+1.4**
R17K	**Ugashik Creek**	**1.73**	**22**	P	**Pn**	**12 54 48.8**	**+1.4**
	baz=202						
SDPT	**Sand Point**	**1.78**	**248**		**Pn**	**12 54 48.4**	**+0.2**
SDPT					**Sn**	**12 55 09.8**	**+0.2**
SDPT	**Sand Point**	**1.78**	**248**	IAML		12 55 14.8	
	comp=E,545nm,1.0s						
SDPT	**Sand Point**	**1.78**	**248**	P	**Pn**	**12 54 48.4**	**+0.2**
	baz=68						
SDPT				S	**Sn**	**12 55 09.8**	**+0.2**
	baz=68						
PLK3	**Peulik 3**	**1.80**	**23**		**Pn**	**12 54 50.0**	**+1.7**
PLK3					**Sn**	**12 55 12.2**	**+2.1**
PLK1	**Peulik 1**	**1.84**	**16**		**Pn**	**12 54 50.0**	**+1.1**
SII	**Sitkinak Islan**	**1.96**	**73**		**Pn**	**12 54 50.8**	**+0.2**
SII	**Sitkinak Islan**	**1.96**	**73**	P	**Pn**	**12 54 50.8**	**+0.2**
	baz=254						
PLK5	**Peulik 5**	**1.99**	**11**		**Pn**	**12 54 52.1**	**+1.1**
CAHL	**Cahill**	**2.37**	**31**		**Pn**	**12 54 57.0**	**+0.9**
PS4A	**Pavlof South-4**	**2.52**	**256**		**Pn**	**12 54 58.2**	**0.0**
KCE	**Katmai Mt Cerb**	**2.56**	**30**		**Pn**	**12 55 00.2**	**+1.4**
PN7A	**Pavlof North-7**	**2.57**	**258**		**Pn**	**12 54 59.6**	**+0.7**
KELA	**Mount Kelaz**	**2.60**	**22**		**Pn**	**12 55 00.1**	**+0.8**
KAKN	**Katmai Knife C**	**2.64**	**30**		**Pn**	**12 55 00.8**	**+0.9**
OHAK	**Old Harbor**	**2.65**	**62**		**Pn**	**12 54 59.6**	**-0.3**
OHAK					**Sn**	**12 55 29.2**	**-1.6**
OHAK	**Old Harbor**	**2.65**	**62**	P	**Pn**	**12 54 59.6**	**-0.3**
	baz=244						
OHAK				S	**Sn**	**12 55 29.2**	**-1.6**
	baz=244						
Q16K	**King Salmon**	**2.69**	**10**		**Pn**	**12 55 01.2**	**+0.8**
Q16K					**Sn**	**12 55 31.6**	**-0.1**
Q16K	**King Salmon**	**2.69**	**10**	P	**Pn**	**12 55 01.2**	**+0.8**
	baz=191						
Q16K				S	**Sn**	**12 55 31.6**	**-0.1**
	baz=191						
KAHC	**Katmai Hardscr**	**2.96**	**27**		**Pn**	**12 55 05.1**	**+0.9**
KAHC	**Katmai Hardscr**	**2.96**	**27**	P	**Pn**	**12 55 05.1**	**+0.9**
	baz=208						
P16K	**Nushagak River**	**3.00**	**356**		**Pn**	**12 55 05.5**	**+0.7**
P16K	**Nushagak River**	**3.00**	**356**	P	**Pn**	**12 55 05.5**	**+0.7**
	baz=175						
P17K	**Kvichak River**	**3.22**	**11**		**Pn**	**12 55 08.6**	**+1.0**
P17K	**Kvichak River**	**3.22**	**11**	P	**Pn**	**12 55 08.6**	**+1.0**
	baz=191						
KDAK	**Kodiak Island**	**3.25**	**55**	P	**Pn**	**12 55 07.8**	**-0.2**
	comp=E,4.6nm,0.3s,baz=200,slow=4.7,SNR=91						
KDAK				S	**Sn**	**12 55 43.7**	**-1.7**
	comp=E,19nm,0.3s,baz=324,slow=20,SNR=5.8 comp=E,9.9nm,0.3s						
KDAK	**Kodiak Island**	**3.25**	**55**	Pn	**Pn**	**12 55 07.8**	**-0.2**
O16K	**Kokwok River B**	**3.57**	**356**		**Pn**	**12 55 12.7**	**+0.2**
O16K	**Kokwok River B**	**3.57**	**356**	P	**Pn**	**12 55 12.7**	**+0.2**
	baz=175						
P18K	**Big Mountain,**	**3.58**	**20**		**Pn**	**12 55 13.4**	**+0.7**
P18K	**Big Mountain,**	**3.58**	**20**	P	**Pn**	**12 55 13.4**	**+0.7**
	baz=201						
Q19K	**Cape Douglas,**	**3.59**	**35**		**Pn**	**12 55 13.8**	**+1.0**
Q19K	**Cape Douglas,**	**3.59**	**35**	P	**Pn**	**12 55 13.8**	**+1.0**
	baz=217						
ISNN	**Isanotski Nort**	**3.73**	**254**		**Pn**	**12 55 15.4**	**+0.6**
ISLZ	**Isanotski Laza**	**3.74**	**252**		**Pn**	**12 55 15.2**	**+0.4**
O17K	**Koliganek Bris**	**3.75**	**4**		**Pn**	**12 55 15.3**	**+0.4**
O17K	**Koliganek Bris**	**3.75**	**4**	P	**Pn**	**12 55 15.3**	**+0.4**
	baz=184						
Q20K	**Shuyak Island**	**3.81**	**45**	P	**Pn**	**12 55 16.3**	**+0.5**
	baz=229						
SYI	**Shuyak Island**	**3.81**	**45**		**Pn**	**12 55 16.3**	**+0.5**
SSBA	**Shishaldin**	**3.94**	**254**		**Pn**	**12 55 17.7**	**0.0**
O18K	**Koktuh Hills**	**4.02**	**17**		**Pn**	**12 55 19.9**	**+1.2**
O18K	**Koktuh Hills**	**4.02**	**17**	IAML		12 56 17.8	
	comp=N,64nm,0.8s						
O18K				IAML		12 56 30.8	
	comp=E,51nm,0.9s						
O18K	**Koktuh Hills**	**4.02**	**17**	P	**Pn**	**12 55 19.9**	**+1.2**
	baz=199						
P19K	**Oil Pt**	**4.30**	**31**		**Pn**	**12 55 23.9**	**+1.4**
P19K	**Oil Pt**	**4.30**	**31**	IAML		12 56 20.4	
	comp=N,68nm,0.5s						
P19K				IAML		12 56 25.9	
	comp=E,69nm,0.6s						
P19K	**Oil Pt**	**4.30**	**31**	P	**Pn**	**12 55 23.9**	**+1.4**
	baz=214						
WECS	**Westdahl Cape**	**4.39**	**253**		**Pn**	**12 55 24.4**	**+0.6**
N16K	**Nishlik Lake**	**4.49**	**352**		**Pn**	**12 55 25.7**	**+0.7**
N16K	**Nishlik Lake**	**4.49**	**352**	P	**Pn**	**12 55 25.7**	**+0.7**
	baz=171						
ILSW	**Iliamna Southw**	**4.60**	**29**		**Pn**	**12 55 27.7**	**+1.0**
ILSW				IAML		12 56 31.9	
	comp=E,34nm,0.9s						
ILSW				IAML		12 56 38.1	
	comp=N,23nm,1.1s						
IVE	**Iliamna Volcan**	**4.66**	**29**		**Pn**	**12 55 28.7**	**+1.1**
N18K	**Kilae Creek**	**4.73**	**10**		**Pn**	**12 55 29.2**	**+0.8**
N18K	**Kilae Creek**	**4.73**	**10**	IAML		12 56 23.6	
	comp=E,54nm,0.5s						
N18K				IAML		12 56 24.1	
	comp=N,45nm,0.5s						
N18K	**Kilae Creek**	**4.73**	**10**	P	**Pn**	**12 55 29.2**	**+0.8**
	baz=191						
HOM	**Homer**	**4.81**	**39**	Pn	**Pn**	**12 55 30.7**	**+1.2**
O20K	**Slope Mountain**	**4.83**	**31**		**Pn**	**12 55 30.9**	**+1.1**
O20K	**Slope Mountain**	**4.83**	**31**	P	**Pn**	**12 55 30.9**	**+1.1**
	baz=215						
CNPM	**China Poot**	**4.87**	**42**		**Pn**	**12 55 30.4**	**+0.2**
CNPM	**China Poot**	**4.87**	**42**	IAML		12 56 41.7	
	comp=E,48nm,0.6s						
CNPM				IAML		12 56 42.2	
	comp=N,42nm,0.5s						
N19K	**Bonanza Creek**	**5.05**	**18**		**Pn**	**12 55 34.3**	**+1.4**
N19K	**Bonanza Creek**	**5.05**	**18**	IAML		12 56 45.6	
	comp=E,34nm,0.7s						
N19K				IAML		12 57 03.7	
	comp=N,29nm,0.8s						
N19K	**Bonanza Creek**	**5.05**	**18**	P	**Pn**	**12 55 34.3**	**+1.4**
	baz=200						
RED	**Redoubt Volcan**	**5.07**	**28**		**Pn**	**12 55 34.2**	**+1.1**
AKUT	**Akutan**	**5.08**	**251**	Pn	**Pn**	**12 55 33.7**	**+0.6**
AKUT				IAML		12 56 56.1	
	comp=N,43nm,1.0s						
RDWB	**Redoubt West**	**5.11**	**27**		**Pn**	**12 55 34.5**	**+0.8**
RSO	**Redoubt South**	**5.11**	**28**		**Pn**	**12 55 34.6**	**+0.9**
NCT	**North Crescent**	**5.15**	**26**		**Pn**	**12 55 35.4**	**+1.2**
BRLK	**Bradley Lake**	**5.16**	**41**		**Pn**	**12 55 33.8**	**-0.6**
BRLK	**Bradley Lake**	**5.16**	**41**	IAML		12 56 42.9	
	comp=E,32nm,0.7s						
BRLK				IAML		12 56 44.8	
	comp=N,36nm,0.8s						
SVW2	**Sparrevohn**	**5.17**	**11**		**Pn**	**12 55 35.2**	**+0.7**
SVW2	**Sparrevohn**	**5.17**	**11**	IAML		12 56 34.4	
	comp=N,29nm,0.7s						
SVW2				IAML		12 56 35.9	
	comp=E,30nm,0.6s						
BRSE	**Bradley Lake S**	**5.20**	**42**		**Pn**	**12 55 34.2**	**-0.6**
BRSE	**Bradley Lake S**	**5.20**	**42**	P	**Pn**	**12 55 34.2**	**-0.6**
	baz=227						
UNV	**Unalaska Valle**	**5.60**	**251**	Pn	**Pn**	**12 55 39.8**	**-0.5**
MNAT	**Makushin Natee**	**5.67**	**251**		**Pn**	**12 55 41.7**	**+0.4**
SPU	**Mount Spurr**	**5.90**	**27**		**Pn**	**12 55 46.3**	**+1.8**
SEW	**Seward**	**5.93**	**43**		**Pn**	**12 55 43.5**	**-1.3**
SEW	**Seward**	**5.93**	**43**	P	**Pn**	**12 55 43.4**	**-1.3**
	baz=230						
O22K	**Cooper Landing**	**6.08**	**40**	Pn	**Pn**	**12 55 46.0**	**-0.8**
M19K	**Big River Lodg**	**6.10**	**14**		**Pn**	**12 55 48.7**	**+1.6**
STLK	**Strandline Lak**	**6.23**	**26**		**Pn**	**12 55 48.8**	**-0.2**
M20K	**Styx River**	**6.29**	**20**		**Pn**	**12 55 51.5**	**+1.7**
M20K	**Styx River**	**6.29**	**20**	P	**Pn**	**12 55 51.8**	**+2.0**
	baz=203						
L19K	**White Mountain**	**6.31**	**12**		**Pn**	**12 55 50.8**	**+0.7**
L19K	**White Mountain**	**6.31**	**12**	P	**Pn**	**12 55 51.0**	**+1.0**
	baz=194						
SUA	**Susitna One**	**6.49**	**30**		**Pn**	**12 55 53.0**	**+0.4**
SUA	**Susitna One**	**6.49**	**30**	P	**Pn**	**12 55 52.7**	**+0.2**
	baz=216						
RC01	**Rabbit Creek A**	**6.51**	**36**		**Pn**	**12 55 52.3**	**-0.4**
RC01	**Rabbit Creek A**	**6.51**	**36**	P	**Pn**	**12 55 52.5**	**-0.3**
	baz=222						
SKT	**Skwentna**	**6.72**	**25**		**Pn**	**12 55 56.7**	**+1.0**
SKT	**Skwentna**	**6.72**	**25**	P	**Pn**	**12 55 56.4**	**+0.8**
	baz=210						
L20K	**Farewell, AK**	**6.72**	**15**		**Pn**	**12 55 57.5**	**+1.8**
L20K	**Farewell, AK**	**6.72**	**15**	P	**Pn**	**12 55 57.5**	**+1.8**
	baz=198						
PWL	**Port Wells**	**6.84**	**41**		**Pn**	**12 55 56.0**	**-1.2**
PWL	**Port Wells**	**6.84**	**41**	P	**Pn**	**12 55 56.1**	**-1.2**
	baz=229						
M22K	**Willow**	**6.90**	**31**		Pn	12 56 02.2	+4.2
TT01	**Tatalina**	**6.93**	**6**		**Pn**	**12 55 59.0**	**+0.5**
TTA	**Tatalina**	**6.95**	**6**		**Pn**	**12 55 59.3**	**+0.4**
TTA	**Tatalina**	**6.95**	**6**	P	**Pn**	**12 55 59.2**	**+0.4**
	baz=187						
PMR	**Palmer**	**7.08**	**35**	Pn	**Pn**	**12 56 00.1**	**-0.4**
SPIA	**Saint Paul Isl**	**7.08**	**284**		**Pn**	**12 56 01.5**	**+1.0**
SPIA	**Saint Paul Isl**	**7.08**	**284**	P	**Pn**	**12 56 01.6**	**+1.0**
	baz=94						
KNK	**Knik Glacier**	**7.17**	**38**		**Pn**	**12 56 01.1**	**-0.7**
KNK	**Knik Glacier**	**7.17**	**38**	P	**Pn**	**12 56 00.7**	**-1.1**
	baz=225						
NIKH	**Nikolski High**	**7.25**	**250**	Pn	**Pn**	**12 56 03.7**	**+0.8**
GHO	**Glory Hole Cre**	**7.28**	**34**		**Pn**	**12 56 04.8**	**+1.5**
HIN	**Hinchinbrook I**	**7.29**	**49**	Pn	**Pn**	**12 56 02.7**	**-0.8**
GLI	**Glacier Island**	**7.32**	**44**		**Pn**	**12 56 02.2**	**-1.7**
GLI	**Glacier Island**	**7.32**	**44**	P	**Pn**	**12 56 02.1**	**-1.7**
	baz=233						
CUT	**Chulitna**	**7.39**	**27**	Pn	**Pn**	**12 56 05.8**	**+1.0**
FID	**Port Fidalgo**	**7.50**	**46**		**Pn**	**12 56 04.3**	**-1.9**
SML	**Sawmill**	**7.50**	**36**		**Pn**	**12 56 05.3**	**-0.9**
SML	**Sawmill**	**7.50**	**36**	P	**Pn**	**12 56 05.7**	**-0.6**
	baz=223						
K20K	**Telida**	**7.54**	**12**		**Pn**	**12 56 07.0**	**+0.1**
K20K	**Telida**	**7.54**	**12**	P	**Pn**	**12 56 07.0**	**+0.1**
	baz=195						
EYAK	**Cordova Ski Ar**	**7.69**	**49**		**Pn**	**12 56 08.0**	**-0.8**
EYAK	**Cordova Ski Ar**	**7.69**	**49**	P	**Pn**	**12 56 07.8**	**-1.1**
	baz=239						
SCM	**Sheep Creek Mo**	**7.85**	**38**		**Pn**	**12 56 10.3**	**-0.8**
SCM	**Sheep Creek Mo**	**7.85**	**38**	P	**Pn**	**12 56 09.8**	**-1.3**
	baz=227						
RAGM	**Ragged Mountai**	**8.08**	**52**	Pn	**Pn**	**12 56 12.2**	**-2.0**
WAT7	**Susitna Watana**	**8.12**	**30**		**Pn**	**12 56 12.8**	**-2.2**
KLU	**Klutina**	**8.15**	**43**		**Pn**	**12 56 15.1**	**-0.1**
KLU	**Klutina**	**8.15**	**43**	P	**Pn**	**12 56 14.5**	**-0.7**
	baz=233						
HMT	**Hamilton**	**8.24**	**53**	Pn	**Pn**	**12 56 15.3**	**-1.1**
WAT6	**Susitna Watana**	**8.25**	**33**		**Pn**	**12 56 15.5**	**-1.3**
WAT6	**Susitna Watana**	**8.25**	**33**	P	**Pn**	**12 56 15.5**	**-1.3**
	baz=222						
TRF	**Thorofare Moun**	**8.28**	**23**		**Pn**	**12 56 16.8**	**-0.3**
TRF	**Thorofare Moun**	**8.28**	**23**	P	**Pn**	**12 56 17.2**	**+0.1**
	baz=209						
J20K	**Nowinta River**	**8.33**	**10**		**Pn**	**12 56 17.8**	**+0.1**
J20K	**Nowinta River**	**8.33**	**10**	P	**Pn**	**12 56 17.7**	**+0.1**
	baz=193						
M24K	**Tolsona, Glenn**	**8.44**	**39**		**Pn**	**12 56 21.7**	**+2.5**
M24K	**Tolsona, Glenn**	**8.44**	**39**	P	**Pn**	**12 56 18.9**	**-0.4**
	baz=229						
BPAW	**Bear Paw Mtn.**	**8.72**	**19**		**Pn**	**12 56 23.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**8.72**	**19**	P	**Pn**	**12 56 22.8**	**-0.1**
	baz=205						
N25K	**Chitina, Valde**	**8.73**	**45**	Pn	**Pn**	**12 56 23.3**	**+0.1**
DHY	**Denali Highway**	**8.74**	**32**	Pn	**Pn**	**12 56 23.3**	**0.0**
SNH	**Sunshine Point**	**8.83**	**56**	Pn	**Pn**	**12 56 25.6**	**+1.1**
MCK	**McKinley**	**8.84**	**26**	Pn	**Pn**	**12 56 25.1**	**+0.5**
WAX	**Wakefield Ridge**	**8.93**	**54**	Pn	**Pn**	**12 56 25.9**	**+0.1**
GLB	**Gilahina Butte**	**8.96**	**47**	Pn	**Pn**	**12 56 28.0**	**+1.7**
TGL	**Tana Glacier**	**9.06**	**53**	Pn	**Pn**	**12 56 26.1**	**-1.6**
ISLE	**Juniper Island**	**9.22**	**54**	Pn	**Pn**	**12 56 32.9**	**+3.0**
MESA	**MESA**	**9.24**	**57**	Pn	**Pn**	**12 56 31.9**	**+1.6**
PAX	**Paxson**	**9.27**	**37**	Pn	**Pn**	**12 56 31.2**	**+0.7**
ANM	**Nome**	**9.37**	**339**	Pn	**Pn**	**12 56 33.0**	**+1.2**
YAH	**Yahtse**	**9.40**	**56**	Pn	**Pn**	**12 56 34.1**	**+1.6**
NEA2	**Nenana**	**9.54**	**23**	Pn	**Pn**	**12 56 33.3**	**-0.9**
I21K	**Tanana**	**9.56**	**14**	Pn	**Pn**	**12 56 35.2**	**+0.8**
MLY	**Manley**	**9.62**	**18**	Pn	**Pn**	**12 56 34.4**	**-0.9**
WRH	**Wood River Hil**	**9.66**	**25**	Pn	**Pn**	**12 56 33.9**	**-1.9**
CTGM	**Chitina Glacie**	**9.81**	**53**	Pn	**Pn**	**12 56 38.9**	**+0.8**
MENT	**Mentasta**	**9.85**	**40**	Pn	**Pn**	**12 56 40.0**	**+1.5**
CCB	**Clear Creek Bu**	**9.88**	**25**	Pn	**Pn**	**12 56 36.8**	**-1.9**
HDA	**Harding Lake**	**9.90**	**28**	Pn	**Pn**	**12 56 37.5**	**-1.6**
H21K	**Melozitna Rive**	**9.92**	**12**	Pn	**Pn**	**12 56 39.7**	**+0.4**
RIDG	**Independent Ri**	**10.00**	**34**	Pn	**Pn**	**12 56 40.5**	**0.0**
PCA	**Pinnacle**	**10.02**	**59**	Pn	**Pn**	**12 56 40.4**	**-0.5**
L26K	**Log Cabin Wild**	**10.04**	**40**	Pn	**Pn**	**12 56 41.5**	**+0.5**
MDM	**Murphy Dome**	**10.04**	**23**	Pn	**Pn**	**12 56 39.2**	**-1.8**
COLA	**College**	**10.06**	**24**	Pn	**Pn**	**12 56 40.1**	**-1.1**
IMAR	**Indian Mountai**	**10.14**	**9**	Pn	**Pn**	**12 56 43.1**	**+0.7**
DOT	**Dot Lake**	**10.19**	**36**	Pn	**Pn**	**12 56 42.9**	**-0.2**
IL31		**10.21**	**27**	Pn	**Pn**	**12 56 40.6**	**-2.6**
ILAR	**Eielson Array**	**10.21**	**27**	P	**Pn**	**12 56 41.0**	**-2.3**
	comp=E,0.6nm,0.3s,baz=216,slow=13,SNR=25						
ILAR				S	Sn	12 58 28.3	-7.7
	comp=E,0.2nm,0.4s,baz=216,slow=28,SNR=2.3 comp=E,1.5nm,0.4s						
ILAR	**Eielson Array**	**10.21**	**27**	Pn	**Pn**	**12 56 41.0**	**-2.3**
POKR	**Poker Plat Res**	**10.36**	**24**	Pn	**Pn**	**12 56 44.4**	**-0.9**
SCRK	**Sand Creek**	**10.44**	**35**	Pn	**Pn**	**12 56 45.7**	**-0.9**
J25K	**Salcha River,**	**10.49**	**30**	Pn	**Pn**	**12 56 45.8**	**-1.4**
H23K	**Yukon River**	**10.55**	**18**	Pn	**Pn**	**12 56 46.4**	**-1.5**
L27K	**Beaver Creek,**	**10.62**	**42**	Pn	**Pn**	**12 56 49.7**	**+0.8**
BCAR	**Beaver Creek A**	**10.64**	**42**	Pn	**Pn**	**12 56 48.0**	**-1.2**
TNA	**Tin City**	**10.78**	**336**	Pn	**Pn**	**12 56 52.3**	**+1.3**
H24K	**Noodor Dome**	**10.88**	**22**	Pn	**Pn**	**12 56 50.5**	**-2.0**
J26L	**Joseph Creek**	**10.94**	**34**	Pn	**Pn**	**12 56 52.9**	**-0.5**
K27K	**Chicken**	**11.11**	**38**	Pn	**Pn**	**12 56 58.1**	**+2.6**
PRP	**Porcupine Dome**	**11.15**	**27**	Pn	**Pn**	**12 56 53.7**	**-2.6**
I26K	**Coal Creek Min**	**11.64**	**31**	Pn	**Pn**	**12 57 01.1**	**-1.6**
EGAK	**Eagle**	**11.90**	**36**	Pn	**Pn**	**12 57 06.1**	**-0.2**
FYU	**Fort Yukon**	**12.07**	**24**	Pn	**Pn**	**12 57 07.0**	**-1.7**
DAWY	**Dawson**	**12.09**	**41**	Pn	**Pn**	**12 57 09.2**	**+0.2**
M30M	**Minto, Yukon**	**12.43**	**50**	Pn	**Pn**	**12 57 15.7**	**+2.0**
BMAR	**Burnt Mountain**	**12.93**	**23**	Pn	**Pn**	**12 57 18.4**	**-2.0**
FARO	**Faro, Yukon**	**13.84**	**54**	Pn	**Pn**	**12 57 33.0**	**+0.4**
EPYK	**Eagle Plains**	**14.33**	**35**	Pn	**Pn**	**12 57 40.2**	**+0.9**
INK	**Inuvik**	**16.48**	**32**	P	**Pn**	**12 58 05.9**	**-0.7**
	comp=E,1.2nm,0.3s,baz=226,slow=10,SNR=15 comp=E,3.1nm,0.4s						
YKA	**Yellowknife Ar**	**22.52**	**56**	P	**P**	**12 59 14.0**	**-0.2**
	comp=E,0.6nm,0.5s,baz=270,slow=14,SNR=2.0 comp=E,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**25.74**	**282**	P	**P**	**12 59 44.0**	**-0.5**
	comp=E,0.7nm,0.7s,baz=72,slow=9.3,SNR=1.6 comp=E,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**31.41**	**107**	P	**P**	**13 00 37.6**	**+2.4**
	comp=E,0.4nm,0.5s,baz=306,slow=7.7,SNR=5.5 comp=E,0.4nm,0.5s						
PDAR	**Pinedale Array**	**33.24**	**93**	P	**P**	**13 00 53.3**	**+2.0**
	comp=E,0.8nm,0.5s,baz=321,slow=4.2,SNR=12 comp=E,0.8nm,0.5s						
TXAR	**Lajitas Array**	**46.21**	**102**	P	**P**	**13 02 40.4**	**+1.5**
	comp=E,0.6nm,0.7s,baz=311,slow=4.7,SNR=11 comp=E,0.6nm,0.7s						
SONM	**Songino Array**	**55.11**	**305**	P	**P**	**13 03 45.3**	**-0.4**
	comp=E,0.6nm,0.6s,baz=40,slow=7.0,SNR=2.8 comp=E,0.6nm,0.6s						
FINES	**FINESS Array B**	**62.81**	**358**	P	**P**	**13 04 37.7**	**-0.9**
	comp=E,0.3nm,0.4s,baz=354,slow=11,SNR=1.1 comp=E,0.3nm,0.4s						
MKAR	**Makanchi Array**	**65.93**	**319**	P	**P**	**13 04 57.7**	**-1.5**
	comp=E,0.4nm,0.7s,baz=43,slow=4.6,SNR=3.0 comp=E,0.4nm,0.7s						
ESDC	**Sonseca Array**	**82.05**	**20**	P	**P**	**13 06 33.9**	**+0.5**
	comp=E,0.3nm,0.5s,baz=326,slow=6.5,SNR=2.0 comp=E,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**82.16**	**291**	P	**P**	**13 06 32.3**	**-2.0**
	comp=E,0.2nm,0.4s,baz=20,slow=6.0,SNR=2.1 comp=E,0.2nm,0.4s						
BRTR	**Keskin Array B**	**84.12**	**351**	P	**P**	**13 06 44.1**	**-0.1**
	comp=E,0.3nm,0.5s,baz=29,slow=3.3,SNR=2.9 comp=E,0.3nm,0.5s						

IDC 09 13:07:25.4±3.1,32°53S×178°93W,h0km,mb3.5/2, mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=67.9km s-min=36.4km az=109.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.57**	**208**	Pn	Pn	13 09 03.9	+0.7

baz=140
OUF SG Sg 13 17 06.6 -1.4
OUL Oulu 4.31 337 PB Pb 13 16 13.2 -4.0
OUL SB Sb 13 17 10.7 +1.0
OBF8 Ulkokalla 4.32 320 PN Pn 13 16 09.2 +1.6
baz=134
BURU Burvik 5.17 315 P Pn 13 16 20.0 +0.8
BURU S Sn 13 17 21.5 +2.1
BURU Burvik 5.17 315 P Pn 13 16 20.0 +0.8
BURU S Sn 13 17 21.5 +2.1
ODEU Stanfors 5.30 312 P Pn 13 16 21.7 +0.7
ODEU Stanfors 5.30 312 P Pn 13 16 21.7 +0.7
HUSU Husum 5.42 298 P Pn 13 16 23.6 +0.9
HUSU Husum 5.42 298 P Pn 13 16 23.6 +0.9
GRAU Graesoe 5.62 266 P Pn 13 16 24.5 -0.9
GRAU S Sn 13 17 29.3 -1.2
GRAU Graesoe 5.62 266 P Pn 13 16 24.5 -0.9
GRAU S Sn 13 17 29.3 -1.2
NRTU Norrtaelje 5.76 260 P Pn 13 16 26.6 -0.8
NRTU Norrtaelje 5.76 260 P Pn 13 16 26.6 -0.8
FORU Forsmark 5.78 267 P Pn 13 16 28.0 +0.4
FORU Forsmark 5.78 267 P Pn 13 16 28.0 +0.4
HEMU Hemsoen 5.78 290 P Pn 13 16 28.6 +1.0
HEMU S Sn 13 17 36.0 +1.4
HEMU Hemsoen 5.78 290 P Pn 13 16 28.6 +1.0
HEMU S Sn 13 17 36.0 +1.4
HFS Hagfors 8.01 270 Pn Pn 13 16 56.6 -1.6
comp=Z,0.7nm,0.3s,baz=82,slow=15,SNR=17
HFS Sn Sn 13 18 21.6 -7.8
comp=Z,0.1nm,0.3s,baz=65,slow=21,SNR=1.7
HFS Lg Lg 13 19 11.9
comp=Z,1.2nm,0.3s,baz=75,slow=29,SNR=5.5
comp=Z,1.6nm,0.3s
ARCES ARCESS Array B 8.58 350 Pn Pn 13 17 04.3 -1.7
comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=10
ARCES Sn Sn 13 18 39.2 -4.1
comp=Z,0.2nm,0.3s,baz=163,slow=17,SNR=1.9
comp=Z,1.6nm,0.7s
NOA NORSAR Array B 9.03 277 Pn Pn 13 17 09.3 -2.9
comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=16
NOA Sn Sn 13 18 50.0 -4.5
baz=42,slow=26,SNR=1.3
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 10.52 182 Pn Pn 13 17 25.9 -6.6
comp=Z,1.1nm,0.3s,baz=2.2,slow=13,SNR=5.0
comp=Z,0.3nm,0.3s

IDC 09 13:31:17.8±1.2, 48.7°S×128.14°E, h0km, mb3.8/4, mbtmp3.8/4, MS3.5/10, Error ellipse: s-maj=63.3km s-min=25.1km az=89.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.26**	**318**	T	T	13 52 44.6	
	baz=147,slow=75,SNR=5.5						
H01W2	**Cape Leeuwin H**	**17.27**	**318**	T	T	13 52 45.9	
	baz=147,slow=75,SNR=9.2						
H01W3	**Cape Leeuwin H**	**17.28**	**318**	T	T	13 52 48.7	
	baz=147,slow=75,SNR=6.6						
NWAO	**Narrogin (SRO)**	**17.77**	**329**	LR	LR	13 40 37.0	
	comp=Z,131nm,20.2s,baz=74,slow=32						
STKA	**Stephens Creek**	**19.65**	**36**	LR	LR	13 42 36.4	
	comp=Z,133nm,18.4s,baz=205,slow=34						
ASAR	**Alice Springs**	**25.41**	**12**	P	P	13 36 47.5	+0.6
	2.5nm,0.9s,baz=185,slow=9.1,SNR=17						
ASAR				LR	LR	13 45 45.5	
	comp=Z,101nm,20.2s,baz=260,slow=34						
	2.5nm,0.9s						
WRA	**Warramunga Arr**	**29.13**	**12**	P	P	13 37 19.9	-0.5
	0.7nm,1.0s,baz=188,slow=12,SNR=3.5						
WRA				LR	LR	13 49 50.4	
	comp=Z,92nm,18.2s,baz=134,slow=38						
	0.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.60**	**355**	LR	LR	13 49 36.7	
	comp=Z,110nm,18.4s,baz=170,slow=36						
VNDA	**Vanda**	**31.67**	**167**	P	P	13 37 42.4	+0.1
	1.3nm,0.8s,baz=312,slow=8.3,SNR=6.5						
VNDA				LR	LR	13 49 54.4	
	comp=Z,155nm,18.9s,baz=269,slow=35						
	1.3nm,0.8s						
CTA	**Charters Tower**	**32.06**	**33**	LR	LR	13 50 50.1	
	comp=Z,98nm,19.6s,baz=232,slow=37						
PMG	**Port Moresby**	**42.31**	**29**	LR	LR	13 56 37.1	
	comp=Z,105nm,19.7s,baz=202,slow=36						
LEM	**Lembang**	**45.22**	**331**	LR	LR	14 01 24.3	
	comp=Z,51nm,18.1s,baz=178,slow=40						
HNR	**Honiara**	**47.36**	**45**	LR	LR	13 58 42.0	
	comp=Z,950nm,18.4s,baz=210,slow=35						
CMAR	**Chiang Mai Arr**	**71.76**	**331**	P	P	13 42 42.1	+0.3
	0.3nm,0.3s,baz=185,slow=5.8,SNR=7.0						
CMAR				LR	LR	14 16 59.1	
	comp=Z,15nm,18.0s,baz=205,slow=38						
	0.3nm,0.3s						
ESDC	**Sonseca Array**	**145.00**	**273**	PKPbc	PKPbc	13 50 53.3	-2.5
	1.0nm,1.1s,baz=100,slow=3.0,SNR=5.4						

*IDC **09** 13:31:15.6±1.4, 39.71°S×176.28E, h0km, mb4.0/3, mbtmp3.9/4, ML2.8/1, MS3.9/1, Error ellipse: s-maj=37.5km s-min=20.2km az=129.0*
*NEIC **09** 13:31:21.7±1.5, 39.65°S±0.04×176.31E±0.09, h40km±15km, mb4.4/8, Error ellipse: s-maj=10.3km s-min=5.9km az=95.0*
*WEL **09** 13:31:22.0±0.2, 40°S±2°×17°6E±°, h29km±2km, M3.8/73, ML4.1/72, MLv3.8/73, Error ellipse: s-maj=0.0km s-min=0.0km az=61.1*

ISC 09 13:31:21.3±0.7, 39.68S±0.02×176.28E±0.02, h39km, n152, σ1§42/173, mb4.2/6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRHZ	**Kereru**	**0.08**	**61**	P	**Pn**	**13 31 27.9**	**+0.1**
KRHZ				S	**Sn**	**13 31 32.7**	**+0.3**
PNHZ	**Pukenui**	**0.24**	**195**	P	**Pn**	**13 31 29.7**	**+0.3**
PNHZ				S	**Sn**	**13 31 36.4**	**+0.5**
BHHZ	**Black Hill Sta**	**0.26**	**319**	P	**Pn**	13 31 29.1	-0.4
BHHZ				S	**Sn**	**13 31 34.4**	**-1.5**
KWHZ	**Kaweka Forest**	**0.28**	**23**	P	**Pn**	13 31 29.3	-0.3
KWHZ				S	**Sn**	**13 31 35.1**	**-0.9**
MCHZ	**McNeill Hill**	**0.40**	**54**	P	**Pn**	13 31 31.7	+1.1
MCHZ				S	**Sn**	**13 31 39.8**	**+2.5**
WPHZ	**Waipukurau**	**0.40**	**162**	P	**Pn**	13 31 32.2	+1.6
WPHZ				S	**Sn**	13 31 40.3	+2.9
KAHZ	**Kahuranaki**	**0.47**	**104**	P	**Pn**	13 31 33.1	+1.4
KAHZ				S	**Sn**	13 31 42.5	+3.5
MOVZ	**Moawhango**	**0.49**	**304**	P	**Pn**	13 31 32.6	+0.6
MOVZ				S	**Sn**	13 31 40.6	+1.1
BKZ	**Black Stump Fm**	**0.54**	**18**		**Pn**	13 31 32.5	-0.2
BKZ	**Black Stump Fm**	**0.54**	**18**	P	**Pn**	13 31 32.6	-0.1
BKZ				S	**Sn**	13 31 40.9	+0.3
PXZ	**Pawanui**	**0.57**	**128**	P	**Pn**	13 31 34.2	+1.2
PXZ				S	**Sn**	**13 31 45.2**	**+4.0**
CKHZ	**Cape Kidnapper**	**0.62**	**88**	P	**Pn**	13 31 34.8	+1.1
CKHZ				S	**Sn**	13 31 45.8	+3.4
DVHZ	**Dannevirke**	**0.62**	**188**	P	**Pn**	13 31 35.1	+1.3
TUVZ	**Tukino**	**0.64**	**310**	P	**Pn**	13 31 35.3	+1.2
TUVZ				S	**Sn**	13 31 45.1	+2.0
PRHZ	**Porangahau**	**0.64**	**155**	P	**Pn**	13 31 35.5	+1.4
PRHZ				S	**Sn**	13 31 47.3	+4.2
WHVZ	**Whangaehu Hut**	**0.67**	**306**	P	**Pn**	13 31 35.7	+1.1
WHVZ				S	**Sn**	13 31 45.8	+1.8
TRVZ	**Turoa**	**0.68**	**304**	P	**Pn**	13 31 36.0	+1.2
TRVZ				S	**Sn**	13 31 46.1	+1.7
DRZ	**Dome Shelter**	**0.69**	**306**	P	**Pn**	13 31 36.2	+1.3
DRZ				S	**Sn**	13 31 46.3	+1.8
ARHZ	**Aropaoanui**	**0.69**	**53**	P	**Pn**	13 31 35.9	+1.2
MTVZ	**Mangateitei**	**0.69**	**295**	P	**Pn**	13 31 36.2	+1.5
MTVZ				S	**Sn**	13 31 46.9	+2.5
SNVZ	**South Ngauruho**	**0.70**	**315**	P	**Pn**	13 31 36.1	+1.2
ETVZ	**East Tongariro**	**0.70**	**321**	P	**Pn**	13 31 36.1	+1.2
ETVZ				S	**Sn**	13 31 46.7	+2.0
OTVZ	**Oturere**	**0.70**	**317**	P	**Pn**	13 31 36.2	+1.2
OTVZ				S	**Sn**	13 31 46.9	+2.2
FWVZ	**Far West T-bar**	**0.71**	**307**	P	**Pn**	13 31 36.2	+1.1
NMHZ	**Naumai**	**0.71**	**35**	P	**Pn**	13 31 36.2	+1.2
NMHZ				S	**Sn**	13 31 47.7	+2.9
TMVZ	**Te Maari**	**0.72**	**322**	P	**Pn**	13 31 36.3	+1.2
NGZ	**Ngauruhoe**	**0.73**	**314**	P	**Pn**	13 31 36.7	+1.4
NTVZ	**North Tongarir**	**0.75**	**321**	P	**Pn**	13 31 36.7	+1.1
NNVZ	**North Ngauruho**	**0.75**	**317**	P	**Pn**	13 31 37.0	+1.3
RITZ	**Rihia Road**	**0.78**	**335**	P	**Pn**	13 31 37.0	+1.2
WTVZ	**West Tongariro**	**0.78**	**316**	P	**Pn**	**13 31 37.2**	**+1.3**
ANWZ	**Angora Road**	**0.79**	**169**	P	**Pn**	**13 31 37.6**	**+1.6**
HATZ	**Hinemaiaia**	**0.80**	**349**	P	**Pn**	**13 31 36.9**	**+0.7**
POWZ	**Post Office Ro**	**0.81**	**209**	P	**Pn**	**13 31 38.2**	**+1.9**
PKVZ	**Pokaka**	**0.82**	**298**	P	**Pn**	**13 31 37.9**	**+1.4**
KATZ	**Kakaramea**	**0.84**	**327**	P	**Pn**	**13 31 37.9**	**+1.1**
MRHZ	**Matea Rd**	**0.85**	**7**	P	**Pn**	**13 31 37.8**	**+0.9**
TWVZ	**Taurewa**	**0.89**	**313**	P	**Pn**	**13 31 38.2**	**+0.7**
PRWZ	**Pori Road**	**0.90**	**195**	P	**Pn**	**13 31 39.4**	**+1.8**
RATZ	**Rangitukua**	**0.91**	**334**	P	**Pn**	**13 31 38.5**	**+0.9**
OHWZ	**Ohakea**	**0.91**	**235**	P	**Pn**	**13 31 40.5**	**+2.9**
MTHZ	**Maungataniwha**	**0.94**	**28**	P	**Pn**	**13 31 39.0**	**+1.0**
WHHZ	**Waihua**	**0.95**	**51**	P	**Pn**	**13 31 39.1**	**+0.9**
RAHZ	**Arahi**	**0.99**	**39**	P	**Pn**	**13 31 39.5**	**+0.8**
BFZ	**Birch Farm**	**1.00**	**182**	Pn	**Pn**	**13 31 39.9**	**+1.1**
BFZ	**Birch Farm**	**1.00**	**182**	P	**Pn**	**13 31 40.0**	**+1.1**
WAZ	**Wanganui**	**1.00**	**265**	P	**Pn**	**13 31 41.6**	**+2.7**
WHTZ	**Whakaora**	**1.05**	**346**	P	**Pn**	**13 31 40.4**	**+0.9**
WATZ	**Wairara**	**1.06**	**336**	P	**Pn**	**13 31 40.2**	**+0.5**
MRZ	**Mangatainoka R**	**1.12**	**209**	P	**Pn**	**13 31 41.7**	**+1.3**
ALRZ	**Allen Road**	**1.12**	**2**	P	**Pn**	**13 31 40.8**	**+0.3**
TIWZ	**Tintock**	**1.13**	**195**	P	**Pn**	**13 31 42.1**	**+1.4**
WPRZ	**Whakapapatarin**	**1.17**	**355**	P	**Pn**	**13 31 41.6**	**+0.4**
PRRZ	**Plateau Road**	**1.19**	**4**	P	**Pn**	**13 31 41.9**	**+0.5**
KUTZ	**Kaahu Road**	**1.24**	**343**	P	**Pn**	**13 31 42.7**	**+0.4**
MUGZ	**Murupara**	**1.26**	**18**	P	**Pn**	**13 31 42.9**	**+0.4**
KNZ	**Kokohu**	**1.27**	**59**	P	**Pn**	**13 31 42.5**	**0.0**
HRRZ	**Handcock Road**	**1.29**	**0**	P	**Pn**	**13 31 43.5**	**+0.6**
GRRZ	**Galatos Road**	**1.34**	**354**	P	**Pn**	**13 31 44.2**	**+0.7**
HOWZ	**Holdsworth Sta**	**1.35**	**206**	P	**Pn**	**13 31 44.4**	**+0.8**
RRRZ	**Republican Roa**	**1.35**	**8**	P	**Pn**	**13 31 44.1**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.37**	**68**	P	**Pn**	**13 31 44.2**	**+0.3**
HSRZ	**Hossack Road**	**1.37**	**359**	P	**Pn**	**13 31 44.5**	**+0.5**
OGWZ	**Otaki Gorge**	**1.42**	**217**	P	**Pn**	**13 31 45.6**	**+1.0**
HLRZ	**Highlands Stat**	**1.43**	**2**	P	**Pn**	**13 31 46.2**	**+1.4**
TARZ	**Mount Tarawera**	**1.46**	**7**	P	**Pn**	**13 31 45.9**	**+0.7**
PRGZ	**Paritu Road**	**1.46**	**59**	P	**Pn**	**13 31 45.3**	**+0.1**
TLZ	**Tolley Road**	**1.47**	**337**	P	**Pn**	**13 31 45.5**	**+0.1**
RAGZ	**Rawiri**	**1.48**	**37**	P	**Pn**	**13 31 46.9**	**+1.4**
RIGZ	**Rimuhau**	**1.51**	**50**	P	**Pn**	**13 31 46.1**	**+0.3**
URZ	**Urewera**	**1.56**	**25**	Pn	**Pn**	**13 31 46.5**	**0.0**
	19nm,0.3s,baz=211,slow=2.4,SNR=79						
URZ				Sn	**Sn**	**13 32 06.2**	**+0.6**
	61nm,0.3s,baz=211,slow=2.3,SNR=9.2						
URZ				LR	LR	13 32 36.0	
	comp=Z,192nm,19.9s,baz=212,slow=51						
URZ	**Urewera**	**1.56**	**25**	P	**Pn**	**13 31 46.5**	**0.0**
OMRZ	**Omania**	**1.57**	**3**	P	**Pn**	**13 31 47.4**	**+0.6**
KIW	**Kapiti Island**	**1.58**	**221**	P	**Pn**	**13 31 47.9**	**+1.1**
MTW	**Mount Morrison**	**1.59**	**202**	P	**Pn**	**13 31 47.3**	**+0.3**
HIZ	**Hauiti**	**1.61**	**316**	Pn	**Pn**	**13 31 47.9**	**+0.7**
HIZ	**Hauiti**	**1.61**	**316**	P	**Pn**	**13 31 47.9**	**+0.7**
EDRZ	**Edgecumbe**	**1.61**	**13**	P	**Pn**	**13 31 47.7**	**+0.4**
MHEZ	**Mangahewa**	**1.63**	**291**	P	**Pn**	**13 31 50.6**	**+3.0**
MWZ	**Matawai**	**1.66**	**36**	P	**Pn**	**13 31 47.9**	**-0.1**
DREZ	**Durham Road**	**1.68**	**286**	P	**Pn**	**13 31 50.7**	**+2.4**
CAW	**Cannon Point**	**1.70**	**213**	P	**Pn**	**13 31 48.8**	**+0.4**
MARZ	**Manawahe**	**1.72**	**10**	P	**Pn**	**13 31 49.5**	**+0.7**
NEZ	**North Egmont**	**1.74**	**283**	P	**Pn**	**13 31 52.3**	**+3.2**
TKGZ	**Te Karaka**	**1.74**	**45**	P	**Pn**	**13 31 48.9**	**-0.1**
TRWZ	**Traveller**	**1.77**	**195**	P	**Pn**	**13 31 50.0**	**+0.5**
KHEZ	**Kahui Hut**	**1.80**	**282**	P	**Pn**	**13 31 53.5**	**+3.6**
PAWZ	**Paruwai Farm**	**1.82**	**201**	P	**Pn**	**13 31 50.1**	**0.0**
PKE	**Pukeiti**	**1.84**	**285**	P	**Pn**	**13 31 53.4**	**+2.9**
OPRZ	**Ohinepanea**	**1.85**	**7**	P	**Pn**	**13 31 50.5**	**0.0**
KMRZ	**Kaimai**	**1.85**	**352**	P	**Pn**	**13 31 51.0**	**+0.4**
NMEZ	**Namu Road**	**1.88**	**277**	P	**Pn**	**13 31 54.0**	**+3.1**
MSWZ	**Moikau Station**	**1.90**	**204**		**Pn**	**13 31 52.2**	**+0.9**
MSWZ	**Moikau Station**	**1.90**	**204**	P	**Pn**	**13 31 51.3**	**0.0**
WHRZ	**Whale Island**	**1.90**	**17**	P	**Pn**	**13 31 51.9**	**+0.7**
NBEZ	**Newall Road No**	**1.91**	**282**	P	**Pn**	**13 31 54.6**	**+3.2**
TGRZ	**Tauranga**	**1.95**	**360**	P	**Pn**	**13 31 52.3**	**+0.4**
WEL	**Wellington**	**1.97**	**215**	P	**Pn**	**13 31 52.4**	**+0.2**
TWGZ	**Tauwhareparae**	**2.00**	**42**	P	**Pn**	**13 31 53.3**	**+0.6**
SNZO	**South Karori**	**2.02**	**216**		**Pn**	**13 31 53.8**	**+0.9**
RUGZ	**Raukumara Rang**	**2.03**	**33**	P	**Pn**	**13 31 52.9**	**-0.3**
PLWZ	**Palliser**	**2.04**	**202**		**Pn**	**13 31 52.7**	**-0.4**
PLWZ	**Palliser**	**2.04**	**202**	P	**Pn**	**13 31 52.8**	**-0.4**
TOZ	**Tahuroa Road**	**2.04**	**342**	P	**Pn**	**13 31 53.5**	**+0.4**
DUWZ	**D'Urville Isla**	**2.12**	**237**	P	**Pn**	**13 31 55.2**	**+0.9**
TCW	**Tory Channel**	**2.16**	**224**	P	**Pn**	**13 31 55.2**	**+0.4**
HAZ	**Te Kaha**	**2.25**	**32**	P	**Pn**	**13 31 55.2**	**-0.9**
TUWZ	**Tuamarina**	**2.49**	**225**		**Pn**	**13 31 59.5**	**+0.2**
TUWZ	**Tuamarina**	**2.49**	**225**	P	**Pn**	**13 31 59.1**	**-0.3**
WMGZ	**Waiomatatini S**	**2.50**	**43**	P	**Pn**	**13 31 58.7**	**-0.7**
NNZ	**Nelson**	**2.69**	**234**	Pn	**Pn**	**13 32 01.9**	**-0.2**
NNZ	**Nelson**	**2.69**	**234**	P	**Pn**	**13 32 03.2**	**+0.2**
MKAZ	**Moumakai**	**2.72**	**341**	P	**Pn**	**13 32 04.0**	**+1.5**
BSWZ	**Blackbirch Sta**	**2.73**	**221**		**Pn**	**13 32 01.9**	**-0.7**
BSWZ	**Blackbirch Sta**	**2.73**	**221**	P	**Pn**	**13 32 02.2**	**-0.4**
TKNZ	**Takaka Hill**	**2.87**	**241**	P	**Pn**	**13 32 04.9**	**+0.3**
AWAZ	**Awhitu Peninsu**	**2.91**	**333**	P	**Pn**	**13 32 06.0**	**+0.8**
ETAZ	**East Tamaki Re**	**2.92**	**338**	P	**Pn**	**13 32 05.7**	**+0.4**
KUZ	**Kuaotunu**	**2.96**	**351**	P	**Pn**	**13 32 07.2**	**+1.4**
WIAZ	**Waiheke Island**	**3.02**	**342**	P	**Pn**	**13 32 08.6**	**+2.0**
WTAZ	**Waiatarua**	**3.06**	**333**	P	**Pn**	**13 32 08.7**	**+1.5**
QRZ	**Quartz Range**	**3.09**	**247**	Pn	**Pn**	**13 32 07.5**	**-0.1**
QRZ	**Quartz Range**	**3.09**	**247**	P	**Pn**	**13 32 07.4**	**-0.1**
MBAZ	**Motutapu North**	**3.11**	**339**	P	**Pn**	**13 32 09.1**	**+1.4**
MRNZ	**Matariki Terra**	**3.19**	**236**	P	**Pn**	**13 32 09.1**	**+0.2**
RVAZ	**Riverhead Bore**	**3.20**	**335**	P	**Pn**	**13 32 09.9**	**+0.8**
THZ	**Tophouse**	**3.30**	**230**		**Pn**	**13 32 11.3**	**+0.8**
THZ	**Tophouse**	**3.30**	**230**	P	**Pn**	**13 32 10.7**	**+0.1**
DSZ	**Denniston Nort**	**3.98**	**237**	P	**Pn**	**13 32 19.3**	**-0.5**
LTZ	**Lake Taylor**	**4.33**	**223**		**Pn**	**13 32 26.3**	**+1.7**
LTZ	**Lake Taylor**	**4.33**	**223**	P	**Pn**	**13 32 23.0**	**-1.6**
OKCZ	**Okains Bay**	**4.70**	**210**	P	**Pn**	**13 32 28.3**	**-1.5**
INZ	**Inchbonnie**	**4.75**	**229**	P	**Pn**	**13 32 29.1**	**-1.2**
RPZ	**Rata Peaks**	**5.62**	**222**	Pn	**Pn**	**13 32 41.8**	**-0.4**
	0.3nm,0.3s,baz=302,slow=22,SNR=1.2						
RPZ				Sn	**Sn**	**13 33 40.4**	**-5.1**
	2.0nm,0.3s,baz=354,slow=23,SNR=9.5						
	4.7nm,0.9s						
TMZ	**Timaru**	**6.12**	**218**	P	**Pn**	**13 32 47.6**	**-1.6**
CTZ	**Chatham Island**	**6.68**	**130**	P	**Pn**	**13 32 56.8**	**0.0**
JCZ	**Jackson Bay**	**7.11**	**229**	P	Pn	13 33 09.2	+6.4
COEN	**Coen**	**38.74**	**302**	P	**P**	**13 38 41.8**	**-0.2**
COEN				IAmb	IAmb	13 39 20.2	
	comp=Z,21nm,1.4s						
ASAR	**Alice Springs**	**39.05**	**281**	P	**P**	**13 38 44.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=131,slow=9.5,SNR=20						
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**39.05**	**281**	P	**P**	**13 38 42.9**	**-1.7**
FORT	**Forrest**	**39.97**	**267**	P	**P**	**13 38 50.6**	**-1.5**
WR0	**Warramunga Arr**	**40.76**	**286**	P	**P**	**13 38 58.5**	**-0.2**
WR0				IAmb	IAmb	13 39 15.2	
	comp=Z,8.2nm,1.4s						
WB2	**Warramunga Arr**	**40.91**	**286**	P	**P**	**13 39 00.3**	**+0.3**
WRA	**Warramunga Arr**	**40.92**	**286**	P	**P**	**13 38 59.8**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=128,slow=7.3,SNR=35						
	comp=Z,1.6nm,0.6s						
WRA	**Warramunga Arr**	**40.92**	**286**	P	**P**	**13 39 00.1**	**+0.1**
WB0	**Warramunga Arr**	**40.99**	**287**	P	**P**	**13 39 00.7**	**+0.1**
WB0				IAmb	IAmb	13 39 22.8	
	comp=Z,7.7nm,1.4s						
MTN	**Manton Dam**	**47.83**	**291**	P	**P**	**13 39 54.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**48.56**	**281**	P	**P**	**13 40 00.0**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=131,slow=9.0,SNR=1.9						
	comp=Z,0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**48.56**	**281**	P	**P**	**13 40 00.4**	**-0.5**
FITZ				IAmb	IAmb	13 40 03.8	
	comp=Z,5.4nm,1.2s						
NVAR	**Mina Array Bea**	**98.14**	**46**	LR	LR	14 24 20.2	
	comp=Z,48nm,18.5s,baz=90,slow=32						
ARCES	**ARCESS Array B**	**146.33**	**342**	PKPbc	**PKPdf**	**13 50 54.9**	**-0.5**
	comp=Z,6.0nm,1.1s,baz=50,slow=7.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**153.14**	**192**	PKPbc	**PKPbc**	**13 51 15.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=124,slow=4.4,SNR=1.4						
TORD				PKPab	**sPKPdf**	**13 51 26.8**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=180,slow=0.9,SNR=1.4						

IDC 09 13:40:16.1±2.4, 3.45N×127.02E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=205.4km s-min=26.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.33**	**163**	P	P	13 45 35.1	-0.7
	0.9nm,0.8s,baz=343,slow=9.7,SNR=4.6						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**27.77**	**166**	P	P	13 46 07.5	+0.6
	0.2nm,0.5s,baz=341,slow=7.8,SNR=1.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**57.95**	**325**	P	P	13 50 10.5	+0.1
	0.5nm,0.6s,baz=124,slow=8.1,SNR=5.8						
	0.5nm,0.6s						

*IDC **09** 13:45:32.1±1.0, 17.81N×121.61E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=53.7km s-min=20.8km az=73.0*
*MAN **09** 13:45:36.3, 18.04N×121.43E, h25km, mb4.6, ML3.5, MS3.4*

ISC 09 13:45:36.8±1.4, 18.03N±0.05×121.38E±0.04, h24km±11km, n28, σ2§19/34, mb3.5/7, 5C-9D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Gonzaga**	**0.67**	**71**	i*eP*	**Pb**	**13 45 49.7**	**-0.1**
SGCP				*eS*	**Sn**	**13 45 59.7**	**-0.8**
SIPP	**Brgy, Tapao**	**0.88**	**263**	i*iP*	**Pb**	**13 45 53.3**	**-0.2**
SIPP				*i* S	Sn	13 46 21.2	+15
SAMP	**Sagada Mountai**	**1.05**	**206**	i*eP*	**Pn**	**13 45 53.5**	**-2.5**
SAMP				*eS*	**Sb**	**13 46 06.1**	**-3.5**
CAUP	**Cauayan**	**1.16**	**159**	i*eP*	**Pn**	**13 45 57.6**	**+0.2**
CAUP				*eS*	**Sb**	**13 46 15.8**	**+3.0**
PALP	**Palanan**	**1.39**	**134**	i*eP*	**Pn**	**13 46 00.3**	**-0.3**
PALP				*eS*	**Sb**	**13 46 22.8**	**+3.6**
SMPP	**San Manuel, Pa**	**1.98**	**200**	i*eP*	**Pn**	**13 46 09.1**	**+0.2**
SMPP				*eS*	**Sn**	**13 46 33.3**	**+0.4**
BOLP	**Bolinao**	**2.16**	**221**	i*eP*	**Pn**	**13 46 11.5**	**+0.3**
BOLP				*eS*	**Sn**	**13 46 39.2**	**+2.0**
BALP	**Baler**	**2.28**	**175**	i*eP*	**Pn**	**13 46 11.9**	**-1.1**
BALP				*eS*	**Sn**	**13 46 41.5**	**+1.1**
PCPH	**Palayan**	**2.47**	**186**	i*eP*	**Pn**	**13 46 16.1**	**+0.6**
PCPH				*eS*	**Sb**	**13 46 48.1**	**-2.3**
MACP	**Maragondon, Ca**	**3.80**	**190**	i*eP*	**Pn**	**13 46 36.5**	**+2.7**
MACP				*eS*	**Sn**	**13 47 22.2**	**+4.5**
LQP	**Lukban**	**3.90**	**178**	i*eP*	**Pn**	**13 46 32.6**	**-2.8**
LQP				*eS*	**Sn**	**13 47 23.4**	**+2.9**
JCNP	**Jose Panganiba**	**3.93**	**161**	i*eP*	**Pn**	**13 46 35.7**	**+0.1**
JCNP				*i* S	**Sn**	**13 47 19.3**	**-1.7**
BOAC	**Boac**	**4.57**	**174**	i*eP*	**Pn**	**13 46 45.7**	**+1.3**
BOAC				*eS*	**Sn**	**13 47 39.3**	**+2.6**
PVCP	**Virac**	**5.15**	**148**	i*eP*	**Pn**	**13 46 51.7**	**-0.8**
PVCP				*eS*	**Sn**	**13 47 48.9**	**-2.3**
KSRS	**Korea Array**	**20.19**	**15**	P	Pn	13 50 10.8	-0.8
	1.1nm,0.5s,baz=198,slow=11,SNR=6.3						
	1.1nm,0.5s						
SONM	**Songino Array**	**32.16**	**341**	P	**P**	**13 52 04.5**	**+1.9**
	0.7nm,0.6s,baz=163,slow=9.1,SNR=4.7						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**39.82**	**161**	P	**P**	**13 53 04.9**	**-3.5**
	0.5nm,0.7s,baz=344,slow=8.9,SNR=4.3						
	0.5nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**42.94**	**82**	T	T	14 38 53.6	
	baz=277,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**42.95**	**82**	T	T	14 38 54.2	
	baz=277,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**42.96**	**82**	T	T	14 38 49.9	
	baz=277,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**43.00**	**80**	T	T	14 38 59.4	
	baz=275,slow=75,SNR=

PEBM Pemiscott Bayo 0.42 215 Pg 13 45 46.2 0.0
BETM Bethany 0.42 292 Pg 13 45 46.4 +0.1
BRNM Bernie 0.44 308 Pg 13 45 46.7 +0.2
CWPT Cottonwood Poi 0.45 186 Pg 13 45 46.6 -0.2
RELT Roellen 0.47 153 Pg 13 45 46.9 -0.3
GUAMO Guam 0.48 333 Pg 13 45 47.4 -0.1
GUAMO Sb 13 45 54.5 -0.1
FPST Four Points 0.49 169 Pg 13 45 47.2 -0.3
CHNM Channel 0.51 215 Pg 13 45 47.9 +0.1
FMKY Fulgham 0.57 68 Pg 13 45 48.1 -1.0
HALT Halls 0.57 161 Pg Pg 13 45 48.6 -0.5
UTMT University of 0.58 101 Pg 13 45 48.4 -0.8
EDIT Edith 0.59 179 Pg 13 45 49.2 -0.2
GNAR Gosnell 0.61 217 Pg 13 45 49.9 +0.1
ARPT Arp 0.70 187 Pg 13 45 51.4 -0.1
DLAR Dell 0.74 209 Pg 13 45 52.0 -0.1
LVAR Leachville 0.76 225 Pb 13 45 52.4 -0.1
PBMO Poplar Bluff 0.76 295 Pg Pb 13 45 52.3 -0.3
PBMO Sg Sb 13 46 03.0 +0.3
PBMO Poplar Bluff 0.76 295 P Pb 13 45 52.3 -0.3
baz=114,SNR=51
PBMO S Sb 13 46 02.8 +0.1
baz=114
MSAR Manila South 0.82 215 Pb 13 45 53.6 +0.1
MCIL McClure 0.84 4 Pb 13 45 52.3 -1.6
CGM3 Cape Girardeau 0.84 355 Pb 13 45 53.4 -0.6
CBMO Girardeau Brid 0.85 2 Pb 13 45 52.4 -1.6
T45B Paducah 0.93 53 P Pb 13 45 54.4 -1.0
baz=232,SNR=13
T45B S Sb 13 46 06.5 -0.9
baz=232
T45A Paducah 0.93 53 Pb 13 45 54.4 -1.0
LPAR Lepanto 1.04 215 Pb 13 45 57.0 -0.2
SFTN Shelby Forest 1.16 199 Pn 13 45 59.2 +0.1
HBAR Harrisburg 1.26 225 Pn 13 46 00.7 +0.2
HBAR Harrisburg 1.26 225 P Pn 13 46 00.9 +0.3
baz=45,SNR=50
S44A Carbondale 1.26 11 Pn 13 46 00.8 +0.2
S44A Carbondale 1.26 11 P Pn 13 46 00.6 0.0
baz=190,SNR=170
S44A S Sn 13 46 17.3 +0.1
baz=190
SIUC Southern Illin 1.29 12 Pn 13 46 01.0 +0.1
EBZ Ebenezer Churc 1.32 172 Pn 13 46 01.4 -0.1
W45A Hickory Valley 1.33 166 Pn 13 46 01.3 -0.3
W45A Hickory Valley 1.33 166 P Pn 13 46 01.2 -0.3
baz=348
W45A S Sb 13 46 19.6 +0.5
baz=348
LCAR Lake Charles 1.34 254 Pn 13 46 01.8 +0.2
LCAR IAmb_Lg 13 46 20.2
comp=Z,352nm,0.9s
LCAR Lake Charles 1.34 254 P Pn 13 46 01.9 +0.3
baz=73,SNR=263
MET Memphis--Engin 1.36 193 Pn Pn 13 46 02.2 +0.2
WVT Waverly 1.44 103 Pn 13 46 02.4 -0.7
WVT Waverly 1.44 103 P Pn 13 46 02.9 -0.2
baz=284
WVT S Sn 13 46 21.3 -0.4
baz=284
WVT Waverly 1.44 103 P Pn 13 46 02.7 -0.4
baz=284
WVT S Sn 13 46 21.4 -0.2
baz=284
FVM French Village 1.67 336 Pn 13 46 07.2 +1.0
FVM IAmb_Lg 13 46 33.4
comp=Z,517nm,0.8s
FVM French Village 1.67 336 P Pb 13 46 07.5 -0.6
baz=155,SNR=269
FVM S Sb 13 46 29.7 +0.9
baz=155
PLAL Pickwick Lake 1.91 140 Pn 13 46 08.8 -0.7
PWLA Pickwick Lake 1.92 140 Pn 13 46 09.1 -0.5
OXF Oxford 1.94 176 Pn 13 46 10.4 +0.4
OXF Oxford 1.94 176 P Pn 13 46 10.4 +0.4
baz=357,SNR=65
OXF S Sb 13 46 37.8 +1.1
baz=357
OXF Oxford 1.94 176 P Pn 13 46 10.5 +0.6
baz=357
OXF S Sb 13 46 37.8 +1.1
baz=357
T47A Sharon Grove 2.05 74 Pn 13 46 12.1 +0.7
T47A Sharon Grove 2.05 74 P Pn 13 46 12.3 +0.9
baz=255,SNR=372
CCM Cathedral Cave 2.08 321 Pb 13 46 13.7 -1.4
CCM Cathedral Cave 2.08 321 P Pb 13 46 13.8 -1.3
baz=139,SNR=352
CCM Cathedral Cave 2.08 321 P Pb 13 46 13.8 -1.3
baz=139
USIN University of 2.14 45 Pn 13 46 13.5 +0.9
USIN IAmb_Lg 13 46 47.7
comp=Z,497nm,1.1s
FCAR Ozark Folk Cen 2.14 255 Pn 13 46 14.1 +1.4
SLM Saint Louis 2.24 346 IAmb_Lg 13 46 49.7
comp=Z,251nm,0.7s
MGMO Mountain Grove 2.28 289 Pn 13 46 16.2 +1.7
V48A Smith Brothers 2.34 107 Pn 13 46 16.0 +0.6
V48A IAmb_Lg 13 46 50.0
comp=Z,272nm,0.8s
V48A Smith Brothers 2.34 107 P Pn 13 46 16.0 +0.6
baz=289,SNR=57
Q44A Meyer Farm, Va 2.48 10 Pb 13 46 19.7 -2.1
Q44A Meyer Farm, Va 2.48 10 P Pb 13 46 19.8 -2.1
baz=190,SNR=35
WHAR Wooly Hollow 2.50 243 Pn 13 46 18.6 +1.0
OLIL Olney 2.56 27 Pn 13 46 19.6 +1.2
Y45A Yeager Farm, C 2.58 180 P Pn 13 46 19.7 +0.9
baz=0.1,SNR=18
Y45A Sb Sg 13 46 58.4 -2.5
baz=0.1
CLTN Cedars of Leba 2.64 97 Pn 13 46 20.2 +0.6
UALR University of 2.81 234 Pn 13 46 22.7 +0.8
R40A Maddies Statio 2.83 311 Pn 13 46 23.6 +1.5
R40A IAmb_Lg 13 47 09.6
comp=Z,310nm,0.7s
R40A Maddies Statio 2.83 311 P Pn 13 46 24.0 +1.9
baz=129,SNR=145
R40A Sb Sb 13 47 05.1 +3.0
baz=129
X48A Hartselle 2.87 133 Pn 13 46 22.9 +0.2
X48A Hartselle 2.87 133 P Pn 13 46 22.9 +0.2
baz=315,SNR=36
U49A Red Boiling Sp 3.05 88 Pn 13 46 25.9 +0.7
U49A Red Boiling Sp 3.05 88 P Pn 13 46 25.9 +0.7
baz=270,SNR=43
CCAR Cane Creek 3.11 216 Pn 13 46 27.2 +1.2
CCAR IAmb_Lg 13 47 21.2
comp=Z,240nm,0.9s
CCAR Cane Creek 3.11 216 P Pn 13 46 27.5 +1.4
baz=35,SNR=9.9
WCI Wyandotte Cave 3.15 55 Pn 13 46 27.3 +0.7
WCI IAmb_Lg 13 47 23.5
comp=Z,195nm,0.9s
WCI Wyandotte Cave 3.15 55 P Pn 13 46 27.4 +0.7
baz=236,SNR=15
WCI Wyandotte Cave 3.15 55 P Pn 13 46 27.3 +0.7
baz=236
WCI Sb Sb 13 47 14.0 +2.5
baz=236
P43A Skaggs, Pawnee 3.18 1 Pn 13 46 29.3 +2.3
P43A IAmb_Lg 13 47 22.7
comp=Z,169nm,0.9s
SWET Sewanee 3.20 112 Pn 13 46 28.2 +0.8
SWET IAmb_Lg 13 47 25.9
comp=Z,178nm,0.7s
S39A Bolivar 3.25 293 Pn 13 46 29.8 +1.9
S39A IAmb_Lg 13 47 23.5
comp=Z,154nm,0.8s
S39A Bolivar 3.25 293 P Pn 13 46 29.7 +1.8
baz=111
Z47A Carrollton 3.48 159 Pn 13 46 32.1 +1.1
Z47A Carrollton 3.48 159 IAmb_Lg 13 47 35.3
comp=Z,204nm,0.8s
HHAR Hobbs 3.53 268 Pn 13 46 33.6 +1.7
HHAR IAmb_Lg 13 47 39.9
comp=Z,169nm,0.7s
P40A Paris 3.64 328 Pn 13 46 34.8 +1.5
P40A Paris 3.64 328 P Pn 13 46 35.1 +1.8
baz=146,SNR=11
Y49A Blount Mountai 3.66 134 Pn 13 46 33.7 0.0
Y49A IAmb_Lg 13 47 38.1
comp=Z,281nm,0.8s
Y49A Blount Mountai 3.66 134 P Pn 13 46 33.6 0.0
baz=316,SNR=58

P46A Rosedale 3.67 30 Pn 13 46 34.4 +0.7
P46A IAmb_Lg 13 47 35.4
comp=Z,174nm,0.7s
FPAL Fort Paine 3.75 119 Pn 13 46 35.5 +0.6
FPAL IAmb_Lg 13 47 41.8
comp=Z,216nm,0.7s
DYTN Dayton 3.76 104 Pn 13 46 35.6 +0.6
MIAR Mount Ida 3.79 241 Pn 13 46 36.6 +1.3
MIAR IAmb_Lg 13 47 47.8
comp=Z,264nm,1.1s
MIAR Mount Ida 3.79 241 P Pn 13 46 36.6 +1.3
baz=59,SNR=43
MIAR Mount Ida 3.79 241 P Pn 13 46 36.5 +1.3
baz=59
MIAR Sb Sg 13 47 35.9 -3.3
baz=59
O44A Mansfield 3.79 13 IAmb_Lg 13 47 37.0
comp=Z,168nm,0.8s
U38A Gravette 3.88 271 Pn 13 46 38.1 +1.4
U38A IAmb_Lg 13 47 47.7
comp=Z,127nm,0.9s
R49A Shelbyville 3.95 61 Pn 13 46 37.9 +0.3
R49A Shelbyville 3.95 61 P Pn 13 46 38.4 +0.8
baz=243,SNR=13
R49A P Pn 13 46 38.4 +0.8
baz=243,SNR=13
WLAR White Oak Lake 4.01 227 Pn 13 46 39.0 +0.6
LRAL Lakeview Retre 4.02 147 Pn Pn 13 46 38.1 -0.3
LRAL Lakeview Retre 4.02 147 P Pn 13 46 38.2 -0.2
baz=329
LRAL Lakeview Retre 4.02 147 P Pn 13 46 38.3 -0.2
baz=329
BCRT Bacon Ridge 4.10 98 Pn 13 46 40.5 +0.9
CMGA Chestnut Mount 4.12 115 Pn 13 46 40.8 +0.8
CPCT Cooper Cave 4.22 102 Pn 13 46 42.0 +0.8
CPCT IAmb_Lg 13 47 47.5
comp=Z,120nm,0.8s
V51A Loudon 4.27 97 Pn Pn 13 46 42.8 +0.8
V51A IAmb_Lg 13 47 57.4
comp=Z,187nm,0.7s
V51A Loudon 4.27 97 P Pn 13 46 42.8 +0.8
baz=280,SNR=18
X51A Calhoun 4.28 115 IAmb_Lg 13 48 01.6
comp=Z,220nm,0.7s
X51A Calhoun 4.28 115 Sb Sb 13 47 47.3 +3.4
baz=298
X51A Sb Sb 13 47 47.3 +3.4
baz=298
GMG Grassy Mountai 4.29 110 Pn 13 46 43.1 +0.7
ETT Etowah 4.30 104 Pn 13 46 43.5 +1.1
N41A Harden Midland 4.36 347 Pn Pn 13 46 44.4 +1.2
N41A IAmb_Lg 13 47 58.0
comp=Z,164nm,0.8s
N41A Harden Midland 4.36 347 P Pn 13 46 44.6 +1.3
baz=166,SNR=10
RLO Rose Lookout 4.41 268 Pn 13 46 45.3 +1.3
RLO IAmb_Lg 13 47 59.2
comp=Z,101nm,0.7s
GRBT Greenback 4.42 99 Pn 13 46 45.2 +1.2
P48A Milroy 4.44 46 Pn Pn 13 46 44.8 +0.5
P48A IAmb_Lg 13 48 06.8
comp=Z,107nm,0.7s
P38A Dawn 4.45 317 Pn Pn 13 46 45.5 +1.1
P38A Dawn 4.45 317 P Pn 13 46 45.7 +1.3
baz=134,SNR=106
P38A S Sn 13 47 37.7 +1.9
baz=134
R50A Paris 4.55 65 Pn 13 46 46.4 +0.5
R50A Paris 4.55 65 P Pn 13 46 46.5 +0.6
baz=248,SNR=7.6
R50A P Pn 13 46 46.5 +0.6
baz=248,SNR=7.6
CPRT Copper Ridge 4.60 92 Pn 13 46 47.5 +0.7
TKL Tuckaleechee C 4.76 98 Pn Pn 13 46 49.1 +0.3
comp=Z,1.1nm,0.3s,baz=286,slow=13,SNR=14
TKL Pg Pb 13 46 59.1 -1.7
comp=Z,17nm,0.3s,baz=276,slow=12,SNR=33
TKL Lg Lg 13 48 00.9
comp=Z,59nm,0.3s,baz=167,slow=21,SNR=34
comp=Z,3.0nm,0.3s
TKL Tuckaleechee C 4.76 98 Pn Pn 13 46 49.4 +0.7
TKL Tuckaleechee C 4.76 98 P Pn 13 46 49.0 +0.3
baz=281,SNR=18
Z51A Franklin 4.78 130 Pn 13 46 48.9 -0.1
Z51A Franklin 4.78 130 P Pn 13 46 48.6 -0.4
baz=312
W52A Murphy 4.78 105 Pn Pn 13 46 49.7 +0.6
W52A IAmb_Lg 13 48 19.6
comp=Z,107nm,0.8s
TZTN Tazewell 4.85 87 Pn 13 46 51.0 +1.0
TZTN Tazewell 4.85 87 P Pn 13 46 51.0 +1.0
baz=271,SNR=17
TZTN Tazewell 4.85 87 P Pn 13 46 51.0 +1.0
baz=271
TZTN Sb Sb 13 48 05.3 +5.0
baz=271
V52A Sevierville 4.87 95 Pn Pn 13 46 50.8 +0.6
V52A Sevierville 4.87 95 P Pn 13 46 51.0 +0.7
baz=279
S51A Beattyville 4.92 74 Pn Pn 13 46 51.7 +0.7
S51A Beattyville 4.92 74 P Pn 13 46 51.9 +0.9
baz=258,SNR=28
S51A P Pn 13 46 51.9 +0.9
baz=258,SNR=28
WSNC Winespring Bal 5.03 103 Pn 13 46 53.0 +0.4
TUL1 Leonard 5.06 266 Pn Pn 13 46 53.4 +0.5
TUL1 Leonard 5.06 266 P Pn 13 46 53.8 +0.9
baz=82
TUL1 Leonard 5.06 266 P Pn 13 46 53.8 +0.9
baz=82
X37A Clayton 5.09 250 Pn Pn 13 46 54.7 +1.5
N38A Joes South For 5.20 328 Pn Pn 13 46 55.6 +0.9
N38A Joes South For 5.20 328 S Sn 13 47 54.8 +0.6
baz=145
250A Grady 5.24 148 IAmb_Lg 13 48 19.9
comp=Z,179nm,0.8s
250A Grady 5.24 148 S Sn 13 47 55.3 0.0
baz=330
LRVA Lonesome Ridge 5.47 85 Pn 13 46 59.0 +0.5
HQIL Hanson Quary C 5.50 14 IAmb_Lg 13 48 30.5
comp=Z,76nm,1.0s
152A Waverly Hall 5.50 132 IAmb_Lg 13 48 31.4
comp=Z,171nm,1.0s
V53A Saluda 5.53 96 IAmb_Lg 13 48 28.1
comp=Z,141nm,0.8s
V53A Saluda 5.53 96 P Pn 13 46 59.7 +0.3
baz=280
V53A P Pn 13 46 59.7 +0.3
baz=280
L42A Oliver, Polo 5.54 359 IAmb_Lg 13 48 31.3
comp=Z,104nm,0.9s
Q51A Peebles 5.56 61 Pn Pn 13 47 00.0 +0.3
Q51A IAmb_Lg 13 48 30.7
comp=Z,100nm,0.7s
BG3 Lake Jocassee 5.59 103 Pn Pn 13 47 00.5 +0.3
BG3 IAmb_Lg 13 48 40.1
comp=Z,121nm,0.7s
T35A Sooner Cattle 5.60 277 Pn Pn 13 47 01.5 +1.3
T35A IAmb_Lg 13 48 41.2
comp=Z,161nm,0.9s
DEOK Depew 5.64 266 Pn Pn 13 47 01.8 +0.9
DEOK IAmb_Lg 13 48 52.8
comp=Z,180nm,0.9s
BRAL Brewton 5.67 158 IAmb_Lg 13 48 49.9
comp=Z,159nm,0.8s
L40A Anamosa 5.74 348 IAmb_Lg 13 48 38.5
comp=Z,138nm,1.0s
OK047 Pawnee, Statio 5.77 272 Pn Pn 13 47 04.3 +1.8
QUOK Quay 5.77 269 IAmb_Lg 13 48 56.2
comp=Z,163nm,1.1s
OK044 Pawnee Station 5.83 271 IAmb_Lg 13 48 50.3
comp=Z,111nm,0.8s
L44A Lake County Fo 5.86 12 IAmb_Lg 13 48 43.1
comp=Z,101nm,1.0s
GOGA Godfrey 5.86 119 IAmb_Lg 13 48 41.1
comp=Z,115nm,0.8s
GOGA Godfrey 5.86 119 Sb Sb 13 48 33.8 +4.4
baz=303
OK045 Pawnee Station 5.93 272 Pn Pn 13 47 05.6 +0.8
OK048 Pawnee Station 5.95 272 IAmb_Lg 13 48 59.2
comp=Z,159nm,0.8s
OK033 Mehan 5.97 268 IAmb_Lg 13 49 02.0
comp=Z,90nm,0.8s
L46A Eue Claire 6.10 24 IAmb_Lg 13 48 54.9
comp=Z,140nm,0.7s
N49A Columbus Grove 6.13 42 IAmb_Lg 13 48 50.2
comp=Z,98nm,0.8s
SCIA State Center 6.13 334 IAmb_Lg 13 48 57.3
comp=Z,139nm,0.7s
BLOK Blackwell 6.16 275 Pn Pn 13 47 08.9 +1.0
BLOK IAmb_Lg 13 48 52.3
comp=Z,236nm,1.3s
KSU1 Kansas State U 6.17 297 Pn Pn 13 47 08.6 +0.5
KSU1 Kansas State U 6.17 297 P Pn 13 47 09.3 +1.2
baz=113
KSU1 Sb Sg 13 48 50.3 -5.4
baz=113
U54A Nelsons Funny 6.24 87 Pn Pn 13 47 08.6 -0.6
Q52A Bidwell 6.31 64 Pn Pn 13 47 10.5 +0.5
Q52A IAmb_Lg 13 48 57.4
comp=Z,125nm,0.9s
K43A Burlington 6.31 8 IAmb_Lg 13 48 55.8
comp=Z,93nm,0.8s
ACSO Alum Creek Sta 6.40 52 IAmb_Lg 13 49 03.9
comp=Z,141nm,1.0s
JFWS Jewell Farm 6.47 356 IAmb_Lg 13 49 02.6
comp=Z,85nm,0.7s
N35A Tabor 6.47 315 Pn Pn 13 47 13.2 +1.0
N35A Tabor 6.47 315 P Pn 13 47 13.3 +1.0
baz=131,SNR=17
PAULI Pauline 6.52 102 IAmb_Lg 13 49 00.7
comp=Z,137nm,0.9s
BCOK Bluff Creek, N 6.56 265 IAmb_Lg 13 49 20.9
comp=Z,59nm,0.7s
154A Montrose 6.57 124 IAmb_Lg 13 49 10.3
comp=Z,145nm,0.7s
451A Vernon 6.64 150 IAmb_Lg 13 49 02.9
comp=Z,94nm,1.1s
K38A Parkersburg 6.66 339 IAmb_Lg 13 49 11.1
comp=Z,84nm,0.9s
P52A Corning 6.67 59 Pn Pn 13 47 15.4 +0.5
P52A IAmb_Lg 13 49 15.6
comp=Z,111nm,0.9s
P52A Corning 6.67 59 P Pn 13 47 15.6 +0.7
baz=244
LOOK Love County 6.70 251 IAmb_Lg 13 49 24.0
comp=Z,145nm,1.1s
S54A Dingess, Beckl 6.73 76 P Pn 13 47 15.6 -0.2
baz=261
S54A P Pn 13 47 15.6 -0.2
baz=261
L48A N Adams 6.78 34 IAmb_Lg 13 49 23.9
comp=Z,88nm,0.8s
CROK Carrier 6.78 273 IAmb_Lg 13 49 15.3
comp=Z,148nm,1.1s
V55A Taylorsville 6.79 93 Pn Pn 13 47 16.7 +0.1
V55A IAmb_Lg 13 49 15.5
comp=Z,101nm,0.7s
KMSC Kings Mountain 6.82 99 IAmb_Lg 13 49 15.4
comp=Z,123nm,0.8s
KAN10 Anthony SW Sta 6.88 278 Pn Pn 13 47 17.8 0.0
OK032 Salt Plains WL 6.96 275 IAmb_Lg 13 49 31.7
comp=Z,119nm,0.8s
X34A Smith Ranch, M 6.99 257 IAmb_Lg 13 49 19.6
comp=Z,70nm,0.8s
Z35A Perchaven, San 7.04 246 IAmb_Lg 13 49 29.2
comp=Z,81nm,1.1s
TIGA Tifton 7.05 133 IAmb_Lg 13 49 17.9
comp=Z,124nm,0.8s
M50A Fremont 7.09 44 IAmb_Lg 13 49 30.1
comp=Z,62nm,0.8s
O52A Adamsville 7.09 57 IAmb_Lg 13 49 21.2
comp=Z,99nm,0.9s
JSC Jenkinsville 7.12 105 IAmb_Lg 13 49 18.2
comp=Z,112nm,0.9s
P53A Whipple 7.13 62 P Pn 13 47 21.6 +0.3
baz=247,SNR=5.1
P53A P Pn 13 47 21.6 +0.3
baz=247,SNR=5.1
N51A Ashland 7.17 49 IAmb_Lg 13 49 22.9
comp=Z,91nm,0.8s
Q54A Coxs Mills 7.37 67 Pn Pn 13 47 24.4 -0.2
Q54A IAmb_Lg 13 49 38.4
comp=Z,87nm,0.8s
OK038 West end E0370 7.39 273 IAmb_Lg 13 49 37.2
comp=Z,112nm,0.9s
U56A King 7.41 88 IAmb_Lg 13 49 45.9
comp=Z,91nm,0.9s
AAM Ann Arbor 7.42 36 IAmb_Lg 13 49 40.1
comp=Z,65nm,1.1s
CSTR Hydro, Custer 7.43 266 Pn Pn 13 47 24.4 -1.0
CSTR IAmb_Lg 13 49 40.9
comp=Z,7.1nm,0.8s
N33B J Bar K, Exete 7.51 307 S Sn 13 48 51.2 0.0
baz=122
NOKA Waynoka 7.54 274 IAmb_Lg 13 49 55.0
comp=Z,70nm,0.7s
O53A New Philadelph 7.58 58 Pn Pn 13 47 28.6 +1.2
O53A IAmb_Lg 13 49 38.3
comp=Z,66nm,0.8s
U32A Winter Ranch, 7.61 272 IAmb_Lg 13 49 55.6
comp=Z,103nm,1.1s
BIRD Birdtown, Kers 7.64 101 IAmb_Lg 13 49 35.9
comp=Z,66nm,0.8s
J47A Sunmer 7.69 27 IAmb_Lg 13 49 50.1
comp=Z,111nm,1.0s
WMOK Wichita Mounta 7.70 260 Pn Pn 13 47 29.2 +0.1
WMOK Wichita Mounta 7.70 260 P Pn 13 47 29.1 0.0
baz=74
R55A Marlinton 7.74 74 Pn Pn 13 47 28.6 -1.1
R55A IAmb_Lg 13 49 53.2
comp=Z,106nm,1.0s
R55A Marlinton 7.74 74 P Pn 13 47 28.9 -0.8
baz=259
R55A P Pn 13 47 28.9 -0.8
baz=259
Y57A Sumter 7.89 105 IAmb_Lg 13 50 04.7
comp=Z,104nm,0.7s
ELIS Ellis County 7.97 270 Pn Pn 13 47 33.0 +0.2
ELIS IAmb_Lg 13 50 07.4
comp=Z,79nm,0.8s
I45A Fountain 7.99 18 IAmb_Lg 13 49 51.8
comp=Z,75nm,0.8s
N53A Lisbon 8.10 55 IAmb_Lg 13 49 47.7
comp=Z,63nm,0.8s
O54A Avella 8.12 60 IAmb_Lg 13 49 53.8
comp=Z,61nm,0.8s
M52A Chesterland 8.16 49 IAmb_Lg 13 50 09.6
comp=Z,86nm,0.9s
K50A Casco 8.28 38 IAmb_Lg 13 50 04.5
comp=Z,58nm,0.9s
T57A Hurt 8.30 83 Pn Pn 13 47 37.1 -0.2
MCWV Mont Chateau 8.31 64 IAmb_Lg 13 50 10.4
comp=Z,60nm,0.9s
456A Hilliard 8.50 130 IAmb_Lg 13 50 20.4
comp=Z,68nm,0.8s
M53A WI Miller and 8.53 52 IAmb_Lg 13 50 06.7
comp=Z,89nm,1.0s
ALLY Alegheny Colle 8.98 52 IAmb_Lg 13 50 19.0
comp=Z,54nm,0.9s
ECSD EROS Data Cent 9.05 326 Pn Pn 13 47 47.2 -0.4
ECSD EROS Data Cent 9.05 326 P Pn 13 47 47.3 -0.4
baz=141,SNR=15
G45A Suttons Bay 9.07 18 IAmb_Lg 13 50 39.0
comp=Z,83nm,0.8s
656A Willston 9.21 138 IAmb_Lg 13 50 43.5
comp=Z,83nm,1.2s
ERPA Erie 9.33 50 IAmb_Lg 13 50 31.6
comp=Z,42nm,0.9s
K31A O'Neill 9.39 314 P Pn 13 47 52.6 +0.3
baz=128
R58B Mineral 9.45 77 Pn Pn 13 47 51.4 -1.6
AMTX Amarillo 9.98 265 Pn Pn 13 47 60.0 -0.4
E43A Lone Tree Farm 10.10 10 Pn Pn 13 48 01.5 -0.4
E43A Lone Tree Farm 10.10 10 P Pn 13 48 01.6 -0.3
baz=192,SNR=8.5
OGNE Ogallala 10.72 298 Pn Pn 13 48 10.5 -0.1
M57A Sunshine Farm, 10.85 60 Pn Pn 13 48 11.0 -1.2
MSTX Muleshoe 11.08 261 Pn Pn 13 48 14.5 -1.1
SADO Sadowa 11.47 40 Pn Pn 13 48 18.6 -2.1
comp=Z,0.5nm,0.3s,baz=266,slow=16,SNR=1.7
SADO Lg Lg 13 51 28.2
comp=Z,1.7nm,0.3s,baz=286,slow=15,SNR=2.9
comp=Z,2.8nm,0.5s
T25A Trinidad 11.92 278 Pn Pn 13 48 25.4 -1.7
HTMS Hat Mesa 12.27 255 Pn Pn 13 48 31.6 -0.2
Q24A Divide 12.59 286 Pn Pn 13 48 34.7 -1.7
SDCO Great Sand Dun 12.79 281 Pn Pn 13 48 38.4 -0.6
ISCO Idaho Springs 13.07 290 Pn Pn 13 48 41.2 -1.6
N23A Red Feather La 13.54 294 Pn Pn 13 48 48.7 -0.5
TX32 Lajitas Array 13.80 243 Pn Pn 13 48 51.9 -0.8
TXAR Lajitas Array 13.80 243 Pn Pn 13 48 50.1 -2.7
comp=Z,0.5nm,0.3s,baz=60,slow=12,SNR=17

TXAR				Lg	Lg	13 52 44.1	
	comp=Z,0.1nm,0.3s,baz=37,slow=23,SNR=1.6						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**13.80**	**243**	Pn	**Pn**	**13 48 52.3**	**-0.5**
ANMO	**Albuquerque**	**13.81**	**269**	Lg	Lg	13 52 51.6	
	comp=Z,0.3nm,0.3s,baz=339,slow=19,SNR=6.3						
MNTX	**Cornudas Mount**	**13.94**	**255**	Pn	**Pn**	**13 48 53.2**	**-1.3**
ULM	**Lac du Bonnet**	**14.52**	**344**	Lg	Lg	13 53 07.3	
	comp=Z,0.5nm,0.3s,baz=86,slow=19,SNR=2.1						
PDAR	**Pinedale Array**	**16.63**	**298**	Pn	**Pn**	**13 49 29.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=104,slow=13,SNR=5.3						
PDAR				Lg	Lg	13 54 13.5	
	comp=Z,0.1nm,0.3s,baz=105,slow=31,SNR=3.6						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**16.63**	**298**	Pn	**Pn**	**13 49 30.5**	**+0.3**
NVAR	**Mina Array Bea**	**22.86**	**284**	P	**P**	**13 50 41.8**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=89,slow=9.4,SNR=4.7						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**43.85**	**329**	P	**P**	**13 53 44.5**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=105,slow=6.3,SNR=10.0						
	comp=Z,1.2nm,0.8s						

*THE **09** 13:58:46.8, 34.40N×25.64E, h0km±1km, ML3.1/8, Error ellipse: s-maj=3.2km s-min=0.9km az=156.0*
*ATH **09** 13:58:47.7, 34.46N×25.61E, h35km±6km, ML3.4/7, Error ellipse: s-maj=9.5km s-min=1.9km az=352.0*
*IDC **09** 13:58:47.1±3.1, 34.41N×25.61E, h25km±22km, mb3.5/4, mbtmp3.5/9, ML3.7/4, Error ellipse: s-maj=26.3km s-min=23.2km az=173.0*

ISC 09 13:58:44.1±1.6, 34.33N±0.05×25.69E±0.03, h5km±10km, n37, σ1.25/53, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.68**	**3**	P	**Pb**	**13 58 59.5**	**+1.0**
FRMA				S	**Sn**	**13 59 10.1**	**-1.3**
	1μm,0.4s						
FRMA	**Ierapetra Chan**	**0.68**	**3**	P	**Pb**	**13 58 59.5**	**+1.0**
FRMA				S	**Sb**	**13 59 09.6**	**+1.3**
FRMA				AML	AML	13 59 13.6	
	comp=E,6644μm,0.4s						
FRMA				AML	AML	13 59 14.1	
	comp=N,5528μm,0.4s						
ZKR	**Zakros**	**0.90**	**29**	P	**Pn**	**13 59 03.6**	**+0.3**
ZKR				S	**Sn**	**13 59 17.1**	**+0.4**
	comp=N,2μm,0.5s						
ZKR	**Zakros**	**0.90**	**29**	P	**Pn**	**13 59 03.7**	**+0.3**
ZKR				S	**Sb**	**13 59 15.6**	**+1.2**
ZKR				AML	AML	13 59 23.7	
	comp=E,4220μm,0.5s						
ZKR				AML	AML	13 59 25.4	
	comp=N,3215μm,0.5s						
STIA	**Sitia Lasithi**	**0.93**	**21**	P	**Pb**	**13 59 03.6**	**+0.9**
STIA				S	**Sn**	**13 59 17.5**	**0.0**
STIA	**Sitia Lasithi**	**0.93**	**21**	P	**Pb**	**13 59 03.6**	**+0.9**
STIA				S	**Sb**	**13 59 16.1**	**+0.7**
SIVA	**Sivas**	**1.00**	**314**	P	**Pn**	**13 59 04.8**	**+0.1**
SIVA				S	**Sb**	**13 59 17.8**	**+0.5**
TMBK	**Timbaki Herakl**	**1.06**	**314**	P	**Pn**	**13 59 05.8**	**+0.2**
TMBK				S	**Sn**	**13 59 20.8**	**+0.1**
	comp=N,1μm,0.4s						
TMBK	**Timbaki Herakl**	**1.06**	**314**	P	**Pn**	**13 59 06.0**	**+0.4**
TMBK				AML	AML	13 59 24.3	
	comp=N,5998μm,0.4s						
TMBK				AML	AML	13 59 26.3	
	comp=E,6750μm,0.4s						
HRKL	**Herakleio**	**1.09**	**334**	P	**Pn**	**13 59 06.8**	**+0.8**
HRKL				S	**Sn**	**13 59 21.8**	**+0.3**
	comp=E,4μm,0.9s						
HRKL	**Herakleio**	**1.09**	**334**	P	**Pn**	**13 59 06.6**	**+0.6**
HRKL				AML	AML	13 59 27.9	
	comp=N,19898μm,1.1s						
HRKL				AML	AML	13 59 32.9	
	comp=E,30734μm,0.8s						
KSTL	**Kastelli Herak**	**1.10**	**332**	P	**Pg**	**13 59 03.5**	**-1.6**
KSTL				S	**Sg**	**13 59 16.5**	**-2.9**
IACM	**Heraklion**	**1.10**	**333**	P	**Pn**	**13 59 06.5**	**+0.4**
IDI	**Anoyia**	**1.16**	**326**	Pg	**Pb**	**13 59 06.8**	**+0.1**
	comp=E,41nm,0.3s,baz=144,slow=15,SNR=163						
IDI	**Anoyia**	**1.16**	**326**	P	**Pb**	**13 59 06.7**	**+0.1**
IDI				S	**Sn**	**13 59 24.5**	**+1.2**
	comp=E,875nm,0.5s						
IDI	**Anoyia**	**1.16**	**326**	P	**Pb**	**13 59 06.8**	**+0.1**
IDI				AML	AML	13 59 27.3	
	comp=N,1652μm,0.6s						
IDI				AML	AML	13 59 32.6	
	comp=E,1834μm,0.6s						
GVD	**Gavdhos**	**1.42**	**291**	P	**Pg**	**13 59 11.7**	**+0.5**
GVD				S	**Sn**	**13 59 31.3**	**+1.8**
	comp=E,2μm,0.4s						
GVD	**Gavdhos**	**1.42**	**291**	P	**Pg**	**13 59 11.6**	**+0.3**
GVD				AML	AML	13 59 35.8	
	comp=E,3309μm,0.4s						
GVD				AML	AML	13 59 39.9	
	comp=N,2718μm,0.4s						
PRNS	**Prines Rethymn**	**1.42**	**317**	P	**Pg**	**13 59 11.8**	**+0.5**
PRNS				S	**Sn**	**13 59 31.7**	**+2.1**
	comp=N,350nm,0.6s						
KARP	**Karpathos**	**1.71**	**44**	P	**Pg**	**13 59 17.4**	**+0.5**
KARP	**Karpathos**	**1.71**	**44**	P	**Pg**	**13 59 17.5**	**+0.5**
IMMV	**Iera Moni Meta**	**1.80**	**309**	P	**Pn**	**13 59 16.6**	**+0.8**
IMMV				S	**Sn**	**13 59 39.1**	**+0.1**
	comp=N,670nm,0.7s						
IMMV	**Iera Moni Meta**	**1.80**	**309**	P	**Pn**	**13 59 16.5**	**+0.8**
IMMV				AML	AML	13 59 49.8	
	comp=N,1322μm,0.6s						
IMMV				AML	AML	13 59 52.2	
	comp=E,1354μm,0.9s						
THR5	**Thira Island,**	**2.10**	**352**	P	**Pn**	**13 59 18.9**	**-1.0**
ANKY	**Antikythira Is**	**2.49**	**309**	P	**Pn**	**13 59 26.1**	**+0.8**
ANKY	**Antikythira Is**	**2.49**	**309**	P	**Pn**	**13 59 26.0**	**+0.8**
KTHA	**Kythira Island**	**2.88**	**313**	P	**Pn**	**13 59 30.4**	**-0.2**
KTHR	**Kythira**	**2.92**	**312**	P	**Pn**	**13 59 31.3**	**+0.1**
MMAI	**Mount Meron Ar**	**8.20**	**96**	Pn	**Pn**	**14 00 44.9**	**+1.1**
	comp=E,0.4nm,0.3s,baz=279,slow=11,SNR=2.5						
MMAI				Sn	**Sn**	**14 02 14.0**	**-2.9**
	comp=E,2.5nm,0.3s,baz=278,slow=21,SNR=4.9						
EIL	**Elat**	**9.13**	**118**	Pn	**Pn**	**14 00 57.9**	**+1.4**
	comp=E,0.6nm,0.3s,baz=315,slow=8.6,SNR=9.5						
EIL				Sn	**Sn**	**14 02 35.0**	**-4.7**
	comp=E,0.9nm,0.3s,baz=23,slow=5.0,SNR=5.2						
	comp=E,1.9nm,0.4s						
KBZ	**Khabaz**	**16.31**	**50**	Pn	**P**	**14 02 38.6**	**+1.9**
	comp=E,0.2nm,0.3s,baz=239,slow=11,SNR=5.9						
	comp=E,2.2nm,0.8s						
AKASG	**Malin Array Be**	**16.56**	**8**	Pn	**Pn**	**14 02 36.8**	**-0.1**
	comp=E,0.6nm,0.3s,baz=198,slow=10,SNR=3.1						
	comp=E,0.2nm,0.3s						
GERES	**GERESS Array B**	**17.02**	**332**	Pn	**Pn**	**14 02 41.4**	**-1.4**
	comp=E,0.2nm,0.3s,baz=153,slow=13,SNR=2.6						
	comp=E,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**30.30**	**232**	P	**P**	**14 04 56.9**	**+0.5**
	comp=E,0.3nm,0.3s,baz=34,slow=9.7,SNR=4.4						
	comp=E,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**35.26**	**360**	P	**P**	**14 05 38.4**	**-0.8**
	comp=E,2.8nm,1.0s,baz=188,slow=12,SNR=1.5						
	comp=E,2.8nm,1.0s						
KURBB	**Kurchatov Arra**	**41.31**	**50**	P	**P**	**14 06 29.8**	**-0.6**
	comp=E,0.2nm,0.3s,baz=272,slow=9.0,SNR=2.4						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**43.87**	**56**	P	**P**	**14 06 51.4**	**0.0**
	comp=E,0.2nm,0.4s,baz=275,slow=6.7,SNR=4.3						
	comp=E,0.2nm,0.4s						

*DDA **09** 14:07:39.0±0.0, 37.24N×23.03E, h6km±5km, MW3.6*
*ATH **09** 14:07:49.7, 37.57N×23.58E, h17km±1km, ML3.4/22, Error ellipse: s-maj=1.4km s-min=0.6km az=114.0*
*THE **09** 14:07:50.0, 37.58N×23.57E, h12km±1km, ML3.3/17, Error ellipse: s-maj=1.2km s-min=0.6km az=321.0*

ISC 09 14:07:49.1±1.0, 37.58N±0.02×23.63E±0.02, h10km±9km, n61, σ0.61/97, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YDRA	**Hydra**	**0.26**	**209**	P	**Pg**	**14 07 54.7**	**+0.3**
YDRA				S	**Sg**	**14 07 59.0**	**+1.0**
YDRA				AML	AML	14 07 59.8	
	comp=N,89234μm,0.2s						
YDRA				AML	AML	14 08 00.1	
	comp=E,78933μm,0.3s						
VLY	**Voula,Athens**	**0.30**	**26**	P	**Pb**	**14 07 56.3**	**-0.4**
VLY				S	**Sb**	**14 08 01.9**	**+0.2**
	comp=E,4μm,0.5s						
VLY	**Voula,Athens**	**0.30**	**26**	P	**Pb**	**14 07 56.4**	**-0.2**
VLY				S	**Sb**	**14 08 01.8**	**+0.1**
ATH	**Athens Observa**	**0.40**	**10**	P	**Pb**	**14 07 58.0**	**-0.3**
ATH				S	**Sb**	**14 08 04.8**	**+0.4**
	comp=E,4μm,0.3s						
ATH	**Athens Observa**	**0.40**	**10**	P	**Pb**	**14 07 58.1**	**-0.2**
ATH				S	**Sb**	**14 08 04.9**	**+0.4**
ATH				AML	AML	14 08 09.1	
	comp=E,7590μm,0.3s						
ATH				AML	AML	14 08 09.2	
	comp=N,9140μm,0.3s						
EPID	**Epidavros**	**0.40**	**275**	P	**Pg**	**14 07 56.8**	**-0.3**
EPID				S	**Sg**	**14 08 03.1**	**+0.7**
	comp=N,9μm,0.2s						
EPID	**Epidavros**	**0.40**	**275**	P	**Pg**	**14 07 56.8**	**-0.3**
EPID				S	**Sg**	**14 08 03.2**	**+0.7**
ATHU	**Athens Univers**	**0.41**	**18**	P	**Pb**	**14 07 58.0**	**-0.4**
ATHU				S	**Sb**	**14 08 04.6**	**-0.1**
	comp=N,885nm,0.3s						
ATHU	**Athens Univers**	**0.41**	**18**	P	**Pb**	**14 07 58.0**	**-0.4**
ATHU				S	**Sb**	**14 08 03.9**	**-0.8**
KRND	**KRANIDI**	**0.43**	**243**	P	**Pg**	**14 07 57.0**	**-0.5**
KRND				S	**Sg**	**14 08 03.4**	**+0.2**
	comp=N,9μm,0.6s						
KRND	**KRANIDI**	**0.43**	**243**	P	**Pg**	**14 07 57.1**	**-0.5**
KRND				S	**Sg**	**14 08 03.3**	**+0.2**
KRND				AML	AML	14 08 05.6	
	comp=E,18360μm,0.5s						
KRND				AML	AML	14 08 07.6	
	comp=N,16744μm,0.6s						
PTL	**Penteli**	**0.51**	**22**	P	**Pb**	**14 07 59.9**	**-0.2**
PTL				S	**Sb**	**14 08 08.2**	**+0.6**
	comp=N,3μm,0.2s						
PTL	**Penteli**	**0.51**	**22**	P	**Pb**	**14 07 59.9**	**-0.2**
PTL				S	**Sb**	**14 08 08.1**	**+0.5**
PTL				AML	AML	14 08 08.5	
	comp=N,4893μm,0.2s						
PTL				AML	AML	14 08 11.7	
	comp=E,6821μm,0.3s						
DION	**Dionisos Attik**	**0.55**	**26**	P	**Pb**	**14 08 00.8**	**-0.2**
DION				S	**Sb**	**14 08 10.0**	**+1.0**
	comp=E,4μm,0.2s						
DION	**Dionisos Attik**	**0.55**	**26**	P	**Pb**	**14 08 00.9**	**-0.1**
DION				AML	AML	14 08 13.4	
	comp=N,5267μm,0.2s						
DION				AML	AML	14 08 14.9	
	comp=E,4509μm,0.4s						
VILL	**Villia**	**0.63**	**337**	P	**Pg**	**14 08 01.7**	**+0.3**
VILL				S	**Sb**	**14 08 10.9**	**-0.4**
	comp=E,4μm,0.4s						
LOUT	**Loutraki**	**0.66**	**308**	P	**Pg**	**14 08 01.6**	**-0.3**
LOUT				S	**Sg**	**14 08 10.5**	**0.0**
LTK	**Loutraki**	**0.68**	**311**	P	**Pg**	**14 08 02.3**	**0.0**
LTK				S	**Sg**	**14 08 11.8**	**+0.5**
	comp=E,3μm,0.4s						
LTK	**Loutraki**	**0.68**	**311**	P	**Pg**	**14 08 02.4**	**0.0**
LTK				S	**Sg**	**14 08 11.5**	**+0.1**
LTK				AML	AML	14 08 15.6	
	comp=N,7091μm,0.4s						
LTK				AML	AML	14 08 18.8	
	comp=E,8737μm,0.4s						
VIL2	**Platees**	**0.69**	**336**	P	**Pg**	**14 08 01.8**	**-0.7**
VIL2				S	**Sg**	**14 08 09.9**	**-1.6**
VIL2				AML	AML	14 08 12.4	
	comp=N,7631μm,0.4s						
VIL2				AML	AML	14 08 13.8	
	comp=E,8281μm,0.5s						
THAL	**Thalero**	**0.89**	**301**	P	**Pb**	**14 08 06.9**	**+0.3**
THAL				S	**Sb**	**14 08 18.8**	**+0.2**
	comp=E,3μm,0.5s						
THAL	**Thalero**	**0.89**	**301**	P	**Pb**	**14 08 07.0**	**+0.3**
THAL				AML	AML	14 08 33.8	
	comp=N,4763μm,0.6s						
THAL				AML	AML	14 08 36.1	
	comp=E,5306μm,0.4s						
MNVA	**Monemvasia**	**1.01**	**208**	P	**Pg**	**14 08 08.1**	**-0.4**
MNVA				S	**Sg**	**14 08 21.3**	**-0.2**
MNVA				AML	AML	14 08 25.1	
	comp=E,4397μm,0.5s						
MNVA				AML	AML	14 08 25.6	
	comp=N,4292μm,0.4s						
VLI	**Veliai**	**1.02**	**213**	P	**Pg**	**14 08 07.5**	**-1.3**
VLI				S	**Sn**	**14 08 24.0**	**+0.1**
	comp=N,3μm,0.6s						
VLI	**Veliai**	**1.02**	**213**	P	**Pg**	**14 08 07.9**	**-0.9**
VLI				AML	AML	14 08 25.6	
	comp=E,4099μm,0.5s						
VLI				AML	AML	14 08 28.1	
	comp=N,6029μm,0.8s						
MHLO	**Agia Marina, M**	**1.08**	**145**	P	**Pn**	**14 08 10.7**	**+0.3**
MHLO				S	**Sn**	**14 08 26.5**	**+1.1**
	comp=N,4μm,0.5s						
MHLO	**Agia Marina, M**	**1.08**	**145**	P	**Pn**	**14 08 10.1**	**-0.3**
MHLO				AML	AML	14 08 30.8	
	comp=E,7495μm,0.3s						
MHLO				AML	AML	14 08 31.0	
	comp=N,8298μm,0.6s						
KYMI	**Kymi, Euboea I**	**1.12**	**19**	P	**Pn**	**14 08 11.1**	**+0.3**
KYMI				S	**Sb**	**14 08 25.5**	**+0.4**
	comp=N,2μm,0.4s						
KYMI	**Kymi, Euboea I**	**1.12**	**19**	P	**Pn**	**14 08 11.0**	**+0.1**
KYMI				S	**Sb**	**14 08 25.0**	**-0.1**
KYMI				AML	AML	14 08 30.5	
	comp=E,2447μm,0.3s						
KYMI				AML	AML	14 08 30.6	
	comp=N,3897μm,0.5s						
LKR	**Lokris**	**1.18**	**335**	P	**Pg**	**14 08 10.2**	**-1.6**
LKR				S	**Sb**	**14 08 27.6**	**+0.7**
	comp=N,2μm,0.3s						
ATAL	**Atalanti**	**1.21**	**337**	P	**Pg**	**14 08 11.8**	**-0.6**
ATAL				S	**Sn**	**14 08 29.1**	**+0.5**
	comp=N,1μm,0.8s						
ATAL	**Atalanti**	**1.21**	**337**	P	**Pg**	**14 08 11.4**	**-1.0**
ATAL				S	**Sg**	**14 08 27.1**	**-1.0**
ATAL				AML	AML	14 08 31.5	
	comp=E,1940μm,0.7s						
ATAL				AML	AML	14 08 34.7	
	comp=N,2471μm,0.9s						
TNSA	**Tinos**	**1.22**	**91**	P	**Pn**	**14 08 13.5**	**+1.3**
TNSA				AML	AML	14 08 30.6	
	comp=E,2314μm,0.7s						
TNSA				AML	AML	14 08 32.5	
	comp=N,2570μm,0.3s						
KLV	**Kalavryta, Ach**	**1.26**	**292**	P	**Pn**	**14 08 12.3**	**-0.5**
DLFA	**Delphi**	**1.27**	**316**	P	**Pn**	**14 08 12.9**	**0.0**
DLFA				AML	AML	14 08 32.0	
	comp=N,1174μm,0.4s						
DLFA				AML	AML	14 08 37.2	
	comp=E,1186μm,0.3s						
KTHA	**Kythira Island**	**1.40**	**199**	P	**Pn**	**14 08 14.2**	**-0.4**
KTHA				S	**Sb**	**14 08 32.1**	**-1.1**
	comp=E,1μm,0.6s						
KTHA	**Kythira Island**	**1.40**	**199**	P	**Pn**	**14 08 14.3**	**-0.4**
AXAR	**Agios Charalam**	**1.41**	**328**	P	**Pn**	**14 08 15.3**	**+0.4**
AXAR				AML	AML	14 08 44.8	
	comp=E,5243μm,0.5s						
AXAR				AML	AML	14 08 47.1	
	comp=N,4571μm,0.6s						
KTHR	**Kythira**	**1.41**	**201**	P	**Pn**	**14 08 15.0**	**+0.2**
KTHR				AML	AML	14 08 39.4	
	comp=E,6995μm,0.4s						
KTHR				AML	AML	14 08 41.7	
	comp=N,10318μm,0.5s						
ITM	**Ithomi**	**1.41**	**254**	P	**Pn**	**14 08 15.0**	**+0.1**
ITM				AML	AML	14 08 43.4	
	comp=N,1416μm,0.6s						
ITM				AML	AML	14 08 46.0	
	comp=E,1012μm,1.1s						
LAKA	**Lakka**	**1.46**	**297**	P	**Pn**	**14 08 15.0**	**-0.6**
LAKA				AML	AML	14 08 43.6	
	comp=E,2454μm,1.0s						
LAKA				AML	AML	14 08 43.9	
	comp=N,2641μm,0.9s						
SKY	**Skiros Island**	**1.49**	**29**	P	**Pn**	**14 08 16.0**	**0.0**
SKY				AML	AML	14 08 41.6	
	comp=E,2282μm,0.3s						
SKY				AML	AML	14 08 42.6	
	comp=N,2318μm,0.2s						
SERG	**Sergoula**	**1.49**	**304**	P	**Pn**	**14 08 16.4**	**+0.4**
ALNA	**Alonissos**	**1.58**	**7**	P	**Pn**	**14 08 17.0**	**-0.1**
EFP	**Efpalio**	**1.60**	**302**	P	**Pb**	**14 08 18.4**	**-0.4**
APE	**Apeiranthos**	**1.60**	**108**	P	**Pn**	**14 08 17.8**	**+0.3**
APE				S	**Sg**	**14 08 39.7**	**-1.0**
	comp=N,315nm,0.2s						
APE	**Apeiranthos**	**1.60**	**108**	P	**Pn**	**14 08 17.8**	**+0.3**
APE				S	**Sn**	**14 08 38.2**	**-0.1**
APE	**Apeiranthos**	**1.60**	**108**	P	**Pn**	**14 08 17.9**	**+0.3**
PYL	**PYLOS**	**1.65**	**246**	P	**Pb**	**14 08 19.2**	**-0.4**
ANKY	**Antikythira Is**	**1.73**	**189**	P	**Pn**	**14 08 19.0**	**-0.2**
ANKY				AML	AML	14 08 51.3	
	comp=E,1741μm,0.5s						
ANKY				AML	AML	14 08 52.9	
	comp=N,1613μm,0.8s						
NEO	**Neokhori**	**1.75**	**350**	P	**Pn**	**14 08 19.8**	**+0.2**
XOR	**Xorichti**	**1.82**	**349**	P	**Pn**	**14 08 20.6**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.85**	**321**	P	**Pn**	**14 08 22.0**	**+1.0**
MAKR				AML	AML	14 08 59.5	
	comp=N,1106μm,0.7s						
MAKR				AML	AML	14 09 02.8	
	comp=E,780μm,0.5s						
EVR	**Evrytania**	**1.96**	**314**	P	**Pn**	**14 08 23.6**	**+1.1**
CHOS	**Chios island**	**2.08**	**66**	P	**Pn**	**14 08 24.7**	**+0.5**
ZEYE	**Izmir, Urla-Ze**	**2.37**	**73**	P	**Pn**	**14 08 28.6**	**+0.6**
ZEYE				S	**Sg**	**14 09 05.2**	**-0.1**
ZEYE				*i* AML	AML	14 09 13.0	
	comp=E,163nm,1.2s						
URLA	**Izmir**	**2.47**	**71**	P	**Pn**	**14 08 29.1**	**-0.4**
URLA				S	**Sg**	**14 09 08.6**	**0.0**
DGB	**zmir**	**2.62**	**79**	P	**Pn**	**14 08 32.3**	**+0.8**
DGB				S	**Sg**	**14 09 12.7**	**-0.7**
DDIM	**Aydin, Didim**	**2.88**	**91**	P	**Pn**	**14 08 34.5**	**-0.5**
DDIM				S	**Sb**	**14 09 17.4**	**+1.6**
BODT	**Bodrum**	**2.98**	**99**	P	**Pn**	**14 08 36.8**	**+0.3**
BODT				S	**Sb**	**14 09 19.9**	**+1.1**
STIP	**Stip**	**4.26**	**345**	*e*Pn	**Pn**	**14 08 55.2**	**+1.2**

*IDC **09** 14:12:06.0±4.0, 5.41S×101.80E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=175.9km s-min=23.5km az=56.0*

ISC 09 14:12:10.1±3.4, 5.4S±0.6×101.8E±0.8, h29km, n12, σ0.47/6, mb3.6/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**29.18**	**264**	T	T	14 49 13.9	
	baz=86						
H08S3	**Diego Garcia H**	**29.19**	**264**	T	T	14 49 11.9	
	baz=86,slow=74,SNR=18						
H08S1	**Diego Carcia H**	**29.20**	**264**	T	T	14 49 12.4	
	baz=86,slow=74,SNR=4.0						
H01W3	**Cape Leeuwin H**	**31.46**	**160**	T	T	14 51 23.4	
	baz=341						
H01W2	**Cape Leeuwin H**	**31.48**	**160**	T	T	14 51 24.9	
	baz=341						
H01W1	**Cape Leeuwin H**	**31.48**	**160**	T	T	14 51 23.1	
	baz=341						
WRA	**Warramunga Arr**	**34.79**	**117**	P	**P**	**14 18 58.1**	**-0.4**
	0.3nm,0.8s,baz=304,slow=9.0,SNR=3.7						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**35.85**	**124**	P	**P**	**14 19 07.5**	**-0.2**
	0.4nm,0.5s,baz=295,slow=7.6,SNR=19						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**45.58**	**130**	P	**P**	**14 20 28.1**	**+0.4**
	2.0nm,0.7s,baz=272,slow=8.8,SNR=3.8						
	2.0nm,0.7s						
SONM	**Songino Array**	**53.18**	**4**	P	**P**	**14 21 26.1**	**+0.4**
	0.7nm,0.8s,baz=187,slow=10,SNR=2.5						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**54.78**	**344**	P	**P**	**14 21 36.9**	**-0.3**
	0.3nm,0.5s,baz=140,slow=8.0,SNR=4.0						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**146.17**	**42**	PKPbc	**PKPab**	**14 31 49.0**	**-0.1**
	0.6nm,0.5s,baz=313,slow=1.4,SNR=9.3						

*IDC **09** 14:18:03.5±0.5, 36.71N×140.40E, h99km±3km, mb4.0/25, mbtmp4.4/27, MS2.8/4, Error ellipse: s-maj=9.4km s-min=6.9km az=149.0*
*NEIC **09** 14:18:03.0±2.4, 36.71N±0.05×140.60E±0.09, h95km±6km, mb4.6/52, Error ellipse: s-maj=10.8km s-min=6.8km az=104.0*
*JMA **09** 14:18:04.1±0.1, 36.7N±0.3×140.5E±0.5, h95km, MD4.3/40, MV4.4/40, NORTHERN IBARAKI PREF*
JMA Felt III J1 at NORTHERN IBARAKI PREF .
*NIED **09** 14:18:04.1, 36.69N×140.49E, h95km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr-1.35; Mθθ0.82; Mφφ0.52; Mrθ1.65; Mθφ0.51; Mφr-0.47; Fault plane solution: M0 2.07000×10^15 NP1:φs44.00000°, δ24.00000°, λ-134.00000°. NP2:φs271.00000°, δ73.00000°, λ-73.00000°.*

ISC 09 14:18:03.0±0.4, 36.69N±0.03×140.55E±0.05, h99km±3km, h99km:pP-P, n186, σ1.10/178, mb4.5/54, 17D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.08**	**166**	⇓P	**Pn**	**14 18 17.6**	**+0.7**
JHO				⇓S	**Sn**	**14 18 27.4**	**+0.3**
JHO	**Hitachi**	**0.08**	**166**	A	A	14 18 17.6	
	comp=E,17nm,0.4s,comp=E,32nm,0.2s						
JHYU	**Hitachinakayam**	**0.34**	**175**	*i* P	**Pn**	**14 18 18.6**	**+0.9**
JHYU				S	**Sn**	**14 18 29.4**	**+0.7**
JHYU	**Hitachinakayam**	**0.34**	**175**	A	A	14 18 18.6	
	comp=E,50nm,0.3s,comp=E,79nm,0.3s						
JFFD	**Fukushimafurud**	**0.41**	**2**	⇓P	**Pn**	**14 18 18.8**	**+0.7**
JFFD				⇓S	**Sn**	**14 18 29.5**	**+0.1**
JFFD	**Fukushimafurud**	**0.41**	**2**	A	A	14 18 18.8	
	comp=E,7.0nm,0.4s,comp=E,7.0nm,0.5s						
JYT	**Yasato**	**0.54**	**212**		**Pn**	**14 18 18.7**	**-0.3**
JYT	**Yasato**	**0.54**	**212**	A	A	14 18 19.6	
	comp=E,144nm,0.4s,comp=E,51nm,0.3s						
JSB	**Shiboa**	**0.58**	**300**	A	A	14 18 19.8	
	comp=E,57nm,0.8s,comp=E,26nm,0.9s						
JIHU	**Itakohorinouch**	**0.72**	**181**	A	A	14 18 21.4	
	comp=E,26nm,3.1s,comp=E,24nm,0.5s						
JFK	**Kawauchi**	**0.73**	**21**	⇓*i*P	**Pn**	**14 18 21.4**	**+0.7**
JFK				⇓S	**Sn**	**14 18 34.5**	**+0.6**
JFK	**Kawauchi**	**0.73**	**21**	A	A	14 18 21.4	
	comp=E,14nm,1.1s,comp=E,7.0nm,0.3s						
JFT	**Otama**	**0.85**	**349**	⇓*i*P	**Pn**	**14 18 22.6**	**+0.8**
JFT				⇓S	**Sn**	**14 18 36.5**	**+0.6**
JFT	**Otama**	**0.85**	**349**	A	A	14 18 22.6	

comp=E,5.0nm,2.6s
JYA Atsumi 2.02 341 A A 14 18 37.0
comp=E,13nm,0.9s,comp=E,6.0nm,0.8s
JHTM Izuhatsuma 2.13 216 A A 14 18 38.3
comp=E,11nm,0.9s,comp=E,14nm,0.4s
JIM2 Oshima 3 2.16 205 A A 14 18 38.9
comp=E,9.0nm,0.4s,comp=E,10.0nm,0.8s
JYK Kaneyama 2.23 356 A A 14 18 40.1
comp=E,3.0nm,3.6s,comp=E,5.0nm,3.3s
JSD Sado 2.27 307 Pn 14 18 38.7 -0.2
JIZS Izushimoda 2.39 215 A A 14 18 41.8
comp=E,6.0nm,1.1s,comp=E,5.0nm,1.0s
JGF Kuroka 2.80 248 Pn 14 18 48.1 +2.0
INU Inuyama 3.16 246 Pn **Pn 14 18 52.0 +1.3**
INU Inuyama 3.16 246 P **Pn 14 18 52.7 +1.9**
JHJ Hachijo jima 2 3.61 190 P **Pn 14 18 57.3 +0.4**
411nm,0.3s,baz=333,slow=18,SNR=184
JHJ S **Sn 14 19 37.3 -1.4**
657nm,0.3s,baz=333,slow=22,SNR=17
JHJ2 Mitsune 3.62 190 Pn **Pn 14 18 57.2 +0.2**
JHJ2 Mitsune 3.62 190 P **Pn 14 18 57.4 +0.5**
JTM Tenmabayashi 4.12 6 Pn **Pn 14 19 03.6 0.0**
ERM Erimo 5.69 20 Pn **Pn 14 19 23.4 -1.7**
ERM Erimo 5.69 20 P **Pn 14 19 23.8 -1.2**
JEW Eniwo 6.19 6 Pn **Pn 14 19 30.1 -1.6**
JMN Monobe 6.20 244 Pn **Pn 14 19 32.5 +0.5**
JHS Saijyo 6.26 257 Pn 14 19 34.2 +1.3
JCJ Chichijima 9.66 171 P **Pn 14 20 16.0 -3.1**
64nm,0.3s,baz=274,slow=23,SNR=7.4
JCJ S Sn 14 21 55.6 -10
108nm,0.3s,baz=271,slow=21,SNR=7.4
JCJ LR LR 14 24 36.2
comp=Z,46nm,19.2s,baz=360,slow=40
JCJ Chichijima 9.66 171 Pn **Pn 14 20 15.3 -3.7**
JCJ Chichijima 9.66 171 P **Pn 14 20 16.4 -2.7**
USA0B Ussuriysk Arra 9.94 322 Pn **Pn 14 20 20.8 -1.9**
USRK Ussuriysk Ar. 9.94 322 P **Pn 14 20 23.2 +0.5**
18nm,0.6s,baz=138,slow=13,SNR=18
KSRS Korea Array 10.12 278 P **Pn 14 20 27.6 +2.4**
1.8nm,0.8s,baz=100,slow=14,SNR=6.7
KSRS LR LR 14 23 55.5
comp=Z,28nm,19.4s,baz=215,slow=35
YSS Yuzh-Sakhalins 10.39 8 Pn **Pn 14 20 26.6 -2.2**
YSS Yuzh-Sakhalins 10.39 8 P **Pn 14 20 27.9 -1.0**
CN2 Changchun 13.54 306 *eP* **Pn 14 21 12.4 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 14.08 336 P **Pn 14 21 14.3 -3.5**
comp=Z,2.1nm,0.5s,baz=165,slow=14,SNR=8.6
KLR LR LR 14 25 59.8
comp=Z,60nm,19.8s,baz=146,slow=34
NJ2 Nanjing 18.48 262 *eP* **P 14 22 09.7 -1.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
PETK Petropavlovsk- 20.34 31 P **P 14 22 30.4 -0.8**
comp=Z,1.6nm,0.6s,baz=211,slow=11,SNR=4.8
comp=Z,1.6nm,0.6s
LYN LuoYang 22.89 273‖ *eP* **P 14 22 58.3 +0.1**
HHC Hu-ho-hao-te 22.93 289 *eP* **P 14 23 00.2 +1.6**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.7s
MA2 Magadan 23.84 13 P **P 14 23 06.9 +0.2**
comp=Z,8.4nm,0.5s,baz=197,slow=14,SNR=4.5
MA2 LR LR 14 33 07.2
comp=Z,28nm,19.4s,baz=114,slow=38
comp=Z,8.4nm,0.5s
MA2 Magadan 23.84 13 P **P 14 23 06.2 -0.6**
MA2 IAmb IAmb 14 23 21.6
comp=Z,17nm,0.9s
MA2 Magadan 23.84 13 P **P 14 23 07.6 +0.9**
XAN Xi'an 25.87 274 P P 14 23 37.4 +12
XAN pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 26.27 348 P **P 14 23 27.9 -0.7**
comp=Z,12nm,0.4s,baz=287,slow=1.0,SNR=10
comp=Z,12nm,0.4s
YAK Yakutsk 26.27 348 P **P 14 23 26.6 -1.9**
SEY Seymchan 27.27 12 P **P 14 23 38.8 +1.2**
comp=Z,8.8nm,0.8s,baz=214,slow=7.5,SNR=13
comp=Z,8.8nm,0.8s
SONM Songino Array 27.41 305 P **P 14 23 38.9 -0.3**
comp=Z,2.6nm,0.6s,baz=107,slow=9.4,SNR=13
comp=Z,2.6nm,0.6s
SONM Songino Array 27.41 305 P **P 14 23 38.1 -1.1**
H11N2 WAKE ISLAND Hy 28.58 119 T T 14 54 06.4
baz=312,slow=74,SNR=68
H11N1 WAKE ISLAND Hy 28.59 119 T T 14 54 05.3
baz=312,slow=74,SNR=95
H11N3 WAKE ISLAND Hy 28.59 119 T T 14 54 06.1
baz=312,slow=74,SNR=78
H11S1 WAKE ISLAND Hy 29.27 121 T T 14 54 53.5
baz=314,slow=76,SNR=363
H11S3 WAKE ISLAND Hy 29.27 121 T T 14 54 55.3
baz=314,slow=76,SNR=139
H11S2 WAKE ISLAND Hy 29.28 121 T T 14 54 56.4
baz=314,slow=76,SNR=117
CD2 Chengdu 30.98 270 *eP* **P 14 24 10.0 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 32.00 287 *eP* **P 14 24 20.8 +0.9**
GTA sP sP 14 25 01.8 +7.8
GTA pmax pmax
comp=Z,3.0nm,0.8s
PZH PanZhiHua 34.37 264 P **P 14 24 42.5 +1.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.3s
TIXI Tiksi 35.56 354 P **P 14 24 49.5 -0.6**
comp=Z,4.4nm,0.5s,baz=91,slow=23,SNR=5.2
comp=Z,4.4nm,0.5s
TIXI Tiksi 35.56 354 P **P 14 24 49.7 -0.4**
TIXI IAmb IAmb 14 24 50.5
comp=Z,6.3nm,0.8s
UBPT Khong Chiam 37.75 245 P **P 14 25 09.8 +0.5**
SIJI Sorong 38.35 195 P **P 14 25 15.2 +0.8**
comp=Z,8.5nm,0.5s,baz=4.6,slow=14,SNR=5.8
comp=Z,8.5nm,0.5s
CRAI Chiangrai 38.62 256 P **P 14 25 16.5 -0.2**
TOLI2 Tolitoli 39.84 212 P **P 14 25 27.5 +0.7**
TOLI2 IAmb IAmb 14 25 27.7
comp=Z,10nm,0.9s
TOLI2 Tolitoli 39.84 212 P **P 14 25 27.0 +0.2**
FAKI Fak Fak 40.15 193 P **P 14 25 29.9 +0.6**
FAKI Fak Fak 40.15 193 P **P 14 25 30.2 +0.8**
WMQ Urumqi 40.38 297 *eP* **P 14 25 33.0 +1.9**
WMQ sP sP 14 26 08.3 +2.6
CMAR Chiang Mai Arr 40.73 255 P **P 14 25 35.4 +1.1**
comp=Z,0.5nm,0.5s,baz=50,slow=6.0,SNR=6.0
comp=Z,0.5nm,0.5s
SANI Sanana 40.85 203 P **P 14 25 35.0 -0.1**
LUWI Luwuk 41.01 208 P **P 14 25 36.0 -0.4**
ZALV Zalesovo Beam 41.64 313 P **P 14 25 41.4 +0.2**
comp=Z,3.3nm,0.7s,baz=91,slow=7.4,SNR=15
ZALV pP **pP 14 26 03.5 -1.1**
comp=Z,2.0nm,0.6s,baz=90,slow=7.0,SNR=4.5
ZALV sP **sP 14 26 16.9 +0.8**
comp=Z,1.7nm,0.7s,baz=98,slow=9.1,SNR=2.6
comp=Z,3.3nm,0.7s
MKAR Makanchi Array 43.72 302 P **P 14 25 58.6 +0.5**
comp=Z,2.2nm,0.7s,baz=86,slow=9.4,SNR=11
MKAR pP **pP 14 26 21.2 -0.2**
comp=Z,0.9nm,0.6s,baz=85,slow=14,SNR=2.7
comp=Z,2.2nm,0.7s
MAKZ Makanchi 43.93 302 P **P 14 25 58.8 -1.0**
KURK Kurchatov 45.60 308 P **P 14 26 11.8 -1.1**
KURK IAmb IAmb 14 26 14.1
comp=Z,6.8nm,0.7s
KURBB Kurchatov Arra 45.67 308 P **P 14 26 13.3 -0.2**
comp=Z,4.0nm,0.6s,baz=85,slow=8.0,SNR=24
KURBB pP **pP 14 26 37.2 +0.1**
comp=Z,3.9nm,0.9s,baz=83,slow=8.5,SNR=3.4
comp=Z,4.0nm,0.6s
PMG Port Moresby 46.27 171 P **P 14 26 17.0 -1.5**
PMG IAmb IAmb 14 26 59.3
comp=Z,12nm,0.8s
K20K Telida 47.01 34 P **P 14 26 24.6 +0.7**
K20K IAmb IAmb 14 26 27.0
comp=Z,4.9nm,0.7s
J20K Nowinta River 47.01 33 P **P 14 26 23.5 -0.4**
IMAR Indian Mountai 47.30 31 P **P 14 26 26.9 +0.8**
KDAK Kodiak Island 47.82 42 P **P 14 26 31.3 +1.1**
comp=Z,5.2nm,0.6s,baz=228,slow=12,SNR=1.7
KDAK pP **pP 14 26 54.2 +0.4**
comp=Z,4.9nm,0.6s,baz=309,slow=13,SNR=1.6
comp=Z,5.2nm,0.6s
TARG Taragay, Kyrgy 47.93 296 P **P 14 26 32.1 +0.3**
MLY Manley 48.51 32 P **P 14 26 33.8 -1.7**
TOLK Toolik Lake Re 49.10 27 P **P 14 26 41.6 +1.7**
TOLK IAmb IAmb 14 26 59.2
comp=Z,8.5nm,1.4s
BATI Baumata 49.27 202 P **P 14 26 43.2 +1.4**
comp=Z,22nm,0.6s,baz=306,slow=2.0,SNR=4.0
comp=Z,22nm,0.6s
MDM Murphy Dome 49.58 32 P **P 14 26 43.5 -0.1**
MDM IAmb IAmb 14 26 46.5
comp=Z,8.8nm,1.0s
KDU Kakadu 49.69 190 P **P 14 26 45.7 +0.8**
H24K Noodor Dome 49.71 31 P **P 14 26 46.2 +1.6**
MTN Manton Dam 50.05 192 P **P 14 26 47.8 +0.2**
MTN Manton Dam 50.05 192 P **P 14 26 48.3 +0.7**
PLAI Plampang 50.07 210 P **P 14 26 47.3 -0.5**
IL31 50.16 32 P **P 14 26 48.5 +0.6**
IL31 IAmb IAmb 14 27 12.9
comp=Z,4.4nm,0.8s
ILAR Eielson Array 50.16 32 P **P 14 26 48.6 +0.7**
comp=Z,3.1nm,0.7s,baz=271,slow=6.5,SNR=30
ILAR pP **pP 14 27 12.6 +0.8**
comp=Z,3.5nm,0.7s,baz=272,slow=6.6,SNR=13
comp=Z,3.1nm,0.7s
ILAR Eielson Array 50.16 32 P **P 14 26 48.1 +0.1**
BVAR Borovoye Array 50.29 312 P **P 14 26 49.4 +0.3**
comp=Z,0.7nm,0.5s,baz=77,slow=9.0,SNR=6.0
comp=Z,0.7nm,0.5s
BRVK Borovoye 50.35 312 P **P 14 26 48.6 -1.0**
COEN Coen 50.43 177 P **P 14 26 51.5 +1.0**
COEN Coen 50.43 177 P **P 14 26 52.0 +1.5**
PRP Porcupine Dome 50.70 31 P **P 14 26 52.6 +0.5**
PRP IAmb IAmb 14 27 18.4
comp=Z,3.7nm,0.8s
BMAR Burnt Mountain 50.97 29 P **P 14 26 55.7 +1.7**
SCRK Sand Creek 51.48 33 P **P 14 26 56.9 -1.1**
SCRK IAmb IAmb 14 27 00.0
comp=Z,5.6nm,0.9s
DOT Dot Lake 51.48 34 P **P 14 26 57.9 -0.1**
K27K Chicken 52.31 33 P **P 14 27 05.4 +1.4**
K27K IAmb IAmb 14 27 07.9
comp=Z,4.2nm,0.9s
BCAR Beaver Creek A 52.57 34 P **P 14 27 07.8 +1.8**
EGAK Eagle 52.60 32 P **P 14 27 06.5 +0.4**
EGAK IAmb IAmb 14 27 09.7
comp=Z,11nm,1.5s
M27K Edge Creek, AK 52.64 35 P **P 14 27 07.9 +1.2**
M27K IAmb IAmb 14 27 31.5
comp=Z,17nm,1.5s
GSI Gunungsitoli 53.02 239 P **P 14 27 09.2 -0.7**
GSI Gunungsitoli 53.02 239 P **P 14 27 10.1 +0.2**
KNRA Kununurra 53.25 194 P **P 14 27 12.2 +0.8**
KNRA Kununurra 53.25 194 P **P 14 27 12.5 +1.1**
EPYK Eagle Plains 54.17 30 P **P 14 27 18.9 +1.2**
EPYK IAmb IAmb 14 27 20.7
comp=Z,11nm,0.9s
M30M Minto, Yukon 54.92 34 P **P 14 27 25.1 +2.0**
M30M IAmb IAmb 14 28 01.6
comp=Z,10nm,1.4s
HYT Haines Junctio 54.99 36 P **P 14 27 26.1 +2.3**
HYT IAmb IAmb 14 27 49.3
comp=Z,7.5nm,1.1s
INK Inuvik 55.01 27 P **P 14 27 24.9 +1.2**
comp=Z,4.0nm,0.7s,baz=270,slow=4.3,SNR=6.3
comp=Z,4.0nm,0.7s
INK Inuvik 55.01 27 P **P 14 27 25.0 +1.4**
INK IAmb IAmb 14 27 35.0
comp=Z,5.0nm,1.0s
CHGR Chuyangaron 55.19 295 P **P 14 27 25.8 +0.3**
ARU Arti 56.16 319 P **P 14 27 32.1 +0.1**
comp=Z,3.5nm,0.4s,baz=45,slow=6.5,SNR=7.6
ARU pP **pP 14 27 56.1 -0.3**
comp=Z,2.8nm,0.5s,baz=66,slow=1.8,SNR=1.8
comp=Z,3.5nm,0.4s
FITZ Fitzroy Crossi 56.28 197 P **P 14 27 34.0 +0.8**
comp=Z,4.7nm,0.5s,baz=18,slow=7.5,SNR=31
comp=Z,4.7nm,0.5s
FITZ Fitzroy Crossi 56.28 197 P **P 14 27 34.5 +1.4**
FITZ IAmb IAmb 14 27 35.9
comp=Z,4.6nm,0.6s
FITZ Fitzroy Crossi 56.28 197 P **P 14 27 34.6 +1.4**
WB0 Warramunga Arr 56.45 187 P **P 14 27 34.6 +0.2**
WRAB Tennant Creek 56.61 187 P **P 14 27 35.9 +0.3**
WR0 Warramunga Arr 56.62 187 P **P 14 27 35.8 +0.1**
WB2 Warramunga Arr 56.62 187 P **P 14 27 35.3 -0.4**
WRA Warramunga Arr 56.62 187 P **P 14 27 36.1 +0.4**
comp=Z,15nm,0.6s,baz=2.6,slow=7.3,SNR=128
WRA Warramunga Arr 56.62 187 P **P 14 27 34.9 -0.8**
ABKAR Akbulak array 57.63 310 P **P 14 27 42.1 -0.4**
ABKAR IAmb IAmb 14 27 43.0
comp=Z,3.0nm,0.7s
AS31 Alice Springs 60.35 187 P **P 14 28 01.7 +0.1**
ASAR Alice Springs 60.35 187 P **P 14 28 01.9 +0.3**
comp=Z,3.8nm,0.6s,baz=15,slow=5.7,SNR=86
comp=Z,3.8nm,0.6s
ASAR Alice Springs 60.35 187 P **P 14 28 02.1 +0.6**
PSA00 Pilbara Seismi 61.15 202 P **P 14 28 06.2 -0.8**
PSA00 IAmb IAmb 14 28 39.9
comp=Z,10nm,1.5s
WRKA Warakurna 62.47 193 P **P 14 28 16.6 +0.8**
EIDS Eidsvold 62.52 169 P **P 14 28 16.3 +0.3**
ARCES ARCESS Array B 64.08 339 P **P 14 28 26.4 +0.5**
comp=Z,2.9nm,0.7s,baz=55,slow=8.5,SNR=7.6
comp=Z,2.9nm,0.7s
ARCES ARCESS Array B 64.08 339 P **P 14 28 25.6 -0.3**
ARCES IAmb IAmb 14 28 27.0
comp=Z,17nm,1.4s
OOD Oodnadatta 64.30 185 P **P 14 28 28.9 +1.2**
LCRK Leigh Creek 66.82 182 P **P 14 28 45.5 +1.6**
MULG Mulgathing 66.89 186 P **P 14 28 45.3 +0.9**
FORT Forrest 68.12 192 P **P 14 28 52.5 +0.4**
FORT Forrest 68.12 192 P **P 14 28 53.2 +1.1**
STKA Stephens Creek 68.21 179 P **P 14 28 52.6 0.0**
comp=Z,2.5nm,0.7s,baz=341,slow=4.1,SNR=5.2
comp=Z,2.5nm,0.7s
STKA Stephens Creek 68.21 179 P **P 14 28 53.6 +0.9**
FIA1 FINESS Array S 68.80 332 P **P 14 28 56.4 +0.3**
FIA1 IAmb IAmb 14 29 16.3
comp=Z,16nm,1.4s
FINES FINESS Array B 68.80 332 P **P 14 28 55.0 -1.0**
comp=Z,2.0nm,0.7s,baz=29,slow=10,SNR=9.5
FINES pP **PcP 14 29 20.8 +0.8**
comp=Z,2.7nm,0.8s,baz=46,slow=11,SNR=4.3
FINES sP **sP 14 29 32.5 +0.4**
comp=Z,2.9nm,0.9s,baz=52,slow=13,SNR=3.6
comp=Z,2.0nm,0.7s
FINES FINESS Array B 68.80 332 P **P 14 28 55.7 -0.3**
BBOO Buckleboo 69.26 184 P **P 14 28 58.6 -0.5**
BBOO IAmb IAmb 14 29 39.0
comp=Z,22nm,1.3s
MORW Morawa 69.34 203 P **P 14 29 00.5 +0.8**
MORW IAmb IAmb 14 29 32.5
comp=Z,20nm,1.4s
AKASG Malin Array Be 74.14 322 P **P 14 29 28.2 -0.1**
comp=Z,0.7nm,0.4s,baz=46,slow=6.3,SNR=6.3
AKASG pP **pP 14 29 52.8 -1.1**
comp=Z,1.4nm,0.5s,baz=51,slow=6.2,SNR=5.0
comp=Z,0.7nm,0.4s
NC204 NORSAR Array S 74.20 337 P **P 14 29 28.1 -0.5**
NC204 IAmb IAmb 14 29 29.8
comp=Z,7.3nm,0.8s
NB2 NORSAR Subarra 74.24 337 P **P 14 29 28.8 0.0**
comp=Z,2.0nm,0.6s,baz=41,slow=5.9
NOA NORSAR Array B 74.24 337 P **P 14 29 28.9 +0.1**
comp=Z,2.1nm,0.7s,baz=39,slow=5.7,SNR=11
NOA pP **pP 14 29 53.8 -0.5**
comp=Z,1.4nm,0.8s,baz=39,slow=5.8,SNR=3.7
comp=Z,2.1nm,0.7s
NVAR Mina Array Bea 75.75 53 P **P 14 29 38.0 -0.1**
comp=Z,0.2nm,0.5s,baz=267,slow=6.3,SNR=2.6
NVAR pP **pP 14 30 04.7 +1.2**
comp=Z,0.5nm,0.6s,baz=290,slow=5.1,SNR=3.4
NVAR sP **sP 14 30 16.1 +1.8**
comp=Z,1.0nm,0.6s,baz=296,slow=5.5,SNR=6.0
comp=Z,0.2nm,0.5s
CLL Collm 81.05 330 *i* P **P 14 30 07.0 +0.3**
comp=Z,4.0nm,0.8s
CLL *e*pP **pP 14 30 32.0 -0.7**
GERES GERESS Array B 82.64 328 pP pP 14 30 40.7 -0.6
comp=Z,0.5nm,0.5s,baz=3.4,slow=3.3,SNR=3.1
TXAR Lajitas Array 90.88 52 pP pP 14 31 23.1 +1.1
comp=Z,0.7nm,0.7s,baz=301,slow=3.5,SNR=8.5
LPAZ La Paz 147.47 59 pPKPbc pPKPbc 14 38 02.4 -1.4
comp=Z,1.2nm,0.5s,baz=264,slow=4.1,SNR=3.3

*HEL **09** 14:18:06.6±0.3, 60.98N×30.26E, h0km, ML2.6, Explosion*
*UPP **09** 14:18:09.4±3.2, 60.97N×30.27E, h0km, ML2.2, Suspected explosion*
*BER **09** 14:18:12.9±1.1, 61.05N×29.99E, h0km, ML2.2, Suspected explosion*
*IDC **09** 14:18:14.4±2.7, 61.30N×29.53E, h0km, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=27.8km s-min=11.4km az=133.0*

ISC 09 14:18:08.2±1.2, 61.13N±0.04×29.94E±0.05, h0km, n56, σ1.9 92/70, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUFX	**Ruokolahti** baz=127	**0.56**	**303**	PG	**Pb**			**14 18 21.3**	**+0.4**
RUFX				SG		**Sb**		**14 18 30.4**	**+0.9**
VJF	**Virojoki**	**1.31**	**244**	PN		**Pg**		**14 18 33.4**	**+0.1**
VJF	comp=Z,66nm,0.2s			MSG				14 18 48.6	
FINES	**FINESS Array B** comp=Z,5.7nm,0.3s,baz=95,slow=17,SNR=234	**1.89**	**281**	Pg		**Pg**		**14 18 44.3**	**-0.1**
FINES	comp=Z,15nm,0.3s,baz=91,slow=27,SNR=39			Lg		Lg		14 19 10.3	
JOF	**Joensuu**	**1.91**	**19**	PG		**Pb**		**14 18 42.7**	**-1.1**
JOF				SB		**Sb**		**14 19 08.2**	**+0.1**
KAF	**Kangasniemi**	**2.00**	**301**	PG		**Pg**		**14 18 46.7**	**+0.3**
KAF	comp=Z,28nm,0.2s			MSG				14 19 11.9	
KAF				SG		**Sg**		**14 19 14.2**	**+1.9**
PVF	**Pernaja**	**2.08**	**255**	PG		**Pb**		**14 18 46.2**	**-0.5**
PVF	comp=Z,65nm,0.2s			MSG				14 19 11.9	
PVF				SG		**Sg**		**14 19 15.1**	**+0.1**
KEF	**Keuruu**	**2.63**	**295**	PB		**Pb**		**14 18 55.5**	**-0.7**
KEF	comp=Z,8.0nm,0.2s			MSG				14 19 30.3	
KEF				SB		**Sb**		**14 19 30.4**	**+1.3**
NUR	**Nurmijrvi**	**2.67**	**259**	PB		**Pb**		**14 18 55.1**	**-1.7**
MEF	**Metsahovi**	**2.88**	**254**	*e*P		**Pb**		**14 18 58.2**	**-2.2**
MEF	**Metsahovi**	**2.88**	**254**	PB		**Pn**		**14 18 57.3**	**+2.1**
MEF	comp=Z,34nm,0.2s			MSG				14 19 34.4	
RMF	**Romuvaara**	**3.10**	**360**	PB		**Pn**		**14 19 00.6**	**+2.4**
RMF				SB		**Sb**		**14 19 42.8**	**+0.4**
VSU	**Vasula**	**3.13**	**213**	*e*P		**Pn**		**14 18 59.0**	**+0.3**
VSU	**Vasula**	**3.13**	**213**	PG		**Pn**		**14 19 01.6**	**+2.9**
VSU				SG		**Sn**		**14 19 40.0**	**+3.3**
VAF	**Ylistaro**	**3.92**	**302**	PG		**Pg**		**14 19 22.4**	**-0.8**
VAF				SG		**Sg**		**14 20 13.9**	**0.0**
MTSE	**Matsula**	**3.92**	**235**	*e*P		**Pn**		**14 19 11.7**	**+2.2**
MTSE	**Matsula**	**3.92**	**235**	PB		**Pn**		**14 19 12.4**	**+2.8**
MTSE				SB		**Sb**		**14 20 03.4**	**-2.6**
RAF	**Rauma**	**3.97**	**272**	*e*P		**Pn**		**14 19 12.9**	**+2.7**
OUF	**Merijarvi** baz=140	**4.04**	**326**	PB		**Pb**		**14 19 17.1**	**-2.9**
OUF				SG		**Sg**		**14 20 16.4**	**-1.3**
OBF0	**Syolatti, Pyha**	**4.27**	**325**	SG		**Sg**		**14 20 26.5**	**+1.2**
OUL	**Oulu**	**4.37**	**337**	PB		**Pb**		**14 19 23.4**	**-2.4**
OUL				SB		**Sb**		**14 20 20.4**	**+1.4**
OBF8	**Ulkokalla** baz=131	**4.39**	**320**	PN		**Pn**		**14 19 19.1**	**+3.2**
AAL	**Aland**	**4.99**	**263**	P		**Pn**		**14 19 25.8**	**+1.6**
AAL				S		**Sn**		**14 20 23.1**	**+0.6**
BURU	**Burvik**	**5.23**	**315**	P		**Pn**		**14 19 29.7**	**+2.2**
SLIT	**Slitere, Latvi**	**5.25**	**231**	*e*P		**Pn**		**14 19 29.6**	**+1.7**
ODEU	**Stanfors**	**5.36**	**312**	P		**Pn**		**14 19 32.0**	**+2.7**
HUSU	**Husum**	**5.48**	**299**	P		**Pn**		**14 19 33.5**	**+2.5**
FORU	**Forsmark**	**5.81**	**268**	P		**Pn**		**14 19 38.4**	**+2.9**
SVAU	**Svanoeiden**	**5.83**	**310**	P		**Pn**		**14 19 40.0**	**+4.4**
HEMU	**Hemsoen**	**5.84**	**291**	P		**Pn**		**14 19 38.5**	**+2.7**
ISAL	**Salakas**	**5.93**	**201**	*e*P		**Pn**		**14 19 34.5**	**-2.6**
BREU	**Bredtraesk**	**5.95**	**303**	P		**Pn**		**14 19 40.5**	**+3.2**
ARNU	**Arnoeviken**	**6.06**	**281**	P		**Pn**		**14 19 41.4**	**+2.5**
IGGU	**Iggoen**	**6.15**	**273**	P		**Pn**		**14 19 41.7**	**+1.6**
HEF	**Hetta**	**7.78**	**343**	*e*P		**Pn**		**14 20 05.2**	**+2.7**
SALU	**Saltoluokta**	**7.99**	**327**	*e*P		**Pn**		**14 20 08.0**	**+2.5**
HFS	**Hagfors** comp=Z,0.7nm,0.3s,baz=80,slow=10,SNR=22	**8.05**	**270**	Pn		**Pn**		**14 20 07.8**	**+1.6**
HFS				Sn		**Sn**		**14 21 34.2**	**-3.6**
HFS	comp=Z,0.4nm,0.3s,baz=67,slow=11,SNR=1.9			Lg		Lg		14 22 22.0	
HFS	comp=Z,1.3nm,0.3s,baz=81,slow=28,SNR=5.9 comp=Z,1.6nm,0.3s			Lg		Lg		14 22 36.8	
KTK1	**Kautokeino**	**8.40**	**343**	*e*P		**Pn**		**14 20 13.3**	**+2.3**
KTK1	comp=Z,2.1nm,0.4s			IAML				14 21 51.9	
MOR8	**Moi Rana**	**8.53**	**313**	*e*P		**Pn**		**14 20 14.0**	**+1.2**
ARA0	**ARCESS Array S**	**8.64**	**350**	*e*P		**Pn**		**14 20 16.3**	**+2.0**
ARA0	comp=Z,1.9nm,0.7s			IAML				14 22 13.0	
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=11	**8.64**	**350**	Pn		**Pn**		**14 20 14.6**	**+0.3**
ARCES	comp=Z,0.2nm,0.3s,baz=164,slow=20,SNR=1.7			Sn		**Sn**		**14 21 49.5**	**-2.7**
ARCES	comp=Z,0.8nm,0.3s,baz=165,slow=31,SNR=6.6 comp=Z,0.4nm,0.3s			Lg		Lg		14 22 36.8	
BLEU	**Blekinge**	**8.79**	**243**	*e*P		**Pn**		**14 20 15.8**	**-0.5**
NSS	**Namsos** comp=Z,1.9nm,0.4s	**8.89**	**300**	IAML				14 22 19.5	
NC602	**NORSAR Array S**	**8.96**	**276**	*e*P		**Pn**		**14 20 20.0**	**+1.3**
NC602	comp=Z,1.4nm,0.3s			IAML				14 22 03.7	
NC303	**NORSAR Array S**	**8.97**	**279**	*e*P		**Pn**		**14 20 18.9**	**0.0**
NB201	**NORSAR Array S**	**9.03**	**278**	*e*P		**Pn**		**14 20 21.1**	**+1.4**
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=29	**9.07**	**278**	Pn		**Pn**		**14 20 21.1**	**+0.8**
NOA	baz=123,slow=12,SNR=2.3			Sn		**Sn**		**14 22 03.2**	**+0.3**
NOA	baz=354,slow=18,SNR=1.9 comp=Z,0.4nm,0.3s			Lg		Lg		14 22 50.1	
NC204	**NORSAR Array S**	**9.25**	**279**	*e*P		**Pn**		**14 20 23.7**	**+0.9**
NAO01	**NORSAR Array S**	**9.26**	**277**	*e*P		**Pn**		**14 20 23.5**	**+0.7**
NBO00	**NORSAR Array S**	**9.28**	**278**	*e*P		**Pn**		**14 20 23.9**	**+0.8**
STEI	**Steigen**	**9.28**	**324**	*e*P		**Pn**		**14 20 24.7**	**+1.6**
JETT	**Jettan, Norway**	**9.33**	**339**	*e*P		**Pn**		**14 20 23.8**	**0.0**
DEL	**Delary**	**9.55**	**248**	*i* P		**Pn**		**14 20 26.0**	**-0.7**
TRO	**Tromso**	**9.67**	**337**	*e*P		**Pn**		**14 20 30.2**	**+1.9**
BSD	**Bornholm Skovb**	**9.96**	**239**	*e*P		**Pn**		**14 20 32.0**	**-0.4**
DOMB	**Dombas**	**9.98**	**284**	*e*P		**Pn**		**14 20 33.2**	**+0.4**
SKAR	**Skarslia**	**10.54**	**277**	*e*P		**Pn**		**14 20 41.0**	**+0.7**

*NNC **09** 14:27:42.2±2.5, 36.53N×68.43E, h135km±38km, mb3.3, mpv3.8, Error ellipse: s-maj=19.2km s-min=14.4km az=18.0*

ISC 09 14:27:37.2±3.5, 36.4N±0.2×68.3E±0.1, h24km, n11, σ1.9 71/15, 2C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.4nm,0.1s,baz=135,slow=22,SNR=25	**6.90**	**14**	⇓P		**Pn**		**14 29 19.4**	**+2.6**
KK31	3.5nm,0.4s,baz=199,slow=20,SNR=6.3			⇓S		**Sn**		**14 30 35.5**	**+1.0**
AML	**Almayashu** SNR=7.5	**7.08**	**35**	P		**Pn**		**14 29 21.5**	**+1.9**
UCH	**Uchtor** SNR=12	**7.55**	**38**	P		**Pn**		**14 29 27.6**	**+1.6**
AAK	**Ala-Archa** SNR=9.4	**7.85**	**36**	P		**Pn**		**14 29 31.7**	**+1.8**
CHMS	**Chumysh** SNR=6.8	**8.25**	**35**	P		**Pn**		**14 29 37.0**	**+1.7**
CHMS	**Chumysh** 8.1nm,0.6s	**8.25**	**35**	⇑P		**Pn**		**14 29 36.7**	**+1.4**
CHMS	11nm,0.8s			⇓S		**Sn**		**14 31 05.8**	**-1.8**
TKM2	**Tokmak 2** SNR=5.5	**8.60**	**39**	P		**Pn**		**14 29 41.1**	**+0.8**
TKM2	**Tokmak 2** 2.8nm,0.6s	**8.60**	**39**	⇓P		**Pn**		**14 29 41.0**	**+0.8**
TKM2	4.6nm,0.8s			⇑S		**Sn**		**14 31 16.9**	**+0.3**
AB31	**Akbulak array** 0.5nm,0.3s,baz=152,slow=12,SNR=25	**14.21**	**337**	P		**Pn**		**14 30 56.2**	**-0.6**
AB31	0.6nm,0.5s,baz=165,slow=23,SNR=3.7			⇓S		**Sn**		**14 33 32.2**	**-1.4**
MK31	**Makanchi Array** 1.7nm,0.9s,baz=227,slow=11,SNR=7.4	**14.71**	**41**	P		**Pn**		**14 31 01.7**	**-2.0**
BVA0	**Borovoye Array** baz=170,slow=8.6,SNR=3.7	**16.68**	**4**	P		**Pn**		**14 31 27.6**	**-1.5**

*IDC **09** 14:36:08.1±3.5, 6°35′S×130°26′E, h83km±31km, mb4.0/15, mbtmp4.4/16, MS3.3/6, Error ellipse: s-maj=22.6km s-min=12.1km az=79.0*

*DJA **09** 14:36:13.0±0.2, 6°52′×13°0E±°, h135km±3km, M4.7/42, mB5.2/19, mb4.8/42, MLv5.1/16, Mw(mB)4.6/19*

*NEIC **09** 14:36:14.0±1.7, 6°34S±0.06×130°18E±0.09, h138km±4km, mb4.5/37, Error ellipse: s-maj=12.3km s-min=8.4km az=81.0*

ISC 09 14:36:14.3±0.3, 6°39S±0.04×130°18E±0.05, h146km, n182, σ1§51/176, mb4.5/38, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.87**	**352**	P	**Pn**	**14 36 48.0**	**+0.3**
BNDI				S	**Sn**	**14 37 13.8**	**+0.4**
BNDI	**Bandanaira**	**1.87**	**352**	P	**Pn**	**14 36 48.1**	**+0.3**
SAUI	**Saumlaki**	**1.94**	**145**	Pn	**Pn**	**14 36 47.9**	**-0.5**
SAUI	**Saumlaki**	**1.94**	**145**	P	**Pn**	**14 36 48.0**	**-0.5**
MSAI	**Masohi**	**3.27**	**338**	P	**Pn**	**14 37 05.8**	**+0.8**
AAI	**Ambon**	**3.33**	**324**	P	**Pn**	**14 37 06.1**	**+0.3**
AAI				S	**Sn**	**14 37 46.2**	**+0.5**
FAKI	**Fak Fak**	**4.01**	**31**	Pn	**Pn**	**14 37 12.6**	**-2.1**
FAKI	**Fak Fak**	**4.01**	**31**	P	**Pn**	**14 37 12.4**	**-2.3**
FAKI				S	**Sn**	**14 37 56.8**	**-4.8**
NLAI	**Namlea**	**4.38**	**315**	P	**Pn**	**14 37 20.5**	**+1.0**
SIJI	**Sorong**	**5.59**	**11**	P	**Pn**	**14 37 33.6**	**-2.0**
	123nm,0.3s,baz=54,slow=5.0,SNR=78						
SIJI				S	**Sn**	**14 38 31.3**	**-7.7**
	567nm,0.2s,baz=264,slow=23,SNR=7.5						
SANI	**Sanana**	**6.00**	**316**	P	**Pn**	**14 37 41.6**	**+0.5**
	0.4nm1µm96nm,0.5s						
SANI	**Sanana**	**6.00**	**316**	P	**Pn**	**14 37 42.4**	**+1.3**
RKPI	**Ransiki, Papua**	**6.27**	**40**	P	**Pn**	**14 37 43.6**	**-1.1**
	11nm6µm448nm,0.6s						
LBMI	**Labuha**	**6.30**	**335**	P	**Pn**	**14 37 45.3**	**+0.2**
	1.8nm5µm521nm,0.6s						
MTN	**Manton Dam**	**6.49**	**172**	Pn	**Pn**	**14 37 44.9**	**-2.6**
MTN	**Manton Dam**	**6.49**	**172**	P	**Pn**	**14 37 45.0**	**-2.6**
KDU	**Kakadu**	**6.66**	**160**	P	**Pn**	**14 37 47.3**	**-2.5**
BATI	**Baumata**	**7.48**	**239**	P	**Pn**	**14 38 00.4**	**-0.5**
	267nm,0.4s,baz=119,slow=3.1,SNR=75						
BATI				S	**Sn**	**14 39 21.0**	**-3.5**
	207nm,0.3s,baz=119,slow=22,SNR=15						
BATI				LR	LR	14 41 01.6	
	comp=Z,251nm,20.4s,baz=339,slow=39						
BATI	**Baumata**	**7.48**	**239**	P	**Pn**	**14 38 00.1**	**-0.8**
	1.1nm2µm232nm,0.6s						
BBSI	**Bau Bau**	**7.62**	**276**	P	**Pn**	**14 38 03.4**	**+0.7**
	0.0nm111nm14nm,0.9s						
TNTI	**Ternate**	**7.64**	**338**	Pn	**Pn**	**14 38 02.3**	**-0.8**
TNTI	**Ternate**	**7.64**	**338**	P	**Pn**	**14 38 01.4**	**-1.7**
	0.8nm2µm254nm,0.8s						
TNTI	**Ternate**	**7.64**	**338**	P	**Pn**	**14 38 02.9**	**-0.2**
BAKI	**Biak**	**7.85**	**49**	P	**Pn**	**14 38 05.8**	**0.0**
MMRI	**Maumere**	**8.18**	**254**	Pn	**Pn**	**14 38 10.7**	**+0.4**
MMRI	**Maumere**	**8.18**	**254**	P	**Pn**	**14 38 09.2**	**-1.1**
	2µm64nm,1.3s						
EDFI	**Ende, Flores**	**8.74**	**254**	P	**Pn**	**14 38 18.3**	**+0.5**
	402nm18nm,0.8s						
KMSI	**Cibinong**	**9.28**	**318**	P	**Pn**	**14 38 25.0**	**+0.1**
	2µm138nm,1.2s						
KNRA	**Kununurra**	**9.34**	**188**	Pn	**Pn**	**14 38 21.9**	**-3.8**
KNRA	**Kununurra**	**9.34**	**188**	P	**Pn**	**14 38 22.4**	**-3.2**
SMPI	**Sarmi**	**9.56**	**63**	P	**Pn**	**14 38 26.0**	**-2.7**
	11nm,1.3s						
BSSI	**Bau Bau, Buton**	**9.63**	**271**	P	**Pn**	**14 38 29.7**	**+0.1**
	44nm,1.0s						
BKSI	**Bulukumba**	**10.06**	**276**	P	**Pn**	**14 38 34.8**	**-0.5**
	548nm35nm,0.9s						
APSI	**Ampana**	**10.10**	**302**	P	**Pn**	**14 38 35.5**	**-0.3**
	472nm47nm,1.1s						
SPSI	**Sidrap Palu**	**10.64**	**283**	P	Pn	14 38 53.8	+11
GENI	**Genyem**	**10.65**	**70**	P	**Pn**	**14 38 42.4**	**-0.7**
	59nm,0.7s						
MRSI	**Marisa**	**10.68**	**309**	P	**Pn**	**14 38 44.2**	**+0.7**
	856nm98nm,1.0s						
TTSI	**Tana Toraja**	**10.84**	**287**	P	Pn	14 39 01.2	+16
SGSI	**Sangihe**	**11.03**	**335**	P	**Pn**	**14 38 46.7**	**-1.4**
	1µm143nm,0.6s						
WBSI	**Waikabubak, Su**	**11.16**	**252**	P	**Pn**	**14 38 47.1**	**-2.8**
	44nm,1.2s						
TOLI2	**Tolitoli**	**11.98**	**308**	Pn	**Pn**	**14 39 00.4**	**-0.2**
TOLI2	**Tolitoli**	**11.98**	**308**	P	**Pn**	**14 39 01.6**	**+1.1**
MPSI	**Mapaga**	**12.24**	**303**	P	**Pn**	**14 39 06.1**	**+2.1**
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.46**	**200**	P	Pn	14 39 01.7	-5.0
	32nm,0.3s,baz=22,slow=9.0,SNR=97						
FITZ				S	Sn	14 41 08.6	-16
	58nm,0.6s,baz=66,slow=17,SNR=4.3						
FITZ	**Fitzroy Crossi**	**12.46**	**200**	Pn	**Pn**	**14 39 02.8**	**-3.9**
FITZ	**Fitzroy Crossi**	**12.46**	**200**	P	**Pn**	**14 39 03.2**	**-3.5**
PLAI	**Plampang**	**12.53**	**258**	P	**Pn**	**14 39 05.1**	**-2.6**
	39nm,0.9s						
PLAI	**Plampang**	**12.53**	**258**	P	**Pn**	**14 39 05.9**	**-1.8**
TWSI	**Taliwang, Sumb**	**13.39**	**259**	P	**Pn**	**14 39 18.0**	**-0.7**
	18nm,1.1s						
WB0	**Warramunga Arr**	**13.92**	**163**		Pn	14 39 20.8	-4.6
WRAB	**Tennant Creek**	**14.06**	**164**		Pn	14 39 23.2	-4.0
WRA	**Warramunga Arr**	**14.07**	**164**	P	Pn	14 39 22.8	-4.6
	44nm,0.6s,baz=348,slow=13,SNR=162						
WRA				S	Sn	14 41 48.4	-15
	24nm,0.7s,baz=350,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**14.07**	**164**	P	Pn	14 39 21.6	-5.8
WB2	**Warramunga Arr**	**14.07**	**164**		Pn	14 39 22.8	-4.6
DAV	**Davao City (W)**	**14.13**	**341**	LR	LR	14 45 08.0	
	comp=Z,66nm,19.0s,baz=176,slow=38						
WR0	**Warramunga Arr**	**14.14**	**163**	P	Pn	14 39 24.5	-3.8
COEN	**Coen**	**14.83**	**121**	Pn	**Pn**	**14 39 36.0**	**-1.0**
COEN	**Coen**	**14.83**	**121**	P	**Pn**	**14 39 38.3**	**+1.3**
BBKI	**Banjar Baru**	**15.55**	**280**	P	**Pn**	**14 39 45.1**	**-0.8**
	2µm205nm,0.9s						
JAGI	**Jajag, Banyuwa**	**16.03**	**262**	Pn	**Pn**	**14 39 49.2**	**-2.6**
JAGI				IAmb	IAmb	14 39 57.4	
	comp=Z,37nm,1.1s						
JAGI	**Jajag, Banyuwa**	**16.03**	**262**	P	**Pn**	**14 39 51.5**	**-0.3**
KMMI	**Kalianget**	**16.11**	**267**	P	**P**	**14 39 54.1**	**+0.8**
	comp=Z,92nm,0.7s						
QIS	**Mount Isa**	**16.79**	**148**	P	**P**	**14 39 59.8**	**-1.0**
PMG	**Port Moresby**	**17.08**	**101**	P	**Pn**	**14 40 05.8**	**+1.2**
	comp=Z,11nm,0.8s,baz=288,slow=16,SNR=2.7						
PMG	**Port Moresby**	**17.08**	**101**	P	**P**	**14 40 05.4**	**+1.4**
PMG	**Port Moresby**	**17.08**	**101**	P	**Pn**	**14 40 05.6**	**+1.0**
AS31	**Alice Springs**	**17.55**	**169**			**14 40 06.9**	**-2.2**
AS31				IAmb	IAmb	14 40 11.5	
	comp=Z,24nm,0.8s						
ASAR	**Alice Springs**	**17.55**	**169**	P	**P**	**14 40 08.8**	**-0.2**
	comp=Z,52nm,0.9s,baz=344,slow=10,SNR=396						
ASAR				S	S	14 43 14.1	-10
	comp=Z,8.9nm,0.6s,baz=357,slow=32,SNR=7.0						
ASAR				LR	LR	14 47 28.3	
	comp=Z,111nm,20.8s,baz=74,slow=39						
MBWA	**Marble Bar**	**17.83**	**214**		P	**14 40 12.5**	**+0.3**
MBWA				IAmb	IAmb	14 40 19.7	
	comp=Z,20nm,0.6s						
MBWA	**Marble Bar**	**17.83**	**214**	P	**P**	**14 40 12.2**	**0.0**
MBWA				IAmb	IAmb	14 40 19.7	
	comp=Z,19nm,0.7s						
MBWA	**Marble Bar**	**17.83**	**214**	P	**P**	**14 40 12.4**	**+0.3**
MTSU	**Mount Surprise**	**18.07**	**132**	P	**P**	**14 40 16.4**	**+1.6**
PSA00	**Pilbara Seismi**	**18.11**	**212**		**P**	**14 40 15.1**	**0.0**
PSA00	**Pilbara Seismi**	**18.11**	**212**	P	**P**	**14 40 15.7**	**+0.5**
PSA00				IAmb	IAmb	14 40 16.4	
	comp=Z,11nm,0.7s						
PSA00	**Pilbara Seismi**	**18.11**	**212**	P	**P**	**14 40 15.4**	**+0.3**
KKM	**Kota Kinabalu**	**18.62**	**311**		**P**	**14 40 22.0**	**+1.0**
KKM				IAmb	IAmb	14 40 30.7	
	comp=Z,24nm,0.9s						
KKM	**Kota Kinabalu**	**18.62**	**311**	P	**Pn**	**14 40 22.9**	**0.0**
WRKA	**Warakurna**	**18.63**	**185**	P	**P**	**14 40 21.5**	**+0.6**
PBKI	**Pangkalan Bun**	**18.81**	**280**	P	Pn	14 40 38.4	+13
SBUM	**Sibu**	**19.96**	**296**	P	**P**	**14 40 35.6**	**+0.2**
SBUM				IAmb	IAmb	14 40 38.2	
	comp=Z,16nm,0.7s						
CTA	**Charters Tower**	**20.71**	**133**	P	**P**	**14 40 44.8**	**+1.4**
	comp=Z,6.3nm,1.0s,baz=328,slow=12,SNR=3.9						
CTAO	**Charters Tower**	**20.71**	**133**	P	**P**	**14 40 45.0**	**+1.6**
OOD	**Oodnadatta**	**21.93**	**167**	P	**P**	**14 40 55.9**	**-0.2**
GIRL	**Giralia**	**22.31**	**222**	P	**P**	**14 41 00.6**	**+0.6**
GIRL	**Giralia**	**22.31**	**222**	P	**P**	**14 41 00.0**	**0.0**
LEM	**Lembang**	**22.42**	**268**	P	**P**	**14 41 01.6**	**+0.3**
	comp=Z,74nm,0.6s,baz=64,slow=10,SNR=13						
	comp=Z,74nm,0.6s						
CNJI	**Cibinong**	**22.90**	**266**	P	**P**	**14 41 05.8**	**0.0**
	comp=Z,3µmcomp=Z,370nm,1.0s						
MEEK	**Meekatharra**	**22.96**	**207**	P	**P**	**14 41 06.3**	**+0.1**
CBJI	**Citeko**	**23.18**	**269**	P	**P**	**14 41 07.9**	**-0.4**
	comp=Z,137nm,0.8s						
INKA	**Innaminka**	**23.49**	**156**	P	**P**	**14 41 13.7**	**+2.7**
MULG	**Mulgathing**	**24.05**	**172**	P	**P**	**14 41 17.0**	**+1.0**
QLP	**Quilpie**	**24.14**	**148**	P	**P**	**14 41 18.3**	**+1.4**
FORT	**Forrest**	**24.35**	**184**	P	**P**	**14 41 20.1**	**+1.3**
FORT	**Forrest**	**24.35**	**184**	P	**P**	**14 41 19.2**	**+0.5**
LCRK	**Leigh Creek**	**25.10**	**163**	P	**P**	**14 41 26.3**	**+0.7**
MORW	**Morawa**	**26.22**	**209**	P	**P**	**14 41 35.1**	**-0.6**
MORW				IAmb	IAmb	14 41 38.8	
	comp=Z,7.7nm,0.8s						
MORW	**Morawa**	**26.22**	**209**	P	**P**	**14 41 35.9**	**+0.2**
BBOO	**Buckleboo**	**26.86**	**169**	P	**P**	**14 41 40.1**	**-1.3**
BBOO				IAmb	IAmb	14 41 55.6	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**26.86**	**169**	P	**P**	**14 41 44.5**	**+3.1**
BLDU	**Ballidu**	**27.22**	**206**	P	**P**	**14 41 45.1**	**+0.4**
MYKOM	**Kota Tinggi**	**27.51**	**286**	P	**P**	**14 41 46.8**	**-0.6**
MYKOM				IAmb	IAmb	14 41 51.4	
	comp=Z,11nm,0.6s						
STKA	**Stephens Creek**	**27.51**	**159**	P	**P**	**14 41 47.4**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=341,slow=8.8,SNR=23						
STKA				LR	LR	14 54 33.6	
	comp=Z,138nm,18.6s,baz=347,slow=40						
	comp=Z,2.6nm,0.4s						
STKA	**Stephens Creek**	**27.51**	**159**	P	**P**	**14 41 47.1**	**-0.2**
STKA	**Stephens Creek**	**27.51**	**159**	P	**P**	**14 41 47.7**	**+0.4**
KLBR	**Kellerberrin**	**27.64**	**203**	P	**P**	**14 41 48.8**	**+0.4**
HTT	**Hallett**	**28.11**	**164**	P	**P**	**14 41 53.9**	**+1.3**
CMSA	**Cobar Meteorol**	**28.93**	**152**	P	**P**	**14 42 01.0**	**+1.2**
NWAO	**Narrogin (SRO)**	**29.02**	**203**	P	**P**	**14 42 01.0**	**+0.3**
NWAO				IAmb	IAmb	14 42 08.2	
	comp=Z,7.3nm,0.9s						
SDSI	**Sungai Dareh**	**29.19**	**280**	P	**P**	**14 42 04.4**	**+2.1**
	comp=Z,12nm,0.9s						
PPSI	**Pulau Pagai**	**30.28**	**275**	P	P	14 42 22.8	+11
MNSI	**Mandailing Nat**	**31.36**	**282**	P	**P**	**14 42 20.5**	**-1.0**
	comp=Z,22nm,0.8s						
KULM	**Kulim**	**31.68**	**291**	P	**P**	**14 42 22.3**	**-2.0**
KULM				IAmb	IAmb	14 42 24.2	
	comp=Z,13nm,1.1s						
ARPS	**Mount Arapiles**	**32.07**	**162**	P	**P**	**14 42 28.0**	**+0.6**
UBPT	**Khong Chiam**	**32.60**	**312**	P	**P**	**14 42 30.7**	**-1.6**
UBPT				IAmb	IAmb	14 42 33.2	
	comp=Z,12nm,0.8s						
GSI	**Gunungsitoli**	**33.43**	**282**	P	**P**	**14 42 36.9**	**-2.6**
CAN	**Canberra**	**33.60**	**152**	P	**P**	**14 42 41.8**	**+1.0**
CAN				IAmb	IAmb	14 42 48.9	
	comp=Z,7.4nm,1.1s						
CNB	**Canberra Magne**	**33.77**	**151**	P	**P**	**14 42 43.6**	**+1.3**
LHMI	**Lhok Sumawe**	**35.12**	**288**	P	**P**	**14 42 53.1**	**-1.0**
CRAI	**Chiangrai**	**39.48**	**313**	P	**P**	**14 43 29.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**39.48**	**309**	P	**P**	**14 43 30.8**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=137,slow=7.3,SNR=45						
CMAR				PcP	**PcP**	**14 45 37.0**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=156,slow=3.4,SNR=5.0						
	comp=Z,4.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.48**	**309**	P	**P**	**14 43 30.2**	**-0.6**
CHTO	**Chiang Mai**	**39.69**	**310**	P	**P**	**14 43 31.4**	**-1.2**
JMN	**Monobe**	**40.05**	**5**	P	**P**	**14 43 35.1**	**-0.2**
JMN				IAmb	IAmb	14 43 36.9	
	comp=Z,6.5nm,0.7s						
KMI	**Kunming**	**41.16**	**321**	⇑P	**P**	**14 43 45.8**	**+1.0**
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
PZH	**PanZhiHua**	**42.77**	**321**	P	**P**	**14 44 00.7**	**+3.0**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
MJAR	**Matsushiro Arr**	**43.36**	**9**	P	**P**	**14 44 01.4**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=183,slow=9.6,SNR=11						
	comp=Z,2.6nm,0.7s						
MAJO	**Matsushiro**	**43.36**	**9**	P	**P**	**14 44 01.1**	**-1.1**
MAJO				IAmb	IAmb	14 44 02.2	
	comp=Z,7.2nm,0.7s						
KSRS	**Korea Array**	**43.66**	**357**	P	**P**	**14 44 05.5**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=180,slow=9.2,SNR=4.2						
KSRS				LR	LR	15 01 08.5	
	comp=Z,11nm,21.8s,baz=210,slow=34						
	comp=Z,0.7nm,0.6s						
XAN	**Xi'an**	**44.96**	**335**	P	**P**	**14 44 14.6**	**-0.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**50.02**	**342**	*e*P	**P**	**14 44 57.7**	**+3.6**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
CN2	**Changchun**	**50.14**	**356**	*e*P	**P**	**14 44 57.8**	**+3.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.38**	**2**	P	**P**	**14 44 56.1**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=177,slow=10.0,SNR=5.9						
	comp=Z,1.3nm,0.5s						
USRK	**Ussuriysk Ar.**	**50.38**	**2**	P	**P**	**14 44 55.4**	**-1.1**
TAPN	**Taplejung**	**53.02**	**311**	*e*P	**P**	**14 45 16.6**	**-0.2**
	comp=Z,29nm,0.5s						
GTA	**Gaotai**	**53.52**	**331**	⇓P	**P**	**14 45 21.0**	**+0.9**
GTA				pP	pP	14 45 52.3	-0.5
GTA				sP	sP	14 46 10.7	+2.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,58nm,8.7s						
GTA				LR	LR		
	comp=N,70nm,14.9s						
GTA				LR	LR		
	comp=E,64nm,17.1s						
GTA				LR	LR		
	comp=Z,72nm,16.7s						
RAMN	**Ramite**	**53.64**	**310**	*e*P	**P**	**14 45 21.2**	**-0.1**
	comp=Z,81nm,0.6s						
JIRN	**Jiri**	**54.32**	**311**	*e*P	**P**	**14 45 26.1**	**-0.3**
	comp=Z,32nm,0.6s						
GUN	**Gumba**	**54.69**	**311**	*e*P	**P**	**14 45 28.8**	**-0.2**
	comp=Z,64nm,0.6s						
PKI	**Pulchoki**	**54.87**	**310**	*e*P	**P**	**14 45 29.4**	**-0.9**
	comp=Z,18nm,0.6s						
PKIN	**Phulchoki**	**54.88**	**310**	*e*P	**P**	**14 45 29.6**	**-0.7**
	comp=Z,19nm,0.5s						
KKN	**Kakani**	**55.08**	**310**	*e*P	**P**	**14 45 31.3**	**-0.4**
DMN	**Daman**	**55.12**	**310**	*e*P	**P**	**14 45 31.4**	**-0.6**
GKN	**Gorkha**	**55.67**	**310**	*e*P	**P**	**14 45 35.5**	**-0.4**
	comp=Z,46nm,0.6s						
KOLN	**Koldanda**	**56.35**	**309**	*e*P	**P**	**14 45 39.8**	**-0.9**
DANN	**Dangsing**	**56.52**	**310**	*e*P	**P**	**14 45 41.4**	**-0.6**
	comp=Z,34nm,0.9s						
PYUN	**Piuthan**	**56.98**	**309**	*e*P	**P**	**14 45 44.4**	**-0.8**
	comp=Z,60nm,0.8s						
SONM	**Songino Array**	**57.92**	**341**	P	**P**	**14 45 52.2**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=105,slow=11,SNR=5.5						
	comp=Z,1.1nm,0.7s						
WMQ	**Urumqi**	**62.98**	**327**	*e*P	**P**	**14 46 28.0**	**+2.4**
PEA0B	**Petropavlovsk-**	**63.69**	**18**	P	**P**	**14 46 30.2**	**+0.2**
PEA0B				IAmb	IAmb	14 46 45.3	
	comp=Z,7.3nm,1.1s						
PETK	**Petropavlovsk-**	**63.69**	**18**	P	**P**	**14 46 30.7**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=174,slow=4.8,SNR=6.7						
	comp=Z,0.9nm,0.6s						
PETK	**Petropavlovsk-**	**63.69**	**18**	P	**P**	**14 46 30.0**	**0.0**
KSH	**Kashi**	**67.69**	**317**	P	**P**	**14 46 57.6**	**+1.5**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**67.81**	**327**	P	**P**	**14 46 57.5**	**+0.9**
MK31				IAmb	IAmb	14 46 58.4	
	comp=Z,8.1nm,0.7s						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**14 46 57.7**	**+1.1**
	comp=Z,10nm,0.6s,baz=123,slow=7.9,SNR=154						
	comp=Z,10nm,0.6s						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**14 46 57.5**	**+0.9**
MAKZ	**Makanchi**	**67.99**	**326**	P	**P**	**14 46 57.7**	**-0.1**
BOOM	**Boomskoye usch**	**69.19**	**320**	P	**P**	**14 47 05.8**	**+0.3**
TKM2	**Tokmak 2**	**69.63**	**320**	P	**P**	**14 47 09.1**	**+0.9**
	SNR=9.8						
UCH	**Uchtor**	**69.98**	**319**	P	**P**	**14 47 11.9**	**+1.3**
	SNR=13						
AAK	**Ala-Archa**	**70.19**	**320**	P	**P**	**14 47 12.8**	**+1.3**
	SNR=5.6						
AML	**Almayashu**	**70.47**	**319**	P	**P**	**14 47 15.0**	**+1.4**
	SNR=8.3						
USP	**Ospenovka**	**70.50**	**320**	P	**P**	**14 47 14.3**	**+1.1**
	SNR=15						
EKS2	**Erkin-Say**	**70.67**	**319**	P	**P**	**14 47 16.3**	**+1.9**
	SNR=6.1						
ZALV	**Zalesovo Beam**	**71.11**	**334**	P	**P**	**14 47 16.9**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=127,slow=4.8,SNR=11						
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**71.11**	**334**	P	**P**	**14 47 15.6**	**-1.1**
GAR	**Garm**	**71.36**	**315**	P	**P**	**14 47 18.4**	**-0.3**
KURK	**Kurchatov**	**72.09**	**328**	P	**P**	**14 47 22.3**	**-0.3**
KKAR	**Karatay Array**	**73.00**	**319**	P	**P**	**14 47 28.4**	**+0.2**
VNDA	**Vanda**	**73.03**	**173**	P	**P**	**14 47 28.7**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=331,slow=6.4,SNR=6.4						
VNDA				LR	LR	15 19 42.8	
	comp=Z,24nm,18.0s,baz=310,slow=36						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**73.03**	**173**	P	**P**	**14 47 28.4**	**+0.6**
MAW	**Mawson**	**75.58**	**201**	P	**P**	**14 47 44.0**	**+1.3**
	comp=Z,3.9nm,0.7s,baz=99,slow=12,SNR=19						
	comp=Z,3.9nm,0.7s						
MAW	**Mawson**	**75.58**	**201**	P	**P**	**14 47 43.8**	**+1.1**
GEYT	**Alibeck**	**79.95**	**310**	P	**P**	**14 48 08.9**	**+1.4**
	comp=Z,2.9nm,0.7s,baz=191,slow=7.2,SNR=5.9						
	comp=Z,2.9nm,0.7s						
NRIK	**Noril'sk**	**81.01**	**346**	P	**P**	**14 48 13.9**	**+1.5**
	comp=Z,2.1nm,0.4s,baz=112,slow=5.5,SNR=3.9						
	comp=Z,2.1nm,0.4s						
VOI	**Vohitsoka**	**81.53**	**249**	P	**P**	**14 48 17.1**	**+0.7**
VOI				IAmb	IAmb	14 48 25.2	
	comp=Z,10nm,1.1s						
ABKAR	**Akbulak array**	**82.14**	**322**	P	**P**	**14 48 18.5**	**-0.3**
QSPA	**South Pole Qui**	**83.59**	**180**	P	**P**	**14 48 26.3**	**+0.2**
RAYN	**Ar Rayn**	**87.66**	**294**	P	**P**	**14 48 46.9**	**-0.1**
ILAR	**Eielson Array**	**92.72**	**25**	P	**P**	**14 49 08.6**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=254,slow=4.6,SNR=4.4						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**128.86**	**282**	PKP	**PKPdf**	**14 55 06.0**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=67,slow=2.1,SNR=7.8						
CPUP	**Villa Florida**	**146.67**	**168**	PKPbc	**PKPbc**	**14 55 40.9**	**+1.2**
	comp=Z,4.0nm,0.6s,baz=256,slow=3.4,SNR=6.9						
LPAZ	**La Paz**	**151.09**	**141**	PKPbc	**PKiKP**	**14 55 53.0**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=78,slow=3.6,SNR=5.4						

IDC 09 14:45:42.6±7.2, 18°44S×179°39E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=298.5km s-min=111.4km az=153.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.48**	**260**	P	P	14 53 41.3	+1.4
	0.4nm,0.4s,baz=91,slow=8.3,SNR=16						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**42.63**	**255**	P	P	14 53 39.0	-2.1
	0.2nm,0.3s,baz=94,slow=6.8,SNR=7.0						
	0.2nm,0.3s						
AKASG	**Malin Array Be**	**140.02**	**331**	PKP	PKPdf	15 05 12.8	-0.2
	0.2nm,0.2s,baz=48,slow=4.1,SNR=4.5						

*NEIC **09** 15:02:47.2±1.2, 56°01N±0°06×157°56W±0°07, h30km±5km, Error ellipse: s-maj=8.7km s-min=4.5km az=158.0*

AEIC 09 15:02:48.0±1.2, 55°98N±0°07×157°54W±0°05, h38km±9km, ML2.6/27, ML2.9/26(NEIC), Error ellipse: s-maj=10.9km s-min=1.7km az=160.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**0.59**	**304**		Pn	15 02 58.7	-1.2
CHGN					Sn	15 03 07.4	-0.9
CHGN	**Chignik**	**0.59**	**304**	IAML		15 03 07.7	
	comp=N,4µm,0.1s						
CHGN				IAML		15 03 08.3	
	comp=E,4µm,0.1s						
CHIR	**Chirikof Islan**	**1.09**	**97**		Pn	15 03 07.7	+1.1
CHIR	**Chirikof Islan**	**1.09**	**97**	IAML		15 03 29.6	
	comp=E,220nm,0.7s						
VNFG	**Fog Glacier, M**	**1.17**	**286**		Pn	15 03 07.4	-0.4
VNFG					Sn	15 03 22.4	-0.2
R16K	**Pilot Point**	**1.60**	**359**

FINES	**FINESS Array B**	**48.06**	**327**	P		**P**	**15 11 24.4**	**-0.9**
	0.5nm,0.5s,baz=119,slow=16,SNR=4.2							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**70.33**	**129**	P		**P**	**15 14 01.0**	**+1.1**
	0.3nm,0.8s,baz=322,slow=6.3,SNR=1.7							
	0.3nm,0.8s							

DJA 09 15:08:15.3±0.3, 3°S±3°×112°7E±°, h10km, M3.5/8, mb4.0/4, MLv3.3/8, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.62**	**180**	P	Pg	15 08 27.1	-0.3
SANI	**Sanana**	**1.24**	**297**	P	Pn	15 08 36.3	-2.4
AAI	**Ambon**	**1.53**	**134**	P	Pn	15 08 42.5	-0.2
LBMI	**Labuha**	**2.00**	**12**	P	Pb	15 08 50.9	-0.9
APSI	**Ampana**	**5.70**	**287**	P	Pn	15 09 41.0	+0.9
	0.1nm25nm,1.0s						
MRSI	**Marisa**	**6.00**	**301**	P	Pn	15 09 44.5	+0.3

WEL 09 15:12:17.8±1.2, 37°S±4°×176°9E±°, h25km±7km, M3.5/37, ML3.7/48, MLv3.5/37, Error ellipse: s-maj=0.0km s-min=0.0km az=75.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.67**	**247**	P	Pb	15 12 30.6	-0.3
MXZ				S	Sb	15 12 39.0	-0.8
WMGZ	**Waiomatatini S**	**0.74**	**225**	P	Pn	15 12 33.5	+0.9
WMGZ				S	Sn	15 12 44.6	+1.5
PKGZ	**Pakihiroa**	**0.99**	**233**	P	Pb	15 12 36.6	+0.3
PKGZ				S	Sn	15 12 49.7	+0.3
PUZ	**Puketiti**	**1.01**	**220**	P	Pb	15 12 37.1	+0.4
PUZ				S	Sn	15 12 51.1	+1.2
HAZ	**Te Kaha**	**1.13**	**246**	P	Pn	15 12 37.6	-0.3
TWGZ	**Tauwhareparae**	**1.24**	**225**	P	Pb	15 12 40.2	-0.3
TWGZ				S	Sb	15 12 56.7	+0.6
RUGZ	**Raukumara Rang**	**1.30**	**239**	P	Pb	15 12 41.3	-0.3
RUGZ				S	Sb	15 12 58.2	+0.3
CNGZ	**Carnagh Statio**	**1.37**	**210**	P	Pb	15 12 42.7	0.0
TKGZ	**Te Karaka**	**1.50**	**220**	P	Pn	15 12 43.4	+0.3
WIZ	**White Island**	**1.52**	**261**	P	Pn	15 12 44.0	+0.6
MWZ	**Matawai**	**1.61**	**230**	P	Pn	15 12 44.9	+0.3
RIGZ	**Rimuhau**	**1.75**	**216**	P	Pn	15 12 46.7	+0.2
WHRZ	**Whale Island**	**1.77**	**251**	P	Pn	15 12 47.4	+0.7
RAGZ	**Rawiri**	**1.78**	**227**	P	Pn	15 12 47.8	+0.8
URZ	**Urewera**	**1.83**	**238**	P	Pn	15 12 48.3	+0.7
PRGZ	**Paritu Road**	**1.88**	**210**	P	Pn	15 12 48.6	+0.3
EDRZ	**Edgecumbe**	**2.03**	**246**	P	Pn	15 12 51.0	+0.6
KNZ	**Kokohu**	**2.05**	**212**	P	Pn	15 12 50.3	-0.3
MHGZ	**Mahia Peninsul**	**2.07**	**206**	P	Pn	15 12 51.3	+0.4
OPRZ	**Ohinepanea**	**2.08**	**254**	P	Pn	15 12 50.8	-0.2
OPRZ				S	Sn	15 13 14.4	-1.7
MUGZ	**Murupara**	**2.17**	**237**	P	Pn	15 12 52.5	+0.2
RAHZ	**Arahi**	**2.26**	**224**	P	Pn	15 12 53.7	+0.2
RRRZ	**Republican Roa**	**2.28**	**242**	P	Pn	15 12 54.2	+0.4
TGRZ	**Tauranga**	**2.29**	**258**	P	Pn	15 12 53.7	-0.1
MTHZ	**Maungataniwha**	**2.35**	**228**	P	Pn	15 12 55.4	+0.5
ALRZ	**Allen Road**	**2.51**	**239**	P	Pn	15 12 56.9	-0.1
NMHZ	**Naumai**	**2.54**	**224**	P	Pn	15 12 57.9	+0.4
ARHZ	**Aropaoanui**	**2.56**	**219**	P	Pn	15 12 57.8	+0.2
KUZ	**Kuaotunu**	**2.75**	**281**	P	Pn	15 12 59.0	-1.2
BKZ	**Black Stump Fm**	**2.76**	**227**	P	Pn	15 13 00.3	-0.1
KUTZ	**Kaahu Road**	**2.84**	**244**	P	Pn	15 13 01.9	+0.4
MCHZ	**McNeill Hill**	**2.85**	**220**	P	Pn	15 13 01.4	-0.2
TOZ	**Tahuroa Road**	**2.88**	**260**	P	Pn	15 13 01.8	-0.2
KWHZ	**Kaweka Forest**	**2.98**	**224**	P	Pn	15 13 02.8	-0.6
KAHZ	**Kahuranaki**	**3.03**	**214**	P	Pn	15 13 03.2	-0.9
GRZ	**Great Barrier**	**3.09**	**289**	P	Pn	15 13 04.6	-0.3
MKAZ	**Moumakai**	**3.14**	**272**	P	Pn	15 13 05.0	-0.5
KRHZ	**Kereru**	**3.17**	**221**	P	Pn	15 13 04.8	-1.2
WIAZ	**Waiheke Island**	**3.20**	**278**	P	Pn	15 13 06.0	-0.4
BHHZ	**Black Hill Sta**	**3.23**	**226**	P	Pn	15 13 06.3	-0.5
OTVZ	**Oturere**	**3.27**	**234**	P	Pn	15 13 07.6	+0.1
SNVZ	**South Ngauruho**	**3.30**	**234**	P	Pn	15 13 07.9	0.0
ETAZ	**East Tamaki Re**	**3.34**	**275**	P	Pn	15 13 08.2	-0.1
MOVZ	**Moawhango**	**3.36**	**230**	P	Pn	15 13 08.5	-0.2
TWVZ	**Taurewa**	**3.37**	**237**	P	Pn	15 13 09.2	+0.3
WHVZ	**Whangaehu Hut**	**3.39**	**233**	P	Pn	15 13 08.9	-0.3
MBAZ	**Motutapu North**	**3.39**	**278**	P	Pn	15 13 08.8	-0.2
FWVZ	**Far West T-bar**	**3.40**	**234**	P	Pn	15 13 09.2	-0.1
WPHZ	**Waipukurau**	**3.45**	**216**	P	Pn	15 13 08.4	-1.4
PNHZ	**Pukenui**	**3.45**	**220**	P	Pn	15 13 08.3	-1.6
EPAZ	**Eden Park BICE**	**3.50**	**276**	P	Pn	15 13 11.5	+1.0
HBAZ	**Herne Bay Bore**	**3.51**	**276**	P	Pn	15 13 11.8	+1.1
AWAZ	**Awhitu Peninsu**	**3.55**	**272**	P	Pn	15 13 11.6	+0.3
HIZ	**Hauiti**	**3.56**	**249**	P	Pn	15 13 12.6	+1.3
WTAZ	**Waiatarua**	**3.62**	**274**	P	Pn	15 13 12.6	+0.4
RVAZ	**Riverhead Bore**	**3.64**	**277**	P	Pn	15 13 12.7	+0.2
TSZ	**Takapari Road**	**3.68**	**221**	P	Pn	15 13 11.0	-2.1
ANWZ	**Angora Road**	**3.76**	**212**	P	Pn	15 13 12.6	-1.5
DNHZ	**Dannevirke**	**3.76**	**215**	P	Pn	15 13 12.3	-1.9
POWZ	**Post Office Ro**	**4.03**	**219**	P	Pn	15 13 16.2	-1.6
WAZ	**Wanganui**	**4.04**	**231**	P	Pn	15 13 17.8	-0.3
WCZ	**Waipu Caves**	**4.04**	**288**	P	Pn	15 13 18.5	+0.4
PRWZ	**Pori Road**	**4.06**	**216**	P	Pn	15 13 16.5	-1.7
OUZ	**Omahuta**	**4.89**	**293**	P	Pn	15 13 30.5	+0.8
CTZ	**Chatham Island**	**7.21**	**154**	P	Pn	15 14 03.4	+1.8

KRSC 09 15:12:19.4±0.9, 54.76°N×167.35°E, h31km±12km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.91**	**300**	P	Pb	15 12 36.5	-0.2
BKI				S	Sb	15 12 49.9	+1.4
KBTR	**Krutoberegovo**	**2.96**	**301**	P	Pn	15 13 07.1	+2.9
KBG	**Krutoberegovo**	**3.04**	**302**	S	Sn	15 13 44.7	+4.1
MKZ	**Mys Kozlova**	**3.27**	**269**	P	Pn	15 13 11.5	+3.0
MKZ				S	Sn	15 13 50.1	+3.8
TUMR	**Tumrok**	**4.18**	**280**	P	Pn	15 13 25.8	+4.7
SPN	**Mys Shipunski**	**4.64**	**252**	S	Sn	15 14 25.6	+5.6
KRER	**Koryakskii**	**5.27**	**258**	P	Pn	15 13 41.1	+4.9
AVH	**Avacha**	**5.29**	**257**	P	Pn	15 13 41.4	+5.0
KRX	**Arik**	**5.31**	**258**	P	Pn	15 13 41.1	+4.4
GNL	**Ganaly**	**5.62**	**263**	P	Pn	15 13 45.8	+4.9
RUS	**Russkaya**	**5.75**	**250**	P	Pn	15 13 47.3	+4.7
MTVR	**Mutnovka**	**5.91**	**251**	P	Pn	15 13 49.9	+5.0
MTVR				S	Sn	15 14 56.0	+4.4
GRL	**Gorelyy**	**5.94**	**252**	P	Pn	15 13 50.0	+4.7
ASAK	**Asacha**	**6.11**	**251**	P	Pn	15 13 53.2	+5.6

*JMA **09** 15:18:07.0±0.3, 22.9°N±0.9°×121.2°E±°, h0km, MV3.9/15, TAIWAN REGION*
*NIED **09** 15:18:07.0, 22.87°N×120.72°E, h0km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}0.79; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-0.89; $M_{r\theta}$-1.08; $M_{\theta\phi}$0.95; $M_{r\phi}$-2.78; Fault plane solution: $M_0$3.21000×10^{14} NP1: ϕ_s300.00000°, δ21.00000°, λ17.00000°. NP2: ϕ_s194.00000°, δ84.00000°, λ110.00000°.*
*TAP **09** 15:18:07.2, 22.95N×120.55E, h15km, ML3.9, B*
*IDC **09** 15:18:17.0±2.6, 21.72N×122.66E, h0km, mb3.6/3, mbtmp3.6/3, MS3.1/2, Error ellipse: s-maj=351.4km s-min=30.8km az=69.0*
ISC 09 15:18:07.9±0.8, 22.95°N±0.01°×120.53°E±0.01, h18km±3km, n142, σ0.93/237, mb3.7/3, 21C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCST	**Cishan**	**0.07**	**211**	⇑*i*	P	**Pg**	**15 18 11.2**	**-0.2**
	baz=216							
SCST					S	**Sg**	**15 18 14.5**	**+0.8**
	baz=216							
SLGT	**Liugui**	**0.12**	**66**	*i*	P	**Pg**	**15 18 11.5**	**-0.3**
	baz=77							
SGST	**Jiashian**	**0.14**	**19**	⇓*i*	P	**Pb**	**15 18 11.0**	**+0.2**
	baz=17							
SGST				*i*	S	**Sg**	**15 18 14.9**	**-0.1**
	baz=17							
SHHT	**Tainan City**	**0.19**	**294**	⇓*i*	P	**Pg**	**15 18 12.7**	**+0.1**
	baz=297							
SHHT				*e*	S	**Sg**	**15 18 18.4**	**+2.5**
	baz=297							
CHN3	**Shinhua**	**0.20**	**310**	⇑*i*	P	**Pg**	**15 18 13.8**	**+0.9**
	baz=312							
CHN3				*i*	S	**Sg**	**15 18 19.6**	**+3.3**
	baz=312							
SSD	**Sandimen**	**0.22**	**155**	⇑*i*	P	**Pb**	**15 18 13.0**	**0.0**
	baz=151							
SSD				*i*	S	**Sg**	**15 18 17.0**	**+0.2**
	baz=151							
SGLT	**Jiouru**	**0.22**	**190**		P	**Pg**	**15 18 14.1**	**+0.9**
	baz=186							
SGLT				*e*	S	**Sg**	**15 18 19.7**	**+2.9**
	baz=186							
CHN1	**Nanshi**	**0.24**	**359**	⇑*i*	P	**Pb**	**15 18 13.5**	**0.0**
	baz=1.0							
CHN1				*i*	S	**Sg**	**15 18 18.1**	**+0.8**
	baz=1.0							
TSMG	**Majia**	**0.26**	**156**	⇑*i*	P	**Pg**	**15 18 13.5**	**-0.3**
	baz=154							
TSMG				*i*	S	**Sb**	**15 18 17.8**	**-0.1**
	baz=154							
SNJT	**Kaohsiung City**	**0.26**	**224**	*e*	P	**Pg**	**15 18 13.7**	**-0.1**
	baz=225							
SNJT					S	**Sg**	**15 18 20.2**	**+2.2**
	baz=225							
TSPT	**Pingtung City**	**0.27**	**187**	*e*	P	**Pn**	**15 18 15.8**	**-1.1**
	baz=185							
SNST	**Tainan City**	**0.28**	**353**	⇑*i*	P	**Pg**	**15 18 14.2**	**+0.2**
	baz=350							
SNST					S	**Sb**	**15 18 19.2**	**+0.8**
	baz=350							
SSHA	**Shanhua**	**0.29**	**310**	*e*	P	**Pb**	**15 18 15.3**	**+0.7**
	baz=307							
SSHA				*e*	S	**Sn**	**15 18 21.9**	**-1.3**
	baz=307							
TAI1	**Yung-k'ang**	**0.30**	**289**	*e*	P	**Pb**	**15 18 14.8**	**+0.2**
	baz=286							
TAI1					S	**Sb**	**15 18 21.3**	**+2.2**
	baz=286							
STYT	**Tauyuan**	**0.30**	**44**	⇑*i*	P	**Pg**	**15 18 14.4**	**-0.1**
	baz=49							
STYT				*i*	S	**Sb**	**15 18 19.5**	**+0.2**
	baz=49							
WTP	**Ta-pu**	**0.31**	**14**	⇑*i*	P	**Pg**	**15 18 14.7**	**0.0**
	baz=13							
WTP				*i*	S	**Sb**	**15 18 20.1**	**+0.5**
	baz=13							
TAI	**Tainan**	**0.31**	**279**		P	**Pb**	**15 18 15.4**	**+0.5**
	baz=278							
TAI				*e*	S	**Sn**	**15 18 22.1**	**-1.5**
	baz=278							
STYH	**Taoyuan**	**0.32**	**45**		P	**Pg**	**15 18 13.7**	**-1.1**
	baz=53							
STYH					S	**Sg**	**15 18 19.1**	**-0.3**
	baz=53							
TWK	**Hsinying**	**0.32**	**353**	⇓*i*	P	**Pg**	**15 18 14.9**	**0.0**
	baz=352							
TWK					S	**Sb**	**15 18 20.8**	**+0.7**
	baz=352							
MASBT	**Mashibuluo**	**0.34**	**164**	⇑*i*	P	**Pg**	**15 18 15.0**	**-0.2**
	baz=162							
MASBT					S	**Sg**	**15 18 20.5**	**+0.3**
	baz=162							
TPUB	**Ta-pu**	**0.36**	**14**	⇑*i*	P	**Pg**	**15 18 15.3**	**-0.3**
	baz=12							
TPUB					S	**Sb**	**15 18 21.4**	**+0.1**
	baz=12							
SCLT	**Jiali**	**0.39**	**306**		P	**Pb**	**15 18 16.5**	**+0.2**
	baz=304							
SCLT					S	**Sb**	**15 18 23.6**	**+1.7**
	baz=304							
WSSB	**Gushan**	**0.39**	**220**	*e*	P	**Pb**	**15 18 17.1**	**+0.8**
	baz=234							
WSSB				*e*	S	**Sn**	**15 18 26.1**	**+0.5**
	baz=234							
KAU	**Kaohsiung**	**0.43**	**209**	*e*	P	**Pb**	**15 18 18.3**	**+1.3**
	baz=210							
KAU				*e*	S	**Sn**	**15 18 26.2**	**-0.2**
	baz=210							
TSCK	**Chigu Township**	**0.46**	**296**	*e*	P	**Pg**	**15 18 17.4**	**+0.2**
	baz=294							
SSPT	**Xinbi**	**0.46**	**176**	*e*	P	**Pb**	**15 18 17.7**	**+0.3**
	baz=164							
ICHU	**Yijhu**	**0.47**	**331**		P	**Pg**	**15 18 17.7**	**+0.2**
	baz=328							
ICHU				*i*	S	**Sb**	**15 18 25.4**	**+1.0**
	baz=328							
WCKO	**Fanlu**	**0.49**	**8**		P	**Pg**	**15 18 16.7**	**-1.3**
	baz=6.0							
WCKO				*e*	S	**Sg**	**15 18 24.2**	**-0.5**
	baz=6.0							
ELDTW	**Lidau**	**0.51**	**61**	⇑*i*	P	**Pg**	**15 18 17.9**	**-0.3**
	baz=62							
ELDTW				*i*	S	**Sg**	**15 18 25.4**	**+0.2**
	baz=62							
ECL	**Taimali**	**0.52**	**132**		P	**Pg**	**15 18 17.9**	**-0.4**
	baz=137							
ECL				*e*	S	**Sg**	**15 18 25.3**	**-0.1**
	baz=137							
TWGBT	**Beinan**	**0.52**	**104**	⇑*i*	P	**Pg**	**15 18 18.3**	**-0.1**
	baz=109							
TWGBT					S	**Sb**	**15 18 25.9**	**+0.2**
	baz=109							
LONT	**Longtian**	**0.55**	**94**	*e*	P	**Pb**	**15 18 19.0**	**0.0**
	baz=82							
LONT				*e*	S	**Sg**	**15 18 26.7**	**+0.2**
	baz=82							
CHY	**Chiayi**	**0.56**	**350**		P	**Pb**	**15 18 19.2**	**+0.1**
	baz=349							
CHY					S	**Sb**	**15 18 27.8**	**+1.1**
	baz=349							
SCZT	**Fangliau**	**0.58**	**172**	*i*	P	**Pb**	**15 18 19.3**	**-0.1**
	baz=162							
SCZT				*e*	S	**Sn**	**15 18 29.5**	**-0.6**
	baz=162							
TTN	**Taitung**	**0.60**	**108**		P	**Pg**	**15 18 20.6**	**+0.8**
	baz=110							
TTN					S	**Sn**	**15 18 31.2**	**+0.5**
	baz=110							
ALS	**Alishan**	**0.62**	**24**	⇑*i*	P	**Pb**	**15 18 19.7**	**-0.5**
	baz=24							
ALS				*i*	S	**Sg**	**15 18 29.2**	**+0.6**
	baz=24							
EAST	**Anshuo**	**0.63**	**152**	⇑*i*	P	**Pb**	**15 18 20.1**	**-0.2**
	baz=148							
EAST				*e*	S	**Sn**	**15 18 31.1**	**-0.4**
	baz=148							
WSL	**Shuilin Townsh**	**0.64**	**334**	*e*	P	**Pb**	**15 18 19.4**	**-1.0**
	baz=321							
ECS	**Chishang**	**0.65**	**77**	*i*	P	**Pg**	**15 18 21.0**	**+0.2**
	baz=77							
YUS	**Yu-Shan**	**0.67**	**35**	⇑*i*	P	**Pb**	**15 18 20.8**	**-0.4**
	baz=35							
YUS				*i*	S	**Sb**	**15 18 30.4**	**+0.2**
	baz=35							
TAW	**Tawu**	**0.68**	**150**		P	**Pb**	**15 18 21.0**	**0.0**
	baz=146							
TAW				*e*	S	**Sn**	**15 18 32.1**	**-0.5**
	baz=146							
TAWH	**Dawu Township**	**0.69**	**151**		P	**Pb**	**15 18 20.1**	**-1.2**
	baz=148							
TAWH				*e*	S	**Sb**	**15 18 30.5**	**+0.2**
	baz=148							
EDH	**Donghe**	**0.71**	**88**	*e*	P	**Pb**	**15 18 21.8**	**+0.1**
	baz=80							
EDH				*e*	S	**Sg**	**15 18 32.1**	**+0.7**
	baz=80							
WGK	**Gukeng**	**0.74**	**2**	*i*	P	**Pg**	**15 18 22.6**	**+0.2**
	baz=1.0							
WGK					S	**Sn**	**15 18 34.2**	**+0.1**
	baz=1.0							
WDLH	**Douliu**	**0.74**	**0**	*e*	P	**Pb**	**15 18 22.4**	**+0.1**
	baz=359							
WDLH				*e*	S	**Sg**	**15 18 33.2**	**+0.9**
	baz=359							
WSF	**Szhu**	**0.75**	**338**	*e*	P	**Pb**	**15 18 22.0**	**-0.3**
	baz=337							
WSF					S	**Sg**	**15 18 33.4**	**+0.9**
	baz=337							
SLIU	**Shizi**	**0.77**	**161**		P	**Pb**	**15 18 22.9**	**+0.2**
	baz=162							
SLIU				*e*	S	**Sn**	**15 18 35.0**	**+0.2**
	baz=162							
WHYT	**Xinyi Township**	**0.80**	**21**	*e*	P	**Pb**	**15 18 22.9**	**-0.5**
	baz=30							
WHYT				*e*	S	**Sg**	**15 18 34.4**	**0.0**
	baz=30							
TWF1	**Yuli**	**0.81**	**60**	*i*	P	**Pb**	**15 18 23.2**	**-0.2**
	baz=60							
TWF1				*i*	S	**Sb**	**15 18 34.4**	**+0.3**
	baz=60							
EYUL	**Yuli**	**0.83**	**61**	*e*	P	**Pb**	**15 18 23.4**	**-0.3**
	baz=61							
EYUL				*e*	S	**Sb**	**15 18 34.6**	**+0.1**
	baz=61							
YULB	**Yu-li**	**0.83**	**58**	⇑*i*	P	**Pb**	**15 18 23.3**	**-0.6**
	baz=57							
YULB				*e*	S	**Sb**	**15 18 33.5**	**-1.2**
	baz=57							
WDGT	**Dungji**	**0.86**	**291**	⇓*i*	P	**Pb**	**15 18 23.3**	**-1.0**
	baz=290							
WDGT					S	**Sb**	**15 18 34.8**	**-0.7**
	baz=290							
WJS	**Zhushan**	**0.89**	**12**	*e*	P	**Pb**	**15 18 24.8**	**0.0**
	baz=356							
WJS				*e*	S	**Sg**	**15 18 37.6**	**+0.5**
	baz=356							
LDUT	**Ludao**	**0.91**	**107**	*e*	P	**Pb**	**15 18 24.7**	**-0.3**
	baz=108							
LDUT				*e*	S	**Sn**	**15 18 39.9**	**+1.6**
	baz=108							
EHY	**Hungye**	**0.92**	**52**		P	**Pb**	**15 18 24.8**	**-0.4**
	baz=59							
EHY				*e*	S	**Sb**	**15 18 37.3**	**+0.2**
	baz=59							
ECBN	**Changbin**	**0.92**	**66**	*i*	P	**Pb**	**15 18 25.4**	**0.0**
	baz=66							
SSLB	**Suanglung**	**0.92**	**25**	⇑*i*	P	**Pb**	**15 18 24.7**	**-0.7**
	baz=24							
SSLB					S	**Sb**	**15 18 37.5**	**+0.1**
	baz=24							
WNT	**Mingjian**	**0.94**	**9**	*e*	P	**Pb**	**15 18 25.4**	**-0.3**
	baz=8.0							
WNT				*e*	S	**Sn**	**15 18 39.1**	**0.0**
	baz=8.0							
HEN	**Hengchun**	**0.95**	**168**	*e*	P	**Pn**	**15 18 26.6**	**+0.2**
	baz=157							
HEN				*e*	S	**Sn**	**15 18 41.4**	**+2.0**
	baz=157							
WRL	**Guolierlin Hig**	**0.96**	**352**	*e*	P	**Pb**	**15 18 24.6**	**-1.4**
	baz=350							
WRL				*e*	S	**Sb**	**15 18 38.8**	**+0.4**
	baz=350							
SMST	**Manzhou Townsh**	**0.96**	**163**	*e*	P	**Pb**	**15 18 26.6**	**+0.5**
	baz=152							
SMST				*e*	S	**Sn**	**15 18 40.4**	**+0.8**
	baz=152							
VWDT	**VWDT**	**0.98**	**35**	*e*	P	**Pb**	**15 18 25.9**	**-0.4**
	baz=26							
VWDT				*e*	S	**Sb**	**15 18 39.5**	**+0.6**
	baz=26							
HGSD	**Ruisui**	**0.98**	**56**	⇑*i*	P	**Pb**	**15 18 26.7**	**+0.3**
	baz=51							
HGSD				*e*	S	**Sn**	**15 18 41.1**	**+0.9**
	baz=51							
SMLT	**Sun Moon Lake**	**0.99**	**20**		P	**Pb**	**15 18 26.7**	**+0.1**
	baz=19							
SMLT				*e*	S	**Sn**	**15 18 40.8**	**+0.2**
	baz=19							
TYC	**Yuchr**	**1.00**	**17**	*e*	P	**Pb**	**15 18 26.7**	**+0.1**
	baz=17							
TYC				*e*	S	**Sn**	**15 18 41.7**	**+1.1**
	baz=17							
TWK1	**Hengchun**	**1.03**	**166**		P	**Pb**	**15 18 27.1**	**0.0**
	baz=166							
TWK1				*e*	S	**Sg**	**15 18 42.6**	**+1.2**
	baz=166							
TWKBT	**Hengchun**	**1.03**	**165**	*e*	P	**Pb**	**15 18 26.6**	**-0.6**
	baz=166							
TWKBT				*e*	S	**Sg**	**15 18 42.4**	**+0.8**
	baz=166							
VCHM	**Qimei**	**1.05**	**285**		P	**Pb**	**15 18 25.9**	**-1.6**
	baz=284							
PNG	**Penghu**	**1.09**	**305**	⇓*i*	P	**Pb**	**15 18 26.4**	**-1.9**
	baz=304							
PNG					S	**Sb**	**15 18 40.9**	**-1.2**
	baz=304							
EGFH	**Guangfu**	**1.09**	**49**	*e*	P	**Pb**	**15 18 28.2**	**-0.1**
	baz=48							
EGFH				*e*	S	**Sb**	**15 18 42.3**	**+0.1**
	baz=48							
TSEB	**Hengchuen, Pin**	**1.09**	**162**	*e*	P	**Pg**	**15 18 29.4**	**+0.3**
	baz=164							
TSEB				*e*	S	**Sg**	**15 18 44.5**	**+1.0**
	baz=164							
WCHH	**Zhanghua**	**1.13**	**1**	*e*	P	**Pn**	**15 18 28.9**	**+0.1**
WCHH				*e*	S	**Sn**	**15 18 44.0**	**+0.2**
WPL	**Puli Township**	**1.13**	**20**	*i*	P	**Pb**	**15 18 29.1**	**+0.2**
	baz=19							
DPDB	**Guoxing**	**1.14**	**18**	*i*	P	**Pn**	**15 18 29.2**	**+0.2**
	baz=7.0							
WCS	**Beigang Elemen**	**1.16**	**17**	*e*	P	**Pn**	**15 18 28.2**	**-1.0**
	baz=17							
WCS				*e*	S	**Sb**	**15 18 44.4**	**+0.3**
	baz=17							
OWD	**Renai**	**1.17**	**30**	*e*	P	**Pn**	**15 18 29.3**	**-0.1**
	baz=18							
OWD				*e*	S	**Sn**	**15 18 45.6**	**+0.7**
	baz=18							
WUSB	**Renai**	**1.17**	**27**	⇑*i*	P	**Pn**	**15 18 29.2**	**-0.3**
	baz=26							
WUSB					S	**Sb**	**15 18 44.5**	**-0.1**
	baz=26							
ESL	**Shilin**	**1.20**	**44**	⇑*i*	P	**Pn**	**15 18 29.8**	**+0.1**
	baz=43							
ESL					S	**Sg**	**15 18 47.0**	**+0.2**
	baz=43							
TEGC	**Jichi Village**	**1.20**	**50**	*e*	P	**Pg**	**15 18 31.2**	**+0.1**
	baz=50							
TEGC				*e*	S	**Sg**	**15 18 49.1**	**+2.2**
	baz=50							
TCU	**Taichung**	**1.20**	**6**	*e*	P	**Pn**	**15 18 30.2**	**+0.4**
	baz=354							
TCU				*e*	S	**Sn**	**15 18 46.1**	**+0.5**
	baz=354							
CHGB	**Renai**	**1.26**	**28**	⇑*i*	P	**Pn**	**15 18 30.7**	**0.0**
	baz=27							
CHGB					S	**Sn**	**15 18 48.0**	**+0.7**
	baz=27							
LAY	**Lan-yu**	**1.30**	**134**	*e*	P	**Pn**	**15 18 30.2**	**-1.0**
	baz=132							
ETM	**Tongmen**	**1.34**	**41**	*i*	P	**Pb**	**15 18 32.9**	**+0.3**
	baz=48							
ETM				*e*	S	**Sg**	**15 18 51.7**	**+0.2**
	baz=48							
LYUB	**Lan-yu**	**1.35**	**134**	*e*	P	**Pn**	**15 18 29.6**	**-2.2**
	baz=132							
WHF	**Hehuan Shan**	**1.37**	**29**		P	**Pn**	**15 18 32.6**	**+0.

NACB					*e*S		**Sb**	**15 18 56.3**	**+0.6**
	baz=37								
ETL	**Fush Village**	**1.57**	**39**	*e*P		**Pb**	**15 18 36.3**	**-0.1**
	baz=39								
NMLH	**Miaoli**	**1.60**	**8**	*e*P		**Pn**	**15 18 36.2**	**+0.9**
	baz=7.0								
NMLH					*e*S		**Sb**	**15 18 58.2**	**+1.3**
	baz=7.0								
NNSB	**Datong**	**1.67**	**28**	*e*P		**Pn**	**15 18 37.2**	**+0.8**
	baz=27								
NNSB					*e*S		**Sb**	**15 18 59.2**	**+0.3**
	baz=27								
NNS	**Nan Shan**	**1.68**	**27**	P		**Pn**	**15 18 36.5**	**+0.1**
	baz=27								
NNS					S		**Sb**	**15 18 58.7**	**-0.3**
	baz=27								
NSTT	**Nanjuang**	**1.73**	**14**	*e*P		**Pn**	**15 18 37.2**	**+0.2**
	baz=13								
NSTT					*e*S		**Sn**	**15 18 59.4**	**+0.7**
	baz=13								
LIOB	**Emei**	**1.75**	**15**	*e*P		**Pn**	**15 18 37.7**	**+0.3**
	baz=14								
NFF	**Wufeng Townshi**	**1.76**	**18**	*e*P		**Pn**	**15 18 38.1**	**+0.6**
	baz=1.0								
LATG	**Datong**	**1.83**	**30**	*e*P		**Pn**	**15 18 39.4**	**+0.9**
	baz=12								
ENA	**Nanau**	**1.85**	**37**	*e*P		**Pn**	**15 18 39.5**	**+0.9**
	baz=36								
NDT	**Datong Townshi**	**1.88**	**28**	*e*P		**Pn**	**15 18 40.5**	**+1.5**
	baz=27								
NDT					*e*S		**Sb**	**15 19 05.1**	**+0.3**
	baz=27								
EWUT	**Wuta**	**1.88**	**37**	*e*P		**Pn**	**15 18 38.9**	**-0.2**
	baz=36								
EWUT					*e*S		**Sn**	**15 19 02.7**	**+0.4**
	baz=36								
NSK	**Sanguang**	**1.88**	**24**	*e*P		**Pn**	**15 18 39.7**	**+0.5**
	baz=23								
YHNB	**Yeheng**	**1.88**	**24**	*e*P		**Pn**	**15 18 39.8**	**+0.6**
	baz=24								
ENTT	**Nioudou**	**1.94**	**29**	*e*P		**Pn**	**15 18 40.8**	**+0.9**
	baz=13								
FUSB	**Fushanzhiwuyua**	**2.05**	**28**	*e*P		**Pn**	**15 18 43.0**	**+1.5**
	baz=12								
TWC	**Suao**	**2.05**	**36**	*e*P		**Pb**	**15 18 43.2**	**-1.3**
	baz=35								
TWE	**Neicheng**	**2.05**	**30**	*e*P		**Pb**	**15 18 43.4**	**-1.2**
	baz=13								
NTC	**Toucheng**	**2.24**	**32**	*e*P		**Pn**	**15 18 45.7**	**+1.6**
	baz=46								
VWUC	**VWUC**	**2.27**	**334**	*e*P		**Pn**	**15 18 43.5**	**-0.9**
	baz=335								
TIPB	**Shuangxi**	**2.34**	**30**	*e*P		**Pn**	**15 18 47.5**	**+2.1**
	baz=13								
YM01	**YM01**	**2.39**	**23**	*e*P		**Pn**	**15 18 48.2**	**+2.0**
	baz=23								
KNM	**Kinmen**	**2.42**	**308**	*e*P		**Pn**	**15 18 47.2**	**+0.8**
	baz=306								
TWB1	**Santiao Chiao**	**2.45**	**33**	*e*P		**Pb**	**15 18 50.1**	**-1.2**
	baz=16								
SXI1	**Grass Mountain**	**2.47**	**30**	*e*P		**Pn**	**15 18 49.4**	**+2.1**
	baz=14								
KNMB	**Chin-men Tao**	**2.48**	**308**	*e*P		**Pn**	**15 18 46.0**	**-1.3**
	baz=308								
JYNG	**Yonagunijimaku**	**2.67**	**55**	P		**Pn**	**15 18 51.4**	**+1.4**
JYNG					*e*S		**Sn**	**15 19 23.8**	**+2.0**
YOJ	**Yonaguni jima**	**2.73**	**56**	*e*P		**Pn**	**15 18 52.2**	**+1.5**
	baz=55								
YOJ	**Yonaguni jima**	**2.73**	**56**	P		**Pn**	**15 18 52.2**	**+1.5**
YOJ					*e*S		**Sn**	**15 19 25.3**	**+2.1**
ZPLA	**Ao Xicun**	**2.74**	**292**	*e*P		**Pn**	**15 18 49.5**	**-1.4**
	baz=291								
AXDP	**Jialang**	**3.05**	**310**	*e*P		**Pn**	**15 18 53.7**	**-1.5**
	baz=311								
HATJ	**Hateruma jima**	**3.20**	**69**	P		**Pn**	**15 18 57.7**	**+0.4**
HATJ					*e*S		**Sn**	**15 19 35.0**	**0.0**
IRIF	**Iriomote-Funau**	**3.24**	**64**	P		**Pn**	**15 18 59.0**	**+1.1**
IRIF					S		**Sn**	**15 19 38.5**	**+2.5**
MHZQ	**Yeshan**	**3.43**	**337**	*e*P		**Pn**	**15 18 59.6**	**-0.8**
	baz=339								
JKRS	**Kuro-shima**	**3.44**	**67**	P		**Pn**	**15 19 02.0**	**+1.4**
JKRS					*e*S		**Sn**	**15 19 41.8**	**+1.0**
JIJ	**Ishigaki jima**	**3.60**	**66**	P		**Pn**	**15 19 03.5**	**+0.8**
JIJ					S		**Sn**	**15 19 45.0**	**+0.2**
JISG	**Ishigakijimahi**	**3.83**	**64**	S		**Sn**	**15 19 50.7**	**+0.3**
JTJ	**Tarama**	**4.18**	**65**	P		**Sn**	**15 19 11.5**	**+0.8**
JTJ					S		**Sn**	**15 19 59.6**	**+0.6**
JIRB	**Irabujima**	**4.64**	**65**	*e*P		**Pn**	**15 19 17.9**	**+0.8**
JMJ2	**Miyako jima3**	**4.74**	**67**	P		**Pn**	**15 19 19.6**	**+1.2**
JMJ2					*e*S		**Sn**	**15 20 14.3**	**+1.4**
JIKM	**Ikemajima**	**4.74**	**65**	*e*P		**Pn**	**15 19 19.9**	**+1.4**
JOGS	**Gusukube**	**4.81**	**67**	P		**Pn**	**15 19 21.1**	**+1.7**
JOGS					*e*S		**Sn**	**15 20 16.6**	**+1.8**
CMAR	**Chiang Mai Arr**	**20.68**	**262**	LR		LR	15 31 46.5		
	comp=Z,19nm,19.3s,baz=60,slow=36								
WRA	**Warramunga Arr**	**44.71**	**161**	P		**P**	**15 26 17.6**	**-2.4**
	0.6nm,0.6s,baz=344,slow=8.7,SNR=8.4								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**48.12**	**163**	P		**P**	**15 26 45.6**	**-1.3**
	0.2nm,0.5s,baz=354,slow=14,SNR=12								
	0.2nm,0.5s								
STKA	**Stephens Creek**	**58.12**	**159**	LR		LR	15 57 39.3		
	comp=Z,46nm,18.8s,baz=30,slow=42								
FINES	**FINESS Array B**	**72.21**	**330**	P		P	15 29 55.7	+24	
	1.1nm,1.0s,baz=69,slow=4.6,SNR=3.5								
	1.1nm,1.0s								

DDA ***09*** *15:22:09.7±0.0,35.°72N×28.°05E, h9km±1km, ML3.0*
ISK ***09*** *15:22:12.1,35.°86N×28.°21E, h5km, ML3.1/18*
NIC ***09*** *15:22:12.3±0.0,35.°86N×28.°21E, h8km±2km, Ml3.3/5*
ATH ***09*** *15:22:13.1,35.°87N×28.°21E, h9km±2km, ML3.0/6, Error ellipse: s-maj=5.1km s-min=1.4km az=112.0*
THE ***09*** *15:22:13.6,35.°88N×28.°12E, h3km±4km, ML2.9/4, Error ellipse: s-maj=5.9km s-min=1.2km az=127.0*

ISC 09 15:22:13.1±1.1,35.°88N±0.°02×28.°18E±0.°02, h11km±8km, n57,σ1°9°09/90, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.34**	**353**	P	**Pg**	**15 22 19.7**	**-0.3**
ARG				S	**Sb**	**15 22 26.1**	**-0.7**
	2μm,0.2s						
ARG	**Arkhangelos**	**0.34**	**353**	PG	**Pg**	**15 22 19.7**	**-0.3**
ARG				SG	**Sb**	**15 22 26.0**	**-0.7**
ARG	**Arkhangelos**	**0.34**	**353**	P	**Pg**	**15 22 19.7**	**-0.3**
ARG				S	**Sb**	**15 22 26.0**	**-0.7**
ARG	**Arkhangelos**	**0.34**	**353**	P	**Pg**	**15 22 19.6**	**-0.3**
ARG				S	**Sg**	**15 22 25.4**	**+0.9**
ARG				AML	AML	15 22 29.9	
	comp=E,4324μm,0.2s						
ARG				AML	AML	15 22 30.7	
	comp=N,2758μm,0.3s						
KARP	**Karpathos**	**0.89**	**249**	P	**Pb**	**15 22 30.1**	**-0.5**
KARP				S	**Sb**	**15 22 42.3**	**-0.2**
	comp=N,620nm,0.3s						
KARP	**Karpathos**	**0.89**	**249**	PG	**Pb**	**15 22 30.1**	**-0.5**
KARP				SG	**Sb**	**15 22 42.9**	**+0.4**
KARP	**Karpathos**	**0.89**	**249**	P	**Pg**	**15 22 29.9**	**-0.3**
KARP				S	**Sb**	**15 22 43.2**	**+0.7**
KARP				AML	AML	15 22 48.8	
	comp=N,1.5nm,0.5s						
KARP				AML	AML	15 22 48.8	
	comp=N,1.5nm,0.5s						
KARP				AML	AML	15 22 51.5	
	comp=N,1.2nm,0.5s						
KARP				AML	AML	15 22 51.5	
	comp=N,1.2nm,0.5s						
KARP	**Karpathos**	**0.89**	**249**	P	**Pg**	**15 22 29.9**	**-0.3**
KARP				S	**Sb**	**15 22 42.8**	**+0.3**
KARP				AML	AML	15 22 49.2	
	comp=N,1481μm,0.5s						
KARP				AML	AML	15 22 52.0	
	comp=E,957μm,0.2s						
TURN	**Turunc**	**0.90**	**3**	PG	**Pg**	**15 22 29.9**	**-0.5**
TURN				SG	**Sb**	**15 22 43.4**	**+0.7**
TURN	**Turunc**	**0.90**	**3**	P	**Pb**	**15 22 30.2**	**-0.5**
TURN				S	**Sn**	**15 22 44.3**	**-0.4**
DALY	**Dalyan (Mula)**	**1.01**	**22**	PG	**Pg**	**15 22 32.0**	**-0.6**
DALY				SG	**Sb**	**15 22 46.6**	**+0.6**
FETY	**Fethiye**	**1.05**	**44**	PG	**Pg**	**15 22 32.5**	**-0.9**
FETY				SG	**Sn**	**15 22 47.8**	**-0.7**
NIS1	**Nisyros Isl.**	**1.09**	**312**	P	**Pg**	**15 22 33.6**	**-0.4**
NIS1				S	**Sg**	**15 22 48.2**	**0.0**
	comp=E,2μm,0.7s						
NIS1	**Nisyros Isl.**	**1.09**	**312**	PN	**Pb**	**15 22 33.9**	**0.0**
NIS1				SN	**Sn**	**15 22 49.6**	**+0.3**
NIS1	**Nisyros Isl.**	**1.09**	**312**	P	**Pg**	**15 22 33.5**	**-0.4**
NIS1				S	**Sb**	**15 22 48.5**	**+0.4**
NIS1				AML	AML	15 22 56.4	
	comp=N,4110μm,0.8s						
NIS1				AML	AML	15 22 57.0	
	comp=E,4220μm,0.7s						
NISR	**Nisiros**	**1.12**	**311**	P	**Pn**	**15 22 35.0**	**+0.3**
NISR				S	**Sb**	**15 22 49.7**	**+0.6**
NISR	**Nisiros**	**1.12**	**311**	P	**Pg**	**15 22 34.4**	**-0.3**
NISR				AML	AML	15 22 56.6	
	comp=N,1271μm,0.4s						
NISR				AML	AML	15 22 57.3	
	comp=E,1725μm,0.6s						
AKAS	**Kas**	**1.21**	**72**	PN	**Pn**	**15 22 35.4**	**-0.7**
AKAS	**Kas**	**1.21**	**72**	P	**Pg**	**15 22 35.0**	**-1.3**
AKAS				S	**Sn**	**15 22 54.1**	**+1.6**
AKAS				*i* AML	AML	15 23 03.0	
	comp=E,235nm,0.5s						
AKAS				*i* AML	AML	15 23 07.0	
	comp=E,186nm,0.6s						
YER	**Yerkesik**	**1.26**	**4**	P	**Pg**	**15 22 36.8**	**-0.5**
YER				S	**Sg**	**15 22 53.4**	**-0.3**
YER	**Yerkesik**	**1.26**	**4**	PN	**Pg**	**15 22 37.1**	**-0.2**
KOSK	**Kos Island**	**1.31**	**312**	PN	**Pg**	**15 22 37.8**	**-0.4**
KOSK	**Kos Island**	**1.31**	**312**	P	**Pg**	**15 22 38.5**	**+0.4**
KOSK				AML	AML	15 22 59.9	
	comp=E,1342μm,0.5s						
KOSK				AML	AML	15 23 02.6	
	comp=N,1617μm,0.4s						
BDRM	**Kayabasi**	**1.33**	**334**	P	**Pb**	**15 22 37.9**	**-0.1**
BDRM				S	**Sg**	**15 22 56.3**	**+0.4**
BDRM				*i* AML	AML	15 23 00.0	
	comp=N,213nm,0.4s						
BDRM				*i* AML	AML	15 23 03.0	
	comp=N,166nm,0.8s						
BODT	**Bodrum**	**1.38**	**330**	P	**Pn**	**15 22 37.6**	**-0.7**
BODT				S	**Sb**	**15 22 56.5**	**+0.1**
BODT	**Bodrum**	**1.38**	**330**	PN	**Pn**	**15 22 37.5**	**-0.7**
MULA	**Mugla, Merkez-**	**1.38**	**5**	P	**Pg**	**15 22 39.1**	**-0.5**
MULA				S	**Sg**	**15 23 01.6**	**+4.0**
CAME	**Cameli-Denizli**	**1.40**	**40**	PN	**Pb**	**15 22 38.8**	**-0.5**
ELL	**Elmali**	**1.65**	**58**	PN	**Pb**	**15 22 42.3**	**-1.2**
TAVA	**DENIZLI_Tavas**	**1.69**	**20**	P	**Pg**	**15 22 44.5**	**-1.1**
TAVA				S	**Sg**	**15 23 10.5**	**+2.9**
GOLH	**Golhisar**	**1.76**	**39**	P	**Pg**	**15 22 46.0**	**-0.8**
GOLH				S	**Sg**	**15 23 13.1**	**+3.5**
ZKR	**Zakros**	**1.77**	**245**	PN	**Pb**	**15 22 44.4**	**-1.2**
ZKR	**Zakros**	**1.77**	**245**	S	**Sb**	**15 23 07.4**	**-0.4**
ZKR	**Zakros**	**1.77**	**245**	P	**Pb**	**15 22 45.6**	**+0.1**
ZKR				S	**Sg**	**15 23 09.0**	**-1.0**
ZKR				AML	AML	15 23 17.5	
	comp=E,417μm,0.5s						
ZKR				AML	AML	15 23 21.0	
	comp=N,168μm,0.5s						
AYDN	**Tasoluk**	**1.80**	**352**	P	**Pb**	**15 22 45.6**	**-0.4**
AYDN				S	**Sb**	**15 23 09.0**	**+0.4**
AYDN				*i* AML	AML	15 23 16.0	
	comp=N,122nm,0.5s						
STIA	**Sitia Lasithi**	**1.83**	**249**	P	**Pb**	**15 22 46.6**	**+0.1**
APMY	**Acipayam-Deniz**	**1.83**	**29**	PN	**Pb**	**15 22 45.3**	**-1.3**
GCAM	**G?zelcaml?**	**1.97**	**338**	PN	**Pb**	**15 22 47.6**	**-1.4**
GCAM	**G?zelcaml?**	**1.97**	**338**	P	**Pn**	**15 22 47.3**	**+0.9**
GCAM				S	**Sb**	**15 23 13.0**	**-0.6**
GCAM				*i* AML	AML	15 23 17.0	
	comp=N,113nm,0.7s						
GCAM				*i* AML	AML	15 23 21.0	
	comp=N,116nm,0.5s						
KORT	**Korkueli**	**2.08**	**57**	PN	**Pn**	**15 22 48.6**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.08**	**354**	PN	**Pn**	**15 22 48.9**	**+0.9**
SMG	**Samos**	**2.12**	**330**	P	**Pn**	**15 22 48.9**	**+0.4**
SMG				S	**Sn**	**15 23 15.3**	**+0.4**
	comp=N,200nm,0.4s						
SANT	**Santorini**	**2.26**	**283**	PN	**Pn**	**15 22 51.6**	**+1.2**
PASA	**Karahalli, USA**	**2.68**	**23**	P	**Pn**	**15 22 57.7**	**+1.4**
PASA				S	**Sg**	**15 23 38.6**	**-0.6**
ZEYE	**Izmir, Urla-Ze**	**2.71**	**331**	P	**Pn**	**15 22 56.3**	**-0.3**
ZEYE				S	**Sn**	**15 23 27.5**	**-1.9**
ZEYE				*i* AML	AML	15 23 43.0	
	comp=N,46nm,0.6s						
URLA	**Izmir**	**2.79**	**333**	P	**Pn**	**15 22 57.3**	**-0.4**
URLA				S	**Sn**	**15 23 30.7**	**-0.5**
URLA				*i* AML	AML	15 23 48.0	
	comp=N,42nm,0.6s						
USAK	**Uak-Merkez**	**2.91**	**13**	P	**Pb**	**15 23 02.1**	**-2.9**
USAK				S	**Sb**	**15 23 39.4**	**-1.3**
KEPZ	**Antalya-Kepez**	**2.95**	**69**	P	**Pn**	**15 23 01.9**	**+2.1**
KEPZ				S	**Sn**	**15 23 37.3**	**+2.1**
SEDI	**Konya, Seydise**	**3.28**	**60**	P	**Pn**	**15 23 04.6**	**+0.2**
SEDI				S	**Sn**	**15 23 46.1**	**+2.6**
SEDI				*i* AML	AML	15 23 50.0	
	comp=N,50nm,0.6s						
OSC1	**CSNet OBS 1**	**3.48**	**132**	S	**Sn**	**15 23 49.8**	**+1.5**
AKMS	**Akamas**	**3.50**	**103**	P	**Pn**	**15 23 06.8**	**-0.6**
AKMS				AML	AML	15 23 47.8	
	comp=N,0.1nm,1.1s						
AKMS				AML	AML	15 23 54.9	
	comp=N,0.2nm,0.7s						
ALFC	**Alefka**	**3.68**	**100**	P	**Pn**	**15 23 09.2**	**-0.7**
ALFC				AML	AML	15 23 51.1	
	comp=N,0.2nm,1.2s						
ALFC				AML	AML	15 23 55.6	
	comp=N,0.1nm,0.9s						
NATA	**Nata**	**3.75**	**106**	P	**Pn**	**15 23 10.7**	**-0.3**
NATA				AML	AML	15 23 57.3	
	comp=N,0.4nm,0.4s						
NATA				AML	AML	15 23 57.7	
	comp=N,0.2nm,0.4s						
SZAC	**Souni**	**4.00**	**105**	P	**Pn**	**15 23 14.0**	**-0.4**
SZAC				AML	AML	15 24 02.6	
	comp=N,0.1nm,0.4s						
SZAC				AML	AML	15 24 02.9	
	comp=N,0.1nm,0.5s						
ASGA	**Asgata**	**4.28**	**103**	P	**Pn**	**15 23 17.7**	**-0.5**
CSS	**Mathiatis**	**4.30**	**101**	P	**Pn**	**15 23 17.9**	**-0.6**
MVOU	**Mavrovouni**	**4.53**	**99**	P	**Pn**	**15 23 20.9**	**-0.7**

NEIC ***09*** *15:27:29.9±2.0,0.°09S±0.°07×123.°81E±0.°02, h100km±7km, mb4.6/40, Error ellipse: s-maj=10.1km s-min=3.2km az=174.0*
IDC ***09*** *15:27:29.2±1.5,0.°03N×123.°78E, h97km±12km, mb4.1/21, mbtmp4.5/23, MS3.0/12, Error ellipse: s-maj=15.9km s-min=9.2km az=65.0*
DJA ***09*** *15:27:30.6±0.1,0.°S±2.°×12.°4E±.°, h96km±2km, M4.7/40, mB5.2/15, mb4.8/40, MLv5.0/25, Mw(mB)4.5/15*

ISC 09 15:27:30.5±0.7,0.°04S±0.°04×123.°84E±0.°05, h108km±6km, n174,σ1°44/183, mb4.6/53, 2C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.63**	**13**	P	**Pn**	**15 27 47.4**	**-0.8**
LUWI	**Luwuk**	**1.46**	**227**		**Pn**	**15 27 54.0**	**-2.7**
LUWI	**Luwuk**	**1.46**	**227**	P	**Pn**	**15 27 56.0**	**-0.8**
LUWI	**Luwuk**	**1.46**	**227**	P	**Pn**	**15 27 58.2**	**+1.4**
MRSI	**Marisa**	**1.96**	**285**	P	**Pn**	**15 28 00.8**	**-2.2**
APSI	**Ampana**	**2.35**	**248**	P	**Pn**	**15 28 07.3**	**-0.7**
SANI	**Sanana**	**2.94**	**133**	P	**Pn**	**15 28 12.3**	**-3.4**
SANI	**Sanana**	**2.94**	**133**	P	**Pn**	**15 28 12.5**	**-3.2**
TOLI2	**Tolitoli**	**3.26**	**291**	Pn	**Pn**	**15 28 18.9**	**-1.1**
TOLI2	**Tolitoli**	**3.26**	**291**	P	**Pn**	**15 28 20.6**	**+0.6**
TNTI	**Ternate**	**3.62**	**77**	Pn	**Pn**	**15 28 24.0**	**-0.8**
TNTI	**Ternate**	**3.62**	**77**	P	**Pn**	**15 28 24.6**	**-0.2**
TNTI	**Ternate**	**3.62**	**77**	P	**Pn**	**15 28 25.0**	**+0.2**
LBMI	**Labuha**	**3.71**	**99**	P	**Pn**	**15 28 24.9**	**-1.1**
MPSI	**Mapaga**	**3.96**	**275**	P	**Pn**	**15 28 30.7**	**+1.4**
SGSI	**Sangihe**	**4.07**	**25**	P	**Pn**	**15 28 31.2**	**+0.4**
NLAI	**Namlea**	**4.55**	**134**	P	**Pn**	**15 28 35.8**	**-1.6**
TTSI	**Tana Toraja**	**5.00**	**233**	P	**Pn**	**15 28 42.9**	**-0.5**
BBSI	**Bau Bau**	**5.56**	**193**	P	**Pn**	**15 28 50.8**	**-0.1**
	0.1nm228nm20nm,0.6s						
SPSI	**Sidrap Palu**	**5.63**	**226**	P	**Pn**	**15 28 51.6**	**-0.3**
	1.8nm4μm502nm,0.6s						
AAI	**Ambon**	**5.67**	**130**	P	**Pn**	**15 28 52.2**	**-0.2**
	0.7nm2μm122nm,0.5s						
MSAI	**Masohi**	**6.06**	**123**	P	**Pn**	**15 28 56.2**	**-1.5**
	0.4nm2μm59nm,0.6s						
DDMP	**Don Marcelino,**	**6.38**	**17**	*e*P	**Pn**	**15 29 03.0**	**+0.8**
DDMP				*e*S	**Sn**	**15 30 18.0**	**+4.4**
KAPI	**Kappang**	**6.41**	**219**	Pn	**Pn**	**15 29 02.0**	**-0.5**
KAPI	**Kappang**	**6.41**	**219**	P	**Pn**	**15 29 02.3**	**-0.2**
BKSI	**Bulukumba**	**6.42**	**215**	P	**Pn**	**15 29 02.1**	**-0.6**
	0.5nm888nm89nm,0.6s						
SKMP	**Bagumbayan, Su**	**6.55**	**6**	*e*P	**Pn**	**15 29 05.1**	**+0.7**
SKMP				*e*S	**Sn**	**15 30 14.7**	**-3.1**
SMKI	**Samarinda**	**6.64**	**267**	P	**Pn**	**15 29 06.7**	**+1.1**
	1.2nm292nm,0.7s						
BSSI	**Bau Bau, Buton**	**6.92**	**209**	P	**Pn**	**15 29 09.0**	**-0.5**
	1.0nm3μm256nm,0.7s						
BKB	**Balikpapan**	**7.04**	**260**	P	**Pn**	**15 29 12.7**	**+1.6**
	0.9nm265nm,0.8s						
KCP	**Kidapawan**	**7.11**	**10**	*i*P	**Pn**	**15 29 15.8**	**+3.7**
KCP				*i* S	**Sn**	**15 30 32.4**	**+0.9**
CTBH	**Cotabato--PC H**	**7.22**	**3**	*i*P	**Pn**	**15 29 14.9**	**+1.4**
DAV	**Davao City (W)**	**7.27**	**14**	LR	LR	15 32 37.6	
	comp=Z,41nm,20.2s,baz=148,slow=43						
MYLDM	**Lahad Datu**	**7.44**	**314**	Pn	**Pn**	**15 29 20.0**	**+3.5**
SIJI	**Sorong**	**7.47**	**96**	P	**Pn**	**15 29 15.3**	**-1.6**
	14nm,0.3s,baz=223,slow=23,SNR=9.1						
SIJI				S	**Sn**	**15 30 39.9**	**-0.4**
	12nm,0.5s,baz=284,slow=23,SNR=1.1						
PAGZ	**Pagadian**	**7.85**	**357**	*e*P	**Pn**	**15 29 24.1**	**+2.1**
PAGZ				*e*S	**Sn**	**15 30 45.6**	**-3.7**
FAKI	**Fak Fak**	**8.88**	**109**	Pn	**Pn**	**15 29 34.4**	**-1.6**
FAKI	**Fak Fak**	**8.88**	**109**	P	**Pn**	**15 29 35.3**	**-0.8**
	41nm,0.7s						
FAKI	**Fak Fak**	**8.88**	**109**	P	**Pn**	**15 29 34.7**	**-1.4**
EDFI	**Ende, Flores**	**8.91**	**194**	P	**Pn**	**15 29 34.7**	**-1.9**
	14nm,0.6s						
MTKI	**Muara Teweh, K**	**8.98**	**264**	P	**Pn**	**15 29 38.0**	**+0.5**
	37nm,0.6s						
BBKI	**Banjar Baru**	**9.61**	**249**	P	**Pn**	**15 29 47.1**	**+1.1**
	2μm37nm,0.6s						
KKM	**Kota Kinabalu**	**9.72**	**309**	Pn	**Pn**	**15 29 49.5**	**+2.0**
KKM	**Kota Kinabalu**	**9.72**	**309**	P	**Pn**	**15 29 49.9**	**+2.4**
RKPI	**Ransiki, Papua**	**10.44**	**98**	P	Pn	15 30 11.7	+14
PLAI	**Plampang**	**10.61**	**215**	P	**Pn**	**15 30 00.6**	**+1.0**
SBUM	**Sibu**	**11.87**	**282**	Pn	**Pn**	**15 30 12.0**	**-4.4**
KMMI	**Kalianget**	**12.06**	**235**	P	**P**	**15 30 30.1**	**+3.0**
STKI	**Sintang**	**12.36**	**270**	P	**Pn**	**15 30 24.0**	**+1.1**
	24nm,0.6s						
JAGI	**Jajag, Banyuwa**	**12.78**	**229**	P	**Pn**	**15 30 29.8**	**+1.4**
MTN	**Manton Dam**	**14.63**	**151**	Pn	**Pn**	**15 30 51.8**	**-0.6**
MTN	**Manton Dam**	**14.63**	**151**	P	**Pn**	**15 30 52.2**	**-0.2**
PCJI	**Pacitan**	**14.99**	**237**	P	**P**	**15 30 59.2**	**-0.5**
	200nm,0.7s						
SMPI	**Sarmi**	**15.00**	**98**	P	**Pn**	**15 30 57.6**	**+0.6**
	24nm,1.2s						
KNRA	**Kununurra**	**16.28**	**163**		**Pn**	**15 31 12.5**	**-0.5**
KNRA				IAmb	IAmb	15 31 22.5	
	comp=Z,19nm,0.8s						
KNRA	**Kununurra**	**16.28**	**163**	P	**Pn**	**15 31 13.2**	**+0.2**
LEM	**Lembang**	**17.53**	**247**	P	**Pn**	**15 31 28.7**	**+0.3**
	comp=Z,95nm,0.9s,baz=308,slow=19,SNR=9.4						
LEM				LR	LR	15 38 37.2	
	comp=Z,194nm,21.2s,baz=51,slow=38						
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**P**	**15 31 33.4**	**+0.1**
	comp=Z,7.1nm,0.8s,baz=346,slow=5.4,SNR=14						
FITZ				ScP	**ScP**	**15 39 30.5**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=220,slow=2.0,SNR=5.1						
FITZ				LR	LR	15 40 00.8	
	comp=Z,39nm,19.0s,baz=352,slow=42						
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**P**	**15 31 32.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**P**	**15 31 33.3**	**+0.1**
CBJI	**Citeko**	**18.10**	**249**	P	**P**	**15 31 34.7**	**+0.7**
	comp=Z,110nm,0.8s						
DBJI	**Dramaga**	**18.24**	**249**	P	**Pn**	**15 31 36.9**	**+0.1**
	comp=Z,17μmcomp=Z,65nm,1.1s						
DSRI	**Dabo**	**19.26**	**269**	P	**P**	**15 31 47.3**	**+0.5**
	comp=Z,514nmcomp=Z,47nm,0.8s						
MYKOM	**Kota Tinggi**	**20.07**	**275**	P	**P**	**15 31 55.8**	**+0.3**
MYKOM				IAmb	IAmb	15 31 57.5	
	comp=Z,23nm,0.6s						
MBWA	**Marble Bar**	**21.37**	**191**	P	**P**	**15 32 08.5**	**-0.9**
MBWA				IAmb	IAmb	15 32 09.9	
	comp=Z,17nm,0.8s						
PSA00	**Pilbara Seismi**	**21.75**	**190**	P	**P**	**15 32 12.5**	**-1.0**
PSA00				IAmb	IAmb	15 32 13.9	
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**21.75**	**190**	P	**P**	**15 32 11.6**	**-1.8**
PSA00				IAmb	IAmb	15 32 13.9	
	comp=Z,6.5nm,1.0s						
MASI	**Maura Aman, Be**	**21.80**	**262**	P	**P**	**15 32 14.9**	**+0.7**
	comp=Z,84nm,0.9s						
WB0	**Warramunga Arr**	**22.17**	**153**	P	**P**	**15 32 16.7**	**-

PZH	**PanZhiHua**	**33.90**	**323**	P		**P**		**15 34 05.6**	**+2.2**	
PZH				pmax		pmax				
	comp=Z,10.0nm,0.9s									
PZH				pmax		pmax				
	comp=Z,100nm,4.4s									
JTU	**Tsushima**	**34.78**	**8**	P		**P**		**15 34 10.0**	**-0.6**	
JMN	**Monobe**	**34.89**	**15**	P		**P**		**15 34 11.7**	**0.0**	
STKA	**Stephens Creek**	**35.85**	**154**	P		**P**		**15 34 20.7**	**+0.8**	
	comp=Z,8.2nm,0.5s,baz=335,slow=8.2,SNR=35									
STKA				PcP		**PcP**		**15 36 45.1**	**-0.1**	
	comp=Z,2.3nm,0.8s,baz=0.0,slow=4.0,SNR=2.8									
	comp=Z,8.2nm,0.5s									
STKA	**Stephens Creek**	**35.85**	**154**	P		**P**		**15 34 20.4**	**+0.5**	
STKA				PcP		**PcP**		**15 36 45.5**	**+0.4**	
STKA	**Stephens Creek**	**35.85**	**154**	P		**P**		**15 34 20.9**	**+1.0**	
JHS	**Saijyo**	**35.92**	**13**	P		**P**		**15 34 21.6**	**+1.1**	
JHJ	**Hachijo jima 2**	**36.24**	**23**	LR		LR		15 52 54.1		
	comp=Z,10nm,18.6s,baz=216,slow=42									
JHJ2	**Mitsune**	**36.25**	**23**	P		**P**		**15 34 24.7**	**+1.4**	
XAN	**Xi'an**	**36.68**	**339**	P		**P**		**15 34 27.6**	**+0.6**	
XAN				pmax		pmax				
	comp=Z,10.0nm,0.9s									
KSRS	**Korea Array**	**37.50**	**5**	P		**P**		**15 34 33.9**	**0.0**	
	comp=Z,2.0nm,0.6s,baz=182,slow=9.4,SNR=8.6									
KSRS				PcP		**PcP**		**15 36 50.4**	**+0.4**	
	comp=Z,1.1nm,0.7s,baz=154,slow=1.3,SNR=4.8									
KSRS				ScP		**ScP**		**15 40 29.1**	**+1.5**	
	comp=Z,1.4nm,0.8s,baz=197,slow=2.6,SNR=4.8									
KSRS				LR		LR		15 50 01.2		
	comp=Z,13nm,21.9s,baz=180,slow=36									
	comp=Z,2.0nm,0.6s									
CMSA	**Cobar Meteorol**	**37.55**	**149**	P		**P**		**15 34 36.0**	**+1.6**	
MJAR	**Matsushiro Arr**	**38.77**	**19**	P		**P**		**15 34 43.2**	**-1.3**	
	comp=Z,6.7nm,0.6s,baz=186,slow=9.6,SNR=20									
MJAR				LR		LR		15 52 20.6		
	comp=Z,25nm,18.6s,baz=194,slow=38									
	comp=Z,6.7nm,0.6s									
MAJO	**Matsushiro**	**38.77**	**19**	P		**P**		**15 34 42.2**	**-2.3**	
MAJO				IAmb		IAmb		15 34 43.9		
	comp=Z,10nm,0.7s									
ARMA	**Armidale**	**40.13**	**141**	P		**P**		**15 34 56.1**	**-0.1**	
ARMA				IAmb		IAmb		15 34 58.5		
	comp=Z,13nm,0.8s									
ARMA	**Armidale**	**40.13**	**141**	P		**P**		**15 34 57.0**	**+0.9**	
ARPS	**Mount Arapiles**	**40.18**	**157**	P		**P**		**15 34 57.4**	**+1.2**	
LZH	**Lanzhou**	**40.47**	**335**	*e*P		**P**		**15 34 59.5**	**+0.7**	
LZH				pP		pP		15 35 25.5	+1.6	
LZH				sP		sP		15 35 38.9	+2.6	
LZH				pmax		pmax				
	comp=Z,16nm,1.2s									
JMM	**Marumori**	**40.83**	**21**	P		**P**		**15 35 01.8**	**+0.2**	
JMM				IAmb		IAmb		15 35 13.5		
	comp=Z,11nm,0.7s									
HHC	**Hu-ho-hao-te**	**42.20**	**346**	*e*P		**P**		**15 35 15.0**	**+2.2**	
HHC				pmax		pmax				
	comp=Z,34nm,1.0s									
HHC				pmax		pmax				
	comp=Z,140nm,4.5s									
CAN	**Canberra**	**42.22**	**149**	P		**P**		**15 35 14.1**	**+1.0**	
CAN				IAmb		IAmb		15 35 16.2		
	comp=Z,16nm,0.9s									
CAN	**Canberra**	**42.22**	**149**	P		**P**		**15 35 15.0**	**+1.9**	
TOO	**Toolangi**	**42.36**	**154**	P		**P**		**15 35 14.8**	**+0.7**	
TOO				IAmb		IAmb		15 35 29.0		
	comp=Z,8.2nm,1.1s									
CNB	**Canberra Magne**	**42.41**	**148**	P		**P**		**15 35 16.6**	**+2.0**	
JTM	**Tenmabayashi**	**43.55**	**19**	P		**P**		**15 35 23.7**	**+0.1**	
PALK	**Pallekele**	**43.62**	**281**	LR		LR		15 53 17.9		
	comp=Z,55nm,18.3s,baz=217,slow=36									
CN2	**Changchun**	**43.67**	**2**	*e*P		**P**		**15 35 27.2**	**+2.7**	
CN2				pmax		pmax				
	comp=Z,10.0nm,0.7s									
USA0B	**Ussuriysk Arra**	**44.64**	**8**	P		**P**		**15 35 32.4**	**+0.2**	
USA0B				IAmb		IAmb		15 35 44.1		
	comp=Z,5.4nm,0.9s									
USRK	**Ussuriysk Ar.**	**44.64**	**8**	P		**P**		**15 35 32.3**	**0.0**	
	comp=Z,8.1nm,0.4s,baz=195,slow=6.7,SNR=53									
	comp=Z,8.1nm,0.4s									
GTA	**Gaotai**	**44.99**	**334**	*e*P		**P**		**15 35 36.6**	**+1.3**	
GTA				pP		pP		15 36 04.6	+3.8	
GTA				sP		sP		15 36 23.9	+11	
GTA				pmax		pmax				
	comp=Z,5.0nm,1.3s									
GTA				pmax		pmax				
	comp=Z,57nm,4.7s									
GTA				LR		LR				
	comp=N,63nm,16.0s									
GTA				LR		LR				
	comp=E,68nm,15.6s									
GTA				LR		LR				
	comp=Z,56nm,16.4s									
DZM	**Mont Dzumac**	**46.92**	**121**	*e*LR		LR		15 49 13.7		
	comp=Z,100nm,23.1s									
YSS	**Yuzh-Sakhalins**	**49.65**	**17**	P		**P**		**15 36 10.4**	**-0.7**	
YSS				IAmb		IAmb		15 36 25.5		
	comp=Z,11nm,0.9s									
YSS	**Yuzh-Sakhalins**	**49.65**	**17**	P		**P**		**15 36 13.1**	**+2.1**	
	comp=Z,50nm,1.7s									
SONM	**Songino Array**	**50.04**	**345**	P		**P**		**15 36 13.5**	**-0.7**	
	comp=Z,1.9nm,0.7s,baz=158,slow=9.9,SNR=8.9									
	comp=Z,1.9nm,0.7s									
WMQ	**Urumqi**	**54.26**	**328**	*e*P		**P**		**15 36 48.3**	**+2.8**	
MK31	**Makanchi Array**	**59.09**	**328**	P		**P**		**15 37 18.7**	**-0.8**	
MK31				PcP		**PcP**		**15 38 06.1**	**-1.0**	
MKAR	**Makanchi Array**	**59.09**	**328**	P		**P**		**15 37 18.9**	**-0.6**	
	comp=Z,7.6nm,0.5s,baz=122,slow=8.2,SNR=88									
MKAR				PcP		**PcP**		**15 38 05.8**	**-1.4**	
	comp=Z,2.3nm,0.5s,baz=160,slow=3.3,SNR=9.6									
MKAR				ScP		**ScP**		**15 41 56.9**	**-1.1**	
	comp=Z,0.6nm,0.8s,baz=140,slow=5.6,SNR=4.0									
	comp=Z,7.6nm,0.5s									
MKAR	**Makanchi Array**	**59.09**	**328**	P		**P**		**15 37 18.7**	**-0.8**	
MAKZ	**Makanchi**	**59.26**	**328**	P		**P**		**15 37 20.1**	**-0.6**	
MAKZ				PcP		**PcP**		**15 38 06.4**	**-1.5**	
PEA0B	**Petropavlovsk-**	**59.99**	**23**	P		**P**		**15 37 25.8**	**+0.2**	
PETK	**Petropavlovsk-**	**59.99**	**23**	P		**P**		**15 37 25.7**	**+0.1**	
	comp=Z,8.3nm,0.8s,baz=218,slow=5.3,SNR=30									
	comp=Z,8.3nm,0.8s									
PETK	**Petropavlovsk-**	**59.99**	**23**	P		**P**		**15 37 25.9**	**+0.3**	
PET	**Petropavlovsk**	**60.31**	**23**	P		**P**		**15 37 28.1**	**+0.4**	
PET				IAmb		IAmb		15 37 28.8		
	comp=Z,11nm,0.9s									
PET	**Petropavlovsk**	**60.31**	**23**	P		**P**		**15 37 31.0**	**+3.3**	
	comp=Z,54nm,0.8s									
RPZ	**Rata Peaks**	**60.46**	**142**	P		**P**		**15 37 30.2**	**+1.2**	
	comp=Z,19nm,1.0s,baz=266,slow=2.5,SNR=5.6									
	comp=Z,19nm,1.0s									
RPZ	**Rata Peaks**	**60.46**	**142**	P		**P**		**15 37 30.4**	**+1.4**	
KBL	**Kabul**	**61.61**	**310**	P		**P**		**15 37 35.5**	**-1.7**	
KBL				IAmb		IAmb		15 37 38.8		
	comp=Z,5.2nm,0.5s									
BKZ	**Black Stump Fm**	**61.84**	**135**	P		**P**		**15 37 37.8**	**-0.6**	
BKZ	**Black Stump Fm**	**61.84**	**135**	P		**P**		**15 37 38.8**	**+0.4**	
URZ	**Urewera**	**61.89**	**134**	P		**P**		**15 37 39.2**	**+0.5**	
	comp=Z,8.5nm,0.8s,baz=210,slow=2.5,SNR=1.9									
	comp=Z,8.5nm,0.8s									
ZALV	**Zalesovo Beam**	**62.70**	**335**	P		**P**		**15 37 41.7**	**-2.0**	
	comp=Z,0.6nm,0.3s,baz=106,slow=4.9,SNR=3.4									
	comp=Z,0.6nm,0.3s									
MA2	**Magadan**	**63.05**	**15**	P		**P**		**15 37 46.9**	**+0.9**	
	comp=Z,39nm,1.3s									
KURK	**Kurchatov**	**63.43**	**330**	P		**P**		**15 37 47.4**	**-1.3**	
TIXI	**Tiksi**	**71.65**	**2**	P		**P**		**15 38 38.9**	**-1.1**	
TIXI				IAmb		IAmb		15 38 39.5		
	comp=Z,12nm,0.7s									
ABKAR	**Akbulak array**	**73.27**	**322**	P		**P**		**15 38 47.4**	**-2.7**	
NRIK	**Noril'sk**	**73.41**	**347**	P		**P**		**15 38 49.3**	**-1.2**	
	comp=Z,1.9nm,0.5s,baz=141,slow=5.5,SNR=4.9									
	comp=Z,1.9nm,0.5s									
MAW	**Mawson**	**79.25**	**200**	P		**P**		**15 39 24.3**	**+0.9**	
	comp=Z,1.7nm,0.8s,baz=80,slow=6.1,SNR=3.5									
	comp=Z,1.7nm,0.8s									
VNDA	**Vanda**	**80.09**	**172**	P		**P**		**15 39 28.6**	**+0.6**	
	comp=Z,0.7nm,0.6s,baz=308,slow=8.1,SNR=4.2									
	comp=Z,0.7nm,0.6s									
VNDA	**Vanda**	**80.09**	**172**			**P**		**15 39 27.8**	**-0.1**	
BELG	**Belogornoye**	**81.63**	**323**	P		**P**		**15 39 36.1**	**-0.4**	
	comp=Z,7.3nm,0.7s,baz=112,slow=1.0,SNR=2.0									
	comp=Z,7.3nm,0.7s									
KDAK	**Kodiak Island**	**86.60**	**32**	LR		LR		16 26 40.9		
	comp=Z,33nm,18.2s,baz=21,slow=41									
PPT2	**Papeete2**	**86.73**	**108**	*e*LR		LR		16 07 40.9		
TBI	**Tubuai**	**86.95**	**113**	*e*LR		LR		16 07 47.2		
QSPA	**South Pole Qui**	**89.89**	**180**	P		**P**		**15 40 17.4**	**+0.2**	
BRTR	**Keskin Array B**	**90.18**	**310**	P		**P**		**15 40 17.0**	**-2.2**	
	comp=Z,0.4nm,0.6s,baz=27,slow=1.6,SNR=2.6									
	comp=Z,0.4nm,0.6s									
ARCES	**ARCESS Array B**	**92.96**	**340**	P		**P**		**15 40 29.1**	**-2.2**	
	comp=Z,1.0nm,0.5s,baz=71,slow=4.5,SNR=6.1									
	comp=Z,1.0nm,0.5s									
FINES	**FINESS Array B**	**93.75**	**332**	P		**P**		**15 40 32.6**	**-2.4**	
	comp=Z,0.6nm,0.6s,baz=0.0,slow=2.1,SNR=7.0									
	comp=Z,0.6nm,0.6s									
TORD	**Torodi Ar. Bea**	**121.22**	**285**	PKP		**PKPdf**		**15 46 10.9**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=48,slow=2.9,SNR=5.3									
TXAR	**Lajitas Array**	**126.17**	**53**	PKP		**PKiKP**		**15 46 22.2**	**+0.6**	
	comp=Z,0.4nm,0.8s,baz=318,slow=1.7,SNR=6.1									

*ARE **09** 15:34:38.4±4.7, 8.°90S±0.°06×79.°5W±0.°1, h13km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=159.0*
*NEIC **09** 15:34:40.1±2.4, 8.°97S±0.°07×79.°4W±0.°1, h49km±12km, mb4.4/11, ML4.7(ARE), Error ellipse: s-maj=15.6km s-min=9.1km az=66.0*
*IDC **09** 15:34:42.6±2.1, 8.°98S×79.°40W, h56km±17km, mb4.1/11, mbtmp4.3/16, ML3.9/5, MS3.7/19, Error ellipse: s-maj=21.3km s-min=8.9km az=81.0*
*VAO **09** 15:34:42.3±0.5, 9.°12S×79.°27W, h55km, mb4.5*
ISC 09 15:34:40.2±0.5, 9.°01S±0.°05×79.°43W±0.°06, h45km, n87, σ1°62/74, mb4.4/14, MS3.8/14, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.13**	**29**	P		P	**Pn**	**15 35 15.6**	**+1.9**
	90nm,0.3s,baz=198,slow=5.4,SNR=637								
ATAH				S			**Sn**	**15 35 41.3**	**+2.2**
	762nm,0.4s,baz=359,slow=19,SNR=8.0								
ATAH				LR		LR	LR	15 36 11.4	
	comp=Z,1μm,19.3s,baz=219,slow=43								
	336nm,0.5s								
NNA	**Nana**	**3.90**	**140**	P			**Pn**	**15 35 39.2**	**+1.4**
	31nm,0.3s,baz=321,slow=12,SNR=25								
NNA				S			**Sn**	**15 36 24.4**	**+2.0**
	93nm,0.4s,baz=12,slow=2.7,SNR=3.9								
NNA				LR		LR	LR	15 37 16.8	
	comp=Z,472nm,20.5s,baz=299,slow=40								
	78nm,0.4s								
NNA	**Nana**	**3.90**	**140**	Pn			**Pn**	**15 35 37.9**	**+0.1**
NNA				Sn			**Sn**	**15 36 23.4**	**+1.0**
MCRA	**Macar, Loja**	**4.64**	**354**	Pn			**Pn**	**15 35 47.3**	**-0.6**
ARNL	**Arenillas**	**5.46**	**353**				**Pn**	**15 35 57.5**	**-1.7**
BOSC	**San Juan Bosco**	**5.89**	**9**	Pn			**Pn**	**15 36 04.0**	**-1.2**
CZSB	**Cruzeiro do Su**	**6.78**	**80**				**Pn**	**15 36 17.3**	**+0.1**
CZSB	**Cruzeiro do Su**	**6.78**	**80**	*e*P			**Pn**	**15 36 18.2**	**+1.0**
CHSH	**Refugio Sur-Vo**	**7.49**	**4**	Pn			**Pn**	**15 36 25.7**	**-1.8**
PORT	**Chimborazo Vol**	**7.53**	**5**	Pn			**Pn**	**15 36 26.7**	**-1.3**
SLOR	**San Lorenzo -**	**8.28**	**7**				**Pn**	**15 36 37.4**	**-0.8**
OTAV	**Otavalo**	**9.24**	**6**	Pn			**Pn**	**15 36 51.9**	**+0.5**
OTAV	**Otavalo**	**9.24**	**6**	*e*P			**Pn**	**15 36 53.8**	**+2.4**
OTAV				*e*S			**Sn**	**15 38 39.0**	**+4.7**
TBTG	**Tabatinga, AM**	**10.60**	**64**	*e*P			**Pn**	**15 37 10.2**	**+0.6**
TBTG				*e*S			**Sn**	**15 39 07.2**	**+0.1**
ETMB	**Extrema**	**13.07**	**95**	Pn			**Pn**	**15 37 39.6**	**-3.7**
ETMB	**Extrema**	**13.07**	**95**	*e*S			**Sn**	**15 40 04.8**	**-2.6**
LPAZ	**La Paz**	**13.18**	**124**	P			**Pn**	**15 37 47.9**	**+2.4**
	0.1nm,0.3s,baz=326,slow=11,SNR=1.8								
	1.1nm,0.6s								
LPAZ	**La Paz**	**13.18**	**124**	*e*P			**Pn**	**15 37 44.0**	**-1.5**
PB16	**IPOC Station P**	**13.37**	**135**	Pn			**Pn**	**15 37 47.7**	**-0.3**
PAYG	**Puerto Ayora**	**13.61**	**307**	Pn			**Pn**	**15 37 48.0**	**-2.9**
GO01	**Chusmiza**	**14.51**	**138**	Pn			**Pn**	**15 37 59.9**	**-3.4**
ROSC	**El Rosal**	**14.67**	**21**	LR		LR	LR	15 44 51.2	
	comp=Z,238nm,21.3s,baz=246,slow=42								
SAML	**Samuel**	**16.05**	**91**	Pn			**Pn**	**15 38 19.6**	**-3.3**
SAML				IAmb		IAmb	IAmb	15 38 38.6	
	comp=Z,24nm,0.8s								
LVC	**Limon Verde**	**16.88**	**144**	LR		LR	LR	15 45 40.7	
	comp=Z,115nm,18.5s,baz=294,slow=39								
GO02	**Mina Guanaco**	**18.60**	**151**				**Pn**	**15 38 51.8**	**-2.4**
SIV	**San Ignacio**	**19.21**	**113**	P			**Pn**	**15 39 02.3**	**+0.3**
	baz=268,slow=4.9,SNR=7.8								
	comp=Z,1.2nm,0.4s								
VILB	**Vilhena**	**19.28**	**103**	P		P	**Pn**	**15 38 59.2**	**-2.2**
VILB				IAmb		IAmb	IAmb	15 39 18.0	
	comp=Z,18nm,0.8s								
MACA	**Manacapuru-AM**	**19.52**	**74**				**Pn**	**15 39 03.0**	**-1.0**
MACA				IAmb		IAmb	IAmb	15 39 20.3	
	comp=Z,44nm,0.7s								
SDV	**Santo Domingo**	**19.82**	**26**	P			**Pn**	**15 39 08.5**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=252,slow=10,SNR=3.4								
SDV				LR		LR	LR	15 48 24.7	
	comp=Z,178nm,20.2s,baz=206,slow=42								
	comp=Z,5.9nm,0.4s								
AC02	**Maricunga**	**20.24**	**152**	P		P	**Pn**	**15 39 10.3**	**-2.0**
AC02				IAmb		IAmb	IAmb	15 39 38.5	
	comp=Z,14nm,1.3s								
PTLB	**Pontes e Lacer**	**20.83**	**110**	P		P	**Pn**	**15 39 17.7**	**-0.5**
PTLB				IAmb		IAmb	IAmb	15 39 30.2	
	comp=Z,24nm,1.0s								
PTLB	**Pontes e Lacer**	**20.83**	**110**	*e*P		P	**Pn**	**15 39 19.1**	**+0.8**
BAUV	**El Baul**	**21.14**	**33**	P		P	**Pn**	**15 39 19.1**	**-2.4**
BOAV	**Boa Vista**	**21.99**	**60**	P		P	**Pn**	**15 39 29.3**	**-1.5**
BOAV				IAmb		IAmb	IAmb	15 39 49.1	
	comp=Z,8.1nm,1.0s								
BOAV	**Boa Vista**	**21.99**	**60**	*e*P		P	**Pn**	**15 39 30.5**	**-0.2**
PDRB	**Porto dos Gac**	**22.48**	**99**	*e*P		P	**Pn**	**15 39 35.8**	**-0.3**
CLDB	**Colider**	**23.35**	**97**	*e*P		P	**Pn**	**15 39 44.0**	**-1.0**
BIRV	**Birongo**	**23.37**	**34**	P		P	**Pn**	**15 39 43.3**	**-1.8**
BIRV				IAmb		IAmb	IAmb	15 40 02.4	
	comp=Z,31nm,1.3s								
NPGB	**Novo Progresso**	**23.92**	**87**	*e*P		P	**Pn**	**15 39 49.7**	**-0.6**
ITTB	**Itaituba**	**23.98**	**80**	*e*P		P	**Pn**	**15 39 50.3**	**-0.5**
PCRV	**Puerto La Cruz**	**24.09**	**38**	LR		LR	LR	15 50 47.5	
	comp=Z,309nm,18.2s,slow=40								
SALV	**Santo Antonio**	**24.16**	**109**	*e*P		P	**Pn**	**15 39 53.5**	**+1.1**
H03N2	**Juan Fernandez**	**24.32**	**179**	T		T		16 05 07.5	
	baz=358,slow=76,SNR=143								
H03N1	**Juan Fernandez**	**24.32**	**179**	T		T		16 05 08.1	
	baz=358,slow=76,SNR=124								
H03N3	**Juan Fernandez**	**24.33**	**179**	T		T		16 05 07.2	
	baz=358,slow=76,SNR=116								
MTO3	**Montecristo**	**25.26**	**337**	P		P		**15 40 01.8**	**-0.8**
MTO3				IAmb		IAmb	IAmb	15 40 06.8	
	comp=Z,6.9nm,0.8s								
MALB	**Monte Alegre**	**26.03**	**76**	*e*P		P		**15 40 07.7**	**-1.8**
CPUP	**Villa Florida**	**27.13**	**132**	LR		LR		15 53 08.7	
	comp=Z,109nm,20.7s,baz=316,slow=41								
SNDB	**Serra Nova Dou**	**27.82**	**99**	*e*P		P		**15 40 24.2**	**-1.3**
PRPB	**Parauapebas**	**29.49**	**87**	*e*P		P		**15 40 40.2**	**-0.2**
SMTB	**Santa Maria do**	**31.45**	**92**	*e*P		P		**15 40 58.4**	**+0.6**
IPMB	**Ipameri, GO**	**31.60**	**110**	*e*P		P		**15 40 57.3**	**-1.8**
PLCA	**Paso Flores**	**32.56**	**167**	P		P		**15 41 09.6**	**+2.3**
	comp=Z,4.3nm,1.0s,baz=346,slow=9.9,SNR=6.7								
	comp=Z,4.3nm,1.0s								
PLCA	**Paso Flores**	**32.56**	**167**	*e*P		P		**15 41 06.0**	**-1.4**
RPN	**Rapa Nui**	**33.51**	**234**	LR		LR		15 51 12.9	
	comp=Z,107nm,21.9s,baz=57,slow=30								
SDBA	**SAO DESIDERIO**	**34.08**	**99**	*e*P		P		**15 41 20.9**	**0.0**
RCBR	**Riachuelo**	**43.26**	**89**	LR		LR		16 01 23.2	
	comp=Z,202nm,18.7s,baz=42,slow=37								
TKL	**Tuckaleechee C**	**44.62**	**355**	LR		LR		16 00 56.1	
	comp=Z,66nm,18.5s,baz=189,slow=35								
TXAR	**Lajitas Array**	**44.71**	**329**	P		P		**15 42 50.8**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=158,slow=7.5,SNR=2.3								
TXAR				PcP		**PcP**		**15 44 32.0**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=152,slow=5.7,SNR=3.5								
TXAR				LR		LR		16 00 19.5	
	comp=Z,51nm,18.5s,baz=93,slow=34								
PDAR	**Pinedale Array**	**58.41**	**334**	P		P		**15 44 31.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=133,slow=10,SNR=4.8								
PDAR				PcP		**PcP**		**15 45 21.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=134,slow=5.2,SNR=2.4								
	comp=Z,0.4nm,0.6s								
NVAR	**Mina Array Bea**	**59.49**	**325**	P		P		**15 44 41.0**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=152,slow=6.2,SNR=6.4								
	comp=Z,0.8nm,0.7s								
PPT	**Papeete**	**68.49**	**255**	LR		LR		16 07 11.1	
	comp=Z,72nm,20.1s,baz=74,slow=28								
DBIC	**Dimbokro**	**75.94**	**81**	P		P		**15 46 24.1**	**+1.1**
	comp=Z,8.6nm,0.8s,baz=223,slow=4.7,SNR=6.6								
	comp=Z,8.6nm,0.8s								
KOWA	**Kowa**	**78.33**	**73**	P		P		**15 46 37.7**	**+1.3**
	comp=Z,12nm,0.5s,baz=258,slow=6.6,SNR=12								
KOWA				LR		LR		16 20 53.8	
	comp=Z,48nm,18.0s,baz=16,slow=35								
	comp=Z,12nm,0.5s								
QSPA	**South Pole Qui**	**81.10**	**180**	P		P		**15 46 52.9**	**+2.2**
	comp=Z,6.8nm,1.1s,baz=166,slow=1.7,SNR=13								
	comp=Z,6.8nm,1.1s								
QSPA	**South Pole Qui**	**81.10**	**180**	P		P		**15 46 52.0**	**+1.3**
QSPA				IAmb		IAmb		15 46 54.6	
	comp=Z,6.3nm,0.9s								
MDT	**Midelt**	**82.31**	**55**	P		P		**15 46 58.8**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=264,slow=9.8,SNR=4.8								
	comp=Z,3.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**83.50**	**76**	P		P		**15 47 04.4**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=262,slow=4.0,SNR=14								
	comp=Z,4.9nm,0.8s								
ESDC	**Sonseca Array**	**84.70**	**49**	P		P		**15 47 10.5**	**+0.8**
	comp=Z,2.9nm,1.0s,baz=271,slow=5.4,SNR=12								
ESDC				LR		LR		16 23 31.3	
	comp=Z,34nm,18.6s,baz=312,slow=35								
	comp=Z,2.9nm,1.0s								
VNDA	**Vanda**	**87.21**	**191**	LR		LR		16 20 05.2	
	comp=Z,34nm,21.1s,baz=39,slow=31								
ILAR	**Eielson Array**	**88.75**	**337**	P		P		**15 47 28.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=145,slow=3.9,SNR=7.7								
ILAR				LR		LR		16 32 44.7	
	comp=Z,38nm,18.4s,baz=260,slow=39								
	comp=Z,1.0nm,0.8s								
TSUM	**Tsumeb**	**93.62**	**110**	P		P		**15 47 54.2**	**+1.5**
	comp=Z,1.7nm,0.4s,baz=67,slow=2.0,SNR=4.4								
TSUM				LR		LR		16 26 17.5	
	comp=Z,54nm,21.2s,baz=294,slow=33								
	comp=Z,1.7nm,0.4s								
KEST	**Kesra**	**94.20**	**55**	LR		LR		16 31 59.5	
	comp=Z,28nm,18.2s,baz=254,slow=36								
LBTB	**Lobatse**	**99.61**	**117**	LR		LR		16 30 15.4	
	comp=Z,32nm,21.2s,baz=180,slow=34								
H11N3	**WAKE ISLAND Hyl**	**15.19**	**288**	T		T		17 58 32.9	
	baz=91,slow=74,SNR=11								
H11N2	**WAKE ISLAND Hyl**	**15.20**	**288**	T		T		17 58 29.4	
	baz=91,slow=74,SNR=13								
H11N1	**WAKE ISLAND Hyl**	**15.21**	**288**	T		T		17 58 28.2	
	baz=91,slow=74,SNR=13								
H11S2	**WAKE ISLAND Hyl**	**15.36**	**286**	T		T		17 58 40.2	
	baz=92,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hyl**	**15.36**	**286**	T		T		17 58 40.0	
	baz=92,slow=75,SNR=11								
H11S3	**WAKE ISLAND Hyl**	**15.38**	**286**	T		T		17 58 38.1	
	baz=92,slow=75,SNR=11								
KBZ	**Khabaz**	**119.35**	**45**	PKP			**PKPdf**	**15 53 24.6**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=244,slow=5.7,SNR=3.7								
ZALV	**Zalesovo Beam**	**133.43**	**13**	PKP			**PKPdf**	**15 53 51.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=298,slow=3.2,SNR=4.9								
ASAR	**Alice Springs**	**134.00**	**224**	PKP			**PKPdf**	**15 53 53.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=130,slow=1.9,SNR=14

	comp=Z,167nm,19.7s,baz=208,slow=38					
SIV	**San Ignacio**	**45.75 248**	LR	LR	16 02 46.6	
	comp=Z,58nm,19.0s,baz=84,slow=36					
SUR	**Sutherland**	**47.63 135**	LR	LR	16 02 44.9	
	comp=Z,26nm,18.0s,baz=316,slow=34					
LBTB	**Lobatse**	**47.84 124**	LR	LR	16 01 15.6	
	comp=Z,35nm,19.2s,baz=356,slow=32					
MBAR	**Mbarara**	**47.98 90**	LR	LR	16 02 59.6	
	comp=Z,63nm,18.1s,baz=80,slow=34					
VAE	**Valguarnera**	**48.06 34**	LR	LR	16 06 13.8	
	comp=Z,119nm,18.2s,baz=142,slow=38					
BOSA	**Boshof**	**49.08 128**	LR	LR	16 03 04.0	
	comp=Z,17nm,19.2s,baz=182,slow=33					
SJG	**San Juan**	**51.64 294**	LR	LR	16 00 40.6	
	comp=Z,43nm,21.6s,baz=174,slow=29					
MLR	**Muntele Rosu**	**59.83 34**	LR	LR	16 14 36.0	
	comp=Z,82nm,19.0s,baz=279,slow=39					
MMAI	**Mount Meron Ar**	**59.88 51**	LR	LR	16 13 26.5	
	comp=Z,33nm,20.1s,baz=62,slow=38					
NNA	**Nana**	**60.12 257**	LR	LR	16 10 14.4	
	comp=Z,61nm,18.6s,baz=57,slow=35					
ATAH	**Atahualpa**	**61.27 262**	LR	LR	16 11 06.7	
	comp=Z,55nm,19.6s,baz=70,slow=35					
PLCA	**Paso Flores**	**62.39 223**	LR	LR	16 11 10.9	
	comp=Z,24nm,18.6s,baz=12,slow=34					
FINES	**FINESS Array B**	**70.31 20**	P	**P**	**15 46 47.8 +0.1**	
	1.5nm,0.7s,baz=216,slow=6.6,SNR=11					
	1.5nm,0.7s					
TKL	**Tuckaleechee C**	**71.58 308**	LR	LR	16 17 14.2	
	comp=Z,34nm,18.2s,baz=136,slow=35					
ELK	**Elko**	**96.60 311**	LR	LR	16 28 02.1	
	comp=Z,31nm,18.6s,baz=88,slow=33					

SKHL ***09*** *15:44:55.9±0.6, 44.60°N×144.00°E, h54km±4km, mb4.7/2*
NIED ***09*** *15:44:56.6, 44.31°N×144.04°E, h8km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.46; Mθθ-1.78; Mφφ-0.68; Mrθ 0.37; Mθφ -1.97; Mrφ 0.24; Fault plane solution: Mo2.90000×10¹⁴ NP1: φs232.00000°, δ41.00000°, λ88.00000°. NP2:φs54.00000°, δ49.00000°, λ91.00000°.*
JMA ***09*** *15:44:56.6±0.1, 44.3°N±0.4×144.0°E±0.4, h8km±1km, MV3.5/40, NE OFF HOKKAIDO*
JMA Felt I J1 at NE OFF HOKKAIDO .

ISC 09 15:44:53.6±1.2, 44.51°N±0.05×144.07°E±0.03, h20km±4km, n12, σ1ᵖ21/23, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTKR	**Abashiri--Toko**	**0.55**	**192**	*eP*		**Pb**	**15 45 03.3**	**-1.1**
JTKR				*eS*		**Sg**	**15 45 08.7**	**-3.3**
JMP	**Maruseppu**	**0.71**	**226**	*eP*		**Pb**	**15 45 07.7**	**+0.4**
JRA	**Rausu**	**0.95**	**127**	⇓*eP*		**Pg**	**15 45 12.3**	**+0.3**
JRA				⇓*eS*		**Sg**	**15 45 24.4**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.99**	**137**	*eP*		**Pg**	**15 45 13.1**	**+0.2**
JNSB				*eS*		**Sg**	**15 45 25.6**	**-0.3**
JNK	**Nakash**	**1.03**	**153**	⇓*eP*		**Pb**	**15 45 12.6**	**-0.2**
JNK				⇓*eS*		**Sb**	**15 45 24.6**	**-1.3**
ASAJ	**Asahikawa**	**1.13**	**250**	*eP*		**Pg**	**15 45 16.5**	**+1.1**
ASAJ				*eS*		**Sg**	**15 45 31.5**	**+1.3**
JKK2	**Kamakawa 2**	**1.14**	**237**	*eP*		**Pg**	**15 45 15.8**	**+0.1**
JKK2				*eS*		**Sn**	**15 45 30.3**	**+0.8**
JAR	**Ashorobuto**	**1.23**	**190**	*eP*		**Pb**	**15 45 16.4**	**+0.3**
JAR				*eS*		**Sb**	**15 45 31.6**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.37**	**109**	*eP*		**Pg**	**15 45 20.4**	**+0.4**
YUK				AMB		AMB	15 45 21.8	
	560nm,0.4s							
YUK				*eS*		**Sg**	**15 45 38.9**	**+0.9**
YUK				A		A	15 45 41.3	
	1μm,0.5s							
YUK				A		A	15 45 41.3	
	1μm,0.5s							
AKK	**Akkeshi**	**1.59**	**159**	*eP*		**Pb**	**15 45 21.9**	**-0.4**
AKK				*eS*		**Sn**	**15 45 41.4**	**+0.8**
NMR	**Nemuro--Hokkai**	**1.65**	**133**	*eP*		**Pb**	**15 45 23.7**	**+0.4**
NMR				*eS*		**Sb**	**15 45 44.9**	**+1.2**
YSS	**Yuzh-Sakhalins**	**2.62**	**340**	*eP*		**Pn**	**15 45 34.8**	**+0.1**
YSS				*eS*		**Sn**	**15 46 03.2**	**-2.6**

IDC ***09*** *15:49:39.1±0.8, 85.96°N×27.11°E, h0km, mb3.7/9, mbtmp3.9/13, ML4.2/4, MS3.3/23, Error ellipse: s-maj=22.1km s-min=16.0km az=59.0*
IEPN ***09*** *15:49:44.0, 85.54°N×28.09°E, h10km*

ISC 09 15:49:41.1±0.6, 85.73°N±0.06×26.57°E±0.06, h10km, n72, σ2ᵖ85/71, mb3.9/11, MS3.3/20, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.46**	**143**	*eP*		**Pn**	**15 51 01.9**	**-0.4**
ZFI2				*eS*		**Sn**	**15 51 59.2**	**-5.8**
	44nm,1.9s							
ZFI	**Zemlya Franca-**	**5.46**	**143**	*eP*		**Pn**	**15 51 01.9**	**-0.5**
ZFI				*eS*		**Sn**	**15 51 59.7**	**-5.5**
NOR	**Nord**	**6.08**	**252**	Pn		**Pn**	**15 51 15.2**	**+4.4**
NOR	**Nord**	**6.08**	**252**	*i* P		**Pn**	**15 51 14.0**	**+3.2**
NOR	**Nord**	**6.08**	**252**	*eP*		**Pn**	**15 51 12.9**	**+2.1**
KBS	**Kingsbay**	**7.07**	**203**	Pn		**Pn**	**15 51 24.1**	**-0.2**
KBS				Sn		**Sn**	**15 52 41.8**	**-2.8**
KBS	**Kingsbay**	**7.07**	**203**	*i* P		**Pn**	**15 51 24.0**	**-0.3**
KBS				*eS*		**Sn**	**15 52 40.9**	**-3.7**
KBS	**Kingsbay**	**7.07**	**203**	*eP*		**Pn**	**15 51 23.9**	**-0.5**
KBS				*eS*		**Sn**	**15 52 41.3**	**-3.3**
KBS				IAML			15 52 48.8	
	comp=Z,13nm,0.5s							
KBS	**Kingsbay**	**7.07**	**203**	*eP*		**Pn**	**15 51 23.8**	**-0.6**
KBS				*eS*		**Sn**	**15 52 39.9**	**-4.7**
SPA0	**Spitsbergen Ar**	**7.70**	**196**	Pn		**Pn**	**15 51 33.4**	**+0.2**
	baz=18,slow=14							
SPA0	**Spitsbergen Ar**	**7.70**	**196**	*eP*		**Pn**	**15 51 33.2**	**+0.1**
SPA0				*eS*		**Sn**	**15 52 56.9**	**-3.4**
SPA0				IAML			15 53 05.2	
	comp=Z,5.4nm,0.5s							
SPA0	**Spitsbergen Ar**	**7.70**	**196**	⇑*iP*		**Pn**	**15 51 33.3**	**+0.2**
SPA0				*i* S		**Sn**	**15 52 54.5**	**-5.7**
SPITS	**Spitsbergen Ar**	**7.70**	**196**	Pn		**Pn**	**15 51 33.4**	**+0.2**
	baz=32,slow=13							
SPITS				Sn		**Sn**	**15 52 57.3**	**-3.0**
	baz=1.1,slow=15							
	comp=Z,8.7nm,0.3s							
BRBB	**Barentsburg B**	**7.84**	**199**	Pn		**Pn**	**15 51 35.4**	**+0.5**
BRBB				Sn		**Sn**	**15 52 59.9**	**-3.5**
BRBB	**Barentsburg B**	**7.84**	**199**	*eP*		**Pn**	**15 51 35.0**	**+0.1**
BRBB				*eS*		**Sn**	**15 52 58.7**	**-4.7**
BRBA	**Barentsburg A**	**7.87**	**199**	Pn		**Pn**	**15 51 36.1**	**+0.7**
BRBA				Sn		**Sn**	**15 53 02.4**	**-1.9**
BRBA	**Barentsburg A**	**7.87**	**199**	*eP*		**Pn**	**15 51 35.7**	**+0.4**
BRBA				*eS*		**Sn**	**15 53 00.3**	**-4.0**
BRBA				IAML			15 53 17.3	
	comp=Z,6.4nm,0.4s							
HSPB	**Hornsund (broa**	**8.90**	**196**	Pn		**Pn**	**15 51 51.5**	**+2.1**
HSPB	**Hornsund (broa**	**8.90**	**196**	*eP*		**Pn**	**15 51 50.6**	**+1.2**
HSPB				*eS*		**Sn**	**15 53 24.0**	**-5.5**
HSPB				IAML			15 53 33.9	
	comp=Z,3.7nm,0.4s							
HSPB	**Hornsund (broa**	**8.90**	**196**	*eP*		**Pn**	**15 51 50.3**	**+0.8**
HOPEN	**Hopen**	**9.28**	**182**	Pn		**Pn**	**15 51 54.7**	**+0.1**
HOPEN				Sn		**Sn**	**15 53 32.9**	**-5.9**
HOPEN	**Hopen**	**9.28**	**182**	*eP*		**Pn**	**15 51 54.2**	**-0.4**
HOPEN				*eS*		**Sn**	**15 53 31.8**	**-7.0**
HOPEN				IAML			15 53 37.9	
	comp=Z,13nm,0.4s							
HOPEN	**Hopen**	**9.28**	**182**	*eP*		**Pn**	**15 51 54.2**	**-0.4**
HOPEN				*i* S		**Sn**	**15 53 31.9**	**-6.9**
BJO1	**Bjornoya**	**11.35**	**190**	Pn		**Pn**	**15 52 22.6**	**-0.3**
BJO1	**Bjornoya**	**11.35**	**190**	*eP*		**Pn**	**15 52 21.5**	**-1.4**
BJO1				IAML			15 55 10.2	
	comp=Z,11nm,0.7s							
BJO1	**Bjornoya**	**11.35**	**190**	*eP*		**Pn**	**15 52 22.2**	**-0.7**
BJO1				*i* S		Sn	15 54 20.9	-8.6
HAMF	**Hammerfest**	**15.18**	**184**	*e*		**Pn**	**15 53 15.8**	**+0.6**
HAMF				*i*			15 55 53.3	
HAMF				IAML			15 56 39.8	
	comp=Z,4.3nm,0.7s							
JMIC	**Jan Mayen**	**15.80**	**224**	*e*		**P**	**15 53 27.5**	**+0.4**
KEV	**Kevo**	**16.07**	**179**	*e*		**Pn**	**15 53 27.8**	**+1.1**
TRO	**Tromso**	**16.24**	**190**	*e*		**Pn**	**15 53 29.1**	**+0.2**
ARA0	**ARCESS Array S**	**16.29**	**181**	P		**Pn**	**15 53 29.3**	**-0.3**
	baz=1.2,slow=12							
ARA0	**ARCESS Array S**	**16.29**	**181**	Pn		**Pn**	**15 53 29.3**	**-0.3**
	baz=1.2,slow=12							
ARA0				*i*			15 56 17.0	
ARA0				IAML			15 56 43.7	
	comp=Z,2.2nm,0.5s							
ARCES	**ARCESS Array B**	**16.29**	**181**	Pn		**Pn**	**15 53 28.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=5.1,slow=11,SNR=22							
ARCES				Sn		Sn	15 56 19.6	-10
	comp=Z,0.3nm,0.3s,baz=0.3,slow=17,SNR=6.2							
ARCES				LR		LR	15 59 39.4	
	comp=Z,84nm,20.9s,baz=346,slow=36							
	comp=Z,3.4nm,0.6s							
JETT	**Jettan, Norway**	**16.30**	**188**	*e*			15 56 19.1	
KTK1	**Kautokeino**	**16.82**	**184**	IAML			15 57 01.4	
	comp=Z,1.7nm,0.5s							
KIF	**Kilpisjarvi**	**16.85**	**187**	P		**Pn**	**15 53 37.2**	**+0.6**
KIF	**Kilpisjarvi**	**16.85**	**187**	*e*		**Pn**	**15 53 36.5**	**-0.1**
HEF	**Hetta**	**17.43**	**184**	*e*		**Pn**	**15 53 43.3**	**-0.6**
STEI	**Steigen**	**18.00**	**194**	*e*		**P**	**15 53 55.0**	**+3.5**
RES	**Resolute Bay**	**18.03**	**313**	P		**Pn**	**15 53 47.7**	**-3.5**
	comp=Z,1.2nm,0.3s,baz=20,slow=13,SNR=9.2							
RES				LR		LR	15 59 36.3	
	comp=Z,81nm,21.3s,baz=342,slow=33							
	comp=Z,6.3nm,0.6s							
SALU	**Saltoluokta**	**18.51**	**190**	*e*		**Pn**	**15 53 59.5**	**+2.3**
FAUS	**Fauske**	**18.55**	**194**	*e*		**Pn**	**15 54 03.2**	**+5.5**
NRIK	**Noril'sk**	**19.06**	**108**	P		**P**	**15 54 02.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=5.6,slow=3.9,SNR=3.8							
	comp=Z,2.8nm,0.8s							
TIXI	**Tiksi**	**19.82**	**66**	LR		LR	16 00 43.6	
	comp=Z,46nm,21.6s,baz=359,slow=34							
LSH	**Leshukonskoye**	**21.25**	**157**	*eP*		**P**	**15 54 30.6**	**+3.8**
	comp=Z,89nm,2.9s							
FINES	**FINESS Array B**	**24.42**	**181**	LR		LR	16 04 10.1	
	comp=Z,51nm,20.4s,baz=330,slow=35							
PRGR	**Permogore**	**24.50**	**158**	P		**P**	**15 55 03.7**	**+3.7**
KLMR	**Klimovskoe**	**25.13**	**165**	*eP*		**P**	**15 55 04.8**	**-0.9**
	comp=Z,16nm,1.2s							
INK	**Inuvik**	**25.91**	**343**	LR		LR	16 06 09.9	
	comp=Z,101nm,19.2s,baz=285,slow=39							
FRB	**Frobisher Bay**	**27.11**	**284**	LR		LR	16 04 47.4	
	comp=Z,68nm,18.7s,baz=0.0,slow=34							
YAK	**Yakutsk**	**29.38**	**69**	LR		LR	16 07 36.6	
	comp=Z,50nm,19.7s,baz=270,slow=37							
ILAR	**Eielson Array**	**29.66**	**354**	P		**P**	**15 55 44.1**	**-2.1**
	comp=Z,0.9nm,0.9s,baz=360,slow=7.0,SNR=6.1							
ILAR				LR		LR	16 08 03.8	
	comp=Z,35nm,19.4s,baz=122,slow=38							
	comp=Z,0.9nm,0.9s							
YKA	**Yellowknife Ar**	**31.12**	**326**	LR		LR	16 08 49.3	
	comp=Z,48nm,18.7s,baz=324,slow=37							
MA2	**Magadan**	**33.18**	**50**	LR		LR	16 08 46.5	
	comp=Z,34nm,21.1s,baz=60,slow=35							
ZALV	**Zalesovo Beam**	**34.14**	**116**	P		**P**	**15 56 26.4**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=4.6,slow=8.2,SNR=4.5							
ZALV				LR		LR	16 11 22.5	
	comp=Z,29nm,19.0s,baz=17,slow=38							
	comp=Z,0.9nm,0.5s							
AKASG	**Malin Array Be**	**35.19**	**177**	LR		LR	16 11 10.4	
	comp=Z,66nm,21.3s,baz=3.0,slow=36							
AKTO	**Aktyubinsk**	**36.14**	**146**	LR		LR	16 13 51.2	
	comp=Z,26nm,20.8s,baz=342,slow=40							
KURBB	**Kurchatov Arra**	**37.05**	**124**	LR		LR	16 14 18.8	
	comp=Z,43nm,18.2s,baz=270,slow=40							
DAVOX	**Davos/Dischmat**	**39.31**	**198**	LR		LR	16 12 40.6	
	comp=Z,26nm,18.1s,baz=266,slow=35							
PETK	**Petropavlovsk-**	**40.02**	**45**	LR		LR	16 13 21.2	
	comp=Z,34nm,19.1s,baz=49,slow=36							
MKAR	**Makanchi Array**	**41.10**	**120**	P		**P**	**15 57 24.8**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=328,slow=8.9,SNR=4.0							
MKAR				PcP		**PcP**	**15 59 22.8**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=330,slow=2.6,SNR=4.3							
MKAR				LR		LR	16 16 13.7	
	comp=Z,54nm,19.2s,baz=26,slow=39							
	comp=Z,0.4nm,0.8s							
SONM	**Songino Array**	**41.77**	**95**	P		**P**	**15 57 29.0**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=342,slow=8.1,SNR=6.1							
	comp=Z,1.2nm,0.8s							
KLR	**Kul'dur**	**42.26**	**70**	LR		LR	16 16 13.1	
	comp=Z,58nm,18.6s,baz=28,slow=38							
KBZ	**Khabaz**	**42.35**	**162**	P		**P**	**15 57 37.7**	**+3.0**
	comp=Z,0.9nm,0.3s,baz=333,slow=6.8,SNR=3.7							
	comp=Z,0.9nm,0.3s							
AAK	**Ala-Archa**	**44.76**	**129**	LR		LR	16 19 11.6	
	comp=Z,45nm,18.9s,baz=10,slow=40							
NEW	**Newport**	**45.45**	**326**	LR		LR	16 16 09.1	
	comp=Z,82nm,20.1s,baz=8.0,slow=35							
GEYT	**Alibeck**	**48.63**	**147**	LR		LR	16 23 16.3	
	comp=Z,41nm,19.8s,baz=164,slow=41							
PDAR	**Pinedale Array**	**50.59**	**319**	P		**P**	**15 58 37.5**	**-2.3**
	comp=Z,0.8nm,0.9s,baz=27,slow=3.6,SNR=4.7							
	comp=Z,0.8nm,0.9s							
TXAR	**Lajitas Array**	**63.66**	**312**	P		**P**	**16 00 11.9**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=20,slow=2.9,SNR=3.5							
	comp=Z,0.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**70.41**	**106**	P		**P**	**16 00 54.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=343,slow=8.2,SNR=5.7							
CMAR				LR		LR	16 34 43.4	
	comp=Z,23nm,19.1s,baz=170,slow=38							
	comp=Z,0.4nm,0.3s							
BBTS	**Babate**	**72.31**	**224**	LR		LR	16 28 42.9	
	comp=Z,25nm,20.3s,baz=243,slow=32							
TORD	**Torodi Ar. Bea**	**73.04**	**205**	P		**P**	**16 01 11.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=356,slow=7.0,SNR=4.1							
	comp=Z,0.8nm,0.7s							

VIE 09 16:01:04.1±0.2, 47.60°N×15.75°E, h5km±3km, ml0.7/2, Error ellipse: s-maj=1.4km s-min=0.8km az=156.0 2 km SSW of Spital am Semmering, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.34**	**13**	*e*Pg		Pg	16 01 11.5	+0.7
	0.2nm,0.2s							
CONA				*e*Sg		Sg	16 01 15.6	+0.2
	0.2nm,0.1s							
ARSA	**Arzberg**	**0.38**	**204**	*i* Pg		Pg	16 01 11.6	+0.1
	0.2nm,0.1s							
ARSA				*e*Sg		Sg	16 01 16.6	+0.2
	0.8nm,0.1s							
RONA	**Rosalia, Austr**	**0.39**	**74**	*i* Pg		Pg	16 01 11.6	0.0
	0.2nm,0.1s							
RONA				*i* Sg		Sg	16 01 16.8	+0.1
	0.7nm,0.1s							

LJU 09 16:01:59.6, 46.11°N×14.22°E, h6km, ML0.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRNS	**Crni Vrh**	**0.04**	**134**	*e*Pg		Pg	16 02 01.2	+0.2
CRNS				*i* Sg		Sg	16 02 01.9	0.0
CRNS				IAML			16 02 03.5	
	comp=Z,39nm,0.1s							
GBAS	**Gorenja Brezov**	**0.23**	**138**	*i* Pg		Pg	16 02 04.4	+0.2
GBAS				IAML			16 02 09.5	
	comp=Z,2.7nm,0.1s							
JAVS	**Javornik**	**0.24**	**207**	*i* Pg		Pg	16 02 04.2	-0.2
JAVS				*i* Sg		Sg	16 02 08.1	+0.6
JAVS				IAML			16 02 10.1	
	comp=Z,1.3nm,0.1s							
VOJS	**Vojsko**	**0.25**	**252**	*i* Pg		Pg	16 02 04.6	+0.2
VOJS				IAML			16 02 10.2	
	comp=Z,3.0nm,0.1s							

IDC ***09*** *16:06:15.9±0.7, 34.46°N×141.81°E, h0km, mb3.8/15, mbtmp3.8/20, ML2.9/4, MS3.0/4, Error ellipse: s-maj=17.2km s-min=14.4km az=89.0*
NEIC ***09*** *16:06:15.3±1.6, 34.54°N±0.07×142.2°E±0.1, h10km±2km, mb4.5/8, Error ellipse: s-maj=19.1km s-min=11.5km az=101.0*
JMA ***09*** *16:06:16.8±0.5, 34°N±1°×14°2E±°, h42km±3km, MV3.5/33, FAR SE OFF BOSO PEN*
NIED ***09*** *16:06:16.8, 34.40°N×141.97°E, h42km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.31; Mθθ 1.26; Mφφ-5.56; Mrθ-2.28; Mθφ-2.63; Mrφ 2.18; Fault plane solution: Mo6.51000×10¹⁴ NP1: φs229.00000°, δ47.00000°, λ138.00000°. NP2: φs350.00000°, δ61.00000°, λ51.00000°.*

ISC 09 16:06:18.1±0.6, 34.46°N±0.05×141.93°E±0.06, h21km, n61, σ1ᵖ63/61, mb3.9/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.81**	**284**	P		**Pb**	**16 06 32.5**	**-0.6**
BSO3	**Boso 3**	**1.22**	**287**	P		**Pn**	**16 06 39.0**	**-0.6**
BSO4	**Boso 4**	**1.41**	**293**	*eP*		**Pb**	**16 06 42.5**	**-1.2**
CHOJ	**Chosi**	**1.52**	**325**	*eP*		**Pn**	**16 06 43.4**	**-0.7**
CHOJ				*eS*		**Sn**	**16 07 01.3**	**-1.9**
JKUC	**kamogawauchiur**	**1.58**	**297**	P		**Pn**	**16 06 44.3**	**-0.7**
JMKN	**Mikurajimanish**	**2.02**	**254**	P		**Pn**	**16 06 49.4**	**-1.5**
JMKN				*eS*		**Sn**	**16 07 12.2**	**-3.3**
JIM2	**Oshima 3**	**2.07**	**278**	P		**Pn**	**16 06 50.2**	**-1.5**
JHJ	**Hachijo jima 2**	**2.23**	**234**	Pn		**Pn**	**16 06 53.3**	**-0.5**
	25nm,0.3s,baz=115,slow=8.3,SNR=22							
JHJ				Sn		**Sn**	**16 07 19.5**	**-1.1**
	62nm,0.3s,baz=72,slow=21,SNR=9.1							
	52nm,0.3s							
JYT	**Yasato**	**2.27**	**322**			**Pn**	**16 06 53.3**	**-1.0**
JOD2	**Odawara 2**	**2.47**	**290**	P		**Pn**	**16 06 55.9**	**-1.2**
JIZS	**Izushimoda**	**2.53**	**277**	P		**Pn**	**16 06 56.8**	**-1.1**
JRY	**Ryogami san**	**2.92**	**303**	P		**Pn**	**16 07 03.1**	**-0.3**
JRY				*eS*		**Sn**	**16 07 38.7**	**+0.7**
JYN	**Shimob**	**2.96**	**292**	*eP*		**Pn**	**16 07 03.2**	**-0.8**
JMM	**Marumori**	**3.52**	**345**			**Pn**	**16 07 10.4**	**-1.3**
MJAR	**Matsushiro Arr**	**3.68**	**306**	Pn		**Pn**	**16 07 12.8**	**-1.0**
	1.5nm,0.3s,baz=154,slow=13,SNR=54							
MJAR				Sn		**Sn**	**16 07 57.3**	**+0.8**
	0.4nm,0.3s,baz=130,slow=22,SNR=8.4							
MJAR				LR		LR	16 09 01.2	
	comp=Z,191nm,18.7s,baz=42,slow=46							
	7.5nm,0.4s							
MAJO	**Matsushiro**	**3.68**	**306**			**Pn**	**16 07 13.9**	**+0.1**
JGF	**Kuroka**	**3.92**	**288**	Pn		**Pn**	**16 07 18.4**	**+1.2**
INU	**Inuyama**	**4.13**	**284**	Pn		**Pn**	**16 07 20.0**	**0.0**
JSD	**Sado**	**4.64**	**321**	Pn		**Pn**	**16 07 26.4**	**-0.6**
JTM	**Tenmabayashi**	**6.36**	**354**	Pn		**Pn**	**16 07 47.5**	**-3.1**
JMN	**Monobe**	**6.71**	**266**	Pn		**Pn**	**16 07 55.7**	**+0.1**
JHS	**Saijyo**	**7.27**	**277**	Pn		**Pn**	**16 08 06.1**	**+2.9**
JCJ	**Chichijima**	**7.34**	**178**	Pn		**Pn**	**16 08 05.5**	**+1.4**
	59nm,0.7s,baz=307,slow=21,SNR=1.9							
JCJ				Sn		**Sn**	**16 09 21.4**	**-5.3**
	7.6nm,0.3s,baz=292,slow=16,SNR=2.5							
ERM	**Erimo**	**7.61**	**7**	Pn		**Pn**	**16 08 04.1**	**-3.6**
KSRS	**Korea Array**	**11.73**	**289**	Pn		**Pn**	**16 09 05.6**	**+1.3**
	0.1nm,0.3s,baz=104,slow=15,SNR=3.6							
KSRS				LR		LR	16 13 48.9	
	comp=Z,28nm,19.4s,baz=100,slow=39							
	1.1nm,0.8s							
USRK	**Ussuriysk Ar.**	**12.39**	**325**	Pn		**Pn**	**16 09 12.9**	**-0.4**
	0.1nm,0.3s,baz=114,slow=14,SNR=2.5							
	1.3nm,0.7s							
PETK	**Petropavlovsk-**	**21.76**	**26**	P		**P**	**16 11 04.6**	**-3.6**
H11N2	**WAKE ISLAND Hy**	**26.54**	**117**	T		T	16 39 56.6	
	baz=309							
H11N1	**WAKE ISLAND Hy**	**26.54**	**117**	T		T	16 39 55.3	
	baz=309							
H11N3	**WAKE ISLAND Hy**	**26.55**	**117**	T		T	16 40 03.6	
	baz=309							
H11S3	**WAKE ISLAND Hy**	**27.17**	**119**	T		T	16 41 00.1	
	baz=318							
H11S1	**WAKE ISLAND Hy**	**27.17**	**119**	T		T	16 40 43.4	
	baz=318,SNR=3.7							
H11S2	**WAKE ISLAND Hy**	**27.19**	**119**	T		T	16 40 47.7	
	baz=318							
YAK	**Yakutsk**	**28.67**	**348**	P		**P**	**16 12 10.0**	**-3.2**
SONM	**Songino Array**	**29.63**	**308**	P		**P**	**16 12 22.9**	**+0.8**
	1.1nm,0.6s,baz=99,slow=8.9,SNR=3.9							
	1.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**41.32**	**259**	P		**P**	**16 14 01.8**	**-0.7**
	0.7nm,0.7s,baz=51,slow=8.2,SNR=6.8							
	0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**43.98**	**314**	P		**P**	**16 14 24.0**	**+0.3**
	1.2nm,0.6s,baz=83,slow=6.0,SNR=7.3							
ZALV				PcP		**PcP**	**16 16 09.4**	**+0.3**
	0.7nm,0.6s,baz=93,slow=1.4,SNR=3.7							
	1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**43.98**	**314**	P		**P**	**16 14 24.2**	**+0.5**
MKAR	**Makanchi Array**	**45.88**	**304**	P		**P**	**16 14 39.4**	**+0.5**
	1.1nm,0.9s,baz=92,slow=8.6,SNR=5.6							
	1.1nm,0.9s							
KURK	**Kurchatov**	**47.88**	**310**	P		**P**	**16 14 53.9**	**-0.6**
ILAR	**Eielson Array**	**51.46**	**31**	P		**P**	**16 15 22.9**	**+1.4**
	0.7nm,0.9s,baz=260,slow=5.6,SNR=6.3							
	0.7nm,0.9s							
WB0	**Warramunga Arr**	**54.40**	**189**

KK31	**Karatay Array**	**6.36**	**358**	P		**Pn**	**16 37 40.0**	**+1.5**
	7.8nm,0.3s,baz=177,slow=12,SNR=145							
KK31				S		**Sn**	**16 38 50.2**	**+0.6**
	1.6nm,0.2s,baz=189,slow=28,SNR=6.6							
AAK	**Ala-Archa**	**6.54**	**25**	P		**Pn**	**16 37 41.2**	**+0.1**
	SNR=16							
CHMS	**Chumysh**	**6.95**	**25**	P		**Pn**	**16 37 46.4**	**-0.1**
	SNR=8.1							
CHMS	**Chumysh**	**6.95**	**25**	⇑P		**Pn**	**16 37 46.1**	**-0.4**
	4.5nm,0.3s							
CHMS				⇓S		**Sn**	**16 39 04.6**	**+0.6**
	3.8nm,0.6s							
USP	**Ospenovka**	**7.11**	**22**	P		**Pn**	**16 37 48.8**	**+0.1**
	SNR=15							
TKM2	**Tokmak 2**	**7.19**	**29**	P		**Pn**	**16 37 49.6**	**-0.4**
	SNR=5.8							
TKM2	**Tokmak 2**	**7.19**	**29**	⇓P		**Pn**	**16 37 49.0**	**-0.9**
	5.3nm,0.5s							
TKM2				⇑S		**Sn**	**16 39 10.1**	**0.0**
	2.7nm,0.9s							
MDOK	**Medeo**	**8.01**	**35**	⇑P		**Pn**	**16 37 59.6**	**-1.4**
	1.5nm,0.5s							
GEYT	**Alibeck**	**10.17**	**280**	P		**Pn**	**16 38 30.2**	**-0.2**
	0.7nm,0.3s,baz=108,slow=9.3,SNR=2.6							
GEYT				S		**Sn**	**16 40 19.7**	**-2.7**
	1.0nm,0.3s,baz=29,slow=34,SNR=2.2							
	0.8nm,0.3s							
MK31	**Makanchi Array**	**13.19**	**37**	⇑P		**Pn**	**16 39 09.9**	**-0.8**
	0.8nm,0.7s,baz=205,slow=9.3,SNR=7.7							
MKAR	**Makanchi Array**	**13.19**	**37**	P		**Pn**	**16 39 08.0**	**-2.7**
	0.1nm,0.3s,baz=223,slow=9.8,SNR=4.6							
	0.4nm,0.7s							
AB31	**Akbulak array**	**14.79**	**331**	P		**Pn**	**16 39 31.6**	**+0.3**
	0.3nm,0.4s,baz=322,slow=21,SNR=19							
AB31				S		**Sn**	**16 42 11.7**	**-2.6**
	0.9nm,0.5s,baz=150,slow=24,SNR=6.5							
BVAR	**Borovoye Array**	**16.28**	**359**	P		**P**	**16 39 51.2**	**0.0**
	0.2nm,0.3s,baz=169,slow=12,SNR=3.9							
	0.7nm,0.6s							
AKTO	**Aktyubinsk**	**16.49**	**330**	P		**P**	**16 39 56.6**	**+3.2**
	0.2nm,0.3s,baz=136,slow=12,SNR=3.5							
	1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**19.76**	**25**	P		**P**	**16 40 27.6**	**-1.6**
	1.1nm,0.3s,baz=219,slow=11,SNR=7.8							
	1.1nm,0.3s							
KBZ	**Khabaz**	**22.34**	**297**	LR		LR	16 51 44.1	
	comp=Z,31nm,19.1s,baz=32,slow=41							
FINES	**FINESS Array B**	**37.19**	**326**	P		**P**	**16 43 10.6**	**+2.1**
	1.6nm,1.1s,baz=126,slow=9.7,SNR=3.4							
	1.6nm,1.1s							
HFS	**Hagfors**	**42.77**	**322**	P		**P**	**16 43 55.9**	**+1.2**
	0.9nm,0.8s,baz=96,slow=13,SNR=1.5							
	0.9nm,0.8s							

*IDC **09** 16:37:20.7±2.0,59.70N×19.42E,h0km,mbtmp2.7/4, ML1.2/3,Error ellipse: s-maj=37.9km s-min=8.9km az=167.0*
*UPP **09** 16:37:20.8±0.1,59.87N×19.35E,h0km±4km,ML2.2, Explosion*
*DNK **09** 16:37:21.0±0.6,59.86N×19.35E,h0km,ML2.2(UPP), Explosion*

ISC 09 16:37:20.1±0.9,**59.88N**±0.04×**19.31E**±0.03,**h0**km,**n25, s0.70/32,Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.40**	**239**	P		**P**	**Pg**	**16 37 28.4**	**+0.6**
NRTU				S		S	**Sg**	**16 37 33.7**	**+0.8**
NRTU	**Norrtaelje**	**0.40**	**239**	P		**P**	**Pg**	**16 37 28.4**	**+0.6**
NRTU				S		S	**Sg**	**16 37 33.7**	**+0.8**
AAL	**Aland**	**0.46**	**49**	P		**P**	**Pg**	**16 37 29.3**	**+0.4**
AAL				S		S	**Sg**	**16 37 35.2**	**+0.5**
GRAU	**Graesoe**	**0.60**	**320**	P		**P**	**Pg**	**16 37 32.2**	**+0.6**
GRAU	**Graesoe**	**0.60**	**320**	P		**P**	**Pg**	**16 37 32.2**	**+0.6**
FLYU	**Flymyra**	**0.76**	**290**	P		**P**	**Pg**	**16 37 35.5**	**+0.9**
FLYU	**Flymyra**	**0.76**	**290**	P		**P**	**Pg**	**16 37 35.5**	**+0.9**
FIBU	**Brunna**	**0.99**	**272**	P		**P**	**Pg**	**16 37 39.4**	**+0.4**
FIBU	**Brunna**	**0.99**	**272**	P		**P**	**Pg**	**16 37 39.4**	**+0.4**
NYNU	**Nynaeshamn**	**1.10**	**218**	P		**P**	**Pg**	**16 37 41.0**	**-0.3**
NYNU	**Nynaeshamn**	**1.10**	**218**	P		**P**	**Pg**	**16 37 41.0**	**-0.3**
BACU	**Backbrunna**	**1.11**	**270**	P		**P**	**Pg**	**16 37 41.7**	**+0.3**
BACU				S		S	**Sg**	**16 37 56.7**	**+0.9**
BACU	**Backbrunna**	**1.11**	**270**	P		**P**	**Pg**	**16 37 41.7**	**+0.3**
BACU				S		S	**Sg**	**16 37 56.7**	**+0.9**
OSTU	**Oestervaala**	**1.15**	**289**	P		**P**	**Pg**	**16 37 42.8**	**+0.7**
OSTU	**Oestervaala**	**1.15**	**289**	P		**P**	**Pg**	**16 37 42.8**	**+0.7**
IGGU	**Iggoen**	**1.40**	**316**	P		**P**	**Pn**	**16 37 46.6**	**-0.4**
IGGU	**Iggoen**	**1.40**	**316**	P		**P**	**Pn**	**16 37 46.6**	**-0.4**
ESKU	**Eskilstuna**	**1.62**	**248**	P		**P**	**Pb**	**16 37 50.8**	**-0.1**
ESKU	**Eskilstuna**	**1.62**	**248**	P		**P**	**Pb**	**16 37 50.8**	**-0.1**
FALU	**Falun**	**1.84**	**291**	P		**P**	**Pb**	**16 37 54.5**	**-0.2**
FALU	**Falun**	**1.84**	**291**	P		**P**	**Pb**	**16 37 54.5**	**-0.2**
HFS	**Hagfors**	**2.83**	**278**	Pn		**Pn**	**Pn**	**16 38 07.9**	**+1.3**
	0.2nm,0.3s,baz=92,slow=16,SNR=15								
HFS				Sn		**Sn**	**Sb**	**16 38 45.7**	**-1.0**
	0.2nm,0.3s,baz=103,slow=33,SNR=5.4								
	0.8nm,0.2s								
FINES	**FINESS Array B**	**3.68**	**62**	Pn		**Pn**	**Pn**	**16 38 19.0**	**+0.8**
	0.1nm,0.3s,baz=240,slow=11,SNR=8.1								
FINES				Pg		**Pb**	**Pb**	**16 38 26.1**	**+0.1**
	0.1nm,0.3s,baz=258,slow=16,SNR=11								
FINES				Lg		Lg	Lg	16 39 17.9	
	0.1nm,0.3s,baz=246,slow=25,SNR=2.0								
	0.2nm,0.2s								
NOA	**NORSAR Array B**	**4.17**	**290**	Pn		**Pn**	**Pn**	**16 38 25.8**	**+0.8**
	baz=117,slow=12,SNR=4.3								
	0.3nm,0.8s								
ARCES	**ARCESS Array B**	**10.04**	**13**	Pn		**Pn**	**Pn**	**16 39 44.1**	**-1.3**
	2.9nm,1.1s,baz=188,slow=12,SNR=6.6								

*IDC **09** 16:38:16.6±3.4,36.69S×179.02E,h0km,mb3.7/2, mbtmp3.7/3,ML3.5/1,MS3.3/1,Error ellipse: s-maj=76.3km s-min=33.0km az=120.0*
*WEL **09** 16:38:21.5±1.5,37.5S±6.×17.9E±1.0,h15km±11km,M3.2/7, ML3.5/12,MLv3.2/7,Error ellipse: s-maj=0.0km s-min=0.0km az=90.3*

ISC 09 16:38:17.9±2.5,**36.88S**±0.08×**179.2E**±0.1,**h13**km±11km, **n19,s1.25/25,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.98**	**225**	P		**P**	**Pn**	**16 38 38.4**	**+1.0**
MXZ				S		S	**Sg**	**16 38 47.7**	**-1.9**
WMGZ	**Waiomatatini S**	**1.12**	**213**	P		**P**	**Pg**	**16 38 40.4**	**+0.8**
WMGZ				S		S	**Sb**	**16 38 55.2**	**+1.4**
PKGZ	**Pakihiroa**	**1.34**	**221**	P		**P**	**Pn**	**16 38 43.4**	**+0.9**
PKGZ				S		S	**Sb**	**16 39 00.0**	**0.0**
PUZ	**Puketiti**	**1.40**	**211**	P		**P**	**Pn**	**16 38 42.4**	**-0.8**
PUZ				S		S	**Sb**	**16 39 01.5**	**-0.3**
HAZ	**Te Kaha**	**1.42**	**231**	P		**P**	**Pg**	**16 38 45.4**	**+0.1**
TWGZ	**Tauwhareparae**	**1.61**	**216**	P		**P**	**Pn**	**16 38 45.8**	**-0.3**
RUGZ	**Raukumara Rang**	**1.62**	**227**	P		**P**	**Pn**	**16 38 47.6**	**+1.4**
CNGZ	**Carnagh Statio**	**1.78**	**205**	P		**P**	**Pn**	**16 38 49.3**	**+0.9**
MWZ	**Matawai**	**1.96**	**222**	P		**P**	**Pn**	**16 38 51.6**	**+0.7**
URZ	**Urewera**	**2.15**	**229**	Pn		**Pn**	**Pn**	**16 38 54.6**	**+1.2**
	13nm,0.3s,baz=31,slow=1.8,SNR=33								
URZ				Sn		**Sn**	**Sn**	**16 39 21.0**	**+1.0**
	5.0nm,0.3s,baz=31,slow=4.5,SNR=6.0								
	31nm,0.3s								
URZ	**Urewera**	**2.15**	**229**	P		**P**	**Pn**	**16 38 54.6**	**+1.2**
URZ				S		S	**Sn**	**16 39 20.6**	**+0.6**
KUZ	**Kuaotunu**	**2.78**	**272**	P		**P**	**Pn**	**16 39 03.6**	**+1.4**
KUZ				S		S	**Sn**	**16 39 32.7**	**-2.9**
TOZ	**Tahuroa Road**	**3.06**	**253**	P		**P**	**Pn**	**16 39 07.6**	**+1.7**
BKZ	**Black Stump Fm**	**3.12**	**222**	P		**P**	**Pn**	**16 39 07.3**	**+0.4**
MKAZ	**Moumakai**	**3.23**	**265**	P		**P**	**Pn**	**16 39 09.9**	**+1.6**
ASAR	**Alice Springs**	**40.90**	**276**	P		**P**	**P**	**16 45 59.5**	**-0.6**
	1.1nm,0.7s,baz=119,slow=8.0,SNR=19								
	1.1nm,0.7s								
WRA	**Warramunga Arr**	**42.49**	**281**	P		**P**	**P**	**16 46 12.3**	**-0.7**
	0.7nm,0.8s,baz=120,slow=7.8,SNR=5.5								
	0.7nm,0.8s								
SIJI	**Sorong**	**56.88**	**298**	LR		LR	LR	17 11 48.4	
	comp=Z,26nm,20.7s,baz=190,slow=36								
FINES	**FINESS Array B**	**150.19**	**334**	PKPbc		**PKPbc**	**PKPbc**	**16 58 07.3**	**-0.3**
	1.1nm,1.0s,baz=50,slow=4.3,SNR=1.2								

*IDC **09** 16:46:35.6±1.1,37.84N×21.27E,h0km,mb3.7/7, mbtmp3.6/10,ML3.3/3,MS3.1/1,Error ellipse: s-maj=21.7km s-min=20.8km az=62.0*
*ATH **09** 16:46:37.7,37.81N×21.21E,h13km±1km,ML3.5/16,Error ellipse: s-maj=1.8km s-min=0.8km az=2.0*
*THE **09** 16:46:38.0,37.82N×21.21E,h16km±1km,ML3.6/13,Error ellipse: s-maj=1.3km s-min=0.6km az=327.0*

ISC 09 16:46:37.0±1.1,**37.77N**±0.02×**21.22E**±0.02,**h8**km±8km, **n69,s0.94/96,mb3.7/7,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.31**	**258**	P		**P**	**Pb**	**16 46 44.7**	**-0.1**
LTHK				S		**S**	**Sb**	**16 46 50.0**	**0.0**
	14μm,0.5s								
LTHK	**Lithakia**	**0.31**	**258**	P		**P**	**Pb**	**16 46 44.5**	**-0.3**
LTHK				S		**S**	**Sb**	**16 46 49.4**	**-0.6**
LTHK				AML		AML	AML	16 46 56.8	
	comp=E,25624μm,0.5s								
LTHK				AML		AML	AML	16 46 57.4	
	comp=N,27631μm,0.5s								
RLS	**Riolos of Patr**	**0.34**	**35**	P		**Pg**	**Pg**	**16 46 43.9**	**+0.2**
RLS				S		**S**	**Sg**	**16 46 49.1**	**+0.8**
	comp=N,22μm,0.2s								
RLS	**Riolos of Patr**	**0.34**	**35**	P		**Pg**	**Pg**	**16 46 44.0**	**+0.2**
RLS				S		**S**	**Sg**	**16 46 48.9**	**+0.6**
RLS				AML		AML	AML	16 46 49.8	
	comp=E,34248μm,0.2s								
RLS				AML		AML	AML	16 46 49.8	
	comp=N,51225μm,0.2s								
DRO	**Drossia**	**0.43**	**65**	P		**Pg**	**Pg**	**16 46 45.5**	**+0.2**
DRO				S		**S**	**Sb**	**16 46 53.3**	**-0.2**
	comp=N,19μm,0.2s								
DRO	**Drossia**	**0.43**	**65**	P		**Pg**	**Pg**	**16 46 45.5**	**+0.2**
DRO				S		**S**	**Sb**	**16 46 52.6**	**-0.9**
DRO				AML		AML	AML	16 46 56.6	
	comp=N,33569μm,0.3s								
DRO				AML		AML	AML	16 46 56.7	
	comp=E,41576μm,0.3s								
PSDA	**Pessada-Kefalo**	**0.60**	**304**	P		**Pg**	**Pg**	**16 46 48.6**	**0.0**
PSDA				S		**S**	**Sb**	**16 46 57.9**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.60**	**304**	P		**Pg**	**Pg**	**16 46 48.7**	**0.0**
PSDA				S		**S**	**Sg**	**16 46 57.2**	**+0.6**
VLS	**Valsamata**	**0.64**	**309**	P		**Pg**	**Pg**	**16 46 49.1**	**-0.2**
VLS				S		**S**	**Sb**	**16 46 59.2**	**-0.4**
	comp=E,2μm,0.3s								
UPR	**University Cam**	**0.68**	**41**	P		**P**	**Pb**	**16 46 51.5**	**+0.4**
UPR				S		**S**	**Sb**	**16 47 01.2**	**+0.5**
ARGA	**Argostoli. Kep**	**0.71**	**305**	P		**P**	**Pb**	**16 46 51.6**	**0.0**
LAKA	**Lakka**	**0.76**	**52**	P		**Pg**	**Pg**	**16 46 51.3**	**-0.3**
LAKA				S		**S**	**Sb**	**16 47 03.3**	**+0.2**
	comp=E,8μm,0.4s								
LAKA	**Lakka**	**0.76**	**52**	P		**Pg**	**Pg**	**16 46 51.3**	**-0.3**
LAKA				S		**S**	**Sb**	**16 47 02.6**	**-0.5**
LAKA				AML		AML	AML	16 47 05.9	
	comp=E,19487μm,0.5s								
LAKA				AML		AML	AML	16 47 05.9	
	comp=N,16362μm,0.4s								
KLV	**Kalavryta, Ach**	**0.79**	**70**	P		**Pg**	**Pg**	**16 46 51.6**	**-0.5**
KLV				S		**S**	**Sb**	**16 47 03.3**	**-0.5**
	comp=N,1μm,0.3s								
KLV	**Kalavryta, Ach**	**0.79**	**70**	P		**Pg**	**Pg**	**16 46 52.1**	**0.0**
KLV				S		**S**	**Sg**	**16 47 02.3**	**-0.1**
KLV				AML		AML	AML	16 47 09.5	
	comp=N,3239μm,0.3s								
KLV				AML		AML	AML	16 47 09.7	
	comp=E,2639μm,0.4s								
KEF4	**Livadi, Kephal**	**0.79**	**308**	P		**Pg**	**Pg**	**16 46 51.6**	**-0.6**
KEF4				S		**S**	**Sb**	**16 47 03.7**	**-0.2**
	comp=E,15μm,0.3s								
KEF4	**Livadi, Kephal**	**0.79**	**308**	P		**Pg**	**Pg**	**16 46 51.9**	**-0.3**
KEF3	**Kipouria, Keph**	**0.81**	**302**	P		**P**	**Pg**	**16 46 51.9**	**-0.7**
KEF3				S		**S**	**Sb**	**16 47 05.0**	**+0.6**
	comp=E,7μm,0.5s								
KEF3	**Kipouria, Keph**	**0.81**	**302**	P		**Pg**	**Pg**	**16 46 51.9**	**-0.7**
DMLN	**Damoulianata-K**	**0.81**	**305**	P		**P**	**Pg**	**16 46 52.3**	**-0.3**
DMLN				S		**S**	**Sb**	**16 47 04.8**	**+0.2**
	comp=E,5μm,0.3s								
ITM	**Ithomi**	**0.82**	**136**	P		**P**	**Pb**	**16 46 53.7**	**+0.2**
ITM				S		**S**	**Sn**	**16 47 07.5**	**+0.3**
	comp=E,4μm,0.6s								
ITM	**Ithomi**	**0.82**	**136**	P		**Pb**	**Pb**	**16 46 53.6**	**+0.2**
ITM				S		**S**	**Sb**	**16 47 04.2**	**-0.5**
ITM				AML		AML	AML	16 47 09.2	
	comp=E,7462μm,0.6s								
ITM				AML		AML	AML	16 47 11.0	
	comp=N,9300μm,0.4s								
EFP	**Efpalio**	**0.85**	**40**	P		**Pg**	**Pg**	**16 46 53.1**	**-0.2**
EFP				S		**S**	**Sb**	**16 47 05.4**	**-0.2**
	comp=N,3μm,0.4s								
EFP	**Efpalio**	**0.85**	**40**	P		**Pg**	**Pg**	**16 46 53.1**	**-0.2**
EFP				S		**S**	**Sb**	**16 47 05.8**	**+0.2**
EFP				AML		AML	AML	16 47 06.9	
	comp=E,7746μm,0.3s								
EFP				AML		AML	AML	16 47 08.9	
	comp=N,5462μm,0.5s								
FSK	**Fiskardo**	**0.86**	**323**	P		**Pg**	**Pg**	**16 46 53.5**	**0.0**
FSK				S		**S**	**Sb**	**16 47 05.2**	**-0.6**
	comp=N,2μm,0.4s								
FSK	**Fiskardo**	**0.86**	**323**	P		**Pg**	**Pg**	**16 46 53.4**	**0.0**
TRIP	**Tripoli**	**0.87**	**106**	P		**Pg**	**Pg**	**16 46 50.5**	**-3.2**
TRIP				S		**S**	**Sb**	**16 47 05.8**	**-0.5**
PVO	**Paravola**	**0.88**	**16**	P		**Pg**	**Pg**	**16 46 53.8**	**0.0**
PVO				S		**S**	**Sb**	**16 47 05.8**	**-0.6**
	comp=N,6μm,0.3s								
PVO	**Paravola**	**0.88**	**16**	P		**Pg**	**Pg**	**16 46 54.0**	**+0.1**
PVO				S		**S**	**Sg**	**16 47 05.6**	**+0.3**
SERG	**Sergoula**	**0.92**	**46**	P		**Pg**	**Pg**	**16 46 54.3**	**-0.3**
SERG				AML		AML	AML	16 47 10.8	
	comp=E,6283μm,0.3s								
SERG				AML		AML	AML	16 47 13.0	
	comp=N,7587μm,0.2s								
EVGI	**Lefkada island**	**0.95**	**333**	P		**P**	**Pg**	**16 46 54.6**	**-0.7**
PYL	**PYLOS**	**0.97**	**154**	P		**P**	**Pb**	**16 46 56.3**	**+0.2**
PYL				S		**S**	**Sn**	**16 47 11.7**	**+0.8**
PYL	**PYLOS**	**0.97**	**154**	P		**P**	**Pb**	**16 46 56.3**	**+0.2**
LKD2	**Lefkada island**	**1.10**	**337**	P		**P**	**Pg**	**16 46 57.3**	**-0.9**
LKD2				AML		AML	AML	16 47 19.9	
	comp=N,5987μm,0.4s								
LKD2				AML		AML	AML	16 47 20.7	
	comp=E,6036μm,0.5s								
TSLK	**Tsoukalades, L**	**1.14**	**337**	P		**P**	**Pg**	**16 46 57.9**	**-0.9**
THAL	**Thalero**	**1.17**	**77**	P		**P**	**Pg**	**16 46 59.1**	**-0.4**
THAL				AML		AML	AML	16 47 23.3	
	comp=E,6523μm,0.4s								
THAL				AML		AML	AML	16 47 26.5	
	comp=N,6604μm,0.4s								
DLFA	**Delphi**	**1.23**	**55**	P		**Pb**	**Pb**	**16 46 59.1**	**-1.4**
EVR	**Evrytania**	**1.23**	**22**	P		**Pb**	**Pb**	**16 46 59.9**	**-0.7**
EVR				AML		AML	AML	16 47 21.3	
	comp=E,2568μm,0.4s								
EVR				AML		AML	AML	16 47 26.7	
	comp=N,2465μm,0.8s								
LOUT	**Loutraki**	**1.41**	**81**	P		**Pn**	**Pn**	**16 47 03.2**	**+0.2**
LTK	**Loutraki**	**1.41**	**79**	P		**Pn**	**Pn**	**16 47 03.2**	**+0.2**
LTK				AML		AML	AML	16 47 31.5	
	comp=N,1709μm,0.5s								
LTK				AML		AML	AML	16 47 33.2	
	comp=E,1980μm,0.4s								
MAKR	**Makrakomi, Fth**	**1.43**	**30**	P		**Pb**	**Pb**	**16 47 03.9**	**0.0**
MAKR				AML		AML	AML	16 47 28.7	
	comp=N,3593μm,0.6s								
MAKR				AML		AML	AML	16 47 30.2	
	comp=E,3759μm,0.3s								
AXAR	**Agios Charalam**	**1.51**	**48**	P		**Pn**	**Pn**	**16 47 04.4**	**0.0**
AXAR				AML		AML	AML	16 47 32.4	
	comp=N,3989μm,0.5s								
AXAR				AML		AML	AML	16 47 32.6	
	comp=E,4508μm,0.4s								
EPID	**Epidavros**	**1.52**	**95**	P		**Pg**	**Pg**	**16 47 06.2**	**+0.1**
KRND	**KRANIDI**	**1.58**	**104**	P		**Pg**	**Pg**	**16 47 07.4**	**+0.1**
KRND				AML		AML	AML	16 47 35.7	
	comp=E,1428μm,0.6s								
KRND				AML		AML	AML	16 47 37.4	
	comp=N,1461μm,0.8s								
VIL2	**Platees**	**1.68**	**74**	P		**Pg**	**Pg**	**16 47 08.9**	**-0.2**
VIL2				AML		AML	AML	16 47 44.5	
	comp=N,1241μm,0.7s								
VIL2				AML		AML	AML	16 47 47.1	
	comp=E,1320μm,0.8s								
VLI	**Veliai**	**1.73**	**127**	P		**Pg**	**Pg**	**16 47 10.2**	**+0.1**
IGT	**Igoumenitsa**	**1.89**	**339**	P		**Pb**	**Pb**	**16 47 10.7**	**-1.1**
THL	**Klokotos Trika**	**1.89**	**19**	P		**Pb**	**Pb**	**16 47 11.3**	**-0.5**
ATH	**Athens Observa**	**1.99**	**84**	P		**Pb**	**Pb**	**16 47 12.8**	**-0.6**
ATHU	**Athens Univers**	**2.04**	**84**	P		**Pb**	**Pb**	**16 47 13.8**	**-0.5**
VLY	**Voula,Athens**	**2.04**	**87**	P		**Pb**	**Pb**	**16 47 14.0**	**-0.3**
KTHR	**Kythira**	**2.08**	**136**	P		**Pg**	**Pg**	**16 47 15.8**	**-1.0**
PTL	**Penteli**	**2.11**	**82**	P		**Pb**	**Pb**	**16 47 14.7**	**-0.8**
KTHA	**Kythira Island**	**2.12**	**135**	P		**Pb**	**Pb**	**16 47 16.0**	**+0.4**
DION	**Dionisos Attik**	**2.17**	**81**	P		**Pb**	**Pb**	**16 47 15.7**	**-0.9**
ANKY	**Antikythira Is**	**2.53**	**138**	P		**Pb**	**Pb**	**16 47 21.7**	**-1.0**
OHR	**Ohrid**	**3.35**	**355**	ePn		**Pb**	**Pb**	**16 47 34.2**	**-2.5**
IDI	**Anoyia**	**3.86**	**129**	Pn		**Pn**	**Pn**	**16 47 37.2**	**+0.4**
	comp=E,1.0nm,0.3s,baz=310,slow=15,SNR=7.7								
IDI				Sn		**Sn**	**Sn**	**16 48 25.1**	**+2.7**
	comp=E,2.4nm,0.3s,baz=142,slow=21,SNR=2.6								
	comp=E,2.3nm,0.3s								
STIP	**Stip**	**3.99**	**10**	ePn		**Pn**	**Pn**	**16 47 41.0**	**+2.5**
BRTR	**Keskin Array B**	**9.90**	**75**	Pn		**Pn**	**Pn**	**16 49 03.4**	**+3.7**
	baz=254,slow=16,SNR=2.5								
BRTR				LR		LR	LR	16 53 27.5	
	comp=E,130nm,21.3s,baz=307,slow=42								
	comp=E,0.3nm,0.5s								
ESDC	**Sonseca Array**	**19.72**	**283**	P		**Pn**	**Pn**	**16 51 08.3**	**-0.2**
	comp=E,0.1nm,0.3s,baz=79,slow=12,SNR=5.5								
	comp=E,0.7nm,0.8s								
HFS	**Hagfors**	**22.89**	**350**	P		**P**	**P**	**16 51 40.0**	**-0.8**
	comp=E,1.3nm,0.6s,baz=150,slow=10,SNR=6.1								
	comp=E,1.3nm,0.6s								
FINES	**FINESS Array B**	**23.89**	**6**	P		**P**	**P**	**16 51 49.2**	**-1.6**
	comp=E,0.6nm,0.4s,baz=170,slow=10,SNR=6.8								
	comp=E,0.6nm,0.4s								
NB2	**NORSAR Subarra**	**24.12**	**348**	P		**P**	**P**	**16 51 55.9**	**+2.8**
	comp=Z,3.6nm,1.1s,baz=160,slow=9.3								
NOA	**NORSAR Array B**	**24.12**	**348**	P		**P**	**P**	**16 51 53.5**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=166,slow=11,SNR=4.2								
	comp=Z,1.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**30.07**	**221**	P		**P**	**P**	**16 52 46.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=31,slow=9.4,SNR=7.6								
	comp=Z,1.3nm,0.7s								
ARCES	**ARCESS Array B**	**31.91**	**3**	P		**P**	**P**	**16 53 01.9**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=184,slow=11,SNR=1.5								
	comp=Z,1.3nm,0.8s								
MKAR	**Makanchi Array**	**45.05**	**58**	P		**P**	**P**	**16 54 52.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=276,slow=7.2,SNR=7.0								
	comp=Z,0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**45.55**	**48**	P		**P**	**P**	**16 54 55.3**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=256,slow=8.8,SNR=2.3								
	comp=Z,0.8nm,0.4s								

ROM 09 16:48:42.2±0.1,**42.739N**±0.003×**13.168E**±0.005, **h9**km,**ML2.5/40,31C-11D,Error ellipse: s-maj=0.3km s-min=0.3km az=75.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.09**	**16**	⇑P		Pg	Pg	16 48 45.0	+0.3
T1242				S		Sg	Sg	16 48 47.0	+0.6
T1242				AML		AML			
	comp=E,10150μm,0.2s								
T1242				AML		AML			
	comp=N,10850μm,0.4s								
T1242				AML		AML			
	comp=E,10120μm,0.3s								
T1242				AML		AML			
	comp=N,10950μm,0.4s								
T1242				AML		AML			
	comp=E,10105μm,0.2s								
T1242				AML		AML			
	comp=E,10145μm,0.2s								
T1242				AML		AML			
	comp=E,10225μm,0.3s								
T1242				AML		AML			
	comp=N,10950μm,0.4s								
NRCA	**Norcia**	**0.10**	**337**	⇑P		Pg		16 48 45.1	+0.3
NRCA				S		Sg		16 48 46.8	+0.3
NRCA				AML		AML			
	comp=E,19150μm,0.2s								
NRCA				AML		AML			
	comp=N,10315μm,0.5s								
NRCA				AML		AML			
	comp=N,10300μm,0.5s							

RM33 AML AML
comp=E,1345μm,0.2s
AM05 Amandola Campo 0.27 30 ⇓P Pg 16 48 46.7 -1.0
AM05 S Sb 16 48 53.4 -0.7
FDMO Fiordimonte 0.30 349 ⇑P Pg 16 48 48.6 +0.4
FDMO S Sb 16 48 54.1 -0.9
FDMO AML AML
comp=E,1485μm,0.2s
FDMO AML AML
comp=N,1254μm,0.2s
T1247 Pizzolo (AQ) 0.31 162 ⇑P Pb 16 48 49.4 -0.6
T1247 AML AML
comp=N,1022μm,0.5s
T1247 AML AML
comp=E,972μm,1.0s
T1247 AML AML
comp=N,1022μm,0.5s
CESI CESI - Serrava 0.33 324 ⇑P Pg 16 48 49.2 +0.5
CESI S Sb 16 48 54.6 -1.2
CESI AML AML
comp=N,2745μm,0.4s
CESI AML AML
comp=E,1520μm,0.6s
ARRO Arrone 0.34 242 ⇑P Pg 16 48 49.4 +0.6
ARRO AML AML
comp=E,967μm,1.4s
ARRO AML AML
comp=E,966μm,1.4s
ARRO AML AML
comp=N,1185μm,0.9s
TERO Teramo 0.34 110 ⇑P Pg 16 48 49.3 +0.3
TERO S Sb 16 48 55.0 -1.1
TERO AML AML
comp=E,1145μm,0.8s
TERO AML AML
comp=N,1700μm,1.2s
GUMA Gualdo di Mace 0.35 21 ⇑P Pg 16 48 49.1 +0.1
GUMA S Sb 16 48 55.5 -0.7
GUMA AML AML
comp=N,6320μm,0.5s
GUMA AML AML
comp=N,6325μm,0.5s
GUMA AML AML
comp=E,6500μm,0.3s
GUMA AML AML
comp=N,5625μm,0.6s
GUMA AML AML
comp=E,4105μm,1.4s
CSP1 Cessapalombo 0.35 4 ⇓P Pg 16 48 49.7 +0.5
CSP1 AML AML
comp=E,1385μm,0.9s
CSP1 AML AML
comp=N,1538μm,0.9s
OFFI Offida 0.43 63 P Pb 16 48 51.9 0.0
OFFI AML AML
comp=N,2250μm,0.6s
OFFI AML AML
comp=E,1810μm,0.6s
CESX Cesi 0.45 254 ⇑P Pg 16 48 51.2 +0.2
CESX AML AML
comp=N,541μm,1.5s
CESX AML AML
comp=E,619μm,0.5s
FIAM Fiamignano 0.47 185 ⇑P Pb 16 48 52.2 -0.6
FIAM AML AML
comp=N,329μm,0.8s
FIAM AML AML
comp=N,328μm,0.8s
FIAM AML AML
comp=E,251μm,0.8s
ASSB Assisi San Ben 0.48 309 ⇑P Pg 16 48 51.8 +0.2
ASSB AML AML
comp=E,1014μm,0.9s
ASSB AML AML
comp=N,980μm,0.2s
SNTG Esanatoglia 0.54 342 ⇓P Pg 16 48 52.9 +0.2
SNTG S Sb 16 49 02.0 +0.1
SNTG AML AML
comp=E,536μm,0.6s
SNTG AML AML
comp=N,396μm,0.1s
SNTG AML AML
comp=E,536μm,0.6s
SNTG AML AML
comp=N,396μm,0.1s
TRTR Tortoreto Alta 0.55 83 ⇓P Pb 16 48 54.5 +0.5
TRTR AML AML
comp=N,1118μm,0.9s
TRTR AML AML
comp=E,1245μm,0.3s
ATCC AVT- Casa Cast 0.59 319 ⇑P Pg 16 48 53.9 +0.2
ATCC S Sb 16 49 04.0 +0.7
ATCC AML AML
comp=N,889μm,0.3s
ATCC AML AML
comp=E,834μm,0.3s
ATCC AML AML
comp=E,833μm,0.3s
EL6 Elcito 0.59 355 ⇓P Pg 16 48 53.9 +0.2
EL6 S Sb 16 49 04.0 +0.6
EL6 AML AML
comp=E,674μm,0.2s
EL6 AML AML
comp=N,773μm,0.1s
EL6 AML AML
comp=N,780μm,0.1s
EL6 AML AML
comp=E,675μm,0.2s
VCEL Villa Celiera 0.60 125 P Pg 16 48 54.4 +0.5
VCEL AML AML
comp=E,514μm,0.4s
VCEL AML AML
comp=N,585μm,1.6s
FOSV Fossato di Vic 0.63 332 ⇑P Pg 16 48 54.5 +0.1
FOSV AML AML
comp=E,310μm,0.8s
FOSV AML AML
comp=N,276μm,0.2s
CING Cingoli 0.64 2 P Pg 16 48 54.8 +0.3
CING AML AML
comp=E,398μm,0.2s
CING AML AML
comp=N,295μm,0.5s
T0110 Collepietro 0.68 138 ⇑P Pg 16 48 55.3 -0.1
T0110 AML AML
comp=N,592μm,0.3s
T0110 AML AML
comp=E,547μm,0.7s
SRES S.Oreste - Sor 0.70 224 ⇑P Pb 16 48 56.6 0.0
SRES S Sn 16 49 08.0 -1.3
SRES AML AML
comp=N,126μm,0.4s
SRES AML AML
comp=E,162μm,0.2s
MURB Monte Urbino 0.70 318 ⇓P Pg 16 48 56.0 +0.2
MURB S Sb 16 49 07.7 +1.1
MURB AML AML
comp=N,1035μm,0.4s
MURB AML AML
comp=E,1410μm,0.6s
ATTE AVT- Monte Tez 0.75 308 P Pg 16 48 56.9 +0.2
ATTE AML AML
comp=E,194μm,0.4s
ATTE AML AML
comp=N,198μm,0.4s
ATFO Monte Foce - G 0.77 325 ⇓P Pg 16 48 56.9 0.0
ATFO S Sb 16 49 09.3 +1.0
ATFO AML AML
comp=E,245μm,1.3s
ATFO AML AML
comp=N,343μm,0.2s
MGAB Montegabbione 0.80 283 ⇑P Pg 16 48 57.8 +0.3
MGAB AML AML
comp=E,577μm,0.6s
MGAB AML AML
comp=N,746μm,0.3s
MGAB AML AML
comp=E,540μm,0.5s
MGAB AML AML
comp=N,712μm,0.3s
CERT Cerreto 0.80 190 ⇓P Pg 16 48 57.6 0.0
CERT AML AML
comp=N,120μm,1.6s
CERT AML AML
comp=E,195μm,0.5s
FRON Frontone 0.84 338 ⇑P Pg 16 48 58.4 0.0
FRON AML AML
comp=N,249μm,0.3s
FRON AML AML
comp=E,232μm,0.3s
ATVO AVT- Monte Val 0.85 319 ⇓P Pg 16 48 58.3 -0.2
ATVO S Sn 16 49 12.0 -1.1
ATVO AML AML
comp=N,155μm,0.4s
ATVO AML AML
comp=E,164μm,0.9s
ATPI Pietralunga - 0.91 322 ⇓P Pg 16 48 59.5 -0.2
ATPI AML AML
comp=E,159μm,0.4s
ATPI AML AML
comp=N,113μm,0.3s
ATPI AML AML
comp=N,113μm,0.3s
ATPI AML AML
comp=E,158μm,0.4s
INTR Introdacqua 0.91 143 P Pg 16 48 59.1 -0.6
INTR AML AML
comp=E,128μm,0.8s
INTR AML AML
comp=E,128μm,0.8s
INTR AML AML
comp=N,206μm,0.4s
VVLD Villa Vallelon 0.93 159 ⇑P Pn 16 49 02.8 +1.2
NARO Abbazia di Nar 0.97 334 ⇑P Pg 16 49 00.5 -0.4
NARO AML AML
comp=E,96μm,0.7s
NARO AML AML
comp=N,73μm,1.0s
FSSB Fossombrone 0.99 343 ⇑P Pg 16 49 01.1 -0.2
FSSB S Sn 16 49 18.0 +1.4
FSSB AML AML
comp=N,510μm,0.5s
FSSB AML AML
comp=E,500μm,0.4s
LPEL Lama dei Pelig 1.02 132 P Pg 16 49 01.6 -0.2
LPEL AML AML
comp=N,109μm,0.7s
LPEL AML AML
comp=E,172μm,0.5s
CAFI Castiglion Fio 1.06 304 ⇓P Pb 16 49 02.7 -0.1
CAFI S Sn 16 49 20.0 +1.8
CAFI AML AML
comp=E,98μm,0.5s
CAFI AML AML
comp=N,133μm,0.6s
TOLF Tolfa 1.10 232 ⇑P Pg 16 49 03.0 -0.2
TOLF AML AML
comp=E,86μm,1.5s
TOLF AML AML
comp=N,89μm,1.1s

ROM 09 16:49:20.1±0.0, 42°.851N±0°.002×13°.246E±0°.004, h9km, ML2.1/2, Error ellipse: s-maj=0.2km s-min=0.2km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**235**	P	Pg	16 49 22.0	0.0
T1242				AML	AML		
	comp=N,9130μm,0.1s						
T1242				AML	AML		
	comp=E,3155μm,0.1s						
T1242				AML	AML		
	comp=E,3030μm,0.1s						
T1242				AML	AML		
	comp=E,3160μm,0.1s						
T1242				AML	AML		
	comp=N,9105μm,0.1s						
T1242				AML	AML		
	comp=N,8900μm,0.1s						
MC2	**Monte Cornacci**	**0.07**	**327**	P	Pg	16 49 22.6	+0.1
MC2				S	Sg	16 49 24.2	-0.1
MMO1	**Montemonaco**	**0.08**	**51**	P	Pg	16 49 22.7	+0.3
MMO1				S	Sg	16 49 24.2	+0.1
NRCA	**Norcia**	**0.10**	**260**	P	Pg	16 49 23.1	+0.4
NRCA				S	Sg	16 49 24.9	+0.4
T1241	**Roccafluvione,**	**0.14**	**88**	P	Pg	16 49 23.9	+0.7
T1241				S	Sg	16 49 26.4	+1.0
T1202	**Accumoli, Fraz**	**0.15**	**186**	P	Pg	16 49 24.2	+0.8
AM05	**Amandola Campo**	**0.15**	**32**	P	Pg	16 49 24.1	+0.7
AM05				S	Sg	16 49 26.9	+1.2
AM05				AML	AML		
	comp=N,280μm,0.1s						
AM05				AML	AML		
	comp=N,1047μm,0.1s						
AM05				AML	AML		
	comp=E,249μm,0.3s						
AM05				AML	AML		
	comp=E,1018μm,0.5s						
T1216	**Preci, Frazion**	**0.17**	**284**	P	Pg	16 49 24.4	+0.6
FEMA	**Monte Fema**	**0.18**	**308**	P	Pg	16 49 24.7	+0.7
FEMA				S	Sg	16 49 27.9	+1.1
T1204	**Amatrice, Fraz**	**0.18**	**163**	P	Pg	16 49 24.8	+0.8
T1243	**Rocca Santa Ma**	**0.21**	**136**	P	Pg	16 49 25.2	+0.6
T1243				S	Sg	16 49 28.8	+1.2
FDMO	**Fiordimonte**	**0.22**	**328**	P	Pg	16 49 25.2	+0.6
FDMO				S	Sg	16 49 29.1	+1.4
GUMA	**Gualdo di Mace**	**0.22**	**17**	P	Pg	16 49 24.9	+0.2
GUMA				S	Sg	16 49 29.0	+1.2
SMA1	**SAN MARTINO**	**0.23**	**163**	P	Pg	16 49 25.5	+0.6
SMA1				S	Sg	16 49 28.9	+0.9
CSP1	**Cessapalombo**	**0.24**	**353**	P	Pg	16 49 25.9	+0.8
CSP1				S	Sg	16 49 30.2	+1.7
T1217	**Poggiodomo (PG**	**0.27**	**239**	P	Pg	16 49 25.9	+0.3
T1217				S	Sb	16 49 30.8	-1.1
T1215	**Vallo di Nera,**	**0.28**	**260**	P	Pg	16 49 26.4	+0.6
T1215				S	Sb	16 49 31.0	-1.2
LNSS	**Leonessa**	**0.29**	**211**	P	Pb	16 49 26.9	-0.7
LNSS				S	Sb	16 49 31.8	-0.7
CESI	**CESI - Serrava**	**0.29**	**302**	P	Pg	16 49 26.6	+0.6
CESI				S	Sb	16 49 31.7	-0.9
T1246	**Crognaleto (TE**	**0.32**	**146**	P	Pg	16 49 27.1	+0.5
T1246				S	Sb	16 49 32.5	-1.0
CAMP	**Campotosto**	**0.34**	**159**	P	Pg	16 49 27.4	+0.6
RM33	**Pellescritta (**	**0.34**	**184**	P	Pb	16 49 27.9	-0.6
RM33				S	Sb	16 49 33.4	-0.6
TERO	**Teramo**	**0.35**	**131**	P	Pg	16 49 27.4	+0.4
TERO				S	Sb	16 49 33.1	-1.0
SNTG	**Esanatoglia**	**0.46**	**331**	P	Pg	16 49 29.8	+0.6
ASSB	**Assisi San Ben**	**0.47**	**294**	P	Pg	16 49 29.8	+0.5
ASSB				S	Sb	16 49 37.4	-0.3

*IDC **09** 16:54:06.0±0.6, 21°.92N×122°.23E, h0km, mb4.0/24, mbtmp4.0/26, ML3.7/2, MS3.2/11, Error ellipse: s-maj=19.3km s-min=11.9km az=73.0*
*JMA **09** 16:54:09.7±0.6, 22°.N±2°×12°.2E±°, h46km, MV5.0/17, TAIWAN REGION*
*NIED **09** 16:54:09.7, 22°.15N×122°.20E, h46km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-0.59; Mθθ1.27; Mφφ-0.69; Mrθ0.31; Mθφ-1.49; Mφr-0.51; Fault plane solution: M0 1.88000×10^15^ NP1:φs74.00000°, δ70.00000°, λ-175.00000°. NP2:φs342.00000°, δ85.00000°, λ-21.00000°.*
*TAP **09** 16:54:10.4, 22°.13N×122°.10E, h41km, ML4.9, D*
*NEIC **09** 16:54:11.4±3.0, 22°.20N±0°.06×122°.06E±0°.07, h23km±8km, mb4.3/9, Error ellipse: s-maj=9.7km s-min=8.0km az=120.0*
ISC 09 16:54:07.7±1.2, 22°.09N±0°.03×122°.23E±0°.03, h10km±8km, n203, σ1s75/292, mb4.2/31, MS3.3/10, 23C-56D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.61**	**262**	⇓*i*P	**Pg**	**16 54 20.7**	**+1.2**
	baz=261						
LYUB				*i* S	**Sg**	**16 54 28.3**	**+0.7**
	baz=261						
LAY	**Lan-yu**	**0.64**	**265**	⇓*i*P	**Pg**	**16 54 20.4**	**+0.3**
	baz=265						
LAY				S	**Sg**	**16 54 28.4**	**-0.1**
	baz=265						
LDUT	**Ludao**	**0.92**	**309**	⇓*i*P	**Pg**	**16 54 24.6**	**-0.8**
	baz=313						
LDUT				*e*S	**Sg**	**16 54 34.7**	**-2.6**
	baz=313						
TTN	**Taitung**	**1.20**	**304**	⇓*i*P	**Pn**	**16 54 29.6**	**-1.0**
	baz=312						
TTN				S	**Sb**	**16 54 43.8**	**-2.4**
	baz=312						
EDH	**Donghe**	**1.23**	**316**	⇓P	**Pn**	**16 54 29.3**	**-1.7**
	baz=319						
EDH				*e*S	**Sb**	**16 54 43.7**	**-3.3**
	baz=319						
TSEB	**Hengchuen, Pin**	**1.25**	**262**	⇓*e*P	**Pn**	**16 54 31.4**	**+0.1**
	baz=259						
TSEB				*e*S	**Sb**	**16 54 48.1**	**+0.5**
	baz=259						
TAW	**Tawu**	**1.27**	**282**	⇓*i*P	**Pn**	**16 54 30.1**	**-1.3**
	baz=281						
TAW				*e*S	**Sb**	**16 54 44.1**	**-3.9**
	baz=281						
TAWH	**Dawu Township**	**1.27**	**282**	⇓P	**Pn**	**16 54 29.3**	**-2.2**
	baz=280						
ECL	**Taimali**	**1.29**	**293**	⇓P	**Pn**	**16 54 30.5**	**-1.2**
	baz=286						
ECL				*e*S	**Sb**	**16 54 45.6**	**-3.0**
	baz=286						
TWGBT	**Beinan**	**1.29**	**304**	⇓*e*P	**Pn**	**16 54 30.5**	**-1.3**
	baz=306						
TWGBT				S	**Sb**	**16 54 45.4**	**-3.3**
	baz=306						
TWG	**Pinlang**	**1.30**	**304**		**Pn**	**16 54 30.2**	**-1.7**
TWG				Sn	**Sb**	**16 54 44.5**	**-4.5**
SMST	**Manzhou Townsh**	**1.30**	**267**	⇓*e*P	**Pn**	**16 54 31.0**	**-0.9**
	baz=265						
LONT	**Longtian**	**1.30**	**309**	*e*P	**Pn**	**16 54 30.5**	**-1.4**
	baz=317						
EAST	**Anshuo**	**1.32**	**283**	⇓P	**Pn**	**16 54 30.9**	**-1.2**
	baz=282						
TWKBT	**Hengchun**	**1.33**	**264**	⇓P	**Pn**	**16 54 31.6**	**-0.7**
	baz=261						
TWKBT				*e*S	**Sb**	**16 54 45.5**	**-4.3**
	baz=261						
TWK1	**Hengchun**	**1.33**	**264**	⇓*e*P	**Pn**	**16 54 31.6**	**-0.8**
	baz=261						
TWK1				*e*S	**Sb**	**16 54 48.5**	**-1.5**
	baz=261						
SLIU	**Shizi**	**1.34**	**276**	⇓*e*P	**Pn**	**16 54 31.4**	**-1.1**
	baz=274						
HEN	**Hengchun**	**1.39**	**267**	⇓*e*P	**Pn**	**16 54 32.9**	**-0.2**
	baz=264						
HEN				*e*S	**Sb**	**16 54 48.9**	**-2.6**
	baz=264						
EYUL	**Yuli**	**1.51**	**326**	⇓*e*P	**Pn**	**16 54 33.6**	**-1.2**
	baz=336						
EYUL				*e*S	**Sn**	**16 54 51.7**	**-2.8**
	baz=336						
SCZT	**Fangliau**	**1.52**	**281**	⇓*e*P	**Pn**	**16 54 34.2**	**-0.8**
	baz=280						
YULB	**Yu-li**	**1.56**	**326**	Pn	**Pn**	**16 54 34.0**	**-1.5**
YULB				Sn	**Sn**	**16 54 52.6**	**-3.1**
YULB	**Yu-li**	**1.56**	**326**	⇓P	**Pn**	**16 54 34.2**	**-1.2**
	baz=336						
YULB				S	**Sn**	**16 54 52.4**	**-3.3**
	baz=336						
ELDTW	**Lidau**	**1.57**	**314**	⇓P	**Pn**	**16 54 34.3**	**-1.4**
	baz=317						
MASBT	**Mashibuluo**	**1.57**	**290**	⇓P	**Pn**	**16 54 35.0**	**-0.6**
	baz=289						
HGSD	**Ruisui**	**1.58**	**332**	⇓*e*P	**Pn**	**16 54 34.0**	**-1.8**
	baz=340						
HGSD				*e*S	**Sn**	**16 54 52.0**	**-4.3**
	baz=340						
SSPT	**Xinbi**	**1.59**	**285**	⇓*e*P	**Pn**	**16 54 36.0**	**+0.1**
	baz=274						
TSMG	**Majia**	**1.59**	**293**	⇓*e*P	**Pn**	**16 54 35.5**	**-0.5**
	baz=293						
SSD	**Sandimen**	**1.62**	**294**	⇓*e*P	**Pn**	**16 54 35.7**	**-0.6**
	baz=299						
EHY	**Hungye**	**1.64**	**329**	⇓*e*P	**Pn**	**16 54 35.3**	**-1.3**
	baz=337						
EHY				S	**Sn**	**16 54 54.8**	**-3.0**
	baz=337						
STYH	**Taoyuan**	**1.72**	**309**	⇓*e*P	**Pn**	**16 54 36.5**	**-1.2**
	baz=310						
SGLT	**Jiouru**	**1.73**	**292**	*e*P	**Pn**	**16 54 39.8**	**+2.0**
	baz=281						
EGFH	**Guangfu**	**1.74**	**335**	*e*P	**Pn**	**16 54 36.9**	**-1.1**
	baz=344						
EGFH				*e*S	**Sn**	**16 54 58.1**	**-2.0**
	baz=344						
SGST	**Jiashian**	**1.82**	**303**	⇓*e*P	**Pn**	**16 54 39.0**	**-0.1**
	baz=313						
YUS	**Yu-Shan**	**1.83**	**320**	⇓*e*P	**Pn**	**16 54 39.0**	**-0.6**
	baz=330						
KAU	**Kaohsiung**	**1.84**	**285**	⇓*e*P	**Pn**	**16 54 40.5**	**+1.1**
	baz=284						
ESL	**Shilin**	**1.87**	**337**	⇓*e*P	**Pn**	**16 54 38.4**	**-1.3**
	baz=346						
ESL				*e*S	**Sn**	**16 55 00.5**	**-2.9**
	baz=346						
WTP	**Ta-pu**	**1.89**	**308**	⇓*e*P	**Pn**	**16 54 40.9**	**+0.8**
	baz=309						
WTP				*e*S	**Sn**	**16 55 04.2**	**+0.3**
	baz=309						
WSSB	**Gushan**	**1.91**	**287**	⇓P	**Pn**	**16 54 42.4**	**+2.1**
	baz=286						
TPUB	**Ta-pu**	**1.91**	**309**		**Pn**	**16 54 40.4**	**+0.1**
TPUB	**Ta-pu**	**1.91**	**309**	⇓P	**Pn**	**16 54 41.2**	**+0.8**
	baz=311						
TPUB				*e*S	**Sn**	**16 55 04.4**	**-0.1**
	baz=311						
CHN1	**Nanshi**	**1.92**	**305**	⇓P	**Pn**	**16 54 41.9**	**+1.5**
	baz=306						
CHN1				*e*S	**Sn**	**16 55 05.6**	**+1.0**
	baz=306						
ALS	**Alishan**	**1.93**	**317**	⇓P	**Pn**	**16 54 41.2**	**+0.3**
	baz=325						
ALS				*e*S	**Sn**	**16 55 04.5**	**-0.9**
	baz=325						
VWDT	**VWDT**	**1.94**	**329**	⇓P	**Pn**	**16 54 40.5**	**-0.2**
	baz=338						
SNST	**Tainan City**	**1.96**	**305**	⇓*e*P	**Pn**	**16 54 42.5**	**+1.5**
	baz=306						
SNST				*e*S	**Sn**	**16 55 06.8**	**+1.2**
	baz=306						
HWA	**Hwalien**	**1.96**	**343**	*e*P	**Pn**	**16 54 40.4**	**-0.7**
	baz=346						
HWA				*e*S	**Sn**	**16 55 03.7**	**-2.0**
	baz=346						
CHN3	**Shinhua**	**1.99**	**300**	⇑*e*P	**Pb**	**16 54 44.7**	**+0.8**
	baz=300						
WCKO	**Fanlu**	**2.02**	**312**	*e*S	**Sn**	**16 55 07.0**	**0.0**
	baz=300						
WHYT	**Xinyi Township**	**2.04**	**322**	*e*P	**Pn**	**16 54 42.8**	**+0.6**
	baz=328						
WHYT				*e*S	**Sn**	**16 55 06.7**	**-1.0**
	baz=328						
SSLB	**Suanglung**	**2.06**	**325**		**Pn**	**16 54 42.0**	**-0.5**
SSLB	**Suanglung**	**2.06**	**325**	⇓*e*P	**Pn**	**16 54 42.1**	**-0.3**
	baz=335						
SSLB				*e*S	**Sn**	**16 55 06.2**	**-2.0**
	baz=335						
TWD	**Chiawan**	**2.07**	**344**	⇑*e*P	**Pn**	**16 54 41.5**	**-0.9**
	baz=347						
SSHA	**Shanhua**	**2.08**	**300**	*e*P	**Pn**	**16 54 44.4**	**+1.8**
	baz=300						
OWD	**Renai**	**2.10**	**332**	*e*P	**Pn**	**16 54 42.6**	**-0.4**
	baz=343						
OWD				*e*S	**Sn**	**16 55 05.7**	**-3.5**
	baz=343						
ETL	**Fush Village**	**2.13**	**345**	*e*P	**Pn**	**16 54 42.5**	**-1.0**
	baz=348						
ETL				*e*S	**Sn**	**16 55 07.7**	**-2.3**
	baz=348						
WUSB	**Renai**	**2.15**	**332**	⇓*e*P	**Pn**	**16 54 43.7**	**-0.1**
	baz=342						
WUSB				*e*S	**Sn**	**16 55 07.7**	**-2.9**
	baz=342						
NACB	**Ninganchiao**	**2.16**	**344**		**Pn**	**16 54 42.5**	**-1.1**
NACB	**Ninganchiao**	**2.16**	**344**	⇓*e*P	**Pn**	**16 54 42.6**	**-1.1**
	baz=354						
NACB				*e*S	**Sn**	**16 55 07.4**	**-3.0**
	baz=354						
SMLT	**Sun Moon Lake**	**2.17**	**326**	*e*P	**Pn**	**16 54 44.6**	**+0.7**
	baz=334						
SMLT				*e*S	**Sn**	**16 55 10.3**	**-0.6**
	baz=334						
SCLT	**Jiali**	**2.17**	**300**	*e*P	**Pn**	**16 54 45.5**	**+1.6**
	baz=300						
CHY	**Chiayi**	**2.18**	**310**	*e*P	**Pn**	**16 54 46.0**	**+2.0**
	baz=311						
CHGB	**Renai**	**2.19**	**334**	⇓*e*P	**Pn**	**16 54 44.2**	**-0.2**
	baz=344						
CHGB				*e*S	**Sn**	**16 55 08.6**	**-3.0**

	baz=344								
TYC	**Yuchr**	**2.21**	**325**	*eP*	**Pn**	**16 54 45.2**	**+0.8**		
	baz=334								
TYC				*eS*	**Sn**	**16 55 11.5**	**-0.2**		
	baz=334								
WJS	**Zhushan**	**2.21**	**321**	*eP*	**Pn**	**16 54 46.6**	**+2.1**		
	baz=323								
WJS				*eS*	**Sn**	**16 55 13.1**	**+1.2**		
	baz=323								
ETLH	**Xiulin Townshi**	**2.22**	**342**	*eP*	**Pn**	**16 54 43.9**	**-0.7**		
	baz=345								
WDLH	**Douliu**	**2.23**	**316⇑**	*eP*	**Pn**	**16 54 45.7**	**+1.0**		
	baz=304								
WDLH				*eS*	**Sn**	**16 55 14.2**	**+1.9**		
	baz=304								
WHF	**Hehuan Shan**	**2.23**	**337⇑**	*eP*	**Pn**	**16 54 44.5**	**-0.6**		
	baz=349								
WHF				*eS*	**Sn**	**16 55 10.4**	**-2.5**		
	baz=349								
CHN8	**Yiju**	**2.25**	**304**	*eP*	**Pn**	**16 54 46.3**	**+1.4**		
	baz=304								
WNT	**Mingjian**	**2.28**	**322⇑**	*eP*	**Pn**	**16 54 47.4**	**+2.0**		
	baz=323								
WNT				*eS*	**Sn**	**16 55 14.5**	**+1.0**		
	baz=323								
WCS	**Beigang Elemen**	**2.31**	**328**	*eP*	**Pn**	**16 54 45.4**	**-0.4**		
	baz=338								
WSL	**Shuilin Townsh**	**2.34**	**308⇓**	*eP*	**Pn**	**16 54 46.8**	**+0.6**		
	baz=295								
WSL				*eS*	**Sn**	**16 55 14.0**	**-0.9**		
	baz=295								
TWT	**Tachien**	**2.36**	**336**	*eP*	**Pn**	**16 54 47.4**	**+0.7**		
	baz=347								
TWT				S	**Sn**	**16 55 13.9**	**-2.0**		
	baz=347								
TDCB	**Techi**	**2.37**	**336⇓**	*eP*	**Pn**	**16 54 47.1**	**+0.4**		
	baz=347								
TDCB				*eS*	**Sn**	**16 55 13.4**	**-2.6**		
	baz=347								
ENA	**Nanau**	**2.37**	**349⇑**	*eP*	**Pn**	**16 54 46.5**	**-0.1**		
	baz=352								
ENA				*eS*	**Sn**	**16 55 14.0**	**-1.8**		
	baz=352								
EWUT	**Wuta**	**2.38**	**350**	*eP*	**Pn**	**16 54 46.0**	**-0.7**		
	baz=353								
EWUT				*eS*	**Sn**	**16 55 12.8**	**-3.2**		
	baz=353								
WSF	**Szhu**	**2.41**	**310⇑**	*eP*	**Pn**	**16 54 48.6**	**+1.4**		
	baz=298								
HATJ	**Hateruma jima**	**2.43**	**36**	P	**Pn**	**16 54 48.0**	**+0.4**		
HATJ				*eS*	**Sn**	**16 55 16.0**	**-1.4**		
JYNG	**Yonagunijimaku**	**2.44**	**15**	P	**Pn**	**16 54 47.8**	**+0.2**		
JYNG				*eS*	**Sn**	**16 55 17.3**	**-0.2**		
NNSB	**Datong**	**2.46**	**342⇑**	*eP*	**Pn**	**16 54 48.0**	**+0.1**		
	baz=344								
NNSB				*eS*	**Sn**	**16 55 15.7**	**-2.3**		
	baz=344								
YOJ	**Yonaguni jima**	**2.47**	**17**	Pn	**Pn**	**16 54 48.4**	**+0.5**		
YOJ	**Yonaguni jima**	**2.47**	**17⇓**	*eP*	**Pn**	**16 54 48.4**	**+0.5**		
	baz=20								
YOJ				*eS*	**Sn**	**16 55 17.2**	**-0.9**		
	baz=20								
YOJ	**Yonaguni jima**	**2.47**	**17**	P	**Pn**	**16 54 48.6**	**+0.7**		
YOJ				*eS*	**Sn**	**16 55 17.5**	**-0.6**		
NNS	**Nan Shan**	**2.47**	**341**	*eP*	**Pn**	**16 54 47.2**	**-0.9**		
	baz=344								
WHP	**Taichung City**	**2.48**	**332**	*eP*	**Pn**	**16 54 50.5**	**+2.3**		
	baz=340								
WRL	**Guolierlin Hig**	**2.48**	**317⇑**	*eP*	**Pn**	**16 54 49.1**	**+0.9**		
	baz=305								
WRL				*eS*	**Sn**	**16 55 17.0**	**-1.6**		
	baz=305								
TCU	**Taichung**	**2.50**	**325**	*eP*	**Pn**	**16 54 51.2**	**+2.8**		
	baz=315								
TCU				*eS*	**Sn**	**16 55 20.5**	**+1.6**		
	baz=315								
WCHH	**Zhanghua**	**2.51**	**322**	*eP*	**Pn**	**16 54 50.6**	**+2.1**		
	baz=323								
WCHH				*eS*	**Sn**	**16 55 20.7**	**+1.5**		
	baz=323								
LATG	**Datong**	**2.52**	**345**	*eP*	**Pn**	**16 54 48.8**	**0.0**		
	baz=338								
TWC	**Suao**	**2.53**	**352⇓**	*eP*	**Pn**	**16 54 49.9**	**+1.0**		
	baz=5.0								
TWC				*eS*	**Sn**	**16 55 18.1**	**-1.6**		
	baz=5.0								
NDT	**Datong Townshi**	**2.59**	**345**	*eP*	**Pn**	**16 54 50.4**	**+0.7**		
	baz=354								
NDT				*eS*	**Sn**	**16 55 19.0**	**-2.2**		
	baz=354								
ENTT	**Nioudou**	**2.61**	**347**	*eP*	**Pn**	**16 54 49.5**	**-0.5**		
	baz=356								
ENTT				*eS*	**Sn**	**16 55 19.2**	**-2.5**		
	baz=356								
IRIF	**Iriomote-Funau**	**2.62**	**31**	P	**Pn**	**16 54 50.8**	**+0.7**		
IRIF				*eS*	**Sn**	**16 55 21.0**	**-1.0**		
WDGT	**Dungji**	**2.65**	**297⇓**	*eP*	**Pn**	**16 54 50.8**	**+0.3**		
	baz=296								
WDGT				*eS*	**Sn**	**16 55 18.7**	**-3.9**		
	baz=296								
TWE	**Neicheng**	**2.67**	**349⇑**	*eP*	**Pn**	**16 54 51.5**	**+0.7**		
	baz=352								
WDJ	**Dajia District**	**2.68**	**327**	*eP*	**Pn**	**16 54 53.6**	**+2.7**		
	baz=318								
WDJ				*eS*	**Sn**	**16 55 26.3**	**+2.8**		
	baz=318								
YHNB	**Yeheng**	**2.69**	**343**		**Pn**	**16 54 51.5**	**+0.4**		
YHNB	**Yeheng**	**2.69**	**343⇑**	*eP*	**Pn**	**16 54 51.7**	**+0.6**		
	baz=345								
YHNB				*eS*	**Sn**	**16 55 22.2**	**-1.5**		
	baz=345								
JKRS	**Kuro-shima**	**2.69**	**37**	P	**Pn**	**16 54 51.9**	**+0.9**		
JKRS				S	**Sn**	**16 55 22.2**	**-1.4**		
NSK	**Sanguang**	**2.70**	**343⇑**	*eP*	**Pn**	**16 54 50.9**	**-0.3**		
	baz=345								
NSK				*eS*	**Sn**	**16 55 22.0**	**-1.9**		
	baz=345								
ILA	**Ilan**	**2.70**	**351**	*eS*	**Sn**	**16 55 24.1**	**+0.2**		
	baz=353								
FUSB	**Fushanzhiwuyua**	**2.72**	**348⇑**	*eP*	**Pn**	**16 54 52.4**	**+0.8**		
	baz=350								
FUSB				*eS*	**Sn**	**16 55 21.8**	**-2.8**		
	baz=350								
NFF	**Wufeng Townshi**	**2.73**	**338**	*eP*	**Pn**	**16 54 53.1**	**+1.4**		
	baz=347								
EGS		**2.76**	**354⇑**	*eP*	**Pn**	**16 54 53.7**	**+1.7**		
	baz=6.0								
EGS				*eS*	**Sn**	**16 55 21.9**	**-3.3**		
	baz=6.0								
NSTT	**Nanjuang**	**2.77**	**336**	*eP*	**Pn**	**16 54 54.1**	**+1.9**		
	baz=346								
NSTT				*eS*	**Sn**	**16 55 24.5**	**-1.2**		
	baz=346								
NMLH	**Miaoli**	**2.77**	**332**	*eP*	**Pn**	**16 54 54.4**	**+2.2**		
	baz=344								
NMLH				*eS*	**Sn**	**16 55 27.0**	**+1.2**		
	baz=344								
NTC	**Toucheng**	**2.78**	**352**	*eP*	**Pn**	**16 54 52.6**	**+0.4**		
	baz=5.0								
NTC				*eS*	**Sn**	**16 55 25.6**	**-0.2**		
	baz=5.0								
LIOB	**Emei**	**2.78**	**336⇑**	*eP*	**Pn**	**16 54 54.6**	**+2.3**		
	baz=348								
VCHM	**Qimei**	**2.82**	**294⇓**	*eP*	**Pn**	**16 54 52.7**	**-0.1**		
	baz=293								
JIJ	**Ishigaki jima**	**2.86**	**37**	P	**Pn**	**16 54 53.9**	**+0.4**		
JIJ				*eS*	**Sn**	**16 55 25.2**	**-2.7**		
PNG	**Penghu**	**2.88**	**301⇑**	*eP*	**Pn**	**16 54 54.6**	**+1.1**		
	baz=301								
PNG				*eS*	**Sn**	**16 55 23.3**	**-4.9**		
	baz=301								
TIPB	**Shuangxi**	**2.89**	**353**	*eP*	**Pn**	**16 54 55.4**	**+1.5**		
	baz=4.0								
TIPB				*eS*	**Sn**	**16 55 29.1**	**+0.4**		
	baz=4.0								
TWB1	**Santiao Chiao**	**2.91**	**356⇓**	*eP*	**Pn**	**16 54 55.5**	**+1.4**		
	baz=358								
TWB1				*eS*	**Sn**	**16 55 29.7**	**+0.6**		
	baz=358								
SBCB	**Hsinchu**	**2.92**	**337**	*eS*	**Sn**	**16 55 28.8**	**-0.6**		
	baz=339								
NHDH	**Xindian Distri**	**2.93**	**347**	*eP*	**Pn**	**16 54 55.4**	**+1.0**		
	baz=349								
NHDH				*eS*	**Sn**	**16 55 29.4**	**-0.2**		
	baz=349								
HSN	**Hsinchu**	**2.94**	**337**	*eS*	**Sn**	**16 55 32.0**	**+2.2**		
	baz=339								
TWA	**Mucha**	**2.94**	**348**	*eP*	**Pn**	**16 54 56.1**	**+1.6**		
	baz=351								
TWA				*eS*	**Sn**	**16 55 28.5**	**-1.3**		
	baz=351								
TATO	**Taipei**	**2.95**	**347**	Pn	**Pn**	**16 54 55.9**	**+1.3**		
NWF	**Wu-fen Shan**	**3.00**	**352⇓**	*eP*	**Pn**	**16 54 57.4**	**+2.1**		
	baz=345								
NWF				*eS*	**Sn**	**16 55 31.6**	**+0.3**		
	baz=345								
SXI1	**Grass Mountain**	**3.01**	**354⇓**	*eP*	**Pn**	**16 54 56.1**	**+0.6**		
	baz=4.0								
SXI1				*eS*	**Sn**	**16 55 31.4**	**-0.2**		
	baz=4.0								
TAP	**Taipei**	**3.01**	**347**	*eP*	**Pn**	**16 54 57.7**	**+2.3**		
	baz=349								
NCUH	**Zhongli**	**3.02**	**342**	*eP*	**Pn**	**16 54 57.4**	**+1.8**		
	baz=352								
NCUH				*eS*	**Sn**	**16 55 32.7**	**+0.9**		
	baz=352								
NCU	**National Centr**	**3.02**	**342**	*eS*	**Sn**	**16 55 33.4**	**+1.5**		
	baz=352								
YM01	**YM01**	**3.10**	**349**	*eP*	**Pn**	**16 54 58.1**	**+1.3**		
	baz=340								
YM01				*eS*	**Sn**	**16 55 33.6**	**-0.3**		
	baz=340								
JISG	**Ishigakijimahi**	**3.13**	**37**	P	**Pn**	**16 54 57.4**	**+0.3**		
JISG				*eS*	**Sn**	**16 55 32.6**	**-2.0**		
NTST	**Danshui**	**3.14**	**347**	*eP*	**Pn**	**16 55 00.1**	**+2.8**		
	baz=349								
ANP	**Anpu**	**3.15**	**348**	*eP*	**Pn**	**16 54 58.9**	**+1.4**		
	baz=350								
TWY	**Chenhua**	**3.22**	**350**	*eP*	**Pn**	**16 55 00.3**	**+1.9**		
	baz=340								
JTJ	**Tarama**	**3.40**	**41**	P	**Pn**	**16 55 01.1**	**+0.2**		
JTJ				*eS*	**Sn**	**16 55 39.4**	**-1.8**		
SGCP	**Gonzaga**	**3.83**	**183⇓**	*eP*	**Pn**	**16 55 05.0**	**-1.8**		
SGCP				*eS*	**Sn**	**16 55 46.0**	**-5.9**		
JIRB	**Irabujima**	**3.83**	**44**	P	**Pn**	**16 55 06.6**	**-0.2**		
JIRB				S	**Sn**	**16 55 50.0**	**-1.9**		
VWUC	**VWUC**	**3.86**	**319⇓**	*eP*	**Pn**	**16 55 07.4**	**+0.3**		
	baz=308								
VWUC				*eS*	**Sn**	**16 55 50.5**	**-1.9**		
	baz=308								
JMJ2	**Miyako jima3**	**3.88**	**47**	P	**Pn**	**16 55 07.3**	**-0.1**		
JMJ2				*eS*	**Sn**	**16 55 51.3**	**-1.7**		
JOGS	**Gusukube**	**3.94**	**47**	P	**Pn**	**16 55 08.5**	**+0.2**		
JOGS				S	**Sn**	**16 55 53.5**	**-1.1**		
JIKM	**Ikemajima**	**3.95**	**44**	P	**Pn**	**16 55 08.4**	**0.0**		
JIKM				S	**Sn**	**16 55 52.9**	**-1.8**		
KNM	**Kinmen**	**4.19**	**304**	*eP*	**Pn**	**16 55 13.8**	**+2.1**		
	baz=302								
KNM				*eS*	**Sn**	**16 56 01.4**	**+0.6**		
	baz=302								
KNMB	**Chin-men Tao**	**4.25**	**304**	Pn	**Pn**	**16 55 12.8**	**+0.3**		
KNMB	**Chin-men Tao**	**4.25**	**304⇓**	*eP*	**Pn**	**16 55 12.8**	**+0.3**		
	baz=304								
KNMB				*eS*	**Sn**	**16 56 00.8**	**-1.5**		
	baz=304								
ZPLA	**Ao Xicun**	**4.52**	**295⇓**	*eP*	**Pn**	**16 55 16.4**	**+0.3**		
	baz=294								
ZPLA				*eS*	**Sn**	**16 56 05.9**	**-2.9**		
	baz=294								
MATB	**Ma-tsu**	**4.55**	**333**	*eP*	**Pn**	**16 55 16.5**	**-0.2**		
	baz=333								
MATB				*eS*	**Sn**	**16 56 06.4**	**-3.1**		
	baz=333								
DSXP	**Dongshan**	**4.72**	**291**	*eP*	**Pn**	**16 55 19.0**	**+0.1**		
	baz=290								
DSXP				*eS*	**Sn**	**16 56 10.5**	**-3.2**		
	baz=290								
AXDP	**Jialang**	**4.81**	**306**	*eP*	**Pn**	**16 55 20.6**	**+0.4**		
	baz=306								
AXDP				*eS*	**Sn**	**16 56 12.5**	**-3.5**		
	baz=306								
MHZQ	**Yeshan**	**4.95**	**324**	*eP*	**Pn**	**16 55 22.4**	**+0.3**		
	baz=315								
MHZQ				*eS*	**Sn**	**16 56 16.2**	**-3.1**		
	baz=315								
LYJJ	**Jianjiangzhen**	**4.98**	**334**	*eP*	**Pn**	**16 55 22.8**	**+0.2**		
	baz=333								
LYJJ				*eS*	**Sn**	**16 56 18.1**	**-2.0**		
	baz=333								
PALP	**Palanan**	**5.00**	**178⇑**	*eP*	**Pn**	**16 55 22.0**	**-0.9**		
PALP				*eS*	**Sn**	**16 56 14.7**	**-6.1**		
CAUP	**Cauayan**	**5.13**	**184⇓**	*eP*	**Pn**	**16 55 25.9**	**+1.3**		
CAUP				*eS*	**Sn**	**16 56 23.6**	**-0.4**		
SAMP	**Sagada Mountai**	**5.14**	**194⇓**	*eP*	**Pn**	**16 55 25.6**	**+0.8**		
SAMP				*eS*	**Sn**	**16 56 21.0**	**-3.2**		
JKE	**Kume jima 2**	**5.92**	**44**	*eP*	**Pn**	**16 55 34.5**	**-0.9**		
JKE				*eS*	**Sn**	**16 56 39.3**	**-4.1**		
SXFK	**Yanhouchang**	**5.99**	**317⇑**	*eP*	**Pn**	**16 55 36.9**	**+0.3**		
	baz=316								
SXFK				*eS*	**Sn**	**16 56 42.8**	**-2.4**		
	baz=316								
BOLP	**Bolinao**	**6.09**	**202⇑**	*eP*	**Pn**	**16 55 38.9**	**+1.2**		
BOLP				*eS*	**Sn**	**16 56 47.8**	**+0.3**		
SMPP	**San Manuel, Pa**	**6.09**	**194⇓**	*eP*	**Pn**	**16 55 38.1**	**+0.3**		
SMPP				*eS*	**Sn**	**16 56 43.5**	**-4.1**		
BALP	**Baler**	**6.35**	**186⇑**	*eP*	**Pn**	**16 55 41.0**	**-0.3**		
BALP				*eS*	**Sn**	**16 56 50.7**	**-3.2**		
JOW	**Kunigami**	**7.25**	**48**	Pn	**Pn**	**16 55 53.5**	**-0.2**		
	2.1nm,0.3s,baz=130,slow=13,SNR=1.9								
JOW				Sn	**Sn**	**16 57 11.6**	**-4.6**		
	2.1nm,0.3s,baz=117,slow=27,SNR=1.6								
	10nm,0.7s								
LQP	**Lukban**	**7.96**	**185⇑**	*eP*	**Pn**	**16 56 01.4**	**-2.3**		
DAV	**Davao City (W)**	**15.28**	**167**	LR	LR	17 03 20.1			
	comp=Z,120nm,18.1s,baz=5.0,slow=37								
INCN	**Inchon**	**15.80**	**13**	Pn	**Pn**	**16 57 51.9**	**+1.6**		
KSRS	**Korea Array**	**16.08**	**17**	Pn	**Pn**	**16 57 55.2**	**+1.4**		
	0.6nm,0.3s,baz=198,slow=13,SNR=40								
KSRS				LR	LR	17 05 02.7			
	comp=Z,71nm,18.7s,baz=190,slow=40								
	14nm,0.8s								
KS19	**Wonju Array Si**	**16.11**	**16**	Pn	**Pn**	**16 57 53.8**	**-0.5**		
KS19				IAmb	IAmb	16 57 56.0			
	comp=Z,16nm,0.9s								
MJAR	**Matsushiro Arr**	**19.99**	**40**	P	Pn	16 58 43.2	+1.0		
	comp=Z,2.2nm,0.6s,baz=222,slow=10,SNR=5.9								
	comp=Z,2.2nm,0.6s								
SBUM	**Sibu**	**21.82**	**208**	P	**P**	**16 59 00.0**	**-0.2**		
SBUM				IAmb	IAmb	16 59 02.9			
	comp=Z,11nm,0.7s								
CMAR	**Chiang Mai Arr**	**22.14**	**265**	P	**P**	**16 59 04.7**	**+0.9**		
	comp=Z,0.8nm,0.9s,baz=68,slow=10,SNR=6.7								
CMAR				LR	LR	17 08 35.8			
	comp=Z,38nm,18.1s,baz=170,slow=39								
	comp=Z,0.8nm,0.9s								
GUMO	**Guam**	**23.12**	**108**	LR	LR	17 09 12.6			
	comp=Z,17nm,18.5s,baz=294,slow=39								
USRK	**Ussuriysk Ar.**	**23.48**	**18**	P	**P**	**16 59 18.2**	**+0.7**		
	comp=Z,2.8nm,0.9s,baz=206,slow=9.3,SNR=5.3								
	comp=Z,2.8nm,0.9s								
MTKI	**Muara Teweh, K**	**23.99**	**198**	P	**P**	**16 59 23.4**	**+0.8**		
	comp=Z,48nm,0.9s								
SIJI	**Sorong**	**24.46**	**158**	P	**P**	**16 59 25.1**	**-1.9**		
	comp=Z,3.8nm,0.6s,baz=43,slow=8.4,SNR=3.8								
	comp=Z,3.8nm,0.6s								
TTSI	**Tana Toraja**	**25.09**	**186**	P	**P**	**16 59 32.6**	**-0.1**		
	comp=Z,410nmcomp=Z,16nm,0.9s								
KLR	**Kul'dur**	**28.12**	**13**	P	**P**	**17 00 01.2**	**+1.5**		
	comp=Z,2.4nm,0.8s,baz=218,slow=4.6,SNR=5.3								
KLR				LR	LR	17 12 18.7			
	comp=Z,65nm,18.1s,baz=224,slow=39								
	comp=Z,2.4nm,0.8s								
SONM	**Songino Array**	**28.66**	**337**	P	**P**	**17 00 06.5**	**+1.7**		
	comp=Z,0.6nm,0.6s,baz=146,slow=7.5,SNR=2.4								
SONM				LR	LR	17 11 49.6			
	comp=Z,73nm,19.7s,baz=150,slow=37								
	comp=Z,0.6nm,0.6s								
EDFI	**Ende, Flores**	**30.65**	**181**	P	**P**	**17 00 22.0**	**-0.6**		
	comp=Z,30nm,0.8s								
BATI	**Baumata**	**32.13**	**177**	P	**P**	**17 00 33.9**	**-1.6**		
	comp=Z,17nm,1.3s								
FITZ	**Fitzroy Crossi**	**40.08**	**175**	P	**P**	**17 01 41.5**	**-1.9**		
	comp=Z,3.1nm,0.7s,baz=17,slow=7.5,SNR=12								
	comp=Z,3.1nm,0.7s								
YAK	**Yakutsk**	**40.24**	**5**	LR	LR	17 21 29.6			
	comp=Z,29nm,18.6s,baz=95,slow=41								
MK31	**Makanchi Array**	**40.52**	**317**	P	**P**	**17 01 47.7**	**+0.8**		
MK31				IAmb	IAmb	17 01 49.0			
	comp=Z,5.2nm,0.8s								
MKAR	**Makanchi Array**	**40.52**	**317**	P	**P**	**17 01 48.1**	**+1.2**		
	comp=Z,7.3nm,0.8s,baz=111,slow=10.0,SNR=64								
MKAR				LR	LR	17 20 00.2			
	comp=Z,37nm,19.0s,baz=144,slow=38								
	comp=Z,7.3nm,0.8s								
MKAR	**Makanchi Array**	**40.52**	**317**	P	**P**	**17 01 47.9**	**+1.0**		
MAKZ	**Makanchi**	**40.72**	**317**	P	**P**	**17 01 49.4**	**+0.8**		
MAKZ				IAmb	IAmb	17 01 50.7			
	comp=Z,7.1nm,0.8s								
PETK	**Petropavlovsk-**	**41.09**	**32**	P	**P**	**17 01 53.9**	**+2.4**		
	comp=Z,0.6nm,0.7s,baz=223,slow=5.1,SNR=5.6								
PETK				LR	LR	17 19 16.9			
	comp=Z,51nm,19.3s,baz=249,slow=37								
	comp=Z,0.6nm,0.7s								
H11N1	**WAKE ISLAND Hy**	**41.68**	**85**	T	T	17 47 31.2			
	baz=282,slow=75,SNR=11								
H11N2	**WAKE ISLAND Hy**	**41.68**	**85**	T	T	17 47 22.1			
	baz=282,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**41.69**	**85**	T	T	17 47 27.0			
	baz=282,slow=75,SNR=13								
H11S3	**WAKE ISLAND Hy**	**41.74**	**87**	T	T	17 47 25.9			
	baz=283,slow=75,SNR=41								
H11S1	**WAKE ISLAND Hy**	**41.75**	**87**	T	T	17 47 26.0			
	baz=283,slow=75,SNR=29								
H11S2	**WAKE ISLAND Hy**	**41.76**	**87**	T	T	17 47 26.2			
	baz=283,slow=75,SNR=18								
ZAA0	**Zalesovo Array**	**42.52**	**328**	P	**P**	**17 02 03.3**	**+0.2**		
ZAA0				IAmb	IAmb	17 02 04.3			
	comp=Z,5.8nm,0.9s								
ZALV	**Zalesovo Beam**	**42.52**	**328**	P	**P**	**17 02 03.5**	**+0.3**		
	comp=Z,3.7nm,0.5s,baz=114,slow=7.2,SNR=22								
	comp=Z,3.7nm,0.5s								
ZALV	**Zalesovo Beam**	**42.52**	**328**	P	**P**	**17 02 02.4**	**-0.8**		
MA2	**Magadan**	**42.56**	**21**	LR	LR	17 20 22.6			
	comp=Z,27nm,20.5s,baz=172,slow=37								
WRA	**Warramunga Arr**	**43.42**	**163**	P	**P**	**17 02 08.6**	**-2.2**		
	comp=Z,1.1nm,0.7s,baz=343,slow=9.1,SNR=9.7								
	comp=Z,1.1nm,0.7s								
KURK	**Kurchatov**	**44.31**	**321**	P	**P**	**17 02 17.7**	**0.0**		
KURBB	**Kurchatov Arra**	**44.33**	**321**	P	**P**	**17 02 18.7**	**+0.9**		
	comp=Z,4.3nm,0.7s,baz=115,slow=8.2,SNR=32								
	comp=Z,4.3nm,0.7s								
AAK	**Ala-Archa**	**44.55**	**309**	LR	LR	17 23 10.2			
	comp=Z,55nm,18.0s,baz=98,slow=39								
AS31	**Alice Springs**	**46.88**	**165**	P	**P**	**17 02 39.9**	**+1.6**		
ASAR	**Alice Springs**	**46.88**	**165**	P	**P**	**17 02 38.0**	**-0.3**		
	comp=Z,1.0nm,0.6s,baz=346,slow=7.1,SNR=25								
	comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**49.90**	**322**	P	**P**	**17 03 02.4**	**+1.1**		
	comp=Z,1.3nm,0.5s,baz=95,slow=8.9,SNR=8.4								
	comp=Z,1.3nm,0.5s								
NRIK	**Noril'sk**	**51.66**	**345**	P	**P**	**17 03 14.1**	**-0.2**		
	comp=Z,2.0nm,0.5s,baz=131,slow=2.5,SNR=4.9								
	comp=Z,2.0nm,0.5s								
ABKAR	**Akbulak array**	**55.60**	**315**	P	**P**	**17 03 43.6**	**+0.1**		
GEYT	**Alibeck**	**56.70**	**302**	P	**P**	**17 03 52.0**	**+0.4**		
	comp=Z,1.3nm,0.6s,baz=248,slow=1.6,SNR=3.7								
	comp=Z,1.3nm,0.6s								
STKA	**Stephens Creek**	**56.77**	**160**	P	**P**	**17 03 50.3**	**-1.7**		
	comp=Z,1.5nm,0.7s,baz=339,slow=17,SNR=2.9								
	comp=Z,1.5nm,0.7s								
ARU	**Arti**	**57.36**	**324**	P	**P**	**17 03 56.2**	**+0.3**		
	comp=Z,2.7nm,0.4s,baz=29,slow=3.4,SNR=5.4								
	comp=Z,2.7nm,0.4s								
KBZ	**Khabaz**	**67.54**	**310**	P	**P**	**17 05 05.1**	**+0.9**		
	comp=Z,1.9nm,0.9s,baz=159,slow=5.6,SNR=4.3								
	comp=Z,1.9nm,0.9s								
FINES	**FINESS Array B**	**73.73**	**330**	P	**P**	**17 05 41.2**	**-0.5**		
	comp=Z,1.4nm,0.9s,baz=141,slow=2.9,SNR=2.0								
	comp=Z,1.4nm,0.9s								
AKASG	**Malin Array Be**	**75.07**	**319**	P	**P**	**17 05 49.5**	**-0.1**		
	comp=Z,0.2nm,0.3s,baz=59,slow=3.6,SNR=1.9								
	comp=Z,0.2nm,0.3s								
BRTR	**Keskin Array B**	**75.19**	**307**	P	**P**	**17 05 51.7**	**+0.9**		
	comp=Z,0.5nm,0.8s,baz=123,slow=9.0,SNR=4.0								
	comp=Z,0.5nm,0.8s								
NOA	**NORSAR Array B**	**80.52**	**333**	P	**P**	**17 06 22.6**	**+2.7**		
	comp=Z,0.3nm,0.6s,baz=49,slow=10,SNR=1.5								
	comp=Z,0.3nm,0.6s								
GERES	**GERESS Array B**	**85.07**	**321**	P	**P**	**17 06 44.3**	**+0.4**		
	comp=Z,0.2nm,0.3s,baz=52,slow=3.8,SNR=2.7								
GERES				LR	LR	17 46 14.7			
	comp=Z,251nm,18.4s,baz=268,slow=37								
	comp=Z,0.2nm,0.3s								

UPP ***09*** *17:00:45.5±0.1, 67°.05N×20°.96E, h0km, ML2.2, Explosion*
IDC ***09*** *17:00:46.6±0.9, 67°.02N×21°.27E, h0km, mbtmp2.8/4, ML2.0/4, Error ellipse: s-maj=15.6km s-min=7.9km az=112.0*
HEL ***09*** *17:00:46.2±0.

VRF				*e*SG		**Sb**	**17 02 30.3**	**+1.4**
MSF	**Maaselka**	**3.44**	**105**	*e*P		**Pn**	**17 01 41.2**	**+1.2**
	baz=290							
MSF				*e*SG		**Sb**	**17 02 32.2**	**+2.9**
OLKF	**Oulanka, Finla**	**3.44**	**98**	*e*P		**Pn**	**17 01 41.2**	**+1.1**
KEV	**Kevo**	**3.54**	**37**	*e*P		**Pn**	**17 01 42.9**	**+1.6**
KEV				*e*S		**Sn**	**17 02 24.8**	**+1.0**
KU6	**Riekki**	**3.72**	**102**	*e*P		**Pn**	**17 01 44.7**	**+0.8**
HUSU	**Husum**	**3.78**	**192**	*e*PB		**Pb**	**17 01 50.8**	**-1.9**
VAF	**Ylistaro**	**4.08**	**169**	*e*P		**Pn**	**17 01 50.6**	**+1.9**
HEMU	**Hemsoen**	**4.55**	**197**	*e*S		**Sn**	**17 02 49.3**	**+0.7**
RMF	**Romuvaara**	**4.68**	**123**	*e*P		**Pn**	**17 01 58.5**	**+1.5**
FINES	**FINESS Array B**	**6.04**	**156**	Pn		**Pn**	**17 02 17.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=7.7							
FINES				Sn		**Sn**	**17 03 24.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=346,slow=23,SNR=2.3							
FINES				Lg		Lg	17 03 51.6	
	comp=Z,0.2nm,0.3s,baz=348,slow=26,SNR=1.9							
	comp=Z,1.2nm,0.8s							
NOA	**NORSAR Array B**	**7.37**	**220**	Pn		**Pn**	**17 02 34.4**	**+0.5**
	baz=30,slow=5.6,SNR=1.3							
NOA				Sn		**Sn**	**17 03 58.0**	**-0.2**
	baz=14,slow=12,SNR=1.5							
	comp=Z,0.4nm,0.8s							
HFS	**Hagfors**	**7.64**	**208**	Pn		**Pn**	**17 02 37.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=5.4							
HFS				Sn		**Sn**	**17 04 02.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=16,slow=27,SNR=2.1							
	comp=Z,1.1nm,0.8s							

*IDC **09** 17:01:47.2±1.8, 7°.46S×129°.03E, h129km±23km, mb3.4/1, mbtmp3.7/6, Error ellipse: s-maj=34.8km s-min=15.9km az=104.0*

ISC 09 17:01:46.6±0.9, **7°.63S**±0°.06×**129°.16E**±0°.10, **h131**km, **n6, σ3°03/11, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.01**	**244**	P			**Pn**	**17 03 14.4**	**+1.1**
	7.9nm,0.3s,baz=102,slow=0.5,SNR=9.0								
BATI				S			**Sn**	**17 04 18.9**	**-1.9**
	9.4nm,0.3s,baz=194,slow=24,SNR=6.4								
SIJI	**Sorong**	**7.04**	**17**	P			**Pn**	**17 03 27.6**	**+0.5**
	1.0nm,0.3s,baz=214,slow=22,SNR=1.6								
SIJI				S			**Sn**	**17 04 42.6**	**-3.2**
	1.2nm,0.2s,baz=192,slow=22,SNR=5.8								
FITZ	**Fitzroy Crossi**	**10.96**	**198**	P			**Pn**	**17 04 20.8**	**+1.0**
	1.4nm,0.3s,baz=19,slow=12,SNR=35								
FITZ				S			**Sn**	**17 06 17.2**	**-3.3**
	1.7nm,0.4s,baz=332,slow=16,SNR=7.8								
WRA	**Warramunga Arr**	**13.23**	**158**	P			**Pn**	**17 04 52.1**	**+2.6**
	0.3nm,0.3s,baz=325,slow=13,SNR=8.3								
WRA				S			**Sn**	**17 07 10.9**	**-4.7**
	1.2nm,0.5s,baz=333,slow=22,SNR=3.6								
ASAR	**Alice Springs**	**16.58**	**165**	P			**P**	**17 05 35.1**	**+3.4**
	0.4nm,0.4s,baz=336,slow=9.9,SNR=5.6								
ASAR				S			**Sn**	**17 08 33.9**	**-2.4**
	0.3nm,0.4s,baz=319,slow=21,SNR=6.5								
MKAR	**Makanchi Array**	**68.30**	**327**	P			**P**	**17 12 33.2**	**-0.3**
	0.5nm,0.5s,baz=121,slow=7.9,SNR=8.2								
	0.5nm,0.5s								

*TIF **09** 17:11:45.1, 43°.38N×40°.91E, h27km±4km*
*MOS **09** 17:11:45.0±0.0, 43°.34N×41°.00E, h10km, MPVA3.6*

ISC 09 17:11:45.2±1.0, **43°.34N**±0°.03×**40°.97E**±0°.02, **h13**km±9km, **n21, σ0896/42, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARXR	**Arkhyz**	**0.31**	**44**	*i* Pg			**Pg**	**17 11 51.7**	**+0.1**
ARXR				*i* Sg			**Sg**	**17 11 56.1**	**+0.1**
DOMR	**Dombai**	**0.48**	**95**	*e*Pg			**Pg**	**17 11 54.5**	**-0.2**
DOMR				*e*Sg			**Sg**	**17 12 00.7**	**-0.3**
VSLR	**Vesyoloye**	**0.70**	**280**	*i* Pg			**Pg**	**17 11 58.1**	**-0.6**
VSLR				*e*Sg			**Sg**	**17 12 08.3**	**+0.5**
AHMR	**Akhmetovskaya**	**0.82**	**4**	*e*Pg			**Pg**	**17 12 00.8**	**-0.2**
AHMR				*e*Sg			**Sb**	**17 12 12.0**	**-0.3**
GUZR	**Guzeripl'**	**0.90**	**317**	*e*Pg			**Pg**	**17 12 01.8**	**-0.8**
GUZR				*e*Sg			**Sb**	**17 12 15.2**	**+0.5**
SOC	**Sochi**	**0.95**	**285**	*e*Pg			**Pg**	**17 12 01.5**	**-1.9**
SOC				*e*Sg			**Sg**	**17 12 14.6**	**-1.2**
NEY	**Neytrino**	**1.28**	**93**	*e*Pg			**Pg**	**17 12 09.6**	**-0.2**
NEY				*e*Sg			**Sn**	**17 12 25.9**	**-0.2**
SHA1	**Shidzhatmaz**	**1.29**	**71**	*e*Pg			**Pb**	**17 12 09.2**	**-0.2**
SHA1				*e*Sg			**Sn**	**17 12 26.5**	**+0.1**
LZRR	**Lazarevskoye**	**1.30**	**298**	*e*Pg			**Pg**	**17 12 10.6**	**+0.4**
LZRR				*e*Sg			**Sg**	**17 12 28.7**	**+1.6**
LABN	**Labinsk**	**1.31**	**352**	*e*Pg			**Pg**	**17 12 12.2**	**+1.7**
LABN				*i* Sg			**Sg**	**17 12 30.0**	**+2.4**
KIV	**Kislovodsk**	**1.39**	**63**	*e*Pg			**Pb**	**17 12 11.0**	**0.0**
KIV				*e*Sg			**Sg**	**17 12 30.2**	**+0.3**
KBZ	**Khabaz**	**1.45**	**74**	*e*Pg			**Pg**	**17 12 12.4**	**-0.6**
KBZ				*e*Sg			**Sg**	**17 12 31.6**	**-0.3**
NVNR	**Nevinnomyssk**	**1.46**	**29**	*e*Pg			**Pn**	**17 12 10.9**	**-0.4**
NVNR				*e*Sg			**Sg**	**17 12 31.8**	**-0.4**
GOYR	**Goytkh**	**1.47**	**309**	*e*Pg			**Pb**	**17 12 13.0**	**+0.6**
GOYR				*e*Sg			**Sg**	**17 12 33.0**	**+0.5**
BEYR	**Belyy Ugol+**	**1.50**	**63**	*e*Pg			**Pb**	**17 12 12.8**	**0.0**
BEYR				*i* Sg			**Sg**	**17 12 32.5**	**-0.9**
TKB	**Tkibuli**	**1.78**	**123**	P			**Pb**	**17 12 17.7**	**0.0**
TKB				S			**Sg**	**17 12 44.6**	**+2.1**
BATM	**Batumi**	**1.81**	**163**	P			**Pb**	**17 12 18.7**	**+0.4**
BATM				S			**Sg**	**17 12 44.5**	**+1.1**
ONI	**Oni**	**1.97**	**111**	P			**Pg**	**17 12 22.9**	**0.0**
ONI				S			**Sg**	**17 12 50.9**	**+2.5**
ABS	**Abastumani**	**2.09**	**139**	P			**Pn**	**17 12 20.0**	**0.0**
ABS				S			**Sb**	**17 12 48.5**	**-0.3**
ALIG	**Mtskhetisjvari**	**2.33**	**121**	P			**Pb**	**17 12 26.3**	**-0.7**
ALIG				S			**Sg**	**17 12 59.4**	**-0.5**
ERBR	**Yeremizino-Bor**	**2.40**	**352**	*e*Pn			**Pg**	**17 12 31.2**	**0.0**
ERBR				*i* Sn			**Sg**	**17 13 01.0**	**-1.3**

*IDC **09** 17:17:52.6±0.3, 22°.12N×45°.75W, h0km, mb4.9/42, mbtmp4.9/44, ML4.4/2, MS4.6/78, Error ellipse: s-maj=12.4km s-min=8.6km az=140.0*
*BJI **09** 17:17:52.0±0.0, 22°.10N×45°.90W, h10km, mb5.5/4, mB5.7/7, Ms5.2/13, Ms7 4.9/12*
*MOS **09** 17:17:52.1±1.0, 22°.12N×45°.79W, h10km, mb5.6/51, MS4.4/13, Error ellipse: s-maj=8.0km s-min=4.6km az=50.3*
*NEIC **09** 17:17:54.8±2.1, 22°.13N±0°.09×45°.88W±0°.09, h10km±1km, mb5.5/709, Mwb5.3/33, Error ellipse: s-maj=15.4km s-min=13.5km az=151.0*
*NEIC **09** 17:17:54.8, 22°.13N×45°.88W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.48; $M_{\theta\theta}$=0.84; $M_{\phi\phi}$=-0.36; $M_{r\theta}$=-0.58; $M_{\theta\phi}$=0.15; $M_{\phi r}$=-0.49; Fault plane solution: M_0=1.07000×10^{17} NP1:ϕ_s=54.15000°, δ=73.52000°, λ=-119.32000°. NP2:ϕ_s=297.35000°, δ=33.28000°, λ=-31.13000°. Principal axes: T 1.1348, Plg23.0000°, Azm166.0000°; N -0.1490, Plg28.0000°, Azm63.0000°; P -0.9858, Plg52.0000°, Azm290.0000°;*
*GCMT **09** 17:17:57.8±0.1, 22°.12N±0°.01×45°.60W±0°.01, h12km, MW5.3/141, Moment Tensor Solution. s81,c136; s141,c256; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.62±.02; $M_{\theta\theta}$=1.08±.01; $M_{\phi\phi}$=-0.46±.01; $M_{r\theta}$=-0.56±.04; $M_{\theta\phi}$=-0.06±.01; $M_{\phi r}$=0.75±.04; Best double couple: M_0=1.32200×10^{17} NP1:ϕ_s=57.00000°, δ=72.00000°, λ=-127.00000°. NP2:ϕ_s=305.00000°, δ=40.00000°, λ=-28.00000°. Principal axes: T 1.2660, Plg19.0000°, Azm173.0000°; N 0.1170, Plg35.0000°, Azm70.0000°; P -1.3790, Plg49.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 17:17:52.9±0.6, **22°.08N**±0°.04×**45°.81W**±0°.04, **h4**km±3km, **h5**km**:pP-P, n1431, σ1s39/1227, mb5.5/465, MS4.6/99, 47C-64D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	**15.50**	**251**	Pn			**Pn**	**17 21 30.2**	**-2.2**
H05N1				T			T	17 37 37.9	
	SNR=31								
GDSD	**La Dsirade Is**	**15.51**	**251**				**Pn**	**17 21 31.2**	**-1.4**
ANWB	**Willy Bob**	**15.65**	**257**				**Pn**	**17 21 32.8**	**-1.6**
ANWB				IAmb			IAmb	17 21 38.1	
	comp=Z,154nm,0.8s								
ANWB	**Willy Bob**	**15.65**	**257**	*e*P			**Pn**	**17 21 33.5**	**-0.9**
ABD	**La Joyeuse, An**	**15.81**	**252**	*e*P			**Pn**	**17 21 35.7**	**-0.8**
ABD	**La Joyeuse, An**	**15.81**	**252**	*e*T			T	17 37 02.2	
ABD	**La Joyeuse, An**	**15.81**	**252**	*e*				17 24 41.6	
BBGH	**Gun Hill**	**15.83**	**238**	*e*P			**Pn**	**17 21 35.4**	**-1.3**
BBGH	**Gun Hill**	**15.83**	**238**	*e*				17 24 30.8	
ANBD	**Bethesda, Anti**	**15.85**	**254**	*e*P			**P**	**17 21 39.2**	**-1.6**
MAGL	**Barre de l'ile**	**15.85**	**250**				**Pn**	**17 21 36.4**	**-0.6**
MAGL	**Barre de l'ile**	**15.85**	**250**	*e*P			**P**	**17 21 42.9**	**+2.0**
MAGL	**Barre de l'ile**	**15.85**	**250**	*e*T			T	17 37 05.2	
MAGL	**Barre de l'ile**	**15.85**	**250**	*e*				17 24 42.5	
ILAM	**Ilet Lapin Mar**	**16.03**	**246**	Pn			**Pn**	**17 21 39.0**	**-0.3**
ILAM	**Ilet Lapin Mar**	**16.03**	**246**	*e*P			**P**	**17 21 40.3**	**-2.5**
ILAM				*e*T			T	17 37 23.5	
CBE	**Ff, Capester**	**16.08**	**251**				**Pn**	**17 21 39.2**	**-0.8**
CBE	**Ff, Capester**	**16.08**	**251**	*e*P			**Pn**	**17 21 39.8**	**-0.2**
DLPL	**La Plaine**	**16.09**	**248**	*e*P			**Pn**	**17 21 38.1**	**-2.0**
GDHS	**Morne Mazeau,**	**16.14**	**252**				**Pn**	**17 21 39.5**	**-1.3**
H05S1	**Guadeloupe/Mar**	**16.17**	**244**	T			T	17 38 13.1	
	SNR=252								
MPOM	**Morne Pois Mar**	**16.18**	**245**				**Pn**	**17 21 40.6**	**-0.7**
MPOM	**Morne Pois Mar**	**16.18**	**245**	*e*P			**P**	**17 21 43.0**	**-1.5**
MPOM	**Morne Pois Mar**	**16.18**	**245**	*e*T			T	17 37 28.5	
MPOM	**Morne Pois Mar**	**16.18**	**245**	*e*				17 24 41.9	
DSLB	**Salisbury**	**16.19**	**249**	*e*P			**P**	**17 21 44.9**	**+0.3**
DSLB	**Salisbury**	**16.19**	**249**	*e*T			T	17 37 17.7	
DSLB	**Salisbury**	**16.19**	**249**	*e*				17 24 47.4	
TDBA	**Terre de Bas,**	**16.20**	**250**				**Pn**	**17 21 40.9**	**-0.6**
TDBA	**Terre de Bas,**	**16.20**	**250**	*e*P			**Pn**	**17 21 40.5**	**-1.0**
SVN	**Savane Anatole**	**16.25**	**246**				**Pn**	**17 21 40.8**	**-1.4**
SVN						IAmb	IAmb	17 21 48.9	
	comp=Z,300nm,1.1s								
FDF	**Fort de France**	**16.28**	**246**				**P**	**17 21 43.0**	**-2.8**
FDF	**Fort de France**	**16.28**	**246**	P			**P**	**17 21 43.0**	**-2.8**
FDF				pmax			pmax		
	comp=Z,284nm,1.2s								
FDF	**Fort de France**	**16.28**	**246**	*e*P			**P**	**17 21 45.1**	**-0.6**
FDF	**Fort de France**	**16.28**	**246**	*e*				17 24 48.6	
BIM	**Bigot**	**16.32**	**245**				**Pn**	**17 21 41.3**	**-1.8**
BIM						IAmb	IAmb	17 21 49.8	
	comp=Z,367nm,1.3s								
BIM	**Bigot**	**16.32**	**245**	*e*P			**P**	**17 21 45.5**	**-0.6**
BIM	**Bigot**	**16.32**	**245**	*e*T			T	17 37 30.9	
BIM	**Bigot**	**16.32**	**245**	*e*				17 24 43.3	
MLYT	**Lee's Yard**	**16.34**	**254**	*e*P			**P**	**17 21 44.9**	**-1.5**
MBFL	**Flemmings, Mon**	**16.35**	**254**	*e*P			**Pn**	**17 21 42.3**	**-1.2**
SLBI	**Saint Lucia, B**	**16.49**	**243**	*e*P			**P**	**17 21 46.2**	**-1.8**
SLBI	**Saint Lucia, B**	**16.49**	**243**	*e*				17 24 45.4	
MCLT	**Moule a Chique**	**16.62**	**242**				**Pn**	**17 21 43.6**	**-3.4**
MCLT						IAmb	IAmb	17 21 52.9	
	comp=Z,346nm,1.1s								
MCLT	**Moule a Chique**	**16.62**	**242**	*e*P			**Pn**	**17 21 44.2**	**-2.8**
SMRT	**St. Maarten**	**16.71**	**259**				**Pn**	**17 21 46.1**	**-2.0**
SMRT	**St. Maarten**	**16.71**	**259**	*e*P			**Pn**	**17 21 45.9**	**-2.1**
SVB	**Belmont**	**17.11**	**242**	Pn			**Pn**	**17 21 51.9**	**-1.3**
SVB	**Belmont**	**17.11**	**242**	*e*P			**P**	**17 21 55.6**	**+0.6**
TOSP	**Speyside**	**17.70**	**235**				**Pn**	**17 21 59.3**	**-1.2**
TOSP	**Speyside**	**17.70**	**235**	*e*P			**P**	**17 22 02.4**	**+1.0**
GRGR	**Grenville**	**18.07**	**239**				**Pn**	**17 22 03.6**	**-1.5**
GRGR						IAmb	IAmb	17 22 15.7	
	comp=Z,489nm,1.4s								
MDP	**Montagnes des**	**18.13**	**202**	P			**P**	**17 22 06.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=17,slow=15,SNR=6.5								
MDP						LR	LR	17 27 47.2	
	comp=Z,663nm,18.7s,baz=24,slow=33								
	comp=Z,30nm,1.0s								
CDVI	**St. Croix**	**18.34**	**260**	P			**P**	**17 22 07.2**	**-1.2**
CDVI						IAmb	IAmb	17 22 13.0	
	comp=Z,534nm,1.8s								
STVI	**Saint Thomas**	**18.34**	**262**	P			**Pn**	**17 22 06.9**	**-1.5**
CUPR	**Culebra, Puert**	**18.66**	**262**				**P**	**17 22 08.8**	**-3.2**
MTP	**Monte Pirata**	**18.96**	**261**				**P**	**17 22 13.4**	**-1.8**
MTP						IAmb	IAmb	17 22 19.3	
	comp=Z,482nm,1.6s								
CBYP	**Canovanas**	**19.19**	**262**	P			**P**	**17 22 16.3**	**-1.6**
CBYP						IAmb	IAmb	17 22 21.6	
	comp=Z,369nm,1.6s								
HUMP	**Col San Antoni**	**19.22**	**262**	P			**Pn**	**17 22 18.2**	**-0.8**
HUMP						IAmb	IAmb	17 22 26.8	
	comp=Z,458nm,1.2s								
GCPR	**Guaynabo City**	**19.39**	**262**	P			**Pn**	**17 22 19.8**	**-1.3**
GCPR						IAmb	IAmb	17 22 23.8	
	comp=Z,286nm,1.4s								
SJG	**San Juan**	**19.50**	**262**	P			**Pn**	**17 22 22.0**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=77,slow=10,SNR=29								
SJG						LR	LR	17 28 21.9	
	comp=Z,2µm,21.3s,baz=90,slow=32								
	comp=Z,148nm,1.1s								
SJG	**San Juan**	**19.50**	**262**	P			**Pn**	**17 22 21.4**	**-1.0**
SJG						IAmb	IAmb	17 22 29.3	
	comp=Z,204nm,0.9s								
SJG	**San Juan**	**19.50**	**262**	P			**Pn**	**17 22 21.4**	**-1.0**
SJG						pmax	pmax		
	comp=Z,204nm,1.0s								
BBSR	**BB Station**	**19.64**	**305**	P			**P**	**17 22 19.0**	**-3.6**
BBSR	**BB Station**	**19.64**	**305**	S			**Sn**	**17 26 05.4**	**+0.4**
	baz=117								
EMPR	**Esperanza - Ma**	**19.76**	**263**	P			**P**	**17 22 22.3**	**-1.7**
EMPR						IAmb	IAmb	17 22 32.2	
	comp=Z,433nm,1.0s								
CELP	**Cerrillos**	**19.91**	**262**	P			**Pn**	**17 22 25.8**	**-1.5**
CELP						IAmb	IAmb	17 22 33.1	
	comp=Z,298nm,1.0s								
ICMP	**Isla Caja de M**	**19.91**	**262**	P			**Pn**	**17 22 26.5**	**-0.8**
ICMP						IAmb	IAmb	17 22 34.5	
	comp=Z,252nm,1.1s								
OBIP	**Obispado Ponce**	**19.94**	**262**				**P**	**17 22 25.3**	**-0.7**
OBIP						IAmb	IAmb	17 22 32.4	
	comp=Z,376nm,0.9s								
AOPR	**Arecibo Observ**	**20.00**	**263**	P			Pn	17 22 26.8	-1.6
AOPR						IAmb	IAmb	17 22 33.4	
	comp=Z,382nm,1.1s								
AGPR	**Aguadilla, PR**	**20.30**	**264**	P			**P**	**17 22 29.5**	**-0.4**
MLPR	**Magueyes Islan**	**20.36**	**262**				**P**	**17 22 29.3**	**-1.3**
MLPR						IAmb	IAmb	17 22 34.9	
	comp=Z,193nm,1.1s								
PRSN	**Puerto Rico Se**	**20.39**	**263**	P			**P**	**17 22 30.4**	**-0.5**
CRPR	**Cabo Rojo, PR**	**20.41**	**262**	P			Pn	17 22 31.2	-2.0
PCDR	**Punta Cana, DR**	**21.46**	**265**				**P**	**17 22 41.0**	**-1.4**
PCRV	**Puerto La Cruz**	**21.59**	**240**	P			**P**	**17 22 45.3**	**+1.4**
	comp=Z,52nm,1.1s,baz=37,slow=5.1,SNR=21								
	comp=Z,52nm,1.1s								
SACV	**Santiago Islan**	**22.19**	**105**	P			**P**	**17 22 50.8**	**+0.4**
SACV						IAmb	IAmb	17 23 00.6	
	comp=Z,171nm,1.2s								
DR12	**Loma Pena Alta**	**22.32**	**266**	P			**P**	**17 22 47.9**	**-3.9**
BIRV	**Birongo**	**22.75**	**243**	P			**P**	**17 22 56.8**	**+0.5**
SDDR	**Presa de Saban**	**24.05**	**267**	P			**P**	**17 23 09.9**	**+0.5**
SDDR						IAmb	IAmb	17 23 14.4	
	comp=Z,266nm,1.2s								
BOAV	**Boa Vista**	**24.24**	**218**	P			**P**	**17 23 11.4**	**+0.3**
BOAV						IAmb	IAmb	17 23 13.4	
	comp=Z,52nm,1.1s								
BOAV	**Boa Vista**	**24.24**	**218**	*e*P			**P**	**17 23 12.4**	**+1.3**
TMAB	**Tom-Au,PA,Br**	**24.41**	**186**	*e*P			**P**	**17 23 13.5**	**+0.9**
ROSB	**Rosrio**	**24.88**	**176**	*e*P			**P**	**17 23 16.8**	**-0.1**
BAUV	**El Baul**	**25.04**	**242**	P			**P**	**17 23 17.3**	**-1.1**
BAUV						IAmb	IAmb	17 23 23.7	
	comp=Z,117nm,1.2s								
MALB	**Monte Alegre**	**25.18**	**200**	*e*P			**P**	**17 23 21.1**	**+1.5**
HAL	**Halifax**	**26.84**	**331**	P			**P**	**17 23 34.8**	**+0.4**
HAL						IAmb	IAmb	17 23 39.4	
	comp=Z,226nm,1.7s								
HAL	**Halifax**	**26.84**	**331**	P			**P**	**17 23 34.8**	**+0.4**
HAL						pmax	pmax		
	comp=Z,226nm,1.7s								
SDV	**Santo Domingo**	**27.23**	**245**	P			**P**	**17 23 39.5**	**+1.1**
	comp=Z,81nm,1.2s,baz=70,slow=7.4,SNR=50								
SDV						LR	LR	17 33 07.1	
	comp=Z,312nm,21.9s,baz=63,slow=34								
	comp=Z,81nm,1.2s								
SDV	**Santo Domingo**	**27.23**	**245**	P			**P**	**17 23 38.8**	**+0.4**
SDV						IAmb	IAmb	17 23 41.8	
	comp=Z,165nm,1.3s								
SDV	**Santo Domingo**	**27.23**	**245**	*e*P			**P**	**17 23 40.5**	**+2.1**
PMOZ	**Porto Moniz, M**	**27.47**	**61**	*e*S			**S**	**17 28 25.1**	**+3.3**
PMOZ	**Porto Moniz, M**	**27.47**	**61**	*e*T			T	17 51 42.3	
PMAR	**Madeira**	**27.67**	**61**	*e*T			T	17 51 48.0	
ITTB	**Itaituba**	**28.03**	**201**	*e*P			**P**	**17 23 47.5**	**+2.2**
PRPB	**Parauapebas**	**28.36**	**188**	*e*P			**P**	**17 23 48.8**	**+0.6**
DRLN	**Deer Lake**	**28.66**	**344**	P			**P**	**17 23 48.5**	**-2.1**
DRLN						IAmb	IAmb	17 23 53.0	
	comp=Z,94nm,1.2s								
BBTS	**Babate**	**28.71**	**100**	LR			LR	17 32 02.8	
	comp=Z,3µm,21.3s,baz=250,slow=30								
MACA	**Manacapuru-AM**	**29.00**	**212**	*e*P			**P**	**17 23 56.0**	**+2.0**
RCBR	**Riachuelo**	**29.39**	**160**	LR			LR	17 33 00.3	
	comp=Z,3µm,18.3s,baz=122,slow=31								
HRV	**Adam Dziewonsk**	**29.61**	**319**	P			**P**	**17 24 00.5**	**+1.3**
	baz=126								
WVL	**Waterville**	**29.80**	**324**	P			**P**	**17 23 58.6**	**-2.2**
PKME	**Peaks-Kenny Pk**	**30.07**	**326**	P			**P**	**17 24 03.2**	**0.0**
PKME						IAmb	IAmb	17 24 05.8	
	comp=Z,131nm,1.8s								
PKME	**Peaks-Kenny Pk**	**30.07**	**326**	P			**P**	**17 24 04.0**	**+0.9**
	baz=133								
L61B	**Northampton**	**30.26**	**318**	P			**P**	**17 24 06.7**	**+1.8**
	baz=124								
L61B	**Northampton**	**30.26**	**318**	P			**P**	**17 24 06.0**	**+1.0**
	baz=124								
PAL	**Palisades**	**30.28**	**315**	P			**P**	**17 24 06.9**	**+1.7**
	baz=120								
PAL	**Palisades**	**30.28**	**315**	P			**P**	**17 24 06.4**	**+1.3**
	baz=120								
NPGB	**Novo Progresso**	**30.43**	**199**	*e*P			**P**	**17 24 08.6**	**+2.0**
BRNY	**Black Rk. Fore**	**30.55**	**316**	P			**P**	**17 24 09.7**	**+2.1**
	baz=120,SNR=5.0								
TRNY	**Table Rock, Ra**	**30.56**	**315**	P			**P**	**17 24 07.7**	**+0.1**
T60A	**Surry**	**30.62**	**306**	IAmb			IAmb	17 24 11.0	
	comp=Z,54nm,0.9s								
G62A	**West of Eustis**	**30.69**	**325**	P			**P**	**17 24 10.6**	**+1.8**
	baz=131,SNR=6.6								
G62A				P			**P**	**17 24 10.6**	**+1.8**
	baz=131,SNR=6.6								
ODNJ	**Ogdensburg**	**30.78**	**315**	P			**P**	**17 24 09.9**	**+0.3**
ODNJ	**Ogdensburg**	**30.78**	**315**	P			**P**	**17 24 11.4**	**+1.9**
	baz=119								
SMTB	**Santa Maria do**	**30.80**	**183**	*e*P			**P**	**17 24 10.5**	**+0.6**
PSUB	**Penn St. - Bra**	**30.81**	**312**	P			**P**	**17 24 11.8**	**+2.0**
	baz=116								
LBNH	**Lisbon**	**30.85**	**322**	P			**P**	**17 24 10.3**	**+0.1**
LBNH						IAmb	IAmb	17 24 17.5	
	comp=Z,141nm,2.0s								
LBNH	**Lisbon**	**30.85**	**322**	P			**P**	**17 24 10.3**	**+0.1**
LBNH						pmax	pmax		
	comp=Z,141nm,2.0s								
LBNH	**Lisbon**	**30.85**	**322**	P			**P**	**17 24 11.7**	**+1.5**
	baz=127								
CNNC	**Cliffs of the**	**30.91**	**302**	P			**P**	**17 24 12.2**	**+1.5**
	baz=106								
LUPA	**Lehigh Univers**	**31.06**	**313**	IAmb			IAmb	17 24 15.3	
	comp=Z,60nm,1.2s								
E62A	**Clayton Lake**	**31.11**	**328**	P			**P**	**17 24 13.4**	**+1.0**
	baz=134								
E62A				P			**P**	**17 24 13.4**	**+1.0**
	baz=134								
T59A	**Double "B" Far**	**31.18**	**306**	P			**P**	**17 24 13.7**	**+0.6**
T59A	**Double "B" Far**	**31.18**	**306**	P			**P**	**17 24 14.9**	**+1.8**
	baz=110								
T59A				P			**P**	**17 24 14.9**	**+1.8**
	baz=110								
D62A	**Allapoint, All**	**31.20**	**329**	P			**P**	**17 24 14.3**	**+1.0**
	baz=135								
D62A				P			**P**	**17 24 14.3**	**+1.0**
	baz=135								
Y59A	**Loris**	**31.37**	**299**	IAmb			IAmb	17 24 18.0	
	comp=Z,

K57A **Scipio Center** **32.83 316** P **P** **17 24 29.8 +2.3**
baz=119
J57A **Williamstown** **32.84 317** IAmb IAmb 17 24 30.8
comp=Z,74nm,1.4s
J57A **Williamstown** **32.84 317** P **P** **17 24 29.3 +1.7**
baz=121
J57A P **P** **17 24 29.3 +1.7**
baz=121
NBAN **Anadia - AL** **32.91 163** *e*P **P** **17 24 28.7 +0.2**
WCNY **West Carthage** **32.92 319** P **P** **17 24 29.6 +1.2**
baz=122
Q56A **Snyder Ridge,** **33.10 308** IAmb IAmb 17 24 33.8
comp=Z,81nm,1.1s
Q56A **Snyder Ridge,** **33.10 308** P **P** **17 24 32.9 +2.9**
baz=111,SNR=22
Q56A P **P** **17 24 32.9 +2.9**
baz=111,SNR=22
U56A **King** **33.16 303** IAmb IAmb 17 24 34.2
comp=Z,133nm,1.9s
L56A **Greenwood** **33.23 314** P **P** **17 24 33.2 +2.1**
baz=117,SNR=5.6
L56A P **P** **17 24 33.2 +2.1**
baz=117,SNR=5.6
J56A **Wolcott** **33.31 317** P **P** **17 24 34.0 +2.2**
baz=120
J56A P **P** **17 24 34.0 +2.2**
baz=120
JSC **Jenkinsville** **33.36 299** IAmb IAmb 17 24 35.6
comp=Z,126nm,2.0s
BLA **Blacksburg** **33.43 305** IAmb IAmb 17 24 36.6
comp=Z,181nm,1.8s
BLA **Blacksburg** **33.43 305** P **P** **17 24 35.3 +2.4**
baz=107,SNR=6.1
BLA **Blacksburg** **33.43 305** P **P** **17 24 34.6 +1.7**
baz=107,SNR=6.1
HAW **Hawthorne Fire** **33.47 297** P **P** **17 24 35.0 +1.8**
baz=100
TRQ **Mont Tremblant** **33.53 323** P **P** **17 24 32.8 -0.9**
TRQ PcP **PcP** **17 27 14.1 -0.3**
R55A **Marlinton** **33.53 307** P **P** **17 24 37.1 +3.2**
baz=109,SNR=18
R55A P **P** **17 24 37.1 +3.2**
baz=109,SNR=18
KMSC **Kings Mountain** **33.61 301** IAmb IAmb 17 24 37.7
comp=Z,135nm,1.9s
KMSC **Kings Mountain** **33.61 301** P **P** **17 24 36.4 +1.9**
baz=103,SNR=7.1
KMSC **Kings Mountain** **33.61 301** P **P** **17 24 36.0 +1.6**
baz=103,SNR=7.1
V55A **Taylorsville** **33.68 302** P **P** **17 24 37.5 +2.3**
baz=104,SNR=6.9
V55A P **P** **17 24 37.5 +2.3**
baz=104,SNR=6.9
PECO **Prince Edward** **33.72 318** IAmb IAmb 17 24 38.4
comp=Z,88nm,1.8s
M55A **Ridgway** **33.75 313** P **P** **17 24 36.3 +0.6**
M55A IAmb IAmb 17 24 40.0
comp=Z,126nm,1.9s
M55A **Ridgway** **33.75 313** P **P** **17 24 37.8 +2.2**
baz=115,SNR=7.1
M55A P **P** **17 24 37.8 +2.2**
baz=115,SNR=7.1
NBLA **Lagarto - SE** **33.80 166** *e*P **P** **17 24 35.5 -0.7**
MCWV **Mont Chateau** **33.80 309** P **P** **17 24 38.3 +2.2**
baz=111
HODGE **Hodges** **34.16 299** IAmb IAmb 17 24 42.6
comp=Z,141nm,2.0s
HODGE **Hodges** **34.16 299** P **P** **17 24 41.3 +2.0**
baz=101,SNR=11
CLDB **Colider** **34.19 198** *e*P **P** **17 24 41.5 +1.9**
SNDB **Serra Nova Dou** **34.27 190** *e*P **P** **17 24 41.6 +1.3**
S54A **Dingess, Beckl** **34.28 305** IAmb IAmb 17 24 44.0
comp=Z,168nm,1.8s
S54A **Dingess, Beckl** **34.28 305** P **P** **17 24 42.6 +2.3**
baz=107,SNR=5.7
S54A P **P** **17 24 42.6 +2.3**
baz=107,SNR=5.7
SDBA **SAO DESIDERIO** **34.29 178** *e*P **P** **17 24 40.1 -0.4**
Q54A **Coxs Mills** **34.29 307** IAmb IAmb 17 24 44.0
comp=Z,98nm,1.8s
Q54A **Coxs Mills** **34.29 307** P **P** **17 24 42.6 +2.3**
baz=109,SNR=7.3
Q54A P **P** **17 24 42.6 +2.3**
baz=109,SNR=7.3
U54A **Nelsons Funny** **34.32 303** IAmb IAmb 17 24 44.1
comp=Z,89nm,1.4s
U54A **Nelsons Funny** **34.32 303** P **P** **17 24 42.8 +2.0**
baz=105
U54A P **P** **17 24 42.8 +2.0**
baz=105
SOR **Soroa** **34.33 278** P **P** **17 24 41.3 +0.4**
SOR IAmb IAmb 17 24 44.2
comp=Z,99nm,1.2s
SOR **Soroa** **34.33 278** P **P** **17 24 41.3 +0.4**
SOR pmax pmax
comp=Z,99nm,1.2s
O54A **Avella** **34.37 310** IAmb IAmb 17 24 45.9
comp=Z,110nm,2.0s
O54A **Avella** **34.37 310** P **P** **17 24 43.7 +2.6**
baz=111
O54A P **P** **17 24 43.7 +2.6**
baz=111
DELO **Deloro Mine** **34.41 318** IAmb IAmb 17 24 46.7
comp=Z,72nm,1.6s
154A **Montrose** **34.59 296** IAmb IAmb 17 24 46.7
comp=Z,174nm,1.6s
ERPA **Erie** **34.85 313** P **P** **17 24 46.8 +1.6**
baz=114
TIGA **Tifton** **34.85 294** P **P** **17 24 46.9 +1.5**
baz=96
BG3 **Lake Jocassee** **34.86 300** IAmb IAmb 17 24 48.9
comp=Z,129nm,1.8s
CASEE **Lake Jocassee** **34.86 300** P **P** **17 24 47.7 +2.4**
baz=102,SNR=11
P53A **Whipple** **34.86 308** P **P** **17 24 47.4 +2.1**
baz=109,SNR=9.6
P53A P **P** **17 24 47.4 +2.1**
baz=109,SNR=9.6
V53A **Saluda** **34.90 301** IAmb IAmb 17 24 49.1
comp=Z,105nm,1.8s
V53A **Saluda** **34.90 301** P **P** **17 24 47.8 +2.0**
baz=103,SNR=12
V53A P **P** **17 24 47.8 +2.0**
baz=103,SNR=12
R53A **Hurricane** **34.92 306** P **P** **17 24 45.9 +0.1**
R53A IAmb IAmb 17 24 49.0
comp=Z,113nm,1.6s
R53A **Hurricane** **34.92 306** P **P** **17 24 47.9 +2.1**
baz=107,SNR=5.8
R53A P **P** **17 24 47.9 +2.1**
baz=107,SNR=5.8
N53A **Lisbon** **34.93 310** IAmb IAmb 17 24 49.2
comp=Z,123nm,1.8s
N53A **Lisbon** **34.93 310** P **P** **17 24 47.9 +2.1**
baz=112,SNR=5.6
N53A P **P** **17 24 47.9 +2.1**
baz=112,SNR=5.6
O53A **New Philadelph** **34.99 309** IAmb IAmb 17 24 49.4
comp=Z,156nm,1.9s
O53A **New Philadelph** **34.99 309** P **P** **17 24 47.9 +1.4**
baz=110,SNR=7.7
GOGA **Godfrey** **35.01 297** P **P** **17 24 48.8 +2.2**
baz=99,SNR=8.6
GOGA **Godfrey** **35.01 297** P **P** **17 24 48.6 +2.0**
baz=99,SNR=8.6
M53A **WI Miller and** **35.05 312** P **P** **17 24 48.0 +1.1**
baz=113
BCIP **Isla Barro Col** **35.10 254** IAmb IAmb 17 24 50.3
comp=Z,84nm,1.1s
PDRB **Porto dos Gac** **35.16 199** *e*P **P** **17 24 49.9 +1.9**
TBTG **Tabatinga, AM** **35.18 225** *e*P **P** **17 24 49.3 +1.1**
SAML **Samuel** **35.23 211** P **P** **17 24 48.7 0.0**
SAML **Samuel** **35.23 211** P **P** **17 24 48.7 0.0**
SAML pmax pmax
comp=Z,31nm,1.2s
Q52A **Bidwell** **35.34 307** IAmb IAmb 17 24 52.2
comp=Z,49nm,0.9s
Q52A PcP **PcP** **17 27 20.3 +0.5**
Q52A **Bidwell** **35.34 307** P **P** **17 24 51.6 +2.1**
baz=108,SNR=9.7
Q52A P **P** **17 24 51.6 +2.1**
baz=108,SNR=9.7
O52A **Adamsville** **35.40 309** IAmb IAmb 17 24 53.1
comp=Z,104nm,1.7s
P52A **Corning** **35.45 308** IAmb IAmb 17 24 53.0
comp=Z,134nm,1.8s
P52A **Corning** **35.45 308** P **P** **17 24 51.6 +1.2**
baz=109

SADO **Sadowa** **35.48 318** LR LR 17 36 46.2
comp=Z,2µm,19.7s,baz=164,slow=32
SADO **Sadowa** **35.48 318** PcP **PcP** **17 27 20.5 +0.4**
V52A **Sevierville** **35.56 301** IAmb IAmb 17 24 54.6
comp=Z,108nm,1.9s
V52A **Sevierville** **35.56 301** P **P** **17 24 53.3 +1.9**
baz=102,SNR=7.2
TKL **Tuckaleechee C** **35.66 301** LR LR 17 37 48.1
comp=Z,1µm,19.1s,baz=98,slow=34
TKL **Tuckaleechee C** **35.66 301** IAmb IAmb 17 25 28.1
comp=Z,35nm,0.4s
W52A **Murphy** **35.68 300** P **P** **17 24 52.9 +0.5**
W52A IAmb IAmb 17 24 55.7
comp=Z,140nm,1.8s
W52A **Murphy** **35.68 300** P **P** **17 24 54.6 +2.2**
baz=101,SNR=7.0
TZTN **Tazewell** **35.68 302** P **P** **17 24 54.6 +2.2**
baz=103,SNR=22
TZTN **Tazewell** **35.68 302** P **P** **17 24 54.0 +1.6**
baz=103,SNR=22
PNCL **Nicolau / Gran** **35.72 55** *e*P **P** **17 24 52.6 -0.1**
comp=Z,50nm,1.7s
152A **Waverly Hall** **35.95 296** P **P** **17 24 57.4 +2.7**
baz=97,SNR=11
PCVE **Castro Verde** **35.97 56** *e*P **P** **17 24 55.9 +1.1**
comp=Z,40nm,1.7s
S51A **Beattyville** **35.98 304** P **P** **17 24 57.0 +2.1**
baz=105,SNR=6.9
S51A P **P** **17 24 57.0 +2.1**
baz=105,SNR=6.9
352A **Blakely** **35.99 293** IAmb IAmb 17 24 58.9
comp=Z,132nm,1.2s
352A **Blakely** **35.99 293** P **P** **17 24 57.3 +2.2**
baz=95
N51A **Ashland** **36.06 310** IAmb IAmb 17 24 58.2
comp=Z,108nm,1.5s
P51A **Williamsport** **36.09 307** IAmb IAmb 17 24 58.5
comp=Z,162nm,1.8s
P51A **Williamsport** **36.09 307** P **P** **17 24 57.7 +1.9**
baz=108,SNR=5.2
P51A P **P** **17 24 57.7 +1.9**
baz=108,SNR=5.2
GDU01 **Guandu, BA** **36.10 170** *e*P **P** **17 24 55.3 -0.8**
V51A **Loudon** **36.16 301** IAmb IAmb 17 24 59.6
comp=Z,92nm,1.8s
PVAQ **Vaqueiros** **36.16 56** *e*P **P** **17 24 57.8 +1.3**
comp=Z,44nm,1.7s
PVAQ *e*S **S** **17 30 38.4 +1.5**
Q51A **Peebles** **36.17 306** P **P** **17 24 56.8 +0.2**
Q51A **Peebles** **36.17 306** P **P** **17 24 58.5 +2.0**
baz=107,SNR=13
Q51A P **P** **17 24 58.5 +2.0**
baz=107,SNR=13
PMTG **Montargil** **36.22 53** *e*P **P** **17 24 57.3 +0.4**
comp=Z,74nm,1.5s
EVO **Evora** **36.22 54** *e*P **P** **17 24 57.0 0.0**
comp=Z,39nm,1.6s
VLDQ **Val d'Or** **36.23 324** P **P** **17 24 59.6 +2.7**
ACSO **Alum Creek Sta** **36.27 309** IAmb IAmb 17 25 00.3
comp=Z,147nm,1.6s
ACSO **Alum Creek Sta** **36.27 309** P **P** **17 24 59.2 +1.8**
baz=109,SNR=6.6
ACSO **Alum Creek Sta** **36.27 309** P **P** **17 24 58.6 +1.3**
baz=109,SNR=6.6
PCAS **Casmilo, Conde** **36.31 52** *e*P **P** **17 24 58.3 +0.6**
SCHQ **Schefferville** **36.31 339** P **P** **17 24 57.9 +0.3**
comp=Z,18nm,0.8s,baz=147,slow=5.7,SNR=14
SCHQ PcP **PcP** **17 27 21.4 -0.9**
comp=Z,7.2nm,0.7s,baz=182,slow=4.4,SNR=6.2
SCHQ LR LR 17 38 28.4
comp=Z,926nm,19.7s,baz=150,slow=34
comp=Z,18nm,0.8s
SCHQ **Schefferville** **36.31 339** IAmb IAmb 17 24 59.7
comp=Z,100nm,1.6s
X51A **Calhoun** **36.34 299** IAmb IAmb 17 25 01.4
comp=Z,178nm,1.8s
X51A **Calhoun** **36.34 299** P **P** **17 25 00.2 +2.2**
baz=100,SNR=9.1
X51A P **P** **17 25 00.2 +2.2**
baz=100,SNR=9.1
Z51A **Franklin** **36.41 297** P **P** **17 25 01.5 +2.8**
baz=98
451A **Vernon** **36.63 292** P **P** **17 25 01.4 +0.9**
PESTR **Estremoz** **36.63 54** *e*P **P** **17 25 03.0 +2.5**
comp=Z,27nm,1.5s
M50A **Frnd** **36.70 310** P **P** **17 25 03.0 +2.0**
baz=110
M50A P **P** **17 25 03.0 +2.0**
baz=110
R50A **Paris** **36.70 305** IAmb IAmb 17 25 04.7
comp=Z,104nm,1.8s
W50A **Signal Mountai** **36.81 300** IAmb IAmb 17 25 05.5
comp=Z,145nm,1.7s
W50A **Signal Mountai** **36.81 300** P **P** **17 25 04.2 +2.1**
baz=100,SNR=12
PBAR **Barrancos** **36.87 55** *e*P **P** **17 25 05.4 +2.9**
comp=Z,44nm,1.5s
PMRV **Marv??o** **36.94 53** *e*P **P** **17 25 03.1 0.0**
comp=Z,39nm,1.7s
PMRV *e*S **S** **17 30 49.0 +0.2**
JANB **Januaria** **36.94 178** *e*P **P** **17 25 02.7 -0.6**
FPAL **Fort Paine** **36.95 298** P **P** **17 25 04.2 +0.9**
FPAL IAmb IAmb 17 25 06.8
comp=Z,150nm,1.7s
PVIS **Viseu** **36.96 51** *e*P **P** **17 25 03.5 +0.2**
comp=Z,30nm,1.5s
PCBR **Castelo Branco** **36.99 53** *e*P **P** **17 25 04.0 +0.5**
comp=Z,37nm,1.6s
PGAV **Gavieira, Arco** **37.11 49** *e*P **P** **17 25 04.9 +0.3**
comp=Z,37nm,1.7s
PGAV *e*S **S** **17 30 55.7 +4.2**
MTE **Manteigas** **37.11 52** *e*P **P** **17 25 05.1 +0.5**
comp=Z,60nm,1.7s
MTE *e*S **S** **17 30 55.3 +3.8**
MTE **Manteigas** **37.11 52** P **P** **17 25 04.4 -0.3**
250A **Grady** **37.18 294** IAmb IAmb 17 25 08.5
comp=Z,157nm,1.4s
250A **Grady** **37.18 294** P **P** **17 25 07.6 +2.4**
baz=95,SNR=6.2
O49A **Covington** **37.24 308** IAmb IAmb 17 25 08.3
comp=Z,182nm,1.9s
O49A PcP **PcP** **17 27 25.5 +0.1**
O49A **Covington** **37.24 308** P **P** **17 25 07.0 +1.3**
baz=107,SNR=6.7
O49A P **P** **17 25 07.0 +1.3**
baz=107,SNR=6.7
POLO **Lamas de Olo** **37.24 50** *e*P **P** **17 25 05.8 0.0**
comp=Z,30nm,1.7s
PVRL **Vila Real** **37.27 50** *e*P **P** **17 25 06.6 +0.7**
comp=Z,34nm,1.8s
P49A **Miami Univ. Ec** **37.33 307** IAmb IAmb 17 25 09.1
comp=Z,147nm,1.6s
P49A **Miami Univ. Ec** **37.33 307** P **P** **17 25 07.9 +1.4**
baz=106,SNR=11
P49A **Miami Univ. Ec** **37.33 307** P **P** **17 25 07.5 +1.1**
baz=106,SNR=11
R49A **Shelbyville** **37.35 305** IAmb IAmb 17 25 09.8
comp=Z,185nm,1.6s
R49A **Shelbyville** **37.35 305** P **P** **17 25 08.6 +2.0**
baz=104,SNR=9.4
R49A P **P** **17 25 08.6 +2.0**
baz=104,SNR=9.4
N49A **Columbus Grove** **37.35 309** P **P** **17 25 08.0 +1.5**
baz=108,SNR=7.1
N49A P **P** **17 25 08.0 +1.5**
baz=108,SNR=7.1
U49A **Red Boiling Sp** **37.43 302** PcP **PcP** **17 27 26.5 +0.4**
U49A **Red Boiling Sp** **37.43 302** P **P** **17 25 09.2 +1.9**
baz=101,SNR=8.4
AAM **Ann Arbor** **37.44 312** IAmb IAmb 17 25 10.3
comp=Z,156nm,1.4s
AAM **Ann Arbor** **37.44 312** P **P** **17 25 08.7 +1.4**
baz=111
I49A **Point Hope** **37.49 314** P **P** **17 25 09.6 +1.9**
baz=114
I49A P **P** **17 25 09.6 +1.9**
baz=114
ETMB **Extrema** **37.49 214** P **P** **17 25 07.8 -0.2**
ETMB IAmb IAmb 17 25 09.5
comp=Z,78nm,1.1s
ETMB **Extrema** **37.49 214** *e*P **P** **17 25 08.2 +0.2**
Y49A **Blount Mountai** **37.51 297** PcP **PcP** **17 27 26.5 +0.2**
Y49A **Blount Mountai** **37.51 297** P **P** **17 25 10.3 +2.2**
baz=98
BDFB **Brasilia** **37.55 183** P **P** **17 25 10.0 +1.5**
comp=Z,20nm,0.7s,baz=7.9,slow=9.7,SNR=25
BDFB LR LR 17 39 43.6
comp=Z,2µm,18.5s,baz=348,slow=35
comp=Z,20nm,0.7s
BDFB **Brasilia** **37.55 183** P **P** **17 25 09.2 +0.6**
BDFB **Brasilia** **37.55 183** P **P** **17 25 09.2 +0.6**
BDFB pmax pmax
comp=Z,74nm,1.3s
BDFB **Brasilia** **37.55 183** *e*P **P** **17 25 10.2 +1.7**
VILB **Vilhena** **37.57 203** P **P** **17 25 09.0 +0.3**
VILB IAmb IAmb 17 25 18.8
comp=Z,59nm,1.1s
VILB **Vilhena** **37.57 203** *e*P **P** **17 25 10.2 +1.6**
CMC01 **Camacan, BA** **37.72 170** *e*P **P** **17 25 10.9 +1.0**
MVO **Moncorvo** **37.72 51** *e*P **P** **17 25 10.5 +0.7**
comp=Z,35nm,1.8s
MVO *e*S **S** **17 31 03.3 +2.5**
BRAL **Brewton** **37.78 293** P **P** **17 25 12.7 +2.4**
baz=94
CLTN **Cedars of Leba** **37.79 301** IAmb IAmb 17 25 13.7
comp=Z,143nm,1.8s
BRU2 **Volcan** **37.81 255** IAmb IAmb 17 25 15.7
comp=Z,234nm,1.5s
P48A **Milroy** **37.84 306** P **P** **17 25 10.1 -0.6**
P48A IAmb IAmb 17 25 12.9
comp=Z,112nm,1.6s
P48A PcP **PcP** **17 27 26.7 -0.5**
P48A **Milroy** **37.84 306** P **P** **17 25 11.8 +1.0**
baz=106,SNR=10
P48A P **P** **17 25 11.8 +1.0**
baz=106,SNR=10
O48B **Farmland** **37.86 308** P **P** **17 25 12.1 +1.2**
baz=107
O48B **Farmland** **37.86 308** P **P** **17 25 11.7 +0.8**
baz=107
L48A **N Adams** **37.86 311** IAmb IAmb 17 25 13.4
comp=Z,124nm,1.4s
L48A **N Adams** **37.86 311** P **P** **17 25 12.6 +1.7**
baz=110,SNR=8.9
L48A P **P** **17 25 12.6 +1.7**
baz=110,SNR=8.9
MDT **Midelt** **37.88 65** P **P** **17 25 11.5 +0.2**
comp=Z,1.1nm,0.6s,baz=271,slow=8.8,SNR=1.9
MDT LR LR 17 37 31.1
comp=Z,617nm,20.1s,baz=290,slow=31
LRAL **Lakeview Retre** **37.90 296** P **P** **17 25 11.8 +0.5**
LRAL PcP **PcP** **17 27 27.3 -0.2**
LRAL **Lakeview Retre** **37.90 296** P **P** **17 25 13.6 +2.3**
baz=96,SNR=13
LRAL **Lakeview Retre** **37.90 296** P **P** **17 25 13.1 +1.8**
baz=96,SNR=13
CDITO **Canoas** **38.06 255** IAmb IAmb 17 25 17.4
comp=Z,141nm,1.3s
X48A **Hartselle** **38.10 298** IAmb IAmb 17 25 16.6
comp=Z,113nm,1.6s
X48A PcP **PcP** **17 27 28.4 +0.2**
X48A **Hartselle** **38.10 298** P **P** **17 25 15.3 +2.3**
baz=98,SNR=12
V48A **Smith Brothers** **38.12 300** P **P** **17 25 15.1 +2.0**
baz=100,SNR=7.6
PBRG **Bragança** **38.13 50** *e*P **P** **17 25 13.4 +0.2**
comp=Z,26nm,1.7s
WCI **Wyandotte Cave** **38.19 304** P **P** **17 25 13.2 -0.5**
WCI IAmb IAmb 17 25 17.0
comp=Z,211nm,1.9s
WCI **Wyandotte Cave** **38.19 304** P **P** **17 25 13.2 -0.5**
WCI pmax pmax
comp=Z,211nm,2.0s
WCI **Wyandotte Cave** **38.19 304** P **P** **17 25 15.3 +1.6**
baz=103
N47A **Urbana** **38.43 309** IAmb IAmb 17 25 18.0
comp=Z,144nm,1.6s
N47A **Urbana** **38.43 309** P **P** **17 25 17.1 +1.4**
baz=107,SNR=7.0
N47A P **P** **17 25 17.1 +1.4**
baz=107,SNR=7.0
OTAV **Otavalo** **38.51 240** P **P** **17 25 16.7 -0.5**
OTAV IAmb IAmb 17 25 19.8
comp=Z,76nm,1.1s
OTAV **Otavalo** **38.51 240** ⇓P **P** **17 25 17.9 +0.8**
OTAV **Otavalo** **38.51 240** *e*P **P** **17 25 18.4 +1.3**
T47A **Sharon Grove** **38.56 302** IAmb IAmb 17 25 20.0
comp=Z,112nm,1.6s
T47A **Sharon Grove** **38.56 302** P **P** **17 25 19.1 +2.2**
baz=101,SNR=8.1
BLO **Bloomington** **38.59 306** IAmb IAmb 17 25 20.2
comp=Z,172nm,1.7s
MC01 **Montes Claros** **38.60 177** *e*P **P** **17 25 17.2 -0.1**
COVE **Coope Vega, Sa** **38.60 259** IAmb IAmb 17 25 20.5
comp=Z,148nm,1.1s
Z47A **Carrollton** **38.81 296** P **P** **17 25 21.5 +2.5**
baz=96,SNR=7.3
GUA01 **Guaratinga, BA** **38.88 171** *e*P **P** **17 25 19.2 -0.4**
SALV **Santo Antonio** **38.97 195** *e*P **P** **17 25 22.6 +2.2**
WVT **Waverly** **38.99 301** P **P** **17 25 21.0 +0.5**
WVT IAmb IAmb 17 25 23.4
comp=Z,162nm,1.6s
WVT **Waverly** **38.99 301** P **P** **17 25 21.0 +0.5**
WVT pmax pmax
comp=Z,163nm,1.7s
WVT **Waverly** **38.99 301** P **P** **17 25 21.8 +1.3**
baz=99,SNR=29
WVT **Waverly** **38.99 301** P **P** **17 25 21.8 +1.3**
baz=99
GLMI **Grayling** **39.02 315** P **P** **17 25 22.0 +1.4**
baz=113
PLAL **Pickwick Lake** **39.02 299** IAmb IAmb 17 25 24.1
comp=Z,304nm,1.7s
USIN **University of** **39.19 303** IAmb IAmb 17 25 25.3
comp=Z,212nm,1.6s
L46A **Eue Claire** **39.20 310** IAmb IAmb 17 25 24.6
comp=Z,195nm,1.6s
P46A **Rosedale** **39.21 306** IAmb IAmb 17 25 25.5
comp=Z,271nm,1.9s
P46A **Rosedale** **39.21 306** P **P** **17 25 24.3 +2.0**
baz=104,SNR=9.1
PAB **San Pablo** **39.24 54** P **P** **17 25 22.2 -0.4**
PAB **San Pablo** **39.24 54** P **P** **17 25 22.2 -0.4**
PAB pmax pmax
comp=Z,27nm,1.4s
JTS **Las Juntas de** **39.26 259** *de*P **P** **17 25 23.3 +0.3**
JTS pmax pmax
comp=Z,44nm,1.4s
SFIN **Lafayette** **39.32 307** IAmb IAmb 17 25 26.0
comp=Z,169nm,1.6s
SFIN **Lafayette** **39.32 307** P **P** **17 25 24.9 +1.7**
baz=105,SNR=9.0
SFIN **Lafayette** **39.32 307** P **P** **17 25 24.7 +1.5**
baz=105,SNR=9.0
E46A **Sault Ste Mari** **39.44 317** PcP **PcP** **17 27 32.2 +0.1**
PTLB **Pontes e Lacer** **39.52 200** P **P** **17 25 25.7 +0.7**
PTLB IAmb IAmb 17 25 31.4
comp=Z,37nm,1.4s
PTLB **Pontes e Lacer** **39.52 200** *e*P **P** **17 25 26.5 +1.5**
TEIG **Tepich** **39.56 275** P **P** **17 25 24.7 -0.6**
ESDC **Sonseca Array** **39.56 54** P **P** **17 25 24.9 -0.4**
comp=Z,4.1nm,1.0s,baz=256,slow=7.3,SNR=12
ESDC PcP **PcP** **17 27 32.7 0.0**
comp=Z,2.9nm,0.9s,baz=262,slow=3.4,SNR=8.8
comp=Z,4.1nm,1.0s
ESDC **Sonseca Array** **39.56 54** P **P** **17 25 24.8 -0.5**
ESDC PcP **PcP** **17 27 32.7 0.0**
146A **Union** **39.59 295** IAmb IAmb 17 25 29.1
comp=Z,319nm,2.0s
CZSB **Cruzeiro do Su** **39.66 225** P **P** **17 25 26.4 +0.2**
CZSB IAmb IAmb 17 25 27.7
comp=Z,126nm,1.2s
CZSB **Cruzeiro do Su** **39.66 225** *e*P **P** **17 25 26.5 +0.2**
OLIL **Olney** **39.69 305** IAmb IAmb 17 25 29.4
comp=Z,154nm,1.4s
OLIL **Olney** **39.69 305** P **P** **17 25 28.4 +2.1**
baz=102
IPMB **Ipameri, GO** **39.89 184** *e*P **P** **17 25 28.7 +0.6**
W45A **Hickory Valley** **39.94 299** IAmb IAmb 17 25 32.0
comp=Z,195nm,1.1s
OXF **Oxford** **40.05 298** IAmb IAmb 17 25 31.7
comp=Z,170nm,1.4s
OXF **Oxford** **40.05 298** P **P** **17 25 30.6 +1.2**
baz=96,SNR=6.0
NAN01 **Guarapari, ES** **40.07 172** *e*P **P** **17 25 29.2 -0.4**
CNGN **Cerro Negro** **40.08 263** IAmb IAmb 17 25 33.6
comp=Z,196nm,1.3s
Y45A **Yeager Farm, C** **40.09 297** P **P** **17 25 29.5 -0.2**
Y45A IAmb IAmb 17 25 32.8
comp=Z,202nm,1.5s
Y45A **Yeager Farm, C** **40.09 297** P **P** **17 25 31.6 +1.9**
baz=95
TGUH **Tegucigalpa,Un** **40.12 266** IAmb IAmb 17 25 34.3
comp=Z,206nm,1.4s

DIAM Diamantina, MG 40.19 177 eP P 17 25 31.0 +0.3
HQIL Hanson Quary C 40.25 309 IAmb IAmb 17 25 33.6
comp=Z,218nm,1.5s
O44A Mansfield 40.28 307 IAmb IAmb 17 25 34.0
comp=Z,179nm,1.6s
KOWA Kowa 40.29 93 LR LR 17 40 20.9
comp=Z,918nm,18.9s,baz=282,slow=34
KOWA Kowa 40.29 93 P P 17 25 32.4 +0.8
CRIN San Cristobal 40.34 264 P P 17 25 32.4 +0.4
SIUC Southern Illin 40.35 303 IAmb IAmb 17 25 35.2
comp=Z,146nm,1.4s
PMNB Patos De Minas 40.38 181 eP P 17 25 32.6 +0.4
S44A Carbondale 40.38 303 IAmb IAmb 17 25 35.3
comp=Z,133nm,1.4s
S44A Carbondale 40.38 303 P P 17 25 34.2 +2.2
baz=100,SNR=11
L44A Lake County Fo 40.40 310 IAmb IAmb 17 25 34.8
comp=Z,114nm,1.2s
L44A Lake County Fo 40.40 310 P P 17 25 33.3 +1.2
baz=106
Q44A Meyer Farm, Va 40.42 305 IAmb IAmb 17 25 35.5
comp=Z,120nm,1.3s
Q44A Meyer Farm, Va 40.42 305 P P 17 25 34.4 +2.1
baz=102,SNR=9.4
BOSC San Juan Bosco 40.62 236 P P 17 25 32.9 -1.5
SIV San Ignacio 40.69 203 LR LR 17 41 18.6
comp=Z,410nm,20.5s,baz=46,slow=34
SJMB Sao Joao De Ma 40.79 173 eP P 17 25 35.6 +0.2
VBMS Vicksburg 40.79 294 P P 17 25 37.8 +2.3
baz=93
344A Westbrook Farm 40.94 293 IAmb IAmb 17 25 40.9
comp=Z,178nm,1.1s
344A Westbrook Farm 40.94 293 P P 17 25 40.1 +3.4
baz=92
P43A Skaggs, Pawnee 40.96 306 IAmb IAmb 17 25 39.6
comp=Z,152nm,1.6s
HDIL Hopedale 40.99 307 P P 17 25 38.1 +1.1
baz=103
HDIL Hopedale 40.99 307 P P 17 25 38.5 +1.5
baz=103
E43A Lone Tree Farm 41.15 316 P P 17 25 39.4 +1.2
baz=112
C2SB Chapadao do Su 41.18 190 eP P 17 25 40.8 +2.1
FVM French Village 41.34 303 IAmb IAmb 17 25 42.9
comp=Z,113nm,1.3s
FVM French Village 41.34 303 P P 17 25 41.9 +1.9
baz=100,SNR=13
RIB01 Linhares ES 41.48 172 eP P 17 25 40.2 -1.0
L42A Oliver, Polo 41.61 309 P P 17 25 41.8 -0.3
L42A IAmb IAmb 17 25 44.9
comp=Z,180nm,1.6s
L42A PcP PcP 17 27 38.7 -0.5
L42A Oliver, Polo 41.61 309 P P 17 25 43.9 +1.8
baz=105,SNR=8.3
LCAR Lake Charles 41.65 300 P P 17 25 41.5 -1.0
LCAR PcP PcP 17 27 38.2 -1.2
ITRB Iturama 41.77 186 eP P 17 25 45.8 +2.2
ESQI Esquipulas 41.88 267 P P 17 25 43.7 -1.1
CCAR Cane Creek 41.95 297 IAmb IAmb 17 25 47.9
comp=Z,239nm,1.4s
MTO3 Montecristo 41.95 267 P P 17 25 46.2 +0.7
CCM Cathedral Cave 41.99 303 P P 17 25 45.7 +0.4
CCM IAmb IAmb 17 25 48.2
comp=Z,155nm,1.2s
CCM Cathedral Cave 41.99 303 P P 17 25 45.7 +0.4
CCM pmax pmax
comp=Z,155nm,1.3s
CCM Cathedral Cave 41.99 303 P P 17 25 47.0 +1.7
baz=99,SNR=45
CCM Cathedral Cave 41.99 303 P P 17 25 46.8 +1.5
baz=99
N41A Harden Midland 42.18 307 IAmb IAmb 17 25 49.3
comp=Z,156nm,1.2s
N41A Harden Midland 42.18 307 P P 17 25 48.2 +1.5
baz=102,SNR=14
TIC Toumodi 42.22 105⇑ iP P 17 25 48.4 +0.9
comp=Z,7.9nm,0.3s
JFWS Jewell Farm 42.26 310 IAmb IAmb 17 25 50.0
comp=Z,116nm,1.5s
JFWS Jewell Farm 42.26 310 P P 17 25 49.0 +1.6
baz=105,SNR=7.5
JFWS Jewell Farm 42.26 310 P P 17 25 48.8 +1.4
baz=105,SNR=7.5
DBIC Dimbokro 42.36 105 P P 17 25 47.4 -1.1
DBIC LR LR 17 40 57.9
comp=Z,7.4nm,0.7s,baz=300,slow=9.4,SNR=6.4
comp=Z,904nm,18.8s,baz=287,slow=33
comp=Z,7.4nm,0.7s
DBIC Dimbokro 42.36 105 P P 17 25 49.1 +0.5
DBIC Dimbokro 42.36 105 P P 17 25 49.1 +0.5
DBIC pmax pmax
comp=Z,82nm,1.6s
LIC Lamto 42.40 106⇑ iP P 17 25 49.9 +1.0
comp=Z,56nm,0.9s
D41A Chassel 42.41 317 P P 17 25 50.4 +1.9
baz=111,SNR=5.0
COWI Conover 42.44 315 P P 17 25 50.4 +1.5
baz=110
WHAR Wooly Hollow 42.48 299 IAmb IAmb 17 25 51.7
comp=Z,213nm,1.4s
UALR University of 42.48 298 IAmb IAmb 17 25 51.9
comp=Z,128nm,1.6s
MCRA Macar, Loja 42.51 236 P P 17 25 48.8 -1.0
MCRA IAmb IAmb 17 25 51.1
comp=Z,99nm,1.3s
KIC Kosan Boka 42.59 105⇑ iP P 17 25 51.4 +0.9
comp=Z,7.4nm,0.5s
ALF01 Guarapari-ES 42.73 173 eP P 17 25 52.2 +0.9
H10N3 ASCENSION HYDR 42.74 131 T T 18 11 09.6
baz=314,slow=75
H10N2 ASCENSION HYDR 42.74 131 T T 18 11 09.7
baz=314,slow=75
L40A Anamosa 42.75 309 IAmb IAmb 17 25 54.0
comp=Z,113nm,1.4s
L40A Anamosa 42.75 309 P P 17 25 52.9 +1.5
baz=103,SNR=11
H10N1 ASCENSION HYDR 42.76 131 T T 18 11 04.8
baz=314,slow=75
R40A Maddies Statio 42.82 303 P P 17 25 52.2 +0.1
R40A PcP PcP 17 27 42.2 -1.1
R40A Maddies Statio 42.82 303 P P 17 25 53.1 +1.0
baz=98,SNR=26
P40A Paris 42.85 305 P P 17 25 53.5 +1.2
baz=100,SNR=17
G40A Rib Lake 42.89 313 P P 17 25 54.4 +1.9
baz=108,SNR=15
BB19B Bebedouro 42.97 184 eP P 17 25 55.2 +1.9
ATAH Atahualpa 43.16 231 LR LR 17 44 24.9
comp=Z,221nm,21.8s,baz=44,slow=37
AQDB Aquidauana 43.39 194 P P 17 25 57.5 +0.8
AQDB Aquidauana 43.39 194 eP P 17 25 58.5 +1.8
H10S3 ASCENSION HYDR 43.41 132 T T 18 12 00.7
baz=314,slow=74
H10S2 ASCENSION HYDR 43.43 132 T T 18 12 01.9
baz=266,slow=74,SNR=7489
MIAR Mount Ida 43.48 297 IAmb IAmb 17 26 00.4
comp=Z,111nm,1.4s
MIAR Mount Ida 43.48 297 P P 17 25 58.9 +1.4
baz=94,SNR=25
S39A Bolivar 43.57 302 P P 17 25 59.3 +1.2
baz=97,SNR=12
PCMB Pacaembu 43.75 187 eP P 17 26 01.2 +1.6
CAM01 Campos-RJ 43.83 174 eP P 17 26 01.1 +0.8
HHAR Hobbs 43.91 300 P P 17 26 01.1 +0.1
HHAR IAmb IAmb 17 26 02.8
comp=Z,78nm,1.3s
HHAR PcP PcP 17 27 46.5 -0.5
HHAR Hobbs 43.91 300 P P 17 26 01.7 +0.8
baz=95
LPAZ La Paz 43.96 212 P P 17 26 03.1 +1.0
comp=Z,38nm,0.9s,baz=22,slow=8.4,SNR=88
LPAZ LR LR 17 44 04.3
comp=Z,508nm,19.4s,baz=26,slow=36
comp=Z,38nm,0.9s
LPAZ La Paz 43.96 212 P P 17 26 01.9 -0.2
LPAZ IAmb IAmb 17 26 04.3
comp=Z,62nm,1.0s
LPAZ La Paz 43.96 212 P P 17 26 01.9 -0.2
LPAZ pmax pmax
comp=Z,62nm,1.0s
LPAZ La Paz 43.96 212 eP P 17 26 02.8 +0.7
N38A Joes South For 43.97 306 IAmb IAmb 17 26 03.6
comp=Z,125nm,1.1s
N38A Joes South For 43.97 306 P P 17 26 03.0 +1.7
baz=100,SNR=9.3
K38A Parkersburg 44.00 309 IAmb IAmb 17 26 03.8
comp=Z,80nm,1.2s
K38A Parkersburg 44.00 309 P P 17 26 02.9 +1.4
baz=103,SNR=5.3
P38A Dawn 44.00 305 IAmb IAmb 17 26 03.9
comp=Z,76nm,1.1s
P38A Dawn 44.00 305 P P 17 26 02.5 +1.0
baz=99,SNR=22
CCIG Comitan 44.01 271 IAmb IAmb 17 26 03.6
comp=Z,73nm,1.1s
SCIA State Center 44.17 308 IAmb IAmb 17 26 05.6
comp=Z,145nm,1.2s
SCIA State Center 44.17 308 P P 17 26 04.8 +1.9
baz=102,SNR=5.7
SCIA State Center 44.17 308 P P 17 26 04.4 +1.5
baz=102,SNR=5.7
E38A The Farm, Brul 44.19 315 P P 17 26 03.4 +0.4
E38A PcP PcP 17 27 45.8 -2.0
E38A The Farm, Brul 44.19 315 P P 17 26 03.7 +0.8
baz=108
U38A Gravette 44.28 300 IAmb IAmb 17 26 05.8
comp=Z,79nm,1.4s
U38A Gravette 44.28 300 P P 17 26 04.8 +1.0
baz=95,SNR=12
NATX Nacogdoches 44.30 293 P P 17 26 06.5 +2.4
baz=90
NATX Nacogdoches 44.30 293 P P 17 26 06.0 +2.0
baz=90,SNR=7.3
FRB Frobisher Bay 44.34 346 P P 17 26 04.1 +0.2
comp=Z,13nm,0.7s,baz=157,slow=5.7,SNR=6.3
FRB LR LR 17 42 52.1
comp=Z,1µm,20.2s,baz=140,slow=34
comp=Z,13nm,0.7s
DY2G Dye2 44.38 360 i P P 17 26 02.6 -1.9
DY2G IAmb IAmb 17 26 08.8
comp=Z,1µm,2.8s
EYMN Ely 44.57 317 P P 17 26 07.0 +1.0
baz=109,SNR=5.3
Z38A Mt. Pleasant 44.59 295 P P 17 26 08.5 +2.1
baz=92,SNR=7.3
SPMN Marine on St. 44.64 313 IAmb IAmb 17 26 09.1
comp=Z,75nm,1.2s
SPMN Marine on St. 44.64 313 P P 17 26 07.6 +1.0
baz=105
I37A Lemond, Waseca 44.75 311 IAmb IAmb 17 26 10.1
comp=Z,145nm,1.4s
I37B Waseca 44.75 311 P P 17 26 09.2 +1.7
baz=104,SNR=11
RLO Rose Lookout 44.77 300 IAmb IAmb 17 26 09.7
comp=Z,89nm,1.3s
VAO Valinhos 44.83 182 eP P 17 26 09.4 +1.1
X37A Clayton 44.96 297 P P 17 26 09.8 +0.5
X37A IAmb IAmb 17 26 12.4
comp=Z,90nm,1.4s
X37A PcP PcP 17 27 50.8 +0.1
X37A Clayton 44.96 297 P P 17 26 11.3 +2.0
baz=93,SNR=18
SFJD Kangerlussuaq 45.01 357 P P 17 26 09.2 0.0
comp=Z,15nm,0.9s,baz=120,slow=11,SNR=3.0
SFJD LR LR 17 41 30.1
comp=Z,827nm,19.9s,baz=165,slow=32
comp=Z,15nm,0.9s
F36A Milaca 45.29 313 P P 17 26 13.1 +1.3
baz=105,SNR=9.0
HKT Hockley 45.34 291 P P 17 26 12.1 -0.2
HKT PcP PcP 17 27 52.1 +0.2
HKT Hockley 45.34 291 d iP P 17 26 13.4 +1.1
HKT pmax pmax
comp=Z,30nm,1.1s
HKT Hockley 45.34 291 P P 17 26 14.4 +2.1
baz=88
TUL1 Leonard 45.38 299 IAmb IAmb 17 26 14.8
comp=Z,194nm,1.9s
TUL1 Leonard 45.38 299 P P 17 26 13.8 +1.2
baz=94,SNR=5.4
TUL1 Leonard 45.38 299 P P 17 26 13.1 +0.5
baz=94,SNR=5.4
NNA Nana 45.53 225 P P 17 26 13.4 -0.6
NNA IAmb IAmb 17 26 15.1
comp=Z,165nm,1.7s
NNA Nana 45.53 225 d iP P 17 26 13.6 -0.4
NNA pmax pmax
comp=Z,60nm,1.2s
BORG Borgarnes 45.59 14 LR LR 17 40 28.4
comp=Z,796nm,20.0s,baz=222,slow=30
PB18 Visviri 45.73 212 IAmb IAmb 17 26 17.9
comp=Z,66nm,1.0s
N35A Tabor 45.78 306 IAmb IAmb 17 26 17.9
comp=Z,122nm,1.2s
EKA Eskdalemuir Ar 45.85 33 P P 17 26 15.8 -0.2
comp=Z,4.3nm,0.9s,baz=236,slow=10,SNR=2.7
EKA PcP PcP 17 27 53.0 -0.3
comp=Z,1.4nm,0.5s,baz=268,slow=1.9,SNR=6.4
comp=Z,4.3nm,0.9s
DEOK Depew 45.95 299 IAmb IAmb 17 26 19.2
comp=Z,100nm,1.4s
TOA0 Torodi Ar. Sit 45.99 93 P P 17 26 17.9 +0.2
TORD Torodi Ar. Bea 45.99 93 P P 17 26 16.2 -1.4
comp=Z,16nm,1.0s,baz=293,slow=7.3,SNR=30
TORD PP PP 17 28 03.3 -2.1
comp=Z,8.6nm,1.3s,baz=293,slow=7.4,SNR=2.5
TORD LR LR 17 44 11.4
comp=Z,1µm,18.4s,baz=228,slow=34
comp=Z,16nm,1.0s
TORD Torodi Ar. Bea 45.99 93 P P 17 26 17.6 0.0
T35A Sooner Cattle 46.02 300 IAmb IAmb 17 26 19.7
comp=Z,52nm,1.2s
T35B Sooner Cattle 46.02 300 P P 17 26 18.3 +0.6
baz=94
PET01 Itanhaem-SP 46.12 182 eP P 17 26 19.7 +1.2
B35A Bob, Littlefor 46.12 317 P P 17 26 19.1 +0.8
baz=107,SNR=6.5
CLF Chambon-Foret 46.12 44 IAmb IAmb 17 26 22.9
comp=Z,39nm,1.0s
OK034 N. Norfolk Rd. 46.13 299 IAmb IAmb 17 26 20.6
comp=Z,66nm,1.2s
QUOK Quay 46.13 299 P P 17 26 18.0 -0.6
QUOK IAmb IAmb 17 26 20.6
comp=Z,57nm,1.0s
QUOK PcP PcP 17 27 54.4 -0.3
OK030 Cody Creek RV 46.18 299 IAmb IAmb 17 26 21.1
comp=Z,78nm,1.2s
OK044 Pawnee Station 46.22 300 P P 17 26 19.3 0.0
OK044 IAmb IAmb 17 26 21.4
comp=Z,79nm,1.2s
OK044 PcP PcP 17 27 54.4 -0.5
KSU1 Kansas State U 46.30 303 P P 17 26 20.7 +0.9
baz=96,SNR=10
KSU1 Kansas State U 46.30 303 P P 17 26 20.1 +0.3
baz=96,SNR=10
OK046 Pawnee Station 46.31 300 IAmb IAmb 17 26 22.1
comp=Z,92nm,1.2s
OK045 Pawnee Station 46.32 300 IAmb IAmb 17 26 22.2
comp=Z,100nm,1.2s
LOOK Love County 46.44 296 IAmb IAmb 17 26 23.7
comp=Z,106nm,1.1s
BLOK Blackwell 46.58 300 IAmb IAmb 17 26 24.4
comp=Z,106nm,1.1s
OK025 Westminster Rd 46.62 299 P P 17 26 22.5 +0.1
OK025 PcP PcP 17 27 56.6 +0.2
WHTX Lake Whitney, 46.68 294 P P 17 26 23.8 +0.8
WHTX PcP PcP 17 27 55.8 -0.8
WHTX Lake Whitney, 46.68 294 P P 17 26 24.8 +1.9
baz=89
WHTX Lake Whitney, 46.68 294 P P 17 26 24.5 +1.6
baz=89,SNR=13
KAN13 South Haven SW 46.80 301 P P 17 26 24.5 +0.6
KAN13 IAmb IAmb 17 26 26.2
comp=Z,96nm,1.3s
KAN13 PcP PcP 17 27 56.2 -0.8
435B Jarrell 46.82 292 P P 17 26 25.1 +1.0
baz=88
435B Jarrell 46.82 292 P P 17 26 25.4 +1.3
baz=88
BCOK Bluff Creek, N 46.84 299 P P 17 26 25.1 +1.0
BCOK IAmb IAmb 17 26 26.6
comp=Z,216nm,1.2s
PTGB Pitanga 46.92 188 eP P 17 26 27.2 +2.4
ECSD EROS Data Cent 46.97 310 P P 17 26 26.0 +1.0
baz=100,SNR=13
ECSD EROS Data Cent 46.97 310 P P 17 26 25.4 +0.3
baz=100,SNR=13
PB12 IPOC Station P 47.02 213 P P 17 26 23.5 -2.3
PB12 IAmb IAmb 17 26 24.9
comp=Z,49nm,1.4s
N33B J Bar K, Exete 47.13 306 P P 17 26 27.6 +1.3
baz=97
ICESG Greenland Ices 47.16 3 eP P 17 26 24.5 -2.0
ICESG IAmb IAmb 17 26 35.2
comp=Z,817nm,2.8s
F33A 5 Mile Ranch, 47.17 313 IAmb IAmb 17 26 28.5
comp=Z,53nm,1.6s
CROK Carrier 47.18 300 IAmb IAmb 17 26 29.3
comp=Z,177nm,1.1s
KAN16 Harper SW Stat 47.28 301 P P 17 26 27.9 +0.3
GO01 Chusmiza 47.38 211 IAmb IAmb 17 26 30.2
comp=Z,27nm,0.8s
AGMN Agassiz Nation 47.47 316 P P 17 26 29.0 +0.1
AGMN IAmb IAmb 17 26 31.0
comp=Z,86nm,1.6s
AGMN PcP PcP 17 27 58.9 -0.2
AGMN Agassiz Nation 47.47 316 P P 17 26 29.7 +0.8
baz=105,SNR=12
AGMN Agassiz Nation 47.47 316 P P 17 26 29.3 +0.4
baz=105,SNR=12
CSTR Hydro, Custer 47.72 299 P P 17 26 31.0 0.0
CSTR IAmb IAmb 17 26 33.8
comp=Z,21nm,1.2s
CSTR PcP PcP 17 28 00.9 +0.5
BGNE Belgrade 47.73 306 P P 17 26 31.6 +0.6
baz=97
OK035 E0210 Rd and N 47.77 300 P 17 26 32.0 +0.6
OK035 PcP 17 28 00.3 -0.2
WMOK Wichita Mounta 47.77 297 P P 17 26 32.9 +1.4
baz=91,SNR=49
WMOK Wichita Mounta 47.77 297 P P 17 26 32.3 +0.8
baz=91,SNR=49
R32A Long Quarter, 47.87 302 P P 17 26 32.0 -0.2
R32A PcP PcP 17 28 01.4 +0.6
R32A Long Quarter, 47.87 302 P P 17 26 33.6 +1.4
baz=94,SNR=7.8
NOKA Waynoka 47.95 300 IAmb IAmb 17 26 35.4
comp=Z,222nm,1.4s
U32A Winter Ranch, 47.99 300 P P 17 26 35.0 +1.9
baz=92,SNR=8.0
ULM Lac du Bonnet 48.02 319 P P 17 26 33.1 0.0
comp=Z,30nm,1.2s,baz=100,slow=7.0,SNR=15
ULM PcP PcP 17 28 00.8 -0.3
comp=Z,10nm,1.1s,baz=95,slow=4.4,SNR=4.2
ULM LR LR 17 44 30.6
comp=Z,1µm,20.0s,baz=107,slow=33
comp=Z,30nm,1.2s
ULM Lac du Bonnet 48.02 319 IAmb IAmb 17 26 34.4
comp=Z,60nm,1.3s
ULM Lac du Bonnet 48.02 319 d eP P 17 26 32.3 -0.8
DOU Dourbes 48.19 42 dP P 17 26 34.6 +0.3
DOU dPcP PcP 17 28 01.8 +0.2
FRBT Francisco Belt 48.29 189 eP P 17 26 36.9 +1.4
ELIS Ellis County 48.32 299 IAmb IAmb 17 26 38.6
comp=Z,168nm,1.2s
TA02 Huaiquique 48.34 211 IAmb IAmb 17 26 35.9
comp=Z,61nm,1.1s
K31A O'Neill 48.34 308 P P 17 26 37.3 +1.5
baz=98
BMRD Maredsous 48.35 42 dP P 17 26 35.3 -0.4
BNI Bardonecchia 48.39 49 P P 17 26 35.9 -0.4
BNI IAmb IAmb 17 26 41.3
comp=Z,45nm,1.3s
BNI Bardonecchia 48.39 49 P P 17 26 35.9 -0.4
BNI pmax pmax
comp=Z,45nm,1.3s
ABTX Abilene, Hawle 48.51 295 IAmb IAmb 17 26 39.4
comp=Z,55nm,1.1s
ABTX Abilene, Hawle 48.51 295 P P 17 26 38.6 +1.4
baz=88,SNR=10
ABTX Abilene, Hawle 48.51 295 P P 17 26 38.0 +0.8
baz=88,SNR=10
833A Chaparral WMA, 48.56 289 P P 17 26 38.9 +1.3
baz=85,SNR=32
833A Chaparral WMA, 48.56 289 P P 17 26 38.3 +0.7
baz=85,SNR=32
RCHB Rochefort 48.60 42 dP P 17 26 37.8 +0.3
PB01 IPOC Station P 48.70 210 IAmb IAmb 17 26 39.8
comp=Z,31nm,0.9s
CBKS Cedar Bluff 48.70 303 P P 17 26 40.0 +1.4
baz=94,SNR=6.6
CBKS Cedar Bluff 48.70 303 P P 17 26 39.1 +0.5
baz=94,SNR=6.6
BCLA Clavier 48.72 42 dP P 17 26 38.4 0.0
comp=Z,9.8nm,1.0s
JCT Junction City 48.75 292 IAmb IAmb 17 26 40.8
comp=Z,92nm,1.1s
JCT Junction City 48.75 292 P P 17 26 40.1 +1.1
baz=86,SNR=19
JCT Junction City 48.75 292 P P 17 26 39.6 +0.5
baz=86,SNR=19
SUSD Miller 48.75 310 P P 17 26 40.1 +1.2
baz=99
SUSD Miller 48.75 310 P P 17 26 39.6 +0.8
baz=99
PAYG Puerto Ayora 48.90 248 P P 17 26 40.3 0.0
PAYG IAmb IAmb 17 26 42.8
comp=Z,77nm,0.9s
BSTI Sart Tilman 48.92 41 dP P 17 26 40.3 +0.3
WLF Walferdange 49.04 43 dP P 17 26 41.3 +0.4
PB02 IPOC Station P 49.13 210 IAmb IAmb 17 26 42.7
comp=Z,50nm,0.8s
BHOU Blouvegnez 49.13 42 dP P 17 26 42.4 +0.7
MEM Membach 49.20 41 dP P 17 26 42.9 +0.7
BTNL Ternell 49.27 41 dP P 17 26 43.3 +0.6
CPUP Villa Florida 49.41 194 P P 17 26 44.0 +0.1
comp=Z,12nm,1.1s,baz=18,slow=8.3,SNR=11
CPUP LR LR 17 48 05.9
comp=Z,489nm,18.6s,baz=16,slow=37
comp=Z,12nm,1.1s
CPUP Villa Florida 49.41 194 P P 17 26 43.3 -0.6
CPUP Villa Florida 49.41 194 P P 17 26 43.3 -0.6
CPUP pmax pmax
comp=Z,27nm,1.2s
CPUP Villa Florida 49.41 194 eP P 17 26 45.5 +1.6
ITAB Concordia 49.41 187 P P 17 26 44.2 +0.3
ITAB IAmb IAmb 17 27 04.3
comp=Z,69nm,1.5s
ITAB Concordia 49.41 187 eP P 17 26 45.5 +1.6
PB07 IPOC Station P 49.47 210 IAmb IAmb 17 26 53.4
comp=Z,125nm,1.9s
KEST Kesra 49.57 61 P P 17 26 45.4 0.0
comp=Z,21nm,1.1s,baz=205,slow=3.0,SNR=9.4
KEST LR LR 17 45 11.8
comp=Z,385nm,21.0s,baz=238,slow=33
comp=Z,21nm,1.1s
KEST Kesra 49.57 61 P P 17 26 45.4 0.0
KEST IAmb IAmb 17 27 29.5
comp=Z,58nm,0.7s
LVC Limon Verde 49.80 208 LR LR 17 47 29.1
comp=Z,286nm,20.2s,baz=14,slow=36
LVC Limon Verde 49.80 208 P P 17 26 46.2 -1.3
LVC IAmb IAmb 17 26 56.8
comp=Z,95nm,1.4s
LVC Limon Verde 49.80 208 P P 17 26 46.2 -1.3
LVC pmax pmax
comp=Z,95nm,1.4s
LVC Limon Verde 49.80 208 eP P 17 26 47.3 -0.2
MDND Maddock 49.81 315 P P 17 26 47.1 +0.2
baz=102
CRSM Crissiumal (Br 49.93 190 eP P 17 26 49.3 +1.4
PB04 IPOC Station P 50.12 210 IAmb IAmb 17 26 50.3
comp=Z,62nm,1.0s
BFO Black Forest 50.13 45 P P 17 26 48.9 -0.5
BFO Black Forest 50.13 45 P P 17 26 48.9 -0.5
BFO pmax pmax
comp=Z,57nm,1.6s
FCC Fort Churchill 50.15 330 P P 17 26 49.2 -0.1
FCC PcP PcP 17 28 08.4 -0.2
FCC Fort Churchill 50.15 330 P P 17 26 49.2 -0.1
FCC 17 28 08.4
FCC pmax pmax
comp=Z,235nm,1.9s
AMTX Amarillo 50.16 298 P P 17 26 51.4 +1.5
baz=89,SNR=71
AMTX Amarillo 50.16 298 P P 17 26 51.0 +1.1
baz=89
PB06 IPOC Station P 50.18 209 IAmb IAmb 17 26 51.1
comp=Z,50nm,1.0s
E28A Huff 50.31 313 IAmb IAmb 17 26 52.2
comp=Z,84nm,1.1s
TER01 Tubaro-SC 50.42 184 eP P 17 26 53.3 +1.6
PB15 IPOC Station P 50.57 209 IAmb IAmb 17 26 54.2
comp=Z,72nm,1.3s
OGNE Ogallala 50.61 305 P P 17 26 54.7 +1.6
baz=94,SNR=9.0
OGNE Ogallala 50.61 305 P P 17 26 54.0 +0.8
baz=94,SNR=9.0
SUMG Summit 50.69 3 P P 17 26 53.4 -0.2
SUMG IAmb IAmb 17 26 55.3

comp=Z,65nm,1.4s
SUMG PcP **PcP** **17 28 10.6 -0.2**
SUMG Summit 50.69 3 *i* P **P** **17 26 53.0 -0.6**
SUMG lAmb lAmb 17 27 03.0
comp=Z,759nm,3.0s
DAVOX Davos/Dischmat 50.89 47 P **P** **17 26 55.3 0.0**
comp=Z,8.7nm,0.9s,baz=303,slow=9.8,SNR=14
DAVOX LR LR 17 45 01.9
comp=Z,305nm,19.4s,baz=260,slow=32
comp=Z,8.7nm,0.9s
KSCO Kaye Shedlock' 50.96 303 P **P** **17 26 57.1 +1.2**
baz=92
DAVA Damuels 50.97 46 *eP* **P** **17 26 56.8 +0.9**
comp=Z,36nm,1.4s,SNR=12
ALGR Alto Alegre (B 51.06 188 *eP* **P** **17 26 57.9 +1.3**
MSTX Muleshoe 51.09 296 lAmb lAmb 17 26 58.9
comp=Z,99nm,1.0s
MSTX Muleshoe 51.09 296 P **P** **17 26 58.1 +1.2**
baz=88,SNR=46
MSTX Muleshoe 51.09 296 P **P** **17 26 57.7 +0.8**
baz=88,SNR=46
ZCCA Zocca 51.33 50 lAmb lAmb 17 27 38.3
comp=Z,108nm,1.3s
CNLB Canela 51.33 186 *eP* **P** **17 26 58.0 -0.5**
OSSC Osservatorio P 51.43 51 lAmb lAmb 17 27 19.1
comp=Z,45nm,1.0s
FETA Feichten 51.50 47 *eP* **P** **17 27 00.5 +0.6**
comp=Z,52nm,1.3s,SNR=19
RETA Reutte 51.59 46 *i* P **P** **17 27 00.3 -0.1**
comp=Z,20nm,1.7s
UNIS Unistalda (Bra 51.63 190 *eP* **P** **17 27 03.0 +2.3**
MOTA Moosalm 51.80 46 *eP* **P** **17 27 02.6 +0.5**
comp=Z,52nm,1.4s,SNR=15
SQTA Sankt Quirin 51.85 47 *eP* **P** **17 27 02.5 +0.1**
comp=Z,92nm,1.5s,SNR=24
TEOL Teolo 51.93 49 P **P** **17 27 01.2 -1.7**
TEOL lAmb lAmb 17 27 26.5
comp=Z,60nm,0.6s
CTI Castel Tesino 52.00 48 lAmb lAmb 17 27 04.4
comp=Z,86nm,1.4s
WATA Walderalm 52.12 47 *eP* **P** **17 27 04.8 +0.4**
comp=Z,60nm,1.4s,SNR=17
WTTA Wattenberg 52.15 47 *eP* **P** **17 27 04.8 0.0**
comp=Z,59nm,1.4s,SNR=19
ZAIG Zacatecas 52.18 282 lAmb lAmb 17 27 09.7
comp=Z,126nm,1.3s
TXAR Lajitas Array 52.19 291 P **P** **17 27 05.6 +0.4**
comp=Z,18nm,0.8s,baz=98,slow=8.0,SNR=161
TXAR PcP **PcP** **17 28 17.4 +0.5**
comp=Z,6.9nm,1.0s,baz=122,slow=4.5,SNR=6.4
TXAR LR LR 17 48 17.0
comp=Z,362nm,21.8s,baz=72,slow=35
comp=Z,18nm,0.8s
TX31 Lajitas Ar. Si 52.19 291 P **P** **17 27 06.1 +0.9**
baz=84,SNR=56
PB14 IPOC Station P 52.22 209 lAmb lAmb 17 27 06.5
comp=Z,65nm,1.0s
GRFO Grafenberg 52.26 44 P **P** **17 27 04.9 -0.4**
GRFO Grafenberg 52.26 44 P **P** **17 27 04.9 -0.4**
GRFO pmax pmax
comp=Z,24nm,0.9s
GO02 Mina Guanaco 52.33 207 lAmb lAmb 17 27 07.4
comp=Z,65nm,0.8s
RSSD Black Hills 52.33 309 P **P** **17 27 07.4 +1.2**
baz=95
RSSD Black Hills 52.33 309 P **P** **17 27 06.9 +0.7**
baz=95
T25A Trinidad 52.35 301 lAmb lAmb 17 27 09.5
comp=Z,111nm,1.7s
T25A Trinidad 52.35 301 P **P** **17 27 08.0 +1.6**
baz=89,SNR=19
ITQB Itaqui 52.50 192 P **P** **17 27 06.7 -0.5**
ITQB lAmb lAmb 17 27 22.2
comp=Z,52nm,1.1s
ITQB Itaqui 52.50 192 *eP* **P** **17 27 07.3 +0.2**
CIMO Cimolais 52.57 48 lAmb lAmb 17 27 27.5
comp=Z,21nm,0.8s
ABTA Abfaltersbach 52.67 47 *eP* **P** **17 27 08.7 +0.2**
comp=Z,43nm,1.4s,SNR=19
CPSB Cacapava Do Su 52.70 188 *eP* **P** **17 27 09.1 +0.4**
FFC Flin Flon 52.84 323 P **P** **17 27 08.9 -0.6**
FFC lAmb lAmb 17 27 11.3
comp=Z,53nm,1.1s
FFC Flin Flon 52.84 323 P **P** **17 27 08.9 -0.6**
FFC pmax pmax
comp=Z,53nm,1.2s
HYA Hoyanger 52.86 29 *eP* **P** **17 27 10.0 +0.5**
CLUD Cludinico 52.89 48 lAmb lAmb 17 27 27.1
comp=Z,83nm,1.1s
RODS Rosario do Sul 52.91 190 *eP* **P** **17 27 10.2 0.0**
Q24A Divide 52.93 303 lAmb lAmb 17 27 13.8
comp=Z,116nm,1.4s
Q24A Divide 52.93 303 P **P** **17 27 12.2 +1.4**
baz=90,SNR=20
DGMT Dagmar 52.95 315 lAmb lAmb 17 27 12.4
comp=Z,69nm,1.1s
DGMT Dagmar 52.95 315 P **P** **17 27 11.6 +1.1**
baz=98,SNR=7.5
DGMT Dagmar 52.95 315 P **P** **17 27 11.1 +0.6**
baz=98,SNR=7.5
NKC Novy Kostel 53.14 43 *eP* **P** **17 27 12.5 +0.7**
NKC *eS* **S** **17 34 44.6 +1.7**
NKC MLR MLR
comp=Z,400nm,14.3s
NKC Novy Kostel 53.14 43 *eP* **P** **17 27 12.5 +0.7**
NKC *eS* **S** **17 34 44.6 +1.7**
NKC AMS AMS 17 46 50.0
comp=Z,400nm,14.3s
PHWY Pilot Hill 53.21 306 lAmb lAmb 17 27 15.3
comp=Z,122nm,1.6s
SDCO Great Sand Dun 53.21 301 P **P** **17 27 14.8 +1.9**
baz=89,SNR=28
SDCO Great Sand Dun 53.21 301 P **P** **17 27 14.1 +1.3**
baz=89,SNR=28
KBA Koelnbreinsper 53.28 47 *eP* **P** **17 27 12.7 -0.4**
comp=Z,32nm,1.0s,SNR=14
ISCO Idaho Springs 53.29 304 lAmb lAmb 17 27 16.9
comp=Z,144nm,1.8s
ISCO Idaho Springs 53.29 304 P **P** **17 27 15.5 +2.0**
baz=91,SNR=21
ISCO Idaho Springs 53.29 304 P **P** **17 27 15.2 +1.7**
baz=91,SNR=21
SABO M.te Sabotino 53.34 48 P **P** **17 27 13.3 -0.1**
SABO lAmb lAmb 17 27 21.5
comp=Z,46nm,1.1s
MNTX Cornudas Mount 53.43 294 P **P** **17 27 14.1 -0.1**
MNTX PcP **PcP** **17 28 20.9 -0.5**
MNTX Cornudas Mount 53.43 294 P **P** **17 27 14.8 +0.6**
baz=85,SNR=33
MNTX Cornudas Mount 53.43 294 P **P** **17 27 14.7 +0.4**
baz=85,SNR=33
MYKA Terra Mystica 53.43 48 *eP* **P** **17 27 14.2 +0.1**
comp=Z,50nm,1.4s,SNR=14
JMIC Jan Mayen 53.49 14 LR LR 17 44 45.1
comp=Z,468nm,18.5s,baz=243,slow=30
BIOA Bad Ischl, Aus 53.55 46 *eP* **P** **17 27 14.8 -0.1**
comp=Z,52nm,1.5s,SNR=17
N23A Red Feather La 53.56 305 lAmb lAmb 17 27 19.6
comp=Z,68nm,1.4s
N23A Red Feather La 53.56 305 P **P** **17 27 16.9 +1.5**
baz=91,SNR=15
AKN Aaknes 53.62 28 *eP* **P** **17 27 15.9 +0.7**
SKAR Skarslia 53.63 30 *eP* **P** **17 27 15.8 +0.5**
VAE Valguarnera 53.63 59 LR LR 17 48 26.2
comp=Z,339nm,18.7s,baz=342,slow=34
CLL Collm 53.67 42 ⇓ *i*P **P** **17 27 14.8 -0.8**
CLL *i* 17 27 18.6
CLL *eS* **S** **17 34 52.0 +2.0**
CLL pmax pmax
comp=Z,37nm,1.3s
CLL Collm 53.67 42 ⇓ *i*P **P** **17 27 14.8 -0.8**
comp=Z,37nm,1.3s
CLL *i* sP **sP** **17 27 18.6 +2.5**
CLL *e*PcP **PcP** **17 28 22.0 +0.1**
CLL *eS* **S** **17 34 52.0 +2.0**
CLL *e*SS **SS** **17 38 24.0 -6.3**
CLL *e*SSS SSS 17 40 30.0
KHC Kasperske Hory 53.69 45 *eP* **P** **17 27 15.7 -0.2**
KHC *eS* S 17 34 40.5 -10
KHC MLR MLR
comp=Z,400nm,19.1s
KHC Kasperske Hory 53.69 45 *eP* **P** **17 27 15.7 -0.2**
KHC *ex* x 17 27 26.5
KHC *eS* S 17 34 40.5 -10
KHC AMS AMS 17 51 30.0
comp=Z,400nm,19.1s
GERES GERESS Array B 53.74 45 P **P** **17 27 16.0 -0.3**
comp=Z,9.7nm,1.0s,baz=247,slow=6.9,SNR=58
comp=Z,9.7nm,1.0s
KONO Kongsberg 53.88 31 ⇑ *eP* **P** **17 27 17.5 +0.4**
KONO pmax pmax
comp=Z,50nm,2.5s
KONO Kongsberg 53.88 31 *eP* **P** **17 27 17.6 +0.6**
MOA Molln 53.99 46 *eP* **P** **17 27 17.9 -0.2**
comp=Z,32nm,1.2s,SNR=12
K22A Casper 54.05 307 P **P** **17 27 19.7 +0.9**
baz=92,SNR=9.4
K22A Casper 54.05 307 P **P** **17 27 19.3 +0.4**
baz=92,SNR=9.4
PLTB Pedras Altas 54.06 188 P **P** **17 27 18.5 -0.2**
PLTB lAmb lAmb 17 27 23.4
comp=Z,70nm,1.7s
PLTB Pedras Altas 54.06 188 *eP* **P** **17 27 19.1 +0.5**
ANMO Albuquerque 54.08 298 LR LR 17 47 58.5
comp=Z,567nm,21.3s,baz=93,slow=33
ANMO Albuquerque 54.08 298 P **P** **17 27 19.7 +0.5**
ANMO lAmb lAmb 17 27 21.9
comp=Z,36nm,1.1s
ANMO Albuquerque 54.08 298 *d* *i*P **P** **17 27 20.9 +1.7**
ANMO pmax pmax
comp=Z,28nm,1.0s
ANMO Albuquerque 54.08 298 P **P** **17 27 21.4 +2.2**
baz=87,SNR=38
ANMO Albuquerque 54.08 298 P **P** **17 27 21.0 +1.8**
baz=87
LAO LASA Array 54.10 312 P **P** **17 27 19.8 +0.8**
baz=95
CKRC Cesky Krumlov 54.13 45 *eP* **P** **17 27 18.4 -0.7**
CKRC *eS* **S** **17 34 56.2 -0.2**
CKRC AMS AMS 17 46 20.0
comp=Z,300nm,13.3s
BRG Berggiesshubel 54.18 42 ⇑ *i*P **P** **17 27 20.0 +0.5**
BRG Amp 17 27 21.6
comp=Z,23nm,1.2s
BRG *ex* x 17 27 31.6
BRG Amp 17 27 32.6
comp=Z,18nm,1.2s
BRG Berggiesshubel 54.18 42 S **S** **17 35 01.0 +4.0**
BRG Berggiesshubel 54.18 42 SS **SS** **17 38 44.0 +5.6**
BRG Amp 17 47 35.0
comp=N,0.1nm,12.1s
BRG Amp 17 47 36.0
comp=Z,0.3nm,15.2s
BRG Amp 17 47 41.0
comp=E,0.2nm,15.4s
BRG Berggiesshubel 54.18 42 ⇑ *i*P **P** **17 27 19.9 +0.5**
BRG pmax pmax
comp=Z,23nm,1.2s
BRG pmax pmax
comp=Z,19nm,1.2s
S22A 4UR Ranch, Cre 54.26 301 P **P** **17 27 22.8 +2.2**
baz=88,SNR=72
SMCO Snowmass 54.35 303 lAmb lAmb 17 27 24.4
comp=Z,70nm,1.4s
CRNM Carthage 54.38 297 P **P** **17 27 21.9 +0.6**
PRU Pruhonice 54.43 44 *eP* **P** **17 27 22.4 +1.1**
PRU *eS* **S** **17 35 00.4 0.0**
PRU MLR MLR
comp=Z,300nm,14.3s
PRU Pruhonice 54.43 44 *eP* **P** **17 27 22.4 +1.1**
PRU *eS* **S** **17 35 00.4 0.0**
PRU AMS AMS 17 47 30.0
comp=Z,300nm,14.3s
PERS Pernice 54.45 48 *i* **P** **17 27 19.6 -1.8**
DOMB Dombas 54.47 28 *eP* **P** **17 27 22.1 +0.8**
Y22D IRIS PASSCAL I 54.52 297 P **P** **17 27 24.1 +1.7**
baz=86
PVCC Panska Ves 54.52 43 AMS AMS 17 47 30.0
comp=Z,300nm,14.3s
Y22A Socorro 54.57 297 P **P** **17 27 24.8 +2.0**
baz=86,SNR=26
GOPC GO Pecny, Ondr 54.58 44 *eS* **S** **17 35 05.4 +3.0**
GOPC AMS AMS 17 48 20.0
comp=Z,300nm,15.8s
NAO01 NORSAR Array S 54.88 30 lAmb lAmb 17 27 26.1
comp=Z,120nm,1.6s
TREC Trest 54.96 45 *eS* **S** **17 35 11.8 +4.3**
NC204 NORSAR Array S 54.96 29 P **P** **17 27 25.1 +0.1**
CONA Conrad Observa 55.06 46 *eP* **P** **17 27 25.9 -0.1**
comp=Z,40nm,1.3s,SNR=16
NB2 NORSAR Subarra 55.09 30 P **P** **17 27 25.7 -0.2**
comp=Z,80nm,1.7s,baz=251,slow=7.9
NB2 NORSAR Subarra 55.09 30 P **P** **17 27 25.7 -0.2**
baz=251,slow=7.9
NOA NORSAR Array B 55.09 30 P **P** **17 27 25.9 0.0**
comp=Z,10nm,1.0s,baz=251,slow=7.4,SNR=19
NOA PcP **PcP** **17 28 27.3 0.0**
comp=Z,2.0nm,0.8s,baz=248,slow=4.0,SNR=3.3
comp=Z,10nm,1.0s
NB201 NORSAR Array S 55.13 30 lAmb lAmb 17 27 28.0
comp=Z,120nm,1.4s
NC602 NORSAR Array S 55.15 30 P **P** **17 27 26.4 +0.1**
NC602 lAmb lAmb 17 27 32.9
comp=Z,59nm,1.4s
NC602 PcP **PcP** **17 28 27.1 -0.4**
NC602 NORSAR Array S 55.15 30 *eP* **P** **17 27 26.5 +0.3**
NC303 NORSAR Array S 55.22 30 lAmb lAmb 17 27 28.7
comp=Z,64nm,1.4s
O20A White River Ci 55.31 304 lAmb lAmb 17 27 31.1
comp=Z,63nm,1.1s
O20A White River Ci 55.31 304 P **P** **17 27 29.7 +1.6**
baz=89,SNR=11
NC405 NORSAR Array S 55.35 30 P **P** **17 27 28.2 +0.4**
NC405 lAmb lAmb 17 27 37.8
comp=Z,56nm,1.4s
121A Cookes Peak, D 55.38 295 P **P** **17 27 31.1 +2.5**
baz=84,SNR=91
121A Cookes Peak, D 55.38 295 P **P** **17 27 30.5 +1.9**
baz=84,SNR=91
TBLU Trondheim 55.42 27 *eP* **P** **17 27 28.9 +0.7**
TBLU lAmb lAmb 17 27 34.2
comp=Z,63nm,1.2s
UPC Upice 55.44 43 *eP* **P** **17 27 28.9 +0.4**
UPC *eS* **S** **17 35 15.9 +2.0**
UPC MLR MLR
comp=Z,300nm,16.5s
UPC Upice 55.44 43 *eP* **P** **17 27 28.9 +0.4**
UPC *eS* **S** **17 35 15.9 +2.0**
UPC AMS AMS 17 50 20.0
comp=Z,300nm,16.5s
NEEM North Greenlan 55.47 359 *i* P **P** **17 27 27.3 -1.4**
NEEM lAmb lAmb 17 27 34.1
comp=Z,488nm,2.4s
KRUC Moravsky 55.52 45 *e*PN **P** **17 27 28.9 -0.3**
PV15 Paradox Valley 55.54 302 lAmb lAmb 17 27 32.9
comp=Z,46nm,1.1s
OSTC Ostas 55.57 43 *eP* **P** **17 27 29.7 +0.2**
OSTC AMS AMS 17 48 10.0
comp=Z,300nm,13.2s
MVCO Mesa Verde 55.61 301 lAmb lAmb 17 27 33.6
comp=Z,92nm,1.2s
MVCO Mesa Verde 55.61 301 P **P** **17 27 32.1 +1.8**
baz=87,SNR=17
DPC Dobruska-Polom 55.61 43 *eP* **P** **17 27 30.0 +0.1**
DPC *eS* **S** **17 35 13.0 -3.4**
DPC MLR MLR
comp=Z,300nm,13.5s
DPC Dobruska-Polom 55.61 43 *eP* **P** **17 27 30.0 +0.1**
DPC *eS* **S** **17 35 13.0 -3.4**
DPC AMS AMS 17 48 00.0
comp=Z,300nm,13.5s
KSP Ksiaz 55.65 43 *eP* **P** **17 27 30.1 0.0**
PV07 Paradox Valley 55.67 302 lAmb lAmb 17 27 33.7
comp=Z,95nm,1.9s
VRAC Vranov 55.68 45 ⇓ P **P** **17 27 30.3 0.0**
VRAC Vranov 55.68 45 P **P** **17 27 30.5 +0.2**
comp=Z,16nm,1.0s,baz=266,slow=7.7,SNR=22
VRAC LR LR 17 48 33.2
comp=Z,179nm,19.7s,baz=264,slow=33
comp=Z,16nm,1.0s
VRAC Vranov 55.68 45 *e*PN **P** **17 27 30.2 0.0**
VRAC Vranov 55.68 45 ⇓ P **P** **17 27 30.3 0.0**
PV13 Radium Mtn., P 55.82 302 lAmb lAmb 17 27 34.8
comp=Z,33nm,1.0s
KRLC Kraliky 55.88 44 *eP* **P** **17 27 31.3 -0.5**
KRLC MLR MLR
comp=Z,300nm,14.0s
KRLC Kraliky 55.88 44 *eP* **P** **17 27 31.3 -0.5**
KRLC AMS AMS 17 47 20.0
comp=Z,300nm,14.0s
ZST Bratislava 55.92 46 *eP* **P** **17 27 32.1 +0.1**
ZST pmax pmax
comp=Z,142nm,1.4s
ZST Bratislava 55.92 46 *eP* **P** **17 27 32.1 +0.1**
PV23 Carpenter Ridg 55.96 302 lAmb lAmb 17 27 37.0
comp=Z,73nm,1.9s
PV10 Paradox Valley 55.98 302 P **P** **17 27 32.8 -0.1**
PV10 lAmb lAmb 17 27 36.1
comp=Z,108nm,1.7s
HFS Hagfors 56.00 31 P **P** **17 27 32.0 -0.4**
comp=Z,14nm,0.7s,baz=215,slow=4.9,SNR=33
HFS LR LR 17 46 36.5
comp=Z,463nm,21.7s,baz=256,slow=31
comp=Z,14nm,0.7s
MODS Modra-Piesok 56.05 46 *eP* **P** **17 27 32.9 -0.1**
MODS pmax pmax
comp=Z,104nm,1.3s
MODS Modra-Piesok 56.05 46 *eP* **P** **17 27 32.9 -0.1**
RLMT Red Lodge 56.12 310 lAmb lAmb 17 27 36.6
comp=Z,76nm,1.2s
RLMT Red Lodge 56.12 310 P **P** **17 27 35.1 +1.3**
baz=92,SNR=30
SMOL Smolenice 56.16 46 *eP* **P** **17 27 33.7 -0.1**
SMOL pmax pmax
comp=Z,16nm,1.3s
LCO Las Campanas 56.18 206 P **P** **17 27 34.7 +0.4**
LCO Las Campanas 56.18 206 P **P** **17 27 34.7 +0.4**
BW06 Boulder Array 56.29 307 lAmb lAmb 17 27 36.8
comp=Z,74nm,1.1s
BW06 Boulder Array 56.29 307 P **P** **17 27 35.6 +0.5**
baz=90,SNR=19
PD31 Pinedale Array 56.29 307 lAmb lAmb 17 27 36.8
comp=Z,66nm,1.1s
PDAR Pinedale Array 56.29 307 P **P** **17 27 35.7 +0.6**
comp=Z,32nm,0.9s,baz=94,slow=7.7,SNR=169
PDAR LR LR 17 51 02.4
comp=Z,521nm,18.2s,baz=97,slow=35
comp=Z,32nm,0.9s
MORC Moravsky Berou 56.34 44 ⇓ P **P** **17 27 35.5 +0.4**
MORC Moravsky Berou 56.34 44 *e*PN **P** **17 27 34.9 -0.2**
MORC Moravsky Berou 56.34 44 ⇓ P **P** **17 27 35.5 +0.4**
TIH Tihany 56.37 48 P **P** **17 27 37.9 +2.6**
GCMT Greycliff 56.43 311 P **P** **17 27 36.4 +0.5**
KOVH Kovagotottos 56.47 49 P **P** **17 27 35.9 -0.1**
MAUC Maruska 56.49 45 *eP* P 17 27 30.5 -5.6
NSS Namsos 56.57 26 *eP* **P** **17 27 35.9 -0.5**
NSS lAmb lAmb 17 27 37.2
comp=Z,32nm,1.2s
EGMT Eagleton 56.60 314 P **P** **17 27 37.8 +0.8**
baz=94,SNR=9.1
SRO Srobarova 56.70 47 *eP* **P** **17 27 37.7 +0.1**
SRO pmax pmax
comp=Z,42nm,1.2s
SRO Srobarova 56.70 47 *eP* **P** **17 27 37.7 +0.1**
OKC Ostrava-Krasne 56.73 44 *eP* **P** **17 27 35.8 -2.0**
OKC *eS* **S** **17 35 37.8 +6.7**
OKC MLR MLR
comp=Z,300nm,14.6s
OKC Ostrava-Krasne 56.73 44 *eP* **P** **17 27 35.8 -2.0**
OKC *eS* **S** **17 35 37.8 +6.7**
OKC AMS AMS 17 48 10.0
comp=Z,300nm,14.6s
W18A Petrified Fore 56.75 298 P **P** **17 27 39.9 +1.5**
baz=85,SNR=5.8
319A Douglas 56.77 294 lAmb lAmb 17 27 42.0
comp=Z,82nm,1.2s
MORH Mrgy, Hungar 56.86 48 P **P** **17 27 39.0 +0.3**
MORH Mrgy, Hungar 56.86 48 ⇑ P **P** **17 27 38.6 -0.1**
LKWY Lake 56.91 310 lAmb lAmb 17 27 42.9
comp=Z,68nm,1.3s
X18A Snowflake 56.98 298 P **P** **17 27 40.6 +0.6**
X18A lAmb lAmb 17 27 44.6
comp=Z,71nm,1.8s
X18A PcP **PcP** **17 28 36.3 +0.9**
LOHW Long Hollow 57.05 308 lAmb lAmb 17 27 42.6
comp=Z,83nm,1.4s
VYHS Vyhne 57.09 46 *eP* **P** **17 27 40.1 -0.3**
VYHS pmax pmax
comp=Z,28nm,1.1s
VYHS Vyhne 57.09 46 *eP* **P** **17 27 40.1 -0.3**
SRU San Rafael Swe 57.11 303 lAmb lAmb 17 27 43.6
comp=Z,66nm,0.9s
MOOW Moose Ponds 57.16 309 lAmb lAmb 17 27 43.3
comp=Z,56nm,1.6s
SNOW Snow King Moun 57.16 308 P **P** **17 27 42.0 +0.6**
SNOW lAmb lAmb 17 27 43.6
comp=Z,101nm,1.5s
YFT Old Faithful 57.23 309 lAmb lAmb 17 27 45.4
comp=Z,48nm,1.4s
REDW Red Top Meadow 57.24 308 lAmb lAmb 17 27 44.0
comp=Z,57nm,1.2s
P17A Butcher Ranch, 57.26 304 lAmb lAmb 17 27 44.7
comp=Z,85nm,1.2s
TPAW Teton Pass 57.31 308 lAmb lAmb 17 27 43.6
comp=Z,113nm,1.4s
YMR Madison River 57.32 310 lAmb lAmb 17 27 46.4
comp=Z,109nm,1.5s
AHID Auburn Hatcher 57.42 307 P **P** **17 27 42.8 -0.3**
AHID lAmb lAmb 17 27 45.0
comp=Z,140nm,1.8s
AHID PcP **PcP** **17 28 36.4 -0.5**
YHL Hebgen Lake 57.48 310 lAmb lAmb 17 27 46.7
comp=Z,83nm,1.2s
KONS Konsvik 57.70 24 *eP* **P** **17 27 45.3 +1.0**
KONS lAmb lAmb 17 27 45.8
comp=Z,48nm,1.2s
JLU Jordanelle 57.75 305 P **P** **17 27 45.7 +0.2**
JLU lAmb lAmb 17 27 48.0
comp=Z,63nm,1.0s
BOZ Bozeman (W) 57.80 311 P **P** **17 27 46.5 +0.9**
baz=91,SNR=30
HWUT Hardware Ranch 57.80 306 lAmb lAmb 17 27 47.6
comp=Z,51nm,0.9s
MPU Maple Canyon 57.92 304 lAmb lAmb 17 27 49.1
comp=Z,98nm,1.2s
TUC Tucson 57.92 295 P **P** **17 27 47.4 +0.8**
TUC lAmb lAmb 17 27 49.7
comp=Z,70nm,0.9s
TUC Tucson 57.92 295 P **P** **17 27 47.4 +0.8**
TUC pmax pmax
comp=Z,70nm,0.9s
TUC Tucson 57.92 295 P **P** **17 27 48.3 +1.7**
baz=83
CTU Camp Tracy 57.97 305 lAmb lAmb 17 27 49.1
comp=Z,55nm,1.3s
WUAZ Wupatki 58.05 299 P **P** **17 27 49.8 +2.2**
baz=84,SNR=98
MOR8 Moi Rana 58.09 25 *eP* **P** **17 27 48.4 +1.3**
MOR8 lAmb lAmb 17 27 48.5
comp=Z,30nm,1.2s
NIE Niedzica 58.10 45 *eP* **P** **17 27 48.2 +0.7**
NLU North Lily Min 58.26 304 lAmb lAmb 17 27 51.6
comp=Z,92nm,1.2s
KLNR Kaliningrad 58.44 39 ⇓ *eP* **P** **17 27 49.5 -0.2**
KLNR pmax pmax
comp=Z,109nm,1.3s
MTPU Mount Pierson 58.48 302 lAmb lAmb 17 27 53.9
comp=Z,38nm,1.2s
HSIG 58.54 291 lAmb lAmb 17 27 53.6
comp=Z,70nm,1.3s
RES Resolute Bay 58.55 346 LR LR 17 52 20.9
comp=Z,1µm,18.3s,baz=112,slow=35
RES Resolute Bay 58.55 346 P **P** **17 27 50.3 +0.1**
RES lAmb lAmb 17 27 52.3
comp=Z,51nm,1.2s
RES Resolute Bay 58.55 346 P **P** **17 27 50.3 +0.1**
RES pmax pmax
comp=Z,51nm,1.3s
TCRU Three Creeks R 58.64 303 lAmb lAmb 17 27 54.3
comp=Z,33nm,0.9s
SLBS Sierra La Lagu 58.65 285 P **P** **17 27 52.2 +0.4**
SLBS lAmb lAmb 17 27 54.9
comp=Z,71nm,1.2s
SLBS PcP **PcP** **17 28 41.0 -1.0**
U15A North Rim 58.70 300 lAmb lAmb 17 27 55.7
comp=Z,43nm,1.0s
FAUS Fauske 58.80 23 *eP* **P** **17 27 53.0 +1.0**
FAUS lAmb lAmb 17 27 57.8
comp=Z,27nm,1.1s
DUG Dugway, Tooele 58.81 304 PcP **PcP** **17 28 37.1 -5.3**
DUG Dugway, Tooele 58.81 304 P **P** **17 27 54.0 +1.2**
baz=86,SNR=49
CRVS Cervenica-Dubn 58.85 45 *eP* **P** **17 27 54.1 +1.4**
CRVS pmax pmax
comp=Z,92nm,1.2s
CRVS Cervenica-Dubn 58.85 45 *eP* **P** **17 27 54.1 +1.4**
BZS Buzias 58.92 49 ⇓ P **P** **17 27 53.7 +0.4**
BZS Buzias 58.92 49 ⇓ P **P** **17 27 53.7 +0.4**

SIRR Siria 58.95 48 ⇓P P 17 27 54.0 +0.5
STEI Steigen 58.95 23 *e*P P 17 27 53.2 +0.2
STEI IAmb IAmb 17 27 54.3
comp=Z,43nm,1.1s
MDVR Moldovita 59.01 50 ⇑P P 17 27 54.2 +0.3
BOVS Bovan 59.03 51 ⇓P P 17 27 52.2 -1.9
KNB Kanab 59.07 301 IAmb IAmb 17 27 56.9
comp=Z,76nm,1.6s
SZCU Shurtz Canyon 59.23 301 IAmb IAmb 17 27 59.6
comp=Z,98nm,1.8s
UZH Uzhgorod 59.39 46 ⇑*i*P P 17 27 56.0 -0.4
UZH *e* 17 28 04.3
WALA Waterton Lakes 59.40 315 IAmb IAmb 17 27 58.4
comp=Z,73nm,1.6s
MSO Missoula 59.40 312 P P 17 27 57.4 +0.7
baz=90,SNR=9.4
LCMT Little Creek M 59.41 301 P P 17 27 56.6 -0.3
Y14A Wickenburg 59.56 297 IAmb IAmb 17 28 01.3
comp=Z,37nm,1.0s
JTMT Jette 59.63 313 IAmb IAmb 17 28 00.5
comp=Z,82nm,1.7s
214A Organ Pipe Nat 59.67 295 P P 17 28 00.8 +2.0
baz=82,SNR=114
PSUT Pine Spring 59.74 303 IAmb IAmb 17 28 02.6
comp=Z,56nm,1.1s
HLID Hailey 59.82 308 P P 17 27 59.9 +0.1
HLID IAmb IAmb 17 28 02.0
comp=Z,30nm,1.1s
HLID Hailey 59.82 308 P P 17 28 00.6 +0.9
baz=67,SNR=36
SPR3 Spring Creek 3 60.07 303 IAmb IAmb 17 28 04.9
comp=Z,75nm,1.0s
W13A Hualapai Mount 60.14 299 IAmb IAmb 17 28 05.7
comp=Z,57nm,1.4s
LMEL Las Melosas 60.28 203 P P 17 28 02.7 -0.2
PDMCI Parker Dam,Lak 60.45 298 P P 17 28 05.8 +1.8
baz=82,SNR=16
MT09 Talagante 60.51 204 P P 17 28 03.5 -0.9
LVV L'vov 60.54 44 *e*P P 17 28 04.8 +0.5
ELK Elko 60.62 305 LR LR 17 52 05.5
comp=Z,1µm,21.2s,baz=85,slow=34
ELK Elko 60.62 305 IAmb IAmb 17 28 07.5
comp=Z,58nm,1.1s
PABE Paberze 60.67 38 P P 17 28 04.3 -0.8
NOR Nord 60.73 5 *i* P P 17 28 05.2 0.0
NOR IAmb IAmb 17 28 08.9
comp=Z,83nm,1.5s
TRO Tromso 60.74 21 *e*P P 17 28 06.2 +0.8
TRO IAmb IAmb 17 28 07.0
comp=Z,88nm,1.0s
NEE2 Needles Airpor 60.78 298 P P 17 28 08.1 +1.9
baz=82
PRN Pahroc Range 60.80 301 IAmb IAmb 17 28 10.1
comp=Z,71nm,1.2s
BLYC Blythe 60.84 297 IAmb IAmb 17 28 10.0
comp=Z,52nm,1.1s
V12A Nelson 60.84 300 IAmb IAmb 17 28 09.9
comp=Z,72nm,1.3s
MFID Camas Ranch 60.86 308 IAmb IAmb 17 28 09.0
comp=Z,82nm,1.2s
YKA Yellowknife Ar 60.87 330 P P 17 28 05.8 -0.5
comp=Z,16nm,0.8s,baz=100,slow=7.6,SNR=38
YKA LR LR 17 54 34.3
comp=Z,692nm,18.1s,baz=89,slow=36
comp=Z,16nm,0.8s
YKA Yellowknife Ar 60.87 330 P P 17 28 05.0 -1.3
YKA Yellowknife Ar 60.87 330 P P 17 28 05.0 -1.3
WTNK Soaring Height 60.91 300 IAmb IAmb 17 28 10.4
comp=Z,36nm,1.8s
VLAD Vladila 60.97 51 ⇓P P 17 28 08.0 +0.7
SHPR Sheep Range 60.99 300 P P 17 28 08.7 +0.8
SHPR IAmb IAmb 17 28 11.1
comp=Z,56nm,1.6s
ARR Arges 61.05 49 ⇑P P 17 28 08.7 +0.7
R11A Troy Canyon, C 61.11 303 IAmb IAmb 17 28 11.4
comp=Z,83nm,1.6s
R11A Troy Canyon, C 61.11 303 P P 17 28 10.1 +1.4
baz=84,SNR=46
GLA Glamis 61.19 297 P P 17 28 11.1 +1.9
baz=81,SNR=20
JETT Jettan, Norway 61.22 22 *e*P P 17 28 09.4 +0.6
JETT IAmb IAmb 17 28 09.8
comp=Z,40nm,0.8s
IRM Iron Mountain 61.29 298 P P 17 28 11.7 +1.9
baz=82,SNR=32
S11A Rachel 61.32 302 IAmb IAmb 17 28 12.9
comp=Z,44nm,1.0s
BO02 Sierra Bellavi 61.34 203 P P 17 28 09.1 -0.8
VOIR 61.34 49 ⇓P P 17 28 09.8 -0.2
VOIR 61.34 49 ⇓P P 17 28 09.8 -0.2
BURAR Bucovina Array 61.36 47 ⇓P P 17 28 10.7 +0.6
BURAR Bucovina Array 61.36 47 ⇓P P 17 28 10.7 +0.6
NEW Newport 61.53 314 LR LR 17 52 49.2
comp=Z,1µm,20.1s,baz=84,slow=34
NEW Newport 61.53 314 P P 17 28 11.8 +0.7
baz=88,SNR=36
HEL Helsinki 61.54 32 P P 17 28 17.7 +6.8
HEL pmax pmax
comp=Z,77nm,1.2s
BC3 Big Chuckawall 61.62 297 P P 17 28 13.5 +1.4
baz=81,SNR=15
GMRC Granite Mounta 61.62 299 P P 17 28 13.6 +1.4
baz=82,SNR=58
TRQA Tornquist 61.72 194 *e*P P 17 28 13.7 +1.4
TUQ Turquoise Moun 61.74 299 P P 17 28 14.6 +1.7
baz=82,SNR=32
TPNV Topopah Spring 61.80 301 P P 17 28 15.3 +2.0
baz=83,SNR=54
OZUR 61.82 49 ⇑P P 17 28 13.1 -0.1
SHOC Shoshone, Teco 61.96 300 P P 17 28 15.9 +1.6
baz=82
MLR Muntele Rosu 61.97 49 ⇑P P 17 28 14.9 +0.6
MLR Muntele Rosu 61.97 49 P P 17 28 14.4 +0.1
comp=Z,85nm,1.0s,baz=302,slow=3.5,SNR=24
MLR LR LR 17 51 28.3
comp=Z,278nm,21.8s,baz=268,slow=33
MLR Muntele Rosu 61.97 49 ⇑P P 17 28 14.9 +0.6
BIZ Bicaz 61.99 48 ⇓P P 17 28 15.2 +0.9
BELC Belle Mtn. Jos 62.02 298 P P 17 28 16.6 +1.8
baz=81,SNR=29
SWSC Sam W. Stewart 62.02 297 P P 17 28 16.5 +1.9
baz=81,SNR=9.9
KTK1 Kautokeino 62.08 22 *e*P P 17 28 15.0 +0.6
KTK1 IAmb IAmb 17 28 15.6
comp=Z,55nm,1.4s
COVR Voineasa-Covas 62.13 49 ⇑P P 17 28 15.7 +0.5
BMN Battle Mountai 62.15 305 P P 17 28 14.8 -0.9
BMN IAmb IAmb 17 28 17.8
comp=Z,57nm,1.5s
BMN PcP PcP 17 28 56.5 +0.7
HEC Hector,Ludlow 62.17 299 P P 17 28 17.4 +1.6
baz=81,SNR=23
FINES FINESS Array B 62.20 31 P P 17 28 15.2 -0.1
comp=Z,6.4nm,0.6s,baz=251,slow=4.0,SNR=45
FINES LR LR 17 50 29.0
comp=Z,645nm,21.5s,baz=266,slow=32
comp=Z,6.4nm,0.6s
NEHR Nehoiu 62.22 49 ⇑P P 17 28 15.7 -0.1
GWY Greenwater Val 62.24 300 IAmb IAmb 17 28 19.5
comp=Z,46nm,1.3s
SULR 62.24 50 ⇓P P 17 28 15.9 0.0
NACGM Naroch 62.26 39 ⇑*e*P P 17 28 16.3 +0.4
baz=270
ESJX Sierra Juarez 62.30 296 P P 17 28 17.4 +0.6
ESJX IAmb IAmb 17 28 20.3
comp=Z,49nm,1.1s
HSPB Hornsund (broa 62.30 13 *e*P P 17 28 17.3 +1.5
RMX La Rumorosa 62.31 296 IAmb IAmb 17 28 20.1
comp=Z,62nm,1.1s
IKP In-Ko-Pah, Jac 62.32 296 P P 17 28 19.0 +2.2
baz=80,SNR=22
VSU Vasula 62.34 34 *d i*P P 17 28 15.8 -0.5
VSU pmax pmax
comp=Z,112nm,1.0s
FURC Furnace Creek, 62.36 301 P P 17 28 19.0 +2.2
baz=82,SNR=9.0
PMD Palm Desert 62.38 297 IAmb IAmb 17 28 20.2
comp=Z,56nm,1.2s
ML02 Panimavida 62.44 203 P P 17 28 17.2 +0.1
PLOR Plostina 62.44 49 ⇓P P 17 28 16.5 -0.8
PLOR Plostina 62.44 49 ⇓P P 17 28 16.5 -0.8
TPFO Pinon Flats 62.45 297 P P 17 28 19.5 +1.7
baz=81,SNR=11
KBS Kingsbay 62.46 11 P P 17 28 17.8 +1.0
KBS IAmb IAmb 17 28 19.8
comp=Z,52nm,1.1s
KBS Kingsbay 62.46 11 ⇑*e*P P 17 28 18.9 +2.1
KBS pmax pmax
comp=Z,41nm,1.1s
KBS Kingsbay 62.46 11 *e*P P 17 28 13.1 -3.7
KBS Kingsbay 62.46 11 *e*P P 17 28 18.7 +1.9
KBS IAmb IAmb 17 28 19.5
comp=Z,56nm,1.1s
PFO Pinyon Flats O 62.46 297 LR LR 17 53 34.4
comp=Z,385nm,20.3s,baz=84,slow=34
PFO Pinyon Flats O 62.46 297 P P 17 28 18.0 +0.2
PFO IAmb IAmb 17 28 21.0
comp=Z,46nm,1.3s
PFO Pinyon Flats O 62.46 297 *d i*P P 17 28 19.4 +1.6
PFO pmax pmax
comp=Z,34nm,1.1s
PFO Pinyon Flats O 62.46 297 P P 17 28 19.5 +1.8
baz=81,SNR=11
GSC Goldstone, Bar 62.48 299 IAmb IAmb 17 28 20.8
comp=Z,41nm,1.1s
GSC Goldstone, Bar 62.48 299 P P 17 28 19.5 +1.7
baz=81,SNR=22
VRI Vrincioaia 62.49 49 ⇓P P 17 28 17.2 -0.4
VRI Vrincioaia 62.49 49 ⇓P P 17 28 17.2 -0.4
APE Apeiranthos 62.50 59 *ce*P P 17 28 17.8 -0.1
APE pmax pmax
comp=Z,22nm,0.9s
RAZG Razgrad 62.52 51 ⇑P P 17 28 18.9 +1.1
MONP2 Monument Peak 62.54 297 P P 17 28 20.4 +2.0
baz=80,SNR=20
GMN Gold Mountain 62.56 302 IAmb IAmb 17 28 21.2
comp=Z,45nm,1.2s
HAMF Hammerfest 62.56 21 *e*P P 17 28 18.4 +0.8
HAMF IAmb IAmb 17 28 19.3
comp=Z,77nm,1.1s
MZP Montezuma Peak 62.60 302 IAmb IAmb 17 28 21.4
comp=Z,29nm,1.2s
GRAC Grapevine Rang 62.68 301 IAmb IAmb 17 28 22.3
comp=Z,56nm,1.0s
GRAC Grapevine Rang 62.68 301 P P 17 28 21.0 +1.9
baz=82,SNR=15
RRX Edison Barstow 62.70 299 P P 17 28 20.7 +1.5
baz=81
BBRC Big Bear Solar 62.73 298 P P 17 28 21.6 +1.9
baz=81
TKX Tecate 62.75 296 IAmb IAmb 17 28 22.5
comp=Z,35nm,0.8s
BAR Barrett 62.79 296 IAmb IAmb 17 28 22.9
comp=Z,48nm,1.1s
J08A Circle Bar Ran 62.79 308 P P 17 28 19.1 -0.6
J08A IAmb IAmb 17 28 22.0
comp=Z,67nm,1.5s
LCH Last Change Ra 62.87 302 IAmb IAmb 17 28 23.4
comp=Z,55nm,1.3s
MNK Minsk 62.90 39 *i* P P 17 28 17.0 -3.1
MNK *i* 17 28 54.6
MNK *i* 17 30 34.1
MNK *i* S S 17 36 47.3 -3.1
MNK *i* SS SS 17 40 56.4 +1.3
MNK *i* SSS SSS 17 43 43.8
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,48nm,0.9s
MNK MLR MLR
comp=Z,175nm,16.0s
MNK MLR MLR
comp=E,27nm,16.0s
MNK Minsk 62.90 39 *i* P P 17 28 14.2 -6.0
comp=E,1.0nm,0.8s
MNK *i* P P 17 28 14.2 -6.0
MNK *i* P P 17 28 14.2 -6.0
comp=Z,81nm,0.8s,baz=186
MNK *i* pP PcP 17 28 42.7 -16
MNK *i* sP pwP 17 29 02.4 +38
MNK *i* LRM MLR 17 37 17.6
comp=Z,85nm,13.3s
MNK *i* LRM MLR 17 37 24.0
comp=E,11nm,12.0s
MNK Minsk 62.90 39 *i* P P 17 28 17.0 -3.1
comp=E,2.0nm,0.8s
MNK *i* P P 17 28 17.0 -3.1
MNK *i* P P 17 28 17.0 -3.1
comp=Z,48nm,0.8s,baz=270
MNK *i* PcP PcP 17 28 54.6 -3.7
MNK *i* PP PP 17 30 34.2 -4.1
MNK *i* PPP PPP 17 32 03.4
MNK *i* S S 17 36 47.3 -3.1
MNK *i* SS SS 17 40 56.5 +1.3
MNK *i* SSS SSS 17 43 43.9
MNK *i* LQ LQ 17 49 51.1
MNK *i* LR LR 17 54 46.9
MNK *i* LRM MLR 17 58 32.8
comp=Z,175nm,16.3s
MNK *i* LRM MLR 17 58 36.9
comp=E,27nm,16.3s
MPMC Manual Prospec 62.92 300 P P 17 28 22.5 +1.7
baz=81,SNR=52
CCX Cicese 62.92 295 IAmb IAmb 17 28 24.2
comp=Z,70nm,1.3s
SPA0 Spitsbergen Ar 62.93 12 *e*P P 17 28 21.3 +1.3
SPA0 IAmb IAmb 17 28 22.3
comp=Z,98nm,1.3s
SPITS Spitsbergen Ar 62.93 12 P P 17 28 21.0 +0.9
comp=Z,11nm,0.6s,baz=197,slow=5.1,SNR=25
SPITS LR LR 17 50 21.1
comp=Z,376nm,18.1s,baz=206,slow=31
comp=Z,11nm,0.6s
SPB2 Spitsbergen Ar 62.94 12 P P 17 28 20.3 +0.2
E08A Dider Farm, El 62.94 312 IAmb IAmb 17 28 22.6
comp=Z,73nm,1.2s
G08A Pilot Rock 62.96 311 IAmb IAmb 17 28 22.4
comp=Z,40nm,1.2s
ARA0 ARCESS Array S 62.97 22 *e*P P 17 28 20.7 +0.2
ARA0 IAmb IAmb 17 28 21.3
comp=Z,37nm,1.0s
ARCES ARCESS Array B 62.97 22 P P 17 28 20.2 -0.2
comp=Z,25nm,0.8s,baz=265,slow=6.1,SNR=38
ARCES LR LR 17 50 03.9
comp=Z,288nm,21.3s,baz=275,slow=31
comp=Z,25nm,0.8s
ARCES ARCESS Array B 62.97 22 IAmb IAmb 17 28 21.6
comp=Z,34nm,0.9s
KVN Kaiserville 62.98 304 IAmb IAmb 17 28 23.1
comp=Z,82nm,1.5s
MURC Murrieta 63.06 297 P P 17 28 23.3 +1.6
baz=80
NV11 Mina Array Sit 63.11 303 IAmb IAmb 17 28 24.0
comp=Z,77nm,1.8s
109C Camp Elliot, M 63.11 297 P P 17 28 23.4 +1.5
baz=80
LRMC Laurel Mtn Rad 63.16 300 P P 17 28 23.9 +1.5
baz=81,SNR=22
TUDR 63.17 49 ⇑P P 17 28 21.1 -1.0
VASR Vaslui 63.17 48 ⇑P P 17 28 21.7 -0.4
NVAR Mina Array Bea 63.22 303 P P 17 28 23.3 +0.4
comp=Z,13nm,0.9s,baz=82,slow=6.1,SNR=53
NVAR PP PP 17 30 40.7 -1.0
comp=Z,3.9nm,1.2s,baz=75,slow=7.6,SNR=3.3
NVAR LR LR 17 56 16.7
comp=Z,834nm,18.1s,baz=88,slow=36
comp=Z,13nm,0.9s
SCHL Schela 63.29 49 ⇑P P 17 28 20.8 -2.1
CWC Cottonwood Cre 63.33 301 P P 17 28 25.5 +1.9
baz=81
BFSC Mount Baldy Ra 63.34 298 P P 17 28 25.0 +1.3
baz=80,SNR=9.3
TIN Tinemaha, Big 63.36 301 P P 17 28 25.5 +1.8
baz=82
RYN Ryan 63.37 303 P P 17 28 23.2 -0.6
RYN IAmb IAmb 17 28 25.7
comp=Z,47nm,1.0s
SCTR Scanteiesti 63.39 49 ⇑P P 17 28 22.9 -0.7
HARR Harsova 63.43 50 ⇑P P 17 28 22.4 -1.5
HARR Harsova 63.43 50 ⇑P P 17 28 22.4 -1.5
EDW2 Edwards Air Fo 63.51 299 P P 17 28 26.2 +1.5
baz=81,SNR=27
KEV Kevo 63.52 22 P P 17 28 23.4 -0.6
KEV IAmb IAmb 17 28 25.4
comp=Z,64nm,1.1s
KEV Kevo 63.52 22 P P 17 28 23.4 -0.6
KEV pmax pmax
comp=Z,64nm,1.1s
TLBR Topalu 63.53 50 ⇑P P 17 28 24.2 -0.3
CFR Carcaliu 63.53 49 ⇓P P 17 28 22.8 -1.7
CFR Carcaliu 63.53 49 ⇓P P 17 28 22.8 -1.7
MLAC Mammoth, Mammo 63.75 302 P P 17 28 28.2 +1.8
baz=82
TPGR Topolog 63.77 50 ⇑P P 17 28 25.3 -0.8
ISA Isabella, Lake 63.77 300 P P 17 28 28.4 +2.1
baz=81,SNR=54
TIRR Tirgusor 63.80 50 ⇑P P 17 28 25.0 -1.3
TIRR Tirgusor 63.80 50 P P 17 28 25.4 -0.9
TIRR Tirgusor 63.80 50 ⇑P P 17 28 25.0 -1.3
AKASG Malin Array Be 63.84 43 P P 17 28 25.9 -0.5
comp=Z,22nm,0.7s,baz=274,slow=5.7,SNR=17
AKASG LR LR 17 54 13.6
comp=Z,180nm,18.3s,baz=276,slow=34
comp=Z,22nm,0.7s
AKASG Malin Array Be 63.84 43 *ce*P P 17 28 25.8 -0.7
AKASG pmax pmax
comp=Z,20nm,0.6s
AKBB Malin Array Si 63.84 43 *ce*P P 17 28 26.0 -0.5
MILM Milestii Mici 63.85 47 ⇑P P 17 28 25.5 -1.0
MILM Milestii Mici 63.85 47 ⇑P P 17 28 25.5 -1.0
YERR Yerington 63.87 304 IAmb IAmb 17 29 06.5
comp=Z,40nm,1.6s
DECC Green Verdugo 63.89 298 P P 17 28 28.1 +0.9
baz=80
FMP Fort Macarthur 63.95 298 P P 17 28 28.7 +1.2
baz=80
JURR Jurilovca 64.10 50 ⇓P P 17 28 28.3 +0.1
CIS Catalina Islan 64.10 297 P P 17 28 30.1 +1.5
baz=80
ARVC Arvin 64.14 299 P P 17 28 30.7 +1.9
baz=80
OSI Osito Audit: C 64.14 299 P P 17 28 30.0 +1.1
baz=80
PUL Pulkovo 64.22 33 ⇑*e*P P 17 28 28.9 +0.1
PUL pmax pmax
comp=Z,39nm,0.7s
HOPEN Hopen 64.22 14 *e*P P 17 28 29.2 +0.7
HOPEN IAmb IAmb 17 28 29.6
comp=Z,36nm,0.7s
VES Vestal, Richgr 64.23 300 P P 17 28 30.6 +1.3
baz=80
SCI2 San Clemente I 64.29 297 P P 17 28 31.6 +1.9
baz=79
VOG Valley Oaks Go 64.39 301 P P 17 28 30.7 +0.4
baz=81
VALR Valaam 64.51 31 *de*P P 17 28 30.7 +0.1
VALR pmax pmax
comp=Z,38nm,1.5s
PURM Purcari 64.61 48 ⇑P P 17 28 31.6 0.0
G05D Wamic, OR 64.62 311 P P 17 28 32.9 +1.2
baz=84,SNR=8.4
BCW Bitter Crk WRg 64.64 299 P P 17 28 31.9 -0.3
I05D Terrebonne, OR 64.74 310 P P 17 28 34.5 +1.9
baz=83,SNR=7.7
J05D Fort Rock, OR 64.80 309 P P 17 28 34.5 +1.5
baz=83,SNR=33
CMB Columbia Colle 64.90 303 IAmb IAmb 17 28 36.4
comp=Z,46nm,1.3s
WRGLY Wrigley 64.97 331 P P 17 28 33.7 +0.1
baz=90,SNR=23
SBC Santa Barbara 64.98 299 P P 17 28 35.6 +1.4
baz=80
PKM Mcpherson Peak 64.98 299 P P 17 28 36.4 +2.0
baz=80,SNR=14
FLDN Fort Liard 64.99 327 P P 17 28 34.3 +0.5
baz=89
SCZ2 Santa Cruz Isl 65.00 298 P P 17 28 35.5 +1.1
baz=79
SNCC San Nicolas Is 65.04 297 P P 17 28 36.1 +1.4
baz=79
SMMC Simmler 65.05 300 P P 17 28 36.0 +1.2
baz=80
PAGB Antelope Grade 65.18 300 IAmb IAmb 17 28 37.3
comp=Z,54nm,1.3s
K04D Chiloquin, OR 65.26 308 P P 17 28 37.1 +1.1
baz=82,SNR=6.6
C36M Paulatuk 65.39 338 P P 17 28 38.2 +2.0
baz=93
J04D Umpqua Nationa 65.44 309 P P 17 28 36.6 -0.7
J04D Umpqua Nationa 65.44 309 P P 17 28 38.6 +1.3
baz=82,SNR=16
ORV Oroville 65.52 305 IAmb IAmb 17 28 40.0
comp=Z,69nm,1.4s
PMPB Monarch Peak 65.54 301 IAmb IAmb 17 28 40.5
comp=Z,63nm,1.1s
I04A Tendick Farm, 65.58 309 P P 17 28 38.5 +0.5
baz=82,SNR=15
APA Apatity 65.68 24 ⇑*i*P P 17 28 36.7 -1.5
APA *i* S S 17 37 19.0 -5.4
APA pmax pmax
comp=Z,20nm,1.1s
H04D Lebanon 65.72 310 P P 17 28 37.4 -1.4
H04D IAmb IAmb 17 28 40.4
comp=Z,62nm,1.2s
H04D Lebanon 65.72 310 P P 17 28 39.0 +0.1
baz=82
L04D Klamath Falls 65.72 308 P P 17 28 39.8 +0.7
baz=82,SNR=18
B04A Port Angeles 65.81 314 IAmb IAmb 17 28 41.1
comp=Z,63nm,1.2s
GO06 Curarrehue 65.87 202 P P 17 28 39.7 -0.1
GO06 IAmb IAmb 17 28 41.4
comp=Z,78nm,1.8s
A36M Sachs Harbour 65.91 340 P P 17 28 40.5 +0.9
baz=93
G03D McMinnville, O 66.00 311 P P 17 28 41.7 +1.1
baz=82,SNR=7.2
ELL Elmali 66.02 58 P P 17 28 41.8 +0.7
ELL Elmali 66.02 58 P P 17 28 41.8 +0.7
ELL pmax pmax
comp=Z,419nm,1.3s
E03A Lebam 66.03 312 IAmb IAmb 17 28 42.1
comp=Z,44nm,1.1s
YBH Yreka Blue Hor 66.09 307 LR LR 17 55 21.9
comp=Z,903nm,21.2s,baz=76,slow=34
YBH Yreka Blue Hor 66.09 307 P P 17 28 40.4 -1.0
YBH IAmb IAmb 17 28 42.4
comp=Z,46nm,1.5s
YBH Yreka Blue Hor 66.09 307 P P 17 28 40.4 -1.0
YBH pmax pmax
comp=Z,46nm,1.5s
COR Corvallis 66.11 310 P P 17 28 40.4 -0.9
COR Corvallis 66.11 310 P P 17 28 40.4 -0.9
COR pmax pmax
comp=Z,111nm,1.3s
I03D Drain, OR 66.27 309 P P 17 28 42.8 +0.4
baz=82,SNR=7.7
I02E Swisshome, OR 66.56 310 P P 17 28 44.7 +0.4
baz=82
PLCA Paso Flores 66.60 200 P P 17 28 45.1 +0.7
comp=Z,7.3nm,0.8s,baz=23,slow=6.3,SNR=16
PLCA LR LR 18 00 14.6
comp=Z,399nm,18.6s,baz=22,slow=38
comp=Z,7.3nm,0.8s
PLCA Paso Flores 66.60 200 P P 17 28 44.6 +0.2
PLCA Paso Flores 66.60 200 P P 17 28 44.6 +0.2
PLCA pmax pmax
comp=Z,26nm,1.2s
PLCA Paso Flores 66.60 200 *e*P P 17 28 44.8 +0.4
K02D Willamette Mer 66.65 308 P P 17 28 45.2 +0.3
baz=81,SNR=9.0
L02F Cave Junction 66.67 308 P P 17 28 45.0 0.0
baz=81
J01E Myrtle Point 66.77 309 P P 17 28 46.8 +1.2
baz=81,SNR=6.8
H09N1 TRISTAN DA CUN 66.78 151 T T 18 41 10.7
SNR=222
H09W1 TRISTAN DA CUN 66.79 151 T T 18 41 14.0
SNR=365
KHMM Horse Mountain 66.99 306 IAmb IAmb 17 28 50.7
comp=Z,24nm,0.9s
TGTN Hyland Airport 67.27 329 P P 17 28 48.8 +0.3
baz=86,SNR=15
LL04 Puerto Octay 67.37 202 P P 17 28 49.0 -0.2
LL04 IAmb IAmb 17 28 50.3
comp=Z,28nm,0.9s
WTLY Watson Lake, Y 67.65 327 P P 17 28 51.3 +0.4
baz=84
OBN Obninsk 67.88 38 P P 17 28 52.5 +0.2
comp=Z,11nm,0.6s,baz=185,slow=1.9,SNR=11
OBN LR LR 17 55 12.5
comp=Z,179nm,19.9s,baz=290,slow=33
comp=Z,11nm,0.6s
OBN Obninsk 67.88 38 ⇓*e*P P 17 28 52.2 -0.1
OBN *e* 17 29 17.4
OBN *e* 17 31 20.2
OBN *i* S S 17 37 53.3 +2.0
OBN *i* SS SS 17 42 12.6 +0.2
OBN pmax pmax

comp=Z,59nm,1.0s
OBN MLR MLR

comp=Z,180nm,17.0s
BBB Bella Bella 68.22 319 LR LR 17 57 38.9
comp=Z,1µm,18.4s,baz=82,slow=35
BR131 Keskin Array S 68.35 55*d* iP **P 17 28 55.9 0.0**
BRTR Keskin Array B 68.35 55 P **P 17 28 56.0 +0.2**
comp=Z,8.8nm,0.6s,baz=261,slow=5.2,SNR=9.0
comp=Z,8.8nm,0.6s
MOS Moscow 68.39 37 *e*P **P 17 28 55.4 -0.2**
MOS *e* 17 29 21.7
MOS pmax pmax

comp=Z,108nm,1.6s
MOS pmax pmax

comp=Z,200nm,1.8s
DLBC Dease Lake 68.47 326 LR LR 17 59 18.4
comp=Z,547nm,18.3s,baz=87,slow=36
DLBC Dease Lake 68.47 326 P **P 17 28 57.1 +1.0**
baz=83,SNR=12
MMPY Sheldon Lake, 68.56 330 P **P 17 28 57.0 +0.3**
baz=83,SNR=9.0
KLMR Klimovskoe 68.72 32 *e*P **P 17 28 55.1 -2.4**
KLMR S **S 17 37 58.6 -2.6**
KLMR pmax pmax

comp=Z,91nm,1.2s
KLMR Klimovskoe 68.72 32 *e*P **P 17 28 55.1 -2.4**
KLMR *e*P **P 17 28 55.1 -2.4**
KLMR *e*P **P 17 28 55.1 -2.4**
KLMR AMP 17 28 58.5

comp=Z,91nm,1.2s
KLMR S **S 17 37 58.6 -2.6**
KLMR S **S 17 37 58.6 -2.6**
KLMR LQ LQ 17 49 23.8
KLMR LQ LQ 17 49 23.8
KLMR LR LR 17 51 35.5
KLMR AMP 17 54 32.3

comp=Z,504nm,18.5s
T35M Bob Quinn 68.78 324 P **P 17 28 59.4 +1.4**
baz=82
R33M Jennings River 68.82 327 P **P 17 28 59.4 +0.9**
baz=82
INK Inuvik 68.85 337 LR LR 17 58 52.1
comp=Z,2µm,18.2s,baz=84,slow=36
INK Inuvik 68.85 337 P **P 17 28 57.6 -0.7**
INK Inuvik 68.85 337 P **P 17 28 57.6 -0.7**
INK pmax pmax

comp=Z,82nm,1.4s
INK Inuvik 68.85 337 P **P 17 28 57.9 -0.3**
baz=84,SNR=12
F31M Tsiigehtchic 69.04 336 P **P 17 28 59.2 -0.2**
baz=83,SNR=5.8
S34M Telegraph Cree 69.12 325 P **P 17 29 01.1 +1.0**
baz=82,SNR=5.4
DIKM Dikmen 69.18 52 ⇓P **P 17 29 01.4 +0.5**
Q32M Nakina River 69.55 326 P **P 17 29 04.1 +1.0**
baz=81
FARO Faro, Yukon 69.58 330 IAmb IAmb 17 29 04.7

comp=Z,62nm,1.1s
FARO Faro, Yukon 69.58 330 P **P 17 29 03.0 +0.1**
baz=81,SNR=18
N32M Quiet Lake 69.62 329 P **P 17 29 03.1 -0.1**
baz=81
LPSR Galich'ya Gora 69.63 40 *e*P **P 17 29 02.7 -0.6**
LPSR pmax pmax

comp=Z,70nm,0.9s
P33M Teslin, Yukon 69.63 328 IAmb IAmb 17 29 05.0

comp=Z,37nm,0.9s
P33M Teslin, Yukon 69.63 328 P **P 17 29 03.4 +0.1**
baz=81,SNR=12
V35K Ketchikan 69.79 323 P **P 17 29 05.3 +1.0**
baz=80
VORR Voronezh 69.96 41 *e*P **P 17 29 04.0 -1.4**
VORR pmax pmax

comp=Z,30nm,0.4s
WRAK Wrangell Islan 70.01 324 P **P 17 29 06.4 +0.9**
baz=80
VSR Storozhevoye 70.02 42 *e*P **P 17 29 05.0 -0.8**
VSR pmax pmax

comp=Z,60nm,1.2s
M31M Drury Creek, Y 70.06 330 IAmb IAmb 17 29 08.2

comp=Z,110nm,1.6s
M31M Drury Creek, Y 70.06 330 P **P 17 29 06.7 +0.8**
baz=80,SNR=12
ANN Anapa 70.11 49 *e*P P 17 28 58.9 -7.6
ANN *e**PP pP 17 29 05.7 -1.1
ANN *e*S **S 17 38 09.5 -8.7**
ANN pmax pmax

comp=Z,36nm,1.3s
P32M Atlin 70.18 327 P **P 17 29 07.3 +0.6**
baz=80
EPYK Eagle Plains 70.36 335 IAmb IAmb 17 29 09.1

comp=Z,49nm,1.0s
EPYK Eagle Plains 70.36 335 P **P 17 29 07.9 +0.3**
baz=80,SNR=14
MAYO Mayo, Yukon 70.50 332 P **P 17 29 09.5 +1.0**
baz=80
WHY Whitehorse 70.56 329 P **P 17 29 08.8 -0.3**
baz=80
CRAG Craig 70.61 323 P **P 17 29 07.6 -1.7**
baz=79
R32K Eaglecrest 70.83 326 P **P 17 29 10.6 0.0**
baz=79
N31M Braeburn, Yuko 70.84 329 P **P 17 29 11.1 +0.4**
N31M Braeburn, Yuko 70.84 329 P **P 17 29 11.1 +0.4**
baz=79,SNR=28
SKAG Skagway 71.01 327 IAmb IAmb 17 29 13.8

comp=Z,58nm,1.3s
SKAG Skagway 71.01 327 P **P 17 29 12.4 +0.8**
baz=79
M30M Minto, Yukon 71.10 331 IAmb IAmb 17 29 13.9

comp=Z,77nm,1.2s
M30M Minto, Yukon 71.10 331 P **P 17 29 12.8 +0.5**
baz=79,SNR=18
O30N Mendenhall 71.13 329 P **P 17 29 13.4 +0.9**
baz=79,SNR=28
K29M Barlow Dome 71.17 332 P **P 17 29 13.1 +0.4**
baz=78,SNR=24
I29M Ogilvie Camp, 71.19 334 IAmb IAmb 17 29 13.9

comp=Z,72nm,1.2s
I29M Ogilvie Camp, 71.19 334 P **P 17 29 13.0 +0.3**
baz=78,SNR=19
J29M Klondike Camp 71.34 333 P **P 17 29 14.4 +0.7**
baz=78
N30M Aishikik Lake 71.46 330 P **P 17 29 15.0 +0.5**
baz=78,SNR=18
SIT Sitka 71.50 325 P **P 17 29 15.7 +1.0**
baz=78
PRGR Permogore 71.50 30 *e*P **P 17 29 13.6 -1.0**
PRGR pmax pmax

comp=Z,95nm,1.5s
PLBC Pleasant Camp 71.53 327 P **P 17 29 16.0 +1.2**
baz=78
VRH Novokhopyorsk 71.60 41 *e*P **P 17 29 14.7 -0.7**
VRH pmax pmax

comp=Z,50nm,0.9s
P30M Million Dollar 71.68 328 P **P 17 29 16.9 +1.1**
baz=78
EIL Elat 71.72 65 LR LR 18 01 31.5
comp=Z,475nm,19.5s,baz=270,slow=37
HYT Haines Junctio 71.80 329 P **P 17 29 17.0 +0.4**
HYT IAmb IAmb 17 29 18.8

comp=Z,56nm,1.0s
HYT Haines Junctio 71.80 329 P **P 17 29 17.6 +1.0**
baz=77,SNR=13
E27K Coleen River 71.83 337 P **P 17 29 17.2 +0.6**
baz=76,SNR=19
M29M Somme Creek 71.88 331 P **P 17 29 17.5 +0.4**
baz=77,SNR=27
DAWY Dawson 71.93 333 P **P 17 29 17.6 +0.4**
baz=77,SNR=28
SOC Sochi 71.98 50 *e*P **P 17 29 17.1 -0.7**
SOC *e* 17 31 53.4
SOC *e*PPP PPP 17 33 42.6
SOC *e*S **S 17 38 40.0 0.0**
SOC pmax pmax

comp=Z,48nm,1.2s
P29M Windy Craggy 72.18 328 P **P 17 29 19.8 +1.0**
baz=77
YUK6 Outpost Mounta 72.18 329 P **P 17 29 20.2 +1.2**
baz=77,SNR=15
G27K Doyon Strip 72.19 336 P **P 17 29 19.2 +0.4**
baz=76,SNR=19
C27K Jago River 72.21 339 P **P 17 29 20.0 +1.2**
baz=75,SNR=19
YUK4 Talbot Arm 72.22 330 P **P 17 29 19.4 +0.1**
baz=77,SNR=22
VSLR Vesyoloye 72.23 50*de*P **P 17 29 20.1 +0.7**

H27K Steamboat Moun 72.28 335 P **P 17 29 19.7 +0.3**
baz=76,SNR=26
O29M Mount Kennedy 72.43 329 P **P 17 29 21.1 +0.7**
baz=76,SNR=6.7
I27K Kandik River 72.48 334 P **P 17 29 20.8 +0.3**
baz=75,SNR=40
EGAK Eagle 72.50 333 P **P 17 29 20.0 -0.5**
EGAK Eagle 72.50 333 P **P 17 29 20.3 -0.3**
baz=76,SNR=11
C26K Camden Bay 72.53 339 P **P 17 29 21.6 +0.9**
baz=74
F26K Sheenjek River 72.89 337 P **P 17 29 24.1 +1.2**
baz=74,SNR=34
YUK3 Moose Creek 72.95 330 P **P 17 29 23.8 +0.2**
baz=75,SNR=15
G26K Porcupine Rive 72.97 336 P **P 17 29 24.1 +0.8**
baz=74,SNR=32
BVCY Beaver Creek 72.97 331 P **P 17 29 24.1 +0.6**
baz=75,SNR=22
PNL Peninsula 72.98 328 P **P 17 29 24.3 +0.7**
baz=76
K27K Chicken 73.08 333 IAmb IAmb 17 29 25.9

comp=Z,51nm,1.2s
K27K Chicken 73.08 333 P **P 17 29 24.8 +0.8**
baz=74
O28M Mount Upton 73.09 329 P **P 17 29 25.1 +0.6**
baz=75,SNR=14
I26K Coal Creek Min 73.18 334 P **P 17 29 24.3 -0.2**
baz=74
D25K Kavik River 73.20 339 P **P 17 29 25.8 +1.1**
baz=72,SNR=16
L27K Beaver Creek, 73.23 332 IAmb IAmb 17 29 26.7

comp=Z,65nm,0.9s
L27K Beaver Creek, 73.23 332 P **P 17 29 25.5 +0.5**
baz=74,SNR=36
E25K Arctic Village 73.28 337 P **P 17 29 26.7 +1.5**
baz=73,SNR=41
PINM Pinnacle 73.29 329 P **P 17 29 26.5 +1.0**
baz=75
KOPT Kop Dagi 73.42 53 IAmb IAmb 17 29 32.7

comp=Z,64nm,1.7s
M27K Edge Creek, AK 73.44 331 P **P 17 29 26.9 +0.5**
baz=74,SNR=20
LOGN Logan Glacier 73.46 329 P **P 17 29 26.7 +0.1**
LOGN IAmb IAmb 17 29 29.8

comp=Z,40nm,1.0s
F25K Christian Rive 73.47 337 P **P 17 29 27.7 +1.4**
baz=72,SNR=47
J26L Joseph Creek 73.57 333 IAmb IAmb 17 29 28.3

comp=Z,42nm,1.0s
J26L Joseph Creek 73.57 333 P **P 17 29 26.9 -0.2**
baz=73,SNR=38
CTGM Chitina Glacie 73.58 330 IAmb IAmb 17 29 29.6

comp=Z,61nm,0.9s
CTG Chitna Glacier 73.58 330 P **P 17 29 28.3 +1.1**
baz=74,SNR=11
FYU Fort Yukon 73.63 336 IAmb IAmb 17 29 29.2

comp=Z,87nm,1.3s
C24K Franklin Bluff 73.85 339 P **P 17 29 29.4 +1.0**
baz=70
SCRK Sand Creek 73.90 333 P **P 17 29 29.1 +0.1**
baz=73,SNR=12
L26K Log Cabin Wild 73.91 332 P **P 17 29 29.1 +0.1**
baz=73,SNR=14
GOF Gofitskoye 73.93 48⇑ *e*P **P 17 29 30.4 +1.0**
GOF pmax pmax

comp=Z,53nm,1.0s
M26K Nabesna, AK 73.93 331 P **P 17 29 29.4 +0.2**
baz=73,SNR=12
YAH Yahtse 73.94 329 P **P 17 29 28.8 -0.7**
H25K Birch Creek 73.94 335 P **P 17 29 30.4 +1.4**
baz=72,SNR=23
KIV Kislovodsk 73.97 49 P **P 17 29 30.3 +0.5**
KIV IAmb IAmb 17 29 35.2

comp=Z,44nm,1.1s
KIV Kislovodsk 73.97 49*d i* P **P 17 29 30.6 +0.8**
KIV *i* 17 29 37.9
KIV *i* S **S 17 39 07.9 +5.1**
KIV pmax pmax

comp=Z,36nm,1.2s
KIV MLR MLR

comp=Z,83nm,18.0s
PRP Porcupine Dome 74.06 335 IAmb IAmb 17 29 32.0

comp=Z,75nm,1.1s
PRP Porcupine Dome 74.06 335 P **P 17 29 30.6 +0.7**
baz=72,SNR=59
D24K Happy Valley 74.08 339 P **P 17 29 30.9 +1.1**
baz=70
KIRV Kirov 74.09 33 P **P 17 29 29.2 -0.8**
comp=Z,15nm,0.6s,baz=261,slow=5.2,SNR=12
KIRV LR LR 17 58 17.3

comp=Z,373nm,19.3s,baz=284,slow=33
comp=Z,15nm,0.6s
KIRV Kirov 74.09 33*d i* P **P 17 29 29.4 -0.6**
MESA MESA 74.09 329 P **P 17 29 31.3 +1.0**
baz=74
ISLE Juniper Island 74.15 329 P **P 17 29 31.0 +0.4**
KBZ Khabaz 74.18 49 P **P 17 29 30.6 -0.2**
comp=Z,14nm,0.8s,baz=277,slow=7.4,SNR=8.9
KBZ LR LR 18 03 10.9

comp=Z,86nm,18.6s,baz=310,slow=37
comp=Z,14nm,0.8s
KBZ Khabaz 74.18 49*ce*P **P 17 29 31.9 +1.1**
KBZ MLR MLR

comp=Z,98nm,17.0s
NEY Neytrino 74.18 49⇑ *e*P **P 17 29 32.8 +1.6**
NEY pmax pmax

comp=Z,3.0nm,1.0s
MCARA McCarthy VSAT 74.24 330 P **P 17 29 31.9 +0.9**
baz=73,SNR=24
J25K Salcha River, 74.28 334 P **P 17 29 31.4 +0.2**
baz=72,SNR=12
F24K Squaw Lake 74.31 337 P **P 17 29 32.9 +1.6**
baz=70,SNR=36
TSUM Tsumeb 74.31 119 LR LR 17 55 43.7
comp=Z,584nm,20.8s,baz=306,slow=31
TSUM Tsumeb 74.31 119 P **P 17 29 32.0 -0.2**
E24K Your Creek 74.34 338 P **P 17 29 33.1 +1.7**
baz=70,SNR=42
RIDG Independent Ri 74.34 333 P **P 17 29 31.6 +0.1**
baz=72
TGL Tana Glacier 74.34 330 IAmb IAmb 17 29 33.6

comp=Z,89nm,1.1s
C23K Itkillik River 74.43 340 P **P 17 29 33.4 +1.6**
baz=69,SNR=9.4
G24K Hadweenzic Riv 74.43 336 P **P 17 29 33.1 +1.1**
baz=71,SNR=50
TOLK Toolik Lake Re 74.52 338 IAmb IAmb 17 29 34.9

comp=Z,52nm,1.2s
TOLK Toolik Lake Re 74.52 338 P **P 17 29 33.2 +0.8**
baz=69,SNR=7.3
GLB Gilahina Butte 74.59 330 IAmb IAmb 17 29 34.9

comp=Z,70nm,1.0s
K24K Donnelly Dome 74.71 333 P **P 17 29 33.8 +0.2**
baz=71
NCK Nalchik 74.73 49⇑ *e*P **P 17 29 35.6 +1.5**
NCK pmax pmax

comp=Z,48nm,1.3s
D23K Nanushuk River 74.77 339 P **P 17 29 35.3 +1.5**
baz=68,SNR=9.8
PAX Paxson 74.85 332 IAmb IAmb 17 29 35.7

comp=Z,53nm,1.1s
PAX Paxson 74.85 332 P **P 17 29 34.5 0.0**
baz=71,SNR=20
ILAR Eielson Array 74.85 334 P **P 17 29 34.5 +0.1**
comp=Z,64nm,0.8s,baz=74,slow=4.8,SNR=240
ILAR LR LR 18 02 43.3

comp=Z,790nm,18.4s,baz=60,slow=36
ILAR Eielson Array 74.85 334 P **P 17 29 34.0 -0.4**
ILAR Eielson Array 74.85 334 P **P 17 29 34.0 -0.4**
BELG Belogornoye 74.85 39 P **P 17 29 34.5 0.0**
comp=Z,53nm,0.9s,baz=117,slow=1.5,SNR=12
BELG LR LR 17 59 12.0

comp=Z,378nm,21.8s,baz=312,slow=33
comp=Z,53nm,0.9s
BELG Belogornoye 74.85 39*d i* P **P 17 29 34.4 -0.2**
BELG pmax pmax

comp=Z,11nm,1.0s
H24K Noodor Dome 74.88 335 IAmb IAmb 17 29 37.0

comp=Z,76nm,1.4s
H24K Noodor Dome 74.88 335 P **P 17 29 35.6 +1.0**
baz=70,SNR=31
HARP HAARP 74.89 332 P **P 17 29 35.2 +0.5**
baz=71,SNR=18
N25K Chitina, Valde 74.89 331 IAmb IAmb 17 29 36.6

comp=Z,92nm,1.4s
N25K Chitina, Valde 74.89 331 P **P 17 29 35.1 +0.3**
baz=72,SNR=13

POKR Poker Plat Res 74.95 335 P **P 17 29 35.4 +0.4**
baz=70
HDA Harding Lake 75.00 334 P **P 17 29 35.5 +0.2**
baz=70,SNR=9.0
BMRM Bremner River 75.10 330 IAmb IAmb 17 29 37.5

comp=Z,77nm,1.2s
BMRM Bremner River 75.10 330 P **P 17 29 36.1 +0.1**
baz=72,SNR=7.4
ZEI Tsey 75.14 50 *e*P **P 17 29 36.7 -0.1**
ZEI pmax pmax

comp=Z,31nm,1.7s
COLA College 75.20 334 P **P 17 29 36.6 +0.3**
COLA College 75.20 334*d i* P **P 17 29 36.5 +0.1**
COLA pmax pmax

comp=Z,71nm,1.0s
COLA College 75.20 334 P **P 17 29 36.7 +0.3**
baz=70
TCOL CIGO, UAF Yank 75.21 334 P **P 17 29 36.8 +0.4**
baz=70,SNR=8.9
COLD Coldfoot 75.25 337 IAmb IAmb 17 29 39.2

comp=Z,49nm,1.0s
COLD Coldfoot 75.25 337 P **P 17 29 37.8 +1.2**
baz=68,SNR=34
CCB Clear Creek Bu 75.26 334 IAmb IAmb 17 29 38.3

comp=Z,84nm,1.0s
MDM Murphy Dome 75.32 335 IAmb IAmb 17 29 38.9

comp=Z,89nm,1.2s
KAIM Kayak Island 75.34 329 P **P 17 29 37.9 +0.6**
baz=71
G23K Bananza Creek 75.38 337 P **P 17 29 38.8 +1.3**
baz=68,SNR=56
M24K Tolsona, Glenn 75.44 331 P **P 17 29 38.2 +0.3**
baz=70
E22K Anaktuvuk Pass 75.47 338 P **P 17 29 39.1 +1.1**
baz=67
H23K Yukon River 75.53 336 P **P 17 29 39.4 +1.1**
baz=68,SNR=80
KLU Klutina 75.53 331 IAmb IAmb 17 29 40.1

comp=Z,72nm,1.0s
KLU Klutina 75.53 331 P **P 17 29 38.7 +0.2**
baz=71,SNR=17
DIV Divide 75.58 330 P **P 17 29 38.9 +0.2**
DIV IAmb IAmb 17 29 40.0

comp=Z,49nm,1.2s
DHY Denali Highway 75.63 333 IAmb IAmb 17 29 40.8

comp=Z,45nm,1.2s
DHY Denali Highway 75.63 333 P **P 17 29 39.3 +0.2**
baz=70,SNR=15
A21K Barrow 75.66 342 P **P 17 29 39.5 +0.6**
baz=64
EYAK Cordova Ski Ar 75.77 330 P **P 17 29 39.9 +0.2**
baz=70
NEA2 Nenana 75.79 334 IAmb IAmb 17 29 41.4

comp=Z,50nm,0.9s
NEA2 Nenana 75.79 334 P **P 17 29 40.1 +0.3**
baz=69,SNR=28
G22K Bettles 75.84 337 P **P 17 29 40.8 +0.8**
baz=67
F22K John River 75.85 338 P **P 17 29 40.8 +0.7**
baz=67,SNR=11
WAT6 Susitna Watana 75.96 332 P **P 17 29 40.8 -0.2**
baz=69,SNR=12
FID Port Fidalgo 76.04 330 P **P 17 29 40.9 -0.4**
FID IAmb IAmb 17 29 43.0

comp=Z,59nm,1.0s
SCM Sheep Creek Mo 76.05 331 IAmb IAmb 17 29 42.7

comp=Z,66nm,1.4s
SCM Sheep Creek Mo 76.05 331 P **P 17 29 41.5 +0.1**
baz=70,SNR=6.3
MCK McKinley 76.05 333 IAmb IAmb 17 29 42.8

comp=Z,70nm,1.0s
MCK McKinley 76.05 333 P **P 17 29 41.3 0.0**
baz=68,SNR=19
RND Reindeer 76.14 333 IAmb IAmb 17 29 43.7

comp=Z,116nm,1.6s
H22K Ishtalitna Cre 76.20 336 P **P 17 29 43.2 +1.1**
baz=67,SNR=52
WAT1 Susitna Watana 76.22 333 P **P 17 29 42.9 +0.6**
baz=69
M23K Glacier View 76.24 331 P **P 17 29 42.3 -0.1**
baz=69,SNR=7.5
GLI Glacier Island 76.28 330 P **P 17 29 42.7 +0.1**
baz=69
MLY Manley 76.29 335 IAmb IAmb 17 29 44.5

comp=Z,43nm,1.0s
MLY Manley 76.29 335 P **P 17 29 43.0 +0.3**
baz=67,SNR=40
GROC Groznyy 76.35 49 *e*P **P 17 29 42.4 -1.0**
GROC *e* 17 29 53.5
GROC pmax pmax

comp=Z,34nm,1.0s
F21K Alatna River 76.43 338 P **P 17 29 44.0 +0.6**
baz=65,SNR=9.7
Q23K Middleton Isla 76.43 329 P **P 17 29 43.8 +0.3**
baz=70
SML Sawmill 76.50 332 IAmb IAmb 17 29 45.5

comp=Z,50nm,1.4s
SML Sawmill 76.50 332 P **P 17 29 44.1 +0.1**
baz=69
GNI Garni 76.51 52 P **P 17 29 45.2 +0.6**
comp=Z,18nm,0.8s,baz=258,slow=3.6,SNR=8.7
GNI LR LR 18 03 24.0

comp=Z,62nm,19.4s,baz=288,slow=36
comp=Z,18nm,0.8s
GNI Garni 76.51 52 P **P 17 29 45.2 +0.6**
GNI Garni 76.51 52*de*P **P 17 29 45.3 +0.7**
GNI pmax pmax

comp=Z,28nm,1.1s
KNK Knik Glacier 76.70 331 P **P 17 29 45.5 +0.5**
baz=68,SNR=9.6
I21K Tanana 76.71 335 IAmb IAmb 17 29 47.1

comp=Z,70nm,1.1s
I21K Tanana 76.71 335 P **P 17 29 45.5 +0.5**
baz=66,SNR=34
TRF Thorofare Moun 76.72 333 P **P 17 29 46.0 +0.7**
baz=67,SNR=27
P23K Montague Islan 76.73 330 P **P 17 29 45.1 -0.1**
baz=69
G21K Allakaket 76.73 337 P **P 17 29 46.4 +1.2**
baz=65,SNR=62
BPAW Bear Paw Mtn. 76.75 334 IAmb IAmb 17 29 46.7

comp=Z,48nm,1.1s
BPAW Bear Paw Mtn. 76.75 334 P **P 17 29 45.4 +0.1**
baz=67,SNR=24
GHO Glory Hole Cre 76.77 332 IAmb IAmb 17 29 47.3

comp=Z,53nm,1.1s
H21K Melozitna Rive 76.83 336 IAmb IAmb 17 29 48.1

comp=Z,75nm,1.1s
H21K Melozitna Rive 76.83 336 P **P 17 29 46.7 +1.0**
baz=66,SNR=46
PWL Port Wells 76.85 331 P **P 17 29 45.6 -0.3**
PWL Port Wells 76.85 331 P **P 17 29 46.1 +0.2**
baz=68
PMR Palmer 76.93 331 IAmb IAmb 17 29 48.0

comp=Z,38nm,1.0s
PMR Palmer 76.93 331 P **P 17 29 46.5 +0.3**
baz=68
CUT Chulitna 77.12 332 P **P 17 29 47.3 -0.1**
CUT Chulitna 77.12 332 P **P 17 29 47.9 +0.6**
baz=67,SNR=9.1
M22K Willow 77.31 332 IAmb IAmb 17 29 50.1

comp=Z,72nm,1.2s
M22K Willow 77.31 332 P **P 17 29 48.8 +0.4**
baz=67,SNR=7.4
RC01 Rabbit Creek A 77.39 331 IAmb IAmb 17 29 50.8

comp=Z,57nm,1.2s
RC01 Rabbit Creek A 77.39 331 P **P 17 29 49.4 +0.4**
baz=67,SNR=6.3
MAK Makhachkala 77.62 49 *e*P P 17 29 44.7 -5.8
MAK *e* 17 32 45.9
MAK *e*PPP PPP 17 34 34.8
MAK *e*S S 17 39 31.7 -11
MAK *e*SS **SS 17 44 43.0 +1.2**
MAK pmax pmax

comp=Z,30nm,0.5s
MAK MLR MLR

comp=Z,250nm,18.0s
O22K Cooper Landing 77.63 331 P **P 17 29 50.3 +0.1**
baz=67
SEW Seward 77.65 330 P **P 17 29 50.6 +0.3**
baz=67
SUA Susitna One 77.70 332 IAmb IAmb 17 30 07.0

comp=Z,31nm,0.9s
SUA Susitna One 77.70 332 P **P 17 29 51.2 +0.4**
baz=66
MBAR Mbarara 77.77 96 LR LR 18 01 55.3

comp=Z,1µm,20.5s,baz=271,slow=34
MBAR Mbarara 77.77 96 P **P 17 29 51.6 -0.5**

MBAR	**Mbarara**	**77.77**	**96**	*ce*P		**P**	**17 29 52.3**	**+0.2**
SKT	**Skwentna**	**77.83**	**332**	IAmb		IAmb	17 29 52.9	
	comp=Z,60nm,1.2s							
SKT	**Skwentna**	**77.83**	**332**	P		**P**	**17 29 51.2**	**-0.2**
	baz=66,SNR=17							
J20K	**Nowinta River**	**77.98**	**335**	P		**P**	**17 29 51.7**	**-0.4**
	baz=64,SNR=14							
K20K	**Telida**	**78.31**	**334**	IAmb		IAmb	17 29 55.3	
	comp=Z,82nm,1.1s							
K20K	**Telida**	**78.31**	**334**	P		**P**	**17 29 53.9**	**-0.1**
	baz=64,SNR=40							
BRSE	**Bradley Lake S**	**78.39**	**330**	P		**P**	**17 29 54.8**	**+0.3**
	baz=66,SNR=5.7							
BRLK	**Bradley Lake**	**78.44**	**330**	IAmb		IAmb	17 29 56.6	
	comp=Z,102nm,1.4s							
N20K	**Mount Spurr**	**78.45**	**332**	P		**P**	**17 29 55.0**	**+0.1**
	baz=65,SNR=8.8							
SPCR	**Spurr Chakacha**	**78.45**	**332**	P		**P**	**17 29 55.2**	**+0.3**
	baz=65							
RPN	**Rapa Nui**	**78.52**	**234**	LR		LR	18 03 10.8	
	comp=Z,51nm,20.9s,baz=183,slow=35							
M20K	**Styx River**	**78.56**	**333**	IAmb		IAmb	17 29 56.9	
	comp=Z,62nm,1.1s							
M20K	**Styx River**	**78.56**	**333**	P		**P**	**17 29 55.4**	**-0.2**
	baz=65,SNR=18							
L20K	**Farewell, AK**	**78.62**	**333**	P		**P**	**17 29 55.6**	**-0.1**
	baz=64,SNR=41							
GCSA	**Galena City Sc**	**78.78**	**336**	P		**P**	**17 29 56.7**	**+0.2**
	baz=62							
HOM	**Homer**	**78.84**	**330**	P		**P**	**17 29 57.6**	**+0.7**
	baz=65							
M19K	**Big River Lodg**	**79.09**	**333**	IAmb		IAmb	17 30 00.0	
	comp=Z,81nm,1.1s							
M19K	**Big River Lodg**	**79.09**	**333**	P		**P**	**17 29 58.7**	**+0.4**
	baz=64,SNR=38							
O20K	**Slope Mountain**	**79.11**	**331**	P		**P**	**17 29 59.2**	**+0.6**
	baz=65							
L19K	**White Mountain**	**79.16**	**333**	IAmb		IAmb	17 30 00.1	
	comp=Z,87nm,1.2s							
L19K	**White Mountain**	**79.16**	**333**	P		**P**	**17 29 58.9**	**+0.1**
	baz=63,SNR=32							
TTA	**Tatalina**	**79.29**	**334**	P		**P**	**17 29 59.3**	**-0.1**
	baz=62							
ILSW	**Iliamna Southw**	**79.39**	**331**	IAmb		IAmb	17 30 01.7	
	comp=Z,86nm,1.4s							
ARU	**Arti**	**79.46**	**33**	P		**P**	**17 30 00.8**	**+0.4**
	comp=Z,7.0nm,0.7s,baz=305,slow=3.7,SNR=14							
ARU				LR		LR	18 01 17.9	
	comp=Z,466nm,21.0s,baz=286,slow=33							
	comp=Z,7.0nm,0.7s							
ARU	**Arti**	**79.46**	**33**	P		**P**	**17 30 00.3**	**-0.1**
ARU				IAmb		IAmb	17 30 02.3	
	comp=Z,80nm,1.7s							
ARU	**Arti**	**79.46**	**33**	*d*	*i*P	**P**	**17 30 00.8**	**+0.4**
ARU				pmax		pmax		
	comp=Z,50nm,1.7s							
P19K	**Oil Pt**	**79.57**	**330**	P		**P**	**17 30 00.9**	**-0.1**
	baz=64							
N19K	**Bonanza Creek**	**79.61**	**332**	P		**P**	**17 30 01.4**	**+0.1**
	baz=63,SNR=12							
Q20K	**Shuyak Island**	**79.63**	**329**	P		**P**	**17 30 01.8**	**+0.5**
	baz=65							
O19K	**Port Alsworth**	**79.82**	**331**	IAmb		IAmb	17 30 03.5	
	comp=Z,67nm,1.2s							
O19K	**Port Alsworth**	**79.82**	**331**	P		**P**	**17 30 01.8**	**-0.5**
	baz=63							
SVW2	**Sparrevohn**	**79.96**	**332**	IAmb		IAmb	17 30 04.5	
	comp=Z,66nm,1.2s							
Q19K	**Cape Douglas,**	**80.08**	**330**	P		**P**	**17 30 03.9**	**+0.1**
	baz=64							
KDAK	**Kodiak Island**	**80.08**	**329**	LR		LR	18 05 00.7	
	comp=Z,467nm,20.1s,baz=76,slow=35							
KDAK	**Kodiak Island**	**80.08**	**329**	*ce*P		**P**	**17 30 04.9**	**+1.2**
KDAK				pmax		pmax		
	comp=Z,125nm,1.6s							
KDAK	**Kodiak Island**	**80.08**	**329**	P		**P**	**17 30 03.8**	**0.0**
	baz=64							
N18K	**Kilae Creek**	**80.29**	**332**	IAmb		IAmb	17 30 06.4	
	comp=Z,54nm,1.1s							
N18K	**Kilae Creek**	**80.29**	**332**	P		**P**	**17 30 04.7**	**-0.2**
	baz=62,SNR=16							
O18K	**Koktuh Hills**	**80.37**	**331**	P		**P**	**17 30 05.5**	**+0.1**
	baz=62							
P18K	**Big Mountain,**	**80.60**	**331**	P		**P**	**17 30 06.4**	**-0.2**
	baz=62,SNR=9.7							
OHAK	**Old Harbor**	**80.67**	**328**	P		**P**	**17 30 07.6**	**+0.7**
	baz=64,SNR=5.4							
P17K	**Kvichak River**	**81.24**	**331**	P		**P**	**17 30 09.6**	**-0.3**
	baz=61							
O17K	**Koliganek Bris**	**81.25**	**332**	P		**P**	**17 30 09.9**	**-0.1**
	baz=61							
SII	**Sitkinak Islan**	**81.41**	**328**	P		**P**	**17 30 10.7**	**-0.2**
	baz=63							
LSZ	**Lusaka**	**81.44**	**110**	LR		LR	18 01 21.2	
	comp=Z,287nm,18.7s,baz=312,slow=32							
LSZ	**Lusaka**	**81.44**	**110**	P		**P**	**17 30 12.0**	**+0.1**
LSZ	**Lusaka**	**81.44**	**110**	P		**P**	**17 30 12.0**	**+0.1**
LSZ				pmax		pmax		
	comp=Z,56nm,1.9s							
Q16K	**King Salmon**	**81.59**	**330**	P		**P**	**17 30 12.1**	**+0.3**
	baz=61,SNR=5.4							
AKTO	**Aktyubinsk**	**81.63**	**39**	P		**P**	**17 30 12.5**	**+0.3**
	comp=Z,14nm,0.7s,baz=300,slow=5.3,SNR=32							
AKTO				LR		LR	18 03 24.8	
	comp=Z,367nm,21.3s,baz=304,slow=34							
	comp=Z,14nm,0.7s							
N16K	**Nishlik Lake**	**81.63**	**333**	P		**P**	**17 30 13.9**	**+1.8**
	baz=60,SNR=80							
O16K	**Kokwok River B**	**81.78**	**332**	P		**P**	**17 30 12.9**	**+0.1**
	baz=60,SNR=6.7							
R17K	**Ugashik Creek**	**81.96**	**329**	P		**P**	**17 30 14.8**	**+1.0**
	baz=61,SNR=9.3							
ANM	**Nome**	**81.98**	**338**	P		**P**	**17 30 14.8**	**+1.0**
	baz=55							
P16K	**Nushagak River**	**82.02**	**331**	P		**P**	**17 30 14.3**	**+0.3**
	baz=60							
TNA	**Tin City**	**82.25**	**339**	P		**P**	**17 30 16.1**	**+0.9**
	baz=52							
CHIR	**Chirikof Islan**	**82.46**	**328**	P		**P**	**17 30 16.6**	**+0.2**
	baz=62							
R16K	**Pilot Point**	**82.56**	**330**	P		**P**	**17 30 17.5**	**+0.7**
	baz=60							
NRIK	**Noril'sk**	**82.91**	**15**	P		**P**	**17 30 18.9**	**+0.4**
	comp=Z,10nm,0.8s,baz=315,slow=5.1,SNR=19							
NRIK				LR		LR	18 03 52.5	
	comp=Z,224nm,21.4s,baz=336,slow=33							
	comp=Z,10nm,0.8s							
NRIK	**Noril'sk**	**82.91**	**15**	IAmb		IAmb	17 30 22.6	
	comp=Z,56nm,1.6s							
NRIK	**Noril'sk**	**82.91**	**15**	*de*P		**P**	**17 30 19.9**	**+1.4**
NRIK				pmax		pmax		
	comp=Z,17nm,1.0s							
SUR	**Sutherland**	**83.56**	**129**	LR		LR	18 01 22.6	
	comp=Z,526nm,18.3s,baz=303,slow=31							
CHGN	**Chignik**	**83.59**	**329**	P		**P**	**17 30 22.5**	**+0.3**
	baz=60,SNR=7.1							
KMBO	**Kilima Mbogo**	**83.99**	**94**	P		**P**	**17 30 26.0**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=252,slow=4.9,SNR=8.2							
KMBO				LR		LR	18 07 59.2	
	comp=Z,299nm,18.4s,baz=84,slow=36							
	comp=Z,2.5nm,0.7s							
KMBO	**Kilima Mbogo**	**83.99**	**94**	P		**P**	**17 30 25.6**	**+0.2**
KMBO	**Kilima Mbogo**	**83.99**	**94**	⇑*e*P		**P**	**17 30 27.1**	**+1.7**
S14K	**Fog Glacier**	**84.14**	**329**	P		**P**	**17 30 26.5**	**+1.3**
	baz=59,SNR=5.0							
ATD	**Arta Tunnel**	**84.52**	**80**	LR		LR	18 09 23.9	
	comp=Z,156nm,18.6s,baz=336,slow=37							
CHNA	**Chernabura Isl**	**84.92**	**328**	P		**P**	**17 30 29.5**	**+0.5**
	baz=58							
BOSA	**Boshof**	**85.04**	**123**	LR		LR	18 03 06.8	
	comp=Z,474nm,18.5s,baz=298,slow=32							
SDPT	**Sand Point**	**85.08**	**329**	P		**P**	**17 30 30.8**	**+1.0**
	baz=58							
KIBK	**Kibwezi**	**85.18**	**94**	P		**P**	**17 30 31.6**	**+0.3**
TIXI	**Tiksi**	**86.44**	**2**	LR		LR	18 04 43.9	
	comp=Z,178nm,20.2s,baz=0.0,slow=32							
TIXI	**Tiksi**	**86.44**	**2**	P		**P**	**17 30 36.3**	**0.0**
TIXI				IAmb		IAmb	17 30 38.0	
	comp=Z,49nm,1.0s							
TIXI	**Tiksi**	**86.44**	**2**	*d*	*i*P	**P**	**17 30 36.7**	**+0.4**
TIXI				pmax		pmax		
	comp=Z,70nm,1.3s							
TIXI				MLR		MLR		
	comp=Z,155nm,17.0s							
BRVK	**Borovoye**	**87.03**	**33**	P		**P**	**17 30 39.2**	**-0.3**
BRVK				IAmb		IAmb	17 30 41.5	
	comp=Z,45nm,1.6s							
BRVK	**Borovoye**	**87.03**	**33**	*d*	*i*P	**P**	**17 30 39.8**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,31nm,1.7s							
BILL	**Bilibino**	**87.09**	**348**	*c*	*i*P	**P**	**17 30 40.0**	**+0.4**
BILL				*e*	PPP	PPP	17 36 03.5	
BILL					*i* S	**S**	**17 41 22.5**	**+3.3**
BILL				pmax		pmax		
	comp=Z,84nm,1.7s							
BVAR	**Borovoye Array**	**87.10**	**33**	LR		LR	18 07 07.0	
	comp=Z,252nm,19.4s,baz=300,slow=34							
PMSA	**Palmer Station**	**87.72**	**188**	*e*P		**P**	**17 30 43.8**	**+1.5**
SPIA	**Saint Paul Isl**	**88.41**	**333**	P		**P**	**17 30 47.0**	**+0.9**
	baz=50							
UNV	**Unalaska Valle**	**88.82**	**329**	IAmb		IAmb	17 30 52.2	
	comp=Z,46nm,1.0s							
UNV	**Unalaska Valle**	**88.82**	**329**	P		**P**	**17 30 48.5**	**+0.4**
	baz=53							
BRZS	**Berezniki**	**90.01**	**35**	*d*	*i*P	**P**	**17 30 53.4**	**-0.3**
BRZS				pmax		pmax		
	comp=Z,15nm,1.7s							
BRZS	**Berezniki**	**90.01**	**35**	⇓	*i*P	**P**	**17 30 53.5**	**-0.3**
	comp=Z,15nm,1.7s,baz=35							
NIKH	**Nikolski High**	**90.47**	**330**	P		**P**	**17 30 56.0**	**+0.1**
	baz=51							
KURK	**Kurchatov**	**92.57**	**32**	P		**P**	**17 31 05.1**	**-0.5**
KURK	**Kurchatov**	**92.57**	**32**	*de*P		**P**	**17 31 05.4**	**-0.2**
KURK				pmax		pmax		
	comp=Z,8.0nm,1.2s							
KURBB	**Kurchatov Arra**	**92.58**	**32**	LR		LR	18 08 50.3	
	comp=Z,350nm,22.0s,baz=290,slow=33							
IUG	**Iuzhnay**	**92.91**	**42**	*d*	*i*P	**P**	**17 31 07.7**	**+0.2**
IUG	**Iuzhnay**	**92.91**	**42**	⇓	*i*P	**P**	**17 31 07.8**	**+0.2**
	baz=42							
ZALV	**Zalesovo Beam**	**93.18**	**27**	P		**P**	**17 31 08.5**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=306,slow=5.1,SNR=23							
ZALV				LR		LR	18 10 27.4	
	comp=Z,131nm,20.3s,baz=303,slow=34							
	comp=Z,3.8nm,0.7s							
DZA	**Taraz**	**93.29**	**41**	*i*	P	**P**	**17 31 09.1**	**-0.1**
	baz=41							
BTLS	**Baital**	**93.65**	**38**	*e*P		**P**	**17 31 10.7**	**0.0**
BTLS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
BTLS	**Baital**	**93.65**	**38**	*e*P		**P**	**17 31 10.7**	**0.0**
	comp=Z,4.7nm,1.1s,baz=38							
WSAR	**Wadi Sarin**	**93.79**	**63**	LR		LR	18 13 56.5	
	comp=Z,196nm,21.7s,baz=316,slow=36							
SEY	**Seymchan**	**94.05**	**352**	P		**P**	**17 31 12.2**	**0.0**
	comp=Z,5.0nm,0.9s,baz=45,slow=3.5,SNR=7.3							
	comp=Z,5.0nm,0.9s							
SEY	**Seymchan**	**94.05**	**352**	⇑*e*P		**P**	**17 31 13.3**	**+1.1**
SEY				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AAK	**Ala-Archa**	**95.34**	**40**	LR		LR	18 13 08.5	
	comp=Z,149nm,18.8s,baz=323,slow=35							
KUU	**Kurty**	**95.66**	**38**	*e*P		**P**	**17 31 18.7**	**-1.3**
KUU	**Kurty**	**95.66**	**38**	*e*P		**P**	**17 31 18.8**	**-1.3**
	baz=38							
YAK	**Yakutsk**	**96.10**	**2**	LR		LR	18 11 07.9	
	comp=Z,212nm,19.5s,baz=88,slow=33							
YAK	**Yakutsk**	**96.10**	**2**	*e*P		**P**	**17 31 21.6**	**+0.1**
YAK				pmax		pmax		
	comp=Z,11nm,1.0s							
YAK				pmax		pmax		
	comp=N,5.0nm,1.4s							
TDK	**Taldyqorghan**	**96.12**	**36**	*e*P		**P**	**17 31 22.1**	**+0.1**
TDK	**Taldyqorghan**	**96.12**	**36**	*e*P		**P**	**17 31 22.2**	**+0.1**
	baz=36							
NRN	**Naryn**	**96.96**	**40**	IAmb		IAmb	17 33 39.4	
	comp=Z,6.4nm,0.5s							
MK31	**Makanchi Array**	**96.98**	**33**	⇑*e*P		**P**	**17 31 25.5**	**-0.5**
MKAR	**Makanchi Array**	**96.98**	**33**	P		**P**	**17 31 25.6**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=310,slow=2.7,SNR=6.6							
MKAR				PKKPbc		**PKKPbc**	**17 48 05.0**	**-2.6**
	comp=Z,0.6nm,0.8s,baz=104,slow=5.1,SNR=5.8							
MKAR				LR		LR	18 13 00.8	
	comp=Z,212nm,20.9s,baz=318,slow=34							
	comp=Z,0.9nm,0.9s							
MKAR	**Makanchi Array**	**96.98**	**33**	P		**P**	**17 31 24.5**	**-1.5**
MKAR	**Makanchi Array**	**96.98**	**33**	P		**P**	**17 31 24.5**	**-1.5**
KPKS	**Kokpek**	**97.25**	**37**	*e*P		Pdif	17 31 27.4	0.0
KPKS				*i* S		**SKSac**	**17 42 04.5**	**-1.1**
KPKS	**Kokpek**	**97.25**	**37**	*e*P		Pdif	17 31 27.5	+0.1
	baz=37							
KPKS				*i* S		**SKSac**	**17 42 04.6**	**-1.1**
	baz=37							
SATY	**Saty**	**97.35**	**38**	*e*P		Pdif	17 31 28.0	+0.1
SATY				pmax		pmax		
	comp=Z,10.0nm,1.8s							
SATY	**Saty**	**97.35**	**38**	*e*P		Pdif	17 31 28.1	+0.2
	comp=Z,10nm,1.8s,baz=38							
MA2	**Magadan**	**97.51**	**352**	LR		LR	18 13 28.1	
	comp=Z,147nm,21.8s,baz=36,slow=34							
SHLS	**Shalkode**	**97.88**	**37**	*d*	*i*P	Pdif	17 31 31.6	+1.3
SHLS				pmax		pmax		
	comp=Z,9.0nm,1.9s							
SHLS	**Shalkode**	**97.88**	**37**	⇓	*i*P	Pdif	17 31 31.7	+1.4
	comp=Z,8.7nm,1.9s,baz=37							
SNAA	**Sanae**	**98.04**	**167**	LR		LR	18 08 34.8	
	comp=Z,262nm,19.7s,baz=12,slow=31							
KSH	**Kashi**	**98.11**	**42**	P		Pdif	17 31 33.0	+1.7
KSH				pP		pwP	17 31 35.7	-0.2
KSH				pmax		pmax		
	comp=Z,14nm,1.1s							
KSH				LR		LR		
	comp=Z,2μm,19.2s							
KSH				LR		LR		
	comp=Z,520nm,17.2s							
OPO	**Ambohidratompo**	**99.46**	**106**	LR		LR	18 12 58.9	
	comp=Z,135nm,19.7s,baz=170,slow=33							
WMQ	**Urumqi**	**101.79**	**32**	*e*P		**Pdif**	**17 31 49.9**	**+2.4**
WMQ				LR		LR		
	comp=Z,270nm,20.3s							
WMQ				LR		LR		
	comp=Z,340nm,22.3s							
WMQ				LR		LR		
	comp=Z,320nm,20.3s							
SONM	**Songino Array**	**106.06**	**19**	PKKPab		PKKPab	17 47 56.0	-3.8
	comp=Z,0.6nm,0.9s,baz=152,slow=6.7,SNR=3.6							
PPT2	**Papeete2**	**108.83**	**258**	*e*LR		LR	18 08 17.0	
	comp=Z,139nm,22.0s							
TBI	**Tubuai**	**110.39**	**252**	*e*LR		LR	18 09 01.4	
	comp=Z,113nm,24.0s							
GOMU	**GeErMu**	**111.11**	**33**	Pdif		**Pdif**	**17 32 28.9**	**-0.7**
GOMU				PP		**PP**	**17 37 06.6**	**+0.2**
GOMU				SS		SS	17 52 40.1	+1.2
GOMU				AMB		AMB		
	comp=Z,51nm,7.2s							
GOMU				LR		LR		
	comp=Z,300nm,21.4s							
GOMU				LR		LR		
	comp=Z,99nm,18.4s							
GOMU				LR		LR		
	comp=Z,340nm,22.9s							
XLT	**XiLinHaoTe**	**112.27**	**14**	*e*PKP		**PKiKP**	**17 36 29.8**	**-0.5**
HHC	**Hu-ho-hao-te**	**113.95**	**19**	*e*PKP		**PKiKP**	**17 36 28.8**	**-4.8**
HHC				LR		LR		
	comp=Z,370nm,21.1s							
HHC				LR		LR		
	comp=Z,210nm,20.6s							
HHC				LR		LR		
	comp=Z,470nm,21.0s							
CN2	**Changchun**	**113.95**	**7**	*e*PKP		**PKiKP**	**17 36 29.5**	**-3.9**
CD2	**Chengdu**	**119.75**	**30**	PKP		**PKiKP**	**17 36 43.6**	**-1.5**
CD2				AMB		AMB		
	comp=Z,160nm,6.6s							
CD2				LR		LR		
	comp=Z,170nm,14.7s							
CD2				LR		LR		
	comp=Z,260nm,19.6s							
MJAR	**Matsushiro Arr**	**121.57**	**356**	PKP		**PKiKP**	**17 36 47.7**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=71,slow=2.6,SNR=5.2							
PZH	**PanZhiHua**	**122.38**	**35**	PKP		**PKiKP**	**17 36 50.3**	**-0.1**
PZH				PP		**PP**	**17 38 24.5**	**-0.5**
PZH				AMB		AMB		
	comp=Z,140nm,6.0s							
PZH				LR		LR		
	comp=Z,660nm,21.9s							
PZH				LR		LR		
	comp=Z,510nm,21.0s							
PZH				LR		LR		
	comp=Z,620nm,21.3s							
ENH	**Enshi**	**122.78**	**25**			**PKiKP**	**17 36 49.5**	**-1.5**
VNDA	**Vanda**	**122.93**	**187**	PKP		**PKiKP**	**17 36 49.6**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=267,slow=1.9,SNR=16							
NJ2	**Nanjing**	**124.20**	**16**	*e*PKP		**PKiKP**	**17 36 52.3**	**-1.4**
GYA	**Guiyang**	**124.87**	**30**	⇑*i*PKP		**PKiKP**	**17 36 54.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**126.97**	**43**	PKP		**PKiKP**	**17 36 59.1**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=296,slow=3.2,SNR=18							
CMAR	**Chiang Mai Arr**	**126.97**	**43**			**PKiKP**	**17 36 57.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**126.97**	**43**	PKIKP		**PKiKP**	**17 36 57.9**	**-1.6**
RPZ	**Rata Peaks**	**142.70**	**226**	PKhKP		PKPpre	17 37 22.9	
	comp=Z,6.4nm,0.9s,baz=255,slow=16,SNR=2.1							
MYLDM	**Lahad Datu**	**148.85**	**31**	PKPdf		**PKPdf**	**17 37 35.4**	**-3.5**
MYLDM						**pPKPbc**	**17 37 43.8**	**+0.6**
DZM	**Mont Dzumac**	**150.14**	**264**	*e*LR		LR	18 27 26.8	
	comp=Z,202nm,22.9s							
WB0	**Warramunga Arr**	**177.69**	**355**	PKPdf		**PKPdf**	**17 38 03.1**	**-2.4**
WB0				PKPab		PKPab	17 39 50.7	-0.8
WR0	**Warramunga Arr**	**177.86**	**351**	PKPdf		**PKPdf**	**17 38 04.2**	**-1.3**
WR0						**pPKPab**	**17 39 52.0**	**-0.7**
WB2	**Warramunga Arr**	**177.86**	**356**	PKPdf		**PKPdf**	**17 38 03.7**	**-1.8**
WB2				PKPab		PKPab	17 39 51.5	-0.8
WRA	**Warramunga Arr**	**177.86**	**356**	PKP		**PKPdf**	**17 38 04.2**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=330,slow=1.1,SNR=8.4							
WRA				PKPab		**pPKPab**	**17 39 52.2**	**-0.4**
	comp=Z,6.5nm,1.0s,baz=346,slow=5.2,SNR=26							
WRA				PP		**PP**	**17 43 44.1**	**-0.1**
	comp=Z,3.4nm,1.2s,baz=350,slow=5.1,SNR=5.1							
WRA	**Warramunga Arr**	**177.86**	**356**			**PKPdf**	**17 38 03.1**	**-2.4**
WRA						**pPKPab**	**17 39 52.0**	**-0.7**
WRA	**Warramunga Arr**	**177.86**	**356**	PKIKP		**PKPdf**	**17 38 03.1**	**-2.4**
ASAR	**Alice Springs**	**178.40**	**171**	PKP		**PKPdf**	**17 38 04.2**	**-1.4**
	comp=Z,1.0nm,0.9s,baz=198,slow=0.5,SNR=7.4							
ASAR				PKPab		**pPKPab**	**17 39 53.1**	**-2.1**
	comp=Z,2.4nm,1.0s,baz=160,slow=3.0,SNR=12							
ASAR				PP		**PP**	**17 43 49.2**	**+2.5**
	comp=Z,0.7nm,1.1s,baz=172,slow=3.5,SNR=2.2							
ASAR	**Alice Springs**	**178.40**	**171**			**PKPdf**	**17 38 03.8**	**-1.7**
ASAR	**Alice Springs**	**178.40**	**171**	PKIKP		**PKPdf**	**17 38 03.8**	**-1.7**

---

*IDC **09** 17:24:20.0±0.6,36°.98N×25°.64E,h158km±6km,mb4.1/31, mbtmp4.6/42,Error ellipse: s-maj=8.2km s-min=7.1km az=140.0*

*DDA **09** 17:24:19.0±0.0,36°.78N×25°.30E,h7km±5km,MW4.2*

*ATH **09** 17:24:20.9,36°.88N×25°.56E,h179km±5km,ML4.2/16, Error ellipse: s-maj=5.3km s-min=1.8km az=122.0*

*NEIC **09** 17:24:21.0±2.1,36°.87N±0°.06×25°.60E±0°.06,h175km±7km, mb4.6/79,ML4.1(THE),Error ellipse: s-maj=8.7km s-min=7.0km az=190.0*

*ISK **09** 17:24:21.1,36°.90N×25°.51E,h176km±1km,ML4.2/16*

*PDG **09** 17:24:22.9±0.4,37°.12N×24°.67E,h1km±11km,ML4.6/14, Error ellipse: s-maj=11.4km s-min=9.5km az=90.0*

*GII **09** 17:24:24.7±0.0,36°.18N×26°.31E,h1km,mb4.3/3,MD4.1/3, Mm4.5/5*

*HLW **09** 17:24:25.2,36°.56N×25°.92E,h32km±45km,Md4.9,Ml5.1*

*THE **09** 17:24:25.3,36°.87N×25°.60E,h155km±3km,ML4.1/5,Error ellipse: s-maj=3.5km s-min=1.8km az=349.0*

ISC 09 17:24:20.4±0.5,36°.90N±0°.03×25°.56E±0°.03,h170km±4km, n531,○2♀07/617,mb4.6/75,44C-30D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.17**	**352**	⇑P		**Pn**	**17 24 45.0**	**+1.9**
APE	**Apeiranthos**	**0.17**	**352**	P		**Pn**	**17 24 45.0**	**+1.9**
APE				S		**Sn**	**17 25 00.5**	**-0.1**
	2μm,0.8s							
APE	**Apeiranthos**	**0.17**	**352**	PG		**Pn**	**17 24 45.1**	**+2.0**
APE				SG		**Sn**	**17 25 01.9**	**+1.3**
APE	**Apeiranthos**	**0.17**	**352**	P		**Pn**	**17 24 45.0**	**+1.9**
APE				AML		AML	17 25 02.4	
	comp=E,4852μm,0.9s							
APE				AML		AML	17 25 02.7	
	comp=N,2410μm,0.6s							
AMGA	**Amorgos Island**	**0.28**	**104**	P		Pn	17 24 36.0	-7.3
CMBO	**Columbo, Santo**	**0.45**	**196**	P		**Pn**	**17 24 45.9**	**+2.1**
CMBO				S		**Sn**	**17 25 00.6**	**-1.1**
	comp=N,6μm,0.6s							
CMBO	**Columbo, Santo**	**0.45**	**196**	P		**Pn**	**17 24 45.9**	**+2.1**
SAP3	**Santorini-Thir**	**0.49**	**200**	P		**Pn**	**17 24 46.0**	**+2.0**
THR8	**Santorini-Mono**	**0.50**	**187**	P		**Pn**	**17 24 46.0**	**+2.0**
THR3	**Thira Island,**	**0.51**	**195**	P		**Pn**	**17 24 46.0**	**+1.9**
THR3	**Thira Island,**	**0.51**	**195**	P		**Pn**	**17 24 46.1**	**+2.0**
THR5	**Thira Island,**	**0.51**	**199**	P		**Pn**	**17 24 46.0**	**+1.9**
THR5	**Thira Island,**	**0.51**	**199**	P		**Pn**	**17 24 46.1**	**+2.0**
SANT	**Santorini**	**0.53**	**189**	⇑P		**Pn**	**17 24 46.3**	**+2.0**
SANT	**Santorini**	**0.53**	**189**	P		**Pn**	**17 24 46.2**	**+2.0**
SANT	**Santorini**	**0.53**	**189**	PG		**Pn**	**17 24 46.4**	**+2.1**
SANT				SG		**Sn**	**17 25 03.9**	**+1.4**
SANT	**Santorini**	**0.53**	**189**	Pn		**Pn**	**17 24 46.1**	**+1.8**
SANT				Sn		**Sn**	**17 25 03.8**	**+1.2**
SANT	**Santorini**	**0.53**	**189**	P		**Pn**	**17 24 46.2**	**+2.0**
SANT				AML		AML	17 25 06.0	
	comp=N,2562μm,0.8s							
SANT				AML		AML	17 25 06.0	
	comp

IDI	Anoyia	1.70	199		Pn	Pn	17 24 53.9	+0.3
IDI				Sn	Sn	Sn	17 25 17.9	-1.4
IDI	Anoyia	1.70	199	P	Pn	Pn	17 24 54.6	+1.0
IDI				AML	AML	AML	17 25 19.8	
	comp=E,9731µm,0.4s							
IDI				AML	AML	AML	17 25 21.6	
	comp=N,4742µm,0.2s							
DION	Dionisos Attik	1.75	313	P	Pn	Pn	17 24 56.3	+2.3
PRNS	Prines Rethymn	1.75	209	P	Pn	Pn	17 24 55.6	+1.5
PTL	Penteli	1.77	311	P	Pn	Pn	17 24 56.6	+2.3
PTL				AML	AML	AML	17 25 22.4	
	comp=N,3216µm,1.0s							
PTL				AML	AML	AML	17 25 23.1	
	comp=E,5743µm,0.8s							
ATH	Athens Observa	1.81	307	P	Pn	Pn	17 24 57.2	+2.5
ATH				AML	AML	AML	17 25 24.8	
	comp=N,6727µm,1.1s							
ATH				AML	AML	AML	17 25 25.5	
	comp=E,3624µm,1.6s							
ZKR	Zakros	1.86	163	P	Pn	Pn	17 24 57.0	+1.8
ZKR	Zakros	1.86	163	PN	Pn	Pn	17 24 57.1	+1.8
ZKR	Zakros	1.86	163	P	Pn	Pn	17 24 57.1	+1.9
ZKR				AML	AML	AML	17 25 25.7	
	comp=E,11137µm,0.6s							
ZKR				AML	AML	AML	17 25 27.9	
	comp=N,4324µm,0.6s							
KARP	Karpathos	1.87	136	P	Pn	Pn	17 24 56.9	+1.5
KARP	Karpathos	1.87	136	PN	Pn	Pn	17 24 56.9	+1.5
KARP	Karpathos	1.87	136		Pn	Pn	17 24 56.5	+1.1
KARP				Sn	Sn	Sn	17 25 21.2	-1.3
KARP	Karpathos	1.87	136	P	Pn	Pn	17 24 56.9	+1.5
BLCB	Balcova	1.89	38	PN	Pn	Pn	17 24 57.0	+1.5
IMMV	Iera Moni Meta	1.92	222	P	Pn	Pn	17 24 57.5	+1.6
IMMV	Iera Moni Meta	1.92	222	PN	Pn	Pn	17 24 57.4	+1.6
IMMV	Iera Moni Meta	1.92	222	P	Pn	Pn	17 24 57.6	+1.6
IMMV				AML	AML	AML	17 25 29.2	
	comp=N,14048µm,0.4s							
IMMV				AML	AML	AML	17 25 36.5	
	comp=E,16511µm,1.0s							
KRND	KRANIDI	1.98	285	P	Pn	Pn	17 24 58.8	+2.3
KRND	KRANIDI	1.98	285	P	Pn	Pn	17 24 58.8	+2.3
AYDN	Tasoluk	2.00	67	P	Pn	Pn	17 24 59.2	+2.4
AYDN				S	Sn	Sn	17 25 26.2	+1.2
EPID	Epidavros	2.07	291	P	Pn	Pn	17 24 59.7	+2.1
KYMI	Kymi, Euboea I	2.08	327	P	Pn	Pn	17 24 59.8	+2.2
KYMI				AML	AML	AML	17 25 30.6	
	comp=N,1270µm,2.3s							
KYMI				AML	AML	AML	17 25 33.5	
	comp=E,1223µm,1.4s							
ANKY	Antikythira Is	2.09	241	P	Pn	Pn	17 24 59.4	+1.6
ANKY	Antikythira Is	2.09	241	P	Pn	Pn	17 24 59.6	+1.8
KTHA	Kythira Island	2.11	253	P	Pn	Pn	17 24 59.8	+1.8
KTHA	Kythira Island	2.11	253	PN	Pn	Pn	17 24 59.2	+1.2
KTHA	Kythira Island	2.11	253	P	Pn	Pn	17 24 59.8	+1.8
KTHA				AML	AML	AML	17 25 27.3	
	comp=N,21501µm,0.7s							
KTHA				AML	AML	AML	17 25 29.2	
	comp=E,10383µm,0.3s							
VLI	Veliai	2.11	266	P	Pn	Pn	17 24 59.4	+1.4
VLI	Veliai	2.11	266	P	Pn	Pn	17 24 59.5	+1.4
VLI				AML	AML	AML	17 25 27.8	
	comp=E,5578µm,0.3s							
VLI				AML	AML	AML	17 25 27.9	
	comp=N,8324µm,0.3s							
AYDB	Zeytinkoy-Aydi	2.13	60	PN	Pn	Pn	17 25 00.5	+2.2
TURN	Turunc	2.16	93	PN	Pn	Pn	17 25 00.6	+2.1
TURN	Turunc	2.16	93	P	Pn	Pn	17 25 00.6	+2.1
TURN				S	Sn	Sn	17 25 28.3	+0.3
ARG	Arkhangelos	2.18	108	P	Pn	Pn	17 25 00.6	+1.9
ARG	Arkhangelos	2.18	108		Pn	Pn	17 25 00.5	+1.7
ARG				Sn	Sn	Sn	17 25 28.1	-0.4
ARG	Arkhangelos	2.18	108	P	Pn	Pn	17 25 00.6	+1.9
ARG				AML	AML	AML	17 25 29.4	
	comp=N,7530µm,0.5s							
ARG				AML	AML	AML	17 25 29.6	
	comp=E,5429µm,0.3s							
YER	Yerkesik	2.19	83	PN	Pn	Pn	17 25 01.9	+2.9
MULA	Mugla, Merkez-	2.24	80	P	Pn	Pn	17 25 02.1	+2.5
MULA				S	Sn	Sn	17 25 30.1	+0.3
SIGR	SIGRI	2.32	6	PN	Pn	Pn	17 25 02.1	+1.8
ZEDA	zmir-Bergama	2.39	30	P	Pn	Pn	17 25 03.1	+1.9
ZEDA				S	Sn	Sn	17 25 32.8	0.0
AYVA	Ayvalik	2.56	20	P	Pn	Pn	17 25 04.9	+1.7
AYVA				S	Sn	Sn	17 25 35.8	-0.7
KOCA	Canakkale, Ayv	2.64	10	P	Pn	Pn	17 25 05.9	+1.8
AKHS	Akhisar	2.66	41	P	Pn	Pn	17 25 06.0	+1.6
TAVA	DENIZLI_Tavas	2.74	77	P	Pn	Pn	17 25 08.2	+2.7
TAVA				S	Sn	Sn	17 25 42.3	+1.9
MANT	Manisa	2.86	55		Pn	Pn	17 25 08.8	+1.8
MANT				Sn	Sn	Sn	17 25 43.6	+0.3
MANT	Manisa	2.86	55	P	Pn	Pn	17 25 08.8	+1.8
MANT				S	Sn	Sn	17 25 41.6	-1.7
ITM	Ithomi	2.92	277		Pn	Pn	17 25 09.9	+2.4
ITM				Sn	Sn	Sn	17 25 45.0	+0.8
BOZC	Bozcaada	2.96	7	P	Pn	Pn	17 25 08.9	+0.8
STEP	BALIKESIR_Sava	3.00	34	P	Pn	Pn	17 25 10.0	+1.5
STEP				S	Sn	Sn	17 25 46.8	+0.6
GOLH	Golhisar	3.22	83	P	Pn	Pn	17 25 13.8	+2.5
GOLH				S	Sn	Sn	17 25 49.6	-1.4
BALY	Balya	3.27	29	P	Pn	Pn	17 25 12.6	+0.8
BALY				S	Sn	Sn	17 25 51.0	-1.1
USAK	Uak-Merkez	3.28	55	P	Pn	Pn	17 25 13.9	+1.8
DEMI	Demirci	3.29	48	P	Pn	Pn	17 25 14.0	+1.8
DEMI				S	Sn	Sn	17 25 52.5	0.0
AKAS	Kas	3.33	100		Pn	Pn	17 25 12.6	-0.2
AKAS				Sn	Sn	Sn	17 25 51.4	-2.1
AKAS	Kas	3.33	100	P	Pn	Pn	17 25 13.6	+0.9
AKAS				S	Sn	Sn	17 25 50.9	-2.5
PASA	Karahalli, USA	3.44	64	P	Pn	Pn	17 25 16.3	+2.2
PASA				S	Sn	Sn	17 25 56.0	+0.1
ELL	Elmali	3.49	91		Pn	Pn	17 25 16.2	+1.3
ELL				Sn	Sn	Sn	17 25 58.2	+0.9
DURS	Dursunbey	3.54	40	P	Pn	Pn	17 25 16.5	+1.1
DURS				S	Sn	Sn	17 25 53.0	-5.3
BRDR	BURDUR-Merkez	3.68	76	P	Pn	Pn	17 25 19.7	+2.6
CAVK	Edirne/Enez-Ca	3.82	7	P	Pn	Pn	17 25 20.4	+1.6
KORT	Korkueli	3.84	87	P	Pn	Pn	17 25 21.8	+2.6
KORT				S	Sn	Sn	17 26 05.9	+0.8
KZIL	AFYON_Kizioren	3.88	68	P	Pn	Pn	17 25 22.1	+2.3
LIT	Litokhoron	4.00	324		Pn	Pn	17 25 22.5	+1.3
LIT				Sn	Sn	Sn	17 26 10.3	+1.6
ALN	Alexandroupoli	4.01	5		Pn	Pn	17 25 22.4	+1.2
BUCA	Burdur, Bucak-	4.02	82	P	Pn	Pn	17 25 23.9	+2.5
ISP	Isparta	4.06	75		Pn	Pn	17 25 24.1	+2.1
AFYN	Afyon-Dinar-K	4.16	69	P	Pn	Pn	17 25 34.4	+11
RDO	Rodhopi	4.24	360	Pn	Pn	Pn	17 25 25.8	+1.6
ULDT	Uludag	4.28	40	P	Pn	Pn	17 25 26.4	+1.4
ULDT				S	Sn	Sn	17 25 53.0	-22
BAGO	Egridir - ISPA	4.30	74	P	Pn	Pn	17 25 27.6	+2.5
AUKIR	Kirka- Seyitga	4.58	57	P	Pn	Pn	17 25 31.8	+3.0
AUBOZ	BOZOYUK	4.62	48	P	Pn	Pn	17 25 30.4	+1.1
YVAC	Isparta, Yalva	4.71	71	P	Pn	Pn	17 25 33.1	+2.6
KDZ	Kurdzhali	4.74	359	*i* P	Pn	Pn	17 25 31.7	+0.9
RZN	Rozhen	4.83	352	*i* P	Pn	Pn	17 25 33.4	+1.4
KEPZ	Antalya-Kepez	4.84	88	P	Pn	Pn	17 25 34.2	+2.0
BORA	Eskisehir	4.86	51		Pn	Pn	17 25 34.1	+1.7
MMB	Musomiste	4.89	344	*i* P	Pn	Pn	17 25 33.4	+0.7
SGAZ	Eskisehir, Sey	4.92	56	P	Pn	Pn	17 25 35.5	+2.4
SEDI	Konya, Seydise	4.98	82	P	Pn	Pn	17 25 36.5	+2.5
DOGA	KONYA_Doganhis	5.00	74	P	Pn	Pn	17 25 37.1	+2.8
KIRK	Kirklareli	5.02	13	P	Pn	Pn	17 25 35.0	+0.7
DIM	Dimitrovgrad	5.14	360	*i* P	Pn	Pn	17 25 37.4	+1.5
GEYV	SAKARYA_Geyve	5.15	45	P	Pn	Pn	17 25 37.4	+1.4
ARMN	Kirklareli, Me	5.16	16	P	Pn	Pn	17 25 37.3	+1.1
PLD	Plovdiv	5.24	353	*i* P	Pn	Pn	17 25 38.9	+1.7
KBN	Korca	5.26	316	Pn	Pn	Pn	17 25 39.8	+2.2
KKB	Krupnik	5.32	340	*i* P	Pn	Pn	17 25 39.6	+1.4
KEK	Kerkira	5.33	304	Pn	Pn	Pn	17 25 39.3	+0.9
AUSIV	SIVRIHISAR	5.35	60	P	Pn	Pn	17 25 41.5	+2.7
SLUM	Salum	5.40	183	P	Pn	Pn	17 25 40.3	+0.8
	baz=187							
SLUM				S	Sn	Sn	17 26 33.3	-8.2
	baz=187							
KDHN	Kadinhani	5.45	71	P	Pn	Pn	17 25 42.5	+2.4
AUMIH	MIHALICIK	5.52	56	P	Pn	Pn	17 25 43.4	+2.3
KAND	Kocaeli-Kandir	5.53	39	P	Pn	Pn	17 25 42.5	+1.5
BTAS	Taskesti	5.61	48	P	Pn	Pn	17 25 44.3	+2.1
MDUB	Mudurnu	5.67	49	Pn	Pn	Pn	17 25 44.2	+1.2
MATC	Matruh	5.71	165	P	Pn	Pn	17 25 44.6	+1.1
	baz=167							
VLO	Vlora	5.93	309	Pn	Pn	Pn	17 25 47.1	+0.9
VTS	Vitosha	5.98	343	⇓P	Pn	Pn	17 25 47.9	+0.8
VTS	Vitosha	5.98	343		Pn	Pn	17 25 47.9	+0.8
VTS	Vitosha	5.98	343	*i* P	Pn	Pn	17 25 47.2	+0.1
TIR	Tirane	6.27	317		Pn	Pn	17 25 51.2	+0.4
BR231	Keskin MP Arra	6.38	60	Pn	Pn	Pn	17 25 55.2	+2.7
SCTE	Santa Cesarea	6.40	302	Pn	Pn	Pn	17 25 52.3	-0.2
ANTO	Ankara	6.41	60	⇑P	Pn	Pn	17 25 55.5	+2.8
ANTO	Ankara	6.41	60	Pn	Pn	Pn	17 25 54.7	+2.0
CSS	Mathiatis	6.59	105	Pn	Pn	Pn	17 25 54.3	-0.8
RAZG	Razgrad	6.70	6	⇓P	Pn	Pn	17 25 57.4	+1.0
BR131	Keskin Array S	6.95	64		Pn	Pn	17 26 01.4	+1.5
BRTR	Keskin Array B	6.95	64	P	Pn	Pn	17 26 01.8	+1.9
	comp=E,39nm,0.9s,baz=248,slow=15,SNR=119							
BRTR	Keskin Array B	6.95	64	Pn	Pn	Pn	17 26 01.4	+1.5
ULC	Ulcinj	7.03	318	⇓*i* Pn	Pn	Pn	17 26 00.6	-0.2
ULC				*e*Sn	Sn	Sn	17 27 14.1	-5.9
BLKB	Belogradchik	7.07	343	⇑P	Pn	Pn	17 26 01.9	+0.6
PVY	Plav	7.14	325	*e*Pn	Pn	Pn	17 26 02.2	-0.1
PVY				*i* Sn	Sn	Sn	17 27 16.6	-6.1
VLAD	Vladila	7.14	353	⇓P	Pn	Pn	17 26 02.7	+0.4
DRME	Dracevica, Mon	7.22	319	⇑*i* Pn	Pn	Pn	17 26 02.7	-0.6
DRME	Dracevica, Mon	7.22	319	⇓*i* Pn	Pn	Pn	17 26 03.1	-0.2
DRME				*i* Sn	Sn	Sn	17 27 18.4	-6.0
TIP	Timpagrande	7.31	291	⇑P	Pn	Pn	17 27 25.6	-1.1
TIP	Timpagrande	7.31	291		Pn	Pn	17 26 04.2	-0.4
TIP	Timpagrande	7.31	291	⇑P	Pn	Pn	17 26 03.9	-0.7
SGRR	Singureni	7.32	2	⇓P	Pn	Pn	17 26 05.4	+0.8
BOVS	Bovan	7.34	338	⇓P	Pn	Pn	17 26 06.1	+1.2
PDG	Podgorica	7.36	321	⇑P	Sn	Sn	17 27 23.2	-4.4
PDG	Podgorica	7.36	321	Pn	Pn	Pn	17 26 04.8	-0.4
PDG	Podgorica	7.36	321	⇓P	Pn	Pn	17 26 04.9	-0.2
TTG	Podgorica	7.36	321	⇓*i* Pn	Pn	Pn	17 26 04.7	-0.4
TTG				*i* Sn	Sn	Sn	17 27 21.9	-5.8
IVA	Berane	7.38	326	*e*Pn	Pn	Pn	17 26 05.8	+0.2
IVA				*i* Sn	Sn	Sn	17 27 22.8	-5.7
RASA	Rasa	7.41	9	⇑P	Pn	Pn	17 26 06.8	+1.1
ICOR	Ion Corvin	7.41	13	⇑P	Pn	Pn	17 26 07.1	+1.4
BUM	Brajici-Budva	7.45	318	⇓*i* Pn	Pn	Pn	17 26 05.9	-0.5
BUM				*i* Sn	Sn	Sn	17 27 23.5	-6.6
KOME	Kolasin	7.54	324	⇓*i* Pn	Pn	Pn	17 26 07.9	+0.2
KOME				*i* Sn	Sn	Sn	17 27 26.1	-6.2
ILGA	Ilgaz	7.59	54		Pn	Pn	17 26 09.8	+1.4
CEME	Cevo	7.61	320	⇑*i* Pn	Pn	Pn	17 26 07.9	-0.7
CEME				*i* Sn	Sn	Sn	17 27 27.7	-6.2
SWA2		7.64	181	P	Pn	Pn	17 26 09.1	+0.2
	baz=184							
NKME	Niksic	7.75	321	⇑*i* Pn	Pn	Pn	17 26 10.2	-0.2
NKME				*e*Sn	Sn	Sn	17 27 31.4	-5.9
HCY	Herceg Novi	7.77	318	*e*Pn	Pn	Pn	17 26 09.4	-1.2
HCY	Herceg Novi	7.77	318	⇑*i* Pn	Pn	Pn	17 26 09.7	-0.9
HCY				*e*Sn	Sn	Sn	17 27 30.8	-6.7
NKY	Niksic	7.77	322	⇑*i* Pn	Pn	Pn	17 26 10.2	-0.5
NKY				*e*Sn	Sn	Sn	17 27 31.7	-6.0
SULR		7.79	4	⇑P	Pn	Pn	17 26 10.4	-0.4
CEL	Celeste	7.79	283	Pn	Pn	Pn	17 26 10.3	-0.7
TIRR	Tirgusor	7.85	15	⇑P	Pn	Pn	17 26 11.4	-0.2
TIRR	Tirgusor	7.85	15	Pn	Pn	Pn	17 26 11.2	-0.5
MATE	Matera	7.86	301	⇓P	Pn	Pn	17 26 10.5	-1.3
MATE				⇑P	Sn	Sn	17 27 32.7	-7.0
TLBR	Topalu	7.87	13	⇑P	Pn	Pn	17 26 12.3	+0.5
PLE	Pljevlja	7.97	326	⇓*i* Pn	Pn	Pn	17 26 13.1	-0.3
PLE				*i* Sn	Sn	Sn	17 27 36.9	-5.7
HARR	Harsova	7.99	12	⇓P	Pn	Pn	17 26 13.6	+0.2
BRY	Bratogost	8.06	320	*e*Pn	Pn	Pn	17 26 13.6	-1.4
BRY	Bratogost	8.06	320	⇑*i* Pn	Pn	Pn	17 26 14.2	-0.4
BRY				*i* Sn	Sn	Sn	17 27 38.3	-6.5
DJES	Djerdap	8.09	344	⇑P	Pn	Pn	17 26 16.1	+1.3
UPM	Unac-Piva	8.10	323	*e*Pn	Pn	Pn	17 26 15.7	+0.6
UPM	Unac-Piva	8.10	323	⇓*i* Pn	Pn	Pn	17 26 15.2	+0.1
UPM				*i* Sn	Sn	Sn	17 27 39.8	-6.0
RUDO	Rudo	8.21	327	*e*Pn	Pn	Pn	17 26 16.1	-0.3
TPGR	Topolog	8.24	14	⇑P	Pn	Pn	17 26 16.1	-0.7
CUC	Castrocucco	8.24	295		Pn	Pn	17 26 16.8	-0.1
BZK	Bozkurt	8.26	50	⇓P	Pn	Pn	17 26 17.4	+0.4
BZK	Bozkurt	8.26	50	Pn	Pn	Pn	17 26 17.4	+0.4
MTUR	Matau	8.33	358	⇓P	Pn	Pn	17 26 18.9	+0.9
HMYD	Mayadein	8.33	147	P	Pn	Pn	17 26 18.8	+0.6
	baz=147							
DIVS	Divibare	8.35	331	Pn	Pn	Pn	17 26 18.9	+0.7
DIVS	Divibare	8.35	331	⇑*i* Pn	Pn	Pn	17 26 19.5	+1.2
BNN	Bunyan	8.37	73	Pn	Pn	Pn	17 26 19.7	+1.1
HNAT	Natroun	8.39	148	P	Pn	Pn	17 26 19.5	+0.6
	baz=149							
MDVR	Moldovita	8.39	341	⇑P	Pn	Pn	17 26 19.7	+0.8
STON	Ston	8.49	317	⇑*i* Pn	Pn	Pn	17 26 16.9	-3.1
CFR	Carcaliu	8.49	12	⇑P	Pn	Pn	17 26 19.2	-0.9
NEHR	Nehoiu	8.54	3	⇑P	Pn	Pn	17 26 22.2	+1.5
MLR	Muntele Rosu	8.59	2	⇓P	Pn	Pn	17 26 22.8	+1.3
MLR	Muntele Rosu	8.59	2	P	Pn	Pn	17 26 22.6	+1.1
	comp=E,17nm,0.7s,baz=213,slow=3.7,SNR=29							
MLR	Muntele Rosu	8.59	2	Pn	Pn	Pn	17 26 21.7	+0.2
TLCR		8.63	16	⇓P	Pn	Pn	17 26 22.4	+0.4
LOT	Lotru	8.64	352	⇑P	Pn	Pn	17 26 22.7	+0.4
KOT	Kottamia	8.71	141	P	Pn	Pn	17 26 23.9	+0.8
	baz=141							
KOT				S	Sn	Sn	17 27 49.9	-10
	baz=141							
RYAN	Fayoum	8.74	152	P	Pn	Pn	17 26 23.4	-0.1
	baz=152							
HNTI	Hanita	8.76	113	Pn	Pn	Pn	17 26 23.1	-0.7
HNTI				Sn	Sn	Sn	17 27 55.2	-6.2
BHL	Bhannes	8.77	107	*e*P	Pn	Pn	17 26 22.0	-1.9
DQRL	Deir Qamar	8.78	108	*e*P	Pn	Pn	17 26 22.3	-1.8
HHAG	Hagoal	8.82	140	P	Pn	Pn	17 26 25.3	+0.7
	baz=140							
HSAF	As Saff	8.82	144	P	Pn	Pn	17 26 25.4	+0.7
	baz=144							
OFRI	`Ofer	8.85	116	Pn	Pn	Pn	17 26 24.2	-0.8
OFRI				Sn	Sn	Sn	17 27 57.0	-6.7
HWQ	Hawqa	8.86	104	*e*P	Pn	Pn	17 26 24.6	-0.5
VAE	Valguarnera	8.91	277	P	Pn	Pn	17 26 26.6	+0.8
	comp=E,123nm,0.8s,baz=84,slow=3.3,SNR=30							
VAE				S	Sn	Sn	17 28 00.4	-4.8
	comp=E,27nm,0.3s,baz=205,slow=22,SNR=2.1							
GLL	Jalalah	8.93	143	P	Pn	Pn	17 26 26.5	+0.4
	baz=143							
BLGI	Bet Lehem HaGe	8.94	115	Pn	Pn	Pn	17 26 26.2	0.0
COVR	Voineasa-Covas	8.95	3	⇑P	Pn	Pn	17 26 27.3	+1.2
RAFF	Raffo Rosso	8.96	275	Pn	Pn	Pn	17 26 26.1	-0.2
MMA0B	Mount Meron ar	8.96	113	Pn	Pn	Pn	17 26 25.6	-0.9
MMAI	Mount Meron Ar	8.96	113	P	Pn	Pn	17 26 25.7	-0.8
	comp=E,126nm,0.3s,baz=314,slow=12,SNR=619							
MMAI				S	Sn	Sn	17 28 00.4	-5.9
	comp=E,87nm,0.5s,baz=309,slow=23,SNR=17							
WDD	Wied Dalam	8.96	266		Pn	Pn	17 26 27.2	+0.8
PLOR	Plostina	8.98	5	⇓P	Pn	Pn	17 26 27.5	+0.9
VRI	Vrincioaia	9.00	5	⇓P	Pn	Pn	17 26 27.6	+0.8
SGRT	San Giovanni R	9.02	306	Pn	Pn	Pn	17 26 28.5	-1.6
GEM	Giv'at Ha'Em	9.06	111	Pn	Pn	Pn	17 26 27.2	-0.6
GEM				Sn	Sn	Sn	17 28 03.1	-5.6
RCY	Rachaya	9.07	109	*e*P	Pn	Pn	17 26 27.4	-0.6
SLTI	Sal'it	9.09	118	Pn	Pn	Pn	17 26 27.0	-1.2
SLTI				Sn	Sn	Sn	17 28 03.5	-6.0
NATI	Neve Ativ	9.10	111	Pn	Pn	Pn	17 26 27.8	-0.4
NATI				Sn	Sn	Sn	17 28 04.6	-4.8
VARL	Varlezi	9.15	10	⇓P	Pn	Pn	17 26 30.1	+1.3
BZS	Buzias	9.20	342	⇓P	Pn	Pn	17 26 30.3	+0.9
GHRR		9.26	8	⇑P	Pn	Pn	17 26 32.3	+2.1
MMLI	Mount Malkishu	9.26	116	Pn	Pn	Pn	17 26 30.3	-0.1
MMLI				Sn	Sn	Sn	17 28 08.6	-4.9
SUZ	Suez	9.30	137	P	Pn	Pn	17 26 31.2	+0.2
	baz=137							
FRGS	Fruska Gora	9.32	334	⇑P	Pn	Pn	17 26 33.2	+2.2
FRGS	Fruska Gora	9.32	334	⇑*i* Pn	Pn	Pn	17 26 32.9	+1.9
AMAZ	Amatzia	9.41	122	Pn	Pn	Pn	17 26 32.2	-0.2
AMAZ				Sn	Sn	Sn	17 28 11.1	-6.1
HMDT	Nahal Hemdat	9.43	117	Pn	Pn	Pn	17 26 32.1	-0.5
HMDT				Sn	Sn	Sn	17 28 12.3	-5.3
KZIT	Kziot	9.47	127	Pn	Pn	Pn	17 26 32.4	-0.7
KZIT				Sn	Sn	Sn	17 28 11.5	-6.9
PAOL	Paolisi	9.50	299		Pn	Pn	17 26 32.4	-1.1
NBNS	Bani Suef	9.56	148	P	Pn	Pn	17 26 35.0	+0.6
	baz=148							
SRKY	Kupres RS	9.59	321	*e*Pn	Pn	Pn	17 26 35.2	+0.5
TESR	Tescani	9.64	5	⇓P	Pn	Pn	17 26 35.0	-0.2
YTIR	Yattir	9.65	122	Pn	Pn	Pn	17 26 35.5	-0.1
YTIR				Sn	Sn	Sn	17 28 16.8	-6.2
DSI	Dead Sea	9.71	120	Pn	Pn	Pn	17 26 36.4	+0.1
DSI				Sn	Sn	Sn	17 28 18.7	-5.6
SIRR	Siria	9.80	344	⇑P	Pn	Pn	17 26 38.9	+1.5
MGRS	Mrkonjic Grad	9.88	322	*e*Pn	Pn	Pn	17 26 38.6	+0.1
GHAJ	Ghor Haditha	10.00	121	Pn	Pn	Pn	17 26 40.4	+0.3
GHAJ	Ghor Haditha	10.00	121	Pn	Pn	Pn	17 26 40.1	+0.1
GHAJ				Sn	Sn	Sn	17 28 24.8	-6.3
BIZ	Bicaz	10.04	2	⇑P	Pn	Pn	17 26 41.3	+0.8
GIRR	Girov	10.07	4	⇑P	Pn	Pn	17 26 41.1	+0.2
BLY	Banja Luka	10.08	324	⇑*i* Pn	Pn	Pn	17 26 40.4	-0.6
DRGR		10.11	349	⇑P	Pn	Pn	17 26 43.6	+2.2
ZFRI	Zfri	10.21	126	Pn	Pn	Pn	17 26 41.6	-1.2
A050A	Klekovaca	10.21	321	⇑*i* Pn	Pn	Pn	17 26 42.0	-0.8
KRMI	Paran Flat	10.21	129	Pn	Pn	Pn	17 26 41.8	-1.1
KRMI				Sn	Sn	Sn	17 28 29.5	-6.8
PRNI	Paran	10.23	127	Pn	Pn	Pn	17 26 42.1	-1.0
A051A	Mrakovica	10.41	324	⇑*i* Pn	Pn	Pn	17 26 44.4	-1.0
HRFI	Mount Harif	10.46	128	Pn	Pn	Pn	17 26 45.4	-0.8
HRFI				Sn	Sn	Sn	17 28 36.1	-6.2
ASF	Jabal al Asfar	10.47	113	P	Pn	Pn	17 26 47.2	+0.9
	comp=E,32nm,0.3s,baz=301,slow=9.6,SNR=107							
ASF				S	Sn	Sn	17 28 37.9	-4.7
	comp=E,10nm,0.4s,baz=340,slow=5.8,SNR=1.8							
MORH	Mrgy, Hungar	10.65	333	⇓P	Pn	Pn	17 26 50.4	+2.0
MORH	Mrgy, Hungar	10.65	333	P	Pn	Pn	17 26 50.5	+2.2
EIL	Elat	10.66	130	P	Pn	Pn	17 26 47.9	-0.9
	comp=E,29nm,0.5s,baz=300,slow=2.8,SNR=43							
EIL				S	Sn	Sn	17 28 37.9	-9.2
	comp=E,118nm,0.5s,baz=287,slow=19,SNR=14							
EIL	Elat	10.66	130	Pn	Pn	Pn	17 26 47.7	-1.1
EIL				Sn	Sn	Sn	17 28 40.7	-6.4
BURAR	Bucovina Array	10.71	359	⇓P	Pn	Pn	17 26 51.0	+1.7
BURAR	Bucovina Array	10.71	359	Pn	Pn	Pn	17 26 49.9	+0.5
BUR08	Bucovina Ar. S	10.74	359	Pn	Pn	Pn	17 26 50.1	+0.4
KOVH	Kovagotottos	10.74	331	P	Pn	Pn	17 26 50.7	+1.0
KOVH	Kovagotottos	10.74	331

comp=Z,24nm,0.9s
GRA1 Grafenberg Arr 16.47 325 P Pn 17 28 01.6 -0.1
GRA1 IAmb IAmb 17 28 04.5
comp=Z,27nm,0.9s
SENIN Lac Senin/Sane 16.57 310 Pn 17 28 03.5 +0.4
SENIN IAmb IAmb 17 28 15.2
comp=Z,28nm,1.0s
MAHO Mahon 16.95 287 Pn 17 28 07.5 0.0
CLL Collm 16.95 332 Pn 17 28 07.5 +0.1
CLL Collm 16.95 332 eS Sn 17 31 16.0 -1.4
CLL Collm 16.95 332 *i* P Pn 17 28 08.3 +0.9
comp=Z,12nm,0.7s
CLL Collm 16.95 332 *ex* x 17 28 15.0
CLL Collm 16.95 332 *ep*P pP 17 28 37.0 +2.1
BFO Black Forest 17.02 318 P 17 28 07.8 +0.4
BFO IAmb IAmb 17 28 14.1
comp=Z,14nm,0.6s
GKP Gorka Klasztor 17.37 343 *e*P Pn 17 28 12.6 +0.3
ECH Echery 17.60 316 P P 17 28 13.9 +0.2
MNK Minsk 17.68 4 *i* S S 17 31 30.3 +1.2
SSB Saint Sauveur 17.88 304 P Pn 17 28 18.5 -0.1
IGN Ignalina 18.46 1 *e*P P 17 28 24.0 +1.0
PABE Paberze 18.64 357 *e*P P 17 28 25.6 +0.7
PABE Paberze 18.64 357 *e*P P 17 28 25.2 +0.3
ISAL Salakas 18.68 1 *e*P P 17 28 26.4 +1.1
WLF Walferdange 18.96 318 P Pn 17 28 30.1 -1.1
WLF IAmb IAmb 17 28 58.0
comp=Z,17nm,1.0s
VSVD Vaisvydziai 19.12 357 *e*P P 17 28 30.1 0.0
PBUR Paburge 19.29 354 *e*P P 17 28 32.8 +0.9
RGN Rugen 19.56 338 P P 17 28 35.5 +0.7
BSD Bornholm Skovb 19.62 342 *e*P P 17 28 34.9 -0.6
BSD Bornholm Skovb 19.62 342 *i* P P 17 28 34.0 -1.5
BSD *i* P P **17 28 34.9 -0.6**
BSD IAmb IAmb 17 28 35.5
comp=Z,38nm,0.7s
OBN Obninsk 19.71 19 P P 17 28 36.2 -0.3
comp=Z,16nm,0.6s,baz=88,slow=1.6,SNR=9.2
OBN Obninsk 19.71 19 P P 17 28 35.9 -0.6
CLF Chambon-Foret 20.39 310 P P 17 28 45.4 +1.6
CLF IAmb IAmb 17 28 48.9
comp=Z,18nm,0.6s
BLEU Blekinge 20.49 344 *e*P P 17 28 43.8 -1.0
SLIT Slitere, Latvi 20.85 355 *e*P P 17 28 48.4 -0.2
SLIT IAmb IAmb 17 29 05.6
comp=Z,154nm,0.7s
BJUU Bjuv 20.97 340 *e*P P 17 28 49.1 -0.7
DEL Delary 21.10 342 *i* P P 17 28 50.4 -0.9
VSU Vasula 21.59 2 *e*P P 17 28 56.3 -0.2
VSU IAmb IAmb 17 29 04.3
comp=Z,152nm,0.6s
RAYN Ar Rayn 21.73 122 P P 17 29 00.0 +1.6
MTSE Matsula 21.86 358 *e*P P 17 28 58.3 -0.9
FABU Falkenberg 21.86 341 *e*P P 17 28 59.3 0.0
BELG Belogornoye 21.92 38 P P 17 28 59.6 -0.3
comp=Z,19nm,0.8s,baz=247,slow=2.8,SNR=13
BELG PcP **PcP 17 32 52.3 +0.4**
comp=Z,20nm,0.6s,baz=102,slow=12,SNR=9.3
comp=Z,19nm,0.8s
ONAU Onsala 22.42 340 *e*P P 17 29 04.5 -0.2
MUD Monsted U'grnd 22.45 336 *e*P P 17 29 07.2 +2.2
MUD IAML 17 29 07.7
comp=Z,10nm,0.7s
TJOU Tjoern 23.05 341 *e*P P 17 29 10.6 +0.1
ESBB Sonseca Array 23.29 286 P P 17 29 14.3 +1.4
ESBB IAmb IAmb 17 29 15.9
comp=Z,13nm,0.9s
ESDC Sonseca Array 23.29 286 P P 17 29 14.8 +1.8
comp=Z,9.6nm,0.8s,baz=79,slow=9.7,SNR=61
comp=Z,9.6nm,0.8s
ESDC Sonseca Array 23.29 286 P P 17 29 14.4 +1.5
MEF Metsahovi 23.35 359 *e*P P 17 29 13.0 -0.1
PAB San Pablo 23.59 286 P P 17 29 15.2 -0.6
PAB IAmb IAmb 17 29 19.0
comp=Z,11nm,0.9s
RAF Rauma 24.26 356 *e*P P 17 29 21.1 -0.3
HFS Hagfors 24.46 346 P P 17 29 22.5 -0.8
comp=Z,6.0nm,0.4s,baz=149,slow=11,SNR=46
comp=Z,6.0nm,0.4s
FINES FINESS Array B 24.57 1 P P 17 29 23.9 -0.3
comp=Z,23nm,0.6s,baz=170,slow=10,SNR=54
FINES PcP **PcP 17 32 58.1 +0.8**
comp=Z,3.0nm,0.5s,baz=145,slow=2.1,SNR=6.5
FINES ScP **ScP 17 36 19.0 -1.0**
comp=Z,0.8nm,0.6s,baz=135,slow=0.5,SNR=4.0
comp=Z,23nm,0.6s
FINES FINESS Array B 24.57 1 P P 17 29 23.8 -0.4
FIA1 FINESS Array S 24.57 1 P P 17 29 23.9 -0.3
FIA1 IAmb IAmb 17 29 27.5
comp=Z,40nm,0.9s
SNART Snartemo 24.60 336 *e*P P 17 29 25.1 +0.5
OSL Oslo 24.95 342 *e*P P 17 29 27.5 -0.1
KONO Kongsberg 24.99 341 P P 17 29 27.9 -0.2
KONO IAmb IAmb 17 29 29.5
comp=Z,21nm,1.1s
KONO Kongsberg 24.99 341 *e*P P 17 29 28.7 +0.6
MDT Midelt 25.03 270 P P 17 29 30.4 +1.5
comp=Z,18nm,0.8s,baz=89,slow=12,SNR=30
comp=Z,18nm,0.8s
PBRG Braganca 25.36 291 *e*P P 17 29 35.8 +4.1
NC602 NORSAR Array S 25.47 344 P P 17 29 31.7 -0.7
NC602 IAmb IAmb 17 29 34.9
comp=Z,16nm,0.8s
NC602 NORSAR Array S 25.47 344 *e*P P 17 29 32.3 -0.1
NC602 IAmb IAmb 17 29 35.0
comp=Z,13nm,0.9s
MVO Moncorvo 25.58 290 *e*P P 17 29 37.6 +3.8
BLS5 Blasjo 25.70 337 *e*P P 17 29 34.8 +0.3
BLS5 IAmb IAmb 17 29 37.1
comp=Z,9.8nm,0.7s
NAO01 NORSAR Array S 25.71 343 P P 17 29 33.5 -1.1
NB201 NORSAR Array S 25.80 344 P P 17 29 35.1 -0.4
NB2 NORSAR Subarra 25.81 344 P P 17 29 35.2 -0.3
comp=Z,1.6nm,0.5s,baz=152,slow=9.3
NB2 NORSAR Subarra 25.81 344 P P 17 29 35.2 -0.3
baz=152,slow=9.3
NOA NORSAR Array B 25.81 344 P P 17 29 35.4 -0.2
comp=Z,1.6nm,0.5s,baz=147,slow=9.4,SNR=14
comp=Z,1.6nm,0.5s
PBAR Barrancos 25.81 283 *e*P P 17 29 37.8 +2.0
GEYT Alibeck 25.81 78 P P 17 29 33.9 -2.0
comp=Z,1.2nm,0.6s,baz=269,slow=9.7,SNR=2.0
GEYT PcP **PcP 17 33 01.8 +1.1**
comp=Z,1.8nm,0.4s,baz=248,slow=7.8,SNR=4.2
comp=Z,1.2nm,0.6s
NBO00 NORSAR Array S 25.90 343 P P 17 29 35.2 -1.1
NC303 NORSAR Array S 25.94 344 P P 17 29 36.3 -0.3
NC303 IAmb IAmb 17 30 02.8
comp=Z,18nm,1.2s
PMRV Marv??o 25.95 286 *e*P P 17 29 39.1 +2.1
NC204 NORSAR Array S 26.12 344 P P 17 29 37.8 -0.5
NC204 IAmb IAmb 17 29 48.9
comp=Z,22nm,0.9s
POLO Lamas de Olo 26.16 290 *e*P P 17 29 40.2 +1.3
SKAR Skarslia 26.21 341 *e*P P 17 29 39.0 -0.1
PVIS Viseu 26.25 289 *e*P P 17 29 44.4 +4.6
PVAQ Vaqueiros 26.45 281 *e*P P 17 29 41.9 +0.4
PBEJ Beja 26.48 283 *e*P P 17 29 46.8 +5.1
EVO Evora 26.53 284 *e*P P 17 29 42.6 +0.4
PCAS Casmilo, Conde 26.75 287 *e*P P 17 29 41.6 -2.6
MESJ Messejana 26.78 282 *e*P P 17 29 49.4 +4.9
EKA Eskdalemuir Ar 26.83 323 P P 17 29 45.0 +0.3
comp=Z,4.6nm,0.3s,baz=116,slow=11,SNR=17
comp=Z,4.6nm,0.3s
AKTO Aktyubinsk 26.85 49 P P 17 29 44.9 0.0
comp=Z,0.9nm,0.4s,baz=227,slow=9.9,SNR=3.7
AKTO PcP **PcP 17 33 03.4 +0.6**
comp=Z,1.1nm,0.3s,baz=241,slow=4.5,SNR=2.3
comp=Z,0.9nm,0.4s
ASK Askoy 26.93 338 *e*P P 17 29 45.5 0.0
PNCL Nicolau / Gran 26.98 283 *e*P P 17 29 52.2 +6.0
DOMB Dombas 27.19 343 *e*P P 17 29 48.5 +0.7
DOMB IAmb IAmb 17 29 50.0
comp=Z,6.7nm,0.7s
HYA Hoyanger 27.19 339 *e*P P 17 29 47.5 -0.2
HYA IAmb IAmb 17 29 48.2
comp=Z,14nm,0.9s
ABKAR Akbulak array 27.74 53 P P 17 29 52.9 +0.1
ABKAR Akbulak array 27.74 53 P P 17 29 53.0 +0.1
ABKAR IAmb IAmb 17 30 22.0
comp=Z,14nm,1.0s
AKN Aaknes 27.81 341 *e*P P 17 29 53.7 +0.4
AKN IAmb IAmb 17 29 55.1
comp=Z,24nm,1.2s
NSS Namsos 28.84 348 *e*P P 17 30 02.3 -0.1
NSS IAmb IAmb 17 30 04.3
comp=Z,8.1nm,0.8s
ARU Arti 29.48 38 P P 17 30 08.6 +0.5
comp=Z,2.7nm,0.4s,baz=252,slow=9.9,SNR=5.1
ARU PcP **PcP 17 33 09.8 +0.7**
comp=Z,1.5nm,0.4s,baz=312,slow=3.0,SNR=5.1
comp=Z,2.7nm,0.4s
MOR8 Moi Rana 30.02 351 *e*P P 17 30 13.5 +0.7
MOR8 IAmb IAmb 17 30 13.7
comp=Z,7.8nm,0.6s
KONS Konsvik 30.50 350 *e*P P 17 30 17.3 +0.2
KONS IAmb IAmb 17 30 19.1
comp=Z,29nm,1.3s
FAUS Fauske 31.09 352 IAmb IAmb 17 30 22.6
comp=Z,18nm,0.9s
STEI Steigen 31.62 353 *e*P P 17 30 27.1 +0.3
STEI IAmb IAmb 17 30 27.5
comp=Z,25nm,0.7s
TOA0 Torodi Ar. Sit 31.87 228 P P 17 30 31.4 +1.8
TORD Torodi Ar. Bea 31.87 228 P P 17 30 32.3 +2.7
comp=Z,4.2nm,0.7s,baz=36,slow=8.8,SNR=20
TORD PcP **PcP 17 33 17.2 +1.1**
comp=Z,1.0nm,0.5s,baz=7.2,slow=4.0,SNR=4.6
comp=Z,4.2nm,0.7s
KTK1 Kautokeino 32.19 358 *e*P P 17 30 31.8 0.0
ARA0 ARCESS Array S 32.69 360 *e*P P 17 30 36.1 0.0
ARA0 IAmb IAmb 17 30 36.4
comp=Z,17nm,0.9s
ARCES ARCESS Array B 32.69 360 P P 17 30 35.7 -0.4
comp=Z,12nm,0.7s,baz=172,slow=9.3,SNR=33
ARCES PcP **PcP 17 33 17.9 +0.3**
comp=Z,1.4nm,0.4s,baz=184,slow=3.0,SNR=7.9
comp=Z,12nm,0.7s
ARCES ARCESS Array B 32.69 360 P P 17 30 35.8 -0.4
ARCES IAmb IAmb 17 30 36.7
comp=Z,15nm,0.8s
TRO Tromso 32.99 356 *e*P P 17 30 38.5 -0.2
CHGR Chuyangaron 34.27 74 P P 17 30 49.7 -0.6
CHGR IAmb IAmb 17 31 15.3
comp=Z,19nm,0.9s
KK31 Karatay Array 34.66 65 P P 17 30 53.4 -0.1
KKAR Karatay Array 34.66 65 P P 17 30 53.9 +0.4
KKAR Karatay Array 34.66 65 P P 17 30 54.0 +0.5
AAK Ala-Archa 37.62 66 P P 17 31 18.7 -0.2
AAK Ala-Archa 37.62 66 pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 37.62 66 P P 17 31 18.7 -0.2
KURK Kurchatov 39.85 52 P P 17 31 37.4 +0.3
DBIC Dimbokro 40.92 230 P P 17 31 47.8 +1.6
comp=Z,5.9nm,0.4s,baz=48,slow=8.4,SNR=13
comp=Z,5.9nm,0.4s
TIC Toumodi 41.04 230⇑ *i*P P 17 31 49.8 +2.6
comp=Z,6.9nm,0.3s
KIC Kosan Boka 41.09 230⇑ *i*P P 17 31 50.2 +2.6
comp=Z,5.5nm,0.3s
LIC Lamto 41.37 230⇑ *i*P P 17 31 52.6 +2.7
comp=Z,9.7nm,0.3s
SPITS Spitsbergen Ar 41.57 357 P P 17 31 50.9 +0.1
comp=Z,9.3nm,0.9s,baz=149,slow=11,SNR=15
SPITS PcP **PcP 17 33 45.6 +1.1**
comp=Z,4.1nm,0.4s,baz=129,slow=6.6,SNR=14
comp=Z,9.3nm,0.9s
MK31 Makanchi Array 42.56 58 P P 17 31 59.5 +0.2
MK31 IAmb IAmb 17 32 00.9
comp=Z,7.8nm,0.6s
MKAR Makanchi Array 42.56 58 P P 17 32 00.0 +0.7
comp=Z,8.5nm,0.5s,baz=268,slow=7.9,SNR=130
MKAR PcP **PcP 17 33 49.2 +0.8**
comp=Z,2.4nm,0.6s,baz=282,slow=4.4,SNR=5.1
MKAR ScP **ScP 17 37 23.0 -0.1**
comp=Z,0.5nm,0.6s,baz=286,slow=3.2,SNR=4.3
MKAR S **S 17 38 08.5 -0.4**
comp=Z,0.4nm,0.8s,baz=291,slow=12,SNR=4.4
comp=Z,8.5nm,0.5s
MKAR Makanchi Array 42.56 58 P P 17 31 59.2 -0.1
ZAA0 Zalesovo Array 43.58 47 P P 17 32 06.9 -0.4
ZAA0 IAmb IAmb 17 32 08.2
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 43.58 47 P P 17 32 07.5 +0.2
comp=Z,15nm,0.4s,baz=271,slow=8.5,SNR=84
ZALV PcP **PP 17 33 52.2 +0.3**
comp=Z,1.3nm,0.6s,baz=249,slow=4.0,SNR=2.2
ZALV ScP **ScP 17 37 27.1 +0.1**
comp=Z,0.5nm,0.6s,baz=242,slow=3.1,SNR=2.1
ZALV S **S 17 38 23.4 0.0**
comp=Z,0.3nm,0.4s,baz=262,slow=17,SNR=2.4
comp=Z,15nm,0.4s
ZALV Zalesovo Beam 43.58 47 P P 17 32 07.2 -0.1
NRIK Noril'sk 46.17 26 P P 17 32 27.7 +0.2
comp=Z,4.6nm,0.7s,baz=222,slow=5.1,SNR=4.5
comp=Z,4.6nm,0.7s
SONM Songino Array 58.14 52 P P 17 33 56.9 +0.6
comp=Z,2.0nm,0.7s,baz=285,slow=7.8,SNR=12
SONM PcP **PcP 17 34 45.6 -0.3**
comp=Z,0.5nm,0.6s,baz=293,slow=5.0,SNR=4.6
SONM ScP **ScP 17 38 30.5 +0.6**
comp=Z,1.5nm,0.8s,baz=281,slow=4.5,SNR=7.4
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 58.55 51 P P 17 33 59.0 0.0
SCHQ Schefferville 62.08 319 P P 17 34 23.5 +0.8
comp=Z,16nm,0.5s,baz=64,slow=6.6,SNR=38
comp=Z,16nm,0.5s
SCHQ Schefferville 62.08 319 P P 17 34 23.1 +0.3
YAK Yakutsk 64.21 31 P P 17 34 35.5 -1.1
YAK IAmb IAmb 17 34 37.1
comp=Z,11nm,0.8s
BOSA Boshof 65.17 180 P P 17 34 45.0 +1.7
comp=Z,4.8nm,0.5s,baz=6.1,slow=7.6,SNR=16
comp=Z,4.8nm,0.5s
CMAR Chang Mai Arr 66.06 84 P P 17 34 50.1 +0.9
comp=Z,3.9nm,0.7s,baz=302,slow=7.9,SNR=35
CMAR PcP **PcP 17 35 19.4 +0.9**
comp=Z,0.8nm,0.7s,baz=282,slow=3.8,SNR=4.6
comp=Z,3.9nm,0.7s
CMAR Chng Mai Arr 66.06 84 P P 17 34 49.1 -0.1
D62A Allapoint, All 66.89 312 P P 17 34 54.2 +0.1
PHRA Phrae 67.07 84 P P 17 34 55.1 -0.5
ENH Enshi 68.09 68 P P 17 35 01.6 -0.3
ENH IAmb IAmb 17 35 03.0
comp=Z,6.2nm,0.5s
NJ2 Nanjing 73.94 62 *e*P P 17 35 54.2 +17
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
USRK Ussuriysk Ar. 75.39 45 P P 17 35 45.1 0.0
comp=Z,6.3nm,0.6s,baz=298,slow=4.3,SNR=13
comp=Z,6.3nm,0.6s
SSPA Standing Stone 75.76 310 P P 17 35 46.4 -1.0
SSPA IAmb IAmb 17 35 50.3
comp=Z,20nm,1.4s
YKA Yellowknife Ar 75.89 342 P P 17 35 47.8 0.0
comp=Z,1.6nm,0.5s,baz=33,slow=5.2,SNR=14
comp=Z,1.6nm,0.5s
KSRS Korea Array 76.97 53 P P 17 35 54.7 +0.5
comp=Z,5.6nm,0.6s,baz=309,slow=4.5,SNR=44
comp=Z,5.6nm,0.6s
I29M Ogilvie Camp, 77.29 353 P P 17 35 54.8 -0.8
I29M IAmb IAmb 17 35 56.4
comp=Z,6.8nm,0.8s
Q56A Snyder Ridge, 77.52 310 P P 17 35 56.2 -1.1
Q56A IAmb IAmb 17 35 59.7
comp=Z,8.8nm,0.7s
H21K Melozitna Rive 77.76 359 P P 17 35 58.4 +0.2
H21K IAmb IAmb 17 35 59.9
comp=Z,5.1nm,0.7s
I21K Tanana 78.23 359 P P 17 36 01.2 +0.5
MDM Murphy Dome 78.36 357 P P 17 36 01.5 0.0
MLY Manley 78.36 358 P P 17 36 01.9 +0.4
ILAR Eielson Array 78.49 357 P P 17 36 02.5 +0.3
comp=Z,0.8nm,0.7s,baz=356,slow=3.7,SNR=5.7
comp=Z,0.8nm,0.7s
WRH Wood River Hil 78.84 357 IAmb IAmb 17 36 05.0
comp=Z,7.9nm,0.8s
ULM Lac du Bonnet 79.05 326 P P 17 36 05.9 +0.5
comp=Z,12nm,0.6s,baz=43,slow=5.9,SNR=12
comp=Z,12nm,0.6s
ULM Lac du Bonnet 79.05 326 P P 17 36 05.2 -0.3
ULM IAmb IAmb 17 36 06.4
comp=Z,11nm,0.5s
BPAW Bear Paw Mtn. 79.30 358 IAmb IAmb 17 36 06.9
comp=Z,4.2nm,0.6s
B35A Bob, Littlefor 79.40 324 IAmb IAmb 17 36 09.2
comp=Z,16nm,1.3s
DHY Denali Highway 80.20 357 IAmb IAmb 17 36 13.1
comp=Z,7.5nm,0.7s
AGMN Agassiz Nation 80.45 325 IAmb IAmb 17 36 14.6
comp=Z,6.0nm,0.7s
F36A Milaca 81.06 322 IAmb IAmb 17 36 17.8
comp=Z,7.5nm,0.7s
PETK Petropavlovsk- 81.22 27 P P 17 36 15.8 -1.2
comp=Z,0.6nm,0.6s,baz=302,slow=8.3,SNR=1.7
comp=Z,0.6nm,0.6s
SKT Skwentna 81.44 359 IAmb IAmb 17 36 18.2
comp=Z,18nm,1.2s
MJAR Matsushiro Arr 83.93 48 P P 17 36 31.8 +0.5
comp=Z,4.4nm,0.8s,baz=323,slow=3.5,SNR=9.9
comp=Z,4.4nm,0.8s
R40A Maddies Statio 85.73 316 P P 17 36 41.1 +0.8
BDFB Brasilia 86.66 248 P P 17 36 47.0 +1.7
comp=Z,1.6nm,0.3s,baz=350,slow=2.8,SNR=3.8
comp=Z,1.6nm,0.3s
WALA Waterton Lakes 87.16 335 P P 17 36 47.5 +0.2
WALA IAmb IAmb 17 36 48.6
comp=Z,15nm,0.9s
TUL1 Leonard 89.40 316 P P 17 36 58.0 +0.1
OK044 Pawnee Station 89.61 317 P P 17 36 59.4 +0.5
C09A Chrisman Ranch 89.70 337 IAmb IAmb 17 37 01.9
comp=Z,6.5nm,0.7s
PDAR Pinedale Array 90.79 329 P P 17 37 04.7 +0.2
comp=Z,1.1nm,0.7s,baz=57,slow=5.5,SNR=6.4
comp=Z,1.1nm,0.7s
BMO Blue Mountains 91.97 335 P P 17 37 09.3 -0.5
BMO IAmb IAmb 17 37 10.6
comp=Z,3.3nm,0.9s
HWUT Hardware Ranch 92.58 329 IAmb IAmb 17 37 14.2
comp=Z,5.6nm,0.9s
MFID Camas Ranch 92.69 333 IAmb IAmb 17 37 15.2
comp=Z,7.5nm,0.8s
PINE Pine Mountain 94.12 336 P P 17 37 20.4 +0.6
PINE IAmb IAmb 17 37 22.8
comp=Z,6.8nm,0.8s
NVAR Mina Array Bea 97.95 332 P Pdif 17 37 38.4 +1.0
comp=Z,1.0nm,0.8s,baz=26,slow=3.0,SNR=7.8
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 116.45 96 PKP PKiKP 17 42 44.6 +0.4
comp=Z,0.7nm,0.6s,baz=321,slow=1.8,SNR=12
ASAR Alice Springs 118.03 100 PKP PKiKP 17 42 47.8 +0.5
comp=Z,1.5nm,0.3s,baz=310,slow=1.7,SNR=80
STKA Stephens Creek 127.85 105 PKP PKiKP 17 43 07.1 +0.7
comp=Z,1.0nm,0.5s,baz=345,slow=16,SNR=2.0
DZM Mont Dzumac 143.16 77 PKP PKPdf 17 43 34.2 -0.3
comp=Z,5.4nm,0.8s,baz=183,slow=5.8,SNR=6.7
MSVF Nonsavu 149.16 59 PKPbc PKiKP 17 43 50.0 -0.3
comp=Z,18nm,1.1s,baz=74,slow=18,SNR=7.1
AFI Afiamalu 152.36 39 PKPbc PKiKP 17 43 58.1 +1.1
comp=Z,23nm,0.6s,baz=274,slow=0.6,SNR=6.7

ROM 09 17:24:41.6±0.1, 42.660N±0.004×13.303E±0.007, h12km, ML1.3/2, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=280.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.02**	**33**	P	Pg	17 24 44.2	+0.2
T1204				S	Sg	17 24 45.9	+0.1
SMA1	**SAN MARTINO**	**0.04**	**141**	P	Pg	17 24 44.4	+0.3
SMA1				S	Sg	17 24 46.0	+0.2
T1202	**Accumoli, Fraz**	**0.07**	**307**	P	Pg	17 24 44.7	+0.3
T1243	**Rocca Santa Ma**	**0.11**	**71**	P	Pg	17 24 45.1	+0.3
RM33	**Pellescritta (**	**0.17**	**203**	P	Pg	17 24 46.0	+0.5
RM33				S	Sg	17 24 48.9	+0.7
RM33				AML	AML		
	comp=E,77μm,0.3s						
RM33				AML	AML		
	comp=N,102μm,0.3s						
T1242	**Castelluccio d**	**0.18**	**337**	⇓P	Pg	17 24 46.2	+0.3
T1242				S	Sg	17 24 49.3	+0.5
LNSS	**Leonessa**	**0.20**	**254**	⇑P	Pg	17 24 46.5	+0.4
T1241	**Roccafluvione,**	**0.22**	**26**	P	Pg	17 24 46.7	+0.3
T1241				S	Sg	17 24 50.4	+0.8
T1247	**Pizzolo (AQ)**	**0.22**	**181**	S	Sg	17 24 51.0	+1.4
TERO	**Teramo**	**0.23**	**99**	P	Pg	17 24 46.7	+0.3
TERO				AML	AML		
	comp=E,168μm,0.1s						
TERO				AML	AML		
	comp=N,96μm,0.1s						
TERO				AML	AML		
	comp=N,96μm,0.1s						
TERO				AML	AML		
	comp=E,167μm,0.1s						
MMO1	**Montemonaco**	**0.24**	**4**	P	Pg	17 24 47.0	+0.3
MMO1				S	Sg	17 24 51.0	+0.8
T1217	**Poggiodomo (PG**	**0.28**	**281**	P	Pg	17 24 47.6	+0.1
T1217				S	Sg	17 24 51.9	+0.6
T1217				AML	AML		
	comp=E,54μm,1.6s						
T1217				AML	AML		
	comp=N,95μm,1.6s						
T1215	**Vallo di Nera,**	**0.35**	**294**	P	Pg	17 24 48.8	0.0
FDMO	**Fiordimonte**	**0.41**	**337**	P	Pb	17 24 51.1	+0.3
FDMO				S	Sb	17 24 56.4	-0.6

ROM 09 17:26:08.1±0.3, 42.581N±0.006×13.325E±0.009, h9km±1km, Md1.3/4, 2C, Error ellipse: s-maj=0.7km s-min=0.6km az=314.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.05**	**9**	⇑P	Pg	17 26 10.4	+0.3
SMA1				S	Sg	17 26 11.9	+0.4
SMA1				AML	AML		
	comp=E,164μm,1.1s						
SMA1				AML	AML		
	comp=N,138μm,0.4s						
SMA1				AML	AML		
	comp=E,164μm,1.1s						
SMA1				AML	AML		
	comp=N,155μm,0.9s						
SMA1				END			
T1204	**Amatrice, Fraz**	**0.10**	**356**	P	Pg	17 26 10.9	+0.2
T1204				S	Sg	17 26 12.6	+0.2
T1204				END			
RM33	**Pellescritta (**	**0.11**	**228**	P	Pg	17 26 11.1	+0.3
RM33				S	Sg	17 26 13.2	+0.5
RM33				AML	AML		
	comp=E,88μm,0.8s						
RM33				AML	AML		
	comp=N,88μm,1.6s						
RM33				AML	AML		
	comp=E,130μm,0.7s						
RM33				AML	AML		
	comp=N,98μm,0.9s						
RM33				END			
TERO	**Teramo**	**0.21**	**79**	⇑P	Pg	17 26 13.2	+0.8
TERO				S	Sg	17 26 16.6	+1.2
TERO				AML	AML		
	comp=E,36μm,1.0s						
TERO				AML	AML		
	comp=N,28μm,0.5s						
TERO				AML	AML		
	comp=E,91μm,0.7s						
TERO				AML	AML		
	comp=E,4175μm,0.9s						
TERO				AML	AML		
	comp=N,3520μm,0.9s						
TERO				AML	AML		
	comp=E,93μm,1.0s						
TERO				AML	AML		
	comp=N,205μm,0.9s						
TERO				END			
AM05	**Amandola Campo**	**0.40**	**3**	P	Pg	17 26 12.7	-3.2
AM05				AML	AML		
	comp=E,168μm,0.9s						
AM05				AML	AML		
	comp=N,136μm,1.4s						
AM05				AML	AML		
	comp=N,136μm,1.4s						
AM05				AML	AML		
	comp=E,718μm,0.1s						
AM05				AML	AML		
	comp=N,550μm,0.1s						
AM05				AML	AML		
	comp=E,202μm,0.1s						
AM05				AML	AML		
	comp=N,212μm,0.1s						
AM05				AML	AML		
	comp=E,912μm,0.1s						
AM05				AML	AML		
	comp=N,903μm,0.1s						

*IDC **09** 17:27:07.9±1.8, 54.38N×168.95E, h0km, mb3.4/2,*

mbtmp3.4/3,ML2.3/1, Error ellipse: s-maj=82.1km s-min=30.6km az=148.0

*KRSC **09** 17:27:11.1±1.4,54.24N×168.02E,h7km±24km,ML3.8*
ISC 09 17:27:10.9±1.4,**54.5N**±0.1×**168.61E**±0.10,**h24**km,**n25**, σ1§**87**/25,**mb3.5/3,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.69**	**296**	*eP*	**Pn**	**17 27 37.8**	**-1.0**
BKI				*eS*	**Sn**	**17 27 58.7**	**-1.0**
MKZ	**Mys Kozlova**	**4.01**	**274**	*eP*	**Pn**	**17 28 11.4**	**+0.7**
MKZ				*eS*	**Sn**	**17 28 55.8**	**-1.1**
TUMR	**Tumrok**	**4.95**	**283**	*eP*	**Pn**	**17 28 26.9**	**+3.1**
TUMR				*eS*	**Sn**	**17 29 23.0**	**+2.7**
SPN	**Mys Shipunski**	**5.28**	**258**	*eS*	**Sn**	**17 29 27.1**	**-1.0**
KII	**Karymskiy**	**5.39**	**269**	*eP*	**Pn**	**17 28 31.9**	**+2.1**
SDLR	**Sedlovina**	**5.88**	**262**	*eP*	**Pn**	**17 28 38.1**	**+1.6**
SMAR	**Somma**	**5.93**	**262**	*eP*	**Pn**	**17 28 39.7**	**+2.4**
AVH	**Avacha**	**5.96**	**262**	*eP*	**Pn**	**17 28 39.3**	**+1.6**
KRX	**Arik**	**5.99**	**263**	*eP*	**Pn**	**17 28 39.4**	**+1.3**
KOK	**Koryaka**	**6.02**	**263**	*eP*	**Pn**	**17 28 39.9**	**+1.5**
GNL	**Ganaly**	**6.33**	**267**	*eP*	**Pn**	**17 28 44.6**	**+1.9**
MTVR	**Mutnovka**	**6.54**	**256**	*eP*	**Pn**	**17 28 46.5**	**+0.9**
MTVR				*eS*	**Sn**	**17 29 57.5**	**-1.9**
GRL	**Gorelyy**	**6.57**	**257**	*eP*	**Pn**	**17 28 47.8**	**+1.7**
PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=79,slow=20,SNR=20	**6.61**	**262**	Pn	**Pn**	**17 28 48.6**	**+2.1**
PETK	0.1nm,0.3s,baz=93,slow=16,SNR=1.6 0.9nm,0.5s			Sn	**Sn**	**17 30 01.2**	**+0.2**
ASAK	**Asacha**	**6.74**	**256**	*eP*	**Pn**	**17 28 49.9**	**+1.6**
ASAK				*eS*	**Sn**	**17 30 03.3**	**-0.9**
KDTR	**Khodutka, Kamc**	**6.88**	**251**	*eS*	**Sn**	**17 30 04.2**	**-3.3**
ILAR	**Eielson Array** 1.1nm,0.9s,baz=252,slow=7.2,SNR=5.6 1.1nm,0.9s	**24.20**	**47**	P	**P**	**17 32 24.7**	**-0.5**
H11N2	**WAKE ISLAND Hy** baz=1.7,slow=76,SNR=87	**34.72**	**183**	T	T	18 10 34.6	
H11N3	**WAKE ISLAND Hy** baz=1.7,slow=76,SNR=103	**34.73**	**183**	T	T	18 10 35.7	
H11N1	**WAKE ISLAND Hy** baz=1.7,slow=76,SNR=106	**34.73**	**183**	T	T	18 10 36.8	
H11S1	**WAKE ISLAND Hy** baz=1.7,slow=76,SNR=21	**35.94**	**183**	T	T	18 12 09.7	
H11S3	**WAKE ISLAND Hy** baz=1.7,slow=76,SNR=18	**35.95**	**183**	T	T	18 12 11.1	
H11S2	**WAKE ISLAND Hy** baz=1.7,slow=76,SNR=34	**35.95**	**183**	T	T	18 12 11.1	
HHC	**Hu-ho-hao-te**	**39.65**	**274**	*eP*	**P**	**17 34 38.5**	**-2.2**
HHC	comp=Z,23nm,1.0s			pmax	pmax		
HHC	comp=Z,210nm,4.8s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,0.3nm,0.9s,baz=27,slow=2.3,SNR=2.0 comp=Z,0.3nm,0.9s	**83.36**	**212**	P	**P**	**17 39 37.0**	**+1.3**

*NEIC **09** 17:31:40.9±0.7,36.313N×0.010×96.96W±0.01,h9km±5km, Error ellipse: s-maj=1.6km s-min=1.4km az=132.0*
*TUL **09** 17:31:40.9±0.5,36.316N×0.010×96.97W±0.01,h7km±3km, ML3.7,mb_Lg3.2/86(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=185.0*
*ANF **09** 17:31:41.0±0.6,36.32N×96.95W,h3km±4km,ML3.7/9, Error ellipse: s-maj=3.3km s-min=2.6km az=52.0*
ISC 09 17:31:41.1±0.8,**36.32N**±0.02×**96.98W**±0.02,**h9**km±6km, **n92**, σ0§**57**/84,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK046	**Pawnee Station**	**0.10**	**35**	Pg	**Pg**	**17 31 43.5**	**-0.1**
OK046				Sg	**Sg**	**17 31 45.1**	**-0.1**
OK045	**Pawnee Station**	**0.14**	**18**	Pg	**Pg**	**17 31 44.2**	**0.0**
OK045				Sg	**Sg**	**17 31 46.3**	**+0.1**
OK044	**Pawnee Station**	**0.16**	**69**	Pg	**Pg**	**17 31 44.4**	**0.0**
OK044				Sg	**Sg**	**17 31 46.7**	**0.0**
QUOK	**Quay**	**0.26**	**124**	Pg	**Pg**	**17 31 46.3**	**0.0**
QUOK				Sg	**Sg**	**17 31 50.0**	**+0.1**
OK033	**Mehan**	**0.28**	**173**	Pg	**Pg**	**17 31 46.7**	**+0.1**
OK033				Sg	**Sg**	**17 31 50.5**	**+0.2**
OK034	**N. Norfolk Rd.**	**0.37**	**145**	Pg	**Pg**	**17 31 48.4**	**0.0**
OK034				Sg	**Sg**	**17 31 53.5**	**+0.1**
OK031	**S. Brethren Rd**	**0.38**	**163**		**Pg**	**17 31 48.5**	**0.0**
OK031				Sg	**Sg**	**17 31 53.8**	**+0.2**
OK030	**Cody Creek RV**	**0.42**	**158**	Pg	**Pg**	**17 31 48.8**	**-0.4**
OK030				Sg	**Sg**	**17 31 55.0**	**+0.2**
BLOK	**Blackwell**	**0.48**	**337**	Pg	**Pg**	**17 31 50.5**	**0.0**
BLOK				Sg	**Sg**	**17 31 56.9**	**+0.1**
DEOK	**Depew**	**0.61**	**141**	Pg	**Pg**	**17 31 52.8**	**-0.1**
DEOK				Sg	**Sg**	**17 32 01.0**	**0.0**
OK029	**Liberty Lake**	**0.65**	**217**	Pg	**Pg**	**17 31 53.5**	**-0.1**
OK029				Sg	**Sg**	**17 32 02.1**	**0.0**
T35A	**Sooner Cattle**	**0.70**	**32**	Pg	**Pg**	**17 31 54.4**	**-0.3**
T35B	**Sooner Cattle** baz=212	**0.70**	**32**	P	**Pg**	**17 31 54.5**	**-0.2**
T35B	baz=212			S	**Sg**	**17 32 03.9**	**0.0**
OK025	**Westminster Rd**	**0.79**	**202**	Pg	**Pg**	**17 31 56.0**	**-0.3**
OK025				Sg	**Sg**	**17 32 06.8**	**+0.2**
KAN13	**South Haven SW**	**0.80**	**330**	Pg	**Pg**	**17 31 56.2**	**-0.3**
KAN13				Sg	**Sg**	**17 32 07.1**	**+0.1**
CROK	**Carrier**	**0.83**	**283**	Pg	**Pg**	**17 31 56.9**	**-0.2**
CROK				Sg	**Sg**	**17 32 08.3**	**+0.4**
BCOK	**Bluff Creek, N**	**0.83**	**218**	Pg	**Pg**	**17 31 56.9**	**-0.2**
GC02	**Grant County #**	**0.89**	**307**	Pg	**Pg**	**17 31 57.9**	**-0.3**
GC02				Sg	**Sg**	**17 32 09.5**	**-0.2**
KAN17	**Caldwell West**	**0.96**	**319**	Pg	**Pg**	**17 31 59.1**	**-0.4**
KAN17				Sg	**Sg**	**17 32 12.1**	**0.0**
KAN09	**Caldwell North**	**0.97**	**328**	Pg	**Pg**	**17 31 59.1**	**-0.5**
KAN09				Sg	**Sg**	**17 32 12.1**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.98**	**202**	Pg	**Pg**	**17 31 59.2**	**-0.8**
KAN14	**Manchester OK**	**1.02**	**309**		**Pg**	**17 32 00.1**	**-0.5**
KS20	**Mayfield South**	**1.02**	**333**		**Pg**	**17 32 00.4**	**-0.3**
KS20				Sg	**Sg**	**17 32 13.6**	**-0.4**
TUL1	**Leonard**	**1.04**	**113**	Pg	**Pg**	**17 32 00.3**	**-0.8**
TUL1				Sg	**Sg**	**17 32 14.1**	**-0.5**
TUL1	**Leonard** baz=294,SNR=172	**1.04**	**113**	P	**Pg**	**17 32 00.3**	**-0.8**
TUL1	baz=294			S	**Sg**	**17 32 14.5**	**-0.1**
KAN01	**Argonia South**	**1.04**	**323**	Pg	**Pg**	**17 32 00.6**	**-0.6**
KAN01				Sg	**Sg**	**17 32 14.6**	**-0.1**
KAN05	**Bluff City Nor**	**1.07**	**318**	Pg	**Pg**	**17 32 00.8**	**-0.8**
KAN05				Sg	**Sg**	**17 32 14.9**	**-0.5**
OK032	**Salt Plains WL**	**1.10**	**296**	Pg	**Pb**	**17 32 01.7**	**-0.7**
FNO	**Franklin**	**1.11**	**198**	Pg	**Pb**	**17 32 01.4**	**-1.2**
KS21	**Milan North St**	**1.11**	**331**	Pg	**Pb**	**17 32 02.0**	**-0.5**
KS21				Sg	**Sg**	**17 32 16.7**	**-0.3**
KAN10	**Anthony SW Sta**	**1.21**	**312**	Pg	**Pb**	**17 32 03.6**	**-0.5**
OK038	**West end E0370**	**1.43**	**277**		**Pn**	**17 32 07.4**	**+0.1**
OK035	**E0210 Rd and N**	**1.45**	**286**		**Pn**	**17 32 07.7**	**+0.2**
CSTR	**Hydro, Custer**	**1.54**	**245**		**Pb**	**17 32 09.4**	**-0.4**
RLO	**Rose Lookout**	**1.59**	**95**		**Pn**	**17 32 09.6**	**+0.1**
NOKA	**Waynoka**	**1.61**	**282**		**Pb**	**17 32 10.5**	**-0.5**
U32A	**Winter Ranch,**	**1.64**	**273**		**Pn**	**17 32 10.7**	**+0.6**
U32A	**Winter Ranch,** baz=92,SNR=33	**1.64**	**273**	P	**Pn**	**17 32 10.7**	**+0.6**
U32A	baz=92			S	**Sg**	**17 32 33.1**	**-0.6**
X34A	**Smith Ranch, M**	**1.85**	**202**		**Pb**	**17 32 14.2**	**-0.9**
X34A	comp=Z,96nm,0.9s			IAmb_Lg		17 32 44.4	
U38A	**Gravette**	**2.10**	**86**	Pn	**Pn**	**17 32 17.4**	**+1.0**
U38A	**Gravette** baz=267,SNR=71	**2.10**	**86**	P	**Pb**	**17 32 17.9**	**-1.3**
U38A	baz=267			Sb	**Sb**	**17 32 46.0**	**+0.6**
WMOK	**Wichita Mounta**	**2.16**	**224**	Pn	**Pn**	**17 32 17.3**	**+0.1**
WMOK	comp=Z,58nm,0.8s			IAmb_Lg		17 32 53.9	
WMOK	**Wichita Mounta** baz=42,SNR=115	**2.16**	**224**	P	**Pn**	**17 32 18.2**	**+0.9**
WMOK	baz=42			S	**Sb**	**17 32 47.2**	**0.0**
X37A	**Clayton**	**2.17**	**142**	Pn	**Pn**	**17 32 17.6**	**+0.2**
X37A	**Clayton** baz=324,SNR=26	**2.17**	**142**	P	**Pn**	**17 32 18.3**	**+0.9**
X37A	baz=324			Sb	**Sb**	**17 32 48.8**	**+1.3**
LOOK	**Love County**	**2.33**	**184**	Pn	**Pn**	**17 32 19.8**	**+0.2**
LOOK	comp=Z,51nm,0.8s			IAmb_Lg		17 32 58.2	
HHAR	**Hobbs**	**2.45**	**90**		**Pn**	**17 32 21.4**	**+0.1**
R32A	**Long Quarter,** comp=Z,94nm,1.0s	**2.51**	**327**	IAmb_Lg		17 33 06.6	
R32A	**Long Quarter,** baz=146	**2.51**	**327**	S	**Sn**	**17 32 54.4**	**+1.4**
KSU1	**Kansas State U** comp=Z,46nm,0.8s	**2.79**	**6**	IAmb_Lg		17 33 17.7	
MIAR	**Mount Ida** baz=304,SNR=16	**3.29**	**121**	P	**Pn**	**17 32 33.6**	**+0.8**
Z38A	**Mt. Pleasant** comp=Z,46nm,0.7s	**3.46**	**151**	IAmb_Lg		17 33 37.1	
WHAR	**Wooly Hollow**	**3.95**	**104**	Pn	**Pn**	**17 32 41.3**	**-0.5**
WHAR	comp=Z,42nm,0.8s			IAmb_Lg		17 33 52.0	
AMTX	**Amarillo** comp=Z,57nm,0.9s	**4.09**	**251**	IAmb_Lg		17 33 53.0	
WLAR	**White Oak Lake** comp=Z,30nm,0.8s	**4.12**	**128**	IAmb_Lg		17 33 55.3	
R40A	**Maddies Statio** comp=Z,60nm,0.8s	**4.24**	**61**	IAmb_Lg		17 33 52.9	
R40A	**Maddies Statio** baz=244,SNR=12	**4.24**	**61**	P	**Pn**	**17 32 46.5**	**+0.6**
P38A	**Dawn**	**4.28**	**38**		**Pn**	**17 32 45.2**	**-1.2**
P38A	comp=Z,60nm,0.7s			IAmb_Lg		17 33 58.4	
237A	**Washetta, Mont** comp=Z,30nm,0.8s	**4.41**	**167**	IAmb_Lg		17 33 59.6	
N33A	**J Bar K, Exete** comp=Z,63nm,0.9s	**4.43**	**355**	IAmb_Lg		17 34 09.7	
N35A	**Tabor** comp=Z,49nm,0.7s	**4.66**	**13**	IAmb_Lg		17 34 16.2	
LCAR	**Lake Charles** comp=Z,39nm,1.0s	**4.72**	**91**	IAmb_Lg		17 34 10.2	
CCM	**Cathedral Cave** comp=Z,52nm,0.8s	**4.89**	**68**	IAmb_Lg		17 34 15.5	
NATX	**Nacogdoches** comp=Z,27nm,0.8s	**4.94**	**156**	IAmb_Lg		17 34 28.4	
P40A	**Paris**	**5.05**	**49**		**Pn**	**17 32 57.3**	**+0.3**
P40A	comp=Z,54nm,0.7s			IAmb_Lg		17 34 19.9	
HBAR	**Harrisburg** comp=Z,51nm,0.8s	**5.18**	**97**	IAmb_Lg		17 34 33.1	
KSCO	**Kaye Shedlock'**	**5.23**	**303**	Pn	**Pn**	**17 33 01.4**	**+1.9**
KSCO	comp=Z,36nm,1.0s			IAmb_Lg		17 34 39.0	
N38A	**Joes South For** comp=Z,43nm,0.7s	**5.34**	**32**	IAmb_Lg		17 34 38.3	
FVM	**French Village** comp=Z,57nm,1.1s	**5.49**	**70**	IAmb_Lg		17 34 39.6	
CGM3	**Cape Girardeau** comp=Z,55nm,0.8s	**5.95**	**78**	IAmb_Lg		17 34 49.0	
T25A	**Trinidad** comp=Z,20nm,0.8s	**6.03**	**280**	IAmb_Lg		17 35 02.5	
OGNE	**Ogallala** comp=Z,38nm,0.8s	**6.08**	**321**	IAmb_Lg		17 34 59.4	
JCT	**Junction City**	**6.28**	**203**	Pn	**Pn**	**17 33 13.6**	**-0.4**
JCT	comp=Z,23nm,0.9s			IAmb_Lg		17 35 11.3	
SCIA	**State Center** comp=Z,24nm,0.7s	**6.30**	**27**	IAmb_Lg		17 35 03.4	
OXF	**Oxford** comp=Z,30nm,0.9s	**6.44**	**104**	IAmb_Lg		17 35 08.9	
W45A	**Hickory Valley** comp=Z,41nm,0.8s	**6.44**	**98**	IAmb_Lg		17 35 16.8	
Y45A	**Yeager Farm, C** comp=Z,22nm,0.9s	**6.57**	**110**	IAmb_Lg		17 35 18.2	
Q24A	**Divide** comp=Z,17nm,1.1s	**7.00**	**295**	IAmb_Lg		17 35 33.1	
K38A	**Parkersburg** comp=Z,23nm,1.0s	**7.11**	**26**	IAmb_Lg		17 35 38.2	
L40A	**Anamosa** comp=Z,19nm,0.8s	**7.27**	**36**	IAmb_Lg		17 35 42.4	
O44A	**Mansfield** comp=Z,28nm,0.8s	**7.71**	**58**	IAmb_Lg		17 35 49.8	
T47A	**Sharon Grove** comp=Z,29nm,1.0s	**7.96**	**82**	IAmb_Lg		17 36 05.0	
L42A	**Oliver, Polo**	**8.03**	**43**	Pn	**Pn**	**17 33 37.5**	**-0.3**
L42A	comp=Z,33nm,1.0s			IAmb_Lg		17 35 58.3	
X48A	**Hartselle** comp=Z,26nm,0.8s	**8.32**	**100**	IAmb_Lg		17 36 15.8	
N23A	**Red Feather La** comp=Z,24nm,0.9s	**8.37**	**306**	IAmb_Lg		17 36 13.5	
JFWS	**Jewell Farm** comp=Z,12nm,0.8s	**8.39**	**36**	IAmb_Lg		17 36 17.4	
M44A	**Midwin, Midew** comp=Z,32nm,0.9s	**8.61**	**51**	IAmb_Lg		17 36 15.2	
SFIN	**Lafayette** comp=Z,27nm,0.8s	**8.76**	**59**	IAmb_Lg		17 36 20.8	
I40A	**Norwalk** comp=Z,10nm,0.8s	**8.99**	**31**	IAmb_Lg		17 36 50.4	
K43A	**Burlington** comp=Z,27nm,0.9s	**9.23**	**44**	IAmb_Lg		17 36 37.9	
RSSD	**Black Hills** comp=Z,17nm,1.1s	**9.48**	**327**	IAmb_Lg		17 36 53.4	
K22A	**Casper** comp=Z,18nm,1.1s	**9.71**	**314**	IAmb_Lg		17 36 60.0	

IDC 09 17:39:46.3±1.9,**3.68N**×**125.41E**,**h0**km,**mb3.3**/4, **mbtmp3.3**/4,**Error ellipse: s-maj=194.2km s-min=24.1km az=65.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=336,slow=11,SNR=2.6 0.3nm,0.7s	**25.06**	**160**	P	P	17 45 11.4	-1.2
ASAR	**Alice Springs** 0.2nm,0.9s,baz=347,slow=7.6,SNR=2.9 0.2nm,0.9s	**28.41**	**163**	P	P	17 45 43.8	+0.9
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=114,slow=7.4,SNR=5.7 0.2nm,0.4s	**56.85**	**326**	P	P	17 49 33.7	+0.8
KURBB	**Kurchatov Arra** 0.2nm,0.2s,baz=121,slow=6.3,SNR=4.8 0.2nm,0.2s	**61.08**	**328**	P	P	17 50 01.2	-0.8

*IDC **09** 17:49:19.4±1.0,3.96N×126.13E,h0km,mb3.5/8, mbtmp3.6/9,ML3.8/1,MS3.7/2, Error ellipse: s-maj=61.9km s-min=15.3km az=64.0*
*NEIC **09** 17:49:27.2±2.8,4.10N±0.07×126.7E±0.1,h65km±8km, mb4.2/14, Error ellipse: s-maj=15.5km s-min=8.6km az=64.0*
ISC 09 17:49:24.9±0.6,**4.06N**±0.06×**126.53E**±0.09,**h45**km,**n36**, σ1§**64**/33,**mb3.9**/13,**1C-2D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.56**	**322**	*eP*	**Pn**	**17 50 06.6**	**+2.6**
MATI	**Mati**	**2.88**	**355**	*eP*	**Pn**	**17 50 12.1**	**+3.7**
KCP	**Kidapawan**	**3.26**	**334**	*iP*	Pn	17 50 19.9	+6.2
TNTI	**Ternate**	**3.37**	**166**	Pn	**Pn**	**17 50 16.5**	**+1.5**
LUWI	**Luwuk**	**6.30**	**217**	Pn	Pn	17 51 00.7	+5.4
TOLI2	**Tolitoli**	**6.44**	**243**	Pn	**Pn**	**17 50 59.5**	**+2.3**
SIJI	**Sorong** 1.8nm,0.3s,baz=308,slow=19,SNR=9.4	**6.81**	**136**	Pn	**Pn**	**17 51 04.5**	**+2.2**
SIJI	0.3nm,0.3s,baz=331,slow=24,SNR=2.4 6.9nm,0.5s			Sn	**Sn**	**17 52 18.6**	**+0.1**
MYLDM	**Lahad Datu**	**8.08**	**278**	Pn	**Pn**	**17 51 22.7**	**+3.0**
FAKI	**Fak Fak**	**8.98**	**140**	Pn	**Pn**	**17 51 33.8**	**+1.7**
MTN	**Manton Dam**	**17.40**	**165**	Pn	**Pn**	**17 53 21.7**	**-2.8**
MTN	comp=Z,17nm,1.4s			IAmb	IAmb	17 53 58.4	
KNRA	**Kununurra**	**19.73**	**174**		**Pn**	**17 53 51.9**	**-0.8**
KNRA	comp=Z,12nm,1.2s			IAmb	IAmb	17 54 21.4	
YULB	**Yu-li**	**19.88**	**346**		**P**	**17 53 51.2**	**-1.3**
YULB	comp=Z,30nm,1.4s			IAmb	IAmb	17 54 25.0	
FITZ	**Fitzroy Crossi** comp=Z,1.2nm,0.9s,baz=1.0,slow=8.3,SNR=2.0 comp=Z,1.2nm,0.9s	**22.03**	**182**	P	**P**	**17 54 14.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**22.03**	**182**	P	**P**	**17 54 15.4**	**-0.3**
WB0	**Warramunga Arr**	**24.90**	**162**	P	**P**	**17 54 42.4**	**-1.4**
WB0	comp=Z,7.1nm,1.1s			IAmb	IAmb	17 54 59.8	
WRA	**Warramunga Arr** comp=Z,0.8nm,0.7s,baz=335,slow=11,SNR=12 comp=Z,0.8nm,0.7s	**25.05**	**162**	P	**P**	**17 54 45.8**	**+0.6**
WRA	**Warramunga Arr**	**25.05**	**162**	P	**P**	**17 54 43.5**	**-1.6**
WB2	**Warramunga Arr**	**25.06**	**162**	P	**P**	**17 54 45.5**	**+0.3**
WB2	comp=Z,8.2nm,1.2s			IAmb	IAmb	17 54 52.4	
JCJ	**Chichijima**	**27.36**	**32**	P	**P**	**17 55 02.9**	**-3.1**
AS31	**Alice Springs**	**28.48**	**166**	P	**P**	**17 55 15.7**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=346,slow=6.6,SNR=11 comp=Z,0.2nm,0.5s	**28.48**	**166**	P	**P**	**17 55 16.3**	**+0.4**
ASAR	**Alice Springs**	**28.48**	**166**	P	**P**	**17 55 15.5**	**-0.5**
GIRL	**Giralia**	**29.13**	**204**	P	**P**	**17 55 22.0**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.6s,baz=119,slow=7.3,SNR=1.7 comp=Z,0.2nm,0.6s	**30.53**	**300**	P	**P**	**17 55 32.2**	**-2.1**
BBOO	**Buckleboo**	**37.76**	**167**	P	**P**	**17 56 37.3**	**+0.6**
NWAO	**Narrogin (SRO)** comp=Z,120nm,21.2s,baz=106,slow=37	**37.82**	**193**	LR	LR	18 12 42.0	
STKA	**Stephens Creek** comp=Z,0.7nm,0.4s,baz=346,slow=8.3,SNR=1.8 comp=Z,0.7nm,0.4s	**38.50**	**159**	P	**P**	**17 56 43.8**	**+0.9**
SONM	**Songino Array** comp=Z,0.3nm,0.6s,baz=151,slow=6.3,SNR=2.1 comp=Z,0.3nm,0.6s	**46.93**	**341**	P	**P**	**17 57 50.6**	**-0.5**
PETK	**Petropavlovsk-**	**55.21**	**22**	P	**P**	**17 58 53.8**	**+0.7**
MK31	**Makanchi Array**	**57.17**	**325**	P	**P**	**17 59 08.2**	**+0.9**
MK31	comp=Z,2.1nm,1.4s			IAmb	IAmb	17 59 34.1	
MKAR	**Makanchi Array** comp=Z,0.4nm,0.4s,baz=121,slow=7.5,SNR=12 comp=Z,0.4nm,0.4s	**57.17**	**325**	P	**P**	**17 59 07.1**	**-0.2**
MKAR	**Makanchi Array**	**57.17**	**325**		**P**	**17 59 07.7**	**+0.4**
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.8s,baz=124,slow=6.2,SNR=9.8 comp=Z,0.9nm,0.8s	**61.36**	**327**	P	**P**	**17 59 36.6**	**+0.5**
KURK	**Kurchatov**	**61.36**	**327**	P	**P**	**17 59 36.3**	**+0.2**
KURK	comp=Z,2.1nm,0.9s			IAmb	IAmb	17 59 38.2	
BTK	**Batken**	**61.55**	**314**	P	**P**	**17 59 36.4**	**-1.3**
BTK	comp=Z,3.5nm,1.2s			IAmb	IAmb	17 59 47.3	
NOA	**NORSAR Array B** comp=Z,29nm,18.5s,baz=170,slow=38	**98.41**	**334**	LR	LR	18 50 45.2	

IDC 09 17:52:53.1±6.4,**32.74S**×**178.00W**,**h0**km,**mb3.4**/2, **mbtmp3.4**/2,**Error ellipse: s-maj=276.2km s-min=64.0km az=160.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.3nm,0.6s,baz=109,slow=7.3,SNR=5.5 0.3nm,0.6s	**43.03**	**269**	P	P	18 00 54.6	-0.1
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=116,slow=7.5,SNR=7.0 0.5nm,0.6s	**44.23**	**275**	P	P	18 01 04.1	-0.2
FINES	**FINESS Array B** 1.7nm,1.0s,baz=64,slow=3.2,SNR=2.1	**147.32**	**339**	PKPbc	PKPbc	18 12 37.1	-0.7

*IDC **09** 17:54:43.3±1.7,54.43S×159.18E,h0km,mb4.0/7, mbtmp4.0/7,MS3.9/6, Error ellipse: s-maj=73.9km s-min=18.7km az=75.0*
*NEIC **09** 17:54:45.1±2.0,54.4S±0.1×159.07E±0.10,h11km±4km, mb4.5/13, Error ellipse: s-maj=14.8km s-min=8.0km az=169.0*
ISC 09 17:54:43.8±1.9,**54.42S**±0.08×**159.2E**±0.1,**h5**km±11km, **n50**,σ1§**21**/39,**mb4.2**/13,**MS3.8**/6,**Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.15**	**236**	Pg	**Pg**	**17 54 46.8**	**-0.1**
MCQ				Sg	**Sg**	**17 54 48.8**	**0.0**
PYZ	**Puysegur Point**	**9.55**	**33**	Pn	**Pn**	**17 57 04.1**	**+2.2**
DCZ	**Deep Cove**	**10.32**	**33**	Pn	**Pn**	**17 57 13.4**	**+1.0**
MLZ	**Mavora Lakes**	**10.73**	**36**	Pn	**Pn**	**17 57 21.2**	**+3.2**
ODZ	**Otahua Downs**	**11.95**	**43**	Pn	**Pn**	**17 57 36.9**	**+2.2**
FOZ	**Fox Glacier**	**12.92**	**37**	Pn	**Pn**	**17 57 45.8**	**-2.2**
MQZ	**McQueen's Vall**	**13.86**	**45**	Pn	**Pn**	**17 57 57.0**	**-3.9**
TAU	**Tasmania Unive**	**13.90**	**321**	Pn	**Pn**	**17 58 00.5**	**-0.8**
VNDA	**Vanda** 1.0nm,0.8s,baz=341,slow=8.5,SNR=5.6 1.0nm,0.8s	**23.22**	**179**	P	**P**	**17 59 51.6**	**+0.4**
STKA	**Stephens Creek** comp=Z,154nm,19.4s,baz=189,slow=33	**25.78**	**324**	LR	LR	18 08 43.1	
BBOO	**Buckleboo**	**27.09**	**313**	P	**P**	**18 00 26.8**	**-0.5**
BBOO	comp=Z,30nm,1.4s			IAmb	IAmb	18 00 29.1	
CTAO	**Charters Tower**	**35.66**	**339**	P	**P**	**18 01 43.8**	**+1.0**
CTAO	comp=Z,13nm,1.4s			IAmb	IAmb	18 01 51.9	
QSPA	**South Pole Qui** comp=Z,2.2nm,1.0s,baz=334,slow=5.0,SNR=4.8 comp=Z,2.2nm,1.0s	**35.70**	**180**	P	**P**	**18 01 43.3**	**+0.4**
QSPA	**South Pole Qui**	**35.70**	**180**	P	**P**	**18 01 43.6**	**+0.7**
QSPA	comp=Z,10nm,1.4s			IAmb	IAmb	18 01 54.6	
ASAR	**Alice Springs** comp=Z,3.0nm,0.8s,baz=155,slow=8.5,SNR=28	**36.05**	**318**	P	**P**	**18 01 46.9**	**+0.8**
ASAR	comp=Z,0.7nm,0.7s,baz=149,slow=3.7,SNR=8.5			PcP	**PcP**	**18 04 12.3**	**0.0**
ASAR	comp=Z,77nm,19.7s,baz=132,slow=36 comp=Z,3.0nm,0.8s			LR	LR	18 16 26.6	
ASAR	**Alice Springs**	**36.05**	**318**	P	**P**	**18 01 46.1**	**0.0**
AS31	**Alice Springs**	**36.05**	**318**	P	**P**	**18 01 45.6**	**-0.5**
AS31	comp=Z,1.6nm,0.9s			IAmb	IAmb	18 01 48.3	
H01W1	**Cape Leeuwin H** baz=136,slow=76,SNR=1974	**36.71**	**283**	T	T	18 40 28.2	
H01W2	**Cape Leeuwin H** baz=136,slow=76,SNR=2189	**36.71**	**283**	T	T	18 40 26.6	
H01W3	**Cape Leeuwin H** baz=136,slow=76,SNR=2933	**36.72**	**283**	T	T	18 40 27.4	
WR0	**Warramunga Arr**	**39.18**	**322**	P	**P**	**18 02 12.4**	**-0.3**
WR0	comp=Z,13nm,1.4s			IAmb	IAmb	18 02 16.5	
WB2	**Warramunga Arr**	**39.27**	**321**	P	**P**	**18 02 13.1**	**-0.3**
WB2	comp=Z,13nm,1.5s			IAmb	IAmb	18 02 16.1	
WRA	**Warramunga Arr** comp=Z,2.0nm,0.9s,baz=158,slow=7.3,SNR=12	**39.27**	**321**	P	**P**	**18 02 13.2**	**-0.1**
WRA	comp=Z,1.4nm,1.2s,baz=154,slow=3.0,SNR=5.5			PcP	**PcP**	**18 04 22.2**	**0.0**
WRA	comp=Z,296nm,19.7s,baz=154,slow=35 comp=Z,2.0nm,0.9s			LR	LR	18 17 29.2	
WRA	**Warramunga Arr**	**39.27**	**321**	P	**P**	**18 02 13.1**	**-0.3**
WB0	**Warramunga Arr**	**39.41**	**322**	P	**P**	**18 02 13.2**	**-1.3**
WB0	comp=Z,14nm,1.4s			IAmb	IAmb	18 02 17.8	
MAW	**Mawson** comp=Z

comp=Z,0.6nm,0.8s,baz=184,slow=4.3,SNR=2.1
MLR Muntele Rosu 149.13 273 PKPbc **PKPbc 18 14 32.6 +0.1**
comp=Z,1.3nm,0.5s,baz=120,slow=14,SNR=1.9
AKASG Malin Array Be 149.87 284 PKPbc **PKPbc 18 14 33.6 -0.3**
comp=Z,0.8nm,0.5s,baz=94,slow=2.6,SNR=6.3
FINES FINESS Array B 154.62 305 PKPbc **PKiKP 18 14 44.8 +0.4**
FINES PKPab **PKPab 18 14 58.4 -0.8**
comp=Z,2.6nm,1.0s,baz=64,slow=3.2,SNR=4.1
DAVOX Davos/Dischmat 159.19 261 PKPab **PKPab 18 15 19.6 -0.1**
comp=Z,1.0nm,0.5s,baz=130,slow=15,SNR=4.0

*IDC **09** 17:55:39.4±2.9, 18°.20N×147°.97E, h0km, mb3.3/5, mbtmp3.4/6, ML3.6/1, Error ellipse: s-maj=89.3km s-min=23.1km az=90.0*
ISC 09 17:55:44.4±2.2, 18°.2N±0°.1×148°.0E±0°.4, h35km, n9, σ0°94/7, mb3.2/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.48**	**214**	Pn	**Pn**	**17 57 03.6**	**0.0**
	1.8nm,0.3s,baz=34,slow=21,SNR=1.6						
GUMO				Sn	**Sn**	**17 58 05.6**	**+0.2**
	0.3nm,0.3s,baz=216,slow=21,SNR=1.4						
	24nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**17.73**	**86**	T	T	18 18 52.3	
	baz=275,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**17.74**	**86**	T	T	18 18 50.5	
	baz=275,slow=74,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**17.74**	**86**	T	T	18 18 51.5	
	baz=275,slow=74,SNR=12						
WRA	**Warramunga Arr**	**40.19**	**200**	P	**P**	**18 03 17.7**	**+0.1**
	0.4nm,0.9s,baz=21,slow=8.2,SNR=1.2						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**43.81**	**199**	P	**P**	**18 03 46.9**	**-0.3**
	0.1nm,0.5s,baz=17,slow=9.7,SNR=2.2						
	0.1nm,0.5s						
SONM	**Songino Array**	**44.93**	**321**	P	**P**	**18 03 56.5**	**+0.5**
	0.4nm,0.6s,baz=108,slow=8.2,SNR=2.6						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**59.77**	**322**	P	**P**	**18 05 46.6**	**+0.8**
	0.3nm,0.5s,baz=103,slow=7.9,SNR=1.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**60.41**	**314**	P	**P**	**18 05 48.8**	**-1.6**
	0.1nm,0.5s,baz=83,slow=8.4,SNR=2.0						
	0.1nm,0.5s						

IDC 09 17:57:20.1±6.3, 54°.23S×160°.45E, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=397.9km s-min=48.6km az=63.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**36.42**	**316**	P	P	18 04 26.4	+0.1
	1.8nm,0.9s,baz=156,slow=9.0,SNR=9.8						
	1.8nm,0.9s						
H01W1	**Cape Leeuwin H**	**37.40**	**282**	T	T	18 43 02.9	
	baz=136,slow=76,SNR=2455						
H01W2	**Cape Leeuwin H**	**37.40**	**282**	T	T	18 43 03.5	
	baz=136,slow=76,SNR=2641						
H01W3	**Cape Leeuwin H**	**37.41**	**282**	T	T	18 43 04.2	
	baz=136,slow=76,SNR=2704						
WRA	**Warramunga Arr**	**39.60**	**320**	P	P	18 04 52.7	-0.5
	1.4nm,0.9s,baz=158,slow=7.2,SNR=6.0						
	1.4nm,0.9s						
H03S2	**Juan Fernandez**	**78.48**	**133**	T	T	19 36 44.4	
	baz=208						
H03S1	**Juan Fernandez**	**78.48**	**133**	T	T	19 36 45.8	
	baz=208						
H03S3	**Juan Fernandez**	**78.50**	**133**	T	T	19 36 45.1	
	baz=208						
H03N3	**Juan Fernandez**	**78.81**	**133**	T	T	19 37 11.2	
	baz=212,slow=71,SNR=91						
H03N2	**Juan Fernandez**	**78.82**	**133**	T	T	19 37 10.2	
	baz=212,slow=71,SNR=163						
H03N1	**Juan Fernandez**	**78.83**	**133**	T	T	19 37 10.5	
	baz=212,slow=71,SNR=57						
AKASG	**Malin Array Be**	**150.55**	**283**	PKPbc	PKPbc	18 17 12.9	+0.2
	0.5nm,0.5s,baz=93,slow=2.7,SNR=4.3						
VAE	**Valguarnera**	**151.39**	**248**	PKPbc	PKPbc	18 17 14.8	-0.5
	9.1nm,0.6s,baz=24,slow=6.9,SNR=3.7						

*TAP **09** 18:01:09.7, 24°.79N×122°.24E, h5km, ML3.0, C*
*JMA **09** 18:01:10.2±0.2, 24°.8N±0°.8×122°.2E±0°.3, h47km±4km, MV2.2/7, TAIWAN REGION*
ISC 09 18:01:08.0±1.2, 24°.84N±0°.02×122°.24E±0°.02, h6km±9km, n95, σ0°60/182, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.28**	**271**	P	**Pb**	**18 01 15.4**	**-0.1**
	baz=280						
EGS				S	**Sb**	**18 01 19.4**	**-1.2**
	baz=280						
TWB1	**Santiao Chiao**	**0.28**	**306**	P	**Pb**	**18 01 15.5**	**-0.1**
	baz=314						
TWB1				S	**Sb**	**18 01 19.1**	**-1.5**
	baz=314						
NTC	**Toucheng**	**0.38**	**272**	*eP*	**Pb**	**18 01 17.1**	**0.0**
	baz=279						
NTC				*eS*	**Sb**	**18 01 23.0**	**-0.2**
	baz=279						
TIPB	**Shuangxi**	**0.40**	**289**	P	**Pb**	**18 01 17.6**	**+0.1**
	baz=295						
TIPB				*eS*	**Sb**	**18 01 23.3**	**-0.7**
	baz=295						
SXI1	**Grass Mountain**	**0.42**	**307**	P	**Pb**	**18 01 18.3**	**+0.4**
	baz=312						
SXI1				*eS*	**Sb**	**18 01 24.2**	**-0.3**
	baz=312						
TWC	**Suao**	**0.43**	**237**	P	**Pb**	**18 01 17.1**	**-0.9**
	baz=241						
TWC				*eS*	**Sb**	**18 01 23.3**	**-1.4**
	baz=241						
ILA	**Ilan**	**0.46**	**261**	*eP*	**Pb**	**18 01 18.6**	**+0.1**
	baz=266						
ILA				*eS*	**Sb**	**18 01 25.1**	**-0.4**
	baz=266						
NWF	**Wu-fen Shan**	**0.48**	**299**	*eP*	**Pb**	**18 01 20.0**	**+1.1**
	baz=303						
NWF				*eS*	**Sb**	**18 01 26.4**	**+0.2**
	baz=303						
NDS	**Dongshan**	**0.52**	**247**	*eP*	**Pb**	**18 01 19.7**	**+0.1**
	baz=251						
NDS				*eS*	**Sb**	**18 01 26.4**	**-1.1**
	baz=251						
TWE	**Neicheng**	**0.54**	**257**	P	**Pb**	**18 01 19.6**	**-0.3**
	baz=261						
TWE				S	**Sb**	**18 01 26.6**	**-1.2**
	baz=261						
EWUT	**Wuta**	**0.58**	**227**	*eP*	**Pg**	**18 01 19.2**	**0.0**
	baz=230						
FUSB	**Fushanzhiwuyua**	**0.60**	**262**	P	**Pb**	**18 01 21.2**	**+0.2**
	baz=266						
FUSB				S	**Sb**	**18 01 29.5**	**-0.3**
	baz=266						
TWA	**Mucha**	**0.61**	**283**	*eP*	**Pn**	**18 01 22.6**	**-0.7**
	baz=287						
TWA				*eS*	**Sb**	**18 01 30.9**	**+0.8**
	baz=287						
ENA	**Nanau**	**0.62**	**228**	P	**Pb**	**18 01 20.6**	**-0.6**
	baz=230						
ENTT	**Nioudou**	**0.65**	**252**	*eP*	**Pg**	**18 01 20.8**	**+0.3**
	baz=255						
ENTT				*eS*	**Sg**	**18 01 29.3**	**+0.3**
	baz=255						
NHDH	**Xindian Distri**	**0.66**	**281**	P	**Pn**	**18 01 23.7**	**-0.3**
	baz=284						
NHDH				*eS*	**Sb**	**18 01 32.6**	**+1.1**
	baz=284						
YM01	**YM01**	**0.68**	**297**	P	**Pn**	**18 01 23.5**	**-0.8**
	baz=300						
YM01				S	**Sb**	**18 01 33.0**	**+0.9**
	baz=300						
TAP	**Taipei**	**0.70**	**286**	*eP*	**Pb**	**18 01 23.0**	**+0.4**
	baz=290						
TAP				*eS*	**Sb**	**18 01 32.7**	**+0.2**
	baz=290						
NDT	**Datong Townshi**	**0.71**	**250**	P	**Pb**	**18 01 23.1**	**+0.3**
	baz=254						
NDT				S	**Sb**	**18 01 32.5**	**-0.2**
	baz=254						
LATG	**Datong**	**0.72**	**245**	P	**Pb**	**18 01 23.1**	**+0.1**
	baz=248						
LATG				*eS*	**Sg**	**18 01 32.0**	**+0.7**
	baz=248						
TWY	**Chenhua**	**0.73**	**307**	P	**Pn**	**18 01 24.4**	**-0.4**
	baz=309						
TWY				S	**Sb**	**18 01 34.8**	**+1.5**
	baz=309						
ANP	**Anpu**	**0.74**	**298**	*eP*	**Pn**	**18 01 24.4**	**-0.7**
	baz=301						
ANP				*eS*	**Sb**	**18 01 34.2**	**+0.4**
	baz=301						
JYNG	**Yonaguni jima**	**0.75**	**121**	P	**Pn**	**18 01 24.4**	**-0.7**
JYNG				*eS*	**Sb**	**18 01 33.9**	**0.0**
NTST	**Danshui**	**0.79**	**294**	*eP*	**Pn**	**18 01 25.0**	**-0.7**
	baz=297						
NTST				*eS*	**Sb**	**18 01 36.1**	**+1.0**
	baz=297						
TWS1	**Kuangyinshan**	**0.79**	**289**	*eP*	**Pb**	**18 01 24.8**	**+0.5**
	baz=292						
TWS1				*eS*	**Sb**	**18 01 36.2**	**+1.0**
	baz=292						
YOJ	**Yonaguni jima**	**0.79**	**118**	P	**Pb**	**18 01 24.8**	**+0.6**
	baz=114						
YOJ				*eS*	**Sb**	**18 01 35.3**	**+0.1**
	baz=114						
YOJ	**Yonaguni jima**	**0.79**	**118**	P	**Pb**	**18 01 24.8**	**+0.6**
YOJ				*eS*	**Sb**	**18 01 35.2**	**+0.1**
YHNB	**Yeheng**	**0.81**	**258**	P	**Pb**	**18 01 24.7**	**+0.2**
	baz=261						
YHNB				*eS*	**Sb**	**18 01 36.2**	**+0.5**
	baz=261						
NSK	**Sanguang**	**0.82**	**259**	P	**Pg**	**18 01 23.9**	**+0.1**
	baz=261						
NSK				*eS*	**Sb**	**18 01 36.2**	**+0.1**
	baz=261						
ETL	**Fush Village**	**0.88**	**220**	*eP*	**Pb**	**18 01 25.5**	**-0.3**
	baz=221						
ETL				*eS*	**Sg**	**18 01 36.7**	**+0.1**
	baz=221						
NNSB	**Datong**	**0.89**	**242**	P	**Pb**	**18 01 25.8**	**-0.1**
	baz=245						
NNSB				*eS*	**Sb**	**18 01 38.2**	**+0.2**
	baz=245						
NNS	**Nan Shan**	**0.89**	**243**	*eP*	**Pg**	**18 01 24.8**	**-0.3**
	baz=245						
NNS				*eS*	**Sg**	**18 01 36.3**	**-0.4**
	baz=245						
NACB	**Ninganchiao**	**0.89**	**222**	P	**Pb**	**18 01 25.5**	**-0.4**
	baz=223						
NACB				S	**Sb**	**18 01 38.1**	**+0.1**
	baz=223						
ETLH	**Xiulin Townshi**	**0.94**	**228**	*eP*	**Pb**	**18 01 26.8**	**+0.1**
	baz=229						
ETLH				*eS*	**Sg**	**18 01 38.5**	**+0.2**
	baz=229						
TWD	**Chiawan**	**0.96**	**218**	P	**Pb**	**18 01 26.9**	**-0.2**
	baz=219						
TWD				*eS*	**Sb**	**18 01 40.5**	**+0.5**
	baz=219						
HWA	**Hwalien**	**1.04**	**214**	*eP*	**Pn**	**18 01 29.1**	**0.0**
	baz=215						
HWA				*eS*	**Sn**	**18 01 43.5**	**-0.5**
	baz=215						
NFF	**Wufeng Townshi**	**1.04**	**259**	P	**Pn**	**18 01 29.0**	**-0.3**
	baz=261						
NFF				S	**Sn**	**18 01 43.7**	**-0.6**
	baz=261						
FUSS	**Fushou**	**1.09**	**237**	P	**Pb**	**18 01 29.6**	**+0.2**
	baz=239						
FUSS				S	**Sb**	**18 01 44.2**	**+0.3**
	baz=239						
WHF	**Hehuan Shan**	**1.13**	**232**	P	**Pb**	**18 01 30.5**	**+0.2**
	baz=233						
WHF				S	**Sg**	**18 01 44.8**	**+0.4**
	baz=233						
LIOB	**Emei**	**1.13**	**260**	*eP*	**Pn**	**18 01 30.7**	**+0.2**
	baz=262						
LIOB				*eS*	**Sn**	**18 01 46.3**	**0.0**
	baz=262						
TWT	**Tachien**	**1.14**	**239**	*eP*	**Pn**	**18 01 30.9**	**+0.2**
	baz=241						
TWT				*eS*	**Sn**	**18 01 46.2**	**-0.4**
	baz=241						
SBCB	**Hsinchu**	**1.15**	**268**	*eP*	**Pn**	**18 01 30.9**	**+0.3**
	baz=269						
SBCB				*eS*	**Sn**	**18 01 46.4**	**-0.2**
	baz=269						
NSTT	**Nanjuang**	**1.15**	**260**	*eP*	**Pn**	**18 01 30.9**	**+0.3**
	baz=261						
NSTT				*eS*	**Sn**	**18 01 46.7**	**0.0**
	baz=261						
TDCB	**Techi**	**1.15**	**240**	P	**Pn**	**18 01 30.8**	**0.0**
	baz=241						
TDCB				*eS*	**Sn**	**18 01 46.5**	**-0.4**
	baz=241						
CHGB	**Renai**	**1.25**	**232**	P	**Pn**	**18 01 32.4**	**+0.2**
	baz=233						
CHGB				S	**Sb**	**18 01 49.1**	**+0.6**
	baz=233						
ESL	**Shilin**	**1.26**	**216**	*eP*	**Pn**	**18 01 32.5**	**+0.3**
	baz=216						
ESL				*eS*	**Sn**	**18 01 49.3**	**-0.2**
	baz=216						
WHP	**Taichung City**	**1.31**	**245**	*eP*	**Pb**	**18 01 34.1**	**+1.1**
	baz=246						
WHP				*eS*	**Sb**	**18 01 50.5**	**+0.4**
	baz=246						
OWD	**Renai**	**1.31**	**228**	P	**Pb**	**18 01 33.5**	**+0.3**
	baz=229						
OWD				S	**Sg**	**18 01 50.3**	**-0.1**
	baz=229						
WUSB	**Renai**	**1.33**	**231**	P	**Pb**	**18 01 33.6**	**+0.1**
	baz=232						
WUSB				*eS*	**Sb**	**18 01 50.9**	**+0.1**
	baz=232						
NMLH	**Miaoli**	**1.36**	**257**	*eP*	**Pg**	**18 01 34.1**	**0.0**
	baz=259						
NMLH				*eS*	**Sb**	**18 01 51.7**	**+0.3**
	baz=259						
EGFH	**Guangfu**	**1.39**	**213**	P	**Pg**	**18 01 34.5**	**-0.1**
	baz=213						
EGFH				*eS*	**Sn**	**18 01 52.9**	**+0.4**
	baz=213						
NSY	**Sanyi**	**1.42**	**253**	*eP*	**Pg**	**18 01 35.1**	**-0.1**
	baz=254						
NSY				*eS*	**Sg**	**18 01 53.3**	**-0.2**
	baz=254						
TWQ1	**Liyutan**	**1.43**	**250**	*eP*	**Pb**	**18 01 34.8**	**-0.2**
	baz=251						
TWQ1				*eS*	**Sn**	**18 01 53.8**	**+0.2**
	baz=251						
WCS	**Beigang Elemen**	**1.44**	**238**	*eP*	**Pg**	**18 01 35.5**	**-0.2**
	baz=238						
WCS				*eS*	**Sg**	**18 01 54.4**	**-0.1**
	baz=238						
VWDT	**VWDT**	**1.48**	**223**	P	**Pb**	**18 01 35.8**	**-0.1**
	baz=224						
VWDT				S	**Sn**	**18 01 55.0**	**+0.2**
	baz=224						
HGSD	**Ruisui**	**1.54**	**209**	*eP*	**Pb**	**18 01 36.9**	**0.0**
	baz=209						
HGSD				*eS*	**Sn**	**18 01 56.1**	**-0.2**
	baz=209						
WDJ	**Dajia District**	**1.54**	**252**	*eS*	**Sb**	**18 01 56.8**	**0.0**
	baz=253						
SMLT	**Sun Moon Lake**	**1.55**	**232**	*eP*	**Pb**	**18 01 37.3**	**0.0**
	baz=233						
SMLT				*eS*	**Sn**	**18 01 56.8**	**0.0**
	baz=233						
TYC	**Yuchr**	**1.57**	**234**	*eP*	**Pg**	**18 01 37.9**	**-0.3**
	baz=234						
TYC				*eS*	**Sn**	**18 01 56.6**	**-0.5**
	baz=234						
EHY	**Hungye**	**1.57**	**213**	*eP*	**Pb**	**18 01 37.2**	**-0.4**
	baz=212						
EHY				*eS*	**Sn**	**18 01 57.1**	**-0.1**
	baz=212						
SSLB	**Suanglung**	**1.58**	**229**	P	**Pn**	**18 01 37.0**	**+0.4**
	baz=229						
SSLB				S	**Sb**	**18 01 58.0**	**+0.2**
	baz=229						
TCU	**Taichung**	**1.59**	**244**	*eP*	**Pb**	**18 01 37.4**	**-0.4**
	baz=245						
TCU				*eS*	**Sb**	**18 01 58.3**	**+0.2**
	baz=245						
YULB	**Yu-li**	**1.68**	**211**	P	**Pn**	**18 01 38.5**	**+0.5**
	baz=211						
YULB				*eS*	**Sn**	**18 02 00.1**	**+0.2**
	baz=211						
WHYT	**Xinyi Township**	**1.71**	**228**	*eP*	**Pn**	**18 01 39.0**	**+0.7**
	baz=229						
WHYT				*eS*	**Sn**	**18 02 00.2**	**-0.4**
	baz=229						
EYUL	**Yuli**	**1.71**	**210**	*eP*	**Pn**	**18 01 38.9**	**+0.5**
	baz=210						
EYUL				*eS*	**Sn**	**18 02 00.8**	**+0.2**
	baz=210						
WJS	**Zhushan**	**1.72**	**234**	*eP*	**Pb**	**18 01 39.2**	**-0.7**
	baz=234						
WJS				*eS*	**Sn**	**18 02 00.7**	**0.0**
	baz=234						
WNT	**Mingjian**	**1.72**	**236**	*eP*	**Pn**	**18 01 38.9**	**+0.4**
	baz=237						
WNT				*eS*	**Sn**	**18 02 00.5**	**-0.1**
	baz=237						
JKRS	**Kuro-shima**	**1.72**	**110**	P	**Pn**	**18 01 38.0**	**-0.5**
YUS	**Yu-Shan**	**1.79**	**221**	*eP*	**Pn**	**18 01 40.7**	**+0.8**
	baz=221						
YUS				*eS*	**Sn**	**18 02 03.5**	**+0.3**
	baz=221						
JIJ	**Ishigaki jima**	**1.79**	**105**	P	**Pn**	**18 01 39.1**	**-0.4**
ALS	**Alishan**	**1.87**	**225**	*eP*	**Pn**	**18 01 41.2**	**+0.4**
	baz=225						
ALS				*eS*	**Sn**	**18 02 04.4**	**-0.4**
	baz=225						
WDLH	**Douliu**	**1.93**	**234**	*eP*	**Pn**	**18 01 41.9**	**+0.5**
	baz=234						
WDLH				*eS*	**Sn**	**18 02 06.2**	**+0.2**
	baz=234						
WRL	**Guolierlin Hig**	**1.94**	**242**	*eP*	**Pn**	**18 01 42.5**	**+0.9**
	baz=242						
WRL				*eS*	**Sn**	**18 02 06.2**	**-0.1**
	baz=242						
ELDTW	**Lidau**	**1.99**	**215**	*eP*	**Pn**	**18 01 42.8**	**+0.5**
	baz=214						
ELDTW				*eS*	**Sn**	**18 02 07.8**	**+0.2**
	baz=214						
WCKO	**Fanlu**	**2.05**	**227**	*eP*	**Pn**	**18 01 43.7**	**+0.6**
	baz=227						
WCKO				*eS*	**Sn**	**18 02 08.9**	**0.0**
	baz=227						
EDH	**Donghe**	**2.05**	**205**	*eP*	**Pn**	**18 01 43.5**	**+0.4**
	baz=205						
EDH				*eS*	**Sn**	**18 02 07.7**	**-1.2**
	baz=205						
TPUB	**Ta-pu**	**2.13**	**224**	*eP*	**Pb**	**18 01 45.7**	**-1.4**
	baz=224						
TPUB				*eS*	**Sn**	**18 02 10.9**	**0.0**
	baz=224						
STYH	**Taoyuan**	**2.14**	**219**	*eP*	**Pn**	**18 01 45.5**	**+1.3**
	baz=219						
STYH				*eS*	**Sn**	**18 02 11.2**	**+0.1**
	baz=219						
WTP	**Ta-pu**	**2.18**	**223**	*eP*	**Pb**	**18 01 46.4**	**-1.5**
	baz=223						
WTP				*eS*	**Sn**	**18 02 12.4**	**+0.2**
	baz=223						
LONT	**Longtian**	**2.18**	**208**	*eP*	**Pn**	**18 01 45.7**	**+0.8**
	baz=208						
LONT				*eS*	**Sn**	**18 02 12.1**	**-0.1**
	baz=208						
TWK	**Hsinying**	**2.24**	**226**	*eP*	**Pn**	**18 01 46.7**	**+0.9**
	baz=226						
TWK				*eS*	**Sn**	**18 02 14.0**	**+0.2**
	baz=226						
WSL	**Shuilin Townsh**	**2.26**	**235**	*eP*	**Pn**	**18 01 46.7**	**+0.8**
	baz=235						
WSL				*eS*	**Sn**	**18 02 14.4**	**+0.2**
	baz=235						
LDUT	**Ludao**	**2.27**	**198**	*eP*	**Pn**	**18 01 47.3**	**+1.2**
	baz=198						
LDUT				*eS*	**Sn**	**18 02 13.7**	**-0.7**
	baz=198						
CHN1	**Nanshi**	**2.28**	**224**	*eP*	**Pn**	**18 01 46.9**	**+0.7**
	baz=224						
CHN1				*eS*	**Sn**	**18 02 14.5**	**0.0**
	baz=224						
TWGBT	**Beinan**	**2.28**	**208**	*eP*	**Pn**	**18 01 46.3**	**+0.1**
	baz=208						
SGST	**Jiashian**	**2.32**	**221**	*eS*	**Sn**	**18 02 15.3**	**-0.3**
	baz=221						
MATB	**Ma-tsu**	**2.45**	**303**	*eS*	**Sb**	**18 02 21.4**	**-1.6**
	baz=302						
VWUC	**VWUC**	**2.54**	**274**	*eP*	**Pb**	**18 01 52.0**	**-2.1**
	baz=274						
VWUC				*eS*	**Sn**	**18 02 22.8**	**+1.7**
	baz=274						
SSD	**Sandimen**	**2.56**	**216**	*eP*	**Pn**	**18 01 50.8**	**+0.7**
	baz=215						
SSD				*eS*	**Sn**	**18 02 21.6**	**+0.2**
	baz=215						
TSMG	**Majia**	**2.58**	**215**	*eP*	**Pn**	**18 01 51.3**	**+0.9**
	baz=215						
TSMG				*eS*	**Sn**	**18 02 21.9**	**-0.2**
	baz=215						
MASBT	**Mashibuluo**	**2.67**	**214**	*eP*	**Pn**	**18 01 52.5**	**+1.0**
	baz=214						
MASBT				*eS*	**Sn**	**18 02 24.9**	**+0.7**
	baz=214						
EAST	**Anshuo**	**2.76**	**208**	*eP*	**Pn**	**18 01 53.9**	**+1.0**
	baz=207						
EAST				*eS*	**Sn**	**18 02 26.4**	**-0.2**
	baz=207						
PNG	**Penghu**	**2.76**	**243**	*eP*	**Pn**	**18 01 54.3**	**+1.4**
	baz=243						
PNG				*eS*	**Sn**	**18 02 26.7**	**+0.2**
	baz=243						
TAW	**Tawu**	**2.77**	**207**	*eP*	**Pn**	**18 01 53.5**	**+0.7**
	baz=206						
TAW				*eS*	**Sn**	**18 02 26.7**	**+0.1**
	baz=206						
WDGT	**Dungji**	**2.84**	**237**	*eP*	**Pn**	**18 01 54.4**	**+0.5**
	baz=236						
WDGT				*eS*	**Sn**	**18 02 28.8**	**+0.4**
	baz=236						

*ATH **09** 18:15:52.0, 35°.83N×28°.44E, h15km±5km, ML2.9/5, Error ellipse: s-maj=14.5km s-min=2.9km az=284.0*
*DDA **09** 18:15:53.4±0.0, 35°.80N×28°.12E, h19km±1km, ML2.9*
*NIC **09** 18:15:53.5±0.0, 35°.85N×28°.23E, h3km±1km, Ml3.3/4*
*ISK **09** 18:15:53.1, 35°.80N×28°.21E, h8km, ML3.0/15*
*THE **09** 18:15:54.3, 35°.86N×28°.18E, h1km±2km, ML2.9/4, Error ellipse: s-maj=5.4km s-min=1.0km az=123.0*
ISC 09 18:15:53.8±1.2, 35°.87N±0°.03×28°.15E±0°.02, h6km±10km, n56, σ1°91/87, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.35**	**356**	P	**Pb**	**18 16 01.4**	**-1.1**
ARG				S	**Sb**	**18 16 07.4**	**-0.8**
	1μm,0.4s						
ARG	**Arkhangelos**	**0.35**	**356**	PG	**Pb**	**18 16 01.6**	**-0.8**
ARG				SG	**Sb**	**18 16 08.3**	**+0.1**
ARG	**Arkhangelos**	**0.35**	**356**	P	**Pb**	**18 16 01.4**	**-1.1**
ARG				S	**Sb**	**18 16 07.5**	**-0.8**
ARG	**Arkhangelos**	**0.35**	**356**	P	**Pb**	**18 16 01.2**	**-1.2**
ARG				S	**Sb**	**18 16 07.5**	**-0.8**
ARG				AML	AML	18 16 12.0	
	comp=E,3530μm,0.5s						
ARG				AML	AML	18 16 12.4	
	comp=N,1883μm,0.3s						
KARP	**Karpathos**	**0.87**	**249**	P	**Pb**	**18 16 11.7**	**+0.4**
KARP				S	**Sn**	**18 16 24.8**	**-0.7**
	comp=N,600nm,0.6s						
KARP	**Karpathos**	**0.87**	**249**	PG	**Pb**	**18 16 10.7**	**-0.6**
KARP				SG	**Sb**	**18 16 23.6**	**+0.5**
KARP	**Karpathos**	**0.87**	**249**	P	**Pb**	**18 16 11.8**	**+0.4**
KARP				S	**Sn**	**18 16 25.3**	**-0.3**
KARP				AML	AML	18 16 30.2	
	comp=N,1.1nm,0.5s						
KARP				AML	AML	18 16 30.2	
	comp=N,1.1nm,0.5s						
KARP				AML	AML	18 16 30.6	
	comp=N,1.3nm,0.6s						
KARP				AML	AML	18 16 30.6	
	comp=N,1.3nm,0.6s						
KARP	**Karpathos**	**0.87**	**249**	P	**Pn**	**18 16 11.9**	**-0.7**
KARP				AML	AML	18 16 30.9	
	comp=N,1226μm,0.5s						
KARP				AML	AML	18 16 33.6	
	comp=E,1184μm,0.6s						
TURN	**Turunc**	**0.91**	**5**	PG	**Pb**	**18 16 11.9**	**-0.1**
TURN				SG	**Sn**	**18 16 26.2**	**-0.3**
TURN	**Turunc**	**0.91**	**5**	P	**Pb**	**18 16 11.9**	**-0.1**
TURN				S	**Sn**	**18 16 26.6**	**+0.1**

DAT	**Datca**	**0.98**	**332**	P	**Pn**	**18 16 14.1**	**-0.1**
DALY	**Dalyan (Mula)**	**1.03**	**23**	PG	**Pb**	**18 16 13.5**	**-0.5**
DALY				SG	**Sn**	**18 16 29.6**	**+0.1**
FETY	**Fethiye**	**1.07**	**44**	PN	**Pb**	**18 16 14.6**	**-0.2**
FETY				SN	**Sn**	**18 16 30.2**	**-0.4**
NIS1	**Nisyros Isl.**	**1.08**	**313**	P	**Pn**	**18 16 15.5**	**+0.1**
NIS1				S	**Sn**	**18 16 31.6**	**+0.9**
	comp=E,2μm,0.7s						
NIS1	**Nisyros Isl.**	**1.08**	**313**	PN	**Pn**	**18 16 15.7**	**+0.3**
NISR	**Nisiros**	**1.11**	**312**	P	**Pn**	**18 16 17.4**	**+1.5**
NISR				AML	AML	18 16 39.0	
	comp=N,1239μm,0.5s						
NISR				AML	AML	18 16 39.0	
	comp=E,1653μm,0.6s						
AKAS	**Kas**	**1.23**	**72**	PN	**Pg**	**18 16 16.7**	**-0.8**
AKAS	**Kas**	**1.23**	**72**	P	**Pg**	**18 16 17.0**	**-0.5**
AKAS				S	**Sn**	**18 16 35.8**	**+1.2**
AKAS				*i* AML	AML	18 16 42.0	
	comp=E,179nm,0.5s						
AKAS				*i* AML	AML	18 16 45.0	
	comp=E,232nm,0.7s						
YER	**Yerkesik**	**1.27**	**5**	P	**Pn**	**18 16 18.0**	**-0.1**
YER				S	**Sn**	**18 16 35.8**	**+0.3**
YER	**Yerkesik**	**1.27**	**5**	PN	**Pn**	**18 16 18.5**	**+0.4**
BDRM	**Kayabasi**	**1.33**	**335**	P	**Pb**	**18 16 19.8**	**+0.7**
BDRM				S	**Sn**	**18 16 38.1**	**+1.3**
BDRM				*i* AML	AML	18 16 39.0	
	comp=E,337nm,0.4s						
BDRM				*i* AML	AML	18 16 40.0	
	comp=E,328nm,0.6s						
BODT	**Bodrum**	**1.37**	**331**	P	**Pn**	**18 16 19.2**	**-0.3**
BODT				S	**Sn**	**18 16 38.1**	**+0.1**
MULA	**Mugla, Merkez-**	**1.39**	**6**	P	**Pb**	**18 16 21.0**	**+0.7**
MULA				S	**Sn**	**18 16 40.7**	**+2.1**
CAME	**Cameli-Denizli**	**1.42**	**40**	PN	**Pn**	**18 16 20.1**	**-0.2**
ELL	**Elmali**	**1.67**	**58**	PN	**Pn**	**18 16 23.4**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.71**	**21**	P	**Pg**	**18 16 26.2**	**-0.4**
TAVA				S	**Sg**	**18 16 50.1**	**+1.3**
ZKR	**Zakros**	**1.75**	**245**	P	**Pg**	**18 16 27.3**	**-0.1**
ZKR	**Zakros**	**1.75**	**245**	P	**Pg**	**18 16 26.5**	**-0.8**
ZKR				S	**Sg**	**18 16 50.3**	**+0.2**
ZKR	**Zakros**	**1.75**	**245**	P	**Pg**	**18 16 27.3**	**-0.1**
ZKR				AML	AML	18 16 59.2	
	comp=E,357μm,0.5s						
ZKR				AML	AML	18 17 02.7	
	comp=N,153μm,0.6s						
GOLH	**Golhisar**	**1.78**	**39**	P	**Pg**	**18 16 28.0**	**+0.1**
GOLH				S	**Sg**	**18 16 52.5**	**+1.6**
AYDN	**Tasoluk**	**1.80**	**353**	P	**Pb**	**18 16 27.2**	**-0.1**
AYDN				S	**Sb**	**18 16 50.5**	**+0.4**
APMY	**Acipayam-Deniz**	**1.85**	**30**	PN	**Pn**	**18 16 26.4**	**+0.3**
GCAM	**G?zelcaml?**	**1.97**	**338**	PN	**Pb**	**18 16 28.8**	**-1.3**
GCAM	**G?zelcaml?**	**1.97**	**338**	P	**Pb**	**18 16 29.3**	**-0.8**
GCAM				S	**Sb**	**18 16 54.9**	**0.0**
GCAM				*i* AML	AML	18 16 59.0	
	comp=N,97nm,0.7s						
GCAM				*i* AML	AML	18 17 03.0	
	comp=N,86nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**2.09**	**354**	PN	**Pn**	**18 16 30.4**	**+1.0**
KORT	**Korkueli**	**2.10**	**57**	PN	**Pn**	**18 16 29.7**	**+0.1**
KORT	**Korkueli**	**2.10**	**57**	P	**Pb**	**18 16 31.6**	**-0.8**
KORT				S	**Sb**	**18 16 59.8**	**+1.0**
SMG	**Samos**	**2.12**	**331**	P	**Pn**	**18 16 30.3**	**+0.5**
SMG				S	**Sn**	**18 16 56.4**	**0.0**
	comp=N,185nm,0.4s						
SMG	**Samos**	**2.12**	**331**	P	**Pn**	**18 16 30.6**	**+0.8**
SMG				AML	AML	18 17 07.7	
	comp=E,418μm,0.4s						
SMG				AML	AML	18 17 09.0	
	comp=N,322μm,0.5s						
SANT	**Santorini**	**2.24**	**284**	PN	**Pn**	**18 16 32.4**	**+1.0**
BRDR	**BURDUR-Merkez**	**2.38**	**39**	P	**Pb**	**18 16 36.6**	**-0.5**
PASA	**Karahalli, USA**	**2.70**	**23**	P	**Pb**	**18 16 40.0**	**-2.5**
PASA				S	**Sb**	**18 17 13.4**	**-2.5**
ZEYE	**Izmir, Urla-Ze**	**2.71**	**331**	P	**Pn**	**18 16 38.4**	**+0.5**
ZEYE				S	**Sn**	**18 17 12.0**	**+1.1**
ZEYE				*i* AML	AML	18 17 25.0	
	comp=N,42nm,0.6s						
URLA	**Izmir**	**2.78**	**334**	P	**Pn**	**18 16 38.8**	**-0.1**
URLA				S	**Sn**	**18 17 13.0**	**+0.2**
KEPZ	**Antalya-Kepez**	**2.97**	**69**	P	**Pn**	**18 16 43.1**	**+1.7**
KEPZ				S	**Sn**	**18 17 18.8**	**+1.4**
SEDI	**Konya, Seydise**	**3.30**	**60**	P	**Pn**	**18 16 48.8**	**+2.7**
SEDI				S	**Sn**	**18 17 27.6**	**+1.9**
SEDI				*i* AML	AML	18 17 31.0	
	comp=N,45nm,0.6s						
AKMS	**Akamas**	**3.52**	**103**	P	**Pn**	**18 16 48.5**	**-0.5**
AKMS				AML	AML	18 17 33.2	
	comp=N,0.2nm,0.6s						
AKMS				AML	AML	18 17 36.1	
	comp=N,0.1nm,0.9s						
ALFC	**Alefka**	**3.69**	**100**	P	**Pn**	**18 16 51.1**	**-0.3**
ALFC				AML	AML	18 17 35.1	
	comp=N,0.1nm,0.9s						
ALFC				AML	AML	18 17 35.7	
	comp=N,0.2nm,0.7s						
DURS	**Dursunbey**	**3.74**	**4**	P	**Pn**	**18 16 53.1**	**+1.0**
NATA	**Nata**	**3.77**	**105**	P	**Pn**	**18 16 52.2**	**-0.3**
BALY	**Balya**	**3.89**	**354**	P	**Pn**	**18 16 54.0**	**-0.1**
BALY				S	**Sn**	**18 17 35.9**	**-4.2**
SZAC	**Souni**	**4.02**	**105**	P	**Pn**	**18 16 55.7**	**-0.3**
SZAC				AML	AML	18 17 44.6	
	comp=N,0.2nm,0.5s						
SZAC				AML	AML	18 17 46.5	
	comp=N,0.2nm,0.6s						
KKBE	**Karaman, Kazim**	**4.08**	**69**	P	**Pn**	**18 16 57.7**	**+0.8**
KKBE				S	**Sn**	**18 17 45.6**	**+0.6**
ASGA	**Asgata**	**4.30**	**103**	P	**Pn**	**18 16 59.5**	**-0.3**
CSS	**Mathiatis**	**4.32**	**101**	P	**Pn**	**18 16 59.7**	**-0.4**
MVOU	**Mavrovouni**	**4.55**	**99**	P	**Pn**	**18 17 02.5**	**-0.7**

ROM 09 18:23:21.1±0.1, **43°267N**±0°.003×**12°531E**±0°.006,
h11km, **ML1.0/5, 2C, Error ellipse: s-maj=0.5km**
s-min=0.3km az=73.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.01**	**229**	P	Pg	18 23 23.2	+0.2
MURB				S	Sg	18 23 24.5	+0.1
MURB				AML	AML		
	comp=E,940μm,0.2s						
MURB				AML	AML		
	comp=E,786μm,0.2s						
MURB				AML	AML		
	comp=E,941μm,0.2s						
MURB				AML	AML		
	comp=N,538μm,0.2s						
MURB				AML	AML		
	comp=N,604μm,0.9s						
ATFO	**Monte Foce - G**	**0.10**	**16**	⇑P	Pg	18 23 24.3	+0.4
ATFO				S	Sg	18 23 26.5	+0.6
ATFO				AML	AML		
	comp=E,55μm,0.5s						
ATFO				AML	AML		
	comp=N,50μm,1.6s						
ATCC	**AVT- Casa Cast**	**0.11**	**136**	P	Pg	18 23 24.6	+0.6
ATCC				S	Sg	18 23 27.0	+1.0
ATCC				AML	AML		
	comp=E,154μm,0.3s						
ATCC				AML	AML		
	comp=N,136μm,0.3s						
ATCC				AML	AML		
	comp=E,154μm,0.3s						
ATCC				AML	AML		
	comp=N,136μm,0.3s						
ATVO	**AVT- Monte Val**	**0.15**	**322**	P	Pg	18 23 24.9	+0.5
FOSV	**Fossato di Vic**	**0.17**	**81**	⇑P	Pg	18 23 25.5	+0.7
FOSV				S	Sg	18 23 28.4	+0.9
ASSB	**Assisi San Ben**	**0.24**	**157**	P	Pg	18 23 26.7	+0.6
ASSB				S	Sg	18 23 30.6	+1.1
ASSB				AML	AML		
	comp=E,46μm,0.1s						
ASSB				AML	AML		
	comp=N,39μm,0.4s						
ASSB				AML	AML		
	comp=E,46μm,0.1s						
PIEI	**Pieia**	**0.27**	**1**	P	Pg	18 23 27.2	+0.7
PIEI				S	Sb	18 23 31.6	-1.0
PIEI				AML	AML		
	comp=E,19μm,1.3s						
PIEI				AML	AML		
	comp=N,28μm,0.3s						
FRON	**Frontone**	**0.29**	**29**	P	Pg	18 23 27.3	+0.4

ROM 09 18:24:06.6±0.1, **42°661N**±0°.004×**13°208E**±0°.004,
h13km, **ML1.1/2, Error ellipse: s-maj=0.4km**
s-min=0.1km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.04**	**16**	P	Pg	18 24 09.5	+0.3
T1202				S	Sg	18 24 11.3	+0.2
T1202				AML	AML		
	comp=E,257μm,0.1s						
T1202				AML	AML		
	comp=N,230μm,0.9s						
T1204	**Amatrice, Fraz**	**0.08**	**79**	P	Pg	18 24 09.9	+0.3
SMA1	**SAN MARTINO**	**0.10**	**108**	P	Pg	18 24 10.1	+0.4
SMA1				S	Sg	18 24 12.5	+0.6
LNSS	**Leonessa**	**0.14**	**245**	P	Pg	18 24 10.5	+0.3
LNSS				S	Sg	18 24 13.1	+0.4
LNSS				AML	AML		
	comp=N,84μm,0.5s						
LNSS				AML	AML		
	comp=N,84μm,0.5s						
LNSS				AML	AML		
	comp=E,70μm,0.2s						
RM33	**Pellescritta (**	**0.15**	**178**	P	Pg	18 24 10.8	+0.4
RM33				S	Sg	18 24 13.5	+0.5
T1243	**Rocca Santa Ma**	**0.18**	**78**	P	Pg	18 24 11.2	+0.4
T1243				S	Sg	18 24 14.4	+0.7
NRCA	**Norcia**	**0.19**	**338**	P	Pg	18 24 11.3	+0.4
NRCA				S	Sg	18 24 14.5	+0.6
NRCA				AML	AML		
	comp=E,51μm,1.5s						
NRCA				AML	AML		
	comp=N,32μm,0.7s						
NRCA				AML	AML		
	comp=N,94μm,0.1s						
NRCA				AML	AML		
	comp=E,138μm,0.1s						
T1241	**Roccafluvione,**	**0.26**	**40**	P	Pg	18 24 12.4	+0.4
T1241				S	Sg	18 24 16.6	+0.8
T1215	**Vallo di Nera,**	**0.29**	**300**	P	Pg	18 24 13.0	+0.4
T1215				S	Sg	18 24 17.4	+0.8
TERO	**Teramo**	**0.29**	**97**	P	Pg	18 24 13.0	+0.3
TERO				S	Sg	18 24 17.5	+0.6

IDC 09 18:37:48.0±2.2, **55°26S×31°51W, h0**km, **mb4.1/2,**
mbtmp4.1/2, Error ellipse: s-maj=92.2km s-min=48.1km
az=13.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**47.95**	**310**	P	P	18 46 28.6	-0.3
	1.4nm,0.5s,baz=167,slow=6.8,SNR=4.6						
	1.4nm,0.5s						
H10N3	**ASCENSION HYDR**	**49.20**	**23**	T	T	19 40 04.6	
	baz=192						
H10N1	**ASCENSION HYDR**	**49.20**	**23**	T	T	19 39 57.9	
	baz=192						
H10N2	**ASCENSION HYDR**	**49.22**	**23**	T	T	19 40 02.5	
	baz=192						
TORD	**Torodi Ar. Bea**	**73.67**	**34**	P	P	18 49 23.3	0.0
	1.6nm,1.0s,baz=200,slow=6.8,SNR=3.9						
	1.6nm,1.0s						
ZALV	**Zalesovo Beam**	**144.24**	**65**	PKP	PKPab	18 57 22.0	-0.5
	0.7nm,0.4s,baz=234,slow=1.2,SNR=2.1						
ILAR	**Eielson Array**	**147.78**	**313**	PKPbc	PKPbc	18 57 33.0	-0.2
	0.5nm,0.7s,baz=92,slow=2.1,SNR=3.7						
SONM	**Songino Array**	**153.14**	**88**	PKPbc	PKiKP	18 57 47.2	+0.3
	0.3nm,0.5s,baz=225,slow=1.0,SNR=2.4						

*NOU **09** 18:43:53.2, 38°.02S×176°.13E, h232km, MLv4.0/8, North Island, New Zealand*
*WEL **09** 18:43:59.7±0.7, 38°S±4°×17°6E±°, h174km±6km, M3.1/43, MLv3.1/43, Error ellipse: s-maj=0.0km s-min=0.0km az=103.2*

ISC 09 18:43:54.5±1.8, **38°16S**±0°.06×**176°03E**±0°.06,
h21km±10km, **n113, σ160**/121, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.20**	**163**	P	**Pn**	**18 44 23.8**	**+1.3**
HSRZ	**Hossack Road**	**0.23**	**133**	P	**Pn**	**18 44 23.9**	**+1.4**
KUTZ	**Kaahu Road**	**0.37**	**207**	P	**Pn**	**18 44 24.1**	**+1.3**
RRRZ	**Republican Roa**	**0.42**	**116**	P	**Pn**	**18 44 24.0**	**+1.0**
TLZ	**Tolley Road**	**0.43**	**246**	P	**Pn**	**18 44 24.4**	**+1.4**
PRRZ	**Plateau Road**	**0.44**	**140**	P	**Pn**	**18 44 24.1**	**+1.1**
TGRZ	**Tauranga**	**0.47**	**23**	P	**Pn**	**18 44 23.9**	**+0.8**
ALRZ	**Allen Road**	**0.47**	**149**	P	**Pn**	**18 44 24.5**	**+1.3**
OPRZ	**Ohinepanea**	**0.52**	**53**	P	**Pn**	**18 44 24.0**	**+0.7**
WATZ	**Wairara**	**0.60**	**203**	P	**Pn**	**18 44 25.1**	**+1.5**
TOZ	**Tahuroa Road**	**0.60**	**315**	P	**Pn**	**18 44 24.8**	**+1.2**
MUGZ	**Murupara**	**0.66**	**119**	P	**Pn**	**18 44 24.5**	**+0.7**
HATZ	**Hinemaiaia**	**0.73**	**176**	P	**Pn**	**18 44 25.4**	**+1.2**
RATZ	**Rangitukua**	**0.74**	**196**	P	**Pn**	**18 44 25.7**	**+1.5**
MRHZ	**Matea Rd**	**0.74**	**156**	P	**Pn**	**18 44 25.5**	**+1.2**
RITZ	**Rihia Road**	**0.83**	**189**	P	**Pn**	**18 44 26.6**	**+1.9**
URZ	**Urewera**	**0.85**	**97**	P	**Pn**	**18 44 25.6**	**+0.7**
URZ	**Urewera**	**0.85**	**97**	P	**Pn**	**18 44 25.5**	**+0.7**
KATZ	**Kakaramea**	**0.86**	**198**	P	**Pn**	**18 44 26.6**	**+1.6**
MTHZ	**Maungataniwha**	**0.94**	**138**	P	**Pn**	**18 44 26.8**	**+1.4**
MTHZ				S	**S**	**18 44 47.3**	**-2.1**
TMVZ	**Te Maari**	**0.99**	**195**	P	**Pn**	**18 44 27.6**	**+1.8**
HIZ	**Hauiti**	**0.99**	**249**	P	**Pn**	**18 44 27.3**	**+1.7**
HIZ	**Hauiti**	**0.99**	**249**	P	**Pn**	**18 44 27.3**	**+1.7**
TWVZ	**Taurewa**	**1.02**	**207**	P	**Pn**	**18 44 27.6**	**+1.6**
OTVZ	**Oturere**	**1.04**	**196**	P	**Pn**	**18 44 28.1**	**+1.9**
BKZ	**Black Stump Fm**	**1.07**	**160**	P	**Pn**	**18 44 27.7**	**+1.4**
BKZ				S	**S**	**18 44 48.6**	**-2.3**
BKZ	**Black Stump Fm**	**1.07**	**160**	P	**Pn**	**18 44 27.6**	**+1.4**
NGZ	**Ngauruhoe**	**1.07**	**198**	P	**Pn**	**18 44 28.3**	**+2.0**
SNVZ	**South Ngauruho**	**1.07**	**197**	P	**Pn**	**18 44 28.3**	**+2.0**
NMHZ	**Naumai**	**1.12**	**147**	P	**Pn**	**18 44 28.9**	**+2.4**
NMHZ				S	**S**	**18 44 51.4**	**-0.1**
RAHZ	**Arahi**	**1.12**	**133**	P	**Pn**	**18 44 28.5**	**+2.0**
RAHZ				S	**S**	**18 44 50.4**	**-1.0**
TUVZ	**Tukino**	**1.15**	**195**	P	**Pn**	**18 44 28.6**	**+1.8**
FWVZ	**Far West T-bar**	**1.16**	**199**	P	**Pn**	**18 44 28.7**	**+1.7**
WHVZ	**Whangaehu Hut**	**1.18**	**197**	P	**Pn**	**18 44 29.0**	**+1.8**
MWZ	**Matawai**	**1.19**	**99**	P	**Pn**	**18 44 28.4**	**+1.4**
MWZ				S	**S**	**18 44 50.3**	**-1.9**
TRVZ	**Turoa**	**1.20**	**198**	P	**Pn**	**18 44 29.0**	**+1.7**
WNVZ	**Wahianoa**	**1.22**	**196**	P	**Pn**	**18 44 29.0**	**+1.7**
PKVZ	**Pokaka**	**1.25**	**205**	P	**Pn**	**18 44 29.2**	**+1.7**
MKAZ	**Moumakai**	**1.26**	**326**	P	**Pn**	**18 44 29.0**	**+1.5**
MKAZ				S	**S**	**18 44 52.5**	**-0.5**
MOVZ	**Moawhango**	**1.27**	**190**	P	**Pn**	**18 44 29.0**	**+1.4**
MOVZ				S	**S**	**18 44 51.5**	**-1.9**
KWHZ	**Kaweka Forest**	**1.30**	**167**	P	**Pn**	**18 44 29.7**	**+1.9**
RUGZ	**Raukumara Rang**	**1.31**	**82**	P	**Pn**	**18 44 28.4**	**+0.4**
RUGZ				S	**S**	**18 44 50.5**	**-3.4**
WHHZ	**Waihua**	**1.31**	**135**	P	**Pn**	**18 44 30.1**	**+2.2**
BHHZ	**Black Hill Sta**	**1.33**	**179**	P	**Pn**	**18 44 29.6**	**+1.5**
ARHZ	**Aropaoanui**	**1.34**	**146**	P	**Pn**	**18 44 30.4**	**+2.4**
MCHZ	**McNeill Hill**	**1.39**	**158**	P	**Pn**	**18 44 31.0**	**+2.5**
KUZ	**Kuaotunu**	**1.43**	**350**	P	**Pn**	**18 44 30.2**	**+1.3**
HAZ	**Te Kaha**	**1.44**	**74**	P	**Pn**	**18 44 29.6**	**+0.7**
TKGZ	**Te Karaka**	**1.46**	**102**	P	**Pn**	**18 44 30.9**	**+1.9**
RIGZ	**Rimuhau**	**1.46**	**112**	P	**Pn**	**18 44 31.2**	**+2.0**
KRHZ	**Kereru**	**1.51**	**170**	P	**Pn**	**18 44 31.4**	**+1.9**
TWGZ	**Tauwhareparae**	**1.54**	**91**	P	**Pn**	**18 44 32.1**	**+2.3**
WIAZ	**Waiheke Island**	**1.54**	**332**	P	**Pn**	**18 44 31.5**	**+1.7**
KNZ	**Kokohu**	**1.55**	**124**	P	**Pn**	**18 44 31.8**	**+2.0**
MHEZ	**Mangahewa**	**1.62**	**235**	P	**Pn**	**18 44 33.5**	**+3.0**
MBAZ	**Motutapu North**	**1.66**	**327**	P	**Pn**	**18 44 32.4**	**+1.6**
CKHZ	**Cape Kidnapper**	**1.71**	**152**	P	**Pn**	**18 44 33.8**	**+2.6**
CNGZ	**Carnagh Statio**	**1.74**	**101**	P	**Pn**	**18 44 34.1**	**+2.6**
PUZ	**Puketiti**	**1.76**	**88**	P	**Pn**	**18 44 33.4**	**+1.6**
PNHZ	**Pukenui**	**1.76**	**176**	P	**Pn**	**18 44 33.5**	**+1.7**
KAHZ	**Kahuranaki**	**1.76**	**158**	P	**Pn**	**18 44 34.2**	**+2.4**
MHGZ	**Mahia Peninsul**	**1.77**	**125**	P	**Pn**	**18 44 34.3**	**+2.5**
WAZ	**Wanganui**	**1.79**	**207**	P	**Pn**	**18 44 33.9**	**+1.9**
MXZ	**Matakaoa Point**	**1.90**	**72**	P	**Pn**	**18 44 34.9**	**+1.8**
TSZ	**Takapari Road**	**1.90**	**182**	P	**Pn**	**18 44 34.8**	**+1.8**
PKEZ	**Puketi**	**1.91**	**237**	P	**Pn**	**18 44 35.9**	**+2.7**
WMGZ	**Waiomatatini S**	**1.91**	**81**	P	**Pn**	**18 44 34.9**	**+1.7**
WPHZ	**Waipukurau**	**1.93**	**171**	P	**Pn**	**18 44 35.3**	**+1.9**
PXZ	**Pawanui**	**1.98**	**161**	P	**Pn**	**18 44 35.9**	**+2.2**
OHWZ	**Ohakea**	**2.12**	**195**	P	**Pn**	**18 44 37.3**	**+2.1**
DVHZ	**Dannevirke**	**2.14**	**177**	P	**Pn**	**18 44 37.0**	**+1.6**
PRHZ	**Porangahau**	**2.16**	**168**	P	**Pn**	**18 44 37.7**	**+2.1**
POWZ	**Post Office Ro**	**2.24**	**185**	P	**Pn**	**18 44 38.0**	**+1.5**
ANWZ	**Angora Road**	**2.32**	**172**	P	**Pn**	**18 44 39.4**	**+2.1**
PRWZ	**Pori Road**	**2.39**	**181**	P	**Pn**	**18 44 39.9**	**+1.8**
MRZ	**Mangatainoka R**	**2.52**	**188**	P	**Pn**	**18 44 40.8**	**+1.3**
BFZ	**Birch Farm**	**2.52**	**176**	P	**Pn**	**18 44 41.0**	**+1.5**
BFZ	**Birch Farm**	**2.52**	**176**	P	**Pn**	**18 44 41.1**	**+1.6**
TIWZ	**Tintock**	**2.62**	**182**	P	**Pn**	**18 44 42.1**	**+1.5**
OGWZ	**Otaki Gorge**	**2.74**	**194**	P	**Pn**	**18 44 43.2**	**+1.3**
HOWZ	**Holdsworth Sta**	**2.77**	**188**	P	**Pn**	**18 44 43.2**	**+1.1**
KIW	**Kapiti Island**	**2.83**	**197**	P	**Pn**	**18 44 43.9**	**+1.0**
MTW	**Mount Morrison**	**3.02**	**188**	P	**Pn**	**18 44 45.9**	**+0.8**
CAW	**Cannon Point**	**3.04**	**194**	P	**Pn**	**18 44 46.3**	**+1.0**
DUWZ	**D'Urville Isla**	**3.10**	**211**	P	**Pn**	**18 44 46.9**	**+0.9**
TRWZ	**Traveller**	**3.25**	**185**	P	**Pn**	**18 44 48.7**	**+1.0**
PAWZ	**Paruwai Farm**	**3.25**	**188**	P	**Pn**	**18 44 48.6**	**+0.8**
WEL	**Wellington**	**3.27**	**197**	P	**Pn**	**18 44 48.9**	**+1.0**
MSWZ	**Moikau Station**	**3.31**	**190**	P	**Pn**	**18 44 49.1**	**+0.7**
SNZO	**South Karori**	**3.31**	**198**	P	**Pn**	**18 44 49.3**	**+0.9**
TCW	**Tory Channel**	**3.34**	**203**	P	**Pn**	**18 44 49.8**	**+1.1**
PLWZ	**Palliser**	**3.46**	**190**	P	**Pn**	**18 44 50.7**	**+0.5**
TUWZ	**Tuamarina**	**3.64**	**206**	P	**Pn**	**18 44 53.1**	**+0.7**
NNZ	**Nelson**	**3.68**	**213**	P	**Pn**	**18 44 53.4**	**+0.6**
TKNZ	**Takaka Hill**	**3.73**	**219**	P	**Pn**	**18 44 54.9**	**+1.5**
QRZ	**Quartz Range**	**3.80**	**224**	P	**Pn**	**18 44 54.9**	**+0.6**
QRZ	**Quartz Range**	**3.80**	**224**	P	**Pn**	**18 44 55.3**	**+1.0**
BSWZ	**Blackbirch Sta**	**3.92**	**204**	P	**Pn**	**18 44 56.7**	**+0.9**
MRNZ	**Matariki Terra**	**4.10**	**217**	P	**Pn**	**18 44 58.8**	**+0.8**
THZ	**Tophouse**	**4.33**	**213**	P	**Pn**	**18 45 02.5**	**+1.7**
KHZ	**Kahutara**	**4.66**	**203**	P	**Pn**	**18 45 05.9**	**+1.1**
KHZ	**Kahutara**	**4.66**	**203**	P	**Pn**	**18 45 06.0**	**+1.1**
DSZ	**Denniston Nort**	**4.84**	**221**	P	**Pn**	**18 45 08.0**	**+0.8**
GVZ	**Greta Valley S**	**5.32**	**204**	P	**Pn**	**18 45 13.8**	**+0.6**
LTZ	**Lake Taylor**	**5.44**	**211**	P	**Pn**	**18 45 15.5**	**+0.7**
INZ	**Inchbonnie**	**5.75**	**216**	P	**Pn**	**18 45 19.6**	**+0.9**
OXZ	**Oxford**	**5.99**	**209**	P	**Pn**	**18 45 21.6**	**-0.2**
MQZ	**McQueen's Vall**	**6.10**	**204**	P	**Pn**	**18 45 22.6**	**-0.6**
ARCZ	**Arundel**	**6.85**	**211**	P	**Pn**	**18 45 33.3**	**+0.5**
TMZ	**Timaru**	**7.28**	**210**	P	**Pn**	**18 45 39.0**	**+0.7**
ODZ	**Otahua Downs**	**7.97**	**209**	P	**Pn**	**18 45 48.2**	**+0.9**
ODZ	**Otahua Downs**	**7.97**	**209**	P	**Pn**	**18 45 48.2**	**+0.9**
JCZ	**Jackson Bay**	**8.05**	**220**	P	**Pn**	**18 45 49.5**	**+1.1**

*NEIC **09** 18:55:06.9±1.9, 7°.40S±0°.05×150°.0E±0°.1, h43km±10km, mb4.0/11, Error ellipse: s-maj=17.6km s-min=3.2km az=113.0*
*IDC **09** 18:55:07.9±2.0, 7°.35S×149°.91E, h53km±15km, mb3.4/4, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=67.3km s-min=8.0km az=133.0*

ISC 09 18:55:06.1±0.7, **7°4S**±0°.1×**150°0E**±0°.1, **h35**km, **n23,**
σ1824/27, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.43**	**235**	P	**Pn**	**18 55 58.5**	**+1.4**
	17nm,0.3s,baz=45,slow=4.1,SNR=20						
PMG				S	**Sn**	**18 56 38.6**	**+2.0**
	24nm,0.4s,baz=308,slow=23,SNR=16						
PMG	**Port Moresby**	**3.43**	**235**		**Pn**	**18 55 58.0**	**+0.9**
PMG				Sn	**Sn**	**18 56 36.6**	**-0.1**
KRVT	**Keravat (AS076**	**3.69**	**33**	P	**Pn**	**18 56 02.5**	**+1.8**
	3.8nm,0.3s,baz=129,slow=1.4,SNR=14						
KRVT				S	**Sn**	**18 56 45.2**	**+2.2**
	72nm,0.6s,baz=313,slow=23,SNR=23						
	15nm,0.4s						
RABL	**Rabaul**	**3.86**	**34**	Pn	**Pn**	**18 56 03.5**	**+0.5**
RABL				Sn	**Sn**	**18 56 45.7**	**-1.5**
COEN	**Coen**	**9.34**	**225**	Pn	**Pn**	**18 57 18.2**	**-0.1**
MTN	**Manton Dam**	**19.33**	**252**	P	**P**	**18 59 27.3**	**-1.3**
MTN				IAmb	IAmb	18 59 36.9	
	comp=Z,25nm,1.5s						
WB0	**Warramunga Arr**	**19.49**	**229**	P	**P**	**18 59 30.3**	**0.0**
WR0	**Warramunga Arr**	**19.50**	**229**	P	**P**	**18 59 28.5**	**-1.9**
WR0				IAmb	IAmb	18 59 40.4	
	comp=Z,7.2nm,1.4s						
WB2	**Warramunga Arr**	**19.63**	**229**	P	**P**	**18 59 29.4**	**-2.4**
WB2				IAmb	IAmb	18 59 42.8	
	comp=Z,3.4nm,0.7s						
WRA	**Warramunga Arr**	**19.64**	**229**	P	**P**	**18 59 31.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=52,slow=11,SNR=8.7						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**19.64**	**229**

IDC 09 19:10:05.2±3.3, 11°.00S×167°.14E, h0km, mb3.7/5, mbtmp3.7/5, MS3.6/7, Error ellipse: s-maj=124.3km s-min=32.0km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.24**	**282**	LR	LR	19 14 32.8	
	comp=Z,3μm,18.9s,baz=172,slow=37						
PMG	**Port Moresby**	**19.72**	**273**	LR	LR	19 22 20.2	
	comp=Z,138nm,18.4s,baz=110,slow=37						
AFI	**Afiamalu**	**20.79**	**100**	LR	LR	19 21 13.5	
	comp=Z,80nm,20.0s,baz=312,slow=32						
CTA	**Charters Tower**	**22.03**	**243**	LR	LR	19 22 23.9	
	comp=Z,97nm,18.1s,baz=69,slow=34						
H11S2	**WAKE ISLAND Hy**	**29.30**	**359**	T	T	19 46 28.3	
	baz=181,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.30**	**359**	T	T	19 46 26.4	
	baz=181,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.32**	**359**	T	T	19 46 22.7	
	baz=181,slow=76,SNR=17						
STKA	**Stephens Creek**	**31.43**	**225**	LR	LR	19 27 18.8	
	comp=Z,86nm,18.1s,baz=23,slow=33						
WRA	**Warramunga Arr**	**32.78**	**250**	P	P	19 16 40.1	-0.3
	0.4nm,0.8s,baz=82,slow=8.4,SNR=2.2						
WRA				LR	LR	19 29 33.8	
	comp=Z,52nm,18.4s,baz=94,slow=36						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**34.04**	**244**	P	P	19 16 51.3	-0.1
	0.7nm,0.9s,baz=63,slow=10,SNR=7.2						
ASAR				LR	LR	19 29 32.5	
	comp=Z,72nm,19.1s,baz=91,slow=34						
	0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**73.34**	**293**	P	P	19 21 39.5	0.0
	0.4nm,0.7s,baz=89,slow=3.7,SNR=3.0						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**83.04**	**18**	P	P	19 22 32.2	0.0
	0.8nm,0.9s,baz=225,slow=7.0,SNR=7.9						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**94.42**	**317**	P	P	19 23 27.4	+0.1
	0.7nm,0.8s,baz=92,slow=5.8,SNR=6.3						
	0.7nm,0.8s						

*IDC **09** 19:20:00.7±0.9, 35°.62N×26°.62E, h0km, mb3.7/7, mbtmp3.6/12, ML3.5/5, Error ellipse: s-maj=23.0km s-min=10.8km az=163.0*

*ISK **09** 19:20:03.4, 35°.69N×26°.53E, h14km, ML3.5/22*

*ATH **09** 19:20:03.4, 35°.65N×26°.60E, h45km±5km, ML3.6/9, Error ellipse: s-maj=5.4km s-min=1.0km az=145.0*

*HLW **09** 19:20:04.0, 35°.68N×26°.75E, h18km±17km, Md3.7, Ml3.9*

*THE **09** 19:20:05.2, 35°.64N×26°.57E, h20km±3km, ML3.4/12, Error ellipse: s-maj=3.2km s-min=0.7km az=145.0*

*DDA **09** 19:20:07.6±0.0, 35°.71N×26°.80E, h13km±2km, MW3.5*

ISC 09 19:20:05.1±0.9, 35°.60N±0°.02×26°.59E±0°.02, h32km±7km, n111, σ1§75/166, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.47**	**96**	P	**Pb**	**19 20 14.2**	**-1.0**
KARP				S	**Sn**	**19 20 22.9**	**0.0**
	11μm,0.2s						
KARP	**Karpathos**	**0.47**	**96**	PG	**Pb**	**19 20 14.3**	**-1.0**
KARP				SG	**Sn**	**19 20 22.5**	**-0.5**
KARP	**Karpathos**	**0.47**	**96**	P	**Pb**	**19 20 14.2**	**-1.0**
KARP				S	**Sn**	**19 20 22.4**	**-0.5**
KARP				AML	AML	19 20 24.2	
	comp=N,24648μm,0.2s						
KARP				AML	AML	19 20 24.6	
	comp=E,18465μm,0.2s						
STIA	**Sitia Lasithi**	**0.57**	**226**	P	**Pb**	**19 20 16.1**	**-0.7**
STIA				S	**Sb**	**19 20 25.2**	**+0.5**
STIA	**Sitia Lasithi**	**0.57**	**226**	P	**Pb**	**19 20 16.0**	**-0.7**
STIA				S	**Sb**	**19 20 25.1**	**+0.4**
STIA				AML	AML	19 20 26.7	
	comp=E,14434μm,0.3s						
STIA				AML	AML	19 20 29.0	
	comp=N,17019μm,0.6s						
ZKR	**Zakros**	**0.57**	**212**	P	**Pb**	**19 20 16.4**	**-0.4**
ZKR				S	**Sb**	**19 20 25.0**	**+0.2**
	comp=N,8μm,0.3s						
ZKR	**Zakros**	**0.57**	**212**	PG	**Pb**	**19 20 16.4**	**-0.4**
ZKR				SG	**Sb**	**19 20 25.6**	**+0.8**
ZKR	**Zakros**	**0.57**	**212**	P	**Pb**	**19 20 16.4**	**-0.4**
ZKR				S	**Sb**	**19 20 25.6**	**+0.8**
ZKR				AML	AML	19 20 26.2	
	comp=E,21163μm,0.5s						
ZKR				AML	AML	19 20 27.4	
	comp=N,9061μm,0.2s						
FRMA	**Ierapetra Chan**	**0.91**	**230**	P	**Pb**	**19 20 21.1**	**-1.3**
FRMA				S	**Sb**	**19 20 32.8**	**-1.4**
	comp=N,2μm,0.4s						
FRMA	**Ierapetra Chan**	**0.91**	**230**	P	**Pb**	**19 20 20.8**	**-1.6**
FRMA				S	**Sb**	**19 20 32.7**	**-1.6**
FRMA				AML	AML	19 20 34.5	
	comp=N,8067μm,0.4s						
FRMA				AML	AML	19 20 35.0	
	comp=E,12876μm,0.3s						
NISR	**Nisiros**	**1.10**	**23**	P	**Pn**	**19 20 23.1**	**-1.2**
NISR				S	**Sn**	**19 20 38.6**	**+0.2**
	comp=E,4μm,0.5s						
NIS1	**Nisyros lsl.**	**1.11**	**25**	P	**Pn**	**19 20 23.6**	**-0.9**
NIS1				S	**Sn**	**19 20 38.6**	**-0.1**
	comp=E,2μm,0.5s						
NIS1	**Nisyros lsl.**	**1.11**	**25**	PG	**Pn**	**19 20 23.6**	**-0.9**
NIS1	**Nisyros lsl.**	**1.11**	**25**	P	**Pn**	**19 20 23.6**	**-0.9**
KOSK	**Kos Island**	**1.19**	**15**	PN	**Pn**	**19 20 24.7**	**-0.9**
KOSK	**Kos Island**	**1.19**	**15**	P	**Pn**	**19 20 24.6**	**-1.0**
KOSK				S	**Sn**	**19 20 40.0**	**-0.6**
KOSK				AML	AML	19 20 45.1	
	comp=N,7476μm,0.7s						
KOSK				AML	AML	19 20 47.2	
	comp=E,7014μm,0.8s						
SANT	**Santorini**	**1.20**	**310**	P	**Pn**	**19 20 25.3**	**-0.3**
SANT				S	**Sb**	**19 20 39.6**	**-2.8**
	comp=E,1μm,0.5s						
SANT	**Santorini**	**1.20**	**310**	PN	**Pn**	**19 20 25.6**	**0.0**
THR8	**Santorini-Mono**	**1.21**	**312**	P	**Pn**	**19 20 25.5**	**-0.3**
THR8	**Santorini-Mono**	**1.21**	**312**	P	**Pn**	**19 20 25.4**	**-0.3**
THR6	**Thira Island,**	**1.23**	**308**	P	**Pn**	**19 20 25.8**	**-0.2**
THR6	**Thira Island,**	**1.23**	**308**	P	**Pn**	**19 20 25.6**	**-0.4**
HRKL	**Herakleio**	**1.25**	**257**	P	**Pn**	**19 20 25.9**	**-0.4**
HRKL				S	**Sn**	**19 20 42.4**	**+0.5**
	comp=E,2μm,0.5s						
HRKL	**Herakleio**	**1.25**	**257**	PN	**Pn**	**19 20 26.9**	**+0.6**
HRKL	**Herakleio**	**1.25**	**257**	P	**Pn**	**19 20 25.9**	**-0.4**
THR9	**Santorini-Faro**	**1.25**	**308**	P	**Pb**	**19 20 26.6**	**-1.6**
THR9	**Santorini-Faro**	**1.25**	**308**	P	**Pn**	**19 20 26.4**	**0.0**
THR3	**Thira Island,**	**1.25**	**310**	P	**Pn**	**19 20 26.0**	**-0.4**
THR3	**Thira Island,**	**1.25**	**310**	P	**Pn**	**19 20 26.0**	**-0.4**
KSTL	**Kastelli Herak**	**1.27**	**257**	P	**Pn**	**19 20 25.0**	**-1.7**
KSTL				S	**Sn**	**19 20 38.9**	**-3.7**
KSTL	**Kastelli Herak**	**1.27**	**257**	P	**Pn**	**19 20 24.9**	**-1.7**
CMBO	**Columbo, Santo**	**1.29**	**313**	P	**Pn**	**19 20 26.8**	**-0.1**
CMBO				S	**Sn**	**19 20 42.0**	**-1.1**
	comp=E,2μm,0.4s						
CMBO	**Columbo, Santo**	**1.29**	**313**	P	**Pn**	**19 20 26.6**	**-0.3**
CMBO				S	**Sb**	**19 20 44.0**	**-1.2**
CMBO				AML	AML	19 20 47.6	
	comp=E,5216μm,0.4s						
CMBO				AML	AML	19 20 47.6	
	comp=N,5636μm,0.4s						
THR5	**Thira Island,**	**1.29**	**309**	P	**Pb**	**19 20 27.3**	**-1.6**
ARG	**Arkhangelos**	**1.39**	**63**	P	**Pb**	**19 20 28.6**	**-2.0**
ARG				S	**Sn**	**19 20 45.3**	**-0.3**
	comp=N,1μm,0.4s						
ARG	**Arkhangelos**	**1.39**	**63**	PN	**Pb**	**19 20 28.6**	**-2.0**
ARG	**Arkhangelos**	**1.39**	**63**	P	**Pb**	**19 20 28.6**	**-2.0**
ARG				S	**Sn**	**19 20 45.4**	**-0.2**
ARG				AML	AML	19 20 46.4	
	comp=N,1738μm,0.4s						
ARG				AML	AML	19 20 51.5	
	comp=E,3270μm,0.3s						
IDI	**Anoyia**	**1.42**	**258**	Pg	**Pn**	**19 20 27.7**	**-1.0**
	comp=E,25nm,0.3s,baz=75,slow=18,SNR=90						
IDI				Lg	Lg	19 20 46.6	
	comp=E,100nm,0.3s,baz=357,slow=13,SNR=13						
IDI	**Anoyia**	**1.42**	**258**	P	**Pn**	**19 20 28.3**	**-0.5**
IDI				S	**Sn**	**19 20 45.7**	**-0.7**
	comp=E,805nm,0.5s						
IDI	**Anoyia**	**1.42**	**258**	PN	**Pn**	**19 20 28.5**	**-0.2**
IDI	**Anoyia**	**1.42**	**258**	P	**Pn**	**19 20 28.2**	**-0.5**
IDI				AML	AML	19 20 50.5	
	comp=N,1284μm,0.7s						
IDI				AML	AML	19 20 53.7	
	comp=E,1920μm,0.4s						
BODT	**Bodrum**	**1.57**	**22**	P	**Pn**	**19 20 29.0**	**-1.8**
BODT				S	**Sb**	**19 20 51.0**	**-2.1**
TMBK	**Timbaki Herakl**	**1.58**	**251**	P	**Pn**	**19 20 32.0**	**+1.1**
BDRM	**Kayabasi**	**1.62**	**25**	P	**Pb**	**19 20 33.6**	**-0.8**
BDRM				S	**Sb**	**19 20 56.2**	**+1.7**
BDRM				AML	AML	19 21 00.0	
	comp=E,51nm,0.9s						
BDRM				AML	AML	19 21 02.0	
	comp=E,89nm,0.8s						
BDRM				AML	AML	19 21 32.0	
	comp=E,0.9nm,1.7s						
APE	**Apeiranthos**	**1.70**	**330**	P	**Pn**	**19 20 31.9**	**-0.6**
APE				S	**Sn**	**19 20 51.8**	**-1.4**
	comp=E,452nm,0.2s						
APE	**Apeiranthos**	**1.70**	**330**	PN	**Pn**	**19 20 31.9**	**-0.6**
APE	**Apeiranthos**	**1.70**	**330**	P	**Pn**	**19 20 31.7**	**-0.8**
APE				AML	AML	19 20 52.9	
	comp=N,1085μm,0.2s						
APE				AML	AML	19 20 53.9	
	comp=E,715μm,0.2s						
PRNS	**Prines Rethymn**	**1.72**	**263**	P	**Pn**	**19 20 33.4**	**+0.6**
TURN	**Turunc**	**1.78**	**48**	PN	**Pn**	**19 20 33.8**	**+0.1**
TURN	**Turunc**	**1.78**	**48**	P	**Pn**	**19 20 33.4**	**-0.3**
TURN				S	**Sn**	**19 20 55.1**	**-0.1**
TURN				AML	AML	19 21 01.0	
	comp=E,134nm,0.6s						
TURN				AML	AML	19 21 03.0	
	comp=E,166nm,0.5s						
TURN				AML	AML	19 21 05.0	
	comp=E,160nm,0.7s						
YER	**Yerkesik**	**2.06**	**41**	P	**Pn**	**19 20 38.3**	**+0.8**
YER				S	**Sn**	**19 21 01.3**	**-0.7**
YER	**Yerkesik**	**2.06**	**41**	PN	**Pn**	**19 20 37.9**	**+0.4**
DALY	**Dalyan (Mula)**	**2.07**	**53**	PN	**Pn**	**19 20 38.5**	**+0.9**
SMG	**Samos**	**2.12**	**5**	P	**Pn**	**19 20 37.2**	**-1.1**
SMG				S	**Sn**	**19 21 03.0**	**-0.5**
	comp=E,230nm,0.6s						
SMG	**Samos**	**2.12**	**5**	P	**Pn**	**19 20 37.2**	**-1.1**
IMMV	**Iera Moni Meta**	**2.13**	**267**	PN	**Pn**	**19 20 38.4**	**0.0**
IMMV	**Iera Moni Meta**	**2.13**	**267**	P	**Pn**	**19 20 38.2**	**-0.3**
GCAM	**G?zelcaml?**	**2.16**	**14**	PN	**Pn**	**19 20 39.5**	**+0.6**
GCAM	**G?zelcaml?**	**2.16**	**14**	P	**Pb**	**19 20 42.0**	**-1.5**
GCAM				S	**Sb**	**19 21 14.8**	**+4.9**
GCAM				AML	AML	19 21 20.0	
	comp=E,26nm,0.7s						
GCAM				AML	AML	19 21 22.0	
	comp=E,89nm,0.6s						
GCAM				AML	AML	19 21 23.0	
	comp=E,69nm,0.5s						
MULA	**Mugla, Merkez-**	**2.17**	**40**	P	**Pb**	**19 20 40.5**	**-3.2**
MULA				AML	AML	19 21 05.0	
	comp=E,36nm,1.0s						
MULA				S	**Sn**	**19 21 05.1**	**+0.3**
MULA				AML	AML	19 21 21.0	
	comp=E,84nm,0.5s						
MULA				AML	AML	19 21 22.0	
	comp=E,54nm,0.5s						
GVDS	**Gavdos**	**2.18**	**250**	PN	**Pn**	**19 20 40.6**	**+1.5**
GVD	**Gavdhos**	**2.18**	**250**	PN	**Pn**	**19 20 40.3**	**+1.1**
FETY	**Fethiye**	**2.27**	**62**	PN	**Pn**	**19 20 41.5**	**+1.1**
AYDN	**Tasoluk**	**2.31**	**26**	P	**Pb**	**19 20 42.7**	**-3.4**
AYDN				S	**Sb**	**19 21 12.1**	**-2.1**
AYDN				AML	AML	19 21 20.0	
	comp=E,42nm,0.5s						
AYDN				AML	AML	19 21 26.0	
	comp=E,41nm,0.5s						
AYDN				AML	AML	19 21 28.0	
	comp=E,25nm,0.6s						
AKAS	**Kas**	**2.53**	**75**	PN	**Pn**	**19 20 44.8**	**+0.7**
AKAS	**Kas**	**2.53**	**75**	P	**Pn**	**19 20 44.9**	**+0.8**
AKAS				S	**Sn**	**19 21 13.6**	**-0.2**
AKAS				AML	AML	19 21 19.0	
	comp=E,105nm,0.5s						
AKAS				AML	AML	19 21 37.0	
	comp=E,53nm,0.6s						
AKAS				AML	AML	19 21 43.0	
	comp=E,137nm,0.7s						
AYDB	**Zeytinkoy-Aydi**	**2.57**	**24**	PN	**Pn**	**19 20 45.4**	**+0.8**
CAME	**Cameli-Denizli**	**2.57**	**58**	PN	**Pn**	**19 20 46.3**	**+1.6**
ZEYE	**Izmir, Urla-Ze**	**2.63**	**359**	P	**Pn**	**19 20 44.0**	**-1.4**
ZEYE				S	**Sb**	**19 21 28.3**	**+4.7**
ZEYE				AML	AML	19 21 30.0	
	comp=E,42nm,1.0s						
ZEYE				AML	AML	19 21 34.0	
	comp=E,35nm,0.7s						
ZEYE				AML	AML	19 21 37.0	
	comp=E,57nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.64**	**44**	P	**Pb**	**19 20 47.8**	**-4.1**
TAVA				S	**Sn**	**19 21 17.2**	**+0.6**
TAVA				AML	AML	19 21 21.0	
	comp=E,56nm,0.3s						
TAVA				AML	AML	19 21 22.0	
	comp=E,66nm,0.7s						
TAVA				AML	AML	19 21 25.0	
	comp=E,67nm,0.6s						
URLA	**Izmir**	**2.76**	**0**	P	**Pn**	**19 20 44.8**	**-2.3**
URLA				S	**Sb**	**19 21 33.8**	**+6.7**
URLA				AML	AML	19 21 37.0	
	comp=E,52nm,0.7s						
URLA				AML	AML	19 21 38.0	
	comp=E,103nm,0.7s						
URLA				AML	AML	19 21 43.0	
	comp=E,78nm,0.8s						
APMY	**Acipayam-Deniz**	**2.88**	**49**	PN	**Pn**	**19 20 50.3**	**+1.5**
GOLH	**Golhisar**	**2.90**	**55**	P	**Pn**	**19 20 51.3**	**+2.2**
GOLH				S	**Sb**	**19 21 26.6**	**-4.8**
GOLH				AML	AML	19 21 38.0	
	comp=E,102nm,0.9s						
GOLH				AML	AML	19 21 40.0	
	comp=E,64nm,1.0s						
GOLH				AML	AML	19 21 45.0	
	comp=E,91nm,0.6s						
ELL	**Elmali**	**2.92**	**66**	PN	**Pn**	**19 20 50.7**	**+1.2**
ATHU	**Athens Univers**	**3.26**	**317**	P	**Pn**	**19 20 54.5**	**+0.5**
MANT	**Manisa**	**3.29**	**28**	P	**Pn**	**19 20 56.1**	**+1.5**
MANT				S	**Sn**	**19 21 31.7**	**-1.0**
MANT				AML	AML	19 21 35.0	
	comp=E,27nm,0.7s						
MANT				AML	AML	19 21 36.0	
	comp=E,20nm,0.4s						
MANT				AML	AML	19 21 36.0	
	comp=E,22nm,0.4s						
KORT	**Korkueli**	**3.35**	**64**	P	**Pn**	**19 20 57.5**	**+2.2**
KORT				S	**Sn**	**19 21 34.7**	**+0.7**
KORT				AML	AML	19 21 40.0	
	comp=E,29nm,0.6s						
KORT				AML	AML	19 21 44.0	
	comp=E,52nm,0.5s						
KORT				AML	AML	19 21 56.0	
	comp=E,46nm,0.6s						
EPID	**Epidavros**	**3.44**	**307**	P	**Pn**	**19 20 57.9**	**+1.4**
BRDR	**BURDUR-Merkez**	**3.49**	**52**	P	**Pn**	**19 20 56.4**	**-0.8**
BRDR				AML	AML	19 21 49.0	
	comp=E,18nm,0.8s						
BRDR				AML	AML	19 21 59.0	
	comp=E,28nm,0.9s						
BRDR				AML	AML	19 22 12.0	
	comp=E,22nm,0.9s						
PASA	**Karahalli, USA**	**3.59**	**39**	P	**Pn**	**19 21 00.4**	**+1.7**
PASA				S	**Sn**	**19 21 37.4**	**-2.6**
PASA				AML	AML	19 21 43.0	
	comp=E,6.3nm,0.5s						
PASA				AML	AML	19 21 43.0	
	comp=E,15nm,0.8s						
PASA				AML	AML	19 21 53.0	
	comp=E,9.7nm,0.5s						
BUCA	**Burdur, Bucak-**	**3.64**	**61**	P	**Pn**	**19 21 01.5**	**+2.2**
BUCA				S	**Sn**	**19 21 43.4**	**+2.3**
BUCA				AML	AML	19 21 44.0	
	comp=E,35nm,0.8s						
BUCA				AML	AML	19 21 47.0	
	comp=E,43nm,0.6s						
BUCA				AML	AML	19 21 48.0	
	comp=E,26nm,0.6s						
USAK	**Uak-Merkez**	**3.67**	**31**	P	**Pn**	**19 21 01.2**	**+1.5**
USAK				S	**Sn**	**19 21 40.7**	**-1.1**
USAK				AML	AML	19 21 41.0	
	comp=E,60nm,1.2s						
USAK				AML	AML	19 21 41.0	
	comp=E,104nm,1.2s						
USAK				AML	AML	19 21 43.0	
	comp=E,7.8nm,0.4s						
DEMI	**Demirci**	**3.83**	**26**	P	**Pn**	**19 21 03.8**	**+1.9**
DEMI				S	**Sn**	**19 21 47.1**	**+1.2**
DEMI				*i* AML	AML	19 21 48.0	
	comp=E,15nm,0.6s						
DEMI				*i* AML	AML	19 21 50.0	
	comp=E,33nm,0.8s						
DEMI				*i* AML	AML	19 21 51.0	
	comp=E,16nm,0.5s						
SLUM	**Salum**	**4.25**	**196**	P	**Pn**	**19 21 09.5**	**+1.8**
	baz=198						
SLUM				S	**Sn**	**19 21 57.1**	**+0.9**
	baz=198						
KEPZ	**Antalya-Kepez**	**4.26**	**71**	P	**Pn**	**19 21 09.7**	**+1.9**
KEPZ				S	**Sn**	**19 21 57.1**	**+0.7**
KEPZ				*i* AML	AML	19 22 00.0	
	comp=E,12nm,0.7s						
KEPZ				*i* AML	AML	19 22 00.0	
	comp=E,19nm,0.7s						
KEPZ				*i* AML	AML	19 22 03.0	
	comp=E,26nm,0.7s						
DURS	**Dursunbey**	**4.27**	**20**	P	**Pn**	**19 21 09.5**	**+1.6**
DURS				*i* AML	AML	19 21 55.0	
	comp=E,6.3nm,1.5s						
DURS				*i* AML	AML	19 22 17.0	
	comp=E,6.5nm,1.5s						
DURS				*i* AML	AML	19 22 37.0	
	comp=E,6.8nm,1.2s						
SEDI	**Konya, Seydise**	**4.55**	**65**	P	**Pn**	**19 21 14.9**	**+3.0**
SEDI				S	**Sn**	**19 22 05.2**	**+1.4**
SEDI				*i* AML	AML	19 22 08.0	
	comp=E,24nm,0.4s						
SEDI				*i* AML	AML	19 22 08.0	
	comp=E,19nm,1.0s						
SEDI				*i* AML	AML	19 22 12.0	
	comp=E,11nm,0.6s						
YVAC	**Isparta, Yalva**	**4.58**	**53**	P	**Pn**	**19 21 14.0**	**+1.8**
YVAC				S	**Sn**	**19 21 59.8**	**-4.6**
YVAC				*i* AML	AML	19 22 09.0	
	comp=E,3.7nm,0.6s						
YVAC				*i* AML	AML	19 22 53.0	
	comp=E,2.4nm,0.8s						
YVAC				*i* AML	AML	19 23 00.0	
	comp=E,4.8nm,1.2s						
GAZI	**Gazipasa**	**4.69**	**81**	P	**Pn**	**19 21 14.1**	**+0.4**
GAZI				S	**Sn**	**19 22 04.0**	**-3.1**
GAZI				*i* AML	AML	19 22 06.0	
	comp=E,34nm,0.8s						
GAZI				*i* AML	AML	19 22 08.0	
	comp=E,19nm,0.5s						
GAZI				*i* AML	AML	19 22 08.0	
	comp=E,33nm,0.5s						
DOGA	**KONYA_Doganhis**	**4.78**	**57**	P	**Pn**	**19 21 17.2**	**+2.2**
DOGA				S	**Sn**	**19 22 10.3**	**+0.9**
DOGA				*i* AML	AML	19 22 12.0	
	comp=E,25nm,0.6s						
DOGA				*i* AML	AML	19 22 17.0	
	comp=E,9.0nm,1.1s						
ERMK	**Ermenek**	**5.23**	**77**	P	**Pn**	**19 21 24.9**	**+3.7**
ERMK				S	**Sn**	**19 22 21.6**	**+1.1**
ERMK				*i* AML	AML	19 22 28.0	
	comp=E,18nm,0.5s						
ERMK				*i* AML	AML	19 22 28.0	
	comp=E,39nm,0.5s						
ERMK				*i* AML	AML	19 22 32.0	
	comp=E,28nm,0.7s						
KKBE	**Karaman, Kazim**	**5.37**	**71**	P	**Pn**	**19 21 26.9**	**+3.7**
KKBE				S	**Sn**	**19 22 24.6**	**+0.6**
KKBE				*i* AML	AML	19 22 27.0	
	comp=E,8.6nm,0.5s						
KKBE				*i* AML	AML	19 22 27.0	
	comp=E,8.4nm,0.6s						
KKBE				*i* AML	AML	19 22 35.0	
	comp=E,8.3nm,0.7s						
SWA2		**6.41**	**189**	P	**Pn**	**19 21 39.0**	**+1.7**
	baz=191						
SWA2				S	**Sn**	**19 22 48.4**	**-0.9**
	baz=191						
BRTR	**Keskin Array B**	**6.95**	**52**	Pn	**Pn**	**19 21 44.0**	**-0.8**
	comp=E,0.1nm,0.3s,baz=228,slow=14,SNR=2.2						
BRTR				Sn	**Sn**	**19 23 02.0**	**-0.7**
	comp=E,0.1nm,0.3s,baz=210,slow=26,SNR=3.0						
	comp=E,0.3nm,0.4s						
RYAN	**Fayoum**	**7.21**	**153**	P	**Pn**	**19 21 49.6**	**+1.3**
	baz=154						
HSAF	**As Saff**	**7.29**	**144**	P	**Pn**	**19 21 49.8**	**+0.4**
	baz=144						
GLL	**Jalalah**	**7.40**	**143**	P	**Pn**	**19 21 51.6**	**+0.7**
	baz=144						
MMAI	**Mount Meron Ar**	**7.74**	**107**	Pn	**Pn**	**19 21 54.1**	**-1.5**
	comp=E,0.8nm,0.3s,baz=278,slow=12,SNR=10						
MMAI				Sn	**Sn**	**19 23 18.6**	**-3.6**
	comp=E,1.1nm,0.3s,baz=291,slow=24,SNR=2.6						
	comp=E,0.3nm,0.2s						
SUZ	**Suez**	**7.79**	**136**	P	**Pn**	**19 21 56.0**	**-0.2**
	baz=137						
HFRF	**Wahat Farafira**	**8.55**	**170**	P	**Pn**	**19 22 07.8**	**+1.1**
	baz=170						
EIL	**Elat**	**9.20**	**128**	Pn	**Pn**	**19 22 15.2**	**-0.4**
	comp=E,0.5nm,0.3s,baz=360,slow=2.3,SNR=8.3						
EIL				Sn	**Sn**	**19 23 50.9**	**-7.1**
	comp=E,1.2nm,0.3s,baz=347,slow=11,SNR=3.6						
	comp=E,2.3nm,0.5s						
ASF	**Jabal al Asfar**	**9.23**	**109**	Pn	**Pn**	**19 22 18.0**	**+2.0**
	comp=E,0.1nm,0.3s,baz=351,slow=13,SNR=1.7						
ASF				Sn	**Sn**	**19 24 01.2**	**+2.5**
	comp=E,0.3nm,0.3s,baz=13,slow=18,SNR=2.5						
AKASG	**Malin Array Be**	**15.21**	**6**	Pn	**Pn**	**19 23 36.8**	**-0.6**
	comp=E,0.7nm,0.3s,baz=194,slow=11,SNR=1.4						
	comp=E,0.3nm,0.4s						
GERES	**GERESS Array B**	**16.29**	**328**	Pn	**Pn**	**19 23 52.6**	**+1.2**
	comp=E,0.1nm,0.3s,baz=144,slow=12,SNR=7.1						
	comp=E,0.6nm,0.6s						
ESDC	**Sonseca Array**	**24.47**	**289**	P	**P**	**19 25 21.7**	**+0.5**
	comp=E,0.4nm,0.6s,baz=80,slow=9.4,SNR=8.4						
	comp=E,0.4nm,0.6s						
GEYT	**Alibeck**	**25.31**	**75**	P	**P**	**19 25 29.0**	**+0.2**
	comp=E,1.3nm,0.7s,baz=284,slow=8.0,SNR=3.0						
	comp=E,1.3nm,0.7s						
FINES	**FINESS Array B**	**25.87**	**359**	P	**P**	**19 25 33.2**	**-0.3**
	comp=E,0.8nm,0.7s,baz=169,slow=9.9,SNR=4.7						
	comp=E,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**31.67**	**231**	P	**P**	**19 26 26.2**	**+0.6**
	comp=E,0.3nm,0.3s,baz=31,slow=8.8,SNR=7.2						
	comp=E,0.3nm,0.3s						
MKAR	**Makanchi Array**	**42.56**	**57**	P	**P**	**19 27 58.0**	**+0.2**
	comp=E,1.2nm,0.5s,baz=272,slow=8.3,SNR=25						
MKAR				PcP	**PcP**	**19 29 50.1**	**+0.3**
	comp=E,0.1nm,0.4s,baz=258,slow=5.7,SNR=2.0						
	comp=E,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**43.86**	**46**	P	**P**	**19 28 07.5**	**-0.6**
	comp=E,1.5nm,0.5s,ba

KMKR	**Kumukh**	**1.05**	**43**	*e*Pg	**Pn**	**19 29 37.6**	**-0.3**
KMKR				*e*Sg	**Sn**	**19 29 52.1**	**-0.3**
SEAG	**Tbilisi Sea**	**1.07**	**292**	P	**Pb**	**19 29 36.9**	**-0.8**
SEAG				S	**Sb**	**19 29 50.9**	**-0.6**
GNBR	**Gunib**	**1.19**	**31**	*e*Pg	**Pg**	**19 29 40.0**	**-0.2**
GNBR				*e*Sg	**Sn**	**19 29 56.0**	**+0.3**
AKT	**Akhty**	**1.21**	**84**	*i* Pg	**Pb**	**19 29 40.2**	**+0.2**
AKT				*e*Sg	**Sn**	**19 29 56.7**	**+0.5**
XNZR	**Khunzakh**	**1.24**	**20**	*e*Pg	**Pg**	**19 29 40.7**	**-0.5**
XNZR				*e*Sg	**Sn**	**19 29 58.0**	**+0.9**
KZRT	**Kazreti**	**1.30**	**271**	P	**Pn**	**19 29 39.7**	**-1.4**
KZRT				S	**Sb**	**19 29 56.3**	**-1.9**
URKR	**Urkarakh**	**1.38**	**54**	*e*Pg	**Pb**	**19 29 43.0**	**+0.1**
URKR				*e*Sg	**Sg**	**19 30 02.0**	**+0.3**
STE	**Stepanavan**	**1.38**	**255**	⇓*i*P	**Pn**	**19 29 41.8**	**-0.5**
STE				⇓*i*S	**Sn**	**19 29 58.9**	**-1.6**
ARKR	**Arakani**	**1.39**	**27**	*e*Pg	**Pg**	**19 29 43.4**	**-0.5**
ARKR				*e*Sg	**Sg**	**19 30 02.4**	**+0.4**
UNCR	**Uncukul**	**1.43**	**20**	*e*Pg	**Pb**	**19 29 43.9**	**+0.2**
UNCR				*e*Sg	**Sg**	**19 30 03.8**	**+0.5**
DMNI	**Dmanisi**	**1.46**	**269**	P	**Pn**	**19 29 42.3**	**-1.1**
DMNI				S	**Sn**	**19 30 00.9**	**-1.5**
KAPZ	**Kaputan**	**1.51**	**226**	⇓*i*P	**Pb**	**19 29 45.5**	**+0.3**
KAPZ				⇓*i*S	**Sb**	**19 30 05.2**	**+0.9**
KRNR	**Karanay**	**1.56**	**21**	*e*Pg	**Pb**	**19 29 45.9**	**-0.2**
KRNR				*e*Sg	**Sg**	**19 30 07.0**	**-0.7**
SGKR	**Sergokala**	**1.57**	**46**	*e*Pg	**Pb**	**19 29 45.5**	**-0.7**
SGKR				*e*Sg	**Sg**	**19 30 08.0**	**+0.1**
DVE	**Vedeno**	**1.58**	**360**	*e*Pg	**Pb**	**19 29 46.6**	**+0.2**
DVE				*e*Sg	**Sg**	**19 30 07.8**	**-0.5**
GNI	**Garni**	**1.61**	**221**	⇓*i*P	**Pb**	**19 29 47.7**	**+0.7**
GNI				⇑*i*S	**Sg**	**19 30 09.1**	**-0.2**
PNSH	**Pansheti**	**1.69**	**319**	P	**Pn**	**19 29 46.6**	**0.0**
PNSH				S	**Sn**	**19 30 07.2**	**-1.0**
DBC	**Dubki**	**1.73**	**17**	*e*Pg	**Pb**	**19 29 48.4**	**-0.4**
DBC				*e*Pg	**Pg**	**19 29 49.2**	**-1.2**
DBC				*e*Sg	**Sg**	**19 30 11.9**	**-0.9**
DBC				*e*Sg	**Sb**	**19 30 12.2**	**+1.8**
DLMR	**Dylym**	**1.73**	**12**	*e*Pg	**Pb**	**19 29 49.1**	**+0.1**
DLMR				*e*Sg	**Sg**	**19 30 13.0**	**-0.1**
BRNG	**Burnasheti**	**1.75**	**279**	P	**Pn**	**19 29 47.4**	**0.0**
BRNG				S	**Sn**	**19 30 10.6**	**+1.0**
DRN	**Derbent**	**1.77**	**68**	*i* Pg	**Pb**	**19 29 49.9**	**+0.3**
DRN				*e*Sg	**Sg**	**19 30 14.2**	**-0.2**
GROC	**Groznyy**	**1.84**	**352**	*e*Pg	**Pg**	**19 29 51.6**	**-1.0**
GROC				*e*Sg	**Sg**	**19 30 16.1**	**-0.4**
AKH	**Akhalkalaki**	**1.98**	**272**	P	**Pn**	**19 29 51.3**	**+0.7**
AKH				S	**Sn**	**19 30 15.9**	**+0.4**
VLKR	**Vladikavkaz**	**1.99**	**328**	*e*Pg	**Pb**	**19 29 54.0**	**+0.6**
VLKR				*e*Sg	**Sg**	**19 30 21.0**	**-0.3**
ALIG	**Mtskhetisjvari**	**1.99**	**292**	P	**Pn**	**19 29 50.5**	**-0.2**
ALIG				S	**Sn**	**19 30 15.3**	**-0.3**
BKRG	**Bakuriani**	**1.99**	**282**	P	**Pn**	**19 29 51.0**	**+0.2**
BKRG				S	**Sn**	**19 30 17.0**	**+1.3**
AZMN	**Azmana**	**2.14**	**269**	P	**Pn**	**19 29 51.6**	**-1.3**
AZMN				S	**Sn**	**19 30 19.0**	**-0.4**
VNNZ	**Vanand**	**2.16**	**235**	⇓*i*P	**Pb**	**19 29 56.8**	**+0.4**
VNNZ				⇓*i*S	**Sb**	**19 30 25.1**	**+2.0**
ARNR	**Ardon**	**2.27**	**323**	*e*Pn	**Pb**	**19 29 57.8**	**-0.2**
ARNR				*e*Sn	**Sb**	**19 30 27.2**	**+1.3**
KORR	**Kora**	**2.30**	**319**	*e*Pn	**Pb**	**19 29 59.1**	**+0.5**
KORR				*e*Sn	**Sb**	**19 30 28.3**	**+1.5**
BTKR	**Batakoyurt**	**2.32**	**330**	*e*Pn	**Pg**	**19 30 05.2**	**+3.5**
BTKR				*e*Sn	**Sg**	**19 30 34.5**	**+2.7**
ONI	**Oni**	**2.34**	**302**	P	**Pn**	**19 29 56.0**	**+0.5**
ABS	**Abastumani**	**2.52**	**280**	P	**Pn**	**19 29 56.1**	**-1.9**
TKB	**Tkibuli**	**2.54**	**294**	P	**Pn**	**19 29 58.5**	**+0.4**
TKB				S	**Sb**	**19 30 32.6**	**-1.1**
SHA1	**Shidzhatmaz**	**3.49**	**314**	*e*Pn	**Pb**	**19 30 17.7**	**-1.2**
SHA1				*i* Sn	**Sb**	**19 30 59.3**	**-1.9**

*IDC **09** 19:29:45.4±0.8,22°.77N×120°.43E,h0km,mb3.6/8, mbtmp3.6/10,ML3.4/2,MS3.2/10,Error ellipse: s-maj=25.9km s-min=17.4km az=67.0*
*JMA **09** 19:29:48.2±0.7,23°N±2°×12°1E±°,h0km,MV4.3/15, TAIWAN REGION*
*TAP **09** 19:29:48.7,22°.92N×120°.55E,h14km,ML4.3,B*
*NIED **09** 19:29:48.2,22°.81N×120°.75E,h0km,MW4.0,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=0.23; Mθθ0.66; Mϕϕ-0.44; Mrθ-0.46; Mϕθ0.91; Mϕr-0.64; Fault plane solution: M0 1.30000×10¹⁵ NP1: ϕs=287.00000°,δ54.00000°,λ-2.00000°. NP2:ϕs19.00000°, δ88.00000°,λ-144.00000°.*

ISC 09 19:29:48.4±0.6,22°.90N±0°.01×120°.59E±0°.01,h17km±1km, n163,σ1s34/261,mb3.6/6,MS3.0/7,44C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCST	**Cishan**	**0.09**	**261**	⇑*i*P			**Pb**	**19 29 52.4**	**+0.6**
	baz=237								
SCST				*i* S			**Sb**	**19 29 55.1**	**+0.9**
	baz=237								
SLGT	**Liugui**	**0.10**	**27**	⇓*e*P			**Pb**	**19 29 52.9**	**+0.9**
	baz=59								
SSD	**Sandimen**	**0.16**	**167**	⇑*i*P			**Pg**	**19 29 54.0**	**+1.4**
	baz=148								
SSD				*i* S			**Sg**	**19 29 57.7**	**+2.2**
	baz=148								
SGST	**Jiashian**	**0.18**	**357**	⇓*e*P			**Pg**	**19 29 52.8**	**-0.2**
	baz=12								
SGST				*e*S			**Sg**	**19 29 56.5**	**+0.3**
	baz=12								
SGLT	**Jiouru**	**0.20**	**209**	⇓*i*P			**Pb**	**19 29 55.2**	**+1.7**
	baz=189								
SGLT				*e*S			**Sb**	**19 30 00.5**	**+3.5**
	baz=189								
TSMG	**Majia**	**0.20**	**166**	⇑*i*P			**Pb**	**19 29 54.5**	**+1.0**
	baz=152								
TSMG				*i* S			**Sb**	**19 29 58.5**	**+1.4**
	baz=152								
TSPT	**Pingtung City**	**0.24**	**202**	*e*P			**Pb**	**19 29 56.2**	**+1.9**
	baz=189								
SHHT	**Tainan City**	**0.26**	**298**	⇓P			**Pg**	**19 29 54.9**	**+0.8**
	baz=304								
SHHT				*e*S			**Sb**	**19 30 01.2**	**+2.5**
	baz=304								
CHN3	**Shinhua**	**0.27**	**310**	⇑*i*P			**Pb**	**19 29 56.0**	**+1.2**
	baz=318								
CHN3				*e*S			**Sb**	**19 30 02.3**	**+3.1**
	baz=318								
SNJT	**Kaohsiung City**	**0.28**	**239**	⇑*e*P			**Pb**	**19 29 55.1**	**+0.2**
	baz=230								
MASBT	**Mashibuluo**	**0.29**	**173**	⇑*i*P			**Pb**	**19 29 56.1**	**+1.0**
	baz=162								
MASBT				S			**Sb**	**19 30 01.2**	**+1.6**
	baz=162								
CHN1	**Nanshi**	**0.29**	**348**	⇑*i*P			**Pb**	**19 29 55.7**	**+0.5**
CHN1				S			**Sb**	**19 30 00.8**	**+1.1**
STYT	**Tauyuan**	**0.30**	**30**	⇓*i*P			**Pb**	**19 29 56.2**	**+0.8**
	baz=43								
STYT				*i* S			**Sb**	**19 30 01.7**	**+1.6**
	baz=43								
STYH	**Taoyuan**	**0.32**	**32**	⇓*e*P			**Pb**	**19 29 55.6**	**0.0**
	baz=47								
STYH				*e*S			**Sb**	**19 30 01.3**	**+0.8**
	baz=47								
SNST	**Tainan City**	**0.33**	**344**	⇑P			**Pb**	**19 29 56.5**	**+0.6**
	baz=351								
SNST				*e*S			**Sb**	**19 30 02.0**	**+1.1**
	baz=351								
WTP	**Ta-pu**	**0.34**	**3**	⇓*i*P			**Pb**	**19 29 56.8**	**+0.7**
	baz=11								
WTP				S			**Sb**	**19 30 02.8**	**+1.5**
	baz=11								
TAI1	**Yung-k'ang**	**0.36**	**293**	⇓P			**Pb**	**19 29 57.0**	**+0.7**
	baz=293								
TAI1				*e*S			**Sb**	**19 30 04.1**	**+2.3**
	baz=293								
SSHA	**Shanhua**	**0.37**	**310**	*e*P			**Pb**	**19 29 57.4**	**+1.0**
	baz=313								
SSHA				*e*S			**Sb**	**19 30 05.0**	**+3.1**
	baz=313								
TAI	**Tainan**	**0.38**	**285**	*e*P			**Pg**	**19 29 56.4**	**+0.2**
	baz=284								
TAI				*e*S			**Sb**	**19 30 03.2**	**+1.0**
	baz=284								
TWK	**Hsinying**	**0.38**	**345**	⇑*i*P			**Pb**	**19 29 57.2**	**+0.5**
	baz=352								
TWK				*e*S			**Sb**	**19 30 04.0**	**+1.8**
	baz=352								
TPUB	**Ta-pu**	**0.40**	**5**	P			**Pb**	**19 29 57.6**	**+0.5**
	baz=10.0								
TPUB				*e*S			**Sb**	**19 30 03.8**	**+0.9**
	baz=10.0								
WSSB	**Gushan**	**0.40**	**230**	⇓*e*P			**Pn**	**19 29 58.8**	**-0.6**
	baz=225								
WSSB				*e*S			**Sn**	**19 30 07.1**	**+0.6**
	baz=225								
SSPT	**Xinbi**	**0.41**	**183**	⇑P			**Pn**	**19 29 58.7**	**-0.8**
	baz=166								
SSPT				*e*S			**Sn**	**19 30 05.8**	**-1.0**
	baz=166								
KAU	**Kaohsiung**	**0.42**	**219**	*e*P			**Pn**	**19 29 59.3**	**-0.4**
	baz=223								
ECL	**Taimali**	**0.45**	**132**	⇑*i*P			**Pn**	**19 29 59.1**	**-0.9**
	baz=129								
ECL				*i* S			**Sn**	**19 30 05.8**	**-1.9**
	baz=129								
TWGBT	**Beinan**	**0.46**	**100**	⇓*i*P			**Pn**	**19 29 59.4**	**-0.7**
	baz=100								
TWGBT				S			**Sn**	**19 30 07.2**	**-0.7**
	baz=100								
SCLT	**Jiali**	**0.46**	**307**	*e*P			**Pg**	**19 29 58.5**	**+0.8**
	baz=310								
SCLT				*e*S			**Sb**	**19 30 06.2**	**+1.7**
	baz=310								
ELDTW	**Lidau**	**0.48**	**53**	⇑*i*P			**Pn**	**19 29 59.7**	**-1.0**
	baz=57								
ELDTW				S			**Sn**	**19 30 07.2**	**-1.5**
	baz=57								
LONT	**Longtian**	**0.49**	**89**	⇓P			**Pn**	**19 30 00.2**	**-0.5**
	baz=77								
LONT				*e*S			**Sn**	**19 30 08.2**	**-0.6**
	baz=77								
SCZT	**Fangliau**	**0.53**	**177**	⇑*i*P			**Pb**	**19 30 00.3**	**-0.8**
	baz=162								
SCZT				*e*S			**Sn**	**19 30 10.0**	**+0.4**
	baz=162								
TSCK	**Chigu Township**	**0.53**	**298**	⇑*e*P			**Pg**	**19 29 58.5**	**-0.5**
	baz=299								
TSCK				*e*S			**Sg**	**19 30 06.7**	**+0.7**
	baz=299								
TTN	**Taitung**	**0.53**	**106**	⇓P			**Pn**	**19 30 01.6**	**+0.5**
	baz=105								
TTN				*e*S			**Sn**	**19 30 10.4**	**+0.8**
	baz=105								
WCKO	**Fanlu**	**0.54**	**1**	⇑*e*P			**Pg**	**19 29 58.7**	**-0.4**
	baz=5.0								
WCKO				*e*S			**Sg**	**19 30 06.4**	**0.0**
	baz=5.0								
ICHU	**Yijhu**	**0.54**	**328**	*e*P			**Pg**	**19 29 59.7**	**+0.5**
	baz=331								
ICHU				*e*S			**Sg**	**19 30 08.3**	**+1.8**
	baz=331								
EAST	**Anshuo**	**0.56**	**155**	⇑*i*P			**Pn**	**19 30 01.3**	**-0.4**
	baz=144								
EAST				*e*S			**Sn**	**19 30 10.3**	**-0.4**
	baz=144								
CHN8	**Yiju**	**0.57**	**322**	*e*P			**Pg**	**19 30 00.2**	**+0.6**
	baz=326								
CHN8				*e*S			**Sb**	**19 30 09.9**	**+2.3**
	baz=326								
ECS	**Chishang**	**0.61**	**71**	⇑*e*P			**Pn**	**19 30 02.3**	**+0.1**
	baz=73								
ECS				*e*S			**Sn**	**19 30 11.9**	**+0.3**
	baz=73								
TAW	**Tawu**	**0.61**	**153**	⇑*i*P			**Pn**	**19 30 02.0**	**-0.2**
	baz=142								
TAW				*e*S			**Sn**	**19 30 11.7**	**+0.1**
	baz=142								
CHY	**Chiayi**	**0.61**	**345**	*e*P			**Pb**	**19 30 01.4**	**+0.7**
	baz=349								
CHY				*e*S			**Sb**	**19 30 10.6**	**+1.5**
	baz=349								
TAWH	**Dawu Township**	**0.62**	**154**	⇑*e*P			**Pn**	**19 30 01.1**	**-1.3**
	baz=144								
TAWH				*e*S			**Sn**	**19 30 10.8**	**-1.1**
	baz=144								
ALS	**Alishan**	**0.64**	**18**	⇑*i*P			**Pb**	**19 30 01.8**	**+0.6**
	baz=22								
ALS				*e*S			**Sb**	**19 30 11.4**	**+1.4**
	baz=22								
CHN2	**Minshiung**	**0.64**	**350**	*e*P			**Pb**	**19 30 02.2**	**+1.1**
	baz=354								
CHN2				*e*S			**Sb**	**19 30 12.1**	**+2.4**
	baz=354								
EDH	**Donghe**	**0.66**	**84**	⇑*e*P			**Pn**	**19 30 03.2**	**+0.3**
	baz=74								
EDH				*e*S			**Sn**	**19 30 13.2**	**+0.4**
	baz=74								
YUS	**Yu-Shan**	**0.67**	**29**	⇑*e*P			**Pb**	**19 30 02.8**	**+0.8**
	baz=33								
YUS				*e*S			**Sb**	**19 30 12.5**	**+1.3**
	baz=33								
CHN5	**Tsauling**	**0.70**	**6**	⇑*e*P			**Pg**	**19 30 01.6**	**-0.5**
	baz=10.0								
CHN5				*e*S			**Sb**	**19 30 12.6**	**+1.1**
	baz=10.0								
WSL	**Shuilin Townsh**	**0.70**	**332**	⇓*e*P			**Pg**	**19 30 01.4**	**-0.8**
	baz=334								
WSL				*e*S			**Sg**	**19 30 11.6**	**-0.1**
	baz=334								
SLIU	**Shizi**	**0.71**	**164**	⇑*i*P			**Pn**	**19 30 03.6**	**0.0**
	baz=161								
SLIU				*e*S			**Sn**	**19 30 13.7**	**-0.4**
	baz=161								
CHKT	**Chengkung**	**0.74**	**74**	⇑*e*P			**Pn**	**19 30 04.3**	**+0.3**
	baz=91								
CHKT				*e*S			**Sn**	**19 30 16.4**	**+1.6**
	baz=91								
WGK	**Gukeng**	**0.78**	**358**	*e*P			**Pb**	**19 30 04.5**	**+1.0**
	baz=1.0								
WGK				*e*S			**Sn**	**19 30 16.7**	**+0.7**
	baz=1.0								
WDLH	**Douliu**	**0.79**	**356**	*e*P			**Pb**	**19 30 04.4**	**+0.8**
	baz=359								
WDLH				*e*S			**Sb**	**19 30 16.2**	**+2.2**
	baz=359								
TWF1	**Yuli**	**0.79**	**55**	⇑*i*P			**Pn**	**19 30 04.9**	**+0.2**
	baz=67								
TWF1				*e*S			**Sn**	**19 30 16.2**	**+0.1**
	baz=67								
EYUL	**Yuli**	**0.80**	**56**	⇑*e*P			**Pn**	**19 30 05.1**	**+0.2**
	baz=58								
EYUL				*e*S			**Sn**	**19 30 16.2**	**-0.2**
	baz=58								
WSF	**Szhu**	**0.81**	**335**	*e*P			**Pb**	**19 30 04.1**	**+0.1**
	baz=338								
WSF				*e*S			**Sb**	**19 30 16.6**	**+1.9**
	baz=338								
YULB	**Yu-li**	**0.81**	**53**	⇑P			**Pn**	**19 30 05.1**	**0.0**
	baz=47								
YULB				*e*S			**Sn**	**19 30 16.3**	**-0.4**
	baz=47								
WHYT	**Xinyi Township**	**0.83**	**17**	*e*P			**Pb**	**19 30 05.0**	**+0.6**
	baz=19								
WHYT				*e*S			**Sb**	**19 30 16.6**	**+1.3**
	baz=19								
LDUT	**Ludao**	**0.84**	**105**	⇑*i*P			**Pn**	**19 30 06.0**	**+0.6**
	baz=104								
LDUT				*e*S			**Sn**	**19 30 19.2**	**+1.9**
	baz=104								
ECBN	**Changbin**	**0.89**	**62**	*e*P			**Pn**	**19 30 06.3**	**+0.2**
	baz=63								
ECBN				*e*S			**Sn**	**19 30 20.7**	**+2.1**
	baz=63								
HEN	**Hengchun**	**0.90**	**171**	⇑P			**Pn**	**19 30 07.7**	**+1.5**
	baz=163								
HEN				*e*S			**Sn**	**19 30 21.3**	**+2.5**
	baz=163								
EHY	**Hungye**	**0.90**	**48**	⇑P			**Pn**	**19 30 06.7**	**+0.4**
	baz=50								
EHY				*e*S			**Sn**	**19 30 19.4**	**+0.4**
	baz=50								
SMST	**Manzhou Townsh**	**0.90**	**166**	*e*P			**Pn**	**19 30 07.4**	**+1.1**
	baz=151								
SMST				*e*S			**Sn**	**19 30 21.7**	**+2.8**
	baz=151								
WJS	**Zhushan**	**0.93**	**8**	*e*P			**Pb**	**19 30 06.5**	**+0.5**
	baz=356								
WJS				*e*S			**Sg**	**19 30 19.9**	**+1.3**
	baz=356								
WDGT	**Dungji**	**0.93**	**293**	⇓P			**Pb**	**19 30 05.4**	**-0.7**
	baz=295								
WDGT				*e*S			**Sb**	**19 30 17.5**	**-0.6**
	baz=295								
SSLB	**Suanglung**	**0.94**	**20**	P			**Pn**	**19 30 07.2**	**+0.3**
SSLB	**Suanglung**	**0.94**	**20**	⇑P			**Pg**	**19 30 06.9**	**+0.1**
	baz=23								
SSLB				*e*S			**Sg**	**19 30 19.9**	**+0.7**
	baz=23								
SNW	**Nanwan**	**0.95**	**171**	*e*P			**Pn**	**19 30 08.8**	**+2.0**
	baz=157								
SNW				*e*S			**Sn**	**19 30 23.8**	**+3.8**
	baz=157								
WMLT	**Mailiao**	**0.96**	**339**	*e*P			**Pb**	**19 30 06.8**	**+0.2**
	baz=342								
WMLT				*e*S			**Sb**	**19 30 20.3**	**+1.3**
	baz=342								
HGSD	**Ruisui**	**0.96**	**52**	⇑*e*P			**Pn**	**19 30 08.5**	**+1.3**
	baz=47								
HGSD				*e*S			**Sn**	**19 30 22.5**	**+2.0**
	baz=47								
TWK1	**Hengchun**	**0.97**	**168**	⇑*e*P			**Pn**	**19 30 08.6**	**+1.3**
	baz=165								
TWK1				*e*S			**Sn**	**19 30 22.8**	**+2.2**
	baz=165								
TWKBT	**Hengchun**	**0.98**	**168**	⇑*e*P			**Pn**	**19 30 08.5**	**+1.3**
	baz=165								
TWKBT				*e*S			**Sn**	**19 30 22.9**	**+2.2**
	baz=165								
WNT	**Mingjian**	**0.98**	**5**	⇓*e*P			**Pb**	**19 30 07.5**	**+0.7**
	baz=7.0								
WNT				*e*S			**Sg**	**19 30 21.6**	**+1.3**
	baz=7.0								
VWDT	**VWDT**	**0.99**	**31**	⇑*e*P			**Pn**	**19 30 07.9**	**+0.4**
	baz=25								
VWDT				*e*S			**Sn**	**19 30 23.0**	**+2.0**
	baz=25								
WTCT	**Ta-ch'eng**	**1.00**	**343**	*e*P			**Pb**	**19 30 07.5**	**+0.2**
	baz=346								
WTCT				*e*S			**Sb**	**19 30 21.5**	**+1.4**
	baz=346								
WNT1	**Nantou City**	**1.00**	**4**	*e*P			**Pb**	**19 30 08.1**	**+0.8**
	baz=7.0								
WNT1				*e*S			**Sb**	**19 30 21.7**	**+1.4**
	baz=7.0								
WRL	**Guolierlin Hig**	**1.02**	**349**	*e*P			**Pb**	**19 30 06.7**	**-0.9**
	baz=351								
WRL				*e*S			**Sb**	**19 30 20.3**	**-0.3**
	baz=351								
SMLT	**Sun Moon Lake**	**1.02**	**16**	*e*P			**Pn**	**19 30 08.4**	**+0.4**
	baz=18								
SMLT				*e*S			**Sn**	**19 30 22.6**	**+0.7**
	baz=18								
TYC	**Yuchr**	**1.03**	**14**	*e*P			**Pn**	**19 30 08.4**	**+0.4**
	baz=16								
TYC				*e*S			**Sn**	**19 30 23.7**	**+1.7**
	baz=16								
TSEB	**Hengchuen, Pin**	**1.03**	**164**	*e*P			**Pn**	**19 30 09.4**	**+1.4**
	baz=163								
TSEB				*e*S			**Sn**	**19 30 24.8**	**+2.7**
	baz=163								
WYL	**Yuanlin Townsh**	**1.06**	**359**	*e*P			**Pb**	**19 30 08.7**	**+0.5**
	baz=1.0								
WYL				*e*S			**Sg**	**19 30 23.8**	**+1.1**
	baz=1.0								
EGFH	**Guangfu**	**1.08**	**45**	⇑*e*P			**Pg**	**19 30 09.7**	**+0.3**
	baz=46								
EGFH				*e*S			**Sn**	**19 30 25.3**	**+1.9**
	baz=46								
VCHM	**Qimei**	**1.12**	**286**	⇓*e*P			**Pn**	**19 30 07.9**	**-1.3**
	baz=299								
VCHM				*e*S			**Sb**	**19 30 22.7**	**-0.8**
	baz=299								
WWF	**Wufeng**	**1.14**	**5**	*e*P			**Pn**	**19 30 09.3**	**-0.2**
	baz=355								
WWF				*e*S			**Sb**	**19 30 25.7**	**+1.5**
	baz=355								
WPL	**Puli Township**	**1.16**	**17**	*e*P			**Pb**	**19 30 10.5**	**+0.6**
	baz=18								
WPL				*e*S			**Sg**	**19 30 26.6**	**+0.7**
	baz=18								
PNG	**Penghu**	**1.16**	**305**	⇓*e*P			**Pn**	**19 30 08.6**	**-1.2**
	baz=308								
PNG				*e*S			**Sb**	**19 30 23.2**	**-1.7**
	baz=308								
DPDB	**Guoxing**	**1.17**	**15**	*e*P			**Pb**	**19 30 10.7**	**+0.6**
	baz=16								
DPDB				*e*S			**Sg**	**19 30 27.3**	**+1.0**
	baz=16								
WCHH	**Zhanghua**	**1.18**	**358**	*e*P			**Pn**	**19 30 10.5**	**+0.4**
WCHH				*e*S			**Sb**	**19 30 26.5**	**+1.3**
OWD	**Renai**	**1.18**	**27**	⇑*e*P			**Pg**	**19 30 10.9**	**-0.3**
	baz=16								
OWD				*e*S			**Sg**	**19 30 27.5**	**+0.8**
	baz=16								
TEGC	**Jichi Village**	**1.19**	**47**	*e*P			**Pg**	**19 30 12.8**	**+1.5**
	baz=48								
TEGC				*e*S			**Sg**	**19 30 30.9**	**+4.1**
	baz=48								
WCS	**Beigang Elemen**	**1.19**	**14**	⇑*e*P			**Pn**	**19 30 09.9**	**-0.3**
	baz=15								
WCS				*e*S			**Sb**	**19 30 26.6**	**+1.1**
	baz=15								
WUSB	**Renai**	**1.19**	**24**	⇑*e*P			**Pb**	**19 30 11.1**	**+0.6**
	baz=25								
WUSB				*e*S			**Sg**	**19 30 27.4**	**+0.5**
	baz=25								
ESL	**Shilin**	**1.19**	**40**	⇑*e*P			**Pg**	**19 30 11.7**	**+0.2**
	baz=41								
ESL				*e*S			**Sg**	**19 30 28.8**	**+1.7**
	baz=41								
LAY	**Lan-yu**	**1.23**	**134**	*e*P			**Pg**	**19 30 11.8**	**-0.4**
	baz=131								
LAY				*e*S			**Sg**	**19 30 28.9**	**+0.6**
	baz=131								
TCU	**Taichung**	**1.24**	**3**	*e*P			**Pb**	**19 30 11.9**	**+0.5**
	baz=5.0								
TCU				*e*S			**Sn**	**19 30 28.6**	**+1.3**
	baz=5.0								
CHGB	**Renai**	**1.27**	**25**	⇑*e*P			**Pb**	**19 30 12.6**	**+0.6**
	baz=26								
CHGB				*e*S			**Sg**	**19 30 29.8**	**+0.1**
	baz=26								
LYUB	**Lan-yu**	**1.28**	**134**	*e*P			**Pg**	**19 30 11.1**	**-2.0**
	baz=120								

baz=11
NNSH eS Sb 19 30 41.6 +1.6
baz=11
NNS Nan Shan 1.69 25 eP Pn 19 30 18.2 +0.9
baz=11
NSTT Nanjuang 1.76 12 eP Pn 19 30 18.9 +0.7
baz=13
LIOB Emei 1.78 12 eP Pn 19 30 19.5 +1.2
baz=13
NFF Wufeng Townshi 1.79 15 eP Pn 19 30 18.8 +0.2
baz=359
NFF eS Sb 19 30 43.1 +0.1
baz=359
LATG Datong 1.84 28⇑ eP Pb 19 30 21.4 -0.2
baz=27
LATG eS Sb 19 30 46.1 +1.7
baz=27
ENA Nanau 1.85 34 eP Pb 19 30 21.1 -0.6
baz=34
EWUT Wuta 1.88 35 eP Pn 19 30 20.7 +0.9
baz=35
NDT Datong Townshi 1.89 26 eP Pb 19 30 22.0 -0.5
baz=10.0
NSK Sanguang 1.90 21 eP Pn 19 30 20.2 +0.1
baz=6.0
YHNB Yeheng 1.90 22 P Pb 19 30 23.7 +1.0
YHNB Yeheng 1.90 22 eP Pn 19 30 21.5 +1.4
baz=6.0
YHNB eS Sb 19 30 47.4 +1.2
baz=6.0
ENTT Nioudou 1.95 27 eP Pb 19 30 22.4 -1.0
baz=12
NDS Dongshan 2.01 31 eP Pn 19 30 22.6 +1.1
baz=47
TWC Suao 2.05 34 eP Pb 19 30 24.6 -0.7
baz=34
TWE Neicheng 2.06 28 eP Pb 19 30 25.1 -0.3
baz=12
FUSB Fushanzhiwuyua 2.06 26 eP Pb 19 30 24.2 -1.2
baz=10.0
VWUC VWUC 2.33 334 eP Pn 19 30 25.7 -0.2
baz=336
JYNG Yonaguni jima 2.65 54 P Pb 19 30 32.8 -2.6
JYNG S Sb 19 31 06.5 -1.2
YOJ Yonaguni jima 2.71 54 P Pb 19 30 34.0 -2.4
YOJ Yonaguni jima 2.71 54 P Pb 19 30 33.9 -2.4
YOJ eS Sb 19 31 07.2 -2.1
HATJ Hateruma jima 3.17 68 P Pn 19 30 39.7 +2.3
HATJ eS Sn 19 31 17.5 +2.8
IRIF Iriomote-Funau 3.21 63 P Pn 19 30 40.6 +2.5
IRIF eS Sb 19 31 20.9 -2.9
JKRS Kuro-shima 3.41 66 P Pn 19 30 43.1 +2.5
JIJ Ishigaki jima 3.57 65 P Pn 19 30 44.7 +1.8
JIJ eS Sn 19 31 27.2 +2.5
JISG Ishigakijimahi 3.80 63 P Pn 19 30 47.8 +1.7
JTJ Tarama 4.14 64 P Pn 19 30 53.5 +2.6
JIRB Irabujima 4.61 64 P Pn 19 30 59.3 +2.1
JMJ Miyako jima 2 4.71 65 P Pn 19 31 01.3 +2.7
JMJ2 Miyako jima3 4.71 66 P Pn 19 31 01.1 +2.5
JIKM Ikemajima 4.71 64 S Sn 19 31 56.0 +3.1
JOGS Gusukube 4.78 66 P Pn 19 31 02.2 +2.6
JOW Kunigami 8.00 59 Pn Pn 19 31 44.3 +0.4
1.2nm,0.3s,baz=225,slow=11,SNR=5.8
6.7nm,0.5s
JOW Kunigami 8.00 59 P Pn 19 31 44.7 +0.9
QIZ Qiongzhong 10.76 251 P Pn 19 32 21.4 -0.3
KSRS Korea Array 15.82 22 Pn Pn 19 33 32.0 +1.7
0.1nm,0.3s,baz=203,slow=13,SNR=1.8
KSRS LR LR 19 40 20.7
comp=Z,46nm,18.5s,baz=210,slow=40
0.5nm,0.5s
DAV Davao City (W) 16.45 162 LR LR 19 39 46.0
comp=Z,99nm,19.0s,baz=115,slow=37
JHJ Hachijo jima 2 19.74 55 LR LR 19 41 05.6
comp=Z,37nm,18.1s,baz=82,slow=34
MJAR Matsushiro Arr 20.42 44 P Pn 19 34 26.0 -0.9
1.7nm,0.8s,baz=231,slow=8.4,SNR=6.1
MJAR LR LR 19 42 43.4
comp=Z,46nm,21.1s,baz=210,slow=38
1.7nm,0.8s
CMAR Chiang Mai Arr 20.73 262 P P 19 34 23.9 -4.3
0.2nm,0.3s,baz=64,slow=9.1,SNR=3.6
CMAR LR LR 19 44 03.8
comp=Z,57nm,18.2s,baz=100,slow=42
0.2nm,0.3s
GUMO Guam 24.81 108 LR LR 19 45 33.7
comp=Z,32nm,18.5s,baz=139,slow=38
SIJI Sorong 25.81 155 P P 19 35 18.3 -0.6
2.5nm,0.5s,baz=24,slow=10.0,SNR=2.6
2.5nm,0.5s
KLR Kul'dur 27.72 16 LR LR 19 47 24.7
comp=Z,43nm,19.6s,baz=148,slow=38
MKAR Makanchi Array 38.90 317 P P 19 37 13.8 +0.8
0.5nm,0.8s,baz=115,slow=11,SNR=4.6
0.5nm,0.8s
ZALV Zalesovo Beam 41.04 328 P P 19 37 30.4 -0.2
0.2nm,0.3s,baz=110,slow=6.3,SNR=2.1
0.2nm,0.3s
PETK Petropavlovsk- 41.23 33 LR LR 19 54 01.1
comp=Z,40nm,21.6s,baz=113,slow=35
KURBB Kurchatov Arra 42.75 321 P P 19 37 43.8 -0.9
0.3nm,0.8s,baz=110,slow=8.0,SNR=2.6
0.3nm,0.8s
WRA Warramunga Arr 44.65 161 P P 19 37 58.6 -1.6
2.9nm,0.8s,baz=344,slow=8.8,SNR=18
WRA PcP PcP 19 39 42.2 -0.7
0.3nm,0.8s,baz=356,slow=3.5,SNR=1.6
2.9nm,0.8s
ASAR Alice Springs 48.06 164 P P 19 38 26.6 -0.4
0.7nm,0.6s,baz=342,slow=6.7,SNR=22
ASAR PcP PcP 19 39 54.7 -0.1
0.5nm,0.8s,baz=341,slow=2.6,SNR=3.2
0.7nm,0.6s
ARU Arti 55.81 324 LR LR 20 05 41.7
comp=Z,38nm,18.1s,baz=321,slow=39
GERES GERESS Array B 83.48 320 LR LR 20 22 51.8
comp=Z,68nm,19.2s,baz=241,slow=38

*IDC **09** 19:31:01.9±1.1,20.70S×67.24W,h188km±10km,mb3.5/6, mbtmp4.0/11,Error ellipse: s-maj=14.6km s-min=12.4km az=76.0*
*NEIC **09** 19:31:01.8±2.5,20.87S±0.06×67.5W±0.1,h210km±16km, mb4.3/6,Error ellipse: s-maj=15.0km s-min=8.7km az=92.0.*
*GUC **09** 19:31:03.5±0.7,20.82S×67.54W,h202km±12km,ML4.1*
*SCB **09** 19:31:04.3±0.9,20.85S×67.48W,h198km±8km,ML3.7/7, MW3.9,Error ellipse: s-maj=3.6km s-min=2.4km az=0.0*
*VAO **09** 19:31:04.9±0.6,20.63S×67.19W,h198km±5km,mb4.0*
ISC 09 19:31:01.5±0.6,20.85S±0.04×67.43W±0.04,h196km±6km, n106,σ1§65/141,mb4.1/5,11C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.72**	**104**	P	**Pn**	**19 31 39.4**	**+1.9**
MOCB				S	**Sn**	**19 32 04.8**	**-0.5**
MOCB				IAML		19 32 07.4	
	650nm,0.5s						
PB01	**IPOC Station P**	**1.94**	**264**		**Pn**	**19 31 39.5**	**+0.2**
PB01				Sn	**Sn**	**19 32 07.2**	**-1.3**
PB01	**IPOC Station P**	**1.94**	**264**⇑	*iP*	**Pn**	**19 31 39.7**	**+0.5**
PB01				*i* S	**Sn**	**19 32 07.5**	**-1.0**
PB09	**IPOC Station P**	**1.94**	**241**		**Pn**	**19 31 40.8**	**+1.5**
PB09				Sn	**Sn**	**19 32 09.3**	**+0.6**
PB09	**IPOC Station P**	**1.94**	**241**⇑	*iP*	**Pn**	**19 31 40.8**	**+1.5**
PB09				*i* S	**Sn**	**19 32 09.2**	**+0.5**
PB09				IAML		19 32 11.3	
	comp=N,345nm,0.6s						
GO01	**Chusmiza**	**2.03**	**305**		**Pn**	**19 31 41.4**	**+0.7**
GO01				Sn	**Sn**	**19 32 13.0**	**+2.0**
GO01	**Chusmiza**	**2.03**	**305**⇑	*iP*	**Pn**	**19 31 41.4**	**+0.7**
GO01				*i* S	**Sn**	**19 32 11.6**	**+0.6**
GO01				IAML		19 32 20.3	
	comp=N,597nm,0.1s						
GO01	**Chusmiza**	**2.03**	**305**	P	**Pn**	**19 31 41.5**	**+0.7**
YJA	**Yavi**	**2.22**	**127**	P	**Pn**	**19 31 44.5**	**+2.0**
LVC	**Limon Verde**	**2.23**	**218**	P	**Pn**	**19 31 44.0**	**+1.4**
	comp=N,31nm,0.4s,baz=7.3,slow=8.1,SNR=32						
LVC				S	**Sn**	**19 32 14.0**	**-0.7**
	comp=N,110nm,0.8s,baz=218,slow=18,SNR=10						
LVC	**Limon Verde**	**2.23**	**218**		**Pn**	**19 31 43.7**	**+1.1**
LVC	**Limon Verde**	**2.23**	**218**⇓	*iP*	**Pn**	**19 31 44.2**	**+1.6**
LVC	**Limon Verde**	**2.23**	**218**	P	**Pn**	**19 31 44.0**	**+1.4**
LVC				IAML		19 32 19.6	
	comp=N,55nm,0.7s						
PB02	**IPOC Station P**	**2.35**	**258**		**Pn**	**19 31 44.1**	**+0.5**
PB02				Sn	**Sn**	**19 32 15.1**	**-1.4**
PB02	**IPOC Station P**	**2.35**	**258**⇑	*iP*	**Pn**	**19 31 44.2**	**+0.5**
PB02				*i* S	**Sn**	**19 32 15.2**	**-1.3**
PB02	**IPOC Station P**	**2.35**	**258**	P	**Pn**	**19 31 44.4**	**+0.7**
PB02				S	**Sn**	**19 32 14.2**	**-2.3**
PB02				IAML		19 32 16.0	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**2.46**	**249**		**Pn**	**19 31 45.2**	**+0.3**
PB07				Sn	**Sn**	**19 32 17.3**	**-1.4**
PB07	**IPOC Station P**	**2.46**	**249**⇑	*iP*	**Pn**	**19 31 45.6**	**+0.7**
PB07				*i* S	**Sn**	**19 32 17.4**	**-1.4**
PB07				IAML		19 32 18.3	
	comp=N,1μm,0.5s						
TA01	**Diego Aracena**	**2.59**	**276**		**Pn**	**19 31 46.2**	**-0.1**
TA01				Sn	**Sn**	**19 32 18.4**	**-2.7**
TA01	**Diego Aracena**	**2.59**	**276**⇑	*iP*	**Pn**	**19 31 46.2**	**-0.1**
TA01				*i* S	**Sn**	**19 32 18.6**	**-2.6**
TA01				IAML		19 32 19.9	
	comp=E,834nm,0.4s						
TA01	**Diego Aracena**	**2.59**	**276**	P	**Pn**	**19 31 46.3**	**0.0**
TA02	**Huaiquique**	**2.60**	**282**		**Pn**	**19 31 46.4**	**+0.1**
TA02	**Huaiquique**	**2.60**	**282**⇑	*iP*	**Pn**	**19 31 46.8**	**+0.4**
TA02				*i* S	**Sn**	**19 32 19.6**	**-1.7**
TA02	**Huaiquique**	**2.60**	**282**	P	**Pn**	**19 31 46.5**	**+0.2**
PB06	**IPOC Station P**	**2.72**	**227**		**Pn**	**19 31 49.2**	**+1.3**
PB06				Sn	**Sn**	**19 32 23.6**	**+0.5**
PB06	**IPOC Station P**	**2.72**	**227**⇑	*iP*	**Pn**	**19 31 48.8**	**+0.9**
PB06				*i* S	**Sn**	**19 32 23.7**	**-0.4**
PB06				IAML		19 32 25.9	
	comp=E,410nm,0.6s						
PB06	**IPOC Station P**	**2.72**	**227**	P	**Pn**	**19 31 49.0**	**+1.1**
PB06				S	**Sn**	**19 32 21.6**	**-2.5**
PB06				IAML		19 32 25.6	
	comp=E,245nm,0.2s						
PB04	**IPOC Station P**	**2.93**	**239**		**Pn**	**19 31 51.0**	**+0.6**
PB04				Sn	**Sn**	**19 32 26.1**	**-2.5**
PB04	**IPOC Station P**	**2.93**	**239**	P	**Pn**	**19 31 51.2**	**+0.8**
PB04				S	**Sn**	**19 32 25.5**	**-3.1**
PB04				IAML		19 32 28.4	
	comp=E,226nm,0.3s						
PB15	**IPOC Station P**	**3.02**	**219**		**Pn**	**19 31 52.4**	**+1.0**
PB15				Sn	**Sn**	**19 32 30.4**	**-0.1**
PB15	**IPOC Station P**	**3.02**	**219**⇑	*iP*	**Pn**	**19 31 53.0**	**+1.6**
PB15				*i* S	**Sn**	**19 32 31.3**	**+0.8**
PB15	**IPOC Station P**	**3.02**	**219**	P	**Pn**	**19 31 52.8**	**+1.4**
PB16	**IPOC Station P**	**3.18**	**322**		**Pn**	**19 31 55.0**	**+1.3**
PB16				Sn	**Sn**	**19 32 34.2**	**-0.2**
PB16	**IPOC Station P**	**3.18**	**322**⇑	*iP*	**Pn**	**19 31 55.1**	**+1.3**
PB16				*i* S	**Sn**	**19 32 34.5**	**0.0**
PB16				IAML		19 32 38.3	
	comp=E,171nm,0.5s						
PB12	**IPOC Station P**	**3.52**	**309**		**Pn**	**19 31 56.3**	**-1.1**
PB12				Sn	**Sn**	**19 32 37.4**	**-3.8**
PB12	**IPOC Station P**	**3.52**	**309**⇑	*iP*	**Pn**	**19 31 56.3**	**-1.1**
PB12				*i* S	**Sn**	**19 32 37.2**	**-3.9**
PB12				IAML		19 32 44.1	
	comp=E,370nm,0.3s						
AP01	**Chacalluta**	**3.69**	**311**	Pn	**Pn**	**19 31 58.1**	**-1.3**
PB18	**Visviri**	**3.78**	**329**		**Pn**	**19 32 02.4**	**+1.4**
PB10	**IPOC Station P**	**3.93**	**227**	Pn	**Pn**	**19 32 02.0**	**-0.3**
PB10				Sn	**Sn**	**19 32 46.5**	**-3.5**
BBOE	**La Paz, Chanca**	**4.05**	**352**	P	**Pn**	**19 32 06.0**	**+1.6**
BBOE				IAML		19 32 59.8	
	comp=E,21nm,0.9s						
BBOD	**La Paz, Gloria**	**4.33**	**345**	P	**Pn**	**19 32 09.5**	**+1.5**
BBOD				IAML		19 33 05.8	
	comp=E,27nm,0.6s						
LPAZ	**La Paz**	**4.58**	**352**	P	**Pn**	**19 32 11.8**	**+0.6**
	comp=E,20nm,0.3s,baz=165,slow=8.6,SNR=61						
LPAZ				S	**Sn**	**19 33 03.0**	**-2.9**
	comp=E,8.1nm,0.5s,baz=232,slow=5.9,SNR=1.3						
LPAZ	**La Paz**	**4.58**	**352**		**Pn**	**19 32 11.8**	**+0.6**
LPAZ				Sn	**Sn**	**19 33 04.6**	**-1.4**
LPAZ	**La Paz**	**4.58**	**352**	P	**Pn**	**19 32 12.3**	**+1.1**
LPAZ	**La Paz**	**4.58**	**352**	*eP*	**Pn**	**19 32 12.3**	**+1.1**
PB14	**IPOC Station P**	**4.66**	**216**	Pn	**Pn**	**19 32 11.5**	**-0.3**
PB14				Sn	**Sn**	**19 33 03.3**	**-3.8**
GO02	**Mina Guanaco**	**4.74**	**204**	Pn	**Pn**	**19 32 13.6**	**+0.8**
GO02				Sn	**Sn**	**19 33 06.0**	**-2.9**
GO02	**Mina Guanaco**	**4.74**	**204**	P	**Pn**	**19 32 13.4**	**+0.6**
AC01	**Pan de Azucar**	**6.03**	**208**	Pn	**Pn**	**19 32 28.6**	**-0.5**
AC01				Sn	**Sn**	**19 33 32.6**	**-5.7**
AC02	**Maricunga**	**6.16**	**194**	Pn	**Pn**	**19 32 32.3**	**+1.0**
AC06	**Mina Casimiro**	**7.01**	**202**	Pn	**Pn**	**19 32 39.8**	**-2.1**
SIV	**San Ignacio**	**7.73**	**52**	P	**Pn**	**19 32 49.7**	**-1.6**
	comp=E,37nm,0.5s,baz=241,slow=12,SNR=155						
SIV				S	**Sn**	**19 34 11.9**	**-6.6**
	comp=E,4.8nm,0.8s,baz=281,slow=15,SNR=6.5						
AC04	**Llanos de Chal**	**8.04**	**204**	Pn	**Pn**	**19 32 55.4**	**+0.1**
AC05	**El Transito**	**8.36**	**197**	Pn	**Pn**	**19 32 59.0**	**-0.6**
PTLB	**Pontes e Lacer**	**9.53**	**57**	Pn	**Pn**	**19 33 13.0**	**-1.9**
PTLB	**Pontes e Lacer**	**9.53**	**57**	*eP*	**Pn**	**19 33 14.5**	**-0.3**
GO04	**Toloio Observa**	**9.77**	**197**	Pn	**Pn**	**19 33 15.1**	**-2.6**
VILB	**Villa Independ**	**10.46**	**42**	*eP*	**Pn**	**19 33 26.8**	**-0.1**
CPUP	**Villa Florida**	**10.74**	**122**	P	**Pn**	**19 33 29.3**	**-1.1**
	comp=E,1.0nm,0.6s,baz=293,slow=13,SNR=2.1						
CPUP				S	**Sn**	**19 35 27.1**	**-3.1**
	comp=E,2.3nm,0.8s,baz=318,slow=9.5,SNR=3.2						
CPUP	**Villa Florida**	**10.74**	**122**	*eP*	**Pn**	**19 33 33.0**	**+2.6**
CO02	**Combarbal**	**10.80**	**197**	Pn	**Pn**	**19 33 29.1**	**-2.1**
AQDB	**Aquidauana**	**10.98**	**90**		**Pn**	**19 33 35.2**	**+1.6**
SALV	**Santo Antonio**	**12.17**	**68**	*eP*	**Pn**	**19 33 48.6**	**-0.2**
PDRB	**Porto dos Gac**	**13.77**	**50**	*eP*	**Pn**	**19 34 07.9**	**-1.0**
UNIS	**Unistalda (Bra**	**13.87**	**129**	*eP*	**P**	**19 34 12.7**	**+0.6**
TRCB	**Terra Rica**	**13.87**	**101**	*eP*	**P**	**19 34 11.7**	**-0.6**
CRSM	**Crissiumal (Br**	**13.88**	**121**	*eP*	**P**	**19 34 14.4**	**+2.1**
FRBT	**Francisco Belt**	**14.14**	**114**	*eP*	**P**	**19 34 17.3**	**+2.1**
RODS	**Rosario do Sul**	**14.52**	**133**	*eP*	**P**	**19 34 21.0**	**+1.7**
CLDB	**Colider**	**14.94**	**50**	*eP*	**P**	**19 34 24.2**	**+0.1**
PCMB	**Pacaembu**	**15.09**	**96**	*eP*	**P**	**19 34 26.8**	**+1.0**
ALGR	**Alto Alegre (B**	**15.27**	**124**	*eP*	**P**	**19 34 30.2**	**+2.4**
ITAB	**Concordia**	**15.34**	**117**		**P**	**19 34 27.8**	**-0.6**
ITAB				IAmb	IAmb	19 34 32.9	
	comp=Z,13nm,0.8s						
CPSB	**Cacapava Do Su**	**15.79**	**130**	*eP*	**Pn**	**19 34 35.5**	**+2.0**
ITRB	**Iturama**	**16.05**	**89**	*eP*	**Pn**	**19 34 37.8**	**+1.0**
PLTB	**Pedras Altas**	**16.47**	**134**		**P**	**19 34 39.7**	**-1.1**
PLTB				IAmb	IAmb	19 34 59.7	
	comp=Z,11nm,1.2s						
CNLB	**Canela**	**17.20**	**123**	*eP*	**Pn**	**19 34 51.0**	**+0.6**
BB19B	**Bebedouro**	**17.65**	**94**	*eP*	**Pn**	**19 34 55.2**	**-0.7**
TRQA	**Tornquist**	**17.79**	**166**	P	**P**	**19 34 54.0**	**-1.7**
SNDB	**Serra Nova Dou**	**17.80**	**63**	*eP*	**P**	**19 34 56.1**	**+0.5**
IPMB	**Ipameri, GO**	**18.35**	**84**	*eP*	**Pn**	**19 35 02.7**	**-1.3**
PET01	**Itanhaem-SP**	**18.92**	**104**	*eP*	**Pn**	**19 35 09.4**	**-1.2**
VAO	**Valinhos**	**19.10**	**100**	*eP*	**P**	**19 35 10.0**	**+0.3**
BDFB	**Brasilia**	**19.14**	**78**	P	**P**	**19 35 10.6**	**+0.3**
	comp=Z,3.2nm,0.5s,baz=262,slow=12,SNR=5.2						
BDFB	**Brasilia**	**19.14**	**78**	P	**P**	**19 35 09.7**	**-0.5**
BDFB				IAmb	IAmb	19 35 51.2	
	comp=Z,16nm,1.4s						
PLCA	**Paso Flores**	**20.00**	**187**	P	**Pn**	**19 35 23.4**	**0.0**
	comp=Z,1.3nm,0.7s,baz=11,slow=12,SNR=4.8						
	comp=Z,1.3nm,0.7s						
PLCA	**Paso Flores**	**20.00**	**187**	*eP*	**Pn**	**19 35 24.2**	**+0.7**
MCRA	**Macar, Loja**	**20.41**	**322**	P	**P**	**19 35 22.8**	**-0.9**
MCRA				IAmb	IAmb	19 35 27.5	
	comp=Z,14nm,1.4s						
BOSC	**San Juan Bosco**	**20.63**	**327**	P	**P**	**19 35 24.7**	**-1.5**
DIAM	**Diamantina, MG**	**22.52**	**88**	*eP*	**P**	**19 35 45.2**	**0.0**
SMTB	**Santa Maria do**	**22.54**	**61**	*eP*	**P**	**19 35 45.5**	**+0.2**
MC01	**Montes Claros**	**22.61**	**83**	*eP*	**P**	**19 35 46.2**	**+0.4**
JANB	**Januaria**	**22.72**	**79**	*eP*	**P**	**19 35 46.6**	**-0.2**
MALB	**Monte Alegre**	**22.83**	**36**	*eP*	**P**	**19 35 47.8**	**-0.1**
SDBA	**SAO DESIDERIO**	**23.13**	**72**	*eP*	**P**	**19 35 50.8**	**+0.2**
GUA01	**Guaratinga, BA**	**26.48**	**85**	*eP*	**P**	**19 36 21.4**	**+0.6**
ROSB	**Rosario**	**28.87**	**55**	*eP*	**P**	**19 36 44.3**	**+2.2**
TXAR	**Lajitas Array**	**60.91**	**324**	P	**P**	**19 40 54.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=149,slow=9.1,SNR=11						
	comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**74.25**	**329**	P	**P**	**19 42 18.6**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=126,slow=7.5,SNR=3.8						
	comp=Z,0.4nm,0.7s						
ULM	**Lac du Bonnet**	**75.13**	**342**	P	**P**	**19 42 22.2**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=157,slow=5.9,SNR=5.1						
	comp=Z,2.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.83**	**70**	P	**P**	**19 42 26.5**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=259,slow=5.5,SNR=14						
	comp=Z,2.5nm,0.6s						
YKA	**Yellowknife Ar**	**91.04**	**340**	P	**P**	**19 43 44.4**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=134,slow=4.9,SNR=7.9						
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs 131.12 206**			PKP	**PKPdf**	**19 49 51.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=138,slow=1.8,SNR=4.2						
WRA	**Warramunga Arr 134.21 209**			PKP	**PKiKP**	**19 49 58.3**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=154,slow=1.8,SNR=2.4						
MKAR	**Makanchi Array 144.29 36**			PKP	**PKPdf**	**19 50 14.1**	**0.0**
	comp=Z,0.5nm,0.9s,baz=273,slow=1.5,SNR=3.6						
PZH	**PanZhiHua 168.59 58**			PKP	**PKPdf**	**19 50 41.8**	**-3.7**

*IDC **09** 19:36:49.6±0.5,2.39N×99.09E,h148km±2km,mb3.5/13, mbtmp3.9/15,MS3.4/1,Error ellipse: s-maj=27.3km s-min=11.1km az=54.0*
*DJA **09** 19:36:50.9±0.6,2.7N±3.3×9.9E±.,h151km±7km,M4.2/13, mb4.9/2,MLv3.8/13*
*NEIC **09** 19:36:51.2±1.9,2.48N±0.04×99.00E±0.05,h154km±4km, mb4.1/27,Error ellipse: s-maj=8.3km s-min=3.2km az=53.0*
ISC 09 19:36:50.2±0.6,2.43N±0.04×99.00E±0.04,h154km±5km, n77,σ1§02/86,mb3.9/23,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPSI	**Rantau Prapat**	**0.28**	**344**		**Pn**	**19 37 12.0**	**+0.9**
RPSI				Sn	**Sn**	**19 37 27.3**	**+0.2**
RPSI	**Rantau Prapat**	**0.28**	**344**		**Pn**	**19 37 12.0**	**+0.9**
PSI	**Prapat**	**0.38**	**348**	P	**Pn**	**19 37 12.0**	**+0.4**
	593nm,0.3s,baz=207,slow=4.5,SNR=596						
PSI				LR	LR	19 37 22.4	
	comp=Z,94nm,18.2s,baz=230,slow=95						
PSI				S	**Sn**	**19 37 27.2**	**-0.8**
	132nm,0.6s,baz=179,slow=8.0,SNR=16						
PSI	**Prapat**	**0.38**	**348**	P	**Pn**	**19 37 12.1**	**+0.4**
TSI	**Tuntungan**	**1.15**	**338**	P	**Pn**	**19 37 17.8**	**+1.1**
TSI				S	**Sn**	**19 37 37.5**	**+0.5**
KCSI	**Kotacane, Aceh**	**1.64**	**312**	P	**Pn**	**19 37 22.2**	**+0.6**
KCSI				S	**Sn**	**19 37 45.5**	**-0.1**
MNSI	**Mandailing Nat**	**1.72**	**160**	P	**Pn**	**19 37 23.7**	**+1.2**
MNSI				S	**Sn**	**19 37 47.9**	**+0.6**
GSI	**Gunungsitoli**	**1.81**	**232**		**Pn**	**19 37 24.0**	**+0.6**
GSI				Sn	**Sn**	**19 37 48.9**	**-0.1**
GSI	**Gunungsitoli**	**1.81**	**232**	P	**Pn**	**19 37 24.3**	**+0.9**
GSI				S	**Sn**	**19 37 49.4**	**+0.4**
GSI	**Gunungsitoli**	**1.81**	**232**	P	**Pn**	**19 37 24.1**	**+0.6**
PBSI	**Pulau Batu**	**2.57**	**196**	P	**Pn**	**19 37 33.0**	**+0.6**
IPM	**Ipoh**	**2.87**	**45**	Pn	**Pn**	**19 37 37.2**	**+1.1**
IPM				Sn	**Sn**	**19 38 08.5**	**-3.1**
IPM	**Ipoh**	**2.87**	**45**	P	**Pn**	**19 37 37.5**	**+1.4**
BKNI	**Bangkinang**	**2.92**	**136**		**Pn**	**19 37 38.1**	**+1.4**
BKNI	**Bangkinang**	**2.92**	**136**	P	**Pn**	**19 37 38.2**	**+1.5**
BKNI	**Bangkinang**	**2.92**	**136**	P	**Pn**	**19 37 38.3**	**+1.5**
KULM	**Kulim**	**3.28**	**30**		**Pn**	**19 37 41.7**	**+0.4**
LHMI	**Lhok Sumawe**	**3.46**	**324**		**Pn**	**19 37 44.0**	**+0.5**
PDSI	**Padang**	**3.62**	**156**	P	**Pn**	**19 37 46.4**	**+0.6**
SISI	**Saibi**	**3.73**	**179**	P	**Pn**	**19 37 45.8**	**-1.3**
SDSI	**Sungai Dareh**	**4.13**	**144**	P	**Pn**	**19 37 53.1**	**+0.8**
MYKOM	**Kota Tinggi**	**4.89**	**97**	Pn	**Pn**	**19 38 03.0**	**+0.8**
KRJI	**Kerinci**	**5.12**	**151**	P	**Pn**	**19 38 06.0**	**+0.6**
	0.5nm125nm,0.8s						
SRIT	**Nakonsritamara**	**6.16**	**6**	Pn	**Pn**	**19 38 18.6**	**-0.4**
MASI	**Maura Aman, Be**	**6.41**	**150**	P	**Pn**	**19 38 23.5**	**+1.0**
MNAI	**Manna**	**7.82**	**150**	Pn	**Pn**	**19 38 37.9**	**-3.3**
PBA	**Port Blair**	**11.07**	**326**	Pn	**Pn**	**19 39 20.5**	**-3.8**
SBUM	**Sibu**	**13.21**	**90**	Pn	**Pn**	**19 39 52.1**	**0.0**
CM31	**Chiang Mai Arr**	**15.93**	**360**	P	**P**	**19 40 27.5**	**+1.0**
CM31				IAmb	IAmb	19 40 28.5	
	comp=Z,4.7nm,0.8s						
CMAR	**Chiang Mai Arr 15.93 360**			P	**P**	**19 40 27.8**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=191,slow=11,SNR=25						
CMAR	**Chiang Mai Arr 15.93 360**			P	**Pn**	**19 40 26.9**	**+0.8**
PHRA	**Phrae 16.02 4**			P	**P**	**19 40 28.4**	**+0.9**
KKM	**Kota Kinabalu 17.54 78**			P	**P**	**19 40 45.3**	**+0.9**
CRAI	**Chiangrai 17.74 4**			P	**P**	**19 40 47.2**	**+0.7**
CRAI				IAmb	IAmb	19 40 50.8	
	comp=Z,6.9nm,0.9s						
PALK	**Pallekele 18.85 285**			P	**Pn**	**19 41 00.9**	**-0.2**
	comp=Z,7.7nm,0.7s,baz=127,slow=20,SNR=3.5						
MYLDM	**Lahad Datu 19.64 81**			P	**Pn**	**19 41 09.9**	**-0.4**
TOLI2	**Tolitoli 21.81 93**				**P**	**19 41 30.6**	**+0.2**
TOLI2				IAmb	IAmb	19 41 44.1	
	comp=Z,5.6nm,0.7s						
TOLI2	**Tolitoli 21.81 93**			P	**P**	**19 41 31.4**	**+1.0**
KAPI	**Kappang 22.01 110**			P	**P**	**19 41 31.8**	**-0.6**
KAPI	**Kappang 22.01 110**			P	**P**	**19 41 34.1**	**+1.6**
DAV	**Davao City (W) 26.88 79**			LR	LR	19 54 05.0	
	comp=Z,65nm,18.2s,baz=95,slow=39						
FITZ	**Fitzroy Crossi 33.24 129**			P	**P**	**19 43 11.9**	**-1.0**
FITZ				IAmb	IAmb	19 43 40.6	
	comp=Z,7.0nm,1.5s						
WB0	**Warramunga Arr 41.16 124**			P	**P**	**19 44 19.1**	**-0.6**
WB0				IAmb	IAmb	19 44 47.4	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr 41.19 124**			P	**P**	**19 44 18.9**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=301,slow=9.2,SNR=26						
WRA				PcP	**PcP**	**19 46 15.2**	**-1.1**
	comp=Z,0.4nm,0.7s

comp=Z,0.1nm,0.3s
BURAR **Bucovina Array** 77.31 318 P **P** 19 48 29.4 +1.4
FINES **FINESS Array B** 79.75 332 P **P** 19 48 40.4 -0.5
comp=Z,0.4nm,0.5s,baz=110,slow=5.2,SNR=5.6
comp=Z,0.4nm,0.5s
TXAR **Lajitas Array** 141.67 33 PKhKP PKPpre 19 56 00.5
comp=Z,0.2nm,0.7s,baz=207,slow=0.6,SNR=3.9
CPUP **Villa Florida** 147.12 222 PKPbc **PKPbc** 19 56 16.4 +0.4
comp=Z,1.3nm,0.8s,baz=135,slow=5.7,SNR=3.1

---

*IDC **09** 19:48:07.9±3.2, 36.73S×179.27E, h0km, mb3.5/2, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=60.4km s-min=48.9km az=64.0*
*NOU **09** 19:48:09.6, 37.09S×179.68E, h114km, mb4.8/8, Off E. Coast of N. Island, N.Z.*
*WEL **09** 19:48:13.3±0.8, 37°S±3°×17°9E±°, h12km, M3.6/33, mB4.7/1, ML3.9/42, MLv3.6/33, Mw(mB)3.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=94.9*
ISC 09 19:48:11.0±2.0, 36°97S±0.06×179°30E±0.08, h25km±13km, n77, σ1§42/89, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.99**	**233**	P	**Pn**	**19 48 29.1**	**-0.1**
MXZ				S	**Sn**	**19 48 39.0**	**-3.3**
WMGZ	**Waiomatatini S**	**1.10**	**220**	P	**Pb**	**19 48 32.8**	**+1.4**
WMGZ				S	**Sb**	**19 48 47.0**	**+1.7**
PKGZ	**Pakihiroa**	**1.33**	**226**	P	**Pb**	**19 48 35.8**	**+0.4**
PKGZ				S	**Sb**	**19 48 52.7**	**+0.6**
PUZ	**Puketiti**	**1.38**	**217**	P	**Pb**	**19 48 36.2**	**+0.2**
PUZ				S	**Sn**	**19 48 52.5**	**+0.5**
HAZ	**Te Kaha**	**1.44**	**237**	P	**Pn**	**19 48 35.7**	**+0.3**
HAZ				S	**Sb**	**19 48 55.7**	**+0.7**
TWGZ	**Tauwhareparae**	**1.59**	**221**	P	**Pb**	**19 48 39.8**	**0.0**
RUGZ	**Raukumara Rang**	**1.63**	**232**	P	**Pb**	**19 48 40.1**	**-0.3**
RUGZ				S	**Sb**	**19 49 00.2**	**-0.3**
CNGZ	**Carnagh Statio**	**1.74**	**210**	P	**Pb**	**19 48 42.0**	**-0.3**
WIZ	**White Island**	**1.77**	**251**	P	**Pn**	**19 48 40.7**	**+0.7**
TKGZ	**Te Karaka**	**1.86**	**218**	P	**Pb**	**19 48 42.9**	**-1.4**
TKGZ				S	**Sb**	**19 49 05.7**	**-1.4**
MWZ	**Matawai**	**1.96**	**225**	P	**Pn**	**19 48 44.2**	**+1.6**
MWZ				S	**Sn**	**19 49 06.6**	**+0.3**
WHRZ	**Whale Island**	**2.05**	**244**	P	**Pb**	**19 48 46.5**	**-1.0**
RIGZ	**Rimuhau**	**2.12**	**215**	P	**Pn**	**19 48 46.1**	**+1.3**
RIGZ				S	**Sn**	**19 49 11.5**	**+1.2**
URZ	**Urewera**	**2.16**	**233**	Pn	**Pn**	**19 48 47.0**	**+1.6**
	36nm,0.3s,baz=211,slow=3.2,SNR=84						
URZ				Sn	**Sn**	**19 49 10.9**	**-0.4**
	28nm,0.3s,baz=211,slow=7.5,SNR=31						
	120nm,0.3s						
URZ	**Urewera**	**2.16**	**233**	P	**Pn**	**19 48 46.9**	**+1.6**
URZ				S	**Sn**	**19 49 11.8**	**+0.4**
URZ	**Urewera**	**2.16**	**233**	P	**Pn**	**19 48 46.9**	**+1.6**
OPRZ	**Ohinepanea**	**2.35**	**247**	P	**Pn**	**19 48 49.0**	**+1.0**
KNZ	**Kokohu**	**2.42**	**212**	P	**Pn**	**19 48 49.5**	**+0.7**
KNZ				S	**Sn**	**19 49 17.2**	**-0.4**
MHGZ	**Mahia Peninsul**	**2.44**	**206**	P	**Pn**	**19 48 50.2**	**+1.0**
MYRZ	**Mayor Island**	**2.46**	**262**	P	**Pn**	**19 48 52.0**	**+2.5**
MUGZ	**Murupara**	**2.50**	**232**	P	**Pn**	**19 48 51.6**	**+1.5**
TGRZ	**Tauranga**	**2.54**	**252**	P	**Pn**	**19 48 52.2**	**+1.7**
RRRZ	**Republican Roa**	**2.60**	**237**	P	**Pb**	**19 48 54.2**	**-2.7**
RAHZ	**Arahi**	**2.61**	**221**	P	**Pn**	**19 48 53.7**	**+2.0**
RAHZ				S	**Sn**	**19 49 23.4**	**+0.9**
MTHZ	**Maungataniwha**	**2.70**	**225**	P	**Pn**	**19 48 54.8**	**+1.9**
KMRZ	**Kaimai**	**2.81**	**251**	P	**Pn**	**19 48 56.4**	**+2.1**
KUZ	**Kuaotunu**	**2.88**	**273**	P	**Pn**	**19 48 55.5**	**+0.3**
KUZ				S	**Sn**	**19 49 25.6**	**-3.4**
NMHZ	**Naumai**	**2.89**	**222**	P	**Pn**	**19 48 57.1**	**+1.6**
NMHZ				S	**Sn**	**19 49 30.3**	**+0.7**
BKZ	**Black Stump Fm**	**3.11**	**224**	P	**Pn**	**19 48 59.4**	**+0.9**
BKZ				S	**Sn**	**19 49 34.0**	**-0.9**
BKZ	**Black Stump Fm**	**3.11**	**224**	P	**Pn**	**19 48 59.4**	**+0.9**
TOZ	**Tahuroa Road**	**3.12**	**255**	P	**Pn**	**19 48 58.9**	**+0.4**
GRZ	**Great Barrier**	**3.17**	**282**	P	**Pn**	**19 49 00.6**	**+1.3**
MCHZ	**McNeill Hill**	**3.21**	**219**	P	**Pn**	**19 49 00.5**	**+0.7**
MKAZ	**Moumakai**	**3.31**	**266**	P	**Pn**	**19 49 01.9**	**+0.7**
KWHZ	**Kaweka Forest**	**3.33**	**222**	P	**Pn**	**19 49 02.8**	**+1.2**
KWHZ				S	**Sn**	**19 49 39.2**	**-1.3**
WIAZ	**Waiheke Island**	**3.34**	**272**	P	**Pn**	**19 49 02.7**	**+1.0**
RITZ	**Rihia Road**	**3.38**	**233**	P	**Pn**	**19 49 03.9**	**+1.8**
KAHZ	**Kahuranaki**	**3.40**	**213**	P	**Pn**	**19 49 02.3**	**-0.1**
ETAZ	**East Tamaki Re**	**3.50**	**269**	P	**Pn**	**19 49 04.9**	**+1.2**
KRHZ	**Kereru**	**3.52**	**220**	P	**Pn**	**19 49 04.3**	**+0.2**
KRHZ				S	**Sn**	**19 49 43.3**	**-1.7**
MBAZ	**Motutapu North**	**3.54**	**272**	P	**Pn**	**19 49 05.6**	**+1.4**
BHHZ	**Black Hill Sta**	**3.58**	**224**	P	**Pn**	**19 49 05.6**	**+0.7**
OTVZ	**Oturere**	**3.61**	**232**	P	**Pn**	**19 49 06.7**	**+1.3**
SNVZ	**South Ngauruho**	**3.63**	**231**	P	**Pn**	**19 49 07.1**	**+1.3**
EPAZ	**Eden Park BICE**	**3.65**	**270**	P	**Pn**	**19 49 05.9**	**+0.1**
TWVZ	**Taurewa**	**3.70**	**234**	P	**Pn**	**19 49 08.5**	**+1.9**
MOVZ	**Moawhango**	**3.70**	**228**	P	**Pn**	**19 49 07.3**	**+0.7**
AWAZ	**Awhitu Peninsu**	**3.73**	**267**	P	**Pn**	**19 49 09.4**	**+2.5**
FWVZ	**Far West T-bar**	**3.73**	**218**	P	**Pn**	**19 49 08.5**	**+1.3**
WNVZ	**Wahianoa**	**3.75**	**230**	P	**Pn**	**19 49 08.0**	**+0.6**
WTAZ	**Waiatarua**	**3.79**	**269**	P	**Pn**	**19 49 09.4**	**+1.7**
RVAZ	**Riverhead Bore**	**3.79**	**272**	P	**Pn**	**19 49 09.4**	**+1.7**
PNHZ	**Pukenui**	**3.81**	**219**	P	**Pn**	**19 49 08.0**	**-0.1**
WPHZ	**Waipukurau**	**3.81**	**215**	P	**Pn**	**19 49 07.9**	**-0.3**
HIZ	**Hauiti**	**3.84**	**245**	P	**Pn**	**19 49 11.5**	**+3.0**
HIZ	**Hauiti**	**3.84**	**245**	P	**Pn**	**19 49 10.8**	**+2.3**
TSZ	**Takapari Road**	**4.04**	**219**	P	**Pn**	**19 49 11.0**	**-0.3**
WCZ	**Waipu Caves**	**4.12**	**283**	P	**Pn**	**19 49 14.2**	**+1.8**
DVHZ	**Dannevirke**	**4.13**	**215**	P	**Pn**	**19 49 12.0**	**-0.5**
WAZ	**Wanganui**	**4.38**	**229**	P	**Pn**	**19 49 15.7**	**-0.2**
BFZ	**Birch Farm**	**4.40**	**212**	P	**Pn**	**19 49 15.0**	**-1.2**
OUZ	**Omahuta**	**4.94**	**289**	P	**Pn**	**19 49 25.8**	**+2.2**
OUZ	**Omahuta**	**4.94**	**289**	P	**Pn**	**19 49 25.6**	**+2.1**
TKNZ	**Takaka Hill**	**6.39**	**229**	P	**Pn**	**19 49 43.1**	**-0.3**
QRZ	**Quartz Range**	**6.53**	**232**	P	**Pn**	**19 49 45.5**	**+0.1**
	55nm,1.5s						
CTZ	**Chatham Island**	**7.44**	**157**	P	**Pn**	**19 50 00.4**	**+2.5**
RAO	**Raoul Island**	**8.04**	**18**	P	**Pn**	**19 50 04.2**	**-2.0**
	1um,0.4s						
ODZ	**Otahua Downs**	**10.38**	**216**	P	**Pn**	**19 50 36.2**	**-1.9**
	26nm,2.5s						
ASAR	**Alice Springs**	**41.00**	**276**	P	**P**	**19 55 52.5**	**+0.4**
	0.5nm,0.6s,baz=120,slow=7.7,SNR=15						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**42.59**	**281**	P	**P**	**19 56 05.1**	**-0.1**
	0.4nm,0.6s,baz=122,slow=7.7,SNR=2.3						
	0.4nm,0.6s						
H03S2	**Juan Fernandez**	**78.70**	**124**	T	T	21 26 49.8	
	baz=230,SNR=4.3						
H03S1	**Juan Fernandez**	**78.71**	**124**	T	T	21 26 50.5	
	baz=230,SNR=3.9						
H03S3	**Juan Fernandez**	**78.72**	**124**	T	T	21 26 49.7	
	baz=230,SNR=4.8						
H03N3	**Juan Fernandez**	**78.93**	**123**	T	T	21 27 13.6	
	baz=235,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**78.94**	**123**	T	T	21 27 06.0	
	baz=235,slow=72,SNR=6.8						
H03N1	**Juan Fernandez**	**78.95**	**123**	T	T	21 27 04.8	
	baz=235,slow=72,SNR=18						
TORD	**Torodi Ar. Bea**	**156.18**	**186**	PKPab	**PKPab**	**20 08 33.0**	**+1.7**
	0.5nm,0.7s,baz=175,slow=6.0,SNR=1.8						

---

*IDC **09** 19:48:24.5±1.2, 0.86S×120.80E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=193.9km s-min=22.3km az=60.0*
*DJA **09** 19:48:27.0±0.3, 1°S±2°×12°0E±°, h10km, M3.9/11, mb4.3/1, MLv3.8/11*
ISC 09 19:48:30.4±1.0, 0°86S±0.05×120°33E±0.07, h49km, n13, σ1§96/15, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.26**	**340**	P	**Pn**	**19 48 49.9**	**-1.7**
MPSI				S	**Sn**	**19 49 07.7**	**+0.2**
APSI	**Ampana**	**1.32**	**92**	P	**Pn**	**19 48 52.6**	**+0.1**
MRSI	**Marisa**	**2.09**	**51**	P	**Pn**	**19 49 00.0**	**-3.0**
TTSI	**Tana Toraja**	**2.23**	**193**	P	**Pn**	**19 49 03.8**	**-1.1**
LUWI	**Luwuk**	**2.45**	**94**	P	**Pn**	**19 49 07.9**	**-0.1**
GTOI	**Gorontalo**	**3.07**	**61**	P	**Pn**	**19 49 15.3**	**-1.1**
SPSI	**Sidrap Palu**	**3.14**	**190**	P	**Pn**	**19 49 16.5**	**-0.8**
BKSI	**Bulukumba**	**4.44**	**183**	P	**Pn**	**19 49 34.0**	**-1.2**
BSSI	**Bau Bau, Buton**	**5.25**	**178**	P	**Pn**	**19 49 45.0**	**-1.4**
WRA	**Warramunga Arr**	**23.41**	**145**	P	**P**	**19 53 33.6**	**-1.6**
	1.8nm,0.9s,baz=326,slow=10,SNR=9.3						
	1.8nm,0.9s						
ASAR	**Alice Springs**	**26.22**	**151**	P	**P**	**19 53 58.0**	**-3.0**
	0.5nm,0.9s,baz=321,slow=9.3,SNR=17						
ASAR				PcP	**PcP**	**19 57 28.3**	**+1.4**
	0.3nm,0.7s,baz=344,slow=2.1,SNR=4.4						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**57.97**	**330**	P	**P**	**19 58 21.2**	**+3.2**
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.39**	**331**	P	**P**	**19 58 50.1**	**+2.0**
	0.2nm,0.7s,baz=141,slow=6.0,SNR=3.0						
	0.2nm,0.7s						

---

*IDC **09** 19:54:20.8±1.9, 3.23S×100.71E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=102.3km s-min=21.8km az=48.0*
*DJA **09** 19:54:28.4±0.9, 3°S±5°×10°1E±°, h25km±9km, M3.7/11, mb3.7/1, MLv3.7/11*
ISC 09 19:54:28.2±0.9, 2°97S±0.07×100°96E±0.06, h46km, n20, σ1§09/17, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.97**	**282**	P	**Pn**	**19 54 46.7**	**+1.2**
KRJI	**Kerinci**	**1.01**	**30**	P	**Pn**	**19 54 46.7**	**+0.6**
MASI	**Maura Aman, Be**	**1.29**	**98**	P	**Pn**	**19 54 51.6**	**+1.8**
KSI	**Kapahiang**	**1.76**	**113**	P	**Pn**	**19 54 58.0**	**+1.7**
SDSI	**Sungai Dareh**	**2.08**	**13**	P	**Pn**	**19 55 02.3**	**+1.7**
PDSI	**Padang**	**2.11**	**346**	P	**Pn**	**19 55 01.8**	**+0.7**
MNAI	**Manna**	**2.42**	**125**	P	**Pn**	**19 55 05.7**	**+0.4**
SISI	**Saibi**	**2.48**	**311**	P	**Pn**	**19 55 07.5**	**+1.3**
KASI	**Kota Agung**	**4.34**	**126**	P	**Pn**	**19 55 32.5**	**+0.8**
DSRI	**Dabo**	**4.38**	**56**	P	**Pn**	**19 55 32.6**	**+0.3**
GSI	**Gunungsitoli**	**5.43**	**321**	P	**Pn**	**19 55 47.1**	**+0.4**
H08S2	**Diego Garcia H**	**28.72**	**260**	T	T	20 29 47.1	
	baz=84						
H08S3	**Diego Garcia H**	**28.72**	**260**	T	T	20 29 44.8	
	baz=84,slow=74						
H08S1	**Diego Carcia H**	**28.73**	**260**	T	T	20 29 44.6	
	baz=84,slow=74						
WRA	**Warramunga Arr**	**36.67**	**120**	P	**P**	**20 01 29.6**	**-1.3**
	0.4nm,0.6s,baz=302,slow=8.7,SNR=5.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**37.91**	**126**	P	**P**	**20 01 41.2**	**-0.2**
	0.2nm,0.5s,baz=299,slow=7.6,SNR=7.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**52.22**	**344**	P	**P**	**20 03 35.0**	**+0.4**
	0.4nm,0.4s,baz=166,slow=8.6,SNR=10						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**58.30**	**349**	P	**P**	**20 04 18.4**	**+0.2**
	0.7nm,0.3s,baz=163,slow=5.4,SNR=6.4						
	0.7nm,0.3s						
BRTR	**Keskin Array B**	**74.68**	**312**	P	**P**	**20 06 02.5**	**-0.9**
	0.5nm,0.6s,baz=93,slow=5.8,SNR=3.2						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**144.86**	**39**	PKPbc	**PKPdf**	**20 14 00.8**	**-0.3**
	0.5nm,0.7s,baz=325,slow=1.1,SNR=4.1						

IDC 09 20:16:31.9±327.0, 52°53N×33°09E, h0km, Error ellipse: s-maj=128.7km s-min=96.4km az=20.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.83**	**28**	*i*		20 47 30.0	
	0.1nm,0.9s,baz=211,slow=323,SNR=4.0						
I26DE	**FREYUNG INFRAS**	**12.82**	**261**	*i*		21 40 20.0	
	baz=63,slow=318,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**15.66**	**88**	*i*		21 53 20.0	
	baz=285,slow=318,SNR=1.3						
I48TN	**KESRA INFRASON**	**23.71**	**235**	*i*		22 40 30.0	
	baz=37,slow=316,SNR=1.0						

---

*IDC **09** 20:39:53.1±1.9, 24.30N×122.61E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=145.9km s-min=21.1km az=65.0*
*JMA **09** 20:39:57.0±0.3, 24°N±1°×122°3E±0°4, h19km±3km, MV3.3/14, TAIWAN REGION*
*TAP **09** 20:39:57.1, 24°04N×122°31E, h26km, ML3.5, D*
ISC 09 20:39:57.0±1.1, 24°00N±0°02×122°29E±0°02, h23km±10km, n134, σ0§95/208, mb3.4/6, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.63**	**268**	*eP*	**Pb**	**20 40 10.0**	**+0.6**
	baz=252						
HWA				*eS*	**Sb**	**20 40 19.1**	**+1.3**
	baz=252						
ETL	**Fush Village**	**0.63**	**285**	*eP*	**Pb**	**20 40 09.9**	**+0.4**
	baz=267						
ETL				*eS*	**Sb**	**20 40 17.7**	**-0.3**
	baz=267						
TWD	**Chiawan**	**0.64**	**278**	P	**Pb**	**20 40 09.8**	**+0.1**
	baz=274						
TWD				S	**Sb**	**20 40 19.0**	**+0.8**
	baz=274						
EWUT	**Wuta**	**0.65**	**314**	P	**Pb**	**20 40 08.5**	**-1.2**
	baz=318						
EWUT				*eS*	**Sb**	**20 40 17.7**	**-0.7**
	baz=318						
ENA	**Nanau**	**0.66**	**310**	P	**Pb**	**20 40 09.7**	**-0.2**
	baz=316						
ENA				*eS*	**Sb**	**20 40 19.2**	**+0.5**
	baz=316						
NACB	**Ninganchiao**	**0.66**	**286**	P	**Pb**	**20 40 10.0**	**0.0**
	baz=268						
NACB				*eS*	**Sb**	**20 40 19.8**	**+1.1**
	baz=268						
TWC	**Suao**	**0.73**	**326**	P	**Pb**	**20 40 10.7**	**-0.5**
	baz=324						
TWC				*eS*	**Sb**	**20 40 20.1**	**-0.6**
	baz=324						
JYNG	**Yonagunijimaku**	**0.75**	**53**	P	**Pn**	**20 40 11.5**	**-0.7**
JYNG				S	**Sb**	**20 40 20.9**	**-0.3**
TEGC	**Jichi Village**	**0.75**	**248**	*eP*	**Pb**	**20 40 11.4**	**+0.1**
	baz=245						
ETLH	**Xiulin Townshi**	**0.77**	**286**	P	**Pb**	**20 40 11.8**	**-0.1**
	baz=270						
ETLH				*eS*	**Sn**	**20 40 23.3**	**-0.2**
	baz=270						
YOJ	**Yonaguni jima**	**0.80**	**55**	*i* P	**Pb**	**20 40 12.1**	**-0.2**
	baz=63						
YOJ				S	**Sn**	**20 40 22.5**	**-1.6**
	baz=63						
YOJ	**Yonaguni jima**	**0.80**	**55**	P	**Pn**	**20 40 12.5**	**-0.4**
YOJ				S	**Sb**	**20 40 22.3**	**-0.4**
ESL	**Shilin**	**0.81**	**257**	*eP*	**Pb**	**20 40 11.7**	**-0.7**
	baz=246						
ESL				*eS*	**Sb**	**20 40 22.7**	**-0.2**
	baz=246						
EGFH	**Guangfu**	**0.86**	**248**	*eP*	**Pb**	**20 40 12.5**	**-0.8**
	baz=246						
EGFH				*eS*	**Sb**	**20 40 24.8**	**+0.5**
	baz=246						
LATG	**Datong**	**0.88**	**308**	P	**Pn**	**20 40 13.9**	**-0.2**
	baz=304						
LATG				*eS*	**Sn**	**20 40 26.0**	**-0.3**
	baz=304						
EGS		**0.91**	**339**	*eP*	**Pn**	**20 40 14.0**	**-0.3**
	baz=336						
EGS				*eS*	**Sn**	**20 40 25.8**	**-0.9**
	baz=336						
ILA	**Ilan**	**0.91**	**327**	*eP*	**Pn**	**20 40 14.0**	**-0.4**
	baz=324						
ILA				*eS*	**Sb**	**20 40 25.6**	**-0.4**
	baz=324						
TWE	**Neicheng**	**0.92**	**322**	P	**Pn**	**20 40 14.5**	**0.0**
	baz=325						
TWE				*eS*	**Sn**	**20 40 26.3**	**-0.8**
	baz=325						
ENTT	**Nioudou**	**0.92**	**314**	*eP*	**Pb**	**20 40 13.6**	**-0.8**
	baz=321						
ENTT				*eS*	**Sn**	**20 40 26.7**	**-0.5**
	baz=321						
NDT	**Datong Townshi**	**0.93**	**310**	*eP*	**Pb**	**20 40 14.9**	**+0.3**
	baz=317						
NDT				*eS*	**Sn**	**20 40 27.4**	**0.0**
	baz=317						
NNSB	**Datong**	**0.94**	**298**	*eP*	**Pn**	**20 40 14.6**	**-0.3**
	baz=282						
NNSB				*eS*	**Sn**	**20 40 27.1**	**-0.6**
	baz=282						
HGSD	**Ruisui**	**0.94**	**238**	*eP*	**Pn**	**20 40 13.9**	**-1.0**
	baz=237						
HGSD				*eS*	**Sb**	**20 40 26.3**	**-0.5**
	baz=237						
NNS	**Nan Shan**	**0.95**	**298**	*eP*	**Pn**	**20 40 13.9**	**-1.2**
	baz=283						
NNS				*eS*	**Sb**	**20 40 27.0**	**-0.1**
	baz=283						
WHF	**Hehuan Shan**	**0.95**	**279**	P	**Pn**	**20 40 14.8**	**-0.5**
	baz=264						
WHF				*eS*	**Sb**	**20 40 27.7**	**+0.3**
	baz=264						
NTC	**Toucheng**	**0.95**	**334**	*eP*	**Pb**	**20 40 14.8**	**-0.1**
	baz=343						
FUSS	**Fushou**	**0.99**	**285**	*eP*	**Pn**	**20 40 15.5**	**-0.2**
	baz=282						
FUSS				*eS*	**Sb**	**20 40 28.8**	**+0.3**
	baz=282						
FUSB	**Fushanzhiwuyua**	**1.00**	**320**	*eP*	**Pb**	**20 40 15.8**	**+0.2**
	baz=316						
FUSB				*eS*	**Sn**	**20 40 28.9**	**-0.2**
	baz=316						
EHY	**Hungye**	**1.02**	**241**	P	**Pn**	**20 40 15.2**	**-0.7**
	baz=230						
EHY				S	**Sb**	**20 40 28.3**	**-0.6**
	baz=230						
OWD	**Renai**	**1.02**	**268**	P	**Pn**	**20 40 15.8**	**-0.3**
	baz=265						
OWD				*eS*	**Sb**	**20 40 28.6**	**-0.6**
	baz=265						
CHGB	**Renai**	**1.03**	**274**	*eP*	**Pn**	**20 40 15.8**	**-0.4**
	baz=259						
CHGB				*eS*	**Sb**	**20 40 29.7**	**+0.3**
	baz=259						
TWB1	**Santiao Chiao**	**1.04**	**345**	*eP*	**Pb**	**20 40 16.1**	**-0.3**
	baz=341						
TWB1				*eS*	**Sn**	**20 40 30.5**	**+0.4**
	baz=341						
TWT	**Tachien**	**1.05**	**284**	P	**Pb**	**20 40 16.9**	**+0.2**
	baz=272						
TWT				*eS*	**Sn**	**20 40 31.1**	**+0.5**
	baz=272						
TIPB	**Shuangxi**	**1.06**	**336**	*eP*	**Pb**	**20 40 17.0**	**+0.3**
	baz=333						
TIPB				*eS*	**Sn**	**20 40 29.6**	**-0.9**
	baz=333						
TDCB	**Techi**	**1.07**	**284**	P	**Pn**	**20 40 16.6**	**-0.1**
	baz=272						
TDCB				*eS*	**Sn**	**20 40 31.6**	**+0.7**
	baz=272						
YHNB	**Yeheng**	**1.07**	**309**	*eP*	**Pb**	**20 40 16.9**	**-0.1**
	baz=305						
YHNB				*eS*	**Sb**	**20 40 30.2**	**-0.4**
	baz=305						
WUSB	**Renai**	**1.08**	**270**	P	**Pn**	**20 40 16.3**	**-0.5**
	baz=267						
WUSB				*eS*	**Sn**	**20 40 30.9**	**-0.2**
	baz=267						
VWDT	**VWDT**	**1.08**	**257**	*eP*	**Pb**	**20 40 16.9**	**+0.2**
	baz=255						
VWDT				*eS*	**Sb**	**20 40 32.0**	**+1.2**
	baz=255						
NSK	**Sanguang**	**1.09**	**309**	*eP*	**Pn**	**20 40 16.1**	**-0.8**
	baz=305						
NSK				*eS*	**Sb**	**20 40 31.4**	**+0.3**
	baz=305						
YULB	**Yu-li**	**1.09**	**237**	*eP*	**Pn**	**20 40 16.1**	**-0.8**
	baz=251						
YULB				*eS*	**Sn**	**20 40 30.1**	**-1.3**
	baz=251						
EYUL	**Yuli**	**1.10**	**234**	*eP*	**Pn**	**20 40 16.6**	**-0.5**
	baz=222						
EYUL				*eS*	**Sn**	**20 40 31.0**	**-0.5**
	baz=222						
SXI1	**Grass Mountain**	**1.16**	**341**	*eP*	**Pn**	**20 40 17.6**	**-0.3**
	baz=338						
NWF	**Wu-fen Shan**	**1.17**	**337**	*eP*	**Pn**	**20 40 17.9**	**-0.2**
	baz=333						
NWF				*eS*	**Sb**	**20 40 34.0**	**+0.7**
	baz=333						
TWA	**Mucha**	**1.17**	**327**	*eP*	**Pb**	**20 40 19.5**	**+0.8**
	baz=324						
NHDH	**Xindian Distri**	**1.19**	**324**	*eP*	**Pb**	**20 40 18.4**	**-0.5**
	baz=321						
NHDH				*eS*	**Sb**	**20 40 34.2**	**+0.3**
	baz=321						
SSLB	**Suanglung**	**1.24**	**261**	*eP*	**Pn**	**20 40 18.7**	**-0.3**
	baz=250						
SSLB				*eS*	**Sn**	**20 40 34.9**	**-0.2**
	baz=250						
NFF	**Wufeng Townshi**	**1.25**	**301**	*eP*	**Pn**	**20 40 19.3**	**+0.3**
	baz=298						
TAP	**Taipei**	**1.26**	**326**	*eP*	**Pb**	**20 40 20.4**	**+0.2**
	baz=323						
WHP	**Taichung City**	**1.26**	**283**	*eP*	**Pb**	**20 40 20.9**	**+0.7**
	baz=270						
WCS	**Beigang Elemen**	**1.27**	**273**	*eP*	**Pn**	**20 40 18.6**	**-0.7**
	baz=271						
SMLT	**Sun Moon Lake**	**1.28**	**265**	*eP*	**Pn**	**20 40 19.8**	**+0.2**
	baz=253						
SMLT				*eS*	**Sn**	**20 40 36.4**	**+0.3**
	baz=253						
TYC	**Yuchr**	**1.32**	**266**	*eP*	**Pn**	**20 40 20.4**	**+0.4**
	baz=264						
YM01	**YM01**	**1.32**	**330↑**	*eP*	**Pb**	**20 40 21.1**	**-0.1**
	baz=343						
YUS	**Yu-Shan**	**1.33**	**248**	*eP*	**Pn**	**20 40 20.8**	**+0.1**
	baz=247						
YUS				*eS*	**Sn**	**20 40 37.4**	**-0.5**
	baz=247						
LIOB	**Emei**	**1.33**	**299**	*eP*	**Pb**	**20 40 21.5**	**+0.2**
	baz=296						
LIOB				*eS*	**Sb**	**20 40 38.7**	**+0.6**
	baz=296						
NSTT	**Nanjuang**	**1.34**	**298**	*eP*	**Pb**	**20 40 21.5**	**+0.1**
	baz=295						
NSTT				*eS*	**Sb**	**20 40 37.8**	**-0.4**
	baz=295						
WHYT	**Xinyi Township**	**1.35**	**257**	*eP*	**Pb**	**20 40 21.9**	**+0.2**
	baz

LONT				*eS*		**Sn**	**20 40 41.0**	**-0.9**
	baz=238							
WDJ	**Dajia District**	**1.55**	**283**	*eP*		**Pb**	**20 40 25.0**	**0.0**
	baz=281							
JKRS	**Kuro-shima**	**1.59**	**81**	P		**Pb**	**20 40 24.6**	**-1.0**
JKRS				S		**Sb**	**20 40 45.5**	**+0.2**
WCHH	**Zhanghua**	**1.59**	**273**	*eP*		**Pb**	**20 40 25.4**	**-0.3**
	baz=271							
WCHH				*eS*		**Sb**	**20 40 46.1**	**+0.7**
	baz=271							
STYH	**Taoyuan**	**1.62**	**240**	*eP*		**Pn**	**20 40 23.6**	**-0.5**
	baz=229							
STYH				*eS*		**Sn**	**20 40 43.1**	**-1.2**
	baz=229							
TWGBT	**Beinan**	**1.62**	**224**	*eP*		**Pn**	**20 40 23.2**	**-0.9**
	baz=235							
TWGBT				*eS*		**Sn**	**20 40 42.1**	**-2.2**
	baz=235							
TTN	**Taitung**	**1.62**	**221**	*eP*		**Pn**	**20 40 25.4**	**+1.2**
	baz=210							
WDLH	**Douliu**	**1.64**	**260**	*eP*		**Pb**	**20 40 26.8**	**+0.3**
	baz=258							
WDLH				*eS*		**Sb**	**20 40 47.5**	**+0.8**
	baz=258							
WCKO	**Fanlu**	**1.65**	**251**	*eP*		**Pn**	**20 40 25.7**	**+1.1**
	baz=240							
WCKO				*eS*		**Sn**	**20 40 46.3**	**+1.3**
	baz=240							
TPUB	**Ta-pu**	**1.68**	**246**	*eP*		**Pn**	**20 40 26.4**	**+1.5**
	baz=245							
TPUB				*eS*		**Sn**	**20 40 46.9**	**+1.1**
	baz=245							
WTP	**Ta-pu**	**1.71**	**244**	*eP*		**Pn**	**20 40 26.9**	**+1.4**
	baz=244							
JIJ	**Ishigaki jima**	**1.73**	**77**	P		**Pn**	**20 40 26.1**	**+0.4**
JIJ				*eS*		**Sb**	**20 40 47.9**	**-1.5**
WRL	**Guolierlin Hig**	**1.76**	**267**	*eP*		**Pn**	**20 40 26.5**	**+0.5**
	baz=265							
WRL				*eS*		**Sn**	**20 40 49.3**	**+1.6**
	baz=265							
CHY	**Chiayi**	**1.78**	**254**	*eP*		**Pb**	**20 40 28.2**	**-0.9**
	baz=253							
TWK	**Hsinying**	**1.81**	**247**	*eP*		**Pb**	**20 40 28.6**	**-0.9**
	baz=246							
CHN1	**Nanshi**	**1.81**	**244**	*eP*		**Pb**	**20 40 28.8**	**-0.7**
	baz=243							
CHN1				*eS*		**Sn**	**20 40 50.4**	**+1.3**
	baz=243							
SGST	**Jiashian**	**1.81**	**240**	*eP*		**Pn**	**20 40 28.2**	**+1.3**
	baz=229							
SGST				*eS*		**Sn**	**20 40 51.0**	**+1.8**
	baz=229							
WSF	**Szhu**	**1.93**	**260**	*eP*		**Pn**	**20 40 30.3**	**+1.8**
	baz=259							
WSL	**Shuilin Townsh**	**1.95**	**256**	*eP*		**Pn**	**20 40 29.1**	**+0.4**
	baz=255							
WSL				*eS*		**Sn**	**20 40 54.2**	**+1.7**
	baz=255							
ICHU	**Yijhu**	**1.95**	**251**	*eP*		**Pn**	**20 40 30.4**	**+1.7**
	baz=250							
ICHU				*eS*		**Sn**	**20 40 54.5**	**+1.9**
	baz=250							
SSD	**Sandimen**	**1.97**	**231**	*eP*		**Pn**	**20 40 30.4**	**+1.4**
	baz=222							
TSMG	**Majia**	**1.99**	**230**	*eP*		**Pn**	**20 40 31.0**	**+1.7**
	baz=221							
SCST	**Cishan**	**1.99**	**237**	*eP*		**Pb**	**20 40 31.8**	**-0.7**
	baz=227							
CHN8	**Yiju**	**2.02**	**252**	*eP*		**Pn**	**20 40 30.9**	**+1.3**
	baz=251							
MASBT	**Mashibuluo**	**2.06**	**228**	*eP*		**Pn**	**20 40 30.8**	**+0.6**
	baz=220							
TAW	**Tawu**	**2.08**	**219**	*eP*		**Pn**	**20 40 30.6**	**+0.1**
	baz=219							
EAST	**Anshuo**	**2.09**	**220**	*eP*		**Pn**	**20 40 29.8**	**-0.8**
	baz=220							
LYUB	**Lan-yu**	**2.09**	**198**	*eP*		**Pn**	**20 40 28.6**	**-2.0**
	baz=200							
TAWH	**Dawu Township**	**2.10**	**218**	*eP*		**Pn**	**20 40 29.9**	**-0.8**
	baz=219							
SSPT	**Xinbi**	**2.19**	**227**	*eP*		**Pn**	**20 40 33.4**	**+1.4**
	baz=221							
SCZT	**Fangliau**	**2.23**	**224**	*eP*		**Pn**	**20 40 33.6**	**+1.0**
	baz=218							
SLIU	**Shizi**	**2.24**	**218**	*eP*		**Pn**	**20 40 32.2**	**-0.6**
	baz=219							
JTJ	**Tarama**	**2.29**	**73**	P		**Pn**	**20 40 34.6**	**+1.2**
JTJ				S		**Sn**	**20 41 02.1**	**+1.2**
SMST	**Manzhou Townsh**	**2.38**	**215**	*eP*		**Pn**	**20 40 36.7**	**+2.1**
	baz=215							
HEN	**Hengchun**	**2.45**	**216**	*eP*		**Pn**	**20 40 38.1**	**+2.6**
	baz=217							
TWKBT	**Hengchun**	**2.46**	**214**	*eP*		**Pn**	**20 40 35.6**	**-0.2**
	baz=215							
TWK1	**Hengchun**	**2.46**	**214**	*eP*		**Pn**	**20 40 36.0**	**+0.3**
	baz=215							
WDGT	**Dungji**	**2.52**	**254**	*eP*		**Pn**	**20 40 37.8**	**+1.2**
	baz=241							
WDGT				*eS*		**Sn**	**20 41 07.9**	**+1.2**
	baz=241							
PHUB	**P'eng-hu**	**2.54**	**260**	*eP*		**Pn**	**20 40 37.5**	**+0.7**
	baz=259							
PNG	**Penghu**	**2.54**	**261**	*eP*		**Pn**	**20 40 37.6**	**+0.7**
	baz=259							
PNG				*eS*		**Sn**	**20 41 08.3**	**+1.2**
	baz=259							
VCHM	**Qimei**	**2.74**	**254**	*eP*		**Pn**	**20 40 40.7**	**+1.1**
	baz=254							
JIRB	**Irabujima**	**2.75**	**72**	P		**Pn**	**20 40 41.4**	**+1.7**
VWUC	**VWUC**	**2.77**	**291**	*eP*		**Pn**	**20 40 39.7**	**-0.3**
	baz=289							
JIKM	**Ikemajima**	**2.85**	**70**	S		**Sn**	**20 41 17.3**	**+2.7**
JMJ2	**Miyako jima3**	**2.86**	**74**	P		**Pn**	**20 40 43.0**	**+1.7**
JMJ2				*eS*		**Sn**	**20 41 16.6**	**+1.5**
JOGS	**Gusukube**	**2.94**	**74**	P		**Pn**	**20 40 44.4**	**+2.0**
JOGS				*eS*		**Sn**	**20 41 19.3**	**+2.4**
MATB	**Ma-tsu**	**3.02**	**316**	*eP*		**Pn**	**20 40 43.0**	**-0.5**
	baz=313							
LYJJ	**Jianjiangzhen**	**3.42**	**318**	*eP*		**Pn**	**20 40 48.5**	**-0.5**
	baz=316							
XPSS	**Dashiqiu**	**3.48**	**327**	*eP*		**Pn**	**20 40 49.7**	**-0.1**
	baz=335							
KNM	**Kinmen**	**3.55**	**278**	*eP*		**Pn**	**20 40 52.3**	**+1.6**
	baz=275							
KNMB	**Chin-men Tao**	**3.59**	**278**	*eP*		**Pn**	**20 40 51.0**	**-0.3**
	baz=276							
MHZQ	**Yeshan**	**3.63**	**306**	*eP*		**Pn**	**20 40 51.6**	**-0.2**
	baz=304							
AXDP	**Jialang**	**4.04**	**284**	*eP*		**Pn**	**20 40 57.2**	**-0.3**
	baz=281							
ZPLA	**Ao Xicun**	**4.16**	**270**	*eP*		**Pn**	**20 40 59.4**	**+0.3**
	baz=268							
DSXP	**Dongshan**	**4.47**	**267**	*eP*		**Pn**	**20 41 03.5**	**+0.2**
	baz=266							
SXFK	**Yanhouchang**	**4.84**	**301**	*eP*		**Pn**	**20 41 08.4**	**-0.1**
	baz=298							
SONM	**Songino Array**	**26.94**	**336**	P		**P**	**20 45 35.4**	**-1.3**
	1.8nm,0.8s,baz=153,slow=10.0,SNR=13							
	1.8nm,0.8s							
MKAR	**Makanchi Array**	**39.18**	**316**	P		**P**	**20 47 22.9**	**-0.2**
	0.3nm,0.6s,baz=103,slow=9.6,SNR=5.5							
	0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**40.95**	**327**	P		**P**	**20 47 35.4**	**-2.3**
	0.8nm,0.4s,baz=122,slow=8.4,SNR=5.1							
	0.8nm,0.4s							
WRA	**Warramunga Arr**	**45.22**	**164**	P		**P**	**20 48 12.8**	**+0.1**
	0.1nm,0.4s,baz=344,slow=8.9,SNR=1.7							
	0.1nm,0.4s							
ASAR	**Alice Springs**	**48.70**	**166**	P		**P**	**20 48 42.0**	**+2.3**
	0.1nm,0.6s,baz=351,slow=9.9,SNR=4.1							
	0.1nm,0.6s							
BRTR	**Keskin Array B**	**74.10**	**307**	P		**P**	**20 51 31.9**	**+0.2**
	0.4nm,0.6s,baz=53,slow=7.4,SNR=3.0							
	0.4nm,0.6s							

IDC 09 20:55:58.8±311.0, 66°.94N×37°.90E, h0km, Error ellipse: s-maj=127.3km s-min=17.0km az=115.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I37NO	**I37NO**	**7.54**	**295**	*i*			21 39 40.0	
	baz=97,slow=328,SNR=1.2							
I31KZ	**AKTYUBINSK INF**	**19.43**	**139**	*i*			22 58 00.0	
	baz=334,slow=322,SNR=1.0							
I18DK	**QAANAAQ INFRAS**	**29.36**	**335**	*i*			23 58 20.0	
	baz=50,slow=333							

MAN 09 21:10:32.1, 13°.68N×119°.93E, h34km, mb3.9, ML2.7, MS2.2, 3C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.31**	**80**	*eP*		**Pb**	**21 10 37.0**	**-3.0**
LUBP				*eS*		Sn	21 10 40.1	-4.7
MACP	**Maragondon, Ca**	**0.96**	**53**	*eP*		**Pn**	**21 10 47.2**	**-1.9**
MACP				*eS*		Sn	21 10 57.8	-3.7
PGP	**Puerto Galera**	**1.01**	**100**	*eP*		**Pn**	**21 10 49.6**	**-0.3**
PGP				*i*	S	Sn	21 11 03.1	+0.2
TGY	**Tagaytay City**	**1.06**	**67**	*eP*		**Pb**	**21 10 55.8**	**+3.8**
LQP	**Lukban**	**1.62**	**74**	*eP*		**Pn**	**21 10 57.7**	**-0.7**
LQP				*eS*		Sn	21 11 18.9	+0.7
BUSP	**Coron**	**1.69**	**171**	*eP*		**Pb**	**21 11 01.7**	**-0.8**
BUSP				*eS*		Sb	21 11 21.7	-1.7
BALP	**Baler**	**2.59**	**38**	*eP*		**Pn**	**21 11 13.4**	**+1.8**

*LDG **09** 22:00:40.7±0.2, 61°.08N×3°.64E, h22km, Ml4.0/32, Error ellipse: s-maj=6.2km s-min=3.2km az=134.0*
*IDC **09** 22:00:40.2±1.2, 61°.10N×3°.68E, h0km, mb3.5/5, mbtmp3.7/14, ML3.6/9, MS3.1/9, Error ellipse: s-maj=18.9km s-min=12.5km az=145.0*
*BGS **09** 22:00:41.7±1.5, 61°.07N×3°.57E, h10km, ML3.9*
*NAO **09** 22:00:41.6±1.9, 61°.13N×3°.73E, h13km±13km, ML3.7*
*DNK **09** 22:00:43.1±1.4, 61°.05N×4°.33E, h0km±33km, ML4.1*
*BER **09** 22:00:43.6±1.9, 61°.11N×3°.65E, h21km±4km, ML3.6, MW3.7, ML3.9(BGS), Confirmed Earthquake*
*IEPN **09** 22:00:45.0, 61°.52N×3°.66E, h10km*
*UPP **09** 22:00:46.0±2.5, 60°.90N×4°.54E, h0km, ML3.1, Suspected explosion*

ISC 09 22:00:38.4±0.5, 61°.03N±0°.03×3°.62E±0°.03, h0km, n173, σ26°.32/243, mb3.6/5, MS3.1/5, 7C-2D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SUE	**Sulen**	**0.56**	**86**	*iP*		**Pn**	**22 00 53.8**	**+0.2**
SUE				*eS*		**Sb**	**22 01 00.8**	**+1.4**
SUE					IAML		22 01 01.4	
	comp=Z,22μm,0.4s							
FOO	**Floro**	**0.90**	**49**	Pg		**Pb**	**22 00 58.0**	**+1.1**
FOO				Lg		Lg	22 01 08.1	
FOO	**Floro**	**0.90**	**49**	*eP*		**Pb**	**22 00 57.9**	**+1.1**
FOO				*eS*		**Sg**	**22 01 08.9**	**+1.7**
FOO					IAML		22 01 10.0	
	comp=E,1μm,0.4s							
FOO					IAML		22 01 11.2	
	comp=N,1μm,0.4s							
FOO	**Floro**	**0.90**	**49**	*iP*		**Pb**	**22 00 57.9**	**+1.1**
FOO				*eS*		**Sg**	**22 01 07.9**	**+0.8**
FOO					IAML		22 01 10.0	
	comp=Z,4μm,0.5s							
ASK	**Askoy**	**0.94**	**124**	*iP*		**Pn**	**22 01 00.9**	**+2.0**
ASK				*eS*		**Sn**	**22 01 13.6**	**+0.6**
ASK					IAML		22 01 22.3	
	comp=Z,5μm,0.4s							
BER	**Bergen**	**1.06**	**127**	Pg		**Pn**	**22 01 02.4**	**+1.9**
BER				Lg		Lg	22 01 18.1	
BER	**Bergen**	**1.06**	**127**	*eP*		**Pn**	**22 01 02.4**	**+1.9**
BER					IAML		22 01 19.4	
	comp=E,1μm,0.6s							
BER					IAML		22 01 19.6	
	comp=N,791nm,0.6s							
BER	**Bergen**	**1.06**	**127**	*iP*		**Pn**	**22 01 02.4**	**+1.9**
BER				*eS*		**Sn**	**22 01 16.2**	**+0.3**
BER					IAML		22 01 19.2	
	comp=Z,2μm,0.3s							
HYA	**Hoyanger**	**1.25**	**82**	Pg		**Pn**	**22 01 03.9**	**+0.7**
HYA				Lg		Lg	22 01 20.9	
HYA	**Hoyanger**	**1.25**	**82**	*eP*		**Pn**	**22 01 03.9**	**+0.7**
HYA				*ePg*		**Pb**	**22 01 05.1**	**+2.2**
HYA				*eSg*		**Sn**	**22 01 20.9**	**+0.2**
HYA					IAML		22 01 22.9	
	comp=Z,2μm,0.3s							
ODD1	**Odda**	**1.86**	**126**	*iP*		**Pb**	**22 01 13.7**	**+0.4**
ODD1				*eS*		**Sn**	**22 01 35.7**	**-0.1**
ODD1					IAML		22 01 46.9	
	comp=Z,2μm,0.3s							
AKN	**Aaknes**	**1.98**	**53**	Pn		**Pn**	**22 01 13.8**	**+0.6**
AKN				Lg		Lg	22 01 41.7	
AKN	**Aaknes**	**1.98**	**53**	Pn		**Pn**	**22 01 13.8**	**+0.6**
AKN				*ePg*		**Pb**	**22 01 16.4**	**+1.0**
AKN				Sg		**Sb**	**22 01 41.7**	**+1.0**
AKN					IAML		22 01 45.3	
	comp=Z,1μm,0.4s							
KMY	**Karmoy**	**1.99**	**155**	Pn		**Pb**	**22 01 15.8**	**+0.3**
KMY				Sn		**Sn**	**22 01 38.7**	**-0.2**
KMY				Lg		Lg	22 01 48.1	
KMY	**Karmoy**	**1.99**	**155**	*iP*		**Pb**	**22 01 15.8**	**+0.3**
KMY				*eS*		**Sn**	**22 01 38.8**	**-0.2**
KMY					IAML		22 01 52.1	
	comp=Z,387nm,0.4s							
BLS5	**Blasjo**	**2.14**	**137**	*iP*		**Pb**	**22 01 17.8**	**-0.2**
BLS5				*eS*		**Sn**	**22 01 42.1**	**-0.6**
BLS5					IAML		22 01 53.9	
	comp=Z,694nm,0.5s							
SKAR	**Skarslia**	**2.32**	**97**	*eP*		**Pn**	**22 01 19.5**	**+1.7**
SKAR				*eS*		**Sn**	**22 01 45.9**	**-1.2**
SKAR					IAML		22 02 00.3	
	comp=Z,911nm,0.3s							
MOL	**Molde**	**2.42**	**49**	Pn		**Pn**	**22 01 19.7**	**+0.6**
MOL				Sn		**Sn**	**22 01 45.5**	**-4.0**
MOL				Lg		Lg	22 01 54.0	
MOL	**Molde**	**2.42**	**49**	*eP*		**Pn**	**22 01 19.8**	**+0.6**
MOL					IAML		22 01 54.6	
	comp=N,2μm,0.4s							
MOL					IAML		22 01 59.9	
	comp=E,570nm,0.6s							
MOL	**Molde**	**2.42**	**49**	*eP*		**Pn**	**22 01 19.9**	**+0.6**
MOL				*ePg*		**Pb**	**22 01 22.6**	**-0.3**
MOL				*eS*		**Sn**	**22 01 45.4**	**-4.1**
MOL				*eSg*		**Sb**	**22 01 54.0**	**+0.8**
MOL					IAML		22 01 54.4	
	comp=Z,732nm,0.3s							
LRW	**Lerwick**	**2.53**	**251**	Pn		**Pn**	**22 01 22.8**	**+2.1**
LRW				Sn		**Sn**	**22 01 52.1**	**-0.1**
LRW	**Lerwick**	**2.53**	**251**	*eP*		**Pn**	**22 01 22.7**	**+2.1**
LRW				*eS*		**Sn**	**22 01 51.9**	**-0.3**
LRW					IAML		22 01 52.4	
	comp=N,170nm,0.4s							
LRW					IAML		22 01 53.2	
	comp=E,218nm,0.7s							
LRW	**Lerwick**	**2.53**	**251**	*eP*		**Pn**	**22 01 22.9**	**+2.2**
LRW				*eS*		**Sn**	**22 01 52.2**	**0.0**
LRW					IAML		22 01 53.2	
	comp=Z,140nm,0.4s							
DOMB	**Dombas**	**2.80**	**66**	*eP*		**Pn**	**22 01 25.9**	**+1.4**
DOMB				*ePg*		**Pb**	**22 01 30.5**	**+1.3**
DOMB				*eS*		**Sn**	**22 01 56.4**	**-2.5**
DOMB				*eSg*		**Sg**	**22 02 08.4**	**+0.2**
DOMB					IAML		22 02 10.4	
	comp=Z,847nm,0.4s							
SNART	**Snartemo**	**3.25**	**144**	*eP*		**Pn**	**22 01 32.7**	**+2.1**
SNART				*iP*		**Pn**	**22 01 32.7**	**+2.1**
SNART	**Snartemo**	**3.25**	**144**	*iP*		**Pn**	**22 01 32.8**	**+2.1**
SNART				*eS*		**Sn**	**22 02 09.7**	**-0.3**
SNART					IAML		22 02 27.9	
	comp=Z,739nm,0.3s							
KONO	**Kongsberg**	**3.28**	**112**	*eP*		**Pn**	**22 01 32.5**	**+1.6**
KONO				*ePg*		**Pb**	**22 01 39.8**	**+2.4**
KONO				*eS*		**Sn**	**22 02 08.9**	**-1.7**
KONO					IAML		22 02 27.7	
	comp=Z,935nm,0.4s							
NAO01	**NORSAR Array S**	**3.55**	**90**	*eP*		**Pn**	**22 01 35.7**	**+1.0**
NAO01				*ePg*		**Pb**	**22 01 43.2**	**+1.1**
NAO01				*eS*		**Sn**	**22 02 14.7**	**-2.7**
NAO01					IAML		22 02 33.4	
	comp=Z,404nm,0.7s							
OSL	**Oslo**	**3.68**	**104**	*eP*		**Pn**	**22 01 38.2**	**+1.8**
OSL				*eS*		**Sn**	**22 02 18.3**	**-2.2**
OSL					IAML		22 02 45.5	
	comp=Z,2μm,0.6s							
NB2	**NORSAR Subarra**	**3.69**	**86**	Pn		**Pn**	**22 01 37.2**	**+0.5**
	baz=275,slow=12							
NB2				Pg		**Pb**	**22 01 45.6**	**+1.1**
NB2				Lg		Lg	22 02 35.0	
	baz=275,slow=28							
NB2	**NORSAR Subarra**	**3.69**	**86**	Pn		**Pn**	**22 01 37.2**	**+0.5**
	baz=275,slow=12							
NB2				Pg		**Pb**	**22 01 45.6**	**+1.1**
NOA	**NORSAR Array B**	**3.69**	**86**	Pn		**Pn**	**22 01 37.0**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=269,slow=12,SNR=66							
NOA				Sn		**Sn**	**22 02 14.7**	**-6.3**
	comp=Z,2.9nm,0.3s,baz=272,slow=13,SNR=5.4							
NOA				Lg		Lg	22 02 32.0	
	comp=Z,7.3nm,0.3s,baz=137,slow=3.8,SNR=6.8							
	comp=Z,2.9nm,0.3s							
HOMB	**Homborsund**	**3.71**	**136**	*i*	P	**Pn**	**22 01 39.2**	**+2.3**
HOMB				*eS*		**Sn**	**22 02 20.6**	**-0.7**
HOMB	**Homborsund**	**3.71**	**136**	*eP*		**Pn**	**22 01 39.2**	**+2.3**
HOMB				*eS*		**Sn**	**22 02 20.3**	**-0.9**
HOMB					IAML		22 02 41.4	
	comp=Z,274nm,0.4s							
TBLU	**Trondheim**	**3.83**	**51**	*eP*		**Pn**	**22 01 41.3**	**+2.7**
TBLU				*eSg*		**Sg**	**22 02 40.6**	**-0.8**
NRA0	**NORESS Array S**	**3.88**	**91**	Pn		**Pn**	**22 01 39.8**	**+0.5**
	baz=292,slow=14							
NRA0				Pg		**Pb**	**22 01 48.7**	**+1.0**
	baz=287,slow=18							
NRA0				Lg		Lg	22 02 41.1	
	baz=276,slow=28							
NRA0	**NORESS Array S**	**3.88**	**91**	Pn		**Pn**	**22 01 39.8**	**+0.5**
	baz=292,slow=14							
NRA0				Pg		**Pb**	**22 01 48.7**	**+1.0**
	baz=287,slow=18							
STRU	**Stroemstad**	**4.29**	**114**	P		**Pn**	**22 01 45.5**	**+0.7**
STRU				*i*	P	Pb	22 01 45.8	-8.8
STRU				*eS*		**Sn**	**22 02 30.7**	**-4.7**
STRU				S		Sb	22 02 30.9	-16
STRU	**Stroemstad**	**4.29**	**114**	*eP*		**Pn**	**22 01 45.7**	**+0.9**
STRU				*eS*		**Sn**	**22 02 31.4**	**-4.0**
STRU				*e*			22 02 55.1	
STRU	**Stroemstad**	**4.29**	**114**	P		**Pn**	**22 01 45.5**	**+0.7**
STRU				S		**Sn**	**22 02 30.9**	**-4.6**
MLA1	**Latheron**	**4.47**	**235**	*eP*		**Pn**	**22 01 49.7**	**+2.4**
MLA1	**Latheron**	**4.47**	**235**	*eP*		**Pn**	**22 01 49.7**	**+2.4**
BIGH	**Upper Bighouse**	**4.58**	**240**	*eP*		**Pn**	**22 01 51.0**	**+2.2**
BIGH				*eS*		**Sn**	**22 02 39.4**	**-3.2**
BIGH					IAML		22 02 41.5	
	comp=N,174nm,0.3s							
BIGH					IAML		22 02 43.0	
	comp=E,152nm,0.2s							
BIGH	**Upper Bighouse**	**4.58**	**240**	*eP*		**Pn**	**22 01 50.9**	**+2.1**
BIGH				*eS*		**Sn**	**22 02 39.4**	**-3.2**
BIGH					IAML		22 02 41.5	
	comp=N,174nm,0.3s							
FINU	**Finntorp**	**4.71**	**106**	P		**Pn**	**22 01 51.4**	**+0.8**
FINU				S		**Sn**	**22 02 41.0**	**-4.8**
FINU	**Finntorp**	**4.71**	**106**	P		**Pn**	**22 01 51.4**	**+0.8**
FINU				S		**Sn**	**22 02 41.0**	**-4.8**
MCD	**Coleburn Disti**	**4.93**	**229**	*eP*		**Pn**	**22 01 55.6**	**+1.9**
MCD				*eS*		**Sn**	**22 02 48.7**	**-2.7**
MCD	**Coleburn Disti**	**4.93**	**229**	*eP*		**Pn**	**22 01 55.6**	**+1.9**
MCD				*eS*		**Sn**	**22 02 48.7**	**-2.7**
GOET	**G??ttrup**	**4.94**	**142**	*eS*		**Sn**	**22 02 50.3**	**-1.2**
GOET					IAML		22 03 25.0	
	comp=Z,146nm,0.6s							
VANU	**Vaenersborg**	**4.97**	**117**	P		**Pn**	**22 01 55.0**	**+0.8**
VANU				S		**Sn**	**22 02 47.4**	**-4.9**
VANU	**Vaenersborg**	**4.97**	**117**	P		**Pn**	**22 01 55.0**	**+0.8**
VANU				S		**Sn**	**22 02 47.4**	**-4.9**
UDD	**Uddeholm**	**5.02**	**96**	P		**Pn**	**22 01 55.6**	**+0.8**
UDD				S		**Sn**	**22 02 49.1**	**-4.4**
HFS	**Hagfors**	**5.05**	**96**	Pn		**Pn**	**22 01 56.1**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=274,slow=12,SNR=99							
HFS				Sn		**Sn**	**22 02 48.9**	**-5.3**
	comp=Z,12nm,0.3s,baz=291,slow=20,SNR=9.3							
HFS				Lg		Lg	22 03 17.2	
	comp=Z,31nm,0.3s,baz=288,slow=24,SNR=9.9							
	comp=Z,4.4nm,0.3s							
HFS	**Hagfors**	**5.05**	**96**	Pn		**Pn**	**22 01 56.0**	**+0.7**
	baz=277,slow=16							
HFS				Sn		**Sn**	**22 02 50.1**	**-4.1**
	baz=276,slow=22							
HFS				Lg		Lg	22 03 17.1	
	baz=278,slow=22							
HFS	**Hagfors**	**5.05**	**96**	Pn		**Pn**	**22 01 56.0**	**+0.7**
	baz=277,slow=16							
HFS				Sn		**Sn**	**22 02 50.1**	**-4.1**
	baz=276,slow=22							
TJOU	**Tjoern**	**5.06**	**123**	P		**Pn**	**22 01 56.7**	**+1.3**
TJOU				S		**Sn**	**22 02 49.6**	**-4.9**
TJOU	**Tjoern**	**5.06**	**123**	P		**Pn**	**22 01 56.7**	**+1.3**
TJOU				S		**Sn**	**22 02 49.6**	**-4.9**
SOFL	**Sornfelli, Far**	**5.17**	**286**	*eP*		**Pn**	**22 01 57.0**	**0.0**
SOFL				*eS*		**Sn**	**22 02 52.4**	**-4.9**
SOFL					IAML		22 02 55.5	
	comp=Z,27nm,0.5s							
DRUM	**Mains of Drumt**	**5.20**	**220**	*eP*		**Pn**	**22 01 59.8**	**+2.5**
DRUM				*eS*		**Sn**	**22 02 55.1**	**-2.7**
DRUM					IAML		22 02 56.2	
	comp=E,224nm,0.5s							
DRUM					IAML		22 03 00.2	
	comp=N,410nm,0.4s							
DRUM	**Mains of Drumt**	**5.20**	**220**	*eP*		**Pn**	**22 02 00.0**	**+2.7**
DRUM				*eS*		**Sn**	**22 02 55.6**	**-2.3**
DRUM					IAML		22 03 00.2	
	comp=N,410nm,0.4s							
NSS	**Namsos**	**5.20**	**44**	*eP*		**Pn**	**22 01 58.7**	**+1.4**
MUD	**Monsted U'grnd**	**5.42**	**145**	*eP*		**Pn**	**22 02 02.5**	**+2.2**
MUD				*eS*		**Sn**	**22 03 01.3**	**-2.0**
MUD					IAML		22 04 02.3	
	comp=Z,66nm,0.6s							
MUD	**Monsted U'grnd**	**5.42**	**145**	*eP*		**Pn**	**22 02 02.7**	**+2.3**
MDO	**Dochfour**	**5.45**	**232**	*eP*		**Pn**	**22 02 02.7**	**+1.8**
MDO	**Dochfour**	**5.45**	**232**	*eP*		**Pn**	**22 02 02.7**	**+1.8**
KAC	**Achnashellach**	**5

GDLE	Glaisdale, N Y	7.03	202	*e*P		Pn	22 02 24.2	+1.6	
MOR8	Moi Rana	7.06	38	*e*P		Pn	22 02 26.5	+3.6	
COP	Copenhagen	7.08	135	*i* P		Pn	22 02 24.2	+1.1	
COP				*e*S		Sn	22 03 38.9	-5.2	
COP				IAML			22 04 47.1		
	comp=Z,118nm,0.7s								
FAUS	Fauske	8.15	34	*e*P		Pn	22 02 38.1	+0.4	
LOF	Lofoten	8.30	27	Pn		Pn	22 02 39.0	-0.8	
LOF				Sn		Sn	22 04 00.7	-13	
LOF	Lofoten	8.30	27	*e*P		Pn	22 02 37.0	-2.8	
BSD	Bornholm Skovb	8.41	130	*e*P		Pn	22 02 41.8	+0.4	
BSD				IAML			22 05 22.6		
	comp=Z,110nm,0.7s								
STEI	Steigen	8.54	31	*e*P		Pn	22 02 42.5	-0.5	
KIF	Kilpisjarvi	10.76	35	Pn		Pn	22 03 13.5	0.0	
KIF	Kilpisjarvi	10.76	35	Pn		Pn	22 03 13.5	0.0	
FIA0	FINESS Array S	10.82	78	Pn		Pn	22 03 14.2	-0.1	
	baz=284,slow=12								
FIA0				Lg		Lg	22 06 13.0		
	baz=281,slow=22								
FIA0	FINESS Array S	10.82	78	Pn		Pn	22 03 14.2	-0.1	
	baz=284,slow=12								
FINES	FINESS Array B	10.82	78	Pn		Pn	22 03 14.2	-0.1	
	comp=Z,0.4nm,0.3s,baz=288,slow=12,SNR=20								
FINES				Sn		Sn	22 05 10.3	-5.6	
	comp=Z,1.3nm,0.3s,baz=279,slow=18,SNR=5.4								
FINES				Lg		Lg	22 06 14.0		
	comp=Z,3.6nm,0.3s,baz=280,slow=21,SNR=16								
FINES				LR		LR	22 07 54.9		
	comp=Z,44nm,21.4s,baz=290,slow=40								
	comp=Z,1.7nm,0.4s								
GIVF	Givet	10.97	176	*e*Pn		Pn	22 03 17.2	+0.7	
GIVF				*e*Sn		Sn	22 05 09.0	-11	
	comp=Z,13nm,0.4s								
BAIF	Baives	11.00	178	*e*Pn		Pn	22 03 17.2	+0.4	
BAIF				*e*Sn		Sn	22 05 09.9	-11	
	comp=Z,6.5nm,0.4s								
JETT	Jettan, Norway	11.02	32	Pn		Pn	22 03 17.1	-0.1	
JETT	Jettan, Norway	11.02	32	Pn		Pn	22 03 17.1	-0.1	
CLL	Collm	11.04	148	*e*Pn		Pn	22 03 18.0	+0.6	
	comp=Z,7.0nm,1.0s								
CLL				*e*Sn		Sn	22 05 10.0	-11	
CLL				*ex*		x	22 05 26.0		
CLL				*ex*		x	22 06 07.0		
CLL				*e*Sg			22 06 37.0		
BRG	Berggiesshubel	11.69	146	*e*P		Pn	22 03 28.5	+2.3	
BRG				Amp			22 03 29.8		
	comp=Z,5.3nm,1.1s								
BRG				*ex*		x	22 05 56.9		
BRG				Amp			22 06 42.1		
	comp=Z,4.7nm,0.7s								
NKC	Novy Kostel	11.90	151	*e*PN		Pn	22 03 30.3	+1.2	
ARA0	ARCESS Array S	12.43	38	Pn		Pn	22 03 33.7	-2.6	
	baz=236,slow=14								
ARCES	ARCESS Array B	12.43	38	Pn		Pn	22 03 34.0	-2.4	
	comp=Z,0.1nm,0.3s,baz=229,slow=13,SNR=2.9								
ARCES				Sn		Sn	22 05 50.7	-4.7	
	comp=Z,0.2nm,0.3s,baz=220,slow=20,SNR=2.4								
ARCES				Lg		Lg	22 07 00.7		
	comp=Z,0.4nm,0.3s,baz=230,slow=28,SNR=11								
	comp=Z,2.3nm,0.8s								
SAVF	Savonnieres en	12.47	175	*e*Pn		Pn	22 03 34.4	-2.5	
	baz=354								
SAVF				*e*Sn		Sn	22 05 43.1	-13	
	comp=Z,2.6nm,0.3s								
FLN	La Foliniere	12.51	193	*e*Pn		Pn	22 03 34.7	-2.8	
	baz=12								
FLN				*e*Sn		Sn	22 05 45.6	-12	
	comp=Z,14nm,0.4s								
PAGF	Fort de Pagny	12.56	174	*e*Pn		Pn	22 03 37.6	-0.5	
PAGF				*e*Sn		Sn	22 05 46.1	-12	
	comp=Z,4.4nm,0.5s,baz=356								
MEZF	Maizieres J'vi	12.58	176	*e*Pn		Pn	22 03 36.8	-1.6	
	baz=353								
MEZF				*e*Sn		Sn	22 05 50.6	-8.5	
	comp=Z,4.3nm,0.3s,baz=360								
LDF	La Druitiere	12.64	191	*e*Pn		Pn	22 03 37.5	-1.8	
LDF				*e*Sn		Sn	22 05 48.0	-13	
	comp=Z,8.9nm,0.4s								
CDF	Champ du Feu	12.81	169	*e*Pn		Pn	22 03 42.7	+1.0	
CDF				*e*Sn		Sn	22 05 55.3	-10	
	comp=Z,0.5nm,0.3s								
SFTF	Sexfontaines	12.87	176	*e*Pn		Pn	22 03 42.4	-0.1	
	baz=349								
SFTF				*e*Sn		Sn	22 05 49.8	-17	
	comp=Z,3.4nm,0.3s,baz=349								
GRR	Gorron	12.92	193	*e*Pn		Pn	22 03 41.8	-1.3	
GRR				*e*Sn		Sn	22 05 46.7	-21	
	comp=Z,10nm,0.3s								
HAU	Haudompre	13.14	172	*e*Pn		Pn	22 03 49.5	+3.3	
HAU				*e*Sn		Sn	22 06 00.3	-13	
KHC	Kasperske Hory	13.19	150	*e*PN		Pn	22 03 47.7	+0.9	
SGMF	Saint Gilles	13.28	198	*e*Pn		Pn	22 03 46.4	-1.6	
ROSF	Rostrenen	13.31	200	*e*Pn		Pn	22 03 48.3	-0.2	
ROSF				*e*Sn		Sn	22 06 03.9	-13	
	comp=Z,7.2nm,0.4s								
HINF	Hinteralfeld	13.37	171	*e*Pn		Pn	22 03 52.6	+3.4	
HINF				*e*Sn		Sn	22 06 07.4	-11	
GERES	GERESS Array B	13.49	150	Pn		Pn	22 03 52.0	+1.1	
	comp=Z,0.3nm,0.3s,baz=340,slow=12,SNR=14								
	comp=Z,1.0nm,0.6s								
CKRC	Cesky Krumlov	13.66	149	*e*PN		Pn	22 03 53.6	+0.4	
QUIF	Quistinic	13.70	200	*e*Pn		Pn	22 03 53.1	-0.7	
QUIF				*e*Sn		Sn	22 06 13.8	-13	
	comp=Z,2.4nm,0.3s								
LOR	Lormes	13.79	179	*e*Pn		Pn	22 03 53.8	-1.1	
	baz=354								
LOR				*e*Sn		Sn	22 06 16.2	-12	
	comp=Z,10.0nm,0.5s								
HYF	Humbligny	13.80	183	*e*Pn		Pn	22 03 53.6	-1.5	
HYF				*e*Sn		Sn	22 06 17.1	-12	
VRAC	Vranov	13.85	142	Pn		Pn	22 03 56.4	+0.6	
	comp=Z,0.2nm,0.3s,baz=350,slow=18,SNR=1.5								
VRAC				LR		LR	22 09 57.8		
	comp=Z,52nm,18.4s,baz=332,slow=40								
	comp=Z,0.8nm,0.4s								
SSF	Saint Saulge	13.99	180	*e*Pn		Pn	22 03 55.8	-1.9	
SSF				*e*Sn		Sn	22 06 20.9	-13	
	comp=Z,7.0nm,0.5s								
AVF	Avril sur Loir	14.26	181	*e*Pn		Pn	22 03 59.9	-1.6	
AVF				*e*Sn		Sn	22 06 26.9	-13	
	comp=Z,1.1nm,0.3s								
SMF	Signal de Mont	14.41	179	*e*Pn		Pn	22 04 01.7	-1.8	
SMF				*e*Sn		Sn	22 06 30.1	-14	
BGF	Bois d'Agland	14.50	182	*e*Pn		Pn	22 04 02.2	-2.5	
BGF				*e*Sn		Sn	22 06 33.8	-12	
	comp=Z,13nm,0.3s								
CABF	La Chapelle	14.51	173	*e*Pn		Pn	22 04 05.8	+0.8	
CABF				*e*Sn		Sn	22 06 35.5	-11	
	comp=Z,0.6nm,0.2s								
MFF	Saint Martin d	14.62	190	*e*Pn		Pn	22 04 03.1	-3.2	
MFF	Saint Martin d	14.62	190	*e*P		Pn	22 04 09.1	+2.8	
MFF				*e*Sn		Sn	22 06 35.5	-13	
	comp=Z,6.4nm,0.3s								
FETA	Feichten	14.63	160	*i* Pn		Pn	22 04 07.7	+1.1	
	comp=Z,1.1nm,0.6s								
DAVOX	Davos/Dischmat	14.73	163	Pn		Pn	22 04 09.0	+1.0	
	comp=Z,0.3nm,0.3s,baz=5.6,slow=18,SNR=3.3								
DAVOX				LR		LR	22 10 54.1		
	comp=Z,40nm,18.9s,baz=261,slow=42								
	comp=Z,1.1nm,0.4s								
TCF	Toulx Ste Croi	14.79	184	*e*Pn		Pn	22 04 06.2	-2.5	
TCF				*e*Sn		Sn	22 06 39.4	-14	
	comp=Z,2.1nm,0.4s								
CONA	Conrad Observa	14.89	146	*i* Pn		Pn	22 04 11.2	+1.2	
	comp=Z,0.6nm,0.4s								
KBA	Koelnbreinsper	15.07	154	*i* Pn		Pn	22 04 13.6	+1.0	
	comp=Z,2.5nm,0.7s								
ABTA	Abfaltersbach	15.21	156	*i* Pn		Pn	22 04 15.7	+1.4	
	comp=Z,1.6nm,0.5s								
RONA	Rosalia, Austr	15.21	146	*i* Pn		Pn	22 04 15.3	+1.0	
	comp=Z,0.3nm,0.2s								
LPL	La Plagne	15.65	172	*e*Pn		Pn	22 04 18.6	-1.6	
LPL				*e*Sn		Sn	22 07 03.7	-11	
	comp=Z,1.8nm,0.4s								
LPG	La Plagne	15.67	172	*e*Pn		Pn	22 04 19.1	-1.5	
LPG				*e*Sn		Sn	22 07 07.7	-7.1	
	comp=Z,1.1nm,0.2s								
RJF	Les Rejaudoux	15.80	185	*e*Pn		Pn	22 04 19.4	-2.6	
RJF				*e*Sn		Sn	22 07 05.2	-12	
	comp=Z,7.3nm,0.6s								
KOLS	Kolonicke sedl	16.09	130	*e*P		P	22 04 38.7	+9.5	
ADZR	Andozero	16.15	65	*e*P		Pn	22 04 28.5	+2.1	
	comp=Z,12nm,1.1s								
ADZR				*e*S		Sn	22 07 12.9	-13	
CAF	Calviac	16.16	184	*e*Pn		Pn	22 04 24.7	-1.9	
CAF				*e*Sn		Sn	22 07 13.9	-12	
	comp=Z,2.6nm,0.3s								
ORIF	Oris-en-Rattie	16.19	174	*e*Pn		Pn	22 04 28.3	+1.1	
LFF	La Frestale	16.20	187	*e*Pn		Pn	22 04 25.4	-1.8	
LFF				*e*Sn		Sn	22 07 14.4	-13	
VIVF	Saint-Julien-l	16.21	177	*e*Pn		Pn	22 04 27.7	+0.3	
VIVF				*e*Sn		Sn	22 07 15.2	-12	
	comp=Z,6.4nm,0.9s								
MBDF	Montbardon	16.43	172	*e*Pn		P	22 04 33.2	0.0	
MBDF				*e*Sn		Sn	22 07 21.2	-12	
	comp=Z,0.6nm,0.3s								
LASF	Ste Croix	16.98	179	*e*Pn		P	22 04 39.2	+0.1	
LASF				*e*Sn		Sn	22 07 34.3	-12	
	comp=Z,2.9nm,0.7s								
SMRF	Simiane la Rot	17.12	175	*e*Pn		P	22 04 41.1	+0.4	
KLMR	Klimovskoe	17.31	75	P		Pn	22 04 40.0	-1.1	
KLMR				*e*S		Sn	22 07 37.8	-16	
SBF	Sospel	17.34	171	*e*Pn		P	22 04 44.1	+0.9	
AKASG	Malin Array Be	17.57	114	P		P	22 04 45.8	+0.2	
	comp=Z,0.4nm,0.3s,baz=315,slow=12,SNR=3.6								
AKASG				Sn		Sn	22 07 48.0	-12	
	comp=Z,0.5nm,0.3s,baz=0.9,slow=26,SNR=1.7								
AKASG				Lg		Lg	22 09 48.0		
	comp=Z,0.8nm,0.3s,baz=321,slow=30,SNR=4.9								
AKASG				LR		LR	22 11 51.2		
	comp=Z,41nm,18.9s,baz=326,slow=38								
	comp=Z,0.5nm,0.4s								
MTLF	Montolieu	17.73	183	*e*Pn		Pn	22 04 46.3	-0.2	
MTLF				*e*Sn		Sn	22 07 53.7	-11	
	comp=Z,0.8nm,0.5s								
LMR	La Mourre	17.80	173	*e*Pn		P	22 04 49.9	+1.7	
EPF	Esparros	18.13	188	*e*Pn		Pn	22 04 52.1	+0.6	
SJPF	Ste Jean	18.18	191	*e*Pn		Pn	22 04 51.7	-0.3	
ETSF	Etsaut	18.33	190	*e*Pn		Pn	22 04 52.5	-1.4	
LSH	Leshukonskoye	19.25	60	*e*P		Pn	22 05 09.7	+4.8	
	comp=Z,81nm,3.3s								
LSH				*e*S		Sn	22 08 26.1	-15	
PRGR	Permogore	19.91	70	P		P	22 05 05.7	-5.5	
PRGR				*e*S		S	22 08 39.7	-16	
MLR	Muntele Rosu	20.34	130	LR		LR	22 12 56.2		
	comp=Z,45nm,18.2s,baz=273,slow=36								
ESDC	Sonseca Array	21.89	196	P		P	22 05 35.0	+2.2	
	comp=Z,2.1nm,0.7s,baz=7.1,slow=9.2,SNR=23								
	comp=Z,2.1nm,0.7s								
KVAR	Kislovodsk Arr	28.70	109	LR		LR	22 18 45.7		
	comp=Z,82nm,18.9s,baz=267,slow=38								
KBZ	Khabaz	28.97	109	LR		LR	22 18 58.7		
	comp=Z,42nm,19.5s,baz=302,slow=38								
BVAR	Borovoye Array	35.70	72	LR		LR	22 20 58.7		
	comp=Z,24nm,18.1s,baz=259,slow=34								
ZALV	Zalesovo Beam	41.53	62	P		P	22 08 28.9	+1.9	
	comp=Z,0.6nm,0.6s,baz=297,slow=9.4,SNR=4.0								
	comp=Z,0.6nm,0.6s								
AAK	Ala-Archa	44.99	80	LR		LR	22 28 02.9		
	comp=Z,39nm,18.6s,baz=21,slow=36								
MKAR	Makanchi Array	45.54	71	P		P	22 09 01.0	+1.5	
	comp=Z,0.4nm,0.6s,baz=316,slow=6.8,SNR=5.2								
	comp=Z,0.4nm,0.6s								
TORD	Torodi Ar. Bea	47.82	183	P		P	22 09 19.8	+2.2	
	comp=Z,0.7nm,0.6s,baz=350,slow=9.0,SNR=9.4								
	comp=Z,0.7nm,0.6s								
SONM	Songino Array	55.05	53	P		P	22 10 13.0	+1.4	
	comp=Z,0.2nm,0.4s,baz=310,slow=9.0,SNR=2.2								
	comp=Z,0.2nm,0.4s								

WEL ***09*** *22:02:00.40˝49.95S×173˚03˝.93E,h120km,ML5.1,Mw4.7, Moment Tensor Solution. s5 Moment tensor: Scale 10^16 Nm; Mrr0.29; Mθθ1.08; Mϕϕ-1.37; Mrθ1.00; Mrϕ-0.46; Mθϕ-0.03; Fault plane solution: M0 1.64000×10^16 NP1: ϕs151.00000°,δ63.00000°,λ21.00000°. NP2:ϕs51.00000°, δ72.00000°,λ151.00000°. Principal axes: T 1814.0700, Plg33.0000°, Azm9.0000°; N -340.6900, Plg57.0000°, Azm201.0000°; P -1473.3800, Plg6.0000°, Azm103.0000°;*

NEIC ***09*** *22:02:47.9,40˚42.42S×173˚.87E,h98km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.98; Mϕϕ-1.16; Mθθ0.86; Mrϕ-0.33; Mθϕ0.57; Fault plane solution: M0 1.53000×10^16 NP1:ϕs51.39000°, δ85.19000°,λ136.96000°. NP2:ϕs145.87000°,δ47.15000°, λ6.56000°. Principal axes: T 1.5264, Plg33.0000°, Azm359.0000°; N 0.0072, Plg47.0000°, Azm226.0000°; P -1.5335, Plg25.0000°, Azm107.0000°;*

NOU ***09*** *22:02:47.8,40˙.355S×174˙.06E,h3km,MLv5.3/14,Cook Strait, New Zealand*

NEIC ***09*** *22:02:47.8±2.6,40˙.46S±0˙.04×173˙.95E±0˙.05,h98km±5km, mb4.7/28,Mwr4.7/26,Error ellipse: s-maj=6.2km s-min=5.6km az=137.0*

IDC ***09*** *22:02:48.2±0.6,40˙.35S×173˙.96E,h106km±5km,mb4.1/15, mbtmp4.4/17,MS3.4/12,Error ellipse: s-maj=11.0km s-min=9.3km az=138.0*

WEL ***09*** *22:02:49.6,40˚S±5˚×17˚4E±˚,h80km±12km,M5.1/163, ML5.4/24,MLv5.1/163,Error ellipse: s-maj=0.0km s-min=0.0km az=59.7*

ISC 09 22:02:48.4±0.5, 40˚49S±0˙03×173˚90E±0˙03, h107km±4km, n275,σ1$46/289, mb4.6/28, 3C, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.31**	**177**	P	Pn	**22 03 03.2**	**-0.7**
DUWZ				S	Sn	**22 03 14.3**	**-1.2**
TCW	**Tory Channel**	**0.77**	**159**	P	Pn	**22 03 06.9**	**-0.1**
TCW				S	Sn	**22 03 20.3**	**-0.9**
NNZ	**Nelson**	**0.82**	**209**		Pn	**22 03 07.5**	**-0.1**
NNZ				Sn	Sn	**22 03 21.7**	**-0.3**
NNZ	**Nelson**	**0.82**	**209**	P	Pn	**22 03 07.3**	**-0.3**
KIW	**Kapiti Island**	**0.85**	**116**	P	Pn	**22 03 07.3**	**-0.5**
KIW				S	Sn	**22 03 20.9**	**-1.5**
TKNZ	**Takaka Hill**	**0.90**	**233**	P	Pn	**22 03 07.7**	**-0.6**
TUWZ	**Tuamarina**	**0.94**	**178**		Pn	**22 03 08.2**	**-0.4**
TUWZ				Sn	Sn	**22 03 22.5**	**-1.5**
TUWZ	**Tuamarina**	**0.94**	**178**	P	Pn	**22 03 08.2**	**-0.4**
OGWZ	**Otaki Gorge**	**1.02**	**109**	P	Pn	**22 03 09.1**	**-0.3**
OGWZ				S	Sn	**22 03 23.7**	**-1.8**
SNZO	**South Karori**	**1.02**	**144**		Pn	**22 03 09.4**	**-0.1**
SNZO				Sn	Sn	**22 03 24.4**	**-1.0**
SNZO	**South Karori**	**1.02**	**144**	P	Pn	**22 03 09.9**	**+0.4**
WEL	**Wellington**	**1.03**	**141**	P	Pn	**22 03 09.6**	**0.0**
WEL				S	Sn	**22 03 24.4**	**-1.2**
CAW	**Cannon Point**	**1.07**	**125**	P	Pn	**22 03 09.9**	**-0.2**
CAW				S	Sn	**22 03 25.6**	**-0.9**
NMEZ	**Namu Road**	**1.08**	**359**	P	Pn	**22 03 09.9**	**-0.3**
QRZ	**Quartz Range**	**1.10**	**252**		Pn	**22 03 09.4**	**-1.0**
QRZ				Sn	Sn	**22 03 25.1**	**-1.8**
QRZ	**Quartz Range**	**1.10**	**252**	P	Pn	**22 03 09.3**	**-1.0**
QRZ	**Quartz Range**	**1.10**	**252**	P	Pn	**22 03 09.6**	**-0.8**
WAZ	**Wanganui**	**1.11**	**49**	P	Pn	**22 03 10.7**	**+0.1**
OHWZ	**Ohakea**	**1.12**	**75**	P	Pn	**22 03 10.9**	**+0.3**
KHEZ	**Kahui Hut**	**1.20**	**4**	P	Pn	**22 03 11.4**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.22**	**181**		Pn	**22 03 11.8**	**+0.1**
BSWZ				Sn	Sn	**22 03 28.9**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.22**	**181**	P	Pn	**22 03 12.0**	**+0.2**
NBEZ	**Newall Road No**	**1.23**	**359**	P	Pn	**22 03 11.6**	**-0.2**
NEZ	**North Egmont**	**1.23**	**7**	P	Pn	**22 03 11.6**	**-0.4**
MRNZ	**Matariki Terra**	**1.25**	**223**	P	Pn	**22 03 12.0**	**-0.2**
CMWZ	**Cape Campbell**	**1.27**	**170**		Pn	**22 03 12.9**	**+0.5**
CMWZ				Sn	Sn	**22 03 31.2**	**+0.7**
CMWZ	**Cape Campbell**	**1.27**	**170**	P	Pn	**22 03 13.3**	**+1.0**
MRZ	**Mangatainoka R**	**1.29**	**98**	P	Pn	**22 03 11.9**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.29**	**109**	P	Pn	**22 03 12.0**	**-0.5**
PKE	**Pukeiti**	**1.30**	**3**	P	Pn	**22 03 12.5**	**-0.2**
DREZ	**Durham Road**	**1.32**	**10**	P	Pn	**22 03 12.8**	**-0.1**
MSWZ	**Moikau Station**	**1.37**	**133**		Pn	**22 03 13.2**	**-0.4**
MSWZ				Sn	Sn	**22 03 30.8**	**-1.8**
MSWZ	**Moikau Station**	**1.37**	**133**	P	Pn	**22 03 13.3**	**-0.3**
MTW	**Mount Morrison**	**1.38**	**119**	P	Pn	**22 03 13.2**	**-0.4**
POWZ	**Post Office Ro**	**1.43**	**86**	P	Pn	**22 03 13.6**	**-0.5**
MHEZ	**Mangahewa**	**1.45**	**13**	P	Pn	**22 03 14.5**	**0.0**
PAWZ	**Paruwai Farm**	**1.46**	**128**	P	Pn	**22 03 14.1**	**-0.4**
THZ	**Tophouse**	**1.48**	**210**		Pn	**22 03 14.6**	**-0.2**
THZ				Sn	Sn	**22 03 34.9**	**+0.1**
THZ	**Tophouse**	**1.48**	**210**	P	Pn	**22 03 14.6**	**-0.2**
PLWZ	**Palliser**	**1.48**	**137**		Pn	**22 03 14.6**	**-0.2**
PLWZ				Sn	Sn	**22 03 33.4**	**-1.5**
PLWZ	**Palliser**	**1.48**	**137**	P	Pn	**22 03 14.4**	**-0.4**
TIWZ	**Tintock**	**1.53**	**101**	P	Pn	**22 03 15.0**	**-0.5**
PRWZ	**Pori Road**	**1.58**	**93**	P	Pn	**22 03 15.7**	**-0.2**
TRWZ	**Traveller**	**1.62**	**124**	P	Pn	**22 03 16.3**	**-0.2**
TMWZ	**Te Maipa**	**1.63**	**113**	P	Pn	**22 03 16.2**	**-0.4**
TSZ	**Takapari Road**	**1.63**	**75**	P	Pn	**22 03 15.9**	**-0.8**
MTVZ	**Mangateitei**	**1.64**	**48**	P	Pn	**22 03 16.5**	**-0.3**
PKVZ	**Pokaka**	**1.64**	**43**	P	Pn	**22 03 16.7**	**-0.1**
DVHZ	**Dannevirke**	**1.74**	**84**	P	Pn	**22 03 16.8**	**-1.2**
TRVZ	**Turoa**	**1.74**	**47**	P	Pn	**22 03 18.1**	**-0.1**
WNVZ	**Wahianoa**	**1.75**	**49**	P	Pn	**22 03 17.7**	**-0.5**
DRZ	**Dome Shelter**	**1.76**	**47**	P	Pn	**22 03 18.9**	**+0.3**
FWVZ	**Far West T-bar**	**1.77**	**46**	P	Pn	**22 03 18.0**	**-0.6**
WHVZ	**Whangaehu Hut**	**1.77**	**48**	P	Pn	**22 03 18.1**	**-0.5**
MOVZ	**Moawhango**	**1.79**	**53**	P	Pn	**22 03 17.7**	**-0.9**
BFZ	**Birch Farm**	**1.79**	**97**		Pn	**22 03 18.0**	**-0.6**
BFZ					Sn	**22 03 38.6**	**-3.0**
BFZ	**Birch Farm**	**1.79**	**97**	P	Pn	**22 03 17.8**	**-0.8**
BFZ	**Birch Farm**	**1.79**	**97**	P	Pn	**22 03 18.5**	**-0.1**
CPWZ	**Castlepoint**	**1.79**	**104**	P	Pn	**22 03 18.8**	**+0.2**
TUVZ	**Tukino**	**1.82**	**48**	P	Pn	**22 03 18.8**	**-0.3**
TWVZ	**Taurewa**	**1.85**	**40**	P	Pn	**22 03 19.1**	**-0.3**
PNHZ	**Pukenui**	**1.85**	**72**	P	Pn	**22 03 18.1**	**-1.3**
NGZ	**Ngauruhoe**	**1.85**	**45**	P	Pn	**22 03 19.6**	**0.0**
SNVZ	**South Ngauruho**	**1.87**	**46**	P	Pn	**22 03 19.5**	**-0.2**
NNVZ	**North Ngauruho**	**1.89**	**45**	P	Pn	**22 03 20.4**	**+0.3**
OTVZ	**Oturere**	**1.90**	**46**	P	Pn	**22 03 19.5**	**-0.6**
BHHZ	**Black Hill Sta**	**1.94**	**60**	P	Pn	**22 03 19.3**	**-1.2**
KHZ	**Kahutara**	**1.94**	**188**		Pn	**22 03 20.4**	**0.0**
KHZ					Sn	**22 03 42.9**	**-2.0**
KHZ	**Kahutara**	**1.94**	**188**	P	Pn	**22 03 19.7**	**-0.7**
KHZ	**Kahutara**	**1.94**	**188**	P	Pn	**22 03 20.7**	**+0.3**
ETVZ	**East Tongariro**	**1.94**	**46**	P	Pn	**22 03 20.4**	**-0.2**
NTVZ	**North Tongarir**	**1.95**	**45**	P	Pn	**22 03 21.6**	**+0.8**
TMVZ	**Te Maari**	**1.95**	**46**	P	Pn	**22 03 20.8**	**0.0**
ANWZ	**Angora Road**	**1.96**	**90**	P	Pn	**22 03 20.0**	**-0.7**
WPHZ	**Waipukurau**	**1.99**	**78**	P	Pn	**22 03 20.1**	**-1.0**
DSZ	**Denniston Nort**	**2.02**	**231**	P	Pn	**22 03 21.0**	**-0.5**
KATZ	**Kakaramea**	**2.05**	**43**	P	Pn	**22 03 22.2**	**+0.2**
KRHZ	**Kereru**	**2.08**	**67**	P	Pn	**22 03 20.8**	**-1.4**
PRHZ	**Porangahau**	**2.10**	**85**	P	Pn	**22 03 21.7**	**-0.7**
HIZ	**Hauiti**	**2.11**	**21**		Pn	**22 03 21.9**	**-0.7**
HIZ					Sn	**22 03 47.4**	**-1.5**
HIZ	**Hauiti**	**2.11**	**21**	P	Pn	**22 03 22.0**	**-0.7**
HIZ	**Hauiti**	**2.11**	**21**	P	Pn	**22 03 22.5**	**-0.2**
RITZ	**Rihia Road**	**2.14**	**45**	P	Pn	**22 03 22.6**	**-0.4**
RATZ	**Rangitukua**	**2.17**	**42**	P	Pn	**22 03 23.4**	**-0.1**
KWHZ	**Kaweka Forest**	**2.21**	**62**	P	Pn	**22 03 23.1**	**-1.0**
WATZ	**Wairara**	**2.28**	**39**	P	Pn	**22 03 24.6**	**-0.3**
PXZ	**Pawanui**	**2.31**	**79**	P	Pn	**22 03 23.9**	**-1.3**
HATZ	**Hinemaiaia**	**2.33**	**47**	P	Pn	**22 03 24.2**	**-1.3**
KAHZ	**Kahuranaki**	**2.38**	**74**	P	Pn	**22 03 25.0**	**-1.2**
MCHZ	**McNeill Hill**	**2.39**	**65**	P	Pn	**22 03 24.9**	**-1.3**
BKZ	**Black Stump Fm**	**2.39**	**57**	Pn	Pn	**22 03 24.7**	**-1.7**
BKZ	**Black Stump Fm**	**2.39**	**57**	P	Pn	**22 03 24.7**	**-1.7**
BKZ	**Black Stump Fm**	**2.39**	**57**	P	Pn	**22 03 25.2**	**-1.2**
WHTZ	**Whakaora**	**2.42**	**42**	P	Pn	**22 03 26.7**	**0.0**
KUTZ	**Kaahu Road**	**2.49**	**37**	P	Pn	**22 03 27.4**	**-0.3**
TLZ	**Tolley Road**	**2.50**	**31**	P	Pn	**22 03 27.1**	**-0.7**
GVZ	**Greta Valley S**	**2.56**	**194**	P	Pn	**22 03 27.5**	**-0.9**
CKHZ	**Cape Kidnapper**	**2.57**	**72**	P	Pn	**22 03 28.0**	**-0.6**
LTZ	**Lake Taylor**	**2.59**	**208**		Pn	**22 03 27.9**	**-1.0**
LTZ	**Lake Taylor**	**2.59**	**208**	P	Pn	**22 03 27.9**	**-1.0**
WPRZ	**Whakapapataran**	**2.63**	**42**	P	Pn	**22 03 28.8**	**-0.7**
NMHZ	**Naumai**	**2.64**	**59**	P	Pn	**22 03 28.2**	**-1.4**
ARHZ	**Aropaoanui**	**2.68**	**64**	P

DCZ	Deep Cove	7.01 223			Pn	22 04 25.3	-3.0
DCZ	Deep Cove	7.01 223	P		Pn	22 04 26.2	-2.1
APZ	The Paps	7.65 212	P		Pn	22 04 34.4	-2.6
PYZ	Puysegur Point	7.74 220			Pn	22 04 35.8	-2.3
PYZ	Puysegur Point	7.74 220	P		Pn	22 04 36.1	-2.1
CTZ	Chatham Island	7.75 118	P		Pn	22 04 37.0	-1.4
DZM	Mont Dzumac	19.43 339	P		P	22 07 06.2	-0.2
	12nm,0.8s,baz=153,slow=10.0,SNR=5.8						
DZM			LR		LR	22 13 36.4	
	comp=Z,92nm,18.7s,baz=103,slow=34						
DZM	Mont Dzumac	19.43 339	P		Pn	22 07 13.2	+4.6
GLAD	Gladstone	19.61 260	P		Pn	22 07 18.8	+8.2
TAU	Tasmania Unive	19.97 254	P		Pn	22 07 24.3	+10
CNB	Canberra Magne	20.02 277	P		Pn	22 07 22.8	+7.4
MOO	Moorlands	20.09 256	P		Pn	22 07 25.6	+9.5
CAN	Canberra	20.29 277	P		Pn	22 07 26.7	+8.1
MSVF	Nonsavu	22.96 10	P		P	22 07 42.4	-1.3
	18nm,0.7s,baz=4.9,slow=22,SNR=7.2						
	18nm,0.7s						
MSVF	Nonsavu	22.96 10	P		P	22 07 38.9	-4.9
MSVF			IAmb		IAmb	22 07 47.0	
	comp=Z,36nm,0.9s						
EIDS	Eidsvold	24.28 301	P		P	22 07 54.3	-1.4
STKA	Stephens Creek	27.34 278	P		P	22 08 23.8	+0.5
	comp=Z,0.8nm,0.5s,baz=96,slow=8.2,SNR=3.3						
STKA			LR		LR	22 19 21.1	
	comp=Z,22nm,18.8s,baz=64,slow=36						
	comp=Z,0.8nm,0.5s						
RAR	Rarotonga	29.49 57	P		P	22 08 40.5	-1.8
RAR			IAmb		IAmb	22 09 12.8	
	comp=Z,17nm,0.9s						
BBOO	Buckleboo	31.13 272	P		P	22 08 55.2	-1.7
BBOO			IAmb		IAmb	22 09 38.7	
	comp=Z,37nm,1.4s						
CTA	Charters Tower	31.15 303	LR		LR	22 20 16.2	
	comp=Z,59nm,18.6s,baz=106,slow=34						
AS31	Alice Springs	37.45 284	P		P	22 09 51.8	+0.3
ASAR	Alice Springs	37.45 284	P		P	22 09 51.8	+0.2
	comp=Z,2.6nm,0.9s,baz=133,slow=8.3,SNR=15						
ASAR			pP		pP	22 10 15.8	0.0
	comp=Z,3.4nm,0.8s,baz=132,slow=8.1,SNR=5.9						
ASAR			PcP		PcP	22 12 07.0	-0.8
	comp=Z,2.1nm,0.5s,baz=122,slow=3.8,SNR=8.6						
ASAR			LR		LR	22 25 05.5	
	comp=Z,52nm,18.6s,baz=92,slow=36						
	comp=Z,2.6nm,0.9s						
ASAR	Alice Springs	37.45 284	P		P	22 09 50.9	-0.7
VNDA	Vanda	37.48 184	P		P	22 09 52.7	+1.7
	comp=Z,1.7nm,0.6s,baz=11,slow=8.2,SNR=15						
VNDA			LR		LR	22 23 08.2	
	comp=Z,38nm,18.4s,baz=18,slow=32						
	comp=Z,1.7nm,0.6s						
VNDA	Vanda	37.48 184	P		P	22 09 53.4	+2.4
COEN	Coen	37.68 306	P		P	22 09 54.0	+0.6
COEN			IAmb		IAmb	22 09 54.9	
	comp=Z,18nm,1.2s						
FORT	Forrest	38.13 270	P		P	22 09 56.5	-0.6
FORT			IAmb		IAmb	22 10 37.5	
	comp=Z,16nm,0.8s						
WB2	Warramunga Arr	39.42 289	P		P	22 10 08.4	+0.5
WB2			IAmb		IAmb	22 10 33.8	
	comp=Z,9.2nm,0.9s						
WRA	Warramunga Arr	39.43 289	P		P	22 10 07.6	-0.4
	comp=Z,1.5nm,0.3s,baz=127,slow=7.8,SNR=21						
WRA			pP		pP	22 10 31.8	-0.7
	comp=Z,4.4nm,0.7s,baz=129,slow=7.6,SNR=7.0						
WRA			PcP		PcP	22 12 14.0	-0.1
	comp=Z,1.5nm,0.7s,baz=260,slow=4.6,SNR=5.0						
	comp=Z,1.5nm,0.3s						
WRA	Warramunga Arr	39.43 289	P		P	22 10 08.6	+0.6
WB0	Warramunga Arr	39.50 290	P		P	22 10 09.0	+0.4
WB0			IAmb		IAmb	22 10 34.5	
	comp=Z,23nm,1.5s						
CASY	Casey	43.13 212	P		P	22 10 37.3	-0.4
CASY			IAmb		IAmb	22 11 04.1	
	comp=Z,7.3nm,0.8s						
NWAO	Narrogin (SRO)	45.38 261	P		P	22 10 52.2	-3.9
MTN	Manton Dam	46.46 294	P		P	22 11 05.4	+0.7
MTN			IAmb		IAmb	22 11 06.1	
	comp=Z,12nm,0.8s						
FITZ	Fitzroy Crossi	46.95 284	P		P	22 11 07.9	-0.7
	comp=Z,2.1nm,0.6s,baz=171,slow=6.4,SNR=7.7						
FITZ			pP		pP	22 11 33.5	-0.1
	comp=Z,6.9nm,0.9s,baz=166,slow=8.5,SNR=6.1						
	comp=Z,2.1nm,0.6s						
FITZ	Fitzroy Crossi	46.95 284	P		P	22 11 08.7	+0.2
FITZ			IAmb		IAmb	22 11 34.5	
	comp=Z,16nm,1.2s						
MORW	Morawa	48.10 265	P		P	22 11 17.1	-0.3
MORW			IAmb		IAmb	22 11 48.2	
	comp=Z,14nm,1.2s						
PSA00	Pilbara Seismi	49.22 276	P		P	22 11 25.0	-1.0
PSA00			IAmb		IAmb	22 11 51.7	
	comp=Z,11nm,1.4s						
QSPA	South Pole Qui	49.63 180	P		P	22 11 30.3	+1.6
	comp=Z,8.9nm,0.5s,baz=324,slow=0.3,SNR=64						
QSPA			pP		pP	22 11 55.1	+1.0
	comp=Z,8.1nm,0.8s,baz=31,slow=2.2,SNR=5.8						
	comp=Z,8.9nm,0.5s						
FAKI	Fak Fak	53.00 304	P		P	22 11 53.8	-0.5
BATI	Baumata	53.56 290	LR		LR	22 34 37.6	
	comp=Z,171nm,18.7s,baz=262,slow=36						
SIJI	Sorong	55.20 304	P		P	22 12 09.6	-0.7
	comp=Z,8.2nm,0.7s,baz=186,slow=1.8,SNR=5.2						
	comp=Z,8.2nm,0.7s						
MAW	Mawson	60.49 204	P		P	22 12 47.1	+0.6
	comp=Z,1.7nm,0.6s,baz=127,slow=11,SNR=10.0						
MAW			LR		LR	22 37 34.5	
	comp=Z,32nm,20.7s,baz=37,slow=34						
	comp=Z,1.7nm,0.6s						
MAW	Mawson	60.49 204	P		P	22 12 47.1	+0.6
PMSA	Palmer Station	65.73 157	P		P	22 13 22.4	+1.3
	comp=Z,7.5nm,0.8s,baz=263,slow=3.2,SNR=6.0						
	comp=Z,7.5nm,0.8s						
PMSA	Palmer Station	65.73 157	P		P	22 13 22.9	+1.8
LEM	Lembang	67.61 280	LR		LR	22 44 53.8	
	comp=Z,76nm,18.0s,baz=214,slow=37						
TROLL	Troll, Antarti	67.64 183	P		P	22 13 34.2	+0.8
SNAA	Sanae	68.12 181	P		P	22 13 36.8	+0.5
SNAA	Sanae	68.12 181	P		P	22 13 36.6	+0.3
	comp=Z,2.8nm,0.4s,baz=208,slow=8.2,SNR=15						
	comp=Z,2.8nm,0.4s						
SNAA	Sanae	68.12 181	P		P	22 13 37.0	+0.7
SNAA			IAmb		IAmb	22 13 37.8	
	comp=Z,10nm,1.1s						
VNA3	Neumayer Olymp	68.54 179	P		P	22 13 39.5	+0.6
VNA2	Neumayer--Watz	68.89 180	P		P	22 13 41.9	+0.9
	baz=177,slow=6.0						
VNA1	Neumayer--Stat	69.16 179	P		P	22 13 43.7	+1.1
MG05	Puerto Natales	71.57 143	P		P	22 13 58.9	+1.2
LL02	Futaleuf	77.76 137	P		P	22 14 35.0	+1.5
LL02			IAmb		IAmb	22 14 36.5	
	comp=Z,8.9nm,0.7s						
PLCA	Paso Flores	80.18 136	P		P	22 14 48.2	+1.2
	comp=Z,5.8nm,0.9s,baz=234,slow=5.3,SNR=12						
	comp=Z,5.8nm,0.9s						
PLCA	Paso Flores	80.18 136	P		P	22 14 48.8	+1.8
PSI	Prapat	80.44 282	LR		LR	22 52 22.8	
	comp=Z,35nm,18.0s,baz=149,slow=37						
BO02	Sierra Bellavi	84.32 132	P		P	22 15 10.7	+2.1
MT01	Popeta	84.71 131	P		P	22 15 12.2	+1.7
MT09	Talagante	84.93 131	P		P	22 15 12.8	+1.1
TRQA	Tornquist	86.59 139	P		P	22 15 20.6	+0.9
KSRS	Korea Array	88.28 325	P		P	22 15 28.1	+0.7
	comp=Z,3.3nm,0.8s,baz=148,slow=5.4,SNR=12						
	comp=Z,3.3nm,0.8s						
CMAR	Chiang Mai Arr	90.90 294	P		P	22 15 40.9	+0.7
	comp=Z,1.3nm,0.7s,baz=142,slow=3.6,SNR=12						
CMAR			pP		pP	22 16 06.6	-1.5
	comp=Z,1.3nm,0.7s,baz=148,slow=3.7,SNR=2.5						
CMAR			LR		LR	23 03 52.9	
	comp=Z,9.3nm,19.4s,baz=65,slow=40						
	comp=Z,1.3nm,0.7s						
PETK	Petropavlovsk-	94.28 350	P		P	22 15 55.2	+0.3
	comp=Z,1.3nm,0.8s,baz=167,slow=8.9,SNR=3.0						
	comp=Z,1.3nm,0.8s						
PZH	PanZhiHua	94.46 301	P		P	22 15 58.3	+1.7
PZH			pmax		pmax		
	comp=Z,8.0nm,1.0s						
PZH			pmax		pmax		
	comp=Z,100nm,5.1s						
NNA	Nana	96.46 112	LR		LR	22 50 14.5	
	comp=Z,22nm,19.0s,baz=227,slow=30						
HHC	Hu-ho-hao-te	98.80 317	eP		Pdif	22 16 17.6	+1.7
HHC			pmax		pmax		
	comp=Z,15nm,1.0s						
HHC			pmax		pmax		

	comp=Z,140nm,5.8s						
WMQ	Urumqi	114.19 308	eP		PKiKP	22 21 15.9	+1.1
KBZ	Khabaz	143.93 292	PKhKP		PKPpre	22 22 08.8	
	comp=Z,4.9nm,0.8s,baz=137,slow=2.8,SNR=12						
KLMR	Klimovskoe	145.61 322	e		PKPdf	22 22 11.2	-1.8
KLMR			AMP			22 22 14.6	
	comp=Z,40nm,1.3s						
KLMR			e			22 22 38.5	
LIC	Lamto	145.87 182	i	PKP1	PKPdf	22 22 15.1	+0.1
	comp=Z,21nm,0.4s						
KIC	Kosan Boka	145.99 182	i	PKP1	PKPdf	22 22 15.5	+0.3
	comp=Z,16nm,0.4s						
TIC	Toumodi	146.28 182	i	PKP1	PKPdf	22 22 16.2	+0.5
	comp=Z,4.2nm,0.3s						
DBIC	Dimbokro	146.30 182	PKPbc		PKPdf	22 22 16.3	+0.6
	comp=Z,9.2nm,0.6s,baz=190,slow=2.9,SNR=21						
ARCES	ARCESS Array B	146.51 340	PKPbc		PKPdf	22 22 14.6	+0.2
	comp=Z,5.3nm,0.6s,baz=70,slow=1.9,SNR=30						
BRTR	Keskin Array B	149.78 282	PKPbc		PKPbc	22 22 24.4	-1.3
	comp=Z,1.8nm,0.8s,baz=149,slow=5.0,SNR=11						
FINES	FINESS Array B	151.34 328	PKPbc		PKPbc	22 22 26.8	-1.7
	comp=Z,2.6nm,0.7s,baz=53,slow=2.5,SNR=11						
TORD	Torodi Ar. Bea	151.91 196	PKPbc		PKPbc	22 22 30.0	-1.2
	comp=Z,1.3nm,0.4s,baz=160,slow=3.3,SNR=29						
AKASG	Malin Array Be	153.50 305	PKPbc		PKPbc	22 22 33.5	-0.1
	comp=Z,0.2nm,0.2s,baz=91,slow=1.3,SNR=1.8						
AKASG			PKPab		PKPab	22 22 46.4	-0.1
	comp=Z,1.4nm,0.7s,baz=64,slow=2.6,SNR=4.5						
GERES	GERESS Array B	163.66 307	PKPab		PKPab	22 23 30.4	-0.3
	comp=Z,0.2nm,0.5s,baz=50,slow=6.5,SNR=5.0						

*IDC **09** 22:08:03.1±2.6,36.68S×179.21E,h0km,mb3.9/2, mbtmp4.0/3,ML4.2/1,Error ellipse: s-maj=70.2km s-min=39.5km az=136.0*
*NEIC **09** 22:08:07.4±1.6,36.99S±0.06×179.16E±0.08,h8km±7km, mb4.3/8,Error ellipse: s-maj=9.6km s-min=8.5km az=81.0*
*WEL **09** 22:08:09.7±1.3,37.5S±4×179.9E±°,h22km±9km,M3.8/36, ML4.0/43,MLv3.8/36,Error ellipse: s-maj=0.0km s-min=0.0km az=78.2*

ISC 09 22:08:06.8±2.0,36.99S±0.06×179.19E±0.08,h15km±10km, n80,σ0.94/89,mb4.2/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.91	231	P	Pb	22 08 24.2	-0.2
MXZ	Matakaoa Point	0.91	231	P	Pb	22 08 24.2	-0.2
MXZ				S	Sb	22 08 36.0	-0.3
WMGZ	Waiomatatini S	1.04	217	P	Pg	22 08 27.9	+1.0
WMGZ				S	Sn	22 08 43.1	+2.0
PKGZ	Pakihiroa	1.27	224	P	Pg	22 08 30.9	-0.4
PKGZ				S	Sg	22 08 47.6	-0.1
PUZ	Puketiti	1.31	214	P	Pg	22 08 32.2	0.0
HAZ	Te Kaha	1.36	235	P	Pn	22 08 30.9	-0.4
HAZ				S	Sg	22 08 50.3	-0.5
TWGZ	Tauwhareparae	1.53	219	P	Pb	22 08 34.7	-0.3
RUGZ	Raukumara Rang	1.55	231	P	Pb	22 08 35.2	-0.2
CNGZ	Carnagh Statio	1.69	207	P	Pb	22 08 36.9	-0.7
WIZ	White Island	1.69	251	P	Pn	22 08 34.7	-1.1
MWZ	Matawai	1.89	224	P	Pn	22 08 39.3	+0.7
MWZ				S	Sn	22 09 01.7	-0.4
WHRZ	Whale Island	1.97	243	P	Pb	22 08 41.6	-0.8
RIGZ	Rimuhau	2.06	213	P	Pn	22 08 41.0	0.0
URZ	Urewera	2.08	232	Pn	Pn	22 08 42.2	+1.0
	59nm,0.3s,baz=211,slow=1.3,SNR=30						
URZ				Sn	Sn	22 09 07.0	+0.1
	49nm,0.3s,baz=211,slow=18,SNR=11						
	306nm,0.4s						
URZ	Urewera	2.08	232	P	Pn	22 08 41.9	+0.7
EDRZ	Edgecumbe	2.25	239	P	Pn	22 08 45.0	+1.4
OPRZ	Ohinepanea	2.27	247	P	Pn	22 08 44.0	+0.2
SNGZ	Shannon Statio	2.31	219	P	Pn	22 08 44.7	+0.3
SNGZ				S	Sn	22 09 11.9	-0.8
KNZ	Kokohu	2.36	210	P	Pn	22 08 44.5	-0.5
MYRZ	Mayor Island	2.38	262	P	Pn	22 08 45.6	+0.3
MHGZ	Mahia Peninsul	2.39	205	P	Pn	22 08 45.4	-0.1
MHGZ				S	Sn	22 09 14.7	+0.2
MUGZ	Murupara	2.43	232	P	Pn	22 08 46.4	+0.4
TGRZ	Tauranga	2.45	252	P	Pn	22 08 46.8	+0.5
RRRZ	Republican Roa	2.52	237	P	Pn	22 08 47.9	+0.6
RAHZ	Arahi	2.55	220	P	Pn	22 08 48.5	+0.8
MTHZ	Maungataniwha	2.63	224	P	Pn	22 08 49.8	+1.0
MTHZ				S	Sn	22 09 19.5	-1.1
PRRZ	Plateau Road	2.69	235	P	Pn	22 08 49.9	+0.3
KMRZ	Kaimai	2.73	251	P	Pn	22 08 50.4	+0.3
ALRZ	Allen Road	2.75	234	P	Pn	22 08 50.9	+0.4
KUZ	Kuaotunu	2.80	274	P	Pn	22 08 50.4	-0.7
NMHZ	Naumai	2.83	221	P	Pn	22 08 52.1	+0.5
TOZ	Tahuroa Road	3.03	255	P	Pn	22 08 54.1	-0.2
BKZ	Black Stump Fm	3.04	224		Pn	22 08 55.4	+0.9
BKZ	Black Stump Fm	3.04	224	P	Pn	22 08 54.3	-0.2
GRZ	Great Barrier	3.10	283	P	Pn	22 08 55.2	+0.1
MCHZ	McNeill Hill	3.14	218	P	Pn	22 08 56.3	+0.5
MKAZ	Mokamaki	3.26	257	P	Pn	22 08 57.0	0.0
WIAZ	Waiheke Island	3.26	272	P	Pn	22 08 57.8	+0.4
KWHZ	Kaweka Forest	3.27	221	P	Pn	22 08 58.0	+0.4
RITZ	Rihia Road	3.30	232	P	Pn	22 08 59.1	+1.0
KAHZ	Kahuranaki	3.34	212	P	Pn	22 08 57.4	-1.2
ETAZ	East Tamaki Re	3.42	269	P	Pn	22 09 00.1	+0.5
MBAZ	Motutapu North	3.45	272	P	Pn	22 09 00.7	+0.6
KRHZ	Kereru	3.46	219	P	Pn	22 09 00.0	-0.2
BHHZ	Black Hill Sta	3.51	224	P	Pn	22 09 01.2	+0.2
ABAZ	Army Bay	3.52	275	P	Pn	22 09 01.7	+0.7
OTVZ	Oturere	3.53	231	P	Pn	22 09 02.2	+0.9
SNVZ	South Ngauruho	3.56	231	P	Pn	22 09 02.3	+0.5
TWVZ	Taurewa	3.62	234	P	Pn	22 09 01.3	-1.2
MOVZ	Moawhango	3.63	227	P	Pn	22 09 02.7	+0.1
AWAZ	Awhitu Peninsu	3.64	267	P	Pn	22 09 03.4	+0.7
FWVZ	Far West T-bar	3.66	231	P	Pn	22 09 05.5	+2.4
WNVZ	Wahianoa	3.67	229	P	Pn	22 09 03.7	+0.5
WTAZ	Waiatarua	3.70	269	P	Pn	22 09 04.4	+0.9
RVAZ	Riverhead Bore	3.71	272	P	Pn	22 09 03.1	-0.4
PNHZ	Pukenui	3.75	218	P	Pn	22 09 03.2	-1.0
HIZ	Hauiti	3.76	245	Pn	Pn	22 09 05.7	+1.4
HIZ	Hauiti	3.76	245	P	Pn	22 09 05.9	+1.5
WCZ	Waipu Caves	4.05	284	P	Pn	22 09 09.2	+0.9
WAZ	Wanganui	4.31	229	P	Pn	22 09 12.7	+0.8
BFZ	Birch Farm	4.35	211	Pn	Pn	22 09 13.3	+0.9
OUZ	Omahuta	4.86	290	Pn	Pn	22 09 20.4	+0.9
OUZ	Omahuta	4.86	290	P	Pn	22 09 20.7	+1.2
DUWZ	D'Urville Isla	5.61	226	P	Pn	22 09 29.1	-0.6
NNZ	Nelson	6.19	225	Pn	Pn	22 09 39.3	+1.6
BSWZ	Blackbirch Sta	6.27	219	Pn	Pn	22 09 38.3	-0.4
QRZ	Quartz Range	6.46	232	Pn	Pn	22 09 42.4	+1.0
AS31	Alice Springs	40.92	276	P	P	22 15 50.2	+1.4
ASAR	Alice Springs	40.92	276	P	P	22 15 47.4	-1.5
	1.6nm,0.8s,baz=120,slow=8.0,SNR=10						
	1.6nm,0.8s						
ASAR	Alice Springs	40.92	276	P	P	22 15 48.7	-0.1
FORT	Forrest	42.48	263	P	P	22 16 00.8	-0.7
WB2	Warramunga Arr	42.51	281	P	P	22 16 00.1	-1.7
WB2				IAmb	IAmb	22 16 28.8	
	comp=Z,9.9nm,1.4s						
WRA	Warramunga Arr	42.52	281	P	P	22 15 59.7	-2.2
	comp=Z,0.5nm,0.3s,baz=124,slow=7.4,SNR=6.2						
	comp=Z,0.5nm,0.3s						
WRA	Warramunga Arr	42.52	281	P	P	22 16 00.0	-1.8
WB0	Warramunga Arr	42.57	281	P	P	22 16 00.6	-1.7
WB0				IAmb	IAmb	22 16 19.5	
	comp=Z,4.3nm,1.2s						
FITZ	Fitzroy Crossi	50.40	277	P	P	22 17 04.5	+0.7
FITZ				IAmb	IAmb	22 17 12.7	
	comp=Z,5.8nm,1.2s						
QSPA	South Pole Qui	53.14	180	P	P	22 17 25.6	+1.8
QSPA				IAmb	IAmb	22 17 27.0	
	comp=Z,7.5nm,1.4s						
PSA00	Pilbara Seismi	53.21	269	P	P	22 17 25.8	+1.1
ARCES	ARCESS Array B	144.41	344	PKP	PKPab	22 27 39.2	-0.4
	comp=Z,1.7nm,0.8s,baz=11,slow=0.9,SNR=3.6						
FINES	FINESS Array B	150.29	334	PKPbc	PKPbc	22 27 54.4	-2.1
	comp=Z,1.3nm,0.8s,baz=35,slow=5.1,SNR=6.4						

*IDC **09** 22:12:43.2±0.9,54.65S×30.71W,h0km,mb3.9/6, mbtmp4.0/6,MS3.0/1,Error ellipse: s-maj=43.1km s-min=20.1km az=61.0*
*NEIC **09** 22:12:46.1±1.7,54.8S±0.2×31.2W±0.3,h10km±2km, mb4.5/11,Error ellipse: s-maj=32.5km s-min=15.8km az=43.0*

ISC 09 22:12:44.8±0.7,54.7S±0.1×30.9W±0.1,h10km,n27, σ0.78/23,mb4.4/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.27	275		Pn	22 13 35.2	-0.9
VNA3	Neumayer Olymp	19.00	159	P	Pn	22 17 07.1	+0.1
VNA2	Neumayer--Watz	19.27	157	P	P	22 17 08.9	-0.2
	baz=313,slow=12						
SNAA	Sanae	20.86	155	P	P	22 17 25.8	-0.6
	1.0nm,0.5s,baz=270,slow=12,SNR=3.2						
	1.0nm,0.5s						
SNAA	Sanae	20.86	155	P	P	22 17 26.3	-0.1
PLTB	Pedras Altas	28.02	316	P	P	22 18 35.8	0.0
PLTB				IAmb	IAmb	22 18 38.5	
	comp=Z,17nm,1.5s						
CPUP	Villa Florida	34.33	315	P	P	22 19 31.1	-0.3
	comp=Z,2.4nm,0.7s,baz=180,slow=4.0,SNR=5.8						
	comp=Z,2.4nm,0.7s						
CPUP	Villa Florida	34.33	315	P	P	22 19 31.7	+0.3
CPUP				IAmb	IAmb	22 19 43.0	
	comp=Z,13nm,1.4s						
MT03	Universidad Ad	34.81	291	P	P	22 19 34.1	-1.5
MT09	Talagante	34.85	290	P	P	22 19 36.0	0.0
ROC1	El Roble	35.48	291	P	P	22 19 42.8	+1.3
ROC1				IAmb	IAmb	22 19 59.9	
	comp=Z,13nm,0.9s						
QSPA	South Pole Qui	35.56	180	P	P	22 19 42.3	+0.5
	comp=Z,4.1nm,1.0s,baz=210,slow=2.7,SNR=7.9						
	comp=Z,4.1nm,1.0s						
QSPA	South Pole Qui	35.56	180	P	P	22 19 42.7	+0.8
AC05	El Transito	38.32	296	P	P	22 20 05.9	+0.2
AC05				IAmb	IAmb	22 20 17.5	
	comp=Z,14nm,1.4s						
GO02	Mina Guanaco	40.97	300	P	P	22 20 29.5	+1.5
GO02				IAmb	IAmb	22 20 40.0	
	comp=Z,8.8nm,1.1s						
MAW	Mawson	42.49	146	P	P	22 20 39.5	0.0
	comp=Z,0.5nm,0.4s,baz=263,slow=17,SNR=1.7						
	comp=Z,0.5nm,0.4s						
LVC	Limon Verde	42.78	303	LR	LR	22 40 37.7	
	comp=Z,18nm,18.7s,baz=240,slow=39						
PB01	IPOC Station P	44.39	304	P	P	22 20 56.3	+0.9
PB01				IAmb	IAmb	22 20 57.4	
	comp=Z,6.0nm,0.9s						
LPAZ	La Paz	47.86	308	P	P	22 21 24.4	+0.9
	comp=Z,2.3nm,0.6s,baz=210,slow=6.6,SNR=13						
	comp=Z,2.3nm,0.6s						
LPAZ	La Paz	47.86	308	P	P	22 21 24.5	+1.1
LPAZ				IAmb	IAmb	22 21 25.3	
	comp=Z,2.5nm,0.6s						
H10N1	ASCENSION HYDR	48.54	22	T	T	23 13 51.4	
	baz=190						
H10N3	ASCENSION HYDR	48.54	22	T	T	23 13 56.8	
	baz=190						
H10N2	ASCENSION HYDR	48.56	22	T	T	23 13 57.5	
	baz=190						
TORD	Torodi Ar. Bea	73.00	33	P	P	22 24 14.3	-0.2
	comp=Z,0.6nm,0.6s,baz=202,slow=6.1,SNR=0.9						
	comp=Z,0.6nm,0.6s						
FINES	FINESS Array B	124.20	29	PKP	PKPdf	22 31 41.5	-0.6
	comp=Z,0.7nm,0.7s,baz=230,slow=3.5,SNR=3.9						
ILAR	Eielson Array	147.63	314	PKPbc	PKPbc	22 32 27.4	-0.5
	comp=Z,1.0nm,0.7s,baz=112,slow=0.9,SNR=8.5						
SONM	Songino Array	152.77	87	PKPbc	PKPbc	22 32 40.6	-0.4
	comp=Z,0.5nm,0.5s,baz=211,slow=1.7,SNR=3.9						

*VAO **09** 22:32:59.5±0.5,21.30S×68.95W,h153km±5km,mb4.0*
*IDC **09** 22:33:01.2±0.8,21.32S×68.16W,h113km±13km,mb3.7/1, mbtmp4.2/3,Error ellipse: s-maj=32.0km s-min=10.9km az=108.0*
*GUC **09** 22:33:01.5±0.7,21.20S×68.71W,h120km±5km,ML3.6*

ISC 09 22:32:59.9±0.7,21.17S±0.04×68.70W±0.07,h127km±8km, n41,σ1.960/57,7C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.74	279	i P	Pn	22 33 20.5	0.0
PB01				i S	Sn	22 33 35.3	-0.7
PB01				IAML		22 33 36.5	
	comp=N,2μm,0.3s						
PB09	IPOC Station P	0.81	219	i P	Pn	22 33 21.3	+0.2
PB09				i S	Sn	22 33 37.0	-0.1
PB09				IAML		22 33 39.3	
	comp=N,1μm,0.5s						
PB02	IPOC Station P	1.13	262	i P	Pn	22 33 24.4	+0.4
PB02				i S	Sn	22 33 41.5	-0.7
PB02				IAML		22 33 46.4	
	comp=E,2μm,0.2s						
PB07	IPOC Station P	1.24	243	i P	Pn	22 33 25.4	+0.3
PB07				i S	Sn	22 33 43.9	-0.5
PB07				IAML		22 33 47.1	
	comp=E,799nm,0.3s						
LVC	Limon Verde	1.45	188	P	Pn	22 33 27.8	+0.2
	comp=E,331nm,0.4s,baz=14,slow=10.0,SNR=856						
LVC			

INET ***09*** *22:36:19.6±1.4, 13°.19N×88°.77W, h101km±7km, MW4.2*
SNET ***09*** *22:36:20.2±0.8, 13°.21N×88°.75W, h95km±2km, ML4.6*
NEIC ***09*** *22:36:21.1±1.4, 13°.26N±0°.06×88°.71W±0°.06, h103km±8km, mb4.4/134, Md4.6(SNET), Error ellipse: s-maj=11.1km s-min=6.1km az=219.0*
GCG ***09*** *22:36:26.7±0.6, 13°.58N×89°.07W, h9km±52km, MD4.1*
IDC ***09*** *22:36:30.0±3.4, 13°.59N×88°.61W, h192km±33km, mb3.7/14, mbtmp4.3/15, MS3.2/6, Error ellipse: s-maj=22.7km s-min=11.5km az=52.0*

ISC 09 22:36:20.3±0.5, 13°.28N±0°.05×88°.72W±0°.04, h105km±4km, n232, σ0°96/262, mb4.3/64, 1C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SNVI	**San Vicente**	**0.35**	**340**	*eP*		**Pn**	**22 36 35.5**	**-0.5**
UESV	**Universidad de**	**0.36**	**349**	⇓*eP*		**Pn**	**22 36 35.1**	**-0.7**
UESV				*eS*		**Sn**	**22 36 47.1**	**-0.5**
UESV				IAML			22 36 49.6	
	comp=Z,7μm,0.3s							
COEG	**Centro de Oper**	**0.37**	**335**	*i* P		**Pn**	**22 36 35.1**	**-0.9**
COEG				*eS*		**Sn**	**22 36 46.8**	**-0.9**
COEG				IAML			22 36 48.4	
	comp=Z,23μm,0.3s							
PQSS	**Presa 15 de Se**	**0.37**	**24**	*eP*		**Pn**	**22 36 35.3**	**-0.6**
PQSS				*eS*		**Sn**	**22 36 47.2**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.42**	**359**	⇓*iP*		**Pn**	**22 36 35.9**	**-0.3**
SCLA				*eS*		**Sn**	**22 36 48.5**	**+0.3**
PACA	**Pacayal**	**0.43**	**64**	*eP*		**Pn**	**22 36 36.1**	**-0.2**
PACA				*eS*		**Sn**	**22 36 48.6**	**+0.2**
PACA	**Pacayal**	**0.43**	**64**	*eP*		**Pn**	**22 36 35.9**	**-0.4**
PACA				*eS*		**Sn**	**22 36 49.3**	**+1.0**
LCY	**Lacayo**	**0.43**	**71**	*iP*		**Pn**	**22 36 35.8**	**-0.6**
SJTE	**Alcalda de S**	**0.43**	**320**	*eP*		**Pn**	**22 36 35.5**	**-0.8**
SJTE				*eS*		**Sn**	**22 36 47.1**	**-1.3**
RANC	**El Ranchito**	**0.44**	**70**	*i* P		**Pn**	**22 36 35.8**	**-0.6**
RANC				*eS*		**Sn**	**22 36 48.2**	**-0.3**
VSM	**San Miguel**	**0.46**	**71**	⇓*iP*		**Pn**	**22 36 35.9**	**-0.8**
LFRS	**El Faro**	**0.48**	**315**	⇓*iP*		**Pn**	**22 36 35.7**	**-0.9**
PAVA	**Las Pavas**	**0.48**	**334**	⇓*iP*		**Pn**	**22 36 36.0**	**-0.7**
PAVA				*eS*		**Sn**	**22 36 48.3**	**-0.6**
LBRS	**Las Brisas**	**0.55**	**325**	*eP*		**Pn**	**22 36 36.9**	**-0.2**
CNRM	**Centro Naciona**	**0.57**	**70**	*eP*		**Pn**	**22 36 36.3**	**-0.8**
CNRM				*eS*		**Sn**	**22 36 49.8**	**0.0**
AEIL	**Aeropuerto Ilo**	**0.57**	**317**	*eP*		**Pn**	**22 36 36.9**	**-0.3**
AEIL				*eS*		**Sn**	**22 36 49.9**	**-0.1**
AEIL				IAML			22 36 54.9	
	comp=Z,21μm,0.4s							
LFU	**La Fuente**	**0.60**	**320**	*i* P		**Pn**	**22 36 36.9**	**-0.6**
IGN	**Direccin Gen**	**0.61**	**314**	*eP*		**Pn**	**22 36 37.0**	**-0.6**
UTEC	**Universidad Te**	**0.63**	**312**	*eP*		**Pn**	**22 36 37.1**	**-0.6**
UTEC				*eS*		**Sn**	**22 36 50.0**	**-0.8**
UESS	**Universidad de**	**0.64**	**313**	*eP*		**Pn**	**22 36 37.4**	**-0.4**
UESS				*eS*		**Sn**	**22 36 50.6**	**-0.3**
SNET	**Serv Nac Est T**	**0.64**	**309**			**Pn**	**22 36 37.2**	**-0.6**
SNET					Sn	**Sn**	**22 36 50.6**	**-0.4**
SNET	**Serv Nac Est T**	**0.64**	**309**	*eP*		**Pn**	**22 36 37.2**	**-0.6**
SNET				IAML			22 36 52.5	
	comp=Z,22μm,0.3s							
SNET	**Serv Nac Est T**	**0.64**	**309**	*eP*		**Pn**	**22 36 37.1**	**-0.7**
SNET				*eS*		**Sn**	**22 36 50.2**	**-0.8**
SEMO	**Seminario San**	**0.65**	**310**	*eP*		**Pn**	**22 36 37.3**	**-0.5**
UEES	**Universidad Ev**	**0.67**	**311**	*eP*		**Pn**	**22 36 37.4**	**-0.6**
UEES				*eS*		**Sn**	**22 36 50.8**	**-0.6**
UEES				IAML			22 36 53.8	
	comp=Z,10μm,0.5s							
ITCA	**Escuela Especi**	**0.67**	**306**	*eP*		**Pn**	**22 36 37.6**	**-0.4**
ITCA				*eS*		**Sn**	**22 36 51.2**	**-0.2**
P5NO	**Presa 5 de nov**	**0.70**	**357**	*iP*		**Pn**	**22 36 38.1**	**-0.2**
BOQS	**Boqueron**	**0.71**	**310**	*eP*		**Pn**	**22 36 38.2**	**-0.3**
LCND	**La Caada**	**0.81**	**88**	*eP*		**Pn**	**22 36 38.5**	**-0.6**
LCND				*eP*		**Pn**	**22 36 38.7**	**-0.5**
LCND				*eS*		**Sn**	**22 36 53.0**	**-0.4**
CNCH	**Conchagua**	**0.86**	**90**	⇓*iP*		**Pn**	**22 36 39.1**	**-0.7**
CNCH				*eP*		**Pn**	**22 36 39.1**	**-0.7**
LLGN	**La Laguna**	**0.90**	**346**	⇓*iP*		**Pn**	**22 36 40.4**	**+0.1**
LLGN				*eS*		**Sn**	**22 36 55.6**	**+0.3**
CEVE	**Cerro Verde**	**1.03**	**302**	*eP*		**Pn**	**22 36 42.0**	**+0.2**
CEVE				*eS*		**Sn**	**22 36 58.2**	**+0.3**
CEVE				IAML			22 37 01.6	
	comp=Z,15μm,0.4s							
SNJE	**San Jose**	**1.04**	**304**	*eP*		**Pn**	**22 36 41.6**	**-0.2**
RTR	**El Retiro**	**1.09**	**304**	*eP*		**Pn**	**22 36 42.3**	**0.0**
CSGN	**Cosiguina Volc**	**1.17**	**105**	*eP*		**Pn**	**22 36 41.8**	**-1.2**
SLOZ	**Alcaldia de Sa**	**1.27**	**306**	*eP*		**Pn**	**22 36 44.2**	**+0.1**
SLOZ				*eS*		**Sn**	**22 37 02.6**	**+0.3**
MTO3	**Montecristo**	**1.27**	**331**			**Pn**	**22 36 44.8**	**+0.4**
MTO3					Sn	**Sn**	**22 37 02.9**	**+0.3**
MTO3	**Montecristo**	**1.27**	**331**	⇓*iP*		**Pn**	**22 36 44.8**	**+0.4**
MTO3				*eS*		**Sn**	**22 37 03.6**	**+1.0**
MTO3	**Montecristo**	**1.27**	**331**	*eP*		**Pn**	**22 36 44.8**	**+0.4**
MTO3				*eS*		**Sn**	**22 37 03.0**	**+0.4**
ESQI	**Esquipulas**	**1.41**	**335**	Pn		**Pn**	**22 36 46.7**	**+0.8**
ESQI				Sn		**Sn**	**22 37 06.1**	**+0.9**
ESQI	**Esquipulas**	**1.41**	**335**	⇓*iP*		**Pn**	**22 36 46.8**	**+0.9**
ESQI				*eS*		**Sn**	**22 37 06.5**	**+1.3**
TGUH	**Tegucigalpa,Un**	**1.60**	**61**			**Pn**	**22 36 48.7**	**+0.6**
TGUH					Sn	**Sn**	**22 37 09.8**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.60**	**61**	*iP*		**Pn**	**22 36 48.8**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.60**	**61**	*eP*		**Pn**	**22 36 48.6**	**+0.4**
CRIN	**San Cristobal**	**1.73**	**109**			**Pn**	**22 36 49.6**	**-0.1**
CRIN					Sn	**Sn**	**22 37 12.8**	**+0.7**
CRIN	**San Cristobal**	**1.73**	**109**	*eP*		**Pn**	**22 36 49.5**	**-0.2**
CRIN				*eS*		**Sn**	**22 37 12.8**	**+0.7**
TEL3	**Telica 3**	**1.96**	**111**	*eP*		**Pn**	**22 36 51.5**	**-1.0**
MRL	**Marmol**	**2.02**	**332**	⇑*eP*		**Pn**	**22 36 55.7**	**+2.1**
NBG	**Las Nubes**	**2.05**	**310**	*eP*		**Pn**	**22 36 55.9**	**+2.0**
NBG				*eS*		**Sn**	**22 37 17.9**	**-1.7**
CNGN	**Cerro Negro**	**2.12**	**111**			**Pn**	**22 36 53.1**	**-1.5**
CNGN	**Cerro Negro**	**2.12**	**111**	*eP*		**Pn**	**22 36 52.7**	**-1.9**
PCG	**Pacaya**	**2.14**	**301**	*eP*		**Pn**	**22 36 56.6**	**+1.5**
MOMN	**Momotombo**	**2.29**	**112**	*eP*		**Pn**	**22 36 56.8**	**-0.1**
MOMN				*eS*		**Sn**	**22 37 24.9**	**-0.1**
COPN	**Copaltepe**	**2.34**	**118**	*eP*		**Pn**	**22 36 56.9**	**-0.6**
FUG	**Fuego 3**	**2.37**	**300**	*eP*		**Pn**	**22 36 59.7**	**+1.7**
MATN	**Matagalpa**	**2.74**	**97**			**Pn**	**22 37 02.7**	**-0.1**
BOAB	**BOACO BROADBAN**	**3.09**	**105**			**Pn**	**22 37 06.5**	**-0.9**
STG3	**Santiaguito 3,**	**3.11**	**298**	*eP*		**Pn**	**22 37 10.5**	**+2.7**
STG3				*eS*		**Sn**	**22 37 44.5**	**0.0**
RTAL	**Retalhuleu**	**3.14**	**293**	Pn		**Pn**	**22 37 08.7**	**+0.6**
HUEH	**Huehuetenango**	**3.38**	**307**	Pn		**Pn**	**22 37 12.8**	**+1.4**
ACON	**Acoyapa**	**3.70**	**110**			**Pn**	**22 37 16.1**	**+0.7**
PETF	**Flores**	**3.78**	**343**	Pn		**Pn**	**22 37 17.8**	**+1.2**
HZTE	**Horizontes, Gu**	**3.98**	**130**			**Pn**	**22 37 19.7**	**+0.3**
ORTG	**Ortega, Santa**	**4.31**	**132**			**Pn**	**22 37 24.3**	**+0.4**
CCIG	**Comitan**	**4.45**	**312**			**Pn**	**22 37 27.2**	**+1.4**
DUNO	**Dulce Nombre,**	**4.48**	**135**			**Pn**	**22 37 25.7**	**-0.4**
DUNO					Sn	**Sn**	**22 38 17.1**	**-0.1**
JTS	**Las Juntas de**	**4.74**	**128**			**Pn**	**22 37 30.2**	**+0.7**
COVE	**Coope Vega, Sa**	**4.93**	**121**	Pn		**Pn**	**22 37 31.9**	**-0.2**
CVTR	**Volcan Turrial**	**5.84**	**123**	Pn		**Pn**	**22 37 45.2**	**+0.4**
CVTR				Sn		**Sn**	**22 38 49.7**	**-1.0**
RIMA	**Rio Macho**	**5.90**	**126**	Pn		**Pn**	**22 37 46.0**	**+0.6**
RIMA				Sn		**Sn**	**22 38 52.1**	**+0.2**
PEZE	**Perez Zeledon,**	**6.28**	**128**	Pn		**Pn**	**22 37 50.6**	**+0.1**
SRBA	**San Rafael, Bu**	**6.62**	**127**	Pn		**Pn**	**22 37 55.7**	**+0.5**
SRBA				Sn		**Sn**	**22 39 09.1**	**-0.1**
DRK0	**Durika**	**6.69**	**126**	Sn		**Sn**	**22 39 11.9**	**+0.9**
TEIG	**Tepich**	**6.92**	**3**	Pn		**Pn**	**22 37 59.7**	**+0.7**
TLIG	**Tlapa**	**10.41**	**295**	Pn		**Pn**	**22 38 47.3**	**+0.7**
LCCY	**Blossom Villag**	**10.44**	**51**	Pn		**Pn**	**22 38 47.4**	**+0.5**
SOR	**Soroa**	**10.90**	**29**	Pn		**Pn**	**22 38 54.7**	**+1.5**
OTAV	**Otavalo**	**16.48**	**141**			**P**	**22 40 08.6**	**+2.1**
656A	**Willston**	**17.01**	**19**			**P**	**22 40 12.6**	**+0.8**
CHSH	**Refugio Sur-Vo**	**17.63**	**146**	P		**Pn**	**22 40 19.6**	**-0.4**
CHSH				IAmb	IAmb		22 40 25.9	
	comp=Z,34nm,1.4s							
PORT	**Chimborazo Vol**	**17.66**	**145**			**Pn**	**22 40 20.2**	**-0.1**
PORT				IAmb	IAmb		22 40 25.6	
	comp=Z,23nm,1.0s							
833A	**Chaparral WMA,**	**17.97**	**328**			**Pn**	**22 40 23.3**	**-0.1**
833A				IAmb	IAmb		22 40 25.4	
	comp=Z,15nm,0.7s							
346A	**Big Creek Wild**	**18.03**	**358**	P		**Pn**	**22 40 24.7**	**+0.6**
346A				IAmb	IAmb		22 40 48.8	
	comp=Z,19nm,0.8s							
344A	**Westbrook Farm**	**18.18**	**354**	P		**Pn**	**22 40 26.2**	**+0.3**
SDV	**Santo Domingo**	**18.27**	**102**	P		**Pn**	**22 40 28.2**	**+1.0**
	comp=Z,15nm,0.6s,baz=283,slow=6.2,SNR=6.7							
SDV	**Santo Domingo**	**18.27**	**102**	P		**Pn**	**22 40 26.7**	**-0.6**
SDV				IAmb	IAmb		22 40 29.1	
	comp=Z,18nm,0.7s							
342A	**Flagon Creek P**	**18.31**	**350**	P		**P**	**22 40 26.1**	**-0.1**
342A				IAmb	IAmb		22 40 31.3	
	comp=Z,26nm,0.8s							
352A	**Blakely**	**18.45**	**10**	P		**Pn**	**22 40 29.5**	**+0.5**
GRTK	**Grand Turk**	**18.66**	**62**	P		**Pn**	**22 40 31.4**	**-0.1**
TIGA	**Tifton**	**18.68**	**14**	P		**Pn**	**22 40 32.1**	**+0.4**
250A	**Grady**	**18.75**	**6**	P		**Pn**	**22 40 32.5**	**0.0**
250A				IAmb	IAmb		22 40 55.8	
	comp=Z,37nm,1.5s							
VBMS	**Vicksburg**	**18.92**	**355**	P		**Pn**	**22 40 35.1**	**+0.5**
BOSC	**San Juan Bosco**	**19.22**	**147**	P		**Pn**	**22 40 38.7**	**+0.2**
BOSC				IAmb	IAmb		22 40 40.9	
	comp=Z,23nm,1.2s							
146A	**Union**	**19.27**	**359**	P		**P**	**22 40 37.6**	**+1.0**
255A	**Hazlehurst**	**19.42**	**16**	P		**Pn**	**22 40 39.8**	**-0.7**
255A				IAmb	IAmb		22 40 41.5	
	comp=Z,25nm,1.1s							
152A	**Waverly Hall**	**19.64**	**10**	P		**Pn**	**22 40 42.6**	**-0.5**
152A				IAmb	IAmb		22 40 44.1	
	comp=Z,15nm,0.8s							
LRAL	**Lakeview Retre**	**19.73**	**4**	P		**Pn**	**22 40 43.5**	**-0.5**
Z47A	**Carrollton**	**19.84**	**2**	P		**P**	**22 40 44.0**	**+1.2**
Z47A				IAmb	IAmb		22 40 48.0	
	comp=Z,14nm,0.7s							
154A	**Montrose**	**19.92**	**14**	P		**P**	**22 40 44.8**	**+1.2**
JCT	**Junction City**	**19.94**	**331**	P		**P**	**22 40 44.2**	**+0.2**
Z51A	**Franklin**	**20.20**	**9**	P		Pn	22 40 48.7	-0.9
Y45A	**Yeager Farm, C**	**20.51**	**358**	P		**P**	**22 40 51.3**	**+1.4**
Y45A				IAmb	IAmb		22 40 54.1	
	comp=Z,11nm,0.8s							
Y49A	**Blount Mountai**	**20.59**	**5**	P		**P**	**22 40 52.0**	**+1.1**
GOGA	**Godfrey**	**20.60**	**13**	P		**P**	**22 40 52.4**	**+1.4**
WLAR	**White Oak Lake**	**20.70**	**350**	P		**P**	**22 40 52.8**	**+0.7**
WLAR				IAmb	IAmb		22 41 01.2	
	comp=Z,24nm,1.4s							
BAUV	**El Baul**	**20.74**	**100**			**P**	**22 40 52.1**	**-0.5**
BAUV				IAmb	IAmb		22 40 57.8	
	comp=Z,15nm,0.6s							
Y52A	**Lilburn**	**20.92**	**11**	P		**P**	**22 40 55.6**	**+1.1**
Y52A				IAmb	IAmb		22 40 58.4	
	comp=Z,11nm,0.8s							
Y52A						**pP**	**22 41 16.4**	**+1.5**
X48A	**Hartselle**	**21.13**	**4**	P		**P**	**22 40 56.7**	**0.0**
OXF	**Oxford**	**21.15**	**358**	P		**P**	**22 40 57.8**	**+1.0**
OXF				IAmb	IAmb		22 41 20.5	
	comp=Z,13nm,0.8s							
TXAR	**Lajitas Array**	**21.15**	**321**	P		**P**	**22 40 58.2**	**+1.1**
	comp=Z,3.2nm,0.6s,baz=138,slow=10,SNR=22							
TXAR				S		**S**	**22 44 40.5**	**-6.1**
	comp=Z,0.1nm,0.5s,baz=171,slow=26,SNR=1.9							
	comp=Z,3.2nm,0.6s							
TX31	**Lajitas Ar. Si**	**21.16**	**321**	P		**P**	**22 40 58.4**	**+1.2**
TX31				IAmb	IAmb		22 40 59.3	
	comp=Z,16nm,0.8s							
TX32	**Lajitas Array**	**21.16**	**321**	P		**P**	**22 40 58.2**	**+1.1**
NHSC	**New Hope**	**21.22**	**20**	P		**P**	**22 40 59.1**	**+1.5**
FPAL	**Fort Paine**	**21.35**	**7**	P		**P**	**22 40 59.7**	**+0.6**
FPAL				IAmb	IAmb		22 41 02.2	
	comp=Z,15nm,1.2s							
X51A	**Calhoun**	**21.48**	**9**	P		**P**	**22 41 01.9**	**+1.5**
X51A				IAmb	IAmb		22 41 08.7	
	comp=Z,16nm,1.2s							
PLAL	**Pickwick Lake**	**21.61**	**1**	P		**P**	**22 41 02.2**	**+0.4**
MIAR	**Mount Ida**	**21.62**	**349**	P		**P**	**22 41 02.6**	**+0.7**
UALR	**University of**	**21.65**	**352**	P		**P**	**22 41 03.0**	**+0.8**
UALR				IAmb	IAmb		22 41 05.9	
	comp=Z,11nm,0.8s							
HODGE	**Hodges**	**21.67**	**15**	P		**P**	**22 41 03.5**	**+1.1**
JSC	**Jenkinsville**	**21.98**	**17**	P		**P**	**22 41 06.4**	**+0.8**
JSC				IAmb	IAmb		22 41 08.5	
	comp=Z,15nm,0.9s							
SWET	**Sewanee**	**21.98**	**6**	P		**P**	**22 41 06.4**	**+0.6**
Y57A	**Sumter**	**21.99**	**19**	P		**P**	**22 41 07.2**	**+1.4**
X37A	**Clayton**	**22.05**	**345**	P		**P**	**22 41 07.4**	**+0.9**
X37A				IAmb	IAmb		22 41 09.6	
	comp=Z,23nm,1.4s							
WHAR	**Wooly Hollow**	**22.15**	**352**	P		**P**	**22 41 08.3**	**+0.8**
BG3	**Lake Jocassee**	**22.24**	**13**	P		**P**	**22 41 09.8**	**+1.3**
SJG	**San Juan**	**22.24**	**75**	LR		LR	22 50 14.6	
	comp=Z,27nm,18.5s,baz=254,slow=37							
PAULI	**Pauline**	**22.34**	**15**	P		**P**	**22 41 10.3**	**+0.9**
CPCT	**Cooper Cave**	**22.39**	**9**	P		**P**	**22 41 10.5**	**+0.4**
V48A	**Smith Brothers**	**22.43**	**4**	P		**P**	**22 41 11.1**	**+0.7**
HUMP	**Col San Antoni**	**22.53**	**75**	P		**P**	**22 41 12.5**	**+0.9**
BIRD	**Birdtown, Kers**	**22.55**	**18**	P		**P**	**22 41 12.4**	**+0.8**
BIRD				IAmb	IAmb		22 41 13.4	
	comp=Z,10nm,0.7s							
FCAR	**Ozark Folk Cen**	**22.72**	**353**	IAmb	IAmb		22 41 14.9	
	comp=Z,13nm,0.7s							
TKL	**Tuckaleechee C**	**22.72**	**10**	P		**P**	**22 41 13.7**	**+0.3**
	comp=Z,8.8nm,0.8s,baz=188,slow=12,SNR=20							
	comp=Z,8.8nm,0.8s							
TKL	**Tuckaleechee C**	**22.72**	**10**	IAmb	IAmb		22 41 15.4	
	comp=Z,11nm,0.9s							
ATAH	**Atahualpa**	**22.73**	**153**	P		**P**	**22 41 17.1**	**+3.0**
	comp=Z,6.1nm,0.7s,baz=313,slow=19,SNR=3.7							
	comp=Z,6.1nm,0.7s							
KMSC	**Kings Mountain**	**22.77**	**16**	P		**P**	**22 41 14.7**	**+0.9**
X34A	**Smith Ranch, M**	**22.78**	**340**	P		**P**	**22 41 14.8**	**+0.9**
X34A				IAmb	IAmb		22 41 16.1	
	comp=Z,11nm,0.6s							
LCAR	**Lake Charles**	**22.80**	**355**	P		**P**	**22 41 13.9**	**-0.2**
MTP	**Monte Pirata**	**22.80**	**75**	P		**P**	**22 41 13.9**	**-0.4**
MTP				IAmb	IAmb		22 41 18.1	
	comp=Z,28nm,1.3s							
CLTN	**Cedars of Leba**	**22.81**	**5**	P		**P**	**22 41 14.3**	**+0.1**
X58A	**Rowland**	**22.82**	**20**	P		**P**	**22 41 14.7**	**+0.4**
X58A				IAmb	IAmb		22 41 15.5	
	comp=Z,16nm,0.6s							
V52A	**Sevierville**	**22.93**	**11**	P		**P**	**22 41 16.0**	**+0.6**
W57A	**Gilead**	**23.16**	**18**	pP		pP	22 41 39.7	+0.7
WMOK	**Wichita Mounta**	**23.23**	**339**	P		**P**	**22 41 18.0**	**-0.2**
FNO	**Franklin**	**23.24**	**342**	P		**P**	**22 41 18.8**	**+0.4**
U49A	**Red Boiling Sp**	**23.28**	**6**	IAmb	IAmb		22 41 20.2	
	comp=Z,14nm,1.1s							
HHAR	**Hobbs**	**23.38**	**349**	P		**P**	**22 41 20.6**	**+1.0**
HHAR				IAmb	IAmb		22 41 21.9	
	comp=Z,7.8nm,0.7s							
TUL1	**Leonard**	**23.42**	**345**	P		**P**	**22 41 20.9**	**+1.0**
PBMO	**Poplar Bluff**	**23.45**	**357**	P		**P**	**22 41 18.0**	**-2.2**
RLO	**Rose Lookout**	**23.48**	**347**	P		**P**	**22 41 20.0**	**-0.5**
RLO				IAmb	IAmb		22 41 22.4	
	comp=Z,8.2nm,0.7s							
U38A	**Gravette**	**23.61**	**349**	P		**P**	**22 41 22.7**	**+1.0**
T47A	**Sharon Grove**	**23.65**	**3**	P		**P**	**22 41 21.7**	**-0.3**
T47A				IAmb	IAmb		22 41 22.4	
	comp=Z,15nm,0.8s							
PCRV	**Puerto La Cruz**	**23.78**	**95**	P		**P**	**22 41 24.1**	**+0.6**
	comp=Z,6.3nm,0.7s,baz=346,slow=8.3,SNR=1.6							
	comp=Z,6.3nm,0.7s							
MNTX	**Cornudas Mount**	**23.88**	**323**	P		**P**	**22 41 24.8**	**+0.6**
QUOK	**Quay**	**23.90**	**344**	P		**P**	**22 41 23.9**	**-0.4**
QUOK				IAmb	IAmb		22 41 24.7	
	comp=Z,11nm,0.6s							
U54A	**Nelsons Funny**	**23.96**	**14**	IAmb	IAmb		22 41 28.4	
	comp=Z,24nm,1.2s							
MGMO	**Mountain Grove**	**23.98**	**353**	P		**P**	**22 41 25.3**	**+0.2**
V58A	**Windy Hill, Pi**	**24.03**	**19**	P		**P**	**22 41 25.7**	**+0.3**
V58A				IAmb	IAmb		22 41 27.3	
	comp=Z,13nm,0.7s							
OK044	**Pawnee Station**	**24.11**	**344**	P		**P**	**22 41 26.3**	**+0.1**
U56A	**King**	**24.16**	**17**	P		**P**	**22 41 27.4**	**+0.8**
U56A				IAmb	IAmb		22 41 30.4	
	comp=Z,12nm,1.0s							
OK046	**Pawnee Station**	**24.16**	**344**	P		**P**	**22 41 27.2**	**+0.5**
OK046				IAmb	IAmb		22 41 28.2	
	comp=Z,9.1nm,0.6s							
OK048	**Pawnee Station**	**24.19**	**344**	P		**P**	**22 41 27.7**	**+0.8**
OK048				IAmb	IAmb		22 41 28.4	
	comp=Z,10nm,0.6s							
MSTX	**Muleshoe**	**24.24**	**331**	P		**P**	**22 41 27.3**	**-0.2**
MSTX				IAmb	IAmb		22 41 28.3	
	comp=Z,12nm,0.8s							
OK049	**E0420 Rd and N**	**24.29**	**343**	P		**P**	**22 41 27.0**	**-0.8**
S44A	**Carbondale**	**24.32**	**359**	P		**P**	**22 41 28.2**	**+0.2**
S44A				IAmb	IAmb		22 41 53.2	
	comp=Z,21nm,1.2s							
SIUC	**Southern Illin**	**24.34**	**359**	P		**P**	**22 41 27.6**	**-0.6**
SIUC				IAmb	IAmb		22 41 28.9	
	comp=Z,6.8nm,0.7s							
AMTX	**Amarillo**	**24.50**	**334**	P		**P**	**22 41 30.7**	**+0.9**
AMTX				IAmb	IAmb		22 41 31.5	
	comp=Z,7.3nm,0.7s							
BLOK	**Blackwell**	**24.59**	**343**	P		**P**	**22 41 30.3**	**-0.2**
BLOK				IAmb	IAmb		22 41 32.2	
	comp=Z,9.5nm,0.8s							
CCM	**Cathedral Cave**	**24.78**	**355**	P		**P**	**22 41 31.9**	**-0.3**
CCM				IAmb	IAmb		22 41 33.0	
	comp=Z,11nm,0.8s							
KAN13	**South Haven SW**	**24.90**	**343**	P		**P**	**22 41 34.7**	**+1.4**
OK032	**Salt Plains WL**	**24.92**	**342**	P		**P**	**22 41 33.5**	**-0.1**
OK032				IAmb	IAmb		22 41 34.0	
	comp=Z,15nm,1.1s							
WCI	**Wyandotte Cave**	**24.94**	**5**	P		**P**	**22 41 33.5**	**-0.2**
WCI				IAmb	IAmb		22 41 33.9	
	comp=Z,9.1nm,0.7s							
NOKA	**Waynoka**	**25.00**	**340**	P		**P**	**22 41 33.7**	**-0.6**
NOKA				IAmb	IAmb		22 41 35.4	
	comp=Z,36nm,0.8s							
KAN08	**Anthony NE Sta**	**25.24**	**342**	IAmb	IAmb		22 41 37.5	
	comp=Z,12nm,1.0s							
KAN12	**Harper NE Stat**	**25.32**	**342**	P		**P**	**22 41 36.3**	**-0.8**
KAN12				IAmb	IAmb		22 41 39.3	
	comp=Z,8.8nm,0.6s							
Q44A	**Meyer Farm, Va**	**25.52**	**359**	P		**P**	**22 41 37.7**	**-1.2**
Q44A				IAmb	IAmb		22 41 39.4	
	comp=Z,12nm,0.7s							
T59A	**Double "B" Far**	**25.62**	**21**	P		**P**	**22 41 39.6**	**-0.3**
Q51A	**Peebles**	**26.08**	**10**	P		**P**	**22 41 43.7**	**-0.3**
Q51A				IAmb	IAmb		22 41 44.8	
	comp=Z,7.4nm,0.8s							
CRNM	**Carthage**	**26.30**	**325**	P		**P**	**22 41 47.6**	**+1.3**
P40A	**Paris**	**26.31**	**354**	IAmb	IAmb		22 41 46.5	
	comp=Z,12nm,0.8s							
BNM	**Barren Site**	**26.38**	**325**	P		**P**	**22 41 48.0**	**+0.9**
Q54A	**Coxs Mills**	**26.54**	**14**	IAmb	IAmb		22 42 13.2	
	comp=Z,11nm,1.1s							
SBM	**South Baldy**	**26.57**	**324**	P		**P**	**22 41 48.5**	**-0.4**
P38A	**Dawn**	**26.58**	**352**	P		**P**	**22 41 48.4**	**-0.2**
P38A				IAmb	IAmb		22 42 12.9	
	comp=Z,6.3nm,0.8s							
LENM	**Lemitar**	**26.59**	**325**	P		**P**	**22 41 50.4**	**+1.5**
P52A	**Corning**	**26.89**	**11**	P		**P**	**22 41 50.5**	**-0.7**
P52A				IAmb	IAmb		22 41 51.9	
	comp=Z,12nm,1.2s							
P53A	**Whipple**	**26.89**	**13**	P		**P**	**22 41 51.5**	**+0.2**
Q56A	**Snyder Ridge,**	**27.01**	**16**	P		**P**	**22 41 53.5**	**+1.1**
Q56A				IAmb	IAmb		22 42 21.6	
	comp=Z,11nm,1.2s							
P57A	**Homestead Farm**	**27.76**	**18**			**P**	**22 41 59.6**	**+0.6**
P57A				IAmb	IAmb		22 42 00.7	
	comp=Z,8.6nm,0.7s			

TBP	**Tagbilaran**	**1.93 195**	⇑*eP*	Pn	22 39 41.1	-0.6
TBP			*i* S	Sb	22 40 10.6	+2.3
GUIM	**Jordan**	**1.98 242**	⇑*eP*	Pn	22 39 43.1	+0.7
CNOP	**Candoni, Negro**	**2.43 225**	⇑*eP*	Pn	22 39 48.4	-0.1
SNPH	**Sibulan**	**2.48 207**	⇓*iP*	Pn	22 39 49.6	+0.3
SNPH			*i* S	Sb	22 40 22.1	-1.9
CGP	**Cagayan de Oro**	**3.11 174**	⇑*eP*	Pb	22 40 07.6	+3.0
KCP	**Kidapawan**	**4.59 171**	⇑*eP*	Pn	22 40 20.8	+2.4

NOU ***09*** *22:40:22.2, 37.14S× 180.00E, h129km, ML4.6/8, Off E. Coast of N. Island, N.Z.*
IDC ***09*** *22:40:25.3± 2.6, 36.74S× 179.08E, h0km, mb4.2/3, mbtmp4.2/4, ML4.2/1, Error ellipse: s-maj=63.8km s-min=39.0km az=136.0*
NEIC ***09*** *22:40:27.6± 2.9, 37.40S± 0.08× 179.18E± 0.06, h10km± 1km, mb4.2/10, Error ellipse: s-maj=13.7km s-min=7.3km az=336.0*
WEL ***09*** *22:40:29.0± 1.0, 37.S± 4.× 17.9E± , h25km± 10km, M4.0/43, ML4.1/48, MLv4.0/43, Error ellipse: s-maj=0.0km s-min=0.0km az=86.8*

ISC 09 22:40:29.7± 2.0, 37.18S± 0.06× 179.17E± 0.08, h31km± 11km, n117, σ1§68/130, mb4.2/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.78**	**241**		**Pb**	**22 40 43.7**	**-1.1**
MXZ				S	**Sb**	**22 40 54.2**	**-1.0**
MXZ	**Matakaoa Point**	**0.78**	**241**	P	**Pb**	**22 40 43.8**	**-1.1**
MXZ				S	**Sb**	**22 40 55.5**	**+0.3**
WMGZ	**Waiomatatini S**	**0.87**	**223**	P	**Pb**	**22 40 47.4**	**+1.0**
WMGZ				S	**Sn**	**22 41 00.9**	**+3.4**
PKGZ	**Pakihiroa**	**1.12**	**230**	P	**Pb**	**22 40 50.6**	**+0.1**
PKGZ				S	**Sb**	**22 41 06.8**	**+2.1**
PUZ	**Puketiti**	**1.15**	**219**	P	**Pb**	**22 40 51.0**	**0.0**
PUZ				S	**Sb**	**22 41 07.5**	**+2.0**
HAZ	**Te Kaha**	**1.24**	**242**	P	**Pn**	**22 40 50.7**	**-0.2**
HAZ				S	**Sb**	**22 41 10.0**	**+1.8**
TWGZ	**Tauwhareparae**	**1.37**	**223**	P	**Pb**	**22 40 54.3**	**-0.5**
TWGZ				S	**Sb**	**22 41 13.9**	**+2.0**
RUGZ	**Raukumara Rang**	**1.42**	**236**	P	**Pb**	**22 40 55.2**	**-0.5**
RUGZ				S	**Sb**	**22 41 14.8**	**+1.4**
CNGZ	**Carnagh Statio**	**1.51**	**210**	P	**Pb**	**22 40 56.4**	**-0.6**
WIZ	**White Island**	**1.61**	**257**	P	**Pb**	**22 40 57.0**	**-1.8**
TKGZ	**Te Karaka**	**1.63**	**219**	P	**Pb**	**22 40 57.6**	**-1.6**
MWZ	**Matawai**	**1.73**	**228**	P	**Pb**	**22 40 59.3**	**-1.6**
MWZ				S	**Sb**	**22 41 21.4**	**-1.0**
WHRZ	**Whale Island**	**1.87**	**248**	P	**Pb**	**22 41 01.4**	**-1.8**
RIGZ	**Rimuhau**	**1.88**	**216**	P	**Pn**	**22 41 01.0**	**+1.2**
URZ	**Urewera**	**1.95**	**236**	Pn	**Pb**	**22 41 02.3**	**-2.3**
	69nm,0.3s,baz=211,slow=1.4,SNR=123						
URZ				Sn	**Sb**	**22 41 26.9**	**-1.6**
	105nm,0.3s,baz=211,slow=21,SNR=29						
	262nm,0.6s						
URZ	**Urewera**	**1.95**	**236**		**Pb**	**22 41 02.4**	**-2.3**
URZ				Sn	**Sn**	**22 41 25.8**	**+1.6**
URZ	**Urewera**	**1.95**	**236**	P	**Pb**	**22 41 02.3**	**-2.3**
URZ				S	**Sn**	**22 41 25.3**	**+1.1**
URZ	**Urewera**	**1.95**	**236**	P	**Pb**	**22 41 02.5**	**-2.1**
EDRZ	**Edgecumbe**	**2.14**	**244**	P	**Pb**	**22 41 05.4**	**-2.4**
SNGZ	**Shannon Statio**	**2.15**	**222**	P	**Pn**	**22 41 04.5**	**+0.9**
OPRZ	**Ohinepanea**	**2.18**	**252**	P	**Pn**	**22 41 04.6**	**+0.7**
OPRZ				S	**Sn**	**22 41 30.5**	**+0.7**
KNZ	**Kokohu**	**2.18**	**212**	P	**Pn**	**22 41 04.2**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.21**	**206**	P	**Pn**	**22 41 05.0**	**+0.8**
MUGZ	**Murupara**	**2.30**	**235**	P	**Pn**	**22 41 07.1**	**+1.6**
MYRZ	**Mayor Island**	**2.34**	**267**	P	**Pn**	**22 41 07.0**	**+1.0**
TGRZ	**Tauranga**	**2.38**	**256**	P	**Pn**	**22 41 07.6**	**+1.1**
RAHZ	**Arahi**	**2.39**	**223**	P	**Pn**	**22 41 07.7**	**+1.0**
RAHZ				S	**Sn**	**22 41 36.9**	**+1.9**
RRRZ	**Republican Roa**	**2.40**	**240**	P	**Pb**	**22 41 09.5**	**-2.7**
OMRZ	**Omania**	**2.40**	**247**	P	**Pb**	**22 41 09.2**	**-3.1**
WHHZ	**Waihua**	**2.43**	**218**	P	**Pn**	**22 41 08.7**	**+1.4**
WHHZ				S	**Sn**	**22 41 38.8**	**+2.8**
KARZ	**Kaharoa**	**2.47**	**249**	P	**Pn**	**22 41 09.4**	**+1.6**
MTHZ	**Maungataniwha**	**2.48**	**227**	P	**Pn**	**22 41 09.1**	**+1.1**
PRRZ	**Plateau Road**	**2.56**	**238**	P	**Pn**	**22 41 10.8**	**+1.7**
ALRZ	**Allen Road**	**2.62**	**237**	P	**Pn**	**22 41 11.5**	**+1.5**
KMRZ	**Kaimai**	**2.65**	**254**	P	**Pn**	**22 41 11.4**	**+1.1**
NMHZ	**Naumai**	**2.67**	**223**	P	**Pn**	**22 41 11.7**	**+1.1**
ARHZ	**Aropaoanui**	**2.69**	**219**	P	**Pn**	**22 41 11.6**	**+0.7**
BKZ	**Black Stump Fm**	**2.89**	**226**		**Pn**	**22 41 14.4**	**+0.7**
BKZ				Sn	**Sn**	**22 41 49.0**	**+1.6**
BKZ	**Black Stump Fm**	**2.89**	**226**	P	**Pn**	**22 41 14.6**	**+0.9**
BKZ	**Black Stump Fm**	**2.89**	**226**	P	**Pn**	**22 41 14.6**	**+0.9**
TOZ	**Tahuroa Road**	**2.97**	**258**	P	**Pn**	**22 41 14.4**	**-0.3**
MCHZ	**McNeill Hill**	**2.98**	**220**	P	**Pn**	**22 41 15.3**	**+0.5**
TLZ	**Tolley Road**	**3.10**	**247**	P	**Pn**	**22 41 18.6**	**+2.1**
KWHZ	**Kaweka Forest**	**3.11**	**223**	P	**Pn**	**22 41 17.0**	**+0.3**
GRZ	**Great Barrier**	**3.12**	**286**	P	**Pn**	**22 41 17.6**	**+0.9**
KAHZ	**Kahuranaki**	**3.17**	**214**	P	**Pn**	**22 41 17.2**	**+0.3**
MKAZ	**Moumakai**	**3.20**	**270**	P	**Pn**	**22 41 17.5**	**-0.3**
WIAZ	**Waiheke Island**	**3.25**	**276**	P	**Pn**	**22 41 18.5**	**-0.1**
KRHZ	**Kereru**	**3.30**	**221**	P	**Pn**	**22 41 19.1**	**-0.2**
BHHZ	**Black Hill Sta**	**3.36**	**226**	P	**Pn**	**22 41 20.6**	**+0.5**
OTVZ	**Oturere**	**3.40**	**233**	P	**Pn**	**22 41 21.2**	**+0.5**
ETAZ	**East Tamaki Re**	**3.40**	**273**	P	**Pn**	**22 41 20.5**	**-0.1**
SNVZ	**South Ngauruho**	**3.42**	**233**	P	**Pn**	**22 41 21.8**	**+0.6**
MBAZ	**Motutapu North**	**3.44**	**276**	P	**Pn**	**22 41 21.7**	**+0.5**
MOVZ	**Moawhango**	**3.49**	**229**	P	**Pn**	**22 41 22.3**	**+0.4**
TWVZ	**Taurewa**	**3.49**	**236**	P	**Pn**	**22 41 24.0**	**+2.0**
WHVZ	**Whangaehu Hut**	**3.51**	**232**	P	**Pn**	**22 41 23.1**	**+0.7**
FWVZ	**Far West T-bar**	**3.52**	**233**	P	**Pn**	**22 41 23.2**	**+0.8**
ABAZ	**Army Bay**	**3.52**	**278**	P	**Pn**	**22 41 23.6**	**+1.3**
WNVZ	**Wahianoa**	**3.53**	**232**	P	**Pn**	**22 41 23.0**	**+0.4**
HBAZ	**Herne Bay Bore**	**3.56**	**274**	P	**Pn**	**22 41 23.0**	**+0.1**
WPHZ	**Waipukurau**	**3.58**	**216**	P	**Pn**	**22 41 22.4**	**-0.8**
PNHZ	**Pukenui**	**3.58**	**220**	P	**Pn**	**22 41 22.4**	**-0.8**
AWAZ	**Awhitu Peninsu**	**3.62**	**270**	P	**Pn**	**22 41 24.1**	**+0.5**
HIZ	**Hauiti**	**3.66**	**247**	Pn	**Pn**	**22 41 26.3**	**+2.1**
HIZ	**Hauiti**	**3.66**	**247**	P	**Pn**	**22 41 26.5**	**+2.3**
HIZ	**Hauiti**	**3.66**	**247**	P	**Pn**	**22 41 26.5**	**+2.3**
RVAZ	**Riverhead Bore**	**3.69**	**275**	P	**Pn**	**22 41 25.6**	**+1.0**
TSZ	**Takapari Road**	**3.81**	**220**	P	**Pn**	**22 41 25.5**	**-0.9**
WCZ	**Waipu Caves**	**4.07**	**286**	P	**Pn**	**22 41 31.3**	**+1.5**
WAZ	**Wanganui**	**4.17**	**231**	P	**Pn**	**22 41 32.5**	**+1.3**
BFZ	**Birch Farm**	**4.17**	**212**	Pn	**Pn**	**22 41 29.5**	**-1.8**
BFZ	**Birch Farm**	**4.17**	**212**	P	**Pn**	**22 41 29.6**	**-1.6**
PRWZ	**Pori Road**	**4.19**	**216**	P	**Pn**	**22 41 30.6**	**-0.9**
NEZ	**North Egmont**	**4.50**	**241**	P	Pn	22 41 40.9	+5.0
PKE	**Pukeiti**	**4.55**	**242**	P	**Pn**	**22 41 40.5**	**+4.0**
OUZ	**Omahuta**	**4.91**	**292**		**Pn**	**22 41 42.2**	**+0.8**
OUZ	**Omahuta**	**4.91**	**292**	P	**Pn**	**22 41 42.2**	**+0.8**
OUZ	**Omahuta**	**4.91**	**292**	P	**Pn**	**22 41 42.3**	**+0.9**
MSWZ	**Moikau Station**	**5.21**	**214**	Pn	**Pn**	**22 41 42.1**	**-3.4**
MSWZ					**Sn**	**22 42 40.5**	**-4.0**
PLWZ	**Palliser**	**5.33**	**213**		**Sn**	**22 42 43.8**	**-3.6**
TUWZ	**Tuamarina**	**5.87**	**222**		**Sn**	**22 42 56.6**	**-4.1**
QRZ	**Quartz Range**	**6.32**	**233**	Pn	**Pn**	**22 41 59.0**	**-1.8**
QRZ	**Quartz Range**	**6.32**	**233**	P	**Pn**	**22 41 59.9**	**-0.9**
THZ	**Tophouse**	**6.66**	**225**	Pn	**Pn**	**22 42 03.4**	**-2.1**
THZ					**Sn**	**22 43 17.0**	**-3.3**
KHZ	**Kahutara**	**6.79**	**218**	Pn	**Pn**	**22 42 08.0**	**+0.8**
KHZ	**Kahutara**	**6.79**	**218**	P	**Pn**	**22 42 06.3**	**-0.8**
LTZ	**Lake Taylor**	**7.70**	**221**	Pn	**Pn**	**22 42 17.8**	**-1.9**
MQZ	**McQueen's Vall**	**8.19**	**215**	Pn	**Pn**	**22 42 23.6**	**-2.8**
OXZ	**Oxford**	**8.21**	**219**	Pn	**Pn**	**22 42 24.3**	**-2.4**
RAO	**Raoul Island**	**8.28**	**18**	Pn	Pn	22 42 36.3	+8.7
RPZ	**Rata Peaks**	**8.99**	**221**	Pn	**Pn**	**22 42 34.7**	**-2.6**
	0.7nm,0.3s,baz=288,slow=20,SNR=1.4						
RPZ				Sn	Sn	22 44 07.5	-10
	4.1nm,0.3s,baz=155,slow=22,SNR=17						
RPZ	**Rata Peaks**	**8.99**	**221**	Pn	**Pn**	**22 42 34.6**	**-2.7**
RPZ	**Rata Peaks**	**8.99**	**221**	P	**Pn**	**22 42 34.7**	**-2.6**
FOZ	**Fox Glacier**	**9.54**	**225**	Pn	**Pn**	**22 42 44.2**	**-0.7**
LBZ	**Lake Benmore**	**9.90**	**221**	Pn	**Pn**	**22 42 48.1**	**-1.8**
ODZ	**Otahua Downs**	**10.15**	**217**	Pn	**Pn**	**22 42 50.3**	**-2.9**
MLZ	**Mavora Lakes**	**11.65**	**222**	Pn	**Pn**	**22 43 14.7**	**+0.9**
WHZ	**Wether Hill Ro**	**12.09**	**220**	Pn	**Pn**	**22 43 20.2**	**+0.5**
BBOO	**Buckleboo**	**35.36**	**264**	P	**P**	**22 47 22.3**	**-0.1**
AS31	**Alice Springs**	**40.92**	**276**	P	**P**	**22 48 09.1**	**-0.4**
AS31				IAmb	IAmb	22 48 09.7	
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**40.92**	**276**	P	**P**	**22 48 08.8**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=118,slow=8.0,SNR=40						
	comp=Z,2.2nm,0.6s						
VNDA	**Vanda**	**41.13**	**186**	P	**P**	**22 48 12.6**	**+2.2**
WR0	**Warramunga Arr**	**42.36**	**281**	P	**P**	**22 48 20.5**	**-0.7**
WR0				IAmb	IAmb	22 48 35.4	
	comp=Z,5.4nm,1.3s						
FORT	**Forrest**	**42.44**	**263**	P	**P**	**22 48 20.9**	**-0.8**
WB2	**Warramunga Arr**	**42.52**	**281**	P	**P**	**22 48 21.9**	**-0.6**
WB2				IAmb	IAmb	22 48 24.9	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**42.53**	**281**	P	**P**	**22 48 21.4**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=121,slow=7.6,SNR=22						
	comp=Z,1.6nm,0.4s						
WRA	**Warramunga Arr**	**42.53**	**281**	P	**P**	**22 48 21.8**	**-0.8**
WB0	**Warramunga Arr**	**42.58**	**281**	P	**P**	**22 48 22.3**	**-0.7**
WB0				IAmb	IAmb	22 48 22.9	
	comp=Z,3.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.40**	**277**	P	**P**	**22 49 23.3**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=123,slow=6.2,SNR=11						
	comp=Z,2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.40**	**277**	P	**P**	**22 49 24.1**	**-0.3**
FITZ				IAmb	IAmb	22 49 37.8	
	comp=Z,7.5nm,1.4s						
QSPA	**South Pole Qui**	**52.95**	**180**	P	**P**	**22 49 46.8**	**+3.9**
QSPA				IAmb	IAmb	22 50 03.9	
	comp=Z,3.5nm,1.1s						
H03N3	**Juan Fernandez**	**78.91**	**124**	T	T	00 19 15.9	
	baz=234,slow=72						
H03N2	**Juan Fernandez**	**78.91**	**124**	T	T	00 18 55.8	
	baz=234,slow=72						
H03N1	**Juan Fernandez**	**78.92**	**124**	T	T	00 19 01.1	
	baz=234,slow=72						
ARCES	**ARCESS Array B**	**144.59**	**344**	PKP	**PKPdf**	**23 00 00.9**	**-1.2**
	comp=Z,4.8nm,1.0s,baz=35,slow=3.3,SNR=4.7						
FINES	**FINESS Array B**	**150.45**	**334**	PKPbc	**PKiKP**	**23 00 16.7**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=45,slow=2.4,SNR=6.0						

IDC ***09*** *22:46:28.7± 1.6, 2.37S× 140.36E, h0km, mb3.7/8, mbtmp3.8/9, ML3.8/1, MS3.5/8, Error ellipse: s-maj=53.1km s-min=21.1km az=96.0*
NEIC ***09*** *22:46:44.7± 1.5, 3.5S± 0.1× 140.30E± 0.07, h35km± 2km, mb4.2/13, Error ellipse: s-maj=20.1km s-min=8.7km az=206.0*

ISC 09 22:46:44.0± 0.8, 3.46S± 0.08× 140.32E± 0.08, h39km, n41, σ1§50/23, mb3.8/10, MS3.9/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**8.08**	**274**	Pn	**Pn**	**22 48 38.0**	**-0.8**
PMG	**Port Moresby**	**9.00**	**131**	LR	LR	22 53 44.9	
	comp=Z,160nm,20.4s,baz=16,slow=45						
PMG	**Port Moresby**	**9.00**	**131**	Pn	**Pn**	**22 48 50.6**	**-0.9**
SIJI	**Sorong**	**9.41**	**286**	LR	LR	22 52 27.6	
	comp=Z,115nm,19.1s,baz=106,slow=39						
COEN	**Coen**	**10.81**	**165**	Pn	**Pn**	**22 49 13.7**	**-2.6**
RABL	**Rabaul**	**11.84**	**94**	Pn	**Pn**	**22 49 28.4**	**-1.9**
MTN	**Manton Dam**	**13.02**	**224**	Pn	**Pn**	**22 49 45.6**	**-1.0**
KNRA	**Kununurra**	**16.64**	**222**	Pn	**Pn**	**22 50 34.5**	**+0.1**
KNRA				IAmb	IAmb	22 50 36.8	
	comp=Z,9.4nm,0.7s						
WB0	**Warramunga Arr**	**17.21**	**199**	P	**P**	**22 50 43.5**	**+0.7**
WB0				IAmb	IAmb	22 50 55.4	
	comp=Z,3.5nm,0.6s						
WR0	**Warramunga Arr**	**17.35**	**199**		**P**	**22 50 44.5**	**+0.2**
WR0				IAmb	IAmb	22 51 08.6	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**17.39**	**199**		**P**	**22 50 45.1**	**+0.3**
WRA	**Warramunga Arr**	**17.40**	**199**	P	**P**	**22 50 46.3**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=21,slow=12,SNR=11						
WRA				S	**Sn**	**22 53 59.4**	**+2.8**
	comp=Z,1.8nm,1.1s,baz=21,slow=22,SNR=2.9						
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**17.40**	**199**	P	**P**	**22 50 45.1**	**+0.3**
CTA	**Charters Tower**	**17.52**	**161**	LR	LR	22 57 44.1	
	comp=Z,95nm,21.5s,baz=12,slow=36						
DAV	**Davao City (W)**	**18.05**	**305**	LR	LR	22 56 54.2	
	comp=Z,33nm,18.6s,baz=132,slow=36						
FITZ	**Fitzroy Crossi**	**20.46**	**224**	P	**P**	**22 51 16.8**	**-1.6**
	comp=Z,4.1nm,1.0s,baz=57,slow=8.6,SNR=6.5						
FITZ				S	**S**	**22 55 03.4**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=60,slow=8.1,SNR=1.6						
	comp=Z,4.1nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.46**	**224**	P	**P**	**22 51 18.0**	**-0.4**
FITZ				IAmb	IAmb	22 51 27.5	
	comp=Z,8.7nm,1.3s						
AS31	**Alice Springs**	**21.03**	**197**	P	**P**	**22 51 25.5**	**+1.0**
ASAR	**Alice Springs**	**21.03**	**197**	P	**P**	**22 51 25.1**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=27,slow=9.7,SNR=18						
	comp=Z,3.1nm,0.8s						
EIDS	**Eidsvold**	**24.12**	**156**	P	**P**	**22 51 59.0**	**+2.8**
EIDS				IAmb	IAmb	22 52 11.7	
	comp=Z,30nm,1.5s						
KKM	**Kota Kinabalu**	**25.86**	**291**	P	**P**	**22 52 13.3**	**+1.0**
BBOO	**Buckleboo**	**29.48**	**187**	P	**P**	**22 52 44.6**	**+0.2**
BBOO				IAmb	IAmb	22 52 54.3	
	comp=Z,23nm,1.5s						
DZM	**Mont Dzumac**	**31.38**	**128**	LR	LR	23 04 11.4	
	comp=Z,101nm,18.2s,baz=203,slow=33						
OUENC	**Ouen Island, N**	**31.88**	**129**	P	**P**	**22 53 07.7**	**+2.0**
H11S3	**WAKE ISLAND Hy**	**33.91**	**49**	T	T	23 28 13.5	
	baz=231,slow=75,SNR=135						
H11S2	**WAKE ISLAND Hy**	**33.92**	**49**	T	T	23 28 11.2	
	baz=231,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hy**	**33.93**	**49**	T	T	23 28 15.8	
	baz=231,slow=75,SNR=82						
H11N1	**WAKE ISLAND Hy**	**34.81**	**48**	T	T	23 29 14.8	
	baz=233,slow=75,SNR=35						
H11N2	**WAKE ISLAND Hy**	**34.83**	**48**	T	T	23 29 17.8	
	baz=233,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**34.83**	**48**	T	T	23 29 18.0	
	baz=233,slow=75,SNR=40						
JHJ	**Hachijo jima 2**	**36.38**	**359**	LR	LR	23 05 08.1	
	comp=Z,481nm,19.9s,baz=38,slow=32						
JTU	**Tsushima**	**39.15**	**346**	P	**P**	**22 54 08.2**	**+0.2**
ENH	**Enshi**	**44.65**	**321**	P	**P**	**22 54 53.4**	**+0.3**
ENH				IAmb	IAmb	22 54 55.2	
	comp=Z,6.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**46.20**	**300**	P	P	22 54 52.4	-13
	comp=Z,0.7nm,0.8s,baz=120,slow=6.3,SNR=5.6						
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**71.36**	**322**	P	P	22 57 44.2	-16
	comp=Z,0.9nm,0.7s,baz=110,slow=7.4,SNR=9.2						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**73.39**	**329**	P	P	22 57 57.0	-15
	comp=Z,0.3nm,0.3s,baz=149,slow=6.4,SNR=2.3						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**75.26**	**325**	P	P	22 58 09.2	-14
	comp=Z,0.3nm,0.7s,baz=112,slow=5.0,SNR=3.2						
	comp=Z,0.3nm,0.7s						
BVAR	**Borovoye Array**	**80.84**	**325**	P	P	22 58 40.8	-13
	comp=Z,0.5nm,0.6s,baz=128,slow=9.3,SNR=5.6						
	comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**85.84**	**24**	P	P	22 59 05.2	-14
	comp=Z,0.4nm,0.6s,baz=267,slow=5.4,SNR=3.3						
	comp=Z,0.4nm,0.6s						
AKTO	**Akkyubinsk**	**87.74**	**321**	LR	LR	23 40 60.0	
	comp=Z,52nm,18.4s,baz=6.2,slow=38						
ARU	**Arti**	**88.30**	**327**	LR	LR	23 41 51.8	
	comp=Z,35nm,18.2s,baz=327,slow=38						

NEIC ***09*** *22:51:28.2± 1.0, 36.095N± 0.008× 96.745W± 0.009, h5km± 1km, mb_Lg3.1/81, Error ellipse: s-maj=2.8km s-min=1.4km az=89.0*
ANF ***09*** *22:51:28.7± 0.2, 36.12N× 96.72W, h5km, ML3.6/12, Error ellipse: s-maj=2.4km s-min=2.0km az=168.0*

ISC 09 22:51:28.6± 0.9, 36.10N± 0.02× 96.74W± 0.02, h7km± 6km, n111, σ0§64/97, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.08**	**17**	Pg	**Pg**	**22 51 30.3**	**-0.3**
QUOK				Sg	**Sg**	**22 51 31.8**	**-0.2**
OK034	**N. Norfolk Rd.**	**0.09**	**168**	Pg	**Pg**	**22 51 30.2**	**-0.6**
OK034				Sg	**Sg**	**22 51 31.7**	**-0.4**
OK031	**S. Brethren Rd**	**0.17**	**210**	Pg	**Pg**	**22 51 31.7**	**-0.4**
OK031				Sg	**Sg**	**22 51 34.1**	**-0.2**
OK033	**Mehan**	**0.17**	**252**	Pg	**Pg**	**22 51 31.7**	**-0.4**
OK033				Sg	**Sg**	**22 51 34.3**	**-0.2**
OK030	**Cody Creek RV**	**0.17**	**193**	Pg	**Pg**	**22 51 31.8**	**-0.4**
OK030				Sg	**Sg**	**22 51 34.4**	**-0.2**
OK044	**Pawnee Station**	**0.28**	**350**	Pg	**Pg**	**22 51 33.9**	**-0.2**
OK044				Sg	**Sg**	**22 51 37.9**	**0.0**
DEOK	**Depew**	**0.32**	**143**	Pg	**Pg**	**22 51 34.6**	**-0.3**
DEOK				Sg	**Sg**	**22 51 39.0**	**-0.2**
OK046	**Pawnee Station**	**0.33**	**335**	Pg	**Pg**	**22 51 34.8**	**-0.3**
OK046				Sg	**Sg**	**22 51 39.4**	**0.0**
OK048	**Pawnee Station**	**0.36**	**332**	Pg	**Pg**	**22 51 35.3**	**-0.3**
OK048				Sg	**Sg**	**22 51 40.3**	**-0.2**
OK047	**Pawnee, Statio**	**0.37**	**2**	Pg	**Pg**	**22 51 35.6**	**-0.2**
OK047				Sg	**Sg**	**22 51 40.9**	**+0.1**
OK045	**Pawnee Station**	**0.38**	**336**	Pg	**Pg**	**22 51 35.8**	**-0.3**
OK045				Sg	**Sg**	**22 51 41.1**	**0.0**
OK049	**E0420 Rd and N**	**0.55**	**304**	Pg	**Pg**	**22 51 38.9**	**-0.4**
OK049				Sg	**Sg**	**22 51 46.3**	**-0.3**
OK005	**Luther M Schoo**	**0.58**	**220**	Pg	**Pg**	**22 51 39.2**	**-0.5**
OK005				Sg	**Sg**	**22 51 47.3**	**0.0**
OK011	**Prague**	**0.61**	**176**	Pg	**Pg**	**22 51 40.0**	**-0.4**
OK011				Sg	**Sg**	**22 51 48.5**	**0.0**
OK029	**Liberty Lake**	**0.66**	**243**	Pg	**Pg**	**22 51 40.8**	**-0.5**
OK029				Sg	**Sg**	**22 51 49.8**	**0.0**
OK025	**Westminster Rd**	**0.71**	**224**	Pg	**Pg**	**22 51 41.6**	**-0.7**
OK025				Sg	**Sg**	**22 51 51.5**	**-0.1**
OK009	**Oakdale Elemen**	**0.76**	**227**		**Pg**	**22 51 42.6**	**-0.6**
OK009				Sg	**Sg**	**22 51 53.1**	**-0.1**
BLOK	**Blackwell**	**0.77**	**330**	Pg	**Pg**	**22 51 42.8**	**-0.6**
BLOK				Sg	**Sg**	**22 51 53.4**	**+0.1**
TUL1	**Leonard**	**0.79**	**103**	Pg	**Pg**	**22 51 43.0**	**-0.7**
TUL1	**Leonard**	**0.79**	**103**	P	**Pg**	**22 51 43.1**	**-0.7**
	baz=284,SNR=135						
TUL1				S	**Sg**	**22 51 53.6**	**-0.4**
	baz=284						
BCOK	**Bluff Creek, N**	**0.83**	**238**	Pg	**Pg**	**22 51 43.9**	**-0.8**
T35A	**Sooner Cattle**	**0.84**	**12**		**Pg**	**22 51 44.2**	**-0.6**
T35B	**Sooner Cattle**	**0.84**	**12**	P	**Pg**	**22 51 44.1**	**-0.6**
	baz=193,SNR=327						
T35B				S	**Sg**	**22 51 55.1**	**-0.5**
	baz=193						
OKCSW	**OKLAHOMA CITY**	**0.90**	**220**	Pg	**Pg**	**22 51 44.8**	**-1.1**
FNO	**Franklin**	**1.00**	**213**	Pg	**Pg**	**22 51 46.5**	**-1.4**
CROK	**Carrier**	**1.09**	**292**		**Pg**	**22 51 48.6**	**-0.9**
KAN13	**South Haven SW**	**1.09**	**327**		**Pg**	**22 51 48.8**	**-0.8**
GC02	**Grant County #**	**1.18**	**310**		**Pg**	**22 51 50.3**	**-1.0**
KAN09	**Caldwell North**	**1.26**	**326**		**Pg**	**22 51 51.7**	**-1.0**
KAN17	**Caldwell West**	**1.26**	**319**		**Pg**	**22 51 51.7**	**-1.1**
KS20	**Mayfield South**	**1.31**	**330**		**Pn**	**22 51 52.8**	**-0.6**
KAN14	**Manchester OK**	**1.31**	**311**		**Pn**	**22 51 52.6**	**-0.8**
KAN01	**Argonia South**	**1.34**	**322**		**Pn**	**22 51 53.0**	**-0.7**
KAN05	**Bluff City Nor**	**1.36**	**318**		**Pn**	**22 51 53.7**	**-0.4**
OK032	**Salt Plains WL**	**1.38**	**301**		**Pn**	**22 51 53.9**	**-0.5**
RLO	**Rose Lookout**	**1.39**	**87**		**Pn**	**22 51 53.7**	**-0.8**
KS21	**Milan North St**	**1.40**	**328**	Pn	**Pn**	**22 51 52.3**	**-2.3**
KAN06	**Argonia West S**	**1.46**	**322**		**Pn**	**22 51 55.2**	**-0.3**
KAN10	**Anthony SW Sta**	**

	comp=Z,37nm,0.8s							
T47A	**Sharon Grove**	**7.80**	**81**	IAmb_Lg		22 55 34.7		
	comp=Z,25nm,0.8s							
V48A	**Smith Brothers**	**8.05**	**90**	IAmb_Lg		22 55 51.0		
	comp=Z,13nm,0.9s							
L42A	**Oliver, Polo**	**8.06**	**41**	IAmb_Lg		22 55 51.5		
	comp=Z,29nm,0.8s							
X48A	**Hartselle**	**8.09**	**99**	IAmb_Lg		22 55 42.4		
	comp=Z,12nm,0.9s							
JFWS	**Jewell Farm**	**8.45**	**34**	IAmb_Lg		22 56 02.0		
	comp=Z,16nm,0.7s							
N23A	**Red Feather La**	**8.66**	**306**	IAmb_Lg		22 56 15.3		
	comp=Z,14nm,0.8s							
RSSD	**Black Hills**	**9.77**	**327**	IAmb_Lg		22 56 53.4		
	comp=Z,9.0nm,0.8s							
I42A	**Draeger Farm,**	**9.82**	**35**	IAmb_Lg		22 56 38.5		
	comp=Z,13nm,1.0s							

*NOU **09** 22:54:41.7, 37.17S×179.36E, h126km, mb4.0/6, Off E. Coast of N. Island, N.Z.*
*WEL **09** 22:54:43.0±1.1, 37°S±5°×17°9E±°, h22km±9km, M3.3/19, ML3.6/27, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=104.9*

ISC 09 22:54:40.9±2.7, 37.08S±0.08×179.2E±0.1, h11km±11km, n41, σ0.85/51, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.87**	**236**	P	**Pb**	**22 54 57.9**	**-0.1**
MXZ				S	**Sg**	**22 55 08.4**	**-0.8**
WMGZ	**Waiomatatini S**	**0.98**	**221**	P	**Pn**	**22 55 01.5**	**+1.0**
WMGZ				S	**Sn**	**22 55 14.9**	**+0.6**
PKGZ	**Pakihiroa**	**1.22**	**228**	P	**Pg**	**22 55 04.5**	**+0.2**
PKGZ				S	**Sn**	**22 55 20.7**	**+0.4**
PUZ	**Puketiti**	**1.25**	**218**	P	**Pg**	**22 55 05.3**	**+0.4**
PUZ				S	**Sn**	**22 55 22.0**	**+0.9**
HAZ	**Te Kaha**	**1.33**	**239**	P	**Pn**	**22 55 04.7**	**-0.6**
HAZ				S	**Sg**	**22 55 24.1**	**+0.4**
TWGZ	**Tauwhareparae**	**1.47**	**222**	P	**Pg**	**22 55 08.7**	**-0.4**
RUGZ	**Raukumara Rang**	**1.51**	**234**	P	**Pb**	**22 55 09.1**	**+0.1**
RUGZ				S	**Sb**	**22 55 28.3**	**+0.1**
CNGZ	**Carnagh Statio**	**1.61**	**210**	P	**Pb**	**22 55 10.9**	**+0.3**
MWZ	**Matawai**	**1.84**	**227**	P	**Pn**	**22 55 13.1**	**+0.8**
WHRZ	**Whale Island**	**1.95**	**246**	P	**Pn**	**22 55 14.8**	**+1.0**
RIGZ	**Rimuhau**	**1.99**	**215**	P	**Pn**	**22 55 15.1**	**+0.6**
RIGZ				S	**Sn**	**22 55 38.3**	**-1.1**
RAGZ	**Rawiri**	**2.01**	**225**	P	**Pn**	**22 55 15.7**	**+0.9**
URZ	**Urewera**	**2.05**	**234**	P	**Pn**	**22 55 15.8**	**+0.6**
URZ				S	**Sn**	**22 55 38.5**	**-2.2**
URZ	**Urewera**	**2.05**	**234**	P	**Pn**	**22 55 16.0**	**+0.8**
OPRZ	**Ohinepanea**	**2.25**	**249**	P	**Pn**	**22 55 18.4**	**+0.3**
SNGZ	**Shannon Statio**	**2.26**	**221**	P	**Pn**	**22 55 18.8**	**+0.6**
SNGZ				S	**Sn**	**22 55 47.2**	**+1.2**
MHGZ	**Mahia Peninsul**	**2.31**	**206**	P	**Pn**	**22 55 19.3**	**+0.4**
MUGZ	**Murupara**	**2.39**	**234**	P	**Pn**	**22 55 20.6**	**+0.6**
RAHZ	**Arahi**	**2.49**	**222**	P	**Pn**	**22 55 21.8**	**+0.4**
MTHZ	**Maungataniwha**	**2.58**	**226**	P	**Pn**	**22 55 23.7**	**+1.1**
MTHZ				S	**Sn**	**22 55 53.6**	**-0.4**
ALRZ	**Allen Road**	**2.72**	**236**	P	**Pn**	**22 55 25.1**	**+0.6**
NMHZ	**Naumai**	**2.77**	**223**	P	**Pn**	**22 55 25.7**	**+0.5**
KUZ	**Kuaotunu**	**2.83**	**276**	P	**Pn**	**22 55 24.7**	**-1.2**
BKZ	**Black Stump Fm**	**2.99**	**225**	P	**Pn**	**22 55 28.4**	**+0.1**
BKZ	**Black Stump Fm**	**2.99**	**225**	P	**Pn**	**22 55 28.8**	**+0.5**
TOZ	**Tahuroa Road**	**3.03**	**257**	P	**Pn**	**22 55 29.0**	**+0.3**
MKAZ	**Moumakai**	**3.25**	**268**	P	**Pn**	**22 55 31.2**	**-0.5**
KAHZ	**Kahuranaki**	**3.27**	**213**	P	**Pn**	**22 55 31.4**	**-0.7**
WIAZ	**Waiheke Island**	**3.29**	**274**	P	**Pn**	**22 55 31.9**	**-0.4**
KRHZ	**Kereru**	**3.40**	**220**	P	**Pn**	**22 55 32.7**	**-1.1**
BHHZ	**Black Hill Sta**	**3.46**	**225**	P	**Pn**	**22 55 34.9**	**+0.2**
MBAZ	**Motutapu North**	**3.48**	**274**	P	**Pn**	**22 55 35.7**	**+0.9**
OTVZ	**Oturere**	**3.49**	**232**	P	**Pn**	**22 55 35.3**	**+0.1**
MOVZ	**Moawhango**	**3.58**	**229**	P	**Pn**	**22 55 36.1**	**-0.3**
WNVZ	**Wahianoa**	**3.63**	**231**	P	**Pn**	**22 55 36.9**	**-0.2**
PNHZ	**Pukenui**	**3.69**	**219**	P	**Pn**	**22 55 36.2**	**-1.6**
HIZ	**Hauiti**	**3.74**	**246**	P	**Pn**	**22 55 40.1**	**+1.6**
HIZ	**Hauiti**	**3.74**	**246**	P	**Pn**	**22 55 39.5**	**+1.0**
BFZ	**Birch Farm**	**4.28**	**212**	P	**Pn**	**22 55 45.0**	**-0.9**
OUZ	**Omahuta**	**4.92**	**291**	P	**Pn**	**22 55 55.4**	**+0.8**
QRZ	**Quartz Range**	**6.42**	**232**	P	**Pn**	**22 56 13.6**	**-1.6**

*NIED **09** 23:02:22.8, 34.35N×141.78E, h27km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.77; Mθθ-0.14; Mφφ-1.63; Mrθ-0.05; Mθφ0.69; Mφr-0.65; Fault plane solution: M₀1.95000×10¹⁵ NP1: φs329.00000°, δ37.00000°, λ75.00000°. NP2: φs167.00000°, δ55.00000°, λ101.00000°.*
*IDC **09** 23:02:22.9±0.6, 34.40N×141.63E, h0km, mb3.9/19, mbtmp3.9/22, ML3.1/2, MS3.6/8 Error ellipse: s-maj=16.0km s-min=13.0km az=103.0*
*JMA **09** 23:02:22.8±0.7, 34°N±2°×14°2E±°, h27km, MV3.5/23, FAR SE OFF BOSO PEN*
*NEIC **09** 23:02:25.4±1.5, 34.47N±0.05×141.64E±0.09, h10km±1km, mb4.6/44, Error ellipse: s-maj=11.9km s-min=7.9km az=90.0*
*BJI **09** 23:02:26.0±0.0, 34.39N×141.54E, h29km, mb4.4/20, mB4.8/13, Ms4.3/14, Ms7 4.1/12*

ISC 09 23:02:26.6±0.5, 34.39N±0.05×141.66E±0.05, h27km, n109, σ1.9/34/106, mb4.5/42, MS3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.62**	**295**	*e*P	**Pb**	**23 02 36.6**	**-2.0**
BSO3	**Boso 3**	**1.03**	**294**	*e*P	**Pn**	**23 02 43.4**	**-1.8**
JKUC	**kamogawauchiur**	**1.43**	**303**	*e*P	**Pn**	**23 02 46.6**	**-1.1**
JKUC				*e*S	**Sn**	**23 03 08.8**	**+0.1**
CHOJ	**Chosi**	**1.47**	**334**	P	**Pn**	**23 02 49.1**	**-2.2**
JMKN	**Mikurajimanish**	**1.79**	**254**	P	**Pn**	**23 02 54.7**	**-1.1**
JHJ2	**Mitsune**	**2.00**	**231**	Pn	**Pn**	**23 02 58.7**	**+0.1**
JHJ	**Hachijo jima 2**	**2.01**	**232**	Pn	**Pn**	**23 02 58.9**	**0.0**
	51nm,0.3s,baz=127,slow=22,SNR=14						
JHJ				Sn	**Sn**	**23 03 23.0**	**-0.2**
	190nm,0.3s,baz=70,slow=22,SNR=21						
JYT	**Yasato**	**2.19**	**327**	Pn	**Pn**	**23 03 00.3**	**-1.0**
JMM	**Marumori**	**3.54**	**349**		**Pn**	**23 03 17.1**	**-2.7**
MJAR	**Matsushiro Arr**	**3.54**	**308**	Pn	**Pn**	**23 03 17.2**	**-2.7**
	1.0nm,0.3s,baz=121,slow=16,SNR=29						
MJAR				Sn	**Sn**	**23 04 00.2**	**-0.7**
	0.9nm,0.3s,baz=130,slow=16,SNR=3.5 3.1nm,0.4s						
MAJO	**Matsushiro**	**3.54**	**308**	Pn	**Pn**	**23 03 19.9**	**0.0**
MAJO				Sn	**Sn**	**23 03 58.9**	**-2.0**
JGF	**Kuroka**	**3.73**	**290**		**Pn**	**23 03 20.5**	**-2.0**
JGF				Sn	**Sn**	**23 04 05.7**	**0.0**
INU	**Inuyama**	**3.94**	**285**	Pn	**Pn**	**23 03 25.6**	**+0.4**
JSD	**Sado**	**4.56**	**324**	Pn	**Pn**	**23 03 34.0**	**+0.1**
JTM	**Tenmabayashi**	**6.40**	**356**	Pn	**Pn**	**23 03 57.6**	**-1.5**
JCJ	**Chichijima**	**7.29**	**176**	Pn	**Pn**	**23 04 10.7**	**-0.7**
	23nm,0.3s,baz=82,slow=23,SNR=7.1						
JCJ				Sn	**Sn**	**23 05 26.7**	**-6.5**
	11nm,0.3s,baz=282,slow=22,SNR=2.4						
JCJ	**Chichijima**	**7.29**	**176**	Pn	**Pn**	**23 04 10.9**	**-0.4**
ERM	**Erimo**	**7.70**	**8**	Pn	**Pn**	**23 04 14.9**	**-2.0**
KSRS	**Korea Array**	**11.55**	**289**	Pn	**Pn**	**23 05 09.0**	**-0.7**
	0.2nm,0.3s,baz=109,slow=14,SNR=1.7 0.6nm,0.5s						
JOW	**Kunigami**	**13.76**	**240**	LR	LR	23 11 13.6	
	comp=Z,263nm,19.2s,baz=71,slow=39						
CN2	**Changchun**	**15.69**	**312**	*e*P	**Pn**	**23 06 06.7**	**+1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SSE	**Sheshan**	**17.53**	**265**	P	**Pn**	**23 06 28.4**	**-0.7**
SSE				S	**Sn**	**23 09 41.9**	**-1.7**
SSE				pmax	pmax		
	comp=Z,13nm,0.9s						
SSE				pmax	pmax		
	comp=Z,45nm,5.2s						
SSE				LR	LR		
	comp=N,160nm,17.9s						
SSE				LR	LR		
	comp=E,220nm,17.9s						
PETK	**Petropavlovsk-**	**21.91**	**27**	LR	LR	23 19 22.1	
	comp=Z,58nm,18.1s,baz=203,slow=46						
HHC	**Hu-ho-hao-te**	**24.62**	**294**	*e*P	**P**	**23 07 45.4**	**+0.5**
HHC				S	**S**	**23 12 05.5**	**+1.0**
HHC				sS	sS	23 12 12.8	-1.3
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
HHC				LR	LR		
	comp=N,280nm,11.8s						
HHC				LR	LR		
	comp=E,560nm,12.9s						
HHC				LR	LR		
	comp=Z,640nm,12.4s						
H11N2	**WAKE ISLAND Hy**	**26.70**	**117**	T	T	23 36 07.8	
	baz=309,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**26.71**	**117**	T	T	23 36 09.8	
	baz=309,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**26.72**	**117**	T	T	23 36 09.5	
	baz=309,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	23 37 03.3	
	baz=312,slow=76,SNR=9.0						
H11S1	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	23 37 06.0	
	baz=312,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**27.34**	**119**	T	T	23 37 03.9	
	baz=312,slow=76,SNR=10.0						
SONM	**Songino Array**	**29.50**	**308**	P	**P**	**23 08 28.3**	**-0.3**
	0.3nm,0.5s,baz=88,slow=6.6,SNR=2.1 0.3nm,0.5s						
DAV	**Davao City (W)**	**30.98**	**212**	LR	LR	23 20 16.7	
	comp=Z,78nm,19.7s,baz=70,slow=35						
PZH	**PanZhiHua**	**35.12**	**268**	P	**P**	**23 09 19.9**	**+1.8**
PZH				S	**S**	**23 14 49.1**	**-0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
PZH				LR	LR		
	comp=N,400nm,18.0s						
PZH				LR	LR		
	comp=E,380nm,18.2s						
PZH				LR	LR		
	comp=Z,360nm,17.9s						
UNV	**Unalaska Valle**	**40.91**	**45**	P	**P**	**23 10 04.7**	**-1.7**
UNV				IAmb	IAmb	23 10 22.7	
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.09**	**258**	P	**P**	**23 10 07.1**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=45,slow=9.0,SNR=4.9 comp=Z,0.9nm,0.5s						
WMQ	**Urumqi**	**42.26**	**300**	*e*P	**P**	**23 10 19.4**	**+1.7**
WMQ				LR	LR		
	comp=Z,110nm,16.3s						
ZALV	**Zalesovo Beam**	**43.87**	**314**	P	**P**	**23 10 31.1**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=79,slow=8.0,SNR=4.8 comp=Z,0.6nm,0.4s						
BRDH	**Bariadhala**	**45.07**	**269**	LR	LR	23 32 45.6	
	comp=Z,111nm,21.3s,baz=89,slow=40						
MKAR	**Makanchi Array**	**45.73**	**304**	P	**P**	**23 10 46.6**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=76,slow=8.6,SNR=13						
MKAR				LR	LR	23 31 14.2	
	comp=Z,78nm,18.2s,baz=94,slow=38 comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**45.73**	**304**	P	**P**	**23 10 46.3**	**+0.8**
NRIK	**Noril'sk**	**45.76**	**336**	P	**P**	**23 10 45.6**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=106,slow=8.0,SNR=3.5 comp=Z,2.0nm,0.7s						
NRIK	**Noril'sk**	**45.76**	**336**	P	**P**	**23 10 44.3**	**-0.9**
BATI	**Baumata**	**47.53**	**204**	P	**P**	**23 11 01.4**	**+1.6**
	comp=Z,8.2nm,0.4s,baz=350,slow=6.1,SNR=1.7						
KURK	**Kurchatov**	**47.75**	**310**	P	**P**	**23 11 01.1**	**-0.1**
KURK				IAmb	IAmb	23 11 14.7	
	comp=Z,6.8nm,0.9s						
KURBB	**Kurchatov Arra**	**47.82**	**310**	LR	LR	23 32 34.5	
	comp=Z,138nm,18.1s,baz=38,slow=38						
MTN	**Manton Dam**	**48.03**	**194**	P	**P**	**23 11 04.4**	**+0.9**
Q19K	**Cape Douglas,**	**48.39**	**39**	P	**P**	**23 11 07.4**	**+1.4**
K20K	**Telida**	**48.41**	**33**	P	**P**	**23 11 07.8**	**+1.6**
K20K				IAmb	IAmb	23 11 08.7	
	comp=Z,12nm,1.4s						
BMAR	**Burnt Mountain**	**52.56**	**28**	P	**P**	**23 11 39.5**	**+2.1**
BCAR	**Beaver Creek A**	**53.98**	**33**	P	**P**	**23 11 48.8**	**+0.9**
WB0	**Warramunga Arr**	**54.30**	**188**	P	**P**	**23 11 52.2**	**+1.6**
WB0				IAmb	IAmb	23 11 57.9	
	comp=Z,12nm,1.3s						
FITZ	**Fitzroy Crossi**	**54.38**	**199**	P	**P**	**23 11 51.9**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=22,slow=7.2,SNR=5.8 comp=Z,2.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**54.38**	**199**	P	**P**	**23 11 52.9**	**+1.7**
FITZ				IAmb	IAmb	23 12 05.5	
	comp=Z,8.1nm,1.3s						
WR0	**Warramunga Arr**	**54.47**	**188**	P	**P**	**23 11 53.9**	**+2.1**
WR0				IAmb	IAmb	23 12 10.1	
	comp=Z,8.0nm,1.2s						
WB2	**Warramunga Arr**	**54.48**	**188**	P	**P**	**23 11 53.1**	**+1.2**
WRA	**Warramunga Arr**	**54.48**	**188**	P	**P**	**23 11 50.6**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=5.2,slow=7.7,SNR=18 comp=Z,1.4nm,0.7s						
WRA	**Warramunga Arr**	**54.48**	**188**	P	**P**	**23 11 53.0**	**+1.1**
KK31	**Karatay Array**	**54.66**	**302**	P	**P**	**23 11 53.2**	**+0.1**
KKAR	**Karatay Array**	**54.66**	**302**	P	**P**	**23 11 53.1**	**0.0**
KKAR	**Karatay Array**	**54.66**	**302**	P	**P**	**23 11 52.8**	**-0.3**
KKAR				IAmb	IAmb	23 12 09.5	
	comp=Z,3.2nm,1.1s						
ASAR	**Alice Springs**	**58.21**	**188**	P	**P**	**23 12 18.9**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=16,slow=7.0,SNR=8.4 comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**58.21**	**188**	P	**P**	**23 12 20.0**	**+1.5**
ARU	**Arti**	**58.49**	**320**	P	**P**	**23 12 20.0**	**-0.1**
ARU					P	**23 12 20.1**	**0.0**
ARU				IAmb	IAmb	23 12 40.2	
	comp=Z,9.0nm,1.3s						
ABKAR	**Akbulak array**	**59.81**	**311**	P	**P**	**23 12 28.4**	**-1.0**
PALK	**Pallekele**	**62.03**	**259**	LR	LR	23 41 25.7	
	comp=Z,24nm,18.3s,baz=209,slow=38						
YKA	**Yellowknife Ar**	**66.00**	**30**	P	**P**	**23 13 09.2**	**-1.1**
	comp=Z,1.3nm,1.1s,baz=292,slow=6.5,SNR=2.6 comp=Z,1.3nm,1.1s						
KBO	**Bosley Butte**	**70.59**	**52**	P	**P**	**23 13 40.9**	**+1.4**
FINES	**FINESS Array B**	**71.25**	**333**	P	**P**	**23 13 43.5**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=113,slow=14,SNR=2.8 comp=Z,2.2nm,1.0s						
KBZ	**Khabaz**	**72.79**	**311**	P	**P**	**23 13 53.8**	**+1.2**
	comp=Z,2.5nm,1.0s,baz=112,slow=5.4,SNR=3.7 comp=Z,2.5nm,1.0s						
KVN	**Kaiserville**	**76.21**	**52**	P	**P**	**23 14 14.3**	**+1.4**
NVAR	**Mina Array Bea**	**76.42**	**53**	P	**P**	**23 14 15.2**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=289,slow=5.6,SNR=13 comp=Z,1.4nm,0.8s						
NVAR	**Mina Array Bea**	**76.42**	**53**	P	**P**	**23 14 14.3**	**+0.2**
AKASG	**Malin Array Be**	**76.51**	**323**	P	**P**	**23 14 13.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=52,slow=3.8,SNR=5.8 comp=Z,0.1nm,0.3s						
NOA	**NORSAR Array B**	**76.70**	**338**	P	**P**	**23 14 14.9**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=38,slow=5.5,SNR=4.0 comp=Z,1.1nm,0.8s						
LAO	**LASA Array**	**78.84**	**41**	P	**P**	**23 14 25.6**	**-1.7**
HWUT	**Hardware Ranch**	**78.87**	**47**	P	**P**	**23 14 28.1**	**+0.4**
HWUT				IAmb	IAmb	23 14 30.4	
	comp=Z,5.2nm,1.1s						
DUG	**Dugway, Tooele**	**78.94**	**49**	P	**P**	**23 14 28.9**	**+0.9**
PRN	**Pahroc Range**	**79.12**	**52**	P	**P**	**23 14 29.8**	**+0.8**
PSUT	**Pine Spring**	**79.24**	**51**	P	**P**	**23 14 30.6**	**+0.8**
PSUT				IAmb	IAmb	23 14 37.3	
	comp=Z,7.9nm,1.4s						
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**23 14 31.6**	**+1.1**
	comp=Z,1.3nm,1.0s,baz=349,slow=0.9,SNR=6.4 comp=Z,1.3nm,1.0s						
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**23 14 30.8**	**+0.3**
NLU	**North Lily Min**	**79.54**	**49**	P	**P**	**23 14 32.6**	**+1.2**
MSU	**Marysvale**	**80.32**	**50**	P	**P**	**23 14 36.6**	**+1.0**
PMD	**Palm Desert**	**80.38**	**56**	P	**P**	**23 14 36.5**	**+0.7**
PMD				IAmb	IAmb	23 14 48.6	
	comp=Z,6.2nm,1.2s						
LCMT	**Little Creek M**	**80.52**	**52**	P	**P**	**23 14 37.3**	**+0.6**
MTPU	**Mount Pierson**	**80.60**	**50**	P	**P**	**23 14 38.5**	**+1.2**
P17A	**Butcher Ranch,**	**80.65**	**48**	P	**P**	**23 14 37.7**	**+0.4**
P17A				IAmb	IAmb	23 14 40.4	
	comp=Z,8.3nm,1.0s						
RDMU	**Red Mountain**	**80.70**	**47**	P	**P**	**23 14 38.5**	**+0.8**
RDMU				IAmb	IAmb	23 14 40.1	
	comp=Z,7.5nm,0.7s						
Q16A	**Castle Valley**	**80.71**	**49**	P	**P**	**23 14 38.4**	**+0.6**
Q16A				IAmb	IAmb	23 14 52.5	
	comp=Z,7.1nm,1.2s						
BRTR	**Keskin Array B**	**80.76**	**312**	P	**P**	**23 14 38.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=103,slow=3.1,SNR=5.2 comp=Z,0.2nm,0.3s						
KNB	**Kanab**	**80.79**	**51**	P	**P**	**23 14 38.9**	**+0.7**
KNB				IAmb	IAmb	23 14 40.9	
	comp=Z,8.1nm,1.1s						
SRU	**San Rafael Swe**	**81.00**	**49**	P	**P**	**23 14 40.1**	**+0.9**
SRU				IAmb	IAmb	23 14 41.9	
	comp=Z,6.6nm,0.9s						
O20A	**White River Ci**	**81.77**	**47**	P	**P**	**23 14 43.6**	**+0.3**
O20A				IAmb	IAmb	23 14 45.8	
	comp=Z,4.1nm,0.9s						
PV07	**Paradox Valley**	**82.57**	**48**	P	**P**	**23 14 48.4**	**+0.8**
PV07				IAmb	IAmb	23 15 18.6	
	comp=Z,6.8nm,1.3s						
PV13	**Radium Mtn., P**	**82.64**	**49**	P	**P**	**23 14 49.1**	**+1.2**
GERES	**GERESS Array B**	**85.06**	**328**	P	**P**	**23 15 01.9**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=44,slow=5.8,SNR=2.1 comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**91.57**	**53**	P	**P**	**23 15 32.2**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=293,slow=2.7,SNR=4.6 comp=Z,0.2nm,0.7s						
LPAZ	**La Paz**	**147.77**	**63**	PKPbc	**PKiKP**	**23 22 11.3**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=336,slow=5.8,SNR=6.2						

*IDC **09** 23:22:36.0±1.4, 29.95N×82.54E, h0km, mb3.6/9, mbtmp3.6/10, ML3.2/1, MS3.5/1, Error ellipse: s-maj=47.3km s-min=21.6km az=59.0*

ISC 09 23:22:41.7±1.2, 30.1N±0.1×82.7E±0.1, h35km, n12, σ0.97/11, mb3.5/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**2.19**	**254**	*e*PN	Pn	23 23 08.7	-6.8
LGTI				*e*SN	**Sn**	**23 23 41.6**	**+0.2**
MKAR	**Makanchi Array**	**16.69**	**359**	Pn	**Pn**	**23 26 32.4**	**-0.4**
	0.1nm,0.3s,baz=172,slow=12,SNR=6.1 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**20.75**	**353**	P	**P**	**23 27 18.5**	**-0.8**
	0.6nm,0.2s,baz=176,slow=9.6,SNR=7.0 0.6nm,0.2s						
ZALV	**Zalesovo Beam**	**23.90**	**3**	P	**P**	**23 27 51.3**	**-0.7**
	0.4nm,0.2s,baz=189,slow=8.5,SNR=3.6 0.4nm,0.2s						
BVAR	**Borovoye Array**	**24.62**	**342**	P	**P**	**23 27 58.9**	**+0.2**
	0.3nm,0.4s,baz=140,slow=9.5,SNR=3.8 0.3nm,0.4s						
SONM	**Songino Array**	**25.43**	**39**	P	**P**	**23 28 07.4**	**+1.2**
	0.6nm,0.7s,baz=229,slow=8.8,SNR=3.5 0.6nm,0.7s						
BELG	**Belogornoye**	**34.00**	**321**	LR	LR	23 44 51.9	
	comp=Z,72nm,18.7s,baz=221,slow=39						
FINES	**FINESS Array B**	**48.18**	**327**	P	**P**	**23 31 17.9**	**-0.4**
	0.8nm,0.6s,baz=106,slow=7.4,SNR=10.0 0.8nm,0.6s						
ARCES	**ARCESS Array B**	**50.79**	**338**	P	**P**	**23 31 40.0**	**+1.9**
	7.6nm,1.2s,baz=100,slow=9.2,SNR=4.2 7.6nm,1.2s						
NOA	**NORSAR Array B**	**55.26**	**326**	P	**P**	**23 32 10.4**	**-0.8**
	0.2nm,0.6s,baz=75,slow=8.5,SNR=1.1 0.2nm,0.6s						
WRA	**Warramunga Arr**	**70.34**	**128**	P	**P**	**23 33 51.8**	**-0.2**
	0.2nm,0.4s,baz=328,slow=5.7,SNR=2.2 0.2nm,0.4s						
ASAR	**Alice Springs**	**72.64**	**131**	P	**P**	**23 34 05.6**	**-0.4**
	0.3nm,0.7s,baz=316,slow=7.8,SNR=2.3 0.3nm,0.7s						

MAN 09 23:23:38.9, 6.56N×125.66E, h4km, mb4.3, ML3.1, MS2.9, 1C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.45**	**173**	↓*e*P	Pb	23 23 48.8	-0.7
DDMP				*e*S	Sb	23 24 01.4	+4.8
MATI	**Mati**	**0.71**	**57**	↓*e*P	Pg	23 23 52.6	0.0
KCP	**Kidapawan**	**0.72**	**309**	↑*i*P	Pn	23 23 55.8	-0.2
KCP				*i* S	Sn	23 24 13.7	+6.1
GSPH	**General Santos**	**0.84**	**237**	↓*i*P	Pg	23 23 52.9	-2.3
GSPH				*i* S	Sb	23 24 08.6	+0.6
SKMP	**Bagumbayan, Su**	**1.11**	**268**	↓*e*P	Pg	23 23 57.3	-2.9
SKMP				*e*S	Sn	23 24 17.4	+0.3
CTBH	**Cotabato--PC H**	**1.55**	**295**	*e*P	Pn	23 24 04.0	-3.4
BIPH	**Bislig**	**1.76**	**23**	↓*e*P	Pn	23 24 07.3	-2.9
BIPH				*e*S	Sn	23 24 32.8	-0.3

*IDC **09** 23:49:51.5±1.7, 24.50S×179.83W, h498km±22km, mb3.6/6, mbtmp4.5/7, Error ellipse: s-maj=23.7km s-min=18.5km az=180.0*
*NEIC **09** 23:49:52.9±1.4, 24.4S±0.1×179.8W±0.2, h516km±10km, mb4.5/36, Error ellipse: s-maj=22.0km s-min=19.4km az=212.0*

ISC 09 23:49:51.9±0.8, 24.5S±0.1×179.8W±0.1, h505km, n48, σ0.85/50, mb4.4/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.98**	**343**	P	**P**	**23 51 39.1**	**+0.8**
	9.4nm,0.4s,baz=227,slow=21,SNR=22						
HIZ	**Hauiti**	**14.71**	**197**	P	**P**	**23 53 00.3**	**+1.4**
BKZ	**Black Stump Fm**	**14.98**	**191**	P	**P**	**23 53 03.1**	**+1.4**
BFZ	**Birch Farm**	**16.50**	**191**	P	**P**	**23 53 16.4**	**-1.0**
QRZ	**Quartz Range**	**17.52**	**200**	P	**P**	**23 53 27.5**	**+0.1**
NNZ	**N

comp=Z,16nm,1.4s
BBOO Buckleboo 39.37 248 P **P** **23 56 36.9 -0.5**
BBOO IAmb IAmb 23 57 18.4
comp=Z,29nm,1.4s
AS31 Alice Springs 42.10 261 P **P** **23 56 59.7 +0.3**
ASAR Alice Springs 42.10 261 P **P** **23 56 59.1 -0.3**
comp=Z,1.2nm,0.5s,baz=94,slow=6.9,SNR=20
comp=Z,1.2nm,0.5s
ASAR Alice Springs 42.10 261 P **P** **23 57 00.1 +0.7**
WR0 Warramunga Arr 42.34 267 P **P** **23 57 00.5 -0.8**
WB2 Warramunga Arr 42.51 267 P **P** **23 57 02.1 -0.6**
WB2 IAmb IAmb 23 57 02.6
comp=Z,12nm,1.2s
WRAB Tennant Creek 42.52 267 P **P** **23 57 02.1 -0.6**
WB0 Warramunga Arr 42.52 267 P **P** **23 57 02.2 -0.5**
WB0 IAmb IAmb 23 57 02.6
comp=Z,5.3nm,0.6s
WRA Warramunga Arr 42.52 267 P **P** **23 57 02.1 -0.7**
comp=Z,4.6nm,0.6s,baz=104,slow=8.0,SNR=46
WRA PcP **PcP** **23 58 43.9 -0.1**
comp=Z,0.3nm,0.8s,baz=85,slow=3.1,SNR=1.0
WRA ScP **ScP** **00 01 47.6 +1.1**
comp=Z,0.8nm,0.9s,baz=107,slow=3.9,SNR=3.5
comp=Z,4.6nm,0.6s
WRA Warramunga Arr 42.52 267 P **P** **23 57 02.1 -0.7**
FORT Forrest 46.26 250 P **P** **23 57 30.5 -1.0**
FORT IAmb IAmb 23 57 43.7
comp=Z,16nm,0.8s
MTN Manton Dam 47.65 275 P **P** **23 57 39.8 -2.4**
MTN IAmb IAmb 23 58 21.4
comp=Z,16nm,1.4s
KNRA Kununurra 48.84 270 P **P** **23 57 51.2 +0.2**
FITZ Fitzroy Crossi 50.94 266 P **P** **23 58 06.6 +0.1**
MBWA Marble Bar 55.43 260 P **P** **23 58 37.5 -1.0**
MBWA IAmb IAmb 23 58 50.5
comp=Z,16nm,1.3s
MORW Morawa 56.83 250 P **P** **23 58 47.4 -0.6**
MORW IAmb IAmb 23 59 21.3
comp=Z,30nm,1.4s
CASY Casey 59.67 206 P **P** **23 59 06.2 -0.4**
QSPA South Pole Qui 65.62 180 P **P** **23 59 46.1 +0.8**
MAW Mawson 77.28 200 P **P** **00 00 54.2 +0.9**
comp=Z,1.6nm,0.6s,baz=120,slow=8.0,SNR=8.8
comp=Z,1.6nm,0.6s
MAW Mawson 77.28 200 P **P** **00 00 54.1 +0.8**
TORD Torodi Ar. Bea 168.65 188 PKPab **PKPab** **00 10 14.2 -0.3**
comp=Z,0.4nm,0.6s,baz=163,slow=4.6,SNR=1.5

*IDC **09** 23:56:40.8±1.5,34˚.44N×141˚.68E, h0km, mb3.8/6, mbtmp3.7/8, ML2.9/2, Error ellipse: s-maj=35.8km s-min=20.4km az=78.0*
*JMA **09** 23:56:42.6±0.7,34˚N±2˚×14˚2E±˚, h32km±2km, MV2.9/17, FAR SE OFF BOSO PEN*
*NEIC **09** 23:56:43.2±1.4,34˚.40N±0˚.05×141˚.60E±0˚.04, h10km±1km, mb4.6/4, Error ellipse: s-maj=9.8km s-min=5.2km az=27.0*
ISC 09 23:56:44.2±0.9,34˚43N±0˚05×141˚68E±0˚09, h27km, n33, σ1s08/33, mb3.9/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.62**	**291**	*e*P		**Pb**	**23 56 55.6**	**-0.5**
BSO3	**Boso 3**	**1.03**	**291**	P		**Pn**	**23 57 02.5**	**-0.1**
BSO4	**Boso 4**	**1.24**	**297**	P		**Pn**	**23 57 05.9**	**+0.3**
JKUC	**kamogawauchiur**	**1.42**	**301**	*e*P		**Pn**	**23 57 08.2**	**0.0**
JKUC				*e*S		**Sn**	**23 57 26.4**	**+0.4**
CHOJ	**Chosi**	**1.44**	**332**	*e*P		**Pn**	**23 57 08.0**	**-0.4**
CHOJ				*e*S		**Sn**	**23 57 26.0**	**-0.4**
JHJ2	**Mitsune**	**2.03**	**230**	Pn		**Pn**	**23 57 16.7**	**+0.1**
JHJ	**Hachijo jima 2**	**2.05**	**231**	Pn		**Pn**	**23 57 16.9**	**+0.1**
	17nm,0.3s,baz=247,slow=23,SNR=2.4							
JHJ				Sn		**Sn**	**23 57 41.7**	**+0.2**
	30nm,0.3s,baz=66,slow=21,SNR=9.0							
	38nm,0.3s							
JYT	**Yasato**	**2.17**	**326**	Pn		**Pn**	**23 57 18.5**	**+0.1**
JAG	**Ashikaga**	**2.69**	**318**	P		**Pn**	**23 57 25.9**	**+0.1**
JRY	**Ryogami san**	**2.77**	**306**	P		**Pn**	**23 57 27.0**	**+0.2**
JFT	**Otama**	**3.27**	**341**	*e*P		**Pn**	**23 57 33.9**	**+0.3**
JMM	**Marumori**	**3.50**	**348**			**Pn**	**23 57 36.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.53**	**308**	Pn		**Pn**	**23 57 37.6**	**+0.4**
	0.5nm,0.3s,baz=138,slow=11,SNR=18							
MJAR				Sn		**Sn**	**23 58 18.4**	**+0.3**
	0.3nm,0.3s,baz=149,slow=16,SNR=6.1							
	3.4nm,0.4s							
MAJO	**Matsushiro**	**3.53**	**308**			**Pn**	**23 57 38.7**	**+1.5**
JGF	**Kuroka**	**3.73**	**289**	Pn		**Pn**	**23 57 39.6**	**-0.4**
JSD	**Sado**	**4.54**	**323**	Pn		**Pn**	**23 57 51.8**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**26.71**	**117**	T		T	00 30 24.0	
	baz=311							
H11N1	**WAKE ISLAND Hy**	**26.71**	**117**	T		T	00 30 23.1	
	baz=311							
H11N3	**WAKE ISLAND Hy**	**26.73**	**117**	T		T	00 30 22.5	
	baz=311							
ENH	**Enshi**	**27.44**	**270**	P		**P**	**00 02 23.1**	**-4.8**
ENH				IAmb		IAmb	00 02 24.4	
	comp=Z,8.5nm,0.6s							
MKAR	**Makanchi Array**	**45.72**	**304**	P		**P**	**00 05 04.5**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=91,slow=8.6,SNR=7.8							
	comp=Z,0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**47.80**	**310**	P		**P**	**00 05 18.6**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=84,slow=7.8,SNR=7.8							
	comp=Z,1.2nm,0.6s							
DOT	**Dot Lake**	**52.86**	**33**	P		**P**	**00 05 56.2**	**-1.0**
WB0	**Warramunga Arr**	**54.34**	**188**	P		**P**	**00 06 08.7**	**+0.2**
WB0				IAmb		IAmb	00 06 15.2	
	comp=Z,6.7nm,1.4s							
FITZ	**Fitzroy Crossi**	**54.42**	**199**	P		**P**	**00 06 09.7**	**+0.7**
WRA	**Warramunga Arr**	**54.52**	**188**	P		**P**	**00 06 10.5**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=3.5,slow=7.4,SNR=5.6							
	comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**54.52**	**188**	P		**P**	**00 06 10.3**	**+0.6**
KKAR	**Karatay Array**	**54.65**	**302**	P		**P**	**00 06 11.5**	**+0.9**
ASAR	**Alice Springs**	**58.25**	**188**	P		**P**	**00 06 37.1**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=16,slow=8.7,SNR=2.8							
	comp=Z,0.4nm,0.8s							
ABKAR	**Akbulak array**	**59.80**	**311**	P		**P**	**00 06 47.1**	**+0.3**
FINES	**FINESS Array B**	**71.22**	**333**	P		**P**	**00 08 01.1**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=104,slow=5.9,SNR=4.0							
	comp=Z,2.3nm,0.9s							
JRC2	**Joshua Ridge**	**78.06**	**55**	P		P	00 08 48.8	+8.0
BRTR	**Keskin Array B**	**80.74**	**312**	P		**P**	**00 08 56.0**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=66,slow=1.7,SNR=3.0							
	comp=Z,0.6nm,0.8s							

*IDC **09** 23:58:43.0±4.9,6˚.15S×154˚.08E, h80km±36km, mb3.5/5, mbtmp3.9/7, MS3.3/3, Error ellipse: s-maj=42.4km s-min=17.3km az=103.0*
ISC 09 23:58:40.3±1.2,6˚19S±0˚.10×154˚3E±0˚.1, h61km, n13, σ0s80/12, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.91**	**310**	P		**Pn**	**23 59 24.9**	**+0.6**
	70nm,0.5s,baz=192,slow=3.6,SNR=7.6							
KRVT				S		**Sn**	**23 59 57.8**	**-0.3**
	316nm,0.6s,baz=280,slow=21,SNR=12							
HNR	**Honiara**	**6.48**	**120**	LR		LR	00 02 51.0	
	comp=Z,2μm,20.4s,baz=146,slow=37							
PMG	**Port Moresby**	**7.74**	**245**	P		**Pn**	**00 00 31.3**	**+0.9**
	12nm,0.6s,baz=21,slow=12,SNR=3.6							
PMG				S		**Sn**	**00 01 56.3**	**-0.2**
	51nm,0.8s,baz=127,slow=14,SNR=9.9							
PMG				LR		LR	00 03 14.1	
	comp=Z,121nm,19.6s,baz=6.5,slow=36							
CTA	**Charters Tower**	**15.86**	**209**	LR		LR	00 07 01.3	
	comp=Z,37nm,20.5s,baz=78,slow=32							
WRA	**Warramunga Arr**	**23.70**	**233**	P		**P**	**00 03 46.5**	**-0.4**
	1.1nm,0.8s,baz=55,slow=9.6,SNR=8.1							
WRA				PcP		**PcP**	**00 07 28.8**	**-1.0**
	0.6nm,0.5s,baz=55,slow=2.3,SNR=5.5							
	1.1nm,0.8s							
ASAR	**Alice Springs**	**26.18**	**226**	P		**P**	**00 04 09.2**	**-0.2**
	0.9nm,1.0s,baz=58,slow=8.5,SNR=4.5							
ASAR				PcP		**PcP**	**00 07 35.9**	**+0.5**
	0.8nm,0.6s,baz=63,slow=2.5,SNR=6.5							
	0.9nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**27.41**	**26**	T		T	00 32 46.8	
	baz=207,slow=74,SNR=2.8							
H11S2	**WAKE ISLAND Hy**	**27.42**	**26**	T		T	00 32 43.4	
	baz=207,slow=74,SNR=2.5							
H11S1	**WAKE ISLAND Hy**	**27.43**	**26**	T		T	00 32 45.1	
	baz=207,slow=74,SNR=2.6							
CMAR	**Chiang Mai Arr**	**59.79**	**295**	P		**P**	**00 08 38.8**	**-0.9**
	3.6nm,0.4s,baz=133,slow=4.5,SNR=4.8							
	3.6nm,0.4s							
ILAR	**Eielson Array**	**82.89**	**22**	P		**P**	**00 10 58.6**	**+0.5**
	0.4nm,0.6s,baz=227,slow=5.0,SNR=5.1							
	0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**83.11**	**326**	P		**P**	**00 11 00.2**	**+0.8**
	0.4nm,0.4s,baz=111,slow=8.2,SNR=1.7							
	0.4nm,0.4s							
TORD	**Torodi Ar. Bea**	**152.11**	**286**	PKPbc		**PKPbc**	**00 18 28.9**	**-1.1**
	0.7nm,0.8s,baz=67,slow=2.5,SNR=4.6							

*IPEC **09** 23:59:57.1±0.3,51˚.61N×16˚.17E, h0km±1km, ML2.6/4, Error ellipse: s-maj=2.4km s-min=1.2km az=29.0*
*PRU **09** 23:59:58.3±0.0,51˚.57N×16˚.07E, h0km*
*VIE **10** 00:00:00.7±0.8,51˚.39N×16˚.01E, h0km, mb2.4/9, ml2.5/8, Error ellipse: s-maj=7.3km s-min=5.5km az=73.0 77 km WNW of Wroclaw Suspected Mining induced.*
ISC 09 23:59:57.9±1.1,51˚57N±0˚.05×16˚08E±0˚.02, h0km, n37, σ0s95/73, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**169**	*e*Pg		**Pg**	**00 00 12.2**	**+0.2**
KSP				*e*Sg		**Sg**	**00 00 21.5**	**-0.1**
OSTC	**Ostas**	**1.02**	**175**	*e*PG		**Pg**	**00 00 17.6**	**+0.3**
OSTC				*e*SG		**Sb**	**00 00 31.4**	**-0.8**
	comp=Z,106nm,1.1s							
UPC	**Upice**	**1.06**	**182**	*e*PG		**Pb**	**00 00 18.8**	**-0.3**
UPC				*e*SG		**Sb**	**00 00 32.7**	**-0.9**
DPC	**Dobruska-Polom**	**1.23**	**173**	*e*PG		**Pg**	**00 00 21.1**	**-0.3**
DPC				*e*SG		**Sg**	**00 00 36.9**	**-0.4**
	comp=Z,56nm,0.7s							
PVCC	**Panska Ves**	**1.41**	**223**	*e*PG		**Pb**	**00 00 24.8**	**-0.2**
PVCC				*e*SG		**Sn**	**00 00 43.6**	**-0.4**
	comp=Z,90nm,0.6s							
BRG	**Berggiesshubel**	**1.51**	**243**	Pg		**Pg**	**00 00 26.6**	**-0.2**
BRG				Sg		**Sn**	**00 00 47.0**	**+0.5**
BRG				Amp			00 00 50.0	
	comp=Z,45nm,0.5s							
KRLC	**Kraliky**	**1.56**	**163**	*e*PG		**Pn**	**00 00 26.2**	**-0.7**
KRLC				*e*SG		**Sn**	**00 00 47.2**	**-0.6**
	comp=Z,77nm,1.1s							
GOPC	**GO Pecny, Ondr**	**1.85**	**207**	*e*PN		**Pn**	**00 00 30.7**	**-0.1**
GOPC				*e*PG		**Pb**	**00 00 32.4**	**-0.1**
GOPC				*e*SG		**Sg**	**00 00 56.6**	**-0.6**
PRU	**Pruhonice**	**1.86**	**212**	*e*PG		**Pb**	**00 00 32.4**	**-0.3**
PRU				*e*SG		**Sg**	**00 00 56.8**	**-0.7**
	comp=Z,27nm,0.6s							
CLL	**Collm**	**1.94**	**263**	*i* Pn		**Pn**	**00 00 31.0**	**-1.1**
CLL				*e*Pg		**Pb**	**00 00 34.0**	**-0.1**
CLL				*i* x		x	00 00 38.1	
	comp=Z,28nm,0.6s							
CLL				*ex*		x	00 00 49.0	
CLL				*ex*		x	00 00 52.0	
CLL				*e*Sg		**Sg**	**00 01 00.0**	**-0.2**
	comp=Z,20nm,0.7s							
MORC	**Moravsky Berou**	**2.02**	**152**	*e*Pn		**Pn**	**00 00 32.4**	**-0.8**
	baz=335							
MORC				*e*Sg		**Sb**	**00 01 01.1**	**-0.1**
	comp=Z,38nm,1.1s,baz=335							
OKC	**Ostrava-Krasne**	**2.18**	**142**	*e*PG		**Pb**	**00 00 38.6**	**+0.5**
OKC				*e*SG		**Sb**	**00 01 06.1**	**+0.5**
	comp=Z,69nm,1.1s							
VRAC	**Vranov**	**2.29**	**171**	*e*Pn		**Pn**	**00 00 36.6**	**-0.2**
	baz=354							
VRAC				*e*Sg		**Sg**	**00 01 09.9**	**-1.3**
	comp=Z,27nm,1.1s,baz=354							
VRAC	**Vranov**	**2.29**	**171**	*e*PN		**Pn**	**00 00 36.7**	**-0.1**
VRAC				*e*SG		**Sg**	**00 01 10.0**	**-1.3**
TREC	**Trest**	**2.31**	**190**	*e*PG		**Pg**	**00 00 41.1**	**-0.9**
TREC				*e*SG		**Sg**	**00 01 11.2**	**-0.7**
	comp=Z,26nm,0.8s							
MAUC	**Maruska**	**2.47**	**152**	*e*PG		**Pb**	**00 00 44.0**	**+0.8**
KRUC	**Moravsky**	**2.52**	**175**	*e*Pn		**Pn**	**00 00 39.5**	**-0.5**
	baz=357							
KRUC				*e*Sg		**Sg**	**00 01 16.9**	**-1.7**
	comp=Z,32nm,1.3s,baz=357							
KRUC	**Moravsky**	**2.52**	**175**	*e*PN		**Pn**	**00 00 39.6**	**-0.5**
KRUC				*e*SG		**Sg**	**00 01 17.0**	**-1.7**
NKC	**Novy Kostel**	**2.66**	**241**	*e*PN		**Pn**	**00 00 42.0**	**0.0**
NKC				*e*SG		**Sg**	**00 01 23.3**	**+0.1**
	comp=Z,31nm,0.7s							
OJC	**Ojcow**	**2.72**	**118**	*e*Pg		**Pb**	**00 00 47.8**	**+0.5**
OJC				*e*Sg		**Sg**	**00 01 23.7**	**-1.4**
JAVC	**Velka Javorina**	**2.90**	**159**	*e*Pn		**Pn**	**00 00 44.6**	**-0.7**
	baz=341							
JAVC	**Velka Javorina**	**2.90**	**159**	*e*PN		**Pn**	**00 00 44.7**	**-0.6**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PN		**Pn**	**00 00 45.1**	**-0.4**
KHC				*e*PG		**Pb**	**00 00 51.9**	**+1.1**
KHC				*e*SN		**Sn**	**00 01 21.1**	**-0.2**
KHC				*e*SG		**Sg**	**00 01 30.9**	**-0.6**
	comp=Z,13nm,0.8s							
CKRC	**Cesky Krumlov**	**2.98**	**203**	*e*PN		**Pn**	**00 00 47.0**	**+0.7**
CKRC				*e*PG		**Pb**	**00 00 52.4**	**+0.7**
CKRC				*e*SG		**Sg**	**00 01 33.1**	**-0.3**
	comp=Z,20nm,0.8s							
LANS	**Liptovska Anna**	**3.25**	**137**	*e*PN		**Pn**	**00 00 50.7**	**+0.6**
LANS				*e*PG		**Pg**	**00 01 00.1**	**-0.1**
LANS				*e*SG		**Sg**	**00 01 41.6**	**-0.7**
MODS	**Modra-Piesok**	**3.29**	**166**	*e*PG		**Pg**	**00 01 01.2**	**+0.3**
MODS				*e*SG		**Sg**	**00 01 44.4**	**+0.9**
NIE	**Niedzica**	**3.45**	**127**	*e*P		**Pg**	**00 01 03.0**	**-1.0**
NIE				*e*S		**Sg**	**00 01 49.1**	**+0.4**
VYHS	**Vyhne**	**3.56**	**149**	*e*PG		**Pg**	**00 01 06.8**	**+0.8**
VYHS				*e*SG		**Sg**	**00 01 49.7**	**-2.3**
CONA	**Conrad Observa**	**3.65**	**182**	*i* Pn		**Pn**	**00 00 55.7**	**+0.1**
	comp=Z,0.4nm,0.2s,SNR=4.5							
CONA				Sg		**Sg**	**00 01 55.4**	**+0.5**
	comp=Z,19nm,0.8s							
RONA	**Rosalia, Austr**	**3.88**	**178**	*e*Sg		**Sg**	**00 02 01.6**	**-0.6**
	comp=Z,8.9nm,0.6s							
MOA	**Molln**	**3.90**	**198**	*i* Pn		**Pn**	**00 00 59.1**	**+0.1**
	comp=Z,5.3nm,0.5s,SNR=12							
MOA				*e*Sg		**Sg**	**00 02 02.6**	**-0.5**
	comp=Z,7.8nm,0.5s							
ARSA	**Arzberg**	**4.34**	**185**	*i* Pn		**Pn**	**00 01 07.0**	**+1.9**
	comp=Z,1.2nm,0.3s							
ARSA				*e*Sg		**Sg**	**00 02 18.8**	**+1.7**
	comp=Z,10nm,0.7s							
KOLS	**Kolonicke sedl**	**4.77**	**121**	*e*PN		**Pn**	**00 01 10.2**	**-0.8**
KOLS				*e*PG		**Pg**	**00 01 31.8**	**+2.6**
KBA	**Koelnbreinsper**	**4.83**	**203**	*e*Pn		**Pn**	**00 01 12.7**	**+0.6**
	comp=Z,0.8nm,0.2s,SNR=4.0							
KBA				*e*Sg		**Sg**	**00 02 33.6**	**+0.5**
	comp=Z,12nm,0.7s							
SOKA	**Soboth**	**4.94**	**188**	*e*Sg		**Sg**	**00 02 38.5**	**+2.0**
	comp=Z,3.4nm,0.6s							
MYKA	**Terra Mystica**	**5.19**	**199**	Sg		**Sg**	**00 02 44.8**	**+0.2**
	comp=Z,7.2nm,1.1s							
ABTA	**Abfaltersbach**	**5.36**	**207**	Sg		**Sg**	**00 02 53.2**	**+3.3**
	comp=Z,7.5nm,0.9s							

*NOU **10** 00:03:01.0,37˚.21S×179˚.93E, h107km, MLv4.9/7, Off E. Coast of N. Island, N.Z.*
*IDC **10** 00:03:06.2±1.6,37˚.25S×179˚.07E, h0km, mb3.9/3, mbtmp3.9/3, MS3.8/13, Error ellipse: s-maj=47.6km s-min=28.2km az=148.0*
*WEL **10** 00:03:07.3±0.7,37˚S±5˚×17˚9E±˚, h5km, M4.0/47, ML4.2/48, MLv4.0/47, Error ellipse: s-maj=0.0km s-min=0.0km az=94.8*
*NEIC **10** 00:03:09.0±2.6,37˚.44S±0˚.09×178˚.91E±0˚.07, h15km±6km, mb4.4/9, Error ellipse: s-maj=12.9km s-min=6.8km az=161.0*
ISC 10 00:03:05.1±2.3,37˚32S±0˚05×179˚22E±0˚08, h4km±12km, n133, σ1s23/119, mb4.3/7, MS3.8/14, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.77**	**251**			**Pg**	**00 03 19.1**	**-0.6**
MXZ	**Matakaoa Point**	**0.77**	**251**	P		**Pg**	**00 03 19.2**	**-0.6**
MXZ				S		**Sg**	**00 03 27.4**	**-2.4**
WMGZ	**Waiomatatini S**	**0.81**	**232**	P		**Pb**	**00 03 23.1**	**+1.3**
WMGZ				S		**Sn**	**00 03 35.1**	**-0.7**
PKGZ	**Pakihiroa**	**1.07**	**238**	P		**Pb**	**00 03 26.0**	**-0.3**
PKGZ				S		**Sg**	**00 03 41.2**	**+1.7**
PUZ	**Puketiti**	**1.07**	**225**	P		**Pn**	**00 03 27.7**	**+0.7**
HAZ	**Te Kaha**	**1.22**	**249**	P		**Pn**	**00 03 26.8**	**-2.2**
TWGZ	**Tauwhareparae**	**1.30**	**229**	P		**Pb**	**00 03 31.1**	**+0.9**
RUGZ	**Raukumara Rang**	**1.38**	**242**	P		**Pn**	**00 03 31.2**	**-0.2**
CNGZ	**Carnagh Statio**	**1.41**	**214**	P		**Pb**	**00 03 33.2**	**+1.2**
CNGZ				S		**Sg**	**00 03 54.1**	**+3.6**
TKGZ	**Te Karaka**	**1.56**	**224**	P		**Pb**	**00 03 35.3**	**+0.7**
TKGZ				S		**Sn**	**00 03 54.7**	**+0.4**
WIZ	**White Island**	**1.63**	**262**	P		**Pb**	**00 03 35.7**	**0.0**
MWZ	**Matawai**	**1.68**	**232**	P		**Pn**	**00 03 36.1**	**+0.7**
RIGZ	**Rimuhau**	**1.80**	**219**	P		**Pn**	**00 03 37.4**	**+0.4**
WHRZ	**Whale Island**	**1.86**	**253**	P		**Pb**	**00 03 40.2**	**+0.5**
URZ	**Urewera**	**1.92**	**240**	Pn		**Pn**	**00 03 39.3**	**+0.8**
	69nm,0.3s,baz=210,slow=0.8,SNR=153							
URZ				Sn		**Sn**	**00 04 03.0**	**-0.2**
	76nm,0.3s,baz=211,slow=23,SNR=24							
URZ	**Urewera**	**1.92**	**240**			**Pn**	**00 03 39.2**	**+0.6**
URZ	**Urewera**	**1.92**	**240**	P		**Pn**	**00 03 39.4**	**+0.9**
URZ	**Urewera**	**1.92**	**240**	P		**Pn**	**00 03 39.6**	**+1.0**
SNGZ	**Shannon Statio**	**2.08**	**225**	P		**Pn**	**00 03 42.2**	**+1.3**
KNZ	**Kokohu**	**2.09**	**215**	P		**Pn**	**00 03 41.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.10**	**209**	P		**Pn**	**00 03 42.5**	**+1.4**
EDRZ	**Edgecumbe**	**2.12**	**247**	P		**Pn**	**00 03 42.4**	**+1.0**
OPRZ	**Ohinepanea**	**2.18**	**255**	P		**Pn**	**00 03 42.4**	**+0.1**
RAHZ	**Arahi**	**2.32**	**226**	P		**Pn**	**00 03 45.3**	**+1.2**
RRRZ	**Republican Roa**	**2.37**	**244**	P		**Pb**	**00 03 47.5**	**-1.0**
TGRZ	**Tauranga**	**2.39**	**259**	P		**Pn**	**00 03 45.0**	**0.0**
OMRZ	**Omania**	**2.39**	**250**	P		**Pn**	**00 03 45.9**	**+0.7**
MTHZ	**Maungataniwha**	**2.42**	**230**	P		**Pn**	**00 03 46.4**	**+0.9**
MTHZ				S		**Sn**	**00 04 16.9**	**+1.2**
HLRZ	**Highlands Stat**	**2.45**	**247**	P		**Pn**	**00 03 46.6**	**+0.6**
KARZ	**Kaharoa**	**2.46**	**253**	P		**Pn**	**00 03 47.0**	**+0.9**
PRRZ	**Plateau Road**	**2.53**	**241**	P		**Pn**	**00 03 47.4**	**+0.4**
HSRZ	**Hossack Road**	**2.55**	**246**	P		**Pn**	**00 03 49.0**	**+1.6**
ALRZ	**Allen Road**	**2.59**	**240**	P		**Pn**	**00 03 48.5**	**+0.6**
NMHZ	**Naumai**	**2.60**	**226**	P		**Pn**	**00 03 49.0**	**+1.0**
ARHZ	**Aropaoanui**	**2.61**	**221**	P		**Pn**	**00 03 49.0**	**+0.9**
ARHZ				S		**Sn**	**00 04 21.7**	**+1.3**
BKZ	**Black Stump Fm**	**2.83**	**229**			**Pn**	**00 03 51.5**	**+0.3**
BKZ	**Black Stump Fm**	**2.83**	**229**	P		**Pn**	**00 03 51.4**	**+0.2**
BKZ				S		**Sn**	**00 04 24.8**	**-1.0**
BKZ	**Black Stump Fm**	**2.83**	**229**	P		**Pn**	**00 03 51.5**	**+0.3**
KUZ	**Kuaotunu**	**2.86**	**281**	P		**Pn**	**00 03 51.9**	**+0.4**
MCHZ	**McNeill Hill**	**2.90**	**222**	P		**Pn**	**00 03 52.9**	**+0.7**
TOZ	**Tahuroa Road**	**2.98**	**261**	P		**Pn**	**00 03 54.0**	**+0.7**
KWHZ	**Kaweka Forest**	**3.04**	**225**	P		**Pn**	**00 03 54.2**	**0.0**
KAHZ	**Kahuranaki**	**3.08**	**216**	P		**Pn**	**00 03 54.2**	**-0.5**
RITZ	**Rihia Road**	**3.12**	**237**	P		**Pn**	**00 03 56.1**	**+0.9**
GRZ	**Great Barrier**	**3.20**	**288**	P		**Pn**	**00 03 57.4**	**+1.2**
KRHZ	**Kereru**	**3.22**	**223**	P		**Pn**	**00 03 56.7**	**+0.1**
KATZ	**Kakaramea**	**3.23**	**238**	P		**Pn**	**00 03 58.6**	**+1.8**
PXZ	**Pawanui**	**3.27**	**214**	P		**Pn**	**00 03 56.7**	**-0.6**
BHHZ	**Black Hill Sta**	**3.29**	**228**	P		**Pn**	**00 03 57.8**	**+0.2**
TMVZ	**Te Maari**	**3.30**	**236**	P		**Pn**	**00 03 58.2**	**+0.5**
WIAZ	**Waiheke Island**	**3.31**	**278**	P		**Pn**	**00 03 58.7**	**+0.9**
OTVZ	**Oturere**	**3.35**	**236**	P		**Pn**	**00 03 58.6**	**+0.1**
WTVZ	**West Tongariro**	**3.37**	**237**	P		**Pn**	**00 03 59.5**	**+0.7**
SNVZ	**South Ngauruho**	**3.38**	**235**	P		**Pn**	**00 03 58.9**	**+0.1**
NGZ	**Ngauruhoe**	**3.40**	**236**	P		**Pn**	**00 04 00.6**	**+1.5**
TUVZ	**Tukino**	**3.41**	**234**	P		**Pn**	**00 03 59.7**	**+0.4**
MOVZ	**Moawhango**	**3.43**	**232**	P		**Pn**	**00 03 59.6**	**+0.2**
ETAZ	**East Tamaki Re**	**3.45**	**275**	P		**Pn**	**00 04 01.5**	**+1.8**
TWVZ	**Taurewa**	**3.45**	**238**	P		**Pn**	**00 04 00.5**	**+0.7**
WHVZ	**Whangaehu Hut**	**3.46**	**234**	P		**Pn**	**00 04 00.2**	**+0.1**
FWVZ	**Far West T-bar**	**3.47**	**235**	P		**Pn**	**00 04 00.2**	**0.0**
WNVZ	**Wahianoa**	**3.48**	**234**	P		**Pn**	**00 04 00.2**	**-0.1**
WPHZ	**Waipukurau**	**3.50**	**218**	P		**Pn**	**00 03 59.5**	**-0.9**
MBAZ	**Motutapu North**	**3.50**	**278**	P		**Pn**	**00 04 01.6**	**+1.2**
PNHZ	**Pukenui**	**3.51**	**221**	P		**Pn**	**00 03 59.6**	**-0.9**
HIZ	**Hauiti**	**3.65**	**250**	Pn		**Pn**	**00 04 02.8**	**+0.3**
HIZ	**Hauiti**	**3.65**	**250**	P		**Pn**	**00 04 04.1**	**+1.6**
HIZ	**Hauiti**	**3.65**	**250**	P		**Pn**	**00 04 04.0**	**+1.6**
AWAZ	**Awhitu Peninsu

comp=Z,114nm,18.1s,baz=110,slow=36
H03S2 Juan Fernandez 78.56 124 T T 01 41 40.7
baz=233,SNR=18
H03S1 Juan Fernandez 78.57 124 T T 01 41 42.1
baz=233,SNR=17
H03S3 Juan Fernandez 78.58 124 T T 01 41 41.5
baz=233,SNR=17
H03N3 Juan Fernandez 78.80 123 T T 01 41 51.7
baz=234,slow=72,SNR=59
H03N2 Juan Fernandez 78.80 123 T T 01 41 50.9
baz=234,slow=72,SNR=67
H03N1 Juan Fernandez 78.81 123 T T 01 41 50.9
baz=234,slow=72,SNR=54
ARCES ARCESS Array B 144.74 344 PKP **PKPdf 00 22 42.9 +0.7**
comp=Z,1.8nm,0.9s,baz=31,slow=3.3,SNR=7.5
FINES FINESS Array B 150.59 334 PKPbc **PKiKP 00 22 58.6 +0.5**
comp=Z,0.6nm,0.4s,baz=35,slow=4.2,SNR=16
TORD Torodi Ar. Bea 155.83 186 PKPab **PKPab 00 23 29.3 +1.9**
comp=Z,0.9nm,1.0s,baz=182,slow=4.3,SNR=2.5

---

*MOS **10** 00:03:44.9±1.2,57.°06N×118.°31E,h11km,mb4.6/4,Error ellipse: s-maj=9.2km s-min=6.3km az=76.4*
MOS Felt (II-III) at Chara.
*IDC **10** 00:03:45.1±0.9,57.°00N×118.°14E,h0km,mb3.7/11, mbtmp3.8/16,ML3.5/4,MS3.3/12,Error ellipse: s-maj=22.3km s-min=15.8km az=174.0*
*NEIC **10** 00:03:46.9±2.2,57.°08N±0.°10×118.°2E±0.°2,h10km±1km, mb4.6/21,Error ellipse: s-maj=16.8km s-min=16.1km az=97.0*
*BYKL **10** 00:03:47.1±0.2,57.°10N×118.°22E,h14km±2km,FELT I=III-IV MSK at Novaya Chara and II-III at Chara*
ISC 10 00:03:47.3±0.7,57.°05N±0.°03×118.°14E±0.°02,h17km±4km, n127,σ2°30/160,mb4.3/24,MS3.3/11,17C-2D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.17**	**154**	*i*Pg	**Pg**	**00 03 52.4**	**+0.8**
CRS				Pmax		00 03 52.5	
	13μm,0.2s						
CRS				*e*Sg	**Sg**	**00 03 55.4**	**+0.9**
CRS				Smax		00 03 55.9	
	76μm,0.2s						
CRS	**Chara**	**0.17**	**154**	⇑*i*PG	**Pg**	**00 03 52.4**	**+0.8**
CRS				*e*S	**Sg**	**00 03 55.5**	**+0.9**
NLYR	**Nelyaty**	**1.45**	**248**	⇑*i*Pg	**Pg**	**00 04 14.6**	**-0.6**
NLYR				Pmax		00 04 16.4	
	2μm,0.4s						
NLYR				*e*Sg	**Sg**	**00 04 33.8**	**-0.3**
NLYR				Smax		00 04 35.3	
	5μm,0.6s						
NLYR	**Nelyaty**	**1.45**	**248**	*e*PN	**Pg**	**00 04 14.7**	**-0.5**
NLYR				*e*		00 04 32.8	
NLYR				pmax	pmax		
	comp=Z,2μm,0.5s						
NLYR				smax	smax		
	comp=E,5μm,0.8s						
YKLR	**Yuktali**	**1.99**	**102**	*e*Pn	**Pb**	**00 04 21.4**	**-1.5**
YKLR				*e*Pg	**Pg**	**00 04 22.4**	**-3.0**
YKLR				*e*Sg	**Sb**	**00 04 47.5**	**+0.1**
BOD	**Bodaibo**	**2.36**	**291**	⇑*i*Pn	**Pn**	**00 04 26.3**	**+1.1**
BOD				*e*Pg	**Pb**	**00 04 29.8**	**+0.5**
BOD				*e*PgPg	**PnPn**	**00 04 35.8**	**+3.5**
BOD				max		00 04 36.5	
	comp=E,497nm,0.5s						
BOD				*e*Sn	**Sn**	**00 04 55.7**	**+1.9**
BOD				*e*Sg	**Sb**	**00 05 00.4**	**+2.2**
BOD				*e*		00 05 04.6	
BOD				max		00 05 05.3	
	comp=E,2μm,0.4s						
BOD	**Bodaibo**	**2.36**	**291**	⇑*i*PN	**Pn**	**00 04 26.3**	**+1.1**
BOD				*e*		00 04 29.9	
BOD				*e*		00 05 00.0	
BOD				pmax	pmax		
	comp=Z,207nm,0.2s						
BOD				smax	smax		
	comp=N,2μm,0.4s						
SVKR	**Severomuysk**	**2.70**	**252**	*e*Pn	**Pn**	**00 04 31.5**	**+1.6**
SVKR				*e*Pg	**Pg**	**00 04 37.2**	**-1.7**
SVKR				*e*		00 04 42.6	
SVKR				max		00 04 46.1	
	comp=N,637nm,0.3s						
SVKR				*e*Sn	**Sn**	**00 05 04.7**	**+2.6**
SVKR				*e*Sg	**Sg**	**00 05 12.2**	**-1.7**
SVKR				Smax		00 05 20.0	
	comp=N,5μm,1.0s						
SVKR	**Severomuysk**	**2.70**	**252**	*e*PN	**Pn**	**00 04 31.5**	**+1.6**
SVKR				*e*		00 04 35.8	
SVKR				*e*		00 05 11.3	
SVKR				pmax	pmax		
	comp=Z,633nm,0.3s						
SVKR				smax	smax		
	comp=N,5μm,0.9s						
TUP	**Tupik**	**2.82**	**158**	*e*Pn	**Pn**	**00 04 32.0**	**+0.4**
TUP				*e*Pg	**Pb**	**00 04 37.7**	**+0.5**
TUP				*e*		00 04 40.0	
TUP				*e*		00 04 41.5	
TUP				max		00 04 42.1	
	comp=N,512nm,0.4s						
TUP				*e*Sg	**Sb**	**00 05 14.0**	**+2.6**
TUP				Smax		00 05 16.9	
	comp=N,2μm,0.5s						
TUP				*e*		00 05 23.0	
TUP	**Tupik**	**2.82**	**158**	*e*PN	**Pn**	**00 04 32.0**	**+0.4**
TUP				*e*		00 05 13.4	
TUP				pmax	pmax		
	comp=Z,512nm,0.6s						
TUP				smax	smax		
	comp=E,2μm,0.3s						
UKT	**Uakit**	**2.96**	**240**	⇑*i*Pn	**Pn**	**00 04 35.2**	**+1.7**
UKT				*e*Pg	**Pg**	**00 04 41.7**	**-2.3**
UKT				*e*		00 04 50.5	
UKT				max		00 04 51.3	
	comp=E,301nm,0.7s						
UKT				*e*Sn	**Sn**	**00 05 10.9**	**+2.3**
UKT				*e*Sg	**Sg**	**00 05 20.1**	**-2.2**
UKT				Smax		00 05 21.2	
	comp=E,657nm,0.4s						
UKT				*e*SgSg	**SbSb**	**00 05 26.3**	**+5.8**
UKT	**Uakit**	**2.96**	**240**	⇑*i*PN	**Pn**	**00 04 35.2**	**+1.7**
UKT				*e*		00 04 41.5	
UKT				*e*		00 05 19.9	
UKT				pmax	pmax		
	comp=Z,4μm,0.6s						
UKT				smax	smax		
	comp=N,13μm,0.3s						
YOA	**Uoyan**	**3.66**	**258**	*e*Pn	**Pn**	**00 04 44.7**	**+1.6**
YOA				*e*Pg	**Pg**	**00 04 54.3**	**-3.0**
YOA				Pmax		00 05 01.4	
	comp=N,900nm,0.6s						
YOA				*e*Sn	**Sn**	**00 05 26.8**	**+1.0**
YOA				*e*Sg	**Sg**	**00 05 42.9**	**-1.9**
YOA				Smax		00 05 51.8	
	comp=N,7μm,0.7s						
YOA	**Uoyan**	**3.66**	**258**	*e*PN	**Pg**	**00 04 54.4**	**-2.9**
YOA				*e*		00 05 43.2	
YOA				pmax	pmax		
	comp=Z,319nm,0.4s						
YOA				smax	smax		
	comp=E,6μm,0.7s						
CLNS	**Chul'man**	**3.71**	**90**	*e*Pn	**Pn**	**00 04 44.9**	**+1.2**
CLNS				*e*Pg	**Pb**	**00 04 53.3**	**+1.1**
CLNS				*e*		00 05 02.5	
CLNS				*e*Sn	**Sn**	**00 05 27.3**	**+0.3**
CLNS				*e*Sg	**Sb**	**00 05 39.8**	**+2.9**
VTMR	**Vitim**	**3.80**	**311**	*e*Pn	**Pn**	**00 04 46.0**	**+1.0**
VTMR				*e*Pg	**Pb**	**00 04 55.5**	**+1.7**
VTMR				*e*PgPg	**PbPb**	**00 04 57.1**	**+0.1**
VTMR				*e*		00 05 03.3	
VTMR				*e*Sn	**Sn**	**00 05 28.6**	**-0.6**
VTMR				*e*Sg	**Sg**	**00 05 45.0**	**-4.3**
KMO	**Kumora**	**4.02**	**256**	*e*Pn	**Pn**	**00 04 49.9**	**+2.0**
KMO				*e*Pg	**Pg**	**00 05 00.8**	**-3.4**
KMO				Pmax		00 05 03.6	
	comp=E,206nm,0.4s						
KMO				*e*		00 05 10.5	
KMO				*e*Sn	**Sn**	**00 05 35.5**	**+0.9**
KMO				*e*Sg	**Sg**	**00 05 53.4**	**-2.8**
KMO				Smax		00 05 58.6	
	comp=E,2μm,0.4s						
KMO	**Kumora**	**4.02**	**256**	⇑*i*PN	**Pn**	**00 04 50.0**	**+2.0**
KMO				*e*		00 04 59.3	
KMO				*e*S	**Sn**	**00 05 33.6**	**-1.0**
KMO				*e*		00 05 53.4	
KMO				pmax	pmax		
	comp=Z,203nm,0.5s						
KMO				smax	smax		
	comp=N,2μm,0.7s						
YLYR	**Ulyunkhan**	**4.48**	**244**	*e*Pn	**Pn**	**00 04 56.3**	**+2.0**
YLYR				*e*		00 05 00.5	
YLYR				*e*Pg	**Pb**	**00 05 08.8**	**+3.4**
YLYR				*e*		00 05 17.7	
YLYR				max		00 05 18.6	
	comp=N,63nm,0.7s						
YLYR				*e*Sn	**Sn**	**00 05 45.4**	**-0.6**
YLYR				*e*		00 05 49.3	
YLYR				*e*Sg	**Sg**	**00 06 07.5**	**-3.5**
YLYR				Smax		00 06 10.2	
	comp=N,980nm,1.1s						
YLYR	**Ulyunkhan**	**4.48**	**244**	⇑*i*PN	**Pn**	**00 04 56.4**	**+2.1**
YLYR				*e*		00 05 08.8	
YLYR				*e*		00 06 06.8	
YLYR				pmax	pmax		
	comp=Z,62nm,0.6s						
YLYR				smax	smax		
	comp=N,764nm,0.5s						
NIZ	**Nizh Angarsk**	**4.94**	**259**	*e*Pn	**Pn**	**00 05 02.5**	**+1.9**
NIZ				*e*Pg	**Pb**	**00 05 16.9**	**+3.7**
NIZ				Pmax		00 05 19.7	
	comp=N,88nm,0.9s						
NIZ				*e*		00 05 24.6	
NIZ				*e*Sn	**Sn**	**00 05 56.4**	**-0.9**
NIZ				*e*Sg	**Sg**	**00 06 20.7**	**-5.0**
NIZ				Smax		00 06 29.9	
	comp=N,978nm,1.0s						
NIZ	**Nizh Angarsk**	**4.94**	**259**	*e*PN	**Pn**	**00 05 03.6**	**+3.0**
NIZ				*e*		00 05 17.0	
NIZ				*e*		00 06 20.7	
NIZ				pmax	pmax		
	comp=Z,88nm,0.9s						
NIZ				smax	smax		
	comp=N,979nm,1.0s						
CIT	**Chita**	**5.70**	**210**	*e*Pn	**Pn**	**00 05 13.6**	**+2.5**
CIT				*e*Pg	**Pb**	**00 05 30.0**	**+3.8**
CIT				Pmax		00 05 42.0	
	comp=N,50nm,0.1s						
CIT				*e*Sn	**Sn**	**00 06 16.6**	**+0.5**
CIT				*e*Sg	**Sg**	**00 06 45.7**	**-4.3**
CIT				Smax		00 07 01.9	
	comp=N,453nm,0.3s						
SYVR	**Suvo**	**5.75**	**237**	*e*Pg	Pb	00 05 31.9	+4.9
SYVR				Pmax		00 05 35.5	
	comp=N,23nm,1.0s						
SYVR				*e*Sn	**Sn**	**00 06 16.7**	**-0.6**
SYVR				*e*Sg	**Sg**	**00 06 46.9**	**-4.7**
SYVR				Smax		00 06 54.8	
	comp=N,436nm,1.5s						
SYVR				*e*		00 06 59.3	
SYVR	**Suvo**	**5.75**	**237**	*e*PN	**Pn**	**00 05 12.8**	**+1.1**
SYVR				*e*		00 05 31.6	
SYVR				*e*		00 06 47.5	
SYVR				pmax	pmax		
	comp=Z,24nm,0.8s						
SYVR				smax	smax		
	comp=E,457nm,0.8s						
ZEA	**Zeya**	**6.16**	**119**	*e*PN	**Pn**	**00 05 18.4**	**+1.1**
ZEA				*e*		00 05 36.8	
ZEA				*e*S	**Sn**	**00 06 29.3**	**+2.0**
ZEA				*e*		00 07 00.9	
ZEA				pmax	pmax		
	comp=N,10.0nm,0.3s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.6s						
ZEA				pmax	pmax		
	comp=E,60nm,0.6s						
ZEA				pmax	pmax		
	comp=N,40nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,70nm,0.5s						
ZEA				smax	smax		
	comp=N,420nm,1.0s						
ZEA				smax	smax		
	comp=E,1μm,0.8s						
ZEA				smax	smax		
	comp=N,1μm,2.4s						
ZEA				smax	smax		
	comp=E,1μm,2.5s						
ZEA				MLR	MLR		
	comp=Z,100nm,5.0s						
MXMB	**Maximikha**	**6.58**	**239**	*e*Pn	**Pn**	**00 05 25.7**	**+2.6**
MXMB				*e*		00 05 29.0	
MXMB				*e*Pg	Pg	00 05 47.2	-5.9
MXMB				*e*		00 06 41.2	
MXMB				*e*Sg	**Sg**	**00 07 12.7**	**-5.5**
MXMB				*e*		00 07 29.7	
OGRR	**Ongureny**	**6.91**	**245**	*e*Pn	**Pn**	**00 05 31.4**	**+3.8**
OGRR				*e*Pg	Pb	00 05 51.9	+5.2
OGRR				Pmax		00 06 12.1	
	comp=Z,20nm,0.8s						
OGRR				*e*Sg	**Sg**	**00 07 23.3**	**-5.5**
OGRR				Smax		00 07 29.4	
	comp=Z,186nm,1.4s						
OGRR	**Ongureny**	**6.91**	**245**	*e*PN	**Pn**	**00 05 31.7**	**+4.1**
OGRR				*e*		00 05 54.6	
KELR	**Kotokel**	**7.21**	**238**	*e*Pg	Pg	00 05 59.1	-6.1
KELR				*e*		00 06 59.8	
KELR				*e*Sg	**Sg**	**00 07 33.2**	**-5.3**
YAK	**Yakutsk**	**7.70**	**45**	Sn	**Sn**	**00 06 58.8**	**-6.3**
	comp=Z,0.3nm,0.3s,baz=141,slow=23,SNR=1.5						
YAK				Lg	Lg	00 07 39.9	
	comp=Z,0.3nm,0.3s,baz=282,slow=20,SNR=8.3						
YAK	**Yakutsk**	**7.70**	**45**	Pn	**Pn**	**00 05 38.7**	**+0.3**
YAK	**Yakutsk**	**7.70**	**45**	*ce*PN	**Pn**	**00 05 36.9**	**-1.5**
ZRHB	**Zarechye**	**7.78**	**239**	*e*Sn	**Sn**	**00 07 06.4**	**-0.7**
ZRHB				*e*Sg		00 07 49.6	
ZRHB				Smax		00 08 02.5	
	comp=Z,633nm,1.2s						
HIA	**Hailar**	**7.86**	**172**	⇑*e*PN	**Pn**	**00 05 40.6**	**0.0**
TRG	**Tyrgan**	**8.03**	**243**	*e*Pn	**Pn**	**00 05 45.6**	**+2.5**
TRG				*e*Pg		00 06 13.4	
TRG				*e*		00 06 24.3	
TRG				*e*		00 06 38.8	
TRG				max		00 07 04.7	
	comp=Z,12nm,0.6s						
TRG				*e*Sn	**Sn**	**00 07 13.1**	**-0.4**
TRG				*e*Sg		00 07 57.6	
TRG				Smax		00 08 04.6	
	comp=Z,124nm,2.4s						
TRG	**Tyrgan**	**8.03**	**243**	*e*PG	Pb	00 06 11.7	+5.8
TRG				pmax	pmax		
	comp=Z,7.0nm,0.2s						
KPC	**Khapcheranga**	**8.12**	**207**	*e*Pn	**Pn**	**00 05 46.3**	**+2.0**
KPC				*e*		00 05 52.2	
KPC				*e*Pg	Pb	00 06 13.9	+6.5
KPC				Pmax		00 06 48.5	
	comp=Z,10.0nm,1.1s						
KPC				*e*		00 07 11.5	
KPC				*e*Sg		00 08 00.3	
KPC				Smax		00 08 15.2	
	comp=Z,197nm,1.6s						
KPC	**Khapcheranga**	**8.12**	**207**	*e*PN	**Pn**	**00 05 44.0**	**-0.3**
KPC				*e*		00 06 12.0	
KPC				*e*S	**Sn**	**00 07 11.9**	**-3.7**
KPC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KPC				smax	smax		
	comp=E,197nm,1.9s						
FFNB	**Fofonovo**	**8.29**	**238**	*e*Pg	Pb	00 06 17.5	+7.3
FFNB				*e*		00 07 15.3	
FFNB				*e*Sg		00 08 06.1	
FFNB				*e*		00 08 34.0	
KAB	**Kabansk**	**8.34**	**238**	*e*Sg		00 08 07.5	
KAB				Smax		00 08 32.9	
	comp=E,715nm,1.3s						
HRMR	**Khuramsha**	**8.49**	**235**	*e*Pn	**Pn**	**00 05 51.4**	**+2.1**
HRMR				*e*Pg		00 06 20.4	
HRMR				Pmax		00 06 36.2	
	comp=E,18nm,0.6s						
HRMR				*e*Sn	**Sn**	**00 07 24.7**	**+0.1**
HRMR				*e*Sg		00 08 12.0	
HRMR				Smax		00 08 28.0	
	comp=E,551nm,0.9s						
HRMR				*e*		00 08 31.7	
LSTR	**Listvyanka**	**9.32**	**242**	*e*Sg	Sg	00 08 38.0	
LSTR				Smax		00 08 44.0	
	comp=E,139nm,1.9s						
IVK	**Ivanovka**	**9.56**	**242**	*e*Pg	Pn	00 06 39.7	+36
IVK				Pmax		00 06 51.9	
	comp=E,5.0nm,0.4s						
IVK				*e*Sn	**Sn**	**00 07 47.5**	**-3.4**
IVK				*e*Sg		00 08 44.5	
IVK				Smax		00 09 09.7	
	comp=E,106nm,1.5s						
IVK				*e*		00 09 15.6	
TLY	**Talaya**	**10.01**	**244**	*e*Pg	Pg	00 06 48.3	
TLY				Pmax		00 07 00.9	
	comp=E,12nm,1.1s						
TLY				*e*Sg	Sg	00 08 58.8	
TLY				Smax		00 09 05.1	
	comp=E,52nm,1.3s						
ARS	**Arshan**	**10.47**	**247**	*e*Pg	Pg	00 06 57.3	
ARS				Pmax		00 07 03.6	
	comp=E,11nm,0.5s						
ARS				*e*Sn	**Sn**	**00 08 10.1**	**-3.3**
ARS				*e*Sg		00 09 11.8	
ARS				*e*		00 09 27.0	
ARS				*e*		00 09 41.1	
ARS				max		00 09 43.5	
	comp=E,324nm,0.9s						
ZAK	**Zakamensk**	**11.03**	**239**	*e*Sg		00 09 31.0	
ZAK				Smax		00 09 45.1	
	comp=E,66nm,1.5s						
KLR	**Kul'dur**	**11.30**	**128**	Pn	**Pn**	**00 06 27.7**	**-0.1**
	comp=E,1.1nm,0.3s,baz=315,slow=10,SNR=13						
KLR				Sn	Sn	00 08 25.2	-8.3
	comp=E,0.6nm,0.3s,baz=61,slow=19,SNR=5.9						
KLR				Lg	Lg	00 09 38.9	
	comp=E,0.1nm,0.3s,baz=286,slow=2.2,SNR=3.9						
KLR				LR	LR	00 11 29.2	
	comp=E,84nm,18.1s,baz=312,slow=41						
	comp=E,2.1nm,0.3s						
KLR	**Kul'dur**	**11.30**	**128**	⇑*e*P	**Pn**	**00 06 27.2**	**-0.6**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MOY	**Mondy**	**11.35**	**249**	*e*		00 09 13.6	
MOY				*e*Sg		00 09 40.4	
MOY				Smax		00 10 06.1	
	comp=Z,178nm,0.7s						
MOY	**Mondy**	**11.35**	**249**	*e*P	Pn	00 06 43.0	+14
ULN	**Ulaanbaatar**	**11.40**	**221**	⇑*e*P	**Pn**	**00 06 30.3**	**+1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**11.66**	**223**	Pn	**Pn**	**00 06 33.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=27,slow=14,SNR=1.6						
SONM				Sn	**Sn**	**00 08 36.3**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=122,slow=28,SNR=2.0						
SONM				Lg	Lg	00 09 54.6	
	comp=Z,2.0nm,0.3s,baz=16,slow=24,SNR=9.3						
SONM				LR	LR	00 11 34.6	
	comp=Z,59nm,18.1s,baz=63,slow=40						
	comp=Z,0.2nm,0.3s						
KNGR	**Kungurtug, Tuv**	**13.75**	**251**	⇓*e*P	**Pn**	**00 07 02.5**	**+1.2**
KNGR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**15.33**	**13**	Pn	**Pn**	**00 07 17.8**	**-4.6**
	comp=Z,4.4nm,0.5s,baz=269,slow=19,SNR=8.1						
TIXI				Sn	Sn	00 09 58.5	-13
	comp=Z,100nm,0.3s,baz=267,slow=23,SNR=2.8						
TIXI				Lg	Lg	00 11 50.6	
	comp=Z,119nm,0.3s,baz=272,slow=23,SNR=1.7						
TIXI	**Tiksi**	**15.33**	**13**		**Pn**	**00 07 20.2**	**-2.2**
TIXI				IAmb	IAmb	00 07 27.1	
	comp=Z,8.8nm,0.5s						
TIXI	**Tiksi**	**15.33**	**13**	⇓*e*P	**Pn**	**00 07 21.2**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**15.54**	**140**	Lg	Lg	00 12 00.4	
	comp=Z,0.4nm,0.3s,baz=325,slow=23,SNR=8.1						
USRK	**Ussuriysk Ar.**	**15.54**	**140**	Pn	**Pn**	**00 07 25.9**	**+0.6**
USRK	**Ussuriysk Ar.**	**15.54**	**140**	P	**Pn**	**00 07 25.9**	**+0.6**
TYV	**Tymovskoe**	**15.65**	**103**	*e*P	**P**	**00 07 34.6**	**+3.8**
TYV				*e*S	**Sn**	**00 10 24.2**	**+4.6**
TYV				pmax	pmax		
	comp=Z,15nm,1.6s						
TYV				pmax	pmax		
	comp=Z,300nm,5.1s						
TYV				smax	smax		
	comp=N,300nm,4.8s						
TYV				smax	smax		
	comp=E,500nm,4.8s						
BJT	**Baijiatuau**	**17.09**	**185**	Pn	**Pn**	**00 07 45.1**	**0.0**
BJT	**Baijiatuau**	**17.09**	**185**	P	**Pn**	**00 07 45.1**	**0.0**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SEY	**Seymchan**	**17.95**	**57**	P	**P**	**00 07 56.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=288,slow=8.7,SNR=6.4						
SEY				Lg	Lg	00 13 06.5	
	baz=233,slow=9.8						
	comp=Z,3.1nm,0.8s						
SEY	**Seymchan**	**17.95**	**57**	⇑*e*P	**Pn**	**00 07 55.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**18.11**	**113**	⇑*e*P	**Pn**	**00 07 56.9**	**-0.8**
YSS				pmax	pmax		
	comp=Z,18nm,1.0s						
NRIK	**Noril'sk**	**18.21**	**325**	P	**Pn**	**00 07 54.5**	**-4.3**
	comp=Z,6.7nm,0.6s,baz=123,slow=10,SNR=13						
NRIK				S	Sn	00 11 06.4	-15
	comp=Z,1.7nm,0.4s,baz=77,slow=18,SNR=1.6						
NRIK				Lg	Lg	00 13 17.7	
	comp=Z,0.1nm,0.3s,baz=60,slow=23,SNR=1.4						
NRIK	**Noril'sk**	**18.21**	**325**	P	**Pn**	**00 07 55.4**	**-3.4**
NRIK	**Noril'sk**	**18.21**	**325**	P	**Pn**	**00 07 55.4**	**-3.4**
NRIK				pmax	pmax		
	comp=Z,12nm,1.1s						
ZAA0	**Zalesovo Array**	**19.01**	**275**	P	**P**	**00 08 08.2**	**+0.3**
ZALV	**Zalesovo Beam**	**19.01**	**275**	P	**Pn**	**00 08 09.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=68,slow=9.7,SNR=10.0						
	comp=Z,9.3nm,1.1s						
DGZ	**Jazzator, Alta**	**19.61**	**261**	⇑*e*P	**P**	**00 08 14.9**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KSRS	**Korea Array**	**20.66**	**157**	LR	LR	00 17 34.4	
	comp=Z,40nm,18.2s,baz=35,slow=40						
PEA0B	**Petropavlovsk-**	**22.76**	**83**	P	**P**	**00 08 47.3**	**-1.0**
PEA0B				IAmb	IAmb	00 08 50.8	
	comp=Z,12nm,1.1s						
PEA0B	**Petropavlovsk-**	**22.76**	**83**	P	**P**	**00 08 47.3**	**-1.0**
PEA0B				pmax	pmax		
	comp=Z,12nm,1.2s						
PETK	**Petropavlovsk-**	**22.76**	**83**	P	**P**	**00 08 48.9**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=302,slow=3.3,SNR=7.1						
	comp=Z,2.6nm,0.8s						
PETK	**Petropavlovsk-**	**22.76**	**83**	P	**P**	**00 08 47.6**	**-0.7**
KURK	**Kurchatov**	**23.87**	**272**	P	**P**	**00 09 00.8**	**+1.4**
KURBB	**Kurchatov Arra**	**23.97**	**271**	P	**P**	**00 09 00.8**	**+0.5**
	comp=Z,1.1nm,0.2s,baz=64,slow=10,SNR=1.2						
KURBB				Lg	Lg	00 16 21.3	
	baz=52,slow=25						
	comp=Z,1.1nm,0.2s						
MK31	**Makanchi Array**	**24.10**	**260**	P	**P**	**00 09 02.9**	**+1.2**
MK31	**Makanchi Array**	**24.10**	**260**	⇑*e*P	**P**	**00 09 02.7**	**+1.0**
MKAR	**Makanchi Array**	**24.10**	**260**	P	**P**	**00 09 03.4**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=45,slow=7.3,SNR=14						
MKAR				LR	LR	00 18 56.6	
	comp=Z,85nm,20.7s,baz=45,slow=38						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**24.10**	**260**	P	**P**	**00 09 03.2**	**+1.5**
JHS	**Saijyo**	**24.27**	**149**	P	**P**	**00 09 03.8**	**+0.4**
MJAR	**Matsushiro Arr**	**24.52**	**138**	LR	LR	00 18 36.3	
	comp=Z,48nm,20.2s,baz=8.0,slow=36						
BVAR	**Borovoye Array**	**27.20**	**282**	P	**P**	**00 09 30.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=74,slow=6.2,SNR=2.6						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**27.20**	**282**	P	**P**	**00 09 30.0**	**+0.3**
JHJ	**Hachijo jima 2**	**28.15**	**139**	LR	LR	00 20 18.2	
	comp=Z,50nm,19.9s,baz=71,slow=35						
KKAR	**Karatay Array**	**32.86**	**266**	P	**P**	**00 10 20.2**	**+0.3**
KKAR	**Karatay Array**	**32.86**	**266**	P	**P**	**00 10 20.2**	**+0.3**
ABKAR	**Akbulak array**	**34.78**	**283**	P	**P**	**00 10 36.6**	**+0.2**
AKTO	**Aktyubinsk**	**35.12**	**285**	LR	LR	00 26 11.5	
	comp=Z,48nm,19.2s,baz=356,slow=38				

	comp=Z,1.6nm,0.8s						
BMAR	**Burnt Mountain**	**41.77**	**35**	P	**P**	**00 11 37.1**	**+1.9**
HDA	**Harding Lake**	**42.78**	**40**	P	**P**	**00 11 43.2**	**0.0**
HDA				IAmb	IAmb	00 11 46.3	
	comp=Z,4.7nm,0.8s						
CAPN	**Captain Cook N**	**43.42**	**46**	P	**P**	**00 11 49.2**	**+0.8**
FIA1	**FINESS Array S**	**43.53**	**316**	P	**P**	**00 11 49.7**	**+0.4**
FIA1				IAmb	IAmb	00 12 01.5	
	comp=Z,5.3nm,0.9s						
FIA0	**FINESS Array S**	**43.53**	**316**	P	**P**	**00 11 50.0**	**+0.6**
FIA0	**FINESS Array S**	**43.53**	**316**	P	**P**	**00 11 50.0**	**+0.6**
FINES	**FINESS Array B**	**43.53**	**316**	P	**P**	**00 11 49.3**	**0.0**
	comp=Z,1.9nm,0.8s,baz=42,slow=8.4,SNR=8.5						
	comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**43.53**	**316**	P	**P**	**00 11 49.5**	**+0.1**
FINES	**FINESS Array B**	**43.53**	**316**	P	**P**	**00 11 49.5**	**+0.1**
DOT	**Dot Lake**	**44.25**	**39**	P	**P**	**00 11 54.3**	**-0.9**
DOT				IAmb	IAmb	00 11 59.1	
	comp=Z,3.8nm,0.6s						
Q23K	**Middleton Isla**	**46.14**	**45**	P	**P**	**00 12 11.9**	**+1.9**
SUCK	**Suckling Hills**	**46.69**	**43**	P	**P**	**00 12 12.9**	**-1.6**
KVAR	**Kislovodsk Arr**	**47.28**	**288**	LR	LR	00 35 40.4	
	comp=Z,48nm,21.2s,baz=268,slow=40						
KIV	**Kislovodsk**	**47.28**	**288**	*i* P	**P**	**00 12 21.2**	**+1.8**
KIV				*i*		00 12 28.9	
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,41nm,16.0s						
NC405	**NORSAR Array S**	**48.92**	**322**	P	**P**	**00 12 33.5**	**+1.8**
NC405				IAmb	IAmb	00 12 38.7	
	comp=Z,11nm,0.9s						
HFS	**Hagfors**	**48.94**	**320**	LR	LR	00 33 07.9	
	comp=Z,42nm,18.7s,baz=352,slow=36						
NC303	**NORSAR Array S**	**48.96**	**322**	P	**P**	**00 12 34.1**	**+2.0**
NC303				IAmb	IAmb	00 12 37.8	
	comp=Z,6.4nm,1.0s						
NB201	**NORSAR Array S**	**49.11**	**322**	P	**P**	**00 12 34.5**	**+1.3**
NB201				IAmb	IAmb	00 12 40.2	
	comp=Z,13nm,1.0s						
NC204	**NORSAR Array S**	**49.12**	**322**	P	**P**	**00 12 35.8**	**+2.5**
NC204				IAmb	IAmb	00 12 51.1	
	comp=Z,7.2nm,0.9s						
NB2	**NORSAR Subarra**	**49.14**	**322**	P	P	00 12 39.5	+6.0
	comp=Z,0.9nm,0.6s,baz=50,slow=8.6						
NOA	**NORSAR Array B**	**49.14**	**322**	P	**P**	**00 12 33.1**	**-0.4**
NOA				LR	LR	00 35 00.6	
	comp=Z,32nm,19.1s,baz=300,slow=38						
	comp=Z,0.4nm,0.8s						
AKASG	**Malin Array Be**	**49.24**	**303**	P	**P**	**00 12 34.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=73,slow=0.5,SNR=4.7						
	comp=Z,0.4nm,0.4s						
NC602	**NORSAR Array S**	**49.26**	**322**	P	**P**	**00 12 37.6**	**+3.3**
NC602				IAmb	IAmb	00 12 46.1	
	comp=Z,13nm,1.1s						
NBO00	**NORSAR Array S**	**49.30**	**322**	P	**P**	**00 12 37.2**	**+2.6**
YKA	**Yellowknife Ar**	**53.98**	**27**	P	**P**	**00 13 10.6**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=335,slow=8.4,SNR=2.3						
	comp=Z,0.6nm,0.7s						
ARG	**Arkhangelos**	**60.49**	**292**	P	**P**	**00 13 57.4**	**+1.5**
ARG	**Arkhangelos**	**60.49**	**292**	P	**P**	**00 13 57.4**	**+1.5**
ARG				pmax	pmax		
	comp=Z,11nm,0.9s						
VLC	**Villacollemand**	**62.52**	**309**	P	**P**	**00 14 10.0**	**+0.5**
VLC				IAmb	IAmb	00 14 15.8	
	comp=Z,6.1nm,0.9s						
LEM	**Lembang**	**64.23**	**192**	LR	LR	00 45 44.9	
	comp=Z,200nm,21.1s,baz=190,slow=39						
NVAR	**Mina Array Bea**	**73.67**	**43**	P	**P**	**00 15 20.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=326,slow=4.8,SNR=4.2						
	comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**77.89**	**164**	P	**P**	**00 15 43.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=353,slow=6.5,SNR=2.9						
	comp=Z,0.3nm,0.5s						

NOU ***10*** *00:08:53.0, 36˚.95S×179˚.29W, h28km, mb4.5/4, East of North Island, N.Z.*

IDC ***10*** *00:09:06.6±3.5, 37˚.10S×178˚.91E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=87.6km s-min=31.8km az=129.0*

WEL ***10*** *00:09:08.6±1.1, 37˚.5–7˚.×17˚.9E±˚, h12km, M3.3/14, ML3.6/21, MLv3.3/14, Error ellipse: s-maj=0.0km s-min=0.0km az=114.7*

ISC 10 00:09:05.1±2.6, **37˚.25S**±0˚.08×**179˚.2E**±0˚.1, **h3**km±12km, **n41**, σ1ᵌ03/45, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.79**	**246**	P	**Pg**	**00 09 19.7**	**-0.7**
MXZ				S	**Sg**	**00 09 27.8**	**-2.7**
WMGZ	**Waiomatatini S**	**0.86**	**228**	P	**Pn**	**00 09 24.0**	**-0.2**
PKGZ	**Pakihiroa**	**1.11**	**234**	P	**Pn**	**00 09 27.5**	**-0.2**
PUZ	**Puketiti**	**1.12**	**223**	P	**Pn**	**00 09 27.5**	**-0.3**
PUZ				S	**Sb**	**00 09 42.7**	**+0.5**
HAZ	**Te Kaha**	**1.25**	**246**	P	**Pn**	**00 09 29.0**	**-0.5**
TWGZ	**Tauwhareparae**	**1.35**	**226**	P	**Pg**	**00 09 31.5**	**+0.5**
TWGZ				S	**Sg**	**00 09 49.7**	**+1.2**
RUGZ	**Raukumara Rang**	**1.42**	**239**	P	**Pb**	**00 09 32.2**	**-0.1**
RUGZ				S	**Sn**	**00 09 51.3**	**+0.1**
CNGZ	**Carnagh Statio**	**1.47**	**213**	P	**Pb**	**00 09 33.0**	**-0.1**
CNGZ				S	**Sg**	**00 09 54.8**	**+2.3**
MWZ	**Matawai**	**1.72**	**230**	P	**Pb**	**00 09 36.7**	**-0.7**
RIGZ	**Rimuhau**	**1.86**	**218**	P	**Pn**	**00 09 37.8**	**-0.1**
RIGZ				S	**Sn**	**00 10 01.2**	**-0.7**
URZ	**Urewera**	**1.95**	**238**	Pn	**Pn**	**00 09 39.7**	**+0.5**
	15nm,0.3s,baz=31,slow=8.8,SNR=28						
URZ				Sn	**Sn**	**00 10 04.0**	**-0.2**
	32nm,0.3s,baz=211,slow=14,SNR=23						
URZ	**Urewera**	**1.95**	**238**	P	**Pn**	**00 09 39.8**	**+0.6**
URZ	**Urewera**	**1.95**	**238**	P	**Pn**	**00 09 40.2**	**+1.0**
RAHZ	**Arahi**	**2.37**	**225**	P	**Pn**	**00 09 45.9**	**+1.0**
MTHZ	**Maungataniwha**	**2.47**	**229**	P	**Pn**	**00 09 46.8**	**+0.5**
MTHZ				S	**Sn**	**00 10 16.9**	**-0.1**
NMHZ	**Naumai**	**2.65**	**225**	P	**Pn**	**00 09 49.6**	**+0.7**
BKZ	**Black Stump Fm**	**2.88**	**227**	P	**Pn**	**00 09 51.8**	**-0.2**
BKZ	**Black Stump Fm**	**2.88**	**227**	P	**Pn**	**00 09 52.1**	**+0.1**
MCHZ	**McNeill Hill**	**2.96**	**221**	P	**Pn**	**00 09 52.7**	**-0.3**
TOZ	**Tahuroa Road**	**3.00**	**260**	P	**Pn**	**00 09 54.0**	**+0.5**
KWHZ	**Kaweka Forest**	**3.09**	**224**	P	**Pn**	**00 09 54.5**	**-0.4**
KAHZ	**Kahuranaki**	**3.14**	**215**	P	**Pn**	**00 09 54.7**	**-0.9**
MKAZ	**Moumakai**	**3.24**	**271**	P	**Pn**	**00 09 58.0**	**+1.1**
BHHZ	**Black Hill Sta**	**3.34**	**227**	P	**Pn**	**00 09 57.7**	**-0.7**
OTVZ	**Oturere**	**3.39**	**235**	P	**Pn**	**00 09 58.9**	**-0.3**
SNVZ	**South Ngauruho**	**3.42**	**234**	P	**Pn**	**00 09 59.3**	**-0.2**
MOVZ	**Moawhango**	**3.48**	**231**	P	**Pn**	**00 10 00.2**	**0.0**
WNVZ	**Wahianoa**	**3.53**	**233**	P	**Pn**	**00 10 01.1**	**+0.1**
PNHZ	**Pukenui**	**3.56**	**221**	P	**Pn**	**00 09 59.7**	**-1.6**
HIZ	**Hauiti**	**3.68**	**249**	P	**Pn**	**00 10 04.1**	**+1.3**
HIZ	**Hauiti**	**3.68**	**249**	P	**Pn**	**00 10 04.4**	**+1.5**
BFZ	**Birch Farm**	**4.14**	**213**	P	**Pn**	**00 10 07.2**	**-2.0**
WAZ	**Wanganui**	**4.16**	**232**	P	**Pn**	**00 10 10.0**	**+0.5**
KHZ	**Kahutara**	**6.76**	**218**	P	**Pn**	**00 10 48.2**	**+2.9**
RPZ	**Rata Peaks**	**8.96**	**221**	Sn	Sn	00 12 43.5	-13
	0.5nm,0.3s,baz=23,slow=18,SNR=1.4						
ASAR	**Alice Springs**	**40.9**	**276**	P	**P**	**00 16 48.5**	**-0.8**
	0.8nm,0.9s,baz=125,slow=7.8,SNR=4.1						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**42.58**	**281**	P	**P**	**00 17 02.8**	**+0.2**
	0.1nm,0.3s,baz=120,slow=8.5,SNR=1.7						
	0.1nm,0.3s						
H03N3	**Juan Fernandez**	**78.84**	**123**	T	T	01 47 51.9	
	baz=235						
H03N2	**Juan Fernandez**	**78.84**	**123**	T	T	01 47 50.7	
	baz=235						
H03N1	**Juan Fernandez**	**78.85**	**123**	T	T	01 47 52.6	
	baz=235						
FINES	**FINESS Array B**	**150.53**	**334**	PKPbc	**PKiKP**	**00 28 58.4**	**+0.2**
	2.9nm,1.1s,baz=46,slow=8.2,SNR=3.6						

JMA ***10*** *00:10:19.6±0.1, 33˚.N–2˚.×13˚.7E±˚, h393km, MV2.9/35, SE OFF KII PENINSULA*

IDC ***10*** *00:10:22.9±1.3, 33˚.53N×137˚.41E, h361km±35km, mb2.9/3, mbtmp3.5/5, Error ellipse: s-maj=62.3km s-min=25.3km az=50.0*

ISC 10 00:10:22.9±1.0, **33˚.55N**±0˚.10×**137˚.26E**±0˚.09, **h352**km, **n23**, σ1ᵌ54/25, **mb3.1/3**, **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.27**	**314**	P	**Pn**	**00 11 08.8**	**+2.3**
TTO3	**TONANKAI O.B.S**	**0.34**	**19**	*e*P	**Pn**	**00 11 09.2**	**+2.3**
TTO1	**TONANKAI O.B.S**	**0.41**	**281**	*e*P	**Pn**	**00 11 08.8**	**+2.0**
TTO4	**TONANKAI O.B.S**	**0.51**	**26**	P	**Pn**	**00 11 09.1**	**+2.1**
TK02	**Tokai 2**	**0.57**	**46**	*e*P	**Pn**	**00 11 09.4**	**+2.2**
JIE	**Isle**	**0.96**	**331**	P	**Pn**	**00 11 10.4**	**+1.7**
JTNC	**Tanabenakahech**	**1.41**	**282**	P	**Pn**	**00 11 11.9**	**+1.2**
JWY	**Kouya**	**1.54**	**296**	P	**Pn**	**00 11 13.1**	**+1.6**
JYTA	**Yamagatataniai**	**2.09**	**348**	P	**Pn**	**00 11 16.6**	**+1.6**
JOD2	**Odawara 2**	**2.28**	**41**	P	**Pn**	**00 11 18.0**	**+1.6**
JWT	**Wachi**	**2.32**	**319**	P	**Pn**	**00 11 18.1**	**+1.5**
JAI	**Aioi**	**2.36**	**277**	P	**Pn**	**00 11 18.2**	**+1.1**
JMN	**Monobe**	**2.83**	**275**	P	**Pn**	**00 11 22.2**	**+1.2**
JHU	**Hanno**	**2.84**	**35**	P	**Pn**	**00 11 21.7**	**+0.8**
JHU				eS	S	**00 12 06.2**	**-1.5**
MAT	**Matsushiro**	**3.09**	**14**	eS	S	**00 12 12.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.09**	**14**	P	**Pn**	**00 11 24.4**	**+1.2**
	2.2nm,0.4s,baz=184,slow=9.6,SNR=15						
MJAR				S	**S**	**00 12 12.7**	**+1.0**
	2.5nm,0.6s,baz=4.3,slow=12,SNR=1.9						
JAG	**Ashikaga**	**3.39**	**31**	P	**Pn**	**00 11 25.6**	**-0.3**
JHS	**Saijyo**	**3.73**	**294**	*e*P	**Pn**	**00 11 30.7**	**+1.4**
JTO	**Tosashimizu**	**3.80**	**261**	*e*P	**Pn**	**00 11 30.7**	**+0.6**
KSRS	**Korea Array**	**8.56**	**300**	P	**P**	**00 12 25.2**	**-0.9**
	1.0nm,0.5s,baz=115,slow=9.5,SNR=4.6						
SONM	**Songino Array**	**27.20**	**311**	P	**P**	**00 15 35.6**	**0.0**
	0.4nm,0.4s,baz=101,slow=11,SNR=1.8						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**53.26**	**183**	P	**P**	**00 19 05.3**	**-1.3**
	0.3nm,0.3s,baz=359,slow=7.7,SNR=8.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**56.98**	**184**	P	**P**	**00 19 32.1**	**-0.9**
	0.3nm,0.5s,baz=352,slow=4.8,SNR=7.4						
	0.3nm,0.5s						

CNRM ***10*** *00:21:57.9, 35˚.81N×1˚.48W, h0km, ml2.3*

MDD ***10*** *00:21:59.9±0.9, 35˚.56N×1˚.26W, h20km±8km, mb_Lg2.6/15, Error ellipse: s-maj=3.7km s-min=8.0km az=141.0*

ISC 10 00:21:57.6±1.3, **35˚.75N**±0˚.03×**1˚.33W**±0˚.04, **h9**km±10km, **n26**, σ1ᵌ54/48, **1D**, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHAS	**Isla Isabel II**	**1.06**	**238**	P	**Pb**	**00 22 18.6**	**+0.4**
CHAS				S	**Sg**	**00 22 31.2**	**-0.7**
TAF	**Taforalt**	**1.29**	**224**	P	**Pn**	**00 22 21.3**	**-0.6**
TAF				S	**Sg**	**00 22 40.7**	**+1.7**
WMELI	**Melilla**	**1.40**	**253**	P	**Pb**	**00 22 24.1**	**+0.2**
WMELI				S	**Sn**	**00 22 40.2**	**-1.6**
EMEL	**Melilla**	**1.40**	**252**	P	**Pn**	**00 22 23.0**	**-0.4**
EMEL				S	**Sn**	**00 22 40.2**	**-1.8**
ENIJ	**Nijar**	**1.42**	**330**	P	**Pg**	**00 22 24.6**	**-0.2**
ENIJ				S	**Sg**	**00 22 43.1**	**0.0**
ENIJ				*i* Vmb_Lg		00 22 47.3	
GOG	**Mont Gurugu**	**1.46**	**249**	P	**Pn**	**00 22 24.2**	**-0.1**
GOG				S	**Sn**	**00 22 43.7**	**+0.1**
EBER	**Berja**	**1.71**	**313**	P	**Pg**	**00 22 30.6**	**+0.2**
EBER				S	**Sg**	**00 22 51.8**	**-0.7**
EBER				*i* Vmb_Lg		00 23 02.4	
JBK	**JBK**	**1.74**	**216**	P	**Pg**	**00 22 31.1**	**+0.1**
JBK				S	**Sg**	**00 22 53.9**	**+0.4**
CART	**Cartagena**	**1.85**	**8**	P	**Pb**	**00 22 30.6**	**-1.1**
CART				S	**Sn**	**00 22 49.8**	**-3.4**
EMUR	**La Murta**	**2.09**	**2**	P	**Pn**	**00 22 34.0**	**+1.1**
EMUR				S	**Sn**	**00 22 57.9**	**-1.2**
EMUR				*i* Vmb_Lg		00 23 06.7	
EZAR	**Zarzadilla de**	**2.15**	**352**	P	**Pn**	**00 22 34.5**	**+0.9**
EZAR				S	**Sb**	**00 23 02.3**	**-1.2**
ELGU	**Los Guajares,**	**2.17**	**302**	P	**Pn**	**00 22 34.7**	**+0.7**
ELGU				S	**Sn**	**00 23 02.3**	**+1.2**
ELGU				*i* Vmb_Lg		00 23 06.4	
PALE	**Palemas**	**2.20**	**257**	P	**Pn**	**00 22 34.5**	**+0.1**
PALE				S	**Sn**	**00 23 00.1**	**-1.6**
AKLM	**AKL**	**2.42**	**240**	P	**Pn**	**00 22 39.0**	**+1.6**
AKLM				S	**Sb**	**00 23 11.1**	**-0.3**
EQES	**Quesada**	**2.48**	**326**	P	**Pb**	**00 22 41.1**	**-1.4**
EQES				*i* Vmb_Lg		00 22 43.5	
EQES				S	**Sb**	**00 23 12.3**	**-0.9**
EGOR	**Sierra Gorda,**	**2.63**	**302**	P	**Pb**	**00 22 43.3**	**-1.6**
EGOR				*i* Vmb_Lg		00 22 51.4	
EGOR				S	**Sn**	**00 23 14.0**	**+1.6**
ETOB	**Tobarra**	**2.90**	**357**	P	**Pb**	**00 22 47.7**	**-2.4**
ETOB				S	**Sn**	**00 23 20.7**	**+1.7**
ETOB				*i* Vmb_Lg		00 24 34.3	
EMIJ	**Mijas**	**2.91**	**287**	P	**Pn**	**00 22 45.6**	**+1.5**
EMIJ				S	**Sn**	**00 23 17.8**	**-1.4**
EMIJ				*i* Vmb_Lg		00 23 24.8	
EADA	**Adamuz**	**3.55**	**314**	P	**Pn**	**00 22 55.5**	**+2.5**
EADA				S	**Sn**	**00 23 36.9**	**+1.8**
EADA				*i* Vmb_Lg		00 23 54.7	
ECHE	**Chera**	**3.85**	**4**	P	**Pn**	**00 23 00.1**	**+3.1**
ECHE				*i* Vmb_Lg		00 23 57.3	
EIBI	**Ibiza**	**3.90**	**32**	P	**Pn**	**00 23 00.2**	**+2.5**
EIBI				S	**Sn**	**00 23 43.6**	**-0.1**
EIBI				*i* Vmb_Lg		00 24 02.5	
MDT	**Midelt**	**3.99**	**224**	P	**Pn**	**00 22 59.9**	**+0.8**
ECAB	**El Cabril**	**4.02**	**307**	P	**Pn**	**00 23 01.5**	**+2.1**
ECAB				*i* Vmb_Lg		00 25 04.0	
MD31	**MD31**	**4.04**	**226**	P	**Pn**	**00 23 01.3**	**+1.5**
PAB	**San Pablo**	**4.49**	**329**	P	**Pn**	**00 23 09.2**	**+3.3**
PAB				S	**Sn**	**00 23 59.2**	**+1.0**
PAB				*i* Vmb_Lg		00 24 17.3	
ETOS	**Mallorca**	**5.18**	**38**	P	**Pn**	**00 23 17.2**	**+1.8**
ETOS				S	**Sn**	**00 24 14.0**	**-1.3**
ETOS				*i* Vmb_Lg		00 25 21.2	

IDC ***10*** *00:25:14.7±0.6, 11˚.88N×86˚.55W, h33km±3km, mb4.3/20, mbtmp4.5/20, MS4.2/49, Error ellipse: s-maj=24.2km s-min=10.7km az=62.0*

SNET ***10*** *00:25:14.5±1.1, 11˚.47N×87˚.06W, h36km, ML5.0*

UCR ***10*** *00:25:14.7±1.0, 11˚.47N×87˚.07W, h36km, ML4.7, mb5.0(NEIC)*

BJI ***10*** *00:25:14.0±0.0, 11˚.70N×86˚.90W, h30km, mB5.2/2, Ms5.1/3, Ms7 4.8/3*

INET ***10*** *00:25:15.3±0.6, 11˚.58N×87˚.05W, h19km±4km, MW5.0*

NEIC ***10*** *00:25:16.4±2.0, 11˚.69N±0˚.04×86˚.84W±0˚.06, h37km±3km, mb4.9/512, Mwr5.0/50, Md5.0(SNET), Error ellipse: s-maj=8.4km s-min=6.2km az=69.0*

NEIC ***10*** *00:25:18.3, 11˚.72N×86˚.83W, h41km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=4.46; Mθθ0.13; Mφφ4.33; Mrθ-0.63; Mθφ0.61; Mφr-0.68; Fault plane solution: Mₒ4.53000×10¹⁶ NP1:φ₁181.59000°, δ40.49000°, λ-100.00000°. NP2:φ₂14.65000°, δ50.25000°, λ-81.56000°. Principal axes: T 4.4785, Plg5.0000°, Azm99.0000°; N 0.1034, Plg6.0000°, Azm189.0000°; P -4.5819, Plg82.0000°, Azm332.0000°;*

GCMT ***10*** *00:25:18.4±0.3, 11˚.40N±0˚.02×87˚.19W±0˚.03, h37km, MW5.0/90, Moment Tensor Solution. s64,c85; s90,c124; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.11±.15; Mθθ-2.41±.09; Mφφ-0.70±.11; Mrθ1.16±.09; Mφθ1.62±.06; Mφr-0.69±.10; Best double couple: Mₒ3.51900×10¹⁶ NP1:φ₁121.00000°, δ56.00000°, λ90.00000°. NP2: φ₂301.00000°, δ34.00000°, λ90.00000°. Principal axes: T 3.3800, Plg79.0000°, Azm30.0000°; N 0.2720, Plg0.0000°, Azm121.0000°; P -3.6580, Plg11.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

GCG ***10*** *00:25:23.1±0.3, 11˚.54N×87˚.79W, h153km±167km, MD4.6*

ISC 10 00:25:15.3±0.4, **11˚.67N**±0˚.04×**86˚.95W**±0˚.03, **h42**km±3km, **h42**km:**pP-P, n1046**, σ1ᵌ19/972, **mb4.9**/252, **MS4.3**/61, **2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.62**	**35**	*e*P	**Pn**	**00 25 29.6**	**+1.9**
APYN	**Apoyeque**	**0.81**	**46**	*e*P	**Pn**	**00 25 32.0**	**+1.7**
APYN				*e*S	**Sn**	**00 25 44.7**	**+3.4**
TISN	**Laguna Tiscapa**	**0.81**	**55**	*e*P	**Pn**	**00 25 32.1**	**+1.7**
MGAN	**Managua**	**0.83**	**55**	*e*P	**Pn**	**00 25 32.3**	**+1.7**
MGAN				*e*P		00 25 32.4	
MOMN	**Momotombo**	**0.84**	**29**	*e*P	**Pn**	**00 25 32.5**	**+1.8**
MASN	**Masaya**	**0.84**	**68**	*e*P	**Pn**	**00 25 32.0**	**+1.2**
CNGN	**Cerro Negro**	**0.86**	**17**		**Pn**	**00 25 31.5**	**+0.5**
CNGN	**Cerro Negro**	**0.86**	**17**	*e*P	**Pn**	**00 25 31.6**	**+0.5**
WILN	**Americas 2**	**0.89**	**57**	*e*P	**Pn**	**00 25 33.1**	**+1.7**
TEL3	**Telica 3**	**0.90**	**7**	*e*P	**Pn**	**00 25 33.1**	**+1.5**
HUEN		**1.01**	**49**	*e*P	**Pn**	**00 25 34.9**	**+1.9**
HUEN				*e*S	**Sn**	**00 25 51.4**	**+5.4**
CRIN	**San Cristobal**	**1.03**	**355**		**Pn**	**00 25 34.6**	**+1.3**
CRIN	**San Cristobal**	**1.03**	**355**	*e*P	**Pn**	**00 25 34.7**	**+1.3**
CRIN				*e*S	**Sn**	**00 25 49.5**	**+2.9**
BRAN	**Las Pilas**	**1.20**	**29**	*e*P	**Pn**	**00 25 31.6**	**-4.0**
CSGN	**Cosiguina Volc**	**1.43**	**335**	*e*P	**Pn**	**00 25 39.6**	**+0.7**
BOAB	**BOACO BROADBAN**	**.48**	**58**	Pn	**Pn**	**00 25 40.8**	**+1.5**
BOAB	**BOACO BROADBAN**	**.48**	**58**	*e*P	**Pn**	**00 25 40.9**	**+1.5**
MATN	**Matagalpa**	**1.60**	**39**		**Pn**	**00 25 43.1**	**+1.9**
MATN	**Matagalpa**	**1.60**	**39**	*e*P	**Pn**	**00 25 43.2**	**+2.0**
HZTE	**Horizontes, Gu**	**1.63**	**125**		**Pn**	**00 25 42.5**	**+0.9**
HZTE	**Horizontes, Gu**	**1.63**	**125**	*e*P	**Pn**	**00 25 42.7**	**+1.1**
ACON	**Acoyapa**	**1.76**	**80**		**Pn**	**00 25 44.1**	**+0.8**
ACON	**Acoyapa**	**1.76**	**80**	*e*P	**Pn**	**00 25 44.2**	**+0.8**
CNCH	**Conchagua**	**1.81**	**332**	*e*P	**Pn**	**00 25 45.3**	**+1.1**
CNCH				*e*S	**Sn**	**00 26 09.3**	**+3.2**
CNCH				IAML		00 26 11.5	
	comp=Z,25μm,0.5s						
CNCH	**Conchagua**	**1.81**	**332**	*i* P	**Pn**	**00 25 45.1**	**+0.9**
CNCH				*e*P		00 25 45.3	
CNCH				*e*S	**Sn**	**00 26 09.3**	**+3.2**
CNCH				IAML		00 26 11.5	
	comp=Z,25μm,0.5s						
LCND	**La Caada**	**1.87**	**331**	*e*P	**Pn**	**00 25 45.9**	**+1.0**
LCND				*e*S	**Sn**	**00 26 10.9**	**+3.6**
LCND				IAML		00 26 13.7	
	comp=Z,14μm,0.5s						
ORTG	**Ortega, Santa**	**1.96**	**131**		**Pn**	**00 25 47.1**	**+1.0**
DUNO	**Dulce Nombre,**	**2.13**	**138**		**Pn**	**00 25 48.1**	**-0.3**
CNRM	**Centro Naciona**	**2.15**	**327**	*e*P	**Pn**	**00 25 50.0**	**+1.2**
CNRM				*e*S	**Sn**	**00 26 17.8**	**+3.6**
CNRM	**Centro Naciona**	**2.15**	**327**	*e*P	**Pn**	**00 25 50.0**	**+1.2**
CNRM				*e*S	**Sn**	**00 26 17.8**	**+3.6**
VSM	**San Miguel**	**2.17**	**324**	*e*P	**Pn**	**00 25 50.8**	**+1.6**
VSM	**San Miguel**	**2.17**	**324**	*e*P	**Pn**	**00 25 50.8**	**+1.6**
LCY	**Lacayo**	**2.18**	**323**	*e*P	**Pn**	**00 25 50.3**	**+1.1**
LCY	**Lacayo**	**2.18**	**323**	*e*P	**Pn**	**00 25 50.3**	**+1.1**
RANC	**El Ranchito**	**2.19**	**323**	*e*P	**Pn**	**00 25 50.5**	**+1.1**
RANC				*e*S	**Sn**	**00 26 19.2**	**+4.0**
RANC	**El Ranchito**	**2.19**	**323**	*e*P	**Pn**	**00 25 50.5**	**+1.1**
RANC				*e*S	**Sn**	**00 26 19.2**	**+4.0**
PACA	**Pacayal**	**2.23**	**323**	*e*P	**Pn**	**00 25 50.8**	**+0.8**
PACA	**Pacayal**	**2.23**	**323**	*e*P	**Pn**	**00 25 50.8**	**+0.8**
PACA				*e*S	**Sn**	**00 26 19.0**	**+2.5**
PACA	**Pacayal**	**2.23**	**323**	*e*P	**Pn**	**00 25 50.8**	**+0.8**
PACA				*e*S	**Sn**	**00 26 19.0**	**+2.5**
COEB	**Comit de Eme**	**2.38**	**320**	*e*P	**Pn**	**00 25 52.8**	**+0.8**
COEB	**Comit de Eme**	**2.38**	**320**	*e*P	**Pn**	**00 25 52.8**	**+0.8**
JTS	**Las Juntas de**	**2.39**	**125**	Pn	**Pn**	**00 25 52.5**	**+0.4**
JTS	**Las Juntas de**	**2.39**	**125**	*e*P	**Pn**	**00 25 53.1**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.39**	**352**	Pn	**Pn**	**00 25 54.3**	**+2.2**
TGUH	**Tegucigalpa,Un**	**2.39**	**352**	*e*P	**Pn**	**00 25 54.4**	**+2.2**
TGUH	**Tegucigalpa,Un**	**2.39**	**352**	*e*P	**Pn**	**00 25 54.4**	**+2.2**
TGUH	**Tegucigalpa,Un**	**2.39**	**352**	*e*P	**Pn**	**00 25 54.3**	**+2.2**
CAHU	**Cacacuatique**	**2.42**	**330**	*e*P	**Pn**	**00 25 54.3**	**+1.7**
CAHU	**Cacacuatique**	**2.42**	**330**	*e*P	**Pn**	**00 25 54.3**	**+1.7**
PQSS	**Presa 15 de Se**	**2.50**	**321**	*e*P	**Pn**	**00 25 54.6**	**+1.1**
PQSS				*e*S	**Sn**	**00 26 24.8**	**+2.1**
PQSS	**Presa 15 de Se**	**2.50**	**321**	*e*P	**Pn**	**00 25 54.6**	**+1.1**
PQSS				*e*S	**Sn**	**00 26 24.8**	**+2.1**
UESV	**Universidad de**	**2.65**	**318**	*e*P	**Pn**	**00 25 56.1**	**+0.4**
UESV	**Universidad de**	**2.65**	**318**	*e*P	**Pn

ZAIG Zacatecas 18.54 309 P Pn 00 29 31.1 +1.7
BAUV El Baul 18.80 97 P P 00 29 30.9 -0.6
BAUV IAmb IAmb 00 29 34.3
comp=Z,37nm,0.6s
KVTX Kingsville 18.84 329 P Pn 00 29 33.9 +1.3
KVTX IAmb IAmb 00 29 46.2
comp=Z,131nm,1.2s
451A Vernon 18.89 3 P Pn 00 29 34.1 +1.0
451A IAmb IAmb 00 29 36.7
comp=Z,79nm,0.9s
456A Hilliard 19.50 13 P Pn 00 29 41.5 +1.0
456A IAmb IAmb 00 29 42.9
comp=Z,93nm,0.8s
456A Hilliard 19.50 13 P Pn 00 29 42.1 +1.6
baz=194,SNR=7.6
346A Big Creek Wild 19.76 354 P Pn 00 29 43.5 -0.1
346A IAmb IAmb 00 29 59.0
comp=Z,42nm,0.9s
352A Blakely 19.80 5 P Pn 00 29 44.3 +0.2
352A IAmb IAmb 00 29 46.4
comp=Z,84nm,0.9s
352A Blakely 19.80 5 P Pn 00 29 45.4 +1.3
baz=186,SNR=19
441A DeRidder 19.85 344 P Pn 00 29 45.2 +0.6
735A Kenedy 19.88 331 P Pn 00 29 46.3 +1.3
735A IAmb IAmb 00 29 49.1
comp=Z,46nm,1.1s
TIGA Tifton 19.92 8 P Pn 00 29 45.7 +0.3
TIGA Tifton 19.92 8 P Pn 00 29 46.4 +0.9
baz=189,SNR=15
TIGA Tifton 19.92 8 P Pn 00 29 45.9 +0.5
baz=189,SNR=15
HKT Hockley 19.98 337 Pn 00 29 46.0 -0.1
HKT IAmb IAmb 00 29 52.7
comp=Z,119nm,1.2s
HKT Hockley 19.98 337 P Pn 00 29 46.0 -0.1
baz=154
344A Westbrook Farm 20.00 351 P Pn 00 29 46.7 +0.3
344A IAmb IAmb 00 29 52.1
comp=Z,52nm,0.7s
PRSN Puerto Rico Se 20.20 69 P P 00 29 45.5 -1.2
PRSN IAmb IAmb 00 29 59.6
comp=Z,98nm,1.2s
250A Grady 20.22 2 P Pn 00 29 48.8 -0.2
250A IAmb IAmb 00 29 57.2
comp=Z,109nm,1.5s
250A Grady 20.22 2 P Pn 00 29 49.5 +0.5
baz=182,SNR=7.4
MLPR Magueyes Islan 20.23 70 P P 00 29 46.4 -0.6
342A Flagon Creek P 20.23 347 P Pn 00 29 48.9 -0.2
342A IAmb IAmb 00 30 03.0
comp=Z,52nm,0.9s
833A Chaparral WMA, 20.25 327 P P 00 29 48.0 +0.8
baz=142,SNR=43
833A Chaparral WMA, 20.25 327 P P 00 29 47.9 +0.7
baz=142,SNR=43
BIRV Birongo 20.33 91 P P 00 29 47.5 -0.8
ATAH Atahualpa 20.53 155 P Pn 00 29 57.5 +4.3
comp=Z,12nm,0.9s,baz=322,slow=5.5,SNR=7.3
ATAH LR LR 00 36 45.8
comp=Z,2µm,22.0s,baz=343,slow=34
255A Hazlehurst 20.58 11 P P 00 29 51.7 +1.0
255A IAmb IAmb 00 30 08.6
comp=Z,71nm,0.9s
AOPR Arecibo Observ 20.59 69 P P 00 29 50.8 -0.3
AOPR IAmb IAmb 00 29 56.8
comp=Z,39nm,0.8s
OBIP Obispado Ponce 20.65 70 P P 00 29 51.7 +0.1
OBIP IAmb IAmb 00 30 10.1
comp=Z,90nm,1.5s
CELP Cerrillos 20.68 70 P P 00 29 52.4 +0.4
ICMP Isla Caja de M 20.68 70 P P 00 29 52.3 +0.3
ICMP IAmb IAmb 00 29 54.3
comp=Z,68nm,0.8s
VBMS Vicksburg 20.71 351 P Pn 00 29 53.9 -0.9
VBMS IAmb IAmb 00 30 00.1
comp=Z,54nm,0.9s
257A Skidaway Islan 20.93 14 P P 00 29 51.7 -2.8
146A Union 20.96 355 P P 00 29 56.3 +1.5
152A Waverly Hall 21.00 5 P P 00 29 57.0 +1.7
152A IAmb IAmb 00 30 12.4
comp=Z,64nm,1.1s
152A Waverly Hall 21.00 5 P P 00 29 57.7 +2.5
baz=186,SNR=12
SJG San Juan 21.09 70 P P 00 29 56.6 +0.3
comp=Z,17nm,0.6s,baz=288,slow=3.3,SNR=10
SJG LR LR 00 37 34.3
comp=Z,509nm,21.2s,baz=248,slow=36
SJG San Juan 21.09 70 P P 00 29 57.2 +0.9
154A Montrose 21.14 9 P P 00 29 58.1 +1.3
154A Montrose 21.14 9 P P 00 29 58.9 +2.1
baz=190,SNR=12
GCPR Guaynabo City 21.20 69 P P 00 29 57.4 -0.1
NATX Nacogdoches 21.22 342 P P 00 29 59.4 +1.7
baz=158,SNR=8.3
LRAL Lakeview Retre 21.27 360 P P 00 29 59.8 +1.7
LRAL Lakeview Retre 21.27 360 P P 00 30 00.3 +2.2
baz=180,SNR=27
LRAL Lakeview Retre 21.27 360 P P 00 29 59.9 +1.8
baz=180,SNR=27
HUMP Col San Antoni 21.37 70 P P 00 29 59.7 +0.3
HUMP IAmb IAmb 00 30 03.9
comp=Z,34nm,0.9s
CBYP Canovanas 21.40 70 P P 00 29 59.1 -0.6
435B Jarrell 21.42 334 IAmb IAmb 00 30 11.8
comp=Z,42nm,0.8s
435B Jarrell 21.42 334 P P 00 30 00.5 +0.7
baz=150
435B Jarrell 21.42 334 P P 00 29 59.8 0.0
baz=150
Z47A Carrollton 21.45 357 P P 00 30 01.5 +1.4
Z47A IAmb IAmb 00 30 04.5
comp=Z,43nm,0.8s
Z47A Carrollton 21.45 357 P P 00 30 01.4 +1.3
baz=177
Z51A Franklin 21.61 4 P P 00 30 02.7 +0.9
Z51A IAmb IAmb 00 30 20.3
comp=Z,50nm,1.1s
Z51A Franklin 21.61 4 P P 00 30 04.0 +2.2
baz=184,SNR=9.2
MTP Monte Pirata 21.63 70 P P 00 30 02.2 0.0
MTP IAmb IAmb 00 30 21.9
comp=Z,44nm,1.1s
237A Washetta, Mont 21.82 339 P P 00 30 04.6 +0.5
GOGA Godfrey 21.87 8 P P 00 30 06.0 +1.4
GOGA IAmb IAmb 00 30 08.7
comp=Z,32nm,0.8s
GOGA Godfrey 21.87 8 P P 00 30 06.3 +1.7
baz=189,SNR=28
GOGA Godfrey 21.87 8 P P 00 30 05.5 +0.9
baz=189,SNR=28
PCRV Puerto La Cruz 21.96 92 P P 00 30 07.0 +1.2
comp=Z,23nm,0.6s,baz=246,slow=4.7,SNR=19
Y49A Blount Mountai 22.09 1 P P 00 30 08.3 +1.4
Y49A IAmb IAmb 00 30 21.7
comp=Z,38nm,0.8s
Y49A Blount Mountai 22.09 1 P P 00 30 08.6 +1.6
baz=181,SNR=23
CSU Charleston Sou 22.14 15 P P 00 30 08.7 +1.3
HAW Hawthorne Fire 22.14 12 P P 00 30 09.1 +1.6
baz=194,SNR=11
JCT Junction City 22.19 329 IAmb IAmb 00 30 25.1
comp=Z,32nm,0.8s
JCT Junction City 22.19 329 P P 00 30 08.8 +0.6
baz=145,SNR=7.3
JCT Junction City 22.19 329 P P 00 30 07.1 -1.1
baz=145,SNR=7.3
Y45A Yeager Farm, C 22.22 354 P P 00 30 09.5 +1.1
Y45A IAmb IAmb 00 30 22.7
comp=Z,58nm,1.1s
NHSC New Hope 22.22 15 P P 00 30 09.8 +1.4
NHSC IAmb IAmb 00 30 13.0
comp=Z,68nm,1.1s
NHSC New Hope 22.22 15 P P 00 30 09.8 +1.4
baz=197
STVI Saint Thomas 22.25 70 P P 00 30 08.0 -0.8
STVI IAmb IAmb 00 30 11.0
comp=Z,40nm,0.9s
Y52A Lilburn 22.25 6 P P 00 30 10.1 +1.4
Y52A Lilburn 22.25 6 P P 00 30 10.4 +1.8
baz=187,SNR=28
Y52A P P 00 30 10.4 +1.8
baz=187,SNR=28
CDVI St. Croix 22.28 72 P P 00 30 09.6 +0.5
CDVI IAmb IAmb 00 30 23.9
comp=Z,36nm,0.8s

WHTX Lake Whitney, 22.42 336 P P 00 30 11.0 +0.5
WHTX Lake Whitney, 22.42 336 P P 00 30 11.1 +0.5
baz=152,SNR=16
WHTX Lake Whitney, 22.42 336 P P 00 30 10.9 +0.3
baz=152,SNR=16
CCAR Cane Creek 22.58 350 P P 00 30 13.0 +0.9
CCAR IAmb IAmb 00 30 14.7
comp=Z,29nm,0.9s
WLAR White Oak Lake 22.63 347 P P 00 30 14.4 +1.7
WLAR IAmb IAmb 00 30 16.4
comp=Z,40nm,0.8s
X48A Hartselle 22.68 360 IAmb IAmb 00 30 26.9
comp=Z,25nm,0.8s
X48A Hartselle 22.68 360 P P 00 30 13.9 +0.7
baz=180,SNR=12
Z38A Mt. Pleasant 22.72 342 P P 00 30 14.8 +1.1
baz=159,SNR=12
FPAL Fort Paine 22.80 3 P P 00 30 15.4 +0.8
FPAL IAmb IAmb 00 30 35.8
comp=Z,26nm,0.8s
OXF Oxford 22.85 355 IAmb IAmb 00 30 16.1
comp=Z,44nm,0.7s
OXF Oxford 22.85 355 P P 00 30 15.1 0.0
baz=174,SNR=14
OXF Oxford 22.85 355 P P 00 30 14.7 -0.3
baz=174,SNR=14
HODGE Hodges 22.86 10 P P 00 30 16.1 +1.0
HODGE Hodges 22.86 10 P P 00 30 16.0 +0.8
baz=192,SNR=16
X51A Calhoun 22.87 4 P P 00 30 16.2 +1.0
X51A IAmb IAmb 00 30 33.8
comp=Z,83nm,1.4s
X51A Calhoun 22.87 4 P P 00 30 16.7 +1.4
baz=185,SNR=6.7
X51A P P 00 30 16.7 +1.4
baz=185,SNR=6.7
Y57A Sumter 23.04 14 P P 00 30 18.3 +1.4
Y57A IAmb IAmb 00 30 34.5
comp=Z,53nm,1.2s
Y57A Sumter 23.04 14 P P 00 30 19.0 +2.1
baz=196
Y57A P P 00 30 19.0 +2.1
baz=196
JSC Jenkinsville 23.10 12 IAmb IAmb 00 30 35.2
comp=Z,57nm,1.2s
JSC Jenkinsville 23.10 12 P P 00 30 18.7 +1.2
baz=194,SNR=15
Y58A Scranton 23.11 16 P P 00 30 18.3 +0.6
Y58A IAmb IAmb 00 30 20.6
comp=Z,34nm,0.7s
TBTG Tabatinga, AM 23.14 132 P P 00 30 18.8 +0.7
TBTG IAmb IAmb 00 30 39.6
comp=Z,35nm,0.9s
TBTG Tabatinga, AM 23.14 132 eP P 00 30 19.6 +1.4
HPIG 23.24 313 P P 00 30 21.5 +2.1
Y59A Loris 23.41 17 P P 00 30 21.1 +0.5
SWET Sewanee 23.46 2 IAmb IAmb 00 30 35.8
comp=Z,44nm,1.2s
W45A Hickory Valley 23.47 355 IAmb IAmb 00 30 21.9
comp=Z,35nm,0.7s
W50A Signal Mountai 23.47 3 IAmb IAmb 00 30 37.8
comp=Z,45nm,0.8s
W50A Signal Mountai 23.47 3 P P 00 30 21.8 +0.5
baz=184,SNR=40
W52A Murphy 23.48 6 P P 00 30 22.2 +0.9
W52A IAmb IAmb 00 30 38.5
comp=Z,49nm,0.8s
W52A Murphy 23.48 6 P P 00 30 22.6 +1.3
baz=187,SNR=6.5
TXAR Lajitas Array 23.48 321 P P 00 30 22.1 +0.5
comp=Z,20nm,0.8s,baz=138,slow=8.7,SNR=160
TXAR PcP PcP 00 34 08.4 +1.7
comp=Z,1.5nm,0.5s,baz=147,slow=6.1,SNR=9.5
TXAR pPcP 00 34 18.9
comp=Z,2.3nm,0.8s,baz=153,slow=4.2,SNR=5.8
TXAR LR LR 00 40 53.8
comp=Z,127nm,19.3s,baz=128,slow=40
comp=Z,20nm,0.8s
TXAR Lajitas Array 23.48 321 PcP 00 34 08.0 +1.4
TX31 Lajitas Ar. Si 23.48 321 P P 00 30 22.1 +0.5
TX31 Lajitas Ar. Si 23.48 321 P P 00 30 22.3 +0.7
baz=135,SNR=60
TX32 Lajitas Array 23.48 321 IAmb IAmb 00 30 33.6
comp=Z,32nm,0.8s
BG3 Lake Jocassee 23.50 8 P P 00 30 22.2 +0.7
BG3 IAmb IAmb 00 30 38.2
comp=Z,40nm,1.1s
CASEE Lake Jocassee 23.50 8 P P 00 30 22.9 +1.3
baz=190,SNR=10
PAULI Pauline 23.52 11 P P 00 30 22.4 +0.8
PAULI IAmb IAmb 00 30 24.0
comp=Z,24nm,0.9s
PAULI Pauline 23.52 11 P P 00 30 23.1 +1.4
baz=192,SNR=14
UALR University of 23.52 349 P P 00 30 21.3 -0.4
UALR IAmb IAmb 00 30 22.8
comp=Z,24nm,0.8s
Z35A Perchaven, San 23.54 338 P P 00 30 22.5 +0.6
Z35A Perchaven, San 23.54 338 P P 00 30 22.3 +0.5
baz=154,SNR=5.1
MIAR Mount Ida 23.56 346 IAmb IAmb 00 30 23.3
comp=Z,47nm,0.8s
MIAR Mount Ida 23.56 346 P P 00 30 22.1 0.0
baz=163,SNR=52
MIAR Mount Ida 23.56 346 P P 00 30 21.6 -0.4
baz=163,SNR=52
Y60A Bolivia 23.62 18 P P 00 30 22.7 +0.1
Y60A IAmb IAmb 00 30 25.3
comp=Z,53nm,0.9s
BIRD Birdtown, Kers 23.62 13 P P 00 30 23.1 +0.4
BIRD IAmb IAmb 00 30 25.5
comp=Z,41nm,0.8s
BIRD Birdtown, Kers 23.62 13 P P 00 30 23.8 +1.1
baz=196,SNR=12
CPCT Cooper Cave 23.78 5 IAmb IAmb 00 30 27.0
comp=Z,36nm,0.8s
X58A Rowland 23.81 16 P P 00 30 25.2 +0.8
X58A IAmb IAmb 00 30 27.3
comp=Z,49nm,1.0s
X58A Rowland 23.81 16 P P 00 30 25.5 +1.1
baz=198,SNR=5.2
X58A P P 00 30 25.5 +1.1
baz=198,SNR=5.2
ABTX Abilene, Hawle 23.90 333 P P 00 30 25.3 0.0
ABTX Abilene, Hawle 23.90 333 P P 00 30 25.9 +0.6
baz=148
ABTX Abilene, Hawle 23.90 333 P P 00 30 25.5 +0.2
baz=148
KMSC Kings Mountain 23.92 11 P P 00 30 26.3 +0.8
KMSC IAmb IAmb 00 30 28.4
comp=Z,22nm,0.8s
KMSC Kings Mountain 23.92 11 P P 00 30 26.8 +1.4
baz=193,SNR=10
KMSC Kings Mountain 23.92 11 P P 00 30 26.2 +0.8
baz=193,SNR=10
SMRT St. Maarten 23.92 72 IAmb IAmb 00 30 25.2
comp=Z,60nm,0.9s
CZSB Cruzeiro do Su 23.92 143 P P 00 30 26.0 +0.4
CZSB IAmb IAmb 00 30 39.4
comp=Z,42nm,0.9s
CZSB Cruzeiro do Su 23.92 143 eP P 00 30 27.2 +1.6
V48A Smith Brothers 23.96 0 P P 00 30 25.7 -0.2
V48A IAmb IAmb 00 30 40.5
comp=Z,29nm,0.8s
WHAR Wooly Hollow 24.01 349 IAmb IAmb 00 30 27.1
comp=Z,23nm,0.7s
TKL Tuckaleechee C 24.05 6 P P 00 30 26.2 -0.5
comp=Z,31nm,0.9s,baz=175,slow=12,SNR=37
TKL LR LR 00 39 28.2
comp=Z,442nm,21.8s,baz=190,slow=36
comp=Z,31nm,0.9s
TKL Tuckaleechee C 24.05 6 P P 00 30 27.4 +0.8
TKL IAmb IAmb 00 30 44.9
comp=Z,54nm,1.0s
TKL Tuckaleechee C 24.05 6 P P 00 30 27.8 +1.2
baz=187,SNR=25
X37A Clayton 24.07 343 P 00 30 27.2 +0.4
X37A Clayton 24.07 343 P P 00 30 27.2 +0.4
baz=159,SNR=58
LOOK Love County 24.11 339 P 00 30 28.1 +1.0
LOOK IAmb IAmb 00 30 30.3
comp=Z,107nm,0.7s
V51A Loudon 24.14 5 P P 00 30 27.7 +0.3
V51A IAmb IAmb 00 30 43.5
comp=Z,29nm,0.8s
V51A Loudon 24.14 5 P P 00 30 28.7 +1.2
baz=186,SNR=18

V53A Saluda 24.18 8 IAmb IAmb 00 30 31.4
comp=Z,31nm,0.8s
V53A Saluda 24.18 8 P P 00 30 28.8 +0.9
baz=190,SNR=25
V53A P P 00 30 28.8 +0.9
baz=190,SNR=25
W57A Gilead 24.22 14 P P 00 30 28.1 -0.1
W57A Gilead 24.22 14 P P 00 30 28.5 +0.3
baz=196,SNR=15
W57A P P 00 30 28.5 +0.3
baz=196,SNR=15
V52A Sevierville 24.25 7 P P 00 30 29.1 +0.6
V52A Sevierville 24.25 7 P P 00 30 29.2 +0.6
baz=188,SNR=13
GNAR Gosnell 24.35 354 P P 00 30 27.6 -1.7
GNAR IAmb IAmb 00 31 00.4
comp=Z,43nm,1.0s
WVT Waverly 24.36 358 P P 00 30 29.5 0.0
WVT Waverly 24.36 358 P P 00 30 29.5 0.0
baz=176,SNR=11
WVT Waverly 24.36 358 P P 00 30 28.1 -1.4
baz=178
PEBM Pemiscott Bayo 24.48 354 P P 00 30 29.9 -0.6
GLAT Glass 24.58 355 P P 00 30 30.1 -1.4
LCAR Lake Charles 24.59 352 IAmb IAmb 00 30 32.0
comp=Z,21nm,0.7s
UTMT University of 24.62 356 P P 00 30 32.0 +0.2
V55A Taylorsville 24.63 11 P P 00 30 32.6 +0.7
V55A Taylorsville 24.63 11 P P 00 30 32.8 +0.9
baz=193,SNR=8.8
V55A P P 00 30 32.8 +0.9
baz=193,SNR=8.8
U49A Red Boiling Sp 24.76 2 IAmb IAmb 00 30 50.4
comp=Z,34nm,1.1s
U49A Red Boiling Sp 24.76 2 P P 00 30 33.3 +0.2
baz=182,SNR=25
HICK Hickman 24.85 356 P P 00 30 33.7 -0.2
CNNC Cliffs of the 24.86 18 P P 00 30 34.0 0.0
CNNC IAmb IAmb 00 30 37.3
comp=Z,27nm,0.8s
CNNC Cliffs of the 24.86 18 P P 00 30 34.5 +0.5
baz=201
SLBS Sierra La Lagu 24.91 302 P P 00 30 36.9 +2.2
SLBS IAmb IAmb 00 30 49.5
comp=Z,66nm,1.6s
TZTN Tazewell 24.95 7 IAmb IAmb 00 30 52.5
comp=Z,33nm,1.0s
TZTN Tazewell 24.95 7 P P 00 30 35.8 +0.9
baz=188,SNR=14
TZTN Tazewell 24.95 7 P P 00 30 34.5 -0.4
baz=188,SNR=14
PARMO Parma 25.01 355 P P 00 30 35.7 +0.3
V58A Windy Hill, Pi 25.04 15 P P 00 30 36.3 +0.6
V58A Windy Hill, Pi 25.04 15 P P 00 30 36.4 +0.7
baz=198,SNR=33
V58A P P 00 30 36.4 +0.7
baz=198,SNR=33
U54A Nelsons Funny 25.17 10 IAmb IAmb 00 30 41.0
comp=Z,37nm,0.8s
U54A Nelsons Funny 25.17 10 P P 00 30 37.6 +0.7
baz=192,SNR=9.9
U54A P P 00 30 37.6 +0.7
baz=192,SNR=9.9
T47A Sharon Grove 25.21 360 IAmb IAmb 00 30 48.8
comp=Z,32nm,0.8s
T47A Sharon Grove 25.21 360 P P 00 30 36.8 -0.4
baz=179,SNR=13
U56A King 25.27 12 P P 00 30 38.0 +0.2
U56A IAmb IAmb 00 30 42.3
comp=Z,38nm,1.1s
U56A King 25.27 12 P P 00 30 39.2 +1.5
baz=195
U56A P P 00 30 39.2 +1.5
baz=195
T45B Paducah 25.28 357 P P 00 30 37.7 -0.1
baz=176
HHAR Hobbs 25.30 347 P P 00 30 37.6 -0.4
HHAR IAmb IAmb 00 30 38.7
comp=Z,24nm,0.9s
HHAR Hobbs 25.30 347 P P 00 30 37.6 -0.4
baz=164
WMOK Wichita Mounta 25.36 337 P P 00 30 38.8 +0.2
baz=152,SNR=84
WMOK Wichita Mounta 25.36 337 P P 00 30 38.0 -0.6
baz=152,SNR=84
LPIG La Paz 25.39 302 LR LR 00 41 24.2
comp=Z,437nm,18.5s,baz=119,slow=38
TUL1 Leonard 25.43 343 P 00 30 38.6 -0.6
TUL1 Leonard 25.43 343 P P 00 30 38.4 -0.7
baz=159,SNR=24
MCLT Moule a Chique 25.45 83 P P 00 30 41.3 +1.7
RLO Rose Lookout 25.46 345 P 00 30 38.9 -0.5
RLO IAmb IAmb 00 30 39.9
comp=Z,26nm,0.9s
OKCSW OKLAHOMA CITY 25.47 340 P P 00 30 39.7 +0.1
NNA Nana 25.56 157 LR LR 00 39 44.2
comp=Z,284nm,21.0s,baz=313,slow=34
U38A Gravette 25.56 346 IAmb IAmb 00 30 40.9
comp=Z,36nm,0.9s
U38A PcP 00 34 11.6 +0.6
U38A Gravette 25.56 346 P P 00 30 39.7 -0.6
baz=163,SNR=24
DEOK Depew 25.57 342 P 00 30 40.0 -0.5
DEOK IAmb IAmb 00 30 40.5
comp=Z,44nm,0.8s
OK025 Westminster Rd 25.60 340 P 00 30 40.2 -0.5
CGM3 Cape Girardeau 25.63 355 IAmb IAmb 00 30 41.8
comp=Z,17nm,0.8s
OK030 Cody Creek RV 25.74 341 P 00 30 41.4 -0.6
BCOK Bluff Creek, N 25.76 340 P 00 30 42.3 +0.1
BCOK IAmb IAmb 00 30 44.9
comp=Z,69nm,0.9s
OK031 S. Brethren Rd 25.78 341 P 00 30 41.8 -0.5
OK034 N. Norfolk Rd. 25.79 342 P 00 30 41.9 -0.6
MGMO Mountain Grove 25.82 350 IAmb IAmb 00 30 43.5
comp=Z,53nm,1.4s
OK029 Liberty Lake 25.83 340 P 00 30 42.8 0.0
OK033 Mehan 25.89 341 P 00 30 42.9 -0.5
U59A Littleton 25.93 17 P P 00 30 43.7 0.0
QUOK Quay 25.94 342 P 00 30 43.3 -0.5
QUOK IAmb IAmb 00 30 56.1
comp=Z,96nm,0.8s
S44A Carbondale 26.00 356 IAmb IAmb 00 30 55.8
comp=Z,20nm,0.8s
S44A Carbondale 26.00 356 P P 00 30 44.1 -0.1
baz=175,SNR=5.2
SIUC Southern Illin 26.01 356 IAmb IAmb 00 30 55.9
comp=Z,25nm,0.8s
S51A Beattyville 26.03 6 IAmb IAmb 00 31 00.7
comp=Z,22nm,0.8s
S51A Beattyville 26.03 6 P P 00 30 45.1 +0.5
baz=187
S51A P P 00 30 45.1 +0.5
baz=187
BLA Blacksburg 26.10 12 P P 00 30 46.5 +1.2
BLA IAmb IAmb 00 31 02.0
comp=Z,31nm,1.2s
BLA Blacksburg 26.10 12 P P 00 30 46.5 +1.2
baz=194
BLA Blacksburg 26.10 12 P P 00 30 44.3 -1.0
baz=194
CSTR Hydro, Custer 26.13 338 IAmb IAmb 00 30 49.1
comp=Z,18nm,0.9s
OK044 Pawnee Station 26.15 342 P 00 30 45.3 -0.4
T57A Hurt 26.15 14 IAmb IAmb 00 31 02.7
comp=Z,24nm,0.9s
T57A Hurt 26.15 14 P P 00 30 46.4 +0.7
baz=197,SNR=11
T57A P P 00 30 46.4 +0.7
baz=197,SNR=11
USIN University of 26.19 359 IAmb IAmb 00 30 47.0
comp=Z,23nm,0.7s
MNTX Cornudas Mount 26.20 322 P P 00 30 47.0 +0.8
baz=135,SNR=26
MNTX Cornudas Mount 26.20 322 P P 00 30 46.1 -0.1
baz=135,SNR=26
OK046 Pawnee Station 26.21 342 P 00 30 45.9 -0.4
OK048 Pawnee Station 26.24 342 P 00 30 46.3 -0.2
OK045 Pawnee Station 26.26 342 P 00 30 46.6 -0.1
CPRX Cap Rock 26.32 327 P P 00 30 48.3 +0.9
OK049 E0420 Rd and N 26.34 341 P P 00 30 46.6 -0.8
WCI Wyandotte Cave 26.45 1 P P 00 30 48.4 0.0
WCI IAmb IAmb 00 31 00.1
comp=Z,25nm,0.8s
WCI Wyandotte Cave 26.45 1 P P 00 30 48.5 0.0
baz=181,SNR=7.7

WCI	**Wyandotte Cave**	**26.45**	**1**	P		**P**	**00 30 48.3**	**-0.1**
	baz=181								
MSTX	**Muleshoe**	**26.49**	**329**	P		**P**	**00 30 49.2**	**+0.3**
	baz=143,SNR=29								
MSTX	**Muleshoe**	**26.49**	**329**	P		**P**	**00 30 48.6**	**-0.3**
	baz=143,SNR=29								
S54A	**Dingess, Beckl**	**26.50**	**10**	P		**P**	**00 30 49.3**	**+0.4**
S54A	**Dingess, Beckl**	**26.50**	**10**	P		**P**	**00 30 49.1**	**+0.1**
	baz=192								
S54A				P		**P**	**00 30 49.1**	**+0.1**
	baz=192								
S39A	**Bolivar**	**26.53**	**349**	IAmb		IAmb	00 30 49.6		
	comp=Z,30nm,0.7s								
S39A	**Bolivar**	**26.53**	**349**	P		**P**	**00 30 48.5**	**-0.6**
	baz=166,SNR=20								
CCM	**Cathedral Cave**	**26.55**	**352**	P		**P**	**00 30 48.7**	**-0.6**
CCM	**Cathedral Cave**	**26.55**	**352**	P		**P**	**00 30 48.7**	**-0.6**
	baz=170,SNR=19								
CCM	**Cathedral Cave**	**26.55**	**352**	P		**P**	**00 30 48.5**	**-0.8**
	baz=170								
R49A	**Shelbyville**	**26.56**	**3**	P		**P**	**00 30 49.3**	**0.0**
T35A	**Sooner Cattle**	**26.57**	**343**	IAmb		IAmb	00 30 49.9		
	comp=Z,25nm,1.0s								
T35B	**Sooner Cattle**	**26.57**	**343**	P		**P**	**00 30 49.1**	**-0.4**
	baz=158,SNR=7.9								
T59A	**Double "B" Far**	**26.57**	**17**	P		**P**	**00 30 50.1**	**+0.6**
T59A				IAmb		IAmb	00 31 05.9		
	comp=Z,26nm,1.1s								
T59A	**Double "B" Far**	**26.57**	**17**	P		**P**	**00 30 50.1**	**+0.6**
	baz=201,SNR=5.7								
T59A				P		**P**	**00 30 50.1**	**+0.6**
	baz=201,SNR=5.7								
R50A	**Paris**	**26.60**	**5**	P		**P**	**00 30 50.2**	**+0.4**
BLOK	**Blackwell**	**26.64**	**341**			**P**	**00 30 49.6**	**-0.5**
BLOK				IAmb		IAmb	00 30 53.3		
	comp=Z,43nm,1.0s								
CROK	**Carrier**	**26.66**	**340**			**P**	**00 30 49.7**	**-0.6**
CROK				IAmb		IAmb	00 31 00.5		
	comp=Z,34nm,0.8s								
AMTX	**Amarillo**	**26.71**	**332**			**PcP**	**00 34 15.4**	**+1.7**
AMTX	**Amarillo**	**26.71**	**332**	P		**P**	**00 30 51.0**	**0.0**
	baz=146,SNR=19								
AMTX	**Amarillo**	**26.71**	**332**	P		**P**	**00 30 50.5**	**-0.4**
	baz=146								
ELIS	**Ellis County**	**26.78**	**337**	IAmb		IAmb	00 30 55.5		
	comp=Z,140nm,0.8s								
R53A	**Hurricane**	**26.92**	**9**	P		**P**	**00 30 53.5**	**+0.9**
R40A	**Maddies Statio**	**26.93**	**351**	IAmb		IAmb	00 30 52.9		
	comp=Z,18nm,0.8s								
R40A	**Maddies Statio**	**26.93**	**351**	P		**P**	**00 30 51.9**	**-0.9**
	baz=168,SNR=16								
S57A	**Dark Hollow, R**	**26.95**	**14**	P		**P**	**00 30 53.5**	**+0.7**
S57A	**Dark Hollow, R**	**26.95**	**14**	P		**P**	**00 30 53.6**	**+0.7**
	baz=197								
S57A				P		**P**	**00 30 53.6**	**+0.7**
	baz=197								
KAN13	**South Haven SW**	**26.95**	**341**	P		**P**	**00 30 52.5**	**-0.4**
OLIL	**Olney**	**26.97**	**358**	IAmb		IAmb	00 30 54.2		
	comp=Z,30nm,1.1s								
OK032	**Salt Plains WL**	**27.00**	**340**	IAmb		IAmb	00 30 56.9		
	comp=Z,34nm,0.7s								
SLM	**Saint Louis**	**27.01**	**354**	P		**P**	**00 30 52.9**	**-0.6**
SLM				IAmb		IAmb	00 30 54.0		
	comp=Z,22nm,0.5s								
KAN14	**Manchester OK**	**27.06**	**340**	IAmb		IAmb	00 31 08.6		
	comp=Z,26nm,0.8s								
KAN17	**Caldwell West**	**27.07**	**341**			**P**	**00 30 53.2**	**-0.8**
KAN17				IAmb		IAmb	00 30 53.9		
	comp=Z,33nm,0.9s								
OK035	**E0210 Rd and N**	**27.09**	**339**	P		**P**	**00 30 54.0**	**-0.2**
OK035				IAmb		IAmb	00 31 06.3		
	comp=Z,37nm,0.9s								
OK035						**PcP**	**00 34 16.2**	**+1.7**
NOKA	**Waynoka**	**27.10**	**338**	IAmb		IAmb	00 31 07.2		
	comp=Z,145nm,0.8s								
JSRW	**J. Sargeant Re**	**27.16**	**16**	P		**P**	**00 30 54.7**	**-0.1**
KAN05	**Bluff City Nor**	**27.17**	**341**	P		**P**	**00 30 54.2**	**-0.7**
KAN05				IAmb		IAmb	00 31 09.2		
	comp=Z,30nm,0.7s								
KAN01	**Argonia South**	**27.17**	**341**			**P**	**00 30 54.0**	**-1.0**
KAN01				IAmb		IAmb	00 31 09.3		
	comp=Z,34nm,0.9s								
KS20	**Mayfield South**	**27.18**	**341**	P		**P**	**00 30 54.1**	**-0.8**
KS20				IAmb		IAmb	00 30 58.9		
	comp=Z,31nm,0.8s								
Q44A	**Meyer Farm, Va**	**27.18**	**356**	IAmb		IAmb	00 30 55.7		
	comp=Z,28nm,0.8s								
Q44A	**Meyer Farm, Va**	**27.18**	**356**	P		**P**	**00 30 54.5**	**-0.5**
	baz=175,SNR=6.7								
R55A	**Marlinton**	**27.20**	**12**	P		**P**	**00 30 55.8**	**+0.6**
R55A	**Marlinton**	**27.20**	**12**	P		**P**	**00 30 55.7**	**+0.5**
	baz=194,SNR=7.5								
R55A				P		**P**	**00 30 55.7**	**+0.5**
	baz=194,SNR=7.5								
KAN10	**Anthony SW Sta**	**27.25**	**340**	P		**P**	**00 30 55.4**	**-0.2**
KAN10				IAmb		IAmb	00 31 35.5		
	comp=Z,21nm,0.9s								
KAN06	**Argonia West S**	**27.29**	**341**	P		**P**	**00 30 54.9**	**-1.1**
KAN06				IAmb		IAmb	00 31 10.8		
	comp=Z,34nm,0.8s								
KAN08	**Anthony NE Sta**	**27.31**	**341**	P		**P**	**00 30 55.5**	**-0.7**
KAN16	**Harper SW Stat**	**27.34**	**340**	P		**P**	**00 30 56.0**	**-0.4**
KAN16				IAmb		IAmb	00 30 56.4		
	comp=Z,28nm,1.1s								
BLO	**Bloomington**	**27.39**	**1**	P		**P**	**00 30 56.8**	**0.0**
BLO				IAmb		IAmb	00 31 24.2		
	comp=Z,44nm,1.5s								
R58B	**Mineral**	**27.41**	**16**	P		**P**	**00 30 57.2**	**+0.2**
R58B	**Mineral**	**27.41**	**16**	P		**P**	**00 30 57.9**	**+0.9**
	baz=199								
R58B				P		**P**	**00 30 57.9**	**+0.9**
	baz=199								
Q51A	**Peebles**	**27.43**	**6**	P		**P**	**00 30 57.8**	**+0.6**
	baz=187,SNR=16								
Q51A				P		**P**	**00 30 57.8**	**+0.6**
	baz=187,SNR=16								
Q52A	**Bidwell**	**27.50**	**8**	IAmb		IAmb	00 31 00.6		
	comp=Z,41nm,1.2s								
Q52A	**Bidwell**	**27.50**	**8**	P		**P**	**00 30 58.3**	**+0.5**
	baz=190,SNR=6.1								
Q52A				P		**P**	**00 30 58.3**	**+0.5**
	baz=190,SNR=6.1								
P48A	**Milroy**	**27.71**	**3**	P		**P**	**00 30 59.1**	**-0.6**
	baz=183,SNR=7.5								
P48A				P		**P**	**00 30 59.1**	**-0.6**
	baz=183,SNR=7.5								
Q54A	**Coxs Mills**	**27.74**	**10**	P		**P**	**00 31 00.3**	**+0.3**
Q54A				IAmb		IAmb	00 31 31.7		
	comp=Z,42nm,1.4s								
Q54A	**Coxs Mills**	**27.74**	**10**	P		**P**	**00 31 00.8**	**+0.8**
	baz=193,SNR=6.9								
Q54A				P		**P**	**00 31 00.8**	**+0.8**
	baz=193,SNR=6.9								
BOAV	**Boa Vista**	**27.77**	**107**	P		**P**	**00 30 59.5**	**-1.1**
BOAV				IAmb		IAmb	00 30 60.0		
	comp=Z,7.1nm,1.3s								
BOAV						**PcP**	**00 34 17.7**	**+1.2**
CBN	**Corbin Frederi**	**27.78**	**16**	P		**P**	**00 31 00.8**	**+0.5**
CBN				IAmb		IAmb	00 31 21.7		
	comp=Z,29nm,0.8s								
CBN	**Corbin Frederi**	**27.78**	**16**	P		**P**	**00 31 01.1**	**+0.9**
	baz=200								
P49A	**Miami Univ. Ec**	**27.82**	**4**	IAmb		IAmb	00 31 01.7		
	comp=Z,17nm,0.7s								
P49A	**Miami Univ. Ec**	**27.82**	**4**	P		**P**	**00 31 00.2**	**-0.4**
	baz=184,SNR=8.9								
P49A	**Miami Univ. Ec**	**27.82**	**4**	P		**P**	**00 31 00.4**	**-0.3**
	baz=184,SNR=8.9								
P46A	**Rosedale**	**27.84**	**360**	P		**P**	**00 31 00.1**	**-0.7**
P51A	**Williamsport**	**27.91**	**6**	IAmb		IAmb	00 31 03.2		
	comp=Z,12nm,0.6s								
P51A				pP		pP	00 31 13.6	+0.8	
P40A	**Paris**	**28.11**	**352**	IAmb		IAmb	00 31 04.5		
	comp=Z,45nm,1.7s								
Q56A	**Snyder Ridge,**	**28.12**	**13**	P		**P**	**00 31 04.2**	**+0.8**
Q56A				pP		**pP**	**00 31 17.0**	**+2.3**
Q56A				IAmb		IAmb	00 31 17.9		
	comp=Z,21nm,1.1s								
P53A	**Whipple**	**28.14**	**9**	IAmb		IAmb	00 31 06.6		
	comp=Z,22nm,0.9s								
P53A	**Whipple**	**28.14**	**9**	P		**P**	**00 31 04.4**	**+0.8**
	baz=191,SNR=9.4								
P53A				P		**P**	**00 31 04.4**	**+0.8**
	baz=191,SNR=9.4								
P52A	**Corning**	**28.18**	**8**	IAmb		IAmb	00 31 05.8		
	comp=Z,22nm,0.8s								
P52A	**Corning**	**28.18**	**8**	P		**P**	**00 31 03.5**	**-0.4**
	baz=190,SNR=12								
121A	**Cookes Peak, D**	**28.24**	**321**	P		**P**	**00 31 07.7**	**+2.9**
121A				IAmb		IAmb	00 31 21.6		
	comp=Z,21nm,0.9s								
121A	**Cookes Peak, D**	**28.24**	**321**	P		**P**	**00 31 05.8**	**+1.0**
	baz=132,SNR=7.7								
SRIG	**Santa Rosalia**	**28.39**	**307**	P		**P**	**00 31 07.4**	**+1.5**
SRIG				IAmb		IAmb	00 31 08.9		
	comp=Z,14nm,0.8s								
O44A	**Mansfield**	**28.40**	**358**	IAmb		IAmb	00 31 06.5		
	comp=Z,37nm,0.8s								
O44A	**Mansfield**	**28.40**	**358**	P		**P**	**00 31 05.4**	**-0.4**
	baz=177,SNR=8.6								
P38A	**Dawn**	**28.45**	**349**	P		**P**	**00 31 05.5**	**-0.8**
	baz=166,SNR=23								
319A	**Douglas**	**28.46**	**317**	P		**P**	**00 31 08.9**	**+2.2**
319A				IAmb		IAmb	00 31 39.5		
	comp=Z,19nm,1.0s								
O49A	**Covington**	**28.50**	**4**	P		**P**	**00 31 07.0**	**+0.3**
O49A				IAmb		IAmb	00 31 08.6		
	comp=Z,21nm,0.8s								
O48B	**Farmland**	**28.52**	**3**	P		**P**	**00 31 06.3**	**-0.5**
	baz=183								
O48B	**Farmland**	**28.52**	**3**	P		**P**	**00 31 05.9**	**-1.0**
	baz=183,SNR=6.1								
MCWV	**Mont Chateau**	**28.58**	**12**	P		**P**	**00 31 08.3**	**+0.9**
SFIN	**Lafayette**	**28.59**	**360**	IAmb		IAmb	00 31 08.0		
	comp=Z,18nm,0.8s								
SFIN	**Lafayette**	**28.59**	**360**	P		**P**	**00 31 06.7**	**-0.9**
	baz=180								
CRNM	**Carthage**	**28.61**	**324**	P		**P**	**00 31 09.8**	**+1.8**
R32A	**Long Quarter,**	**28.64**	**340**	IAmb		IAmb	00 31 20.3		
	comp=Z,22nm,0.8s								
KSU1	**Kansas State U**	**28.64**	**344**	P		**P**	**00 31 07.7**	**-0.3**
	baz=160,SNR=5.1								
KSU1	**Kansas State U**	**28.64**	**344**	P		**P**	**00 31 06.9**	**-1.0**
	baz=160,SNR=5.1								
ACSO	**Alum Creek Sta**	**28.66**	**6**	IAmb		IAmb	00 31 10.0		
	comp=Z,24nm,0.6s								
ACSO	**Alum Creek Sta**	**28.66**	**6**	P		**P**	**00 31 08.4**	**+0.2**
	baz=188,SNR=6.5								
ACSO	**Alum Creek Sta**	**28.66**	**6**	P		**P**	**00 31 07.6**	**-0.6**
	baz=188,SNR=6.5								
O52A	**Adamsville**	**28.69**	**8**	IAmb		IAmb	00 31 10.3		
	comp=Z,14nm,0.7s								
Y22A	**Socorro**	**28.73**	**324**	P		**P**	**00 31 10.5**	**+1.4**
	baz=136,SNR=8.2								
Y22D	**IRIS PASSCAL I**	**28.80**	**324**	P		**P**	**00 31 11.7**	**+2.0**
Y22D				IAmb		IAmb	00 31 25.2		
	comp=Z,33nm,0.8s								
P57A	**Homestead Farm**	**28.81**	**14**	P		**P**	**00 31 10.3**	**+0.8**
P57A				IAmb		IAmb	00 31 26.6		
	comp=Z,18nm,0.9s								
P57A	**Homestead Farm**	**28.81**	**14**	P		**P**	**00 31 11.2**	**+1.6**
	baz=198,SNR=6.5								
P57A				P		**P**	**00 31 11.2**	**+1.6**
	baz=198,SNR=6.5								
HDIL	**Hopedale**	**28.85**	**356**	P		**P**	**00 31 09.8**	**0.0**
	baz=175,SNR=8.2								
HDIL	**Hopedale**	**28.85**	**356**	P		**P**	**00 31 08.9**	**-0.9**
	baz=175,SNR=8.2								
SBM	**South Baldy**	**28.88**	**323**	P		**P**	**00 31 13.0**	**+2.3**
LENM	**Lemitar**	**28.90**	**324**	P		**P**	**00 31 11.9**	**+1.3**
O53A	**New Philadelph**	**28.91**	**9**	IAmb		IAmb	00 31 24.2		
	comp=Z,17nm,0.8s								
O53A	**New Philadelph**	**28.91**	**9**	P		**P**	**00 31 10.3**	**-0.1**
	baz=191								
O54A	**Avella**	**28.99**	**10**	P		**P**	**00 31 11.6**	**+0.6**
SDMD	**Soldier's Deli**	**29.05**	**16**	P		**P**	**00 31 12.2**	**+0.7**
SDMD						**pP**	**00 31 24.0**	**+1.1**
SDMD	**Soldier's Deli**	**29.05**	**16**	P		**P**	**00 31 12.3**	**+0.7**
	baz=200,SNR=5.5								
N47A	**Urbana**	**29.12**	**2**	P		**P**	**00 31 11.9**	**-0.3**
N41A	**Harden Midland**	**29.13**	**354**	IAmb		IAmb	00 31 12.2		
	comp=Z,26nm,0.9s								
N41A	**Harden Midland**	**29.13**	**354**	P		**P**	**00 31 11.3**	**-1.0**
	baz=172,SNR=6.1								
ANMO	**Albuquerque**	**29.17**	**326**	P		**P**	**00 31 14.4**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=148,slow=8.5,SNR=8.9								
ANMO				PcP		**PcP**	**00 34 21.3**	**+1.4**	
	comp=Z,1.8nm,0.7s,baz=196,slow=6.9,SNR=3.0								
ANMO				LR		LR	00 45 24.0		
	comp=Z,136nm,19.4s,baz=123,slow=41								
	comp=Z,1.7nm,0.8s								
ANMO	**Albuquerque**	**29.17**	**326**	P		**P**	**00 31 13.8**	**+0.7**
ANMO	**Albuquerque**	**29.17**	**326**	P		**P**	**00 31 14.6**	**+1.5**
	baz=138,SNR=7.2								
ANMO	**Albuquerque**	**29.17**	**326**	P		**P**	**00 31 13.7**	**+0.7**
	baz=138								
N49A	**Columbus Grove**	**29.24**	**4**	P		**P**	**00 31 13.2**	**-0.1**
	baz=185,SNR=19								
N49A				P		**P**	**00 31 13.2**	**-0.1**
	baz=185,SNR=19								
CBKS	**Cedar Bluff**	**29.34**	**339**	P		**P**	**00 31 14.7**	**+0.4**
CBKS				IAmb		IAmb	00 31 27.2		
	comp=Z,25nm,0.9s								
CBKS	**Cedar Bluff**	**29.34**	**339**	P		**P**	**00 31 14.0**	**-0.3**
	baz=154								
N51A	**Ashland**	**29.41**	**7**	P		**P**	**00 31 15.1**	**+0.2**
N51A				IAmb		IAmb	00 31 16.8		
	comp=Z,22nm,1.1s								
N53A	**Lisbon**	**29.52**	**9**	P		**P**	**00 31 15.7**	**-0.1**
N53A				IAmb		IAmb	00 31 33.0		
	comp=Z,13nm,0.8s								
N53A	**Lisbon**	**29.52**	**9**	P		**P**	**00 31 15.9**	**+0.2**
	baz=192,SNR=5.8								
N53A				P		**P**	**00 31 15.9**	**+0.2**
	baz=192,SNR=5.8								
M44A	**Midewin, Midew**	**29.62**	**358**	P		**P**	**00 31 15.3**	**-1.4**
ETMB	**Extrema**	**29.67**	**135**	P		**P**	**00 31 18.0**	**+0.6**
ETMB				IAmb		IAmb	00 31 19.4		
	comp=Z,102nm,0.7s								
ETMB	**Extrema**	**29.67**	**135**	*e*P		**P**	**00 31 17.5**	**+0.1**
MVL	**Millersville**	**29.73**	**17**	P		**P**	**00 31 18.6**	**+0.9**
MVL				IAmb		IAmb	00 31 35.2		
	comp=Z,27nm,1.3s								
T25A	**Trinidad**	**29.82**	**331**	P		**P**	**00 31 20.2**	**+1.4**
T25A	**Trinidad**	**29.82**	**331**	P		**P**	**00 31 19.3**	**+0.5**
	baz=144,SNR=6.7								
SSPA	**Standing Stone**	**29.94**	**14**	P		**P**	**00 31 20.1**	**+0.6**
SSPA				IAmb		IAmb	00 31 33.1		
	comp=Z,14nm,0.9s								
SSPA	**Standing Stone**	**29.94**	**14**	P		**P**	**00 31 18.3**	**-1.2**
	baz=198								
MACA	**Manacapuru-AM**	**29.99**	**118**	P		**P**	**00 31 20.0**	**-0.2**
MACA				IAmb		IAmb	00 31 20.9		
	comp=Z,86nm,0.6s								
MACA	**Manacapuru-AM**	**29.99**	**118**	*e*P		**P**	**00 31 20.1**	**-0.2**
TUC	**Tucson**	**30.04**	**317**	P		**P**	**00 31 23.9**	**+3.2**
TUC	**Tucson**	**30.04**	**317**	P		**P**	**00 31 22.0**	**+1.3**
	baz=128								
N35A	**Tabor**	**30.07**	**347**	P		**P**	**00 31 20.1**	**-0.5**
	baz=163,SNR=10.0								
M53A	**WI Miller and**	**30.16**	**9**	IAmb		IAmb	00 31 24.0		
	comp=Z,23nm,1.1s								
M53A	**WI Miller and**	**30.16**	**9**	P		**P**	**00 31 20.8**	**-0.7**
	baz=192,SNR=6.6								
TUPA	**Temple Univers**	**30.23**	**18**	P		**P**	**00 31 23.0**	**+1.0**
	baz=203,SNR=6.7								
L46A	**Eue Claire**	**30.23**	**1**	IAmb		IAmb	00 31 21.9		
	comp=Z,36nm,1.1s								
L48A	**N Adams**	**30.24**	**4**	IAmb		IAmb	00 31 38.1		
	comp=Z,16nm,0.7s								
L42A	**Oliver, Polo**	**30.31**	**356**	P		**P**	**00 31 21.9**	**-0.9**
	baz=174,SNR=9.6								
N33B	**J Bar K, Exete**	**30.39**	**344**	P		**P**	**00 31 23.8**	**+0.2**
	baz=159,SNR=8.2								
L44A	**Lake County Fo**	**30.40**	**359**	P		**P**	**00 31 22.2**	**-1.4**
L44A				IAmb		IAmb	00 31 23.5		
	comp=Z,26nm,0.8s								
L44A	**Lake County Fo**	**30.40**	**359**	P		**P**	**00 31 21.9**	**-1.6**
	baz=178								
N58A	**Sunbury**	**30.42**	**15**	P		**P**	**00 31 24.1**	**+0.3**
N58A				IAmb		IAmb	00 31 37.5		
	comp=Z,16nm,0.9s								
N58A	**Sunbury**	**30.42**	**15**	P		**P**	**00 31 24.7**	**+1.0**
	baz=200,SNR=6.0								
N58A				P		**P**	**00 31 24.7**	**+1.0**
	baz=200,SNR=6.0								
ALLY	**Alegheny Colle**	**30.45**	**10**	P		**P**	**00 31 25.0**	**+1.0**
ALLY				IAmb		IAmb	00 31 26.4		
	comp=Z,23nm,1.1s								
L40A	**Anamosa**	**30.51**	**354**	P		**P**	**00 31 24.0**	**-0.5**
	baz=172,SNR=13								
M55A	**Ridgway**	**30.54**	**12**	IAmb		IAmb	00 31 25.7		
	comp=Z,19nm,1.3s								
LUPA	**Lehigh Univers**	**30.57**	**17**	P		**P**	**00 31 25.9**	**+0.8**
LUPA				IAmb		IAmb	00 31 42.0		
	comp=Z,15nm,0.8s								
KSCO	**Kaye Shedlock'**	**30.59**	**336**	P		**P**	**00 31 26.3**	**+0.8**
KSCO				IAmb		IAmb	00 31 39.0		
	comp=Z,25nm,0.8s								
SCIA	**State Center**	**30.62**	**351**	P		**P**	**00 31 25.3**	**-0.2**
SCIA	**State Center**	**30.62**	**351**	P		**P**	**00 31 24.7**	**-0.8**
	baz=168								
AAM	**Ann Arbor**	**30.65**	**5**	P		**P**	**00 31 26.6**	**+0.9**
AAM				IAmb		IAmb	00 31 27.0		
	comp=Z,22nm,0.7s								
AAM	**Ann Arbor**	**30.65**	**5**	P		**P**	**00 31 24.9**	**-0.9**
	baz=186								
M57A	**Sunshine Farm,**	**30.78**	**15**	IAmb		IAmb	00 31 44.1		
	comp=Z,28nm,1.0s								
M57A	**Sunshine Farm,**	**30.78**	**15**	P		**P**	**00 31 27.9**	**+0.9**
	baz=199,SNR=7.8								
M57A				P		**P**	**00 31 27.9**	**+0.9**
	baz=199,SNR=7.8								
SDCO	**Great Sand Dun**	**30.83**	**331**	IAmb		IAmb	00 31 42.1		
	comp=Z,14nm,0.8s								
SDCO	**Great Sand Dun**	**30.83**	**331**	P		**P**	**00 31 28.3**	**+0.5**
	baz=142,SNR=20								
SDCO	**Great Sand Dun**	**30.83**	**331**	P		**P**	**00 31 28.4**	**+0.7**
	baz=142,SNR=20								
BRNJ	**Basking Ridge**	**30.89**	**19**	P		**P**	**00 31 29.0**	**+1.1**
BRNJ				IAmb		IAmb	00 31 44.7		
	comp=Z,26nm,1.0s								
ERPA	**Erie**	**30.93**	**10**	IAmb		IAmb	00 31 44.0		
	comp=Z,22nm,0.7s								
ERPA	**Erie**	**30.93**	**10**	P		**P**	**00 31 28.5**	**+0.2**
	baz=193,SNR=5.2								
ERPA	**Erie**	**30.93**	**10**	P		**P**	**00 31 28.2**	**-0.1**
	baz=193,SNR=5.2								
K43A	**Burlington**	**30.94**	**358**	P		**P**	**00 31 27.7**	**-0.7**
K43A				IAmb		IAmb	00 31 28.4		
	comp=Z,35nm,1.2s								
W18A	**Petrified Fore**	**31.19**	**322**	P		**P**	**00 31 32.4**	**+1.6**
W18A				IAmb		IAmb	00 31 41.6		
	comp=Z,18nm,0.8s								
W18A	**Petrified Fore**	**31.19**	**322**	P		**P**	**00 31 31.8**	**+1.0**
	baz=133								
BGNE	**Belgrade**	**31.21**	**344**	P		**P**	**00 31 30.7**	**-0.1**
	baz=158,SNR=8.0								
BGNE	**Belgrade**	**31.21**	**344**	P		**P**	**00 31 30.3**	**-0.5**
	baz=158,SNR=8.0								
K50A	**Casco**	**31.22**	**6**	P		**P**	**00 31 31.7**	**+1.0**
K50A				IAmb		IAmb	00 31 44.6		
	comp=Z,16nm,0.7s								
214A	**Organ Pipe Nat**	**31.22**	**314**	P		**P**	**00 31 33.2**	**+2.2**
214A	**Organ Pipe Nat**	**31.22**	**314**	P		**P**	**00 31 32.0**	**+1.0**
	baz=124								
ODNJ	**Ogdensburg**	**31.24**	**18**	P		**P**	**00 31 31.8**	**+0.8**
	baz=204								
JFWS	**Jewell Farm**	**31.26**	**355**	IAmb		IAmb	00 31 31.4		
	comp=Z,22nm,0.9s								
JFWS	**Jewell Farm**	**31.26**	**355**	P		**P**	**00 31 30.8**	**-0.3**
	baz=174,SNR=5.8								
JFWS	**Jewell Farm**	**31.26**	**355**	P		**P**	**00 31 30.5**	**-0.6**
	baz=174,SNR=5.8								
K38A	**Parkersburg**	**31.27**	**352**	P		**P**	**00 31 30.8**	**-0.5**
	baz=169,SNR=6.5								
KSPA	**Keystone Colle**	**31.34**	**16**	P		**P**	**00 31 32.5**	**+0.6**
KSPA				IAmb		IAmb	00 31 48.5		
	comp=Z,24nm,1.2s								
PAL	**Palisades**	**31.39**	**19**	P		**P**	**00 31 32.2**	**-0.1**
PAL				IAmb		IAmb	00 31 33.9		
	comp=Z,11nm,0.8s								
PAL	**Palisades**	**31.39**	**19**	P		**P**	**00 31 32.5**	**+0.2**
	baz=205								
TRNY	**Table Rock, Ra**	**31.42**	**19**	P		**P**	**00 31 33.2**	**+0.7**
TRNY				IAmb		IAmb	00 31 46.6		
	comp=Z,18nm,1.4s								
L56A	**Greenwood**	**31.44**	**13**	IAmb		IAmb	00 31 35.2		
	comp=Z,19nm,0.9s								
L56A	**Greenwood**	**31.44**	**13**	P		**P**	**00 31 33.4**	**+0.6**
	baz=198								
L56A				P		**P**	**00 31 33.4**	**+0.6**
	baz=198								
PIX	**Pinacate**	**31.46**	**313**	P		**P**	**00 31 35.4**	**+2.3**
S22A	**4UR Ranch, Cre**	**31.48**	**329**	P		**P**	**00 31 34.4**	**+0.9**
	baz=140,SNR=13								
J47A	**Sunmer**	**31.51**	**3**	IAmb		IAmb	00 31 33.5		
	comp=Z,23nm,1.0s								
Q24A	**Divide**	**31.64**	**332**	P		**P**	**00 31 35.9**	**+0.9**
Q24A	**Divide**	**31.64**	**332**	P		**P**	**00 31 35.2**	**+0.3**
	baz=144								
BINY	**Binghamton**	**31.89**	**16**	P		**P**	**00 31 36.8**	**+0.2**
BINY	**Binghamton**	**31.89**	**16**	P		**P**	**00 31 37.6**	**+0.9**
	baz=200,SNR=8.6								
BINY	**Bin

L61B Northampton 33.09 20 P P 00 31 47.7 +0.5
baz=206
L61B Northampton 33.09 20 P P 00 31 46.4 -0.7
baz=206
GLMI Grayling 33.10 3 P P 00 31 46.5 -0.7
GLMI Grayling 33.10 3 P P 00 31 47.6 +0.3
baz=184
GLMI Grayling 33.10 3 P P 00 31 46.1 -1.1
baz=184
J58A Remsen 33.15 16 P P 00 31 47.8 0.0
J58A IAmb IAmb 00 32 00.8
comp=Z,12nm,0.8s
J58A Remsen 33.15 16 P P 00 31 47.9 +0.1
baz=201,SNR=5.7
J58A P P 00 31 47.9 +0.1
baz=201,SNR=5.7
LPAZ La Paz 33.44 146 P P 00 31 51.0 -0.2
comp=Z,1.4nm,0.6s,baz=338,slow=7.8,SNR=5.7
LPAZ LR LR 00 45 38.9
comp=Z,479nm,20.4s,baz=312,slow=37
comp=Z,1.4nm,0.6s
LPAZ La Paz 33.44 146 P P 00 31 51.3 +0.1
LPAZ La Paz 33.44 146 eP P 00 31 51.5 +0.3
LPAZ La Paz 33.44 146 P P 00 31 50.9 -0.3
J59A Piesco 33.46 17 IAmb IAmb 00 32 07.0
comp=Z,13nm,0.9s
J59A Piesco 33.46 17 P P 00 31 50.7 +0.3
baz=202
J59A P P 00 31 50.7 +0.3
baz=202
PDMCI Parker Dam,Lak 33.48 317 P P 00 31 51.6 +0.9
baz=126
HRV Adam Dziewonsk 33.52 21 P P 00 31 49.9 -1.0
baz=208
N23A Red Feather La 33.56 333 P P 00 31 52.3 +0.6
N23A Red Feather La 33.56 333 P P 00 31 51.9 +0.2
baz=145
G40A Rib Lake 33.60 356 IAmb IAmb 00 31 51.5
comp=Z,23nm,1.0s
G40A Rib Lake 33.60 356 P P 00 31 50.4 -1.2
baz=174,SNR=10
U15A North Rim 33.61 321 P P 00 31 53.2 +1.1
U15A IAmb IAmb 00 32 01.3
comp=Z,17nm,1.5s
WCNY West Carthage 33.64 15 P P 00 31 51.5 -0.5
baz=200
SADO Sadowa 33.66 10 P P 00 31 51.8 -0.3
comp=Z,8.0nm,0.7s,baz=249,slow=7.1,SNR=12
SADO LR LR 00 46 06.5
comp=Z,259nm,18.1s,baz=186,slow=38
comp=Z,8.0nm,0.7s
SADO Sadowa 33.66 10 IAmb IAmb 00 31 52.9
comp=Z,12nm,0.8s
PHWY Pilot Hill 33.69 334 IAmb IAmb 00 31 54.7
comp=Z,34nm,1.8s
DELO Deloro Mine 33.70 12 P P 00 31 51.8 -0.7
DELO IAmb IAmb 00 31 53.4
comp=Z,43nm,1.9s
W13A Hualapai Mount 33.78 318 P P 00 31 55.1 +1.5
SPMN Marine on St. 33.81 353 P P 00 31 52.1 -1.3
baz=170,SNR=23
SPMN Marine on St. 33.81 353 P P 00 31 51.8 -1.6
baz=170
J61A Chester 33.94 19 P P 00 31 55.0 +0.4
J61A IAmb IAmb 00 32 11.4
comp=Z,24nm,1.0s
BC3 Big Chuckawall 34.01 315 P P 00 31 54.1 -1.5
baz=123
O20A White River Ci 34.02 330 P P 00 31 56.6 +0.9
baz=140,SNR=14
IRM Iron Mountain 34.08 316 P P 00 31 57.0 +1.0
baz=124
CBX Cerro Bola 34.17 312 P P 00 31 58.9 +2.0
SUSD Miller 34.25 345 P P 00 31 56.4 -0.9
baz=159,SNR=8.5
SUSD Miller 34.25 345 P P 00 31 56.0 -1.3
baz=159,SNR=8.5
TKX Tecate 34.26 312 P P 00 31 55.3 -2.3
KNB Kanab 34.31 322 P P 00 31 58.5 +0.4
KNB IAmb IAmb 00 32 15.9
comp=Z,30nm,1.6s
FFD Franklin Falls 34.34 20 P P 00 31 57.9 -0.1
FFD IAmb IAmb 00 32 05.5
comp=Z,25nm,1.2s
COWI Conover 34.36 357 P P 00 31 57.0 -1.3
baz=176
PB16 IPOC Station P 34.43 150 P P 00 32 01.4 +1.7
PB16 IAmb IAmb 00 32 18.2
comp=Z,10nm,0.7s
SRU San Rafael Swe 34.43 327 IAmb IAmb 00 32 13.3
comp=Z,17nm,0.8s
LONY Lake Ozonia 34.51 16 IAmb IAmb 00 32 16.0
comp=Z,19nm,1.0s
LONY Lake Ozonia 34.51 16 P P 00 31 59.4 -0.1
baz=202,SNR=6.9
F36A Milaca 34.53 352 P P 00 31 58.1 -1.6
baz=168,SNR=22
MDP Montagnes des 34.54 98 LR LR 00 47 26.3
comp=Z,618nm,19.4s,baz=279,slow=39
LCMT Little Creek M 34.57 321 P P 00 32 01.7 +1.4
BELC Belle Mtn. Jos 34.58 315 P P 00 32 01.6 +1.1
baz=123
E43A Lone Tree Farm 34.59 360 P P 00 31 59.2 -1.0
baz=180,SNR=12
MTPU Mount Pierson 34.62 324 P P 00 32 02.5 +1.5
MTPU IAmb IAmb 00 32 16.6
comp=Z,14nm,0.8s
Q16A Castle Valley 34.65 326 P P 00 32 02.6 +1.5
Q16A IAmb IAmb 00 32 16.4
comp=Z,9.1nm,0.9s
E46A Sault Ste Mari 34.65 3 P P 00 32 00.3 -0.4
PMD Palm Desert 34.66 314 P P 00 32 02.6 +1.7
PMD IAmb IAmb 00 32 11.0
comp=Z,5.6nm,0.9s
TPFO Pinon Flats 34.69 314 P P 00 32 03.1 +1.7
baz=122
PFO Pinyon Flats O 34.70 314 P P 00 32 03.5 +2.0
comp=Z,1.3nm,0.7s,baz=308,slow=7.1,SNR=2.0
PFO PcP PcP 00 34 36.4 +1.5
comp=Z,2.2nm,0.5s,baz=81,slow=4.9,SNR=4.3
PFO pPcP 00 34 46.9
comp=Z,3.8nm,0.8s,baz=146,slow=6.2,SNR=4.2
comp=Z,1.3nm,0.7s
PFO Pinyon Flats O 34.70 314 P P 00 32 02.8 +1.3
PFO Pinyon Flats O 34.70 314 P P 00 32 02.9 +1.5
baz=122
BMNY Brushton-Moira 34.73 16 P P 00 32 01.0 -0.4
baz=202,SNR=6.7
RWWY Rawlins 34.77 333 P P 00 32 02.8 +0.7
RWWY IAmb IAmb 00 32 16.3
comp=Z,20nm,0.9s
GMRC Granite Mounta 34.78 316 P P 00 32 03.4 +1.2
baz=124
V12A Nelson 34.79 318 P P 00 32 04.1 +1.9
V12A PcP 00 34 36.9 +1.8
I62A Tamworth 34.80 20 P P 00 32 02.3 +0.3
I62A IAmb IAmb 00 32 19.0
comp=Z,21nm,0.9s
SZCU Shurtz Canyon 34.85 322 P P 00 32 04.5 +1.7
SZCU IAmb IAmb 00 32 17.4
comp=Z,13nm,0.9s
ITTB Itaituba 34.90 115 eP P 00 32 02.4 -0.9
MSU Marysvale 34.93 324 P P 00 32 04.9 +1.4
TMUT Trail Mountain 34.94 326 P P 00 32 04.2 +0.5
TMUT IAmb IAmb 00 32 18.7
comp=Z,12nm,0.8s
LBNH Lisbon 34.94 19 P P 00 32 03.5 +0.2
baz=206
MVU Marysvale 34.95 324 P P 00 32 04.5 +0.8
F33A 5 Mile Ranch, 34.97 349 P P 00 32 02.1 -1.4
F33A 5 Mile Ranch, 34.97 349 P P 00 32 02.3 -1.2
baz=164
CCUT Cedar City 34.99 322 P P 00 32 04.9 +0.9
CCUT PcP PcP 00 34 36.5 +0.7
RDMU Red Mountain 35.01 329 P P 00 32 04.7 +0.5
RDMU IAmb IAmb 00 32 05.8
comp=Z,14nm,1.2s
E38A The Farm, Brul 35.04 354 P P 00 32 02.8 -1.2
baz=172,SNR=12
TCRU Three Creeks R 35.15 324 P P 00 32 07.2 +1.8
TCRU IAmb IAmb 00 32 20.7
comp=Z,17nm,0.9s
K22A Casper 35.25 335 P P 00 32 06.6 +0.4
K22A IAmb IAmb 00 32 18.0
comp=Z,12nm,0.9s
K22A Casper 35.25 335 P P 00 32 06.9 +0.7
baz=145
K22A Casper 35.25 335 P P 00 32 06.1 -0.1
baz=145
HEC Hector,Ludlow 35.27 316 P P 00 32 06.9 +0.6
baz=124
D41A Chassel 35.30 358 P P 00 32 04.9 -1.4
D41A IAmb IAmb 00 32 06.2
comp=Z,16nm,0.8s
TUQ Turquoise Moun 35.33 317 P P 00 32 07.8 +0.9
baz=125
SHPR Sheep Range 35.46 319 P P 00 32 09.5 +1.5
SHPR PcP PcP 00 34 39.1 +2.0
RSSD Black Hills 35.53 339 P P 00 32 09.5 +0.9
RSSD IAmb IAmb 00 32 24.2
comp=Z,9.7nm,0.7s
RSSD Black Hills 35.53 339 P P 00 32 08.8 +0.2
baz=150
RSSD Black Hills 35.53 339 P P 00 32 08.3 -0.3
RSSD pP pP 00 32 19.0 -1.0
MNTQ Montreal, Queb 35.58 16 IAmb IAmb 00 32 25.2
comp=Z,21nm,0.8s
MPU Maple Canyon 35.68 327 P P 00 32 10.6 +0.7
MPU IAmb IAmb 00 32 24.1
comp=Z,19nm,0.9s
GSC Goldstone, Bar 35.85 316 P P 00 32 12.7 +1.4
GSC PcP PcP 00 34 39.6 +1.5
NLU North Lily Min 35.88 326 P P 00 32 12.8 +1.2
PSUT Pine Spring 35.92 323 P P 00 32 13.9 +1.8
PSUT IAmb IAmb 00 32 30.4
comp=Z,12nm,0.9s
PRN Pahroc Range 35.94 320 P P 00 32 13.9 +1.8
CIS Catalina Islan 35.99 312 P P 00 32 13.3 +0.8
baz=120
JLU Jordanelle 36.00 328 P P 00 32 13.4 +0.7
JLU IAmb IAmb 00 32 26.8
comp=Z,13nm,0.8s
TRQ Mont Tremblant 36.01 15 P P 00 32 11.9 -0.6
VILB Vilhena 36.10 132 P P 00 32 13.5 0.0
VILB IAmb IAmb 00 32 14.6
comp=Z,52nm,0.7s
VILB Vilhena 36.10 132 eP P 00 32 13.9 +0.3
PASC Pasadena Art C 36.21 313 P P 00 32 14.6 +0.2
PASC IAmb IAmb 00 32 53.1
comp=Z,34nm,1.3s
CTU Camp Tracy 36.23 327 P P 00 32 14.9 +0.3
CTU IAmb IAmb 00 32 28.7
comp=Z,16nm,0.7s
GWY Greenwater Val 36.26 317 P P 00 32 16.3 +1.4
GWY PcP PcP 00 34 41.3 +1.9
G62A West of Eustis 36.26 20 P P 00 32 14.9 +0.3
G62A IAmb IAmb 00 32 31.4
comp=Z,17nm,0.8s
G62A West of Eustis 36.26 20 P P 00 32 15.4 +0.8
baz=208,SNR=5.3
G62A P P 00 32 15.4 +0.8
baz=208,SNR=5.3
QSM Queen of Sheba 36.26 317 P P 00 32 15.8 +1.1
TCUT Toone Canyon 36.35 328 P P 00 32 16.4 +0.7
TCUT IAmb IAmb 00 32 34.1
comp=Z,15nm,0.7s
EYMN Ely 36.36 355 IAmb IAmb 00 32 14.6
comp=Z,14nm,0.8s
EYMN Ely 36.36 355 P P 00 32 14.3 -1.1
baz=172
EYMN Ely 36.36 355 P P 00 32 13.4 -1.9
baz=172
TPNV Topopah Spring 36.42 319 PcP 00 34 41.9 +1.9
TPNV Topopah Spring 36.42 319 P P 00 32 16.2 -0.1
baz=126,SNR=6.3
EDW2 Edwards Air Fo 36.45 314 P P 00 32 16.3 -0.1
baz=122
DUG Dugway, Tooele 36.45 326 IAmb IAmb 00 32 31.6
comp=Z,12nm,1.0s
DUG Dugway, Tooele 36.45 326 P P 00 32 17.0 +0.6
baz=134,SNR=7.6
SPR3 Spring Creek 3 36.51 323 P P 00 32 18.0 +0.9
SPR3 IAmb IAmb 00 32 31.4
comp=Z,11nm,0.9s
SPR3 PcP PcP 00 34 42.1 +1.8
NPGB Novo Progresso 36.51 119 eP P 00 32 15.3 -1.8
S11A Rachel 36.52 320 P P 00 32 18.2 +1.1
S11A IAmb IAmb 00 32 27.8
comp=Z,9.0nm,0.8s
FURC Furnace Creek, 36.55 318 P P 00 32 17.3 +0.3
baz=125
LRMC Laurel Mtn Rad 36.55 316 P P 00 32 19.1 +1.7
baz=123
WCT Wildcat Mounta 36.58 318 P P 00 32 19.1 +1.6
E28A Huff 36.69 344 P P 00 32 17.8 -0.4
BW06 Boulder Array 36.69 332 P P 00 32 18.0 -0.5
baz=141
PDAR Pinedale Array 36.69 332 P P 00 32 18.6 +0.1
comp=Z,8.1nm,0.8s,baz=127,slow=10,SNR=60
PDAR PcP PcP 00 34 40.4 -0.3
comp=Z,1.3nm,0.7s,baz=112,slow=2.7,SNR=4.1
PDAR pPcP 00 34 51.9
comp=Z,2.5nm,0.9s,baz=129,slow=4.0,SNR=4.8
PDAR LR LR 00 51 59.5
comp=Z,223nm,18.7s,baz=140,slow=44
comp=Z,8.1nm,0.8s
PKME Peaks-Kenny Pk 36.73 21 P P 00 32 18.9 +0.4
baz=210
MPMC Manual Prospec 36.73 316 P P 00 32 20.1 +1.1
baz=124
SNCC San Nicolas Is 36.73 311 P P 00 32 20.3 +1.5
baz=118
PB01 IPOC Station P 36.76 152 P P 00 32 20.9 +1.7
PB01 IAmb IAmb 00 33 14.2
comp=Z,15nm,1.3s
HWUT Hardware Ranch 36.79 329 PcP 00 34 41.9 +1.0
R11A Troy Canyon, C 36.85 321 P P 00 32 20.8 +0.9
R11A Troy Canyon, C 36.85 321 P P 00 32 20.1 +0.1
baz=128,SNR=6.2
B35A Bob, Littlefor 37.01 352 IAmb IAmb 00 32 20.2
comp=Z,12nm,0.9s
B35A Bob, Littlefor 37.01 352 P P 00 32 19.2 -1.7
baz=169,SNR=6.2
BGU Big Grassy Mou 37.08 326 P P 00 32 22.4 +0.7
BGU IAmb IAmb 00 32 36.2
comp=Z,16nm,1.1s
GRAC Grapevine Rang 37.18 318 P P 00 32 24.4 +1.8
GRAC Grapevine Rang 37.18 318 P P 00 32 23.5 +0.9
baz=125
VLDQ Val d'Or 37.19 11 P P 00 32 22.4 0.0
VLDQ IAmb IAmb 00 32 23.0
comp=Z,25nm,1.6s
ISA Isabella, Lake 37.19 315 PcP 00 34 44.0 +1.9
ISA Isabella, Lake 37.19 315 P P 00 32 23.6 +0.9
baz=122
AGMN Agassiz Nation 37.27 350 P P 00 32 21.9 -1.2
baz=165,SNR=29
AGMN Agassiz Nation 37.27 350 P P 00 32 21.2 -1.9
baz=165,SNR=29
GMN Gold Mountain 37.28 318 P P 00 32 24.8 +1.1
CWC Cottonwood Cre 37.34 317 P P 00 32 25.5 +1.4
baz=123
AHID Auburn Hatcher 37.42 330 P P 00 32 25.0 +0.3
LCH Last Change Ra 37.50 318 P P 00 32 26.4 +1.1
PB09 IPOC Station P 37.53 152 P P 00 32 26.9 +1.1
PB09 IAmb IAmb 00 32 53.8
comp=Z,32nm,1.3s
HVU Hansel Valley 37.54 328 P P 00 32 26.5 +0.8
HVU IAmb IAmb 00 32 40.6
comp=Z,18nm,0.8s
LATQ La Tuque 37.54 16 P P 00 32 25.4 0.0
LATQ IAmb IAmb 00 32 37.4
comp=Z,16nm,0.9s
SIV San Ignacio 37.56 136 LR LR 00 48 33.3
comp=Z,616nm,19.8s,baz=310,slow=37
MDND Maddock 37.59 346 P P 00 32 25.4 -0.4
baz=159,SNR=20
MDND Maddock 37.59 346 P P 00 32 25.1 -0.7
baz=159,SNR=20
MZP Montezuma Peak 37.59 319 P P 00 32 27.9 +1.6
VES Vestal, Richgr 37.71 315 P P 00 32 26.6 -0.4
baz=122
TPH Tonopah 37.71 319 P P 00 32 28.2 +1.0
TPH IAmb IAmb 00 32 45.3
comp=Z,18nm,0.9s
PKM Mcpherson Peak 37.73 313 P P 00 32 28.8 +1.3
baz=120
SNOW Snow King Moun 37.78 331 P P 00 32 28.7 +0.9
LOHW Long Hollow 37.83 332 IAmb IAmb 00 32 40.2
comp=Z,14nm,1.0s
PDRB Porto dos Gac 37.89 127 eP P 00 32 26.7 -2.1
MOOW Moose Ponds 38.00 332 IAmb IAmb 00 32 43.2
comp=Z,17nm,0.8s
FXWY Fox Creek 38.04 331 IAmb IAmb 00 32 44.9
comp=Z,9.6nm,0.8s
SMMC Simmler 38.08 314 P P 00 32 31.1 +0.9
baz=120
ELK Elko 38.18 324 P P 00 32 31.9 +0.7
comp=Z,4.6nm,1.1s,baz=132,slow=4.2,SNR=11
ELK PcP PcP 00 34 46.5 +1.2
comp=Z,5.8nm,0.8s,baz=159,slow=0.8,SNR=9.4
ELK pPcP 00 34 56.6
comp=Z,7.1nm,0.9s,baz=183,slow=0.2,SNR=7.5
comp=Z,4.6nm,1.1s
ELK Elko 38.18 324 PcP PcP 00 34 46.9 +1.6
IMW Indian Meadow 38.20 332 PcP PcP 00 34 46.7 +1.4
CLDB Colider 38.20 125 eP P 00 32 29.7 -1.7
FLWY Flagg Ranch 38.23 332 IAmb IAmb 00 32 46.7
comp=Z,18nm,0.8s
LVC Limon Verde 38.38 153 P P 00 32 33.8 +0.6
LVC Limon Verde 38.38 153 eP P 00 32 33.3 +0.1
LMQ La Malbaie 38.40 18 P P 00 32 30.9 -1.8
LMQ IAmb IAmb 00 32 32.8
comp=Z,22nm,1.3s
RLMT Red Lodge 38.42 334 P P 00 32 32.9 -0.2
RLMT IAmb IAmb 00 32 45.5
comp=Z,12nm,0.8s
RLMT Red Lodge 38.42 334 P P 00 32 32.7 -0.4
baz=143,SNR=17
H17A Grant Village 38.42 332 P P 00 32 34.0 +0.9
H17A Grant Village 38.42 332 P P 00 32 32.4 -0.7
baz=141
PAGB Antelope Grade 38.46 314 P P 00 32 35.1 +1.7
LKWY Lake 38.47 333 P P 00 32 34.5 +0.9
YMP Mirror Lake Pl 38.50 333 P P 00 32 34.7 +0.8
NV11 Mina Array Sit 38.52 319 P P 00 32 35.3 +1.3
LAO LASA Array 38.52 339 IAmb IAmb 00 32 41.1
comp=Z,20nm,1.0s
LAO LASA Array 38.52 339 P P 00 32 33.0 -0.8
baz=149
PTLB Pontes e Lacer 38.53 134 P P 00 32 33.9 -0.2
PTLB IAmb IAmb 00 32 34.9
comp=Z,22nm,0.9s
PTLB Pontes e Lacer 38.53 134 eP P 00 32 33.8 -0.3
YFT Old Faithful 38.58 332 P P 00 32 35.9 +1.4
YFT IAmb IAmb 00 32 51.0
comp=Z,23nm,1.0s
OMMB Old Mammoth Mi 38.60 318 P P 00 32 35.7 +0.8
NVAR Mina Array Bea 38.61 319 P P 00 32 36.3 +1.5
comp=Z,1.9nm,0.7s,baz=128,slow=6.6,SNR=17
NVAR PcP PcP 00 34 48.1 +1.5
comp=Z,6.4nm,0.7s,baz=134,slow=3.9,SNR=22
NVAR pPcP 00 34 59.1
comp=Z,8.7nm,0.8s,baz=134,slow=4.5,SNR=12
comp=Z,1.9nm,0.7s
LHV Little Huntoon 38.63 319 P P 00 32 36.9 +2.2
MDPB Devils Postpil 38.66 317 P P 00 32 36.4 +1.0
YNR Norris Junctio 38.71 333 P P 00 32 36.6 +1.0
YMR Madison River 38.80 332 P P 00 32 37.1 +0.8
YMR IAmb IAmb 00 32 50.2
comp=Z,26nm,1.0s
KVN Kaiserville 38.84 320 P P 00 32 37.8 +1.1
RYN Ryan 38.86 319 P P 00 32 38.6 +1.7
LMN Caledonia Moun 38.93 25 P P 00 32 37.3 +0.2
LMN IAmb IAmb 00 32 53.5
comp=Z,25nm,1.0s
YHL Hebgen Lake 39.04 332 P P 00 32 39.9 +1.4
PMPB Monarch Peak 39.09 314 P P 00 32 39.2 +0.5
PMPB IAmb IAmb 00 33 17.9
comp=Z,26nm,1.6s
BMN Battle Mountai 39.14 322 P P 00 32 40.5 +1.4
QLMT Earthquake Lak 39.14 332 P P 00 32 40.5 +1.3
ULM Lac du Bonnet 39.16 351 P P 00 32 37.1 -1.9
comp=Z,27nm,0.8s,baz=167,slow=8.9,SNR=33
ULM LR LR 00 49 41.6
comp=Z,190nm,21.6s,baz=88,slow=38
comp=Z,27nm,0.8s
DGMT Dagmar 39.41 342 P P 00 32 40.8 -0.3
baz=153
YERR Yerington 39.53 319 P P 00 32 43.7 +1.2
HLID Hailey 39.66 328 P P 00 32 43.8 +0.4
baz=135,SNR=8.8
CMB Columbia Colle 39.75 317 P P 00 32 45.3 +1.2
PNTR Pine Nut 39.82 319 P P 00 32 46.1 +1.2
BOZ Bozeman (W) 39.82 333 P P 00 32 44.9 +0.2
baz=140,SNR=20
VCNR Virginia City 39.97 319 P P 00 32 47.1 +1.0
PAHR Pah Rah Range 40.03 320 P P 00 32 48.5 +1.9
MFID Camas Ranch 40.30 327 P P 00 32 49.6 +1.0
GO02 Mina Guanaco 40.33 155 P P 00 32 50.5 +1.2
BEKR Beckworth 40.74 320 P P 00 32 54.4 +2.0
EGMT Eagleton 40.96 337 P P 00 32 53.6 -0.4
baz=144,SNR=6.8
ORV Oroville 41.30 318 P P 00 32 58.4 +1.5
SALV Santo Antonio 41.32 131 eP P 00 32 56.2 -1.0
J08A Circle Bar Ran 41.71 325 P P 00 33 00.8 +0.4
MSO Missoula 41.80 332 P P 00 33 00.8 -0.2
baz=138,SNR=8.3
MOD Modoc Plateau 41.88 322 P P 00 33 03.2 +1.4
AC02 Maricunga 42.01 156 P P 00 33 03.9 +0.5
SNDB Serra Nova Dou 42.49 122 eP P 00 33 06.3 -0.6
F10A Beach Ranch, E 42.77 329 IAmb IAmb 00 33 24.6
comp=Z,19nm,0.8s
YBH Yreka Blue Hor 43.26 320 LR LR 00 54 13.4
comp=Z,291nm,19.2s,baz=145,slow=40
L04D Klamath Falls 43.28 321 P P 00 33 12.6 -0.5
baz=124
WALA Waterton Lakes 43.47 334 P P 00 33 14.2 -0.4
J04D Umpqua Nationa 43.74 323 P P 00 33 16.3 -0.6
baz=125
SMTB Santa Maria do 44.13 116 eP P 00 33 19.2 -1.0
I04A Tendick Farm, 44.24 323 P P 00 33 20.2 -0.5
baz=125
HAWA Hanford 44.24 328 IAmb IAmb 00 33 33.5
comp=Z,12nm,0.8s
RPN Rapa Nui 44.27 209 LR LR 00 47 01.2
comp=Z,417nm,21.0s,baz=28,slow=29
NEW Newport 44.32 331 P P 00 33 20.8 -0.5
comp=Z,1.8nm,0.6s,baz=137,slow=6.3,SNR=5.7
NEW LR LR 00 54 03.4
comp=Z,224nm,21.7s,baz=142,slow=39
comp=Z,1.8nm,0.6s
NEW Newport 44.32 331 P P 00 33 20.7 -0.6
baz=135
AQDB Aquidauana 44.33 136 P P 00 33 21.7 +0.1
AQDB IAmb IAmb 00 33 22.4
comp=Z,22nm,0.9s
AQDB Aquidauana 44.33 136 eP P 00 33 21.6 -0.1
D08A Wollman Farm, 44.37 329 IAmb IAmb 00 33 34.9
comp=Z,18nm,0.8s
G05D Wamic, OR 44.48 325 P P 00 33 22.9 +0.3
baz=128
C09A Chrisman Ranch 44.55 330 IAmb IAmb 00 33 36.1
comp=Z,15nm,0.8s
FFC Flin Flon 44.56 348 P P 00 33 22.5 -0.5
FFC IAmb IAmb 00 33 23.4
comp=Z,18nm,0.8s
FFC Flin Flon 44.56 348 P P 00 33 21.2 -1.8
FFC pP pP 00 33 31.2 -3.5
FFC sP sP 00 33 37.3 -2.3
H04A Detroit Lake 44.63 324 IAmb IAmb 00 33 37.2
comp=Z,12nm,0.9s
LTY Liberty 45.40 328 IAmb IAmb 00 33 41.8
comp=Z,38nm,1.9s
B08A Colville Reser 45.45 330 IAmb IAmb 00 33 43.0
comp=Z,10nm,0.8s
H03N2 Juan Fernandez 45.50 171 T T 01 21 55.7
baz=344
H03N1 Juan Fernandez 45.51 171 T T 01 21 57.1
baz=344
H03N3 Juan Fernandez 45.52 171 T T 01 21 56.5
baz=344
G03D McMinnville, O 45.56 324 P P 00 33 31.0 -0.2
baz=126
SCHQ Schefferville 45.88 16 P P 00 33 31.0 -2.5
comp=Z,3.5nm,0.5s,baz=220,slow=5.2,SNR=11
SCHQ LR LR 00 52 53.4
comp=Z,564nm,21.0s,baz=218,slow=36
comp=Z,3.5nm,0.5s
SCHQ Schefferville 45.88 16 P P 00 33 32.1 -1.4
SCHQ IAmb IAmb 00 33 33.3
comp=Z,26nm,1.4s
BDFB Brasilia 47.13 124 P P 00 33 43.1 -0.9
comp=Z,19nm,0.7s,baz=289,slow=9.9,SNR=26
BDFB LR LR 00 54 41.6
comp=Z,487nm,19.0s,baz=315,slow=38
comp=Z,19nm,0.7s
BDFB Brasilia 47.13 124 P P 00 33 43.1 -0.9
BDFB Brasilia 47.13 124 eP P 00 33 43.4 -0.6

FCC	**Fort Churchill**	**47.30**	**355**	P	**P**	**00 33 43.4**	**-1.1**
B04A	**Port Angeles**	**47.39**	**327**	P	**P**	**00 33 45.6**	**+0.1**
B04A				IAmb	IAmb	00 33 59.1	
	comp=Z,111nm,0.8s						
CPUP	**Villa Florida**	**47.50**	**143**	P	**P**	**00 33 45.4**	**-1.1**
	comp=Z,5.5nm,0.6s,baz=333,slow=8.4,SNR=19						
	comp=Z,5.5nm,0.6s						
CPUP	**Villa Florida**	**47.50**	**143**	P	**P**	**00 33 46.5**	**0.0**
CPUP				IAmb	IAmb	00 33 47.4	
	comp=Z,8.4nm,0.8s						
CPUP	**Villa Florida**	**47.50**	**143**	P	**P**	**00 33 45.7**	**-0.9**
CPUP				pP	**pP**	**00 33 56.6**	**-1.7**
TRCB	**Terra Rica**	**47.99**	**136**	*e*P	**P**	**00 33 49.8**	**-0.6**
PCMB	**Pacaembu**	**48.18**	**133**	*e*P	**P**	**00 33 51.2**	**-0.7**
IPMB	**Ipameri, GO**	**48.27**	**127**	*e*P	**P**	**00 33 51.6**	**-1.1**
JANB	**Januaria**	**49.89**	**121**	*e*P	**P**	**00 34 04.6**	**-0.5**
ITQB	**Itaqui**	**50.44**	**145**	P	**P**	**00 34 09.7**	**+0.7**
ITQB	**Itaqui**	**50.44**	**145**	*e*P	**P**	**00 34 09.7**	**+0.7**
ITAB	**Concordia**	**51.35**	**139**	*e*P	**P**	**00 34 15.4**	**-0.4**
FRB	**Frobisher Bay**	**53.60**	**10**	LR	LR	00 58 40.7	
	comp=Z,478nm,19.1s,baz=194,slow=38						
RCBR	**Riachuelo**	**53.67**	**106**	LR	LR	00 59 34.8	
	comp=Z,556nm,18.7s,baz=79,slow=39						
PLTB	**Pedras Altas**	**53.72**	**144**	*e*P	**P**	**00 34 34.0**	**+0.6**
TER01	**Tubaro-SC**	**54.17**	**138**	*e*P	**P**	**00 34 36.5**	**-0.3**
PLCA	**Paso Flores**	**54.30**	**165**	P	**P**	**00 34 38.1**	**+0.5**
	comp=Z,4.5nm,0.8s,baz=341,slow=9.9,SNR=9.3						
PLCA				LR	LR	00 53 24.3	
	comp=Z,112nm,18.5s,baz=14,slow=31						
	comp=Z,4.5nm,0.8s						
PLCA	**Paso Flores**	**54.30**	**165**	P	**P**	**00 34 39.4**	**+1.8**
PLCA				IAmb	IAmb	00 35 18.3	
	comp=Z,23nm,1.4s						
PLCA	**Paso Flores**	**54.30**	**165**	*e*P	**P**	**00 34 36.6**	**-0.9**
PLCA	**Paso Flores**	**54.30**	**165**	P	**P**	**00 34 38.8**	**+1.2**
YKA	**Yellowknife Ar**	**54.49**	**345**	P	**P**	**00 34 37.2**	**-1.3**
	comp=Z,11nm,0.8s,baz=139,slow=7.6,SNR=53						
YKA				pP	**pP**	**00 34 47.9**	**-2.6**
	comp=Z,8.0nm,0.8s,baz=136,slow=8.0,SNR=12						
YKA				PcP	**PcP**	**00 35 41.1**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=146,slow=3.9,SNR=7.4						
YKA				pPcP		00 35 52.2	
	comp=Z,1.1nm,0.7s,baz=142,slow=4.0,SNR=4.2						
YKA				LR	LR	01 01 44.2	
	comp=Z,153nm,18.2s,baz=144,slow=40						
	comp=Z,11nm,0.8s						
TRQA	**Tornquist**	**54.72**	**156**	P	**P**	**00 34 40.9**	**+0.3**
TRQA				IAmb	IAmb	00 34 51.9	
	comp=Z,18nm,1.4s						
TAOE	**Nuku Hiva Isla**	**56.69**	**251**	*e*LR	LR	00 51 36.9	
	comp=Z,220nm,21.9s						
DLBC	**Dease Lake**	**56.82**	**335**	LR	LR	01 05 18.8	
	comp=Z,239nm,18.6s,baz=118,slow=42						
DLBC	**Dease Lake**	**56.82**	**335**	P	**P**	**00 34 55.7**	**+0.3**
DLBC	**Dease Lake**	**56.82**	**335**	P	**P**	**00 34 56.0**	**+0.5**
	baz=127						
WTLY	**Watson Lake, Y**	**57.36**	**337**	P	**P**	**00 34 58.4**	**-0.7**
	baz=129						
WRGLY	**Wrigley**	**57.60**	**341**	P	**P**	**00 34 59.7**	**-1.1**
	baz=136						
R33M	**Jennings River**	**57.78**	**335**	P	**P**	**00 35 02.4**	**+0.1**
	baz=126						
TGTN	**Hyland Airport**	**58.06**	**338**	P	**P**	**00 35 03.6**	**-0.6**
	baz=130						
Q32M	**Nakina River**	**58.07**	**334**	P	**P**	**00 35 04.1**	**-0.3**
	baz=125						
SIT	**Sitka**	**58.41**	**331**	P	**P**	**00 35 06.6**	**+0.1**
	baz=121						
P32M	**Atlin**	**59.04**	**334**	P	**P**	**00 35 10.9**	**-0.1**
	baz=124						
SKAG	**Skagway**	**59.66**	**334**	P	**P**	**00 35 15.8**	**+0.7**
	baz=122						
N32M	**Quiet Lake**	**59.67**	**336**	P	**P**	**00 35 14.3**	**-0.9**
	baz=125						
MMPY	**Sheldon Lake,**	**59.85**	**338**	P	**P**	**00 35 15.7**	**-0.8**
	baz=128						
SFJD	**Kangerlussuaq**	**60.33**	**16**	LR	LR	01 01 14.4	
	comp=Z,432nm,20.4s,baz=221,slow=36						
FARO	**Faro, Yukon**	**60.40**	**337**	P	**P**	**00 35 19.9**	**-0.4**
	baz=125						
O30N	**Mendenhall**	**60.68**	**335**	P	**P**	**00 35 21.7**	**-0.5**
	baz=122						
P30M	**Million Dollar**	**60.71**	**334**	P	**P**	**00 35 22.2**	**-0.3**
	baz=120						
M31M	**Drury Creek, Y**	**60.78**	**337**	P	**P**	**00 35 21.9**	**-0.9**
	baz=124						
P29M	**Windy Craggy**	**60.81**	**333**	P	**P**	**00 35 22.9**	**-0.1**
	baz=120						
N31M	**Braeburn, Yuko**	**60.94**	**336**	P	**P**	**00 35 23.0**	**-0.9**
	baz=122						
HYT	**Haines Junctio**	**61.30**	**334**	P	**P**	**00 35 25.7**	**-0.9**
	baz=120						
N30M	**Aishikik Lake**	**61.46**	**335**	P	**P**	**00 35 26.7**	**-0.8**
	baz=121						
M30M	**Minto, Yukon**	**61.92**	**336**	P	**P**	**00 35 29.7**	**-0.9**
	baz=122						
PINM	**Pinnacle**	**62.14**	**333**	P	**P**	**00 35 32.0**	**-0.1**
	baz=117						
O28M	**Mount Upton**	**62.43**	**334**	P	**P**	**00 35 33.6**	**-0.7**
	baz=118						
M29M	**Somme Creek**	**62.52**	**336**	P	**P**	**00 35 34.4**	**-0.3**
	baz=120,SNR=7.8						
L29M	**L29M**	**62.73**	**337**	P	**P**	**00 35 35.2**	**-0.8**
	baz=121						
K29M	**Barlow Dome**	**62.88**	**337**	P	**P**	**00 35 35.9**	**-1.1**
	baz=122						
CTG	**Chitna Glacier**	**63.02**	**334**	P	**P**	**00 35 38.4**	**+0.3**
	baz=117						
RES	**Resolute Bay**	**63.16**	**358**	LR	LR	01 06 36.2	
	comp=Z,119nm,18.1s,baz=202,slow=39						
BVCY	**Beaver Creek**	**63.48**	**335**	P	**P**	**00 35 39.9**	**-1.0**
	baz=118						
F31M	**Tsiigehtchic**	**63.63**	**342**	P	**P**	**00 35 39.7**	**-2.0**
	baz=127						
DAWY	**Dawson**	**63.70**	**337**	P	**P**	**00 35 41.0**	**-1.4**
	baz=120						
M27K	**Edge Creek, AK**	**63.88**	**335**	P	**P**	**00 35 42.5**	**-1.2**
	baz=117						
EPYK	**Eagle Plains**	**63.96**	**340**	IAmb	IAmb	00 35 44.4	
	comp=Z,14nm,0.9s						
EPYK	**Eagle Plains**	**63.96**	**340**	P	**P**	**00 35 43.2**	**-0.9**
	baz=124						
I29M	**Ogilvie Camp,**	**63.97**	**339**	P	**P**	**00 35 43.5**	**-0.6**
	baz=122						
INK	**Inuvik**	**64.09**	**343**	P	**P**	**00 35 44.0**	**-0.8**
	comp=Z,11nm,0.9s,baz=101,slow=9.6,SNR=9.6						
INK				LR	LR	01 07 27.0	
	comp=Z,179nm,18.9s,baz=124,slow=40						
	comp=Z,11nm,0.9s						
INK	**Inuvik**	**64.09**	**343**	P	**P**	**00 35 44.2**	**-0.6**
INK				IAmb	IAmb	00 35 45.0	
	comp=Z,17nm,1.1s						
INK	**Inuvik**	**64.09**	**343**	P	**P**	**00 35 43.8**	**-1.0**
	baz=128						
BCAR	**Beaver Creek A**	**64.16**	**336**	P	**P**	**00 35 44.6**	**-0.8**
L27K	**Beaver Creek,**	**64.18**	**336**	IAmb	IAmb	00 35 46.2	
	comp=Z,9.7nm,0.8s						
L27K	**Beaver Creek,**	**64.18**	**336**	P	**P**	**00 35 45.3**	**-0.2**
	baz=117,SNR=6.2						
M26K	**Nabesna, AK**	**64.36**	**335**	P	**P**	**00 35 46.1**	**-0.7**
	baz=116						
BMRM	**Bremner River**	**64.46**	**333**	P	**P**	**00 35 46.8**	**-0.6**
	baz=113						
A36M	**Sachs Harbour**	**64.52**	**348**	P	**P**	**00 35 46.4**	**-1.1**
	baz=138						
Q23K	**Middleton Isla**	**64.68**	**331**	P	**P**	**00 35 48.6**	**-0.2**
	baz=111						
N25K	**Chitina, Valde**	**64.72**	**333**	P	**P**	**00 35 49.1**	**0.0**
N25K				IAmb	IAmb	00 36 00.7	
	comp=Z,12nm,0.9s						
N25K	**Chitina, Valde**	**64.72**	**333**	P	**P**	**00 35 49.2**	**0.0**
	baz=114						
EGAK	**Eagle**	**64.72**	**337**	IAmb	IAmb	00 35 54.5	
	comp=Z,18nm,1.4s						
EGAK	**Eagle**	**64.72**	**337**	P	**P**	**00 35 48.8**	**-0.2**
	baz=118						
K27K	**Chicken**	**64.72**	**336**	IAmb	IAmb	00 36 03.4	
	comp=Z,6.3nm,0.8s						
K27K	**Chicken**	**64.72**	**336**	P	**P**	**00 35 48.6**	**-0.4**
	baz=117						
EYAK	**Cordova Ski Ar**	**64.82**	**332**	P	**P**	**00 35 49.4**	**-0.2**
	baz=112						
KLU	**Klutina**	**65.25**	**333**	P	**P**	**00 35 52.0**	**-0.7**
	baz=112						
I27K	**Kandik River**	**65.28**	**338**	P	**P**	**00 35 52.8**	**+0.1**
	baz=118,SNR=5.1						
SCRK	**Sand Creek**	**65.45**	**336**	IAmb	IAmb	00 35 54.6	
	comp=Z,23nm,1.6s						
SCRK	**Sand Creek**	**65.45**	**336**	P	**P**	**00 35 53.7**	**-0.2**
	baz=115						
J26L	**Joseph Creek**	**65.51**	**337**	IAmb	IAmb	00 35 55.2	
	comp=Z,14nm,0.9s						
J26L	**Joseph Creek**	**65.51**	**337**	P	**P**	**00 35 53.7**	**-0.6**
	baz=116,SNR=9.8						
H27K	**Steamboat Moun**	**65.55**	**339**	P	**P**	**00 35 53.9**	**-0.5**
	baz=119,SNR=16						
PAX	**Paxson**	**65.64**	**335**	P	**P**	**00 35 53.8**	**-1.3**
	baz=113						
RIDG	**Independent Ri**	**65.69**	**336**	P	**P**	**00 35 54.5**	**-0.9**
	baz=114						
I26K	**Coal Creek Min**	**65.71**	**337**	IAmb	IAmb	00 35 55.8	
	comp=Z,14nm,0.8s						
I26K	**Coal Creek Min**	**65.71**	**337**	P	**P**	**00 35 54.9**	**-0.5**
	baz=117,SNR=7.7						
G27K	**Doyon Strip**	**65.88**	**339**	P	**P**	**00 35 56.1**	**-0.4**
	baz=119						
SCM	**Sheep Creek Mo**	**66.00**	**333**	P	**P**	**00 35 57.1**	**-0.3**
	baz=111						
K24K	**Donnelly Dome**	**66.10**	**335**	P	**P**	**00 35 57.9**	**-0.1**
	baz=114						
M23K	**Glacier View**	**66.17**	**333**	P	**P**	**00 35 57.6**	**-0.8**
	baz=111						
J25K	**Salcha River,**	**66.27**	**336**	IAmb	IAmb	00 36 10.2	
	comp=Z,9.2nm,0.8s						
J25K	**Salcha River,**	**66.27**	**336**	P	**P**	**00 35 58.4**	**-0.7**
	baz=114,SNR=8.0						
KNK	**Knik Glacier**	**66.36**	**333**	P	**P**	**00 35 58.9**	**-0.7**
	baz=110						
SEW	**Seward**	**66.39**	**331**	P	**P**	**00 35 59.4**	**-0.4**
	baz=108						
SML	**Sawmill**	**66.44**	**333**	P	**P**	**00 35 59.8**	**-0.4**
	baz=110						
WAT6	**Susitna Watana**	**66.46**	**334**	P	**P**	**00 35 59.3**	**-1.1**
	baz=111						
E27K	**Coleen River**	**66.53**	**341**	P	**P**	**00 35 59.6**	**-1.1**
	baz=119						
G26K	**Porcupine Rive**	**66.69**	**339**	P	**P**	**00 36 00.8**	**-0.8**
	baz=117						
PRP	**Porcupine Dome**	**66.70**	**337**	IAmb	IAmb	00 36 02.2	
	comp=Z,6.3nm,0.8s						
PRP	**Porcupine Dome**	**66.70**	**337**	P	**P**	**00 36 00.8**	**-1.1**
	baz=114,SNR=8.4						
HDA	**Harding Lake**	**66.81**	**336**	IAmb	IAmb	00 36 02.6	
	comp=Z,15nm,0.9s						
HDA	**Harding Lake**	**66.81**	**336**	P	**P**	**00 36 01.4**	**-1.1**
	baz=112,SNR=6.4						
RC01	**Rabbit Creek A**	**66.84**	**332**	P	**P**	**00 36 01.9**	**-0.8**
	baz=108						
WAT1	**Susitna Watana**	**66.89**	**334**	P	**P**	**00 36 02.0**	**-1.1**
	baz=110						
ILAR	**Eielson Array**	**66.93**	**336**	P	**P**	**00 36 02.2**	**-1.0**
	comp=Z,4.6nm,0.8s,baz=113,slow=4.7,SNR=32						
ILAR				pP	**pP**	**00 36 12.9**	**-2.5**
	comp=Z,5.7nm,1.0s,baz=126,slow=3.6,SNR=7.0						
ILAR				PP	**PP**	**00 38 29.7**	**-1.1**
	comp=Z,1.8nm,1.0s,baz=100,slow=8.3,SNR=5.7						
ILAR				LR	LR	01 09 02.1	
	comp=Z,206nm,20.4s,baz=80,slow=39						
	comp=Z,4.6nm,0.8s						
H25K	**Birch Creek**	**67.12**	**338**	P	**P**	**00 36 04.2**	**-0.2**
	baz=114						
F26K	**Sheenjek River**	**67.15**	**340**	P	**P**	**00 36 03.9**	**-0.7**
	baz=117						
BMAR	**Burnt Mountain**	**67.18**	**339**	P	**P**	**00 36 04.4**	**-0.4**
M22K	**Willow**	**67.22**	**333**	P	**P**	**00 36 04.5**	**-0.6**
	baz=108						
POKR	**Poker Plat Res**	**67.28**	**336**	P	**P**	**00 36 04.5**	**-1.0**
	baz=112						
KDAK	**Kodiak Island**	**67.28**	**328**	LR	LR	01 06 40.2	
	comp=Z,161nm,20.9s,baz=115,slow=37						
COLA	**College**	**67.35**	**336**	P	**P**	**00 36 04.2**	**-1.6**
COLA				pP	**pP**	**00 36 15.1**	**-2.9**
MCK	**McKinley**	**67.37**	**335**	IAmb	IAmb	00 36 06.4	
	comp=Z,13nm,1.0s						
MCK	**McKinley**	**67.37**	**335**	P	**P**	**00 36 05.4**	**-0.7**
	baz=110						
CUT	**Chulitna**	**67.50**	**333**	P	**P**	**00 36 06.2**	**-0.6**
	baz=109						
MDM	**Murphy Dome**	**67.53**	**336**	IAmb	IAmb	00 36 18.7	
	comp=Z,15nm,1.3s						
F25K	**Christian Rive**	**67.62**	**339**	P	**P**	**00 36 07.5**	**-0.1**
	baz=115						
H24K	**Noodor Dome**	**67.72**	**337**	P	**P**	**00 36 07.7**	**-0.6**
H24K	**Noodor Dome**	**67.72**	**337**	P	**P**	**00 36 07.7**	**-0.6**
	baz=112,SNR=5.5						
NEA2	**Nenana**	**67.73**	**336**	IAmb	IAmb	00 36 08.2	
	comp=Z,6.3nm,0.9s						
NEA2	**Nenana**	**67.73**	**336**	P	**P**	**00 36 06.8**	**-1.5**
	baz=111						
BWN	**Browne**	**67.75**	**335**	P	**P**	**00 36 07.8**	**-0.6**
E25K	**Arctic Village**	**67.82**	**340**	P	**P**	**00 36 08.1**	**-0.8**
	baz=115						
TRF	**Thorofare Moun**	**67.85**	**334**	IAmb	IAmb	00 36 23.3	
	comp=Z,9.9nm,0.9s						
TRF	**Thorofare Moun**	**67.85**	**334**	P	**P**	**00 36 08.1**	**-1.2**
	baz=109						
C27K	**Jago River**	**67.90**	**342**	P	**P**	**00 36 08.4**	**-0.8**
	baz=118						
O20K	**Slope Mountain**	**67.90**	**330**	P	**P**	**00 36 07.7**	**-1.9**
	baz=106						
G24K	**Hadweenzic Riv**	**67.91**	**338**	P	**P**	**00 36 08.9**	**-0.5**
	baz=113,SNR=6.1						
SKT	**Skwentna**	**67.93**	**333**	P	**P**	**00 36 08.6**	**-1.0**
	baz=107						
N20K	**Mount Spurr**	**68.01**	**332**	P	**P**	**00 36 08.6**	**-1.7**
	baz=106						
I23K	**Minto, Yukon-K**	**68.05**	**336**	P	**P**	**00 36 09.5**	**-0.7**
	baz=110,SNR=6.6						
Q19K	**Cape Douglas,**	**68.11**	**329**	P	**P**	**00 36 08.6**	**-2.2**
	baz=104						
PPT	**Papeete**	**68.32**	**246**	LR	LR	00 58 11.6	
	comp=Z,205nm,18.3s,baz=7.0,slow=29						
PPT2	**Papeete2**	**68.33**	**246**	*e*LR	LR	00 57 00.0	
	comp=Z,315nm,23.2s						
BPAW	**Bear Paw Mtn.**	**68.35**	**335**	IAmb	IAmb	00 36 12.3	
	comp=Z,11nm,0.9s						
BPAW	**Bear Paw Mtn.**	**68.35**	**335**	P	**P**	**00 36 10.8**	**-1.5**
	baz=108,SNR=6.6						
H23K	**Yukon River**	**68.36**	**337**	P	**P**	**00 36 10.5**	**-1.7**
	baz=111						
F24K	**Squaw Lake**	**68.38**	**339**	P	**P**	**00 36 11.1**	**-1.2**
	baz=113						
BBTS	**Babate**	**68.39**	**79**	LR	LR	01 00 35.0	
	comp=Z,75nm,20.0s,baz=248,slow=31						
MLY	**Manley**	**68.55**	**336**	IAmb	IAmb	00 36 13.6	
	comp=Z,10nm,0.8s						
MLY	**Manley**	**68.55**	**336**	P	**P**	**00 36 12.4**	**-1.1**
	baz=109,SNR=13						
D25K	**Kavik River**	**68.60**	**341**	P	**P**	**00 36 13.3**	**-0.4**
	baz=115						
M20K	**Styx River**	**68.63**	**332**	P	**P**	**00 36 12.5**	**-1.6**
	baz=106						
G23K	**Bananza Creek**	**68.85**	**338**	P	**P**	**00 36 14.9**	**-0.5**
	baz=110,SNR=6.7						
N19K	**Bonanza Creek**	**68.98**	**331**	P	**P**	**00 36 15.5**	**-0.8**
	baz=104						
H22K	**Ishtalitna Cre**	**69.09**	**337**	P	**P**	**00 36 15.3**	**-1.5**
	baz=109,SNR=5.2						
COLD	**Coldfoot**	**69.10**	**338**	IAmb	IAmb	00 36 18.2	
	comp=Z,10nm,1.0s						
COLD	**Coldfoot**	**69.10**	**338**	P	**P**	**00 36 16.7**	**-0.1**
	baz=110,SNR=7.0						
I21K	**Tanana**	**69.10**	**336**	P	**P**	**00 36 15.9**	**-1.0**
	baz=108						
L20K	**Farewell, AK**	**69.13**	**333**	P	**P**	**00 36 15.9**	**-1.2**
	baz=105,SNR=5.3						
E23K	**Chandalar**	**69.19**	**339**	P	**P**	**00 36 16.5**	**-1.0**
	baz=111						
M19K	**Big River Lodg**	**69.21**	**332**	P	**P**	**00 36 16.7**	**-0.9**
	baz=104						
R17K	**Ugashik Creek**	**69.24**	**327**	P	**P**	**00 36 17.4**	**-0.5**
	baz=101						
TOLK	**Toolik Lake Re**	**69.39**	**340**	P	**P**	**00 36 17.9**	**-0.7**
	baz=112						
K20K	**Telida**	**69.44**	**334**	P	**P**	**00 36 17.8**	**-1.3**
	baz=105,SNR=5.4						
G22K	**Bettles**	**69.47**	**338**	P	**P**	**00 36 18.4**	**-0.7**
	baz=109						
L19K	**White Mountain**	**69.49**	**332**	P	**P**	**00 36 17.7**	**-1.6**
	baz=104						
C24K	**Franklin Bluff**	**69.51**	**341**	P	**P**	**00 36 17.5**	**-1.7**
	baz=113						
H21K	**Melozitna Rive**	**69.57**	**336**	P	**P**	**00 36 18.2**	**-1.6**
	baz=107						
N18K	**Kilae Creek**	**69.62**	**331**	P	**P**	**00 36 19.0**	**-1.2**
	baz=103						
J20K	**Nowinta River**	**69.70**	**335**	IAmb	IAmb	00 36 21.5	
	comp=Z,34nm,1.8s						
J20K	**Nowinta River**	**69.70**	**335**	P	**P**	**00 36 19.2**	**-1.3**
	baz=106						
F22K	**John River**	**69.91**	**338**	P	**P**	**00 36 20.9**	**-0.9**
	baz=109						
E22K	**Anaktuvuk Pass**	**69.99**	**339**	P	**P**	**00 36 21.9**	**-0.5**
	baz=109						
O17K	**Koliganek Bris**	**70.02**	**330**	P	**P**	**00 36 21.9**	**-0.7**
	baz=101						
CHGN	**Chignik**	**70.10**	**326**	P	**P**	**00 36 22.5**	**-0.6**
	baz=99						
G21K	**Allakaket**	**70.10**	**337**	P	**P**	**00 36 22.7**	**-0.3**
	baz=107,SNR=9.8						
C23K	**Itkillik River**	**70.17**	**341**	P	**P**	**00 36 22.9**	**-0.4**
	baz=111						
F21K	**Alatna River**	**70.31**	**338**	P	**P**	**00 36 23.8**	**-0.5**
	baz=107,SNR=10						
TBI	**Tubuai**	**70.34**	**240**	*e*LR	LR	00 57 55.6	
	comp=Z,278nm,23.0s						
O16K	**Kokwok River B**	**70.48**	**329**	P	**P**	**00 36 25.5**	**+0.1**
	baz=100						
N16K	**Nishlik Lake**	**70.97**	**330**	P	**P**	**00 36 27.8**	**-0.7**
	baz=100						
UNV	**Unalaska Valle**	**74.51**	**323**	P	**P**	**00 36 49.4**	**0.0**
	baz=91						
JMIC	**Jan Mayen**	**75.27**	**19**	LR	LR	01 10 02.7	
	comp=Z,52nm,19.9s,baz=262,slow=36						
TNA	**Tin City**	**75.72**	**335**	P	**P**	**00 36 56.1**	**-0.1**
	baz=93						
ESDC	**Sonseca Array**	**77.28**	**52**	P	**P**	**00 37 02.9**	**-2.8**
	comp=Z,1.1nm,0.8s,baz=288,slow=6.4,SNR=8.5						
ESDC				LR	LR	01 06 46.0	
	comp=Z,207nm,20.6s,baz=254,slow=32						
	comp=Z,1.1nm,0.8s						
MDT	**Midelt**	**77.39**	**59**	LR	LR	01 05 37.7	
	comp=Z,293nm,21.8s,baz=293,slow=32						
PMSA	**Palmer Station**	**78.16**	**170**	LR	LR	01 05 46.6	
	comp=Z,123nm,18.1s,baz=330,slow=31						
RAR	**Rarotonga**	**78.60**	**245**	LR	LR	01 02 24.6	
	comp=Z,133nm,21.9s,baz=86,slow=28						
SMAI	**San Martin Ant**	**80.86**	**173**	P	**P**	**00 37 25.8**	**+1.4**
SMAI				IAmb	IAmb	00 37 38.1	
	comp=Z,13nm,1.1s						
SPITS	**Spitsbergen Ar**	**81.36**	**12**	LR	LR	01 14 37.4	
	comp=Z,370nm,20.2s,baz=252,slow=36						
NOA	**NORSAR Array B**	**83.81**	**29**	LR	LR	01 12 10.9	
	comp=Z,146nm,20.4s,baz=270,slow=34						
DAVOX	**Davos/Dischmat**	**86.22**	**43**	LR	LR	01 12 01.9	
	comp=Z,216nm,19.7s,baz=270,slow=33						
ARCES	**ARCESS Array B**	**86.76**	**19**	P	**P**	**00 37 53.8**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=299,slow=6.1,SNR=3.6						
ARCES				LR	LR	01 15 57.1	
	comp=Z,119nm,18.7s,baz=18,slow=35						
	comp=Z,2.9nm,0.9s						
NKC	**Novy Kostel**	**87.06**	**39**	AMS	AMS	01 13 10.0	
	comp=Z,300nm,20.4s						
CLL	**Collm**	**87.12**	**38**	*e*P	**P**	**00 37 56.0**	**-0.9**
	comp=Z,8.0nm,1.6s						
CLL				*e*pP	**pP**	**00 38 09.0**	**-0.5**
CLL				*ex*	x	00 38 27.0	
CLL				LmV		01 12 00.0	
	comp=Z,200nm,21.0s						
AFI	**Afiamalu**	**87.84**	**255**	LR	LR	01 08 49.4	
	comp=Z,118nm,18.8s,baz=90,slow=30						
KHC	**Kasperske Hory**	**88.05**	**40**	AMS	AMS	01 12 10.0	
	comp=Z,400nm,22.6s						
PVCC	**Panska Ves**	**88.29**	**39**	AMS	AMS	01 13 50.0	
	comp=Z,300nm,20.4s						
PRU	**Pruhonice**	**88.42**	**39**	AMS	AMS	01 15 40.0	
	comp=Z,300nm,16.5s						
GOPC	**GO Pecny, Ondr**	**88.59**	**39**	AMS	AMS	01 16 20.0	
	comp=Z,300nm,17.9s						
CKRC	**Cesky Krumlov**	**88.60**	**40**	AMS	AMS	01 12 50.0	
	comp=Z,400nm,21.8s						
TREC	**Trest**	**89.21**	**40**	AMS	AMS	01 17 20.0	
	comp=Z,300nm,17.8s						
KRLC	**Kraliky**	**89.78**	**39**	AMS	AMS	01 15 00.0	
	comp=Z,300nm,16.3s						
OKC	**Ostrava-Krasne**	**90.69**	**39**	AMS	AMS	01 16 50.0	
	comp=Z,300nm,21.1s						
VAE	**Valguarnera**	**91.82**	**51**	LR	LR	01 13 46.8	
	comp=Z,191nm,18.6s,baz=322,slow=32						
TIXI	**Tiksi**	**93.50**	**349**	LR	LR	01 23 45.0	
	comp=Z,97nm,21.2s,baz=1.0,slow=38						
PETK	**Petropavlovsk-**	**95.31**	**327**	LR	LR	01 25 19.0	
	comp=Z,41nm,18.0s,baz=77,slow=38						
MA2	**Magadan**	**95.35**	**334**	LR	LR	01 26 06.7	
	comp=Z,57nm,21.2s,baz=98,slow=38						
VNA3	**Neumayer Olymp**	**96.92**	**161**	P	**P**	**00 38 42.0**	**+0.2**
VNA3	**Neumayer Olymp**	**96.92**	**161**	pP	pP	00 38 52.6	-1.9
VNA2	**Neumayer--Watz**	**97.55**	**161**	P	**P**	**00 38 44.7**	**0.0**
	baz=310,slow=3.9						
VNA2	**Neumayer--Watz**	**97.55**	**161**	pP	pP	00 38 55.3	-2.1
MSVF	**Nonsavu**	**98.18**	**254**	LR	LR	01 13 32.7	
	comp=Z,181nm,19.0s,baz=189,slow=29						
NRIK	**Noril'sk**	**99.10**	**2**	LR	LR	01 25 06.6	
	comp=Z,163nm,20.9s,baz=347,slow=36						
SNAA	**Sanae**	**99.14**	**161**	LR	LR	01 16 21.9	
	comp=Z,37nm,20.2s,baz=300,slow=31						
DZM	**Mont Dzumac**	**109.56**	**251**	*e*LR	LR	01 16 06.4	
	comp=Z,128nm,24.4s						
BOSA	**Boshof**	**114.91**	**116**	PKP	PKPdf	00 43 52.3	-0.2
	comp=Z,3.0nm,0.8s,baz=297,slow=2.7,SNR=4.0						
SONM	**Songino Array**	**119.58**	**350**	PKP	**PKPdf**	**00 44 00.8**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=335,slow=1.3,SNR=15						
SONM				pPKP	**pPKPdf**	**00 44 11.9**	**-2.1**
	comp=Z,1.8nm,0.6s,baz=346,slow=1.6,SNR=8.0						
MAW	**Mawson**	**120.67**	**167**	PKP	**PKiKP**	**00 44 02.8**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=224,slow=3.7,SNR=5.1						
MKAR	**Makanchi Array**	**121.01**	**9**	PKP	**PKPdf**	**00 44 02.3**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=332,slow=2.9,SNR=3.1						
KSRS	**Korea Array**	**121.19**	**328**	PKP	**PKiKP**	**00 44 04.8**	**+0.5**
	comp=

ASAR					Sn	Sn	00 28 30.6	+1.7
	0.2nm,0.3s,baz=249,slow=22,SNR=6.5								
ASAR					Lg	Lg	00 28 45.9		
	0.3nm,0.3s,baz=243,slow=26,SNR=5.8								
	0.4nm,0.4s								
WRA	**Warramunga Arr**	**6.68**	**35**	Pn	Pn	00 28 22.0	-1.0		
	0.1nm,0.3s,baz=223,slow=14,SNR=2.0								
WRA					Sn	Sn	00 29 39.5	-0.5	
	0.1nm,0.3s,baz=212,slow=21,SNR=2.0								
WRA					Lg	Lg	00 30 12.9		
	0.1nm,0.3s,baz=211,slow=30,SNR=2.9								
	0.1nm,0.3s								
STKA	**Stephens Creek**	**11.84**	**125**	Pn	Pn	00 29 32.5	-1.3		
	0.2nm,0.3s,baz=297,slow=11,SNR=1.4								
STKA					Lg	Lg	00 32 48.4		
	0.2nm,0.3s,baz=195,slow=17,SNR=1.6								
	0.5nm,0.3s								

IDC 10 00:29:18.5±1.7,5°89S×154°07E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=133.2km s-min=30.6km az=130.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.73**	**232**	P	P	00 34 33.0	+0.4
	0.5nm,0.4s,baz=58,slow=9.4,SNR=8.6						
WRA				PcP	PcP	00 38 16.3	-0.7
	0.3nm,0.4s,baz=51,slow=2.5,SNR=6.2						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**26.25**	**226**	P	P	00 34 55.8	+0.1
	0.5nm,0.8s,baz=58,slow=8.7,SNR=6.3						
ASAR				PcP	PcP	00 38 22.1	-0.4
	0.6nm,0.6s,baz=54,slow=3.0,SNR=7.1						
	0.5nm,0.8s						
H11S3	**WAKE ISLAND Hy 27.24**		**27**	T	T	01 03 24.1	
	baz=208,slow=74,SNR=9.6						
H11S2	**WAKE ISLAND Hy 27.24**		**27**	T	T	01 03 21.3	
	baz=208,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy 27.26**		**27**	T	T	01 03 29.4	
	baz=208,slow=74,SNR=4.3						
ILAR	**Eielson Array**	**82.69**	**22**	P	P	00 41 45.1	+1.3
	0.3nm,0.5s,baz=256,slow=4.6,SNR=2.2						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**151.84**	**287**	PKPbc	PKPbc	00 49 15.1	-1.4
	0.7nm,0.6s,baz=79,slow=2.9,SNR=5.1						

ROM 10 00:44:13.7±0.1,42°838N±0°003×13°142E±0°004, h9km,ML1.4/9,5C-5D,Error ellipse: s-maj=0.3km s-min=0.2km az=134.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.02**	**257**	P	Pg	00 44 15.6	+0.2
NRCA				S	Sg	00 44 16.4	-0.1
NRCA	**Norcia**	**0.02**	**257**	P	Pg	00 44 15.6	+0.2
NRCA				S	Sg	00 44 16.5	-0.1
NRCA				AML	AML		
	comp=E,8065μm,0.1s						
NRCA				AML	AML		
	comp=N,4305μm,0.1s						
NRCA				AML	AML		
	comp=E,8725μm,0.1s						
NRCA				AML	AML		
	comp=N,4685μm,0.1s						
T1242	**Castelluccio d**	**0.05**	**101**	P	Pg	00 44 15.8	+0.2
T1242				S	Sg	00 44 17.0	0.0
T1242	**Castelluccio d**	**0.05**	**101**	P	Pg	00 44 15.8	+0.2
T1242				S	Sg	00 44 16.9	-0.1
T1242				AML	AML		
	comp=E,848μm,0.4s						
T1242				AML	AML		
	comp=N,1820μm,0.5s						
T1242				AML	AML		
	comp=N,1840μm,0.5s						
T1242				AML	AML		
	comp=E,824μm,0.4s						
MC2	**Monte Cornacci**	**0.08**	**26**	⇑P	Pg	00 44 16.5	+0.4
T1216	**Preci, Frazion**	**0.10**	**300**	P	Pg	00 44 16.8	+0.6
T1216				S	Sg	00 44 18.9	+0.8
T1216	**Preci, Frazion**	**0.10**	**300**	S	Sg	00 44 18.1	+0.1
T1202	**Accumoli, Fraz**	**0.15**	**156**	P	Pg	00 44 17.6	+0.7
T1202				S	Sg	00 44 20.5	+1.2
T1202	**Accumoli, Fraz**	**0.15**	**156**	P	Pg	00 44 17.7	+0.7
T1202				S	Sg	00 44 20.3	+1.0
MMO1	**Montemonaco**	**0.15**	**66**	P	Pg	00 44 17.5	+0.5
MMO1				S	Sg	00 44 20.2	+0.9
MMO1	**Montemonaco**	**0.15**	**66**	⇑P	Pg	00 44 17.6	+0.6
MMO1				S	Sg	00 44 20.1	+0.8
T1217	**Poggiodomo (PG**	**0.20**	**231**	P	Pg	00 44 18.6	+0.8
T1217				S	Sg	00 44 22.3	+1.6
T1217	**Poggiodomo (PG**	**0.20**	**231**	P	Pg	00 44 18.6	+0.8
T1217				S	Sg	00 44 22.1	+1.4
FDMO	**Fiordimonte**	**0.20**	**349**	P	Pg	00 44 18.5	+0.7
FDMO				S	Sg	00 44 21.9	+1.2
FDMO				AML	AML		
	comp=E,68μm,1.4s						
FDMO				AML	AML		
	comp=N,103μm,1.6s						
FDMO				AML	AML		
	comp=E,68μm,1.4s						
FDMO				AML	AML		
	comp=N,103μm,1.6s						
FDMO	**Fiordimonte**	**0.20**	**349**	S	Sg	00 44 21.8	+1.1
FDMO				AML	AML		
	comp=N,103μm,1.6s						
FDMO				AML	AML		
	comp=E,68μm,1.4s						
T1215	**Vallo di Nera,**	**0.20**	**260**	P	Pg	00 44 18.7	+0.8
T1215				S	Sg	00 44 22.2	+1.5
T1215	**Vallo di Nera,**	**0.20**	**260**	P	Pg	00 44 18.6	+0.7
T1215				S	Sg	00 44 22.2	+1.4
T1204	**Amatrice, Fraz**	**0.21**	**141**	⇓P	Pg	00 44 19.1	+1.1
AM05	**Amandola Campo**	**0.21**	**48**	P	Pg	00 44 18.7	+0.7
AM05				S	Sg	00 44 22.1	+1.3
AM05				AML	AML		
	comp=E,186μm,0.5s						
AM05				AML	AML		
	comp=N,204μm,0.9s						
AM05				AML	AML		
	comp=E,186μm,0.5s						
AM05				AML	AML		
	comp=N,204μm,0.9s						
AM05	**Amandola Campo**	**0.21**	**48**	⇑P	Pg	00 44 18.7	+0.8
AM05				S	Sg	00 44 22.1	+1.2
AM05				AML	AML		
	comp=E,186μm,0.5s						
AM05				AML	AML		
	comp=N,204μm,0.9s						
T1241	**Roccafluvione,**	**0.21**	**85**	P	Pg	00 44 18.7	+0.6
T1241				S	Sg	00 44 22.4	+1.3
T1241				AML	AML		
	comp=E,90μm,0.6s						
T1241				AML	AML		
	comp=N,82μm,0.2s						
T1241				AML	AML		
	comp=E,90μm,0.6s						
T1241				AML	AML		
	comp=N,82μm,0.2s						
T1241				AML	AML		
	comp=N,82μm,0.2s						
T1241				AML	AML		
	comp=E,90μm,0.6s						
T1241	**Roccafluvione,**	**0.21**	**85**	P	Pg	00 44 18.7	+0.6
T1241				S	Sg	00 44 22.3	+1.3
LNSS	**Leonessa**	**0.25**	**198**	P	Pg	00 44 19.3	+0.6
LNSS				S	Sg	00 44 23.4	+1.3
LNSS				AML	AML		
	comp=E,136μm,1.3s						
LNSS				AML	AML		
	comp=N,132μm,0.6s						
LNSS				AML	AML		
	comp=E,136μm,1.3s						
LNSS				AML	AML		
	comp=N,132μm,0.6s						
LNSS	**Leonessa**	**0.25**	**198**	P	Pg	00 44 19.3	+0.6
LNSS				S	Sg	00 44 23.2	+1.2
LNSS				AML	AML		
	comp=E,136μm,1.3s						
LNSS				AML	AML		
	comp=N,132μm,0.6s						
CSP1	**Cessapalombo**	**0.26**	**10**	P	Pg	00 44 19.5	+0.6
CSP1				S	Sb	00 44 23.9	-1.3
CSP1	**Cessapalombo**	**0.26**	**10**	⇓P	Pg	00 44 19.6	+0.7
CSP1				S	Sb	00 44 23.9	-1.4
GUMA	**Gualdo di Mace**	**0.27**	**32**	P	Pb	00 44 19.9	-0.8
GUMA				S	Sb	00 44 24.5	-0.9
GUMA				AML	AML		
	comp=E,224μm,1.4s						
GUMA				AML	AML		
	comp=N,284μm,0.3s						
T1243	**Rocca Santa Ma**	**0.27**	**122**	P	Pg	00 44 19.7	+0.6
ARRO	**Arrone**	**0.38**	**227**	P	Pg	00 44 21.7	+0.6
TERO	**Teramo**	**0.40**	**122**	P	Pg	00 44 21.9	+0.4
TERO				S	Sb	00 44 28.3	-1.0
TERO				AML	AML		
	comp=E,45μm,0.9s						
TERO				AML	AML		
	comp=N,70μm,0.3s						
TERO				AML	AML		
	comp=N,70μm,0.3s						
TERO				AML	AML		
	comp=E,45μm,0.9s						
TERO	**Teramo**	**0.40**	**122**	⇓P	Pg	00 44 22.0	+0.4
TERO				S	Sb	00 44 28.4	-0.9
TERO				AML	AML		
	comp=E,45μm,0.9s						
TERO				AML	AML		
	comp=N,70μm,0.3s						
ASSB	**Assisi San Ben**	**0.41**	**300**	⇓P	Pg	00 44 22.2	+0.5
ASSB				AML	AML		
	comp=N,70μm,0.2s						
ASSB				AML	AML		
	comp=E,94μm,0.2s						
SNTG	**Esanatoglia**	**0.44**	**341**	⇓P	Pg	00 44 22.9	+0.6
SNTG				AML	AML		
	comp=E,29μm,1.5s						
SNTG				AML	AML		
	comp=N,26μm,0.7s						
EL6	**Elcito**	**0.49**	**357**	⇑P	Pg	00 44 23.8	+0.6
EL6				S	Sb	00 44 32.0	0.0
ATCC	**AVT- Casa Cast**	**0.51**	**313**	⇑P	Pg	00 44 24.1	+0.6
ATCC				AML	AML		
	comp=E,39μm,1.3s						
ATCC				AML	AML		
	comp=N,39μm,0.3s						
ARVD	**Arcevia**	**0.68**	**348**	S	Sb	00 44 38.0	+0.8

IDC ***10*** *00:46:12.1±0.5,30°02N×82°65E,h0km,mb4.4/30, mbtmp4.3/33,ML4.3/3,MS3.7/28,Error ellipse: s-maj=13.8km s-min=11.3km az=28.0*

BJI ***10*** *00:46:13.4±0.0,30°22N×82°61E,h10km,mb4.4/47, mB4.6/29,Ms4.3/47,Ms7 4.0/43*

MOS ***10*** *00:46:15.7±1.1,30°22N×82°61E,h31km,mb5.0/52,Error ellipse: s-maj=6.3km s-min=3.0km az=116.0*

GCMT ***10*** *00:46:15.4±0.4,29°85N±0°04×82°56E±0°02,h22km±1km, MW4.8/73,Moment Tensor Solution. s19,c19; s73,c107; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.76±.16; Mθθ=0.07±.09; Mφφ 1.83±.09; Mrθ 0.17±.20; Mθφ 0.30±.06; Mφr=0.17±.13; Best double couple: M₀1.83500×10¹⁶ NP1:ϕs195.00000°,δ48.00000°,λ-99.00000°. NP2: ϕs195.00000°,δ43.00000°,λ-80.00000°. Principal axes: T 1.8820, Plg2.0000°, Azm99.0000°; N -0.0890, Plg6.0000°, Azm8.0000°; P -1.7880, Plg83.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DMN ***10*** *00:46:17.1±0.2,30°28N×82°53E,h40km,Ml5.0/9 Error ellipse: s-maj=5.0km s-min=4.3km az=21.0*

NEIC ***10*** *00:46:18.4±1.8,30°22N±0°08×82°68E±0°08,h35km±1km, mb4.9/138,Error ellipse: s-maj=14.9km s-min=8.0km az=217.0*

NDI ***10*** *00:46:21.2±3.9,29°59N×82°53E,h30km,ML4.6, mb4.9(NEIC)*

ISC 10 00:46:15.0±0.6,30°09N±0°03×82°56E±0°03,h15km±3km, h15km:pP-P,n507,σ1§45/530,mb4.8/163,MS3.8/34, 40C-34D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**2.02**	**169**	*e*Pn	**Pb**	**00 46 51.2**	**-0.3**
PYUN				*e*Sn	**Sb**	**00 47 16.4**	**-0.1**
	4μm,0.3s						
DANN	**Dangsing**	**2.02**	**149**	*e*Pn	**Pb**	**00 46 51.0**	**-0.7**
DANN				*e*Sn	**Sb**	**00 47 16.2**	**-0.6**
	10μm,0.6s						
KOLN	**Koldanda**	**2.48**	**158**	*e*Pg	**Pn**	**00 46 57.6**	**+2.5**
KOLN				*e*Sg	**Sn**	**00 47 27.1**	**+1.9**
	9μm,1.0s						
GKN	**Gorkha**	**2.76**	**138**	*e*Pn	**Pn**	**00 47 01.1**	**+2.2**
GKN				*e*Sn	**Sn**	**00 47 33.3**	**+1.3**
	3μm,0.4s						
KKN	**Kakani**	**3.30**	**133**	*e*Pg	**Pn**	**00 47 07.9**	**+1.5**
KKN				*e*Sg	**Sn**	**00 47 45.2**	**-0.3**
DMN	**Daman**	**3.33**	**137**	*e*Pn	**Pn**	**00 47 08.6**	**+1.8**
DMN				*e*Sn	**Sn**	**00 47 46.4**	**+0.2**
	919nm,0.5s						
PKIN	**Phulchoki**	**3.52**	**134**	*e*Pn	**Pn**	**00 47 10.9**	**+1.4**
PKIN				*e*Sn	**Sn**	**00 47 51.5**	**+0.4**
	402nm,0.3s						
PKI	**Pulchoki**	**3.54**	**134**	*e*Pn	**Pn**	**00 47 11.1**	**+1.4**
GUN	**Gumba**	**3.62**	**126**	*e*Pn	**Pn**	**00 47 12.3**	**+1.3**
JIRN	**Jiri**	**4.00**	**126**	*e*Pn	**Pn**	**00 47 17.7**	**+1.6**
JIRN				*e*Sn	**Sn**	**00 48 01.7**	**-1.1**
	419nm,0.3s						
RAMN	**Ramite**	**4.73**	**130**	*e*Pn	**Pn**	**00 47 26.5**	**+0.4**
RAMN				*e*Sn	**Sn**	**00 48 20.3**	**-0.5**
	356nm,0.3s						
NDI	**New Delhi**	**4.87**	**255**	*e*P	**Pn**	**00 47 30.0**	**+2.2**
TAPN	**Taplejung**	**5.28**	**120**	*e*Pn	**Pn**	**00 47 34.3**	**+0.6**
TAPN				*e*Sn	**Sn**	**00 48 32.8**	**-1.6**
	553nm,0.7s						
ODAN	**Odare**	**5.33**	**126**	*e*Sg	**Sn**	**00 48 33.1**	**-2.4**
BHK	**Bhakra**	**5.46**	**286**	*e*PN	**Pn**	**00 47 40.0**	**+4.2**
THN	**Thein Dam**	**6.31**	**293**	*e*P	Pn	00 47 55.0	+7.5
THN				*e*S	**Sn**	**00 49 03.5**	**+4.1**
LSA	**Lhasa**	**7.46**	**91**	Pn	**Pn**	**00 48 03.1**	**-0.7**
LSA	**Lhasa**	**7.46**	**91**	Pn	**Pn**	**00 48 06.0**	**+2.2**
LSA				LR	LR		
	comp=N,920nm,6.4s						
LSA				LR	LR		
	comp=E,1μm,4.6s						
LSA				LR	LR		
	comp=Z,2μm,5.3s						
LSA	**Lhasa**	**7.46**	**91**	P	**Pn**	**00 48 03.1**	**-0.7**
DHUB	**DHUBRI**	**7.71**	**120**	*e*P	**Pn**	**00 48 06.9**	**+0.1**
DHUB				*e*S	**Sn**	**00 49 30.9**	**-3.1**
DHUB				IAML		00 49 39.8	
	comp=N,1μm,0.3s						
CHCP	**Chirah Chowk**	**8.67**	**297**	P	**Pn**	**00 48 21.6**	**+1.6**
NIL	**Nilore**	**8.68**	**297**	Pn	**Pn**	**00 48 21.4**	**+1.3**
NIL	**Nilore**	**8.68**	**297**	P	**Pn**	**00 48 21.4**	**+1.3**
SARP	**Sargodha**	**8.69**	**285**	P	**Pn**	**00 48 19.4**	**-0.7**
GUWA	**GUWAHATI**	**8.94**	**114**	*e*P	**Pn**	**00 48 25.7**	**+2.1**
SHL	**Shillong**	**9.40**	**116**	Pn	**Pn**	**00 48 27.9**	**-2.2**
SHL	**Shillong**	**9.40**	**116**	P	**Pn**	**00 48 27.9**	**-2.2**
THW	**Thamme Wali**	**9.63**	**289**	P	**Pn**	**00 48 33.0**	**-0.1**
CEP	**Cherat**	**9.79**	**295**	P	**Pn**	**00 48 37.2**	**+1.8**
KSH	**Kashi**	**10.85**	**332**	P	**Pn**	**00 48 47.8**	**-2.1**
KSH				pP		00 48 52.7	
KSH				S	**Sn**	**00 50 45.8**	**-5.4**
KSH				pmax	pmax		
	comp=N,13nm,0.7s						
KSH				LR	LR		
	comp=N,720nm,8.2s						
KSH				LR	LR		
	comp=N,580nm,6.9s						
KSH				LR	LR		
	comp=N,820nm,8.1s						
BRDH	**Bariadhala**	**10.98**	**130**	LR	LR	00 52 58.9	
	comp=N,254nm,21.0s,baz=314,slow=37						
KOHI	**KOHIMA**	**11.10**	**110**	*e*P	**Pn**	**00 48 55.8**	**+2.4**
KOHI				*e*S	**Sn**	**00 50 50.3**	**-7.0**
KOHI				*e*S	**Sn**	**00 50 52.3**	**-5.0**
KOHI				IAML		00 50 55.1	
	comp=E,128nm,0.9s						
KOHI				IAML		00 51 01.6	
	comp=N,76nm,1.0s						
IMP	**Imphal**	**11.38**	**115**	*e*P	**Pn**	**00 48 56.7**	**-0.5**
GOMU	**GeErMu**	**11.94**	**56**	P	**Pn**	**00 49 07.7**	**+2.7**
GOMU				pP		00 49 11.1	
GOMU				sP		00 49 12.8	
GOMU				S	**Sn**	**00 51 20.9**	**+2.8**
GOMU				pmax	pmax		
	comp=N,4.0nm,0.4s						
GOMU				pmax	pmax		
	comp=N,54nm,4.4s						
GOMU				LR	LR		
	comp=N,420nm,6.8s						
GOMU				LR	LR		
	comp=N,450nm,7.7s						
GOMU				LR	LR		
	comp=N,510nm,8.7s						
TARG	**Taragay, Kyrgy**	**12.24**	**343**		**Pn**	**00 49 08.3**	**-0.8**
TARG	**Taragay, Kyrgy**	**12.24**	**343**	P	**Pn**	**00 49 08.3**	**-0.8**
KBL	**Kabul**	**12.27**	**295**	Pn	**Pn**	**00 49 09.2**	**-0.2**
KBL	**Kabul**	**12.27**	**295**	P	**Pn**	**00 49 09.2**	**-0.2**
NRN	**Naryn**	**12.51**	**337**	Pn	**Pn**	**00 49 11.3**	**-1.5**
NRN	**Naryn**	**12.51**	**337**	P	**Pn**	**00 49 11.3**	**-1.5**
DRK	**Karamyk**	**12.88**	**320**		**Pn**	**00 49 17.8**	**0.0**
HYBB	**Hyderabad (bro**	**13.13**	**197**	*e*P	**Pn**	**00 49 18.1**	**-3.0**
SHLS	**Shalkode**	**13.28**	**350**	*e*P	**Pn**	**00 49 20.5**	**-2.5**
SHLS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SHLS	**Shalkode**	**13.28**	**350**	*e*P	**Pn**	**00 49 20.6**	**-2.5**
	comp=Z,5.6nm,1.0s,baz=351						
UZB	**Uzynbulak**	**13.34**	**349**	*e*P	**Pn**	**00 49 21.9**	**-2.0**
UZB				pmax	pmax		
	comp=Z,3.0nm,1.4s						
UZB	**Uzynbulak**	**13.34**	**349**	*e*P	**Pn**	**00 49 22.0**	**-2.0**
	comp=Z,2.7nm,1.4s,baz=349						
SATY	**Saty**	**13.37**	**347**	*e*P	**Pn**	**00 49 21.6**	**-2.7**
SATY	**Saty**	**13.37**	**347**	*e*P	**Pn**	**00 49 21.6**	**-2.7**
	baz=347						
GAR	**Garm**	**13.44**	**315**	Pn	**Pn**	**00 49 24.2**	**-1.1**
PDGK	**Podgornoye**	**13.44**	**350**	P	**Pn**	**00 49 24.0**	**-1.3**
BOOM	**Boomskoye usch**	**13.47**	**339**	Pn	**Pn**	**00 49 24.6**	**-1.2**
BOOM	**Boomskoye usch**	**13.47**	**339**	P	**Pn**	**00 49 24.6**	**-1.2**
KPKS	**Kokpek**	**13.71**	**348**	*e*P	**Pn**	**00 49 27.0**	**-1.9**
KPKS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KPKS	**Kokpek**	**13.71**	**348**	*e*P	**Pn**	**00 49 27.0**	**-1.9**
	comp=Z,3.2nm,0.7s,baz=348						
MDOK	**Medeo**	**13.78**	**343**	P	**Pn**	**00 49 28.2**	**-1.7**
MDOK	**Medeo**	**13.78**	**343**	*e*P	**Pn**	**00 49 27.7**	**-2.2**
	baz=343						
BTK	**Batken**	**13.82**	**319**	Pn	**Pn**	**00 49 29.1**	**-1.4**
BTK	**Batken**	**13.82**	**319**	P	**Pn**	**00 49 29.1**	**-1.4**
AAA	**Alma-Ata**	**13.85**	**343**	*e*P	**Pn**	**00 49 29.2**	**-1.7**
AAA	**Alma-Ata**	**13.85**	**343**	*e*P	**Pn**	**00 49 29.2**	**-1.7**
	baz=342						
TKM2	**Tokmak 2**	**13.97**	**338**	*i* P	**Pn**	**00 49 31.7**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,12nm,1.1s						
CHGR	**Chuyangaron**	**13.97**	**311**		**Pn**	**00 49 31.5**	**-1.1**
CHGR	**Chuyangaron**	**13.97**	**311**	P	**Pn**	**00 49 31.5**	**-1.1**
AAK	**Ala-Archa**	**14.10**	**335**	Pn	**Pn**	**00 49 34.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=138,slow=3.6,SNR=5.5						
AAK				LR	LR	00 54 57.3	
	comp=Z,236nm,19.9s,baz=148,slow=37						
	comp=Z,1.8nm,0.4s						
AAK	**Ala-Archa**	**14.10**	**335**	Pn	**Pn**	**00 49 34.6**	**+0.2**
WMQ	**Urumqi**	**14.30**	**15**	*e*P	**Pn**	**00 49 39.1**	**+2.0**
WMQ				LR	LR		
	comp=Z,310nm,10.3s						
WMQ				LR	LR		
	comp=Z,640nm,17.3s						
WMQ				LR	LR		
	comp=Z,120nm,12.5s						
CHMS	**Chumysh**	**14.32**	**336**	P	**P**	**00 49 45.2**	**+0.8**
MND	**Mandalay**	**14.58**	**120**	Pn	**Pn**	**00 49 37.4**	**-3.5**
KUU	**Kurty**	**14.64**	**342**	*e*P	**Pn**	**00 49 39.1**	**-2.5**
KUU	**Kurty**	**14.64**	**342**	*e*P	**Pn**	**00 49 39.1**	**-2.5**
	baz=342						
SGDS	**Sogindy**	**14.77**	**337**	*e*P	**Pn**	**00 49 41.4**	**-1.9**
SGDS	**Sogindy**	**14.77**	**337**	*e*P	**Pn**	**00 49 41.5**	**-1.9**
	baz=337						
TDK	**Taldyqorghan**	**15.25**	**349**	*e*P	**Pn**	**00 49 48.4**	**-1.3**
TDK	**Taldyqorghan**	**15.25**	**349**	*e*P	**Pn**	**00 49 48.4**	**-1.3**
	baz=349						
TAS	**Tashkent**	**15.53**	**320**	Pn	**Pn**	**00 49 51.0**	**-2.5**
TAS				IAmb	IAmb	00 49 56.6	
	comp=Z,36nm,0.6s						
TAS	**Tashkent**	**15.53**	**320**	P	**Pn**	**00 49 51.0**	**-2.5**
TAS				pmax	pmax		
	comp=Z,36nm,0.6s						
IUG	**Iuzhnay**	**15.71**	**323**	*e*P	**Pn**	**00 49 53.5**	**-2.3**
IUG	**Iuzhnay**	**15.71**	**323**	*e*P	**Pn**	**00 49 53.5**	**-2.3**
	baz=323						
KK31	**Karatay Array**	**16.18**	**327**	Pn	**Pn**	**00 49 58.6**	**-3.1**
KK31	**Karatay Array**	**16.18**	**327**	P	**Pn**	**00 49 58.7**	**-3.1**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**16.18**	**327**		**Pn**	**00 49 59.2**	**-2.5**
KKAR	**Karatay Array**	**16.18**	**327**	Pn	**Pn**	**00 49 59.1**	**-2.7**
KKAR	**Karatay Array**	**16.18**	**327**	P	**Pn**	**00 49 59.1**	**-2.7**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BTLS	**Baital**	**16.37**	**338**	*e*P	**Pn**	**00 50 02.8**	**-1.4**
BTLS	**Baital**	**16.37**	**338**	*e*P	**Pn**	**00 50 02.9**	**-1.4**
	baz=338						
MK31	**Makanchi Array**	**16.68**	**359**		**Pn**	**00 50 05.9**	**-2.3**
MK31	**Makanchi Array**	**16.68**	**359**	*c*eP	**Pn**	**00 50 05.7**	**-2.5**
MK31				pmax	pmax		
	comp=Z,20nm,0.8s						
MKAR	**Makanchi Array**	**16.68**	**359**	Pn	**Pn**	**00 50 05.5**	**-2.8**
	comp=Z,1.2nm,0.3s,baz=181,slow=13,SNR=16						
	comp=Z,1.1nm,0.4s						
MKAR	**Makanchi Array**	**16.68**	**359**	*i* P	**Pn**	**00 50 09.3**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MAKZ	**Makanchi**	**16.70**	**359**		**Pn**	**00 50 06.4**	**-2.1**
MAKZ	**Makanchi**	**16.70**	**359**	P	**Pn**	**00 50 06.4**	**-2.1**
MAKZ				pmax	pmax		
	comp=Z,27nm,1.2s						
GTA	**Gaotai**	**16.93**	**52**	*e*P	**Pn**	**00 50 12.5**	**+1.0**
GTA				sP	sP	00 50 22.0	+0.2
GTA				pmax	pmax		
	comp=Z,10.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,72nm,5.5s						
GTA				LR	LR		
	comp=Z,640nm,15.6s						
GTA				LR	LR		
	comp=Z,410nm,13.8s						
GTA				LR	LR		
	comp=Z,270nm,15.6s						
PZH	**PanZhiHua**	**17.26**	**97**	P	**P**	**00 50 16.7**	**-0.5**
PZH				S	**Sn**	**00 53 25.6**	**-2.1**
PZH				sS	**S**	**00 53 40.7**	**+4.1**
PZH				SS	**SnSn**	**00 53 43.3**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,90nm,4.3s						
PZH				LR	LR		
	comp=Z,2μm,19.2s						
PZH				LR	LR		
	comp=Z,1μm,20.2s						
PZH				LR	LR		
	comp=Z,1μm,21.2s						
ZSN	**Zaisan**	**17.43**	**5**	*e*P	**Pn**	**00 50 15.5**	**-2.0**
ZSN	**Zaisan**	**17.43**	**5**	*e*P	**Pn**	**00 50 15.6**	**-2.0**
	baz=5.3						
HRA	**Herat**	**17.71**	**289**	P	**P**	**00 50 23.1**	**+0.9**
CD2	**Chengdu**	**18.28**	**82**	P	**P**	**00 50 28.6**	**+0.2**
CD2				S	**Sn**	**00 53 52.4**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=Z,790nm,13.7s						
CD2				LR	LR		
	comp=

comp=Z,2.0nm,1.6s
LZH Lanzhou 18.79 66 *e*P **Pn 00 50 37.3 +2.7**
LZH pP sP 00 50 44.3 +1.9
LZH *e*S **S 00 54 07.9 +0.3**
LZH SS **SnSn 00 54 22.6 +4.1**
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=Z,1μm,11.9s
LZH LR LR
comp=Z,300nm,10.8s
LZH LR LR
comp=Z,420nm,13.6s
CRAI Chiangrai 18.85 117 Pn 00 50 35.6 +0.4
CM31 Chiang Mai Arr 18.87 124 P **Pn 00 50 36.2 +0.8**
CM31 IAmb IAmb 00 50 41.4
comp=Z,105nm,1.9s
CMAR Chiang Mai Arr 18.87 124 P **P 00 50 34.7 -0.1**
comp=Z,0.9nm,0.3s,baz=309,slow=11,SNR=17
CMAR LR LR 00 58 10.9
comp=Z,146nm,18.7s,baz=305,slow=38
comp=Z,6.4nm,0.9s
CMAR Chiang Mai Arr 18.87 124 Pn 00 50 36.2 +0.8
CMAR Chiang Mai Arr 18.87 124*ce*P **P 00 50 34.7 -0.1**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
OTUK Ortayu 19.76 339 P **P 00 50 43.5 -0.9**
PHRA Phrae 19.78 122 P **P 00 50 45.6 +0.8**
PHRA IAmb IAmb 00 50 57.2
comp=Z,84nm,1.0s
DGZ Jazzator, Alta 19.93 9⇑*e*P **P 00 50 46.7 +0.3**
PCHI Peechi 20.30 198 *e*P **P 00 50 51.0 +0.5**
KURBB Kurchatov Arra 20.74 353 P **P 00 50 54.3 -0.6**
comp=Z,9.4nm,0.7s,baz=179,slow=9.7,SNR=132
comp=Z,9.4nm,0.7s
KURK Kurchatov 20.82 353 P **P 00 50 55.1 -0.7**
KURK Kurchatov 20.82 353*d i*P **P 00 50 54.9 -0.9**
KURK pmax pmax
comp=Z,26nm,1.0s
GYA Guiyang 21.52 94⇑*i*P **P 00 51 03.6 -0.1**
GYA pP sP 00 51 14.3 +2.3
GYA S **S 00 54 58.7 -3.4**
GYA SS **SnSn 00 55 35.5 +10**
GYA pmax pmax
comp=Z,25nm,0.8s
GYA LR LR
comp=Z,200nm,7.4s
GYA LR LR
comp=Z,260nm,8.9s
GYA LR LR
comp=Z,270nm,9.7s
GEYT Alibeck 21.68 298 P **P 00 51 07.0 +1.7**
comp=Z,5.6nm,0.5s,baz=117,slow=12,SNR=13
GEYT LR LR 01 00 57.7
comp=Z,422nm,21.7s,baz=120,slow=41
comp=Z,5.6nm,0.5s
GEYT Alibeck 21.68 298 P **P 00 51 06.5 +1.3**
GEYT IAmb IAmb 00 51 11.9
comp=Z,75nm,1.6s
GYA0B ALIBECK ARRAY 21.68 298 P **P 00 51 07.0 +1.7**
GYA0B IAmb IAmb 00 51 17.5
comp=Z,100nm,1.8s
WSAR Wadi Sarin 22.43 258 P **P 00 51 15.8 +2.4**
comp=Z,9.7nm,0.8s,baz=110,slow=12,SNR=7.7
WSAR LR LR 01 00 35.8
comp=Z,156nm,21.9s,baz=99,slow=38
XAN Xi'an 22.66 73⇑P **P 00 51 14.4 -1.4**
XAN pP pP 00 51 17.5 -4.0
XAN sP sP 00 51 21.1 -3.1
XAN PP **PnPn 00 51 44.8 +5.3**
XAN S **S 00 55 20.2 -3.3**
XAN sS Sn 00 55 27.3 -10
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,62nm,3.5s
XAN LR LR
comp=Z,290nm,10.3s
XAN LR LR
comp=Z,470nm,10.1s
XAN LR LR
comp=Z,510nm,12.0s
ENH Enshi 23.26 83 P **P 00 51 22.8 +0.8**
KNGR Kungurtug, Tuv 23.36 24⇓*e*P **P 00 51 24.3 +1.3**
KNGR pmax pmax
comp=Z,28nm,1.7s
ZAA0 Zalesovo Array 23.90 3 P **P 00 51 27.6 -0.4**
ZALV Zalesovo Beam 23.90 3 P **P 00 51 27.9 -0.1**
comp=Z,7.6nm,0.7s,baz=188,slow=9.0,SNR=42
comp=Z,7.6nm,0.7s
ZALV Zalesovo Beam 23.90 3 P **P 00 51 27.5 -0.5**
ZALV Zalesovo Beam 23.90 3 P **P 00 51 27.5 -0.5**
BVA0 Borovoye Array 24.59 342 P **P 00 51 33.7 -0.7**
BVAR Borovoye Array 24.59 342 P **P 00 51 34.5 0.0**
comp=Z,3.9nm,0.5s,baz=141,slow=9.6,SNR=26
comp=Z,3.9nm,0.5s
BRVK Borovoye 24.65 342 P **P 00 51 35.0 0.0**
BRVK Borovoye 24.65 342*de*P **P 00 51 34.6 -0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
GULI GuiLin 25.05 94 *e*P **P 00 51 37.7 -1.1**
GULI S **S 00 55 56.5 -6.1**
GULI LR LR
comp=Z,390nm,21.5s
GULI LR LR
comp=Z,170nm,14.4s
GULI LR LR
comp=Z,230nm,20.6s
SONM Songino Array 25.48 39 P **P 00 51 43.4 +0.8**
comp=Z,7.5nm,0.6s,baz=228,slow=10,SNR=26
comp=Z,7.5nm,0.6s
SONM Songino Array 25.48 39 P **P 00 51 42.5 -0.1**
SONM Songino Array 25.48 39 P **P 00 51 42.6 -0.1**
SONM pmax pmax
comp=Z,9.0nm,0.9s
MOY Mondy 25.53 27 *e*P **P 00 51 43.6 +0.5**
ZAK Zakamensk 25.55 32 *e*P **P 00 51 43.0 -0.3**
ZAK pmax pmax
comp=Z,20nm,1.2s
UBPT Khong Chiam 25.69 120 P **P 00 51 44.6 -0.1**
AB31 Akbulak array 25.71 324 *i*P **P 00 51 44.8 +0.2**
ABKAR Akbulak array 25.71 324 P **P 00 51 45.6 +1.1**
ABKAR IAmb IAmb 00 51 50.8
comp=Z,22nm,0.8s
ABKAR Akbulak array 25.71 324 P **P 00 51 45.3 +0.8**
HHC Hu-ho-hao-te 25.84 58 *e*P **P 00 51 46.7 +0.8**
HHC S **S 00 56 17.7 +2.6**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,250nm,4.9s
HHC LR LR
comp=Z,470nm,9.7s
HHC LR LR
comp=Z,350nm,10.9s
HHC LR LR
comp=Z,390nm,12.1s
ULN Ulaanbaatar 25.86 40 P **P 00 51 45.8 -0.3**
ULN IAmb IAmb 00 51 52.4
comp=Z,30nm,1.4s
ULN Ulaanbaatar 25.86 40*ce*P **P 00 51 46.8 +0.7**
ULN pmax pmax
comp=Z,27nm,1.7s
QIZ Qiongzhong 27.08 108 P **P 00 51 57.9 +0.7**
QIZ S **S 00 56 34.3 -0.5**
QIZ LR LR
comp=Z,180nm,14.7s
QIZ LR LR
comp=Z,120nm,15.7s
IRK Irkutsk 27.32 30 *e*P **P 00 51 59.7 +0.6**
IRK pmax pmax
comp=Z,24nm,1.6s
AKTO Aktyubinsk 27.42 325 P **P 00 51 59.5 -0.5**
comp=Z,2.3nm,0.7s,baz=134,slow=8.3,SNR=9.3
AKTO LR LR 01 02 57.9
comp=Z,203nm,20.8s,baz=137,slow=36
comp=Z,2.3nm,0.7s
HNS HongShan 27.61 66⇑P **P 00 52 07.3 +5.5**
HNS S **S 00 56 43.6 +0.7**
HNS pmax pmax
comp=Z,4.0nm,0.8s
HNS LR LR
comp=Z,580nm,15.1s
HNS LR LR
comp=Z,450nm,10.4s
HNS LR LR

comp=Z,380nm,13.3s
BJT Baijiatuau 29.09 61 P **P 00 52 14.9 -0.1**
BJT Baijiatuau 29.09 61 P **P 00 52 14.9 -0.1**
BJT pmax pmax
comp=Z,13nm,1.2s
XLT XiLinHaoTe 29.89 53⇑*i*P **P 00 52 23.4 +1.3**
XLT sP sP 00 52 36.5 +5.7
XLT S **S 00 57 19.5 +0.7**
XLT SS **SnSn 00 58 51.5 +1.8**
XLT pmax pmax
comp=Z,9.0nm,0.6s
XLT pmax pmax
comp=Z,74nm,4.2s
XLT LR LR
comp=Z,33nm,12.9s
XLT LR LR
comp=Z,190nm,11.6s
XLT LR LR
comp=Z,160nm,12.4s
KULM Kulim 29.99 142 P **P 00 52 22.7 -0.5**
KULM IAmb IAmb 00 52 24.1
comp=Z,20nm,1.3s
PSI Prapat 31.26 147 P **P 00 52 34.2 -0.3**
PSI pmax pmax
comp=Z,13nm,1.5s
ARU Arti 31.28 334 LR LR 01 06 08.5
comp=Z,75nm,20.2s,baz=152,slow=38
ARU Arti 31.28 334 P **P 00 52 34.2 0.0**
ARU IAmb IAmb 00 52 35.6
comp=Z,16nm,0.8s
ARU Arti 31.28 334*d i*P **P 00 52 34.6 +0.4**
ARU 00 55 27.7
ARU S **S 00 57 42.9 +2.7**
ARU SS **SnSn 00 59 24.5 +1.3**
ARU pmax pmax
comp=Z,14nm,0.6s
ARU Arti 31.28 334 P **P 00 52 33.3 -0.9**
RPSI Rantau Prapat 31.35 147 P **P 00 52 34.1 -1.0**
GSI Gunungsitoli 31.98 151 P **P 00 52 41.5 +0.8**
GSI Gunungsitoli 31.98 151 P **P 00 52 42.4 +1.7**
comp=Z,55nm,0.9s
GNI Garni 32.31 298 LR LR 01 09 08.0
comp=Z,80nm,19.0s,baz=96,slow=42
GNI Garni 32.31 298 P **P 00 52 44.4 +0.7**
GNI Garni 32.31 298 P **P 00 52 44.4 +0.7**
GNI pmax pmax
comp=Z,8.0nm,1.0s
ZEI Tsey 33.30 303 *e*P **P 00 52 53.6 +1.3**
ZEI pmax pmax
comp=Z,4.0nm,0.7s
RAYN Ar Rayn 33.61 268 P **P 00 52 56.3 +1.3**
RAYN Ar Rayn 33.61 268 P **P 00 52 56.3 +1.3**
RAYN pmax pmax
comp=Z,11nm,1.2s
RAYN Ar Rayn 33.61 268 P **P 00 52 55.6 +0.5**
RAYN pP **sP 00 53 05.1 +1.4**
KARS Kars 33.63 299 P **P 00 52 55.9 +0.7**
KARS Kars 33.63 299 P **P 00 52 55.9 +0.7**
KARS pmax pmax
comp=Z,22nm,0.7s
BELG Belogornoye 33.95 321 LR LR 01 08 22.9
comp=Z,173nm,19.1s,baz=142,slow=39
BELG Belogornoye 33.95 321⇑*e*P **P 00 52 56.4 -1.1**
BELG pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 34.18 305 P **P 00 53 00.5 +0.8**
comp=Z,2.1nm,0.8s,baz=123,slow=9.3,SNR=4.2
KBZ LR LR 01 09 54.8
comp=Z,94nm,19.8s,baz=78,slow=42
comp=Z,2.1nm,0.8s
KBZ Khabaz 34.18 305⇑*e*P **P 00 53 01.5 +1.8**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
GURO Guroymak-BITLI 34.30 295 P **P 00 53 02.2 +1.2**
KIV Kislovodsk 34.37 305 P **P 00 53 01.9 +0.4**
KIV Kislovodsk 34.37 305 *i*P **P 00 53 03.5 +2.0**
KIV *i* 00 53 17.6
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,112nm,19.0s
BKNI Bangkinang 34.43 146 P **P 00 53 02.0 -0.1**
PDSI Padang 35.23 148 P **P 00 53 08.2 -0.9**
comp=Z,23nm,0.9s
MARD Mardin 35.28 293 P **P 00 53 10.3 +0.8**
MARD IAmb IAmb 00 53 27.6
comp=Z,6.0nm,0.6s
YOJ Yonaguni jima 36.25 89 P **P 00 53 18.5 +0.8**
YOJ Yonaguni jima 36.25 89 P **P 00 53 18.5 +0.8**
YOJ pmax pmax
comp=Z,440nm,1.9s
KIRV Kirov 36.39 331 LR LR 01 09 28.2
comp=Z,194nm,18.4s,baz=130,slow=38
KIRV Kirov 36.39 331*de*P **P 00 53 19.0 +0.5**
VRH Novokhopyorsk 36.85 317 *e*P **P 00 53 22.2 -0.3**
VRH pmax pmax
comp=Z,20nm,0.8s
NAWB Namwon 37.83 70 P **P 00 53 27.7 -3.3**
KS19 Wonju Array Si 38.08 66 P **P 00 53 32.4 -0.8**
KS19 IAmb IAmb 00 53 39.0
comp=Z,58nm,1.7s
KSRS Korea Array 38.12 67 LR LR 01 10 41.4
comp=Z,53nm,20.4s,baz=280,slow=39
BNX BinXian 38.15 53⇓P **P 00 53 33.5 -0.1**
BNX pmax pmax
comp=Z,12nm,1.0s
BNX pmax pmax
comp=Z,110nm,5.8s
VSR Storozhevoye 38.38 316 *e*P **P 00 53 34.9 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 38.49 317 *e*P **P 00 53 38.0 +1.6**
VORR pmax pmax
comp=Z,25nm,1.7s
DGAR Diego Garcia 38.53 196⇓*e*P **P 00 53 36.6 -0.4**
LPSR Galich'ya Gora 38.93 318 *e*P **P 00 53 39.9 -0.2**
LPSR pmax pmax
comp=Z,30nm,0.8s
SBUM Sibu 39.31 129 P **P 00 53 44.0 +0.3**
NRIK Noril'sk 39.40 3 P **P 00 53 44.5 +0.7**
comp=Z,17nm,0.8s,baz=173,slow=5.6,SNR=24
comp=Z,17nm,0.8s
NRIK Noril'sk 39.40 3 P **P 00 53 43.8 +0.1**
NRIK IAmb IAmb 00 53 45.4
comp=Z,21nm,0.9s
NRIK Noril'sk 39.40 3*de*P **P 00 53 44.2 +0.4**
NRIK pmax pmax
comp=Z,22nm,0.9s
PRGR Permogore 39.73 333 *e*P **P 00 53 45.0 -1.6**
PRGR pmax pmax
comp=Z,12nm,0.8s
ZEA Zeya 39.89 41 *e*P **P 00 53 49.3 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=Z,100nm,13.0s
JOW Kunigami 40.12 83 LR LR 01 12 16.0
comp=Z,152nm,18.9s,baz=85,slow=39
GHAJ Ghor Haditha 40.19 284 P **P 00 53 52.1 +1.2**
GHAJ IAmb IAmb 00 53 58.5
comp=Z,17nm,1.2s
MOS Moscow 40.68 322 *e*P **P 00 53 55.0 +0.4**
MOS *e* 00 55 28.5
MOS MLR MLR
comp=Z,3μm,17.0s
BR131 Keskin Array S 40.83 297 P **P 00 53 55.6 -0.6**
BR131 Keskin Array S 40.83 297 P **P 00 53 55.6 -0.6**
BR131 pmax pmax
comp=Z,6.0nm,1.3s
BRTR Keskin Array B 40.83 297 P **P 00 53 57.6 +1.3**
comp=Z,1.0nm,0.9s,baz=105,slow=9.5,SNR=4.8
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 40.83 297 P **P 00 53 56.4 +0.2**
BRTR Keskin Array B 40.83 297 *i*P **P 00 53 59.9 +3.7**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 41.05 321 LR LR 01 12 21.8
comp=Z,32nm,21.5s,baz=84,slow=38
OBN Obninsk 41.05 321 P **P 00 53 57.4 -0.2**
OBN IAmb IAmb 00 54 02.5
comp=Z,27nm,0.9s
OBN Obninsk 41.05 321*de*P **P 00 53 57.7 +0.1**
OBN *e* 00 55 33.3
OBN pmax pmax
comp=Z,64nm,1.7s

OBN MLR MLR
comp=Z,125nm,20.0s
EIL Elat 41.05 282 P **P 00 53 59.4 +1.4**
comp=Z,5.0nm,1.0s,baz=30,slow=20,SNR=3.7
EIL LR LR 01 14 07.9
comp=Z,100nm,18.2s,baz=86,slow=41
comp=Z,5.0nm,1.0s
ATD Arta Tunnel 41.20 252 LR LR 01 11 46.3
comp=Z,55nm,18.1s,baz=38,slow=37
USA0B Ussuriysk Arra 41.23 56 P **P 00 53 59.6 +0.3**
USA0B IAmb IAmb 00 54 16.9
comp=Z,72nm,2.0s
USA0B Ussuriysk Arra 41.23 56 P **P 00 53 59.6 +0.3**
USA0B pmax pmax
comp=Z,72nm,2.0s
USRK Ussuriysk Ar. 41.23 56 P **P 00 53 59.6 +0.2**
comp=Z,3.4nm,0.7s,baz=252,slow=7.7,SNR=5.0
comp=Z,3.4nm,0.7s
USRK Ussuriysk Ar. 41.23 56 P **P 00 53 58.8 -0.5**
USRK Ussuriysk Ar. 41.23 56 P **P 00 53 58.8 -0.5**
KLR Kul'dur 41.58 48 P **P 00 54 00.7 -1.4**
comp=Z,2.9nm,0.6s,baz=268,slow=9.0,SNR=9.7
comp=Z,2.9nm,0.6s
KLR Kul'dur 41.58 48*de*P **P 00 54 01.9 -0.2**
KLR pmax pmax
comp=Z,8.0nm,1.3s
KLMR Klimovskoe 41.84 330 *e*P **P 00 54 03.1 -0.9**
KLMR *e* 00 55 39.5
KLMR *e* 00 56 00.6
KLMR pmax pmax
comp=Z,31nm,1.5s
KLMR Klimovskoe 41.84 330 *e*P **P 00 54 03.1 -0.9**
KLMR AMP 00 54 09.2
comp=Z,31nm,1.5s
KLMR *e*PP **PP 00 55 39.5 -1.2**
KLMR *e*PcP **PcP 00 56 00.7 +1.0**
LEM Lembang 43.88 143 LR LR 01 18 11.8
comp=Z,62nm,18.0s,baz=251,slow=44
ELL Elmali 43.99 293 P **P 00 54 22.9 +0.9**
ELL Elmali 43.99 293 P **P 00 54 22.9 +0.9**
ELL pmax pmax
comp=Z,42nm,0.9s
AKASG Malin Array Be 44.44 313 P **P 00 54 25.1 -0.1**
comp=Z,3.0nm,0.7s,baz=78,slow=7.7,SNR=32
AKASG PP **PP 00 56 11.6 +2.9**
comp=Z,0.3nm,0.3s,baz=87,slow=8.3,SNR=5.4
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 44.44 313 P **P 00 54 24.7 -0.5**
AKASG Malin Array Be 44.44 313*ce*P **P 00 54 25.1 -0.1**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 44.44 313 P **P 00 54 24.6 -0.6**
AKBB IAmb IAmb 00 54 26.7
comp=Z,11nm,0.8s
AKBB Malin Array Si 44.44 313 P **P 00 54 24.6 -0.6**
AKBB pmax pmax
comp=Z,11nm,0.8s
ICOR Ion Corvin 45.07 304⇑P **P 00 54 31.9 +1.6**
PLOR Plostina 45.88 306⇓P **P 00 54 38.2 +1.4**
PLOR Plostina 45.88 306⇓P **P 00 54 38.2 +1.4**
VALR Valaam 45.89 328*de*P **P 00 54 36.4 -0.2**
VALR pmax pmax
comp=Z,16nm,1.0s
TOLI2 Tolitoli 46.34 121 P **P 00 54 41.0 +0.3**
TOLI2 IAmb IAmb 00 56 11.0
comp=Z,11nm,1.1s
KARP Karpathos 46.37 292 P **P 00 54 38.1 -2.7**
MLR Muntele Rosu 46.37 306⇑P **P 00 54 43.1 +2.3**
MLR Muntele Rosu 46.37 306 P **P 00 54 41.8 +1.0**
MLR IAmb IAmb 00 55 11.1
comp=Z,20nm,1.2s
MLR Muntele Rosu 46.37 306⇑P **P 00 54 43.1 +2.3**
DAV Davao City (W) 46.37 111 LR LR 01 15 55.9
comp=Z,74nm,18.2s,baz=324,slow=38
MAJO Matsushiro 46.40 67 P **P 00 54 41.3 +0.3**
MAJO IAmb IAmb 00 55 23.7
comp=Z,41nm,1.9s
MAJO Matsushiro 46.40 67 P **P 00 54 41.3 +0.3**
MAJO pmax pmax
comp=Z,41nm,1.9s
MJAR Matsushiro Arr 46.40 67 P **P 00 54 41.0 0.0**
comp=Z,1.2nm,0.7s,baz=262,slow=16,SNR=1.8
MJAR LR LR 01 15 34.4
comp=Z,65nm,18.9s,baz=283,slow=38
comp=Z,1.2nm,0.7s
NACGM Naroch 46.47 319⇑*e*P **P 00 54 42.2 +0.9**
baz=98
IIGN Ignalina 46.86 319 *e*P **P 00 54 44.3 0.0**
BURAR Bucovina Array 46.87 309⇑P **P 00 54 45.6 +1.0**
BURAR Bucovina Array 46.87 309 P **P 00 54 44.4 -0.3**
BURAR Bucovina Array 46.87 309⇑P **P 00 54 45.6 +1.0**
BUR08 Bucovina Ar. S 46.88 309 P **P 00 54 45.1 +0.4**
VSU Vasula 47.14 324⇓*e*P **P 00 54 46.0 -0.4**
VSU pmax pmax
comp=Z,35nm,0.9s
VSU Vasula 47.14 324 *e*P **P 00 54 46.2 -0.2**
ARR Arges 47.30 306⇑P **P 00 54 48.8 +0.8**
ARCR ARCALIA 47.45 308⇓P P 00 54 55.9 +6.8
FIA1 FINESS Array S 48.13 327 P **P 00 54 53.8 -0.3**
FIA1 IAmb IAmb 00 54 54.6
comp=Z,11nm,0.6s
FIA0 FINESS Array S 48.13 327 P **P 00 54 53.0 -1.1**
FIA0 FINESS Array S 48.13 327 P **P 00 54 53.0 -1.1**
FINES FINESS Array B 48.13 327 P **P 00 54 54.1 0.0**
comp=Z,6.2nm,0.4s,baz=112,slow=8.5,SNR=96
FINES LR LR 01 15 21.0
comp=Z,253nm,19.1s,baz=270,slow=36
comp=Z,6.2nm,0.4s
FINES FINESS Array B 48.13 327 P **P 00 54 53.9 -0.2**
PABE Paberze 48.15 319 P **P 00 54 54.4 0.0**
PABE Paberze 48.15 319 *e*P **P 00 54 54.7 +0.4**
JHJ Hachijo jima 2 48.31 71 LR LR 01 17 03.0
comp=Z,60nm,19.5s,baz=186,slow=38
VTS Vitosha 48.48 302⇑P **P 00 54 59.0 +1.7**
VTS Vitosha 48.48 302 P **P 00 54 57.0 -0.3**
VTS IAmb IAmb 00 55 02.3
comp=Z,9.1nm,1.2s
VTS Vitosha 48.48 302⇑P **P 00 54 59.0 +1.7**
TIXI Tiksi 48.49 18 P **P 00 54 55.2 -1.5**
TIXI IAmb IAmb 00 55 00.8
comp=Z,5.0nm,0.7s
TIXI Tiksi 48.49 18 P **P 00 54 55.2 -1.5**
TIXI pmax pmax
comp=Z,5.0nm,0.7s
KWP Kalwaria Pacla 48.55 311 P **P 00 54 57.4 -0.1**
KWP Kalwaria Pacla 48.55 311 P **P 00 54 57.4 -0.1**
KWP pmax pmax
comp=Z,271nm,1.2s
GZR Gura Zlata 48.60 306⇑P **P 00 54 59.0 +0.9**
GZR Gura Zlata 48.60 306⇑P **P 00 54 59.0 +0.9**
MEF Metsahovi 48.67 326 *e*P **P 00 54 57.7 -0.6**
BLKB Belogradchik 48.80 303⇑P **P 00 54 58.2 -1.4**
UZH Uzhgorod 48.83 310⇓*e*P **P 00 54 59.0 -0.6**
UZH *i* 00 55 08.9
UZH *e* 00 55 14.4
KOLS Kolonicke sedl 48.84 310 *e*P **P 00 55 00.6 +0.9**
KOLS pmax pmax
comp=Z,4.0nm,0.7s
KOLS Kolonicke sedl 48.84 310 *e*P **P 00 55 00.6 +0.9**
SIRR Siria 49.34 307⇑P **P 00 55 04.8 +1.2**
MDVR Moldovita 49.40 305⇑P **P 00 55 05.2 +1.1**
BZS Buzias 49.41 306⇑P **P 00 55 05.1 +1.0**
BZS Buzias 49.41 306⇑P **P 00 55 05.1 +1.0**
BOVS Bovan 49.50 303⇑P **P 00 55 05.3 +0.4**
OJC Ojcow 50.43 312 P **P 00 55 11.8 -0.1**
OJC Ojcow 50.43 312 P **P 00 55 11.8 -0.1**
OJC pmax pmax
comp=Z,6.0nm,0.9s
PSZ Piszkesteto 50.45 309⇑P **P 00 55 13.3 +1.2**
PSZ Piszkesteto 50.45 309 P **P 00 55 11.6 -0.6**
PSZ IAmb IAmb 00 55 17.8
comp=Z,14nm,1.2s
PSZ Piszkesteto 50.45 309⇑P **P 00 55 13.3 +1.2**
PSZ Piszkesteto 50.45 309 P **P 00 55 12.9 +0.8**
KBN Korca 50.54 300 P **P 00 55 12.4 -0.6**
KBN IAmb IAmb 00 55 13.7
comp=Z,13nm,1.2s
KBN Korca 50.54 300 P **P 00 55 12.4 -0.6**
KBN pmax pmax
comp=Z,13nm,1.2s
DIVS Divibare 50.69 304 P **P 00 55 14.8 +0.8**
FRGS Fruska Gora 50.71 306⇑P **P 00 55 14.5 +0.4**
ARA0 ARCESS Array S 50.75 338 *e*P **P 00 55 13.7 -0.3**
ARCES ARCESS Array B 50.75 338 P **P 00 55 14.0 0.0**

comp=Z,4.2nm,0.6s,baz=96,slow=7.6,SNR=22
comp=Z,4.2nm,0.6s
ARCES ARCESS Array B 50.75 338 P **P** **00 55 13.9 0.0**
ARCES ARCESS Array B 50.75 338 P **P** **00 55 14.0 0.0**
VYHS Vyhne 51.12 310 *e*P **P** **00 55 17.9 +0.8**
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 51.12 310 *e*P **P** **00 55 17.9 +0.8**
KTK1 Kautokeino 51.35 337 *e*P **P** **00 55 18.3 -0.2**
PDG Podgorica 51.43 302 IAmb IAmb 00 55 20.4
comp=Z,6.6nm,0.8s
MORH Mrgy, Hungar 51.43 307 ⇑P **P** **00 55 20.1 +0.7**
MORH Mrgy, Hungar 51.43 307 P **P** **00 55 19.6 +0.2**
OKC Ostrava-Krasne 51.50 312 *e*P **P** **00 55 20.9 +1.0**
OKC Ostrava-Krasne 51.50 312 *e*P **P** **00 55 20.9 +1.0**
SRO Srobarova 51.52 309 *e*P **P** **00 55 21.8 +1.7**
SRO pmax pmax
comp=Z,22nm,1.0s
SRO Srobarova 51.52 309 *e*P **P** **00 55 21.8 +1.7**
CSKK Cskako 51.59 309 P P 00 55 27.3 +6.7
HAMF Hammerfest 51.71 339 *e*P **P** **00 55 21.7 +0.5**
HAMF IAmb IAmb 00 55 22.1
comp=Z,16nm,0.8s
MAUC Maruska 51.74 311 *e*P **P** **00 55 22.7 +0.9**
KOVH Kovagotottos 51.81 307 P **P** **00 55 20.7 -1.6**
JAVC Velka Javorina 51.87 311 *e*P **P** **00 55 24.2 +1.4**
JAVC *ep*P **pP** **00 55 27.4 -1.8**
MORC Moravsky Berou 51.90 312 ⇓P **P** **00 55 23.9 +0.9**
MORC Moravsky Berou 51.90 312 P **P** **00 55 23.5 +0.5**
MORC IAmb IAmb 00 55 28.1
comp=Z,11nm,0.9s
MORC Moravsky Berou 51.90 312 *e*P **P** **00 55 23.5 +0.5**
MORC *ep*P pP 00 55 26.7 -2.7
MORC Moravsky Berou 51.90 312 ⇓P **P** **00 55 23.9 +0.9**
MPLH Magyarpolny 52.09 308 P **P** **00 55 25.3 +0.9**
MODS Modra-Piesok 52.17 310 *e*P **P** **00 55 25.8 +0.8**
MODS pmax pmax
comp=Z,16nm,1.1s
MODS Modra-Piesok 52.17 310 *e*P **P** **00 55 25.8 +0.8**
EGYH Egyhazaskeszo 52.21 309 P **P** **00 55 27.7 +2.4**
KRLC Kraliky 52.37 312 *e*P **P** **00 55 27.3 +0.8**
KRLC Kraliky 52.37 312 *e*P **P** **00 55 27.3 +0.8**
KRLC *ex* x 00 55 31.2
JETT Jettan, Norway 52.47 337 *e*P **P** **00 55 27.2 +0.4**
VRAC Vranov 52.55 311 ⇑P **P** **00 55 28.8 +1.1**
VRAC Vranov 52.55 311 *e*P **P** **00 55 28.5 +0.8**
VRAC *ep*P **pP** **00 55 31.7 -2.4**
VRAC Vranov 52.55 311 ⇑P **P** **00 55 28.8 +1.1**
DPC Dobruska-Polom 52.65 312 *e*P **P** **00 55 29.3 +0.8**
DPC Dobruska-Polom 52.65 312 *e*P **P** **00 55 29.3 +0.8**
DPC *ex* x 00 55 32.6
KRUC Moravsky 52.70 311 *e*P **P** **00 55 29.3 +0.5**
KRUC *ep*P **pP** **00 55 32.6 -2.6**
OSTC Ostas 52.70 313 *e*P **P** **00 55 29.9 +1.0**
SOP Sopron 52.71 309 P **P** **00 55 29.2 +0.2**
RONA Rosalia, Austr 52.88 309 *i*P **P** **00 55 30.8 +0.5**
comp=Z,13nm,1.1s,SNR=9.8
TRO Tromso 52.99 337 *e*P **P** **00 55 30.5 -0.2**
TRO IAmb IAmb 00 55 31.0
comp=Z,15nm,1.0s
KOGS Kog 53.05 308 *i*P **P** **00 55 31.9 +0.5**
CONA Conrad Observa 53.15 309 *i*P **P** **00 55 33.0 +0.6**
comp=Z,34nm,1.1s,SNR=20
KMBO Kilima Mbogo 53.15 243 P **P** **00 55 33.4 +0.5**
comp=Z,2.8nm,0.8s,baz=40,slow=10,SNR=8.2
comp=Z,2.8nm,0.8s
KMBO Kilima Mbogo 53.15 243 P **P** **00 55 33.4 +0.5**
KMBO Kilima Mbogo 53.15 243 ⇑*e*P **P** **00 55 33.7 +0.8**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 53.15 243 P **P** **00 55 31.6 -1.3**
TREC Trest 53.27 311 *e*P **P** **00 55 34.2 +1.1**
TREC Trest 53.27 311 *e*P **P** **00 55 34.2 +1.1**
TREC *ex* x 00 55 36.9
ARSA Arzberg 53.45 309 *i*P **P** **00 55 35.2 +0.7**
comp=Z,7.4nm,0.8s
GROS Grobnik 53.56 308 *i*P **P** **00 55 35.8 +0.5**
MA2 Magadan 53.62 36 P **P** **00 55 35.7 +0.2**
MA2 Magadan 53.62 36 P **P** **00 55 35.7 +0.2**
MA2 pmax pmax
comp=Z,52nm,1.4s
GOPC GO Pecny, Ondr 53.67 312 *e*P **P** **00 55 37.0 +1.0**
GOPC GO Pecny, Ondr 53.67 312 *e*P **P** **00 55 37.0 +1.0**
PVCC Panska Ves 53.75 313 *e*P **P** **00 55 37.5 +0.9**
PVCC Panska Ves 53.75 313 *e*P **P** **00 55 37.5 +0.9**
PERS Pernice 53.80 308 *i*P **P** **00 55 37.7 +0.6**
PRU Pruhonice 53.82 312 *e*P **P** **00 55 37.6 +0.5**
PRU Pruhonice 53.82 312 *e*P **P** **00 55 37.6 +0.5**
SOKA Soboth 53.86 308 *i*P **P** **00 55 38.4 +0.9**
comp=Z,16nm,0.8s,SNR=18
FAUS Fauske 53.88 334 *e*P **P** **00 55 37.2 0.0**
FAUS IAmb IAmb 00 55 38.0
comp=Z,5.9nm,0.9s
STEI Steigen 53.98 334 *e*P **P** **00 55 38.1 +0.2**
MOR8 Moi Rana 54.06 332 *e*P **P** **00 55 37.5 -1.1**
MOR8 IAmb IAmb 00 55 38.0
comp=Z,7.7nm,0.7s
CKRC Cesky Krumlov 54.09 311 *e*P **P** **00 55 39.8 +0.7**
BRG Berggiesshubel 54.12 313 *i*P **P** **00 55 39.9 +0.6**
BRG Amp 00 55 40.9
comp=Z,14nm,0.9s
BRG *ex* x 00 55 43.3
BRG Amp 00 55 44.8
comp=Z,24nm,1.1s
BRG *ex* x 00 56 41.9
BRG Amp 00 56 45.3
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 54.12 313 *i*P **P** **00 55 39.8 +0.6**
BRG *e* 00 56 41.9
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=Z,24nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,0.9s
OBKA Obir 54.21 308 *i*P **P** **00 55 40.9 +0.8**
comp=Z,8.1nm,0.8s
MOA Molln 54.23 310 *i*P **P** **00 55 40.3 +0.2**
comp=Z,12nm,0.8s,SNR=8.2
CUC Castrocucco 54.40 300 P **P** **00 55 41.8 +0.3**
CUC IAmb IAmb 00 55 43.6
comp=Z,14nm,0.7s
GEC2 GERESS Array S 54.48 311 P **P** **00 55 42.0 -0.1**
GEC2 IAmb IAmb 00 55 46.9
comp=Z,9.6nm,1.1s
GERES GERESS Array B 54.48 311 P **P** **00 55 42.4 +0.3**
comp=Z,3.2nm,0.8s,baz=95,slow=6.7,SNR=30
comp=Z,3.2nm,0.8s
SEY Seymchan 54.53 32⇓*e*P **P** **00 55 41.7 -0.3**
SEY pmax pmax
comp=Z,11nm,1.3s
KHC Kasperske Hory 54.53 311 IAmb IAmb 00 55 43.9
comp=Z,11nm,0.9s
KHC Kasperske Hory 54.53 311 *e*P **P** **00 55 42.7 +0.4**
KHC Kasperske Hory 54.53 311 *e*P **P** **00 55 42.7 +0.4**
KHC *ex* x 00 55 46.0
KONS Konsvik 54.62 333 *e*P **P** **00 55 42.6 0.0**
LOF Lofoten 54.64 335 *e*P **P** **00 55 41.9 -0.8**
LOF IAmb IAmb 00 55 46.5
comp=Z,92nm,1.8s
BIOA Bad Ischl, Aus 54.67 309 *i*P **P** **00 55 43.4 0.0**
comp=Z,7.0nm,0.8s
CLL Collm 54.67 314 P **P** **00 55 43.0 -0.2**
CLL IAmb IAmb 00 55 44.2
comp=Z,9.3nm,1.2s
CLL Collm 54.67 314⇑*i*P **P** **00 55 43.5 +0.2**
CLL pmax pmax
comp=Z,26nm,1.9s
CLL Collm 54.67 314⇑*i*P **P** **00 55 43.5 +0.2**
comp=Z,26nm,1.9s
CLL LmV 01 18 00.0
comp=Z,200nm,18.8s
CEL Celeste 54.70 298 P **P** **00 55 44.4 +0.6**
TRI Trieste 54.87 307 P **P** **00 55 43.7 -1.1**
TRI IAmb IAmb 00 55 45.9
comp=Z,25nm,1.2s
TRI Trieste 54.87 307 P **P** **00 55 43.7 -1.1**
PRED Cave del Predi 54.89 308 P **P** **00 55 44.3 -0.7**
SABO M.te Sabotino 54.94 307 P **P** **00 55 45.3 0.0**
SABO IAmb IAmb 00 55 50.0
comp=Z,42nm,1.2s
KBA Koelnbreinsper 54.95 309 *i*P **P** **00 55 45.6 0.0**
comp=Z,11nm,1.1s
NSS Namsos 54.95 330 *e*P **P** **00 55 44.8 -0.3**
NC405 NORSAR Array S 54.96 326 P **P** **00 55 44.6 -0.6**
NC602 NORSAR Array S 55.05 325 P **P** **00 55 45.3 -0.6**
NC602 NORSAR Array S 55.05 325 *e*P **P** **00 55 45.2 -0.6**
NB2 NORSAR Subarra 55.21 326 P **P** **00 55 46.4 -0.6**
comp=Z,2.9nm,0.6s,baz=87,slow=7.4
NB2 NORSAR Subarra 55.21 326 P **P** **00 55 46.4 -0.6**
baz=87,slow=7.4
NOA NORSAR Array B 55.21 326 P **P** **00 55 46.1 -0.9**
comp=Z,3.5nm,0.6s,baz=90,slow=7.1,SNR=19
NOA LR LR 01 20 33.8
comp=Z,122nm,21.3s,baz=265,slow=37
comp=Z,3.5nm,0.6s
CLUD Cludinico 55.36 308 P **P** **00 55 47.5 -0.9**
CLUD IAmb IAmb 00 56 01.8
comp=Z,15nm,1.1s
NC204 NORSAR Array S 55.42 326 IAmb IAmb 00 55 51.7
comp=Z,18nm,0.9s
OSL Oslo 55.46 324 *e*P **P** **00 55 48.6 -0.2**
OSL IAmb IAmb 00 55 51.8
comp=Z,63nm,1.6s
STAL STALIGIAL 55.51 308 P **P** **00 55 48.9 -0.6**
ABTA Abfaltersbach 55.56 308 *i*P **P** **00 55 49.3 -0.7**
comp=Z,9.3nm,1.0s
CAMP Campotosto 55.67 303 P **P** **00 55 49.3 -1.5**
CIMO Cimolais 55.68 308 IAmb IAmb 00 55 54.8
comp=Z,28nm,1.1s
AQU L'Aquila 55.71 303 P **P** **00 55 50.3 -0.7**
AQU IAmb IAmb 00 55 59.0
comp=Z,17nm,0.8s
AQU L'Aquila 55.71 303 P **P** **00 55 50.3 -0.7**
AQU pmax pmax
comp=Z,17nm,0.8s
FDMO Fiordimonte 55.81 304 P **P** **00 55 50.9 -0.7**
FDMO IAmb IAmb 00 55 56.6
comp=Z,15nm,1.2s
NRCA Norcia 55.83 304 P **P** **00 55 51.6 -0.2**
NRCA IAmb IAmb 00 56 06.1
comp=Z,19nm,1.0s
GRA1 Grafenberg Arr 55.99 312 P **P** **00 55 53.1 +0.3**
GRA1 IAmb IAmb 00 55 58.8
comp=Z,17nm,1.1s
GRF Grafenberg Arr 55.99 312 P **P** **00 55 53.1 +0.3**
GRF pmax pmax
comp=Z,17nm,1.1s
GRFO Grafenberg 55.99 312 P **P** **00 55 52.7 -0.1**
GRFO IAmb IAmb 00 55 58.8
comp=Z,16nm,1.1s
GRFO Grafenberg 55.99 312 P **P** **00 55 52.7 -0.1**
GRFO pmax pmax
comp=Z,16nm,1.1s
KONO Kongsberg 56.04 324 *e*P **P** **00 55 52.8 -0.2**
WTTA Wattenberg 56.08 309 *i*P **P** **00 55 53.0 -0.6**
comp=Z,16nm,0.9s,SNR=6.3
WATA Walderalm 56.10 309 *i*P **P** **00 55 53.1 -0.7**
comp=Z,14nm,0.8s
RAFF Raffo Rosso 56.13 297 P **P** **00 55 54.8 +0.8**
MURB Monte Urbino 56.17 304 P **P** **00 55 54.4 +0.1**
DOMB Dombas 56.22 327 *e*P **P** **00 55 53.9 -0.4**
DOMB IAmb IAmb 00 55 56.7
comp=Z,19nm,1.3s
CESX Cesi 56.26 303 IAmb IAmb 00 55 59.2
comp=Z,15nm,1.1s
CTI Castel Tesino 56.27 308 P **P** **00 55 54.6 -0.4**
CTI IAmb IAmb 00 55 55.7
comp=Z,11nm,0.8s
CTI Castel Tesino 56.27 308 P **P** **00 55 54.6 -0.4**
CTI pmax pmax
comp=Z,11nm,0.8s
SOEI Soe 56.37 128 P **P** **00 55 55.2 -0.8**
SQTA Sankt Quirin 56.37 309 *i*P **P** **00 55 55.1 -0.6**
comp=Z,17nm,0.9s,SNR=8.6
TEOL Teolo 56.38 307 P **P** **00 55 54.9 -0.8**
MOTA Moosalm 56.42 309 *i*P **P** **00 55 55.4 -0.7**
comp=Z,19nm,0.8s,SNR=10
RETA Reutte 56.62 310 *i*P **P** **00 55 57.1 -0.4**
comp=Z,11nm,0.8s
FETA Feichten 56.73 309 *i*P **P** **00 55 57.8 -0.5**
comp=Z,11nm,0.8s,SNR=8.1
LATE Laterza 56.82 304 P **P** **00 55 58.4 -0.4**
KBS Kingsbay 56.98 347 P **P** **00 55 57.5 -1.9**
KBS Kingsbay 56.98 347 P **P** **00 55 57.5 -1.9**
KBS pmax pmax
comp=Z,20nm,0.8s
OSSC Osservatorio P 57.03 305 P **P** **00 55 59.5 -0.8**
OSSC IAmb IAmb 00 56 16.4
comp=Z,9.0nm,1.0s
ZCCA Zocca 57.05 306 P **P** **00 56 00.6 +0.1**
FUORN Ofenpass-Fuorn 57.11 309 P **P** **00 55 59.3 -1.8**
FUORN IAmb IAmb 00 56 00.9
comp=Z,40nm,1.8s
SALO Salr 57.12 307 P **P** **00 56 00.9 0.0**
DAVA Damuels 57.25 309 *i*P **P** **00 56 01.5 -0.5**
comp=Z,28nm,0.8s,SNR=11
STU Stuttgart 57.44 311 P **P** **00 56 03.0 -0.1**
STU Stuttgart 57.44 311 P **P** **00 56 03.0 -0.1**
STU pmax pmax
comp=Z,18nm,0.7s
VLC Villacollemand 57.51 306 P **P** **00 56 04.1 +0.4**
VLC IAmb IAmb 00 56 05.7
comp=Z,19nm,1.0s
PETK Petropavlovsk- 57.86 43 P **P** **00 56 06.1 +0.1**
comp=Z,0.8nm,0.5s,baz=264,slow=8.0,SNR=1.9
comp=Z,0.8nm,0.5s
MBAR Mbarara 57.96 248 P **P** **00 56 07.7 +0.2**
MBAR IAmb IAmb 00 56 12.2
comp=Z,7.0nm,1.1s
MBAR Mbarara 57.96 248⇑*e*P **P** **00 56 07.6 +0.1**
MBAR Mbarara 57.96 248 P **P** **00 56 07.2 -0.3**
MSSA Maissana 58.08 306 P **P** **00 56 06.5 -1.3**
MSSA IAmb IAmb 00 56 08.0
comp=Z,15nm,0.9s
BTNL Ternell 59.08 314 κP **P** **00 56 14.6 0.0**
MEM Membach 59.15 314 *d*P **P** **00 56 15.0 0.0**
comp=Z,6.9nm,0.9s
MEM *d*PcP **PcP** **00 57 04.2 +0.7**
SENIN Lac Senin/Sane 59.17 309 P **P** **00 56 15.2 -0.3**
BHOU Houvegnez 59.20 314 *d*P **P** **00 56 16.2 +0.8**
comp=Z,7.1nm,1.1s
BHOU *d*PcP **PcP** **00 57 05.1 +1.4**
WLF Walferdange 59.24 313 P **P** **00 56 16.1 +0.4**
WLF Walferdange 59.24 313 P **P** **00 56 16.1 +0.4**
WLF pmax pmax
comp=Z,21nm,1.1s
WLF Walferdange 59.24 313 *d*P **P** **00 56 16.3 +0.6**
comp=Z,11nm,1.1s
BCLA Clavier 59.63 314 *d*P **P** **00 56 18.6 +0.3**
comp=Z,8.2nm,1.2s
BCLA *d*PcP **PcP** **00 57 08.6 +3.2**
RCHB Rochefort 59.73 313 κP **P** **00 56 19.2 +0.2**
comp=Z,9.5nm,0.8s
RCHB *d*PcP **PcP** **00 57 06.1 +0.3**
BNI Bardonecchia 59.89 307 P **P** **00 56 20.1 -0.3**
BNI IAmb IAmb 00 56 26.9
comp=Z,10nm,0.8s
BNI Bardonecchia 59.89 307 P **P** **00 56 20.1 -0.3**
BNI pmax pmax
comp=Z,10.0nm,0.8s
BMRD Maredsous 59.98 314 κP **P** **00 56 20.8 0.0**
comp=Z,6.4nm,1.2s
DOU Dourbes 60.14 313 *d*P **P** **00 56 22.2 +0.3**
BILL Bilibino 60.14 26 *e*P **P** **00 56 22.3 +0.7**
BILL pmax pmax
comp=Z,3.0nm,0.4s
KEST Kesra 60.42 296 P **P** **00 56 24.0 -0.1**
comp=Z,5.0nm,0.8s,baz=25,slow=1.4,SNR=12
comp=Z,5.0nm,0.8s
KEST Kesra 60.42 296 P **P** **00 56 24.6 +0.5**
KEST IAmb IAmb 00 56 27.9
comp=Z,17nm,1.2s
SSB Saint Sauveur 61.30 308 P **P** **00 56 29.6 -0.2**
SSB IAmb IAmb 00 56 30.7
comp=Z,11nm,0.8s
SSB Saint Sauveur 61.30 308 P **P** **00 56 29.7 -0.2**
SSB pmax pmax
comp=Z,11nm,0.8s
SSB Saint Sauveur 61.30 308 P **P** **00 56 29.5 -0.5**
CLF Chambon-Foret 62.12 312 P **P** **00 56 34.6 -0.7**
KNRA Kununurra 63.65 129 P **P** **00 56 44.6 -1.2**
BORG Borgarnes 68.82 333 LR LR 01 26 41.1
comp=Z,67nm,18.1s,baz=11,slow=35
ESDC Sonseca Array 69.04 304 P **P** **00 57 19.9 -0.4**
comp=Z,1.8nm,0.9s,baz=44,slow=6.0,SNR=10
comp=Z,1.8nm,0.9s
ESDC Sonseca Array 69.04 304 P **P** **00 57 19.6 -0.7**
SUMG Summit 70.06 344 P **P** **00 57 26.0 -0.4**
SUMG Summit 70.06 344 P **P** **00 57 26.0 -0.4**
SUMG pmax pmax
comp=Z,94nm,2.0s
SUMG Summit 70.06 344 *i*P **P** **00 57 26.0 -0.4**
WB0 Warramunga Arr 70.32 128 P **P** **00 57 27.1 -1.1**
WB0 IAmb IAmb 00 57 30.7
comp=Z,7.0nm,0.9s
WRA Warramunga Arr 70.40 128 P **P** **00 57 27.7 -1.1**
comp=Z,5.4nm,0.9s,baz=322,slow=6.3,SNR=33
comp=Z,5.4nm,0.9s
WRA Warramunga Arr 70.40 128 *i*P **P** **00 57 27.7 -1.1**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 70.40 128⇑*e*P **P** **00 57 27.9 -0.9**
WRAB pmax pmax
comp=Z,12nm,1.3s
WRAB Tennant Creek 70.40 128 P **P** **00 57 27.4 -1.4**
WRAB sP **sP** **00 57 39.4 +1.7**
WB2 Warramunga Arr 70.41 128 P **P** **00 57 28.0 -0.8**
WB2 IAmb IAmb 00 57 31.4
comp=Z,7.5nm,0.8s
A21K Barrow 70.78 17 P **P** **00 57 29.8 -0.5**
COI Coimbra 71.97 306 P **P** **00 57 37.9 -0.2**
COI IAmb IAmb 00 57 46.9
comp=Z,11nm,0.8s
COI Coimbra 71.97 306 P **P** **00 57 37.9 -0.2**
COI pmax pmax
comp=Z,11nm,0.8s
MDT Midelt 72.24 298 LR LR 01 34 10.2
comp=Z,38nm,18.4s,baz=356,slow=40
AS31 Alice Springs 72.70 131 P **P** **00 57 41.6 -1.0**
ASAR Alice Springs 72.70 131 P **P** **00 57 41.5 -1.1**
comp=Z,4.0nm,0.9s,baz=318,slow=6.1,SNR=26
comp=Z,4.0nm,0.9s
ASAR Alice Springs 72.70 131 P **P** **00 57 41.3 -1.3**
ASAR Alice Springs 72.70 131 P **P** **00 57 41.3 -1.3**
PMG Port Moresby 73.39 112 LR LR 01 32 13.8
comp=Z,53nm,19.9s,baz=37,slow=38
PATS Pohnpei 74.28 91 P **P** **00 57 52.1 -0.1**
TOLK Toolik Lake Re 74.38 17 P **P** **00 57 51.8 -0.1**
TOLK IAmb IAmb 00 57 55.7
comp=Z,8.3nm,0.9s
COLD Coldfoot 75.21 19 P **P** **00 57 56.4 -0.2**
H21K Melozitna Rive 75.54 21 P **P** **00 57 58.6 0.0**
H21K IAmb IAmb 00 57 59.8
comp=Z,11nm,1.4s
TOA0 Torodi Ar. Sit 75.72 277 P **P** **00 58 01.1 +0.7**
TOA0 IAmb IAmb 00 58 06.6
comp=Z,33nm,1.9s
TORD Torodi Ar. Bea 75.72 277 P **P** **00 58 00.8 +0.3**
comp=Z,3.8nm,0.8s,baz=56,slow=3.7,SNR=18
comp=Z,3.8nm,0.8s
TORD Torodi Ar. Bea 75.72 277 P **P** **00 58 00.4 0.0**
J20K Nowinta River 76.11 22 P **P** **00 58 02.3 +0.4**
J20K IAmb IAmb 00 58 47.5
comp=Z,12nm,1.5s
TTA Tatalina 76.30 24 P **P** **00 58 01.8 -1.3**
TTA IAmb IAmb 00 58 48.2
comp=Z,18nm,1.4s
TTA Tatalina 76.30 24 P **P** **00 58 01.8 -1.3**
TTA pmax pmax
comp=Z,18nm,1.4s
BMAR Burnt Mountain 76.55 17 P **P** **00 58 04.9 +0.6**
MLY Manley 76.60 20 P **P** **00 58 04.5 -0.2**
K20K Telida 76.68 23 P **P** **00 58 04.8 -0.3**
K20K IAmb IAmb 00 59 48.8
comp=Z,22nm,1.9s
H24K Noodor Dome 76.86 19 P **P** **00 58 06.7 +0.5**
H24K IAmb IAmb 00 58 10.3
comp=Z,12nm,1.4s
LBTB Lobatse 77.36 231 LR LR 01 28 45.2
comp=Z,81nm,21.7s,baz=284,slow=33
MDM Murphy Dome 77.40 20 P **P** **00 58 08.3 -0.9**
MDM IAmb IAmb 00 58 14.6
comp=Z,10nm,1.2s
NEA2 Nenana 77.41 20 P **P** **00 58 08.8 -0.4**
NEA2 IAmb IAmb 00 58 13.8
comp=Z,9.4nm,1.0s
POKR Poker Plat Res 77.51 19 P **P** **00 58 08.9 -0.8**
POKR IAmb IAmb 01 00 51.5
comp=Z,7.4nm,0.8s
M19K Big River Lodg 77.55 24 P **P** **00 58 08.4 -1.6**
M19K IAmb IAmb 00 58 19.3
comp=Z,18nm,1.6s
PRP Porcupine Dome 77.75 19 P **P** **00 58 11.5 +0.3**
PRP IAmb IAmb 00 58 12.7
comp=Z,14nm,1.4s
IL31 77.93 19 P **P** **00 58 11.1 -0.9**
IL31 IAmb IAmb 00 58 18.0
comp=Z,11nm,1.4s
ILAR Eielson Array 77.93 19 P **P** **00 58 11.1 -1.0**
comp=Z,3.1nm,1.1s,baz=300,slow=3.8,SNR=13
ILAR PP **PP** **01 01 06.8 -0.6**
comp=Z,0.8nm,0.8s,baz=302,slow=7.1,SNR=6.5
comp=Z,3.1nm,1.1s
SKT Skwentna 78.48 23 P **P** **00 58 14.6 -0.6**
SKT IAmb IAmb 00 58 19.0
comp=Z,31nm,1.6s
I26K Coal Creek Min 78.55 18 P **P** **00 58 15.6 0.0**
I26K IAmb IAmb 00 58 20.8
comp=Z,13nm,1.3s
J26L Joseph Creek 79.07 19 P **P** **00 58 18.0 -0.5**
J26L IAmb IAmb 00 58 27.3
comp=Z,19nm,1.7s
SCRK Sand Creek 79.36 19 P **P** **00 58 19.1 -1.0**
SCRK IAmb IAmb 00 58 23.7
comp=Z,11nm,1.3s
EGAK Eagle 79.50 18 P **P** **00 58 20.2 -0.5**
EGAK IAmb IAmb 01 00 42.7
comp=Z,40nm,1.9s
BOSA Boshof 79.98 229 P **P** **00 58 23.2 -0.7**
comp=Z,4.9nm,1.0s,baz=73,slow=6.0,SNR=6.9
BOSA LR LR 01 32 20.8
comp=Z,111nm,18.2s,baz=290,slow=35
comp=Z,4.9nm,1.0s
BCAR Beaver Creek A 80.69 19 P **P** **00 58 26.9 -0.3**
STKA Stephens Creek 83.26 133 P **P** **00 58 39.3 -1.8**
comp=Z,2.9nm,0.7s,baz=3.5,slow=3.5,SNR=6.2
comp=Z,2.9nm,0.7s
DBIC Dimbokro 84.47 274 P **P** **00 58 48.0 +0.3**
comp=Z,9.3nm,1.0s,baz=66,slow=6.0,SNR=7.1
comp=Z,9.3nm,1.0s
YKA Yellowknife Ar 86.72 8 P **P** **00 58 56.9 -1.1**
comp=Z,2.8nm,0.7s,baz=337,slow=4.9,SNR=13
comp=Z,2.8nm,0.7s
SCHQ Schefferville 91.42 343 LR LR 01 45 32.1
comp=Z,58nm,18.3s,baz=64,slow=39
VNDA Vanda 116.86 166 PKP **PKPdf** **01 04 56.5 -1.4**
comp=Z,0.7nm,0.9s,baz=229,slow=4.6,SNR=3.5
VNA2 Neumayer--Watz 118.09 202 PKPdf **PKPdf** **01 05 00.0 -0.4**
baz=29,slow=2.0
VNA3 Neumayer Olymp 118.88 202 PKPdf **PKPdf** **01 05 01.3 -0.6**
TXAR Lajitas Array 120.61 6 PKP **PKPdf** **01 05 05.8 -1.0**
comp=Z,0.3nm,0.7s,baz=148,slow=0.6,SNR=6.0
CPUP Villa Florida 144.58 266 PKP **PKPab** **01 05 49.5 -0.3**
comp=Z,4.6nm,1.0s,baz=59,slow=4.3,SNR=6.4
LPAZ La Paz 149.87 291 PKPbc **PKPbc** **01 06 03.9 -2.1**
comp=Z,1.3nm,0.8s,baz=68,slow=5.4,SNR=5.1

NEIC ***10*** *00:47:50.9±2.4, 37.°34S±0.°06×179.°28E±0.°07, h10km±1km, mb4.2/5, Error ellipse: s-maj=12.7km s-min=5.2km az=133.0*
IDC ***10*** *00:47:53.9±2.4, 37.°11S×178.°94E, h0km, mb3.8/2, mbtmp3.8/2, MS3.8/1, Error ellipse: s-maj=68.0km s-min=28.6km az=136.0*
WEL ***10*** *00:47:55.8±0.9, 37.°5±5.°×17.°9E±.°, h12km, M3.8/30, ML4.0/36, MLv3.8/30, Error ellipse: s-maj=0.0km s-min=0.0km az=90.6*

ISC 10 00:47:51.7±1.9, 37.°33S±0.°05×179.°23E±0.°07, h5km±10km, n79, σ1.°63/83, mb4.2/5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.77**	**252**			**Pg**	**00 48 06.9**	**+0.4**
MXZ				Sg		**Sg**	**00 48 15.4**	**-1.1**
MXZ	**Matakaoa Point**	**0.77**	**252**	P		**Pg**	**00 48 07.0**	**+0.5**
MXZ				S		**Sg**	**00 48 15.2**	**-1.2**
WMGZ	**Waiomatatini S**	**0.81**	**233**	P		**Pn**	**00 48 10.8**	**+1.1**
PUZ	**Puketiti**	**1.07**	**226**	P		**Pn**	**00 48 15.0**	**+1.7**
PUZ				S		**Sn**	**00 48 30.1**	**+1.6**
PKGZ	**Pakihiroa**	**1.07**	**238**	P		**Pb**	**00 48 13.7**	**+1.0**
PKGZ				S		**Sn**	**00 48 29.1**	**+0.5**
HAZ	**Te Kaha**	**1.22**	**249**	P		**Pg**	**00 48 15.0**	**-0.2**
HAZ				S		**Sg**	**00 48 29.5**	**-1.6**

TWGZ	**Tauwhareparae**	**1.30**	**229**	P		**Pn**	**00 48 18.9**	**+2.4**
RUGZ	**Raukumara Rang**	**1.38**	**242**	P		**Pn**	**00 48 18.9**	**+1.1**
CNGZ	**Carnagh Statio**	**1.40**	**215**	P		**Pg**	**00 48 20.8**	**+2.1**
CNGZ				S		**Sn**	**00 48 40.9**	**+4.1**
TKGZ	**Te Karaka**	**1.55**	**224**	P		**Pg**	**00 48 22.4**	**+0.9**
TKGZ				S		**Sg**	**00 48 42.3**	**+0.6**
MWZ	**Matawai**	**1.68**	**233**	P		**Pb**	**00 48 23.8**	**+0.8**
MWZ				S		**Sg**	**00 48 45.2**	**-0.4**
RIGZ	**Rimuhau**	**1.79**	**220**	P		**Pn**	**00 48 25.3**	**+2.0**
WHRZ	**Whale Island**	**1.86**	**253**	P		**Pb**	**00 48 26.5**	**+0.2**
URZ	**Urewera**	**1.92**	**240**	Pn		**Pb**	**00 48 26.9**	**-0.2**
	31nm,0.3s,baz=211,slow=3.8,SNR=38							
URZ				Sn		**Sb**	**00 48 50.7**	**-0.6**
	99nm,0.3s,baz=211,slow=9.9,SNR=29							
URZ	**Urewera**	**1.92**	**240**			**Pb**	**00 48 27.1**	**0.0**
URZ				Sn		**Sb**	**00 48 50.2**	**-1.1**
URZ	**Urewera**	**1.92**	**240**	P		**Pb**	**00 48 27.1**	**0.0**
SNGZ	**Shannon Statio**	**2.08**	**225**	P		**Pn**	**00 48 28.4**	**+1.2**
MHGZ	**Mahia Peninsul**	**2.09**	**209**	P		**Pn**	**00 48 30.3**	**+2.9**
OPRZ	**Ohinepanea**	**2.18**	**256**	P		**Pn**	**00 48 30.4**	**+1.7**
MUGZ	**Murupara**	**2.25**	**239**	P		**Pn**	**00 48 31.5**	**+1.9**
RAHZ	**Arahi**	**2.31**	**226**	P		**Pn**	**00 48 32.7**	**+2.2**
OMRZ	**Omania**	**2.39**	**250**	P		**Pb**	**00 48 34.9**	**-0.4**
MTHZ	**Maungataniwha**	**2.42**	**230**	P		**Pn**	**00 48 34.4**	**+2.4**
ALRZ	**Allen Road**	**2.59**	**241**	P		**Pn**	**00 48 35.8**	**+1.6**
NMHZ	**Naumai**	**2.60**	**227**	P		**Pn**	**00 48 37.0**	**+2.5**
BKZ	**Black Stump Fm**	**2.83**	**229**			**Pn**	**00 48 38.5**	**+1.0**
BKZ				Sn		**Sn**	**00 49 12.9**	**+0.9**
BKZ	**Black Stump Fm**	**2.83**	**229**	P		**Pn**	**00 48 39.1**	**+1.5**
KUZ	**Kuaotunu**	**2.87**	**281**	P		**Pn**	**00 48 39.5**	**+1.5**
MCHZ	**McNeill Hill**	**2.90**	**223**	P		**Pn**	**00 48 39.9**	**+1.4**
TOZ	**Tahuroa Road**	**2.99**	**261**	P		**Pn**	**00 48 39.8**	**+0.1**
KWHZ	**Kaweka Forest**	**3.04**	**226**	P		**Pn**	**00 48 41.5**	**+1.1**
KAHZ	**Kahuranaki**	**3.07**	**216**	P		**Pn**	**00 48 41.9**	**+1.0**
GRZ	**Great Barrier**	**3.21**	**289**	P		**Pn**	**00 48 44.5**	**+1.7**
KRHZ	**Kereru**	**3.22**	**223**	P		**Pn**	**00 48 43.8**	**+0.9**
BHHZ	**Black Hill Sta**	**3.29**	**228**	P		**Pn**	**00 48 45.9**	**+2.0**
WIAZ	**Waiheke Island**	**3.32**	**278**	P		**Pn**	**00 48 46.7**	**+2.4**
KRVZ	**Karewarewa**	**3.33**	**237**	P		**Pn**	**00 48 46.2**	**+1.7**
OTVZ	**Oturere**	**3.35**	**236**	P		**Pn**	**00 48 46.2**	**+1.4**
SNVZ	**South Ngauruho**	**3.38**	**236**	P		**Pn**	**00 48 46.4**	**+1.2**
NGZ	**Ngauruhoe**	**3.40**	**236**	P		**Pn**	**00 48 47.1**	**+1.6**
MOVZ	**Moawhango**	**3.43**	**232**	P		**Pn**	**00 48 47.4**	**+1.5**
ETAZ	**East Tamaki Re**	**3.46**	**275**	P		**Pn**	**00 48 49.1**	**+3.0**
WHVZ	**Whangaehu Hut**	**3.46**	**235**	P		**Pn**	**00 48 47.9**	**+1.5**
FWVZ	**Far West T-bar**	**3.47**	**235**	P		**Pn**	**00 48 47.8**	**+1.2**
WNVZ	**Wahianoa**	**3.48**	**234**	P		**Pn**	**00 48 48.0**	**+1.4**
WPHZ	**Waipukurau**	**3.49**	**218**	P		**Pn**	**00 48 47.1**	**+0.4**
PNHZ	**Pukenui**	**3.50**	**222**	P		**Pn**	**00 48 47.2**	**+0.4**
MBAZ	**Motutapu North**	**3.51**	**278**	P		**Pn**	**00 48 48.8**	**+1.9**
HIZ	**Hauiti**	**3.65**	**250**			**Pn**	**00 48 50.3**	**+1.5**
HIZ	**Hauiti**	**3.65**	**250**	P		**Pn**	**00 48 51.5**	**+2.7**
AWAZ	**Awhitu Peninsu**	**3.67**	**273**	P		**Pn**	**00 48 51.6**	**+2.5**
TSZ	**Takapari Road**	**3.73**	**222**	P		**Pn**	**00 48 50.1**	**+0.1**
DVHZ	**Dannevirke**	**3.81**	**218**	P		**Pn**	**00 48 50.9**	**-0.1**
BFZ	**Birch Farm**	**4.07**	**214**	Pn		**Pn**	**00 48 53.3**	**-1.3**
BFZ						**Sn**	**00 49 41.1**	**-1.5**
WAZ	**Wanganui**	**4.11**	**233**	P		**Pn**	**00 48 57.2**	**+2.0**
OUZ	**Omahuta**	**5.01**	**293**	P		**Pn**	**00 49 07.4**	**-0.2**
MSWZ	**Moikau Station**	**5.11**	**216**	Pn		**Pn**	**00 49 06.8**	**-2.1**
MSWZ				Sn		**Sn**	**00 50 04.8**	**-3.5**
SNZO	**South Karori**	**5.30**	**220**	Pn		**Pn**	**00 49 09.9**	**-1.6**
QRZ	**Quartz Range**	**6.27**	**234**	Pn		**Pn**	**00 49 23.6**	**-1.2**
THZ	**Tophouse**	**6.59**	**226**	Pn		**Pn**	**00 49 27.9**	**-1.4**
RAO	**Raoul Island**	**8.40**	**17**	Pn		**Pn**	**00 49 52.8**	**-2.1**
RPZ	**Rata Peaks**	**8.91**	**222**	Sn		Sn	00 51 31.9	-10
	1.9nm,0.3s,baz=256,slow=23,SNR=12							
ODZ	**Otahua Downs**	**10.05**	**217**	Pn		**Pn**	**00 50 15.8**	**-0.9**
ASAR	**Alice Springs**	**40.98**	**276**	P		**P**	**00 55 36.6**	**+0.9**
	1.4nm,0.7s,baz=121,slow=7.4,SNR=14							
	1.4nm,0.7s							
WB2	**Warramunga Arr**	**42.60**	**281**	P		**P**	**00 55 48.0**	**-0.9**
WB2				IAmb	IAmb		00 56 03.7	
	comp=Z,8.2nm,1.4s							
WRA	**Warramunga Arr**	**42.61**	**281**	P		**P**	**00 55 49.8**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=122,slow=7.7,SNR=13							
	comp=Z,0.5nm,0.4s							
WRA	**Warramunga Arr**	**42.61**	**281**	P		**P**	**00 55 47.8**	**-1.2**
WB0	**Warramunga Arr**	**42.66**	**282**	P		**P**	**00 55 49.6**	**+0.2**
WB0				IAmb	IAmb		00 56 11.0	
	comp=Z,6.9nm,1.4s							
MORW	**Morawa**	**52.65**	**259**	P		**P**	**00 57 04.2**	**-2.8**
QSPA	**South Pole Qui**	**52.79**	**180**	LR		LR	01 17 53.5	
	comp=Z,75nm,18.3s,baz=151,slow=34							
QSPA	**South Pole Qui**	**52.79**	**180**	P		P	00 57 04.2	-3.4
QSPA				IAmb	IAmb		00 57 40.1	
	comp=Z,5.0nm,1.4s							
H03S2	**Juan Fernandez**	**78.55**	**124**	T		T	02 26 28.4	
	baz=232,SNR=6.6							
H03S1	**Juan Fernandez**	**78.56**	**124**	T		T	02 26 25.0	
	baz=232,SNR=5.4							
H03S3	**Juan Fernandez**	**78.57**	**124**	T		T	02 26 29.6	
	baz=232,SNR=5.9							
H03N3	**Juan Fernandez**	**78.78**	**123**	T		T	02 26 39.8	
	baz=234,slow=72,SNR=36							
H03N2	**Juan Fernandez**	**78.79**	**123**	T		T	02 26 42.1	
	baz=234,slow=72,SNR=42							
H03N1	**Juan Fernandez**	**78.80**	**123**	T		T	02 26 37.8	
	baz=234,slow=72,SNR=28							
ARCES	**ARCESS Array B**	**144.75**	**344**	PKP		**PKPdf**	**01 07 30.3**	**+1.8**
	comp=Z,3.5nm,1.0s,baz=61,slow=5.7,SNR=6.4							
FINES	**FINESS Array B**	**150.61**	**334**	PKPbc		**PKPbc**	**01 07 45.6**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=25,slow=3.6,SNR=13							

*NEIC **10** 00:55:33.2±1.7, 19°.51S±0°.02×69°.09W±0°.08, h127km±8km, mb4.6/26, ML4.2(GUC), Error ellipse: s-maj=10.7km s-min=2.3km az=78.0*

*VAO **10** 00:55:33.3±0.5, 19°.35S×68°.92W, h127km, mb4.5*

*GUC **10** 00:55:33.9±0.7, 19°.49S×69°.02W, h118km±3km, ML4.2*

*IDC **10** 00:55:34.9±1.6, 19°.46S×68°.72W, h132km±14km, mb3.9/10, mbtmp4.3/14, Error ellipse: s-maj=21.5km s-min=14.5km az=101.0*

ISC 10 00:55:32.4±0.6, **19°.51S**±0°.03×**69°.00W**±0°.06, **h122**km±5km, **n153**, σ1§**33**/174, **mb4.6**/19, **14C**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO01	**Chusmiza**	**0.24**	**229**			**Pn**	**00 55 50.8**	**+0.7**
GO01					Sn	**Sn**	**00 56 04.2**	**+0.9**
GO01	**Chusmiza**	**0.24**	**229**	i	eP	**Pn**	**00 55 51.1**	**+1.0**
GO01					eS	**Sn**	**00 56 03.9**	**+0.6**
GO01					IAML		00 56 04.9	
	comp=N,21µm,0.4s							
PB16	**IPOC Station P**	**1.26**	**338**	Pn		**Pn**	**00 55 59.4**	**+1.4**
PB16						**Sn**	**00 56 18.6**	**+1.3**
PB16	**IPOC Station P**	**1.26**	**338**	eP		**Pn**	**00 55 59.4**	**+1.4**
PB16				eS		**Sn**	**00 56 18.6**	**+1.3**
PB16				IAML			00 56 20.2	
	comp=E,6µm,0.4s							
TA02	**Huaiquique**	**1.31**	**234**			**Pn**	**00 55 58.3**	**+0.6**
TA02				Sn		**Sn**	**00 56 17.3**	**+0.2**
TA02	**Huaiquique**	**1.31**	**234**	i	eP	**Pn**	**00 55 58.4**	**+0.6**
TA02				eS		**Sn**	**00 56 17.3**	**+0.2**
TA02				IAML			00 56 18.0	
	comp=E,6µm,0.5s							
TA01	**Diego Aracena**	**1.53**	**226**	Pn		**Pn**	**00 56 00.7**	**+0.4**
TA01				Sn		**Sn**	**00 56 21.9**	**+0.3**
TA01	**Diego Aracena**	**1.53**	**226**	i	eP	**Pn**	**00 56 00.7**	**+0.4**
TA01				eS		**Sn**	**00 56 21.2**	**-0.4**
TA01				IAML			00 56 22.4	
	comp=N,2µm,0.3s							
PB12	**IPOC Station P**	**1.54**	**305**	Pn		**Pn**	**00 56 00.7**	**+0.2**
PB12				Sn		**Sn**	**00 56 21.2**	**-0.8**
PB12	**IPOC Station P**	**1.54**	**305**	i	eP	**Pn**	**00 56 00.8**	**+0.2**
PB12				eS		**Sn**	**00 56 20.9**	**-1.1**
PB12				IAML			00 56 22.4	
	comp=N,5µm,0.5s							
PB01	**IPOC Station P**	**1.59**	**197**			**Pn**	**00 56 02.2**	**+1.0**
PB01				Sn		**Sn**	**00 56 24.0**	**+0.9**
PB01	**IPOC Station P**	**1.59**	**197**	i	eP	**Pn**	**00 56 02.2**	**+1.0**
PB01				eS		**Sn**	**00 56 23.5**	**+0.4**
PB01				IAML			00 56 26.0	
	comp=E,3µm,0.5s							
AP01	**Chacalluta**	**1.70**	**312**			**Pn**	**00 56 03.0**	**+0.6**
AP01				Sn		**Sn**	**00 56 25.2**	**0.0**
AP01	**Chacalluta**	**1.70**	**312**	i	eP	**Pn**	**00 56 02.8**	**+0.5**
AP01				eS		**Sn**	**00 56 25.1**	**-0.1**
PB18	**Visviri**	**1.96**	**347**			**Pn**	**00 56 07.5**	**+1.4**
PB18	**Visviri**	**1.96**	**347**	i	eP	**Pn**	**00 56 08.2**	**+2.1**
PB18					eS	**Sn**	**00 56 31.3**	**-0.5**
PB02	**IPOC Station P**	**1.99**	**205**			**Pn**	**00 56 06.9**	**+1.0**
PB02					Sn	**Sn**	**00 56 32.4**	**+0.8**
PB02	**IPOC Station P**	**1.99**	**205**	i	eP	**Pn**	**00 56 06.8**	**+0.8**
PB02					eS	**Sn**	**00 56 32.1**	**+0.5**
PB02					IAML		00 56 39.7	
	comp=E,3µm,0.4s							
PB09	**IPOC Station P**	**2.29**	**186**			**Pn**	**00 56 11.2**	**+1.4**
PB09					Sn	**Sn**	**00 56 39.0**	**+0.6**
PB09	**IPOC Station P**	**2.29**	**186**	i	eP	**Pn**	**00 56 10.9**	**+1.1**
PB09					eS	**Sn**	**00 56 39.5**	**+1.1**
PB09					IAML		00 56 42.3	
	comp=E,972nm,0.3s							
PB07	**IPOC Station P**	**2.36**	**200**			**Pn**	**00 56 11.7**	**+1.0**
PB07	**IPOC Station P**	**2.36**	**200**	i	eP	**Pn**	**00 56 11.4**	**+0.7**
PB07					eS	**Sn**	**00 56 39.6**	**-0.4**
PB07					IAML		00 56 47.0	
	comp=E,1µm,0.5s							
PB04	**IPOC Station P**	**3.01**	**201**	Pn		**Pn**	**00 56 19.8**	**+0.7**
PB04	**IPOC Station P**	**3.01**	**201**	i	eP	**Pn**	**00 56 19.8**	**+0.7**
PB04					eS	**Sn**	**00 56 54.0**	**-1.0**
PB04					IAML		00 57 16.9	
	comp=E,679nm,0.6s							
LVC	**Limon Verde**	**3.09**	**178**	P		**Pn**	**00 56 22.5**	**+2.2**
	comp=E,56nm,0.5s,baz=14,slow=7.6,SNR=40							
LVC					S	**Sn**	**00 56 56.2**	**-1.0**
	comp=E,195nm,0.4s,baz=339,slow=10,SNR=14							
LVC	**Limon Verde**	**3.09**	**178**	Pn		**Pn**	**00 56 21.0**	**+0.7**
LVC	**Limon Verde**	**3.09**	**178**	eP		**Pn**	**00 56 22.9**	**+2.6**
PB06	**IPOC Station P**	**3.23**	**189**			**Pn**	**00 56 22.6**	**+0.7**
LPAZ	**La Paz**	**3.31**	**15**	P		**Pn**	**00 56 25.8**	**+2.3**
	comp=E,66nm,0.3s,baz=192,slow=4.6,SNR=455							
LPAZ	**La Paz**	**3.31**	**15**	Pn		**Pn**	**00 56 25.9**	**+2.5**
AF01	**San Pedro de A**	**3.51**	**168**			**Pn**	**00 56 27.1**	**+1.4**
PB15	**IPOC Station P**	**3.71**	**187**			**Pn**	**00 56 29.1**	**+0.8**
PB14	**IPOC Station P**	**5.25**	**194**	Pn		**Pn**	**00 56 48.4**	**-0.7**
GO02	**Mina Guanaco**	**5.65**	**185**	Pn		**Pn**	**00 56 54.5**	**0.0**
AC01	**Pan de Azucar**	**6.77**	**192**	Pn		**Pn**	**00 57 07.6**	**-1.6**
AC02	**Maricunga**	**7.29**	**181**	Pn		**Pn**	**00 57 16.8**	**+0.1**
AC06	**Mina Casimiro**	**7.91**	**189**	Pn		**Pn**	**00 57 24.1**	**-0.5**
SIV	**San Ignacio**	**8.32**	**66**	P		**Pn**	**00 57 28.1**	**-2.2**
	comp=E,59nn,0.5s,baz=259,slow=9.8,SNR=390							
AC04	**Llanos de Chal**	**8.86**	**192**			Pn	00 57 32.3	-5.1
AC05	**El Transito**	**9.36**	**187**	Pn		**Pn**	**00 57 41.6**	**-2.7**
ETMB	**Extrema**	**10.01**	**16**	Pn		**Pn**	**00 57 51.4**	**-1.6**
ETMB	**Extrema**	**10.01**	**16**	eP		**Pn**	**00 57 52.2**	**-0.8**
PTLB	**Pontes e Lacer**	**10.24**	**68**	Pn		**Pn**	**00 57 53.9**	**-2.2**
PTLB	**Pontes e Lacer**	**10.24**	**68**	eP		**Pn**	**00 57 53.9**	**-2.2**
CO01	**Juntas del Tor**	**10.47**	**185**	Pn		**Pn**	**00 57 58.8**	**-0.5**
VILB	**Vilhena**	**10.67**	**54**	Pn		**Pn**	**00 58 00.6**	**-1.4**
VILB	**Vilhena**	**10.67**	**54**	eP		**Pn**	**00 57 60.0**	**-2.0**
ANTJ	**Antonio Joao (**	**12.41**	**104**	eP		**Pn**	**00 58 25.2**	**+0.3**
AQUB	**Aquidauana**	**12.54**	**97**	eP		**Pn**	**00 58 25.4**	**-1.3**
CPUP	**Villa Florida**	**12.71**	**124**	P		**Pn**	**00 58 28.2**	**-0.6**
	comp=E,1.5nn,0.4s,baz=311,slow=13,SNR=7.2							
CPUP	**Villa Florida**	**12.71**	**124**			**Pn**	**00 58 28.5**	**-0.3**
CPUP	**Villa Florida**	**12.71**	**124**	eP		**Pn**	**00 58 28.7**	**-0.1**
SALV	**Santo Antonio**	**13.18**	**76**	eP		**Pn**	**00 58 33.9**	**-1.0**
VA03	**San Esteban**	**13.27**	**186**	P		**P**	**00 58 38.3**	**-3.1**
MT02	**Curacav**	**13.83**	**188**	Pn		**P**	**00 58 43.8**	**-3.7**
MT05	**Renca**	**13.91**	**186**	Pn		**Pn**	**00 58 44.1**	**-0.3**
MT03	**Universidad Ad**	**13.99**	**185**	Pn		**Pn**	**00 58 45.7**	**+0.3**
MT09	**Talagante**	**14.32**	**187**	P		**P**	**00 58 55.6**	**+2.5**
LMEL	**Las Melosas**	**14.32**	**184**	Pn		**P**	**00 58 50.2**	**-3.0**
MT01	**Popeta**	**14.44**	**188**	Pn		**Pn**	**00 58 50.7**	**-0.2**
MCR1	**Marechal Candi**	**14.72**	**112**	eP		**Pn**	**00 58 55.4**	**+0.7**
C2SB	**Chapadao do Su**	**15.29**	**90**	eP		**Pn**	**00 59 02.3**	**+0.5**
BO02	**Sierra Bellavi**	**15.30**	**186**	P		**P**	**00 59 06.9**	**+2.9**
BO02					IAmb	IAmb	00 59 08.4	
	comp=Z,27nm,0.7s							
CLDB	**Colider**	**15.36**	**58**	eP		**Pn**	**00 59 01.3**	**-1.4**
TRCB	**Terra Rica**	**15.61**	**105**	P		**P**	**00 59 08.8**	**+1.3**
TRCB	**Terra Rica**	**15.61**	**105**	eP		**Pn**	**00 59 06.8**	**+0.9**
CRSM	**Crissiumal (Br**	**15.84**	**123**	eP		**P**	**00 59 09.9**	**0.0**
UNIS	**Unistalda (Bra**	**15.85**	**130**	eP		**P**	**00 59 10.2**	**+0.1**
FRBT	**Francisco Belt**	**16.04**	**117**	eP		**P**	**00 59 12.4**	**+0.2**
ML02	**Panimavida**	**16.33**	**187**	P		**P**	**00 59 15.0**	**-0.3**
ML02					IAmb	IAmb	00 59 19.1	
	comp=Z,17nm,0.6s							
RODS	**Rosario do Sul**	**16.51**	**133**	eP		**P**	**00 59 17.3**	**0.0**
PTGB	**Pitanga**	**16.52**	**111**	eP		**P**	**00 59 18.4**	**+0.8**
PCMB	**Pacaembu**	**16.74**	**100**	eP		**Pn**	**00 59 20.6**	**+0.9**
ALGR	**Alto Alegre (B**	**17.25**	**125**	eP		**P**	**00 59 25.1**	**-0.3**
ITAB	**Concordia**	**17.28**	**120**			**Pn**	**00 59 27.2**	**+1.0**
ITAB					IAmb	IAmb	00 59 28.1	
	comp=Z,14nm,0.6s							
ITAB	**Concordia**	**17.28**	**120**	eP		**Pn**	**00 59 26.6**	**+0.5**
ITRB	**Iturama**	**17.57**	**94**	eP		**P**	**00 59 29.7**	**+0.7**
NPGB	**Novo Progresso**	**18.14**	**49**	eP		**P**	**00 59 33.2**	**-2.1**
MACA	**Manacapuru-AM**	**18.17**	**28**	P		**P**	**00 59 34.4**	**-1.2**
MACA					IAmb	IAmb	00 59 37.9	
	comp=Z,19nm,0.7s							
MACA	**Manacapuru-AM**	**18.17**	**28**	eP		**P**	**00 59 34.3**	**-1.2**
PLTB	**Pedras Altas**	**18.45**	**134**	P		**P**	**00 59 39.1**	**+0.5**
PLTB	**Pedras Altas**	**18.45**	**134**	eP		**P**	**00 59 39.2**	**+0.5**
SNDB	**Serra Nova Dou**	**18.61**	**69**	eP		**P**	**00 59 39.4**	**0.0**
BOSC	**San Juan Bosco**	**18.72**	**329**	Pn		**Pn**	**00 59 44.4**	**+0.7**
BOSC					IAmb	IAmb	00 59 50.9	
	comp=Z,14nm,0.4s							
CNLB	**Canela**	**19.17**	**124**	eP		**P**	**00 59 47.1**	**+0.6**
BB19B	**Bebedouro**	**19.27**	**98**	eP		**P**	**00 59 47.5**	**-0.2**
TIJ01	**Guaruva-PR**	**19.36**	**111**	eP		**P**	**00 59 50.1**	**+1.4**
TRQA	**Tornquist**	**19.46**	**163**	P		**Pn**	**00 59 50.5**	**-1.5**
TRQA					IAmb	IAmb	00 59 51.7	
	comp=Z,13nm,0.7s							
IPMB	**Ipameri, GO**	**19.75**	**89**	eP		**P**	**00 59 52.7**	**-0.1**
ITTB	**Itaituba**	**19.85**	**42**	eP		**P**	**00 59 52.6**	**-1.3**
GO06	**Curarrehue**	**20.12**	**186**	P		Pn	00 59 58.2	-1.6
TER01	**Tubaro-SC**	**20.23**	**120**	eP		**P**	**00 59 58.1**	**+0.2**
BDFB	**Brasilia**	**20.37**	**82**	P		**P**	**00 59 59.7**	**+0.1**
	comp=Z,11nn,0.5s,baz=263,slow=11,SNR=14							
	comp=Z,11nn,0.5s							
BDFB	**Brasilia**	**20.37**	**82**	P		**P**	**00 59 59.5**	**-0.2**
BDFB	**Brasilia**	**20.37**	**82**	eP		**P**	**00 59 59.8**	**+0.1**
PET01	**Itanhaem-SP**	**20.70**	**107**	eP		**P**	**01 00 02.9**	**-0.1**
VAO	**Valinhos**	**20.82**	**103**	eP		**P**	**01 00 03.5**	**-0.9**
PLCA	**Paso Flores**	**21.20**	**183**	P		**P**	**01 00 12.2**	**+3.9**
	comp=Z,18nn,0.8s,baz=5.0,slow=11,SNR=46							
	comp=Z,18nn,0.8s							
PLCA	**Paso Flores**	**21.20**	**183**	P		**P**	**01 00 10.4**	**+2.2**
PLCA					IAmb	IAmb	01 00 13.2	
	comp=Z,26nn,0.9s							
PLCA	**Paso Flores**	**21.20**	**183**	eP		**P**	**01 00 10.0**	**+1.8**
PMNB	**Patos De Minas**	**21.35**	**91**	eP		**P**	**01 00 09.4**	**-0.8**
LL04	**Puerto Octay**	**21.53**	**187**	P		**P**	**01 00 10.1**	**-1.6**
PARB	**Paraibuna**	**22.09**	**104**	eP		**P**	**01 00 17.6**	**-0.3**
MALB	**Monte Alegre**	**22.71**	**41**	eP		**P**	**01 00 21.9**	**-2.2**
PRPB	**Parauapebas**	**22.89**	**57**	eP		**P**	**01 00 24.0**	**-1.8**
LL01	**San Ignacio de**	**22.98**	**186**	P		**P**	**01 00 26.1**	**-0.3**
SMTB	**Santa Maria do**	**23.27**	**66**	eP		**P**	**01 00 27.8**	**-1.6**
BOAV	**Boa Vista**	**23.31**	**22**	P		**P**	**01 00 28.6**	**-1.1**
BOAV					IAmb	IAmb	01 00 30.6	
	comp=Z,6.9nm,0.8s							
BOAV	**Boa Vista**	**23.31**	**22**	eP		**P**	**01 00 29.1**	**-0.6**
MC01	**Montes Claros**	**23.97**	**87**	eP		**P**	**01 00 35.0**	**-0.8**
JANB	**Januaria**	**23.98**	**83**	eP		**P**	**01 00 34.8**	**-1.0**
DIAM	**Diamantina, MG**	**23.99**	**91**	eP		**P**	**01 00 35.7**	**-0.3**
VAS01	**Vassouras-RJ**	**24.03**	**101**	eP		**P**	**01 00 37.0**	**+0.8**
SDBA	**SAO DESIDERIO**	**24.20**	**77**	eP		**P**	**01 00 37.5**	**-0.4**
NAN01	**Guarapari, ES**	**27.39**	**91**	eP		**P**	**01 01 06.6**	**+0.1**
GUA01	**Guaratinga, BA**	**27.89**	**89**	eP		**P**	**01 01 11.6**	**+0.6**
BAUV	**El Baul**	**28.29**	**2**	P		**P**	**01 01 13.6**	**-0.9**
CMC01	**Camacan, BA**	**28.41**	**86**	eP		**P**	**01 01 15.7**	**0.0**
MDP	**Montagnes des**	**29.28**	**35**	P		**P**	**01 01 24.0**	**+0.6**
	comp=Z,6.1nn,1.1s,baz=180,slow=2.0,SNR=1.3							
	comp=Z,6.1nn,1.1s							
PCRV	**Puerto La Cruz**	**29.81**	**9**	P		**P**	**01 01 28.7**	**+0.6**
	comp=Z,4.4nn,0.4s,baz=270,slow=3.0,SNR=8.1							
	comp=Z,4.4nn,0.4s							
BIRV	**Birongo**	**29.92**	**5**	P		**P**	**01 01 28.4**	**-0.5**
BIRV					IAmb	IAmb	01 01 33.7	
	comp=Z,19nn,1.1s							
NBLA	**Lagarto - SE**	**31.23**	**79**	eP		**P**	**01 01 39.9**	**-0.7**
TOSP	**Speyside**	**31.73**	**16**	P		**P**	**01 01 44.9**	**+0.1**
NBAN	**Anadia - AL**	**33.09**	**78**	eP		**P**	**01 01 56.8**	**-0.1**
MLPR	**Magueyes Islan**	**37.30**	**3**	P		**P**	**01 02 32.3**	**-0.4**
MLPR					IAmb	IAmb	01 02 42.4	
	comp=Z,10nn,0.8s							
CRPR	**Cabo Rojo, PR**	**37.33**	**3**	P		**P**	**01 02 32.1**	**-0.9**
OBIP	**Obispado Ponce**	**37.39**	**4**	P		**P**	**01 02 33.1**	**-0.5**
OBIP					IAmb	IAmb	01 02 47.2	
	comp=Z,12nn,1.1s							
CELP	**Cerrillos**	**37.43**	**4**	P		**P**	**01 02 33.9**	**0.0**
MTP	**Monte Pirata**	**37.53**	**5**	P		**P**	**01 02 32.9**	**-1.8**
MTP					IAmb	IAmb	01 02 51.4	
	comp=Z,15nn,1.1s							
HUMP	**Col San Antoni**	**37.55**	**5**	P		**P**	**01 02 35.5**	**+0.6**
HUMP					IAmb	IAmb	01 02 52.0	
	comp=Z,17nn,1.1s							
CBYP	**Canovanas**	**37.67**	**5**	P		**P**	**01 02 32.9**	**-3.1**
CBYP					IAmb	IAmb	01 02 44.8	
	comp=Z,15nn,0.9s							
AOPR	**Arecibo Observ**	**37.69**	**3**	P		**P**	**01 02 35.1**	**-1.0**
CUPR	**Culebra, Puert**	**37.76**	**6**	P		**P**	**01 02 36.4**	**-0.2**
CUPR					IAmb	IAmb	01 02 42.2	
	comp=Z,13nn,0.9s							
STVI	**Saint Thomas**	**37.84**	**6**	P		**P**	**01 02 35.9**	**-1.3**
VNA3	**Neumayer Olymp**	**61.98**	**162**	P		**P**	**01 05 41.9**	**+2.8**
VNA1	**Neumayer--Stat**	**62.18**	**161**	P		**P**	**01 05 43.0**	**+2.6**
VNA2	**Neumayer--Watz**	**62.55**	**161**	P		**P**	**01 05 45.0**	**+2.1**
	baz=296,slow=7.5							
VNA2	**Neumayer--Watz**	**62.55**	**161**	PcP		**PcP**	**01 06 16.2**	**-4.7**
SNAA	**Sanae**	**64.18**	**161**	P		**P**	**01 05 55.7**	**+2.0**
TROLL	**Troll, Antarti**	**65.89**	**161**	P		**P**	**01 06 07.2**	**+2.4**
LIC	**Lamto**	**67.93**	**75**	i	P	**P**	**01 06 16.9**	**-1.6**
	comp=Z,14nn,0.4s							
TIC	**Toumodi**	**68.11**	**74**	i	P	**P**	**01 06 19.8**	**+0.2**
	comp=Z,1.8nn,0.2s							
KIC	**Kosan Boka**	**68.24**	**75**	i	P	**P**	**01 06 20.0**	**-0.5**
	comp=Z,23nn,0.3s							
DBIC	**Dimbokro**	**68.26**	**74**	P		**P**	**01 06 20.3**	**-0.3**
	comp=

*LDG **10** 01:45:46.9±0.1,50°59N×6°15E,h10km,Ml1.9/5,Error ellipse: s-maj=1.1km s-min=0.8km az=172.0*
*STR **10** 01:45:47.8±1.2,51°N±8°×°±°,h22km±13km,MLv1.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=28.5, preliminary*

UCC 10 01:45:47.0±0.6,50°59N×6°13E,h12km,ML1.1,5C-30D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTNL	**Ternell**	**0.00**	**199**	*k*P	Pg	01 45 48.7	-0.3
BTNL				*d*S	Sg	01 45 50.1	-0.4
MEM	**Membach**	**0.08**	**284**	*d*P	Pg	01 45 49.3	-0.3
MEM				*k*P	Pg	01 45 49.3	-0.3
MEM				*d*S	Sg	01 45 51.0	-0.5
BHOU	**Houvegnez**	**0.25**	**199**	*k*P	Pg	01 45 52.3	+0.1
BHOU				*d*S	Sg	01 45 55.8	+0.1
	comp=E,24nm,0.1s						
BLCH	**La Chartreuse**	**0.34**	**279**	*b*P	Pg	01 45 54.0	0.0
BLCH				*d*S	Sg	01 45 58.1	-0.4
BEBN	**Eben Emael**	**0.36**	**306**	*b*P	Pg	01 45 54.0	-0.1
BSTI	**Sart Tilman**	**0.36**	**269**	*d*P	Pg	01 45 54.7	+0.5
BSTI				*d*S	Sg	01 45 59.4	+0.4
LKLB	**Kalborn**	**0.49**	**182**	*b*P	Pg	01 45 56.7	+0.1
LKLB				*d*S	Sg	01 46 02.4	-0.7
	comp=E,5.2nm,0.2s						
BCLA	**Clavier**	**0.56**	**253**	*b*P	Pg	01 45 57.7	-0.1
BCLA				*d*S	Sg	01 46 05.2	0.0
	comp=N,2.0nm,0.1s						
RCHB	**Rochefort**	**0.72**	**233**	*d*P	Pg	01 46 00.4	-0.6
RCHB	**Rochefort**	**0.72**	**233**	Pg	Pg	01 46 00.7	-0.3
BMRD	**Maredsous**	**0.92**	**252**	*k*P	Pg	01 46 04.5	-0.3
BMRD				*d*S	Sg	01 46 16.1	-0.5
WLF	**Walferdange**	**0.93**	**179**	*k*P	Pg	01 46 03.9	-1.0
WLF				*d*S	Sg	01 46 16.4	-0.5
WLF	**Walferdange**	**0.93**	**179**	Pg	Pg	01 46 04.8	-0.1
WLF	**Walferdange**	**0.93**	**179**	Sg	Sg	01 46 16.3	-0.6
GIVF	**Givet**	**0.97**	**240**	*e*Pg	Pg	01 46 05.3	-0.4
GIVF				*e*Sg	Sg	01 46 18.0	-0.3
	comp=N,11nm,0.2s						
DOU	**Dourbes**	**1.10**	**244**	*b*P	Pb	01 46 07.6	-0.5
DOU				*d*S	Sb	01 46 21.9	-0.4
	comp=N,2.9nm,0.2s						
DOU	**Dourbes**	**1.10**	**244**	Pg	Pb	01 46 07.5	-0.5
DOU				Sg	Sb	01 46 22.0	-0.4
ABH	**Alteburg**	**1.15**	**127**	Pg	Pb	01 46 08.4	-0.5
ABH	**Alteburg**	**1.15**	**127**	Sn	Sb	01 46 23.3	-0.6
BSKQ	**Steenkerk**	**1.31**	**273**	*d*P	Pn	01 46 10.2	-1.0
BSKQ				*d*S	Sb	01 46 27.8	-0.5
BAIF	**Baives**	**1.34**	**247**	*e*Pg	Pb	01 46 12.0	-0.1
BAIF				*e*Sn	Sb	01 46 26.9	-2.4
	comp=N,0.9nm,0.2s						
BAIF				*e*Sg	Sg	01 46 29.9	-0.3
	comp=N,3.9nm,0.3s						
PAGF	**Fort de Pagny**	**2.05**	**188**	*e*Sg	Sg	01 46 51.6	-1.4
	comp=N,0.4nm,0.2s						
CDF	**Champ du Feu**	**2.30**	**161**	*e*Sg	Sg	01 46 59.3	-1.7
	comp=N,0.6nm,0.2s						

*NEIC **10** 02:26:55.0±1.2,1°70N±0°08×127°31E±0°09,h103km±9km, mb4.3/20,Error ellipse: s-maj=13.9km s-min=10.1km az=57.0*
*DJA **10** 02:26:55.7±0.6,2°N±3°×12°7E±°,h31km±10km,M4.7/17, mb4.9/13,mB5.1/5,MLv4.7/17,Mw(mB)4.4/5*
*IDC **10** 02:26:56.1±2.1,1°66N×127°33E,h116km±19km,mb4.0/8, mbtmp4.4/11,MS2.9/3,Error ellipse: s-maj=41.6km s-min=11.3km az=69.0*

ISC 10 02:26:54.4±0.5,1°82N±0°05×127°35E±0°08,h100km,n87, σ1§60/89,mb4.3/19,2D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.04**	**179**	Pn	**Pn**	**02 27 14.7**	**-0.6**
TNTI	**Ternate**	**1.04**	**179**	P	**Pn**	**02 27 14.4**	**-0.9**
TNTI	**Ternate**	**1.04**	**179**	P	**Pn**	**02 27 14.9**	**-0.4**
LBMI	**Labuha**	**2.44**	**176**	P	**Pn**	**02 27 33.3**	**+0.5**
SGSI	**Sangihe**	**2.60**	**316**	P	**Pn**	**02 27 32.6**	**-2.2**
SGSI				S	**Sn**	**02 28 03.5**	**-2.4**
KMSI	**Cibinong**	**3.59**	**250**	P	**Pn**	**02 27 50.5**	**+2.5**
SANI	**Sanana**	**4.08**	**199**	P	**Pn**	**02 27 52.8**	**-1.9**
SANI	**Sanana**	**4.08**	**199**	P	**Pn**	**02 27 53.1**	**-1.6**
GTOI	**Gorontalo**	**4.49**	**255**	P	**Pn**	**02 28 00.2**	**-0.1**
SIJI	**Sorong**	**4.74**	**124**	P	**Pn**	**02 28 04.6**	**+1.0**
	9.9nm,0.3s,baz=207,slow=22,SNR=5.6						
SIJI				LR	LR	02 29 26.0	
	comp=Z,76nm,19.6s,baz=288,slow=32						
NLAI	**Namlea**	**5.03**	**183**	P	**Pn**	**02 28 08.1**	**+0.5**
	0.4nm85nm,0.9s						
MSAI	**Masohi**	**5.37**	**163**	P	Pn	02 28 16.9	+4.7
	0.1nm24nm,0.8s						
LUWI	**Luwuk**	**5.39**	**238**	Pn	**Pn**	**02 28 12.6**	**+0.2**
DAV	**Davao City (W)**	**5.51**	**341**	LR	LR	02 30 57.2	
	comp=Z,77nm,20.9s,baz=164,slow=43						
DAV	**Davao City (W)**	**5.51**	**341**	Pn	**Pn**	**02 28 15.9**	**+1.8**
AAI	**Ambon**	**5.53**	**171**	P	Pn	02 28 22.7	+8.3
	0.4nm105nm,0.8s						
MRSI	**Marisa**	**5.57**	**256**	P	**Pn**	**02 28 16.4**	**+1.5**
	1.0nm2µm198nm,0.6s						
KCP	**Kidapawan**	**5.63**	**336**	ǁ*i*P	**Pn**	**02 28 15.4**	**-0.3**
KCP				*i* S	**Sn**	**02 29 17.8**	**-1.3**
APSI	**Ampana**	**6.31**	**245**	P	**Pn**	**02 28 27.9**	**+2.9**
	1.4nm1µm50nm,0.6s						
BIPH	**Bislig**	**6.40**	**351**	ǁ*e*P	**Pn**	**02 28 28.8**	**+2.6**
BIPH				*e*S	**Sn**	**02 29 32.9**	**-4.9**
TOLI2	**Tolitoli**	**6.60**	**264**	Pn	**Pn**	**02 28 27.1**	**-1.8**
FAKI	**Fak Fak**	**6.79**	**134**	P	**Pn**	**02 28 33.6**	**+2.0**
MPSI	**Mapaga**	**7.59**	**259**	P	**Pn**	**02 28 44.4**	**+2.0**
TTSI	**Tana Toraja**	**8.94**	**237**	P	**Pn**	**02 28 59.7**	**-1.1**
	0.4nm1µm105nm,0.7s						
MYLDM	**Lahad Datu**	**9.44**	**291**	Pn	**Pn**	**02 29 07.8**	**+0.2**
SPSI	**Sidrap Palu**	**9.51**	**233**	P	**Pn**	**02 29 07.6**	**-0.9**
	112nm,0.7s						
BKSI	**Bulukumba**	**10.12**	**225**	P	**Pn**	**02 29 18.6**	**+1.8**
	45nm,0.5s						
KAPI	**Kappang**	**10.18**	**228**		**Pn**	**02 29 17.0**	**-0.6**
KAPI	**Kappang**	**10.18**	**228**	P	**Pn**	**02 29 17.4**	**-0.2**
SOEI	**Soe**	**11.90**	**195**	Pn	**Pn**	**02 29 41.5**	**+0.6**
EDFI	**Ende, Flores**	**11.92**	**208**	P	**Pn**	**02 29 44.7**	**+3.5**
	14nm,1.0s						
BATI	**Baumata**	**12.50**	**197**	P	**Pn**	**02 29 47.5**	**-1.3**
	16nm,0.4s,baz=245,slow=2.2,SNR=1.7						
PLAI	**Plampang**	**14.24**	**222**	P	**P**	**02 30 17.7**	**+1.9**
	121nm,0.9s						
TWSI	**Taliwang, Sumb**	**14.79**	**225**	P	**P**	**02 30 24.0**	**+2.1**
	67nm,1.1s						
MTN	**Manton Dam**	**15.04**	**166**		**Pn**	**02 30 20.3**	**-1.5**
SBUM	**Sibu**	**15.13**	**273**	Pn	**Pn**	**02 30 21.2**	**-1.7**
SBUM				IAmb	IAmb	02 30 27.4	
	comp=Z,11nm,0.6s						
KNRA	**Kununurra**	**17.44**	**175**	P	**P**	**02 30 48.8**	**-2.4**
KNRA	**Kununurra**	**17.44**	**175**	P	**Pn**	**02 30 51.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.86**	**185**	P	**P**	**02 31 16.6**	**-1.1**
	comp=Z,16nm,0.7s,baz=19,slow=9.5,SNR=78						
FITZ	**Fitzroy Crossi**	**19.86**	**185**	P	**P**	**02 31 16.5**	**-1.1**
FITZ				IAmb	IAmb	02 31 18.4	
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.86**	**185**	P	**P**	**02 31 16.6**	**-1.1**
WB0	**Warramunga Arr**	**22.54**	**162**	P	**P**	**02 31 44.4**	**-1.9**
WB0				IAmb	IAmb	02 31 52.8	
	comp=Z,26nm,0.8s						
WRAB	**Tennant Creek**	**22.68**	**163**	P	**P**	**02 31 46.0**	**-1.8**
WRAB	**Tennant Creek**	**22.68**	**163**	P	**P**	**02 31 46.6**	**-1.1**
WRA	**Warramunga Arr**	**22.69**	**163**	P	**P**	**02 31 46.4**	**-1.4**
	comp=Z,11nm,0.5s,baz=341,slow=11,SNR=117						
WRA				S	**S**	**02 35 47.5**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=329,slow=21,SNR=6.3						
WRA				LR	LR	02 40 32.3	
	comp=Z,97nm,19.3s,baz=132,slow=36						
	comp=Z,11nm,0.5s						
WRA	**Warramunga Arr**	**22.69**	**163**	P	**P**	**02 31 44.4**	**-3.4**
MBWA	**Marble Bar**	**24.02**	**198**	P	**P**	**02 31 57.9**	**-2.3**
MBWA				IAmb	IAmb	02 32 01.9	
	comp=Z,16nm,1.2s						
MBWA	**Marble Bar**	**24.02**	**198**	P	**P**	**02 31 59.8**	**-0.4**
PSA00	**Pilbara Seismi**	**24.38**	**197**	P	**P**	**02 32 01.1**	**-2.2**
PSA00				IAmb	IAmb	02 32 03.6	
	comp=Z,11nm,1.1s						
QIS	**Mount Isa**	**25.27**	**152**	P	**P**	**02 32 10.7**	**-0.9**
UBPT	**Khong Chiam**	**25.39**	**303**	P	**P**	**02 32 12.7**	**0.0**
AS31	**Alice Springs**	**26.12**	**166**	P	**P**	**02 32 17.8**	**-1.5**
AS31				IAmb	IAmb	02 32 25.2	
	comp=Z,3.6nm,0.3s						
ASAR	**Alice Springs**	**26.12**	**166**	P	**P**	**02 32 18.1**	**-1.2**
	comp=Z,4.1nm,0.5s,baz=350,slow=7.3,SNR=89						
ASAR				S	**S**	**02 36 39.5**	**-4.1**
	comp=Z,0.3nm,0.7s,baz=349,slow=19,SNR=1.9						
	comp=Z,4.1nm,0.5s						
WRKA	**Warakurna**	**26.71**	**178**	P	**P**	**02 32 23.7**	**-0.9**
GIRL	**Giralia**	**27.47**	**207**	P	**P**	**02 32 31.7**	**+0.4**
	comp=Z,124nm,1.8s						
MEEK	**Meekatharra**	**29.52**	**196**	P	**P**	**02 32 49.4**	**-0.1**
OOD	**Oodnadatta**	**30.52**	**165**	P	**P**	**02 32 57.5**	**-0.7**
PHRA	**Phrae**	**31.33**	**304**	P	**P**	**02 33 04.8**	**-0.8**
INKA	**Innaminka**	**32.09**	**157**	P	**P**	**02 33 12.1**	**0.0**
FORT	**Forrest**	**32.42**	**179**	P	**P**	**02 33 13.9**	**-1.1**
MULG	**Mulgathing**	**32.56**	**169**	P	**P**	**02 33 15.4**	**-0.8**
MORW	**Morawa**	**32.57**	**199**	P	**P**	**02 33 15.2**	**-1.1**
LCRK	**Leigh Creek**	**33.72**	**163**	P	**P**	**02 33 26.4**	**+0.1**
BLDU	**Ballidu**	**33.81**	**197**	P	**P**	**02 33 25.9**	**-1.2**
	comp=Z,16nm,1.2s						
KLBR	**Kellerberrin**	**34.45**	**195**	P	**P**	**02 33 33.1**	**+0.5**
PZH	**PanZhiHua**	**34.75**	**317**	P	**P**	**02 33 37.5**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
BBOO	**Buckleboo**	**35.41**	**167**	P	**P**	**02 33 40.1**	**-0.8**
STKA	**Stephens Creek**	**36.13**	**159**	P	**P**	**02 33 45.9**	**-1.1**
	comp=Z,12nm,0.7s,baz=329,slow=8.4,SNR=24						
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**36.13**	**159**	P	**P**	**02 33 45.3**	**-1.7**
STKA				IAmb	IAmb	02 33 47.4	
	comp=Z,3.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**41.40**	**342**	*e*P	**P**	**02 34 32.4**	**+1.4**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
SHL	**Shillong**	**41.51**	**308**	P	**P**	**02 34 31.5**	**-0.8**
ULN	**Ulaanbaatar**	**49.12**	**342**	P	**P**	**02 35 33.1**	**+1.2**
ULN				IAmb	IAmb	02 35 36.7	
	comp=Z,4.1nm,1.2s						
SONM	**Songino Array**	**49.30**	**341**	P	**P**	**02 35 34.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=154,slow=6.3,SNR=4.5						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**49.30**	**341**	P	**P**	**02 35 34.0**	**+0.7**
WMQ	**Urumqi**	**54.64**	**326**	*e*P	**P**	**02 36 16.4**	**+3.4**
MK31	**Makanchi Array**	**59.47**	**326**	P	**P**	**02 36 47.0**	**0.0**
MK31				IAmb	IAmb	02 36 49.8	
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**59.47**	**326**	P	**P**	**02 36 47.7**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=119,slow=7.7,SNR=26						
	comp=Z,1.9nm,0.5s						
MKAR	**Makanchi Array**	**59.47**	**326**	P	**P**	**02 36 46.7**	**-0.2**
KURK	**Kurchatov**	**63.67**	**328**	P	**P**	**02 37 15.6**	**+0.6**
KK31	**Karatay Array**	**65.05**	**317**	P	**P**	**02 37 25.1**	**+0.9**
KK31				IAmb	IAmb	02 37 26.9	
	comp=Z,2.1nm,0.8s						
KKAR	**Karatay Array**	**65.05**	**317**	P	**P**	**02 37 24.3**	**+0.1**
BRVK	**Borovoye**	**69.32**	**327**	P	**P**	**02 37 50.3**	**-0.7**
ABKAR	**Akbulak array**	**74.01**	**321**	P	**P**	**02 38 19.2**	**-0.1**
VNDA	**Vanda**	**81.47**	**173**	P	**P**	**02 38 59.0**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=332,slow=7.7,SNR=8.5						
	comp=Z,1.3nm,0.6s						
MAW	**Mawson**	**82.19**	**200**	P	**P**	**02 39 03.5**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=74,slow=7.1,SNR=6.7						
	comp=Z,1.5nm,0.6s						
FINES	**FINESS Array B**	**93.80**	**332**	P	**P**	**02 40 00.8**	**+0.7**
	comp=Z,2.2nm,1.1s,baz=130,slow=4.3,SNR=3.4						
	comp=Z,2.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**124.08**	**287**	PKP	**PKPdf**	**02 45 41.4**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=96,slow=2.3,SNR=2.8						

*IDC **10** 02:32:20.9±0.6,56°41N×153°54W,h0km,mb4.4/29, mbtmp4.4/31,ML3.6/2,MS3.8/22,Error ellipse: s-maj=16.6km s-min=10.4km az=17.0*
*NEIC **10** 02:32:22.9±2.0,56°33N±0°05×153°38W±0°05,h17km±4km, Error ellipse: s-maj=7.7km s-min=2.9km az=153.0*
*AEIC **10** 02:32:23.8±2.4,56°26N±0°05×153°24W±0°08,h22km±4km, ML4.3/133,mb4.7/133(NEIC),ML4.4/38(NEIC),Error ellipse: s-maj=7.9km s-min=5.2km az=142.0*

ISC 10 02:32:23.5±0.7,56°38N±0°04×153°26W±0°03,h20km±3km, n575,σ1§19/543,mb4.7/121,MS3.7/23,25C-2D,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.54**	**289**	Pg	**Pn**	**02 32 34.8**	**-1.4**
SII				Sg	**Sn**	**02 32 43.6**	**-1.2**
SII	**Sitkinak Islan**	**0.54**	**289**	P	**Pn**	**02 32 34.9**	**-1.3**
	baz=120,SNR=720						
SII				S	**Sn**	**02 32 44.1**	**-0.7**
	baz=120						
SII	**Sitkinak Islan**	**0.54**	**289**	P	**Pn**	**02 32 34.8**	**-1.4**
OHAK	**Old Harbor**	**0.84**	**359**		**Pb**	**02 32 39.8**	**+0.3**
OHAK				IAML		02 33 06.2	
	comp=E,12µm,1.1s						
OHAK				IAML		02 33 08.9	
	comp=N,14µm,1.3s						
OHAK	**Old Harbor**	**0.84**	**359**	P	**Pg**	**02 32 40.2**	**+0.3**
	baz=178,SNR=343						
CHIR	**Chirikof Islan**	**1.44**	**248**		**Sn**	**02 33 03.2**	**-3.6**
CHIR	**Chirikof Islan**	**1.44**	**248**	P	**Pn**	**02 32 46.5**	**-1.9**
	baz=71,SNR=16						
CHIR				S	**Sn**	**02 33 03.3**	**-3.6**
	baz=71						
KDAK	**Kodiak Island**	**1.45**	**14**	Pn	**Pn**	**02 32 48.7**	**+0.1**
	comp=N,561nm,0.3s,baz=222,slow=7.9,SNR=6424						
KDAK				Sn	**Sn**	**02 33 06.8**	**-0.3**
	comp=N,180nm,0.3s,baz=342,slow=22,SNR=16						
KDAK	**Kodiak Island**	**1.45**	**14**	Pn	**Pn**	**02 32 48.2**	**-0.4**
KDAK				IAML		02 33 20.9	
	comp=N,4µm,0.8s						
KDAK				IAML		02 33 22.2	
	comp=N,4µm,1.1s						
KDAK	**Kodiak Island**	**1.45**	**14**	P	**Pn**	**02 32 48.9**	**+0.2**
	baz=193						
KDAK				S	**Sn**	**02 33 07.0**	**-0.1**
	baz=193						
KABR	**Katmai Barrier**	**1.98**	**333**		**Pn**	**02 32 55.9**	**-0.2**
PLK3	**Peulik 3**	**2.10**	**310**		**Pn**	**02 32 57.9**	**+0.2**
R17K	**Ugashik Creek**	**2.13**	**308**		**Pn**	**02 32 57.8**	**-0.1**
R17K					**Sn**	**02 33 24.1**	**+0.4**
R17K	**Ugashik Creek**	**2.13**	**308**	P	**Pn**	**02 32 57.8**	**-0.1**
	baz=128,SNR=29						
KAKN	**Katmai Knife C**	**2.15**	**334**		**Pn**	**02 32 58.5**	**+0.1**
KAKN					**Sb**	**02 33 27.4**	**-0.9**
KAWH	**Katmai**	**2.17**	**338**		**Pn**	**02 32 58.9**	**+0.2**
PLK2	**Peulik 2**	**2.17**	**311**		**Pn**	**02 32 58.9**	**+0.3**
Q20K	**Shuyak Island**	**2.28**	**11**	P	**Pn**	**02 33 00.6**	**+0.5**
	baz=191,SNR=11						
SYI	**Shuyak Island**	**2.28**	**11**		**Pn**	**02 33 00.7**	**+0.6**
KAPH	**Katmai Pasha**	**2.30**	**346**		**Pn**	**02 33 01.1**	**+0.7**
PLBL	**Peulik Blue Cr**	**2.35**	**306**		**Pn**	**02 33 01.7**	**+0.7**
KAHC	**Katmai Hardscr**	**2.46**	**338**		**Pn**	**02 33 03.0**	**+0.4**
KELA	**Mount Kelaz**	**2.46**	**328**		**Pn**	**02 33 02.6**	**0.0**
Q19K	**Cape Douglas,**	**2.56**	**355**	Pn	**Pn**	**02 33 04.6**	**+0.7**
Q19K	**Cape Douglas,**	**2.56**	**355**	P	**Pn**	**02 33 04.9**	**+1.0**
	baz=175,SNR=41						
R16K	**Pilot Point**	**2.65**	**298**	P	**Pn**	**02 33 04.5**	**-0.6**
	baz=117						
CHGN	**Chignik**	**2.87**	**271**		**Pn**	**02 33 06.6**	**-1.5**
CHGN				IAML		02 34 01.7	
	comp=N,1µm,0.9s						
CHGN				IAML		02 34 03.4	
	comp=E,1µm,1.1s						
CHGN	**Chignik**	**2.87**	**271**	P	**Pn**	**02 33 06.8**	**-1.4**
	baz=89,SNR=7.6						
Q16K	**King Salmon**	**2.94**	**323**		**Pn**	**02 33 08.6**	**-0.5**
Q16K	**King Salmon**	**2.94**	**323**	P	**Pn**	**02 33 09.4**	**+0.3**
	baz=141,SNR=11						
AUQ	**Augustine Qik'**	**2.98**	**358**		**Pn**	**02 33 11.2**	**+1.5**
AUCH	**Augustine Cone**	**2.99**	**358**		**Pn**	**02 33 11.1**	**+1.2**
P18K	**Big Mountain,**	**3.20**	**342**		**Pn**	**02 33 12.8**	**+0.1**
P18K	**Big Mountain,**	**3.20**	**342**	P	**Pn**	**02 33 12.8**	**+0.1**
	baz=160						
P19K	**Oil Pt**	**3.28**	**0**	Pn	**Pn**	**02 33 14.4**	**+0.6**
P19K				IAML		02 34 26.7	
	comp=N,1µm,1.3s						
P19K				IAML		02 34 34.2	
	comp=E,1µm,1.7s						
P19K	**Oil Pt**	**3.28**	**0**	P	**Pn**	**02 33 15.1**	**+1.3**
	baz=180,SNR=23						
P17K	**Kvichak River**	**3.29**	**330**		**Pn**	**02 33 13.9**	**-0.1**
P17K	**Kvichak River**	**3.29**	**330**	P	**Pn**	**02 33 13.9**	**-0.1**
	baz=148,SNR=6.6						
CNPM	**China Poot**	**3.33**	**18**	Pn	**Pn**	**02 33 14.7**	**+0.2**
CNPM				IAML		02 34 22.3	
	comp=N,673nm,1.7s						
CNPM				IAML		02 34 24.5	
	comp=E,1µm,1.6s						
HOM	**Homer**	**3.40**	**14**		**Pn**	**02 33 15.9**	**+0.6**
HOM	**Homer**	**3.40**	**14**	P	**Pn**	**02 33 16.3**	**+1.0**
	baz=195,SNR=11						
S14K	**Fog Glacier**	**3.51**	**271**	P	**Pn**	**02 33 16.4**	**-0.6**
	baz=88						
VNFG	**Fog Glacier, M**	**3.51**	**271**		**Pn**	**02 33 16.4**	**-0.6**
ILSW	**Iliamna Southw**	**3.61**	**1**		**Pn**	**02 33 18.5**	**0.0**
ILSW				IAML		02 34 23.0	
	comp=E,519nm,1.5s						
ILSW				IAML		02 34 47.2	
	comp=N,443nm,1.4s						
BRLK	**Bradley Lake**	**3.62**	**19**		**Pn**	**02 33 18.2**	**-0.3**
BRLK	**Bradley Lake**	**3.62**	**19**	IAML		02 34 31.0	
	comp=E,884nm,1.7s						
BRSE	**Bradley Lake S**	**3.62**	**21**		**Pn**	**02 33 18.4**	**-0.1**
BRSE	**Bradley Lake S**	**3.62**	**21**	P	**Pn**	**02 33 18.4**	**-0.1**
	baz=202,SNR=25						
BRSE				S	**Sn**	**02 33 58.7**	**-2.0**
	baz=202						
IVE	**Iliamna Volcan**	**3.65**	**2**		**Pn**	**02 33 19.6**	**+0.7**
P16K	**Nushagak River**	**3.67**	**318**		**Pn**	**02 33 18.8**	**-0.4**
P16K	**Nushagak River**	**3.67**	**318**	P	**Pn**	**02 33 18.8**	**-0.4**
	baz=135						
O20K	**Slope Mountain**	**3.72**	**5**		**Pn**	**02 33 21.2**	**+1.2**
O20K	**Slope Mountain**	**3.72**	**5**	P	**Pn**	**02 33 21.2**	**+1.2**
	baz=135,SNR=14						
CHNA	**Chernabura Isl**	**3.91**	**249**	P	**Pn**	**02 33 20.4**	**-2.0**
	baz=66,SNR=17						
CHNA				S	**Sn**	**02 34 01.2**	**-6.6**
	baz=66						
CNBA	**Chernabura Isl**	**3.92**	**249**		**Pn**	**02 33 20.5**	**-2.0**
CNBA	**Chernabura Isl**	**3.92**	**249**	IAML		02 34 53.1	
	comp=E,432nm,1.0s						
O17K	**Koliganek Bris**	**3.96**	**331**		**Pn**	**02 33 22.9**	**-0.3**
O17K	**Koliganek Bris**	**3.96**	**331**	P	**Pn**	**02 33 22.8**	**-0.3**
	baz=148						
RED	**Redoubt Volcan**	**4.06**	**3**		**Pn**	**02 33 25.1**	**+0.5**
RSO	**Redoubt South**	**4.10**	**3**		**Pn**	**02 33 24.5**	**-0.7**
O16K	**Kokwok River B**	**4.12**	**323**		**Pn**	**02 33 24.9**	**-0.5**
O16K	**Kokwok River B**	**4.12**	**323**	P	**Pn**	**02 33 24.7**	**-0.6**
	baz=140,SNR=9.5						
RDWB	**Redoubt West**	**4.12**	**3**		**Pn**	**02 33 26.2**	**+0.7**
NCT	**North Crescent**	**4.20**	**2**		**Pn**	**02 33 27.4**	**+1.0**
SDPT	**Sand Point**	**4.20**	**259**		**Pn**	**02 33 25.1**	**-1.2**
SDPT	**Sand Point**	**4.20**	**259**	IAML		02 35 00.6	
	comp=E,884nm,1.2s						
SDPT	**Sand Point**	**4.20**	**259**	P	**Pn**	**02 33 25.3**	**-1.1**
	baz=74,SNR=17						
RDJH	**Redoubt Jeurge**	**4.23**	**3**		**Pn**	**02 33 27.6**	**+0.7**
DFR	**Drift River**	**4.23**	**4**		**Pn**	**02 33 27.2**	**+0.3**
SEW	**Seward**	**4.24**	**27**		**Pn**	**02 33 26.2**	**-0.7**
SEW	**Seward**	**4.24**	**27**	P	**Pn**	**02 33 25.8**	**-1.1**
	baz=209,SNR=7.6						
SEW				S	**Sn**	**02 34 12.0**	**-3.7**
	baz=209						
N19K	**Bonanza Creek**	**4.49**	**352**		**Pn**	**02 33 30.8**	**+0.3**
N19K	**Bonanza Creek**	**4.49**	**352**	P	**Pn**	**02 33 31.0**	**+0.6**
	baz=171,SNR=52						
O22K	**Cooper Landing**	**4.51**	**23**	P	**Pn**	**02 33 30.0**	**-0.7**
	baz=248						
N18K	**Kilae Creek**	**4.53**	**343**	Pn	**Pn**	**02 33 31.0**	**+0.1**
N18K				IAML		02 34 57.5	
	comp=E,280nm,1.4s						
N18K	**Kilae Creek**	**4.53**	**343**	P	**Pn**	**02 33 31.2**	**+0.3**
	baz=161,SNR=16						
SPU	**Mount Spurr**	**4.85**	**7**		**Pn**	**02 33 35.2**	**-0.2**
N20K	**Mount Spurr**	**4.86**	**6**	P	**Pn**	**02 33 35.6**	**+0.1**
	baz=187,SNR=14						
N20K				S	**Sn**	**02 34 31.1**	**-0.1**
	baz=187						
SPCR	**Spurr Chakacha**	**4.86**	**6**		**Pn**	**02 33 35.7**	**+0.1**
SPCR	**Spurr Chakacha**	**4.86**	**6**	P	**Pn**	**02 33 35.3**	**-0.3**
	baz=187						
SPCR				S	**Sn**	**02 34 31.0**	**-0.3**
	baz=187						
SVW2	**Sparrevohn**	**4.88**	**347**		**Pn**	**02 33 36.2**	**+0.4**
SVW2	**Sparrevohn**	**4.88**	**347**	IAML		02 35 16.7	
	comp=E,283nm,1.7s						
SPCP	**Crater Peak Br**	**4.93**	**6**		**Pn**

BMRM **Bremner River** 6.44 41 Pn 02 33 56.5 -0.7
BMRM **Bremner River** 6.44 41 P Pn 02 33 56.5 -0.7
baz=227,SNR=10
BMRM S Sn 02 35 05.2 -4.8
baz=227
GRIN **Grindle Hills** 6.53 49 Pn 02 33 57.9 -0.5
KHIT **Khitrov Hills** 6.65 48 Pn 02 33 59.2 -0.9
SNH **Sunshine Point** 6.68 51 Pn 02 34 00.2 -0.3
TT01 **Tatalina** 6.69 349 Pn 02 34 01.4 +0.8
TTA **Tatalina** 6.71 349 Pn 02 34 01.0 +0.1
TTA **Tatalina** 6.71 349 P Pn 02 34 01.4 +0.4
baz=167,SNR=9.6
M24K **Tolsona, Glenn** 6.79 29 Pn 02 34 02.1 +0.1
M24K **Tolsona, Glenn** 6.79 29 P Pn 02 34 02.1 +0.1
baz=215,SNR=9.4
WECS **Westdahl Cape** 6.81 259 Pn 02 34 01.3 -1.0
WAT7 **Susitna Watana** 6.84 17 Pn 02 34 03.0 +0.2
N25K **Chitina, Valde** 6.88 37 Pn 02 34 02.2 -1.1
N25K **Chitina, Valde** 6.88 37 P Pn 02 34 03.0 -0.3
baz=224
N25K S Sn 02 35 16.2 -4.8
baz=224
WAT1 **Susitna Watana** 6.89 18 P Pn 02 34 03.0 -0.4
baz=202
WAT1 S Sn 02 35 20.1 -1.1
baz=202
BARK **Barkley Ridge** 6.94 50 Pn 02 34 03.5 -0.6
TGL **Tana Glacier** 6.99 47 Pn 02 34 03.4 -1.4
K20K **Telida** 7.01 357 Pn 02 34 04.9 0.0
K20K **Telida** 7.01 357 P Pn 02 34 05.3 +0.3
baz=176,SNR=24
GLB **Gilahina Butte** 7.04 40 Pn 02 34 04.6 -0.9
MESA **MESA** 7.07 53 P Pn 02 34 05.8 -0.1
baz=242
MESA S Sn 02 35 22.9 -2.8
baz=242
ISLE **Juniper Island** 7.11 49 Pn 02 34 05.8 -0.7
BAGL **Bagley Icefiel** 7.16 50 Pn 02 34 06.6 -0.4
TRF **Thorofare Moun** 7.25 11 Pn 02 34 08.4 +0.1
TRF **Thorofare Moun** 7.25 11 P Pn 02 34 08.5 +0.1
baz=193,SNR=14
YAH **Yahtse** 7.25 52 Pn 02 34 08.0 -0.5
MCARA **McCarthy VSAT** 7.29 42 Pn 02 34 08.9 0.0
MCARA **McCarthy VSAT** 7.29 42 P Pn 02 34 08.4 -0.5
baz=230
MCARA S Sn 02 35 27.3 -3.6
baz=230
HARP **HAARP** 7.31 31 P Pn 02 34 09.0 -0.1
baz=217
DHY **Denali Highway** 7.34 21 Pn 02 34 09.1 -0.5
DHY **Denali Highway** 7.34 21 P Pn 02 34 09.2 -0.4
baz=206,SNR=13
DHY S Sn 02 35 29.9 -2.4
baz=206
PTPK **Patty Peak** 7.39 45 Pn 02 34 09.6 -0.7
AKSA **Akutan Strait** 7.46 258 Pn 02 34 10.0 -1.1
SAMH **Samovar Hills** 7.57 55 Pn 02 34 13.2 +0.4
MCK **McKinley** 7.68 15 P Pn 02 34 14.2 0.0
baz=198,SNR=9.2
PAX **Paxson** 7.69 28 Pn 02 34 14.3 0.0
PAX **Paxson** 7.69 28 P Pn 02 34 14.3 0.0
baz=214,SNR=9.3
CTG **Chitna Glacier** 7.72 49 P Pn 02 34 14.1 -0.7
baz=238
CTG S Sn 02 35 38.4 -3.2
baz=238
LOGN **Logan Glacier** 7.79 50 Pn 02 34 14.8 -1.1
PCA **Pinnacle** 7.80 56 Pn 02 34 15.6 -0.3
PINM **Pinnacle** 7.80 56 P Pn 02 34 15.3 -0.6
baz=246
BPAW **Bear Paw Mtn.** 7.82 7 Pn 02 34 15.6 -0.6
BPAW **Bear Paw Mtn.** 7.82 7 P Pn 02 34 16.0 -0.1
baz=189
BPAW S Sn 02 35 42.2 -1.8
baz=189
J20K **Nowinta River** 7.83 357 Pn 02 34 16.6 +0.4
J20K **Nowinta River** 7.83 357 P Pn 02 34 16.4 +0.2
baz=176,SNR=31
M26K **Nabesna, AK** 7.98 37 P Pn 02 34 18.5 +0.2
baz=225
UNV **Unalaska Valle** 8.01 257 Pn 02 34 16.5 -2.2
UNV **Unalaska Valle** 8.01 257 P Pn 02 34 18.0 -0.7
baz=67
UNV **Unalaska Valle** 8.01 257 P Pn 02 34 16.5 -2.2
PNL **Peninsula** 8.06 60 Pn 02 34 19.4 +0.1
PNL **Peninsula** 8.06 60 P Pn 02 34 19.5 +0.2
baz=251,SNR=7.2
MNAT **Makushin Natee** 8.09 258 Pn 02 34 17.5 -2.4
O28M **Mount Upton** 8.12 52 Pn 02 34 19.6 -0.8
O28M **Mount Upton** 8.12 52 P Pn 02 34 20.3 -0.1
baz=242
O28M S Sn 02 35 48.3 -3.3
baz=242
MAPS **Pakushin South** 8.26 258 Pn 02 34 19.7 -2.4
K24K **Donnelly Dome** 8.32 24 P Pn 02 34 23.1 +0.2
baz=210,SNR=5.1
L26K **Log Cabin Wild** 8.33 33 P Pn 02 34 23.7 +0.6
baz=221
M27K **Edge Creek, AK** 8.34 39 Pn 02 34 24.6 +1.3
M27K **Edge Creek, AK** 8.34 39 P Pn 02 34 23.4 +0.1
baz=229
RIDG **Independent Ri** 8.49 26 P Pn 02 34 26.0 +0.8
baz=213
NEA2 **Nenana** 8.49 12 Pn 02 34 24.1 -1.2
NEA2 **Nenana** 8.49 12 P Pn 02 34 24.1 -1.2
baz=196,SNR=18
WRH **Wood River Hil** 8.50 15 Pn 02 34 25.0 -0.4
YUK3 **Moose Creek** 8.51 45 P Pn 02 34 25.7 -0.1
baz=236
GCSA **Galena City Sc** 8.58 350 Pn 02 34 26.9 +0.5
GCSA **Galena City Sc** 8.58 350 P Pn 02 34 26.2 -0.2
baz=166
HDA **Harding Lake** 8.63 19 P Pn 02 34 26.4 -0.8
baz=204,SNR=14
O29M **Mount Kennedy** 8.66 57 Pn 02 34 27.4 -0.3
O29M **Mount Kennedy** 8.66 57 P Pn 02 34 27.1 -0.5
baz=249
CCB **Clear Creek Bu** 8.71 16 Pn 02 34 27.7 -0.5
BVCY **Beaver Creek** 8.74 41 P Pn 02 34 28.4 -0.3
baz=231
MLY **Manley** 8.76 7 Pn 02 34 28.5 -0.5
MLY **Manley** 8.76 7 P Pn 02 34 28.7 -0.3
baz=189,SNR=8.1
L27K **Beaver Creek,** 8.83 36 P Pn 02 34 29.1 -0.8
baz=225
I21K **Tanana** 8.85 3 P Pn 02 34 30.0 -0.2
baz=184
P29M **Windy Craggy** 8.86 62 Pn 02 34 30.1 -0.1
P29M **Windy Craggy** 8.86 62 P Pn 02 34 29.2 -1.1
baz=254
SCRK **Sand Creek** 8.90 27 P Pn 02 34 30.9 -0.1
baz=215
TCOL **CIGO, UAF Yank** 8.92 15 P Pn 02 34 30.9 -0.1
baz=199
COLA **College** 8.92 15 Pn 02 34 29.7 -1.4
COLA **College** 8.92 15 P Pn 02 34 30.9 -0.2
baz=199
MDM **Murphy Dome** 8.95 14 Pn 02 34 30.4 -1.1
IL31 8.97 18 Pn 02 34 30.9 -0.9
ILAR **Eielson Array** 8.97 18 Pn Pn 02 34 31.2 -0.7
comp=E,2.3nm,0.3s,baz=202,slow=13,SNR=69
ILAR Sn Sn 02 36 07.3 -5.0
comp=E,1.3nm,0.3s,baz=203,slow=23,SNR=2.1
ILAR LR LR 02 38 32.7
comp=E,1μm,19.1s,baz=198,slow=41
ILAR **Eielson Array** 8.97 18 Pn Pn 02 34 31.5 -0.4
I23K **Minto, Yukon-K** 9.00 11 Pn 02 34 30.7 -1.4
I23K **Minto, Yukon-K** 9.00 11 P Pn 02 34 31.6 -0.6
baz=194,SNR=11
YUK6 **Outpost Mounta** 9.00 53 P Pn 02 34 31.2 -1.3
baz=245
YUK4 **Talbot Arm** 9.05 51 P Pn 02 34 33.4 +0.3
baz=242
J25K **Salcha River,** 9.12 22 Pn 02 34 33.0 -0.9
J25K **Salcha River,** 9.12 22 P Pn 02 34 34.1 +0.1
baz=208,SNR=14
POKR **Poker Plat Res** 9.21 16 P Pn 02 34 35.0 -0.1
baz=200
H21K **Melozitna Rive** 9.31 1 P Pn 02 34 36.0 -0.4
baz=182
P30M **Million Dollar** 9.37 60 P Pn 02 34 37.4 +0.1
baz=253
J26L **Joseph Creek** 9.44 26 P Pn 02 34 37.7 -0.6
baz=214
K27K **Chicken** 9.46 31 P Pn 02 34 38.5 -0.1
baz=220
PLBC **Pleasant Camp** 9.50 64 P Pn 02 34 38.7 -0.3
baz=258
H22K **Ishtalitna Cre** 9.59 5 P Pn 02 34 40.0 -0.2
baz=186
IM03 9.64 359 Pn 02 34 40.6 -0.2
H23K **Yukon River** 9.64 9 Pn 02 34 40.1 -0.9
H23K **Yukon River** 9.64 9 P Pn 02 34 40.7 -0.3
baz=192,SNR=7.5
M29M **Somme Creek** 9.67 45 Pn 02 34 41.2 -0.2
M29M **Somme Creek** 9.67 45 P Pn 02 34 41.2 -0.2
baz=237,SNR=6.0
N30M **Aishikik Lake** 9.77 52 Pn 02 34 42.3 -0.6
N30M **Aishikik Lake** 9.77 52 P Pn 02 34 42.6 -0.3
baz=245
H24K **Noodor Dome** 9.83 13 P Pn 02 34 42.7 -0.9
baz=198,SNR=5.4
PRP **Porcupine Dome** 9.90 19 Pn 02 34 43.6 -1.0
PRP **Porcupine Dome** 9.90 19 P Pn 02 34 44.0 -0.6
baz=206,SNR=10
O30N **Mendenhall** 9.97 57 P Pn 02 34 45.4 -0.2
baz=251
SKAG **Skagway** 10.02 65 Pn Pn 02 34 48.2 +2.1
SKAG **Skagway** 10.02 65 P Pn 02 34 45.6 -0.5
baz=259
G21K **Allakaket** 10.17 359 P Pn 02 34 48.1 -0.1
baz=179,SNR=19
I26K **Coal Creek Min** 10.20 25 P Pn 02 34 48.3 -0.4
baz=213
EGAK **Eagle** 10.29 30 P Pn 02 34 50.2 +0.4
baz=220
DAWY **Dawson** 10.31 36 P Pn 02 34 50.1 -0.2
baz=228
N31M **Braeburn, Yuko** 10.36 53 P Pn 02 34 50.8 -0.2
baz=248
M30M **Minto, Yukon** 10.40 47 P Pn 02 34 50.3 -1.2
baz=240
G23K **Bananza Creek** 10.48 7 Pn 02 34 52.1 -0.3
G23K **Bananza Creek** 10.48 7 P Pn 02 34 51.3 -1.1
baz=190,SNR=10
WHY **Whitehorse** 10.51 58 P Pn 02 34 51.8 -1.2
baz=253
H25K **Birch Creek** 10.53 17 P Pn 02 34 52.5 -0.7
baz=203
G22K **Bettles** 10.61 4 P Pn 02 34 54.2 0.0
baz=185
G24K **Hadweenzic Riv** 10.71 12 Pn 02 34 55.0 -0.5
G24K **Hadweenzic Riv** 10.71 12 P Pn 02 34 55.3 -0.2
baz=197,SNR=6.6
K29M **Barlow Dome** 10.81 40 P Pn 02 34 56.7 -0.4
baz=233
P32M **Atlin** 10.85 65 P Pn 02 34 57.2 -0.4
baz=261
F21K **Alatna River** 10.88 360 P Pn 02 34 57.0 -0.9
baz=179,SNR=7.8
FYU **Fort Yukon** 10.90 17 Pn Pn 02 34 58.6 +0.4
COLD **Coldfoot** 10.98 6 Pn Pn 02 34 58.7 -0.5
COLD **Coldfoot** 10.98 6 P Pn 02 34 58.4 -0.9
baz=189
F22K **John River** 11.18 2 P Pn 02 35 01.7 -0.3
baz=183
U33K **Whale Pass** 11.20 83 P Pn 02 35 00.1 -2.2
baz=279
M31M **Drury Creek, Y** 11.24 51 P Pn 02 35 02.1 -0.9
baz=247
H27K **Steamboat Moun** 11.35 25 P Pn 02 35 04.3 -0.1
baz=215
F24K **Squaw Lake** 11.45 10 P Pn 02 35 05.0 -0.8
baz=195
G26K **Porcupine Rive** 11.50 19 P Pn 02 35 05.3 -1.0
baz=207
F25K **Christian Rive** 11.79 14 P Pn 02 35 09.1 -1.3
baz=201
BMAR **Burnt Mountain** 11.80 17 Pn Pn 02 35 11.6 +1.1
G27K **Doyon Strip** 11.80 23 P Pn 02 35 09.7 -0.9
baz=213
E22K **Anaktuvuk Pass** 11.81 3 P Pn 02 35 10.0 -0.7
baz=184
E23K **Chandalar** 11.84 7 P Pn 02 35 10.0 -1.0
baz=190
E24K **Your Creek** 11.94 9 P Pn 02 35 12.4 0.0
baz=193
F26K **Sheenjek River** 12.11 17 P Pn 02 35 14.2 -0.5
baz=205
R33M **Jennings River** 12.22 66 P Pn 02 35 15.0 -1.4
baz=265
E25K **Arctic Village** 12.30 14 P Pn 02 35 16.8 -0.5
baz=200
H02S1 **DAWSON INLET T** 12.40 96 T T 02 47 46.2
SNR=6.3
TOLK **Toolik Lake Re** 12.42 6 P Pn 02 35 18.4 -0.6
baz=189
DLBC **Dease Lake** 12.67 71 Pn Pn 02 35 24.1 +1.6
comp=E,0.3nm,0.3s,baz=225,slow=11,SNR=1.8
DLBC Sn Sn 02 37 40.2 -2.8
comp=E,0.3nm,0.3s,baz=231,slow=24,SNR=2.1
comp=E,4.7nm,1.1s
D23K **Nanushuk River** 12.68 4 P Pn 02 35 22.1 -0.5
baz=186
MMPY **Sheldon Lake,** 12.75 52 P Pn 02 35 24.0 +0.4
baz=250
D24K **Happy Valley** 12.97 7 P Pn 02 35 25.6 -0.8
baz=191
E27K **Coleen River** 12.99 20 P Pn 02 35 26.2 -0.6
baz=210
D25K **Bavik River** 13.35 11 P Pn 02 35 32.0 +0.4
baz=197
C24K **Franklin Bluff** 13.54 7 P Pn 02 35 33.5 -0.6
baz=191
C27K **Jago River** 13.95 14 P Pn 02 35 40.7 +0.9
baz=202
F31M **Tsiigehtchic** 14.31 31 P Pn 02 35 44.4 -0.3
baz=228
INK **Inuvik** 14.96 29 Pn Pn 02 35 53.9 +0.5
comp=E,0.1nm,0.3s,baz=226,slow=11,SNR=3.1
comp=E,3.7nm,0.8s
INK **Inuvik** 14.96 29 Pn Pn 02 35 54.0 +0.5
INK **Inuvik** 14.96 29 P Pn 02 35 52.2 -1.3
baz=226
BBB **Bella Bella** 15.23 95 LR LR 02 40 32.4
comp=E,182nm,21.0s,baz=286,slow=32
WRGLY **Wrigley** 16.36 53 P Pn 02 36 10.9 -0.8
baz=259
YKA **Yellowknife Ar** 20.33 57 P P 02 36 59.4 +1.3
comp=E,22nm,0.9s,baz=269,slow=11,SNR=25
comp=E,22nm,0.9s
B08A **Colville Reser** 22.02 97 P P 02 37 18.2 +1.7
HOOD **Mount Hood Mea** 22.61 106 IAmb IAmb 02 37 40.8
comp=Z,20nm,0.8s
H04A **Detroit Lake** 22.74 108 P P 02 37 26.2 +2.0
G05D **Wamic, OR** 22.84 106 P P 02 37 23.9 -1.3
baz=310
C09A **Chrisman Ranch** 22.93 97 P P 02 37 27.3 +1.2
EDM **Edmonton** 22.99 81 IAmb IAmb 02 37 40.2
comp=Z,16nm,1.0s
D08A **Wollman Farm,** 23.00 99 P P 02 37 28.2 +1.3
I04A **Tendick Farm,** 23.23 110 P P 02 37 29.2 -0.1
baz=314
NEW **Newport** 23.30 95 P P 02 37 32.1 +2.2
comp=Z,1.9nm,0.9s,baz=322,slow=17,SNR=2.8
NEW LR LR 02 45 36.2
comp=Z,107nm,20.9s,baz=297,slow=34
comp=Z,1.9nm,0.9s
NEW **Newport** 23.30 95 P P 02 37 29.6 -0.3
baz=304
K02D **Willamette Mer** 23.36 113 P P 02 37 30.7 +0.2
baz=316
J05D **Fort Rock, OR** 24.20 109 P P 02 37 38.7 0.0
baz=314,SNR=5.8
YBH **Yreka Blue Hor** 24.54 114 P P 02 37 44.3 +2.5
comp=Z,2.7nm,0.8s,baz=37,slow=7.2,SNR=4.7
YBH LR LR 02 45 12.5
comp=Z,124nm,18.6s,baz=315,slow=31
comp=Z,2.7nm,0.8s
K05A **Summer Lake** 24.77 110 IAmb IAmb 02 38 14.9
comp=Z,29nm,1.4s
SEY **Seymchan** 27.47 306 P P 02 38 06.2 -1.7
comp=Z,3.9nm,0.9s,baz=90,slow=9.0,SNR=5.5
comp=Z,3.9nm,0.9s
PEA0B **Petropavlovsk-** 28.02 284 P P 02 38 12.4 -0.4
PEA0B IAmb IAmb 02 38 25.4
comp=Z,28nm,1.4s
PETK **Petropavlovsk-** 28.02 284 P P 02 38 11.7 -1.2
comp=Z,3.2nm,0.9s,baz=58,slow=20,SNR=5.1
PETK LR LR 02 50 25.4
comp=Z,102nm,19.2s,baz=79,slow=39
comp=Z,3.2nm,0.9s
ELK **Elko** 29.16 106 P P 02 38 25.4 +2.0
comp=Z,0.7nm,0.6s,baz=324,slow=8.8,SNR=5.3
ELK LR LR 02 48 13.7
comp=Z,37nm,20.5s,baz=324,slow=32
comp=Z,0.7nm,0.6s
NVAR **Mina Array Bea** 29.25 113 P P 02 38 26.2 +2.0
comp=Z,1.2nm,0.7s,baz=302,slow=8.6,SNR=12
NVAR LR LR 02 48 18.7
comp=Z,161nm,18.1s,baz=281,slow=32
comp=Z,1.2nm,0.7s
NVAR **Mina Array Bea** 29.25 113 P P 02 38 25.8 +1.5
R11A **Troy Canyon, C** 30.72 110 P P 02 38 35.8 -1.4
baz=318
PDAR **Pinedale Array** 30.87 97 P P 02 38 40.2 +1.7
comp=Z,0.7nm,0.6s,baz=326,slow=3.9,SNR=9.5
PDAR LR LR 02 49 31.0
comp=Z,54nm,18.0s,baz=322,slow=33
comp=Z,0.7nm,0.6s
TPNV **Topopah Spring** 31.44 112 P P 02 38 43.0 -0.5
baz=320
FURC **Furnace Creek,** 31.49 114 P P 02 38 43.5 -0.3
baz=321
MPMC **Manual Prospec** 31.49 115 P P 02 38 43.7 -0.3
baz=321
LRMC **Laurel Mtn Rad** 31.85 116 P P 02 38 45.2 -1.9
baz=322
SRU **San Rafael Swe** 32.86 103 IAmb IAmb 02 39 24.8
comp=Z,6.0nm,1.0s
RSSD **Black Hills** 33.05 91 P P 02 38 58.8 +1.1
RSSD **Black Hills** 33.05 91 P P 02 38 58.6 +0.9
baz=309
MDND **Maddock** 33.25 82 P P 02 38 59.9 +0.8
baz=305
O20A **White River Ci** 33.38 100 IAmb IAmb 02 39 19.5
comp=Z,14nm,1.5s
O20A **White River Ci** 33.38 100 P P 02 39 00.9 +0.4
baz=314
BELC **Belle Mtn. Jos** 33.87 116 P P 02 39 04.9 +0.2
baz=323
ULM **Lac du Bonnet** 33.94 76 P P 02 39 06.5 +1.5
comp=Z,6.3nm,1.0s,baz=292,slow=8.6,SNR=6.8
ULM LR LR 02 52 58.1
comp=Z,227nm,18.4s,baz=14,slow=36
comp=Z,6.3nm,1.0s
ULM **Lac du Bonnet** 33.94 76 P P 02 39 06.4 +1.3
ULM IAmb IAmb 02 39 08.5
comp=Z,13nm,1.1s
PFO **Pinyon Flats O** 33.94 116 LR LR 02 49 48.6
comp=Z,90nm,21.7s,baz=307,slow=31
IRM **Iron Mountain** 34.17 114 P P 02 39 07.7 +0.4
baz=322
TIXI **Tiksi** 34.39 327 P P 02 39 07.4 -1.3
comp=Z,11nm,1.0s,baz=90,slow=20,SNR=6.5
comp=Z,11nm,1.0s
TIXI **Tiksi** 34.39 327 P P 02 39 08.6 -0.1
TIXI IAmb IAmb 02 39 09.4
comp=Z,11nm,1.0s
AGMN **Agassiz Nation** 35.04 78 IAmb IAmb 02 39 17.2
comp=Z,7.4nm,0.9s
AGMN **Agassiz Nation** 35.04 78 P P 02 39 14.5 -0.1
baz=305,SNR=5.2
214A **Organ Pipe Nat** 37.10 114 P P 02 39 32.0 -0.4
baz=323
ECSD **EROS Data Cent** 37.42 85 P P 02 39 35.2 +0.2
baz=310
EYMN **Ely** 37.62 76 P P 02 39 37.9 +1.3
EYMN IAmb IAmb 02 39 46.0
comp=Z,7.1nm,0.7s
EYMN **Ely** 37.62 76 P P 02 39 36.5 -0.1
baz=306
YAK **Yakutsk** 37.66 311 LR LR 02 56 55.4
comp=Z,250nm,18.1s,baz=89,slow=39
ANMO **Albuquerque** 38.12 104 LR LR 02 53 44.4
comp=Z,54nm,19.8s,baz=318,slow=34
E38A **The Farm, Brul** 38.40 78 IAmb IAmb 02 39 46.2
comp=Z,9.9nm,1.0s
I37A **Lemond, Waseca** 39.02 82 IAmb IAmb 02 40 00.4
comp=Z,16nm,1.2s
N35A **Tabor** 39.87 88 IAmb IAmb 02 40 09.7
comp=Z,14nm,0.8s
FRB **Frobisher Bay** 39.90 44 LR LR 02 56 21.1
comp=Z,212nm,21.0s,baz=248,slow=36
G40A **Rib Lake** 39.97 79 P P 02 39 57.1 +0.8
I40A **Norwalk** 40.63 80 P P 02 40 02.6 +0.8
I40A IAmb IAmb 02 40 04.3
comp=Z,9.6nm,1.0s
E43A **Lone Tree Farm** 41.00 75 P P 02 40 05.4 +0.5
E43A IAmb IAmb 02 40 07.5
comp=Z,8.7nm,0.9s
MNTX **Cornudas Mount** 41.19 106 P P 02 40 09.2 +2.6
MNTX **Cornudas Mount** 41.19 106 P P 02 40 04.6 -2.0
baz=321
JFWS **Jewell Farm** 41.47 81 P P 02 40 06.4 -2.4
baz=312
P38A **Dawn** 41.89 87 IAmb IAmb 02 40 14.4
comp=Z,9.2nm,0.7s
P40A **Paris** 42.78 86 P P 02 40 20.1 +0.6
P40A IAmb IAmb 02 40 29.4
comp=Z,6.7nm,0.7s
R40A **Maddies Statio** 43.52 88 P P 02 40 25.9 +0.4
R40A IAmb IAmb 02 40 26.7
comp=Z,7.9nm,0.7s
HDIL **Hopedale** 43.59 83 IAmb IAmb 02 40 27.7
comp=Z,14nm,0.7s
HDIL **Hopedale** 43.59 83 P P 02 40 25.4 -0.6
baz=314
SUMG **Summit** 43.77 23 P P 02 40 28.5 +1.0
SUMG **Summit** 43.77 23 *i* P P 02 40 28.0 +0.5
TX31 **Lajitas Ar. Si** 43.95 107 IAmb IAmb 02 40 40.8
comp=Z,11nm,1.1s
TXAR **Lajitas Array** 43.95 107 P P 02 40 31.7 +2.5
comp=Z,0.8nm,0.7s,baz=312,slow=5.5,SNR=13
TXAR PcP PP 02 42 12.8 +1.3
comp=Z,0.6nm,0.9s,baz=346,slow=1.9,SNR=1.8
TXAR LR LR 02 57 30.0
comp=Z,78nm,19.1s,baz=332,slow=34
comp=Z,0.8nm,0.7s
TXAR **Lajitas Array** 43.95 107 P P 02 40 31.4 +2.2
SFJD **Kangerlussuaq** 44.25 33 LR LR 03 00 54.4
comp=Z,208nm,20.6s,baz=310,slow=39
X37A **Clayton** 44.47 94 IAmb IAmb 02 40 41.9
comp=Z,5.6nm,0.8s
LPIG **La Paz** 44.80 118 LR LR 02 55 28.0
comp=Z,53nm,21.1s,baz=355,slow=31
SFIN **Lafayette** 44.93 82 P P 02 40 35.5 -1.2
baz=314
L48A **N Adams** 45.31 78 IAmb IAmb 02 40 41.8
comp=Z,11nm,0.8s
MIAR **Mount Ida** 45.50 93 P P 02 40 42.3 +1.0
MIAR IAmb IAmb 02 40 52.9
comp=Z,18nm,1.4s
MIAR **Mount Ida** 45.50 93 P P 02 40 40.3 -1.1
baz=318
SCHQ **Schefferville** 45.74 54 P P 02 40 43.7 +0.7
comp=Z,5.6nm,0.8s,baz=301,slow=9.8,SNR=5.0
SCHQ LR LR 03 01 52.2
comp=Z,128nm,19.6s,baz=147,slow=39
comp=Z,5.6nm,0.8s
ICESG **Greenland Ices** 45.92 27 *i* P P 02 40 44.5 -0.1
N49A **Columbus Grove** 46.15 79 IAmb IAmb 02 40 48.1
comp=Z,11nm,0.8s
WCI **Wyandotte Cave** 46.88 83 P P 02 40 51.4 -0.7
baz=315
USRK **Ussuriysk Ar.** 46.96 288 LR LR 02 58 02.4
comp=Z,116nm,21.9s,baz=320,slow=33
H11N2 **WAKE ISLAND Hy** 47.06 236 T T 03 31 30.7
baz=30,slow=75
H11N3 **WAKE ISLAND Hy** 47.07 236 T T 03 31 31.3
baz=30,slow=75
H11N1 **WAKE ISLAND Hy** 47.08 236 T T 03 31 30.7
baz=30,slow=75
NRIK **Noril'sk** 47.10 335 P P 02 40 53.2 -0.3
comp=Z,21nm,0.9s,baz=52,slow=6.3,SNR=15
NRIK LR LR 03 02 27.4
comp=Z,82nm,20.8s,baz=42,slow=38
comp=Z,21nm,0.9s
NRIK **Noril'sk** 47.10 335 P P 02 40 53.0 -0.5
WVT **Waverly** 47.54 86 P P 02 40 58.2 +0.9
WVT IAmb IAmb 02 41 07.9
comp=Z,4.4nm,0.8s
WVT **Waverly** 47.54 86 P P 02 40 57.0 -0.3
baz=317
ERPA **Erie** 47.59 75 P P 02 40 56.7 -0.9
baz=314
M53A **WI Miller and** 47.69 76 P P 02 40 57.2 -1.3
baz=314
OXF **Oxford** 47.84 89 P P 02 40 59.3 -0.3
baz=318
R50A **Paris** 47.92 82 IAmb IAmb 02 41 11.2
comp=Z,8.9nm,1.0s

P52A Corning 48.17 79 P P 02 41 01.5 -0.6
baz=315
H11S1 WAKE ISLAND Hy 48.22 235 T T 03 32 54.3
baz=29
H11S2 WAKE ISLAND Hy 48.23 235 T T 03 32 53.1
baz=29
H11S3 WAKE ISLAND Hy 48.24 235 T T 03 32 51.4
baz=29
PLAL Pickwick Lake 48.24 88 IAmb IAmb 02 41 11.8
comp=Z,7.8nm,0.7s
M55A Ridgway 48.70 75 IAmb IAmb 02 41 08.2
comp=Z,9.2nm,0.8s
O54A Avella 48.73 77 IAmb IAmb 02 41 19.5
comp=Z,7.4nm,0.9s
S51A Beattyville 48.79 82 IAmb IAmb 02 41 17.4
comp=Z,11nm,1.2s
L56A Greenwood 48.88 73 P P 02 41 08.4 +0.8
H06N1 SOCORRO T-PHAS 48.94 122 T T 03 33 45.5
SNR=40
MAJO Matsushiro 48.96 276 P P 02 41 08.2 -0.1
MJAR Matsushiro Arr 48.96 276 P P 02 41 07.4 -0.9
comp=Z,2.1nm,0.8s,baz=54,slow=9.1,SNR=6.3
comp=Z,2.1nm,0.8s
X48A Hartselle 49.20 87 IAmb IAmb 02 41 20.6
comp=Z,5.6nm,0.8s
SWET Sewanee 49.26 86 IAmb IAmb 02 41 19.0
comp=Z,4.6nm,0.7s
W50A Signal Mountai 49.61 85 IAmb IAmb 02 41 24.5
comp=Z,7.7nm,1.1s
BINY Binghamton 49.67 72 P P 02 41 12.7 -0.9
baz=315
SSPA Standing Stone 49.76 75 P P 02 41 13.4 -0.9
baz=315
FPAL Fort Paine 49.93 86 IAmb IAmb 02 41 24.3
comp=Z,5.5nm,0.8s
Y49A Blount Mountai 49.99 87 P P 02 41 15.8 -0.5
Y49A IAmb IAmb 02 41 28.9
comp=Z,5.3nm,0.7s
TKL Tuckaleechee C 50.13 84 LR LR 03 02 36.8
comp=Z,179nm,18.1s,baz=330,slow=36
N58A Sunbury 50.24 74 IAmb IAmb 02 41 19.9
comp=Z,8.7nm,0.8s
LRAL Lakeview Retre 50.28 88 P P 02 41 17.2 -1.1
baz=318
P57A Homestead Farm 50.51 76 IAmb IAmb 02 41 30.0
comp=Z,15nm,1.4s
U54A Nelsons Funny 50.58 81 IAmb IAmb 02 41 23.5
comp=Z,8.7nm,1.0s
V53A Saluda 50.65 83 IAmb IAmb 02 41 24.1
comp=Z,11nm,1.2s
BLA Blacksburg 50.84 80 P P 02 41 21.0 -1.6
baz=317
KMSC Kings Mountain 51.86 82 P P 02 41 29.9 -0.2
baz=318
W57A Gilead 52.59 81 IAmb IAmb 02 41 37.0
comp=Z,14nm,1.4s
BORG Borgarnes 53.75 23 LR LR 03 07 57.0
comp=Z,130nm,19.7s,baz=328,slow=40
KSRS Korea Array 53.91 285 P P 02 41 45.5 +0.2
comp=Z,6.1nm,1.0s,baz=46,slow=6.9,SNR=15
comp=Z,6.1nm,1.0s
KSAR Wonju Array Be 53.94 285 P P 02 41 45.3 -0.2
ARCES ARCESS Array B 54.38 1 P P 02 41 48.0 -0.3
comp=Z,1.9nm,0.5s,baz=8.5,slow=8.2,SNR=14
comp=Z,1.9nm,0.5s
XLT XiLinHaoTe 55.28 298⇑ *i*P P 02 41 55.7 +0.4
XLT pP sP 02 42 02.8 -1.1
XLT sP pP 02 42 07.2 +5.7
XLT S **S** 02 49 39.7 +1.8
XLT pmax pmax
comp=Z,13nm,1.1s
XLT pmax pmax
comp=Z,100nm,5.0s
XLT LR LR
comp=N,27nm,14.8s
XLT LR LR
comp=E,180nm,10.9s
XLT LR LR
comp=Z,250nm,16.0s
ULN Ulaanbaatar 56.54 307 P P 02 42 04.8 +0.4
ULN IAmb IAmb 02 42 06.1
comp=Z,12nm,1.0s
SONM Songino Array 56.85 308 P P 02 42 06.8 +0.2
comp=Z,21nm,0.9s,baz=47,slow=7.5,SNR=82
comp=Z,21nm,0.9s
SONM Songino Array 56.85 308 P P 02 42 06.8 +0.2
BJT Baijiatuau 58.13 295 P P 02 42 15.4 0.0
BJT IAmb IAmb 02 42 22.7
comp=Z,6.1nm,0.8s
HHC Hu-ho-hao-te 59.78 299 *e*P P 02 42 27.4 +0.4
HHC pmax pmax
comp=Z,57nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.2s
ZAA0 Zalesovo Array 60.23 325 P P 02 42 30.0 +0.2
ZALV Zalesovo Beam 60.23 325 P P 02 42 29.9 +0.1
comp=Z,8.2nm,0.8s,baz=32,slow=5.9,SNR=29
comp=Z,8.2nm,0.8s
ZALV Zalesovo Beam 60.23 325 P P 02 42 30.2 +0.4
HNS HongShan 60.87 294 ⇓P P 02 42 35.3 +1.0
HNS pmax pmax
comp=Z,17nm,1.0s
NB2 NORSAR Subarra 62.28 8 P P 02 42 44.2 +0.6
comp=Z,13nm,0.9s,baz=350,slow=6.9
NOA NORSAR Array B 62.28 8 P P 02 42 44.4 +0.7
comp=Z,8.8nm,0.8s,baz=350,slow=6.7,SNR=28
comp=Z,8.8nm,0.8s
FIA1 FINESS Array S 62.51 0 P P 02 42 45.8 +0.8
FINES FINESS Array B 62.51 0 P P 02 42 45.1 +0.1
comp=Z,11nm,1.0s,baz=17,slow=7.0,SNR=16
comp=Z,11nm,1.0s
NJ2 Nanjing 62.85 288 *e*P P 02 42 46.5 -1.3
NJ2 pmax pmax
comp=Z,13nm,0.6s
LYN LuoYang 64.22 294⇑ *e*P P 02 42 56.9 +0.1
LYN pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 64.63 341 P P 02 42 59.2 +0.1
KURK Kurchatov 64.96 326 P P 02 43 01.7 +0.3
KURK IAmb IAmb 02 43 02.8
comp=Z,10.0nm,1.0s
BRVK Borovoye 65.22 333 P P 02 43 03.4 +0.4
ZSN Zaisan 65.73 321 *e*P P 02 43 07.5 +1.0
comp=Z,13nm,1.1s,baz=320
XAN Xi'an 66.41 296 P P 02 43 10.3 -0.8
XAN pP sP 02 43 17.8 -1.9
XAN pmax pmax
comp=Z,11nm,1.0s
GTA Gaotai 66.42 306 *e*P P 02 43 11.7 +0.5
GTA pP sP 02 43 17.9 -1.9
GTA sP pP 02 43 23.1 +5.6
GTA pmax pmax
comp=Z,9.0nm,0.7s
MATN Matagalpa 66.81 102 P P 02 43 14.0 +0.1
MATN IAmb IAmb 02 43 15.2
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 67.19 322 P P 02 43 15.9 0.0
MK31 IAmb IAmb 02 43 17.4
comp=Z,7.6nm,1.0s
MKAR Makanchi Array 67.19 322 P P 02 43 15.9 +0.1
comp=Z,6.7nm,0.9s,baz=45,slow=5.4,SNR=34
comp=Z,6.7nm,0.9s
MAKZ Makanchi 67.29 322 P P 02 43 16.6 +0.1
BRZS Berezniki 67.36 330 *e*P P 02 43 16.5 -0.3
comp=Z,6.8nm,1.1s,baz=330
WMQ Urumqi 67.80 317 *e*P P 02 43 22.8 +3.0
PABE Paberze 68.45 2 P P 02 43 24.5 +1.0
OBN Obninsk 68.57 354 P P 02 43 23.9 -0.4
NACGM Naroch 69.07 360⇑ *e*P P 02 43 27.4 0.0
baz=0.2
MNK Minsk 69.47 359 *i* P P 02 43 28.0 -1.9
comp=E,2.0nm,1.5s
MNK *i* P P 02 43 28.0 -1.9
MNK *i* P P 02 43 28.0 -1.9
comp=Z,17nm,0.9s,baz=0.9
MNK *i* PP PP 02 45 58.9 -3.8
MNK *i* PPP PPP 02 47 41.3
MNK *i* S S 02 52 35.6 -0.3
MNK *i* SS SS 02 57 04.8 +2.8
MNK *i* SSS SSS 03 00 19.9
MNK *i* LQ LQ 03 08 56.2
MNK *i* LR LR 03 14 00.4
MNK *i* LRM MLR 03 17 08.6
comp=E,3.0nm,8.9s
MNK *i* LRM MLR 03 17 19.1
comp=Z,56nm,13.4s
TDK Taldyqorghan 70.07 324 *e*P P 02 43 34.5 +0.6
comp=Z,19nm,1.1s,baz=323
ABKAR Akbulak array 71.16 338 P P 02 43 40.7 +0.4
KPKS Kokpek 71.34 323 *e*P P 02 43 42.4 +0.7
comp=Z,8.8nm,1.1s,baz=322
SHLS Shalkode 71.35 322 *e*P P 02 43 41.4 -0.4
comp=Z,8.9nm,1.0s,baz=322
BTLS Baital 71.42 327 *e*P P 02 43 42.3 +0.4
comp=Z,8.9nm,0.9s,baz=326
CHKK Chushkaly 71.55 324 *e*P P 02 43 42.6 -0.2
baz=324
KUU Kurty 71.73 325 *e*P P 02 43 43.8 -0.1
comp=Z,5.2nm,0.9s,baz=324
SATY Saty 71.79 323 *e*P P 02 43 45.3 +0.9
baz=322
CLL Collm 72.07 9 IAmb IAmb 02 43 47.8
comp=Z,5.0nm,0.9s
CLL Collm 72.07 9 *i* P P 02 43 46.6 +0.8
comp=Z,6.0nm,1.0s
MDOK Medeo 72.15 324 *e*P P 02 43 47.2 +0.6
baz=323
AAA Alma-Ata 72.15 324 *e*P P 02 43 46.6 +0.1
baz=324
BRG Berggiesshubel 72.58 8 *e*P P 02 43 50.2 +1.3
BRG Amp 02 43 51.2
comp=Z,8.7nm,1.2s
SGDS Sogindy 72.67 326 *e*P P 02 43 49.8 +0.2
comp=Z,6.2nm,1.1s,baz=325
KSP Ksiaz 72.79 7 *e*P P 02 43 51.3 +1.2
TKM2 Tokmak 2 72.84 325 P P 02 43 51.9 +1.1
SNR=15
USP Ospenovka 72.88 326 P P 02 43 51.9 +1.1
SNR=13
PVCC Panska Ves 72.98 8 *e*P P 02 43 52.5 +1.3
CHMS Chumysh 73.04 325 P P 02 43 53.1 +1.3
SNR=6.6
OSTC Ostas 73.07 7 *e*P P 02 43 53.2 +1.4
NKC Novy Kostel 73.09 10 *e*P P 02 43 53.2 +1.3
BOOM Boomskoye usch 73.12 324 P P 02 43 53.0 +0.6
BOOM IAmb IAmb 02 43 54.5
comp=Z,11nm,0.9s
TARG Taragay, Kyrgy 73.18 323 IAmb IAmb 02 44 02.7
comp=Z,5.1nm,0.7s
AKASG Malin Array Be 73.26 358 P P 02 43 52.4 -0.5
comp=Z,1.2nm,0.3s,baz=3.0,slow=5.9,SNR=19
comp=Z,1.2nm,0.3s
DPC Dobruska-Polom 73.28 7 *e*P P 02 43 54.6 +1.5
AAK Ala-Archa 73.45 325 P P 02 43 54.5 +0.1
AAK IAmb IAmb 02 43 56.4
comp=Z,11nm,0.9s
PRU Pruhonice 73.51 8 *e*P P 02 43 55.6 +1.2
PRU *e*pP **sP** 02 44 02.7 -0.4
KRLC Kraliky 73.59 7 *e*P P 02 43 55.9 +1.0
KRLC *e*pP **sP** 02 44 02.4 -1.2
EKS2 Erkin-Say 73.65 326 P P 02 43 56.7 +1.2
SNR=10
MORC Moravsky Berou 73.93 6 IAmb IAmb 02 43 58.9
comp=Z,6.2nm,1.3s
AML Almayashu 74.16 326 P P 02 44 00.2 +1.4
SNR=11
DZA Taraz 74.19 328 *e*P P 02 43 58.7 +0.2
comp=Z,6.1nm,1.1s,baz=327
KKAR Karatay Array 74.24 328 P P 02 43 59.2 +0.4
TREC Trest 74.27 8 *e*P P 02 43 59.4 +0.5
KHC Kasperske Hory 74.28 9 IAmb IAmb 02 44 01.6
comp=Z,6.8nm,0.9s
KHC Kasperske Hory 74.28 9 *e*P P 02 44 00.3 +1.3
KHC *e*pP **sP** 02 44 07.3 -0.4
KWP Kalwaria Pacla 74.30 3 *e*P P 02 44 00.0 +1.0
MAUC Maruska 74.36 6 *e*P P 02 44 00.4 +1.0
NIE Niedzica 74.43 4 *e*P P 02 44 01.1 +1.3
ECH Echery 74.49 13 IAmb IAmb 02 44 02.4
comp=Z,10nm,1.1s
KRUC Moravsky 74.57 7 *e*P P 02 44 01.3 +0.7
GEC2 GERESS Array S 74.58 9 IAmb IAmb 02 44 02.3
comp=Z,4.6nm,0.9s
GERES GERESS Array B 74.58 9 P P 02 44 01.5 +0.8
comp=Z,1.8nm,0.5s,baz=354,slow=4.9,SNR=18
comp=Z,1.8nm,0.5s
GERES GERESS Array B 74.58 9 P P 02 44 01.8 +1.0
CKRC Cesky Krumlov 74.65 8 *e*P P 02 44 02.2 +1.1
CKRC *ex* x 02 44 08.5
LANS Liptovska Anna 74.66 5 *e*P P 02 44 03.6 +2.5
JAVC Velka Javorina 74.85 6 *e*P P 02 44 04.0 +1.7
KOLS Kolonicke sedl 74.99 3 *e*P P 02 44 04.9 +1.9
CRVS Cervenica-Dubn 74.99 4 *e*P P 02 44 04.1 +1.1
CRVS *e* 03 07 23.3
IUG Iuzhnay 75.26 328 *e*P P 02 44 05.8 +1.0
baz=328
VYHS Vyhne 75.28 5 *e*P P 02 44 05.8 +1.1
ZST Bratislava 75.48 7 *e*P P 02 44 07.1 +1.3
MOA Molln 75.61 9 *i* P P 02 44 07.6 +0.9
comp=Z,3.4nm,1.1s
CONA Conrad Observa 75.66 8 *i* P P 02 44 08.5 +1.5
comp=Z,5.6nm,1.0s,SNR=6.9
BIOA Bad Ischl, Aus 75.72 9 *i* P P 02 44 08.3 +1.1
comp=Z,5.3nm,0.9s
KSH Kashi 75.78 323 P P 02 44 11.9 +4.1
KSH pP PcP 02 44 18.8 -1.7
KSH pmax pmax
comp=Z,16nm,0.9s
KSH LR LR
comp=Z,340nm,14.1s
MOTA Moosalm 75.81 11 *e*P P 02 44 09.2 +1.2
comp=Z,12nm,1.1s,SNR=5.7
WATA Walderalm 75.87 11 *e*P P 02 44 09.6 +1.3
comp=Z,15nm,1.1s,SNR=6.4
PSZ Piszkesteto 75.91 5 ⇑P P 02 44 08.5 +0.1
PSZ Piszkesteto 75.91 5 IAmb IAmb 02 44 11.1
comp=Z,12nm,1.1s
RONA Rosalia, Austr 75.92 7 *i* P P 02 44 09.9 +1.5
comp=Z,3.1nm,0.8s
SQTA Sankt Quirin 75.95 11 *e*P P 02 44 10.2 +1.6
comp=Z,16nm,1.1s,SNR=7.1
WTTA Wattenberg 75.95 11 *e*P P 02 44 10.3 +1.5
comp=Z,16nm,1.1s,SNR=5.4
FETA Feichten 76.09 11 *e*P P 02 44 11.0 +1.4
comp=Z,9.8nm,1.0s,SNR=5.5
PZH PanZhiHua 76.12 297 P P 02 44 11.2 +1.2
PZH pmax pmax
comp=Z,8.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.5s
KBA Koelnbreinsper 76.30 9 *i* P P 02 44 12.5 +1.7
comp=Z,16nm,1.2s,SNR=8.5
ARSA Arberg 76.31 8 *i* P P 02 44 12.0 +1.4
comp=Z,4.6nm,1.1s
BUR08 Bucovina Ar. S 76.33 1 P P 02 44 11.0 +0.1
BURAR Bucovina Array 76.36 1 ⇑P P 02 44 11.9 +0.9
ABTA Abfaltersbach 76.55 10 *i* P P 02 44 13.4 +1.4
comp=Z,6.3nm,1.2s
SOKA Soboth 76.84 8 *i* P P 02 44 15.2 +1.5
comp=Z,12nm,1.1s,SNR=9.3
OBKA Obir 76.97 9 *e*P P 02 44 15.7 +1.3
comp=Z,15nm,0.8s,SNR=6.3
BIZ Bicaz 77.05 0 ⇑P P 02 44 15.8 +1.0
DRGR 77.14 3 ⇑P P 02 44 15.9 +0.5
VASR Vaslui 77.34 359 ⇑P P 02 44 16.6 +0.2
BNI Bardonecchia 77.53 14 P P 02 44 17.6 -0.1
BNI IAmb IAmb 02 44 20.6
comp=Z,7.7nm,1.1s
MORH Mrgy, Hungar 77.55 6 ⇑P P 02 44 19.0 +1.5
OZUR 77.89 1 ⇑P P 02 44 20.9 +1.3
VRI Vrincioaia 78.12 0 ⇑P P 02 44 27.1 +6.3
PLOR Plostina 78.14 0 ⇑P P 02 44 21.7 +0.8
COVR Voineasa-Covas 78.14 0 ⇓P P 02 44 22.4 +1.5
BZS Buzias 78.28 4 ⇑P P 02 44 22.3 +0.7
POLO Lamas de Olo 78.32 26 *e*P P 02 44 23.7 +1.6
LSA Lhasa 78.43 307 P P 02 44 23.7 +0.4
LSA IAmb IAmb 02 44 26.0
comp=Z,6.6nm,0.8s
PVRL Vila Real 78.44 26 *e*P P 02 44 24.6 +1.9
MLR Muntele Rosu 78.49 1 IAmb IAmb 02 44 24.9
comp=Z,5.2nm,1.1s
LOT Lotru 78.51 2 ⇑P P 02 44 22.8 -0.2
FRGS Fruska Gora 78.66 5 ⇑P P 02 44 23.5 -0.3
MVO Moncorvo 78.71 25 *e*P P 02 44 26.1 +1.9
CFR Carcaliu 78.80 359 ⇑P P 02 44 24.3 -0.2
VLC Villacollemand 78.88 12 IAmb IAmb 02 44 28.4
comp=Z,8.1nm,0.9s
PVIS Viseu 78.92 26 *e*P P 02 44 26.9 +1.6
MDVR Moldovita 79.12 4 ⇑P P 02 44 27.2 +0.9
TPGR Topolog 79.12 359 ⇑P P 02 44 27.2 +0.9
KIV Kislovodsk 79.13 348 ⇑P P 02 44 27.5 +1.0
KIV Kislovodsk 79.13 348 P P 02 44 26.8 +0.3
HARR Harsova 79.29 359 ⇑P P 02 44 27.8 +0.6
MTE Manteigas 79.31 26 *e*P P 02 44 29.2 +1.7
KBZ Khabaz 79.33 348 P P 02 44 27.9 +0.5
comp=Z,10nm,0.9s,baz=328,slow=3.4,SNR=15
comp=Z,10nm,0.9s
PCAS Casmilo, Conde 79.40 27 *e*P P 02 44 29.5 +1.6
TIRR Tirgusor 79.52 359 ⇑P P 02 44 29.2 +0.8
PCBR Castelo Branco 79.85 26 *e*P P 02 44 31.6 +1.3
BOVS Bovan 80.26 4 ⇑P P 02 44 32.5 +0.1
ESBB Sonseca Array 80.83 24 IAmb IAmb 02 44 38.3
comp=Z,7.7nm,0.9s
ESDC Sonseca Array 80.83 24 P P 02 44 36.6 +0.9
comp=Z,5.3nm,0.8s,baz=341,slow=5.2,SNR=40
comp=Z,5.3nm,0.8s
ESDC Sonseca Array 80.83 24 P P 02 44 36.7 +0.9
ESDC IAmb IAmb 02 44 38.3
comp=Z,5.0nm,0.9s
PDG Podgorica 81.35 6 ⇑P P 02 44 37.5 -0.8
PDG Podgorica 81.35 6 IAmb IAmb 02 44 39.8
comp=Z,8.8nm,0.9s
PBAR Barrancos 81.54 26 *e*P P 02 44 40.7 +1.3
PMG Port Moresby 81.78 239 LR LR 03 16 11.5
comp=Z,452nm,21.2s,baz=275,slow=32
NIL Nilore 82.01 322 P P 02 44 42.7 +0.7
CRAI Chiangrai 82.04 295 P P 02 44 41.8 -0.5
CRAI IAmb IAmb 02 44 43.4
comp=Z,7.2nm,1.0s
DIKM Dikmen 82.07 354 ⇑P P 02 44 43.7 +1.5
GEYT Alibeck 82.35 335 P P 02 44 44.2 +0.4
comp=Z,7.8nm,0.8s,baz=328,slow=5.3,SNR=13
comp=Z,7.8nm,0.8s
GEYT Alibeck 82.35 335 IAmb IAmb 02 44 45.9
comp=Z,11nm,0.9s
GYA0B ALIBECK ARRAY 82.35 335 P P 02 44 44.0 +0.3
GYA0B IAmb IAmb 02 44 45.8
comp=Z,9.4nm,0.9s
KBL Kabul 82.56 326 P P 02 44 44.6 -0.5
KBL IAmb IAmb 02 44 45.1
comp=Z,6.4nm,0.8s
KOPT Kop Dagi 83.26 349 P P 02 44 49.8 +1.1
UBPT Khong Chiam 83.53 288 P P 02 44 50.7 +0.6
CHTO Chiang Mai 83.95 295 P P 02 44 51.2 -1.0
BRTR Keskin Array B 84.08 355 P P 02 44 53.5 +0.7
comp=Z,4.1nm,0.9s,baz=30,slow=3.3,SNR=24
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 84.25 295 P P 02 44 53.6 -0.1
comp=Z,1.9nm,0.3s,baz=9.3,slow=5.8,SNR=18
comp=Z,1.9nm,0.3s
CMAR Chiang Mai Arr 84.25 295 P P 02 44 53.5 -0.3
TIP Timpagrande 84.43 8 ⇑P P 02 44 54.6 +0.2
WRA Warramunga Arr 97.10 245 P P 02 45 52.3 -1.8
comp=Z,0.7nm,1.0s,baz=46,slow=5.6,SNR=4.1
comp=Z,0.7nm,1.0s
RAYN Ar Rayn 98.84 343 Pdif 02 46 02.7 +0.6
H03N2 Juan Fernandez 109.28 121 T T 04 49 18.2
baz=324,slow=78,SNR=47
H03N1 Juan Fernandez 109.29 121 T T 04 49 24.6
baz=324,slow=78,SNR=24
H03N3 Juan Fernandez 109.29 121 T T 04 49 19.0
baz=324,slow=78,SNR=56
BOSA Boshof 152.23 3 PKPbc **PKPbc** 02 52 17.0 -0.5
comp=Z,4.1nm,0.7s,baz=11,slow=0.4,SNR=6.2

---

*SFS **10** 02:35:21.0, 36°.62N×7°.74W, h17km, ML2.8, GOLFO DE CADIZ*
*CNRM **10** 02:35:21.5, 36°.61N×7°.72W, h50km, ml2.2*
*MDD **10** 02:35:22.3±0.6, 36°.61N×7°.75W, h24km±5km, mb_Lg2.7/20, Error ellipse: s-maj=3.7km s-min=2.3km az=34.0*
*IGIL **10** 02:35:22.8, 36°.57N×7°.77W, h30km, ML2.1*
*INMG **10** 02:35:23.4±1.7, 36°.60N×7°.76W, h31km±10km, ML2.1, Error ellipse: s-maj=4.5km s-min=4.3km az=24.0*

ISC 10 02:35:21.1±1.3, 36°.67N±0°.04×7°.68W±0°.03, h26km±14km, **n67,σ1°32/124, 1C-7D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.61**	**340**⇓	*e*P	**Pn**	**02 35 36.0**	**+1.9**
PBDV				*e*S	**Sn**	**02 35 44.6**	**+1.5**
PBDV				A	A	02 35 45.6	
	14nm,0.1s						
PVAQ	**Vaqueiros**	**0.73**	**357**⇓	*i*P	**Pn**	**02 35 37.0**	**+1.2**
PVAQ				*e*S	**Sn**	**02 35 47.2**	**+1.0**
PVAQ				A	A	02 35 48.2	
	36nm,0.4s						
PVAQ	**Vaqueiros**	**0.73**	**357**	P	**Pn**	**02 35 36.7**	**+0.9**
PVAQ				S	**Sn**	**02 35 47.8**	**+1.6**
EGRO	**El Granado**	**0.88**	**10**	⇓P	**Pn**	**02 35 39.2**	**+1.4**
EGRO				S	**Sn**	**02 35 50.5**	**+0.9**
EGRO				*i* Vmb_Lg		02 35 52.6	
PCVE	**Castro Verde**	**1.00**	**343**	*e*P	**Pb**	**02 35 40.8**	**+1.0**
PCVE				*e*S	**Sn**	**02 35 53.6**	**+0.8**
PCVE				A	A	02 35 54.3	
	44nm,0.4s						
MORF	**Marmelete**	**1.01**	**309**	*e*P	**Pb**	**02 35 39.7**	**-0.2**
MORF				*e*S	**Sb**	**02 35 52.0**	**-0.7**
MORF				IAML		02 35 53.4	
	comp=N,47nm,0.2s						
MORF	**Marmelete**	**1.01**	**309**	*e*P	**Pb**	**02 35 40.0**	**+0.1**
MORF				*e*S	**Sb**	**02 35 52.1**	**-0.7**
MORF				A	A	02 35 53.5	
	comp=N,32nm,0.1s						
PFVI	**Vila Bisbo**	**1.03**	**297**	*e*P	**Pb**	**02 35 40.1**	**-0.2**
PFVI				*e*S	**Sb**	**02 35 52.5**	**-0.9**
PFVI				A	A	02 35 53.3	
	comp=N,29nm,0.3s						
PFVI	**Vila Bisbo**	**1.03**	**297**	P	**Pn**	**02 35 39.8**	**-0.1**
PFVI				S	**Sn**	**02 35 53.2**	**-0.3**
PTEO	**Sao Teotonio**	**1.21**	**316**	*e*P	**Pb**	**02 35 43.0**	**-0.3**
PTEO				*e*S	**Sn**	**02 35 57.8**	**-0.1**
PTEO				A	A	02 35 58.6	
	comp=N,15nm,0.3s						
MESJ	**Messejana**	**1.25**	**340**	*e*P	**Pb**	**02 35 44.0**	**+0.1**
MESJ				*e*S	**Sn**	**02 35 59.0**	**+0.2**
MESJ				IAML		02 36 00.3	
	comp=N,20nm,0.1s						
MESJ	**Messejana**	**1.25**	**340**⇓	*e*P	**Pb**	**02 35 44.0**	**+0.1**
MESJ				*e*S	**Sn**	**02 35 59.0**	**+0.2**
MESJ				A	A	02 35 59.9	
	comp=N,17nm,0.2s						
EMIN	**Mina Concepcio**	**1.36**	**36**	P	**Pn**	**02 35 45.5**	**+1.1**
EMIN				S	**Sn**	**02 36 01.6**	**+0.1**
EMIN				*i* Vmb_Lg		02 36 02.5	
PBEJ	**Beja**	**1.36**	**354**	*e*P	**Pb**	**02 35 45.7**	**-0.2**
PBEJ				*e*S	**Sn**	**02 36 02.1**	**+0.4**
PBEJ				A	A	02 36 04.5	
	comp=N,5.7nm,0.1s						
ESPR	**Espera**	**1.47**	**82**	⇑P	**Pn**	**02 35 47.1**	**+1.2**
ESPR				S	**Sn**	**02 36 05.2**	**+0.8**
ESPR				*i* Vmb_Lg		02 36 06.7	
PBAR	**Barrancos**	**1.58**	**18**	*e*P	**Pn**	**02 35 48.8**	**+1.3**
PBAR				*e*S	**Sn**	**02 36 07.5**	**+0.3**
PBAR				A	A	02 36 16.4	
	comp=N,5.1nm,0.2s						
PNCL	**Nicolau / Gran**	**1.59**	**335**⇓	*e*P	**Pn**	**02 35 48.6**	**+1.0**
PNCL				*e*S	**Sn**	**02 36 06.8**	**-0.5**
PNCL				A	A	02 36 11.7	
	comp=N,8.7nm,0.1s						
EJIF	**Jimena Fronter**	**1.79**	**96**	S	**Sn**	**02 36 12.4**	**+0.2**
EVO	**Evora**	**1.88**	**352**	P	**Pn**	**02 35 52.5**	**+1.0**
EVO				S	**Sn**	**02 36 13.6**	**-0.8**
EVO	**Evora**	**1.88**	**352**	*e*Pn	**Pn**	**02 35 52.9**	**+1.4**
EVO				*e*Sn	**Sn**	**02 36 15.4**	**+1.0**
EVO				A	A	02 36 16.3	
	comp=N,12nm,0.1s						
CEU	**Ceuta**	**2.01**	**112**	P	**Pn**	**02 35 55.4**	**+2.0**
CEU				S	**Sn**	**02 36 19.1**	**+1.5**
SMIR	**Smir Dam**	**2.10**	**117**	S	**Sn**	**02 36 18.3**	**-1.6**
EBAD	**Badajoz**	**2.15**	**14**	⇓P	**Pn**	**02 35 56.3**	**+1.0**
EBAD				S	**Sn**	**02 36 20.9**	**-0.1**
EBAD				*i* Vmb_Lg		02 36 23.7	
PESTR	**Estremoz**	**2.19**	**2**	*e*Pn	**Pn**	**02 35 57.0**	**+1.1**
PESTR				*e*Sn	**Sn**	**02 36 23.4**	**+1.1**
PESTR				A	A	02 36 23.6	
	comp=N,1.7nm,0.1s						
PESTR	**Estremoz**	**2.19**	**2**	P	**Pn**	**02 35 57.1**	**+1.2**
PESTR				S	**Sn**	**02 36 23.3**	**+1.1**
ECAB	**El Cabril**	**2.28**	**51**	P	**Pn**	**02 35 58.0**	**+0.9**
ECAB				S	**Sn**	**02 36 22.9**	**-1.4**
ECAB				*i* Vmb_Lg		02 36 23.1	
PACT	**Alcochete**	**2.29**	**337**	*e*Pn	**Pn**	**02 35 58.9**	**+1.8**
PACT				*e*Sn	**Sn**	**02 36 25.0**	**+0.5**
PACT				A	A	02 36 28.7	
	comp=N,6.5nm,0.1s						

EMIJ	**Mijas**	**2.34**	**92**	P		**Pn**	**02 35 58.5**	**+0.7**
EMIJ				S		**Sn**	**02 36 25.6**	**-0.2**
EMIJ				*i* Vmb_Lg			02 36 28.5	
PMST	**Lisbon--Monsan**	**2.38**	**330**	*e*Sn		**Sn**	**02 36 25.8**	**-1.1**
PMST				A		A	02 36 35.6	
	comp=N,13nm,0.8s							
PMTG	**Montargil**	**2.43**	**350**	*e*Pn		**Pn**	**02 36 00.4**	**+1.2**
PMTG				*e*Sn		**Sn**	**02 36 27.4**	**-0.7**
PMTG				A		A	02 36 31.7	
	comp=N,4.6nm,0.1s							
PMAFR	**Mafra**	**2.61**	**331**	*e*Pn		**Pn**	**02 36 03.0**	**+1.3**
PMAFR				*e*Sn		**Sn**	**02 36 31.9**	**-0.6**
PMAFR				A		A	02 36 34.3	
	comp=N,20nm,0.2s							
PMRV	**Marv??o**	**2.76**	**5**	*e*Pn		**Pn**	**02 36 05.0**	**+1.3**
PMRV				*e*Sn		**Sn**	**02 36 35.6**	**-0.7**
PMRV				A		A	02 36 38.6	
	comp=N,3.1nm,0.2s							
EADA	**Adamuz**	**2.88**	**58**	P		**Pn**	**02 36 06.6**	**+1.2**
EADA				S		**Sn**	**02 36 38.5**	**-0.7**
EADA				*i* Vmb_Lg			02 36 41.5	
EGOR	**Sierra Gorda,**	**2.89**	**80**	P		**Pn**	**02 36 07.0**	**+1.4**
EGOR				S		**Sn**	**02 36 39.8**	**+0.2**
EGOR				*i* Vmb_Lg			02 36 43.6	
PSBE	**So Bento**	**2.97**	**343↓**	*e*Pn		**Pn**	**02 36 08.2**	**+1.6**
PSBE				*e*Sn		**Sn**	**02 36 40.8**	**-0.7**
PSBE				A		A	02 36 41.8	
	comp=N,4.3nm,0.8s							
PCBR	**Castelo Branco**	**3.17**	**3**	*e*Pn		**Pn**	**02 36 10.7**	**+1.4**
PCBR				*e*Sn		**Sn**	**02 36 46.2**	**0.0**
PCBR				A		A	02 36 47.5	
	comp=N,3.6nm,0.2s							
ELGU	**Los Guajares,**	**3.26**	**85**	P		**Pn**	**02 36 11.8**	**+1.2**
ELGU				S		**Sn**	**02 36 49.3**	**+0.8**
ELGU				*i* Vmb_Lg			02 36 55.6	
ZHG	**ZHG**	**3.33**	**165**	P		**Pn**	**02 36 11.5**	**0.0**
PALE	**Palemas**	**3.36**	**114**	P		**Pn**	**02 36 12.8**	**+0.9**
PCAS	**Casmilo, Conde**	**3.44**	**349**	*e*Pn		**Pn**	**02 36 14.4**	**+1.4**
PCAS				*e*Sn		**Sn**	**02 36 51.5**	**-1.4**
PCAS				A		A	02 36 54.4	
	comp=N,2.4nm,0.4s							
MTE	**Manteigas**	**3.73**	**2**	*e*Pn		**Pn**	**02 36 18.1**	**+1.1**
MTE				*e*Sn		**Sn**	**02 36 59.4**	**-0.7**
MTE				A		A	02 37 02.0	
	comp=N,2.7nm,0.8s							
EQES	**Quesada**	**3.84**	**72**	P		**Pn**	**02 36 19.5**	**+0.9**
EQES				S		**Sn**	**02 37 02.6**	**-0.4**
EQES				*i* Vmb_Lg			02 37 07.6	
EBER	**Berja**	**3.85**	**85**	P		**Pn**	**02 36 20.2**	**+1.4**
EBER				S		**Sn**	**02 37 03.6**	**+0.4**
EBER				*i* Vmb_Lg			02 38 16.7	
PAB	**San Pablo**	**3.89**	**41**	P		**Pn**	**02 36 20.7**	**+1.5**
PAB				S		**Sn**	**02 37 01.0**	**-3.1**
PAB				*i* Vmb_Lg			02 37 01.6	
PVIS	**Viseu**	**4.04**	**358**	*e*Pn		**Pn**	**02 36 22.5**	**+1.1**
PVIS				*e*Sn		**Sn**	**02 37 06.1**	**-1.8**
PVIS				A		A	02 37 08.9	
	comp=N,3.1nm,0.1s							
ESDC	**Sonseca Array**	**4.19**	**43**	P		**Pn**	**02 36 25.0**	**+1.6**
ESDC				S		**Sn**	**02 37 08.0**	**-3.5**
ESDC				*i* Vmb_Lg			02 37 11.0	
MD31	**MD31**	**4.49**	**147**	P		**Pn**	**02 36 26.8**	**-0.7**
MVO	**Moncorvo**	**4.52**	**6**	*e*Pn		**Pn**	**02 36 28.9**	**+1.0**
MVO				*e*Sn		**Sn**	**02 37 17.6**	**-2.0**
MVO				A		A	02 37 20.2	
	comp=N,2.7nm,0.2s							
PVRL	**Vila Real**	**4.60**	**360**	*e*Pn		**Pn**	**02 36 29.8**	**+0.8**
PVRL				*e*Sn		**Sn**	**02 37 20.4**	**-1.2**
PVRL				A		A	02 37 22.4	
	comp=N,4.4nm,0.1s							
MDT	**Midelt**	**4.60**	**146**	P		**Pn**	**02 36 28.1**	**-0.9**
POLO	**Lamas de Olo**	**4.70**	**359**	*e*Pn		**Pn**	**02 36 31.5**	**+1.1**
POLO				*e*Sn		**Sn**	**02 37 22.0**	**-2.1**
POLO				A		A	02 37 24.7	
	comp=N,1.6nm,0.4s							
GUD	**Guadarrama**	**4.83**	**34**	P		**Pn**	**02 36 33.7**	**+1.5**
GUD				S		**Sn**	**02 37 25.3**	**-2.1**
GUD				*i* Vmb_Lg			02 37 28.2	
EZAR	**Zarzadilla de**	**4.92**	**74**	P		**Pn**	**02 36 33.9**	**+0.4**
EZAR				S		**Sn**	**02 37 28.2**	**-1.4**
UCM	**Universidad Co**	**5.03**	**42**	P		**Pn**	**02 36 36.7**	**+1.8**
UCM				S		**Sn**	**02 37 29.6**	**-2.5**
PCAB	**Cabril**	**5.04**	**357**	*e*Pn		**Pn**	**02 36 36.2**	**+1.2**
PCAB				*e*Sn		**Sn**	**02 37 29.8**	**-2.6**
PCAB				A		A	02 37 34.0	
	comp=N,2.9nm,0.8s							
PBRG	**Braganca**	**5.18**	**8**	*e*Pn		**Pn**	**02 36 37.6**	**+0.7**
PBRG				*e*Sn		**Sn**	**02 37 34.5**	**-1.4**
PBRG				A		A	02 37 36.4	
	comp=N,1.7nm,0.1s							
ELOB	**Lobios**	**5.20**	**357**	P		**Pn**	**02 36 38.4**	**+1.2**
ELOB				*i* Vmb_Lg			02 37 34.7	
ELOB				S		**Sn**	**02 37 36.1**	**-0.3**
ETOB	**Tobarra**	**5.25**	**66**	P		**Pn**	**02 36 38.1**	**+0.2**
ETOB				S		**Sn**	**02 37 35.4**	**-2.2**
PGAV	**Gavieira, Arco**	**5.31**	**355**	*e*Pn		**Pn**	**02 36 40.1**	**+1.3**
PGAV				*e*Sn		**Sn**	**02 37 37.2**	**-1.9**
ECAL	**Calabor**	**5.31**	**8**	P		**Pn**	**02 36 40.2**	**+1.3**
ECAL				*i* Vmb_Lg			02 37 37.3	
ECAL				S		**Sn**	**02 37 37.9**	**-1.3**
ECHE	**Chera**	**6.04**	**59**	P		**Pn**	**02 36 50.0**	**+1.3**
ECHE				S		**Sn**	**02 37 56.3**	**-0.7**
ETOR	**Torete**	**6.04**	**45**	P		**Pn**	**02 36 50.6**	**+1.9**
ETOR				S		**Sn**	**02 37 56.3**	**-0.8**
ETOR				*i* Vmb_Lg			02 38 00.8	
EAGO	**Agolada(Pontev**	**6.13**	**357**	P		**Pn**	**02 36 50.9**	**+0.9**
EMOS	**Mosqueruela**	**6.74**	**55**	P		**Pn**	**02 37 00.4**	**+1.8**
EMOS				S		**Sn**	**02 38 13.0**	**-1.6**
ELAN	**Lanestosa**	**7.32**	**25**	P		**Pn**	**02 37 07.7**	**+1.4**
EORO	**Oroz-Betelu**	**7.91**	**36**	P		**Pn**	**02 37 16.5**	**+2.0**
EALK	**Alkurruntz**	**8.07**	**34**	P		**Pn**	**02 37 19.1**	**+2.4**
EALK				S		**Sn**	**02 38 43.3**	**-3.9**
EALK				*i* Vmb_Lg			02 39 52.0	

IDC ***10*** *02:44:49.3±0.6,28.˚13N×104.˚98E, h0km, mb4.1/21, mbtmp4.0/23, ML4.0/2, Error ellipse: s-maj=19.7km s-min=14.3km az=49.0*
NEIC ***10*** *02:44:57.4±2.8,29.˚2N±0.˚1×104.˚7E±0.˚1, h10km±2km, mb4.3/16, Error ellipse: s-maj=20.7km s-min=13.8km az=156.0*

ISC 10 02:44:55.3±1.0,**28.˚7N**±0.˚2×**104.˚75E**±0.˚08,**h19km**,**n62,** σ1**§56**/61,**mb4.2**/27,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**4.43**	**68**			**Pn**	**02 46 03.3**	**+1.8**
CRAI	**Chiangrai**	**9.30**	**206**	Pn		Pn	02 47 17.2	+8.8
CMAR	**Chiang Mai Arr**	**11.47**	**209**	Pn		Pn	02 47 29.9	-8.2
	0.4nm,0.3s,baz=19,slow=11,SNR=1.6							
	1.0nm,0.3s							
SHL	**Shillong**	**11.87**	**258**	Pn		**Pn**	**02 47 46.1**	**+2.4**
RAMN	**Ramite**	**16.15**	**268**	*e*P		**Pn**	**02 48 40.5**	**-1.1**
JIRN	**Jiri**	**16.40**	**271**	*e*P		**P**	**02 48 46.0**	**-1.6**
	3.0nm,0.3s							
GUN	**Gumba**	**16.64**	**272**	*e*P		**P**	**02 48 48.9**	**-1.3**
PKI	**Pulchoki**	**17.10**	**271**	*e*P		**Pn**	**02 48 53.4**	**-0.3**
PKIN	**Phulchoki**	**17.11**	**271**	*e*P		**Pn**	**02 48 52.8**	**-0.9**
	7.2nm,0.3s							
KKN	**Kakani**	**17.18**	**272**	*e*P		**Pn**	**02 48 54.5**	**-0.1**
DMN	**Daman**	**17.36**	**271**	*e*P		**Pn**	**02 48 55.8**	**-1.0**
GKN	**Gorkha**	**17.72**	**273**	*e*P		**Pn**	**02 49 00.1**	**-1.1**
DANN	**Dangsing**	**18.45**	**274**	*e*P		**P**	**02 49 08.7**	**-1.5**
	17nm,0.5s							
KOLN	**Koldanda**	**18.66**	**272**	*e*P		**P**	**02 49 09.7**	**-2.7**
PYUN	**Piuthan**	**19.16**	**274**	*e*P		**P**	**02 49 14.5**	**-3.3**
	24nm,0.8s							
SONM	**Songino Array**	**19.18**	**3**	P		**Pn**	**02 49 20.6**	**+1.9**
	0.3nm,0.3s,baz=191,slow=11,SNR=11							
	1.6nm,0.7s							
SONM	**Songino Array**	**19.18**	**3**			**P**	**02 49 14.7**	**-3.1**
ULN	**Ulaanbaatar**	**19.25**	**5**	P		**P**	**02 49 15.8**	**-2.8**
KSAR	**Wonju Array Be**	**21.23**	**60**	P		**P**	**02 49 40.1**	**0.0**
KSRS	**Korea Array**	**21.26**	**60**	P		**P**	**02 49 38.5**	**-1.9**
	1.5nm,0.4s,baz=239,slow=11,SNR=8.4							
	1.5nm,0.4s							
JSU	**Suzuyama**	**22.41**	**76**	P		**P**	**02 49 54.2**	**+1.4**
JSU				IAmb		IAmb	02 49 56.8	
	comp=Z,17nm,1.2s							
MK31	**Makanchi Array**	**25.21**	**322**	P		**P**	**02 50 19.2**	**-0.5**
MK31				IAmb		IAmb	02 50 25.1	
	comp=Z,4.1nm,0.8s							
MKAR	**Makanchi Array**	**25.21**	**322**	P		**P**	**02 50 21.1**	**+1.4**
	comp=Z,5.4nm,0.9s,baz=124,slow=11,SNR=18							
MKAR				PcP		**PcP**	**02 53 51.2**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=97,slow=4.6,SNR=3.9							
	comp=Z,5.4nm,0.9s							
MKAR	**Makanchi Array**	**25.21**	**322**	P		**P**	**02 50 20.5**	**+0.8**
MAKZ	**Makanchi**	**25.39**	**322**	P		**P**	**02 50 21.7**	**+0.3**
MAKZ				IAmb		IAmb	02 50 29.0	
	comp=Z,6.5nm,1.1s							
USRK	**Ussuriysk Ar.**	**26.68**	**47**	P		**P**	**02 50 32.9**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=258,slow=9.1,SNR=11							
	comp=Z,3.3nm,0.6s							
USRK	**Ussuriysk Ar.**	**26.68**	**47**	P		**P**	**02 50 32.6**	**-0.4**
KLR	**Kul'dur**	**29.11**	**38**	P		**P**	**02 50 53.5**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=247,slow=8.0,SNR=3.5							
	comp=Z,0.5nm,0.4s							
ZAA0	**Zalesovo Array**	**29.16**	**336**	P		**P**	**02 50 52.5**	**-2.6**
ZALV	**Zalesovo Beam**	**29.16**	**336**	P		**P**	**02 50 57.0**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=132,slow=8.7,SNR=5.9							
	comp=Z,1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**29.16**	**336**	P		**P**	**02 50 53.6**	**-1.5**
KURBB	**Kurchatov Arra**	**29.53**	**325**	P		**P**	**02 51 00.1**	**+1.6**
	comp=Z,3.2nm,0.8s,baz=132,slow=9.4,SNR=30							
KURBB				PcP		**PcP**	**02 54 01.2**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=119,slow=2.3,SNR=5.4							
	comp=Z,3.2nm,0.8s							
KURK	**Kurchatov**	**29.55**	**325**	P		**P**	**02 50 58.7**	**+0.1**
KURK				IAmb		IAmb	02 51 02.4	
	comp=Z,4.6nm,0.8s							
KK31	**Karatay Array**	**31.02**	**307**	P		**P**	**02 51 11.3**	**-0.4**
KKAR	**Karatay Array**	**31.02**	**307**	P		**P**	**02 51 11.8**	**+0.1**
BVAR	**Borovoye Array**	**35.06**	**324**	P		**P**	**02 51 48.0**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=133,slow=8.3,SNR=3.7							
BVAR				PcP		**PcP**	**02 54 16.7**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=97,slow=5.8,SNR=2.5							
	comp=Z,0.4nm,0.6s							
GEYT	**Alibeck**	**39.71**	**296**	P		**P**	**02 52 28.0**	**+1.5**
	comp=Z,7.2nm,0.8s,baz=113,slow=6.8,SNR=11							
	comp=Z,7.2nm,0.8s							
GEYT	**Alibeck**	**39.71**	**296**	P		**P**	**02 52 28.6**	**+2.1**
GEYT				IAmb		IAmb	02 52 30.1	
	comp=Z,8.5nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**39.71**	**296**	P		**P**	**02 52 28.3**	**+1.8**
GYA0B				IAmb		IAmb	02 52 30.1	
	comp=Z,8.3nm,0.8s							
ABKAR	**Akbulak array**	**39.73**	**314**	P		**P**	**02 52 28.2**	**+1.7**
AKTO	**Aktyubinsk**	**41.23**	**315**	P		**P**	**02 52 41.8**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=108,slow=16,SNR=3.6							
	comp=Z,0.5nm,0.3s							
NRIK	**Noril'sk**	**41.91**	**351**	P		**P**	**02 52 45.8**	**+1.6**
	comp=Z,3.6nm,0.5s,baz=140,slow=9.2,SNR=5.8							
	comp=Z,3.6nm,0.5s							
NRIK	**Noril'sk**	**41.91**	**351**	P		**P**	**02 52 44.6**	**+0.4**
NRIK				IAmb		IAmb	02 52 47.1	
	comp=Z,4.9nm,0.7s							
ARU	**Arti**	**42.71**	**324**	P		**P**	**02 52 52.2**	**+1.4**
ARU				IAmb		IAmb	02 52 53.9	
	comp=Z,3.1nm,0.7s							
GUDG	**Gudauri**	**49.95**	**303**	P		**P**	**02 53 49.4**	**+1.2**
KIV	**Kislovodsk**	**51.14**	**305**	P		**P**	**02 53 58.2**	**+1.2**
GURO	**Guroymak-BITLI**	**52.26**	**298**	P		**P**	**02 54 07.3**	**+1.7**
WRA	**Warramunga Arr**	**56.15**	**146**	P		P	02 54 26.5	-7.3
	comp=Z,3.4nm,0.8s,baz=334,slow=8.5,SNR=35							
	comp=Z,3.4nm,0.8s							
BRTR	**Keskin Array B**	**58.45**	**301**	P		**P**	**02 54 50.9**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=60,slow=7.3,SNR=9.0							
	comp=Z,1.2nm,0.8s							
BRTR	**Keskin Array B**	**58.45**	**301**	P		**P**	**02 54 50.2**	**0.0**
ASAR	**Alice Springs**	**59.13**	**149**	P		P	02 54 48.1	-6.6
	comp=Z,2.1nm,0.5s,baz=329,slow=7.1,SNR=31							
	comp=Z,2.1nm,0.5s							
AKASG	**Malin Array Be**	**59.47**	**314**	P		**P**	**02 54 56.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=68,slow=7.4,SNR=2.8							
	comp=Z,0.3nm,0.3s							
ARCES	**ARCESS Array B**	**59.70**	**336**	P		**P**	**02 54 59.7**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=76,slow=8.5,SNR=3.5							
	comp=Z,2.2nm,0.8s							
FINES	**FINESS Array B**	**59.90**	**327**	P		**P**	**02 55 01.4**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=98,slow=5.8,SNR=4.8							
	comp=Z,1.4nm,0.8s							
HFS	**Hagfors**	**66.10**	**327**	P		**P**	**02 55 40.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=100,slow=6.3,SNR=1.9							
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**67.01**	**328**	P		**P**	**02 55 45.9**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=75,slow=6.9							
NOA	**NORSAR Array B**	**67.01**	**328**	P		**P**	**02 55 46.1**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=74,slow=6.2,SNR=5.0							
	comp=Z,0.9nm,0.8s							
GERES	**GERESS Array B**	**69.65**	**315**	P		**P**	**02 56 03.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=74,slow=5.7,SNR=8.4							
	comp=Z,0.6nm,0.6s							
YKA	**Yellowknife Ar**	**83.84**	**17**	P		**P**	**02 57 22.9**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=323,slow=5.1,SNR=3.6							
	comp=Z,1.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**94.91**	**288**	P		**P**	**02 58 15.4**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=39,slow=4.9,SNR=2.4							
	comp=Z,0.4nm,0.8s							
ROSC	**El Rosal**	**146.67**	**358**	PKPbc		**PKPdf**	**03 04 35.4**	**-0.1**
	comp=Z,8.7nm,0.6s,baz=88,slow=16,SNR=4.5							
LPAZ	**La Paz**	**166.04**	**330**	PKPab		**PKPab**	**03 05 58.6**	**-1.9**
	comp=Z,1.9nm,0.4s,baz=288,slow=6.9,SNR=14							

IDC ***10*** *02:49:53.0±0.4,9.˚49S×111.˚80E, h0km, mb5.0/35, mbtmp5.0/37, ML4.7/2, MS4.2/40, Error ellipse: s-maj=14.6km s-min=11.2km az=57.0*
NEIC ***10*** *02:49:54.2±2.3,9.˚87S±0.˚07×111.˚66E±0.˚06, h10km±1km, mb5.2/94, Error ellipse: s-maj=11.6km s-min=9.0km az=202.0*
MOS ***10*** *02:49:55.0±1.0,9.˚48S×111.˚75E, h26km, mb5.4/66, Error ellipse: s-maj=9.0km s-min=4.7km az=116.4*
DJA ***10*** *02:49:55.7±0.1,10.˚5S±2.˚1×11.˚2E±.˚, h10km, M5.0/55, mB5.5/24, mb5.0/55, MLv5.1/24, Mw(mB)5.0/24, MwMwp4.9/4, Mwp5.2/4*
BJI ***10*** *02:49:56.0±0.0,9.˚90S×111.˚70E, h44km, mb5.4/61, mB5.2/45, Ms4.8/51, Ms7 4.5/50*
GCMT ***10*** *02:49:58.2±0.4, 10.˚01S±0.˚03×111.˚77E±0.˚03, h22km±1km, MW4.8/62, Moment Tensor Solution. s34,c38; s62,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.54±. 15; $M_{\theta\theta}$0.98±. 10; $M_{\phi\phi}$ 1.56±.11; $M_{r\theta}$-0.36±. 17; $M_{\theta\phi}$-0.59±.06; $M_{\phi r}$0.47±. 17; Best double couple: M_o2.31000×10^{16} NP1:ϕs147.00000°, δ52.00000°, λ-91.00000°. NP2: ϕs329.00000°, δ38.00000°, λ-88.00000°. Principal axes: T 2.0030, Plg7.0000°, Azm238.0000°; N 0.6160, Plg1.0000°, Azm148.0000°; P -2.6170, Plg83.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 02:49:56.5±0.6,**9.˚69S**×0.˚04×**111.˚72E**±0.˚04,**h27km**±4km, **n730,**σ1**§49**/768,**mb5.3**/137,**MS4.4**/64,**17C-27D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.58**	**340**	P		**Pn**	**02 50 21.8**	**-0.9**
PWJI	**Pagerwojo**	**1.66**	**3**	P		**Pn**	**02 50 24.0**	**+0.2**
UGM	**Wanagama**	**2.12**	**326**	Pn		**Pn**	**02 50 31.4**	**+1.2**
UGM	**Wanagama**	**2.12**	**326**	P		**Pn**	**02 50 31.1**	**+0.8**
UGM	**Wanagama**	**2.12**	**326**	P		**Pb**	**02 50 32.6**	**-1.7**
GMJI	**Gumukmas**	**2.21**	**51**	P		**Pn**	**02 50 32.1**	**+0.7**
NGJI	**Ngawi**	**2.32**	**354**	P		**Pb**	**02 50 35.7**	**-1.9**
YOGI	**Yogyakarta**	**2.33**	**323**	P		**Pn**	**02 50 33.3**	**+0.2**
BLJI	**Banyuglugur**	**2.68**	**44**	P		**Pn**	**02 50 39.3**	**+1.4**
JAGI	**Jajag, Banyuwa**	**2.69**	**63**	Pn		**Pn**	**02 50 39.6**	**+1.5**
JAGI	**Jajag, Banyuwa**	**2.69**	**63**	P		**Pn**	**02 50 39.3**	**+1.2**
JAGI	**Jajag, Banyuwa**	**2.69**	**63**	P		**Pn**	**02 50 40.0**	**+1.9**
TBJI	**Tambak Boyo**	**2.85**	**3**	P		**Pn**	**02 50 42.6**	**+2.3**
SMRI	**Semarang**	**2.91**	**334**			**Pn**	**02 50 43.5**	**+2.3**
SMRI	**Semarang**	**2.91**	**334**	P		**Pn**	**02 50 43.4**	**+2.3**
SMRI	**Semarang**	**2.91**	**334**	P		**Pn**	**02 50 44.2**	**+3.1**
ABJI	**Asem Bagus**	**3.12**	**53**	P		**Pn**	**02 50 46.6**	**+2.7**
KMMI	**Kalianget**	**3.44**	**40**	P		**Pn**	**02 50 49.3**	**+1.0**
DNP	**Denpasar**	**3.59**	**74**	P		**Pn**	**02 50 52.2**	**+1.8**
SRBI	**Singaraja**	**3.80**	**66**	P		**Pn**	**02 50 55.6**	**+2.3**
BWJI	**Bawean**	**3.92**	**14**	P		**Pn**	**02 50 57.5**	**+2.5**
LEM	**Lembang**	**4.96**	**305**	Pn		**Pn**	**02 51 10.1**	**+0.7**
	9.1nm,0.3s,baz=113,slow=9.3,SNR=19							
LEM				Sn		**Sn**	**02 52 07.5**	**+1.6**
	baz=270,slow=20							
	176nm,1.0s							
LEM	**Lembang**	**4.96**	**305**	P		**Pn**	**02 51 10.7**	**+1.3**
CNJI	**Cibinong**	**5.12**	**297**	P		**Pn**	**02 51 11.6**	**+0.2**
	3.3nm5μm401nm,1.1s							
TWSI	**Taliwang, Sumb**	**5.18**	**80**	P		**Pn**	**02 51 13.9**	**+1.5**
	0.7nm3μm198nm,0.8s							
SKJI	**Sukabumi**	**5.76**	**297**	P		**Pn**	**02 51 20.7**	**+0.4**
	2.7nm3μm255nm,0.8s							
DBJI	**Dramaga**	**5.82**	**302**	P		**Pn**	**02 51 21.3**	**+0.2**
	2.5nm307nm,1.0s							
XMIS	**Christmas Isla**	**6.03**	**262**	Pn		**Pn**	**02 51 21.7**	**-2.3**
XMIS	**Christmas Isla**	**6.03**	**262**	P		**Pn**	**02 51 24.0**	**+0.1**
PLAI	**Plampang**	**6.04**	**82**	P		**Pn**	**02 51 25.5**	**+1.3**
	3.2nm7μm824nm,1.0s							
PLAI	**Plampang**	**6.04**	**82**	P		**Pn**	**02 51 26.2**	**+2.0**
SBJI	**Serang**	**6.57**	**302**	P		**Pn**	**02 51 32.0**	**+0.6**
	1.7nm10μm251nm,1.1s							
BBKI	**Banjar Baru**	**6.92**	**27**	P		**Pn**	**02 51 39.3**	**+3.1**
	0.8nm205nm,1.1s							
PBKI	**Pangkalan Bun**	**6.94**	**360**	P		**Pn**	**02 51 38.5**	**+2.0**
	1.7nm504nm,1.1s							
WBSI	**Waikabubak, Su**	**7.57**	**90**	P		Pn	02 51 50.4	+5.3
	0.8nm2μm150nm,0.8s							
KASI	**Kota Agung**	**8.27**	**300**	P		**Pn**	**02 51 55.3**	**+0.6**
	122nm,1.0s							
KAPI	**Kappang**	**9.22**	**60**	Pn		**Pn**	**02 52 09.7**	**+1.9**
KAPI	**Kappang**	**9.22**	**60**	P		**Pn**	**02 52 09.7**	**+1.9**
KAPI	**Kappang**	**9.22**	**60**	P		Pn	02 52 13.0	+5.2
MTKI	**Muara Teweh, K**	**9.25**	**20**	P		**Pn**	**02 52 10.0**	**+1.8**
	69nm,0.4s							
PPBI	**Pangkal Pinang**	**9.31**	**323**	P		**Pn**	**02 52 10.1**	**+1.0**
	87nm,1.0s							
BSSI	**Bau Bau, Buton**	**9.38**	**69**	P		**Pn**	**02 52 11.9**	**+2.0**
	1μm90nm,1.0s							
BKSI	**Bulukumba**	**9.39**	**63**	P		**Pn**	**02 52 12.5**	**+2.3**
	2μm1μm60nm,1.1s							
STKI	**Sintang**	**9.69**	**359**	P		**Pn**	**02 52 16.9**	**+2.6**
	49nm,1.1s							
SPSI	**Sidrap Palu**	**9.81**	**55**	P		**Pn**	**02 52 18.4**	**+2.5**
	81nm,1.3s							
EDFI	**Ende, Flores**	**9.89**	**85**	P		**Pn**	**02 52 15.7**	**-1.4**
	726nm75nm,0.9s							
MNAI	**Manna**	**10.18**	**301**	Pn		**Pn**	**02 52 20.8**	**-0.2**
MNAI	**Manna**	**10.18**	**301**	P		**Pn**	**02 52 21.1**	**+0.1**
	374nm,1.1s							
MNAI	**Manna**	**10.18**	**301**	P		**Pn**	**02 52 21.7**	**+0.7**
TTSI	**Tana Toraja**	**10.41**	**51**	P		**Pn**	**02 52 27.2**	**+3.1**
	1μm60nm,1.0s							
MMRI	**Maumere**	**10.44**	**85**			**Pn**	**02 52 24.4**	**-0.1**
MMRI	**Maumere**	**10.44**	**85**	P		**Pn**	**02 52 23.2**	**-1.3**
	174nm,0.8s							
MMRI	**Maumere**	**10.44**	**85**	P		**Pn**	**02 52 26.4**	**+1.9**
KSI	**Kapahiang**	**10.87**	**303**	P		**Pn**	**02 52 30.6**	**+0.2**
	376nm,0.9s							
BATI	**Baumata**	**11.78**	**94**	Pn		**Pn**	**02 52 43.2**	**+0.3**
	17nm,0.3s,baz=324,slow=0.6,SNR=7.0							
BATI				Sn		Sn	02 54 45.0	-8.6
	4.1nm,0.3s,baz=18,slow=19,SNR=1.3							
	57nm,0.4s							
BATI	**Baumata**	**11.78**	**94**	P		**Pn**	**02 52 43.6**	**+0.7**
	57nm,0.8s							
SOEI	**Soe**	**12.37**	**91**			**Pn**	**02 52 51.5**	**+0.4**
SOEI	**Soe**	**12.37**	**91**	P		**Pn**	**02 52 51.6**	**+0.5**
MPSI	**Mapaga**	**12.86**	**40**	P		Pn	02 53 03.1	+5.4
	2μm24nm,1.4s							
**GIRL

comp=Z,36nm,0.9s
WR0 Warramunga Arr 24.28 117 P **P** **02 55 11.3 -0.5**
WR0 IAmb IAmb 02 55 18.1
comp=Z,68nm,1.1s
AS31 Alice Springs 25.34 126 P **P** **02 55 21.7 +0.2**
ASAR Alice Springs 25.34 126 P **P** **02 55 22.6 +1.2**
comp=Z,12nm,0.8s,baz=298,slow=8.8,SNR=49
ASAR PcP **PcP** **02 58 54.6 +0.7**
comp=Z,2.4nm,0.8s,baz=323,slow=1.6,SNR=6.2
ASAR LR LR 03 07 20.9
comp=Z,390nm,18.2s,baz=283,slow=41
comp=Z,12nm,0.8s
ASAR Alice Springs 25.34 126 P **P** **02 55 21.0 -0.4**
UBPT Khong Chiam 25.57 346 P **P** **02 55 24.0 +0.6**
BAKI Biak 25.68 72 P **P** **02 55 27.1 +2.5**
comp=Z,904nmcomp=Z,66nm,1.1s
FORT Forrest 25.92 146 P **P** **02 55 24.0 -2.5**
FORT IAmb IAmb 02 55 33.8
comp=Z,48nm,0.9s
SMPI Sarmi 27.90 76 P **P** **02 55 47.7 +3.1**
comp=Z,28nm,1.3s
QIZ Qiongzhong 28.59 356 P **P** **02 55 53.4 +2.8**
QIZ S **S** **03 00 44.0 +6.5**
QIZ LR LR
comp=Z,520nm,14.6s
QIZ LR LR
comp=Z,500nm,16.5s
QIZ LR LR
comp=Z,480nm,15.7s
CM31 Chiang Mai Arr 30.68 336 P **P** **02 56 09.6 +0.5**
CMAR Chiang Mai Arr 30.68 336 P **P** **02 56 08.7 -0.4**
comp=Z,3.8nm,0.6s,baz=171,slow=8.2,SNR=27
CMAR PcP **PcP** **02 59 08.6 +1.6**
comp=Z,2.3nm,0.4s,baz=190,slow=3.1,SNR=7.4
CMAR LR LR 03 10 00.4
comp=Z,809nm,18.8s,baz=130,slow=40
comp=Z,3.8nm,0.6s
CMAR Chiang Mai Arr 30.68 336 P **P** **02 56 09.0 -0.1**
CMAR Chiang Mai Arr 30.68 336 *i*P **P** **02 56 09.8 +0.7**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 31.00 336 P **P** **02 56 11.5 -0.5**
CHTO Chiang Mai 31.00 336 P **P** **02 56 11.5 -0.5**
CHTO pmax pmax
comp=Z,1.0nm,1.3s
SSLB Suanglung 34.47 15 P **P** **02 56 42.9 +0.6**
SSLB IAmb IAmb 02 56 47.5
comp=Z,37nm,1.2s
CTAO Charters Tower 34.87 111 P **P** **02 56 43.9 -2.0**
CTAO Charters Tower 34.87 111 P **P** **02 56 43.9 -2.0**
CTAO pmax pmax
comp=Z,10.0nm,1.1s
PMG Port Moresby 34.94 93 P **P** **02 56 46.4 -0.2**
PMG Port Moresby 34.94 93 P **P** **02 56 46.4 -0.2**
PMG pmax pmax
comp=Z,18nm,1.0s
PALK Pallekele 35.19 298 LR LR 03 10 40.2
comp=Z,243nm,19.0s,baz=220,slow=36
PALK Pallekele 35.19 298⇓*e*P **P** **02 56 48.8 +0.1**
PALK pmax pmax
comp=Z,35nm,1.1s
PALK Pallekele 35.19 298 P **P** **02 56 50.5 +1.8**
STKA Stephens Creek 35.40 133 P **P** **02 56 51.6 +1.3**
comp=Z,11nm,0.9s,baz=309,slow=9.6,SNR=14
STKA LR LR 03 13 14.5
comp=Z,596nm,18.0s,baz=298,slow=40
comp=Z,11nm,0.9s
STKA Stephens Creek 35.40 133 P **P** **02 56 52.4 +2.1**
baz=35,SNR=12
STKA Stephens Creek 35.40 133 P **P** **02 56 49.7 -0.6**
STKA Stephens Creek 35.40 133*de*P **P** **02 56 51.0 +0.8**
KMI Kunming 35.69 346⇑P **P** **02 56 55.9 +2.9**
KMI pP pwP 02 57 04.9 +0.4
KMI S **S** **03 02 33.5 +5.1**
KMI pmax pmax
comp=Z,22nm,0.8s
KMI pmax pmax
comp=Z,97nm,3.7s
KMI LR LR
comp=Z,880nm,14.9s
KMI LR LR
comp=Z,1μm,14.6s
KMI LR LR
comp=Z,980nm,16.8s
MANU Manus Island 36.24 80 P **P** **02 56 57.6 -0.1**
MANU IAmb IAmb 02 57 00.3
comp=Z,93nm,1.9s
GYA Guiyang 36.26 352⇓*i*P **P** **02 56 58.9 +1.1**
GYA PP **PP** **02 58 28.0 +7.3**
GYA SS SS 03 05 04.3 -12
GYA pmax pmax
comp=Z,31nm,0.9s
GYA LR LR
comp=Z,540nm,12.1s
GYA LR LR
comp=Z,460nm,15.4s
GYA LR LR
comp=Z,580nm,13.2s
PZH PanZhiHua 37.26 345 P **P** **02 57 10.3 +4.0**
PZH PP **PnPn** **02 58 38.7 +6.5**
PZH S **S** **03 02 55.2 +3.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH LR LR
comp=Z,1μm,15.9s
PZH LR LR
comp=Z,2μm,16.1s
PZH LR LR
comp=Z,2μm,15.7s
H08S2 Diego Garcia H 38.82 270 T T 03 38 21.6
baz=96,slow=75
H08S3 Diego Garcia H 38.83 270 T T 03 38 23.7
baz=96,slow=75
H08S1 Diego Garcia H 38.84 270 T T 03 38 23.2
baz=96,slow=75
JOW Kunigami 39.70 23 P **P** **02 57 25.5 -1.2**
comp=Z,39nm,0.8s,baz=202,slow=3.3,SNR=5.6
JOW LR LR 03 16 30.4
comp=Z,137nm,18.6s,baz=124,slow=40
comp=Z,39nm,0.8s
JOW Kunigami 39.70 23 P **P** **02 57 25.6 -1.0**
JOW IAmb IAmb 02 57 27.8
comp=Z,100nm,1.1s
ENH Enshi 39.79 357 P **P** **02 57 27.4 0.0**
SHL Shillong 40.01 332 P **P** **02 57 28.7 -0.8**
SHL Shillong 40.01 332 P **P** **02 57 28.7 -0.8**
SHL pmax pmax
comp=Z,93nm,0.8s
SHL Shillong 40.01 332 P **P** **02 57 29.8 +0.3**
SNR=15
WHN Wuhan 40.08 4⇑P **P** **02 57 30.6 +0.9**
PCHI Peechi 40.52 299 *e*P **P** **02 57 33.5 -0.2**
CD2 Chengdu 41.08 350 P **P** **02 57 38.3 +0.2**
CD2 S **S** **03 03 49.7 +0.3**
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 pmax pmax
comp=Z,120nm,4.2s
CD2 LR LR
comp=Z,620nm,15.0s
CD2 LR LR
comp=Z,1μm,14.1s
CD2 LR LR
comp=Z,680nm,13.3s
NJ2 Nanjing 42.06 9 *e*P **P** **02 57 46.1 +0.1**
NJ2 pmax pmax
comp=Z,37nm,1.2s
NJ2 LR LR
comp=Z,460nm,13.7s
NJ2 LR LR
comp=Z,320nm,15.2s
NJ2 LR LR
comp=Z,640nm,18.1s
HYBB Hyderabad (bro 42.42 309 *e*P **P** **02 57 48.8 -0.5**
TAPN Taplejung 43.56 328 *e*P **P** **02 57 58.5 -0.1**
comp=Z,168nm,0.9s
XAN Xi'an 43.57 357⇑P **P** **02 57 58.0 -0.3**
XAN pP pwP 02 58 10.8 +0.9
XAN sP sP 02 58 16.0 +7.1
XAN S **S** **03 04 25.2 -0.8**
XAN sS sS 03 04 46.2 +8.4
XAN SS **SS** **03 07 32.5 -9.0**
XAN ScS **ScS** **03 07 52.0 -4.4**
XAN pmax pmax
comp=Z,71nm,1.2s
XAN pmax pmax
comp=Z,210nm,4.8s
XAN LR LR
comp=Z,610nm,15.5s
XAN LR LR
comp=Z,560nm,16.1s
XAN LR LR
comp=Z,850nm,17.9s
RAMN Ramite 43.82 327 *e*P **P** **02 58 00.3 -0.4**
comp=Z,138nm,1.3s
LSA Lhasa 43.89 334 P **P** **02 58 01.3 -0.2**
LSA IAmb IAmb 02 58 03.6
comp=Z,63nm,1.0s
LSA Lhasa 43.89 334 P **P** **02 58 01.3 -0.2**
LSA pmax pmax
comp=Z,63nm,1.0s
LSA Lhasa 43.89 334 P **P** **02 58 02.2 +0.8**
LYN LuoYang 44.00 1⇓*i*P **P** **02 58 00.7 -1.0**
LYN PP **PcP** **02 59 47.4 +0.3**
LYN S **S** **03 04 25.4 -6.8**
LYN pmax pmax
comp=Z,40nm,1.4s
LYN pmax pmax
comp=Z,140nm,4.2s
LYN LR LR
comp=Z,1μm,13.5s
LYN LR LR
comp=Z,300nm,15.6s
LYN LR LR
comp=Z,350nm,14.3s
JIRN Jiri 44.61 327 *e*P **P** **02 58 06.8 -0.4**
comp=Z,159nm,0.9s
JSU Suzuyama 44.72 23 IAmb IAmb 02 58 07.8
comp=Z,111nm,1.8s
PKI Pulchoki 44.96 326 *e*P **P** **02 58 08.7 -1.2**
comp=Z,87nm,1.0s
GUN Gumba 44.97 327 *e*P **P** **02 58 09.7 -0.3**
comp=Z,215nm,1.0s
PKIN Phulchoki 44.97 326 *e*P **P** **02 58 08.8 -1.2**
comp=Z,82nm,0.9s
DMN Daman 45.16 326 *e*P **P** **02 58 10.8 -0.6**
comp=Z,202nm,1.0s
KKN Kakani 45.20 326 *e*P **P** **02 58 10.9 -0.8**
GKN Gorkha 45.72 326 *e*P **P** **02 58 15.1 -0.7**
comp=Z,154nm,0.9s
KOLN Koldanda 46.13 325 *e*P **P** **02 58 17.2 -1.8**
comp=Z,31nm,1.3s
LZH Lanzhou 46.13 351⇓P **P** **02 58 19.5 +0.7**
LZH pP sP 02 58 26.7 -2.7
LZH eS **S** **03 05 09.0 +5.7**
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,330nm,5.2s
LZH LR LR
comp=Z,600nm,13.7s
LZH LR LR
comp=Z,640nm,16.0s
LZH LR LR
comp=Z,800nm,16.5s
DANN Dangsing 46.48 325 *e*P **P** **02 58 21.2 -0.7**
comp=Z,230nm,0.8s
PYUN Piuthan 46.73 324 *e*P **P** **02 58 22.2 -1.5**
comp=Z,185nm,1.0s
HNS HongShan 46.92 3⇓P **P** **02 58 23.9 -0.9**
HNS S **S** **03 05 13.2 -1.0**
HNS pmax pmax
comp=Z,25nm,1.2s
HNS LR LR
comp=Z,410nm,18.6s
HNS LR LR
comp=Z,450nm,19.0s
TIY Taiyuan 47.16 1 *e*P **P** **02 58 25.9 -0.8**
TIY S **S** **03 05 16.6 -1.2**
TIY pmax pmax
comp=Z,150nm,4.0s
TIY LR LR
comp=Z,170nm,16.5s
TIY LR LR
comp=Z,440nm,19.2s
TIY LR LR
comp=Z,300nm,22.7s
JMN Monobe 48.04 25 P **P** **02 58 33.0 -0.7**
TJN Taejon 48.13 17*ce*P **P** **02 58 33.9 -0.3**
GOMU GeErMu 48.34 342 P **P** **02 58 36.9 +0.6**
GOMU PcP **PcP** **03 00 05.3 +2.5**
GOMU S **S** **03 05 37.3 +2.1**
GOMU sS sS 03 05 53.2 +6.2
GOMU pmax pmax
comp=Z,8.0nm,1.0s
GOMU pmax pmax
comp=Z,92nm,4.6s
GOMU LR LR
comp=Z,290nm,19.9s
GOMU LR LR
comp=Z,340nm,17.5s
GOMU LR LR
comp=Z,180nm,18.6s
INCN Inchon 48.96 16 P **P** **02 58 40.2 -0.4**
INCN Inchon 48.96 16 P **P** **02 58 40.2 -0.4**
INCN pmax pmax
comp=Z,83nm,1.5s
KSRS Korea Array 49.29 17 P **P** **02 58 43.4 +0.2**
comp=Z,33nm,0.8s,baz=202,slow=8.0,SNR=62
KSRS LR LR 03 20 35.2
comp=Z,108nm,19.9s,baz=200,slow=38
comp=Z,33nm,0.8s
KS19 Wonju Array Si 49.32 17 P **P** **02 58 43.9 +0.5**
KS19 IAmb IAmb 02 58 44.3
comp=Z,40nm,0.9s
BJT Baijiatuau 49.62 4 P **P** **02 58 45.1 -0.5**
BJT IAmb IAmb 02 58 46.3
comp=Z,37nm,1.2s
BJT Baijiatuau 49.62 4 P **P** **02 58 45.1 -0.5**
BJT pmax pmax
comp=Z,37nm,1.2s
BJI Beijing 49.65 4 P **P** **02 58 45.1 -0.7**
BJI LR LR
comp=Z,80nm,20.2s
BJI LR LR
comp=Z,210nm,17.9s
BJI LR LR
comp=Z,440nm,18.6s
BTO Baotou 50.06 358 *e*P **P** **02 58 50.3 +1.2**
BTO S **S** **03 05 53.9 -4.9**
BTO LR LR
comp=Z,2μm,12.8s
BTO LR LR
comp=Z,3μm,14.5s
GTA Gaotai 50.08 348⇓P **P** **02 58 50.2 +0.9**
GTA S **S** **03 06 00.9 +1.7**
GTA pmax pmax
comp=Z,46nm,1.1s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=Z,280nm,14.9s
GTA LR LR
comp=Z,430nm,16.4s
GTA LR LR
comp=Z,370nm,15.6s
JHJ Hachijo jima 2 50.27 31 LR LR 03 21 37.4
comp=Z,101nm,19.6s,baz=232,slow=38
HHC Hu-ho-hao-te 50.28 360 *e*P **P** **02 58 50.9 +0.1**
HHC S **S** **03 06 02.9 +1.1**
HHC pmax pmax
comp=Z,67nm,1.2s
HHC pmax pmax
comp=Z,260nm,5.0s
HHC LR LR
comp=Z,720nm,17.1s
HHC LR LR
comp=Z,560nm,16.5s
HHC LR LR
comp=Z,880nm,17.1s
INU Inuyama 50.77 27 IAmb IAmb 02 58 54.1
comp=Z,43nm,1.0s
MAJO Matsushiro 52.30 27 P **P** **02 59 04.5 -1.4**
MAJO IAmb IAmb 02 59 05.2
comp=Z,79nm,1.4s
MAJO Matsushiro 52.30 27*di*P **P** **02 59 03.6 -2.3**
MAJO pmax pmax
comp=Z,42nm,1.3s
MJAR Matsushiro Arr 52.30 27 P **P** **02 59 04.0 -1.9**
comp=Z,25nm,0.9s,baz=198,slow=7.7,SNR=58
MJAR LR LR 03 21 52.8
comp=Z,142nm,20.7s,baz=223,slow=37
comp=Z,25nm,0.9s
SNY Shenyang 52.41 11⇓P **P** **02 59 04.9 -1.6**
SNY S **S** **03 06 26.7 -4.1**
SNY pmax pmax
comp=Z,58nm,1.1s
SNY pmax pmax
comp=Z,300nm,5.9s
SNY LR LR
comp=Z,250nm,15.0s
SNY LR LR
comp=Z,440nm,17.2s
SNY LR LR
comp=Z,530nm,15.3s
DZM Mont Dzumac 53.80 110 *e*LR LR 03 14 51.3
comp=Z,546nm,22.8s
CN2 Changchun 54.68 12⇓P **P** **02 59 21.9 -1.3**
CN2 *es*P pwP 02 59 39.8 +8.8
CN2 *eS* **S** **03 06 59.6 -2.0**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,200nm,15.0s
MSHR Mys Shultsa 54.97 17⇑*e*P **P** **02 59 24.9 -0.4**
MSHR pmax pmax
comp=Z,26nm,1.3s
MDJ Mudanjiang 56.42 15 P **P** **02 59 34.8 -0.8**
MDJ Mudanjiang 56.42 15 P **P** **02 59 35.2 -0.5**
MDJ pmax pmax
comp=Z,60nm,1.2s
MDJ pmax pmax
comp=Z,290nm,5.3s
NIL Nilore 56.52 322 P **P** **02 59 35.2 -1.4**
NIL Nilore 56.52 322 P **P** **02 59 35.2 -1.4**
NIL pmax pmax
comp=Z,79nm,0.9s
USA0B Ussuriysk Arra 56.70 17 P **P** **02 59 37.5 -0.1**
USA0B IAmb IAmb 02 59 38.2
comp=Z,24nm,1.2s
USA0B Ussuriysk Arra 56.70 17 P **P** **02 59 37.6 -0.1**
USA0B pmax pmax
comp=Z,24nm,1.2s
USRK Ussuriysk Ar. 56.70 17 P **P** **02 59 36.9 -0.7**
comp=Z,59nm,1.0s,baz=204,slow=5.3,SNR=54
comp=Z,59nm,1.0s
BNX BinXian 56.95 13⇓P **P** **02 59 38.1 -1.3**
BNX pmax pmax
comp=Z,54nm,1.0s
BNX LR LR
comp=Z,160nm,5.7s
ULN Ulaanbaatar 57.45 356 P **P** **02 59 43.2 +0.1**
ULN IAmb IAmb 02 59 43.9
comp=Z,43nm,1.1s
ULN Ulaanbaatar 57.45 356*de*P **P** **02 59 42.4 -0.7**
ULN pmax pmax
comp=Z,34nm,1.0s
ULN Ulaanbaatar 57.45 356 P **P** **02 59 43.3 +0.2**
SONM Songino Array 57.46 356 P **P** **02 59 42.9 -0.3**
comp=Z,31nm,1.1s,baz=173,slow=8.1,SNR=122
SONM PcP **PcP** **03 00 37.7 +1.1**
comp=Z,8.7nm,1.0s,baz=180,slow=3.1,SNR=5.8
comp=Z,31nm,1.1s
SONM Songino Array 57.46 356 P **P** **02 59 42.5 -0.7**
SONM IAmb IAmb 02 59 44.0
comp=Z,52nm,1.2s
WMQ Urumqi 57.56 340⇑P **P** **02 59 44.6 +0.8**
WMQ pmax pmax
comp=Z,70nm,1.1s
WMQ pmax pmax
comp=Z,250nm,3.7s
WMQ LR LR
comp=Z,340nm,16.7s
WMQ LR LR
comp=Z,390nm,20.7s
WMQ LR LR
comp=Z,220nm,17.7s
HIA Hailar 59.12 6*ce*P **P** **02 59 53.9 -0.7**
HIA pmax pmax
comp=Z,16nm,1.3s
KSH Kashi 59.13 328 P **P** **02 59 53.9 -1.1**
KSH sP pwP 03 00 08.6 +3.6
KSH pmax pmax
comp=Z,27nm,0.9s
KSH LR LR
comp=Z,270nm,13.4s
KSH LR LR
comp=Z,220nm,14.4s
KSH LR LR
comp=Z,320nm,19.2s
KBL Kabul 59.73 320 P **P** **02 59 58.5 -0.9**
KBL Kabul 59.73 320 P **P** **02 59 58.5 -0.9**
KBL pmax pmax
comp=Z,74nm,1.2s
KBL Kabul 59.73 320 P **P** **02 59 59.4 0.0**
SNR=24
TARG Taragay, Kyrgy 59.90 331 IAmb IAmb 03 00 02.6
comp=Z,28nm,1.0s
JLN Jalan Bani Buh 60.25 302 P **P** **03 00 05.4 +2.5**
SHLS Shalkode 60.25 333 *e*P **P** **03 00 00.7 -1.9**
SHLS pmax pmax
comp=Z,16nm,0.6s
SHLS Shalkode 60.25 333 *e*P **P** **03 00 00.7 -1.9**
comp=Z,16nm,0.6s,baz=334
ZAK Zakamensk 60.27 354 *e*P **P** **03 00 01.8 -0.8**
ZAK *e* 03 00 48.0
ZAK pmax pmax
comp=Z,16nm,1.4s
PDGK Podgornoye 60.38 333 P **P** **03 00 03.2 -0.3**
UZB Uzynbulak 60.44 333 *e*P **P** **03 00 03.3 -0.6**
UZB pmax pmax
comp=Z,15nm,1.2s
UZB Uzynbulak 60.44 333 *e*P **P** **03 00 03.4 -0.6**
comp=Z,15nm,1.2s,baz=333
SATY Saty 60.65 332 *e*P **P** **03 00 04.9 -0.5**
SATY pmax pmax
comp=Z,25nm,0.9s
SATY Saty 60.65 332 *e*P **P** **03 00 05.0 -0.5**
comp=Z,25nm,0.9s,baz=332
ZHN Zhinishke 60.72 333 *e*P **P** **03 00 05.0 -0.8**
ZHN Zhinishke 60.72 333 *e*P **P** **03 00 05.0 -0.8**
baz=333
WBK Wadi Bani Khal 60.82 303 P **P** **03 00 07.6 +0.8**
KPKS Kokpek 60.84 333 *e*P **P** **03 00 06.2 -0.4**
KPKS pmax pmax
comp=Z,48nm,1.4s
KPKS Kokpek 60.84 333 *e*P **P** **03 00 06.2 -0.4**
comp=Z,48nm,1.4s,baz=333
DQM DQM 60.91 299 P **P** **03 00 08.0 +0.6**
MHTO MHTO 60.97 300 P **P** **03 00 08.1 +0.3**
SNR=5.6
ULHL Ulahol 61.04 330 P **P** **03 00 08.3 +0.1**
SNR=20
KLR Kul'dur 61.25 15 P **P** **03 00 07.8 -1.3**
comp=Z,63nm,1.5s,baz=224,slow=5.8,SNR=15
comp=Z,63nm,1.5s
KLR Kul'dur 61.25 15*de*P **P** **03 00 07.5 -1.7**
KLR pmax pmax
comp=Z,21nm,1.3s
RPZ Rata Peaks 61.33 135 LR LR 03 28 28.8
comp=Z,553nm,18.0s,baz=282,slow=38
MDOK Medeo 61.36 332 *e*P **P** **03 00 09.7 -0.5**
MDOK Medeo 61.36 332 *e*P **P** **03 00 09.7 -0.5**
baz=332
BOOM Boomskoye usch 61.37 330 P **P** **03 00 09.2 -1.1**
BOOM Boomskoye usch 61.37 330 P **P** **03 00 09.2 -1.1**
BOOM pmax pmax
comp=Z,53nm,1.2s
WSAR Wadi Sarin 61.38 303 LR LR 03 28 47.1
comp=Z,317nm,18.6s,baz=129,slow=38
WSAR Wadi Sarin 61.38 303 P **P** **03 00 11.7 +1.1**
SNR=5.6
JMDO Jabal Madar 61.44 302 P **P** **03 00 12.0 +1.0**
ZSN Zaisan 61.69 340 *e*P **P** **03 00 12.2 0.0**
ZSN pmax pmax
comp=Z,17nm,0.9s
ZSN Zaisan 61.69 340 *e*P **P** **03 00 12.3 0.0**
comp=Z,17nm,0.9s,baz=340
SMDO Samad 61.78 303 P **P** **03 00 14.1 +0.7**
MOY Mondy 61.80 352 *e*P **P** **03 00 13.2 +0.2**
MOY pmax pmax
comp=Z,58nm,1.7s
TKM2 Tokmak 2 61.86 331 P **P** **03 00 13.4 -0.3**

SNR=69
TKM2 Tokmak 2 61.86 331 *i* P **P** **03 00 12.9 -0.8**
TKM2 pmax pmax
comp=Z,86nm,1.1s
UCH Uchtor 61.88 329 P **P** **03 00 14.1 -0.1**
SNR=24
TARA Tarawa 61.91 83 P **P** **03 00 14.9 +0.5**
TARA lAmb lAmb 03 00 21.2
comp=Z,24nm,0.9s
BIDO Bidbid 61.91 303 P **P** **03 00 15.4 +1.2**
SNR=6.5
CHKK Chushkaly 61.92 332 *eP* **P** **03 00 12.8 -1.0**
CHKK Chushkaly 61.92 332 *eP* **P** **03 00 12.8 -1.0**
baz=332
KBK Karagaybulak 61.98 330 P **P** **03 00 15.1 +0.6**
SNR=24
IRK Irkutsk 62.01 355 *eP* **P** **03 00 13.3 -1.0**
IRK pmax pmax
comp=Z,54nm,1.4s
MK31 Makanchi Array 62.06 338 P **P** **03 00 14.4 -0.3**
MK31 lAmb lAmb 03 00 15.5
comp=Z,39nm,1.1s
MK31 Makanchi Array 62.06 338 *d* *i*P **P** **03 00 14.1 -0.6**
MK31 pmax pmax
comp=Z,57nm,1.1s
MKAR Makanchi Array 62.06 338 P **P** **03 00 14.2 -0.6**
comp=Z,16nm,0.6s,baz=147,slow=7.3,SNR=130
comp=Z,16nm,0.6s
TDK Taldyqorghan 62.18 334 *eP* **P** **03 00 15.1 -0.4**
TDK Taldyqorghan 62.18 334 *eP* **P** **03 00 15.2 -0.4**
baz=334
MAKZ Makanchi 62.19 337 P **P** **03 00 14.9 -0.7**
MAKZ lAmb lAmb 03 00 16.2
comp=Z,29nm,1.1s
MAKZ Makanchi 62.19 337 P **P** **03 00 14.9 -0.7**
MAKZ pmax pmax
comp=Z,29nm,1.1s
AAK Ala-Archa 62.19 330 P **P** **03 00 16.4 +0.6**
SNR=23
AAK Ala-Archa 62.19 330 P **P** **03 00 16.3 +0.4**
AAK Ala-Archa 62.19 330 P **P** **03 00 16.3 +0.4**
AAK pmax pmax
comp=Z,53nm,1.2s
AML Almayashu 62.23 329 P **P** **03 00 16.2 -0.2**
SNR=25
KUU Kurty 62.25 332 *i* P **P** **03 00 15.2 -0.8**
KUU pmax pmax
comp=Z,37nm,1.0s
KUU Kurty 62.25 332 *i* P **P** **03 00 15.2 -0.8**
comp=Z,36nm,1.0s,baz=332
BTK Batken 62.30 325 lAmb lAmb 03 00 17.4
comp=Z,31nm,1.2s
BSY Bisya 62.35 302 P **P** **03 00 17.9 +0.7**
EKS2 Erkin-Say 62.57 329 P **P** **03 00 18.4 0.0**
SNR=45
HOQ Hoqain 62.62 303 P **P** **03 00 19.7 +0.8**
USP Ospenovka 62.66 330 P **P** **03 00 18.2 -0.6**
SNR=23
SGDS Sogindy 62.73 330 *i* P **P** **03 00 18.6 -0.7**
SGDS pmax pmax
comp=Z,13nm,0.8s
SGDS Sogindy 62.73 330 *i* P **P** **03 00 18.6 -0.7**
comp=Z,13nm,0.8s,baz=330
YSS Yuzh-Sakhalins 62.81 23 *eP* **P** **03 00 22.4 +2.7**
DGZ Jazzator, Alta 62.85 343 *deP* **P** **03 00 19.8 -0.3**
DGZ pmax pmax
comp=Z,82nm,1.1s
ARQ Araqi 63.17 302 P **P** **03 00 23.6 +1.0**
WHFO Wadi Hawf 63.45 296 P **P** **03 00 25.0 +0.5**
ABTO Aybut 63.67 295 P **P** **03 00 26.9 +0.9**
DZA Taraz 63.99 328 *eP* **P** **03 00 26.8 -0.8**
DZA Taraz 63.99 328 *eP* **P** **03 00 26.8 -0.8**
baz=328
UOSS Minazif 64.11 304 P **P** **03 00 28.0 -0.8**
UOSS lAmb lAmb 03 00 30.2
comp=Z,34nm,1.2s
UOSS Minazif 64.11 304 P **P** **03 00 29.2 +0.5**
UOSS Minazif 64.11 304 P **P** **03 00 28.9 +0.1**
HATD Hatta, Dubai 64.12 304 P **P** **03 00 29.9 +1.1**
HATD Hatta, Dubai 64.12 304 *i* P **P** **03 00 29.5 +0.7**
SNR=6.4
ASHO Ashiyiah 64.12 303 P **P** **03 00 29.5 +0.7**
ASHO Ashiyiah 64.12 303 *i* P **P** **03 00 29.3 +0.4**
SNR=5.4
HRA Herat 64.16 316 P **P** **03 00 27.5 -1.6**
IUG luzhnay 64.17 327 *eP* **P** **03 00 28.3 -0.6**
IUG luzhnay 64.17 327 *eP* **P** **03 00 28.3 -0.6**
baz=327
MDH Madha 64.19 304 P **P** **03 00 27.4 -1.8**
MDH Madha 64.19 304 P **P** **03 00 28.7 -0.5**
BTLS Baital 64.19 331 *eP* **P** **03 00 27.9 -1.0**
BTLS pmax pmax
comp=Z,16nm,1.5s
BTLS Baital 64.19 331 *eP* **P** **03 00 27.9 -1.0**
comp=Z,16nm,1.5s,baz=331
MSFE Esma-Masafi 64.32 304 P **P** **03 00 31.0 +0.8**
MASF Masafi 64.33 304 P **P** **03 00 31.4 +1.1**
BANOM Banah 64.45 305 P **P** **03 00 31.2 +0.1**
BANOM Banah 64.45 305 P **P** **03 00 32.7 +1.7**
FAQ Al Faqa, Dubai 64.53 303 P **P** **03 00 32.1 +0.6**
SNR=5.4
FAQ Al Faqa, Dubai 64.53 303 *i* P **P** **03 00 32.2 +0.8**
SNR=14
ZEA Zeya 64.54 10 *eP* **P** **03 00 31.3 +0.3**
ZEA pmax pmax
comp=N,20nm,1.7s
ZEA pmax pmax
comp=Z,30nm,1.6s
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
KK31 Karatay Array 64.57 328 P **P** **03 00 30.9 -0.5**
KK31 lAmb lAmb 03 00 33.4
comp=Z,19nm,1.1s
KK31 Karatay Array 64.57 328 P **P** **03 00 30.9 -0.5**
KK31 pmax pmax
comp=Z,19nm,1.2s
KKAR Karatay Array 64.57 328 P **P** **03 00 30.9 -0.5**
KKAR lAmb lAmb 03 00 33.4
comp=Z,19nm,1.1s
KKAR Karatay Array 64.57 328 P **P** **03 00 30.9 -0.5**
KKAR pmax pmax
comp=Z,19nm,1.2s
ASUD Al Ashush, Dub 64.70 303 P **P** **03 00 33.8 +1.2**
ASUD Al Ashush, Dub 64.70 303 P **P** **03 00 33.7 +1.1**
URZ Urewera 64.77 128 LR LR 03 30 55.9
comp=Z,195nm,18.1s,baz=180,slow=38
MZR Muzera 65.59 301 *i* P **P** **03 00 39.2 +0.7**
SNR=5.9
MAW Mawson 66.23 198 P **P** **03 00 43.6 +1.9**
comp=Z,4.7nm,0.9s,baz=62,slow=13,SNR=7.1
MAW LR LR 03 22 52.1
comp=Z,191nm,22.0s,baz=34,slow=30
comp=Z,4.7nm,0.9s
MAW Mawson 66.23 198 P **P** **03 00 42.3 +0.5**
baz=66,SNR=5.8
MAW Mawson 66.23 198 P **P** **03 00 40.9 -0.8**
MAW Mawson 66.23 198 P **P** **03 00 40.9 -0.8**
MAW pmax pmax
comp=Z,8.0nm,1.8s
GHWR Ruwais 66.48 301 P **P** **03 00 45.2 +1.2**
KURK Kurchatov 66.67 338 P **P** **03 00 44.1 -0.7**
KURK lAmb lAmb 03 00 45.5
comp=Z,37nm,1.3s
KURK Kurchatov 66.67 338 *deP* **P** **03 00 43.8 -1.0**
KURK pmax pmax
comp=Z,20nm,1.1s
KURK Kurchatov 66.67 338 P **P** **03 00 44.8 0.0**
BOD Bodaibo 67.30 1 *eP* **P** **03 00 47.8 -0.8**
BOD pmax pmax
comp=Z,38nm,1.6s
ZALV Zalesovo Beam 67.36 343 P **P** **03 00 47.9 -1.3**
comp=Z,7.4nm,0.6s,baz=143,slow=3.7,SNR=41
comp=Z,7.4nm,0.6s
ZALV Zalesovo Beam 67.36 343 *i* P **P** **03 00 48.2 -0.9**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
SLWR Sila 67.52 301 P **P** **03 00 51.6 +0.9**
BRZS Berezniki 68.49 334 *eP* **P** **03 00 55.6 -0.7**
BRZS pmax pmax
comp=Z,25nm,1.6s
BRZS Berezniki 68.49 334 *eP* **P** **03 00 55.7 -0.7**
comp=Z,25nm,1.6s,baz=334
SHMA Al-Shehemyia 68.81 303 P **P** **03 00 59.4 +0.6**
GEYT Alibeck 68.88 317 P **P** **03 00 59.4 +0.3**
comp=Z,23nm,1.1s,baz=165,slow=6.2,SNR=29
GEYT LR LR 03 34 34.9
comp=Z,122nm,19.4s,baz=144,slow=39
comp=Z,23nm,1.1s
GEYT Alibeck 68.88 317 P **P** **03 00 58.9 -0.1**
GYA0B ALIBECK ARRAY 68.88 317 lAmb lAmb 03 01 00.7
comp=Z,41nm,1.2s
ATD Arta Tunnel 71.63 286 LR LR 03 29 27.9
comp=Z,50nm,18.5s,baz=128,slow=33
BVAR Borovoye Array 71.70 335 LR LR 03 37 00.5
comp=Z,219nm,18.0s,baz=143,slow=40
BRVK Borovoye 71.77 335 P **P** **03 01 16.3 0.0**
BRVK lAmb lAmb 03 01 17.2
comp=Z,25nm,1.4s
BRVK Borovoye 71.77 335 ǁ *eP* **P** **03 01 15.5 -0.8**
BRVK pmax pmax
comp=Z,16nm,1.3s
VNDA Vanda 72.50 170 P **P** **03 01 21.6 +1.1**
comp=Z,1.6nm,0.9s,baz=308,slow=6.1,SNR=6.6
VNDA LR LR 03 30 32.8
comp=Z,99nm,21.0s,baz=326,slow=34
comp=Z,1.6nm,0.9s
VNDA Vanda 72.50 170 P **P** **03 01 20.5 +0.1**
RAYN Ar Rayn 72.62 298 P **P** **03 01 21.7 -0.5**
RAYN lAmb lAmb 03 01 23.6
comp=Z,20nm,1.1s
RAYN Ar Rayn 72.62 298 P **P** **03 01 21.7 -0.5**
RAYN pmax pmax
comp=Z,20nm,1.1s
RAYN Ar Rayn 72.62 298 P **P** **03 01 22.9 +0.7**
RAYN Ar Rayn 72.62 298 *i* P **P** **03 01 22.7 +0.5**
SNR=12
YAK Yakutsk 72.86 9 P **P** **03 01 21.5 -1.2**
comp=Z,9.9nm,0.4s,baz=271,slow=0.2,SNR=7.9
comp=Z,9.9nm,0.4s
YAK Yakutsk 72.86 9 *eP* **P** **03 01 21.2 -1.4**
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=N,18nm,0.9s
YAK pmax pmax
comp=E,17nm,1.1s
KIBK Kibwezi 73.52 270 P **P** **03 01 26.9 -0.9**
KIBK Kibwezi 73.52 270 P **P** **03 01 30.4 +2.7**
PEA0B Petropavlovsk- 73.76 27 P **P** **03 01 27.7 -0.5**
PEA0B lAmb lAmb 03 01 29.1
comp=Z,39nm,1.2s
PEA0B Petropavlovsk- 73.76 27 *ceP* **P** **03 01 28.2 0.0**
PETK Petropavlovsk- 73.76 27 P **P** **03 01 27.4 -0.8**
comp=Z,16nm,1.1s,baz=222,slow=2.0,SNR=14
comp=Z,16nm,1.1s
AB31 Akbulak array 74.13 328 *i* P **P** **03 01 30.1 -0.3**
ABKAR Akbulak array 74.13 328 P **P** **03 01 30.0 -0.4**
KMBO Kilima Mbogo 74.50 272 P **P** **03 01 34.9 +1.3**
comp=Z,4.7nm,1.0s,baz=56,slow=8.0,SNR=9.8
KMBO LR LR 03 32 00.6
comp=Z,146nm,18.3s,baz=92,slow=34
comp=Z,4.7nm,1.0s
KMBO Kilima Mbogo 74.50 272 P **P** **03 01 33.2 -0.5**
KMBO Kilima Mbogo 74.50 272 ǁ *eP* **P** **03 01 34.2 +0.5**
KMBO Kilima Mbogo 74.50 272 P **P** **03 01 36.7 +3.0**
KMBO Kilima Mbogo 74.50 272 *i* P **P** **03 01 36.3 +2.6**
SNR=6.4
MA2 Magadan 75.77 19 P **P** **03 01 39.1 -0.5**
comp=Z,9.8nm,0.6s,baz=133,slow=5.5,SNR=3.7
MA2 LR LR 03 37 52.3
comp=Z,67nm,18.4s,baz=264,slow=38
comp=Z,9.8nm,0.6s
MA2 Magadan 75.77 19 ǁ *eP* **P** **03 01 40.0 +0.3**
MA2 pmax pmax
comp=Z,64nm,2.5s
AKTO Aktyubinsk 75.83 328 P **P** **03 01 40.4 +0.1**
comp=Z,19nm,0.8s,baz=113,slow=4.3,SNR=61
AKTO LR LR 03 38 45.0
comp=Z,130nm,20.6s,baz=133,slow=39
comp=Z,19nm,0.8s
LODK Lodwar 77.16 276 P **P** **03 01 51.3 +2.7**
SEY Seymchan 78.85 18 P **P** **03 01 57.0 +0.1**
comp=Z,9.4nm,0.7s,baz=220,slow=2.6,SNR=15
comp=Z,9.4nm,0.7s
SEY Seymchan 78.85 18 ǁ *eP* **P** **03 01 57.3 +0.5**
SEY pmax pmax
comp=Z,42nm,1.5s
ARU Arti 79.08 333 P **P** **03 01 58.5 +0.3**
comp=Z,19nm,1.0s,baz=149,slow=2.5,SNR=28
ARU LR LR 03 41 25.2
comp=Z,122nm,19.1s,baz=130,slow=39
comp=Z,19nm,1.0s
ARU Arti 79.08 333 *d* *i*P **P** **03 01 58.2 0.0**
ARU 03 04 57.8
ARU S **S** **03 11 59.1 +3.4**
ARU SS **SS** **03 16 59.4 -2.8**
ARU pmax pmax
comp=Z,45nm,1.2s
GNI Garni 79.15 314 LR LR 03 42 13.7
comp=Z,71nm,18.1s,baz=106,slow=40
GNI Garni 79.15 314 P **P** **03 01 58.7 -0.5**
GNI lAmb lAmb 03 02 07.3
comp=Z,30nm,1.2s
GNI Garni 79.15 314 *ce*P **P** **03 02 00.9 +1.6**
GNI pmax pmax
comp=Z,26nm,1.3s
GNI Garni 79.15 314 P **P** **03 01 60.0 +0.7**
GNI Garni 79.15 314 P **P** **03 02 00.7 +1.5**
GROC Groznyy 79.62 317 *eP* **P** **03 02 02.7 +1.2**
GROC *e* 03 02 10.0
GROC *e* 03 05 04.0
GROC pmax pmax
comp=Z,248nm,1.2s
QSPA South Pole Qui 80.31 180 LR LR 03 36 33.4
comp=Z,80nm,18.1s,baz=337,slow=35
QSPA South Pole Qui 80.31 180 P **P** **03 02 06.8 +1.8**
QSPA lAmb lAmb 03 02 11.1
comp=Z,37nm,1.6s
GURO Guroymak-BITLI 80.53 312 lAmb lAmb 03 02 09.0
comp=Z,24nm,1.2s
NRIK Noril'sk 80.62 352 P **P** **03 02 06.0 -0.3**
comp=Z,6.7nm,0.9s,baz=150,slow=3.1,SNR=9.5
comp=Z,6.7nm,0.9s
NRIK Noril'sk 80.62 352 lAmb lAmb 03 02 07.2
comp=Z,34nm,1.6s
NRIK Noril'sk 80.62 352 *d* *i*P **P** **03 02 05.6 -0.7**
NRIK pmax pmax
comp=Z,12nm,1.3s
ZEI Tsey 80.74 316 *eP* **P** **03 02 08.2 +0.4**
ZEI pmax pmax
comp=Z,31nm,1.4s
MBAR Mbarara 81.01 271 LR LR 03 36 01.7
comp=Z,147nm,18.6s,baz=83,slow=34
MBAR Mbarara 81.01 271 P **P** **03 02 10.0 +0.1**
MBAR lAmb lAmb 03 02 13.5
comp=Z,13nm,0.9s
MBAR Mbarara 81.01 271 *ce*P **P** **03 02 08.8 -1.1**
MBAR Mbarara 81.01 271 P **P** **03 02 12.6 +2.7**
MARD Mardin 81.04 310 P **P** **03 02 09.3 -0.1**
MARD lAmb lAmb 03 02 11.4
comp=Z,30nm,1.3s
KBZ Khabaz 81.78 317 P **P** **03 02 13.7 +0.7**
comp=Z,30nm,1.0s,baz=98,slow=3.6,SNR=38
comp=Z,30nm,1.0s
KBZ Khabaz 81.78 317 *deP* **P** **03 02 13.6 +0.6**
KBZ pmax pmax
comp=Z,42nm,1.1s
TIXI Tiksi 81.96 5 P **P** **03 02 12.5 -0.9**
comp=Z,22nm,0.8s,baz=268,slow=20,SNR=16
TIXI LR LR 03 41 58.1
comp=Z,122nm,18.4s,baz=182,slow=38
comp=Z,22nm,0.8s
TIXI Tiksi 81.96 5 P **P** **03 02 12.7 -0.7**
TIXI lAmb lAmb 03 02 13.6
comp=Z,29nm,0.9s
TIXI Tiksi 81.96 5 *de*P **P** **03 02 12.2 -1.2**
TIXI pmax pmax
comp=Z,26nm,0.9s
KVAR Kislovodsk Arr 82.00 317 P **P** **03 02 15.1 +0.8**
comp=Z,4.8nm,0.8s,baz=94,slow=19,SNR=3.6
KVAR LR LR 03 44 14.7
comp=Z,55nm,18.5s,baz=72,slow=40
comp=Z,4.8nm,0.8s
KIV Kislovodsk 82.00 317 *de*P **P** **03 02 15.1 +0.8**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 82.00 317 P **P** **03 02 15.9 +1.6**
KIV Kislovodsk 82.00 317 *i* P **P** **03 02 15.7 +1.4**
SNR=10
KOPT Kop Dagi 82.14 313 P **P** **03 02 16.0 +0.6**
KOPT lAmb lAmb 03 02 19.4
comp=Z,60nm,1.6s
GOF Gofitskoye 82.17 318 ǁ *eP* **P** **03 02 16.0 +0.9**
GOF pmax pmax
comp=Z,113nm,1.4s
BOSA Boshof 82.35 242 P **P** **03 02 17.6 +0.9**
comp=Z,5.1nm,0.9s,baz=89,slow=3.0,SNR=4.5
BOSA LR LR 03 34 37.5
comp=Z,316nm,18.0s,baz=70,slow=32
comp=Z,5.1nm,0.9s
BELG Belogornoye 82.42 326 P **P** **03 02 16.8 +0.6**
comp=Z,92nm,1.1s,baz=41,slow=1.3,SNR=21
comp=Z,92nm,1.1s
BELG Belogornoye 82.42 326 *d* *i*P **P** **03 02 15.9 -0.3**
BELG pmax pmax
comp=Z,18nm,1.1s
LBTB Lobatse 82.48 246 LR LR 03 34 23.5
comp=Z,59nm,18.7s,baz=84,slow=32
EIL Elat 83.45 301 LR LR 03 39 48.7
comp=Z,163nm,20.4s,baz=94,slow=36
SOC Sochi 83.89 316 *eP* **P** **03 02 20.2 -3.8**
SOC *e* 03 05 34.7
SOC *e*PPP PPP 03 07 26.1
SOC *e*S **S** **03 12 39.4 -6.6**
SOC pmax pmax
comp=Z,37nm,0.9s
MMAI Mount Meron Ar 83.95 305 LR LR 03 41 35.3
comp=Z,152nm,21.2s,baz=146,slow=37
KIRV Kirov 84.40 332 P **P** **03 02 25.6 -0.6**
comp=Z,54nm,0.9s,baz=111,slow=2.3,SNR=22
KIRV LR LR 03 47 59.0
comp=Z,128nm,18.1s,baz=132,slow=41
comp=Z,54nm,0.9s
KIRV Kirov 84.40 332 *de*P **P** **03 02 26.5 +0.3**
VRH Novokhopyorsk 85.28 324 *eP* **P** **03 02 28.1 -2.7**
VRH pmax pmax
comp=Z,90nm,1.9s
SUR Sutherland 85.65 238 LR LR 03 36 55.8
comp=Z,150nm,18.1s,baz=132,slow=33
CSS Mathiatis 86.12 306 lAmb lAmb 03 02 38.0
comp=Z,39nm,1.4s
VSR Storozhevoye 86.79 323 *eP* **P** **03 02 35.4 -2.9**
VSR pmax pmax
comp=Z,40nm,1.0s
VORR Voronezh 86.92 324 *eP* **P** **03 02 39.5 +0.6**
VORR pmax pmax
comp=Z,64nm,1.5s
BR131 Keskin Array S 87.10 311 lAmb lAmb 03 02 42.0
comp=Z,21nm,0.9s
BR131 Keskin Array S 87.10 311 *de*P **P** **03 02 40.5 +0.2**
BR131 Keskin Array S 87.10 311 P **P** **03 02 41.4 +1.0**
SNR=9.9
BRTR Keskin Array B 87.10 311 P **P** **03 02 40.6 +0.2**
comp=Z,7.2nm,0.8s,baz=130,slow=6.7,SNR=47
BRTR PP **PP** **03 06 02.5 -1.7**
comp=Z,1.2nm,0.9s,baz=108,slow=6.6,SNR=4.1
comp=Z,7.2nm,0.8s
BRTR Keskin Array B 87.10 311 P **P** **03 02 40.2 -0.1**
BRTR Keskin Array B 87.10 311 *i* P **P** **03 02 41.2 +0.9**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
ILGA Ilgaz 87.39 312 P **P** **03 02 42.2 +0.4**
ILGA lAmb lAmb 03 02 45.3
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 87.40 324 *eP* **P** **03 02 38.8 -2.4**
LPSR pmax pmax
comp=Z,50nm,1.0s
PRGR Permogore 87.48 334 *eP* **P** **03 02 39.8 -1.6**
PRGR pmax pmax
comp=Z,28nm,0.7s
ANTO Ankara 87.76 311 P **P** **03 02 43.4 0.0**
ANTO Ankara 87.76 311 P **P** **03 02 43.4 0.0**
ANTO pmax pmax
comp=Z,44nm,1.6s
SIM Simferopol' 88.13 316 *eP* **P** **03 02 43.1 -1.8**
SIM *e**PP **pwP** **03 02 55.0 -1.0**
SIM pmax pmax
comp=Z,11nm,1.0s
SNAA Sanae 88.34 197 P **P** **03 02 45.6 +0.1**
SNAA Sanae 88.34 197 LR LR 03 36 20.8
comp=Z,148nm,21.0s,baz=112,slow=32
SNAA Sanae 88.34 197 P **P** **03 02 44.3 -1.3**
SNAA lAmb lAmb 03 02 53.6
comp=Z,11nm,1.3s
SNAA Sanae 88.34 197 ǁ *eP* **P** **03 02 44.7 -0.9**
SNAA pmax pmax
comp=Z,4.0nm,1.0s
MDUB Mudurnu 89.10 311 P **P** **03 02 48.7 -1.1**
MOS Moscow 89.14 327 *eP* **P** **03 02 49.2 -0.2**
MOS pmax pmax
comp=Z,55nm,1.2s
OBN Obninsk 89.52 326 P **P** **03 02 50.6 -0.6**
comp=Z,3.7nm,0.5s,baz=65,slow=2.9,SNR=14
comp=Z,3.7nm,0.5s
OBN Obninsk 89.52 326 P **P** **03 02 50.8 -0.4**
OBN Obninsk 89.52 326 *de*P **P** **03 02 51.7 +0.5**
OBN *e* 03 06 22.4
OBN *e*S **SKSac** **03 13 12.3 -7.3**
OBN pmax pmax
comp=Z,39nm,1.2s
KLMR Klimovskoe 89.90 332 *eP* **P** **03 02 51.4 -1.4**
KLMR pmax pmax
comp=Z,81nm,1.5s
KLMR Klimovskoe 89.90 332 *eP* **P** **03 02 51.4 -1.4**
KLMR AMP 03 02 55.0
comp=Z,81nm,1.5s
VNA2 Neumayer--Watz 89.99 197 P **P** **03 02 55.2 +2.0**
baz=92,slow=1.2
VNA1 Neumayer--Stat 90.38 197 P **P** **03 02 58.3 +3.3**
VNA3 Neumayer Olymp 90.45 196 P **P** **03 02 57.3 +1.9**
TIRR Tirgusor 91.97 315 P **P** **03 03 02.0 -0.9**
TIRR lAmb lAmb 03 03 03.8
comp=Z,19nm,1.2s
TIRR Tirgusor 91.97 315 P **P** **03 03 02.0 -0.9**
TIRR pmax pmax
comp=Z,19nm,1.2s
AKASG Malin Array Be 92.70 321 P **P** **03 03 05.3 -0.7**
comp=Z,1.9nm,0.6s,baz=86,slow=4.9,SNR=14
AKASG PP **PP** **03 06 46.4 -1.9**
comp=Z,1.1nm,0.7s,baz=107,slow=6.0,SNR=7.1
AKASG LR LR 03 50 52.5
comp=Z,42nm,18.8s,baz=69,slow=40
comp=Z,1.9nm,0.6s
AKASG Malin Array Be 92.70 321 *i* P **P** **03 03 05.9 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 92.70 321 *ce*P **P** **03 03 05.6 -0.5**
MLR Muntele Rosu 93.88 315 P **P** **03 03 11.3 -0.6**
comp=Z,2.0nm,0.6s,baz=104,slow=8.2,SNR=4.9
MLR PP **PP** **03 06 56.5 -1.3**
comp=Z,20nm,1.0s,baz=95,slow=2.2,SNR=13
MLR LR LR 03 52 45.5
comp=Z,76nm,19.4s,baz=84,slow=40
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 93.88 315 lAmb lAmb 03 03 15.0
comp=Z,18nm,1.5s
TBI Tubuai 94.19 114 *e*LR LR 03 33 34.0
comp=Z,156nm,23.5s
MNK Minsk 94.25 324 *i* P **P** **03 03 10.5 -2.6**
MNK *i* 03 06 57.2
MNK *i* PPP PPP 03 08 57.6
MNK *i* S **SKSac** **03 13 42.7 -3.6**
MNK *i* SS **SS** **03 20 42.6 -1.7**
MNK *i* SSS SSS 03 24 25.6
MNK pmax pmax
comp=Z,11nm,1.2s
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK MLR MLR
comp=E,10.0nm,13.0s
MNK MLR MLR
comp=Z,51nm,12.0s
MNK Minsk 94.25 324 *i* P **P** **03 03 10.6 -2.6**
comp=E,2.0nm,1.2s
MNK *i* P **P** **03 03 10.6 -2.6**
MNK *i* P **P** **03 03 10.6 -2.6**
comp=Z,11nm,1.2s,baz=101
MNK *i* PP **PP** **03 06 57.3 -3.0**
MNK *i* PPP PPP 03 08 57.7
MNK *i* S **SKSac** **03 13 42.7 -3.6**
MNK *i* SS **SS** **03 20 42.7 -1.7**
MNK *i* SSS SSS 03 24 25.6
MNK *i* LQ LQ 03 39 41.8
MNK *i* LR LR 03 46 07.3
MNK *i* LRM MLR 03 48 11.9
comp=E,10.0nm,12.8s
MNK *i* LRM MLR 03 48 18.3

comp=Z,51nm,12.2s
BUR08 **Bucovina Ar. S** 94.74 317 P P 03 03 15.9 +0.1
NACGM **Naroch** 94.95 325|| eP P 03 03 15.7 -0.7
baz=100
PPT2 **Papeete2** 95.29 109 eLR LR 03 34 04.6
comp=Z,195nm,25.5s
PPT **Papeete** 95.29 109 LR LR 03 41 20.8
comp=Z,92nm,21.4s,baz=308,slow=32
FIA1 **FINESS Array S** 96.35 331 P P 03 03 22.9 +0.3
FINES **FINESS Array B** 96.35 331 P P 03 03 22.3 -0.2
comp=Z,4.2nm,1.0s,baz=134,slow=8.0,SNR=7.3
FINES LR LR 03 51 09.6
comp=Z,160nm,19.2s,baz=105,slow=38
comp=Z,4.2nm,1.0s
FINES **FINESS Array B** 96.35 331 i P P 03 03 23.2 +0.6
FINES pmax pmax
comp=Z,4.0nm,1.0s
SDPT **Sand Point** 96.64 35 P P 03 03 23.9 -0.2
baz=263
ARCES **ARCESS Array B** 97.68 339 LR LR 03 53 14.4
comp=Z,141nm,18.1s,baz=114,slow=39
N16K **Nishlik Lake** 98.11 30 P P 03 03 30.8 +0.2
baz=265
O16K **Kokwok River B** 98.37 31 P P 03 03 31.8 +0.1
baz=265
L19K **White Mountain** 100.10 28 P Pdif 03 03 39.8 +0.3
baz=268
N19K **Bonanza Creek** 100.24 30 P Pdif 03 03 40.7 +0.5
baz=268
J20K **Nowinta River** 100.45 26 P Pdif 03 03 42.0 +1.1
baz=269
K20K **Telida** 100.48 27 P Pdif 03 03 41.9 +0.8
baz=269
L20K **Farewell, AK** 100.56 28 P Pdif 03 03 42.0 +0.5
baz=269
P19K **Oil Pt** 100.84 31 P Pdif 03 03 43.4 +0.6
baz=269
O20K **Slope Mountain** 101.15 31 P Pdif 03 03 44.8 +0.5
baz=270
E22K **Anaktuvuk Pass** 101.34 22 P Pdif 03 03 45.0 +0.2
baz=272
G22K **Bettles** 101.51 24 P Pdif 03 03 46.2 +0.7
baz=272
SKT **Skwentna** 101.66 29 P Pdif 03 03 47.2 +0.8
baz=271
C23K **Itkillik River** 101.68 21 P Pdif 03 03 47.3 +1.1
baz=274
BPAW **Bear Paw Mtn.** 101.84 26 P Pdif 03 03 47.7 +0.5
baz=272
MLY **Manley** 101.91 25 P Pdif 03 03 47.9 +0.4
baz=273
BRSE **Bradley Lake S** 102.10 31 P Pdif 03 03 48.8 +0.3
baz=272
G23K **Bananza Creek** 102.11 24 P Pdif 03 03 48.5 +0.2
baz=274
TOLK **Toolik Lake Re** 102.14 22 P Pdif 03 03 49.0 +0.6
baz=275
E23K **Chandalar** 102.17 22 P Pdif 03 03 49.0 +0.4
baz=274
MCK **McKinley** 102.77 27 P Pdif 03 03 51.7 +0.4
baz=274
WAT1 **Susitna Watana** 103.00 28 P Pdif 03 03 52.6 +0.2
baz=274
KNK **Knik Glacier** 103.15 29 P Pdif 03 03 53.0 0.0
baz=274
ILAR **Eielson Array** 103.56 26 PP PP 03 08 08.3 -2.7
comp=Z,0.8nm,1.1s,baz=217,slow=8.7,SNR=4.3
E25K **Arctic Village** 103.67 22 P Pdif 03 03 56.4 +1.1
baz=278
F25K **Christian Rive** 103.72 23 P Pdif 03 03 56.7 +1.2
baz=278
O28M **Mount Upton** 107.21 29 P PKiKP 03 08 20.7 +0.3
baz=281
EPYK **Eagle Plains** 107.40 23 P PKiKP 03 08 21.4 +1.1
baz=286
YKA **Yellowknife Ar** 117.66 22 PKP PKiKP 03 08 40.5 +0.7
comp=Z,1.3nm,0.7s,baz=320,slow=2.7,SNR=4.1
J05D **Fort Rock, OR** 123.23 44 P PKiKP 03 08 52.1 +0.5
baz=290
NEW **Newport** 123.92 37 P PKiKP 03 08 53.5 +0.9
baz=297
MSO **Missoula** 126.49 38 P PKiKP 03 08 58.8 +0.9
baz=299
NVAR **Mina Array Bea** 126.94 49 PKP PKiKP 03 09 00.0 +0.8
comp=Z,0.6nm,0.7s,baz=293,slow=1.9,SNR=8.2
NVAR PP PP 03 10 54.1 -2.5
comp=Z,0.6nm,0.9s,baz=267,slow=5.4,SNR=2.8
HLID **Hailey** 127.70 41 P PKiKP 03 09 01.9 +1.5
baz=296
CWC **Cottonwood Cre** 127.74 51 P PKiKP 03 09 01.8 +1.0
baz=288
GRAC **Grapevine Rang** 128.11 50 P PKiKP 03 09 02.6 +1.3
baz=289
EDW2 **Edwards Air Fo** 128.27 53 P PKiKP 03 09 02.8 +1.1
baz=287
EGMT **Eagleton** 128.30 35 P PKiKP 03 09 02.8 +1.4
baz=304
MPMC **Manual Prospec** 128.31 51 P PKiKP 03 09 02.8 +0.8
baz=288
ELK **Elko** 128.31 45 PKP PKiKP 03 09 02.7 +0.8
comp=Z,2.6nm,1.1s,baz=297,slow=0.9,SNR=6.0
BOZ **Bozeman (W)** 128.49 38 P PKiKP 03 09 03.3 +1.3
baz=300
FURC **Furnace Creek,** 128.66 51 P PKiKP 03 09 04.5 +2.1
baz=289
R11A **Troy Canyon, C** 128.97 48 P PKiKP 03 09 05.2 +1.9
baz=291
GSC **Goldstone, Bar** 129.07 52 P PKiKP 03 09 04.8 +1.4
baz=288
SHOC **Shoshone, Teco** 129.29 51 P PKiKP 03 09 05.0 +1.3
baz=289
PFO **Pinyon Flats O** 129.85 54 P PKiKP 03 09 05.6 +0.5
baz=287
GMRC **Granite Mounta** 130.13 52 P PKiKP 03 09 06.9 +1.3
baz=288
RLMT **Red Lodge** 130.16 37 P PKiKP 03 09 06.8 +1.4
baz=302
DUG **Dugway, Tooele** 130.23 45 P PKiKP 03 09 07.3 +1.7
baz=295
IRM **Iron Mountain** 130.73 53 P PKiKP 03 09 07.9 +1.2
baz=288
DGMT **Dagmar** 131.01 31 P PKiKP 03 09 08.5 +1.7
baz=310
LAO **LASA Array** 131.03 34 P PKiKP 03 09 08.6 +1.6
baz=307
BW06 **Boulder Array** 131.20 40 P PKiKP 03 09 08.5 +0.9
baz=300
PDAR **Pinedale Array** 131.21 40 PKP PKPdf 03 09 07.6 +0.9
comp=Z,1.0nm,1.1s,baz=150,slow=1.2,SNR=5.7
O20A **White River Ci** 133.37 43 PKPdf PKPdf 03 09 10.6 -0.3
O20A **White River Ci** 133.37 43 P PKiKP 03 09 13.2 +1.1
baz=299
MDND **Maddock** 133.70 29 P PKiKP 03 09 12.6 +0.4
baz=315
RSSD **Black Hills** 133.81 36 PKPdf PKPdf 03 09 11.7 +0.1
RSSD **Black Hills** 133.81 36 PKIKP PKPdf 03 09 11.7 +0.1
RSSD **Black Hills** 133.81 36 P PKPdf 03 09 12.5 +1.0
baz=307
RSSD **Black Hills** 133.81 36 P PKiKP 03 09 13.0 +0.2
baz=307
TUC **Tucson** 134.78 54 P PKiKP 03 09 15.7 +0.7
baz=290
ISCO **Idaho Springs** 135.28 42 P PKiKP 03 09 16.2 +0.2
baz=302
S22A **4UR Ranch, Cre** 135.49 45 P PKiKP 03 09 17.4 +0.9
baz=299
ANMO **Albuquerque** 137.06 48 P PKPdf 03 09 18.2 +0.3
baz=296
ECSD **EROS Data Cent** 138.09 31 PKPdf PKPdf 03 09 18.9 -0.4
ECSD **EROS Data Cent** 138.09 31 P PKPdf 03 09 19.7 +0.4
baz=316
ALF01 **Guarapari-ES** 139.49 222 eP PKPdf 03 09 22.7 +0.2
VAS01 **Vassouras-RJ** 139.97 217 eP PKPdf 03 09 23.9 +0.5
TXAR **Lajitas Array** 141.57 54 PKhKP PKPpre 03 09 20.8
comp=Z,0.5nm,0.6s,baz=275,slow=2.1,SNR=8.0
TXAR **Lajitas Array** 141.57 54 PKPdf PKPdf 03 09 23.2 -2.8
TXAR **Lajitas Array** 141.57 54 PKIKP PKPdf 03 09 23.3 -2.8
JFWS **Jewell Farm** 141.74 26 P PKPdf 03 09 26.3 +0.4
baz=324
WMOK **Wichita Mounta** 142.60 43 P PKPdf 03 09 28.3 +0.6
baz=304
CPUP **Villa Florida** 142.65 196 PKP PKPdf 03 09 28.8 +0.8
comp=Z,1.9nm,0.8s,baz=112,slow=4.2,SNR=4.8
OK025 **Westminster Rd** 143.07 41 PKPdf PKPbc 03 09 26.5 +1.2
HDIL **Hopedale** 144.05 28 PKPdf PKPab 03 09 27.9 +0.5
HDIL **Hopedale** 144.05 28 P PKPbc 03 09 28.6 +0.7
baz=323
JCT **Junction City** 144.09 50 PKPdf PKPab 03 09 28.5 +0.5
JCT **Junction City** 144.09 50 PKIKP PKPab 03 09 28.5 +0.5
JCT **Junction City** 144.09 50 P PKPbc 03 09 29.7 +1.2
baz=298
R40A **Maddies Statio** 144.29 33 P PKPbc 03 09 29.2 +0.5
baz=317,SNR=12
U38A **Gravette** 144.37 38 PKPab 03 09 29.0 +0.2
MC01 **Montes Claros** 144.40 223 eP PKPdf 03 09 33.2 +1.8
PKME **Peaks-Kenny Pk** 144.54 1 P PKPdf 03 09 30.6 -0.2
baz=358,SNR=5.8
PKME **Peaks-Kenny Pk** 144.54 1 P PKPbc 03 09 30.4 +1.1
baz=358,SNR=5.8
BMNY **Brushton-Moira** 144.57 8 P PKPbc 03 09 30.4 +1.0
baz=350,SNR=13
G65A **Princeton** 144.61 359 PKPab 03 09 29.7 +0.3
G65A **Princeton** 144.61 359 P PKPdf 03 09 30.8 -0.1
baz=1.3
G65A P PKPdf 03 09 30.8 -0.1
baz=1.3
PMNB **Patos De Minas** 144.63 218 eP PKPdf 03 09 33.2 +1.4
P43A **Skaggs, Pawnee** 144.67 29 P PKPbc 03 09 30.6 +0.6
baz=322,SNR=7.6
PCMB **Pacaembu** 144.69 208 eP PKPdf 03 09 31.4 -0.3
ZAIG **Zacatecas** 144.71 64 PKPdf PKPab 03 09 31.2 +0.4
HHAR **Hobbs** 144.74 37 P PKPab 03 09 30.6 +0.4
baz=312
LONY **Lake Ozonia** 144.77 8 P PKPbc 03 09 30.6 +0.4
baz=349,SNR=13
AAM **Ann Arbor** 144.82 20 P PKPbc 03 09 30.9 +0.6
baz=333
L48A **N Adams** 144.87 21 P PKPdf 03 09 31.7 +0.3
baz=332,SNR=13
L48A P PKPdf 03 09 31.7 +0.3
baz=332,SNR=13
HAL **Halifax** 144.94 354 PKPbc PKPab 03 09 29.5 -1.1
HAL **Halifax** 144.94 354 PKIKP PKPab 03 09 29.5 -1.1
X37A **Clayton** 144.95 41 P PKPdf 03 09 32.3 +0.5
baz=309,SNR=7.8
CCM **Cathedral Cave** 145.01 32 PKPbc 03 09 30.9 -0.2
CCM **Cathedral Cave** 145.01 32 PKIKP PKPbc 03 09 30.9 -0.2
CCM **Cathedral Cave** 145.01 32 P PKPdf 03 09 32.0 +0.2
baz=318,SNR=26
CCM **Cathedral Cave** 145.01 32 P PKPbc 03 09 31.6 +0.5
baz=318
WHTX **Lake Whitney,** 145.05 46 P PKPdf 03 09 33.6 +1.5
baz=303
WHTX **Lake Whitney,** 145.05 46 P PKPdf 03 09 32.7 +0.6
baz=303
EMMW **East Machias** 145.10 359 PKPbc PKPbc 03 09 31.1 0.0
EMMW **East Machias** 145.10 359 P PKPdf 03 09 32.0 +0.3
baz=1.5
H62A **Milan** 145.15 4 P PKPdf 03 09 32.3 +0.5
baz=355
H62A P PKPdf 03 09 32.3 +0.5
baz=355
SFIN **Lafayette** 145.17 26 P PKPdf 03 09 32.7 +0.7
baz=326,SNR=12
SFIN **Lafayette** 145.17 26 P PKPdf 03 09 32.3 +0.3
baz=326,SNR=12
WVL **Waterville** 145.23 2 PKPbc PKPbc 03 09 31.1 -0.5
WCNY **West Carthage** 145.24 9 P PKPdf 03 09 32.4 +0.4
baz=347,SNR=11
N47A **Urbana** 145.32 24 P PKPbc 03 09 32.5 +0.5
baz=329,SNR=26
N47A P PKPbc 03 09 32.5 +0.5
baz=329,SNR=26
J54A **Appleton** 145.34 13 P PKPdf 03 09 33.0 +0.8
baz=342
J54A P PKPdf 03 09 33.0 +0.8
baz=342
833A **Chaparral WMA,** 145.39 53 P PKPab 03 09 34.9 +2.1
baz=296
833A **Chaparral WMA,** 145.39 53 P PKPab 03 09 34.0 +1.2
baz=296
LBNH **Lisbon** 145.43 5 P PKPab 03 09 33.7 +1.2
baz=354,SNR=6.8
LBNH **Lisbon** 145.43 5 P PKPab 03 09 33.4 +0.9
baz=354,SNR=6.8
NCB **Newcomb** 145.46 8 P PKPab 03 09 33.6 +1.1
baz=350,SNR=22
Q44A **Meyer Farm, Va** 145.49 29 PKPdf 03 09 31.1 -1.5
Q44A **Meyer Farm, Va** 145.49 29 P PKPab 03 09 33.6 +0.8
baz=322,SNR=9.1
J55A **Hilton** 145.53 12 P PKPab 03 09 33.3 +0.5
baz=343,SNR=11
J55A P PKPab 03 09 33.3 +0.5
baz=343,SNR=11
435B **Jarrell** 145.60 48 P PKPab 03 09 34.4 +0.9
baz=301
MCVT **Middlebury Col** 145.62 6 P PKPab 03 09 33.9 +0.7
baz=352
J56A **Wolcott** 145.71 11 PKPdf 03 09 32.0 -0.8
J56A **Wolcott** 145.71 11 P PKPab 03 09 33.9 +0.4
baz=345,SNR=5.4
J56A P PKPab 03 09 33.9 +0.4
baz=345,SNR=5.4
J57A **Williamstown** 145.74 10 P PKPab 03 09 34.4 +0.8
baz=346,SNR=19
J57A P PKPab 03 09 34.4 +0.8
baz=346,SNR=19
JANB **Januaria** 145.81 224 eP PKPbc 03 09 34.7 +0.4
N49A **Columbus Grove** 145.85 22 P PKPab 03 09 34.8 +0.7
baz=331,SNR=15
N49A P PKPab 03 09 34.8 +0.7
baz=331,SNR=15
J58A **Remsen** 145.90 9 P PKPab 03 09 34.5 +0.3
baz=348,SNR=6.5
J58A P PKPab 03 09 34.5 +0.3
baz=348,SNR=6.5
J59A **Piesco** 145.92 8 PKPbc PKPdf 03 09 33.2 -0.1
J59A **Piesco** 145.92 8 P PKPab 03 09 35.0 +0.6
baz=349,SNR=12
J59A P PKPab 03 09 35.0 +0.6
baz=349,SNR=12
OLIL **Olney** 146.06 28 PKPbc PKPdf 03 09 33.4 -0.1
OLIL **Olney** 146.06 28 P PKPab 03 09 35.5 +0.6
baz=323
O48B **Farmland** 146.06 23 P PKPab 03 09 35.3 +0.3
baz=329,SNR=8.6
O48B **Farmland** 146.06 23 P PKPbc 03 09 34.9 +0.5
baz=329,SNR=8.6
ERPA **Erie** 146.10 16 P PKPbc 03 09 35.1 +0.7
baz=339
ACCN **Adirondack Com** 146.10 7 PKPbc PKPdf 03 09 33.5 0.0
MIAR **Mount Ida** 146.12 39 P PKPab 03 09 35.8 +0.5
baz=311,SNR=29
MIAR **Mount Ida** 146.12 39 P PKPab 03 09 36.0 +0.7
baz=311
K57A **Scipio Center** 146.30 11 P PKPab 03 09 36.0 +0.2
baz=345,SNR=6.1
WHAR **Wooly Hollow** 146.40 37 PKPbc PKPdf 03 09 34.6 +0.4
O49A **Covington** 146.44 23 P PKPbc 03 09 36.1 +0.6
baz=330,SNR=11
O49A P PKPbc 03 09 36.1 +0.6
baz=330,SNR=11
M53A **WI Miller and** 146.54 17 P PKPbc 03 09 36.3 +0.6
baz=338,SNR=12
P48A **Milroy** 146.63 25 P PKPbc 03 09 36.8 +0.8
baz=328,SNR=11
P48A P PKPbc 03 09 36.8 +0.8
baz=328,SNR=11
UNH **University of** 146.65 3 P PKPab 03 09 37.2 +0.2
baz=356
HCNY **Howe Caverns** 146.69 8 P PKPab 03 09 37.3 0.0
baz=349,SNR=8.4
UALR **University of** 146.72 38 PKPbc PKPbc 03 09 36.8 +0.3
P49A **Miami Univ. Ec** 146.86 24 P PKPbc 03 09 37.6 +0.8
baz=329,SNR=13
P49A **Miami Univ. Ec** 146.86 24 P PKPbc 03 09 37.3 +0.6
baz=329,SNR=13
ACSO **Alum Creek Sta** 146.89 21 P PKPbc 03 09 37.8 +1.0
baz=333,SNR=18
ACSO **Alum Creek Sta** 146.89 21 P PKPbc 03 09 37.5 +0.7
baz=333,SNR=18
BINY **Binghamton** 146.92 11 P PKPbc 03 09 37.7 +0.8
baz=346,SNR=8.6
BINY **Binghamton** 146.92 11 P PKPbc 03 09 37.6 +0.8
baz=346,SNR=8.6
M55A **Ridgway** 147.02 15 PKPbc PKPbc 03 09 37.3 +0.1
M55A **Ridgway** 147.02 15 P PKPbc 03 09 38.2 +1.1
baz=341,SNR=12
M55A P PKPbc 03 09 38.2 +1.1
baz=341,SNR=12
N53A **Lisbon** 147.07 18 P PKPab 03 09 38.6 -0.2
baz=337,SNR=7.4
N53A P PKPab 03 09 38.6 -0.2
baz=337,SNR=7.4
L59A **Walton** 147.08 9 P PKPab 03 09 38.7 -0.2
baz=348,SNR=9.8
L59A P PKPab 03 09 38.7 -0.2
baz=348,SNR=9.8
NATX **Nacogdoches** 147.14 44 P PKPbc 03 09 38.9 +1.1
baz=306
L61B **Northampton** 147.14 6 P PKPbc 03 09 38.0 +0.6
baz=352
HRV **Adam Dziewonsk** 147.18 4 P PKPbc 03 09 38.6 +1.0
baz=354
HRV **Adam Dziewonsk** 147.18 4 P PKPbc 03 09 38.3 +0.8
baz=354
WCI **Wyandotte Cave** 147.29 27 PKPbc PKPbc 03 09 37.6 -0.4
WCI **Wyandotte Cave** 147.29 27 PKP2 PKPbc 03 09 37.6 -0.4
WCI **Wyandotte Cave** 147.29 27 P PKPbc 03 09 37.6 -0.4
baz=326
WCI **Wyandotte Cave** 147.29 27 P PKPbc 03 09 38.5 +0.5
baz=326
PSDB **Penn State Uni** 147.35 15 P PKPbc 03 09 38.0 -0.1
baz=341
O52A **Adamsville** 147.39 19 P PKPbc 03 09 39.0 +0.8
baz=335,SNR=9.4
O52A P PKPbc 03 09 39.0 +0.8
baz=335,SNR=9.4
O53A **New Philadelph** 147.47 19 P PKPbc 03 09 39.2 +0.8
baz=336
M57A **Sunshine Farm,** 147.52 12 P PKPbc 03 09 40.0 +1.4
baz=344,SNR=11
M57A P PKPbc 03 09 40.0 +1.4
baz=344,SNR=11
P51A **Williamsport** 147.53 22 P PKPbc 03 09 39.3 +0.7
baz=332
P51A P PKPbc 03 09 39.3 +0.7
baz=332
AF01 **San Pedro de A** 147.56 180 PKPbc PKPdf 03 09 37.5 +0.6
AQDB **Aquidauana** 147.57 202 PKPbc PKPdf 03 09 36.2 -0.4
AQDB **Aquidauana** 147.57 202 eP PKPdf 03 09 38.0 +1.3
KSPA **Keystone Colle** 147.58 11 P PKPbc 03 09 39.4 +0.8
baz=346,SNR=7.0
UPAO **U. Pittsburgh** 147.61 17 P PKPbc 03 09 39.7 +0.9
baz=338
P52A **Corning** 147.72 20 P PKPbc 03 09 39.4 +0.3
baz=334
R49A **Shelbyville** 147.73 25 P PKPbc 03 09 40.2 +1.1
baz=328,SNR=11
R49A P PKPbc 03 09 40.2 +1.1
baz=328,SNR=11
O54A **Avella** 147.78 18 P PKPbc 03 09 40.4 +1.2
baz=337
O54A P PKPbc 03 09 40.4 +1.2
baz=337
PB06 **IPOC Station P** 147.78 178 PKPbc PKPdf 03 09 36.5 -0.6
BDFB **Brasilia** 147.81 219 PKPbc PKiKP 03 09 41.6 -0.5
comp=Z,7.2nm,0.8s,baz=190,slow=3.3,SNR=9.7
BDFB **Brasilia** 147.81 219 eP PKPdf 03 09 38.1 +0.8
Q51A **Peebles** 147.82 22 PKPbc PKPbc 03 09 39.2 -0.2
Q51A **Peebles** 147.82 22 P PKPbc 03 09 40.4 +1.0
baz=331,SNR=11
Q51A P PKPbc 03 09 40.4 +1.0
baz=331,SNR=11
T47A **Sharon Grove** 147.93 29 P PKPbc 03 09 40.9 +1.1
baz=323,SNR=8.1
BRNY **Black Rk. Fore** 148.00 8 P PKPbc 03 09 41.1 +1.3
baz=349,SNR=6.1
SSPA **Standing Stone** 148.02 14 PKiKP 03 09 41.6 -0.2
SSPA **Standing Stone** 148.02 14 P PKPbc 03 09 41.1 +1.2
baz=342,SNR=8.7
SSPA **Standing Stone** 148.02 14 P PKPbc 03 09 40.2 +0.3
baz=342
R50A **Paris** 148.09 24 P PKPbc 03 09 40.7 +0.6
baz=329
R50A P PKPbc 03 09 40.7 +0.6
baz=329
N58A **Sunbury** 148.09 12 P PKPbc 03 09 41.3 +1.2
baz=344,SNR=11
N58A P PKPbc 03 09 41.3 +1.2
baz=344,SNR=11
P53A **Whipple** 148.10 19 P PKPbc 03 09 41.1 +0.9
baz=335,SNR=15
P53A P PKPbc 03 09 41.1 +0.9
baz=335,SNR=15
ODNJ **Ogdensburg** 148.24 9 P PKiKP 03 09 41.7 -0.4
baz=348,SNR=11
WVT **Waverly** 148.25 31 PKPdf 03 09 39.0 +1.7
WVT **Waverly** 148.25 31 PKP2 PKPdf 03 09 39.0 +1.7
WVT **Waverly** 148.25 31 P PKPbc 03 09 41.8 +1.1
baz=321,SNR=29
WVT **Waverly** 148.25 31 P PKPbc 03 09 41.6 +0.9
baz=321
W45A **Hickory Valley** 148.27 34 P PKPbc 03 09 41.9 +1.2
baz=318,SNR=6.4
Q52A **Bidwell** 148.27 21 P PKPbc 03 09 41.6 +1.0
baz=333,SNR=6.0
Q52A P PKPbc 03 09 41.6 +1.0
baz=333,SNR=6.0
PAL **Palisades** 148.41 8 P PKPbc 03 09 41.9 +1.0
baz=350
PAL **Palisades** 148.41 8 P PKPbc 03 09 41.9 +1.0
baz=350
MCWV **Mont Chateau** 148.42 17 P PKiKP 03 09 42.5 -0.1
baz=338,SNR=9.4
MCWV **Mont Chateau** 148.42 17 P PKPbc 03 09 41.8 +0.8
baz=338,SNR=9.4
OXF **Oxford** 148.62 35 P PKiKP 03 09 43.1 -0.1
baz=317,SNR=8.2
OXF **Oxford** 148.62 35 P PKPbc 03 09 42.3 +0.7
baz=317
BRNJ **Basking Ridge** 148.63 9 P PKiKP 03 09 43.0 0.0
baz=348
Q54A **Coxs Mills** 148.74 19 PKPbc PKPbc 03 09 41.4 -0.4
Q54A **Coxs Mills** 148.74 19 P PKPbc 03 09 43.0 +1.1
baz=336,SNR=7.9
Q54A P PKPbc 03 09 43.0 +1.1
baz=336,SNR=7.9
PANJ **Princeton** 148.91 10 P PKiKP 03 09 43.6 +0.1
baz=348,SNR=6.4
S51A **Beattyville** 148.93 24 P PKPbc 03 09 42.9 +0.6
baz=330,SNR=14
S51A P PKPbc 03 09 42.9 +0.6
baz=330,SNR=14
U49A **Red Boiling Sp** 148.94 28 PKPbc PKPbc 03 09 42.4 0.0
U49A **Red Boiling Sp** 148.94 28 P PKPbc 03 09 43.3 +0.9
baz=325,SNR=20
R53A **Hurricane** 148.95 21 P PKPbc 03 09 43.1 +0.7
baz=333,SNR=6.0
R53A P PKPbc 03 09 43.1 +0.7
baz=333,SNR=6.0
Y45A **Yeager Farm, C** 149.01 36 P PKiKP 03 09 44.5 +0.6
baz=316,SNR=14
TUPA **Temple Univers** 149.03 10 P PKPbc 03 09 43.6 +1.1
baz=347
P57A **Homestead Farm** 149.08 15 P PKiKP 03 09 43.8 -0.1
baz=341,SNR=5.5
P57A P PKiKP 03 09 43.8 -0.1
baz=341,SNR=5.5
Q56A **Snyder Ridge,** 149.18 17 P PKiKP 03 09 44.2 0.0
baz=339,SNR=7.7
Q56A P PKiKP 03 09 44.2 0.0
baz=339,SNR=7.7
GEDE **Greenville** 149.29 11 P PKPbc 03 09 44.2 +1.0
baz=346,SNR=5.1
SDMD **Soldier's Deli** 149.43 13 P PKPbc 03 09 44.2 +0.7
baz=343
VBMS **Vicksburg** 149.57 39 P PKiKP 03 09 45.4 +0.2
baz=313
TLIG **Tlapa** 149.58 72 PKPbc PKPdf 03 09 41.9 +1.8
R55A **Marlinton** 149.60 19 P PKPbc 03 09 45.0 +0.9
baz=336
R55A P PKPbc 03 09 45.0 +0.9
baz=336
S54A **Dingess, Beckl** 149.65 21 P PKPbc 03 09 44.9 +0.7
baz=334
S54A P PKPbc 03 09 44.9 +0.7
baz=334
TZTN **Tazewell** 149.89 25 P PKiKP 03 09 46.2 +0.5
baz=329,SNR=12
TZTN **Tazewell** 149.89 25 P PKPbc 03 09 45.5 +0.7
baz=329
344A **Westbrook Farm** 149.95 41 P PKiKP 03 09 47.4 +1.5
baz=311
X48A **Hartselle** 149.95 32 P PKPbc 03 09 45.5 +0.5
baz=321,SNR=5.4
V51A **Loudon** 150.17 27 P PKiKP 03 09 46.9 +0.6
baz=327,SNR=12
146A **Union** 150.17 37 P PKiKP 03 09 47.3 +0.9
baz=315
W50A **Signal Mountai** 150.22 29 P PKiKP 03 09 46.9 +0.4
baz=324,SNR=12
Z47A **Carrollton** 150.34 35 P PKiKP 03 09 47.3 +0.6

baz=318,SNR=6.8
S57A Dark Hollow, R 150.44 17 P PKPbc 03 09 46.7 +0.7
baz=338
S57A P PKPbc 03 09 46.7 +0.7
baz=338
V52A Sevierville 150.47 26 P PKiKP 03 09 47.5 +0.6
baz=328,SNR=21
BLA Blacksburg 150.48 20 P PKiKP 03 09 47.2 +0.2
baz=335,SNR=5.7
BLA Blacksburg 150.48 20 P PKPbc 03 09 46.7 +0.4
baz=335
TKL Tuckaleechee C 150.55 26 P PKiKP 03 09 47.9 +0.8
baz=328,SNR=23
R58B Mineral 150.55 16 P PKiKP 03 09 47.7 +0.7
baz=341,SNR=9.8
R58B P PKiKP 03 09 47.7 +0.7
baz=341,SNR=9.8
Y49A Blount Mountai 150.74 32 P PKiKP 03 09 48.1 +0.5
baz=321,SNR=13
V53A Saluda 150.95 25 P PKiKP 03 09 49.0 +1.0
baz=329,SNR=20
V53A P PKiKP 03 09 49.0 +1.0
baz=329,SNR=20
W52A Murphy 150.95 27 P PKiKP 03 09 49.0 +1.0
baz=327,SNR=11
X51A Calhoun 150.96 29 P PKiKP 03 09 48.8 +0.8
baz=325,SNR=6.1
X51A P PKiKP 03 09 48.8 +0.8
baz=325,SNR=6.1
T57A Hurt 151.05 18 P PKiKP 03 09 48.6 +0.5
baz=337,SNR=6.8
T57A P PKiKP 03 09 48.6 +0.5
baz=337,SNR=6.8
LRAL Lakeview Retre 151.06 34 P PKiKP 03 09 49.1 +0.9
baz=319,SNR=8.6
LRAL Lakeview Retre 151.06 34 P PKPbc 03 09 48.1 +0.5
baz=319
U56A King 151.28 21 P PKiKP 03 09 49.1 +0.5
baz=335
U56A P PKiKP 03 09 49.1 +0.5
baz=335
V55A Taylorsville 151.42 22 P PKiKP 03 09 49.2 +0.3
baz=333,SNR=11
V55A P PKiKP 03 09 49.2 +0.3
baz=333,SNR=11
CASEE Lake Jocassee 151.47 26 P PKiKP 03 09 50.2 +1.1
baz=329,SNR=6.3
T59A Double "B" Far 151.57 16 P PKiKP 03 09 50.5 +1.3
baz=341,SNR=14
T59A P PKiKP 03 09 50.5 +1.3
baz=341,SNR=14
SALV Santo Antonio 151.68 206 *e*P PKPdf 03 09 44.1 +0.9
Z51A Franklin 151.80 31 P PKiKP 03 09 50.6 +0.8
baz=323
Y52A Lilburn 151.91 29 P PKiKP 03 09 51.1 +1.1
baz=325,SNR=11
Y52A P PKiKP 03 09 51.1 +1.1
baz=325,SNR=11
KMSC Kings Mountain 152.00 23 P PKiKP 03 09 51.0 +0.9
baz=332,SNR=7.8
KMSC Kings Mountain 152.00 23 P PKPbc 03 09 50.3 +0.6
baz=332
PAULI Pauline 152.09 24 P PKiKP 03 09 51.4 +1.1
baz=331,SNR=10
V58A Windy Hill, Pi 152.20 19 PKPbc PKPbc 03 09 49.2 -1.0
V58A Windy Hill, Pi 152.20 19 P PKiKP 03 09 51.3 +0.8
baz=337
V58A P PKiKP 03 09 51.3 +0.8
baz=337
250A Grady 152.26 34 P PKiKP 03 09 51.4 +0.7
baz=319
SMTB Santa Maria do 152.36 229 *e*P PKPdf 03 09 44.6 +0.2
BRAL Brewton 152.41 37 P PKiKP 03 09 51.9 +0.8
baz=317
HODGE Hodges 152.41 26 P PKiKP 03 09 51.7 +0.8
baz=329,SNR=6.5
W57A Gilead 152.49 21 P PKiKP 03 09 52.1 +1.1
baz=334,SNR=5.2
W57A P PKiKP 03 09 52.1 +1.1
baz=334,SNR=5.2
152A Waverly Hall 152.55 31 PKPdf PKPdf 03 09 42.5 -1.6
152A PKPbc **pPKPdf 03 09 51.3 -1.2**
152A PKPab **sPKPbc 03 10 00.3 -2.0**
152A Waverly Hall 152.55 31 P PKiKP 03 09 52.6 +1.3
baz=323
GOGA Godfrey 152.56 28 P PKiKP 03 09 52.8 +1.4
baz=326,SNR=6.4
GOGA Godfrey 152.56 28 P PKPbc 03 09 51.5 +0.5
baz=326
JSC Jenkinsville 152.78 24 P PKiKP 03 09 53.1 +1.4
baz=331,SNR=6.3
LPAZ La Paz 154.19 180 PKPbc PKiKP 03 09 57.3 +1.4
comp=Z,1.1nm,0.7s,baz=240,slow=5.8,SNR=3.3
PDRB Porto dos Gac 155.92 209 *e*P PKPdf 03 09 48.5 -0.9

*IDC **10** 02:53:46.8±0.7,56°.33N×153°.52W,h0km,mb4.5/32, mbtmp4.5/34,ML3.8/2,MS3.5/3,Error ellipse: s-maj=19.5km s-min=12.3km az=11.0*
*NEIC **10** 02:53:49.5±1.5,56°.29N±0°.04×153°.33W±0°.07,h22km±4km, Error ellipse: s-maj=6.8km s-min=5.2km az=147.0*
*AEIC **10** 02:53:50.4±1.7,56°.28N±0°.05×153°.24W±0°.08,h22km±4km, ML4.2/146,mb4.7/42(NEIC),ML4.4/46(NEIC),Error ellipse: s-maj=8.6km s-min=5.4km az=140.0*
*ANF **10** 02:53:50.0±0.4,56°.30N×153°.29W,h32km±4km, ML4.6/34, ML4.6/34, Error ellipse: s-maj=3.4km s-min=1.9km az=178.0*

ISC 10 02:53:49.3±0.7,56°.29N±0°.04×153°.24W±0°.04,h19km±2km, n476,σ1$29/469,mb4.7/79,23C-1D,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SII	**Sitkinak Islan**	**0.59**	**298**		**Pb**	**02 54 01.2**	**+0.4**
SII					**Sb**	**02 54 09.8**	**+1.0**
SII	**Sitkinak Islan**	**0.59**	**298**	IAML		02 54 11.1	
	comp=N,30μm,0.6s						
SII	**Sitkinak Islan**	**0.59**	**298**	P	**Pg**	**02 54 01.1**	**+0.1**
	baz=117,SNR=882						
SII				S	**Sb**	**02 54 10.1**	**+1.3**
	baz=117						
OHAK	**Old Harbor**	**0.93**	**358**		**Pb**	**02 54 06.5**	**-0.4**
OHAK					**Sb**	**02 54 19.0**	**+0.1**
OHAK	**Old Harbor**	**0.93**	**358**	IAML		02 54 25.5	
	comp=N,16μm,0.7s						
OHAK				IAML		02 54 26.3	
	comp=E,11μm,0.8s						
OHAK	**Old Harbor**	**0.93**	**358**	P	**Pb**	**02 54 06.5**	**-0.4**
	baz=178,SNR=423						
OHAK				S	**Sn**	**02 54 21.8**	**+1.6**
	baz=178						
CHIR	**Chirikof Islan**	**1.42**	**252**		**Pn**	**02 54 12.8**	**-1.2**
CHIR	**Chirikof Islan**	**1.42**	**252**		**Sn**	**02 54 29.0**	**-3.0**
CHIR	**Chirikof Islan**	**1.42**	**252**	P	**Pn**	**02 54 12.9**	**-1.1**
	baz=70,SNR=14						
CHIR				S	**Sn**	**02 54 29.8**	**-2.3**
	baz=70						
KDAK	**Kodiak Island**	**1.54**	**13**	Pn	**Pn**	**02 54 15.0**	**-0.6**
	comp=E,620nm,0.3s,baz=224,slow=7.3						
KDAK				Sn	**Sn**	**02 54 32.2**	**-2.9**
	comp=E,203nm,0.3s,baz=177,slow=11,SNR=7.9						
KDAK				Lg	Lg	02 54 41.8	
	comp=E,151nm,0.3s,baz=218,slow=19,SNR=4.3						
KDAK	**Kodiak Island**	**1.54**	**13**	Pn	**Pn**	**02 54 15.2**	**-0.4**
KDAK				IAML		02 54 47.5	
	comp=E,4μm,0.8s						
KDAK	**Kodiak Island**	**1.54**	**13**		**Sn**	**02 54 33.3**	**-1.8**
KDAK	**Kodiak Island**	**1.54**	**13**	P	**Pn**	**02 54 15.2**	**-0.4**
	baz=194						
KDAK				S	**Sn**	**02 54 33.2**	**-1.8**
	baz=194						
KABR	**Katmai Barrier**	**2.07**	**334**		**Pn**	**02 54 22.4**	**-0.7**
PLK3	**Peulik 3**	**2.17**	**311**		**Pn**	**02 54 24.2**	**-0.2**
R17K	**Ugashik Creek**	**2.19**	**309**		**Pn**	**02 54 24.1**	**-0.5**
R17K	**Ugashik Creek**	**2.19**	**309**	P	**Pn**	**02 54 24.1**	**-0.5**
	baz=127,SNR=104						
KAKN	**Katmai Knife C**	**2.24**	**335**		**Pn**	**02 54 24.8**	**-0.6**
KAHG	**Katmai Hook Gl**	**2.32**	**343**		**Pn**	**02 54 26.7**	**+0.3**
Q20K	**Shuyak Island**	**2.37**	**11**	P	**Pn**	**02 54 27.1**	**0.0**
	baz=191,SNR=16						
SYI	**Shuyak Island**	**2.37**	**11**		**Pn**	**02 54 26.9**	**-0.1**
PLK1	**Peulik 1**	**2.38**	**311**		**Pn**	**02 54 27.1**	**-0.2**
KAPH	**Katmai Pasha**	**2.39**	**346**		**Pn**	**02 54 27.4**	**-0.1**
PLBL	**Peulik Blue Cr**	**2.41**	**307**		**Pn**	**02 54 27.6**	**-0.2**
KELA	**Mount Kelaz**	**2.54**	**329**		**Pn**	**02 54 28.9**	**-0.6**
KAHC	**Katmai Hardscr**	**2.55**	**339**		**Pn**	**02 54 29.2**	**-0.5**
Q19K	**Cape Douglas,**	**2.65**	**355**	Pn	**Pn**	**02 54 31.3**	**+0.3**
Q19K	**Cape Douglas,**	**2.65**	**355**	P	**Pn**	**02 54 31.4**	**+0.3**
	baz=175,SNR=38						
R16K	**Pilot Point**	**2.70**	**300**	P	**Pn**	**02 54 32.1**	**+0.6**
	baz=117						
CHGN	**Chignik**	**2.88**	**272**		**Pn**	**02 54 33.0**	**-1.1**
CHGN	**Chignik**	**2.88**	**272**	Pb	**Pb**	**02 54 39.5**	**-0.5**
	baz=88,SNR=7.3						
Q16K	**King Salmon**	**3.02**	**324**		**Pn**	**02 54 34.9**	**-1.2**
Q16K	**King Salmon**	**3.02**	**324**	P	**Pn**	**02 54 34.8**	**-1.2**
	baz=141						
AUQ	**Augustine Qik'**	**3.07**	**358**		**Pn**	**02 54 37.5**	**+0.7**
AUCH	**Augustine Cone**	**3.08**	**358**		**Pn**	**02 54 37.6**	**+0.6**
P18K	**Big Mountain,**	**3.29**	**342**		**Pn**	**02 54 39.1**	**-0.6**
P18K	**Big Mountain,**	**3.29**	**342**	IAML		02 55 36.9	
	comp=E,614nm,1.2s						
P18K	**Big Mountain,**	**3.29**	**342**	P	**Pn**	**02 54 39.0**	**-0.7**
	baz=160						
P19K	**Oil Pt**	**3.37**	**0**		**Pn**	**02 54 41.4**	**+0.5**
P19K	**Oil Pt**	**3.37**	**0**	IAML		02 55 44.7	
	comp=E,1μm,0.6s						
P19K	**Oil Pt**	**3.37**	**0**	P	**Pn**	**02 54 41.4**	**+0.5**
	baz=180,SNR=23						
P17K	**Kvichak River**	**3.38**	**331**		**Pn**	**02 54 40.2**	**-0.8**
P17K	**Kvichak River**	**3.38**	**331**	P	**Pn**	**02 54 40.4**	**-0.5**
	baz=148,SNR=11						
CNPM	**China Poot**	**3.42**	**17**	Pn	**Pn**	**02 54 41.3**	**-0.2**
CNPM				IAML		02 55 51.1	
	comp=E,1μm,1.0s						
CNPM				IAML		02 55 54.4	
	comp=N,673nm,0.9s						
HOM	**Homer**	**3.48**	**13**		**Pn**	**02 54 42.8**	**+0.4**
HOM	**Homer**	**3.48**	**13**	P	**Pn**	**02 54 42.5**	**+0.1**
	baz=195,SNR=12						
S14K	**Fog Glacier**	**3.52**	**273**	P	**Pn**	**02 54 43.0**	**0.0**
	baz=87						
VNFG	**Fog Glacier, M**	**3.52**	**273**		**Pn**	**02 54 42.9**	**0.0**
BRLK	**Bradley Lake**	**3.70**	**19**		**Pn**	**02 54 44.6**	**-0.8**
BRLK				IAML		02 56 01.2	
	comp=E,558nm,0.9s						
ILSW	**Iliamna Southw**	**3.70**	**1**		**Pn**	**02 54 45.3**	**-0.2**
ILSW	**Iliamna Southw**	**3.70**	**1**	IAML		02 55 54.8	
	comp=E,502nm,1.0s						
ILSW				IAML		02 55 55.2	
	comp=N,526nm,1.2s						
BRSE	**Bradley Lake S**	**3.71**	**20**		**Pn**	**02 54 44.7**	**-0.8**
BRSE	**Bradley Lake S**	**3.71**	**20**	P	**Pn**	**02 54 44.6**	**-0.9**
	baz=202,SNR=23						
BRSE				S	**Sn**	**02 55 25.5**	**-3.1**
	baz=202						
O18K	**Koktuh Hills**	**3.72**	**345**		**Pn**	**02 54 45.3**	**-0.4**
O18K	**Koktuh Hills**	**3.72**	**345**	IAML		02 55 48.9	
	comp=N,749nm,0.9s						
O18K				IAML		02 55 56.3	
	comp=E,473nm,1.2s						
O18K	**Koktuh Hills**	**3.72**	**345**	P	**Pn**	**02 54 45.1**	**-0.7**
	baz=163						
IVE	**Iliamna Volcan**	**3.74**	**2**		**Pn**	**02 54 45.9**	**-0.1**
P16K	**Nushagak River**	**3.75**	**319**		**Pn**	**02 54 45.1**	**-1.0**
P16K	**Nushagak River**	**3.75**	**319**	P	**Pn**	**02 54 45.0**	**-1.0**
	baz=135						
O20K	**Slope Mountain**	**3.82**	**5**		**Pn**	**02 54 47.5**	**+0.4**
O20K	**Slope Mountain**	**3.82**	**5**	P	**Pn**	**02 54 47.4**	**+0.3**
	baz=185,SNR=20						
CHNA	**Chernabura Isl**	**3.89**	**251**	P	**Pn**	**02 54 46.5**	**-1.4**
	baz=65,SNR=8.0						
CHNA				S	**Sn**	**02 55 28.3**	**-4.7**
	baz=65						
CNBA	**Chernabura Isl**	**3.89**	**250**	Pn	**Pn**	**02 54 46.9**	**-1.1**
O17K	**Koliganek Bris**	**4.05**	**331**		**Pn**	**02 54 49.4**	**-0.7**
O17K	**Koliganek Bris**	**4.05**	**331**	P	**Pn**	**02 54 49.2**	**-0.9**
	baz=148						
RED	**Redoubt Volcan**	**4.15**	**3**		**Pn**	**02 54 51.4**	**-0.2**
SDPT	**Sand Point**	**4.19**	**260**		**Pn**	**02 54 50.9**	**-1.2**
SDPT	**Sand Point**	**4.19**	**260**	IAML		02 56 17.0	
	comp=E,510nm,1.2s						
SDPT				IAML		02 56 21.1	
	comp=N,596nm,1.3s						
SDPT	**Sand Point**	**4.19**	**260**	P	**Pn**	**02 54 51.0**	**-1.1**
	baz=74,SNR=12						
RSO	**Redoubt South**	**4.19**	**3**		**Pn**	**02 54 52.4**	**+0.1**
O16K	**Kokwok River B**	**4.20**	**324**		**Pn**	**02 54 51.2**	**-1.1**
O16K	**Kokwok River B**	**4.20**	**324**	P	**Pn**	**02 54 51.3**	**-0.9**
	baz=140						
RDWB	**Redoubt West**	**4.21**	**3**		**Pn**	**02 54 52.5**	**0.0**
NCT	**North Crescent**	**4.29**	**2**		**Pn**	**02 54 53.6**	**+0.1**
SEW	**Seward**	**4.32**	**26**		**Pn**	**02 54 52.2**	**-1.6**
SEW	**Seward**	**4.32**	**26**	P	**Pn**	**02 54 52.4**	**-1.4**
	baz=209,SNR=8.1						
SEW				S	**Sn**	**02 55 38.0**	**-5.5**
	baz=209						
RDJH	**Redoubt Jeurge**	**4.32**	**3**		**Pn**	**02 54 53.9**	**-0.1**
DFR	**Drift River**	**4.32**	**4**		**Pn**	**02 54 53.8**	**-0.2**
N19K	**Bonanza Creek**	**4.58**	**352**		**Pn**	**02 54 57.6**	**0.0**
N19K	**Bonanza Creek**	**4.58**	**352**	IAML		02 56 24.8	
	comp=E,251nm,1.0s						
N19K	**Bonanza Creek**	**4.58**	**352**	P	**Pn**	**02 54 57.4**	**-0.1**
	baz=171,SNR=64						
O22K	**Cooper Landing**	**4.59**	**22**		**Pn**	**02 54 56.8**	**-0.9**
O22K	**Cooper Landing**	**4.59**	**22**	P	**Pn**	**02 54 56.7**	**-0.9**
	baz=205						
N18K	**Kilae Creek**	**4.62**	**344**		**Pn**	**02 54 57.7**	**-0.3**
N18K	**Kilae Creek**	**4.62**	**344**	IAML		02 56 24.0	
	comp=N,208nm,0.8s						
N18K				IAML		02 56 24.4	
	comp=E,274nm,0.9s						
N18K	**Kilae Creek**	**4.62**	**344**	P	**Pn**	**02 54 57.7**	**-0.3**
	baz=161,SNR=16						
CAPN	**Captain Cook N**	**4.62**	**13**	P	**Pn**	**02 54 59.5**	**+1.5**
	baz=194						
Q23K	**Middleton Isla**	**4.84**	**47**		**Pn**	**02 54 59.0**	**-2.0**
Q23K	**Middleton Isla**	**4.84**	**47**	IAML		02 57 20.7	
	comp=N,269nm,3.1s						
CKL	**Chakachamna La**	**4.94**	**5**		**Pn**	**02 55 02.4**	**-0.2**
SPU	**Mount Spurr**	**4.94**	**7**		**Pn**	**02 55 02.3**	**-0.2**
N20K	**Mount Spurr**	**4.95**	**6**	P	**Pn**	**02 55 02.2**	**-0.5**
	baz=187,SNR=18						
N20K				S	**Sn**	**02 55 58.1**	**-1.3**
	baz=187						
SPCR	**Spurr Chakacha**	**4.95**	**6**		**Pn**	**02 55 02.4**	**-0.3**
SPCR	**Spurr Chakacha**	**4.95**	**6**	P	**Pn**	**02 55 02.5**	**-0.1**
	baz=187						
SVW2	**Sparrevohn**	**4.97**	**347**		**Pn**	**02 55 02.5**	**-0.4**
SVW2	**Sparrevohn**	**4.97**	**347**	IAML		02 56 37.7	
	comp=E,197nm,1.1s						
SVW2				IAML		02 56 42.3	
	comp=N,172nm,0.9s						
SPCP	**Crater Peak Br**	**5.02**	**6**		**Pn**	**02 55 03.6**	**-0.1**
N16K	**Nishlik Lake**	**5.10**	**328**		**Pn**	**02 55 04.2**	**-0.5**
N16K	**Nishlik Lake**	**5.10**	**328**	P	**Pn**	**02 55 04.0**	**-0.7**
	baz=143,SNR=19						
RC01	**Rabbit Creek A**	**5.15**	**19**		**Pn**	**02 55 04.1**	**-1.1**
RC01	**Rabbit Creek A**	**5.15**	**19**	IAML		02 56 44.3	
	comp=E,182nm,1.2s						
RC01	**Rabbit Creek A**	**5.15**	**19**	P	**Pn**	**02 55 04.1**	**-1.1**
	baz=202,SNR=12						
RC01				S	**Sn**	**02 56 00.8**	**-3.2**
	baz=202						
PWL	**Port Wells**	**5.25**	**27**		**Pn**	**02 55 05.2**	**-1.5**
PWL	**Port Wells**	**5.25**	**27**	IAML		02 56 03.5	
	comp=N,229nm,0.5s						
PWL				IAML		02 56 04.2	
	comp=E,187nm,0.6s						
PWL	**Port Wells**	**5.25**	**27**	P	**Pn**	**02 55 05.2**	**-1.5**
	baz=211,SNR=15						
PWL				S	**Sn**	**02 56 01.4**	**-5.3**
	baz=211						
SUA	**Susitna One**	**5.35**	**13**		**Pn**	**02 55 07.2**	**-0.8**
SUA	**Susitna One**	**5.35**	**13**	P	**Pn**	**02 55 07.0**	**-1.1**
	baz=195						
M20K	**Styx River**	**5.61**	**1**		**Pn**	**02 55 11.4**	**-0.2**
M20K	**Styx River**	**5.61**	**1**	P	**Pn**	**02 55 11.3**	**-0.4**
	baz=181						
GLI	**Glacier Island**	**5.61**	**32**		**Pn**	**02 55 09.5**	**-2.1**
GLI	**Glacier Island**	**5.61**	**32**	P	**Pn**	**02 55 09.9**	**-1.7**
	baz=218						
GLI				S	**Sn**	**02 56 09.1**	**-6.4**
	baz=218						
M19K	**Big River Lodg**	**5.66**	**354**	Pn	**Pn**	**02 55 11.4**	**-0.9**
M19K	**Big River Lodg**	**5.66**	**354**	P	**Pn**	**02 55 12.0**	**-0.3**
	baz=174,SNR=34						
FID	**Port Fidalgo**	**5.70**	**36**		**Pn**	**02 55 10.7**	**-2.2**
KNK	**Knik Glacier**	**5.70**	**24**		**Pn**	**02 55 11.4**	**-1.5**
KNK	**Knik Glacier**	**5.70**	**24**	P	**Pn**	**02 55 11.7**	**-1.2**
	baz=208,SNR=12						
M22K	**Willow**	**5.71**	**15**	P	**Pn**	**02 55 12.4**	**-0.6**
	baz=198						
PMR	**Palmer**	**5.73**	**20**		**Pn**	**02 55 11.8**	**-1.4**
PMR	**Palmer**	**5.73**	**20**	P	**Pn**	**02 55 11.5**	**-1.7**
	baz=204						
PMR				S	**Sn**	**02 56 13.4**	**-4.8**
	baz=204						
SKT	**Skwentna**	**5.77**	**8**		**Pn**	**02 55 13.3**	**-0.6**
SKT	**Skwentna**	**5.77**	**8**	P	**Pn**	**02 55 13.3**	**-0.6**
	baz=190,SNR=11						
EYAK	**Cordova Ski Ar**	**5.80**	**40**			**02 55 13.0**	**-1.2**
EYAK	**Cordova Ski Ar**	**5.80**	**40**	P	**Pn**	**02 55 13.1**	**-1.1**
	baz=226,SNR=7.4						
EYAK				S	**Sn**	**02 56 14.9**	**-5.3**
	baz=226						
KAIM	**Kayak Island**	**5.93**	**48**		**Pn**	**02 55 15.6**	**-0.4**
KAIM	**Kayak Island**	**5.93**	**48**	P	**Pn**	**02 55 15.3**	**-0.7**
	baz=236						
GHO	**Glory Hole Cre**	**5.93**	**20**		**Pn**	**02 55 14.7**	**-1.3**
L19K	**White Mountain**	**5.97**	**353**		**Pn**	**02 55 16.6**	**+0.1**
L19K	**White Mountain**	**5.97**	**353**	P	**Pn**	**02 55 16.3**	**-0.2**
	baz=171,SNR=53						
SML	**Sawmill**	**6.08**	**23**		**Pn**	**02 55 16.9**	**-1.2**
SML	**Sawmill**	**6.08**	**23**	P	**Pn**	**02 55 17.1**	**-1.1**
	baz=207,SNR=7.0						
RAGM	**Ragged Mountai**	**6.10**	**44**		**Pn**	**02 55 17.2**	**-1.1**
ISLZ	**Isanotski Laza**	**6.15**	**260**		**Pn**	**02 55 18.2**	**-0.8**
GOAT	**Goat Mountain**	**6.20**	**43**		**Pn**	**02 55 19.0**	**-0.7**
M23K	**Glacier View**	**6.21**	**25**	P	**Pn**	**02 55 19.0**	**-0.8**
	baz=210,SNR=21						
L20K	**Farewell, AK**	**6.22**	**357**		**Pn**	**02 55 19.6**	**-0.3**
L20K	**Farewell, AK**	**6.22**	**357**	P	**Pn**	**02 55 19.6**	**-0.3**
	baz=177,SNR=34						
HMT	**Hamilton**	**6.23**	**46**		**Pn**	**02 55 19.1**	**-1.0**
SUCK	**Suckling Hills**	**6.28**	**49**	Pn	**Pn**	**02 55 20.1**	**-0.6**
NICHA	**Nichawak Mount**	**6.29**	**47**		**Pn**	**02 55 20.0**	**-0.9**
SCM	**Sheep Creek Mo**	**6.34**	**26**		**Pn**	**02 55 20.6**	**-1.1**
SCM	**Sheep Creek Mo**	**6.34**	**26**	P	**Pn**	**02 55 20.7**	**-0.9**
	baz=211,SNR=42						
KLU	**Klutina**	**6.45**	**33**		**Pn**	**02 55 22.0**	**-1.2**
KLU	**Klutina**	**6.45**	**33**	P	**Pn**	**02 55 22.2**	**-0.9**
	baz=219,SNR=18						
BERG	**Berg Lake**	**6.49**	**47**		**Pn**	**02 55 22.4**	**-1.3**
BMRM	**Bremner River**	**6.50**	**40**		**Pn**	**02 55 22.8**	**-1.1**
BMRM	**Bremner River**	**6.50**	**40**	P	**Pn**	**02 55 22.6**	**-1.3**
	baz=228,SNR=18						
GRIN	**Grindle Hills**	**6.58**	**48**		**Pn**	**02 55 24.1**	**-0.8**
KHIT	**Khitrov Hills**	**6.70**	**47**		**Pn**	**02 55 25.5**	**-1.2**
SNH	**Sunshine Point**	**6.73**	**50**		**Pn**	**02 55 26.2**	**-0.8**
TT01	**Tatalina**	**6.78**	**349**		**Pn**	**02 55 27.7**	**0.0**
WECS	**Westdahl Cape**	**6.80**	**260**		**Pn**	**02 55 27.6**	**-0.5**
TTA	**Tatalina**	**6.81**	**349**	Pn	**Pn**	**02 55 27.3**	**-0.7**
TTA	**Tatalina**	**6.81**	**349**	P	**Pn**	**02 55 27.5**	**-0.6**
	baz=167,SNR=8.0						
M24K	**Tolsona, Glenn**	**6.87**	**29**		**Pn**	**02 55 28.4**	**-0.4**
M24K	**Tolsona, Glenn**	**6.87**	**29**	P	**Pn**	**02 55 28.1**	**-0.8**
	baz=215,SNR=15						
WAX	**Waxell Ridge**	**6.87**	**48**		**Pn**	**02 55 27.9**	**-1.0**
WAT6	**Susitna Watana**	**6.90**	**22**	P	**Pn**	**02 55 28.4**	**-1.1**
	baz=206						
WAT7	**Susitna Watana**	**6.93**	**17**		**Pn**	**02 55 28.9**	**-0.9**
N25K	**Chitina, Valde**	**6.95**	**36**		**Pn**	**02 55 28.8**	**-1.3**
N25K	**Chitina, Valde**	**6.95**	**36**	P	**Pn**	**02 55 29.3**	**-0.8**
	baz=224,SNR=7.7						
WAT1	**Susitna Watana**	**6.98**	**18**		**Pn**	**02 55 29.6**	**-0.8**
WAT1	**Susitna Watana**	**6.98**	**18**	P	**Pn**	**02 55 29.5**	**-0.8**
	baz=202						
BARK	**Barkley Ridge**	**7.00**	**49**		**Pn**	**02 55 29.9**	**-0.8**
TGL	**Tana Glacier**	**7.05**	**46**		**Pn**	**02 55 30.7**	**-0.8**
K20K	**Telida**	**7.10**	**357**		**Pn**	**02 55 31.2**	**-0.8**
K20K	**Telida**	**7.10**	**357**	P	**Pn**	**02 55 31.7**	**-0.4**
	baz=176,SNR=46						
GLB	**Gilahina Butte**	**7.11**	**40**		**Pn**	**02 55 31.2**	**-0.9**
MESA	**MESA**	**7.12**	**52**		**Pn**	**02 55 31.7**	**-0.7**
MESA	**MESA**	**7.12**	**52**	P	**Pn**	**02 55 32.1**	**-0.4**
	baz=242						
ISLE	**Juniper Island**	**7.17**	**48**		**Pn**	**02 55 32.0**	**-1.0**
BAGL	**Bagley Icefiel**	**7.21**	**50**		**Pn**	**02 55 32.9**	**-0.6**
YAH	**Yahtse**	**7.30**	**51**		**Pn**	**02 55 34.2**	**-0.7**
TRF	**Thorofare Moun**	**7.33**	**10**		**Pn**	**02 55 34.8**	**-0.6**
TRF	**Thorofare Moun**	**7.33**	**10**	P	**Pn**	**02 55 34.8**	**-0.6**
	baz=193,SNR=14						
MCARA	**McCarthy VSAT**	**7.36**	**42**		**Pn**	**02 55 34.7**	**-0.8**
MCARA	**McCarthy VSAT**	**7.36**	**42**	P	**Pn**	**02 55 34.9**	**-0.6**
	baz=230						
HARP	**HAARP**	**7.38**	**31**		**Pn**	**02 55 36.1**	**+0.2**
HARP	**HAARP**	**7.38**	**31**	P	**Pn**	**02 55 36.5**	**+0.5**
	baz=218						
DHY	**Denali Highway**	**7.42**	**21**		**Pn**	**02 55 35.3**	**-1.2**
DHY	**Denali Highway**	**7.42**	**21**	P	**Pn**	**02 55 35.7**	**-0.8**
	baz=206,SNR=9.0						
AKSA	**Akutan Strait**	**7.45**	**258**			**02 55 36.2**	**-0.6**
PTPK	**Patty Peak**	**7.45**	**44**		**Pn**	**02 55 36.1**	**-0.9**
RND	**Reindeer**	**7.47**	**15**		**Pn**	**02 55 36.2**	**-1.0**
PAX	**Paxson**	**7.76**	**27**		**Pn**	**02 55 40.2**	**-1.0**
PAX	**Paxson**	**7.76**	**27**	P	**Pn**	**02 55 40.9**	**-0.3**
	baz=214,SNR=10						
MCK	**McKinley**	**7.77**	**14**		**Pn**	**02 55 40.7**	**-0.6**
MCK	**McKinley**	**7.77**	**14**	P	**Pn**	**02 55 40.9**	**-0.3**
	baz=198,SNR=14						
CTG	**Chitna Glacier**	**7.78**	**48**	P	**Pn**	**02 55 40.7**	**-0.7**
	baz=238						
LOGN	**Logan Glacier**	**7.84**	**50**		**Pn**	**02 55 41.6**	**-0.8**
PINM	**Pinnacle**	**7.85**	**56**	P	**Pn**	**02 55 42.1**	**-0.2**
	baz=246						
BPAW	**Bear Paw Mtn.**	**7.91**	**7**		**Pn**	**02 55 42.0**	**-1.2**
BPAW	**Bear Paw Mtn.**	**7.91**	**7**	P	**Pn**	**02 55 41.9**	**-1.3**
	baz=189						
J20K	**Nowinta River**	**7.92**	**357**			**02 55 42.5**	**-0.8**
J20K	**Nowinta River**	**7.92**	**357**	P	**Pn**	**02 55 42.6**	**-0.7**
	baz=176,SNR=40						
UNV	**Unalaska Valle**	**8.00**	**258**	Pn	**Pn**	**02 55 42.6**	**-1.7**
UNV	**Unalaska Valle**	**8.00**	**258**	P	**Pn**	**02 55 42.7**	**-1.7**
	baz=67						
M26K	**N

ILAR Eielson Array 9.06 18 Pn Pn 02 55 57.4 -1.5
comp=E,3.1nm,0.3s,baz=202,slow=13,SNR=139
ILAR Sn Sn 02 57 31.4 -8.9
comp=E,1.1nm,0.3s,baz=265,slow=30,SNR=1.6
ILAR LR LR 02 59 57.9
comp=E,420nm,18.4s,baz=218,slow=41
I23K Minto, Yukon-K 9.09 10 Pn 02 55 57.9 -1.3
I23K Minto, Yukon-K 9.09 10 P Pn 02 55 57.6 -1.6
baz=194,SNR=14
YUK4 Talbot Arm 9.10 50 P Pn 02 56 00.2 +0.6
baz=242
J25K Salcha River, 9.20 22 Pn 02 55 59.2 -1.7
J25K Salcha River, 9.20 22 P Pn 02 56 00.2 -0.7
baz=208,SNR=23
POKR Poker Plat Res 9.30 15 Pn 02 56 01.1 -1.0
POKR Poker Plat Res 9.30 15 P Pn 02 56 00.9 -1.3
baz=200,SNR=5.6
H21K Melozitna Rive 9.40 1 Pn 02 56 01.9 -1.7
H21K Melozitna Rive 9.40 1 P Pn 02 56 02.0 -1.5
baz=182,SNR=7.1
P30M Million Dollar 9.40 59 P Pn 02 56 02.7 -1.0
baz=253
J26L Joseph Creek 9.51 26 Pn 02 56 04.0 -1.2
J26L Joseph Creek 9.51 26 P Pn 02 56 04.3 -0.8
baz=214,SNR=7.2
PLBC Pleasant Camp 9.53 64 P Pn 02 56 05.7 +0.4
baz=258
K27K Chicken 9.54 31 P Pn 02 56 05.1 -0.3
baz=221
H22K Ishtalitna Cre 9.68 5 Pn 02 56 06.2 -1.1
H22K Ishtalitna Cre 9.68 5 P Pn 02 56 06.6 -0.7
baz=186
M29M Somme Creek 9.73 45 Pn 02 56 07.6 -0.5
M29M Somme Creek 9.73 45 P Pn 02 56 07.8 -0.3
baz=237,SNR=6.8
IM03 9.73 359 Pn 02 56 07.0 -1.0
H23K Yukon River 9.73 9 Pn 02 56 06.7 -1.4
H23K Yukon River 9.73 9 P Pn 02 56 06.7 -1.4
baz=192,SNR=8.2
N30M Aishikik Lake 9.82 52 Pn 02 56 09.1 -0.3
N30M Aishikik Lake 9.82 52 P Pn 02 56 08.5 -0.9
baz=245
H24K Noodor Dome 9.92 13 Pn 02 56 08.7 -2.0
H24K Noodor Dome 9.92 13 P Pn 02 56 08.6 -2.1
baz=198
PRP Porcupine Dome 9.98 19 Pn 02 56 10.0 -1.6
PRP Porcupine Dome 9.98 19 P Pn 02 56 10.1 -1.6
baz=206,SNR=18
O30N Mendenhall 10.02 56 P Pn 02 56 11.3 -0.8
baz=251
SKAG Skagway 10.05 64 Pn 02 56 14.2 +1.9
SKAG Skagway 10.05 64 P Pn 02 56 12.8 +0.4
baz=259
L29M L29M 10.23 42 P Pn 02 56 14.4 -0.5
baz=235
G21K Allakaket 10.26 359 P Pn 02 56 14.2 -1.1
baz=179,SNR=28
I26K Coal Creek Min 10.28 24 P Pn 02 56 14.7 -0.9
baz=213
EGAK Eagle 10.37 30 Pn 02 56 16.8 +0.1
EGAK Eagle 10.37 30 P Pn 02 56 17.2 +0.5
baz=220
DAWY Dawson 10.38 36 P Pn 02 56 16.7 -0.3
baz=228
N31M Braeburn, Yuko 10.41 53 P Pn 02 56 17.0 -0.4
baz=248
M30M Minto, Yukon 10.46 46 P Pn 02 56 17.2 -0.8
baz=240
WHY Whitehorse 10.55 58 P Pn 02 56 19.1 -0.3
baz=254
G23K Bananza Creek 10.57 7 P Pn 02 56 17.6 -1.9
baz=190,SNR=19
H25K Birch Creek 10.62 16 P Pn 02 56 18.3 -1.8
baz=203,SNR=5.1
G22K Bettles 10.70 4 P Pn 02 56 20.4 -0.8
baz=185
G24K Hadweenzic Riv 10.80 12 P Pn 02 56 20.8 -1.8
baz=197
K29M Barlow Dome 10.88 40 P Pn 02 56 23.4 -0.5
baz=233
P32M Atlin 10.88 64 P Pn 02 56 23.3 -0.6
baz=261
I27K Kandik River 10.89 26 P Pn 02 56 23.8 -0.2
baz=216
F21K Alatna River 10.97 360 P Pn 02 56 25.5 +0.5
baz=179,SNR=6.7
FYU Fort Yukon 10.99 17 Pn Pn 02 56 25.2 0.0
COLD Coldfoot 11.07 6 Pn 02 56 25.7 -0.6
COLD Coldfoot 11.07 6 P Pn 02 56 25.1 -1.2
baz=189
F22K John River 11.27 2 P Pn 02 56 29.6 +0.5
baz=183
H27K Steamboat Moun 11.43 25 P Pn 02 56 31.7 +0.4
baz=215
N32M Quiet Lake 11.53 57 P Pn 02 56 31.7 -1.0
baz=254
F24K Squaw Lake 11.54 10 P Pn 02 56 31.7 -1.1
baz=195
G26K Porcupine Rive 11.58 19 P Pn 02 56 30.6 -2.7
baz=207
FARO Faro, Yukon 11.76 51 P Pn 02 56 35.4 -0.4
baz=248
F25K Christian Rive 11.88 14 P Pn 02 56 36.9 -0.5
baz=201
G27K Doyon Strip 11.88 23 P Pn 02 56 36.4 -1.1
baz=213
E22K Anaktuvuk Pass 11.91 3 P Pn 02 56 36.9 -1.0
baz=184
E24K Your Creek 12.03 9 P Pn 02 56 38.3 -1.2
baz=193
F26K Sheenjek River 12.19 17 P Pn 02 56 41.2 -0.5
baz=205
R33M Jennings River 12.25 66 P Pn 02 56 42.9 +0.3
baz=265
E25K Arctic Village 12.38 13 P Pn 02 56 43.7 -0.7
baz=200
TOLK Toolik Lake Re 12.51 6 P Pn 02 56 46.1 0.0
baz=189
DLBC Dease Lake 12.70 71 Pn Pn 02 56 50.4 +1.7
comp=E,0.2nm,0.3s,baz=243,slow=14,SNR=1.5
DLBC Sn Sn 02 59 01.2 -8.2
comp=E,1.4nm,0.3s,baz=287,slow=20,SNR=7.7
DLBC LR LR 03 01 36.6
comp=E,184nm,18.1s,baz=284,slow=37
comp=E,1.2nm,0.4s
D23K Nanushuk River 12.78 4 P Pn 02 56 49.9 +0.2
baz=186
EPYK Eagle Plains 12.79 31 P Pn 02 56 49.6 -0.4
baz=226
MMPY Sheldon Lake, 12.80 51 P Pn 02 56 50.3 +0.2
baz=250
D24K Happy Valley 13.06 7 P Pn 02 56 54.4 +0.9
baz=191
E27K Coleen River 13.07 19 P Pn 02 56 53.5 -0.2
baz=210
C27K Jago River 14.04 14 P Pn 02 57 07.5 +0.6
baz=202
F31M Tsiigehtchic 14.38 31 P Pn 02 57 10.8 -0.7
baz=228
INK Inuvik 15.03 29 Pn Pn 02 57 20.8 +0.4
comp=E,0.3nm,0.3s,baz=236,slow=11,SNR=1.9
comp=E,1.5nm,0.5s
INK Inuvik 15.03 29 Pn Pn 02 57 19.8 -0.5
INK Inuvik 15.03 29 P Pn 02 57 20.2 -0.2
baz=226
WRGLY Wrigley 16.41 53 P Pn 02 57 39.1 +1.0
baz=259
C36M Paulatuk 18.40 33 P Pn 02 58 03.2 +0.3
baz=239
YKA Yellowknife Ar 20.37 56 P Pn 02 58 26.1 -0.4
comp=E,14nm,0.8s,baz=269,slow=11,SNR=23
comp=E,14nm,0.8s
YKA Yellowknife Ar 20.37 56 P **P** 02 58 24.9 +0.5
PETK Petropavlovsk- 28.05 284 P **P** 02 59 37.9 -1.2
comp=E,1.2nm,0.4s,baz=69,slow=11,SNR=2.0
comp=E,1.2nm,0.4s
NVAR Mina Array Bea 29.21 113 P **P** 02 59 52.3 +2.5
comp=E,0.4nm,0.7s,baz=301,slow=9.3,SNR=5.0
NVAR PcP **PcP** 03 02 56.8 +0.3
comp=E,0.3nm,0.7s,baz=329,slow=3.4,SNR=2.6
PDAR Pinedale Array 30.85 97 P **P** 03 00 06.5 +2.4
comp=E,0.5nm,0.6s,baz=314,slow=5.9,SNR=7.3
comp=E,0.5nm,0.6s
Q16A Castle Valley 32.62 104 P **P** 03 00 21.4 +1.6
SRU San Rafael Swe 32.83 103 P **P** 03 00 23.8 +2.1
SRU IAmb IAmb 03 00 42.6
comp=Z,9.3nm,1.5s
RSSD Black Hills 33.04 90 P **P** 03 00 25.3 +1.8
RSSD IAmb IAmb 03 00 31.2
comp=Z,9.6nm,1.5s
MDND Maddock 33.26 82 P **P** 03 00 26.3 +1.3
ULM Lac du Bonnet 33.95 75 P **P** 03 00 32.0 +1.0
comp=Z,2.3nm,0.8s,baz=315,slow=10,SNR=3.5
comp=Z,2.3nm,0.8s
AGMN Agassiz Nation 35.05 78 P **P** 03 00 42.1 +1.6
E38A The Farm, Brul 38.41 78 P **P** 03 01 10.4 +1.3
E38A IAmb IAmb 03 01 12.3
comp=Z,11nm,1.1s
I40A Norwalk 40.63 80 P **P** 03 01 29.6 +1.8
I40A IAmb IAmb 03 01 30.5
comp=Z,10nm,0.9s
P38A Dawn 41.88 87 P **P** 03 01 39.6 +1.6
P38A IAmb IAmb 03 01 40.8
comp=Z,11nm,0.6s
P40A Paris 42.77 86 IAmb IAmb 03 01 47.6
comp=Z,7.7nm,0.6s
R40A Maddies Statio 43.52 88 IAmb IAmb 03 01 53.0
comp=Z,8.6nm,0.6s
HDIL Hopedale 43.59 83 P **P** 03 01 51.9 0.0
KLR Kul'dur 43.83 294 P **P** 03 01 52.5 -1.1
comp=Z,3.5nm,0.5s,baz=58,slow=6.5,SNR=7.7
comp=Z,3.5nm,0.5s
SUMG Summit 43.85 23 P **P** 03 01 54.0 -0.1
SUMG IAmb IAmb 03 01 55.5
comp=Z,12nm,0.8s
SUMG Summit 43.85 23 *i* P **P** 03 01 54.0 -0.1
TXAR Lajitas Array 43.92 107 P **P** 03 01 56.1 +1.4
comp=Z,0.5nm,0.8s,baz=324,slow=4.2,SNR=6.1
TXAR PcP **PcP** 03 03 41.5 +1.0
comp=Z,0.3nm,0.6s,baz=339,slow=1.3,SNR=2.2
CCM Cathedral Cave 44.26 87 P **P** 03 01 57.2 -0.1
SFJD Kangerlussuaq 44.32 33 P **P** 03 01 58.1 +0.7
comp=Z,14nm,0.7s,baz=286,slow=1.9,SNR=7.2
comp=Z,14nm,0.7s
JCT Junction City 45.12 102 P **P** 03 02 05.7 +1.4
FCAR Ozark Folk Cen 45.32 90 P **P** 03 02 05.4 -0.3
MIAR Mount Ida 45.49 93 IAmb IAmb 03 02 10.0
comp=Z,11nm,1.1s
SPA0 Spitsbergen Ar 45.64 3 *e*P **P** 03 02 08.2 +0.4
SPITS Spitsbergen Ar 45.64 3 P **P** 03 02 08.1 +0.4
comp=Z,3.4nm,0.4s,baz=21,slow=4.9,SNR=17
comp=Z,3.4nm,0.4s
SPITS Spitsbergen Ar 45.64 3 P **P** 03 02 08.1 +0.4
SCHQ Schefferville 45.79 54 P **P** 03 02 10.1 +0.9
comp=Z,6.2nm,0.7s,baz=315,slow=7.6,SNR=11
comp=Z,6.2nm,0.7s
N49A Columbus Grove 46.16 79 P **P** 03 02 12.8 +0.5
H11N2 WAKE ISLAND Hy 47.02 236 T T 03 52 46.1
baz=29,slow=75,SNR=5.5
H11N3 WAKE ISLAND Hy 47.02 236 T T 03 52 44.2
baz=29,slow=75,SNR=5.1
H11N1 WAKE ISLAND Hy 47.04 236 T T 03 52 45.7
baz=29,slow=75,SNR=4.7
NRIK Noril'sk 47.19 335 P **P** 03 02 19.9 -0.2
comp=Z,7.1nm,0.6s,baz=50,slow=7.0,SNR=6.8
comp=Z,7.1nm,0.6s
H11S1 WAKE ISLAND Hy 48.17 235 T T 03 54 09.7
baz=29,slow=75,SNR=5.1
H11S2 WAKE ISLAND Hy 48.19 235 T T 03 54 07.4
baz=29,slow=75,SNR=4.2
H11S3 WAKE ISLAND Hy 48.19 235 T T 03 54 08.1
baz=29,slow=75,SNR=4.7
H06N1 SOCORRO T-PHAS 48.89 122 T T 03 55 12.9
KMSC Kings Mountain 51.86 82 P **P** 03 02 56.5 +0.4
HAMF Hammerfest 53.35 1 *e*P **P** 03 03 06.7 +0.1
HAMF IAmb IAmb 03 03 07.2
comp=Z,12nm,0.6s
BORG Borgarnes 53.84 23 LR LR 03 26 21.1
comp=Z,39nm,18.9s,baz=332,slow=36
KSRS Korea Array 53.94 285 P **P** 03 03 11.4 +0.1
comp=Z,2.4nm,0.8s,baz=42,slow=7.3,SNR=7.9
comp=Z,2.4nm,0.8s
KSRS Korea Array 53.94 285 P **P** 03 03 11.4 +0.1
TRO Tromso 54.25 3 *e*P **P** 03 03 13.8 +0.6
TRO IAmb IAmb 03 03 18.1
comp=Z,103nm,2.1s
JETT Jettan, Norway 54.37 3 *e*P **P** 03 03 15.4 +1.3
JETT IAmb IAmb 03 03 18.8
comp=Z,32nm,1.4s
ARA0 ARCESS Array S 54.48 1 *e*P **P** 03 03 15.1 +0.2
ARCES **ARCESS Array B 54.48 1** P **P** 03 03 15.1 +0.2
comp=Z,5.3nm,0.6s,baz=6.8,slow=7.6,SNR=39
comp=Z,5.3nm,0.6s
KTK1 Kautokeino 54.98 2 *e*P **P** 03 03 18.7 +0.2
KTK1 IAmb IAmb 03 03 22.0
comp=Z,82nm,2.0s
XLT XiLinHaoTe 55.33 298⇑ *i*P **P** 03 03 21.8 +0.3
XLT sP sP 03 03 31.9 +2.1
XLT S S 03 10 47.1 -17
LOF Lofoten 55.51 6 *e*P **P** 03 03 22.8 +0.6
STEI Steigen 55.80 5 *e*P **P** 03 03 24.9 +0.5
STEI IAmb IAmb 03 03 25.9
comp=Z,6.1nm,0.9s
FAUS Fauske 56.35 5 *e*P **P** 03 03 28.9 +0.6
FAUS IAmb IAmb 03 03 29.8
comp=Z,5.4nm,0.8s
SONM Songino Array 56.92 308 P **P** 03 03 31.1 -1.7
comp=Z,13nm,0.7s,baz=28,slow=5.4,SNR=29
comp=Z,13nm,0.7s
SONM Songino Array 56.92 308 P **P** 03 03 31.5 -1.3
MOR8 Moi Rana 57.50 6 *e*P **P** 03 03 36.2 -0.4
MOR8 IAmb IAmb 03 03 37.0
comp=Z,5.2nm,0.7s
NSS Namsos 58.97 7 *e*P **P** 03 03 47.3 +0.5
NSS IAmb IAmb 03 03 48.3
comp=Z,7.4nm,0.7s
HHC Hu-ho-hao-te 59.83 299 *e*P **P** 03 03 53.4 +0.2
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.3s
ZAA0 Zalesovo Array 60.31 325 P **P** 03 03 55.4 -0.8
ZAA0 IAmb IAmb 03 03 57.5
comp=Z,6.7nm,0.8s
ZALV Zalesovo Beam 60.31 325 P **P** 03 03 56.5 +0.3
comp=Z,4.9nm,0.5s,baz=48,slow=7.4,SNR=10
comp=Z,4.9nm,0.5s
AKN Aaknes 60.86 10 *e*P **P** 03 04 01.3 +1.4
DOMB Dombas 61.19 9 *e*P **P** 03 04 02.8 +0.7
NB2 NORSAR Subarra 62.37 8 P **P** 03 04 10.9 +0.8
comp=Z,4.0nm,0.7s,baz=351,slow=6.9
NB2 NORSAR Subarra 62.37 8 P **P** 03 04 10.9 +0.8
baz=351,slow=6.9
NOA NORSAR Array B 62.37 8 P **P** 03 04 10.7 +0.6
comp=Z,6.2nm,0.8s,baz=351,slow=6.8,SNR=30
comp=Z,6.2nm,0.8s
FINES FINESS Array B 62.60 0 P **P** 03 04 11.7 +0.2
comp=Z,4.1nm,0.8s,baz=3.7,slow=8.2,SNR=20
comp=Z,4.1nm,0.8s
FINES FINESS Array B 62.60 0 P **P** 03 04 11.7 +0.2
NC602 NORSAR Array S 62.70 8 *e*P **P** 03 04 12.9 +0.7
NJ2 Nanjing 62.89 288 *e*P **P** 03 04 09.9 -4.0
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
HFS Hagfors 63.46 7 P **P** 03 04 17.4 +0.1
comp=Z,4.0nm,0.5s,baz=24,slow=3.9,SNR=21
comp=Z,4.0nm,0.5s
ARU Arti 64.72 341 P **P** 03 04 25.1 -0.5
comp=Z,8.6nm,0.6s,baz=5.7,slow=5.8,SNR=11
comp=Z,8.6nm,0.6s
ARU Arti 64.72 341 P **P** 03 04 24.6 -1.0
BRVK Borovoye 65.30 333 P **P** 03 04 28.9 -0.5
EKA Eskdalemuir Ar 66.10 18 P **P** 03 04 35.3 +0.8
comp=Z,2.5nm,0.5s,baz=328,slow=5.4,SNR=21
comp=Z,2.5nm,0.5s
MK31 Makanchi Array 67.27 322 IAmb IAmb 03 04 43.0
comp=Z,4.3nm,1.0s
MKAR Makanchi Array 67.27 322 P **P** 03 04 42.2 0.0
comp=Z,2.7nm,0.5s,baz=33,slow=6.1,SNR=16
comp=Z,2.7nm,0.5s
MKAR Makanchi Array 67.27 322 P **P** 03 04 42.0 -0.2
MAKZ Makanchi 67.37 322 P **P** 03 04 42.1 -0.7
MAKZ IAmb IAmb 03 04 43.3
comp=Z,3.8nm,0.7s
WMQ Urumqi 67.87 317 *e*P **P** 03 04 48.4 +2.3
NACGM Naroch 69.16 360⇑ *e*P **P** 03 04 54.3 +0.4
baz=360
MNK Minsk 69.56 359 *i* P **P** 03 04 55.7 -0.6
comp=E,2.0nm,1.4s
MNK *i* P **P** 03 04 55.7 -0.6
MNK *i* P **P** 03 04 55.7 -0.6
comp=Z,10.0nm,0.9s,baz=0.7
MNK *i* PP **PP** 03 07 27.5 -1.9
MNK *i* PPP PPP 03 09 11.6
MNK *i* S **S** 03 14 03.1 +0.2
MNK *i* SS **SS** 03 18 35.1 +5.8
MNK *i* SSS SSS 03 21 46.9
MNK *i* LQ LQ 03 30 26.0
MNK *i* LR LR 03 35 54.6
MNK *i* LRM MLR 03 38 21.0
comp=E,173nm,14.7s
MNK *i* LRM MLR 03 38 33.1
comp=Z,65nm,10.8s
BELG Belogornoye 70.32 347 P **P** 03 05 01.1 +0.2
comp=Z,16nm,0.6s,baz=141,slow=3.1,SNR=4.5
comp=Z,16nm,0.6s
AKTO Aktyubinsk 70.52 339 P **P** 03 05 02.5 +0.1
comp=Z,5.9nm,0.6s,baz=38,slow=6.4,SNR=16
comp=Z,5.9nm,0.6s
ABKAR Akbulak array 71.25 338 P **P** 03 05 06.9 +0.2
GOMU GeErMu 71.36 308 P **P** 03 05 04.0 -4.1
GOMU pP pP 03 05 07.0 -7.1
GOMU sP sP 03 05 08.3 -8.1
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,60nm,5.4s
CLL Collm 72.16 9 *i* P **P** 03 05 12.9 +0.7
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 72.67 8 *e*P **P** 03 05 16.5 +1.2
BRG Amp 03 05 17.4
comp=Z,5.3nm,1.2s
PVCC Panska Ves 73.07 8 *e*P **P** 03 05 18.9 +1.3
OSTC Ostas 73.16 7 *e*P **P** 03 05 19.3 +1.1
NKC Novy Kostel 73.18 10 *e*P **P** 03 05 19.5 +1.2
BOOM Boomskoye usch 73.19 324 P **P** 03 05 19.1 +0.4
BOOM IAmb IAmb 03 05 20.6
comp=Z,5.4nm,0.7s
AKASG Malin Array Be 73.36 358 P **P** 03 05 19.1 -0.2
comp=Z,2.5nm,0.4s,baz=7.0,slow=6.0,SNR=22
comp=Z,2.5nm,0.4s
DPC Dobruska-Polom 73.37 7 *e*P **P** 03 05 20.9 +1.4
DPC *e*pP **sP** 03 05 28.5 +0.9
AAK Ala-Archa 73.53 325 P **P** 03 05 21.3 +0.7
AAK IAmb IAmb 03 05 22.5
comp=Z,6.5nm,0.9s
PRU Pruhonice 73.60 8 *e*P **P** 03 05 21.7 +0.9
KRLC Kraliky 73.68 7 *e*P **P** 03 05 22.2 +0.9
KRLC *e*pP **sP** 03 05 29.2 -0.2
MORC Moravsky Berou 74.02 6⇑P **P** 03 05 23.9 +0.6
MORC Moravsky Berou 74.02 6 *e*P **P** 03 05 23.6 +0.3
NRN Naryn 74.12 324 IAmb IAmb 03 05 26.6
comp=Z,7.2nm,1.0s
KK31 Karatay Array 74.32 328 P **P** 03 05 24.9 -0.2
KK31 IAmb IAmb 03 05 26.4
comp=Z,6.9nm,0.7s
KKAR Karatay Array 74.32 328 P **P** 03 05 25.6 +0.4
KKAR IAmb IAmb 03 05 26.4
comp=Z,6.9nm,0.7s
KHC Kasperske Hory 74.37 9 P **P** 03 05 26.0 +0.7
KHC IAmb IAmb 03 05 27.8
comp=Z,4.6nm,0.9s
KHC Kasperske Hory 74.37 9 *e*P **P** 03 05 26.5 +1.2
VRAC Vranov 74.43 7⇑P **P** 03 05 26.8 +1.2
VRAC Vranov 74.43 7 P **P** 03 05 26.4 +0.8
comp=Z,2.7nm,0.7s,baz=356,slow=5.7,SNR=6.1
comp=Z,2.7nm,0.7s
VRAC Vranov 74.43 7 *e*P **P** 03 05 26.7 +1.1
MAUC Maruska 74.45 6 *e*P **P** 03 05 27.4 +1.6
KRUC Moravsky 74.66 7 *e*P **P** 03 05 27.8 +0.9
GEC2 GERESS Array S 74.67 9 P **P** 03 05 27.4 +0.3
GERES GERESS Array B 74.67 9 P **P** 03 05 28.1 +1.0
comp=Z,2.1nm,0.6s,baz=357,slow=4.8,SNR=27
comp=Z,2.1nm,0.6s
GERES GERESS Array B 74.67 9 P **P** 03 05 27.4 +0.3
LANS Liptovska Anna 74.75 5 *e*P **P** 03 05 29.3 +1.8
JAVC Velka Javorina 74.94 6 *e*P **P** 03 05 30.6 +1.9
KOLS Kolonicke sedl 75.08 3 *e*P **P** 03 05 30.3 +0.9
VYHS Vyhne 75.37 5 *e*P **P** 03 05 32.2 +1.1
MODS Modra-Piesok 75.40 7 *e*P **P** 03 05 32.9 +1.6
MOA Molln 75.70 9 *e*P **P** 03 05 33.9 +0.8
comp=Z,0.9nm,0.5s
CONA Conrad Observa 75.75 8 *i* P **P** 03 05 34.6 +1.3
comp=Z,0.7nm,0.3s,SNR=4.2
KSH Kashi 75.86 323 P **P** 03 05 37.6 +3.4
KSH pmax pmax
comp=Z,8.0nm,0.9s
MOTA Moosalm 75.90 11 *i* P **P** 03 05 35.1 +0.8
comp=Z,1.3nm,0.5s
SORM Soroca 75.94 359⇑P P 03 05 45.5 +11
WATA Walderalm 75.96 11 *i* P **P** 03 05 35.8 +1.2
comp=Z,3.2nm,0.5s
RONA Rosalia, Austr 76.01 7 *i* P **P** 03 05 36.2 +1.4
comp=Z,1.1nm,0.5s
SQTA Sankt Quirin 76.04 11 *i* P **P** 03 05 36.4 +1.4
comp=Z,2.5nm,0.4s
WTTA Wattenberg 76.04 11 *i* P **P** 03 05 36.5 +1.4
comp=Z,5.1nm,0.5s,SNR=5.9
PZH PanZhiHua 76.17 297 P **P** 03 05 36.7 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
FETA Feichten 76.18 11 *e*P **P** 03 05 37.2 +1.3
comp=Z,2.4nm,0.6s,SNR=6.7
DAVOX Davos/Dischmat 76.33 12 P **P** 03 05 37.5 +0.8
comp=Z,2.7nm,0.5s,baz=355,slow=12,SNR=8.3
comp=Z,2.7nm,0.5s
KBA Koelnbreinsper 76.39 9 *i* P **P** 03 05 38.6 +1.5
comp=Z,4.3nm,0.5s,SNR=8.6
BURAR Bucovina Array 76.46 1⇑P **P** 03 05 38.2 +0.8
SOKA Soboth 76.93 8 *e*P **P** 03 05 41.5 +1.4
comp=Z,1.8nm,0.6s,SNR=5.2
OBKA Obir 77.06 9 *e*P **P** 03 05 41.9 +1.1
comp=Z,7.7nm,0.6s,SNR=10
BIZ Bicaz 77.14 0⇑P **P** 03 05 42.2 +1.1
DRGR 77.23 3⇑P **P** 03 05 42.0 +0.3
MORH Mrgy, Hungar 77.64 6⇑P **P** 03 05 44.6 +0.7
PLOR Plostina 78.23 0⇑P **P** 03 05 48.3 +1.0
COVR Voineasa-Covas 78.23 0⇑P **P** 03 05 48.7 +1.5
BZS Buzias 78.37 4⇑P **P** 03 05 47.2 -0.8
MLR Muntele Rosu 78.59 1⇑P **P** 03 05 48.0 -1.4
MLR Muntele Rosu 78.59 1 P **P** 03 05 50.5 +1.2
comp=Z,2.6nm,0.5s,baz=319,slow=11,SNR=5.0
comp=Z,2.6nm,0.5s
GZR Gura Zlata 78.63 3⇑P **P** 03 05 50.3 +0.8
VOIR 78.63 1⇑P **P** 03 05 51.0 +1.4
ARR Arges 78.70 2⇑P P 03 05 54.6 +4.7
CFR Carcaliu 78.89 359⇑P **P** 03 05 51.5 +0.7
TPGR Topolog 79.21 359⇑P **P** 03 05 53.2 +0.5
KIV Kislovodsk 79.22 348⇑P **P** 03 05 53.8 +0.9
KIV Kislovodsk 79.22 348 P **P** 03 05 51.0 -1.9
KIV IAmb IAmb 03 05 54.6
comp=Z,6.0nm,0.8s
HARR Harsova 79.38 359⇑P **P** 03 05 53.6 +0.1
KBZ Khabaz 79.42 348 P **P** 03 05 54.7 +0.9
comp=Z,6.0nm,0.9s,baz=333,slow=4.5,SNR=7.2
comp=Z,6.0nm,0.9s
TIRR Tirgusor 79.61 359⇑P **P** 03 05 55.3 +0.6
BOVS Bovan 80.35 4⇑P **P** 03 05 59.1 +0.2
BLKB Belogradchik 80.40 3⇑P **P** 03 05 58.7 -0.5
ESDC Sonseca Array 80.91 24 P **P** 03 06 03.4 +1.4
comp=Z,3.9nm,0.8s,baz=340,slow=5.2,SNR=31
comp=Z,3.9nm,0.8s
ESDC Sonseca Array 80.91 24 P **P** 03 06 02.4 +0.4
PDG Podgorica 81.44 6⇓P **P** 03 06 05.1 +0.4
GEYT Alibeck 82.44 335 P **P** 03 06 10.7 +0.7
comp=Z,4.2nm,0.8s,baz=322,slow=4.3,SNR=6.6
comp=Z,4.2nm,0.8s
GEYT Alibeck 82.44 335 IAmb IAmb 03 06 12.0
comp=Z,5.1nm,0.8s
GYA0B ALIBECK ARRAY 82.44 335 P **P** 03 06 08.9 -1.1
GYA0B IAmb IAmb 03 06 12.0
comp=Z,4.9nm,0.8s
BR131 Keskin Array S 84.17 355 P **P** 03 06 18.9 -0.2
BRTR Keskin Array B 84.17 355 P **P** 03 06 19.9 +0.7
comp=Z,2.7nm,0.8s,baz=3.8,slow=3.4,SNR=9.7
comp=Z,2.7nm,0.8s
CMAR Chiang Mai Arr 84.30 295 P **P** 03 06 19.9 0.0
comp=Z,3.0nm,0.6s,baz=4.6,slow=5.8,SNR=12
comp=Z,3.0nm,0.6s
MDT Midelt 87.32 26 P **P** 03 06 35.6 +0.9
comp=Z,1.8nm,0.7s,baz=339,slow=17,SNR=5.6
comp=Z,1.8nm,0.7s
H03N2 Juan Fernandez 109.22 122 T T 05 10 42.0
baz=324,slow=78,SNR=4.8
H03N1 Juan Fernandez 109.23 121 T T 05 10 45.4
baz=324,slow=78,SNR=5.6
H03N3 Juan Fernandez 109.24 122 T T 05 10 44.9
baz=324,slow=78,SNR=5.4
QSPA South Pole Qui 146.08 180 PKPbc **PKPbc** 03 13 26.7 +0.3

BOSA	**Boshof**	**152.32**	**3**	PKPbc	**PKPbc**	**03 13 43.9**	**+0.3**		
	comp=Z,3.9nm,0.8s,baz=5.5,slow=1.6,SNR=6.0								

ASRS 10 02:59:49.6±0.4, 51.7°N×2.7°×9.7°E±, h5km, MLh3.8/8, 1D, Error ellipse: s-maj=5.0km s-min=3.5km az=13.1, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.78**	**89**	Pg	Pg	03 00 04.0	-0.5
KNGR				Sg	Sg	03 00 13.4	-1.1
ERNS	**Erzin**	**0.81**	**245**	⇓Pg	Pb	03 00 06.1	0.0
ERNS				Sg	Sb	03 00 17.5	+0.1
KZLR	**Kyzyl**	**1.60**	**314**	Pg	Pg	03 00 22.4	+2.1
KZLR				Sg	Sg	03 00 49.6	+8.5
ARDR	**Aradan**	**2.67**	**319**	Pg	Pg	03 00 39.3	-1.4
ARDR				Sg	Sg	03 01 17.6	+2.3
DJOS	**Djoyskaya Sosn**	**3.76**	**308**	Pg	Pg	03 01 04.4	+2.9
DJOS				Sg	Sg	03 01 50.6	+0.4
CERR	**Cheremushki**	**3.78**	**308**	Pg	Pg	03 01 04.3	+2.3
CERR				Sg	Sg	03 01 53.7	+2.7
DJO	**Djoy, Khakassi**	**3.84**	**307**	Pg	Pg	03 01 04.3	+1.2
DJO				Sg	Sg	03 01 51.8	-1.1
MINR	**Mina**	**4.49**	**344**	Pg	Pg	03 01 19.2	+3.7
MINR				Sg	Sg	03 02 18.2	+4.6
CUR	**Chagan-Uzun**	**5.12**	**267**	Sg	Sg	03 02 32.7	-1.1
ULGR	**Ulagan, Altay**	**5.31**	**273**	Sg	Sg	03 02 40.7	+0.7
AKAR	**Aktash**	**5.55**	**270**	Sg	Sg	03 02 46.2	-1.6

*KRNET **10** 03:07:55.7±0.1, 41.67°N×73.12°E, h14km, mb2.9*
*SOME **10** 03:07:56.3, 41.68°N×73.10°E, h10km*
*NNC **10** 03:07:57.8±0.9, 41.73°N×73.15°E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=8.1km s-min=4.5km az=176.0*
*KNET **10** 03:07:57.6±0.8, 41.73°N×73.19°E, h8km, 3km, ml2.2, Error ellipse: s-maj=7.4km s-min=4.8km az=126.0*

ISC 10 03:07:54.9±1.2, 41.67°N±0.04×73.13°E±0.02, h6km±10km, n53, σ1s26/90, 20C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.62**	**42**	⇓P	**Pb**	**03 08 08.9**	**+0.5**
AML	33nm,0.2s,SNR=66			⇑S	**Sb**	**03 08 18.2**	**+0.7**
ARK	**Arkit**	**0.89**	**278**	⇑*i*P	**Pg**	**03 08 12.3**	**+0.4**
ARK	29nm,0.2s baz=79			⇑*i*S	**Sb**	**03 08 24.5**	**-0.4**
ARLS	**Aral**	**0.91**	**78**	⇓*i*P	**Pb**	**03 08 13.4**	**+0.2**
ARLS	baz=78			⇓*i*S	**Sb**	**03 08 26.2**	**+0.6**
MRKS	**Merke**	**1.07**	**4**	*e*P	**Pn**	**03 08 16.8**	**+0.2**
MRKS	32nm,0.1s			*e*S	**Sn**	**03 08 31.4**	**-0.4**
MRKS	**Merke**	**1.07**	**4**	P	**Pn**	**03 08 16.8**	**+0.2**
MRKS	44nm,0.2s 32nm,0.1s			S	**Sn**	**03 08 31.8**	**0.0**
MRKS	**Merke**	**1.07**	**4**	*e*P	**Pn**	**03 08 16.8**	**+0.2**
MRKS	44nm,0.2s baz=4.0			*e*S	**Sn**	**03 08 31.4**	**-0.4**
EKS2	**Erkin-Say**	**1.10**	**26**	⇓P	**Pn**	**03 08 17.0**	**+0.1**
EKS2	baz=4.0 3.5nm,0.1s,SNR=14			⇑S	**Sn**	**03 08 32.1**	**-0.4**
EKS2	**Erkin-Say**	**1.10**	**26**	⇓*e*P	**Pn**	**03 08 16.8**	**-0.1**
EKS2	6.2nm,0.1s baz=26			⇓*e*S	**Sn**	**03 08 32.1**	**-0.4**
UCH	**Uchtor**	**1.17**	**61**	⇓P	**Pn**	**03 08 18.7**	**+0.5**
UCH	10.0nm,0.1s,SNR=48			⇓S	**Sn**	**03 08 35.1**	**+0.4**
UCH	**Uchtor**	**1.17**	**61**	⇑*i*P	**Pn**	**03 08 18.4**	**+0.2**
UCH	46nm,0.2s baz=61			⇑*i*S	**Sn**	**03 08 34.9**	**+0.2**
OHH	**Osh**	**1.18**	**193**	⇑*i*P	**Pb**	**03 08 17.8**	**+0.1**
OHH	baz=61 baz=92			⇑*i*S	**Sb**	**03 08 34.2**	**+0.9**
AAK	**Ala-Archa**	**1.40**	**46**	⇓P	**Pg**	**03 08 22.5**	**+0.8**
AAK	baz=92 9.5nm,0.3s			⇓S	**Sg**	**03 08 41.9**	**+2.1**
AAK	**Ala-Archa**	**1.40**	**46**	⇓*i*P	**Pg**	**03 08 22.3**	**+0.6**
AAK	22nm,0.2s baz=46			⇓*i*S	**Sg**	**03 08 41.9**	**+2.1**
TRKS	**Terek-Say**	**1.50**	**265**	⇑*i*P	**Pb**	**03 08 23.4**	**+0.1**
TRKS	baz=46 baz=63			⇑*i*S	**Sg**	**03 08 43.8**	**+0.6**
KBK	**Karagaybulak**	**1.67**	**53**	⇑P	**Pg**	**03 08 27.9**	**+1.0**
KBK	13nm,0.2s,SNR=12 baz=53			⇑*i*P	**Pg**	**03 08 27.2**	**+0.3**
KBK	baz=53			⇑*i*S	**Sg**	**03 08 50.1**	**+1.6**
CHMS	**Chumysh**	**1.79**	**42**	⇓P	**Pg**	**03 08 29.9**	**+0.7**
CHMS	13nm,0.2s 24nm,0.2s			⇓S	**Sg**	**03 08 54.7**	**+2.4**
CHMS	**Chumysh**	**1.79**	**42**	⇓Pn	**Pg**	**03 08 29.5**	**+0.3**
CHMS	4.0nm,0.3s 21nm,0.6s			⇑Sn	**Sg**	**03 08 54.7**	**+2.4**
USP	**Ospenovka**	**1.89**	**32**	⇑P	**Pg**	**03 08 31.3**	**+0.2**
USP	13nm,0.4s,SNR=13 60nm,0.3s			⇓S	**Sg**	**03 08 57.6**	**+2.1**
USP	**Ospenovka**	**1.89**	**32**	⇑*i*P	**Pg**	**03 08 30.9**	**-0.2**
USP	baz=32 baz=68			⇑*i*S	**Sg**	**03 08 56.6**	**+1.1**
TKM2	**Tokmak 2**	**2.21**	**55**	⇓Pn	**Pg**	**03 08 36.3**	**-1.0**
TKM2	1.4nm,0.3s 22nm,0.5s			⇓Sn	**Sg**	**03 09 06.8**	**+0.8**
BOOM	**Boomskoye usch**	**2.24**	**68**	⇓*i*P	**Pb**	**03 08 36.4**	**+0.5**
BOOM	baz=68 baz=68			⇓*i*S	**Sg**	**03 09 05.9**	**-1.1**
IUG	**Iuzhnay**	**2.36**	**283**	*e*P	**Pb**	**03 08 39.3**	**+1.3**
IUG	63nm,0.2s 35nm,0.3s			*e*S	**Sg**	**03 09 09.7**	**-1.2**
IUG	**Iuzhnay**	**2.36**	**283**	Pg	**Pb**	**03 08 39.3**	**+1.3**
IUG	63nm,0.2s 35nm,0.3s			Lg	Lg	03 09 10.8	
ULHL	**Ulahol**	**2.39**	**75**	⇑*i*P	**Pb**	**03 08 38.4**	**0.0**
ULHL	baz=75			⇑*i*S	**Sb**	**03 09 09.4**	**+1.2**
KK31	**Karatay Array**	**2.41**	**307**	⇑Pn	**Pb**	**03 08 39.4**	**+0.7**
KK31	0.6nm,0.3s,baz=120,slow=16,SNR=12 6.2nm,0.6s,baz=128,slow=27,SNR=10			Sn	**Sg**	**03 09 11.8**	**-0.6**
DGS	**Degeres**	**2.50**	**50**	*e*P	**Pg**	**03 08 42.7**	**-0.2**
DGS	2.8nm,0.2s 19nm,0.2s			*e*S	**Sg**	**03 09 15.5**	**+0.2**
DGS	**Degeres**	**2.50**	**50**	Pg	**Pg**	**03 08 42.7**	**-0.2**
DGS	2.8nm,0.2s 19nm,0.2s			Lg	Lg	03 09 15.5	
KST	**Kastek**	**2.50**	**56**	*e*P	**Pg**	**03 08 42.8**	**-0.1**
KST	3.2nm,0.2s 33nm,0.4s			*e*S	**Sg**	**03 09 15.5**	**+0.2**
KST	**Kastek**	**2.50**	**56**	Pg	**Pg**	**03 08 42.8**	**-0.1**
KST	3.2nm,0.2s 33nm,0.4s			Lg	Lg	03 09 15.5	
KRBS	**Karabastau**	**2.75**	**42**	*e*P	**Pg**	**03 08 46.2**	**-1.5**
KRBS	2.6nm,0.3s 15nm,0.7s			*e*S	**Sg**	**03 09 21.2**	**-2.2**
KRBS	**Karabastau**	**2.75**	**42**	Pg	**Pg**	**03 08 46.2**	**-1.5**
KRBS	2.6nm,0.3s 15nm,0.7s			Lg	Lg	03 09 21.2	
MTBS	**Maitube**	**2.84**	**58**	*e*P	**Pg**	**03 08 48.8**	**-0.5**
MTBS	2.0nm,0.2s 19nm,0.3s			*e*S	**Sg**	**03 09 25.9**	**-0.3**
MTBS	**Maitube**	**2.84**	**58**	Pg	**Pg**	**03 08 48.8**	**-0.5**
MTBS	2.0nm,0.2s 19nm,0.3s			Lg	Lg	03 09 25.9	
IZV	**Izvestkoviy**	**2.92**	**61**	*e*P	**Pg**	**03 08 49.7**	**-1.1**
IZV	120nm,0.3s 18nm,0.4s			*e*S	**Sg**	**03 09 28.2**	**-0.3**
IZV	**Izvestkoviy**	**2.92**	**61**	Pg	**Pg**	**03 08 49.7**	**-1.1**
IZV	120nm,0.3s 18nm,0.4s			Lg	Lg	03 09 28.2	
TNSS	**Tian-Shan**	**3.14**	**63**	Pg	**Pg**	**03 08 54.5**	**-0.5**
TNSS	1.6nm,0.1s 12nm,0.3s			Lg	Lg	03 09 35.6	
KUU	**Kurty**	**3.24**	**46**	*e*P	**Pg**	**03 08 55.7**	**-1.2**
KUU	1.3nm,0.2s 9.5nm,0.5s			*e*S	**Sg**	**03 09 37.7**	**-1.2**
KUU	**Kurty**	**3.24**	**46**	Pg	**Pg**	**03 08 55.7**	**-1.2**
KUU	1.3nm,0.2s 9.5nm,0.5s			Lg	Lg	03 09 37.7	
MDOK	**Medeo**	**3.26**	**62**	*e*P	**Pg**	**03 08 56.6**	**-0.7**
MDOK	2.7nm,0.2s 10nm,0.8s			*e*S	**Sg**	**03 09 39.3**	**-0.3**
MDOK	**Medeo**	**3.26**	**62**	Pg	**Pg**	**03 08 56.7**	**-0.7**
MDOK	2.7nm,0.2s 10nm,0.8s			Lg	Lg	03 09 39.3	
KTBS	**Karatobe**	**3.31**	**51**	*e*P	**Pg**	**03 08 57.0**	**-1.4**
KTBS	1.0nm,0.2s 26nm,0.4s			*e*S	**Sg**	**03 09 39.9**	**-1.4**
KTBS	**Karatobe**	**3.31**	**51**	Pg	**Pb**	**03 08 56.0**	**+1.9**
KTBS	1.0nm,0.2s 26nm,0.4s			Lg	Lg	03 09 39.9	
KOTS	**Kotyrbulak**	**3.33**	**61**	*e*P	**Pg**	**03 08 58.0**	**-0.8**
KOTS	2.6nm,0.3s 13nm,0.3s			*e*S	**Sg**	**03 09 41.6**	**-0.3**
KOTS	**Kotyrbulak**	**3.33**	**61**	Pg	**Pg**	**03 08 57.9**	**-0.8**
KOTS	2.6nm,0.3s 13nm,0.3s			Lg	Lg	03 09 41.6	
BTLS	**Baital**	**3.43**	**11**	*e*P	**Pg**	**03 08 58.9**	**-1.7**
BTLS	2.0nm,0.3s 3.9nm,0.2s			*e*S	**Sg**	**03 09 43.4**	**-1.7**
BTLS	**Baital**	**3.43**	**11**	Pg	**Pg**	**03 08 58.9**	**-1.7**
BTLS	2.0nm,0.3s 3.9nm,0.2s			Lg	Lg	03 09 43.4	
CHKK	**Chushkaly**	**3.58**	**51**	*e*P	**Pg**	**03 09 02.0**	**-1.4**
CHKK	0.4nm,0.1s 7.0nm,0.3s			*e*S	**Sg**	**03 09 48.6**	**-1.1**
CHKK	**Chushkaly**	**3.58**	**51**	Pg	**Pg**	**03 09 02.0**	**-1.4**
CHKK	0.4nm,0.1s 7.0nm,0.3s			Lg	Lg	03 09 48.6	
ARXS	**Arharly**	**4.28**	**52**	*e*P	**Pg**	**03 09 13.6**	**-3.3**
ARXS	3.0nm,0.6s 9.7nm,0.6s			*e*S	**Sg**	**03 10 09.1**	**-3.2**
ARXS	**Arharly**	**4.28**	**52**	Pg	**Pg**	**03 09 13.6**	**-3.3**
ARXS	3.0nm,0.6s 9.7nm,0.6s			Lg	Lg	03 10 09.1	
BLB	**Baldybastay**	**4.61**	**57**	*e*P	**Pg**	**03 09 20.9**	**-2.4**
BLB	2.0nm,0.3s 4.3nm,0.2s			*e*S	**Sg**	**03 10 20.5**	**-2.6**
BLB	**Baldybastay**	**4.61**	**57**	Pg	**Pg**	**03 09 20.9**	**-2.4**
BLB	2.0nm,0.3s 4.3nm,0.2s			Lg	Lg	03 10 20.5	

IDC 10 03:11:34.2±4.7, 17.26S×174.08W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=335.9km s-min=32.3km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.00**	**34**	Sn	Sn	03 13 25.1	+0.6
WRA	**Warramunga Arr**	**48.81**	**258**	P	P	03 20 21.4	-0.3
ASAR	**Alice Springs**	**48.94**	**253**	P	P	03 20 22.6	0.0
NVAR	**Mina Array Bea**	**76.14**	**42**	P	P	03 23 24.5	0.0
H03S2	**Juan Fernandez**	**84.72**	**124**	T	T	04 57 04.5	
H03S1	**Juan Fernandez**	**84.73**	**124**	T	T	04 57 05.5	
H03S3	**Juan Fernandez**	**84.73**	**124**	T	T	04 57 08.0	

*NOU **10** 03:26:07.6, 37.28S×179.77E, h106km, mb4.2/7, Off E. Coast of N. Island, N.Z.*
*WEL **10** 03:26:13.7±1.1, 37.5S±5.7×17.9E±, h16km±5km, M3.2/19, ML3.5/30, MLv3.2/19, Error ellipse: s-maj=0.0km s-min=0.0km az=105.2*

ISC 10 03:26:12.9±2.7, 37.31S±0.08×179.0E±0.1, h16km±10km, n61, σ1s38/70, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.60**	**245**	P	**Pb**	**03 26 25.2**	**+0.1**
MXZ				S	**Sg**	**03 26 32.0**	**-0.8**
WMGZ	**Waiomatatini S**	**0.69**	**222**	P	**Pn**	**03 26 29.0**	**+1.1**
WMGZ				S	**Sn**	**03 26 39.2**	**+1.0**
PKGZ	**Pakihiroa**	**0.93**	**232**	P	**Pn**	**03 26 32.0**	**+0.6**
PKGZ				S	**Sn**	**03 26 44.4**	**0.0**
PUZ	**Puketiti**	**0.96**	**217**	P	**Pn**	**03 26 32.9**	**+1.3**
PUZ				S	**Sn**	**03 26 46.1**	**+1.0**
HAZ	**Te Kaha**	**1.06**	**245**	P	**Pb**	**03 26 32.3**	**-0.6**
HAZ				S	**Sn**	**03 26 47.9**	**+0.4**
TWGZ	**Tauwhareparae**	**1.18**	**223**	P	**Pg**	**03 26 36.2**	**+0.5**
TWGZ				S	**Sg**	**03 26 51.9**	**+0.8**
RUGZ	**Raukumara Rang**	**1.23**	**238**	P	**Pg**	**03 26 36.7**	**0.0**
RUGZ				S	**Sg**	**03 26 52.8**	**-0.1**
CNGZ	**Carnagh Statio**	**1.33**	**208**	P	**Pg**	**03 26 38.6**	**+0.1**
CNGZ				S	**Sg**	**03 26 57.3**	**+1.5**
MWZ	**Matawai**	**1.55**	**228**	P	**Pb**	**03 26 40.9**	**-0.3**
MWZ				S	**Sb**	**03 27 00.4**	**-0.1**
RIGZ	**Rimuhau**	**1.70**	**215**	P	**Pn**	**03 26 42.8**	**+0.9**
RIGZ				S	**Sn**	**03 27 04.1**	**+0.8**
URZ	**Urewera**	**1.77**	**237**	P	**Pb**	**03 26 44.0**	**-0.8**
URZ				S	**Sn**	**03 27 05.6**	**+0.7**
URZ	**Urewera**	**1.77**	**237**	P	**Pb**	**03 26 44.1**	**-0.8**
EDRZ	**Edgecumbe**	**1.96**	**245**	P	**Pn**	**03 26 46.6**	**+1.2**
SNGZ	**Shannon Statio**	**1.96**	**221**	P	**Pn**	**03 26 46.2**	**+0.7**
OPRZ	**Ohinepanea**	**2.01**	**254**	P	**Pn**	**03 26 46.5**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.03**	**205**	P	**Pn**	**03 26 47.4**	**+1.1**
MUGZ	**Murupara**	**2.11**	**236**	P	**Pn**	**03 26 48.4**	**+0.9**
RAHZ	**Arahi**	**2.20**	**223**	P	**Pn**	**03 26 50.1**	**+1.3**
MTHZ	**Maungataniwha**	**2.29**	**227**	P	**Pn**	**03 26 51.2**	**+1.1**
ALRZ	**Allen Road**	**2.44**	**238**	P	**Pn**	**03 26 53.0**	**+0.9**
NMHZ	**Naumai**	**2.48**	**223**	P	**Pn**	**03 26 53.9**	**+1.3**
ARHZ	**Aropaoanui**	**2.50**	**218**	P	**Pn**	**03 26 54.2**	**+1.3**
KUZ	**Kuaotunu**	**2.68**	**281**	P	**Pn**	**03 26 53.8**	**-1.5**
BKZ	**Black Stump Fm**	**2.70**	**226**	P	**Pn**	**03 26 56.3**	**+0.6**
BKZ	**Black Stump Fm**	**2.70**	**226**	P	**Pn**	**03 26 56.5**	**+0.8**
MCHZ	**McNeill Hill**	**2.79**	**220**	P	**Pn**	**03 26 57.4**	**+0.5**
TOZ	**Tahuroa Road**	**2.81**	**260**	P	**Pn**	**03 26 56.8**	**-0.3**
KWHZ	**Kaweka Forest**	**2.92**	**223**	P	**Pn**	**03 26 59.0**	**+0.3**
KAHZ	**Kahuranaki**	**2.98**	**213**	P	**Pn**	**03 26 59.3**	**-0.3**
MKAZ	**Moumakai**	**3.07**	**273**	P	**Pn**	**03 26 59.8**	**-0.9**
KRHZ	**Kereru**	**3.11**	**221**	P	**Pn**	**03 27 01.3**	**0.0**
BHHZ	**Black Hill Sta**	**3.17**	**226**	P	**Pn**	**03 27 02.6**	**+0.5**
KRVZ	**Karewarewa**	**3.19**	**235**	P	**Pn**	**03 27 03.0**	**+0.6**
OTVZ	**Oturere**	**3.21**	**234**	P	**Pn**	**03 27 03.4**	**+0.6**
SNVZ	**South Ngauruho**	**3.24**	**234**	P	**Pn**	**03 27 03.7**	**+0.5**
MOVZ	**Moawhango**	**3.30**	**230**	P	**Pn**	**03 27 03.9**	**0.0**
TWVZ	**Taurewa**	**3.31**	**237**	P	Sn	03 27 32.3	-11
MBAZ	**Motutapu North**	**3.32**	**278**	P	**Pn**	**03 27 06.6**	**+2.4**
WNVZ	**Wahianoa**	**3.34**	**232**	P	**Pn**	**03 27 04.8**	**+0.1**
PNHZ	**Pukenui**	**3.40**	**219**	P	**Pn**	**03 27 04.3**	**-1.0**
PKVZ	**Pokaka**	**3.48**	**234**	P	Pg	03 27 26.6	+6.9
HIZ	**Hauiti**	**3.49**	**249**	P	**Pn**	**03 27 08.2**	**+1.8**
HIZ	**Hauiti**	**3.49**	**249**	P	**Pn**	**03 27 08.5**	**+2.1**
TSZ	**Takapari Road**	**3.63**	**220**	P	**Pn**	**03 27 07.2**	**-1.2**
WAZ	**Wanganui**	**3.98**	**231**	P	**Pn**	**03 27 14.2**	**+1.0**
BFZ	**Birch Farm**	**3.99**	**212**	P	**Pn**	**03 27 11.8**	**-1.5**
MRZ	**Mangatainoka R**	**4.27**	**217**	P	**Pn**	**03 27 15.1**	**-2.2**
HOWZ	**Holdsworth Sta**	**4.49**	**216**	P	**Pn**	**03 27 18.0**	**-2.2**
OUZ	**Omahuta**	**4.84**	**294**	P	**Pn**	**03 27 25.5**	**+0.5**
OUZ	**Omahuta**	**4.84**	**294**	P	**Pn**	**03 27 25.7**	**+0.7**
CAW	**Cannon Point**	**4.87**	**218**	P	**Pn**	**03 27 22.6**	**-2.7**
TUWZ	**Tuamarina**	**5.68**	**222**	P	**Pn**	**03 27 34.0**	**-2.5**
NNZ	**Nelson**	**5.85**	**226**	P	**Pn**	**03 27 35.9**	**-3.0**
BSWZ	**Blackbirch Sta**	**5.92**	**220**	P	**Pn**	**03 27 38.0**	**-1.8**
QRZ	**Quartz Range**	**6.13**	**233**	P	**Pn**	**03 27 40.4**	**-2.4**
QRZ	**Quartz Range** 88nm,2.7s	**6.13**	**233**	P	**Pn**	**03 27 42.0**	**-0.8**
MRNZ	**Matariki Terra**	**6.33**	**228**	P	**Pn**	**03 27 42.7**	**-2.8**
THZ	**Tophouse**	**6.47**	**225**	P	**Pn**	**03 27 44.6**	**-2.9**
DSZ	**Denniston Nort**	**7.11**	**229**	P	**Pn**	**03 27 53.7**	**-2.5**
CTZ	**Chatham Island**	**7.23**	**154**	P	**Pn**	**03 28 00.6**	**+2.8**
ODZ	**Otahua Downs**	**9.96**	**217**	P	**Pn**	**03 28 33.0**	**-2.2**

IDC 10 03:33:34.5±2.2, 7.49S×129.94E, h0km, mb3.7/1, mbtmp3.7/4, ML3.8/3, MS3.4/1, Error ellipse: s-maj=83.1km s-min=28.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.34**	**201**	Pn	Pn	03 36 19.2	+1.3
FITZ	0.8nm,0.3s,baz=30,slow=11,SNR=24			Sn	Sn	03 38 19.5	-5.9
WRA	**Warramunga Arr**	**13.09**	**161**	Pn	Pn	03 36 41.1	-0.8
WRA	1.1nm,0.3s,baz=102,slow=20,SNR=7.0 1.9nm,0.3s baz=342,slow=13,SNR=18			Sn	Sn	03 39 00.3	-8.1
ASAR	**Alice Springs**	**16.53**	**167**	Pn	Pn	03 37 27.4	-0.5
ASAR	0.8nm,0.3s,baz=338,slow=22,SNR=9.6 0.5nm,0.3s 0.2nm,0.3s,baz=346,slow=11,SNR=13			Sn	Sn	03 40 24.7	-7.5
PMG	**Port Moresby**	**17.14**	**98**	LR	LR	03 44 28.6	
MKAR	comp=Z,134nm,20.5s,baz=258,slow=38 **Makanchi Array** 0.1nm,0.3s,baz=348,slow=27,SNR=3.8 0.4nm,0.5s	**68.60**	**327**	P	P	03 44 39.3	0.0
	0.4nm,0.5s,baz=121,slow=7.9,SNR=5.0 0.4nm,0.5s						

IDC 10 03:49:43.6±1.9, 29.17S×61.14E, h0km, mb3.6/4, mbtmp3.7/5, ML4.1/1, MS3.8/2, Error ellipse: s-maj=128.1km s-min=26.5km az=27.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.54**	**307**	Pn	Pn	03 53 38.5	+1.2
OPO	0.1nm,0.3s,baz=132,slow=15,SNR=2.3 1.0nm,0.3s baz=108,slow=20,SNR=3.0			Sn	Sn	03 56 27.6	-14
MBAR	**Mbarara** comp=Z,70nm,18.0s,baz=348,slow=36	**40.59**	**309**	LR	LR	04 14 02.5	
H01W2	**Cape Leeuwin H** baz=261,slow=74,SNR=7.4	**44.86**	**111**	T	T	04 45 39.4	
H01W3	**Cape Leeuwin H** baz=261,slow=74,SNR=7.4	**44.87**	**111**	T	T	04 45 41.1	
H01W1	**Cape Leeuwin H** baz=261,slow=74,SNR=7.9	**44.88**	**111**	T	T	04 45 41.8	
ASAR	**Alice Springs** 0.4nm,0.6s,baz=243,slow=6.0,SNR=5.8 0.4nm,0.6s	**64.46**	**104**	P	P	04 00 22.4	+0.1
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=245,slow=5.8,SNR=3.3 0.4nm,0.8s	**66.28**	**100**	P	P	04 00 34.3	+0.1
TORD	**Torodi Ar. Bea** 1.2nm,1.0s,baz=121,slow=7.0,SNR=4.0 1.2nm,1.0s	**71.12**	**298**	P	P	04 01 04.2	-0.1
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=157,slow=7.8,SNR=2.8 0.4nm,0.7s	**73.16**	**338**	P	P	04 01 16.0	-0.2
KRVT	**Keravat (AS076** comp=Z,68nm,18.2s,baz=75,slow=35	**88.70**	**94**	LR	LR	04 41 08.0	

JMA 10 03:54:01.3±0.4, 26.8N±0.9×12.9E±, h30km, NEAR OKINAWAJIMA ISLAND, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**0.78**	**288**	P	Pn	03 54 15.8	-0.5
JOKE	**Okinoerabujima**	**0.86**	**312**	*e*P	Pn	03 54 17.2	-0.2
JOKE				*e*S	Sb	03 54 28.8	-0.1
JOW	**Kunigami**	**0.90**	**273**	*e*P	Pn	03 54 18.0	0.0
JTK	**Tokunoshima**	**1.04**	**344**	P	Pn	03 54 20.0	+0.1
JTK				S	Sn	03 54 32.9	-0.6

IDC 10 03:54:02.3±3.2, 17.88S×178.83W, h562km±21km, mb2.7/3, mbtmp3.6/4, Error ellipse: s-maj=159.7km s-min=27.2km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.97**	**272**	P	P	03 55 18.2	-0.1
WRA	10.0nm,0.7s,baz=159,slow=7.6,SNR=6.5 **Warramunga Arr** 0.3nm,0.6s,baz=97,slow=7.0,SNR=8.6	**44.24**	**260**	P	P	04 01 22.2	-0.4
ASAR	0.3nm,0.6s **Alice Springs** 2.9nm,0.6s,baz=89,slow=8.2,SNR=63 2.9nm,0.6s	**44.41**	**254**	P	P	04 01 24.1	+0.1
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=221,slow=6.7,SNR=2.6 0.2nm,0.6s	**86.32**	**58**	P	P	04 05 45.9	+0.2
GERES	**GERESS Array B** 0.3nm,0.4s,baz=46,slow=4.2,SNR=3.8	**147.48**	**345**	PKPbc	PKPbc	04 12 42.6	-1.0

*NIED **10** 03:54:39.0, 28.31N×129.48E, h32km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.42; Mθθ0.92; Mφφ-2.33; Mrθ0.26; Mθφ-0.59; Mφr4.43; Fault plane solution: Mo4.85000×10^15 NP1: φs206.00000°, δ13.00000°, λ113.00000°. NP2:φs3.00000°, δ78.00000°, λ85.00000°.*
*JMA **10** 03:54:39.0±0.2, 28.1N±1.7×129.5E±0.8, h32km±2km, MD4.2/27, MV4.3/27, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt III J1 at NEAR AMAMI-OSHIMA ISLAND.
*NEIC **10** 03:54:39.6±1.6, 28.25N±0.08×129.5E±0.1, h39km±8km, mb4.4/27, Error ellipse: s-maj=16.0km s-min=7.4km az=130.0*
*IDC **10** 03:54:43.4±1.5, 28.27N×129.23E, h72km±13km, mb3.8/20, mbtmp4.1/22, MS3.5/18, Error ellipse: s-maj=17.5km s-min=10.9km az=90.0*

ISC 10 03:54:38.6±0.8, 28.23N±0.03×129.54E±0.04, h33km±5km, n120, σ1s48/113, mb4.3/37, MS3.7/20, 2C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.19**	**19**	P	**Pb**	**03 54 44.6**	**-0.5**
JAM				S	**Sb**	**03 54 48.9**	**-0.7**
JAM	**Amami Oshima** comp=E,60nm,2.3s,comp=E,29nm,1.2s	**0.19**	**19**	A	A	03 54 44.6	
JAMN	**Amaminishikomi**	**0.32**	**272**	P	**Pb**	**03 54 46.4**	**-0.2**
JAMN				S	**Sn**	**03 54 51.9**	**-0.1**
JAMN	**Amaminishikomi** comp=E,69nm,0.3s,comp=E,76nm,0.2s	**0.32**	**272**	A	A	03 54 46.4	
JZK	**Kikaishima**	**0.39**	**78**	P	**Pn**	**03 54 48.4**	**+0.4**
JZK				S	**Sn**	**03 54 56.2**	**+2.0**
JZK	**Kikaishima** comp=E,105nm,2.0s,comp=E,59nm,0.3s	**0.39**	**78**	A	A	03 54 48.4	

JTK	**Tokunoshima**	**0.68**	**230**	P	**Pn**	**03 54 51.6**	**-0.3**
JTK				S	**Sn**	**03 55 01.2**	**-0.1**
JTK	**Tokunoshima**	**0.68**	**230**	A	A	03 54 51.6	
comp=E,20nm,0.4s,comp=E,26nm,0.5s							
JTAJ	**Takarajima**	**0.96**	**342**	P	**Pn**	**03 54 54.8**	**-1.0**
JTAJ				S	**Sn**	**03 55 07.0**	**-1.3**
JTAJ	**Takarajima**	**0.96**	**342**	A	A	03 54 54.8	
comp=E,5.0nm,5.4s,comp=E,4.0nm,6.8s							
JOKE	**Okinoerabujima**	**1.22**	**225**	*i* P	**Pb**	**03 55 00.6**	**-0.5**
JOKE				S	**Sb**	**03 55 16.6**	**+0.1**
JOKE	**Okinoerabujima**	**1.22**	**225**	A	A	03 55 00.6	
comp=E,11nm,0.3s,comp=E,17nm,0.3s							
JYRO	**Yoronjima**	**1.54**	**219**	*i* P	**Pb**	**03 55 05.5**	**-1.0**
JYRO				S	**Sb**	**03 55 25.7**	**+0.1**
JYRO	**Yoronjima**	**1.54**	**219**	A	A	03 55 05.5	
comp=E,4.0nm,2.5s,comp=E,5.0nm,1.1s							
JNN	**Nakanoshima**	**1.63**	**10**	*e*P	**Pn**	**03 55 05.0**	**0.0**
JNN				*e*S	**Sn**	**03 55 24.9**	**0.0**
JNN	**Nakanoshima**	**1.63**	**10**	A	A	03 55 05.0	
comp=E,5.0nm,1.4s,comp=E,3.0nm,1.7s							
JOW	**Kunigami**	**1.79**	**219**	P	**Pn**	**03 55 08.7**	**+1.6**
1µm,0.4s,baz=48,slow=9.0,SNR=325							
JOW				S	**Sb**	**03 55 31.3**	**-1.4**
2µm,0.3s,baz=161,slow=28,SNR=21							
JOW				LR	LR	03 55 39.1	
comp=Z,360nm,18.9s,baz=70,slow=34							
JOW	**Kunigami**	**1.79**	**219**	P	**Pn**	**03 55 08.5**	**+1.3**
JOW	**Kunigami**	**1.79**	**219**	A	A	03 55 08.5	
comp=E,5.0nm,1.6s,comp=E,6.0nm,1.4s							
JIH	**Iheya**	**1.83**	**230**	*e*P	**Pn**	**03 55 08.9**	**+1.2**
JIH				S	**Sn**	**03 55 31.2**	**+1.4**
JIH	**Iheya**	**1.83**	**230**	A	A	03 55 08.9	
comp=E,4.0nm,0.6s,comp=E,4.0nm,0.5s							
JNTH	**Nagotoyohara**	**2.17**	**219**	*e*P	**Pn**	**03 55 14.1**	**+1.7**
JNTH				*e*S	**Sn**	**03 55 40.2**	**+2.0**
JYAK	**Yakushimahirau**	**2.17**	**23**	P	**Pn**	**03 55 13.0**	**+0.5**
JYAK				*e*S	**Sn**	**03 55 38.6**	**+0.4**
JKC	**Kuchinoerabu**	**2.30**	**14**	*e*P	**Pn**	**03 55 14.5**	**+0.3**
JKC				*e*S	**Sn**	**03 55 41.8**	**+0.5**
JMTN	**Minamitane**	**2.47**	**29**	*e*P	**Pn**	**03 55 17.3**	**+0.8**
JJT3	**Tamagusuku3**	**2.60**	**217**	*e*P	**Pn**	**03 55 20.1**	**+1.9**
JJT3	**Tamagusuku3**	**2.60**	**217**	A	A	03 55 20.1	
comp=E,12nm,1.8s,comp=E,11nm,3.7s							
JAGN	**Aguni-jima**	**2.61**	**232**	*e*P	**Pn**	**03 55 20.1**	**+1.6**
JAGN				*e*S	**Sn**	**03 55 50.8**	**+1.7**
JTN	**Tanegashima 3**	**2.73**	**27**	*e*P	**Pn**	**03 55 21.0**	**+1.0**
JKDJ	**Kitadaitoujima**	**2.76**	**145**	*e*P	**Pn**	**03 55 20.6**	**+0.1**
JKDJ				*e*S	**Sn**	**03 55 52.0**	**-0.7**
JMZ	**Minamidaito 2**	**2.83**	**148**	*e*P	**Pn**	**03 55 21.1**	**-0.4**
JMZ				*e*S	**Sn**	**03 55 52.8**	**-1.7**
JKE	**Kume jima 2**	**3.10**	**233**	*e*P	**Pn**	**03 55 26.3**	**+1.2**
JKE				*e*S	**Sn**	**03 56 02.6**	**+1.6**
JSU	**Suzuyama**	**3.36**	**14**	Pn	**Pn**	**03 55 30.3**	**+1.5**
JMN	**Monobe**	**6.63**	**33**	Pn	**Pn**	**03 56 14.0**	**+0.3**
YHNB	**Yeheng**	**8.13**	**246**		**Pn**	**03 56 35.2**	**+0.9**
SSLB	**Suanglung**	**8.90**	**242**	Pn	**Pn**	**03 56 44.1**	**-0.7**
KSRS	**Korea Array**	**9.30**	**352**	P	**Pn**	**03 56 54.6**	**+4.3**
1.6nm,0.6s,baz=177,slow=13,SNR=6.6							
TPUB	**Ta-pu**	**9.41**	**241**	Pn	**Pn**	**03 56 51.2**	**-0.7**
JHJ	**Hachijo jima 2**	**10.08**	**59**	LR	LR	04 00 41.0	
comp=Z,196nm,21.2s,baz=216,slow=35							
MJAR	**Matsushiro Arr**	**11.06**	**39**	P	Pn	03 57 22.7	+8.3
1.4nm,0.7s,baz=239,slow=15,SNR=5.4							
MJAR				LR	LR	04 02 14.5	
comp=Z,112nm,18.6s,baz=217,slow=40							
JCJ	**Chichijima**	**11.27**	**93**	LR	LR	04 01 02.1	
comp=Z,293nm,21.8s,baz=322,slow=33							
HNS	**HongShan**	**15.44**	**310**	⇓P	**P**	**03 58 19.9**	**+1.8**
HNS				S	**Sn**	**04 01 10.6**	**+6.7**
HNS				pmax	pmax		
comp=Z,9.0nm,0.6s							
HNS				LR	LR		
comp=N,140nm,10.6s							
HNS				LR	LR		
comp=E,240nm,13.0s							
HNS				LR	LR		
comp=Z,280nm,19.4s							
LYN	**LuoYang**	**15.87**	**298**	⇓*i*P	**Pn**	**03 58 20.7**	**+1.2**
LYN				LR	LR		
comp=E,190nm,12.5s							
LYN				LR	LR		
comp=Z,210nm,13.9s							
BJT	**Baijiatuau**	**16.13**	**320**	Pn	**Pn**	**03 58 22.5**	**-0.2**
ENH	**Enshi**	**17.61**	**281**	Pn	**Pn**	**03 58 39.5**	**-2.1**
ENH				IAmb	IAmb	03 58 47.3	
comp=Z,23nm,1.0s							
XAN	**Xi'an**	**18.56**	**293**	P	**Pn**	**03 58 53.3**	**+0.2**
XAN				pP	sP	03 59 05.5	0.0
XAN				sP	pP	03 59 11.2	+10
XAN				S	**Sn**	**04 02 19.3**	**-0.4**
XAN				sS	sS	04 02 34.9	-1.3
XAN				pmax	pmax		
comp=Z,41nm,0.7s							
XAN				pmax	pmax		
comp=Z,140nm,4.1s							
XAN				LR	LR		
comp=N,120nm,13.9s							
XAN				LR	LR		
comp=E,240nm,15.5s							
XAN				LR	LR		
comp=Z,270nm,17.2s							
XLT	**XiLinHaoTe**	**19.01**	**329**	*e*P	**Pn**	**03 59 00.8**	**+2.4**
XLT				pP	sP	03 59 11.2	+0.9
XLT				sP	pP	03 59 17.4	+11
XLT				S	**Sn**	**04 02 24.3**	**-6.0**
XLT				pmax	pmax		
comp=Z,6.0nm,0.8s							
XLT				pmax	pmax		
comp=Z,120nm,3.9s							
XLT				LR	LR		
comp=N,17nm,17.8s							
XLT				LR	LR		
comp=E,120nm,15.0s							
XLT				LR	LR		
comp=Z,180nm,19.4s							
HHC	**Hu-ho-hao-te**	**19.39**	**315**	*e*P	**Pn**	**03 59 02.4**	**-0.7**
HHC				pmax	pmax		
comp=Z,31nm,0.9s							
HHC				pmax	pmax		
comp=Z,110nm,5.5s							
QIZ	**Qiongzhong**	**20.21**	**247**	P	Pn	03 59 12.8	0.0
QIZ				S	**S**	**04 02 55.7**	**-0.2**
QIZ				LR	LR		
comp=Z,180nm,15.0s							
GYA	**Guiyang**	**20.39**	**270**	⇑*i*P	Pn	03 59 15.4	+0.3
GYA				pmax	pmax		
comp=Z,34nm,0.7s							
GYA				LR	LR		
comp=Z,280nm,18.1s							
GUMO	**Guam**	**20.40**	**132**	LR	LR	04 05 54.8	
comp=Z,72nm,19.7s,baz=352,slow=33							
DAV	**Davao City (W)**	**21.38**	**191**	LR	LR	04 08 07.1	
comp=Z,39nm,19.4s,baz=352,slow=38							
LZH	**Lanzhou**	**23.07**	**296**	*e*P	**P**	**03 59 42.7**	**+1.2**
LZH				pP	sP	03 59 53.9	-0.6
LZH				sP	pP	03 59 57.0	+6.5
LZH				pmax	pmax		
comp=Z,22nm,1.2s							
LZH				pmax	pmax		
comp=Z,120nm,4.6s							
LZH				LR	LR		
comp=N,190nm,13.2s							
LZH				LR	LR		
comp=E,150nm,12.9s							
LZH				LR	LR		
comp=Z,150nm,13.6s							
KMI	**Kunming**	**24.12**	**269**	⇑P	**P**	**03 59 52.8**	**+1.0**
KMI				pmax	pmax		
comp=Z,26nm,0.7s							
PZH	**PanZhiHua**	**24.72**	**273**	P	**P**	**03 59 57.3**	**+0.2**
PZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,100nm,4.9s							
ULN	**Ulaanbaatar**	**26.25**	**324**	P	**P**	**04 00 12.6**	**+1.9**
SONM	**Songino Array**	**26.57**	**324**	P	**P**	**04 00 13.9**	**+0.3**
comp=Z,1.2nm,0.8s,baz=133,slow=10.0,SNR=5.4							
SONM				LR	LR	04 10 35.2	
comp=Z,90nm,19.6s,baz=146,slow=36							
comp=Z,1.2nm,0.8s							
SONM	**Songino Array**	**26.57**	**324**	P	**P**	**04 00 14.5**	**+0.8**
GTA	**Gaotai**	**26.98**	**302**	*e*P	**P**	**04 00 20.7**	**+3.3**
GTA				pP	pP	04 00 28.8	+1.8
GTA				sP	sP	04 00 33.1	+2.3
GTA				pmax	pmax		
comp=Z,15nm,0.9s							
GTA				pmax	pmax		
comp=Z,56nm,5.1s							
GTA				LR	LR		
comp=N,110nm,16.0s							
GTA				LR	LR		
comp=E,160nm,16.0s							
GTA				LR	LR		
comp=Z,210nm,16.4s							
CRAI	**Chiangrai**	**27.71**	**260**	P	**P**	**04 00 24.2**	**+0.2**
CRAI				IAmb	IAmb	04 00 25.5	
comp=Z,7.9nm,0.8s							
CHTO	**Chiang Mai**	**29.50**	**258**	P	**P**	**04 00 39.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**29.65**	**258**	P	**P**	**04 00 41.9**	**+0.6**
comp=Z,3.3nm,0.3s,baz=59,slow=7.1,SNR=9.6							
CMAR				LR	LR	04 13 45.0	
comp=Z,60nm,19.4s,baz=80,slow=39							
comp=Z,3.3nm,0.3s							
CMAR	**Chiang Mai Arr**	**29.65**	**258**	P	**P**	**04 00 41.5**	**+0.2**
PETK	**Petropavlovsk-**	**32.39**	**32**	LR	LR	04 14 15.4	
comp=Z,59nm,21.7s,baz=251,slow=36							
SHL	**Shillong**	**33.60**	**274**	P	**P**	**04 01 15.2**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**35.06**	**96**	T	T	04 38 53.9	
baz=290,slow=74,SNR=28							
H11N1	**WAKE ISLAND Hy**	**35.06**	**96**	T	T	04 38 51.5	
baz=290,slow=74,SNR=5.1							
H11N3	**WAKE ISLAND Hy**	**35.07**	**96**	T	T	04 38 52.8	
baz=290,slow=74,SNR=25							
H11S3	**WAKE ISLAND Hy**	**35.34**	**98**	T	T	04 39 08.4	
baz=294,slow=75,SNR=5.1							
H11S1	**WAKE ISLAND Hy**	**35.34**	**98**	T	T	04 39 08.8	
baz=294,slow=75,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**35.35**	**98**	T	T	04 39 11.1	
baz=294,slow=75,SNR=4.8							
WMQ	**Urumqi**	**36.82**	**306**	*e*P	**P**	**04 01 46.3**	**+2.7**
WMQ				LR	LR		
comp=E,130nm,14.9s							
WMQ				LR	LR		
comp=Z,110nm,14.9s							
PSI	**Prapat**	**38.62**	**235**	P	**P**	**04 01 59.4**	**+0.4**
comp=Z,3.7nm,0.7s,baz=0.4,slow=7.4,SNR=4.7							
comp=Z,3.7nm,0.7s							
RPSI	**Rantau Prapat**	**38.69**	**234**	P	**P**	**04 01 60.0**	**+0.5**
RPSI				IAmb	IAmb	04 02 00.8	
comp=Z,4.0nm,0.7s							
RPSI	**Rantau Prapat**	**38.69**	**234**	P	**P**	**04 01 59.4**	**-0.1**
MK31	**Makanchi Array**	**41.11**	**310**	P	**P**	**04 02 19.0**	**-0.3**
MKAR	**Makanchi Array**	**41.11**	**310**	P	**P**	**04 02 18.5**	**-0.8**
comp=Z,1.1nm,0.7s,baz=97,slow=10,SNR=11							
MKAR				PcP	**PcP**	**04 04 17.7**	**-0.7**
comp=Z,0.6nm,0.7s,baz=109,slow=3.1,SNR=3.1							
MKAR				LR	LR	04 21 06.1	
comp=Z,61nm,20.1s,baz=81,slow=39							
comp=Z,1.1nm,0.7s							
ZALV	**Zalesovo Beam**	**41.40**	**321**	P	**P**	**04 02 20.5**	**-1.0**
comp=Z,1.2nm,0.5s,baz=100,slow=8.5,SNR=5.3							
ZALV				PcP	**PcP**	**04 04 18.5**	**-0.7**
comp=Z,0.7nm,0.5s,baz=29,slow=3.3,SNR=2.0							
comp=Z,1.2nm,0.5s							
ZALV	**Zalesovo Beam**	**41.40**	**321**	P	**P**	**04 02 20.1**	**-1.5**
KNRA	**Kununurra**	**43.65**	**181**	P	**P**	**04 02 40.4**	**+0.2**
KNRA				IAmb	IAmb	04 02 43.3	
comp=Z,21nm,1.4s							
TARG	**Taragay, Kyrgy**	**43.85**	**302**	IAmb	IAmb	04 02 46.4	
comp=Z,3.7nm,0.7s							
KURK	**Kurchatov**	**44.20**	**315**	P	**P**	**04 02 43.6**	**-0.7**
KURK				IAmb	IAmb	04 02 43.8	
comp=Z,2.8nm,0.8s							
KURBB	**Kurchatov Arra**	**44.24**	**315**	P	**P**	**04 02 43.2**	**-1.4**
comp=Z,2.1nm,0.8s,baz=101,slow=8.8,SNR=14							
KURBB				PcP	**PP**	**04 04 27.5**	**-0.4**
comp=Z,0.3nm,0.6s,baz=119,slow=3.0,SNR=1.9							
KURBB				LR	LR	04 22 25.9	
comp=Z,120nm,19.6s,baz=94,slow=38							
comp=Z,2.1nm,0.8s							
AAK	**Ala-Archa**	**46.32**	**303**	LR	LR	04 22 46.9	
comp=Z,53nm,18.0s,baz=94,slow=36							
WRA	**Warramunga Arr**	**48.11**	**174**	P	**P**	**04 03 15.5**	**+0.1**
comp=Z,0.7nm,0.5s,baz=353,slow=8.3,SNR=16							
comp=Z,0.7nm,0.5s							
WR0	**Warramunga Arr**	**48.15**	**174**	P	**P**	**04 03 15.1**	**-0.5**
KK31	**Karatay Array**	**49.23**	**304**	P	**P**	**04 03 23.0**	**-0.9**
KK31				IAmb	IAmb	04 03 39.3	
comp=Z,1.9nm,0.7s							
KKAR	**Karatay Array**	**49.23**	**304**	P	**P**	**04 03 23.5**	**-0.4**
BVAR	**Borovoye Array**	**49.58**	**317**	LR	LR	04 26 27.1	
comp=Z,113nm,18.3s,baz=93,slow=39							
GAR	**Garm**	**49.70**	**299**	P	**P**	**04 03 27.6**	**0.0**
GAR				IAmb	IAmb	04 03 28.2	
comp=Z,7.0nm,0.9s							
PALK	**Pallekele**	**50.55**	**255**	LR	LR	04 26 36.0	
comp=Z,49nm,20.0s,baz=169,slow=38							
CHGR	**Chuyangaron**	**50.64**	**298**	P	**P**	**04 03 33.7**	**-1.0**
CTA	**Charters Tower**	**50.68**	**160**	P	**P**	**04 03 36.6**	**+1.6**
comp=Z,2.0nm,0.9s,baz=345,slow=12,SNR=1.5							
comp=Z,2.0nm,0.9s							
KBL	**Kabul**	**51.37**	**293**	P	**P**	**04 03 39.2**	**-1.2**
KBL				IAmb	IAmb	04 03 41.6	
comp=Z,5.8nm,1.1s							
ASAR	**Alice Springs**	**51.77**	**175**	P	**P**	**04 03 45.1**	**+2.0**
comp=Z,0.6nm,0.7s,baz=6.3,slow=13,SNR=22							
ASAR				PcP	**PcP**	**04 04 56.6**	**+0.5**
comp=Z,0.2nm,0.6s,baz=356,slow=3.9,SNR=0.9							
comp=Z,0.6nm,0.7s							
ABKAR	**Akbulak array**	**56.15**	**312**	P	**P**	**04 04 14.0**	**-0.9**
AKTO	**Aktyubinsk**	**57.27**	**314**	LR	LR	04 29 45.9	
comp=Z,66nm,19.6s,baz=82,slow=37							
KIRV	**Kirov**	**61.31**	**324**	P	**P**	**04 04 49.8**	**-0.7**
comp=Z,7.3nm,0.6s,baz=357,slow=1.5,SNR=3.8							
KIRV				LR	LR	04 34 25.6	
comp=Z,95nm,18.0s,baz=55,slow=39							
comp=Z,7.3nm,0.6s							
MDM	**Murphy Dome**	**61.54**	**29**	P	**P**	**04 04 52.8**	**+0.7**
MDM				IAmb	IAmb	04 05 04.3	
comp=Z,3.9nm,0.8s							
ILAR	**Eielson Array**	**62.13**	**29**	P	**P**	**04 04 57.4**	**+1.3**
comp=Z,0.5nm,0.7s,baz=284,slow=8.4,SNR=5.1							
comp=Z,0.5nm,0.7s							
BELG	**Belogornoye**	**63.39**	**317**	LR	LR	04 34 31.9	
comp=Z,68nm,18.6s,baz=165,slow=38							
KBZ	**Khabaz**	**68.80**	**309**	P	**P**	**04 05 38.4**	**-1.1**
comp=Z,3.1nm,0.9s,baz=167,slow=3.5,SNR=4.9							
comp=Z,3.1nm,0.9s							
AFI	**Afiamalu**	**70.56**	**118**	LR	LR	04 30 43.1	
comp=Z,62nm,21.1s,baz=244,slow=30							
FINES	**FINESS Array B**	**71.70**	**331**	P	**P**	**04 05 55.6**	**-1.3**
comp=Z,2.7nm,0.6s,baz=74,slow=6.4,SNR=24							
FINES				LR	LR	04 41 09.8	
comp=Z,59nm,18.8s,baz=13,slow=39							
comp=Z,2.7nm,0.6s							
RAYN	**Ar Rayn**	**74.28**	**288**	P	**P**	**04 06 12.0**	**-0.9**
RAYN				IAmb	IAmb	04 06 14.1	
comp=Z,4.2nm,1.1s							
AKASG	**Malin Array Be**	**74.77**	**320**	P	**P**	**04 06 14.1**	**-1.1**
comp=Z,2.9nm,0.7s,baz=57,slow=6.5,SNR=11							
comp=Z,2.9nm,0.7s							
AKBB	**Malin Array Si**	**74.77**	**320**	P	**P**	**04 06 14.2**	**-1.0**
AKBB				IAmb	IAmb	04 06 14.6	
comp=Z,3.5nm,0.8s							
BR131	**Keskin Array S**	**76.72**	**308**	P	**P**	**04 06 25.8**	**-1.1**
BR131				IAmb	IAmb	04 06 27.2	
comp=Z,4.8nm,0.8s							
BRTR	**Keskin Array B**	**76.72**	**308**	P	**P**	**04 06 26.3**	**-0.5**
comp=Z,2.2nm,0.8s,baz=87,slow=6.6,SNR=14							
comp=Z,2.2nm,0.8s							
BRTR	**Keskin Array B**	**76.72**	**308**	P	**P**	**04 06 25.5**	**-1.3**
HFS	**Hagfors**	**77.59**	**333**	P	**P**	**04 06 29.8**	**-1.3**
comp=Z,2.7nm,0.9s,baz=85,slow=3.3,SNR=5.5							
comp=Z,2.7nm,0.8s							
NB2	**NORSAR Subarra**	**78.03**	**334**	P	**P**	**04 06 31.7**	**-1.9**
comp=Z,0.8nm,0.6s,baz=51,slow=5.3							
NOA	**NORSAR Array B**	**78.03**	**334**	P	**P**	**04 06 31.6**	**-1.9**
comp=Z,1.6nm,0.9s,baz=51,slow=5.4,SNR=5.1							
comp=Z,1.6nm,0.9s							
BURAR	**Bucovina Array**	**78.53**	**318**	P	**P**	**04 06 35.1**	**-1.6**
BURAR				IAmb	IAmb	04 06 37.4	
comp=Z,1.9nm,0.8s							
SANT	**Santorini**	**84.00**	**308**	P	**P**	**04 07 04.9**	**-1.0**
GERES	**GERESS Array B**	**84.30**	**323**	P	**P**	**04 07 06.7**	**-0.5**
comp=Z,0.3nm,0.4s,baz=49,slow=4.1,SNR=4.3							
comp=Z,0.3nm,0.4s							
RYN	**Ryan**	**88.03**	**47**	P	**P**	**04 07 26.9**	**+1.0**
RYN				IAmb	IAmb	04 07 32.7	
comp=Z,5.2nm,1.4s							
NVAR	**Mina Array Bea**	**88.29**	**47**	P	**P**	**04 07 28.6**	**+1.4**
comp=Z,0.6nm,0.8s,baz=264,slow=4.5,SNR=3.7							
comp=Z,0.6nm,0.8s							
PDAR	**Pinedale Array**	**90.88**	**39**	P	**P**	**04 07 40.7**	**+1.4**
comp=Z,0.3nm,0.7s,baz=297,slow=7.0,SNR=2.4							
comp=Z,0.3nm,0.7s							
VNA2	**Neumayer--Watz**	**131.02**	**197**	PKPdf	**PKiKP**	**04 13 47.1**	**+0.2**
baz=57,slow=0.9							

---

*BJI **10** 04:10:02.3±0.0,34.°33N×141.°91E,h10km,mb4.5/25, mB4.7/14,Ms4.0/6,Ms7 3.7/6*
*IDC **10** 04:10:05.1±0.6,34.°43N×141.°56E,h0km,mb4.2/23, mbtmp4.2/24,ML3.3/1,MS3.1/4, Error ellipse: s-maj=15.1km s-min=14.4km az=132.0*
*JMA **10** 04:10:06.1±0.6,34.°N±1.°×14.°2E±.°,h29km±2km,MV3.7/36, FAR SE OFF BOSO PEN*
*NEIC **10** 04:10:07.0±1.2,34.°49N±0.°06×141.°6E±0.°1,h10km±1km, mb4.5/32, Error ellipse: s-maj=15.7km s-min=9.5km az=107.0*
*NIED **10** 04:10:06.1,34.°39N×141.°74E,h29km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.99; Mθθ-0.06; Mφφ-0.93; Mrθ0.15; Mθφ0.24; Mφr0.09; Fault plane solution: M0 1.00000×10¹⁵ NP1: φs157.00000°,δ44.00000°,λ77.00000°. NP2: φs355.00000°,δ47.00000°,λ103.00000°.*

ISC 10 04:10:06.1±1.9,34.°41N±0.°04×141.°74E±0.°06,h12km±11km, n112,σ1ş58/114,mb4.4/45,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.67**	**291**	P	**Pg**	**04 10 19.1**	**+0.1**
BSO3	**Boso 3**	**1.08**	**291**	P	**Pb**	**04 10 26.0**	**-0.6**
BSO4	**Boso 4**	**1.29**	**297**	P	**Pn**	**04 10 29.8**	**-0.1**
JKUC	**kamogawauchiur**	**1.47**	**301**	P	**Pn**	**04 10 32.0**	**-0.4**
JKUC				*e*S	**Sn**	**04 10 50.1**	**-1.5**
CHOJ	**Chosi**	**1.48**	**331**	P	**Pn**	**04 10 31.7**	**-0.8**
CHOJ				S	**Sn**	**04 10 48.3**	**-3.4**
JMKN	**Mikurajimanish**	**1.86**	**254**	P	**Pn**	**04 10 37.1**	**-0.7**
JMKN				S	**Sn**	**04 10 58.8**	**-2.4**
JIM2	**Oshima 3**	**1.93**	**280**	P	**Pn**	**04 10 37.5**	**-1.2**
JHJ2	**Mitsune**	**2.06**	**232**		**Pn**	**04 10 41.1**	**+0.6**
JHJ2	**Mitsune**	**2.06**	**232**	P	**Pn**	**04 10 40.6**	**+0.1**
JHJ2				*e*S	**Sn**	**04 11 05.8**	**-0.4**
JHJ	**Hachijo jima 2**	**2.08**	**232**	Pn	**Pn**	**04 10 40.7**	**-0.1**
103nm,0.3s,baz=125,slow=11,SNR=11							
JHJ				Sn	**Sn**	**04 11 06.8**	**+0.1**
190nm,0.3s,baz=65,slow=24,SNR=16							
JYT	**Yasato**	**2.21**	**326**	Pn	**Pn**	**04 10 42.0**	**-0.6**
JOD2	**Odawara 2**	**2.34**	**292**	P	**Pn**	**04 10 43.2**	**-1.2**
JIZS	**Izushimoda**	**2.38**	**278**	P	**Pn**	**04 10 43.9**	**-1.0**
JMM	**Marumori**	**3.53**	**348**		**Pn**	**04 10 59.6**	**-1.1**
MJAR	**Matsushiro Arr**	**3.58**	**307**	Pn	**Pn**	**04 10 59.4**	**-2.0**
2.7nm,0.3s,baz=138,slow=10,SNR=91							
MJAR				Sn	**Sn**	**04 11 43.7**	**0.0**
1.6nm,0.3s,baz=143,slow=18,SNR=5.4							
17nm,0.4s							
MAJO	**Matsushiro**	**3.58**	**307**		**Pn**	**04 11 01.5**	**0.0**
JGF	**Kuroka**	**3.79**	**289**		**Pn**	**04 11 04.4**	**+0.1**
INU	**Inuyama**	**3.99**	**285**		**Pn**	**04 11 06.9**	**-0.2**
JSD	**Sado**	**4.58**	**323**		**Pn**	**04 11 14.3**	**-0.9**
JCJ	**Chichijima**	**7.30**	**177**	Pn	**Pn**	**04 11 50.7**	**-1.9**
15nm,0.3s,baz=112,slow=20,SNR=3.3							
JCJ				Sn	**Sn**	**04 13 07.4**	**-8.1**
2.3nm,0.3s,baz=302,slow=20,SNR=1.5							
KSRS	**Korea Array**	**11.60**	**289**	Pn	**Pn**	**04 12 54.2**	**+2.7**
0.3nm,0.3s,baz=103,slow=14,SNR=14							
CN2	**Changchun**	**15.72**	**311**	*e*P	**Pn**	**04 13 48.0**	**+0.7**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
KLR	**Kul'dur**	**16.55**	**336**	Pn	**Pn**	**04 13 51.9**	**-6.0**
0.1nm,0.3s,baz=23,slow=16,SNR=2.3							
NJ2	**Nanjing**	**19.28**	**269**	*e*P	**P**	**04 14 30.9**	**+0.2**
NJ2				pmax	pmax		
comp=Z,3.0nm,0.5s							
PETK	**Petropavlovsk-**	**21.87**	**26**	LR	LR	04 24 47.4	
comp=Z,43nm,19.7s,baz=153,slow=40							
XLT	**XiLinHaoTe**	**21.96**	**303**	*e*P	**P**	**04 15 02.5**	**+2.7**
XLT				S	**S**	**04 19 01.0**	**-1.1**
XLT				pmax	pmax		
comp=Z,4.0nm,0.8s							
XLT				pmax	pmax		
comp=Z,140nm,5.4s							
XLT				LR	LR		
comp=E,130nm,10.6s							
XLT				LR	LR		
comp=Z,110nm,14.8s							
HHC	**Hu-ho-hao-te**	**24.67**	**294**	*e*P	**P**	**04 15 27.1**	**+0.2**
HHC				pmax	pmax		
comp=Z,35nm,1.0s							
HHC				pmax	pmax		
comp=Z,95nm,5.1s							
HHC				LR	LR		
comp=N,200nm,16.5s							
HHC				LR	LR		
comp=E,310nm,15.9s							
HHC				LR	LR		
comp=Z,290nm,15.9s							
MA2	**Magadan**	**25.87**	**11**	LR	LR	04 27 54.3	
comp=Z,30nm,19.1s,baz=256,slow=41							
XAN	**Xi'an**	**27.07**	**279**	P	**P**	**04 15 55.2**	**+6.5**
XAN				pmax	pmax		
comp=Z,6.0nm,0.8s							
XAN				LR	LR		
comp=N,100nm,14.3s							
XAN				LR	LR		
comp=E,230nm,14.8s							
XAN				LR	LR

comp=Z,0.9nm,0.6s,baz=78,slow=4.0,SNR=4.1
comp=Z,8.3nm,0.9s

MTN Manton Dam 48.06 194 P **P** **04 18 45.3 -0.3**
PKI Pulchoki 48.25 278 *eP* **P** **04 18 46.1 -1.3**
PKIN Phulchoki 48.26 278 *eP* **P** **04 18 46.3 -1.1**
comp=Z,5.1nm,0.4s
GKN Gorkha 48.71 279 *eP* **P** **04 18 50.2 -0.6**
DANN Dangsing 49.30 280 *eP* **P** **04 18 54.9 -0.5**
comp=Z,42nm,0.7s
TARG Taragay, Kyrgy 49.84 298 P **P** **04 18 59.4 -0.1**
TARG IAmb IAmb 04 19 01.1
comp=Z,4.8nm,0.7s
PYUN Piuthan 50.02 280 *eP* **P** **04 19 00.2 -0.7**
comp=Z,14nm,0.5s
BOOM Boomskoye usch 51.00 300 P **P** **04 19 07.2 -0.9**
KNRA Kununurra 51.32 196 P **P** **04 19 10.6 +0.3**
ILAR Eielson Array 51.58 31 P **P** **04 19 13.1 +1.2**
comp=Z,1.5nm,0.7s,baz=268,slow=6.6,SNR=15
comp=Z,1.5nm,0.7s
ILAR Eielson Array 51.58 31 P **P** **04 19 13.0 +1.2**
BVAR Borovoye Array 52.55 314 P **P** **04 19 19.5 +0.3**
comp=Z,1.3nm,0.5s,baz=96,slow=7.6,SNR=12
BVAR PcP **PcP** **04 20 29.2 -0.3**
comp=Z,1.6nm,0.8s,baz=94,slow=4.3,SNR=5.0
comp=Z,1.3nm,0.5s
BRVK Borovoye 52.61 314 P **P** **04 19 19.8 +0.1**
BRVK IAmb IAmb 04 19 20.8
comp=Z,4.3nm,0.8s
WB0 Warramunga Arr 54.33 189 P **P** **04 19 33.0 +0.4**
WB0 IAmb IAmb 04 19 38.7
comp=Z,5.6nm,0.9s
FITZ Fitzroy Crossi 54.42 199 P **P** **04 19 33.6 +0.4**
FITZ IAmb IAmb 04 19 38.5
comp=Z,6.5nm,1.1s
WB2 Warramunga Arr 54.51 189 P **P** **04 19 34.3 +0.5**
WB2 IAmb IAmb 04 19 51.2
comp=Z,3.8nm,0.9s
WRA Warramunga Arr 54.51 189 P **P** **04 19 34.0 +0.1**
comp=Z,1.9nm,0.5s,baz=1.7,slow=7.5,SNR=60
comp=Z,1.9nm,0.5s
KK31 Karatay Array 54.70 302 P **P** **04 19 35.3 +0.1**
KK31 IAmb IAmb 04 19 36.8
comp=Z,6.6nm,0.8s
KKAR Karatay Array 54.70 302 P **P** **04 19 35.3 +0.1**
KKAR IAmb IAmb 04 19 36.8
comp=Z,6.6nm,0.8s
INK Inuvik 56.60 26 P **P** **04 19 49.5 +1.1**
comp=Z,2.9nm,0.8s,baz=309,slow=5.0,SNR=6.3
comp=Z,2.9nm,0.8s
AS31 Alice Springs 58.24 188 P **P** **04 20 01.5 +1.1**
ASAR Alice Springs 58.24 188 P **P** **04 20 01.1 +0.6**
comp=Z,1.4nm,0.7s,baz=13,slow=9.8,SNR=18
comp=Z,1.4nm,0.7s
ARU Arti 58.51 320 P **P** **04 20 02.2 +0.2**
comp=Z,6.4nm,0.4s,baz=115,slow=5.4,SNR=11
comp=Z,6.4nm,0.4s
ARU Arti 58.51 320 P **P** **04 20 01.8 -0.2**
ABKAR Akbulak array 59.85 311 P **P** **04 20 11.1 -0.3**
AKTO Aktyubinsk 60.64 313 P **P** **04 20 16.2 -0.6**
comp=Z,4.7nm,0.7s,baz=81,slow=12,SNR=13
comp=Z,4.7nm,0.7s
GEYT Alibeck 65.36 300 P **P** **04 20 49.8 +1.3**
comp=Z,1.5nm,0.4s,baz=84,slow=17,SNR=2.5
comp=Z,1.5nm,0.4s
STKA Stephens Creek 65.94 180 P P 04 20 58.8 +6.9
comp=Z,1.5nm,0.5s,baz=352,slow=5.3,SNR=5.2
ARCES ARCESS Array B 66.54 340 P **P** **04 20 55.5 0.0**
comp=Z,3.0nm,0.9s,baz=39,slow=9.7,SNR=3.6
comp=Z,3.0nm,0.9s
FINES FINESS Array B 71.26 333 P **P** **04 21 24.8 -0.1**
comp=Z,2.9nm,0.8s,baz=101,slow=1.9,SNR=7.3
comp=Z,2.9nm,0.8s
KBZ Khabaz 72.82 311 P **P** **04 21 35.1 +0.5**
comp=Z,2.7nm,0.9s,baz=56,slow=11,SNR=5.0
comp=Z,2.7nm,0.9s
BMO Blue Mountains 73.52 47 P **P** **04 21 39.2 +0.3**
BEKR Beckworth 74.23 52 P **P** **04 21 44.8 +1.5**
BEKR IAmb IAmb 04 21 46.0
comp=Z,2.5nm,0.8s
LRM Limekiln Ridge 75.84 44 P **P** **04 21 53.9 +1.4**
GURO Guroymak-BITLI 76.12 307 P **P** **04 21 54.7 +0.6**
GURO IAmb IAmb 04 21 56.1
comp=Z,4.2nm,1.1s
NVAR Mina Array Bea 76.35 53 P **P** **04 21 58.1 +2.5**
comp=Z,1.4nm,0.7s,baz=292,slow=5.6,SNR=17
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 76.35 53 P **P** **04 21 57.2 +1.7**
AKASG Malin Array Be 76.53 323 P **P** **04 21 55.9 -0.1**
comp=Z,0.8nm,0.4s,baz=41,slow=4.1,SNR=8.3
comp=Z,0.8nm,0.4s
NB2 NORSAR Subarra 76.70 338 P **P** **04 21 56.2 -0.7**
comp=Z,0.8nm,0.5s,baz=40,slow=5.6
NOA NORSAR Array B 76.70 339 P **P** **04 21 57.0 +0.1**
comp=Z,1.8nm,0.8s,baz=39,slow=5.7,SNR=8.0
comp=Z,1.8nm,0.8s
MARD Mardin 77.63 307 P **P** **04 22 02.5 -0.2**
DUG Dugway, Tooele 78.87 49 P **P** **04 22 11.5 +2.0**
DUG IAmb IAmb 04 22 12.8
comp=Z,3.9nm,0.9s
PSUT Pine Spring 79.18 51 P **P** **04 22 12.4 +1.1**
PSUT IAmb IAmb 04 22 14.4
comp=Z,4.2nm,1.3s
PDAR Pinedale Array 79.32 45 P **P** **04 22 14.0 +2.0**
comp=Z,0.7nm,0.8s,baz=236,slow=1.6,SNR=7.0
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 79.32 45 P **P** **04 22 12.3 +0.3**
NLU North Lily Min 79.47 49 P **P** **04 22 13.7 +0.8**
NLU IAmb IAmb 04 22 16.1
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 80.79 312 P **P** **04 22 20.1 +0.2**
BR131 IAmb IAmb 04 22 22.8
comp=Z,3.8nm,0.8s
BRTR Keskin Array B 80.79 312 P **P** **04 22 20.6 +0.7**
comp=Z,1.7nm,0.8s,baz=97,slow=4.6,SNR=9.9
comp=Z,1.7nm,0.8s
BRTR Keskin Array B 80.79 312 P **P** **04 22 19.9 +0.1**
RAYN Ar Rayn 81.90 293 P **P** **04 22 25.4 -0.5**
RAYN IAmb IAmb 04 22 27.1
comp=Z,4.0nm,1.0s
PV13 Radium Mtn., P 82.58 49 P **P** **04 22 31.3 +1.8**
GERES GERESS Array B 85.08 329 P **P** **04 22 40.5 -1.4**
comp=Z,0.5nm,0.7s,baz=57,slow=3.6,SNR=4.3
comp=Z,0.5nm,0.7s
EYMN Ely 85.19 33 P **P** **04 22 43.6 +1.2**
EYMN IAmb IAmb 04 22 45.8
comp=Z,7.2nm,1.2s
TXAR Lajitas Array 91.50 53 P **P** **04 23 14.2 +1.2**
comp=Z,0.7nm,0.8s,baz=300,slow=3.1,SNR=8.5
comp=Z,0.7nm,0.8s
H03N2 Juan Fernandez 146.40 100 T T 07 14 33.3
baz=277,slow=74,SNR=36
H03N3 Juan Fernandez 146.41 100 T T 07 14 34.5
baz=277,slow=74,SNR=33
H03N1 Juan Fernandez 146.41 100 T T 07 14 34.3
baz=277,slow=74,SNR=31
LPAZ La Paz 147.71 64 PKPbc **PKiKP** **04 29 53.4 -0.6**
comp=Z,2.0nm,0.6s,baz=339,slow=3.5,SNR=12

*IDC **10** 04:18:26.3±0.6, 29°.22S×61°.14E, h0km, mb4.1/14, mbtmp4.1/15, ML4.6/1, MS3.5/25, Error ellipse: s-maj=22.8km s-min=17.3km az=56.0*
ISC 10 04:18:27.9±0.6, 29°.2S±0°.1×61°.1E±0°.2, h10km, n44, σ0s68/21, mb4.2/14, MS3.6/24, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OPO	**Ambohidratompo**	**16.54**	**307**	Pn		**Pn**	**04 22 19.5**	**-0.8**
	0.2nm,0.3s,baz=121,slow=11,SNR=11							
OPO				Sn		Sn	04 25 06.9	-17
	0.1nm,0.3s,baz=90,slow=17,SNR=2.8							
OPO				LR		LR	04 27 37.8	
	comp=Z,37nm,19.4s,baz=13,slow=33							
	4.3nm,0.4s							
BOSA	**Boshof**	**31.34**	**262**	LR		LR	04 35 21.7	
	comp=Z,62nm,20.2s,baz=110,slow=32							
LBTB	**Lobatse**	**31.82**	**269**	LR		LR	04 35 30.7	
	comp=Z,39nm,19.9s,baz=110,slow=32							
LSZ	**Lusaka**	**33.35**	**287**	LR		LR	04 38 04.1	
	comp=Z,60nm,18.1s,baz=135,slow=35							
SUR	**Sutherland**	**34.64**	**254**	LR		LR	04 36 22.0	
	comp=Z,47nm,19.3s,baz=138,slow=31							
KMBO	**Kilima Mbogo**	**36.01**	**317**	LR		LR	04 38 05.4	
	comp=Z,78nm,18.4s,baz=96,slow=33							
MAW	**Mawson**	**38.46**	**179**	LR		LR	04 38 09.5	
	comp=Z,92nm,20.5s,baz=354,slow=31							
MBAR	**Mbarara**	**40.60**	**309**	LR		LR	04 41 43.7	
	comp=Z,64nm,19.2s,baz=128,slow=34							
TSUM	**Tsumeb**	**40.74**	**274**	LR		LR	04 42 41.7	
	comp=Z,42nm,18.3s,baz=132,slow=36							
PALK	**Pallekele**	**40.86**	**31**	LR		LR	04 39 39.3	
	comp=Z,67nm,18.0s,baz=302,slow=31							
H01W2	**Cape Leeuwin H**	**44.86**	**111**	T		T	05 14 23.0	
	baz=261,slow=75,SNR=9.7							
H01W3	**Cape Leeuwin H**	**44.87**	**111**	T		T	05 14 23.3	
	baz=261,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**44.88**	**111**	T		T	05 14 24.3	
	baz=261,slow=75,SNR=12							
SNAA	**Sanae**	**54.43**	**200**	P		**P**	**04 27 55.5**	**+0.6**
SNAA	**Sanae**	**54.43**	**200**	P		**P**	**04 27 54.7**	**-0.2**
	1.3nm,0.9s,baz=39,slow=4.0,SNR=6.7							
SNAA				LR		LR	04 47 58.5	
	comp=Z,46nm,18.8s,baz=224,slow=33							
	1.3nm,0.9s							
VNA2	**Neumayer--Watz**	**55.70**	**202**	P		**P**	**04 28 03.7**	**-0.4**
	baz=69,slow=6.1							
VNA3	**Neumayer Olymp**	**56.48**	**201**	P		**P**	**04 28 10.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**59.80**	**42**	P		**P**	**04 28 33.8**	**+0.2**
	0.9nm,0.3s,baz=233,slow=7.5,SNR=4.2							
	0.9nm,0.3s							
QSPA	**South Pole Qui**	**60.97**	**180**	P		**P**	**04 28 40.7**	**-0.4**
	1.1nm,0.6s,baz=311,slow=0.9,SNR=9.9							
QSPA				LR		LR	04 52 16.7	
	comp=Z,53nm,18.9s,baz=288,slow=33							
	1.1nm,0.6s							
EIL	**Elat**	**63.64**	**335**	LR		LR	04 53 24.6	
	comp=Z,56nm,19.0s,baz=88,slow=33							
VNDA	**Vanda**	**64.01**	**166**	P		**P**	**04 29 01.1**	**0.0**
	1.0nm,0.9s,baz=292,slow=9.8,SNR=4.0							
VNDA				LR		LR	04 55 05.4	
	comp=Z,60nm,18.8s,baz=272,slow=34							
	1.0nm,0.9s							
ASAR	**Alice Springs**	**64.47**	**104**	P		**P**	**04 29 04.6**	**-0.4**
	1.6nm,0.7s,baz=242,slow=6.1,SNR=20							
	1.6nm,0.7s							
WRA	**Warramunga Arr**	**66.29**	**100**	P		**P**	**04 29 16.9**	**+0.1**
	1.8nm,0.9s,baz=248,slow=5.8,SNR=8.0							
	1.8nm,0.9s							
MMAI	**Mount Meron Ar**	**66.50**	**337**	LR		LR	04 55 11.5	
	comp=Z,36nm,18.9s,baz=318,slow=33							
GNI	**Garni**	**70.65**	**347**	LR		LR	04 58 54.4	
	comp=Z,26nm,19.3s,baz=170,slow=34							
TORD	**Torodi Ar. Bea**	**71.12**	**298**	P		**P**	**04 29 46.8**	**-0.1**
	2.6nm,0.8s,baz=113,slow=5.6,SNR=11							
	2.6nm,0.8s							
BRTR	**Keskin Array B**	**73.18**	**338**	P		**P**	**04 29 58.8**	**-0.2**
	1.1nm,0.9s,baz=154,slow=6.9,SNR=6.1							
	1.1nm,0.9s							
KBZ	**Khabaz**	**74.46**	**346**	LR		LR	05 01 03.2	
	comp=Z,44nm,21.2s,baz=160,slow=34							
KOWA	**Kowa**	**76.39**	**295**	P		**P**	**04 30 18.7**	**+0.8**
	2.6nm,0.8s,baz=309,slow=20,SNR=5.5							
KOWA				LR		LR	05 03 56.5	
	comp=Z,38nm,18.0s,baz=120,slow=36							
	2.6nm,0.8s							
MKAR	**Makanchi Array**	**78.01**	**15**	P		**P**	**04 30 26.6**	**+0.3**
	0.5nm,0.7s,baz=199,slow=6.3,SNR=5.1							
	0.5nm,0.7s							
VAE	**Valguarnera**	**79.46**	**324**	LR		LR	05 07 39.7	
	comp=Z,34nm,18.0s,baz=164,slow=37							
BVAR	**Borovoye Array**	**82.26**	**6**	LR		LR	05 07 51.3	
	comp=Z,18nm,18.1s,baz=225,slow=36							
RPZ	**Rata Peaks**	**83.22**	**137**	LR		LR	04 59 04.5	
	comp=Z,61nm,18.3s,baz=258,slow=29							
AKASG	**Malin Array Be**	**84.40**	**340**	P		**P**	**04 30 59.3**	**-0.7**
	0.4nm,0.4s,baz=169,slow=4.8,SNR=4.1							
	0.4nm,0.4s							
JOW	**Kunigami**	**85.09**	**56**	LR		LR	05 07 35.7	
	comp=Z,27nm,18.3s,baz=168,slow=35							
ZALV	**Zalesovo Beam**	**85.30**	**14**	P		**P**	**04 31 05.1**	**+0.5**
	0.6nm,0.4s,baz=194,slow=5.5,SNR=4.2							
	0.6nm,0.4s							
MDT	**Midelt**	**87.66**	**310**	LR		LR	05 09 35.7	
	comp=Z,35nm,19.8s,baz=156,slow=35							
DAVOX	**Davos/Dischmat**	**88.62**	**328**	P		**P**	**04 31 21.2**	**-0.1**
	1.5nm,0.6s,baz=142,slow=12,SNR=4.4							
	1.5nm,0.6s							
ESDC	**Sonseca Array**	**91.39**	**316**	P		**P**	**04 31 35.8**	**+1.7**
	0.9nm,0.9s,baz=100,slow=2.4,SNR=6.1							
	0.9nm,0.9s							
JCJ	**Chichijima**	**95.66**	**62**	LR		LR	05 08 46.8	
	comp=Z,35nm,19.9s,baz=114,slow=32							
PLCA	**Paso Flores**	**97.26**	**215**	LR		LR	05 08 36.8	
	comp=Z,30nm,18.0s,baz=47,slow=31							
YKA	**Yellowknife Ar**	**146.57**	**356**	PKPbc		**PKPab**	**04 38 09.0**	**-1.0**
	2.7nm,0.9s,baz=346,slow=3.5,SNR=3.2							
ULM	**Lac du Bonnet**	**152.72**	**327**	PKPbc		**PKPbc**	**04 38 23.6**	**-1.0**
	2.7nm,0.7s,baz=40,slow=1.4,SNR=5.3							
PDAR	**Pinedale Array**	**164.51**	**333**	PKP		**PKPdf**	**04 38 32.5**	**+0.3**
	0.6nm,0.9s,baz=144,slow=2.8,SNR=4.6							

*IDC **10** 04:53:31.0±2.0, 1°.40S×77°.49W, h181km±21km, mb3.6/13, mbtmp4.2/18, Error ellipse: s-maj=17.2km s-min=11.3km az=52.0*
*VAO **10** 04:53:31.6±0.3, 1°.51S×77°.62W, h187km, mb4.3*
*NEIC **10** 04:53:31.2±1.8, 1°.60S±0°.06×77°.68W±0°.09, h187km±8km, mb4.3/38, Error ellipse: s-maj=12.7km s-min=8.0km az=76.0*
ISC 10 04:53:30.5±0.4, 1°.54S±0°.05×77°.64W±0°.06, h181km, n118, σ1s11/114, mb4.3/34, 3C, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PORT	**Chimborazo Vol**	**1.14**	**274**			**Pn**	**04 54 01.5**	**+1.4**
SLOR	**San Lorenzo -**	**1.18**	**313**			**Pn**	**04 54 01.8**	**+1.5**
CHSH	**Refugio Sur-Vo**	**1.23**	**272**			**Pn**	**04 54 01.4**	**+0.5**
PULU	**Pululahua**	**1.78**	**331**			**Pn**	**04 54 05.7**	**-0.1**
BOSC	**San Juan Bosco**	**1.82**	**208**	Pn		**Pn**	**04 54 06.6**	**+0.7**
IMBA	**Imbabura, San**	**1.89**	**343**			**Pn**	**04 54 08.8**	**+1.8**
OTAV	**Otavalo**	**1.94**	**335**	Pn		**Pn**	**04 54 08.0**	**+0.4**
OTAV	**Otavalo**	**1.94**	**335**	*eP*		**Pn**	**04 54 07.4**	**-0.1**
TULM	**Tulcn-Chalpat**	**2.25**	**356**			**Pn**	**04 54 12.0**	**+1.1**
ARNL	**Arenillas**	**3.14**	**231**			**Pn**	**04 54 18.5**	**-2.5**
MCRA	**Macar, Loja**	**3.64**	**219**			**Pn**	**04 54 24.7**	**-2.5**
ATAH	**Atahualpa**	**5.61**	**188**	P		**Pn**	**04 54 54.2**	**+1.4**
	128nm,0.4s,baz=22,slow=9.1,SNR=198							
ATAH				S		**Sn**	**04 55 54.6**	**-3.0**
	93nm,0.6s,baz=52,slow=3.1,SNR=5.2							
ROSC	**El Rosal**	**7.15**	**28**	P		**Pn**	**04 55 14.8**	**+1.8**
	9.2nm,0.5s,baz=108,slow=22,SNR=3.6							
ROSC	**El Rosal**	**7.15**	**28**	Pn		**Pn**	**04 55 14.3**	**+1.3**
CZSB	**Cruzeiro do Su**	**7.87**	**142**	Pn		**Pn**	**04 55 22.5**	**+0.3**
CZSB	**Cruzeiro do Su**	**7.87**	**142**	*eP*		**Pn**	**04 55 22.5**	**+0.3**
TBTG	**Tabatinga, AM**	**8.15**	**109**			**Pn**	**04 55 25.3**	**-0.6**
TBTG	**Tabatinga, AM**	**8.15**	**109**	*eP*		**Pn**	**04 55 25.3**	**-0.6**
NNA	**Nana**	**10.41**	**176**	P		**Pn**	**04 55 56.6**	**+1.1**
	4.7nm,0.3s,baz=337,slow=14,SNR=4.4							
NNA				S		Sn	04 57 43.1	-8.3
	9.5nm,0.3s,baz=114,slow=20,SNR=8.2							
SDV	**Santo Domingo**	**12.49**	**34**	P		**Pn**	**04 56 20.8**	**-1.6**
	16nm,0.6s,baz=241,slow=8.0,SNR=9.3							
SDV	**Santo Domingo**	**12.49**	**34**	Pn		**Pn**	**04 56 22.2**	**-0.2**
SDV	**Santo Domingo**	**12.49**	**34**	*eP*		**Pn**	**04 56 23.6**	**+1.1**
CVTR	**Volcan Turrial**	**13.00**	**332**	Pn		**Pn**	**04 56 30.7**	**+1.6**
ETMB	**Extrema**	**14.02**	**126**	Pn		**Pn**	**04 56 39.6**	**-1.9**
BAUV	**El Baul**	**14.14**	**42**	Pn		**Pn**	**04 56 42.6**	**-0.4**
MACA	**Manacapuru-AM**	**17.01**	**96**	P		**P**	**04 57 16.5**	**-0.4**
MACA				IAmb		IAmb	04 57 19.8	
	comp=Z,27nm,0.6s							
MACA	**Manacapuru-AM**	**17.01**	**96**	*eP*		**P**	**04 57 16.3**	**-0.7**
LPAZ	**La Paz**	**17.39**	**148**	P		**Pn**	**04 57 23.4**	**+0.2**
	comp=Z,2.6nm,0.3s,baz=304,slow=4.8,SNR=29							
LPAZ	**La Paz**	**17.39**	**148**			**P**	**04 57 22.4**	**+0.7**
LPAZ	**La Paz**	**17.39**	**148**	*eP*		**P**	**04 57 22.5**	**+0.7**
PCRV	**Puerto La Cruz**	**17.40**	**48**	P		**P**	**04 57 20.3**	**-0.9**
	comp=Z,17nm,1.1s,baz=46,slow=8.7,SNR=2.3							
BOAV	**Boa Vista**	**17.55**	**77**	P		**Pn**	**04 57 23.7**	**-0.8**
BOAV				IAmb		IAmb	04 57 27.1	
	comp=Z,4.8nm,0.7s							
BOAV	**Boa Vista**	**17.55**	**77**	*eP*		**Pn**	**04 57 24.0**	**-0.5**
PB16	**IPOC Station P**	**18.50**	**155**	P		**P**	**04 57 33.9**	**+0.1**
MTO3	**Montecristo**	**19.64**	**324**	P		**P**	**04 57 45.9**	**+0.2**
GO01	**Chusmiza**	**19.82**	**156**	P		**P**	**04 57 49.0**	**+1.0**
VILB	**Vilhena**	**20.66**	**124**	P		**P**	**04 57 55.9**	**-0.6**
VILB				IAmb		IAmb	04 57 58.2	
	comp=Z,8.5nm,0.6s							
VILB	**Vilhena**	**20.66**	**124**	*eP*		**P**	**04 57 57.6**	**+1.2**
PB02	**IPOC Station P**	**21.06**	**160**	P		**P**	**04 58 00.8**	**+0.1**
SDDR	**Presa de Saban**	**21.33**	**17**	P		**P**	**04 58 03.5**	**0.0**
SIV	**San Ignacio**	**21.74**	**132**	P		**P**	**04 58 08.8**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=324,slow=8.9,SNR=11							
	comp=Z,1.2nm,0.3s							
ITTB	**Itaituba**	**22.05**	**98**	*eP*		**P**	**04 58 10.9**	**0.0**
LVC	**Limon Verde**	**22.60**	**159**	P		**P**	**04 58 19.5**	**+3.2**
	comp=Z,2.4nm,0.5s,baz=342,slow=8.5,SNR=3.8							
	comp=Z,2.4nm,0.5s							
LVC	**Limon Verde**	**22.60**	**159**	*eP*		**P**	**04 58 15.7**	**-0.6**
NPGB	**Novo Progresso**	**22.87**	**104**	*eP*		**P**	**04 58 18.5**	**0.0**
PTLB	**Pontes e Lacer**	**22.89**	**128**	P		**P**	**04 58 19.5**	**+0.8**
PTLB				IAmb		IAmb	04 58 21.0	
	comp=Z,2.1nm,0.8s							
PTLB	**Pontes e Lacer**	**22.89**	**128**	*eP*		**P**	**04 58 20.0**	**+1.4**
PDRB	**Porto dos Gac**	**23.03**	**117**	*eP*		**P**	**04 58 20.4**	**+0.4**
MALB	**Monte Alegre**	**23.36**	**91**	*eP*		**P**	**04 58 23.6**	**+0.6**
CLDB	**Colider**	**23.59**	**114**	*eP*		**P**	**04 58 25.7**	**+0.6**
MDP	**Montagnes des**	**25.82**	**75**	P		**P**	**04 58 44.8**	**-0.6**
	comp=Z,7.0nm,0.7s,baz=252,slow=8.5,SNR=12							
	comp=Z,7.0nm,0.7s							
SALV	**Santo Antonio**	**25.91**	**125**	*eP*		**P**	**04 58 46.1**	**0.0**
SNDB	**Serra Nova Dou**	**28.10**	**113**	*eP*		**P**	**04 59 06.5**	**+0.9**
PRPB	**Parauapebas**	**28.13**	**100**	*eP*		**P**	**04 59 06.2**	**+0.2**
AQDB	**Aquidauana**	**28.52**	**133**	*eP*		**P**	**04 59 10.4**	**+1.2**
RPRD	**Ribas do Rio P**	**30.01**	**130**	*eP*		**P**	**04 59 24.9**	**+2.4**
SMTB	**Santa Maria do**	**30.77**	**105**	*eP*		**P**	**04 59 30.0**	**+0.7**
BDFB	**Brasilia**	**32.40**	**117**	P		**P**	**04 59 44.3**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=294,slow=11,SNR=3.8							
	comp=Z,1.3nm,0.4s							
BDFB	**Brasilia**	**32.40**	**117**	*eP*		**P**	**04 59 44.7**	**+1.1**
IPMB	**Ipameri, GO**	**33.19**	**121**	*eP*		**P**	**04 59 50.8**	**+0.4**
ROSB	**Rosrio**	**33.51**	**93**	*eP*		**P**	**04 59 53.4**	**+0.2**
PTGB	**Pitanga**	**33.78**	**135**	*eP*		**P**	**04 59 57.8**	**+2.3**
SDBA	**SAO DESIDERIO**	**34.19**	**110**	*eP*		**P**	**04 59 59.4**	**+0.3**
152A	**Waverly Hall**	**34.68**	**349**	P		**P**	**05 00 02.4**	**-0.5**
152A				IAmb		IAmb	05 00 03.6	
	comp=Z,5.9nm,0.9s							
JANB	**Januaria**	**35.53**	**114**	*eP*		**P**	**05 00 10.2**	**-0.3**
RODS	**Rosario do Sul**	**35.70**	**146**	*eP*		**P**	**05 00 11.3**	**-0.4**
JSC	**Jenkinsville**	**35.79**	**355**	IAmb		IAmb	05 00 13.8	
	comp=Z,6.0nm,0.8s							
HODGE	**Hodges**	**35.85**	**353**	P		**P**	**05 00 12.9**	**0.0**
ALGR	**Alto Alegre (B**	**35.86**	**141**	*eP*		**P**	**05 00 12.1**	**-1.1**
PAULI	**Pauline**	**36.38**	**354**	P		**P**	**05 00 17.7**	**+0.3**
PAULI				IAmb		IAmb	05 00 18.9	
	comp=Z,7.2nm,0.8s							
MC01	**Montes Claros**	**36.42**	**116**	*eP*		**P**	**05 00 18.6**	**+0.5**
VAO	**Valinhos**	**36.62**	**128**	*eP*		**P**	**05 00 20.0**	**+0.3**
KMSC	**Kings Mountain**	**36.65**	**355**	P		**P**	**05 00 19.8**	**0.0**
KMSC				IAmb		IAmb	05 00 21.1	
	comp=Z,8.8nm,1.0s							
DIAM	**Diamantina, MG**	**37.25**	**119**	*eP*		**P**	**05 00 25.2**	**0.0**
T57A	**Hurt**	**38.37**	**358**	IAmb		IAmb	05 00 35.4	
	comp=Z,7.9nm,0.8s							
BLA	**Blacksburg**	**38.64**	**356**	P		**P**	**05 00 37.5**	**+1.0**
BLA				IAmb		IAmb	05 00 38.1	
	comp=Z,6.9nm,0.8s							
LCAR	**Lake Charles**	**39.48**	**343**	P		**P**	**05 00 42.7**	**-0.7**
LCAR				IAmb		IAmb	05 00 43.2	
	comp=Z,6.0nm,0.8s							
TXAR	**Lajitas Array**	**39.53**	**323**	P		**P**	**05 00 45.0**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=145,slow=8.5,SNR=13							
TXAR				PcP		**PcP**	**05 02 49.4**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=157,slow=7.0,SNR=4.1							
	comp=Z,0.4nm,0.6s							
GDU01	**Guandu, BA**	**39.54**	**110**	*eP*		**P**	**05 00 45.0**	**+0.8**
PLCA	**Paso Flores**	**39.54**	**172**	P		**P**	**05 00 44.7**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=343,slow=9.1,SNR=5.6							
	comp=Z,2.0nm,0.9s							
PLCA	**Paso Flores**	**39.54**	**172**	*eP*		**P**	**05 00 46.0**	**+2.1**
R55A	**Marlinton**	**39.69**	**357**	IAmb		IAmb	05 00 53.6	
	comp=Z,7.9nm,0.9s							
CMC01	**Camacan, BA**	**40.03**	**112**	*eP*		**P**	**05 00 49.2**	**+1.1**
SIUC	**Southern Illin**	**40.50**	**346**	IAmb		IAmb	05 00 51.4	
	comp=Z,8.7nm,0.7s							
HHAR	**Hobbs**	**40.58**	**340**	P		**P**	**05 00 52.2**	**-0.3**
HHAR				IAmb		IAmb	05 00 52.6	
	comp=Z,5.6nm,1.0s							
NBLA	**Lagarto - SE**	**40.66**	**105**	*eP*		**P**	**05 00 53.3**	**-0.1**
MGMO	**Mountain Grove**	**40.82**	**342**	P		**P**	**05 00 53.2**	**-1.2**
MGMO				IAmb		IAmb	05 00 54.5	
	comp=Z,7.4nm,0.7s							
P53A	**Whipple**	**40.97**	**356**	IAmb		IAmb	05 00 56.5	
	comp=Z,7.8nm,0.7s							
CCM	**Cathedral Cave**	**41.36**	**344**	P		**P**	**05 00 57.5**	**-1.2**
ACSO	**Alum Creek Sta**	**41.86**	**354**	IAmb		IAmb	05 01 03.5	
	comp=Z,6.9nm,0.8s							
NBAN	**Anadia - AL**	**41.91**	**103**	*eP*		**P**	**05 01 04.1**	**+0.5**
AMTX	**Amarillo**	**42.67**	**330**	P		**P**	**05 01 07.5**	**-2.0**
J59A	**Piesco**	**44.89**	**3**	P		**P**	**05 01 27.1**	**+0.1**
J59A				IAmb		IAmb	05 01 28.7	
	comp=Z,5.8nm,0.8s							
ANMO	**

RIMA	Rio Macho	0.37	0	*e*P	Pb	05 28 17.3	-0.4
LCR2	La Lucha 2	0.37	338	*e*P	Pb	05 28 17.3	-0.5
OCM	Ochomogo	0.51	349	*e*P	Pb	05 28 19.4	-0.8
SRBA	San Rafael, Bu	0.53	108	*e*P	Pb	05 28 19.7	-0.8
RAFA	San Farael, Vo	0.56	6	*e*P	Pb	05 28 20.6	-0.7
SJS	Escuela Geolog	0.57	341	*e*P	Pb	05 28 20.6	-0.8
EDPN	Palmar Norte	0.59	137	*e*P	Pb	05 28 21.3	-0.2
EDPN				*e*S	Sb	05 28 30.4	+0.9
MRVA	Moravia de Chi	0.60	44	*e*P	Pb	05 28 21.0	-0.8
VTCV	VTCV, Calle Va	0.60	13	*e*P	Pb	05 28 21.2	-0.7
VTRT	Volcan Turrial	0.61	7	*e*P	Pb	05 28 21.3	-0.8
DRK0	Durika	0.63	102	*e*P	Pb	05 28 22.4	+0.1
DRK0	Durika	0.63	102	*e*P	Pb	05 28 22.4	+0.1
DRK0				*e*S	Sb	05 28 31.8	+1.0
DRK0	Durika	0.63	102	*e*P	Pb	05 28 22.5	+0.1
EDBA	Buenos Aires	0.63	111	*e*P	Pb	05 28 21.0	-1.2
EDBA				*e*S	Sb	05 28 30.0	-0.7
CVTR	Volcan Turrial	0.63	10	*e*P	Pb	05 28 21.8	-0.8
VTUN	Crater Central	0.63	9	*e*P	Pb	05 28 21.8	-0.8
VTUC	Crater, Volcan	0.64	9	*e*P	Pb	05 28 21.8	-0.8
HDC	Heredia	0.65	338	*e*P	Pb	05 28 21.6	-1.1
HDC	Heredia	0.65	338	*e*P	Pb	05 28 22.0	-0.7
HDC				*e*S	Sb	05 28 31.5	+0.1
HDC3	Heredia 3	0.65	338	*e*P	Pb	05 28 21.9	-0.7
HDC3	Heredia 3	0.65	338	*e*P	Pb	05 28 21.9	-0.7
POTG	Potrero Grande	0.81	115	*e*P	Pb	05 28 24.4	-0.9
BATAN	Batan	0.85	35	*e*P	Pb	05 28 25.2	-0.7
BATAN	Batan	0.85	35	*e*P	Pb	05 28 25.4	-0.6
BATAN				*e*S	Sb	05 28 37.4	+0.5
CRPO	Crater poas	0.87	336	*e*P	Pb	05 28 25.8	-0.7
RIFO	Rio Frio, Sara	0.92	357	*e*P	Pb	05 28 26.1	-1.0
PTJ1	Puerto Jimnez	1.02	147	*e*P	Pb	05 28 26.8	-0.8
EDSV	San Vito	1.05	123	*e*P	Pb	05 28 28.9	-0.5
LAFE	Finca La Fe, P	1.11	292	*e*P	Pn	05 28 30.0	-0.1
LAFE	Finca La Fe, P	1.11	292	*e*P	Pn	05 28 30.1	-0.1
CDITO	Canoas	1.28	130	*e*P	Pn	05 28 30.9	-1.6
CDITO	Canoas	1.28	130	*e*P	Pn	05 28 31.2	-1.3
CDITO				*e*S	Sn	05 28 48.6	-0.5
CCOL	Caracol de Cor	1.32	138	*e*P	Pn	05 28 32.2	-0.9
FORC	Fortuna	1.33	323	*e*P	Pn	05 28 32.9	-0.3
CASO	Castillo	1.34	320	*e*P	Pn	05 28 33.0	-0.5
CEDE	Laguna Cedeo	1.36	323	*e*P	Pn	05 28 33.5	-0.3
CEDE				*e*S	Sb	05 28 52.9	+1.1
CNI2	El Empalme, Bo	1.38	89	*e*P	Pn	05 28 33.1	-0.8
CNI2				*e*S	Sn	05 28 50.5	-1.0
JTS	Las Juntas de	1.39	310	*e*P	Pn	05 28 32.2	-2.0
JTS	Las Juntas de	1.39	310	*e*P	Pn	05 28 33.4	-0.7
JTS				*e*S	Sn	05 28 51.9	0.0
JTS	Las Juntas de	1.39	310	*e*P	Pn	05 28 33.6	-0.5
COVE	Coope Vega, Sa	1.42	338	*e*P	Pn	05 28 34.0	-0.5
BCO2	Palmira	1.48	117	*e*P	Pn	05 28 35.1	-0.4
BCO2				*e*S	Sb	05 28 55.6	+0.3
LNBQ3	Los Naranjos,	1.53	113	*e*P	Pn	05 28 35.3	-0.9
LNBQ3				*e*S	Sn	05 28 55.5	0.0
ACAL	Aguas Claras	1.69	317	*e*P	Pn	05 28 38.5	+0.3
DVD	David	1.69	124	*e*P	Pn	05 28 37.8	-0.4
DVD				*e*S	Sn	05 29 00.0	+0.7
PTEN	Parque Tenorio	1.71	320	*e*P	Pn	05 28 38.9	+0.2
DUNO	Dulce Nombre,	1.74	293	*e*P	Pn	05 28 38.2	-0.7
VERA	Finca Concepci	1.75	326	*e*P	Pn	05 28 39.4	+0.3
CHGR2	Aguacate	1.76	105	*e*P	Pn	05 28 39.3	+0.1
CHGR2				*e*S	Sn	05 29 01.9	+0.9
CUI	Cuipilapa	1.79	315	*e*P	Pn	05 28 40.1	+0.4
COLC	Colonia	1.82	314	*e*P	Pn	05 28 40.6	+0.5
HORNC	Hornillas	1.84	316	*e*P	Pn	05 28 41.1	+0.7
ORTG	Ortega, Santa	1.84	302	*e*P	Pn	05 28 40.4	0.0
GUAB	Guayabo de Bag	1.87	314	*e*P	Pn	05 28 41.4	+0.6
VMAR	Armenia, Volca	1.87	319	*e*P	Pn	05 28 41.6	+0.8
LIM1	Limonal	1.88	314	*e*P	Pn	05 28 41.5	+0.6
SAJU	San Juanillo,	1.94	290	*i*P	Pn	05 28 41.1	-0.5
GPS2	Hotel Rincn d	1.99	313	*e*P	Pn	05 28 43.7	+1.3
GPS3	Bodega del ICE	2.00	313	*e*P	Pn	05 28 43.7	+1.2
GPS1	Guardaparques	2.00	313	*e*P	Pn	05 28 43.8	+1.2
VRLE	La Escondida,	2.02	313	*e*P	Pn	05 28 43.9	+1.0
LAPC	Finca la Perla	2.06	312	*e*P	Pn	05 28 43.8	+0.5
BUEV	Buena Vista	2.06	313	*e*P	Pn	05 28 44.1	+0.7
BUAI	Buenos Aires	2.06	316	*e*P	Pn	05 28 44.4	+1.0
GB1A	Borinquen Arri	2.07	313	*e*P	Pn	05 28 44.3	+0.8
GBS3	Finca Las Img	2.09	312	*e*P	Pn	05 28 44.6	+1.0
HZTE	Horizontes, Gu	2.15	308	*e*P	Pn	05 28 46.2	+1.6
ACON	Acoyapa	2.86	333	*e*P	Pn	05 28 54.9	+0.5
BOAB	BOACO BROADBAN	3.51	330	*e*P	Pn	05 29 03.7	+0.4
PNME	Penonome	3.61	104	*i*P	Pn	05 29 05.5	+0.8
AZU	Azuero	3.89	114	*e*P	Pn	05 29 10.4	+1.8
AZU				*e*S	Sn	05 29 57.0	+3.4
BCIP	Isla Barro Col	3.98	93	*e*P	Pn	05 29 10.1	+0.3
BCIP				*e*S	Sn	05 29 55.5	-0.4
BCIP	Isla Barro Col	3.98	93	*e*P	Pn	05 29 09.8	+0.1
UPA	Univ. de Panam	4.30	95	*i*P	Pn	05 29 14.8	+0.8
UPA				*e*S	Sn	05 30 01.7	-2.0

WEL 10 05:55:36.6±1.1,37°S±5°×17°9E±°, h17km±8km, M3.3/25, ML3.5/34, MLv3.3/25, Error ellipse: s-maj=0.0km s-min=0.0km az=102.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	0.81	233	P	Pb	05 55 51.5	-0.7
MXZ				S	Sb	05 56 01.5	-1.2
WMGZ	**Waiomatatini S**	0.93	217	P	Pn	05 55 55.1	+0.3
WMGZ				S	Sn	05 56 08.7	+1.0
PKGZ	**Pakihiroa**	1.16	226	P	Pb	05 55 58.3	+0.1
PKGZ				S	Sn	05 56 13.6	+0.1
PUZ	**Puketiti**	1.20	215	P	Pn	05 55 58.4	-0.2
PUZ				S	Sg	05 56 15.7	+0.1
HAZ	**Te Kaha**	1.26	237	P	Pn	05 55 58.3	-1.1
TWGZ	**Tauwhareparae**	1.42	219	P	Pb	05 56 02.4	-0.3
TWGZ				S	Sg	05 56 21.4	-1.0
RUGZ	**Raukumara Rang**	1.45	232	P	Pb	05 56 02.7	-0.4
RUGZ				S	Sb	05 56 21.7	+0.4
CNGZ	**Carnagh Statio**	1.57	207	P	Pb	05 56 04.6	-0.7
TKGZ	**Te Karaka**	1.69	216	P	Pn	05 56 05.4	+0.1
MWZ	**Matawai**	1.78	225	P	Pn	05 56 06.8	+0.2
MWZ				S	Sn	05 56 28.6	-0.1
WHRZ	**Whale Island**	1.87	245	P	Pn	05 56 08.5	+0.7
RIGZ	**Rimuhau**	1.94	213	P	Pn	05 56 08.7	-0.1
URZ	**Urewera**	1.98	233	P	Pn	05 56 09.4	+0.1
URZ				S	Sn	05 56 33.2	-0.5
PRGZ	**Paritu Road**	2.08	208	P	Pn	05 56 10.8	+0.1
EDRZ	**Edgecumbe**	2.15	241	P	Pn	05 56 12.0	+0.3
SNGZ	**Shannon Statio**	2.20	219	P	Pn	05 56 13.4	+1.0
MHGZ	**Mahia Peninsul**	2.28	204	P	Pn	05 56 13.1	-0.3
MUGZ	**Murupara**	2.32	233	P	Pn	05 56 14.2	+0.1
TGRZ	**Tauranga**	2.37	253	P	Pn	05 56 14.3	-0.4
MTHZ	**Maungataniwha**	2.52	225	P	Pn	05 56 16.9	+0.1
MTHZ				S	Sn	05 56 47.5	+0.4
KMRZ	**Kaimai**	2.64	252	P	Pn	05 56 18.3	-0.2
ALRZ	**Allen Road**	2.65	235	P	Pn	05 56 18.5	0.0
NMHZ	**Naumai**	2.72	222	P	Pn	05 56 19.4	-0.1
KUZ	**Kuaotunu**	2.75	276	P	Pn	05 56 18.2	-1.6
BKZ	**Black Stump Fm**	2.94	224	P	Pn	05 56 22.0	-0.5
TOZ	**Tahuroa Road**	2.95	256	P	Pn	05 56 22.6	0.0
KUTZ	**Kaahu Road**	2.96	241	P	Pn	05 56 23.5	+0.6
MCHZ	**McNeill Hill**	3.03	218	P	Pn	05 56 23.0	-0.7
KWHZ	**Kaweka Forest**	3.16	221	P	Pn	05 56 25.1	-0.4
MKAZ	**Moumakai**	3.17	268	P	Pn	05 56 24.8	-0.8
WIAZ	**Waiheke Island**	3.21	274	P	Pn	05 56 26.2	0.0
KAHZ	**Kahuranaki**	3.23	212	P	Pn	05 56 24.9	-1.6
KRHZ	**Kereru**	3.35	219	P	Pn	05 56 27.0	-1.1
ETAZ	**East Tamaki Re**	3.36	271	P	Pn	05 56 29.0	+0.8
MBAZ	**Motutapu North**	3.40	274	P	Pn	05 56 29.6	+0.8
BHHZ	**Black Hill Sta**	3.40	224	P	Pn	05 56 28.1	-0.8
OTVZ	**Oturere**	3.43	232	P	Pn	05 56 29.0	-0.4
SNVZ	**South Ngauruho**	3.46	232	P	Pn	05 56 29.2	-0.6
TWVZ	**Taurewa**	3.52	235	P	Pn	05 56 30.8	+0.3
MOVZ	**Moawhango**	3.52	228	P	Pn	05 56 29.7	-0.9
WNVZ	**Wahianoa**	3.57	230	P	Pn	05 56 29.9	-1.4
PNHZ	**Pukenui**	3.64	218	P	Pn	05 56 29.9	-2.2
RVAZ	**Riverhead Bore**	3.65	274	P	Pn	05 56 35.0	+2.7
HIZ	**Hauiti**	3.67	246	P	Pn	05 56 33.6	+1.1
MRZ	**Mangatainoka R**	4.52	217	P	Pn	05 56 41.7	-2.4
OUZ	**Omahuta**	4.84	291	P	Pn	05 56 48.8	+0.2
WEL	**Wellington**	5.39	218	P	Pn	05 56 54.1	-2.0

*IDC **10** 05:55:53.9±2.3,5.°80S×147.°19E, h199km±19km, mb3.4/3, mbtmp3.9/5, Error ellipse: s-maj=41.2km s-min=20.4km az=116.0*

ISC 10 05:55:53.2±1.9,5.°8S±0.°2×147.°3E±0.°2, h200km, n6, σ0°90/9, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.63	182	P	Pn	05 56 50.4	-0.1
PMG	32nm,0.2s,baz=0.0,slow=13,SNR=31			S	Sn	05 57 35.2	-0.4
WRA	13nm,0.4s,baz=32,slow=23,SNR=1.5 **Warramunga Arr**	18.90	221	P	P	05 59 59.5	+0.5
WRA	0.9nm,0.3s,baz=38,slow=12,SNR=45			S	S	06 03 21.9	-1.2
ASAR	0.8nm,1.0s,baz=47,slow=20,SNR=5.3 **Alice Springs**	21.98	215	P	P	06 00 32.6	+1.2
ASAR	1.5nm,0.6s,baz=48,slow=9.2,SNR=13			S	S	06 04 20.0	+0.4
FITZ	0.2nm,0.7s,baz=31,slow=16,SNR=2.0 1.5nm,0.6s **Fitzroy Crossi**	24.43	238	P	P	06 00 53.6	-0.1
QSPA	3.4nm,0.5s,baz=60,slow=9.2,SNR=18 3.4nm,0.5s **South Pole Qui**	84.22	180	P	P	06 08 02.3	+0.3
TORD	0.5nm,0.5s,baz=344,slow=3.0,SNR=2.4 0.5nm,0.5s **Torodi Ar. Bea**	145.29	285	PKPbc	PKPdf	06 15 07.0	-1.1
	0.2nm,0.5s,baz=60,slow=4.6,SNR=1.6						

MAN 10 06:00:34.0, 8.°42N×126.°05E, h28km, mb4.1, ML2.9, MS2.5, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	0.25	278	*i*P	Pb	06 00 38.1	-2.4
TASP				*i*S	Sb	06 00 42.0	-2.9
BIPH	**Bislig**	0.38	127	*i*P	Pb	06 00 43.0	+0.6
BIPH				*i*S	Sn	06 00 51.3	+1.2
CDOP	**Cateel, Davao**	0.74	149	*e*P	Pb	06 00 48.1	-0.1
CDOP				*i*S	Sn	06 00 59.7	+0.9
CGP	**Cagayan de Oro**	1.35	272	*e*P	Pn	06 00 56.2	-0.7
CGP				*e*S	Sn	06 01 13.9	+0.1
KCP	**Kidapawan**	1.69	214	*i*P	Pn	06 01 02.0	+0.2
KCP				*i*S	Sb	06 01 24.0	-1.4

*NEIC **10** 06:24:10.0±1.2,59.°86N±0.°03×152.°95W±0.°06, h106km±3km, Error ellipse: s-maj=4.9km s-min=4.7km az=130.0*
*ANF **10** 06:24:10.4±0.1,59.°86N×152.°93W, h98km±2km, ML3.9/67, Error ellipse: s-maj=1.3km s-min=1.2km az=147.0*
*AEIC **10** 06:24:11.4±1.2,59.°86N±0.°03×152.°93W±0.°06, h99km±3km, ML3.8/200, ML4.0/130(NEIC), Error ellipse: s-maj=4.7km s-min=4.4km az=116.0*
*IDC **10** 06:24:12.3±6.0,60.°26N×153.°06W, h104km±51km, mb3.5/4, mbtmp3.9/6, Error ellipse: s-maj=54.9km s-min=33.8km az=166.0*

ISC 10 06:24:10.4±0.7,59.°86N±0.°03×152.°92W±0.°03, h105km±5km, n379, σ0°75/385, mb3.8/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	0.12	323		Pn	06 24 24.7	-0.5
ILS					Sn	06 24 35.5	-0.7
IVE	**Iliamna Volcan**	0.16	343		Pn	06 24 24.6	-0.6
IVE					Sn	06 24 35.8	-0.5
ILSW	**Iliamna Southw**	0.16	318	IAML		06 24 17.9	
ILSW	comp=E,22nm,3.9s **Iliamna Southw**	0.16	318		Pn	06 24 24.5	-0.8
ILSW					Sn	06 24 35.5	-0.9
OPT	**Oil Point**	0.26	217		Pn	06 24 25.2	-0.3
P19K	**Oil Pt**	0.26	217		Pn	06 24 25.2	-0.3
P19K	**Oil Pt**	0.26	217		Sn	06 24 36.1	-0.6
P19K	**Oil Pt**	0.26	217	IAML		06 24 25.5	
P19K	comp=E,407nm,0.6s			IAML		06 24 25.8	
P19K	comp=N,729nm,0.2s **Oil Pt**	0.26	217	P	Pn	06 24 25.2	-0.3
P19K	baz=36,SNR=92			S	Sn	06 24 36.2	-0.6
O20K	baz=36 **Slope Mountain**	0.27	34		Pn	06 24 25.3	-0.2
O20K					Sn	06 24 36.7	-0.2
O20K	**Slope Mountain**	0.27	34	P	Pn	06 24 25.4	-0.2
O20K	baz=215,SNR=192			S	Sn	06 24 36.6	-0.2
AU22	baz=215 **Augustine Moun**	0.54	204		Pn	06 24 26.8	-0.2
AU22					Sn	06 24 38.9	-0.5
AUL	**Augustine Lava**	0.55	209		Pn	06 24 26.9	-0.2
AUL					Sn	06 24 39.3	-0.3
RED	**Redoubt Volcan**	0.56	8		Pn	06 24 26.9	-0.4
RED					Sn	06 24 39.1	-0.8
AUH	**Augustine H**	0.57	208		Pn	06 24 27.3	0.0
AUCH	**Augustine Cone**	0.57	208		Pn	06 24 27.3	0.0
AUQ	**Augustine Qik'**	0.57	206		Pn	06 24 27.0	-0.2
RSO	**Redoubt South**	0.61	8		Pn	06 24 26.9	-0.9
RDWB	**Redoubt West**	0.63	4		Pn	06 24 27.4	-0.5
HOM	**Homer**	0.68	107		Pn	06 24 28.2	+0.1
HOM					Sn	06 24 41.5	+0.2
HOM	**Homer**	0.68	107	IAML		06 24 43.0	
HOM	comp=E,10µm,0.5s			IAML		06 24 43.0	
HOM	comp=N,9µm,0.5s **Homer**	0.68	107	P	Pn	06 24 28.3	+0.2
HOM	baz=288,SNR=9.2			S	Sn	06 24 41.5	+0.2
RDJH	baz=288 **Redoubt Jeurge**	0.73	5		Pn	06 24 28.4	-0.3
DFR	**Drift River**	0.74	9		Pn	06 24 28.4	-0.3
O19K	**Port Alsworth**	0.78	296		Pn	06 24 28.7	-0.3
O19K					Sn	06 24 42.2	-0.7
O19K	**Port Alsworth**	0.78	296	IAML		06 24 43.4	
O19K	comp=N,12µm,0.4s **Port Alsworth**	0.78	296	P	Pn	06 24 28.6	-0.3
O19K	baz=115			S	Sn	06 24 42.2	-0.7
CNPM	baz=115 **China Poot**	0.92	111		Pn	06 24 30.1	-0.2
CNPM					Sn	06 24 44.7	-0.7
CNPM	**China Poot**	0.92	111	IAML		06 24 45.4	
CNPM	comp=N,6µm,0.6s			IAML		06 24 45.5	
Q19K	comp=E,6µm,0.5s **Cape Douglas,**	1.01	202		Pn	06 24 30.8	-0.5
Q19K	**Cape Douglas,**	1.01	202	P	Pn	06 24 30.8	-0.5
Q19K	baz=21,SNR=16			S	Sn	06 24 46.2	-0.8
BRLK	baz=21 **Bradley Lake**	1.03	95		Pn	06 24 31.2	-0.4
BRLK					Sn	06 24 46.7	-0.9
BRLK	**Bradley Lake**	1.03	95	IAML		06 24 47.7	
BRLK	comp=N,3µm,0.8s			IAML		06 24 48.4	
BRSE	comp=E,3µm,0.6s **Bradley Lake S**	1.11	95		Pn	06 24 32.0	-0.4
BRSE	**Bradley Lake S**	1.11	95	P	Pn	06 24 32.1	-0.4
BRSE	baz=277,SNR=32			S	Sn	06 24 48.2	-0.8
O18K	baz=277 **Koktuh Hills**	1.15	271		Pn	06 24 32.6	-0.3
O18K					Sn	06 24 48.9	-0.9
O18K	**Koktuh Hills**	1.15	271	IAML		06 24 49.6	
O18K	comp=N,2µm,0.8s			IAML		06 24 49.6	
O18K	comp=E,1µm,0.8s **Koktuh Hills**	1.15	271	P	Pn	06 24 32.6	-0.3
O18K	baz=88			S	Sn	06 24 48.9	-0.9
N19K	baz=88 **Bonanza Creek**	1.23	322		Pn	06 24 33.7	-0.1
N19K					Sn	06 24 50.4	-1.1
N19K	**Bonanza Creek**	1.23	322	IAML		06 24 51.2	
N19K	comp=E,1µm,0.8s **Bonanza Creek**	1.23	322	P	Pn	06 24 33.7	-0.1
N19K	baz=140,SNR=112			S	Sn	06 24 50.6	-0.9
P18K	baz=140 **Big Mountain,**	1.26	249		Pn	06 24 33.5	-0.7
P18K					Sn	06 24 50.6	-1.5
P18K	**Big Mountain,**	1.26	249	P	Pn	06 24 33.5	-0.7
P18K	baz=67			S	Sn	06 24 50.6	-1.5
CAPN	baz=67 **Captain Cook N**	1.27	43		Pn	06 24 35.8	+1.7
CAPN	**Captain Cook N**	1.27	43	P	Pn	06 24 35.7	+1.7
Q20K	baz=225 **Shuyak Island**	1.29	168	P	Pn	06 24 34.3	0.0
Q20K	baz=348,SNR=33			S	Sn	06 24 52.1	-0.4
SYI	baz=348 **Shuyak Island**	1.29	167		Pn	06 24 34.2	-0.2
CKL	**Chakachamna La**	1.37	12		Pn	06 24 35.5	+0.1
N20K	**Mount Spurr**	1.39	14	P	Pn	06 24 35.6	0.0
N20K	baz=195,SNR=119			S	Sn	06 24 54.2	-0.5
SPCR	baz=195 **Spurr Chakacha**	1.39	14		Pn	06 24 35.6	-0.1
SPCR					Sn	06 24 54.3	-0.4
SPCR	**Spurr Chakacha**	1.39	14	P	Pn	06 24 35.6	-0.1
SPCR	baz=195,SNR=71			S	Sn	06 24 54.5	-0.2
SPU	baz=195 **Mount Spurr**	1.39	18		Pn	06 24 35.2	-0.5
SPCP	**Crater Peak Br**	1.46	15		Pn	06 24 36.7	+0.1
KAPH	**Katmai Pasha**	1.47	211		Pn	06 24 36.7	+0.1
KAHG	**Katmai Hook Gl**	1.61	212		Pn	06 24 38.4	+0.1
KAHC	**Katmai Hardscr**	1.62	222		Pn	06 24 38.4	-0.1
N18K	**Kilae Creek**	1.69	300		Pn	06 24 39.0	-0.3
N18K					Sn	06 24 59.9	-1.3
N18K	**Kilae Creek**	1.69	300	IAML		06 25 01.0	
N18K	comp=E,580nm,0.9s **Kilae Creek**	1.69	300	P	Pn	06 24 39.0	-0.3
N18K	baz=118,SNR=160			S	Sn	06 24 60.0	-1.3
O22K	baz=118 **Cooper Landing**	1.71	67		Pn	06 24 39.4	-0.1
O22K	**Cooper Landing**	1.71	67	P	Pn	06 24 39.5	-0.1
O22K	baz=250,SNR=26			S	Sn	06 25 00.5	-1.1
STLK	baz=250 **Strandline Lak**	1.73	18		Pn	06 24 39.9	+0.1
SEW	**Seward**	1.76	81		Pn	06 24 39.5	-0.6
SEW	**Seward**	1.76	81	P	Pn	06 24 39.7	-0.3
SEW	baz=264,SNR=20			S	Sn	06 25 01.2	-1.5
SVW2	baz=264 **Sparrevohn**	1.81	314		Pn	06 24 40.4	-0.3
SVW2					Sn	06 25 02.6	-1.2
SVW2	**Sparrevohn**	1.81	314	IAML		06 25 03.7	
P17K	comp=E,547nm,1.0s **Kvichak River**	1.91	251		Pn	06 24 42.0	+0.1
P17K	**Kvichak River**	1.91	251	P	Pn	06 24 42.1	+0.1
KAKN	baz=68 **Katmai Knife C**	1.92	216		Pn	06 24 42.1	-0.2
KCG	**Knife Ck. Glac**	1.93	217		Pn	06 24 42.3	+0.1
SUA	**Susitna One**	1.93	33		Pn	06 24 42.8	+0.4
SUA	**Susitna One**	1.93	33	IAML		06 25 08.2	
SUA	comp=E,2µm,0.7s			IAML		06 25 09.8	
SUA	comp=N,2µm,0.8s **Susitna One**	1.93	33	P	Pn	06 24 42.7	+0.4
SUA	baz=215,SNR=33			S	Sn	06 25 07.0	+0.3
RC01	baz=215 **Rabbit Creek A**	2.00	51		Pn	06 24 43.2	+0.1
RC01					Sn	06 25 07.3	-0.9
RC01	**Rabbit Creek A**	2.00	51	P	Pn	06 24 43.2	+0.1
RC01	baz=234,SNR=21			S	Sn	06 25 07.7	-0.5
M20K	baz=234 **Styx River**	2.03	357		Pn	06 24 43.9	+0.3
M20K	**Styx River**	2.03	357	P	Pn	06 24 43.9	+0.3
M20K	baz=177,SNR=58			S	Sn	06 25 08.8	-0.2
KELA	baz=177 **Mount Kelaz**	2.04	227		Pn	06 24 43.6	-0.1
KDAK	**Kodiak Island**	2.09	175		Pn	06 24 43.1	-1.2
KDAK	**Kodiak Island**	2.09	175	IAML		06 25 10.4	
KDAK	comp=N,685nm,0.5s			IAML		06 25 10.5	
KDAK	comp=N,398nm,0.5s **Kodiak Island**	2.09	175	P	Pn	06 24 43.2	-1.2
KDAK	baz=355			S	Sn	06 25 09.2	-1.1
O17K	baz=355 **Koliganek Bris**	2.11	269		Pn	06 24 44.3	-0.2
O17K	**Koliganek Bris**	2.11	269	P	Pn	06 24 44.3	-0.2
M19K	baz=86 **Big River Lodg**	2.17	341		Pn	06 24 45.4	0.0
M19K	**Big River Lodg**	2.17	341	P	Pn	06 24 45.4	0.0
M19K	baz=160,SNR=91			S	Sn	06 25 11.5	-0.6
SKT	baz=160 **Skwentna**	2.23	17		Pn	06 24 46.0	-0.1
SKT	**Skwentna**	2.23	17	P	Pn	06 24 46.1	-0.1
Q16K	baz=198,SNR=27 **King Salmon**	2.25	240		Pn	06 24 46.6	+0.2
Q16K	**King Salmon**	2.25	240	P	Pn	06 24 46.6	+0.2
M22K	baz=56,SNR=30 **Willow**	2.34	35		Pn	06 24 48.0	+0.5
M22K	**Willow**	2.34	35	P	Pn	06 24 48.0	+0.5
M22K	baz=217			S	Sn	06 25 16.3	+0.4
PWL	baz=217 **Port Wells**	2.49	64		Pn	06 24 48.4	-1.0
PWL	**Port Wells**	2.49	64	P	Pn	06 24 48.5	-1.0
PWL	baz=248,SNR=12			S	Sn	06 25 18.0	-1.5
L19K	baz=248 **White Mountain**	2.51	339		Pn	06 24 49.6	-0.1
L19K	**White Mountain**	2.51	339	P	Pn	06 24 49.7	-0.1
L19K	baz=157,SNR=39			S	Sn	06 25 19.2	-0.8
PMR	baz=157 **Palmer**	2.55	45		Pn	06 24 49.3	-0.9
PMR	**Palmer**	2.55	45	IAML		06 25 20.2	
PMR	comp=E,460nm,0.4s			IAML		06 25 21.1	
PMR	comp=N,477nm,0.3s **Palmer**	2.55	45	P	Pn	06 24 49.3	-0.9
O16K	baz=229,SNR=47 **Kokwok River B**	2.63	266		Pn	06 24 51.3	-0.1
O16K	**Kokwok River B**	2.63	266	P	Pn	06 24 51.2	-0.1
OHAK	baz=82,SNR=18 **Old Harbor**	2.66	184		Pn	06 24 50.4	-1.3
OHAK	**Old Harbor**	2.66	184	IAML		06 25 22.6	
OHAK	comp=N,212nm,0.5s			IAML		06 25 22.7	
OHAK	comp=E,221nm,0.6s **Old Harbor**	2.

M23K	**Glacier View**	**3.20**	**50**	P		**Pn**	**06 24 58.1**	**-0.8**
	baz=235							
FID	**Port Fidalgo**	**3.33**	**72**			**Pn**	**06 24 58.5**	**-2.1**
Q23K	**Middleton Isla**	**3.37**	**95**			**Pn**	**06 25 00.6**	**-0.5**
Q23K						**Sn**	**06 25 39.9**	**-0.3**
Q23K	**Middleton Isla**	**3.37**	**95**	IAML			06 25 41.2	
	comp=N,565nm,0.5s							
Q23K				IAML			06 25 54.4	
	comp=E,420nm,2.4s							
Q23K	**Middleton Isla**	**3.37**	**95**	P		**Pn**	**06 25 00.6**	**-0.5**
	baz=280							
MID	**Middleton Isla**	**3.37**	**95**			**Pn**	**06 25 00.6**	**-0.5**
MID						**Sn**	**06 25 39.9**	**-0.4**
MID	**Middleton Isla**	**3.37**	**95**	IAML			06 25 41.1	
	comp=N,589nm,0.4s							
MID				IAML			06 25 54.4	
	comp=E,444nm,2.4s							
SCM	**Sheep Creek Mo**	**3.38**	**52**			**Pn**	**06 25 00.5**	**-0.8**
SCM	**Sheep Creek Mo**	**3.38**	**52**	IAML			06 25 43.8	
	comp=N,459nm,0.9s							
SCM				IAML			06 25 44.3	
	comp=E,487nm,0.7s							
SCM	**Sheep Creek Mo**	**3.38**	**52**	P		**Pn**	**06 25 00.6**	**-0.7**
	baz=237,SNR=12							
SII	**Sitkinak Islan**	**3.38**	**192**	Pn		**Pn**	**06 25 00.1**	**-1.2**
SII				IAML			06 25 39.9	
	comp=N,336nm,0.7s							
SII				IAML			06 25 52.8	
	comp=E,460nm,0.8s							
SII	**Sitkinak Islan**	**3.38**	**192**	P		**Pn**	**06 24 60.0**	**-1.4**
	baz=11							
TT01	**Tatalina**	**3.40**	**335**			**Pn**	**06 25 01.2**	**-0.3**
TTA	**Tatalina**	**3.42**	**336**			**Pn**	**06 25 01.5**	**-0.4**
TTA	**Tatalina**	**3.42**	**336**	P		**Pn**	**06 25 01.4**	**-0.4**
	baz=153							
K20K	**Telida**	**3.55**	**352**			**Pn**	**06 25 03.8**	**+0.2**
K20K	**Telida**	**3.55**	**352**	P		**Pn**	**06 25 03.7**	**+0.1**
	baz=171,SNR=29							
WAT7	**Susitna Watana**	**3.57**	**32**			**Pn**	**06 25 03.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.65**	**76**			**Pn**	**06 25 03.6**	**-1.2**
EYAK	**Cordova Ski Ar**	**3.65**	**76**	P		**Pn**	**06 25 03.7**	**-1.2**
	baz=262,SNR=9.5							
WAT1	**Susitna Watana**	**3.65**	**33**			**Pn**	**06 25 04.5**	**-0.4**
WAT1	**Susitna Watana**	**3.65**	**33**	P		**Pn**	**06 25 04.7**	**-0.2**
	baz=217							
WAT6	**Susitna Watana**	**3.70**	**40**			**Pn**	**06 25 05.1**	**-0.7**
WAT6	**Susitna Watana**	**3.70**	**40**	P		**Pn**	**06 25 05.2**	**-0.5**
	baz=225,SNR=39							
DIV	**Divide**	**3.76**	**67**			**Pn**	**06 25 05.6**	**-0.8**
KLU	**Klutina**	**3.81**	**62**			**Pn**	**06 25 06.0**	**-1.1**
KLU	**Klutina**	**3.81**	**62**	IAML			06 25 52.1	
	comp=E,310nm,0.4s							
KLU	**Klutina**	**3.81**	**62**	P		**Pn**	**06 25 05.9**	**-1.1**
	baz=248,SNR=28							
TRF	**Thorofare Moun**	**3.81**	**18**			**Pn**	**06 25 07.4**	**+0.1**
TRF	**Thorofare Moun**	**3.81**	**18**	IAML			06 25 54.0	
	comp=N,159nm,0.6s							
TRF				IAML			06 25 54.7	
	comp=E,122nm,0.5s							
TRF	**Thorofare Moun**	**3.81**	**18**	P		**Pn**	**06 25 06.7**	**-0.5**
	baz=200,SNR=30							
M24K	**Tolsona, Glenn**	**3.98**	**53**			**Pn**	**06 25 09.0**	**-0.5**
M24K	**Tolsona, Glenn**	**3.98**	**53**	P		**Pn**	**06 25 09.2**	**-0.3**
	baz=239,SNR=22							
RND	**Reindeer**	**4.05**	**27**			**Pn**	**06 25 10.2**	**-0.2**
RND	**Reindeer**	**4.05**	**27**	IAML			06 25 58.0	
	comp=N,94nm,1.0s							
RND				IAML			06 26 03.4	
	comp=E,98nm,0.7s							
GOAT	**Goat Mountain**	**4.15**	**76**			**Pn**	**06 25 10.5**	**-1.2**
RAGM	**Ragged Mountai**	**4.16**	**79**			**Pn**	**06 25 10.5**	**-1.3**
DHY	**Denali Highway**	**4.18**	**37**			**Pn**	**06 25 11.7**	**-0.5**
DHY	**Denali Highway**	**4.18**	**37**	IAML			06 26 01.7	
	comp=E,242nm,0.7s							
DHY				IAML			06 26 03.0	
	comp=N,241nm,0.5s							
DHY	**Denali Highway**	**4.18**	**37**	P		**Pn**	**06 25 11.6**	**-0.6**
	baz=222,SNR=22							
BMRM	**Bremner River**	**4.27**	**71**			**Pn**	**06 25 12.2**	**-1.0**
BMRM	**Bremner River**	**4.27**	**71**	P		**Pn**	**06 25 12.4**	**-0.9**
	baz=259,SNR=24							
KAIM	**Kayak Island**	**4.29**	**85**			**Pn**	**06 25 13.1**	**-0.3**
KAIM	**Kayak Island**	**4.29**	**85**	IAML			06 26 05.6	
	comp=E,215nm,2.0s							
KAIM				IAML			06 26 10.0	
	comp=N,275nm,0.6s							
KAIM	**Kayak Island**	**4.29**	**85**	P		**Pn**	**06 25 13.1**	**-0.3**
	baz=273,SNR=5.4							
CHIR	**Chirikof Islan**	**4.30**	**201**			**Pn**	**06 25 12.2**	**-1.5**
CHIR	**Chirikof Islan**	**4.30**	**201**	IAML			06 26 00.2	
	comp=N,123nm,0.7s							
CHIR				IAML			06 26 02.8	
	comp=E,115nm,1.4s							
MCK	**McKinley**	**4.32**	**24**			**Pn**	**06 25 14.3**	**+0.4**
MCK	**McKinley**	**4.32**	**24**	IAML			06 26 02.6	
	comp=E,62nm,0.5s							
MCK				IAML			06 26 06.3	
	comp=N,70nm,0.7s							
MCK	**McKinley**	**4.32**	**24**	P		**Pn**	**06 25 14.3**	**+0.4**
	baz=208,SNR=31							
BPAW	**Bear Paw Mtn.**	**4.35**	**11**			**Pn**	**06 25 13.7**	**-0.7**
BPAW	**Bear Paw Mtn.**	**4.35**	**11**	IAML			06 26 01.8	
	comp=N,62nm,0.6s							
BPAW	**Bear Paw Mtn.**	**4.35**	**11**	P		**Pn**	**06 25 13.6**	**-0.7**
	baz=193,SNR=9.8							
HMT	**Hamilton**	**4.36**	**80**			**Pn**	**06 25 13.4**	**-1.1**
J20K	**Nowinta River**	**4.37**	**353**			**Pn**	**06 25 14.8**	**+0.3**
J20K	**Nowinta River**	**4.37**	**353**	P		**Pn**	**06 25 14.8**	**+0.3**
	baz=172,SNR=30							
N25K	**Chitina, Valde**	**4.45**	**63**			**Pn**	**06 25 14.5**	**-1.1**
N25K	**Chitina, Valde**	**4.45**	**63**	IAML			06 26 06.1	
	comp=E,168nm,0.6s							
N25K				IAML			06 26 07.1	
	comp=N,205nm,0.5s							
N25K	**Chitina, Valde**	**4.45**	**63**	P		**Pn**	**06 25 14.5**	**-1.1**
	baz=250,SNR=25							
NICHA	**Nichawak Mount**	**4.51**	**81**			**Pn**	**06 25 15.1**	**-1.3**
HARP	**HAARP**	**4.54**	**53**			**Pn**	**06 25 16.6**	**-0.3**
HARP	**HAARP**	**4.54**	**53**	P		**Pn**	**06 25 16.2**	**-0.7**
	baz=239							
SUCK	**Suckling Hills**	**4.60**	**83**			**Pn**	**06 25 17.6**	**-0.1**
SUCK	**Suckling Hills**	**4.60**	**83**	IAML			06 26 10.8	
	comp=N,190nm,0.5s							
SUCK				IAML			06 28 23.2	
	comp=E,107nm,4.5s							
BWN	**Browne**	**4.62**	**19**			**Pn**	**06 25 18.6**	**+0.6**
BWN	**Browne**	**4.62**	**19**	IAML			06 26 44.0	
	comp=E,103nm,2.0s							
BWN				IAML			06 27 03.1	
	comp=N,118nm,1.0s							
BERG	**Berg Lake**	**4.64**	**79**			**Pn**	**06 25 17.9**	**-0.4**
PAX	**Paxson**	**4.75**	**46**			**Pn**	**06 25 19.0**	**-0.7**
PAX	**Paxson**	**4.75**	**46**	P		**Pn**	**06 25 19.2**	**-0.5**
	baz=232,SNR=16							
GLB	**Gilahina Butte**	**4.76**	**67**			**Pn**	**06 25 18.8**	**-1.1**
GLB	**Gilahina Butte**	**4.76**	**67**	IAML			06 26 14.4	
	comp=E,144nm,0.7s							
GLB				IAML			06 26 14.5	
	comp=N,192nm,0.8s							
GRIN	**Grindle Hills**	**4.83**	**81**			**Pn**	**06 25 20.6**	**-0.2**
BGLC	**Bering Glacier**	**4.85**	**83**			**Pn**	**06 25 21.6**	**+0.6**
BGLC	**Bering Glacier**	**4.85**	**83**	P		**Pn**	**06 25 21.4**	**+0.4**
	baz=271							
KHIT	**Khitrov Hills**	**4.87**	**79**			**Pn**	**06 25 20.0**	**-1.4**
WAX	**Waxell Ridge**	**5.07**	**79**			**Pn**	**06 25 22.7**	**-1.3**
SNH	**Sunshine Point**	**5.07**	**82**			**Pn**	**06 25 24.2**	**+0.1**
SNH	**Sunshine Point**	**5.07**	**82**	IAML			06 26 23.3	
	comp=E,110nm,0.4s							
SNH				IAML			06 28 01.1	
	comp=N,167nm,3.1s							
NEA2	**Nenana**	**5.08**	**19**			**Pn**	**06 25 23.7**	**-0.4**
NEA2	**Nenana**	**5.08**	**19**	P		**Pn**	**06 25 23.6**	**-0.4**
	baz=203,SNR=36							
TGL	**Tana Glacier**	**5.10**	**76**			**Pn**	**06 25 24.3**	**-0.2**
TGL	**Tana Glacier**	**5.10**	**76**	IAML			06 26 22.3	
	comp=N,118nm,0.5s							
TGL				IAML			06 26 22.8	
	comp=E,131nm,0.4s							
MCARA	**McCarthy VSAT**	**5.11**	**68**			**Pn**	**06 25 24.2**	**-0.3**
MCARA	**McCarthy VSAT**	**5.11**	**68**	IAML			06 26 39.7	
	comp=N,152nm,0.6s							
MCARA	**McCarthy VSAT**	**5.11**	**68**	P		**Pn**	**06 25 24.6**	**+0.1**
	baz=257,SNR=10							
WRH	**Wood River Hil**	**5.15**	**24**			**Pn**	**06 25 24.5**	**-0.6**
WRH	**Wood River Hil**	**5.15**	**24**	IAML			06 26 22.5	
	comp=N,43nm,1.2s							
WRH				IAML			06 26 22.7	
	comp=E,41nm,0.6s							
K24K	**Donnelly Dome**	**5.20**	**37**			**Pn**	**06 25 26.9**	**+1.0**
K24K	**Donnelly Dome**	**5.20**	**37**	P		**Pn**	**06 25 26.6**	**+0.8**
	baz=224,SNR=23							
GCSA	**Galena City Sc**	**5.24**	**341**	P		**Pn**	**06 25 25.5**	**-0.7**
	baz=158							
BARK	**Barkley Ridge**	**5.24**	**80**			**Pn**	**06 25 26.6**	**+0.1**
MLY	**Manley**	**5.29**	**10**			**Pn**	**06 25 26.6**	**-0.3**
MLY	**Manley**	**5.29**	**10**	P		**Pn**	**06 25 27.2**	**+0.2**
	baz=192,SNR=42							
ISLE	**Juniper Island**	**5.33**	**77**			**Pn**	**06 25 27.4**	**-0.3**
PTPK	**Patty Peak**	**5.33**	**71**			**Pn**	**06 25 27.0**	**-0.8**
HDA	**Harding Lake**	**5.35**	**29**			**Pn**	**06 25 27.3**	**-0.5**
HDA	**Harding Lake**	**5.35**	**29**	P		**Pn**	**06 25 27.2**	**-0.5**
	baz=214,SNR=17							
I21K	**Tanana**	**5.36**	**4**			**Pn**	**06 25 27.9**	**0.0**
I21K	**Tanana**	**5.36**	**4**	P		**Pn**	**06 25 27.8**	**0.0**
	baz=185,SNR=22							
CCB	**Clear Creek Bu**	**5.36**	**24**			**Pn**	**06 25 27.3**	**-0.6**
CCB	**Clear Creek Bu**	**5.36**	**24**	IAML			06 26 26.8	
	comp=N,30nm,0.5s							
CCB				IAML			06 26 29.9	
	comp=E,43nm,0.4s							
M26K	**Nabesna, AK**	**5.44**	**58**			**Pn**	**06 25 30.2**	**+1.2**
M26K	**Nabesna, AK**	**5.44**	**58**	P		**Pn**	**06 25 29.0**	**-0.1**
	baz=246,SNR=34							
BAGL	**Bagley Icefiel**	**5.45**	**79**			**Pn**	**06 25 29.4**	**+0.3**
RIDG	**Independent Ri**	**5.46**	**41**			**Pn**	**06 25 29.3**	**0.0**
RIDG	**Independent Ri**	**5.46**	**41**	P		**Pn**	**06 25 29.0**	**-0.3**
	baz=228,SNR=8.8							
PS08	**TAPS Pump Stn8**	**5.50**	**29**			**Pn**	**06 25 29.0**	**-0.8**
MESA	**MESA**	**5.51**	**82**			**Pn**	**06 25 30.5**	**+0.3**
MESA	**MESA**	**5.51**	**82**	P		**Pn**	**06 25 30.2**	**0.0**
	baz=272,SNR=5.9							
TCOL	**CIGO, UAF Yank**	**5.55**	**23**			**Pn**	**06 25 30.4**	**-0.1**
TCOL	**CIGO, UAF Yank**	**5.55**	**23**	P		**Pn**	**06 25 29.8**	**-0.7**
	baz=207,SNR=14							
COLA	**College**	**5.55**	**23**			**Pn**	**06 25 30.1**	**-0.4**
COLA	**College**	**5.55**	**23**	P		**Pn**	**06 25 29.8**	**-0.7**
	baz=207							
MDM	**Murphy Dome**	**5.56**	**21**			**Pn**	**06 25 30.3**	**-0.3**
L26K	**Log Cabin Wild**	**5.58**	**51**			**Pn**	**06 25 31.3**	**+0.3**
L26K	**Log Cabin Wild**	**5.58**	**51**	P		**Pn**	**06 25 31.3**	**+0.3**
	baz=240,SNR=8.2							
YAH	**Yahtse**	**5.61**	**80**			**Pn**	**06 25 31.9**	**+0.3**
IL31		**5.67**	**27**			**Pn**	**06 25 31.1**	**-1.0**
ILAR	**Eielson Array**	**5.67**	**27**	P		**Pn**	**06 25 30.9**	**-1.2**
	comp=E,8.3nm,0.5s,baz=215,slow=14,SNR=30							
ILAR					S	**Sn**	**06 26 29.9**	**-5.9**
	comp=E,3.7nm,0.5s,baz=219,slow=12,SNR=5.4							
ILAR	**Eielson Array**	**5.67**	**27**	Pn		**Pn**	**06 25 31.7**	**-0.4**
H21K	**Melozitna Rive**	**5.82**	**0**			**Pn**	**06 25 34.3**	**+0.1**
H21K	**Melozitna Rive**	**5.82**	**0**	P		**Pn**	**06 25 34.0**	**-0.2**
	baz=181,SNR=17							
CTG	**Chitna Glacier**	**5.84**	**74**	P		**Pn**	**06 25 34.9**	**+0.3**
	baz=264,SNR=21							
CTGM	**Chitina Glacie**	**5.85**	**74**			**Pn**	**06 25 35.0**	**+0.3**
POKR	**Poker Plat Res**	**5.85**	**23**			**Pn**	**06 25 34.1**	**-0.5**
POKR	**Poker Plat Res**	**5.85**	**23**	P		**Pn**	**06 25 33.7**	**-1.0**
	baz=208							
SCRK	**Sand Creek**	**5.90**	**42**			**Pn**	**06 25 34.2**	**-1.2**
SCRK	**Sand Creek**	**5.90**	**42**	P		**Pn**	**06 25 34.4**	**-1.0**
	baz=230,SNR=15							
M27K	**Edge Creek, AK**	**5.91**	**60**			**Pn**	**06 25 36.1**	**+0.6**
M27K	**Edge Creek, AK**	**5.91**	**60**	P		**Pn**	**06 25 36.1**	**+0.6**
	baz=250,SNR=14							
TABL	**Table Mountain**	**5.91**	**79**			**Pn**	**06 25 35.9**	**+0.2**
J25K	**Salcha River,**	**5.93**	**33**			**Pn**	**06 25 35.1**	**-0.6**
J25K	**Salcha River,**	**5.93**	**33**	P		**Pn**	**06 25 34.9**	**-0.7**
	baz=220,SNR=21							
LOGN	**Logan Glacier**	**6.00**	**76**			**Pn**	**06 25 36.8**	**+0.1**
H22K	**Ishtalitna Cre**	**6.09**	**6**	P		**Pn**	**06 25 37.7**	**-0.1**
	baz=187							
SAMH	**Samovar Hills**	**6.10**	**82**			**Pn**	**06 25 38.7**	**+0.6**
IM03		**6.16**	**357**			**Pn**	**06 25 38.7**	**+0.1**
IMAR	**Indian Mountai**	**6.16**	**357**	Pn		**Pn**	**06 25 38.3**	**-0.4**
H23K	**Yukon River**	**6.18**	**13**			**Pn**	**06 25 38.6**	**-0.5**
H23K	**Yukon River**	**6.18**	**13**	P		**Pn**	**06 25 39.1**	**0.0**
	baz=196,SNR=50							
PS06	**TAPS Pump Stn6**	**6.19**	**12**			**Pn**	**06 25 39.3**	**+0.1**
CHNA	**Chernabura Isl**	**6.20**	**218**	P		**Pn**	**06 25 37.7**	**-1.6**
	baz=33							
CNBA	**Chernabura Isl**	**6.21**	**218**			**Pn**	**06 25 37.6**	**-1.9**
L27K	**Beaver Creek,**	**6.21**	**54**	Pn		**Pn**	**06 25 40.1**	**+0.7**
L27K	**Beaver Creek,**	**6.21**	**54**	P		**Pn**	**06 25 40.1**	**+0.7**
	baz=244,SNR=6.9							
YUK2	**White River**	**6.21**	**67**			**Pn**	**06 25 40.1**	**+0.5**
BC03		**6.23**	**54**			**Pn**	**06 25 38.9**	**-0.7**
BCAR	**Beaver Creek A**	**6.23**	**54**	Pn		**Pn**	**06 25 39.8**	**+0.1**
PCA	**Pinnacle**	**6.36**	**82**			**Pn**	**06 25 41.9**	**+0.2**
PINM	**Pinnacle**	**6.37**	**82**	P		**Pn**	**06 25 42.0**	**+0.3**
	baz=273,SNR=6.1							
BVCY	**Beaver Creek**	**6.38**	**61**			**Pn**	**06 25 42.6**	**+0.8**
BVCY	**Beaver Creek**	**6.38**	**61**	P		**Pn**	**06 25 42.1**	**+0.4**
	baz=252,SNR=6.0							
J26L	**Joseph Creek**	**6.39**	**39**			**Pn**	**06 25 41.1**	**-0.8**
J26L	**Joseph Creek**	**6.39**	**39**	P		**Pn**	**06 25 41.2**	**-0.8**
	baz=228,SNR=12							
YUK3	**Moose Creek**	**6.39**	**67**	P		**Pn**	**06 25 42.2**	**+0.1**
	baz=258							
O28M	**Mount Upton**	**6.39**	**76**			**Pn**	**06 25 42.8**	**+0.6**
O28M	**Mount Upton**	**6.39**	**76**	P		**Pn**	**06 25 42.6**	**+0.4**
	baz=267,SNR=31							
H24K	**Noodor Dome**	**6.42**	**19**			**Pn**	**06 25 41.9**	**-0.5**
H24K	**Noodor Dome**	**6.42**	**19**	P		**Pn**	**06 25 41.9**	**-0.5**
	baz=203,SNR=11							
K27K	**Chicken**	**6.60**	**46**			**Pn**	**06 25 44.1**	**-0.6**
K27K	**Chicken**	**6.60**	**46**	P		**Pn**	**06 25 44.1**	**-0.6**
	baz=236							
PRP	**Porcupine Dome**	**6.61**	**28**			**Pn**	**06 25 44.5**	**-0.5**
PRP	**Porcupine Dome**	**6.61**	**28**	P		**Pn**	**06 25 44.6**	**-0.5**
	baz=214,SNR=19							
G21K	**Allakaket**	**6.68**	**358**			**Pn**	**06 25 46.6**	**+0.7**
G21K	**Allakaket**	**6.68**	**358**	P		**Pn**	**06 25 45.3**	**-0.5**
	baz=178,SNR=14							
BCPM	**Bancas Point**	**6.69**	**83**			**Pn**	**06 25 46.8**	**+0.9**
PNL	**Peninsula**	**6.84**	**86**			**Pn**	**06 25 47.4**	**-0.6**
PNL	**Peninsula**	**6.84**	**86**	P		**Pn**	**06 25 47.6**	**-0.3**
	baz=278,SNR=9.4							
G23K	**Bananza Creek**	**7.00**	**10**			**Pn**	**06 25 49.3**	**-0.9**
G23K	**Bananza Creek**	**7.00**	**10**	P		**Pn**	**06 25 50.0**	**-0.1**
	baz=192,SNR=30							
I26K	**Coal Creek Min**	**7.08**	**35**			**Pn**	**06 25 50.0**	**-1.2**
I26K	**Coal Creek Min**	**7.08**	**35**	P		**Pn**	**06 25 50.8**	**-0.4**
	baz=224,SNR=6.5							
G22K	**Bettles**	**7.12**	**5**	P		**Pn**	**06 25 51.3**	**-0.4**
	baz=186							
H25K	**Birch Creek**	**7.19**	**24**			**Pn**	**06 25 52.2**	**-0.4**
H25K	**Birch Creek**	**7.19**	**24**	P		**Pn**	**06 25 52.2**	**-0.4**
	baz=210							
O29M	**Mount Kennedy**	**7.19**	**80**			**Pn**	**06 25 53.7**	**+0.8**
O29M	**Mount Kennedy**	**7.19**	**80**	P		**Pn**	**06 25 53.4**	**+0.5**
	baz=273,SNR=11							
G24K	**Hadweenzic Riv**	**7.29**	**17**			**Pn**	**06 25 53.1**	**-0.9**
G24K	**Hadweenzic Riv**	**7.29**	**17**	P		**Pn**	**06 25 53.1**	**-0.9**
	baz=202,SNR=8.8							
YUK6	**Outpost Mounta**	**7.29**	**75**	P		**Pn**	**06 25 53.2**	**-1.2**
	baz=268							
EGAK	**Eagle**	**7.36**	**43**			**Pn**	**06 25 53.9**	**-1.1**
EGAK	**Eagle**	**7.36**	**43**	P		**Pn**	**06 25 54.2**	**-0.9**
	baz=233							
F21K	**Alatna River**	**7.39**	**358**	P		**Pn**	**06 25 55.6**	**+0.2**
	baz=178,SNR=5.7							
M29M	**Somme Creek**	**7.46**	**64**			**Pn**	**06 25 56.6**	**+0.1**
M29M	**Somme Creek**	**7.46**	**64**	P		**Pn**	**06 25 56.8**	**+0.3**
	baz=256,SNR=28							
ANM	**Nome**	**7.48**	**314**	P		**Pn**	**06 25 57.3**	**+0.6**
	baz=123							
COLD	**Coldfoot**	**7.49**	**8**			**Pn**	**06 25 56.8**	**0.0**
COLD	**Coldfoot**	**7.49**	**8**	P		**Pn**	**06 25 56.7**	**-0.1**
	baz=191,SNR=8.8							
FYU	**Fort Yukon**	**7.57**	**24**	Pn		**Pn**	**06 25 57.4**	**-0.4**
DAWY	**Dawson**	**7.64**	**51**			**Pn**	**06 25 58.5**	**-0.3**
DAWY	**Dawson**	**7.64**	**51**	P		**Pn**	**06 25 58.6**	**-0.2**
	baz=243							
P29M	**Windy Craggy**	**7.68**	**85**			**Pn**	**06 25 59.7**	**+0.3**
P29M	**Windy Craggy**	**7.68**	**85**	P		**Pn**	**06 25 59.7**	**+0.3**
	baz=278,SNR=19							
F22K	**John River**	**7.68**	**2**	P		**Pn**	**06 25 59.8**	**+0.4**
	baz=183							
HYT	**Haines Junctio**	**7.71**	**76**			**Pn**	**06 26 00.5**	**+0.6**
HYT	**Haines Junctio**	**7.71**	**76**	P		**Pn**	**06 25 59.6**	**-0.3**
	baz=270							
I27K	**Kandik River**	**7.75**	**37**	P		**Pn**	**06 25 59.2**	**-1.1**
	baz=227							
L29M	**L29M**	**7.79**	**59**	P		**Pn**	**06 26 00.9**	**0.0**
	baz=252							
N30M	**Aishikik Lake**	**7.94**	**72**			**Pn**	**06 26 01.9**	**-1.0**
N30M	**Aishikik Lake**	**7.94**	**72**	P		**Pn**	**06 26 02.1**	**-0.9**
	baz=265,SNR=9.9							
F24K	**Squaw Lake**	**8.00**	**14**			**Pn**	**06 26 03.7**	**0.0**
F24K	**Squaw Lake**	**8.00**	**14**	P		**Pn**	**06 26 03.5**	**-0.2**
	baz=199,SNR=7.7							
P30M	**Million Dollar**	**8.01**	**81**	P		**Pn**	**06 26 05.0**	**+1.0**
	baz=275							
G26K	**Porcupine Rive**	**8.20**	**26**	P		**Pn**	**06 26 05.4**	**-1.0**
	baz=214							
H27K	**Steamboat Moun**	**8.21**	**34**			**Pn**	**06 26 06.4**	**-0.2**
H27K	**Steamboat Moun**	**8.21**	**34**	P		**Pn**	**06 26 06.5**	**-0.2**
	baz=224							
M30M	**Minto, Yukon**	**8.24**	**64**			**Pn**	**06 26 07.1**	**0.0**
M30M	**Minto, Yukon**	**8.24**	**64**	P		**Pn**	**06 26 06.7**	**-0.3**
	baz=258							
E22K	**Anaktuvuk Pass**	**8.32**	**3**	P		**Pn**	**06 26 08.9**	**+0.8**
	baz=184							
E23K	**Chandalar**	**8.36**	**9**	P		**Pn**	**06 26 08.7**	**+0.1**
	baz=192							
PLBC	**Pleasant Camp**	**8.39**	**86**	P		**Pn**	**06 26 08.8**	**-0.3**
	baz=280,SNR=10							
F25K	**Christian Rive**	**8.40**	**19**	P		**Pn**	**06 26 07.9**	**-1.2**
	baz=206							
O30N	**Mendenhall**	**8.40**	**77**			**Pn**	**06 26 08.9**	**-0.4**
O30N	**Mendenhall**	**8.40**	**77**	P		**Pn**	**06 26 08.2**	**-1.1**
	baz=271							
BM03	**Burnt Mountain**	**8.43**	**22**			**Pn**	**06 26 08.1**	**-1.5**
E24K	**Your Creek**	**8.47**	**11**			**Pn**	**06 26 10.1**	**0.0**
E24K	**Your Creek**	**8.47**	**11**	P		**Pn**	**06 26 09.3**	**-0.9**
	baz=195,SNR=5.4							
N31M	**Braeburn, Yuko**	**8.57**	**72**			**Pn**	**06 26 11.1**	**-0.4**
N31M	**Braeburn, Yuko**	**8.57**	**72**	P		**Pn**	**06 26 10.4**	**-1.1**
	baz=267,SNR=7.4							
G27K	**Doyon Strip**	**8.60**	**31**	P		**Pn**	**06 26 10.8**	**-1.1**
	baz=221							
I29M	**Ogilvie Camp,**	**8.69**	**44**			**Pn**	**06 26 13.3**	**+0.2**
E25K	**Arctic Village**	**8.89**	**18**	P		**Pn**	**06 26 14.2**	**-1.6**
	baz=205							
MAYO	**Mayo, Yukon**	**8.90**	**58**	P		**Pn**	**06 26 17.8**	**+1.9**
	baz=253							
SKAG	**Skagway**	**8.91**	**85**	P		**Pn**	**06 26 15.9**	**-0.2**
	baz=280							
TOLK	**Toolik Lake Re**	**8.93**	**8**	P		**Pn**	**06 26 16.3**	**-0.1**
	baz=191							
WHY	**Whitehorse**	**9.00**	**77**			**Pn**	**06 26 17.8**	**+0.4**
WHY	**Whitehorse**	**9.00**	**77**	P		**Pn**	**06 26 17.5**	**+0.1**
	baz=273,SNR=5.3							
D23K	**Nanushuk River**	**9.19**	**5**	P		**Pn**	**06 26 20.1**	**+0.2**
	baz=187							
M31M	**Drury Creek, Y**	**9.29**	**67**	P		**Pn**	**06 26 21.2**	**0.0**
	baz=264,SNR=7.2							
R32K	**Eaglecrest**	**9.61**	**92**	P		**Pn**	**06 26 27.2**	**+1.7**
	baz=287							
E27K	**Coleen River**	**9.70**	**26**	P		**Pn**	**06 26 26.1**	**-0.6**
	baz=216							
P32M	**Atlin**	**9.70**	**83**	P		**Pn**	**06 26 27.0**	**+0.1**
	baz=280							
FARO	**Faro, Yukon**	**9.78**	**68**			**Pn**	**06 26 27.6**	**-0.3**
FARO	**Faro, Yukon**	**9.78**	**68**	P		**Pn**	**06 26 28.0**	**+0.2**
	baz=265							
N32M	**Quiet Lake**	**9.86**	**74**	P		**Pn**	**06 26 29

PLCA IAmb IAmb 06 38 14.1
comp=Z,21nm,1.1s
PLCA Paso Flores 38.22 123 *eP* **P 06 38 13.4 +2.3**
ATAH Atahualpa 38.95 66 P **P 06 38 20.3 +2.3**
comp=Z,4.1nm,0.7s,baz=260,slow=11,SNR=6.2
ATAH LR LR 06 50 17.5
comp=Z,501nm,20.0s,baz=240,slow=30
comp=Z,4.1nm,0.7s
MCRA Macar, Loja 39.33 61 P **P 06 38 20.0 -0.7**
ZON Zonda 39.53 108 P **P 06 38 21.5 -0.7**
PB07 IPOC Station P 40.27 93 P **P 06 38 29.1 +0.4**
PB07 IAmb IAmb 06 38 30.7
comp=Z,25nm,1.2s
LVC Limon Verde 40.90 94 P **P 06 38 35.9 +1.9**
comp=Z,5.5nm,1.1s,baz=253,slow=4.2,SNR=4.4
LVC LR LR 06 51 25.1
comp=Z,281nm,18.8s,baz=258,slow=30
comp=Z,5.5nm,1.1s
LVC Limon Verde 40.90 94 *eP* **P 06 38 31.3 -2.8**
BOSC San Juan Bosco 41.22 61 P **P 06 38 36.0 -0.5**
PB16 IPOC Station P 41.65 88 P **P 06 38 40.0 -0.5**
PORT Chimborazo Vol 42.06 59 P **P 06 38 43.8 -0.1**
PORT IAmb IAmb 06 38 53.6
comp=Z,23nm,1.0s
RAR Rarotonga 42.13 267 LR LR 06 51 22.9
comp=Z,197nm,18.3s,baz=116,slow=29
CZSB Cruzeiro do Su 43.38 72 P **P 06 38 54.1 +0.1**
CZSB IAmb IAmb 06 38 57.6
comp=Z,62nm,1.4s
CZSB Cruzeiro do Su 43.38 72 *eP* **P 06 38 55.6 +1.6**
OTAV Otavalo 43.40 58 *eP* **P 06 38 59.4 +4.8**
LPAZ La Paz 43.61 86 P **P 06 38 57.4 +0.9**
comp=Z,5.4nm,1.2s,baz=242,slow=4.0,SNR=12
LPAZ LR LR 06 53 00.5
comp=Z,320nm,20.7s,baz=246,slow=30
comp=Z,5.4nm,1.2s
LPAZ La Paz 43.61 86 P **P 06 38 56.2 -0.3**
TBTG Tabatinga, AM 47.61 70 P **P 06 39 26.4 -1.0**
TBTG IAmb IAmb 06 39 28.0
comp=Z,43nm,1.5s
ETMB Extrema 47.98 79 *eP* **P 06 39 29.6 -0.8**
PETF Flores 49.31 31 P **P 06 39 40.9 +0.4**
ROSC El Rosal 49.52 57 LR LR 06 56 16.2
comp=Z,435nm,20.4s,baz=226,slow=31
SMAI San Martin Ant 49.82 159 P **P 06 39 44.4 +0.7**
SMAI IAmb IAmb 06 39 47.0
comp=Z,15nm,1.4s
SIV San Ignacio 50.02 89 P **P 06 39 46.2 +0.2**
comp=Z,2.2nm,0.7s,baz=247,slow=7.5,SNR=15
SIV LR LR 06 57 01.8
comp=Z,251nm,21.6s,baz=271,slow=31
comp=Z,2.2nm,0.7s
ITQB Itaqui 50.08 107 *eP* **P 06 39 47.0 +0.7**
CPUP Villa Florida 50.20 103 LR LR 06 57 28.4
comp=Z,73nm,19.1s,baz=260,slow=32
CPUP Villa Florida 50.20 103 *eP* **P 06 39 47.6 +0.4**
LPIG La Paz 50.72 4 LR LR 06 56 15.1
comp=Z,289nm,19.9s,baz=190,slow=30
PTLB Pontes e Lacer 51.95 89 P **P 06 40 00.4 -0.1**
PTLB IAmb IAmb 06 40 03.7
comp=Z,3.4nm,1.1s
PTLB Pontes e Lacer 51.95 89 *eP* **P 06 40 01.2 +0.7**
VILB Vilhena 51.97 86 P **P 06 40 00.1 -0.6**
VILB IAmb IAmb 06 40 03.8
comp=Z,20nm,1.4s
VILB Vilhena 51.97 86 *eP* **P 06 40 01.5 +0.8**
CPSB Cacapava Do Su 52.63 109 *eP* **P 06 40 06.0 +0.5**
AQDB Aquidauana 53.28 96 P **P 06 40 09.9 -0.4**
AQDB IAmb IAmb 06 40 11.6
comp=Z,8.9nm,0.9s
AQDB Aquidauana 53.28 96 *eP* **P 06 40 11.1 +0.7**
SALV Santo Antonio 54.86 91 *eP* **P 06 40 22.3 +0.4**
SDV Santo Domingo 54.93 56 LR LR 07 01 08.6
comp=Z,206nm,18.0s,baz=255,slow=33
SDV Santo Domingo 54.93 56 P **P 06 40 23.1 +0.5**
SDV IAmb IAmb 06 40 24.3
comp=Z,6.9nm,0.8s
PTGB Pitanga 55.21 103 *eP* **P 06 40 25.8 +1.3**
TRCB Terra Rica 55.27 100 P **P 06 40 25.6 +0.7**
AFI Afiamalu 55.37 271 LR LR 07 00 39.6
comp=Z,91nm,18.2s,baz=129,slow=32
PDRB Porto dos Gac 55.61 86 *eP* **P 06 40 27.2 -0.2**
MACA Manacapuru-AM 55.99 75 P **P 06 40 28.5 -1.6**
MACA IAmb IAmb 06 40 30.8
comp=Z,22nm,1.2s
C2SB Chapadao do Su 56.39 96 *eP* **P 06 40 34.8 +2.0**
833A Chaparral WMA, 56.55 15 P **P 06 40 33.6 -0.1**
833A IAmb IAmb 06 40 49.3
comp=Z,7.1nm,0.8s
TX31 Lajitas Ar. Si 56.67 11 P **P 06 40 35.2 +0.5**
TX31 IAmb IAmb 06 40 59.9
comp=Z,6.7nm,1.1s
TX32 Lajitas Array 56.67 11 P **P 06 40 35.2 +0.5**
TXAR Lajitas Array 56.67 11 P **P 06 40 33.1 -1.5**
comp=Z,0.7nm,0.9s,baz=193,slow=11,SNR=7.9
TXAR LR LR 07 00 24.3
comp=Z,171nm,18.5s,baz=189,slow=31
comp=Z,0.7nm,0.9s
TXAR Lajitas Array 56.67 11 P **P 06 40 35.2 +0.5**
PCMB Pacaembu 56.85 99 *eP* **P 06 40 37.3 +1.1**
BAUV El Baul 56.90 58 P **P 06 40 34.8 -1.7**
PIX Pinacate 58.04 0 P **P 06 40 45.0 +0.9**
URZ Urewera 58.10 240 LR LR 06 59 35.6
comp=Z,543nm,19.5s,baz=294,slow=30
ITRB Iturama 58.27 98 *eP* **P 06 40 47.3 +1.1**
CCX Cicese 58.40 357 P **P 06 40 46.9 +0.2**
JCT Junction City 58.53 14 P **P 06 40 47.7 +0.1**
MNTX Cornudas Mount 58.73 8 P **P 06 40 49.2 +0.2**
TUC Tucson 58.86 3 P **P 06 40 50.9 +0.9**
TKX Tecate 59.10 357 P **P 06 40 52.4 +0.8**
113A Mohawk Valley, 59.24 0 P **P 06 40 53.3 +0.8**
435B Jarrell 59.34 16 P **P 06 40 53.3 +0.1**
PFO Pinyon Flats O 60.13 358 LR LR 07 00 37.6
comp=Z,162nm,20.4s,baz=178,slow=30
SBM South Baldy 60.78 6 P **P 06 41 02.6 -0.9**
X18A Snowflake 61.11 4 P **P 06 41 06.3 +0.8**
X18A IAmb IAmb 06 41 17.0
comp=Z,4.9nm,0.9s
RPZ Rata Peaks 61.59 233 LR LR 07 03 36.9
comp=Z,338nm,18.1s,baz=82,slow=32
BDFB Brasilia 61.81 94 P **P 06 41 10.8 +0.1**
comp=Z,5.5nm,0.9s,baz=218,slow=7.2,SNR=7.6
BDFB LR LR 07 04 44.0
comp=Z,123nm,21.8s,baz=324,slow=33
comp=Z,5.5nm,0.9s
BDFB Brasilia 61.81 94 *eP* **P 06 41 11.5 +0.8**
ANMO Albuquerque 61.81 7 LR LR 07 03 21.0
comp=Z,221nm,18.3s,baz=192,slow=32
WUAZ Wupatki 62.03 2 P **P 06 41 13.0 +1.3**
WUAZ IAmb IAmb 06 41 23.2
comp=Z,5.6nm,1.1s
PMNB Patos De Minas 62.15 98 *eP* **P 06 41 14.5 +1.6**
GWY Greenwater Val 62.70 357 P **P 06 41 17.1 +0.9**
GWY IAmb IAmb 06 41 23.1
comp=Z,6.5nm,1.2s
VNDA Vanda 62.80 194 P **P 06 41 16.8 +0.6**
comp=Z,0.6nm,0.9s,baz=100,slow=6.1,SNR=2.7
VNDA LR LR 07 01 23.0
comp=Z,272nm,21.6s,baz=90,slow=29
comp=Z,0.6nm,0.9s
U15A North Rim 62.91 1 P **P 06 41 18.2 +0.5**
U15A IAmb IAmb 06 41 25.6
comp=Z,12nm,1.5s
SHPR Sheep Range 62.98 359 P **P 06 41 18.9 +0.9**
SHPR IAmb IAmb 06 41 22.1
comp=Z,7.6nm,1.0s
MSVF Nonsavu 63.02 263 LR LR 07 04 15.4
comp=Z,113nm,18.1s,baz=155,slow=32
WCT Wildcat Mounta 63.31 358 P **P 06 41 21.1 +1.0**
WCT IAmb IAmb 06 41 23.5
comp=Z,4.7nm,1.0s
QSPA South Pole Qui 63.37 180 LR LR 07 03 37.5
comp=Z,91nm,21.0s,baz=102,slow=31
GMN Gold Mountain 63.84 357 P **P 06 41 24.2 +0.4**
MVCO Mesa Verde 63.87 5 P **P 06 41 25.6 +1.6**
MVCO IAmb IAmb 06 41 30.7
comp=Z,9.4nm,1.2s
PRN Pahroc Range 63.88 359 P **P 06 41 24.6 +0.7**
DSP Deep Springs 63.95 356 P **P 06 41 24.9 +0.7**
DSP IAmb IAmb 06 41 31.6
comp=Z,8.7nm,1.4s
CCUT Cedar City 64.01 0 P **P 06 41 25.5 +0.6**
CCUT IAmb IAmb 06 41 32.4
comp=Z,8.8nm,1.3s
SZCU Shurtz Canyon 64.06 1 P **P 06 41 26.8 +1.5**
SZCU IAmb IAmb 06 41 32.6
comp=Z,5.7nm,1.2s
S11A Rachel 64.13 358 P **P 06 41 26.8 +1.2**
MZP Montezuma Peak 64.25 357 P **P 06 41 27.5 +1.0**
SJG San Juan 64.32 51 LR LR 07 05 30.2
comp=Z,101nm,21.8s,baz=225,slow=32
TPH Tonopah 64.61 357 P **P 06 41 29.2 +0.4**
SDCO Great Sand Dun 64.69 7 P **P 06 41 28.7 -0.8**
SDCO IAmb IAmb 06 41 45.6
comp=Z,9.5nm,1.4s
CMB Columbia Colle 64.78 354 P **P 06 41 29.4 -0.4**
CMB IAmb IAmb 06 41 36.6
comp=Z,4.7nm,1.2s
LHV Little Huntoon 64.86 356 P **P 06 41 31.2 +1.1**
LHV IAmb IAmb 06 41 37.1
comp=Z,8.2nm,1.1s
PSUT Pine Spring 64.99 0 P **P 06 41 31.4 +0.1**
PSUT IAmb IAmb 06 41 38.6
comp=Z,4.3nm,1.0s
NV11 Mina Array Sit 65.02 356 P **P 06 41 31.6 +0.2**
NV11 IAmb IAmb 06 41 38.5
comp=Z,9.5nm,1.2s
NVAR Mina Array Bea 65.02 356 P **P 06 41 31.8 +0.3**
comp=Z,3.5nm,1.0s,baz=190,slow=7.1,SNR=18
NVAR LR LR 07 03 38.9
comp=Z,92nm,20.3s,baz=177,slow=30
comp=Z,3.5nm,1.0s
NVAR Mina Array Bea 65.02 356 P **P 06 41 31.4 -0.1**
RYN Ryan 65.23 356 P **P 06 41 34.4 +1.6**
Q16A Castle Valley 65.42 2 P **P 06 41 34.5 +0.4**
Q16A IAmb IAmb 06 41 40.7
comp=Z,6.5nm,1.1s
U38A Gravette 65.53 17 P **P 06 41 34.3 -0.3**
KVN Kaiserville 65.63 356 P **P 06 41 36.9 +1.5**
KVN IAmb IAmb 06 41 39.0
comp=Z,7.5nm,1.4s
YERR Yerington 65.64 355 P **P 06 41 35.6 +0.1**
YERR IAmb IAmb 06 41 38.5
comp=Z,6.4nm,1.2s
SRU San Rafael Swe 65.64 3 P **P 06 41 35.9 +0.4**
SRU IAmb IAmb 06 41 41.8
comp=Z,5.4nm,1.0s
AFDM Forest Hills D 65.74 354 P **P 06 41 36.4 +0.5**
DUG Dugway, Tooele 66.66 1 P **P 06 41 43.1 +1.1**
DUG IAmb IAmb 06 41 48.2
comp=Z,9.6nm,1.4s
MDP Montagnes des 67.11 71 LR LR 07 08 43.4
comp=Z,201nm,18.5s,baz=250,slow=34
RDMU Red Mountain 67.15 4 P **P 06 41 44.8 -0.4**
ELK Elko 67.21 359 LR LR 07 05 33.8
comp=Z,143nm,18.5s,baz=188,slow=31
BGU Big Grassy Mou 67.39 1 P **P 06 41 47.0 +0.4**
BGU IAmb IAmb 06 41 57.6
comp=Z,6.7nm,1.2s
TCUT Toone Canyon 67.61 2 P **P 06 41 50.5 +2.4**
TCUT IAmb IAmb 06 41 55.4
comp=Z,5.7nm,1.0s
R40A Maddies Statio 67.84 18 P **P 06 41 49.1 -0.2**
R40A IAmb IAmb 06 41 59.6
comp=Z,6.5nm,1.0s
TKL Tuckaleechee C 68.32 26 LR LR 07 08 02.8
comp=Z,147nm,18.5s,baz=183,slow=33
WVOR Wild Horse Val 69.03 356 P **P 06 41 57.0 +0.2**
WVOR IAmb IAmb 06 42 00.3
comp=Z,8.1nm,1.1s
VNA3 Neumayer Olymp 69.30 160 P **P 06 41 58.0 -0.2**
BW06 Boulder Array 69.34 3 P **P 06 41 59.1 +0.3**
PD31 Pinedale Array 69.34 3 P **P 06 41 59.1 +0.3**
PD31 IAmb IAmb 06 42 04.4
comp=Z,8.4nm,1.5s
PDAR Pinedale Array 69.34 3 P **P 06 41 59.1 +0.3**
comp=Z,1.2nm,0.7s,baz=168,slow=6.5,SNR=9.5
PDAR LR LR 07 07 07.3
comp=Z,141nm,19.7s,baz=195,slow=31
comp=Z,1.2nm,0.7s
PDAR Pinedale Array 69.34 3 P **P 06 41 58.4 -0.4**
K22A Casper 69.44 6 P **P 06 41 59.3 -0.1**
K22A IAmb IAmb 06 42 05.6
comp=Z,8.6nm,1.1s
MFID Camas Ranch 69.89 358 P **P 06 42 02.4 +0.2**
VNA1 Neumayer--Stat 69.96 160 P **P 06 42 01.0 -1.1**
HLID Hailey 70.02 360 P **P 06 42 02.6 -0.3**
HLID IAmb IAmb 06 42 14.6
comp=Z,6.6nm,1.0s
VNA2 Neumayer--Watz 70.11 160 P **P 06 42 03.1 0.0**
baz=239,slow=3.5
LOHW Long Hollow 70.13 3 P **P 06 42 03.8 +0.1**
LOHW IAmb IAmb 06 42 09.5
comp=Z,7.0nm,1.4s
IMW Indian Meadow 70.40 2 P **P 06 42 04.7 -0.7**
IMW IAmb IAmb 06 42 11.5
comp=Z,7.6nm,1.3s
FLWY Flagg Ranch 70.60 2 P **P 06 42 05.9 -0.6**
FLWY IAmb IAmb 06 42 12.8
comp=Z,5.4nm,0.9s
SNAA Sanae 71.10 162 P **P 06 42 09.0 -0.2**
SNAA Sanae 71.10 162 P **P 06 42 08.1 -1.1**
YHH Holmes Hill 71.30 2 P **P 06 42 11.6 +0.7**
YHL Hebgen Lake 71.35 2 P **P 06 42 11.7 +0.5**
YHL IAmb IAmb 06 42 18.0
comp=Z,5.0nm,1.0s
BMO Blue Mountains 71.38 357 P **P 06 42 10.7 -0.4**
BMO IAmb IAmb 06 42 13.7
comp=Z,7.4nm,1.4s
DZM Mont Dzumac 71.58 254 *e*LR LR 07 04 02.5
comp=Z,339nm,27.9s
DZM Mont Dzumac 71.58 254 LR LR 07 06 23.1
comp=Z,170nm,21.0s,baz=69,slow=30
RLMT Red Lodge 71.70 3 P **P 06 42 13.3 +0.1**
BOZ Bozeman (W) 72.08 2 P **P 06 42 16.1 +0.7**
TROLL Troll, Antarti 72.38 163 P **P 06 42 17.3 +0.3**
HRY Holter Researc 73.19 1 P **P 06 42 22.0 0.0**
NEW Newport 74.78 358 LR LR 07 09 41.5
comp=Z,109nm,18.2s,baz=184,slow=31
RCBR Riachuelo 76.67 90 LR LR 07 13 00.6
comp=Z,121nm,21.6s,baz=0.5,slow=33
SADO Sadowa 77.97 25 LR LR 07 14 25.9
comp=Z,133nm,18.5s,baz=205,slow=34
ULM Lac du Bonnet 78.35 12 P **P 06 42 51.4 +0.2**
comp=Z,3.4nm,0.9s,baz=244,slow=6.2,SNR=3.8
comp=Z,3.4nm,0.9s
MAW Mawson 85.85 179 P **P 06 43 31.2 +0.7**
comp=Z,2.8nm,0.9s,baz=228,slow=7.4,SNR=4.8
MAW LR LR 07 17 54.6
comp=Z,210nm,19.3s,baz=174,slow=33
comp=Z,2.8nm,0.9s
YKA Yellowknife Ar 88.98 360 LR LR 07 19 50.8
comp=Z,115nm,18.0s,baz=145,slow=33
H11S2 WAKE ISLAND Hy 89.18 291 T T 08 22 17.3
baz=119,slow=75,SNR=66
H11S1 WAKE ISLAND Hy 89.19 291 T T 08 22 16.4
baz=119,slow=75,SNR=106
H11S3 WAKE ISLAND Hy 89.20 291 T T 08 22 18.6
baz=119,slow=75,SNR=65
H11N3 WAKE ISLAND Hy 89.60 292 T T 08 22 46.2
baz=115,slow=78,SNR=27
H11N1 WAKE ISLAND Hy 89.61 292 T T 08 22 49.4
baz=115,slow=78,SNR=35
H11N2 WAKE ISLAND Hy 89.61 292 T T 08 22 47.4
baz=115,slow=78,SNR=30
SCHQ Schefferville 90.77 25 LR LR 07 20 37.1
comp=Z,107nm,20.5s,baz=222,slow=33
FRB Frobisher Bay 97.02 19 LR LR 07 25 05.5
comp=Z,133nm,18.0s,baz=200,slow=34
ASAR Alice Springs 97.53 239 P Pdif 06 44 27.2 +1.2
comp=Z,0.4nm,0.8s,baz=146,slow=2.4,SNR=4.1
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 99.21 242 P **Pdif 06 44 33.8 +0.3**
comp=Z,0.5nm,1.0s,baz=135,slow=4.1,SNR=3.2
comp=Z,0.5nm,1.0s
H01W1 Cape Leeuwin H 103.65 219 T T 08 40 32.1
baz=134,slow=76,SNR=14
H01W2 Cape Leeuwin H 103.66 219 T T 08 40 31.7
baz=134,slow=76,SNR=19
H01W3 Cape Leeuwin H 103.67 219 T T 08 40 31.7
baz=134,slow=76,SNR=16
NACGM Naroch 139.93 35‖ *e*PKP **PKPdf 06 50 18.1 -0.9**
baz=298
SONM Songino Array 142.27 315 PKP **PKPdf 06 50 22.5 -1.2**
comp=Z,1.1nm,0.9s,baz=95,slow=3.3,SNR=4.3
PZH PanZhiHua 148.23 278 PKPbc **PKPdf 06 50 34.2 -0.4**
CMAR Chiang Mai Arr 148.67 262 PKPbc **PKPbc 06 50 38.8 -0.4**
comp=Z,0.8nm,0.3s,baz=138,slow=1.8,SNR=6.6
GTA Gaotai 149.29 303 *e*PKPbc **PKPbc 06 50 39.7 -0.6**
GTA LR LR
comp=N,74nm,14.9s
GTA LR LR
comp=E,140nm,17.1s
GTA LR LR
comp=Z,100nm,16.4s
ZALV Zalesovo Beam 149.57 338 PKPbc **PKPbc 06 50 39.9 -0.4**
comp=Z,2.6nm,0.6s,baz=29,slow=3.4,SNR=6.9
BRTR Keskin Array B 150.10 56 PKPbc **PKPbc 06 50 41.2 -1.1**
comp=Z,4.0nm,1.1s,baz=228,slow=1.5,SNR=12
MKAR Makanchi Array 156.31 332 PKP **PKPdf 06 50 44.8 -1.1**
comp=Z,0.4nm,0.8s,baz=50,slow=4.5,SNR=2.6

SSNC ***10*** *06:31:39.2±2.2, 18°.63N×78°.51W, h20km±36km, MD3.0, ML2.4, MW2.9*
JSN ***10*** *06:31:40.2±7.9, 18°.31N×78°.56W, h0km±999km, MD3.6*
ISC 10 06:31:39.2±1.9, 18°.63N±0°.05×78°.1W±0°.1, h10km, n7, σ1s66/12, 1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTDJ	**Mount Denham**	**0.69**	**125**	*eP*	**Pn**	**06 31 54.8**	**-0.4**
MTDJ				*eS*	**Sn**	**06 32 09.6**	**+3.5**
MTDJ				IAML		06 32 11.4	
	212nm,0.3s						
MTDJ				IAML		06 32 11.4	
	comp=Z,257nm,0.3s						
MCJ	**Malvern**	**0.82**	**149**	*i* P	**Pn**	**06 31 56.4**	**-0.5**
MCJ				*i* S	**Sn**	**06 32 09.9**	**+0.8**
STH	**Stony Hill**	**1.37**	**114**‖	*i* P	**Pg**	**06 32 04.9**	**-0.6**
HOJ	**Hope**	**1.45**	**115**	*i* P	Pg	06 32 15.2	+8.1
LMGC	**Las Mercedes**	**1.78**	**37**	*eP*	**Pn**	**06 32 09.9**	**-0.2**
LMGC				*eS*	**Sn**	**06 32 34.1**	**+1.4**
LMGC				IAML		06 32 34.9	
	comp=N,17nm,0.1s						
LMGC				IAML		06 32 35.0	
	comp=E,12nm,0.1s						
CCCC	**Cccc**	**2.58**	**8**	*eP*	**Pn**	**06 32 21.4**	**+0.4**
CCCC				*eS*	**Sn**	**06 32 53.1**	**+0.6**
RCC	**Rio Carpintero**	**2.67**	**59**	*eP*	**Pn**	**06 32 23.0**	**+0.7**
RCC				*eS*	**Sn**	**06 32 56.2**	**+1.5**
RCC				*eSg*	**Sb**	**06 32 57.5**	**-2.5**
RCC				IAML		06 32 58.8	
	comp=E,3.1nm,0.1s						
RCC				IAML		06 32 58.9	
	comp=N,4.5nm,0.2s						

IDC ***10*** *06:38:26.8±2.2, 18°.62N×145°.57E, h201km±22km, mb3.4/12, mbtmp4.0/13, Error ellipse: s-maj=24.3km s-min=12.6km az=100.0*
NEIC ***10*** *06:38:28.4±1.2, 18°.63N±0°.09×145°.5E±0°.1, h204km±1km, mb4.2/22, Error ellipse: s-maj=18.0km s-min=13.6km az=90.0*
ISC 10 06:38:27.1±0.5, 18°.64N±0°.06×145°.5E±0°.1, h200km, n42, σ1s01/43, mb4.0/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.06**	**186**	P	**Pn**	**06 39 42.2**	**-0.1**
	17nm,0.3s,baz=62,slow=11,SNR=2.2						
GUMO				S	**Sn**	**06 40 41.5**	**-0.1**
	42nm,0.4s,baz=53,slow=20,SNR=2.3						
GUMO	**Guam**	**5.06**	**186**	Pn	**Pn**	**06 39 44.7**	**+2.4**
JCJ	**Chichijima**	**8.93**	**341**	S	**Sn**	**06 42 10.5**	**-2.2**
	20nm,0.4s,baz=269,slow=22,SNR=1.8						
PATS	**Pohnpei**	**17.16**	**131**	P	**P**	**06 42 14.4**	**+0.5**
MJAR	**Matsushiro Arr**	**18.94**	**342**	P	**Pn**	**06 42 39.0**	**+2.9**
	0.5nm,0.5s,baz=189,slow=13,SNR=2.9						
MAJO	**Matsushiro**	**18.94**	**342**	P	**P**	**06 42 34.2**	**+1.1**
MAJO				IAmb	IAmb	06 42 46.1	
	comp=Z,4.9nm,0.8s						
KLR	**Kul'dur**	**32.45**	**343**	P	**P**	**06 44 38.6**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=150,slow=5.9,SNR=5.1						
	comp=Z,0.8nm,0.4s						
MTN	**Manton Dam**	**34.33**	**205**	P	**P**	**06 44 54.4**	**-0.5**
MTN				IAmb	IAmb	06 45 13.2	
	comp=Z,7.8nm,1.2s						
KNRA	**Kununurra**	**37.86**	**207**	P	**P**	**06 45 25.9**	**+1.0**
KNRA				IAmb	IAmb	06 46 08.4	
	comp=Z,13nm,1.5s						
UBPT	**Khong Chiam**	**38.33**	**271**	P	**P**	**06 45 28.3**	**-0.7**
UBPT				IAmb	IAmb	06 46 08.1	
	comp=Z,9.6nm,1.4s						
CTAO	**Charters Tower**	**38.50**	**179**	P	**P**	**06 45 29.5**	**-0.7**
CTAO				IAmb	IAmb	06 45 55.0	
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**39.68**	**196**	P	**P**	**06 45 40.1**	**+0.1**
WB0				IAmb	IAmb	06 45 40.7	
	comp=Z,8.3nm,1.2s						
WRA	**Warramunga Arr**	**39.87**	**196**	P	**P**	**06 45 39.9**	**-1.7**
	comp=Z,2.4nm,0.6s,baz=18,slow=8.4,SNR=44						
	comp=Z,2.4nm,0.6s						
WRA	**Warramunga Ar**	**39.87**	**196**	P	**P**	**06 45 41.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.38**	**209**	P	**P**	**06 45 54.5**	**+0.6**
	comp=Z,1.3nm,0.2s,baz=20,slow=4.5,SNR=42						
	comp=Z,1.3nm,0.2s						
FITZ	**Fitzroy Crossi**	**41.38**	**209**	P	**P**	**06 45 54.2**	**+0.3**
AMKA	**Amchitka**	**42.17**	**31**	P	**P**	**06 46 01.1**	**+1.1**
SONM	**Songino Array**	**43.04**	**322**	P	**P**	**06 46 07.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=113,slow=7.0,SNR=2.5						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**43.53**	**195**	P	**P**	**06 46 11.2**	**-0.1**
ASAR	**Alice Springs**	**43.54**	**195**	P	**P**	**06 46 10.8**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=15,slow=7.6,SNR=10						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**43.54**	**195**	P	**P**	**06 46 11.9**	**+0.6**
DZM	**Mont Dzumac**	**45.38**	**152**	P	**P**	**06 46 25.0**	**-0.9**
DZM				IAmb	IAmb	06 46 30.2	
	comp=Z,24nm,1.2s						
UNV	**Unalaska Valle**	**50.83**	**35**	P	**P**	**06 47 07.0**	**-0.1**
KEKH	**Kekaha**	**51.31**	**76**	P	**P**	**06 47 11.2**	**-0.1**
SDPT	**Sand Point**	**54.65**	**35**	P	**P**	**06 47 35.4**	**+0.3**
MKAR	**Makanchi Array**	**58.33**	**314**	P	**P**	**06 48 02.4**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=90,slow=8.4,SNR=5.9						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.33**	**314**	P	**P**	**06 48 01.9**	**+0.7**
K20K	**Telida**	**60.38**	**27**	P	**P**	**06 48 15.8**	**+0.9**
K20K				IAmb	IAmb	06 48 39.4	
	comp=Z,6.2nm,1.4s						
J20K	**Nowinta River**	**60.61**	**26**	P	**P**	**06 48 17.2**	**+0.8**
SKT	**Skwentna**	**61.10**	**29**	P	**P**	**06 48 19.2**	**-0.7**
SKT				IAmb	IAmb	06 48 26.5	
	comp=Z,5.3nm,1.2s						
IMAR	**Indian Mountai**	**61.36**	**24**	P	**P**	**06 48 22.0**	**+0.5**
H21K	**Melozitna Rive**	**61.63**	**25**	P	**P**	**06 48 23.8**	**+0.5**
I21K	**Tanana**	**61.81**	**25**	P	**P**	**06 48 25.4**	**+0.9**
I21K				IAmb	IAmb	06 48 26.8	
	comp=Z,4.1nm,1.2s						
MLY	**Manley**	**62.27**	**25**	P	**P**	**06 48 27.6**	**0.0**
MLY				IAmb	IAmb	06 48 28.4	
	comp=Z,1.4nm,0.6s						
MDM	**Murphy Dome**	**63.28**	**26**	P	**P**	**06 48 34.6**	**+0.3**
MDM				IAmb	IAmb	06 49 06.2	
	comp=Z,5.4nm,1.4s						
ILAR	**Eielson Array**	**63.80**	**26**	P	**P**	**06 48 36.4**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=254,slow=5.6,SNR=11						
	comp=Z,0.8nm,0.6s						
INK	**Inuvik**	**69.51**	**23**	P	**P**	**06 49 13.7**	**0.0**
	comp=Z,2.6nm,0.8s,baz=198,slow=6.4,SNR=2.4						
	comp=Z,2.6nm,0.8s						
YKA	**Yellowknife Ar**	**78.15**	**28**	P	**P**	**06 50 03.4**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=288,slow=5.4,SNR=1.9						
	comp=Z,0.9nm,0.5s						
NVAR	**Mina Array Bea**	**83.36**	**52**	P	**P**	**06 50 32.2**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=268,slow=5.9,SNR=23						
	comp=Z,1.9nm,0.6s						
FINES	**FINESS Array B**	**86.84**	**335**	P	**P**	**06 50 46.7**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=64,slow=6.3,SNR=5.8						
	comp=Z,0.4nm,0.3s						
PDAR	**Pinedale Array**	**88.03**	**45**	P	**P**	**06 50 54.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=206,slow=1.5,SNR=2.0						
	comp=Z,0.2nm,0.3s						
LPAZ	**La Paz**	**147.91**	**91**	PKPbc	**PKPbc**	**06 57 50.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=335,slow=4.3,SNR=3.9						

SOME ***10*** *06:42:58.7, 39°.63N×75°.83E, h5km*
NNC ***10*** *06:43:02.2±1.6, 39°.75N×75°.86E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=10.7km s-min=9.5km az=177.0*
KRNET ***10*** *06:43:08.5±0.1, 39°.97N×75°.91E, mb3.0*
ISC 10 06:43:06.3±2.6, 39°.9N±0°.1×75°.86E±0°.04, h3km±17km, n51, σ1s27/77, 13C-12D, Southern Xinjiang

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

NRN	**Naryn**	1.49	4	⇓*i*	P	**Pg**	06 43 36.0	+1.0
	baz=2.0							
NRN				⇓*i*	S	**Sg**	06 43 56.2	+1.9
	baz=2.0							
ARLS	**Aral**	2.24	329	⇑*i*	P	**Pg**	06 43 49.1	-0.2
	baz=28							
ARLS				⇑*i*	S	**Sg**	06 44 18.4	+0.1
	baz=28							
TARG	**Taragay, Kyrgy**	2.32	39	⇑*e*	P	**Pb**	06 43 49.6	+0.6
	baz=39							
TARG				⇑*i*	S	**Sg**	06 44 19.4	-1.4
	baz=39							
ULHL	**Ulahol**	2.32	7	P		**Pg**	06 43 50.9	+0.2
	SNR=14							
ULHL	**Ulahol**	2.32	7	⇓*i*	P	**Pb**	06 43 49.8	+0.9
	baz=6.0							
ULHL				⇓*i*	S	**Sg**	06 44 19.7	-1.2
	baz=6.0							
UCH	**Uchtor**	2.50	336	P		**Pg**	06 43 54.6	+0.4
	SNR=24							
UCH	**Uchtor**	2.50	336	⇓*i*	P	**Pb**	06 43 52.5	+0.4
	baz=35							
UCH				⇓*i*	S	**Sg**	06 44 24.6	-2.0
	baz=35							
BOOM	**Boomskoye usch**	2.55	1	⇑*i*	P	**Pb**	06 43 52.8	+0.1
	baz=1.0							
BOOM				⇑*i*	S	**Sb**	06 44 25.4	+0.9
	baz=1.0							
AML	**Almayashu**	2.73	324	P		**Pg**	06 43 58.5	-0.2
	SNR=8.4							
KBK	**Karagaybulak**	2.80	346	P		**Pg**	06 44 00.5	+0.5
	SNR=6.6							
KBK	**Karagaybulak**	2.80	346	⇓*i*	P	**Pb**	06 43 56.4	-0.6
	baz=45							
KBK				⇓*i*	S	**Sb**	06 44 32.0	+0.3
	baz=45							
AAK	**Ala-Archa**	2.88	340	P		**Pb**	06 44 00.0	+1.6
	SNR=8.3							
AAK	**Ala-Archa**	2.88	340	⇑*i*	P	**Pb**	06 43 57.8	-0.6
	baz=39							
AAK				⇑*i*	S	**Sb**	06 44 33.7	-0.5
	baz=39							
TKM2	**Tokmak 2**	2.98	356	P		**Pb**	06 44 01.4	+1.2
	SNR=12							
TKM2	**Tokmak 2**	2.98	356	⇑Pg		**Pb**	06 44 01.1	+0.9
	3.4nm,0.4s							
TKM2				⇑Lg		Lg	06 44 43.3	
	6.3nm,0.4s							
TKM2	**Tokmak 2**	2.98	356	⇓*e*	P	**Pb**	06 43 59.3	-0.9
	baz=56							
TKM2				⇓*e*	S	**Sb**	06 44 36.1	-1.0
	baz=56							
KST	**Kastek**	3.10	1	*e*P		**Pb**	06 44 02.1	0.0
	7.8nm,0.4s							
KST				*e*S		**Sg**	06 44 48.1	+2.2
	13nm,0.6s							
KST	**Kastek**	3.10	1	Pg		**Pb**	06 44 02.1	0.0
	7.8nm,0.4s							
KST				Lg		Lg	06 44 48.7	
	13nm,0.6s							
CHMS	**Chumysh**	3.17	345	⇓Pg		**Pg**	06 44 05.7	-1.2
	2.3nm,0.4s							
CHMS				⇑Lg		Lg	06 44 49.6	
	3.9nm,0.4s							
MTBS	**Maitube**	3.21	8	*e*P		**Pb**	06 44 03.4	-0.7
	5.7nm,0.3s							
MTBS				*e*S		**Sg**	06 44 50.0	+0.4
	11nm,0.4s							
MTBS	**Maitube**	3.21	8	Pg		**Pb**	06 44 03.4	-0.7
	5.7nm,0.3s							
MTBS				Lg		Lg	06 44 50.0	
	11nm,0.4s							
DGS	**Degeres**	3.30	359	*e*P		**Pb**	06 44 05.4	-0.1
	8.0nm,0.5s							
DGS				*e*S		**Sg**	06 44 53.7	+1.5
	9.3nm,0.6s							
DGS	**Degeres**	3.30	359	Pg		**Pb**	06 44 05.4	-0.1
	8.0nm,0.5s							
DGS				Lg		Lg	06 44 54.5	
	9.3nm,0.6s							
MDOK	**Medeo**	3.34	15	*e*P		**Pb**	06 44 05.4	-0.8
	2.5nm,0.2s							
MDOK				*e*S		**Sg**	06 44 53.5	-0.1
	5.7nm,0.5s							
MDOK	**Medeo**	3.34	15	Pg		**Pb**	06 44 05.4	-0.8
	2.5nm,0.2s							
MDOK				Pg		**Pg**	06 44 08.0	-2.3
	3.7nm,0.6s							
MDOK				Lg		Lg	06 44 53.5	
	5.7nm,0.5s							
MDOK				⇑Lg		Lg	06 44 55.1	
	7.4nm,0.7s							
KOTS	**Kotyrbulak**	3.42	16	*e*P		**Pb**	06 44 07.7	+0.1
	4.7nm,0.4s							
KOTS				*e*S		**Sg**	06 44 57.7	+1.5
	14nm,0.7s							
KOTS	**Kotyrbulak**	3.42	16	Pg		**Pb**	06 44 07.7	+0.1
	4.7nm,0.4s							
KOTS				Lg		Lg	06 44 57.7	
	14nm,0.7s							
MRKS	**Merke**	3.43	326	*e*P		**Pb**	06 44 07.5	-0.2
	4.1nm,0.4s							
MRKS				*e*S		**Sg**	06 44 57.1	+0.6
	6.9nm,0.3s							
MRKS	**Merke**	3.43	326	Pg		**Pb**	06 44 07.5	-0.2
	4.1nm,0.4s							
MRKS				Lg		Lg	06 44 57.1	
	6.9nm,0.3s							
USP	**Ospenovka**	3.47	343	P		**Pb**	06 44 08.4	-0.1
	SNR=5.1							
SATY	**Saty**	3.66	31	*e*P		**Pb**	06 44 11.1	-0.5
	2.5nm,0.3s							
SATY				*e*S		**Sg**	06 45 03.2	-0.5
	4.7nm,0.1s							
SATY	**Saty**	3.66	31	Pg		**Pb**	06 44 11.1	-0.5
	2.5nm,0.3s							
SATY				Lg		Lg	06 45 03.2	
	4.7nm,0.1s							
KRBS	**Karabastau**	3.75	358	*e*P		**Pb**	06 44 13.2	0.0
	2.3nm,0.4s							
KRBS				*e*S		**Sg**	06 45 07.1	+0.2
	6.9nm,0.5s							
KRBS	**Karabastau**	3.75	358	Pg		**Pb**	06 44 13.2	0.0
	2.3nm,0.4s							
KRBS				Lg		Lg	06 45 07.1	
	6.9nm,0.5s							
KTBS	**Karatobe**	3.82	9	*e*P		**Pb**	06 44 15.2	+0.9
	4.8nm,0.3s							
KTBS				*e*S		**Sg**	06 45 10.2	+1.3
	17nm,0.5s							
KTBS	**Karatobe**	3.82	9	Pg		**Pb**	06 44 15.2	+0.9
	4.8nm,0.3s							
KTBS				Lg		Lg	06 45 10.2	
	17nm,0.5s							
KUU	**Kurty**	3.96	5	*e*P		**Pb**	06 44 16.1	-0.7
	1.5nm,0.3s							
KUU				*e*S		**Sg**	06 45 11.9	-1.7
	12nm,0.6s							
KUU	**Kurty**	3.96	5	Pg		**Pb**	06 44 16.2	-0.7
	1.5nm,0.3s							
KUU				Lg		Lg	06 45 11.9	
	12nm,0.6s							
CHKK	**Chushkaly**	4.00	12	*e*P		**Pb**	06 44 17.4	0.0
	0.9nm,0.0s							
CHKK				*e*S		**Sg**	06 45 14.5	-0.2
	6.7nm,0.2s							
CHKK	**Chushkaly**	4.00	12	Pg		**Pb**	06 44 17.4	0.0
	0.9nm,0.0s							
CHKK				Lg		Lg	06 45 14.5	
	6.7nm,0.2s							
KPKS	**Kokpek**	4.11	30	*e*P		**Pb**	06 44 19.1	-0.3
	1.8nm,0.3s							
KPKS				*e*S		**Sg**	06 45 17.1	-1.1
	8.5nm,0.5s							
KPKS	**Kokpek**	4.11	30	Pg		**Pb**	06 44 19.0	-0.3
	1.8nm,0.3s							
KPKS				Lg		Lg	06 45 17.1	
	8.5nm,0.5s							
SHLS	**Shalkode**	4.20	39	*e*P		**Pg**	06 44 25.8	-1.0
	3.4nm,0.3s							
SHLS				*e*S		**Sg**	06 45 28.4	+7.2
	4.5nm,0.4s							
SHLS	**Shalkode**	4.20	39	Pg		**Pg**	06 44 25.8	-1.0
	3.4nm,0.3s							
SHLS				Lg		Lg	06 45 28.4	
	4.5nm,0.4s							
PDGK	**Podgornoye**	4.34	38	⇑Pg		**Pg**	06 44 28.6	-0.9
	1.3nm,0.5s							
PDGK				⇓Lg		Lg	06 45 25.1	
	7.8nm,0.7s							
ARXS	**Arharly**	4.51	18	*e*P		**Pb**	06 44 26.4	+0.2
	3.1nm,0.4s							
ARXS				*e*S		**Sg**	06 45 29.3	-2.0
	2.7nm,0.5s							
ARXS	**Arharly**	4.51	18	Pg		**Pb**	06 44 26.4	+0.2
	3.1nm,0.4s							
ARXS				Lg		Lg	06 45 30.4	
	2.7nm,0.5s							
BLB	**Baldybastay**	4.59	24	*e*P		**Pb**	06 44 28.3	+0.8
	2.8nm,0.3s							
BLB				*e*S		**Sg**	06 45 33.3	-0.4
	5.9nm,0.5s							
BLB	**Baldybastay**	4.59	24	Pg		**Pb**	06 44 28.3	+0.8
	2.8nm,0.3s							
BLB				Lg		Lg	06 45 33.3	
	5.9nm,0.5s							
BTLS	**Baital**	5.27	346	*e*P		**Pb**	06 44 40.6	+1.6
	1.0nm,0.3s							
BTLS				*e*S		**Sg**	06 45 54.3	-1.2
	2.6nm,0.7s							
BTLS	**Baital**	5.27	346	Pg		**Pb**	06 44 40.6	+1.6
	1.0nm,0.3s							
BTLS				Lg		Lg	06 45 54.3	
	2.6nm,0.7s							

***IDC* 10 06:59:28.9±7.0, 30°.41S×178°.21W, h67^{km}±45^{km}, mb3.2/2, mbtmp3.5/2, Error ellipse: s-maj=102.6km s-min=39.6km az=141.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**12**	P		P	Pn	06 59 49.2	-0.4
	228nm,0.3s,baz=150,slow=20,SNR=1.1								
RAO				S			Sn	07 00 05.2	+0.1
	307nm,0.3s,baz=217,slow=20,SNR=2.8								
ASAR	**Alice Springs**	**42.93**	**267**	P		P	P	07 07 21.2	-0.2
	0.4nm,0.7s,baz=106,slow=8.0,SNR=3.5								
	0.4nm,0.7s								
WRA	**Warramunga Arr**	**43.92**	**272**	P		P	P	07 07 29.3	0.0
	0.5nm,0.5s,baz=112,slow=7.9,SNR=10								
	0.5nm,0.5s								
H03S2	**Juan Fernandez**	**80.61**	**124**	T		T	T	08 40 33.5	
	baz=237								
H03S1	**Juan Fernandez**	**80.62**	**124**	T		T	T	08 40 37.8	
	baz=237								
H03S3	**Juan Fernandez**	**80.63**	**124**	T		T	T	08 40 37.2	
	baz=237								
FINES	**FINESS Array B**	**145.09**	**340**	PKPbc		PKPbc	PKPbc	07 18 56.7	-0.9
	1.3nm,0.9s,baz=48,slow=4.1,SNR=9.7								

IDC ***10*** *07:00:33.5±1.2, 26°.80S×114°.09W, h0^{km}, mb4.1/7, mbtmp4.1/7, MS4.1/43, Error ellipse: s-maj=40.3km s-min=23.2km az=43.0*

NEIC ***10*** *07:00:36.5±1.1, 27°.05S±0°.1×114°.0W±0°.1, h10^{km}±1^{km}, mb4.7/76, Error ellipse: s-maj=21.4km s-min=17.0km az=189.0*

GCMT ***10*** *07:00:37.5±0.2, 26°.90S±0°.01×113°.92W±0°.01, h14^{km}±1^{km}, MW4.9/111, Moment Tensor Solution. s35,c40; s111,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.38±.12; $M_{\theta\theta}$=0.74±.09; $M_{\phi\phi}$=0.63±.09; $M_{r\theta}$=0.61±.18; $M_{\theta\phi}$=-2.49±.06; $M_{r\phi}$=1.46±.23; Best double couple: M_o=3.18000×10^{16} NP1:ϕ_s=171.00000°, δ=68.00000°, λ=-37.00000°. NP2:ϕ_s=277.00000°, δ=56.00000°, λ=-153.00000°. Principal axes: T 3.2610, Plg8.0000°, Azm227.0000°; N -0.1630, Plg48.0000°, Azm325.0000°; P -3.1000, Plg41.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 07:00:35.3±0.6, 27°.05S±0°.1×114°.00W±0°.09, h10^{km}, n176, σ1°.22/123, mb4.7/43, MS4.2/46, 1C, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**4.08**	**94**	Pn		Pn	**Pn**	**07 01 38.6**	**+0.9**
RPN	**Rapa Nui**	**4.17**	**93**	LR		LR	LR	07 02 51.3	
	comp=Z,841nm,21.0s,baz=284,slow=32								
RPN	**Rapa Nui**	**4.17**	**93**	Pn		**Pn**	**Pn**	**07 01 37.3**	**-1.7**
TAOE	**Nuku Hiva Isla**	**30.59**	**301**	*e*LR		LR	LR	07 14 47.2	
	comp=Z,844nm,24.0s								
H03N2	**Juan Fernandez**	**30.89**	**111**	T		T	T	07 39 24.2	
	baz=277,slow=74,SNR=4543								
H03N3	**Juan Fernandez**	**30.90**	**111**	T		T	T	07 39 24.2	
	baz=277,slow=74,SNR=70								
H03N1	**Juan Fernandez**	**30.91**	**111**	T		T	T	07 39 27.0	
	baz=277,slow=74,SNR=285								
TBI	**Tubuai**	**32.23**	**268**	*e*LR		LR	LR	07 15 31.1	
	comp=Z,372nm,38.8s								
TBI	**Tubuai**	**32.23**	**268**	*e*T		T	T	07 40 47.0	
	16nm,0.3s								
PPTF	**Pamatai, Papee**	**34.11**	**278**	P		**P**	**P**	**07 07 19.6**	**-0.9**
PPT2	**Papeete2**	**34.12**	**278**	*e*LR		LR	LR	07 16 24.1	
	comp=Z,182nm,26.8s								
BI05	**Punta Hualpn**	**35.79**	**116**	P		**P**	**P**	**07 07 34.2**	**-0.5**
ML02	**Panimavida**	**37.17**	**114**	P		**P**	**P**	**07 07 47.0**	**+0.3**
ML02						IAmb	IAmb	07 07 49.2	
	comp=Z,16nm,1.1s								
NNA	**Nana**	**37.90**	**74**	LR		LR	LR	07 19 07.5	
	comp=Z,390nm,21.0s,baz=244,slow=29								
LMEL	**Las Melosas**	**38.17**	**111**	P		**P**	**P**	**07 07 55.9**	**+0.5**
LMEL						IAmb	IAmb	07 08 01.0	
	comp=Z,14nm,1.2s								
PLCA	**Paso Flores**	**38.24**	**122**	P		**P**	**P**	**07 07 57.0**	**+1.3**
	comp=Z,8.2nm,1.1s,baz=283,slow=9.0,SNR=10								
PLCA				LR		LR	LR	07 19 40.3	
	comp=Z,260nm,19.4s,baz=279,slow=30								
	comp=Z,8.2nm,1.1s								
PLCA	**Paso Flores**	**38.24**	**122**	P		**P**	**P**	**07 07 56.3**	**+0.7**
PLCA	**Paso Flores**	**38.24**	**122**	*e*P		**P**	**P**	**07 07 57.3**	**+1.6**
ATAH	**Atahualpa**	**39.12**	**66**	P		**P**	**P**	**07 08 04.2**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=248,slow=12,SNR=4.2								
ATAH				LR		LR	LR	07 20 01.4	
	comp=Z,420nm,20.1s,baz=241,slow=30								
	comp=Z,2.6nm,0.7s								
ZON	**Zonda**	**39.60**	**108**	P		**P**	**P**	**07 08 06.5**	**-0.6**
PB02	**IPOC Station P**	**40.48**	**92**	P		**P**	**P**	**07 08 14.8**	**+0.2**
PB02						IAmb	IAmb	07 08 35.7	
	comp=Z,36nm,1.5s								
LVC	**Limon Verde**	**41.01**	**94**	LR		LR	LR	07 21 08.7	
	comp=Z,246nm,18.8s,baz=257,slow=30								
LVC	**Limon Verde**	**41.01**	**94**	*e*P		**P**	**P**	**07 08 20.9**	**+1.6**
COHC	**Cochancay**	**41.23**	**60**	P		**P**	**P**	**07 08 20.0**	**-0.7**
BOSC	**San Juan Bosco**	**41.39**	**61**	P		**P**	**P**	**07 08 21.1**	**-1.2**
PB16	**IPOC Station P**	**41.77**	**88**	P		**P**	**P**	**07 08 26.5**	**+0.6**
RAR	**Rarotonga**	**42.01**	**268**	LR		LR	LR	07 21 08.2	
	comp=Z,218nm,19.8s,baz=110,slow=29								
CHSH	**Refugio Sur-Vo**	**42.14**	**59**	P		**P**	**P**	**07 08 28.6**	**-0.3**
CHSH						IAmb	IAmb	07 08 41.3	
	comp=Z,12nm,1.1s								
PORT	**Chimborazo Vol**	**42.24**	**59**	P		**P**	**P**	**07 08 29.9**	**+0.2**
PORT						IAmb	IAmb	07 08 37.9	
	comp=Z,20nm,1.2s								
CZSB	**Cruzeiro do Su**	**43.54**	**72**	P		**P**	**P**	**07 08 38.9**	**-0.7**
CZSB						IAmb	IAmb	07 08 39.8	
	comp=Z,20nm,1.2s								
CZSB	**Cruzeiro do Su**	**43.54**	**72**	*e*P		**P**	**P**	**07 08 39.5**	**-0.1**
OTAV	**Otavalo**	**43.58**	**57**	*e*P		**P**	**P**	**07 08 38.8**	**-1.6**
LPAZ	**La Paz**	**43.73**	**86**	P		**P**	**P**	**07 08 41.1**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=252,slow=6.2,SNR=8.1								
LPAZ				LR		LR	LR	07 22 44.6	
	comp=Z,318nm,21.1s,baz=245,slow=30								
	comp=Z,2.3nm,1.0s								
LPAZ	**La Paz**	**43.73**	**86**	P		**P**	**P**	**07 08 41.3**	**-0.6**
LPAZ	**La Paz**	**43.73**	**86**	*e*P		**P**	**P**	**07 08 43.1**	**+1.2**
TRQA	**Tornquist**	**44.74**	**118**	P		**P**	**P**	**07 08 48.7**	**-0.2**
TRQA						IAmb	IAmb	07 09 08.2	
	comp=Z,12nm,1.4s								
ETMB	**Extrema**	**48.13**	**79**	*e*P		**P**	**P**	**07 09 14.6**	**-1.2**
PMSA	**Palmer Station**	**49.20**	**154**	LR		LR	LR	07 24 41.2	
	comp=Z,100nm,20.8s,baz=284,slow=29								
PETF	**Flores**	**49.50**	**31**	P		**P**	**P**	**07 09 26.5**	**+0.3**
ROSC	**El Rosal**	**49.70**	**57**	LR		LR	LR	07 26 10.0	
	comp=Z,390nm,18.7s,baz=231,slow=31								
SIV	**San Ignacio**	**50.14**	**89**	LR		LR	LR	07 26 45.9	
	comp=Z,253nm,21.9s,baz=270,slow=31								
LPIG	**La Paz**	**50.88**	**4**	LR		LR	LR	07 25 49.2	
	comp=Z,248nm,21.0s,baz=200,slow=30								
PTLB	**Pontes e Lacer**	**52.07**	**89**	*e*P		**P**	**P**	**07 09 46.9**	**+1.2**
VILB	**Vilhena**	**52.09**	**86**	P		**P**	**P**	**07 09 45.2**	**-0.8**
VILB						IAmb	IAmb	07 09 54.6	
	comp=Z,12nm,1.4s								
VILB	**Vilhena**	**52.09**	**86**	*e*P		**P**	**P**	**07 09 45.7**	**-0.3**
CPSB	**Cacapava Do Su**	**52.70**	**109**	*e*P		**P**	**P**	**07 09 49.8**	**-0.5**
AQDB	**Aquidauana**	**53.38**	**96**	P		**P**	**P**	**07 09 54.6**	**-0.8**
AQDB						IAmb	IAmb	07 09 58.1	
	comp=Z,6.6nm,0.9s								
AQDB	**Aquidauana**	**53.38**	**96**	*e*P		**P**	**P**	**07 09 55.5**	**+0.1**
SDV	**Santo Domingo**	**55.11**	**56**	LR		LR	LR	07 30 53.5	
	comp=Z,209nm,18.2s,baz=258,slow=33								
CNLB	**Canela**	**55.13**	**108**	*e*P		**P**	**P**	**07 10 07.9**	**-0.3**
AFI	**Afiamalu**	**55.26**	**271**	LR		LR	LR	07 28 41.3	
	comp=Z,94nm,18.1s,baz=118,slow=31								
PTGB	**Pitanga**	**55.29**	**103**	*e*P		**P**	**P**	**07 10 10.3**	**+0.9**
TRCB	**Terra Rica**	**55.36**	**100**	P		**P**	**P**	**07 10 09.3**	**-0.6**
TRCB	**Terra Rica**	**55.36**	**100**	*e*P		**P**	**P**	**07 10 10.7**	**+0.8**
PDRB	**Porto dos Gac**	**55.73**	**86**	*e*P		**P**	**P**	**07 10 11.8**	**-0.8**
833A	**Chaparral WMA,**	**56.72**	**15**	P		**P**	**P**	**07 10 19.6**	**+0.4**
833A						IAmb	IAmb	07 10 22.3	
	comp=Z,10nm,1.2s								
LCCY	**Blossom Villag**	**56.82**	**39**	P		**P**	**P**	**07 10 21.2**	**+1.1**
TXAR	**Lajitas Array**	**56.83**	**11**	P		**P**	**P**	**07 10 18.9**	**-1.3**
	comp=Z,0.9nm,1.1s,baz=185,slow=9.5,SNR=4.7								
TXAR						LR	LR	07 30 08.9	
	comp=Z,134nm,18.5s,baz=194,slow=31								
	comp=Z,0.9nm,1.1s								
CLDB	**Colider**	**56.87**	**85**	*e*P		**P**	**P**	**07 10 19.6**	**-1.2**
PCMB	**Pacaembu**	**56.94**	**99**	*e*P		**P**	**P**	**07 10 22.1**	**+0.9**
URZ	**Urewera**	**57.92**	**240**	LR		LR	LR	07 30 11.1	
	comp=Z,573nm,19.3s,baz=282,slow=31								
319A	**Douglas**	**58.17**	**5**	P		**P**	**P**	**07 10 30.5**	**+0.9**
319A						IAmb	IAmb	07 10 36.4	
	comp=Z,10nm,1.3s								
ITRB	**Iturama**	**58.37**	**97**	*e*P		**P**	**P**	**07 10 31.4**	**+0.1**
MNTX	**Cornudas Mount**	**58.90**	**9**	P		**P**	**P**	**07 10 35.2**	**+0.7**
TUC	**Tucson**	**59.01**	**3**	P		**P**	**P**	**07 10 36.0**	**+0.7**
113A	**Mohawk Valley,**	**59.39**	**0**	P		**P**	**P**	**07 10 38.1**	**+0.2**
435B	**Jarrell**	**59.51**	**16**	P		**P**	**P**	**07 10 38.0**	**-0.7**
PFO	**Pinyon Flats O**	**60.27**	**358**	LR		LR	LR	07 31 09.3	
	comp=Z,39nm,19.0s,baz=192,slow=30								
SNDB	**Serra Nova Dou**	**60.43**	**89**	*e*P		**P**	**P**	**07 10 44.8**	**-0.8**
PCRV	**Puerto La Cruz**	**60.45**	**59**	LR		LR	LR	07 33 52.2	
	comp=Z,269nm,18.6s,slow=33								
IPMB	**Ipameri, GO**	**60.87**	**96**	*e*P		**P**	**P**	**07 10 47.9**	**-0.7**
LENM	**Lemitar**	**61.15**	**7**	P		**P**	**P**	**07 10 48.3**	**-1.9**
RPZ	**Rata Peaks**	**61.41**	**233**	LR		LR	LR	07 33 48.0	
	comp=Z,306nm,18.1s,baz=90,slow=32								
BDFB	**Brasilia**					**61.92**	**94**	P		**P**	**P**	**07 10 56.0**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=192,slow=9.3,SNR=3.5								
BDFB						LR	LR	07 35 08.6	
	comp=Z,129nm,18.8s,baz=313,slow=34								
	comp=Z,3.0nm,0.8s								
GSC	**Goldstone, Bar**	**61.97**	**357**	P		**P**	**P**	**07 10 56.0**	**+0.4**
GSC						IAmb	IAmb	07 11 06.7	
	comp=Z,6.8nm,1.3s								
ANMO	**Albuquerque**	**61.97**	**7**	LR		LR	LR	07 32 35.6	
	comp=Z,186nm,20.2s,baz=192,slow=31								
PMNB	**Patos De Minas**	**62.24**	**98**	*e*P		**P**	**P**	**07 10 57.2**	**-0.7**
VNDA	**Vanda**	**62.63**	**194**	LR		LR	LR	07 31 05.5	
	comp=Z,225nm,21.0s,baz=88,slow=29								
QSM	**Queen of Sheba**	**62.63**	**357**	P		**P**	**P**	**07 11 00.3**	**+0.4**
QSM						IAmb	IAmb	07 11 09.6	
	comp=Z,9.9nm,1.5s								
GWY	**Greenwater Val**	**62.85**	**358**	P		**P**	**P**	**07 11 02.4**	**+0.9**
GWY						IAmb	IAmb	07 11 11.7	
	comp=Z,7.9nm,1.3s								
MSVF	**Nonsavu**	**62.88**	**263**	LR		LR	LR	07 34 00.7	
	comp=Z,147nm,18.2s,baz=106,slow=32								
SHPR	**Sheep Range**	**63.12**	**359**	P		**P**	**P**	**07 11 04.1**	**+0.8**
SHPR						IAmb	IAmb	07 11 14.8	
	comp=Z,10nm,1.4s								
QSPA	**South Pole Qui**	**63.22**	**180**	LR		LR	LR	07 33 52.7	
	comp=Z,83nm,20.2s,baz=104,slow=32								
QSPA	**South Pole Qui**	**63.22**	**180**	P		**P**	**P**	**07 11 03.4**	**-0.3**
WCT	**Wildcat Mounta**	**63.45**	**358**	P		**P**	**P**	**07 11 06.5**	**+1.1**
WCT						IAmb	IAmb	07 11 10.4	
	comp=Z,8.1nm,1.4s								
GRAC	**Grapevine Rang**	**63.68**	**357**	P		**P**	**P**	**07 11 08.1**	**+1.2**
GRAC						IAmb	IAmb	07 11 31.0	
	comp=Z,8.9nm,1.5s								
FNO	**Franklin**	**63.83**	**15**	P		**P**	**P**	**07 11 08.6**	**+0.7**
FNO						IAmb	IAmb	07 11 13.3	
	comp=Z,5.8nm,1.0s								
PRN	**Pahroc Range**	**64.02**	**359**	P		**P**	**P**	**07 11 10.6**	**+1.4**
PRN						IAmb	IAmb	07 11 15.1	
	comp=Z,8.6nm,1.2s								
MVCO	**Mesa Verde**	**64.03**	**5**	P		**P**	**P**	**07 11 10.1**	**+0.7**
MVCO						IAmb	IAmb	07 11 19.2	
	comp=Z,12nm,1.4s								
DSP	**Deep Springs**	**64.09**	**356**	P		**P**	**P**	**07 11 10.7**	**+1.3**
DSP						IAmb	IAmb	07 11 20.9	
	comp=Z,6.4nm,1.3s								
CCUT	**Cedar City**	**64.16**	**1**	P		**P**	**P**	**07 11 10.1**	**

PINE	**Pine Mountain**	**70.68**	**355**	P	**P**	**07 11 51.9**	**+0.5**
PINE				IAmb	IAmb	07 11 56.5	
	comp=Z,11nm,1.3s						
FLWY	**Flagg Ranch**	**70.75**	**3**	P	**P**	**07 11 52.0**	**+0.2**
FLWY				IAmb	IAmb	07 11 56.1	
	comp=Z,8.1nm,1.2s						
SNAA	**Sanae**	**70.99**	**162**	P	**P**	**07 11 52.8**	**-0.1**
SNAA	**Sanae**	**70.99**	**162**	LR	LR	07 39 04.7	
	comp=Z,40nm,18.4s,baz=80,slow=32						
SNAA	**Sanae**	**70.99**	**162**	P	**P**	**07 11 52.8**	**-0.1**
SNAA				IAmb	IAmb	07 11 54.3	
	comp=Z,11nm,1.4s						
DZM	**Mont Dzumac**	**71.43**	**254**	*e*LR	LR	07 33 40.5	
	comp=Z,358nm,27.6s						
DZM	**Mont Dzumac**	**71.43**	**254**	LR	LR	07 35 54.5	
	comp=Z,161nm,19.6s,baz=186,slow=30						
QLMT	**Earthquake Lak**	**71.47**	**2**	P	**P**	**07 11 56.8**	**+0.6**
L40A	**Anamosa**	**71.82**	**18**	P	**P**	**07 11 58.4**	**+0.4**
L40A				IAmb	IAmb	07 12 08.3	
	comp=Z,9.0nm,0.9s						
G08A	**Pilot Rock**	**72.03**	**356**	P	**P**	**07 12 00.3**	**+0.9**
G08A				IAmb	IAmb	07 12 04.8	
	comp=Z,8.9nm,1.2s						
TROLL	**Troll, Antarti**	**72.27**	**163**	P	**P**	**07 12 00.3**	**-0.4**
MSO	**Missoula**	**73.43**	**0**	P	**P**	**07 12 08.2**	**+0.5**
F36A	**Milaca**	**74.82**	**15**	P	**P**	**07 12 16.1**	**+0.5**
F36A				IAmb	IAmb	07 12 20.6	
	comp=Z,6.0nm,0.9s						
NEW	**Newport**	**74.92**	**358**	LR	LR	07 39 59.1	
	comp=Z,128nm,18.0s,baz=182,slow=32						
NEW	**Newport**	**74.92**	**358**	P	**P**	**07 12 16.5**	**+0.2**
NEW				IAmb	IAmb	07 12 18.4	
	comp=Z,13nm,1.4s						
G40A	**Rib Lake**	**75.07**	**17**	P	**P**	**07 12 18.1**	**+1.0**
G40A				IAmb	IAmb	07 12 32.1	
	comp=Z,10nm,1.4s						
RCBR	**Riachuelo**	**76.78**	**90**	LR	LR	07 42 56.5	
	comp=Z,124nm,21.9s,baz=358,slow=33						
SADO	**Sadowa**	**78.15**	**25**	LR	LR	07 43 29.2	
	comp=Z,126nm,19.6s,baz=204,slow=33						
ULM	**Lac du Bonnet**	**78.52**	**12**	LR	LR	07 43 46.0	
	comp=Z,61nm,19.1s,baz=104,slow=33						
HNR	**Honiara**	**82.30**	**263**	LR	LR	07 43 56.2	
	comp=Z,742nm,19.1s,baz=238,slow=32						
MAW	**Mawson**	**85.71**	**179**	LR	LR	07 47 28.4	
	comp=Z,171nm,20.4s,baz=174,slow=33						
STKA	**Stephens Creek**	**87.25**	**236**	LR	LR	07 46 01.7	
	comp=Z,171nm,20.9s,baz=166,slow=31						
H11S2	**WAKE ISLAND Hy**	**89.13**	**291**	T	T	08 51 59.2	
	baz=119,slow=75,SNR=82						
H11S1	**WAKE ISLAND Hy**	**89.14**	**291**	T	T	08 52 05.2	
	baz=119,slow=75,SNR=71						
H11S3	**WAKE ISLAND Hy**	**89.14**	**291**	T	T	08 52 03.0	
	baz=119,slow=75,SNR=71						
CTA	**Charters Tower**	**89.32**	**248**	LR	LR	07 46 20.6	
	comp=Z,96nm,20.9s,baz=92,slow=31						
H11N3	**WAKE ISLAND Hy**	**89.54**	**292**	T	T	08 52 31.0	
	baz=115,slow=79,SNR=21						
H11N1	**WAKE ISLAND Hy**	**89.56**	**292**	T	T	08 52 33.1	
	baz=115,slow=79,SNR=33						
H11N2	**WAKE ISLAND Hy**	**89.56**	**292**	T	T	08 52 34.7	
	baz=115,slow=79,SNR=21						
KDAK	**Kodiak Island**	**90.39**	**340**	LR	LR	07 44 22.1	
	comp=Z,72nm,21.1s,baz=185,slow=29						
PMG	**Port Moresby**	**93.56**	**258**	LR	LR	07 48 52.6	
	comp=Z,81nm,19.2s,baz=172,slow=31						
FRB	**Frobisher Bay**	**97.20**	**19**	LR	LR	07 54 28.3	
	comp=Z,84nm,19.8s,baz=205,slow=33						
ASAR	**Alice Springs**	**97.35**	**239**	LR	LR	07 53 49.8	
	comp=Z,331nm,18.6s,baz=91,slow=33						
WRA	**Warramunga Arr**	**99.04**	**242**	LR	LR	07 56 47.9	
	comp=Z,114nm,20.0s,baz=112,slow=34						
H01W1	**Cape Leeuwin H**	**103.46**	**219**	T	T	09 10 15.4	
	baz=134,slow=76,SNR=27						
H01W2	**Cape Leeuwin H**	**103.47**	**219**	T	T	09 10 14.7	
	baz=134,slow=76,SNR=29						
H01W3	**Cape Leeuwin H**	**103.48**	**219**	T	T	09 10 16.7	
	baz=134,slow=76,SNR=30						
NACGM	**Naroch**	**140.12**	**35**	⇑*e*PKP	**PKPdf**	**07 20 01.1**	**-2.7**
	baz=298						
PZH	**PanZhiHua**	**148.14**	**277**	PKPbc	**PKPdf**	**07 20 19.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**148.53**	**261**	PKPbc	**PKPbc**	**07 20 22.4**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=96,slow=0.9,SNR=6.6						
GTA	**Gaotai**	**149.27**	**302**	*e*PKPbc	**PKPbc**	**07 20 24.0**	**-0.6**
GTA				LR	LR		
	comp=N,46nm,18.2s						
GTA				LR	LR		
	comp=E,220nm,20.0s						
GTA				LR	LR		
	comp=Z,110nm,18.5s						
ZALV	**Zalesovo Beam**	**149.66**	**338**	PKPbc	**PKPbc**	**07 20 23.3**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=45,slow=2.3,SNR=5.2						
BRTR	**Keskin Array B**	**150.28**	**56**	PKPbc	**PKPbc**	**07 20 26.4**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=245,slow=2.3,SNR=5.5						

*TAP **10** 08:07:22.8, 24°.84N×121°.96E, h12km, ML3.2, C*
*JMA **10** 08:07:23.6±0.1, 24°.9N±0°.5×121°.9E±0°.8, h30km±4km, MV2.5/8, TAIWAN REGION*
ISC 10 08:07:22.3±0.8, 24°.87N±0°.02×122°.03E±0°.02, h13km±5km, n75, σ0°77/132, 7C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.09**	**255**	*i* P	**Pg**	**08 07 24.4**	**-0.7**
	baz=293						
TWB1	**Santiao Chiao**	**0.14**	**346**	⇓*i* P	**Pb**	**08 07 27.0**	**+0.1**
	baz=12						
TWB1				*i* S	**Sb**	**08 07 29.6**	**-0.3**
	baz=12						
NTC	**Toucheng**	**0.18**	**265**	⇑*i* P	**Pg**	**08 07 26.3**	**-0.1**
	baz=287						
NTC				*i* S	**Sg**	**08 07 29.0**	**-0.2**
	baz=287						
TIPB	**Shuangxi**	**0.21**	**300**	⇑*i* P	**Pb**	**08 07 27.4**	**-0.6**
	baz=311						
TIPB				*i* S	**Sg**	**08 07 30.2**	**+0.2**
	baz=311						
SXI1	**Grass Mountain**	**0.26**	**329**	⇓P	**Pb**	**08 07 29.2**	**+0.2**
	baz=349						
SXI1				S	**Sb**	**08 07 33.1**	**-0.3**
	baz=349						
ILA	**Ilan**	**0.27**	**248**	⇑*i* P	**Pg**	**08 07 27.4**	**-0.6**
	baz=237						
ILA				*i* S	**Sg**	**08 07 31.4**	**-0.4**
	baz=237						
NWF	**Wu-fen Shan**	**0.30**	**312**	*i* P	**Pb**	**08 07 29.4**	**-0.2**
	baz=320						
NWF				*i* S	**Sb**	**08 07 33.9**	**-0.6**
	baz=320						
WFSB	**Wu-fen Shan**	**0.30**	**312**	P	**Pb**	**08 07 29.6**	**0.0**
	baz=320						
WFSB				S	**Sb**	**08 07 33.9**	**-0.5**
	baz=320						
TWC	**Suao**	**0.30**	**212**	⇓*i* P	**Pg**	**08 07 28.2**	**-0.4**
	baz=196						
TWC				*i* S	**Sg**	**08 07 33.3**	**+0.6**
	baz=196						
TWE	**Neicheng**	**0.36**	**246**	⇑*i* P	**Pg**	**08 07 29.0**	**-0.5**
	baz=235						
TWE				*i* S	**Sg**	**08 07 33.3**	**-1.1**
	baz=235						
TNOU	**National Taiwa**	**0.36**	**321**	P	**Pb**	**08 07 30.9**	**+0.3**
	baz=324						
TNOU				S	**Sb**	**08 07 35.6**	**-0.6**
	baz=324						
FUSB	**Fushanzhiwuyua**	**0.41**	**255**	P	**Pg**	**08 07 30.2**	**-0.4**
	baz=256						
FUSB				S	**Sg**	**08 07 35.0**	**-1.1**
	baz=256						
NHDH	**Xindian Distri**	**0.46**	**282**	*i* P	**Pb**	**08 07 32.3**	**-0.1**
	baz=280						
NHDH				S	**Sg**	**08 07 38.0**	**+0.3**
	baz=280						
ENTT	**Nioudou**	**0.48**	**242**	*i* P	**Pg**	**08 07 30.4**	**-1.3**
	baz=239						
ENTT				*i* S	**Sg**	**08 07 36.1**	**-1.9**
	baz=239						
EWUT	**Wuta**	**0.48**	**208**	*e*P	**Pg**	**08 07 30.4**	**-1.3**
	baz=206						
EWUT				*e*S	**Sg**	**08 07 37.4**	**-0.7**
	baz=206						
YM01	**YM01**	**0.50**	**304**	⇑P	**Pb**	**08 07 33.4**	**+0.4**
	baz=301						
YM01				S	**Sb**	**08 07 39.4**	**-0.8**
	baz=301						
TAP	**Taipei**	**0.50**	**290**	*i* P	**Pb**	**08 07 33.1**	**+0.1**
	baz=289						
TAP				*i* S	**Sg**	**08 07 39.5**	**+0.6**
	baz=289						
ENA	**Nanau**	**0.51**	**211**	*i* P	**Pg**	**08 07 31.9**	**-0.4**
	baz=207						
ENA				*i* S	**Sg**	**08 07 38.6**	**-0.5**
	baz=207						
NDT	**Datong Townshi**	**0.54**	**240**	P	**Pg**	**08 07 32.6**	**-0.2**
	baz=239						
NDT				S	**Sg**	**08 07 40.0**	**+0.1**
	baz=239						
ANP	**Anpu**	**0.56**	**305**	*i* P	**Pb**	**08 07 34.4**	**+0.4**
	baz=302						
ANP				S	**Sb**	**08 07 42.2**	**+0.2**
	baz=302						
LATG	**Datong**	**0.56**	**234**	P	**Pg**	**08 07 32.8**	**-0.6**
	baz=231						
LATG				*e*S	**Sg**	**08 07 41.5**	**+0.7**
	baz=231						
TWS1	**Kuangyinshan**	**0.60**	**293**	*i* P	**Pb**	**08 07 35.5**	**+0.8**
	baz=297						
TWS1				*i* S	**Sb**	**08 07 42.8**	**-0.2**
	baz=297						
YHNB	**Yeheng**	**0.62**	**252**	⇑P	**Pg**	**08 07 33.8**	**-0.8**
	baz=251						
YHNB				S	**Sg**	**08 07 41.4**	**-1.4**
	baz=251						
NSK	**Sanguang**	**0.64**	**253**	⇑*i* P	**Pg**	**08 07 32.9**	**-1.8**
	baz=261						
NSK				*i* S	**Sg**	**08 07 40.4**	**-2.8**
	baz=261						
NNS	**Nan Shan**	**0.73**	**234**	*i* P	**Pg**	**08 07 35.3**	**-1.3**
	baz=232						
NNS				S	**Sg**	**08 07 44.9**	**-1.3**
	baz=232						
NNSB	**Datong**	**0.73**	**233**	P	**Pg**	**08 07 35.6**	**-0.9**
	baz=231						
NNSB				S	**Sg**	**08 07 44.6**	**-1.6**
	baz=231						
NCU	**National Centr**	**0.77**	**278**	P	**Pn**	**08 07 39.0**	**+0.1**
	baz=279						
NCUH	**Zhongli**	**0.77**	**278**	P	**Pn**	**08 07 38.8**	**-0.1**
	baz=279						
NCUH				S	**Sb**	**08 07 49.1**	**+1.2**
	baz=279						
ETL	**Fush Village**	**0.80**	**208**	P	**Pg**	**08 07 37.7**	**-0.1**
	baz=193						
ETL				S	**Sg**	**08 07 48.2**	**0.0**
	baz=193						
NACB	**Ninganchiao**	**0.80**	**210**	P	**Pg**	**08 07 37.8**	**+0.1**
	baz=205						
NACB				S	**Sg**	**08 07 47.7**	**-0.4**
	baz=205						
ETLH	**Xiulin Townshi**	**0.82**	**217**	P	**Pg**	**08 07 38.3**	**0.0**
	baz=213						
ETLH				S	**Sg**	**08 07 49.2**	**0.0**
	baz=213						
NFF	**Wufeng Townshi**	**0.86**	**254**	*e*P	**Pg**	**08 07 37.6**	**-1.4**
	baz=254						
TWD	**Chiawan**	**0.88**	**207**	*i* P	**Pg**	**08 07 39.4**	**+0.1**
	baz=202						
TWD				*i* S	**Sg**	**08 07 49.6**	**-1.2**
	baz=202						
JYNG	**Yonagunijimaku**	**0.93**	**116**	P	**Pn**	**08 07 41.6**	**+0.5**
JYNG				S	**Sn**	**08 07 55.2**	**+0.8**
FUSS	**Fushou**	**0.94**	**229**	*e*P	**Pg**	**08 07 39.6**	**-1.0**
	baz=226						
LIOB	**Emei**	**0.94**	**257**	P	**Pg**	**08 07 40.8**	**+0.2**
	baz=249						
SBCB	**Hsinchu**	**0.95**	**266**	*e*P	**Pn**	**08 07 41.4**	**+0.1**
	baz=283						
SBCB				*e*S	**Sb**	**08 07 53.7**	**+0.6**
	baz=283						
NSTT	**Nanjuang**	**0.96**	**256**	*i* P	**Pb**	**08 07 40.7**	**-0.1**
	baz=255						
NSTT				*e*S	**Sb**	**08 07 53.5**	**0.0**
	baz=255						
HSN	**Hsinchu**	**0.96**	**266**	*i* P	**Pb**	**08 07 40.8**	**0.0**
	baz=261						
HSN				*i* S	**Sg**	**08 07 54.4**	**+1.0**
	baz=261						
HWA	**Hwalien**	**0.97**	**203**	P	**Pn**	**08 07 42.6**	**+1.0**
	baz=199						
HWA				S	**Sn**	**08 07 55.4**	**+0.2**
	baz=199						
YOJ	**Yonaguni jima**	**0.98**	**114**	P	**Pn**	**08 07 42.4**	**+0.5**
	baz=113						
YOJ				S	**Sn**	**08 07 56.2**	**+0.6**
	baz=113						
YOJ	**Yonaguni jima**	**0.98**	**114**	P	**Pn**	**08 07 42.5**	**+0.7**
YOJ				S	**Sn**	**08 07 56.5**	**+0.9**
TWT	**Tachien**	**0.99**	**232**	*i* P	**Pb**	**08 07 41.5**	**+0.1**
	baz=230						
TWT				S	**Sg**	**08 07 55.4**	**+1.1**
	baz=230						
TDCB	**Techi**	**1.00**	**232**	P	**Pb**	**08 07 40.7**	**-0.9**
	baz=230						
TDCB				S	**Sb**	**08 07 54.0**	**-0.7**
	baz=230						
WHF	**Hehuan Shan**	**1.00**	**224**	*i* P	**Pg**	**08 07 41.1**	**-0.6**
	baz=211						
WHF				S	**Sg**	**08 07 53.6**	**-1.2**
	baz=211						
CHGB	**Renai**	**1.12**	**224**	P	**Pb**	**08 07 42.7**	**-0.9**
	baz=214						
CHGB				S	**Sb**	**08 07 57.0**	**-1.2**
	baz=214						
WHP	**Taichung City**	**1.15**	**239**	P	**Pb**	**08 07 44.1**	**+0.1**
	baz=236						
ESL	**Shilin**	**1.18**	**207**	*e*P	**Pb**	**08 07 44.9**	**+0.3**
	baz=202						
OWD	**Renai**	**1.20**	**221**	P	**Pn**	**08 07 44.4**	**-0.5**
	baz=217						
OWD				*e*S	**Sb**	**08 07 58.6**	**-1.7**
	baz=217						
WUSB	**Renai**	**1.20**	**224**	P	**Pn**	**08 07 44.9**	**-0.1**
	baz=215						
WUSB				*e*S	**Sn**	**08 08 01.5**	**+0.3**
	baz=215						
WCS	**Beigang Elemen**	**1.30**	**232**	*e*P	**Pn**	**08 07 45.9**	**-0.2**
	baz=235						
EGFH	**Guangfu**	**1.31**	**205**	*e*P	**Pb**	**08 07 47.1**	**+0.3**
	baz=207						
EGFH				*e*S	**Sb**	**08 08 04.0**	**+0.4**
	baz=207						
WDJ	**Dajia District**	**1.36**	**248**	*e*P	**Pg**	**08 07 49.1**	**+0.5**
	baz=234						
WDJ				*e*S	**Sg**	**08 08 07.7**	**+1.4**
	baz=234						
VWDT	**VWDT**	**1.37**	**216**	P	**Pb**	**08 07 48.2**	**+0.4**
	baz=212						
VWDT				*e*S	**Sn**	**08 08 04.7**	**-0.5**
	baz=212						
SMLT	**Sun Moon Lake**	**1.42**	**227**	P	**Pb**	**08 07 49.1**	**+0.3**
	baz=215						
SMLT				S	**Sg**	**08 08 08.4**	**+0.3**
	baz=215						
TCU	**Taichung**	**1.42**	**240**	*e*P	**Pb**	**08 07 48.8**	**+0.1**
	baz=256						
TYC	**Yuchr**	**1.44**	**228**	P	**Pb**	**08 07 49.4**	**+0.5**
	baz=218						
TYC				*e*S	**Sb**	**08 08 08.3**	**+1.2**
	baz=218						
SSLB	**Suanglung**	**1.45**	**222**	P	**Pn**	**08 07 48.3**	**0.0**
	baz=210						
SSLB				S	**Sn**	**08 08 08.0**	**+0.7**
	baz=210						
HGSD	**Ruisui**	**1.48**	**202**	*e*P	**Pg**	**08 07 51.0**	**+0.3**
	baz=213						
HGSD				*e*S	**Sg**	**08 08 11.1**	**+1.2**
	baz=213						
EHY	**Hungye**	**1.50**	**205**	P	**Pb**	**08 07 50.4**	**+0.3**
	baz=207						
EHY				*e*S	**Sb**	**08 08 09.9**	**+0.9**
	baz=207						
WNT	**Mingjian**	**1.57**	**231**	P	**Pg**	**08 07 52.6**	**+0.1**
	baz=214						
WNT				S	**Sg**	**08 08 13.1**	**+0.2**
	baz=214						
WJS	**Zhushan**	**1.58**	**229**	*e*S	**Sg**	**08 08 14.3**	**+1.2**
	baz=213						
YULB	**Yu-li**	**1.61**	**205**	P	**Pb**	**08 07 52.0**	**+0.1**
	baz=209						
YULB				*e*S	**Sb**	**08 08 12.6**	**+0.4**
	baz=209						
EYUL	**Yuli**	**1.65**	**203**	*e*P	**Pn**	**08 07 51.7**	**+0.7**
	baz=208						
EYUL				*e*S	**Sn**	**08 08 12.3**	**+0.3**
	baz=208						
YUS	**Yu-Shan**	**1.69**	**216**	*e*P	**Pb**	**08 07 53.7**	**+0.2**
	baz=210						
ALS	**Alishan**	**1.75**	**220**	*e*P	**Pg**	**08 07 56.1**	**+0.1**
	baz=206						
HATJ	**Hateruma jima**	**1.81**	**116**	P	**Pb**	**08 07 54.5**	**-0.8**
HATJ				S	**Sb**	**08 08 17.6**	**-0.4**
ELDTW	**Lidau**	**1.91**	**209**	*e*P	**Pb**	**08 07 57.7**	**+0.6**
	baz=194						
JKRS	**Kuro-shima**	**1.91**	**109**	P	**Pb**	**08 07 55.9**	**-1.1**
JKRS				S	**Sb**	**08 08 20.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.99**	**104**	P	**Pb**	**08 07 57.3**	**-1.1**
JIJ				S	**Sb**	**08 08 22.7**	**-0.4**
TPUB	**Ta-pu**	**2.02**	**220**	*e*P	**Pb**	**08 07 59.8**	**+1.0**
	baz=216						
WTP	**Ta-pu**	**2.07**	**219**	*e*P	**Pb**	**08 08 00.7**	**+0.9**
	baz=215						
TWK	**Hsinying**	**2.13**	**222**	*e*P	**Pb**	**08 07 60.0**	**-0.8**
	baz=218						
MATB	**Ma-tsu**	**2.27**	**305**	*e*P	**Pn**	**08 07 59.8**	**+0.3**
	baz=304						
VWUC	**VWUC**	**2.34**	**274**	*e*P	**Pn**	**08 08 00.3**	**-0.2**
	baz=270						

*MAN **10** 08:11:06.8, 5°.11N×127°.68E, h103km, mb4.5, ML3.4, MS3.3*
*IDC **10** 08:11:07.3±5.2, 4°.73N×127°.29E, h92km±54km, mb3.3/5, mbtmp3.7/6, ML4.3/1, Error ellipse: s-maj=89.9km s-min=24.4km az=69.0*
ISC 10 08:11:06.8±0.8, 5°.0N±0°.1×127°.6E±0°.2, h108km, n9, σ1s68/12, mb3.3/5, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDOP	**Cateel, Davao**	**2.97**	**338**	⇓*e*P	**Pn**	**08 11 53.8**	**+1.3**
CDOP				*e*S	**Sn**	**08 12 25.3**	**-2.2**
KCP	**Kidapawan**	**3.17**	**309**	‖*e*P	**Pn**	**08 11 54.8**	**-0.2**
BIPH	**Bislig**	**3.37**	**339**	‖*e*P	**Pn**	**08 11 57.9**	**+0.2**
BIPH				*e*S	**Sn**	**08 12 34.2**	**-2.8**
SIJI	**Sorong**	**6.91**	**148**	P	**Pn**	**08 12 45.9**	**+0.3**
	5.4nm,0.3s,baz=326,slow=15,SNR=6.4						
SIJI				S	**Sn**	**08 14 00.6**	**-2.2**
	6.0nm,0.4s,baz=180,slow=23,SNR=1.7 13nm,0.3s						
FITZ	**Fitzroy Crossi**	**23.05**	**185**	P	**P**	**08 16 02.4**	**-0.6**
	0.7nm,0.4s,baz=12,slow=9.2,SNR=2.0 0.7nm,0.4s						
WRA	**Warramunga Arr**	**25.68**	**165**	P	**P**	**08 16 26.9**	**0.0**
	0.5nm,0.6s,baz=342,slow=10,SNR=17 0.5nm,0.6s						
ASAR	**Alice Springs**	**29.17**	**168**	P	**P**	**08 16 58.0**	**-0.1**
	0.3nm,0.6s,baz=351,slow=7.2,SNR=6.4 0.3nm,0.6s						
STKA	**Stephens Creek**	**39.05**	**161**	P	**P**	**08 18 23.7**	**+0.5**
	1.1nm,0.4s,baz=315,slow=10,SNR=4.2 1.1nm,0.4s						
MKAR	**Makanchi Array**	**57.00**	**324**	P	**P**	**08 20 43.5**	**+2.3**
	0.3nm,0.5s,baz=119,slow=8.7,SNR=4.2 0.3nm,0.5s						

IDC 10 08:13:35.5±2.5, 9°.07S×112°.23E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=123.1km s-min=27.3km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.95**	**119**	P	P	08 18 51.9	+0.2
	0.7nm,0.7s,baz=293,slow=11,SNR=13 0.7nm,0.7s						
ASAR	**Alice Springs**	**25.31**	**128**	P	P	08 19 04.0	-0.1
	0.5nm,0.7s,baz=300,slow=9.3,SNR=7.0 0.5nm,0.7s						
MKAR	**Makanchi Array**	**61.69**	**337**	P	P	08 23 55.3	-0.1
	0.3nm,0.5s,baz=160,slow=5.1,SNR=4.4 0.3nm,0.5s						

*GCG **10** 08:15:17.6±0.3, 14°.67N×90°.56W, h215km±7km, MD3.5*
*SNET **10** 08:15:21.6±0.6, 14°.40N×90°.67W, h177km±5km, ML2.2*
ISC 10 08:15:19.9±1.4, 14°.2N±0°.3×90°.7W±0°.1, h200km, n9, σ1s21/12, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.26**	**331**	*e*P	**Pn**	**08 15 46.9**	**+0.3**
SLOZ	**Alcaldia de Sa**	**0.92**	**102**	*i* P	**Pn**	**08 15 49.3**	**+0.1**
SLOZ				IAML		08 15 51.0	
	comp=Z,15nm,0.2s						
SLOZ				*e*S	**Sn**	**08 16 10.2**	**-1.5**
STG3	**Santiaguito 3,**	**0.97**	**301**	*e*P	**Pn**	**08 15 49.9**	**+0.2**
STG3				*e*S	**Sn**	**08 16 15.0**	**+2.3**
RTAL	**Retalhuleu**	**1.00**	**288**	*e*P	**Pn**	**08 15 49.4**	**-0.3**
RTAL				*e*S	**Sn**	**08 16 10.8**	**-1.9**
SNJE	**San Jose**	**1.13**	**108**	*e*P	**Pn**	**08 15 51.6**	**+0.8**
MTO3	**Montecristo**	**1.32**	**82**	⇓*i* P	**Pn**	**08 15 52.2**	**-0.1**
MTO3				AML	AML	08 15 52.4	
	comp=Z,29nm,0.2s						
ESQI	**Esquipulas**	**1.37**	**75**	*e*P	**Pn**	**08 15 52.6**	**+0.1**
ESQI				IAML		08 15 56.7	
	comp=Z,18nm,0.6s						
PAVA	**Las Pavas**	**1.79**	**106**	*e*P	**Pn**	**08 15 57.4**	**+1.0**
P5NO	**Presa 5 de nov**	**1.91**	**97**	*e*P	**Pn**	**08 15 57.6**	**+0.2**

ROM 10 08:39:41.1±0.1, 42°.564N±0°.006×13°.296E±0°.006, h12km, ML1.5/4, 4C-1D, Error ellipse: s-maj=0.6km s-min=0.5km az=331.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.07**	**23**	⇑P	Pg	08 39 44.2	+0.4
SMA1				S	Sg	08 39 46.1	+0.4
SMA1				AML	AML		
	comp=N,383μm,0.2s						
SMA1				AML	AML		
	comp=E,774μm,0.4s						
RM33	**Pellescritta (**	**0.08**	**228**	⇑P	Pg	08 39 44.2	+0.4
RM33				S	Sg	08 39 46.1	+0.2
RM33				AML	AML		
	comp=E,392μm,0.7s						
RM33				AML	AML		
	comp=N,234μm,0.3s						
RM33				AML	AML		
	comp=N,234μm,0.3s						
RM33				AML	AML		
	comp=E,393μm,0.7s						
T1204	**Amatrice, Fraz**	**0.11**	**8**	⇓P	Pg	08 39 44.6	+0.3
T1204				S	Sg	08 39 46.6	0.0
T1202	**Accumoli, Fraz**	**0.15**	**339**	P	Pg	08 39 45.2	+0.5
T1202				S	Sg	08 39 48.0	+0.7
T1243	**Rocca Santa Ma**	**0.17**	**40**	⇑P	Pg	08 39 45.5	+0.4
T1243				S	Sg	08 39 48.5	+0.6
LNSS	**Leonessa**	**0.19**	**282**	⇑P	Pg	08 39 45.7	+0.3
LNSS				S	Sg	08 39 49.0	+0.5
LNSS				AML	AML		
	comp=E,108μm,0.4s						
LNSS				AML	AML		
	comp=N,126μm,0.5s						
LNSS				AML	AML		
	comp=N,126μm,0.5s						
LNSS				AML	AML		
	comp=E,108μm,0.4s						
TERO	**Teramo**	**0.23**	**75**	P	Pg	08 39 46.6	+0.5
TERO				S	Sg	08 39 50.4	+0.9

ROM 10 08:40:20.7±0.1, 42°.806N±0°.004×13°.198E±0°.005, h10km, ML1.3/1, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.2km az=37.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.02**	**

T1242				AML	AML		
	comp=N,381μm,0.4s						
T1242				AML	AML		
	comp=N,380μm,0.4s						
NRCA	**Norcia**	**0.07**	**294**	⇑P	Pg	08 40 23.1	+0.2
NRCA				S	Sg	08 40 24.5	-0.1
NRCA				AML	AML		
	comp=N,860μm,0.2s						
NRCA				AML	AML		
	comp=E,855μm,0.7s						
T1202	**Accumoli, Fraz**	**0.10**	**169**	P	Pg	08 40 23.9	+0.5
T1202				S	Sg	08 40 26.2	+0.8
MC2	**Monte Cornacci**	**0.11**	**357**	⇓P	Pg	08 40 23.9	+0.3
MC2				S	Sg	08 40 26.2	+0.6
MMO1	**Montemonaco**	**0.13**	**45**	P	Pg	08 40 24.7	+0.8
MMO1				S	Sg	08 40 26.8	+0.7
T1204	**Amatrice, Fraz**	**0.16**	**146**	P	Pg	08 40 24.8	+0.6
T1204				S	Sg	08 40 27.8	+1.1
T1241	**Roccafluvione,**	**0.18**	**74**	P	Pg	08 40 25.4	+0.9
T1241				S	Sg	08 40 28.3	+1.1
T1243	**Rocca Santa Ma**	**0.21**	**121**	P	Pg	08 40 25.6	+0.4
T1243				S	Sg	08 40 29.1	+0.9
T1215	**Vallo di Nera,**	**0.24**	**269**	P	Pg	08 40 26.7	+1.0
T1215				S	Sg	08 40 30.6	+1.5
TERO	**Teramo**	**0.35**	**121**	P	Pg	08 40 28.0	+0.3
TERO				S	Sb	08 40 33.6	-1.1

GUC 10 08:52:33.0±0.8, 30°46S×71°69W, h34km±2km, ML3.7, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.22**	**169**	⇑*i*P	Pn	08 52 39.5	+0.4
CO06				*i* S	Sb	08 52 43.6	-1.1
CO06	**Fray Jorge**	**0.22**	**169**	⇑*i*P	Pn	08 52 39.5	+0.4
CO06				*i* S	Sb	08 52 43.8	-0.9
CO06				IAML		08 52 44.3	
	comp=N,40μm,0.2s						
CO05	**La Serena**	**0.66**	**36**	⇓*i*P	Pn	08 52 45.7	-0.2
CO05				*i* S	Sn	08 52 54.6	-0.5
CO05				IAML		08 52 57.1	
	comp=N,3μm,0.2s						
CO05	**La Serena**	**0.66**	**36**	⇓*i*P	Pn	08 52 45.7	-0.2
CO05				*i* S	Sn	08 52 54.7	-0.4
CO05				IAML		08 52 57.1	
	comp=N,2μm,0.2s						
GO04	**Tololo Observa**	**0.82**	**70**	*e*P	Pn	08 52 48.2	-0.1
GO04				*e*S	Sn	08 52 59.3	0.0
GO04				IAML		08 53 00.4	
	comp=N,7μm,0.1s						
GO04	**Tololo Observa**	**0.82**	**70**	⇓*i*P	Pn	08 52 48.6	+0.2
GO04				*i* S	Sb	08 52 60.0	+0.1
GO04				IAML		08 53 00.3	
	comp=N,7μm,0.2s						
CO02	**Combarbal**	**0.95**	**142**	⇓*i*P	Pn	08 52 50.6	+0.5
CO02				*e*S	Sb	08 53 03.5	0.0
CO02				IAML		08 53 07.6	
	comp=N,8μm,0.2s						
CO02	**Combarbal**	**0.95**	**142**	*i* P	Pb	08 52 50.6	-0.5
CO02				*i* S	Sb	08 53 03.6	+0.1
CO02				IAML		08 53 07.6	
	comp=N,8μm,0.2s						
CO01	**Juntas del Tor**	**1.46**	**71**	⇓*i*P	Pb	08 52 58.6	-1.1
CO01	**Juntas del Tor**	**1.46**	**71**	⇓*i*P	Pb	08 52 58.6	-1.1
CO01				*i* S	Sn	08 53 14.8	-0.4
CO01				IAML		08 53 21.4	
	comp=N,557nm,0.4s						
LCO	**Las Campanas**	**1.68**	**31**	*e*P	Pn	08 53 01.1	+0.9
AC05	**El Transito**	**2.03**	**38**	⇑*i*P	Pn	08 53 07.0	+2.1
AC05				*e*S	Sb	08 53 32.8	-1.5
AC05				IAML		08 53 38.2	
	comp=N,399nm,0.1s						
VA06	**Catapilco**	**2.12**	**171**	*e*P	Pn	08 53 07.4	+1.3
VA06				IAML		08 53 45.7	
	comp=N,609nm,0.6s						
AC04	**Llanos de Chal**	**2.31**	**14**	*e*P	Pn	08 53 08.7	+0.1
AC04				IAML		08 53 54.5	
	comp=E,206nm,0.5s						
VA03	**San Esteban**	**2.50**	**157**	*e*P	Pn	08 53 13.9	+2.6
VA03				IAML		08 53 57.2	
	comp=E,628nm,0.1s						
ROCH	**El Roble**	**2.57**	**167**	*e*P	Pn	08 53 13.8	+1.3
ROCH				IAML		08 54 03.6	
	comp=N,419nm,0.4s						
ROCH	**El Roble**	**2.57**	**167**	*i* P	Pb	08 53 13.9	-4.8
ROCH				*e*P	Pn	08 53 13.8	+1.3
ROCH				*e*P	Pb	08 53 13.9	-4.8
ROCH				*i* S	Sb	08 53 47.2	-2.8
ROCH				IAML		08 53 57.0	
	comp=N,312nm,0.2s						
PEL	**Peldehue**	**2.81**	**163**	*e*P	Pn	08 53 17.5	+1.9
PEL				*e*S	Sn	08 53 51.3	+3.0
PEL				IAML		08 54 03.1	
	comp=E,231nm,0.4s						
MT02	**Curacav**	**2.83**	**171**	*e*P	Pn	08 53 17.7	+1.8
MT02				IAML		08 54 06.6	
	comp=E,124nm,0.5s						
MT02	**Curacav**	**2.83**	**171**	*i* P	Pn	08 53 17.7	+1.8
MT02				*e*P	Pn	08 53 17.7	+1.8
MT02				*i* S	Sb	08 53 58.9	+1.7
MT02				IAML		08 54 06.7	
	comp=E,125nm,0.6s						
MT05	**Renca**	**3.04**	**165**	IAML		08 54 11.5	
	comp=E,422nm,0.5s						
FCH	**Farellones**	**3.10**	**158**	*e*P	Pn	08 53 22.6	+2.8
FCH				IAML		08 54 11.4	
	comp=N,119nm,0.4s						
MT03	**Universidad Ad**	**3.19**	**162**	*e*P	Pn	08 53 23.1	+2.3
VA05	**Santo Domingo**	**3.19**	**179**	IAML		08 54 19.8	
	comp=E,198nm,0.3s						
AC06	**Mina Casimiro**	**3.30**	**21**	*e*P	Pn	08 53 22.8	+0.5
AC06				IAML		08 54 24.8	
	comp=E,116nm,0.8s						
AC06	**Mina Casimiro**	**3.30**	**21**	*e*P	Pn	08 53 22.8	+0.5
AC06				*i* S	Sb	08 54 10.1	-0.6
MT09	**Talagante**	**3.36**	**170**	*e*P	Pn	08 53 24.9	+1.7
MT09				IAML		08 54 23.8	
	comp=N,221nm,0.5s						
MT01	**Popeta**	**3.42**	**174**	*e*P	Pn	08 53 24.8	+0.9
MT01				IAML		08 54 20.9	
	comp=N,105nm,0.4s						
LMEL	**Las Melosas**	**3.61**	**160**	*e*P	Pn	08 53 29.2	+2.5
LMEL				IAML		08 54 29.9	
	comp=N,109nm,0.2s						
LMEL	**Las Melosas**	**3.61**	**160**	⇑*i*P	Pn	08 53 29.6	+2.9
LMEL				*i* S	Sn	08 54 12.4	+4.3
LMEL				IAML		08 54 29.9	
	comp=N,107nm,0.3s						
BO03	**Pichilemu**	**4.03**	**183**	*e*P	Pn	08 53 31.8	-0.6
BO02	**Sierra Bellavi**	**4.39**	**170**	*e*P	Pn	08 53 39.1	+1.8

*IDC **10** 09:00:45.8±1.5, 30°.23N×82°.88E, h0km, mb3.3/3, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=60.7km s-min=32.6km az=55.0*

ISC 10 09:00:47.0±1.3, 30°.2N±0°.2×82°.6E±0°.1, h10km, n5, σ2s03/5, mb3.4/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**2.14**	**250**	*e*P	Pn	09 01 16.8	-6.0
LGTI				*e*S	**Sn**	**09 01 48.2**	**-1.3**
MKAR	**Makanchi Array**	**16.58**	**359**	Pn	**Pn**	**09 04 38.2**	**-1.3**
	0.1nm,0.3s,baz=174,slow=11,SNR=2.1 0.4nm,0.8s						
BVAR	**Borovoye Array**	**24.49**	**342**	P	**P**	**09 06 06.5**	**+0.3**
	0.3nm,0.5s,baz=134,slow=8.3,SNR=2.3 0.3nm,0.5s						
WRA	**Warramunga Arr**	**70.47**	**128**	P	**P**	**09 12 01.3**	**-0.7**
	0.3nm,0.9s,baz=322,slow=6.5,SNR=4.6 0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**75.70**	**277**	P	**P**	**09 12 35.2**	**+2.1**
	0.6nm,1.1s,baz=60,slow=4.7,SNR=2.2 0.6nm,1.1s						

*ANF **10** 09:01:17.7±1.3, 41°.91N×119°.68W, h0km, ML2.8/6, Error ellipse: s-maj=10.2km s-min=7.1km az=101.0*
*REN **10** 09:01:18.6±1.4, 41°.95N±0°.03×119°.67W±0°.03, h4km±4km, ML3.0/5, ML2.5/52(NEIC), Error ellipse: s-maj=4.2km s-min=2.5km az=158.0*
*NEIC **10** 09:01:19.5±1.6, 41°.98N±0°.03×119°.70W±0°.03, h10km±7km,*

Error ellipse: s-maj=5.2km s-min=2.6km az=155.0

ISC 10 09:01:19.4±1.2, 41°.98N±0°.03×119°.70W±0°.03, h6km±15km, n38, σ1s21/44, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.45**	**261**	Pg	**Pg**	**09 01 28.2**	**0.0**
MOD	**Modoc Plateau**	**0.45**	**261**		**Sg**	**09 01 35.2**	**+1.1**
MOD	**Modoc Plateau**	**0.45**	**261**	IAML		09 01 35.5	
	comp=N,688nm,0.5s						
MOD				IAML		09 01 35.5	
	comp=E,769nm,0.6s						
WVOR	**Wild Horse Val**	**0.92**	**60**		**Pg**	**09 01 36.1**	**-0.8**
WVOR					**Sg**	**09 01 48.9**	**+0.1**
WVOR				IAML		09 01 53.1	
	comp=E,232nm,0.9s						
K05A	**Summer Lake**	**1.16**	**311**	Pg	**Pb**	**09 01 41.6**	**-0.3**
PLTX	**Planet X, Gerl**	**1.28**	**172**		**Pn**	**09 01 43.4**	**-0.5**
PLTX				IAML		09 02 05.3	
	comp=E,336nm,0.7s						
PLTX				IAML		09 02 07.6	
	comp=N,445nm,0.7s						
LTIM	**Timbered Crate**	**1.56**	**240**		**Pn**	**09 01 48.0**	**+0.2**
J08A	**Circle Bar Ran**	**1.65**	**33**		**Pn**	**09 01 48.3**	**-0.7**
J08A					**Pb**	**09 01 48.5**	**-1.8**
J08A				IAML		09 02 16.2	
	comp=N,85nm,0.5s						
J08A				IAML		09 02 19.1	
	comp=E,78nm,0.5s						
J08A	**Circle Bar Ran**	**1.65**	**33**		**Sg**	**09 02 12.9**	**+0.5**
K04D	**Chiloquin, OR**	**1.65**	**294**	P	**Pn**	**09 01 48.9**	**-0.1**
K04D	baz=113,SNR=21						
	baz=113			Sb	**Sg**	**09 02 13.4**	**+0.9**
J05D	**Fort Rock, OR**	**1.73**	**320**	Pb	**Pb**	**09 01 51.4**	**-0.2**
	baz=139,SNR=55						
J05D				Sb	**Sg**	**09 02 15.7**	**+0.8**
	baz=139						
L04D	**Klamath Falls**	**1.95**	**278**		**Pn**	**09 01 52.8**	**-0.4**
L04D				IAML		09 02 26.1	
	comp=N,52nm,0.5s						
L04D	**Klamath Falls**	**1.95**	**278**	P	**Pn**	**09 01 52.5**	**-0.6**
	baz=97,SNR=48						
L04D				Sb	**Sg**	**09 02 21.8**	**-0.2**
	baz=97						
PINE	**Pine Mountain**	**2.03**	**334**	Pg	**Pb**	**09 01 56.7**	**-0.1**
PINE				IAML		09 02 26.1	
	comp=E,56nm,0.6s						
PINE				IAML		09 02 27.5	
	comp=N,34nm,0.7s						
I07A	**Izee**	**2.11**	**4**		**Pb**	**09 01 57.9**	**-0.2**
I07A				IAML		09 02 27.8	
	comp=E,30nm,0.5s						
I07A				IAML		09 02 28.8	
	comp=N,24nm,0.6s						
BEKR	**Beckworth**	**2.17**	**193**		**Pb**	**09 01 57.9**	**-1.2**
BEKR				IAML		09 02 28.1	
	comp=E,27nm,0.2s						
BEKR				IAML		09 02 28.2	
	comp=N,30nm,0.3s						
J04D	**Umpqua Nationa**	**2.18**	**306**		**Pn**	**09 01 56.3**	**-0.1**
J04D	**Umpqua Nationa**	**2.18**	**306**	Pb	**Pb**	**09 01 59.5**	**+0.2**
	baz=125,SNR=12						
J04D				Sg	**Sg**	**09 02 31.1**	**+1.7**
	baz=125						
YBH	**Yreka Blue Hor**	**2.26**	**265**		**Pn**	**09 01 56.4**	**-0.9**
PAHR	**Pah Rah Range**	**2.28**	**174**		**Pn**	**09 01 56.8**	**-1.0**
LCMM	**Colby Mountain**	**2.29**	**218**		**Pb**	**09 01 59.5**	**-1.7**
PEAR	**Peavine Mounta**	**2.38**	**185**		**Pb**	**09 02 02.4**	**-0.3**
BMN	**Battle Mountai**	**2.43**	**129**		**Pn**	**09 01 58.6**	**-1.1**
HUMO	**Hull Mountain**	**2.49**	**286**		**Pn**	**09 01 59.9**	**-0.6**
HUMO				IAML		09 02 40.5	
	comp=N,23nm,0.8s						
I05D	**Terrebonne, OR**	**2.65**	**334**	Pb	**Pb**	**09 02 06.7**	**-0.6**
	baz=152,SNR=6.0						
I05D				Sb	**Sg**	**09 02 43.6**	**-0.8**
	baz=152						
DONR	**Donner Summit**	**2.66**	**190**		**Pb**	**09 02 07.9**	**+0.2**
VCNR	**Virginia City**	**2.68**	**179**		**Pn**	**09 02 02.3**	**-0.9**
VCNR				IAML		09 02 44.6	
	comp=E,32nm,0.8s						
KPK	**Kanaka Peak**	**2.68**	**207**		**Pb**	**09 02 07.2**	**-0.6**
MPK	**Martis Peak**	**2.69**	**185**		**Pn**	**09 02 02.0**	**-1.5**
MPK				IAML		09 02 55.0	
	comp=E,21nm,0.7s						
MPK				IAML		09 02 59.3	
	comp=N,22nm,1.1s						
I04A	**Tendick Farm,**	**2.69**	**313**	Pb	**Pb**	**09 02 08.0**	**0.0**
	baz=132,SNR=7.4						
PNTR	**Pine Nut**	**2.89**	**178**		**Pn**	**09 02 05.2**	**-1.0**
PNTR				IAML		09 02 50.9	
	comp=N,20nm,0.8s						
PNTR				IAML		09 02 56.8	
	comp=E,22nm,1.0s						
KVN	**Kaiserville**	**3.17**	**157**	Pn	**Pn**	**09 02 08.8**	**-1.2**
MFID	**Camas Ranch**	**3.20**	**62**	Pn	**Pn**	**09 02 10.0**	**-0.4**
CMB	**Columbia Colle**	**3.97**	**188**		**Pn**	**09 02 23.9**	**+3.1**
HLID	**Hailey**	**4.20**	**66**		**Pn**	**09 02 26.9**	**+2.7**
HLID				IAML		09 03 30.4	
	comp=E,6.6nm,2.1s						
HLID				IAML		09 03 39.7	
	comp=E,6.1nm,1.1s						
R11A	**Troy Canyon, C**	**4.80**	**138**		**Pn**	**09 02 34.3**	**+1.9**
R11A				IAML		09 04 00.1	
	comp=N,4.0nm,4.6s						
R11A				IAML		09 04 05.0	
	comp=E,3.7nm,4.9s						
SPR3	**Spring Creek 3**	**5.06**	**124**		**Pn**	**09 02 38.6**	**+2.5**
SPR3				IAML		09 04 08.1	
	comp=E,5.1nm,3.0s						
SPR3				IAML		09 04 10.1	
	comp=N,4.3nm,4.0s						
PRN	**Pahroc Range**	**5.80**	**140**		**Pn**	**09 02 48.4**	**+2.3**

*IDC **10** 09:15:49.5±2.5, 11°.35N×124°.25E, h0km, mb3.7/4, mbtmp3.7/4, MS3.0/1, Error ellipse: s-maj=262.9km s-min=22.6km az=64.0*
*MAN **10** 09:15:50.5, 11°.57N×124°.37E, h12km, mb4.5, ML3.4, MS3.3*
MAN INTENSITY III - NAVAL ALMERIA AND KAWAYAN BILIRAN; INTENSITY II0 - LEYTE LEYTE.

ISC 10 09:15:49.1±2.0, 11°.57N±0°.06×124°.37E±0°.07, h2km±12km, n13, σ0s89/20, mb3.8/4, 6C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**1.31**	**197**	⇓*i*P	**Pg**	**09 16 13.7**	**-0.5**
LLP				*i* S	**Sb**	**09 16 31.6**	**0.0**
TABP	**Talibon, Bohol**	**1.47**	**181**	⇑*e*P	**Pn**	**09 16 16.2**	**-0.5**
TABP				*i* S	**Sb**	**09 16 35.9**	**-0.5**
MSLP	**Maasin**	**1.51**	**161**	⇑*e*P	**Pg**	**09 16 18.0**	**-0.1**
MSLP				*e*S	**Sg**	**09 16 39.0**	**+1.4**
RCP	**Roxas**	**1.59**	**270**	⇑*e*P	**Pn**	**09 16 18.3**	**0.0**
RCP				*e*S	**Sb**	**09 16 39.8**	**+0.1**
GHBP	**Garcia Hernand**	**1.93**	**181**	⇑*e*P	**Pn**	**09 16 23.4**	**+0.4**
GHBP				*e*S	**Sb**	**09 16 50.2**	**+0.6**
TBP	**Tagbilaran**	**1.93**	**195**	*e*P	**Pn**	**09 16 22.5**	**-0.6**
TBP				*i* S	**Sg**	**09 16 51.4**	**+0.1**
SNPH	**Sibulan**	**2.48**	**207**	⇑*i*P	**Pn**	**09 16 31.2**	**+0.6**
SNPH				*i* S	**Sn**	**09 17 01.8**	**+0.3**
LQP	**Lukban**	**3.74**	**313**	⇑*e*P	**Pn**	**09 16 47.5**	**-0.6**
MJAR	**Matsushiro Arr**	**27.82**	**24**	LR	LR	09 31 10.8	
	comp=Z,31nm,20.6s,baz=210,slow=33						
WRA	**Warramunga Arr**	**32.82**	**163**	P	**P**	**09 22 22.0**	**-2.3**
	0.8nm,1.1s,baz=343,slow=9.0,SNR=4.0 0.8nm,1.1s						
ASAR	**Alice Springs**	**36.24**	**165**	P	**P**	**09 22 53.5**	**-0.4**
	0.4nm,0.5s,baz=343,slow=7.2,SNR=13 0.4nm,0.5s						
STKA	**Stephens Creek**	**46.25**	**160**	P	**P**	**09 24 15.8**	**-0.3**
	1.4nm,0.7s,baz=311,slow=11,SNR=3.3 1.4nm,0.7s						
MKAR	**Makanchi Array**	**49.87**	**323**	P	**P**	**09 24 45.3**	**+1.3**
	1.4nm,0.8s,baz=118,slow=9.4,SNR=11						
MKAR				PcP	**PcP**	**09 26 05.5**	**+1.0**
	0.5nm,0.7s,baz=116,slow=3.4,SNR=3.6 1.4nm,0.8s						

*IDC **10** 09:41:28.2±2.5, 16°.59S×174°.12W, h97km±22km, mb4.0/11, mbtmp4.4/12, MS3.2/2, Error ellipse: s-maj=22.1km s-min=11.5km az=124.0*
*NEIC **10** 09:41:29.4±0.6, 16°.36S±0°.09×174°.19W±0°.03, h95km±8km,*

mb4.4/26, Error ellipse: s-maj=13.8km s-min=3.3km az=169.0
*NOU **10** 09:41:32.9, 16°.17S×173°.75W, h175km, MLv5.2/15, Tonga Islands*

ISC 10 09:41:29.9±0.4, 16°.39S±0°.07×174°.04W±0°.10, h111km, n78, σ1s35/68, mb4.3/25, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.29**	**42**	P	**Pn**	**09 42 20.1**	**+0.1**
	733nm,0.5s,baz=243,slow=9.0,SNR=332						
AFI				S	**Sn**	**09 42 55.0**	**-3.5**
	2μm,0.4s,baz=223,slow=18,SNR=16						
AFI				LR	LR	09 43 19.5	
	comp=Z,162nm,19.3s,baz=164,slow=32						
AFI	**Afiamalu**	**3.29**	**42**	Pn	**Pn**	**09 42 19.8**	**-0.2**
AFI				Sn	**Sn**	**09 42 55.4**	**-3.2**
AFI	**Afiamalu**	**3.29**	**42**	P	**Pn**	**09 42 20.2**	**+0.3**
AFI	**Afiamalu**	**3.29**	**42**	P	**Pn**	**09 42 20.4**	**+0.5**
NIUE	**Niue**	**4.75**	**125**	Pn	**Pn**	**09 42 40.1**	**+0.8**
TAVE	**Taveuni**	**5.63**	**266**	P	Pn	09 42 59.2	+7.9
DGTI	**Dogotuki**	**5.97**	**270**	P	Pn	09 43 03.1	+7.2
MSVF	**Nonsavu**	**7.68**	**259**	P	Pn	09 43 25.4	+6.2
	82nm,0.9s,baz=108,slow=18,SNR=20						
DZM	**Mont Dzumac**	**19.27**	**250**	*e*LR	LR	09 50 20.3	
	comp=Z,62nm,20.4s						
DZM	**Mont Dzumac**	**19.27**	**250**	LR	LR	09 51 54.2	
	comp=Z,137nm,18.4s,baz=184,slow=33						
OUZ	**Omahuta**	**21.77**	**208**	P	**P**	**09 46 15.0**	**+2.3**
URZ	**Urewera**	**23.14**	**198**	P	**P**	**09 46 23.0**	**-3.4**
	16nm,0.6s,baz=31,slow=7.8,SNR=20						
URZ				S	**S**	**09 50 25.9**	**-3.3**
	3.2nm,0.7s,baz=31,slow=20,SNR=1.0 16nm,0.6s						
URZ	**Urewera**	**23.14**	**198**	P	**P**	**09 46 26.2**	**-0.2**
TBI	**Tubuai**	**24.11**	**111**	*e*LR	LR	09 52 42.2	
	comp=Z,84nm,34.8s						
TBI	**Tubuai**	**24.11**	**111**	*e*T	T	10 11 10.2	
	3.5nm,0.3s						
BKZ	**Black Stump Fm**	**24.16**	**198**	P	**P**	**09 46 35.9**	**+0.2**
BKZ	**Black Stump Fm**	**24.16**	**198**	P	**P**	**09 46 36.1**	**+0.3**
BFZ	**Birch Farm**	**25.63**	**197**	P	**P**	**09 46 48.5**	**-0.6**
SNZO	**South Karori**	**26.67**	**199**	P	**P**	**09 46 57.1**	**-1.3**
QRZ	**Quartz Range**	**26.99**	**203**	P	**P**	**09 47 00.6**	**-0.6**
KHZ	**Kahutara**	**28.04**	**200**	P	**P**	**09 47 10.9**	**+0.3**
RPZ	**Rata Peaks**	**30.04**	**202**	P	**P**	**09 47 24.9**	**-3.5**
	5.0nm,0.7s,baz=26,slow=4.3,SNR=2.3 5.0nm,0.7s						
ARMA	**Armidale**	**34.31**	**240**	P	**P**	**09 48 05.2**	**-0.8**
H11S2	**WAKE ISLAND Hy**	**39.50**	**331**	T	T	10 30 15.2	
	baz=146,slow=75,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**39.51**	**331**	T	T	10 30 18.0	
	baz=146,slow=75,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**39.52**	**331**	T	T	10 30 01.8	
	baz=146,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**40.47**	**332**	T	T	10 31 37.6	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**40.48**	**332**	T	T	10 31 44.3	
	baz=153						
H11N2	**WAKE ISLAND Hy**	**40.49**	**332**	T	T	10 31 34.1	
	baz=153						
TOO	**Toolangi**	**41.37**	**231**	P	**P**	**09 49 04.9**	**-0.2**
TOO				IAmb	IAmb	09 49 39.4	
	comp=Z,6.1nm,0.9s						
STKA	**Stephens Creek**	**43.01**	**241**	P	**P**	**09 49 17.8**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=78,slow=13,SNR=12 comp=Z,3.2nm,0.6s						
STKA	**Stephens Creek**	**43.01**	**241**	P	**P**	**09 49 18.4**	**-0.2**
BBOO	**Buckleboo**	**47.79**	**240**	P	**P**	**09 49 55.5**	**-0.8**
WR0	**Warramunga Arr**	**48.83**	**258**	P	**P**	**09 50 03.7**	**-0.7**
WR0				IAmb	IAmb	09 50 10.8	
	comp=Z,7.2nm,1.4s						
WB0	**Warramunga Arr**	**48.99**	**258**	P	**P**	**09 50 04.5**	**-1.2**
WB0				IAmb	IAmb	09 50 12.8	
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**49.02**	**258**	P	**P**	**09 50 04.1**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=95,slow=7.0,SNR=12 comp=Z,0.5nm,0.5s						
AS31	**Alice Springs**	**49.22**	**253**	P	**P**	**09 50 06.8**	**-0.7**
ASAR	**Alice Springs**	**49.22**	**253**	P	**P**	**09 50 06.2**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=88,slow=8.3,SNR=53 comp=Z,2.2nm,0.5s						
ASAR	**Alice Springs**	**49.22**	**253**	P	**P**	**09 50 06.3**	**-1.1**
SBA	**Scott Base**	**62.22**	**185**	P	**P**	**09 51 41.3**	**+2.0**
VNDA	**Vanda**	**62.34**	**186**	P	**P**	**09 51 40.4**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=15,slow=7.6,SNR=8.0 comp=Z,1.9nm,1.0s						
VNDA	**Vanda**	**62.34**	**186**	P	**P**	**09 51 41.5**	**+1.4**
VNDA				IAmb	IAmb	09 51 42.4	
	comp=Z,7.2nm,1.4s						
CASY	**Casey**	**69.26**	**205**	P	**P**	**09 52 22.6**	**-2.0**
CASY				IAmb	IAmb	09 52 25.5	
	comp=Z,4.2nm,1.1s						
PMPB	**Monarch Peak**	**72.57**	**43**	P	**P**	**09 52 46.8**	**+1.6**
PMPB				IAmb	IAmb	09 53 31.0	
	comp=Z,5.4nm,1.2s						
KMRM	**Mail Ridge**	**73.22**	**38**	P	**P**	**09 52 50.6**	**+1.7**
PETK	**Petropavlovsk-**	**73.38**	**343**	P	**P**	**09 52 50.9**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=153,slow=9.7,SNR=5.7 comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**73.66**	**180**	P	**P**	**09 52 52.3**	**+1.1**
QSPA				IAmb	IAmb	09 52 55.7	
	comp=Z,4.5nm,1.0s						
CMB	**Columbia Colle**	**73.91**	**41**	P	**P**	**09 52 53.9**	**+0.8**
MDPB	**Devils Postpil**	**74.51**	**42**	P	**P**	**09 52 58.1**	**+1.3**
MDPB				IAmb	IAmb	09 52 59.5	
	comp=Z,5.0nm,1.1s						
BEKR	**Beckworth**	**75.02**	**40**	P	**P**	**09 53 00.5**	**+1.0**
PNTR	**Pine Nut**	**75.03**	**41**	P	**P**	**09 53 01.3**	**+1.6**
PNTR				IAmb	IAmb	09 53 02.6	
	comp=Z,5.0nm,0.9s						
YERR	**Yerington**	**75.19**	**41**	P	**P**	**09 53 01.8**	**+1.2**
YERR				IAmb	IAmb	09 53 02.8	
	comp=Z,12nm,1.4s						
L04D	**Klamath Falls**	**75.30**	**37**	P	**P**	**09 53 02.2**	**+1.2**
NVAR	**Mina Array Bea**	**75.47**	**42**	P	**P**	**09 53 03.3**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=229,slow=8.2,SNR=23 comp=Z,2.6nm,0.8s						
BLYC	**Blythe**	**75.48**	**48**	P	**P**	**09 53 03.2**	**+1.0**
BLYC				IAmb	IAmb	09 53 04.2	
	comp=Z,7.3nm,1.3s						
WTNK	**Soaring Height**	**76.43**	**46**	P	**P**	**09 53 08.6**	**+1.1**
WTNK				IAmb	IAmb	09 53 09.6	
	comp=Z,2.4nm,1.0s						
H04A	**Detroit Lake**	**76.91**

GERES GERESS Array B 147.02 351 PKPbc **PKPbc** **10 01 00.2 +0.4**
comp=Z,0.6nm,0.7s,baz=12,slow=5.2,SNR=4.7

ESDC Sonseca Array 155.24 19 PKPab **PKPab** **10 01 36.5 +0.8**
comp=Z,0.6nm,0.7s,baz=317,slow=3.1,SNR=4.9

DBIC Dimbokro 165.67 131 PKPab **PKPab** **10 02 22.1 +0.2**
comp=Z,3.5nm,0.8s,baz=207,slow=2.3,SNR=2.1

TORD Torodi Ar. Bea 174.77 127 PKP **PKPdf** **10 01 26.4 -1.1**
comp=Z,1.2nm,1.0s,baz=295,slow=2.0,SNR=4.1

TORD PKPab **PKPab** **10 03 01.9 -0.3**
comp=Z,1.4nm,0.8s,baz=245,slow=4.0,SNR=4.6

IDC 10 10:01:49.4±4.3, 6.96S×155.29E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=135.0km s-min=33.7km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.08**	**236**	P	P	10 07 07.8	+0.9
	0.2nm,0.5s,baz=60,slow=9.5,SNR=6.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**26.42**	**229**	P	P	10 07 27.0	-1.1
	0.2nm,0.9s,baz=63,slow=9.9,SNR=1.6						
	0.2nm,0.9s						
MKAR	**Makanchi Array**	**83.57**	**319**	P	P	10 14 19.9	+0.3
	1.2nm,0.6s,baz=98,slow=5.6,SNR=13						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**84.31**	**326**	P	P	10 14 22.8	-0.4
	0.7nm,0.4s,baz=120,slow=5.2,SNR=1.8						
	0.7nm,0.4s						

MAN 10 10:04:02.2, 8.25N×125.95E, h14km, mb3.8, ML2.6, MS2.1, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASP	**Talacogon, Agu**	**0.24**	**325**	↑eP	Pg	10 04 07.5	0.0
TASP				eS	Sb	10 04 13.2	+0.6
BIPH	**Bislig**	**0.41**	**99**	↓iP	Pb	10 04 11.6	+0.3
BIPH				i S	Sb	10 04 18.8	+1.4
CDOP	**Cateel, Davao**	**0.67**	**134**	↓iP	Pb	10 04 15.9	+0.3
CDOP				i S	Sn	10 04 26.8	-0.7
CGP	**Cagayan de Oro**	**1.26**	**279**	↑eP	Pn	10 04 24.5	-0.9
CGP				eS	Sb	10 04 35.3	-6.5
KCP	**Kidapawan**	**1.50**	**215**	↓iP	Pb	10 04 29.7	-0.2
KCP				i S	Sg	10 04 51.1	+0.5
GHBP	**Garcia Hernand**	**2.11**	**311**	↑eP	Pn	10 04 37.3	+0.2

---

*MOS **10** 10:08:18.1±0.9, 5.59S×77.02W, h117km, mb6.1/29, MS5.1/8, Error ellipse: s-maj=8.6km s-min=5.1km az=92.5*
*ARE **10** 10:08:18±2.6, 5.55S±0.05×77.09W±0.06, h119km±4km, Error ellipse: s-maj=8.7km s-min=6.5km az=57.0*
*UPA **10** 10:08:18.5±1.9, 5.25S×77.29W, h0km±114km*
*IDC **10** 10:08:19.4±0.3, 5.58S×77.05W, h123km±2km, mb5.2/42, mbtmp5.5/49, MS5.1/34, Error ellipse: s-maj=7.7km s-min=6.1km az=112.0*
*NEIC **10** 10:08:19.3, 5.58S×76.95W, h118km, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=1.31; Mθθ=0.13; Mϕϕ=1.18; Mrθ=-0.59; Mθϕ=-0.28; Mϕr=0.81; Fault plane solution: M0=1.63000×10^18 NP1:ϕs=153.22000°, δ=64.08000°, λ=-100.90000°. Principal axes: T 1.5597, Plg18.0000°, Azm251.0000°; N 0.1290, Plg10.0000°, Azm158.0000°; P -1.6887, Plg69.0000°, Azm41.0000°;*
*VAO **10** 10:08:19.4±0.6, 5.63S×76.89W, h118km±5km, mb5.7*
*NEIC **10** 10:08:20, 5.58S×76.66W, h130km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^18 Nm; Mrr=1.46; Mθθ=0.31; Mϕϕ=1.15; Mrθ=-0.51; Mθϕ=-0.55; Mϕr=0.88; Fault plane solution: M0=1.77000×10^18 NP1: ϕs=336.00000°, δ=27.00000°, λ=-86.00000°. NP2: ϕs=151.00000°, δ=63.00000°, λ=-92.00000°. Principal axes: T 1.7467, Plg18.0000°, Azm243.0000°; N 0.0391, Plg2.0000°, Azm152.0000°; P -1.7858, Plg72.0000°, Azm57.0000°;*
*NEIC **10** 10:08:20.0±1.7, 5.57S±0.05×76.95W±0.06, h121km±1km, mb6.0/861, Mwb6.1/108, Mww6.1, ML6.1(ARE) Error ellipse: s-maj=9.9km s-min=8.0km az=239.0*
*SNET **10** 10:08:21.3±4.2, 5.58S×76.95W, h126km*
*GCMT **10** 10:08:21.0±0.1, 5.64S×77.06W, h124km, MW6.1/171, Moment Tensor Solution. s171,c412; s168,c616; Duration: 2s8 Moment tensor: Scale 10^18 Nm; Mrr=1.46±.01; Mθθ=0.07±.01; Mϕϕ=1.53±.01; Mrθ=0.50±.01; Mθϕ=0.57±.01; Mϕr=0.72±.01; Best double couple: M0=1.81700×10^18 NP1:ϕs=153.00000°, δ=60.00000°, λ=-101.00000°. NP2:ϕs=353.00000°, δ=32.00000°, λ=-73.00000°. Principal axes: T 1.9240, Plg14.0000°, Azm250.0000°; N -0.2140, Plg9.0000°, Azm158.0000°; P -1.7100, Plg73.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 10 10:08:19.0±0.2, 5.60S±0.02×76.97W±0.03, h122km±1km, h122km:pP-P, n2100, σ1.376/2520, mb6.0/576, 28C-116D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.08**	**223**	P	**Pn**	**10 08 53.9**	**-0.1**
	61μm,1.0s,baz=26,slow=9.5,SNR=6919						
ATAH				S	**Sn**	**10 09 20.3**	**-0.3**
	57μm,0.6s,baz=275,slow=22,SNR=11						
BOSC	**San Juan Bosco**	**2.87**	**328**		**Pn**	10 09 02.3	-1.6
BOSC				Sn	**Sn**	10 09 34.5	-3.9
MCRA	**Macar, Loja**	**3.22**	**292**		**Pn**	10 09 05.7	-2.5
ARNL	**Arenillas**	**3.70**	**303**		**Pn**	10 09 12.8	-1.8
PORT	**Chimborazo Vol**	**4.49**	**336**		**Pn**	10 09 27.1	+1.5
CHSH	**Refugio Sur-Vo**	**4.50**	**335**		**Pn**	10 09 26.9	+1.1
CZSB	**Cruzeiro do Su**	**4.73**	**117**	Pn	**Pn**	10 09 28.4	0.0
CZSB				Sn	**Sn**	10 10 22.5	+0.1
CZSB	**Cruzeiro do Su**	**4.73**	**117**	eP	**Pn**	10 09 28.5	0.0
SLOR	**San Lorenzo -**	**5.08**	**342**		**Pn**	10 09 34.5	+1.0
PULU	**Pululahua**	**5.79**	**345**		**Pn**	10 09 44.2	+1.1
IMBA	**Imbabura, San**	**5.97**	**348**		**Pn**	10 09 47.4	+2.0
OTAV	**Otavalo**	**5.99**	**346**		**Pn**	10 09 46.4	+0.7
OTAV	**Otavalo**	**5.99**	**346**	P	**Pn**	10 09 46.4	+0.7
OTAV	**Otavalo**	**5.99**	**346**	eP	**Pn**	10 09 46.5	+0.7
TULM	**Tulcn-Chalpat**	**6.33**	**353**		**Pn**	10 09 51.9	+1.6
NNA	**Nana**	**6.35**	**179**	P	**Pn**	10 09 49.6	-0.6
	553nm,0.3s,baz=350,slow=12,SNR=142						
NNA				S	**Sn**	**10 10 56.5**	**-4.8**
	3μm,0.3s,baz=86,slow=2.6,SNR=18						
NNA	**Nana**	**6.35**	**179**	ceP	**Pn**	**10 09 49.5**	**-0.6**
NNA				pmax	pmax		
	comp=Z,4μm,1.7s						
TBTG	**Tabatinga, AM**	**7.17**	**79**		**Pn**	10 09 59.7	-1.6
TBTG	**Tabatinga, AM**	**7.17**	**79**	eP	**Pn**	10 10 00.1	-1.3
ROSC	**El Rosal**	**10.71**	**14**	P	**Pn**	10 10 51.1	+1.8
	comp=Z,85nm,0.5s,baz=227,slow=9.9,SNR=43						
ROSC	**El Rosal**	**10.71**	**14**		**Pn**	10 10 49.9	+0.5
ROSC	**El Rosal**	**10.71**	**14**	P	**Pn**	10 10 49.9	+0.5
ETMB	**Extrema**	**11.45**	**112**	Pn	Pn	10 10 53.8	-5.2
UREC	**San Jos de Ur**	**13.34**	**6**	eP	**Pn**	10 11 25.0	+1.3
UREC				↓eS	**Sn**	10 13 52.7	+1.8
CACAO	**El Cacao, Vera**	**13.44**	**343**	eP	**Pn**	10 11 24.9	0.0
CACAO				eS	**Sn**	10 13 49.5	-3.6
I08BO	**LAS PENAS INFR**	**13.45**	**142**	*i*		11 31 50.0	
	baz=318,slow=328,SNR=2.3						
LPAZ	**La Paz**	**13.71**	**141**	P	**Pn**	**10 11 26.2**	**-2.7**
	comp=Z,21nm,0.6s,baz=328,slow=13,SNR=79						
LPAZ				S	**Sn**	**10 14 02.7**	**+2.2**
	comp=Z,169nm,0.8s,baz=184,slow=17,SNR=2.0						
LPAZ				LR	LR	10 18 11.8	
	comp=Z,8μm,18.7s,baz=324,slow=43						
LPAZ	**La Paz**	**13.71**	**141**		**Pn**	10 11 28.1	-0.8
LPAZ	**La Paz**	**13.71**	**141**	P	**Pn**	10 11 28.1	-0.8
LPAZ	**La Paz**	**13.71**	**141**	eP	**Pn**	10 11 26.4	-2.5
AZU	**Azuero**	**13.71**	**346**	eP	**Pn**	10 11 28.6	+0.3
AZU				eS	**Sn**	10 13 51.6	-8.1
UPD2	**Meteti**	**14.10**	**356**	eP	**Pn**	10 11 34.1	+0.8
UPD2				eS	**Sn**	10 14 09.1	0.0
PAYG	**Puerto Ayora**	**14.17**	**290**	Pn	**Pn**	10 11 33.1	-1.2
PNME	**Penonome**	**14.39**	**347**	eP	**Pn**	10 11 37.9	+0.8
PNME				eS	**Sn**	10 14 14.7	-1.5
PB12	**IPOC Station P**	**14.46**	**154**	Pn	**Pn**	10 11 37.5	-0.6
PB16	**IPOC Station P**	**14.60**	**151**		**Pn**	10 11 40.6	+0.3
UPA	**Univ. de Panam**	**14.71**	**350**	↓eP	**Pn**	**10 11 42.1**	**+1.0**
UPA				eS	**Sn**	**10 14 23.0**	**-0.9**
BCIP	**Isla Barro Col**	**14.95**	**349**	Pn	**Pn**	10 11 44.3	+0.2
BCIP	**Isla Barro Col**	**14.95**	**349**	P	**Pn**	10 11 44.3	+0.2
BCIP	**Isla Barro Col**	**14.95**	**349**	eP	**Pn**	10 11 45.4	+1.3
BCIP				eS	**Sn**	10 14 28.8	-0.8
CDITO	**Canoas**	**15.26**	**337**		**Pn**	10 11 48.5	+0.5
CHGR2	**Aguacate**	**15.34**	**340**	eP	**P**	10 11 50.9	-0.2
CHGR2				eS	**Sn**	10 14 37.4	-1.6
SDV	**Santo Domingo**	**15.72**	**24**	P	**Pn**	10 11 53.5	-0.5
	comp=Z,178nm,0.8s,baz=210,slow=12,SNR=29						
SDV				S	**Sn**	**10 14 42.5**	**-5.9**
	comp=Z,322nm,0.7s,baz=106,slow=20,SNR=1.5						
SDV				LR	LR	10 19 12.9	
	comp=Z,11μm,20.5s,baz=216,slow=42						
SDV	**Santo Domingo**	**15.72**	**24**		**Pn**	10 11 53.1	-0.7
SDV	**Santo Domingo**	**15.72**	**24**	eP	**Pn**	10 11 53.2	-0.7
POTG	**Potrero Grande**	**15.80**	**337**	eP	**P**	10 11 55.6	-0.6
EDPN	**Palmar Norte**	**15.85**	**336**	eP	**P**	10 12 00.1	+3.4
GO01	**Chusmiza**	**15.90**	**152**	P	**Pn**	10 11 56.9	+0.5
EDBA	**Buenos Aires**	**15.96**	**337**	eP	**P**	10 12 01.3	+3.4
TA02	**Huaiquique**	**16.02**	**156**	P	**Pn**	10 11 57.6	+0.1
DRK0	**Durika**	**16.04**	**337**	P	**P**	10 11 59.6	+0.7
DRK0	**Durika**	**16.04**	**337**	eP	**P**	10 11 59.5	+0.5
DRK0	**Durika**	**16.04**	**337**	eP	**P**	10 11 60.0	+1.0
DRK0				↓eS	**Sn**	10 14 54.6	-1.6
TA01	**Diego Aracena**	**16.27**	**157**	P	**P**	10 12 00.9	-0.4
PEZE	**Perez Zeledon,**	**16.32**	**336**	P	**P**	10 12 02.0	0.0
PEZE	**Perez Zeledon,**	**16.32**	**336**	eP	**P**	10 12 01.9	0.0
MACA	**Manacapuru-AM**	**16.42**	**82**		**Pn**	10 11 57.4	-5.0
CDM	**Cerro de Muert**	**16.51**	**336**	eP	**Pn**	10 12 04.0	+0.1
MRVA	**Moravia de Chi**	**16.63**	**337**	↓eP	**P**	10 12 05.5	0.0
RIMA	**Rio Macho**	**16.74**	**336**	P	**P**	10 12 07.0	+0.2
RIMA	**Rio Macho**	**16.74**	**336**	eP	**Pn**	10 12 06.5	0.0
LCR2	**La Lucha 2**	**16.78**	**335**	↓eP	**P**	10 12 07.9	+0.8
BATAN	**Batan**	**16.85**	**338**	P	**Pn**	10 12 07.6	0.0
BATAN	**Batan**	**16.85**	**338**	eP	**P**	10 12 08.5	+0.8
BATAN	**Batan**	**16.85**	**338**	eP	**P**	10 12 09.9	+2.2
BATAN				eS	**Sn**	10 15 13.9	-1.6
VTCV	**VTCV, Calle Va**	**16.88**	**336**	↓eP	**P**	10 12 09.2	+0.9
RAFA	**San Farael, Vo**	**16.89**	**336**	eP	**P**	10 12 10.6	+2.1
OCM	**Ochomogo**	**16.90**	**336**	eP	**P**	10 12 08.7	+0.3
VTRT	**Volcan Turrial**	**16.93**	**336**	↓eP	**Pn**	10 12 10.3	+1.3
CVTR	**Volcan Turrial**	**16.93**	**336**	P	**Pn**	10 12 10.1	+1.1
CVTR	**Volcan Turrial**	**16.93**	**336**	↓iP	**Pn**	10 12 10.3	+1.2
VTUN	**Crater Central**	**16.93**	**336**	↓eP	**Pn**	10 12 10.4	+1.3
BAUV	**El Baul**	**16.97**	**32**	P	**P**	10 12 07.1	-1.9
PB01	**IPOC Station P**	**16.98**	**155**	P	**Pn**	10 12 09.2	0.0
HDC	**Heredia**	**17.06**	**335**	P	**Pn**	10 12 11.1	+0.8
HDC	**Heredia**	**17.06**	**335**	↓eP	**Pn**	10 12 11.7	+1.4
HDC	**Heredia**	**17.06**	**335**	eP	**Pn**	10 12 13.0	+2.7
HDC				↑eS	**Sn**	10 15 19.4	-1.2
HDC3	**Heredia 3**	**17.06**	**335**	eP	**Pn**	10 12 11.9	+1.6
LAFE	**Finca La Fe, P**	**17.23**	**333**	eP	**Pn**	10 12 13.8	+1.5
RIFO	**Rio Frio, Sara**	**17.27**	**336**	eP	**Pn**	10 12 14.4	+1.7
CRPO	**Crater poas**	**17.28**	**335**	eP	**Pn**	10 12 15.2	+2.0
INDI	**Punta indio, G**	**17.56**	**331**	↓eP	**Pn**	10 12 17.7	+1.4
GRZA	**Playa Garza**	**17.67**	**331**	eP	**Pn**	10 12 18.5	+0.9
JTS	**Las Juntas de**	**17.68**	**333**	P	**Pn**	10 12 18.9	+1.2
JTS	**Las Juntas de**	**17.68**	**333**	P	**Pn**	10 12 18.9	+1.2
CASO	**Castillo**	**17.71**	**334**	eP	**Pn**	10 12 20.1	+2.1
FORC	**Fortuna**	**17.71**	**334**	eP	**Pn**	10 12 20.5	+2.4
CEDE	**Laguna Cedeo**	**17.74**	**334**	eP	**Pn**	10 12 20.4	+1.9
DUNO	**Dulce Nombre,**	**17.74**	**331**	eP	**Pn**	10 12 17.4	-0.1
NICO	**Nicoya**	**17.77**	**332**	eP	**Pn**	10 12 20.4	+1.6
COVE	**Coope Vega, Sa**	**17.82**	**335**	eP	**Pn**	10 12 20.0	+0.6
PB04	**IPOC Station P**	**17.89**	**159**	P	**Pn**	10 12 19.9	-0.5
ORTG	**Ortega, Santa**	**17.97**	**332**	eP	**Pn**	10 12 21.5	+0.2
ACAL	**Aguas Claras**	**18.02**	**334**	eP	**Pn**	10 12 23.5	+1.7
PTEN	**Parque Tenorio**	**18.07**	**334**	↓iP	**Pn**	10 12 22.2	-0.2
VILB	**Vilhena**	**18.08**	**115**	P	**P**	10 12 21.2	-0.1
VILB	**Vilhena**	**18.08**	**115**	eP	**P**	10 12 21.2	-0.1
CUI	**Cuipilapa**	**18.10**	**333**	eP	**Pn**	10 12 24.3	+1.6
COLC	**Colonia**	**18.12**	**333**	eP	**Pn**	10 12 24.8	+1.8
VERA	**Finca Concepci**	**18.14**	**334**	eP	**Pn**	10 12 24.3	+1.1
HORNC	**Hornillas**	**18.15**	**333**	eP	**Pn**	10 12 24.8	+1.4
GUAB	**Guayabo de Bag**	**18.17**	**333**	eP	**Pn**	10 12 24.6	+0.9
VMAR	**Armenia, Volca**	**18.21**	**334**	eP	**Pn**	10 12 24.1	0.0
BOAV	**Boa Vista**	**18.25**	**65**	P	**P**	10 12 23.3	+0.2
BOAV	**Boa Vista**	**18.25**	**65**	eP	**P**	10 12 23.0	-0.1
GPS2	**Hotel Rincn d**	**18.27**	**333**	↑iP	**Pn**	10 12 26.4	+1.6
GPS3	**Bodega del ICE**	**18.27**	**333**	↑eP	**Pn**	10 12 26.4	+1.5
GPS1	**Guardaparques**	**18.29**	**333**	eP	**Pn**	10 12 26.8	+1.8
VRLE	**La Escondida,**	**18.30**	**333**	↓eP	**Pn**	10 12 25.8	+0.5
LAPC	**Finca la Perla**	**18.32**	**333**	eP	**Pn**	10 12 26.1	+0.8
BUEV	**Buena Vista**	**18.33**	**333**	eP	**Pn**	10 12 26.4	+0.8
GBS3	**Finca Las Img**	**18.34**	**333**	eP	**Pn**	10 12 26.8	+1.3
HZTE	**Horizontes, Gu**	**18.34**	**332**	↓eP	**Pn**	10 12 26.7	+1.1
GB1A	**Boringuen Arri**	**18.34**	**333**	eP	**Pn**	10 12 26.6	+0.9
BUAI	**Buenos Aires**	**18.37**	**333**	*i* P	**Pn**	10 12 26.6	+0.7
LVC	**Limon Verde**	**18.61**	**156**	P	**Pn**	10 12 30.1	+1.0
	comp=Z,71nm,0.5s,baz=331,slow=7.0,SNR=90						
LVC				S	**S**	**10 15 54.9**	**+1.3**
	comp=Z,33nm,0.9s,baz=337,slow=7.1,SNR=1.7						
LVC	**Limon Verde**	**18.61**	**156**	P	**Pn**	**10 12 28.5**	**-0.6**
SIV	**San Ignacio**	**18.70**	**125**	P	**P**	**10 12 28.8**	**+0.7**
	comp=Z,58nm,0.6s,baz=301,slow=12,SNR=129						
SIV				S	**S**	**10 15 51.9**	**-3.0**
	comp=Z,86nm,0.7s,baz=43,slow=12,SNR=2.2						
PB15	**IPOC Station P**	**18.94**	**158**	P	**Pn**	10 12 31.9	-0.9
BIRV	**Birongo**	**19.20**	**34**	P	**Pn**	10 12 34.8	-0.9
ACON	**Acoyapa**	**19.27**	**335**	↓iP	**Pn**	10 12 35.9	-0.6
PRVC	**Isla de Provid**	**19.35**	**347**	↓eP	**Pn**	10 12 37.8	+0.4
PRVC				eS	**Sn**	10 16 15.4	0.0
BOAB	**BOACO BROADBAN**	**19.91**	**334**	P	**P**	10 12 41.9	+0.7
PCRV	**Puerto La Cruz**	**19.91**	**38**	P	**Pn**	10 12 43.2	-0.9
	comp=Z,490nm,0.8s,baz=193,slow=7.3,SNR=243						
PCRV				S	**S**	**10 16 17.2**	**-1.7**
	comp=Z,59nm,0.7s,baz=37,slow=22,SNR=1.7						
PB14	**IPOC Station P**	**19.94**	**162**	P	**P**	10 12 43.0	+1.3
PTLB	**Pontes e Lacer**	**20.06**	**121**	P	**P**	10 12 43.6	+0.8
PTLB	**Pontes e Lacer**	**20.06**	**121**	eP	**P**	10 12 43.9	+1.1
CNGN	**Cerro Negro**	**20.42**	**332**	P	**P**	10 12 46.4	-0.3
MATN	**Matagalpa**	**20.45**	**334**	P	**P**	10 12 47.8	+0.8
CRIN	**San Cristobal**	**20.76**	**331**	P	**P**	10 12 51.0	+0.6
CRIN	**San Cristobal**	**20.76**	**331**	eP	**P**	10 12 50.9	+0.5
PDRB	**Porto dos Gac**	**20.87**	**108**	eP	**P**	10 12 51.4	-0.2
ITTB	**Itaituba**	**21.19**	**88**	eP	**P**	10 12 54.5	-0.5
NPGB	**Novo Progresso**	**21.53**	**95**	eP	**P**	10 12 57.6	-1.0
CLDB	**Colider**	**21.59**	**105**	eP	**P**	10 12 58.5	-0.7
CNCH	**Conchagua**	**21.64**	**330**	*i* P	**P**	10 13 00.3	+0.4
CNCH				IAML		10 13 41.5	
	comp=Z,428nm,0.6s						
CNCH	**Conchagua**	**21.64**	**330**	*i* P	**P**	10 13 00.3	+0.4
CNCH				IAML		10 13 41.5	
	comp=Z,428nm,0.6s						
LCND	**La Caada**	**21.70**	**330**	eP	**P**	10 13 01.4	+1.1
LCND				AML	AML	10 13 46.2	
	comp=Z,94nm,0.7s						
LCND	**La Caada**	**21.70**	**330**	eP	**P**	10 13 01.4	+1.1
LCND				AML	AML	10 13 46.2	
	comp=Z,94nm,0.7s						
TGUH	**Tegucigalpa,Un**	**22.05**	**332**	P	**P**	10 13 04.2	+0.1
TGUH	**Tegucigalpa,Un**	**22.05**	**332**	*i* P	**P**	10 13 05.0	+0.9
TGUH	**Tegucigalpa,Un**	**22.05**	**332**	*i* P	**P**	10 13 05.0	+0.9
TPP	**Pointe-a-Pierr**	**22.11**	**44**	eP	**P**	10 13 07.7	+3.0
COEB	**Comit de Eme**	**22.18**	**329**	eP	**P**	10 13 06.4	+0.9
COEB	**Comit de Eme**	**22.18**	**329**	eP	**P**	10 13 06.4	+0.9
TRN	**Trinidad (W)**	**22.38**	**44**	eP	**P**	10 13 09.1	+1.7
SNET	**Serv Nac Est T**	**22.70**	**328**	P	**P**	10 13 11.4	+0.7
UEES	**Universidad Ev**	**22.73**	**328**	AML	AML	10 13 53.3	
	comp=Z,70nm,0.7s						
UEES	**Universidad Ev**	**22.73**	**328**	AML	AML	10 13 53.3	
	comp=Z,70nm,0.7s						
CEDA	**San Andres**	**22.89**	**327**	↓iP	**P**	10 13 13.4	+1.0
CEDA				eS	**S**	10 17 19.5	+6.5
CEDA	**San Andres**	**22.89**	**327**	↓iP	**P**	10 13 13.4	+1.0
CEDA				eS	**S**	10 17 19.5	+6.5
MALB	**Monte Alegre**	**22.95**	**82**	eP	**P**	10 13 13.8	+0.7
CEVE	**Cerro Verde**	**23.03**	**327**	IAML		10 14 06.3	
	comp=Z,132nm,0.8s						
CEVE	**Cerro Verde**	**23.03**	**327**	IAML		10 14 06.3	
	comp=Z,132nm,0.8s						
AC04	**Llanos de Chal**	**23.17**	**167**	P	**P**	10 13 15.1	+0.3
GRFF	**Grenada Fort F**	**23.17**	**41**	eP	**P**	10 13 15.0	0.0
TPR	**Prospect**	**23.19**	**44**	eP	**P**	10 13 17.3	+2.0
SALV	**Santo Antonio**	**23.25**	**118**	eP	**P**	10 13 16.6	+0.8
GRGR	**Grenville**	**23.29**	**41**	P	**P**	10 13 15.2	-0.9
GRGR	**Grenville**	**23.29**	**41**	eP	**P**	10 13 14.8	-1.3
YHJ	**Yallahs**	**23.35**	**1**	*i* P	**P**	10 13 19.0	+2.3
MCJ	**Malvern**	**23.39**	**358**	*i* P	**P**	10 13 20.2	+3.2
TOSP	**Speyside**	**23.44**	**44**	P	**P**	**10 13 18.1**	**+0.6**
TOSP	**Speyside**	**23.44**	**44**	eP	**P**	**10 13 19.2**	**+1.8**
HOJ	**Hope**	**23.46**	**1**	*i* P	**P**	10 13 20.3	+2.7
ESQI	**Esquipulas**	**23.49**	**329**	eP	**P**	10 13 19.3	+1.2
ESQI				eS	**S**	10 17 28.8	+6.0
STH	**Stony Hill**	**23.53**	**0**	*i* P	**P**	10 13 20.2	+2.0
MTDJ	**Mount Denham**	**23.68**	**359**	P	**P**	10 13 21.6	+1.9
MTDJ	**Mount Denham**	**23.68**	**359**	↓iP	**P**	10 13 21.9	+2.2
MTDJ				IAmb	IAmb	10 13 24.7	
	comp=Z,2μm,1.5s						
GCMP	**Grenada, Carri**	**23.70**	**41**	eP	**P**	10 13 18.3	-1.5
AC05	**El Transito**	**23.96**	**165**	P	**P**	10 13 23.0	+0.8
LCO	**Las Campanas**	**24.03**	**166**	P	**P**	10 13 24.4	+1.4
LCO	**Las Campanas**	**24.03**	**166**	P	**P**	10 13 24.4	+1.4
SVB	**Belmont**	**24.40**	**40**	IAmb	IAmb	10 14 00.4	
	comp=Z,263nm,0.6s						
SVB	**Belmont**	**24.40**	**40**	eP	**P**	10 13 25.3	-0.9
MCLT	**Moule a Chique**	**24.93**	**40**	P	**P**	10 13 29.7	-1.3
MCLT				IAmb	IAmb	10 14 06.2	
	comp=Z,332nm,0.9s						
MCLT	**Moule a Chique**	**24.93**	**40**	eP	**P**	**10 13 28.9**	**-2.0**
SDDR	**Presa de Saban**	**25.06**	**13**	IAmb	IAmb	10 14 01.9	
	comp=Z,638nm,1.1s						
SDDR	**Presa de Saban**	**25.06**	**13**	↓iP	**P**	10 13 33.5	+1.3
SDDR				IAmb	IAmb	10 13 37.8	
	comp=Z,842nm,1.6s						
SDDR				eS	S	10 18 04.0	+16
GO04	**Tololo Observa**	**25.12**	**167**	P	**P**	10 13 33.3	+0.4
SLBI	**Saint Lucia, B**	**25.14**	**39**	eP	**P**	10 13 31.0	-1.9
LCCY	**Blossom Villag**	**25.30**	**353**	P	**P**	10 13 36.0	+1.7
BCHC	**Barbados, Cave**	**25.36**	**43**	eP	**P**	10 13 40.1	+5.2
MLPR	**Magueyes Islan**	**25.39**	**22**	P	**P**	10 13 35.2	+0.1
AQDB	**Aquidauana**	**25.40**	**128**	P	**P**	10 13 35.7	+0.4
AQDB				IAmb	IAmb	10 14 18.4	
	comp=Z,465nm,1.4s						
AQDB	**Aquidauana**	**25.40**	**128**	eP	**P**	10 13 35.6	+0.4
BBGH	**Gun Hill**	**25.41**	**43**	P	**P**	10 13 35.3	-0.1
BBGH	**Gun Hill**	**25.41**	**43**	eP	**P**	10 13 38.9	+3.5
BBSP	**Saint Philip**	**25.45**	**43**	eP	**P**	10 13 39.5	+3.8
BIM	**Bigot**	**25.46**	**38**	IAmb	IAmb	10 14 05.9	
	comp=Z,1μm,1.9s						
BIM	**Bigot**	**25.46**	**38**	eP	**P**	**10 13 33.8**	**-2.1**
RCC	**Rio Carpintero**	**25.47**	**3**	↓iP	**P**	10 13 36.8	+1.0
RCC				IAmb	IAmb	10 13 41.0	
	comp=Z,655nm,1.5s						
LMGC	**Las Mercedes**	**25.50**	**360**	↓iP	**P**	**10 13 37.0**	**+0.9**
LMGC				IAmb	IAmb	10 13 39.0	
	comp=Z,420nm,1.5s						
LMGC				eS	**S**	**10 17 49.4**	**-5.2**
ICMP	**Isla Caja de M**	**25.51**	**24**	P	**P**	**10 13 36.5**	**+0.3**
MPOM	**Morne Pois Mar**	**25.54**	**39**	IAmb	IAmb	10 13 36.8	
	comp=Z,519nm,1.2s						
MPOM	**Morne Pois Mar**	**25.54**	**39**	eP	**P**	**10 13 34.1**	**-2.4**
PRSN	**Puerto Rico Se**	**25.58**	**22**	IAmb	IAmb	10 14 15.6	

IPMB	**Ipameri, GO**	**30.66**	**116**	*e*P	**P**	**10 14 22.3**	**+0.1**
ITQB	**Itaqui**	**30.69**	**144**	P	**P**	**10 14 23.0**	**+0.7**
ITQB				IAmb	IAmb	10 14 24.7	
	comp=Z,432nm,1.0s						
ITQB	**Itaqui**	**30.69**	**144**	*e*P	**P**	**10 14 23.0**	**+0.7**
CRSM	**Crissiumal (Br**	**30.81**	**138**	*e*P	**P**	**10 14 22.8**	**-0.7**
BI05	**Punta Hualpn**	**31.19**	**174**	IAmb	IAmb	10 14 28.6	
	comp=Z,416nm,1.9s						
UNIS	**Unistalda (Bra**	**31.21**	**141**	*e*P	**P**	**10 14 27.3**	**+0.4**
TLIG	**Tlapa**	**31.38**	**318**	P	**P**	**10 14 29.4**	**+0.8**
061Z	**Ochoppi**	**31.51**	**353**	P	**P**	**10 14 31.1**	**+1.7**
	baz=172,SNR=5.6						
061Z				S	**S**	**10 19 32.1**	**+3.2**
	baz=172						
BB19B	**Bebedouro**	**31.57**	**122**	*e*P	**P**	**10 14 29.4**	**-0.8**
ITAB	**Concordia**	**31.97**	**135**	P	**P**	**10 14 33.5**	**0.0**
ITAB				IAmb	IAmb	10 14 35.2	
	comp=Z,506nm,1.3s						
ITAB	**Concordia**	**31.97**	**135**	*e*P	**P**	**10 14 33.5**	**0.0**
RODS	**Rosario do Sul**	**32.03**	**143**	*e*P	**P**	**10 14 34.7**	**+0.6**
ALGR	**Alto Alegre (B**	**32.34**	**138**	*e*P	**P**	**10 14 35.5**	**-1.4**
SDBA	**SAO DESIDERIO**	**32.36**	**104**	*e*P	**P**	**10 14 37.5**	**+0.3**
PMNB	**Patos De Minas**	**32.43**	**116**	*e*P	**P**	**10 14 38.4**	**+0.6**
060A	**Indiantown**	**32.61**	**354**	IAmb	IAmb	10 14 41.8	
	comp=Z,386nm,0.8s						
060A	**Indiantown**	**32.61**	**354**	P	**P**	**10 14 40.7**	**+1.6**
	baz=174,SNR=6.5						
ROSB	**Rosrio**	**32.86**	**87**	*e*P	**P**	**10 14 41.7**	**+0.2**
CPSB	**Cacapava Do Su**	**33.15**	**141**	*e*P	**P**	**10 14 43.5**	**-0.3**
TIJ01	**Guaruva-PR**	**33.19**	**129**	*e*P	**P**	**10 14 45.0**	**+0.6**
JANB	**Januaria**	**33.43**	**109**	*e*P	**P**	**10 14 46.8**	**+0.3**
VAO	**Valinhos**	**33.71**	**124**	*e*P	**P**	**10 14 48.3**	**-0.5**
DWPF	**Disney Wildern**	**33.79**	**353**	P	**P**	**10 14 49.9**	**+0.7**
DWPF	**Disney Wildern**	**33.79**	**353**	P	**P**	**10 14 50.5**	**+1.2**
	baz=172,SNR=13						
DWPF	**Disney Wildern**	**33.79**	**353**	P	**P**	**10 14 50.4**	**+1.0**
	baz=172						
DWPF				S	**S**	**10 20 06.9**	**+2.7**
	baz=172						
DWPF	**Disney Wildern**	**33.79**	**353**	*e*P	**P**	**10 14 48.1**	**-1.2**
DWPF				*i* P	**P**	**10 14 50.0**	**+0.7**
DWPF				IAmb	IAmb	10 14 51.8	
	comp=Z,661nm,1.7s						
DWPF	**Disney Wildern**	**33.79**	**353**	P	**P**	**10 14 48.4**	**-0.9**
DWPF				pP	**pP**	**10 15 15.7**	**-0.6**
DWPF				sP	**sP**	**10 15 28.8**	**-1.5**
PLTB	**Pedras Altas**	**34.00**	**143**	P	**P**	**10 14 51.1**	**-0.1**
PLTB				IAmb	IAmb	10 14 53.0	
	comp=Z,249nm,1.1s						
PLTB	**Pedras Altas**	**34.00**	**143**	*e*P	**P**	**10 14 51.6**	**+0.4**
PET01	**Itanhaem-SP**	**34.04**	**126**	*e*P	**P**	**10 14 50.5**	**-1.2**
LPA	**La Plata**	**34.05**	**151**	*d i*P	**P**	**10 14 51.2**	**-0.4**
LPA				pP	**pP**	**10 15 17.3**	**-1.3**
LPA				PP	**PP**	**10 16 13.3**	**+2.2**
LPA				PCP	**PcP**	**10 17 25.9**	**-0.7**
LPA				S	**S**	**10 20 07.1**	**-1.1**
LPA				SS	**SS**	**10 22 49.7**	**+8.8**
LPA				PKIKP	**PKiKP**	**10 24 56.6**	**+6.0**
CNLB	**Canela**	**34.13**	**137**	*e*P	**P**	**10 14 52.2**	**-0.3**
MC01	**Montes Claros**	**34.17**	**112**	*e*P	**P**	**10 14 53.0**	**+0.1**
LR04	**Corral**	**34.27**	**175**	IAmb	IAmb	10 14 56.0	
	comp=Z,407nm,1.6s						
MOIG	**Morelia**	**34.63**	**317**	P	**P**	**10 14 58.8**	**+1.8**
MOIG				IAmb	IAmb	10 15 03.5	
	comp=Z,151nm,0.9s						
DIAM	**Diamantina, MG**	**34.85**	**114**	*e*P	**P**	**10 14 59.5**	**+0.6**
TER01	**Tubaro-SC**	**34.87**	**134**	*e*P	**P**	**10 14 58.3**	**-0.5**
PARB	**Paraibuna**	**34.97**	**123**	*e*P	**P**	**10 14 59.0**	**-0.7**
TRQA	**Tornquist**	**35.07**	**159**	P	**P**	**10 15 00.3**	**0.0**
TRQA	**Tornquist**	**35.07**	**159**	P	**P**	**10 15 00.3**	**0.0**
TRQA				pmax	pmax		
	comp=Z,178nm,1.4s						
656A	**Willston**	**35.18**	**352**	P	**P**	**10 15 01.3**	**0.0**
656A	**Willston**	**35.18**	**352**	P	**P**	**10 15 01.7**	**+0.4**
	baz=170,SNR=14						
656A				S	**S**	**10 20 26.0**	**+0.4**
	baz=170						
LL04	**Puerto Octay**	**35.39**	**174**	P	**P**	**10 15 03.0**	**0.0**
PLCA	**Paso Flores**	**35.45**	**172**	P	**P**	**10 15 04.2**	**+0.6**
	comp=Z,19nm,0.6s,baz=345,slow=9.7,SNR=92						
PLCA				PcP	**PcP**	**10 17 31.6**	**+0.9**
	comp=Z,48nm,0.7s,baz=342,slow=4.0,SNR=11						
	comp=Z,19nm,0.6s						
PLCA	**Paso Flores**	**35.45**	**172**	P	**P**	**10 15 04.2**	**+0.6**
PLCA	**Paso Flores**	**35.45**	**172**	P	**P**	**10 15 04.2**	**+0.6**
PLCA				pmax	pmax		
	comp=Z,205nm,1.5s						
PLCA	**Paso Flores**	**35.45**	**172**	*e*P	**P**	**10 15 04.1**	**+0.6**
PLCA	**Paso Flores**	**35.45**	**172**	P	**P**	**10 15 02.2**	**-1.4**
PLCA				pP	**pP**	**10 15 33.8**	**+2.7**
PLCA				sP	**sP**	**10 15 46.4**	**+1.1**
LL03	**Petrohue**	**35.62**	**174**	P	**P**	**10 15 05.7**	**+0.7**
VAS01	**Vassouras-RJ**	**36.38**	**120**	*e*P	**P**	**10 15 11.7**	**-0.1**
456A	**Hilliard**	**36.44**	**353**	IAmb	IAmb	10 15 14.9	
	comp=Z,700nm,1.6s						
456A	**Hilliard**	**36.44**	**353**	P	**P**	**10 15 13.0**	**+1.0**
	baz=172,SNR=13						
456A				S	**S**	**10 20 46.4**	**+1.5**
	baz=172						
451A	**Vernon**	**36.98**	**347**	P	**P**	**10 15 17.1**	**+0.5**
	baz=165,SNR=14						
451A				S	**S**	**10 20 52.6**	**-0.4**
	baz=165						
SJMB	**Sao Joao De Ma**	**37.23**	**114**	*e*P	**P**	**10 15 19.0**	**0.0**
DUB01	**Friburgo-RJ**	**37.23**	**120**	*e*P	**P**	**10 15 18.6**	**-0.5**
TIGA	**Tifton**	**37.37**	**351**	IAmb	IAmb	10 15 22.2	
	comp=Z,761nm,1.8s						
TIGA	**Tifton**	**37.37**	**351**	P	**P**	**10 15 20.2**	**+0.2**
	baz=169,SNR=17						
TIGA				S	**S**	**10 21 00.3**	**+1.3**
	baz=169						
TIGA	**Tifton**	**37.37**	**351**	P	**P**	**10 15 19.9**	**0.0**
	baz=169,SNR=17						
TIGA				S	**S**	**10 20 59.7**	**+0.7**
	baz=169						
GO07	**Milladeo Hill,**	**37.47**	**176**	IAmb	IAmb	10 16 14.1	
	comp=Z,308nm,1.7s						
RPN	**Rapa Nui**	**37.51**	**232**	LR	LR	10 27 33.3	
	comp=Z,6μm,21.8s,baz=64,slow=31						
257A	**Skidaway Islan**	**37.57**	**354**	P	**P**	**10 15 22.7**	**+1.1**
	baz=173,SNR=5.4						
257A				S	**S**	**10 21 04.8**	**+3.0**
	baz=173						
352A	**Blakely**	**37.65**	**349**	P	**P**	**10 15 22.3**	**+0.1**
	baz=167,SNR=33						
352A				S	**S**	**10 21 02.3**	**-0.8**
	baz=167						
255A	**Hazlehurst**	**37.69**	**352**	P	**P**	**10 15 22.8**	**+0.3**
	baz=171,SNR=34						
GDU01	**Guandu, BA**	**37.69**	**105**	*e*P	**P**	**10 15 23.3**	**+0.4**
ZAIG	**Zacatecas**	**37.71**	**319**	P	**P**	**10 15 23.8**	**+0.5**
545B	**Wilberts Farm,**	**37.74**	**341**	P	**P**	**10 15 24.6**	**+1.5**
	baz=158						
545B				S	**S**	**10 21 10.3**	**+5.7**
	baz=158						
CAM01	**Campos-RJ**	**37.77**	**119**	*e*P	**P**	**10 15 22.7**	**-0.7**
BRAL	**Brewton**	**37.81**	**346**	P	**P**	**10 15 24.1**	**+0.5**
	baz=164,SNR=24						
BRAL				S	**S**	**10 21 06.7**	**+1.1**
	baz=164						
BRAL	**Brewton**	**37.81**	**346**	P	**P**	**10 15 24.1**	**+0.5**
	baz=164,SNR=24						
BRAL				S	**S**	**10 21 05.3**	**-0.3**
	baz=164						
NAN01	**Guarapari, ES**	**37.98**	**112**	*e*P	**P**	**10 15 25.4**	**+0.1**
GUA01	**Guaratinga, BA**	**37.99**	**110**	*e*P	**P**	**10 15 25.9**	**+0.5**
CMC01	**Camacan, BA**	**38.02**	**108**	*e*P	**P**	**10 15 26.3**	**+0.7**
RIB01	**Linhares ES**	**38.12**	**114**	*e*P	**P**	**10 15 26.4**	**0.0**
ALF01	**Guarapari-ES**	**38.20**	**116**	*e*P	**P**	**10 15 26.9**	**-0.2**
250A	**Grady**	**38.41**	**347**	P	**P**	**10 15 28.6**	**0.0**
	baz=165,SNR=72						
250A				S	**S**	**10 21 12.8**	**-1.8**
	baz=165						
154A	**Montrose**	**38.45**	**352**	P	**P**	**10 15 29.3**	**+0.3**
	baz=170,SNR=48						
154A				S	**S**	**10 21 15.0**	**-0.2**
	baz=170						
NHSC	**New Hope**	**38.62**	**356**	P	**P**	**10 15 31.4**	**+1.1**
	baz=175,SNR=46						
NHSC				S	**S**	**10 21 20.1**	**+2.4**
	baz=175						
NHSC	**New Hope**	**38.62**	**356**	P	**P**	**10 15 31.3**	**+1.0**
	baz=175,SNR=46						
NHSC				S	**S**	**10 21 20.1**	**+2.4**
	baz=175						
KVTX	**Kingsville**	**38.66**	**329**	P	**P**	**10 15 31.8**	**+1.0**
KVTX	**Kingsville**	**38.66**	**329**	P	**P**	**10 15 32.5**	**+1.7**
	baz=145						
KVTX				S	**S**	**10 21 20.5**	**+2.0**
	baz=145						
346A	**Big Creek Wild**	**38.67**	**343**	P	**P**	**10 15 31.4**	**+0.6**
	baz=160,SNR=21						
346A				S	**S**	**10 21 19.6**	**+1.0**
	baz=160						
152A	**Waverly Hall**	**38.77**	**350**	P	**P**	**10 15 31.1**	**-0.5**
152A	**Waverly Hall**	**38.77**	**350**	P	**P**	**10 15 31.4**	**-0.2**
	baz=168,SNR=79						
152A				S	**S**	**10 21 18.4**	**-1.6**
	baz=168						
HAW	**Hawthorne Fire**	**39.00**	**354**	P	**P**	**10 15 34.0**	**+0.5**
	baz=173,SNR=118						
HAW				S	**S**	**10 21 23.4**	**0.0**
	baz=173						
NBLA	**Lagarto - SE**	**39.11**	**100**	*e*P	**P**	**10 15 34.0**	**-0.8**
344A	**Westbrook Farm**	**39.12**	**341**	IAmb	IAmb	10 15 37.3	
	comp=Z,418nm,1.2s						
344A	**Westbrook Farm**	**39.12**	**341**	P	**P**	**10 15 35.2**	**+0.7**
	baz=158,SNR=38						
344A				S	**S**	**10 21 25.5**	**+0.2**
	baz=158						
GOGA	**Godfrey**	**39.29**	**351**	IAmb	IAmb	10 15 37.9	
	comp=Z,780nm,1.9s						
GOGA	**Godfrey**	**39.29**	**351**	P	**P**	**10 15 35.6**	**-0.3**
	baz=170,SNR=65						
GOGA				S	**S**	**10 21 26.2**	**-1.5**
	baz=170						
GOGA	**Godfrey**	**39.29**	**351**	P	**P**	**10 15 35.6**	**-0.3**
	baz=170,SNR=65						
GOGA				S	**S**	**10 21 26.4**	**-1.3**
	baz=170						
441A	**DeRidder**	**39.34**	**338**	IAmb	IAmb	10 15 39.6	
	comp=Z,210nm,1.1s						
441A	**DeRidder**	**39.34**	**338**	P	**P**	**10 15 37.4**	**+1.0**
	baz=154,SNR=8.1						
441A				S	**S**	**10 21 30.8**	**+2.2**
	baz=154						
Y58A	**Scranton**	**39.38**	**356**	P	**P**	**10 15 37.5**	**+0.9**
	baz=176,SNR=13						
Y58A				P	**P**	**10 15 37.5**	**+0.9**
	baz=176,SNR=13						
Y58A				S	**S**	**10 21 30.2**	**+1.2**
	baz=176						
Y58A				S	**S**	**10 21 30.2**	**+1.2**
	baz=176						
Y60A	**Bolivia**	**39.41**	**358**	P	**P**	**10 15 38.0**	**+1.1**
	baz=178,SNR=5.5						
Y60A				P	**P**	**10 15 38.0**	**+1.1**
	baz=178,SNR=5.5						
Y59A	**Loris**	**39.42**	**358**	P	**P**	**10 15 38.0**	**+1.1**
	baz=177,SNR=13						
Y59A				P	**P**	**10 15 38.0**	**+1.1**
	baz=177,SNR=13						
Y59A				S	**S**	**10 21 30.4**	**+0.7**
	baz=177						
Y59A				S	**S**	**10 21 30.4**	**+0.7**
	baz=177						
Z51A	**Franklin**	**39.48**	**349**	IAmb	IAmb	10 15 39.5	
	comp=Z,1μm,2.0s						
Z51A	**Franklin**	**39.48**	**349**	P	**P**	**10 15 37.4**	**-0.2**
	baz=167,SNR=34						
Z51A				S	**S**	**10 21 29.0**	**-1.7**
	baz=167						
BBSR	**BB Station**	**39.53**	**16**	P	**P**	**10 15 37.8**	**0.0**
BBSR	**BB Station**	**39.53**	**16**	P	**P**	**10 15 37.9**	**0.0**
	baz=199						
BBSR				S	**S**	**10 21 31.2**	**-0.2**
	baz=199						
Y57A	**Sumter**	**39.54**	**356**	IAmb	IAmb	10 15 41.0	
	comp=Z,196nm,0.8s						
Y57A	**Sumter**	**39.54**	**356**	P	**P**	**10 15 38.4**	**+0.4**
	baz=175,SNR=30						
Y57A				P	**P**	**10 15 38.4**	**+0.4**
	baz=175,SNR=30						
Y57A				S	**S**	**10 21 31.9**	**+0.4**
	baz=175						
Y57A				S	**S**	**10 21 31.9**	**+0.4**
	baz=175						
342B	**Flagon Creek P**	**39.59**	**339**	P	**P**	**10 15 39.2**	**+0.7**
	baz=156,SNR=24						
342B				S	**S**	**10 21 32.6**	**+0.3**
	baz=156						
LRAL	**Lakeview Retre**	**39.59**	**347**	P	**P**	**10 15 37.8**	**-0.7**
LRAL				IAmb	IAmb	10 15 40.1	
	comp=Z,1μm,1.9s						
LRAL	**Lakeview Retre**	**39.59**	**347**	P	**P**	**10 15 38.1**	**-0.3**
	baz=164,SNR=127						
LRAL				S	**S**	**10 21 30.0**	**-2.2**
	baz=164						
LRAL	**Lakeview Retre**	**39.59**	**347**	P	**P**	**10 15 38.1**	**-0.3**
	baz=164,SNR=127						
LRAL				S	**S**	**10 21 29.7**	**-2.6**
	baz=164						
735A	**Kenedy**	**39.70**	**331**	IAmb	IAmb	10 15 41.9	
	comp=Z,160nm,0.8s						
735A	**Kenedy**	**39.70**	**331**	P	**P**	**10 15 40.5**	**+1.1**
	baz=146,SNR=19						
735A				S	**S**	**10 21 34.6**	**+0.5**
	baz=146						
HKT	**Hockley**	**39.71**	**334**	P	**P**	**10 15 40.0**	**+0.6**
HKT				IAmb	IAmb	10 15 43.8	
	comp=Z,311nm,1.6s						
HKT	**Hockley**	**39.71**	**334**	*d i*P	**P**	**10 15 40.1**	**+0.6**
HKT				*i* *SP	**sP**	**10 16 19.4**	**-1.4**
HKT				pmax	pmax		
	comp=Z,340nm,2.2s						
HKT				MLR	MLR		
	comp=Z,1μm,15.0s						
HKT	**Hockley**	**39.71**	**334**	P	**P**	**10 15 40.1**	**+0.6**
	baz=150						
HKT				S	**S**	**10 21 33.3**	**-0.8**
	baz=150						
HKT	**Hockley**	**39.71**	**334**	P	**P**	**10 15 38.3**	**-1.2**
HKT				sP	**sP**	**10 16 19.2**	**-1.7**
146A	**Union**	**39.73**	**344**	P	**P**	**10 15 40.0**	**+0.4**
	baz=161,SNR=19						
146A				S	**S**	**10 21 31.6**	**-2.8**
	baz=161						
VBMS	**Vicksburg**	**39.76**	**342**	P	**P**	**10 15 39.7**	**-0.2**
VBMS				IAmb	IAmb	10 15 42.0	
	comp=Z,502nm,1.4s						
VBMS	**Vicksburg**	**39.76**	**342**	P	**P**	**10 15 39.7**	**-0.2**
	baz=159						
VBMS				S	**S**	**10 21 34.1**	**-0.8**
	baz=159						
VBMS	**Vicksburg**	**39.76**	**342**	P	**P**	**10 15 39.6**	**-0.3**
	baz=159,SNR=24						
VBMS				S	**S**	**10 21 33.0**	**-1.9**
	baz=159						
Y52A	**Lilburn**	**39.82**	**351**	IAmb	IAmb	10 15 42.2	
	comp=Z,514nm,1.7s						
Y52A	**Lilburn**	**39.82**	**351**	P	**P**	**10 15 40.1**	**-0.3**
	baz=169,SNR=35						
Y52A				P	**P**	**10 15 40.1**	**-0.3**
	baz=169,SNR=35						
Y52A				S	**S**	**10 21 33.1**	**-2.7**
	baz=169						
Y52A				S	**S**	**10 21 33.1**	**-2.7**
	baz=169						
JSC	**Jenkinsville**	**39.88**	**354**	P	**P**	**10 15 41.1**	**+0.3**
	baz=173,SNR=82						
HODGE	**Hodges**	**39.93**	**353**	P	**P**	**10 15 41.4**	**+0.2**
	baz=172,SNR=90						
Z47A	**Carrollton**	**40.00**	**345**	P	**P**	**10 15 41.4**	**-0.5**
	baz=163,SNR=80						
Z47A				S	**S**	**10 21 35.6**	**-2.8**
	baz=163						
X58A	**Rowland**	**40.00**	**357**	P	**P**	**10 15 42.2**	**+0.4**
	baz=176,SNR=8.4						
X58A				P	**P**	**10 15 42.2**	**+0.4**
	baz=176,SNR=8.4						
COYC	**Coyhaique**	**40.04**	**175**	P	**P**	**10 15 42.0**	**0.0**
833A	**Chaparral WMA,**	**40.06**	**328**	IAmb	IAmb	10 15 45.5	
	comp=Z,787nm,1.9s						
833A	**Chaparral WMA,**	**40.06**	**328**	P	**P**	**10 15 43.3**	**+0.8**
	baz=144,SNR=42						
833A				S	**S**	**10 21 36.8**	**-2.8**
	baz=144						
833A	**Chaparral WMA,**	**40.06**	**328**	P	**P**	**10 15 43.4**	**+0.9**
	baz=144,SNR=42						
833A				S	**S**	**10 21 38.4**	**-1.1**
	baz=144						
BIRD	**Birdtown, Kers**	**40.17**	**356**	IAmb	IAmb	10 15 45.4	
	comp=Z,809nm,1.9s						
BIRD	**Birdtown, Kers**	**40.17**	**356**	P	**P**	**10 15 43.4**	**+0.2**
	baz=175,SNR=70						
Y49A	**Blount Mountai**	**40.25**	**348**	IAmb	IAmb	10 15 45.4	
	comp=Z,269nm,1.4s						
Y49A	**Blount Mountai**	**40.25**	**348**	P	**P**	**10 15 43.2**	**-0.8**
	baz=165,SNR=52						
Y49A				S	**S**	**10 21 39.6**	**-2.6**
	baz=165						
PAULI	**Pauline**	**40.47**	**354**	IAmb	IAmb	10 15 47.2	
	comp=Z,210nm,0.8s						
PAULI	**Pauline**	**40.47**	**354**	P	**P**	**10 15 46.1**	**+0.4**
	baz=173,SNR=64						
PAULI				S	**S**	**10 21 45.6**	**+0.3**
	baz=173						
143A	**Socs Landing,**	**40.49**	**341**	IAmb	IAmb	10 15 48.4	
	comp=Z,895nm,1.6s						
143A	**Socs Landing,**	**40.49**	**341**	P	**P**	**10 15 45.3**	**-0.6**
	baz=158,SNR=49						
143A				S	**S**	**10 21 38.2**	**-7.6**
	baz=158						
NBAN	**Anadia - AL**	**40.52**	**98**	*e*P	**P**	**10 15 46.8**	**+0.3**
CNNC	**Cliffs of the**	**40.63**	**359**	IAmb	IAmb	10 15 49.5	
	comp=Z,548nm,1.9s						
CNNC	**Cliffs of the**	**40.63**	**359**	P	**P**	**10 15 47.2**	**+0.2**
	baz=179,SNR=10						
W57A	**Gilead**	**40.64**	**356**	P	**P**	**10 15 47.2**	**+0.1**
	baz=175,SNR=103						
W57A				P	**P**	**10 15 47.2**	**+0.1**
	baz=175,SNR=103						
W57A				S	**S**	**10 21 48.5**	**+0.6**
	baz=175						
W57A				S	**S**	**10 21 48.5**	**+0.6**
	baz=175						
X51A	**Calhoun**	**40.64**	**350**	IAmb	IAmb	10 15 48.8	
	comp=Z,1μm,1.9s						
X51A	**Calhoun**	**40.64**	**350**	P	**P**	**10 15 46.6**	**-0.5**
	baz=168,SNR=53						
X51A				P	**P**	**10 15 46.6**	**-0.5**
	baz=168,SNR=53						
X51A				S	**S**	**10 21 46.2**	**-1.7**
	baz=168						
X51A				S	**S**	**10 21 46.2**	**-1.7**
	baz=168						
KMSC	**Kings Mountain**	**40.73**	**355**	IAmb	IAmb	10 15 49.4	
	comp=Z,199nm,0.8s						
KMSC	**Kings Mountain**	**40.73**	**355**	P	**P**	**10 15 48.2**	**+0.3**
	baz=173,SNR=99						
KMSC				S	**S**	**10 21 50.4**	**+1.1**
	baz=173						
KMSC	**Kings Mountain**	**40.73**	**355**	P	**P**	**10 15 48.2**	**+0.3**
	baz=173,SNR=99						
KMSC				S	**S**	**10 21 48.7**	**-0.6**
	baz=173						
FPAL	**Fort Paine**	**40.75**	**349**	IAmb	IAmb	10 15 49.4	
	comp=Z,895nm,1.9s						
BG3	**Lake Jocassee**	**40.77**	**352**	IAmb	IAmb	10 15 50.5	
	comp=Z,1μm,1.9s						
CASEE	**Lake Jocassee**	**40.77**	**352**	P	**P**	**10 15 48.3**	**+0.2**
	baz=171,SNR=79						
CASEE				S	**S**	**10 21 50.0**	**+0.2**
	baz=171						
NATX	**Nacogdoches**	**40.81**	**337**	P	**P**	**10 15 49.0**	**+0.4**
NATX	**Nacogdoches**	**40.81**	**337**	P	**P**	**10 15 49.5**	**+0.9**
	baz=152,SNR=27						
NATX				S	**S**	**10 21 51.7**	**+1.2**
	baz=152						
NATX	**Nacogdoches**	**40.81**	**337**	P	**P**	**10 15 49.2**	**+0.7**
	baz=152,SNR=27						
NATX				S	**S**	**10 21 51.4**	**+1.0**
	baz=152						
RCBR	**Riachuelo**	**40.86**	**92**	P	**P**	**10 15 50.1**	**+0.8**
	comp=Z,46nm,0.7s,baz=268,slow=17,SNR=18						
RCBR				LR	LR	10 33 05.7	
	comp=Z,4μm,20.2s,baz=53,slow=36						
	comp=Z,46nm,0.7s						
RCBR	**Riachuelo**	**40.86**	**92**	P	**P**	**10 15 48.4**	**-0.9**
RCBR	**Riachuelo**	**40.86**	**92**	*e*P	**P**	**10 15 49.6**	**+0.3**
X48A	**Hartselle**	**40.96**	**347**	IAmb	IAmb	10 15 51.1	
	comp=Z,350nm,1.4s						
X48A	**Hartselle**	**40.96**	**347**	P	**P**	**10 15 48.9**	**-0.8**
	baz=165,SNR=56						
X48A				S	**S**	**10 21 49.3**	**-3.4**
	baz=165						
W52A	**Murphy**	**41.01**	**351**	P	**P**	**10 15 50.0**	**-0.1**
	baz=169,SNR=70						
W52A				S	**S**	**10 21 52.3**	**-1.1**
	baz=169						
Y45A	**Yeager Farm, C**	**41.02**	**344**	P	**P**	**10 15 50.3**	**+0.1**
	baz=161,SNR=69						
Y45A				S	**S**	**10 21 52.0**	**-1.6**
	baz=161						
V61A	**Roper**	**41.18**	**0**	P	**P**	**10 15 52.2**	**+0.7**
	baz=181						
V61A				P	**P**	**10 15 52.2**	**+0.7**
	baz=181						
V61A				S	**S**	**10 22 00.7**	**+4.9**
	baz=181						
V61A				S	**S**	**10 22 00.7**	**+4.9**
	baz=181						
435B	**Jarrell**	**41.21**	**333**	P	**P**	**10 15 53.0**	**+1.1**
	baz=148,SNR=35						
435B				S	**S**	**10 21 56.8**	**+0.3**
	baz=148						
435B	**Jarrell**	**41.21**	**333**	P	**P**	**10 15 52.7**	**+0.9**
	baz=148						
435B				S	**S**	**10 21 57.4**	**+0.9**
	baz=148						
V58A	**Windy Hill, Pi**	**41.23**	**357**	P	**P**	**10 15 52.0**	**+0.2**
	baz=177,SNR=86						
V58A				P	**P**	**10 15 52.0**	**+0.2**
	baz=177,SNR=86						
V58A				S	**S**	**10 21 57.1**	**+0.6**
	baz=177						
V58A				S	**S**	**10 21 57.1**	**+0.6**
	baz=177						
W50A	**Signal Mountai**	**41.34**	**350**	IAmb	IAmb	10 15 54.5	
	comp=Z,902nm,1.9s						
W50A	**Signal Mountai**	**41.34**	**350**	P	**P**	**10 15 52.1**	**-0.7**
	baz=167,SNR=68						
W50A				S	**S**	**10 21 56.1**	**-2.3**
	baz=167						
V53A	**Saluda**	**41.42**	**353**	IAmb	IAmb	10 15 55.5	
	comp=Z,586nm,1.8s						
V53A	**Saluda**	**41.42**	**353**	P	**P**	**10 15 53.2**	**-0.3**
	baz=171,SNR=116						
V53A				P	**P**	**10 15 53.2**	**-0.3**
	baz=171,SNR=116						
V53A				S	**S**	**10 21 58.0**	**-1.5**
	baz=171						
V53A				S	**S**	**10 21 58.0**	**-1.5**
	baz=171						
V55A	**Taylorsville**	**41.43**	**355**	IAmb	IAmb	10 15 56.1	
	comp=Z,353nm,1.4s						
V55A	**Taylorsville**	**41.43**	**355**	P	**P**	**10 15 53.9**	**+0.3**
	baz=174,SNR=65						
V55A				P	**P**	**10 15 53.9**	**+0.3**
	baz=174,SNR=65						
V55A				S	**S**	**10 22 00.5**	**+1.0**
	baz=174						
V55A				S	**S**	**10 22 00.5**	**+1.0**
	baz=174						
SWET	**Sewanee**	**41.47**	**349**	IAmb	IAmb	10 15 55.2	
	comp=Z,984nm,2.0s						
237A	**Washetta,

NBRF	Rio Formoso -	41.61	97	eP		P		10 15 56.2	+0.8
V52A	Sevierville	41.69	352	P		P		10 15 55.4	-0.4
	baz=170,SNR=116								
V52A				S		S		10 22 01.9	-1.6
	baz=170								
PLAL	Pickwick Lake	41.70	346	P		P		10 15 54.3	-1.5
PLAL				IAmb		IAmb		10 15 56.6	
	comp=Z,685nm,1.8s								
CCAR	Cane Creek	41.73	341	P		P		10 15 55.7	-0.3
CCAR	Cane Creek	41.73	341	P		P		10 15 55.9	-0.1
	baz=158								
CCAR				S		S		10 22 02.5	-1.5
	baz=158								
U59A	Littleton	41.74	359	P		P		10 15 56.6	+0.6
U59A				IAmb		IAmb		10 15 58.8	
	comp=Z,1µm,2.0s								
U59A	Littleton	41.74	359	P		P		10 15 56.6	+0.6
	baz=179,SNR=56								
U59A				P		P		10 15 56.6	+0.6
	baz=179,SNR=56								
U59A				S		S		10 22 05.8	+1.7
	baz=179								
U59A				S		S		10 22 05.8	+1.7
	baz=179								
V51A	Loudon	41.77	351	P		P		10 15 55.8	-0.5
V51A	Loudon	41.77	351	P		P		10 15 55.9	-0.4
	baz=169,SNR=61								
V51A				S		S		10 22 01.2	-3.4
	baz=169								
U56A	King	41.85	356	IAmb		IAmb		10 15 58.8	
	comp=Z,224nm,0.7s								
U56A	King	41.85	356	P		P		10 15 57.7	+0.7
	baz=175,SNR=95								
U56A				P		P		10 15 57.7	+0.7
	baz=175,SNR=95								
U56A				S		S		10 22 05.7	-0.1
	baz=175								
U56A				S		S		10 22 05.7	-0.1
	baz=175								
JCT	Junction City	42.02	330	P		P		10 15 58.8	+0.3
JCT				IAmb		IAmb		10 16 01.5	
	comp=Z,1µm,2.3s								
JCT	Junction City	42.02	330	P		P		10 15 58.8	+0.3
JCT				pmax		pmax			
	comp=Z,1µm,2.3s								
JCT	Junction City	42.02	330	P		P		10 15 59.1	+0.7
	baz=145,SNR=46								
JCT				S		S		10 22 09.4	+0.9
	baz=145								
JCT	Junction City	42.02	330	P		P		10 15 59.1	+0.7
	baz=145,SNR=46								
JCT				S		S		10 22 09.9	+1.4
	baz=145								
W45A	Hickory Valley	42.14	345	IAmb		IAmb		10 16 00.9	
	comp=Z,796nm,1.4s								
W45A	Hickory Valley	42.14	345	P		P		10 15 58.3	-1.1
	baz=162,SNR=28								
W45A				S		S		10 22 06.9	-3.2
	baz=162								
U54A	Nelsons Funny	42.15	354	IAmb		IAmb		10 16 02.3	
	comp=Z,160nm,0.8s								
U54A	Nelsons Funny	42.15	354	P		P		10 15 59.5	0.0
	baz=173,SNR=73								
U54A				P		P		10 15 59.5	0.0
	baz=173,SNR=73								
U54A				S		S		10 22 09.6	-0.7
	baz=173								
U54A				S		S		10 22 09.6	-0.7
	baz=173								
V48A	Smith Brothers	42.15	348	P		P		10 15 58.6	-0.8
	baz=165,SNR=130								
V48A				S		S		10 22 06.4	-3.9
	baz=165								
WHTX	Lake Whitney,	42.17	334	P		P		10 16 00.6	+0.9
	baz=149,SNR=87								
WHTX				S		S		10 22 11.4	+0.7
	baz=149								
WHTX	Lake Whitney,	42.17	334	P		P		10 16 00.6	+0.9
	baz=149,SNR=87								
WHTX				S		S		10 22 11.6	+0.9
	baz=149								
Z38A	Mt. Pleasant	42.26	337	P		P		10 16 01.2	+0.8
	baz=153,SNR=48								
Z38A				S		S		10 22 12.0	+0.2
	baz=153								
T59A	Double "B" Far	42.35	359	IAmb		IAmb		10 16 02.9	
	comp=Z,171nm,0.8s								
T59A	Double "B" Far	42.35	359	P		P		10 16 01.6	+0.5
	baz=179,SNR=90								
T59A				P		P		10 16 01.6	+0.5
	baz=179,SNR=90								
T59A				S		S		10 22 14.8	+1.7
	baz=179								
T59A				S		S		10 22 14.8	+1.7
	baz=179								
TZTN	Tazewell	42.38	352	P		P		10 16 00.8	-0.4
	baz=170,SNR=69								
TZTN				S		S		10 22 11.2	-2.4
	baz=170								
CLTN	Cedars of Leba	42.39	349	IAmb		IAmb		10 16 02.6	
	comp=Z,669nm,1.9s								
T57A	Hurt	42.43	357	IAmb		IAmb		10 16 03.2	
	comp=Z,269nm,0.8s								
T57A	Hurt	42.43	357	P		P		10 16 02.0	+0.3
	baz=177,SNR=221								
T57A				P		P		10 16 02.0	+0.3
	baz=177,SNR=221								
T57A				S		S		10 22 15.9	+1.6
	baz=177								
T57A				S		S		10 22 15.9	+1.6
	baz=177								
T60A	Surry	42.52	0	P		P		10 16 02.9	+0.6
	baz=180,SNR=5.4								
T60A				P		P		10 16 02.9	+0.6
	baz=180,SNR=5.4								
T60A				S		S		10 22 18.7	+3.1
	baz=180								
T60A				S		S		10 22 18.7	+3.1
	baz=180								
U49A	Red Boiling Sp	42.70	350	P		P		10 16 02.7	-1.2
	baz=167,SNR=42								
U49A				S		S		10 22 13.4	-4.9
	baz=167								
BLA	Blacksburg	42.71	356	P		P		10 16 04.5	+0.5
	baz=175,SNR=42								
BLA	Blacksburg	42.71	356	P		P		10 16 04.4	+0.4
	baz=175,SNR=42								
BLA				S		S		10 22 19.5	+0.9
	baz=175								
WVT	Waverly	42.74	347	P		P		10 16 02.3	-1.9
WVT	Waverly	42.74	347	P		P		10 16 02.3	-1.9
WVT				pmax		pmax			
	comp=Z,73nm,1.0s								
WVT	Waverly	42.74	347	P		P		10 16 02.4	-1.8
	baz=164,SNR=66								
WVT	Waverly	42.74	347	P		P		10 16 02.5	-1.8
	baz=164								
WVT				S		S		10 22 12.9	-6.0
	baz=164								
WVT	Waverly	42.74	347	P		P		10 16 00.8	-3.4
WVT				pP		pP		10 16 30.7	-1.3
HALT	Halls	42.90	345	IAmb		IAmb		10 16 06.8	
	comp=Z,722nm,1.5s								
MIAR	Mount Ida	42.90	340	IAmb		IAmb		10 16 07.4	
	comp=Z,367nm,1.6s								
MIAR	Mount Ida	42.90	340	P		P		10 16 05.4	-0.1
	baz=155,SNR=56								
MIAR				S		S		10 22 17.1	-4.2
	baz=155								
MIAR	Mount Ida	42.90	340	P		P		10 16 05.4	-0.1
	baz=155,SNR=56								
MIAR				S		S		10 22 18.4	-2.8
	baz=155								
HBAR	Harrisburg	42.91	344	IAmb		IAmb		10 16 07.7	
	comp=Z,918nm,1.5s								
HBAR	Harrisburg	42.91	344	P		P		10 16 04.7	-0.9
	baz=160								
HBAR				S		S		10 22 19.2	-2.2
	baz=160								
S61A	Accomac	43.08	2	P		P		10 16 07.9	+1.0
	baz=182								
S61A				P		P		10 16 07.9	+1.0
	baz=182								
S61A				S		S		10 22 28.8	+5.1
	baz=182								
S61A				S		S		10 22 28.8	+5.1
	baz=182								
LNXT	Lenox	43.12	345	P		P		10 16 05.6	-1.6
	baz=162								
GNAR	Gosnell	43.12	344	P		P		10 16 06.3	-1.0
S57A	Dark Hollow, R	43.18	358	P		P		10 16 08.2	+0.5
	baz=177,SNR=119								
S57A				P		P		10 16 08.2	+0.5
	baz=177,SNR=119								
S57A				S		S		10 22 26.1	+0.8
	baz=177								
S57A				S		S		10 22 26.1	+0.8
	baz=177								
TX31	Lajitas Ar. Si	43.19	325	IAmb		IAmb		10 16 10.9	
	comp=Z,268nm,1.3s								
TX31	Lajitas Ar. Si	43.19	325	P		P		10 16 08.5	+0.5
	baz=139,SNR=66								
TX31				S		S		10 22 28.2	+2.4
	baz=139								
TXAR	Lajitas Array	43.19	325	P		P		10 16 08.3	+0.3
	comp=Z,16nm,0.7s,baz=148,slow=9.4,SNR=126								
TXAR				pP		pP		10 16 36.9	+1.0
	comp=Z,8.5nm,0.7s,baz=150,slow=11,SNR=4.1								
TXAR				PP		PP		10 17 53.6	+2.7
	comp=Z,20nm,1.0s,baz=138,slow=11,SNR=4.0								
TXAR				LR		LR		10 33 21.0	
	comp=Z,1µm,20.3s,baz=142,slow=35								
TXAR				PKPPKP		P'P'df		10 47 58.9	-1.6
	comp=Z,0.6nm,0.9s,baz=191,slow=0.5,SNR=3.5								
	comp=Z,16nm,0.7s								
TXAR	Lajitas Array	43.19	325	P		P		10 16 08.0	-0.1
UTMT	University of	43.19	346	IAmb		IAmb		10 16 08.5	
	comp=Z,761nm,1.7s								
PEBM	Pemiscott Bayo	43.22	345	IAmb		IAmb		10 16 09.9	
	comp=Z,428nm,1.2s								
Z35A	Perchaven, San	43.24	335	P		P		10 16 09.5	+1.3
	baz=150,SNR=59								
Z35A				S		S		10 22 27.4	+1.2
	baz=150								
R58B	Mineral	43.35	359	P		P		10 16 09.8	+0.8
	baz=179,SNR=90								
R58B				P		P		10 16 09.8	+0.8
	baz=179,SNR=90								
R58B				S		S		10 22 28.9	+1.2
	baz=179								
R58B				S		S		10 22 28.9	+1.2
	baz=179								
S54A	Dingess, Beckl	43.37	355	P		P		10 16 09.2	-0.1
	baz=174,SNR=42								
S54A				P		P		10 16 09.2	-0.1
	baz=174,SNR=42								
SLBS	Sierra La Lagu	43.39	313	P		P		10 16 10.0	+0.3
SLBS	Sierra La Lagu	43.39	313	P		P		10 16 10.1	+0.3
SLBS				pP		pP		10 16 36.7	-1.1
T47A	Sharon Grove	43.42	348	IAmb		IAmb		10 16 10.3	
	comp=Z,813nm,2.0s								
T47A	Sharon Grove	43.42	348	P		P		10 16 08.1	-1.5
	baz=165,SNR=37								
T47A				S		S		10 22 24.7	-4.0
	baz=165								
S51A	Beattyville	43.46	352	P		P		10 16 09.3	-0.6
	baz=170,SNR=71								
S51A				P		P		10 16 09.3	-0.6
	baz=170,SNR=71								
LCAR	Lake Charles	43.54	343	IAmb		IAmb		10 16 11.6	
	comp=Z,1µm,1.8s								
LCAR	Lake Charles	43.54	343	P		P		10 16 09.5	-1.1
	baz=159								
CBN	Corbin Frederi	43.58	360	IAmb		IAmb		10 16 12.9	
	comp=Z,210nm,0.7s								
CBN	Corbin Frederi	43.58	360	P		P		10 16 11.5	+0.6
	baz=179,SNR=14								
CBN	Corbin Frederi	43.58	360	P		P		10 16 11.6	+0.7
	baz=179,SNR=14								
CBN				S		S		10 22 34.0	+2.9
	baz=179								
X37A	Clayton	43.59	338	P		P		10 16 11.7	+0.7
	baz=153,SNR=103								
X37A				S		S		10 22 32.3	+1.1
	baz=153								
FCAR	Ozark Folk Cen	43.66	342	IAmb		IAmb		10 16 12.7	
	comp=Z,932nm,1.9s								
ABTX	Abilene, Hawle	43.70	332	P		P		10 16 12.9	+0.8
	baz=146,SNR=20								
ABTX				S		S		10 22 34.1	+1.0
	baz=146								
ABTX	Abilene, Hawle	43.70	332	P		P		10 16 13.0	+1.0
	baz=146,SNR=20								
ABTX				S		S		10 22 33.8	+0.7
	baz=146								
R61A	Willards	43.73	2	P		P		10 16 13.7	+1.6
	baz=182								
R61A				P		P		10 16 13.7	+1.6
	baz=182								
R61A				S		S		10 22 37.9	+4.6
	baz=182								
R61A				S		S		10 22 37.9	+4.6
	baz=182								
R55A	Marlinton	43.76	356	P		P		10 16 12.9	+0.5
	baz=176,SNR=52								
R55A				P		P		10 16 12.9	+0.5
	baz=176,SNR=52								
R55A				S		S		10 22 34.4	+0.6
	baz=176								
R55A				S		S		10 22 34.4	+0.6
	baz=176								
LOOK	Love County	43.78	335	IAmb		IAmb		10 16 16.0	
	comp=Z,488nm,1.1s								
T45B	Paducah	43.78	346	P		P		10 16 10.8	-1.7
	baz=163,SNR=6.1								
T45A	Paducah	43.78	346	IAmb		IAmb		10 16 13.6	
	comp=Z,272nm,0.8s								
LPIG	La Paz	43.91	314	P		P		10 16 14.3	+0.6
	comp=Z,24nm,0.8s,baz=28,slow=7.9,SNR=5.2								
	comp=Z,24nm,0.8s								
R53A	Hurricane	43.95	354	P		P		10 16 13.5	-0.4
	baz=173,SNR=34								
R53A				P		P		10 16 13.5	-0.4
	baz=173,SNR=34								
PBMO	Poplar Bluff	44.00	344	P		P		10 16 12.8	-1.5
	baz=161								
R50A	Paris	44.19	352	IAmb		IAmb		10 16 17.2	
	comp=Z,1µm,2.0s								
R50A	Paris	44.19	352	P		P		10 16 15.1	-0.7
	baz=170,SNR=54								
R50A				P		P		10 16 15.1	-0.7
	baz=170,SNR=54								
CGM3	Cape Girardeau	44.29	345	IAmb		IAmb		10 16 17.4	
	comp=Z,767nm,1.8s								
R49A	Shelbyville	44.33	351	IAmb		IAmb		10 16 17.7	
	comp=Z,672nm,1.9s								
R49A	Shelbyville	44.33	351	P		P		10 16 15.5	-1.4
	baz=168,SNR=35								
R49A				P		P		10 16 15.5	-1.4
	baz=168,SNR=35								
WCI	Wyandotte Cave	44.46	350	P		P		10 16 16.5	-1.4
WCI	Wyandotte Cave	44.46	350	P		P		10 16 16.5	-1.4
WCI				pmax		pmax			
	comp=Z,72nm,0.8s								
WCI	Wyandotte Cave	44.46	350	P		P		10 16 16.5	-1.4
	baz=167,SNR=30								
WCI	Wyandotte Cave	44.46	350	P		P		10 16 16.5	-1.4
	baz=167								
WCI				S		S		10 22 37.8	-6.1
	baz=167								
WCI	Wyandotte Cave	44.46	350	P		P		10 16 13.8	-4.1
WCI				pP		pP		10 16 44.3	-1.6
Q56A	Snyder Ridge,	44.47	358	P		P		10 16 18.9	+0.9
	baz=177,SNR=68								
Q56A				P		P		10 16 18.9	+0.9
	baz=177,SNR=68								
USIN	University of	44.47	348	P		P		10 16 16.4	-1.6
USIN				IAmb		IAmb		10 16 18.5	
	comp=Z,788nm,1.8s								
Q54A	Coxs Mills	44.51	356	P		P		10 16 18.0	-0.3
	baz=174,SNR=57								
Q54A				P		P		10 16 18.0	-0.3
	baz=174,SNR=57								
S44A	Carbondale	44.57	346	IAmb		IAmb		10 16 19.5	
	comp=Z,964nm,1.9s								
S44A	Carbondale	44.57	346	P		P		10 16 17.5	-1.3
	baz=162,SNR=44								
SIUC	Southern Illin	44.58	346	IAmb		IAmb		10 16 19.6	
	comp=Z,1µm,1.9s								
HHAR	Hobbs	44.60	340	P		P		10 16 18.6	-0.5
	baz=156								
HHAR				S		S		10 22 44.3	-1.7
	baz=156								
Q52A	Bidwell	44.61	354	IAmb		IAmb		10 16 20.7	
	comp=Z,866nm,1.9s								
Q52A	Bidwell	44.61	354	P		P		10 16 18.6	-0.5
	baz=172,SNR=37								
Q52A				P		P		10 16 18.6	-0.5
	baz=172,SNR=37								
SDMD	Soldier's Deli	44.79	0	P		P		10 16 21.3	+0.8
	baz=180,SNR=40								
SDMD				S		S		10 22 51.7	+3.2
	baz=180								
Q51A	Peebles	44.79	353	IAmb		IAmb		10 18 02.3	
	comp=Z,175nm,0.9s								
Q51A	Peebles	44.79	353	P		P		10 16 19.6	-1.0
	baz=171,SNR=29								
Q51A				P		P		10 16 19.6	-1.0
	baz=171,SNR=29								
RLO	Rose Lookout	44.87	339	IAmb		IAmb		10 16 23.4	
	comp=Z,1µm,1.9s								
P57A	Homestead Farm	44.87	359	IAmb		IAmb		10 16 24.6	
	comp=Z,820nm,1.8s								
P57A	Homestead Farm	44.87	359	P		P		10 16 22.4	+1.3
	baz=178,SNR=41								
P57A				P		P		10 16 22.4	+1.3
	baz=178,SNR=41								
P57A				S		S		10 22 52.7	+3.0
	baz=178								
P57A				S		S		10 22 52.7	+3.0
	baz=178								
U38A	Gravette	44.89	340	IAmb		IAmb		10 16 23.2	
	comp=Z,813nm,1.9s								
U38A	Gravette	44.89	340	P		P		10 16 20.9	-0.5
	baz=155,SNR=71								
U38A				S		S		10 22 47.9	-2.3
	baz=155								
TUL1	Leonard	44.92	338	P		P		10 16 22.2	+0.6
	baz=153,SNR=85								
TUL1				S		S		10 22 45.5	-5.0
	baz=153								
TUL1	Leonard	44.92	338	P		P		10 16 21.8	+0.2
	baz=153,SNR=85								
TUL1				S		S		10 22 50.3	-0.2
	baz=153								
FNO	Franklin	44.96	336	IAmb		IAmb		10 17 12.1	
	comp=Z,374nm,0.9s								
P53A	Whipple	45.05	355	P		P		10 16 22.1	-0.5
	baz=174,SNR=57								
P53A				P		P		10 16 22.1	-0.5
	baz=174,SNR=57								
WMOK	Wichita Mounta	45.09	334			P		10 16 23.6	+0.5
WMOK				IAmb		IAmb		10 16 25.6	
	comp=Z,645nm,1.7s								
WMOK	Wichita Mounta	45.09	334	P		P		10 16 23.6	+0.5
WMOK				pmax		pmax			
	comp=Z,645nm,1.7s								
WMOK	Wichita Mounta	45.09	334	P		P		10 16 23.3	+0.2
	baz=149,SNR=70								
WMOK				S		S		10 22 54.5	+1.3
	baz=149								
WMOK	Wichita Mounta	45.09	334	P		P		10 16 23.3	+0.2
	baz=149,SNR=70								
WMOK				S		S		10 22 54.0	+0.9
	baz=149								
P61A	Hammonton	45.09	2	P		P		10 16 23.9	+1.0
	baz=183								
P61A				P		P		10 16 23.9	+1.0
	baz=183								
MCWV	Mont Chateau	45.11	357	IAmb		IAmb		10 16 25.6	
	comp=Z,670nm,1.9s								
MCWV	Mont Chateau	45.11	357	P		P		10 16 23.2	+0.1
	baz=176,SNR=18								
MCWV				S		S		10 22 53.3	+0.1
	baz=176								
MCWV	Mont Chateau	45.11	357	P		P		10 16 23.4	+0.3
	baz=176,SNR=18								
MCWV				S		S		10 22 52.9	-0.4
	baz=176								
DEOK	Depew	45.12	337	IAmb		IAmb		10 16 25.5	
	comp=Z,2µm,1.9s								
GEDE	Greenville	45.20	1	P		P		10 16 24.8	+1.1
	baz=182,SNR=20								
GEDE				S		S		10 22 56.1	+1.6
	baz=182								
P51A	Williamsport	45.21	353	IAmb		IAmb		10 16 24.9	
	comp=Z,433nm,1.9s								
P51A	Williamsport	45.21	353	P		P		10 16 22.8	-1.1
	baz=172,SNR=21								
P51A				P		P		10 16 22.8	-1.1
	baz=172,SNR=21								
P52A	Corning	45.26	354	P		P		10 16 23.3	-1.0
	baz=173,SNR=35								
P52A				S		S		10 22 52.9	-2.5
	baz=173								
OLIL	Olney	45.30	348	P		P		10 16 23.0	-1.6
	baz=164,SNR=33								
PSUB	Penn St. - Bra	45.33	2	P		P		10 16 25.4	+0.7
	baz=182								
WUPA	West Chester U	45.33	1	IAmb		IAmb		10 16 27.8	
	comp=Z,387nm,1.7s								
BCOK	Bluff Creek, N	45.39	336	IAmb		IAmb		10 17 15.6	
	comp=Z,201nm,0.9s								
CCM	Cathedral Cave	45.42	344	P		P		10 16 24.1	-1.5
CCM	Cathedral Cave	45.42	344	P		P		10 16 24.1	-1.5
CCM				pmax		pmax			
	comp=Z,99nm,0.7s								
CCM	Cathedral Cave	45.42	344	P		P		10 16 24.2	-1.4
	baz=160,SNR=93								
CCM	Cathedral Cave	45.42	344	P		P		10 16 24.0	-1.5
	baz=160								
CCM				S		S		10 22 52.4	-5.3
	baz=160								
CCM	Cathedral Cave	45.42	344	P		P		10 16 21.4	-4.2
OK029	Liberty Lake	45.45	336	IAmb		IAmb		10 17 15.2	
	comp=Z,245nm,0.8s								
P49A	Miami Univ. Ec	45.48	352	IAmb		IAmb		10 16 26.4	
	comp=Z,792nm,2.0s								
P49A	Miami Univ. Ec	45.48	352	P		P		10 16 24.4	-1.6
	baz=169,SNR=41								
P49A				S		S		10 22 53.7	-4.7
	baz=169								
QUOK	Quay	45.49	337	IAmb		IAmb		10 16 28.5	
	comp=Z,2µm,1.9s								
P48A	Milroy	45.51	351	P		P		10 16 24.5	-1.8
	baz=168,SNR=40								
P48A				P		P		10 16 24.5	-1.8
	baz=168,SNR=40								
TUPA	Temple Univers	45.57	2	P		P		10 16 27.5	+0.8
	baz=182,SNR=17								
TUPA				S		S		10 23 02.4	+2.6
	baz=182								
O54A	Avella	45.67	356	P		P		10 16 27.2	-0.3
	baz=175,SNR=26								
O54A				P		P		10 16 27.2	-0.3
	baz=175,SNR=26								
Q44A	Meyer Farm, Va	45.67	347	P		P		10 16 26.0	-1.5
	baz=163,SNR=29								
GO09	Cerro Castillo	45.68	176	P		P		10 16 27.6	+0.2
S39A	Bolivar	45.69	342	IAmb		IAmb		10 16 28.9	
	comp=Z,722nm,1.9s								
S39A	Bolivar	45.69	342	P		P		10 16 26.8	-0.9
	baz=157,SNR=58								
OK044	Pawnee Station	45.70	338	IAmb		IAmb		10 16 31.1	
	comp=Z,496nm,1.1s								
SLM	Saint Louis	45.70	345	IAmb		IAmb		10 16 28.6	
	comp=Z,506nm,1.8s								
SLM	Saint Louis	45.70	345	P		P		10 16 26.4	-1.4
	baz=161,SNR=7.2								
O52A	Adamsville	45.71	355	IAmb		IAmb		10 16 29.2	
	comp=Z,576nm,1.8s								
O52A	Adamsville	45.71	355	P		P		10 16 27.1	-0.7
	baz=173,SNR=34								
O52A				P		P		10 16 27.1	-0.7
	baz=173,SNR=34								
OK047	Pawnee, Statio	45.76	338	IAmb		IAmb		10 16 31.5	
	comp=Z,448nm,1.0s								
OK046	Pawnee Station	45.77	337			P		10 16 28.7	+0.4
O53A	New Philadelph	45.79	355	IAmb		IAmb		10 17 11.5	
	comp=Z,257nm,1.4s								
O53A	New Philadelph	45.79	355	P		P		10 16 28.0	-0.4
	baz=174,SNR=35								
O53A				S		S		10 23 01.0	-2.0
	baz=174								
PANJ	Princeton	45.80	2	P		P		10 16 29.7	+1.2
	baz=183,SNR=57								
PANJ				S		S		10 23 06.2	+3.2
	baz=183								
CSTR	Hydro, Custer	45.83	335	IAmb		IAmb		10 16 31.8	
	comp=Z,143nm,1.5s								
R40A	Maddies Statio	45.93	343	IAmb		IAmb		10 16 30.3	
	comp=Z,264nm,1.2s								
R40A	Maddies Statio	45.93	343	P		P		10 16 28.1	-1.4
	baz=159,SNR=110								

R40A S **S** **10 23 00.1 -4.9**
baz=159
MNTX **Cornudas Mount** **45.94 326** P **P** **10 16 29.7 0.0**
MNTX IAmb IAmb 10 16 33.0
comp=Z,334nm,1.6s
MNTX **Cornudas Mount** **45.94 326** P **P** **10 16 29.9 +0.1**
baz=139,SNR=80
MNTX S **S** **10 23 07.1 +1.8**
baz=139
MNTX **Cornudas Mount** **45.94 326** P **P** **10 16 29.9 +0.1**
baz=139,SNR=80
MNTX S **S** **10 23 06.8 +1.4**
baz=139
ACSO **Alum Creek Sta** **45.94 354** IAmb IAmb 10 16 30.9
comp=Z,730nm,1.8s
ACSO **Alum Creek Sta** **45.94 354** P **P** **10 16 29.0 -0.6**
baz=172,SNR=34
ACSO **Alum Creek Sta** **45.94 354** P **P** **10 16 28.7 -0.9**
baz=172,SNR=34
ACSO S **S** **10 23 01.8 -3.4**
baz=172
P46A **Rosedale** **45.98 349** P **P** **10 16 28.6 -1.3**
baz=166,SNR=16
LUPA **Lehigh Univers** **46.00 2** IAmb IAmb 10 16 32.4
comp=Z,196nm,1.0s
SSPA **Standing Stone** **46.02 359** P **P** **10 16 30.8 +0.6**
SSPA **Standing Stone** **46.02 359** P **P** **10 16 30.8 +0.6**
baz=179,SNR=111
SSPA S **S** **10 23 07.6 +1.4**
baz=179
SSPA **Standing Stone** **46.02 359** P **P** **10 16 30.9 +0.7**
baz=179
SSPA S **S** **10 23 04.8 -1.5**
baz=179
SSPA **Standing Stone** **46.02 359** P **P** **10 16 28.9 -1.4**
SSPA pP **pP** **10 17 00.3 +2.0**
SSPA sP **sP** **10 17 10.6 -1.5**
O49A **Covington** **46.07 352** P **P** **10 16 29.3 -1.3**
baz=170,SNR=24
O49A P **P** **10 16 29.3 -1.3**
baz=170,SNR=24
T35B **Sooner Cattle** **46.08 338** P **P** **10 16 30.9 +0.2**
baz=153,SNR=75
T35B S **S** **10 23 05.2 -2.0**
baz=153
BRNJ **Basking Ridge** **46.11 3** P **P** **10 16 32.1 +1.2**
baz=183,SNR=15
BRNJ S **S** **10 23 10.9 +3.4**
baz=183
BLOK **Blackwell** **46.20 337** IAmb IAmb 10 16 34.3
comp=Z,3µm,1.9s
N58A **Sunbury** **46.22 0** IAmb IAmb 10 16 33.8
comp=Z,177nm,1.0s
N58A **Sunbury** **46.22 0** P **P** **10 16 32.4 +0.7**
baz=180,SNR=68
N58A P **P** **10 16 32.4 +0.7**
baz=180,SNR=68
N58A S **S** **10 23 10.4 +1.5**
baz=180
N58A S **S** **10 23 10.4 +1.5**
baz=180
O48B **Farmland** **46.25 351** P **P** **10 16 30.7 -1.3**
baz=169,SNR=94
O48B **Farmland** **46.25 351** P **P** **10 16 30.4 -1.6**
baz=169,SNR=94
O48B S **S** **10 23 05.0 -4.6**
baz=169
CROK **Carrier** **46.28 336** IAmb IAmb 10 16 34.6
comp=Z,544nm,1.3s
MSTX **Muleshoe** **46.31 330** IAmb IAmb 10 16 35.3
comp=Z,342nm,1.1s
MSTX **Muleshoe** **46.31 330** P **P** **10 16 33.2 +0.4**
baz=143,SNR=80
MSTX S **S** **10 23 11.6 +0.8**
baz=143
MSTX **Muleshoe** **46.31 330** P **P** **10 16 32.8 +0.1**
baz=143,SNR=80
MSTX S **S** **10 23 11.8 +0.9**
baz=143
N53A **Lisbon** **46.32 356** P **P** **10 16 31.9 -0.7**
baz=175,SNR=35
N53A P **P** **10 16 31.9 -0.7**
baz=175,SNR=35
FOR **Fordham** **46.32 3** P **P** **10 16 32.9 +0.3**
baz=184
FOR S **S** **10 23 11.3 +0.8**
baz=184
N62A **Caumsett State** **46.42 4** P **P** **10 16 33.8 +0.5**
baz=185
N62A P **P** **10 16 33.8 +0.5**
baz=185
N62A S **S** **10 23 14.6 +2.7**
baz=185
N62A S **S** **10 23 14.6 +2.7**
baz=185
PAL **Palisades** **46.47 3** P **P** **10 16 34.0 +0.4**
baz=184,SNR=14
PAL S **S** **10 23 10.2 -2.4**
baz=184
PAL **Palisades** **46.47 3** P **P** **10 16 34.1 +0.4**
baz=184,SNR=14
PAL S **S** **10 23 12.2 -0.3**
baz=184
P43A **Skaggs, Pawnee** **46.49 347** P **P** **10 16 32.6 -1.3**
baz=163,SNR=30
ELIS **Ellis County** **46.49 335** IAmb IAmb 10 16 37.2
comp=Z,1µm,1.6s
ODNJ **Ogdensburg** **46.51 2** P **P** **10 16 34.4 +0.4**
baz=183,SNR=25
ODNJ S **S** **10 23 15.6 +2.4**
baz=183
AMTX **Amarillo** **46.52 332** P **P** **10 16 34.6 +0.2**
AMTX IAmb IAmb 10 16 37.5
comp=Z,145nm,0.8s
AMTX **Amarillo** **46.52 332** P **P** **10 16 34.9 +0.5**
baz=145,SNR=37
AMTX S **S** **10 23 14.7 +1.0**
baz=145
AMTX **Amarillo** **46.52 332** P **P** **10 16 34.5 +0.2**
baz=145
AMTX S **S** **10 23 13.9 +0.1**
baz=145
PSDB **Penn State Uni** **46.53 358** P **P** **10 16 34.3 +0.1**
baz=178
N51A **Ashland** **46.56 354** P **P** **10 16 33.4 -1.1**
baz=173,SNR=22
N51A P **P** **10 16 33.4 -1.1**
baz=173,SNR=22
OK038 **West end E0370** **46.56 336** IAmb IAmb 10 16 38.0
comp=Z,177nm,1.0s
U32A **Winter Ranch,** **46.59 335** IAmb IAmb 10 17 26.7
comp=Z,315nm,0.9s
U32A **Winter Ranch,** **46.59 335** P **P** **10 16 35.3 +0.5**
baz=149,SNR=77
U32A S **S** **10 23 13.4 -1.1**
baz=149
TRNY **Table Rock, Ra** **46.59 3** IAmb IAmb 10 16 37.5
comp=Z,1µm,2.0s
KIDD **KIDD Seismic O** **46.63 325** P **P** **10 16 35.7 +0.4**
baz=138,SNR=14
KIDD S **S** **10 23 16.5 +1.1**
baz=138
OK032 **Salt Plains WL** **46.63 336** IAmb IAmb 10 16 37.4
comp=Z,942nm,1.6s
KAN14 **Manchester OK** **46.66 337** IAmb IAmb 10 16 37.7
comp=Z,492nm,1.3s
PSWB **Penn State Wil** **46.69 1** P **P** **10 16 36.5 +1.1**
baz=181
PSWB S **S** **10 23 19.7 +4.0**
baz=181
SFIN **Lafayette** **46.69 349** IAmb IAmb 10 16 35.8
comp=Z,492nm,1.7s
SFIN **Lafayette** **46.69 349** P **P** **10 16 33.5 -1.9**
baz=166
SFIN **Lafayette** **46.69 349** P **P** **10 16 33.4 -2.1**
baz=166
SFIN S **S** **10 23 08.4 -7.4**
baz=166
M57A **Sunshine Farm,** **46.71 360** P **P** **10 16 36.7 +1.1**
baz=180,SNR=97
M57A P **P** **10 16 36.7 +1.1**
baz=180,SNR=97
M57A S **S** **10 23 19.1 +3.0**
baz=180
M57A S **S** **10 23 19.1 +3.0**
baz=180
O44A **Mansfield** **46.74 348** IAmb IAmb 10 16 37.2
comp=Z,646nm,1.8s

O44A **Mansfield** **46.74 348** P **P** **10 16 34.7 -1.2**
baz=164,SNR=21
N49A **Columbus Grove** **46.77 352** P **P** **10 16 34.5 -1.5**
baz=170,SNR=42
N49A P **P** **10 16 34.5 -1.5**
baz=170,SNR=42
NOKA **Waynoka** **46.78 336** IAmb IAmb 10 16 39.0
comp=Z,2µm,1.9s
YLE **Yale** **46.84 4** IAmb IAmb 10 16 38.8
comp=Z,199nm,0.9s
KAN10 **Anthony SW Sta** **46.86 337** IAmb IAmb 10 16 39.4
comp=Z,635nm,1.7s
BRNY **Black Rk. Fore** **46.87 3** P **P** **10 16 37.5 +0.7**
baz=184
BRNY S **S** **10 23 18.4 +0.1**
baz=184
M55A **Ridgway** **46.87 358** P **P** **10 16 37.1 +0.2**
baz=178,SNR=61
M55A P **P** **10 16 37.1 +0.2**
baz=178,SNR=61
M55A S **S** **10 23 19.1 +0.7**
baz=178
M55A S **S** **10 23 19.1 +0.7**
baz=178
M53A **WI Miller and** **46.94 356** IAmb IAmb 10 16 38.9
comp=Z,755nm,1.9s
M53A **WI Miller and** **46.94 356** P **P** **10 16 36.7 -0.7**
baz=175,SNR=23
M53A S **S** **10 23 17.8 -1.4**
baz=175
KAN16 **Harper SW Stat** **46.94 337** IAmb IAmb 10 16 40.1
comp=Z,685nm,1.4s
KSPA **Keystone Colle** **46.94 1** P **P** **10 16 38.4 +1.0**
baz=182,SNR=74
KSPA S **S** **10 23 22.8 +3.5**
baz=182
N47A **Urbana** **46.94 351** IAmb IAmb 10 16 38.6
comp=Z,218nm,0.9s
N47A **Urbana** **46.94 351** P **P** **10 16 35.9 -1.5**
baz=168,SNR=40
N47A P **P** **10 16 35.9 -1.5**
baz=168,SNR=40
N47A S **S** **10 23 14.0 -5.4**
baz=168
N47A S **S** **10 23 14.0 -5.4**
baz=168
M63A **Gales Ferry** **46.99 5** P **P** **10 16 38.6 +0.8**
baz=187,SNR=27
M63A P **P** **10 16 38.6 +0.8**
baz=187,SNR=27
M63A S **S** **10 23 22.6 +2.5**
baz=187
M63A S **S** **10 23 22.6 +2.5**
baz=187
P40A **Paris** **47.02 344** IAmb IAmb 10 16 38.8
comp=Z,448nm,1.8s
P40A **Paris** **47.02 344** P **P** **10 16 36.6 -1.4**
baz=159,SNR=41
M52A **Chesterland** **47.09 356** P **P** **10 16 37.3 -1.2**
baz=174,SNR=11
M52A P **P** **10 16 37.3 -1.2**
baz=174,SNR=11
M50A **Fremont** **47.11 354** IAmb IAmb 10 16 38.9
comp=Z,221nm,0.7s
M50A **Fremont** **47.11 354** P **P** **10 16 37.9 -0.8**
baz=172,SNR=27
M50A P **P** **10 16 37.9 -0.8**
baz=172,SNR=27
ALLY **Alegheny Colle** **47.11 357** IAmb IAmb 10 17 22.6
comp=Z,355nm,1.4s
ALLY **Alegheny Colle** **47.11 357** P **P** **10 16 38.5 -0.2**
baz=176,SNR=12
NPNY **Mohonk Preserv** **47.20 3** P **P** **10 16 40.1 +0.7**
baz=184
M65A **Busby, Falmout** **47.29 6** P **P** **10 16 40.5 +0.5**
baz=188
HDIL **Hopedale** **47.31 347** IAmb IAmb 10 16 39.7
comp=Z,158nm,0.8s
HDIL **Hopedale** **47.31 347** P **P** **10 16 38.7 -1.6**
baz=163,SNR=49
HDIL S **S** **10 23 18.3 -6.3**
baz=163
UCCT **U. Connecticut** **47.37 5** IAmb IAmb 10 16 42.6
comp=Z,170nm,0.8s
L56A **Greenwood** **47.51 359** IAmb IAmb 10 16 45.0
comp=Z,185nm,0.9s
L56A **Greenwood** **47.51 359** P **P** **10 16 42.1 +0.3**
baz=179,SNR=93
L56A P **P** **10 16 42.1 +0.3**
baz=179,SNR=93
P38A **Dawn** **47.53 343** P **P** **10 16 41.0 -1.0**
baz=157,SNR=56
P38A S **S** **10 23 22.8 -5.0**
baz=157
BRYW **Bryant College** **47.55 5** IAmb IAmb 10 16 45.9
comp=Z,296nm,1.2s
ERPA **Erie** **47.57 357** IAmb IAmb 10 17 26.0
comp=Z,201nm,0.9s
ERPA **Erie** **47.57 357** P **P** **10 16 41.9 -0.3**
baz=176,SNR=25
ERPA S **S** **10 23 25.5 -2.7**
baz=176
BINY **Binghamton** **47.58 1** IAmb IAmb 10 16 44.5
comp=Z,337nm,0.9s
BINY **Binghamton** **47.58 1** P **P** **10 16 43.4 +1.0**
baz=181,SNR=92
BINY S **S** **10 23 31.6 +3.1**
baz=181
BINY **Binghamton** **47.58 1** P **P** **10 16 43.4 +1.0**
baz=181,SNR=92
BINY S **S** **10 23 31.6 +3.1**
baz=181
L59A **Walton** **47.60 2** P **P** **10 16 43.5 +1.0**
baz=183,SNR=75
L59A P **P** **10 16 43.5 +1.0**
baz=183,SNR=75
L59A S **S** **10 23 31.4 +2.7**
baz=183
L59A S **S** **10 23 31.4 +2.7**
baz=183
L64A **Middleborough** **47.64 6** P **P** **10 16 43.4 +0.7**
baz=188,SNR=14
L64A P **P** **10 16 43.4 +0.7**
baz=188,SNR=14
L48A **N Adams** **47.81 352** IAmb IAmb 10 16 44.9
comp=Z,456nm,1.4s
L48A **N Adams** **47.81 352** P **P** **10 16 42.9 -1.2**
baz=170,SNR=39
L48A P **P** **10 16 42.9 -1.2**
baz=170,SNR=39
L48A S **S** **10 23 26.8 -4.8**
baz=170
L48A S **S** **10 23 26.8 -4.8**
baz=170
N41A **Harden Midland** **47.82 346** P **P** **10 16 42.7 -1.5**
baz=161,SNR=36
N41A S **S** **10 23 27.1 -4.7**
baz=161
QUA2 **Belchertown** **47.84 5** P **P** **10 16 44.7 +0.4**
baz=186,SNR=27
QUA2 S **S** **10 23 33.4 +1.4**
baz=186
M44A **Midewin, Midew** **47.85 349** IAmb IAmb 10 16 44.4
comp=Z,403nm,1.6s
M44A **Midewin, Midew** **47.85 349** P **P** **10 16 42.1 -2.3**
baz=165
121A **Cookes Peak, D** **47.92 324** IAmb IAmb 10 16 49.9
comp=Z,473nm,1.6s
121A **Cookes Peak, D** **47.92 324** P **P** **10 16 46.6 +1.3**
baz=137,SNR=67
121A S **S** **10 23 36.9 +3.0**
baz=137
121A **Cookes Peak, D** **47.92 324** P **P** **10 16 46.6 +1.3**
baz=137,SNR=67
121A S **S** **10 23 36.8 +3.0**
baz=137
L61B **Northampton** **47.98 4** IAmb IAmb 10 16 48.1
comp=Z,539nm,1.8s
L61B **Northampton** **47.98 4** P **P** **10 16 45.8 +0.3**
baz=186,SNR=26
L61B S **S** **10 23 36.2 +2.2**
baz=186
319A **Douglas** **47.99 322** IAmb IAmb 10 16 49.0
comp=Z,765nm,1.8s
WES **Weston** **48.03 6** IAmb IAmb 10 16 50.4
comp=Z,228nm,1.3s
WES **Weston** **48.03 6** P **P** **10 16 46.8 +1.0**
baz=188,SNR=17

KSU1 **Kansas State U** **48.05 339** IAmb IAmb 10 16 48.8
comp=Z,426nm,1.1s
KSU1 **Kansas State U** **48.05 339** P **P** **10 16 46.0 -0.1**
baz=153,SNR=78
KSU1 S **S** **10 23 33.5 -1.7**
baz=153
KSU1 **Kansas State U** **48.05 339** P **P** **10 16 46.0 -0.1**
baz=153,SNR=78
KSU1 S **S** **10 23 35.0 -0.2**
baz=153
AAM **Ann Arbor** **48.06 353** P **P** **10 16 45.3 -0.7**
baz=171,SNR=8.6
AAM S **S** **10 23 32.1 -3.1**
baz=171
AAM **Ann Arbor** **48.06 353** P **P** **10 16 45.0 -1.0**
baz=171,SNR=8.6
AAM S **S** **10 23 31.7 -3.5**
baz=171
K57A **Scipio Center** **48.11 0** P **P** **10 16 46.9 +0.5**
baz=181,SNR=106
K57A S **S** **10 23 38.1 +2.2**
baz=181
MMNY **Mt. Morris Dam** **48.11 359** IAmb IAmb 10 16 48.5
comp=Z,742nm,1.6s
HCNY **Howe Caverns** **48.13 3** P **P** **10 16 47.6 +1.1**
baz=183,SNR=62
HCNY S **S** **10 23 38.5 +2.4**
baz=183
HRV **Adam Dziewonsk** **48.13 5** P **P** **10 16 46.5 0.0**
HRV **Adam Dziewonsk** **48.13 5** P **P** **10 16 46.5 0.0**
HRV pmax pmax
comp=Z,1µm,2.1s
HRV **Adam Dziewonsk** **48.13 5** P **P** **10 16 47.6 +1.0**
baz=187,SNR=33
HRV S **S** **10 23 38.9 +2.7**
baz=187
HRV **Adam Dziewonsk** **48.13 5** P **P** **10 16 47.6 +1.0**
baz=187
HRV S **S** **10 23 37.8 +1.6**
baz=187
HRV **Adam Dziewonsk** **48.13 5** P **P** **10 16 46.6 0.0**
HRV pP **pP** **10 17 14.6 -0.3**
HRV sP **sP** **10 17 26.1 -2.5**
L46A **Eue Claire** **48.15 351** IAmb IAmb 10 16 47.6
comp=Z,274nm,1.1s
L46A **Eue Claire** **48.15 351** P **P** **10 16 45.2 -1.5**
baz=168,SNR=19
L46A P **P** **10 16 45.2 -1.5**
baz=168,SNR=19
TRY **Troy** **48.20 3** IAmb IAmb 10 16 49.4
comp=Z,705nm,1.9s
HQIL **Hanson Quary C** **48.21 349** IAmb IAmb 10 16 47.2
comp=Z,499nm,1.5s
R32A **Long Quarter,** **48.23 337** IAmb IAmb 10 16 51.0
comp=Z,341nm,0.8s
R32A **Long Quarter,** **48.23 337** P **P** **10 16 48.3 +0.8**
baz=150,SNR=100
R32A S **S** **10 23 34.9 -2.8**
baz=150
K62A **Royalston** **48.23 5** IAmb IAmb 10 16 49.4
comp=Z,187nm,1.2s
K62A **Royalston** **48.23 5** P **P** **10 16 48.2 +0.9**
baz=186,SNR=30
K62A P **P** **10 16 48.2 +0.9**
baz=186,SNR=30
K62A S **S** **10 23 38.0 +0.5**
baz=186
K62A S **S** **10 23 38.0 +0.5**
baz=186
K50A **Casco** **48.42 354** IAmb IAmb 10 17 31.8
comp=Z,256nm,1.1s
K50A **Casco** **48.42 354** P **P** **10 16 47.6 -1.1**
baz=172,SNR=20
K50A P **P** **10 16 47.6 -1.1**
baz=172,SNR=20
Y22A **Socorro** **48.49 326** P **P** **10 16 50.5 +0.8**
baz=138,SNR=86
Y22A S **S** **10 23 41.8 -0.1**
baz=138
N38A **Joes South For** **48.52 344** P **P** **10 16 48.7 -0.9**
baz=158,SNR=57
N38A S **S** **10 23 37.5 -4.3**
baz=158
EFI **East Falkland** **48.53 164** P **P** **10 16 50.3 +0.8**
EFI **East Falkland** **48.53 164** P **P** **10 16 50.3 +0.8**
EFI pmax pmax
comp=Z,125nm,0.9s
Y22D **IRIS PASSCAL I** **48.57 326** P **P** **10 16 51.5 +1.2**
baz=139
Y22D **IRIS PASSCAL I** **48.57 326** P **P** **10 16 51.6 +1.2**
baz=139
Y22D S **S** **10 23 42.6 -0.3**
baz=139
L44A **Lake County Fo** **48.59 349** P **P** **10 16 48.0 -2.1**
baz=165
L44A **Lake County Fo** **48.59 349** P **P** **10 16 48.2 -1.9**
baz=165
L44A S **S** **10 23 36.8 -5.8**
baz=165
J55A **Hilton** **48.65 359** IAmb IAmb 10 16 52.4
comp=Z,507nm,1.4s
J55A **Hilton** **48.65 359** P **P** **10 16 50.1 -0.3**
baz=179,SNR=31
J55A P **P** **10 16 50.1 -0.3**
baz=179,SNR=31
J56A **Wolcott** **48.65 0** IAmb IAmb 10 16 51.8
comp=Z,273nm,0.9s
J56A **Wolcott** **48.65 0** P **P** **10 16 50.5 0.0**
baz=180,SNR=38
J56A P **P** **10 16 50.5 0.0**
baz=180,SNR=38
J56A S **S** **10 23 44.1 +0.8**
baz=180
J56A S **S** **10 23 44.1 +0.8**
baz=180
J54A **Appleton** **48.67 358** P **P** **10 16 50.3 -0.4**
baz=178,SNR=16
J54A P **P** **10 16 50.3 -0.4**
baz=178,SNR=16
J58A **Remsen** **48.76 2** IAmb IAmb 10 16 53.1
comp=Z,135nm,0.9s
J58A **Remsen** **48.76 2** P **P** **10 16 51.9 +0.5**
baz=182,SNR=57
J58A P **P** **10 16 51.9 +0.5**
baz=182,SNR=57
L42A **Oliver, Polo** **48.77 347** P **P** **10 16 50.2 -1.3**
baz=163,SNR=30
L42A S **S** **10 23 38.3 -6.9**
baz=163
UNH **University of** **48.78 6** P **P** **10 16 52.3 +0.8**
baz=188,SNR=30
J57A **Williamstown** **48.79 1** IAmb IAmb 10 16 53.9
comp=Z,773nm,1.6s
J57A **Williamstown** **48.79 1** P **P** **10 16 51.9 +0.3**
baz=181,SNR=45
J57A P **P** **10 16 51.9 +0.3**
baz=181,SNR=45
J57A S **S** **10 23 45.7 +0.3**
baz=181
J57A S **S** **10 23 45.7 +0.3**
baz=181
ACCN **Adirondack Com** **48.85 3** P **P** **10 16 53.1 +1.0**
baz=184,SNR=54
ACCN S **S** **10 23 48.8 +2.6**
baz=184
J61A **Chester** **48.88 4** IAmb IAmb 10 16 54.8
comp=Z,178nm,1.1s
J61A **Chester** **48.88 4** P **P** **10 16 53.9 +1.6**
baz=186,SNR=41
J61A P **P** **10 16 53.9 +1.6**
baz=186,SNR=41
J61A S **S** **10 23 50.1 +3.4**
baz=186
J61A S **S** **10 23 50.1 +3.4**
baz=186
J59A **Piesco** **48.89 2** P **P** **10 16 53.0 +0.6**
baz=183,SNR=88
J59A P **P** **10 16 53.0 +0.6**
baz=183,SNR=88
J59A S **S** **10 23 49.5 +2.6**
baz=183
J59A S **S** **10 23 49.5 +2.6**
baz=183
CBKS **Cedar Bluff** **48.97 336** P **P** **10 16 54.0 +0.8**
baz=149,SNR=44
CBKS S **S** **10 23 45.2 -3.0**
baz=149
CBKS **Cedar Bluff** **48.97 336** P **P** **10 16 53.9 +0.7**

	baz=149,SNR=44								
CBKS					S	**S**	**10 23 50.1**	**+1.9**	
	baz=149								
ANMO	**Albuquerque**	**48.97**	**328**		P	**P**	**10 16 54.1**	**+0.7**	
	comp=Z,91nm,0.9s,baz=143,slow=9.7,SNR=197								
ANMO					pP	**pP**	**10 17 20.3**	**-1.6**	
	comp=Z,22nm,0.7s,baz=141,slow=11,SNR=2.2								
ANMO					LR	LR	10 36 39.5		
	comp=Z,936nm,21.2s,baz=85,slow=35								
	comp=Z,91nm,0.9s								
ANMO	**Albuquerque**	**48.97**	**328**		P	**P**	**10 16 53.9**	**+0.5**	
ANMO					IAmb	IAmb	10 16 57.2		
	comp=Z,155nm,1.1s								
ANMO	**Albuquerque**	**48.97**	**328**		P	**P**	**10 16 54.1**	**+0.7**	
	baz=140,SNR=188								
ANMO					S	**S**	**10 23 50.3**	**+1.7**	
	baz=140								
ANMO	**Albuquerque**	**48.97**	**328**		P	**P**	**10 16 54.3**	**+0.9**	
	baz=140								
ANMO					S	**S**	**10 23 49.9**	**+1.3**	
	baz=140								
FFD	**Franklin Falls**	**49.08**	**5**		IAmb	IAmb	10 16 56.0		
	comp=Z,162nm,1.1s								
FFD	**Franklin Falls**	**49.08**	**5**		P	**P**	**10 16 54.7**	**+0.9**	
	baz=187,SNR=20								
J47A	**Sunmer**	**49.13**	**352**		IAmb	IAmb	10 16 54.0		
	comp=Z,263nm,0.8s								
J47A	**Sunmer**	**49.13**	**352**		P	**P**	**10 16 52.9**	**-1.3**	
	baz=170,SNR=65								
J47A					P	**P**	**10 16 52.9**	**-1.3**	
	baz=170,SNR=65								
J47A					S	**S**	**10 23 45.1**	**-5.1**	
	baz=170								
J47A					S	**S**	**10 23 45.1**	**-5.1**	
	baz=170								
K43A	**Burlington**	**49.18**	**349**		IAmb	IAmb	10 16 55.7		
	comp=Z,163nm,1.0s								
K43A	**Burlington**	**49.18**	**349**		P	**P**	**10 16 53.0**	**-1.6**	
	baz=165,SNR=12								
K43A					S	**S**	**10 23 43.6**	**-7.2**	
	baz=165								
L40A	**Anamosa**	**49.19**	**346**		P	**P**	**10 16 53.1**	**-1.5**	
	baz=161,SNR=97								
L40A					S	**S**	**10 23 44.8**	**-6.2**	
	baz=161								
HNH	**Hanover**	**49.26**	**4**		IAmb	IAmb	10 16 57.6		
	comp=Z,142nm,0.9s								
HNH	**Hanover**	**49.26**	**4**		P	**P**	**10 16 56.4**	**+1.2**	
	baz=186,SNR=46								
PECO	**Prince Edward**	**49.31**	**360**		IAmb	IAmb	10 16 56.6		
	comp=Z,194nm,0.9s								
N35A	**Tabor**	**49.31**	**341**		P	**P**	**10 16 54.9**	**-0.7**	
	baz=155,SNR=40								
N35A					S	**S**	**10 23 49.8**	**-3.0**	
	baz=155								
WCNY	**West Carthage**	**49.37**	**1**		P	**P**	**10 16 56.3**	**+0.3**	
	baz=182,SNR=38								
WCNY					S	**S**	**10 23 54.2**	**+0.8**	
	baz=182								
NCB	**Newcomb**	**49.41**	**3**		IAmb	IAmb	10 16 58.1		
	comp=Z,138nm,0.8s								
NCB	**Newcomb**	**49.41**	**3**		P	**P**	**10 16 56.9**	**+0.6**	
	baz=184,SNR=79								
NCB					S	**S**	**10 23 55.7**	**+1.6**	
	baz=184								
MCVT	**Middlebury Col**	**49.46**	**4**		P	**P**	**10 16 57.3**	**+0.6**	
	baz=185,SNR=53								
MCVT					S	**S**	**10 24 00.0**	**+5.3**	
	baz=185								
I62A	**Tamworth**	**49.51**	**5**		P	**P**	**10 16 58.1**	**+1.1**	
	baz=187,SNR=13								
I62A					P	**P**	**10 16 58.1**	**+1.1**	
	baz=187,SNR=13								
I62A					S	**S**	**10 23 59.1**	**+3.7**	
	baz=187								
I62A					S	**S**	**10 23 59.1**	**+3.7**	
	baz=187								
SCIA	**State Center**	**49.55**	**344**		P	**P**	**10 16 56.8**	**-0.6**	
	baz=159,SNR=13								
SCIA					S	**S**	**10 23 51.7**	**-4.4**	
	baz=159								
SCIA	**State Center**	**49.55**	**344**		P	**P**	**10 16 56.3**	**-1.1**	
	baz=159,SNR=13								
SCIA					S	**S**	**10 23 51.1**	**-5.0**	
	baz=159								
TUC	**Tucson**	**49.56**	**322**		P	**P**	**10 16 58.2**	**+0.4**	
TUC	**Tucson**	**49.56**	**322**		P	**P**	**10 16 58.2**	**+0.4**	
TUC					pmax	pmax			
	comp=Z,65nm,0.9s								
TUC	**Tucson**	**49.56**	**322**		P	**P**	**10 16 58.3**	**+0.4**	
	baz=133								
TUC					S	**S**	**10 23 56.6**	**-0.1**	
	baz=133								
TUC	**Tucson**	**49.56**	**322**		P	**P**	**10 16 57.4**	**-0.5**	
TUC					pP	**pP**	**10 17 24.3**	**-2.0**	
USHA	**Ushuaia**	**49.57**	**174**		LR	LR	10 37 16.8		
	comp=Z,2µm,18.4s,baz=326,slow=35								
I49A	**Point Hope**	**49.60**	**354**		P	**P**	**10 16 56.0**	**-1.8**	
	baz=172								
I49A					P	**P**	**10 16 56.0**	**-1.8**	
	baz=172								
T25A	**Trinidad**	**49.64**	**331**		IAmb	IAmb	10 17 02.6		
	comp=Z,547nm,1.6s								
T25A	**Trinidad**	**49.64**	**331**		P	**P**	**10 16 59.5**	**+1.1**	
	baz=143,SNR=153								
T25A					S	**S**	**10 24 02.6**	**+4.6**	
	baz=143								
I63A	**Otisfield**	**49.76**	**6**		IAmb	IAmb	10 17 01.2		
	comp=Z,101nm,0.8s								
I63A	**Otisfield**	**49.76**	**6**		P	**P**	**10 17 00.1**	**+1.1**	
	baz=188,SNR=27								
I63A					P	**P**	**10 17 00.1**	**+1.1**	
	baz=188,SNR=27								
JFWS	**Jewell Farm**	**49.77**	**347**		IAmb	IAmb	10 18 20.9		
	comp=Z,103nm,0.7s								
JFWS	**Jewell Farm**	**49.77**	**347**		P	**P**	**10 16 57.6**	**-1.5**	
	baz=163,SNR=31								
JFWS					S	**S**	**10 23 53.7**	**-5.4**	
	baz=163								
JFWS	**Jewell Farm**	**49.77**	**347**		P	**P**	**10 16 57.6**	**-1.5**	
	baz=163,SNR=31								
JFWS					S	**S**	**10 23 54.0**	**-5.1**	
	baz=163								
N33B	**J Bar K, Exete**	**49.80**	**340**		P	**P**	**10 16 59.5**	**+0.2**	
	baz=153,SNR=17								
N33B					S	**S**	**10 23 57.8**	**-1.8**	
	baz=153								
LBNH	**Lisbon**	**49.82**	**5**		IAmb	IAmb	10 17 01.8		
	comp=Z,158nm,0.8s								
LBNH	**Lisbon**	**49.82**	**5**		P	**P**	**10 17 00.6**	**+1.2**	
	baz=187,SNR=45								
LBNH					S	**S**	**10 24 03.7**	**+4.0**	
	baz=187								
LBNH	**Lisbon**	**49.82**	**5**		P	**P**	**10 17 00.6**	**+1.2**	
	baz=187,SNR=45								
LBNH					S	**S**	**10 24 03.4**	**+3.7**	
	baz=187								
VT1	**Waterbury**	**49.85**	**4**		IAmb	IAmb	10 17 01.7		
	comp=Z,200nm,1.4s								
VT1	**Waterbury**	**49.85**	**4**		P	**P**	**10 17 00.6**	**+0.9**	
	baz=186,SNR=31								
DELO	**Deloro Mine**	**49.89**	**359**		IAmb	IAmb	10 17 02.4		
	comp=Z,691nm,1.8s								
LONY	**Lake Ozonia**	**50.04**	**2**		IAmb	IAmb	10 17 04.6		
	comp=Z,847nm,2.0s								
LONY	**Lake Ozonia**	**50.04**	**2**		P	**P**	**10 17 01.5**	**+0.4**	
	baz=183,SNR=68								
LONY					S	**S**	**10 24 04.7**	**+1.9**	
	baz=183								
I45A	**Fountain**	**50.11**	**351**		P	**P**	**10 16 59.2**	**-2.4**	
	baz=168								
I45A					P	**P**	**10 16 59.2**	**-2.4**	
	baz=168								
K38A	**Parkersburg**	**50.12**	**345**		IAmb	IAmb	10 17 01.4		
	comp=Z,133nm,0.8s								
K38A	**Parkersburg**	**50.12**	**345**		P	**P**	**10 17 00.2**	**-1.6**	
	baz=159,SNR=29								
SADO	**Sadowa**	**50.18**	**358**		P	**P**	**10 17 00.9**	**-1.2**	
	comp=Z,31nm,0.7s,baz=223,slow=3.8,SNR=41								
	comp=Z,31nm,0.7s								
SADO	**Sadowa**	**50.18**	**358**		IAmb	IAmb	10 17 46.4		
	comp=Z,229nm,1.4s								
H62A	**Milan**	**50.22**	**5**		P	**P**	**10 17 03.5**	**+1.1**	
	baz=188,SNR=24								
H62A					P	**P**	**10 17 03.5**	**+1.1**	
	baz=188,SNR=24								
H62A					S	**S**	**10 24 09.9**	**+4.6**	
	baz=188								
H62A					S	**S**	**10 24 09.9**	**+4.6**	
	baz=188								
BMNY	**Brushton-Moira**	**50.26**	**2**		P	**P**	**10 17 03.1**	**+0.4**	
	baz=183,SNR=59								
BMNY					S	**S**	**10 24 08.0**	**+2.2**	
	baz=183								
KSCO	**Kaye Shedlock'**	**50.35**	**334**		IAmb	IAmb	10 17 07.2		
	comp=Z,305nm,1.0s								
KSCO	**Kaye Shedlock'**	**50.35**	**334**		P	**P**	**10 17 04.3**	**+0.6**	
	baz=146,SNR=60								
KSCO					S	**S**	**10 24 09.2**	**+1.7**	
	baz=146								
KSCO	**Kaye Shedlock'**	**50.35**	**334**		P	**P**	**10 17 04.3**	**+0.6**	
	baz=146,SNR=60								
KSCO					S	**S**	**10 24 08.7**	**+1.2**	
	baz=146								
WVL	**Waterville**	**50.37**	**7**		IAmb	IAmb	10 17 06.8		
	comp=Z,742nm,2.0s								
WVL	**Waterville**	**50.37**	**7**		P	**P**	**10 17 04.7**	**+1.1**	
	baz=189,SNR=19								
I42A	**Draeger Farm,**	**50.43**	**349**		IAmb	IAmb	10 17 04.1		
	comp=Z,152nm,0.9s								
I42A	**Draeger Farm,**	**50.43**	**349**		P	**P**	**10 17 03.0**	**-1.1**	
	baz=164,SNR=57								
I42A					S	**S**	**10 24 00.9**	**-7.3**	
	baz=164								
L34A	**Svendsen Farm,**	**50.55**	**341**		IAmb	IAmb	10 17 06.8		
	comp=Z,337nm,0.8s								
L34A	**Svendsen Farm,**	**50.55**	**341**		P	**P**	**10 17 04.0**	**-0.9**	
	baz=155,SNR=32								
L34A					S	**S**	**10 24 05.5**	**-4.4**	
	baz=155								
214A	**Organ Pipe Nat**	**50.60**	**320**		P	**P**	**10 17 06.5**	**+1.0**	
	baz=131,SNR=115								
214A					S	**S**	**10 24 11.5**	**+0.4**	
	baz=131								
X18A	**Snowflake**	**50.61**	**324**		IAmb	IAmb	10 17 09.1		
	comp=E,273nm,1.9s								
BGNE	**Belgrade**	**50.64**	**339**		P	**P**	**10 17 05.7**	**0.0**	
	baz=152,SNR=57								
BGNE					S	**S**	**10 24 09.4**	**-1.9**	
	baz=152								
BGNE	**Belgrade**	**50.64**	**339**		P	**P**	**10 17 05.7**	**0.0**	
	baz=152,SNR=57								
BGNE					S	**S**	**10 24 09.4**	**-1.9**	
	baz=152								
SDCO	**Great Sand Dun**	**50.65**	**331**		IAmb	IAmb	10 17 09.9		
	comp=Z,534nm,1.5s								
SDCO	**Great Sand Dun**	**50.65**	**331**		P	**P**	**10 17 06.9**	**+0.7**	
	baz=142,SNR=331								
SDCO					S	**S**	**10 24 11.7**	**-0.4**	
	baz=142								
SDCO	**Great Sand Dun**	**50.65**	**331**		P	**P**	**10 17 06.9**	**+0.7**	
	baz=142,SNR=331								
SDCO					S	**S**	**10 24 14.1**	**+2.0**	
	baz=142								
GLMI	**Grayling**	**50.67**	**353**		IAmb	IAmb	10 18 23.2		
	comp=Z,176nm,0.9s								
GLMI	**Grayling**	**50.67**	**353**		P	**P**	**10 17 04.5**	**-1.3**	
	baz=170,SNR=5.5								
GLMI	**Grayling**	**50.67**	**353**		P	**P**	**10 17 04.0**	**-1.8**	
	baz=170,SNR=5.5								
GLMI					S	**S**	**10 24 08.6**	**-2.9**	
	baz=170								
PIX	**Pinacate**	**50.76**	**319**		IAmb	IAmb	10 17 09.4		
	comp=Z,436nm,2.0s								
H43A	**Windswept, Lux**	**50.78**	**350**		IAmb	IAmb	10 18 05.8		
	comp=Z,191nm,0.9s								
H43A	**Windswept, Lux**	**50.78**	**350**		P	**P**	**10 17 05.3**	**-1.3**	
	baz=166,SNR=13								
H43A					S	**S**	**10 24 06.8**	**-6.3**	
	baz=166								
I40A	**Norwalk**	**50.78**	**347**		IAmb	IAmb	10 17 08.2		
	comp=Z,124nm,0.9s								
I40A	**Norwalk**	**50.78**	**347**		P	**P**	**10 17 05.3**	**-1.4**	
	baz=162,SNR=60								
I40A					S	**S**	**10 24 08.4**	**-4.8**	
	baz=162								
EMMW	**East Machias**	**50.80**	**9**		IAmb	IAmb	10 17 09.9		
	comp=Z,502nm,1.7s								
EMMW	**East Machias**	**50.80**	**9**		P	**P**	**10 17 07.2**	**+0.4**	
	baz=192,SNR=20								
EMMW					S	**S**	**10 24 16.4**	**+3.1**	
	baz=192								
W18A	**Petrified Fore**	**50.91**	**325**		P	**P**	**10 17 09.0**	**+0.9**	
	baz=136,SNR=33								
W18A					S	**S**	**10 24 18.2**	**+2.7**	
	baz=136								
G62A	**West of Eustis**	**50.92**	**6**		P	**P**	**10 17 08.2**	**+0.5**	
G62A	**West of Eustis**	**50.92**	**6**		P	**P**	**10 17 09.2**	**+1.5**	
	baz=188,SNR=108								
G62A					P	**P**	**10 17 09.2**	**+1.5**	
	baz=188,SNR=108								
G62A					S	**S**	**10 24 19.0**	**+4.0**	
	baz=188								
G62A					S	**S**	**10 24 19.0**	**+4.0**	
	baz=188								
MNTQ	**Montreal, Queb**	**50.96**	**3**		IAmb	IAmb	10 18 00.1		
	comp=Z,251nm,1.0s								
G45A	**Suttons Bay**	**51.01**	**352**		IAmb	IAmb	10 18 24.5		
	comp=Z,150nm,0.8s								
G45A	**Suttons Bay**	**51.01**	**352**		P	**P**	**10 17 07.4**	**-1.0**	
	baz=169,SNR=7.6								
G45A					P	**P**	**10 17 07.4**	**-1.0**	
	baz=169,SNR=7.6								
PKME	**Peaks-Kenny Pk**	**51.10**	**7**		IAmb	IAmb	10 17 11.2		
	comp=Z,150nm,0.8s								
PKME	**Peaks-Kenny Pk**	**51.10**	**7**		P	**P**	**10 17 10.0**	**+1.0**	
	baz=190,SNR=42								
PKME					S	**S**	**10 24 20.8**	**+3.4**	
	baz=190								
PKME	**Peaks-Kenny Pk**	**51.10**	**7**		P	**P**	**10 17 10.0**	**+1.0**	
	baz=190,SNR=42								
PKME					S	**S**	**10 24 20.5**	**+3.1**	
	baz=190								
G65A	**Princeton**	**51.27**	**9**		P	**P**	**10 17 11.3**	**+1.0**	
	baz=192,SNR=34								
G65A					P	**P**	**10 17 11.3**	**+1.0**	
	baz=192,SNR=34								
G65A					S	**S**	**10 24 23.2**	**+3.5**	
	baz=192								
G65A					S	**S**	**10 24 23.2**	**+3.5**	
	baz=192								
S22A	**4UR Ranch, Cre**	**51.31**	**330**		IAmb	IAmb	10 17 14.1		
	comp=Z,582nm,1.9s								
S22A	**4UR Ranch, Cre**	**51.31**	**330**		P	**P**	**10 17 11.7**	**+0.6**	
	baz=141,SNR=146								
S22A					S	**S**	**10 24 22.5**	**+1.3**	
	baz=141								
SFX	**San Felipe**	**51.35**	**318**		IAmb	IAmb	10 17 14.1		
	comp=Z,515nm,2.0s								
X16A	**Lo Mia Camp, P**	**51.41**	**323**		IAmb	IAmb	10 17 15.9		
	comp=Z,157nm,0.9s								
HAL	**Halifax**	**51.44**	**12**		IAmb	IAmb	10 17 14.4		
	comp=Z,687nm,1.9s								
Q24A	**Divide**	**51.45**	**332**		IAmb	IAmb	10 17 14.7		
	comp=Z,628nm,1.9s								
Q24A	**Divide**	**51.45**	**332**		P	**P**	**10 17 12.6**	**+0.4**	
	baz=143,SNR=36								
Q24A					S	**S**	**10 24 25.5**	**+2.4**	
	baz=143								
F63A	**Nahmakanta, Br**	**51.56**	**7**		IAmb	IAmb	10 17 15.5		
	comp=Z,204nm,1.4s								
F63A	**Nahmakanta, Br**	**51.56**	**7**		P	**P**	**10 17 13.2**	**+0.8**	
	baz=190,SNR=16								
F63A					P	**P**	**10 17 13.2**	**+0.8**	
	baz=190,SNR=16								
F63A					S	**S**	**10 24 27.0**	**+3.2**	
	baz=190								
F63A					S	**S**	**10 24 27.0**	**+3.2**	
	baz=190								
I37B	**Waseca**	**51.57**	**345**		P	**P**	**10 17 11.0**	**-1.6**	
	baz=159,SNR=28								
TRQ	**Mont Tremblant**	**51.64**	**2**		P	**P**	**10 17 12.7**	**-0.5**	
OGNE	**Ogallala**	**51.71**	**336**		IAmb	IAmb	10 17 17.2		
	comp=Z,450nm,1.3s								
OGNE	**Ogallala**	**51.71**	**336**		P	**P**	**10 17 14.3**	**+0.5**	
	baz=148,SNR=17								
OGNE					S	**S**	**10 24 28.7**	**+2.5**	
	baz=148								
OGNE	**Ogallala**	**51.71**	**336**		P	**P**	**10 17 14.4**	**+0.5**	
	baz=148,SNR=17								
OGNE					S	**S**	**10 24 28.7**	**+2.5**	
	baz=148								
MVCO	**Mesa Verde**	**51.76**	**328**		IAmb	IAmb	10 17 17.2		
	comp=Z,698nm,1.9s								
MVCO	**Mesa Verde**	**51.76**	**328**		P	**P**	**10 17 15.0**	**+0.6**	
	baz=139,SNR=75								
MVCO					S	**S**	**10 24 29.3**	**+1.9**	
	baz=139								
F64A	**Sherman**	**51.81**	**8**		IAmb	IAmb	10 17 16.5		
	comp=Z,151nm,0.9s								
F64A	**Sherman**	**51.81**	**8**		P	**P**	**10 17 15.3**	**+1.1**	
	baz=191,SNR=56								
F64A					P	**P**	**10 17 15.3**	**+1.1**	
	baz=191,SNR=56								
F64A					S	**S**	**10 24 26.6**	**-0.5**	
	baz=191								
F64A					S	**S**	**10 24 26.6**	**-0.5**	
	baz=191								
K31A	**O'Neill**	**51.92**	**340**		P	**P**	**10 17 15.2**	**0.0**	
	baz=152,SNR=131								
K31A					S	**S**	**10 24 27.3**	**-1.6**	
	baz=152								
G40A	**Rib Lake**	**52.01**	**348**		IAmb	IAmb	10 18 27.9		
	comp=Z,95nm,0.8s								
G40A	**Rib Lake**	**52.01**	**348**		P	**P**	**10 17 14.6**	**-1.2**	
	baz=163,SNR=41								
G40A					S	**S**	**10 24 25.2**	**-4.8**	
	baz=163								
F42A	**Maple Grove Fa**	**52.10**	**350**		P	**P**	**10 17 15.0**	**-1.4**	
	baz=166								
F42A					S	**S**	**10 24 26.9**	**-4.1**	
	baz=166								
WUAZ	**Wupatki**	**52.13**	**324**		IAmb	IAmb	10 17 21.2		
	comp=Z,298nm,1.1s								
WUAZ	**Wupatki**	**52.13**	**324**		P	**P**	**10 17 18.2**	**+1.1**	
	baz=135,SNR=180								
WUAZ					S	**S**	**10 24 35.9**	**+3.6**	
	baz=135								
E46A	**Sault Ste Mari**	**52.15**	**354**		P	**P**	**10 17 14.6**	**-2.2**	
	baz=171								
ECSD	**EROS Data Cent**	**52.22**	**342**		IAmb	IAmb	10 17 17.7		
	comp=Z,121nm,0.9s								
ECSD	**EROS Data Cent**	**52.22**	**342**		P	**P**	**10 17 16.4**	**-1.0**	
	baz=155,SNR=140								
ECSD					S	**S**	**10 24 29.0**	**-3.8**	
	baz=155								
ECSD	**EROS Data Cent**	**52.22**	**342**		P	**P**	**10 17 16.4**	**-1.0**	
	baz=155,SNR=140								
ECSD					S	**S**	**10 24 29.5**	**-3.4**	
	baz=155								
GUVIX	**Guadalupe Vict**	**52.29**	**319**		IAmb	IAmb	10 17 22.1		
	comp=Z,271nm,1.2s								
ISCO	**Idaho Springs**	**52.33**	**332**		IAmb	IAmb	10 17 21.5		
	comp=Z,287nm,1.6s								
ISCO	**Idaho Springs**	**52.33**	**332**		P	**P**	**10 17 19.1**	**+0.5**	
	baz=143,SNR=89								
ISCO					S	**S**	**10 24 36.7**	**+1.6**	
	baz=143								
ISCO	**Idaho Springs**	**52.33**	**332**		P	**P**	**10 17 19.1**	**+0.5**	
	baz=143,SNR=89								
ISCO					S	**S**	**10 24 35.6**	**+0.5**	
	baz=143								
E63A	**Oxbow**	**52.35**	**7**		P	**P**	**10 17 19.1**	**+0.9**	
	baz=191,SNR=26								
E63A					P	**P**	**10 17 19.1**	**+0.9**	
	baz=191,SNR=26								
E63A					S	**S**	**10 24 35.8**	**+1.3**	
	baz=191								
E63A					S	**S**	**10 24 35.8**	**+1.3**	
	baz=191								
LMN	**Caledonia Moun**	**52.36**	**11**		P	**P**	**10 17 19.0**	**+0.6**	
E62A	**Clayton Lake**	**52.41**	**6**		IAmb	IAmb	10 17 21.4		
	comp=Z,251nm,0.8s								
E62A	**Clayton Lake**	**52.41**	**6**		P	**P**	**10 17 20.0**	**+1.2**	
	baz=189,SNR=99								
E62A					P	**P**	**10 17 20.0**	**+1.2**	
	baz=189,SNR=99								
E62A					S	**S**	**10 24 37.0**	**+1.6**	
	baz=189								
E62A					S	**S**	**10 24 37.0**	**+1.6**	
	baz=189								
SMCO	**Snowmass**	**52.49**	**331**		IAmb	IAmb	10 17 23.1		
	comp=Z,424nm,1.8s								
E43A	**Lone Tree Farm**	**52.51**	**351**		P	**P**	**10 17 17.9**	**-1.6**	
	baz=167,SNR=14								
E43A					S	**S**	**10 24 31.5**	**-5.3**	
	baz=167								
SPMN	**Marine on St.**	**52.55**	**346**		IAmb	IAmb	10 17 21.2		
	comp=Z,139nm,0.9s								
SPMN	**Marine on St.**	**52.55**	**346**		P	**P**	**10 17 18.4**	**-1.3**	
	baz=160,SNR=44								
SPMN					S	**S**	**10 24 32.2**	**-5.1**	
	baz=160								
SPMN	**Marine on St.**	**52.55**	**346**		P	**P**	**10 17 18.4**	**-1.3**	
	baz=160,SNR=44								
SPMN					S	**S**	**10 24 33.5**	**-3.8**	
	baz=160								
COWI	**Conover**	**52.60**	**349**		IAmb	IAmb	10 17 21.2		
	comp=Z,582nm,1.9s								
COWI	**Conover**	**52.60**	**349**		P	**P**	**10 17 18.7**	**-1.5**	
	baz=165								
COWI					S	**S**	**10 24 30.8**	**-7.2**	
	baz=165								
GLA	**Glamis**	**52.60**	**320**		IAmb	IAmb	10 17 24.3		
	comp=Z,294nm,1.5s								
GLA	**Glamis**	**52.60**	**320**		P	**P**	**10 17 21.3**	**+0.8**	
	baz=130,SNR=24								
GLA					S	**S**	**10 24 39.3**	**+0.7**	
	baz=130								
PV15	**Paradox Valley**	**52.60**	**329**		IAmb	IAmb	10 17 24.6		
	comp=Z,283nm,1.1s								
GBN	**Guysborough**	**52.63**	**14**		IAmb	IAmb	10 17 22.8		
	comp=Z,680nm,1.9s								
PV13	**Radium Mtn., P**	**52.64**	**328**		IAmb	IAmb	10 17 24.5		
	comp=Z,246nm,1.1s								
BLYC	**Blythe**	**52.86**	**320**		IAmb	IAmb	10 17 26.3		
	comp=Z,300nm,1.6s								
LATQ	**La Tuque**	**52.89**	**4**		IAmb	IAmb	10 17 23.9		
	comp=Z,170nm,0.8s								
D62A	**Allapoint, All**	**52.92**	**7**		IAmb	IAmb	10 17 24.8		
	comp=Z,226nm,1.1s								
D62A	**Allapoint, All**	**52.92**	**7**		P	**P**	**10 17 23.6**	**+1.2**	
	baz=190,SNR=73								
D62A					P	**P**	**10 17 23.6**	**+1.2**	
	baz=190,SNR=73								
D62A					S	**S**	**10 24 44.7**	**+2.5**	
	baz=190								
D62A					S	**S**	**10 24 44.7**	**+2.5**	
	baz=190								
PDMCI	**Parker Dam,Lak**	**52.98**	**321**		P	**P**	**10 17 23.7**	**+0.6**	
	baz=131,SNR=40								
PDMCI					S	**S**	**10 24 45.6**	**+2.1**	
	baz=131								
RMX	**La Rumorosa**	**53.14**	**318**		IAmb	IAmb	10 17 27.2		
	comp=Z,458nm,2.0s								
SWSC	**Sam W. Stewart**	**53.17**	**319**		P	**P**	**10 17 25.4**	**+0.8**	
	baz=129,SNR=23								
SWSC					S	**S**	**10 24 50.9**	**+4.8**	
	baz=129								
IKP	**In-Ko-Pah, Jac**	**53.19**	**318**		P	**P**	**10 17 25.8**	**+0.9**	
	baz=128,SNR=24								
IKP					S	**S**	**10 24 49.4**	**+2.8**	
	baz=128								
F36A	**Milaca**	**53.32**	**346**		P	**P**	**10 17 24.5**	**-1.0**	
	baz=159,SNR=59							

baz=128,SNR=16
MONP2 S **S** **10 24 54.0 +2.3**
baz=128
E38A The Farm, Brul 53.57 348 IAmb IAmb 10 17 27.2
comp=Z,101nm,0.8s
E38A The Farm, Brul 53.57 348 P **P** **10 17 25.9 -1.4**
baz=162,SNR=20
E38A S **S** **10 24 45.4 -5.7**
baz=162
NEE2 Needles Airpor 53.58 321 P **P** **10 17 28.4 +0.8**
baz=131,SNR=14
NEE2 S **S** **10 24 54.3 +2.7**
baz=131
SUSD Miller 53.60 341 P **P** **10 17 26.7 -0.9**
SUSD Miller 53.60 341 P **P** **10 17 27.1 -0.5**
baz=152,SNR=30
SUSD S **S** **10 24 48.7 -2.9**
baz=152
SUSD Miller 53.60 341 P **P** **10 17 26.9 -0.6**
baz=152,SNR=30
SUSD S **S** **10 24 50.6 -1.1**
baz=152
O20A White River Ci 53.85 330 IAmb IAmb 10 17 33.3
comp=Z,176nm,1.1s
O20A White River Ci 53.85 330 P **P** **10 17 30.2 +0.5**
baz=140,SNR=80
O20A S **S** **10 24 58.8 +3.3**
baz=140
BELC Belle Mtn. Jos 53.96 320 P **P** **10 17 31.4 +0.9**
baz=129,SNR=87
BELC S **S** **10 25 01.4 +4.3**
baz=129
PMD Palm Desert 53.99 319 IAmb IAmb 10 17 32.5
comp=Z,55nm,1.1s
109C Camp Elliot, M 54.00 318 P **P** **10 17 31.3 +0.7**
baz=128,SNR=9.2
109C S **S** **10 25 00.8 +3.5**
baz=128
TPFO Pinon Flats 54.01 319 P **P** **10 17 31.7 +0.8**
baz=129,SNR=31
TPFO S **S** **10 24 59.4 +1.6**
baz=129
KNB Kanab 54.02 325 IAmb IAmb 10 17 33.4
comp=Z,109nm,0.9s
PFO Pinyon Flats O 54.02 319 P **P** **10 17 31.3 +0.4**
comp=Z,22nm,0.8s,baz=120,slow=7.1,SNR=43
comp=Z,22nm,0.8s
PFO Pinyon Flats O 54.02 319 P **P** **10 17 31.1 +0.1**
PFO IAmb IAmb 10 17 34.1
comp=Z,892nm,2.5s
PFO Pinyon Flats O 54.02 319*d i* P **P** **10 17 31.6 +0.7**
PFO pmax pmax
comp=Z,283nm,1.7s
PFO Pinyon Flats O 54.02 319 P **P** **10 17 31.8 +0.9**
baz=129,SNR=33
PFO S **S** **10 25 00.2 +2.4**
baz=129
PFO Pinyon Flats O 54.02 319 P **P** **10 17 31.1 +0.1**
PFO pP **pP** **10 18 03.2 +3.3**
PKCU Pink Cliffs 54.02 325 IAmb IAmb 10 17 35.4
comp=Z,556nm,1.5s
F33A 5 Mile Ranch, 54.04 343 P **P** **10 17 29.4 -1.2**
baz=156,SNR=66
F33A S **S** **10 24 53.5 -3.9**
baz=156
SRU San Rafael Swe 54.24 328 IAmb IAmb 10 17 36.0
comp=Z,333nm,1.5s
GMRC Granite Mounta 54.24 321 P **P** **10 17 33.5 +0.9**
baz=130,SNR=100
GMRC S **S** **10 25 03.8 +3.0**
baz=130
LCMT Little Creek M 54.26 324 IAmb IAmb 10 17 36.6
comp=Z,153nm,1.0s
MTPU Mount Pierson 54.37 326 IAmb IAmb 10 17 36.6
comp=Z,190nm,1.5s
Q16A Castle Valley 54.45 327 IAmb IAmb 10 17 36.9
comp=Z,376nm,1.6s
MURC Murrieta 54.49 319 P **P** **10 17 35.0 +0.8**
baz=128,SNR=25
MURC S **S** **10 25 07.1 +3.1**
baz=128
RWWY Rawlins 54.57 332 IAmb IAmb 10 17 37.7
comp=Z,460nm,1.4s
SZCU Shurtz Canyon 54.57 325 IAmb IAmb 10 17 38.9
comp=Z,185nm,1.3s
ELS Elsinore Mount 54.67 318 P **P** **10 17 35.7 +0.1**
ELS IAmb IAmb 10 17 38.7
comp=Z,655nm,2.3s
CCUT Cedar City 54.70 325 IAmb IAmb 10 17 40.4
comp=Z,225nm,1.4s
HEC Hector,Ludlow 54.70 320 P **P** **10 17 37.1 +1.3**
baz=129,SNR=73
HEC S **S** **10 25 09.5 +2.6**
baz=129
BBRC Big Bear Solar 54.72 319 P **P** **10 17 37.4 +1.3**
baz=129,SNR=67
BBRC S **S** **10 25 08.8 +1.3**
baz=129
WTNK Soaring Height 54.76 322 IAmb IAmb 10 17 39.0
comp=Z,48nm,1.4s
TUQ Turquoise Moun 54.83 321 P **P** **10 17 37.5 +0.8**
baz=130,SNR=84
TUQ S **S** **10 25 10.8 +2.1**
baz=130
EYMN Ely 54.83 348 P **P** **10 17 35.0 -1.4**
baz=162,SNR=29
EYMN S **S** **10 25 04.0 -4.1**
baz=162
EYMN Ely 54.83 348 P **P** **10 17 34.9 -1.4**
baz=162,SNR=29
EYMN S **S** **10 25 03.5 -4.6**
baz=162
RDMU Red Mountain 54.84 330 IAmb IAmb 10 17 38.4
comp=Z,124nm,0.8s
TCRU Three Creeks R 54.92 326 IAmb IAmb 10 17 41.4
comp=Z,226nm,1.3s
K22A Casper 55.02 334 IAmb IAmb 10 17 41.5
comp=Z,216nm,1.1s
K22A Casper 55.02 334 P **P** **10 17 38.4 +0.4**
baz=143,SNR=55
K22A S **S** **10 25 12.1 +1.0**
baz=143
K22A Casper 55.02 334 P **P** **10 17 38.4 +0.4**
baz=143,SNR=55
K22A S **S** **10 25 12.1 +1.0**
baz=143
SCI2 San Clemente I 55.02 317 P **P** **10 17 38.3 +0.2**
baz=126
SCI2 S **S** **10 25 14.9 +3.8**
baz=126
RRX Edison Barstow 55.15 320 P **P** **10 17 40.1 +1.1**
baz=129
RRX S **S** **10 25 16.6 +3.8**
baz=129
RSSD Black Hills 55.18 336 P **P** **10 17 39.7 +0.5**
RSSD Black Hills 55.18 336 P **P** **10 17 39.7 +0.5**
RSSD pmax pmax
comp=Z,67nm,1.0s
RSSD Black Hills 55.18 336 P **P** **10 17 39.8 +0.6**
baz=147,SNR=96
RSSD S **S** **10 25 15.4 +2.2**
baz=147
RSSD Black Hills 55.18 336 P **P** **10 17 39.8 +0.6**
baz=147
RSSD S **S** **10 25 15.4 +2.2**
baz=147
RSSD Black Hills 55.18 336 P **P** **10 17 37.1 -2.1**
CIS Catalina Islan 55.18 318 P **P** **10 17 39.3 +0.1**
baz=127
CIS S **S** **10 25 16.6 +3.3**
baz=127
BFSC Mount Baldy Ra 55.19 319 P **P** **10 17 40.0 +0.6**
baz=128,SNR=32
BFSC S **S** **10 25 17.4 +3.9**
baz=128
FMP Fort Macarthur 55.29 318 P **P** **10 17 40.7 +0.8**
baz=127
FMP S **S** **10 25 18.7 +4.1**
baz=127
GSC Goldstone, Bar 55.30 320 IAmb IAmb 10 17 44.2
comp=Z,207nm,1.1s
GSC Goldstone, Bar 55.30 320 P **P** **10 17 41.1 +1.0**
baz=129,SNR=112
GSC S **S** **10 25 18.8 +4.0**
baz=129
SHOC Shoshone, Teco 55.34 321 P **P** **10 17 41.0 +0.7**
baz=130,SNR=88
SHOC S **S** **10 25 19.4 +4.1**
baz=130
D32B Dogwood Acres, 55.43 343 P **P** **10 17 40.0 -0.7**
baz=156,SNR=19
PASC Pasadena Art C 55.49 318 IAmb IAmb 10 17 45.5
comp=Z,257nm,1.4s
DECC Green Verdugo 55.64 318 P **P** **10 17 43.3 +0.8**
baz=127,SNR=10
DECC S **S** **10 25 23.7 +4.4**
baz=127
PSUT Pine Spring 55.66 325 IAmb IAmb 10 17 46.7
comp=Z,155nm,1.2s
NLU North Lily Min 55.68 328 IAmb IAmb 10 18 44.0
comp=Z,207nm,1.8s
QSM Queen of Sheba 55.76 321 IAmb IAmb 10 17 47.0
comp=Z,156nm,1.4s
EDW2 Edwards Air Fo 55.80 319 P **P** **10 17 44.2 +0.6**
baz=128,SNR=79
EDW2 S **S** **10 25 24.5 +3.0**
baz=128
SNCC San Nicolas Is 55.84 317 IAmb IAmb 10 17 47.6
comp=Z,223nm,1.2s
SNCC San Nicolas Is 55.84 317 P **P** **10 17 44.5 +0.6**
baz=126
SNCC S **S** **10 25 25.3 +3.3**
baz=126
LRMC Laurel Mtn Rad 55.97 320 P **P** **10 17 45.8 +0.9**
baz=128,SNR=66
LRMC S **S** **10 25 27.8 +4.0**
baz=128
CCAC Calif City Air 55.98 320 IAmb IAmb 10 17 47.9
comp=Z,306nm,1.4s
TPNV Topopah Spring 56.00 322 P **P** **10 17 46.3 +1.1**
baz=131,SNR=117
TPNV S **S** **10 25 27.9 +3.6**
baz=131
E28A Huff 56.06 340 P **P** **10 17 45.5 +0.3**
baz=151,SNR=157
E28A S **S** **10 25 24.4 0.0**
baz=151
FURC Furnace Creek, 56.07 321 P **P** **10 17 46.5 +1.1**
baz=130,SNR=116
FURC S **S** **10 25 29.2 +4.3**
baz=130
OSI Osito Audit: C 56.11 319 P **P** **10 17 46.2 +0.3**
baz=127
OSI S **S** **10 25 29.0 +3.3**
baz=127
S11A Rachel 56.16 323 IAmb IAmb 10 18 52.7
comp=Z,133nm,1.0s
TCUT Toone Canyon 56.18 329 IAmb IAmb 10 17 49.1
comp=Z,191nm,0.8s
AGMN Agassiz Nation 56.18 345 IAmb IAmb 10 17 48.2
comp=Z,185nm,0.8s
AGMN Agassiz Nation 56.18 345 P **P** **10 17 45.4 -0.6**
baz=157,SNR=114
AGMN S **S** **10 25 22.8 -3.1**
baz=157
AGMN Agassiz Nation 56.18 345 P **P** **10 17 45.4 -0.6**
baz=157,SNR=114
AGMN S **S** **10 25 23.3 -2.6**
baz=157
MPMC Manual Prospec 56.20 321 P **P** **10 17 47.1 +0.4**
baz=129,SNR=59
MPMC S **S** **10 25 30.7 +3.6**
baz=129
DUG Dugway, Tooele 56.24 327 IAmb IAmb 10 17 50.7
comp=Z,277nm,1.3s
DUG Dugway, Tooele 56.24 327 P **P** **10 17 47.6 +0.8**
baz=136,SNR=140
DUG S **S** **10 25 31.5 +4.1**
baz=136
SPR3 Spring Creek 3 56.25 325 IAmb IAmb 10 17 50.5
comp=Z,328nm,1.6s
SCZ2 Santa Cruz Isl 56.35 317 P **P** **10 17 47.9 +0.3**
baz=126
SCZ2 S **S** **10 25 31.4 +2.7**
baz=126
ARVC Arvin 56.49 319 P **P** **10 17 49.4 +0.9**
baz=127,SNR=30
ARVC S **S** **10 25 34.2 +3.7**
baz=127
BW06 Boulder Array 56.50 332 IAmb IAmb 10 17 50.7
comp=Z,338nm,1.8s
BW06 Boulder Array 56.50 332 P **P** **10 17 48.4 -0.4**
baz=140,SNR=81
BW06 S **S** **10 25 31.3 +0.4**
baz=140
PD31 Pinedale Array 56.50 332 IAmb IAmb 10 17 50.7
comp=Z,306nm,1.8s
PDAR Pinedale Array 56.50 332 P **P** **10 17 48.1 -0.6**
comp=Z,11nm,0.7s,baz=126,slow=7.6,SNR=123
PDAR LR LR 10 43 02.9
comp=Z,1μm,20.4s,baz=144,slow=37
PDAR PKPPKP **P'P'df** **10 47 43.9 +1.6**
comp=Z,2.4nm,1.1s,baz=72,slow=1.9,SNR=4.3
PDAR P4KPbc 10 55 01.1
comp=Z,0.9nm,0.6s,baz=138,slow=5.9,SNR=12
comp=Z,11nm,0.7s
R11A Troy Canyon, C 56.53 324 IAmb IAmb 10 17 52.2
comp=Z,558nm,2.0s
R11A Troy Canyon, C 56.53 324 P **P** **10 17 49.9 +0.9**
baz=132,SNR=135
R11A S **S** **10 25 34.6 +3.3**
baz=132
ISA Isabella, Lake 56.59 320 P **P** **10 17 50.1 +0.8**
baz=128,SNR=72
ISA S **S** **10 25 35.3 +3.3**
baz=128
HWUT Hardware Ranch 56.62 329 IAmb IAmb 10 17 52.4
comp=Z,121nm,0.8s
SBC Santa Barbara 56.67 318 P **P** **10 17 49.8 +0.1**
baz=126
SBC S **S** **10 25 37.3 +4.5**
baz=126
SACV Santiago Islan 56.69 68 P **P** **10 17 50.3 +0.1**
SACV IAmb IAmb 10 17 54.1
comp=Z,122nm,0.8s
GRAC Grapevine Rang 56.72 322 IAmb IAmb 10 17 53.5
comp=Z,348nm,1.6s
GRAC Grapevine Rang 56.72 322 P **P** **10 17 51.3 +1.1**
baz=130,SNR=21
GRAC S **S** **10 25 38.5 +5.0**
baz=130
BCW Bitter Crk WRg 56.76 318 IAmb IAmb 10 17 54.5
comp=Z,263nm,1.4s
CWC Cottonwood Cre 56.82 321 P **P** **10 17 51.8 +0.8**
baz=129
CWC S **S** **10 25 38.4 +3.3**
baz=129
MDND Maddock 56.83 342 P **P** **10 17 51.0 +0.3**
baz=153,SNR=82
MDND S **S** **10 25 32.0 -2.5**
baz=153
MDND Maddock 56.83 342 P **P** **10 17 51.1 +0.4**
baz=153,SNR=82
MDND S **S** **10 25 34.7 +0.2**
baz=153
PKM Mcpherson Peak 57.00 318 P **P** **10 17 53.0 +0.7**
baz=126,SNR=36
PKM S **S** **10 25 41.0 +3.4**
baz=126
LCH Last Change Ra 57.04 322 IAmb IAmb 10 17 55.5
comp=Z,234nm,1.6s
VES Vestal, Richgr 57.09 320 P **P** **10 17 53.4 +0.7**
baz=127,SNR=64
VES S **S** **10 25 42.6 +4.3**
baz=127
TIN Tinemaha, Big 57.29 321 P **P** **10 17 55.3 +1.0**
baz=129,SNR=23
TIN S **S** **10 25 44.9 +3.6**
baz=129
TPH Tonopah 57.32 323 IAmb IAmb 10 17 56.4
comp=Z,205nm,0.8s
SMMC Simmler 57.37 318 P **P** **10 17 55.8 +1.1**
baz=126,SNR=16
SMMC S **S** **10 25 46.9 +4.7**
baz=126
REDW Red Top Meadow 57.57 331 IAmb IAmb 10 18 03.2
comp=Z,343nm,1.9s
VOG Valley Oaks Go 57.57 320 P **P** **10 17 56.1 0.0**
baz=127
VOG S **S** **10 25 47.7 +3.1**
baz=127
SNOW Snow King Moun 57.60 331 IAmb IAmb 10 18 00.6
comp=Z,327nm,1.7s
LOHW Long Hollow 57.64 332 IAmb IAmb 10 17 59.2
comp=Z,384nm,2.0s
PAGB Antelope Grade 57.78 319 IAmb IAmb 10 18 00.6
comp=Z,595nm,2.0s
Q09A Carvers 57.79 323 IAmb IAmb 10 18 01.7
comp=Z,164nm,0.9s
MOOW Moose Ponds 57.81 332 IAmb IAmb 10 18 00.2
comp=Z,164nm,1.6s
ELK Elko 57.95 326 LR LR 10 42 19.4
comp=Z,2μm,19.1s,baz=135,slow=35
ULM Lac du Bonnet 57.99 346 pP **pP** **10 18 26.3 -1.6**
baz=154,slow=7.3
ULM LR LR 10 42 11.3
comp=Z,2μm,21.5s,baz=146,slow=35
ULM PKP2bc 10 47 49.6
comp=Z,9.9nm,1.0s,baz=0.9,slow=4.5,SNR=8.3
IMW Indian Meadow 58.02 332 IAmb IAmb 10 18 01.8
comp=Z,111nm,1.1s
MLAC Mammoth, Mammo 58.03 321 P **P** **10 18 00.5 +0.9**
baz=129,SNR=31
MLAC S **S** **10 25 53.3 +2.2**
baz=129
FLWY Flagg Ranch 58.04 332 IAmb IAmb 10 18 01.2
comp=Z,123nm,1.1s
OMMB Old Mammoth Mi 58.12 321 IAmb IAmb 10 18 03.9
comp=Z,170nm,1.1s
LAO LASA Array 58.17 337 IAmb IAmb 10 18 02.3
comp=Z,372nm,1.6s
LAO LASA Array 58.17 337 P **P** **10 17 60.0 -0.2**
baz=145,SNR=39
LAO S **S** **10 25 49.8 -2.4**
baz=145
LAO LASA Array 58.17 337 P **P** **10 17 60.0 -0.2**
baz=145,SNR=39
LAO S **S** **10 25 52.6 +0.4**
baz=145
RLMT Red Lodge 58.19 334 IAmb IAmb 10 18 01.7
comp=Z,226nm,1.7s
RLMT Red Lodge 58.19 334 P **P** **10 18 00.5 0.0**
baz=141,SNR=49
RLMT S **S** **10 25 53.1 +0.3**
baz=141
NVAR Mina Array Bea 58.20 322 P **P** **10 18 01.3 +0.5**
comp=Z,36nm,0.7s,baz=129,slow=7.2,SNR=363
NVAR pP **pP** **10 18 29.4 -0.8**
comp=Z,17nm,0.7s,baz=152,slow=6.7,SNR=3.9
NVAR PKPPKP **P'P'df** **10 47 40.6 +0.4**
comp=Z,1.1nm,0.9s,baz=199,slow=1.9,SNR=4.3
NVAR P4KPbc 10 55 09.2
comp=Z,0.1nm,0.3s,baz=155,slow=3.0,SNR=2.1
comp=Z,36nm,0.7s
LHV Little Huntoon 58.21 322 IAmb IAmb 10 18 04.7
comp=Z,104nm,0.9s
H17A Grant Village 58.22 332 IAmb IAmb 10 18 05.7
comp=Z,379nm,1.9s
H17A Grant Village 58.22 332 P **P** **10 18 01.7 +0.9**
baz=140,SNR=31
H17A S **S** **10 25 56.0 +2.6**
baz=140
YFT Old Faithful 58.39 332 IAmb IAmb 10 18 05.7
comp=Z,259nm,1.5s
PMPB Monarch Peak 58.43 319 IAmb IAmb 10 18 05.7
comp=Z,191nm,1.2s
YUF Upper Falls 58.44 332 IAmb IAmb 10 18 06.5
comp=Z,263nm,1.7s
RYN Ryan 58.46 322 IAmb IAmb 10 18 05.2
comp=Z,201nm,1.6s
HOPE Hope Point 58.50 153 P **P** **10 18 03.3 +1.1**
HOPE IAmb IAmb 10 18 05.2
comp=Z,220nm,1.1s
HOPE Hope Point 58.50 153 P **P** **10 18 03.3 +1.1**
HOPE pmax pmax
comp=Z,220nm,1.1s
HOPE Hope Point 58.50 153 P **P** **10 18 03.4 +1.2**
HOPE pP **pP** **10 18 35.6 +3.7**
HOPE sP **PcP** **10 18 52.4 +0.9**
YMR Madison River 58.61 332 IAmb IAmb 10 18 06.7
comp=Z,486nm,1.6s
YHH Holmes Hill 58.65 332 IAmb IAmb 10 18 09.5
comp=Z,312nm,1.9s
BBGB Big Mountain B 58.80 319 IAmb IAmb 10 18 13.7
comp=Z,130nm,1.1s
YHL Hebgen Lake 58.85 332 IAmb IAmb 10 18 09.4
comp=Z,275nm,1.0s
BMN Battle Mountai 58.86 325 IAmb IAmb 10 18 08.5
comp=Z,152nm,1.1s
DGMT Dagmar 58.90 339 P **P** **10 18 05.5 +0.4**
DGMT IAmb IAmb 10 18 06.8
comp=Z,114nm,0.8s
DGMT Dagmar 58.90 339 P **P** **10 18 05.8 +0.7**
baz=148,SNR=45
DGMT Dagmar 58.90 339 P **P** **10 18 05.6 +0.5**
baz=148,SNR=45
DGMT S **S** **10 26 03.2 +1.8**
baz=148
SAO San Andreas Ge 59.17 319 IAmb IAmb 10 18 09.9
comp=Z,204nm,1.8s
HLID Hailey 59.48 329 P **P** **10 18 09.8 +0.3**
HLID Hailey 59.48 329 P **P** **10 18 09.9 +0.5**
baz=136,SNR=135
HLID S **S** **10 26 13.0 +3.5**
baz=136
VCNR Virginia City 59.56 322 IAmb IAmb 10 18 14.0
comp=Z,165nm,1.3s
BOZ Bozeman (W) 59.62 332 IAmb IAmb 10 18 13.7
comp=Z,237nm,1.2s
BOZ Bozeman (W) 59.62 332 P **P** **10 18 10.6 +0.3**
baz=139,SNR=155
BOZ S **S** **10 26 12.7 +1.5**
baz=139
EMB Emerald Bay 59.64 322 IAmb IAmb 10 18 14.9
comp=Z,313nm,1.8s
PAHR Pah Rah Range 59.66 323 IAmb IAmb 10 18 12.7
comp=Z,178nm,1.4s
PMSA Palmer Station 59.78 174 P **P** **10 18 12.0 +1.2**
comp=Z,32nm,1.0s,baz=7.3,slow=4.3,SNR=10.0
PMSA LR LR 10 41 49.2
comp=Z,856nm,19.4s,baz=2.5,slow=34
comp=Z,32nm,1.0s
PMSA Palmer Station 59.78 174 P **P** **10 18 12.2 +1.4**
PMSA Palmer Station 59.78 174 *eP* **P** **10 18 12.4 +1.6**
MPK Martis Peak 59.80 322 IAmb IAmb 10 18 15.9
comp=Z,154nm,1.1s
MFID Camas Ranch 60.11 328 IAmb IAmb 10 18 17.3
comp=Z,236nm,0.9s
ORCD Orcadas 60.13 162 P **P** **10 18 11.8 -1.5**
PLTX Planet X, Gerl 60.34 324 IAmb IAmb 10 18 16.8
comp=Z,94nm,0.8s
BEKR Beckworth 60.35 323 IAmb IAmb 10 18 17.4
comp=Z,80nm,0.8s
EGMT Eagleton 60.67 335 IAmb IAmb 10 18 20.5
comp=Z,237nm,1.4s
EGMT Eagleton 60.67 335 P **P** **10 18 17.4 +0.1**
baz=142,SNR=45
EGMT S **S** **10 26 26.0 +1.6**
baz=142
SCHQ Schefferville 60.81 7 P **P** **10 18 17.9 -0.1**
comp=Z,53nm,0.7s,baz=207,slow=5.1,SNR=51
SCHQ LR LR 10 47 14.4
comp=Z,889nm,19.1s,baz=184,slow=38
comp=Z,53nm,0.7s
SCHQ Schefferville 60.81 7 P **P** **10 18 17.6 -0.4**
ORV Oroville 60.85 322 IAmb IAmb 10 18 22.7
comp=Z,317nm,1.1s
MCCM Marconi Confer 60.90 320 P **P** **10 18 18.5 -0.4**
WVOR Wild Horse Val 60.97 326 IAmb IAmb 10 18 22.8
comp=Z,151nm,1.2s
J08A Circle Bar Ran 61.49 327 IAmb IAmb 10 18 26.3
comp=Z,248nm,1.8s
HOPS Hopland Field 61.51 320 IAmb IAmb 10 18 25.1
comp=Z,211nm,1.8s
H07S1 FLORES T-PHASE 61.52 39 *eP* **P** **10 18 23.0 -0.1**
comp=Z,436nm,1.8s
MOD Modoc Plateau 61.58 324 IAmb IAmb 10 18 27.0
comp=Z,299nm,1.6s
MSO Missoula 61.61 332 IAmb IAmb 10 18 27.2
comp=Z,258nm,1.2s
MSO Missoula 61.61 332 P **P** **10 18 24.2 +0.5**
baz=137,SNR=117
MSO S **S** **10 26 38.0 +1.6**
baz=137
H10N3 ASCENSION HYDR 62.03 96 P **P** **10 18 28.3 +1.6**
baz=241,slow=5.6,SNR=4.3
H10N2 ASCENSION HYDR 62.05 96 P **P** **10 18 28.4 +1.6**
baz=241,slow=5.6,SNR=3.8
H10N1 ASCENSION HYDR 62.05 96 P **P** **10 18 28.2 +1.4**
baz=241,slow=5.6,SNR=5.1
ASCN Ascension 62.17 96 P **P** **10 18 28.4 +0.4**
ASCN IAmb IAmb 10 18 30.6
comp=Z,306nm,0.8s
KCPM Cahto Peak 62.23 321 IAmb IAmb 10 18 32.3
comp=Z,179nm,1.1s

K05A Summer Lake 62.44 325 IAmb IAmb 10 18 35.8
comp=Z,225nm,0.9s
JTMT Jette 62.44 333 P **P** **10 18 29.7 +0.4**
JTMT IAmb IAmb 10 18 33.1
comp=Z,462nm,1.7s
I07A Izee 62.53 327 IAmb IAmb 10 18 33.6
comp=Z,254nm,1.2s
F10A Beach Ranch, E 62.60 329 IAmb IAmb 10 18 34.1
comp=Z,562nm,1.5s
KMRM Mail Ridge 62.62 321 IAmb IAmb 10 18 34.6
comp=Z,133nm,1.0s
CALA Caldeira 62.67 41 *e*P **P** **10 18 31.3 +0.3**
comp=Z,364nm,1.3s
HOR Horta 62.69 41 *e*P **P** **10 18 31.9 +1.0**
comp=Z,250nm,2.1s
PCED Cedros 62.70 41 *e*P **P** **10 18 31.4 +0.4**
comp=Z,336nm,1.4s
TAOE Nuku Hiva Isla 62.70 263 *e*P **P** **10 18 34.0 +2.4**
comp=Z,781nm,27.1s
TAOE *e*S **S** **10 26 51.9 +0.7**
comp=Z,3μm,30.4s
TAOE Nuku Hiva Isla 62.70 263 *e*LR LR 10 37 22.6
comp=Z,4μm,40.0s
MBO M'Bour 62.74 71 IAmb IAmb 10 18 35.0
comp=Z,320nm,0.8s
PCAN Candelaria 62.75 41 *e*P **P** **10 18 31.9 +0.5**
comp=Z,184nm,1.7s
SMAI San Martin Ant 62.79 176 IAmb IAmb 10 18 34.4
comp=Z,249nm,1.7s
PICO Pico 62.81 41 *e*P **P** **10 18 32.2 +0.3**
comp=Z,295nm,1.4s
K04D Chiloquin, OR 62.87 324 P **P** **10 18 32.5 +0.2**
baz=128,SNR=13
K04D S **S** **10 26 54.0 +1.5**
baz=128
YBH Yreka Blue Hor 62.90 323 LR LR 10 45 33.8
comp=Z,948nm,18.0s,baz=143,slow=36
L04D Klamath Falls 62.95 324 IAmb IAmb 10 18 35.6
comp=Z,266nm,1.1s
L04D Klamath Falls 62.95 324 P **P** **10 18 32.7 -0.1**
baz=128,SNR=42
L04D S **S** **10 26 54.8 +1.4**
baz=128
J05D Fort Rock, OR 62.99 325 P **P** **10 18 33.4 +0.4**
baz=129,SNR=80
J05D S **S** **10 26 56.8 +3.0**
baz=129
KMPM Mount Pierce 62.99 321 IAmb IAmb 10 18 35.2
comp=Z,108nm,0.9s
KHMM Horse Mountain 63.01 322 IAmb IAmb 10 18 35.2
comp=Z,106nm,0.8s
G08A Pilot Rock 63.03 328 IAmb IAmb 10 18 36.9
comp=Z,228nm,1.4s
ROSA Rosais 63.05 41 *e*P **P** **10 18 33.8 +0.4**
comp=Z,332nm,1.1s
ROSA Rosais 63.05 41 IAmb IAmb 10 18 35.3
comp=Z,163nm,0.9s
PINE Pine Mountain 63.14 326 IAmb IAmb 10 18 37.3
comp=Z,230nm,1.1s
JCC Jacoby Creek, 63.16 321 IAmb IAmb 10 18 37.9
comp=Z,205nm,1.1s
BBTS Babate 63.20 71 P **P** **10 18 35.8 +1.1**
comp=Z,130nm,0.7s,baz=300,slow=12,SNR=16
comp=Z,130nm,0.7s
WALA Waterton Lakes 63.24 334 P **P** **10 18 34.6 +0.1**
SRBC Serra Branca 63.36 41 *e*P **P** **10 18 35.7 +0.3**
comp=Z,551nm,1.3s
KRPM Rodgers 63.36 322 IAmb IAmb 10 18 39.5
comp=Z,248nm,0.8s
PGRA Graciosa 63.39 41 *e*P **P** **10 18 35.9 +0.3**
comp=Z,449nm,2.1s
E09A Wood Farm, Sta 63.44 329 IAmb IAmb 10 19 08.0
comp=Z,265nm,1.8s
J04D Umpqua Nationa 63.46 325 IAmb IAmb 10 18 39.4
comp=Z,196nm,0.8s
J04D Umpqua Nationa 63.46 325 P **P** **10 18 36.3 +0.1**
baz=128,SNR=50
J04D S **S** **10 27 02.2 +2.4**
baz=128
KRMB Red Mountain 63.50 322 IAmb IAmb 10 18 40.4
comp=Z,647nm,1.8s
FFC Flin Flon 63.63 344 P **P** **10 18 33.9 -2.9**
FFC pP **pP** **10 19 05.7 -0.9**
FFC sP **sP** **10 19 20.5 +0.6**
L02F Cave Junction 63.65 323 P **P** **10 18 37.2 0.0**
baz=126,SNR=17
L02F S **S** **10 27 03.6 +1.8**
baz=126
I05D Terrebonne, OR 63.71 326 P **P** **10 18 38.3 +0.7**
baz=129,SNR=57
I05D S **S** **10 27 05.8 +3.2**
baz=129
F07A Phinny Hill Vi 63.94 328 IAmb IAmb 10 18 43.3
comp=Z,227nm,1.7s
I04A Tendick Farm, 63.97 325 P **P** **10 18 39.0 -0.3**
baz=128,SNR=27
I04A S **S** **10 27 06.4 +0.5**
baz=128
K02D Willamette Mer 64.04 323 P **P** **10 18 40.4 +0.5**
baz=126,SNR=32
K02D S **S** **10 27 07.9 +1.1**
baz=126
HAWA Hanford 64.06 329 IAmb IAmb 10 18 42.4
comp=Z,203nm,1.6s
NEW Newport 64.14 331 LR LR 10 47 55.2
comp=Z,625nm,20.2s,baz=128,slow=37
NEW Newport 64.14 331 P **P** **10 18 40.4 0.0**
baz=135,SNR=74
NEW S **S** **10 27 09.7 +1.9**
baz=135
D08A Wollman Farm, 64.19 329 IAmb IAmb 10 18 43.5
comp=Z,359nm,1.9s
PSMA Santa Maria 64.26 44 *e*P **P** **10 18 40.8 -0.5**
comp=Z,116nm,2.3s
G05D Wamic, OR 64.27 327 P **P** **10 18 42.5 +1.3**
baz=130,SNR=38
G05D S **S** **10 27 14.4 +5.0**
baz=130
PDA Ponta Delgada 64.27 43 *e*P **P** **10 18 37.8 -3.5**
comp=Z,276nm,2.8s
PSET Sete Cidades 64.27 43 *e*P **P** **10 18 41.7 +0.3**
comp=Z,372nm,2.0s
PSMN Pico do Norte, 64.31 44 *e*P **P** **10 18 41.1 -0.6**
comp=Z,169nm,1.1s
CMLA Cha da Macela 64.37 43 *e*P **P** **10 18 42.6 +0.5**
comp=Z,250nm,1.0s
H04A Detroit Lake 64.39 326 P **P** **10 18 41.7 -0.4**
H04A IAmb IAmb 10 18 44.3
comp=Z,983nm,2.5s
PCALD Caldeiras da R 64.42 43 *e*P **P** **10 18 42.6 +0.3**
comp=Z,290nm,0.5s
I03D Drain, OR 64.45 324 P **P** **10 18 42.7 +0.3**
baz=127,SNR=12
I03D S **S** **10 27 12.9 +1.3**
baz=127
J01E Myrtle Point 64.47 324 IAmb IAmb 10 18 48.9
comp=Z,165nm,0.8s
J01E Myrtle Point 64.47 324 P **P** **10 18 43.5 +0.9**
baz=126,SNR=21
J01E S **S** **10 27 13.0 +1.1**
baz=126
HOOD Mount Hood Mea 64.50 327 P **P** **10 18 43.5 +0.5**
HOOD IAmb IAmb 10 18 46.9
comp=Z,547nm,1.7s
KEBM Edson Butte 64.54 323 IAmb IAmb 10 18 47.1
comp=Z,264nm,1.2s
BUCK Buck Mountain 64.55 325 IAmb IAmb 10 18 46.0
comp=Z,104nm,0.9s
H04D Lebanon 64.61 325 P **P** **10 18 43.1 -0.3**
baz=128,SNR=9.7
H04D S **S** **10 27 13.7 +0.2**
baz=128
BART Pico Bartolome 64.62 44 *e*P **P** **10 18 44.0 +0.2**
comp=Z,322nm,1.7s
COR Corvallis 64.96 325 P **P** **10 18 46.1 +0.4**
COR Corvallis 64.96 325 P **P** **10 18 46.1 +0.4**
COR pmax pmax
comp=Z,2μm,2.4s
COR Corvallis 64.96 325 P **P** **10 18 45.5 -0.3**
COR pP **pP** **10 19 16.6 +1.0**
I02E Swisshome, OR 64.99 325 IAmb IAmb 10 18 49.8
comp=Z,169nm,1.0s
I02E Swisshome, OR 64.99 325 P **P** **10 18 46.6 +0.7**
baz=127,SNR=8.4
I02E S **S** **10 27 20.6 +2.4**
baz=127
LTY Liberty 65.22 329 IAmb IAmb 10 18 50.2
comp=Z,528nm,1.9s

G03D McMinnville, O 65.32 326 IAmb IAmb 10 18 50.9
comp=Z,165nm,1.4s
G03D McMinnville, O 65.32 326 P **P** **10 18 48.5 +0.5**
baz=128,SNR=5.6
G03D S **S** **10 27 23.7 +1.5**
baz=128
FCC Fort Churchill 65.61 350 P **P** **10 18 48.6 -0.9**
FCC IAmb IAmb 10 18 51.8
comp=Z,338nm,1.4s
FCC Fort Churchill 65.61 350 P **P** **10 18 48.7 -0.9**
FCC pmax pmax
comp=Z,338nm,1.5s
D05A Enumclaw 65.86 328 IAmb IAmb 10 18 54.8
comp=Z,187nm,1.1s
EDM Edmonton 66.15 337 IAmb IAmb 10 18 53.8
comp=Z,160nm,0.9s
E03A Lebam 66.31 327 IAmb IAmb 10 18 58.2
comp=Z,325nm,1.4s
RADR Rader Ridge 66.36 327 IAmb IAmb 10 19 56.8
comp=Z,149nm,1.1s
TRIS Tristan da Cun 66.48 128 P **P** **10 18 56.5 +0.8**
WISH Wishkah 66.77 327 IAmb IAmb 10 19 00.9
comp=Z,638nm,1.9s
NLWA Neilton Lookou 66.99 327 IAmb IAmb 10 19 02.8
comp=Z,147nm,1.1s
MACI Morro de la Ar 67.22 56 P **P** **10 19 01.1 +0.4**
PGC Sidney 67.55 329 P **P** **10 19 02.4 +0.3**
LLLB Lillooet 68.02 331 IAmb IAmb 10 19 07.8
comp=Z,926nm,2.2s
PMOZ Porto Moniz, M 68.31 52 *e*P **P** **10 19 07.9 +0.5**
comp=Z,216nm,1.1s
PMOZ Porto Moniz, M 68.31 52 P **P** **10 19 07.5 +0.2**
PMOZ Porto Moniz, M 68.31 52 P **P** **10 19 08.5 +1.2**
FUL Funchal 68.48 52 *e*P **P** **10 19 08.5 +0.2**
comp=Z,167nm,2.3s
FUL Funchal 68.48 52 *e*PP **PP** **10 21 40.9 -0.2**
PMAR Madeira 68.49 52 *e*P **P** **10 19 08.6 0.0**
comp=Z,201nm,1.8s
PMAR *ep*P **pP** **10 19 36.4 -2.4**
PMPS Porto Santo 69.07 52 *e*P **P** **10 19 13.1 +1.2**
comp=Z,430nm,1.6s
PMPS *ep*P **pP** **10 19 44.4 +2.3**
PMPST Porto Santo, M 69.08 52 *e*P **P** **10 19 12.3 +0.3**
comp=Z,379nm,1.6s
PMPST *ep*P **pP** **10 19 43.0 +0.8**
FRB Frobisher Bay 69.45 4 P **P** **10 19 13.3 -0.3**
comp=Z,77nm,0.6s,baz=204,slow=6.4,SNR=116
comp=Z,77nm,0.6s
IVI Ivigtut 70.28 14 *i*P **P** **10 19 18.6 -0.2**
IVI IAmb IAmb 10 19 21.7
comp=Z,144nm,0.8s
NRS Narsarsuaq 70.95 16 P **P** **10 19 22.8 0.0**
NRS IAmb IAmb 10 19 25.9
comp=Z,151nm,0.8s
NRS Narsarsuaq 70.95 16 P **P** **10 19 22.8 0.0**
NRS pmax pmax
comp=Z,151nm,0.8s
NRS Narsarsuaq 70.95 16 *i*P **P** **10 19 23.3 +0.5**
NRS IAmb IAmb 10 19 24.4
comp=Z,194nm,0.9s
TBI Tubuai 71.74 247 *e*S **S** **10 28 40.3 +1.3**
comp=Z,5μm,27.8s
TBI Tubuai 71.74 247 *e*LR LR 10 41 33.6
comp=Z,5μm,33.5s
PPT Papeete 71.77 253 LR LR 10 42 32.3
comp=Z,1μm,21.1s,baz=102,slow=29
PPT2 Papeete2 71.77 253 *e*S **S** **10 28 40.3 +0.6**
comp=Z,6μm,27.2s
PPT2 Papeete2 71.77 253 *e*LR LR 10 41 34.4
comp=Z,9μm,34.0s
NUUK Nuuk 72.12 11 *i*P **P** **10 19 29.2 -0.5**
NUUK IAmb IAmb 10 19 31.9
comp=Z,169nm,1.3s
LIC Lamto 72.76 82⇓*i*P **P** **10 19 35.8 +1.1**
comp=Z,272nm,0.8s
TIC Toumodi 72.83 81⇑*i*P **P** **10 19 36.6 +1.5**
comp=Z,286nm,0.7s
DBIC Dimbokro 72.99 81 P **P** **10 19 36.8 +0.7**
comp=Z,182nm,0.8s,baz=274,slow=5.4,SNR=134
DBIC pP **pP** **10 20 07.4 +0.9**
comp=Z,64nm,0.8s,baz=278,slow=4.4,SNR=3.0
comp=Z,182nm,0.8s
DBIC Dimbokro 72.99 81 P **P** **10 19 36.6 +0.6**
DBIC IAmb IAmb 10 19 38.4
comp=Z,276nm,0.9s
KIC Kosan Boka 73.06 82⇓*i*P **P** **10 19 37.8 +1.3**
comp=Z,130nm,0.4s
YKA Yellowknife Ar 73.74 343 P **P** **10 19 38.8 -0.5**
comp=Z,52nm,0.6s,baz=140,slow=6.2,SNR=96
YKA pP **pP** **10 20 10.2 +0.3**
comp=Z,7.4nm,0.5s,baz=139,slow=6.2,SNR=2.1
comp=Z,52nm,0.6s
EAH EAH 73.99 55 P **P** **10 19 44.0 +2.4**
TTIG Tnine Tigouga, 74.62 56 P **P** **10 19 48.0 +2.6**
SFJD Kangerlussuaq 74.85 10 P **P** **10 19 45.5 -0.2**
comp=Z,34nm,0.6s,baz=207,slow=3.7,SNR=22
comp=Z,34nm,0.6s
SFJD Kangerlussuaq 74.85 10 P **P** **10 19 45.4 -0.2**
SFJD Kangerlussuaq 74.85 10⇓*i*P **P** **10 19 45.2 -0.5**
SFJD IAmb IAmb 10 19 46.6
comp=Z,69nm,0.8s
KOWA Kowa 75.02 73 P **P** **10 19 48.7 +0.9**
comp=Z,218nm,0.7s,baz=260,slow=5.9,SNR=318
comp=Z,218nm,0.7s
KOWA Kowa 75.02 73 P **P** **10 19 48.1 +0.3**
KOWA IAmb IAmb 10 19 50.3
comp=Z,257nm,0.8s
FLDN Fort Liard 75.07 338 P **P** **10 19 47.8 +0.7**
baz=132
DY2G Dye2 75.24 12⇓*i*P **P** **10 19 48.2 -0.1**
DY2G IAmb IAmb 10 19 49.6
comp=Z,320nm,0.8s
OUK Oukaimeden 75.27 56 P **P** **10 19 52.0 +2.6**
V35K Ketchikan 75.55 331 P **P** **10 19 51.0 +1.1**
baz=123,SNR=6.2
V35K S **S** **10 29 22.1 +1.5**
baz=123
SRHM Skhour des Reh 75.60 55 P **P** **10 19 53.0 +2.1**
T35M Bob Quinn 75.84 333 P **P** **10 19 52.5 +0.9**
baz=125,SNR=17
T35M S **S** **10 29 25.9 +2.1**
baz=125
AVE Averroes 76.22 54 P **P** **10 19 52.7 -1.6**
AVE S **S** **10 29 27.9 -1.1**
AVE Averroes 76.22 54 IAmb IAmb 10 19 57.7
comp=Z,422nm,0.8s
AVE Averroes 76.22 54 P **P** **10 19 56.2 +1.9**
PFVI Vila Bisbo 76.24 50 *e*P **P** **10 19 55.8 +1.5**
comp=Z,532nm,1.7s
PFVI *ep*P **pP** **10 20 28.0 +3.0**
PFVI Vila Bisbo 76.24 50 *e*PP **PP** **10 22 45.6 -1.7**
PFVI Vila Bisbo 76.24 50 IAmb IAmb 10 19 57.0
comp=Z,189nm,0.8s
PFVI Vila Bisbo 76.24 50 P **P** **10 19 56.0 +1.7**
CRAG Craig 76.35 331 P **P** **10 19 55.1 +0.6**
baz=122
MORF Marmelete 76.42 50 *e*P **P** **10 19 56.5 +1.2**
MORF IAmb IAmb 10 19 58.0
comp=Z,254nm,1.0s
MORF *e*S **S** **10 29 33.2 +2.1**
MORF Marmelete 76.42 50 *e*P **P** **10 19 56.8 +1.4**
comp=Z,604nm,2.0s
MORF *ep*P **pP** **10 20 29.3 +3.1**
MORF Marmelete 76.42 50 *e*P **P** **10 19 56.6 +1.2**
MORF *e*S **S** **10 29 33.2 +2.1**
PTEO Sao Teotonio 76.44 49 *e*P **P** **10 19 56.6 +1.1**
comp=Z,330nm,2.1s
PTEO *ep*P **pP** **10 20 27.6 +1.4**
PMAFR Mafra 76.47 48 *e*P **P** **10 19 55.8 +0.2**
comp=Z,187nm,2.5s
PMAFR *ep*P **pP** **10 20 26.7 +0.4**
PMAFR Mafra 76.47 48 *e*PP **PP** **10 22 50.3 +1.1**
PMST Lisbon--Monsan 76.47 48 *e*P **P** **10 19 56.7 +1.1**
comp=Z,317nm,2.0s
PMST *ep*P **pP** **10 20 25.7 -0.6**
PMST Lisbon--Monsan 76.47 48 *e*PP **PP** **10 22 50.3 +1.1**
WRAK Wrangell Islan 76.49 332 P **P** **10 19 56.2 +0.9**
baz=123
LIS Lisbon 76.49 48 *e*P **P** **10 19 56.9 +1.2**
LIS IAmb IAmb 10 19 58.0
comp=Z,188nm,1.0s
LIS Lisbon 76.49 48 *e*P **P** **10 19 56.9 +1.2**
DLBC Dease Lake 76.58 334 LR LR 10 55 36.2
comp=Z,929nm,20.0s,baz=104,slow=37
DLBC Dease Lake 76.58 334 IAmb IAmb 10 19 59.8
comp=Z,257nm,1.4s

DLBC Dease Lake 76.58 334 P **P** **10 19 56.7 +0.9**
baz=125,SNR=34
DLBC S **S** **10 29 34.2 +2.2**
baz=125
ANGG Ammassalik, Gr 76.62 16 IAmb IAmb 10 19 58.3
comp=Z,174nm,0.8s
ANGG Ammassalik, Gr 76.62 16 *i*P **P** **10 19 55.9 +0.1**
ANGG IAmb IAmb 10 19 56.4
comp=Z,189nm,1.0s
PACT Alcochete 76.75 48 *e*P **P** **10 19 57.8 +0.7**
comp=Z,491nm,1.7s
ILULI Ilulissat 76.75 9 *i*P **P** **10 19 56.4 -0.1**
ILULI IAmb IAmb 10 19 57.6
comp=Z,131nm,0.8s
S34M Telegraph Cree 76.76 334 P **P** **10 19 57.7 +1.0**
baz=124,SNR=9.7
PNCL Nicolau / Gran 76.77 49 *e*P **P** **10 19 57.9 +0.6**
comp=Z,209nm,2.0s
PNCL *ep*P **pP** **10 20 27.8 -0.2**
ZHG ZHG 76.88 54 P **P** **10 19 59.3 +1.2**
MESJ Messejana 76.92 49 *e*P **P** **10 19 59.3 +1.2**
MESJ IAmb IAmb 10 20 00.6
comp=Z,58nm,0.5s
MESJ *e*S **S** **10 29 38.3 +1.9**
MESJ Messejana 76.92 49 *e*P **P** **10 19 59.3 +1.2**
comp=Z,137nm,1.9s
MESJ *ep*P **pP** **10 20 27.1 -1.8**
MESJ Messejana 76.92 49 *e*PP **PP** **10 22 53.9 +0.9**
MESJ Messejana 76.92 49 *e*P **P** **10 19 59.3 +1.2**
MESJ *e*S **S** **10 29 38.3 +1.9**
T33K Petersburg 76.99 332 P **P** **10 19 58.5 +0.5**
baz=122
PCVE Castro Verde 76.99 49 *e*P **P** **10 19 59.6 +1.1**
comp=Z,235nm,1.6s
PCVE *ep*P **pP** **10 20 27.4 -1.9**
PSBE So Bento 77.01 47 *e*P **P** **10 19 59.3 +0.7**
comp=Z,272nm,1.8s
PSBE *ep*P **pP** **10 20 30.9 +1.5**
WTLY Watson Lake, Y 77.05 336 P **P** **10 19 59.0 +0.6**
baz=127,SNR=12
WRGLY Wrigley 77.06 340 P **P** **10 19 58.9 +0.5**
baz=132,SNR=35
WRGLY S **S** **10 29 37.2 +0.3**
baz=132
PVAQ Vaqueiros 77.17 50 *e*P **P** **10 20 00.7 +1.2**
comp=Z,142nm,2.1s
PVAQ *ep*P **pP** **10 20 29.0 -1.3**
PVAQ Vaqueiros 77.17 50 P **P** **10 20 01.3 +1.8**
PBEJ Beja 77.24 49 *e*P **P** **10 20 00.7 +0.8**
comp=Z,179nm,1.9s
PBEJ *ep*P **pP** **10 20 29.1 -1.6**
PBEJ Beja 77.24 49 *e*PP **PP** **10 22 56.1 +0.4**
EVO Evora 77.28 49 P **P** **10 19 59.3 -0.8**
EVO S **S** **10 29 39.4 -1.0**
EVO Evora 77.28 49 *e*P **P** **10 19 59.6 -0.5**
comp=Z,178nm,2.0s
EVO *ep*P **pP** **10 20 30.7 -0.2**
PMTG Montargil 77.29 48 *e*P **P** **10 20 00.7 +0.5**
comp=Z,214nm,1.5s
PMTG *ep*P **pP** **10 20 30.9 -0.1**
PCAS Casmilo, Conde 77.40 47 *e*P **P** **10 20 01.3 +0.5**
comp=Z,344nm,2.0s
PCAS *ep*P **pP** **10 20 33.6 +2.0**
COI Coimbra 77.51 47 *e*P **P** **10 20 02.1 +0.8**
comp=Z,573nm,2.0s
COI *ep*P **pP** **10 20 34.1 +1.9**
COI Coimbra 77.51 47 *e*PP **PP** **10 22 57.8 0.0**
COI Coimbra 77.51 47 IAmb IAmb 10 20 04.0
comp=Z,358nm,0.9s
R33M Jennings River 77.53 335 P **P** **10 20 02.1 +0.9**
baz=124,SNR=20
VNA3 Neumayer Olymp 77.53 162 P **P** **10 20 01.5 +0.5**
VNA3 Neumayer Olymp 77.53 162 P'P'df P'P'df 10 47 08.3 +1.4
VNA3 S **S** **10 29 43.5 +1.6**
PTO Porto 77.67 46 *e*P **P** **10 20 03.1 +0.9**
comp=Z,365nm,1.2s
TGTN Hyland Airport 77.70 337 P **P** **10 20 03.2 +1.2**
baz=127,SNR=39
TGTN S **S** **10 29 44.3 +0.3**
baz=127
PESTR Estremoz 77.70 48 *e*P **P** **10 20 02.2 -0.3**
comp=Z,310nm,1.9s
PESTR *ep*P **pP** **10 20 34.4 +1.1**
PESTR Estremoz 77.70 48 P **P** **10 20 03.8 +1.3**
VNA1 Neumayer--Stat 77.77 161 P **P** **10 20 03.2 +1.0**
VNA1 Neumayer--Stat 77.77 161 P'P'df P'P'df 10 47 05.3 -1.1
VNA1 Neumayer--Stat 77.77 161 PKKP **PKKPbc** **10 39 02.1 -4.6**
VNA1 Neumayer--Stat 77.77 161 pP pP 10 20 29.8 -3.7
VNA1 Neumayer--Stat 77.77 161 sP sP 10 20 43.9 -2.7
Q32M Nakina River 77.84 334 P **P** **10 20 04.1 +1.0**
baz=123
PBAR Barrancos 77.91 49 *e*P **P** **10 20 04.4 +0.8**
comp=Z,144nm,1.7s
PBAR *ep*P **pP** **10 20 32.4 -2.1**
RSA Sarsar 77.92 53 P **P** **10 20 07.0 +3.1**
PMRV Marv??o 78.02 48 *e*P **P** **10 20 04.3 +0.1**
comp=Z,113nm,1.8s
PMRV *ep*P **pP** **10 20 35.4 +0.3**
PVIS Viseu 78.04 47 *e*P **P** **10 20 04.5 +0.1**
comp=Z,213nm,1.1s
SFS San Fernando 78.06 51 P **P** **10 20 05.6 +1.1**
SFS San Fernando 78.06 51 IAmb IAmb 10 20 08.3
comp=Z,350nm,0.9s
CZD Col de Zad 78.07 55 P **P** **10 20 07.0 +2.0**
PCBR Castelo Branco 78.08 47 *e*P **P** **10 20 04.8 +0.3**
comp=Z,153nm,1.6s
PCBR *ep*P **pP** **10 20 37.3 +1.9**
S32K Killisnoo 78.08 332 P **P** **10 20 04.9 +0.8**
baz=121
IFR Ifrane 78.12 54 P **P** **10 20 05.1 -0.1**
IFR S **S** **10 29 53.4 +3.5**
VNA2 Neumayer--Watz 78.12 162 P **P** **10 20 04.8 +0.5**
baz=294,slow=5.4
VNA2 Neumayer--Watz 78.12 162 P'P'df P'P'df 10 47 04.6 -1.2
VNA2 Neumayer--Watz 78.12 162 PKKP **PKKPbc** **10 39 01.4 -4.5**
VNA2 S **S** **10 29 49.3 +1.0**
PGAV Gavieira, Arco 78.17 45 *e*P **P** **10 20 05.4 +0.3**
comp=Z,228nm,1.7s
MTE Manteigas 78.20 47 *e*P **P** **10 20 05.4 +0.1**
comp=Z,170nm,2.5s
SIT Sitka 78.22 332 P **P** **10 20 05.8 +0.9**
baz=120
PCAB Cabril 78.26 46 *e*P **P** **10 20 06.1 +0.6**
comp=Z,230nm,2.1s
PCAB *ep*P **pP** **10 20 35.3 -1.1**
POLO Lamas de Olo 78.32 46 *e*P **P** **10 20 06.4 +0.4**
comp=Z,95nm,2.3s
POLO Lamas de Olo 78.32 46 *e*PP **PP** **10 23 04.1 -0.6**
PVRL Vila Real 78.34 46 *e*P **P** **10 20 06.3 +0.3**
comp=Z,175nm,1.3s
PVRL Vila Real 78.34 46 *e*PP **PP** **10 23 05.5 +0.6**
CHEFC Chefchaouen 78.36 53 P **P** **10 20 09.1 +2.7**
MDT Midelt 78.37 55 P **P** **10 20 08.1 +1.6**
comp=Z,38nm,0.8s,baz=273,slow=5.0,SNR=63
MDT LR LR 10 50 11.3
comp=Z,769nm,21.4s,baz=309,slow=32
comp=Z,38nm,0.8s
MDT Midelt 78.37 55 P **P** **10 20 08.4 +2.0**
LCRM LCR 78.38 54 P **P** **10 20 09.0 +2.4**
R32K Eaglecrest 78.47 333 P **P** **10 20 06.9 +0.6**
baz=121,SNR=7.5
SMIR Smir Dam 78.48 52 P **P** **10 20 09.0 +2.1**
CEU Ceuta 78.55 52 P **P** **10 20 08.5 +1.3**
CEU S **S** **10 29 57.8 +3.8**
NUUG Nuugaatsiaq 78.56 8⇓*i*P **P** **10 20 06.8 +0.3**
NUUG IAmb IAmb 10 20 08.3
comp=Z,132nm,1.3s
P33M Teslin, Yukon 78.76 335 P **P** **10 20 08.3 +0.4**
baz=123,SNR=15
P33M S **S** **10 29 56.9 +1.4**
baz=123
MVO Moncorvo 78.80 46 *e*P **P** **10 20 09.1 +0.5**
comp=Z,208nm,1.3s
P32M Atlin 78.81 334 P **P** **10 20 08.4 +0.2**
baz=122,SNR=5.8
ICESG Greenland Ices 78.83 13⇓*i*P **P** **10 20 08.3 -0.2**
ICESG IAmb IAmb 10 20 09.4
comp=Z,357nm,1.0s
PBRG Braganca 79.20 46 *e*P **P** **10 20 11.0 +0.3**
comp=Z,236nm,1.7s
PBRG *ep*P **pP** **10 20 42.4 +0.7**
PVLZ Peæn de 79.20 53 P **P** **10 20 09.4 -1.4**
PVLZ S **S** **10 30 00.9 -0.1**
UPNV Upernavik 79.37 6 *i*P **P** **10 20 10.7 -0.2**
UPNV IAmb IAmb 10 20 13.2

comp=Z,151nm,1.3s
N32M Quiet Lake 79.38 336 P **P** **10 20 11.7 +0.5**
baz=123
N32M S **S** **10 30 02.4 +0.5**
baz=123
AKLM AKL 79.39 54 P **P** **10 20 13.4 +1.5**
SKAG Skagway 79.44 334 P **P** **10 20 12.1 +0.6**
baz=120,SNR=5.8
MMPY Sheldon Lake, 79.48 338 P **P** **10 20 12.5 +0.7**
baz=125,SNR=24
PALE Palemas 79.50 53 P **P** **10 20 15.0 +2.5**
SNAA Sanae 79.74 162 P **P** **10 20 13.6 +0.5**
SNAA S **S** **10 30 06.3 +0.8**
SNAA Sanae 79.74 162 P **P** **10 20 13.5 +0.5**
SNAA IAmb IAmb 10 20 15.5
comp=Z,242nm,1.1s
SNAA Sanae 79.74 162 P **P** **10 20 13.5 +0.4**
SNAA pmax pmax
comp=Z,242nm,1.1s
WHY Whitehorse 79.86 335 P **P** **10 20 14.5 +0.5**
WHY IAmb IAmb 10 20 16.4
comp=Z,437nm,2.1s
WHY Whitehorse 79.86 335 P **P** **10 20 14.3 +0.3**
baz=121,SNR=9.6
WHY S **S** **10 30 08.0 +0.8**
baz=121
PLBC Pleasant Camp 79.90 333 P **P** **10 20 15.1 +1.1**
baz=120,SNR=6.1
FARO Faro, Yukon 80.07 337 P **P** **10 20 15.5 +0.6**
baz=123,SNR=18
FARO S **S** **10 30 10.8 +1.6**
baz=123
GOG Mont Gurugu 80.25 53 P **P** **10 20 19.0 +2.4**
TOA0 Torodi Ar. Sit 80.29 76 P **P** **10 20 17.2 +0.2**
TOA0 Torodi Ar. Sit 80.29 76 P **P** **10 20 17.3 +0.2**
TORD Torodi Ar. Bea 80.29 76 P **P** **10 20 17.3 +0.2**
comp=Z,91nm,0.7s,baz=294,slow=6.3,SNR=331
TORD pP **pP** **10 20 48.3 +0.2**
comp=Z,45nm,0.5s,baz=287,slow=5.0,SNR=3.3
TORD S **S** **10 30 12.1 -1.1**
comp=Z,1.3nm,0.9s,baz=284,slow=12,SNR=5.2
TORD PKPPKP **P'P'df** **10 47 03.2 -1.4**
comp=Z,0.6nm,0.8s,baz=124,slow=0.6,SNR=2.6
TORD LR LR 10 54 20.4
comp=Z,785nm,18.5s,baz=239,slow=34
comp=Z,91nm,0.7s
TORD Torodi Ar. Bea 80.29 76 P **P** **10 20 17.3 +0.2**
PAB San Pablo 80.31 48 P **P** **10 20 16.9 +0.1**
PAB San Pablo 80.31 48 P **P** **10 20 16.9 +0.1**
PAB pmax pmax
comp=Z,71nm,0.9s
PAB San Pablo 80.31 48 P **P** **10 20 18.1 +1.3**
WMELI Melilla 80.31 53 P **P** **10 20 15.6 -1.2**
WMELI S **S** **10 30 13.7 +1.1**
JBK JBK 80.39 54 P **P** **10 20 19.0 +1.5**
O30N Mendenhall 80.43 335 P **P** **10 20 17.8 +0.9**
baz=120,SNR=15
M31M Drury Creek, Y 80.47 336 IAmb IAmb 10 20 20.1
comp=Z,426nm,1.9s
M31M Drury Creek, Y 80.47 336 P **P** **10 20 17.8 +0.8**
baz=122,SNR=16
M31M S **S** **10 30 13.2 -0.1**
baz=122
P30M Million Dollar 80.49 334 P **P** **10 20 18.3 +1.0**
baz=119
P30M S **S** **10 30 15.2 +1.6**
baz=119
P29M Windy Craggy 80.59 333 IAmb IAmb 10 20 21.7
comp=Z,346nm,1.9s
P29M Windy Craggy 80.59 333 P **P** **10 20 18.4 +0.6**
baz=118,SNR=5.6
P29M S **S** **10 30 16.0 +1.3**
baz=118
TAF Taforalt 80.62 53 P **P** **10 20 21.0 +2.4**
ESDC Sonseca Array 80.63 48 P **P** **10 20 19.3 +0.9**
comp=Z,34nm,0.8s,baz=258,slow=6.1,SNR=191
comp=Z,34nm,0.8s
ESBB Sonseca Array 80.63 48 IAmb IAmb 10 20 21.5
comp=Z,496nm,2.0s
N31M Braeburn, Yuko 80.66 335 IAmb IAmb 10 20 53.4
comp=Z,345nm,1.9s
N31M Braeburn, Yuko 80.66 335 P **P** **10 20 18.7 +0.6**
baz=120,SNR=11
N31M S **S** **10 30 16.4 +1.0**
baz=120
CHAS Isla Isabel II 80.69 53 P **P** **10 20 17.9 -0.9**
CHAS S **S** **10 30 18.2 +1.6**
RES Resolute Bay 80.90 355 P **P** **10 20 19.0 -0.1**
comp=Z,26nm,0.8s,baz=171,slow=9.4,SNR=5.2
RES LR LR 10 57 26.4
comp=Z,1μm,21.8s,baz=160,slow=36
comp=Z,26nm,0.8s
RES Resolute Bay 80.90 355 P **P** **10 20 19.0 -0.1**
FIGM Figuig 80.96 56 P **P** **10 20 23.0 +2.5**
HYT Haines Junctio 81.06 334 IAmb IAmb 10 20 23.7
comp=Z,370nm,1.9s
HYT Haines Junctio 81.06 334 P **P** **10 20 21.6 +1.3**
baz=119,SNR=9.6
HYT S **S** **10 30 22.8 +3.1**
baz=119
BORG Borgarnes 81.18 21 P **P** **10 20 21.9 +1.2**
comp=Z,73nm,0.8s,baz=262,slow=3.8,SNR=20
comp=Z,73nm,0.8s
BORG Borgarnes 81.18 21 P **P** **10 20 22.2 +1.6**
BORG Borgarnes 81.18 21 P **P** **10 20 22.3 +1.6**
BORG pmax pmax
comp=Z,2μm,2.8s
N30M Aishikik Lake 81.19 335 P **P** **10 20 22.1 +1.1**
baz=119,SNR=21
N30M S **S** **10 30 24.4 +3.4**
baz=119
O29M Mount Kennedy 81.28 334 P **P** **10 20 22.6 +1.0**
baz=118,SNR=11
O29M S **S** **10 30 24.5 +2.5**
baz=118
RAR Rarotonga 81.30 249 P **P** **10 20 21.5 -0.9**
comp=Z,15nm,0.7s,baz=25,slow=19,SNR=2.6
RAR LR LR 10 46 35.0
comp=Z,499nm,19.3s,baz=94,slow=28
comp=Z,15nm,0.7s
UCM Universidad Co 81.33 48 P **P** **10 20 22.2 +0.1**
UCM S **S** **10 30 27.9 +4.9**
PNL Peninsula 81.36 333 P **P** **10 20 22.8 +0.9**
baz=117,SNR=7.0
PNL S **S** **10 30 24.7 +2.1**
baz=117
C36M Paulatuk 81.39 345 P **P** **10 20 20.4 -1.3**
baz=132
TROLL Troll, Antarti 81.46 162 P **P** **10 20 23.1 +0.7**
TROLL Troll, Antarti 81.46 162 P'P'df P'P'df 10 46 58.8 -1.1
TROLL Troll, Antarti 81.46 162 PKKP **PKKPbc** **10 38 54.1 -4.6**
TROLL S **S** **10 30 24.3 +0.8**
YUK6 Outpost Mounta 81.49 334 P **P** **10 20 23.7 +0.9**
baz=118,SNR=16
KHLU Kahalu`u 81.49 291 P **P** **10 20 24.1 +0.6**
KHLU IAmb IAmb 10 20 58.6
comp=Z,241nm,1.1s
BCPM Bancas Point 81.59 333 P **P** **10 20 23.4 +0.4**
M30M Minto, Yukon 81.62 336 P **P** **10 20 23.6 +0.4**
baz=120,SNR=23
M30M S **S** **10 30 25.5 +0.2**
baz=120
MAYO Mayo, Yukon 81.78 337 P **P** **10 20 24.4 +0.4**
baz=121,SNR=8.7
MAYO S **S** **10 30 27.4 +0.7**
baz=121
YUK4 Talbot Arm 81.80 335 P **P** **10 20 25.4 +1.0**
baz=118,SNR=7.2
SUMG Summit 81.83 11 P **P** **10 20 24.9 +0.4**
SUMG IAmb IAmb 10 20 26.2
comp=Z,220nm,1.0s
SUMG Summit 81.83 11 P **P** **10 20 24.9 +0.4**
SUMG pmax pmax
comp=Z,220nm,1.0s
SUMG Summit 81.83 11 *i* P **P** **10 20 25.2 +0.7**
SUMG IAmb IAmb 10 20 26.5
comp=Z,241nm,1.0s
PINM Pinnacle 81.94 333 P **P** **10 20 25.5 +0.6**
baz=116
TULEG Thule 82.15 2 *i* P **P** **10 20 26.0 +0.4**
TULEG IAmb IAmb 10 20 27.7
comp=Z,202nm,1.1s
O28M Mount Upton 82.21 334 P **P** **10 20 27.6 +1.0**
baz=116,SNR=10
M29M Somme Creek 82.24 336 P **P** **10 20 27.3 +0.8**
baz=118,SNR=53
M29M S **S** **10 30 32.3 +0.5**
baz=118
CART Cartagena 82.37 51 P **P** **10 20 25.2 -2.3**
CART S **S** **10 30 29.3 -4.5**
L29M L29M 82.42 336 P **P** **10 20 27.7 +0.3**
baz=118
K29M Barlow Dome 82.53 337 P **P** **10 20 28.4 +0.3**
baz=119,SNR=41
K29M S **S** **10 30 35.7 +1.0**
baz=119
LOGN Logan Glacier 82.59 334 IAmb IAmb 10 20 31.3
comp=Z,426nm,1.8s
MESA MESA 82.74 333 P **P** **10 20 29.9 +0.6**
baz=115
YUK3 Moose Creek 82.77 335 P **P** **10 20 29.9 +0.5**
baz=116,SNR=23
YUK3 S **S** **10 30 37.7 +0.3**
baz=116
CTG Chitna Glacier 82.80 334 P **P** **10 20 30.2 +0.7**
baz=115,SNR=22
F31M Tsiigehtchic 83.05 341 P **P** **10 20 30.6 +0.1**
baz=123,SNR=53
F31M S **S** **10 30 40.0 +0.6**
baz=123
J29M Klondike Camp 83.10 337 IAmb IAmb 10 20 33.8
comp=Z,863nm,2.2s
J29M Klondike Camp 83.10 337 P **P** **10 20 31.6 +0.7**
baz=118
J29M S **S** **10 30 41.1 +0.8**
baz=118
SNH Sunshine Point 83.14 333 IAmb IAmb 10 20 35.3
comp=Z,151nm,1.1s
BVCY Beaver Creek 83.22 335 P **P** **10 20 32.3 +0.8**
baz=116,SNR=16
BVCY S **S** **10 30 44.0 +2.5**
baz=116
BGLC Bering Glacier 83.33 333 P **P** **10 20 33.0 +1.0**
baz=113
DAWY Dawson 83.37 337 P **P** **10 20 32.2 -0.1**
baz=117,SNR=58
DAWY S **S** **10 30 44.3 +1.3**
baz=117
TGL Tana Glacier 83.38 333 IAmb IAmb 10 20 35.9
comp=Z,183nm,1.2s
HTL Hartland 83.44 37 *eP* **P** **10 20 33.9 +1.1**
A36M Sachs Harbour 83.46 346 P **P** **10 20 32.0 -0.4**
baz=132,SNR=13
INK Inuvik 83.46 342 PKKPbc PKKPbc 10 38 49.9 -4.3
comp=Z,6.4nm,1.0s,baz=327,slow=3.2,SNR=5.8
INK LR LR 11 01 57.0
comp=Z,968nm,18.1s,baz=116,slow=39
INK Inuvik 83.46 342 IAmb IAmb 10 20 35.7
comp=Z,199nm,1.0s
INK Inuvik 83.46 342 P **P** **10 20 32.8 +0.2**
baz=123,SNR=79
INK S **S** **10 30 43.7 +0.1**
baz=123
EPYK Eagle Plains 83.49 339 P **P** **10 20 32.7 -0.1**
baz=120,SNR=34
EPYK S **S** **10 30 45.1 +1.0**
baz=120
SUCK Suckling Hills 83.53 332 IAmb IAmb 10 20 36.4
comp=Z,507nm,1.6s
I29M Ogilvie Camp, 83.56 338 P **P** **10 20 33.3 +0.1**
baz=118,SNR=46
I29M S **S** **10 30 45.9 +1.0**
baz=118
RSBS Rosebush, Pemb 83.58 36 *eP* **P** **10 20 33.7 +0.2**
DYA Yadsworthy 83.62 38 *eP* **P** **10 20 34.2 +0.5**
BERG Berg Lake 83.62 333 IAmb IAmb 10 20 37.4
comp=Z,223nm,1.1s
M27K Edge Creek, AK 83.62 335 P **P** **10 20 34.4 +0.6**
baz=115,SNR=44
M27K S **S** **10 30 48.0 +2.2**
baz=115
MCARA McCarthy VSAT 83.72 334 IAmb IAmb 10 21 10.6
comp=Z,211nm,1.1s
MCARA McCarthy VSAT 83.72 334 P **P** **10 20 34.9 +0.9**
baz=114,SNR=25
MCARA S **S** **10 30 46.7 +0.2**
baz=114
KIP Kipapa 83.73 292 *d i* P **P** **10 20 36.2 +1.2**
KIP pmax pmax
comp=Z,131nm,1.6s
KAIM Kayak Island 83.77 332 IAmb IAmb 10 21 30.5
comp=Z,167nm,1.1s
KAIM Kayak Island 83.77 332 P **P** **10 20 35.5 +1.2**
baz=112
KAIM S **S** **10 30 49.6 +2.5**
baz=112
CLGH Cloghs, Cushen 83.78 33 *eP* **P** **10 20 34.6 +0.2**
CLGH IAmb IAmb 10 20 36.4
comp=Z,197nm,1.3s
L27K Beaver Creek, 83.90 336 P **P** **10 20 35.5 +0.5**
baz=115,SNR=110
L27K S **S** **10 30 51.6 +3.2**
baz=115
RAGM Ragged Mountai 84.07 332 IAmb IAmb 10 20 39.5
comp=Z,408nm,1.8s
GLB Gilahina Butte 84.09 334 IAmb IAmb 10 20 38.3
comp=Z,485nm,1.8s
M26K Nabesna, AK 84.12 335 IAmb IAmb 10 20 38.3
comp=Z,672nm,2.2s
M26K Nabesna, AK 84.12 335 P **P** **10 20 36.1 +0.1**
baz=114,SNR=27
M26K S **S** **10 30 50.9 +0.4**
baz=114
WPS Cemaes, Angles 84.15 35 *eP* **P** **10 20 36.4 0.0**
WPS IAmb IAmb 10 20 38.4
comp=Z,976nm,2.3s
WLF1 Llynfaes 84.18 35 *eP* **P** **10 20 36.9 +0.4**
NEEM North Greenlan 84.19 6 *i* P **P** **10 20 37.4 +0.9**
NEEM IAmb IAmb 10 20 38.8
comp=Z,469nm,1.2s
BMRM Bremner River 84.26 333 IAmb IAmb 10 20 40.3
comp=Z,460nm,1.7s
BMRM Bremner River 84.26 333 P **P** **10 20 37.0 +0.1**
baz=112,SNR=16
BMRM S **S** **10 30 52.3 +0.3**
baz=112
WME Myndd Eilian 84.27 35 *eP* **P** **10 20 37.6 +0.7**
YLL Llanberis 84.27 35 *eP* **P** **10 20 36.7 -0.3**
WIM Isle of Man 84.28 34 *eP* **P** **10 20 37.3 +0.2**
NVL N'lazarevskaya 84.35 161 *i P* **P** **10 20 38.7 +1.6**
NVL *e* PPP PPP 10 25 53.0
NVL *e* S **S** **10 30 47.3 -5.3**
NVL *e* SS **SS** **10 36 26.8 +2.0**
NVL pmax pmax
comp=Z,308nm,1.1s
NVL MLR MLR
comp=Z,672nm,21.0s
JVM Valle D.L. Mar 84.36 39 *eP* **P** **10 20 38.0 +0.5**
EGAK Eagle 84.37 337 IAmb IAmb 10 20 40.5
comp=Z,310nm,1.4s
EGAK Eagle 84.37 337 P **P** **10 20 37.4 +0.1**
baz=116,SNR=66
EGAK S **S** **10 30 53.7 +0.9**
baz=116
JSA Saint Aubin 84.37 40 *eP* **P** **10 20 38.0 +0.5**
JSA IAmb IAmb 10 20 39.6
comp=Z,214nm,1.1s
IOMK Kirk Michael 84.38 34 *eP* **P** **10 20 37.5 +0.1**
IOMK IAmb IAmb 10 20 39.6
comp=Z,4μm,2.3s
K27K Chicken 84.41 336 P **P** **10 20 38.5 +1.0**
baz=115
K27K S **S** **10 30 55.5 +2.2**
baz=115
QSPA South Pole Qui 84.49 180 PKKP **PKKPbc** **10 38 47.2 -4.9**
comp=Z,3.9nm,0.6s,baz=304,slow=1.4,SNR=22
QSPA LR LR 10 54 43.0
comp=Z,826nm,19.2s,baz=152,slow=33
QSPA South Pole Qui 84.49 180 P **P** **10 20 39.0 +1.0**
QSPA IAmb IAmb 10 20 40.1
comp=Z,168nm,0.9s
N25K Chitina, Valde 84.50 334 IAmb IAmb 10 20 40.5
comp=Z,387nm,1.8s
N25K Chitina, Valde 84.50 334 P **P** **10 20 38.5 +0.4**
baz=112,SNR=16
N25K S **S** **10 30 53.9 -0.5**
baz=112
Q23K Middleton Isla 84.50 331 P **P** **10 20 37.9 -0.1**
baz=111
L26K Log Cabin Wild 84.52 335 IAmb IAmb 10 20 40.3
comp=Z,470nm,1.9s
L26K Log Cabin Wild 84.52 335 P **P** **10 20 38.3 +0.2**
baz=114,SNR=29
L26K S **S** **10 30 55.8 +1.3**
baz=114
LAWE Loch Awe, Argy 84.54 32 *eP* **P** **10 20 38.5 +0.2**
EYAK Cordova Ski Ar 84.62 332 IAmb IAmb 10 20 41.0
comp=Z,641nm,2.3s
EYAK Cordova Ski Ar 84.62 332 P **P** **10 20 38.9 +0.3**
baz=111
MCH1 Michaelchurch 84.62 37 *eP* **P** **10 20 38.6 -0.2**
MCH1 IAmb IAmb 10 20 40.3
comp=Z,118nm,0.8s
MENT Mentasta 84.64 335 IAmb IAmb 10 20 39.7
comp=Z,259nm,1.8s
MONM Monmouth 84.69 37 *eP* **P** **10 20 39.2 +0.1**
FOEL Foel Wylfa 84.75 36 *eP* **P** **10 20 38.5 -0.9**
KPL Plockton 84.75 31 *eP* **P** **10 20 40.0 +0.7**
OLDB Oldbury-Upon-S 84.80 37 *eP* **P** **10 20 39.6 0.0**
NEWG New Galloway 84.82 33 *eP* **P** **10 20 38.5 -1.2**
HLM1 Long Mynd 84.84 36 *eP* **P** **10 20 39.8 -0.1**
HLM1 IAmb IAmb 10 20 41.6
comp=Z,2μm,2.4s
DIV Divide 84.84 333 IAmb IAmb 10 20 41.8
comp=Z,232nm,1.6s
PGBU Glenifferbraes 84.89 33 *eP* **P** **10 20 40.5 +0.5**
I27K Kandik River 84.91 338 P **P** **10 20 40.3 +0.3**
baz=116,SNR=26
I27K S **S** **10 30 57.5 -0.8**
baz=116
KAC Achnashellach 84.99 31 *eP* **P** **10 20 40.7 +0.2**
HARP HAARP 85.04 334 P **P** **10 20 40.9 +0.2**
baz=112,SNR=12
HARP S **S** **10 31 00.1 +0.5**
baz=112
KLU Klutina 85.04 333 IAmb IAmb 10 20 44.0
comp=Z,264nm,1.5s
KLU Klutina 85.04 333 P **P** **10 20 40.7 -0.1**
baz=111,SNR=24
KLU S **S** **10 30 59.1 -0.8**
baz=111
H27K Steamboat Moun 85.14 338 P **P** **10 20 40.9 -0.2**
baz=116,SNR=43
H27K S **S** **10 30 59.6 -1.0**
baz=116
SCRK Sand Creek 85.16 336 IAmb IAmb 10 20 43.8
comp=Z,1μm,2.6s
SCRK Sand Creek 85.16 336 P **P** **10 20 41.4 0.0**
baz=113,SNR=59
SCRK S **S** **10 31 01.8 +0.9**
baz=113
J26L Joseph Creek 85.20 337 P **P** **10 20 41.6 +0.1**
baz=114,SNR=66
J26L S **S** **10 31 01.8 +0.5**
baz=114
SWN1 Swindon 85.21 37 *eP* **P** **10 20 41.9 +0.1**
INVG Invergeldie, C 85.31 32 *eP* **P** **10 20 41.7 -0.4**
GLI Glacier Island 85.36 333 P **P** **10 20 41.2 -1.1**
baz=110
GLI S **S** **10 31 01.5 -1.3**
baz=110
I26K Coal Creek Min 85.36 337 IAmb IAmb 10 20 44.1
comp=Z,682nm,2.3s
I26K Coal Creek Min 85.36 337 P **P** **10 20 41.9 -0.3**
baz=114
I26K S **S** **10 31 02.0 -0.7**
baz=114
M24K Tolsona, Glenn 85.38 334 P **P** **10 20 42.9 +0.5**
baz=111,SNR=21
M24K S **S** **10 31 03.3 +0.3**
baz=111
STNC Stoke 85.39 36 *eP* **P** **10 20 43.1 +0.6**
PAX Paxson 85.39 335 P **P** **10 20 42.2 -0.3**
baz=112,SNR=55
PAX S **S** **10 31 02.5 -0.7**
baz=112
RIDG Independent Ri 85.42 336 P **P** **10 20 42.7 +0.1**
baz=112,SNR=14
RIDG S **S** **10 31 03.3 -0.1**
baz=112
ESK Eskdalemuir 85.44 33 *eP* **P** **10 20 42.9 +0.1**
ESK IAmb IAmb 10 20 44.7
comp=Z,984nm,2.1s
ESK Eskdalemuir 85.44 33 P **P** **10 20 43.2 +0.4**
ESK Eskdalemuir 85.44 33 P **P** **10 20 43.2 +0.4**
G27K Doyon Strip 85.44 339 P **P** **10 20 42.1 -0.5**
baz=116,SNR=37
G27K S **S** **10 31 02.1 -1.3**
baz=116
EKA Eskdalemuir Ar 85.47 33 P **P** **10 20 43.0 +0.1**
comp=Z,20nm,0.6s,baz=249,slow=4.1,SNR=99
comp=Z,20nm,0.6s
EBL Broad Law 85.66 33 *eP* **P** **10 20 43.5 -0.3**
EUNU Eureka 85.69 358 IAmb IAmb 10 20 48.0
comp=Z,274nm,1.3s
SCM Sheep Creek Mo 85.79 333 IAmb IAmb 10 20 45.6
comp=Z,370nm,1.6s
SCM Sheep Creek Mo 85.79 333 P **P** **10 20 44.7 +0.2**
baz=110,SNR=16
SCM S **S** **10 31 05.8 -1.3**
baz=110
CWF Charnwood Fore 85.82 36 *eP* **P** **10 20 44.0 -0.7**
K24K Donnelly Dome 85.83 335 P **P** **10 20 44.6 0.0**
baz=112,SNR=19
K24K S **S** **10 31 06.7 -0.7**
baz=112
EDU Dundee 85.89 32 *eP* **P** **10 20 45.7 +0.7**
PWL Port Wells 85.92 332 IAmb IAmb 10 21 19.5
comp=Z,217nm,1.6s
PWL Port Wells 85.92 332 P **P** **10 20 44.7 -0.4**
baz=109,SNR=10
PWL S **S** **10 31 06.7 -1.7**
baz=109
ESY Stoneypath 85.93 33 *eP* **P** **10 20 45.4 +0.2**
HPK Haverah Park 85.95 35 *eP* **P** **10 20 46.1 +0.8**
M23K Glacier View 85.96 333 P **P** **10 20 45.0 -0.2**
baz=110,SNR=17
M23K S **S** **10 31 07.3 -1.4**
baz=110
J25K Salcha River, 85.96 336 P **P** **10 20 45.5 +0.2**
J25K Salcha River, 85.96 336 P **P** **10 20 45.1 -0.2**
baz=112,SNR=72
J25K S **S** **10 31 08.6 -0.1**
baz=112
EDMD Edmundbyers 85.99 34 *eP* **P** **10 20 46.0 +0.5**
BIGH Upper Bighouse 86.00 30 *eP* **P** **10 20 45.8 +0.3**
E27K Coleen River 86.02 340 P **P** **10 20 45.4 -0.1**
baz=116,SNR=54
E27K S **S** **10 31 07.6 -1.4**
baz=116
MCD Coleburn Disti 86.06 31 *eP* **P** **10 20 46.0 +0.2**
KNK Knik Glacier 86.16 333 IAmb IAmb 10 20 48.4
comp=Z,646nm,2.0s
KNK Knik Glacier 86.16 333 P **P** **10 20 46.4 +0.2**
baz=109,SNR=12
KNK S **S** **10 31 09.6 -1.1**
baz=109
SEW Seward 86.21 331 IAmb IAmb 10 20 48.2
comp=Z,736nm,2.4s
SEW Seward 86.21 331 P **P** **10 20 46.2 -0.2**
baz=108,SNR=5.3
SEW S **S** **10 31 07.6 -3.4**
baz=108
MLA1 Latheron 86.22 31 *eP* **P** **10 20 46.7 +0.1**
WAT6 Susitna Watana 86.23 334 P **P** **10 20 46.5 -0.3**
baz=110,SNR=50
WAT6 S **S** **10 31 09.3 -2.3**
baz=110
SML Sawmill 86.23 333 P **P** **10 20 46.3 -0.3**
baz=109,SNR=24
SML S **S** **10 31 08.6 -2.8**
baz=109
DHY Denali Highway 86.24 335 IAmb IAmb 10 20 48.7
comp=Z,708nm,2.4s
DHY Denali Highway 86.24 335 P **P** **10 20 46.3 -0.4**
baz=110,SNR=27
DHY S **S** **10 31 09.3 -2.3**
baz=110
G26K Porcupine Rive 86.27 339 P **P** **10 20 46.4 -0.2**
baz=114,SNR=25
G26K S **S** **10 31 10.6 -0.8**
baz=114
DRUM Mains of Drumt 86.28 32 *eP* **P** **10 20 47.2 +0.4**
DRUM IAmb IAmb 10 20 48.1
comp=Z,207nm,1.1s
PRP Porcupine Dome 86.36 337 P **P** **10 20 47.2 -0.1**
baz=112,SNR=40
PRP S **S** **10 31 10.4 -2.3**
baz=112
O22K Cooper Landing 86.45 332 P **P** **10 20 47.4 -0.3**
baz=108

O22K S S 10 31 10.6 -2.8
baz=108
HDA Harding Lake 86.52 336 P P 10 20 47.5 -0.5
baz=110,SNR=46
HDA S S 10 31 12.5 -1.6
baz=110
HDA S S 10 31 12.5 -1.6
baz=110
PMR Palmer 86.52 333 P P 10 20 47.7 -0.3
baz=108,SNR=12
PMR S S 10 31 11.6 -2.5
baz=108
GDLE Glaisdale, N Y 86.53 35 *e*P P 10 20 48.5 +0.3
ILAR Eielson Array 86.63 336 P P 10 20 47.8 -0.6
comp=Z,27nm,0.8s,baz=135,slow=3.3,SNR=101
ILAR pP pP 10 21 19.9 +0.1
comp=Z,19nm,0.9s,baz=131,slow=3.4,SNR=5.1
ILAR PP PP 10 24 13.1 +0.9
comp=Z,4.2nm,0.8s,baz=111,slow=6.6,SNR=4.4
ILAR PKKPbc **PKKPdf** 10 38 42.1 +2.6
comp=Z,0.9nm,0.6s,baz=287,slow=3.2,SNR=9.6
ILAR LR LR 11 02 20.8
comp=Z,1µm,18.3s,baz=93,slow=37
comp=Z,27nm,0.8s
RC01 Rabbit Creek A 86.64 332 P P 10 20 48.6 0.0
baz=108,SNR=9.8
RC01 S S 10 31 13.3 -2.0
baz=108
WAT1 Susitna Watana 86.66 334 P P 10 20 48.6 -0.1
baz=109
WAT1 S S 10 31 13.8 -1.7
baz=109
F26K Sheenjek River 86.69 339 P P 10 20 49.2 +0.5
baz=113,SNR=49
F26K S S 10 31 14.2 -1.4
baz=113
BRSE Bradley Lake S 86.72 331 P P 10 20 48.8 -0.2
baz=107,SNR=6.4
BRSE S S 10 31 13.6 -2.5
baz=107
H25K Birch Creek 86.75 338 P P 10 20 49.8 +0.8
baz=112,SNR=55
H25K S S 10 31 18.0 +1.9
baz=112
MAHO Mahon 86.86 50 P P 10 20 49.2 -0.9
MAHO S S 10 31 19.9 +1.7
CNPM China Poot 86.90 331 IAmb IAmb 10 20 52.0
comp=Z,486nm,2.2s
ELSH Elham, Standar 86.91 38‖ *e*P P 10 20 50.3 +0.2
ELSH IAmb IAmb 10 20 52.1
comp=Z,254nm,0.9s
WACR West Acre 86.96 37‖ *e*P P 10 20 50.3 +0.1
WACR IAmb IAmb 10 20 52.0
comp=Z,518nm,1.0s
CLF Chambon-Foret 86.96 41 IAmb IAmb 10 20 53.2
comp=Z,177nm,0.9s
POKR Poker Plat Res 86.97 336 P P 10 20 50.3 +0.2
baz=110,SNR=23
POKR S S 10 31 16.1 -2.1
baz=110
M22K Willow 87.02 333 IAmb IAmb 10 20 52.2
comp=Z,607nm,2.2s
M22K Willow 87.02 333 P P 10 20 50.5 +0.2
baz=108,SNR=14
M22K S S 10 31 17.5 -1.3
baz=108
ELMS Elmsett, Ipswi 87.03 37‖ *e*P P 10 20 50.8 +0.2
ELMS IAmb IAmb 10 20 52.3
comp=Z,193nm,0.9s
COLA College 87.05 336 P P 10 20 50.2 -0.3
COLA College 87.05 336 *d i*P P 10 20 50.1 -0.3
COLA pmax pmax
comp=Z,311nm,2.0s
COLA College 87.05 336 P P 10 20 50.3 -0.1
baz=110
COLA S S 10 31 16.8 -2.2
baz=110
TCOL CIGO, UAF Yank 87.05 336 P P 10 20 50.3 -0.2
baz=110,SNR=21
TCOL S S 10 31 16.6 -2.5
baz=110
KDAK Kodiak Island 87.10 329 *d i*P P 10 20 50.9 +0.1
KDAK pmax pmax
comp=Z,170nm,2.2s
KDAK Kodiak Island 87.10 329 P P 10 20 51.0 +0.1
baz=105
MCK McKinley 87.12 335 P P 10 20 50.9 0.0
baz=109,SNR=23
MCK S S 10 31 18.0 -1.9
baz=109
HOM Homer 87.13 331 P P 10 20 51.1 +0.2
baz=106
F25K Christian Rive 87.18 339 P P 10 20 51.9 +0.8
baz=112,SNR=51
F25K S S 10 31 19.4 -1.0
baz=112
CAPN Captain Cook N 87.21 332 P P 10 20 52.4 +1.1
baz=106
Q20K Shuyak Island 87.22 330 P P 10 20 51.4 0.0
baz=105
Q20K S S 10 31 20.2 -0.7
baz=105
SUA Susitna One 87.22 333 P P 10 20 51.4 -0.1
baz=107,SNR=6.7
SUA S S 10 31 18.7 -2.4
baz=107
CUT Chulitna 87.28 333 P P 10 20 51.4 -0.2
baz=107,SNR=20
CUT S S 10 31 18.3 -3.1
baz=107
C27K Jago River 87.32 341 P P 10 20 52.2 +0.5
baz=114,SNR=44
C27K S S 10 31 18.9 -2.6
baz=114
OHAK Old Harbor 87.33 328 IAmb IAmb 10 20 53.9
comp=Z,804nm,2.3s
OHAK Old Harbor 87.33 328 P P 10 20 51.8 -0.1
baz=104
OHAK S S 10 31 20.7 -1.2
baz=104
E25K Arctic Village 87.35 340 P P 10 20 52.6 +0.7
baz=112,SNR=52
E25K S S 10 31 21.1 -0.9
baz=112
H24K Noodor Dome 87.39 337 P P 10 20 52.4 +0.2
baz=110,SNR=86
H24K S S 10 31 21.4 -0.9
baz=110
NEA2 Nenana 87.45 336 P P 10 20 52.2 -0.2
baz=109,SNR=140
NEA2 S S 10 31 21.7 -1.2
baz=109
G24K Hadweenzic Riv 87.53 338 P P 10 20 53.2 +0.4
baz=110,SNR=87
G24K S S 10 31 23.4 -0.2
baz=110
TRF Thorofare Moun 87.61 334 P P 10 20 53.2 -0.2
baz=107,SNR=49
TRF S S 10 31 23.3 -1.5
baz=107
SII Sitkinak Islan 87.64 327 P P 10 20 53.6 +0.1
baz=104
O20K Slope Mountain 87.72 331 P P 10 20 53.6 -0.3
baz=105,SNR=7.5
O20K S S 10 31 24.8 -1.1
baz=105
SKT Skwentna 87.73 333 P P 10 20 53.5 -0.3
baz=106,SNR=113
SKT S S 10 31 24.8 -0.9
baz=106
C26K Camden Bay 87.82 341 P P 10 20 54.8 +0.8
baz=113,SNR=14
C26K S S 10 31 24.8 -1.4
baz=113
N20K Mount Spurr 87.83 332 P P 10 20 53.8 -0.6
baz=106,SNR=16
N20K S S 10 31 22.4 -4.4
baz=106
SPCR Spurr Chakacha 87.83 332 P P 10 20 53.9 -0.5
baz=106,SNR=8.6
SPCR S S 10 31 23.5 -3.3
baz=106
P19K Oil Pt 87.91 330 IAmb IAmb 10 20 56.8
comp=Z,777nm,2.4s
P19K Oil Pt 87.91 330 P P 10 20 54.4 -0.4
baz=105
P19K S S 10 31 24.5 -3.0
baz=105

Q19K Cape Douglas, 87.93 330 P P 10 20 54.9 0.0
baz=104,SNR=5.4
Q19K S S 10 31 26.0 -1.8
baz=104
ILSW Iliamna Southw 87.95 331 IAmb IAmb 10 20 56.4
comp=Z,1µm,2.6s
F24K Squaw Lake 87.96 339 P P 10 20 55.6 +0.8
baz=110,SNR=63
F24K S S 10 31 26.8 -1.0
baz=110
H23K Yukon River 88.03 337 P P 10 20 55.1 0.0
baz=108,SNR=58
H23K S S 10 31 28.0 -0.5
baz=108
D25K Kavik River 88.07 341 P P 10 20 55.7 +0.3
baz=111,SNR=69
D25K S S 10 31 25.3 -3.4
baz=111
BPAW Bear Paw Mtn. 88.10 335 P P 10 20 55.3 -0.2
baz=107,SNR=140
BPAW S S 10 31 27.0 -2.2
baz=107
CHIR Chirikof Islan 88.25 326 P P 10 20 56.5 +0.1
baz=102
MLY Manley 88.27 336 IAmb IAmb 10 20 59.0
comp=Z,103nm,0.9s
MLY Manley 88.27 336 P P 10 20 56.1 -0.2
baz=107,SNR=105
MLY S S 10 31 29.1 -1.7
baz=107
E24K Your Creek 88.36 339 P P 10 20 57.3 +0.5
baz=109,SNR=68
E24K S S 10 31 31.7 +0.2
baz=109
JMIC Jan Mayen 88.39 18 *e*P P 10 20 57.4 +0.7
JMIC *e*SKSac **SKSac** 10 31 14.2 +0.3
M20K Styx River 88.43 333 P P 10 20 56.8 -0.5
baz=105,SNR=41
M20K S S 10 31 30.3 -2.2
baz=105
G23K Bananza Creek 88.49 338 P P 10 20 58.1 +0.8
baz=108,SNR=121
G23K S S 10 31 35.4 +2.6
baz=108
DAG Danmarks Havn 88.51 11 *i*P P 10 20 57.8 +0.6
DAG IAmb IAmb 10 20 58.7
comp=Z,172nm,0.8s
O19K Port Alsworth 88.58 331 P P 10 20 57.0 -0.8
baz=104
O19K S S 10 31 31.2 -2.5
baz=104
COLD Coldfoot 88.71 338 IAmb IAmb 10 21 02.3
comp=Z,110nm,1.0s
COLD Coldfoot 88.71 338 P P 10 20 59.1 +0.8
baz=108,SNR=102
COLD S S 10 31 36.2 +1.5
baz=108
E23K Chandalar 88.76 339 P P 10 20 58.9 +0.2
baz=108
H22K Ishtalitna Cre 88.77 337 P P 10 20 58.4 -0.3
baz=106,SNR=23
H22K S S 10 31 33.9 -1.6
baz=106
N19K Bonanza Creek 88.80 331 P P 10 20 58.3 -0.7
baz=104,SNR=19
N19K S S 10 31 33.3 -2.7
baz=104
I21K Tanana 88.81 336 P P 10 20 58.5 -0.3
baz=106,SNR=44
I21K S S 10 31 34.5 -1.3
baz=106
D24K Happy Valley 88.83 340 P P 10 20 59.1 +0.3
baz=109
D24K S S 10 31 35.7 -0.1
baz=109
P18K Big Mountain, 88.84 330 P P 10 20 58.2 -0.9
baz=103
P18K S S 10 31 33.7 -2.6
baz=103
DOU Dourbes 88.86 40 *d*P P 10 20 59.6 +0.3
comp=Z,62nm,1.1s
L20K Farewell, AK 88.92 333 P P 10 20 59.0 -0.5
baz=104,SNR=50
L20K S S 10 31 33.5 -3.5
baz=104
TOLK Toolik Lake Re 88.92 340 P P 10 20 59.5 +0.2
baz=108,SNR=22
TOLK S S 10 31 35.9 -0.9
baz=108
O18K Koktuh Hills 88.93 330 P P 10 20 59.3 -0.2
baz=103,SNR=14
O18K S S 10 31 34.6 -2.5
baz=103
C24K Franklin Bluff 88.97 341 P P 10 21 00.1 +0.6
baz=109
C24K S S 10 31 35.9 -1.2
baz=109
BMRD Maredsous 89.01 39 *d*P P 10 21 00.1 +0.1
comp=Z,38nm,1.1s
M19K Big River Lodg 89.02 332 P P 10 20 59.6 -0.3
baz=104,SNR=52
M19K S S 10 31 35.4 -2.4
baz=104
R17K Ugashik Creek 89.05 328 P P 10 21 00.5 +0.3
baz=102,SNR=9.2
R17K S S 10 31 37.1 -1.2
baz=102
G22K Bettles 89.11 338 P P 10 21 00.8 +0.6
baz=106
G22K S S 10 31 40.3 +1.8
baz=106
K20K Telida 89.22 334 P P 10 21 00.5 -0.3
baz=104,SNR=57
K20K S S 10 31 36.4 -3.3
baz=104
H21K Melozitna Rive 89.27 336 IAmb IAmb 10 21 03.0
comp=Z,658nm,2.5s
H21K Melozitna Rive 89.27 336 P P 10 21 00.6 -0.4
baz=105,SNR=41
H21K S S 10 31 38.4 -1.7
baz=105
RCHB Rochefort 89.27 40 *d*P P 10 21 01.5 +0.2
comp=Z,53nm,1.1s
L19K White Mountain 89.29 333 IAmb IAmb 10 21 03.7
comp=Z,105nm,1.2s
L19K White Mountain 89.29 333 P P 10 21 00.7 -0.5
baz=103,SNR=40
L19K S S 10 31 37.2 -3.3
baz=103
BCLA Clavier 89.36 39 *d*P P 10 21 02.0 +0.2
comp=Z,29nm,1.1s
P17K Kvichak River 89.40 330 P P 10 21 01.5 -0.1
baz=102
P17K S S 10 31 39.2 -2.2
baz=102
Q16K King Salmon 89.41 329 P P 10 21 01.8 +0.1
baz=102,SNR=27
Q16K S S 10 31 39.6 -1.8
baz=102
D23K Nanushuk River 89.41 340 P P 10 21 02.3 +0.7
baz=107,SNR=39
D23K S S 10 31 40.6 -0.6
baz=107
N18K Kilae Creek 89.44 331 P P 10 21 01.6 -0.3
baz=102,SNR=31
N18K S S 10 31 38.1 -3.8
baz=102
J20K Nowinta River 89.45 335 IAmb IAmb 10 21 03.7
comp=Z,426nm,1.9s
J20K Nowinta River 89.45 335 P P 10 21 01.5 -0.3
baz=104,SNR=40
J20K S S 10 31 39.2 -2.5
baz=104
F22K John River 89.53 338 P P 10 21 02.8 +0.6
baz=106,SNR=41
F22K S S 10 31 42.7 +0.2
baz=106
BSTI Sart Tilman 89.56 39 *d*P P 10 21 03.3 +0.6
E22K Anaktuvuk Pass 89.57 339 P P 10 21 02.5 +0.1
baz=106
E22K S S 10 31 41.1 -1.7
baz=106
C23K Itkillik River 89.64 341 P P 10 21 03.2 +0.6
baz=107,SNR=44
C23K S S 10 31 42.3 -1.0
baz=107
BEBN Eben Emael 89.66 39 *d*P P 10 21 03.9 +0.8
comp=Z,97nm,0.9s

R16K Pilot Point 89.67 328 P P 10 21 03.3 +0.4
baz=101
R16K S S 10 31 42.2 -1.7
baz=101
G21K Allakaket 89.77 337 P P 10 21 03.5 +0.2
baz=104
G21K S S 10 31 44.0 -0.7
baz=104
WLF Walferdange 89.78 40 P P 10 21 04.2 +0.4
WLF IAmb IAmb 10 21 06.2
comp=Z,226nm,1.0s
WLF Walferdange 89.78 40 P P 10 21 04.2 +0.4
WLF pmax pmax
comp=Z,225nm,1.0s
WLF Walferdange 89.78 40 *d*P P 10 21 04.5 +0.7
comp=Z,135nm,1.0s
BHOU Houvegnez 89.80 39 *d*P P 10 21 04.2 +0.4
comp=Z,46nm,1.1s
MEM Membach 89.84 39 *d*P P 10 21 04.7 +0.7
comp=Z,29nm,1.2s
O17K Koliganek Bris 89.84 330 P P 10 21 03.5 -0.3
baz=101
O17K S S 10 31 42.6 -2.9
baz=101
CHGN Chignik 89.89 327 P P 10 21 04.0 0.0
baz=100,SNR=5.6
BTNL Ternell 89.91 39 *d*P P 10 21 04.7 +0.3
comp=Z,40nm,1.0s
SBA Scott Base 89.92 191 P P 10 21 05.1 +1.3
SBA Scott Base 89.92 191 P P 10 21 05.1 +1.3
SBA pmax pmax
comp=Z,76nm,1.4s
F21K Alatna River 89.94 338 P P 10 21 04.5 +0.4
baz=105,SNR=26
F21K S S 10 31 46.5 +0.3
baz=105
TTA Tatalina 89.98 333 IAmb IAmb 10 21 06.1
comp=Z,211nm,2.0s
TTA Tatalina 89.98 333 P P 10 21 04.0 -0.5
baz=102,SNR=5.7
TTA S S 10 31 44.3 -2.6
baz=102
SENIN Lac Senin/Sane 90.06 44 IAmb IAmb 10 21 08.1
comp=Z,338nm,2.1s
P16K Nushagak River 90.15 329 P P 10 21 04.8 -0.4
baz=101,SNR=6.9
P16K S S 10 31 46.6 -1.7
baz=101
ECH Echery 90.23 42 IAmb IAmb 10 21 07.7
comp=Z,127nm,0.9s
KEST Kesra 90.25 54 P P 10 21 06.8 +0.4
comp=Z,46nm,0.8s,baz=251,slow=2.3,SNR=45
comp=Z,46nm,0.8s
KEST Kesra 90.25 54 P P 10 21 07.1 +0.7
CNBA Chernabura Isl 90.29 325 IAmb IAmb 10 21 07.9
comp=Z,633nm,2.8s
CHNA Chernabura Isl 90.30 325 P P 10 21 05.4 -0.5
baz=99
CHNA S S 10 31 48.8 -1.0
baz=99
O16K Kokwok River B 90.31 330 P P 10 21 05.8 -0.1
baz=100,SNR=9.9
O16K S S 10 31 46.7 -3.1
baz=100
S14K Fog Glacier 90.51 326 P P 10 21 07.5 +0.5
baz=99
GCSA Galena City Sc 90.73 335 P P 10 21 08.5 +0.7
baz=102,SNR=7.1
GCSA S S 10 31 52.4 -1.1
baz=102
N16K Nishlik Lake 90.80 331 P P 10 21 08.5 +0.2
baz=100,SNR=8.6
N16K S S 10 31 52.7 -1.7
baz=100
SUE Sulen 90.86 29 *e*P P 10 21 08.8 +0.3
SUE *e*SKSac **SKSac** 10 31 29.3 +0.6
SDPT Sand Point 90.88 325 IAmb IAmb 10 21 43.7
comp=Z,117nm,0.8s
SDPT Sand Point 90.88 325 P P 10 21 08.7 +0.1
baz=98,SNR=13
ASK Askoy 90.98 29 *e*P P 10 21 09.6 +0.6
VNDA Vanda 91.00 191 P P 10 21 09.2 +0.4
comp=Z,12nm,0.9s,baz=128,slow=4.3,SNR=42
VNDA LR LR 10 55 39.7
comp=Z,882nm,18.4s,baz=111,slow=31
comp=Z,12nm,0.9s
VNDA Vanda 91.00 191 P P 10 21 10.2 +1.3
VNDA Vanda 91.00 191 P P 10 21 10.2 +1.3
VNDA pmax pmax
comp=Z,90nm,1.6s
BFO Black Forest 91.02 42 P P 10 21 10.2 +0.7
BFO Black Forest 91.02 42 P P 10 21 10.2 +0.7
BFO pmax pmax
comp=Z,37nm,1.0s
BER Bergen 91.03 29 IVmB_BB 10 21 11.0
comp=Z,3µm,3.4s
BER *e*P P 10 21 11.8 +2.6
BER *e*SKSac **SKSac** 10 31 29.4 -0.3
BER *e*ScS **ScS** 10 31 58.6 -0.6
BER IVMs_BB IVMs_BB 10 54 46.3
comp=Z,2µm,3.9s
FOO Floro 91.09 28 *e*P P 10 21 10.0 +0.5
FOO IVmB_BB 10 21 11.4
comp=Z,1µm,3.4s
FOO *e*SKSac **SKSac** 10 31 30.0 0.0
FOO *e*ScS **ScS** 10 32 00.0 +0.3
NOR Nord 91.34 7‖ *i*P P 10 21 10.8 +0.5
NOR IAmb IAmb 10 21 12.4
comp=Z,149nm,1.5s
MSSA Maissana 91.36 46 IAmb IAmb 10 21 14.3
comp=Z,441nm,2.5s
BLS5 Blasjo 91.44 31 *e*P P 10 21 14.0 +2.8
BLS5 *e*pP **pP** 10 21 43.7 +0.9
BLS5 *e*SKSac **SKSac** 10 31 31.4 -0.9
BLS5 *e*ScS **ScS** 10 32 02.5 -0.3
HYA Hoyanger 91.56 29 *e*P P 10 21 14.6 +2.9
ODD1 Odda 91.59 30 *e*P P 10 21 13.6 +1.6
SNART Snartemo 91.67 32 *e*P P 10 21 15.3 +3.0
SNART *e*SKSac **SKSac** 10 31 34.7 +1.3
SNART *e*ScS **ScS** 10 32 05.5 +0.9
DAVOX Davos/Dischmat 91.88 43 P P 10 21 14.6 +0.8
comp=Z,25nm,0.6s,baz=246,slow=4.7,SNR=36
comp=Z,25nm,0.6s
DAVA Damuels 91.94 43 *e*P P 10 21 14.5 +0.5
comp=Z,85nm,1.4s,SNR=27
A21K Barrow 91.96 342 P P 10 21 13.2 -0.1
baz=102
VLC Villacollemand 91.96 46 IAmb IAmb 10 21 15.1
comp=Z,79nm,1.2s
AKN Aaknes 92.09 28 *e*P P 10 21 15.6 +1.4
AKN *e*SKSac **SKSac** 10 31 34.6 -1.2
AKN *e*SP **SP** 10 33 07.7 -8.8
FUORN Ofenpass-Fuorn 92.13 44 IAmb IAmb 10 21 17.5
comp=Z,436nm,2.8s
SALO Salr 92.21 45 IAmb IAmb 10 21 16.9
comp=Z,84nm,0.9s
HOMB Homborsund 92.34 32 *e*P P 10 21 16.1 +0.8
HOMB *e*SKSac **SKSac** 10 31 36.1 -1.1
HOMB *e*ScS **ScS** 10 32 11.1 +0.9
HOMB *e*SS **SS** 10 38 21.9 +0.2
MOL Molde 92.40 27 IVmB_BB 10 21 16.3
comp=Z,1µm,4.7s
MOL *e*P P 10 21 19.2 +3.7
MOL *e*SKSac **SKSac** 10 31 37.1 -0.3
MOL *e*SP **SP** 10 33 20.2 +0.5
TSUM Tsumeb 92.46 109 LR LR 11 02 53.3
comp=Z,2µm,18.1s,baz=286,slow=35
TSUM Tsumeb 92.46 109 P P 10 21 18.0 +1.0
TSUM IAmb IAmb 10 21 20.0
comp=Z,126nm,1.4s
FETA Feichten 92.49 43 *e*P P 10 21 17.1 +0.5
comp=Z,83nm,1.4s,SNR=31
FETA *e*P PP 10 25 00.9 +1.6
comp=Z,36nm,1.8s
MUD Monsted U'grnd 92.49 34 *i*P P 10 21 17.8 +1.7
MUD IAmb IAmb 10 21 18.3
comp=Z,192nm,1.4s
MUD IVmB_BB 10 21 18.5
comp=Z,3µm,3.1s
SKAR Skarslia 92.52 29 *e*P P 10 21 17.4 +1.2
SKAR IVmB_BB 10 21 17.8
comp=Z,2µm,3.2s
SKAR *e*SKSac **SKSac** 10 31 37.4 -0.9
SKAR IVMs_BB IVMs_BB 10 52 50.7
comp=Z,1µm,4.0s
RETA Reutte 92.55 43 *e*P P 10 21 17.2 +0.5

comp=Z,78nm,1.9s,SNR=22
RETA eP PP 10 25 00.7 +1.0
comp=Z,24nm,1.7s
GOET G??ttrup 92.58 33 *i* P P 10 21 18.5 +2.0
MOTA Moosalm 92.77 43 *e*P P 10 21 18.1 +0.2
comp=Z,52nm,0.8s,SNR=27
MOTA eP PP 10 25 02.6 +1.1
comp=Z,36nm,2.2s
SQTA Sankt Quirin 92.83 43 *e*P P 10 21 18.4 +0.3
comp=Z,46nm,0.8s,SNR=28
SQTA eP PP 10 25 01.6 -0.4
comp=Z,31nm,1.4s
TEOL Teolo 92.99 45 IAmb IAmb 10 21 21.0
comp=Z,83nm,0.8s
DOMB Dombas 93.04 28 *e*P P 10 21 21.8 +3.2
DOMB *e*SKSac SKSac 10 31 41.6 +0.5
KONO Kongsberg 93.05 31 *e*P P 10 21 20.1 +1.5
KONO pmax pmax
comp=Z,43nm,1.9s
KONO Kongsberg 93.05 31 *e*P P 10 21 18.9 +0.3
KONO IVmBBB 10 21 21.8
comp=Z,758nm,2.9s
KONO *e* 10 32 50.1
GRFO Grafenberg 93.06 41 P P 10 21 19.3 +0.4
GRFO IAmb IAmb 10 21 21.6
comp=Z,287nm,2.0s
GRFO Grafenberg 93.06 41 P P 10 21 19.3 +0.4
GRFO pmax pmax
comp=Z,287nm,2.0s
GRA1 Grafenberg Arr 93.06 41 IAmb IAmb 10 21 21.6
comp=Z,286nm,2.0s
WATA Walderalm 93.09 43 *e*P P 10 21 19.6 +0.3
comp=Z,98nm,1.6s,SNR=22
WATA eP PP 10 25 03.5 -0.5
comp=Z,30nm,1.7s
WTTA Wattenberg 93.12 43 *e*P P 10 21 20.0 +0.5
comp=Z,53nm,0.8s,SNR=35
WTTA eP PP 10 25 03.9 -0.5
comp=Z,38nm,1.7s
AFI Afiamalu 93.32 256 P P 10 21 22.5 +1.6
comp=Z,16nm,0.8s,baz=75,slow=20,SNR=2.1
AFI LR LR 10 55 17.8
comp=Z,371nm,19.3s,baz=94,slow=30
comp=Z,16nm,0.8s
MURB Monte Urbino 93.43 47 IAmb IAmb 10 21 21.7
comp=Z,51nm,0.9s
SUR Sutherland 93.57 123 LR LR 10 59 57.0
comp=Z,979nm,20.7s,baz=274,slow=33
CIMO Cimolais 93.60 44 IAmb IAmb 10 21 23.5
comp=Z,477nm,2.2s
RDOG Red Dog Mine 93.63 338 P P 10 21 22.0 +0.8
baz=96
OSL Oslo 93.65 30 *e*P P 10 21 21.7 +0.4
OSL *e*SP SP 10 33 31.0 -2.6
ABTA Abfaltersbach 93.68 44 *e*P P 10 21 22.3 +0.4
comp=Z,61nm,1.2s,SNR=30
TBLU Trondheim 93.71 27 *e*P P 10 21 26.0 +4.4
TBLU *e*SKSac SKSac 10 31 45.2 +0.6
NC204 NORSAR Array S 93.78 29 *e*P P 10 21 23.0 +1.0
NAO01 NORSAR Array S 93.80 29 P P 10 21 22.3 +0.2
FDMO Fiordimonte 93.82 47 IAmb IAmb 10 21 24.2
comp=Z,276nm,1.9s
NKC Novy Kostel 93.89 40 *e*P P 10 21 23.9 +1.1
NKC Novy Kostel 93.89 40 *e*P P 10 21 23.9 +1.1
NKC *e*XSKS 10 32 47.2
CLUD Cludinico 93.91 44 IAmb IAmb 10 21 26.0
comp=Z,115nm,0.9s
NB2 NORSAR Subarra 93.98 29 P P 10 21 23.5 +0.6
comp=Z,365nm,2.5s,baz=266,slow=4.6
NB2 NORSAR Subarra 93.98 29 P P 10 21 23.5 +0.6
baz=266,slow=4.6
NOA NORSAR Array B 93.98 29 P P 10 21 23.6 +0.7
comp=Z,3.8nm,0.8s,baz=268,slow=4.7,SNR=12
comp=Z,3.8nm,0.8s
NC602 NORSAR Array S 94.11 30 IAmb IAmb 10 21 25.4
comp=Z,166nm,1.6s
NC602 NORSAR Array S 94.11 30 IVmB_BB 10 21 25.2
comp=Z,1μm,5.0s
NC602 eP P 10 21 25.4 +1.9
NC602 *e*SKSac SKSac 10 31 46.5 -0.4
NC602 IVMs_BB IVMs_BB 10 53 57.4
comp=Z,811nm,3.9s
UNV Unalaska Valle 94.21 324 P P 10 21 23.9 -0.2
baz=94
NC405 NORSAR Array S 94.22 29 IAmb IAmb 10 21 25.9
comp=Z,235nm,1.7s
COP Copenhagen 94.25 35 ⇓*i*P P 10 21 25.4 +1.2
COP IAmb IAmb 10 21 26.4
comp=Z,136nm,0.9s
KBA Koelnbreinsper 94.27 43 *e*P P 10 21 25.0 +0.2
comp=Z,42nm,1.2s,SNR=15
KBA eP PP 10 25 14.0 +0.7
comp=Z,20nm,1.4s
CLL Collm 94.31 39 ⇓*i*P P 10 21 25.4 +0.8
CLL *e**PP pP 10 21 57.0 +0.8
CLL *e* 10 31 50.0
CLL pmax pmax
comp=Z,357nm,2.4s
CLL Collm 94.31 39 ⇓*i*P P 10 21 25.4 +0.8
comp=Z,357nm,2.4s
CLL epP pP 10 21 57.0 +0.8
CLL esP sP 10 22 10.0 +0.9
CLL *i* PP PP 10 25 12.4 -0.9
comp=Z,109nm,1.9s
CLL epPP 10 25 42.0
CLL esPP 10 25 56.0
CLL *e*SKSac SKSac 10 31 50.0 +1.6
CLL *e*SKKSac SKKSac 10 32 06.0 -4.0
CLL esSKSac sSKSac 10 32 48.0 +2.6
CLL *e*SP SP 10 33 42.0 +0.6
CLL ePS PS 10 34 06.0 +8.9
CLL epPS 10 34 28.0
CLL *ex* x 10 38 12.0
CLL *e*SS SS 10 38 54.0 +3.8
CLL *e*SSS SSS 10 42 34.0
CLL *ex* x 10 43 48.0
CLL *e*SSSS 10 46 00.0
CLL *ex* x 10 47 48.0
ANM Nome 94.33 334 P P 10 21 24.4 0.0
baz=94
ROBS Robic 94.33 44 *e*P P 10 21 25.0 +0.1
SABO M.te Sabotino 94.38 44 IAmb IAmb 10 21 28.0
comp=Z,694nm,2.1s
RAFF Raffo Rosso 94.41 53 IAmb IAmb 10 21 27.5
comp=Z,101nm,1.0s
MYKA Terra Mystica 94.45 44 *i* P P 10 21 25.8 +0.3
comp=Z,63nm,2.0s,SNR=16
VAE Valguarnera 94.46 53 P P 10 21 26.2 +0.4
comp=Z,7.9nm,0.4s,baz=333,slow=6.8,SNR=5.6
comp=Z,7.9nm,0.4s
BIOA Bad Ischl, Aus 94.51 43 *i* P P 10 21 26.2 +0.5
comp=Z,48nm,1.4s,SNR=24
KHC Kasperske Hory 94.55 41 IAmb IAmb 10 21 27.5
comp=Z,65nm,1.5s
KHC Kasperske Hory 94.55 41 *e*P P 10 21 26.9 +1.1
KHC *e* 10 22 13.0
KHC *e* 10 25 13.5
KHC MLR MLR
comp=Z,400nm,17.0s
KHC Kasperske Hory 94.55 41 *e*P P 10 21 26.9 +1.1
KHC *ex* x 10 22 13.0
KHC *e*PP PP 10 25 13.5 -1.8
KHC *e*XSKS 10 32 47.5
KHC AMS AMS 11 08 30.0
comp=Z,400nm,17.0s
NSS Namsos 94.56 26 *e*P P 10 21 26.0 +0.6
NSS *e*SKSac SKSac 10 31 51.7 +2.6
GERES GERESS Array B 94.62 42 P P 10 21 26.1 -0.2
comp=Z,7.8nm,0.7s,baz=291,slow=1.1,SNR=54
GERES pP pP 10 21 58.0 +0.2
comp=Z,2.8nm,0.8s,baz=245,slow=6.1,SNR=2.0
GERES PKKPbc PKKPdf 10 38 24.3 -0.7
comp=Z,0.7nm,0.7s,baz=81,slow=6.1,SNR=5.3
comp=Z,7.8nm,0.7s
RUE Ruedersdorf 94.86 38 *e*P P 10 21 28.2 +1.1
BRG Berggiesshubel 94.88 39 *i* P P 10 21 28.4 +1.2
BRG Amp 10 21 29.9
comp=Z,70nm,1.1s
BRG pP pP 10 21 59.5 +0.6
BRG Amp 10 22 00.2
comp=Z,9.8nm,1.0s
BRG *ex* x 10 22 06.3
BRG Amp 10 22 07.7
comp=Z,26nm,1.4s
BRG PP PP 10 25 17.9 +0.3
BRG Amp 10 25 19.3
comp=Z,116nm,2.2s
BRG Berggiesshubel 94.88 39 SKS S 10 32 23.0 -7.8
BRG Berggiesshubel 94.88 39 *i* P P 10 21 28.4 +1.2
BRG 10 21 59.4
BRG 10 25 17.9
BRG 10 32 23.0
BRG *e* 10 34 27.0
BRG pmax pmax
comp=Z,70nm,1.2s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,26nm,1.4s
BRG pmax pmax
comp=Z,116nm,2.2s
BRG pmax pmax
comp=E,330nm,13.2s
BRG MLR MLR
comp=Z,865nm,16.8s
BRG MLR MLR
comp=N,310nm,14.5s
MOA Molln 94.94 43 *e*P P 10 21 28.3 +0.6
comp=N,44nm,1.1s,SNR=30
MOZS Mozjanca 94.98 44 *i* P P 10 21 28.5 +0.7
MOZS ePP PP 10 25 17.9 -0.8
CKRC Cesky Krumlov 95.02 42 *e*P P 10 21 28.7 +0.7
CKRC ePP PP 10 25 14.7 -4.2
LJU Ljubljana 95.03 44 *e*P P 10 21 28.7 +0.6
LJU ePP PP 10 25 18.7 -0.3
OBKA Obir 95.07 44 *e*P P 10 21 28.8 +0.5
comp=N,29nm,0.9s,SNR=14
OBKA eP PP 10 25 18.9 -0.5
comp=N,15nm,1.6s
HFS Hagfors 95.15 30 P P 10 21 29.1 +0.9
comp=N,18nm,0.8s,baz=222,slow=2.0,SNR=23
comp=N,18nm,0.8s
PRU Pruhonice 95.22 40 *e*P P 10 21 29.8 +1.0
PRU MLR MLR
comp=Z,500nm,17.5s
PRU Pruhonice 95.22 40 *e*P P 10 21 29.8 +1.0
PRU AMS AMS 11 09 40.0
comp=Z,500nm,17.5s
KBS Kingsbay 95.25 11 P P 10 21 27.8 -0.5
KBS IAmb IAmb 10 24 53.2
comp=Z,30nm,0.8s
KBS Kingsbay 95.25 11 ⇑*i*P P 10 21 30.3 +1.9
KBS pmax pmax
comp=Z,84nm,2.2s
KBS MLR MLR
comp=Z,1μm,19.0s
KBS Kingsbay 95.25 11 *i* P P 10 21 28.5 +0.1
KBS Kingsbay 95.25 11 *e*P P 10 21 29.8 +1.5
KBS IVmB_BB 10 21 30.3
comp=Z,1μm,2.6s
KBS *e*SKSac SKSac 10 31 52.5 +0.2
KBS *e*SP SP 10 33 46.6 -3.9
KBS IVMs_BB IVMs_BB 10 54 35.6
comp=Z,934nm,4.2s
PVCC Panska Ves 95.26 40 *e*XSKS 10 32 51.1
LOF Lofoten 95.35 22 *e*P P 10 21 28.5 -0.5
LOF ePP PP 10 25 21.2 +0.4
LOF *e*SKSac SKSac 10 31 55.1 +1.9
LOF *i* 10 34 51.0
GOPC GO Pecny, Ondr 95.38 40 *e*P P 10 21 31.0 +1.4
GOPC GO Pecny, Ondr 95.38 40 *e*P P 10 21 31.0 +1.4
SOKA Soboth 95.41 44 *e*P P 10 21 30.0 +0.1
comp=Z,21nm,1.3s,SNR=12
TNA Tin City 95.46 335 P P 10 21 29.9 +0.4
baz=91
BSD Bornholm Skovb 95.63 35 *e*P P 10 21 31.4 +0.8
BSD Bornholm Skovb 95.63 35 *i* P P 10 21 30.2 -0.3
BSD IAmb IAmb 10 21 32.3
comp=Z,67nm,1.0s
MOR8 Moi Rana 95.66 24 *e*P P 10 21 31.6 +1.1
MOR8 IVmB_BB 10 21 31.6
comp=Z,760nm,4.2s
MOR8 *e*ScS S 10 32 38.4 +1.4
CUC Castrocucco 95.69 50 IAmb IAmb 10 21 31.9
comp=Z,44nm,1.2s
ARSA Arzberg 95.77 43 *i* P P 10 21 31.7 +0.3
comp=Z,36nm,1.1s,SNR=24
GOLS Golise 95.79 44 *e*P P 10 21 32.3 +0.7
TREC Trest 95.81 41 *e*P P 10 21 32.5 +0.9
TREC Trest 95.81 41 *e*P P 10 21 32.5 +0.9
STEI Steigen 95.99 22 *e*P P 10 21 33.3 +1.4
STEI ePP PP 10 25 25.9 +0.2
FAUS Fauske 96.00 23 *e*P P 10 21 32.5 +0.5
FAUS IVmBBB 10 21 34.6
comp=Z,457nm,2.5s
FAUS ePP PP 10 25 25.6 -0.3
FAUS *e*ScS S 10 32 40.6 +0.8
CONA Conrad Observa 96.02 42 *i* P P 10 21 33.2 +0.6
comp=Z,46nm,0.9s,SNR=31
SPA0 Spitsbergen Ar 96.13 12 *e*P P 10 21 34.0 +1.6
SPA0 IVmB_BB 10 21 37.3
comp=Z,2μm,3.8s
SPA0 *e*SKSac SKSac 10 31 57.6 +0.5
SPITS Spitsbergen Ar 96.13 12 P P 10 21 32.2 -0.2
comp=Z,9.1nm,0.8s,baz=180,slow=6.6,SNR=4.2
SPITS PKKPbc PKKPbc 10 38 18.4 -4.1
comp=Z,7.4nm,0.9s,baz=81,slow=9.2,SNR=4.9
comp=Z,9.1nm,0.8s
UPC Upice 96.18 40 *e*P P 10 21 34.2 +1.0
UPC Upice 96.18 40 *e*P P 10 21 34.2 +1.0
RONA Rosalia, Austr 96.30 43 *e*P P 10 21 34.2 +0.4
comp=Z,40nm,1.0s,SNR=23
OSTC Ostas 96.31 40 *e*P P 10 21 34.7 +0.9
KSP Ksiaz 96.37 40 *e*P P 10 21 35.1 +1.1
DPC Dobruska-Polom 96.38 40 *e*P P 10 21 35.2 +1.1
DPC Dobruska-Polom 96.38 40 *e*P P 10 21 35.2 +1.1
TIP Timpagrande 96.39 51 ⇓P P 10 21 34.2 -0.3
TIP Timpagrande 96.39 51 P P 10 21 33.4 -1.1
TIP IAmb IAmb 10 21 35.6
comp=Z,177nm,2.0s
MATE Matera 96.40 50 ⇓P P 10 21 33.7 -0.7
KRUC Moravsky 96.40 41 *e*P P 10 21 34.7 +0.5
KRUC ePP PP 10 25 29.5 0.0
SPIA Saint Paul Isl 96.45 327 P P 10 21 35.1 +0.9
baz=90
SOP Sopron 96.48 43 P P 10 21 34.9 +0.3
VRAC Vranov 96.53 41 ⇓P P 10 21 36.4 +1.5
VRAC Vranov 96.53 41 P P 10 21 35.6 +0.7
comp=Z,26nm,0.8s,baz=266,slow=6.1,SNR=38
VRAC LR LR 11 02 42.8
comp=Z,511nm,19.6s,baz=288,slow=34
comp=Z,26nm,0.8s
VRAC Vranov 96.53 41 *e*P P 10 21 35.5 +0.7
VRAC ePP PP 10 25 30.6 0.0
VRAC Vranov 96.53 41 ⇓P P 10 21 36.4 +1.5
KRLC Kraliky 96.67 40 *e*P P 10 21 37.0 +1.5
KRLC Kraliky 96.67 40 *e*P P 10 21 37.0 +1.5
RAO Raoul Island 96.78 240 LR LR 10 57 16.5
comp=Z,717nm,20.4s,baz=222,slow=30
ZST Bratislava 96.85 42 *e*P P 10 21 37.4 +1.1
ZST pmax pmax
comp=Z,136nm,1.1s
ZST Bratislava 96.85 42 *e*P P 10 21 37.4 +1.1
BJO1 Bjornoya 96.96 16 *e*P P 10 21 38.1 +1.9
GKP Gorka Klasztor 96.97 37 *e*P P 10 21 38.5 +1.8
GKP ePP PP 10 25 33.7 0.0
MODS Modra-Piesok 96.97 42 *e*P P 10 21 37.9 +1.1
MODS pmax pmax
comp=Z,138nm,1.1s
MODS Modra-Piesok 96.97 42 *e*P P 10 21 37.9 +1.1
MODS Modra-Piesok 96.97 42 *e*S S 10 32 54.8 +5.7
EGYH Egyhazaskeszo 97.00 43 P 10 21 38.1
SMOL Smolenice 97.08 42 *e*P Pdif 10 21 38.8 +1.4
MPLH Magyarpolny 97.14 43 P Pdif 10 21 38.4 +0.8
MORC Moravsky Berou 97.16 41 ⇓P Pdif 10 21 39.0 +1.3
MORC Moravsky Berou 97.16 41 P Pdif 10 21 38.5 +0.8
MORC IAmb IAmb 10 21 40.9
comp=Z,210nm,2.0s
MORC Moravsky Berou 97.16 41 *e*P Pdif 10 21 38.6 +0.9
MORC ePP PP 10 25 35.5 +0.1
MORC Moravsky Berou 97.16 41 ⇓P Pdif 10 21 39.0 +1.3
JAVC Velka Javorina 97.24 42 *e*P Pdif 10 21 39.4 +1.3
TRO Tromso 97.28 21 *e*P Pdif 10 21 38.4 +0.7
TRO IVmBBB 10 21 42.2
comp=Z,1μm,4.0s
TRO ePP PP 10 25 36.3 +0.8
TRO *e*ScS S 10 32 51.5 +0.8
TRO *e*SS SS 10 39 33.3 +2.3
MAUC Maruska 97.34 41 *e*P Pdif 10 21 40.5 +1.9
TIH Tihany 97.38 44 P Pdif 10 21 39.5 +0.8
KOVH Kovagotottos 97.52 44 P Pdif 10 21 40.1 +0.7
OKC Ostrava-Krasne 97.55 41 *e*SKS SKSac 10 32 09.2 +3.8
CSKK Cskako 97.63 43 P Pdif 10 21 40.7 +0.8
HCY Herceg Novi 97.78 48 ⇓*i*P Pdif 10 21 41.2 +0.6
JETT Jettan, Norway 97.80 21 *e*P Pdif 10 21 40.2 +0.1
BRY Bratogost 97.81 48 ⇓*i*P Pdif 10 21 41.6 +0.6
MORH Mrgy, Hungar 97.89 44 ⇑P Pdif 10 21 42.0 +1.0
MORH Mrgy, Hungar 97.89 44 P Pdif 10 21 41.6 +0.6
BOSA Boshof 98.00 120 P Pdif 10 21 42.2 +0.1
comp=Z,15nm,1.0s,baz=273,slow=1.8,SNR=8.0
BOSA LR LR 11 01 36.5
comp=Z,548nm,20.9s,baz=266,slow=33
comp=Z,15nm,1.0s
BOSA Boshof 98.00 120 P P 10 21 41.7 -0.4
BOSA IAmb IAmb 10 25 39.2
comp=Z,67nm,1.6s
VYHS Vyhne 98.01 42 *e*P Pdif 10 21 42.7 +1.2
VYHS *e* 10 25 39.5
VYHS *e*SS SS 10 39 47.4 +4.8
VYHS Vyhne 98.01 42 *e*PDIFF Pdif 10 21 42.7 +1.2
VYHS Vyhne 98.01 42 *e*PP PP 10 25 39.5 -2.4
VYHS Vyhne 98.01 42 *e*S S 10 33 06.5 +8.6
VYHS Vyhne 98.01 42 *e*SS SS 10 39 47.4 +4.8
BUM Brajici-Budva 98.07 48 ⇓*i*P Pdif 10 21 43.4 +1.4
UPM Unac-Piva 98.08 47 ⇓*i*P Pdif 10 21 42.9 +0.7
CEME Cevo 98.09 48 ⇓*i*P Pdif 10 21 42.7 +0.6
NKME Niksic 98.12 48 ⇓*i*P Pdif 10 21 42.8 +0.6
BUD Budapest 98.15 43 P Pdif 10 21 42.5 +0.4
NKY Niksic 98.15 48 ⇓*i*P Pdif 10 21 43.1 +0.7
HOPEN Hopen 98.21 13 *e*P Pdif 10 21 42.2 +0.4
HOPEN *e*SKSac SKSac 10 32 07.3 -0.4
HOPEN *e*SP SP 10 34 23.2 +0.5
DRME Dracevica, Mon 98.29 48 ⇓*i*P Pdif 10 21 44.1 +1.2
PDG Podgorica 98.34 48 ⇑P Pdif 10 21 44.8 +1.7
PDG Podgorica 98.34 48 P Pdif 10 21 43.7 +0.6
PDG IAmb IAmb 10 21 45.9
comp=Z,53nm,1.3s
TTG Podgorica 98.34 48 ⇓*i*P Pdif 10 21 44.2 +1.1
LANS Liptovska Anna 98.42 41 *e*P Pdif 10 21 46.1 +2.7
LANS Liptovska Anna 98.42 41 *e*PDIFF Pdif 10 21 46.0 +2.6
KOME Kolasin 98.53 48 ⇓*i*P Pdif 10 21 45.3 +1.2
OJC Ojcow 98.61 40 *e*P Pdif 10 21 44.2 0.0
OJC *e*PP PP 10 25 45.0 -1.4
OJC Ojcow 98.61 40 P P 10 21 43.9 -0.2
OJC Ojcow 98.61 40 P P 10 21 43.9 -0.2
OJC pmax pmax
comp=Z,258nm,2.2s
FRGS Fruska Gora 98.72 45 ⇑P Pdif 10 21 46.3 +1.6
PSZ Piszkesteto 98.73 43 ⇓P Pdif 10 21 47.0 +2.2
PSZ Piszkesteto 98.73 43 P Pdif 10 21 45.1 +0.3
PSZ Piszkesteto 98.73 43 ⇓P Pdif 10 21 47.0 +2.2
PSZ Piszkesteto 98.73 43 P Pdif 10 21 46.6 +1.8
KEK Kerkira 98.75 51 P Pdif 10 21 45.5 +0.5
KEK IAmb IAmb 10 21 47.5
comp=Z,45nm,1.0s
HAMF Hammerfest 98.79 19 *e*P Pdif 10 21 46.1 +1.6
HAMF *e*PP PP 10 25 46.9 -0.3
HAMF *e*SKSac SKSac 10 32 11.5 +0.7
HAMF IVMs_BB IVMs_BB 10 56 41.4
comp=Z,1μm,3.7s
TIR Tirane 98.80 49 ⇓P Pdif 10 21 47.8 +2.6
TIR Tirane 98.80 49 ⇓P Pdif 10 21 47.8 +2.6
IVA Berane 98.81 48 ⇓*i*P Pdif 10 21 46.1 +0.8
KTK1 Kautokeino 98.86 21 *e*P Pdif 10 21 45.0 +0.2
KTK1 IVmB_BB 10 21 45.3
comp=Z,866nm,3.7s
KTK1 *e*PP PP 10 25 44.9 -2.9
KTK1 *e*SKSac SKSac 10 32 08.3 -3.0
KTK1 *e*SP SP 10 34 33.4 +3.4
KTK1 *e*SS SS 10 39 52.4 -1.0
PVY Plav 98.86 48 ⇓*i*P Pdif 10 21 46.7 +1.1
URZ Urewera 98.92 230 LR LR 10 57 25.3
comp=Z,4μm,20.9s,baz=120,slow=30
LBTB Lobatse 98.96 116 LR LR 11 05 04.0
comp=Z,761nm,18.1s,baz=263,slow=34
LBTB Lobatse 98.96 116 P P 10 21 46.6 +0.1
LBTB Lobatse 98.96 116 P Pdif 10 21 46.6 +0.2
LBTB pmax pmax
comp=Z,310nm,3.0s
NIE Niedzica 98.96 41 *e*P Pdif 10 21 47.7 +1.9
NIE *e*PP PP 10 25 49.5 +0.4
RAF Rauma 99.11 29 *e*P Pdif 10 21 46.1 +0.1
BEL Belsk 99.17 39 *e*P Pdif 10 21 48.1 +1.6
BEL *e*PP PP 10 25 50.4 -0.2
ARA0 ARCESS Array S 99.58 20 *e*P Pdif 10 21 47.9 -0.1
ARA0 IVmB_BB 10 21 48.2
comp=Z,1μm,2.8s
ARA0 *e*PP PP 10 25 51.3 -1.9
ARA0 *e*SKSac SKSac 10 32 16.6 +1.7
ARCES ARCESS Array B 99.58 20 P Pdif 10 21 47.2 -0.9
comp=Z,5.7nm,0.6s,baz=270,slow=3.4,SNR=46
ARCES PP PP 10 25 56.3 +3.1
comp=Z,4.6nm,0.9s,baz=290,slow=8.6,SNR=5.2
ARCES PKKPbc PKKPbc 10 38 09.7 -3.1
comp=Z,3.7nm,1.0s,baz=103,slow=3.9,SNR=4.5
comp=Z,5.7nm,0.6s
SLIT Slitere, Latvi 99.67 33 *e*P Pdif 10 21 49.1 +0.5
CRVS Cervenica-Dubn 99.74 41 *e*P Pdif 10 21 51.3 +2.0
CRVS Cervenica-Dubn 99.74 41 *e*PDIFF Pdif 10 21 51.2 +2.0
BZS Buzias 99.98 45 ⇑P Pdif 10 21 51.8 +1.5
SIRR Siria 99.99 44 ⇓P Pdif 10 21 51.8 +1.4
BORR Bors 100.04 43 ⇑P Pdif 10 21 52.8 +2.3
BOVS Bovan 100.12 47 ⇓P Pdif 10 21 52.0 +1.0
UZH Uzhgorod 100.30 42 *e*P Pdif 10 21 48.8 -2.9
UZH *e* 10 32 17.2
UZH *e* 10 33 08.3
UZH *e* 10 34 54.5
MEF Metsahovi 100.48 30 *e*P Pdif 10 21 52.5 +0.3
KWP Kalwaria Pacla 100.51 41 *e*P Pdif 10 21 54.3 +1.6
KWP *e*PP PP 10 26 00.7 -0.2
DRGR 100.69 44 ⇑P Pdif 10 21 55.2 +1.6
DRGR 100.69 44 ⇑P Pdif 10 21 55.2 +1.6
PABE Paberze 100.79 35 *e*P Pdif 10 21 55.7 +2.0
GZR Gura Zlata 100.81 45 ⇓P Pdif 10 21 55.7 +1.6
GZR Gura Zlata 100.81 45 ⇓P Pdif 10 21 55.7 +1.6
BLKB Belogradchik 100.82 47 ⇑P Pdif 10 21 56.3 +2.1
FINES FINESS Array B 101.13 28 P Pdif 10 21 55.1 +0.1
comp=Z,4.5nm,0.8s,baz=288,slow=1.8,SNR=11
FINES PP PP 10 26 09.7 +4.7
comp=Z,1.7nm,0.7s,baz=247,slow=7.1,SNR=1.9
FINES PKKPbc PKKPbc 10 38 05.1 -2.9
comp=Z,0.9nm,0.7s,baz=98,slow=4.2,SNR=5.1
LVV L'vov 101.36 40 *e*P Pdif 10 21 55.9 -0.5
LVV *e*PPP PPP 10 28 25.0
LVV *e* 10 32 21.0
LVV *e*S Sdif 10 33 16.0 -10
LVV *e*SS SS 10 40 27.4 -1.7
LOT Lotru 101.50 45 ⇓P Pdif 10 21 58.8 +1.6
MAW Mawson 101.65 165 P Pdif 10 21 58.3 +1.0
comp=Z,6.5nm,1.1s,baz=206,slow=6.4,SNR=7.8
MAW PKKPbc PKKPbc 10 38 02.9 -3.7
comp=Z,2.5nm,0.6s,baz=93,slow=3.6,SNR=16
VSU Vasula 101.91 31 *i*P Pdif 10 21 59.1 +0.5
VSU Vasula 101.91 31 *e*P Pdif 10 21 59.3 +0.7
ARR Arges 102.12 45 ⇑P Pdif 10 22 01.3 +1.4
BURAR Bucovina Array 102.33 43 ⇓P Pdif 10 22 03.3 +2.4
VOIR 102.40 45 ⇓P Pdif 10 22 02.5 +1.3
VOIR 102.40 45 ⇓P Pdif 10 22 02.5 +1.3
NACGM Naroch 102.46 35 ⇑*e*P Pdif 10 22 02.7 +1.5
baz=278
IDI Anoyia 102.89 55 ⇑P Pdif 10 22 04.8 +1.2
IDI Anoyia 102.89 55 P Pdif 10 22 04.4 +0.8
comp=Z,17nm,0.8s,baz=312,slow=5.5,SNR=8.2
IDI PP PKiKP 10 26 22.7 -0.8
comp=Z,7.2nm,0.8s,baz=290,slow=7.8,SNR=4.2
KDZ Kurdzhali 102.95 49 *i* P PP 10 26 18.3 -1.2
BIZ Bicaz 103.00 43 ⇓P Pdif 10 22 06.0 +2.2
MLR Muntele Rosu 103.03 45 ⇓P Pdif 10 22 05.2 +1.1
MLR Muntele Rosu 103.03 45 Pdiff Pdif 10 22 04.6 +0.6
comp=Z,2.7nm,0.4s,baz=265,slow=3.0,SNR=7.4
MLR PP PP 10 26 19.5 -0.5
comp=Z,8.4nm,1.0s,baz=251,slow=11,SNR=6.8
MLR Muntele Rosu 103.03 45 ⇓P Pdif 10 22 05.2 +1.1
MNK Minsk 103.15 35 *i* P Pdif 10 22 03.7 -0.5
MNK *i* 10 26 19.5
MNK *i* PPP PPP 10 28 30.3
MNK *i* SSS SSS 10 44 50.4
MNK pmax pmax
comp=Z,11nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR

comp=E,88nm,17.0s
MNK MLR MLR
comp=Z,512nm,16.0s
MNK Minsk 103.15 35 *i* P **Pdif 10 22 03.8 -0.5**
comp=E,2.0nm,0.8s
MNK *i* P **Pdif 10 22 03.8 -0.5**
MNK *i* P **Pdif 10 22 03.8 -0.5**
comp=Z,11nm,1.0s,baz=279
MNK *i* PP **PP 10 26 19.5 -1.0**
MNK *i* PPP PPP 10 28 30.3
MNK *i* SSS SSS 10 44 50.4
MNK *i* SKKS **SKKSdf 10 45 05.0 -5.4**
MNK *i* LRM MLR 11 09 50.0
comp=E,88nm,17.2s
MNK *i* LRM MLR 11 09 53.2
comp=Z,512nm,15.9s
COVR Voineasa-Covas 103.17 44 ⇓P **Pdif 10 22 06.3 +1.7**
APE Apeiranthos 103.33 53 ⇓P **Pdif 10 21 59.5 -6.0**
APE Apeiranthos 103.33 53 ⇓P **Pdif 10 21 59.5 -6.0**
AKASG Malin Array Be 104.56 39 Pdiff **Pdif 10 22 11.2 +0.7**
comp=Z,0.4nm,0.4s,baz=271,slow=2.5,SNR=6.3
AKASG PKiKP **PKiKP 10 26 24.8 -1.1**
comp=Z,0.2nm,0.3s,baz=271,slow=3.1,SNR=4.6
AKBB Malin Array Si 104.56 39 *e*P **Pdif 10 22 10.9 +0.4**
KIS Kishinev 104.83 43 *e*P **Pdif 10 22 12.0 +0.1**
KIS Kishinev 104.83 43 *e*P **Pdif 10 22 12.0 +0.1**
KIS *e* 10 26 30.0
MILM Milestii Mici 104.84 43 *e*P **Pdif 10 22 11.6 -0.3**
MILM Milestii Mici 104.84 43 *e*PP **PKiKP 10 26 30.0 +3.5**
MILM *e*SKKS 10 33 33.0
BILL Bilibino 104.98 340*c* *i*P **Pdif 10 22 12.4 +0.3**
BILL *i* 10 26 33.7
BILL *e*PS **PS 10 35 44.6 -5.8**
BILL *e*SS SS 10 41 14.2 -3.5
BILL pmax pmax
comp=Z,187nm,1.4s
MBAR Mbarara 107.56 92 PP **PP 10 26 53.7 -0.8**
comp=Z,4.7nm,0.2s,baz=258,slow=5.6,SNR=7.6
KLMR Klimovskoe 107.57 27 *e*P **Pdif 10 22 23.2 -0.5**
KLMR 10 26 50.4
KLMR pmax pmax
comp=Z,32nm,1.9s
KLMR Klimovskoe 107.57 27 *e*Pdif **Pdif 10 22 23.2 -0.5**
KLMR AMP 10 22 25.6
comp=Z,32nm,1.9s
KLMR *e*pPdif **pPdif 10 22 57.5 +2.1**
KLMR *e*PKiKP **PKiKP 10 26 29.0 -2.2**
KLMR PP **PP 10 26 50.5 -2.2**
KLMR SKKSac **SKKSac 10 33 49.3 +4.7**
KLMR SKKSac **SKKSac 10 33 49.3 +4.7**
KLMR *e*PKKPbc **PKKPbc 10 37 45.2 -3.4**
OBN Obninsk 107.92 34 *i* P **Pdif 10 22 25.4 0.0**
OBN *e* 10 26 54.3
OBN *e*PS PS 10 36 17.0 -4.0
OBN *e*SS SS 10 42 05.7 +7.4
OBN pmax pmax
comp=Z,70nm,5.8s
OBN pmax pmax
comp=Z,12nm,1.1s
OBN MLR MLR
comp=Z,859nm,20.0s
SIM Simferopol' 108.82 44 *e*P **Pdif 10 22 17.2 -12**
SIM *e* 10 33 36.0
SIM pmax pmax
comp=Z,150nm,15.4s
BRTR Keskin Array B 109.38 50 Pdiff **Pdif 10 22 34.0 +1.5**
comp=Z,0.6nm,0.8s,baz=282,slow=6.0,SNR=2.4
BRTR PKiKP **PKiKP 10 26 35.8 +0.3**
comp=Z,3.8nm,1.0s,baz=186,slow=2.5,SNR=9.9
BRTR PKKPbc **PKKPbc 10 37 41.1 -1.2**
comp=Z,1.0nm,0.6s,baz=106,slow=3.7,SNR=5.1
VSR Storozhevoye 110.56 37 *e*PKIKP **PKiKP 10 26 36.7 -0.4**
VSR *e* 10 27 12.4
VSR pmax pmax
comp=Z,10.0nm,1.4s
ANN Anapa 111.15 44 *i* PKIKP **PKiKP 10 26 44.9 +6.5**
ANN *e* 10 27 16.6
ANN *e* 10 33 07.1
ANN pmax pmax
comp=Z,33nm,0.9s
TIXI Tiksi 112.07 351 *i* P **Pdif 10 22 44.1 +0.6**
TIXI *i* 10 26 39.1
TIXI pmax pmax
comp=Z,90nm,9.5s
TIXI pmax pmax
comp=Z,4.0nm,0.8s
VRH Novokhopyorsk 112.08 37 *e*PKIKP **PKiKP 10 26 36.7 -3.3**
VRH *e* 10 27 24.2
VRH pmax pmax
comp=Z,10.0nm,0.5s
DZM Mont Dzumac 112.15 244 *e*LR LR 11 00 17.3
comp=Z,6μm,28.0s
SEY Seymchan 112.51 338 PKiKP **PKiKP 10 26 40.1 -0.4**
comp=Z,3.9nm,0.8s,baz=123,slow=3.8,SNR=6.6
SEY PKKPbc **PKKPbc 10 37 30.5 -2.2**
comp=Z,4.4nm,0.6s,baz=248,slow=1.3,SNR=8.0
SEY Seymchan 112.51 338 *i* PKIKP **PKiKP 10 26 40.4 -0.1**
SEY pmax pmax
comp=Z,5.0nm,0.9s
SOC Sochi 113.04 45 *i* PKIKP **PKiKP 10 26 42.0 -0.1**
SOC *e* 10 27 32.4
SOC *e*PPP PPP 10 29 57.2
SOC *e*SS SS 10 43 06.5 -0.9
SOC *e*SSS SSS 10 47 17.4
SOC pmax pmax
comp=Z,11nm,0.6s
KMBO Kilima Mbogo 113.97 94 PKP **PKiKP 10 26 45.6 +0.6**
comp=Z,2.8nm,0.7s,baz=47,slow=3.8,SNR=7.9
KMBO Kilima Mbogo 113.97 94 PKiKP **PKiKP 10 26 46.7 +1.7**
KIV Kislovodsk 115.01 44 *i* P **Pdif 10 22 57.6 +0.3**
KIV *i* 10 26 46.4
KIV pmax pmax
comp=Z,53nm,7.8s
KIV pmax pmax
comp=Z,4.0nm,0.5s
KIV MLR MLR
comp=Z,344nm,17.0s
PETK Petropavlovsk- 115.11 327 PKP **PKiKP 10 26 45.2 -0.5**
comp=Z,5.1nm,0.9s,baz=114,slow=3.5,SNR=7.4
PETK PKKPab **PKKPab 10 37 26.8 -0.9**
comp=Z,1.5nm,0.6s,baz=236,slow=6.2,SNR=3.5
KBZ Khabaz 115.22 44 PKP **PKiKP 10 26 45.7 -0.5**
comp=Z,16nm,0.8s,baz=239,slow=3.8,SNR=24
KBZ Khabaz 115.22 44*d* *i*PKIKP **PKPdf 10 26 46.9 +0.7**
MARD Mardin 115.34 51 **PKiKP 10 26 46.6 -0.2**
NRIK Noril'sk 115.54 6 PKP **PKiKP 10 26 44.3 -1.8**
comp=Z,2.3nm,0.4s,baz=321,slow=6.7,SNR=5.0
NRIK PP **PP 10 27 50.2 +1.0**
comp=Z,3.2nm,0.6s,baz=330,slow=7.3,SNR=12
NRIK PKKPbc **PKKPbc 10 37 20.4 -2.2**
comp=Z,4.8nm,0.6s,baz=163,slow=4.0,SNR=4.7
NRIK Noril'sk 115.54 6⇑ *i*PKIKP **PKPdf 10 26 46.4 +0.3**
GNI Garni 117.60 47*c* *i*PKIKP **PKiKP 10 26 52.4 +1.2**
GNI pmax pmax
comp=Z,25nm,1.7s
GNI Garni 117.60 47 PKiKP **PKiKP 10 26 51.7 +0.5**
ARU Arti 118.37 26 PKP **PKPdf 10 26 51.8 -0.1**
comp=Z,12nm,0.6s,baz=303,slow=1.6,SNR=15
ARU Arti 118.37 26 **PKPdf 10 26 51.9 0.0**
ARU Arti 118.37 26 *i* PKIKP **PKiKP 10 26 52.1 +0.1**
ARU 10 28 07.7
ARU 10 33 53.8
ARU SP SP 10 37 48.5 +6.1
ARU SS **SS 10 44 13.0 -2.8**
VOI Vohitsoka 118.53 119 **PKPdf 10 26 53.3 -0.1**
VOI Vohitsoka 118.53 119 PKP **PKiKP 10 26 54.6 +1.2**
MAK Makhachkala 118.65 44 *e*P **Pdif 10 23 07.5 -5.9**
MAK *i* 10 26 51.6
MAK *e* 10 33 33.8
MAK *e*SSS SSS 10 48 49.4
MAK pmax pmax
comp=Z,270nm,1.4s
ABPO Ambohimpanom 119.86 116 **PKPdf 10 26 56.0 -0.1**
ABPO Ambohimpanom 119.86 116 PKiKP **PKPdf 10 26 56.0 -0.1**
ATD Arta Tunnel 120.28 80 P **PKiKP 10 26 59.1 +2.2**
YAK Yakutsk 120.33 346 PKP **PKPdf 10 26 55.3 -0.2**
comp=Z,6.1nm,0.3s,baz=296,slow=0.7,SNR=6.4
YAK Yakutsk 120.33 346 *e*PKIKP **PKPdf 10 26 54.3 -1.2**
YAK *e* 10 28 22.1
YAK *e* 10 33 53.9
YAK *e*SP SP 10 37 57.9 -1.5
YAK *e*PS **PS 10 38 14.1 -0.7**
YAK *e*SS **SS 10 44 46.0 +5.7**
YAK pmax pmax
comp=Z,28nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,216nm,2.7s
YAK pmax pmax
comp=N,112nm,2.7s
YAK pmax pmax
comp=E,49nm,2.9s
AKTO Aktyubinsk 121.63 32 PKP **PKiKP 10 26 58.9 +0.4**
comp=E,17nm,0.8s,baz=331,slow=1.0,SNR=33
AKTO PKKPbc **PKKPab 10 36 58.2 -0.9**
comp=E,2.7nm,0.7s,baz=112,slow=5.0,SNR=7.4
AKTO PKKP **PKKPdf 10 37 32.0 -2.5**
comp=E,2.4nm,0.8s,baz=64,slow=3.0,SNR=4.3
RAYN Ar Rayn 121.94 66 PKiKP **PKiKP 10 27 00.1 +0.1**
AB31 Akbulak array 123.33 32 *i* PKIKP **PKiKP 10 27 02.0 +0.1**
ABKAR Akbulak array 123.33 32 **PKiKP 10 27 02.4 +0.4**
BRVK Borovoye 125.63 24 **PKiKP 10 27 06.4 0.0**
BRVK Borovoye 125.63 24 PKIKP **PKiKP 10 27 06.4 0.0**
BVA0 Borovoye Array 125.70 24 PKIKP **PKPdf 10 27 06.3 +0.2**
BVAR Borovoye Array 125.70 24 PKP **PKiKP 10 27 06.6 +0.1**
comp=E,14nm,0.6s,baz=294,slow=1.5,SNR=80
SHMA Al-Shehemyia 126.39 62 P **PKPdf 10 27 07.9 -0.3**
YSS Yuzh-Sakhalins 126.52 327 *i* PKIKP **PKPdf 10 27 07.1 -0.7**
YSS *e* 10 29 04.7
YSS *e*PS PS 10 39 06.2 -3.8
YSS *e*SS SS 10 45 55.0 -4.6
BOD Bodaibo 127.22 353 *e*PKIKP **PKPdf 10 27 08.0 -0.8**
BOD pmax pmax
comp=Z,54nm,1.1s
SLWR Sila 127.42 64 P **PKPdf 10 27 10.0 -0.2**
STKA Stephens Creek 127.67 222 PKP **PKPdf 10 27 10.1 -0.5**
comp=Z,17nm,0.6s,baz=106,slow=2.8,SNR=46
STKA pPKP **pPKPdf 10 27 43.8 -0.1**
comp=Z,14nm,0.7s,baz=174,slow=0.7,SNR=5.9
GEYT Alibeck 128.08 45 PKP **PKiKP 10 27 11.6 -0.2**
comp=Z,32nm,0.9s,baz=260,slow=5.9,SNR=38
ZEA Zeya 128.11 342 *e*PKIKP **PKPdf 10 27 10.9 +0.2**
ZEA *e* 10 29 15.0
ZEA *e* 10 39 16.9
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,1.4s
ZEA pmax pmax
comp=N,300nm,7.1s
ZEA pmax pmax
comp=Z,600nm,8.3s
ZEA pmax pmax
comp=E,200nm,6.5s
ZEA MLR MLR
comp=E,200nm,18.0s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=Z,400nm,17.0s
JRN Qarnain Island 128.26 63 P **PKPdf 10 27 11.5 -0.3**
GHWR Ruwais 128.50 64 P **PKPdf 10 27 12.2 -0.1**
BRZS Berezniki 128.94 25 *i* PKIKP **PKPdf 10 27 12.5 +0.1**
BRZS Berezniki 128.94 25 *i* PKP **PKPdf 10 27 12.5 +0.1**
baz=25
MZR Muzera 129.25 65 P **PKiKP 10 27 14.7 +0.2**
SNR=9.7
MZR Muzera 129.25 65 *i* PKiKP **PKPdf 10 27 13.7 0.0**
SNR=22
ZALV Zalesovo Beam 129.57 14 PKhKP PKPpre 10 27 02.6
comp=Z,1.9nm,0.7s,baz=323,slow=1.1,SNR=7.1
ZALV PKP **PKPdf 10 27 13.6 +0.2**
comp=Z,146nm,0.8s,baz=317,slow=1.8,SNR=16
ABTO Aybut 130.02 72 P **PKiKP 10 27 15.9 -0.3**
OTUK Ortayu 130.11 26 PKiKP **PKiKP 10 27 15.3 -0.2**
KLR Kul'dur 130.20 336 PKP **PKPdf 10 27 14.7 -0.1**
comp=Z,14nm,0.7s,baz=48,slow=2.8,SNR=35
KLR PP **PP 10 29 27.6 -0.8**
comp=Z,3.6nm,0.8s,baz=29,slow=5.9,SNR=4.2
KLR Kul'dur 130.20 336*c* *i*PKIKP **PKPdf 10 27 14.8 0.0**
KLR pmax pmax
comp=Z,96nm,2.5s
WHFO Wadi Hawf 130.40 71 P **PKPdf 10 27 16.6 +0.4**
CTA Charters Tower 130.43 238 PKP **PKiKP 10 27 16.7 -0.3**
comp=Z,18nm,1.0s,baz=136,slow=2.6,SNR=9.3
CTA pPKP **pPKPdf 10 27 49.6 +0.2**
comp=Z,14nm,1.1s,baz=166,slow=4.4,SNR=3.5
CTAO Charters Tower 130.43 238 **PKPdf 10 27 15.3 -0.8**
CTAO Charters Tower 130.43 238 PKIKP **PKPdf 10 27 15.3 -0.8**
ASUD Al Ashush, Dub 130.53 62 P **PKiKP 10 27 17.3 +0.3**
SNR=5.9
ASUD Al Ashush, Dub 130.53 62 *i* PKiKP **PKPdf 10 27 16.2 0.0**
SNR=5.9
BBOO Buckleboo 130.57 217 **PKPdf 10 27 16.2 +0.2**
KURK Kurchatov 130.62 20 PKIKP **PKiKP 10 27 16.2 -0.2**
KURK 10 27 49.6
KURBB Kurchatov Arra 130.66 20 PKhKP PKPpre 10 27 04.9
comp=Z,0.9nm,0.6s,baz=323,slow=2.2,SNR=6.4
KURBB PKP **PKiKP 10 27 16.2 -0.3**
comp=Z,76nm,0.9s,baz=322,slow=2.4,SNR=183
KURBB pPKP pPKPdf 10 27 49.6 +0.7
comp=Z,17nm,1.0s,baz=317,slow=2.7,SNR=2.5
KURBB SKPbc **SKPbc 10 30 28.5 0.0**
comp=Z,6.7nm,1.0s,baz=318,slow=4.5,SNR=7.2
KURBB PKKP **PKKPdf 10 37 13.8 -3.3**
comp=Z,0.8nm,0.7s,baz=145,slow=1.5,SNR=4.2
KURBB SKKPbc **SKKPbc 10 40 03.2 -4.0**
comp=Z,1.8nm,1.0s,baz=140,slow=4.9,SNR=4.3
KURBB Kurchatov Arra 130.66 20 PKIKP **PKPdf 10 27 15.5 -0.1**
NAZ Nazwa, Dubai 130.73 62 P **PKiKP 10 27 17.2 -0.2**
NAZ Nazwa, Dubai 130.73 62 PKiKP **PKPdf 10 27 16.4 -0.1**
FAQ Al Faqa, Dubai 130.73 62 P **PKPdf 10 27 16.9 +0.3**
SNR=5.2
FAQ Al Faqa, Dubai 130.73 62 *i* PKPdf **PKPdf 10 27 16.0 -0.6**
SNR=13
UMZA Um Al Zommool 130.82 65 P **PKPdf 10 27 16.8 +0.1**
SHME Shamm 130.86 60 P **PKPdf 10 27 17.1 +0.4**
SHME Shamm 130.86 60 *i* PKPdf **PKPdf 10 27 16.2 -0.5**
SNR=5.9
RBK Rabkut 130.86 72 P **PKiKP 10 27 17.5 -0.4**
BANOM Banah 131.03 60 PKPdf **PKPdf 10 27 15.7 -1.5**
ALNE Al Ain 131.04 63 P **PKiKP 10 27 17.8 -0.3**
SNR=12
ALNE Al Ain 131.04 63 *i* PKiKP **PKPdf 10 27 17.4 +0.2**
SNR=5.9
MASF Masafi 131.06 61 P **PKiKP 10 27 18.3 +0.1**
SNR=5.3
MSFE Esma-Masafi 131.06 61 *i* PKPdf **PKPdf 10 27 15.7 -1.5**
SNR=8.0
ASHO Ashiyiah 131.15 62 P **PKPdf 10 27 17.2 -0.1**
SNR=5.4
ASHO Ashiyiah 131.15 62 *i* PKPdf **PKPdf 10 27 15.9 -1.5**
SNR=6.5
HATD Hatta, Dubai 131.18 62 P **PKPdf 10 27 17.6 +0.2**
HATD Hatta, Dubai 131.18 62 *i* PKPdf **PKPdf 10 27 16.3 -1.2**
SNR=8.9
MDH Madha 131.20 61 P **PKPdf 10 27 17.5 +0.1**
MDH Madha 131.20 61 *i* PKPdf **PKPdf 10 27 16.3 -1.1**
SNR=7.2
UOSS Minazif 131.21 62 **PKPdf 10 27 17.0 -0.5**
UOSS Minazif 131.21 62 PKPdf **PKPdf 10 27 16.8 -0.7**
SEM Semipalatinsk 131.43 19 *i* PKIKP **PKPdf 10 27 17.6 +0.2**
SEM Semipalatinsk 131.43 19 *i* PKP **PKPdf 10 27 17.7 +0.2**
baz=19
DMTO DMTO 131.53 71 P **PKPdf 10 27 18.5 +0.3**
SOHO SOHO 131.71 63 P **PKPdf 10 27 17.9 -0.5**
SOHO SOHO 131.71 63 *i* PKPdf **PKPdf 10 27 17.1 -1.3**
SNR=10
ARQ Araqi 131.90 64 P **PKPdf 10 27 18.7 -0.1**
SNR=6.4
JASK Jask - Hormozg 132.40 60 P **PKiKP 10 27 21.2 +0.4**
HOQ Hoqain 132.54 63 P **PKPdf 10 27 19.2 -0.8**
SNR=5.9
BSY Bisya 132.65 64 P **PKiKP 10 27 21.0 -0.4**
SNR=11
KK31 Karatay Array 132.90 33 **PKPdf 10 27 20.3 +0.2**
KK31 Karatay Array 132.90 33 PKIKP **PKPdf 10 27 20.3 +0.2**
KKAR Karatay Array 132.90 33 **PKPdf 10 27 20.1 0.0**
KKAR Karatay Array 132.90 33 PKIKP **PKPdf 10 27 20.1 0.0**
CIT Chita 132.92 351 *e*PKIKP **PKiKP 10 27 20.7 -0.4**
CIT *e* 10 27 54.9
CIT *e* 10 29 44.7
CIT pmax pmax
comp=Z,203nm,2.4s
CHM Chimkent 132.93 34 PKIKP **PKiKP 10 27 25.1 +3.7**
JMM Marumori 133.00 318 **PKPdf 10 27 20.1 -0.3**
JMM Marumori 133.00 318 P **PKPdf 10 27 20.0 -0.5**
BIDO Bidbid 133.28 63 P **PKPdf 10 27 21.1 -0.3**
SNR=11
IUG luzhnay 133.28 34 *e*PKIKP **PKiKP 10 27 21.9 -0.3**
IUG luzhnay 133.28 34 *e*PKP **PKiKP 10 27 21.9 -0.3**
baz=34
BTLS Baital 133.29 28 *i* PKIKP **PKiKP 10 27 21.5 -0.5**
BTLS *i* 10 29 50.2
BTLS Baital 133.29 28 *i* PKP **PKiKP 10 27 21.6 -0.5**
baz=28
BTLS *i* PP **PP 10 29 50.3 +1.9**
baz=28
SMDO Samad 133.33 64 P **PKPdf 10 27 21.3 -0.3**
SNR=29
DZA Taraz 133.48 32 *i* PKIKP **PKPdf 10 27 21.8 +0.6**
DZA Taraz 133.48 32 *i* PKP **PKPdf 10 27 21.9 +0.6**
baz=32
IRK Irkutsk 133.50 359 *e*PKIKP **PKPdf 10 27 20.4 -0.6**
IRK pmax pmax
comp=Z,278nm,2.2s
JMDO Jabal Madar 133.55 64 P **PKPdf 10 27 21.2 -0.7**
SNR=5.7
DQM DQM 133.57 68 P **PKPdf 10 27 22.3 +0.3**
MHTO MHTO 133.75 66 P **PKPdf 10 27 22.5 +0.2**
SNR=9.1
WSAR Wadi Sarin 133.80 63 P **PKPdf 10 27 22.4 0.0**
SNR=8.8
USRK Ussuriysk Ar. 133.93 331 PKhKP PKPpre 10 27 06.2
comp=Z,0.9nm,0.6s,baz=154,slow=3.0,SNR=5.3
USRK PKP **PKPdf 10 27 21.9 -0.1**
comp=Z,12nm,0.7s,baz=36,slow=0.6,SNR=39
USRK PP **PP 10 29 53.8 +1.3**
comp=Z,2.8nm,0.8s,baz=20,slow=4.6,SNR=4.1
USRK SKPbc **SKPbc 10 30 39.8 -0.2**
comp=Z,3.5nm,0.8s,baz=42,slow=1.4,SNR=4.1
MOY Mondy 134.05 2 *e*PKIKP **PKiKP 10 27 23.5 0.0**
MOY pmax pmax
comp=Z,244nm,2.8s
DGZ Jazzator, Alta 134.12 14*d* *i*PKIKP **PKPdf 10 27 22.4 0.0**
DGZ pmax pmax
comp=Z,197nm,2.5s
WBK Wadi Bani Khal 134.26 64 P **PKiKP 10 27 24.7 0.0**
SNR=11
JYT Yasato 134.30 317 P **PKPdf 10 27 22.9 0.0**
JSD Sado 134.54 320 **PKPdf 10 27 22.8 -0.5**
JSD Sado 134.54 320 P **PKPdf 10 27 22.4 -0.9**
MDJ Mudanjiang 134.72 333 PKP **PKPdf 10 27 23.6 +0.1**
MDJ PP **PP 10 30 00.0 +2.5**
MDJ SS SS 10 47 44.0 +4.4
MDJ AMB AMB
comp=Z,970nm,14.5s
MDJ LR LR
comp=Z,490nm,18.0s
MDJ LR LR
comp=Z,440nm,21.8s
MDJ LR LR
comp=Z,1μm,23.7s
SGDS Sogindy 134.75 29 *e*PKIKP **PKiKP 10 27 24.6 -0.5**
SGDS Sogindy 134.75 29 *e*PKP **PKiKP 10 27 24.7 -0.5**
baz=29
BNX BinXian 134.76 336 ⇑PKP **PKPdf 10 27 23.0 -0.5**
BNX SS SS 10 47 41.7 +1.9
BNX AMB AMB
comp=Z,750nm,9.1s
BNX LR LR
comp=Z,620nm,21.5s
BNX LR LR
comp=Z,390nm,15.7s
BNX LR LR
comp=Z,620nm,18.1s
USP Ospenovka 134.83 29 P **PKiKP 10 27 25.2 0.0**
SNR=21
EKS2 Erkin-Say 134.91 31 P **PKiKP 10 27 26.1 +0.5**
SNR=25
MAKZ Makanchi 135.11 20 PKIKP **PKPdf 10 27 23.6 -0.6**
CHMS Chumysh 135.15 30 P **PKiKP 10 27 26.0 +0.1**
SNR=9.2
KUU Kurty 135.22 27 *i* PKIKP **PKPdf 10 27 24.9 +0.4**
KUU Kurty 135.22 27 *i* PKP **PKPdf 10 27 24.9 +0.4**
baz=27
MK31 Makanchi Array 135.23 20 PKPdf **PKPdf 10 27 24.2 -0.3**
MK31 Makanchi Array 135.23 20*d* *i*PKIKP **PKPdf 10 27 24.1 -0.3**
MKAR Makanchi Array 135.23 20 PKhKP PKPpre 10 27 12.8
comp=Z,2.5nm,0.8s,baz=1.1,slow=3.4,SNR=8.1
MKAR PKP **PKPdf 10 27 24.2 -0.2**
comp=Z,56nm,0.9s,baz=350,slow=2.0,SNR=52
MKAR pPKP pPKPdf 10 27 57.9 +0.2
comp=Z,6.5nm,0.6s,baz=340,slow=2.4,SNR=2.3
MKAR SKKPbc SKKPbc 10 39 53.4 +2.9
comp=Z,2.4nm,1.0s,baz=162,slow=6.1,SNR=3.6
AML Almayashu 135.25 31 P **PKiKP 10 27 27.0 +0.4**
SNR=8.6
TDK Taldyqorghan 135.25 25 *e*PKIKP **PKPdf 10 27 24.6 +0.1**
TDK Taldyqorghan 135.25 25 *e*PKP **PKPdf 10 27 24.6 +0.1**
baz=25
AAK Ala-Archa 135.29 30 P **PKiKP 10 27 25.9 -0.5**
SNR=14
AAK Ala-Archa 135.29 30 PKhKP PKPpre 10 27 16.6
comp=Z,1.8nm,0.4s,baz=249,slow=6.3,SNR=3.7
AAK PKP **PKiKP 10 27 25.9 -0.5**
comp=Z,31nm,0.8s,baz=236,slow=0.8,SNR=33
ZAK Zakamensk 135.37 360 *e*PKHKP PKPpre 10 27 16.2
ZAK pmax pmax
comp=Z,51nm,1.9s
MJAR Matsushiro Arr 135.45 319 PKhKP PKPpre 10 27 11.3
comp=Z,0.9nm,0.5s,baz=100,slow=2.6,SNR=5.4
MJAR PKP **PKPdf 10 27 24.7 -0.4**
comp=Z,3.9nm,0.5s,baz=95,slow=1.8,SNR=18
MJAR pPKP pPKPdf 10 27 58.5 +0.1
comp=Z,2.6nm,0.6s,baz=84,slow=3.7,SNR=1.9
ZSN Zaisan 135.48 18 *i* PKIKP **PKPdf 10 27 24.8 0.0**
ZSN Zaisan 135.48 18 *i* PKP **PKPdf 10 27 24.9 0.0**
baz=17
MSHR Mys Shultsa 135.54 330*c* *i*PKIKP **PKPdf 10 27 25.2 +0.2**
MSHR pmax pmax
comp=Z,70nm,2.3s
CHKK Chushkaly 135.55 27 *e*PKIKP **PKPdf 10 27 25.9 +0.8**
CHKK Chushkaly 135.55 27 *e*PKP **PKPdf 10 27 25.9 +0.8**
baz=27
UCH Uchtor 135.60 30 P **PKiKP 10 27 28.0 +0.6**
SNR=23
TKM2 Tokmak 2 135.62 29 P **PKPdf 10 27 24.3 -1.2**
SNR=15
TKM2 Tokmak 2 135.62 29 PKIKP **PKPdf 10 27 25.2 -0.3**
COEN Coen 135.68 244 **PKPdf 10 27 26.3 +0.2**
AAA Alma-Ata 136.02 28 *e*PKIKP **PKiKP 10 27 27.2 -0.5**
AAA Alma-Ata 136.02 28 *e*PKP **PKiKP 10 27 27.3 -0.5**
baz=27
MDOK Medeo 136.12 28 *i* PKIKP **PKPdf 10 27 27.1 +0.8**
MDOK Medeo 136.12 28 *i* PKP **PKPdf 10 27 27.1 +0.8**
baz=27
ULHL Ulahol 136.44 29 P **PKiKP 10 27 29.1 +0.3**
SNR=20
JSG Sagara 136.52 316 P **PKPdf 10 27 22.8 -4.4**
KPKS Kokpek 136.61 26 *i* PKIKP **PKPdf 10 27 27.8 +0.7**
KPKS *i* 10 30 10.4
KPKS Kokpek 136.61 26 *i* PKP **PKPdf 10 27 27.9 +0.7**
baz=26
KPKS *i* PP **PP 10 30 10.4 +1.0**
baz=26
SATY Saty 136.81 27 *i* PKIKP **PKPdf 10 27 28.5 +0.9**
SATY Saty 136.81 27 *i* PKP **PKPdf 10 27 28.5 +0.9**
baz=26
UZB Uzynbulak 137.01 26 *e*PKIKP **PKPdf 10 27 28.8 +0.8**
UZB Uzynbulak 137.01 26 *e*PKP **PKPdf 10 27 28.8 +0.8**
baz=26
PDGK Podgornoye 137.07 25 PKIKP **PKPdf 10 27 27.7 -0.4**
SHLS Shalkode 137.19 26 *e*PKIKP **PKiKP 10 27 29.7 -0.5**
SHLS Shalkode 137.19 26 *e*PKP **PKiKP 10 27 29.8 -0.5**
baz=25
KBL Kabul 137.39 43 **PKPdf 10 27 29.7 +0.6**
KBL Kabul 137.39 43 PKIKP **PKPdf 10 27 29.7 +0.6**
KBL Kabul 137.39 43 P **PKPdf 10 27 29.4 +0.4**
SNR=9.9
SONM Songino Array 137.82 357 PKhKP PKPpre 10 27 20.4
comp=Z,4.3nm,0.6s,baz=331,slow=2.0,SNR=15
SONM PKP **PKPdf 10 27 29.4 +0.1**
comp=Z,19nm,0.6s,baz=314,slow=0.6,SNR=27
SONM PP **PP 10 30 15.3 -1.3**
comp=Z,4.3nm,0.9s,baz=330,slow=6.9,SNR=3.9
SONM SKKPbc SKKPbc 10 39 39.7 -1.2
comp=Z,1.9nm,0.9s,baz=179,slow=4.9,SNR=4.2
ASAR Alice Springs 138.12 225 PKhKP PKPpre 10 27 18.8
comp=Z,3.7nm,0.6s,baz=124,slow=3.8,SNR=28
ASAR PKP **PKPdf 10 27 29.8 -0.7**
comp=Z,10nm,0.6s,baz=120,slow=2.3,SNR=18
ASAR pPKP pPKPdf 10 28 03.6 -0.1
comp=Z,17nm,0.8s,baz=129,slow=2.5,SNR=5.2

ASAR				SKPbc	**SKPbc**	**10 30 52.0**	**-1.6**		
	comp=Z,14nm,0.8s,baz=126,slow=3.3,SNR=7.1								
ASAR				SKKPbc	**SKKPbc**	**10 39 35.4**	**-2.8**		
	comp=Z,1.9nm,0.8s,baz=310,slow=3.3,SNR=2.4								
KSH	**Kashi**	**138.34**	**32**	PKP	**PKiKP**	**10 27 31.9**	**-0.7**		
KSH				PKS	**PKSdf**	**10 31 08.0**	**+1.2**		
SNY	**Shenyang**	**139.55**	**336**	⇑PKP	PKPdf	10 27 21.6	-11		
SNY				sPKP		10 28 00.5			
SNY				PP	PP	10 30 17.1	-10		
WMQ	**Urumqi**	**139.61**	**17**	⇑PP	**PKiKP**	**10 27 34.0**	**-1.0**		
WMQ				PP	**PP**	**10 30 30.6**	**+2.8**		
WMQ				PKS	**PKSdf**	**10 31 09.4**	**+0.7**		
WMQ				AMB	AMB				
	comp=Z,910nm,4.1s								
WMQ				LR	LR				
	comp=Z,740nm,19.7s								
WMQ				LR	LR				
	comp=Z,430nm,15.5s								
WMQ				LR	LR				
	comp=Z,690nm,20.1s								
JMN	**Monobe**	**139.97**	**318**	PKPdf	**PKPdf**	**10 27 33.7**	**+0.1**		
JMN	**Monobe**	**139.97**	**318**	P	**PKPdf**	**10 27 27.6**	**-5.9**		
WRA	**Warramunga Arr**	**140.09**	**230**	PKhKP	PKPpre	10 27 25.5			
	comp=Z,8.5nm,0.8s,baz=120,slow=2.4,SNR=42								
WRA				PKP	**PKPdf**	**10 27 34.1**	**-0.1**		
	comp=Z,19nm,0.6s,baz=122,slow=2.2,SNR=20								
WRA				pPKP	pPKPdf	10 28 07.5	+0.1		
	comp=Z,12nm,0.6s,baz=129,slow=1.7,SNR=3.4								
WRA				SKPbc	**SKPbc**	**10 30 57.8**	**-1.4**		
	comp=Z,16nm,0.9s,baz=127,slow=2.4,SNR=6.0								
WRA				PKKP	**PKKPdf**	**10 36 56.3**	**-2.3**		
	comp=Z,1.0nm,0.8s,baz=323,slow=1.5,SNR=5.5								
WRA				SKKPbc	**SKKPbc**	**10 39 24.7**	**-5.7**		
	comp=Z,2.5nm,0.8s,baz=284,slow=3.6,SNR=6.2								
XLT	**XiLinHaoTe**	**140.17**	**345**	⇑*i*PKP	PKPdf	10 27 25.7	-8.0		
XLT				sPKP		10 28 07.4			
XLT				PP	**PP**	**10 30 29.0**	**-2.1**		
XLT				PKS	**PKSdf**	**10 31 02.1**	**-7.6**		
KSRS	**Korea Array**	**141.00**	**328**	PKhKP	PKPpre	10 27 27.6			
	comp=Z,7.5nm,0.6s,baz=41,slow=3.6,SNR=31								
KSRS				PKP	**PKPdf**	**10 27 34.5**	**-0.7**		
	comp=Z,49nm,1.0s,baz=356,slow=1.3,SNR=28								
KSRS				pPKP	pPKPdf	10 28 07.5	-1.0		
	comp=Z,9.7nm,0.8s,baz=345,slow=1.7,SNR=2.1								
DL2	**Dalian**	**142.81**	**336**	PKP	**PKPdf**	**10 27 32.4**	**-6.0**		
DL2				AMB	AMB				
	comp=Z,1μm,12.0s								
JSU	**Suzuyama**	**143.61**	**318**	P	PKPab	10 27 36.1	-0.8		
JFU	**Fukue jima 2**	**143.95**	**322**	P	PKPab	10 27 37.0	-1.1		
HHC	**Hu-ho-hao-te**	**144.08**	**349**	*e*PKP	PKPbc	10 27 39.0	0.0		
HHC				pPKP	pPKPdf	10 28 07.9	-6.1		
HHC				LR	LR				
	comp=Z,640nm,22.2s								
HHC				LR	LR				
	comp=Z,950nm,22.2s								
HHC				LR	LR				
	comp=Z,2μm,22.2s								
BHK	**Bhakra**	**144.20**	**41**	*e*PN	**PKPdf**	**10 27 42.0**	**+0.9**		
BTO	**Baotou**	**144.59**	**351**	*e*PKP	**PKPab**	**10 27 39.8**	**-0.6**		
BTO				LR	LR				
	comp=Z,2μm,14.7s								
BTO				LR	LR				
	comp=Z,2μm,17.5s								
JAM	**Amami Oshima**	**146.10**	**315**	P	**PKPdf**	**10 27 44.9**	**+0.5**		
GTA	**Gaotai**	**146.22**	**4**	⇓PKPbc	**PKPbc**	**10 27 45.5**	**-0.2**		
GTA				PP	**PP**	**10 31 07.0**	**-0.4**		
GTA				SS	SS	10 49 55.1	+2.0		
GTA				AMB	AMB				
	comp=Z,1μm,7.3s								
GTA				LR	LR				
	comp=Z,770nm,22.9s								
GTA				LR	LR				
	comp=Z,600nm,21.8s								
GTA				LR	LR				
	comp=Z,1μm,24.1s								
JMZ	**Minamidaito 2**	**146.38**	**310**	P	**PKPdf**	**10 27 45.6**	**+0.7**		
HNS	**HongShan**	**146.60**	**343**	⇓PKPbc	**PKPdf**	**10 27 45.0**	**0.0**		
HNS				pPKP	**pPKPdf**	**10 28 17.2**	**-1.1**		
HNS				sPKP		10 28 30.0			
HNS				PP	**PP**	**10 31 09.2**	**-0.5**		
HNS				SKS	**SKSdf**	**10 34 37.8**	**-5.0**		
HNS				SS	**SS**	**10 49 55.4**	**-2.1**		
HNS				AMB	AMB				
	comp=Z,1μm,8.4s								
HNS				LR	LR				
	comp=Z,650nm,21.2s								
HNS				LR	LR				
	comp=Z,730nm,20.0s								
TIY	**Taiyuan**	**146.91**	**346**	⇓PKPbc	**PKPdf**	**10 27 45.8**	**+0.1**		
TIY				pPKP	pPKPbc	10 28 19.9	-0.6		
TIY				PP	**PP**	**10 31 10.6**	**-0.9**		
TIY				SS	SS	10 50 00.5	-0.5		
TIY				AMB	AMB				
	comp=Z,980nm,10.3s								
TIY				LR	LR				
	comp=Z,490nm,21.6s								
TIY				LR	LR				
	comp=Z,320nm,15.7s								
TIY				LR	LR				
	comp=Z,570nm,21.3s								
JOW	**Kunigami**	**147.99**	**314**	PKPbc	**PKPbc**	**10 27 50.6**	**-0.3**		
	comp=Z,99nm,0.7s,baz=92,slow=2.3,SNR=36								
JOW				pPKPbc	**pPKPbc**	**10 28 23.8**	**-0.1**		
	comp=Z,124nm,0.9s,baz=152,slow=1.2,SNR=7.2								
JOW	**Kunigami**	**147.99**	**314**		**PKPdf**	**10 27 48.0**	**+0.4**		
JOW					**PKiKP**	**10 27 51.9**	**-0.8**		
GOMU	**GeErMu**	**148.63**	**13**	PKPbc	**PKPdf**	**10 27 50.6**	**+1.7**		
GOMU				pPKP	pPKPdf	10 28 20.7	-1.5		
GOMU				PP	**PP**	**10 31 22.1**	**+0.2**		
GOMU				AMB	AMB				
	comp=Z,2μm,11.2s								
GOMU				LR	LR				
	comp=Z,570nm,21.0s								
GOMU				LR	LR				
	comp=Z,240nm,18.2s								
GOMU				LR	LR				
	comp=Z,700nm,20.4s								
MBWA	**Marble Bar**	**148.76**	**211**		**PKPdf**	**10 27 48.0**	**-1.1**		
MBWA				PKPbc	**PKPbc**	**10 27 52.9**	**-0.1**		
SSE	**Sheshan**	**149.44**	**328**	PKPbc	**PKPdf**	**10 27 49.8**	**-0.1**		
SSE				PP	**PP**	**10 31 28.2**	**+1.5**		
SSE				SS	SS	10 50 27.9	-2.4		
SSE				AMB	AMB				
	comp=Z,470nm,10.5s								
SSE				LR	LR				
	comp=Z,210nm,19.8s								
SSE				LR	LR				
	comp=Z,190nm,19.6s								
FAKI	**Fak Fak**	**149.62**	**255**	PKPbc	**PKiKP**	**10 27 56.3**	**-0.1**		
LZH	**Lanzhou**	**149.65**	**359**	⇓PKPbc	**PKPdf**	**10 27 50.8**	**+0.5**		
LZH				PKPbc	**PKiKP**	**10 27 55.9**	**-0.1**		
LZH				PP	**PP**	**10 31 26.9**	**-0.6**		
LZH				AMB	AMB				
	comp=Z,2μm,4.5s								
LZH				LR	LR				
	comp=Z,660nm,19.2s								
LZH				LR	LR				
	comp=Z,520nm,17.5s								
LZH				LR	LR				
	comp=Z,1μm,19.1s								
NJ2	**Nanjing**	**149.81**	**333**	*i* PKPbc	**PKPdf**	**10 27 49.6**	**-0.8**		
NJ2				PKPab	**PKPab**	**10 28 04.1**	**+3.1**		
NJ2				PP	**PP**	**10 31 29.7**	**+1.0**		
NJ2				SS	SS	10 50 37.7	+3.7		
NJ2				AMB	AMB				
	comp=Z,2μm,11.3s								
NJ2				LR	LR				
	comp=Z,670nm,23.0s								
NJ2				LR	LR				
	comp=Z,560nm,18.1s								
NJ2				LR	LR				
	comp=Z,1μm,22.8s								
LYN	**LuoYang**	**149.90**	**344**	⇓*i* PKPbc	**PKPdf**	**10 27 49.5**	**-1.0**		
LYN				PKPab	**PKPab**	**10 28 02.1**	**+0.9**		
LYN				PP	**PP**	**10 31 28.4**	**-0.4**		
LYN				SS	SS	10 50 33.0	-1.4		
LYN				AMB	AMB				
	comp=Z,850nm,7.9s								
LYN				LR	LR				
	comp=Z,600nm,23.6s								
LYN				LR	LR				
	comp=Z,750nm,25.6s								
PYUN	**Piuthan**	**150.63**	**38**	*e*P	**PKPbc**	**10 27 55.2**	**-2.5**		
	comp=Z,1μm,0.9s								
DANN	**Dangsing**	**150.91**	**37**	*e*P	**PKPdf**	**10 27 53.2**	**+0.5**		
SIJI	**Sorong**	**151.08**	**258**	PKPbc	**PKPbc**	**10 27 58.8**	**0.0**		
	comp=Z,72nm,0.6s,baz=57,slow=5.4,SNR=11								
SIJI				pPKPbc	**pPKPbc**	**10 28 31.5**	**-0.6**		
	comp=Z,73nm,0.8s,baz=90,slow=5.4,SNR=6.0								
XAN	**Xi'an**	**151.18**	**350**	PKPbc	**PKPdf**	**10 27 52.6**	**0.0**		
XAN				pPKP	pPKPdf	10 28 27.4	+1.5		
XAN				AMB	AMB				
	comp=Z,2μm,12.2s								
XAN				LR	LR				
	comp=Z,590nm,22.0s								
XAN				LR	LR				
	comp=Z,630nm,20.6s								
XAN				LR	LR				
	comp=Z,950nm,23.4s								
KOLN	**Koldanda**	**151.24**	**38**	*e*P	**PKPbc**	**10 27 56.2**	**-2.9**		
GKN	**Gorkha**	**151.69**	**36**	*e*P	**PKPdf**	**10 27 53.7**	**0.0**		
	comp=Z,795nm,0.9s								
KKN	**Kakani**	**152.22**	**35**	*e*P	**PKPdf**	**10 27 53.9**	**-0.7**		
DMN	**Daman**	**152.26**	**36**	*e*P	**PKPdf**	**10 27 54.9**	**+0.2**		
	comp=Z,177nm,0.7s								
PKIN	**Phulchoki**	**152.45**	**36**	*e*P	**PKPdf**	**10 27 54.6**	**-0.4**		
	comp=Z,256nm,1.0s								
PKI	**Pulchoki**	**152.46**	**36**	*e*P	**PKPdf**	**10 27 54.4**	**-0.7**		
	comp=Z,654nm,1.6s								
GUN	**Gumba**	**152.47**	**34**	*e*P	**PKPdf**	**10 27 53.0**	**-2.1**		
JIRN	**Jiri**	**152.84**	**34**	*e*P	**PKPdf**	**10 27 53.5**	**-2.2**		
WHN	**Wuhan**	**153.00**	**338**	⇑PKPbc	**PKPdf**	**10 27 55.7**	**+0.4**		
WHN				PKPab	**PKPab**	**10 28 13.8**	**-0.5**		
WHN				PP	**PP**	**10 31 51.1**	**+4.4**		
WHN				SS	SS	10 51 09.3	+0.4		
WHN				LR	LR				
	comp=Z,2μm,23.5s								
WHN				LR	LR				
	comp=Z,1μm,21.4s								
WHN				LR	LR				
	comp=Z,3μm,23.4s								
HYBB	**Hyderabad (bro**	**153.34**	**62**	*e*PKPdf	**PKPdf**	**10 27 55.9**	**-0.3**		
LSA	**Lhasa**	**153.53**	**24**	PKPbc	**PKPdf**	**10 27 57.0**	**+0.3**		
RAMN	**Ramite**	**153.62**	**35**	*e*P	**PKPdf**	**10 27 55.3**	**-1.4**		
	comp=Z,200nm,0.7s								
ODAN	**Odare**	**154.13**	**34**	*e*P	**PKPdf**	**10 27 55.0**	**-2.4**		
ENH	**Enshi**	**154.72**	**347**		**PKPdf**	**10 27 57.6**	**-0.2**		
ENH					**PKiKP**	**10 28 06.6**	**+0.2**		
ENH					**PKPab**	**10 28 21.7**	**+0.1**		
CD2	**Chengdu**	**154.81**	**359**	PKPbc	**PKPdf**	**10 27 58.2**	**+0.2**		
CD2				pPKP	pPKPdf	10 28 28.2	-3.1		
CD2				sPKP		10 28 40.2			
CD2				PP	**PP**	**10 31 54.7**	**-1.9**		
CD2				SS	SS	10 51 25.9	-2.3		
CD2				AMB	AMB				
	comp=Z,1μm,6.7s								
CD2				LR	LR				
	comp=Z,960nm,27.0s								
CD2				LR	LR				
	comp=Z,810nm,27.0s								
CD2				LR	LR				
	comp=Z,680nm,33.3s								
SSLB	**Suanglung**	**155.01**	**318**	PKPdf	**PKPdf**	**10 27 56.4**	**-2.0**		
SSLB				PKPbc	PKPbc	10 28 06.8			
QZH	**Quanzhou**	**155.66**	**324**	*i* PKP	**PKPdf**	**10 27 59.0**	**-0.2**		
QZH				PKPab	**PKPab**	**10 28 25.6**	**-0.1**		
QZH				PP	**PP**	**10 32 01.8**	**-0.3**		
QZH				pPP		10 32 31.8			
QZH				SS	SS	10 51 41.6	+2.9		
QZH				AMB	AMB				
	comp=Z,530nm,7.4s								
QZH				LR	LR				
	comp=Z,280nm,22.3s								
QZH				LR	LR				
	comp=Z,290nm,17.1s								
QZH				LR	LR				
	comp=Z,540nm,16.6s								
CNSH	**ChangSha**	**155.66**	**338**	⇓PKP	**PKPdf**	**10 27 59.0**	**-0.1**		
CNSH				AMB	AMB				
	comp=Z,1μm,8.2s								
CNSH				LR	LR				
	comp=Z,310nm,21.1s								
CNSH				LR	LR				
	comp=Z,460nm,20.3s								
CNSH				LR	LR				
	comp=Z,690nm,20.0s								
SHL	**Shillong**	**157.46**	**27**	PKPdf	**PKPdf**	**10 28 01.2**	**-0.5**		
SHL	**Shillong**	**157.46**	**27**	PKIKP	**PKPdf**	**10 28 01.2**	**-0.5**		
SHL	**Shillong**	**157.46**	**27**	P	**PKPdf**	**10 28 02.0**	**+0.2**		
	SNR=14								
PALK	**Pallekele**	**157.75**	**85**	PKP	**PKPdf**	**10 28 01.3**	**-1.0**		
	comp=Z,13nm,0.8s,baz=326,slow=7.2,SNR=3.6								
GYA	**Guiyang**	**158.97**	**351**	⇓PKP	**PKPdf**	**10 28 03.4**	**-0.1**		
GYA				pPKP	pPKPdf	10 28 36.8	-0.1		
GYA				PKPab	**PKPab**	**10 28 40.5**	**+0.4**		
GYA				AMB	AMB				
	comp=Z,2μm,6.9s								
GYA				LR	LR				
	comp=Z,460nm,22.6s								
GYA				LR	LR				
	comp=Z,330nm,17.1s								
GYA				LR	LR				
	comp=Z,1μm,31.1s								
PZH	**PanZhiHua**	**159.18**	**3**	PKP	**PKPdf**	**10 28 03.9**	**+0.2**		
PZH				PKPab	**pPKPdf**	**10 28 38.5**	**+1.3**		
PZH				SKS	**SKSdf**	**10 34 52.1**	**-6.4**		
PZH				SS	**SS**	**10 52 19.0**	**+4.0**		
PZH				AMB	AMB				
	comp=Z,2μm,7.6s								
PZH				LR	LR				
	comp=Z,1μm,19.4s								
PZH				LR	LR				
	comp=Z,1μm,19.2s								
PZH				LR	LR				
	comp=Z,1μm,19.7s								
BRDH	**Bariadhala**	**159.77**	**32**	PKP	**PKPdf**	**10 28 05.1**	**+0.8**		
	comp=Z,102nm,0.3s,baz=284,slow=4.2,SNR=5.0								
BRDH				PKPab	**PKPab**	**10 28 44.7**	**+1.1**		
	comp=Z,82nm,0.3s,baz=298,slow=3.9,SNR=4.9								
KMI	**Kunming**	**160.59**	**1**	⇓PKP	**PKPdf**	**10 28 05.0**	**-0.5**		
KMI				pPKP	pPKPdf	10 28 39.0	+0.1		
MND	**Mandalay**	**162.36**	**22**	PKPdf	**PKPdf**	**10 28 06.2**	**-0.9**		
QIZ	**Qiongzhong**	**165.09**	**334**	PKP	**PKPdf**	**10 28 09.7**	**0.0**		
QIZ				pPKP	**pPKPdf**	**10 28 41.1**	**-2.1**		
QIZ				PP	**PP**	**10 32 53.0**	**+0.5**		
QIZ				SS	SS	10 53 20.5	+3.5		
QIZ				AMB	AMB				
	comp=Z,1μm,7.9s								
QIZ				LR	LR				
	comp=Z,370nm,30.7s								
QIZ				LR	LR				
	comp=Z,440nm,25.7s								
QIZ				LR	LR				
	comp=Z,970nm,41.2s								
CRAI	**Chiangrai**	**165.23**	**10**		**PKPdf**	**10 28 09.4**	**-0.4**		
CRAI				PKPab	**PKPab**	**10 29 07.2**	**-0.2**		
CHTO	**Chiang Mai**	**166.28**	**17**	PKPdf	**PKPdf**	**10 28 09.8**	**-0.9**		
CHTO					**PKPab**	**10 29 12.0**	**-0.1**		
CHTO	**Chiang Mai**	**166.28**	**17**	PKIKP	**PKPdf**	**10 28 09.8**	**-0.9**		
CHTO						10 29 12.0			
CMAR	**Chiang Mai Arr**	**166.61**	**17**	PKP	**PKPdf**	**10 28 11.0**	**0.0**		
	comp=Z,10nm,0.8s,baz=291,slow=1.9,SNR=60								
CMAR				pPKP	**pPKPdf**	**10 28 44.8**	**+0.4**		
	comp=Z,3.5nm,0.7s,baz=287,slow=1.4,SNR=2.3								
CMAR				PKPab	**PKPab**	**10 29 13.3**	**-0.3**		
	comp=Z,12nm,0.6s,baz=328,slow=5.1,SNR=7.0								
LEM	**Lembang**	**166.83**	**200**	PKP	**PKPdf**	**10 28 11.7**	**+0.2**		
	comp=Z,35nm,0.8s,baz=151,slow=19,SNR=7.0								
PBA	**Port Blair**	**168.19**	**59**		**PKPdf**	**10 28 10.3**	**-1.9**		
PBA				PKPab	**PKPab**	**10 29 21.1**	**+0.2**		
SBUM	**Sibu**	**170.31**	**251**		**PKPdf**	**10 28 12.4**	**-1.1**		
RPSI	**Rantau Prapat**	**174.99**	**125**		**PKPdf**	**10 28 13.8**	**-1.7**		
RPSI				PKPab	**PKPab**	**10 29 52.7**	**+1.6**		
PSI	**Prapat**	**175.05**	**124**	PKP	**PKPdf**	**10 28 14.1**	**-1.6**		
	comp=Z,18nm,1.0s,baz=225,slow=4.4,SNR=18								
PSI				PP	**PP**	**10 33 43.6**	**-0.2**		
	comp=Z,3.8nm,0.6s,baz=219,slow=6.3,SNR=5.0								
KULM	**Kulim**	**177.61**	**97**		**PKPdf**	**10 28 15.2**	**-0.8**		
KULM					PKPab	10 30 03.1	+0.2		
IPM	**Ipoh**	**177.71**	**119**		**PKPdf**	**10 28 14.6**	**-1.6**		
IPM					PKPab	10 30 03.8	+0.5		

*IDC **10** 10:09:35.8±0.6,39.°71N×118.°34E,h0km,mb4.0/14, mbtmp4.0/18,ML3.6/2,MS4.7/5, Error ellipse: s-maj=16.7km s-min=13.8km az=38.0*
*KEA **10** 10:09:36.8,39.°88N×118.°50E,h16km,ML4.2/3*
*BJI **10** 10:09:36.9±0.0,39.°69N×118.°33E,h10km,mb4.2/27, mB4.5/15,ML4.5/20,Ms4.1/29,Ms7 4.0/28*

*NEIC **10** 10:09:38.8±1.2,39.°7N±0.°1×118.°31E±0.°07,h14km±6km, mb4.5/18, Error ellipse: s-maj=18.0km s-min=7.3km az=190.0*
ISC 10 10:09:37.8±0.4,**39.°66N**±0.°04×**118.°46E**±0.°02,**h15**km,**n73,**
σ2s16/82,mb4.3/25,MS5.0/5,3C,Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
BJI	**Beijing**	**1.80**	**283**	Pn	**Pn**	**10**	**10**	**06.7**	**-1.6**
BJI				Pg	**Pg**	**10**	**10**	**10.9**	**-1.4**
BJI				Sn	**Sn**	**10**	**27**	**27.9**	**-2.9**
BJI				Sg	**Sb**	**10**	**10**	**32.7**	**0.0**
BJI				smax	smax				
	comp=N,560nm,0.5s								
BJI				smax	smax				
	comp=E,2μm,0.7s								
BJT	**Baijiatuau**	**1.80**	**282**		**Pn**	**10**	**10**	**06.7**	**-1.6**
BJT				Sn	**Sn**	**10**	**10**	**29.3**	**-1.5**
DL2	**Dalian**	**2.58**	**106**	Pn	**Pn**	**10**	**10**	**20.4**	**+1.4**
DL2				Pg	**Pb**	**10**	**10**	**22.6**	**-1.1**
DL2				Sn	**Sn**	**10**	**10**	**50.2**	**+0.2**
DL2				Sg	**Sb**	**10**	**10**	**54.0**	**-1.1**
DL2				smax	smax				
	comp=N,1μm,0.8s								
DL2				smax	smax				
	comp=E,650nm,0.8s								
HNS	**HongShan**	**3.71**	**234**	⇑Pn	**Pn**	**10**	**10**	**33.0**	**-1.6**
HNS				Pg	**Pb**	**10**	**10**	**43.7**	**+0.7**
HNS				Sg	**Sb**	**10**	**11**	**30.0**	**+2.2**
HNS				smax	smax				
	comp=N,1μm,1.0s								
HNS				smax	smax				
	comp=E,1μm,0.9s								
SNY	**Shenyang**	**4.45**	**59**	Pn	**Pn**	**10**	**10**	**44.5**	**-0.2**
SNY				Sn	**Sn**	**10**	**11**	**35.0**	**-1.2**
SNY				smax	smax				
	comp=N,2μm,0.9s								
SNY				smax	smax				
	comp=E,1μm,0.8s								
XLT	**XiLinHaoTe**	**4.59**	**338**	*e*Pn	**Pn**	**10**	**10**	**45.9**	**-0.9**
XLT				Pg	Pg	10	11	00.4	-5.3
XLT				Sn	**Sn**	**10**	**11**	**44.0**	**+4.1**
XLT				Sg	**Sg**	**10**	**11**	**57.8**	**-7.4**
XLT				smax	smax				
	comp=E,1μm,1.2s								
SUJ	**Sinuiju**	**4.67**	**83**	Pg	**Pb**	**10**	**11**	**02.8**	**+3.5**
SUJ				Sg	**Sg**	**10**	**12**	**03.4**	**-4.1**
SUJ				AML	AML				
	comp=N,523nm,0.9s								
SUJ				AML	AML				
	comp=E,351nm,0.8s								
SUJ				AML	AML				
	comp=Z,715nm,1.4s								
TIY	**Taiyuan**	**5.10**	**249**	*e*Pn	**Pn**	**10**	**10**	**55.0**	**+1.2**
TIY				smax	smax				
	comp=Z,250nm,0.8s								
TIY				smax	smax				
	comp=Z,220nm,0.8s								
PYS	**Pyongsong**	**5.74**	**92**	Pg	**Pg**	**10**	**11**	**23.2**	**-4.5**
PYS				Sg	**Sg**	**10**	**12**	**38.6**	**-3.4**
PYS				AML	AML				
	comp=N,837nm,1.2s								
PYS				AML	AML				
	comp=E,393nm,0.9s								
PYS				AML	AML				
	comp=Z,1μm,1.2s								
HJU	**Haeju**	**5.90**	**104**	Pg	**Pg**	**10**	**11**	**27.2**	**-3.6**
HJU				Sg	**Sg**	**10**	**12**	**44.9**	**-2.3**
HJU				AML	AML				
	comp=N,218nm,1.2s								
HJU				AML	AML				
	comp=E,124nm,0.7s								
HJU				AML	AML				
	comp=Z,155nm,1.0s								
INCN	**Inchon**	**6.77**	**106**		Lg	10	13	27.9	
LYN	**LuoYang**	**6.99**	**225**	*e*Pn	**Pn**	**10**	**11**	**18.2**	**-1.5**
LYN				Sg	**Sg**	**10**	**13**	**15.2**	**-7.0**
LYN				smax	smax				
	comp=Z,60nm,1.0s								
LYN				smax	smax				
	comp=Z,70nm,1.2s								
LYN				LR	LR				
	comp=Z,930nm,9.6s								
LYN				LR	LR				
	comp=Z,670nm,12.2s								
NJ2	**Nanjing**	**7.60**	**177**	*e*Pn	**Pn**	**10**	**11**	**28.5**	**+0.4**
NJ2				Sn	**Sn**	**10**	**12**	**58.5**	**+4.5**
NJ2				smax	smax				
	comp=Z,49nm,0.6s								
NJ2				smax	smax				
	comp=Z,55nm,1.3s								
NJ2				LR	LR				
	comp=Z,540nm,6.7s								
NJ2				LR	LR				
	comp=Z,530nm,8.4s								
NJ2				LR	LR				
	comp=Z,520nm,10.2s								
KS19	**Wonju Array Si**	**7.68**	**103**		**Pn**	**10**	**11**	**30.4**	**+1.2**
KSAR	**Wonju Array Be**	**7.71**	**104**	Pn	**Pn**	**10**	**11**	**30.6**	**+1.0**
KSRS	**Korea Array**	**7.74**	**104**	Pn	**Pn**	**10**	**11**	**30.7**	**+0.8**
	comp=Z,28nm,0.5s,baz=291,slow=14,SNR=45								
KSRS				Sn	**Sn**	**10**	**12**	**53.8**	**-3.4**
	comp=Z,1.4nm,0.3s,baz=287,slow=25,SNR=4.0								
KSRS				Lg	Lg	10	13	45.0	
	comp=Z,2.8nm,0.3s,baz=287,slow=29,SNR=8.3								
SEHB	**SEOHWA**	**7.76**	**97**	Pn	**Pn**	**10**	**11**	**32.3**	**+2.1**
KSCHJ	**Chungju**	**7.99**	**107**	Pn	**Pn**	**10**	**11**	**35.4**	**+2.0**
NAWB	**Namwon**	**8.27**	**118**	Pn	**Pn**	**10**	**11**	**38.0**	**+0.8**
BNX	**BinXian**	**8.96**	**44**	⇑P	**Pn**	**10**	**11**	**47.8**	**+1.2**
XAN	**Xi'an**	**9.48**	**237**	P	**Pn**	**10**	**11**	**58.1**	**+4.2**
XAN				smax	smax				
	comp=Z,41nm,1.0s								
XAN				smax	smax				
	comp=Z,34nm,1.1s								
XAN				LR	LR				
	comp=Z,790nm,11.7s								
XAN				LR	LR				
	comp=Z,570nm,11.7s								
XAN				LR	LR				
	comp=Z,740nm,12.0s								
MDJ	**Mudanjiang**	**9.63**	**55**	P	**Pn**	**10**	**11**	**57.4**	**+1.5**
MDJ				S	**Sn**	**10**	**13**	**46.6**	**+2.8**
MDJ				pmax	pmax				
	comp=Z

MJAR	**Matsushiro Arr**	**15.86**	**95**	Pn	**P**	**10 13 25.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=290,slow=10,SNR=5.7						
MJAR				LR	LR	10 19 23.3	
	comp=Z,73nm,18.5s,baz=296,slow=37						
GULI	**GuiLin**	**15.86**	**208**	⇑P	**P**	**10 13 24.7**	**+0.4**
GOMU	**GeErMu**	**18.95**	**267**	P	**Pn**	**10 13 59.8**	**+0.3**
GOMU				pP	sP	10 14 04.6	-0.4
GOMU				sP	pP	10 14 05.7	+2.6
GOMU				S	**S**	**10 17 35.0**	**+1.1**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,46nm,4.1s						
GOMU				LR	LR		
	comp=Z,130nm,10.2s						
GOMU				LR	LR		
	comp=Z,240nm,13.9s						
GOMU				LR	LR		
	comp=Z,220nm,14.3s						
QIZ	**Qiongzhong**	**21.87**	**202**	P	**P**	**10 14 30.1**	**0.0**
QIZ				S	**S**	**10 18 33.2**	**+1.9**
QIZ				LR	LR		
	comp=Z,340nm,17.0s						
QIZ				LR	LR		
	comp=Z,320nm,12.7s						
WMQ	**Urumqi**	**23.25**	**290**	*e*P	**P**	**10 14 42.5**	**-2.2**
WMQ				pmax	pmax		
	comp=Z,38nm,0.7s						
CRAI	**Chiangrai**	**24.83**	**224**	P	**P**	**10 15 00.0**	**+0.5**
ZALV	**Zalesovo Beam**	**26.79**	**313**	P	**P**	**10 15 17.8**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=115,slow=10,SNR=2.2						
	comp=Z,0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.04**	**224**	P	**P**	**10 15 20.6**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=30,slow=8.2,SNR=14						
	comp=Z,2.8nm,0.8s						
MK31	**Makanchi Array**	**27.12**	**297**	P	**P**	**10 15 19.7**	**-0.4**
MKAR	**Makanchi Array**	**27.12**	**297**	P	**P**	**10 15 20.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=115,slow=24,SNR=2.9						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**27.12**	**297**	P	**P**	**10 15 19.4**	**-0.7**
PETK	**Petropavlovsk-**	**29.82**	**50**	P	P	10 15 49.2	+5.2
	comp=Z,1.5nm,0.4s,baz=224,slow=8.1,SNR=4.9						
PETK	**Petropavlovsk-**	**29.82**	**50**	P	**P**	**10 15 46.0**	**+1.9**
KURK	**Kurchatov**	**29.82**	**305**	P	**P**	**10 15 43.9**	**-0.2**
KURBB	**Kurchatov Arra**	**29.87**	**305**	P	**P**	**10 15 44.7**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=95,slow=9.4,SNR=18						
KURBB				PcP	**PcP**	**10 18 47.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=114,slow=2.5,SNR=8.3						
	comp=Z,1.7nm,0.6s						
SEY	**Seymchan**	**30.87**	**30**	P	**P**	**10 15 54.3**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=283,slow=4.9,SNR=5.6						
	comp=Z,3.9nm,0.9s						
BRVK	**Borovoye**	**35.16**	**309**	P	**P**	**10 16 31.3**	**+0.6**
BRVK				IAmb	IAmb	10 16 47.2	
	comp=Z,6.5nm,1.4s						
KK31	**Karatay Array**	**35.75**	**291**	P	**P**	**10 16 36.6**	**+0.6**
KKAR	**Karatay Array**	**35.75**	**291**	P	**P**	**10 16 36.5**	**+0.4**
KKAR	**Karatay Array**	**35.75**	**291**	IAmb	IAmb	10 16 40.8	
	comp=Z,1.8nm,0.8s						
CHGR	**Chuyangaron**	**37.85**	**285**	P	**P**	**10 16 52.6**	**-1.4**
CHGR				IAmb	IAmb	10 16 57.2	
	comp=Z,9.7nm,0.8s						
BELG	**Belogornoye**	**48.88**	**310**	LR	LR	10 38 33.6	
	comp=Z,2μm,21.4s,baz=303,slow=36						
J20K	**Nowinta River**	**54.06**	**33**	P	**P**	**10 19 03.2**	**+1.8**
J20K				IAmb	IAmb	10 19 07.4	
	comp=Z,5.6nm,1.0s						
ARCES	**ARCESS Array B**	**54.47**	**334**	P	**P**	**10 19 05.5**	**+1.3**
	comp=Z,4.4nm,1.1s,baz=66,slow=9.0,SNR=1.8						
	comp=Z,4.4nm,1.1s						
I21K	**Tanana**	**54.63**	**31**	P	**P**	**10 19 07.4**	**+1.9**
I21K				IAmb	IAmb	10 19 12.1	
	comp=Z,6.4nm,1.1s						
CCB	**Clear Creek Bu**	**56.49**	**31**	P	**P**	**10 19 20.5**	**+1.7**
CCB				IAmb	IAmb	10 19 25.8	
	comp=Z,5.3nm,1.4s						
ILAR	**Eielson Array**	**56.80**	**31**	P	**P**	**10 19 21.4**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=284,slow=6.3,SNR=15						
	comp=Z,2.1nm,0.9s						
PRP	**Porcupine Dome**	**57.03**	**30**	IAmb	IAmb	10 19 29.0	
	comp=Z,5.6nm,1.0s						
FINES	**FINESS Array B**	**57.17**	**325**	P	**P**	**10 19 23.0**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=71,slow=8.3,SNR=22						
	comp=Z,2.1nm,0.5s						
J26L	**Joseph Creek**	**58.22**	**30**	IAmb	IAmb	10 19 31.7	
	comp=Z,3.3nm,0.9s						
SCRK	**Sand Creek**	**58.28**	**31**	IAmb	IAmb	10 19 32.9	
	comp=Z,3.7nm,0.9s						
I29M	**Ogilvie Camp,**	**59.80**	**28**	IAmb	IAmb	10 19 43.8	
	comp=Z,3.9nm,0.8s						
AKASG	**Malin Array Be**	**60.18**	**313**	P	**P**	**10 19 43.8**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=52,slow=6.7,SNR=6.2						
	comp=Z,0.6nm,0.5s						
WRA	**Warramunga Arr**	**61.12**	**163**	P	**P**	**10 19 51.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=350,slow=7.7,SNR=12						
	comp=Z,0.6nm,0.5s						
BRTR	**Keskin Array B**	**62.71**	**300**	P	**P**	**10 20 01.7**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=86,slow=3.4,SNR=7.0						
	comp=Z,1.3nm,0.6s						
HFS	**Hagfors**	**63.13**	**327**	P	**P**	**10 20 03.1**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=65,slow=8.4,SNR=11						
	comp=Z,1.1nm,0.4s						
NB2	**NORSAR Subarra**	**63.64**	**329**	P	**P**	**10 20 09.7**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=56,slow=6.9						
NOA	**NORSAR Array B**	**63.64**	**329**	P	**P**	**10 20 06.5**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=55,slow=6.7,SNR=4.6						
	comp=Z,0.5nm,0.4s						
ASAR	**Alice Springs**	**64.63**	**164**	P	**P**	**10 20 15.6**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=346,slow=6.5,SNR=12						
	comp=Z,1.0nm,0.7s						
CLL	**Collm**	**68.54**	**319**	*e*P	**P**	**10 20 39.0**	**-0.6**
BBB	**Bella Bella**	**71.82**	**36**	LR	LR	10 54 27.9	
	comp=Z,483nm,18.3s,baz=114,slow=38						
RPZ	**Rata Peaks**	**95.61**	**145**	LR	LR	11 02 17.1	
	comp=Z,547nm,19.8s,baz=93,slow=33						
LSZ	**Lusaka**	**99.78**	**258**	LR	LR	11 09 16.6	
	comp=Z,986nm,19.1s,baz=294,slow=36						

*JMA **10** 10:42:06.7±0.1,24.7N±0.3×122.2E±0.2, h0km, MV2.3/9, TAIWAN REGION*
*TAP **10** 10:42:06.5,24.82N×122.20E,h13km,ML2.8,C*
ISC 10 10:42:06.7±1.0,24.78N±0.02×122.22E±0.02,h8km±9km, n64,σ0s49/113,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.27**	**284**	*i* P	**Pg**	**10 42 12.2**	**+0.2**
EGS				*i* S	**Sg**	**10 42 16.1**	**+0.6**
	baz=268						
TWB1	**Santiao Chiao**	**0.31**	**318**	⇓*i* P	**Pg**	**10 42 12.5**	**-0.3**
TWB1				*i* S	**Sg**	**10 42 16.3**	**-0.6**
	baz=313						
NTC	**Toucheng**	**0.36**	**282**	*e*P	**Pg**	**10 42 13.9**	**+0.2**
NTC				*e*S	**Sg**	**10 42 18.7**	**+0.2**
	baz=274						
TWC	**Suao**	**0.38**	**243**	*i* P	**Pg**	**10 42 14.1**	**+0.1**
TWC				*i* S	**Sg**	**10 42 19.4**	**+0.4**
	baz=235						
TIPB	**Shuangxi**	**0.40**	**298**	P	**Pg**	**10 42 14.6**	**+0.1**
TIPB				*i* S	**Sg**	**10 42 19.0**	**-0.8**
	baz=292						
SXI1	**Grass Mountain**	**0.44**	**315**	P	**Pg**	**10 42 15.4**	**+0.2**
SXI1				S	**Sg**	**10 42 21.8**	**+0.7**
	baz=315						
NWF	**Wu-fen Shan**	**0.49**	**306**	*i* P	**Pb**	**10 42 17.1**	**-0.5**
NWF				S	**Sb**	**10 42 23.9**	**-1.0**
	baz=302						
WFSB	**Wu-fen Shan**	**0.49**	**306**	P	**Pb**	**10 42 17.2**	**-0.3**
	baz=302						
TWE	**Neicheng**	**0.50**	**263**	*i* P	**Pg**	**10 42 16.5**	**0.0**
TWE				*i* S	**Sg**	**10 42 23.4**	**+0.4**
	baz=248						
EWUT	**Wuta**	**0.52**	**230**	P	**Pg**	**10 42 15.9**	**-0.9**
EWUT				S	**Sg**	**10 42 23.7**	**+0.1**
	baz=217						
TNOU	**National Taiwa**	**0.54**	**313**	*e*P	**Pb**	**10 42 18.1**	**-0.4**
	baz=309						
ENA	**Nanau**	**0.56**	**231**	*i* P	**Pg**	**10 42 17.7**	**+0.2**
	baz=218						
ENA				*i* S	**Sg**	**10 42 25.2**	**+0.4**
	baz=218						
FUSB	**Fushanzhiwuyua**	**0.57**	**268**	P	**Pg**	**10 42 18.1**	**+0.4**
	baz=262						
FUSB				S	**Sg**	**10 42 25.9**	**+0.6**
	baz=262						
ENTT	**Nioudou**	**0.61**	**257**	*i* P	**Pg**	**10 42 18.6**	**+0.2**
	baz=251						
ENTT				*i* S	**Sg**	**10 42 25.5**	**-0.8**
	baz=251						
TWA	**Mucha**	**0.61**	**289**	*i* P	**Pb**	**10 42 19.6**	**+0.1**
	baz=287						
TWA				S	**Sb**	**10 42 28.0**	**-0.2**
	baz=287						
NDT	**Datong Townshi**	**0.66**	**255**	P	**Pb**	**10 42 20.2**	**-0.3**
	baz=250						
NDT				S	**Sb**	**10 42 29.1**	**-0.7**
	baz=250						
LATG	**Datong**	**0.67**	**249**	P	**Pg**	**10 42 20.0**	**+0.3**
	baz=251						
LATG				S	**Sg**	**10 42 28.9**	**+0.4**
	baz=251						
YM01	**YM01**	**0.69**	**302**	P	**Pb**	**10 42 20.7**	**-0.3**
	baz=298						
YM01				S	**Sg**	**10 42 28.7**	**-0.3**
	baz=298						
TAP	**Taipei**	**0.69**	**292**	*e*P	**Pg**	**10 42 20.4**	**+0.3**
	baz=288						
JYNG	**Yonagunijimaku**	**0.74**	**116**	P	**Pg**	**10 42 20.8**	**-0.2**
JYNG				S	**Sg**	**10 42 30.9**	**+0.3**
TWY	**Chenhua**	**0.74**	**312**	*i* P	**Pb**	**10 42 21.7**	**-0.1**
	baz=309						
TWY				*i* S	**Sb**	**10 42 32.0**	**-0.2**
	baz=309						
YHNB	**Yeheng**	**0.77**	**262**	P	**Pg**	**10 42 21.7**	**+0.2**
	baz=252						
YHNB				S	**Sb**	**10 42 32.8**	**-0.2**
	baz=252						
NSK	**Sanguang**	**0.79**	**262**	*i* P	**Pg**	**10 42 20.9**	**-1.0**
	baz=254						
NSK				*i* S	**Sg**	**10 42 30.4**	**-1.7**
	baz=254						
TWS1	**Kuangyinshan**	**0.79**	**294**	P	**Pb**	**10 42 22.7**	**0.0**
	baz=290						
TWS1				S	**Sb**	**10 42 34.8**	**+1.3**
	baz=290						
YOJ	**Yonaguni jima**	**0.79**	**114**	P	**Pg**	**10 42 21.5**	**-0.4**
	baz=117						
YOJ				S	**Sb**	**10 42 33.1**	**-0.4**
	baz=117						
YOJ	**Yonaguni jima**	**0.79**	**114**	P	**Pg**	**10 42 21.5**	**-0.4**
YOJ				S	**Sg**	**10 42 32.6**	**+0.3**
ETL	**Fush Village**	**0.82**	**221**	P	**Pg**	**10 42 22.2**	**-0.3**
	baz=218						
ETL				S	**Sg**	**10 42 33.4**	**+0.2**
	baz=218						
NACB	**Ninganchiao**	**0.83**	**223**	P	**Pg**	**10 42 22.2**	**-0.4**
	baz=220						
NACB				S	**Sg**	**10 42 33.3**	**-0.1**
	baz=220						
NNSB	**Datong**	**0.83**	**245**	P	**Pg**	**10 42 22.5**	**-0.3**
	baz=232						
NNSB				S	**Sg**	**10 42 33.9**	**+0.3**
	baz=232						
NNS	**Nan Shan**	**0.84**	**246**	*i* P	**Pg**	**10 42 21.9**	**-0.9**
	baz=233						
NNS				S	**Sg**	**10 42 33.4**	**-0.3**
	baz=233						
ETLH	**Xiulin Townshi**	**0.88**	**230**	P	**Pg**	**10 42 23.6**	**0.0**
	baz=226						
ETLH				S	**Sb**	**10 42 36.0**	**-0.2**
	baz=226						
TWD	**Chiawan**	**0.90**	**219**	*i* P	**Pg**	**10 42 23.8**	**-0.2**
	baz=216						
TWD				S	**Sb**	**10 42 36.8**	**+0.2**
	baz=216						
NFF	**Wufeng Townshi**	**1.01**	**262**	P	**Pg**	**10 42 25.9**	**-0.1**
	baz=264						
NFF				S	**Sb**	**10 42 40.0**	**+0.1**
	baz=264						
FUSS	**Fushou**	**1.03**	**239**	*e*P	**Pg**	**10 42 26.5**	**-0.1**
	baz=236						
FUSS				S	**Sb**	**10 42 41.0**	**+0.3**
	baz=236						
WHF	**Hehuan Shan**	**1.07**	**234**	*i* P	**Pg**	**10 42 27.3**	**-0.1**
	baz=230						
WHF				*i* S	**Sb**	**10 42 42.1**	**+0.1**
	baz=230						
TWT	**Tachien**	**1.08**	**241**	P	**Pn**	**10 42 28.6**	**+0.3**
	baz=231						
TWT				S	**Sb**	**10 42 42.5**	**+0.4**
	baz=231						
TDCB	**Techi**	**1.10**	**242**	P	**Pb**	**10 42 27.9**	**-0.1**
	baz=231						
TDCB				S	**Sb**	**10 42 42.5**	**0.0**
	baz=231						
LIOB	**Emei**	**1.10**	**263**	P	**Pn**	**10 42 28.3**	**-0.1**
	baz=259						
LIOB				S	**Sg**	**10 42 42.0**	**0.0**
	baz=259						
NSTT	**Nanjuang**	**1.11**	**263**	*i* P	**Pn**	**10 42 29.4**	**+0.9**
	baz=259						
NSTT				*i* S	**Sn**	**10 42 44.4**	**+0.3**
	baz=259						
CHGB	**Renai**	**1.19**	**233**	P	**Pg**	**10 42 29.3**	**-0.2**
	baz=230						
CHGB				S	**Sb**	**10 42 45.6**	**+0.4**
	baz=230						
ESL	**Shilin**	**1.20**	**217**	P	**Pb**	**10 42 29.6**	**0.0**
	baz=222						
OWD	**Renai**	**1.25**	**229**	P	**Pg**	**10 42 30.6**	**-0.2**
	baz=226						
OWD				S	**Sn**	**10 42 48.0**	**+0.2**
	baz=226						
WHP	**Taichung City**	**1.26**	**247**	P	**Pb**	**10 42 30.4**	**-0.4**
	baz=244						
WHP				S	**Sb**	**10 42 47.4**	**+0.3**
	baz=244						
WUSB	**Renai**	**1.27**	**232**	P	**Pg**	**10 42 31.1**	**-0.1**
	baz=229						
WUSB				*e*S	**Sn**	**10 42 47.9**	**-0.3**
	baz=229						
WCS	**Beigang Elemen**	**1.39**	**239**	*e*P	**Pb**	**10 42 32.6**	**-0.3**
	baz=243						
WCS				*e*S	**Sg**	**10 42 51.1**	**-0.3**
	baz=243						
VWDT	**VWDT**	**1.42**	**224**	P	**Pb**	**10 42 33.3**	**0.0**
	baz=221						
VWDT				S	**Sg**	**10 42 53.3**	**+1.1**
	baz=221						
IRIF	**Iriomote-Funau**	**1.45**	**108**	P	**Pb**	**10 42 33.9**	**0.0**
IRIF				S	**Sg**	**10 42 53.3**	**-0.1**
HGSD	**Ruisui**	**1.47**	**210**	*e*P	**Pn**	**10 42 33.6**	**+0.1**
	baz=198						
SMLT	**Sun Moon Lake**	**1.50**	**234**	P	**Pg**	**10 42 36.0**	**+0.6**
	baz=231						
SMLT				*e*S	**Sg**	**10 42 56.4**	**+1.6**
	baz=231						
WDJ	**Dajia District**	**1.50**	**254**	*e*P	**Pn**	**10 42 33.3**	**-0.5**
	baz=269						
EHY	**Hungye**	**1.51**	**213**	*e*P	**Pb**	**10 42 34.8**	**-0.2**
	baz=210						
TYC	**Yuchr**	**1.52**	**235**	P	**Pn**	**10 42 34.5**	**+0.4**
	baz=232						
TYC				S	**Sn**	**10 42 53.8**	**-0.1**
	baz=232						
SSLB	**Suanglung**	**1.52**	**230**	P	**Pb**	**10 42 35.1**	**0.0**
	baz=227						
SSLB				*e*S	**Sg**	**10 42 55.1**	**-0.4**
	baz=227						
HATJ	**Hateruma jima**	**1.62**	**116**	P	**Pb**	**10 42 36.5**	**-0.3**
HATJ				S	**Sb**	**10 42 57.9**	**+0.5**
EYUL	**Yuli**	**1.65**	**210**	*e*P	**Pb**	**10 42 37.1**	**-0.1**
	baz=206						
WHYT	**Xinyi Township**	**1.65**	**229**	*e*P	**Pg**	**10 42 38.4**	**+0.1**
	baz=232						
JKRS	**Kuro-shima**	**1.72**	**108**	P	**Pn**	**10 42 37.5**	**+0.6**
JKRS				S	**Sb**	**10 43 00.0**	**-0.3**
YUS	**Yu-Shan**	**1.73**	**222**	*e*P	**Pb**	**10 42 39.0**	**0.0**
	baz=217						
JIJ	**Ishigaki jima**	**1.80**	**103**	P	**Pn**	**10 42 38.8**	**+0.8**
JIJ				S	**Sb**	**10 43 02.4**	**-0.2**
ALS	**Alishan**	**1.81**	**226**	*e*P	**Pg**	**10 42 41.2**	**-0.1**
	baz=208						
ELDTW	**Lidau**	**1.93**	**215**	*e*P	**Pb**	**10 42 41.2**	**-0.9**
	baz=198						
EDH	**Donghe**	**1.98**	**205**	*e*P	**Pn**	**10 42 40.0**	**-0.5**
	baz=196						
STYH	**Taoyuan**	**2.08**	**220**	*e*P	**Pb**	**10 42 43.9**	**-0.7**
	baz=199						
TWK	**Hsinying**	**2.18**	**227**	*e*P	**Pb**	**10 42 45.4**	**-1.0**
	baz=221						

*IDC **10** 10:55:46.7±1.8, 18.21S×178.13W, h589km±19km, mb2.9/8, mbtmp3.9/9, Error ellipse: s-maj=30.7km s-min=18.9km az=141.0*
ISC 10 10:55:46.7±0.9,18.2S±0.2×178.2W±0.2,h590km,n11, σ0s81/13,mb3.2/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.64**	**277**	P	**P**	**10 57 09.7**	**+0.7**
	9.4nm,0.5s,baz=100,slow=5.4,SNR=10						
URZ	**Urewera**	**20.41**	**191**	P	**P**	**10 59 43.4**	**-1.0**
	9.7nm,0.9s,baz=30,slow=13,SNR=1.8						
	9.7nm,0.9s						
STKA	**Stephens Creek**	**38.70**	**242**	P	**P**	**11 02 21.2**	**-0.2**
	1.4nm,0.5s,baz=100,slow=12,SNR=3.5						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.82**	**260**	P	**P**	**11 03 09.4**	**-0.2**
	0.8nm,0.3s,baz=95,slow=7.3,SNR=68						
WRA				PcP	**PcP**	**11 04 39.2**	**+0.6**
	0.2nm,0.4s,baz=93,slow=3.5,SNR=2.0						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**44.95**	**254**	P	**P**	**11 03 11.2**	**+0.6**
	4.0nm,0.6s,baz=86,slow=8.9,SNR=97						
ASAR				PcP	**PcP**	**11 04 39.5**	**+0.5**
	0.4nm,0.5s,baz=108,slow=3.5,SNR=6.9						
	4.0nm,0.6s						
MJAR	**Matsushiro Arr**	**68.28**	**323**	P	**P**	**11 05 49.2**	**-0.6**
	0.5nm,0.6s,baz=152,slow=7.2,SNR=2.0						
	0.5nm,0.6s						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**11 06 53.8**	**+0.6**
	0.1nm,0.4s,baz=243,slow=8.0,SNR=2.5						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**85.95**	**58**	P	**P**	**11 07 26.5**	**+0.8**
	0.3nm,0.7s,baz=224,slow=4.7,SNR=4.2						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**86.11**	**13**	P	**P**	**11 07 24.1**	**-1.4**
	0.2nm,0.5s,baz=228,slow=4.1,SNR=2.4						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**145.16**	**315**	PKPbc	**PKPdf**	**11 14 19.0**	**+0.7**
	0.5nm,0.5s,baz=130,slow=5.8,SNR=3.2						
GERES	**GERESS Array B**	**147.95**	**345**	PKPbc	**PKPbc**	**11 14 25.9**	**-0.6**
	0.1nm,0.4s,baz=48,slow=1.5,SNR=4.9						

*ISU **10** 11:02:35,40.95N×69.75E,h30km*
*KRNET **10** 11:02:35.9±0.1,41.07N×70.09E,h15km,mb2.7*
ISC 10 11:02:32.2±2.4,41.09N±0.05×69.7E±0.1,h10km,n7, σ1s88/12,6C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**1.15**	**67**	⇓*e*P	**Pn**	**11 02 53.4**	**-1.1**
	baz=64						
TRKS				⇓*e*S	**Sb**	**11 03 05.9**	**-3.5**
	baz=64						
BTK	**Batken**	**1.32**	**141**	⇑*e*P	**Pg**	**11 02 57.8**	**+0.3**
	baz=51						
BTK				⇑*e*S	**Sg**	**11 03 14.0**	**-0.7**
	baz=51						
CHMI	**Chimion**	**1.59**	**120**	P	**Pg**	**11 03 04.0**	**+1.3**
CHMI				S	**Sg**	**11 03 26.2**	**+2.9**
FRG	**Fergana**	**1.72**	**114**	P	**Pg**	**11 03 05.8**	**+0.7**
FRG				S	**Sg**	**11 03 29.3**	**+1.9**
ARK	**Arkit**	**1.82**	**66**	⇑*e*P	**Pb**	**11 03 05.6**	**-0.1**
	baz=62						
ARK				⇑*e*S	**Sn**	**11 03 27.3**	**+0.3**
	baz=62						
KK31	**Karatay Array**	**2.10**	**16**	⇓Pg	Pg	11 03 16.5	+4.1
	1.6nm,0.3s,baz=182,slow=14,SNR=14						
KK31				Lg	Lg	11 03 46.5	
	4.6nm,0.5s,baz=184,slow=33,SNR=8.5						
KKAR	**Karatay Array**	**2.10**	**16**	⇑*e*P	**Pg**	**11 03 13.5**	**+1.1**
	baz=9.0						
KKAR				⇑*e*S	**Sg**	**11 03 41.1**	**+1.5**
	baz=9.0						

*NEIC **10** 11:21:13.9±1.6,9.74S±0.04×111.77E±0.06,h10km±1km, mb4.7/36, Error ellipse: s-maj=11.7km s-min=3.6km az=236.0*
*IDC **10** 11:21:13.6±0.6,9.45S×111.79E,h0km,mb4.4/17, mbtmp4.4/19,ML4.4/2, Error ellipse: s-maj=19.6km s-min=10.4km az=45.0*
*DJA **10** 11:21:19.0±0.8,10°S±5°×11°2E±°,h37km±7km,M4.6/19, mb4.9/19,mB5.4/4,MLv4.3/17,Mw(mB)4.8/4,MwMwp5.4/1, Mwp5.6/1*
ISC 10 11:21:17.5±0.4,9.73S±0.06×111.73E±0.05,h35km,n138, σ1s99/140,mb4.6/45,2C,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.62**	**340**	P	**Pn**	**11 21 45.2**	**+1.6**
PWJI	**Pagerwojo**	**1.70**	**2**	P	**Pn**	**11 21 44.8**	**+0.1**
UGM	**Wanagama**	**2.16**	**326**		**Pn**	**11 21 51.3**	**+0.2**
UGM	**Wanagama**	**2.16**	**326**	P	**Pn**	**11 21 52.8**	**+1.6**
UGM	**Wanagama**	**2.16**	**326**	P	**Pn**	**11 21 52.7**	**+1.6**
GMJI	**Gumukmas**	**2.22**	**50**	P	**Pn**	**11 21 53.7**	**+1.8**
NGJI	**Ngawi**	**2.36**	**353**	P	**Pn**	**11 21 56.7**	**+2.9**
YOGI	**Yogyakarta**	**2.37**	**323**	P	**Pn**	**11 21 55.2**	**+1.2**
BLJI	**Banyuglugur**	**2.69**	**43**	P	**Pn**	**11 22 01.1**	**+2.7**
JAGI	**Jajag, Banyuwa**	**2.69**	**63**		**Pn**	**11 21 59.3**	**+0.9**
JAGI	**Jajag, Banyuwa**	**2.69**	**63**	P	**Pn**	**11 21 59.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**2.69**	**63**	P	**Pn**	**11 21 59.9**	**+1.5**
SMRI	**Semarang**	**2.95**	**334**		**Pn**	**11 22 03.9**	**+1.9**
SMRI	**Semarang**	**2.95**	**334**	P	**Pn**	**11 22 04.5**	**+2.5**
SMRI	**Semarang**	**2.95**	**334**	P	**Pn**	**11 22 04.5**	**+2.5**
ABJI	**Asem Bagus**	**3.13**	**52**	P	**Pn**	**11 22 07.3**	**+2.9**
KMMI	**Kalianget**	**3.46**	**40**	P	**Pn**	**11 22 11.5**	**+2.6**
SRBI	**Singaraja**	**3.81**	**65**	P	**Pn**	**11 22 16.1**	**+2.4**
JCJI	**Jatiwangi**	**4.70**	**313**	P	**Pn**	**11 22 25.2**	**-0.8**
LEM	**Lembang**	**4.99**	**305**	Pn	**Pn**	**11 22 29.9**	**-0.2**
	5.2nm,0.3s,baz=150,slow=12,SNR=4.1						
LEM				Sn	**Sn**	**11 23 24.9**	**-1.9**
	4.1nm,0.3s,baz=143,slow=20,SNR=1.5						
	17nm,0.5s						
TWSI	**Taliwang, Sumb**	**5.18**	**79**	P	**Pn**	**11 22 34.2**	**+1.6**
	0.3nm86nm,0.7s						
PLAI	**Plampang**	**6.03**	**82**	P	**Pn**	**11 22 46.1**	**+1.8**
	1.1nm3μm351nm,0.9s						
PLAI	**Plampang**	**6.03**	**82**	P	**Pn**	**11 22 46.1**	**+1.8**
XMIS	**Christmas Isla**	**6.04**	**262**	Pn	**Pn**	**11 22 44.0**	**-0.4**
BBKI	**Banjar Baru**	**6.95**	**27**	P	Pn	11 23 01.9	+5.0
	0.2nm40nm,0.9s						
MTKI	**Muara Teweh, K**	**9.28**	**20**

FITZ	**Fitzroy Crossi**	**15.85**	**123**	P		**Pn**	**11 24 56.5**	**-1.6**
MYLDM	**Lahad Datu**	**16.27**	**25**	Pn		**Pn**	**11 25 02.4**	**-1.1**
NLAI	**Namlea**	**16.57**	**68**	P		**P**	**11 25 12.6**	**+3.1**
	25nm,0.7s							
KNRA	**Kununurra**	**17.63**	**111**	P		**Pn**	**11 25 19.6**	**-0.9**
MEEK	**Meekatharra**	**18.04**	**160**	P		**Pn**	**11 25 23.8**	**-1.7**
MTN	**Manton Dam**	**19.27**	**101**			**Pn**	**11 25 41.0**	**+0.4**
MTN					IAmb	IAmb	11 25 48.0	
	comp=Z,30nm,0.8s							
MORW	**Morawa**	**19.66**	**169**	P		**P**	**11 25 42.5**	**-1.0**
SWI	**Sorong**	**21.33**	**67**	P		**P**	**11 26 03.7**	**+2.0**
	comp=Z,40nm,0.9s							
SIJI	**Sorong**	**21.33**	**67**	P		**P**	**11 26 00.0**	**-1.7**
	comp=Z,24nm,0.9s,baz=250,slow=5.1,SNR=8.6							
	comp=Z,24nm,0.9s							
FAKI	**Fak Fak**	**21.47**	**73**	P		**P**	**11 26 00.3**	**-2.9**
FAKI	**Fak Fak**	**21.47**	**73**	P		**P**	**11 26 05.7**	**+2.5**
	comp=Z,55nm,0.9s							
FAKI	**Fak Fak**	**21.47**	**73**	P		**P**	**11 26 02.2**	**-1.0**
SRIT	**Nakonsritamara**	**21.85**	**326**	P		**P**	**11 26 07.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**23.64**	**168**	P		**P**	**11 26 24.3**	**-1.3**
RKPI	**Ransiki, Papua**	**23.76**	**71**	P		**P**	**11 26 28.9**	**+1.9**
	comp=Z,22nm,0.8s							
WB0	**Warramunga Arr**	**24.05**	**117**	P		**P**	**11 26 28.9**	**-0.8**
WB0					IAmb	IAmb	11 26 31.3	
	comp=Z,11nm,0.7s							
WRA	**Warramunga Arr**	**24.07**	**118**	P		**P**	**11 26 30.6**	**+0.7**
	comp=Z,5.8nm,0.7s,baz=292,slow=11,SNR=106							
WRA					PcP	**PcP**	**11 30 12.3**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=294,slow=2.0,SNR=4.8							
WRA					S	**S**	**11 30 51.4**	**+6.2**
	comp=Z,0.3nm,0.9s,baz=280,slow=24,SNR=2.1							
	comp=Z,5.8nm,0.7s							
WRA	**Warramunga Arr**	**24.07**	**118**	P		**P**	**11 26 29.9**	**+0.1**
WRAB	**Tennant Creek**	**24.07**	**117**	P		**P**	**11 26 30.8**	**+1.0**
WRAB					IAmb	IAmb	11 26 32.8	
	comp=Z,13nm,0.7s							
WB2	**Warramunga Arr**	**24.08**	**118**	P		**P**	**11 26 29.3**	**-0.6**
WB2					IAmb	IAmb	11 26 32.7	
	comp=Z,10nm,0.8s							
WR0	**Warramunga Arr**	**24.25**	**117**	P		**P**	**11 26 30.6**	**-0.9**
WR0					IAmb	IAmb	11 26 33.6	
	comp=Z,15nm,0.6s							
ASAR	**Alice Springs**	**25.30**	**126**	P		**P**	**11 26 42.3**	**+1.3**
	comp=Z,5.6nm,0.6s,baz=302,slow=8.9,SNR=90							
ASAR					PcP	**PcP**	**11 30 15.8**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=329,slow=1.5,SNR=6.5							
ASAR					S	**S**	**11 31 14.9**	**+10**
	comp=Z,0.3nm,1.0s,baz=306,slow=24,SNR=1.4							
	comp=Z,5.6nm,0.6s							
ASAR	**Alice Springs**	**25.30**	**126**	P		**P**	**11 26 40.6**	**-0.5**
AS31	**Alice Springs**	**25.30**	**126**	P		**P**	**11 26 42.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**30.72**	**336**	P		**P**	**11 27 29.1**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=174,slow=8.2,SNR=5.9							
CMAR					PcP	**PcP**	**11 30 29.4**	**+2.5**
	comp=Z,0.7nm,0.4s,baz=174,slow=2.7,SNR=1.6							
	comp=Z,1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.72**	**336**	P		**P**	**11 27 27.2**	**-2.3**
STKA	**Stephens Creek**	**35.36**	**133**	P		**P**	**11 28 12.1**	**+2.2**
	comp=Z,6.7nm,0.7s,baz=304,slow=8.1,SNR=16							
	comp=Z,6.7nm,0.7s							
STKA	**Stephens Creek**	**35.36**	**133**	P		**P**	**11 28 09.5**	**-0.4**
PZH	**PanZhiHua**	**37.30**	**345**	P		**P**	**11 28 29.7**	**+3.1**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.9s							
PZH					pmax	pmax		
	comp=Z,100nm,4.8s							
H08S2	**Diego Garcia H**	**38.83**	**270**	T		T	12 09 44.9	
	baz=96							
H08S3	**Diego Garcia H**	**38.84**	**270**	T		T	12 09 47.0	
	baz=96							
H08S1	**Diego Garcia H**	**38.85**	**270**	T		T	12 09 47.1	
	baz=96							
KAAM	**Kaadhehdhoo**	**39.87**	**283**	P		**P**	**11 28 47.7**	**-0.6**
SHL	**Shillong**	**40.05**	**332**	P		**P**	**11 28 49.0**	**-0.8**
SHL					IAmb	IAmb	11 28 50.1	
	comp=Z,15nm,0.8s							
NJ2	**Nanjing**	**42.10**	**9**	*eP*		**P**	**11 29 08.3**	**+2.1**
NJ2					pmax	pmax		
	comp=Z,13nm,0.6s							
XAN	**Xi'an**	**43.61**	**357**	⇑P		**P**	**11 29 18.4**	**-0.1**
XAN					pmax	pmax		
	comp=Z,9.0nm,0.9s							
LSA	**Lhasa**	**43.93**	**334**	P		**P**	**11 29 21.3**	**-0.4**
LSA					IAmb	IAmb	11 29 23.6	
	comp=Z,8.6nm,0.8s							
JIRN	**Jiri**	**44.65**	**327**	*eP*		**P**	**11 29 26.5**	**-0.9**
GUN	**Gumba**	**45.01**	**327**	*eP*		**P**	**11 29 29.8**	**-0.5**
PKIN	**Phulchoki**	**45.01**	**326**	*eP*		**P**	**11 29 28.2**	**-2.0**
	comp=Z,3.5nm,0.3s							
DMN	**Daman**	**45.20**	**326**	*eP*		**P**	**11 29 30.0**	**-1.7**
GKN	**Gorkha**	**45.77**	**326**	*eP*		**P**	**11 29 34.7**	**-1.3**
	comp=Z,5.3nm,0.3s							
KOLN	**Koldanda**	**46.17**	**325**	*eP*		**P**	**11 29 37.7**	**-1.6**
	comp=Z,3.1nm,0.7s							
LZH	**Lanzhou**	**46.17**	**351**	*eP*		**P**	**11 29 39.8**	**+0.7**
LZH					pP	pP	11 29 51.1	+2.7
LZH					sP	sP	11 29 56.2	+4.1
LZH					pmax	pmax		
	comp=Z,24nm,1.1s							
DANN	**Dangsing**	**46.52**	**325**	*eP*		**P**	**11 29 41.2**	**-0.9**
	comp=Z,41nm,0.8s							
PYUN	**Piuthan**	**46.77**	**324**	*eP*		**P**	**11 29 43.0**	**-1.0**
	comp=Z,26nm,0.9s							
GOMU	**GeErMu**	**48.38**	**342**	P		**P**	**11 29 58.9**	**+2.4**
GOMU					pP	pP	11 30 03.1	-2.8
GOMU					sP	sP	11 30 03.8	-5.8
GOMU					pmax	pmax		
	comp=Z,2.0nm,0.4s							
KSAR	**Wonju Array Be**	**49.30**	**17**	P		**P**	**11 30 03.1**	**0.0**
KSRS	**Korea Array**	**49.33**	**17**	P		**P**	**11 30 03.5**	**+0.2**
	comp=Z,7.5nm,0.8s,baz=203,slow=8.2,SNR=35							
	comp=Z,7.5nm,0.8s							
KS19	**Wonju Array Si**	**49.35**	**17**	P		**P**	**11 30 03.7**	**+0.1**
GTA	**Gaotai**	**50.13**	**348**	⇑P		**P**	**11 30 10.4**	**+0.9**
GTA					sP	sP	11 30 35.0	+12
GTA					pmax	pmax		
	comp=Z,8.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**50.32**	**360**	*eP*		**P**	**11 30 14.2**	**+3.2**
HHC					pmax	pmax		
	comp=Z,32nm,0.8s							
HHC					pmax	pmax		
	comp=Z,140nm,5.8s							
INU	**Inuyama**	**50.80**	**27**	P		**P**	**11 30 13.6**	**-1.0**
INU					IAmb	IAmb	11 30 14.9	
	comp=Z,10nm,0.9s							
MAJO	**Matsushiro**	**52.33**	**27**	P		**P**	**11 30 24.4**	**-1.6**
MAJO					IAmb	IAmb	11 30 25.1	
	comp=Z,7.2nm,1.0s							
MJAR	**Matsushiro Arr**	**52.33**	**27**	P		**P**	**11 30 24.3**	**-1.7**
	comp=Z,6.8nm,0.8s,baz=197,slow=7.8,SNR=27							
	comp=Z,6.8nm,0.8s							
JSD	**Sado**	**53.60**	**26**	P		**P**	**11 30 34.3**	**-1.0**
NIL	**Nilore**	**56.56**	**322**	P		**P**	**11 30 55.7**	**-1.1**
USA0B	**Ussuriysk Arra**	**56.73**	**17**	P		**P**	**11 30 57.3**	**-0.4**
USA0B					IAmb	IAmb	11 31 02.0	
	comp=Z,11nm,1.1s							
USRK	**Ussuriysk Ar.**	**56.73**	**17**	P		**P**	**11 30 57.3**	**-0.4**
	comp=Z,12nm,0.9s,baz=206,slow=5.3,SNR=14							
	comp=Z,12nm,0.9s							
USRK	**Ussuriysk Ar.**	**56.73**	**17**	P		**P**	**11 30 56.8**	**-0.9**
ULN	**Ulaanbaatar**	**57.49**	**356**	P		**P**	**11 31 02.9**	**-0.4**
ULN					IAmb	IAmb	11 31 04.3	
	comp=Z,5.3nm,0.9s							
SONM	**Songino Array**	**57.50**	**356**	P		**P**	**11 31 03.0**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=171,slow=8.5,SNR=18							
SONM					PcP	**PcP**	**11 31 57.8**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=171,slow=3.3,SNR=6.6							
	comp=Z,3.1nm,0.8s							
SONM	**Songino Array**	**57.50**	**356**	P		**P**	**11 31 03.1**	**-0.2**
WMQ	**Urumqi**	**57.60**	**340**	*eP*		**P**	**11 31 04.6**	**+0.6**
WMQ					pmax	pmax		
	comp=Z,16nm,0.7s							
KBL	**Kabul**	**59.77**	**320**	P		**P**	**11 31 19.0**	**-0.5**
KBL					IAmb	IAmb	11 31 19.9	
	comp=Z,5.4nm,0.9s							
TARG	**Taragay, Kyrgy**	**59.94**	**331**	P		**P**	**11 31 20.2**	**-0.6**
TARG					IAmb	IAmb	11 31 22.5	
	comp=Z,4.2nm,0.9s							
NRN	**Naryn**	**60.59**	**330**	P		**P**	**11 31 24.7**	**-0.4**
NRN					IAmb	IAmb	11 31 25.4	
	comp=Z,5.1nm,0.9s							
BOOM	**Boomskoye usch**	**61.41**	**330**	P		**P**	**11 31 30.0**	**-0.5**
BOOM					IAmb	IAmb	11 31 31.2	
	comp=Z,4.4nm,0.8s							
MK31	**Makanchi Array**	**62.10**	**338**	P		**P**	**11 31 34.2**	**-0.6**
MK31					IAmb	IAmb	11 31 35.4	
	comp=Z,3.4nm,0.8s							
MKAR	**Makanchi Array**	**62.10**	**338**	P		**P**	**11 31 34.1**	**-0.8**
	comp=Z,3.2nm,0.5s,baz=146,slow=7.3,SNR=39							
	comp=Z,3.2nm,0.5s							
MKAR	**Makanchi Array**	**62.10**	**338**	P		**P**	**11 31 34.6**	**-0.3**
MAKZ	**Makanchi**	**62.23**	**337**	P		**P**	**11 31 34.6**	**-1.1**
AAK	**Ala-Archa**	**62.23**	**330**	P		**P**	**11 31 35.9**	**-0.2**
AAK					IAmb	IAmb	11 31 37.1	
	comp=Z,6.2nm,1.1s							
KKAR	**Karatay Array**	**64.61**	**328**	P		**P**	**11 31 50.3**	**-1.2**
MAW	**Mawson**	**66.20**	**198**	P		**P**	**11 32 03.9**	**+2.5**
	comp=Z,1.1nm,0.7s,baz=87,slow=5.2,SNR=2.0							
	comp=Z,1.1nm,0.7s							
MAW	**Mawson**	**66.20**	**198**	P		**P**	**11 32 01.9**	**+0.5**
ZALV	**Zalesovo Beam**	**67.41**	**343**	P		**P**	**11 32 08.3**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=153,slow=4.8,SNR=8.7							
	comp=Z,1.5nm,0.6s							
ZALV	**Zalesovo Beam**	**67.41**	**343**	P		**P**	**11 32 08.1**	**-1.2**
GEYT	**Alibeck**	**68.92**	**317**	P		**P**	**11 32 19.3**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=143,slow=3.1,SNR=2.2							
	comp=Z,1.3nm,0.5s							
YAK	**Yakutsk**	**72.89**	**9**	P		**P**	**11 32 42.9**	**+0.2**
PETK	**Petropavlovsk-**	**73.79**	**27**	P		**P**	**11 32 47.5**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=218,slow=6.2,SNR=5.5							
	comp=Z,3.0nm,0.9s							
PETK	**Petropavlovsk-**	**73.79**	**27**	P		**P**	**11 32 47.4**	**-0.8**
ABKAR	**Akbulak array**	**74.17**	**328**	P		**P**	**11 32 50.6**	**+0.1**
ABKAR	**Akbulak array**	**74.17**	**328**	P		**P**	**11 32 50.4**	**-0.1**
ABKAR					IAmb	IAmb	11 32 51.5	
	comp=Z,9.5nm,0.8s							
KBZ	**Khabaz**	**81.81**	**317**	P		**P**	**11 33 34.0**	**+0.9**
	comp=Z,5.5nm,1.0s,baz=169,slow=5.2,SNR=6.7							
	comp=Z,5.5nm,1.0s							
TIXI	**Tiksi**	**82.00**	**5**	P		**P**	**11 33 32.9**	**-0.5**
TIXI					IAmb	IAmb	11 33 33.6	
	comp=Z,6.1nm,0.8s							
BOSA	**Boshof**	**82.34**	**242**	P		**P**	**11 33 38.8**	**+2.3**
	comp=Z,2.7nm,0.9s,baz=70,slow=4.4,SNR=2.0							
	comp=Z,2.7nm,0.9s							
BRTR	**Keskin Array B**	**87.14**	**311**	P		**P**	**11 34 01.2**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=123,slow=5.3,SNR=11							
	comp=Z,2.0nm,0.8s							
KLMR	**Klimovskoe**	**89.94**	**332**	*eP*		**P**	**11 34 12.3**	**-0.6**
KLMR					AMP		11 34 15.3	
	comp=Z,24nm,1.7s							
NVAR	**Mina Array Bea**	**126.95**	**49**	PKP		**PKiKP**	**11 40 20.8**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=273,slow=3.5,SNR=3.6							
PDAR	**Pinedale Array**	**131.22**	**40**	PKhKP	PKPpre		11 40 22.9	
	comp=Z,0.1nm,0.5s,baz=52,slow=9.6,SNR=2.4							
PDAR					PKP	**PKiKP**	**11 40 28.2**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=329,slow=1.1,SNR=2.3							
ULM	**Lac du Bonnet**	**133.59**	**24**	PKP		**PKPdf**	**11 40 30.7**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=329,slow=5.9,SNR=3.6							
BDFB	**Brasilia**	**147.79**	**219**	PKPbc		**PKiKP**	**11 41 01.8**	**0.0**
	comp=Z,2.5nm,0.6s,baz=166,slow=8.5,SNR=3.3							

*HVO **10** 11:24:03.8±0.9, 19°.426N×0°.009×155°.613W±0°.009, h3km±4km, ML2.6/14,ML2.3/46(NEIC),Error ellipse: s-maj=1.6km s-min=1.1km az=224.0*

NEIC 10 11:24:04.3±0.8, 19°.436N±0°.010×155°.586W±0°.009, h8km±3km,Error ellipse: s-maj=1.4km s-min=1.1km az=206.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Moku'aweowe**	**0.05**	**348**		Pg	11 24 07.4	+0.8
MLOA	**Mauna Loa Obse**	**0.10**	**6**		Pg	11 24 06.9	-0.2
MLOA					Sg	11 24 09.2	+0.2
MLOA	**Mauna Loa Obse**	**0.10**	**6**	IAML		11 24 09.6	
	comp=E,790nm,0.8s						
MLOA				IAML		11 24 09.6	
	comp=N,425nm,0.4s						
ALEP	**Alea Permanent**	**0.12**	**333**		Pg	11 24 07.0	-0.3
ALEP					Sg	11 24 09.2	-0.2
AIN	**Ainahou**	**0.14**	**118**		Pg	11 24 07.8	+0.4
AIN					Sg	11 24 09.8	+0.3
AIN	**Ainahou**	**0.14**	**118**	IAML		11 24 10.0	
	comp=E,2μm,0.4s						
AIN				IAML		11 24 11.5	
	comp=N,1μm,0.4s						
KHU	**Kahuku**	**0.19**	**188**		Pg	11 24 07.8	-0.5
KHU					Sg	11 24 10.8	-0.3
KHU	**Kahuku**	**0.19**	**188**	IAML		11 24 13.6	
	comp=N,623nm,0.3s						
HMH	**Humu'ula Sheep**	**0.19**	**30**		Pg	11 24 08.7	+0.3
HMH	**Humu'ula Sheep**	**0.19**	**30**		Sg	11 24 12.2	+1.0
HMH	**Humu'ula Sheep**	**0.19**	**30**	IAML		11 24 10.5	
	comp=E,152nm,3.5s						
MLH	**Mauna Loa**	**0.20**	**73**		Pg	11 24 09.0	+0.5
MLH	**Mauna Loa**	**0.20**	**73**	IAML		11 24 13.0	
	comp=E,230nm,0.5s						
MLH				IAML		11 24 13.3	
	comp=N,437nm,0.7s						
HTC	**Hot Caves**	**0.27**	**138**		Pg	11 24 09.4	-0.2
WRMHI	**West Rim**	**0.27**	**96**		Pg	11 24 10.1	+0.3
WRMHI	**West Rim**	**0.27**	**96**	IAML		11 24 12.5	
	comp=N,1μm,1.6s						
WRMHI				IAML		11 24 19.3	
	comp=E,1μm,0.9s						
UWE	**Uwekahuna**	**0.28**	**93**		Pg	11 24 09.9	0.0
SDHHI	**Sand Hill**	**0.28**	**99**	Pg	Pg	11 24 09.4	-0.5
OBL	**Observatory Le**	**0.29**	**94**	Pg	Pg	11 24 08.7	-1.4
NPH	**North Pit**	**0.29**	**95**	Pg	Pg	11 24 10.3	+0.2
NPH				IAML		11 24 11.1	
	comp=E,366nm,1.7s						
NPH				IAML		11 24 11.3	
	comp=N,476nm,2.0s						
UWB	**Uwekahuna B**	**0.29**	**92**		Pg	11 24 10.2	+0.1
UWB	**Uwekahuna B**	**0.29**	**92**	IAML		11 24 11.2	
	comp=N,324nm,1.9s						
UWB				IAML		11 24 15.8	
	comp=E,238nm,1.5s						
RSD	**Rainshed**	**0.29**	**85**		Pg	11 24 10.9	+0.7
HLP	**Hilina Pali**	**0.30**	**118**		Pg	11 24 10.3	+0.1
HLP	**Hilina Pali**	**0.30**	**118**	IAML		11 24 19.6	
	comp=E,676nm,1.7s						
HLP				IAML		11 24 19.9	
	comp=N,393nm,1.0s						
RIM	**Rim**	**0.30**	**98**	Pg	Pg	11 24 10.2	-0.1
RIM				IAML		11 24 17.1	
	comp=E,561nm,1.2s						
SBLHI	**Steaming Bluff**	**0.30**	**92**	Pg	Pg	11 24 10.1	-0.3
SBLHI				IAML		11 24 12.3	
	comp=N,453nm,1.7s						
SBLHI				IAML		11 24 16.1	
	comp=E,352nm,1.3s						
KKO	**Keanakako`i**	**0.30**	**97**	Pg	Pg	11 24 08.6	-1.8
KKO				IAML		11 24 11.7	
	comp=E,583nm,1.6s						
HATHI	**Halema'uma'u T**	**0.31**	**92**	Pg	Pg	11 24 09.6	-0.9
HATHI				IAML		11 24 14.4	
	comp=N,416nm,1.6s						
HATHI				IAML		11 24 19.9	
	comp=E,571nm,0.8s						
BYL	**Byron's Ledge**	**0.31**	**94**	Pg	Pg	11 24 10.4	-0.1
BYL				IAML		11 24 15.1	
	comp=N,528nm,1.3s						
BYL				IAML		11 24 15.2	
	comp=E,377nm,1.4s						
CPH	**Captain Cook**	**0.32**	**280**		Pg	11 24 10.4	-0.2
POHA	**Pohakuloa**	**0.32**	**9**		Pg	11 24 11.0	+0.1
KHLU	**Kahalu`u**	**0.33**	**298**		Pg	11 24 10.8	0.0
KHLU					Sb	11 24 16.9	-1.1
KHLU	**Kahalu`u**	**0.33**	**298**	IAML		11 24 17.2	
	comp=N,242nm,0.4s						
KHLU				IAML		11 24 20.8	
	comp=E,426nm,0.4s						
HUH	**Hualalai**	**0.34**	**317**		Pg	11 24 11.9	+0.7
HUH	**Hualalai**	**0.34**	**317**	IAML		11 24 18.8	
	comp=N,246nm,0.5s						
HUH				IAML		11 24 21.6	
	comp=E,340nm,0.4s						
PUH	**Pauahi**	**0.35**	**100**		Pg	11 24 11.2	-0.2
PUH	**Pauahi**	**0.35**	**100**	IAML		11 24 17.9	
	comp=N,344nm,1.5s						
PUH				IAML		11 24 20.4	
	comp=E,178nm,1.9s						
HPAH	**Hawaii Prepara**	**0.60**	**350**	Pg	Pg	11 24 15.0	-1.0
MHA	**Mahukona**	**0.81**	**338**	Pg	Pg	11 24 18.8	-1.1

*NEIC **10** 11:50:04.2±2.4, 19°.82N×0°.10×121°.55E±0°.09, h50km±8km, mb4.3/8, Error ellipse: s-maj=16.0km s-min=9.5km*

az=215.0

*IDC **10** 11:50:05.9±3.8, 19°.88N×121°.52E, h64km±36km, mb3.6/14, mbtmp3.9/16, ML3.7/2, Error ellipse: s-maj=22.1km s-min=14.9km az=76.0*

*JMA **10** 11:50:05.3±0.3, 20°.1N±1′×12°.2E±′, h156km, MV3.2/8, PHILIPPINE ISL REGION*

*MAN **10** 11:50:07.4, 19°.62N×121°.33E, h7km, mb4.6, ML3.4, MS3.3*

ISC 10 11:50:03.1±0.5, 19°.83N±0°.04×121°.48E±0°.09, h40km, n49, σ1§21/53, mb3.8/18, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.56**	**180**	⇑*eP*	**Pn**	**11 50 15.4**	**+0.7**
CICP				*i* S	**Sn**	**11 50 23.1**	**+0.2**
PACPP	**Pamplona Cagay**	**1.37**	**185**	⇑*eP*	**Pn**	**11 50 27.2**	**+1.4**
PACPP				*i* S	**Sn**	**11 50 45.5**	**+2.8**
TWG	**Pinlang**	**3.00**	**353**	Pn	**Pn**	**11 50 47.7**	**-0.5**
TPUB	**Ta-pu**	**3.54**	**347**	Pn	**Pn**	**11 50 56.1**	**+0.5**
YULB	**Yu-li**	**3.55**	**357**		**Pn**	**11 50 58.6**	**+2.9**
SSLB	**Suanglung**	**3.97**	**353**		**Pn**	**11 51 02.5**	**+1.0**
NACB	**Ninganchiao**	**4.32**	**1**	Pn	**Pn**	**11 51 07.9**	**+1.5**
HATJ	**Hateruma jima**	**4.73**	**27**	P	**Pn**	**11 51 13.4**	**+1.5**
HATJ				*eS*	**Sn**	**11 52 06.6**	**+1.1**
JYNG	**Yonagunijimaku**	**4.79**	**16**	P	**Pn**	**11 51 14.2**	**+1.4**
JYNG				S	**Sn**	**11 52 07.2**	**+0.1**
YHNB	**Yeheng**	**4.82**	**359**	Pn	**Pn**	**11 51 15.3**	**+2.2**
YOJ	**Yonaguni jima**	**4.82**	**17**	Pn	**Pn**	**11 51 13.5**	**+0.4**
YOJ	**Yonaguni jima**	**4.82**	**17**	P	**Pn**	**11 51 14.7**	**+1.5**
YOJ				S	**Sn**	**11 52 09.0**	**+1.2**
IRIF	**Iriomote-Funau**	**4.94**	**25**	P	**Pn**	**11 51 16.4**	**+1.5**
IRIF				S	**Sn**	**11 52 10.3**	**-0.5**
JIJ	**Ishigaki jima**	**5.14**	**28**	*eP*	**Pn**	**11 51 18.6**	**+1.0**
JIJ				S	**Sn**	**11 52 15.5**	**-0.2**
JTJ	**Tarama**	**5.64**	**31**	P	**Pn**	**11 51 25.8**	**+1.3**
JTJ				S	**Sn**	**11 52 28.3**	**+0.3**
JOW	**Kunigami**	**9.35**	**41**	P	**Pn**	**11 52 17.1**	**+1.8**
	1.4nm,0.3s,baz=207,slow=11,SNR=8.3						
JOW				S	**Sn**	**11 53 59.4**	**0.0**
	4.7nm,0.5s,baz=255,slow=20,SNR=2.0						
	6.3nm,0.3s						
JOW	**Kunigami**	**9.35**	**41**	Pn	**Pn**	**11 52 14.7**	**-0.7**
KSRS	**Korea Array**	**18.44**	**16**	P	**Pn**	**11 54 16.2**	**+0.7**
	0.3nm,0.3s,baz=192,slow=11,SNR=11						
	1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**21.33**	**270**	P	**P**	**11 54 47.6**	**+0.7**
	0.4nm,0.5s,baz=80,slow=10,SNR=2.2						
	0.4nm,0.5s						
KLR	**Kul'dur**	**30.47**	**13**	P	**P**	**11 56 12.8**	**+0.8**
	0.5nm,0.3s,baz=193,slow=14,SNR=1.8						
	0.5nm,0.3s						
SONM	**Songino Array**	**30.50**	**340**	P	**P**	**11 56 12.7**	**+0.3**
	0.6nm,0.5s,baz=151,slow=12,SNR=4.2						
	0.6nm,0.5s						
WB0	**Warramunga Arr**	**41.34**	**161**	P	**P**	**11 57 45.0**	**-0.3**
WB0				IAmb	IAmb	11 57 54.9	
	comp=Z,6.2nm,1.2s						
WRA	**Warramunga Arr**	**41.49**	**162**	P	**P**	**11 57 46.7**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=343,slow=9.1,SNR=15						
WRA				PcP	**PcP**	**11 59 44.1**	**+0.5**
	comp=Z,0.4nm,1.0s,baz=345,slow=3.3,SNR=2.1						
	comp=Z,1.1nm,0.6s						
WRA	**Warramunga Arr**	**41.49**	**162**	P	**P**	**11 57 47.3**	**+0.8**
WB2	**Warramunga Arr**	**41.49**	**162**	P	**P**	**11 57 46.9**	**+0.4**
WB2				IAmb	IAmb	11 58 04.0	
	comp=Z,5.8nm,1.4s						
WR0	**Warramunga Arr**	**41.56**	**161**	P	**P**	**11 57 47.0**	**0.0**
WR0				IAmb	IAmb	11 57 59.8	
	comp=Z,8.9nm,1.5s						
MKAR	**Makanchi Array**	**41.72**	**319**	P	**P**	**11 57 49.1**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=116,slow=10,SNR=6.7						
	comp=Z,1.0nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**42.63**	**84**	T	T	12 43 33.9	
	baz=280,slow=74,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**42.63**	**82**	T	T	12 43 23.3	
	baz=277						
H11N2	**WAKE ISLAND Hy**	**42.64**	**82**	T	T	12 43 22.9	
	baz=277						
H11S1	**WAKE ISLAND Hy**	**42.64**	**84**	T	T	12 43 19.6	
	baz=280,slow=74,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**42.65**	**84**	T	T	12 43 13.3	
	baz=280,slow=74,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**42.65**	**82**	T	T	12 43 21.5	
	baz=277						
GIRL	**Giralia**	**42.80**	**190**	P	**P**	**11 57 54.0**	**-3.

KLU Sn 12 05 25.5 -0.7
KLU Klutina 0.26 108 IAML 12 05 25.9
comp=N,12µm,0.2s
KLU Klutina 0.26 108 P Pn **12 05 19.6 +0.6**
baz=289
KLU S Sn **12 05 25.5 -0.7**
baz=289
VMT TAPS Tl Valdez 0.49 176 Pn **12 05 21.8 +0.7**
VMT Sn **12 05 29.6 +1.2**
SCM Sheep Creek Mo 0.50 302 Pn **12 05 22.1 +0.7**
SCM Sn **12 05 30.4 +1.6**
SCM Sheep Creek Mo 0.50 302 IAML 12 05 30.7
comp=N,13µm,0.4s
SCM IAML 12 05 30.8
comp=E,14µm,0.4s
SCM Sheep Creek Mo 0.50 302 P Pn **12 05 22.0 +0.7**
baz=121
SCM S Sn **12 05 30.4 +1.6**
baz=121
JPK Jack Peak 0.52 189 Pn **12 05 22.4 +0.6**
DIV Divide 0.55 144 Pn **12 05 22.5 +0.4**
DIV Sn **12 05 30.9 +0.9**
M24K Tolsona, Glenn 0.55 13 Pn **12 05 23.0 +0.8**
M24K Tolsona, Glenn 0.55 13 IAML 12 05 32.7
comp=E,5µm,0.7s
M24K IAML 12 05 32.8
comp=N,6µm,0.9s
M24K Tolsona, Glenn 0.55 13 P Pn **12 05 23.0 +0.8**
baz=193
PS12 TAPS Pump St12 0.63 98 Pn **12 05 23.5 +0.3**
PS12 Sn **12 05 32.9 +1.0**
M23K Glacier View 0.65 290 Pn **12 05 24.0 +0.5**
M23K Sn **12 05 33.6 +1.0**
M23K Glacier View 0.65 290 P Pn **12 05 24.0 +0.5**
baz=109
M23K S Sn **12 05 33.6 +1.0**
baz=109
PS11 TAPS Pump St11 0.69 41 Pn **12 05 25.0 +1.0**
GLI Glacier Island 0.77 205 Pn **12 05 25.8 +0.9**
GLI Sn **12 05 37.5 +2.3**
GLI Glacier Island 0.77 205 IAML 12 05 39.5
comp=E,5µm,0.4s
GLI Glacier Island 0.77 205 P Pn **12 05 25.8 +0.9**
baz=25
GLI S Sn **12 05 37.6 +2.3**
baz=25
FID Port Fidalgo 0.82 181 Pn **12 05 27.1 +1.3**
FID Port Fidalgo 0.82 181 IAML 12 05 41.5
comp=E,4µm,0.3s
N25K Chitina, Valde 0.88 87 Pn **12 05 26.9 +0.3**
N25K Sn **12 05 38.8 +0.6**
N25K Chitina, Valde 0.88 87 IAML 12 05 41.1
comp=N,2µm,0.5s
N25K IAML 12 05 41.6
comp=E,2µm,0.5s
N25K Chitina, Valde 0.88 87 P Pn **12 05 26.9 +0.3**
baz=269
N25K S Sn **12 05 38.8 +0.6**
baz=269
SML Sawmill 0.93 285 Pn **12 05 27.8 +0.4**
SML Sawmill 0.93 285 P Pn **12 05 27.8 +0.4**
baz=104
KNK Knik Glacier 0.98 262 Pn **12 05 29.3 +1.3**
KNK Sn **12 05 42.9 +2.3**
KNK Knik Glacier 0.98 262 P Pn **12 05 29.3 +1.3**
baz=80
KNK S Sn **12 05 42.9 +2.3**
baz=80
HARP HAARP 1.03 35 Pn **12 05 29.6 +1.1**
HARP HAARP 1.03 35 P Pn **12 05 29.6 +1.1**
baz=216
BMRM Bremner River 1.07 124 Pn **12 05 29.7 +0.5**
BMRM Bremner River 1.07 124 P Pn **12 05 29.7 +0.5**
baz=305
EYAK Cordova Ski Ar 1.08 162 Pn **12 05 30.8 +1.5**
EYAK Cordova Ski Ar 1.08 162 P Pn **12 05 30.8 +1.5**
baz=342
WACK Wrangell Chich 1.08 67 Pn **12 05 30.3 +0.7**
WACK Sn **12 05 44.8 +1.3**
PWL Port Wells 1.16 233 Pn **12 05 31.9 +1.4**
PWL Port Wells 1.16 233 IAML 12 05 48.8
comp=E,2µm,0.4s
PWL IAML 12 05 48.9
comp=N,2µm,0.4s
PWL Port Wells 1.16 233 P Pn **12 05 31.9 +1.4**
baz=51
HIN Hinchinbrook I 1.18 182 Pn **12 05 32.2 +1.5**
HIN Hinchinbrook I 1.18 182 IAML 12 05 53.0
comp=N,2µm,0.6s
WAT6 Susitna Watana 1.18 329 Pn **12 05 30.9 +0.1**
WAT6 Susitna Watana 1.18 329 P Pn **12 05 30.9 +0.1**
baz=148
GHO Glory Hole Cre 1.20 281 Pn **12 05 31.9 +0.9**
GHO Sn **12 05 48.6 +2.5**
GLB Gilahina Butte 1.27 95 Pn **12 05 32.5 +0.6**
GLB Gilahina Butte 1.27 95 IAML 12 05 50.7
comp=E,1µm,0.4s
GLB IAML 12 05 50.7
comp=N,1µm,0.4s
PMR Palmer 1.29 272 Pn **12 05 33.5 +1.4**
PMR Palmer 1.29 272 IAML 12 05 52.1
comp=E,2µm,0.8s
PMR Palmer 1.29 272 P Pn **12 05 33.5 +1.4**
baz=90
GOAT Goat Mountain 1.30 139 Pn **12 05 33.5 +1.2**
RAGM Ragged Mountai 1.47 143 Pn **12 05 36.0 +1.4**
PAX Paxson 1.48 17 Pn **12 05 35.6 +0.9**
PAX Sn **12 05 54.1 +1.3**
PAX Paxson 1.48 17 P Pn **12 05 35.6 +0.9**
baz=198
PAX S Sn **12 05 54.1 +1.3**
baz=198
DHY Denali Highway 1.57 344 Pn **12 05 37.0 +0.8**
DHY Denali Highway 1.57 344 IAML 12 05 58.8
comp=N,1µm,0.7s
DHY Denali Highway 1.57 344 P Pn **12 05 36.9 +0.8**
baz=163
WAT1 Susitna Watana 1.60 323 Pn **12 05 37.7 +1.2**
WAT1 Susitna Watana 1.60 323 P Pn **12 05 37.7 +1.2**
baz=141
HMT Hamilton 1.63 138 Pn **12 05 37.8 +1.0**
MCARA McCarthy VSAT 1.65 95 Pn **12 05 38.4 +1.3**
MCARA McCarthy VSAT 1.65 95 IAML 12 06 13.0
comp=N,946nm,0.6s
MCARA McCarthy VSAT 1.65 95 P Pn **12 05 38.4 +1.3**
baz=278
RC01 Rabbit Creek A 1.66 255 Pn **12 05 39.0 +1.8**
RC01 Rabbit Creek A 1.66 255 P Pn **12 05 39.0 +1.8**
baz=72
WAT7 Susitna Watana 1.70 319 Pn **12 05 39.1 +1.2**
M22K Willow 1.77 278 Pn **12 05 40.5 +1.9**
M22K Willow 1.77 278 P Pn **12 05 40.5 +1.9**
baz=94
BERG Berg Lake 1.78 130 Pn **12 05 39.8 +0.9**
NICHA Nichawak Mount 1.80 137 Pn **12 05 40.1 +0.9**
M26K Nabesna, AK 1.82 61 Pn **12 05 41.2 +1.6**
M26K Nabesna, AK 1.82 61 IAML 12 06 05.3
comp=N,548nm,0.7s
M26K Nabesna, AK 1.82 61 P Pn **12 05 41.2 +1.6**
baz=244
MENT Mentasta 1.87 42 Pn **12 05 41.3 +1.2**
MENT Mentasta 1.87 42 IAML 12 06 16.7
comp=N,899nm,0.7s
MENT IAML 12 06 17.6
comp=E,547nm,0.4s
PS10 TAPS Pump St10 1.89 9 Pn **12 05 42.3 +2.0**
KHIT Khitrov Hills 1.92 125 Pn **12 05 41.7 +0.8**
KAIM Kayak Island 1.93 148 Pn **12 05 42.0 +1.1**
KAIM Kayak Island 1.93 148 P Pn **12 05 41.9 +1.1**
baz=330
TGL Tana Glacier 1.93 114 Pn **12 05 41.9 +0.9**
O22K Cooper Landing 1.94 237 Pn **12 05 43.8 +2.7**
PTPK Patty Peak 1.95 100 Pn **12 05 42.6 +1.2**
SUCK Suckling Hills 1.99 138 Pn **12 05 42.6 +0.8**
SUCK Suckling Hills 1.99 138 IAML 12 06 25.3
comp=E,589nm,0.6s
CUT Chulitna 1.99 296 Pn **12 05 43.8 +2.0**
CUT Chulitna 1.99 296 P Pn **12 05 43.8 +2.0**
baz=113
GRIN Grindle Hills 2.00 129 Pn **12 05 43.0 +1.1**
L26K Log Cabin Wild 2.05 43 Pn **12 05 44.2 +1.6**
L26K Log Cabin Wild 2.05 43 IAML 12 06 17.9
comp=E,409nm,0.5s
L26K IAML 12 06 21.6
comp=N,396nm,0.4s
L26K Log Cabin Wild 2.05 43 P Pn **12 05 44.2 +1.6**
baz=226
SUA Susitna One 2.07 269 Pn **12 05 44.5 +1.5**
SUA Susitna One 2.07 269 IAML 12 06 13.8
comp=E,361nm,0.6s
SUA IAML 12 06 14.0
comp=N,377nm,0.5s
SUA Susitna One 2.07 269 P Pn **12 05 44.5 +1.5**
baz=85
WAX Waxell Ridge 2.08 121 Pn **12 05 43.9 +0.9**
SEW Seward 2.08 226 Pn **12 05 44.1 +1.0**
SEW Seward 2.08 226 P Pn **12 05 44.1 +1.0**
baz=44
Q23K Middleton Isla 2.15 179 Pn **12 05 45.3 +1.4**
Q23K Middleton Isla 2.15 179 IAML 12 06 23.5
comp=N,424nm,0.8s
Q23K IAML 12 06 28.0
comp=E,492nm,1.2s
Q23K Middleton Isla 2.15 179 P Pn **12 05 45.3 +1.4**
baz=359
MID Middleton Isla 2.15 179 Pn **12 05 45.4 +1.4**
MID Middleton Isla 2.15 179 IAML 12 06 27.3
comp=N,428nm,1.5s
MID IAML 12 06 27.9
comp=E,444nm,1.2s
RND Reindeer 2.16 330 Pn **12 05 45.5 +1.4**
RND Reindeer 2.16 330 IAML 12 06 15.8
comp=E,607nm,0.7s
RND IAML 12 06 17.0
comp=N,505nm,0.6s
ISLE Juniper Island 2.22 114 Pn **12 05 45.5 +0.5**
ISLE Juniper Island 2.22 114 IAML 12 06 20.5
comp=E,719nm,0.4s
SNH Sunshine Point 2.25 127 Pn **12 05 46.5 +1.2**
SNH Sunshine Point 2.25 127 IAML 12 06 25.8
comp=E,498nm,0.6s
SNH IAML 12 06 26.1
comp=N,446nm,0.6s
K24K Donnelly Dome 2.26 7 Pn **12 05 48.0 +2.4**
K24K Donnelly Dome 2.26 7 P Pn **12 05 48.0 +2.4**
baz=186
M27K Edge Creek, AK 2.29 68 Pn **12 05 48.0 +2.0**
M27K Edge Creek, AK 2.29 68 P Pn **12 05 48.0 +2.0**
baz=252
RIDG Independent Ri 2.30 18 Pn **12 05 48.0 +2.0**
RIDG Independent Ri 2.30 18 IAML 12 06 29.0
comp=E,373nm,0.7s
RIDG IAML 12 06 32.3
comp=N,372nm,0.7s
RIDG Independent Ri 2.30 18 P Pn **12 05 48.0 +2.0**
baz=199
DOT Dot Lake 2.36 27 Pn **12 05 48.5 +1.7**
BAGL Bagley Icefiel 2.38 115 Pn **12 05 48.0 +0.9**
MCK McKinley 2.46 333 Pn **12 05 49.8 +1.6**
MCK McKinley 2.46 333 IAML 12 06 24.5
comp=E,536nm,0.6s
MCK IAML 12 06 25.5
comp=N,385nm,0.6s
MCK McKinley 2.46 333 P Pn **12 05 49.8 +1.6**
baz=151
SKT Skwentna 2.46 282 Pn **12 05 49.5 +1.3**
SKT Skwentna 2.46 282 IAML 12 06 26.2
comp=N,473nm,0.4s
SKT IAML 12 06 27.1
comp=E,357nm,0.5s
SKT Skwentna 2.46 282 P Pn **12 05 49.5 +1.3**
baz=97
CTG Chitna Glacier 2.54 102 P Pn **12 05 50.6 +1.2**
baz=286
CTGM Chitina Glacie 2.54 102 Pn **12 05 50.6 +1.1**
CTGM Chitina Glacie 2.54 102 IAML 12 06 33.0
comp=N,236nm,0.6s
STLK Strandline Lak 2.59 271 Pn **12 05 51.4 +1.3**
YAH Yahtse 2.59 116 Pn **12 05 50.9 +0.7**
TRF Thorofare Moun 2.60 318 Pn **12 05 51.5 +1.2**
TRF Thorofare Moun 2.60 318 IAML 12 06 34.6
comp=N,292nm,0.6s
TRF IAML 12 06 40.3
comp=E,246nm,0.6s
TRF Thorofare Moun 2.60 318 P Pn **12 05 51.5 +1.2**
baz=135
MESA MESA 2.60 121 Pn **12 05 51.2 +0.9**
MESA MESA 2.60 121 P Pn **12 05 51.2 +0.9**
baz=304
L27K Beaver Creek, 2.62 53 Pn **12 05 52.0 +1.5**
L27K Beaver Creek, 2.62 53 P Pn **12 05 52.0 +1.5**
baz=237
BC03 2.64 53 Pn **12 05 52.2 +1.6**
BCAR Beaver Creek A 2.64 53 Pn Pn **12 05 52.1 +1.4**
SCRK Sand Creek 2.66 24 Pn **12 05 52.2 +1.0**
SCRK Sand Creek 2.66 24 P Pn **12 05 52.2 +1.0**
baz=206
YUK2 White River 2.68 83 Pn **12 05 52.4 +1.1**
SPU Mount Spurr 2.73 264 Pn **12 05 55.5 +3.5**
LOGN Logan Glacier 2.73 104 Pn **12 05 53.2 +1.1**
LOGN Logan Glacier 2.73 104 IAML 12 06 35.7
comp=N,250nm,0.7s
BVCY Beaver Creek 2.76 70 Pn **12 05 54.4 +2.0**
BVCY Beaver Creek 2.76 70 P Pn **12 05 54.4 +2.0**
baz=255
BRSE Bradley Lake S 2.80 231 Pn **12 05 54.2 +1.2**
BRSE Bradley Lake S 2.80 231 P Pn **12 05 54.2 +1.2**
baz=47
TABL Table Mountain 2.82 111 Pn **12 05 53.9 +0.5**
TABL Table Mountain 2.82 111 IAML 12 06 35.7
comp=E,264nm,0.8s
TABL IAML 12 06 43.9
comp=N,198nm,0.7s
BRLK Bradley Lake 2.84 232 Pn **12 05 54.9 +1.4**
YUK3 Moose Creek 2.86 83 Pn **12 05 55.4 +1.5**
YUK3 Moose Creek 2.86 83 P Pn **12 05 55.4 +1.5**
baz=268
HDA Harding Lake 2.86 356 Pn **12 05 54.9 +1.2**
HDA Harding Lake 2.86 356 IAML 12 06 43.0
comp=N,270nm,0.5s
HDA IAML 12 06 43.2
comp=E,330nm,0.8s
HDA Harding Lake 2.86 356 P Pn **12 05 54.9 +1.2**
baz=175
BWN Browne 2.96 333 Pn **12 05 56.6 +1.6**
PS08 TAPS Pump Stn8 2.99 357 Pn **12 05 56.3 +0.9**
WRH Wood River Hil 3.01 346 Pn **12 05 56.6 +0.9**
WRH Wood River Hil 3.01 346 IAML 12 06 40.1
comp=E,209nm,0.8s
WRH IAML 12 06 48.6
comp=N,176nm,0.9s
CHX Chaix Hills 3.01 118 Pn **12 05 57.2 +1.3**
J25K Salcha River, 3.09 9 Pn **12 05 57.9 +0.9**
J25K Salcha River, 3.09 9 P Pn **12 05 57.9 +0.9**
baz=189
SAMH Samovar Hills 3.12 115 Pn **12 05 58.6 +1.2**
O28M Mount Upton 3.13 102 Pn **12 05 59.2 +1.5**
O28M Mount Upton 3.13 102 P Pn **12 05 59.2 +1.5**
baz=288
CNPM China Poot 3.13 231 Pn **12 05 58.7 +1.2**
CCB Clear Creek Bu 3.15 349 Pn **12 05 58.3 +0.6**
CCB Clear Creek Bu 3.15 349 IAML 12 06 41.9
comp=E,221nm,0.4s
CCB IAML 12 06 51.4
comp=N,141nm,0.8s
K27K Chicken 3.18 37 Pn **12 05 59.4 +1.4**
K27K Chicken 3.18 37 P Pn **12 05 59.4 +1.4**
baz=221
DFR Drift River 3.19 255 Pn **12 05 59.7 +1.4**
M20K Styx River 3.20 279 Pn **12 05 59.6 +1.1**
M20K Styx River 3.20 279 IAML 12 06 54.0
comp=E,127nm,0.6s
M20K IAML 12 07 01.7
comp=N,142nm,0.8s
M20K Styx River 3.20 279 P Pn **12 05 59.6 +1.1**
baz=93
HOM Homer 3.20 235 Pn **12 05 59.8 +1.4**
HOM Homer 3.20 235 IAML 12 06 55.5
comp=E,283nm,0.8s
HOM IAML 12 07 00.8
comp=N,274nm,1.1s
HOM Homer 3.20 235 P Pn **12 05 59.8 +1.4**
baz=51
IL31 3.22 357 Pn **12 05 59.0 +0.4**
ILAR Eielson Array 3.22 357 P Pn **12 05 59.2 +0.6**
comp=N,21nm,0.3s,baz=179,slow=13,SNR=250
ILAR S Sn **12 06 35.1 -0.6**
comp=N,12nm,0.4s,baz=182,slow=17,SNR=2.2
comp=N,42nm,0.4s
ILAR Eielson Array 3.22 357 Pn Pn **12 05 59.1 +0.5**
J26L Joseph Creek 3.22 23 Pn **12 06 00.0 +1.3**
J26L Joseph Creek 3.22 23 IAML 12 06 58.1
comp=N,127nm,0.7s
J26L Joseph Creek 3.22 23 P Pn **12 06 00.0 +1.3**
baz=205
NEA2 Nenana 3.26 340 Pn **12 05 59.6 +0.4**
NEA2 Nenana 3.26 340 IAML 12 06 53.2
comp=E,138nm,0.9s
NEA2 Nenana 3.26 340 P Pn **12 05 59.6 +0.4**
baz=157
RSO Redoubt South 3.27 253 Pn **12 05 59.9 +0.3**
BPAW Bear Paw Mtn. 3.29 323 Pn **12 06 00.5 +0.9**
BPAW Bear Paw Mtn. 3.29 323 IAML 12 06 54.1
comp=N,196nm,1.0s
BPAW IAML 12 06 56.7
comp=E,120nm,1.0s
BPAW Bear Paw Mtn. 3.29 323 P Pn **12 06 00.5 +0.9**
baz=138
RDWB Redoubt West 3.30 254 Pn **12 06 00.7 +0.8**
PCA Pinnacle 3.37 113 Pn **12 06 01.2 +0.4**
PINM Pinnacle 3.37 113 P Pn **12 06 01.2 +0.4**
baz=299
COLA College 3.38 350 Pn **12 06 01.5 +0.7**
TCOL CIGO, UAF Yank 3.38 350 Pn **12 06 02.1 +1.3**
O20K Slope Mountain 3.38 246 Pn **12 06 02.1 +1.2**
O20K Slope Mountain 3.38 246 P Pn **12 06 02.1 +1.2**
baz=61
MDM Murphy Dome 3.50 347 Pn **12 06 03.0 +0.5**
MDM Murphy Dome 3.50 347 IAML 12 07 01.9
comp=E,126nm,0.8s
POKR Poker Plat Res 3.59 353 Pn **12 06 04.2 +0.5**
POKR Poker Plat Res 3.59 353 IAML 12 07 14.2
comp=N,93nm,0.9s
POKR Poker Plat Res 3.59 353 P Pn **12 06 04.2 +0.5**
baz=172
L20K Farewell, AK 3.62 288 Pn **12 06 04.8 +0.5**
L20K Farewell, AK 3.62 288 P Pn **12 06 04.7 +0.5**
baz=101
ILSW Iliamna Southw 3.65 247 Pn **12 06 05.3 +0.6**
ILSW Iliamna Southw 3.65 247 IAML 12 07 08.1
comp=E,54nm,1.0s
ILSW IAML 12 07 18.1
comp=N,47nm,1.0s
BCPM Bancas Point 3.71 113 Pn **12 06 05.6 +0.2**
BCPM Bancas Point 3.71 113 IAML 12 07 02.1
comp=N,188nm,0.2s
M19K Big River Lodg 3.80 279 Pn **12 06 07.0 +0.4**
M19K Big River Lodg 3.80 279 IAML 12 07 09.7
comp=E,120nm,0.8s
M19K IAML 12 07 16.5
comp=N,87nm,0.6s
M19K Big River Lodg 3.80 279 P Pn **12 06 07.0 +0.4**
baz=92
M29M Somme Creek 3.86 73 Pn **12 06 09.2 +1.6**
M29M Somme Creek 3.86 73 P Pn **12 06 09.2 +1.6**
baz=260
P19K Oil Pt 3.86 243 Pn **12 06 08.9 +1.4**
P19K Oil Pt 3.86 243 IAML 12 06 55.5
comp=E,119nm,0.6s
P19K IAML 12 07 31.9
comp=N,107nm,0.8s
P19K Oil Pt 3.86 243 P Pn **12 06 08.9 +1.4**
baz=57
PNL Peninsula 3.96 116 Pn **12 06 09.1 +0.3**
PNL Peninsula 3.96 116 P Pn **12 06 09.1 +0.3**
baz=302
N19K Bonanza Creek 3.97 262 Pn **12 06 11.2 +2.2**
K20K Telida 3.97 300 Pn **12 06 09.8 +0.9**
K20K Telida 3.97 300 IAML 12 07 16.6
comp=E,157nm,0.9s
K20K IAML 12 07 16.8
comp=N,107nm,0.8s
K20K Telida 3.97 300 P Pn **12 06 09.8 +0.9**
baz=113
MLY Manley 3.98 333 Pn **12 06 09.8 +0.7**
MLY Manley 3.98 333 P Pn **12 06 09.8 +0.7**
baz=149
PRP Porcupine Dome 3.98 5 Pn **12 06 10.0 +0.7**
PRP Porcupine Dome 3.98 5 IAML 12 07 19.5
comp=N,84nm,0.9s
PRP IAML 12 07 19.9
comp=E,71nm,0.7s
PRP Porcupine Dome 3.98 5 P Pn **12 06 10.0 +0.7**
baz=186
EGAK Eagle 4.01 34 Pn **12 06 11.1 +1.6**
EGAK Eagle 4.01 34 IAML 12 07 30.7
comp=E,70nm,1.1s
EGAK IAML 12 07 38.7
comp=E,99nm,0.9s
EGAK Eagle 4.01 34 P Pn **12 06 11.1 +1.6**
baz=219
I26K Coal Creek Min 4.03 20 Pn **12 06 11.4 +1.7**
I26K Coal Creek Min 4.03 20 IAML 12 07 29.2
comp=N,90nm,0.8s
I26K IAML 12 07 31.2
comp=E,104nm,0.8s
I26K Coal Creek Min 4.03 20 P Pn **12 06 11.4 +1.7**
baz=203
L19K White Mountain 4.03 282 Pn **12 06 10.6 +0.8**
L19K White Mountain 4.03 282 IAML 12 07 25.9
comp=E,87nm,0.9s
L19K IAML 12 07 26.3
comp=N,83nm,1.0s
L19K White Mountain 4.03 282 P Pn **12 06 10.6 +0.8**
baz=95
O29M Mount Kennedy 4.04 105 Pn **12 06 10.7 +0.6**
O29M Mount Kennedy 4.04 105 P Pn **12 06 10.7 +0.6**
baz=292
DAWY Dawson 4.09 49 Pn **12 06 12.2 +1.6**
DAWY Dawson 4.09 49 P Pn **12 06 12.2 +1.6**
baz=235
SYI Shuyak Island 4.21 228 Pn **12 06 13.7 +1.5**
Q20K Shuyak Island 4.21 228 P Pn **12 06 13.7 +1.4**
baz=43
H24K Noodor Dome 4.33 352 Pn **12 06 14.8 +0.9**
H24K Noodor Dome 4.33 352 IAML 12 07 26.1
comp=N,55nm,0.6s
H24K IAML 12 07 33.1
comp=E,74nm,1.4s
H24K Noodor Dome 4.33 352 P Pn **12 06 14.8 +0.9**
baz=171
HYT Haines Junctio 4.39 96 Pn Pn **12 06 15.4 +0.6**
J20K Nowinta River 4.39 310 Pn **12 06 15.4 +0.7**
J20K Nowinta River 4.39 310 IAML 12 07 28.6
comp=E,91nm,0.7s
J20K IAML 12 07 30.9
comp=N,116nm,0.5s
J20K Nowinta River 4.39 310 P Pn **12 06 15.4 +0.7**
baz=123
I21K Tanana 4.40 328 Pn **12 06 15.7 +0.9**
I21K Tanana 4.40 328 IAML 12 07 36.0
comp=E,64nm,1.2s
I21K IAML 12 07 37.7
comp=N,54nm,1.2s
I21K Tanana 4.40 328 P Pn **12 06 15.7 +0.9**
baz=143
SVW2 Sparrevohn 4.43 268 Pn **12 06 15.0 -0.3**
Q19K Cape Douglas, 4.46 237 Pn Pn **12 06 18.2 +2.4**
N30M Aishikik Lake 4.48 87 Pn **12 06 16.5 +0.5**
N30M Aishikik Lake 4.48 87 P Pn **12 06 16.5 +0.5**
baz=276
H23K Yukon River 4.49 343 Pn **12 06 18.1 +2.1**
H23K Yukon River 4.49 343 P Pn **12 06 18.1 +2.1**
baz=161
I27K Kandik River 4.58 26 Pn **12 06 19.4 +1.9**
I27K Kandik River 4.58 26 P Pn **12 06 19.4 +1.9**
baz=210
O18K Koktuh Hills 4.64 252 Pn **12 06 17.7 -0.5**
O18K Koktuh Hills 4.64 252 P Pn **12 06 17.7 -0.5**
baz=64
M30M Minto, Yukon 4.65 73 Pn **12 06 19.1 +0.9**
M30M Minto, Yukon 4.65 73 P Pn **12 06 19.1 +0.9**
baz=262
N18K Kilae Creek 4.67 263 Pn Pn **12 06 20.9 +2.3**
TT01 Tatalina 4.68 291 Pn **12 06 18.8 +0.1**
TTA Tatalina 4.68 291 Pn **12 06 18.7 0.0**
TTA Tatalina 4.68 291 IAML 12 07 41.4
comp=E,74nm,1.3s
TTA IAML 12 07 48.1
comp=N,52nm,1.6s
TTA Tatalina 4.68 291 P Pn **12 06 18.7 0.0**
baz=103
P29M Windy Craggy 4.71 111 Pn **12 06 19.8 +0.6**
P29M Windy Craggy 4.71 111 IAML 12 07 30.0
comp=N,62nm,0.7s
P29M IAML 12 07 30.8
comp=E,62nm,0.7s

P29M	**Windy Craggy**	**4.71**	**111**	P		**Pn**	**12 06 19.7**	**+0.6**
	baz=298								
H25K	**Birch Creek**	**4.72**	**3**			**Pn**	**12 06 20.4**	**+1.2**
H25K	**Birch Creek**	**4.72**	**3**	P		**Pn**	**12 06 20.4**	**+1.2**
	baz=184								
P30M	**Million Dollar**	**4.86**	**103**			**Pn**	**12 06 21.7**	**+0.5**
P30M	**Million Dollar**	**4.86**	**103**	P		**Pn**	**12 06 21.7**	**+0.5**
	baz=292								
H22K	**Ishtalitna Cre**	**4.86**	**335**			**Pn**	**12 06 23.2**	**+2.1**
H22K	**Ishtalitna Cre**	**4.86**	**335**	P		**Pn**	**12 06 23.2**	**+2.1**
	baz=151								
KDAK	**Kodiak Island**	**4.91**	**222**	P		**Pn**	**12 06 22.3**	**+0.4**
	comp=E,0.9nm,0.3s,baz=66,slow=5.8,SNR=77								
KDAK				S		**Sn**	**12 07 13.9**	**-3.5**
	comp=E,13nm,0.3s,baz=126,slow=23,SNR=14								
	comp=E,3.1nm,0.3s								
KDAK	**Kodiak Island**	**4.91**	**222**			**Pn**	**12 06 22.5**	**+0.7**
H21K	**Melozitna Rive**	**4.99**	**328**			**Pn**	**12 06 23.6**	**+0.6**
H21K	**Melozitna Rive**	**4.99**	**328**	IAML			12 07 50.6		
	comp=E,37nm,0.6s								
H21K	**Melozitna Rive**	**4.99**	**328**	P		**Pn**	**12 06 23.6**	**+0.6**
	baz=142								
FYU	**Fort Yukon**	**5.04**	**5**	Pn		**Pn**	**12 06 25.1**	**+1.5**
FYU				IAML			12 07 52.8		
	comp=E,57nm,1.4s								
FYU				IAML			12 08 03.5		
	comp=N,72nm,2.1s								
N31M	**Braeburn, Yuko**	**5.10**	**86**	Pn		**Pn**	**12 06 25.3**	**+0.8**
N31M				IAML			12 07 47.3		
	comp=E,38nm,4.0s								
N31M				IAML			12 08 11.2		
	comp=N,38nm,2.5s								
H27K	**Steamboat Moun**	**5.15**	**23**			**Pn**	**12 06 26.8**	**+1.6**
H27K	**Steamboat Moun**	**5.15**	**23**	P		**Pn**	**12 06 26.8**	**+1.6**
	baz=207								
G24K	**Hadweenzic Riv**	**5.17**	**355**			**Pn**	**12 06 25.9**	**+0.5**
G24K	**Hadweenzic Riv**	**5.17**	**355**	P		**Pn**	**12 06 25.9**	**+0.5**
	baz=174								
I29M	**Ogilvie Camp,**	**5.27**	**40**			**Pn**	**12 06 29.0**	**+2.2**
I29M				IAML			12 07 35.0		
	comp=E,28nm,0.1s								
I29M				IAML			12 07 56.8		
	comp=N,38nm,0.8s								
MAYO	**Mayo, Yukon**	**5.28**	**63**	Pn		**Pn**	**12 06 27.8**	**+0.8**
MAYO				IAML			12 08 02.7		
	comp=E,53nm,2.0s								
G23K	**Bananza Creek**	**5.39**	**345**			**Pn**	**12 06 29.7**	**+1.2**
G23K	**Bananza Creek**	**5.39**	**345**	P		**Pn**	**12 06 29.7**	**+1.2**
	baz=161								
IM03		**5.49**	**327**			**Pn**	**12 06 30.6**	**+0.9**
IMAR	**Indian Mountai**	**5.49**	**327**	Pn		**Pn**	**12 06 30.7**	**+1.0**
G26K	**Porcupine Rive**	**5.52**	**11**			**Pn**	**12 06 30.9**	**+0.7**
G26K	**Porcupine Rive**	**5.52**	**11**	P		**Pn**	**12 06 30.9**	**+0.7**
	baz=193								
OHAK	**Old Harbor**	**5.59**	**222**			**Pn**	**12 06 31.1**	**-0.1**
OHAK	**Old Harbor**	**5.59**	**222**	P		**Pn**	**12 06 31.1**	**-0.1**
	baz=36								
WHY	**Whitehorse**	**5.68**	**94**	Pn		**Pn**	**12 06 33.6**	**+1.2**
M31M	**Drury Creek, Y**	**5.73**	**78**	Pn		**Pn**	**12 06 34.2**	**+1.0**
SKAG	**Skagway**	**5.88**	**106**			**Pn**	**12 06 36.7**	**+1.5**
COLD	**Coldfoot**	**5.91**	**346**	Pn		**Pn**	**12 06 38.7**	**+3.2**
BM03	**Burnt Mountain**	**5.92**	**7**			**Pn**	**12 06 38.8**	**+1.0**
BMAR	**Burnt Mountain**	**5.94**	**7**	Pn		**Pn**	**12 06 38.7**	**+2.7**
F24K	**Squaw Lake**	**6.00**	**355**			**Pn**	**12 06 38.0**	**+1.1**
F24K	**Squaw Lake**	**6.00**	**355**	P		**Pn**	**12 06 38.0**	**+1.1**
	baz=173								
F25K	**Christian Rive**	**6.06**	**3**			**Pn**	**12 06 38.2**	**+0.5**
F25K	**Christian Rive**	**6.06**	**3**	P		**Pn**	**12 06 38.2**	**+0.5**
	baz=184								
FARO	**Faro, Yukon**	**6.22**	**78**	Pn		**Pn**	**12 06 41.3**	**+1.4**
F26K	**Sheenjek River**	**6.23**	**8**			**Pn**	**12 06 41.4**	**+1.4**
F26K	**Sheenjek River**	**6.23**	**8**	P		**Pn**	**12 06 41.4**	**+1.4**
	baz=190								
F21K	**Alatna River**	**6.44**	**335**			**Pn**	**12 06 44.5**	**+1.7**
F21K	**Alatna River**	**6.44**	**335**	P		**Pn**	**12 06 44.5**	**+1.7**
	baz=148								
E25K	**Arctic Village**	**6.59**	**3**			**Pn**	**12 06 45.7**	**+0.9**
E25K	**Arctic Village**	**6.59**	**3**	P		**Pn**	**12 06 45.7**	**+0.9**
	baz=184								
INK	**Inuvik**	**8.68**	**33**	P		**Pn**	**12 07 13.3**	**-0.2**
	comp=E,0.2nm,0.3s,baz=237,slow=15,SNR=7.6								
	comp=E,2.8nm,0.9s								
DLBC	**Dease Lake**	**8.79**	**104**	P		**Pn**	**12 07 14.8**	**-0.4**
	comp=E,0.2nm,0.3s,baz=307,slow=10,SNR=1.8								
	comp=E,1.1nm,0.4s								
TXAR	**Lajitas Array**	**42.72**	**119**	P		**P**	**12 13 04.3**	**+0.2**
	comp=E,0.1nm,0.6s,baz=330,slow=5.2,SNR=1.7								
	comp=E,0.1nm,0.6s								
ARCES	**ARCESS Array B**	**49.05**	**4**	P		**P**	**12 13 50.5**	**-2.9**
	comp=E,3.7nm,1.0s,baz=23,slow=7.1,SNR=2.5								
	comp=E,3.7nm,1.0s								
SONM	**Songino Array**	**56.38**	**309**	P		**P**	**12 14 48.6**	**+0.7**
	comp=E,0.6nm,0.5s,baz=32,slow=8.7,SNR=3.6								
	comp=E,0.6nm,0.5s								
FINES	**FINESS Array B**	**57.17**	**4**	P		**P**	**12 14 51.8**	**-1.4**
	comp=E,3.2nm,1.0s,baz=9.8,slow=9.0,SNR=5.6								
	comp=E,3.2nm,1.0s								
AKASG	**Malin Array Be**	**68.02**	**3**	P		**P**	**12 16 04.2**	**-1.4**
	comp=E,0.9nm,0.5s,baz=359,slow=6.3,SNR=9.7								
	comp=E,0.9nm,0.5s								
CMAR	**Chiang Mai Arr**	**85.00**	**300**	P		**P**	**12 17 41.8**	**-0.5**
	comp=E,0.4nm,0.3s,baz=344,slow=5.9,SNR=4.2								
	comp=E,0.4nm,0.3s								

IDC ***10*** *12:07:05.0±3.5,29.°80S×178.°82W,h343km±32km, mb2.8/2, mbtmp4.0/5, Error ellipse: s-maj=45.8km s-min=27.6km az=91.0*

ISC 10 12:07:04.6±1.0**, 29.°81S**±0.°07**×178.°7W**±0.°2**, h350km, n33,**
σ1**§55/50, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**0.90**	**52**	P		**Pn**	**12 07 49.7**	**-0.3**
GLKZ				S		**S**	**12 08 27.1**	**+0.8**
RIZ	**Raoul Island**	**0.90**	**51**	P		**Pn**	**12 07 50.1**	**+0.1**
MXZ	**Matakaoa Point**	**8.11**	**197**	S		**S**	**12 10 33.2**	**-0.8**
WMGZ	**Waiomatatini S**	**8.33**	**196**	P		**P**	**12 09 07.4**	**+2.1**
WMGZ				S		**S**	**12 10 39.7**	**+0.9**
HAZ	**Te Kaha**	**8.44**	**199**	P		**Pn**	**12 09 03.9**	**+0.1**
HAZ				S		**S**	**12 10 39.6**	**-1.5**
PKGZ	**Pakihiroa**	**8.48**	**197**	P		**P**	**12 09 08.5**	**+1.5**
PKGZ				S		**S**	**12 10 39.6**	**-2.5**
PUZ	**Puketiti**	**8.61**	**196**	P		**P**	**12 09 09.4**	**+1.0**
PUZ				S		**S**	**12 10 42.5**	**-2.4**
RUGZ	**Raukumara Rang**	**8.66**	**199**	P		**P**	**12 09 10.1**	**+1.0**
RUGZ				S		**S**	**12 10 43.0**	**-2.4**
TWGZ	**Tauwhareparae**	**8.78**	**197**	P		**P**	**12 09 13.0**	**+2.6**
TWGZ				S		**S**	**12 10 48.9**	**+0.2**
MWZ	**Matawai**	**9.05**	**199**	P		**Pn**	**12 09 12.2**	**+1.1**
MWZ				S		**S**	**12 10 52.2**	**-2.3**
URZ	**Urewera**	**9.10**	**201**	P		**Pn**	**12 09 12.6**	**+1.0**
	4.5nm,0.3s,baz=31,slow=14,SNR=21								
URZ				S		**S**	**12 10 54.7**	**-0.9**
	5.9nm,0.3s,baz=30,slow=20,SNR=14								
URZ	**Urewera**	**9.10**	**201**	P		**Pn**	**12 09 11.6**	**-0.1**
URZ				S		**S**	**12 10 55.1**	**-0.5**
RIGZ	**Rimuhau**	**9.33**	**197**	P		**P**	**12 09 16.1**	**-0.4**
RIGZ				S		**S**	**12 10 58.8**	**-2.0**
MUGZ	**Murupara**	**9.41**	**202**	P		**Pn**	**12 09 16.1**	**+0.7**
MUGZ				S		**S**	**12 11 02.2**	**-0.3**
RAHZ	**Arahi**	**9.71**	**200**	P		**P**	**12 09 21.9**	**+1.1**
MTHZ	**Maungataniwha**	**9.73**	**201**	P		**P**	**12 09 21.1**	**+0.2**
MTHZ				S		**S**	**12 11 08.8**	**-0.8**
TLZ	**Tolley Road**	**9.73**	**208**	P		**P**	**12 09 24.7**	**+3.8**
NMHZ	**Naumai**	**9.97**	**200**	P		**P**	**12 09 24.7**	**+1.1**
NMHZ				S		**S**	**12 11 15.1**	**+0.3**
BKZ	**Black Stump Fm**	**10.13**	**202**	P		**P**	**12 09 25.1**	**-0.2**
BKZ				S		**S**	**12 11 15.1**	**-3.2**
HIZ	**Hauiti**	**10.17**	**210**	P		**P**	**12 09 30.3**	**+4.5**
NTVZ	**North Tongarir**	**10.35**	**205**	P		**P**	**12 09 29.2**	**+1.4**
KWHZ	**Kaweka Forest**	**10.38**	**201**	P		**P**	**12 09 28.7**	**+0.5**
KWHZ				S		**S**	**12 11 21.8**	**-2.1**
OTVZ	**Oturere**	**10.41**	**205**	P		**Pn**	**12 09 27.9**	**+0.5**
SNVZ	**South Ngauruho**	**10.44**	**205**	P		**P**	**12 09 29.4**	**+0.5**
SNVZ				S		**S**	**12 11 23.8**	**-1.6**
TUVZ	**Tukino**	**10.50**	**205**	P		**P**	**12 09 30.2**	**+0.6**
KAHZ	**Kahuranaki**	**10.59**	**199**	P		**P**	**12 09 30.8**	**+0.3**
KRHZ	**Kereru**	**10.60**	**201**	P		**P**	**12 09 30.5**	**-0.1**
PNHZ	**Pukenui**	**10.90**	**201**	P		**Pn**	**12 09 33.1**	**-0.1**
MSVF	**Nonsavu**	**12.38**	**346**	P		**P**	**12 09 49.2**	**-1.4**
	5.6nm,0.4s,baz=116,slow=23,SNR=11								
DZM	**Mont Dzumac**	**15.39**	**297**	P		**Pn**	**12 10 25.4**	**-0.8**
	6.7nm,0.9s,baz=131,slow=19,SNR=6.0								

ASAR	**Alice Springs**	**42.51**	**267**	P		**P**	**12 14 27.2**	**+0.2**
	0.2nm,0.6s,baz=93,slow=7.8,SNR=2.4							
	0.2nm,0.6s							
WRA	**Warramunga Arr**	**43.44**	**272**	P		**P**	**12 14 34.4**	**0.0**
	0.6nm,0.4s,baz=111,slow=7.3,SNR=21							
	0.6nm,0.4s							
FINES	**FINESS Array B**	**144.38**	**340**	PKP		**PKPdf**	**12 25 59.6**	**+0.9**
	1.5nm,0.4s,baz=50,slow=3.5,SNR=24							

IDC ***10*** *12:27:26.8±0.4,1.°06S×31.°63E,h0km,mb5.1/30, mbtmp5.1/32,ML4.8/2,MS5.3/73,Error ellipse: s-maj=9.7km s-min=8.8km az=62.0*

MOS ***10*** *12:27:26.9±0.9,0.°93S×31.°63E,h10km,mb5.9/76, MS5.3/44,Error ellipse: s-maj=7.5km s-min=3.6km az=84.8*

BJI ***10*** *12:27:27.0±0.0,1.°10S×31.°60E,h10km,mb4.9/55, mB5.6/52,Ms5.7/58,Ms7 5.4/54*

AAE ***10*** *12:27:29.2±14.0,1.°74S×31.°94E,h35km±342km*

NEIC ***10*** *12:27:31.2,1.°01S×31.°56E,h22km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.63; Mθθ=4.28; Mϕϕ-2.65; Mrθ=0.78; Mϕϕ=4.58; Mϕr-1.72; Fault plane solution: Mo6.21000×10¹⁷ NP1:φs285.91000°, δ72.62000°,λ-17.47000°. NP2:φs21.28000°,δ73.35000°, λ-161.83000°. Principal axes: T 6.5571, Plg0.0000°, Azm153.0000°; N -0.7763, Plg66.0000°, Azm62.0000°; P -5.7808, Plg24.0000°, Azm244.0000°;*

EAF ***10*** *12:27:31.0±3.0,0.°86S×31.°31E,h0km±46km,MD3.7*

NEIC ***10*** *12:27:33.4±1.8,1.°04S±0.°08×31.°62E±0.°08,h40km±1km, mb5.7/154,Ms_20 5.5/303,Mwb5.8/46,Mww5.9,Error ellipse: s-maj=14.3km s-min=12.8km az=97.0*

GCMT ***10*** *12:27:33.4±0.1,1.°05S×31.°48E,h36km,MW5.9/161, Moment Tensor Solution. s152,c323; s161,c514; Duration: 2§1 Moment tensor: Scale 10¹⁸Nm; Mrr-0.24±.01; Mθθ0.64±.01; Mϕϕ-0.39±.01; Mrθ0.14±.01; Mϕϕ0.51±.01; Mϕr-0.32±.01; Best double couple: Mo0.83200×10¹⁸ NP1:φs288.00000°,δ68.00000°, λ-23.00000°. NP2:φs27.00000°,δ68.00000°, λ-157.00000°. Principal axes: T 0.8470, Plg0.0000°, Azm338.0000°; N -0.0300, Plg59.0000°, Azm68.0000°; P -0.8170, Plg31.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *12:27:36,1.°13S×31.°37E,h40km,Moment Tensor Solution. Duration: 14§0 Moment tensor: Scale 10¹⁷Nm; Mrr-3.35; Mθθ6.84; Mϕϕ-3.49; Mrθ0.27; Mθϕ3.36; Mϕr-4.61; Fault plane solution: Mo8.23000×10¹⁷ NP1: φs290.00000°,δ57.00000°,λ-27.00000°. NP2:φs36.00000°, δ67.00000°,λ-143.00000°. Principal axes: T 7.9534, Plg6.0000°, Azm161.0000°; N 0.5227, Plg48.0000°, Azm64.0000°; P -8.4761, Plg42.0000°, Azm257.0000°;*

ISC 10 12:27:32.1±0.3**, 1.°07S**±0.°03**×31.°55E**±0.°02**, h35**km±1km**,**
h35km**:pP-P,n1402,**σ1§42/1405**,mb5.7**/306**,MS5.5**/283**,**
144C-64D,Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBAR	**Mbarara**	**0.94**	**300**	Pn		**Pb**	**12 27 50.1**	**0.0**
	658nm,0.3s,baz=61,slow=3.1							
MBAR				Lg		Lg	12 28 01.1	
	45μm,0.3s,baz=178,slow=19,SNR=9.3							
MBAR	**Mbarara**	**0.94**	**300**	*eP*		**Pb**	**12 27 50.1**	**0.0**
MBAR	**Mbarara**	**0.94**	**300**	*i P*		**Pb**	**12 27 50.0**	**0.0**
MBAR	**Mbarara**	**0.94**	**300**	*eP*		**Pb**	**12 27 50.1**	**0.0**
MBAR				*eS*		**Sn**	**12 28 00.7**	**-0.5**
MBAR	**Mbarara**	**0.94**	**300**	*eP*		**Pb**	**12 27 50.3**	**+0.2**
MBAR				*eS*		**Sn**	**12 28 00.8**	**-0.4**
KIL	**Kilembe**	**1.99**	**309**	*eP*		**Pn**	**12 28 04.2**	**+0.7**
KIL				*eS*		**Sb**	**12 28 30.7**	**-1.7**
I32KE	**NAIROBI INFRAS**	**5.28**	**92**	Pg		**Pb**	**12 29 00.0**	**-3.8**
	baz=259,slow=20							
I32KE				Lg		Lg	12 30 20.0	
	baz=215,slow=27							
I32KE				*i*			12 53 40.0	
	baz=273,slow=322,SNR=1.8							
KMBO	**Kilima Mbogo**	**5.70**	**91**	Pn		**Pn**	**12 28 53.5**	**-1.1**
	51nm,0.3s,baz=247,slow=15,SNR=221							
KMBO				Sn		**Sn**	**12 29 57.5**	**-1.6**
	705nm,0.3s,baz=328,slow=18,SNR=4.8							
KMBO				Lg		Lg	12 30 30.0	
	773nm,0.3s,baz=261,slow=8.0,SNR=10							
	221nm,0.2s							
KMBO	**Kilima Mbogo**	**5.70**	**91**	Pn		**Pn**	**12 28 53.0**	**-1.6**
KMBO	**Kilima Mbogo**	**5.70**	**91**	*eP*		**Pn**	**12 28 53.3**	**-1.3**
KMBO	**Kilima Mbogo**	**5.70**	**91**	*d iP*		**Pn**	**12 28 53.1**	**-1.6**
KMBO	**Kilima Mbogo**	**5.70**	**91**	*i P*		**Pn**	**12 28 53.9**	**-0.7**
KMBO	**Kilima Mbogo**	**5.70**	**91**	*i P*		**Pn**	**12 28 56.3**	**+1.7**
KMBO	**Kilima Mbogo**	**5.70**	**91**	P		**Pn**	**12 28 54.5**	**-0.1**
KMBO	**Kilima Mbogo**	**5.70**	**91**	*eP*		**Pn**	**12 28 53.3**	**-1.3**
KMBO				*eS*		Sn	12 29 48.8	-10
KMBO				IAMs_20	IAMs_20		12 30 30.4	
	42μm,11.2s							
KMBO				IAMs_20	IAMs_20		12 30 37.0	
	comp=Z,203μm,10.9s							
KMBO	**Kilima Mbogo**	**5.70**	**91**	*i P*		**Pn**	**12 28 53.9**	**-0.7**
KMBO	**Kilima Mbogo**	**5.70**	**91**	*eP*		**Pn**	**12 28 53.3**	**-1.3**
KMBO				*eS*		Sn	12 29 48.8	-10
KMBO				IAMs_20	IAMs_20		12 30 30.4	
	42μm,11.2s							
KMBO				IAMs_20	IAMs_20		12 30 37.0	
	comp=Z,203μm,10.9s							
KMBO	**Kilima Mbogo**	**5.70**	**91**	*eP*		**Pn**	**12 28 54.5**	**-0.1**
KMBO				*eS*		**Sb**	**12 30 19.4**	**+0.4**
KMBO	**Kilima Mbogo**	**5.70**	**91**	*i P*		**Pn**	**12 28 53.3**	**-1.3**
	SNR=51							
LODK	**Lodwar**	**5.86**	**40**	Pn		**Pn**	**12 28 55.0**	**-1.7**
LODK	**Lodwar**	**5.86**	**40**	P		**Pn**	**12 28 55.1**	**-1.5**
	SNR=414							
LODK	**Lodwar**	**5.86**	**40**	*eP*		**Pn**	**12 28 55.2**	**-1.5**
LODK				*eS*		**Sn**	**12 29 56.5**	**-6.3**
LODK				IAMs_20	IAMs_20		12 31 04.6	
	comp=Z,51μm,19.1s							
LODK	**Lodwar**	**5.86**	**40**	*eP*		**Pn**	**12 28 55.2**	**-1.5**
LODK				*eS*		**Sn**	**12 29 56.5**	**-6.3**
LODK				IAMs_20	IAMs_20		12 31 04.6	
	comp=Z,51μm,19.1s							
LODK	**Lodwar**	**5.86**	**40**	*eP*		**Pn**	**12 28 55.3**	**-1.5**
LODK				*eS*		**Sb**	**12 30 25.3**	**+1.7**
KIBK	**Kibwezi**	**6.61**	**101**	Pn		**Pn**	**12 29 03.9**	**-3.2**
KIBK	**Kibwezi**	**6.61**	**101**	P		**Pn**	**12 29 04.8**	**-2.2**
	SNR=110							
KARM1	**KARONGA**	**9.13**	**165**	*i* P		**Pn**	**12 29 38.3**	**-3.3**
KARM1				S		**Sn**	**12 31 19.9**	**-3.3**
KARM1	**KARONGA**	**9.13**	**165**	*i* P		**Pn**	**12 29 38.3**	**-3.3**
KARM1				S		**Sn**	**12 31 19.9**	**-3.3**
FURI	**Furi**	**12.18**	**36**			**Pn**	**12 30 23.5**	**-0.1**
FURI	**Furi**	**12.18**	**36**	*eP*		**Pn**	**12 30 23.8**	**+0.2**
FURI				*eS*		Sn	12 32 47.3	+8.9
FURI				IAMs_20	IAMs_20		12 34 05.6	
	comp=Z,78μm,18.2s							
FURI				IAMs_20	IAMs_20		12 34 09.2	
	comp=Z,67μm,11.2s							
FURI	**Furi**	**12.18**	**36**	*eP*		**Pn**	**12 30 23.8**	**+0.2**
FURI				*eS*		Sn	12 32 47.3	+8.9
FURI				IAMs_20	IAMs_20		12 34 05.6	
	comp=Z,78μm,18.2s							
FURI				IAMs_20	IAMs_20		12 34 09.2	
	comp=Z,67μm,11.2s							
FURI	**Furi**	**12.18**	**36**	*eP*		**Pn**	**12 30 24.7**	**+1.1**
AAE	**Adis Abeba**	**12.34**	**35**	*eP*		**Pn**	**12 30 26.2**	**+0.5**
AAE				*eS*		Sn	12 32 57.5	+15
AAE				IAMs_20	IAMs_20		12 34 10.2	
	comp=E,64μm,22.0s							
AAE				IAMs_20	IAMs_20		12 34 37.4	
	comp=N,345μm,9.9s							
AAE	**Adis Abeba**	**12.34**	**35**	*eP*		**Pn**	**12 30 26.2**	**+0.5**
AAE				*eS*		Sn	12 32 57.5	+15
AAE				IAMs_20	IAMs_20		12 34 10.2	
	comp=E,64μm,22.0s							
AAE				IAMs_20	IAMs_20		12 34 37.4	
	comp=N,345μm,9.9s							
AAE	**Adis Abeba**	**12.34**	**35**	*eP*		**Pn**	**12 30 27.4**	**+1.6**
ANKE	**Ethiopia-Afar**	**13.36**	**37**	*eP*		**Pn**	**12 30 40.5**	**+0.7**
ANKE				*eS*		S	12 34 03.6	+33
LSZ	**Lusaka**	**14.51**	**193**	Pn		Pn	12 30 50.6	-4.6
	comp=N,26nm,0.3s,baz=19,slow=13,SNR=119							
LSZ				Sn		Sn	12 33 18.7	-16
	comp=N,21nm,0.3s,baz=86,slow=15,SNR=5.1							
LSZ				Lg		Lg	12 34 59.0	
	comp=N,66nm,0.3s,baz=309,slow=21,SNR=4.7							
LSZ				LR		LR	12 36 26.9	
	comp=N,26μm,18.8s,baz=22,slow=37							
LSZ	**Lusaka**	**14.51**	**193**	*i* P		Pn	12 30 50.6	-4.6
LSZ	**Lusaka**	**14.51**	**193**	*i P*		**Pn**	**12 30 51.1**	**-4.1**
LSZ	**Lusaka**	**14.51**	**193**	*i P*		**Pn**	**12 30 51.9**	**-3.3**
LSZ	**Lusaka**	**14.51**	**193**	*i P*		**Pn**	**12 30 51.1**	**-4.1**
ATD	**Arta Tunnel**	**16.81**	**42**	Pn		**Pn**	**12 31 24.9**	**-0.1**
	comp=N,1.8nm,0.3s,baz=256,slow=4.8,SNR=13							
ATD				Lg		Lg	12 36 17.8	
	comp=N,1.0nm,0.3s,baz=125,slow=22,SNR=3.7							
	comp=N,65nm,1.0s							
ATD	**Arta Tunnel**	**16.81**	**42**	P		**Pn**	**12 31 25.4**	**+0.4**
ATD	**Arta Tunnel**	**16.81**	**42**	P		**Pn**	**12 31 26.2**	**+1.1**
	SNR=14							
ATD	**Arta Tunnel**	**16.81**	**42**	*eP*		**Pn**	**12 31 21.6**	**-3.5**
ATD				*eS*		**S**	**12 34 36.4**	**-4.3**
ATD				IAMs_20	IAMs_20		12 37 23.7	
	comp=E,113μm,5.3s							
ATD				IAMs_20	IAMs_20		12 37 32.6	
	comp=N,162μm,12.0s							
ATD	**Arta Tunnel**	**16.81**	**42**	*eP*		**Pn**	**12 31 21.6**	**-3.5**
ATD				*eS*		**S**	**12 34 36.4**	**-4.3**
ATD				IAMs_20	IAMs_20		12 37 23.7	
	comp=E,113μm,5.3s							
ATD				IAMs_20	IAMs_20		12 37 32.6	
	comp=N,162μm,12.0s							
ATD	**Arta Tunnel**	**16.81**	**42**	*eP*		**Pn**	**12 31 25.2**	**+0.2**
BLWY	**Bulawayo**	**19.17**	**188**	*i* P		**P**	**12 31 50.2**	**-2.8**
BLWY	**Bulawayo**	**19.17**	**188**	*i P*		**P**	**12 31 50.9**	**-2.1**
BLWY	**Bulawayo**	**19.17**	**188**	*i P*		**P**	**12 31 51.2**	**-1.8**
BLWY	**Bulawayo**	**19.17**	**188**	*i P*		**P**	**12 31 50.9**	**-2.1**
RUDU	**RUNDU**	**20.38**	**214**	*eP*		**P**	**12 32 04.7**	**-1.5**
RUDU				IAmb		IAmb	12 32 09.4	
	comp=Z,304nm,1.0s							
MUSN	**Musina, Limpop**	**21.16**	**184**	*i* P		**P**	**12 32 12.1**	**-2.4**
MUSN				IAmb		IAmb	12 32 16.9	
	comp=Z,278nm,1.0s							
MUSN	**Musina, Limpop**	**21.16**	**184**	*i* P		**P**	**12 32 13.5**	**-1.0**
MUSN	**Musina, Limpop**	**21.16**	**184**	*i P*		**P**	**12 32 13.6**	**-0.9**
MUSN	**Musina, Limpop**	**21.16**	**184**	*i P*		**P**	**12 32 13.5**	**-1.0**
SBV	**Sambava**	**21.96**	**125**	P		**P**	**12 32 23.1**	**0.0**
	SNR=6.4							
TSUM	**Tsumeb**	**22.63**	**216**	P		**P**	**12 32 28.9**	**-1.6**
	comp=Z,87nm,0.7s,baz=18,slow=12,SNR=72							
TSUM				S		**S**	**12 36 36.3**	**-0.1**
	comp=Z,52nm,0.8s,baz=316,slow=15,SNR=2.0							
TSUM				Lg		Lg	12 39 19.1	
	comp=Z,1.4nm,0.3s,baz=96,slow=14,SNR=3.5							
TSUM				LR		LR	12 41 02.7	
	comp=Z,9μm,18.2s,baz=38,slow=36							
	comp=Z,87nm,0.7s							
TSUM	**Tsumeb**	**22.63**	**216**	P		**P**	**12 32 28.8**	**-1.6**
TSUM				IAmb		IAmb	12 32 47.1	
	comp=Z,340nm,0.9s							
TSUM	**Tsumeb**	**22.63**	**216**	*i* P		**P**	**12 32 28.9**	**-1.6**
LEPH	**Lephalale, Lim**	**22.95**	**189**	*i* P		**P**	**12 32 31.3**	**-2.3**
LEPH				IAmb		IAmb	12 32 48.0	
	comp=Z,1μm,1.5s							
OPO	**Ambohidratompo**	**23.20**	**140**	P		**P**	**12 32 35.8**	**-0.5**
	comp=Z,112nm,1.0s,baz=302,slow=10,SNR=31							
OPO				LR		LR	12 40 54.6	
	comp=Z,10μm,21.4s,baz=172,slow=35							
	comp=Z,112nm,1.0s							
ABPO	**Ambohimpanom**	**23.55**	**140**	P		**P**	**12 32 39.1**	**-0.6**
ABPO				IAmb		IAmb	12 32 57.4	
	comp=Z,414nm,1.3s							
ABPO	**Ambohimpanom**	**23.55**	**140**	P		**P**	**12 32 39.1**	**-0.6**
ABPO				pmax		pmax		
	comp=Z,414nm,1.3s							
MSEY	**Mahe Island**	**24.16**	**99**	*eP*		**P**	**12 32 46.8**	**+1.4**

AUGR IAmb IAmb 12 33 46.5
comp=Z,88nm,1.0s
AUSN Aus 29.40 209 *e*P **P 12 33 32.0 -0.5**
AUSN IAmb IAmb 12 33 33.1
comp=Z,289nm,2.1s
KSTD Kokstad 29.47 184 *e*P **P 12 33 31.8 -1.3**
KSTD IAmb IAmb 12 34 32.9
comp=Z,52nm,0.7s
DMTO DMTO 29.65 50 P **P 12 33 36.0 +1.3**
PKA Prieska 29.65 196 *e*P **P 12 33 33.1 -1.6**
PKA IAmb IAmb 12 34 48.3
comp=Z,31nm,0.8s
HVD Gariep Dam 29.93 191 *e*P **P 12 33 35.1 -2.2**
HVD IAmb IAmb 12 34 33.3
comp=Z,106nm,0.8s
EIL Elat 30.74 6 LR LR 12 44 19.5
comp=Z,5µm,20.5s,baz=176,slow=33
BFON Badsfontein, M 31.46 193 *e*P **P 12 33 50.7 0.0**
BFON IAmb IAmb 12 34 04.8
comp=Z,583nm,2.3s
KOMG Komaggas 31.55 204 *e*P **P 12 33 49.1 -2.3**
BRAK Brakfontein 31.63 194 *e*P **P 12 33 50.9 -1.2**
BRAK IAmb IAmb 12 34 05.9
comp=Z,645nm,2.6s
GRAF Camdeboo Natio 31.75 191 *e*P **P 12 33 53.2 0.0**
GRAF IAmb IAmb 12 34 47.2
comp=Z,68nm,0.7s
SOE Somerset East 31.98 190 P **P 12 33 54.7 -0.4**
SOE IAmb IAmb 12 35 02.6
comp=Z,71nm,0.9s
SOE Somerset East 31.98 190 *e*P **P 12 33 54.6 -0.6**
SOE IAmb IAmb 12 35 09.6
comp=Z,177nm,1.4s
MZR Muzera 32.07 40 P **P 12 33 56.9 +1.0**
SNR=9.8
MZR P **P 12 33 56.9 +1.0**
SNR=9.8
MZR Muzera 32.07 40 *i*P **P 12 33 56.8 +0.9**
SNR=13
FRAZ Fraserburg 32.16 196⇑ *i*P **P 12 33 57.0 +0.2**
FRAZ IAmb IAmb 12 34 11.6
comp=Z,115nm,1.2s
ROOI Rooidraai Farm 32.16 193 *e*P **P 12 33 54.8 -1.9**
ROOI IAmb IAmb 12 34 11.5
comp=Z,162nm,1.3s
CVNA Calvinia 32.24 199 *e*P **P 12 33 57.0 -0.5**
CVNA IAmb IAmb 12 34 12.6
comp=Z,120nm,1.2s
GRAN Grantham 32.30 195 *e*P **P 12 33 56.0 -2.0**
GRAN IAmb IAmb 12 35 11.9
comp=Z,44nm,0.6s
GHWR Ruwais 32.37 38 P **P 12 33 57.8 -0.8**
GHWR P **P 12 33 57.8 -0.8**
GHAJ Ghor Haditha 32.42 6 P **P 12 33 59.2 +0.3**
GHAJ IAmb IAmb 12 34 01.3
comp=Z,146nm,1.1s
SHMA Al-Shehemyia 32.69 34 P **P 12 34 02.7 +1.4**
SUR Sutherland 32.75 197 P **P 12 34 01.5 -0.6**
comp=Z,44nm,0.8s,baz=35,slow=11,SNR=18
SUR LR LR 12 47 17.9
comp=Z,16µm,18.6s,baz=23,slow=36
comp=Z,44nm,0.8s
SUR Sutherland 32.75 197 P **P 12 34 01.0 -1.1**
SUR IAmb IAmb 12 34 17.9
comp=Z,126nm,1.1s
TOA0 Torodi Ar. Sit 32.81 296 P **P 12 34 01.4 -1.1**
TOA0 IAmb IAmb 12 34 30.4
comp=Z,109nm,1.0s
TOA0 Torodi Ar. Sit 32.81 296 P **P 12 34 01.9 -0.7**
SNR=14
TORD Torodi Ar. Bea 32.81 296 P **P 12 34 01.7 -0.8**
comp=Z,30nm,0.9s,baz=101,slow=8.0,SNR=103
PP **PnPn 12 35 08.0 -3.7**
comp=Z,62nm,0.7s,baz=105,slow=8.2,SNR=5.6
TORD PcP **PcP 12 36 47.9 +0.6**
comp=Z,40nm,0.7s,baz=101,slow=3.0,SNR=6.0
TORD S **S 12 39 12.9 -4.8**
comp=Z,9.7nm,0.8s,baz=148,slow=10,SNR=0.9
TORD Lg Lg 12 44 27.4
comp=Z,0.2nm,0.3s,baz=127,slow=24,SNR=4.0
TORD LR LR 12 47 21.9
comp=Z,12µm,20.0s,baz=110,slow=36
comp=Z,30nm,0.9s
TORD Torodi Ar. Bea 32.81 296 P **P 12 34 01.8 -0.8**
TORD IAmb IAmb 12 34 30.9
comp=Z,104nm,1.2s
MERW Merweville 32.83 196 *e*P **P 12 34 02.3 -0.3**
MERW IAmb IAmb 12 34 17.7
comp=Z,190nm,1.2s
DQM DQM 32.93 49 P **P 12 34 03.8 +0.2**
UMZA Um Al Zommool 32.98 43 P **P 12 34 05.0 +1.0**
UMZA P **P 12 34 05.0 +1.0**
JRN Qarnain Island 33.08 37 P **P 12 34 04.4 -0.4**
ASF Jabal al Asfar 33.44 8 LR LR 12 46 06.9
comp=Z,4µm,18.3s,baz=203,slow=34
ROSN Rosenhof 33.52 191 *e*P **P 12 34 08.2 -0.3**
ROSN IAmb IAmb 12 34 49.8
comp=Z,86nm,1.2s
BUFB Buffelsbos 33.52 190 *e*P **P 12 34 12.2 +3.7**
BUFB IAmb IAmb 12 34 40.2
comp=Z,190nm,1.6s
KROM Kromhout 33.54 190 *e*P **P 12 34 10.0 +1.3**
KROM IAmb IAmb 12 35 38.0
comp=Z,745nm,2.1s
MATJ Matjiesfontein 33.65 197 *e*P **P 12 34 08.8 -1.0**
MATJ IAmb IAmb 12 34 25.0
comp=Z,180nm,1.4s
MHTO MHTO 33.88 48 P **P 12 34 11.4 -0.4**
MMAI Mount Meron Ar 34.09 6 LR LR 12 47 10.6
comp=Z,3µm,19.4s,baz=320,slow=35
AJN Ajban 34.14 40 P **P 12 34 15.5 +1.5**
AJN Ajban 34.14 40 P **P 12 34 15.3 +1.2**
ALNE Al Ain 34.29 42 P **P 12 34 17.1 +1.7**
SNR=14
ALNE Al Ain 34.29 42 *i*P **P 12 34 16.9 +1.5**
SNR=9.3
ARQ Araqi 34.33 43 P **P 12 34 17.7 +2.0**
SNR=17
ARQ P **P 12 34 17.7 +2.0**
SNR=17
ASUD Al Ashush, Dub 34.41 40 P **P 12 34 17.0 +0.7**
ASUD Al Ashush, Dub 34.41 40 P **P 12 34 16.8 +0.5**
BSY Bisya 34.42 45 P **P 12 34 17.4 +0.9**
SNR=13
BSY P **P 12 34 17.4 +0.9**
SNR=13
FAQ Al Faqa, Dubai 34.66 41 P **P 12 34 19.5 +1.0**
FAQ Al Faqa, Dubai 34.66 41 P **P 12 34 19.7 +1.2**
TAM Tamanrasset 34.72 315 P P 12 34 13.3 -5.9
TAM IAmb IAmb 12 34 15.1
comp=Z,182nm,1.5s
TAM IAMs_20 IAMs_20 12 48 42.4
comp=Z,8µm,19.0s
TAM Tamanrasset 34.72 315 P P 12 34 13.3 -6.0
TAM pmax pmax
comp=Z,182nm,1.5s
TAM MLR MLR
comp=Z,8µm,19.0s
TAM Tamanrasset 34.72 315 P P 12 34 10.4 -8.9
TAM pP pP 12 34 26.7 -3.0
JMDO Jabal Madar 34.83 46 P **P 12 34 22.8 +2.7**
SOHO SOHO 34.87 42 P **P 12 34 21.2 +0.8**
SOHO SOHO 34.87 42 *i*P **P 12 34 21.1 +0.7**
SNR=43
SOHO *i*P pP 12 34 22.0 -8.8
SNR=15
NAZ Nazwa, Dubai 34.88 40 P **P 12 34 21.6 +1.2**
NAZ P **P 12 34 21.6 +1.2**
ASHO Ashiyiah 34.92 41 P **P 12 34 21.7 +0.8**
SNR=12
ASHO Ashiyiah 34.92 41 *i*P **P 12 34 22.0 +1.1**
SNR=20
BHL Bhannes 35.00 6 *e*P **P 12 34 20.8 -0.7**
HOQ Hoqain 35.04 44 P **P 12 34 22.6 +0.7**
SNR=23
HOQ P **P 12 34 22.6 +0.7**
SNR=23
HATD Hatta, Dubai 35.07 41 P **P 12 34 23.3 +1.2**
SNR=9.6
HATD Hatta, Dubai 35.07 41 *i*P **P 12 34 23.0 +0.9**
SNR=20
ELIM Elim 35.13 197 *e*P **P 12 34 21.0 -1.6**
ELIM IAmb IAmb 12 34 39.0
comp=Z,270nm,1.6s
UOSS Minazif 35.20 41 P **P 12 34 23.3 +0.1**
UOSS IAmb IAmb 12 34 41.2
comp=Z,283nm,1.8s
UOSS Minazif 35.20 41 IAMs_20 IAMs_20 12 50 18.2
comp=Z,7µm,19.0s
UOSS Minazif 35.20 41 P **P 12 34 23.6 +0.4**
UOSS Minazif 35.20 41 P **P 12 34 22.6 -0.6**
UOSS sP **sP 12 34 40.1 +2.1**
SMDO Samad 35.22 45 P **P 12 34 24.2 +0.6**
SNR=27
UMQ Umm Al-Quwin 35.25 40 P **P 12 34 25.8 +2.1**
HWQ Hawqa 35.40 6 *e*P **P 12 34 25.1 +0.1**
MSFE Esma-Masafi 35.46 41 P **P 12 34 25.6 +0.2**
MASF Masafi 35.46 40 P **P 12 34 26.5 +1.0**
MDH Madha 35.51 41 P **P 12 34 26.7 +0.9**
MDH P **P 12 34 26.7 +0.9**
MDH Madha 35.51 41 P **P 12 34 26.1 +0.2**
BIDO Bidbid 35.57 45 P **P 12 34 28.1 +1.7**
SNR=22
WBK Wadi Bani Khal 35.61 47 P **P 12 34 28.7 +1.9**
WSAR Wadi Sarin 35.75 46 LR LR 12 49 14.9
comp=Z,3µm,18.1s,baz=222,slow=37
WSAR Wadi Sarin 35.75 46 P **P 12 34 29.4 +1.4**
CSS Mathiatis 35.88 2 P **P 12 34 28.6 -0.3**
SHME Shamm 35.93 40 P **P 12 34 29.9 +0.5**
SNR=9.5
SHME P **P 12 34 29.9 +0.5**
SNR=9.5
SHME Shamm 35.93 40 *i*P **P 12 34 29.3 -0.1**
SNR=25
BANOM Banah 35.94 40 P **P 12 34 29.1 -0.5**
SNR=6.2
BANOM Banah 35.94 40 *i*P **P 12 34 29.3 -0.3**
SNR=22
KARP Karpathos 36.66 354 P **P 12 34 36.0 +0.4**
KARP IAMs_20 IAMs_20 12 52 26.7
comp=Z,7µm,22.0s
IDI Anoyia 36.70 351⇑ P **P 12 34 37.4 +1.4**
IDI Anoyia 36.70 351 P **P 12 34 36.1 +0.1**
JASK Jask - Hormozg 36.92 42 P **P 12 34 39.5 +1.5**
KIC Kosan Boka 36.97 282⇑ *i*P **P 12 34 37.5 -1.1**
comp=Z,43nm,0.5s
DBIC Dimbokro 37.14 282 P **P 12 34 39.0 -0.9**
comp=Z,30nm,0.9s,baz=112,slow=9.6,SNR=21
DBIC S **S 12 40 18.8 -5.7**
comp=Z,14nm,0.8s,baz=348,slow=2.0,SNR=1.7
DBIC LR LR 12 50 36.3
comp=Z,5µm,18.2s,baz=110,slow=37
comp=Z,30nm,0.9s
DBIC Dimbokro 37.14 282 P **P 12 34 39.1 -0.9**
DBIC IAmb IAmb 12 34 56.0
comp=Z,110nm,0.9s
DBIC Dimbokro 37.14 282⇓ *i*P **P 12 34 39.2 -0.9**
DBIC IAmb IAmb 12 34 55.7
comp=Z,108nm,0.9s
DBIC Dimbokro 37.14 282 P **P 12 34 39.1 -0.9**
DBIC pmax pmax
comp=Z,110nm,1.0s
AKAS Kas 37.15 357 P **P 12 34 39.0 -0.9**
AKAS IAmb IAmb 12 34 54.7
comp=Z,106nm,1.2s
LIC Lamto 37.23 282⇓ *i*P **P 12 34 39.9 -0.8**
comp=Z,149nm,0.7s
ARG Arkhangelos 37.23 355 P **P 12 34 40.7 +0.3**
ARG IAmb IAmb 12 34 58.2
comp=Z,136nm,0.8s
ARG Arkhangelos 37.23 355 P **P 12 34 40.7 +0.3**
ARG pmax pmax
comp=Z,136nm,0.8s
TIC Toumodi 37.30 282⇑ *e*P **P 12 34 40.0 -1.3**
comp=Z,167nm,0.7s
ELL Elmali 37.66 358 P **P 12 34 44.2 +0.1**
ELL Elmali 37.66 358 P **P 12 34 44.2 +0.1**
ELL pmax pmax
comp=Z,212nm,1.1s
SANT Santorini 37.68 352⇑ P **P 12 34 44.8 +0.5**
SANT Santorini 37.68 352 P **P 12 34 43.6 -0.7**
SANT IAmb IAmb 12 34 45.9
comp=Z,187nm,1.3s
APE Apeiranthos 38.35 352⇑ P **P 12 34 50.3 +0.4**
APE Apeiranthos 38.35 352*c* *i*P **P 12 34 49.8 -0.1**
APE pmax pmax
comp=Z,250nm,1.0s
APE MLR MLR
comp=Z,3µm,16.0s
KOWA Kowa 38.45 295 S **S 12 40 40.4 -3.9**
comp=Z,22nm,1.0s,baz=68,slow=18,SNR=2.2
KOWA LR LR 12 50 54.4
comp=Z,11µm,19.6s,baz=117,slow=36
KOWA Kowa 38.45 295 P **P 12 34 49.8 -1.2**
KOWA IAmb IAmb 12 35 10.7
comp=Z,84nm,1.1s
ISP Isparta 38.71 359 P **P 12 34 52.8 -0.1**
ISP Isparta 38.71 359*c* *i*P **P 12 34 53.3 +0.3**
ISP pmax pmax
comp=Z,174nm,0.8s
ISP MLR MLR
comp=Z,4µm,17.0s
NGCH Negor - Chabah 38.85 45 P **P 12 34 54.0 -0.2**
ITM Ithomi 39.09 348 P **P 12 34 56.1 +0.1**
MARD Mardin 39.13 12 P **P 12 34 56.8 +0.2**
MARD IAmb IAmb 12 34 59.5
comp=Z,195nm,1.4s
MANT Manisa 39.46 356 P **P 12 35 00.5 +1.1**
BNN Bunyan 39.92 5 P **P 12 35 02.3 -0.8**
WDD Wied Dalam 40.00 338 P **P 12 35 04.7 +1.0**
GURO Guroymak-BITLI 40.59 13 P **P 12 35 09.6 +0.9**
GEVA Gevas 40.60 14 P **P 12 35 09.9 +1.1**
GEVA IAmb IAmb 12 35 13.2
comp=Z,126nm,1.3s
BR131 Keskin Array S 40.64 2 P **P 12 35 09.1 0.0**
BR131 Keskin Array S 40.64 2 P **P 12 35 09.1 0.0**
BR131 pmax pmax
comp=Z,417nm,1.6s
BR131 Keskin Array S 40.64 2 P **P 12 35 09.8 +0.7**
SNR=66
BRTR Keskin Array B 40.64 2 P **P 12 35 09.1 0.0**
comp=Z,33nm,0.8s,baz=178,slow=9.0,SNR=164
comp=Z,33nm,0.8s
BRTR Keskin Array B 40.64 2 P **P 12 35 08.8 -0.2**
BRTR Keskin Array B 40.64 2 *i*P **P 12 35 09.1 0.0**
BRTR pmax pmax
comp=Z,34nm,0.8s
BR231 Keskin MP Arra 40.73 1 P **P 12 35 09.8 +0.1**
ANTO Ankara 40.76 1⇓ P **P 12 35 10.8 +0.9**
ANTO Ankara 40.76 1 P **P 12 35 10.1 +0.1**
ANTO IAmb IAmb 12 35 12.3
comp=Z,132nm,1.6s
ANTO Ankara 40.76 1 P **P 12 35 10.1 +0.1**
ANTO pmax pmax
comp=Z,132nm,1.6s
ANTO Ankara 40.76 1 P **P 12 35 10.1 +0.1**
ANTO P **P 12 35 10.1 +0.1**
BORA Eskisehir 40.76 359 P **P 12 35 10.7 +0.7**
BORA IAmb IAmb 12 35 12.7
comp=Z,224nm,1.5s
RAFF Raffo Rosso 41.30 339 P **P 12 35 14.7 +0.3**
MDUB Mudurnu 41.34 360 P **P 12 35 14.6 -0.2**
KOPT Kop Dagi 41.70 10 P **P 12 35 18.8 +0.8**
CEL Celeste 41.71 341 P **P 12 35 18.7 +0.9**
ILGA Ilgaz 41.97 2 P **P 12 35 19.7 -0.4**
ILGA IAmb IAmb 12 35 22.7
comp=Z,308nm,1.2s
KEST Kesra 42.06 333 P **P 12 35 22.1 +1.3**
comp=Z,101nm,1.0s,baz=116,slow=3.0,SNR=63
comp=Z,101nm,1.0s
KEST Kesra 42.06 333 P **P 12 35 21.4 +0.6**
KEST IAmb IAmb 12 35 23.4
comp=Z,188nm,1.1s
KEST Kesra 42.06 333 P **P 12 35 22.1 +1.3**
SNR=35
TIP Timpagrande 42.29 343⇑ P **P 12 35 23.3 +0.8**
TIP Timpagrande 42.29 343 P **P 12 35 22.4 -0.2**
TIP IAmb IAmb 12 35 24.7
comp=Z,256nm,1.7s
RDO Rodhopi 42.37 353 P **P 12 35 22.5 -0.5**
RDO IAmb IAmb 12 35 25.2
comp=Z,201nm,1.8s
KTUT Trabzon 42.52 9⇓ P **P 12 35 25.0 +0.7**
KBN Korca 42.64 348 P **P 12 35 26.0 +0.7**
KBN Korca 42.64 348 P **P 12 35 26.0 +0.7**
KBN pmax pmax
comp=Z,324nm,1.1s
DIKM Dikmen 42.65 4⇓ P **P 12 35 26.2 +0.9**
SCTE Santa Cesarea 42.66 345 P **P 12 35 25.2 -0.2**
SCTE IAmb IAmb 12 35 27.2
comp=Z,174nm,1.1s
GNI Garni 42.76 15 LR LR 12 53 30.1
comp=Z,3µm,19.4s,baz=202,slow=37
GNI Garni 42.76 15 P **P 12 35 26.0 -0.4**
GNI Garni 42.76 15*c* *i*P **P 12 35 27.4 +1.0**
GNI pmax pmax
comp=Z,90nm,1.3s
GNI MLR MLR
comp=Z,3µm,12.0s
GNI Garni 42.76 15 P **P 12 35 27.8 +1.4**
GNI Garni 42.76 15 P **P 12 35 27.3 +1.0**
BZK Bozkurt 42.89 3⇑ P **P 12 35 26.1 -1.1**
BZK Bozkurt 42.89 3 P **P 12 35 25.4 -1.8**
CUC Castrocucco 43.32 342 P **P 12 35 29.7 -1.2**
CUC IAmb IAmb 12 35 31.8
comp=Z,98nm,1.1s
TIR Tirane 43.53 347⇑ P **P 12 35 33.2 +0.7**
TIR Tirane 43.53 347 P **P 12 35 32.8 +0.4**
TIR IAmb IAmb 12 35 34.3
comp=Z,185nm,0.9s
TIR Tirane 43.53 347 P **P 12 35 32.8 +0.4**
TIR pmax pmax
comp=Z,185nm,0.9s
MATE Matera 43.67 344⇑ P **P 12 35 35.0 +1.5**
VTS Vitosha 44.13 351⇑ P **P 12 35 37.9 +0.5**
VTS Vitosha 44.13 351 P **P 12 35 36.9 -0.5**
VTS Vitosha 44.13 351 P **P 12 35 36.9 -0.5**
VTS pmax pmax
comp=Z,93nm,1.5s
ULC Ulcinj 44.26 347⇑ *i*P **P 12 35 38.5 +0.2**
DRME Dracevica, Mon 44.48 347⇑ *i*P **P 12 35 40.4 +0.3**
DRME Dracevica, Mon 44.48 347⇑ *i*P **P 12 35 40.7 +0.6**
BUM Brajici-Budva 44.66 347⇑ *i*P **P 12 35 41.6 0.0**
PAOL Paolisi 44.66 342 P **P 12 35 41.6 0.0**
PAOL IAmb IAmb 12 35 53.5
comp=Z,105nm,1.5s
RAZG Razgrad 44.66 355⇓ P **P 12 35 41.6 +0.1**
PDG Podgorica 44.70 347⇓ P **P 12 35 42.6 +0.8**
PDG Podgorica 44.70 347 P **P 12 35 41.9 +0.1**
PDG IAmb IAmb 12 35 44.3
comp=Z,194nm,1.0s
TTG Podgorica 44.70 347⇑ *i*P **P 12 35 42.2 +0.4**
PVY Plav 44.70 348⇑ *i*P **P 12 35 42.4 +0.4**
CEME Cevo 44.89 347⇑ *i*P **P 12 35 43.6 +0.2**
HCY Herceg Novi 44.89 346⇑ *i*P **P 12 35 44.2 +0.9**
HCY Herceg Novi 44.89 346⇑ *i*P **P 12 35 44.4 +1.1**
GOA Goa 44.90 67 *e*P P 12 35 51.3 +7.5
VSLR Vesyoloye 44.98 9*d* *i*P **P 12 35 43.8 -0.2**
IVA Berane 44.98 348⇑ *i*P **P 12 35 44.4 +0.2**
EFOR EFORIE 45.02 357⇑ P **P 12 35 45.1 +0.8**
KOME Kolasin 45.04 347⇑ *i*P **P 12 35 45.4 +0.7**
SOC Sochi 45.05 8 *e*P **P 12 35 41.6 -3.0**
SOC *e* 12 37 28.4
SOC *e*S **S 12 42 20.6 -0.6**
SOC *e*SS **SS 12 45 44.7 +0.6**
SOC *e*SSS SSS 12 46 29.6
SOC pmax pmax
comp=Z,148nm,1.0s
SOC MLR MLR
comp=Z,668nm,13.0s
ZEI Tsey 45.05 13 *e*P **P 12 35 42.2 -2.7**
ZEI pmax pmax
comp=Z,110nm,1.3s
NKME Niksic 45.09 347⇑ *i*P **P 12 35 44.9 -0.1**
ICOR Ion Corvin 45.11 356⇓ P **P 12 35 45.9 +0.9**
NKY Niksic 45.12 347⇑ *i*P **P 12 35 46.5 +1.2**
TREB Trebinje 45.18 346⇑ *i*P **P 12 35 46.4 +0.8**
BLKB Belogradchik 45.20 351⇑ P **P 12 35 45.9 +0.1**
BRY Bratogost 45.31 347⇑ *i*P **P 12 35 47.0 +0.2**
BRY Bratogost 45.31 347⇑ *i*P **P 12 35 47.0 +0.2**
VLAD Vladila 45.32 353⇑ P **P 12 35 47.1 +0.4**
COPA Copaceanca 45.36 354⇓ P **P 12 35 47.4 +0.4**
TIRR Tirgusor 45.41 357⇓ P **P 12 35 48.0 +0.6**
TIRR Tirgusor 45.41 357 P **P 12 35 47.2 -0.2**
TIRR Tirgusor 45.41 357 P **P 12 35 47.2 -0.2**
TIRR pmax pmax
comp=Z,474nm,2.0s
STON Ston 45.48 346⇑ *i*P **P 12 35 46.8 -1.2**
UPM Unac-Piva 45.51 347⇑ *i*P **P 12 35 49.0 +0.4**
UPM Unac-Piva 45.51 347⇑ *i*P **P 12 35 48.9 +0.4**
TLBR Topalu 45.52 356⇓ P **P 12 35 48.2 -0.1**
HRA Herat 45.52 36 P **P 12 35 48.5 -0.3**
HARR Harsova 45.67 356⇑ P **P 12 35 49.8 +0.3**
JURR Jurilovca 45.70 357⇑ P **P 12 35 49.6 0.0**
KBZ Khabaz 45.74 11 P **P 12 35 50.2 +0.2**
comp=Z,41nm,0.9s,baz=188,slow=6.1,SNR=54
KBZ S **S 12 42 31.0 -0.1**
comp=Z,2.3nm,0.7s,baz=274,slow=6.3,SNR=2.2
KBZ LR LR 12 56 21.3
comp=Z,3µm,18.2s,baz=190,slow=38
comp=Z,41nm,0.9s
KBZ Khabaz 45.74 11*c* *i*P **P 12 35 50.0 0.0**
KBZ pmax pmax
comp=Z,63nm,1.0s
KBZ MLR MLR
comp=Z,2µm,14.0s
HUMR Humele 45.77 353⇓ P **P 12 35 51.2 +1.0**
KAD Karad 45.79 64 *e*P P 12 36 00.0 +9.0
PUNG Punghina 45.80 351⇓ P **P 12 35 50.2 -0.2**
RUDO Rudo 45.81 348⇑ *i*P **P 12 35 50.9 +0.3**
TPGR Topolog 45.81 357⇑ P **P 12 35 51.0 +0.4**
SIM Simferopol' 45.87 3 *e*P **P 12 35 49.4 -1.7**
SIM *e*PPP PPP 12 38 14.0
SIM pmax pmax
comp=Z,145nm,1.2s
GEYT Alibeck 45.91 29 P **P 12 35 51.3 -0.3**
comp=Z,14nm,1.0s,baz=223,slow=8.1,SNR=12
GEYT S **S 12 42 34.0 +0.2**
comp=Z,1.1nm,0.5s,baz=290,slow=43,SNR=1.4
GEYT LR LR 12 55 10.3
comp=Z,6µm,19.9s,baz=232,slow=36
comp=Z,14nm,1.0s
GEYT Alibeck 45.91 29 P **P 12 35 50.8 -0.8**
GYA0B ALIBECK ARRAY 45.91 29 P **P 12 35 50.9 -0.6**
KIV Kislovodsk 45.92 11 P **P 12 35 52.1 +0.5**
KIV IAmb IAmb 12 35 54.5
comp=Z,81nm,1.2s
KIV Kislovodsk 45.92 11*c* *i*P **P 12 35 51.7 +0.1**
KIV *i*S **S 12 42 32.9 -1.0**
KIV pmax pmax
comp=Z,87nm,1.3s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 45.92 11 P **P 12 35 51.5 0.0**
ANN Anapa 45.97 6 *e*P **P 12 35 50.7 -1.1**
ANN *e* 12 37 42.0
ANN *e*S **S 12 42 35.2 +0.9**
ANN pmax pmax
comp=Z,93nm,0.9s
ANN MLR MLR
comp=Z,2µm,16.0s
PCHI Peechi 46.02 74⇑ *e*P pP 12 36 04.0 +0.6
STFAR Stefanesti-Arg 46.10 353⇑ P **P 12 35 54.3 +1.4**
TLCR 46.12 357⇑ P **P 12 35 53.9 +0.9**
MAK Makhachkala 46.12 16 *e*P **P 12 35 50.5 -2.5**
MAK *e* 12 37 41.0
MAK *e*S **S 12 42 35.8 -0.8**
MAK pmax pmax
comp=Z,224nm,1.3s
MAK MLR MLR
comp=Z,1µm,12.0s
DIVS Divibare 46.14 348 P **P 12 35 53.9 +0.6**
DIVS Divibare 46.14 348⇑ *i*P **P 12 35 53.5 +0.2**
CFR Carcaliu 46.15 357⇓ P **P 12 35 53.5 +0.3**
ISR Istrita 46.20 355⇑ P **P 12 35 54.5 +0.8**
DJES Djerdap 46.24 351⇓ P **P 12 35 53.9 -0.1**
ASCN Ascension 46.24 260 IAMs_20 IAMs_20 12 52 34.7
comp=Z,6µm,22.0s
H10N1 ASCENSION HYDR 46.35 260 P **P 12 35 56.5 +1.4**
baz=97,slow=7.7,SNR=7.7
H10N2 ASCENSION HYDR 46.36 260 P **P 12 35 57.2 +2.1**
baz=97,slow=7.7,SNR=2.0
H10N3 ASCENSION HYDR 46.37 260 P **P 12 35 57.0 +1.8**
baz=97,slow=7.7,SNR=3.2
MTUR Matau 46.45 354⇓ P **P 12 35 55.8 0.0**
HERR Herculane 46.47 351⇓ P **P 12 35 55.6 -0.2**
MDVR Moldovita 46.48 350⇑ P **P 12 35 56.2 +0.2**
IZVR Izvoarele 46.53 356⇑ P **P 12 35 57.2 +1.0**
MLR Muntele Rosu 46.62 355⇓ P **P 12 35 57.8 +0.7**
ARR Arges 46.64 353⇓ P **P 12 35 57.0 -0.2**
VOIR 46.66 354⇑ P **P 12 35 57.6 +0.2**
SRKY Kupres RS 46.74 346⇑ P **P 12 35 59.0 +1.0**
LOT Lotru 46.83 352⇓ P **P 12 35 59.5 +0.7**
PANC Panciu 46.90 356⇑ P **P 12 35 59.7 +0.5**

GZR Gura Zlata 46.91 352 ⇓P **P 12 35 59.7 +0.4**
PLOR Plostina 46.92 355 ⇓P **P 12 35 59.7 +0.3**
VRI Vrincioaia 46.93 355 ⇓P **P 12 35 59.9 +0.5**
COVR Voineasa-Covas 46.95 355 ⇓P **P 12 35 59.9 +0.3**
GOF Gofitskoye 47.05 11 ⇑*i*P **P 12 36 00.8 +0.5**
GOF pmax pmax
comp=Z,426nm,1.1s
GHRR 47.07 356 ⇓P **P 12 36 01.1 +0.7**
MGRS Mrkonjic Grad 47.09 346 ⇑*i*P **P 12 36 01.5 +0.8**
DOPR Dopca 47.15 354 ⇑P **P 12 36 00.5 -0.6**
FRGS Fruska Gora 47.19 349 ⇓P **P 12 36 02.7 +1.3**
FRGS Fruska Gora 47.19 349 ⇑*i*P **P 12 36 01.8 +0.3**
OZUR 47.24 355 ⇑P **P 12 36 01.7 -0.1**
A050A Klekovaca 47.29 345 ⇑*i*P **P 12 36 02.3 0.0**
BZS Buzias 47.31 351 ⇑P **P 12 36 02.1 -0.2**
DEV Deva 47.37 352 ⇓P **P 12 36 02.5 -0.3**
BLY Banja Luka 47.38 346 ⇑*i*P **P 12 36 02.6 -0.3**
TESR Tescani 47.58 355 ⇑P **P 12 36 03.8 -0.6**
VASR Vaslui 47.62 356 ⇑P **P 12 36 05.0 +0.2**
A052A Srbac 47.63 347 ⇑*i*P **P 12 36 05.6 +0.8**
A051A Mrakovica 47.69 346 ⇑*i*P **P 12 36 05.8 +0.4**
MILM Milestii Mici 47.85 357 *e*P P 12 36 01.9 -4.5
MILM Milestii Mici 47.85 357 *e*PP PP 12 37 58.0 -0.6
MILM *e*S **S 12 42 59.6 -1.5**
MILM *e*SS **SS 12 46 32.5 +2.3**
MILM LRM MLR 12 58 13.0
comp=Z,2µm,21.0s
MILM Milestii Mici 47.85 357 ⇑P **P 12 36 05.9 -0.5**
KIS Kishinev 47.93 357 *e*P **P 12 36 06.0 -1.1**
KIS Kishinev 47.93 357 *e*PP PP 12 38 00.4 +1.0
KIS *e*S S 12 42 43.7 -19
KIS *e*SS **SS 12 46 30.9 -0.5**
KIS LRM MLR 12 47 35.0
comp=Z,400nm,24.5s
KIS Kishinev 47.93 357 *e*P **P 12 36 06.0 -1.1**
KIS *e* 12 38 00.4
KIS *e*SS SS 12 46 30.9 -0.5
SIRR Siria 47.94 351 ⇑P **P 12 36 08.1 +0.9**
MDT Midelt 47.95 318 LR LR 12 57 42.8
comp=Z,8µm,18.9s,baz=142,slow=38
BIZ Bicaz 48.05 355 ⇑P **P 12 36 08.1 0.0**
CJR Cluj-Napoca 48.09 353 ⇑P **P 12 36 09.1 +0.6**
CBBR Cluj-Babes-Bol 48.15 353 ⇑P **P 12 36 09.9 +1.1**
ARCR ARCALIA 48.37 353 ⇓P **P 12 36 11.2 +0.6**
KOVH Kovagotottos 48.44 348 P **P 12 36 11.2 +0.2**
MORH Mrgy, Hungar 48.44 348 ⇓P **P 12 36 11.8 +0.7**
MORH Mrgy, Hungar 48.44 348 P **P 12 36 11.4 +0.4**
BOJS Bojanci 48.57 345 ⇑*i*P **P 12 36 11.5 -0.6**
BOJS Bojanci 48.57 345 *i*P **P 12 36 11.9 -0.2**
BOJS *i* 12 36 12.6
BOJS *e*PP **PP 12 38 06.1 +0.9**
MESR Meseseni 48.61 352 ⇑P **P 12 36 13.2 +0.9**
GBRS Gornja Briga 48.71 344 *i*P **P 12 36 13.5 +0.2**
GBRS *i* 12 36 29.3
GBRS *i* PP **PP 12 38 08.0 +1.4**
BORR Bors 48.72 351 ⇓P **P 12 36 14.6 +1.5**
BURAR Bucovina Array 48.80 354 ⇑P **P 12 36 14.6 +0.7**
BURAR Bucovina Array 48.80 354 P **P 12 36 14.0 +0.1**
BURAR IAmb IAmb 12 36 16.3
comp=Z,85nm,0.9s
ZCCA Zocca 48.80 340 P **P 12 36 13.0 -1.0**
ZCCA IAmb IAmb 12 36 27.4
comp=Z,67nm,1.0s
CRES Cresnjev 48.81 345 ⇑*i*P **P 12 36 14.0 0.0**
BUR08 Bucovina Ar. S 48.83 354 P **P 12 36 14.7 +0.5**
SKDS Skadanscina 48.94 344 ⇑*i*P **P 12 36 14.4 -0.6**
LTVH Ltavrtes, Hu 48.99 351 ⇑P **P 12 36 16.9 +1.7**
LTVH Ltavrtes, Hu 48.99 351 P **P 12 36 16.0 +0.7**
CEY Cerknica 49.01 344 ⇑*i*P **P 12 36 15.3 -0.2**
BMR Baia Mare 49.05 353 ⇓P **P 12 36 16.7 +1.0**
JAVS Javornik 49.25 344 *i*P **P 12 36 17.2 -0.2**
JAVS *i* 12 36 17.7
TIH Tihany 49.25 348 P **P 12 36 18.2 +1.0**
LJU Ljubljana 49.26 344 *e*P **P 12 36 17.4 0.0**
LJU *i* 12 36 33.0
LJU *e*S **S 12 43 21.0 -0.2**
OUK Oukaimeden 49.28 314 P **P 12 36 21.0 +2.7**
TTIG Tnine Tigouga, 49.35 313 P **P 12 36 22.0 +3.5**
SABO M.te Sabotino 49.46 344 P **P 12 36 19.0 0.0**
SABO IAmb IAmb 12 36 19.9
comp=Z,91nm,0.8s
TEOL Teolo 49.48 342 P **P 12 36 18.1 -1.0**
TEOL IAmb IAmb 12 36 21.0
comp=Z,111nm,0.9s
BUD Budapest 49.58 349 P **P 12 36 20.1 +0.4**
MPLH Magyarpolny 49.58 347 P **P 12 36 20.4 +0.6**
CSKK Cskako 49.62 348 P **P 12 36 20.4 +0.3**
OBKA Obir 49.69 345 ⇑*i*P **P 12 36 20.7 0.0**
OBKA Obir 49.69 345 *i*P **P 12 36 20.9 +0.1**
comp=Z,74nm,0.8s,SNR=34
OBKA *i*P **sP 12 36 36.8 +1.1**
comp=Z,89nm,0.8s
ZHG ZHG 49.70 317 P **P 12 36 24.0 +2.9**
SOKA Soboth 49.72 345 *i*P **P 12 36 21.3 +0.4**
comp=Z,78nm,0.8s,SNR=65
SOKA *i*P **sP 12 36 37.2 +1.3**
comp=Z,49nm,0.7s
PALK Pallekele 49.73 80 S S 12 43 19.8 -8.9
comp=Z,8.4nm,0.8s,baz=139,slow=10,SNR=2.3
PALK LR LR 12 55 36.0
comp=Z,3µm,19.6s,baz=4.7,slow=34
HYBB Hyderabad (bro 49.80 66 *e*P P 12 36 31.1 +9.1
HYBB *e*PcP **PcP 12 37 40.3 -2.3**
HYBB *e*PP PP 12 38 24.9 +7.9
HYBB *e*S **S 12 43 34.1 +4.5**
HYB Hyderabad 49.80 66 *e*P P 12 36 31.1 +9.0
CHEFC Chefchaouen 49.83 320 P **P 12 36 24.0 +1.9**
PSZ Piszkesteto 49.84 350 ⇓P **P 12 36 22.2 +0.4**
PSZ Piszkesteto 49.84 350 P **P 12 36 21.7 -0.2**
EGYH Egyhazaskeszo 49.86 347 P **P 12 36 22.2 +0.3**
KBL Kabul 49.88 41 P **P 12 36 21.5 -1.1**
KBL Kabul 49.88 41 P **P 12 36 21.5 -1.1**
KBL pmax pmax
comp=Z,27nm,1.0s
KBL Kabul 49.88 41 P **P 12 36 22.8 +0.3**
SNR=13
KBL P **P 12 36 22.8 +0.3**
SNR=13
SRHM Skhour des Reh 50.00 315 P **P 12 36 26.0 +2.6**
RSA Sarsar 50.01 319 P **P 12 36 26.0 +2.6**
SRO Srobarova 50.03 348 *e*P **P 12 36 24.0 +0.8**
SRO pmax pmax
comp=Z,229nm,1.0s
SRO Srobarova 50.03 348 *e*P **P 12 36 24.0 +0.8**
MYKA Terra Mystica 50.04 344 *i*P **P 12 36 23.2 -0.2**
comp=Z,38nm,1.0s,SNR=14
MYKA *i*P **sP 12 36 39.1 +0.7**
comp=Z,25nm,0.9s
BBTS Babate 50.07 290 LR LR 12 58 05.0
comp=Z,13µm,21.6s,baz=88,slow=37
ARSA Arzberg 50.12 346 *i*P **P 12 36 24.5 +0.5**
comp=Z,230nm,1.0s,SNR=107
ARSA *i*P **sP 12 36 40.7 +1.7**
comp=Z,112nm,1.1s
AVE Averroes 50.13 317 P **P 12 36 24.2 -0.1**
AVE IAmb IAmb 12 36 26.4
comp=Z,123nm,1.2s
AVE IAMs_20 IAMs_20 12 58 33.8
comp=Z,4µm,18.0s
UZH Uzhgorod 50.15 352 ⇓*i*P **P 12 36 23.6 -0.5**
UZH *i* 12 36 31.0
UZH *e* 12 39 16.0
UZH *i*S **S 12 43 32.0 -1.4**
UZH *i* 12 43 42.5
UZH *i* 12 47 03.3
UZH MLR MLR
comp=N,300nm,18.0s
UZH MLR MLR
comp=E,200nm,18.0s
UZH MLR MLR
comp=Z,180nm,18.0s
KECS Kecovo 50.28 350 *e*P **P 12 36 26.3 +1.2**
KECS pmax pmax
comp=Z,148nm,1.2s
KECS Kecovo 50.28 350 *e*P **P 12 36 26.2 +1.2**
SOP Sopron 50.29 347 P **P 12 36 25.6 +0.4**
MDRS Chennai 50.29 72 *e*P P 12 36 35.2 +9.5
RONA Rosalia, Austr 50.36 347 *i*P **P 12 36 26.0 +0.2**
comp=Z,120nm,0.8s,SNR=79
RONA *i*P **sP 12 36 41.8 +1.1**
comp=Z,48nm,0.6s
KOLS Kolonicke sedl 50.45 352 *e*P **P 12 36 27.1 +0.7**
KOLS pmax pmax
comp=Z,55nm,1.0s
KOLS Kolonicke sedl 50.45 352 *e*P **P 12 36 27.1 +0.7**
ABTA Abfaltersbach 50.47 343 *i*P **P 12 36 26.8 +0.1**
comp=Z,77nm,1.0s,SNR=28
ABTA *i*P **sP 12 36 42.6 +1.0**
comp=Z,35nm,0.9s
CRVS Cervenica-Dubn 50.53 351 *e*P **P 12 36 27.8 +0.8**
CRVS pmax pmax
comp=Z,269nm,1.4s
CRVS Cervenica-Dubn 50.53 351 *e*P **P 12 36 27.8 +0.8**
CRVS *e*S **S 12 43 47.3 +8.5**
CRVS *e*L L 12 58 43.6
KBA Koelnbreinsper 50.53 344 *i*P **P 12 36 27.4 +0.1**
comp=Z,154nm,0.9s,SNR=81
KBA *i*P **sP 12 36 43.2 +0.9**
comp=Z,128nm,0.9s
VYHS Vyhne 50.58 349 *e*P **P 12 36 27.2 -0.2**
VYHS pmax pmax
comp=Z,173nm,1.2s
VYHS Vyhne 50.58 349 *e*P **P 12 36 27.2 -0.2**
VYHS *e*PP **PP 12 38 29.6 +6.0**
VYHS *e*S **S 12 43 37.6 -1.9**
VYHS *e*SS SKiKP 12 47 43.5 -16
CONA Conrad Observa 50.68 346 *i*P **P 12 36 28.3 +0.1**
comp=Z,130nm,1.0s,SNR=86
CONA *i*P **sP 12 36 44.4 +1.2**
comp=Z,143nm,1.3s
BHPL Bhopal 50.72 59 *e*P P 12 36 36.8 +7.9
BHPL IAmb IAmb 12 36 45.5
comp=Z,97nm,1.5s
MODS Modra-Piesok 50.78 348 *e*P **P 12 36 28.9 0.0**
MODS pmax pmax
comp=Z,543nm,1.5s
MODS Modra-Piesok 50.78 348 *e*P **P 12 36 28.9 0.0**
MODS *e*PP **PP 12 38 25.9 +0.5**
MODS *e*S **S 12 43 40.6 -1.7**
MODS *e*SS **SKiKP 12 47 54.1 -5.3**
MODS *e*L L 13 00 17.7
SMOL Smolenice 50.88 348 *e*P **P 12 36 29.7 0.0**
SMOL pmax pmax
comp=Z,48nm,1.1s
MOA Molln 51.00 345 *i*P **P 12 36 30.4 -0.1**
comp=Z,257nm,0.9s,SNR=127
MOA *i*P **sP 12 36 46.3 +0.7**
comp=Z,138nm,0.7s
BIOA Bad Ischl, Aus 51.02 344 *i*P **P 12 36 29.9 -0.8**
comp=Z,82nm,1.0s,SNR=36
BIOA *i*P **sP 12 36 45.9 +0.2**
comp=Z,68nm,0.8s
FUORN Ofenpass-Fuorn 51.04 341 P **P 12 36 30.6 -0.6**
FUORN IAmb IAmb 12 36 35.1
comp=Z,58nm,0.8s
LANS Liptovska Anna 51.10 350 *e*P **P 12 36 32.1 +0.8**
LANS pmax pmax
comp=Z,91nm,1.1s
LANS Liptovska Anna 51.10 350 *e*P **P 12 36 32.1 +0.8**
LVV L'vov 51.10 354 *e*P **P 12 36 30.7 -0.5**
LVV *e* 12 38 28.8
LVV *e*PPP PPP 12 39 31.3
LVV *e*S **S 12 43 44.5 -2.1**
LVV *e*PS **pS 12 44 01.2 +2.5**
LVV *e*SSS SSS 12 48 50.1
JAVC Velka Javorina 51.16 348 ⇑*i*P **P 12 36 32.0 +0.2**
JAVC *e*PP **PP 12 38 32.3 +3.4**
JAVC *e*S **S 12 43 47.2 -0.4**
WTTA Wattenberg 51.19 343 *i*P **P 12 36 31.9 -0.3**
comp=Z,205nm,1.1s,SNR=78
WTTA *i*P **sP 12 36 47.8 +0.6**
comp=Z,92nm,0.9s
NIE Niedzica 51.22 351 *e*P **P 12 36 33.2 +1.0**
FETA Feichten 51.25 342 *i*P **P 12 36 32.5 -0.2**
comp=Z,91nm,0.9s,SNR=51
FETA *e*P **sP 12 36 47.6 -0.1**
comp=Z,64nm,0.8s
WATA Walderalm 51.28 343 *i*P **P 12 36 32.3 -0.5**
comp=Z,126nm,1.1s,SNR=52
WATA *i*P **sP 12 36 47.9 +0.1**
comp=Z,95nm,1.0s
SQTA Sankt Quirin 51.28 342 *i*P **P 12 36 32.3 -0.5**
comp=Z,116nm,0.9s,SNR=67
SQTA *i*P **sP 12 36 48.3 +0.5**
comp=Z,107nm,1.0s
DAVOX Davos/Dischmat 51.31 341 LR LR 13 00 49.6
comp=Z,2µm,19.0s,baz=127,slow=39
MOTA Moosalm 51.43 342 *i*P **P 12 36 33.0 -0.9**
comp=Z,123nm,0.9s,SNR=49
MOTA *e*P **sP 12 36 49.0 0.0**
comp=Z,62nm,0.8s
AKBB Malin Array Si 51.61 358 P **P 12 36 34.2 -0.8**
AKBB Malin Array Si 51.61 358*c* *i*P **P 12 36 33.9 -1.1**
AKBB pmax pmax
comp=Z,147nm,1.3s
AKBB MLR MLR
comp=Z,2µm,19.0s
AKASG Malin Array Be 51.61 358 P **P 12 36 33.8 -1.2**
comp=Z,37nm,0.7s,baz=182,slow=6.7,SNR=93
AKASG S **S 12 43 47.2 -6.4**
comp=Z,0.3nm,0.4s,baz=35,slow=46,SNR=1.8
comp=Z,37nm,0.7s
AKASG Malin Array Be 51.61 358 P **P 12 36 33.8 -1.2**
AKASG IAmb IAmb 12 36 35.4
comp=Z,79nm,0.8s
AKASG Malin Array Be 51.61 358 P **P 12 36 33.8 -1.2**
AKASG pmax pmax
comp=Z,79nm,0.9s
MAUC Maruska 51.61 349 *e*P **P 12 36 35.0 -0.1**
MAUC AMS AMS 13 01 30.0
comp=Z,3µm,16.4s
KRUC Moravsky 51.62 347 ⇑*i*P **P 12 36 34.3 -0.9**
KRUC *e*PP **PP 12 38 33.7 +0.7**
KRUC *e*S **S 12 43 52.1 -1.8**
RETA Reutte 51.66 342 *i*P **P 12 36 34.6 -1.0**
comp=Z,134nm,1.0s,SNR=55
RETA *i*P **sP 12 36 50.3 -0.3**
comp=Z,134nm,1.2s
DAVA Damuels 51.76 341 *i*P **P 12 36 35.4 -1.0**
comp=Z,302nm,1.2s,SNR=96
DAVA *i*P **sP 12 36 51.3 -0.2**
comp=Z,224nm,1.1s
VRAC Vranov 51.81 348 ⇑P **P 12 36 37.6 +1.0**
VRAC Vranov 51.81 348 LR LR 13 01 04.5
comp=Z,2µm,19.6s,baz=208,slow=39
VRAC Vranov 51.81 348 ⇑*i*P **P 12 36 35.8 -0.8**
VRAC *e*PP **PP 12 38 35.1 +0.4**
VRAC *e*S **S 12 43 54.7 -1.8**
SENIN Lac Senin/Sane 51.83 339 P **P 12 36 35.9 -1.2**
SENIN IAmb IAmb 12 36 39.3
comp=Z,46nm,0.8s
CKRC Cesky Krumlov 51.88 346 *e*P **P 12 36 37.0 -0.2**
CKRC *ex* x 12 36 52.1
CKRC *e*S **S 12 43 55.0 -2.5**
CKRC AMS AMS 13 02 50.0
comp=Z,2µm,15.8s
ESBB Sonseca Array 51.95 325 P **P 12 36 37.7 -0.2**
ESBB IAmb IAmb 12 36 39.8
comp=Z,227nm,1.9s
ESDC Sonseca Array 51.95 325 P **P 12 36 38.3 +0.4**
comp=Z,24nm,0.9s,baz=134,slow=7.0,SNR=182
ESDC S **S 12 43 59.6 +0.8**
comp=Z,0.3nm,0.4s,baz=75,slow=39,SNR=1.2
ESDC LR LR 13 00 47.5
comp=Z,6µm,18.8s,baz=140,slow=38
comp=Z,24nm,0.9s
ESDC Sonseca Array 51.95 325 P **P 12 36 37.5 -0.4**
ESDC IAmb IAmb 12 36 39.8
comp=Z,162nm,1.9s
SSB Saint Sauveur 51.99 336 P **P 12 36 37.9 -0.1**
SSB Saint Sauveur 51.99 336 P **P 12 36 37.9 -0.1**
SSB pmax pmax
comp=Z,315nm,1.5s
SSB Saint Sauveur 51.99 336 P **P 12 36 36.4 -1.7**
SSB sP **sP 12 36 53.4 +0.3**
OKC Ostrava-Krasne 52.00 349 *e*P **P 12 36 37.7 -0.3**
OKC *e*S **S 12 43 58.1 -0.9**
OKC MLR MLR
comp=Z,2µm,16.9s
OKC Ostrava-Krasne 52.00 349 *e*P **P 12 36 37.7 -0.3**
OKC *e*S **S 12 43 58.1 -0.9**
OKC AMS AMS 13 04 00.0
comp=Z,2µm,16.9s
TREC Trest 52.05 347 *e*P **P 12 36 38.2 -0.2**
TREC MLR MLR
comp=Z,3µm,19.3s
TREC Trest 52.05 347 *e*P **P 12 36 38.2 -0.2**
TREC AMS AMS 13 01 50.0
comp=Z,3µm,19.3s
MORC Moravsky Berou 52.06 349 ⇑P **P 12 36 38.9 +0.4**
MORC Moravsky Berou 52.06 349 P **P 12 36 38.0 -0.5**
MORC IAmb IAmb 12 36 40.0
comp=Z,138nm,1.1s
MORC Moravsky Berou 52.06 349 ⇑*i*P **P 12 36 38.0 -0.5**
MORC *e*PP **PP 12 38 37.1 +0.1**
MORC *e*S **S 12 43 58.9 -1.1**
MORC Moravsky Berou 52.06 349 P **P 12 36 38.0 -0.5**
MORC pmax pmax
comp=Z,138nm,1.1s
GEC2 GERESS Array S 52.06 345 P **P 12 36 38.1 -0.4**
GERES GERESS Array B 52.06 345 P **P 12 36 37.9 -0.7**
comp=Z,110nm,1.0s,baz=134,slow=7.6,SNR=307
GERES S **S 12 43 57.3 -2.8**
comp=Z,0.3nm,0.6s,baz=266,slow=36,SNR=1.4
GERES LR LR 13 00 08.7
comp=Z,2µm,20.4s,baz=161,slow=38
comp=Z,110nm,1.0s
GERES GERESS Array B 52.06 345 P **P 12 36 37.6 -1.0**
OJC Ojcow 52.08 350 *e*P **P 12 36 37.4 -1.2**
OJC Ojcow 52.08 350 P **P 12 36 36.9 -1.6**
OJC IAmb IAmb 12 36 38.9
comp=Z,143nm,1.5s
OJC Ojcow 52.08 350 P **P 12 36 36.9 -1.6**
OJC pmax pmax
comp=Z,143nm,1.5s
PAB San Pablo 52.08 325 P **P 12 36 38.3 -0.6**
PAB IAmb IAmb 12 36 55.5
comp=Z,141nm,1.8s
PAB San Pablo 52.08 325 P **P 12 36 38.3 -0.6**
PAB pmax pmax
comp=Z,141nm,1.8s
PAB MLR MLR
comp=Z,8µm,18.0s
PAB San Pablo 52.08 325 P **P 12 36 39.3 +0.4**
PAB San Pablo 52.08 325 P **P 12 36 37.6 -1.3**
PAB sP **sP 12 36 54.1 +0.2**
NIL Nilore 52.23 45 P **P 12 36 40.6 +0.6**
NIL Nilore 52.23 45 P **P 12 36 40.6 +0.6**
NIL pmax pmax
comp=Z,683nm,1.9s
NIL MLR MLR
comp=Z,3µm,21.0s
NIL Nilore 52.23 45 P **P 12 36 40.1 +0.1**
NIL pP **sP 12 36 53.4 -1.7**
KHC Kasperske Hory 52.36 345 P **P 12 36 40.1 -0.6**
KHC Kasperske Hory 52.36 345 *e*P **P 12 36 39.8 -0.9**
KHC *e*S **S 12 44 02.1 -1.9**
KHC MLR MLR
comp=Z,2µm,19.0s
KHC Kasperske Hory 52.36 345 *e*P **P 12 36 39.8 -0.9**
KHC *e*pP **sP 12 36 53.6 -2.1**
KHC *e*S **S 12 44 02.1 -1.9**
KHC AMS AMS 12 59 30.0
comp=Z,2µm,19.0s
VSR Storozhevoye 52.49 6 *e*P **P 12 36 40.4 -1.2**
VSR *e*S **S 12 44 03.9 -1.7**
VSR pmax pmax
comp=Z,40nm,0.8s
VSR smax smax
comp=N,260nm,7.2s
KRLC Kraliky 52.50 348 *e*P **P 12 36 41.4 -0.3**
KRLC *e*S **S 12 44 04.8 -1.2**
KRLC MLR MLR
comp=Z,2µm,21.0s
KRLC Kraliky 52.50 348 *e*P **P 12 36 41.4 -0.3**
KRLC *e*pP **pP 12 36 53.1 +0.6**
KRLC *e*sP **sP 12 36 57.3 +0.5**
KRLC *e*S **S 12 44 04.8 -1.2**
KRLC AMS AMS 13 01 10.0
comp=Z,2µm,21.0s
CHGR Chuyangaron 52.51 37 P **P 12 36 41.2 -0.9**
CHGR Chuyangaron 52.51 37 P **P 12 36 41.2 -0.9**
CHGR pmax pmax
comp=Z,111nm,0.8s
JHNI Jhansi 52.51 56 *e*P P 12 36 47.4 +5.1
PVAQ Vaqueiros 52.76 321 *e*P **P 12 36 44.3 +0.5**
comp=Z,72nm,1.3s
PVAQ *i* LQ LQ 12 36 59.7
PVAQ *e*S **S 12 44 10.3 +0.5**
PVAQ Vaqueiros 52.76 321 *e*LR LR 12 56 27.3
comp=Z,2µm,20.0s
PVAQ Vaqueiros 52.76 321 P **P 12 36 43.7 -0.1**
GOPC GO Pecny, Ondr 52.79 346 *e*P **P 12 36 43.3 -0.6**
GOPC *e*S **S 12 44 07.5 -2.3**
GOPC MLR MLR
comp=Z,2µm,17.7s
GOPC GO Pecny, Ondr 52.79 346 *e*P **P 12 36 43.3 -0.6**
GOPC *e*pP **sP 12 36 58.3 -0.6**
GOPC *e*S **S 12 44 07.5 -2.3**
GOPC AMS AMS 13 02 30.0
comp=Z,2µm,17.7s
VRH Novokhopyorsk 52.79 8 *e*P **P 12 36 42.8 -1.0**
VRH *e*S **S 12 44 11.5 +1.8**
VRH pmax pmax
comp=Z,150nm,0.8s
VRH smax smax
comp=N,290nm,7.9s
PBAR Barrancos 52.80 322 *e*P **P 12 36 44.4 +0.2**
comp=N,89nm,1.6s
PBAR *i* LQ LQ 12 36 59.6
DPC Dobruska-Polom 52.85 348 *e*P **P 12 36 43.6 -0.8**
DPC MLR MLR
comp=Z,2µm,17.4s
DPC Dobruska-Polom 52.85 348 *e*P **P 12 36 43.6 -0.8**
DPC *ex* x 12 36 59.4
DPC AMS AMS 13 04 00.0
comp=Z,2µm,17.4s
PRU Pruhonice 52.91 346 *e*P **P 12 36 44.0 -0.8**
PRU MLR MLR
comp=Z,2µm,22.2s
PRU Pruhonice 52.91 346 *e*P **P 12 36 44.0 -0.8**
PRU *e*pP **sP 12 36 59.4 -0.4**
PRU AMS AMS 12 59 40.0
comp=Z,2µm,22.2s
VORR Voronezh 52.94 6 *e*P **P 12 36 44.2 -0.7**
VORR pmax pmax
comp=Z,240nm,0.6s
UPC Upice 53.07 348 *e*P **P 12 36 45.4 -0.5**
UPC *e*S **S 12 44 09.8 -3.8**
UPC MLR MLR
comp=Z,2µm,17.6s
UPC Upice 53.07 348 *e*P **P 12 36 45.4 -0.5**
UPC *e*S **S 12 44 09.8 -3.8**
UPC AMS AMS 13 03 00.0
comp=Z,2µm,17.6s
OSTC Ostas 53.07 348 *e*P **P 12 36 45.3 -0.7**
OSTC AMS AMS 13 03 00.0
comp=Z,2µm,21.7s
PCVE Castro Verde 53.10 321 *e*P **P 12 36 46.8 +0.5**
comp=Z,65nm,1.3s
PCVE *i* LQ LQ 12 37 01.9
CHVC Chvalec 53.14 348 AMS AMS 13 03 00.0
comp=Z,3µm,22.0s
BFO Black Forest 53.17 341 P **P 12 36 45.6 -1.2**
BFO Black Forest 53.17 341 P **P 12 36 45.6 -1.2**
BFO pmax pmax
comp=Z,205nm,1.4s
BFO Black Forest 53.17 341 P **P 12 36 45.2 -1.5**
BFO pP **pP 12 36 58.0 +0.5**
PBEJ Beja 53.23 321 *e*P **P 12 36 46.5 -0.8**
STU Stuttgart 53.28 342 P **P 12 36 47.4 -0.1**
STU Stuttgart 53.28 342 P **P 12 36 47.4 -0.1**
STU pmax pmax
comp=Z,225nm,1.6s
MORF Marmelete 53.29 320 *e*P **P 12 36 48.1 +0.3**
MORF *e*S **S 12 44 20.5 +3.3**
MORF IAMs_20 IAMs_20 13 02 12.3
comp=Z,3µm,11.1s
MORF Marmelete 53.29 320 *e*P **P 12 36 49.2 +1.3**
MORF *i* LQ LQ 12 37 04.1
MORF Marmelete 53.29 320 *e*P **P 12 36 48.1 +0.3**
MORF *e*S **S 12 44 20.5 +3.3**
PFVI Vila Bisbo 53.30 320 *e*P **P 12 36 49.1 +1.2**
comp=Z,156nm,1.6s
PFVI *i* LQ LQ 12 37 04.7
PFVI Vila Bisbo 53.30 320 P **P 12 36 47.2 -0.6**
PFVI IAmb IAmb 12 36 50.6
comp=Z,136nm,1.3s
KSP Ksiaz 53.33 348 *e*P **P 12 36 47.7 -0.1**
MESJ Messejana 53.34 321 *e*P **P 12 36 48.5 +0.4**
MESJ *e*S **S 12 44 21.2 +3.5**
MESJ IAMs_20 IAMs_20 12 58 44.6

comp=E,2µm,13.8s
MESJ Messejana 53.34 321 *e*P **P** **12 36 48.5 +0.4**
comp=E,69nm,1.5s
MESJ *i* LQ LQ 12 37 04.1
MESJ Messejana 53.34 321 *e*P **P** **12 36 48.5 +0.4**
MESJ *e*S **S** **12 44 21.2 +3.5**
THN Thein Dam 53.37 47 *e*P P 12 36 55.0 +6.6
PVCC Panska Ves 53.41 347 AMS AMS 13 02 40.0
comp=E,2µm,19.2s
GAR Garm 53.43 37 P **P** **12 36 49.2 +0.3**
GAR IAmb IAmb 12 37 14.9
comp=Z,93nm,0.9s
ECH Echery 53.47 340 P **P** **12 36 48.4 -0.5**
ECH IAmb IAmb 12 36 50.1
comp=Z,72nm,1.0s
ECH Echery 53.47 340 P **P** **12 36 48.4 -0.5**
ECH pmax pmax
comp=Z,72nm,1.0s
ECH Echery 53.47 340 P **P** **12 36 47.3 -1.6**
ECH sP **sP** **12 37 04.7 +0.7**
PTEO Sao Teotonio 53.48 320 *e*P **P** **12 36 49.3 +0.1**
comp=Z,85nm,1.4s
GRFO Grafenberg 53.50 344 P **P** **12 36 48.4 -0.7**
GRFO Grafenberg 53.50 344 P **P** **12 36 48.4 -0.7**
GRFO pmax pmax
comp=Z,193nm,1.2s
GRA1 Grafenberg Arr 53.50 344 P **P** **12 36 49.0 -0.1**
GRF Grafenberg Arr 53.50 344 P **P** **12 36 49.0 -0.1**
GRF pmax pmax
comp=Z,218nm,1.2s
PESTR Estremoz 53.57 322 *e*P **P** **12 36 50.5 +0.7**
comp=Z,120nm,1.4s
PESTR *i* LQ LQ 12 37 05.8
PESTR Estremoz 53.57 322 P **P** **12 36 49.7 -0.1**
PESTR Estremoz 53.57 322 P **P** **12 36 50.6 +0.8**
EVO Evora 53.63 322 *e*P **P** **12 36 51.0 +0.8**
comp=Z,85nm,1.7s
NKC Novy Kostel 53.66 345 *e*P **P** **12 36 49.7 -0.6**
NKC MLR MLR
comp=Z,3µm,16.8s
NKC Novy Kostel 53.66 345 *e*P **P** **12 36 49.7 -0.6**
NKC *e*pP **sP** **12 37 05.1 -0.2**
NKC AMS AMS 13 03 00.0
comp=Z,3µm,16.8s
PNCL Nicolau / Gran 53.70 321 *e*P **P** **12 36 50.9 +0.2**
comp=Z,107nm,1.6s
PNCL *i* LQ LQ 12 37 06.8
PMRV Marv??o 53.80 323 *e*P **P** **12 36 51.7 +0.2**
comp=Z,119nm,1.6s
PMRV *i* LQ LQ 12 37 06.9
PMRV *e*S **S** **12 44 23.7 -0.3**
PMRV *e*LQ LQ 12 54 15.1
PMRV *e*LR LR 12 56 52.1
comp=Z,2µm,18.0s
LPSR Galich'ya Gora 53.83 6 *e*P **P** **12 36 50.6 -0.8**
LPSR *e*S **S** **12 44 20.0 -3.9**
LPSR pmax pmax
comp=Z,110nm,1.0s
LPSR smax smax
comp=N,530nm,10.8s
BRG Berggiesshubel 53.88 346 *i* P **P** **12 36 51.0 -0.8**
BRG Amp 12 36 53.6
comp=Z,52nm,1.2s
BRG *i* x x 12 37 06.6
BRG Amp 12 37 08.1
comp=Z,35nm,1.0s
BRG Berggiesshubel 53.88 346 *i* P **P** **12 36 51.0 -0.8**
BRG S **S** **12 44 26.0 +1.4**
BRG pmax pmax
comp=Z,52nm,1.2s
BRG pmax pmax
comp=Z,35nm,1.0s
BRG pmax pmax
comp=E,1µm,16.4s
BRG MLR MLR
comp=Z,1µm,13.0s
BRG MLR MLR
comp=N,1µm,17.6s
TRIS Tristan da Cun 54.01 223 P **P** **12 36 52.1 -0.9**
TRIS IAMs_20 IAMs_20 12 57 26.4
comp=Z,4µm,19.0s
PMTG Montargil 54.09 322 *e*P **P** **12 36 53.5 -0.1**
comp=Z,92nm,1.7s
PMTG *i* LQ LQ 12 37 09.6
PCBR Castelo Branco 54.11 323 *e*P **P** **12 36 54.6 +0.9**
BTK Batken 54.39 37 P **P** **12 36 55.9 0.0**
BTK Batken 54.39 37 P **P** **12 36 55.9 0.0**
BTK pmax pmax
comp=Z,34nm,0.8s
BLSP Bilaspur 54.43 62 *e*P P 12 37 04.1 +7.7
LIS Lisbon 54.45 321 *e*P **P** **12 36 56.5 +0.3**
LIS *e*S **S** **12 44 36.0 +3.4**
LIS IAMs_20 IAMs_20 13 01 14.4
comp=N,6µm,25.2s
LIS Lisbon 54.45 321 *e*P **P** **12 36 56.5 +0.3**
LIS *e*S **S** **12 44 36.0 +3.4**
PMST Lisbon--Monsan 54.48 321 *i* LQ LQ 12 37 13.1
MTE Manteigas 54.50 324 *e*P **P** **12 36 57.2 +0.5**
comp=N,78nm,1.5s
MTE *i* LQ LQ 12 37 12.2
MTE *e*S **S** **12 44 34.7 +1.2**
MTE *e*LQ LQ 12 52 02.2
MTE *e*LR LR 12 56 45.3
comp=N,4µm,20.0s
MTE Manteigas 54.50 324 P **P** **12 36 56.9 +0.3**
MTE IAMs_20 IAMs_20 13 02 06.1
comp=Z,5µm,21.0s
CLL Collm 54.51 346 P **P** **12 36 55.7 -0.7**
CLL IAmb IAmb 12 36 57.3
comp=Z,66nm,1.0s
CLL Collm 54.51 346 *i* P **P** **12 36 55.4 -1.0**
CLL *e*S **S** **12 44 26.0 -7.0**
CLL pmax pmax
comp=Z,95nm,1.2s
CLL MLR MLR
comp=Z,3µm,20.1s
CLL Collm 54.51 346 *i* P **P** **12 36 55.4 -1.0**
comp=Z,95nm,1.2s
CLL *e*Pmax 12 36 56.0
CLL *e*pP **pP** **12 37 08.0 +0.8**
CLL *e*PP **PP** **12 38 59.0 0.0**
CLL *e*PPPP 12 40 30.0
CLL *e*S **S** **12 44 26.0 -7.0**
CLL *e*S(2) 12 45 11.0
CLL *e*Smax 12 45 47.0
comp=N,2µm,35.9s
CLL *e*Smax 12 45 47.0
comp=E,800nm,39.8s
CLL *e*SS **SS** **12 48 12.0 -4.1**
CLL *e*SSmax 12 49 12.0
CLL Lm MLR 13 03 00.0
comp=N,2µm,19.1s
CLL Lm MLR 13 03 00.0
comp=E,1µm,21.4s
CLL Lm MLR 13 03 00.0
comp=Z,3µm,20.1s
CLL Lmax 13 05 00.0
PMAFR Mafra 54.67 321 *e*P **P** **12 36 59.6 +1.7**
comp=Z,129nm,2.0s
PMAFR *i* LQ LQ 12 37 14.3
MVO Moncorvo 54.69 325 *e*P **P** **12 36 58.9 +0.9**
comp=Z,124nm,1.3s
MVO *i* LQ LQ 12 37 13.9
MVO *e*S **S** **12 44 38.1 +2.1**
MVO Moncorvo 54.69 325 *e*LQ LQ 12 55 00.5
MVO *e*LR LR 12 56 55.0
comp=Z,6µm,18.0s
PSBE So Bento 54.71 322 *e*P **P** **12 36 59.4 +1.3**
comp=Z,80nm,1.4s
PSBE *i* LQ LQ 12 37 14.6
RAGD RAYAGADA 54.78 66 *e*P P 12 37 08.6 +10
PCAS Casmilo, Conde 54.86 323 *e*P **P** **12 36 59.9 +0.7**
comp=Z,75nm,1.8s
PCAS *i* LQ LQ 12 37 15.0
COI Coimbra 54.90 323 *e*P **P** **12 37 00.3 +0.8**
comp=Z,156nm,1.3s
COI *i* LQ LQ 12 37 15.3
COI Coimbra 54.90 323 P **P** **12 36 59.8 +0.4**
COI IAmb IAmb 12 37 01.2
comp=Z,118nm,1.0s
COI IAMs_20 IAMs_20 13 00 40.7
comp=Z,4µm,19.0s
COI Coimbra 54.90 323 P **P** **12 36 59.8 +0.4**
COI pmax pmax
comp=Z,118nm,1.0s
COI MLR MLR
comp=Z,4µm,19.0s
PVIS Viseu 54.91 324 *e*P **P** **12 36 58.4 -1.2**
PBRG Braganca 54.94 326 *e*P **P** **12 37 00.1 +0.3**
comp=Z,76nm,1.4s
PBRG *i* LQ LQ 12 37 15.5
BELG Belogornoye 54.96 12 LR LR 13 03 01.1
comp=Z,782nm,19.6s,baz=203,slow=39
BELG Belogornoye 54.96 12 *c i*P **P** **12 36 58.6 -1.0**
BELG pmax pmax
comp=Z,29nm,1.3s
BELG MLR MLR
comp=Z,132nm,15.0s
WLF Walferdange 55.05 340 P **P** **12 37 00.3 -0.1**
WLF Walferdange 55.05 340 P **P** **12 37 00.3 -0.1**
WLF pmax pmax
comp=Z,298nm,1.7s
WLF Walferdange 55.05 340 *d*P **P** **12 37 00.3 -0.1**
comp=Z,50nm,0.7s
WLF *d*sP **sP** **12 37 15.5 0.0**
CLF Chambon-Foret 55.13 336 P **P** **12 37 01.6 +0.6**
CLF Chambon-Foret 55.13 336 P **P** **12 37 00.9 -0.1**
CLF sP **sP** **12 37 17.0 +0.9**
PVRL Vila Real 55.16 324 *e*P **P** **12 37 02.0 +0.6**
comp=Z,116nm,1.4s
PVRL *i* LQ LQ 12 37 17.4
POLO Lamas de Olo 55.27 325 *e*P **P** **12 37 01.7 -0.5**
comp=Z,66nm,1.3s
POLO *i* LQ LQ 12 37 18.3
IUG Iuzhnay 55.27 34 *e*P **P** **12 37 02.0 -0.2**
IUG *e*S **S** **12 44 45.1 +1.2**
IUG MLR MLR
comp=Z,2µm,12.0s
IUG Iuzhnay 55.27 34 *e*P **P** **12 37 02.0 -0.2**
baz=34
IUG *e*S **S** **12 44 45.2 +1.3**
baz=34
IUG LR LR 13 01 20.6
comp=Z,2µm,12.5s,baz=34
RUE Ruedersdorf 55.41 347 *e*P **P** **12 37 02.1 -0.7**
MNK Minsk 55.46 357 *i* P **P** **12 37 00.4 -2.8**
MNK *i* 12 39 03.2
MNK *i* PPP PPP 12 40 15.7
MNK *i* S **S** **12 44 45.4 -0.3**
MNK *i* SS **SS** **12 48 29.9 -1.1**
MNK pmax pmax
comp=Z,181nm,1.1s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=Z,1µm,16.0s
MNK MLR MLR
comp=E,145nm,15.0s
MNK Minsk 55.46 357 *i* P **P** **12 37 00.4 -2.8**
comp=E,6.0nm,0.9s
MNK *i* P **P** **12 37 00.4 -2.8**
MNK *i* P **P** **12 37 00.4 -2.8**
comp=Z,181nm,1.1s,baz=175
MNK *i* PP **PP** **12 39 03.3 -4.2**
MNK *i* PPP PPP 12 40 15.8
MNK *i* S **S** **12 44 45.4 -0.3**
MNK *i* SS **SS** **12 48 29.9 -1.1**
MNK *i* SSS SSS 12 50 43.6
MNK *i* LQ LQ 12 56 35.7
MNK *i* LR LR 13 00 59.5
MNK *i* LRM MLR 13 03 09.2
comp=Z,1µm,16.1s
MNK *i* LRM MLR 13 03 33.0
comp=E,145nm,15.5s
PTH Pithoragarh 55.51 53 *e*P P 12 37 11.1 +6.8
PCAB Cabril 55.62 325 *e*P **P** **12 37 05.5 +0.8**
comp=E,100nm,1.9s
PCAB *i* LQ LQ 12 37 21.1
BHOU Houvegnez 55.69 340 *d*P **P** **12 37 05.3 +0.3**
comp=Z,62nm,1.1s
BHOU *d*sP **sP** **12 37 21.9 +1.9**
AB31 Akbulak array 55.78 22 *i* P **P** **12 37 04.2 -1.4**
ABKAR Akbulak array 55.78 22 *i* P **P** **12 37 04.3 -1.3**
ABKAR Akbulak array 55.78 22 P P **P** **12 37 05.0 -0.7**
RCHB Rochefort 55.79 340 *d*P **P** **12 37 05.3 -0.3**
BTNL Ternell 55.85 341 *d*P **P** **12 37 05.5 -0.6**
comp=Z,34nm,1.0s
BTNL *d*sP **sP** **12 37 21.7 +0.5**
BTNL *d*PcP **PcP** **12 38 03.8 -1.0**
MEM Membach 55.91 341 *d*P **P** **12 37 06.7 +0.2**
comp=Z,26nm,1.1s
PGAV Gavieira, Arco 55.92 325 *e*P **P** **12 37 07.8 +0.9**
comp=Z,118nm,1.5s
PGAV *i* LQ LQ 12 37 23.1
PGAV Gavieira, Arco 55.92 325 *e*LQ LQ 12 54 49.1
PGAV *e*LR LR 12 57 56.7
comp=Z,6µm,18.0s
NACGM Naroch 55.92 357‖ *e*P **P** **12 37 05.9 -0.6**
baz=174
DOU Dourbes 55.96 339 *d*P **P** **12 37 06.0 -0.8**
comp=Z,29nm,0.9s
DOU *d*pP **pP** **12 37 18.6 +0.8**
DOU *d*sP **sP** **12 37 23.3 +1.4**
BCLA Clavier 55.98 340 *d*P **P** **12 37 07.0 -0.1**
comp=Z,52nm,1.3s
BCLA *d*sP **sP** **12 37 22.7 +0.6**
BSTI Sart Tilman 56.03 340 *d*P **P** **12 37 08.0 +0.6**
comp=Z,12nm,1.2s
BMRD Maredsous 56.07 340 *d*P **P** **12 37 07.7 +0.1**
comp=Z,28nm,1.1s
BMRD *d*sP **sP** **12 37 24.1 +1.4**
AKTO Aktyubinsk 56.07 20 LR LR 13 03 10.7
comp=Z,1µm,18.7s,baz=166,slow=38
OBN Obninsk 56.15 3 LR LR 13 04 33.2
comp=Z,214nm,18.7s,baz=190,slow=40
OBN Obninsk 56.15 3 P **P** **12 37 08.0 -0.1**
OBN Obninsk 56.15 3‖ *e*P **P** **12 37 07.4 -0.7**
OBN *e* 12 39 19.1
OBN *e*S **S** **12 44 49.4 -5.3**
OBN pmax pmax
comp=Z,180nm,1.3s
OBN MLR MLR
comp=Z,1µm,19.0s
KK31 Karatay Array 56.16 34 P **P** **12 37 08.2 -0.4**
KK31 IAmb IAmb 12 37 37.3
comp=Z,44nm,1.0s
KK31 Karatay Array 56.16 34 P **P** **12 37 08.2 -0.4**
KK31 pmax pmax
comp=Z,44nm,1.0s
KKAR Karatay Array 56.16 34 P **P** **12 37 08.0 -0.5**
KKAR Karatay Array 56.16 34 P **P** **12 37 07.8 -0.8**
KKAR IAmb IAmb 12 37 37.3
comp=Z,44nm,1.0s
KKAR Karatay Array 56.16 34 P **P** **12 37 08.0 -0.5**
BEBN Eben Emael 56.18 341 *d*P **P** **12 37 08.9 +0.5**
BEBN *d*sP **sP** **12 37 24.2 +0.7**
KLNR Kaliningrad 56.27 352 *c i*P **P** **12 37 08.9 -0.1**
KLNR pmax pmax
comp=Z,315nm,1.6s
KLNR MLR MLR
comp=Z,2µm,25.0s
IIGN Ignalina 56.40 356 *e*P **P** **12 37 09.8 -0.1**
PMPST Porto Santo, M 56.43 312 *e*P **P** **12 37 11.9 +1.3**
comp=Z,242nm,1.5s
DZA Taraz 56.48 34 *e*P **P** **12 37 10.4 -0.4**
DZA Taraz 56.48 34 *e*P **P** **12 37 10.5 -0.4**
baz=34
ISAL Salakas 56.63 356 *e*P **P** **12 37 11.4 -0.1**
PABE Paberze 56.73 355 P **P** **12 37 11.4 -0.8**
PABE Paberze 56.73 355 *e*P **P** **12 37 12.0 -0.2**
SACV Santiago Islan 56.82 289 IAMs_20 IAMs_20 13 01 54.0
comp=Z,4µm,18.0s
MOS Moscow 56.84 4 *e*P **P** **12 37 11.4 -1.6**
MOS *e* 12 39 18.2
MOS *e*S **S** **12 44 59.2 -4.7**
MOS *e*SS **SS** **12 48 47.1 -5.5**
MOS pmax pmax
comp=Z,358nm,0.9s
MOS pmax pmax
comp=N,139nm,0.9s
MOS smax smax
comp=E,600nm,7.3s
MOS smax smax
comp=N,700nm,8.7s
PMOZ Porto Moniz, M 56.97 311 *e*P **P** **12 37 16.1 +1.6**
comp=N,214nm,1.9s
PMOZ Porto Moniz, M 56.97 311 *e*LR LR 12 56 44.1
comp=N,2µm,20.0s
PYUN Piuthan 57.19 55 *e*P **P** **12 37 14.7 -1.6**
comp=N,33nm,0.7s
VSVD Vaisvydziai 57.20 355 *e*P **P** **12 37 15.4 -0.2**
KSH Kashi 57.27 40 P **P** **12 37 12.8 -3.8**
KSH sP pP 12 37 25.0 -2.5
KSH S **S** **12 45 02.3 -8.3**
KSH pmax pmax
comp=N,9.0nm,1.0s
KSH pmax pmax
comp=N,590nm,7.1s
KSH LR LR
comp=N,7µm,21.6s
KSH LR LR
comp=N,5µm,19.9s
KSH LR LR
comp=N,7µm,23.7s
AML Almayashu 57.38 36 P **P** **12 37 17.2 -0.5**
SNR=11
RGN Rugen 57.44 348 P **P** **12 37 17.7 +0.4**
RGN IAmb IAmb 12 37 20.6
comp=Z,106nm,1.1s
KOLN Koldanda 57.57 56 *e*P **P** **12 37 18.3 -0.7**
BSD Bornholm Skovb 57.64 349 *e*P **P** **12 37 18.1 -0.6**
BSD Bornholm Skovb 57.64 349 *i* P **P** **12 37 17.0 -1.7**
BSD IVmB_BB 12 37 18.6
comp=Z,1µm,1.6s
BSD IAmb IAmb 12 37 19.0
comp=Z,232nm,1.5s
EKS2 Erkin-Say 57.75 36 P **P** **12 37 19.7 -0.2**
SNR=12
DANN Dangsing 57.91 55 *e*P **P** **12 37 20.0 -1.5**
comp=Z,32nm,0.6s
UCH Uchtor 57.92 37 P **P** **12 37 20.8 -0.8**
SNR=17
AAK Ala-Archa 58.16 36 LR LR 13 04 01.3
comp=Z,5µm,21.8s,baz=252,slow=38
AAK Ala-Archa 58.16 36 P **P** **12 37 22.8 0.0**
AAK IAmb IAmb 12 37 47.7
comp=Z,55nm,1.1s
AAK Ala-Archa 58.16 36 P **P** **12 37 22.8 0.0**
AAK pmax pmax
comp=Z,55nm,1.1s
BOK Bokaro 58.23 61 *e*P P 12 37 33.0 +10
BOK IAmb IAmb 12 37 46.6
comp=Z,12nm,0.5s
NRN Naryn 58.37 38 P **P** **12 37 23.6 -0.9**
NRN Naryn 58.37 38 P **P** **12 37 23.6 -0.9**
NRN pmax pmax
comp=Z,33nm,1.1s
GKN Gorkha 58.51 56 *e*P **P** **12 37 24.4 -1.2**
comp=Z,20nm,0.5s
USP Ospenovka 58.54 36 P **P** **12 37 25.2 -0.1**
SNR=11
BLEU Blekinge 58.60 350 *i* P **P** **12 37 23.8 -1.6**
COP Copenhagen 58.69 347 *i* P **P** **12 37 25.3 -0.6**
COP IAmb IAmb 12 37 28.6
comp=Z,94nm,1.1s
SGDS Sogindy 58.72 36 *e*P **P** **12 37 25.6 -1.0**
SGDS *e*S **S** **12 45 31.5 +2.2**
SGDS Sogindy 58.72 36 *e*P **P** **12 37 25.7 -0.9**
baz=36
SGDS *e*S **S** **12 45 31.6 +2.2**
baz=36
DMN Daman 58.77 57 *e*P **P** **12 37 26.1 -1.4**
comp=Z,14nm,0.4s
ELMS Elmsett, Ipswi 58.90 339‖ *e*P **P** **12 37 28.3 +0.8**
BOOM Boomskoye usch 58.93 37 P **P** **12 37 28.6 +0.4**
BOOM Boomskoye usch 58.93 37 P **P** **12 37 28.7 +0.4**
BOOM pmax pmax
comp=Z,229nm,2.0s
KKN Kakani 58.97 56 *e*P **P** **12 37 28.2 -0.6**
ULHL Ulahol 58.98 38 P **P** **12 37 28.6 0.0**
SNR=5.4
TKM2 Tokmak 2 58.98 37 P **P** **12 37 28.1 -0.5**
SNR=7.9
TKM2 Tokmak 2 58.98 37 *i* P **P** **12 37 27.5 -1.1**
TKM2 pmax pmax
comp=Z,29nm,0.9s
SLIT Slitere, Latvi 58.98 354 *e*P **P** **12 37 27.6 -0.4**
PKIN Phulchoki 59.00 57 *e*P **P** **12 37 27.9 -1.2**
PKI Pulchoki 59.01 57 *e*P **P** **12 37 28.1 -1.1**
BTLS Baital 59.36 34 *e*P **P** **12 37 30.2 -0.7**
BTLS pmax pmax
comp=Z,22nm,0.9s
BTLS Baital 59.36 34 *e*P **P** **12 37 30.2 -0.7**
comp=Z,22nm,0.9s,baz=34
VSU Vasula 59.47 357 *c i*P **P** **12 37 30.4 -1.0**
VSU pmax pmax
comp=Z,428nm,1.5s
VSU MLR MLR
comp=Z,2µm,14.0s
VSU Vasula 59.47 357 *e*P **P** **12 37 30.8 -0.5**
SWN1 Swindon 59.51 337‖ *e*P **P** **12 37 32.6 +0.9**
SWN1 IAmb IAmb 12 37 33.1
comp=Z,268nm,0.8s
GUN Gumba 59.51 57 *e*P **P** **12 37 31.5 -1.2**
comp=Z,22nm,0.5s
WACR West Acre 59.54 339‖ *e*P **P** **12 37 32.4 +0.5**
WACR IAmb IAmb 12 37 33.4
comp=Z,363nm,0.9s
TARG Taragay, Kyrgy 59.65 39 P **P** **12 37 32.8 -0.8**
TARG IAmb IAmb 12 37 56.5
comp=Z,52nm,1.0s
TARG Taragay, Kyrgy 59.65 39 P **P** **12 37 32.8 -0.8**
TARG pmax pmax
comp=Z,52nm,1.0s
JIRN Jiri 59.69 57 *e*P **P** **12 37 32.8 -1.2**
comp=Z,28nm,0.6s
RAMN Ramite 59.80 58 *e*P **P** **12 37 33.7 -1.0**
comp=Z,8.0nm,0.5s
AAA Alma-Ata 59.93 37 *e*P **P** **12 37 34.5 -0.5**
AAA *e*S **S** **12 45 46.8 +1.9**
AAA pmax pmax
comp=Z,10.0nm,0.6s
AAA Alma-Ata 59.93 37 *e*P **P** **12 37 34.5 -0.5**
comp=Z,10nm,0.6s,baz=37
AAA *e*S **S** **12 45 46.9 +1.9**
baz=37
KUU Kurty 59.98 36 *e*P **P** **12 37 35.0 -0.3**
KUU *e*S **S** **12 45 47.9 +2.5**
KUU Kurty 59.98 36 *e*P **P** **12 37 35.1 -0.3**
baz=36
KUU *e*S **S** **12 45 48.0 +2.5**
baz=36
MDOK Medeo 59.99 37 *e*P **P** **12 37 35.4 -0.1**
MDOK *e*S **S** **12 45 48.2 +2.4**
MDOK MLR MLR
comp=Z,2µm,16.0s
MDOK Medeo 59.99 37 *e*P **P** **12 37 35.5 -0.1**
baz=37
MDOK *e*S **S** **12 45 48.2 +2.4**
baz=37
MDOK LR LR 13 02 29.1
comp=Z,2µm,16.2s,baz=37
MUD Monsted U'grnd 60.14 346 *i* P **P** **12 37 36.0 +0.1**
MUD IVmB_BB 12 37 37.2
comp=Z,2µm,1.8s
MUD IAmb IAmb 12 37 37.6
comp=Z,412nm,1.7s
MONM Monmouth 60.16 336‖ *e*P **P** **12 37 36.4 +0.1**
MONM IAmb IAmb 12 37 37.9
comp=Z,68nm,0.9s
HTL Hartland 60.23 335 *e*P **P** **12 37 37.4 +0.7**
HTL IAmb IAmb 12 37 38.3
comp=Z,120nm,1.3s
CHKK Chushkaly 60.34 36 *e*P **P** **12 37 36.6 -1.1**
CHKK Chushkaly 60.34 36 *e*P **P** **12 37 36.7 -1.1**
baz=36
MCH1 Michaelchurch 60.36 336‖ *e*P **P** **12 37 37.7 +0.1**
MCH1 IAmb IAmb 12 37 38.7
comp=Z,174nm,1.1s
BORU Boraas 60.42 349 *i* P **P** **12 37 37.6 -0.4**
ODAN Odare 60.45 58 *e*P **P** **12 37 37.4 -1.6**
LMK Market Rasen 60.47 339 *e*P **P** **12 37 39.1 +0.8**
OTUK Ortayu 60.51 30 P **P** **12 37 37.7 -1.1**
PUL Pulkovo 60.67 359‖ *e*P **P** **12 37 40.0 +0.4**
PUL pmax pmax
comp=Z,183nm,1.2s
PUL MLR MLR
comp=Z,2µm,24.0s
HLM1 Long Mynd 60.71 337‖ *e*P **P** **12 37 39.8 -0.2**
HLM1 IAmb IAmb 12 37 41.0
comp=Z,71nm,0.8s
SATY Saty 60.76 38 *e*P **P** **12 37 39.7 -1.0**
SATY *e*S **S** **12 45 56.8 +1.2**
SATY Saty 60.76 38 *e*P **P** **12 37 39.8 -1.0**
baz=38

SATY eS **S** **12 45 56.9 +1.2**
baz=38
ZHN Zhinishke 60.83 38 eP **P** **12 37 40.4 -0.8**
ZHN Zhinishke 60.83 38 eP **P** **12 37 40.5 -0.8**
baz=38
STNC Stoke 60.88 337 eP **P** **12 37 42.1 +0.9**
RSBS Rosebush, Pemb 61.04 335⇑ eP **P** **12 37 42.6 +0.4**
RSBS IAmb IAmb 12 37 43.5
comp=Z,103nm,0.9s
FOEL Foel Wylfa 61.12 337⇑ eP **P** **12 37 42.6 -0.2**
FOEL IAmb IAmb 12 37 43.5
comp=Z,264nm,0.9s
KIRV Kirov 61.14 11⇑ *i*P **P** **12 37 42.4 -0.4**
KPKS Kokpek 61.15 38 eP **P** **12 37 42.5 -0.8**
KPKS Kokpek 61.15 38 eP **P** **12 37 42.5 -0.8**
baz=38
UZB Uzynbulak 61.18 38 eP **P** **12 37 42.6 -1.0**
UZB eS **S** **12 46 02.1 +1.0**
UZB Uzynbulak 61.18 38 eP **P** **12 37 42.7 -1.0**
baz=38
UZB eS **S** **12 46 02.2 +1.0**
baz=38
LLW Llanuwychllyn 61.27 336⇑ eP **P** **12 37 44.4 +0.6**
HPK Haverah Park 61.34 338⇑ eP **P** **12 37 45.1 +0.8**
HPK IAmb IAmb 12 37 46.0
comp=Z,150nm,1.0s
ARU Arti 61.35 17 LR LR 13 06 38.5
comp=Z,3μm,18.8s,baz=214,slow=38
ARU Arti 61.35 17 P **P** **12 37 44.0 -0.3**
ARU IAmb IAmb 12 38 00.1
comp=Z,75nm,1.0s
ARU IAMs_20 IAMs_20 13 06 34.8
comp=Z,3μm,20.0s
ARU Arti 61.35 17*c i*P **P** **12 37 43.5 -0.8**
ARU pmax pmax
comp=Z,106nm,1.3s
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 61.35 17 P **P** **12 37 42.7 -1.6**
ARU sP **sP** **12 37 59.1 -0.4**
MEF Metsahovi 61.37 356 eP **P** **12 37 43.8 -0.5**
GDLE Glaisdale, N Y 61.41 339⇑ eP **P** **12 37 45.0 +0.3**
SHLS Shalkode 61.46 38 eP **P** **12 37 46.3 +0.9**
SHLS eS **S** **12 46 09.2 +4.7**
SHLS Shalkode 61.46 38 eP **P** **12 37 46.4 +0.9**
baz=38
SHLS eS **S** **12 46 09.3 +4.7**
baz=38
PDGK Podgornoye 61.57 38 P **P** **12 37 44.3 -1.9**
GTK Tadong 61.62 58 eP P 12 37 55.9 +9.1
YLL Llanberis 61.69 336⇑ eP **P** **12 37 47.0 +0.3**
BRZS Berezniki 61.83 29 eP **P** **12 37 47.6 -0.1**
BRZS eS **S** **12 46 10.1 +1.3**
BRZS Berezniki 61.83 29 eP **P** **12 37 47.7 -0.1**
baz=29
BRZS eS **S** **12 46 10.2 +1.3**
baz=29
TDK Taldyqorghan 61.83 36 eP **P** **12 37 47.3 -0.5**
TDK MLR MLR
comp=Z,2μm,15.0s
TDK Taldyqorghan 61.83 36 eP **P** **12 37 47.3 -0.5**
baz=36
TDK LR LR 13 03 07.5
comp=Z,2μm,14.7s,baz=36
WLF1 Llynfaes 61.89 336⇑ eP **P** **12 37 48.5 +0.5**
WLF1 IAmb IAmb 12 37 49.5
comp=Z,235nm,0.9s
WME Myndd Eilian 61.94 337⇑ eP **P** **12 37 48.9 +0.7**
WPS Cemaes, Angles 62.02 336⇑ eP **P** **12 37 49.5 +0.7**
WPS IAmb IAmb 12 37 50.4
comp=Z,136nm,0.9s
KLMR Klimovskoe 62.06 4 eP **P** **12 37 47.1 -1.8**
KLMR 12 40 03.0
KLMR S **S** **12 46 10.0 -1.1**
KLMR pmax pmax
comp=Z,248nm,1.5s
KLMR MLR MLR
comp=Z,1μm,15.0s
KLMR Klimovskoe 62.06 4 eP **P** **12 37 47.2 -1.7**
KLMR eP **P** **12 37 47.2 -1.7**
KLMR eP **P** **12 37 47.2 -1.7**
KLMR AMP 12 37 50.6
comp=Z,248nm,1.5s
KLMR PP **PP** **12 40 03.1 -2.7**
KLMR PPP PPP 12 41 45.9
KLMR S **S** **12 46 10.1 -1.1**
KLMR S **S** **12 46 10.1 -1.1**
KLMR LR LR 12 51 30.8
KLMR AMP 13 08 00.4
comp=Z,1μm,14.9s
EDMD Edmundbyers 62.15 339⇑ eP **P** **12 37 50.0 +0.3**
EDMD IAmb IAmb 12 37 51.2
comp=Z,293nm,1.9s
IWEX Carrickbyrne, 62.21 335⇑ eP **P** **12 37 50.3 +0.2**
VALR Valaam 62.26 360*c i*P **P** **12 37 49.4 -0.9**
VALR pmax pmax
comp=Z,169nm,0.9s
RAF Rauma 62.38 355 eP **P** **12 37 50.6 -0.5**
DHUB DHUBRI 62.44 60⇑ eP pP 12 38 02.4 -0.8
FINES FINESS Array B 62.48 357 P **P** **12 37 51.3 -0.5**
comp=Z,54nm,0.9s,baz=159,slow=5.7,SNR=108
comp=Z,54nm,0.9s
FINES FINESS Array B 62.48 357 P **P** **12 37 50.8 -1.0**
FIA1 FINESS Array S 62.48 357 P **P** **12 37 51.1 -0.7**
HFS Hagfors 62.59 350 LR LR 13 08 31.2
comp=Z,1μm,19.9s,baz=164,slow=39
WIM Isle of Man 62.64 337⇑ eP **P** **12 37 53.9 +0.9**
IOMK Kirk Michael 62.69 337⇑ eP **P** **12 37 54.1 +0.8**
IOMK IAmb IAmb 12 37 54.5
comp=Z,156nm,1.0s
BRVK Borovoye 62.87 25 P **P** **12 37 54.0 -0.6**
BRVK sP **sP** **12 38 09.9 +0.1**
BVA0 Borovoye Array 62.89 25 P **P** **12 37 52.2 -2.5**
BVAR Borovoye Array 62.89 25 LR LR 13 08 33.0
comp=Z,4μm,19.0s,baz=220,slow=39
KONO Kongsberg 62.94 348 P **P** **12 37 54.3 -0.6**
KONO IAmb IAmb 12 38 11.5
comp=Z,75nm,1.0s
KONO Kongsberg 62.94 348⇑ *i*P **P** **12 37 54.5 -0.3**
KONO pmax pmax
comp=Z,111nm,1.4s
KONO Kongsberg 62.94 348 eP **P** **12 37 53.7 -1.1**
KONO IAmb IAmb 12 37 55.1
comp=Z,59nm,0.9s
KONO Kongsberg 62.94 348 P **P** **12 37 53.0 -1.9**
KONO pP **sP** **12 38 07.7 -2.3**
OSL Oslo 62.97 348 eP **P** **12 37 54.5 -0.5**
OSL IAmb IAmb 12 37 55.6
comp=Z,97nm,1.1s
EKA Eskdalemuir Ar 62.97 339 LR LR 13 06 15.8
comp=Z,2μm,19.6s,baz=164,slow=37
ESK Eskdalemuir 62.98 339⇑ eP **P** **12 37 55.6 +0.4**
ESK IAmb IAmb 12 37 56.2
comp=Z,47nm,0.8s
ESK Eskdalemuir 62.98 339 P **P** **12 37 55.4 +0.2**
ESK IAmb IAmb 12 38 12.9
comp=Z,72nm,1.1s
ESK Eskdalemuir 62.98 339 P **P** **12 37 55.4 +0.2**
ESK pmax pmax
comp=Z,72nm,1.1s
ESK Eskdalemuir 62.98 339 P **P** **12 37 54.4 -0.8**
BRDH Bariadhala 63.04 64 LR LR 13 07 01.8
comp=Z,4μm,18.6s,baz=272,slow=38
NEWG New Galloway 63.20 338⇑ eP **P** **12 37 57.4 +0.7**
NEWG IAmb IAmb 12 37 57.9
comp=Z,68nm,0.9s
GMM Mts of Mourne 63.22 336⇑ eP **P** **12 37 57.1 +0.3**
ILTH Belurgan, Co L 63.22 336 eP **P** **12 37 56.6 -0.2**
ESY Stoneypath 63.23 339⇑ eP **P** **12 37 57.6 +0.7**
EBL Broad Law 63.27 339⇑ eP **P** **12 37 57.7 +0.5**
EDI Edinburgh 63.44 339⇑ eP **P** **12 37 59.1 +0.9**
BLS5 Blasjo 63.45 346 eP **P** **12 37 58.4 +0.1**
PRGR Permogore 63.46 7 eP **P** **12 37 56.6 -1.6**
PRGR pmax pmax
comp=Z,96nm,0.9s
NC602 NORSAR Array S 63.55 349 P **P** **12 37 58.0 -0.9**
NC602 NORSAR Array S 63.55 349 eP **P** **12 37 58.5 -0.4**
NAO01 NORSAR Array S 63.77 349 eP **P** **12 38 00.3 -0.1**
NAO01 IAmb IAmb 12 38 01.4
comp=Z,138nm,1.1s
PGBU Glenifferbraes 63.82 338⇑ eP **P** **12 38 01.4 +0.7**
PGBU IAmb IAmb 12 38 02.1
comp=Z,86nm,0.9s
ODD1 Odda 63.84 346 eP **P** **12 38 01.2 +0.3**

NB2 NORSAR Subarra 63.89 349 P **P** **12 38 00.4 -0.8**
comp=Z,183nm,1.2s,baz=159,slow=6.5
NB2 NORSAR Subarra 63.89 349 P **P** **12 38 00.4 -0.8**
baz=159,slow=6.5
NOA NORSAR Array B 63.89 349 P **P** **12 38 00.7 -0.5**
comp=Z,52nm,1.0s,baz=159,slow=6.4,SNR=94
NOA LR LR 13 09 42.6
comp=Z,782nm,18.2s,baz=145,slow=40
comp=Z,52nm,1.0s
CLGH Cloghs, Cushen 63.90 337⇑ eP **P** **12 38 01.6 +0.2**
GUWA GUWAHATI 63.95 60 eP P 12 38 09.6 +7.3
DRUM Mains of Drumt 63.96 340⇑ eP **P** **12 38 01.3 -0.3**
DRUM IAmb IAmb 12 38 02.5
comp=Z,53nm,1.0s
IGLA Glengowla, Co 64.07 334⇑ eP **P** **12 38 02.3 -0.1**
INVG Invergeldie, C 64.13 339⇑ eP **P** **12 38 03.3 +0.5**
INVG IAmb IAmb 12 38 03.9
comp=Z,72nm,0.9s
SKAR Skarslia 64.15 348 eP **P** **12 38 03.2 +0.3**
SKAR IAmb IAmb 12 38 04.4
comp=Z,148nm,1.1s
LSA Lhasa 64.46 56 P **P** **12 38 04.4 -1.7**
LSA **pP** **12 38 16.8 -0.3**
LSA IAmb IAmb 12 38 23.7
comp=Z,88nm,1.6s
LSA IAMs_20 IAMs_20 13 06 01.1
comp=Z,3μm,21.0s
LSA Lhasa 64.46 56 P **P** **12 38 06.7 +0.6**
LSA Lhasa 64.46 56 P **P** **12 38 04.4 -1.7**
LSA pmax pmax
comp=Z,88nm,1.6s
LSA MLR MLR
comp=Z,3μm,21.0s
LAWE Loch Awe, Argy 64.50 338⇑ eP **P** **12 38 05.7 +0.5**
LAWE IAmb IAmb 12 38 06.2
comp=Z,67nm,0.8s
BER Bergen 64.57 346 eP **P** **12 38 05.9 +0.3**
ASK Askoy 64.69 346 eP **P** **12 38 06.5 +0.1**
MCD Coleburn Disti 64.75 340⇑ eP **P** **12 38 06.9 +0.1**
MAKZ Makanchi 64.91 36 P **P** **12 38 07.4 -0.7**
MAKZ pP **pP** **12 38 18.7 -0.4**
MAKZ IAMs_20 IAMs_20 13 06 03.5
comp=Z,4μm,21.0s
MAKZ Makanchi 64.91 36 P **P** **12 38 07.4 -0.7**
MAKZ pmax pmax
comp=Z,30nm,0.9s
MAKZ MLR MLR
comp=Z,4μm,21.0s
MAKZ Makanchi 64.91 36 P **P** **12 38 07.1 -1.0**
MAKZ pP **pP** **12 38 18.8 -0.4**
HYA Hoyanger 65.05 347 eP **P** **12 38 09.0 +0.3**
MK31 Makanchi Array 65.08 36 P **P** **12 38 08.2 -1.1**
MK31 Makanchi Array 65.08 36 *i* P **P** **12 38 08.5 -0.8**
MKAR Makanchi Array 65.08 36 P **P** **12 38 08.3 -1.0**
comp=Z,7.2nm,0.9s,baz=240,slow=6.0,SNR=41
MKAR S **S** **12 46 50.0 +0.6**
comp=Z,1.1nm,0.7s,baz=279,slow=2.3,SNR=2.1
MKAR LR LR 13 10 21.9
comp=Z,3μm,18.1s,baz=257,slow=40
comp=Z,7.2nm,0.9s
KURBB Kurchatov Arra 65.15 31 LR LR 13 07 25.1
comp=Z,4μm,21.7s,baz=215,slow=37
DOMB Dombas 65.22 349 eP **P** **12 38 10.1 +0.2**
DOMB IAmb IAmb 12 38 11.2
comp=Z,92nm,1.1s
KURK Kurchatov 65.25 31 IAMs_20 IAMs_20 13 07 15.4
comp=Z,4μm,21.0s
KURK Kurchatov 65.25 31 P **P** **12 38 08.8 -1.4**
KURK sP **sP** **12 38 25.6 +0.1**
SUE Sulen 65.29 346 eP **P** **12 38 09.7 -0.6**
LHMI Lhok Sumawe 65.61 84 IAMs_20 IAMs_20 13 02 36.8
comp=Z,3μm,18.0s
FOO Floro 65.70 346 eP **P** **12 38 13.0 +0.1**
AKN Aaknes 65.77 348 eP **P** **12 38 13.9 +0.4**
SEM Semipalatinsk 65.92 32 eP **P** **12 38 14.4 -0.4**
SEM pmax pmax
comp=Z,19nm,1.0s
SEM Semipalatinsk 65.92 32 eP **P** **12 38 14.4 -0.4**
comp=Z,19nm,1.0s,baz=32
KOHI KOHIMA 65.94 61 eP P 12 38 22.6 +7.2
ITAN ITANAGAR 65.95 60 eP P 12 38 21.5 +6.2
MOL Molde 66.01 348 eP **P** **12 38 14.2 -0.6**
MOL IAmb IAmb 12 38 15.3
comp=Z,131nm,1.2s
GSI Gunungsitoli 66.06 88 P **P** **12 38 17.8 +1.6**
comp=Z,4μmcomp=Z,152nm,1.9s
GSI pP **sP** **12 38 29.3 -2.2**
comp=Z,4μmcomp=Z,152nm,1.9s
TBLU Trondheim 66.11 350 eP **P** **12 38 15.5 0.0**
TBLU IAmb IAmb 12 38 16.0
comp=Z,71nm,0.9s
JORH JORHAT 66.31 60 eP pP 12 38 28.2 -0.4
NBRF Rio Formoso - 66.79 261 eP **P** **12 38 20.7 -0.1**
ZSN Zaisan 66.93 36 eP **P** **12 38 21.3 +0.2**
ZSN eS **S** **12 47 12.9 +1.0**
ZSN Zaisan 66.93 36 eP **P** **12 38 21.4 +0.2**
baz=36
ZSN eS **S** **12 47 13.0 +1.0**
baz=36
NSS Namsos 67.01 351 eP **P** **12 38 21.1 -0.1**
NSS IAmb IAmb 12 38 22.2
comp=Z,354nm,1.7s
WMQ Urumqi 67.02 41 eP **P** **12 38 23.2 +1.3**
WMQ sP pP 12 38 33.6 +0.7
WMQ PcP **PcP** **12 38 50.3 +0.2**
WMQ ScP 12 42 53.1
WMQ S **S** **12 47 15.5 +2.2**
WMQ SS **SS** **12 51 33.4 +0.8**
WMQ pmax pmax
comp=Z,57nm,1.5s
WMQ pmax pmax
comp=Z,830nm,4.5s
WMQ LR LR
comp=Z,7μm,21.7s
WMQ LR LR
comp=Z,3μm,22.7s
WMQ LR LR
comp=Z,4μm,24.9s
DIBR DIBRUGARH 67.06 60 eP P 12 38 29.4 +7.1
TSI Tuntungan 67.13 86 P **P** **12 38 23.6 +0.6**
comp=Z,9μmcomp=Z,160nm,0.8s
PSI Prapat 67.46 87 LR LR 13 05 02.8
comp=Z,1μm,20.2s,baz=254,slow=34
RCBR Riachuelo 67.46 264 LR LR 13 03 23.4
comp=Z,5μm,21.4s,baz=228,slow=32
RCBR Riachuelo 67.46 264 P **P** **12 38 24.6 -0.6**
RCBR Riachuelo 67.46 264 IAMs_20 IAMs_20 13 03 12.2
comp=Z,4μm,21.0s
RCBR Riachuelo 67.46 264 P **P** **12 38 24.6 -0.6**
RCBR pmax pmax
comp=Z,21nm,1.0s
RCBR Riachuelo 67.46 264 eP **P** **12 38 24.7 -0.5**
RCBR Riachuelo 67.46 264 P **P** **12 38 24.1 -1.1**
RCBR pP **sP** **12 38 39.9 -0.6**
LKP Lekhapani 67.83 60 eP pP 12 38 37.2 -1.1
NBAN Anadia - AL 67.97 260 eP **P** **12 38 27.6 -0.7**
MNSI Mandailing Nat 68.05 89 P **P** **12 38 28.3 -0.5**
comp=Z,1μmcomp=Z,62nm,1.7s
MNSI pP **pP** **12 38 40.6 +0.7**
comp=Z,1μmcomp=Z,62nm,1.7s
MOR8 Moi Rana 68.20 353 eP **P** **12 38 28.6 -0.2**
MOR8 IAmb IAmb 12 38 29.1
comp=Z,36nm,0.8s
PPSI Pulau Pagai 68.43 93 P **P** **12 38 30.1 -1.1**
comp=Z,14μmcomp=Z,844nm,1.5s
APA Apatity 68.50 1⇓ *i*P **P** **12 38 29.2 -1.4**
APA *i* 12 41 00.5
APA *i* S **S** **12 47 25.0 -5.0**
APA *i* 12 48 07.0
APA pmax pmax
comp=Z,56nm,0.9s
APA MLR MLR
comp=Z,1μm,19.0s
KONS Konsvik 68.69 352 eP **P** **12 38 31.4 -0.3**
KONS IAmb IAmb 12 38 32.0
comp=Z,63nm,0.9s
LVZ Lovozero 68.86 1⇑ eP **P** **12 38 32.6 -0.3**
LVZ pmax pmax
comp=Z,65nm,1.0s
PDSI Padang 68.90 91 P **P** **12 38 34.8 +0.6**
comp=Z,8μmcomp=Z,30nm,1.3s
CMAR Chiang Mai Arr 68.96 70 P **P** **12 38 34.2 -0.2**
comp=Z,1.0nm,0.6s,baz=265,slow=6.7,SNR=7.1
CMAR LR LR 13 06 47.5
comp=Z,700nm,21.6s,baz=265,slow=34

CMAR Chiang Mai Arr 68.96 70 P **P** **12 38 33.6 -0.8**
CMAR Chiang Mai Arr 68.96 70 *i* P **P** **12 38 35.0 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
FAUS Fauske 69.26 353 eP **P** **12 38 34.8 -0.5**
FAUS IAmb IAmb 12 38 35.9
comp=Z,58nm,1.1s
KULM Kulim 69.30 84 P **P** **12 38 35.4 -1.2**
KULM IAMs_20 IAMs_20 13 04 51.4
comp=Z,3μm,21.0s
GOMU GeErMu 69.33 51 P **P** **12 38 38.6 +1.7**
GOMU pP pP 12 38 41.9 -6.1
GOMU sP sP 12 38 43.4 -8.8
GOMU S **S** **12 47 37.2 -4.6**
GOMU sS sS 12 47 58.4 -1.7
GOMU pmax pmax
comp=Z,8.0nm,0.7s
GOMU pmax pmax
comp=Z,590nm,5.6s
GOMU LR LR
comp=Z,2μm,19.0s
GOMU LR LR
comp=Z,870nm,19.4s
GOMU LR LR
comp=Z,880nm,19.2s
DGZ Jazzator, Alta 69.51 35⇑ *i*P **P** **12 38 36.7 -0.7**
DGZ pmax pmax
comp=Z,18nm,1.5s
DGZ MLR MLR
comp=Z,2μm,15.0s
NBLA Lagarto - SE 69.52 259 eP **P** **12 38 37.5 -0.5**
IPM Ipoh 69.63 85 P **P** **12 38 37.1 -1.7**
IPM pP **pP** **12 38 49.7 -0.2**
IPM IAmb IAmb 12 38 50.6
comp=Z,88nm,0.8s
IPM IAMs_20 IAMs_20 13 06 49.3
comp=Z,2μm,20.0s
STEI Steigen 69.79 354 eP **P** **12 38 37.6 -0.9**
STEI IAmb IAmb 12 38 39.4
comp=Z,101nm,1.3s
MAW Mawson 69.86 168 P **P** **12 38 40.9 +2.0**
comp=Z,18nm,0.7s,baz=329,slow=6.7,SNR=74
MAW S **S** **12 47 52.4 +6.5**
comp=Z,1.5nm,1.0s,baz=206,slow=20,SNR=1.7
MAW LR LR 13 06 07.8
comp=Z,2μm,19.6s,baz=322,slow=33
comp=Z,18nm,0.7s
MAW Mawson 69.86 168 P **P** **12 38 40.6 +1.7**
MAW sP **sP** **12 38 56.6 +2.3**
MAW Mawson 69.86 168 P **P** **12 38 40.7 +1.7**
MAW *SP **sP** **12 38 56.6 +2.3**
MAW pmax pmax
comp=Z,21nm,1.2s
SDSI Sungai Dareh 69.86 91 P **P** **12 38 41.5 +1.4**
comp=Z,28nm,1.8s
KTK1 Kautokeino 70.17 357 eP **P** **12 38 40.2 -0.7**
KTK1 IAmb IAmb 12 38 41.3
comp=Z,90nm,1.1s
LOF Lofoten 70.18 353 eP **P** **12 38 39.3 -1.7**
ZAA0 Zalesovo Array 70.21 30 P **P** **12 38 39.9 -1.6**
ZAA0 pP **pP** **12 38 51.7 -0.9**
ZAA0 sP **sP** **12 38 55.8 -0.9**
ZALV Zalesovo Beam 70.21 30 P **P** **12 38 40.3 -1.1**
comp=Z,5.2nm,0.7s,baz=241,slow=4.9,SNR=24
ZALV PKP2ab 13 06 38.4
comp=Z,0.3nm,0.3s,baz=86,slow=4.9,SNR=4.4
ZALV LR LR 13 10 55.8
comp=Z,3μm,20.3s,baz=236,slow=37
comp=Z,5.2nm,0.7s
ZALV Zalesovo Beam 70.21 30 P **P** **12 38 40.0 -1.4**
ARA0 ARCESS Array S 70.59 358 eP **P** **12 38 42.5 -1.0**
ARA0 IAmb IAmb 12 38 43.5
comp=Z,60nm,1.0s
ARCES ARCESS Array B 70.59 358 P **P** **12 38 42.7 -0.8**
comp=Z,32nm,0.8s,baz=175,slow=5.6,SNR=53
ARCES LR LR 13 12 27.0
comp=Z,2μm,21.3s,baz=176,slow=38
comp=Z,32nm,0.8s
ARCES ARCESS Array B 70.59 358 P **P** **12 38 42.5 -0.9**
ARCES IAmb IAmb 12 38 44.4
comp=Z,93nm,1.2s
KEV Kevo 70.76 358 P **P** **12 38 44.0 -0.5**
KEV IAmb IAmb 12 38 45.6
comp=Z,78nm,1.1s
KEV Kevo 70.76 358 P **P** **12 38 44.0 -0.5**
KEV pmax pmax
comp=Z,78nm,1.1s
KEV Kevo 70.76 358 P **P** **12 38 43.7 -0.8**
KEV pP **sP** **12 38 58.6 -1.2**
NVL N'lazarevskaya 70.77 187 eP P 12 38 49.5 +5.0
NVL *eS* **S** **12 47 54.5 -2.0**
NVL pmax pmax
comp=Z,77nm,1.7s
JETT Jettan, Norway 70.89 356 eP **P** **12 38 45.0 -0.4**
JETT IAmb IAmb 12 38 45.5
comp=Z,115nm,0.8s
TRO Tromso 71.08 355 eP **P** **12 38 45.7 -0.7**
TRO IAmb IAmb 12 38 46.8
comp=Z,89nm,1.0s
GDU01 Guandu, BA 71.42 256 eP **P** **12 38 49.2 -0.3**
CMC01 Camacan, BA 71.47 254 eP **P** **12 38 49.2 -0.6**
HAMF Hammerfest 71.77 357 eP **P** **12 38 50.1 -0.5**
HAMF IAmb IAmb 12 38 51.6
comp=Z,28nm,0.9s
GUA01 Guaratinga, BA 71.84 253 eP **P** **12 38 52.4 +0.3**
NAN01 Guarapari, ES 72.24 252 eP **P** **12 38 54.5 0.0**
MYKOM Kota Tinggi 72.34 88 P **P** **12 38 54.2 -1.0**
MYKOM IAmb IAmb 12 39 08.4
comp=Z,72nm,0.6s
RIB01 Linhares ES 72.62 250 eP **P** **12 38 56.8 +0.1**
PZH PanZhiHua 72.82 62 P **P** **12 38 59.8 +1.9**
PZH sP **pP** **12 39 08.4 -0.7**
PZH PP **PP** **12 41 44.2 +3.9**
PZH S **S** **12 48 20.0 -2.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,130nm,4.8s
PZH LR LR
comp=Z,3μm,22.5s
PZH LR LR
comp=Z,4μm,22.7s
PZH LR LR
comp=Z,3μm,21.8s
ALF01 Guarapari-ES 73.05 249 eP **P** **12 38 59.8 +0.6**
TROLL Troll, Antarti 73.19 189 P **P** **12 39 01.2 +2.0**
SJMB Sao Joao De Ma 73.31 251 eP **P** **12 38 59.9 -1.0**
KMI Kunming 73.47 64⇓ P **P** **12 39 05.2 +3.3**
KMI pP pP 12 39 09.7 -3.4
KMI sP sP 12 39 13.0 -4.3
KMI S **SKiKP** **12 48 32.0 +1.5**
KMI SKS **SKKSac** **12 49 08.2 +1.5**
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI pmax pmax
comp=Z,710nm,7.1s
KMI LR LR
comp=Z,960nm,21.9s
KMI LR LR
comp=Z,1μm,26.2s
KMI LR LR
comp=Z,2μm,23.5s
SNAA Sanae 73.82 191 P **P** **12 39 04.2 +1.3**
SNAA Sanae 73.82 191 P **P** **12 39 04.3 +1.4**
comp=Z,4.4nm,1.0s,baz=38,slow=7.6,SNR=14
SNAA LR LR 13 08 23.6
comp=Z,4μm,20.8s,baz=38,slow=33
comp=Z,4.4nm,1.0s
SNAA Sanae 73.82 191 P **P** **12 39 03.7 +0.8**
SNAA IAMs_20 IAMs_20 13 08 22.2
comp=Z,4μm,20.0s
SNAA Sanae 73.82 191 eP **P** **12 39 04.5 +1.6**
SNAA Sanae 73.82 191⇓ eP **P** **12 39 04.0 +1.1**
SNAA pmax pmax
comp=Z,24nm,1.6s
SNAA MLR MLR
comp=Z,2μm,17.0s
CAM01 Campos-RJ 74.03 248 eP **P** **12 39 04.5 -0.4**
GTA Gaotai 74.03 48⇓ P **P** **12 39 05.0 +0.2**
GTA pP pP 12 39 17.0 +1.0
GTA PP **PP** **12 41 46.0 -4.4**
GTA S **S** **12 48 35.9 +0.6**
GTA pmax pmax
comp=Z,15nm,1.0s
GTA pmax pmax

comp=Z,600nm,8.0s
GTA LR LR
comp=Z,2µm,19.3s
GTA LR LR
comp=Z,1µm,19.3s
GTA LR LR
comp=Z,2µm,18.9s
VNA1 Neumayer--Stat 74.13 193 P **P** **12 39 06.5 +1.9**
VNA2 Neumayer--Watz 74.15 192 P **P** **12 39 06.0 +1.3**
baz=23,slow=6.0
VNA2 S S 12 48 45.5 +10
DUB01 Friburgo-RJ 74.71 248 *eP* **P** **12 39 09.2 +0.2**
VNA3 Neumayer Olymp 74.88 193 P **P** **12 39 10.0 +1.0**
CD2 Chengdu 75.34 58 P **P** **12 39 13.0 +0.5**
CD2 sP pP 12 39 22.0 -1.7
CD2 PP **PP** **12 42 02.0 +0.4**
CD2 S **S** **12 48 51.5 +1.5**
CD2 SS **SS** **12 53 47.7 +7.0**
CD2 pmax pmax
comp=Z,670nm,8.4s
CD2 LR LR
comp=Z,1µm,22.0s
CD2 LR LR
comp=Z,2µm,21.6s
CD2 LR LR
comp=Z,2µm,21.1s
DIAM Diamantina, MG 75.64 251 *eP* **P** **12 39 14.8 +0.2**
ROSB Rosrio 75.64 267 *eP* **P** **12 39 14.4 -0.1**
VAS01 Vassouras-RJ 75.72 247 *eP* **P** **12 39 15.0 +0.3**
MC01 Montes Claros 75.80 253 *eP* **P** **12 39 14.7 -0.7**
BJO1 Bjornoya 75.84 357 *eP* **P** **12 39 13.8 -0.6**
BJO1 IAmb IAmb 12 39 15.3
comp=Z,155nm,0.9s
BORG Borgarnes 75.99 339 LR LR 13 15 31.6
comp=Z,834nm,18.2s,baz=139,slow=38
LEM Lembang 76.04 97 LR LR 13 07 17.5
comp=Z,2µm,21.7s,baz=261,slow=32
JANB Januaria 76.07 255 *eP* **P** **12 39 16.8 -0.1**
LZH Lanzhou 76.38 53 ⇑P **pP** **12 39 30.2 +0.5**
LZH pP sP 12 39 35.3 +1.5
LZH PP **PP** **12 42 08.7 -1.7**
LZH *e*S **S** **12 49 00.0 -1.6**
LZH sS pS 12 49 16.4 +0.8
LZH Lanzhou 76.38 53 SS SS 12 53 58.3 +1.8
LZH pmax pmax
comp=Z,40nm,1.1s
LZH pmax pmax
comp=Z,520nm,4.6s
LZH LR LR
comp=N,2µm,19.2s
LZH LR LR
comp=E,2µm,17.9s
LZH LR LR
comp=Z,4µm,19.9s
JMIC Jan Mayen 76.51 347 LR LR 13 16 34.1
comp=Z,762nm,19.3s,baz=87,slow=38
SDBA SAO DESIDERIO 76.54 258 *eP* **P** **12 39 19.6 0.0**
GYA Guiyang 77.17 63 ⇑P **P** **12 39 24.0 +1.0**
GYA PcP **PcP** **12 39 34.5 +0.8**
GYA PP **PP** **12 42 22.7 +5.5**
GYA S **S** **12 49 12.5 +2.0**
GYA SKS **SKSac** **12 49 34.6 +0.8**
GYA pmax pmax
comp=Z,16nm,0.8s
GYA pmax pmax
comp=Z,700nm,5.8s
GYA LR LR
comp=Z,1µm,22.0s
GYA LR LR
comp=Z,1µm,22.2s
GYA LR LR
comp=Z,2µm,22.4s
PARB Paraibuna 77.80 246 *eP* **P** **12 39 27.1 +0.5**
MOY Mondy 78.22 37 *eP* **P** **12 39 29.3 +0.9**
MOY pmax pmax
comp=Z,87nm,2.3s
PMNB Patos De Minas 78.27 251 *eP* **P** **12 39 29.3 0.0**
VAO Valinhos 79.01 247 *eP* **P** **12 39 33.6 +0.3**
SMTB Santa Maria do 79.11 261 *eP* **P** **12 39 34.2 +0.4**
ZAK Zakamensk 79.25 38 *eP* **P** **12 39 34.3 +0.2**
ZAK pmax pmax
comp=Z,19nm,1.7s
QIZ Qiongzhong 79.28 71 P P 12 39 40.8 +6.1
QIZ Qiongzhong 79.28 71 S S 12 49 42.4 +9.2
QIZ pmax pmax
comp=Z,600nm,8.3s
QIZ LR LR
comp=N,620nm,25.6s
QIZ LR LR
comp=E,880nm,22.1s
PET01 Itanhaem-SP 79.38 246 *eP* **P** **12 39 35.7 +0.5**
NRIK Noril'sk 79.56 17 P **P** **12 39 35.6 +0.4**
comp=E,13nm,0.8s,baz=215,slow=3.4,SNR=19
NRIK S **S** **12 49 30.8 -3.5**
comp=E,3.3nm,0.4s,baz=222,slow=2.9,SNR=2.3
NRIK LR LR 13 19 00.2
comp=E,1µm,18.4s,baz=232,slow=39
comp=E,13nm,0.8s
NRIK Noril'sk 79.56 17 P **P** **12 39 35.5 +0.3**
NRIK Noril'sk 79.56 17*c i*P **P** **12 39 35.5 +0.3**
NRIK pmax pmax
comp=Z,47nm,1.4s
NRIK MLR MLR
comp=Z,1µm,15.0s
SPB2 Spitsbergen Ar 79.58 357 P **P** **12 39 35.5 +0.3**
SPA0 Spitsbergen Ar 79.58 357 *eP* **P** **12 39 35.8 +0.6**
SPITS Spitsbergen Ar 79.58 357 LR LR 13 18 36.2
comp=Z,610nm,20.0s,baz=136,slow=39
SPITS Spitsbergen Ar 79.58 357 P **P** **12 39 35.8 +0.6**
SPITS pmax pmax
comp=Z,71nm,1.1s
TMAB Tom-Au,PA,Br 79.61 268 *eP* **P** **12 39 36.8 +0.2**
BDFB Brasilia 79.66 254 P **P** **12 39 37.3 +0.3**
comp=Z,11nm,0.8s,baz=96,slow=3.7,SNR=11
BDFB LR LR 13 09 58.2
comp=Z,3µm,21.4s,baz=102,slow=32
comp=Z,11nm,0.8s
BDFB Brasilia 79.66 254 P **P** **12 39 36.9 -0.1**
BDFB Brasilia 79.66 254 *eP* **P** **12 39 37.4 +0.4**
IPMB Ipameri, GO 79.93 252 *eP* **P** **12 39 39.0 +0.6**
ENH Ênshi 80.12 59 P **P** **12 39 39.4 +0.2**
XAN Xi'an 80.14 55 P **P** **12 39 40.4 +1.2**
XAN sP PcP 12 39 46.8 +0.4
XAN S **S** **12 49 50.0 +8.1**
XAN sS sS 12 49 59.3 -1.2
XAN pmax pmax
comp=Z,9.0nm,1.4s
XAN pmax pmax
comp=Z,180nm,4.6s
XAN LR LR
comp=Z,2µm,21.6s
XAN LR LR
comp=Z,2µm,19.6s
XAN LR LR
comp=Z,2µm,21.1s
IRK Irkutsk 80.33 37 *eP* **P** **12 39 39.7 0.0**
IRK pmax pmax
comp=Z,104nm,2.0s
GULI GuiLin 80.34 64 ⇑P **P** **12 39 40.8 +0.4**
GULI pmax pmax
comp=Z,20nm,1.0s
GULI LR LR
comp=Z,1µm,19.1s
GULI LR LR
comp=Z,370nm,18.0s
GULI LR LR
comp=Z,1µm,18.5s
BB19B Bebedouro 80.36 249 *eP* **P** **12 39 41.8 +1.2**
KBS Kingsbay 80.56 356 P **P** **12 39 41.2 +0.7**
KBS Kingsbay 80.56 356*c i*P **P** **12 39 41.4 +1.0**
KBS pmax pmax
comp=Z,57nm,1.1s
KBS Kingsbay 80.56 356 *eP* **P** **12 39 41.4 +1.0**
SONM Songino Array 80.65 41 P **P** **12 39 42.7 +1.0**
comp=Z,3.7nm,0.8s,baz=253,slow=6.0,SNR=18
SONM S **S** **12 49 46.2 -0.7**
comp=Z,0.2nm,0.4s,baz=314,slow=45,SNR=1.2
SONM LR LR 13 20 06.6
comp=Z,1µm,19.6s,baz=269,slow=39
comp=Z,3.7nm,0.8s
SONM Songino Array 80.65 41 P **P** **12 39 42.8 +1.0**
SONM Songino Array 80.65 41 P **P** **12 39 42.8 +1.0**
SONM pmax pmax
comp=Z,47nm,1.5s
SBUM Sibu 80.72 87 P **P** **12 39 42.9 +0.3**

TIJ01 Guaruva-PR 81.01 245 *eP* **P** **12 39 44.7 +0.7**
ULN Ulaanbaatar 81.09 41 P **P** **12 39 44.5 +0.4**
ULN Ulaanbaatar 81.09 41 IAMs_20 IAMs_20 13 15 52.9
comp=Z,2µm,20.0s
ULN Ulaanbaatar 81.09 41*c i*P **P** **12 39 45.2 +1.1**
ULN pmax pmax
comp=Z,14nm,1.7s
ULN MLR MLR
comp=Z,2µm,24.0s
ULN Ulaanbaatar 81.09 41 P **P** **12 39 46.0 +1.9**
TER01 Tubaro-SC 81.30 241 *eP* **P** **12 39 46.4 +1.0**
PRPB Parauapebas 81.30 264 *eP* **P** **12 39 46.1 +0.4**
BTO Baotou 81.94 49 *eP* **P** **12 39 49.8 +1.1**
ITRB Iturama 82.02 250 *eP* **P** **12 39 49.9 +0.5**
SNDB Serra Nova Dou 82.78 258 *eP* **P** **12 39 53.9 +0.4**
CNSH ChangSha 82.90 62 ⇑P pP 12 40 04.0 -1.1
PCMB Pacaembu 82.92 248 *eP* **P** **12 39 55.2 +1.1**
LYN LuoYang 83.12 55 ⇓P **P** **12 39 58.6 +3.8**
LYN sP pP 12 40 06.3 +0.2
LYN SKS **S** **12 50 14.5 +2.0**
LYN pmax pmax
comp=Z,10.0nm,0.7s
LYN pmax pmax
comp=Z,820nm,7.7s
LYN LR LR
comp=Z,2µm,21.2s
LYN LR LR
comp=Z,940nm,22.0s
LYN LR LR
comp=Z,2µm,18.2s
HHC Hu-ho-hao-te 83.14 49 *eP* **P** **12 39 56.6 +1.7**
HHC PP **PP** **12 43 05.6 -0.8**
HHC S **S** **12 50 15.8 +3.1**
HHC SS **SS** **12 55 43.9 +6.5**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,2µm,6.7s
HHC LR LR
comp=Z,4µm,20.3s
HHC LR LR
comp=Z,2µm,18.4s
HHC LR LR
comp=Z,4µm,19.7s
TIY Taiyuan 83.43 52 *eP* **P** **12 39 59.3 +2.8**
TIY SKS **S** **12 50 14.4 -1.3**
TIY S **SKKSac** **12 50 22.0 +0.8**
TIY pmax pmax
comp=Z,940nm,6.0s
TIY LR LR
comp=Z,2µm,22.6s
TIY LR LR
comp=Z,1µm,22.6s
TIY LR LR
comp=Z,2µm,25.5s
PTGB Pitanga 83.75 245 *eP* **P** **12 39 59.3 +0.9**
ITAB Concordia 83.89 243 P **P** **12 39 59.9 +1.0**
ITAB Concordia 83.89 243 *eP* **P** **12 40 00.1 +1.2**
TRCB Terra Rica 84.23 247 *eP* **P** **12 40 01.7 +0.9**
MDP Montagnes des 84.31 275 LR LR 13 15 18.0
comp=Z,1µm,18.9s,baz=92,slow=34
WHN Wuhan 84.33 59 ⇑P **pP** **12 40 13.3 +0.9**
WHN pP sP 12 40 18.4 +1.8
WHN PP PP 12 43 34.2 +18
WHN Wuhan 84.33 59 S S 12 50 36.8 +12
WHN pmax pmax
comp=Z,110nm,1.3s
WHN pmax pmax
comp=Z,1µm,3.9s
WHN LR LR
comp=N,4µm,22.5s
WHN LR LR
comp=E,3µm,18.9s
WHN LR LR
comp=Z,4µm,19.4s
ICESG Greenland Ices 84.35 340 *eP* **P** **12 40 00.4 -0.4**
ICESG IAmb IAmb 12 40 02.7
comp=Z,118nm,1.6s
CASY Casey 84.59 156 P **P** **12 40 02.4 +0.8**
MORW Morawa 84.66 119 P **P** **12 40 02.4 -0.5**
MORW IAmb IAmb 12 40 15.6
comp=Z,60nm,1.4s
FRBT Francisco Belt 84.69 244 *eP* **P** **12 40 03.9 +0.8**
SUMG Summit 85.10 343 P **P** **12 40 04.8 +0.2**
SUMG Summit 85.10 343 P **P** **12 40 04.8 +0.2**
SUMG pmax pmax
comp=Z,146nm,1.2s
SUMG Summit 85.10 343 *i*P **P** **12 40 04.0 -0.6**
SUMG IAmb IAmb 12 40 06.5
comp=Z,121nm,1.1s
CPSB Cacapava Do Su 85.14 240 *eP* **P** **12 40 07.0 +1.7**
RPRD Ribas do Rio P 85.18 250 *eP* **P** **12 40 07.0 +1.3**
HNS HongShan 85.20 53 ⇓P **P** **12 40 07.2 +1.9**
HNS PP **PP** **12 43 29.0 +5.9**
HNS SKS S 12 50 24.7 -8.5
HNS S **SKKSac** **12 50 37.7 +3.4**
HNS pmax pmax
comp=Z,13nm,1.1s
HNS pmax pmax
comp=Z,850nm,8.6s
HNS LR LR
comp=Z,2µm,20.4s
HNS LR LR
comp=Z,1µm,20.8s
HNS LR LR
comp=Z,1µm,21.6s
PLTB Pedras Altas 85.32 238 P **P** **12 40 06.2 +0.1**
PLTB Pedras Altas 85.32 238 *eP* **P** **12 40 07.5 +1.4**
NOR Nord 85.43 354 *eP* **P** **12 40 04.4 -1.2**
NOR IAmb IAmb 12 40 07.0
comp=Z,119nm,1.3s
MCR1 Marechal Candi 85.54 246 *eP* **P** **12 40 08.8 +1.5**
CRSM Crissiumal (Br 85.60 243 *eP* **P** **12 40 07.6 +0.1**
MALB Monte Alegre 85.78 268 *eP* **P** **12 40 08.8 +0.1**
NWAO Narrogin (SRO) 85.80 123 LR LR 13 14 18.5
comp=Z,809nm,18.1s,baz=114,slow=33
UNIS Unistalda (Bra 86.53 241 *eP* **P** **12 40 12.6 +0.5**
BJT Baijiatuau 86.55 50 IAMs_20 IAMs_20 13 20 12.0
comp=Z,3µm,22.0s
RODS Rosario do Sul 86.66 240 *eP* **P** **12 40 13.5 +0.8**
XLT XiLinHaoTe 86.78 46⇑*i*P **P** **12 40 15.4 +2.2**
XLT sP pP 12 40 23.1 -1.4
XLT SKS **SKSac** **12 50 38.1 +0.4**
XLT S **S** **12 50 53.1 +4.4**
XLT SS **SS** **12 56 36.9 +6.0**
XLT pmax pmax
comp=Z,9.0nm,1.1s
XLT pmax pmax
comp=Z,180nm,3.8s
XLT LR LR
comp=Z,4µm,24.0s
XLT LR LR
comp=Z,1µm,19.8s
XLT LR LR
comp=Z,2µm,22.7s
NPGB Novo Progresso 86.80 263 *eP* **P** **12 40 14.3 +0.5**
AQDB Aquidauana 87.05 250 *eP* **P** **12 40 15.4 +0.5**
MYLDM Lahad Datu 87.06 85 IAMs_20 IAMs_20 13 22 23.1
comp=Z,1µm,20.0s
SALV Santo Antonio 87.06 254 *eP* **P** **12 40 16.2 +1.3**
CLDB Colider 87.20 259 *eP* **P** **12 40 15.9 +0.2**
ITTB Itaituba 87.21 266 *eP* **P** **12 40 15.8 0.0**
ANTJ Antonio Joao (87.34 248 *eP* **P** **12 40 17.0 +0.8**
QZH Quanzhou 87.76 65⇑*i*P pP 12 40 29.2 -0.3
QZH Quanzhou 87.76 65 SKS **SKSac** **12 50 45.1 +0.9**
QZH Quanzhou 87.76 65 S **S** **12 51 03.5 +4.9**
SFJD Kangerlussuaq 87.91 337 LR LR 13 21 07.4
comp=Z,1µm,19.0s,baz=93,slow=37
MBWA Marble Bar 87.92 111 P **P** **12 40 17.8 -1.2**
MBWA IAmb IAmb 12 40 35.8
comp=Z,82nm,1.9s
PSA00 Pilbara Seismi 88.03 111 P **P** **12 40 19.1 -0.4**
PSA00 IAmb IAmb 12 40 36.3
comp=Z,57nm,1.4s
PSA00 Pilbara Seismi 88.03 111 P **P** **12 40 19.2 -0.4**
PSA00 IAmb IAmb 12 40 36.4
comp=Z,64nm,1.7s
PDRB Porto dos Gac 88.10 258 *eP* **P** **12 40 20.6 +0.6**
KAPI Kappang 88.11 95 IAMs_20 IAMs_20 13 14 50.2
comp=Z,2µm,21.0s
NJ2 Nanjing 88.27 58 ⇑P **P** **12 40 21.3 +0.9**
NJ2 sP **PcP** **12 40 25.7 +3.6**
NJ2 SKS **SKSac** **12 50 47.4 +0.4**
NJ2 S **S** **12 51 06.5 +3.3**

NJ2 sS **pS** **12 51 13.8 -3.8**
NJ2 pmax pmax
comp=Z,37nm,1.3s
NJ2 LR LR
comp=Z,2µm,20.8s
NJ2 LR LR
comp=Z,2µm,20.4s
NJ2 LR LR
comp=Z,1µm,20.0s
MPSI Mapaga 88.35 90 P **P** **12 40 22.8 +1.6**
comp=Z,1µmcomp=Z,54nm,1.3s
BKSI Bulukumba 88.48 95 P **P** **12 40 22.5 +0.7**
CPUP Villa Florida 88.53 244 P **P** **12 40 22.2 +0.4**
comp=Z,3.2nm,0.8s,baz=95,slow=4.1,SNR=8.3
CPUP LR LR 13 15 53.4
comp=Z,982nm,20.3s,baz=84,slow=33
comp=Z,3.2nm,0.8s
CPUP Villa Florida 88.53 244 P **P** **12 40 21.5 -0.3**
CPUP Villa Florida 88.53 244 *eP* **P** **12 40 22.6 +0.8**
QSPA South Pole Qui 88.97 180 P **P** **12 40 24.0 +0.8**
comp=Z,9.5nm,0.9s,baz=256,slow=2.2,SNR=33
QSPA LR LR 13 18 26.4
comp=Z,1µm,21.4s,baz=242,slow=34
comp=Z,9.5nm,0.9s
QSPA South Pole Qui 88.97 180 P **P** **12 40 23.1 -0.1**
QSPA IAmb IAmb 12 40 44.2
comp=Z,55nm,1.1s
NEEM North Greenlan 89.42 347 *eP* **P** **12 40 25.3 0.0**
NEEM IAmb IAmb 12 40 32.3
comp=Z,22nm,1.1s
HIA Hailar 89.62 41 IAMs_20 IAMs_20 13 24 37.4
comp=Z,2µm,19.0s
TGY Tagaytay City 89.66 76 LR LR 13 18 20.5
comp=Z,1µm,19.6s,baz=188,slow=34
TWG Pinlang 89.97 67 IAMs_20 IAMs_20 13 22 43.5
comp=Z,1µm,20.0s
SSE Sheshan 90.23 59 P **P** **12 40 30.6 +1.0**
SSE S **S** **12 51 26.0 +4.4**
SSE pmax pmax
comp=Z,26nm,0.7s
SSE pmax pmax
comp=Z,160nm,11.9s
SSE LR LR
comp=Z,600nm,19.9s
PTLB Pontes e Lacer 90.38 255 P **P** **12 40 31.3 +0.7**
PTLB IAmb IAmb 12 40 50.0
comp=Z,23nm,1.2s
PTLB Pontes e Lacer 90.38 255 *eP* **P** **12 40 31.5 +0.9**
PMSA Palmer Station 91.44 205 P **P** **12 40 36.0 +1.5**
comp=Z,18nm,0.9s,baz=81,slow=3.7,SNR=6.0
PMSA LR LR 13 20 03.6
comp=Z,2µm,18.7s,baz=100,slow=34
comp=Z,18nm,0.9s
PMSA Palmer Station 91.44 205 *eP* **P** **12 40 36.9 +2.4**
VILB Vilhena 91.47 257 *eP* **P** **12 40 36.3 +0.5**
BOAV Boa Vista 92.12 272 P **P** **12 40 38.9 +0.1**
BOAV IAmb IAmb 12 40 40.3
comp=Z,24nm,1.0s
BOAV Boa Vista 92.12 272 *eP* **P** **12 40 39.4 +0.6**
TRQA Tornquist 92.14 232 P **P** **12 40 38.4 0.0**
TRQA IAmb IAmb 12 40 41.0
comp=Z,36nm,1.1s
TRQA IAMs_20 IAMs_20 13 20 55.1
comp=Z,2µm,19.0s
TRQA Tornquist 92.14 232 P **P** **12 40 38.4 0.0**
TRQA pmax pmax
comp=Z,36nm,1.1s
TRQA MLR MLR
comp=Z,2µm,19.0s
TRQA Tornquist 92.14 232 *eP* **P** **12 40 40.7 +2.2**
MACA Manacapuru-AM 92.17 267 *eP* **P** **12 40 39.1 +0.1**
SNY Shenyang 92.22 48 ⇓P pP 12 40 48.9 -1.2
SNY Shenyang 92.22 48 S **S** **12 51 41.6 +2.4**
SNY pmax pmax
comp=Z,24nm,1.6s
SNY pmax pmax
comp=Z,490nm,7.4s
SNY LR LR
comp=N,880nm,19.6s
SNY LR LR
comp=E,2µm,20.4s
SNY LR LR
comp=Z,3µm,19.8s
SIV San Ignacio 92.23 254 LR LR 13 20 09.8
comp=Z,1µm,19.1s,baz=96,slow=34
SVN Savane Anatole 92.90 285 IAMs_20 IAMs_20 13 19 58.3
comp=Z,1µm,20.0s
MAGL Barre de l'ile 93.02 286 IAMs_20 IAMs_20 13 19 42.3
comp=Z,1µm,20.0s
ABD La Joyeuse, An 93.22 286 IAMs_20 IAMs_20 13 17 12.6
comp=Z,1µm,21.0s
TIXI Tiksi 93.32 18 LR LR 13 29 07.6
comp=Z,1µm,18.5s,baz=191,slow=40
TIXI Tiksi 93.32 18 P **P** **12 40 41.7 -1.3**
TIXI IAMs_20 IAMs_20 13 28 56.8
comp=Z,2µm,19.0s
TIXI Tiksi 93.32 18⇑*i*P **P** **12 40 42.5 -0.5**
TIXI pmax pmax
comp=Z,11nm,1.3s
CBE Ff, Capester 93.33 286 IAMs_20 IAMs_20 13 20 02.7
comp=Z,2µm,20.0s
TULEG Thule 93.45 347 IAMs_20 IAMs_20 13 27 00.6
comp=Z,2µm,18.0s
ANWB Willy Bob 93.50 288 IAMs_20 IAMs_20 13 19 57.1
comp=Z,1µm,21.0s
FITZ Fitzroy Crossi 93.56 108 LR LR 13 16 31.0
comp=Z,2µm,21.6s,baz=275,slow=32
FITZ Fitzroy Crossi 93.56 108 P **P** **12 40 44.6 -0.7**
FITZ IAmb IAmb 12 41 02.5
comp=Z,19nm,1.0s
DAV Davao City (W) 94.13 83 LR LR 13 26 06.7
comp=Z,292nm,18.2s,baz=273,slow=37
ZEA Zeya 94.23 36 *eP* P 12 40 56.7 +9.0
ZEA *e* 12 51 21.5
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA MLR MLR
comp=N,600nm,19.0s
ZEA MLR MLR
comp=E,700nm,19.0s
ZEA MLR MLR
comp=Z,700nm,18.0s
SAML Samuel 94.51 261 P **P** **12 40 48.2 -1.6**
SAML IAmb IAmb 12 41 07.1
comp=Z,34nm,1.8s
SAML Samuel 94.51 261 P **P** **12 40 48.2 -1.6**
SAML pmax pmax
comp=Z,34nm,1.8s
INCN Inchon 94.68 53 IAMs_20 IAMs_20 13 27 21.3
comp=Z,2µm,20.0s
SMRT St. Maarten 94.73 288 IAMs_20 IAMs_20 13 19 59.5
comp=Z,2µm,21.0s
YAK Yakutsk 94.76 28 LR LR 13 26 24.9
comp=Z,1µm,19.2s,baz=278,slow=37
YAK Yakutsk 94.76 28 IAMs_20 IAMs_20 13 26 22.4
comp=Z,1µm,20.0s
YAK Yakutsk 94.76 28 *eP* P 12 40 59.3 +9.5
YAK pmax pmax
comp=Z,14nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.8s
USHA Ushuaia 94.89 215 LR LR 13 20 54.4
comp=E,2µm,18.9s,baz=98,slow=34
FRB Frobisher Bay 95.42 334 LR LR 13 25 16.2
comp=E,876nm,18.9s,baz=82,slow=36
KSAR Wonju Array Be 95.68 53 P **P** **12 40 53.5 -1.1**
KSAR Wonju Array Be 95.68 53 P **P** **12 40 53.6 -1.1**
SCHQ Schefferville 95.71 325 LR LR 13 21 57.5
comp=E,1µm,20.2s,baz=85,slow=34
KSRS Korea Array 95.71 53 P **P** **12 40 54.8 0.0**
comp=E,3.4nm,1.0s,baz=267,slow=4.2,SNR=9.4
KSRS LR LR 13 25 58.1
comp=E,993nm,21.3s,baz=255,slow=37
comp=E,3.4nm,1.0s
BBSR BB Station 95.85 302 IAMs_20 IAMs_20 13 23 48.1
comp=Z,2µm,19.0s
PCRV Puerto La Cruz 96.28 280 LR LR 13 22 05.4
comp=Z,895nm,19.3s,slow=34
MDJ Mudanjiang 96.48 45 IAMs_20 IAMs_20 13 25 13.4
comp=Z,2µm,21.0s
MDJ Mudanjiang 96.48 45 P pP 12 41 12.0 +2.4
JOW Kunigami 96.48 63 LR LR 13 28 24.8
comp=Z,871nm,18.7s,baz=294,slow=38
VNDA Vanda 97.04 170 P **P** **12 40 59.8 -0.2**
comp=Z,0.8nm,0.8s,baz=225,slow=5.7,SNR=2.9
VNDA LR LR 13 25 45.3
comp=Z,4µm,18.4s,baz=224,slow=36

comp=Z,0.8nm,0.8s
EMMW East Machias 97.16 315 IAMs_20 IAMs_20 13 22 37.4
comp=Z,2µm,22.0s
ETMB Extrema 97.47 260 eP P 12 41 03.7 +0.5
KLR Kul'dur 97.47 41 LR LR 13 30 05.2
comp=Z,2µm,19.8s,baz=286,slow=39
SJG San Juan 97.65 288 LR LR 13 22 29.1
comp=Z,2µm,20.3s,baz=80,slow=34
SJG San Juan 97.65 288 IAMs_20 IAMs_20 13 21 56.0
comp=Z,2µm,20.0s
USRK Ussuriysk Ar. 98.23 46 LR LR 13 30 28.5
comp=Z,541nm,19.5s,baz=61,slow=38
PKME Peaks-Kenny Pk 98.39 315 IAMs_20 IAMs_20 13 23 28.0
comp=Z,2µm,21.0s
PLCA Paso Flores 98.47 229 LR LR 13 22 53.7
comp=Z,2µm,19.2s,baz=92,slow=34
PLCA Paso Flores 98.47 229 eP Pdif 12 41 09.3 +1.9
WVL Waterville 98.73 315 IAMs_20 IAMs_20 13 23 21.2
comp=Z,2µm,21.0s
COYC Coyhaique 98.76 224 IAMs_20 IAMs_20 13 19 40.7
comp=Z,2µm,19.0s
LPAZ La Paz 98.99 253 P Pdif 12 41 10.2 -0.6
LPAZ LR LR 13 24 49.1
comp=Z,2µm,19.1s,baz=84,slow=35
comp=Z,1.1nm,0.8s
LPAZ La Paz 98.99 253 eP Pdif 12 41 09.4 -1.4
LVC Limon Verde 99.25 247 LR LR 13 23 45.4
comp=Z,698nm,20.5s,baz=106,slow=34
PEL Peldehue 99.66 236 IAMs_20 IAMs_20 13 21 11.4
comp=Z,2µm,22.0s
WES Weston 100.22 313 IAMs_20 IAMs_20 13 26 59.7
comp=Z,2µm,20.0s
FFD Franklin Falls 100.31 314 IAMs_20 IAMs_20 13 27 04.9
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 100.38 313 IAMs_20 IAMs_20 13 27 13.8
comp=Z,2µm,20.0s
LBNH Lisbon 100.39 315 IAMs_20 IAMs_20 13 23 39.0
comp=Z,1µm,21.0s
BRYW Bryant College 100.45 312 IAMs_20 IAMs_20 13 24 03.7
comp=Z,2µm,19.0s
HNH Hanover 100.73 314 IAMs_20 IAMs_20 13 22 03.0
comp=Z,1µm,21.0s
ASAR Alice Springs 100.88 114 P Pdif 12 41 17.3 -1.1
comp=Z,0.8nm,0.8s,baz=263,slow=4.4,SNR=13
ASAR PP PP 12 45 26.0 -0.7
comp=Z,0.2nm,0.3s,baz=260,slow=5.5,SNR=7.5
VT1 Waterbury 100.96 315 IAMs_20 IAMs_20 13 25 58.1
comp=Z,1µm,21.0s
QUA2 Belchertown 100.99 313 IAMs_20 IAMs_20 13 27 30.1
comp=Z,2µm,19.0s
L61B Northampton 101.21 313 IAMs_20 IAMs_20 13 27 37.8
comp=Z,2µm,20.0s
WRA Warramunga Arr 101.65 110 P Pdif 12 41 21.4 -0.5
comp=Z,1.5nm,1.0s,baz=272,slow=2.5,SNR=8.0
TRY Troy 101.88 313 IAMs_20 IAMs_20 13 28 30.6
comp=Z,2µm,19.0s
LONY Lake Ozonia 102.20 315 IAMs_20 IAMs_20 13 22 22.8
comp=Z,1µm,22.0s
PAL Palisades 102.34 312 IAMs_20 IAMs_20 13 25 18.0
comp=Z,1µm,20.0s
SDDR Presa de Saban 102.49 289 IAMs_20 IAMs_20 13 27 48.1
comp=Z,1µm,20.0s
INU Inuyama 103.22 54 IAMs_20 IAMs_20 13 30 43.7
comp=Z,1µm,19.0s
BINY Binghamton 103.67 313 IAMs_20 IAMs_20 13 25 07.8
comp=Z,1µm,20.0s
MAJO Matsushiro 103.99 53 IAMs_20 IAMs_20 13 33 08.8
comp=Z,1µm,22.0s
SEY Seymchan 104.53 24 PP PP 12 45 56.8 +4.3
comp=Z,4.7nm,1.1s,baz=300,slow=8.7,SNR=4.5
MA2 Magadan 105.33 27 IAMs_20 IAMs_20 13 29 42.8
comp=Z,1µm,22.0s
SSPA Standing Stone 105.38 312 IAMs_20 IAMs_20 13 25 18.3
comp=Z,1µm,21.0s
CBN Corbin Frederi 105.48 309 IAMs_20 IAMs_20 13 25 03.2
comp=Z,2µm,21.0s
BILL Bilibino 106.36 16 IAMs_20 IAMs_20 13 37 30.3
comp=Z,1µm,19.0s
CNNC Cliffs of the 106.44 306 IAMs_20 IAMs_20 13 24 58.1
comp=Z,2µm,21.0s
ERPA Erie 106.59 314 IAMs_20 IAMs_20 13 27 39.1
comp=Z,2µm,22.0s
MCWV Mont Chateau 107.06 311 IAMs_20 IAMs_20 13 27 21.8
comp=Z,2µm,21.0s
M53A WI Miller and 107.25 313 IAMs_20 IAMs_20 13 26 57.7
comp=Z,1µm,21.0s
A36M Sachs Harbour 107.67 353 IAMs_20 IAMs_20 13 34 33.9
comp=Z,1µm,21.0s
O53A New Philadelph 107.94 312 IAMs_20 IAMs_20 13 28 31.0
comp=Z,2µm,19.0s
MTDJ Mount Denham 108.45 289 IAMs_20 IAMs_20 13 25 05.1
comp=Z,1µm,22.0s
NHSC New Hope 108.71 305 IAMs_20 IAMs_20 13 27 48.3
comp=Z,2µm,21.0s
P52A Corning 108.78 312 IAMs_20 IAMs_20 13 28 36.3
comp=Z,2µm,21.0s
GLMI Grayling 109.07 317 IAMs_20 IAMs_20 13 29 58.4
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 109.25 312 IAMs_20 IAMs_20 13 29 32.8
comp=Z,2µm,21.0s
OTAV Otavalo 110.00 270 IAMs_20 IAMs_20 13 29 55.2
comp=Z,1µm,20.0s
TZTN Tazewell 110.64 309 IAMs_20 IAMs_20 13 27 09.7
comp=Z,2µm,20.0s
DWPF Disney Wildern 110.70 300 IAMs_20 IAMs_20 13 27 09.7
comp=Z,1µm,22.0s
P49A Miami Univ. Ec 110.73 312 IAMs_20 IAMs_20 13 30 14.8
comp=Z,2µm,20.0s
GOGA Godfrey 111.33 306 IAMs_20 IAMs_20 13 28 58.7
comp=Z,2µm,22.0s
COWI Conover 111.61 320 IAMs_20 IAMs_20 13 31 32.3
comp=Z,2µm,20.0s
D24K Happy Valley 112.03 0 P PKiKP 12 46 04.0 +0.6
baz=360
PET Petropavlovsk 112.28 31 IAMs_20 IAMs_20 13 38 50.9
comp=Z,1µm,21.0s
HQIL Hanson Quary C 112.29 315 IAMs_20 IAMs_20 13 28 55.8
comp=Z,1µm,21.0s
EYMN Ely 112.35 322 IAMs_20 IAMs_20 13 31 54.4
comp=Z,1µm,21.0s
EYMN Ely 112.35 322 P PKiKP 12 46 04.6 0.0
baz=65
TOLK Toolik Lake Re 112.55 0 IAMs_20 IAMs_20 13 39 32.3
comp=Z,1µm,22.0s
F31M Tsiigehtchic 112.97 354 P PKiKP 12 46 05.5 +0.3
baz=16
E25K Arctic Village 113.04 359 P PKiKP 12 46 05.6 +0.2
baz=3.0
JFWS Jewell Farm 113.55 317 IAMs_20 IAMs_20 13 31 06.0
comp=Z,2µm,22.0s
JFWS Jewell Farm 113.55 317 P PKiKP 12 46 06.8 -0.3
baz=68
F22K John River 113.64 2 P PKiKP 12 46 06.9 +0.4
baz=356
HDIL Hopedale 113.74 314 IAMs_20 IAMs_20 13 31 24.3
comp=Z,2µm,22.0s
WVT Waverly 114.08 309 P PKPdf 12 46 07.7 -0.6
baz=72
G26K Porcupine Rive 114.17 358 P PKiKP 12 46 07.5 0.0
baz=5.0
G27K Doyon Strip 114.22 357 P PKiKP 12 46 07.6 -0.1
baz=7.4
G22K Bettles 114.24 1 P PKiKP 12 46 07.7 0.0
baz=357
LRAL Lakeview Retre 114.29 306 IAMs_20 IAMs_20 13 30 30.0
comp=Z,2µm,22.0s
LRAL Lakeview Retre 114.29 306 P PKPdf 12 46 08.3 -0.5
baz=74
EPYK Eagle Plains 114.30 355 P PKiKP 12 46 07.6 -0.3
baz=13
G23K Bananza Creek 114.48 1 P PKiKP 12 46 08.5 +0.3
baz=358
FFC Flin Flon 114.49 332 IAMs_20 IAMs_20 13 34 34.8
comp=Z,1µm,20.0s
G24K Hadweenzic Riv 114.50 360 P PKiKP 12 46 08.6 +0.4
baz=1.0
H27K Steamboat Moun 114.78 357 P PKiKP 12 46 09.2 +0.4
baz=7.5
AGMN Agassiz Nation 114.80 324 IAMs_20 IAMs_20 13 34 31.0
comp=Z,2µm,21.0s
AGMN Agassiz Nation 114.80 324 P PKiKP 12 46 09.1 -0.2
baz=61
BRAL Brewton 114.82 304 IAMs_20 IAMs_20 13 31 35.3
comp=Z,2µm,20.0s
H25K Birch Creek 114.91 359 P PKiKP 12 46 09.4 +0.5
baz=2.8
WRGLY Wrigley 115.27 348 P PKiKP 12 46 10.0 +0.3
baz=28
H22K Ishtalitna Cre 115.28 1 P PKiKP 12 46 09.8 +0.1
baz=357
H24K Noodor Dome 115.36 360 P PKiKP 12 46 09.9 0.0
baz=0.6
I27K Kandik River 115.41 357 P PKiKP 12 46 10.4 +0.4
baz=7.5
HDC Heredia 115.45 281 IAMs_20 IAMs_20 13 32 39.1
comp=Z,1µm,19.0s
H21K Melozitna Rive 115.47 2 P PKiKP 12 46 10.6 +0.5
baz=355
PRP Porcupine Dome 115.65 359 P PKiKP 12 46 10.7 +0.1
baz=3.2
I26K Coal Creek Min 115.79 358 P PKiKP 12 46 10.9 +0.2
baz=5.8
OXF Oxford 115.80 308 IAMs_20 IAMs_20 13 31 02.5
comp=Z,2µm,21.0s
OXF Oxford 115.80 308 P PKPdf 12 46 10.9 -0.7
baz=72
I21K Tanana 115.98 2 IAMs_20 IAMs_20 13 46 47.0
comp=Z,999nm,22.0s
I21K Tanana 115.98 2 P PKiKP 12 46 11.3 +0.3
baz=356
CCM Cathedral Cave 116.03 312 PKPdf 12 46 11.4 -0.5
CCM Cathedral Cave 116.03 312 PKiKP PKPdf 12 46 11.5 -0.5
CCM MLR MLR
comp=Z,2µm,21.0s
CCM Cathedral Cave 116.03 312 P PKPdf 12 46 12.1 +0.1
baz=69
P40A Paris 116.08 314 PKPdf 12 46 11.7 -0.3
MLY Manley 116.16 1 PKiKP 12 46 11.4 -0.1
MLY Manley 116.16 1 P PKiKP 12 46 11.8 +0.3
baz=357
EGAK Eagle 116.21 357 PKiKP 12 46 10.7 -0.8
EGAK Eagle 116.21 357 P PKiKP 12 46 11.5 0.0
baz=8.0
F33A 5 Mile Ranch, 116.23 322 PKPdf 12 46 11.4 -0.7
ILAR Eielson Array 116.43 359 PKP PKiKP 12 46 11.1 -0.8
comp=Z,2.6nm,1.1s,baz=332,slow=3.0,SNR=10
ILAR PP PP 12 47 17.7 -0.2
comp=Z,4.6nm,1.0s,baz=3.1,slow=5.7,SNR=4.8
ILAR PKKPbc PKKPbc 12 56 39.8 -3.2
comp=Z,1.3nm,0.9s,baz=195,slow=4.0,SNR=8.2
ILAR PKKPab PKKPab 12 56 45.1 -0.5
comp=Z,1.1nm,0.9s,baz=197,slow=5.7,SNR=4.5
ILAR Eielson Array 116.43 359 PKPdf PKiKP 12 46 11.2 -0.7
ILAR Eielson Array 116.43 359 PKiKP PKiKP 12 46 11.3 -0.7
J25K Salcha River, 116.56 359 P PKPdf 12 46 12.5 +0.2
baz=3.4
J26L Joseph Creek 116.61 358 IAMs_20 IAMs_20 13 47 04.4
comp=Z,875nm,19.0s
J26L Joseph Creek 116.61 358 P PKPdf 12 46 12.4 0.0
baz=5.4
NEA2 Nenana 116.61 0 P PKPdf 12 46 12.5 +0.2
baz=359
R40A Maddies Statio 116.70 313 PKPdf 12 46 12.5 -0.7
HDA Harding Lake 116.79 359 P PKPdf 12 46 12.6 -0.1
baz=1.6
DAWY Dawson 116.79 356 P PKPdf 12 46 12.5 -0.2
baz=10
K29M Barlow Dome 116.85 355 P PKPdf 12 46 12.8 -0.2
baz=12
J20K Nowinta River 116.89 3 PKPdf 12 46 13.1 +0.2
J20K IAMs_20 IAMs_20 13 47 29.3
comp=Z,925nm,21.0s
J20K Nowinta River 116.89 3 P PKPdf 12 46 13.2 +0.3
baz=354
K27K Chicken 117.01 357 P PKPdf 12 46 13.5 +0.4
baz=7.1
BPAW Bear Paw Mtn. 117.08 1 P PKPdf 12 46 13.7 +0.4
baz=357
MGMO Mountain Grove 117.11 312 PKPdf 12 46 13.1 -1.0
SCRK Sand Creek 117.15 358 IAMs_20 IAMs_20 13 44 25.7
comp=Z,900nm,19.0s
SCRK Sand Creek 117.15 358 P PKPdf 12 46 13.6 0.0
baz=4.9
MMPY Sheldon Lake, 117.26 351 P PKPdf 12 46 14.0 +0.3
baz=19
K24K Donnelly Dome 117.38 359 P PKiKP 12 46 14.7 +0.8
baz=2.9
ECSD EROS Data Cent 117.42 320 PKPdf PKPdf 12 46 13.7 -0.8
ECSD EROS Data Cent 117.42 320 IAMs_20 IAMs_20 13 38 05.1
comp=Z,1µm,19.0s
ECSD EROS Data Cent 117.42 320 P PKPdf 12 46 14.0 -0.5
baz=62
FCAR Ozark Folk Cen 117.45 310 PKPdf 12 46 13.8 -1.0
MCK McKinley 117.48 0 IAMs_20 IAMs_20 13 41 04.8
comp=Z,915nm,21.0s
MCK McKinley 117.48 0 P PKPdf 12 46 13.6 -0.4
baz=359
K20K Telida 117.72 3 P PKPdf 12 46 14.7 +0.3
baz=354
TRF Thorofare Moun 117.75 1 P PKPdf 12 46 14.7 -0.1
baz=358
TGTN Hyland Airport 117.77 349 P PKiKP 12 46 15.4 +0.7
baz=23
RND Reindeer 117.81 0 IAMs_20 IAMs_20 13 44 38.4
comp=Z,879nm,20.0s
FARO Faro, Yukon 117.94 352 P PKiKP 12 46 16.0 +1.0
baz=17
BCAR Beaver Creek A 117.95 357 PKPdf PKPdf 12 46 14.9 0.0
L27K Beaver Creek, 117.96 357 PKPdf 12 46 14.8 -0.1
L27K IAMs_20 IAMs_20 13 45 27.1
comp=Z,1µm,20.0s
L27K Beaver Creek, 117.96 357 P PKiKP 12 46 15.8 +0.8
baz=7.4
L26K Log Cabin Wild 118.07 357 P PKPdf 12 46 15.4 +0.2
baz=5.7
M31M Drury Creek, Y 118.10 353 P PKPdf 12 46 15.7 +0.4
baz=16
DHY Denali Highway 118.14 359 P PKiKP 12 46 16.1 +0.6
baz=1.1
TGUH Tegucigalpa,Un 118.18 285 IAMs_20 IAMs_20 13 37 29.2
comp=Z,1µm,20.0s
TEIG Tepich 118.25 292 IAMs_20 IAMs_20 13 34 11.5
comp=Z,2µm,19.0s
M29M Somme Creek 118.31 355 P PKPdf 12 46 16.1 +0.3
baz=11
BVCY Beaver Creek 118.54 356 P PKiKP 12 46 16.8 +0.6
baz=8.6
L20K Farewell, AK 118.60 3 P PKiKP 12 46 17.0 +0.7
baz=354
WAT6 Susitna Watana 118.63 360 P PKPdf 12 46 17.1 +0.6
baz=0.7
M27K Edge Creek, AK 118.66 357 P PKPdf 12 46 16.5 +0.1
baz=7.4
M26K Nabesna, AK 118.68 357 P PKPdf 12 46 16.6 +0.2
baz=6.1
HHAR Hobbs 118.68 311 PKPdf PKPdf 12 46 16.1 -1.0
HARP HAARP 118.77 358 P PKPdf 12 46 16.8 +0.2
baz=3.7
CUT Chulitna 118.80 1 P PKPdf 12 46 17.0 +0.5
baz=358
L19K White Mountain 118.85 3 P PKPdf 12 46 17.0 +0.3
baz=353
N32M Quiet Lake 118.93 352 P PKPdf 12 46 17.0 0.0
baz=18
N31M Braeburn, Yuko 118.97 353 P PKPdf 12 46 17.2 +0.2
baz=14
MIAR Mount Ida 119.03 309 P PKPdf 12 46 17.7 -0.1
baz=69
M24K Tolsona, Glenn 119.09 359 P PKPdf 12 46 17.4 +0.2
baz=2.5
N30M Aniakiak Lake 119.14 354 P PKPdf 12 46 17.7 +0.4
baz=13
M19K Big River Lodg 119.15 3 P PKPdf 12 46 17.6 +0.3
baz=353
WTLY Watson Lake, Y 119.18 349 P PKiKP 12 46 18.2 +0.8
baz=22
SKT Skwentna 119.19 2 PKPdf PKPdf 12 46 16.6 -0.7
SKT Skwentna 119.19 2 P PKPdf 12 46 17.4 0.0
baz=356
M20K Styx River 119.23 3 IAMs_20 IAMs_20 13 41 31.1
comp=Z,1µm,22.0s
DGMT Dagmar 119.37 328 IAMs_20 IAMs_20 13 36 36.4
comp=Z,2µm,21.0s
DGMT Dagmar 119.37 328 P PKPdf 12 46 18.5 +0.3
baz=53
KSU1 Kansas State U 119.49 315 P PKPdf 12 46 18.6 0.0
baz=64
BGNE Belgrade 119.51 318 P PKPdf 12 46 18.5 -0.2
baz=62
N25K Chitina, Valde 119.54 358 P PKPdf 12 46 18.7 +0.5
baz=4.3
PMR Palmer 119.63 0 P PKiKP 12 46 19.0 +0.8
baz=359
WHY Whitehorse 119.65 352 P PKiKP 12 46 19.1 +0.7
baz=16
GLB Gilahina Butte 119.68 357 IAMs_20 IAMs_20 13 43 06.5
comp=Z,940nm,21.0s
MCARA McCarthy VSAT 119.70 357 IAMs_20 IAMs_20 13 46 05.1
comp=Z,957nm,19.0s
MCARA McCarthy VSAT 119.70 357 P PKiKP 12 46 19.4 +1.0
baz=6.2
KLU Klutina 119.70 359 P PKiKP 12 46 19.4 +0.9
baz=2.8
O30N Mendenhall 119.70 353 P PKiKP 12 46 19.4 +1.0
baz=14
HYT Haines Junctio 119.81 354 P PKPdf 12 46 19.2 +0.5
baz=12
CTG Chitna Glacier 120.01 356 P PKiKP 12 46 19.8 +0.6
baz=8.1
SNET Serv Nac Est T 120.11 285 IAMs_20 IAMs_20 13 31 23.4
comp=Z,976nm,21.0s
O28M Mount Upton 120.11 355 P PKiKP 12 46 20.3 +0.7
baz=9.5
LOGN Logan Glacier 120.12 356 IAMs_20 IAMs_20 13 49 01.5
comp=Z,964nm,20.0s
RC01 Rabbit Creek A 120.12 1 P PKiKP 12 46 20.2 +1.0
baz=358
BMRM Bremner River 120.18 358 P PKiKP 12 46 20.4 +0.9
baz=4.4
TUL1 Leonard 120.21 312 P PKPdf 12 46 19.9 -0.1
baz=67
N16K Nishlik Lake 120.22 6 P PKPdf 12 46 19.7 +0.3
baz=348
R33M Jennings River 120.25 350 P PKPdf 12 46 19.8 +0.2
baz=20
N18K Kilae Creek 120.27 4 IAMs_20 IAMs_20 13 48 05.5
comp=Z,1µm,19.0s
GLI Glacier Island 120.33 359 P PKPdf 12 46 20.0 +0.4
baz=1.5
T35A Sooner Cattle 120.34 313 PKPdf 12 46 20.4 +0.1
X37A Clayton 120.40 310 PKPdf 12 46 20.3 -0.1
ISLE Juneau Island 120.44 357 IAMs_20 IAMs_20 13 44 40.6
comp=Z,1µm,21.0s
EDM Edmonton 120.44 336 PKPdf PKPdf 12 46 19.9 -0.2
EDM Edmonton 120.44 336 PKiKP PKPdf 12 46 19.9 -0.2
P32M Atlin 120.52 351 P PKPdf 12 46 20.4 +0.4
baz=17
EYAK Cordova Ski Ar 120.64 358 P PKPdf 12 46 20.7 +0.6
baz=3.0
MESA MESA 120.83 356 P PKPdf 12 46 21.0 +0.2
baz=7.5
O19K Port Alsworth 120.86 3 IAMs_20 IAMs_20 13 44 48.0
comp=Z,912nm,19.0s
SKAG Skagway 120.87 352 P PKPdf 12 46 21.0 +0.4
baz=15
Q32M Nakina River 120.89 350 P PKPdf 12 46 21.5 +0.5
baz=19
OK030 Cody Creek RV 120.94 312 IAMs_20 IAMs_20 13 35 48.2
comp=Z,2µm,21.0s
DLBC Dease Lake 120.98 349 P PKPdf 12 46 21.2 +0.2
baz=22
P29M Windy Craggy 121.00 354 P PKPdf 12 46 21.0 +0.1
baz=12
O17K Koliganek Bris 121.07 5 P PKPdf 12 46 21.5 +0.5
baz=350
O18K Koktuh Hills 121.14 4 IAMs_20 IAMs_20 13 45 30.5
comp=Z,975nm,21.0s
OK025 Westminster Rd 121.49 312 IAMs_20 IAMs_20 13 36 04.8
comp=Z,1µm,19.0s
LAO LASA Array 121.54 327 P PKPdf 12 46 22.8 +0.4
baz=52
P16K Nushagak River 121.72 6 P PKiKP 12 46 22.9 +0.6
baz=349
RSSD Black Hills 121.82 324 PKPdf PKPdf 12 46 22.4 -0.8
RSSD Black Hills 121.82 324 PKiKP PKPdf 12 46 22.4 -0.8
RSSD MLR MLR
comp=Z,2µm,20.0s
RSSD Black Hills 121.82 324 P PKPdf 12 46 23.1 -0.2
baz=55
Q19K Cape Douglas, 122.16 3 IAMs_20 IAMs_20 13 42 53.4
comp=Z,824nm,20.0s
OGNE Ogallala 122.29 320 P PKPdf 12 46 24.0 -0.1
baz=59
HKT Hockley 122.42 305 IAMs_20 IAMs_20 13 38 04.2
comp=Z,1µm,21.0s
EGMT Eagleton 122.52 330 P PKPdf 12 46 24.6 +0.4
baz=48
WMOK Wichita Mounta 122.92 312 IAMs_20 IAMs_20 13 35 23.6
comp=Z,1µm,21.0s
WMOK Wichita Mounta 122.92 312 P PKPdf 12 46 25.8 +0.4
baz=65
WHTX Lake Whitney, 122.99 308 P PKPdf 12 46 25.5 -0.1
baz=68
SIT Sitka 123.20 351 P PKPdf 12 46 25.2 +0.1
baz=16
R17K Ugashik Creek 123.24 5 P PKPdf 12 46 25.4 +0.2
baz=350
435B Jarrell 123.54 307 IAMs_20 IAMs_20 13 39 01.8
comp=Z,2µm,20.0s
K22A Casper 124.15 323 P PKPdf 12 46 27.1 -0.6
baz=54,SNR=7.4
RLMT Red Lodge 124.18 327 IAMs_20 IAMs_20 13 37 47.8
comp=Z,2µm,22.0s
PHWY Pilot Hill 124.28 322 IAMs_20 IAMs_20 13 41 49.1
comp=Z,1µm,20.0s
CHGN Chignik 124.35 7 P PKPdf 12 46 28.1 +0.7
baz=348
CRAG Craig 124.35 349 P PKiKP 12 46 28.4 +0.7
baz=18
N23A Red Feather La 124.81 321 P PKPdf 12 46 29.2 +0.1
baz=55,SNR=6.3
AMTX Amarillo 125.00 313 P PKPdf 12 46 29.2 -0.2
baz=63
SDPT Sand Point 125.01 8 P PKPdf 12 46 29.1 +0.4
baz=345
BOZ Bozeman (W) 125.11 329 PKPdf 12 46 29.5 +0.1
BOZ Bozeman (W) 125.11 329 PKiKP PKPdf 12 46 29.5 +0.1
BOZ MLR MLR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 125.11 329 P PKiKP 12 46 30.3 +0.6
baz=47,SNR=38
YNR Norris Junctio 125.20 328 PKPdf PKiKP 12 46 31.0 +0.9
ISCO Idaho Springs 125.21 320 P PKPdf 12 46 30.2 +0.2
baz=56,SNR=12
H17A Grant Village 125.36 327 P PKiKP 12 46 32.4 +1.9
baz=49,SNR=5.8
Q24A Divide 125.37 319 PKPdf 12 46 29.6 -0.7
Q24A Divide 125.37 319 P PKPdf 12 46 30.4 +0.1
baz=57,SNR=9.8
MSO Missoula 125.39 332 P PKPdf 12 46 29.9 0.0
baz=44,SNR=17
JCT Junction City 125.42 307 IAMs_20 IAMs_20 13 37 42.6
comp=Z,2µm,21.0s
JCT Junction City 125.42 307 P PKPdf 12 46 30.1 -0.1
baz=67,SNR=7.7
FLWY Flagg Ranch 125.63 327 PKPdf 12 46 31.1 +0.6
FLWY IAMs_20 IAMs_20 13 40 14.2
comp=Z,1µm,21.0s
NEW Newport 125.76 335 IAMs_20 IAMs_20 13 41 32.8
comp=Z,1µm,21.0s
NEW Newport 125.76 335 P PKPdf 12 46 30.5 +0.1
baz=40,SNR=7.6
T25A Trinidad 125.84 317 PKPdf PKPdf 12 46 30.9 -0.2
T25A Trinidad 125.84 317 P PKPdf 12 46 31.4 +0.3
baz=59
BW06 Boulder Array 125.84 325 PKPdf 12 46 29.6 -1.4
BW06 Boulder Array 125.84 325 P PKPdf 12 46 30.4 -0.6
baz=51,SNR=20
PD31 Pinedale Array 125.84 325 PKPdf 12 46 30.5 -0.5
PDAR Pinedale Array 125.84 325 PKP PKPdf 12 46 30.6 -0.5
comp=Z,1nm,1.0s,baz=93,slow=3.1,SNR=51
PDAR Pinedale Array 125.84 325 PKPdf 12 46 30.7 -0.3
MOOW Moose Ponds 125.88 327 IAMs_20 IAMs_20 13 42 55.7
comp=Z,1µm,20.0s
IMW Indian Meadow 125.88 327 PKPdf PKPdf 12 46 31.2 +0.1
IMW IAMs_20 IAMs_20 13 40 22.0
comp=Z,953nm,20.0s
833A Chaparral WMA, 125.90 305 P PKPdf 12 46 31.7 +0.5
baz=89
FXWY Fox Creek 126.10 327 PKPdf 12 46 31.4 -0.1
FXWY IAMs_20 IAMs_20 13 43 01.7
comp=Z,2µm,20.0s
MSTX Muleshoe 126.22 313 P PKPdf 12 46 31.7 -0.1
baz=62
SDCO Great Sand Dun 126.26 318 P PKPdf 12 46 32.1 +0.1
baz=58
SMCO Snowmass 126.43 320 PKiKP 12 46 33.3 +0.4
O20A White River Ci 126.68 322 P PKPdf 12 46 32.7 0.0
baz=53,SNR=15
AHID Auburn Hatcher 126.72 326 IAMs_20 IAMs_20 13 38 59.1
comp=Z,1µm,20.0s
S22A 4UR Ranch, Cre 127.14 319 P PKPdf 12 46 34.0 +0.3

baz=56
E09A **Wood Farm, Sta** 127.56 334 PKPdf **PKPdf** 12 46 33.7 -0.1
HWUT **Hardware Ranch** 127.73 325 IAMs_20 IAMs_20 13 41 53.1
comp=Z,1µm,20.0s
PV15 **Paradox Valley** 127.88 320 **PKPdf** 12 46 35.7 +0.6
HLID **Hailey** 127.95 329 IAMs_20 IAMs_20 13 42 41.4
comp=Z,2µm,21.0s
HLID **Hailey** 127.95 329 P **PKPdf** 12 46 35.5 +0.5
baz=45
ANMO **Albuquerque** 128.39 315 PKPdf **PKPdf** 12 46 35.8 -0.2
ANMO **Albuquerque** 128.39 315 PKIKP **PKPdf** 12 46 35.8 -0.2
ANMO MLR MLR
comp=Z,2µm,20.0s
ANMO **Albuquerque** 128.39 315 P **PKPdf** 12 46 36.6 +0.6
baz=58
B04A **Port Angeles** 128.46 339 **PKPdf** 12 46 36.3 +0.8
MVCO **Mesa Verde** 128.54 319 P **PKPdf** 12 46 36.6 +0.3
baz=55
SRU **San Rafael Swe** 128.70 322 **PKPdf** 12 46 36.1 -0.3
SRU **San Rafael Swe** 128.70 322 PKIKP **PKPdf** 12 46 36.2 -0.3
MPU **Maple Canyon** 128.80 324 PKPdf **PKPdf** 12 46 36.7 0.0
TXAR **Lajitas Array** 128.95 308 PKP **PKPdf** 12 46 37.4 +0.3
comp=Z,7.8nm,0.9s,baz=101,slow=2.6,SNR=49
TXAR **Lajitas Array** 128.95 308 PKPdf **PKPdf** 12 46 36.9 -0.3
TX31 **Lajitas Ar. Si** 128.95 308 **PKPdf** 12 46 36.9 -0.3
TX32 **Lajitas Array** 128.95 308 **PKPdf** 12 46 37.1 -0.1
KOUNC **Koumac, New Ca** 129.00 118 IAMs_20 IAMs_20 13 38 24.8
comp=Z,1µm,20.0s
MNTX **Cornudas Mount** 129.22 311 P **PKPdf** 12 46 37.4 -0.1
baz=62,SNR=14
DUG **Dugway, Tooele** 129.37 325 IAMs_20 IAMs_20 13 42 38.5
comp=Z,1µm,20.0s
DUG **Dugway, Tooele** 129.37 325 P **PKPdf** 12 46 38.3 +0.6
baz=49,SNR=7.7
G05D **Wamic, OR** 129.92 335 P **PKPdf** 12 46 39.1 +0.7
baz=36
EPT **El Paso** 130.02 312 IAMs_20 IAMs_20 13 45 20.7
comp=Z,1µm,20.0s
MSU **Marysvale** 130.08 323 PKPdf **PKiKP** 12 46 40.9 +0.9
MSU **Marysvale** 130.08 323 PKIKP **PKiKP** 12 46 40.9 +0.9
MVU **Marysvale** 130.11 323 **PKPdf** 12 46 40.1 +0.8
J08A **Circle Bar Ran** 130.12 332 **PKPdf** 12 46 39.9 +1.0
ELK **Elko** 130.36 327 IAMs_20 IAMs_20 13 44 46.5
comp=Z,1µm,20.0s
DZM **Mont Dzumac** 130.37 120 *e*LR LR 13 27 56.9
comp=Z,2µm,25.4s
W18A **Petrified Fore** 130.55 318 P **PKPdf** 12 46 40.8 +0.6
baz=55
121A **Cookes Peak, D** 130.58 314 P **PKPdf** 12 46 40.9 +0.6
baz=59,SNR=9.3
I05D **Terrebonne, OR** 130.66 334 P **PKPdf** 12 46 40.8 +0.9
baz=37,SNR=6.4
G03D **McMinnville, O** 130.74 337 IAMs_20 IAMs_20 13 44 18.3
comp=Z,1µm,21.0s
WVOR **Wild Horse Val** 130.89 331 IAMs_20 IAMs_20 13 41 54.0
comp=Z,1µm,21.0s
H04D **Lebanon** 131.09 336 IAMs_20 IAMs_20 13 46 05.7
comp=Z,1µm,21.0s
H04D **Lebanon** 131.09 336 P **PKPdf** 12 46 41.7 +1.1
baz=35,SNR=5.2
COR **Corvallis** 131.27 336 IAMs_20 IAMs_20 13 44 50.5
comp=Z,1µm,20.0s
WUAZ **Wupatki** 131.41 319 IAMs_20 IAMs_20 13 43 58.4
comp=Z,1µm,22.0s
WUAZ **Wupatki** 131.41 319 P **PKPdf** 12 46 42.5 +0.7
baz=53
J05D **Fort Rock, OR** 131.45 334 P **PKPdf** 12 46 42.3 +0.7
baz=37,SNR=5.3
I04A **Tendick Farm,** 131.55 335 P **PKPdf** 12 46 41.8 +0.2
baz=36
J04D **Umpqua Nationa** 131.87 334 P **PKPdf** 12 46 42.9 +0.5
baz=36
I03D **Drain, OR** 132.02 336 P **PKPdf** 12 46 43.4 +1.0
baz=35
MOD **Modoc Plateau** 132.10 332 IAMs_20 IAMs_20 13 46 20.8
comp=Z,1µm,20.0s
R11A **Troy Canyon, C** 132.20 325 P **PKPdf** 12 46 43.6 +0.5
baz=47
J01E **Myrtle Point** 132.71 336 IAMs_20 IAMs_20 13 48 06.1
comp=Z,1µm,20.0s
J01E **Myrtle Point** 132.71 336 P **PKPdf** 12 46 44.6 +0.9
baz=34
HUMO **Hull Mountain** 132.75 334 IAMs_20 IAMs_20 13 46 50.6
comp=Z,1µm,20.0s
L04D **Klamath Falls** 132.77 334 IAMs_20 IAMs_20 13 45 54.4
comp=Z,2µm,22.0s
L04D **Klamath Falls** 132.77 334 P **PKPdf** 12 46 44.9 +0.8
baz=37
TUC **Tucson** 132.85 315 PKPdf **PKPdf** 12 46 44.9 +0.5
TUC **Tucson** 132.85 315 IAMs_20 IAMs_20 13 47 42.0
comp=Z,1µm,19.0s
TUC **Tucson** 132.85 315 PKIKP **PKPdf** 12 46 44.9 +0.5
TUC **Tucson** 132.85 315 P **PKPdf** 12 46 45.3 +0.9
baz=56
KVN **Kaiserville** 133.11 327 PKPdf **PKPdf** 12 46 44.9 0.0
KVN **Kaiserville** 133.11 327 PKIKP **PKPdf** 12 46 44.9 0.0
TPH **Tonopah** 133.32 326 **PKPdf** 12 46 46.0 +0.7
TPH **Tonopah** 133.32 326 PKIKP **PKPdf** 12 46 46.0 +0.7
YBH **Yreka Blue Hor** 133.34 333 IAMs_20 IAMs_20 13 46 00.5
comp=Z,1µm,20.0s
TPNV **Topopah Spring** 133.54 324 P **PKPdf** 12 46 46.6 +0.8
baz=47
NVAR **Mina Array Bea** 133.67 327 PKhKP PKPpre 12 46 36.9
comp=Z,1.9nm,0.9s,baz=54,slow=4.0,SNR=8.6
NVAR PKP **PKiKP** 12 46 47.4 +0.2
comp=Z,9.6nm,0.9s,baz=90,slow=1.8,SNR=12
PDMCI **Parker Dam,Lak** 133.95 320 P **PKPdf** 12 46 47.5 +1.2
baz=51,SNR=8.0
GRAC **Grapevine Rang** 134.16 325 P **PKPdf** 12 46 47.8 +1.1
baz=46
FURC **Furnace Creek,** 134.23 324 P **PKiKP** 12 46 48.2 +0.1
baz=47,SNR=12
SHOC **Shoshone, Teco** 134.26 323 P **PKiKP** 12 46 48.5 +0.3
baz=48,SNR=13
TUQ **Turquoise Moun** 134.35 322 P **PKPdf** 12 46 48.4 +1.2
baz=48
214A **Organ Pipe Nat** 134.47 316 P **PKPdf** 12 46 48.6 +1.1
baz=54
ORV **Oroville** 134.49 331 IAMs_20 IAMs_20 13 47 50.2
comp=Z,1µm,19.0s
GMRC **Granite Mounta** 134.62 321 P **PKPdf** 12 46 49.0 +1.3
baz=49,SNR=7.6
JCC **Jacoby Creek,** 134.67 334 IAMs_20 IAMs_20 13 46 53.2
comp=Z,1µm,20.0s
IRM **Iron Mountain** 134.69 320 P **PKPdf** 12 46 48.9 +1.2
baz=50,SNR=19
MPMC **Manual Prospec** 134.88 324 P **PKPdf** 12 46 49.4 +1.1
baz=46,SNR=10
CWC **Cottonwood Cre** 134.96 325 P **PKPdf** 12 46 49.4 +1.0
baz=45
GSC **Goldstone, Bar** 134.98 323 P **PKPdf** 12 46 49.7 +1.3
baz=48,SNR=15
HEC **Hector,Ludlow** 135.01 322 P **PKiKP** 12 46 49.8 0.0
baz=48,SNR=8.1
CMB **Columbia Colle** 135.08 328 IAMs_20 IAMs_20 13 46 21.0
comp=Z,1µm,21.0s
GLA **Glamis** 135.18 319 P **PKPdf** 12 46 49.9 +1.1
baz=52
BC3 **Big Chuckawall** 135.21 320 P **PKPdf** 12 46 49.8 +0.9
baz=50
BELC **Belle Mtn. Jos** 135.33 321 P **PKPdf** 12 46 49.9 +0.8
baz=50
LRMC **Laurel Mtn Rad** 135.39 324 P **PKiKP** 12 46 50.7 0.0
baz=46,SNR=18
ISA **Isabella, Lake** 135.73 324 PKPdf **PKPdf** 12 46 50.5 +0.8
ISA **Isabella, Lake** 135.73 324 PKIKP **PKPdf** 12 46 50.5 +0.8
ISA **Isabella, Lake** 135.73 324 P **PKiKP** 12 46 51.2 -0.1
baz=46,SNR=7.7
BBRC **Big Bear Solar** 135.74 322 P **PKPdf** 12 46 51.2 +1.2
baz=48
PFO **Pinyon Flats O** 135.88 321 IAMs_20 IAMs_20 13 46 21.4
comp=Z,1µm,18.0s
TPFO **Pinon Flats** 135.88 321 P **PKPdf** 12 46 51.5 +1.4
baz=49
SWSC **Sam W. Stewart** 135.88 319 P **PKiKP** 12 46 51.8 +0.3
baz=50
EDW2 **Edwards Air Fo** 135.98 323 P **PKiKP** 12 46 52.2 +0.4
baz=47,SNR=7.8
BFSC **Mount Baldy Ra** 136.21 322 P **PKPdf** 12 46 52.1 +1.3
baz=48
IKP **In-Ko-Pah, Jac** 136.27 319 P **PKPdf** 12 46 52.2 +1.4
baz=50
MONP2 **Monument Peak** 136.32 320 P **PKPdf** 12 46 52.3 +1.2
baz=50
MURC **Murrieta** 136.35 321 P **PKiKP** 12 46 52.8 +0.2
baz=48
SMMC **Simmler** 136.85 325 P **PKiKP** 12 46 53.7 +0.1
baz=44
CIS **Catalina Islan** 137.24 322 P **PKiKP** 12 46 54.4 0.0
baz=47
SCI2 **San Clemente I** 137.61 322 P **PKiKP** 12 46 55.2 +0.1
baz=47
TBI **Tubuai** 155.71 178 *e*LR LR 13 39 41.6
comp=Z,2µm,22.8s
PPT2 **Papeete2** 161.43 177 *e*LR LR 13 42 21.6
comp=Z,2µm,24.2s
TAOE **Nuku Hiva Isla** 167.13 220 *e*LR LR 13 45 00.1
comp=Z,2µm,24.1s

*MDD **10** 12:36:13.9±0.7,35.°90N×1.°49W, h0km, mb_Lg2.5/6, Error ellipse: s-maj=6.3km s-min=3.7km az=128.0*
ISC 10 12:36:13.6±1.6, 35.°82N±0.°06×1.°41W±0.°06, h19km±4km, n10, σ1°§44/21, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHAS	**Isla Isabel II**	**1.05**	**233**	P		**Pg**	**12 36 33.9**	**-0.1**
CHAS				S		**Sn**	**12 36 46.9**	**-0.6**
ENIJ	**Nijar**	**1.32**	**331**	Pg		**Pg**	**12 36 39.3**	**+0.2**
ENIJ				Sg		**Sg**	**12 36 55.7**	**-0.6**
ENIJ				*i* Vmb_Lg			12 36 58.4	
EBER	**Berja**	**1.61**	**312**	Pg		**Pb**	**12 36 42.5**	**-0.3**
EBER				Sg		**Sb**	**12 37 03.6**	**+0.8**
EBER				*i* Vmb_Lg			12 37 04.5	
EMUR	**La Murta**	**2.02**	**4**	Pg		**Pb**	**12 36 48.9**	**-0.9**
EMUR				Sn		**Sn**	**12 37 11.6**	**+0.1**
EMUR				*i* Vmb_Lg			12 37 18.7	
ELGU	**Los Guajares,**	**2.07**	**301**	Pn		**Pn**	**12 36 48.5**	**+1.0**
ELGU				Pg		**Pb**	**12 36 49.2**	**-1.5**
ELGU				Sn		**Sn**	**12 37 12.9**	**0.0**
ELGU				*i* Vmb_Lg			12 37 17.8	
EQES	**Quesada**	**2.39**	**326**	Pg		**Pb**	**12 36 56.1**	**+0.1**
EQES				Sg		**Sb**	**12 37 25.8**	**+0.6**
EQES				*i* Vmb_Lg			12 37 29.7	
EGOR	**Sierra Gorda,**	**2.53**	**301**	Pg		**Pb**	**12 36 57.3**	**-1.2**
EGOR				Sn		**Sn**	**12 37 26.5**	**+2.3**
ETOB	**Tobarra**	**2.82**	**358**	Pg		**Pb**	**12 37 01.4**	**-2.0**
ETOB				Sn		**Sn**	**12 37 27.7**	**-3.5**
EMIJ	**Mijas**	**2.82**	**286**	Pn		**Pn**	**12 36 58.2**	**+0.5**
EMIJ				Sn		**Sn**	**12 37 29.7**	**-1.5**
EMIJ				*i* Vmb_Lg			12 37 40.9	
EIBI	**Ibiza**	**3.88**	**34**	Pn		**Pn**	**12 37 14.1**	**+1.9**
EIBI				Sn		**Sn**	**12 37 57.2**	**0.0**

TAP 10 12:46:17.7, 23.°08N×120.°68E, h3km, ML1.2, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.09**	**270**	*i* P		Pg	12 46 19.9	+0.4
SGST	baz=268			*i* S		Sg	12 46 21.9	+1.1
STYH	**Taoyuan**	**0.12**	**44**	P		Pg	12 46 20.6	+0.4
STYH	baz=43			S		Sg	12 46 22.9	+1.2
WTP	**Ta-pu**	**0.17**	**339**	↓ *i* P		Pg	12 46 22.3	+1.2
CHN1	**Nanshi**	**0.18**	**306**	*i* P		Pg	12 46 22.5	+1.4
TPUB	**Ta-pu**	**0.22**	**347**	P		Pg	12 46 23.5	+1.5
TWK	**Hsinying**	**0.26**	**316**	*i* P		Pb	12 46 24.1	-0.9
SCST	**Cishan**	**0.26**	**222**	*e*P		Pb	12 46 24.4	-0.6
SCST	baz=221			*e*S		Sb	12 46 28.8	-1.2
CHN3	**Shinhua**	**0.29**	**269**	*e*P		Pb	12 46 24.8	-0.8
CHN3	baz=268			*e*S		Sb	12 46 29.4	-1.5
SHHT	**Tainan City**	**0.32**	**259**	*e*P		Pb	12 46 25.8	-0.1
SHHT	baz=258			*e*S		Sb	12 46 30.6	-0.9
ELDTW	**Lidau**	**0.33**	**71**	*i* P		Pb	12 46 25.7	-0.5
SSD	**Sandimen**	**0.34**	**188**	P		Pb	12 46 25.7	-0.7
SSD	baz=186			S		Sb	12 46 31.5	-0.7
TSMG	**Majia**	**0.38**	**185**	*e*P		Pb	12 46 26.4	-0.6
TSMG	baz=185			*e*S		Sb	12 46 32.4	-0.9
ALS	**Alishan**	**0.44**	**15**	P		Pb	12 46 27.3	-1.0
YUS	**Yu-Shan**	**0.47**	**31**	*e*P		Pb	12 46 28.7	-0.3
	baz=32							

*NEIC **10** 12:49:09.0±3.1, 7.°56S±0.°08×128.°03E±0.°09, h143km±10km, mb4.2/6, Error ellipse: s-maj=15.1km s-min=9.3km az=125.0*
*IDC **10** 12:49:13.7±5.2, 7.°64S×127.°95E, h188km±58km, mb3.2/4, mbtmp4.0/6, Error ellipse: s-maj=56.0km s-min=17.6km az=45.0*
ISC 10 12:49:10.1±0.7, 7.°64S±0.°06×128.°21E±0.°07, h150km, n23, σ2°§35/30, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.16**	**240**	P		**Pn**	**12 50 27.6**	**+1.8**
BATI	58nm,0.4s,baz=122,slow=2.5,SNR=16			S		**Sn**	**12 51 25.1**	**+0.3**
MTN	**Manton Dam**	**5.92**	**151**	Pn		**Pn**	**12 50 38.0**	**+2.2**
MTN	44nm,0.3s,baz=321,slow=3.3,SNR=11			Sn		**Sn**	**12 51 42.7**	**-0.1**
FAKI	**Fak Fak**	**6.18**	**41**	Pn		**Pn**	**12 50 38.2**	**-1.1**
FAKI				Sn		**Sn**	**12 51 46.5**	**-2.6**
KNRA	**Kununurra**	**8.01**	**176**	Pn		**Pn**	**12 51 05.1**	**+1.4**
KNRA				Sn		**Sn**	**12 52 30.3**	**-2.5**
FITZ	**Fitzroy Crossi**	**10.69**	**193**	P		**Pn**	**12 51 38.5**	**-0.8**
FITZ	1.4nm,0.3s,baz=25,slow=11,SNR=22			S		**Sn**	**12 53 31.5**	**-6.1**
WB0	**Warramunga Arr**	**13.46**	**154**	Pn		**Pn**	**12 52 14.8**	**-0.5**
WRA	**Warramunga Arr**	**13.60**	**155**	P		**Pn**	**12 52 16.9**	**-0.2**
WRA	2.2nm,0.3s,baz=328,slow=13,SNR=63 6.4nm,0.5s,baz=331,slow=23,SNR=12			S		Sn	12 54 41.0	-6.7
WRA	**Warramunga Arr**	**13.60**	**155**			**Pn**	**12 52 16.6**	**-0.5**
WB2	**Warramunga Arr**	**13.60**	**155**	Pn		**Pn**	**12 52 17.5**	**+0.4**
WR0	**Warramunga Arr**	**13.70**	**154**			**Pn**	**12 52 18.6**	**+0.2**
COEN	**Coen**	**15.98**	**114**	P		**P**	**12 52 49.7**	**+2.4**
COEN	comp=Z,7.2nm,0.9s			IAmb		IAmb	12 53 06.6	
AS31	**Alice Springs**	**16.85**	**162**	P		**Pn**	**12 52 59.2**	**+2.0**
AS31	comp=Z,3.5nm,0.4s			IAmb		IAmb	12 53 00.9	
ASAR	**Alice Springs**	**16.85**	**162**	P		**Pn**	**12 53 00.0**	**+2.7**
ASAR	comp=Z,6.1nm,0.5s,baz=341,slow=11,SNR=161 comp=Z,3.4nm,0.6s,baz=338,slow=11,SNR=9.4			pP		**pwP**	**12 53 26.4**	**+4.0**
ASAR				S		**S**	**12 55 58.7**	**-6.0**
ASAR	**Alice Springs**	**16.85**	**162**	P		**Pn**	**12 52 58.8**	**+1.6**
CTA	**Charters Tower**	**21.42**	**127**	P		**P**	**12 53 48.7**	**+2.3**
	comp=Z,2.1nm,0.4s,baz=310,slow=9.0,SNR=6.5 comp=Z,2.1nm,0.4s							
CTAO	**Charters Tower**	**21.42**	**127**	P		**P**	**12 53 48.2**	**+1.7**
CTAO	comp=Z,13nm,1.4s			IAmb		IAmb	12 53 50.2	
STKA	**Stephens Creek**	**27.15**	**154**	P		**P**	**12 54 40.5**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=330,slow=13,SNR=5.2 comp=Z,0.6nm,0.4s							
STKA	**Stephens Creek**	**27.15**	**154**	P		**P**	**12 54 40.4**	**+1.0**
LHI	**Lord Howe Isla**	**37.30**	**134**	P		**P**	**12 56 08.1**	**+0.2**
SONM	**Songino Array**	**58.51**	**343**	P		**P**	**12 58 50.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=157,slow=7.8,SNR=2.6 comp=Z,0.3nm,0.5s							
CASY	**Casey**	**59.81**	**188**	P		**P**	**12 58 59.0**	**-0.2**
CASY	comp=Z,4.9nm,0.6s			IAmb		IAmb	12 59 00.5	
MKAR	**Makanchi Array**	**67.80**	**328**	P		**P**	**12 59 50.2**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=121,slow=8.0,SNR=5.2 comp=Z,0.3nm,0.4s							
MKAR	**Makanchi Array**	**67.80**	**328**	P		**P**	**12 59 50.5**	**-1.4**

*NEIC **10** 12:49:07.6±1.8, 37.°55S±0.°10×179.°35E±0.°07, h10km±1km, mb4.7/29, Error ellipse: s-maj=17.0km s-min=9.2km az=353.0*
*NOU **10** 12:49:07.8, 37.°53S×179.°44E, h155km, MLv5.2/10, Off E. Coast of N. Island, N.Z.*
*WEL **10** 12:49:11.7±1.3, 37.°3S±4.°×17.°9E±.°, h16km±6km, M4.7/32, ML4.9/32, MLv4.7/32, Error ellipse: s-maj=0.0km s-min=0.0km az=89.0*
*IDC **10** 12:49:17.5±2.9, 37.°27S×178.°69E, h62km±21km, mb4.0/11, mbtmp4.3/11, MS4.5/3, Error ellipse: s-maj=22.6km s-min=17.0km az=40.0*
ISC 10 12:49:11.6±1.8, 37.°39S±0.°05×179.°02E±0.°07, h16km±9km, n212, σ1°§23/175, mb4.6/24, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.59**	**253**			**Pg**	**12 49 23.3**	**0.0**
MXZ	**Matakaoa Point**	**0.59**	**253**	P		**Pg**	**12 49 23.3**	**0.0**
MXZ				S		**Sg**	**12 49 30.4**	**-0.9**
WMGZ	**Waiomatatini S**	**0.64**	**228**	P		**Pb**	**12 49 26.3**	**+1.7**
WMGZ				S		**Sb**	**12 49 36.1**	**+2.8**
PKGZ	**Pakihiroa**	**0.90**	**236**	P		**Pg**	**12 49 29.4**	**+0.3**
PKGZ				S		**Sg**	**12 49 41.3**	**+0.4**
PUZ	**Puketiti**	**0.91**	**221**	P		**Pg**	**12 49 29.9**	**+0.6**
PUZ				S		**Sb**	**12 49 42.8**	**+1.8**
HAZ	**Te Kaha**	**1.05**	**249**	P		**Pg**	**12 49 30.7**	**-1.3**
HAZ				S		**Sg**	**12 49 45.5**	**-0.1**
TWGZ	**Tauwhareparae**	**1.14**	**226**	P		**Pb**	**12 49 33.3**	**+0.3**
TWGZ				S		**Sg**	**12 49 49.1**	**+0.5**
RUGZ	**Raukumara Rang**	**1.21**	**241**	P		**Pb**	**12 49 34.2**	**0.0**
RUGZ				S		**Sb**	**12 49 50.0**	**+0.3**
CNGZ	**Carnagh Statio**	**1.27**	**210**	P		**Pn**	**12 49 35.7**	**+1.0**
TKGZ	**Te Karaka**	**1.40**	**221**	P		**Pn**	**12 49 36.4**	**-0.1**
TKGZ				S		**Sb**	**12 49 54.4**	**-0.6**
WSRZ	**White Island S**	**1.47**	**264**	P		**Pn**	**12 49 37.5**	**0.0**
MWZ	**Matawai**	**1.51**	**231**	P		**Pn**	**12 49 37.9**	**-0.2**
RIGZ	**Rimuhau**	**1.65**	**217**	P		**Pn**	**12 49 39.8**	**-0.2**
RAGZ	**Rawiri**	**1.68**	**228**	P		**Pn**	**12 49 40.5**	**0.0**
WHRZ	**Whale Island**	**1.69**	**253**	P		**Pn**	**12 49 40.8**	**+0.3**
URZ	**Urewera**	**1.74**	**239**	P		**Pn**	**12 49 41.7**	**+0.5**
URZ	1µm,0.3s,baz=211,slow=0.3,SNR=1159 3µm,0.5s,baz=211,slow=19,SNR=22			S		**Sn**	**12 50 03.1**	**0.0**
URZ	comp=Z,3µm,19.6s,baz=32,slow=54			LR		LR	12 50 42.6	
URZ	**Urewera**	**1.74**	**239**	P		**Pn**	**12 49 39.0**	**-2.2**
URZ	**Urewera**	**1.74**	**239**	P		**Pn**	**12 49 42.0**	**+0.8**
PRGZ	**Paritu Road**	**1.77**	**210**	P		**Pn**	**12 49 41.5**	**-0.2**
SNGZ	**Shannon Statio**	**1.92**	**223**	P		**Pn**	**12 49 43.4**	**-0.3**
EDRZ	**Edgecumbe**	**1.94**	**248**	P		**Pn**	**12 49 44.3**	**+0.2**
KNZ	**Kokohu**	**1.94**	**213**	P		**Pn**	**12 49 43.2**	**-0.8**
MARZ	**Manawahe**	**1.95**	**251**	P		**Pn**	**12 49 44.0**	**-0.2**
MHNZ	**Mahia Peninsul**	**1.97**	**206**	P		**Pn**	**12 49 44.2**	**-0.2**
OPRZ	**Ohinepanea**	**2.01**	**256**	P		**Pn**	**12 49 44.2**	**-0.6**
MUGZ	**Murupara**	**2.08**	**238**	P		**Pn**	**12 49 44.4**	**-1.5**
MKRZ	**Makatiti**	**2.16**	**249**	P		**Pn**	**12 49 48.0**	**+1.0**
TARZ	**Mount Tarawera**	**2.16**	**246**	P		**Pn**	**12 49 47.6**	**+0.5**
LIRZ	**Lichensteins R**	**2.18**	**253**	P		**Pn**	**12 49 47.7**	**+0.5**
WHHZ	**Waihua**	**2.19**	**219**	P		**Pn**	**12 49 47.2**	**-0.3**
RRRZ	**Republican Roa**	**2.20**	**244**	P		**Pn**	**12 49 47.6**	**0.0**
MYRZ	**Mayor Island**	**2.22**	**272**	P		**Pn**	**12 49 46.9**	**-0.9**
OMRZ	**Omania**	**2.22**	**250**	P		**Pn**	**12 49 48.1**	**+0.3**
TGRZ	**Tauranga**	**2.22**	**260**	P		**Pn**	**12 49 47.1**	**-0.7**
MTHZ	**Maungatapere**	**2.25**	**229**	P		**Pn**	**12 49 48.5**	**+0.1**
HLRZ	**Highlands Stat**	**2.28**	**247**	P		**Pn**	**12 49 49.1**	**+0.4**
HLRZ				P		**Pn**	**12 49 49.1**	**+0.4**
KARZ	**Kaharoa**	**2.29**	**253**	P		**Pn**	**12 49 48.7**	**-0.1**
PRRZ	**Plateau Road**	**2.35**	**241**	P		**Pn**	**12 49 49.4**	**-0.2**
NGRZ	**Ngongotaha**	**2.35**	**251**	P		**Pn**	**12 49 50.2**	**+0.5**
UTU	**Utuhina**	**2.37**	**250**	P		**Pn**	**12 49 51.0**	**+1.1**
HSRZ	**Hossack Road**	**2.38**	**246**	P		**Pn**	**12 49 50.6**	**+0.6**
HRRZ	**Handcock Road**	**2.38**	**244**	P		**Pn**	**12 49 50.2**	**+0.1**
ALRZ	**Allen Road**	**2.42**	**240**	P		**Pn**	**12 49 50.3**	**-0.2**
NMHZ	**Naumai**	**2.44**	**225**	P		**Pn**	**12 49 50.8**	**-0.1**
ARHZ	**Aropaoanui**	**2.46**	**220**	P		**Pn**	**12 49 50.8**	**-0.3**
KMRZ	**Kaimai**	**2.48**	**258**	P		**Pn**	**12 49 51.0**	**-0.4**
GRRZ	**Galatos Road**	**2.49**	**246**	P		**Pn**	**12 49 52.2**	**+0.6**
MRHZ	**Matea Rd**	**2.51**	**234**	P		**Pn**	**12 49 51.7**	**-0.1**
WPRZ	**Whakapapatarin**	**2.52**	**243**	P		**Pn**	**12 49 52.6**	**+0.6**
BKZ	**Black Stump Fm**	**2.67**	**227**	Pn		**Pn**	**12 49 53.5**	**-0.4**
BKZ	**Black Stump Fm**	**2.67**	**227**	P		**Pn**	**12 49 53.6**	**-0.4**
BKZ	**Black Stump Fm**	**2.67**	**227**	P		**Pn**	**12 49 54.0**	**0.0**
KUZ	**Kuaotunu**	**2.71**	**283**	P		Pn	12 49 52.4	-2.1
CKHZ	**Cape Kidnapper**	**2.73**	**213**	P		**Pn**	**12 49 53.5**	**-1.3**
WHTZ	**Whakaora**	**2.73**	**241**	P		**Pn**	**12 49 55.9**	**+1.0**
MCHZ	**McNeill Hill**	**2.75**	**221**	P		**Pn**	**12 49 54.5**	**-0.5**
HATZ	**Hinemaiaia**	**2.75**	**236**	P		**Pn**	**12 49 54.9**	**-0.2**
KUTZ	**Kaahu Road**	**2.75**	**245**	P		**Pn**	**12 49 55.2**	**+0.1**
TOZ	**Tahuroa Road**	**2.81**	**262**	P		**Pn**	**12 49 55.4**	**-0.6**
KWHZ	**Kaweka Forest**	**2.88**	**224**	P		**Pn**	**12 49 56.0**	**-1.0**
WATZ	**Wairara**	**2.91**	**242**	P		**Pn**	**12 49 57.7**	**+0.4**
TLZ	**Tolley Road**	**2.91**	**250**	P		**Pn**	**12 49 57.3**	**0.0**
KAHZ	**Kahuranaki**	**2.93**	**214**	P		**Pn**	**12 49 56.1**	**-1.5**
RATZ	**Rangitukua**	**2.96**	**239**	P		**Pn**	**12 49 58.1**	**+0.2**
KATZ	**Kakaramea**	**3.06**	**238**	P		**Pn**	**12 49 59.3**	**-0.1**
KRHZ	**Kereru**	**3.06**	**222**	P		**Pn**	**12 49 57.9**	**-1.6**
GRZ	**Great Barrier**	**3.07**	**291**	P		**Pn**	**12 49 58.3**	**-1.2**
MKAZ	**Moumakai**	**3.09**	**274**	P		**Pn**	**12 49 58.5**	**-1.2**
TMVZ	**Te Maari**	**3.13**	**235**	P		**Pn**	**12 49 59.8**	**-0.5**
BHHZ	**Black Hill Sta**	**3.13**	**227**	P		**Pn**	**12 49 59.5**	**-0.9**
PXZ	**Pawanui**	**3.13**	**212**	P		**Pn**	**12 49 58.1**	**-2.2**
ETVZ	**East Tongariro**	**3.13**	**235**	P		**Pn**	**12 49 60.0**	**-0.5**
NTVZ	**North Tongarir**	**3.14**	**236**	P		**Pn**	**12 49 60.0**	**-0.5**
KRVZ	**Karewarewa**	**3.16**	**236**	P		**Pn**	**12 50 00.4**	**-0.4**
WIAZ	**Waiheke Island**	**3.16**	**280**	P		**Pn**	**12 49 59.4**	**-1.3**
OTVZ	**Oturere**	**3.18**	**235**	P		**Pn**	**12 50 00.5**	**-0.6**
NNVZ	**North Ngauruho**	**3.19**	**236**	P		**Pn**	**12 50 01.0**	**-0.4**
WTVZ	**West Tongariro**	**3.20**	**236**	P		**Pn**	**12 50 01.2**	**-0.2**
SNVZ	**South Ngauruho**	**3.21**	**235**	P		**Pn**	**12 50 00.9**	**-0.6**
NGZ	**Ngauruhoe**	**3.23**	**235**	P		**Pn**	**12 50 01.3**	**-0.5**
TUVZ	**Tukino**	**3.24**	**234**	P		**Pn**	**12 50 01.4**	**-0.6**
MOVZ	**Moawhango**	**3.26**	**231**	P		**Pn**	**12 50 01.1**	**-1.1**
TWVZ	**Taurewa**	**3.28**	**238**	P		**Pn**	**12 50 02.2**	**-0.3**
WHVZ	**Whangaehu Hut**	**3.29**	**234**	P		**Pn**	**12 50 02.0**	**-0.8**
ETAZ	**East Tamaki Re**	**3.29**	**276**	P		**Pn**	**12 50 01.6**	**-1.0**
FWVZ	**Far West T-bar**	**3.30**	**235**	P		**Pn**	**12 50 02.2**	**-0.7**
DRZ	**Dome Shelter**	**3.31**	**234**	P		**Pn**	**12 50 02.8**	**-0.2**
WNVZ	**Wahianoa**	**3.31**	**233**	P		**Pn**	**12 50 02.2**	**-0.8**
TRVZ	**Turoa**	**3.33**	**234**	P		**Pn**	**12 50 02.3**	**-0.9**
WPHZ	**Waipukurau**	**3.35**	**216**	P		**Pn**	**12 50 01.5**	**-1.8**
PNHZ	**Pukenui**	**3.35**	**220**	P		**

SNZO South Karori 5.15 219 P Pn 12 50 24.5 -3.5
TUWZ Tuamarina 5.63 223 Pn 12 50 31.1 -3.6
CMWZ Cape Campbell 5.72 219 P **Pn** **12 50 35.1 -0.9**
NNZ Nelson 5.81 227 Pn 12 50 34.6 -2.4
BSWZ Blackbirch Sta 5.87 221 Pn 12 50 33.7 -4.3
QRZ Quartz Range 6.10 234 P Pn 12 50 37.4 -3.7
KHZ Kahutara 6.55 218 P Pn 12 50 43.2 -4.1
CTZ Chatham Island 7.16 154 P **Pn** **12 50 56.7 +1.1**
AMCZ Amberley 7.56 218 P Pn 12 50 58.4 -2.7
RPZ Rata Peaks 8.75 221 P Pn 12 51 12.9 -4.7
9.7nm,0.3s,baz=324,slow=3.6,SNR=29
RPZ S Sn 12 52 42.8 -13
43nm,0.4s,baz=130,slow=21,SNR=18
RPZ Rata Peaks 8.75 221 P Pn 12 51 12.7 -4.8
ODZ Otahua Downs 9.91 217 P Pn 12 51 27.8 -5.5
MSZ Milford Sound 11.09 226 P **Pn** **12 51 48.8 -0.7**
PINNC Pines Island, 17.79 323 P **Pn** **12 53 20.8 +2.2**
PINNC IAmb IAmb 12 53 43.5
comp=Z,132nm,1.5s
DZM Mont Dzumac 18.74 321 *e*LR LR 12 57 57.5
comp=Z,470nm,23.1s
MSVF Nonsavu 19.60 357 LR LR 12 59 48.4
comp=Z,186nm,18.3s,baz=163,slow=32
MSVF Nonsavu 19.60 357 P **P** **12 53 38.7 -0.6**
MSVF IAmb IAmb 12 54 02.9
comp=Z,60nm,1.4s
CAN Canberra 24.22 266 P **P** **12 54 25.9 -1.8**
CAN IAmb IAmb 12 54 54.3
comp=Z,29nm,1.4s
RAR Rarotonga 24.45 55 P P 12 54 23.9 -5.8
TOO Toolangi 26.53 259 P **P** **12 54 45.3 -3.2**
TOO IAmb IAmb 12 54 54.9
comp=Z,12nm,1.1s
TBI Tubuai 30.42 72 *e*LR LR 13 03 06.7
comp=Z,364nm,25.2s
TBI Tubuai 30.42 72 *e*T T 13 26 55.4
comp=Z,30nm,0.3s
STKA Stephens Creek 31.14 269 P **P** **12 55 28.8 -0.8**
comp=Z,4.1nm,0.7s,baz=110,slow=16,SNR=6.6
comp=Z,4.1nm,0.7s
STKA Stephens Creek 31.14 269 P **P** **12 55 29.2 -0.4**
CTA Charters Tower 33.28 292 P P 12 55 45.8 -2.7
comp=Z,3.4nm,0.9s,baz=153,slow=11,SNR=2.1
comp=Z,3.4nm,0.9s
CTAO Charters Tower 33.28 292 P P 12 55 46.4 -2.1
CTAO IAmb IAmb 12 55 55.9
comp=Z,13nm,1.4s
PAE Paea 33.85 63 *e*T T 13 31 28.8
comp=Z,2.8nm,0.3s
PPT2 Papeete2 33.90 63 *e*LR LR 13 04 44.3
comp=Z,517nm,25.0s
PPT2 Papeete2 33.90 63 *e*T T 13 31 22.9
comp=Z,3.5nm,0.3s
BBOO Buckleboo 35.22 264 P **P** **12 56 03.7 -1.5**
BBOO IAmb IAmb 12 56 14.2
comp=Z,19nm,1.2s
COEN Coen 39.49 297 P **P** **12 56 40.1 -1.4**
COEN IAmb IAmb 12 56 44.1
comp=Z,11nm,0.6s
AS31 Alice Springs 40.82 276 P **P** **12 56 51.3 -1.4**
ASAR Alice Springs 40.82 276 P **P** **12 56 51.1 -1.5**
comp=Z,5.8nm,0.8s,baz=117,slow=7.7,SNR=15
ASAR ScP ScP 13 02 34.8 -7.6
comp=Z,0.4nm,0.7s,baz=117,slow=3.8,SNR=2.2
comp=Z,5.8nm,0.8s
ASAR Alice Springs 40.82 276 P **P** **12 56 51.0 -1.6**
SBA Scott Base 40.91 184 P P 12 56 47.4 -5.2
WR0 Warramunga Arr 42.29 282 P **P** **12 57 03.5 -1.1**
FORT Forrest 42.30 263 P P 12 57 02.7 -1.9
FORT IAmb IAmb 12 57 21.1
comp=Z,17nm,0.7s
WB2 Warramunga Arr 42.44 281 P **P** **12 57 04.3 -1.6**
WB2 IAmb IAmb 12 57 12.3
comp=Z,8.2nm,0.5s
WRAB Tennant Creek 42.45 282 P **P** **12 57 05.4 -0.6**
WRAB IAmb IAmb 12 57 19.4
comp=Z,6.6nm,0.7s
WRA Warramunga Arr 42.45 281 P P 12 57 04.2 -1.8
comp=Z,3.6nm,0.5s,baz=122,slow=7.5,SNR=5.7
WRA ScP ScP 13 02 40.5 -8.4
comp=Z,0.2nm,0.5s,baz=114,slow=3.7,SNR=1.8
comp=Z,3.6nm,0.5s
WRA Warramunga Arr 42.45 281 P **P** **12 57 04.6 -1.4**
WB0 Warramunga Arr 42.51 282 P **P** **12 57 04.9 -1.6**
WB0 IAmb IAmb 12 57 12.8
comp=Z,8.2nm,0.6s
CASY Casey 47.85 211 P **P** **12 57 46.1 -2.1**
CASY IAmb IAmb 12 58 02.9
comp=Z,6.2nm,0.8s
MTN Manton Dam 49.12 287 P **P** **12 57 58.0 -0.7**
KNRA Kununurra 49.24 282 P **P** **12 57 57.9 -1.7**
FITZ Fitzroy Crossi 50.31 277 P **P** **12 58 06.8 -0.9**
comp=Z,4.4nm,0.6s,baz=115,slow=6.4,SNR=4.5
comp=Z,4.4nm,0.6s
FITZ Fitzroy Crossi 50.31 277 P **P** **12 58 06.0 -1.7**
MORW Morawa 52.48 260 P P 12 58 21.4 -2.4
QSPA South Pole Qui 52.74 180 P **P** **12 58 27.7 +2.3**
comp=Z,5.7nm,0.8s,baz=313,slow=0.9,SNR=12
comp=Z,5.7nm,0.8s
QSPA South Pole Qui 52.74 180 P **P** **12 58 25.9 +0.5**
QSPA IAmb IAmb 12 58 28.4
comp=Z,8.4nm,0.9s
MBWA Marble Bar 53.37 270 P P 12 58 28.0 -2.5
MBWA IAmb IAmb 12 58 48.7
comp=Z,9.2nm,1.2s
FAKI Fak Fak 54.87 297 P P 12 58 39.7 -1.8
MAW Mawson 64.92 202 P **P** **12 59 50.2 +0.4**
comp=Z,1.3nm,0.7s,baz=110,slow=3.8,SNR=2.5
comp=Z,1.3nm,0.7s
MAW Mawson 64.92 202 P P 12 59 44.9 -4.9
MYLDM Lahad Datu 70.35 293 P **P** **13 00 24.1 -0.8**
TROLL Troll, Antarti 70.88 181 P **P** **13 00 28.3 +0.9**
TROLL S S 13 09 33.2 -8.6
SNAA Sanae 71.23 179 P **P** **13 00 30.1 +0.6**
SNAA Sanae 71.23 179 PP PP 13 02 56.6 -10
SNAA Sanae 71.23 179 P **P** **13 00 30.2 +0.6**
comp=Z,2.2nm,0.9s,baz=197,slow=8.6,SNR=6.6
comp=Z,2.2nm,0.9s
SNAA Sanae 71.23 179 P P 13 00 25.6 -3.9
SNAA IAmb IAmb 13 00 45.1
comp=Z,5.6nm,1.3s
VNA3 Neumayer Olymp 71.50 177 P **P** **13 00 31.8 +0.7**
VNA2 Neumayer--Watz 71.89 178 P **P** **13 00 32.9 -0.6**
baz=213,slow=4.1
VNA2 S S 13 09 43.6 -10
VNA1 Neumayer--Stat 72.14 177 P **P** **13 00 36.0 +1.1**
AIS Amsterdam Isla 75.89 233 P P 13 00 54.6 -2.8
H03S2 Juan Fernandez 78.66 124 T T 14 27 41.0
baz=231,SNR=15
H03S1 Juan Fernandez 78.67 124 T T 14 27 31.9
baz=231,SNR=16
H03S3 Juan Fernandez 78.68 124 T T 14 27 39.2
baz=231,SNR=12
H03N3 Juan Fernandez 78.89 124 T T 14 27 47.3
baz=234,slow=72,SNR=100
H03N2 Juan Fernandez 78.90 124 T T 14 27 44.7
baz=234,slow=72,SNR=104
H03N1 Juan Fernandez 78.91 124 T T 14 27 45.3
baz=234,slow=72,SNR=77
JHJ Hachijo jima 2 79.11 327 LR LR 13 31 39.9
comp=Z,317nm,21.4s,baz=300,slow=32
PLCA Paso Flores 79.53 134 P **P** **13 01 18.9 +1.2**
comp=Z,3.2nm,0.9s,baz=239,slow=6.2,SNR=10.0
comp=Z,3.2nm,0.9s
KSRS Korea Array 88.17 322 P **P** **13 02 01.2 -0.3**
comp=Z,0.9nm,0.7s,baz=139,slow=5.6,SNR=3.9
comp=Z,0.9nm,0.7s
CMAR Chiang Mai Arr 93.44 290 P **P** **13 02 25.0 -1.5**
comp=Z,0.4nm,0.4s,baz=147,slow=3.3,SNR=1.0
comp=Z,0.4nm,0.4s
CN2 Changchun 94.28 324 *e*P **P** **13 02 30.3 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KMI Kunming 94.82 298 ⇓P **P** **13 02 36.5 +3.5**
KMI pmax pmax
comp=Z,11nm,0.5s
TXAR Lajitas Array 98.16 59 LR LR 13 39 37.3
comp=Z,1μm,21.7s,baz=60,slow=31
HHC Hu-ho-hao-te 99.34 315 *e*P **Pdif** **13 02 51.4 -1.5**
HHC pmax pmax
comp=Z,25nm,0.7s
WMQ Urumqi 115.50 307 *e*P **PKPdf** **13 07 50.0 -2.5**
MKAR Makanchi Array 120.23 308 PKP **PKPdf** **13 07 59.8 -1.7**
comp=Z,0.6nm,0.8s,baz=101,slow=1.5,SNR=2.6
ARCES ARCESS Array B 144.76 344 PKP **PKPab** **13 08 45.1 -0.4**
comp=Z,1.6nm,0.5s,baz=51,slow=2.5,SNR=16

DBIC Dimbokro 149.22 172 PKPbc **PKPbc** **13 09 00.3 +0.3**
comp=Z,3.2nm,0.5s,baz=220,slow=1.9,SNR=9.9
FINES FINESS Array B 150.58 334 PKPbc **PKPdf** **13 09 00.1 +3.8**
comp=Z,3.0nm,0.8s,baz=69,slow=3.4,SNR=17
BRTR Keskin Array B 152.92 286 PKPbc **PKPdf** **13 09 06.0 +5.1**
comp=Z,0.6nm,0.6s,baz=151,slow=7.9,SNR=3.9
TORD Torodi Ar. Bea 155.74 186 PKPbc PKPbc 13 09 14.1
comp=Z,0.7nm,0.7s,baz=134,slow=4.2,SNR=3.3
TORD PKPab **PKPab** **13 09 30.3 -1.2**
comp=Z,1.8nm,0.8s,baz=174,slow=3.2,SNR=6.3

*IDC **10** 13:22:30.8±0.5,9.°47S×111.°81E,h0km,mb4.5/23, mbtmp4.5/26,ML4.2/3,MS4.0/2,Error ellipse: s-maj=17.6km s-min=9.9km az=50.0*
*NEIC **10** 13:22:31.3±2.6,9.°80S±0.°08×111.°69E±0.°07,h10km±1km, mb4.8/24,Error ellipse: s-maj=14.3km s-min=10.7km az=203.0*
*DJA **10** 13:22:34.6±0.5,10.°S±4.°×11.°2E±.°,h10km,M4.5/14, mb4.9/3,mB5.3/2,MLv4.3/14,Mw(mB)4.8/2*
ISC 10 13:22:31.8±0.4,9.°61S±0.°05×111.°79E±0.°03,h10km,n117,
σ1§64/123,mb4.7/46,MS4.2/4,2C-1D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.53**	**337**	P	**Pn**		**13 22 59.0**	**-0.1**
PCJI				S	**Sg**		**13 23 22.2**	**+1.3**
PWJI	**Pagerwojo**	**1.57**	**1**	P	**Pg**		**13 23 01.3**	**-0.7**
PWJI				S	**Sg**		**13 23 26.7**	**+4.2**
UGM	**Wanagama**	**2.10**	**323**		**Pb**		**13 23 09.2**	**-0.8**
UGM	**Wanagama**	**2.10**	**323**	P	**Pg**		**13 23 10.7**	**-1.3**
UGM				S	**Sg**		**13 23 37.6**	**-1.6**
GMJI	**Gumukmas**	**2.10**	**51**	P	**Pb**		**13 23 09.5**	**-0.6**
NGJI	**Ngawi**	**2.25**	**352**	P	**Pg**		**13 23 13.9**	**-1.0**
YOGI	**Yogyakarta**	**2.31**	**320**	P	**Pb**		**13 23 12.8**	**-0.8**
BLJI	**Banyuglugur**	**2.57**	**44**	P	**Pg**		**13 23 19.3**	**-1.8**
JAGI	**Jajag, Banyuwa**	**2.59**	**64**		**Pb**		**13 23 17.4**	**-1.0**
JAGI				Sn	**Sb**		**13 23 49.3**	**-1.1**
JAGI	**Jajag, Banyuwa**	**2.59**	**64**	P	**Pb**		**13 23 17.5**	**-0.9**
SMRI	**Semarang**	**2.87**	**332**		**Pb**		**13 23 21.4**	**-1.7**
SMRI	**Semarang**	**2.87**	**332**	P	**Pb**		**13 23 22.2**	**-0.9**
ABJI	**Asem Bagus**	**3.01**	**54**	P	**Pb**		**13 23 25.0**	**-0.6**
SRBI	**Singaraja**	**3.71**	**66**	P	**Pb**		**13 23 34.6**	**-2.8**
LEM	**Lembang**	**4.97**	**303**	Pn	**Pn**		**13 23 46.6**	**0.0**
	1.9nm,0.3s,baz=110,slow=4.6,SNR=6.0							
LEM				Sn	**Sn**		**13 24 39.8**	**-4.4**
	2.9nm,0.3s,baz=118,slow=18,SNR=1.3							
	36nm,0.8s							
LEM	**Lembang**	**4.97**	**303**	P	**Pn**		**13 23 50.3**	**+3.7**
TWSI	**Taliwang, Sumb**	**5.10**	**81**	P	**Pn**		**13 23 52.7**	**+4.3**
	0.5nm2μm88nm,0.9s							
PLAI	**Plampang**	**5.96**	**83**	P	**Pn**		**13 24 04.0**	**+3.8**
	1.1nm4μm343nm,0.9s							
EDFI	**Ende, Flores**	**9.81**	**86**	P	**Pn**		**13 24 54.6**	**+1.4**
MMRI	**Maumere**	**10.36**	**86**	Pn	**Pn**		**13 25 00.8**	**+0.2**
BATI	**Baumata**	**11.71**	**94**	Pn	**Pn**		**13 25 20.1**	**+0.9**
	8.2nm,0.3s,baz=298,slow=15,SNR=6.9							
BATI				Sn	**Sn**		**13 27 25.2**	**-5.0**
	1.9nm,0.3s,baz=200,slow=23,SNR=1.3							
	41nm,0.6s							
GIRL	**Giralia**	**13.17**	**170**	Pn	**Pn**		**13 25 36.8**	**-2.3**
MBWA	**Marble Bar**	**13.80**	**147**	Pn	**Pn**		**13 25 43.6**	**-3.9**
PSA00	**Pilbara Seismi**	**14.20**	**148**		**Pn**		**13 25 49.9**	**-3.2**
PSA00	**Pilbara Seismi**	**14.20**	**148**		**Pn**		**13 25 49.6**	**-3.5**
FITZ	**Fitzroy Crossi**	**15.87**	**124**	Pn	**Pn**		**13 26 14.8**	**-0.7**
	0.7nm,0.3s,baz=296,slow=8.1,SNR=30							
FITZ				Sn	Sn		13 28 57.5	-14
	0.4nm,0.3s,baz=342,slow=20,SNR=6.1							
	1.7nm,0.3s							
FITZ	**Fitzroy Crossi**	**15.87**	**124**	Pn	**Pn**		**13 26 13.9**	**-1.6**
KNRA	**Kununurra**	**17.62**	**112**	P	**P**		**13 26 38.6**	**0.0**
MTN	**Manton Dam**	**19.25**	**101**		**P**		**13 26 56.5**	**0.0**
SIJI	**Sorong**	**21.23**	**67**	P	**P**		**13 27 17.7**	**-0.4**
	17nm,0.8s,baz=286,slow=4.8,SNR=7.8							
	17nm,0.8s							
FAKI	**Fak Fak**	**21.39**	**73**	P	**P**		**13 27 21.2**	**+1.4**
WB0	**Warramunga Arr**	**24.06**	**117**	P	**P**		**13 27 47.4**	**0.0**
WB0				IAmb	IAmb		13 27 50.8	
	comp=Z,19nm,0.8s							
WRA	**Warramunga Arr**	**24.07**	**118**	P	**P**		**13 27 48.4**	**+0.7**
	comp=Z,9.4nm,0.8s,baz=291,slow=12,SNR=95							
WRA				PcP	**PcP**		**13 31 30.3**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=292,slow=2.1,SNR=5.2							
WRA				S	**S**		**13 32 07.6**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=287,slow=26,SNR=1.6							
	comp=Z,9.4nm,0.8s							
WRA	**Warramunga Arr**	**24.07**	**118**	P	**P**		**13 27 48.3**	**+0.6**
WRAB	**Tennant Creek**	**24.08**	**118**	P	**P**		**13 27 47.9**	**+0.2**
WRAB				IAmb	IAmb		13 27 51.2	
	comp=Z,17nm,0.8s							
WB2	**Warramunga Arr**	**24.09**	**118**	P	**P**		**13 27 46.3**	**-1.5**
WB2				IAmb	IAmb		13 27 51.1	
	comp=Z,15nm,0.8s							
WR0	**Warramunga Arr**	**24.26**	**118**	P	**P**		**13 27 50.0**	**+0.7**
WR0				IAmb	IAmb		13 27 53.1	
	comp=Z,21nm,0.8s							
ASAR	**Alice Springs**	**25.33**	**126**	P	**P**		**13 28 00.6**	**+1.5**
	comp=Z,6.6nm,0.7s,baz=301,slow=8.3,SNR=54							
ASAR				PcP	**PcP**		**13 31 33.1**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=345,slow=2.6,SNR=7.5							
ASAR				S	**S**		**13 32 30.0**	**+4.5**
	comp=Z,0.5nm,0.6s,baz=294,slow=23,SNR=1.3							
	comp=Z,6.6nm,0.7s							
ASAR	**Alice Springs**	**25.33**	**126**	P	**P**		**13 27 58.2**	**-0.8**
AS31	**Alice Springs**	**25.33**	**126**	P	**P**		**13 28 01.3**	**+2.2**
CMAR	**Chiang Mai Arr**	**30.63**	**336**	P	**P**		**13 28 46.0**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=172,slow=8.6,SNR=11							
CMAR				PcP	**PcP**		**13 31 46.7**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=212,slow=2.9,SNR=6.0							
CMAR				LR	LR		13 41 57.7	
	comp=Z,133nm,18.1s,baz=70,slow=38							
	comp=Z,1.3nm,0.7s							
STKA	**Stephens Creek**	**35.40**	**133**	P	**P**		**13 29 29.7**	**+1.7**
	comp=Z,6.9nm,0.8s,baz=299,slow=8.0,SNR=16							
	comp=Z,6.9nm,0.8s							
STKA	**Stephens Creek**	**35.40**	**133**	P	**P**		**13 29 27.3**	**-0.7**
KMI	**Kunming**	**35.63**	**346**	⇑P	**P**		**13 29 33.0**	**+2.8**
KMI				pmax	pmax			
	comp=Z,7.0nm,1.0s							
PZH	**PanZhiHua**	**37.20**	**345**	P	**P**		**13 29 47.9**	**+4.4**
PZH				pmax	pmax			
	comp=Z,8.0nm,1.1s							
PZH				pmax	pmax			
	comp=Z,100nm,5.3s							
H08S2	**Diego Garcia H**	**38.88**	**270**	T	T		14 11 09.6	
	baz=97							
H08S3	**Diego Garcia H**	**38.90**	**270**	T	T		14 11 45.0	
	baz=97							
H08S1	**Diego Garcia H**	**38.90**	**270**	T	T		14 11 20.6	
	baz=97							
JOW	**Kunigami**	**39.60**	**23**	P	**P**		**13 30 03.5**	**-0.1**
	comp=Z,22nm,1.0s,baz=156,slow=10,SNR=4.6							
	comp=Z,22nm,1.0s							
JOW	**Kunigami**	**39.60**	**23**	P	**P**		**13 30 03.3**	**-0.3**
JOW				IAmb	IAmb		13 30 06.4	
	comp=Z,28nm,1.1s							
SHL	**Shillong**	**39.97**	**331**	P	**P**		**13 30 07.3**	**+0.3**
KRVT	**Keravat (AS076**	**40.26**	**85**	LR	LR		13 48 37.8	
	comp=Z,305nm,19.4s,baz=74,slow=39							
NJ2	**Nanjing**	**41.97**	**9**	*e*P	P		13 30 27.9	+4.8
NJ2				pmax	pmax			
	comp=Z,17nm,0.5s							
HYBB	**Hyderabad (bro**	**42.42**	**309**	*e*P	**P**		**13 30 26.6**	**-0.5**
XAN	**Xi'an**	**43.49**	**357**	P	**P**		**13 30 36.1**	**+0.6**
XAN				pP	pwP		13 30 51.2	+9.0
XAN				sP	sP		13 30 59.5	+21
XAN				pmax	pmax			
	comp=Z,16nm,1.0s							
RAMN	**Ramite**	**43.79**	**327**	*e*P	**P**		**13 30 38.4**	**+0.1**
LSA	**Lhasa**	**43.84**	**334**	P	**P**		**13 30 39.8**	**+0.9**
LSA				IAmb	IAmb		13 30 41.4	
	comp=Z,13nm,0.7s							
LYN	**LuoYang**	**43.92**	**1**	*e*P	**P**		**13 30 38.7**	**-0.1**
LYN				pmax	pmax			
	comp=Z,10.0nm,0.6s							
LYN				LR	LR			
	comp=E,320nm,18.0s							
LYN				LR	LR			
	comp=Z,220nm,15.1s							
JIRN	**Jiri**	**44.58**	**327**	*e*P	**P**		**13 30 44.7**	**0.0**
	comp=Z,48nm,0.8s							
PKI	**Pulchoki**	**44.93**	**326**	*e*P	**P**		**13 30 46.9**	**-0.6**
	comp=Z,19nm,0.9s							
GUN	**Gumba**	**44.94**	**327**	*e*P	**P**		**13 30 47.7**	**+0.1**
	comp=Z,50nm,0.8s							

PKIN Phulchoki 44.94 326 *e*P **P** **13 30 47.2 -0.3**
DMN Daman 45.13 326 *e*P **P** **13 30 49.0 0.0**
GKN Gorkha 45.70 326 *e*P **P** **13 30 52.9 -0.4**
LZH Lanzhou 46.06 351 *e*P **P** **13 30 57.3 +1.2**
LZH pP pwP 13 31 07.9 +5.0
LZH sP sP 13 31 11.0 +12
LZH pmax pmax
comp=Z,41nm,1.1s
KOLN Koldanda 46.10 324 *e*P **P** **13 30 54.9 -1.7**
DANN Dangsing 46.45 325 *e*P **P** **13 30 59.1 -0.4**
comp=Z,71nm,0.7s
PYUN Piuthan 46.70 324 *e*P **P** **13 31 00.4 -0.9**
comp=Z,46nm,0.9s
NAWB Namwon 47.15 17 P **P** **13 31 05.6 +1.2**
GOMU GeErMu 48.28 342 P **P** **13 31 12.6 -1.1**
GOMU pP pP 13 31 15.8 +0.1
GOMU sP sP 13 31 16.9 +0.4
GOMU pmax pmax
comp=Z,5.0nm,0.5s
KSRS Korea Array 49.20 17 P **P** **13 31 21.1 +0.9**
comp=Z,12nm,0.8s,baz=202,slow=8.0,SNR=34
comp=Z,12nm,0.8s
BJI Beijing 49.56 4 P **P** **13 31 23.6 +0.7**
BJI pmax pmax
comp=Z,10.0nm,1.1s
GTA Gaotai 50.02 348 ⇓P **P** **13 31 28.0 +1.4**
GTA pP pwP 13 31 37.7 +4.2
GTA pmax pmax
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 50.20 360 *e*P **P** **13 31 31.9 +3.9**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.4s
INU Inuyama 50.67 27 P **P** **13 31 30.5 -1.0**
MJAR Matsushiro Arr 52.20 27 P **P** **13 31 41.1 -1.8**
comp=Z,10nm,0.9s,baz=193,slow=7.9,SNR=31
MJAR PcP **PcP** **13 32 54.9 +0.4**
comp=Z,1.7nm,1.0s,baz=206,slow=5.1,SNR=2.2
comp=Z,10nm,0.9s
XLT XiLinHaoTe 53.39 4 *e*P **P** **13 31 52.0 +0.3**
XLT S S 13 39 13.7 -10
XLT XiLinHaoTe 53.39 4 SS **SS** **13 43 01.8 -2.5**
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,250nm,4.6s
XLT LR LR
comp=N,340nm,18.9s
XLT LR LR
comp=E,220nm,13.3s
XLT LR LR
comp=Z,250nm,16.0s
JMM Marumori 54.46 28 P **P** **13 31 59.6 +0.1**
CN2 Changchun 54.59 12 *e*P P 13 32 05.5 +5.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MDJ Mudanjiang 56.32 15 P **P** **13 32 13.0 +0.2**
MDJ sP pwP 13 32 28.5 +8.8
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,600nm,11.1s
USRK Ussuriysk Ar. 56.60 17 P **P** **13 32 14.6 -0.2**
comp=Z,18nm,0.9s,baz=204,slow=5.1,SNR=17
comp=Z,18nm,0.9s
USRK Ussuriysk Ar. 56.60 17 P **P** **13 32 15.1 +0.3**
BNX BinXian 56.85 13 ⇑P **P** **13 32 16.8 +0.2**
BNX pmax pmax
comp=Z,20nm,0.8s
BNX pmax pmax
comp=Z,280nm,10.9s
SONM Songino Array 57.39 356 P **P** **13 32 20.7 +0.3**
comp=Z,7.4nm,0.9s,baz=172,slow=8.2,SNR=37
SONM PcP **PcP** **13 33 14.5 +0.1**
comp=Z,2.6nm,0.8s,baz=166,slow=4.6,SNR=6.9
comp=Z,7.4nm,0.9s
SONM Songino Array 57.39 356 P **P** **13 32 20.8 +0.3**
SONM IAmb IAmb 13 32 22.0
comp=Z,8.7nm,1.0s
WMQ Urumqi 57.50 339 *e*P P 13 32 26.1 +4.8
KSH Kashi 59.10 328 P **P** **13 32 31.9 -0.8**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KLR Kul'dur 61.16 15 P **P** **13 32 45.4 -1.0**
comp=Z,0.9nm,0.4s,baz=184,slow=2.4,SNR=4.2
comp=Z,0.9nm,0.4s
BOOM Boomskoye usch 61.34 330 P **P** **13 32 47.6 -0.4**
BOOM IAmb IAmb 13 32 49.1
comp=Z,7.2nm,0.9s
MK31 Makanchi Array 62.01 337 P **P** **13 32 52.2 0.0**
MK31 IAmb IAmb 13 32 53.3
comp=Z,6.1nm,0.8s
MKAR Makanchi Array 62.01 337 P **P** **13 32 52.0 -0.2**
comp=Z,7.3nm,0.7s,baz=145,slow=7.4,SNR=33
comp=Z,7.3nm,0.7s
MKAR Makanchi Array 62.01 337 P **P** **13 32 52.2 -0.1**
MAW Mawson 66.33 198 P **P** **13 33 21.1 +0.8**
comp=Z,2.2nm,0.8s,baz=6.7,slow=8.6,SNR=4.5
comp=Z,2.2nm,0.8s
KURK Kurchatov 66.62 338 P **P** **13 33 21.2 -1.1**
KURK IAmb IAmb 13 33 23.3
comp=Z,6.8nm,1.2s
ZALV Zalesovo Beam 67.31 343 P **P** **13 33 25.5 -1.1**
comp=Z,2.7nm,0.6s,baz=145,slow=4.2,SNR=13
ZALV PcP **PcP** **13 33 54.0 -0.3**
comp=Z,1.6nm,0.6s,baz=158,slow=3.7,SNR=4.1
comp=Z,2.7nm,0.6s
ZALV Zalesovo Beam 67.31 343 P **P** **13 33 25.4 -1.3**
GEYT Alibeck 68.87 317 P **P** **13 33 37.4 +0.5**
comp=Z,4.5nm,0.9s,baz=156,slow=8.1,SNR=6.9
comp=Z,4.5nm,0.9s
GEYT Alibeck 68.87 317 P **P** **13 33 35.6 -1.3**
GEYT IAmb IAmb 13 33 38.6
comp=Z,7.2nm,1.1s
VNDA Vanda 72.57 170 P **P** **13 33 59.2 +0.5**
comp=Z,1.0nm,0.8s,baz=283,slow=7.3,SNR=5.9
comp=Z,1.0nm,0.8s
YAK Yakutsk 72.77 9 P **P** **13 33 59.2 -0.8**
comp=Z,6.6nm,0.5s,baz=177,slow=1.2,SNR=8.9
comp=Z,6.6nm,0.5s
PETK Petropavlovsk- 73.66 27 P **P** **13 34 05.0 -0.4**
comp=Z,1.5nm,0.3s,baz=185,slow=6.8,SNR=5.0
comp=Z,1.5nm,0.3s
ABKAR Akbulak array 74.10 328 P **P** **13 34 08.4 +0.2**
SEY Seymchan 78.75 18 P **P** **13 34 33.8 -0.4**
comp=Z,4.1nm,0.8s,baz=244,slow=4.9,SNR=10.0
comp=Z,4.1nm,0.8s
KBZ Khabaz 81.76 317 P **P** **13 34 51.9 +1.0**
comp=Z,10nm,1.0s,baz=129,slow=1.5,SNR=13
comp=Z,10nm,1.0s
TROLL Troll, Antarti 86.76 197 P **P** **13 35 15.6 -0.4**
BRTR Keskin Array B 87.10 311 P **P** **13 35 18.2 0.0**
comp=Z,3.1nm,0.8s,baz=126,slow=6.3,SNR=17
comp=Z,3.1nm,0.8s
SNAA Sanae 88.44 197 P **P** **13 35 25.4 +1.4**
KLMR Klimovskoe 89.86 332 *e*P **P** **13 35 30.1 -0.5**
KLMR AMP 13 35 40.6
comp=Z,10.0nm,1.1s
VNA2 Neumayer--Watz 90.09 197 P **P** **13 35 33.9 +2.2**
baz=106,slow=2.2
AKASG Malin Array Be 92.68 321 P **P** **13 35 43.2 -0.8**
comp=Z,0.1nm,0.3s,baz=93,slow=14,SNR=1.9
comp=Z,0.1nm,0.3s
FINES FINESS Array B 96.31 331 P **P** **13 35 59.8 -0.6**
comp=Z,1.7nm,0.9s,baz=359,slow=5.6,SNR=2.2
comp=Z,1.7nm,0.9s
TORD Torodi Ar. Bea 111.56 280 PKiKP **PKiKP** **13 41 08.5 +1.0**
comp=Z,0.5nm,0.8s,baz=110,slow=3.4,SNR=2.8
ESDC Sonseca Array 115.86 309 PKP **PKPdf** **13 41 15.0 -0.1**
comp=Z,0.1nm,0.4s,baz=79,slow=6.7,SNR=1.6
NVAR Mina Array Bea 126.84 49 PKP **PKiKP** **13 41 37.6 +0.5**
comp=Z,0.2nm,0.6s,baz=243,slow=4.4,SNR=4.8
TXAR Lajitas Array 141.47 54 PKhKP PKPpre 13 42 00.2
comp=Z,0.3nm,0.7s,baz=298,slow=2.7,SNR=3.8
BDFB Brasilia 147.91 219 PKPbc **PKPbc** **13 42 19.7 +1.3**
comp=Z,3.8nm,0.7s,baz=130,slow=2.6,SNR=5.1

WEL 10 13:48:45.8±1.6,37.°5S×17.°9E±.°,h13km±8km,M3.3/37, ML3.6/48,MLv3.3/37,Error ellipse: s-maj=0.0km s-min=0.0km az=82.6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.91**	**237**	P	Pg		13 49 02.6	-0.9
MXZ				S	Sg		13 49 13.9	-1.5

WMGZ	**Waiomatatini S**	**1.01**	**222**	P	Pn	13 49 06.2	+0.4
WMGZ				S	Sn	13 49 20.1	+0.2
PKGZ	**Pakihiroa**	**1.25**	**229**	P	Pn	13 49 09.3	+0.1
PKGZ				S	Sb	13 49 25.4	-0.2
PUZ	**Puketiti**	**1.29**	**218**	P	Pn	13 49 09.7	0.0
PUZ				S	Sg	13 49 28.7	+1.4
HAZ	**Te Kaha**	**1.37**	**239**	P	Pn	13 49 09.4	-1.3
TWGZ	**Tauwhareparae**	**1.51**	**222**	P	Pb	13 49 13.3	-0.5
RUGZ	**Raukumara Rang**	**1.55**	**234**	P	Pn	13 49 13.8	+0.4
RUGZ				S	Sn	13 49 33.3	-0.1
CNGZ	**Carnagh Statio**	**1.65**	**210**	P	Pb	13 49 15.7	-0.3
TKGZ	**Te Karaka**	**1.77**	**219**	P	Pn	13 49 16.4	+0.1
MWZ	**Matawai**	**1.87**	**227**	P	Pn	13 49 17.9	+0.2
WHRZ	**Whale Island**	**1.99**	**246**	P	Pn	13 49 19.7	+0.5
RIGZ	**Rimuhau**	**2.02**	**216**	P	Pn	13 49 19.6	-0.2
RAGZ	**Rawiri**	**2.05**	**225**	P	Pn	13 49 20.4	+0.3
URZ	**Urewera**	**2.09**	**235**	P	Pn	13 49 20.7	+0.2
PRGZ	**Paritu Road**	**2.15**	**210**	P	Pn	13 49 21.3	-0.3
EDRZ	**Edgecumbe**	**2.26**	**242**	P	Pn	13 49 23.4	+0.3
OPRZ	**Ohinepanea**	**2.29**	**249**	P	Pn	13 49 23.1	-0.3
MHGZ	**Mahia Peninsul**	**2.34**	**207**	P	Pn	13 49 23.9	-0.3
MUGZ	**Murupara**	**2.43**	**234**	P	Pn	13 49 25.1	-0.2
TGRZ	**Tauranga**	**2.48**	**254**	P	Pn	13 49 25.8	-0.2
OMRZ	**Omania**	**2.52**	**245**	P	Pn	13 49 27.0	+0.4
RAHZ	**Arahi**	**2.53**	**222**	P	Pn	13 49 27.0	+0.4
RRRZ	**Republican Roa**	**2.53**	**239**	P	Pn	13 49 27.0	+0.3
HLRZ	**Highlands Stat**	**2.60**	**242**	P	Pn	13 49 28.4	+0.7
MTHZ	**Maungataniwha**	**2.62**	**226**	P	Pn	13 49 28.0	+0.1
PRRZ	**Plateau Road**	**2.69**	**237**	P	Pn	13 49 28.5	-0.4
HSRZ	**Hossack Road**	**2.70**	**242**	P	Pn	13 49 30.4	+1.3
ALRZ	**Allen Road**	**2.76**	**236**	P	Pn	13 49 29.7	-0.2
KMRZ	**Kaimai**	**2.76**	**253**	P	Pn	13 49 29.6	-0.3
NMHZ	**Naumai**	**2.81**	**223**	P	Pn	13 49 30.7	+0.1
KUZ	**Kuaotunu**	**2.86**	**275**	P	Pn	13 49 29.8	-1.5
MRHZ	**Matea Rd**	**2.86**	**231**	P	Pn	13 49 31.4	+0.1
BKZ	**Black Stump Fm**	**3.03**	**225**	P	Pn	13 49 32.9	-0.7
TOZ	**Tahuroa Road**	**3.07**	**256**	P	Pn	13 49 33.0	-1.1
KUTZ	**Kaahu Road**	**3.08**	**241**	P	Pn	13 49 34.8	+0.6
MCHZ	**McNeill Hill**	**3.12**	**220**	P	Pn	13 49 34.1	-0.7
TLZ	**Tolley Road**	**3.22**	**246**	P	Pn	13 49 36.3	+0.2
KWHZ	**Kaweka Forest**	**3.25**	**223**	P	Pn	13 49 36.0	-0.6
MKAZ	**Moumakai**	**3.28**	**268**	P	Pn	13 49 35.9	-1.1
RATZ	**Rangitukua**	**3.30**	**236**	P	Pn	13 49 37.8	+0.5
KAHZ	**Kahuranaki**	**3.31**	**214**	P	Pn	13 49 35.8	-1.7
WIAZ	**Waiheke Island**	**3.32**	**273**	P	Pn	13 49 37.9	+0.3
KRHZ	**Kereru**	**3.44**	**221**	P	Pn	13 49 37.8	-1.4
ETAZ	**East Tamaki Re**	**3.48**	**271**	P	Pn	13 49 39.2	-0.5
TMVZ	**Te Maari**	**3.48**	**233**	P	Pn	13 49 38.9	-0.9
ETVZ	**East Tongariro**	**3.48**	**233**	P	Pn	13 49 39.2	-0.8
NTVZ	**North Tongarir**	**3.49**	**233**	P	Pn	13 49 39.2	-0.8
BHHZ	**Black Hill Sta**	**3.50**	**225**	P	Pn	13 49 39.3	-0.7
KRVZ	**Karewarewa**	**3.51**	**234**	P	Pn	13 49 39.9	-0.3
MBAZ	**Motutapu North**	**3.52**	**274**	P	Pn	13 49 40.5	+0.3
OTVZ	**Oturere**	**3.53**	**233**	P	Pn	13 49 39.7	-0.8
NNVZ	**North Ngauruho**	**3.54**	**233**	P	Pn	13 49 40.9	+0.2
WTVZ	**West Tongariro**	**3.55**	**234**	P	Pn	13 49 40.8	0.0
SNVZ	**South Ngauruho**	**3.56**	**232**	P	Pn	13 49 40.8	-0.2
ABAZ	**Army Bay**	**3.59**	**276**	P	Pn	13 49 41.9	+0.7
TUVZ	**Tukino**	**3.60**	**231**	P	Pn	13 49 41.0	-0.5
MOVZ	**Moawhango**	**3.62**	**229**	P	Pn	13 49 41.0	-0.8
WNVZ	**Wahianoa**	**3.67**	**231**	P	Pn	13 49 41.4	-1.1
AWAZ	**Awhitu Peninsu**	**3.70**	**269**	P	Pn	13 49 43.7	+1.0
PNHZ	**Pukenui**	**3.73**	**219**	P	Pn	13 49 41.9	-1.3
WTAZ	**Waiatarua**	**3.76**	**271**	P	Pn	13 49 44.7	+1.0
RVAZ	**Riverhead Bore**	**3.77**	**273**	P	Pn	13 49 43.4	-0.3
HIZ	**Hauiti**	**3.78**	**246**	P	Pn	13 49 44.7	+0.8
MTVZ	**Mangateitei**	**3.79**	**231**	P	Pn	13 49 43.3	-0.6
WCZ	**Waipu Caves**	**4.12**	**284**	P	Pn	13 49 48.6	0.0
WAZ	**Wanganui**	**4.30**	**230**	P	Pn	13 49 50.3	-0.7
NEZ	**North Egmont**	**4.63**	**240**	P	Pn	13 49 58.0	+2.4
PKE	**Pukeiti**	**4.67**	**241**	P	Pn	13 49 57.8	+1.6
KHEZ	**Kahui Hut**	**4.70**	**240**	P	Pn	13 49 59.6	+3.0
OGWZ	**Otaki Gorge**	**4.92**	**219**	P	Pn	13 49 57.2	-2.3
OUZ	**Omahuta**	**4.95**	**290**	P	Pn	13 49 59.4	-0.5
QRZ	**Quartz Range**	**6.46**	**232**	P	Pn	13 50 18.3	-2.3
CTZ	**Chatham Island**	**7.36**	**156**	P	Pn	13 50 33.5	+0.4

*IDC **10** 13:51:32.0±1.6, 9.°34S×112.°05E, h0km, mb3.7/7, mbtmp3.7/8, ML4.0/2, Error ellipse: s-maj=55.4km s-min=18.5km az=51.0*
*DJA **10** 13:51:38.8±3.5, 9°S±19′×11°2E±°, h15km±20km, M3.4/8, MLv3.4/8*
ISC 10 13:51:32.7±1.0, 9°6S±0′.1×111°91E±0′.07, h10km, n18, σ1s28/19, mb3.7/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.59**	**333**	P	**Pb**	**13 52 02.4**	**+0.3**
PWJI	**Pagerwojo**	**1.59**	**356**	P	**Pb**	**13 52 02.3**	**+0.1**
GMJI	**Gumukmas**	**2.02**	**49**	P	**Pg**	**13 52 12.0**	**+0.5**
UGM	**Wanagama**	**2.18**	**321**	P	**Pn**	**13 52 10.2**	**+1.2**
NGJI	**Ngawi**	**2.28**	**349**	P	**Pn**	**13 52 11.5**	**+1.1**
YOGI	**Yogyakarta**	**2.40**	**318**	P	**Pn**	**13 52 12.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**2.50**	**63**	P	**Pb**	**13 52 18.6**	**+0.9**
BLJI	**Banyuglugur**	**2.50**	**42**	P	**Pb**	**13 52 18.3**	**+0.6**
SMRI	**Semarang**	**2.94**	**330**	P	**Pn**	**13 52 21.9**	**+2.4**
BATI	**Baumata**	**11.60**	**94**	Pn	**Pn**	**13 54 16.6**	**-1.8**
	6.4nm,0.3s,baz=10,slow=7.8,SNR=7.7						
FITZ	**Fitzroy Crossi**	**15.77**	**124**	Pn	**Pn**	**13 55 14.7**	**-0.3**
	0.1nm,0.3s,baz=292,slow=9.9,SNR=6.4						
FITZ				Sn	Sn	13 57 59.2	-11
	0.1nm,0.3s,baz=33,slow=21,SNR=1.1						
	1.4nm,1.0s						
WRA	**Warramunga Arr**	**23.97**	**118**	P	**P**	**13 56 48.3**	**+0.8**
	1.1nm,0.7s,baz=293,slow=11,SNR=15						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**25.23**	**126**	P	**P**	**13 57 00.9**	**+1.8**
	0.6nm,0.6s,baz=302,slow=8.9,SNR=14						
ASAR				PcP	**PcP**	**14 00 33.6**	**+0.9**
	0.3nm,0.9s,baz=307,slow=1.7,SNR=2.5						
	0.6nm,0.6s						
KSRS	**Korea Array**	**49.17**	**17**	P	**P**	**14 00 19.8**	**-1.2**
	1.1nm,0.7s,baz=207,slow=7.8,SNR=5.6						
	1.1nm,0.7s						
MJAR	**Matsushiro Arr**	**52.16**	**27**	P	**P**	**14 00 41.6**	**-1.9**
	0.8nm,0.8s,baz=196,slow=6.7,SNR=3.1						
	0.8nm,0.8s						
SONM	**Songino Array**	**57.41**	**356**	P	**P**	**14 01 21.3**	**-0.2**
	0.4nm,0.5s,baz=164,slow=7.5,SNR=2.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**62.07**	**337**	P	**P**	**14 01 53.0**	**-0.6**
	0.7nm,0.4s,baz=153,slow=7.3,SNR=14						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**67.35**	**343**	P	**P**	**14 02 26.4**	**-1.4**
	0.3nm,0.3s,baz=130,slow=4.3,SNR=2.4						
	0.3nm,0.3s						

*IDC **10** 13:52:36.4±8.7, 6.°03S×108.°50E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=167.7km s-min=13.6km az=156.0*
*DJA **10** 13:52:41.9±0.4, 8°S±3′×10°7E±°, h63km±6km, M3.7/9, MLv3.7/9*
ISC 10 13:52:39.3±1.3, 7°82S±0′.09×106°76E±0′.09, h35km, n11, σ2s03/15, mb2.9/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.63**	**36**	P	**Pn**	**13 52 54.2**	**+2.5**
CNJI				S	**Sn**	**13 53 03.2**	**+2.7**
SKJI	**Sukabumi**	**0.84**	**346**	P	**Pn**	**13 52 57.2**	**+2.6**
SKJI				S	**Sn**	**13 53 08.2**	**+2.5**
DBJI	**Dramaga**	**1.26**	**360**	P	**Pn**	**13 52 59.6**	**-0.8**
DBJI				S	**Sn**	**13 53 13.8**	**-2.4**
LEM	**Lembang**	**1.31**	**41**	Pg	**Pn**	**13 52 59.8**	**-1.4**
	118nm,0.3s,baz=28,slow=19,SNR=53						
LEM				Lg	Lg	13 53 14.6	
	98nm,0.3s,baz=343,slow=19,SNR=17						
LEM	**Lembang**	**1.31**	**41**	P	**Pn**	**13 52 59.7**	**-1.4**
SBJI	**Serang**	**1.80**	**340**	P	**Pn**	**13 53 08.6**	**+0.7**
SBJI				S	**Sn**	**13 53 29.0**	**-0.5**
UGM	**Wanagama**	**3.73**	**92**	P	**Pn**	**13 53 35.2**	**+0.8**
PCJI	**Pacitan**	**4.39**	**95**	P	**Pn**	**13 53 45.9**	**+2.4**
WRA	**Warramunga Arr**	**29.30**	**117**	P	**P**	**13 58 36.6**	**-2.2**
	0.1nm,0.4s,baz=304,slow=9.1,SNR=7.8						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**30.42**	**124**	P	**P**	**13 58 48.0**	**-0.6**
	0.1nm,0.5s,baz=300,slow=8.7,SNR=1.6						
	0.1nm,0.5s						
STKA	**Stephens Creek**	**40.27**	**131**	P	**P**	**14 00 12.9**	**-0.3**
	0.8nm,0.5s,baz=315,slow=8.6,SNR=4.5						

*SOME **10** 14:16:35.3, 39.°27N×73.°33E, h0km*
*KRNET **10** 14:16:42.3±0.1, 39.°40N×73.°66E, mb3.5*
*NNC **10** 14:16:43.5±4.5, 39.°56N×73.°48E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=36.2km s-min=20.2km az=167.0*
ISC 10 14:16:44.2±1.8, 39°55N±0′.06×73°64E±0′.03, h2km±12km, n50, σ1s99/81, 19C-22D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.17**	**326**	⇑*iP*	**Pb**	**14 17 07.2**	**-0.1**
	baz=29						
OHH				⇑*iS*	**Sg**	**14 17 25.6**	**+3.7**
	baz=29						
DRK	**Karamyk**	**1.43**	**268**	⇑*iP*	Pn	14 17 09.7	-1.7
	baz=74						
DRK				⇑*iS*	**Sn**	**14 17 29.5**	**-1.4**
	baz=74						
BTK	**Batken**	**2.23**	**284**	⇑*iP*	**Pn**	**14 17 23.4**	**+1.1**
	baz=88						
BTK				⇑*iS*	**Sn**	**14 17 53.1**	**+2.6**
	baz=88						
ARLS	**Aral**	**2.36**	**12**	⇓*iP*	**Pb**	**14 17 26.3**	**-1.3**
	baz=12						
ARLS				⇓*iS*	**Sg**	**14 17 58.7**	**-1.5**
	baz=12						
AML	**Almayashu**	**2.58**	**1**	P	**Pb**	**14 17 31.2**	**-0.2**
	SNR=40						
NRN	**Naryn**	**2.60**	**43**	⇓*iP*	**Pn**	**14 17 28.8**	**+1.2**
	baz=40						
NRN				⇓*iS*	**Sb**	**14 18 03.0**	**-1.3**
	baz=40						
GAR	**Garm**	**2.64**	**259**	⇓*iP*	**Pn**	**14 17 27.9**	**0.0**
	baz=62						
GAR				⇓*iS*	**Sn**	**14 18 01.3**	**+0.8**
	baz=62						
TRKS	**Terek-Say**	**2.74**	**317**	⇓*iP*	**Pn**	**14 17 30.4**	**+1.0**
	baz=18						
TRKS				⇓*iS*	**Sb**	**14 18 05.7**	**-2.6**
	baz=18						
UCH	**Uchtor**	**2.75**	**14**	P	**Pb**	**14 17 34.9**	**+0.5**
	SNR=36						
UCH	**Uchtor**	**2.75**	**14**	⇓*iP*	**Pb**	**14 17 32.0**	**-2.4**
	baz=13						
UCH				⇓*iS*	**Sg**	**14 18 08.5**	**-4.2**
	baz=13						
EKS2	**Erkin-Say**	**3.11**	**2**	⇓*iP*	**Pn**	**14 17 36.9**	**+2.5**
	baz=2.0						
EKS2				⇓*iS*	**Sb**	**14 18 16.8**	**-1.9**
	baz=2.0						
AAK	**Ala-Archa**	**3.15**	**12**	P	**Pb**	**14 17 40.7**	**-0.3**
	SNR=6.3						
AAK	**Ala-Archa**	**3.15**	**12**	⇑*iP*	**Pn**	**14 17 37.3**	**+2.3**
	baz=11						
AAK				⇑*iS*	**Sb**	**14 18 17.8**	**-2.1**
	baz=11						
MRKS	**Merke**	**3.21**	**355**	*eP*	**Pb**	**14 17 39.3**	**-2.6**
	6.0nm,0.4s						
MRKS				*eS*	**Sg**	**14 18 26.5**	**-0.7**
	37nm,0.7s						
MRKS	**Merke**	**3.21**	**355**	Pg	**Pb**	**14 17 39.3**	**-2.6**
	6.0nm,0.4s						
MRKS				Lg	Lg	14 18 27.6	
	37nm,0.7s						
KBK	**Karagaybulak**	**3.25**	**17**	P	**Pb**	**14 17 41.9**	**-1.0**
	SNR=9.9						
KBK	**Karagaybulak**	**3.25**	**17**	⇓*iP*	**Pn**	**14 17 38.6**	**+2.1**
	baz=16						
KBK				⇓*iS*	**Sb**	**14 18 20.2**	**-2.8**
	baz=16						
ULHL	**Ulahol**	**3.34**	**35**	P	**Pb**	**14 17 42.9**	**-1.4**
	SNR=6.2						
ULHL	**Ulahol**	**3.34**	**35**	⇑*iP*	**Pn**	**14 17 39.7**	**+2.1**
	baz=34						
ULHL				⇑*iS*	**Sb**	**14 18 21.5**	**-3.8**
	baz=34						
BOOM	**Boomskoye usch**	**3.41**	**30**	⇓*iP*	**Pn**	**14 17 40.9**	**+2.3**
	baz=29						
BOOM				⇓*iS*	**Sb**	**14 18 23.7**	**-3.8**
	baz=29						
CHMS	**Chumysh**	**3.54**	**13**	⇓*iP*	**Pn**	**14 17 42.8**	**+2.5**
	baz=13						
CHMS				⇓*iS*	**Sb**	**14 18 26.9**	**-4.2**
	baz=13						
CHGR	**Chuyangaron**	**3.60**	**257**	⇑*iP*	**Pn**	**14 17 41.6**	**+0.5**
	baz=59						
CHGR				⇑*iS*	**Sn**	**14 18 25.0**	**+0.8**
	baz=59						
TKM2	**Tokmak 2**	**3.67**	**23**	⇓Pn	**Pb**	**14 17 47.5**	**-2.5**
	1.4nm,0.4s						
TKM2				⇑Pg	**Pg**	**14 17 56.8**	**+2.2**
	2.9nm,0.5s						
TKM2				⇑Lg	Lg	14 18 44.2	
	9.1nm,0.5s						
TKM2	**Tokmak 2**	**3.67**	**23**	⇓*iP*	**Pn**	**14 17 44.6**	**+2.3**
	baz=22						
TKM2				⇓*iS*	**Sb**	**14 18 30.2**	**-4.9**
	baz=22						
USP	**Ospenovka**	**3.77**	**10**	⇑*iP*	**Pn**	**14 17 45.8**	**+2.4**
	baz=9.0						
USP				⇑*iS*	**Sb**	**14 18 32.3**	**-5.3**
	baz=9.0						
IUG	**Iuzhnay**	**3.77**	**315**	*eP*	**Pn**	**14 17 45.2**	**+1.7**
	90nm,0.5s						
IUG				*eS*	**Sb**	**14 18 36.8**	**-0.9**
	36nm,0.4s						
IUG	**Iuzhnay**	**3.77**	**315**	Pg	**Pn**	**14 17 45.2**	**+1.7**
	90nm,0.5s						
IUG				Lg	Lg	14 18 36.8	
	36nm,0.4s						
KST	**Kastek**	**3.90**	**26**	*eP*	**Pb**	**14 17 54.1**	**+0.2**
	2.5nm,0.5s						
KST				*eS*	**Sg**	**14 18 51.8**	**+2.3**
	33nm,0.6s						
KST	**Kastek**	**3.90**	**26**	Pg	**Pb**	**14 17 54.1**	**+0.2**
	2.5nm,0.5s						
KST				Lg	Lg	14 18 51.8	
	33nm,0.6s						
SGDS	**Sogindy**	**3.97**	**10**	*eP*	**Pb**	**14 17 54.7**	**-0.1**
	4.1nm,0.5s						
SGDS				*eS*	**Sg**	**14 18 52.5**	**+0.9**
	6.2nm,0.8s						
DGS	**Degeres**	**4.02**	**23**	*eP*	**Pb**	**14 17 55.4**	**-0.4**
	4.2nm,0.5s						
DGS				*eS*	**Sg**	**14 18 53.8**	**+0.4**
	17nm,0.6s						
DGS	**Degeres**	**4.02**	**23**	Pg	**Pb**	**14 17 55.4**	**-0.4**
	4.2nm,0.5s						
DGS				Lg	Lg	14 18 54.5	
	17nm,0.6s						
MTBS	**Maitube**	**4.14**	**30**	*eP*	**Pb**	**14 17 57.9**	**-0.1**
	2.3nm,0.2s						
MTBS				*eS*	**Sg**	**14 18 58.4**	**+1.0**
	13nm,0.5s						
MTBS	**Maitube**	**4.14**	**30**	Pg	**Pb**	**14 17 57.9**	**-0.1**
	2.3nm,0.2s						
MTBS				Lg	Lg	14 18 58.4	
	13nm,0.5s						
KK31	**Karatay Array**	**4.26**	**327**	⇑Pn	**Pn**	**14 17 53.9**	**+3.8**
	0.6nm,0.3s,baz=130,slow=13,SNR=26						
KK31				Pg	**Pg**	**14 18 04.8**	**-1.0**
	1.0nm,0.3s,baz=141,slow=16,SNR=4.2						
KK31				⇓Lg	Lg	14 19 00.1	
	7.0nm,0.6s						
KKAR	**Karatay Array**	**4.26**	**327**	⇑*iP*	**Pn**	**14 17 52.5**	**+2.4**
	baz=28						
KKAR				⇑*iS*	**Sn**	**14 18 43.9**	**+3.5**
	baz=28						
TNSS	**Tian-Shan**	**4.28**	**35**	Pg	**Pb**	**14 18 00.9**	**+0.5**
	2.0nm,0.2s						
TNSS				Lg	Lg	14 19 03.4	
	22nm,0.7s						
KRBS	**Karabastau**	**4.41**	**20**	*eP*	**Pb**	**14 18 01.6**	**-0.9**
	1.1nm,0.7s						
KRBS				*eS*	**Sg**	**14 19 04.9**	**-1.0**
	12nm,0.6s						
KRBS	**Karabastau**	**4.41**	**20**	Pg	**Pb**	**14 18 01.6**	**-0.9**
	1.1nm,0.7s						
KRBS				Lg	Lg	14 19 04.9	
	12nm,0.6s						
MDOK	**Medeo**	**4.43**	**34**	*eP*	**Pb**	**14 18 02.6**	**-0.2**
	3.9nm,0.4s						
MDOK				*eS*	**Sg**	**14 19 06.5**	**0.0**
	16nm,1.0s						
MDOK	**Medeo**	**4.43**	**34**	Pg	**Pb**	**14 18 02.6**	**-0.2**
	3.9nm,0.4s						
MDOK				Lg	Lg	14 19 06.4	
	16nm,1.0s						
KOTS	**Kotyrbulak**	**4.51**	**34**	*eP*	**Pb**	**14 18 04.6**	**+0.4**
	3.7nm,0.5s						
KOTS				*eS*	**Sg**	**14 19 10.1**	**+0.9**
	40nm,0.9s						
KOTS	**Kotyrbulak**	**4.51**	**34**	Pg	**Pb**	**14 18 04.6**	**+0.4**
	3.7nm,0.5s						
KOTS				Lg	Lg	14 19 10.1	
	40nm,0.9s						
KTBS	**Karatobe**	**4.74**	**28**	*eP*	**Pb**	**14 18 08.0**	**-0.1**
	1.9nm,0.6s						
KTBS				*eS*	**Sg**	**14 19 15.7**	**-0.8**
	19nm,0.6s						
KTBS	**Karatobe**	**4.74**	**28**	Pg	**Pb**	**14 18 08.0**	**-0.1**
	1.9nm,0.6s						
KTBS				Lg	Lg	14 19 15.7	
	19nm,0.6s						
KUU	**Kurty**	**4.78**	**24**	*eP*	**Pb**	**14 18 08.4**	**-0.4**
	2.5nm,0.6s						
KUU				*eS*	**Sg**	**14 19 16.4**	**-1.4**
	18nm,0.7s						
KUU	**Kurty**	**4.78**	**24**	Pg	**Pb**	**14 18 08.4**	**-0.4**
	2.5nm,0.6s						
KUU				Lg	Lg	14 19 16.4	
	18nm,0.7s						
CHKK	**Chushkaly**	**4.97**	**29**	*eP*	**Pb**	**14 18 12.5**	**+0.4**
	0.9nm,0.2s						
CHKK				*eS*	**Sg**	**14 19 23.4**	**-0.6**
	8.1nm,0.4s						
CHKK	**Chushkaly**	**4.97**	**29**	Pg	**Pb**	**14 18 12.5**	**+0.4**
	0.9nm,0.2s						
CHKK				Lg	Lg	14 19 24.1	
	8.1nm,0.4s						
PDGK	**Podgornoye**	**5.79**	**47**	Pg	**Pg**	**14 18 35.7**	**+0.5**
	2.4nm,0.6s						
PDGK				Lg	Lg	14 19 47.5	
	6.8nm,0.8s						

IDC 10 14:17:14.0±3.0, 8°77S×112°46E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=165.7km s-min=27.9km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.90**	**120**	P	P	14 22 30.2	+0.4
	0.4nm,0.8s,baz=295,slow=11,SNR=5.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**25.31**	**128**	P	P	14 22 42.0	-0.7
	0.2nm,0.4s,baz=300,slow=9.1,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**61.50**	**337**	P	P	14 27 32.8	+0.1
	0.3nm,0.3s,baz=147,slow=7.2,SNR=5.4						
	0.3nm,0.3s						

RSNC 10 14:18:30.5±1.8, 0°95N×78°08W, h4km±5km, ML3.1, Mw3.8, 3C, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBC	**Cumbal**	**0.25**	**91**	⇑*iP*	Pg	14 18 35.7	+0.2
CMBC				*eS*	Sg	14 18 39.5	+0.6
CUSE	**Cuicocha Este**	**0.71**	**207**	⇑*iP*	Pg	14 18 43.8	-0.5
CUSE				*eS*	Sg	14 18 54.4	+0.8
GCUF	**Volcan Galeras**	**0.78**	**69**	*eP*	Pg	14 18 45.1	-0.5
GCUF				*eS*	Sg	14 18 56.2	+0.4
GCUF				IAML		14 18 58.2	
	comp=Z,390nm,0.4s						
OTAV	**Otavalo**	**0.80**	**208**	⇑*iP*	Pg	14 18 45.0	-0.8
OTAV				*eS*	Sg	14 18 56.5	+0.2
PAC1	**Pacto, Paraso**	**0.98**	**227**	*eP*	Pg	14 18 47.8	-1.6
PAC1				*eS*	Sg	14 19 00.6	-1.6
TUMC	**Tumaco**	**1.09**	**323**	*eP*	Pg	14 18 50.0	-1.4
TUMC				*eS*	Sg	14 19 04.5	-1.0
TUMC				IAML		14 19 23.8	
	comp=Z,838nm,0.7s						
BBAC	**Balboa, Cauca**	**1.35**	**38**	*eP*	Pn	14 18 53.8	-2.6
BBAC				*eS*	Sg	14 19 12.0	-2.1
BBAC				IAML		14 19 18.1	
	comp=Z,449nm,0.3s						
GR1C	**Gorgona, Isla**	**2.04**	**358**	*eP*	Pn	14 19 01.6	-4.1
GR1C				*eS*	Sn	14 19 26.0	-5.7
FLOC	**Florencia**	**2.51**	**75**	*eP*	Pb	14 19 16.2	+0.1
FLOC				*eS*	Sg	14 19 49.9	-1.2
FLOC				IAML		14 19 51.4	
	comp=Z,101nm,0.4s						
GARC	**Garzon, Huila**	**2.86**	**64**	*eP*	Pb	14 19 22.8	+0.4
GARC				*eS*	Sg	14 20 00.7	-1.9
GARC				IAML		14 20 06.6	
	comp=Z,112nm,0.2s						
MALC	**Bahia Malaga**	**3.14**	**14**	*eP*	Pn	14 19 22.9	+2.2
MALC				*eS*	Sn	14 20 01.4	+2.7
MALC				IAML		14 20 20.2	
	comp=Z,38nm,0.7s						
PTLC	**Puerto Leguiza**	**3.37**	**103**	*eP*	Pg	14 19 33.5	-1.6
PTLC				*eS*	Sg	14 20 18.7	-0.2
PTLC				IAML		14 20 22.5	
	comp=Z,78nm,0.4s						
YOTC	**Yotoco, Valle**	**3.48**	**30**	*eP*	Pn	14 19 26.5	+1.0
YOTC				*eS*	Sn	14 20 06.6	-0.7
YOTC				IAML		14 20 20.4	
	comp=Z,24nm,0.6s						
PLMC	**San Jos del P**	**4.32**	**24**	*eP*	Pn	14 19 35.1	-2.0
PLMC				*eS*	Sn	14 20 26.9	-1.2
PLMC				IAML		14 20 34.9	

FEMA AML AML
comp=E,74150µm,0.6s
FEMA AML AML
comp=N,86250µm,1.5s
FDMO Fiordimonte 0.10 331 P **Pg** **14 23 39.4 -0.2**
FDMO S **Sg** **14 23 41.2 -0.1**
FDMO AML AML
comp=N,67400µm,0.3s
FDMO AML AML
comp=E,48400µm,0.6s
T1216 Preci, Frazion 0.12 238 P **Pg** **14 23 40.1 +0.2**
T1216 S **Sg** **14 23 42.6 +1.0**
NRCA Norcia 0.12 194 P **Pg** **14 23 40.0 0.0**
NRCA S **Sg** **14 23 42.7 +0.8**
T1242 Castelluccio d 0.13 163 P **Pg** **14 23 40.2 0.0**
T1242 S **Sg** **14 23 42.5 +0.4**
MMO1 Montemonaco 0.14 112 P **Pg** **14 23 40.2 -0.1**
MMO1 S **Sg** **14 23 42.6 +0.3**
CSP1 Cessapalombo 0.15 15 P **Pg** **14 23 40.4 -0.1**
CSP1 S **Sg** **14 23 42.9 +0.3**
CSP1 AML AML
comp=E,30800µm,0.9s
CSP1 AML AML
comp=N,44450µm,0.8s
AM05 Amandola Campo 0.15 80 P **Pg** **14 23 40.6 +0.1**
GUMA Gualdo di Mace 0.17 50 ⇑P **Pg** **14 23 40.5 -0.4**
GUMA S **Sg** **14 23 43.9 +0.6**
GUMA AML AML
comp=E,50350µm,0.5s
GUMA AML AML
comp=N,54300µm,0.6s
GUMA AML AML
comp=N,42750µm,0.4s
GUMA AML AML
comp=E,45400µm,1.1s
CESI CESI - Serrava 0.19 287 P **Pg** **14 23 41.5 +0.3**
CESI S **Sg** **14 23 45.0 +1.1**
CESI AML AML
comp=N,29150µm,0.3s
CESI AML AML
comp=E,27400µm,0.3s
T1241 Roccafluvione, 0.23 115 P **Pg** **14 23 41.9 +0.1**
T1241 S **Sg** **14 23 45.8 +0.9**
T1241 AML AML
comp=E,11900µm,0.4s
T1241 AML AML
comp=N,9185µm,1.0s
T1241 AML AML
comp=E,11950µm,0.4s
T1241 AML AML
comp=N,9155µm,1.0s
T1241 AML AML
comp=E,11750µm,0.4s
MDAR Monte D'Aria 0.24 358 P **Pg** **14 23 42.1 0.0**
SEF1 Sefro 0.25 323 P **Pg** **14 23 42.3 +0.1**
SEF1 AML AML
comp=N,20450µm,0.2s
SEF1 AML AML
comp=E,18000µm,1.2s
T1202 Accumoli, Fraz 0.25 168 ⇓P **Pg** **14 23 42.6 +0.2**
T1202 S **Sg** **14 23 47.0 +1.3**
T1202 AML AML
comp=E,11705µm,0.9s
T1202 AML AML
comp=N,11740µm,0.5s
T1202 AML AML
comp=E,11725µm,0.9s
T1202 AML AML
comp=N,11710µm,0.5s
T1215 Vallo di Nera, 0.26 235 ⇓P **Pg** **14 23 42.7 +0.3**
T1215 S **Sg** **14 23 47.2 +1.4**
T1215 AML AML
comp=E,3870µm,0.4s
T1215 AML AML
comp=N,4615µm,0.5s
T1215 AML AML
comp=E,4020µm,0.4s
T1215 AML AML
comp=N,4440µm,0.5s
T1215 AML AML
comp=E,4025µm,0.4s
T1215 AML AML
comp=N,4445µm,0.5s
T1215 AML AML
comp=E,3870µm,0.4s
SSM1 San Severino M 0.28 4 P **Pg** **14 23 42.8 0.0**
T1217 Poggiodomo (PG 0.29 214 P **Pg** **14 23 43.3 +0.2**
T1217 S **Sb** **14 23 48.6 -1.4**
T1217 AML AML
comp=E,11100µm,0.7s
T1217 AML AML
comp=N,11000µm,0.8s
T1217 AML AML
comp=E,10800µm,0.7s
T1217 AML AML
comp=N,10460µm,0.8s
T1217 AML AML
comp=N,11050µm,0.8s
T1217 AML AML
comp=E,10800µm,0.7s
T1217 AML AML
comp=E,11050µm,0.7s
T1217 AML AML
comp=N,10470µm,0.8s
GAG1 Gagliole 0.29 348 P **Pg** **14 23 43.0 -0.1**
GAG1 S **Sg** **14 23 48.4 +1.4**
MNTP Montappone 0.30 51 P **Pg** **14 23 44.0 +0.8**
T1204 Amatrice, Fraz 0.30 156 P **Pg** **14 23 43.4 +0.1**
T1204 S **Sb** **14 23 48.7 -1.6**
T1204 AML AML
comp=N,7435µm,1.0s
T1204 AML AML
comp=E,6800µm,0.3s
T1243 Rocca Santa Ma 0.34 139 ⇓P **Pg** **14 23 43.8 -0.2**
T1243 S **Sg** **14 23 49.4 +1.0**
SNTG Esanatoglia 0.34 333 P **Pg** **14 23 43.8 -0.2**
SNTG S **Sg** **14 23 49.6 +1.0**
SNTG AML AML
comp=E,587µm,0.6s
SNTG AML AML
comp=N,4525µm,0.6s
SNTG AML AML
comp=N,558µm,0.4s
SNTG AML AML
comp=E,4490µm,0.6s
SNTG AML AML
comp=E,588µm,0.6s
LNSS Leonessa 0.36 193 ⇓P **Pg** **14 23 44.3 0.0**
LNSS S **Sb** **14 23 50.6 -1.3**
LNSS AML AML
comp=E,5625µm,1.5s
LNSS AML AML
comp=N,5120µm,0.3s
LNSS AML AML
comp=E,5620µm,1.5s
ASSB Assisi San Ben 0.37 284 ⇓P **Pg** **14 23 44.6 0.0**
ASSB S **Sg** **14 23 50.9 +1.3**
ASSB AML AML
comp=E,7130µm,0.3s
ASSB AML AML
comp=N,7375µm,0.9s
EL6 Elcito 0.38 354 P **Pg** **14 23 44.6 -0.2**
EL6 AML AML
comp=E,6105µm,1.1s
EL6 AML AML
comp=N,9740µm,1.0s
EL6 AML AML
comp=N,9695µm,1.0s
EL6 AML AML
comp=E,6110µm,1.1s
OFFI Offida 0.39 92 P **Pb** **14 23 45.8 -0.8**
OFFI AML AML
comp=N,6815µm,0.7s
OFFI AML AML
comp=E,6550µm,0.7s
CING Cingoli 0.42 4 ⇑P **Pg** **14 23 45.5 -0.1**
CING AML AML
comp=N,3070µm,0.3s
CING AML AML
comp=E,4605µm,0.5s
ATCC AVT- Casa Cast 0.44 302 P **Pg** **14 23 45.9 0.0**
ATCC AML AML
comp=N,9190µm,0.5s
ATCC AML AML
comp=E,6665µm,0.8s
ATCC AML AML
comp=N,9165µm,0.5s
RM33 Pellescritta (0.44 174 ⇓P **Pg** **14 23 45.8 -0.1**
RM33 S **Sb** **14 23 53.4 -1.1**
RM33 AML AML
comp=E,3305µm,1.4s
RM33 AML AML
comp=N,2740µm,0.8s
RM33 AML AML
comp=N,2745µm,0.8s
RM33 AML AML
comp=E,3305µm,1.4s
RM33 AML AML
comp=E,3335µm,1.4s
RM33 AML AML
comp=N,2740µm,0.8s
FOSV Fossato di Vic 0.45 320 ⇓P **Pg** **14 23 45.9 -0.1**
FOSV AML AML
comp=N,4840µm,0.4s
FOSV AML AML
comp=E,4415µm,0.7s
FOSV AML AML
comp=N,4845µm,0.4s
CAMP Campotosto 0.46 155 ⇓P **Pg** **14 23 45.9 -0.3**
CAMP S **Sg** **14 23 53.3 +1.1**
CAMP AML AML
comp=N,2195µm,0.9s
CAMP AML AML
comp=E,1955µm,1.2s
TERO Teramo 0.47 134 ⇓P **Pg** **14 23 46.0 -0.3**
TERO AML AML
comp=N,3930µm,0.7s
TERO AML AML
comp=N,3840µm,0.7s
TERO AML AML
comp=E,3350µm,1.1s
TERO AML AML
comp=E,3350µm,1.1s
CESX Cesi 0.54 231 ⇓P **Pg** **14 23 47.5 -0.3**
CESX AML AML
comp=N,3645µm,0.8s
CESX AML AML
comp=E,3635µm,0.8s
PP3 Marolino 0.54 38 ⇑P **Pb** **14 23 49.0 -0.1**
PP3 AML AML
comp=E,4220µm,0.9s
PP3 AML AML
comp=N,4705µm,0.4s
PP3 AML AML
comp=E,4455µm,0.3s
PP3 AML AML
comp=N,4555µm,0.7s
MURB Monte Urbino 0.56 304 ⇑P **Pg** **14 23 48.1 0.0**
MURB S **Sb** **14 23 58.0 +0.4**
MURB AML AML
comp=E,8910µm,0.3s
MURB AML AML
comp=N,8845µm,0.3s
MURB AML AML
comp=E,8915µm,0.3s
MURB AML AML
comp=N,8845µm,0.3s
MURB AML AML
comp=N,8585µm,1.0s
MURB AML AML
comp=E,9700µm,0.3s
SSFR Montelago di S 0.56 331 ⇑P **Pg** **14 23 47.8 -0.2**
SSFR S **Sb** **14 23 58.0 +0.4**
SSFR AML AML
comp=E,4910µm,0.3s
SSFR AML AML
comp=N,5925µm,0.3s
SSFR AML AML
comp=N,5860µm,0.2s
SSFR AML AML
comp=E,4215µm,0.7s
ARVD Arcevia 0.57 344 ⇑P **Pg** **14 23 48.0 -0.3**
ARVD S **Sb** **14 23 58.0 0.0**
ARVD AML AML
comp=N,1370µm,0.7s
ARVD AML AML
comp=E,2330µm,0.7s
TRTR Tortoreto Alta 0.58 104 AML AML
comp=E,7520µm,0.3s
TRTR AML AML
comp=N,7740µm,0.6s
ATFO Monte Foce - G 0.59 315 ⇓P **Pg** **14 23 48.6 -0.2**
ATFO AML AML
comp=N,3140µm,0.8s
ATFO AML AML
comp=E,3625µm,0.7s
ATTE AVT- Monte Tez 0.64 293 ⇑P **Pg** **14 23 49.4 -0.2**
ATTE AML AML
comp=E,1300µm,1.0s
ATTE AML AML
comp=N,1690µm,0.6s
FRON Frontone 0.65 331 ⇓P **Pg** **14 23 49.3 -0.5**
FRON AML AML
comp=E,1840µm,0.4s
FRON AML AML
comp=E,1845µm,0.4s
FRON AML AML
comp=N,2830µm,0.6s
FIAM Fiamignano 0.68 182 ⇓P **Pg** **14 23 49.8 -0.6**
FIAM AML AML
comp=N,1440µm,0.8s
FIAM AML AML
comp=E,1580µm,0.7s
COR1 Corinaldo 0.69 351 P **Pb** **14 23 51.2 -0.5**
COR1 AML AML
comp=N,3660µm,0.4s
COR1 AML AML
comp=E,3435µm,1.3s
ATVO AVT- Monte Val 0.69 309 ⇓P **Pg** **14 23 50.3 -0.4**
ATVO AML AML
comp=E,1850µm,0.4s
ATVO AML AML
comp=N,1860µm,0.5s
MPAG Monte Paganucc 0.74 337 ⇑P **Pg** **14 23 51.2 -0.3**
MPAG S **Sb** **14 24 04.0 +1.1**
MPAG AML AML
comp=N,2105µm,0.9s
MPAG AML AML
comp=N,2110µm,0.9s
MPAG AML AML
comp=E,1425µm,0.6s
PIEI Pieia 0.74 323 P **Pg** **14 23 50.9 -0.6**
PIEI S **Sb** **14 24 04.0 +1.1**
PIEI AML AML
comp=N,1015µm,0.7s
PIEI AML AML
comp=E,1066µm,0.4s
ATPI Pietralunga - 0.74 313 ⇓P **Pg** **14 23 51.2 -0.4**
ATPI AML AML
comp=E,1625µm,0.9s
ATPI AML AML
comp=N,1465µm,0.5s
ATPI AML AML
comp=N,1460µm,0.5s
ATPI AML AML
comp=E,1630µm,0.9s
ATMI Monte Miggiano 0.75 301 ⇓P **Pg** **14 23 52.1 +0.3**
ATMI S **Sn** **14 24 05.0 -1.1**
ATMI AML AML
comp=N,4210µm,0.4s
ATMI AML AML
comp=E,4180µm,0.6s
VCEL Villa Celiera 0.75 137 ⇓P **Pg** **14 23 51.4 -0.4**
VCEL AML AML
comp=E,2060µm,0.8s
VCEL AML AML
comp=N,2055µm,0.7s
SENI Senigallia 0.76 4 S **Sg** **14 23 60.0 -1.7**
MGAB Montegabbione 0.77 267 ⇑P **Pg** **14 23 51.8 -0.2**
MGAB AML AML
comp=N,2750µm,0.4s
MGAB AML AML
comp=E,2155µm,0.6s
MGAB AML AML
comp=E,2665µm,0.6s
MGAB AML AML
comp=N,2870µm,0.4s
NARO Abbazia di Nar 0.78 328 P **Pg** **14 23 51.7 -0.7**
NARO AML AML
comp=N,769µm,0.7s
NARO AML AML
comp=E,1040µm,0.8s
FSSB Fossombrone 0.79 340 ⇑P **Pg** **14 23 52.4 -0.1**
FSSB S **Sn** **14 24 06.0 -1.0**
FSSB AML AML
comp=N,8655µm,1.0s
FSSB AML AML
comp=N,8660µm,1.0s
FSSB AML AML
comp=E,2795µm,1.0s
T0110 Collepietro 0.86 147 ⇓P **Pg** **14 23 52.9 -1.0**
T0110 AML AML
comp=E,1875µm,0.5s
T0110 AML AML
comp=N,2095µm,0.5s
BADI Badiali 0.87 310 ⇑P **Pg** **14 23 53.6 -0.3**
PE3 Peglio 0.89 327 ⇓P **Pg** **14 23 54.3 0.0**
SACS San Casciano d 0.92 264 ⇓P **Pg** **14 23 55.3 +0.3**
SACS AML AML
comp=E,798µm,0.8s
SACS AML AML
comp=N,1042µm,0.6s
SACS AML AML
comp=N,988µm,0.6s
SACS AML AML
comp=E,804µm,0.8s
CAFI Castiglion Fio 0.95 294 ⇑P **Pg** **14 23 55.0 -0.5**
CAFI AML AML
comp=N,850µm,0.8s
CAFI AML AML
comp=E,1165µm,0.6s
MTCE Montecelio 0.98 198 ⇑P **Pn** **14 23 57.4 0.0**
MTCE AML AML
comp=E,682µm,1.1s
MTCE AML AML
comp=N,668µm,0.9s
CERT Cerreto 1.01 187 ⇓P **Pb** **14 23 57.3 +0.2**
CERT AML AML
comp=E,742µm,1.0s
CERT AML AML
comp=N,634µm,1.1s
PESA Pesaro 1.01 347 ⇑P **Pb** **14 23 57.5 +0.3**
PESA AML AML
comp=E,2660µm,0.4s
PESA AML AML
comp=N,1790µm,1.1s
INTR Introdacqua 1.09 149 P **Pg** **14 23 56.9 -1.4**
INTR AML AML
comp=E,969nm,0.9s
INTR AML AML
comp=N,1µm,0.9s
INTR AML AML
comp=E,948µm,0.9s
INTR AML AML
comp=N,1520µm,0.9s
GIUL Giuliano Di Ro 1.39 177 ⇑P **Pg** **14 24 04.6 +0.5**
GIUL AML AML
comp=E,356µm,1.0s
GIUL AML AML
comp=N,327µm,1.0s
RNI2 Rionero Sannit 1.45 149 ⇑P **Pg** **14 24 06.3 +1.1**
CERA Filignano 1.50 154 ⇑P **Pg** **14 24 06.6 +0.6**
MIDA Miranda 1.54 148 ⇓P **Pg** **14 24 06.8 -0.1**
MIDA AML AML
comp=E,340µm,0.7s
MIDA AML AML
comp=N,264µm,1.4s
TRIV Trivento 1.57 138 ⇓P **Pg** **14 24 07.5 0.0**
TRIV AML AML
comp=E,711µm,1.0s
TRIV AML AML
comp=N,693µm,1.0s
SEI Scarperia 1.71 311 ⇓P **Pn** **14 24 06.7 -0.9**
SEI AML AML
comp=E,472µm,0.5s
SEI AML AML
comp=N,626µm,0.6s
BSSO Busso 1.77 142 ⇑P **Pg** **14 24 11.0 -0.2**
APRC Apricena 2.14 123 ⇑P **Pn** **14 24 14.3 +0.9**
APRC AML AML
comp=E,193µm,0.7s
APRC AML AML
comp=N,310µm,0.5s
MAIM Mastiano 2.16 297 ⇓P **Pn** **14 24 12.7 -1.1**
MAIM AML AML
comp=E,115µm,0.9s
MAIM AML AML
comp=N,119µm,0.8s
SGRT San Giovanni R 2.26 121 ⇓P **Pn** **14 24 16.1 +0.9**
SGRT AML AML
comp=E,267µm,0.5s
SGRT AML AML
comp=N,192µm,0.8s
GSCL Gusciola 2.33 308 ⇓P **Pb** **14 24 18.4 -1.3**
MSAG Monte S. Angel 2.39 120 ⇑P **Pn** **14 24 17.8 +0.9**
MSAG AML AML
comp=E,246µm,0.8s
MSAG AML AML
comp=N,537µm,1.3s
MSAG AML AML
comp=N,556µm,1.3s
MSAG AML AML
comp=E,274µm,0.8s
SKDS Skadanscina 2.67 13 *e*Pn **Pn** **14 24 20.8 +0.1**
A050A Klekovaca 2.89 57 *e*Pn **Pn** **14 24 25.6 +1.8**
CEY Cerknica 2.93 18 *e*Pn **Pn** **14 24 23.6 -0.8**
BOJS Bojanci 2.96 30 *e*Pn **Pn** **14 24 24.8 0.0**
BOJS Bojanci 2.96 30 ⇑P **Pn** **14 24 23.7 -1.1**
BOJS AML AML
comp=E,268µm,0.8s
BOJS AML AML
comp=N,234µm,1.1s
PZUN Potenza 3.04 138 S **Sn** **14 24 60.0 -2.4**
SABO M.te Sabotino 3.04 6 ⇓P **Pn** **14 24 26.3 +0.3**
SABO AML AML
comp=N,810µm,0.6s
SABO AML AML
comp=E,188µm,0.7s
SABO AML AML
comp=E,798µm,0.7s
SABO AML AML
comp=N,208µm,0.6s
PGF Pioggiola 3.08 264 *e*Pn **Pn** **14 24 27.7 +1.2**
PGF *e*Sn **Sn** **14 25 01.1 -2.6**
comp=N,2.3nm,0.4s
SRKY Kupres RS 3.12 68 *e*Pn Pn 14 24 17.6 -9.5
MGRS Mrkonjic Grad 3.21 61 *e*Pn **Pb** **14 24 31.7 -2.9**
MPRI Monte Prat 3.29 358 ⇑P **Pn** **14 24 26.8 -2.5**
MPRI AML AML
comp=E,137µm,0.8s
MPRI AML AML
comp=N,182µm,0.4s
CADS Cadrg 3.30 7 *i* Pn **Pn** **14 24 29.4 -0.1**
ROBS Robic 3.30 4 *i* Pn **Pn** **14 24 29.4 0.0**
CRES Cresnjev 3.31 29 *e*Pn **Pn** **14 24 30.9 +1.3**
STAL STALIGIAL 3.32 355 P **Pn** **14 24 30.3 +0.6**
STAL AML AML
comp=N,102µm,0.9s
STAL AML AML
comp=E,173µm,0.8s
STON Ston 3.34 90 *e*Pn **Pn** **14 24 28.5 -1.4**
MAGA Magasa 3.35 328 ⇓P **Pn** **14 24 31.3 +1.1**
MAGA AML AML
comp=N,160µm,1.2s
MAGA AML AML
comp=E,232µm,1.1s
A051A Mrakovica 3.40 51 *e*Pn **Pn** **14 24 31.9 +1.0**
BLY Banja Luka 3.42 57 *e*Pn **Pg** **14 24 40.9 -2.0**
CAPR Capriolo 3.54 320 S **Sn** **14 25 14.0 -0.8**
LTRZ Laterza 3.61 129 ⇑P **Pn** **14 24 35.1 +1.5**
ZOU Zoufplan 3.61 358 ⇓P **Pn** **14 24 34.3 +0.5**
ZOU AML AML
comp=E,125µm,0.8s
ZOU AML AML
comp=N,80µm,0.9s
ZOU AML AML
comp=N,90µm,1.1s
ZOU AML AML
comp=E,94µm,1.0s
MABI Malga Bissina 3.63 330 ⇓P **Pn** **14 24 33.2 -0.9**
MABI AML AML
comp=E,26µm,0.7s
MABI AML AML
comp=N,26µm,0.8s
OBKA Obir 3.69 15 *e*Pn **Pn** **14 24 35.6 +0.7**
MYKA Terra Mystica 3.69 5 *i* Pn **Pn** **14 24 36.0 +1.1**
comp=N,3.7nm,0.3s
MYKA *i* Sn **Sn** **14 25 19.2 +0.5**
comp=N,3.4nm,0.2s

KOSI Kohlern 3.73 341 ⇑P Pn 14 24 36.7 +1.2
QLNO Quiliano 3.75 293 ⇓P Pn 14 24 36.5 +0.9
BOSI Bolzano 3.78 340 S Sb 14 25 31.0 +0.8
ABTA Abfaltersbach 3.82 353 *i* Pn Pn 14 24 37.8 +1.1
comp=N,16nm,0.4s,SNR=23
ABTA *e*Sn **Sn** 14 25 23.2 +1.3
comp=N,48nm,0.9s
TREB Trebinje 3.83 92 *e*Pn Pn 14 24 37.0 +0.3
RISI Rein 4.07 350 ⇑P Pn 14 24 41.7 +1.6
KBA Koelnbreinsper 4.13 2 *i* Pn Pn 14 24 41.9 +0.9
comp=N,3.5nm,0.3s,SNR=17
KBA *i* Sn **Sn** 14 25 29.2 -0.4
comp=N,11nm,0.6s
SBF Sospel 4.26 284 *e*Pn Pn 14 24 43.0 +0.3
SBF *e*Sn **Sn** 14 25 32.6 -0.1
comp=N,15nm,0.6s
FETA Feichten 4.42 338 *e*Pn Pn 14 24 47.1 +2.2
comp=N,1.7nm,0.3s
FETA *e*Sn **Sn** 14 25 39.6 +3.0
comp=N,4.0nm,0.4s
WTTA Wattenberg 4.44 347 *i* Pn Pn 14 24 46.9 +1.6
comp=N,3.3nm,0.3s,SNR=11
WTTA *e*Sn **Sn** 14 25 41.6 +4.3
comp=N,20nm,0.7s
DAVOX Davos/Dischmat 4.48 330 Pn Pn 14 24 45.2 -0.5
comp=N,1.3nm,0.3s,baz=151,slow=19,SNR=6.8
DAVOX Sn **Sn** 14 25 36.8 -1.5
comp=N,0.6nm,0.3s,baz=142,slow=19,SNR=1.5
comp=N,4.8nm,0.5s
SQTA Sankt Quirin 4.49 343 *i* Pn Pn 14 24 48.4 +2.6
comp=N,2.7nm,0.2s,SNR=8.3
SQTA *e*Sn **Sn** 14 25 41.0 +2.7
comp=N,6.5nm,0.3s
DRME Dracevica, Mon 4.52 98 *e*Pn Pn 14 24 47.1 +0.9
WATA Walderalm 4.52 346 *i* Pn Pn 14 24 48.7 +2.3
comp=N,3.6nm,0.3s,SNR=7.4
WATA *i* Sn **Sn** 14 25 42.3 +3.1
comp=N,9.1nm,0.5s
RUDO Rudo 4.59 80 *e*Pn Pn 14 24 47.8 +0.7
ARSA Arzberg 4.62 20 *i* Pn Pn 14 24 48.2 +0.7
comp=N,2.1nm,0.5s
ARSA *e*Sn **Sn** 14 25 40.2 -1.1
comp=N,1.9nm,0.4s
MOTA Moosalm 4.63 342 *i* Pn Pn 14 24 50.2 +2.4
comp=N,2.5nm,0.3s,SNR=7.8
MOTA *i* Sn **Sn** 14 25 45.8 +4.0
comp=N,6.2nm,0.4s
BIOA Bad Ischl, Aus 4.75 4 *i* Pn Pn 14 24 50.8 +1.4
comp=N,7.1nm,0.3s
BIOA *i* Sn **Sn** 14 25 46.7 +2.0
comp=N,23nm,0.8s
RETA Reutte 4.84 340 *i* Pn Pn 14 24 52.9 +2.3
comp=N,2.0nm,0.2s,SNR=7.6
RETA *i* Sn **Sn** 14 25 50.6 +3.6
comp=N,3.2nm,0.3s
LMR La Mourre 4.88 277 *e*Pn Pn 14 24 51.2 +0.2
LMR *e*Sn **Sn** 14 25 44.5 -3.2
comp=N,1.6nm,0.3s
DAVA Damuels 4.92 333 *e*Pn Pn 14 24 54.6 +2.9
comp=N,1.3nm,0.2s
MBDF Montbardon 4.95 293 *e*Pn Pn 14 24 52.6 +0.5
MBDF Montbardon 4.95 293 *e*P Pn 14 24 56.6 +4.5
MBDF *e*Sn **Sn** 14 25 48.5 -1.2
comp=N,2.8nm,0.5s
MOA Molln 4.96 9 *e*Pn Pn 14 24 53.5 +1.2
comp=N,2.5nm,0.3s,SNR=7.5
MOA *i* Sn **Sn** 14 25 51.6 +1.8
comp=N,3.9nm,0.4s
DIVS Divibare 5.10 75 *e*Pn Pn 14 24 55.1 +0.8
RONA Rosalia, Austr 5.24 24 *i* Pn Pn 14 24 56.9 +0.8
comp=N,0.5nm,0.2s
LPG La Plagne 5.26 301 *e*Pn Pn 14 24 56.3 -0.3
LPG La Plagne 5.26 301 *e*P Pn 14 25 00.9 +4.3
LPG *e*Sn **Sn** 14 25 54.6 -2.9
comp=N,3.9nm,0.5s
LPL La Plagne 5.28 301 *e*Pn Pn 14 24 57.9 +1.1
LPL *e*Sn **Sn** 14 25 54.7 -3.2
comp=N,5.5nm,0.6s
FRGS Fruska Gora 5.28 63 *e*Pn Pb 14 25 04.4 -5.5
CONA Conrad Observa 5.33 20 *i* Pn Pn 14 24 57.8 +0.5
comp=N,0.9nm,0.2s
CONA *e*Sn **Sn** 14 25 58.9 -0.1
comp=N,3.1nm,0.3s
ORIF Oris-en-Rattie 5.61 293 *e*Pn Pn 14 25 01.9 +0.7
ORIF Oris-en-Rattie 5.61 293 *e*P Pn 14 25 05.7 +4.5
ORIF *e*Sn **Sn** 14 26 04.5 -1.4
comp=N,1.7nm,0.4s
SMRF Simiane la Rot 5.61 283 *e*Pn Pn 14 25 02.0 +0.8
SMRF *e*Sn **Sn** 14 26 01.2 -4.7
comp=N,5.3nm,0.8s
GERES GERESS Array B 5.91 4 Pn Pn 14 25 04.5 -0.7
comp=N,0.4nm,0.3s,baz=174,slow=13,SNR=12
GERES Sn **Sn** 14 26 09.6 -3.7
comp=N,1.1nm,0.3s,baz=180,slow=25,SNR=8.0
comp=N,0.6nm,0.4s
CKRC Cesky Krumlov 5.92 7 *e*SN Sn 14 26 11.5 -2.1
KHC Kasperske Hory 6.19 3 *e*PN Pn 14 25 08.6 -0.5
KHC *e*SN **Sn** 14 26 17.4 -2.7
CABF La Chapelle 6.22 308 *e*Pn Pn 14 25 10.1 +0.5
CABF *e*Sn **Sn** 14 26 16.9 -4.0
comp=N,0.5nm,0.3s
VIVF Saint-Julien-l 6.42 290 *e*Pn Pn 14 25 13.4 +1.2
VIVF *e*Sn **Sn** 14 26 19.6 -6.1
HINF Hinteralfeld 6.58 320 *e*Pn Pn 14 25 14.1 -0.4
HINF Hinteralfeld 6.58 320 *e*P Pn 14 25 19.4 +4.9
HINF *e*Sn **Sn** 14 26 25.8 -4.0
comp=N,5.8nm,0.5s
CDF Champ du Feu 6.84 325 *e*Pn Pn 14 25 17.6 -0.4
CDF *e*Sn **Sn** 14 26 31.6 -4.5
comp=N,2.0nm,0.4s
HAU Haudompre 6.96 319 *e*Pn Pn 14 25 19.0 -0.6
HAU *e*Sn **Sn** 14 26 34.8 -4.2
comp=N,12nm,0.4s
SMF Signal de Mont 7.58 302 *e*Pn Pn 14 25 28.1 -0.1
SFTF Sexfontaines 7.74 316 *e*Pn Pn 14 25 30.1 -0.3
baz=133
LOR Lormes 7.86 306 *e*Pn Pn 14 25 32.0 -0.1
baz=123
LOR *e*Sn **Sn** 14 26 56.1 -5.2
comp=N,0.5nm,0.1s
MEZF Maizieres J'vi 7.93 317 *e*Pn Pn 14 25 32.3 -0.6
AVF Avril sur Loir 7.95 302 *e*Pn Pn 14 25 34.8 +1.6
SSF Saint Saulge 7.97 304 *e*Pn Pn 14 25 34.7 +1.1
SSF Saint Saulge 7.97 304 *e*P Pn 14 25 40.8 +7.2
SSF *e*Sn **Sn** 14 27 00.7 -3.3
comp=N,1.2nm,0.4s
BGF Bois d'Agland 8.17 300 *e*Pn Pn 14 25 33.9 -2.4
BGF Bois d'Agland 8.17 300 *e*P Pn 14 25 40.4 +4.1
BGF *e*Sn **Sn** 14 27 03.7 -5.2
comp=N,2.7nm,0.4s
CLL Collm 8.36 359 *e*Pn Pn 14 25 35.0 -3.8
CLL *e*(Sn) Sn 14 27 00.0 -13
CLL *ex* x 14 27 07.0
CLL *ex* x 14 27 27.0
CLL *ex* x 14 27 44.0
CLL *ex* x 14 27 55.0
CLL *e*Sg **Sg** **14 28 04.0 -1.5**
BAIF Baives 9.41 322 *e*Pn Pn 14 25 52.8 -0.4
FINES FINESS Array B 20.07 18 P P 14 28 11.4 +0.4
baz=204,slow=12,SNR=1.7
comp=N,1.3nm,0.9s
TORD Torodi Ar. Bea 31.31 202 P P 14 30 00.4 +2.2
comp=N,0.5nm,0.9s,baz=8.9,slow=10,SNR=2.3
comp=N,0.5nm,0.9s
MKAR Makanchi Array 47.70 60 P P 14 32 15.2 +0.8
comp=N,0.2nm,0.4s,baz=297,slow=6.3,SNR=2.8
comp=N,0.2nm,0.4s

NEIC ***10*** *15:06:58.6±1.9,5.°19S±0.°07×150.°84E±0.°08,h178km±7km, mb4.7/60, Error ellipse: s-maj=12.0km s-min=10.9km az=94.0*
DJA ***10*** *15:06:58.5±0.3,5.°S±4.°×15.°1E±.°, h189km±5km, M4.8/19, mB5.4/4, mb4.7/19, MLv4.8/3, Mw(mB)4.9/4*
IDC ***10*** *15:06:59.2±0.6,5.°17S×150.°79E, h183km±5km, mb4.2/24, mbtmp4.7/29, MS3.1/3, Error ellipse: s-maj=10.9km s-min=7.6km az=85.0*
ISC 10 15:06:58.6±0.3,5.°21S±0.°04×150.°81E±0.°05, h178km, n340, σ0s86/356, mb4.7/63, 5C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.50**	**54**	P	**Pn**	**15 07 30.6**	**+0.1**
	3μm,0.7s,baz=222,slow=4.2,SNR=823						
KRVT				S	**Sn**	**15 07 55.8**	**+0.7**
	4μm,0.8s,baz=156,slow=20,SNR=20						
RABL	**Rabaul**	**1.68**	**53**		**Pn**	**15 07 31.3**	**-0.9**
RABL	**Rabaul**	**1.68**	**53**	P	**Pn**	**15 07 31.5**	**-0.7**
MANU	**Manus Island**	**4.66**	**312**		**Pn**	**15 08 08.1**	**0.0**
PMG	**Port Moresby**	**5.53**	**221**	P	**Pn**	**15 08 19.8**	**+0.5**
	218nm,0.6s,baz=35,slow=11,SNR=33						
PMG				S	**Sn**	**15 09 23.5**	**+0.6**
	405nm,0.4s,baz=60,slow=21,SNR=3.7						
PMG				LR	LR	15 10 37.8	
	comp=Z,160nm,19.2s,baz=78,slow=40						
PMG	**Port Moresby**	**5.53**	**221**		**Pn**	**15 08 19.7**	**+0.3**
PMG	**Port Moresby**	**5.53**	**221**	P	**Pn**	**15 08 19.9**	**+0.5**
	343nm,0.8s						
HNR	**Honiara**	**9.98**	**115**	P	**Pn**	**15 09 18.9**	**+0.9**
	996nm,0.7s,baz=23,slow=13,SNR=1.7						
GENI	**Genyem**	**10.93**	**283**	P	**Pn**	**15 09 30.5**	**+0.1**
	77nm,1.2s						
GENI	**Genyem**	**10.93**	**283**	P	**Pn**	**15 09 30.7**	**+0.3**
	77nm,1.2s						
SMPI	**Sarmi**	**12.49**	**284**	P	**Pn**	**15 09 52.0**	**+1.6**
	36nm,1.1s						
MTSU	**Mount Surprise**	**14.33**	**206**	P	**Pn**	**15 10 14.2**	**+0.7**
	baz=14,SNR=10.0						
MTSU	**Mount Surprise**	**14.33**	**206**	P	**P**	**15 10 15.2**	**-0.4**
CTA	**Charters Tower**	**15.44**	**196**	P	**P**	**15 10 28.7**	**+0.8**
	12nm,0.8s,baz=13,slow=12,SNR=12						
CTA	**Charters Tower**	**15.44**	**196**	P	**P**	**15 10 29.3**	**+1.4**
CTAO	**Charters Tower**	**15.44**	**196**	P	**P**	**15 10 28.4**	**+0.5**
CTAO	**Charters Tower**	**15.44**	**196**	P	**P**	**15 10 29.3**	**+1.4**
RK1H	**Rockhampton Ha**	**18.08**	**181**	P	**Pn**	**15 10 58.8**	**+0.1**
FAKI	**Fak Fak**	**18.65**	**276**	P	**P**	**15 11 01.9**	**-1.3**
FAKI				IAmb	IAmb	15 11 08.0	
	comp=Z,30nm,1.1s						
QIS	**Mount Isa**	**18.75**	**215**	P	**P**	**15 11 05.0**	**+0.9**
	baz=19,SNR=26						
QIS	**Mount Isa**	**18.75**	**215**	P	**P**	**15 11 05.5**	**+1.4**
KDU	**Kakadu**	**19.57**	**246**	P	**P**	**15 11 12.2**	**-0.8**
	baz=20,SNR=46						
KDU	**Kakadu**	**19.57**	**246**	P	**P**	**15 11 12.4**	**-0.6**
GUMO	**Guam**	**19.58**	**343**	P	**P**	**15 11 13.5**	**+0.3**
	comp=Z,62nm,0.7s,baz=153,slow=14,SNR=7.6						
GUMO	**Guam**	**19.58**	**343**		**P**	**15 11 12.6**	**-0.6**
GUMO	**Guam**	**19.58**	**343**	P	**P**	**15 11 14.4**	**+1.3**
SIJI	**Sorong**	**19.98**	**282**	P	**P**	**15 11 17.6**	**+0.1**
	comp=Z,19nm,0.7s,baz=115,slow=7.9,SNR=8.7						
SWI	**Sorong**	**19.99**	**282**	P	**P**	**15 11 19.6**	**+2.0**
	comp=Z,38nm,0.8s						
EIDS	**Eidsvold**	**20.05**	**179**	P	**P**	**15 11 19.0**	**+1.0**
	baz=20,SNR=7.5						
EIDS	**Eidsvold**	**20.05**	**179**	P	**P**	**15 11 19.1**	**+1.0**
EIDS				IAmb	IAmb	15 11 25.0	
	comp=Z,16nm,0.8s						
EIDS	**Eidsvold**	**20.05**	**179**	P	**P**	**15 11 19.6**	**+1.5**
KOUNC	**Koumac, New Ca**	**20.10**	**141**	P	**P**	**15 11 17.9**	**-0.8**
KOUNC				IAmb	IAmb	15 11 36.2	
	comp=Z,26nm,0.9s						
MTN	**Manton Dam**	**20.85**	**247**	P	**P**	**15 11 25.8**	**-0.9**
	baz=21,SNR=12						
MTN	**Manton Dam**	**20.85**	**247**		**P**	**15 11 25.8**	**-0.9**
MTN				IAmb	IAmb	15 11 28.0	
	comp=Z,21nm,0.6s						
MTN	**Manton Dam**	**20.85**	**247**	P	**P**	**15 11 27.5**	**+0.8**
RMQ	**Roma**	**21.25**	**185**	P	**P**	**15 11 31.8**	**+1.0**
	baz=21,SNR=18						
RMQ	**Roma**	**21.25**	**185**	P	**P**	**15 11 31.9**	**+1.0**
WB0	**Warramunga Arr**	**21.56**	**226**	P	**P**	**15 11 33.7**	**-0.6**
WB0				IAmb	IAmb	15 11 35.7	
	comp=Z,44nm,0.8s						
WR0	**Warramunga Arr**	**21.58**	**226**	P	**P**	**15 11 33.7**	**-0.7**
WB2	**Warramunga Arr**	**21.70**	**226**	P	**P**	**15 11 34.9**	**-0.9**
WRA	**Warramunga Arr**	**21.71**	**226**	P	**P**	**15 11 35.0**	**-0.9**
	comp=Z,46nm,0.8s,baz=50,slow=9.8,SNR=245						
WRA				S	**S**	**15 15 23.4**	**-0.9**
	comp=Z,5.7nm,0.8s,baz=54,slow=20,SNR=8.5						
WRA				PcP	**PcP**	**15 15 29.8**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=46,slow=1.9,SNR=7.0						
WRA				ScP	**ScP**	**15 18 48.8**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=50,slow=2.7,SNR=12						
	comp=Z,46nm,0.8s						
WRA	**Warramunga Arr**	**21.71**	**226**	P	**P**	**15 11 34.0**	**-1.8**
QLP	**Quilpie**	**22.16**	**196**	P	**P**	**15 11 41.0**	**+0.8**
	baz=22,SNR=14						
QLP	**Quilpie**	**22.16**	**196**	P	**P**	**15 11 41.4**	**+1.2**
DZM	**Mont Dzumac**	**22.58**	**139**	P	**P**	**15 11 45.0**	**+0.8**
	comp=Z,26nm,0.6s,baz=281,slow=9.1,SNR=24						
	comp=Z,26nm,0.6s						
DZM	**Mont Dzumac**	**22.58**	**139**	P	**P**	**15 11 43.8**	**-0.4**
DZM	**Mont Dzumac**	**22.58**	**139**	P	**P**	**15 11 45.3**	**+1.0**
YATNC	**Mamie plateau,**	**22.87**	**139**	P	**P**	**15 11 48.5**	**+1.8**
KNRA	**Kununurra**	**24.02**	**243**	P	**P**	**15 11 57.2**	**0.0**
	baz=24,SNR=132						
KNRA	**Kununurra**	**24.02**	**243**	P	**P**	**15 11 57.3**	**0.0**
KNRA	**Kununurra**	**24.02**	**243**	P	**P**	**15 11 57.4**	**+0.1**
INKA	**Innaminka**	**24.37**	**202**	P	**P**	**15 12 00.9**	**+0.6**
AS31	**Alice Springs**	**24.54**	**220**	P	**P**	**15 12 02.2**	**+0.2**
ASAR	**Alice Springs**	**24.54**	**220**	P	**P**	**15 12 02.1**	**+0.1**
	comp=Z,20nm,0.6s,baz=59,slow=8.9,SNR=232						
ASAR				PcP	**PcP**	**15 15 35.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=46,slow=2.7,SNR=2.4						
ASAR				S	**S**	**15 16 06.1**	**-3.6**
	comp=Z,2.0nm,0.8s,baz=27,slow=22,SNR=4.7						
ASAR				ScP	**ScP**	**15 18 57.2**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=37,slow=3.3,SNR=7.3						
	comp=Z,20nm,0.6s						
ASAR	**Alice Springs**	**24.54**	**220**	P	**P**	**15 12 01.8**	**-0.2**
ARMA	**Armidale**	**25.09**	**178**	P	**P**	**15 12 07.3**	**+0.3**
ARMA				IAmb	IAmb	15 12 10.8	
	comp=Z,36nm,1.2s						
OOD	**Oodnadatta**	**26.68**	**211**	P	**P**	**15 12 21.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.73**	**240**	P	**P**	**15 12 29.8**	**-0.8**
	comp=Z,24nm,0.5s,baz=60,slow=7.4,SNR=206						
FITZ				pP	**pP**	**15 13 07.5**	**+0.1**
	comp=Z,7.1nm,0.5s,baz=66,slow=11,SNR=2.4						
	comp=Z,24nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.73**	**240**	P	**P**	**15 12 30.0**	**-0.6**
	baz=28,SNR=50						
FITZ	**Fitzroy Crossi**	**27.73**	**240**	P	**P**	**15 12 29.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**27.73**	**240**	P	**P**	**15 12 29.9**	**-0.8**
STKA	**Stephens Creek**	**27.90**	**197**	P	**P**	**15 12 31.8**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=35,slow=11,SNR=5.4						
	comp=Z,1.2nm,0.5s						
WRKA	**Warakurna**	**29.25**	**225**	P	**P**	**15 12 43.4**	**-0.6**
	baz=29,SNR=49						
WRKA	**Warakurna**	**29.25**	**225**	P	**P**	**15 12 43.5**	**-0.6**
	comp=Z,35nm,0.9s						
HTT	**Hallett**	**30.18**	**200**	P	**P**	**15 12 53.1**	**+0.8**
	baz=30,SNR=3.4						
BBOO	**Buckleboo**	**30.72**	**205**	P	**P**	**15 12 55.4**	**-1.6**
MPSI	**Mapaga**	**31.36**	**279**	P	**P**	15 13 10.4	+7.6
ARPS	**Mount Arapiles**	**32.47**	**193**	P	**P**	**15 13 13.2**	**+1.0**
	baz=33,SNR=7.4						
JCJ	**Chichijima**	**33.18**	**346**	LR	LR	15 26 24.7	
	comp=Z,22nm,19.4s,baz=90,slow=35						
FORT	**Forrest**	**33.24**	**217**	P	**P**	**15 13 18.5**	**-0.5**
	baz=33,SNR=12						
FORT	**Forrest**	**33.24**	**217**	P	**P**	**15 13 18.5**	**-0.5**
FORT	**Forrest**	**33.24**	**217**	P	**P**	**15 13 18.4**	**-0.5**
MBWA	**Marble Bar**	**34.05**	**239**	P	**P**	**15 13 25.2**	**-1.0**
MBWA				IAmb	IAmb	15 13 26.0	
	comp=Z,23nm,0.8s						
MBWA	**Marble Bar**	**34.05**	**239**	P	**P**	**15 13 25.1**	**-1.0**
PSA00	**Pilbara Seismi**	**34.12**	**239**	P	**P**	**15 13 25.3**	**-1.4**
PSA00				IAmb	IAmb	15 13 26.6	
	comp=Z,25nm,0.9s						
PSA00	**Pilbara Seismi**	**34.12**	**239**	P	**P**	**15 13 25.7**	**-1.0**
OUZ	**Omahuta**	**36.53**	**148**	P	**P**	**15 13 46.9**	**-0.2**
OUZ				IAmb	IAmb	15 14 15.6	
	comp=Z,35nm,1.2s						
MEEK	**Meekatharra**	**37.39**	**232**	P	**P**	**15 13 53.9**	**-0.5**
	baz=38,SNR=107						
MEEK	**Meekatharra**	**37.39**	**232**	P	**P**	**15 13 54.0**	**-0.5**
JOW	**Kunigami**	**38.60**	**327**	P	**P**	**15 14 06.0**	**+1.5**
	comp=Z,33nm,0.8s,baz=174,slow=7.6,SNR=12						
	comp=Z,33nm,0.8s						
JOW	**Kunigami**	**38.60**	**327**	P	**P**	**15 14 05.8**	**+1.2**
JOW	**Kunigami**	**38.60**	**327**	P	**P**	**15 14 06.1**	**+1.5**
GIRL	**Giralia**	**39.34**	**240**	P	**P**	**15 14 10.9**	**+0.2**
YOJ	**Yonaguni jima**	**40.03**	**319**	P	**P**	**15 14 15.6**	**-0.8**
YULB	**Yu-li**	**40.47**	**316**	P	**P**	**15 14 20.8**	**+0.7**
YULB				IAmb	IAmb	15 14 22.3	
	comp=Z,17nm,0.7s						
MORW	**Morawa**	**40.56**	**230**	P	**P**	**15 14 19.9**	**-0.9**
	baz=41,SNR=16						
MORW	**Morawa**	**40.56**	**230**	P	**P**	**15 14 19.8**	**-0.9**
MORW	**Morawa**	**40.56**	**230**	P	**P**	**15 14 19.9**	**-0.9**
KLBR	**Kellerberrin**	**40.59**	**226**	P	**P**	**15 14 19.8**	**-1.2**
	baz=41,SNR=6.1						
KLBR	**Kellerberrin**	**40.59**	**226**	P	**P**	**15 14 19.9**	**-1.1**
URZ	**Urewera**	**40.67**	**148**	P	**P**	**15 14 22.7**	**+1.2**
	comp=Z,4.8nm,0.6s,baz=219,slow=2.8,SNR=9.0						
	comp=Z,4.8nm,0.6s						
URZ	**Urewera**	**40.67**	**148**	P	**P**	**15 14 21.5**	**0.0**
URZ				IAmb	IAmb	15 14 37.5	
	comp=Z,45nm,1.4s						
URZ	**Urewera**	**40.67**	**148**	P	**P**	**15 14 22.8**	**+1.3**
BLDU	**Ballidu**	**40.83**	**228**	P	**P**	**15 14 22.0**	**-1.0**
	baz=41,SNR=13						
TPUB	**Ta-pu**	**40.88**	**315**	P	**P**	**15 14 22.4**	**-1.1**
TPUB				IAmb	IAmb	15 14 24.0	
	comp=Z,28nm,0.7s						
TPUB	**Ta-pu**	**40.88**	**315**	P	**P**	**15 14 23.8**	**+0.4**
SSLB	**Suanglung**	**40.97**	**316**	P	**P**	**15 14 24.3**	**+0.1**
SSLB				IAmb	IAmb	15 14 34.4	
	comp=Z,14nm,0.6s						
SSLB	**Suanglung**	**40.97**	**316**	P	**P**	**15 14 25.1**	**+0.9**
YHNB	**Yeheng**	**41.26**	**317**	P	**P**	**15 14 26.5**	**-0.1**
YHNB				IAmb	IAmb	15 14 28.7	
	comp=Z,24nm,0.8s						
YHNB	**Yeheng**	**41.26**	**317**	P	**P**	**15 14 28.6**	**+2.0**
JSU	**Suzuyama**	**41.35**	**333**	P	**P**	**15 14 27.0**	**-0.1**
JSU				IAmb	IAmb	15 14 29.0	
	comp=Z,39nm,0.8s						
NWAO	**Narrogin (SRO)**	**41.70**	**224**	P	**P**	**15 14 29.0**	**-1.0**
	baz=42,SNR=5.4						
NWAO				P	**P**	**15 14 29.0**	**-1.0**
	baz=42,SNR=5.4						
JMN	**Monobe**	**41.91**	**339**	P	**P**	**15 14 32.9**	**+1.2**
MUN	**Mundaring**	**41.91**	**226**	P	**P**	**15 14 31.6**	**-0.1**
	baz=42,SNR=4.6						
RPZ	**Rata Peaks**	**42.30**	**158**	P	**P**	**15 14 35.5**	**+0.8**
	comp=Z,11nm,0.8s,baz=251,slow=3.2,SNR=5.3						
	comp=Z,11nm,0.8s						
RKGY	**Rocky Gully**	**42.83**	**222**	P	**P**	**15 14 39.1**	**-0.1**
	baz=43,SNR=5.0						
MJAR	**Matsushiro Arr**	**43.17**	**345**	P	**P**	**15 14 39.8**	**-2.0**
	comp=Z,2.9nm,0.9s,baz=167,slow=9.2,SNR=11						
	comp=Z,2.9nm,0.9s						
JHS	**Saijyo**	**43.33**	**339**	P	**P**	**15 14 44.1**	**+1.0**
JHS				IAmb	IAmb	15 14 44.7	
	comp=Z,21nm,0.8s						
TNG	**Tangerang**	**43.95**	**267**	P	**P**	**15 14 46.2**	**-2.1**
TNG				P	P	15 14 41.9	-6.4
KSBUS	**Busan**	**45.12**	**335**	P	**P**	**15 14 57.1**	**-0.1**
KSBUS				IAmb	IAmb	15 14 59.8	
	comp=Z,140nm,1.5s						
NAWB	**Namwon**	**46.02**	**333**	P	**P**	**15 15 04.7**	**+0.4**
NAWB				IAmb	IAmb	15 15 06.0	
	comp=Z,44nm,1.2s						
KSRS	**Korea Array**	**47.50**	**335**	P	**P**	**15 15 16.9**	**+1.2**
	comp=Z,13nm,0.8s,baz=154,slow=8.5,SNR=60						
	comp=Z,13nm,0.8s						
KSAR	**Wonju Array Be**	**47.51**	**335**	P	**P**	**15 15 16.1**	**+0.3**
KS19	**Wonju Array Si**	**47.56**	**335**	P	**P**	**15 15 17.2**	**+0.9**
KS19				IAmb	IAmb	15 15 17.4	
	comp=Z,22nm,1.1s						
NJ2	**Nanjing**	**47.94**	**323**	*e*P	**P**	**15 15 19.6**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WHN	**Wuhan**	**49.80**	**318**	⇑P	**P**	**15 15 35.4**	**+2.0**
WHN				pmax	pmax		
	comp=Z,32nm,0.6s						
USRK	**Ussuriysk Ar.**	**52.02**	**343**	P	**P**	**15 15 50.2**	**+0.4**
	comp=Z,5.2nm,0.9s,baz=119,slow=12,SNR=7.6						
	comp=Z,5.2nm,0.9s						
LYN	**LuoYang**	**53.57**	**320**	⇑P	**P**	**15 16 01.3**	**0.0**
LYN				pmax	pmax		
	comp=Z,20nm,0.5s						
CN2	**Changchun**	**53.88**	**337**	*e*P	**P**	**15 16 07.0**	**+3.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	**HongShan**	**54.10**	**325**	⇓P	**P**	**15 16 05.7**	**+0.6**
HNS				pmax	pmax		
	comp=Z,19nm,1.0s						
BNX	**BinXian**	**54.85**	**340**	⇑P	**P**	**15 16 10.7**	**+0.4**
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
BNX				pmax	pmax		
	comp=Z,66nm,3.8s						
XAN	**Xi'an**	**55.57**	**318**	P	**P**	**15 16 15.7**	**-0.1**
XAN				pmax	pmax		
	comp=Z,16nm,1.0s						
KMI	**Kunming**	**55.59**	**305**	⇑P	**P**	**15 16 18.3**	**+2.0**
KMI				pmax	pmax		
	comp=Z,19nm,1.2s						
CMAR	**Chiang Mai Arr**	**56.27**	**296**	P	**P**	**15 16 21.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=122,slow=5.1,SNR=10						
CMAR				pP	**pwP**	**15 17 02.5**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=111,slow=5.3,SNR=3.4						
CMAR				PcP	**PcP**	**15 17 16.4**	**0.0**
	comp=Z,1.1nm,0.8s,baz=99,slow=2.7,SNR=4.5						
	comp=Z,1.0nm,0.7s						
PZH	**PanZhiHua**	**57.00**	**306**	P	**P**	**15 16 28.3**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
XLT	**XiLinHaoTe**	**58.04**	**331**	⇑*i*P	**P**	**15 16 33.9**	**+0.9**
XLT				pP	pwP	15 17 19.2	+3.1
XLT				pmax	pmax		
	comp=Z,15nm,0.7s						
XLT				pmax	pmax		
	comp=Z,87nm,5.1s						
HHC	**Hu-ho-hao-te**	**58.24**	**326**	*e*P	**P**	**15 16 36.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,47nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,5.4s						
PEA0B	**Petropavlovsk-**	**58.39**	**5**	P	**P**	**15 16 35.6**	**+0.5**
PEA0B				IAmb	IAmb	15 16 36.1	
	comp=Z,18nm,0.7s						
PETK	**Petropavlovsk-**	**58.39**	**5**	P	**P**	**15 16 34.9**	**-0.3**
	comp=Z,15nm,0.6s,baz=176,slow=7.2,SNR=60						
PETK				LR	LR	15 36 43.8	
	comp=Z,28nm,21.6s,baz=173,slow=31						
	comp=Z,15nm,0.6s						
PETK	**Petropavlovsk-**	**58.39**	**5**	P	**P**	**15 16 34.6**	**-0.5**
LZH	**Lanzhou**	**60.16**	**317**	*e*P	**P**	**15 16 47.8**	**0.0**
LZH	

R17K	Ugashik Creek	75.65	26	P	P	15 18 23.4	-0.4	
	baz=235							
SII	Sitkinak Islan	76.05	28	P	P	15 18 26.0	-0.2	
	baz=237							
O16K	Kokwok River B	76.08	24	P	P	15 18 25.8	-0.5	
	baz=233							
N16K	Nishlik Lake	76.35	23	P	P	15 18 27.7	-0.1	
	baz=232							
P17K	Kvichak River	76.53	25	P	P	15 18 28.6	-0.2	
	baz=234							
O17K	Koliganek Bris	76.60	24	P	P	15 18 29.4	+0.3	
	baz=234							
TNA	Tin City	76.73	16	P	P	15 18 29.7	-0.1	
	baz=222							
ANM	Nome	76.76	18	P	P	15 18 29.8	-0.1	
	baz=225							
OHAK	Old Harbor	76.82	28	P	P	15 18 30.5	+0.1	
	baz=238							
P18K	Big Mountain,	77.15	25	P	P	15 18 31.5	-0.8	
	baz=236							
O18K	Koktuh Hills	77.42	25	P	P	15 18 33.1	-0.7	
	baz=236							
Q19K	Cape Douglas,	77.58	26	P	P	15 18 34.4	-0.3	
	baz=237							
N18K	Kilae Creek	77.61	24	P	P	15 18 34.5	-0.3	
	baz=235							
SVW2	Sparrevohn	77.98	24	P	P	15 18 37.5	+0.6	
SVW2				IAmb	IAmb	15 18 39.1		
	comp=Z,9.3nm,0.8s							
O19K	Port Alsworth	77.98	25	P	P	15 18 36.4	-0.4	
	baz=236							
P19K	Oil Pt	78.14	25	P	P	15 18 37.5	-0.3	
	baz=237							
N19K	Bonanza Creek	78.26	24	P	P	15 18 38.4	-0.1	
	baz=236							
HOM	Homer	78.83	26	P	P	15 18 40.9	-0.6	
	baz=239							
TTA	Tatalina	78.88	22	P	P	15 18 41.4	-0.4	
	baz=234							
L19K	White Mountain	78.88	23	P	P	15 18 41.6	-0.2	
L19K				IAmb	IAmb	15 18 44.9		
	comp=Z,15nm,1.2s							
L19K	White Mountain	78.88	23	P	P	15 18 41.9	+0.1	
	baz=236							
M19K	Big River Lodg	78.91	23	P	P	15 18 42.4	+0.4	
M19K	Big River Lodg	78.91	23	P	P	15 18 41.8	-0.1	
	baz=236							
CNPM	China Poot	78.94	26	P	P	15 18 42.0	-0.2	
BRSE	Bradley Lake S	79.27	26	P	P	15 18 43.4	-0.6	
	baz=240							
MK31	Makanchi Array	79.34	319	P	P	15 18 44.0	-0.6	
MKAR	Makanchi Array	79.34	319	P	P	15 18 44.4	-0.2	
	comp=Z,1.5nm,0.6s,baz=103,slow=6.5,SNR=19							
	comp=Z,1.5nm,0.6s							
M20K	Styx River	79.39	24	P	P	15 18 44.7	+0.1	
	baz=237							
L20K	Farewell, AK	79.43	23	P	P	15 18 45.0	+0.3	
	baz=236							
MAKZ	Makanchi	79.54	319	P	P	15 18 45.8	+0.1	
K20K	Telida	79.85	22	P	P	15 18 47.7	+0.7	
K20K	Telida	79.85	22	P	P	15 18 47.1	+0.1	
	baz=236,SNR=6.1							
SEW	Seward	80.01	26	P	P	15 18 47.5	-0.4	
	baz=241							
SKT	Skwentna	80.09	24	P	P	15 18 46.5	-1.8	
	baz=239							
SUA	Susitna One	80.14	25	P	P	15 18 48.2	-0.6	
	baz=239							
J20K	Nowinta River	80.28	21	P	P	15 18 49.5	+0.3	
J20K	Nowinta River	80.28	21	P	P	15 18 48.4	-0.8	
	baz=236,SNR=6.5							
RC01	Rabbit Creek A	80.38	25	P	P	15 18 49.1	-0.8	
	baz=240							
ZAA0	Zalesovo Array	80.40	327	P	P	15 18 48.7	-1.4	
ZALV	Zalesovo Beam	80.40	327	P	P	15 18 48.8	-1.3	
	comp=Z,3.5nm,0.6s,baz=115,slow=5.8,SNR=18							
ZALV				pP	pwP	15 19 35.5	-0.3	
	comp=Z,0.8nm,0.5s,baz=121,slow=6.3,SNR=2.0							
	comp=Z,3.5nm,0.6s							
ZALV	Zalesovo Beam	80.40	327	P	P	15 18 48.3	-1.8	
M22K	Willow	80.55	24	P	P	15 18 50.4	-0.3	
	baz=240							
PWL	Port Wells	80.86	26	P	P	15 18 51.8	-0.6	
PWL				IAmb	IAmb	15 18 53.2		
	comp=Z,20nm,0.9s							
PWL	Port Wells	80.86	26	P	P	15 18 51.9	-0.6	
	baz=242							
PMR	Palmer	80.88	25	P	P	15 18 52.0	-0.4	
	baz=241							
KNK	Knik Glacier	81.07	25	P	P	15 18 53.5	0.0	
	baz=242							
Q23K	Middleton Isla	81.09	27	P	P	15 18 52.7	-0.9	
	baz=244							
SML	Sawmill	81.31	25	P	P	15 18 54.1	-0.8	
SML				IAmb	IAmb	15 18 55.6		
	comp=Z,15nm,0.8s							
SML	Sawmill	81.31	25	P	P	15 18 54.2	-0.6	
	baz=242							
TRF	Thorofare Moun	81.34	23	P	P	15 18 54.1	-1.0	
	baz=240							
BPAW	Bear Paw Mtn.	81.40	22	P	P	15 18 54.8	-0.4	
	baz=239							
GLI	Glacier Island	81.41	26	P	P	15 18 55.0	-0.3	
	baz=243							
M23K	Glacier View	81.56	25	P	P	15 18 55.9	-0.3	
	baz=242							
H21K	Melozitna Rive	81.58	20	P	P	15 18 55.8	-0.3	
	baz=237							
I21K	Tanana	81.61	21	P	P	15 18 55.0	-1.2	
I21K				IAmb	IAmb	15 18 58.6		
	comp=Z,9.7nm,1.0s							
I21K	Tanana	81.61	21	P	P	15 18 56.1	-0.1	
	baz=238							
WAT1	Susitna Watana	81.72	24	P	P	15 18 56.5	-0.4	
	baz=241							
SCM	Sheep Creek Mo	81.75	25	P	P	15 18 56.8	-0.4	
	baz=242							
G21K	Allakaket	81.81	20	P	P	15 18 56.9	-0.5	
	baz=236							
RND	Reindeer	81.88	23	P	P	15 18 56.5	-1.3	
RND				IAmb	IAmb	15 18 57.7		
	comp=Z,14nm,1.0s							
WAT6	Susitna Watana	81.93	24	P	P	15 18 57.5	-0.7	
	baz=242							
MLY	Manley	81.98	21	P	P	15 18 57.8	-0.5	
MLY	Manley	81.98	21	P	P	15 18 57.7	-0.6	
	baz=239							
MCK	McKinley	82.00	23	P	P	15 18 57.7	-0.7	
	baz=241							
KLU	Klutina	82.19	26	P	P	15 18 59.3	-0.2	
	baz=244,SNR=6.5							
H22K	Ishtalitna Cre	82.20	21	P	P	15 18 59.0	-0.4	
	baz=238							
DHY	Denali Highway	82.31	24	P	P	15 18 59.4	-0.8	
	baz=242							
M24K	Tolsona, Glenn	82.36	25	P	P	15 18 59.9	-0.5	
	baz=244							
NEA2	Nenana	82.37	22	P	P	15 18 59.2	-1.1	
	baz=241							
WRH	Wood River Hil	82.69	22	P	P	15 19 00.3	-1.5	
WRH				IAmb	IAmb	15 19 01.2		
	comp=Z,10nm,1.0s							
G22K	Bettles	82.70	20	P	P	15 19 00.7	-1.1	
	baz=238							
TKM2	Tokmak 2	82.79	314	P	P	15 19 03.1	0.0	
	SNR=8.4							
F22K	John River	82.79	19	P	P	15 19 01.9	-0.5	
	baz=237							
H23K	Yukon River	82.81	21	P	P	15 19 01.9	-0.7	
	baz=240							
N25K	Chitina, Valde	82.81	26	P	P	15 19 02.3	-0.4	
	baz=245							
CCB	Clear Creek Bu	82.88	22	P	P	15 19 01.2	-1.6	
HARP	HAARP	82.92	25	P	P	15 19 02.1	-1.0	
	baz=244							
TCOL	CIGO, UAF Yank	82.96	22	P	P	15 19 02.2	-1.1	
	baz=242							
COLA	College	82.97	22	P	P	15 19 02.0	-1.3	
	baz=242							
PAX	Paxson	83.03	24	P	P	15 19 03.4	-0.4	
	baz=244							
G23K	Bananza Creek	83.09	20	P	P	15 19 03.5	-0.5	
	baz=239							
HDA	Harding Lake	83.09	23	P	P	15 19 03.2	-0.8	
	baz=242							
E22K	Anaktuvuk Pass	83.25	19	P	P	15 19 04.6	-0.2	
	baz=238							
K24K	Donnelly Dome	83.28	24	P	P	15 19 04.7	-0.3	
	baz=244							
IL31		83.28	22	P	P	15 19 02.3	-2.6	
IL31				IAmb	IAmb	15 19 03.8		
	comp=Z,7.0nm,0.8s							
ILAR	Eielson Array	83.28	22	P	P	15 19 03.1	-1.9	
	comp=Z,6.2nm,0.8s,baz=252,slow=5.2,SNR=52							
ILAR				pP	pP	15 19 50.3	+2.0	
	comp=Z,0.3nm,0.5s,baz=92,slow=8.4,SNR=2.2							
	comp=Z,6.2nm,0.8s							
ILAR	Eielson Array	83.28	22	P	P	15 19 02.7	-2.3	
COLD	Coldfoot	83.30	20	P	P	15 19 04.6	-0.4	
	baz=239							
UCH	Uchtor	83.41	313	P	P	15 19 07.5	+0.8	
	SNR=8.1							
MCARA	McCarthy VSAT	83.41	26	P	P	15 19 05.4	-0.2	
	baz=246							
H24K	Nooodor Dome	83.42	21	P	P	15 19 05.2	-0.5	
	baz=242							
RIDG	Independent Ri	83.62	24	P	P	15 19 06.2	-0.6	
	baz=244							
USP	Ospenovka	83.65	314	P	P	15 19 07.7	+0.3	
	SNR=10							
MENT	Mentasta	83.75	25	P	P	15 19 06.0	-1.4	
J25K	Salcha River,	83.80	23	P	P	15 19 07.1	-0.6	
	baz=244							
M26K	Nabesna, AK	83.83	25	P	P	15 19 07.7	-0.2	
	baz=246							
DOT	Dot Lake	83.90	24	P	P	15 19 07.8	-0.4	
DOT				IAmb	IAmb	15 19 08.4		
	comp=Z,7.4nm,0.8s							
E23K	Chandalar	83.91	19	P	P	15 19 08.1	-0.1	
	baz=240							
L26K	Log Cabin Wild	83.94	25	P	P	15 19 07.9	-0.4	
	baz=246,SNR=5.3							
G24K	Hadweenzic Riv	83.97	21	P	P	15 19 08.0	-0.5	
	baz=242,SNR=5.1							
AML	Ainmashu	83.98	313	P	P	15 19 10.3	+0.8	
	SNR=18							
CTG	Chitna Glacier	84.00	27	P	P	15 19 08.5	-0.3	
	baz=248							
EKS2	Erkin-Say	84.03	314	P	P	15 19 10.1	+0.7	
	SNR=10							
D23K	Nanushuk River	84.05	18	P	P	15 19 09.0	+0.3	
	baz=239							
SCRK	Sand Creek	84.07	24	P	P	15 19 08.6	-0.5	
	baz=245							
PRP	Porcupine Dome	84.14	22	P	P	15 19 08.9	-0.6	
	baz=244							
F24K	Squaw Lake	84.22	20	P	P	15 19 09.7	-0.1	
	baz=241,SNR=6.8							
TOLK	Toolik Lake Re	84.22	19	P	P	15 19 09.9	+0.2	
	baz=240							
E24K	Your Creek	84.29	19	P	P	15 19 10.0	0.0	
	baz=241							
M27K	Edge Creek, AK	84.29	26	P	P	15 19 10.2	-0.1	
	baz=247,SNR=7.1							
H25K	Birch Creek	84.36	21	P	P	15 19 10.1	-0.2	
	baz=243							
MAW	Mawson	84.43	203	P	P	15 19 11.3	+0.5	
	comp=Z,2.8nm,0.7s,baz=100,slow=7.6,SNR=12							
	comp=Z,2.8nm,0.7s							
MAW	Mawson	84.43	203	P	P	15 19 11.2	+0.5	
	baz=84,SNR=5.3							
J26L	Jooph Creek	84.45	23	P	P	15 19 10.9	-0.1	
	baz=246							
O28M	Mount Upton	84.45	27	P	P	15 19 10.9	-0.4	
	baz=249							
C23K	Itkillik River	84.52	17	P	P	15 19 11.3	+0.2	
	baz=239							
L27K	Beaver Creek,	84.59	25	P	P	15 19 11.6	-0.1	
	baz=247							
QSPA	South Pole Qui	84.75	180	P	P	15 19 12.9	+0.4	
K27K	Chicken	84.86	24	P	P	15 19 12.7	-0.2	
	baz=247							
I26K	Coal Creek Min	84.94	23	P	P	15 19 12.8	-0.5	
	baz=246							
F25K	Christian Rive	85.02	20	P	P	15 19 13.5	-0.2	
	baz=244							
O29M	Mount Kennedy	85.04	28	P	P	15 19 13.7	-0.4	
	baz=250							
E25K	Arctic Village	85.28	20	P	P	15 19 15.0	+0.1	
	baz=244							
BMAR	Burnt Mountain	85.31	20	P	P	15 19 14.6	-0.6	
YUK4	Talbot Arm	85.36	27	P	P	15 19 16.2	+0.5	
	baz=250							
G26K	Porcupine Rive	85.39	21	P	P	15 19 15.6	+0.2	
	baz=245,SNR=10							
EGAK	Eagle	85.52	23	P	P	15 19 14.9	-1.2	
EGAK				IAmb	IAmb	15 19 18.4		
	comp=Z,14nm,1.1s							
EGAK	Eagle	85.52	23	P	P	15 19 16.1	-0.1	
	baz=248,SNR=8.2							
D25K	Kavik River	85.56	18	P	P	15 19 16.8	+0.4	
	baz=243							
F26K	Sheenjek River	85.58	20	P	P	15 19 16.2	-0.3	
	baz=245							
I27K	Kandik River	85.65	23	P	P	15 19 16.8	-0.1	
	baz=247,SNR=9.0							
NRIK	Noril'sk	85.71	341	P	P	15 19 16.0	-1.0	
	comp=Z,4.2nm,0.7s,baz=88,slow=4.2,SNR=7.7							
	comp=Z,4.2nm,0.7s							
HYT	Haines Junctio	85.71	28	P	P	15 19 17.6	+0.2	
	baz=251							
P30M	Million Dollar	85.75	29	P	P	15 19 17.8	+0.4	
	baz=252							
M29M	Somme Creek	85.81	26	P	P	15 19 18.0	+0.2	
	baz=250							
H27K	Steamboat Moun	85.93	22	P	P	15 19 18.2	0.0	
	baz=247,SNR=11							
DAWY	Dawson	85.97	24	P	P	15 19 18.3	-0.2	
	baz=250,SNR=5.8							
G27K	Doyon Strip	86.10	22	P	P	15 19 19.2	+0.1	
	baz=247							
L29M	L29M	86.18	26	P	P	15 19 19.8	+0.3	
	baz=251							
SKAG	Skagway	86.34	29	P	P	15 19 20.5	+0.2	
	baz=253							
O30N	Mendenhall	86.36	28	P	P	15 19 20.9	+0.5	
	baz=253							
R32K	Eaglecrest	86.41	31	P	P	15 19 21.1	+0.4	
	baz=254							
CRAG	Craig	86.42	34	P	P	15 19 21.0	+0.2	
	baz=256							
KKAR	Karatay Array	86.47	314	P	P	15 19 20.3	-1.0	
C27K	Jago River	86.54	19	P	P	15 19 21.0	-0.2	
	baz=245							
M30M	Minto, Yukon	86.59	26	P	P	15 19 21.6	+0.1	
	baz=252							
E27K	Coleen River	86.66	20	P	P	15 19 21.9	+0.1	
	baz=247							
K29M	Barlow Dome	86.67	25	P	P	15 19 22.2	+0.2	
	baz=251							
N31M	Braeburn, Yuko	86.71	27	P	P	15 19 21.5	-0.6	
	baz=253							
WHY	Whitehorse	86.89	28	P	P	15 19 22.4	-0.8	
	baz=254							
P32M	Atlin	87.17	30	P	P	15 19 24.4	+0.1	
	baz=255							
V35K	Ketchikan	87.22	34	P	P	15 19 24.8	+0.2	
	baz=257							
M31M	Drury Creek, Y	87.55	27	P	P	15 19 26.0	-0.1	
	baz=254							
P33M	Teslin, Yukon	87.76	29	P	P	15 19 27.1	-0.1	
	baz=256							
EPYK	Eagle Plains	87.80	23	P	P	15 19 27.2	0.0	
	baz=252							
N32M	Quiet Lake	87.87	28	P	P	15 19 27.7	0.0	
	baz=255							
FARO	Faro, Yukon	88.03	27	P	P	15 19 28.3	-0.1	
	baz=255							
S34M	Telegraph Cree	88.06	32	P	P	15 19 28.8	+0.2	
	baz=257							
INK	Inuvik	89.54	21	P	P	15 19 35.2	-0.1	
	comp=Z,5.8nm,1.0s,baz=231,slow=4.2,SNR=4.5							
	comp=Z,5.8nm,1.0s							
SNCC	San Nicolas Is	92.54	57	P	P	15 19 50.2	+0.1	
	baz=265							
ISA	Isabella, Lake	93.58	55	P	P	15 19 54.5	-0.4	
	baz=266							
NVAR	Mina Array Bea	93.89	52	P	P	15 19 56.8	+0.3	
	comp=Z,0.6nm,0.6s,baz=262,slow=6.4,SNR=8.4							
	comp=Z,0.6nm,0.6s							
CWC	Cottonwood Cre	93.95	54	P	P	15 19 56.6	-0.1	
	baz=266							
LRMC	Laurel Mtn Rad	94.21	55	P	P	15 19 58.2	+0.3	
	baz=267							
MPMC	Manual Prospec	94.40	54	P	P	15 19 58.6	-0.2	
	baz=267							
PFO	Pinyon Flats O	95.12	57	P	P	15 20 01.9	-0.1	
	baz=267							
IKP	In-Ko-Pah, Jac	95.37	58	P	P	15 20 02.8	-0.3	
	baz=267							
TPNV	Topopah Spring	95.44	53	P	P	15 20 03.4	-0.1	
	baz=268							
SWSC	Sam W. Stewart	95.64	58	P	P	15 20 04.0	-0.2	
	baz=267							
GMRC	Granite Mounta	95.83	56	P	P	15 20 05.1	-0.1	
	baz=268							
EYMN	Ely	112.20	40	P	PKiKP	15 25 12.3	-0.8	
	baz=288							
MIAR	Mount Ida	113.97	55	P	PKiKP	15 25 16.1	-0.8	
	baz=281							
L44A	Lake County Fo	116.40	45	P	PKiKP	15 25 21.3	0.0	
	baz=288							
NOA	NORSAR Array B	116.61	339	PKP	PKPdf	15 25 20.0	-1.2	
	comp=Z,0.5nm,0.6s,baz=46,slow=1.5,SNR=2.3							
SFIN	Lafayette	117.54	47	P	PKPdf	15 25 23.2	-0.4	
	baz=288							
GLMI	Grayling	117.74	41	P	PKPdf	15 25 23.1	-0.8	
	baz=292							
BOSA	Boshof	117.79	234	PKP	PKPdf	15 25 24.0	-0.6	
	comp=Z,1.9nm,0.8s,baz=90,slow=3.0,SNR=1.6							
WCI	Wyandotte Cave	118.79	49	P	PKPdf	15 25 25.3	-0.7	
	baz=288							
O48B	Farmland	118.99	46	P	PKPdf	15 25 25.9	-0.4	
	baz=289							
P49A	Miami Univ. Ec	119.54	47	P	PKPdf	15 25 26.8	-0.7	
	baz=289							
PLCA	Paso Flores	120.63	144	PKP	PKPdf	15 25 29.8	+0.1	
	comp=Z,0.9nm,0.7s,baz=280,slow=6.1,SNR=4.1							
VYHS	Vyhne	120.69	325	ePKP	PKPdf	15 25 28.5	-0.9	
TZTN	Tazewell	121.39	50	P	PKPdf	15 25 29.4	-1.7	
	baz=289							
TKL	Tuckaseechee C	121.49	51	PKP	PKiKP	15 25 31.7	+0.2	
	comp=Z,0.7nm,0.3s,baz=190,slow=6.1,SNR=2.3							
O53A	New Philadelph	121.81	45	P	PKPdf	15 25 31.3	-0.5	
	baz=293							
GERES	GERESS Array B	123.35	327	PKP	PKPdf	15 25 33.8	-0.8	
	comp=Z,1.2nm,0.6s,baz=72,slow=1.7,SNR=12							
KMSC	Kings Mountain	123.54	51	P	PKPdf	15 25 35.3	0.0	
	baz=289							
EKA	Eskdalemuir Ar	125.83	342	PKP	PKPdf	15 25 38.3	-0.7	
	comp=Z,0.4nm,0.4s,baz=13,slow=2.2,SNR=4.1							
L61B	Northampton	126.54	39	P	PKPdf	15 25 40.9	0.0	
	baz=302							
DAVOX	Davos/Dischmat	126.65	327	PKP	PKPdf	15 25 40.6	-0.5	
	comp=Z,2.0nm,0.6s,baz=102,slow=5.4,SNR=5.3							
PKME	Peaks-Kenny Pk	127.00	35	P	PKPdf	15 25 41.7	+0.1	
	baz=307							
LPAZ	La Paz	135.96	120	PKP	PKPdf	15 25 59.6	-0.5	
	comp=Z,2.3nm,0.4s,baz=240,slow=2.9,SNR=4.2							
TORD	Torodi Ar. Bea	148.54	287	PKP	PKPdf	15 26 21.0	-0.6	
	comp=Z,2.8nm,0.7s,baz=85,slow=2.1,SNR=12							
TORD				PKPbc	PKPbc	15 26 24.2	-1.2	
	comp=Z,2.8nm,0.7s,baz=77,slow=2.8,SNR=11							
TORD				pPKP	pPKPdf	15 27 09.0	+1.1	
	comp=Z,1.7nm,0.7s,baz=74,slow=2.8,SNR=3.0							
BDFB	Brasilia	152.13	138	PKPbc	PKPbc	15 26 34.0	-0.1	
	comp=Z,5.2nm,0.7s,baz=256,slow=2.4,SNR=8.6							
BDFB				PKPab	PKPab	15 26 44.4	+0.2	
	comp=Z,1.0nm,0.3s,baz=195,slow=7.3,SNR=4.5							
KOWA	Kowa	153.56	292	PKPbc	PKPbc	15 26 36.1	-1.1	
	comp=Z,1.8nm,0.6s,baz=354,slow=1.8,SNR=2.3							
KOWA				PKPab	PKPab	15 26 48.8	-1.5	
	comp=Z,3.0nm,0.5s,baz=106,slow=3.7,SNR=3.9							

*IDC **10** 15:18:20.6±2.6,5.7°79S×154.°62E,h139km±24km, mb3.1/4, mbtmp3.6/7, Error ellipse: s-maj=27.3km s-min=19.1km az=110.0*

ISC 10 15:18:21.6±1.0,5.°7S±0.°1×154.°59E±0.°10,h150km,n10, σ1°03/11,mb3.2/4,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	2.92	299	P	Pn	15 19 07.1	-0.8
	7.1nm,0.3s,baz=196,slow=7.4,SNR=17						
KRVT				S	Sn	15 19 43.5	-0.2
	96nm,0.4s,baz=182,slow=22,SNR=16						
PMG	Port Moresby	8.23	243	P	Pn	15 20 18.2	+0.1
	7.5nm,0.6s,baz=61,slow=10,SNR=2.1						
PMG				S	Sn	15 21 50.6	+0.9
	17nm,1.0s,baz=17,slow=19,SNR=3.1						
DZM	Mont Dzumac	19.89	146	P	P	15 22 39.9	-1.7
	9.8nm,1.0s,baz=315,slow=17,SNR=2.7						
WRA	Warramunga Arr	24.24	232	P	P	15 23 24.6	-0.3
	0.2nm,0.3s,baz=57,slow=10,SNR=15						
WRA				PcP	PcP	15 27 01.7	+0.4
	0.8nm,1.2s,baz=59,slow=2.6,SNR=2.2						
	0.2nm,0.3s						
ASAR	Alice Springs	26.74	226	P	P	15 23 46.4	-1.0
	0.2nm,0.3s,baz=58,slow=9.1,SNR=9.7						
ASAR				PcP	PcP	15 27 07.2	+0.3
	0.3nm,0.6s,baz=57,slow=2.4,SNR=7.1						
	0.2nm,0.3s						
H11S3	WAKE ISLAND Hy	26.86	26	T	T	15 51 53.3	
	baz=205						
H11S2	WAKE ISLAND Hy	26.86	26	T	T	15 51 50.9	
	baz=205						
H11S1	WAKE ISLAND Hy	26.88	26	T	T	15 51 57.9	
	baz=205						
ILAR	Eielson Array	82.34	22	P	P	15 30 26.3	0.0
	0.4nm,0.8s,baz=231,slow=5.7,SNR=2.3						
	0.4nm,0.8s						
NVAR	Mina Array Bea	91.25	52	P	P	15 31 12.2	+1.7
	0.1nm,0.3s,baz=218,slow=4.2,SNR=2.0						
	0.1nm,0.3s						

*NEIC **10** 15:27:23.5±1.8,28.°8N±0.°1×76.°6E±0.°1,h10km±2km, mb4.1/11, Error ellipse: s-maj=28.3km s-min=10.3km az=215.0*

*NDI **10** 15:27:25.5±2.5,28.°59N×76.°63E,h10km,ML4.6, mb4.1(NEIC)*

*IDC **10** 15:27:29.6±5.7,28.°77N×76.°88E,h60km±53km, mb3.5/17, mbtmp3.8/19,ML3.5/2, Error ellipse: s-maj=23.5km s-min=14.6km az=31.0*

ISC 10 15:27:23.4±1.4,28.°68N±0.°03×76.°63E±0.°03,h15km±9km, n75,σ1°88/103,mb3.8/21,1C,Northern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHGR	Bahadurgarh	0.27	89	eP	Pb	15 27 30.6	+0.7
AYAN	Aya Nagar	0.48	114	eP	Pb	15 27 34.1	+0.6
AYAN				eS	Sb	15 27 41.5	+1.2
NDI	New Delhi	0.51	90	eP	Pb	15 27 34.9	+0.9
NDI				eP	Pb	15 27 35.0	+0.9
NDI				eS	Sb	15 27 42.1	+0.8
NDI				eS	Sn	15 27 43.0	-1.7
KUDL	Kundal	0.55	193	eP	Pb	15 27 35.0	+0.3
KUDL				eS	Sb	15 27 42.4	0.0
SONA	Sohna	0.58	137	eP	Pb	15 27 36.0	+0.7
SONA				eS	Sb	15 27 43.8	+0.4
BISR	Bishrakh	0.72	99	eP	Pn	15 27 39.0	0.0
BISR				eS	Sb	15 27 48.0	+0.8
KHET	Khetri	0.95	231	eP	Pb	15 27 41.2	-0.3
KHET				eS	Sb	15 27 53.1	-0.8
DDI	Dehra Dun	2.05	37	eP	Pg	15 28 01.8	-1.0
DDI				e

ALBI	**Allahabad**	**5.71**	**125**	*eP*		**Pn**	**15 28 50.6**	**+3.0**
ALBI				*eS*		**Sn**	**15 29 50.4**	**-2.5**
NIL	**Nilore**	**5.74**	**331**	Pn		**Pn**	**15 28 48.3**	**+0.3**
NIL				Sn		**Sn**	**15 29 49.3**	**-4.4**
CHCP	**Chirah Chowk**	**5.74**	**331**	P		**Pn**	**15 28 48.4**	**+0.3**
THW	**Thamme Wali**	**5.88**	**315**	P		**Pn**	**15 28 49.4**	**-0.6**
KOLN	**Koldanda**	**6.21**	**97**	*ePn*		**Pn**	**15 28 56.6**	**+1.8**
KOLN				*eSn*		**Sn**	**15 30 04.3**	**-1.3**
DANN	**Dangsing**	**6.28**	**91**	*ePn*		**Pn**	**15 28 58.3**	**+2.6**
DANN				*eSn*		**Sn**	**15 30 08.3**	**+0.9**
	comp=E,192nm,0.3s							
CEP	**Cherat**	**6.53**	**323**	P		**Pn**	**15 29 00.3**	**+1.3**
GKN	**Gorkha**	**7.08**	**94**	*ePn*		**Pn**	**15 29 07.9**	**+1.2**
GKN				*eSn*		**Sn**	**15 30 26.3**	**-0.8**
	comp=E,113nm,0.2s							
DMN	**Daman**	**7.56**	**96**	*ePn*		**Pn**	**15 29 14.0**	**+0.7**
KKN	**Kakani**	**7.68**	**95**	*ePn*		**Pn**	**15 29 15.8**	**+0.9**
PKIN	**Phulchoki**	**7.81**	**96**	*ePn*		**Pn**	**15 29 17.5**	**+0.7**
PKIN				*eSn*		**Sn**	**15 30 42.8**	**-2.4**
	comp=E,76nm,0.3s							
PKI	**Pulchoki**	**7.83**	**96**	*ePn*		**Pn**	**15 29 17.7**	**+0.7**
PKI				*eSn*		**Sn**	**15 30 42.9**	**-2.7**
	comp=E,82nm,0.3s							
GUN	**Gumba**	**8.19**	**93**	*ePn*		**Pn**	**15 29 22.6**	**+0.6**
GUN				*eSn*		**Sn**	**15 30 52.9**	**-1.5**
JIRN	**Jiri**	**8.49**	**95**	*ePn*		**Pn**	**15 29 26.9**	**+0.6**
JIRN				*eSn*		**Sn**	**15 30 59.5**	**-2.6**
	comp=E,46nm,0.2s							
KBL	**Kabul**	**8.72**	**314**	Pn		**Pn**	**15 29 28.8**	**-0.4**
RAMN	**Ramite**	**8.99**	**99**	*ePn*		**Pn**	**15 29 33.4**	**+0.5**
RAMN				*eSn*		**Sn**	**15 31 09.5**	**-4.6**
	comp=E,70nm,0.2s							
BOK	**Bokaro**	**9.62**	**118**	*eP*		**Pn**	**15 29 42.7**	**+1.2**
BOK				*eS*		**Sn**	**15 31 23.2**	**-6.1**
BOK				IAML			15 31 27.9	
	comp=E,496nm,0.2s							
BOK				IAML			15 31 28.5	
	comp=N,686nm,0.3s							
KSH	**Kashi**	**10.82**	**357**	P		**Pn**	**15 29 58.4**	**+0.5**
KSH				S		Sn	15 31 46.8	-12
HYBB	**Hyderabad (bro**	**11.35**	**171**	*eP*		**Pn**	**15 30 03.0**	**-2.0**
GAR	**Garm**	**11.55**	**335**	Pn		**Pn**	**15 30 07.2**	**-0.6**
CHGR	**Chuyangaron**	**11.73**	**330**	Pn		**Pn**	**15 30 11.5**	**+1.2**
BTK	**Batken**	**12.32**	**339**	Pn		**Pn**	**15 30 16.8**	**-1.5**
LSA	**Lhasa**	**12.72**	**82**	Pn		**Pn**	**15 30 24.8**	**+0.5**
NRN	**Naryn**	**12.73**	**358**	Pn		**Pn**	**15 30 23.5**	**-0.7**
TARG	**Taragay, Kyrgy**	**13.05**	**4**	Pn		**Pn**	**15 30 28.6**	**0.0**
BOOM	**Boomskoye usch**	**13.79**	**358**			**Pn**	**15 30 38.4**	**-0.1**
AAK	**Ala-Archa**	**14.03**	**353**	P		**P**	**15 30 46.5**	**-3.1**
	comp=N,0.4nm,0.3s,baz=210,slow=13,SNR=2.3							
AAK				S		**Sn**	**15 33 13.0**	**-4.3**
	comp=N,1.3nm,0.4s,baz=249,slow=9.7,SNR=2.1							
	comp=N,1.2nm,0.4s							
KK31	**Karatay Array**	**15.21**	**343**			**Pn**	**15 30 54.0**	**-3.7**
KK31				IAmb		IAmb	15 31 36.9	
	comp=Z,2.4nm,0.5s							
KKAR	**Karatay Array**	**15.21**	**343**			**Pn**	**15 30 54.5**	**-3.2**
KKAR	**Karatay Array**	**15.21**	**343**			**Pn**	**15 30 54.0**	**-3.7**
KKAR				IAmb		IAmb	15 31 36.9	
	comp=Z,2.4nm,0.5s							
MKAR	**Makanchi Array**	**18.62**	**12**	P		**P**	**15 31 40.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=2.5							
	comp=Z,0.2nm,0.3s							
GTA	**Gaotai**	**21.93**	**55**	⇑P		**P**	**15 32 17.8**	**+1.4**
GTA				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KURBB	**Kurchatov Arra**	**21.96**	**3**	P		**P**	**15 32 16.0**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=192,slow=10,SNR=12							
	comp=Z,1.1nm,0.7s							
KURK	**Kurchatov**	**22.06**	**3**	P		**P**	**15 32 17.6**	**+0.2**
KURK				IAmb		IAmb	15 32 18.0	
	comp=Z,3.3nm,0.9s							
CHTO	**Chiang Mai**	**22.63**	**111**	P		**P**	**15 32 24.2**	**+0.3**
CM31	**Chiang Mai Arr**	**22.80**	**112**	P		**P**	**15 32 25.6**	**-0.1**
CM31				IAmb		IAmb	15 32 34.3	
	comp=Z,15nm,1.4s							
CMAR	**Chiang Mai Arr**	**22.80**	**112**	P		**P**	**15 32 25.7**	**0.0**
	comp=Z,1.5nm,0.7s,baz=296,slow=10,SNR=11							
	comp=Z,1.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**22.80**	**112**	P		**P**	**15 32 25.9**	**+0.1**
CRAI	**Chiangrai**	**23.16**	**106**	P		**P**	**15 32 30.5**	**+1.1**
CRAI				IAmb		IAmb	15 32 38.0	
	comp=Z,9.9nm,1.4s							
PHRA	**Phrae**	**23.84**	**110**	P		**P**	**15 32 36.5**	**+0.4**
ABKAR	**Akbulak array**	**24.20**	**333**	P		**P**	**15 32 38.7**	**-0.5**
BVAR	**Borovoye Array**	**24.75**	**351**	P		**P**	**15 32 43.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=171,slow=12,SNR=1.8							
	comp=Z,0.2nm,0.4s							
AKTO	**Aktyubinsk**	**25.90**	**332**	P		**P**	**15 32 57.1**	**+2.5**
	comp=Z,1.2nm,0.5s,baz=131,slow=12,SNR=2.6							
	comp=Z,1.2nm,0.5s							
ZALV	**Zalesovo Beam**	**25.95**	**11**	P		**P**	**15 32 54.7**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=198,slow=8.0,SNR=6.9							
	comp=Z,1.4nm,0.6s							
ZALV	**Zalesovo Beam**	**25.95**	**11**	P		**P**	**15 32 55.8**	**+0.8**
SONM	**Songino Array**	**29.92**	**42**	P		**P**	**15 33 31.7**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=237,slow=12,SNR=4.5							
	comp=Z,0.8nm,0.7s							
BRTR	**Keskin Array B**	**36.91**	**299**	P		**P**	**15 34 35.7**	**+4.0**
	comp=Z,0.6nm,0.6s,baz=117,slow=8.6,SNR=4.3							
	comp=Z,0.6nm,0.6s							
KSRS	**Korea Array**	**43.41**	**65**	P		**P**	**15 35 25.0**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=270,slow=9.5,SNR=1.6							
	comp=Z,0.5nm,0.7s							
JOW	**Kunigami**	**45.44**	**80**	P		**P**	**15 35 40.6**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=270,slow=5.1,SNR=1.2							
	comp=Z,2.9nm,0.7s							
FINES	**FINESS Array B**	**46.61**	**329**	P		**P**	**15 35 50.2**	**-0.3**
	comp=Z,1.7nm,1.0s,baz=108,slow=8.9,SNR=1.8							
	comp=Z,1.7nm,1.0s							
FINES	**FINESS Array B**	**46.61**	**329**	P		**P**	**15 35 50.1**	**-0.5**
ARCES	**ARCESS Array B**	**50.14**	**339**	P		**P**	**15 36 16.7**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=117,slow=9.3,SNR=5.8							
	comp=Z,1.5nm,0.8s							
ARCES	**ARCESS Array B**	**50.14**	**339**	P		**P**	**15 36 18.1**	**+0.4**
KEST	**Kesra**	**56.38**	**296**	P		**P**	**15 37 06.2**	**+1.9**
	comp=Z,3.3nm,0.6s,baz=88,slow=4.4,SNR=4.9							
	comp=Z,3.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**70.71**	**275**	P		**P**	**15 38 41.8**	**+2.6**
	comp=Z,0.6nm,0.5s,baz=68,slow=5.6,SNR=7.6							
	comp=Z,0.6nm,0.5s							
WRA	**Warramunga Arr**	**73.75**	**124**	P		**P**	**15 38 56.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=318,slow=5.4,SNR=5.2							
	comp=Z,0.7nm,0.7s							
BOSA	**Boshof**	**75.24**	**225**	P		**P**	**15 39 05.9**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=31,slow=5.9,SNR=2.0							
	comp=Z,1.8nm,0.8s							
ASAR	**Alice Springs**	**75.82**	**127**	P		**P**	**15 39 08.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=308,slow=5.7,SNR=3.1							
	comp=Z,0.4nm,0.5s							
ILAR	**Eielson Array**	**80.89**	**17**	P		**P**	**15 39 36.5**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=316,slow=3.8,SNR=2.6							
	comp=Z,0.3nm,0.4s							

*ECX **10** 15:28:38.5±0.8, 30.°60N×114.°27W, h0km±11km, MD3.1, ML3.2*
*MEX **10** 15:28:42.8±0.7, 30.°86N×114.°33W, h16km±18km, MD3.9*
ISC 10 15:28:40.6±1.2, **30.°78N**±0.°05×**114.°28W**±0.°03, **h33km±10km, n16,** σ1°**29**/23, **2C-3D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFX	**San Felipe**	**0.55**	**298**	*eP*		**Pb**	**15 28 51.3**	**-0.6**
SFX				*eS*		**Sb**	**15 29 00.5**	**+0.8**
SFX				IAML			15 29 02.9	
	comp=E,960nm,0.3s							
SFX				⇑*e*			15 29 02.9	
SFX				⇑*e*			15 29 03.1	
SFX				IAML			15 29 03.1	
	comp=N,2μm,0.4s							
PPXB	**Puerto Peasco**	**0.78**	**45**	*eP*		**Pb**	**15 28 54.4**	**-1.4**
PPXB				*eS*		**Sn**	**15 29 07.6**	**+1.6**
ECBX	**El Chinero**	**0.95**	**316**	*eP*		**Pn**	**15 28 57.4**	**-0.3**
ECBX				*eS*		**Sn**	**15 29 12.4**	**+2.3**
ECBX				IAML			15 29 16.0	
	comp=E,430nm,0.6s							
ECBX				⇓*e*			15 29 16.0	
SLGB	**San Luis Gonza**	**0.96**	**186**	*eP*		Pn	15 28 52.0	-5.7
PIX	**Pinacate**	**1.05**	**42**	⇓*eP*		**Pn**	**15 28 58.5**	**-0.5**
PIX				*eS*		**Sb**	**15 29 15.6**	**+2.0**
SPIG	**San Pedro Mart**	**1.05**	**285**	*eP*		**Pn**	**15 28 58.8**	**-0.5**
SPIG				*eS*		**Sn**	**15 29 10.2**	**-2.8**
SPIG	**San Pedro Mart**	**1.05**	**285**	*eP*		**Pn**	**15 28 58.8**	**-0.5**
SPIG				*eS*		**Sn**	**15 29 14.2**	**+1.2**
VTX	**Valle De La Tr**	**1.42**	**296**	*eP*		**Pn**	**15 29 05.2**	**+1.0**
PLIB	**Puerto Liberta**	**1.62**	**122**	*eP*		**Pn**	**15 29 05.8**	**-1.1**
PLIB				*eS*		**Sn**	**15 29 26.7**	**0.0**
LAPR	**La Primavera**	**1.72**	**99**	*eP*		**Pn**	**15 29 09.0**	**+0.8**
LAPR	**La Primavera**	**1.72**	**99**	*eP*		**Pn**	**15 29 08.1**	**-0.1**
214A	**Organ Pipe Nat**	**1.72**	**47**	*eP*		**Pn**	**15 29 07.8**	**-0.5**
214A				*eS*		**Sn**	**15 29 28.3**	**-0.8**
CPBX	**Cerro Prieto**	**1.85**	**332**	IAML			15 30 17.3	
	comp=N,409nm,0.6s							
CPBX				⇓*e*			15 30 17.3	
BAHB	**Baha de los**	**1.94**	**161**	*eP*		**Pn**	**15 29 12.4**	**+1.1**
CBX	**Cerro Bola**	**2.54**	**308**	*eP*		**Pn**	**15 29 19.7**	**+0.1**
CBX				*eS*		**Sn**	**15 29 48.3**	**-1.2**
TJIG	**Tijuana**	**2.62**	**310**	*eP*		**Pn**	**15 29 21.1**	**+0.5**

*AUST **10** 15:34:22.4±1.6, 23.°51S×127.°12E, h0km, Error ellipse: s-maj=27.2km s-min=22.3km az=95.0*
*NOU **10** 15:34:24.5, 23.°51S×127.°26E, h0km, MLv4.1/8, Western Australia*
ISC 10 15:34:23.0±0.8, **23.°56S**±0.°07×**127.°17E**±0.°06, **h10km, n16,** σ2°**28**/20, **Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRKA	**Warakurna**	**1.79**	**145**	P		**Pg**	**15 34 57.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**5.62**	**345**	P		**Pn**	**15 35 48.1**	**+1.4**
	baz=5.6							
FITZ				S		**Sn**	**15 36 49.4**	**-2.0**
	baz=5.6							
FITZ	**Fitzroy Crossi**	**5.62**	**345**	P		**Pn**	**15 35 49.3**	**+2.6**
FORT	**Forrest**	**7.23**	**174**	P		**Pn**	**15 36 11.3**	**+2.6**
	baz=7.3							
FORT	**Forrest**	**7.23**	**174**	P		**Pn**	**15 36 11.1**	**+2.3**
WB2	**Warramunga Arr**	**7.58**	**63**	P		**Pn**	**15 36 13.8**	**+0.2**
	baz=7.6							
KNRA	**Kununurra**	**7.99**	**11**	P		**Pn**	**15 36 19.2**	**0.0**
	baz=8.0							
KNRA	**Kununurra**	**7.99**	**11**	P		**Pn**	**15 36 20.5**	**+1.3**
MEEK	**Meekatharra**	**8.34**	**247**	P		**Pn**	**15 36 23.1**	**-1.0**
	baz=8.3							
MEEK				S		**Sn**	**15 37 54.1**	**-4.3**
	baz=8.3							
MEEK	**Meekatharra**	**8.34**	**247**	P		**Pn**	**15 36 27.8**	**+3.7**
OOD	**Oodnadatta**	**8.76**	**121**	P		**Pn**	**15 36 31.3**	**+1.6**
	baz=8.8							
OOD				S		**Sn**	**15 38 07.0**	**-1.5**
	baz=8.8							
OOD	**Oodnadatta**	**8.76**	**121**	P		**Pn**	**15 36 31.6**	**+1.9**
MULG	**Mulgathing**	**9.08**	**139**	P		**Pn**	**15 36 36.7**	**+2.5**
MORW	**Morawa**	**11.39**	**239**	P		**Pn**	**15 37 04.2**	**-1.7**
	baz=11							
LCRK	**Leigh Creek**	**11.99**	**127**	P		**Pn**	**15 37 12.9**	**-1.1**
	baz=12							
LCRK				S		**Sn**	**15 39 25.0**	**-2.9**
	baz=12							
LCRK	**Leigh Creek**	**11.99**	**127**	P		**Pn**	**15 37 15.3**	**+1.3**

IDC 10 15:52:56.1±1.8, **28.°57S**×**61.°37E, h0km, mb3.6**/4, **mbtmp3.7**/5, **ML4.0**/1, **MS3.3**/1, **Error ellipse: s-maj=89.1km s-min=28.7km az=26.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.36**	**304**	Pn		Pn	15 56 48.7	+1.3
	0.1nm,0.3s,baz=283,slow=20,SNR=2.2							
OPO				Sn		Sn	15 59 40.7	-9.1
	0.1nm,0.3s,baz=87,slow=19,SNR=5.7							
	1.1nm,0.3s							
ATD	**Arta Tunnel**	**43.71**	**333**	LR		LR	16 17 19.2	
	comp=Z,33nm,19.4s,baz=108,slow=34							
H01W2	**Cape Leeuwin H**	**44.89**	**112**	T		T	16 48 51.5	
	baz=261,slow=75,SNR=23							
H01W3	**Cape Leeuwin H**	**44.89**	**112**	T		T	16 48 52.2	
	baz=261,slow=75,SNR=24							
H01W1	**Cape Leeuwin H**	**44.91**	**112**	T		T	16 48 52.8	
	baz=261,slow=75,SNR=24							
ASAR	**Alice Springs**	**64.41**	**104**	P		P	16 03 34.5	0.0
	0.5nm,0.8s,baz=247,slow=6.4,SNR=6.3							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**66.19**	**101**	P		P	16 03 46.2	+0.2
	0.5nm,0.8s,baz=253,slow=5.0,SNR=3.2							
	0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**71.03**	**297**	P		P	16 04 15.9	-0.3
	0.8nm,0.9s,baz=130,slow=4.5,SNR=3.0							
	0.8nm,0.9s							
MKAR	**Makanchi Array**	**77.36**	**15**	P		P	16 04 52.5	-0.1
	0.3nm,0.7s,baz=217,slow=6.9,SNR=3.2							
	0.3nm,0.7s							

*IDC **10** 16:03:00.3±0.9, 59.°42N×145.°22W, h0km, mb3.4/9, mbtmp3.5/11, ML3.7/2, MS3.0/3, Error ellipse: s-maj=21.9km s-min=15.0km az=64.0*
*NEIC **10** 16:03:01.6±1.4, 59.°35N±0.°04×144.°98W±0.°05, h22km±10km, Error ellipse: s-maj=6.4km s-min=2.7km az=155.0*
*AEIC **10** 16:03:02.6±1.3, 59.°31N±0.°02×144.°99W±0.°07, h23km±6km, ML3.6/165, ML3.8/136(NEIC), Error ellipse: s-maj=5.4km s-min=3.5km az=88.0*
ISC 10 16:03:01.8±1.3, **59.°38N**±0.°05×**145.°02W**±0.°03, **h15km±8km, n327,** σ6°**88**/297, **mb3.5**/9, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAIM	**Kayak Island**	**0.63**	**29**			**Pg**	**16 03 14.2**	**0.0**
KAIM	**Kayak Island**	**0.63**	**29**	IAML			16 03 33.2	
	comp=E,4μm,0.8s							
KAIM	**Kayak Island**	**0.63**	**29**	P		**Pg**	**16 03 14.2**	**0.0**
	baz=205							
MID	**Middleton Isla**	**0.68**	**275**			**Pg**	**16 03 15.0**	**0.0**
MID						**Sb**	**16 03 25.4**	**+1.0**
MID	**Middleton Isla**	**0.68**	**275**	IAML			16 03 29.2	
	comp=E,7μm,0.6s							
Q23K	**Middleton Isla**	**0.68**	**275**			**Pg**	**16 03 15.1**	**-0.1**
Q23K						**Sb**	**16 03 25.5**	**+1.0**
Q23K	**Middleton Isla**	**0.68**	**275**	IAML			16 03 29.3	
	comp=E,5μm,0.7s							
Q23K	**Middleton Isla**	**0.68**	**275**	P		**Pg**	**16 03 15.1**	**-0.1**
	baz=99							
Q23K				S		**Sb**	**16 03 25.5**	**+1.0**
	baz=99							
SUCK	**Suckling Hills**	**0.94**	**41**			**Pb**	**16 03 18.9**	**-0.8**
SUCK						**Sb**	**16 03 30.8**	**-1.1**
SUCK	**Suckling Hills**	**0.94**	**41**	IAML			16 03 34.9	
	comp=N,4μm,0.5s							
SUCK				IAML			16 03 37.1	
	comp=E,3μm,0.6s							
NICHA	**Nichawak Mount**	**1.01**	**31**			**Pb**	**16 03 20.2**	**-0.8**
RAGM	**Ragged Mountai**	**1.03**	**10**			**Pb**	**16 03 20.6**	**-0.7**
RAGM						**Sg**	**16 03 35.5**	**+0.4**
HMT	**Hamilton**	**1.04**	**21**			**Pb**	**16 03 20.8**	**-0.6**
BGLC	**Bering Glacier**	**1.15**	**49**			**Pn**	**16 03 22.3**	**-1.0**
BGLC	**Bering Glacier**	**1.15**	**49**	P		**Pn**	**16 03 22.3**	**-1.0**
	baz=228							
BERG	**Berg Lake**	**1.22**	**32**			**Pn**	**16 03 23.0**	**-1.2**
BERG						**Sb**	**16 03 38.6**	**-1.3**
GOAT	**Goat Mountain**	**1.22**	**7**			**Pn**	**16 03 23.8**	**-0.5**
EYAK	**Cordova Ski Ar**	**1.23**	**343**			**Pn**	**16 03 23.7**	**-0.6**
EYAK						**Sg**	**16 03 41.7**	**+0.1**
EYAK	**Cordova Ski Ar**	**1.23**	**343**	P		**Pn**	**16 03 23.7**	**-0.6**
	baz=163							
EYAK				S		**Sg**	**16 03 41.7**	**+0.1**
	baz=163							
GRIN	**Grindle Hills**	**1.25**	**43**			**Pn**	**16 03 24.0**	**-0.7**
HIN	**Hinchinbrook I**	**1.27**	**324**			**Pn**	**16 03 24.5**	**-0.4**
SNH	**Sunshine Point**	**1.37**	**53**			**Pn**	**16 03 25.4**	**-0.9**
SNH						**Sn**	**16 03 42.8**	**-1.3**
KHIT	**Khitrov Hills**	**1.39**	**39**			**Pn**	**16 03 25.7**	**-1.0**
CYK	**Cape Yakataga**	**1.47**	**60**			**Pn**	**16 03 26.7**	**-0.9**
WAX	**Waxell Ridge**	**1.53**	**44**			**Pn**	**16 03 27.6**	**-1.0**
WAX						**Sn**	**16 03 45.6**	**-2.7**
FID	**Port Fidalgo**	**1.56**	**333**			**Pn**	**16 03 28.6**	**-0.3**
BMRM	**Bremner River**	**1.61**	**7**			**Pn**	**16 03 29.2**	**-0.4**
BMRM	**Bremner River**	**1.61**	**7**	P		**Pn**	**16 03 29.2**	**-0.4**
	baz=187							
BARK	**Barkley Ridge**	**1.64**	**50**			**Pn**	**16 03 29.3**	**-0.7**
BARK						**Sn**	**16 03 49.0**	**-1.8**
MESA	**MESA**	**1.75**	**61**			**Pn**	**16 03 30.5**	**-1.1**
MESA	**MESA**	**1.75**	**61**	P		**Pn**	**16 03 30.5**	**-1.1**
	baz=242							
TGL	**Tana Glacier**	**1.77**	**37**			**Pn**	**16 03 31.1**	**-0.8**
TGL						**Sn**	**16 03 52.8**	**-1.2**
TGL	**Tana Glacier**	**1.77**	**37**	IAML			16 03 55.2	
	comp=N,875nm,0.8s							
DIV	**Divide**	**1.80**	**348**			**Pn**	**16 03 31.8**	**-0.5**
ISLE	**Juniper Island**	**1.82**	**46**			**Pn**	**16 03 31.6**	**-1.1**
ISLE	**Juniper Island**	**1.82**	**46**	IAML			16 04 06.8	
	comp=E,901nm,1.1s							
ISLE				IAML			16 04 14.4	
	comp=N,1μm,1.2s							
GLI	**Glacier Island**	**1.83**	**326**			**Pn**	**16 03 32.0**	**-0.6**
GLI	**Glacier Island**	**1.83**	**326**	IAML			16 03 58.6	
	comp=N,1μm,0.6s							
GLI	**Glacier Island**	**1.83**	**326**	P		**Pn**	**16 03 32.0**	**-0.6**
	baz=145							
VMT	**TAPS TI Valdez**	**1.84**	**339**			**Pn**	**16 03 32.2**	**-0.5**
BAGL	**Bagley Icefiel**	**1.85**	**52**			**Pn**	**16 03 31.9**	**-0.9**
JPK	**Jack Peak**	**1.86**	**336**			**Pn**	**16 03 32.6**	**-0.4**
YAH	**Yahtse**	**1.93**	**58**			**Pn**	**16 03 33.0**	**-1.1**
YAH	**Yahtse**	**1.93**	**58**	IAML			16 04 01.1	
	comp=E,1μm,0.6s							
CHX	**Chaix Hills**	**2.09**	**69**			**Pn**	**16 03 35.3**	**-1.0**
PS12	**TAPS Pump St12**	**2.11**	**358**			**Pn**	**16 03 36.2**	**-0.2**
GLB	**Gilahina Butte**	**2.16**	**16**			**Pn**	**16 03 36.8**	**-0.3**
GLB	**Gilahina Butte**	**2.16**	**16**	IAML			16 04 08.0	
	comp=N,378nm,0.6s							
KLU	**Klutina**	**2.17**	**348**			**Pn**	**16 03 37.0**	**-0.3**
KLU	**Klutina**	**2.17**	**348**	IAML			16 04 05.6	
	comp=N,521nm,0.8s							
KLU				IAML			16 04 13.8	
	comp=E,481nm,0.7s							
KLU	**Klutina**	**2.17**	**348**	P		**Pn**	**16 03 37.0**	**-0.3**
	baz=168							
PTPK	**Patty Peak**	**2.22**	**34**			**Pn**	**16 03 37.8**	**-0.3**
TABL	**Table Mountain**	**2.23**	**60**			**Pn**	**16 03 37.3**	**-0.9**
TABL	**Table Mountain**	**2.23**	**60**	IAML			16 04 08.7	
	comp=N,673nm,0.7s							
TABL				IAML			16 04 08.7	
	comp=E,739nm,0.7s							
PWL	**Port Wells**	**2.23**	**313**			**Pn**	**16 03 37.2**	**-0.9**
PWL	**Port Wells**	**2.23**	**313**	IAML			16 04 11.5	
	comp=E,497nm,0.7s							
PWL				IAML			16 04 16.0	
	comp=N,474nm,0.8s							
PWL	**Port Wells**	**2.23**	**313**	P		**Pn**	**16 03 37.2**	**-0.9**
	baz=132							
MCARA	**McCarthy VSAT**	**2.24**	**25**			**Pn**	**16 03 38.0**	**-0.3**
MCARA	**McCarthy VSAT**	**2.24**	**25**	P		**Pn**	**16 03 38.0**	**-0.3**
	baz=206							
N25K	**Chitina, Valde**	**2.25**	**5**			**Pn**	**16 03 38.5**	**+0.1**
N25K	**Chitina, Valde**	**2.25**	**5**	IAML			16 04 07.6	
	comp=N,438nm,0.6s							
N25K				IAML			16 04 07.8	
	comp=E,642nm,0.7s							
N25K	**Chitina, Valde**	**2.25**	**5**	P		**Pn**	**16 03 38.5**	**+0.1**
	baz=185							
SAMH	**Samovar Hills**	**2.27**	**69**			**Pn**	**16 03 38.1**	**-0.7**
SEW	**Seward**	**2.36**	**290**			**Pn**	**16 03 38.1**	**-1.8**
SEW	**Seward**	**2.36**	**290**	P		**Pn**	**16 03 38.1**	**-1.8**
	baz=108							
CTG	**Chitna Glacier**	**2.43**	**47**	P		**Pn**	**16 03 40.3**	**-0.7**
	baz=229							
CTGM	**Chitina Glacie**	**2.44**	**48**			**Pn**	**16 03 40.3**	**-0.7**
CTGM	**Chitina Glacie**	**2.44**	**48**	IAML			16 04 14.5	
	comp=N,963nm,1.1s							
LOGN	**Logan Glacier**	**2.48**	**52**			**Pn**	**16 03 40.7**	**-1.0**
LOGN	**Logan Glacier**	**2.48**	**52**	IAML			16 04 14.9	
	comp=E,408nm,0.5s							
LOGN				IAML			16 04 15.2	
	comp=N,697nm,0.5s							
PCA	**Pinnacle**	**2.52**	**71**			**Pn**	**16 03 41.0**	**-1.1**
PINM	**Pinnacle**	**2.52**	**71**	P		**Pn**	**16 03 41.0**	**-1.1**
	baz=254							
O22K	**Cooper Landing**	**2.62**	**297**			**Pn**	**16 03 42.4**	**-1.0**
O22K	**Cooper Landing**	**2.62**	**297**	P		**Pn**	**16 03 42.4**	**-1.0**
	baz=114							
KNK	**Knik Glacier**	**2.66**	**322**			**Pn**	**16 03 44.4**	**+0.3**
KNK	**Knik Glacier**	**2.66**	**322**	IAML			16 04 27.

baz=176
MENT **Mentasta** 3.63 9 Pn 16 03 57.2 -0.2
MENT **Mentasta** 3.63 9 IAML 16 05 13.1
comp=E,107nm,1.2s
MENT IAML 16 05 17.7
comp=N,121nm,0.8s
YUK7 **Dusty Glacier** 3.65 69 Pn 16 03 58.0 +0.3
BVCY **Beaver Creek** 3.66 32 Pn 16 03 58.4 +0.6
BVCY **Beaver Creek** 3.66 32 P Pn 16 03 58.4 +0.6
baz=215
P29M **Windy Craggy** 3.72 83 Pn Pn 16 03 57.5 -1.1
YUK4 **Talbot Arm** 3.73 55 P Pn 16 04 00.4 +1.5
baz=239
L26K **Log Cabin Wild** 3.75 12 Pn 16 03 59.6 +0.6
L26K **Log Cabin Wild** 3.75 12 P Pn 16 03 59.6 +0.6
baz=193
WAT1 **Susitna Watana** 3.87 335 Pn 16 04 01.0 +0.4
WAT1 **Susitna Watana** 3.87 335 P Pn 16 04 01.0 +0.4
baz=152
DHY **Denali Highway** 3.88 344 Pn 16 04 00.9 0.0
DHY **Denali Highway** 3.88 344 IAML 16 04 50.2
comp=E,94nm,0.6s
DHY **Denali Highway** 3.88 344 P Pn 16 04 00.9 0.0
baz=162
SYI **Shuyak Island** 3.89 262 Pn 16 04 00.5 -0.4
Q20K **Shuyak Island** 3.89 262 P Pn 16 04 00.5 -0.5
baz=76
O20K **Slope Mountain** 3.92 284 Pn 16 04 01.7 +0.4
O20K **Slope Mountain** 3.92 284 P Pn 16 04 01.7 +0.4
baz=98
WAT7 **Susitna Watana** 3.94 333 Pn 16 04 01.7 +0.1
SPU **Mount Spurr** 3.94 300 Pn 16 04 00.8 -0.9
CUT **Chulitna** 3.98 322 Pn 16 04 03.3 +1.2
STLK **Strandline Lak** 3.99 305 Pn 16 04 01.4 -1.0
L27K **Beaver Creek,** 4.01 21 Pn 16 04 02.2 -0.3
L27K **Beaver Creek,** 4.01 21 P Pn 16 04 02.2 -0.3
baz=204
BC03 4.02 21 Pn 16 04 02.5 -0.1
BCAR **Beaver Creek A** 4.02 21 Pn Pn 16 04 02.5 -0.2
SPCP **Crater Peak Br** 4.02 301 Pn 16 04 02.5 -0.4
HYT **Haines Junctio** 4.03 66 Pn Pn 16 04 02.8 -0.2
HYT IAML 16 05 15.7
comp=E,85nm,1.6s
HYT IAML 16 05 21.2
comp=N,77nm,1.0s
DFR **Drift River** 4.04 291 Pn 16 04 01.4 -1.6
RSO **Redoubt South** 4.04 289 Pn 16 04 04.4 +1.2
IVE **Iliamna Volcan** 4.11 282 Pn 16 04 04.1 +0.1
SKT **Skwentna** 4.13 312 Pn 16 04 04.1 -0.2
SKT IAML 16 05 13.6
comp=E,119nm,0.7s
SKT IAML 16 05 18.8
comp=N,120nm,1.3s
SKT **Skwentna** 4.13 312 P Pn 16 04 03.8 -0.5
baz=127
NCT **North Crescent** 4.15 290 Pn 16 04 03.0 -1.6
ILSW **Iliamna Southw** 4.17 282 Pn 16 04 04.2 -0.6
ILSW **Iliamna Southw** 4.17 282 IAML 16 04 56.4
comp=N,67nm,0.7s
ILSW IAML 16 05 05.9
comp=E,60nm,1.0s
P19K **Oil Pt** 4.20 277 Pn 16 04 05.6 +0.5
P19K **Oil Pt** 4.20 277 IAML 16 04 56.3
comp=E,188nm,0.7s
P19K **Oil Pt** 4.20 277 P Pn 16 04 05.6 +0.5
baz=91
KDAK **Kodiak Island** 4.27 251 Pn Pn 16 04 04.5 -1.6
comp=E,3.6nm,0.3s,baz=81,slow=12,SNR=71
KDAK Sn Sn 16 04 50.9 -4.7
comp=E,1.8nm,0.3s,baz=235,slow=19,SNR=8.7
KDAK LR LR 16 05 10.9
comp=E,68nm,20.0s,baz=230,slow=31
comp=E,10nm,0.3s
KDAK **Kodiak Island** 4.27 251 Pn 16 04 04.7 -1.4
KDAK **Kodiak Island** 4.27 251 IAML 16 04 56.8
comp=E,74nm,0.6s
DOT **Dot Lake** 4.31 6 Pn 16 04 07.2 +0.5
RIDG **Independent Ri** 4.38 1 Pn 16 04 08.5 +0.9
RIDG **Independent Ri** 4.38 1 IAML 16 05 38.4
comp=E,107nm,1.6s
RIDG IAML 16 05 43.0
comp=N,85nm,1.2s
RIDG **Independent Ri** 4.38 1 P Pn 16 04 08.5 +0.9
baz=181
PLBC **Pleasant Camp** 4.42 85 Pn 16 04 06.9 -1.2
PLBC **Pleasant Camp** 4.42 85 P Pn 16 04 06.9 -1.2
baz=272
M29M **Somme Creek** 4.44 43 Pn 16 04 08.6 +0.1
M29M **Somme Creek** 4.44 43 P Pn 16 04 08.6 +0.1
baz=228
RND **Reindeer** 4.44 337 Pn 16 04 08.9 +0.3
RND **Reindeer** 4.44 337 IAML 16 05 17.1
comp=E,99nm,0.7s
RND IAML 16 05 49.2
comp=N,79nm,1.4s
N30M **Aishikik Lake** 4.45 59 Pn 16 04 08.1 -0.6
N30M **Aishikik Lake** 4.45 59 P Pn 16 04 08.0 -0.6
baz=245
K24K **Donnelly Dome** 4.46 356 Pn 16 04 09.8 +1.1
K24K **Donnelly Dome** 4.46 356 P Pn 16 04 09.8 +1.1
baz=175
Q19K **Cape Douglas,** 4.46 268 Pn 16 04 08.9 +0.1
Q19K IAML 16 05 04.7
comp=N,177nm,0.7s
Q19K **Cape Douglas,** 4.46 268 P Pn 16 04 09.1 +0.2
baz=81
SCRK **Sand Creek** 4.64 6 Pn 16 04 11.6 +0.2
SCRK **Sand Creek** 4.64 6 IAML 16 05 38.1
comp=E,50nm,1.6s
SCRK **Sand Creek** 4.64 6 P Pn 16 04 11.6 +0.2
baz=186
O30N **Mendenhall** 4.69 69 Pn 16 04 11.0 -0.9
O30N **Mendenhall** 4.69 69 P Pn 16 04 11.0 -0.9
baz=256
M20K **Styx River** 4.72 306 Pn 16 04 14.1 +1.7
M20K IAML 16 05 29.6
comp=E,47nm,0.8s
MCK **McKinley** 4.76 338 Pn 16 04 13.6 +0.8
MCK **McKinley** 4.76 338 IAML 16 05 11.5
comp=E,81nm,0.5s
MCK **McKinley** 4.76 338 P Pn 16 04 13.6 +0.8
baz=155
TRF **Thorofare Moun** 4.81 330 Pn 16 04 14.1 +0.4
TRF **Thorofare Moun** 4.81 330 IAML 16 05 43.6
comp=E,107nm,1.7s
TRF IAML 16 05 44.1
comp=N,102nm,1.0s
TRF **Thorofare Moun** 4.81 330 P Pn 16 04 14.1 +0.4
baz=146
OHAK **Old Harbor** 4.87 247 Pn 16 04 11.9 -2.4
OHAK **Old Harbor** 4.87 247 IAML 16 05 12.1
comp=E,48nm,0.6s
OHAK **Old Harbor** 4.87 247 P Pn 16 04 11.9 -2.4
baz=61
K27K **Chicken** 4.88 15 Pn 16 04 14.7 +0.3
K27K **Chicken** 4.88 15 P Pn 16 04 14.7 +0.3
baz=198
N19K **Bonanza Creek** 4.95 291 Pn Pn 16 04 14.3 -1.2
M30M **Minto, Yukon** 5.13 48 Pn 16 04 17.6 -0.4
M30M **Minto, Yukon** 5.13 48 IAML 16 05 59.3
comp=E,36nm,1.0s
M30M **Minto, Yukon** 5.13 48 P Pn 16 04 17.6 -0.4
baz=234
HDA **Harding Lake** 5.13 351 Pn 16 04 16.9 -1.1
HDA **Harding Lake** 5.13 351 IAML 16 05 54.3
comp=N,49nm,1.8s
HDA IAML 16 05 56.4
comp=E,70nm,1.2s
HDA **Harding Lake** 5.13 351 P Pn 16 04 16.9 -1.1
baz=169
J26L **Joseph Creek** 5.19 7 Pn 16 04 19.5 +0.7
J26L **Joseph Creek** 5.19 7 IAML 16 05 19.9
comp=E,44nm,0.8s
J26L **Joseph Creek** 5.19 7 P Pn 16 04 19.5 +0.7
baz=188
O18K **Koktuh Hills** 5.20 280 Pn Pn 16 04 19.2 +0.3
O18K IAML 16 05 32.7
comp=N,33nm,1.0s
WHY **Whitehorse** 5.25 71 Pn 16 04 18.6 -1.0
WHY **Whitehorse** 5.25 71 P Pn 16 04 18.8 -0.8
baz=260
BWN **Browne** 5.25 338 Pn Pn 16 04 17.5 -2.1
J25K **Salcha River,** 5.26 358 Pn 16 04 19.6 -0.2
J25K **Salcha River,** 5.26 358 IAML 16 05 59.2
comp=E,31nm,0.8s
J25K **Salcha River,** 5.26 358 P Pn 16 04 19.6 -0.2
baz=178
M19K **Big River Lodg** 5.26 303 Pn 16 04 19.4 -0.4
M19K **Big River Lodg** 5.26 303 P Pn 16 04 19.4 -0.4
baz=115
WRH **Wood River Hil** 5.32 345 Pn 16 04 19.8 -0.6
WRH **Wood River Hil** 5.32 345 IAML 16 05 49.5
comp=E,44nm,1.8s
WRH IAML 16 05 50.2
comp=N,41nm,1.0s
L20K **Farewell, AK** 5.33 310 Pn 16 04 20.3 -0.3
L20K **Farewell, AK** 5.33 310 P Pn 16 04 20.3 -0.3
baz=122
DAWY **Dawson** 5.41 27 Pn 16 04 21.0 -0.8
DAWY **Dawson** 5.41 27 P Pn 16 04 21.0 -0.8
baz=212
CCB **Clear Creek Bu** 5.45 347 Pn 16 04 21.3 -1.0
IL31 5.49 352 Pn 16 04 21.7 -1.1
ILAR **Eielson Array** 5.49 352 Pn Pn 16 04 21.6 -1.1
comp=N,3.0nm,0.3s,baz=178,slow=13,SNR=148
ILAR Sn Sn 16 05 23.6 -2.0
comp=N,1.3nm,0.3s,baz=172,slow=21,SNR=5.3
comp=N,7.7nm,0.5s
ILAR **Eielson Array** 5.49 352 Pn 16 04 21.5 -1.3
BPAW **Bear Paw Mtn.** 5.52 332 Pn 16 04 22.9 -0.4
BPAW **Bear Paw Mtn.** 5.52 332 P Pn 16 04 22.9 -0.4
baz=147
SVW2 **Sparrevohn** 5.54 293 Pn Pn 16 04 22.6 -1.0
NEA2 **Nenana** 5.57 342 Pn 16 04 22.9 -1.1
NEA2 **Nenana** 5.57 342 P Pn 16 04 22.9 -1.1
baz=158
L19K **White Mountain** 5.58 304 Pn 16 04 24.0 -0.1
L19K **White Mountain** 5.58 304 P Pn 16 04 24.0 -0.1
baz=116
N18K **Kilae Creek** 5.61 288 Pn 16 04 22.5 -1.9
N18K **Kilae Creek** 5.61 288 P Pn 16 04 22.5 -1.9
baz=99
COLA **College** 5.68 348 Pn 16 04 24.5 -0.8
TCOL **CIGO, UAF Yank** 5.68 348 Pn 16 04 24.8 -0.6
EGAK **Eagle** 5.71 17 Pn 16 04 26.1 +0.1
EGAK **Eagle** 5.71 17 P Pn 16 04 26.0 +0.1
baz=200
K29M **Barlow Dome** 5.73 35 Pn 16 04 26.6 +0.3
K29M **Barlow Dome** 5.73 35 P Pn 16 04 26.6 +0.3
baz=221
MDM **Murphy Dome** 5.80 346 Pn 16 04 26.1 -1.0
P17K **Kvichak River** 5.86 273 Pn 16 04 27.9 0.0
P17K **Kvichak River** 5.86 273 P Pn 16 04 27.9 0.0
baz=84
POKR **Poker Plat Res** 5.87 350 Pn 16 04 27.0 -1.1
POKR **Poker Plat Res** 5.87 350 P Pn 16 04 27.0 -1.1
baz=168
K20K **Telida** 5.91 316 Pn 16 04 28.1 -0.5
K20K **Telida** 5.91 316 P Pn 16 04 28.1 -0.5
baz=129
M31M **Drury Creek, Y** 5.92 57 Pn 16 04 28.6 -0.2
I26K **Coal Creek Min** 6.02 7 Pn 16 04 30.8 +0.8
I26K **Coal Creek Min** 6.02 7 P Pn 16 04 30.8 +0.8
baz=189
O17K **Koliganek Bris** 6.15 279 Pn 16 04 31.4 -0.5
O17K **Koliganek Bris** 6.15 279 P Pn 16 04 31.4 -0.5
baz=89
PRP **Porcupine Dome** 6.17 358 Pn 16 04 32.0 -0.2
PRP **Porcupine Dome** 6.17 358 P Pn 16 04 32.0 -0.2
baz=178
R17K **Ugashik Creek** 6.21 259 Pn 16 04 32.5 -0.2
R17K **Ugashik Creek** 6.21 259 P Pn 16 04 32.5 -0.2
baz=70
MLY **Manley** 6.27 337 Pn 16 04 33.1 -0.5
MLY **Manley** 6.27 337 P Pn 16 04 33.1 -0.5
baz=152
TT01 **Tatalina** 6.39 308 Pn 16 04 35.2 0.0
TTA **Tatalina** 6.40 309 Pn Pn 16 04 34.5 -0.9
I27K **Kandik River** 6.45 13 Pn 16 04 36.5 +0.6
I27K **Kandik River** 6.45 13 P Pn 16 04 36.5 +0.6
baz=195
J20K **Nowinta River** 6.47 322 Pn 16 04 36.2 -0.1
J20K **Nowinta River** 6.47 322 P Pn 16 04 36.2 -0.1
baz=134
H24K **Noodor Dome** 6.62 350 Pn 16 04 37.6 -0.8
H24K **Noodor Dome** 6.62 350 P Pn 16 04 37.6 -0.8
baz=167
I21K **Tanana** 6.67 334 Pn 16 04 38.8 -0.2
I21K **Tanana** 6.67 334 P Pn 16 04 38.8 -0.2
baz=148
P16K **Nushagak River** 6.67 273 Pn 16 04 39.3 +0.3
P16K **Nushagak River** 6.67 273 P Pn 16 04 39.3 +0.3
baz=82
I29M **Ogilvie Camp,** 6.76 25 Pn 16 04 40.5 +0.1
H23K **Yukon River** 6.80 344 Pn 16 04 40.4 -0.4
H23K **Yukon River** 6.80 344 P Pn 16 04 40.4 -0.4
baz=160
H25K **Birch Creek** 6.93 357 Pn 16 04 42.8 +0.3
H25K **Birch Creek** 6.93 357 P Pn 16 04 42.8 +0.3
baz=176
N16K **Nishlik Lake** 7.00 285 Pn 16 04 43.4 -0.2
N16K **Nishlik Lake** 7.00 285 P Pn 16 04 43.3 -0.2
baz=94
H27K **Steamboat Moun** 7.06 12 Pn 16 04 44.6 +0.2
H27K **Steamboat Moun** 7.06 12 P Pn 16 04 44.6 +0.2
baz=194
H22K **Ishtalitna Cre** 7.16 339 Pn 16 04 45.7 -0.1
H22K **Ishtalitna Cre** 7.16 339 P Pn 16 04 45.7 -0.1
baz=153
H21K **Melozitna Rive** 7.25 334 Pn 16 04 46.5 -0.5
H21K **Melozitna Rive** 7.25 334 P Pn 16 04 46.5 -0.5
baz=147
G24K **Hadweenzic Riv** 7.44 352 Pn 16 04 48.6 -1.0
G24K **Hadweenzic Riv** 7.44 352 P Pn 16 04 48.6 -1.0
baz=170
G26K **Porcupine Rive** 7.62 4 Pn 16 04 52.1 +0.1
G26K **Porcupine Rive** 7.62 4 P Pn 16 04 52.1 +0.1
baz=185
G23K **Bananza Creek** 7.70 345 Pn 16 04 52.3 -0.9
G23K **Bananza Creek** 7.70 345 P Pn 16 04 52.3 -0.9
baz=161
IM03 7.75 333 Pn 16 04 53.6 -0.1
IMAR **Indian Mountai** 7.75 333 Pn Pn 16 04 53.5 -0.3
CHGN **Chignik** 7.78 252 Pn 16 04 54.1 -0.1
DLBC **Dease Lake** 7.82 90 Pn Pn 16 04 47.2 -7.7
comp=N,0.5nm,0.3s,baz=342,slow=20,SNR=2.1
BM03 **Burnt Mountain** 8.08 1 Pn 16 04 58.4 0.0
BMAR **Burnt Mountain** 8.09 1 Pn Pn 16 04 56.5 -2.0
BM01 **Burnt Mountain** 8.11 1 Pn 16 04 58.8 0.0
G21K **Allakaket** 8.13 335 Pn 16 04 58.7 -0.4
G21K **Allakaket** 8.13 335 P Pn 16 04 58.7 -0.4
baz=148
COLD **Coldfoot** 8.22 346 Pn 16 04 59.9 -0.4
COLD **Coldfoot** 8.22 346 P Pn 16 04 59.8 -0.4
baz=161
F25K **Christian Rive** 8.26 358 Pn 16 05 00.4 -0.4
F25K **Christian Rive** 8.26 358 P Pn 16 05 00.4 -0.4
baz=178
F24K **Squaw Lake** 8.27 352 Pn 16 05 00.6 -0.4
F24K **Squaw Lake** 8.27 352 P Pn 16 05 00.6 -0.4
baz=170
F26K **Sheenjek River** 8.36 2 Pn 16 05 02.5 +0.3
F26K **Sheenjek River** 8.36 2 P Pn 16 05 02.5 +0.3
baz=183
F21K **Alatna River** 8.74 338 Pn 16 05 07.6 +0.2
F21K **Alatna River** 8.74 338 P Pn 16 05 07.6 +0.2
baz=150
E24K **Your Creek** 8.87 352 Pn 16 05 08.7 -0.5
E24K **Your Creek** 8.87 352 P Pn 16 05 08.7 -0.5
baz=168
CNBA **Chernabura Isl** 9.14 246 Pn Pn 16 05 12.1 -0.8
TOLK **Toolik Lake Re** 9.51 350 Pn Pn 16 05 18.2 +0.2
INK **Inuvik** 10.28 25 LR LR 16 09 33.7
comp=N,69nm,21.7s,baz=133,slow=38
UNV **Unalaska Valle** 13.03 254 Pn Pn 16 06 04.8 -1.3
NVAR **Mina Array Bea** 27.02 129 P P 16 08 44.2 +1.1
comp=N,0.3nm,0.7s,baz=311,slow=8.2,SNR=1.7
comp=N,0.3nm,0.7s
PDAR **Pinedale Array** 27.35 112 P P 16 08 49.0 +2.9
comp=N,0.1nm,0.3s,baz=276,slow=4.4,SNR=1.5
comp=N,0.1nm,0.3s
TXAR **Lajitas Array** 41.04 119 P P 16 10 47.2 +2.9
comp=N,0.3nm,0.6s,baz=338,slow=6.9,SNR=1.9
comp=N,0.3nm,0.6s
TKL **Tuckaleechee C** 45.64 93 LR LR 16 33 20.4
comp=N,42nm,18.8s,baz=138,slow=40
SONM **Songino Array** 58.34 311 P P 16 12 56.7 +0.9
comp=N,0.6nm,0.6s,baz=53,slow=7.3,SNR=4.9
comp=N,0.6nm,0.6s
FINES **FINESS Array B** 59.31 5 P P 16 13 01.8 -0.4
comp=N,1.8nm,0.9s,baz=320,slow=6.2,SNR=4.3
comp=N,1.8nm,0.9s
ZALV **Zalesovo Beam** 60.15 329 P P 16 13 08.2 +0.1
comp=N,0.2nm,0.3s,baz=0.0,slow=2.9,SNR=1.5
comp=N,0.2nm,0.3s
MKAR **Makanchi Array** 67.31 327 P P 16 13 54.0 -1.4
comp=N,0.1nm,0.5s,baz=30,slow=6.7,SNR=1.4
comp=N,0.1nm,0.5s
GERES **GERESS Array B** 70.75 15 P P 16 14 17.6 +0.7
comp=N,0.2nm,0.5s,baz=299,slow=4.4,SNR=1.9
comp=N,0.2nm,0.5s
ESDC **Sonseca Array** 76.18 30 P P 16 14 49.3 +0.4
comp=N,0.3nm,0.7s,baz=339,slow=4.8,SNR=2.1
comp=N,0.3nm,0.7s

JMA ***10*** *16:06:03.6±0.2,24°N±2°×122°.5E±0°.5, h74km±2km, MV2.4/11, NW OFF ISHIGAKIJIMA IS*
TAP ***10*** *16:06:04.1,24°.26N×122°.50E, h68km, ML3.0, D*
ISC 10 16:06:04.5±1.3,24°.22N±0°.04×122°.48E±0°.02, h62km±10km, n83, σ0°.81/126, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	0.48	62	P	Pn	16 06 16.7	+0.2
JYNG				S	Sn	16 06 25.8	+0.6
YOJ	**Yonaguni jima**	0.54	64	P	Pn	16 06 17.1	0.0
baz=60							
YOJ				eS	Sn	16 06 26.5	+0.3
YOJ	**Yonaguni jima**	0.54	64	P	Pn	16 06 17.2	+0.2
YOJ				eS	Sn	16 06 27.3	+1.0
EWUT	**Wuta**	0.68	289	eP	Pn	16 06 17.7	-0.9
baz=286							
EWUT				eS	Sn	16 06 28.2	-0.7
baz=286							
TWC	**Suao**	0.69	304	eP	Pn	16 06 18.3	-0.5
baz=301							
TWC				eS	Sn	16 06 29.1	-0.1
baz=301							
ENA	**Nanau**	0.70	287	P	Pn	16 06 19.1	+0.2
baz=290							
ENA				eS	Sn	16 06 29.7	+0.2
baz=290							
ETL	**Fush Village**	0.78	266	eP	Pn	16 06 19.7	-0.2
baz=263							
ETL				eS	Sn	16 06 31.5	+0.2
baz=263							
EGS		0.80	321	eP	Pn	16 06 20.0	-0.1
baz=319							
NACB	**Ninganchiao**	0.81	267	P	Pn	16 06 19.7	-0.5
baz=264							
NACB				S	Sn	16 06 31.6	-0.1
baz=264							
TWD	**Chiawan**	0.82	260	eP	Pn	16 06 19.4	-1.0
baz=250							
TWD				eS	Sn	16 06 31.9	-0.1
baz=250							
NTC	**Toucheng**	0.86	317	eP	Pn	16 06 21.0	+0.1
baz=313							
NTC				eS	Sn	16 06 32.7	-0.3
baz=313							
TWE	**Neicheng**	0.89	304	P	Pn	16 06 21.9	+0.7
baz=308							
TWE				eS	Sn	16 06 34.8	+1.1
baz=308							
TWB1	**Santiao Chiao**	0.90	330	eP	Pn	16 06 20.9	-0.5
baz=317							
TWB1				eS	Sn	16 06 33.3	-0.5
baz=317							
ETLH	**Xiulin Townshi**	0.91	269	eP	Pn	16 06 21.5	-0.1
baz=267							
LATG	**Datong**	0.92	290	P	Pn	16 06 22.1	+0.3
baz=287							
LATG				eS	Sn	16 06 35.6	+1.1
baz=287							
ENTT	**Nioudou**	0.93	297	eP	Pn	16 06 21.3	-0.5
baz=286							
ENTT				eS	Sn	16 06 34.3	-0.2
baz=286							
TIPB	**Shuangxi**	0.95	322	eP	Pn	16 06 21.6	-0.6
baz=318							
TIPB				eS	Sn	16 06 34.6	-0.5
baz=318							
NDT	**Datong Townshi**	0.96	294	eP	Pn	16 06 22.7	+0.6
baz=284							
NDT				eS	Sn	16 06 36.0	+0.8
baz=284							
FUSB	**Fushanzhiwuyua**	0.97	304	P	Pn	16 06 22.8	+0.4
baz=308							
FUSB				eS	Sn	16 06 36.4	+0.8
baz=308							
NNSB	**Datong**	1.02	282	P	Pn	16 06 23.0	0.0
baz=279							
NNSB				eS	Sn	16 06 36.7	0.0
baz=279							
SXI1	**Grass Mountain**	1.03	328	eP	Pn	16 06 22.5	-0.6
baz=325							
SXI1				eS	Sn	16 06 36.5	-0.3
baz=325							
NNS	**Nan Shan**	1.03	282	eP	Pn	16 06 22.2	-1.0
baz=279							
NNS				eS	Sn	16 06 36.2	-0.8
baz=279							
ESL	**Shilin**	1.04	247	eP	Pn	16 06 22.9	-0.3
baz=246							
YHNB	**Yeheng**	1.10	294	P	Pn	16 06 24.5	+0.4
baz=284							
YHNB				eS	Sn	16 06 38.4	-0.1
baz=284							
EGFH	**Guangfu**	1.11	240	eP	Pn	16 06 24.0	0.0
baz=235							
EGFH				eS	Sn	16 06 38.6	0.0
baz=235							
TWA	**Mucha**	1.11	313	eP	Pn	16 06 25.0	+0.8
baz=320							
WHF	**Hehuan Shan**	1.11	266	eP	Pn	16 06 24.5	0.0
baz=256							
WHF				eS	Sn	16 06 39.3	0.0
baz=256							
NSK	**Sanguang**	1.12	294	P	Pn	16 06 23.3	-0.9
baz=284							
NSK				eS	Sn	16 06 38.0	-0.9
baz=284							
FUSS	**Fushou**	1.13	272	eP	Pn	16 06 25.0	+0.4
baz=269							
FUSS				eS	Sn	16 06 39.4	0.0
baz=269							
IRIF	**Iriomote-Funau**	1.15	84	P	Pn	16 06 24.5	-0.1
IRIF				S	Sn	16 06 39.5	0.0
TWT	**Tachien**	1.19	272	eP	Pn	16 06 26.0	+0.7
baz=269							
TWT				eS	Sn	16 06 41.4	+0.6
baz=269							
CHGB	**Renai**	1.20	263	eP	Pn	16 06 25.9	+0.4
baz=253							
CHGB				eS	Sn	16 06 41.3	+0.2
baz=253							
TDCB	**Techi**	1.21	272	eP	Pn	16 06 26.3	+0.8
baz=269							
TDCB				eS	Sn	16 06 41.2	+0.1
baz=269							
HGSD	**Ruisui**	1.21	233	eP	Pn	16 06 25.3	-0.1
baz=228							
HGSD				eS	Sn	16 06 40.7	-0.2
baz=228							
OWD	**Renai**	1.22	258	eP	Pn	16 06 25.7	0.0
baz=256							
OWD				eS	Sn	16 06 40.9	-0.5
baz=256							
HATJ	**Hateruma jima**	1.22	97	P	Pn	16 06 26.1	+0.5
HATJ				S	Sn	16 06 42.8	+1.5
YM01	**YM01**	1.24	318	eP	Pn	16 06 24.5	-1.3
baz=316							
WUSB	**Renai**	1.26	260	eP	Pn	16 06 26.7	+0.4
baz=253							
WUSB				eS	Sn	16 06 42.4	-0.1
baz=253							
EHY	**Hungye**	1.28	236	eP	Pn	16 06 26.3	0.0
baz=245							
NFF	**Wufeng Townshi**	1.31	289	eP	Pn	16 06 26.7	-0.1
baz=286							
VWDT	**VWDT**	1.31	249	eP	Pn	16 06 26.9	+0.2
baz=248							
YULB	**Yu-li**	1.36	233	eP	Pn	16 06 27.0	-0.4
baz=243							
YULB				eS	Sn	16 06 43.5	-1.1
baz=243							
EYUL	**Yuli**	1.37	231	eP	Pn	16 06 27.7	+0.1

	baz=226								
EYUL				*e*S		**Sn**	**16 06 45.7**	**+0.9**	
	baz=226								
NCUH	**Zhongli**	**1.39**	**303**	*e*P		**Pn**	**16 06 28.2**	**+0.4**	
	baz=300								
JKRS	**Kuro-shima**	**1.40**	**89**	P		**Pn**	**16 06 28.2**	**+0.3**	
JKRS				S		**Sn**	**16 06 45.8**	**+0.4**	
LIOB	**Emei**	**1.40**	**288**	*e*P		**Pn**	**16 06 28.4**	**+0.4**	
	baz=298								
WHP	**Taichung City**	**1.40**	**273**	*e*P		**Pn**	**16 06 29.2**	**+1.2**	
	baz=270								
WHP				*e*S		**Sn**	**16 06 46.6**	**+1.0**	
	baz=270								
NSTT	**Nanjuang**	**1.41**	**287**	*e*P		**Pn**	**16 06 28.7**	**+0.7**	
	baz=284								
NSTT				*e*S		**Sn**	**16 06 46.4**	**+0.7**	
	baz=284								
WCS	**Beigang Elemen**	**1.44**	**264**	*e*P		**Pn**	**16 06 28.6**	**+0.1**	
	baz=259								
SSLB	**Suanglung**	**1.46**	**253**	*e*P		**Pn**	**16 06 28.7**	**0.0**	
	baz=245								
SMLT	**Sun Moon Lake**	**1.48**	**257**	*e*P		**Pn**	**16 06 30.0**	**+0.9**	
	baz=250								
SMLT				*e*S		**Sn**	**16 06 48.3**	**+0.7**	
	baz=250								
TYC	**Yuchr**	**1.52**	**258**	*e*P		**Pn**	**16 06 30.3**	**+0.8**	
	baz=250								
JIJ	**Ishigaki jima**	**1.52**	**84**	P		**Pn**	**16 06 29.2**	**-0.4**	
JIJ				S		**Sn**	**16 06 47.2**	**-1.3**	
WHYT	**Xinyi Township**	**1.58**	**251**	*e*P		**Pn**	**16 06 31.8**	**+1.5**	
	baz=246								
YUS	**Yu-Shan**	**1.58**	**243**	*e*P		**Pn**	**16 06 31.3**	**+0.5**	
	baz=235								
EDH	**Donghe**	**1.65**	**221**	*e*P		**Pn**	**16 06 30.6**	**-0.6**	
	baz=218								
EDH				*e*S		**Sn**	**16 06 49.8**	**-1.6**	
	baz=218								
WJS	**Zhushan**	**1.65**	**256**	*e*P		**Pn**	**16 06 33.4**	**+2.1**	
	baz=251								
WNT	**Mingjian**	**1.68**	**259**	*e*P		**Pn**	**16 06 33.3**	**+1.7**	
	baz=257								
ALS	**Alishan**	**1.69**	**246**	*e*P		**Pn**	**16 06 33.3**	**+1.3**	
	baz=245								
ELDTW	**Lidau**	**1.69**	**233**	*e*P		**Pn**	**16 06 31.8**	**-0.1**	
	baz=226								
JISG	**Ishigakijimahi**	**1.71**	**77**	P		**Pn**	**16 06 31.8**	**-0.3**	
LDUT	**Ludao**	**1.80**	**211**	*e*P		**Pn**	**16 06 32.0**	**-1.2**	
	baz=218								
WDLH	**Douliu**	**1.85**	**254**	*e*P		**Pn**	**16 06 35.7**	**+1.7**	
	baz=245								
STYH	**Taoyuan**	**1.88**	**237**	*e*P		**Pn**	**16 06 34.5**	**+0.1**	
	baz=230								
TWGBT	**Beinan**	**1.90**	**223**	*e*P		**Pn**	**16 06 33.9**	**-0.7**	
	baz=230								
TPUB	**Ta-pu**	**1.93**	**242**	*e*P		**Pn**	**16 06 37.0**	**+2.0**	
	baz=241								
WTP	**Ta-pu**	**1.96**	**241**	*e*P		**Pn**	**16 06 37.2**	**+1.6**	
	baz=240								
TWK	**Hsinying**	**2.06**	**243**	*e*P		**Pn**	**16 06 38.4**	**+1.5**	
	baz=242								
CHN1	**Nanshi**	**2.06**	**240**	*e*P		**Pn**	**16 06 38.8**	**+1.9**	
	baz=240								
JTJ	**Tarama**	**2.07**	**78**	P		**Pn**	**16 06 37.0**	**0.0**	
JTJ				S		**Sn**	**16 07 01.6**	**0.0**	
WSL	**Shuilin Townsh**	**2.17**	**252**	*e*P		**Pn**	**16 06 39.2**	**+0.8**	
	baz=251								
SSD	**Sandimen**	**2.24**	**229**	*e*P		**Pn**	**16 06 40.4**	**+1.1**	
	baz=227								
SCST	**Cishan**	**2.25**	**234**	*e*P		**Pn**	**16 06 41.8**	**+2.4**	
	baz=245								
TSMG	**Majia**	**2.26**	**228**	*e*P		**Pn**	**16 06 40.6**	**+1.1**	
	baz=225								
MASBT	**Mashibuluo**	**2.33**	**227**	*e*P		**Pn**	**16 06 41.2**	**+0.6**	
	baz=224								
LAY	**Lan-yu**	**2.33**	**202**	*e*P		**Pn**	**16 06 39.6**	**-1.0**	
	baz=198								
LAY				*e*S		**Sn**	**16 07 06.7**	**-1.5**	
	baz=198								
SCZT	**Fangliau**	**2.51**	**223**	*e*P		**Pn**	**16 06 44.7**	**+1.7**	
	baz=222								
JIRB	**Irabujima**	**2.53**	**76**	P		**Pn**	**16 06 43.1**	**-0.1**	
PNG	**Penghu**	**2.75**	**257**	*e*P		**Pn**	**16 06 45.5**	**-0.7**	
	baz=256								
WDGT	**Dungji**	**2.75**	**250**	*e*P		**Pn**	**16 06 46.4**	**+0.1**	
	baz=249								
VWUC	**VWUC**	**2.86**	**286**	*e*P		**Pn**	**16 06 46.9**	**-0.8**	
	baz=285								
VCHM	**Qimei**	**2.97**	**251**	*e*P		**Pn**	**16 06 49.1**	**-0.1**	
	baz=250								
MATB	**Ma-tsu**	**2.99**	**310**	*e*P		**Pn**	**16 06 48.7**	**-0.8**	
	baz=308								

BJI ***10*** *16:08:15.9±0.0,5.°60S×149.°73E,h138km,mb5.0/59, mB5.0/38*

IDC ***10*** *16:08:18.3±0.5,5.°60S×149.°67E,h145km±4km,mb4.5/24, mbtmp4.9/29,MS3.6/7,Error ellipse: s-maj=9.3km s-min=6.5km az=118.0*

NEIC ***10*** *16:08:18.2±2.7,5.°68S±0.°07×149.°72E±0.°08,h141km±5km, mb5.0/103,Error ellipse: s-maj=11.5km s-min=9.5km az=106.0*

MOS ***10*** *16:08:19.3±0.9,5.°59S×149.°60E,h168km,mb5.0/21,Error ellipse: s-maj=11.2km s-min=5.7km az=97.9*

DJA ***10*** *16:08:19.7±0.4,6.°S±3.°×15.°0E±.°,h148km±4km,M5.1/25, mB5.3/8,mb4.9/25,MLv5.6/3,Mw(mB)4.8/8*

GCMT ***10*** *16:08:19.2±0.2,5.°66S±0.°01×149.°56E±0.°02,h142km±2km, MW5.1/116,Moment Tensor Solution. s47,c53; s116,c179; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.87±.13; $M_{\theta\theta}$4.17±.15; $M_{\phi\phi}$-0.30±.15; $M_{r\theta}$-2.63±.12; $M_{\theta\phi}$0.06±.16; $M_{\phi r}$-1.44±.12; Best double couple: M_o5.02200×10^{16} NP1:ϕ_s73.00000°,δ64.00000°, λ-105.00000°. NP2:ϕ_s285.00000°,δ30.00000°, λ-62.00000°. Principal axes: T 4.9970, Plg17.0000°, Azm174.0000°; N 0.0470, Plg14.0000°, Azm80.0000°; P -5.0470, Plg68.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 16:08:18.3±0.3,5.°66S±0.°04×149.°74E±0.°05,h145km±2km, h146km:pP-P,n530,cr1:918/564,mb5.0/113,13C-15D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.65**	**60**	P			**Pn**	**16 09 00.8**	**-0.3**
	897nm,0.5s,baz=272,slow=0.2,SNR=380								
KRVT				S			**Sn**	**16 09 33.4**	**-0.6**
	520nm,0.5s,baz=183,slow=8.7,SNR=3.1								
KRVT				LR			LR	16 09 57.4	
	comp=Z,805nm,20.5s,baz=335,slow=37								
RABL	**Rabaul**	**2.83**	**59**				**Pn**	**16 09 02.2**	**-1.1**
MANU	**Manus Island**	**4.30**	**327**				**Pn**	**16 09 23.4**	**+0.9**
PMG	**Port Moresby**	**4.51**	**214**	P			**Pn**	**16 09 25.8**	**+0.6**
	638nm,0.4s,baz=356,slow=4.4,SNR=159								
PMG				S			**Sn**	**16 10 18.8**	**+1.5**
	4μm,0.6s,baz=141,slow=12,SNR=13								
PMG	**Port Moresby**	**4.51**	**214**	Pn			**Pn**	**16 09 24.6**	**-0.6**
PMG	**Port Moresby**	**4.51**	**214**	*c*	*i*P		**Pn**	**16 09 25.8**	**+0.6**
PMG					pmax	pmax			
	comp=Z,1μm,1.3s								
PMG	**Port Moresby**	**4.51**	**214**	P			**Pn**	**16 09 26.2**	**+1.0**
GENI	**Genyem**	**10.02**	**287**	P			**Pn**	**16 10 40.2**	**+1.5**
	comp=Z,34nm,1.0s								
GENI	**Genyem**	**10.02**	**287**	P			**Pn**	**16 10 39.4**	**+0.7**
COEN	**Coen**	**10.47**	**218**	P			**Pn**	**16 10 45.3**	**+0.6**
	baz=10,SNR=17								
COEN	**Coen**	**10.47**	**218**	Pn			**Pn**	**16 10 45.4**	**+0.7**
COEN	**Coen**	**10.47**	**218**	P			**Pn**	**16 10 45.7**	**+1.0**
SMPI	**Sarmi**	**11.59**	**288**	P			**Pn**	**16 10 59.5**	**+0.1**
	comp=Z,32nm,1.7s								
MTSU	**Mount Surprise**	**13.48**	**203**	P			**Pn**	**16 11 25.7**	**+1.9**
	baz=14,SNR=24								
MTSU	**Mount Surprise**	**13.48**	**203**	P			**Pn**	**16 11 25.1**	**+1.2**
CTA	**Charters Tower**	**14.74**	**193**	P			**P**	**16 11 41.5**	**-0.4**
	comp=Z,100nm,0.8s,baz=13,slow=12,SNR=63								
CTA				LR			LR	16 17 57.5	
	comp=Z,148nm,18.6s,baz=4.0,slow=39								
CTA	**Charters Tower**	**14.74**	**193**	P			**P**	**16 11 41.9**	**-0.1**
CTAO	**Charters Tower**	**14.74**	**193**				**P**	**16 11 42.0**	**+0.1**
CTAO	**Charters Tower**	**14.74**	**193**	P			**P**	**16 11 42.1**	**+0.1**
CTAO	**Charters Tower**	**14.74**	**193**	P			**P**	**16 11 41.9**	**-0.1**
RKPI	**Ransiki, Papua**	**16.06**	**284**	P			**P**	**16 11 57.6**	**+0.9**
	comp=Z,24nm,1.3s								
RK1H	**Rockhampton Ha**	**17.64**	**178**	P			**Pn**	**16 12 16.4**	**+1.3**
	comp=Z,59nm,0.9s								
FAKI	**Fak Fak**	**17.65**	**278**	P			**P**	**16 12 12.0**	**-2.2**
	comp=Z,28nm,1.5s								
QIS	**Mount Isa**	**17.78**	**213**	P			**Pn**	**16 12 17.0**	**+0.2**
	baz=18,SNR=42								
QIS	**Mount Isa**	**17.78**	**213**	P			**Pn**	**16 12 17.2**	**+0.3**
KDU	**Kakadu**	**18.41**	**247**	P			**P**	**16 12 21.6**	**-0.8**
	baz=18,SNR=90								
KDU	**Kakadu**	**18.41**	**247**	P			**P**	**16 12 21.9**	**-0.6**
SIJI	**Sorong**	**19.04**	**284**	P			**P**	**16 12 30.2**	**+0.8**
	comp=Z,19nm,0.9s,baz=86,slow=10.0,SNR=6.9								
SWI	**Sorong**	**19.05**	**284**	P			**Pn**	**16 12 33.4**	**+1.6**
	comp=Z,719nmcomp=Z,65nm,1.2s								
EIDS	**Eidsvold**	**19.64**	**176**	P			**Pn**	**16 12 37.8**	**-0.9**
	baz=20,SNR=18								
EIDS	**Eidsvold**	**19.64**	**176**	P			**Pn**	**16 12 37.8**	**-0.9**
EIDS	**Eidsvold**	**19.64**	**176**	P			**Pn**	**16 12 38.2**	**-0.4**
MTN	**Manton Dam**	**19.69**	**247**	P			**P**	**16 12 35.5**	**-0.9**
	baz=20,SNR=72								
MTN	**Manton Dam**	**19.69**	**247**	P			**P**	**16 12 35.9**	**-0.5**
MTN					IAmb		IAmb	16 12 37.7	
	comp=Z,55nm,0.8s								
MTN	**Manton Dam**	**19.69**	**247**	P			**P**	**16 12 35.9**	**-0.5**
GUMO	**Guam**	**19.73**	**346**	P			**P**	**16 12 37.7**	**+0.9**
	comp=Z,190nm,1.3s,baz=164,slow=15,SNR=6.1								
GUMO	**Guam**	**19.73**	**346**	P			**P**	**16 12 38.1**	**+1.4**
WB0	**Warramunga Arr**	**20.48**	**225**	P			**P**	**16 12 45.0**	**+0.1**
WB0					IAmb		IAmb	16 12 48.8	
	comp=Z,65nm,1.1s								
WR0	**Warramunga Arr**	**20.50**	**225**	P			**P**	**16 12 45.3**	**+0.2**
WR0					IAmb		IAmb	16 12 49.0	
	comp=Z,48nm,0.9s								
WB2	**Warramunga Arr**	**20.62**	**225**	P			**P**	**16 12 46.6**	**+0.2**
WB2					IAmb		IAmb	16 12 49.5	
	comp=Z,49nm,0.8s								
WRA	**Warramunga Arr**	**20.63**	**225**	P			**P**	**16 12 46.3**	**-0.2**
	comp=Z,17nm,0.3s,baz=49,slow=10,SNR=245								
WRA				S			**S**	**16 16 26.6**	**-2.8**
	comp=Z,34nm,0.9s,baz=40,slow=19,SNR=10.0								
WRA				ScP			**ScP**	**16 20 14.3**	**-0.2**
	comp=Z,9.8nm,1.1s,baz=39,slow=2.4,SNR=6.8								
	comp=Z,17nm,0.3s								
WRA	**Warramunga Arr**	**20.63**	**225**				**P**	**16 12 45.7**	**-0.8**
RMQ	**Roma**	**20.73**	**182**	P			Pn	16 12 49.6	-2.0
	baz=21,SNR=31								
RMQ	**Roma**	**20.73**	**182**	P			Pn	16 12 49.8	-1.8
QLP	**Quilpie**	**21.46**	**194**	P			**P**	**16 12 56.4**	**+1.1**
	baz=22,SNR=22								
QLP	**Quilpie**	**21.46**	**194**	P			**P**	**16 12 57.0**	**+1.7**
KNRA	**Kununurra**	**22.86**	**243**	P			**P**	**16 13 08.2**	**-1.2**
	baz=23,SNR=59								
KNRA	**Kununurra**	**22.86**	**243**	P			**P**	**16 13 08.1**	**-1.2**
KNRA	**Kununurra**	**22.86**	**243**	P			**P**	**16 13 08.5**	**-0.9**
DZM	**Mont Dzumac**	**22.96**	**137**	*e*P			**P**	**16 13 09.5**	**-0.8**
	comp=Z,121nm,1.4s								
DZM				*e*S			**S**	**16 17 06.9**	**-2.8**
	comp=Z,608nm,26.3s								
DZM				*e*LR			LR	16 18 55.3	
	comp=Z,549nm,29.4s								
DZM	**Mont Dzumac**	**22.96**	**137**	P			**P**	**16 13 11.6**	**+1.3**
	comp=Z,18nm,0.5s,baz=250,slow=9.3,SNR=33								
	comp=Z,18nm,0.5s								
DZM	**Mont Dzumac**	**22.96**	**137**	P			**P**	**16 13 11.7**	**+1.3**
DZM					IAmb		IAmb	16 13 12.3	
	comp=Z,34nm,0.8s								
DZM	**Mont Dzumac**	**22.96**	**137**	P			**P**	**16 13 12.1**	**+1.8**
AS31	**Alice Springs**	**23.51**	**219**	P			**P**	**16 13 16.2**	**+0.9**
ASAR	**Alice Springs**	**23.51**	**219**	P			**P**	**16 13 16.1**	**+0.7**
	comp=Z,12nm,0.3s,baz=49,slow=9.9,SNR=860								
ASAR				pP			**pP**	**16 13 42.3**	**0.0**
	comp=Z,16nm,0.7s,baz=55,slow=9.5,SNR=5.2								
ASAR				PcP			**PcP**	**16 16 56.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=52,slow=3.6,SNR=3.2								
ASAR				S			**S**	**16 17 18.2**	**-0.3**
	comp=Z,6.7nm,0.7s,baz=35,slow=20,SNR=6.0								
ASAR				ScP			**ScP**	**16 20 21.1**	**-0.7**
	comp=Z,11nm,1.1s,baz=56,slow=3.3,SNR=12								
	comp=Z,12nm,0.3s								
INKA	**Innaminka**	**23.57**	**200**	P			**P**	**16 13 17.2**	**+1.5**
ARMA	**Armidale**	**24.69**	**176**	P			**P**	**16 13 28.1**	**+2.1**
	baz=25,SNR=29								
ARMA	**Armidale**	**24.69**	**176**	P			**P**	**16 13 27.1**	**+1.1**
ARMA					IAmb		IAmb	16 13 28.9	
	comp=Z,25nm,0.9s								
ARMA	**Armidale**	**24.69**	**176**	P			**P**	**16 13 28.4**	**+2.4**
OOD	**Oodnadatta**	**25.75**	**210**	P			**P**	**16 13 37.4**	**+1.9**
CMSA	**Cobar Meteorol**	**26.02**	**188**	P			**P**	**16 13 38.7**	**+0.8**
	baz=26,SNR=16								
CMSA	**Cobar Meteorol**	**26.02**	**188**	P			**P**	**16 13 39.1**	**+1.2**
BATI	**Baumata**	**26.21**	**258**	P			**P**	**16 13 40.5**	**+0.7**
	comp=Z,9.0nm,0.5s,baz=195,slow=7.3,SNR=1.9								
BATI				pP			**pP**	**16 14 08.9**	**-1.4**
	comp=Z,25nm,0.7s,baz=215,slow=2.5,SNR=3.8								
	comp=Z,9.0nm,0.5s								
FITZ	**Fitzroy Crossi**	**26.58**	**240**	P			**P**	**16 13 42.6**	**-0.4**
	comp=Z,26nm,0.3s,baz=60,slow=10,SNR=492								
FITZ				pP			**pP**	**16 14 11.6**	**-1.6**
	comp=Z,39nm,0.9s,baz=74,slow=7.4,SNR=4.1								
FITZ				LR			LR	16 25 38.5	
	comp=Z,121nm,19.4s,baz=24,slow=39								
	comp=Z,26nm,0.3s								
FITZ	**Fitzroy Crossi**	**26.58**	**240**	P			**P**	**16 13 42.6**	**-0.4**
	baz=27,SNR=109								
FITZ	**Fitzroy Crossi**	**26.58**	**240**	P			**P**	**16 13 42.5**	**-0.5**
FITZ					IAmb		IAmb	16 13 43.6	
	comp=Z,54nm,0.9s								
FITZ	**Fitzroy Crossi**	**26.58**	**240**	P			**P**	**16 13 42.7**	**-0.4**
LCRK	**Leigh Creek**	**26.94**	**202**	P			**P**	**16 13 47.2**	**+1.1**
STKA	**Stephens Creek**	**27.17**	**195**	P			**P**	**16 13 48.5**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=23,slow=8.2,SNR=14								
STKA				LR			LR	16 23 55.9	
	comp=Z,199nm,20.8s,baz=56,slow=34								
	comp=Z,3.9nm,0.7s								
STKA	**Stephens Creek**	**27.17**	**195**	P			**P**	**16 13 48.1**	**-0.1**
	baz=27,SNR=8.3								
STKA	**Stephens Creek**	**27.17**	**195**	P			**P**	**16 13 48.3**	**0.0**
STKA	**Stephens Creek**	**27.17**	**195**	⇑*i*	P		**P**	**16 13 48.0**	**-0.2**
STKA	**Stephens Creek**	**27.17**	**195**	P			**P**	**16 13 49.4**	**+1.2**
WRKA	**Warakurna**	**28.17**	**225**	P			**P**	**16 13 57.0**	**-0.3**
	baz=28,SNR=16								
WRKA	**Warakurna**	**28.17**	**225**	P			**P**	**16 13 57.0**	**-0.3**
MULG	**Mulgathing**	**28.60**	**209**	P			**P**	**16 14 01.3**	**+0.4**
HTT	**Hallett**	**29.41**	**199**	P			**P**	**16 14 08.8**	**+0.7**
	baz=30,SNR=5.4								
MSVF	**Nonsavu**	**30.15**	**116**	LR			LR	16 25 42.1	
	comp=Z,122nm,18.7s,baz=164,slow=34								
ARPS	**Mount Arapiles**	**31.80**	**192**	P			**P**	**16 14 30.3**	**+1.3**
	baz=32,SNR=9.1								
ARPS	**Mount Arapiles**	**31.80**	**192**	P			**P**	**16 14 30.6**	**+1.6**
TOO	**Toolangi**	**32.00**	**186**	P			**P**	**16 14 32.6**	**+1.8**
	baz=32,SNR=6.4								
TOO	**Toolangi**	**32.00**	**186**	P			**P**	**16 14 32.6**	**+1.8**
TOO					IAmb		IAmb	16 14 33.0	
	comp=Z,15nm,0.9s								
TOO				PcP			**PcP**	**16 17 16.6**	**-0.8**
TOO	**Toolangi**	**32.00**	**186**	P			**P**	**16 14 32.6**	**+1.8**
TOO								16 17 16.6	
TOO					pmax	pmax			
	comp=Z,15nm,1.0s								
FORT	**Forrest**	**32.24**	**217**	P			**P**	**16 14 33.3**	**+0.3**
	baz=32,SNR=18								
FORT	**Forrest**	**32.24**	**217**	P			**P**	**16 14 33.3**	**+0.3**
FORT	**Forrest**	**32.24**	**217**	P			**P**	**16 14 33.5**	**+0.5**
MBWA	**Marble Bar**	**32.91**	**239**	P			**P**	**16 14 38.0**	**-0.9**
MBWA	**Marble Bar**	**32.91**	**239**	P			**P**	**16 14 38.8**	**-0.1**
MBWA	**Marble Bar**	**32.91**	**239**	P			**P**	**16 14 36.5**	**-2.4**
MBWA				pP			**pP**	**16 15 07.4**	**-2.2**
PSA00	**Pilbara Seismi**	**32.98**	**238**	P			**P**	**16 14 38.8**	**-0.7**
PSA00	**Pilbara Seismi**	**32.98**	**238**	P			**P**	**16 14 39.4**	**-0.1**
JCJ	**Chichijima**	**33.37**	**348**	LR			LR	16 26 28.6	
	comp=Z,118nm,21.9s,baz=90,slow=33								
MEEK	**Meekatharra**	**36.27**	**231**	P			**P**	**16 15 07.8**	**-0.1**
	baz=36,SNR=33								
MEEK	**Meekatharra**	**36.27**	**231**	P			**P**	**16 15 07.9**	**0.0**
MOO	**Moorlands**	**36.70**	**183**	P			**P**	**16 15 13.7**	**+2.5**
	baz=37,SNR=3.5								
GIRL	**Giralia**	**38.19**	**240**	P			**P**	**16 15 24.7**	**+0.6**
	baz=38,SNR=6.4								
GIRL	**Giralia**	**38.19**	**240**	P			**P**	**16 15 24.6**	**+0.5**
JOW	**Kunigami**	**38.41**	**328**	P			**P**	**16 15 26.6**	**+0.9**
JOW	**Kunigami**	**38.41**	**328**	P			**P**	**16 15 27.2**	**+1.4**
AFI	**Afiamalu**	**38.75**	**105**	P			**P**	**16 15 30.4**	**+1.5**
	comp=Z,7.3nm,0.4s,baz=151,slow=2.7,SNR=11								
	comp=Z,7.3nm,0.4s								
AFI	**Afiamalu**	**38.75**	**105**	P			**P**	**16 15 28.9**	**0.0**
AFI					IAmb		IAmb	16 15 31.8	
	comp=Z,22nm,0.8s								
MORW	**Morawa**	**39.45**	**230**	P			**P**	**16 15 34.4**	**-0.1**
	baz=40,SNR=7.0								
MORW	**Morawa**	**39.45**	**230**	P			**P**	**16 15 33.5**	**-1.0**
MORW					IAmb		IAmb	16 15 35.4	
	comp=Z,52nm,1.1s								
MORW				PcP			**PcP**	**16 17 39.0**	**-0.7**
MORW	**Morawa**	**39.45**	**230**	P			**P**	**16 15 34.6**	**+0.1**
KLBR	**Kellerberrin**	**39.52**	**225**	P			**P**	**16 15 34.8**	**-0.2**
YOJ	**Yonaguni jima**	**39.68**	**320**	P			**P**	**16 15 36.5**	**+0.2**
YOJ	**Yonaguni jima**	**39.68**	**320**	P			**P**	**16 15 36.6**	**+0.2**
YOJ					pmax	pmax			
	comp=Z,103nm,0.8s								
YOJ	**Yonaguni jima**	**39.68**	**320**	P			**P**	**16 15 37.6**	**+1.3**
NACB	**Ninganchiao**	**40.40**	**318**	P			**P**	**16 15 42.5**	**+0.2**
NACB					IAmb		IAmb	16 15 45.4	
	comp=Z,54nm,1.1s								
TPUB	**Ta-pu**	**40.46**	**316**	P			**P**	**16 15 42.7**	**-0.2**
TPUB					IAmb		IAmb	16 15 44.8	
	comp=Z,21nm,0.8s								
TPUB	**Ta-pu**	**40.46**	**316**	P			**P**	**16 15 43.7**	**+0.8**
	comp=Z,30nm,0.8s								
SSLB	**Suanglung**	**40.56**	**317**	P			**P**	**16 15 45.2**	**+1.5**
NWAO	**Narrogin (SRO)**	**40.63**	**224**	P			**P**	**16 15 44.1**	**-0.1**
	baz=41,SNR=5.2								
NWAO					P		**P**	**16 15 44.1**	**-0.1**
	baz=41,SNR=5.2								
NWAO	**Narrogin (SRO)**	**40.63**	**224**	P			**P**	**16 15 42.7**	**-1.5**
NWAO					IAmb		IAmb	16 15 44.7	
	comp=Z,34nm,0.9s								
NWAO	**Narrogin (SRO)**	**40.63**	**224**	P			**P**	**16 15 42.7**	**-1.5**
NWAO					pmax	pmax			
	comp=Z,34nm,1.0s								
MUN	**Mundaring**	**40.83**	**226**	P			**P**	**16 15 46.2**	**+0.4**
URZ	**Urewera**	**40.88**	**146**	P			**P**	**16 15 47.5**	**+1.4**
	comp=Z,3.0nm,0.4s,baz=206,slow=4.0,SNR=5.9								
	comp=Z,3.0nm,0.4s								
URZ	**Urewera**	**40.88**	**146**	P			**P**	**16 15 45.0**	**-1.1**
URZ	**Urewera**	**40.88**	**146**	P			**P**	**16 15 48.1**	**+2.0**
YHNB	**Yeheng**	**40.88**	**319**	P			**P**	**16 15 47.3**	**+0.9**
YHNB	**Yeheng**	**40.88**	**319**	P			**P**	**16 15 47.7**	**+1.3**
TATO	**Taipei**	**41.02**	**319**	P			**P**	**16 15 47.2**	**-0.2**
BKZ	**Black Stump Fm**	**41.20**	**148**	P			**P**	**16 15 50.1**	**+1.4**
JSU	**Suzuyama**	**41.29**	**335**	IAmb			IAmb	16 15 52.0	
	comp=Z,28nm,0.8s								
THZ	**Tophouse**	**41.45**	**154**	P			**P**	**16 15 52.4**	**+1.6**
THZ				PcP			**PcP**	**16 17 44.8**	**-1.1**
TUWZ	**Tuamarina**	**41.66**	**152**	P			**P**	**16 15 53.1**	**+0.7**
RKGY	**Rocky Gully**	**41.78**	**222**	P			**P**	**16 15 54.4**	**+0.9**
	baz=42,SNR=8.7								
RKGY	**Rocky Gully**	**41.78**	**222**	P			**P**	**16 15 54.6**	**+1.1**
	comp=Z,198nm,0.9s								
BSWZ	**Blackbirch Sta**	**41.85**	**153**	P			**P**	**16 15 53.5**	**-0.5**
SNZO	**South Karori**	**41.92**	**152**	P			**P**	**16 15 55.4**	**+0.9**
SNZO					IAmb		IAmb	16 15 58.1	
	comp=Z,22nm,0.8s								
LTZ	**Lake Taylor**	**42.01**	**155**	P			**P**	**16 15 55.8**	**+0.5**
LTZ					IAmb		IAmb	16 16 05.8	
	comp=Z,24nm,1.2s								
BFZ	**Birch Farm**	**42.19**	**150**	P			**P**	**16 15 56.6**	**-0.2**
BFZ					IAmb		IAmb	16 15 58.1	
	comp=Z,32nm,1.0s								
MSWZ	**Moikau Station**	**42.26**	**151**	P			**P**	**16 15 57.7**	**+0.3**
RPZ	**Rata Peaks**	**42.29**	**157**	LR			LR	16 31 17.5	
	comp=Z,162nm,18.1s,baz=281,slow=32								
PLWZ	**Palliser**	**42.38**	**151**	P			**P**	**16 15 58.5**	**+0.2**
INU	**Inuyama**	**42.51**	**345**	P			**P**	**16 15 59.0**	**-0.4**
INU					IAmb		IAmb	16 16 01.4	
	comp=Z,24nm,0.8s								
INU

CN2	**Changchun**	**53.90**	**338**	⇓	P		**P**	**16 17 26.6**	**0.0**
CN2					*es*P		sP	16 18 16.5	+0.8
CN2					*es*		**S**	**16 24 50.3**	**-0.3**
CN2					pmax		pmax		
	comp=Z,10.0nm,1.2s								
CN2					pmax		pmax		
	comp=Z,200nm,5.0s								
BNX	**BinXian**	**54.92**	**341**	⇓	P		**P**	**16 17 34.3**	**+0.4**
BNX					pmax		pmax		
	comp=Z,110nm,1.1s								
BNX					pmax		pmax		
	comp=Z,120nm,3.5s								
KMI	**Kunming**	**54.98**	**306**	⇑	P		**P**	**16 17 36.9**	**+1.9**
KMI					pP		pP	16 18 08.8	+0.5
KMI					pmax		pmax		
	comp=Z,17nm,0.8s								
KMI					LR		LR		
	comp=Z,260nm,23.0s								
KMI					LR		LR		
	comp=Z,230nm,22.5s								
KMI					LR		LR		
	comp=Z,480nm,31.0s								
KMI	**Kunming**	**54.98**	**306**		P		**P**	**16 17 36.0**	**+1.0**
KMI					pP		**pP**	**16 18 08.5**	**+0.1**
BJI	**Beijing**	**54.98**	**329**		P		**P**	**16 17 34.7**	**+0.3**
BJI					pP		**pP**	**16 18 08.6**	**+0.7**
BJI					pmax		pmax		
	comp=Z,20nm,1.6s								
XAN	**Xi'an**	**55.19**	**319**	⇑	P		**P**	**16 17 36.2**	**0.0**
XAN					pP		pP	16 18 08.9	-0.7
XAN					sP		sP	16 18 22.8	-2.6
XAN					PP		**PP**	**16 19 37.3**	**-4.0**
XAN					S		**S**	**16 25 09.3**	**+0.9**
XAN					sS		sS	16 26 04.2	-2.7
XAN					pmax		pmax		
	comp=Z,33nm,1.5s								
XAN					pmax		pmax		
	comp=Z,160nm,5.0s								
XAN					LR		LR		
	comp=Z,180nm,15.5s								
XAN					LR		LR		
	comp=Z,250nm,16.0s								
XAN					LR		LR		
	comp=Z,180nm,17.7s								
CMAR	**Chiang Mai Arr**	**55.51**	**297**		P		**P**	**16 17 37.8**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=129,slow=5.7,SNR=14								
CMAR					pP		**pP**	**16 18 13.1**	**+0.9**
	comp=Z,2.8nm,1.0s,baz=105,slow=5.5,SNR=4.0								
CMAR					PKP2bc			16 47 55.5	
	comp=Z,0.8nm,0.8s,baz=284,slow=3.6,SNR=4.8								
	comp=Z,1.6nm,0.8s								
PZH	**PanZhiHua**	**56.41**	**307**		P		**P**	**16 17 46.8**	**+1.7**
PZH					pmax		pmax		
	comp=Z,10.0nm,1.0s								
PZH					pmax		pmax		
	comp=Z,100nm,4.8s								
TYV	**Tymovskoe**	**56.63**	**355**	*e*	P		**P**	**16 17 46.9**	**+0.9**
TYV				*e*	S		**S**	**16 25 28.7**	**+2.1**
TYV					pmax		pmax		
	comp=Z,59nm,0.9s								
TYV					pmax		pmax		
	comp=Z,500nm,3.0s								
TYV					smax		smax		
	comp=N,900nm,6.3s								
TYV					smax		smax		
	comp=E,500nm,6.3s								
KLR	**Kul'dur**	**56.87**	**346**	*d*	*i*P		**P**	**16 17 48.7**	**+0.9**
KLR					pmax		pmax		
	comp=Z,86nm,1.7s								
CD2	**Chengdu**	**57.02**	**313**		P		**P**	**16 17 50.7**	**+1.4**
CD2					pmax		pmax		
	comp=Z,20nm,0.7s								
CD2					pmax		pmax		
	comp=Z,80nm,7.2s								
GRNR	**Gornyy**	**57.37**	**350**	⇓	*i*P		**P**	**16 17 52.3**	**+1.1**
GRNR					*e*S		**S**	**16 25 41.1**	**+4.7**
GRNR					pmax		pmax		
	comp=N,20nm,1.0s								
GRNR					pmax		pmax		
	comp=E,6.0nm,1.0s								
GRNR					pmax		pmax		
	comp=Z,30nm,1.0s								
GRNR					smax		smax		
	comp=N,2.0nm,0.7s								
GRNR					MLR		MLR		
	comp=E,70nm,12.0s								
GRNR					MLR		MLR		
	comp=N,60nm,0.0s								
GRNR					MLR		MLR		
	comp=Z,80nm,0.0s								
XLT	**XiLinHaoTe**	**57.92**	**332**	⇑	*i*P		**P**	**16 17 56.2**	**+0.9**
XLT					pP		pP	16 18 30.0	+1.0
XLT					sP		sP	16 18 44.6	-0.2
XLT					S		**S**	**16 25 45.3**	**+1.3**
XLT					pmax		pmax		
	comp=Z,44nm,1.3s								
XLT					pmax		pmax		
	comp=Z,150nm,4.0s								
XLT					LR		LR		
	comp=Z,230nm,9.3s								
XLT					LR		LR		
	comp=Z,240nm,9.3s								
XLT					LR		LR		
	comp=Z,130nm,8.7s								
HHC	**Hu-ho-hao-te**	**58.02**	**326**	*e*	P		**P**	**16 17 57.4**	**+1.3**
HHC					pmax		pmax		
	comp=Z,46nm,0.8s								
HHC					pmax		pmax		
	comp=Z,130nm,4.1s								
HHC					LR		LR		
	comp=Z,240nm,15.9s								
HHC					LR		LR		
	comp=Z,260nm,17.8s								
HHC					LR		LR		
	comp=Z,540nm,17.8s								
PEA0B	**Petropavlovsk-**	**58.93**	**6**		P		**P**	**16 18 02.8**	**+0.8**
PEA0B	**Petropavlovsk-**	**58.93**	**6**	*d*	*i*P		**P**	**16 18 02.3**	**+0.2**
PETK	**Petropavlovsk-**	**58.93**	**6**		P		**P**	**16 18 01.8**	**-0.2**
	comp=Z,95nm,1.0s,baz=172,slow=4.4,SNR=72								
PETK					pP		**pP**	**16 18 37.2**	**+1.2**
	comp=Z,1,1nm,0.5s,baz=149,slow=7.0,SNR=0.5								
	comp=Z,95nm,1.0s								
PETK	**Petropavlovsk-**	**58.93**	**6**		P		**P**	**16 18 02.1**	**0.0**
PET	**Petropavlovsk**	**58.95**	**6**		P		**P**	**16 18 02.8**	**+0.7**
PET	**Petropavlovsk**	**58.95**	**6**	*e*	P		**P**	**16 18 01.4**	**-0.7**
PET					pmax		pmax		
	comp=Z,66nm,0.9s								
PET	**Petropavlovsk**	**58.95**	**6**		P		**P**	**16 17 59.3**	**-2.8**
LZH	**Lanzhou**	**59.76**	**318**	⇓	P		**P**	**16 18 09.8**	**+1.5**
LZH					pP		pP	16 18 39.6	-2.5
LZH					sP		PcP	16 18 54.1	+0.5
LZH					ScP		**ScP**	**16 22 33.9**	**-7.1**
LZH					pmax		pmax		
	comp=Z,42nm,1.2s								
PPT2	**Papeete2**	**60.39**	**107**	*e*	S		**S**	**16 26 17.2**	**+0.5**
	comp=Z,77nm,30.0s								
PPT2				*e*	LR		LR	16 36 15.6	
	comp=Z,45nm,23.8s								
HIA	**Hailar**	**60.62**	**338**	*d*	*i*P		**P**	**16 18 14.4**	**+0.7**
HIA					pmax		pmax		
	comp=Z,44nm,1.2s								
TBI	**Tubuai**	**61.00**	**113**	*e*	LR		LR	16 36 32.2	
	comp=Z,126nm,41.2s								
ZEA	**Zeya**	**62.13**	**345**	*e*	P		**P**	**16 18 24.7**	**+1.0**
ZEA					pmax		pmax		
	comp=Z,100nm,6.9s								
ZEA					pmax		pmax		
	comp=E,10.0nm,0.8s								
ZEA					pmax		pmax		
	comp=N,40nm,1.0s								
ZEA					pmax		pmax		
	comp=Z,70nm,1.1s								
ADK	**Adak**	**64.09**	**22**		P		**P**	**16 18 37.4**	**+0.7**
ADK	**Adak**	**64.09**	**22**		P		**P**	**16 18 37.4**	**+0.7**
ADK					pmax		pmax		
	comp=Z,68nm,1.0s								
GTA	**Gaotai**	**64.25**	**319**	*e*	P		**P**	**16 18 37.6**	**-0.6**
GTA					PcP		**pP**	**16 19 13.1**	**+0.6**
GTA					sP		sP	16 19 22.0	-6.1
GTA					pmax		pmax		
	comp=Z,9.0nm,1.0s								
GTA					pmax		pmax		
	comp=Z,100nm,4.7s								
GTA					LR		LR		
	comp=Z,210nm,18.2s								
GTA					LR		LR		
	comp=Z,170nm,18.2s								
GTA					LR		LR		
	comp=Z,100nm,18.9s								
MA2	**Magadan**	**65.03**	**1**		P		**P**	**16 18 42.7**	**0.0**
MA2	**Magadan**	**65.03**	**1**	*d*	*i*P		**P**	**16 18 42.3**	**-0.4**
MA2					pmax		pmax		
	comp=Z,65nm,1.1s								
ULN	**Ulaanbaatar**	**65.16**	**330**		P		**P**	**16 18 44.2**	**+0.3**
ULN					IAmb		IAmb	16 18 46.2	
	comp=Z,13nm,0.8s								
ULN	**Ulaanbaatar**	**65.16**	**330**	*d*	*i*P		**P**	**16 18 43.9**	**0.0**
ULN					pmax		pmax		
	comp=Z,16nm,0.9s								
ULN	**Ulaanbaatar**	**65.16**	**330**		P		**P**	**16 18 41.3**	**-2.6**
ULN					pP		**pP**	**16 19 18.7**	**+0.4**
ULN					sP		**sP**	**16 19 32.4**	**-1.5**
CIT	**Chita**	**65.21**	**336**	*e*	P		**P**	**16 18 45.6**	**+1.6**
CIT				*e*				16 19 19.8	
CIT				*e*				16 19 40.9	
CIT					pmax		pmax		
	comp=Z,69nm,2.3s								
SONM	**Songino Array**	**65.47**	**329**		P		**P**	**16 18 46.0**	**+0.1**
	comp=Z,5.4nm,0.7s,baz=144,slow=9.0,SNR=35								
SONM					pP		**pP**	**16 19 20.5**	**+0.1**
	comp=Z,7.0nm,1.2s,baz=149,slow=3.8,SNR=3.1								
SONM					PKP2bc			16 47 29.6	
	comp=Z,2.3nm,1.0s,baz=284,slow=1.8,SNR=7.1								
	comp=Z,5.4nm,0.7s								
SONM	**Songino Array**	**65.47**	**329**		P		**P**	**16 18 45.6**	**-0.3**
SONM					IAmb		IAmb	16 18 48.8	
	comp=Z,14nm,1.0s								
GOMU	**GeErMu**	**66.11**	**314**		P		**P**	**16 18 48.3**	**-2.2**
GOMU					pmax		pmax		
	comp=Z,4.0nm,0.4s								
GOMU					pmax		pmax		
	comp=Z,82nm,5.0s								
CASY	**Casey**	**66.32**	**196**		P		**P**	**16 18 49.4**	**-1.5**
CASY	**Casey**	**66.32**	**196**		P		**P**	**16 18 49.3**	**-1.5**
CASY					pP		**pP**	**16 19 27.5**	**+1.7**
SEY	**Seymchan**	**68.43**	**1**		P		**P**	**16 19 04.5**	**+0.4**
	comp=Z,25nm,1.0s,baz=173,slow=5.7,SNR=25								
	comp=Z,25nm,1.0s								
SEY	**Seymchan**	**68.43**	**1**	*d*	*i*P		**P**	**16 19 04.3**	**+0.2**
SEY					pmax		pmax		
	comp=Z,48nm,1.2s								
ZAK	**Zakamensk**	**68.67**	**330**	*e*	P		**P**	**16 19 05.4**	**-0.6**
ZAK					pmax		pmax		
	comp=Z,17nm,1.2s								
ZAK					pmax		pmax		
	comp=Z,10.0nm,1.6s								
RAMN	**Ramite**	**69.07**	**302**	*e*	P		**P**	**16 19 07.3**	**-1.9**
	comp=Z,7.5nm,0.5s								
YAK	**Yakutsk**	**69.25**	**350**	*e*	P		**P**	**16 19 08.5**	**-0.7**
YAK				*e*				16 19 29.5	
YAK				*e*				16 21 48.8	
YAK				*e*	S		**S**	**16 28 03.7**	**+0.3**
YAK				*e*				16 28 56.8	
YAK				*e*	SS		**SS**	**16 32 34.3**	**+1.2**
YAK					pmax		pmax		
	comp=Z,32nm,1.1s								
YAK					pmax		pmax		
	comp=N,14nm,1.3s								
YAK					pmax		pmax		
	comp=E,4.0nm,1.3s								
YAK					pmax		pmax		
	comp=Z,26nm,2.6s								
YAK					pmax		pmax		
	comp=N,42nm,2.5s								
YAK					pmax		pmax		
	comp=E,17nm,2.7s								
YAK					smax		smax		
	comp=N,54nm,3.7s								
YAK					smax		smax		
	comp=E,63nm,3.7s								
JIRN	**Jiri**	**69.64**	**302**	*e*	P		**P**	**16 19 11.5**	**-1.3**
	comp=E,19nm,0.7s								
UNV	**Unalaska Valle**	**69.70**	**26**		P		**P**	**16 19 11.6**	**-0.5**
	baz=227								
GUN	**Gumba**	**69.97**	**302**	*e*	P		**P**	**16 19 13.4**	**-1.4**
	comp=E,25nm,0.5s								
AKUT	**Akutan**	**70.21**	**26**		P		**P**	**16 19 15.5**	**+0.3**
PKI	**Pulchoki**	**70.27**	**302**	*e*	P		**P**	**16 19 14.6**	**-2.0**
	comp=E,5.4nm,0.6s								
PKIN	**Phulchoki**	**70.28**	**302**	*e*	P		**P**	**16 19 14.4**	**-2.2**
	comp=E,8.9nm,0.6s								
KKN	**Kakani**	**70.44**	**302**	*e*	P		**P**	**16 19 16.0**	**-1.5**
DMN	**Daman**	**70.54**	**302**	*e*	P		**P**	**16 19 16.4**	**-1.7**
SPIA	**Saint Paul Isl**	**70.55**	**22**		P		**P**	**16 19 16.8**	**-0.4**
SPIA	**Saint Paul Isl**	**70.55**	**22**		P		**P**	**16 19 17.7**	**+0.4**
	baz=223								
MOY	**Mondy**	**70.61**	**330**	*e*	P		**P**	**16 19 19.0**	**+1.1**
MOY					pmax		pmax		
	comp=Z,32nm,2.0s								
CCD	**Concordia, Ant**	**71.03**	**187**		P		**P**	**16 19 20.1**	**-0.2**
GKN	**Gorkha**	**71.05**	**302**	*e*	P		**P**	**16 19 19.1**	**-2.0**
	comp=Z,25nm,0.8s								
KOLN	**Koldanda**	**71.86**	**301**	*e*	P		**P**	**16 19 23.1**	**-2.9**
DANN	**Dangsing**	**71.89**	**302**	*e*	P		**P**	**16 19 23.8**	**-2.5**
VNDA	**Vanda**	**72.10**	**177**		P		**P**	**16 19 27.6**	**+1.3**
	comp=Z,5.0nm,0.8s,baz=332,slow=6.6,SNR=42								
	comp=Z,5.0nm,0.8s								
VNDA	**Vanda**	**72.10**	**177**		P		**P**	**16 19 27.6**	**+1.3**
PYUN	**Piuthan**	**72.47**	**302**	*e*	P		**P**	**16 19 27.0**	**-2.7**
	comp=Z,26nm,0.7s								
SDPT	**Sand Point**	**73.35**	**27**		P		**P**	**16 19 33.8**	**-0.2**
SDPT					IAmb		IAmb	16 19 42.0	
	comp=Z,54nm,1.2s								
SDPT	**Sand Point**	**73.35**	**27**		P		**P**	**16 19 33.7**	**-0.2**
	baz=232								
CHNA	**Chernabura Isl**	**73.44**	**28**		P		**P**	**16 19 33.4**	**-1.0**
	baz=233								
WMQ	**Urumqi**	**74.33**	**318**	*e*	P		**P**	**16 19 42.7**	**+2.7**
WMQ					LR		LR		
	comp=Z,410nm,18.1s								
WMQ					LR		LR		
	comp=Z,210nm,15.5s								
WMQ					LR		LR		
	comp=Z,460nm,23.3s								
S14K	**Fog Glacier**	**74.33**	**27**		P		**P**	**16 19 39.6**	**-0.2**
	baz=233								
BILL	**Bilibino**	**74.45**	**6**	*c*	*i*P		**P**	**16 19 40.0**	**-0.1**
BILL					*i*			16 20 16.0	
BILL					*e*			16 22 28.0	
BILL					*e*S		**SKiKP**	**16 28 53.1**	**+1.2**
BILL					pmax		pmax		
	comp=Z,23nm,1.0s								
CHGN	**Chignik**	**74.85**	**27**		P		**P**	**16 19 42.0**	**-0.6**
CHGN					IAmb		IAmb	16 19 42.8	
	comp=Z,16nm,0.8s								
CHGN	**Chignik**	**74.85**	**27**		P		**P**	**16 19 42.4**	**-0.2**
	baz=234								
CHIR	**Chirikof Islan**	**75.87**	**28**		P		**P**	**16 19 47.7**	**-0.8**
	baz=237								
R17K	**Ugashik Creek**	**76.53**	**27**		P		**P**	**16 19 51.4**	**-0.7**
	baz=236								
P16K	**Nushagak River**	**76.64**	**25**		P		**P**	**16 19 52.3**	**-0.4**
	baz=234								
O16K	**Kokwok River B**	**76.93**	**24**		P		**P**	**16 19 53.3**	**-1.1**
	baz=234,SNR=7.0								
SII	**Sitkinak Islan**	**76.94**	**28**		P		**P**	**16 19 53.5**	**-1.1**
	baz=238								
DGZ	**Jazzator, Alta**	**76.95**	**324**	*e*	P		**P**	**16 19 54.0**	**-0.9**
DGZ					pmax		pmax		
	comp=Z,14nm,0.9s								
N16K	**Nishlik Lake**	**77.19**	**23**		P		**P**	**16 19 55.4**	**-0.5**
	baz=233								
P17K	**Kvichak River**	**77.39**	**25**		P		**P**	**16 19 55.1**	**-1.8**
	baz=235								
O17K	**Koliganek Bris**	**77.45**	**25**		P		**P**	**16 19 57.1**	**-0.1**
	baz=235,SNR=15								
ANM	**Nome**	**77.52**	**18**		P		**P**	**16 19 57.5**	**-0.1**
	baz=226								
ZSN	**Zaisan**	**77.59**	**321**	*e*	P		**P**	**16 19 57.6**	**-0.8**
ZSN	**Zaisan**	**77.59**	**321**	*e*	P		**P**	**16 19 57.6**	**-0.8**
	baz=321								
OHAK	**Old Harbor**	**77.71**	**28**		P		**P**	**16 19 58.2**	**-0.6**
	baz=239								
O18K	**Koktuh Hills**	**78.28**	**25**		P		**P**	**16 20 01.1**	**-0.8**
	baz=236								
KDAK	**Kodiak Island**	**78.33**	**28**		P		**P**	**16 20 02.1**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=258,slow=2.4,SNR=9.3								
	comp=Z,6.2nm,0.9s								
TIXI	**Tiksi**	**78.37**	**353**	*c*	*i*P		**P**	**16 20 00.8**	**-1.3**
TIXI					pmax		pmax		
	comp=Z,5.0nm,1.0s								
Q19K	**Cape Douglas,**	**78.45**	**26**		P		**P**	**16 20 02.2**	**-0.7**
Q19K					IAmb		IAmb	16 20 05.2	
	comp=Z,35nm,0.8s								
Q19K	**Cape Douglas,**	**78.45**	**26**		P		**P**	**16 20 02.3**	**-0.7**
	baz=238								
N18K	**Kilae Creek**	**78.46**	**24**		P		**P**	**16 20 03.5**	**+0.6**
N18K	**Kilae Creek**	**78.46**	**24**		P		**P**	**16 20 02.7**	**-0.2**
	baz=236								
SVW2	**Sparrevohn**	**78.82**	**24**		P		**P**	**16 20 04.8**	**0.0**
SVW2					IAmb		IAmb	16 20 06.4	
	comp=Z,17nm,1.0s								
O19K	**Port Alsworth**	**78.84**	**25**		P		**P**	**16 20 04.2**	**-0.7**
	baz=237								
MK31	**Makanchi Array**	**78.98**	**320**		P		**P**	**16 20 05.2**	**-0.9**
MK31	**Makanchi Array**	**78.98**	**320**		P		**P**	**16 20 05.2**	**-0.9**
MK31					pmax		pmax		
	comp=Z,4.0nm,1.0s								
MKAR	**Makanchi Array**	**78.98**	**320**		P		**P**	**16 20 04.6**	**-1.5**
	comp=Z,3.4nm,0.9s,baz=112,slow=5.6,SNR=20								
MKAR					pP		**pP**	**16 20 40.5**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=96,slow=8.8,SNR=3.9								
MKAR					PP		**PP**	**16 23 04.0**	**-3.1**
	comp=Z,2.4nm,0.9s,baz=104,slow=10,SNR=6.5								
	comp=Z,3.4nm,0.9s								
MKAR	**Makanchi Array**	**78.98**	**320**		P		**P**	**16 20 04.3**	**-1.7**
P19K	**Oil Pt**	**79.01**	**26**		P		**P**	**16 20 04.9**	**-1.1**
	baz=238								
N19K	**Bonanza Creek**	**79.11**	**24**		P		**P**	**16 20 05.7**	**-0.8**
N19K	**Bonanza Creek**	**79.11**	**24**		P		**P**	**16 20 06.1**	**-0.4**
	baz=237								
MAKZ	**Makanchi**	**79.19**	**320**		P		**P**	**16 20 06.6**	**-0.6**
MAKZ	**Makanchi**	**79.19**	**320**		P		**P**	**16 20 06.6**	**-0.6**
MAKZ					pmax		pmax		
	comp=Z,8.0nm,1.1s								
O20K	**Slope Mountain**	**79.50**	**26**		P		**P**	**16 20 07.5**	**-1.1**
	baz=239								
SHLS	**Shalkode**	**79.69**	**316**	*e*	P		**P**	**16 20 07.4**	**-2.7**
SHLS	**Shalkode**	**79.69**	**316**	*e*	P		**P**	**16 20 07.4**	**-2.7**
	baz=316								
SHLS				*e*	pP		**pP**	**16 20 42.6**	**-3.5**
	baz=316								
TTA	**Tatalina**	**79.70**	**22**		P		**P**	**16 20 09.4**	**-0.2**
TTA	**Tatalina**	**79.70**	**22**		P		**P**	**16 20 09.4**	**-0.2**
TTA					pmax		pmax		
	comp=Z,12nm,1.0s								
TTA	**Tatalina**	**79.70**	**22**		P		**P**	**16 20 08.7**	**-0.9**
	baz=235,SNR=7.0								
L19K	**White Mountain**	**79.72**	**23**		P		**P**	**16 20 10.1**	**+0.4**
L19K					IAmb		IAmb	16 20 10.9	
	comp=Z,26nm,0.9s								
L19K	**White Mountain**	**79.72**	**23**		P		**P**	**16 20 09.2**	**-0.6**
	baz=236,SNR=15								
M19K	**Big River Lodg**	**79.75**	**23**		P		**P**	**16 20 10.2**	**+0.3**
M19K	**Big River Lodg**	**79.75**	**23**		P		**P**	**16 20 09.8**	**-0.1**
	baz=237,SNR=8.3								
CNPM	**China Poot**	**79.82**	**26**		P		**P**	**16 20 10.4**	**+0.1**
UZB	**Uzynbulak**	**79.99**	**315**	*e*	P		**P**	**16 20 11.1**	**-0.7**
UZB	**Uzynbulak**	**79.99**	**315**	*e*	P		**P**	**16 20 11.1**	**-0.7**
	baz=315								
UZB				*e*	pP		**pP**	**16 20 46.2**	**-1.5**
	baz=315								
BRSE	**Bradley Lake S**	**80.15**	**26**		P		**P**	**16 20 11.9**	**-0.2**
	baz=240								
ZAA0	**Zalesovo Array**	**80.19**	**327**		P		**P**	**16 20 10.8**	**-1.6**
ZALV	**Zalesovo Beam**	**80.19**	**327**		P		**P**	**16 20 10.4**	**-2.0**
	comp=Z,7.3nm,0.6s,baz=101,slow=5.6,SNR=36								
ZALV					PP		**PP**	**16 23 14.9**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=87,slow=16,SNR=2.2								
	comp=Z,7.3nm,0.6s								
M20K	**Styx River**	**80.24**	**24**		P		**P**	**16 20 12.0**	**-0.6**
M20K	**Styx River**	**80.24**	**24**		P		**P**	**16 20 12.0**	**-0.6**
	baz=238,SNR=7.9								
N20K	**Mount Spurr**	**80.25**	**25**		P		**P**	**16 20 11.8**	**-0.9**
	baz=239								
L20K	**Farewell, AK**	**80.26**	**23**		P		**P**	**16 20 12.5**	**-0.1**
	baz=237,SNR=9.8								
KPKS	**Kokpek**	**80.32**	**316**	*e*	P		**P**	**16 20 11.7**	**-1.7**
KPKS	**Kokpek**	**80.32**	**316**	*e*	P		**P**	**16 20 11.8**	**-1.7**
	baz=316								
SATY	**Saty**	**80.40**	**315**	*e*	P		**P**	**16 20 11.9**	**-2.0**
SATY	**Saty**	**80.40**	**315**	*e*	P		**P**	**16 20 11.9**	**-2.0**
	baz=315								
K20K	**Telida**	**80.67**	**22**		P		**P**	**16 20 14.3**	**-0.4**
K20K					IAmb		IAmb	16 20 16.0	
	comp=Z,24nm,0.9s								
K20K	**Telida**	**80.67**	**22**		P		**P**	**16 20 14.1**	**-0.7**
	baz=237,SNR=21								
SEW	**Seward**	**80.89**	**26**		P		**P**	**16 20 15.2**	**-0.7**
	baz=242								
SKT	**Skwentna**	**80.93**	**24**		P		**P**	**16 20 14.8**	**-1.4**
	baz=239								
SUA	**Susitna One**	**81.00**	**25**		P		**P**	**16 20 15.8**	**-0.9**
	baz=240								
J20K	**Nowinta River**	**81.09**	**22**		P		**P**	**16 20 17.3**	**+0.3**
J20K					IAmb		IAmb	16 20 18.2	
	comp=Z,19nm,0.9s								
J20K	**Nowinta River**	**81.09**	**22**		P		**P**	**16 20 16.6**	**-0.4**
	baz=237,SNR=12								
KSH	**Kashi**	**81.19**	**311**		P		**P**	**16 20 19.6**	**+1.4**
KSH					pmax		pmax		
	comp=Z,5.0nm,1.1s								
RC01	**Rabbit Creek A**	**81.24**	**25**		P		**P**	**16 20 16.7**	**-1.1**
RC01					IAmb		IAmb	16 20 17.9	
	comp=Z,17nm,0.9s								
RC01	**Rabbit Creek A**	**81.24**	**25**		P		**P**	**16 20 16.7**	**-1.1**
	baz=241								
MDOK	**Medeo**	**81.38**	**315**	*e*	P		**P**	**16 20 17.7**	**-1.4**
MDOK	**Medeo**	**81.38**	**315**	*e*	P		**P**	**16 20 17.8**	**-1.4**
	baz=315								
M22K	**Willow**	**81.40**	**25**		P		**P**	**16 20 17.0**	**-1.6**
M22K					IAmb		IAmb	16 20 18.9	
	comp=Z,18nm,1.1s								
M22K	**Willow**	**81.40**	**25**		P		**P**	**16 20 16.7**	**-1.9**
	baz=241								
SEM	**Semipalatinsk**	**81.50**	**323**	*e*	P		**P**	**16 20 17.9**	**-1.8**
SEM	**Semipalatinsk**	**81.50**	**323**	*e*	P		**P**	**16 20 18.0**	**-1.8**
	baz=323								
CUT	**Chulitna**	**81.66**	**24**		P		**P**	**16 20 19.3**	**-0.7**
	baz=240								
PWL	**Port Wells**	**81.73**	**26**		P		**P**	**16 20 20.1**	**-0.3**
PWL					IAmb		IAmb	16 20 20.8	
	comp=Z,29nm,0.8s								
PWL	**Port Wells**	**81.73**	**26**		P		**P**	**16 20 19.2**	**-1.3**
	baz=242,SNR=5.8								
PMR	**Palmer**	**81.74**	**25**		P		**P**	**16 20 19.4**	**-0.9**
	baz=242						

baz=237,SNR=6.7
SCM **Sheep Creek Mo** **82.61** **25** P **P** **16 20 23.5 -1.6**
baz=243
RND **Reindeer** **82.71** **23** P **P** **16 20 24.5 -1.1**
RND **Reindeer** **82.71** **23** P **P** **16 20 24.5 -1.1**
RND pmax pmax
comp=Z,37nm,0.8s
EYAK **Cordova Ski Ar** **82.74** **27** P **P** **16 20 24.9 -0.7**
baz=245
WAT6 **Susitna Watana** **82.78** **24** P **P** **16 20 24.8 -1.2**
baz=243,SNR=8.3
MLY **Manley** **82.79** **22** P **P** **16 20 25.5 -0.4**
MLY IAmb IAmb 16 20 26.2
comp=Z,21nm,0.8s
MLY **Manley** **82.79** **22** P **P** **16 20 24.9 -1.0**
baz=240,SNR=27
MCK **McKinley** **82.84** **23** P **P** **16 20 24.6 -1.5**
MCK **McKinley** **82.84** **23** P **P** **16 20 24.6 -1.5**
MCK pmax pmax
comp=Z,51nm,1.0s
MCK **McKinley** **82.84** **23** P **P** **16 20 24.6 -1.5**
baz=242,SNR=18
F21K **Alatna River** **82.99** **19** P **P** **16 20 26.2 -0.7**
baz=237
H22K **Ishtalitna Cre** **83.00** **21** P **P** **16 20 26.3 -0.6**
baz=239,SNR=7.0
KLU **Klutina** **83.06** **26** P **P** **16 20 26.6 -0.8**
baz=245,SNR=11
DHY **Denali Highway** **83.15** **24** P **P** **16 20 27.1 -0.9**
baz=243,SNR=15
SGDS **Sogindy** **83.16 315** *e*P **P** **16 20 26.5 -1.8**
SGDS **Sogindy** **83.16 315** *e*P **P** **16 20 26.6 -1.8**
baz=315
NEA2 **Nenana** **83.20** **22** P **P** **16 20 26.4 -1.5**
baz=241,SNR=11
M24K **Tolsona, Glenn** **83.22** **25** P **P** **16 20 27.6 -0.6**
M24K IAmb IAmb 16 20 29.1
comp=Z,30nm,0.8s
M24K **Tolsona, Glenn** **83.22** **25** P **P** **16 20 27.5 -0.6**
baz=244,SNR=6.1
BMRM **Bremner River** **83.42** **27** P **P** **16 20 28.7 -0.6**
baz=246
G22K **Bettles** **83.49** **20** P **P** **16 20 29.0 -0.3**
baz=239
F22K **John River** **83.57** **19** P **P** **16 20 29.6 -0.2**
baz=238,SNR=7.2
MAW **Mawson** **83.61 203** P **P** **16 20 30.2 +0.2**
comp=Z,7.5nm,0.8s,baz=104,slow=9.1,SNR=12
comp=Z,7.5nm,0.8s
MAW **Mawson** **83.61 203** P **P** **16 20 30.4 +0.4**
baz=84,SNR=7.3
MAW **Mawson** **83.61 203** P **P** **16 20 30.4 +0.4**
MAW **Mawson** **83.61 203** P **P** **16 20 30.4 +0.4**
MAW pmax pmax
comp=Z,3.0nm,1.0s
H23K **Yukon River** **83.62** **21** P **P** **16 20 29.5 -0.6**
baz=241,SNR=10
BGLC **Bering Glacier** **83.68** **28** P **P** **16 20 29.8 -0.6**
baz=247
N25K **Chitina, Valde** **83.69** **26** P **P** **16 20 29.9 -0.7**
baz=246
HARP **HAARP** **83.78** **25** P **P** **16 20 30.9 -0.1**
baz=245
TCOL **CIGO, UAF Yank** **83.79** **22** P **P** **16 20 29.6 -1.3**
baz=242
COLA **College** **83.79** **22***c i*P **P** **16 20 29.5 -1.4**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA **College** **83.79** **22** P **P** **16 20 30.0 -0.9**
baz=242
G23K **Bananza Creek** **83.89** **20** P **P** **16 20 30.7 -0.8**
baz=240,SNR=13
PAX **Paxson** **83.89** **25** P **P** **16 20 30.1 -1.5**
PAX **Paxson** **83.89** **25** P **P** **16 20 30.1 -1.5**
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX **Paxson** **83.89** **25** P **P** **16 20 31.0 -0.6**
baz=245
HDA **Harding Lake** **83.92** **23** P **P** **16 20 30.4 -1.3**
baz=243,SNR=8.8
BTLS **Baital** **83.96 316** *e*P **P** **16 20 31.6 -0.6**
BTLS **Baital** **83.96 316** *e*P **P** **16 20 31.6 -0.6**
baz=316
POKR **Poker Plat Res** **84.06** **22** P **P** **16 20 31.2 -1.1**
baz=243
COLD **Coldfoot** **84.08** **20** P **P** **16 20 31.4 -1.0**
COLD IAmb IAmb 16 20 33.4
comp=Z,16nm,1.0s
COLD **Coldfoot** **84.08** **20** P **P** **16 20 31.9 -0.5**
baz=240,SNR=9.7
ILAR **Eielson Array** **84.11** **23** P **P** **16 20 30.9 -1.7**
comp=Z,17nm,0.7s,baz=252,slow=5.3,SNR=133
ILAR pP **pP** **16 21 09.7 +0.6**
comp=Z,1.4nm,0.8s,baz=253,slow=4.8,SNR=1.3
comp=Z,17nm,0.7s
K24K **Donnelly Dome** **84.12** **24** P **P** **16 20 32.3 -0.4**
baz=244,SNR=5.5
H24K **Noodor Dome** **84.23** **22** P **P** **16 20 32.1 -1.1**
H24K **Noodor Dome** **84.23** **22** P **P** **16 20 32.2 -1.0**
baz=242,SNR=9.0
MCARA **McCarthy VSAT** **84.29** **26** P **P** **16 20 32.5 -1.1**
baz=247
QSPA **South Pole Qui** **84.31 180** P **P** **16 20 34.3 +0.5**
QSPA IAmb IAmb 16 20 35.1
comp=Z,18nm,0.8s
RIDG **Independent Ri** **84.47** **24** P **P** **16 20 33.1 -1.3**
baz=245,SNR=9.2
J25K **Salcha River,** **84.63** **23** P **P** **16 20 34.2 -1.1**
baz=245,SNR=57
E23K **Chandalar** **84.69** **19** P **P** **16 20 34.6 -0.9**
baz=240
M26K **Nabesna, AK** **84.70** **26** P **P** **16 20 34.8 -0.8**
baz=247
DOT **Dot Lake** **84.75** **24** P **P** **16 20 35.4 -0.5**
DOT IAmb IAmb 16 20 36.2
comp=Z,23nm,0.9s
G24K **Hadweenzic Riv** **84.77** **21** P **P** **16 20 35.1 -0.8**
baz=243,SNR=9.0
L26K **Log Cabin Wild** **84.79** **25** P **P** **16 20 36.1 0.0**
L26K IAmb IAmb 16 20 36.7
comp=Z,11nm,0.7s
L26K **Log Cabin Wild** **84.79** **25** P **P** **16 20 35.8 -0.3**
baz=247,SNR=11
D23K **Nanushuk River** **84.81** **18** P **P** **16 20 36.5 +0.5**
baz=239,SNR=10
CTG **Chitna Glacier** **84.89** **27** P **P** **16 20 36.2 -0.5**
baz=249
SCRK **Sand Creek** **84.91** **24** P **P** **16 20 35.9 -0.9**
SCRK **Sand Creek** **84.91** **24** P **P** **16 20 35.9 -0.9**
baz=246,SNR=9.0
TOLK **Toolik Lake Re** **84.99** **19** P **P** **16 20 36.1 -0.9**
TOLK IAmb IAmb 16 20 37.8
comp=Z,14nm,0.9s
TOLK **Toolik Lake Re** **84.99** **19** P **P** **16 20 36.6 -0.4**
baz=240,SNR=5.4
F24K **Squaw Lake** **85.01** **20** P **P** **16 20 36.7 -0.4**
baz=242,SNR=17
E24K **Your Creek** **85.07** **19** P **P** **16 20 36.7 -0.7**
baz=242
M27K **Edge Creek, AK** **85.16** **26** P **P** **16 20 37.8 -0.3**
baz=248,SNR=14
H25K **Birch Creek** **85.17** **21** P **P** **16 20 37.9 +0.1**
baz=244
C23K **Itkillik River** **85.27** **17** P **P** **16 20 38.3 0.0**
baz=239
J26L **Joseph Creek** **85.29** **24** P **P** **16 20 38.5 -0.2**
baz=246,SNR=11
O28M **Mount Upton** **85.35** **28** P **P** **16 20 38.7 -0.5**
baz=250
DZA **Taraz** **85.38 314** *e*P **P** **16 20 38.6 -0.9**
DZA **Taraz** **85.38 314** *e*P **P** **16 20 38.6 -0.9**
baz=314
L27K **Beaver Creek,** **85.45** **25** P **P** **16 20 39.0 -0.4**
baz=248,SNR=11
BCAR **Beaver Creek A** **85.47** **25** P **P** **16 20 38.7 -0.8**
D24K **Happy Valley** **85.48** **18** P **P** **16 20 39.3 0.0**
baz=241
YUK3 **Moose Creek** **85.58** **27** P **P** **16 20 39.9 -0.4**
baz=249
BVCY **Beaver Creek** **85.63** **26** P **P** **16 20 40.1 -0.2**
baz=249,SNR=6.2
K27K **Chicken** **85.71** **24** P **P** **16 20 40.0 -0.5**
K27K IAmb IAmb 16 20 42.0
comp=Z,24nm,0.9s
K27K **Chicken** **85.71** **24** P **P** **16 20 41.1 +0.5**
baz=248
I26K **Coal Creek Min** **85.77** **23** P **P** **16 20 40.2 -0.7**
I26K IAmb IAmb 16 20 41.0
comp=Z,12nm,0.9s
I26K **Coal Creek Min** **85.77** **23** P **P** **16 20 39.8 -1.0**
baz=247
C24K **Franklin Bluff** **85.79** **18** P **P** **16 20 40.9 0.0**
baz=241
NRIK **Noril'sk** **85.80 342** P **P** **16 20 39.4 -1.5**
comp=Z,2.5nm,0.4s,baz=127,slow=7.8,SNR=6.9
NRIK pP **pP** **16 21 17.2 0.0**
comp=Z,4.4nm,0.8s,baz=120,slow=6.2,SNR=2.2
comp=Z,2.5nm,0.4s
NRIK **Noril'sk** **85.80 342***d i*P **P** **16 20 39.7 -1.2**
NRIK pmax pmax
comp=Z,5.0nm,0.7s
F25K **Christian Rive** **85.81** **20** P **P** **16 20 41.2 +0.1**
baz=244,SNR=5.4
O29M **Mount Kennedy** **85.94** **28** P **P** **16 20 41.4 -0.6**
baz=251
KKAR **Karatay Array** **86.01 314** P **P** **16 20 40.5 -2.1**
KKAR **Karatay Array** **86.01 314** P **P** **16 20 40.5 -2.1**
BRZS **Berezniki** **86.04 321** *e*P **P** **16 20 41.4 -1.1**
BRZS **Berezniki** **86.04 321** *e*P **P** **16 20 41.4 -1.1**
baz=321
E25K **Arctic Village** **86.07** **20** P **P** **16 20 42.9 +0.6**
baz=244
BMAR **Burnt Mountain** **86.11** **21** P **P** **16 20 42.7 +0.1**
IUG **luzhnay** **86.17 313** *e*P **P** **16 20 42.4 -1.1**
IUG **luzhnay** **86.17 313** *e*P **P** **16 20 42.5 -1.1**
baz=313
G26K **Porcupine Rive** **86.20** **21** P **P** **16 20 42.8 -0.1**
baz=246,SNR=24
YUK4 **Talbot Arm** **86.25** **27** P **P** **16 20 43.8 +0.3**
baz=251
YUK6 **Outpost Mounta** **86.25** **28** P **P** **16 20 43.7 +0.1**
baz=251
D25K **Kavik River** **86.33** **19** P **P** **16 20 42.6 -1.0**
baz=244
EGAK **Eagle** **86.36** **24** P **P** **16 20 43.0 -0.7**
EGAK IAmb IAmb 16 20 44.4
comp=Z,21nm,0.9s
EGAK **Eagle** **86.36** **24** P **P** **16 20 43.0 -0.7**
baz=249,SNR=13
F26K **Sheenjek River** **86.37** **20** P **P** **16 20 43.7 -0.2**
baz=246,SNR=9.7
I27K **Kandik River** **86.48** **23** P **P** **16 20 43.8 -0.6**
baz=248,SNR=15
SIT **Sitka** **86.60** **32** P **P** **16 20 45.4 +0.3**
baz=254
HYT **Haines Junctio** **86.61** **28** P **P** **16 20 45.2 0.0**
HYT IAmb IAmb 16 20 46.6
comp=Z,22nm,0.9s
HYT **Haines Junctio** **86.61** **28** P **P** **16 20 45.2 0.0**
baz=252
P30M **Million Dollar** **86.66** **29** P **P** **16 20 45.7 +0.3**
baz=253
M29M **Somme Creek** **86.69** **26** P **P** **16 20 45.6 0.0**
baz=251
PLBC **Pleasant Camp** **86.75** **29** P **P** **16 20 45.7 0.0**
baz=253
H27K **Steamboat Moun** **86.75** **22** P **P** **16 20 45.6 -0.1**
baz=248,SNR=20
DAWY **Dawson** **86.83** **25** P **P** **16 20 46.1 0.0**
DAWY IAmb IAmb 16 20 47.2
comp=Z,23nm,0.9s
DAWY **Dawson** **86.83** **25** P **P** **16 20 45.9 -0.2**
baz=250
G27K **Doyon Strip** **86.92** **22** P **P** **16 20 46.3 -0.2**
baz=248,SNR=6.2
N30M **Aishikik Lake** **87.00** **27** P **P** **16 20 46.5 -0.5**
baz=252
L29M **L29M** **87.04** **26** P **P** **16 20 47.7 +0.5**
baz=251
C26K **Camden Bay** **87.05** **18** P **P** **16 20 47.2 +0.2**
baz=245
O30N **Mendenhall** **87.26** **28** P **P** **16 20 48.1 -0.2**
baz=253
SKAG **Skagway** **87.26** **30** P **P** **16 20 48.5 +0.3**
baz=254
C27K **Jago River** **87.31** **19** P **P** **16 20 48.2 -0.1**
baz=246,SNR=10
E27K **Coleen River** **87.45** **20** P **P** **16 20 48.7 -0.3**
baz=248,SNR=11
M30M **Minto, Yukon** **87.46** **26** P **P** **16 20 49.1 -0.1**
M30M **Minto, Yukon** **87.46** **26** P **P** **16 20 48.7 -0.5**
baz=253
K29M **Barlow Dome** **87.53** **25** P **P** **16 20 49.3 -0.3**
baz=252,SNR=16
N31M **Braeburn, Yuko** **87.61** **28** P **P** **16 20 49.5 -0.4**
baz=254
I29M **Ogilvie Camp,** **87.69** **24** P **P** **16 20 50.5 +0.3**
baz=251
WHY **Whitehorse** **87.80** **28** P **P** **16 20 50.6 -0.3**
baz=254
WRAK **Wrangell Islan** **88.03** **33** P **P** **16 20 51.5 -0.5**
baz=257
P32M **Atlin** **88.08** **30** P **P** **16 20 51.8 -0.4**
baz=256
M31M **Drury Creek, Y** **88.43** **27** P **P** **16 20 53.2 -0.6**
baz=255
EPYK **Eagle Plains** **88.63** **23** P **P** **16 20 53.7 -0.9**
baz=253
FARO **Faro, Yukon** **88.91** **27** P **P** **16 20 55.1 -1.0**
baz=256
S34M **Telegraph Cree** **89.01** **32** P **P** **16 20 56.1 -0.4**
baz=258
R33M **Jennings River** **89.41** **30** P **P** **16 20 58.1 -0.4**
baz=258
MMPY **Sheldon Lake,** **89.95** **27** P **P** **16 21 00.1 -0.8**
baz=258
F31M **Tsiigehtchic** **90.05** **22** P **P** **16 21 00.9 -0.2**
baz=255
INK **Inuvik** **90.35** **21** P **P** **16 21 01.6 -0.9**
comp=Z,7.2nm,1.0s,baz=225,slow=8.9,SNR=5.2
comp=Z,7.2nm,1.0s
INK **Inuvik** **90.35** **21** P **P** **16 21 02.0 -0.5**
baz=256
WTLY **Watson Lake, Y** **90.62** **30** P **P** **16 21 03.6 -0.4**
baz=260
TGTN **Hyland Airport** **91.12** **28** P **P** **16 21 06.0 -0.3**
baz=260
J04D **Umpqua Nationa** **92.49** **47** P **P** **16 21 12.9 -0.4**
baz=265
J05D **Fort Rock, OR** **93.13** **47** P **P** **16 21 16.3 +0.1**
baz=265
SMMC **Simmler** **93.45** **55** P **P** **16 21 17.8 +0.1**
baz=266
PKM **Mcpherson Peak** **93.57** **55** P **P** **16 21 18.8 +0.3**
baz=266
VES **Vestal, Richgr** **94.23** **55** P **P** **16 21 21.0 -0.2**
baz=266
ISA **Isabella, Lake** **94.71** **55** P **P** **16 21 23.8 +0.2**
baz=266
NVAR **Mina Array Bea** **95.01** **52** P **P** **16 21 25.6 +0.5**
comp=Z,3.0nm,0.9s,baz=248,slow=6.4,SNR=7.2
comp=Z,3.0nm,0.9s
EDW2 **Edwards Air Fo** **95.06** **56** P **P** **16 21 25.2 +0.1**
baz=267
CWC **Cottonwood Cre** **95.08** **54** P **P** **16 21 25.3 0.0**
baz=267
BFSC **Mount Baldy Ra** **95.30** **56** P **P** **16 21 26.3 0.0**
baz=267
LRMC **Laurel Mtn Rad** **95.35** **55** P **P** **16 21 27.1 +0.6**
baz=267
MPMC **Manual Prospec** **95.53** **54** P **P** **16 21 27.3 -0.2**
baz=267
GSC **Goldstone, Bar** **96.05** **55** P **P** **16 21 29.8 +0.1**
baz=267
FURC **Furnace Creek,** **96.06** **54** P **P** **16 21 30.0 +0.5**
baz=267
PFO **Pinyon Flats O** **96.26** **57** P **P** **16 21 30.0 -0.8**
baz=267
TPFO **Pinon Flats** **96.27** **57** P **P** **16 21 30.1 -0.6**
baz=267
NEW **Newport** **96.28** **42** P **P** **16 21 30.8 +0.4**
baz=268
IKP **In-Ko-Pah, Jac** **96.51** **58** P **P** **16 21 31.4 -0.4**
baz=267
TPNV **Topopah Spring** **96.57** **54** P **P** **16 21 31.9 -0.2**
baz=268
TUQ **Turquoise Moun** **96.78** **55** P **P** **16 21 33.9 +0.8**
baz=268
SWSC **Sam W. Stewart** **96.79** **58** P **P** **16 21 33.8 +0.9**
baz=268
GMRC **Granite Mounta** **96.97** **56** P **P** **16 21 33.8 -0.1**
baz=268
BC3 **Big Chuckawall** **97.10** **57** P Pdif 16 21 34.9 +0.3
baz=268
R11A **Troy Canyon, C** **97.14** **52** P Pdif 16 21 34.7 0.0
baz=268
IRM **Iron Mountain** **97.38** **56** P Pdif 16 21 36.0 +0.3
baz=268
KLMR **Klimovskoe** **104.70 332** P **Pdif** **16 22 05.7 -1.8**
KLMR 16 26 24.9
KLMR pmax pmax
comp=Z,15nm,1.8s
KLMR **Klimovskoe** **104.70 332** Pdif **Pdif** **16 22 05.8 -1.8**
KLMR AMP 16 22 16.7
comp=Z,15nm,1.8s
KLMR PP **PKiKP** **16 26 25.0 +2.7**
ARCES **ARCESS Array B** **106.78 342** PKKPbc PKKPbc 16 37 45.4 -2.5
comp=Z,1.6nm,0.8s,baz=242,slow=2.1,SNR=7.9
AKASG **Malin Array Be** **113.39 323** PKKPbc PKKPbc 16 37 24.0 -1.9
comp=Z,0.2nm,0.4s,baz=263,slow=2.6,SNR=6.1
BRTR **Keskin Array B** **113.58 311** PKKPbc PKKPbc 16 37 25.2 +0.2
comp=Z,1.0nm,0.6s,baz=201,slow=5.3,SNR=4.1
NOA **NORSAR Array B** **116.65 339** PKKPbc PKKPbc 16 37 13.7 -1.5
comp=Z,0.9nm,0.8s,baz=227,slow=3.1,SNR=3.5
OXF **Oxford** **118.47** **54** P **PKPdf** **16 26 49.3 0.0**
baz=284
PLCA **Paso Flores** **120.88 145** PKP **PKPdf** **16 26 53.1 -0.8**
comp=Z,2.1nm,0.7s,baz=286,slow=1.1,SNR=7.4
CLL **Collm** **122.08 329** *e*PP PP 16 28 31.0 -0.7
CLL LmV 17 33 00.0
comp=Z,200nm,18.4s
CKRC **Cesky Krumlov** **122.83 326** *e*PKP **PKPdf** **16 26 56.6 -0.6**
KHC **Kasperske Hory** **123.05 327** *e*PKiKP **PKPdf** **16 26 54.8 -2.9**
KHC **Kasperske Hory** **123.05 327** *e*PKP **PKPdf** **16 26 54.8 -2.9**
GERES **GERESS Array B** **123.14 327** PKP **PKPdf** **16 26 56.1 -1.9**
comp=Z,1.0nm,0.6s,baz=77,slow=2.9,SNR=13
PAL **Palisades** **127.52** **41** P **PKiKP** **16 27 07.0 0.0**
baz=300
AC05 **El Transito** **128.44 134** PKPdf **PKiKP** **16 27 09.7 +0.3**
LPAZ **La Paz** **136.65 121** PKP **PKPdf** **16 27 25.8 +0.7**
comp=Z,4.4nm,0.8s,baz=280,slow=4.2,SNR=9.5
ESDC **Sonseca Array** **138.67 329** PP **PP** **16 30 19.1 0.0**
comp=Z,0.5nm,0.8s,baz=23,slow=6.3,SNR=4.9
CPUP **Villa Florida** **138.77 142** PKP **PKPdf** **16 27 28.5 +0.5**
comp=Z,5.0nm,0.8s,baz=316,slow=1.6,SNR=8.6
AQDB **Aquidauana** **143.96 137** PKPdf PKPbc 16 27 35.8 +0.2
BIRV **Birongo** **144.05** **80** PKPdf PKPbc 16 27 36.2 +0.1
SAML **Samuel** **144.12 114** PKPdf PKPbc 16 27 36.2 -0.1
SAML **Samuel** **144.12 114** PKiKP PKPbc 16 27 36.2 -0.1
PTLB **Pontes e Lacer** **144.53 127** PKPdf **PKPdf** **16 27 38.1 -0.4**
TORD **Torodi Ar. Bea** **147.63 286** PKPbc **PKPdf** **16 27 44.3 +0.5**
comp=Z,3.4nm,0.7s,baz=92,slow=2.6,SNR=27
TORD pPKP **pPKPdf** **16 28 19.0 -3.6**
comp=Z,1.1nm,0.5s,baz=61,slow=3.0,SNR=1.9
BOAV **Boa Vista** **149.65** **95** PKPbc **PKPbc** **16 27 52.0 +0.1**
BDFB **Brasilia** **152.49 141** PKP **PKPdf** **16 27 52.0 +0.5**
comp=Z,3.4nm,0.6s,baz=173,slow=2.0,SNR=5.2
BDFB PKPbc **PKPbc** **16 27 58.6 0.0**
comp=Z,15nm,0.7s,baz=212,slow=2.4,SNR=19
BDFB PKPab **PKPab** **16 28 09.7 +0.5**
comp=Z,12nm,1.0s,baz=62,slow=2.2,SNR=5.3

SEA ***10*** *16:16:30.6±1.9, 49.24N±0.05×119.11W±0.04, h7km±6km, Error ellipse: s-maj=7.1km s-min=3.9km az=192.0*
PGC ***10*** *16:16:31.8±0.3, 49.19N×119.27W, h1km, mb4.2, ML4.1/37, ML4.1/37, 41km southeast of Penticton, Bc British Columbia, Canada*
IDC ***10*** *16:16:31.1±0.7, 49.31N×119.15W, h0km, mb3.8/8, mbtmp3.8/14, ML3.6/5, MS2.8/1, Error ellipse: s-maj=11.7km s-min=5.9km az=50.0*
NEIC ***10*** *16:16:31.5, 49.21N×119.25W, h10km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr4.76; Mθθ-6.49; Mφφ 1.72; Mrθ3.13; Mrφ-3.43; Mθφ-2.33; Fault plane solution: M₀7.80000×10¹⁴ NP1:φ218.57000°, δ46.11000°, λ37.89000°. NP2:φ100.22000°, δ63.73000°, λ129.37000°. Principal axes: T 7.4375, Plg53.0000°, Azm59.0000°; N 0.6787, Plg35.0000°, Azm260.0000°; P -8.1163, Plg10.0000°, Azm163.0000°;*
NEIC ***10*** *16:16:31.4±1.4, 49.18N±0.04×119.29W±0.05, h6km±6km Error ellipse: s-maj=5.3km s-min=4.4km az=208.0*
ANF ***10*** *16:16:33.4±1.5, 49.05N×119.13W, h3km±16km, ML4.6/6, Error ellipse: s-maj=12.8km s-min=2.8km az=160.0*

ISC 10 16:16:31.8±1.1, 49.16N±0.02×119.30W±0.02, h6km±7km, n183, σ2s09/253, mb4.0/8, British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNT	**Penticton**	**0.26**	**307**			**Pg**	**16 16 36.8**	**-0.2**
PNT						**Sg**	**16 16 39.8**	**-0.6**
PNT	**Penticton**	**0.26**	**307**	P		**Pg**	**16 16 36.8**	**-0.2**
PNT				S		**Sg**	**16 16 40.0**	**-0.3**
B08A	**Colville Reser**	**0.80**	**182**	Pg		**Pg**	**16 16 47.2**	**0.0**
B08A				Sg		**Sg**	**16 16 57.5**	**-0.2**
B08A				IAML			16 17 02.1	
	comp=E,7μm,0.3s							
B08A				IAML			16 17 02.1	
	comp=N,10μm,0.3s							
B08A	**Colville Reser**	**0.80**	**182**	P		**Pg**	**16 16 47.2**	**0.0**
B08A				S		**Sg**	**16 16 57.8**	**+0.1**
DHW2	**Dyer Hill 2**	**1.22**	**195**			**Pb**	**16 16 54.8**	**-0.5**
NLW	**Nelson Butte**	**1.28**	**213**			**Pn**	**16 16 55.8**	**-0.6**
HOPB	**Hope**	**1.41**	**280**			**Pn**	**16 16 57.3**	**-0.6**
HOPB				Sg		**Sn**	**16 17 14.9**	**-2.0**
HOPB	**Hope**	**1.41**	**280**	Pn		**Pn**	**16 16 57.4**	**-0.6**
HOPB				Sg		**Sn**	**16 17 15.0**	**-1.9**
CBSW	**Chelan Butte S**	**1.45**	**200**			**Pn**	**16 16 58.0**	**-0.6**
SAW	**Saint Andrews**	**1.46**	**183**			**Pn**	**16 16 58.1**	**-0.7**
C09A	**Chrisman Ranch**	**1.52**	**153**			**Pn**	**16 16 58.8**	**-0.8**
C09A	**Chrisman Ranch**	**1.52**	**153**	Pn		**Pn**	**16 16 59.1**	**-0.5**
C09A				Sg		**Sb**	**16 17 19.6**	**-0.4**
B06A	**Marblemount**	**1.58**	**247**			**Pn**	**16 17 00.1**	**-0.2**
B06A				Sn		**Sg**	**16 17 22.6**	**0.0**
B06A	**Marblemount**	**1.58**	**247**	Pn		**Pn**	**16 17 00.2**	**-0.2**
B06A				Sg		**Sg**	**16 17 22.6**	**0.0**
SHUK	**Shuksan-Mt. Ba**	**1.60**	**260**			**Pn**	**16 17 01.3**	**+0.6**
GPW	**Glacier Peak**	**1.61**	**230**			**Pn**	**16 17 01.0**	**0.0**
GPW	**Glacier Peak**	**1.61**	**230**	Pn		**Pn**	**16 17 00.9**	**0.0**
SLFW	**Sugar Loaf**	**1.62**	**211**			**Pn**	**16 17 00.8**	**-0.4**
RPW	**Rockport**	**1.63**	**245**			**Pn**	**16 17 00.9**	**-0.2**
RPW	**Rockport**	**1.63**	**245**	Pn		**Pn**	**16 17 01.2**	**+0.1**
NEW	**Newport**	**1.70**	**121**	Pg		**Pn**	**16 17 02.4**	**+0.4**
	comp=N,106nm,0.3s,baz=309,slow=14,SNR=590							
NEW					Lg	Lg	16 17 24.5	
	comp=N,322nm,0.3s,baz=221,slow=22,SNR=13							
NEW					Lg	LR	16 17 40.3	
	comp=N,180nm,20.2s,baz=27,slow=41							
NEW	**Newport**	**1.70**	**121**			**Pn**	**16 17 01.1**	**-0.9**
NEW				Sn		**Sn**	**16 17 23.6**	**-0.5**
NEW				IAML			16 17 28.4	
	comp=N,2μm,0.9s							
NEW	**Newport**	**1.70**	**121**	P		**Pn**	**16 17 02.0**	**-0.1**
	baz=305,SNR=616							
NEW				S		**Sn**	**16 17 24.1**	**0.0**
	baz=305							
MBW	**Mount Baker**	**1.75**	**259**			**Pb**	**16 17 04.3**	**-0.3**
MBW	**Mount Baker**	**1.75**	**259**	Pn		**Pn**	**16 17 03.2**	**+0.3**
MBW				Sn		**Sn**	**16 17 25.6**	**-0.1**
EPH	**Ephrata**	**1.82**	**186**			**Pn**	**16 17 02.8**	**-0.9**
A05A	**Maple Falls**	**1.84**	**266**	Pn		**Pb**	**16 17 05.7**	**-0.1**
A05A				Sg		**Sb**	**16 17 29.7**	**+0.6**
VDB	**Vedder Mountai**	**1.85**	**267**	Pn		**Pb**	**16 17 05.6**	**-0.4**
VDB				Sg		**Sb**	**16 17 29.5**	**+0.1**
CMW	**Cultus Mountai**	**2.01**	**249**	Pn		**Pn**	**16 17 06.5**	**+0.2**
CMW				Sg		**Sb**	**16 17 34.2**	**+0.2**
LTY	**Liberty**	**2.12**	**206**			**Pn**	**16 17 07.4**	**-0.4**
LTY				IAML			16 17 40.6	
	comp=E,2μm,0.7s							
LTY				IAML			16 17 40.8	
	comp=N,2μm,0.5s							
LTY	**Liberty**	**2.12**	**206**	Pn		**Pn**	**16 17 07.6**	**-0.2**
LTY				Pg		**Pb**	**16 17 11.0**	**+0.4**
LTY				Sg		**Sb**	**16 17 37.8**	**+0.7**
D08A	**Wollman Farm,**	**2.12**	**173**			**Pn**	**16 17 06.7**	**-1.1**
D08A				IAML			16 17 45.5	
	comp=N,1μm,0.3s							
D08A				IAML			16 17 45.5	
	comp=E,3μm,0.8s							
SLEB	**Sale Mountain**	**2.14**	**20**	Pn		**Pn**	**16 17 07.4**	**-0.9**
SLEB				Sg		**Sn**	**16 17 36.1**	**+0.8**
HNBB	**Haney**	**2.15**	**275**	Pn		**Pn**	**16 17 07.7**	**-0.5**
HNBB				Sg		**Sb**	**16 17 37.8**	**-0.3**
C05A	**Tolt Reservoir**	**2.17**	**228**	Pg		**Pb**	**16 17 11.5**	**+0.1**
C05A				Sg		**Sb**	**16 17 39.8**	**+1.2**
LLLB	**Lillooet**	**2.21**	**312**	Pn		**Pn**	**16 17 08.0**	**-1.1**
LLLB				IAML			16 17 43.2	

comp=E,2μm,0.5s
LLLB IAML 16 17 47.0
comp=N,2μm,1.0s
LLLB Lillooet 2.21 312 Pg **Pn** **16 17 10.8 +1.7**
LLLB Sg **Sb** **16 17 38.8 -1.0**
MCW Mount Constitu 2.38 260 Pn **Pn** **16 17 12.9 +1.5**
MCW Sg **Sb** **16 17 46.0 +1.3**
WSLR Whistler 2.54 294 Pn **Pn** **16 17 14.7 +1.0**
WSLR Sg **Sb** **16 17 49.3 -0.2**
SNB Saturna Island 2.58 263 Pn **Pn** **16 17 14.7 +0.6**
SNB Sg **Sb** **16 17 51.3 +0.9**
WPB Watts Point 2.60 282 Pn **Pn** **16 17 14.9 +0.5**
WPB Sg **Sb** **16 17 50.7 -0.3**
BIB Bowen Island 2.63 277 Pn **Pn** **16 17 15.1 +0.2**
BIB Sg **Sb** **16 17 51.8 -0.2**
D05A Enumclaw 2.67 223 Pn **Pn** **16 17 15.0 -0.4**
D05A IAML 16 17 59.4
comp=N,2μm,1.4s
D05A IAML 16 18 02.5
comp=E,2μm,1.0s
D05A Enumclaw 2.67 223 Pn **Pn** **16 17 14.7 -0.7**
D05A Pg **Pg** **16 17 21.8 -1.2**
D05A Sg **Sg** **16 17 56.6 -1.0**
E08A Dider Farm, El 2.68 176 Pn **Pn** **16 17 14.8 -0.7**
E08A IAML 16 18 02.1
comp=E,2μm,0.6s
E08A IAML 16 18 03.2
comp=N,2μm,0.7s
FMW Mount Fremont 2.74 216 Pn **Pn** **16 17 16.1 -0.4**
FMW Sg **Sb** **16 17 57.5 +2.2**
E09A Wood Farm, Sta 2.76 163 Pn **Pn** **16 17 16.0 -0.6**
E09A IAML 16 18 06.6
comp=N,1μm,0.5s
VGZ Gonzales 2.77 256 Pn **Pn** **16 17 16.8 +0.2**
VGZ Sg **Sb** **16 17 56.9 +1.2**
HAWA Hanford 2.77 183 Pn **Pn** **16 17 16.0 -0.8**
HAWA IAML 16 18 07.2
comp=N,1μm,0.7s
HAWA IAML 16 18 10.0
comp=N,2μm,0.7s
GOBB Galiano Island 2.78 267 Pn **Pn** **16 17 17.5 +0.7**
GOBB Sg **Sb** **16 17 57.1 +1.0**
PA01 PA01 North 2.78 261 Pn **Pn** **16 17 17.6 +0.7**
PA01 Sg **Sb** **16 17 57.9 +1.7**
B011 North Saanich 2.79 261 Pn **Pn** **16 17 17.5 +0.6**
B011 Sg **Sb** **16 17 57.8 +1.5**
B009 North Saanich 2.79 261 Pn **Pn** **16 17 17.6 +0.7**
B009 Sg **Sb** **16 17 57.7 +1.4**
B010 North Saanich 2.79 261 Pn **Pn** **16 17 18.0 +1.1**
B010 Sg **Sb** **16 17 58.1 +1.7**
PGC Sidney 2.79 261 Pn **Pn** **16 17 17.7 +0.8**
PGC Sidney 2.79 261 Pn **Pn** **16 17 17.2 +0.3**
PGC Sg **Sb** **16 17 57.7 +1.4**
GNW Green Mountain 2.84 237 Pn **Pn** **16 17 17.4 -0.3**
GNW Sg **Sb** **16 17 59.3 +1.4**
BLBC Blue River 2.89 1 Pn **Pn** **16 17 17.7 -0.9**
BLBC Sg **Sb** **16 18 00.2 +0.7**
HDW Hoodsport 2.92 240 Pn **Pn** **16 17 19.1 +0.1**
HDW Sg **Sb** **16 18 01.8 +1.4**
B04A Port Angeles 3.00 250 Pn **Pn** **16 17 20.1 +0.3**
SHB Sechelt 3.02 280 Pn **Pn** **16 17 21.1 +0.8**
SHB Sg **Sb** **16 18 02.9 -0.3**
STW Striped Peak 3.07 252 Pn **Pn** **16 17 21.1 +0.3**
STW Sg **Sb** **16 18 05.4 +0.9**
NLLB Nanaimo Lost L 3.08 273 Pn **Pn** **16 17 21.6 +0.7**
NLLB Sg **Sb** **16 18 04.8 +0.1**
MNB Mounoet Dainar 3.10 10 Pn **Pn** **16 17 21.1 -0.3**
B926 Mesachie Lake 3.20 266 Pn **Pn** **16 17 24.0 +1.4**
B926 Sg **Sb** **16 18 07.0 -1.2**
OSD Olympics--Snow 3.22 247 Pn **Pn** **16 17 24.0 +0.9**
GHNB Nanoose 3.24 274 Pn **Pn** **16 17 22.9 -0.2**
GHNB Sg **Sb** **16 18 09.3 0.0**
BSMT Bassoo Peak 3.27 112 Pn **Pn** **16 17 23.2 -0.6**
F07A Phinny Hill Vi 3.30 188 Pn **Pn** **16 17 24.1 +0.1**
OBC Olympics--Boni 3.37 252 Pn **Pn** **16 17 26.1 +1.1**
CPW Capitol Peak 3.38 231 Pn **Pn** **16 17 25.9 +0.8**
CPW Sg **Sb** **16 18 15.9 +2.5**
TXB Texada 3.40 281 Pn **Pn** **16 17 25.9 +0.5**
TXB Sg **Sb** **16 18 14.8 +0.8**
PFB Port Renfrew 3.44 262 Pn **Pn** **16 17 28.2 +2.2**
PFB Sg **Sb** **16 18 15.9 +0.5**
F10A Beach Ranch, E 3.48 156 Pn **Pn** **16 17 26.8 +0.1**
NLWA Neilton Lookou 3.53 242 Pn **Pn** **16 17 28.3 +1.1**
WALA Waterton Lakes 3.54 90 **Pn** **16 17 26.9 -0.6**
WALA IAML 16 18 22.8
comp=N,763nm,0.9s
WALA IAML 16 18 27.1
comp=E,414nm,0.7s
WALA Waterton Lakes 3.54 90 Pn **Pn** **16 17 26.8 -0.6**
WALA Sn **Sn** **16 18 07.8 -1.8**
WALA Sg **Sb** **16 18 19.5 +1.3**
MGB Mount Grey 3.55 269 Pn **Pn** **16 17 27.6 +0.1**
MGB Sg **Sb** **16 18 18.4 0.0**
B927 Port Alberni 3.62 273 Pn **Pn** **16 17 30.2 +1.9**
B927 Sg **Sb** **16 18 20.7 +0.6**
JTMT Jette 3.63 111 **Pn** **16 17 27.4 -1.2**
JTMT Jette 3.63 111 Pn **Pn** **16 17 27.4 -1.2**
JTMT Pg **Pg** **16 17 41.2 0.0**
JTMT Sg **Sb** **16 18 22.7 +2.0**
WISH Wishkah 3.63 237 Pn **Pn** **16 17 28.2 -0.3**
WISH Wishkah 3.63 237 Pg **Pg** **16 17 41.5 +0.3**
OCP Olym-Cheeka Pk 3.63 258 Pn **Pn** **16 17 29.9 +1.3**
OCP Sg **Sb** **16 18 24.4 +3.7**
C03A Quillayute Air 3.70 253 Pn **Pn** **16 17 29.2 -0.3**
YBMT Yellow Bay 3.75 108 Pn **Pn** **16 17 28.5 -1.8**
YBMT Pg **Pb** **16 17 40.8 +2.3**
YBMT Sg **Sb** **16 18 27.7 +3.5**
B928 Bamfield 3.86 267 Pn **Pn** **16 17 33.0 +1.4**
B928 Sg **Sb** **16 18 28.1 +1.0**
BFSB Bamfield 3.86 267 Pn **Pn** **16 17 32.8 +1.2**
BFSB Sg **Sb** **16 18 28.6 +1.4**
G08A Pilot Rock 3.88 176 Pn **Pn** **16 17 32.0 -0.1**
G08A IAML 16 18 46.4
comp=E,609nm,0.7s
G08A IAML 16 18 51.5
comp=N,486nm,0.5s
E03A Lebam 3.88 229 Pn **Pn** **16 17 33.0 +1.0**
E03A IAML 16 18 39.2
comp=N,266nm,0.9s
E03A IAML 16 18 52.1
comp=E,299nm,1.2s
E03A Lebam 3.88 229 Pn **Pn** **16 17 33.1 +1.0**
E03A Sg **Sb** **16 18 30.6 +2.6**
MWAB Mount Washingt 3.96 281 Sg **Sb** **16 18 31.1 +0.8**
CBB Campbell River 4.04 285 **Pn** **16 17 35.1 +0.9**
CBB Campbell River 4.04 285 Pn **Pn** **16 17 34.7 +0.5**
CBB Sn **Sn** **16 18 25.4 +3.6**
CBB Sg **Sb** **16 18 33.4 +0.9**
OZB Mount Ozzard 4.08 270 Pn **Pn** **16 17 36.2 +1.5**
OZB Mount Ozzard 4.08 270 Pn **Pn** **16 17 35.9 +1.2**
OZB Sg **Sb** **16 18 36.6 +3.0**
BTB Buttle Lake 4.08 277 Pn **Pn** **16 17 35.6 +0.7**
BTB Sg **Sb** **16 18 34.7 +0.9**
RADR Rader Ridge 4.09 230 Pn **Pn** **16 17 35.9 +1.0**
RADR IAML 16 18 48.9
comp=E,327nm,1.3s
RADR IAML 16 18 52.8
comp=N,304nm,1.4s
G05D Wamic, OR 4.16 200 P **Pn** **16 17 36.8 +1.0**
G05D S **Sn** **16 18 26.0 +1.4**
baz=19
HOOD Mount Hood Mea 4.16 204 **Pn** **16 17 36.9 +0.9**
HOOD IAML 16 19 00.2
comp=E,352nm,1.0s
HOOD IAML 16 19 15.1
comp=N,299nm,1.4s
SPLB Strathcona Par 4.20 282 Pn **Pn** **16 17 37.4 +0.9**
SPLB Sg **Sb** **16 18 38.1 +1.0**
MSO Missoula 4.29 121 Pn **Pn** **16 17 36.9 -0.8**
MSO Missoula 4.29 121 P **Pn** **16 17 36.9 -0.8**
baz=306,SNR=22
TOFB Tofino 4.34 272 Sg **Sb** **16 18 41.9 +1.0**
GDR Gold River 4.43 281 Pn **Pn** **16 17 42.5 +3.0**
GDR Sg **Sb** **16 18 46.5 +2.7**
BMO Blue Mountains 4.52 162 **Pn** **16 17 41.4 +0.5**
BMO IAML 16 19 01.3
comp=N,314nm,0.8s
BMO IAML 16 19 08.4
comp=N,250nm,0.7s
NCRB Newcastle Ridg 4.55 288 Pn **Pn** **16 17 42.4 +1.1**
NCRB Sg **Sb** **16 18 49.3 +2.0**

OVMT Ovando 4.71 114 Pn **Pn** **16 17 42.5 -1.1**
OVMT Sg **Sb** **16 18 56.2 +4.3**
ETB Estevan Point 4.75 275 Sg **Sb** **16 18 58.2 +5.6**
G03D McMinnville, O 4.79 216 P **Pn** **16 17 46.0 +1.5**
baz=33
G03D Sb **Sb** **16 18 58.5 +4.6**
baz=33
UBRB Upper Baezaeko 4.80 323 Pn **Pn** **16 17 44.0 -0.8**
UBRB Sg **Sb** **16 18 59.8 +5.3**
WOSB Woss 4.83 285 Pn **Pn** **16 17 46.5 +1.5**
WOSB Sg **Sb** **16 18 57.8 +2.7**
H04A Detroit Lake 4.90 205 Pn **Pn** **16 17 47.4 +1.4**
I05D Terrebonne, OR 5.02 197 P **Pn** **16 17 48.7 +1.0**
baz=16
BRLDA Berland Lookou 5.08 13 Pg **Pb** **16 18 04.0 +2.9**
BRLDA Sg **Sb** **16 19 06.2 +3.9**
I07A Izee 5.08 182 **Pn** **16 17 49.3 +0.7**
LYMT Lyon Mountain 5.18 112 Sg **Sb** **16 19 10.2 +4.6**
H04D Lebanon 5.21 208 P **Pn** **16 17 51.5 +1.3**
baz=26
H04D Sb **Sb** **16 19 10.9 +5.0**
baz=26
MAYB Maynard 5.25 287 Pn **Pn** **16 17 52.7 +1.8**
MAYB Sg **Sb** **16 19 10.5 +3.2**
PACB Port Alice, BC 5.46 287 Pn **Pn** **16 17 55.7 +2.1**
PACB Sg **Sb** **16 19 15.7 +2.6**
PHC Port Hardy 5.47 289 Pn **Pn** **16 17 57.7 +3.8**
PHC Sg **Sb** **16 19 17.8 +4.2**
PINE Pine Mountain 5.49 193 Pn **Pn** **16 17 55.2 +1.0**
EDM Edmonton 5.52 40 **Pn** **16 17 52.5 -2.0**
EDM Edmonton 5.52 40 Pn **Pn** **16 17 51.7 -2.8**
EDM Sg **Sb** **16 19 20.9 +5.9**
BUCK Buck Mountain 5.58 208 Pn **Pn** **16 17 58.4 +3.0**
HRY Holter Researc 5.58 113 **Pn** **16 17 56.1 +0.6**
BDMTA Bald Mountain 5.67 2 Sg **Sb** **16 19 24.8 +5.6**
LRM Limekiln Ridge 5.72 123 **Pn** **16 17 56.2 -1.3**
I04A Tendick Farm, 5.78 203 P **Pn** **16 17 59.5 +1.4**
baz=21,SNR=9.4
HOLB Holberg 5.90 288 Sg **Sb** **16 19 29.6 +3.8**
SWHSA Swaatsanuse Loo 5.96 14 Sg **Sb** **16 19 35.9 +8.3**
J05D Fort Rock, OR 6.03 194 P **Pn** **16 18 02.4 +0.8**
baz=12,SNR=7.4
I03D Drain, OR 6.14 209 P **Pn** **16 18 04.5 +1.5**
baz=26
FSJB Fort St James 6.14 332 Pn **Pn** **16 18 02.3 -0.7**
FSJB Sg **Sg** **16 19 41.6 -7.3**
FSB Fort Saint Jam 6.17 332 Pn **Pn** **16 18 00.8 -2.6**
FSB Sg **Sb** **16 19 42.0 +8.4**
MCMT McKenzie Canyo 6.18 132 **Pn** **16 18 04.6 +0.7**
MFID Camas Ranch 6.23 156 **Pn** **16 18 04.4 0.0**
J04D Umpqua Nationa 6.24 199 P **Pn** **16 18 05.7 +1.1**
baz=17
BOZ Bozeman (W) 6.31 122 Pn **Pn** **16 18 06.0 +0.5**
BOZ Bozeman (W) 6.31 122 P **Pn** **16 18 05.3 -0.2**
baz=308
BBB Bella Bella 6.37 302 Pg **Pb** **16 18 24.6 +1.6**
comp=N,2.8nm,0.3s,baz=114,slow=14,SNR=20
BBB Lg Lg 16 19 46.6
comp=N,2.4nm,0.3s,baz=41,slow=5.7,SNR=4.0
BBB Bella Bella 6.37 302 Pg **Pb** **16 18 23.4 +0.5**
BBB Sg **Sb** **16 19 46.9 +7.6**
EGMT Eagleton 6.43 97 P **Pn** **16 18 07.2 +0.1**
baz=28
K05A Summer Lake 6.53 190 Pn **Pn** **16 18 10.9 +2.3**
HLID Hailey 6.54 147 Pn **Pn** **16 18 09.2 +0.5**
HLID Hailey 6.54 147 P **Pn** **16 18 09.0 +0.3**
baz=331,SNR=29
HLID S **Sn** **16 19 22.9 -0.8**
baz=331
NBC4 NorthernBC 4 6.59 353 Sg **Sb** **16 19 52.5 +6.8**
WVOR Wild Horse Val 6.75 176 Pn **Pn** **16 18 11.8 +0.3**
BUTB Butedale 6.97 308 Sg **Sb** **16 20 05.0 +8.4**
YHL Hebgen Lake 7.03 125 Pn **Pn** **16 18 15.2 -0.3**
YHH Holmes Hill 7.25 124 Pn **Pn** **16 18 18.4 -0.1**
L04D Klamath Falls 7.26 198 Pn **Pn** **16 18 20.3 +1.8**
GCMT Greycliff 7.34 114 Pn **Pn** **16 18 20.1 +0.4**
HWKB Hawksbury Isla 7.60 310 Sg **Sb** **16 20 23.2 +8.5**
KITB Kitimat 7.61 314 Sg Sb 16 20 25.7 +11
IMW Indian Meadow 7.80 129 Pn **Pn** **16 18 26.6 +0.4**
YBH Yreka Blue Hor 7.81 199 Pn **Pn** **16 18 29.9 +4.0**
comp=N,0.4nm,0.3s,baz=14,slow=8.6,SNR=9.6
comp=N,4.4nm,0.6s
BNKB Banks Island 7.85 306 Sg Sb 16 20 31.4 +9.4
RLMT Red Lodge 7.94 117 Pn **Pn** **16 18 28.5 +0.5**
NBC5 NorthernBC 5 8.62 348 Pn **Pn** **16 18 39.1 +2.1**
NBC5 Sg Sg 16 20 59.1 -9.0
ELK Elko 8.89 160 Pn **Pn** **16 18 44.7 +3.7**
comp=N,0.9nm,0.3s,baz=352,slow=12,SNR=16
ELK Lg Lg 16 21 09.2
comp=N,0.5nm,0.3s,baz=252,slow=22,SNR=3.1
comp=N,2.0nm,0.3s
PDAR Pinedale Array 9.32 130 Pn **Pn** **16 18 47.9 +1.1**
comp=N,0.1nm,0.3s,baz=311,slow=13,SNR=2.0
PDAR Lg Lg 16 21 21.5
comp=N,0.3nm,0.3s,baz=340,slow=28,SNR=4.0
comp=N,0.2nm,0.5s
NBC6 NorthernBC 6 9.52 354 Sg Sn 16 21 26.5 +50
FNBB Fort Nelson 9.99 349 Sg Sn 16 21 46.4 +58
DGMT Dagmar 9.99 88 P **Pn** **16 18 55.0 -0.8**
baz=280
NVAR Mina Array Bea 10.75 176 Pn Pn 16 19 11.4 +4.9
comp=N,0.2nm,0.3s,baz=353,slow=13,SNR=17
NVAR Lg Lg 16 22 14.0
baz=7.7,slow=34,SNR=1.8
NVAR LR LR 16 23 41.3
comp=N,52nm,22.0s,baz=287,slow=40
comp=N,3.8nm,0.8s
DLBC Dease Lake 11.23 330 Lg Lg 16 22 18.7
comp=N,0.1nm,0.3s,baz=174,slow=4.3,SNR=3.5
DLBC Dease Lake 11.23 330 Sg 16 22 28.2
FFC Flin Flon 12.04 56 Pn **Pn** **16 19 19.9 -3.9**
YKA Yellowknife Ar 13.62 9 Pn Pn 16 19 38.5 -6.8
comp=N,0.4nm,0.3s,baz=184,slow=13,SNR=2.9
YKA Lg Lg 16 23 24.9
comp=N,0.1nm,0.3s,baz=183,slow=30,SNR=2.0
comp=N,3.1nm,0.8s
ULM Lac du Bonnet 15.18 77 Lg Lg 16 24 15.0
comp=N,0.2nm,0.3s,baz=138,slow=14,SNR=2.0
ULM Lac du Bonnet 15.18 77 Sg 16 24 18.9
ANMO Albuquerque 17.07 142 P **P** **16 20 32.3 -0.7**
comp=N,0.3nm,0.3s,baz=334,slow=13,SNR=2.2
ILAR Eielson Array 21.42 327 P **P** **16 21 21.1 +0.9**
comp=N,7.2nm,0.8s,baz=132,slow=11,SNR=21
comp=N,7.2nm,0.8s
TXAR Lajitas Array 23.12 143 P **P** **16 21 38.6 0.0**
comp=N,0.5nm,0.6s,baz=333,slow=9.1,SNR=3.7
comp=N,0.5nm,0.6s
ARCES ARCESS Array B 58.83 14 P **P** **16 26 28.5 -2.1**
comp=N,1.2nm,0.8s,baz=0.0,slow=2.7,SNR=1.0
comp=N,1.2nm,0.8s
NOA NORSAR Array B 63.16 24 P **P** **16 26 59.4 -0.7**
comp=N,0.7nm,0.8s,baz=324,slow=7.0,SNR=2.7
comp=N,0.7nm,0.8s
FINES FINESS Array B 66.30 17 P **P** **16 27 19.8 -0.7**
comp=N,2.5nm,0.6s,baz=331,slow=4.2,SNR=10.0
comp=N,2.5nm,0.6s
SONM Songino Array 75.61 330 P **P** **16 28 17.5 +0.1**
comp=N,0.3nm,0.6s,baz=52,slow=4.5,SNR=2.7
comp=N,0.3nm,0.6s
AKASG Malin Array Be 76.93 20 P **P** **16 28 23.6 -1.1**
comp=N,1.5nm,0.5s,baz=338,slow=5.4,SNR=6.9
comp=N,1.5nm,0.5s
MKAR Makanchi Array 82.60 345 P **P** **16 28 54.7 -0.9**
comp=N,0.2nm,0.4s,baz=20,slow=4.2,SNR=4.4
comp=N,0.2nm,0.4s
SNAA Sanae 143.92 151 PKPdf PKPab 16 36 03.9 0.0
TROLL Troll, Antarti 145.55 152 PKPdf **PKPab** **16 36 09.9 -0.1**

*GCG **10** 16:18:23.5±0.6, 14°.11N×91°.25W, h66km±6km, MD3.3*
*SNET **10** 16:18:23.5±0.8, 14°.24N×90°.98W, h19km±9km, ML3.2*
ISC 10 16:18:18.0±2.4, 13°.7N±0°.1×91°.28W±0°.08, h15km±15km, n11, σ0°75/16, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.87**	**29**	*eP*	**Pn**		**16 18 36.7**	**+0.8**
FUG				*eS*	**Sn**		**16 18 48.3**	**-0.1**
RTAL	**Retalhuleu**	**0.93**	**334**	*eP*	**Pn**		**16 18 36.9**	**+0.3**
RTAL				*eS*	**Sb**		**16 18 48.5**	**+0.6**
RTAL				IAML			16 18 51.0	
	comp=Z,334nm,0.2s							
PCG	**Pacaya**	**0.96**	**43**	*eP*	**Pn**		**16 18 38.2**	**+1.0**
PCG				*eS*	**Sn**		**16 18 50.9**	**+0.2**
STG3	**Santiaguito 3,**	**1.06**	**345**	*eP*	**Pn**		**16 18 38.8**	**+0.3**
STG3				*eS*	**Sb**		**16 18 50.1**	**-1.8**
NBG	**Las Nubes**	**1.28**	**45**	*eP*	**Pg**		**16 18 42.7**	**0.0**
NBG				*eS*	**Sb**		**16 18 57.7**	**-0.5**
RTR	**El Retiro**	**1.60**	**82**	*eP*	**Pb**		**16 18 47.7**	**+0.2**
RTR				IAML			16 19 18.9	
	comp=Z,293nm,0.3s							
SBLS	**San Blas**	**1.62**	**84**	*eP*	**Pb**		**16 18 48.2**	**+0.5**
SBLS				IAML			16 19 10.0	
	comp=Z,389nm,0.3s							
SNJE	**San Jose**	**1.64**	**83**	*eP*	**Pb**		**16 18 48.4**	**+0.3**
MTO3	**Montecristo**	**2.00**	**69**	*eP*	**Pn**		**16 18 51.1**	**-0.3**
LFRS	**El Faro**	**2.16**	**91**	*eP*	**Pb**		**16 18 56.1**	**-0.8**
LFRS				IAML			16 19 28.8	
	comp=Z,621nm,0.3s							
P5NO	**Presa 5 de nov**	**2.47**	**83**	*eP*	**Pn**		**16 18 58.1**	**+0.3**

*MOS **10** 16:29:02.6±1.0, 5°.68N×126°.60E, h36km, mb5.5/44, MS4.2/4, Error ellipse: s-maj=9.1km s-min=4.2km az=114.6*
*MAN **10** 16:29:03.2, 5°.30N×127°.02E, h49km, mb5.9, ML4.9, MS5.4*
*GCMT **10** 16:29:06.9±0.1, 5°.57N±0°.01×126°.90E±0°.01, h71km±1km, MW5.1/135, Moment Tensor Solution. s88,c113; s135,c220; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.66±.14; Mθθ-0.39±.11; Mφφ-4.27±.11; Mrθ-3.42±.07; Mθφ0.52±.10; Mφr1.57±.09; Best double couple: M05.70100×10¹⁶ NP1:φs324.00000°, δ63.00000°, λ66.00000°. NP2:φs189.00000°, δ35.00000°, λ129.00000°. Principal axes: T 6.5150, Plg63.0000°, Azm194.0000°; N -1.6230, Plg21.0000°, Azm336.0000°; P -4.8880, Plg15.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **10** 16:29:07.8±0.4, 5°.65N×126°.68E, h72km±3km, mb4.8/33, mbtmp5.1/36, MS3.7/61 Error ellipse: s-maj=11.5km s-min=7.3km az=74.0*
*NEIC **10** 16:29:07.9±2.3, 5°.65N±0°.06×126°.79E±0°.08, h65km±4km, mb5.3/115, Error ellipse: s-maj=12.7km s-min=8.2km az=67.0*
*KLM **10** 16:29:10, 5°.30N×126°.88E, h97km, mb5.1*
*DJA **10** 16:29:11.8±0.2, 6°N±2°×12°7E±°, h102km±2km, M5.1/92, mB5.6/60, mb5.4/92, MLv5.7/15, Mw(mB)5.0/60, MwMwp4.7/7, Mwp5.0/7*
ISC 10 16:29:08.1±0.3, 5°.61N±0°.02×126°.80E±0°.04, h76km±2km, h77km:pP-P, n1086, σ1°35/1202, mb5.3/190, 66C-41D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W) 1.89 320**			P		**Pn**	**16 29 40.3**	**+1.7**
	2μm,0.5s,baz=318,slow=0.9,SNR=26							
DAV				S		**Sn**	**16 30 05.9**	**+4.2**
	4μm,0.3s,baz=306,slow=24,SNR=18							
DAV				LR		LR	16 30 33.4	
	comp=Z,4μm,20.7s,baz=188,slow=48							
DAV	**Davao City (W) 1.89 320**			Pn		**Pn**	**16 29 40.5**	**+2.0**
DAV	**Davao City (W) 1.89 320**			P		**Pn**	**16 29 41.7**	**+3.2**
GSPH	**General Santos 1.90 285**			↓*i*P		**Pn**	**16 29 37.2**	**-1.6**
GSPH				*eS*		**Sn**	**16 30 00.5**	**-1.5**
CDOP	**Cateel, Davao 2.19 351**			↑*e*P		**Pn**	**16 29 43.0**	**+0.5**
CDOP				*eS*		**Sn**	**16 30 06.5**	**-2.3**
KCP	**Kidapawan 2.20 309**			↓*e*P		**Pn**	**16 29 43.2**	**+0.5**
KCP				*i* S		**Sn**	**16 30 09.7**	**+0.7**
SGSI	**Sangihe 2.29 214**			P		**Pn**	**16 29 46.5**	**+2.6**
SGSI				S		**Sn**	**16 30 15.8**	**+4.6**
BIPH	**Bislig 2.60 350**			↓*e*P		**Pn**	**16 29 48.2**	**+0.2**
BIPH				*i* S		**Sn**	**16 30 21.2**	**+2.6**
TASP	**Talacogon, Agu 2.99 341**			↓*i*P		**Pn**	**16 29 56.8**	**+3.5**
TASP				*i* S		**Sn**	**16 30 21.6**	**-6.5**
CTBH	**Cotabato--PC H 3.00 302**			↑*i*P		**Pn**	**16 29 54.3**	**+0.9**
CTBH				*i* S		**Sn**	**16 30 33.8**	**+5.4**
CGP	**Cagayan de Oro 3.52 324**			↑*i*P		**Pn**	**16 30 02.4**	**+2.0**
CGP				*i* S		**Sn**	**16 30 47.9**	**+7.0**
PAGZ	**Pagadian 4.06 303**			↑*e*P		**Pn**	**16 30 09.2**	**+1.3**
SCPH	**Surigao 4.35 343**			*e*P		**Pn**	**16 30 14.9**	**+3.2**
SCPH				*eS*		**Sn**	**16 31 05.9**	**+4.7**
GHBP	**Garcia Hernand 4.69 329**			↑*e*P		**Pn**	**16 30 19.0**	**+2.5**
GHBP				*eS*		**Sn**	**16 31 09.9**	**+0.2**
LSIP	**Lazi, Siquijor 4.70 318**			↑*e*P		**Pn**	**16 30 19.2**	**+2.6**
TNTI	**Ternate 4.84 173**			Pn		**Pn**	**16 30 19.6**	**+1.1**
TNTI	**Ternate 4.84 173**			P		**Pn**	**16 30 19.8**	**+1.3**
TNTI				S		**Sn**	**16 31 14.4**	**+1.2**
TNTI	**Ternate 4.84 173**			P		**Pn**	**16 30 20.3**	**+1.8**
ZCP	**Zamboanga City 4.88 286**			↑*i*P		**Pn**	**16 30 19.6**	**+0.6**
ZCP				*i* S		**Sn**	**16 31 17.3**	**+3.1**
MSLP	**Maasin 4.89 337**			↓*e*P		**Pn**	**16 30 21.4**	**+2.2**
TBP	**Tagbilaran 4.99 325**			*e*P		**Pn**	**16 30 21.9**	**+1.3**
TBP				*i* S		**Sn**	**16 31 20.1**	**+3.0**
TABP	**Talibon, Bohol 5.08 331**			↓*e*P		**Pn**	**16 30 24.0**	**+2.1**
SNPH	**Sibulan 5.12 317**			*e*P		**Pn**	**16 30 24.4**	**+2.0**
LLP	**Lapu-Lapu 5.46 329**			*e*P		**Pn**	**16 30 29.3**	**+2.4**
LLP				*eS*		**Sn**	**16 31 34.2**	**+5.8**
KMSI	**Cibinong 5.74 209**			P		**Pn**	**16 30 34.2**	**+3.4**
	8.8nm466nm14μm1μm,0.6s							
GTOI	**Gorontalo 6.22 218**			P		**Pn**	**16 30 39.9**	**+2.5**
	1.6nm4μm460nm,0.7s							
GTOI				S		**Sn**	**16 31 45.4**	**-1.7**
	1.6nm4μm460nm,0.7s							
LBMI	**Labuha 6.24 174**			P		**Pn**	**16 30 39.9**	**+2.2**
	4.4nm5μm584nm,0.8s							
LBMI				S		**Sn**	**16 31 49.4**	**+1.7**
	4.4nm5μm584nm,0.8s							
MRSI	**Marisa 7.04 224**			P		**Pn**	**16 30 50.9**	**+2.4**
	9.4nm3μm23μm3μm,0.7s							
RCP	**Roxas 7.14 326**			↓*e*P		**Pn**	**16 30 52.9**	**+2.9**
TOLI2	**Tolitoli 7.48 234**			Pn		**Pn**	**16 30 54.7**	**+0.1**
TOLI2	**Tolitoli 7.48 234**			P		**Pn**	**16 30 55.2**	**+0.5**
SANI	**Sanana 7.65 186**			P		**Pn**	**16 30 56.6**	**-0.3**
	2.4nm6μm321nm,0.7s							
SANI	**Sanana 7.65 186**			P		**Pn**	**16 30 55.5**	**-1.4**
LUWI	**Luwuk 7.73 211**			Pn		**Pn**	**16 31 00.5**	**+2.4**
LUWI	**Luwuk 7.73 211**			P		**Pn**	**16 30 59.5**	**+1.4**
	6.7nm4μm16μm2μm,0.9s							
LUWI	**Luwuk 7.73 211**			P		**Pn**	**16 31 01.8**	**+3.7**
SWI	**Sorong 7.82 145**			P		**Pn**	**16 31 01.0**	**+1.7**
	0.7nm3μm211nm,0.7s							
SIJI	**Sorong 7.83 145**			P		**Pn**	**16 31 00.3**	**+0.9**
	98nm,0.4s,baz=339,slow=23,SNR=48							
SIJI				S		**Sn**	**16 32 25.6**	**-1.0**
	50nm,0.5s,baz=206,slow=23,SNR=2.6							
SIJI				LR		LR	16 34 02.8	
	comp=Z,495nm,18.4s,baz=328,slow=37							
APSI	**Ampana 8.27 219**			P		**Pn**	**16 31 08.7**	**+3.3**
	7μm827nm,1.3s							
MYLDM	**Lahad Datu 8.27 267**			Pn		**Pn**	**16 31 08.1**	**+2.7**
MPSI	**Mapaga 8.65 233**			P		**Pn**	**16 31 10.9**	**+0.3**
	3μm2μm119nm,0.7s							
NLAI	**Namlea 8.79 178**			P		**Pn**	**16 31 12.8**	**+0.3**
	10μm350nm,0.5s							
MSAI	**Masohi 9.14 167**			P		**Pn**	**16 31 21.3**	**+3.9**
	361nm28nm,0.6s							
GQP	**Guinayangan 9.29 333**			↑*e*P		Pn	16 31 24.2	+4.9
AAI	**Ambon 9.34 171**			P		**Pn**	**16 31 24.2**	**+4.2**
	3μm215nm,0.7s							
PGP	**Puerto Galera 9.73 324**			↑*e*P		Pn	16 31 30.8	+5.4
LQP	**Lukban 9.91 329**			↑*e*P		**Pn**	**16 31 32.3**	**+4.3**
FAKI	**Fak Fak 10.07 147**			Pn		**Pn**	**16 31 31.6**	**+1.6**
FAKI	**Fak Fak 10.07 147**			P		**Pn**	**16 31 33.4**	**+3.4**
	1μm153nm,1.1s							
FAKI	**Fak Fak 10.07 147**			P		**Pn**	**16 31 31.3**	**+1.3**
RKPI	**Ransiki, Papua 10.21 134**			P		Pn	16 31 36.8	+4.9
	2μm160nm,1.0s							
BNDI	**Bandanaira 10.53 163**			P		Pn	16 31 41.4	+5.1
	304nm,1.1s							
KKM	**Kota Kinabalu 10.54 273**			Pn		**Pn**	**16 31 38.6**	**+2.1**
KKM	**Kota Kinabalu 10.54 273**			P		**Pn**	**16 31 41.1**	**+4.6**
TTSI	**Tana Toraja 11.07 219**			P		**Pn**	**16 31 46.0**	**+2.4**
	5μm470nm,1.3s							
SMKI	**Samarinda 11.31 238**		

343nm,0.6s
BKB Balikpapan 12.02 236 P **Pn** **16 31 59.7 +3.2**
BKSI Bulukumba 12.74 212 P **Pn** **16 32 06.4 0.0**
1µm110nm,0.7s
BSSI Bau Bau, Buton 13.26 208 P **Pn** **16 32 14.1 +0.7**
2µm245nm,0.8s
MTKI Muara Teweh, K 13.55 242 P **Pn** **16 32 19.6 +2.4**
3µm127nm,1.4s
SMPI Sarmi 14.09 122 P **P** **16 32 28.1 -1.5**
762nm37nm,1.2s
MMRI Maumere 14.86 198 **P** **16 32 37.0 -1.2**
MMRI Maumere 14.86 198 P **Pn** **16 32 35.6 +1.3**
4µm414nm,0.9s
MMRI Maumere 14.86 198 P **Pn** **16 32 35.8 +1.5**
SBUM Sibu 14.88 258 Pn **Pn** **16 32 35.7 +1.2**
BBKI Banjar Baru 14.96 233 P **P** **16 32 39.3 0.0**
3µm137nm,1.4s
EDFI Ende, Flores 15.14 200 P **Pn** **16 32 38.1 +0.1**
1µm71nm,0.9s
GENI Genyem 15.64 121 P **P** **16 32 49.9 +3.1**
2µm136nm,1.5s
BATI Baumata 16.02 191 P **P** **16 32 50.6 -0.5**
166nm,0.4s,baz=354,slow=1.9,SNR=26
BATI S **S** **16 35 52.5 -2.8**
110nm,1.1s,baz=124,slow=22,SNR=1.6
BATI Baumata 16.02 191 P **P** **16 32 51.1 +0.1**
2µm185nm,0.9s
STKI Sintang 16.26 251 P **P** **16 32 54.3 +0.6**
117nm,1.4s
WBSI Waikabubak, Su 16.85 206 P **P** **16 33 00.1 -0.2**
4µm438nm,0.7s
PLAI Plampang 16.93 212 P **P** **16 33 01.0 -0.1**
6µm640nm,0.9s
PLAI Plampang 16.93 212 P **Pn** **16 32 59.8 -0.5**
TWSI Taliwang, Sumb 17.34 215 P **P** **16 33 05.7 0.0**
2µm163nm,0.8s
SRBI Singaraja 17.85 220 P **Pn** **16 33 11.8 +0.3**
204nm,1.0s
KMMI Kalianget 17.95 226 P **Pn** **16 33 13.2 +0.5**
162nm,1.0s
TWG Pinlang 17.98 343 P **Pn** **16 33 13.1 -0.1**
DNP Denpasar 18.30 219 P **Pn** **16 33 18.7 +1.7**
26µm399nm,1.1s
YULB Yu-li 18.46 344 P **P** **16 33 17.2 -0.7**
TPUB Ta-pu 18.57 342 P **P** **16 33 19.3 +0.2**
MTN Manton Dam 18.83 167 P **P** **16 33 21.6 -0.4**
baz=19,SNR=189
MTN Manton Dam 18.83 167 P **P** **16 33 22.1 +0.1**
MTN IAmb IAmb 16 33 29.4
comp=Z,164nm,0.7s
MTN Manton Dam 18.83 167 P **P** **16 33 22.1 +0.1**
JAGI Jajag, Banyuwa 18.83 222 **P** **16 33 22.3 +0.3**
JAGI Jajag, Banyuwa 18.83 222 P **Pn** **16 33 23.0 -0.4**
JAGI Jajag, Banyuwa 18.83 222 P **Pn** **16 33 23.3 -0.1**
SSLB Suanglung 18.93 343 P **P** **16 33 23.5 +0.4**
KDU Kakadu 19.03 163 P **P** **16 33 24.4 +0.2**
baz=19,SNR=158
KDU Kakadu 19.03 163 P **Pn** **16 33 26.1 +0.4**
YOJ Yonaguni jima 19.10 349 P **Pn** **16 33 27.3 +0.9**
comp=Z,50nm,1.1s
DLV T Lat 19.15 290 P **Pn** **16 33 28.2 +0.8**
GMJI Gumukmas 19.17 224 P **Pn** **16 33 30.9 +3.5**
TBJI Tambak Boyo 19.36 231 P **Pn** **16 33 35.2 +5.5**
GUMO Guam 19.49 65 P **P** **16 33 28.3 -0.9**
comp=Z,13nm,0.5s,baz=42,slow=23,SNR=1.9
GUMO LR LR 16 40 10.9
comp=Z,140nm,19.8s,baz=236,slow=34
GUMO Guam 19.49 65 P **P** **16 33 27.8 -1.4**
GUMO IAmb IAmb 16 33 34.2
comp=Z,137nm,1.3s
GUMO Guam 19.49 65 P **Pn** **16 33 31.1 -0.1**
YHNB Yeheng 19.66 345 P **Pn** **16 33 32.3 -0.8**
YHNB IAmb IAmb 16 33 39.0
comp=Z,114nm,1.0s
YHNB Yeheng 19.66 345 P **Pn** **16 33 32.9 -0.2**
TATO Taipei 19.92 346 P **P** **16 33 33.5 -0.4**
NGJI Ngawi 20.01 230 P Pn 16 33 37.1 -0.1
comp=Z,280nm,0.9s
PWJI Pagerwojo 20.18 228 P Pn 16 33 40.1 +0.9
comp=Z,116nm,0.8s
KNMB Chin-men Tao 20.42 338 P **P** **16 33 39.8 +0.6**
KNMB IAmb IAmb 16 33 42.9
comp=Z,451nm,1.6s
SMRI Semarang 20.61 233 P **P** **16 33 40.4 -0.9**
SMRI IAmb IAmb 16 33 48.1
comp=Z,251nm,0.9s
SMRI Semarang 20.61 233 P Pn 16 33 43.2 -1.1
comp=Z,5µmcomp=Z,351nm,0.9s
QZH Quanzhou 20.78 339 ⇑*iP* Pn 16 33 45.1 -1.1
QZH S **S** **16 37 33.2 +2.4**
QZH pmax pmax
comp=Z,56nm,1.1s
QZH LR LR
comp=Z,220nm,18.9s
QZH LR LR
comp=Z,170nm,13.7s
QZH LR LR
comp=Z,260nm,18.0s
TPI Tanjungpandan 20.85 247 P **P** **16 33 45.1 +1.1**
comp=Z,777nmcomp=Z,74nm,1.1s
UGM Wanagama 21.07 231 P **P** **16 33 46.0 -0.3**
UGM Wanagama 21.07 231 P **P** **16 33 47.2 +0.8**
JOW Kunigami 21.15 4 P **P** **16 33 46.6 -0.5**
comp=Z,16nm,0.5s,baz=160,slow=9.2,SNR=22
comp=Z,16nm,0.5s
JOW Kunigami 21.15 4 P **P** **16 33 46.6 -0.5**
JOW Kunigami 21.15 4 P **P** **16 33 46.8 -0.3**
KNRA Kununurra 21.24 175 P **P** **16 33 48.4 +0.4**
baz=21,SNR=128
KNRA Kununurra 21.24 175 P **P** **16 33 48.4 +0.4**
KNRA Kununurra 21.24 175 P **P** **16 33 48.5 +0.5**
QIZ Qiongzhong 21.24 310 P **P** **16 33 48.1 0.0**
QIZ pP **pwP** **16 34 05.8 +0.3**
QIZ S **S** **16 37 41.6 +1.5**
QIZ sS **sS** **16 38 09.3 +5.2**
QIZ pmax pmax
comp=Z,14nm,1.2s
QIZ Qiongzhong 21.24 310 P **P** **16 33 48.7 +0.6**
PPBI Pangkal Pinang 22.03 250 P **P** **16 33 56.5 -0.2**
comp=Z,3µmcomp=Z,123nm,1.2s
JCJI Jatiwangi 22.06 237 P **P** **16 34 00.3 +3.4**
comp=Z,162nm,1.9s
TPRI Tanjung Pinang 22.71 259 P **P** **16 34 04.7 +0.8**
comp=Z,4µmcomp=Z,119nm,1.1s
LEM Lembang 22.78 237 P **P** **16 34 04.4 -0.4**
comp=Z,108nm,0.8s,baz=17,slow=14,SNR=20
LEM pP **pP** **16 34 18.8 -0.7**
comp=Z,57nm,0.7s,baz=356,slow=16,SNR=4.2
LEM LR LR 16 45 09.3
comp=Z,200nm,18.2s,baz=18,slow=42
comp=Z,108nm,0.8s
DSRI Dabo 23.00 255 P **P** **16 34 06.5 -0.3**
comp=Z,1µmcomp=Z,76nm,1.0s
UBPT Khong Chiam 23.05 296 P **P** **16 34 06.2 -1.1**
MYKOM Kota Tinggi 23.21 261 P **P** **16 34 08.2 -0.6**
MYKOM IAmb IAmb 16 34 09.6
comp=Z,109nm,0.8s
MYKOM Kota Tinggi 23.21 261 P **P** **16 34 09.0 +0.1**
CBJI Citeko 23.22 239 P **P** **16 34 10.0 +1.0**
DBJI Dramaga 23.38 239 P **P** **16 34 11.1 +0.7**
comp=Z,3µmcomp=Z,158nm,1.8s
PMBI Palembang 23.58 249 P **P** **16 34 13.8 +1.6**
comp=Z,6µmcomp=Z,558nm,1.1s
FITZ Fitzroy Crossi 23.58 183 P **P** **16 34 11.8 -0.4**
comp=Z,41nm,0.5s,baz=17,slow=8.6,SNR=278
FITZ pP **pP** **16 34 27.6 -1.1**
comp=Z,29nm,0.6s,baz=5.7,slow=10,SNR=5.3
FITZ PcP **PcP** **16 37 55.1 -0.3**
comp=Z,13nm,0.6s,baz=43,slow=0.8,SNR=4.2
FITZ ScP **ScP** **16 41 27.4 +0.3**
comp=Z,4.8nm,0.8s,baz=337,slow=4.4,SNR=3.0
comp=Z,41nm,0.5s
FITZ Fitzroy Crossi 23.58 183 P **P** **16 34 11.7 -0.5**
baz=24,SNR=203
FITZ Fitzroy Crossi 23.58 183 P **P** **16 34 12.0 -0.1**
FITZ IAmb IAmb 16 34 36.2
comp=Z,235nm,1.4s
FITZ Fitzroy Crossi 23.58 183 P **P** **16 34 12.6 +0.4**
JMBI JAMBI 24.22 253 P **P** **16 34 19.8 +1.8**
comp=Z,108nm,0.9s
LWLI Liwa 25.04 245 P **P** **16 34 26.2 +0.6**
comp=Z,126nm,0.7s
GULI GuiLin 25.12 323 ⇓P **P** **16 34 26.2 +0.1**
GULI S **S** **16 38 47.5 +2.0**
GULI pmax pmax
comp=Z,10.0nm,0.8s
GULI LR LR
comp=Z,220nm,17.9s
GULI LR LR
comp=Z,200nm,19.5s
GULI LR LR
comp=Z,320nm,22.9s
PMG Port Moresby 25.18 126 P **P** **16 34 26.8 0.0**
comp=Z,14nm,0.7s,baz=97,slow=5.0,SNR=6.2
comp=Z,14nm,0.7s
PMG Port Moresby 25.18 126 P **P** **16 34 25.1 -1.7**
PMG Port Moresby 25.18 126 *e*P **P** **16 34 26.9 +0.2**
PMG pmax pmax
comp=Z,19nm,0.9s
PMG Port Moresby 25.18 126 P **P** **16 34 28.6 +1.9**
comp=Z,27nm,1.2s
COEN Coen 25.34 140 P **P** **16 34 28.5 +0.3**
baz=25,SNR=12
COEN Coen 25.34 140 P **P** **16 34 27.7 -0.4**
COEN Coen 25.34 140 P **P** **16 34 28.8 +0.7**
IPM Ipoh 25.70 269 P **P** **16 34 30.5 -1.0**
IPM Ipoh 25.70 269 P **P** **16 34 31.0 -0.5**
IPM Ipoh 25.70 269 P **P** **16 34 32.4 +0.9**
KSI Kapahiang 25.87 250 P **P** **16 34 36.1 +3.0**
comp=Z,3µmcomp=Z,136nm,1.1s
SSE Sheshan 25.90 349 P **P** **16 34 36.6 +3.6**
SSE S **S** **16 39 02.3 +4.7**
SSE pmax pmax
comp=Z,24nm,0.9s
SSE pmax pmax
comp=Z,75nm,4.1s
SSE LR LR
comp=Z,99nm,14.6s
SSE LR LR
comp=Z,130nm,14.4s
JCJ Chichijima 25.91 33 P **P** **16 34 31.2 -2.1**
comp=Z,303nm,0.4s,baz=226,slow=4.1,SNR=24
JCJ LR LR 16 45 05.6
comp=Z,146nm,20.6s,baz=242,slow=37
JCJ Chichijima 25.91 33 P **P** **16 34 31.4 -1.8**
JCJ Chichijima 25.91 33 P **P** **16 34 33.5 +0.2**
JSU Suzuyama 25.99 7 P **P** **16 34 32.1 -1.8**
CNSH ChangSha 26.03 331 ⇑P **P** **16 34 35.8 +1.6**
CNSH S **S** **16 39 01.5 +1.7**
CNSH pmax pmax
comp=Z,15nm,1.1s
CNSH LR LR
comp=Z,500nm,27.0s
CNSH LR LR
comp=Z,280nm,33.8s
CNSH LR LR
comp=Z,710nm,28.0s
KULM Kulim 26.03 271 P **P** **16 34 33.6 -0.9**
SDSI Sungai Dareh 26.16 256 P **P** **16 34 34.9 -0.7**
comp=Z,725nmcomp=Z,64nm,0.7s
BKNI Bangkinang 26.25 259 P **P** **16 34 36.5 +0.1**
comp=Z,2µmcomp=Z,119nm,1.0s
WB0 Warramunga Arr 26.30 164 P **P** **16 34 37.3 +0.5**
WRA Warramunga Arr 26.45 164 P **P** **16 34 37.8 -0.4**
comp=Z,102nm,0.7s,baz=344,slow=10,SNR=209
WRA sP **sP** **16 35 04.3 +0.4**
comp=Z,44nm,0.6s,baz=343,slow=10.0,SNR=3.6
WRA PcP **PcP** **16 38 01.6 -0.2**
comp=Z,5.5nm,0.5s,baz=331,slow=2.5,SNR=4.7
WRA S **S** **16 39 07.8 +1.2**
comp=Z,1.4nm,0.8s,baz=341,slow=18,SNR=1.5
WRA ScP **ScP** **16 41 35.4 +0.2**
comp=Z,13nm,0.8s,baz=339,slow=3.3,SNR=18
WRA PKiKP **PKiKP** **16 45 39.7 -1.2**
comp=Z,0.2nm,0.4s,baz=307,slow=1.3,SNR=4.9
WRA LR LR 16 47 16.2
comp=Z,201nm,18.9s,baz=334,slow=41
comp=Z,102nm,0.7s
WRA Warramunga Arr 26.45 164 P **P** **16 34 36.0 -2.2**
WB2 Warramunga Arr 26.45 164 P **P** **16 34 37.1 -1.1**
WR0 Warramunga Arr 26.52 164 P **P** **16 34 38.2 -0.6**
WR0 IAmb IAmb 16 34 42.2
comp=Z,127nm,0.9s
KRVT Keravat (AS076 27.05 111 P **P** **16 34 45.3 +1.6**
comp=Z,14nm,0.5s,baz=319,slow=7.9,SNR=6.1
KRVT LR LR 16 45 21.4
comp=Z,172nm,18.3s,baz=63,slow=36
comp=Z,14nm,0.5s
PDSI Padang 27.09 257 P **P** **16 34 45.2 +1.2**
comp=Z,776nmcomp=Z,58nm,0.9s
NJ2 Nanjing 27.34 345 *e*P **P** **16 34 49.1 +3.1**
NJ2 pmax pmax
comp=Z,23nm,0.5s
WHN Wuhan 27.43 336 ⇓P **P** **16 34 48.8 +1.9**
WHN S **S** **16 39 25.5 +3.6**
WHN sS sS 16 39 59.4 +8.7
WHN pmax pmax
comp=Z,62nm,0.7s
WHN LR LR
comp=Z,1µm,31.0s
MBWA Marble Bar 27.49 194 P **P** **16 34 46.8 -0.7**
MBWA IAmb IAmb 16 34 55.3
comp=Z,78nm,0.8s
MBWA Marble Bar 27.49 194 P **P** **16 34 47.3 -0.1**
MNSI Mandailing Nat 27.59 261 P **P** **16 34 46.6 -1.9**
comp=Z,38nm,0.5s
PSA00 Pilbara Seismi 27.86 194 P **P** **16 34 50.5 -0.2**
PSA00 IAmb IAmb 16 34 51.7
comp=Z,203nm,1.5s
PSA00 Pilbara Seismi 27.86 194 P **P** **16 34 49.1 -1.6**
PSA00 IAmb IAmb 16 34 51.7
comp=Z,37nm,1.1s
PSA00 Pilbara Seismi 27.86 194 P **P** **16 34 50.8 +0.1**
PSI Prapat 27.94 265 P **P** **16 34 50.9 -0.8**
comp=Z,48nm,0.8s,baz=79,slow=5.0,SNR=48
PSI PcP **PcP** **16 38 05.5 -0.2**
comp=Z,11nm,0.7s,baz=180,slow=4.9,SNR=4.8
PSI ScP **ScP** **16 41 38.6 -1.4**
comp=Z,13nm,0.9s,baz=122,slow=1.8,SNR=9.4
PSI LR LR 16 48 14.2
comp=Z,153nm,19.3s,baz=90,slow=41
comp=Z,48nm,0.8s
PSI Prapat 27.94 265 P **P** **16 34 51.9 +0.2**
RPSI Rantau Prapat 27.95 265 P **P** **16 34 50.2 -1.5**
RPSI IAmb IAmb 16 34 52.0
comp=Z,35nm,0.7s
GYA Guiyang 28.27 319 ⇓*iP* **P** **16 34 57.5 +2.9**
GYA pP pP 16 35 14.7 +2.5
GYA PcP **PcP** **16 38 07.3 +1.0**
GYA S **S** **16 39 35.9 +0.4**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA LR LR
comp=Z,310nm,18.2s
SISI Saibi 28.52 257 P **P** **16 34 56.0 -0.7**
comp=Z,64nm,0.9s
JMN Monobe 28.74 12 P **P** **16 34 58.0 -0.6**
JMN IAmb IAmb 16 35 01.1
comp=Z,26nm,0.6s
QIS Mount Isa 28.89 155 P **P** **16 35 00.4 +0.4**
baz=29,SNR=229
QIS Mount Isa 28.89 155 P **P** **16 35 00.7 +0.8**
KCSI Kotacane, Aceh 29.01 267 P **P** **16 34 59.9 -1.2**
comp=Z,53nm,1.0s
MTSU Mount Surprise 29.25 144 P **P** **16 35 04.1 +0.9**
baz=29,SNR=36
MTSU Mount Surprise 29.25 144 P **P** **16 35 03.9 +0.7**
GSI Gunungsitoli 29.48 263 P **P** **16 35 03.0 -2.3**
GSI **PcP** **16 38 10.2 +0.8**
GSI Gunungsitoli 29.48 263 P **P** **16 35 03.1 -2.2**
comp=Z,166nm,0.8s
GSI Gunungsitoli 29.48 263 P **P** **16 35 03.8 -1.5**
JHS Saijyo 29.82 10 P **P** **16 35 08.4 +0.3**
JHS IAmb IAmb 16 35 39.4
comp=Z,62nm,1.5s
AS31 Alice Springs 29.91 167 P **P** **16 35 08.8 -0.2**
ASAR Alice Springs 29.91 167 P **P** **16 35 09.2 +0.2**
comp=Z,24nm,0.5s,baz=348,slow=6.9,SNR=299
ASAR PcP **PcP** **16 38 10.5 +0.2**
comp=Z,25nm,0.6s,baz=345,slow=2.6,SNR=18
ASAR S **S** **16 40 02.6 +1.5**
comp=Z,0.9nm,0.7s,baz=345,slow=17,SNR=1.7
ASAR ScP **ScP** **16 41 46.1 +0.2**
comp=Z,7.2nm,0.9s,baz=357,slow=2.6,SNR=12
ASAR PKiKP **PKiKP** **16 45 40.5 -2.5**
comp=Z,1.1nm,0.8s,baz=26,slow=1.7,SNR=7.9
ASAR P3KPbc 17 07 01.8
comp=Z,0.3nm,0.6s,baz=162,slow=3.9,SNR=1.7
comp=Z,24nm,0.5s
ASAR Alice Springs 29.91 167 P **P** **16 35 08.8 -0.2**
ASAR PcP **PcP** **16 38 10.7 +0.4**
ASAR ScP **ScP** **16 41 45.8 -0.1**
JHJ Hachijo jima 2 29.93 22 LR LR 16 47 07.0
comp=Z,98nm,20.2s,baz=265,slow=36
CM31 Chiang Mai Arr 30.03 298 P **P** **16 35 08.6 -1.5**
CM31 PcP **PcP** **16 38 11.9 +1.2**
CMAR Chiang Mai Arr 30.03 298 P **P** **16 35 09.7 -0.5**
comp=Z,4.8nm,0.8s,baz=110,slow=7.1,SNR=52
CMAR sP **sP** **16 35 34.7 -1.8**
comp=Z,5.2nm,0.8s,baz=120,slow=7.8,SNR=4.1
CMAR PcP **PcP** **16 38 12.0 +1.3**
comp=Z,6.1nm,0.9s,baz=116,slow=0.6,SNR=12
CMAR ScP **ScP** **16 41 46.3 -0.1**
comp=Z,6.3nm,0.9s,baz=134,slow=1.9,SNR=24
CMAR PKiKP **PKiKP** **16 45 42.0 -1.0**
comp=Z,0.5nm,0.6s,baz=251,slow=1.1,SNR=4.8
CMAR LR LR 16 48 42.8
comp=Z,231nm,19.7s,baz=105,slow=39
comp=Z,4.8nm,0.8s
CMAR Chiang Mai Arr 30.03 298 P **P** **16 35 09.4 -0.7**
CMAR **PcP** **16 38 12.1 +1.4**
CMAR ScP **ScP** **16 41 47.0 +0.7**
KMI Kunming 30.14 313 ⇓P **P** **16 35 12.0 +0.7**
KMI pmax pmax
comp=Z,18nm,0.9s
KMI LR LR
comp=Z,180nm,16.1s
KMI LR LR
comp=Z,190nm,16.9s
KMI LR LR
comp=Z,250nm,16.5s
CHTO Chiang Mai 30.16 298 P **P** **16 35 10.5 -0.7**
CHTO **PcP** **16 38 12.4 +1.4**
CHTO ScP **ScP** **16 41 48.1 +1.3**
CHTO Chiang Mai 30.16 298 P **P** **16 35 11.8 +0.5**
CHTO Chiang Mai 30.16 298 P **P** **16 35 09.2 -2.0**
CHTO pP **pP** **16 35 24.6 -4.3**
CHTO sP **sP** **16 35 36.0 -1.6**
WRKA Warakurna 30.50 177 P **P** **16 35 14.0 -0.1**
baz=31,SNR=110
WRKA Warakurna 30.50 177 P **P** **16 35 14.6 +0.5**
GIRL Giralia 30.65 203 P **P** **16 35 16.8 +1.4**
baz=31,SNR=11
GIRL Giralia 30.65 203 P **P** **16 35 16.4 +0.9**
GIRL Giralia 30.65 203 P **P** **16 35 17.2 +1.7**
INU Inuyama 31.06 16 P **P** **16 35 18.0 -1.0**
INU IAmb IAmb 16 35 20.9
comp=Z,39nm,0.5s
INU Inuyama 31.06 16 P **P** **16 35 18.0 -1.0**
INU Inuyama 31.06 16 P **P** **16 35 17.6 -1.4**
PZH PanZhiHua 31.68 314 P **P** **16 35 27.0 +2.3**
PZH S **S** **16 40 29.0 +0.1**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,120nm,6.7s
PZH LR LR
comp=Z,600nm,19.1s
PZH LR LR
comp=Z,530nm,19.3s
PZH LR LR
comp=Z,570nm,18.8s
KSAR Wonju Array Be 31.70 2 P **P** **16 35 24.6 0.0**
KSAR **PcP** **16 38 15.8 +1.1**
KSAR Wonju Array Be 31.70 2 P **P** **16 35 24.6 0.0**
KSAR 16 38 15.8
LYN LuoYang 31.71 337 ⇓P **P** **16 35 25.7 +1.0**
LYN pP sP 16 35 49.0 -1.1
LYN sP pwP 16 36 00.7 +15
LYN PcP **PcP** **16 38 15.5 +0.6**
LYN S **S** **16 40 28.6 -0.3**
LYN SS **SnSn** **16 42 26.2 +3.1**
LYN pmax pmax
comp=Z,20nm,0.9s
LYN pmax pmax
comp=Z,120nm,4.9s
LYN LR LR
comp=Z,250nm,18.1s
LYN LR LR
comp=Z,260nm,22.6s
LYN LR LR
comp=Z,310nm,35.7s
KSRS Korea Array 31.71 2 P **P** **16 35 23.6 -1.1**
comp=Z,4.0nm,0.6s,baz=178,slow=10,SNR=22
KSRS PcP **PcP** **16 38 15.7 +0.9**
comp=Z,8.3nm,0.7s,baz=183,slow=2.6,SNR=25
KSRS ScP **ScP** **16 41 52.4 +0.9**
comp=Z,1.5nm,0.6s,baz=182,slow=3.2,SNR=11
KSRS LR LR 16 47 38.5
comp=Z,91nm,21.9s,baz=180,slow=35
comp=Z,4.0nm,0.6s
KS19 Wonju Array Si 31.76 2 P **P** **16 35 24.9 -0.2**
KS19 **PcP** **16 38 15.6 +0.7**
CTA Charters Tower 31.91 144 LR LR 16 49 32.7
comp=Z,230nm,21.2s,baz=312,slow=38
CTA Charters Tower 31.91 144 P **P** **16 35 28.0 +1.4**
CTAO Charters Tower 31.91 144 P **P** **16 35 27.8 +1.2**
CTAO IAmb IAmb 16 35 29.2
comp=Z,112nm,1.2s
CTAO PcP **PcP** **16 38 16.9 +1.3**
CTAO ScP **ScP** **16 41 54.6 +2.0**
CTAO Charters Tower 31.91 144 P **P** **16 35 28.0 +1.4**
CTAO Charters Tower 31.91 144 P **P** **16 35 27.0 +0.4**
CTAO pP **pP** **16 35 43.6 +0.3**
MJAR Matsushiro Arr 32.52 17 P **P** **16 35 30.6 -1.2**
comp=Z,5.1nm,0.7s,baz=183,slow=8.8,SNR=26
MJAR pP **pP** **16 35 48.6 -0.1**
comp=Z,4.0nm,0.7s,baz=175,slow=8.9,SNR=4.4
MJAR PcP **PcP** **16 38 17.9 +0.9**
comp=Z,5.1nm,0.7s,baz=167,slow=4.2,SNR=9.0
MJAR ScP **ScP** **16 41 54.5 +0.1**
comp=Z,4.1nm,0.8s,baz=172,slow=4.2,SNR=11
MJAR LR LR 16 47 35.1
comp=Z,276nm,21.5s,baz=226,slow=34
comp=Z,5.1nm,0.7s
MAJO Matsushiro 32.52 17 P **P** **16 35 30.2 -1.6**
MAJO IAmb IAmb 16 36 20.8
comp=Z,57nm,1.9s
MAJO Matsushiro 32.52 17*c iP* **P** **16 35 31.4 -0.4**
MAJO pmax pmax
comp=Z,5.0nm,0.6s
MAJO Matsushiro 32.52 17 P **P** **16 35 32.9 +1.1**
MAJO Matsushiro 32.52 17 P **P** **16 35 29.8 -2.0**
MAJO pP **pP** **16 35 46.4 -2.2**
XAN Xi'an 32.79 332 ⇓P **P** **16 35 34.0 -0.3**
XAN pP pwP 16 35 56.0 +2.0
XAN sP sP 16 36 07.9 +7.5
XAN S **S** **16 40 45.8 -0.1**
XAN sS sS 16 41 21.9 +6.9
XAN pmax pmax
comp=Z,170nm,0.9s
XAN pmax pmax
comp=Z,220nm,3.7s
XAN LR LR
comp=Z,270nm,23.4s
XAN LR LR
comp=Z,300nm,23.2s
XAN LR LR
comp=Z,540nm,23.4s
XAN Xi'an 32.79 332 P **P** **16 35 33.6 -0.6**
MEEK Meekatharra 33.02 194 P **P** **16 35 35.8 -0.5**
baz=33,SNR=95
MEEK Meekatharra 33.02 194 P **P** **16 35 36.1 -0.2**
CD2 Chengdu 33.20 322 P **P** **16 35 37.8 0.0**
CD2 S **S** **16 40 52.9 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,400nm,14.7s
CD2 LR LR
comp=Z,260nm,15.2s
HNS HongShan 33.52 342 ⇑P **P** **16 35 40.8 +0.4**
HNS S **S** **16 40 58.1 +1.2**
HNS sS sS 16 41 35.7 +10
HNS pmax pmax
comp=Z,140nm,1.0s
HNS LR LR
comp=Z,230nm,16.1s
HNS LR LR
comp=Z,190nm,16.5s
JSD Sado 33.92 16 P **P** **16 35 43.0 -1.0**
JSD IAmb IAmb 16 36 22.2
comp=Z,28nm,0.9s
OOD Oodnadatta 34.30 166 P **P** **16 35 47.4 +0.1**
JMM Marumori 34.55 20 P **P** **16 35 48.7 -0.7**
JMM IAmb IAmb 16 35 51.3
comp=Z,58nm,0.8s

INKA Innaminka 35.78 159 P **P** **16 36 01.0 +0.9**
MORW Morawa 36.00 196 P **P** **16 36 01.6 -0.2**
baz=36,SNR=29
MORW Morawa 36.00 196 P **P** **16 36 01.5 -0.5**
MORW IAmb IAmb 16 36 02.8
comp=Z,47nm,1.1s
MORW Morawa 36.00 196 P **P** **16 36 01.7 -0.2**
SNY Shenyang 36.18 356 ⇓P **P** **16 36 04.4 +1.1**
SNY S **S** **16 41 34.4 -3.4**
SNY pmax pmax
comp=Z,51nm,1.0s
SNY pmax pmax
comp=Z,83nm,3.9s
SNY LR LR
comp=Z,250nm,21.6s
SNY LR LR
comp=Z,200nm,10.6s
SNY LR LR
comp=Z,400nm,21.6s
QLP Quilpie 36.19 153 P **P** **16 36 03.7 +0.1**
baz=36,SNR=32
QLP Quilpie 36.19 153 P **P** **16 36 04.3 +0.7**
FORT Forrest 36.20 178 P **P** **16 36 03.6 0.0**
baz=36,SNR=19
FORT Forrest 36.20 178 P **P** **16 36 02.7 -0.9**
FORT Forrest 36.20 178 P **P** **16 36 04.0 +0.4**
HNR Honiara 36.26 114 LR LR 16 51 04.9
comp=Z,2μm,19.2s,baz=268,slow=36
MULG Mulgathing 36.36 169 P **P** **16 36 05.5 +0.5**
LZH Lanzhou 36.94 328 *e*P **P** **16 36 11.2 +1.1**
LZH pP pwP 16 36 29.7 -1.0
LZH PcP **PcP** **16 38 32.0 +1.9**
LZH *e*S **S** **16 41 47.0 -2.9**
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,280nm,4.3s
LZH LR LR
comp=Z,440nm,15.1s
LZH LR LR
comp=Z,390nm,16.8s
LZH LR LR
comp=Z,940nm,21.1s
RK1H Rockhampton Ha 36.96 142 P **P** **16 36 10.8 +0.6**
comp=Z,75nm,0.8s
MSHR Mys Shultsa 37.02 5*c i*P **P** **16 36 12.2 +1.7**
MSHR pmax pmax
comp=Z,30nm,0.6s
BLDU Ballidu 37.29 194 P **P** **16 36 12.6 -0.3**
baz=37,SNR=49
BLDU Ballidu 37.29 194 P **P** **16 36 12.9 0.0**
LCRK Leigh Creek 37.48 164 P **P** **16 36 15.2 +0.7**
HHC Hu-ho-hao-te 37.65 341 *e*P **P** **16 36 18.4 +2.4**
HHC S **S** **16 42 02.0 +1.5**
HHC pmax pmax
comp=Z,72nm,0.7s
HHC pmax pmax
comp=Z,290nm,6.0s
HHC LR LR
comp=Z,250nm,14.0s
HHC LR LR
comp=Z,250nm,15.2s
HHC LR LR
comp=Z,210nm,15.2s
BRDH Bariadhala 37.93 300 LR LR 16 52 35.9
comp=Z,175nm,19.2s,baz=90,slow=37
KLBR Kellerberrin 37.98 193 P **P** **16 36 19.1 +0.4**
baz=38,SNR=20
KLBR Kellerberrin 37.98 193 P **P** **16 36 19.6 +0.8**
CN2 Changchun 38.06 358 *e*P **P** **16 36 22.3 +3.1**
CN2 *e*pP sP 16 36 45.3 +0.4
CN2 *e*S **S** **16 42 08.3 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,5.0s
RMQ Roma 38.35 147 P **P** **16 36 22.1 +0.2**
baz=38,SNR=45
RMQ Roma 38.35 147 P **P** **16 36 21.7 -0.2**
comp=Z,33nm,0.7s
USA0B Ussuriysk Arra 38.71 6 P **P** **16 36 24.6 0.0**
USA0B IAmb IAmb 16 36 26.9
comp=Z,11nm,0.5s
USA0B Ussuriysk Arra 38.71 6 P **P** **16 36 24.7 0.0**
USA0B pmax pmax
comp=Z,11nm,0.5s
USRK Ussuriysk Ar. 38.71 6 P **P** **16 36 24.4 -0.3**
comp=Z,27nm,0.5s,baz=178,slow=7.6,SNR=170
USRK pP **pP** **16 36 41.8 -0.1**
comp=Z,4.1nm,0.6s,baz=201,slow=7.6,SNR=2.4
USRK sP **sP** **16 36 51.5 +1.2**
comp=Z,10nm,0.9s,baz=198,slow=6.9,SNR=2.4
USRK PcP **PcP** **16 38 35.3 +0.2**
comp=Z,2.7nm,0.6s,baz=151,slow=3.3,SNR=1.8
comp=Z,27nm,0.5s
USRK Ussuriysk Ar. 38.71 6 P **P** **16 36 24.6 -0.1**
MUN Mundaring 38.72 194 P **P** **16 36 24.8 -0.1**
baz=39,SNR=38
MUN Mundaring 38.72 194 P **P** **16 36 25.0 +0.1**
EIDS Eidsvold 38.80 144 P **P** **16 36 25.7 0.0**
baz=39,SNR=12
EIDS Eidsvold 38.80 144 P **P** **16 36 25.4 -0.3**
EIDS Eidsvold 38.80 144 P **P** **16 36 26.1 +0.4**
MDJ Mudanjiang 38.93 3 P **P** **16 36 26.2 -0.3**
MDJ pP pwP 16 36 46.1 -2.1
MDJ S **S** **16 42 16.0 -3.4**
MDJ pmax pmax
comp=Z,68nm,0.8s
MDJ pmax pmax
comp=Z,220nm,5.3s
MDJ LR LR
comp=Z,480nm,23.9s
MDJ Mudanjiang 38.93 3 P **P** **16 36 25.9 -0.6**
MDJ pP **pP** **16 36 42.6 -1.3**
BBOO Buckleboo 39.21 168 P **P** **16 36 28.9 -0.1**
baz=39,SNR=84
BBOO Buckleboo 39.21 168 P **P** **16 36 29.4 +0.4**
BBOO Buckleboo 39.21 168 P **P** **16 36 29.3 +0.3**
XLT XiLinHaoTe 39.29 348 ⇑*i*P **P** **16 36 31.0 +1.4**
XLT PcP **PcP** **16 38 38.0 +0.9**
XLT S **S** **16 42 22.6 -2.4**
XLT pmax pmax
comp=Z,70nm,0.6s
XLT pmax pmax
comp=Z,180nm,4.6s
XLT LR LR
comp=Z,190nm,18.7s
XLT LR LR
comp=Z,240nm,15.9s
XLT LR LR
comp=Z,200nm,14.8s
NWAO Narrogin (SRO) 39.38 193 P **P** **16 36 31.4 +0.9**
baz=40,SNR=21
NWAO P **P** **16 36 31.4 +0.9**
baz=40,SNR=21
NWAO Narrogin (SRO) 39.38 193 P **P** **16 36 31.2 +0.7**
NWAO Narrogin (SRO) 39.38 193 P **P** **16 36 31.2 +0.7**
NWAO pmax pmax
comp=Z,224nm,1.4s
NWAO Narrogin (SRO) 39.38 193 P **P** **16 36 31.1 +0.7**
NWAO Narrogin (SRO) 39.38 193 P **P** **16 36 30.1 -0.4**
NWAO pP **pP** **16 36 47.7 -0.4**
WHYH Whyalla 39.77 166 P **P** **16 36 34.2 +0.6**
comp=Z,84nm,0.6s
STKA Stephens Creek 39.85 160 P **P** **16 36 34.6 +0.3**
comp=Z,164nm,0.8s,baz=335,slow=8.3,SNR=166
STKA PcP **PcP** **16 38 39.3 +0.3**
comp=Z,17nm,0.5s,baz=344,slow=4.2,SNR=4.2
STKA ScP **ScP** **16 42 21.2 -0.2**
comp=Z,2.6nm,0.9s,baz=337,slow=7.7,SNR=2.3
STKA LR LR 16 54 40.3
comp=Z,106nm,18.7s,baz=339,slow=38
comp=Z,164nm,0.8s
STKA Stephens Creek 39.85 160 P **P** **16 36 34.7 +0.3**
baz=40,SNR=234
STKA Stephens Creek 39.85 160 P **P** **16 36 34.9 +0.5**
STKA IAmb IAmb 16 36 37.5
comp=Z,32nm,0.8s
STKA PcP **PcP** **16 38 39.6 +0.6**
STKA Stephens Creek 39.85 160 P **P** **16 36 34.9 +0.5**
STKA 16 38 39.6
STKA pmax pmax
comp=Z,32nm,0.8s
STKA Stephens Creek 39.85 160 P **P** **16 36 35.3 +0.9**
BNX BinXian 39.98 1 ⇓P **P** **16 36 35.9 +0.7**
BNX pmax pmax
comp=Z,7.0nm,0.7s
BNX pmax pmax
comp=Z,200nm,4.7s
TEY Ternei 40.20 11*ce*P **P** **16 36 38.5 +1.5**
TEY pmax pmax
comp=N,40nm,0.7s
TEY pmax pmax
comp=Z,70nm,0.7s
HTT Hallett 40.49 164 P **P** **16 36 40.0 +0.4**
baz=41,SNR=48
HTT Hallett 40.49 164 P **P** **16 36 40.7 +1.0**
H11S3 WAKE ISLAND Hy 40.95 68 T T 17 20 57.7
baz=257,slow=74,SNR=30
H11S1 WAKE ISLAND Hy 40.96 68 T T 17 20 54.5
baz=257,slow=74,SNR=14
H11S2 WAKE ISLAND Hy 40.96 68 T T 17 20 53.3
baz=257,slow=74,SNR=20
RKGY Rocky Gully 41.06 192 P **P** **16 36 46.1 +1.8**
baz=41,SNR=13
RKGY Rocky Gully 41.06 192 P **P** **16 36 44.5 +0.2**
CMSA Cobar Meteorol 41.10 155 P **P** **16 36 45.6 +0.9**
baz=41,SNR=50
CMSA Cobar Meteorol 41.10 155 P **P** **16 36 46.0 +1.3**
H11N1 WAKE ISLAND Hy 41.42 67 T T 17 21 31.8
baz=255,slow=75,SNR=15
H11N2 WAKE ISLAND Hy 41.43 66 T T 17 21 34.2
baz=255,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 41.44 67 T T 17 21 33.7
baz=255,slow=75,SNR=16
GTA Gaotai 41.54 328 ⇑P **P** **16 36 48.4 0.0**
GTA PcP **PcP** **16 38 46.0 +1.4**
GTA ScP **ScP** **16 42 29.4 +1.3**
GTA ScS **ScS** **16 46 44.7 -0.1**
GTA pmax pmax
comp=Z,57nm,0.8s
GTA pmax pmax
comp=Z,79nm,5.1s
GTA LR LR
comp=Z,220nm,24.4s
GTA LR LR
comp=Z,310nm,22.5s
GTA LR LR
comp=Z,560nm,24.7s
TWOA Tennyson Woods 41.92 165 P **P** **16 36 51.8 +0.5**
comp=Z,130nm,0.9s
GOMU GeErMu 42.28 320 P **P** **16 36 54.7 0.0**
GOMU pmax pmax
comp=Z,11nm,0.9s
GOMU pmax pmax
comp=Z,93nm,4.7s
GOMU LR LR
comp=Z,71nm,17.5s
GOMU LR LR
comp=Z,140nm,19.2s
GOMU LR LR
comp=Z,190nm,21.4s
ARMA Armidale 43.00 148 P **P** **16 37 01.4 +1.1**
baz=43,SNR=36
ARMA Armidale 43.00 148 P **P** **16 37 00.9 +0.6**
ARMA IAmb IAmb 16 37 03.3
comp=Z,123nm,1.1s
ARMA Armidale 43.00 148 P **P** **16 37 01.5 +1.2**
YSS Yuzh-Sakhalins 43.43 16 *e*P **P** **16 37 04.7 +1.4**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 43.43 16 P **P** **16 37 01.5 -1.8**
comp=Z,49nm,0.8s
YSS Yuzh-Sakhalins 43.43 16 P **P** **16 37 04.9 +1.6**
comp=Z,49nm,0.8s
KLR Kul'dur 43.67 5 ScP **ScP** **16 42 37.3 +1.0**
comp=Z,0.4nm,0.5s,baz=220,slow=2.3,SNR=1.8
KLR LR LR 16 54 45.9
comp=Z,88nm,21.3s,baz=184,slow=35
KLR Kul'dur 43.67 5*c i*P **P** **16 37 06.3 +1.0**
KLR pmax pmax
comp=Z,32nm,0.9s
RAMN Ramite 43.75 304 *e*P **P** **16 37 04.9 -1.7**
JIRN Jiri 44.35 304 *e*P **P** **16 37 10.5 -1.1**
comp=Z,47nm,0.4s
ARPS Mount Arapiles 44.44 163 P **P** **16 37 12.6 +1.0**
baz=45,SNR=186
ARPS Mount Arapiles 44.44 163 P **P** **16 37 12.7 +1.1**
GUN Gumba 44.70 305 *e*P **P** **16 37 13.3 -1.0**
comp=Z,68nm,0.4s
PKI Pulchoki 44.97 304 *e*P **P** **16 37 14.6 -1.8**
PKIN Phulchoki 44.98 304 *e*P **P** **16 37 14.7 -1.7**
KKN Kakani 45.15 304 *e*P **P** **16 37 15.7 -2.1**
DMN Daman 45.23 304 *e*P **P** **16 37 16.8 -1.6**
SYDH Sydney Hard Ro 45.24 152 P **P** **16 37 20.8 +2.8**
comp=Z,45nm,1.0s
ULN Ulaanbaatar 45.37 341 P **P** **16 37 19.5 +0.4**
ULN IAmb IAmb 16 37 22.2
comp=Z,84nm,0.9s
ULN PcP **PcP** **16 38 58.2 +0.8**
ULN Ulaanbaatar 45.37 341*ce*P **P** **16 37 20.1 +1.0**
ULN pmax pmax
comp=Z,99nm,1.0s
ULN Ulaanbaatar 45.37 341 P **P** **16 37 18.6 -0.5**
ULN pP **pP** **16 37 34.9 -1.8**
SONM Songino Array 45.56 341 P **P** **16 37 21.1 +0.5**
comp=Z,24nm,0.8s,baz=156,slow=8.2,SNR=101
SONM pP **pP** **16 37 38.2 0.0**
comp=Z,7.9nm,0.6s,baz=151,slow=6.4,SNR=4.1
SONM PcP **PcP** **16 38 58.5 +0.5**
comp=Z,13nm,0.8s,baz=151,slow=3.1,SNR=8.4
SONM ScP **ScP** **16 42 42.2 -2.1**
comp=Z,1.1nm,0.8s,baz=130,slow=6.4,SNR=1.8
SONM LR LR 17 00 11.7
comp=Z,55nm,18.1s,baz=157,slow=41
SONM PKPPKP P'P'df 17 08 43.5 -9.1
comp=Z,0.6nm,0.8s,baz=307,slow=1.0,SNR=4.0
comp=Z,24nm,0.8s
SONM Songino Array 45.56 341 P **P** **16 37 21.0 +0.5**
SONM IAmb IAmb 16 37 23.5
comp=Z,35nm,1.0s
SONM PcP **PcP** **16 38 58.5 +0.5**
GRNR Gornyy 45.73 9 *i* P **P** **16 37 22.6 +1.0**
GRNR pmax pmax
comp=Z,20nm,0.7s
CAN Canberra 45.76 154 P **P** **16 37 23.3 +1.2**
CAN Canberra 45.76 154 P **P** **16 37 23.3 +1.2**
CAN pmax pmax
comp=Z,74nm,0.8s
CAN Canberra 45.76 154 P **P** **16 37 24.2 +2.0**
CAN Canberra 45.76 154 P **P** **16 37 23.5 +1.3**
CAN pP **pP** **16 37 40.5 +0.3**
GKN Gorkha 45.76 304 *e*P **P** **16 37 20.9 -1.6**
BRAT Ballarat 45.81 161 P **P** **16 37 24.2 +1.8**
comp=Z,64nm,0.8s
PALK Pallekele 45.82 275 PcP **PcP** **16 38 59.6 +0.1**
comp=Z,9.5nm,0.7s,baz=100,slow=1.4,SNR=5.1
PALK LR LR 16 58 34.7
comp=Z,77nm,18.0s,baz=195,slow=39
CNB Canberra Magne 45.91 154 P **P** **16 37 25.6 +2.2**
baz=46,SNR=20
CNB Canberra Magne 45.91 154 P **P** **16 37 25.7 +2.3**
TOO Toolangi 46.36 159 P **P** **16 37 28.6 +1.8**
baz=46,SNR=64
TOO Toolangi 46.36 159 P **P** **16 37 28.3 +1.5**
TOO IAmb IAmb 16 37 30.6
comp=Z,45nm,0.6s
TOO Toolangi 46.36 159 P **P** **16 37 28.3 +1.5**
TOO pmax pmax
comp=Z,45nm,0.6s
TOO Toolangi 46.36 159 P **P** **16 37 28.6 +1.8**
GEXS Deakin Univers 46.52 161 P **P** **16 37 31.9 +3.9**
comp=Z,163nm,0.8s
KOLN Koldanda 46.54 303 *e*P **P** **16 37 26.4 -2.2**
DANN Dangsing 46.61 304 *e*P **P** **16 37 28.2 -1.1**
comp=Z,72nm,0.4s
PYUN Piuthan 47.16 303 *e*P **P** **16 37 32.2 -1.3**
MILA Mila 47.30 156 P **P** **16 37 35.9 +1.7**
baz=47,SNR=7.2
CIT Chita 47.55 349 *e*P **P** **16 37 37.4 +1.5**
CIT *e* 16 37 54.7
CIT pmax pmax
comp=Z,68nm,0.8s
DZM Mont Dzumac 47.58 127 *e*P **P** **16 37 34.2 -2.4**
comp=Z,57nm,1.1s
DZM Mont Dzumac 47.58 127 *e*LR LR 16 51 11.2
comp=Z,428nm,30.8s
DZM Mont Dzumac 47.58 127 LR LR 16 57 47.6
comp=Z,66nm,18.9s,baz=248,slow=36
DZM Mont Dzumac 47.58 127 P **P** **16 37 36.7 +0.1**
DZM IAmb IAmb 16 37 38.7
comp=Z,29nm,1.0s
DZM Mont Dzumac 47.58 127 P **P** **16 37 37.5 +0.9**
LIFNC LIFOU 47.58 125 P **P** **16 37 36.7 +0.2**
YATNC Mamie plateau, 47.93 126 P **P** **16 37 41.6 +2.4**
comp=Z,34nm,1.7s
ZEA Zeya 47.99 0 *e*P **P** **16 37 39.5 +0.3**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,0.9s
LHI Lord Howe Isla 48.07 142 P **P** **16 37 40.0 -0.2**
baz=48,SNR=3.5
HYBB Hyderabad (bro 48.58 288 *e*P **P** **16 37 42.9 -1.4**
ZAK Zakamensk 48.79 340 *e*P **P** **16 37 45.6 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
IRK Irkutsk 50.07 342 *e*P **P** **16 37 55.6 +0.4**
IRK pmax pmax
comp=Z,64nm,1.9s
PCHI Peechi 50.15 279 *e*P **P** **16 37 55.4 -1.0**
PCHI *e*S S 16 44 46.8 -16
GLAD Gladstone 50.28 159 P **P** **16 37 57.7 +0.8**
comp=Z,42nm,0.7s
MOY Mondy 50.66 339 *e*P **P** **16 38 00.9 +1.2**
MOY pmax pmax
comp=Z,72nm,1.8s
WMQ Urumqi 51.24 324 *e*P **P** **16 38 05.0 +0.8**
WMQ LR LR
comp=Z,300nm,16.5s
WMQ LR LR
comp=Z,490nm,20.9s
WMQ LR LR
comp=Z,450nm,24.7s
MOO Moorlands 51.30 161 P **P** **16 38 04.2 -0.3**
baz=51,SNR=8.5
MOO Moorlands 51.30 161 P **P** **16 38 07.4 +2.9**
BOD Bodaibo 53.03 351 *e*P **P** **16 38 17.1 0.0**
BOD pmax pmax
comp=Z,42nm,1.1s
PEA0B Petropavlovsk- 53.68 23 P **P** **16 38 22.1 +0.1**
PEA0B Petropavlovsk- 53.68 23*c i*P **P** **16 38 23.5 +1.5**
PETK Petropavlovsk- 53.68 23 P **P** **16 38 22.6 +0.6**
comp=Z,49nm,0.7s,baz=90,slow=1.7,SNR=111
PETK LR LR 17 00 01.3
comp=Z,45nm,22.0s,baz=228,slow=34
comp=Z,49nm,0.7s
PET Petropavlovsk 53.98 23 P **P** **16 38 24.8 +0.7**
PET Petropavlovsk 53.98 23*ce*P **P** **16 38 26.1 +1.9**
PET pmax pmax
comp=Z,23nm,0.5s
PET Petropavlovsk 53.98 23 P **P** **16 38 25.2 +1.0**
comp=Z,270nm,0.6s
PET Petropavlovsk 53.98 23 P **P** **16 38 24.9 +0.7**
ZSN Zaisan 54.98 326 *e*P **P** **16 38 31.5 -0.1**
ZSN *e*S **S** **16 46 07.5 -0.4**
ZSN Zaisan 54.98 326 *e*P **P** **16 38 31.6 -0.1**
baz=326
ZSN *e*S **S** **16 46 07.6 -0.4**
baz=326
DGZ Jazzator, Alta 55.01 330*c i*P **P** **16 38 32.1 +0.2**
DGZ pmax pmax
comp=Z,51nm,0.8s
MSVF Nonsavu 55.64 116 P **P** **16 38 38.5 +1.6**
SHLS Shalkode 55.96 320 *e*P **P** **16 38 36.6 -2.2**
SHLS *e*S **S** **16 46 16.5 -4.9**
SHLS pmax pmax
comp=Z,30nm,1.1s
SHLS Shalkode 55.96 320 *e*P **P** **16 38 36.6 -2.2**
comp=Z,30nm,1.1s,baz=320
SHLS *e*S **S** **16 46 16.5 -4.9**
baz=320
PDGK Podgornoye 56.03 320 P **P** **16 38 38.3 -1.0**
MK31 Makanchi Array 56.07 325 P **P** **16 38 38.9 -0.6**
MK31 IAmb IAmb 16 38 41.7
comp=Z,22nm,0.7s
MK31 Makanchi Array 56.07 325*c i*P **P** **16 38 38.7 -0.7**
MKAR Makanchi Array 56.07 325 P **P** **16 38 39.0 -0.5**
comp=Z,32nm,0.5s,baz=117,slow=7.6,SNR=236
MKAR PcP **PcP** **16 39 36.6 -0.2**
comp=Z,15nm,0.6s,baz=123,slow=4.2,SNR=10.0
MKAR ScP **ScP** **16 43 29.6 +0.2**
comp=Z,7.3nm,0.8s,baz=115,slow=4.8,SNR=11
MKAR PKPPKP **P'P'df** **17 08 31.9 -6.8**
comp=Z,0.6nm,0.9s,baz=267,slow=6.9,SNR=4.1
comp=Z,32nm,0.5s
MKAR Makanchi Array 56.07 325 P **P** **16 38 38.9 -0.5**
MKAR PcP **PcP** **16 39 36.5 -0.2**
MKAR ScP **ScP** **16 43 29.9 +0.6**
MKAR Makanchi Array 56.07 325 *i* P **P** **16 38 39.0 -0.5**
MKAR pmax pmax
comp=Z,33nm,0.5s
UZB Uzynbulak 56.24 319 *e*P **P** **16 38 40.4 -0.5**
UZB Uzynbulak 56.24 319 *e*P **P** **16 38 40.4 -0.5**
baz=319
MAKZ Makanchi 56.26 324 P **P** **16 38 40.5 -0.3**
MAKZ IAmb IAmb 16 38 43.1
comp=Z,29nm,0.7s
MAKZ PcP **PcP** **16 39 37.4 -0.1**
MAKZ ScP **ScP** **16 43 30.9 +0.7**
MAKZ Makanchi 56.26 324 P **P** **16 38 39.5 -1.2**
MAKZ pP **pP** **16 39 00.1 +1.1**
YAK Yakutsk 56.34 2 LR LR 17 02 21.6
comp=Z,63nm,21.7s,baz=180,slow=35
YAK Yakutsk 56.34 2 P **P** **16 38 42.0 +1.0**
YAK Yakutsk 56.34 2*c i*P **P** **16 38 41.4 +0.4**
YAK *e* 16 39 31.7
YAK *e* 16 40 47.7
YAK *e*PPP PPP 16 42 00.0
YAK *e*S **S** **16 46 24.5 -0.9**
YAK *e* 16 48 20.0
YAK *e*SS **SS** **16 50 16.4 +3.1**
YAK pmax pmax
comp=Z,31nm,0.6s
YAK pmax pmax
comp=N,7.0nm,0.6s
YAK pmax pmax
comp=Z,20nm,1.6s
YAK pmax pmax
comp=N,22nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK smax smax
comp=N,32nm,2.3s
YAK smax smax
comp=E,33nm,2.2s
YAK Yakutsk 56.34 2 P **P** **16 38 40.7 -0.3**
YAK sP **sP** **16 39 07.5 +0.2**
SATY Saty 56.60 319 *e*P **P** **16 38 43.1 -0.3**
SATY pmax pmax
comp=Z,21nm,0.8s
SATY Saty 56.60 319 *e*P **P** **16 38 43.2 -0.2**
comp=Z,21nm,0.8s,baz=319
KPKS Kokpek 56.61 320 *e*P **P** **16 38 42.8 -0.6**
KPKS *e*S **S** **16 46 28.1 -1.8**
KPKS pmax pmax
comp=Z,19nm,0.8s
KPKS Kokpek 56.61 320 *e*P **P** **16 38 42.9 -0.6**
comp=Z,19nm,0.8s,baz=320
KPKS *e*S **S** **16 46 28.1 -1.8**
baz=320
ZHN Zhinishke 56.63 319 *e*P **P** **16 38 42.8 -0.8**
ZHN Zhinishke 56.63 319 *e*P **P** **16 38 42.9 -0.8**
baz=319
KSH Kashi 56.78 314 P **P** **16 38 45.5 +0.8**
KSH PcP **PcP** **16 39 41.6 +1.8**
KSH pmax pmax
comp=Z,10.0nm,1.0s
NIL Nilore 56.85 307 P **P** **16 38 43.6 -1.6**
NIL pP **pP** **16 38 59.6 -4.4**
MA2 Magadan 56.88 14 LR LR 17 05 08.0
comp=Z,27nm,18.9s,baz=187,slow=38
MA2 Magadan 56.88 14 P **P** **16 38 45.7 +0.8**
MA2 IAmb IAmb 16 38 47.0
comp=Z,35nm,0.7s
MA2 Magadan 56.88 14*ce*P **P** **16 38 46.0 +1.1**
MA2 pmax pmax
comp=Z,39nm,0.7s
MA2 Magadan 56.88 14 P **P** **16 38 46.7 +1.8**
TDK Taldyqorghan 57.50 321 *e*P **P** **16 38 49.5 0.0**
TDK pmax pmax
comp=Z,16nm,0.6s
TDK Taldyqorghan 57.50 321 *e*P **P** **16 38 49.6 0.0**
comp=Z,16nm,0.6s,baz=321
ARXS Arharly 57.50 320 *e*P **P** **16 38 48.5 -1.2**
NRN Naryn 57.52 316 P **P** **16 38 49.3 -0.8**
NRN IAmb IAmb 16 39 44.4

comp=Z,15nm,0.8s
NRN Naryn 57.52 316 P P 16 38 49.3 -0.8
NRN pmax pmax
comp=Z,15nm,0.8s
MDOK Medeo 57.54 319 P P 16 38 49.6 -0.4
MDOK Medeo 57.54 319 eP P 16 38 49.7 -0.4
baz=319
AAA Alma-Ata 57.65 319 eP P 16 38 50.3 -0.4
AAA pmax pmax
comp=Z,20nm,0.8s
AAA Alma-Ata 57.65 319 eP P 16 38 50.4 -0.4
comp=Z,20nm,0.8s,baz=319
ULHL Ulahol 57.69 317 P P 16 38 51.2 0.0
SNR=17
CHKK Chushkaly 57.88 319 eP P 16 38 51.4 -0.9
CHKK Chushkaly 57.88 319 eP P 16 38 51.4 -0.9
baz=319
KUU Kurty 58.32 319 eP P 16 38 54.8 -0.5
KUU eS S 16 46 49.8 -2.4
KUU pmax pmax
comp=Z,46nm,1.0s
KUU Kurty 58.32 319 eP P 16 38 54.8 -0.5
comp=Z,46nm,1.0s,baz=319
KUU eS S 16 46 49.8 -2.4
baz=319
TKM2 Tokmak 2 58.40 318 P P 16 38 55.9 -0.3
SNR=16
TKM2 Tokmak 2 58.40 318 i P P 16 38 55.1 -1.1
TKM2 pmax pmax
comp=Z,18nm,1.0s
UCH Uchtor 58.86 317 P P 16 39 00.1 +0.5
SNR=34
ZALV Zalesovo Beam 58.96 333 P P 16 38 58.9 -0.7
comp=Z,27nm,0.4s,baz=121,slow=6.7,SNR=150
ZALV PKKP **PKKPdf 17 00 12.8 -2.5**
comp=Z,0.2nm,0.3s,baz=260,slow=8.9,SNR=4.0
ZALV LR LR 17 07 15.1
comp=Z,77nm,18.8s,baz=119,slow=39
ZALV PKPPKP **P'P'df 17 08 32.8 -1.0**
comp=Z,0.3nm,0.3s,baz=302,slow=2.8,SNR=3.5
ZALV PKP2bc 17 08 43.3
comp=Z,1.5nm,0.7s,baz=270,slow=2.8,SNR=9.6
comp=Z,27nm,0.4s
ZALV Zalesovo Beam 58.96 333 P P 16 38 59.1 -0.4
ZALV Zalesovo Beam 58.96 333 P P 16 38 59.1 -0.4
CHMS Chumysh 59.00 318 i P P 16 38 59.0 -1.1
CHMS pmax pmax
comp=Z,21nm,1.1s
AAK Ala-Archa 59.03 317 P PcP 16 39 49.6 +0.9
SNR=5.2
AAK Ala-Archa 59.03 317 P P 16 39 00.0 -0.4
comp=Z,3.8nm,0.5s,baz=165,slow=9.5,SNR=11
AAK PcP **PcP 16 39 49.2 +0.5**
comp=Z,22nm,0.8s,baz=126,slow=4.2,SNR=12
comp=Z,3.8nm,0.5s
SEM Semipalatinsk 59.16 327 eP P 16 39 01.2 -0.1
SEM Semipalatinsk 59.16 327 eP P 16 39 01.2 -0.1
baz=327
SGDS Sogindy 59.27 318 eP P 16 39 00.8 -1.1
SGDS Sogindy 59.27 318 eP P 16 39 00.9 -1.1
baz=318
USP Ospenovka 59.28 318 P P 16 39 01.6 -0.4
SNR=33
AML Almayashu 59.38 316 P P 16 39 03.2 +0.1
SNR=23
EKS2 Erkin-Say 59.53 317 P P 16 39 04.1 +0.2
SNR=21
OUZ Omahuta 59.86 136 P P 16 39 08.8 +2.8
SEY Seymchan 60.20 13*c i* **P P 16 39 09.6 +1.7**
SEY pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 60.21 327 P P 16 39 06.9 -1.2
KURBB Kurchatov Arra 60.21 327 LR LR 17 07 09.6
comp=Z,62nm,18.9s,baz=78,slow=38
KURBB Kurchatov Arra 60.21 327 P P 16 39 07.5 -0.7
BTLS Baital 60.30 319 eP P 16 39 08.0 -0.9
BTLS Baital 60.30 319 eP P 16 39 08.1 -0.9
baz=320
KBL Kabul 60.45 307 P P 16 39 09.5 -1.0
KBL IAmb IAmb 16 39 10.6
comp=Z,15nm,0.8s
KBL Kabul 60.45 307 P P 16 39 09.5 -1.0
KBL pmax pmax
comp=Z,15nm,0.8s
SHEM Shemya Is, Ala 60.82 31 LR LR 17 01 21.0
comp=Z,42nm,20.8s,baz=304,slow=32
DZA Taraz 61.28 316 eP P 16 39 15.3 -0.4
DZA Taraz 61.28 316 eP P 16 39 15.4 -0.4
baz=316
KK31 Karatay Array 61.92 316 IAmb IAmb 16 39 22.6
comp=Z,23nm,1.2s
KK31 Karatay Array 61.92 316 i P P 16 39 18.7 -1.3
IUG luzhnay 61.93 315 eP P 16 39 19.6 -0.5
IUG luzhnay 61.93 315 eP P 16 39 19.7 -0.5
baz=315
QRZ Quartz Range 62.35 142 P P 16 39 24.6 +1.8
HIZ Hauiti 62.50 139 P P 16 39 25.7 +1.8
OTUK Ortayu 62.69 322 P P 16 39 24.3 -0.7
NNZ Nelson 63.10 142 P P 16 39 27.5 -0.2
BRZS Berezniki 63.21 324 eP P 16 39 28.1 -0.3
BRZS pmax pmax
comp=Z,14nm,1.0s
BRZS Berezniki 63.21 324 eP P 16 39 28.1 -0.3
comp=Z,14nm,1.0s,baz=324
RPZ Rata Peaks 63.25 145 P P 16 39 29.1 +0.3
RPZ IAmb IAmb 16 39 30.8
comp=Z,47nm,0.8s
RPZ Rata Peaks 63.25 145 P P 16 39 29.6 +0.8
LTZ Lake Taylor 63.38 144 P P 16 39 30.4 +0.7
URZ Urewera 63.86 138 LR LR 17 08 11.4
comp=Z,94nm,18.6s,baz=11,slow=37
URZ Urewera 63.86 138 IAmb IAmb 16 39 37.2
comp=Z,33nm,0.8s
ODZ Otahua Downs 63.87 147 P P 16 39 33.5 +0.7
comp=Z,18nm,0.8s
KHZ Kahutara 63.91 143 P P 16 39 33.2 +0.2
BKZ Black Stump Fm 63.93 139 P P 16 39 33.6 +0.2
AFI Afiamalu 63.95 108 LR LR 17 02 12.7
comp=Z,92nm,21.9s,baz=290,slow=31
SNZO South Karori 63.97 142 P P 16 39 32.7 -0.8
SNZO South Karori 63.97 142 P P 16 39 33.7 +0.2
BFZ Birch Farm 64.59 140 P P 16 39 38.7 +1.1
BVAR Borovoye Array 65.80 327 LR LR 17 11 06.5
comp=Z,67nm,21.1s,baz=108,slow=38
BRVK Borovoye 65.87 327 P P 16 39 44.7 -0.9
BRVK pP **pP 16 40 03.0 -1.5**
TIXI Tiksi 65.98 1 LR LR 17 08 38.1
comp=Z,45nm,21.7s,baz=180,slow=36
TIXI Tiksi 65.98 1 P P 16 39 45.0 -0.9
TIXI IAmb IAmb 16 39 47.5
comp=Z,30nm,0.6s
TIXI Tiksi 65.98 1*ce* **P P 16 39 45.9 -0.1**
TIXI pmax pmax
comp=Z,29nm,0.7s
TIXI Tiksi 65.98 1 P P 16 39 43.0 -2.9
TIXI sP **sP 16 40 11.6 -1.1**
BILL Bilibino 67.73 15⇑*eP* **P 16 39 58.1 +0.9**
BILL eS S 16 48 49.8 +1.0
BILL pmax pmax
comp=Z,9.0nm,0.8s
WSAR Wadi Sarin 67.76 293 P P 16 39 56.5 -1.8
comp=Z,4.7nm,0.7s,baz=119,slow=9.8,SNR=6.0
WSAR sP **PcP 16 40 24.9 +0.3**
comp=Z,4.9nm,0.8s,baz=157,slow=7.6,SNR=2.5
WSAR LR LR 17 13 12.6
comp=Z,15nm,19.6s,baz=112,slow=39
comp=Z,4.7nm,0.7s
NRIK Noril'sk 68.64 346 P P 16 40 03.0 +0.2
comp=Z,22nm,0.7s,baz=126,slow=7.0,SNR=56
NRIK LR LR 17 11 09.7
comp=Z,110nm,20.8s,baz=146,slow=37
comp=Z,22nm,0.7s
NRIK Noril'sk 68.64 346 IAmb IAmb 16 40 04.7
comp=Z,24nm,0.7s
NRIK Noril'sk 68.64 346*c i* **P P 16 40 03.0 +0.2**
NRIK pmax pmax
comp=Z,22nm,0.6s
GEYT Alibeck 69.79 308 P P 16 40 10.7 0.0
comp=Z,7.3nm,0.6s,baz=150,slow=4.1,SNR=13
GEYT LR LR 17 16 07.0
comp=Z,68nm,18.2s,baz=94,slow=40
comp=Z,7.3nm,0.6s
UOSS Minazif 70.07 294 P P 16 40 09.4 -3.2
HATD Hatta, Dubai 70.13 294 P P 16 40 11.5 -1.4
MSFE Esma-Masafi 70.13 295 P P 16 40 12.5 -0.5
ASHO Ashiyiah 70.19 294 P P 16 40 12.1 -1.3

SHME Shamm 70.19 296 P P 16 40 09.5 -3.8
ALNE Al Ain 70.44 293 P P 16 40 12.7 -2.2
AB31 Akbulak array 70.75 320 P P 16 40 15.3 -0.9
ABKAR Akbulak array 70.75 320 IAmb IAmb 16 40 18.5
comp=Z,23nm,0.8s
UNV Unalaska Valle 71.85 35 P P 16 40 22.8 +0.1
baz=254
AKTO Aktyubinsk 72.24 321 P P 16 40 24.6 -0.7
comp=Z,22nm,0.6s,baz=95,slow=7.9,SNR=46
AKTO LR LR 17 14 15.6
comp=Z,189nm,21.8s,baz=103,slow=38
comp=Z,22nm,0.6s
MZR Muzera 72.49 292 P P 16 40 26.1 -1.1
CASY Casey 72.68 187 P P 16 40 28.2 +0.9
CASY IAmb IAmb 16 40 29.3
comp=Z,70nm,1.2s
ARU Arti 73.40 327 LR LR 17 14 46.0
comp=Z,82nm,21.6s,baz=107,slow=37
ARU Arti 73.40 327*c i* **P P 16 40 31.0 -0.9**
ARU pmax pmax
comp=Z,85nm,0.6s
TNA Tin City 74.84 23 P P 16 40 40.2 +0.1
baz=250
ANM Nome 75.54 24 P P 16 40 44.4 +0.2
baz=252
SDPT Sand Point 75.61 34 P P 16 40 44.9 +0.2
baz=259
CHNA Chernabura Isl 76.02 35 P P 16 40 47.4 +0.3
baz=260
RAR Rarotonga 76.70 113 LR LR 17 11 14.1
comp=Z,35nm,20.8s,baz=292,slow=33
CHGN Chignik 76.93 34 P P 16 40 52.1 0.0
baz=260
N16K Nishlik Lake 77.49 29 P P 16 40 56.3 +1.0
baz=259,SNR=12
R16K Pilot Point 77.59 32 P P 16 40 57.2 +1.3
baz=261
P16K Nushagak River 77.62 31 P P 16 40 56.8 +0.8
baz=260
O16K Kokwok River B 77.66 30 P P 16 40 57.5 +1.3
baz=260,SNR=8.5
O17K Koliganek Bris 78.19 30 P P 16 41 00.1 +1.0
baz=261,SNR=7.9
R17K Ugashik Creek 78.23 32 P P 16 40 59.9 +0.5
baz=262
P17K Kvichak River 78.43 31 P P 16 41 01.4 +0.9
baz=261,SNR=5.4
KIRV Kirov 78.67 329*c i* **P P 16 41 01.2 -0.5**
comp=Z,84nm,18.9s,baz=96,slow=38
KIRV Kirov 78.67 329*c i* **P P 16 41 03.6 +0.4**
N18K Kilae Creek 78.92 29 P P 16 41 04.5 +1.2
N18K Kilae Creek 78.92 29 P P 16 41 04.5 +1.2
baz=262,SNR=5.5
BELG Belogornoye 78.97 322 LR LR 17 18 08.0
comp=Z,71nm,21.3s,baz=143,slow=37
BELG Belogornoye 78.97 322*c i* **P P 16 41 02.8 -0.8**
BELG pmax pmax
comp=Z,24nm,1.1s
P18K Big Mountain, 79.08 31 P P 16 41 04.2 +0.1
baz=262
GCSA Galena City Sc 79.13 25 P P 16 41 05.1 +1.0
baz=260
O18K Koktuh Hills 79.15 30 P P 16 41 05.7 +1.3
baz=262
TTA Tatalina 79.21 27 P P 16 41 04.5 -0.3
TTA Tatalina 79.21 27 P P 16 41 04.5 -0.3
TTA pmax pmax
comp=Z,10.0nm,0.7s
TTA Tatalina 79.21 27 P P 16 41 05.9 +1.1
baz=261,SNR=6.9
SII Sitkinak Islan 79.29 34 P P 16 41 06.4 +1.1
baz=264
N19K Bonanza Creek 79.63 29 P P 16 41 07.6 +0.5
N19K Bonanza Creek 79.63 29 P P 16 41 08.6 +1.5
baz=263,SNR=9.8
L19K White Mountain 79.63 28 P P 16 41 07.6 +0.6
L19K White Mountain 79.63 28 P P 16 41 08.3 +1.2
baz=262,SNR=12
GROC Groznyy 79.63 313 *eP* **P 16 41 06.6 -0.8**
GROC *e* 16 41 13.0
GROC pmax pmax
comp=Z,123nm,1.0s
O19K Port Alsworth 79.63 30 P P 16 41 08.0 +1.0
baz=263
M19K Big River Lodg 79.81 28 P P 16 41 07.8 -0.2
M19K Big River Lodg 79.81 28 P P 16 41 09.4 +1.4
baz=263,SNR=7.7
RAYN Ar Rayn 79.82 293 P P 16 41 06.6 -2.3
Q19K Cape Douglas, 79.83 31 P P 16 41 08.1 -0.1
baz=264
OHAK Old Harbor 79.85 33 P P 16 41 08.8 +0.6
baz=264
L20K Farewell, AK 80.12 28 P P 16 41 10.9 +1.2
baz=263
K20K Telida 80.14 27 P P 16 41 09.8 +0.1
K20K Telida 80.14 27 P P 16 41 10.9 +1.2
baz=263,SNR=12
J20K Nowinta River 80.21 26 P P 16 41 11.3 +1.2
baz=263,SNR=16
KDAK Kodiak Island 80.28 32 P P 16 41 11.8 +1.2
baz=265
GNI Garni 80.34 310 P P 16 41 09.9 -1.6
comp=Z,3.9nm,0.6s,baz=164,slow=15,SNR=1.7
GNI LR LR 17 23 24.8
comp=Z,23nm,18.1s,baz=70,slow=41
comp=Z,3.9nm,0.6s
M20K Styx River 80.40 28 P P 16 41 12.4 +1.1
baz=264,SNR=22
Q20K Shuyak Island 80.45 32 P P 16 41 11.9 +0.5
baz=265
N20K Mount Spurr 80.77 29 P P 16 41 13.5 +0.2
baz=265
SPCR Spurr Chakacha 80.77 29 P P 16 41 13.4 +0.1
baz=265
G21K Allakaket 80.78 24 P P 16 41 14.3 +1.2
baz=263,SNR=20
F21K Alatna River 80.88 23 P P 16 41 14.7 +1.1
baz=263,SNR=7.8
PRGR Permogore 80.90 331 *eP* **P 16 41 12.0 -1.8**
PRGR *eS* **S 16 51 14.7 -1.4**
PRGR pmax pmax
comp=Z,107nm,0.7s
H21K Melozitna Rive 80.96 24 P P 16 41 15.4 +1.3
baz=264,SNR=25
ZEI Tsey 81.01 312 *eP* **P 16 41 13.9 -1.2**
ZEI pmax pmax
comp=Z,43nm,1.4s
CNPM China Poot 81.12 31 P P 16 41 14.8 -0.3
CNPM IAmb IAmb 16 41 16.1
comp=Z,29nm,0.9s
SKT Skwentna 81.16 28 P P 16 41 15.0 -0.3
SKT IAmb IAmb 16 41 16.7
comp=Z,22nm,0.8s
SKT Skwentna 81.16 28 P P 16 41 15.6 +0.4
baz=265,SNR=15
I21K Tanana 81.25 25 P P 16 41 16.3 +0.7
I21K IAmb IAmb 16 41 18.7
comp=Z,42nm,0.9s
I21K Tanana 81.25 25 P P 16 41 17.1 +1.5
baz=264,SNR=39
BRSE Bradley Lake S 81.38 31 P P 16 41 16.8 +0.3
baz=266
F22K John River 81.41 23 P P 16 41 17.8 +1.4
baz=264,SNR=21
SUA Susitna One 81.50 29 P P 16 41 17.2 +0.1
baz=266,SNR=9.4
H22K Ishtalitna Cre 81.57 24 P P 16 41 18.6 +1.2
baz=265,SNR=26
BPAW Bear Paw Mtn. 81.58 26 P P 16 41 18.5 +1.1
baz=265,SNR=14
G22K Bettles 81.61 23 P P 16 41 18.6 +1.1
baz=264
GOF Gofitskoye 81.65 315⇑ *eP* **P 16 41 19.3 +1.1**
GOF pmax pmax
comp=Z,88nm,1.6s
KBZ Khabaz 81.75 313 P P 16 41 17.9 -0.8
comp=Z,4.0nm,0.6s,baz=82,slow=4.0,SNR=14
KBZ LR LR 17 21 19.9
comp=Z,46nm,18.6s,baz=68,slow=38
comp=Z,4.0nm,0.6s
KBZ Khabaz 81.75 313*ce* **P P 16 41 17.9 -0.8**
KBZ pmax pmax
comp=Z,18nm,1.1s
MLY Manley 81.76 25 IAmb IAmb 16 41 20.6
comp=Z,35nm,0.7s
MLY Manley 81.76 25 P P 16 41 19.4 +1.0
baz=266,SNR=53

CUT Chulitna 81.78 28 P P 16 41 19.6 +1.2
baz=266
M22K Willow 81.81 28 P P 16 41 19.3 +0.7
baz=267
TRF Thorofare Moun 81.84 27 P P 16 41 19.3 +0.3
baz=266,SNR=21
NEY Neytrino 81.88 313 *eP* **P 16 41 19.6 0.0**
NEY pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 81.90 313*c i* **P P 16 41 20.0 +0.4**
KIV *i* 16 41 28.3
KIV *i* 16 41 39.5
KIV *i* 16 44 30.4
KIV pmax pmax
comp=Z,39nm,1.7s
KIV MLR MLR
comp=Z,84nm,19.0s
KIV Kislovodsk 81.90 313 P P 16 41 20.1 +0.4
RC01 Rabbit Creek A 81.96 29 P P 16 41 20.2 +0.8
baz=267,SNR=6.3
SEW Seward 82.05 30 P P 16 41 20.3 +0.4
baz=267
D23K Nanushuk River 82.11 21 P P 16 41 21.9 +1.8
baz=265,SNR=13
COLD Coldfoot 82.15 23 IAmb IAmb 16 41 23.0
comp=Z,29nm,0.7s
COLD Coldfoot 82.15 23 P P 16 41 21.5 +1.2
baz=266,SNR=26
G23K Bananza Creek 82.18 23 P P 16 41 22.0 +1.5
baz=265,SNR=30
C23K Itkillik River 82.21 20 P P 16 41 21.9 +1.3
baz=265,SNR=20
PMR Palmer 82.28 29 P P 16 41 21.3 +0.3
baz=267,SNR=7.3
H23K Yukon River 82.31 24 P P 16 41 22.6 +1.3
baz=266,SNR=29
E23K Chandalar 82.43 22 P P 16 41 23.7 +1.8
baz=266
NEA2 Nenana 82.45 26 P P 16 41 23.1 +1.2
baz=267,SNR=11
MCK McKinley 82.46 27 IAmb IAmb 16 41 23.9
comp=Z,48nm,0.7s
MCK McKinley 82.46 27 P P 16 41 22.5 +0.4
baz=267,SNR=21
TOLK Toolik Lake Re 82.49 22 IAmb IAmb 16 41 24.8
comp=Z,26nm,0.8s
TOLK Toolik Lake Re 82.49 22 P P 16 41 23.7 +1.5
baz=266,SNR=15
VRH Novokhopyorsk 82.58 321 *eP* **P 16 41 21.4 -1.4**
VRH pmax pmax
comp=Z,40nm,0.7s
KNK Knik Glacier 82.59 29 P P 16 41 23.4 +0.6
baz=268,SNR=9.0
WAT1 Susitna Watana 82.60 27 P P 16 41 23.0 +0.2
baz=268
PWL Port Wells 82.63 29 IAmb IAmb 16 41 24.5
comp=Z,39nm,0.9s
PWL Port Wells 82.63 29 P P 16 41 23.3 +0.3
baz=268,SNR=9.8
SML Sawmill 82.66 28 P P 16 41 23.7 +0.5
baz=268,SNR=13
D24K Happy Valley 82.79 21 P P 16 41 25.5 +1.9
baz=267
E24K Your Creek 82.85 22 P P 16 41 25.3 +1.3
baz=267,SNR=13
VOI Vohitsoka 82.85 247 P P 16 41 22.9 -2.1
VOI IAmb IAmb 16 41 25.5
comp=Z,13nm,0.7s
VOI Vohitsoka 82.85 247 P P 16 41 24.8 -0.3
C24K Franklin Bluff 82.86 20 P P 16 41 25.2 +1.3
baz=267
M23K Glacier View 82.95 29 P P 16 41 25.4 +0.8
baz=269,SNR=12
WAT6 Susitna Watana 82.96 28 P P 16 41 25.2 +0.3
baz=269,SNR=24
TCOL CIGO, UAF Yank 82.97 25 P P 16 41 25.1 +0.4
baz=268
COLA College 82.98 25 ⇑P P 16 41 24.5 -0.1
COLA College 82.98 25 P P 16 41 25.1 +0.5
baz=268
ATD Arta Tunnel 82.99 281 LR LR 17 16 55.2
comp=Z,25nm,20.5s,baz=54,slow=35
H24K Noodor Dome 83.00 24 IAmb IAmb 16 41 28.3
comp=Z,33nm,0.9s
H24K Noodor Dome 83.00 24 P P 16 41 26.2 +1.4
baz=268,SNR=33
F24K Squaw Lake 83.06 23 P P 16 41 26.7 +1.6
baz=268,SNR=18
SCM Sheep Creek Mo 83.14 28 P P 16 41 26.6 +1.0
baz=269,SNR=12
DHY Denali Highway 83.14 27 P P 16 41 27.7 +1.9
baz=269,SNR=6.7
POKR Poker Plat Res 83.16 25 P P 16 41 27.3 +1.7
baz=268
G24K Hadweenzic Riv 83.19 24 P P 16 41 27.3 +1.5
baz=268,SNR=36
GLI Glacier Island 83.24 29 P P 16 41 26.8 +0.7
baz=269,SNR=6.5
HDA Harding Lake 83.36 26 P P 16 41 26.3 -0.4
baz=269,SNR=25
ILAR Eielson Array 83.39 26 P P 16 41 26.0 -0.8
comp=Z,9.6nm,0.9s,baz=233,slow=5.6,SNR=72
ILAR LR LR 17 17 05.7
comp=Z,26nm,20.5s,baz=262,slow=34
comp=Z,9.6nm,0.9s
ILAR Eielson Array 83.39 26 P P 16 41 26.0 -0.8
D25K Kavik River 83.67 21 P P 16 41 29.2 +1.0
baz=269,SNR=6.3
M24K Tolsona, Glenn 83.69 28 P P 16 41 29.4 +0.9
baz=270,SNR=12
KLU Klutina 83.81 29 P P 16 41 30.0 +0.9
baz=270,SNR=8.9
KLMR Klimovskoe 83.81 331*c i* **P P 16 41 29.3 +0.3**
KLMR pmax pmax
comp=Z,230nm,0.9s
KLMR Klimovskoe 83.81 331⇑*i* **P P 16 41 29.4 +0.4**
KLMR *eP* **P 16 41 29.4 +0.4**
KLMR *eP* **P 16 41 29.4 +0.4**
KLMR AMP 16 41 30.2
comp=Z,230nm,0.9s
H25K Birch Creek 83.85 24 P P 16 41 30.7 +1.7
baz=270,SNR=29
K24K Donnelly Dome 83.87 26 P P 16 41 29.6 +0.3
baz=270,SNR=7.5
DIV Divide 83.89 29 P P 16 41 29.9 +0.4
DIV IAmb IAmb 16 41 31.6
comp=Z,48nm,0.8s
EYAK Cordova Ski Ar 83.90 30 P P 16 41 30.3 +0.8
baz=270
F25K Christian River 83.92 23 P P 16 41 31.5 +1.9
baz=270,SNR=17
E25K Arctic Village 83.95 22 P P 16 41 31.4 +1.8
baz=270,SNR=23
PRP Porcupine Dome 83.97 25 P P 16 41 30.3 +0.4
baz=270
PAX Paxson 84.01 27 P P 16 41 30.3 +0.2
PAX IAmb IAmb 16 41 32.0
comp=Z,17nm,1.0s
PAX Paxson 84.01 27 P P 16 41 30.3 +0.2
PAX pmax pmax
comp=Z,17nm,1.0s
PAX Paxson 84.01 27 P P 16 41 30.8 +0.7
baz=270,SNR=12
J25K Salcha River, 84.04 26 P P 16 41 29.9 -0.4
baz=270,SNR=16
SOC Sochi 84.06 313 *i* P **P 16 41 29.3 -1.4**
SOC *e**PP **pP 16 41 48.5 -1.8**
SOC *e* 16 44 41.2
SOC *e*PPP PPP 16 46 32.6
SOC *e*S **S 16 51 44.3 -4.9**
SOC *e*SS **SS 16 57 25.2 +6.1**
SOC *e*SSS SSS 17 00 42.5
SOC pmax pmax
comp=Z,18nm,0.9s
SOC MLR MLR
comp=Z,91nm,19.0s
VORR Voronezh 84.15 321 *eP* **P 16 41 32.0 +1.1**
VORR S **S 16 51 52.0 +2.3**
VORR pmax pmax
comp=Z,134nm,1.6s
HARP HAARP 84.16 28 P P 16 41 31.6 +0.8
baz=271
C26K Camden Bay 84.18 20 P P 16 41 32.3 +1.6
baz=270
VSR Storozhevoye 84.19 321 *eP* **P 16 41 30.6 -0.5**
VSR pmax pmax
comp=Z,20nm,0.6s

RIDG Independent Ri 84.28 27 P P 16 41 31.9 +0.4
baz=271,SNR=14
LPSR Galich'ya Gora 84.29 322 *e*P P 16 41 31.7 +0.1
LPSR pmax pmax
comp=Z,150nm,1.5s
N25K Chitina, Valde 84.44 29 IAmb IAmb 16 41 34.6
comp=Z,21nm,0.9s
N25K Chitina, Valde 84.44 29 P P 16 41 33.2 +0.8
baz=271,SNR=9.5
BMRM Bremner River 84.45 29 P P 16 41 33.2 +0.9
baz=272,SNR=12
F26K Sheenjek River 84.49 23 P P 16 41 33.8 +1.4
baz=271,SNR=11
KAIM Kayak Island 84.58 30 P P 16 41 34.5 +1.6
baz=272
C27K Jago River 84.61 21 P P 16 41 34.5 +1.7
baz=272,SNR=14
G26K Porcupine Rive 84.65 23 P P 16 41 34.9 +1.8
baz=272,SNR=15
SCRK Sand Creek 84.66 26 P P 16 41 33.9 +0.4
baz=272
J26L Joseph Creek 84.82 26 P P 16 41 34.7 +0.5
baz=272,SNR=14
MOS Moscow 84.94 325 *e*P P 16 41 32.0 -2.8
MOS *e* 16 41 44.4
MOS *e*S S 16 51 55.2 -2.2
MOS pmax pmax
comp=Z,216nm,1.1s
I26K Coal Creek Min 84.97 25 P P 16 41 35.3 +0.5
baz=272
L26K Log Cabin Wild 84.98 27 P P 16 41 36.0 +1.1
baz=272
M26K Nabesna, AK 85.17 28 P P 16 41 36.8 +0.9
baz=273,SNR=5.5
MCARA McCarthy VSAT 85.20 29 P P 16 41 36.7 +0.7
baz=273
VNDA Vanda 85.27 173 P P 16 41 36.1 +0.2
comp=Z,15nm,0.9s,baz=318,slow=6.3,SNR=88
VNDA PKKPbc **PKKPbc** 16 59 41.6 -3.3
comp=Z,1.3nm,0.8s,baz=196,slow=10.0,SNR=6.9
VNDA LR LR 17 19 58.7
comp=Z,35nm,19.6s,baz=329,slow=36
comp=Z,15nm,0.9s
VNDA Vanda 85.27 173 IAmb IAmb 16 41 37.3
comp=Z,15nm,0.8s
E27K Coleen River 85.43 22 P P 16 41 38.0 +0.9
baz=274,SNR=14
K27K Chicken 85.50 26 P P 16 41 38.9 +1.5
baz=274
G27K Doyon Strip 85.50 23 P P 16 41 39.0 +1.6
baz=274,SNR=10
MAW Mawson 85.53 200 P P 16 41 37.9 +0.5
comp=Z,15nm,0.9s,baz=72,slow=4.8,SNR=20
MAW LR LR 17 13 40.8
comp=Z,54nm,21.4s,baz=55,slow=31
comp=Z,15nm,0.9s
MAW Mawson 85.53 200 P P 16 41 38.4 +1.0
baz=86,SNR=12
MAW Mawson 85.53 200 P P 16 41 37.6 +0.2
OBN Obninsk 85.58 325 LR LR 17 22 26.9
comp=Z,23nm,18.2s,baz=60,slow=37
OBN Obninsk 85.58 325 *ce*P P 16 41 37.4 -0.6
OBN pmax pmax
comp=Z,354nm,1.5s
OBN MLR MLR
comp=Z,75nm,16.0s
H27K Steamboat Moun 85.59 24 P P 16 41 39.7 +1.7
baz=274,SNR=8.5
I27K Kandik River 85.59 25 P P 16 41 39.1 +1.1
baz=274,SNR=16
PPT Papeete 85.62 108 LR LR 17 13 26.7
comp=Z,61nm,21.7s,baz=309,slow=31
PPT2 Papeete2 85.63 108 *e*LR LR 17 08 48.9
comp=Z,249nm,28.5s
ANN Anapa 85.64 314 *e*P P 16 41 36.8 -1.7
ANN pmax pmax
comp=Z,93nm,0.7s
L27K Beaver Creek, 85.67 27 P P 16 41 39.5 +1.1
baz=274,SNR=9.3
M27K Edge Creek, AK 85.69 28 P P 16 41 39.9 +1.2
baz=274
EGAK Eagle 85.84 25 P P 16 41 40.4 +1.3
baz=274
CTG Chitna Glacier 86.05 29 P P 16 41 41.6 +1.2
baz=274,SNR=7.7
SBA Scott Base 86.17 172 P P 16 41 41.6 +1.1
SBA IAmb IAmb 16 41 43.0
comp=Z,67nm,1.9s
SBA Scott Base 86.17 172 P P 16 41 41.6 +1.1
SBA pmax pmax
comp=Z,67nm,1.9s
TBI Tubuai 86.47 114 *e*LR LR 17 09 12.9
comp=Z,185nm,28.5s
O28M Mount Upton 86.62 29 P P 16 41 44.6 +1.1
baz=275
DAWY Dawson 86.67 26 P P 16 41 44.6 +1.2
baz=276
I29M Ogilvie Camp, 86.99 25 P P 16 41 46.5 +1.7
baz=277,SNR=7.8
M29M Somme Creek 87.27 28 P P 16 41 46.6 +0.3
baz=277
L29M L29M 87.34 27 P P 16 41 47.1 +0.5
baz=277
EPYK Eagle Plains 87.50 24 P P 16 41 48.3 +1.0
baz=278
K29M Barlow Dome 87.52 26 P P 16 41 48.3 +0.8
baz=278
VALR Valaam 87.96 331 *c i*P P 16 41 49.2 -0.2
VALR pmax pmax
comp=Z,75nm,0.9s
P29M Windy Craggy 87.97 30 P P 16 41 49.3 -0.3
baz=278
SIM Simferopol' 87.98 315 P P 16 41 48.6 -1.3
SIM pmax pmax
comp=Z,14nm,0.9s
INK Inuvik 88.40 22 LR LR 17 22 59.0
comp=Z,28nm,21.9s,baz=244,slow=36
INK Inuvik 88.40 22 P P 16 41 51.3 -0.1
baz=281
PUL Pulkovo 88.46 330 *ce*P P 16 41 51.8 0.0
PUL pmax pmax
comp=Z,152nm,0.6s
F31M Tsiigehtchic 88.48 22 P P 16 41 51.6 -0.2
baz=281
SPA0 Spitsbergen Ar 88.66 349 *e*P P 16 41 53.1 +0.6
SPA0 IAmb IAmb 16 41 54.5
comp=Z,38nm,1.2s
SPITS Spitsbergen Ar 88.66 349 LR LR 17 28 19.3
comp=Z,63nm,18.4s,baz=38,slow=40
SPITS Spitsbergen Ar 88.66 349 P P 16 41 51.9 -0.6
SPITS pmax pmax
comp=Z,35nm,1.2s
ARA0 ARCESS Array S 88.72 340 *e*P P 16 41 52.2 -0.7
ARA0 IAmb IAmb 16 41 53.6
comp=Z,29nm,1.0s
ARCES ARCESS Array B 88.72 340 P P 16 41 52.4 -0.6
comp=Z,13nm,0.4s,baz=84,slow=6.1,SNR=178
ARCES PKKPbc **PKKPbc** 16 59 34.0 -1.9
comp=Z,1.3nm,0.6s,baz=259,slow=2.5,SNR=8.9
comp=Z,13nm,0.4s
ARCES ARCESS Array B 88.72 340 IAmb IAmb 16 41 53.3
comp=Z,23nm,0.9s
EIL Elat 88.86 300 LR LR 17 28 45.1
comp=Z,49nm,18.6s,baz=90,slow=40
BR131 Keskin Array S 88.88 310 IAmb IAmb 16 41 56.2
comp=Z,11nm,0.8s
BRTR Keskin Array B 88.88 310 P P 16 41 52.9 -1.6
comp=Z,6.7nm,0.8s,baz=127,slow=4.6,SNR=36
BRTR pP **pP** 16 42 12.8 -1.9
comp=Z,0.9nm,0.6s,baz=102,slow=7.1,SNR=2.2
BRTR PP **PP** 16 45 28.7 +4.0
comp=Z,1.5nm,1.0s,baz=99,slow=7.6,SNR=4.1
BRTR LR LR 17 27 20.2
comp=Z,72nm,20.2s,baz=92,slow=39
comp=Z,6.7nm,0.8s
HAMF Hammerfest 89.07 341 *e*P P 16 41 54.0 -0.5
HAMF IAmb IAmb 16 41 54.8
comp=Z,22nm,0.7s
KTK1 Kautokeino 89.63 339 *e*P P 16 41 56.3 -0.9
KTK1 IAmb IAmb 16 41 57.0
comp=Z,20nm,1.0s
FARO Faro, Yukon 89.66 27 P P 16 41 58.3 +0.8
baz=281
FIA1 FINESS Array S 90.22 332 IAmb IAmb 16 42 01.3
comp=Z,32nm,1.2s
FINES FINESS Array B 90.22 332 P P 16 41 59.5 -0.6
comp=Z,7.4nm,0.6s,baz=42,slow=5.0,SNR=75
FINES PKiKP **PKiKP** 16 46 54.3 -0.8
comp=Z,0.8nm,0.7s,baz=104,slow=16,SNR=1.1
FINES PKKPbc **PKKPbc** 16 59 29.8 -2.1
comp=Z,1.0nm,0.6s,baz=234,slow=1.6,SNR=4.8
FINES LR LR 17 27 44.7
comp=Z,64nm,18.0s,baz=82,slow=39
comp=Z,7.4nm,0.6s
JETT Jettan, Norway 90.45 340 *e*P P 16 42 00.5 -0.5
JETT IAmb IAmb 16 42 01.6
comp=Z,57nm,0.7s
AKASG Malin Array Be 90.49 321 P P 16 42 00.7 -0.8
comp=Z,3.2nm,0.5s,baz=62,slow=4.9,SNR=50
comp=Z,3.2nm,0.5s
AKASG Malin Array Be 90.49 321 *i* P P 16 42 01.1 -0.5
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 90.49 321 ⇑ *i*P P 16 42 00.2 -1.4
AKBB pmax pmax
comp=Z,41nm,1.4s
VSU Vasula 90.51 329 *c i*P P 16 42 00.9 -0.5
VSU pmax pmax
comp=Z,127nm,0.7s
VSU Vasula 90.51 329 *e*P P 16 42 01.3 -0.1
MNK Minsk 90.64 325 *i* P P 16 41 59.7 -2.4
MNK *i* 16 45 35.1
MNK *i* PPP PPP 16 47 33.1
MNK *i* S **SKSac** 16 52 23.4 -3.6
MNK *i* *SS **ScS** 16 53 00.9 +5.8
MNK *i* SS **SS** 16 58 51.8 -2.6
MNK *i* SSS SSS 17 02 28.5
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=Z,68nm,0.8s
MNK MLR MLR
comp=E,12nm,11.0s
MNK MLR MLR
comp=Z,169nm,21.0s
MNK Minsk 90.64 325 *i* P P 16 41 59.8 -2.4
comp=E,5.0nm,0.8s
MNK *i* P P 16 41 59.8 -2.4
MNK *i* P P 16 41 59.8 -2.4
comp=Z,68nm,0.8s,baz=80
MNK *i* PP PP 16 45 35.1 -2.8
MNK *i* PPP PPP 16 47 33.2
MNK *i* S **SKSac** 16 52 23.5 -3.6
MNK *i* sS **ScS** 16 53 01.0 +5.8
MNK *i* SS **SS** 16 58 51.8 -2.6
MNK *i* SSS SSS 17 02 28.6
MNK *i* LQ LQ 17 17 03.0
MNK *i* LR LR 17 19 56.0
MNK *i* LRM MLR 17 23 12.4
comp=E,12nm,10.8s
MNK *i* LRM MLR 17 23 20.1
comp=Z,169nm,21.5s
TRO Tromso 90.92 341 *e*P P 16 42 02.3 -0.9
TRO IAmb IAmb 16 42 03.1
comp=Z,11nm,0.7s
NACGM Naroch 91.19 325 ⇓ *e*P P 16 42 04.5 -0.2
baz=79
MEF Metsahovi 91.30 331 *e*P P 16 42 04.9 -0.2
IIGN Ignalina 91.41 326 *e*P P 16 42 05.9 +0.2
ISAL Salakas 91.42 326 *e*P P 16 42 05.7 0.0
TLCR 91.67 316 ⇓P P 16 42 07.0 -0.2
TLCR 91.67 316 ⇓P P 16 42 07.0 -0.2
TPGR Topolog 92.00 315 ⇓P P 16 42 08.4 -0.3
DLBC Dease Lake 92.11 31 LR LR 17 20 25.9
comp=Z,37nm,20.1s,baz=276,slow=33
CFR Carcaliu 92.14 316 ⇑P P 16 42 08.9 -0.5
CFR Carcaliu 92.14 316 ⇑P P 16 42 08.9 -0.5
SCTR Scanteiesti 92.16 316 ⇓P P 16 42 09.5 +0.1
TGTN Hyland Airport 92.16 28 P P 16 42 09.9 +0.8
baz=286
WTLY Watson Lake, Y 92.29 29 P P 16 42 10.7 +0.9
baz=285
RAF Rauma 92.35 332 *e*P P 16 42 09.6 -0.3
HARR Harsova 92.37 315 ⇓P P 16 42 10.7 +0.2
HARR Harsova 92.37 315 ⇓P P 16 42 10.7 +0.2
VSVD Vaisvydziai 92.54 327 *e*P P 16 42 10.8 -0.2
PABE Paberze 92.63 326 *e*P P 16 42 11.2 -0.1
STEI Steigen 92.77 339 *e*P P 16 42 10.7 -1.0
STEI IAmb IAmb 16 42 11.7
comp=Z,18nm,0.8s
TESR Tescani 92.92 317 ⇑P P 16 42 12.8 -0.1
FAUS Fauske 92.96 339 *e*P P 16 42 11.9 -0.8
FAUS IAmb IAmb 16 42 12.2
comp=Z,20nm,1.0s
VRI Vrincioaia 92.99 316 ⇓P P 16 42 13.7 +0.4
VRI Vrincioaia 92.99 316 ⇓P P 16 42 13.7 +0.4
SLIT Slitere, Latvi 93.00 329 *e*P P 16 42 12.0 -1.0
PLOR Plostina 93.05 316 ⇑P P 16 42 13.8 +0.2
PLOR Plostina 93.05 316 ⇑P P 16 42 13.8 +0.2
LOF Lofoten 93.28 340 *e*P P 16 42 14.3 +0.3
NEHR Nehoiu 93.37 316 ⇑P P 16 42 15.4 +0.3
MLR Muntele Rosu 93.60 316 ⇑P P 16 42 15.8 -0.5
MLR Muntele Rosu 93.60 316 LR LR 17 29 21.5
comp=Z,116nm,20.9s,baz=68,slow=39
MLR Muntele Rosu 93.60 316 ⇑P P 16 42 15.8 -0.5
BURAR Bucovina Array 93.65 318 ⇑P P 16 42 17.2 +0.7
BURAR Bucovina Array 93.65 318 IAmb IAmb 16 42 21.1
comp=Z,7.4nm,0.8s
BURAR Bucovina Array 93.65 318 ⇑P P 16 42 17.2 +0.7
MOR8 Moi Rana 93.73 338 *e*P P 16 42 14.4 -1.9
MOR8 IAmb IAmb 16 42 14.5
comp=Z,9.2nm,0.5s
TAOE Nuku Hiva Isla 93.85 98 *e*LR LR 17 12 37.8
comp=Z,165nm,23.7s
DOPR Dopca 93.89 317 ⇓P P 16 42 17.3 -0.1
VOIR 94.23 316 ⇓P P 16 42 18.8 -0.3
VOIR 94.23 316 ⇓P P 16 42 18.8 -0.3
BBB Bella Bella 94.76 37 LR LR 17 18 09.9
comp=Z,39nm,21.7s,baz=288,slow=31
KOLS Kolonicke sedl 95.26 320 *e*P P 16 42 24.2 +0.6
KOLS Kolonicke sedl 95.26 320 *e*P P 16 42 24.2 +0.6
UZH Uzhgorod 95.32 320 ⇑ *i*P P 16 42 23.7 -0.2
NSS Namsos 95.35 337 *e*P P 16 42 22.6 -1.1
QSPA South Pole Qui 95.50 180 LR LR 17 25 42.7
comp=Z,42nm,19.8s,baz=352,slow=36
DRGR 95.50 318 ⇓P P 16 42 24.8 -0.1
DRGR 95.50 318 ⇓P P 16 42 24.8 -0.1
CRVS Cervenica-Dubn 95.78 320 *e*P P 16 42 26.4 +0.4
CRVS pmax pmax
comp=Z,39nm,1.3s
CRVS Cervenica-Dubn 95.78 320 *e*P P 16 42 26.4 +0.4
GZR Gura Zlata 95.80 317 ⇑P P 16 42 26.5 +0.2
GZR Gura Zlata 95.80 317 ⇑P P 16 42 26.5 +0.2
RES Resolute Bay 95.97 10 LR LR 17 31 28.0
comp=Z,25nm,19.1s,baz=24,slow=39
MBAR Mbarara 96.09 270 LR LR 17 23 31.5
comp=Z,27nm,19.0s,baz=65,slow=34
VTS Vitosha 96.13 314 ⇑P P 16 42 28.6 +0.7
VTS Vitosha 96.13 314 ⇑P P 16 42 28.6 +0.7
HERR Herculane 96.17 316 ⇓P P 16 42 27.0 -0.9
BLKB Belogradchik 96.30 315 ⇑P P 16 42 27.4 -1.1
SIRR Siria 96.34 318 ⇑P P 16 42 28.0 -0.7
NIE Niedzica 96.38 321 *e*P P 16 42 29.6 +0.8
HFS Hagfors 96.40 332 LR LR 17 31 36.4
comp=Z,73nm,18.2s,baz=66,slow=39
OJC Ojcow 96.46 322 *e*P P 16 42 27.6 -1.4
MDVR Moldovita 96.68 316 ⇑P P 16 42 30.1 -0.2
BOVS Bovan 96.97 315 ⇑P P 16 42 30.5 -1.0
LANS Liptovska Anna 96.98 321 *e*P P 16 42 32.7 +1.2
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 96.98 321 *e*P P 16 42 32.7 +1.2
NC303 NORSAR Array S 97.00 334 *e*P P 16 42 30.4 -0.9
PSZ Piszkesteto 97.06 320 ⇓P Pdif 16 42 32.0 0.0
PSZ Piszkesteto 97.06 320 ⇓P Pdif 16 42 32.0 0.0
PSZ Piszkesteto 97.06 320 P P 16 42 31.8 -0.1
NC602 NORSAR Array S 97.13 333 *e*P P 16 42 30.9 -1.0
NB2 NORSAR Subarra 97.15 334 P P 16 42 30.7 -1.3
comp=Z,9.6nm,1.1s,baz=64,slow=4.6
NB2 NORSAR Subarra 97.15 334 P P 16 42 30.7 -1.3
baz=64,slow=4.6
NOA NORSAR Array B 97.15 334 P P 16 42 30.6 -1.3
comp=Z,3.2nm,0.7s,baz=66,slow=4.6,SNR=14
NOA pP **pP** 16 42 51.1 -0.5
comp=Z,0.8nm,1.0s,baz=67,slow=4.6,SNR=1.7
NOA sP **sP** 16 43 00.3 +0.9
comp=Z,1.8nm,0.8s,baz=66,slow=4.5,SNR=2.5
NOA PKKPbc **PKKPbc** 16 59 12.0 -1.8
comp=Z,0.2nm,0.6s,baz=248,slow=2.4,SNR=4.1
NOA LR LR 17 29 07.2
comp=Z,101nm,21.2s,baz=70,slow=37
comp=Z,3.2nm,0.7s
NC204 NORSAR Array S 97.24 334 P P 16 42 30.7 -1.7
VYHS Vyhne 97.57 320 *e*P Pdif 16 42 34.5 +0.3
VYHS Vyhne 97.57 320 *e*P Pdif 16 42 34.5 +0.3
DOMB Dombas 97.62 335 *e*P P 16 42 32.8 -1.3
BSD Bornholm Skovb 97.68 327 *e*P P 16 42 33.8 -0.6
YKA Yellowknife Ar 97.77 24 P Pdif 16 42 35.9 +1.2
comp=Z,2.9nm,0.7s,baz=284,slow=4.7,SNR=2.9
YKA PKKPbc **PKKPbc** 16 59 08.6 -3.5
comp=Z,1.8nm,0.6s,baz=124,slow=3.4,SNR=5.3
YKA LR LR 17 22 39.7
comp=Z,17nm,21.9s,baz=305,slow=33
comp=Z,2.9nm,0.7s
OSL Oslo 97.84 333 *e*P P 16 42 34.7 -0.4
MAUC Maruska 97.94 321 *e*PDIFF Pdif 16 42 36.4 +0.6
MORC Moravsky Berou 97.98 322 ⇓P Pdif 16 42 36.8 +0.7
MORC Moravsky Berou 97.98 322 *e*PDIFF P 16 42 36.0 0.0
MORC Moravsky Berou 97.98 322 ⇓P Pdif 16 42 36.8 +0.8
JMIC Jan Mayen 98.06 347 LR LR 17 31 15.2
comp=Z,59nm,20.1s,baz=54,slow=38
JAVC Velka Javorina 98.19 321 *e*PDIFF Pdif 16 42 37.6 +0.6
KRLC Kraliky 98.35 322 *e*P Pdif 16 42 38.0 +0.3
KRLC Kraliky 98.35 322 *e*PDIFF Pdif 16 42 38.0 +0.3
MORH Mrgy, Hungar 98.37 318 ⇓P Pdif 16 42 37.8 0.0
KSP Ksiaz 98.39 323 *e*P Pdif 16 42 38.5 +0.7
AKN Aaknes 98.42 336 *e*P P 16 42 37.4 -0.2
KONO Kongsberg 98.48 333 *e*P P 16 42 37.5 -0.4
OSTC Ostas 98.54 323 *e*PDIFF Pdif 16 42 38.9 +0.4
DPC Dobruska-Polom 98.54 323 *e*P Pdif 16 42 38.9 +0.4
DPC Dobruska-Polom 98.54 323 *e*PDIFF Pdif 16 42 38.9 +0.4
SKAR Skarslia 98.58 334 *e*P Pdif 16 42 39.0 +0.5
MODS Modra-Piesok 98.59 321 *e*P P 16 42 37.1 -1.7
MODS Modra-Piesok 98.59 321 *e*PDIFF P 16 42 37.0 -1.7
UPC Upice 98.68 323 *e*P Pdif 16 42 39.4 +0.4
UPC Upice 98.68 323 *e*PDIFF Pdif 16 42 39.4 +0.4
VRAC Vranov 98.72 322 ⇑P Pdif 16 42 40.4 +1.1
VRAC Vranov 98.72 322 LR LR 17 31 57.7
comp=Z,44nm,18.7s,baz=62,slow=38
VRAC Vranov 98.72 322 *e*PDIFF Pdif 16 42 39.5 +0.2
VRAC Vranov 98.72 322 ⇑P Pdif 16 42 40.4 +1.1
MPLH Magyarpolny 98.80 319 P Pdif 16 42 39.9 +0.2
KRUC Moravsky 98.92 321 *e*PDIFF P 16 42 40.1 -0.1
RUE Ruedersdorf 99.28 325 *e*P Pdif 16 42 42.1 +0.5
PVCC Panska Ves 99.53 323 *e*P Pdif 16 42 43.7 +0.9
PVCC Panska Ves 99.53 323 *e*PDIFF Pdif 16 42 43.7 +0.9
PRU Pruhonice 99.74 323 *e*P Pdif 16 42 44.2 +0.4
PRU Pruhonice 99.74 323 *e*PDIFF Pdif 16 42 44.2 +0.4
LSZ Lusaka 99.74 256 LR LR 17 25 44.1
comp=Z,58nm,18.9s,baz=120,slow=34
BRG Berggiesshubel 99.78 324 Amp 17 05 03.4
comp=Z,16nm,2.0s
BRG Berggiesshubel 99.78 324 *i* P Pdif 16 42 44.4 +0.5
BRG pmax pmax
comp=Z,25nm,1.1s
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG pmax pmax
comp=Z,16nm,2.0s
BRG Berggiesshubel 99.78 324 *i* P Pdif 16 42 44.4 +0.5
BRG Berggiesshubel 99.78 324 Amp 16 42 45.4
comp=Z,25nm,1.1s
BRG Berggiesshubel 99.78 324 *ex* x 17 03 36.3
BRG Berggiesshubel 99.78 324 Amp 17 03 40.3
comp=Z,1.7nm,0.6s
BRG Berggiesshubel 99.78 324 *ex* x 17 04 38.1
BLS5 Blasjo 100.00 333 *e*P Pdif 16 42 44.2 -0.5
BLS5 IAmb IAmb 16 42 45.7
comp=Z,15nm,0.8s
CLL Collm 100.17 324 *i* P Pdif 16 42 45.6 0.0
CLL *e* 16 46 54.0
CLL pmax pmax
comp=Z,14nm,1.1s
CLL Collm 100.17 324 *e*PP PP 16 46 54.0 +2.2
CLL Collm 100.17 324 *i* Pdif Pdif 16 42 45.6 0.0
comp=Z,14nm,1.1s
CKRC Cesky Krumlov 100.30 322 *e*PDIFF Pdif 16 42 46.6 +0.3
KHC Kasperske Hory 100.64 322 *e*P Pdif 16 42 48.7 +0.8
KHC Kasperske Hory 100.64 322 *e*PDIFF Pdif 16 42 48.7 +0.8
KHC *ex* x 16 43 01.8
GERES GERESS Array B 100.67 322 P P 16 42 48.4 +0.3
comp=Z,1.5nm,0.6s,baz=80,slow=3.0,SNR=18
NKC Novy Kostel 100.90 323 *e*P Pdif 16 42 49.6 +0.6
NKC Novy Kostel 100.90 323 *e*PDIFF Pdif 16 42 49.6 +0.6
BOSA Boshof 102.79 242 PKKPbc PKKPbc 16 58 57.6 +0.8
comp=Z,2.0nm,0.8s,baz=246,slow=7.0,SNR=2.0
BTNL Ternell 104.41 326 *d*Pdif Pdif 16 43 05.2 +0.6
MEM Membach 104.47 326 *d*Pdif Pdif 16 43 05.2 +0.4
WLF Walferdange 104.83 325 *d*Pdif Pdif 16 43 06.4 0.0
BMRD Maredsous 105.31 326 *d*Pdif Pdif 16 43 09.3 +0.7
NVAR Mina Array Bea 105.61 48 Pdiff Pdif 16 43 11.3 +0.9
comp=Z,0.4nm,0.6s,baz=275,slow=5.0,SNR=5.3
NVAR PKiKP **PKiKP** 16 47 24.6 +1.2
comp=Z,0.4nm,0.5s,baz=243,slow=2.4,SNR=5.1
NVAR PKKPbc **PKKPbc** 16 58 48.3 -0.6
comp=Z,0.5nm,0.7s,baz=134,slow=3.9,SNR=5.7
NVAR PKKPab **PKKPab** 16 59 04.7 -1.3
comp=Z,0.9nm,0.7s,baz=127,slow=5.3,SNR=7.0
PKM Mcpherson Peak 105.64 52 P **PKiKP** 16 47 23.8 +0.2
baz=288
BFSC Mount Baldy Ra 107.53 52 P **PKiKP** 16 47 27.6 +0.6
baz=290
R11A Troy Canyon, C 107.62 47 P **PKiKP** 16 47 28.4 +1.3
baz=292
TPNV Topopah Spring 107.66 49 P **PKiKP** 16 47 28.5 +1.3
baz=292
GSC Goldstone, Bar 107.82 50 P **PKiKP** 16 47 28.1 +0.7
baz=291
BELC Belle Mtn. Jos 108.90 51 P **PKiKP** 16 47 29.9 +0.4
baz=291
BW06 Boulder Array 109.90 41 P **PKiKP** 16 47 32.0 +0.7
baz=298
PDAR Pinedale Array 109.90 41 PKiKP **PKiKP** 16 47 31.4 0.0
comp=Z,0.6nm,0.5s,baz=134,slow=3.1,SNR=5.2
PDAR PKKPbc **PKKPbc** 16 58 32.8 -2.8
comp=Z,0.3nm,0.5s,baz=141,slow=5.8,SNR=3.9
PDAR PKKP **PKKPab** 16 58 44.8 -2.1
comp=Z,1.5nm,0.9s,baz=122,slow=5.4,SNR=8.9
WUAZ Wupatki 111.84 48 P **PKiKP** 16 47 35.8 +0.7
baz=294
K22A Casper 111.91 40 P **PKiKP** 16 47 35.8 +0.7
baz=301
O20A White River Ci 112.02 43 P **PKiKP** 16 47 37.0 +1.7
baz=298
RSSD Black Hills 112.67 37 P **PKiKP** 16 47 36.5 0.0
baz=303
MVCO Mesa Verde 113.20 46 P **PKiKP** 16 47 38.7 +1.0
baz=297
ULM Lac du Bonnet 113.29 28 PKiKP **PKiKP** 16 47 36.9 -0.3
comp=Z,3.8nm,0.5s,baz=25,slow=1.6,SNR=9.7
ISCO Idaho Springs 113.94 42 P **PKiKP** 16 47 40.4 +1.2
baz=300
ISCO Idaho Springs 113.94 42 P **PKiKP** 16 47 40.1 +0.9
baz=300
S22A 4UR Ranch, Cre 114.12 44 P **PKiKP** 16 47 40.6 +1.0
baz=299
Q24A Divide 114.67 42 P PKPdf 16 47 41.0 +0.3
baz=300
SDCO Great Sand Dun 115.04 44 P **PKPdf** 16 47 42.9 +1.5
baz=300,SNR=5.7
ANMO Albuquerque 115.71 47 P **PKPdf** 16 47 43.5 +0.9
baz=298
121A Cookes Peak, D 115.80 50 P **PKPdf** 16 47 44.2 +1.4
baz=296
F33A 5 Mile Ranch, 116.02 32 P **PKPdf** 16 47 43.0 +0.5
baz=311
ESDC Sonseca Array 116.09 319 PKP **PKiKP** 16 47 43.3 +0.3
comp=Z,0.5nm,0.6s,baz=59,slow=1.1,SNR=7.2
ESDC PKKPbc **PKKPbc** 16 58 14.1 -0.4
comp=Z,0.8nm,0.8s,baz=252,slow=3.1,SNR=5.5
T25A Trinidad 116.10 44 P **PKiKP** 16 47 44.3 +0.9
baz=300
EYMN Ely 116.96 28 P **PKiKP** 16 47 44.7 +0.3
baz=316
MVO Moncorvo 117.18 322 *e*PKPdf **PKiKP** 16 47 46.7 +1.6
ECSD EROS Data Cent 117.21 34 P **PKPdf** 16 47 44.8 -0.2
baz=310
ECSD EROS Data Cent 117.21 34 P **PKiKP** 16 47 45.2 +0.2
baz=310
F36A Milaca 117.44 31 P **PKiKP** 16 47 45.4 0.0
baz=314
PGAV Gavieira, Arco 117.44 324 *e*PKPdf **PKiKP** 16 47 46.0 +0.4
POLO Lamas de Olo 117.52 323 *e*PKPdf **PKiKP** 16 47 46.3 +0.5
BGNE Belgrade 117.77 37 P **PKiKP** 16 47 46.3 +0.1
baz=308
MTE Manteigas 117.94 322 *e*PKPdf **PKiKP** 16 47 47.4 +0.8
MNTX Cornudas Mount 118.00 50 P **PKiKP** 16 47 47.4 +0.6

	baz=297							
PCBR	**Castelo Branco**	118.23	321	*e*PKPdf	PKiKP	16 47 47.6	+0.6	
SPMN	**Marine on St.** baz=314	118.25	31	P	PKiKP	16 47 47.2	+0.3	
CBKS	**Cedar Bluff** baz=305	118.31	40	P	PKiKP	16 47 47.6	+0.2	
SCHQ	**Schefferville** comp=Z,9.0nm,0.6s,baz=41,slow=1.2,SNR=16	118.71	9	PKP	PKiKP	16 47 48.1	+0.5	
I37B	**Waseca** baz=313	118.77	32	P	PKiKP	16 47 48.4	+0.4	
MSTX	**Muleshoe** baz=300	118.84	46	P	PKiKP	16 47 49.2	+0.6	
PBAR	**Barrancos**	118.92	319	*e*PKPdf	PKiKP	16 47 49.1	+0.7	
AMTX	**Amarillo** baz=302	119.15	45	P	PKiKP	16 47 49.4	+0.3	
R32A	**Long Quarter,** baz=306,SNR=5.7	119.19	40	P	PKiKP	16 47 49.8	+0.7	
PSBE	**So Bento**	119.24	322	*e*PKPdf	PKiKP	16 47 49.6	+0.5	
EVO	**Evora**	119.34	320	*e*PKPdf	PKPdf	16 47 49.2	0.0	
COWI	**Conover** baz=318	119.41	28	P	PKiKP	16 47 49.2	0.0	
PBEJ	**Beja**	119.54	320	*e*PKPdf	PKiKP	16 47 51.1	+1.4	
MESJ	**Messejana**	119.87	320	*e*PKPdf	PKiKP	16 47 51.2	+0.9	
PCVE	**Castro Verde**	119.88	320	*e*PKPdf	PKiKP	16 47 51.1	+0.8	
PNCL	**Nicolau / Gran**	119.91	320	*e*PKPdf	PKPdf	16 47 49.4	-0.9	
KSU1	**Kansas State U** baz=308	120.11	38	P	PKiKP	16 47 51.1	+0.3	
F42A	**Maple Grove Fa** baz=319	120.13	28	P	PKiKP	16 47 50.9	+0.3	
U32A	**Winter Ranch,** baz=304	120.17	42	P	PKiKP	16 47 52.0	+1.0	
I40A	**Norwalk** baz=316	120.29	31	P	PKPdf	16 47 50.8	-0.1	
TXAR	**Lajitas Array** comp=Z,1.7nm,0.7s,baz=219,slow=0.7,SNR=17	120.39	51	PKP	PKiKP	16 47 52.5	+0.8	
TXAR				PKKPbc	PKKPbc	16 57 58.4	-0.4	
	comp=Z,1.0nm,0.7s,baz=134,slow=7.2,SNR=7.1							
MORF	**Marmelete**	120.47	320	*e*PKPdf	PKPdf	16 47 51.0	-0.5	
I42A	**Draeger Farm,** baz=317	121.14	30	P	PKPdf	16 47 51.7	-0.8	
JFWS	**Jewell Farm** baz=316	121.18	31	P	PKPdf	16 47 52.1	-0.5	
JFWS	**Jewell Farm** baz=316	121.18	31	P	PKPdf	16 47 52.5	-0.2	
WMOK	**Wichita Mounta** baz=304	121.24	43	P	PKPdf	16 47 52.6	-0.4	
WMOK	**Wichita Mounta** baz=304	121.24	43	P	PKiKP	16 47 53.5	+0.4	
L40A	**Anamosa** baz=314	121.27	32	P	PKPdf	16 47 52.4	-0.4	
E46A	**Sault Ste Mari** baz=323	121.34	25	P	PKiKP	16 47 53.2	+0.3	
P38A	**Dawn** baz=311	121.62	36	P	PKPdf	16 47 53.3	-0.2	
L42A	**Oliver, Polo** baz=316	122.13	32	P	PKPdf	16 47 54.2	-0.2	
TOA0	**Torodi Ar. Sit**	122.39	289	PKPdf	PKPdf	16 47 55.3	-0.4	
TORD	**Torodi Ar. Bea** comp=Z,9.0nm,0.7s,baz=46,slow=2.0,SNR=48	122.39	289	PKP	PKPdf	16 47 55.4	-0.3	
TORD				PKKPbc	PKKPab	16 57 51.2	-0.4	
	comp=Z,4.0nm,0.7s,baz=278,slow=4.1,SNR=16							
TORD				PKKP	PKKPdf	16 58 26.4	-1.0	
	comp=Z,0.6nm,0.9s,baz=279,slow=3.4,SNR=3.0							
N41A	**Harden Midland** baz=314	122.41	33	P	PKPdf	16 47 55.0	0.0	
P40A	**Paris** baz=312	122.54	35	P	PKPdf	16 47 55.1	-0.3	
TUL1	**Leonard** baz=307	122.56	41	P	PKiKP	16 47 56.3	+0.6	
JCT	**Junction City** baz=301	122.78	48	P	PKiKP	16 47 56.7	+0.4	
JCT	**Junction City** baz=301	122.78	48	P	PKiKP	16 47 57.0	+0.7	
L44A	**Lake County Fo** baz=318	122.90	30	P	PKiKP	16 47 56.1	0.0	
S39A	**Bolivar** baz=310,SNR=16	123.00	38	P	PKiKP	16 47 56.5	0.0	
U38A	**Gravette** baz=309	123.14	39	P	PKPdf	16 47 56.2	-0.4	
R40A	**Maddies Statio** baz=312,SNR=19	123.24	36	P	PKPdf	16 47 56.8	+0.1	
HDIL	**Hopedale** baz=316	123.36	33	P	PKPdf	16 47 57.0	+0.1	
HDIL	**Hopedale** baz=316	123.36	33	P	PKiKP	16 47 57.2	+0.1	
HHAR	**Hobbs** baz=309	123.51	39	P	PKPdf	16 47 57.0	-0.3	
J47A	**Sunmer** baz=321	123.58	27	P	PKiKP	16 47 57.3	-0.1	
J47A				P	PKiKP	16 47 57.3	-0.1	
	baz=321							
X37A	**Clayton** baz=307	123.62	42	P	PKiKP	16 47 58.5	+0.7	
WHTX	**Lake Whitney,** baz=304	123.68	45	P	PKiKP	16 47 58.6	+0.6	
CCM	**Cathedral Cave**	124.00	36	PKPdf	PKiKP	16 47 58.6	+0.1	
CCM	**Cathedral Cave**	124.00	36	PKiKP	PKiKP	16 47 58.6	+0.1	
CCM	**Cathedral Cave** baz=312,SNR=11	124.00	36	P	PKiKP	16 47 58.8	+0.3	
CCM	**Cathedral Cave** baz=312	124.00	36	P	PKiKP	16 47 58.6	+0.1	
O44A	**Mansfield** baz=316	124.09	32	P	PKiKP	16 47 58.7	+0.2	
833A	**Chaparral WMA,** baz=300,SNR=5.2	124.17	50	P	PKiKP	16 48 00.6	+1.5	
833A	**Chaparral WMA,** baz=300	124.17	50	P	PKiKP	16 48 00.3	+1.3	
SFIN	**Lafayette** baz=318	124.64	31	P	PKiKP	16 47 59.8	+0.2	
L48A	**N Adams** baz=321	124.77	28	P	PKiKP	16 47 60.0	+0.1	
L48A				P	PKiKP	16 47 60.0	+0.1	
	baz=321							
MIAR	**Mount Ida**	124.83	41	PKPdf	PKiKP	16 48 00.8	+0.6	
MIAR	**Mount Ida**	124.83	41	PKiKP	PKiKP	16 48 00.8	+0.6	
MIAR	**Mount Ida** baz=308	124.83	41	P	PKiKP	16 48 00.6	+0.4	
MIAR	**Mount Ida** baz=308	124.83	41	P	PKiKP	16 48 01.2	+1.0	
N47A	**Urbana** baz=319	124.98	30	P	PKPdf	16 48 00.1	+0.1	
N47A				P	PKPdf	16 48 00.1	+0.1	
	baz=319							
OLIL	**Olney** baz=316,SNR=7.6	125.31	33	P	PKiKP	16 48 01.4	+0.3	
S44A	**Carbondale** baz=314	125.39	35	P	PKiKP	16 48 01.8	+0.6	
N49A	**Columbus Grove** baz=321	125.68	29	P	PKPdf	16 48 01.2	-0.1	
N49A				P	PKPdf	16 48 01.2	-0.1	
	baz=321							
D62A	**Allapoint, All** baz=340	125.69	13	P	PKiKP	16 48 01.4	-0.2	
D62A				P	PKiKP	16 48 01.4	-0.2	
	baz=340							
O48B	**Farmland** baz=320,SNR=7.5	125.72	30	P	PKiKP	16 48 01.8	0.0	
O48B	**Farmland** baz=320,SNR=7.5	125.72	30	P	PKiKP	16 48 02.0	+0.2	
NATX	**Nacogdoches** baz=306	125.77	44	P	PKiKP	16 48 03.0	+0.9	
O49A	**Covington** baz=320,SNR=11	126.17	29	P	PKiKP	16 48 02.7	0.0	
O49A				P	PKiKP	16 48 02.7	0.0	
	baz=320,SNR=11							
P48A	**Milroy** baz=319,SNR=9.5	126.18	31	P	PKiKP	16 48 02.6	-0.1	
P48A				P	PKiKP	16 48 02.6	-0.1	
	baz=319,SNR=9.5							
BMNY	**Brushton-Moira** baz=333,SNR=11	126.26	19	P	PKiKP	16 48 02.8	+0.1	
LONY	**Lake Ozonia** baz=333	126.43	19	P	PKiKP	16 48 03.0	-0.1	
P49A	**Miami Univ. Ec** baz=320,SNR=6.8	126.49	30	P	PKiKP	16 48 03.2	-0.2	
P49A	**Miami Univ. Ec** baz=320,SNR=6.8	126.49	30	P	PKiKP	16 48 03.4	0.0	
J55A	**Hilton** baz=329,SNR=5.4	126.49	22	P	PKiKP	16 48 03.5	+0.3	
J55A				P	PKiKP	16 48 03.5	+0.3	
	baz=329,SNR=5.4							
N51A	**Ashland** baz=323	126.53	27	P	PKiKP	16 48 03.5	+0.1	
N51A				P	PKiKP	16 48 03.5	+0.1	
	baz=323							
ERPA	**Erie** baz=326	126.60	25	P	PKiKP	16 48 03.4	-0.1	
ERPA	**Erie**	126.60	25	P	PKiKP	16 48 03.6	+0.1	
	baz=326							
WCNY	**West Carthage** baz=332,SNR=7.5	126.64	20	P	PKiKP	16 48 03.4	-0.1	
WCI	**Wyandotte Cave**	126.65	32	PKPdf	PKPdf	16 48 03.3	+0.1	
WCI	**Wyandotte Cave**	126.65	32	PKiKP	PKPdf	16 48 03.3	+0.1	
WCI	**Wyandotte Cave** baz=318	126.65	32	P	PKiKP	16 48 04.0	+0.3	
ACSO	**Alum Creek Sta** baz=322,SNR=7.4	126.79	28	P	PKiKP	16 48 04.1	+0.2	
ACSO	**Alum Creek Sta** baz=322,SNR=7.4	126.79	28	P	PKiKP	16 48 04.0	+0.2	
M53A	**WI Miller and** baz=325	126.86	26	P	PKiKP	16 48 04.0	-0.1	
F63A	**Nahmakanta, Br** baz=340	126.98	14	P	PKiKP	16 48 04.6	+0.5	
F63A				P	PKiKP	16 48 04.6	+0.5	
	baz=340							
F64A	**Sherman** baz=341	127.00	13	P	PKiKP	16 48 04.5	+0.3	
F64A				P	PKiKP	16 48 04.5	+0.3	
	baz=341							
J57A	**Williamstown** baz=331,SNR=6.4	127.03	21	P	PKiKP	16 48 04.2	-0.1	
J57A				P	PKiKP	16 48 04.2	-0.1	
	baz=331,SNR=6.4							
NCB	**Newcomb** baz=334,SNR=8.7	127.13	19	P	PKiKP	16 48 05.0	+0.5	
R49A	**Shelbyville** baz=319,SNR=5.2	127.19	32	P	PKiKP	16 48 04.9	+0.1	
R49A				P	PKiKP	16 48 04.9	+0.1	
	baz=319,SNR=5.2							
WVT	**Waverly**	127.30	35	PKPdf	PKiKP	16 48 05.2	+0.2	
WVT	**Waverly**	127.30	35	PKiKP	PKiKP	16 48 05.2	+0.2	
WVT	**Waverly** baz=315	127.30	35	P	PKPdf	16 48 04.5	0.0	
WVT	**Waverly** baz=315	127.30	35	P	PKiKP	16 48 05.3	+0.2	
N53A	**Lisbon** baz=325	127.31	26	P	PKiKP	16 48 05.1	+0.1	
N53A				P	PKiKP	16 48 05.1	+0.1	
	baz=325							
J58A	**Remsen** baz=332,SNR=11	127.32	20	P	PKiKP	16 48 04.8	-0.1	
J58A				P	PKiKP	16 48 04.8	-0.1	
	baz=332,SNR=11							
P51A	**Williamsport** baz=322,SNR=5.5	127.34	29	P	PKPdf	16 48 04.7	+0.2	
P51A				P	PKPdf	16 48 04.7	+0.2	
	baz=322,SNR=5.5							
PKME	**Peaks-Kenny Pk** baz=340	127.35	14	P	PKiKP	16 48 05.2	+0.3	
O52A	**Adamsville** baz=323,SNR=6.2	127.42	28	P	PKPdf	16 48 04.2	-0.5	
O52A				P	PKPdf	16 48 04.2	-0.5	
	baz=323,SNR=6.2							
K57A	**Scipio Center** baz=330	127.43	22	P	PKPdf	16 48 04.6	0.0	
OXF	**Oxford** baz=312	127.47	38	P	PKiKP	16 48 05.3	-0.1	
J59A	**Piesco** baz=333,SNR=16	127.49	19	P	PKiKP	16 48 05.7	+0.4	
J59A				P	PKiKP	16 48 05.7	+0.4	
	baz=333,SNR=16							
MCVT	**Middlebury Col** baz=335,SNR=5.6	127.53	18	P	PKiKP	16 48 05.8	+0.4	
L56A	**Greenwood** baz=329,SNR=6.6	127.55	23	P	PKiKP	16 48 05.4	-0.1	
L56A				P	PKiKP	16 48 05.4	-0.1	
	baz=329,SNR=6.6							
Q51A	**Peebles** baz=321,SNR=6.6	127.56	30	P	PKiKP	16 48 05.8	+0.3	
Q51A				P	PKiKP	16 48 05.8	+0.3	
	baz=321,SNR=6.6							
LBNH	**Lisbon** baz=336	127.59	17	P	PKiKP	16 48 05.4	-0.1	
LBNH	**Lisbon** baz=336	127.59	17	P	PKiKP	16 48 05.8	+0.4	
O53A	**New Philadelph** baz=324,SNR=8.0	127.59	27	P	PKiKP	16 48 05.6	0.0	
R50A	**Paris** baz=320	127.64	31	P	PKiKP	16 48 05.6	-0.1	
R50A				P	PKiKP	16 48 05.6	-0.1	
	baz=320							
M55A	**Ridgway** baz=327,SNR=8.3	127.64	24	P	PKiKP	16 48 05.6	-0.1	
M55A				P	PKiKP	16 48 05.6	-0.1	
	baz=327,SNR=8.3							
P52A	**Corning** baz=323,SNR=9.2	127.66	28	P	PKiKP	16 48 05.5	-0.2	
G65A	**Princeton** baz=342	127.81	13	P	PKiKP	16 48 05.6	-0.2	
G65A				P	PKiKP	16 48 05.6	-0.2	
	baz=342							
ACCN	**Adirondack Com** baz=334	127.83	19	P	PKiKP	16 48 06.2	+0.2	
WVL	**Waterville** baz=339	127.91	15	P	PKiKP	16 48 06.1	0.0	
UPAO	**U. Pittsburgh** baz=325	127.93	26	P	PKiKP	16 48 06.0	-0.3	
PSDB	**Penn State Uni** baz=327	127.93	24	P	PKPdf	16 48 05.8	+0.2	
HNH	**Hanover** baz=336,SNR=5.7	127.97	18	P	PKiKP	16 48 06.6	+0.5	
O54A	**Avella** baz=325,SNR=9.7	128.02	26	P	PKiKP	16 48 06.9	+0.4	
O54A				P	PKiKP	16 48 06.9	+0.4	
	baz=325,SNR=9.7							
BINY	**Binghamton** baz=331,SNR=8.3	128.09	21	P	PKiKP	16 48 06.5	0.0	
BINY	**Binghamton** baz=331,SNR=8.3	128.09	21	P	PKiKP	16 48 06.7	+0.1	
P53A	**Whipple** baz=323,SNR=11	128.12	28	P	PKiKP	16 48 06.8	+0.2	
P53A				P	PKiKP	16 48 06.8	+0.2	
	baz=323,SNR=11							
Q52A	**Bidwell** baz=322	128.13	29	P	PKPdf	16 48 05.9	-0.1	
Q52A				P	PKPdf	16 48 05.9	-0.1	
	baz=322							
V48A	**Smith Brothers** baz=316	128.16	35	P	PKPdf	16 48 06.3	+0.1	
HCNY	**Howe Caverns** baz=333,SNR=6.2	128.21	20	P	PKiKP	16 48 07.0	+0.3	
M57A	**Sunshine Farm,** baz=329,SNR=5.8	128.40	23	P	PKiKP	16 48 07.4	+0.2	
M57A				P	PKiKP	16 48 07.4	+0.2	
	baz=329,SNR=5.8							
L59A	**Walton** baz=332	128.43	21	P	PKiKP	16 48 07.2	-0.1	
L59A				P	PKiKP	16 48 07.2	-0.1	
	baz=332							
S51A	**Beattyville** baz=320	128.50	31	P	PKPdf	16 48 07.0	+0.2	
S51A				P	PKPdf	16 48 07.0	+0.2	
	baz=320							
MCWV	**Mont Chateau** baz=325	128.68	26	P	PKiKP	16 48 07.8	0.0	
SSPA	**Standing Stone**	128.70	24	PKPdf	PKiKP	16 48 07.8	0.0	
SSPA	**Standing Stone** baz=328,SNR=11	128.70	24	P	PKiKP	16 48 07.6	-0.1	
SSPA	**Standing Stone** baz=328	128.70	24	P	PKiKP	16 48 07.8	0.0	
R53A	**Hurricane** baz=322,SNR=11	128.78	29	P	PKiKP	16 48 07.7	-0.3	
R53A				P	PKiKP	16 48 07.7	-0.3	
	baz=322,SNR=11							
Q54A	**Coxs Mills** baz=324,SNR=13	128.79	28	P	PKiKP	16 48 07.9	-0.1	
Q54A				P	PKiKP	16 48 07.9	-0.1	
	baz=324,SNR=13							
N58A	**Sunbury** baz=329,SNR=7.1	128.99	23	P	PKiKP	16 48 08.4	+0.1	
N58A				P	PKiKP	16 48 08.4	+0.1	
	baz=329,SNR=7.1							
L61B	**Northampton** baz=335,SNR=5.2	128.99	19	P	PKiKP	16 48 08.6	+0.3	
L61B	**Northampton** baz=335,SNR=5.2	128.99	19	P	PKiKP	16 48 08.5	+0.2	
HRV	**Adam Dziewonsk** baz=336	129.28	18	P	PKiKP	16 48 09.0	+0.1	
TZTN	**Tazewell** baz=320	129.36	32	P	PKPdf	16 48 08.6	+0.1	
TZTN	**Tazewell** baz=320	129.36	32	P	PKiKP	16 48 09.3	+0.1	
W50A	**Signal Mountai** baz=317,SNR=8.7	129.40	34	P	PKiKP	16 48 09.3	-0.1	
Q56A	**Snyder Ridge,** baz=326	129.48	26	P	PKPdf	16 48 08.9	+0.3	
Q56A				P	PKPdf	16 48 08.9	+0.3	
	baz=326							
V51A	**Loudon** baz=318,SNR=6.7	129.48	33	P	PKPdf	16 48 08.7	-0.1	
Y49A	**Blount Mountai** baz=315,SNR=5.6	129.73	36	P	PKiKP	16 48 10.1	+0.1	
V52A	**Sevierville** baz=319,SNR=15	129.86	32	P	PKiKP	16 48 10.5	+0.3	
PAL	**Palisades** baz=333	129.88	20	P	PKiKP	16 48 10.4	+0.3	
TKL	**Tuckaleechee C** baz=319	129.90	33	P	PKiKP	16 48 10.5	+0.2	
LRAL	**Lakeview Retre** baz=314	129.95	38	P	PKiKP	16 48 10.2	-0.2	
LRAL	**Lakeview Retre** baz=314	129.95	38	P	PKiKP	16 48 10.6	+0.1	
KIC	**Kosan Boka** comp=Z,9.6nm,0.5s	130.19	283	⇑*i*PKP1	PKiKP	16 48 11.1	-0.4	
DBIC	**Dimbokro** comp=Z,4.6nm,0.6s,baz=179,slow=3.0,SNR=6.2	130.23	284	PKP	PKPdf	16 48 08.8	-1.8	
DBIC				SKPbc	SKPab	16 51 25.1	-2.0	
	comp=Z,12nm,0.8s,baz=70,slow=4.0,SNR=9.4							
TIC	**Toumodi** comp=Z,4.3nm,0.3s	130.40	284	⇓*i*PKP1	PKiKP	16 48 11.7	-0.2	
BLA	**Blacksburg** baz=323	130.40	29	P	PKiKP	16 48 11.4	0.0	
V53A	**Saluda** baz=320,SNR=8.2	130.41	32	P	PKiKP	16 48 11.7	+0.3	
V53A				P	PKiKP	16 48 11.7	+0.3	
	baz=320,SNR=8.2							
LIC	**Lamto** comp=Z,23nm,0.5s	130.50	283	⇓*i*PKP1	PKiKP	16 48 12.0	-0.1	
CASEE	**Lake Jocassee** baz=319	130.86	33	P	PKiKP	16 48 12.6	+0.4	
R58B	**Mineral** baz=327	130.95	26	P	PKiKP	16 48 12.2	-0.1	
R58B				P	PKiKP	16 48 12.2	-0.1	
	baz=327							
CBN	**Corbin Frederi** baz=327	130.96	25	P	PKiKP	16 48 12.3	0.0	
Y52A	**Lilburn** baz=318,SNR=8.1	131.08	34	P	PKiKP	16 48 13.6	+0.9	
Y52A				P	PKiKP	16 48 13.6	+0.9	
	baz=318,SNR=8.1							
V55A	**Taylorsville** baz=322	131.09	30	P	PKPdf	16 48 12.1	+0.3	
V55A				P	PKPdf	16 48 12.1	+0.3	
	baz=322							
BRAL	**Brewton** baz=313	131.19	39	P	PKiKP	16 48 13.4	+0.4	
152A	**Waverly Hall** baz=316	131.57	36	P	PKiKP	16 48 13.7	0.0	
PAULI	**Pauline** baz=320	131.58	32	P	PKiKP	16 48 13.4	-0.3	
KMSC	**Kings Mountain** baz=321	131.58	31	P	PKiKP	16 48 13.7	0.0	
KMSC	**Kings Mountain** baz=321	131.58	31	P	PKiKP	16 48 13.8	+0.1	
GOGA	**Godfrey** baz=318	131.75	34	P	PKiKP	16 48 14.3	+0.2	
GOGA	**Godfrey** baz=318	131.75	34	P	PKiKP	16 48 14.3	+0.2	
HODGE	**Hodges** baz=320	131.79	33	P	PKiKP	16 48 14.3	+0.2	
T59A	**Double "B" Far** baz=327	131.92	26	P	PKiKP	16 48 14.5	+0.2	
T59A				P	PKiKP	16 48 14.5	+0.2	
	baz=327							
V58A	**Windy Hill, Pi** baz=324	132.16	29	P	PKiKP	16 48 14.6	-0.3	
V58A				P	PKiKP	16 48 14.6	-0.3	
	baz=324							
W57A	**Gilead** baz=323	132.25	30	P	PKiKP	16 48 14.6	-0.4	
W57A				P	PKiKP	16 48 14.6	-0.4	
	baz=323							
JSC	**Jenkinsville** baz=321	132.29	32	P	PKiKP	16 48 15.8	+0.7	
HAW	**Hawthorne Fire** baz=320	132.81	33	P	PKiKP	16 48 16.0	-0.2	
TIGA	**Tifton** baz=316	133.11	36	P	PKiKP	16 48 17.0	+0.1	
TIGA	**Tifton** baz=316	133.11	36	P	PKiKP	16 48 17.4	+0.5	
DWPF	**Disney Wildern** baz=317	136.81	38	P	PKiKP	16 48 24.7	+0.3	
PLCA	**Paso Flores** comp=Z,6.6nm,0.9s,baz=228,slow=2.1,SNR=16	141.72	159	PKhKP	PKPpre	16 48 26.6		
PLCA				SKPbc	SKiKP	16 52 03.2	-0.7	
	comp=Z,5.8nm,1.0s,baz=190,slow=6.3,SNR=6.2							
PLCA	**Paso Flores**	141.72	159	*e*P	PKPdf	16 48 29.7	-1.7	
MTDJ	**Mount Denham**	146.28	45		PKPab	16 48 41.9	-0.1	
TRQA	**Tornquist**	146.73	167		PKPab	16 48 42.5	-0.6	
TRQA	**Tornquist**	146.73	167	PKP2	PKPab	16 48 42.5	-0.6	
AC05	**El Transito**	151.80	147		PKiKP	16 48 56.3	+0.9	
OBIP	**Obispado Ponce**	153.03	29		PKPbc	16 48 57.0	-0.9	
MTP	**Monte Pirata**	153.48	27		PKiKP	16 48 59.5	+0.5	
PLTB	**Pedras Altas**	153.98	179	PKPbc	PKiKP	16 49 00.2	+0.5	
ATAH	**Atahualpa** comp=Z,13nm,1.1s,baz=262,slow=3.2,SNR=7.2	154.92	95	PKP	PKPdf	16 48 53.6	-0.2	
CPSB	**Cacapava Do Su**	155.33	180	*e*P	PKPdf	16 48 53.1	-0.3	
NNA	**Nana** comp=Z,3.9nm,0.3s,baz=245,slow=11,SNR=1.6	155.81	107	PKP	PKPdf	16 48 55.3	+0.8	
ITQB	**Itaqui**	156.85	173	*e*P	PKPdf	16 48 53.7	-0.4	
ROSC	**El Rosal** comp=Z,7.0nm,0.4s,baz=225,slow=8.9,SNR=5.6	156.50	64	PKP	PKPdf	16 48 56.7	+0.7	
LVC	**Limon Verde** comp=Z,3.5nm,1.0s,baz=140,slow=0.5,SNR=4.1	157.29	140	PKP	PKPdf	16 48 58.1	+1.4	
LVC				PKPab	PKPab	16 49 28.8	+0.9	
	comp=Z,5.7nm,0.8s,baz=201,slow=4.0,SNR=4.9							
SDV	**Santo Domingo** comp=Z,35nm,0.8s,baz=323,slow=1.0,SNR=22	157.43	50	PKP	PKPdf	16 48 57.7	+0.9	
SDV	**Santo Domingo**	157.43	50	*e*P	PKPdf	16 48 55.9	-1.0	
ITAB	**Concordia**	158.47	183	*e*P	PKPdf	16 48 56.8	-0.7	
CPUP	**Vila Florida** comp=Z,3.1nm,0.9s,baz=205,slow=3.1,SNR=5.6	159.02	170	PKP	PKPdf	16 48 59.0	+0.8	
CPUP				PKPab	PKPab	16 49 36.0	+1.3	
	comp=Z,9.9nm,0.7s,baz=194,slow=4.4,SNR=15							
CPUP	**Villa Florida**	159.02	170	PKiKP	PKPdf	16 48 59.0	+0.8	
CPUP						16 49 36.0		
PET01	**Itanhaem-SP**	160.57	196	*e*P	PKPdf	16 48 57.4	-2.6	
PARB	**Paraibuna**	160.92	202	*e*P	PKPdf	16 48 59.8	-0.8	
LPAZ	**La Paz** comp=Z,5.7nm,0.9s,baz=5.1,slow=1.5,SNR=15	161.92	127	PKP	PKPdf	16 49 03.1	+0.7	
LPAZ				PKPab	PKPab	16 49 50.2	+1.6	
	comp=Z,19nm,0.9s,baz=249,slow=1.3,SNR=18							
LPAZ	**La Paz**	161.92	127	*e*P	PKPdf	16 49 02.0	-0.4	
NAN01	**Guarapari, ES**	162.36	225	*e*P	PKPdf	16 49 01.2	-0.9	
NBAN	**Anadia - AL**	162.75	255	*e*P	PKPdf	16 49 02.0	-0.5	
BB19B	**Bebedouro**	163.98	196	*e*P	PKPdf	16 49 03.4	-0.2	
SIV	**San Ignacio** comp=Z,9.7nm,1.0s,baz=175,slow=1.2,SNR=26	167.11	144	PKP	PKPdf	16 49 07.0	+0.7	
SIV				PKPab	PKPab	16 50 12.2	+1.6	
	comp=Z,2.7nm,0.9s,baz=230,slow=6.6,SNR=6.3							
BDFB	**Brasilia** comp=Z,2.0nm,0.6s,baz=320,slow=5.1,SNR=4.3	168.80	207	PKP	PKPdf	16 49 07.9	+0.4	
BDFB				PKPab	PKPab	16 50 18.8	+0.7	
	comp=Z,12nm,0.9s,baz=110,slow=2.3,SNR=9.5							
MDP	**Montagnes des** comp=Z,6.3nm,0.9s,baz=55,slow=14,SNR=1.6	169.35	357	PKP	PKPdf	16 49 07.7	-0.2	
SDBA	**SAO DESIDERIO**	169.38	230	*e*P	PKPdf	16 49 07.2	-0.7	
ROSB	**Rosrio**	170.56	286	*e*P	PKPdf	16 49 08.5	0.0	
MACA	**Manacapuru-AM**	172.15	72	*e*P	PKPdf	16 49 08.4	-1.0	
TMAB	**Tom-Au,PA,Br**	173.98	302	*e*P	PKPdf	16 49 09.2	-0.8	

JMA 10 16:31:49.8±0.2, 32°6N±0°.9×132°3E±0°.3, h27$^{km}_{\pm 2km}$, MV0.4/11, HYUGANADA REGION, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSKE	**Saikikamae**	0.40	309	P	Pb	16 31 58.1	-0.3
JSKE				*e*S	Sb	16 32 04.2	-0.2
JTO	**Tosashimizu**	0.55	55	P	Pb	16 32 00.5	-0.5
JUS	**Usuki**	0.67	320	P	Pb	16 32 02.8	-0.2
UWA2	**Uwa jima 2**	0.73	24

T1204				S	Sg	16 39 52.3 +0.4
T1242	**Castelluccio d**	**0.10**	**349**	P	Pg	16 39 50.5 +0.3
T1242				S	Sg	16 39 52.6 +0.4
T1242				AML	AML	
	comp=E,312μm,1.2s					
T1242				AML	AML	
	comp=N,468μm,0.4s					
T1242				AML	AML	
	comp=E,294μm,1.2s					
T1242				AML	AML	
	comp=N,389μm,0.4s					
SMA1	**SAN MARTINO**	**0.13**	**143**	P	Pg	16 39 51.0 +0.5
SMA1				AML	AML	
	comp=N,77μm,0.2s					
SMA1				AML	AML	
	comp=E,107μm,0.7s					
NRCA	**Norcia**	**0.13**	**319**	P	Pg	16 39 50.9 +0.4
NRCA				S	Sg	16 39 53.1 +0.3
NRCA				AML	AML	
	comp=E,354μm,0.1s					
NRCA				AML	AML	
	comp=N,362μm,1.2s					
T1243	**Rocca Santa Ma**	**0.17**	**103**	P	Pg	16 39 51.5 +0.5
T1243				S	Sg	16 39 54.3 +0.6
MMO1	**Montemonaco**	**0.18**	**23**	P	Pg	16 39 51.8 +0.5
MMO1				S	Sg	16 39 54.9 +0.9
MC2	**Monte Cornacci**	**0.18**	**351**	P	Pg	16 39 51.9 +0.5
MC2				S	Sg	16 39 55.1 +0.8
LNSS	**Leonessa**	**0.19**	**227**	P	Pg	16 39 52.0 +0.6
LNSS				S	Sg	16 39 55.5 +1.1
LNSS				AML	AML	
	comp=E,118μm,0.9s					
LNSS				AML	AML	
	comp=N,167μm,0.2s					
T1241	**Roccafluvione,**	**0.19**	**50**	P	Pg	16 39 52.0 +0.5
T1241				S	Sg	16 39 55.4 +1.0
T1241				AML	AML	
	comp=E,40μm,1.1s					
T1241				AML	AML	
	comp=N,46μm,0.2s					
T1241				AML	AML	
	comp=N,46μm,0.2s					
T1216	**Preci, Frazion**	**0.22**	**315**	P	Pg	16 39 52.6 +0.6
T1216				S	Sg	16 39 56.0 +0.8
T1217	**Poggiodomo (PG**	**0.22**	**264**	P	Pg	16 39 52.5 +0.5
T1217				S	Sg	16 39 56.1 +1.0
RM33	**Pellescritta (**	**0.23**	**183**	P	Pg	16 39 52.6 +0.6
RM33				S	Sg	16 39 56.6 +1.4
RM33				AML	AML	
	comp=E,79μm,0.2s					
RM33				AML	AML	
	comp=N,43μm,0.9s					
CAMP	**Campotosto**	**0.24**	**146**	P	Pg	16 39 52.9 +0.6
CAMP				S	Sg	16 39 56.4 +0.7
T1246	**Crognaleto (TE**	**0.25**	**128**	P	Pg	16 39 53.0 +0.6
T1246				S	Sg	16 39 57.1 +1.2
AM05	**Amandola Campo**	**0.26**	**20**	P	Pb	16 39 53.4 -0.7
T1215	**Vallo di Nera,**	**0.27**	**284**	P	Pg	16 39 53.3 +0.4
T1215				S	Sg	16 39 57.8 +1.1
TERO	**Teramo**	**0.30**	**112**	P	Pg	16 39 53.4 0.0
TERO				S	Sb	16 39 58.5 -1.1
TERO				AML	AML	
	comp=N,54μm,0.4s					
TERO				AML	AML	
	comp=E,35μm,0.2s					
FDMO	**Fiordimonte**	**0.32**	**341**	P	Pg	16 39 54.2 +0.4
FDMO				S	Sb	16 39 59.2 -1.0
FDMO				AML	AML	
	comp=N,36μm,1.0s					
FDMO				AML	AML	
	comp=E,28μm,1.5s					
CSP1	**Cessapalombo**	**0.36**	**357**	P	Pg	16 39 54.9 +0.4
CSP1				S	Sb	16 40 00.7 -0.8
CESI	**CESI - Serrava**	**0.36**	**319**	P	Pg	16 39 55.0 +0.5
CESI				S	Sb	16 40 00.6 -0.9
PP3	**Marolino**	**0.70**	**23**	P	Pg	16 40 00.7 -0.1
SACS	**San Casciano d**	**0.98**	**277**	S	Sg	16 40 19.0 +0.1

ROM 10 16:40:38.4±0.1, 42.771N±0.003×13.181E±0.004, h9km, ML1.3/2, Error ellipse: s-maj=0.4km s-min=0.0km az=127.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.06**	**17**	P	Pg	16 40 40.9	+0.3
T1242				S	Sg	16 40 42.3	+0.2
T1242				AML	AML		
	comp=E,332μm,0.2s						
T1242				AML	AML		
	comp=N,382μm,0.2s						
T1242				AML	AML		
	comp=E,328μm,0.2s						
T1242				AML	AML		
	comp=E,332μm,0.2s						
T1242				AML	AML		
	comp=N,372μm,0.2s						
T1242				AML	AML		
	comp=N,382μm,0.2s						
T1202	**Accumoli, Fraz**	**0.07**	**154**	P	Pg	16 40 41.0	+0.3
T1202				S	Sg	16 40 42.8	+0.5
NRCA	**Norcia**	**0.08**	**322**	P	Pg	16 40 41.0	+0.3
NRCA				S	Sg	16 40 42.6	+0.2
MC2	**Monte Cornacci**	**0.14**	**3**	P	Pg	16 40 42.2	+0.5
MC2				S	Sg	16 40 45.0	+1.0
MMO1	**Montemonaco**	**0.17**	**40**	P	Pg	16 40 42.5	+0.5
MMO1				S	Sg	16 40 45.5	+0.9
T1217	**Poggiodomo (PG**	**0.19**	**252**	P	Pg	16 40 43.0	+0.6
T1217				S	Sg	16 40 46.3	+1.1
T1217				AML	AML		
	comp=N,112μm,1.6s						
T1217				AML	AML		
	comp=E,62μm,1.6s						
LNSS	**Leonessa**	**0.20**	**212**	P	Pg	16 40 43.1	+0.5
LNSS				S	Sg	16 40 46.7	+1.3
T1241	**Roccafluvione,**	**0.20**	**65**	P	Pg	16 40 43.0	+0.4
T1241				S	Sg	16 40 46.6	+1.1
T1215	**Vallo di Nera,**	**0.23**	**278**	P	Pg	16 40 44.1	+1.0
OFFI	**Offida**	**0.41**	**66**	AML	AML		
	comp=E,155μm,1.2s						
OFFI				AML	AML		
	comp=N,193μm,1.4s						

PRU 10 16:41:43.3±0.0, 49.83N×18.54E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**272**	*e*SG	Sg	16 41 51.2	-0.3
	7.7nm,0.9s						
MORC	**Moravsky Berou**	**0.65**	**266**	*e*PG	Pg	16 41 55.1	-0.6
MORC				*e*SG	Sg	16 42 03.0	-1.1
JAVC	**Velka Javorina**	**1.13**	**211**	*e*PG	Pg	16 42 04.8	-0.1
KRLC	**Kraliky**	**1.16**	**283**	*e*SG	Sg	16 42 21.0	+0.4
VRAC	**Vranov**	**1.37**	**248**	*e*PG	Pg	16 42 07.8	-1.7
VRAC				*e*SG	Sg	16 42 25.7	-1.6
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG	Pn	16 42 10.5	-1.3
DPC				*e*SG	Sg	16 42 30.5	-1.6

IDC ***10*** *16:55:07.4±2.0, 4.42S×136.58E, h0km, mb3.4/1, mbtmp3.6/6, ML3.6/4, Error ellipse: s-maj=46.8km s-min=21.9km az=74.0*

ISC 10 16:55:06.8±1.3, 4.2S±0.1×137.0E±0.1, h10km, n17, σ1s78/17, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.65**	**300**	Pn	**Pn**	**16 56 42.8**	**-1.9**
	2.6nm,0.6s,baz=143,slow=20						
KDU	**Kakadu**	**9.55**	**208**	P	**Pn**	**16 57 26.0**	**+1.5**
MTN	**Manton Dam**	**10.37**	**214**	P	**Pn**	**16 57 37.8**	**+2.1**
COEN	**Coen**	**11.42**	**148**	P	**Pn**	**16 57 48.2**	**-2.0**
KNRA	**Kununurra**	**14.00**	**215**	P	**Pn**	**16 58 24.5**	**-0.9**
MTSU	**Mount Surprise**	**15.56**	**153**	P	**Pn**	**16 58 46.1**	**-0.4**
WRA	**Warramunga Arr**	**15.86**	**189**	Pn	**Pn**	**16 58 47.5**	**-2.8**
	0.2nm,0.3s,baz=7.7,slow=12,SNR=11						
WRA				Sn	Sn	17 01 34.1	-12
	0.1nm,0.3s,baz=6.7,slow=23,SNR=4.4						
WRA				Lg	Lg	17 03 23.6	
	0.1nm,0.3s,baz=4.5,slow=27,SNR=2.4						
	0.6nm,0.7s						
QIS	**Mount Isa**	**16.44**	**171**	P	**Pn**	**16 58 55.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**17.74**	**218**	P	**Pn**	**16 59 11.5**	**-2.6**
	baz=54,slow=14,SNR=1.8						
	1.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.74**	**218**	P	**P**	**16 59 15.5**	**+0.5**
CTA	**Charters Tower**	**18.16**	**151**	P	**Pn**	**16 59 20.0**	**+0.7**
	0.4nm,0.3s,baz=336,slow=12,SNR=9.8						
	4.3nm,0.6s						
CTA	**Charters Tower**	**18.16**	**151**	P	**Pn**	**16 59 20.0**	**+0.7**
CTAO	**Charters Tower**	**18.16**	**151**	P	**P**	**16 59 20.1**	**+0.5**
ASAR	**Alice Springs**	**19.58**	**189**	P	**P**	**16 59 34.2**	**-1.0**
	0.4nm,0.3s,baz=17,slow=9.3,SNR=52						
ASAR				S	S	17 03 02.1	-14
	0.4nm,0.8s,baz=10,slow=26,SNR=3.2						
ASAR				Lg	Lg	17 05 24.5	
	baz=11,slow=30,SNR=4.2						
	0.9nm,0.5s						
WRKA	**Warakurna**	**22.35**	**201**	P	**P**	**17 00 05.4**	**+0.3**
OOD	**Oodnadatta**	**23.49**	**183**	P	**P**	**17 00 19.0**	**+2.1**
MKAR	**Makanchi Array**	**69.97**	**323**	P	**P**	**17 06 20.5**	**+1.9**
	0.3nm,0.7s,baz=114,slow=7.0,SNR=2.8						
	0.3nm,0.7s						

ROM ***10*** *17:00:02.9±0.0, 42.786N±0.003×13.235E±0.004, h9km, ML3.3/96, Error ellipse: s-maj=0.3km s-min=0.2km az=82.0*

IDC ***10*** *17:00:03.0±2.0, 42.87N×13.75E, h0km, mb3.3/2, mbtmp3.4/4, ML3.5/1, MS3.0/3, Error ellipse: s-maj=54.3km s-min=17.5km az=95.0*

LDG ***10*** *17:00:05.0±0.2, 42.73N×13.28E, h9km, Ml2.9/14, Error ellipse: s-maj=6.2km s-min=3.8km az=51.0*

PRU ***10*** *17:00:06.4±0.0, 42.94N×13.41E, h0km*

ISC 10 17:00:03.8±0.8, 42.78N±0.01×13.24E±0.02, h6km±5km, n172, σ1s11/218, 63C-33D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.06**	**335**	⇑P	**Pg**	**17 00 04.9**	**-0.6**
T1242				S	**Sg**	**17 00 06.1**	**-0.7**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1202	**Accumoli, Fraz**	**0.08**	**186**	P	**Pg**	**17 00 05.8**	**0.0**
T1202				S	**Sg**	**17 00 07.9**	**+0.8**
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
NRCA	**Norcia**	**0.10**	**301**	⇑P	**Pg**	**17 00 05.8**	**-0.4**
NRCA				S	**Sg**	**17 00 07.8**	**0.0**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1204	**Amatrice, Fraz**	**0.12**	**150**	⇓P	**Pg**	**17 00 06.5**	**+0.1**
T1204				AML	AML		
	comp=E,53100μm,0.4s						
T1204				AML	AML		
	comp=N,37350μm,0.3s						
MC2	**Monte Cornacci**	**0.14**	**346**	⇑P	**Pg**	**17 00 06.4**	**-0.4**
MC2				S	**Sg**	**17 00 08.9**	**0.0**
MMO1	**Montemonaco**	**0.14**	**29**	⇑P	**Pg**	**17 00 06.3**	**-0.4**
MMO1				S	**Sg**	**17 00 08.7**	**-0.1**
T1241	**Roccafluvione,**	**0.16**	**62**	⇑P	**Pg**	**17 00 07.0**	**-0.1**
T1241				S	**Sg**	**17 00 09.8**	**+0.4**
T1241				AML	AML		
	comp=N,32050μm,0.4s						
T1241				AML	AML		
	comp=E,57250μm,0.7s						
T1241				AML	AML		
	comp=N,29300μm,0.4s						
T1241				AML	AML		
	comp=E,57850μm,0.6s						
T1241				AML	AML		
	comp=N,32050μm,0.4s						
T1241				AML	AML		
	comp=E,57900μm,0.7s						
T1241				AML	AML		
	comp=N,32000μm,0.4s						
T1241				AML	AML		
	comp=E,57850μm,0.7s						
SMA1	**SAN MARTINO**	**0.17**	**154**	⇓P	**Pg**	**17 00 07.2**	**0.0**
SMA1				AML	AML		
	comp=E,42700μm,0.4s						
SMA1				AML	AML		
	comp=N,31050μm,1.6s						
SMA1				AML	AML		
	comp=E,42750μm,0.4s						
SMA1				AML	AML		
	comp=N,31050μm,0.4s						
T1243	**Rocca Santa Ma**	**0.18**	**118**	⇓P	**Pg**	**17 00 07.3**	**-0.1**
T1243				S	**Sg**	**17 00 10.3**	**+0.4**
T1216	**Preci, Frazion**	**0.19**	**305**	⇑P	**Pg**	**17 00 07.4**	**-0.3**
T1216				S	**Sg**	**17 00 10.8**	**+0.4**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,19650μm,0.3s						
T1216				AML	AML		
	comp=N,36400μm,0.3s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=N,36400μm,0.3s						
T1216				AML	AML		
	comp=E,19600μm,0.3s						
AM05	**Amandola Campo**	**0.21**	**23**	⇑P	**Pg**	**17 00 07.9**	**-0.2**
AM05				S	**Sg**	**17 00 11.7**	**+0.7**
AM05				AML	AML		
	comp=N,9695μm,0.1s						
AM05				AML	AML		
	comp=N,37500μm,0.1s						
AM05				AML	AML		
	comp=N,37550μm,0.1s						
AM05				AML	AML		
	comp=E,10450μm,1.0s						
AM05				AML	AML		
	comp=E,41700μm,1.0s						
AM05				AML	AML		
	comp=E,10450μm,1.0s						
AM05				AML	AML		
	comp=E,41700μm,1.0s						
AM05				AML	AML		
	comp=N,9710μm,0.1s						
FEMA	**Monte Fema**	**0.23**	**323**	P	**Pg**	**17 00 08.1**	**-0.3**
FEMA				AML	AML		
	comp=E,25000μm,0.4s						
FEMA				AML	AML		
	comp=N,16900μm,1.3s						
FEMA				AML	AML		
	comp=N,16850μm,1.3s						
FEMA				AML	AML		
	comp=E,24950μm,0.4s						
LNSS	**Leonessa**	**0.23**	**219**	⇑P	**Pg**	**17 00 08.4**	**0.0**
LNSS				S	**Sg**	**17 00 12.8**	**+1.4**
LNSS				AML	AML		
	comp=E,31600μm,1.4s						
LNSS				AML	AML		
	comp=N,32000μm,0.2s						
LNSS				AML	AML		
	comp=E,31600μm,0.6s						
T1217	**Poggiodomo (PG**	**0.23**	**253**	⇑P	**Pg**	**17 00 08.3**	**-0.2**
T1217				AML	AML		
	comp=N,9515μm,0.6s						
T1217				AML	AML		
	comp=N,9685μm,0.6s						
T1217				AML	AML		
	comp=E,7275μm,0.6s						
T1217				AML	AML		
	comp=N,9500μm,0.6s						
T1217				AML	AML		
	comp=E,7035μm,0.6s						
RM33	**Pellescritta (**	**0.27**	**183**	⇑P	**Pg**	**17 00 09.2**	**0.0**
RM33				S	**Sb**	**17 00 14.0**	**-2.0**
RM33				AML	AML		
	comp=N,17150μm,0.9s						
RM33				AML	AML		
	comp=E,17550μm,1.1s						
RM33				AML	AML		
	comp=N,16950μm,0.9s						
RM33				AML	AML		
	comp=E,17850μm,1.1s						
RM33				AML	AML		
	comp=N,16900μm,0.9s						
RM33				AML	AML		
	comp=E,17600μm,1.1s						
RM33				AML	AML		
	comp=N,17150μm,0.9s						
RM33				AML	AML		
	comp=E,17800μm,1.1s						
T1215	**Vallo di Nera,**	**0.27**	**275**	⇑P	**Pg**	**17 00 08.9**	**-0.3**
T1215				AML	AML		
	comp=E,5235μm,1.3s						
T1215				AML	AML		
	comp=E,5625μm,1.3s						
T1215				AML	AML		
	comp=N,5560μm,1.5s						
T1215				AML	AML		
	comp=E,5230μm,1.3s						
T1215				AML	AML		
	comp=E,5620μm,1.3s						
T1215				AML	AML		
	comp=N,5560μm,1.4s						
T1215				AML	AML		
	comp=N,5630μm,0.8s						
T1215				AML	AML		
	comp=E,5620μm,0.7s						
T1215				AML	AML		
	comp=E,5230μm,0.7s						
T1215				AML	AML		
	comp=N,5560μm,0.6s						
CAMP	**Campotosto**	**0.28**	**152**	⇓P	**Pg**	**17 00 09.0**	**-0.2**
CAMP				AML	AML		
	comp=N,7940μm,1.6s						
CAMP				AML	AML		
	comp=E,5365μm,0.7s						
CAMP				AML	AML		
	comp=N,7940μm,0.4s						
FDMO	**Fiordimonte**	**0.28**	**337**	⇓P	**Pg**	**17 00 08.8**	**-0.5**
FDMO				S	**Sg**	**17 00 13.4**	**+0.4**
FDMO				AML	AML		
	comp=E,12200μm,0.2s						
FDMO				AML	AML		
	comp=N,11700μm,0.2s						
GUMA	**Gualdo di Mace**	**0.29**	**14**	⇑P	**Pg**	**17 00 08.8**	**-0.8**
GUMA				S	**Sg**	**17 00 14.5**	**+1.0**
GUMA				AML	AML		
GUMA				AML	AML		
	comp=N,60500μm,0.4s						
GUMA				AML	AML		
CSP1	**Cessapalombo**	**0.31**	**356**	⇑P	**Pg**	**17 00 09.5**	**-0.5**
CSP1				AML	AML		
	comp=E,18900μm,1.3s						
CSP1				AML	AML		
	comp=E,18900μm,0.7s						
CSP1				AML	AML		
	comp=N,21000μm,0.3s						
TERO	**Teramo**	**0.31**	**120**	⇓P	**Pg**	**17 00 09.7**	**-0.3**
TERO				AML	AML		
	comp=E,19600μm,0.1s						
TERO				AML	AML		
	comp=N,27900μm,1.2s						
TERO				AML	AML		
	comp=N,27950μm,1.2s						
TERO				AML	AML		
	comp=E,22300μm,0.1s						
TERO				AML	AML		
	comp=E,19550μm,0.1s						
TERO				AML	AML		
	comp=N,30500μm,1.2s						
CESI	**CESI - Serrava**	**0.33**	**313**	⇑P	**Pg**	**17 00 09.9**	**-0.4**
CESI				AML	AML		
	comp=E,12900μm,0.5s						
CESI				AML	AML		
	comp=N,25500μm,1.1s						
T1247	**Pizzolo (AQ)**	**0.34**	**172**	⇓P	**Pg**	**17 00 10.4**	**-0.1**
T1247				AML	AML		
	comp=N,9800μm,0.8s						
T1247				AML	AML		
	comp=E,7975μm,0.5s						
T1247				AML	AML		
	comp=N,9800μm,1.2s						
T1247				AML	AML		
	comp=E,7975μm,1.5s						
OFFI	**Offida**	**0.36**	**65**	⇑P	**Pg**	**17 00 11.5**	**+0.6**
OFFI				AML	AML		
	comp=E,20200μm,0.3s						
OFFI				AML	AML		
	comp=N,16500μm,1.5s						
OFFI				AML	AML		
	comp=N,16500μm,0.5s						
ARRO	**Arrone**	**0.40**	**240**	P	**Pg**	**17 00 11.2**	**-0.4**
ARRO				AML	AML		
	comp=N,3495μm,0.5s						
ARRO				AML	AML		
	comp=E,4785μm,0.2s						
SEF1	**Sefro**	**0.42**	**330**	P	**Pg**	**17 00 11.5**	**-0.6**
SEF1				AML	AML		
	comp=N,10700μm,0.9s						
SEF1				AML	AML		
	comp=E,13750μm,0.3s						
SEF1				AML	AML		
	comp=N,10750μm,0.9s						
SEF1				AML	AML		
	comp=N,10750μm,1.1s						
AQU	**L'Aquila**	**0.44**	**164**	P	**Pg**	**17 00 12.0**	**-0.4**
AQU				AML	AML		
	comp=E,4420μm,1.5s						
AQU				AML	AML		
	comp=E,4515μm,1.4s						
AQU				AML	AML		
	comp=N,4210μm,0.6s						
AQU				AML	AML		
	comp=E,4420μm,0.5s						
AQU				AML	AML		
	comp=E,4515μm,0.6s						
AQU				AML	AML		
	comp=N,4280μm,0.6s						
SSM1	**San Severino M**	**0.45**	**355**	P	**Pg**	**17 00 12.0**	**-0.5**
FIU1	**Fiuminata**	**0.47**	**331**	P	**Pg**	**17 00 12.4**	**-0.4**
FIU1				AML	AML		
	comp=E,4920μm,1.0s						
FIU1				AML	AML		
	comp=N,4430μm,0.7s						
FIU1				AML	AML		
	comp=E,4920μm,1.0s						
FIU1				AML	AML		
	comp=E,4920μm,1.0s						
FIU1				AML	AML		
	comp=N,4430μm,1.3s						
GAG1	**Gagliole**	**0.47**	**345**	P	**Pg**	**17 00 12.7**	**-0.4**
GAG1				S	**Sg**	**17 00 20.3**	**+1.1**
GAG1				AML	AML		
	comp=E,14600μm,0.9s						
GAG1				AML	AML		
	comp=N,13550μm,0.5s						
GAG1				AML	AML		
	comp=E,14650μm,0.9s						
GAG1				AML	AML		
	comp=N,13600μm,0.5s						
GAG1				AML	AML		
	comp=E,14650μm,1.1s						
GAG1				AML	AML		
	comp=N,13600μm,1.5s						
ASSB	**Assisi San Ben**	**0.50**	**302**	P	**Pg**	**17 00 12.7**	**-0.7**
ASSB				AML	AML		
	comp=N,5900μm,0.3s						
ASSB				AML	AML		
	comp=E,9385μm,0.2s						
TRTR	**Tortoreto Alta**	**0.50**	**87**	⇑P	**Pb**	**17 00 14.5**	**-0.5**
TRTR				AML	AML		
	comp=N,13850μm,1.1s						
TRTR				AML	AML		
	comp=N,13850μm,0.9s						
TRTR				AML	AML		
	comp=E,18000μm,0.6s						
CESX	**Cesi**	**0.51**	**251**	⇑P	**Pg**	**17 00 13.0**	**-0.7**
CESX				AML	AML		
	comp=E,4755μm,0.4s						
CESX				AML	AML		
	comp=N,3630μm,1.1s						
CESX				AML	AML		
	comp=N,3630μm,0.9s						
CESX				AML	AML		
	comp=E,4755μm,1.6s						
FIAM	**Fiamignano**	**0.52**	**190**	⇑P	**Pg**	**17 00 13.4**	**-0.4**
FIAM				S	**Sb**	**17 00 22.0**	**-1.1**
FIAM				AML	AML		

comp=N,5250µm,0.3s
FIAM AML AML
comp=E,6415µm,0.8s
FIAM AML AML
comp=N,5250µm,1.7s
SNTG Esanatoglia 0.52 336 ⇑P Pg 17 00 13.2 -0.7
SNTG S Sg 17 00 21.5 +0.8
SNTG AML AML
comp=E,408µm,1.1s
SNTG AML AML
comp=N,552µm,0.5s
SNTG AML AML
comp=N,553µm,0.5s
SNTG AML AML
comp=E,408µm,1.0s
SNTG AML AML
comp=E,3145µm,0.6s
SNTG AML AML
comp=N,553µm,1.5s
SNTG AML AML
comp=N,3700µm,0.6s
SNTG AML AML
comp=E,408µm,1.0s
TRE1 Treia 0.53 6 P Pg 17 00 14.2 +0.1
TRE1 AML AML
comp=N,10590µm,1.2s
TRE1 AML AML
comp=E,12700µm,0.5s
TRE1 AML AML
comp=N,10620µm,1.2s
EL6 Elcito 0.56 350 ⇑P Pg 17 00 13.9 -0.7
EL6 AML AML
comp=E,9815µm,0.2s
EL6 AML AML
comp=N,8715µm,1.2s
EL6 AML AML
comp=N,8725µm,1.2s
EL6 AML AML
comp=N,8725µm,0.8s
EL6 AML AML
comp=E,9775µm,0.2s
VCEL Villa Celiera 0.59 131 ⇓P Pg 17 00 14.8 -0.3
VCEL AML AML
comp=E,5555µm,1.6s
VCEL AML AML
comp=E,5560µm,1.6s
VCEL AML AML
comp=N,3975µm,1.3s
VCEL AML AML
comp=N,3975µm,0.7s
ATCC AVT- Casa Cast 0.60 313 ⇓P Pg 17 00 14.7 -0.6
ATCC S Sb 17 00 24.0 -1.3
CING Cingoli 0.60 357 P Pg 17 00 14.5 -0.8
CING AML AML
comp=E,4835µm,1.5s
CING AML AML
comp=N,3560µm,0.8s
CING AML AML
comp=N,3560µm,1.2s
CING AML AML
comp=E,4835µm,0.5s
FOSV Fossato di Vic 0.62 326 P Pg 17 00 15.0 -0.8
FOSV S Sb 17 00 24.9 -1.2
FOSV AML AML
comp=E,4205µm,0.3s
FOSV AML AML
comp=N,4630µm,0.2s
PP3 Marolino 0.66 24 P Pg 17 00 16.7 +0.2
PP3 AML AML
comp=E,8750µm,1.6s
PP3 AML AML
comp=N,11225µm,0.4s
PP3 AML AML
comp=E,9040µm,1.6s
PP3 AML AML
comp=N,11140µm,0.4s
PP3 AML AML
comp=E,8750µm,1.5s
PP3 AML AML
comp=N,11235µm,0.4s
PP3 AML AML
comp=N,11150µm,0.4s
PP3 AML AML
comp=E,9035µm,1.6s
PP3 AML AML
comp=E,9035µm,0.4s
PP3 AML AML
comp=N,11235µm,1.6s
PP3 AML AML
comp=E,8750µm,0.5s
PP3 AML AML
comp=N,11150µm,1.6s
T0110 Collepietro 0.68 144 ⇓P Pg 17 00 16.1 -0.8
T0110 AML AML
comp=N,6105µm,0.6s
T0110 AML AML
comp=E,3890µm,0.6s
T0110 AML AML
comp=E,3890µm,1.4s
MURB Monte Urbino 0.71 313 P Pg 17 00 16.7 -0.8
MURB AML AML
comp=E,6570µm,0.2s
MURB AML AML
comp=N,8085µm,0.3s
MURB AML AML
comp=E,7335µm,0.3s
MURB AML AML
comp=N,8990µm,0.2s
MURB AML AML
comp=E,6565µm,0.2s
SSFR Montelago di S 0.73 333 P Pg 17 00 17.0 -1.0
SSFR AML AML
comp=N,8585µm,0.7s
SSFR AML AML
comp=E,7065µm,0.2s
SSFR AML AML
comp=N,8005µm,0.7s
SSFR AML AML
comp=E,7560µm,0.2s
ARVD Arcevia 0.75 343 ⇓P Pg 17 00 17.4 -0.8
ARVD S Sb 17 00 30.0 +0.2
ARVD AML AML
comp=E,1420µm,0.6s
ARVD AML AML
comp=N,1165µm,0.8s
ATFO Monte Foce - G 0.76 321 P Pg 17 00 17.5 -0.9
ATFO AML AML
comp=E,1670µm,0.8s
ATFO AML AML
comp=E,1670µm,1.2s
ATFO AML AML
comp=N,1660µm,0.3s
ATTE AVT- Monte Tez 0.77 303 ⇓P Pg 17 00 17.9 -0.8
ATTE AML AML
comp=N,1475µm,0.4s
ATTE AML AML
comp=E,1460µm,0.4s
ATTE AML AML
comp=E,1460µm,1.6s
AOI Ancona 0.81 19 ⇑P Pg 17 00 19.2 -0.3
AOI S Sn 17 00 33.0 -1.2
AOI AML AML
comp=E,3605µm,0.3s
AOI AML AML
comp=N,3680µm,0.2s
AOI AML AML
comp=E,3605µm,1.7s
FRON Frontone 0.83 333 ⇑P Pg 17 00 18.6 -1.1
FRON AML AML
comp=E,1580µm,0.4s
FRON AML AML
comp=N,2385µm,0.3s
FRON AML AML
comp=N,2385µm,1.7s
MGAB Montegabbione 0.84 280 ⇑P Pg 17 00 19.0 -0.9
MGAB AML AML
comp=N,4715µm,1.1s
MGAB AML AML
comp=N,4560µm,1.1s
MGAB AML AML
comp=E,3185µm,0.4s
MGAB AML AML
comp=E,3500µm,0.4s
MGAB AML AML
comp=N,4715µm,0.9s
MGAB AML AML
comp=N,4560µm,0.9s
MTCE Montecelio 0.84 206 ⇑P Pg 17 00 18.6 -1.3
MTCE AML AML
comp=N,1500µm,0.6s
MTCE AML AML
comp=E,2555µm,0.5s
MTCE AML AML
comp=N,1500µm,1.4s
CERT Cerreto 0.85 193 ⇑P Pg 17 00 18.8 -1.4
CERT AML AML
comp=E,3965µm,0.5s
CERT AML AML
comp=N,2435µm,0.7s
ATVO AVT- Monte Val 0.85 315 ⇑P Pg 17 00 19.1 -1.1
ATVO S Sb 17 00 33.0 +0.2
ATVO AML AML
comp=E,1390µm,0.2s
ATVO AML AML
comp=N,1225µm,1.5s
ATVO AML AML
comp=N,1225µm,0.5s
ATVO AML AML
comp=E,1390µm,1.8s
COR1 Corinaldo 0.87 349 ⇓P Pg 17 00 20.7 +0.1
ATMI Monte Miggiano 0.90 308 ⇓P Pg 17 00 20.3 -0.8
ATMI AML AML
comp=N,3175µm,0.4s
ATMI AML AML
comp=E,3290µm,0.3s
ATPI Pietralunga - 0.91 318 ⇓P Pg 17 00 20.2 -1.0
ATPI S Sb 17 00 35.0 +0.7
ATPI AML AML
comp=N,944µm,1.5s
ATPI AML AML
comp=E,1075µm,0.6s
ATPI AML AML
comp=N,945µm,1.5s
ATPI AML AML
comp=N,945µm,0.5s
PIEI Pieia 0.91 326 ⇑P Pg 17 00 20.0 -1.4
PIEI AML AML
comp=N,1068µm,0.9s
PIEI AML AML
comp=E,1345µm,0.8s
PIEI AML AML
comp=N,1068µm,1.1s
INTR Introdacqua 0.91 147 ⇓P Pg 17 00 19.8 -1.6
INTR AML AML
comp=E,1µm,1.0s
INTR AML AML
comp=N,1µm,0.8s
INTR AML AML
comp=N,1µm,0.8s
INTR AML AML
comp=N,2200µm,0.5s
INTR AML AML
comp=E,1µm,1.0s
INTR AML AML
comp=E,1415µm,1.0s
INTR AML AML
comp=E,1µm,1.0s
INTR AML AML
comp=N,1µm,1.2s
INTR AML AML
comp=E,1415µm,1.0s
MPAG Monte Paganucc 0.92 338 ⇑P Pg 17 00 20.4 -1.0
MPAG S Sn 17 00 36.0 -0.8
MPAG AML AML
comp=N,1245µm,0.8s
MPAG AML AML
comp=E,1545µm,0.8s
MPAG AML AML
comp=N,1240µm,0.8s
MPAG AML AML
comp=E,1545µm,1.2s
SENI Senigallia 0.93 360 ⇑P Pg 17 00 21.0 -0.6
VVLD Villa Vallelon 0.95 162 ⇑P Pg 17 00 20.7 -1.4
VVLD AML AML
comp=E,1034µm,1.0s
VVLD AML AML
comp=E,1034µm,1.0s
VVLD AML AML
comp=N,960µm,0.5s
RCAV Rocca di Cave 0.96 193 ⇑P Pn 17 00 22.9 -0.9
RCAV AML AML
comp=E,2715µm,0.4s
RCAV AML AML
comp=N,3570µm,0.4s
NARO Abbazia di Nar 0.96 330 ⇑P Pg 17 00 20.8 -1.4
NARO S Sn 17 00 37.0 -0.7
NARO AML AML
comp=E,866µm,0.8s
NARO AML AML
comp=N,845µm,0.7s
NARO AML AML
comp=E,871µm,0.8s
FSSB Fossombrone 0.97 340 ⇓P Pg 17 00 21.6 -0.9
FSSB AML AML
comp=N,6135µm,0.4s
FSSB AML AML
comp=E,4905µm,0.4s
SACS San Casciano d 0.98 275 ⇑P Pg 17 00 21.8 -0.8
SACS AML AML
comp=N,1215µm,1.1s
SACS AML AML
comp=E,1150µm,1.0s
SACS AML AML
comp=N,1185µm,1.1s
SACS AML AML
comp=E,1125µm,1.1s
SACS AML AML
comp=N,1185µm,0.9s
SACS AML AML
comp=N,1215µm,0.9s
LPEL Lama dei Pelig 1.01 136 ⇑P Pg 17 00 21.6 -1.7
LPEL AML AML
comp=N,775µm,0.4s
LPEL AML AML
comp=E,958µm,0.5s
LPEL AML AML
comp=E,958µm,1.5s
BADI Badiali 1.03 315 P Pg 17 00 22.6 -0.9
PE3 Peglio 1.06 330 ⇑P Pg 17 00 22.9 -1.3
LATE Laterza 1.07 262 ⇓P Pg 17 00 23.8 -0.5
CAFI Castiglion Fio 1.08 301 ⇑P Pg 17 00 23.5 -1.0
CAFI AML AML
comp=N,726µm,0.7s
CAFI AML AML
comp=N,746µm,0.7s
CAFI AML AML
comp=E,988µm,0.4s
CAFI AML AML
comp=E,1020µm,0.4s
CAFI AML AML
comp=N,746µm,1.3s
CAFI AML AML
comp=N,726µm,1.3s
POFI Posta Fibreno 1.12 161 P Pg 17 00 23.9 -1.4
SSP9 Sansepolcro 1.13 315 ⇑P Pg 17 00 25.0 -0.6
SSP9 AML AML
comp=N,830µm,0.5s
SSP9 AML AML
comp=E,1062µm,1.4s
SSP9 AML AML
comp=E,1062µm,0.6s
PARC Parchiule 1.13 320 ⇓P Pg 17 00 24.4 -1.2
PARC AML AML
comp=E,832µm,1.4s
PARC AML AML
comp=N,796µm,0.7s
PARC AML AML
comp=N,796µm,1.3s
PARC AML AML
comp=E,832µm,0.6s
MCIV Monte Civitell 1.15 270 ⇓P Pn 17 00 26.0 -0.4
MCIV AML AML
comp=E,583µm,0.3s
MCIV AML AML
comp=N,434µm,0.6s
MCIV AML AML
comp=N,434µm,1.4s
SF04 Casetta 1.16 273 ⇑P Pn 17 00 26.5 -0.1
TOLF Tolfa 1.16 232 ⇑P Pg 17 00 24.7 -1.4
TOLF AML AML
comp=E,700µm,0.9s
TOLF AML AML
comp=N,654µm,1.1s
TOLF AML AML
comp=E,700µm,1.1s
TOLF AML AML
comp=N,654µm,0.9s
PESA Pesaro 1.20 346 P Pn 17 00 26.8 -0.2
PESA AML AML
comp=E,2735µm,0.9s
PESA AML AML
comp=N,2015µm,0.4s
PESA AML AML
comp=E,2735µm,1.1s
GIUL Giuliano Di Ro 1.22 179 ⇑P Pn 17 00 27.1 -0.4
GIUL AML AML
comp=E,465µm,1.6s
GIUL AML AML
comp=N,802µm,0.6s
GIUL AML AML
comp=N,802µm,1.4s
CRE Caprese Michel 1.26 312 ⇑P Pb 17 00 27.1 -0.9
CRE AML AML
comp=E,473µm,1.2s
CRE AML AML
comp=N,507µm,0.3s
CRE AML AML
comp=N,507µm,1.7s
RNI2 Rionero Sannit 1.27 147 ⇑P Pg 17 00 29.8 +1.5
RNI2 AML AML
comp=N,646µm,1.5s
RNI2 AML AML
comp=E,1040µm,1.0s
RNI2 AML AML
comp=N,667µm,1.5s
RNI2 AML AML
comp=E,1010µm,1.0s
RNI2 AML AML
comp=E,1040µm,1.0s
RNI2 AML AML
comp=N,667µm,0.5s
RNI2 AML AML
comp=E,1010µm,1.0s
RNI2 AML AML
comp=N,646µm,0.5s
ARCI Arcidosso 1.30 274 ⇓P Pg 17 00 28.8 +0.1
ARCI AML AML
comp=E,166µm,0.8s
ARCI AML AML
comp=N,151µm,1.0s
CERA Filignano 1.32 154 ⇑P Pg 17 00 30.3 +1.3
CERA AML AML
comp=E,648µm,0.9s
CERA AML AML
comp=N,640µm,0.6s
CERA AML AML
comp=E,648µm,1.1s
FRES Fresagrandinar 1.33 127 ⇑P Pg 17 00 29.7 +0.4
FRES AML AML
comp=N,300µm,1.2s
FRES AML AML
comp=E,590µm,0.7s
MIDA Miranda 1.37 146 ⇑P Pn 17 00 27.8 -1.7
MIDA AML AML
comp=E,514µm,0.6s
MIDA AML AML
comp=N,452µm,0.6s
TRIV Trivento 1.41 136 ⇑P Pg 17 00 31.4 +0.6
TRIV AML AML
comp=E,786µm,0.7s
TRIV AML AML
comp=N,566µm,1.1s
TRIV AML AML
comp=E,862µm,0.7s
TRIV AML AML
comp=N,461µm,1.2s
TRIV AML AML
comp=N,461µm,0.8s
TRIV AML AML
comp=N,566µm,0.9s
ASQU Asqua 1.47 314 ⇓P Pn 17 00 30.9 +0.1
ASQU AML AML
comp=E,499µm,0.5s
ASQU AML AML
comp=N,452µm,0.6s
VAGA Valle Agricola 1.55 151 ⇑P Pg 17 00 33.9 +0.3
VAGA AML AML
comp=E,322µm,0.9s
VAGA AML AML
comp=N,368µm,0.6s
BSSO Busso 1.59 140 ⇑P Pg 17 00 34.9 +0.5
RUFI Rufina 1.65 311 P Pn 17 00 33.3 +0.1
RUFI AML AML
comp=E,270µm,0.7s
RUFI AML AML
comp=N,314µm,1.5s
MODR Mondragone 1.70 163 ⇓P Pb 17 00 35.1 -0.3
MODR AML AML
comp=E,124µm,1.6s
MODR AML AML
comp=N,206µm,0.8s
MODR AML AML
comp=E,124µm,0.4s
CASP Castiglione de 1.75 271 ⇑P Pn 17 00 33.6 -1.0
CASP AML AML
comp=N,69µm,0.6s
CASP AML AML
comp=E,101µm,1.0s
MELA Melanico ??? S 1.77 127 ⇓P Pb 17 00 35.7 -0.9
MELA AML AML
comp=E,618µm,1.6s
MELA AML AML
comp=E,610µm,0.9s
MELA AML AML
comp=N,733µm,0.8s
MELA AML AML
comp=N,679µm,1.1s
MELA AML AML
comp=N,679µm,0.9s
MELA AML AML
comp=E,618µm,0.4s
MELA AML AML
comp=E,610µm,1.1s
BRIS BRISIGHELLA 1.86 318 ⇓P Pb 17 00 38.2 +0.1
VITU Vitulano (BN) 1.90 146 ⇓P Pb 17 00 39.2 +0.2
IMOL Imola, Italy 1.92 326 S Sn 17 01 01.0 -0.3
PSB1 Pescosannita 1.95 142 ⇓P Pb 17 00 40.0 +0.3
APRC Apricena 1.99 120 ⇑P Pn 17 00 38.6 +0.5
APRC AML AML
comp=E,342µm,1.2s
APRC AML AML
comp=N,424µm,0.5s
MOCO Biccari - m.te 2.01 134 ⇑P Pb 17 00 40.1 -0.6
MOCO AML AML
comp=E,138µm,1.6s
MOCO AML AML
comp=N,104µm,1.1s
MOCO AML AML
comp=E,138µm,0.4s
SGRT San Giovanni R 2.12 118 ⇓P Pn 17 00 40.4 +0.5
SGRT AML AML
comp=E,326µm,0.6s
SGRT AML AML
comp=N,298µm,0.5s
CRTO Cratere Ovest, 2.15 155 S Sg 17 01 12.0 -0.8
MSAG Monte S. Angel 2.25 117 ⇓P Pn 17 00 42.5 +0.8
MSAG AML AML
comp=E,342µm,0.8s
MSAG AML AML
comp=E,357µm,0.8s
MSAG AML AML
comp=N,668µm,0.8s
MSAG AML AML
comp=N,652µm,0.9s
SGTA Sant Agata di 2.29 135 P Pb 17 00 43.8 -1.7
SGTA AML AML
comp=E,181µm,0.7s
SGTA AML AML
comp=N,103µm,1.5s
SNAL S. Angelo Dei 2.37 141 ⇓P Pb 17 00 45.7 -1.2
GSCL Gusciola 2.48 310 P Pn 17 00 45.5 +0.7
GSCL AML AML
comp=E,118µm,0.9s
GSCL AML AML
comp=N,115µm,1.2s
GSCL AML AML
comp=E,118µm,1.1s
GSCL AML AML
comp=N,115µm,0.8s
VULT Monte Vulture 2.55 135 ⇑P Pn 17 00 47.1 +1.4
VULT AML AML

comp=E,194µm,0.4s
VULT AML AML
comp=N,245µm,0.8s
PALZ Palazzo San Ge 2.74 131 ⇑P **Pn 17 00 48.8 +0.5**
PALZ AML AML
comp=N,246µm,1.3s
PALZ AML AML
comp=E,234µm,1.1s
MRVN Minervino Murg 2.80 127 ⇑P **Pn 17 00 49.8 +0.7**
MRVN AML AML
comp=N,57µm,0.9s
MRVN AML AML
comp=E,74µm,0.6s
MRVN AML AML
comp=E,74µm,1.4s
MRVN AML AML
comp=N,57µm,1.1s
BOJS Bojanci 3.09 27 P **Pn 17 00 53.6 +0.6**
BOJS AML AML
comp=N,258µm,0.6s
BOJS AML AML
comp=N,258µm,1.4s
BOJS AML AML
comp=E,318µm,0.4s
PGF Pioggiola 3.13 267 *e*Pn **Pn 17 00 53.9 +0.1**
PGF *e*Sn **Sn 17 01 31.5 0.0**
comp=E,7.5nm,0.4s
AMUR Altamura 3.14 126 ⇑P **Pn 17 00 54.7 +1.0**
AMUR AML AML
comp=E,122µm,1.2s
AMUR AML AML
comp=N,123µm,1.1s
AMUR AML AML
comp=E,122µm,0.8s
AMUR AML AML
comp=N,123µm,0.9s
SABO M.te Sabotino 3.21 5 P **Pn 17 00 54.2 -0.5**
SABO AML AML
comp=E,834µm,0.5s
SABO AML AML
comp=E,224µm,0.7s
SABO AML AML
comp=N,970µm,0.8s
SABO AML AML
comp=N,256µm,0.7s
MIGL Miglionico 3.24 131 ⇑P **Pn 17 00 56.3 +1.2**
MIGL AML AML
comp=E,380µm,1.4s
MIGL AML AML
comp=N,326µm,1.6s
MIGL AML AML
comp=E,380µm,0.6s
MIGL AML AML
comp=N,326µm,0.4s
ROVR Rover Verones 3.26 332 ⇑P **Pn 17 00 56.2 +0.6**
ROVR AML AML
comp=N,56µm,1.5s
ROVR AML AML
comp=E,34µm,1.0s
ROVR AML AML
comp=E,34µm,1.0s
ROVR AML AML
comp=N,56µm,0.5s
CGRP Cima Grappa 3.27 342 S **Sn 17 01 34.0 -0.9**
STON Ston 3.29 87 P **Pn 17 00 54.9 -0.9**
STON AML AML
comp=N,60µm,0.5s
STON AML AML
comp=E,53µm,0.8s
LJU Ljubljana 3.39 15 S **Sn 17 01 38.0 +0.2**
DOSS Dosso del Somm 3.43 335 ⇑P **Pn 17 00 59.0 +1.1**
DOSS AML AML
comp=E,105µm,1.6s
DOSS AML AML
comp=N,124µm,0.5s
DOSS AML AML
comp=N,124µm,1.5s
DOSS AML AML
comp=E,105µm,0.4s
SALO Salr 3.44 326 ⇑P **Pn 17 00 59.9 +1.9**
STAL STALIGIAL 3.50 354 ⇑P **Pn 17 00 58.9 +0.2**
STAL AML AML
comp=E,135µm,0.4s
STAL AML AML
comp=N,115µm,1.2s
STAL AML AML
comp=E,135µm,1.6s
STAL AML AML
comp=N,115µm,0.8s
MAGA Magasa 3.53 329 P **Pn 17 01 00.3 +1.0**
MAGA S **Sn 17 01 41.0 -0.4**
MAGA AML AML
comp=E,238µm,0.4s
MAGA AML AML
comp=N,204µm,0.4s
MAGA AML AML
comp=N,204µm,1.6s
ORI Oriolo Calabro 3.63 137 S **Sn 17 01 42.0 -1.7**
ACOM Acomizza, Ital 3.77 3 ⇑P **Pn 17 01 03.0 +0.3**
ACOM AML AML
comp=N,158µm,0.6s
ACOM AML AML
comp=E,160µm,0.8s
ACOM AML AML
comp=N,127µm,0.6s
ACOM AML AML
comp=E,182µm,0.7s
ZOU Zoufplan 3.78 357 ⇑P **Pn 17 01 02.5 -0.2**
ZOU AML AML
comp=E,99µm,1.1s
ZOU AML AML
comp=N,79µm,1.6s
ZOU AML AML
comp=N,97µm,0.9s
ZOU AML AML
comp=N,97µm,1.1s
ZOU AML AML
comp=E,99µm,0.9s
ZOU AML AML
comp=E,103µm,0.9s
ZOU AML AML
comp=N,79µm,0.4s
MABI Malga Bissina 3.81 330 P **Pn 17 01 04.1 +1.0**
MABI AML AML
comp=E,33µm,0.7s
MABI AML AML
comp=N,42µm,0.4s
MYKA Terra Mystica 3.86 4 *i* Pn **Pn 17 01 04.2 +0.5**
comp=N,2.3nm,0.2s
MYKA *i* Sn **Sn 17 01 49.4 0.0**
comp=N,9.8nm,0.4s
KOSI Kohlern 3.91 341 ⇓P **Pn 17 01 05.0 +0.5**
BOSI Bolzano 3.96 340 S **Sn 17 01 53.0 +1.3**
ABTA Abfaltersbach 4.00 353 *e*Pn **Pn 17 01 06.0 +0.4**
comp=N,19nm,0.4s,SNR=14
RISI Rein 4.25 349 ⇑P **Pn 17 01 10.5 +1.3**
KBA Koelnbreinsper 4.30 1 *e*Pn **Pn 17 01 10.1 +0.3**
comp=N,8.7nm,0.5s,SNR=20
KBA *i* Sn **Sn 17 01 59.9 -0.5**
comp=N,16nm,0.5s
ROSI Rosskopf 4.35 343 ⇓P **Pn 17 01 11.6 +1.1**
SBF Sospel 4.37 286 *e*Pn **Pn 17 01 10.5 -0.2**
SBF *e*Sn **Sn 17 02 04.1 +2.2**
comp=N,16nm,0.5s
VSL Villasalto 4.39 223 ⇓P **Pn 17 01 11.8 +0.9**
FETA Feichten 4.60 338 *e*Pn **Pn 17 01 15.7 +1.7**
comp=N,3.3nm,0.3s
WTTA Wattenberg 4.62 346 *e*Pn **Pn 17 01 16.1 +1.8**
comp=N,1.7nm,0.2s,SNR=4.9
WTTA *e*Sn **Sn 17 02 07.7 -0.7**
comp=N,12nm,0.4s
DAVOX Davos/Dischmat 4.66 330 Pn **Pn 17 01 17.2 +2.4**
comp=N,1.9nm,0.3s,baz=148,slow=19,SNR=20
DAVOX Sn **Sn 17 02 13.0 +3.7**
comp=N,1.0nm,0.3s,baz=127,slow=20,SNR=2.0
DAVOX LR LR 17 03 45.8
comp=N,47nm,20.2s,baz=138,slow=47
comp=N,5.6nm,0.3s
SQTA Sankt Quirin 4.67 343 *i* Pn **Pn 17 01 17.0 +2.2**
comp=N,3.2nm,0.2s
WATA Walderalm 4.71 346 *i* Pn **Pn 17 01 17.5 +2.1**
comp=N,1.9nm,0.2s
WATA *i* Sn **Sn 17 02 10.2 -0.1**
comp=N,6.6nm,0.2s
ARSA Arzberg 4.75 19 *i* Pn **Pn 17 01 18.2 +2.2**
comp=N,1.6nm,0.3s
ARSA *i* Sn **Sn 17 02 08.9 -2.5**

comp=N,4.6nm,0.3s
MOTA Moosalm 4.81 342 *i* Pn **Pn 17 01 19.1 +2.2**
comp=N,1.3nm,0.2s
MOTA *i* Sn **Sn 17 02 14.1 +1.3**
comp=N,7.7nm,0.4s
BIOA Bad Ischl, Aus 4.92 3 *e*Pn **Pn 17 01 18.3 +0.1**
comp=N,5.9nm,0.2s,SNR=14
BIOA *i* Sn **Sn 17 02 16.5 +1.0**
comp=N,15nm,0.5s
LMR La Mourre 4.96 279 *e*Pn **Pn 17 01 19.0 +0.2**
LMR *e*Sn **Sn 17 02 14.5 -1.9**
comp=N,3.8nm,0.5s
RETA Reutte 5.02 340 *e*Pn **Pn 17 01 21.5 +1.8**
comp=N,3.3nm,0.3s,SNR=6.9
RETA *e*Sn **Sn 17 02 18.7 +0.7**
comp=N,4.3nm,0.4s
MBDF Montbardon 5.07 295 *e*Pn **Pn 17 01 21.2 +0.8**
MBDF Montbardon 5.07 295 *e*P Pn 17 01 25.6 +5.2
MBDF *e*Sn **Sn 17 02 22.1 +2.7**
comp=N,6.8nm,0.6s
DAVA Damuels 5.09 333 *e*Pn **Pn 17 01 23.2 +2.5**
comp=N,2.6nm,0.3s
DAVA *e*Sn **Sn 17 02 21.8 +1.9**
comp=N,12nm,0.5s
MOA Molln 5.12 8 *i* Pn **Pn 17 01 21.6 +0.6**
comp=N,0.6nm,0.1s
MOA *i* Sn **Sn 17 02 20.0 -0.4**
comp=N,4.1nm,0.4s
LPG La Plagne 5.40 302 *e*Pn **Pn 17 01 25.8 +0.7**
LPG La Plagne 5.40 302 *e*P Pn 17 01 30.0 +4.9
LPG *e*Sn **Sn 17 02 28.4 +0.8**
comp=N,1.2nm,0.4s
LPL La Plagne 5.42 303 *e*Pn **Pn 17 01 26.9 +1.6**
LPL *e*Sn **Sn 17 02 29.6 +1.5**
comp=N,5.7nm,0.5s
CONA Conrad Observa 5.47 19 *i* Pn **Pn 17 01 26.0 +0.1**
comp=N,1.1nm,0.2s,SNR=5.0
CONA *i* Sn **Sn 17 02 27.8 -1.3**
comp=N,3.5nm,0.4s
SMRF Simiane la Rot 5.71 285 *e*Pn **Pn 17 01 29.4 +0.3**
ORIF Oris-en-Rattie 5.73 294 *e*Pn **Pn 17 01 30.0 +0.5**
ORIF Oris-en-Rattie 5.73 294 *e*P **Pn 17 01 33.4 +3.9**
ORIF *e*Sn **Sn 17 02 35.3 -0.3**
comp=N,2.6nm,0.4s
GERES GERESS Array B 6.08 3 Pn **Pn 17 01 33.1 -1.1**
comp=N,0.5nm,0.3s,baz=177,slow=12,SNR=13
GERES Sn **Sn 17 02 41.4 -2.6**
comp=N,2.2nm,0.3s,baz=175,slow=22,SNR=12
CKRC Cesky Krumlov 6.09 7 *e*SN **Sn 17 02 40.2 -4.0**
KHC Kasperske Hory 6.36 2 *e*PN **Pn 17 01 37.6 -0.4**
KHC *e*SN **Sn 17 02 47.4 -3.4**
CABF La Chapelle 6.37 309 *e*Pn **Pn 17 01 38.7 +0.4**
VIVF Saint-Julien-l 6.53 291 *e*Pn **Pn 17 01 41.8 +1.4**
HINF Hinteralfeld 6.75 320 *e*Pn **Pn 17 01 43.6 +0.2**
HINF *e*Sn **Sn 17 03 00.8 +0.2**
comp=N,7.6nm,0.4s
LASF Ste Croix 6.95 284 *e*Pn **Pn 17 01 46.6 +0.5**
CDF Champ du Feu 7.01 325 *e*Pn **Pn 17 01 47.0 0.0**
CDF *e*Sn **Sn 17 03 06.0 -1.1**
comp=N,5.0nm,0.4s
HAU Haudompre 7.13 320 *e*Pn **Pn 17 01 48.7 +0.2**
HAU *e*Sn **Sn 17 03 08.6 -1.2**
comp=N,5.6nm,0.4s
LOR Lormes 8.01 307 *e*Pn **Pn 17 02 01.4 +0.7**
baz=127
LOR *e*Sn **Sn 17 03 31.1 -0.5**
comp=N,1.6nm,0.4s
MEZF Maizieres J'vi 8.10 318 *e*Pn **Pn 17 02 01.8 0.0**
SAVF Savonnieres en 8.14 319 *e*Pn **Pn 17 02 02.7 +0.3**
baz=140
BGF Bois d'Agland 8.31 301 *e*Pn **Pn 17 02 05.1 +0.3**
MDT Midelt 17.23 241 LR LR 17 10 29.5
comp=N,21nm,21.8s,baz=26,slow=36
FINES FINESS Array B 20.22 18 P **P 17 04 38.6 -0.5**
comp=N,1.5nm,0.9s,baz=202,slow=10,SNR=3.4
comp=N,1.5nm,0.9s
TORD Torodi Ar. Bea 31.17 202 P **P 17 06 25.4 +1.9**
comp=N,0.3nm,0.6s,baz=16,slow=11,SNR=1.5
comp=N,0.3nm,0.6s
SADO Sadowa 63.05 307 LR LR 17 36 37.7
comp=N,81nm,18.4s,baz=356,slow=35

IDC 10 17:02:09.6±6.9, 31°22S×178°80W, h0km, mb3.5/2, mbtmp3.5/2, MS3.2/2, Error ellipse: s-maj=286.2km s-min=59.4km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.39**	**268**	P	P	17 10 05.7	-0.3
	0.5nm,0.9s,baz=106,slow=7.2,SNR=10.0						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**43.45**	**273**	P	P	17 10 14.6	0.0
	0.8nm,0.7s,baz=114,slow=7.5,SNR=6.5						
	0.8nm,0.7s						
RPN	**Rapa Nui**	**59.88**	**105**	LR	LR	17 33 00.8	
	comp=Z,22nm,21.2s,baz=196,slow=31						
JCJ	**Chichijima**	**68.92**	**323**	LR	LR	17 39 02.5	
	comp=Z,12nm,19.2s,baz=142,slow=32						
H03S2	**Juan Fernandez**	**80.58**	**124**	T	T	18 42 52.9	
	baz=236,SNR=73						
H03S1	**Juan Fernandez**	**80.59**	**124**	T	T	18 42 53.5	
	baz=236,SNR=56						
H03S3	**Juan Fernandez**	**80.60**	**124**	T	T	18 42 53.8	
	baz=236						
H03N3	**Juan Fernandez**	**80.78**	**123**	T	T	18 43 03.4	
	baz=241,slow=72						
H03N2	**Juan Fernandez**	**80.78**	**123**	T	T	18 43 02.6	
	baz=241,slow=72						
H03N1	**Juan Fernandez**	**80.80**	**123**	T	T	18 43 04.8	
	baz=241,slow=72						
FINES	**FINESS Array B**	**145.67**	**339**	PKPbc	PKPdf	17 21 48.7	-0.5
	0.6nm,0.5s,baz=67,slow=4.7,SNR=4.8						

*IDC **10** 17:03:39.6±1.2, 31°35S×178°63W, h0km, mb4.1/6, mbtmp4.1/7, ML3.8/1, MS3.5/3, Error ellipse: s-maj=30.9km s-min=28.0km az=58.0*
*NEIC **10** 17:03:42.9±1.0, 31°5S±0°1×178°8W±0°2, h10km±2km, mb4.4/13, Error ellipse: s-maj=24.1km s-min=17.7km az=92.0*

ISC 10 17:03:41.7±0.9, 31°46S±0°09×178°8W±0°1, h10km, n37, σ1°29/29, mb4.4/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.55**	**201**	Pn	**Pn**	**17 05 19.0**	**+0.9**
OUZ	**Omahuta**	**7.40**	**238**	Pn	**Pn**	**17 05 30.6**	**+0.7**
URZ	**Urewera**	**7.58**	**205**	Pn	**Pn**	**17 05 32.4**	**+0.2**
	1.4nm,0.3s,baz=210,slow=1.5,SNR=6.4						
URZ				Sn	**Sn**	**17 06 55.4**	**-2.7**
	1.0nm,0.3s,baz=31,slow=16,SNR=2.4						
	7.1nm,0.7s						
BFZ	**Birch Farm**	**10.04**	**202**	Pn	**Pn**	**17 06 06.0**	**0.0**
KHZ	**Kahutara**	**12.54**	**207**	Pn	**Pn**	**17 06 38.4**	**-1.8**
DZM	**Mont Dzumac**	**16.16**	**302**	LR	LR	17 12 43.5	
	comp=Z,201nm,18.4s,baz=206,slow=34						
CTA	**Charters Tower**	**33.33**	**281**	P	**P**	**17 10 21.9**	**+1.8**
	8.6nm,1.1s,baz=106,slow=13,SNR=3.6						
	8.6nm,1.1s						
CTAO	**Charters Tower**	**33.33**	**281**	P	**P**	**17 10 19.1**	**-1.0**
KRVT	**Keravat (AS076**	**38.50**	**309**	P	**P**	**17 11 03.9**	**-0.4**
	17nm,0.9s,baz=169,slow=17,SNR=4.3						
	17nm,0.9s						
AS31	**Alice Springs**	**42.40**	**268**	P	**P**	**17 11 36.7**	**0.0**
ASAR	**Alice Springs**	**42.40**	**268**	P	**P**	**17 11 36.5**	**-0.2**
	1.7nm,0.8s,baz=106,slow=7.3,SNR=34						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**42.40**	**268**	P	**P**	**17 11 35.5**	**-1.1**
WR0	**Warramunga Arr**	**43.31**	**274**	P	**P**	**17 11 43.1**	**-0.9**
WR0				IAmb	IAmb	17 11 45.0	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**43.48**	**274**	P	**P**	**17 11 45.2**	**-0.2**
WB2				IAmb	IAmb	17 11 46.7	
	comp=Z,4.8nm,0.8s						
WRA	**Warramunga Arr**	**43.49**	**274**	P	**P**	**17 11 45.4**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=114,slow=7.8,SNR=22						
	comp=Z,3.5nm,0.7s						
WRA	**Warramunga Arr**	**43.49**	**274**	P	**P**	**17 11 45.1**	**-0.4**
WB0	**Warramunga Arr**	**43.52**	**274**	P	**P**	**17 11 45.8**	**+0.1**
WB0				IAmb	IAmb	17 11 46.9	
	comp=Z,5.2nm,0.8s						
SBA	**Scott Base**	**46.94**	**184**	P	**P**	**17 12 15.1**	**+3.1**
SBA				IAmb	IAmb	17 12 22.4	
	comp=Z,4.5nm,1.4s						
VNDA	**Vanda**	**46.98**	**186**	P	**P**	**17 12 13.8**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=45,slow=4.3,SNR=1.9						
	comp=Z,0.5nm,0.7s						
VNDA	**Vanda**	**46.98**	**186**	P	**P**	**17 12 13.3**	**+0.9**
MTN	**Manton Dam**	**49.50**	**280**	P	**P**	**17 12 32.4**	**-0.3**
MTN				IAmb	IAmb	17 12 42.0	
	comp=Z,4.9nm,0.8s						
KNRA	**Kununurra**	**50.13**	**276**	P	**P**	**17 12 37.8**	**+0.3**
KNRA				IAmb	IAmb	17 13 04.8	
	comp=Z,9.5nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.70**	**271**	P	**P**	**17 12 49.3**	**-0.1**
FITZ				IAmb	IAmb	17 13 10.5	
	comp=Z,5.6nm,1.2s						
SIJI	**Sorong**	**56.12**	**293**	LR	LR	17 39 10.2	
	comp=Z,35nm,18.1s,baz=122,slow=38						
QSPA	**South Pole Qui**	**58.65**	**180**	P	**P**	**17 13 40.3**	**+1.2**
GIRL	**Giralia**	**59.51**	**261**	P	**P**	**17 13 47.1**	**+1.7**
DAV	**Davao City (W)**	**65.47**	**296**	LR	LR	17 42 30.8	
	comp=Z,22nm,19.7s,baz=126,slow=36						
H03S2	**Juan Fernandez**	**80.43**	**124**	T	T	18 44 24.5	
	baz=237						
H03S1	**Juan Fernandez**	**80.44**	**124**	T	T	18 44 24.3	
	baz=237						
H03S3	**Juan Fernandez**	**80.45**	**124**	T	T	18 44 24.0	
	baz=237						
H03N3	**Juan Fernandez**	**80.63**	**123**	T	T	18 44 36.6	
	baz=241,slow=72,SNR=89						
H03N2	**Juan Fernandez**	**80.64**	**123**	T	T	18 44 32.3	
	baz=241,slow=72,SNR=65						
H03N1	**Juan Fernandez**	**80.65**	**123**	T	T	18 44 32.7	
	baz=241,slow=72,SNR=132						
NVAR	**Mina Array Bea**	**89.47**	**43**	P	**P**	**17 16 37.8**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=212,slow=3.8,SNR=1.9						
	comp=Z,0.1nm,0.4s						
FINES	**FINESS Array B**	**145.90**	**339**	PKPbc	**PKPbc**	**17 23 20.1**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=57,slow=4.2,SNR=24						
BRTR	**Keskin Array B**	**152.50**	**296**	PKPbc	**PKPbc**	**17 23 36.2**	**-2.2**
	comp=Z,1.1nm,0.9s,baz=94,slow=5.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**161.77**	**181**	PKPab	**PKPab**	**17 24 28.2**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=212,slow=2.9,SNR=1.5						

IDC 10 17:25:00.4±8.9, 30°71S×179°01W, h0km, mb3.4/2, mbtmp3.4/2, MS3.4/1, Error ellipse: s-maj=375.8km s-min=65.5km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.61**	**300**	LR	LR	17 33 29.3	
	comp=Z,135nm,20.7s,baz=36,slow=33						
ASAR	**Alice Springs**	**42.22**	**268**	P	P	17 32 55.0	-0.5
	0.5nm,0.8s,baz=106,slow=7.2,SNR=4.3						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**43.24**	**273**	P	P	17 33 04.0	+0.2
	0.5nm,0.7s,baz=113,slow=8.0,SNR=3.7						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**145.13**	**339**	PKPbc	PKPbc	17 44 37.8	-0.9
	1.2nm,1.0s,baz=43,slow=2.9,SNR=1.5						

*IDC **10** 17:25:08.2±1.1, 31°46S×178°87W, h0km, mb4.2/7, mbtmp4.2/8, ML3.7/1, MS3.5/1, Error ellipse: s-maj=29.4km s-min=23.0km az=63.0*
*NEIC **10** 17:25:09.2±1.1, 31°3S±0°1×178°7W±0°2, h10km±2km, mb4.7/11, Error ellipse: s-maj=23.5km s-min=20.9km az=114.0*

ISC 10 17:25:09.5±0.8, 31°37S±0°09×178°9W±0°1, h10km, n38, σ1°22/31, mb4.4/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUZ	**Omahuta**	**7.36**	**237**	Pn	**Pn**	**17 26 57.4**	**+0.4**
URZ	**Urewera**	**7.61**	**204**	Pn	**Pn**	**17 27 00.2**	**-0.3**
	1.0nm,0.3s,baz=31,slow=14,SNR=4.3						
URZ				Sn	**Sn**	**17 28 26.3**	**-0.5**
	0.6nm,0.3s,baz=32,slow=12,SNR=1.9						
	18nm,0.8s						
URZ	**Urewera**	**7.61**	**204**	Pn	**Pn**	**17 27 01.4**	**+0.9**
DZM	**Mont Dzumac**	**16.02**	**302**	LR	LR	17 33 29.0	
	comp=Z,149nm,18.9s,baz=36,slow=31						
CTA	**Charters Tower**	**33.20**	**281**	P	**P**	**17 31 47.8**	**+1.0**
	10nm,1.3s,baz=108,slow=15,SNR=3.0						
	10nm,1.3s						
KRVT	**Keravat (AS076**	**38.35**	**309**	P	**P**	**17 32 30.4**	**-0.5**
	18nm,0.9s,baz=170,slow=6.9,SNR=3.6						
	18nm,0.9s						
KWAJ	**Kwajalein Atol**	**41.98**	**340**	P	**P**	**17 32 57.9**	**-3.0**
KWAJ				IAmb	IAmb	17 33 26.0	
	comp=Z,67nm,0.9s						
AS31	**Alice Springs**	**42.29**	**268**	P	**P**	**17 33 03.8**	**+0.3**
ASAR	**Alice Springs**	**42.29**	**268**	P	**P**	**17 33 04.3**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=107,slow=7.1,SNR=17						
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**42.29**	**268**	P	**P**	**17 33 04.0**	**+0.4**
WR0	**Warramunga Arr**	**43.19**	**274**	P	**P**	**17 33 10.7**	**-0.1**
WR0				IAmb	IAmb	17 33 12.5	
	comp=Z,4.1nm,0.9s						
WB2	**Warramunga Arr**	**43.36**	**274**	P	**P**	**17 33 12.7**	**+0.5**
WB2				IAmb	IAmb	17 33 17.6	
	comp=Z,6.7nm,1.0s						
WRA	**Warramunga Arr**	**43.37**	**274**	P	**P**	**17 33 13.3**	**+1.0**
	comp=Z,4.6nm,0.8s,baz=113,slow=8.0,SNR=18						
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**43.37**	**274**	P	**P**	**17 33 12.7**	**+0.3**
WB0	**Warramunga Arr**	**43.39**	**274**	P	**P**	**17 33 12.3**	**-0.3**
WB0				IAmb	IAmb	17 33 18.3	
	comp=Z,5.8nm,0.8s						
KNRA	**Kununurra**	**50.01**	**276**	P	**P**	**17 34 04.9**	**+0.5**
KNRA				IAmb	IAmb	17 34 41.8	
	comp=Z,16nm,1.5s						
FITZ	**Fitzroy Crossi**	**51.59**	**271**	P	**P**	**17 34 17.0**	**+0.7**
SAUI	**Saumlaki**	**51.80**	**286**	P	**P**	**17 34 16.3**	**-1.6**
WAKE	**Wake Island**	**52.24**	**343**	P	P	17 34 16.8	-4.1
WAKE				IAmb	IAmb	17 34 28.1	
	comp=Z,153nm,1.1s						
QSPA	**South Pole Qui**	**58.74**	**180**	P	**P**	**17 35 07.7**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=33,slow=4.3,SNR=6.8						
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**58.74**	**180**	P	**P**	**17 35 07.6**	**+0.2**
QSPA				IAmb	IAmb	17 35 09.2	
	comp=Z,3.8nm,1.1s						
GIRL	**Giralia**	**59.41**	**261**	P	**P**	**17 35 14.3**	**+1.7**
TROLL	**Troll, Antarti**	**76.90**	**180**	P	**P**	**17 37 01.0**	**-0.7**
SNAA	**Sanae**	**77.21**	**179**	P	**P**	**17 37 03.0**	**-0.4**
SNAA	**Sanae**	**77.21**	**179**	P	**P**	**17 37 02.3**	**-1.0**
	comp=Z,1.0nm,1.0s,baz=173,slow=8.1,SNR=3.0						
	comp=Z,1.0nm,1.0s						
VNA3	**Neumayer Olymp**	**77.39**	**176**	P	**P**	**17 37 03.2**	**-1.1**
VNA2	**Neumayer--Watz**	**77.81**	**177**	P	**P**	**17 37 05.3**	**-1.3**
	baz=177,slow=4.9						
H03S2	**Juan Fernandez**	**80.58**	**124**	T	T	19 05 53.5	
	baz=234,SNR=122						
H03S1	**Juan Fernandez**	**80.59**	**124**	T	T	19 05 56.2	
	baz=234,SNR=115						
H03S3	**Juan Fernandez**	**80.60**	**124**	T	T	19 05 55.1	
	baz=234,SNR=120						
H03N3	**Juan Fernandez**	**80.78**	**123**	T	T	19 06 06.2	
	baz=241,slow=72,SNR=64						
H03N2	**Juan Fernandez**	**80.78**	**123**	T	T	19 06 02.4	
	baz=241,slow=72,SNR=45						
H03N1	**Juan Fernandez**	**80.79**	**123**	T	T	19 06 05.3	
	baz=241,slow=72,SNR=164						
NVAR	**Mina Array Bea**	**89.48**	**43**	P	**P**	**17 38 09.5**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=237,slow=8.3,SNR=2.6						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**145.78**	**339**	PKPbc	**PKPdf**	**17 44 47.5**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=62,slow=3.8,SNR=5.7						
BRTR	**Keskin Array B**	**152.35**	**297**	PKPbc	**PKPbc**	**17 45 05.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=93,slow=2.9,SNR=4.6						
CLL	**Collm**	**158.22**	**340**	*e*PKPab	**PKPab**	**17 45 43.0**	**+2.6**
TORD	**Torodi Ar. Bea**	**161.86**	**182**	PKPab	**PKPab**	**17 45 55.2**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=182,slow=5.4,SNR=3.8						

IDC 10 17:45:29.2±3.0, 31°40S×178°78W, h0km, mb3.6/2, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=68.8km s-min=47.2km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.63**	**205**	Pn	Pn	17 47 21.6	0.0
	0.4nm,0.3s,baz=31,slow=14,SNR=0.9						
URZ				Sn	Sn	17 48 41.2	-7.6
	0.4nm,0.3s,baz=31,slow=16,SNR=1.6						
	2.5nm,0.6s						
ASAR	**Alice Springs**	**42.40**	**268**	P	P	17 53 25.4	-0.2
	0.5nm,0.8s,baz=107,slow=7.3,SNR=10						
	0.5nm,0.8s						

WRA	**Warramunga Arr**	**43.48 274**	P	P	17 53 34.3	-0.1
	0.8nm,0.7s,baz=114,slow=7.7,SNR=7.9					
	0.8nm,0.7s					
H03S2	**Juan Fernandez**	**80.47 124**	T	T	19 26 15.3	
	baz=238					
H03S1	**Juan Fernandez**	**80.48 124**	T	T	19 26 12.1	
	baz=238					
H03S3	**Juan Fernandez**	**80.49 124**	T	T	19 26 11.3	
	baz=238					
H03N3	**Juan Fernandez**	**80.67 123**	T	T	19 26 23.6	
	baz=241,slow=72,SNR=27					
H03N2	**Juan Fernandez**	**80.67 123**	T	T	19 26 24.2	
	baz=241,slow=72,SNR=28					
H03N1	**Juan Fernandez**	**80.69 123**	T	T	19 26 26.5	
	baz=241,slow=72,SNR=68					
FINES	**FINESS Array B**	**145.84 339**	PKPbc	PKPdf	18 05 08.8	-0.2
	1.1nm,0.8s,baz=58,slow=3.4,SNR=5.9					

*IDC **10** 17:46:03.4±1.4,9°.60S×111°.69E,h0km,mb3.7/7, mbtmp3.8/9,ML3.7/2,Error ellipse: s-maj=56.1km s-min=18.0km az=49.0*

ISC 10 17:46:08.5±1.2,9.7S±0.2×111.7E±0.2,h35km,n9,σ1§08/9, mb3.7/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**11.78**	**94**	Pn	**Pn**	**17 48 54.2**	**+0.1**
	2.2nm,0.3s,baz=255,slow=16,SNR=2.1						
	7.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.89**	**123**	Pn	**Pn**	**17 49 47.5**	**-2.2**
	0.1nm,0.3s,baz=327,slow=22,SNR=1.5						
FITZ				Sn	Sn	17 52 30.9	-14
	0.1nm,0.3s,baz=232,slow=2.9,SNR=2.2						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**24.11**	**118**	P	**P**	**17 51 21.4**	**+0.2**
	1.0nm,0.7s,baz=293,slow=11,SNR=23						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**25.35**	**126**	P	**P**	**17 51 33.0**	**+0.5**
	0.8nm,0.7s,baz=302,slow=9.0,SNR=20						
	0.8nm,0.7s						
STKA	**Stephens Creek**	**35.41**	**133**	P	**P**	**17 53 02.2**	**+0.9**
	1.1nm,0.7s,baz=318,slow=12,SNR=3.8						
	1.1nm,0.7s						
KSRS	**Korea Array**	**49.26**	**17**	P	**P**	**17 54 53.6**	**-0.1**
	1.3nm,0.9s,baz=210,slow=7.1,SNR=4.5						
	1.3nm,0.9s						
SONM	**Songino Array**	**57.43**	**356**	P	**P**	**17 55 53.4**	**-0.4**
	0.3nm,0.5s,baz=159,slow=8.6,SNR=3.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**62.03**	**338**	P	**P**	**17 56 24.9**	**-0.5**
	0.5nm,0.4s,baz=150,slow=7.3,SNR=10						
	0.5nm,0.4s						
BRTR	**Keskin Array B**	**87.08**	**311**	P	**P**	**17 58 51.7**	**+0.7**
	0.4nm,0.8s,baz=134,slow=8.4,SNR=3.0						
	0.4nm,0.8s						

*IDC **10** 17:53:08.1±3.4,36°.57N×139°.98E,h98km±26km,mb3.3/2, mbtmp3.7/3,MS2.5/2,Error ellipse: s-maj=47.1km s-min=12.6km az=61.0*

*JMA **10** 17:53:09.5±0.1,36°.6N±0°.4×139°.9E±0°.5,h97km,MV3.1/34, NORTHERN TOCHIGI PREF*

ISC 10 17:53:09.1±1.1,36°.58N±0°.06×139°.83E±0°.06,h100km,n20, σ0§76/17,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.34**	**243**	P	**Pn**	**17 53 23.9**	**-0.1**
JAG				*e*S	**Sn**	**17 53 34.8**	**-0.2**
JKT	**Katashina**	**0.50**	**292**	P	**Pn**	**17 53 25.3**	**+0.2**
JFY	**Yanaizu**	**0.83**	**353**	P	**Pn**	**17 53 27.9**	**+0.1**
JUON	**Uonuma**	**0.88**	**316**	P	**Pn**	**17 53 28.5**	**+0.2**
JUON				*e*S	**Sn**	**17 53 43.0**	**+0.3**
JRY	**Ryogami san**	**0.94**	**233**	P	**Pn**	**17 53 29.6**	**+0.6**
JFT	**Otama**	**1.02**	**23**	P	**Pn**	**17 53 30.1**	**+0.3**
JFK	**Kawauchi**	**1.15**	**47**	P	**Pn**	**17 53 31.4**	**+0.2**
JFK				*e*S	**Sn**	**17 53 47.6**	**-0.3**
MJAR	**Matsushiro Arr**	**1.30**	**269**	P	**Pn**	**17 53 31.0**	**-2.0**
	29nm,0.4s,baz=83,slow=11,SNR=141						
MJAR				S	**Sn**	**17 53 52.3**	**+1.2**
	9.3nm,0.4s,baz=92,slow=28,SNR=3.4						
MAT	**Matsushiro**	**1.30**	**269**	P	**Pn**	**17 53 33.7**	**+0.6**
JHJ	**Hachijo jima 2**	**3.45**	**181**	P	**Pn**	**17 54 01.6**	**+0.6**
	39nm,0.3s,baz=65,slow=19,SNR=9.8						
JHJ				S	**Sn**	**17 54 40.2**	**-0.8**
	68nm,0.6s,baz=82,slow=21,SNR=1.9						
KSRS	**Korea Array**	**9.56**	**279**	LR	LR	17 58 06.7	
	comp=Z,5.8nm,19.7s,baz=150,slow=31						
H11N2	**WAKE ISLAND Hy**	**29.04**	**118**	T	T	18 29 17.2	
	baz=312,slow=75,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**29.04**	**118**	T	T	18 29 19.3	
	baz=312,slow=75,SNR=2.3						
H11N3	**WAKE ISLAND Hy**	**29.05**	**118**	T	T	18 29 21.5	
	baz=312,slow=75,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**29.71**	**120**	T	T	18 30 05.6	
	baz=314,slow=75,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**29.71**	**120**	T	T	18 30 07.0	
	baz=314,slow=75,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**29.72**	**120**	T	T	18 30 08.2	
	baz=314,slow=75,SNR=4.6						
ZALV	**Zalesovo Beam**	**41.28**	**313**	P	**P**	**18 00 43.9**	**-0.5**
	0.4nm,0.3s,baz=74,slow=8.1,SNR=2.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**43.28**	**302**	P	**P**	**18 01 00.8**	**+0.1**
	0.5nm,0.6s,baz=93,slow=9.2,SNR=6.0						
	0.5nm,0.6s						
PMG	**Port Moresby**	**46.26**	**170**	LR	LR	18 20 46.0	
	comp=Z,31nm,20.4s,baz=130,slow=36						

*NEIC **10** 17:57:30.0±1.9,31°.5S±0°.1×178°.6W±0°.2,h10km±1km, mb4.4/8,Error ellipse: s-maj=23.8km s-min=19.5km az=88.0*

*IDC **10** 17:57:35.4±1.6,31°.57S×178°.88W,h44km±16km,mb3.7/6, mbtmp4.0/8,ML4.2/2,MS3.5/14,Error ellipse: s-maj=23.4km s-min=11.8km az=112.0*

ISC 10 17:57:35.1±0.6,31°.54S±0°.07×178.9W±0°.1,h35km,n60, σ1§13/46,mb4.1/10,MS3.5/10,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.44**	**21**	P	**Pn**	**17 58 14.0**	**+1.5**
	90nm,0.3s,baz=282,slow=24,SNR=2.7						
RAO				S	**Sn**	**17 58 41.6**	**+0.4**
	350nm,0.3s,baz=253,slow=19,SNR=2.8						
	241nm,0.3s						
WMGZ	**Waiomatatini S**	**6.64**	**198**	P	**Pn**	**17 59 11.5**	**+1.4**
HAZ	**Te Kaha**	**6.77**	**203**	P	**Pn**	**17 59 12.3**	**+0.3**
PKGZ	**Pakihiroa**	**6.80**	**200**	P	**Pn**	**17 59 12.2**	**-0.2**
PUZ	**Puketiti**	**6.92**	**199**	P	**Pn**	**17 59 14.5**	**+0.5**
RUGZ	**Raukumara Rang**	**6.99**	**203**	P	**Pn**	**17 59 16.3**	**+1.2**
TWGZ	**Tauwhareparae**	**7.09**	**200**	P	**Pn**	**17 59 18.4**	**+2.0**
OUZ	**Omahuta**	**7.24**	**238**	Pn	**Pn**	**17 59 19.2**	**+0.7**
CNGZ	**Carnagh Statio**	**7.32**	**198**	P	**Pn**	**17 59 20.4**	**+1.0**
MWZ	**Matawai**	**7.38**	**202**	P	**Pn**	**17 59 19.8**	**-0.6**
URZ	**Urewera**	**7.45**	**205**	P	**Pn**	**17 59 22.6**	**+1.3**
	2.2nm,0.3s,baz=17,slow=0.5,SNR=16						
URZ				S	**Sn**	**18 00 45.0**	**+0.5**
	14nm,0.7s,baz=211,slow=22,SNR=2.3						
URZ				LR	LR	18 02 00.4	
	comp=Z,186nm,19.6s,baz=36,slow=36						
	4.9nm,0.3s						
URZ	**Urewera**	**7.45**	**205**	Pn	**Pn**	**17 59 20.4**	**-0.9**
URZ	**Urewera**	**7.45**	**205**	P	**Pn**	**17 59 21.9**	**+0.6**
RIGZ	**Rimuhau**	**7.65**	**200**	P	**Pn**	**17 59 24.9**	**+0.8**
MUGZ	**Murupara**	**7.77**	**206**	P	**Pn**	**17 59 26.0**	**+0.3**
SNGZ	**Shannon Statio**	**7.84**	**202**	P	**Pn**	**17 59 25.0**	**-1.7**
MTHZ	**Maungataniwha**	**8.07**	**204**	P	**Pn**	**17 59 31.0**	**+1.1**
NMHZ	**Naumai**	**8.30**	**204**	P	**Pn**	**17 59 33.2**	**+0.1**
BKZ	**Black Stump Fm**	**8.48**	**205**	Pn	**Pn**	**17 59 34.6**	**-0.9**
BKZ	**Black Stump Fm**	**8.48**	**205**	P	**Pn**	**17 59 36.7**	**+1.3**
HIZ	**Hauiti**	**8.62**	**214**		**Pn**	**17 59 38.0**	**+0.7**
OTVZ	**Oturere**	**8.79**	**209**	P	**Pn**	**17 59 41.1**	**+1.2**
MSVF	**Nonsavu**	**14.01**	**348**	LR	LR	18 05 15.3	
	comp=Z,200nm,18.7s,baz=107,slow=33						
RPZ	**Rata Peaks**	**14.50**	**210**	LR	LR	18 06 15.7	
	comp=Z,109nm,21.2s,baz=35,slow=36						
DZM	**Mont Dzumac**	**16.08**	**302**	LR	LR	18 06 13.9	
	comp=Z,246nm,19.8s,baz=212,slow=32						
ARMA	**Armidale**	**25.23**	**265**	P	**P**	**18 02 58.5**	**+0.5**
CTA	**Charters Tower**	**33.21**	**282**	P	**P**	**18 04 09.8**	**+0.9**
	1.8nm,0.3s,baz=106,slow=12,SNR=3.6						
CTA				LR	LR	18 15 42.4	
	comp=Z,96nm,18.4s,baz=178,slow=33						
	1.8nm,0.3s						

BBOO	**Buckleboo**	**37.90**	**256**	P	**P**	**18 04 49.1**	**+0.1**
KRVT	**Keravat (AS076**	**38.44**	**309**	P	**P**	**18 04 52.8**	**-0.8**
	18nm,0.6s,baz=76,slow=0.5,SNR=6.0						
AS31	**Alice Springs**	**42.26**	**269**	P	**P**	**18 05 26.0**	**+0.7**
ASAR	**Alice Springs**	**42.26**	**269**	P	**P**	**18 05 25.6**	**+0.3**
	1.8nm,0.8s,baz=108,slow=7.7,SNR=12						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**42.26**	**269**	P	**P**	**18 05 26.0**	**+0.7**
WB2	**Warramunga Arr**	**43.34**	**274**	P	**P**	**18 05 33.5**	**-0.6**
WB2				IAmb	IAmb	18 05 42.2	
	comp=Z,6.8nm,0.9s						
WRA	**Warramunga Arr**	**43.35**	**274**	P	**P**	**18 05 32.1**	**-2.1**
	comp=Z,3.9nm,0.7s,baz=113,slow=8.0,SNR=11						
WRA				LR	LR	18 21 55.0	
	comp=Z,148nm,18.9s,baz=128,slow=34						
	comp=Z,3.9nm,0.7s						
WRA	**Warramunga Arr**	**43.35**	**274**	P	**P**	**18 05 33.3**	**-0.9**
SBA	**Scott Base**	**46.85**	**184**	P	**P**	**18 06 03.7**	**+2.5**
SBA				IAmb	IAmb	18 06 05.2	
	comp=Z,1.4nm,0.8s						
VNDA	**Vanda**	**46.89**	**186**	P	**P**	**18 05 59.3**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=359,slow=7.3,SNR=2.2						
	comp=Z,0.4nm,0.7s						
VNDA	**Vanda**	**46.89**	**186**	P	**P**	**18 06 01.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.56**	**271**	LR	LR	18 26 37.5	
	comp=Z,85nm,18.6s,baz=152,slow=34						
QSPA	**South Pole Qui**	**58.58**	**180**	P	**P**	**18 07 29.0**	**+0.8**
QSPA				IAmb	IAmb	18 08 12.0	
	comp=Z,6.0nm,1.3s						
PMSA	**Palmer Station**	**71.56**	**156**	LR	LR	18 32 37.4	
	comp=Z,35nm,19.4s,baz=122,slow=29						
SNAA	**Sanae**	**77.04**	**179**	P	**P**	**18 09 22.6**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=185,slow=11						
SNAA				LR	LR	18 40 07.0	
	comp=Z,26nm,21.0s,baz=41,slow=33						
	comp=Z,0.4nm,0.6s						
SNAA	**Sanae**	**77.04**	**179**	P	**P**	**18 09 23.1**	**-1.1**
SNAA				IAmb	IAmb	18 09 37.2	
	comp=Z,6.5nm,1.5s						
MJAR	**Matsushiro Arr**	**78.72**	**326**	LR	LR	18 40 27.6	
	comp=Z,14nm,20.5s,baz=173,slow=33						
H03S2	**Juan Fernandez**	**80.51**	**124**	T	T	19 38 11.1	
	baz=236						
H03S1	**Juan Fernandez**	**80.52**	**124**	T	T	19 38 12.3	
	baz=236						
H03S3	**Juan Fernandez**	**80.53**	**124**	T	T	19 38 11.2	
	baz=236						
H03N3	**Juan Fernandez**	**80.71**	**123**	T	T	19 38 23.4	
	baz=242,slow=72						
H03N2	**Juan Fernandez**	**80.71**	**123**	T	T	19 38 22.5	
	baz=242,slow=72						
H03N1	**Juan Fernandez**	**80.72**	**123**	T	T	19 38 22.9	
	baz=242,slow=72						
KSRS	**Korea Array**	**84.70**	**320**	LR	LR	18 45 32.4	
	comp=Z,14nm,19.1s,baz=225,slow=34						
NVAR	**Mina Array Bea**	**89.62**	**43**	P	**P**	**18 10 29.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=235,slow=7.2,SNR=3.9						
	comp=Z,0.4nm,0.7s						
NNA	**Nana**	**93.88**	**106**	LR	LR	18 44 18.2	
	comp=Z,16nm,18.6s,baz=233,slow=30						
LVC	**Limon Verde**	**94.09**	**119**	LR	LR	18 43 48.0	
	comp=Z,13nm,19.9s,baz=234,slow=30						
CPUP	**Villa Florida**	**99.91**	**129**	LR	LR	18 47 05.4	
	comp=Z,33nm,20.9s,baz=212,slow=30						
KBZ	**Khabaz**	**145.06**	**302**	PKPbc	**PKPdf**	**18 17 08.4**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=338,slow=5.4,SNR=1.6						
FINES	**FINESS Array B**	**145.92**	**339**	PKPbc	**PKPdf**	**18 17 08.3**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=62,slow=3.3,SNR=14						
NOA	**NORSAR Array B**	**149.74**	**350**	PKPbc	**PKPbc**	**18 17 18.7**	**-1.9**
	comp=Z,0.2nm,0.7s,baz=350,slow=2.2,SNR=1.7						
AKASG	**Malin Array Be**	**151.69**	**321**	PKPbc	**PKPbc**	**18 17 24.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=64,slow=2.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**161.69**	**182**	PKPab	**PKPab**	**18 18 17.2**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=170,slow=2.1,SNR=2.0						

TEH 10 18:03:41.5,32°.08N×56°.22E,h8km,ML3.7,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBAF	**Bafgh**	**0.74**	**229**	*e*Pg	Pg	18 03 55.6	-0.1
TPRV	**Parvadeh(Tabas**	**1.03**	**23**	*e*Pg	Pn	18 04 02.1	-0.2
TPRV				*e*		18 04 21.5	
	comp=Z,17μm,0.4s						
YZKH	**Yazd**	**1.41**	**283**	*e*Pg	Pg	18 04 08.4	-0.2
IMEH	**Mehriz**	**1.53**	**244**	*e*Pg	Pg	18 04 10.9	0.0
IMEH				*e*		18 04 34.2	
	comp=Z,7μm,0.3s						
ICHK	**Chekchek**	**1.54**	**277**	*e*Pg	Pb	18 04 10.4	-0.1
ICHK				*e*		18 04 34.3	
	comp=Z,10μm,0.2s						
TKDS	**Koohdasht(Taba**	**1.71**	**26**	*e*Pn	Pb	18 04 13.3	0.0
TKDS				*e*		18 04 42.9	
	comp=Z,6μm,0.2s						
KHGB	**Koh Gabri**	**1.71**	**172**	*e*Pg	Pg	18 04 14.2	-0.2
KHGB				*e*		18 04 39.2	
	comp=Z,9μm,0.5s						
TABS	**Tabas**	**1.74**	**26**	*e*Pg	Pb	18 04 13.6	-0.2
TNSJ	**Nastanj**	**1.91**	**10**	*e*Pn	Pb	18 04 16.0	-0.7
TVBK	**TV Kerman**	**2.14**	**167**	*e*Pn	Pb	18 04 20.4	-0.3
KRBR	**Kerman**	**2.14**	**167**	*e*Pn	Pb	18 04 20.4	-0.3
ISAD	**Sadrabad**	**2.16**	**266**	*e*Pn	Pb	18 04 19.7	-1.3
ISAD				*e*		18 04 51.1	
	comp=Z,6μm,0.4s						
ITEG	**Tejag**	**2.29**	**68**	*e*Pn	Pn	18 04 21.5	+1.7
ITEG				*e*		18 05 04.1	
	comp=Z,5μm,0.5s						
ANAR	**Anarak**	**2.37**	**298**	*e*Pn	Pn	18 04 22.1	+1.2
IKOO	**Kooshah**	**2.39**	**81**	*e*Pn	Pn	18 04 22.8	+1.6
IKOO				*e*		18 05 04.9	
	comp=Z,7μm,0.4s						
NGRK	**Negar Kerman**	**2.47**	**170**	*e*Pn	Pb	18 04 24.4	-1.9
NGRK				*e*		18 05 04.7	
	comp=Z,6μm,0.4s						
BSRN	**Basiran**	**2.47**	**92**	*e*Pn	Pn	18 04 23.7	+1.4
CHMN	**Cheshme madani**	**2.49**	**152**	*e*Pn	Pb	18 04 24.9	-1.7
CHMN				*e*		18 05 02.8	
	comp=Z,4μm,0.3s						
AFRZ	**Afriz**	**2.71**	**60**	*e*Pn	Pn	18 04 27.7	+2.1
AFRZ				*e*		18 05 23.0	
	comp=Z,3μm,0.6s						
NASN	**Na'in**	**2.97**	**285**	*e*Pn	Pn	18 04 31.7	+2.4
IDAH	**Dahanechah**	**3.16**	**77**	*e*Pn	Pn	18 04 33.2	+1.4
IDAH				*e*		18 04 44.1	
	comp=Z,2μm,0.4s						
IRAM	**Ramesheh**	**3.27**	**266**	*e*Pn	Pn	18 04 35.4	+2.1
NHDN	**Nehbandan**	**3.34**	**101**	*e*Pn	Pn	18 04 35.6	+1.5
IZEF	**Zefreh**	**3.38**	**285**	*e*Pn	Pn	18 04 37.0	+2.1
KBAM	**BAM**	**3.51**	**146**	*e*Pn	Pn	18 04 39.1	+2.6
KBAM				*e*		18 05 43.2	
	comp=Z,3μm,1.1s						
IGAR	**Gharneh**	**3.55**	**276**	*e*Pn	Pn	18 04 39.3	+2.1
SHRO	**Shahrood**	**3.91**	**358**	*e*Pn	Pn	18 04 44.0	+2.1
KRSH	**Karshahi**	**3.91**	**300**	*e*Pn	Pn	18 04 43.5	+1.4
KRSH				*e*		18 05 58.1	
	comp=Z,1μm,0.7s						
ISFB	**Sefidab**	**4.03**	**305**	*e*Pn	Pn	18 04 44.9	+1.3
ISFB				*e*		18 05 56.9	
	comp=Z,617nm,0.6s						
KLNJ	**Kolanjah**	**4.09**	**256**	*e*Pn	Pn	18 04 47.8	+3.1
IKLH	**Kolahrood**	**4.10**	**289**	*e*Pn	Pn	18 04 46.7	+1.9
IKLH				*e*		18 05 00.1	
	comp=Z,680nm,0.5s						
IBRJ	**Brojen**	**4.21**	**269**	*e*Pn	Pn	18 04 48.2	+1.9
ILAS	**Lasjerd**	**4.27**	**321**	*e*Pn	Pn	18 04 48.9	+1.8
ISHM	**Shahmirzad**	**4.44**	**328**	*e*Pn	Pn	18 04 51.1	+1.6
ISHM				*e*		18 06 12.3	
	comp=Z,713nm,0.6s						
SBZV	**Sabzevar**	**4.45**	**15**	*e*Pn	Pn	18 04 51.7	+2.2
IFIR	**Firoozkooh**	**4.57**	**322**	*e*Pn	Pn	18 04 52.8	+1.5
IFIR				*e*		18 06 19.7	
	comp=Z,561nm,1.2s						
ZHSF	**Zahedan**	**4.63**	**121**	*e*Pn	Pn	18 04 52.8	+0.9
TBJM	**Torbat-e-JAM**	**4.68**	**46**	*e*Pn	Pn	18 04 54.6	+2.0
TBJM				*e*		18 06 39.1	
	comp=Z,476nm,1.0s						
IVRN	**Varamin**	**4.75**	**309**	*e*Pn	Pn	18 04 54.8	+1.4
GHVR	**GHOM**	**4.77**	**301**	*e*Pn	Pn	18 04 56.6	+2.8
IGLO	**Ghaloghah**	**4.83**	**337**	*e*Pn	Pn	18 04 57.2	+2.4
IDMV	**Damavand**	**4.93**	**316**	*e*Pn	Pn	18 04 58.4	+2.2
IAKL	**Akhelmad**	**4.98**	**24**	*e*Pn	Pn	18 04 59.1	+2.3
IQOM	**Qom**	**5.11**	**304**	*e*Pn	Pn	18 04 59.9	+1.3
IMYA	**Miami**	**5.33**	**36**	*e*Pn	Pn	18 05 04.4	+2.8
IKRD	**Kardeh**	**5.42**	**29**	*e*Pn	Pn	18 05 05.4	+2.5
KHMZ	**Khomeyn**	**5.52**	**289**	*e*Pn	Pn	18 05 05.8	+1.6
MRVT	**Maraveh tapeh**	**5.57**	**359**	*e*Pn	Pn	18 05 06.5	+1.8
IEMG	**Emamgholi**	**5.69**	**20**	*e*Pn	Pn	18 05 10.1	+3.5
BJRD	**Bojnurd**	**5.69**	**10**	*e*Pn	Pn	18 05 08.4	+1.9
CHTH	**Charan**	**5.70**	**313**	*e*Pn	Pn	18 05 07.8	+1.1
QALM	**Alamut, Qazvin**	**6.33**	**315**	*e*Pn	Pn	18 05 18.1	+2.7

*IDC **10** 18:05:42.8±0.6,29°.24S×61°.01E,h0km,mb3.9/15, mbtmp3.9/16,ML4.1/1,MS3.4/11,Error ellipse: s-maj=22.8km s-min=16.3km az=79.0*

*NEIC **10** 18:05:44.7±1.5,29°.18S±0°.09×60°.8E±0°.1,h10km±1km, mb4.2/11,Error ellipse: s-maj=19.5km s-min=15.1km az=249.0*

ISC 10 18:05:44.6±0.5,29°.18S±0°.08×60°.79E±0°.10,h10km,n47, σ1§58/37,mb4.1/20,MS3.4/11,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.20**	**329**	Pn	**Pn**	**18 07 56.1**	**-1.3**
ROCAM	**Rodrigues Isla**	**9.68**	**15**	Pn	**Pn**	**18 08 04.6**	**+0.7**
FOMA	**Nahampoana Res**	**12.99**	**286**	Pn	**Pn**	**18 08 50.6**	**+1.3**
VOI	**Vohitsoka**	**14.55**	**297**		**Pn**	**18 09 13.4**	**+2.6**
ABPO	**Ambohimpanom**	**15.97**	**306**		**P**	**18 09 32.7**	**-0.5**
OPO	**Ambohidratompo**	**16.30**	**307**	Pn	**Pn**	**18 09 35.6**	**+1.8**
	0.1nm,0.3s,baz=150,slow=14,SNR=2.5						
OPO				Sn	**Sn**	**18 12 28.2**	**-6.7**
	0.2nm,0.3s,baz=276,slow=21,SNR=10						
	1.5nm,0.3s						
BOSA	**Boshof**	**31.04**	**262**	LR	LR	18 22 16.0	
	comp=Z,38nm,20.3s,baz=42,slow=32						
MAW	**Mawson**	**38.47**	**179**	P	**P**	**18 13 05.8**	**-0.5**
	1.6nm,0.8s,baz=347,slow=11,SNR=2.5						
MAW				LR	LR	18 26 54.8	
	comp=Z,66nm,18.4s,baz=113,slow=33						
	1.6nm,0.8s						
MAW	**Mawson**	**38.47**	**179**	P	**P**	**18 13 06.1**	**-0.2**
MBAR	**Mbarara**	**40.36**	**309**	LR	LR	18 28 30.5	
	comp=Z,45nm,18.8s,baz=110,slow=34						
TSUM	**Tsumeb**	**40.45**	**274**	LR	LR	18 27 38.6	
	comp=Z,48nm,21.5s,baz=132,slow=32						
PALK	**Pallekele**	**41.01**	**31**	LR	LR	18 25 18.2	
	comp=Z,50nm,20.8s,baz=249,slow=29						
H01W2	**Cape Leeuwin H**	**45.14**	**112**	T	T	19 01 38.4	
	baz=260						
H01W3	**Cape Leeuwin H**	**45.15**	**111**	T	T	19 01 39.2	
	baz=260						
H01W1	**Cape Leeuwin H**	**45.16**	**112**	T	T	19 01 40.5	
	baz=260						
SNAA	**Sanae**	**54.33**	**200**	P	**P**	**18 15 10.6**	**-0.3**
	1.2nm,0.9s,baz=88,slow=10,SNR=8.8						
	1.2nm,0.9s						
SNAA	**Sanae**	**54.33**	**200**	P	**P**	**18 15 10.7**	**-0.3**
SNAA				IAmb	IAmb	18 15 13.1	
	comp=Z,4.6nm,1.5s						
CMAR	**Chiang Mai Arr**	**60.00**	**43**	P	**P**	**18 15 52.1**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=230,slow=7.5,SNR=11						
CMAR				LR	LR	18 39 27.7	
	comp=Z,18nm,18.8s,baz=135,slow=34						
	comp=Z,1.1nm,0.7s						
QSPA	**South Pole Qui**	**60.97**	**180**	P	**P**	**18 15 57.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=290,slow=2.6,SNR=8.3						
	comp=Z,1.5nm,0.8s						
QSPA	**South Pole Qui**	**60.97**	**180**	P	**P**	**18 15 57.2**	**-0.6**
EIL	**Elat**	**63.51**	**335**	LR	LR	18 40 43.0	
	comp=Z,37nm,19.4s,baz=91,slow=33						
VNDA	**Vanda**	**64.09**	**166**	P	**P**	**18 16 17.6**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=279,slow=4.6,SNR=4.6						
	comp=Z,0.9nm,0.8s						
VNDA	**Vanda**	**64.09**	**166**	P	**P**	**18 16 17.9**	**-0.4**
VNDA				IAmb	IAmb	18 16 18.8	
	comp=Z,1.6nm,0.9s						
ASAR	**Alice Springs**	**64.76**	**104**	P	**P**	**18 16 21.8**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=241,slow=6.5,SNR=19						
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**64.76**	**104**	P	**P**	**18 16 22.3**	**-1.3**
SBA	**Scott Base**	**64.97**	**167**	P	**P**	**18 16 24.7**	**+0.7**
SBA				IAmb	IAmb	18 16 27.4	
	comp=Z,4.2nm,1.3s						
MMAI	**Mount Meron Ar**	**66.38**	**337**	LR	LR	18 41 28.8	
	comp=Z,26nm,21.4s,baz=142,slow=32						
WRA	**Warramunga Arr**

baz=335,slow=74
H10N1 ASCENSION HYDR 8.44 155 T T 18 32 55.1
baz=335,slow=74
ASCN Ascension 8.57 154 Pn **Pn 18 24 30.4 +0.3**
LIC Lamto 14.53 64⇓*iP* **P 18 25 57.7 -0.7**
9.0nm,0.4s
TIC Toumodi 14.72 62⇑*iP* **Pn 18 25 54.3 -0.1**
12nm,0.3s
KIC Kosan Boka 14.85 64⇓*iP* **Pn 18 25 56.4 +0.4**
9.1nm,0.3s
DBIC Dimbokro 14.88 63 Pn **Pn 18 25 54.9 -1.6**
2.6nm,0.3s,baz=260,slow=12,SNR=17
DBIC Sn Sn 18 28 29.1 -12
0.3nm,0.3s,baz=245,slow=14,SNR=1.6
6.6nm,0.3s
RCBR Riachuelo 18.62 252 P **P 18 26 43.7 -0.1**
KOWA Kowa 20.18 43 P **P 18 27 00.4 -0.3**
6.5nm,0.7s,baz=244,slow=10,SNR=9.1
6.5nm,0.7s
KOWA Kowa 20.18 43 P **P 18 27 00.6 -0.2**
KOWA IAmb IAmb 18 27 05.1
comp=Z,7.6nm,0.8s
TOA0 Torodi Ar. Sit 23.68 55 P **P 18 27 37.1 -0.9**
TOA0 IAmb IAmb 18 27 48.5
comp=Z,7.8nm,1.1s
TORD Torodi Ar. Bea 23.68 55 P **P 18 27 37.7 -0.3**
comp=Z,3.6nm,0.9s,baz=236,slow=9.7,SNR=9.5
comp=Z,3.6nm,0.9s
AOPR Arecibo Observ 51.19 294 P **P 18 31 29.9 0.0**
GERES GERESS Array B 56.01 25 P **P 18 32 06.4 +1.6**
comp=Z,0.4nm,0.7s,baz=220,slow=8.1,SNR=5.2
comp=Z,0.4nm,0.7s
BATG Bathurst New B 63.00 325 P **P 18 32 51.5 -1.4**
FINES FINESS Array B 70.01 21 P **P 18 33 39.1 +1.6**
comp=Z,0.9nm,0.6s,baz=215,slow=6.8,SNR=6.5
comp=Z,0.9nm,0.6s
FINES FINESS Array B 70.01 21 P **P 18 33 38.8 +1.3**
FIA1 FINESS Array S 70.01 21 P **P 18 33 38.8 +1.3**
FIA1 IAmb IAmb 18 33 49.4
comp=Z,16nm,1.4s
TXAR Lajitas Array 86.20 299 P **P 18 35 07.8 -0.4**
comp=Z,0.3nm,0.5s,baz=104,slow=7.5,SNR=2.5
comp=Z,0.3nm,0.5s

IDC 10 18:22:53.4±3.1, 31°37S×178°79W, h0km, mb3.5/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=71.9km s-min=47.8km az=113.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.65**	**205**	Pn	Pn	18 24 45.8	-0.3
	0.8nm,0.3s,baz=31,slow=18,SNR=1.5						
URZ				Sn	Sn	18 26 08.6	-4.9
	0.4nm,0.3s,baz=28,slow=19,SNR=1.3						
	4.8nm,0.8s						
ASAR	**Alice Springs**	**42.39**	**268**	P	P	18 30 49.7	-0.1
	0.4nm,0.7s,baz=103,slow=8.3,SNR=2.5						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**43.47**	**274**	P	P	18 30 58.5	-0.1
	0.5nm,0.6s,baz=114,slow=7.9,SNR=6.7						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**145.81**	**339**	PKPbc	PKPdf	18 42 32.9	-0.3
	4.6nm,1.1s,baz=35,slow=5.1,SNR=5.1						

*TRN **10** 18:40:16.9, 10°.97N×61°.44W, h114km, MD3.3*
*FUNV **10** 18:40:17.0, 10°.82N×62°.26W, h59km, MW3.6*
ISC 10 18:40:12.3±1.7, 10°.79N±0°.06×62°.20W±0°.05, h108km±15km, n15, σ2.9 47/26, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.80**	**100**	⇑*iP*	**Pn**	**18 40 33.1**	**+1.8**
TRN				*e*S	**Sn**	**18 40 45.1**	**-0.5**
CRUV	**Carupano**	**1.03**	**264**	⇑*iP*	**Pn**	**18 40 35.1**	**+1.6**
CRUV				*e*S	**Sn**	**18 40 46.3**	**-3.3**
TBH	**Brigand Hill**	**1.15**	**105**	*eP*	**Pn**	**18 40 35.6**	**+0.6**
TBH				*e*S	**Sn**	**18 40 48.9**	**-3.2**
GRFF	**Grenada Fort F**	**1.33**	**20**	*eP*	**Pn**	**18 40 39.3**	**+2.3**
GRFF				*e*S	**Sn**	**18 40 55.7**	**-0.1**
GRGR	**Grenville**	**1.44**	**22**	⇑*iP*	**Pn**	**18 40 39.9**	**+1.6**
GRGR				*e*S	**Sn**	**18 40 58.2**	**+0.3**
TOSP	**Speyside**	**1.71**	**73**	*eP*	Pn	18 40 37.2	-4.3
TOSP				*e*S	Sn	18 40 53.2	-11
GCMP	**Grenada, Carri**	**1.85**	**24**	*eP*	**Pn**	**18 40 45.1**	**+1.8**
GCMP				*e*S	**Sn**	**18 41 05.1**	**-1.8**
PCRV	**Puerto La Cruz**	**2.47**	**256**	*eP*	**Pn**	**18 40 53.8**	**+2.5**
PCRV				*e*S	**Sn**	**18 41 19.5**	**-1.8**
SVB	**Belmont**	**2.63**	**20**	*eP*	**Pn**	**18 40 54.1**	**+0.7**
SVB				*e*S	**Sn**	**18 41 21.2**	**-3.9**
PRGV	**PARIAGUAN**	**3.14**	**230**	*eP*	**Pn**	**18 41 02.9**	**+2.7**
PRGV				*e*S	**Sn**	**18 41 36.7**	**-0.5**
BIRV	**Birongo**	**4.01**	**266**	*eP*	**Pn**	**18 41 14.6**	**+2.7**
BIRV				*e*S	**Sn**	**18 41 55.9**	**-2.1**
TACV	**Tcata**	**4.79**	**263**	*eP*	**Pn**	**18 41 25.1**	**+2.7**
TACV				*e*S	**Sn**	**18 42 14.1**	**-2.8**
CACV	**CAICARA DEL OR**	**5.35**	**234**	*eP*	Pn	18 41 27.5	-2.4
CACV				*e*S	Sn	18 42 18.8	-11
BENV	**Beln**	**5.38**	**262**	*eP*	**Pn**	**18 41 32.8**	**+2.5**
BENV				*e*S	**Sn**	**18 42 27.1**	**-3.9**
BAUV	**El Baul**	**6.04**	**253**	*eP*	**Pn**	**18 41 40.3**	**+1.1**
BAUV				*e*S	**Sn**	**18 42 43.9**	**-3.2**

*IDC **10** 18:44:19.4±2.1, 42°.78N×0°.23E, h0km, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=45.7km s-min=17.1km az=135.0*
*STR **10** 18:44:20.8±0.3, 43°.N±3°×°±°, h5km, MLv3.5/27, Error ellipse: s-maj=0.0km s-min=0.0km az=22.8, preliminary*
*LDG **10** 18:44:20.6±0.1, 43°.06N×0°.02E, h5km, Md3.7/2, Ml3.8/45, Error ellipse: s-maj=1.3km s-min=1.1km az=143.0*
*MRB **10** 18:44:20.5±0.3, 43°.01N×0°.04W, h8km±2km, ML3.6/27, Error ellipse: s-maj=1.4km s-min=1.0km az=238.0*
*INMG **10** 18:44:21.0±1.6, 43°.09N×0°.04W, h17km±3km, MD3.4, ML3.0, Error ellipse: s-maj=2.5km s-min=2.4km az=160.0*
*SFS **10** 18:44:21.0, 43°.05N×0°.01W, h10km, ML3.6, LOURDES (FRANCIA)*
*MDD **10** 18:44:21.5±0.2, 43°.06N×0°.01W, h10km, mb_Lg3.6/41, Error ellipse: s-maj=1.2km s-min=1.5km az=0.0*
*IGIL **10** 18:44:22.0, 43°.06N×0°.01W, h10km*
ISC 10 18:44:19.3±0.6, 43°.11N±0°.01×0°.01E±0°.01, h17km±4km, n216, σ1.9 77/388, 4C-3D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.04**	**253**	P	**Pg**	**18 44 22.8**	**+0.4**
PYLO				S	**Sg**	**18 44 24.6**	**0.0**
PYLO	**Lourdes**	**0.04**	**253**	Pg	**Pg**	**18 44 22.3**	**-0.1**
PYLO				Sg	**Sg**	**18 44 24.0**	**-0.5**
VIEF	**Viey**	**0.23**	**177**	⇑Pg	**Pg**	**18 44 23.9**	**-0.7**
VIEF				Sg	**Sg**	**18 44 26.5**	**-1.7**
EPF	**Esparros**	**0.26**	**108**	*e*Pg	**Pg**	**18 44 25.2**	**+0.2**
EPF				*e*Sg	**Sg**	**18 44 28.5**	**-0.5**
	2μm,0.2s						
ECHI	**Chisagues Biel**	**0.47**	**163**	P	**Pg**	**18 44 27.9**	**-0.8**
ECHI				S	**Sg**	**18 44 33.8**	**-1.3**
	3μm,0.1s						
ECHI	**Chisagues Biel**	**0.47**	**163**	Pg	**Pg**	**18 44 28.0**	**-0.8**
ECHI				Sg	**Sg**	**18 44 33.6**	**-1.5**
ECHI				*i* Vmb_Lg		18 44 34.1	
ECHI	**Chisagues Biel**	**0.47**	**163**	⇑Pg	**Pg**	**18 44 27.9**	**-0.8**
ECHI				Sg	**Sg**	**18 44 33.4**	**-1.7**
ETSF	**Etsaut**	**0.47**	**243**	*e*Pg	**Pg**	**18 44 28.1**	**-0.7**
ETSF				*e*Sg	**Sg**	**18 44 33.7**	**-1.4**
	9μm,0.3s						
ETSF	**Etsaut**	**0.47**	**243**	Pg	**Pg**	**18 44 28.1**	**-0.7**
ETSF				Sg	**Sg**	**18 44 33.7**	**-1.4**
CANF	**Canfranc**	**0.52**	**228**	⇓Pg	**Pg**	**18 44 28.7**	**-1.0**
CANF				Sg	**Sg**	**18 44 34.8**	**-1.9**
ATE	**Arette**	**0.52**	**267**	⇓Pg	**Pg**	**18 44 29.0**	**-0.7**
ATE				Sg	**Sg**	**18 44 36.4**	**-0.3**
CARA	**Val d'Aran**	**0.72**	**124**	P	**Pg**	**18 44 33.3**	**-0.1**
CARA				S	**Sb**	**18 44 43.5**	**+0.4**
	3μm,0.2s						
MLS	**Moulis**	**0.81**	**101**	Pg	**Pn**	**18 44 35.8**	**-0.1**
MLS				S	**Sn**	**18 44 47.3**	**-0.2**
	286nm,0.3s						
MLS	**Moulis**	**0.81**	**101**	⇓Pg	**Pb**	**18 44 34.0**	**-0.9**
MLS				Sg	**Sn**	**18 44 47.3**	**-0.2**
SJPF	**Ste Jean**	**0.90**	**271**	*e*Pg	**Pb**	**18 44 36.0**	**-0.5**
SJPF	**Ste Jean**	**0.90**	**271**	*e*Pn	**Pn**	**18 44 38.3**	**+1.1**
SJPF	**Ste Jean**	**0.90**	**271**	*e*P	**Pn**	**18 44 39.6**	**+2.4**
SJPF				*e*Sg	**Sb**	**18 44 49.3**	**+1.0**
	280nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**271**	Pn	**Pn**	**18 44 38.3**	**+1.1**
SJPF				Sg	**Sb**	**18 44 49.3**	**+1.0**
OSSF	**Osses**	**0.94**	**279**	Pg	**Pb**	**18 44 35.4**	**-1.7**
CTRE	**Tremp**	**0.97**	**144**	P	**Pb**	**18 44 37.5**	**-0.2**
CTRE				S	**Sb**	**18 44 49.9**	**-0.2**
	558nm,0.2s						
EORO	**Oroz-Betelu**	**0.99**	**258**	Pg	**Pb**	**18 44 37.6**	**-0.4**
EORO	**Oroz-Betelu**	**0.99**	**258**	Pg	**Pb**	**18 44 37.6**	**-0.4**
EORO				Sg	**Sg**	**18 44 52.7**	**+1.2**
EORO				*i* Vmb_Lg		18 44 57.7	
TERF	**Tercis-les-Bai**	**1.00**	**305**	Pg	**Pg**	**18 44 40.0**	**+1.4**
TERF				Sg	**Sn**	**18 44 54.3**	**+2.2**
CEST	**Esterri de Car**	**1.05**	**119**	P	**Pb**	**18 44 39.3**	**+0.3**
CEST				S	**Sn**	**18 44 53.9**	**+0.3**
	478nm,0.2s						
CSOR	**Sort**	**1.11**	**131**	P	**Pb**	**18 44 40.1**	**+0.1**
CSOR				S	**Sb**	**18 44 54.9**	**+0.7**
	647nm,0.3s						
EALK	**Alkurruntz**	**1.11**	**276**	Pg	**Pn**	**18 44 39.7**	**-0.5**
EALK				Sg	**Sg**	**18 44 56.9**	**+1.4**
EALK				*i* Vmb_Lg		18 45 02.4	
EALK	**Alkurruntz**	**1.11**	**276**	Pg	**Pn**	**18 44 40.1**	**-0.1**
EARA	**Aranguren**	**1.22**	**254**	Pg	**Pn**	**18 44 42.5**	**+1.0**
EARA				Sg	**Sg**	**18 45 00.6**	**+2.0**
EARA				*i* Vmb_Lg		18 45 03.5	
EARA	**Aranguren**	**1.22**	**254**	Pg	**Pn**	**18 44 42.4**	**+0.9**
PAND	**Andorre**	**1.27**	**117**	P	**Pb**	**18 44 43.5**	**+0.6**
PAND				S	**Sg**	**18 45 00.6**	**0.0**
	565nm,0.3s						
PAND	**Andorre**	**1.27**	**117**	Pg	**Pb**	**18 44 43.2**	**+0.3**
PAND				Sg	**Sg**	**18 45 01.2**	**+0.7**
CORG	**Organya**	**1.31**	**132**	P	**Pb**	**18 44 43.7**	**+0.3**
CORG				S	**Sb**	**18 45 00.8**	**+0.9**
	430nm,0.3s						
ARBS	**La Rabassa**	**1.31**	**120**	P	**Pb**	**18 44 44.0**	**+0.3**
ARBS				S	**Sg**	**18 45 01.7**	**-0.1**
	909nm,0.3s						
CAVN	**Les Avellanes**	**1.34**	**156**	P	**Pn**	**18 44 43.5**	**+0.2**
CAVN				S	**Sn**	**18 45 01.1**	**+0.3**
	4μm,0.2s						
ESAC	**San Caprasio**	**1.43**	**194**	Pg	**Pn**	**18 44 45.8**	**+1.3**
ESAC				Sg	**Sb**	**18 45 05.8**	**+2.3**
ESAC				*i* Vmb_Lg		18 45 06.9	
MONQ	**Montcuq**	**1.52**	**34**	Pn	**Pg**	**18 44 49.7**	**+1.1**
MONQ				Sn	**Sg**	**18 45 10.8**	**+2.4**
FNEB	**Nbias**	**1.55**	**97**	P	**Pg**	**18 44 48.6**	**-0.5**
FNEB				S	**Sg**	**18 45 09.2**	**-0.2**
	244nm,0.3s						
FNEB	**Nbias**	**1.55**	**97**	Pn	**Pg**	**18 44 49.6**	**+0.4**
FNEB				Sn	**Sg**	**18 45 10.8**	**+1.4**
CLLI	**Llivia**	**1.58**	**113**	P	**Pb**	**18 44 48.4**	**+0.3**
CLLI				S	**Sg**	**18 45 09.7**	**-0.5**
	337nm,0.2s						
MTLF	**Montolieu**	**1.63**	**81**	*e*Pn	**Pn**	**18 44 47.4**	**+0.2**
MTLF	**Montolieu**	**1.63**	**81**	*e*Pg	**Pg**	**18 44 51.1**	**+0.5**
MTLF				*e*Sg	**Sg**	**18 45 12.2**	**+0.4**
	316nm,0.3s						
MTLF	**Montolieu**	**1.63**	**81**	Pg	**Pg**	**18 44 51.1**	**+0.5**
MTLF	**Montolieu**	**1.63**	**81**	Pn	**Pg**	**18 44 51.0**	**+0.3**
MTLF				Sn	**Sg**	**18 45 12.7**	**+0.9**
EMIR	**Miracle**	**1.64**	**136**	Pn	**Pb**	**18 44 49.0**	**+0.9**
EMIR				Sn	**Sb**	**18 45 11.2**	**+1.7**
EMIR				*i* Vmb_Lg		18 45 13.6	
CBRU	**Bruguera**	**1.80**	**117**	P	**Pb**	**18 44 51.8**	**-0.1**
CBRU				S	**Sb**	**18 45 14.8**	**+0.7**
	560nm,0.4s						
LRVF	**chteau la Riv**	**1.85**	**353**	Pn	**Pn**	**18 44 50.7**	**+0.5**
LRVF				Pg	**Pg**	**18 44 55.6**	**+0.8**
LRVF				Sn	**Sg**	**18 45 20.8**	**+2.0**
CORI	**Orista**	**1.89**	**126**	P	**Pb**	**18 44 52.8**	**-0.5**
CORI				S	**Sb**	**18 45 16.4**	**-0.1**
	924nm,0.3s						
LFF	**La Frestale**	**1.90**	**16**	*e*Pn	**Pn**	**18 44 51.2**	**+0.3**
LFF	**La Frestale**	**1.90**	**16**	*e*P	**Pb**	**18 44 54.4**	**+0.9**
LFF	**La Frestale**	**1.90**	**16**	*e*Pg	**Pg**	**18 44 57.1**	**+1.3**
LFF				*e*Sg	**Sg**	**18 45 22.2**	**+1.7**
	252nm,0.2s						
EPOB	**Poblet**	**1.93**	**155**	P	**Pn**	**18 44 52.4**	**+1.0**
EPOB				S	**Sn**	**18 45 16.5**	**+1.3**
	696nm,0.3s						
EPOB	**Poblet**	**1.93**	**155**	Pn	**Pn**	**18 44 52.3**	**+1.0**
EPOB				Pg	**Pb**	**18 44 54.8**	**+0.8**
EPOB				Sg	**Sb**	**18 45 20.0**	**+2.3**
EPOB				*i* Vmb_Lg		18 45 20.4	
FILF	**Fillols**	**1.96**	**105**	P	**Pn**	**18 44 52.7**	**+1.0**
FILF				S	**Sn**	**18 45 16.3**	**+0.5**
	205nm,0.3s						
FILF	**Fillols**	**1.96**	**105**	Pn	**Pb**	**18 44 54.8**	**+0.4**
FILF				Sn	**Sb**	**18 45 20.3**	**+1.7**
CMON	**Montserrat**	**2.03**	**138**	P	**Pn**	**18 44 54.5**	**+1.7**
CMON				S	**Sn**	**18 45 19.6**	**+1.9**
	468nm,0.2s						
CBEU	**Beuda**	**2.14**	**113**	P	**Pb**	**18 44 56.6**	**-1.1**
CBEU				S	**Sb**	**18 45 23.5**	**-0.5**
	571nm,0.4s						
ERTA	**Horta de San J**	**2.17**	**173**	P	**Pn**	**18 44 55.2**	**+0.6**
ERTA				S	**Sn**	**18 45 21.7**	**+0.7**
	363nm,0.3s						
ERTA	**Horta de San J**	**2.17**	**173**	Pg	**Pb**	**18 44 58.8**	**+0.8**
ERTA				Sg	**Sb**	**18 45 26.6**	**+2.0**
ERTA				*i* Vmb_Lg		18 45 28.9	
SJAF	**Saint Jean de**	**2.21**	**106**	P	**Pb**	**18 44 57.1**	**-1.5**
SJAF				S	**Sb**	**18 45 25.2**	**-0.5**
	122nm,0.3s						
SJAF	**Saint Jean de**	**2.21**	**106**	Pn	**Pb**	**18 44 58.8**	**+0.1**
SJAF				Pg	**Pb**	**18 44 58.8**	**+0.1**
SJAF				Sn	**Sg**	**18 45 31.0**	**+0.8**
EJON	**La Jonquera**	**2.22**	**106**	Pn	**Pb**	**18 44 59.0**	**0.0**
EJON				Sg	**Sg**	**18 45 32.9**	**+2.2**
EJON				*i* Vmb_Lg		18 45 35.0	
CFON	**Fontmartina**	**2.25**	**126**	P	**Pn**	**18 44 57.7**	**+2.0**
CFON				S	**Sn**	**18 45 25.4**	**+2.3**
	1μm,0.2s						
CGAR	**Garraf**	**2.30**	**141**	P	**Pn**	**18 44 58.2**	**+1.7**
CGAR				S	**Sn**	**18 45 25.9**	**+1.5**
	264nm,0.4s						
CAF	**Calviac**	**2.34**	**39**	*e*Pn	**Pn**	**18 44 57.1**	**+0.1**
CAF	**Calviac**	**2.34**	**39**	*e*P	**Pb**	**18 45 00.9**	**-0.1**
CAF	**Calviac**	**2.34**	**39**	*e*Pg	**Pg**	**18 45 04.6**	**+0.4**
CAF				*e*Sn	**Sn**	**18 45 26.9**	**+1.5**
	162nm,0.2s						
CAF				*e*Sg	**Sg**	**18 45 36.6**	**+2.0**
	162nm,0.2s						
CMAS	**Mas de Barbera**	**2.39**	**174**	P	**Pn**	**18 44 58.7**	**+1.0**
CMAS				S	**Sn**	**18 45 26.7**	**+0.1**
	613nm,0.3s						
RJF	**Les Rejaudoux**	**2.45**	**26**	*e*Pn	**Pn**	**18 44 58.6**	**+0.2**
RJF	**Les Rejaudoux**	**2.45**	**26**	*e*Pg	**Pg**	**18 45 06.6**	**+0.4**
RJF				*e*Sn	**Sn**	**18 45 29.8**	**+1.9**
RJF				*e*Sg	**Sg**	**18 45 39.8**	**+1.9**
	180nm,0.2s						
CPAL	**Palau Saverder**	**2.46**	**108**	P	**Pn**	**18 45 00.9**	**+2.3**
CPAL				S	**Sn**	**18 45 30.5**	**+2.3**
	86nm,0.3s						
CCAS	**Cassa de la Se**	**2.47**	**119**	P	**Pn**	**18 45 01.0**	**+2.3**
CCAS				S	**Sn**	**18 45 30.4**	**+2.0**
	161nm,0.5s						
ELAN	**Lanestosa**	**2.52**	**274**	Pn	**Pn**	**18 45 02.5**	**+3.0**
ELAN				Sn	**Sn**	**18 45 31.2**	**+1.4**
ELAN				*i* Vmb_Lg		18 45 42.4	
ETOR	**Torete**	**2.76**	**215**	Pn	**Pn**	**18 45 04.3**	**+1.5**
ETOR				Pn	Pb	18 45 04.4	-3.8
ETOR				Sn	**Sn**	**18 45 36.1**	**+0.3**
ETOR				Sg	**Sg**	**18 45 47.1**	**-0.9**
ETOR				*i* Vmb_Lg		18 45 52.8	
EMOS	**Mosqueruela**	**2.77**	**188**	P	**Pn**	**18 45 03.9**	**+0.9**
EMOS				S	**Sn**	**18 45 35.9**	**-0.2**
	153nm,0.5s						
EMOS	**Mosqueruela**	**2.77**	**188**	Pn	**Pn**	**18 45 03.9**	**+0.9**
EMOS				Sn	**Sn**	**18 45 35.7**	**-0.4**
EMOS				Sg	**Sb**	**18 45 46.2**	**+4.2**
EMOS				*i* Vmb_Lg		18 45 52.9	
LASF	**Ste Croix**	**2.96**	**70**	*e*Pn	**Pn**	**18 45 05.5**	**+0.1**
LASF	**Ste Croix**	**2.96**	**70**	*e*P	**Pb**	**18 45 09.5**	**-2.0**
LASF	**Ste Croix**	**2.96**	**70**	*e*Pg	**Pg**	**18 45 15.7**	**-0.2**
LASF				*e*Sn	**Sn**	**18 45 40.5**	**0.0**
LASF				*e*Sg	**Sg**	**18 45 55.2**	**+0.9**
	154nm,0.4s						
CHIF	**Chize**	**3.04**	**355**	Pn	**Pn**	**18 45 06.4**	**0.0**
CHIF				Pg	**Pg**	**18 45 16.7**	**-0.7**
MFF	**Saint Martin d**	**3.49**	**358**	*e*Pn	**Pn**	**18 45 13.1**	**+0.3**
MFF	**Saint Martin d**	**3.49**	**358**	*e*P	**Pb**	**18 45 17.6**	**-3.0**
MFF	**Saint Martin d**	**3.49**	**358**	*e*Pg	**Pg**	**18 45 25.4**	**-0.8**
MFF				*e*Sn	**Sn**	**18 45 55.0**	**+1.3**
MFF				*e*Sg	**Sg**	**18 46 11.4**	**0.0**
	92nm,0.3s						
TCF	**Toulx Ste Croi**	**3.54**	**26**	*e*Pn	**Pn**	**18 45 12.5**	**-1.0**
TCF	**Toulx Ste Croi**	**3.54**	**26**	*e*Pg	**Pg**	**18 45 26.7**	**-0.4**
TCF				*e*Sn	**Sn**	**18 45 55.2**	**+0.2**
TCF				*e*Sg	**Sg**	**18 46 14.7**	**+1.7**
	146nm,0.4s						
AGO	**Saint Agoulin**	**3.69**	**36**	Pn	**Pn**	**18 45 17.0**	**+1.5**
AGO				Pg	**Pg**	**18 45 29.6**	**-0.4**
UCM	**Universidad Co**	**3.71**	**222**	P	**Pn**	**18 45 16.6**	**+0.7**
UCM				S	**Sn**	**18 45 57.7**	**-1.5**
VIVF	**Saint-Julien-l**	**3.79**	**61**	*e*Pn	**Pn**	**18 45 16.9**	**0.0**
VIVF	**Saint-Julien-l**	**3.79**	**61**	*e*P	**Pn**	**18 45 20.6**	**+3.7**
VIVF	**Saint-Julien-l**	**3.79**	**61**	*e*Pg	**Pg**	**18 45 31.4**	**-0.5**
VIVF				*e*Sn	**Sn**	**18 46 01.0**	**-0.1**
VIVF				*e*Sg	**Sg**	**18 46 20.2**	**-0.8**
	66nm,0.4s						
SAUF	**chteau de Sau**	**3.80**	**76**	Pn	**Pn**	**18 45 20.5**	**+3.5**
SAUF				Pg	**Pg**	**18 45 32.2**	**+0.2**
EARI	**Arriondas**	**3.82**	**275**	Pn	**Pn**	**18 45 19.7**	**+2.3**
EARI				Sn	**Sn**	**18 46 03.5**	**+1.6**
EARI				*i* Vmb_Lg		18 46 05.7	
ETOS	**Mallorca**	**3.95**	**147**	Pn	**Pn**	**18 45 20.5**	**+1.4**
ETOS				Sn	**Sn**	**18 46 04.6**	**-0.5**
ETOS				*i* Vmb_Lg		18 46 39.7	
GUD	**Guadarrama**	**3.97**	**233**	Pn	**Pn**	**18 45 20.9**	**+1.4**
GUD				Sn	**Sn**	**18 46 05.8**	**+0.1**
GUD				*i* Vmb_Lg		18 46 26.1	
BGF	**Bois d'Agland**	**3.99**	**29**	*e*Pn	**Pn**	**18 45 18.9**	**-0.8**
BGF	**Bois d'Agland**	**3.99**	**29**	*e*Pg	**Pg**	**18 45 35.4**	**-0.3**
BGF				*e*Sn	**Sn**	**18 46 06.6**	**+0.5**
BGF				*e*Sg	**Sg**	**18 46 27.8**	**+0.3**
	211nm,0.4s						
RUSF	**Rustrel**	**4.07**	**76**	Pn	**Pn**	**18 45 21.1**	**+0.4**
EIBI	**Ibiza**	**4.20**	**166**	Pn	**Pn**	**18 45 23.1**	**+0.6**
EIBI				*i* Vmb_Lg		18 46 09.2	
EIBI				Sn	**Sn**	**18 46 09.5**	**-1.8**
ARTF	**Artigues**	**4.25**	**82**	Pn	**Pn**	**18 45 23.9**	**+0.6**
AVF	**Avril sur Loir**	**4.38**	**32**	*e*Pn	**Pn**	**18 45 24.1**	**-0.8**
AVF	**Avril sur Loir**	**4.38**	**32**	*e*Pg	**Pg**	**18 45 42.8**	**-0.3**
AVF				*e*Sn	**Sn**	**18 46 16.1**	**+0.6**
AVF				*e*Sg	**Sg**	**18 46 40.5**	**+0.7**
	52nm,0.4s						
SMF	**Signal de Mont**	**4.46**	**36**	*e*Pn	**Pn**	**18 45 25.5**	**-0.6**
SMF	**Signal de Mont**	**4.46**	**36**	*e*Pg	**Pg**	**18 45 44.3**	**-0.4**
SMF				*e*Sn	**Sn**	**18 46 18.8**	**+1.2**
SMF				*e*Sg	**Sg**	**18 46 43.1**	**+0.7**
	47nm,0.5s						
AFON	**Font Roja**	**4.46**	**186**	Pn	**Pn**	**18 45 27.0**	**+0.7**
AFON				Sn	**Sn**	**18 46 15.8**	**-1.9**
AFON				*i* Vmb_Lg		18 46 57.6	
BLAF	**les Blancs**	**4.47**	**77**	Pn	**Pn**	**18 45 26.5**	**+0.3**
MAHO	**Mahon**	**4.53**	**134**	P	**Pn**	**18 45 28.4**	**+1.4**
MAHO				S	**Sn**	**18 46 18.2**	**-1.1**
ESDC	**Sonseca Array**	**4.55**	**222**	Pn	**Pn**	**18 45 27.6**	**+0.1**
	1.5nm,0.3s,baz=42,slow=14,SNR=33						
ESDC				Sn	**Sn**	**18 46 18.9**	**-1.0**
	3.8nm,0.3s,baz=45,slow=23,SNR=8.0						
ESDC				Lg	Lg	18 46 41.6	
	3.5nm,0.3s,baz=44,slow=29,SNR=5.4						
	3.3nm,0.3s						
ESDC	**Sonseca Array**	**4.55**	**222**	Pn	**Pn**	**18 45 27.7**	**+0.3**
ESDC				Sn	**Sn**	**18 46 16.7**	**-3.2**
ESDC				*i* Vmb_Lg		18 46 19.6	
HYF	**Humbligny**	**4.55**	**23**	*e*Pn	**Pn**	**18 45 27.8**	**+0.4**
HYF	**Humbligny**	**4.55**	**23**	*e*Pg	**Pg**	**18 45 46.4**	**0.0**
HYF				*e*Sn	**Sn**	**18 46 20.8**	**+0.9**
HYF				*e*Sg	**Sg**	**18 46 44.7**	**-0.7**
ORIF	**Oris-en-Rattie**	**4.60**	**65**	*e*Pn	**Pn**	**18 45 29.3**	**+1.2**
ORIF	**Oris-en-Rattie**	**4.60**	**65**	*e*P	Pn	18 45 33.1	+5.0
ORIF	**Oris-en-Rattie**	**4.60**	**65**	*e*Pg	**Pg**	**18 45 46.6**	**-0.8**
ORIF				*e*Sn	**Sn**	**18 46 20.5**	**-0.7**
ORIF				*e*Sg	**Sg**	**18 46 46.8**	**-0.2**
	6.3nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.60**	**65**	Pn	**Pn**	**18 45 31.6**	**+3.5**
ETOB	**Tobarra**	**4.62**	**195**	Pn	**Pn**	**18 45 28.5**	**+0.2**
ETOB				Sn	**Sn**	**18 46 19.5**	**-1.9**
ETOB				*i* Vmb_Lg		18 46 53.8	
SSF	**Saint Saulge**	**4.66**	**31**	*e*Pn	**Pn**	**18 45 27.9**	**-0.9**
SSF	**Saint Saulge**	**4.66**	**31**	*e*Pg	**Pg**	**18 45 47.6**	**-0.9**
SSF				*e*Sn	**Sn**	**18 46 23.5**

CABF	**La Chapelle**	5.56	49	*e*Pg		**Pg**	18 46 03.8	-1.9	
CABF				*e*Sn		**Sn**	18 46 44.1	-0.7	
CABF				*e*Sg		**Sg**	18 47 17.4	-0.2	
	85nm,0.9s								
MVO	**Moncorvo**	5.58	252	*e*Pn		**Pn**	18 45 42.5	+0.9	
MVO				*e*Sn		**Sn**	18 46 42.9	-2.4	
MVO				*e*Sg		**Sb**	18 47 09.2	+6.3	
MVO				A		A	18 47 13.5		
	23nm,0.5s								
FLN	**La Foliniere**	5.66	357	*e*Pn		**Pn**	18 45 41.9	-0.7	
	baz=178								
FLN	**La Foliniere**	5.66	357	*e*Pg		**Pg**	18 46 06.3	-1.3	
	baz=177								
FLN				*e*Sn		**Sn**	18 46 45.9	-1.3	
FLN				*e*Sg		**Sg**	18 47 19.6	-1.3	
	16nm,0.3s								
ROSF	**Rostrenen**	5.71	337	*e*Pn		**Pn**	18 45 42.8	-0.4	
ROSF	**Rostrenen**	5.71	337	*e*Pg		**Pg**	18 46 06.3	-2.2	
ROSF				*e*Sn		**Sn**	18 46 47.2	-1.1	
ROSF				*e*Sg		**Sg**	18 47 20.3	-2.1	
	14nm,0.3s								
ROSF	**Rostrenen**	5.71	337	Pn		**Pn**	18 45 42.8	-0.4	
EQES	**Quesada**	5.80	205	Pn		**Pn**	18 45 45.2	+0.6	
EQES				*i* Vmb_Lg			18 47 37.7		
EAGO	**Agolada(Pontev**	5.95	270	Pn		**Pn**	18 45 47.8	+1.2	
EAGO				Sn		**Sn**	18 46 53.9	-0.4	
EAGO				*i* Vmb_Lg			18 46 55.6		
EADA	**Adamuz**	6.04	217	Pn		**Pn**	18 45 49.0	+1.1	
EADA				Sn		**Sn**	18 46 53.0	-3.7	
EADA				*i* Vmb_Lg			18 47 35.9		
POLO	**Lamas de Olo**	6.05	256	*e*Pn		**Pn**	18 45 48.7	+0.7	
POLO				*e*Sn		**Sn**	18 46 54.0	-2.8	
POLO				*e*Sg		**Sb**	18 47 22.7	+6.4	
POLO				A		A	18 47 35.1		
	5.2nm,0.6s								
ELOB	**Lobios**	6.09	261	Pn		**Pn**	18 45 49.7	+1.1	
ELOB				Sn		**Sn**	18 46 55.6	-2.4	
ELOB				*i* Vmb_Lg			18 47 01.9		
PCAB	**Cabril**	6.11	259	*e*Pn		**Pn**	18 45 49.8	+1.0	
PCAB				*e*Sn		**Sn**	18 46 55.5	-2.8	
PCAB				A		A	18 47 40.5		
	10nm,0.6s								
SFTF	**Sexfontaines**	6.19	33	*e*Pn		**Pn**	18 45 51.0	+1.1	
	baz=216								
SFTF				*e*Sn		**Sn**	18 46 59.0	-1.2	
SFTF				*e*Sg		**Sg**	18 47 36.8	-1.1	
	73nm,0.9s,baz=248								
PGAV	**Gavieira, Arco**	6.22	262	*e*Pn		**Pn**	18 45 51.4	+1.0	
PGAV				*e*Sn		**Sn**	18 46 59.4	-1.7	
PGAV				A		A	18 47 46.3		
	7.5nm,0.7s								
MTE	**Manteigas**	6.26	247	*e*Pn		**Pn**	18 45 51.4	+0.5	
MTE				*e*Sn		**Sn**	18 46 59.6	-2.5	
MTE				A		A	18 47 44.0		
	12nm,0.6s								
PVIS	**Viseu**	6.36	251	*e*Pn		**Pn**	18 45 52.9	+0.6	
PVIS				*e*Sn		**Sn**	18 47 01.0	-3.5	
PVIS				A		A	18 47 38.7		
	8.2nm,0.4s								
MEZF	**Maizieres J'vi**	6.44	31	*e*Pn		**Pn**	18 45 55.8	+2.6	
	baz=213								
MEZF	**Maizieres J'vi**	6.44	31	*e*Pg		**Pg**	18 46 20.2	-2.3	
	baz=212								
MEZF				*e*Sg		**Sg**	18 47 44.8	-1.0	
	76nm,0.8s,baz=237								
EZAM	**Zamans**	6.49	264	Pn		**Pn**	18 45 55.0	+1.0	
EZAM				Sn		**Sn**	18 47 07.7	0.0	
EZAM				*i* Vmb_Lg			18 47 08.2		
PCBR	**Castelo Branco**	6.50	242	*e*Pn		**Pn**	18 45 54.6	+0.5	
PCBR				*e*Sn		**Sn**	18 47 04.3	-3.6	
PCBR				A		A	18 47 49.7		
	6.7nm,0.3s								
ECAB	**El Cabril**	6.51	221	Pn		**Pn**	18 45 55.0	+0.8	
ECAB				Sn		**Sn**	18 47 04.1	-4.0	
ECAB				*i* Vmb_Lg			18 47 54.8		
SAVF	**Savonnieres en**	6.56	31	*e*Pn		**Pn**	18 45 56.6	+1.7	
SAVF	**Savonnieres en**	6.56	31	*e*Pg		**Pg**	18 46 22.1	-2.7	
	baz=211								
SAVF				*e*Sn		**Sn**	18 47 07.7	-1.5	
SAVF				*e*Sg		**Sg**	18 47 48.1	-1.5	
	23nm,0.5s								
EMAZ	**Mazaricos**	6.59	272	Pn		**Pn**	18 45 56.4	+1.0	
EMAZ				Sn		**Sn**	18 47 07.6	-2.4	
EMAZ				*i* Vmb_Lg			18 47 19.3		
EBER	**Berja**	6.59	201	Pn		**Pn**	18 45 57.9	+2.4	
EBER				*i* Vmb_Lg			18 47 58.8		
HAU	**Haudompre**	6.61	40	*e*Pn		**Pn**	18 45 57.8	+2.1	
HAU	**Haudompre**	6.61	40	*e*Pg		**Pg**	18 46 23.3	-2.5	
HAU				*e*Sg		**Sg**	18 47 49.9	-1.5	
	30nm,0.8s								
PGF	**Pioggiola**	6.63	92	*e*Pn		**Pn**	18 45 56.6	+0.6	
PGF				*e*Sn		**Sn**	18 47 08.2	-3.1	
	9.6nm,0.3s								
PMRV	**Marv??o**	6.68	239	*e*Pn		**Pn**	18 45 56.8	+0.2	
PMRV				*e*Sn		**Sn**	18 47 09.1	-3.2	
PMRV				A		A	18 47 09.2		
	10nm,0.4s								
HINF	**Hinteralfeld**	6.73	43	*e*Pn		**Pn**	18 45 58.3	+1.0	
HINF				*e*Sn		**Sn**	18 47 12.7	-0.8	
HINF				*e*Sg		**Sg**	18 47 54.0	-1.1	
	29nm,0.9s								
PAGF	**Fort de Pagny**	6.75	34	*e*Pn		**Pn**	18 45 59.2	+1.7	
PAGF				*e*Sg		**Sg**	18 47 53.8	-1.9	
	60nm,1.0s								
EGOR	**Sierra Gorda,**	6.77	209	Pn		**Pn**	18 46 00.1	+2.1	
EGOR				Sn		**Sn**	18 47 12.7	-2.1	
EGOR				*i* Vmb_Lg			18 48 04.4		
ELGU	**Los Guajares,**	6.83	205	Pn		**Pn**	18 46 00.7	+2.0	
ELGU				*i* Vmb_Lg			18 48 05.9		
EBAD	**Badajoz**	6.87	233	Pn		**Pn**	18 45 59.0	-0.1	
EBAD				Sn		**Sn**	18 47 13.4	-3.5	
EBAD				*i* Vmb_Lg			18 47 15.3		
PCAS	**Casmilo, Conde**	7.07	247	*e*Pn		**Pn**	18 46 02.7	+0.7	
PCAS				*e*Sn		**Sn**	18 47 18.6	-3.3	
PCAS				A		A	18 48 05.7		
	8.1nm,0.6s								
PESTR	**Estremoz**	7.14	236	*e*Pn		**Pn**	18 46 03.2	+0.3	
PESTR				*e*Sn		**Sn**	18 47 20.4	-3.3	
PESTR				A		A	18 48 13.3		
	7.7nm,0.7s								
PBAR	**Barrancos**	7.28	230	*e*Pn		**Pn**	18 46 05.0	+0.2	
PBAR				*e*Sn		**Sn**	18 47 22.3	-4.8	
PBAR				A		A	18 48 23.5		
	9.0nm,0.7s								
CDF	**Champ du Feu**	7.34	41	*e*Pn		**Pn**	18 46 07.3	+1.6	
CDF	**Champ du Feu**	7.34	41	*e*Pg		**Pg**	18 46 36.7	-3.0	
CDF				*e*Sn		**Sn**	18 47 26.5	-2.1	
CDF				*e*Sg		**Sg**	18 48 13.2	-1.5	
	2.5nm,0.3s								
EMIN	**Mina Concepcio**	7.38	226	Pn		**Pn**	18 46 05.1	-1.1	
EMIN				Sn		**Sn**	18 47 24.4	-5.0	
EMIN				*i* Vmb_Lg			18 47 41.3		
PMTG	**Montargil**	7.41	240	*e*Pn		**Pn**	18 46 07.3	+0.7	
PMTG				*e*Sn		**Sn**	18 47 27.2	-3.1	
PMTG				A		A	18 48 30.1		
	5.0nm,0.5s								
EMIJ	**Mijas**	7.50	211	Pn		**Pn**	18 46 09.2	+1.3	
EMIJ				*i* Vmb_Lg			18 49 15.7		
BAIF	**Baives**	7.53	21	*e*Pn		**Pn**	18 46 09.6	+1.5	
BAIF	**Baives**	7.53	21	*e*Pg			18 46 40.8		
BAIF				*e*Sg			18 48 19.0		
	259nm,2.1s								
PSBE	**So Bento**	7.54	245	*e*Pn		**Pn**	18 46 09.2	+0.8	
PSBE				*e*Sn		**Sn**	18 47 31.0	-2.4	
EVO	**Evora**	7.61	236	P		**Pn**	18 46 09.6	+0.2	
EVO				S		**Sn**	18 47 30.1	-5.0	
EVO	**Evora**	7.61	236	*e*Pn		**Pn**	18 46 09.9	+0.6	
EVO				*e*Sn		**Sn**	18 47 31.0	-4.1	
ESPR	**Espera**	7.69	218	Pn		**Pn**	18 46 12.7	+2.3	
ESPR				*i* Vmb_Lg			18 48 21.0		
GIVF	**Givet**	7.74	24	*e*Pn		**Pn**	18 46 12.4	+1.4	
GIVF	**Givet**	7.74	24	*e*Pg		Pb	18 46 44.7	+12	
GIVF				*e*Sg		Sb	18 48 24.8	+20	
	41nm,0.8s								
DYA	**Yadsworthy**	7.81	341	Pn		**Pn**	18 46 10.9	-1.1	
DYA				Sn		**Sn**	18 47 34.3	-5.7	
PBEJ	**Beja**	7.86	232	*e*Pn		**Pn**	18 46 13.1	+0.4	
PBEJ				*e*Sn		**Sn**	18 47 37.5	-3.7	
PACT	**Alcochete**	7.97	240	*e*Pn		**Pn**	18 46 15.2	+0.9	
PACT				*e*Sn		**Sn**	18 47 41.1	-3.0	
EGRO	**El Granado**	7.98	228	Pn		**Pn**	18 46 14.4	0.0	
EGRO				*i* Vmb_Lg			18 46 35.0		
EGRO				Sn		**Sn**	18 47 38.6	-5.7	
PMAFR	**Mafra**	8.16	243	*e*Pn		**Pn**	18 46 17.8	+0.9	
PMAFR				*e*Sn		**Sn**	18 47 45.0	-3.6	
MESJ	**Messejana**	8.19	233	*e*P		**Pn**	18 46 16.6	-0.6	
MESJ	**Messejana**	8.19	233	*e*Pn		**Pn**	18 46 17.3	+0.1	
MESJ				*e*Sn		**Sn**	18 47 45.1	-4.2	
MESJ				A		A	18 48 51.4		
	4.3nm,0.5s								
PNCL	**Nicolau / Gran**	8.19	235	*e*Pn		**Pn**	18 46 17.6	+0.3	
PNCL				*e*Sn		**Sn**	18 47 45.0	-4.4	
PNCL				A		A	18 48 23.4		
	3.6nm,0.7s								
PVAQ	**Vaqueiros**	8.21	229	*e*Pn		**Pn**	18 46 16.9	-0.6	
PVAQ				*e*Sn		**Sn**	18 47 44.3	-5.5	
PVAQ				A		A	18 48 45.9		
	4.0nm,0.5s								
PCVE	**Castro Verde**	8.22	231	*e*Pn		**Pn**	18 46 17.5	-0.3	
PCVE				*e*Sn		**Sn**	18 47 44.4	-5.9	
PCVE				A		A	18 48 04.3		
	3.0nm,0.4s								
MORF	**Marmelete**	8.80	232	*e*P		**Pn**	18 46 24.9	-0.9	
MORF	**Marmelete**	8.80	232	*e*Pn		**Pn**	18 46 25.6	-0.1	
MORF				*e*Sn		**Sn**	18 47 58.5	-6.0	
MORF				A		A	18 48 03.6		
	3.9nm,0.3s								
GERES	**GERESS Array B**	11.11	54	Pn		**Pn**	18 46 59.6	+2.3	
	0.1nm,0.3s,baz=240,slow=13,SNR=2.1								
GERES				Sn		**Sn**	18 49 00.6	-0.6	
	0.1nm,0.3s,baz=239,slow=23,SNR=1.7								
	0.2nm,0.4s								
NOA	**NORSAR Array B**	19.18	17	P		**Pn**	18 48 47.9	+5.1	
	baz=214,slow=11,SNR=2.5								
	0.3nm,0.7s								

*IDC **10** 18:48:02.2±1.5,3°.20S×130°.99E,h0km,mb3.6/3, mbtmp3.6/5,ML3.3/2,MS2.2/1,Error ellipse: s-maj=71.3km s-min=21.2km az=85.0*

ISC 10 18:48:06.3±0.9,3°.24S±0°.06×130°.66E±0°.08,h35km,n14, σ1s90/16,Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**1.48**	**211**	P		**Pn**	**18 48 31.7**	**+1.2**
FAKI	**Fak Fak**	**1.62**	**79**	P		**Pn**	**18 48 33.1**	**+0.7**
SIJI	**Sorong**	**2.43**	**14**	Pn		**Pn**	**18 48 42.6**	**-1.0**
	5.5nm,0.3s,baz=193,slow=18,SNR=31							
SIJI				Sn		**Sn**	**18 49 10.7**	**-1.5**
	4.6nm,0.3s,baz=187,slow=17,SNR=6.6							
SIJI				LR		LR	18 49 45.3	
	comp=Z,49nm,21.3s,baz=244,slow=44							
	12nm,0.2s							
SANI	**Sanana**	**4.81**	**284**	P		**Pn**	**18 49 15.9**	**-0.4**
MTN	**Manton Dam**	**9.55**	**177**	P		**Pn**	**18 50 21.4**	**-0.1**
KDU	**Kakadu**	**9.56**	**169**	P		**Pn**	**18 50 20.7**	**-0.8**
KNRA	**Kununurra**	**12.50**	**188**	P		**Pn**	**18 50 59.2**	**-2.6**
FITZ	**Fitzroy Crossi**	**15.56**	**198**	P		**Pn**	**18 51 43.5**	**+0.3**
	7.0nm,3.0s							
WRA	**Warramunga Arr**	**16.99**	**168**	Pn		**Pn**	**18 51 59.5**	**-1.9**
	0.1nm,0.3s,baz=351,slow=14,SNR=2.0							
WRA				Sn		Sn	18 54 54.9	-14
	0.2nm,0.3s,baz=352,slow=24,SNR=4.4							
	0.5nm,0.5s							
QIS	**Mount Isa**	**19.30**	**154**	P		**Pn**	**18 52 30.8**	**+1.2**
ASAR	**Alice Springs**	**20.55**	**172**	P		**P**	**18 52 43.0**	**+1.0**
	4.7nm,0.5s,baz=351,slow=11,SNR=145							
ASAR				S		**S**	**18 56 25.9**	**-4.2**
	0.4nm,0.8s,baz=355,slow=21,SNR=3.4							
	4.7nm,0.5s							
WRKA	**Warakurna**	**21.79**	**186**	P		**P**	**18 52 55.4**	**0.0**
MKAR	**Makanchi Array**	**65.48**	**326**	P		**P**	**18 58 47.8**	**+1.8**
	0.4nm,0.8s,baz=110,slow=7.8,SNR=2.6							
	0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**69.69**	**328**	P		**P**	**18 59 15.0**	**+2.6**
	0.2nm,0.5s,baz=133,slow=6.0,SNR=4.4							
	0.2nm,0.5s							

KRSC 10 18:49:24.5±2.1,51°.77N×154°.14E,h431km±25km,ML3.9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**2.44**	**88**	*e*S		S	18 51 14.9	-1.0
RUS	**Russkaya**	**2.78**	**74**	*e*S		S	18 51 20.8	+0.7
DALK	**Dalny**	**3.10**	**64**	P		P	18 50 32.9	+2.3
SPN	**Mys Shipunski**	**3.84**	**67**	*e*P		P	18 50 38.1	+1.3
SPN				*e*S		S	18 51 34.4	-1.4
ESO	**Esso**	**4.96**	**31**	*e*P		P	18 50 48.0	+0.7
TUMR	**Tumrok**	**5.02**	**43**	P		P	18 50 51.5	+3.5
MKZ	**Mys Kozlova**	**5.35**	**56**	*e*P		P	18 50 52.5	+1.4
MKZ				S		S	18 52 01.7	-0.4

*IDC **10** 18:57:23.6±7.6,30°.07N×82°.61E,h36km±62km,mb3.4/10, mbtmp3.6/13,ML3.3/3,Error ellipse: s-maj=44.4km s-min=17.2km az=49.0*

ISC 10 18:57:20.3±0.9,30°.1N±0°.1×82°.66E±0°.09,h10km,n16, σ0s85/16,mb3.6/9,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LGTI	**Lohaghat**	**2.19**	**253**	*e*P		Pn	18 57 50.2	-6.6
LGTI				*e*S		**Sn**	**18 58 23.4**	**-0.6**
THW	**Thamme Wali**	**9.70**	**289**	P		**Pn**	**18 59 40.6**	**+0.7**
CEP	**Cherat**	**9.85**	**295**	P		**Pn**	**18 59 43.6**	**+1.5**
AAK	**Ala-Archa**	**14.12**	**335**	Pn		**Pn**	**19 00 40.0**	**-0.4**
	0.3nm,0.3s,baz=154,slow=9.2,SNR=1.7							
	0.8nm,0.3s							
MKAR	**Makanchi Array**	**16.66**	**359**	Pn		**Pn**	**19 01 13.5**	**-0.3**
	0.1nm,0.3s,baz=186,slow=11,SNR=7.3							
	1.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**18.81**	**124**	P		**Pn**	**19 01 42.0**	**+1.3**
	baz=308,slow=12,SNR=7.3							
	0.8nm,0.8s							
KURBB	**Kurchatov Arra**	**20.73**	**353**	P		**P**	**19 02 00.0**	**-0.8**
	1.0nm,0.8s,baz=179,slow=9.7,SNR=18							
	1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**23.88**	**3**	P		**P**	**19 02 33.2**	**-0.5**
	0.8nm,0.6s,baz=193,slow=12,SNR=5.6							
	0.8nm,0.6s							
BVAR	**Borovoye Array**	**24.60**	**342**	P		**P**	**19 02 40.8**	**+0.3**
	0.3nm,0.5s,baz=158,slow=9.3,SNR=3.1							
	0.3nm,0.5s							
SONM	**Songino Array**	**25.41**	**39**	P		**P**	**19 02 48.8**	**+0.8**
	0.8nm,0.7s,baz=226,slow=10,SNR=5.1							
	0.8nm,0.7s							
FINES	**FINESS Array B**	**48.16**	**327**	P		**P**	**19 06 00.2**	**-0.2**
	0.8nm,0.5s,baz=111,slow=8.4,SNR=9.8							
	0.8nm,0.5s							
ARCES	**ARCESS Array B**	**50.76**	**338**	P		**P**	**19 06 20.3**	**+0.2**
	2.7nm,0.9s,baz=97,slow=7.4,SNR=3.6							
	2.8nm,0.9s							
GERES	**GERESS Array B**	**54.53**	**311**	P		**P**	**19 06 48.5**	**0.0**
	0.3nm,0.7s,baz=81,slow=6.2,SNR=2.7							
	0.3nm,0.7s							
NOA	**NORSAR Array B**	**55.23**	**326**	P		**P**	**19 06 52.3**	**-0.9**
	0.4nm,0.7s,baz=77,slow=8.1,SNR=1.7							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**70.35**	**128**	P		**P**	**19 08 33.6**	**-1.0**
	0.3nm,0.6s,baz=323,slow=6.4,SNR=5.7							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**72.66**	**131**	P		**P**	**19 08 47.5**	**-0.9**
	0.7nm,1.0s,baz=316,slow=6.0,SNR=5.4							
	0.7nm,1.0s							

*IDC **10** 19:14:53.0±0.7,47°.87N×156°.51E,h0km,mb3.9/22, mbtmp3.9/26,ML3.1/4,MS2.9/12,Error ellipse: s-maj=17.1km s-min=14.4km az=122.0*
*MOS **10** 19:14:54.6±0.8,47°.92N×156°.73E,h26km,mb4.5/10,Error ellipse: s-maj=11.4km s-min=3.9km az=85.3*
*KRSC **10** 19:14:54.4±1.8,48°.12N×157°.71E,h8km±58km,ML4.6*
*SKHL **10** 19:14:54.9±0.3,47°.90N×156°.90E,h36km±4km,mb4.4/3*
*NEIC **10** 19:14:55.5±0.9,47°.97N±0°.10×156°.5E±0°.1,h10km±1km, mb4.5/25,Error ellipse: s-maj=19.2km s-min=12.9km az=140.0*

ISC 10 19:14:58.1±0.6,47°.92N±0°.06×156°.70E±0°.07,h35km,n167, σ1s97/175,mb4.1/35,MS3.1/8,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.79**	**352**	*e*PN		**Pn**	**19 15 39.3**	**-0.9**
SKR				*e*S		**Sn**	**19 16 12.4**	**-0.2**
SKR				pmax		pmax		
	comp=Z,41nm,0.7s							
SKR				smax		smax		
	comp=N,272nm,0.7s							
SKR				smax		smax		
	comp=E,242nm,0.5s							
SKR	**Severo-Kuril's**	**2.79**	**352**	*e*P		**Pn**	**19 15 39.0**	**-1.2**
SKR				*e*S		**Sn**	**19 16 12.3**	**-0.3**
SKR	**Severo-Kuril's**	**2.79**	**352**	*e*P		**Pn**	**19 15 39.3**	**-0.9**
SKR				AMB		AMB	19 15 40.7	
	comp=E,40nm,0.7s							
SKR				*e*S		**Sn**	**19 16 11.6**	**-1.0**
SKR				A		A	19 16 13.7	
	comp=E,270nm,0.6s							
SKR				A		A	19 16 13.7	
	comp=E,240nm,0.6s							
PAU	**Pauzhetka**	**3.55**	**1**	PN		**Pn**	**19 15 49.9**	**-0.7**
PAU				S		**Sn**	**19 16 30.8**	**-0.5**
PAU	**Pauzhetka**	**3.55**	**1**	*e*P		**Pn**	**19 15 49.9**	**-0.7**
PAU				*e*S		**Sn**	**19 16 30.8**	**-0.5**
PAU	**Pauzhetka**	**3.55**	**1**	*e*P		**Pn**	**19 15 50.0**	**-0.7**
PAU				AMB		AMB	19 15 50.3	
	comp=E,50nm,0.4s							
PAU				*e*S		**Sn**	**19 16 30.6**	**-0.7**
PAU				A		A	19 16 32.3	
	comp=E,640nm,0.5s							
PAU				A		A	19 16 32.3	
	comp=E,110nm,0.5s							
KDTR	**Khodutka, Kamc**	**3.99**	**12**	PN		**Pn**	**19 15 55.4**	**-1.3**
KDTR	**Khodutka, Kamc**	**3.99**	**12**	*e*P		**Pn**	**19 15 55.4**	**-1.3**
KDTR				*e*S		**Sn**	**19 16 39.9**	**-2.3**
ASAK	**Asacha**	**4.53**	**9**	PN		**Pn**	**19 16 03.6**	**-0.6**
ASAK				S		**Sn**	**19 16 55.7**	**+0.1**
ASAK	**Asacha**	**4.53**	**9**	*e*P		**Pn**	**19 16 03.6**	**-0.6**
ASAK				*e*S		**Sn**	**19 16 55.7**	**+0.1**
MTVR	**Mutnovka**	**4.66**	**11**	PN		**Pn**	**19 16 03.6**	**-2.5**
MTVR	**Mutnovka**	**4.66**	**11**	*e*P		**Pn**	**19 16 03.6**	**-2.5**
MTVR				*e*S		**Sn**	**19 16 57.0**	**-2.0**
RUS	**Russkaya**	**4.66**	**14**	PN		**Pn**	**19 16 04.4**	**-1.5**
RUS	**Russkaya**	**4.66**	**14**	*e*P		**Pn**	**19 16 04.4**	**-1.5**
RUS				*e*S		**Sn**	**19 16 57.1**	**-1.6**
RUS	**Russkaya**	**4.66**	**14**	*e*P		**Pn**	**19 16 04.4**	**-1.5**
GRL	**Gorelyy**	**4.72**	**10**	PN		**Pn**	**19 16 06.4**	**-0.4**
GRL	**Gorelyy**	**4.72**	**10**	*e*P		**Pn**	**19 16 06.4**	**-0.4**
GRL				*e*S		**Sn**	**19 17 00.2**	**-0.1**
KRMR	**Karymshinskiy**	**5.00**	**10**	PN		**Pn**	**19 16 09.5**	**-1.0**
KRMR	**Karymshinskiy**	**5.00**	**10**	*e*P		**Pn**	**19 16 09.5**	**-1.0**
KRMR				*e*S		**Sn**	**19 17 07.9**	**+0.9**
APC	**Apacha**	**5.02**	**3**	PN		**Pn**	**19 16 11.1**	**+0.3**
APC	**Apacha**	**5.02**	**3**	*e*P		**Pn**	**19 16 11.1**	**+0.3**
PEA0B	**Petropavlovsk-**	**5.23**	**7**			**Pn**	**19 16 13.4**	**-0.3**
PEA0B	**Petropavlovsk-**	**5.23**	**7**	PN		**Pn**	**19 16 13.4**	**-0.3**
PETK	**Petropavlovsk-**	**5.23**	**7**	Pn		**Pn**	**19 16 13.0**	**-0.7**
	comp=E,2.7nm,0.3s,baz=186,slow=13,SNR=12							
PETK				Sn		**Sn**	**19 17 16.2**	**+3.5**
	comp=E,0.6nm,0.3s,baz=167,slow=20,SNR=2.2							
PETK				LR		LR	19 19 31.6	
	comp=E,57nm,18.1s,baz=233,slow=53							
	comp=E,10nm,0.5s							
PETK	**Petropavlovsk-**	**5.23**	**7**			**Pn**	**19 16 12.9**	**-0.8**
PET	**Petropavlovsk**	**5.26**	**13**			**Pn**	**19 16 13.1**	**-1.0**
PET	**Petropavlovsk**	**5.26**	**13**	*e*PN		**Pn**	**19 16 13.3**	**-0.8**
PET				pmax		pmax		
	comp=Z,40nm,0.4s							
PET	**Petropavlovsk**	**5.26**	**13**	*e*P		**Pn**	**19 16 13.2**	**-0.8**
PET				*e*S		**Sn**	**19 17 11.8**	**-1.5**
PET	**Petropavlovsk**	**5.26**	**13**	*e*P		**Pn**	**19 16 13.2**	**-0.8**
PET				AMB		AMB	19 16 14.1	
	comp=Z,40nm,0.4s							
PET				*e*S		**Sn**	**19 17 12.2**	**-1.1**
PET				A		A	19 17 13.2	
	comp=Z,110nm,0.6s							
PET				A		A	19 17 13.2	
	comp=Z,90nm,0.6s							
DALK	**Dalny**	**5.28**	**14**	PN		**Pn**	**19 16 13.4**	**-1.0**
DALK	**Dalny**	**5.28**	**14**	*e*P		**Pn**	**19 16 13.4**	**-1.0**
DALK				*e*S		**Sn**	**19 17 12.1**	**-1.8**
UGLR	**Uglovaya**	**5.46**	**14**	PN		**Pn**	**19 16 16.6**	**-0.4**
UGLR	**Uglovaya**	**5.46**	**14**	*e*P		**Pn**	**19 16 16.6**	**-0.4**
AVH	**Avacha**	**5.50**	**13**	PN		**Pn**	**19 16 17.6**	**+0.1**
AVH	**Avacha**	**

H11S3	**WAKE ISLAND Hy**	**30.46**	**161**	T	T	19 53 05.2			
	baz=347,slow=76								
H11S2	**WAKE ISLAND Hy**	**30.47**	**161**	T	T	19 53 08.1			
	baz=347,slow=76								
IMAR	**Indian Mountai**	**31.37**	**37**	P	**P**	**19 21 16.0**	**+0.9**		
SKT	**Skwentna**	**31.91**	**45**	P	**P**	**19 21 21.4**	**+1.5**		
SKT				IAmb	IAmb	19 21 25.9			
	comp=Z,9.8nm,1.4s								
CNPM	**China Peot**	**32.06**	**49**	P	**P**	**19 21 22.5**	**+1.2**		
SONM	**Songino Array**	**33.25**	**289**	P	**P**	**19 21 30.3**	**-1.7**		
	comp=Z,0.5nm,0.7s,baz=57,slow=11,SNR=5.2								
	comp=Z,0.5nm,0.7s								
SONM	**Songino Array**	**33.25**	**289**	P	**P**	**19 21 30.4**	**-1.5**		
SONM	**Songino Array**	**33.25**	**289**	P	**P**	**19 21 30.4**	**-1.5**		
SONM				pmax	pmax				
	comp=Z,1.0nm,1.2s								
SML	**Sawmill**	**33.42**	**45**	P	**P**	**19 21 34.2**	**+1.0**		
SML				IAmb	IAmb	19 21 35.4			
	comp=Z,11nm,0.8s								
IL31		**34.10**	**40**	P	**P**	**19 21 39.6**	**+0.8**		
ILAR	**Eielson Array**	**34.10**	**40**	P	**P**	**19 21 39.3**	**+0.4**		
	comp=Z,0.5nm,0.8s,baz=246,slow=7.9,SNR=4.2								
	comp=Z,0.5nm,0.8s								
BMAR	**Burnt Mountain**	**35.17**	**35**	P	**P**	**19 21 50.0**	**+1.9**		
BCAR	**Beaver Creek A**	**36.40**	**42**	P	**P**	**19 22 00.9**	**+2.2**		
YULB	**Yu-li**	**37.27**	**242**	P	**P**	**19 22 07.4**	**+0.9**		
YULB				IAmb	IAmb	19 22 43.7			
	comp=Z,11nm,1.2s								
HYT	**Haines Junctio**	**38.72**	**46**	P	**P**	**19 22 19.6**	**+1.1**		
HYT				IAmb	IAmb	19 22 47.1			
	comp=Z,13nm,1.4s								
ZALV	**Zalesovo Beam**	**43.90**	**306**	P	**P**	**19 22 59.8**	**-1.1**		
	comp=Z,0.5nm,0.4s,baz=76,slow=6.1,SNR=2.5								
ZALV				PcP	**PcP**	**19 24 46.1**	**-0.3**		
	comp=Z,0.5nm,0.6s,baz=48,slow=2.1,SNR=2.4								
ZALV				LR	LR	19 41 33.7			
	comp=Z,13nm,18.4s,baz=50,slow=36								
	comp=Z,0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**43.90**	**306**	P	**P**	**19 23 02.1**	**+1.1**		
ZALV	**Zalesovo Beam**	**43.90**	**306**	P	**P**	**19 23 02.1**	**+1.1**		
MK31	**Makanchi Array**	**48.56**	**298**	P	**P**	**19 23 37.2**	**-0.5**		
MK31				IAmb	IAmb	19 23 38.1			
	comp=Z,1.4nm,0.6s								
MK31	**Makanchi Array**	**48.56**	**298**	P	**P**	**19 23 37.2**	**-0.5**		
MK31				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**48.56**	**298**	P	**P**	**19 23 36.9**	**-0.8**		
	comp=Z,1.3nm,0.6s,baz=68,slow=7.0,SNR=15								
MKAR				LR	LR	19 45 04.2			
	comp=Z,27nm,18.5s,baz=77,slow=37								
	comp=Z,1.3nm,0.6s								
MKAR	**Makanchi Array**	**48.56**	**298**	P	**P**	**19 23 37.2**	**-0.5**		
MKAR	**Makanchi Array**	**48.56**	**298**	P	**P**	**19 23 37.2**	**-0.5**		
MKAR	**Makanchi Array**	**48.56**	**298**	*eP*	**P**	**19 23 37.2**	**-0.5**		
KURK	**Kurchatov**	**48.74**	**304**	P	**P**	**19 23 39.5**	**+0.6**		
KURK	**Kurchatov**	**48.74**	**304**	*eP*	**P**	**19 23 39.5**	**+0.6**		
KURBB	**Kurchatov Arra**	**48.83**	**304**	P	**P**	**19 23 39.5**	**-0.2**		
	comp=Z,1.2nm,0.3s,baz=68,slow=8.3,SNR=6.6								
	comp=Z,1.2nm,0.3s								
SPB2	**Spitsbergen Ar**	**51.88**	**350**	P	**P**	**19 24 02.8**	**+0.4**		
BVAR	**Borovoye Array**	**51.99**	**310**	LR	LR	19 47 34.5			
	comp=Z,37nm,18.1s,baz=49,slow=38								
BRVK	**Borovoye**	**52.02**	**310**	P	**P**	**19 24 04.1**	**+0.4**		
BRVK				IAmb	IAmb	19 24 05.0			
	comp=Z,2.9nm,0.7s								
BRVK	**Borovoye**	**52.02**	**310**	P	**P**	**19 24 04.1**	**+0.4**		
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BRVK	**Borovoye**	**52.02**	**310**	*eP*	**P**	**19 24 04.1**	**+0.4**		
TARG	**Taragay, Kyrgy**	**54.01**	**295**	P	**P**	**19 24 19.4**	**+0.3**		
TARG	**Taragay, Kyrgy**	**54.01**	**295**	P	**P**	**19 24 19.4**	**+0.3**		
TARG				pmax	pmax				
	comp=Z,2.0nm,1.1s								
PHRA	**Phrae**	**54.13**	**257**	P	**P**	**19 24 20.2**	**+0.5**		
BOOM	**Boomskoye usch**	**54.70**	**297**	P	**P**	**19 24 24.2**	**+0.4**		
BOOM				IAmb	IAmb	19 24 25.4			
	comp=Z,3.9nm,0.7s								
BOOM	**Boomskoye usch**	**54.70**	**297**	P	**P**	**19 24 24.2**	**+0.4**		
BOOM				pmax	pmax				
	comp=Z,4.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**55.01**	**259**	P	**P**	**19 24 26.2**	**+0.1**		
	comp=Z,1.3nm,0.5s,baz=29,slow=7.5,SNR=14								
	comp=Z,1.3nm,0.5s								
CMAR	**Chiang Mai Arr**	**55.01**	**259**	P	**P**	**19 24 26.5**	**+0.4**		
CMAR	**Chiang Mai Arr**	**55.01**	**259**	P	**P**	**19 24 26.5**	**+0.4**		
AAK	**Ala-Archa**	**55.48**	**297**	LR	LR	19 50 09.5			
	comp=Z,32nm,19.7s,baz=72,slow=38								
AAK	**Ala-Archa**	**55.48**	**297**	P	**P**	**19 24 29.5**	**+0.1**		
AAK				IAmb	IAmb	19 24 30.7			
	comp=Z,3.8nm,0.8s								
AAK	**Ala-Archa**	**55.48**	**297**	P	**P**	**19 24 29.5**	**+0.1**		
AAK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
AAK	**Ala-Archa**	**55.48**	**297**	*eP*	**P**	**19 24 29.5**	**+0.1**		
ARU	**Arti**	**55.78**	**318**	P	**P**	**19 24 31.6**	**+0.5**		
ARU	**Arti**	**55.78**	**318**	P	**P**	**19 24 31.7**	**+0.6**		
ARU	**Arti**	**55.78**	**318**	*eP*	**P**	**19 24 31.7**	**+0.6**		
ARCES	**ARCESS Array B**	**57.53**	**342**	P	**P**	**19 24 44.0**	**+0.7**		
	comp=Z,1.6nm,0.7s,baz=29,slow=7.6,SNR=4.6								
	comp=Z,1.6nm,0.7s								
KK31	**Karatay Array**	**57.55**	**300**	P	**P**	**19 24 43.9**	**0.0**		
KK31				IAmb	IAmb	19 24 44.9			
	comp=Z,2.1nm,0.8s								
KK31	**Karatay Array**	**57.55**	**300**	P	**P**	**19 24 43.9**	**0.0**		
KK31				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KKAR	**Karatay Array**	**57.55**	**300**	P	**P**	**19 24 43.9**	**-0.1**		
KKAR	**Karatay Array**	**57.55**	**300**	P	**P**	**19 24 43.9**	**-0.1**		
ABKAR	**Akbulak array**	**59.52**	**311**	P	**P**	**19 24 58.2**	**+0.7**		
ABKAR				IAmb	IAmb	19 24 59.0			
	comp=Z,6.0nm,0.8s								
ABKAR	**Akbulak array**	**59.52**	**311**	P	**P**	**19 24 58.0**	**+0.5**		
NVAR	**Mina Array Bea**	**59.72**	**65**	P	**P**	**19 25 00.7**	**+1.3**		
	comp=Z,0.3nm,0.6s,baz=286,slow=5.1,SNR=4.5								
	comp=Z,0.3nm,0.6s								
AKTO	**Aktyubinsk**	**59.74**	**313**	LR	LR	19 52 37.7			
	comp=Z,21nm,20.0s,baz=13,slow=38								
KLMR	**Klimovskoe**	**60.34**	**330**	*eP*	P	19 24 55.4	-7.5		
KLMR				pmax	pmax				
	comp=Z,13nm,1.1s								
KLMR	**Klimovskoe**	**60.34**	**330**	*e*	P	19 24 55.4	-7.5		
KLMR				AMP		19 25 04.9			
	comp=Z,13nm,1.1s								
CHGR	**Chuyangaron**	**61.12**	**297**	P	**P**	**19 25 08.7**	**-0.1**		
CHGR				IAmb	IAmb	19 25 13.7			
	comp=Z,6.0nm,0.8s								
CHGR	**Chuyangaron**	**61.12**	**297**	P	**P**	**19 25 08.7**	**-0.1**		
CHGR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
FIA1	**FINESS Array S**	**63.99**	**336**	P	**P**	**19 25 27.9**	**+0.6**		
FINES	**FINESS Array B**	**63.99**	**336**	P	**P**	**19 25 27.4**	**+0.1**		
	comp=Z,1.1nm,0.6s,baz=34,slow=9.0,SNR=10								
	comp=Z,1.1nm,0.6s								
FINES	**FINESS Array B**	**63.99**	**336**	P	**P**	**19 25 28.2**	**+0.8**		
FINES	**FINESS Array B**	**63.99**	**336**	P	**P**	**19 25 28.2**	**+0.8**		
NC204	**NORSAR Array S**	**67.74**	**343**	P	**P**	**19 25 52.6**	**+0.9**		
NB2	**NORSAR Subarra**	**67.87**	**343**	P	**P**	**19 25 53.2**	**+0.8**		
	comp=Z,0.2nm,0.5s,baz=28,slow=6.2								
NOA	**NORSAR Array B**	**67.87**	**343**	P	**P**	**19 25 52.9**	**+0.5**		
	comp=Z,0.3nm,0.5s,baz=11,slow=6.9,SNR=2.1								
NOA				LR	LR	20 00 16.9			
	comp=Z,7.5nm,18.1s,baz=335,slow=40								
	comp=Z,0.3nm,0.5s								
WRA	**Warramunga Arr**	**70.47**	**202**	P	**P**	**19 26 07.8**	**-1.1**		
	comp=Z,0.8nm,1.0s,baz=20,slow=6.7,SNR=6.0								
	comp=Z,0.8nm,1.0s								
KBZ	**Khabaz**	**71.77**	**316**	P	**P**	**19 26 16.9**	**+0.4**		
	comp=Z,2.6nm,0.9s,baz=13,slow=5.9,SNR=4.5								
	comp=Z,2.6nm,0.9s								
AKASG	**Malin Array Be**	**71.89**	**328**	P	**P**	**19 26 17.0**	**-0.2**		
	comp=Z,1.4nm,0.7s,baz=38,slow=8.2,SNR=5.7								
	comp=Z,1.4nm,0.7s								
AKASG	**Malin Array Be**	**71.89**	**328**	P	**P**	**19 26 17.0**	**-0.2**		
ASAR	**Alice Springs**	**74.15**	**202**	P	**P**	**19 26 30.6**	**-0.2**		
	comp=Z,0.8nm,0.7s,baz=14,slow=5.5,SNR=16								
	comp=Z,0.8nm,0.7s								
TXAR	**Lajitas Array**	**74.78**	**63**	P	**P**	**19 26 36.0**	**+1.3**		
	comp=Z,1.2nm,0.6s,baz=291,slow=4.4,SNR=13								
	comp=Z,1.2nm,0.6s								
TXAR	**Lajitas Array**	**74.78**	**63**	P	**P**	**19 26 36.1**	**+1.4**		
BURAR	**Bucovina Array**	**75.91**	**328**	P	**P**	**19 26 41.5**	**+0.6**		
GERES	**GERESS Array B**	**78.42**	**336**	P	**P**	**19 26 55.7**	**+0.7**		
	comp=Z,0.2nm,0.3s,baz=29,slow=4.5,SNR=2.4								
	comp=Z,0.2nm,0.3s								
GERES	**GERESS Array B**	**78.42**	**336**	P	**P**	**19 26 56.0**	**+1.0**		
GERES	**GERESS Array B**	**78.42**	**336**	P	**P**	**19 26 56.0**	**+1.0**		

BRTR	**Keskin Array B**	**79.16**	**319**	P	**P**	**19 26 59.4**	**+0.1**		
	comp=Z,0.7nm,0.8s,baz=20,slow=7.4,SNR=4.2								
	comp=Z,0.7nm,0.8s								
MMAI	**Mount Meron Ar**	**83.82**	**314**	P	**P**	**19 27 24.9**	**+0.9**		
	comp=Z,0.5nm,0.5s,baz=35,slow=7.8,SNR=1.3								
	comp=Z,0.5nm,0.5s								
ESDC	**Sonseca Array**	**91.10**	**345**	P	**P**	**19 27 58.9**	**-0.1**		
	comp=Z,0.2nm,0.7s,baz=23,slow=7.0,SNR=2.1								
	comp=Z,0.2nm,0.7s								
PLCA	**Paso Flores**	**145.89**	**96**	PKPbc	**PKPbc**	**19 34 33.9**	**+0.5**		
	comp=Z,1.1nm,0.7s,baz=264,slow=5.7,SNR=5.1								

*MAN **10** 19:20:51.3, 5°.38N × 126°.80E, h43km, mb4.4, ML3.2, MS3.0*
*IDC **10** 19:20:51.7±5.9, 5°.98N × 127°.49E, h76km±50km, mb3.3/5, mbtmp3.6/6, ML3.6/1, MS2.7/2, Error ellipse: s-maj=85.0km s-min=18.9km az=61.0*

ISC 10 19:20:53.8±0.9, **5°.65N**±0°.08 × **127°.0E**±0°.1, **h84km, n11, σ1§98/16, mb3.4/5, 2C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.97**	**316**	P	**Pn**	**19 21 24.7**	**-0.8**
	18nm,0.3s,baz=27,slow=2.3,SNR=1.4						
DAV				S	**Sn**	**19 21 53.0**	**+3.4**
	95nm,0.4s,baz=162,slow=22,SNR=6.8						
DAV				LR	LR	19 22 18.3	
	comp=Z,28nm,19.9s,baz=96,slow=40						
	64nm,0.3s						
CDOP	**Cateel, Davao**	**2.18**	**346**	*eP*	**Pn**	**19 21 27.3**	**-1.0**
CDOP				*eS*	**Sn**	**19 21 52.3**	**-2.3**
BIPH	**Bislig**	**2.59**	**347**	*eP*	**Pn**	**19 21 35.9**	**+2.2**
BIPH				*eS*	**Sn**	**19 22 03.0**	**-1.3**
TASP	**Talacogon, Agu**	**3.01**	**338**	*eP*	**Pn**	**19 21 41.1**	**+1.7**
CTBH	**Cotabato--PC H**	**3.12**	**300**	*eP*	**Pn**	**19 21 38.7**	**-2.2**
CGP	**Cagayan de Oro**	**3.58**	**321**	*eP*	**Pn**	**19 21 50.2**	**+3.1**
CGP				*eS*	**Sn**	**19 22 28.4**	**0.0**
FITZ	**Fitzroy Crossi**	**23.63**	**183**	P	**P**	**19 25 59.8**	**+2.2**
	1.5nm,1.0s,baz=343,slow=11,SNR=2.0						
	1.5nm,1.0s						
WRA	**Warramunga Arr**	**26.45**	**164**	P	**P**	**19 26 23.8**	**+0.7**
	0.6nm,0.6s,baz=344,slow=10,SNR=11						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**29.91**	**167**	P	**P**	**19 26 54.0**	**-0.1**
	0.4nm,0.8s,baz=336,slow=6.9,SNR=7.6						
ASAR				PcP	**PcP**	**19 29 54.7**	**-0.4**
	0.3nm,0.5s,baz=349,slow=2.7,SNR=7.9						
ASAR				LR	LR	19 39 30.0	
	comp=Z,69nm,19.0s,baz=266,slow=37						
	0.4nm,0.8s						
STKA	**Stephens Creek**	**39.84**	**160**	P	**P**	**19 28 18.5**	**-0.7**
	0.9nm,0.6s,baz=334,slow=13,SNR=4.2						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**56.13**	**324**	P	**P**	**19 30 23.2**	**-1.6**
	0.3nm,0.5s,baz=118,slow=8.2,SNR=5.0						
	0.3nm,0.5s						

*IDC **10** 19:28:11.0±1.1, 11°.20N × 79°.54E, h0km, mb3.4/6, mbtmp3.4/7, ML3.1/1, Error ellipse: s-maj=34.2km s-min=18.1km az=59.0*

ISC 10 19:28:12.4±0.9, **11°.24N**±0°.09 × **79°.6E**±0°.2, **h10km, n7, σ0§99/9, mb3.5/5, Southern India**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**4.09**	**165**	Pn	**Pn**	**19 29 13.9**	**-1.2**
	1.3nm,0.3s,baz=85,slow=12,SNR=19						
PALK				Pg	**Pb**	**19 29 26.0**	**+1.3**
	12nm,0.3s,baz=91,slow=15,SNR=10						
PALK				Sn	**Sn**	**19 30 02.5**	**-0.7**
	19nm,0.3s,baz=269,slow=9.8,SNR=8.8						
PALK				Lg	Lg	19 30 17.0	
	10nm,0.3s,baz=210,slow=7.5,SNR=4.7						
	4.0nm,0.2s						
CMAR	**Chiang Mai Arr**	**20.01**	**67**	P	**Pn**	**19 32 46.9**	**-0.3**
	0.5nm,0.8s,baz=267,slow=12,SNR=4.3						
	0.5nm,0.8s						
WSAR	**Wadi Sarin**	**23.28**	**304**	P	**P**	**19 33 20.9**	**+0.5**
	3.5nm,0.6s,baz=90,slow=5.1,SNR=2.2						
	3.5nm,0.6s						
MKAR	**Makanchi Array**	**35.50**	**3**	P	**P**	**19 35 09.5**	**+0.1**
	0.3nm,0.7s,baz=179,slow=9.9,SNR=2.2						
	0.3nm,0.7s						
BRTR	**Keskin Array B**	**49.52**	**313**	P	**P**	**19 37 03.1**	**-0.6**
	0.6nm,0.8s,baz=97,slow=5.8,SNR=4.0						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**62.15**	**120**	P	**P**	**19 38 34.1**	**-0.2**
	0.2nm,0.5s,baz=306,slow=6.9,SNR=5.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**63.41**	**124**	P	**P**	**19 38 43.9**	**+1.2**
	0.2nm,0.8s,baz=311,slow=5.6,SNR=1.6						
	0.2nm,0.8s						

*IDC **10** 19:35:45.1±0.5, 29°.24S × 61°.02E, h0km, mb4.1/17, mbtmp4.1/18, ML4.2/1, MS3.4/18, Error ellipse:*
s-maj=17.8km s-min=15.2km az=74.0
*NEIC **10** 19:35:47.0±1.6, 29°.19S±0°.08 × 61°.0E±0°.1, h10km±1km, mb4.4/21, Error ellipse: s-maj=17.7km s-min=13.4km az=285.0*

ISC 10 19:35:46.8±0.5, **29°.21S**±0°.08 × **60°.97E**±0°.10, **h10km, n76, σ0§69/62, mb4.3/24, MS3.5/18, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.30**	**328**		**Pn**	**19 37 59.2**	**-1.9**
FOMA	**Nahampoana Res**	**13.15**	**285**	Pn	**Pn**	**19 38 52.0**	**-1.7**
VOI	**Vohitsoka**	**14.70**	**296**		**Pn**	**19 39 14.4**	**-0.6**
ABPO	**Ambohimpanom**	**16.12**	**306**	Pn	**Pn**	**19 39 34.2**	**+0.5**
OPO	**Ambohidratompo**	**16.44**	**307**	Pn	**Pn**	**19 39 38.3**	**+0.4**
	0.1nm,0.3s,baz=112,slow=12,SNR=9.3						
OPO				Sn	Sn	19 42 26.5	-14
	0.3nm,0.3s,baz=304,slow=12,SNR=13						
	4.2nm,0.6s						
BOSA	**Boshof**	**31.19**	**262**	P	**P**	**19 42 06.5**	**+0.1**
	4.3nm,0.9s,baz=94,slow=8.6,SNR=4.2						
BOSA				LR	LR	19 52 58.9	
	comp=Z,60nm,18.3s,baz=90,slow=33						
	4.3nm,0.9s						
BOSA	**Boshof**	**31.19**	**262**	P	**P**	**19 42 06.6**	**+0.2**
LBTB	**Lobatse**	**31.68**	**269**	P	**P**	**19 42 10.5**	**-0.3**
	2.4nm,0.7s,baz=22,slow=19,SNR=2.2						
LBTB				LR	LR	19 53 00.7	
	comp=Z,39nm,21.0s,baz=94,slow=33						
	2.4nm,0.7s						
LSZ	**Lusaka**	**33.23**	**288**	LR	LR	19 54 16.7	
	comp=Z,39nm,19.4s,baz=145,slow=33						
SUR	**Sutherland**	**34.50**	**254**	LR	LR	19 53 28.3	
	comp=Z,47nm,20.2s,baz=98,slow=31						
KMBO	**Kilima Mbogo**	**35.93**	**317**	LR	LR	19 54 55.3	
	comp=Z,83nm,20.1s,baz=90,slow=32						
MAW	**Mawson**	**38.44**	**179**	P	**P**	**19 43 07.7**	**-0.5**
	1.9nm,0.8s,baz=294,slow=12,SNR=4.4						
MAW				LR	LR	19 55 18.2	
	comp=Z,71nm,18.2s,baz=354,slow=30						
	1.9nm,0.8s						
MAW	**Mawson**	**38.44**	**179**	P	**P**	**19 43 08.0**	**-0.3**
MBAR	**Mbarara**	**40.50**	**309**	LR	LR	19 58 32.1	
	comp=Z,73nm,19.6s,baz=96,slow=34						
TSUM	**Tsumeb**	**40.61**	**274**	LR	LR	19 58 26.4	
	comp=Z,59nm,19.7s,baz=152,slow=34						
ATD	**Arta Tunnel**	**44.12**	**334**	LR	LR	19 59 40.8	
	comp=Z,63nm,20.9s,baz=30,slow=32						
H01W2	**Cape Leeuwin H**	**44.99**	**111**	T	T	20 31 57.5	
	baz=261,slow=75						
H01W3	**Cape Leeuwin H**	**44.99**	**111**	T	T	20 31 45.8	
	baz=261,slow=75						
H01W1	**Cape Leeuwin H**	**45.00**	**111**	T	T	20 31 43.6	
	baz=261,slow=75						
TROLL	**Troll, Antarti**	**52.87**	**199**	P	**P**	**19 45 03.4**	**+0.9**
SNAA	**Sanae**	**54.36**	**200**	P	**P**	**19 45 13.5**	**+0.2**
SNAA	**Sanae**	**54.36**	**200**	P	**P**	**19 45 13.2**	**-0.2**
	2.5nm,1.0s,baz=100,slow=6.5,SNR=15						
SNAA				LR	LR	20 05 53.8	
	comp=Z,38nm,18.6s,baz=140,slow=33						
	2.5nm,1.0s						
SNAA	**Sanae**	**54.36**	**200**	P	**P**	**19 45 13.5**	**+0.2**
SNAA				IAmb	IAmb	19 45 14.5	
	comp=Z,6.9nm,1.4s						
VNA2	**Neumayer--Watz**	**55.63**	**202**	P	**P**	**19 45 23.0**	**+0.5**
	baz=70,slow=6.0						
VNA3	**Neumayer Olymp**	**56.41**	**201**	P	**P**	**19 45 28.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**59.63**	**95**	P	**P**	**19 45 51.1**	**-0.3**
CM31	**Chiang Mai Arr**	**59.91**	**42**	P	**P**	**19 45 53.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**59.91**	**42**	P	**P**	**19 45 53.2**	**0.0**
	comp=Z,1.6nm,0.6s,baz=231,slow=7.3,SNR=14						
	comp=Z,1.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.91**	**42**	P	**P**	**19 45 53.7**	**+0.5**
CHTO	**Chiang Mai**	**60.19**	**42**	P	**P**	**19 45 54.8**	**-0.4**
PYUN	**Piuthan**	**60.76**	**22**	*eP*	**P**	**19 45 59.3**	**+0.2**
QSPA	**South Pole Qui**	**60.95**	**180**	P	**P**	**19 45 59.8**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=286,slow=1.0,SNR=11						
QSPA				LR	LR	20 10 03.7	
	comp=Z,49nm,18.6s,baz=326,slow=34						
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**60.95**	**180**	P	**P**	**19 45 59.7**	**-0.2**
QSPA				IAmb	IAmb	19 46 27.4	
	comp=Z,5.7nm,1.2s						
RAMN	**Ramite**	**61.01**	**26**	*eP*	**P**	**19 46 01.4**	**+0.6**
	comp=Z,15nm,0.6s						
GKN	**Gorkha**	**61.23**	**24**	*eP*	**P**	**19 46 02.3**	**+0.1**
	comp=Z,20nm,0.6s						
DANN	**Dangsing**	**61.25**	**23**	*eP*	**P**	**19 46 02.6**	**+0.1**
SHL	**Shillong**	**62.03**	**32**	P	**P**	**19 46 06.8**	**-0.9**
VNDA	**Vanda**	**64.03**	**166**	P	**P**	**19 46 20.1**	**0.0**
	comp=Z,1.1nm,0.7s,baz=276,slow=6.9,SNR=6.4						
VNDA				LR	LR	20 11 37.6	
	comp=Z,47nm,19.5s,baz=296,slow=34						
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**64.03**	**166**	P	**P**	**19 46 19.5**	**-0.6**
VNDA				IAmb	IAmb	19 46 26.7	
	comp=Z,3.1nm,1.2s						
ASAR	**Alice Springs**	**64.60**	**104**	P	**P**	**19 46 24.2**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=244,slow=6.1,SNR=21						
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**64.60**	**104**	P	**P**	**19 46 23.9**	**-0.9**
AS31	**Alice Springs**	**64.60**	**104**	P	**P**	**19 46 24.4**	**-0.4**
SBA	**Scott Base**	**64.91**	**167**	P	**P**	**19 46 26.7**	**+0.9**
SBA				IAmb	IAmb	19 46 45.1	
	comp=Z,5.8nm,1.4s						
WRA	**Warramunga Arr**	**66.43**	**100**	P	**P**	**19 46 35.7**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=245,slow=5.6,SNR=11						
	comp=Z,2.2nm,0.9s						
WRA	**Warramunga Arr**	**66.43**	**100**	P	**P**	**19 46 35.3**	**-1.3**
WB2	**Warramunga Arr**	**66.44**	**100**	P	**P**	**19 46 35.0**	**-1.7**
MMAI	**Mount Meron Ar**	**66.46**	**337**	LR	LR	20 11 52.9	
	comp=Z,28nm,20.8s,baz=316,slow=33						
WR0	**Warramunga Arr**	**66.59**	**101**	P	**P**	**19 46 36.4**	**-1.2**
GEYT	**Alibeck**	**66.84**	**358**	P	**P**	**19 46 38.3**	**-0.4**
GEYT				IAmb	IAmb	19 46 41.7	
	comp=Z,2.5nm,0.9s						
GNI	**Garni**	**70.64**	**347**	LR	LR	20 16 12.9	
	comp=Z,31nm,20.6s,baz=139,slow=34						
TOA0	**Torodi Ar. Sit**	**71.01**	**298**	P	**P**	**19 47 06.0**	**+0.9**
TOA0				IAmb	IAmb	19 47 10.2	
	comp=Z,6.1nm,1.3s						
TORD	**Torodi Ar. Bea**	**71.01**	**298**	P	**P**	**19 47 05.5**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=114,slow=5.4,SNR=12						
	comp=Z,2.4nm,0.7s						
KK31	**Karatay Array**	**72.49**	**7**	P	**P**	**19 47 14.4**	**+0.9**
KK31				IAmb	IAmb	19 47 18.8	
	comp=Z,3.0nm,1.2s						
KKAR	**Karatay Array**	**72.49**	**7**	P	**P**	**19 47 14.3**	**+0.9**
DBIC	**Dimbokro**	**72.56**	**288**	LR	LR	20 18 17.5	
	comp=Z,29nm,18.1s,baz=108,slow=35						
BR131	**Keskin Array S**	**73.15**	**338**	P	**P**	**19 47 17.4**	**-0.1**
BR131				IAmb	IAmb	19 47 18.9	
	comp=Z,4.2nm,0.9s						
BRTR	**Keskin Array B**	**73.15**	**338**	P	**P**	**19 47 17.9**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=154,slow=10,SNR=10						
	comp=Z,1.5nm,0.8s						
BRTR	**Keskin Array B**	**73.15**	**338**	P	**P**	**19 47 17.5**	**-0

YMP	Mirror Lake Pl	3.71	291		Pn	19 45 21.6	+1.9
ISCO	Idaho Springs	3.73	184		Pn	19 45 21.3	+1.2
GCMT	Greyclift	3.85	307		Pn	19 45 22.8	+1.1
LOHW	Long Hollow	3.86	273		Pn	19 45 23.6	+1.8
LOHW				IAML		19 46 31.7	
	comp=N,54nm,1.1s						
LOHW				IAML		19 46 35.5	
	comp=N,61nm,3.0s						
H17A	Grant Village	3.91	285		Pn	19 45 24.0	+1.4
H17A				IAML		19 46 28.6	
	comp=N,60nm,1.9s						
FLWY	Flagg Ranch	3.96	280		Pn	19 45 25.0	+1.8
MOOW	Moose Ponds	3.97	275	Pn	Pn	19 45 25.1	+1.8
MOOW				IAML		19 48 03.3	
	comp=N,55nm,0.2s						
O20A	White River Ci	4.05	214		Pn	19 45 25.4	+1.0
REDW	Red Top Meadow	4.05	270		Pn	19 45 26.2	+1.7
REDW				IAML		19 46 32.2	
	comp=N,96nm,1.3s						
REDW				IAML		19 46 47.6	
	comp=N,92nm,1.4s						
IMW	Indian Meadow	4.11	277		Pn	19 45 27.2	+1.8
IMW				IAML		19 46 38.2	
	comp=N,57nm,1.1s						
IMW				IAML		19 46 43.1	
	comp=N,65nm,0.7s						
TPAW	Teton Pass	4.12	271		Pn	19 45 26.3	+0.9
TPAW				IAML		19 46 41.3	
	comp=N,76nm,1.1s						
TPAW				IAML		19 46 47.7	
	comp=N,46nm,0.9s						
FXWY	Fox Creek	4.17	273		Pn	19 45 25.4	-0.6
YHH	Holmes Hill	4.19	289		Pn	19 45 28.5	+2.1
YHH				IAML		19 46 48.0	
	comp=N,48nm,1.1s						
RDMU	Red Mountain	4.35	229	Pn	Pn	19 45 30.1	+1.6
RDMU				IAML		19 46 44.9	
	comp=E,68nm,0.9s						
RDMU				IAML		19 46 49.5	
	comp=N,75nm,1.5s						
E28A	Huff	4.46	45	Pn	Pn	19 45 30.4	+0.5
SUSD	Miller	4.66	77	Pn	Pn	19 45 35.2	+2.6
BOZ	Bozeman (W)	4.98	297	Pn	Pn	19 45 37.6	+0.4
BOZ				IAML		19 47 00.3	
	comp=N,40nm,1.1s						
BOZ				IAML		19 48 48.4	
	comp=N,31nm,4.3s						
HWUT	Hardware Ranch	5.02	250	Pn	Pn	19 45 36.9	-0.8
HWUT				IAML		19 47 13.2	
	comp=N,49nm,1.1s						
EGMT	Eagleton	5.47	327	Pn	Pn	19 45 44.5	+0.7
CTU	Camp Tracy	5.58	242		Pn	19 45 46.3	+0.9
LRM	Limekiln Ridge	5.60	297		Pn	19 45 46.3	+0.6
HRY	Holter Researc	5.62	307	Pn	Pn	19 45 46.1	+0.2
PV07	Paradox Valley	5.69	208	Pn	Pn	19 45 48.5	+1.7
PV15	Paradox Valley	5.72	206	Pn	Pn	19 45 46.7	-0.7
HVU	Hansel Valley	5.79	255	Pn	Pn	19 45 48.9	+0.7
MDND	Maddock	5.87	41	Pn	Pn	19 45 49.1	-0.2
S22A	4UR Ranch, Cre	5.89	192	Pn	Pn	19 45 51.7	+1.9
ECSD	EROS Data Cent	6.30	85		Pn	19 45 54.8	-0.4
T25A	Trinidad	6.42	174	Pn	Pn	19 45 56.8	-0.2
DUG	Dugway, Tooele	6.53	242	Pn	Pn	19 45 58.0	-0.4
HLID	Hailey	6.63	273	Pn	Pn	19 46 00.2	+0.4
JTMT	Jette	7.58	307	Pn	Pn	19 46 14.8	+2.0
ELK	Elko	7.90	253	Lg	Lg	19 48 27.7	
	comp=N,0.1nm,0.3s,baz=22,slow=19,SNR=1.9						
AGMN	Agassiz Nation	8.12	51	Pn	Pn	19 46 21.1	+1.0
ULM	Lac du Bonnet	9.31	40	Pn	Pn	19 46 34.0	-2.4
	comp=N,1.2nm,0.3s,baz=226,slow=14,SNR=12						
ULM				Lg	Lg	19 49 04.5	
	comp=N,0.3nm,0.3s,baz=307,slow=20,SNR=1.7						
	comp=N,2.5nm,0.3s						
NEW	Newport	9.51	304	Lg	Lg	19 49 08.1	
	comp=N,0.1nm,0.3s,baz=86,slow=16,SNR=2.1						
I56US	NEWPORT INFRAS	9.51	304	*i*		20 45 19.7	
	baz=115,slow=315,SNR=1.8						
NVAR	Mina Array Bea	11.07	247	Pn	Pn	19 47 02.2	+1.4
	comp=N,0.1nm,0.3s,baz=49,slow=12,SNR=1.8						
NVAR				Lg	Lg	19 49 54.5	
	comp=N,0.1nm,0.3s,baz=58,slow=30,SNR=2.5						
	comp=N,0.2nm,0.4s						
TXAR	Lajitas Array	14.23	174	Pg	Pg	19 48 49.0	
	baz=3.3,slow=17,SNR=3.6						
TXAR				Lg	Lg	19 51 59.6	
	baz=2.2,slow=26,SNR=5.1						
TKL	Tuckaleechee C	18.32	108	Lg	Lg	19 54 03.5	
	comp=N,0.1nm,0.3s,baz=177,slow=17,SNR=3.6						

IDC 10 19:49:01.7±3.1, 29°.95S×177°.25W, h0km, mb3.3/2, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=62.0km s-min=23.7km az=74.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.91	320	Pn	Pn	19 49 22.4	+0.7
	119nm,0.3s,baz=73,slow=7.8,SNR=7.9						
RAO				Sn	Sn	19 49 34.7	-0.9
	173nm,0.3s,baz=32,slow=23,SNR=6.8						
URZ	Urewera	9.51	208	Pn	Pn	19 51 19.4	-0.5
	0.8nm,0.3s,baz=211,slow=3.3,SNR=7.3						
URZ				Sn	Sn	19 53 03.3	-4.1
	0.2nm,0.3s,baz=32,slow=17,SNR=0.8						
	2.5nm,0.2s						
ASAR	Alice Springs	43.78	266	P	P	19 57 08.9	-0.5
	0.2nm,0.7s,baz=104,slow=7.4,SNR=5.2						
	0.2nm,0.7s						
WRA	Warramunga Arr	44.73	271	P	P	19 57 17.4	+0.4
	0.2nm,0.4s,baz=112,slow=7.2,SNR=7.4						
	0.2nm,0.4s						
FINES	FINESS Array B	144.94	341	PKP	PKPab	20 08 39.1	-0.3
	0.6nm,0.8s,baz=45,slow=2.2,SNR=5.0						

NEIC 10 19:56:53.3±1.4, 16°.9S±0°.1×173°.47W±0°.07, h45km±12km, mb4.4/10, Error ellipse: s-maj=15.1km s-min=8.5km az=199.0

IDC 10 19:56:58.1±3.1, 15°.71S×174°.19W, h81km±26km, mb3.6/5, mbtmp3.9/6, MS3.0/2, Error ellipse: s-maj=160.9km s-min=18.2km az=147.0

ISC 10 19:56:51.6±0.7, 16°.87S±0°.06×173°.34W±0°.08, h35km, n22, σ2s23/25, mb4.2/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	3.30	27	P	Pn	19 57 43.3	+2.4
	104nm,0.2s,baz=199,slow=3.5,SNR=22						
AFI				S	Sn	19 58 17.6	-1.5
	146nm,0.3s,baz=213,slow=23,SNR=13						
AFI				LR	LR	19 58 30.5	
	comp=Z,120nm,18.8s,baz=253,slow=31						
AFI	Afiamalu	3.30	27	Pn	Pn	19 57 43.3	+2.4
AFI				Sn	Sn	19 58 16.7	-2.4
NIUE	Niue	3.92	125	Pn	Pn	19 57 51.7	+2.3
NIUE				Sn	Sn	19 58 31.0	-3.2
MSVF	Nonsavu	8.27	263	Pn	Pn	19 58 48.7	-0.6
DZM	Mont Dzumac	19.75	252	P	P	20 01 18.1	-0.7
DZM				IAmb	IAmb	20 01 44.9	
	comp=Z,16nm,1.2s						
PPT	Papeete	22.71	95	LR	LR	20 09 50.6	
	comp=Z,59nm,18.0s,baz=36,slow=33						
URZ	Urewera	22.91	200	P	P	20 01 53.5	+1.1
BKZ	Black Stump Fm	23.93	200	P	P	20 02 04.0	+1.5
BKZ				IAmb	IAmb	20 02 13.5	
	comp=Z,25nm,1.2s						
ARMA	Armidale	34.66	241	P	P	20 03 37.4	-0.7
STKA	Stephens Creek	43.37	241	P	P	20 04 50.5	-0.3
	comp=Z,1.2nm,0.5s,baz=71,slow=9.6,SNR=2.9						
	comp=Z,1.2nm,0.5s						
STKA	Stephens Creek	43.37	241	P	P	20 04 50.2	-0.6
WB0	Warramunga Arr	49.55	258	P	P	20 05 37.6	-1.9
WB0				IAmb	IAmb	20 05 38.2	
	comp=Z,5.6nm,1.2s						
WRA	Warramunga Arr	49.58	258	P	P	20 05 37.5	-2.3
	comp=Z,0.6nm,0.7s,baz=94,slow=7.2,SNR=17						
	comp=Z,0.6nm,0.7s						
WRA	Warramunga Arr	49.58	258	P	P	20 05 37.5	-2.3
AS31	Alice Springs	49.73	253	P	P	20 05 39.4	-1.5
AS31				IAmb	IAmb	20 05 40.5	
	comp=Z,1.6nm,0.5s						
ASAR	Alice Springs	49.73	253	P	P	20 05 39.5	-1.3
	comp=Z,4.9nm,0.6s,baz=88,slow=8.7,SNR=126						
ASAR				pP	sP	20 06 01.0	+6.2
	comp=Z,1.3nm,0.7s,baz=90,slow=8.0,SNR=5.1						
	comp=Z,4.9nm,0.6s						

ASAR	Alice Springs	49.73	253	P	P	20 05 39.0	-1.9
FITZ	Fitzroy Crossi	57.98	259	P	P	20 06 39.8	-1.4
FITZ				IAmb	IAmb	20 06 47.2	
	comp=Z,8.4nm,1.5s						
QSPA	South Pole Qui	73.19	180	P	P	20 08 19.4	+0.6
QSPA				IAmb	IAmb	20 08 24.3	
	comp=Z,2.4nm,1.0s						
NVAR	Mina Array Bea	75.37	42	P	P	20 08 32.1	+0.1
	comp=Z,0.6nm,0.9s,baz=228,slow=9.3,SNR=2.7						
	comp=Z,0.6nm,0.9s						
PDAR	Pinedale Array	83.31	42	P	P	20 09 15.2	-0.1
	comp=Z,0.4nm,0.6s,baz=208,slow=5.0,SNR=4.5						
	comp=Z,0.4nm,0.6s						
BRTR	Keskin Array B	147.32	320	PKPbc	PKPdf	20 16 27.0	-2.6
	comp=Z,0.2nm,0.6s,baz=45,slow=2.2,SNR=1.3						

IDC 10 20:02:45.8±8.4, 32°.73S×179°.92E, h230km±87km, mb3.3/2, mbtmp4.0/4, Error ellipse: s-maj=87.5km s-min=45.6km az=3.0

WEL 10 20:02:47.3±0.6, 33°.5±8°×17°.9W±1°.8, h33km, M4.2/20, mB4.8/18, ML4.7/31, MLv4.5/20, Mw(mB)4.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=113.4

ISC 10 20:02:51.0±2.1, 33°.4S±0°.1×179°.8W±0°.2, h300km, n68, σ1s69/94, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	4.41	21	S	S	20 04 24.8	-34
URZ	Urewera	5.48	207	P	Pn	20 04 14.9	+1.0
	5.8nm,0.3s,baz=31,slow=18,SNR=11						
URZ				S	S	20 05 21.3	+0.6
	14nm,0.3s,baz=31,slow=20,SNR=17						
MUGZ	Murupara	5.80	208	P	Pn	20 04 19.3	+1.5
MUGZ				S	S	20 05 30.7	+3.0
RAHZ	Arahi	6.07	204	P	Pn	20 04 23.2	+2.2
RAHZ				S	S	20 05 35.1	+1.5
MTHZ	Maungataniwha	6.10	206	P	Pn	20 04 23.9	+2.5
MTHZ				S	S	20 05 36.2	+1.9
NMHZ	Naumai	6.33	205	P	Pn	20 04 26.1	+1.9
NMHZ				S	S	20 05 42.9	+3.5
ARHZ	Aropaoanui	6.41	203	P	Pn	20 04 27.3	+2.2
ARHZ				S	S	20 05 42.5	+1.4
BKZ	Black Stump Fm	6.50	207	P	Pn	20 04 27.3	+1.0
BKZ				S	S	20 05 43.2	0.0
MCHZ	McNeill Hill	6.68	204	P	Pn	20 04 30.2	+2.0
MCHZ				S	S	20 05 48.6	+1.7
HIZ	Hauiti	6.72	219	P	Pn	20 04 33.1	+4.3
KWHZ	Kaweka Forest	6.76	206	P	Pn	20 04 30.8	+1.5
KWHZ				S	S	20 05 48.1	-0.7
NTVZ	North Tongarir	6.78	212	P	Pn	20 04 31.4	+1.7
TMVZ	Te Maari	6.78	211	P	Pn	20 04 31.5	+1.8
ETVZ	East Tongariro	6.80	211	P	Pn	20 04 31.4	+1.5
WTVZ	West Tongariro	6.83	212	P	Pn	20 04 32.6	+2.3
NNVZ	North Ngauruho	6.83	212	P	Pn	20 04 32.2	+1.9
OTVZ	Oturere	6.84	211	P	Pn	20 04 30.9	+0.5
TWVZ	Taurewa	6.86	213	P	Pn	20 04 32.5	+1.8
SNVZ	South Ngauruho	6.87	211	P	Pn	20 04 31.9	+1.1
NGZ	Ngauruhoe	6.88	212	P	Pn	20 04 32.8	+1.9
TUVZ	Tukino	6.93	211	P	Pn	20 04 32.3	+0.8
KAHZ	Kahuranaki	6.93	202	P	Pn	20 04 33.4	+2.0
KAHZ				S	S	20 05 54.0	+1.4
BHHZ	Black Hill Sta	6.95	208	P	Pn	20 04 32.4	+0.7
BHHZ				S	S	20 05 55.5	+2.5
FWVZ	Far West T-bar	6.96	212	P	Pn	20 04 33.5	+1.5
WNVZ	Wahianoa	7.00	211	P	Pn	20 04 33.3	+0.9
MOVZ	Moawhango	7.00	210	P	Pn	20 04 32.9	+0.6
MOVZ				S	S	20 05 53.1	-1.2
PKVZ	Pokaka	7.08	213	P	Pn	20 04 34.6	+1.3
MTVZ	Mangateitei	7.11	211	P	Pn	20 04 34.8	+1.2
WPHZ	Waipukurau	7.32	204	P	Pn	20 04 37.6	+1.6
WPHZ				S	S	20 06 01.2	0.0
PRHZ	Porangahau	7.44	202	P	Pn	20 04 39.2	+1.6
PRHZ				S	S	20 06 05.3	+1.4
TSZ	Takapari Road	7.48	206	P	Pn	20 04 38.2	+0.1
TSZ				S	S	20 06 01.8	-3.1
DVHZ	Dannevirke	7.62	204	P	Pn	20 04 40.5	+0.7
DVHZ				S	S	20 06 07.0	-1.0
WAZ	Wanganui	7.62	212	P	Pn	20 04 40.8	+1.0
WAZ				S	S	20 06 13.5	+5.5
PKE	Pukeiti	7.68	219	P	Pn	20 04 44.0	+3.4
POWZ	Post Office Ro	7.85	206	P	Pn	20 04 43.0	+0.5
POWZ				S	S	20 06 11.6	-1.4
PRWZ	Pori Road	7.92	204	P	Pn	20 04 44.6	+1.2
PRWZ				S	S	20 06 13.2	-1.4
BFZ	Birch Farm	7.94	203	P	Pn	20 04 44.3	+0.7
BFZ				S	S	20 06 13.6	-1.5
TIWZ	Tintock	8.14	204	P	Pn	20 04 47.0	+0.8
TIWZ				S	S	20 06 17.4	-2.3
MRZ	Mangatainoka R	8.15	206	P	Pn	20 04 46.1	-0.2
MRZ				S	S	20 06 15.5	-4.3
HOWZ	Holdsworth Sta	8.38	205	P	Pn	20 04 48.6	-0.5
HOWZ				S	S	20 06 20.5	-4.5
OGWZ	Otaki Gorge	8.44	207	P	Pn	20 04 49.3	-0.4
OGWZ				S	S	20 06 24.2	-2.1
TMWZ	Te Maipa	8.44	203	P	Pn	20 04 50.5	+0.7
TMWZ				S	S	20 06 24.9	-1.4
KIW	Kapiti Island	8.58	208	P	Pn	20 04 50.0	-1.5
KIW				S	S	20 06 26.3	-3.2
CAW	Cannon Point	8.73	207	P	Pn	20 04 50.7	-2.7
CAW				S	S	20 06 31.0	-1.9
TRWZ	Traveller	8.77	203	P	Pn	20 04 54.5	+0.7
TRWZ				S	S	20 06 31.9	-1.8
PAWZ	Paruwai Farm	8.84	204	P	Pn	20 04 54.5	-0.2
PAWZ				S	S	20 06 33.6	-2.4
MSWZ	Moikau Station	8.93	205	P	Pn	20 04 55.3	-0.5
MSWZ				S	S	20 06 34.9	-2.5
DUWZ	D'Urville Isla	8.95	213	P	Pn	20 04 55.0	-1.0
DUWZ				S	S	20 06 38.5	+0.7
PLWZ	Palliser	9.07	204	P	Pn	20 04 57.1	-0.5
PLWZ				S	S	20 06 37.6	-3.0
TCW	Tory Channel	9.13	210	P	Pn	20 04 57.1	-1.1
TCW				S	S	20 06 39.2	-2.7
TUWZ	Tuamarina	9.45	210	P	Pn	20 05 01.0	-1.2
TUWZ				S	S	20 06 46.0	-3.1
NNZ	Nelson	9.53	213	P	Pn	20 05 02.7	-0.4
TKNZ	Takaka Hill	9.58	215	P	Pn	20 05 03.5	-0.3
QRZ	Quartz Range	9.64	218	P	Pn	20 05 03.3	-1.2
BSWZ	Blackbirch Sta	9.72	209	P	Pn	20 05 05.0	-0.4
MRNZ	Matariki Terra	9.96	215	P	Pn	20 05 07.9	-0.5
THZ	Tophouse	10.18	213	P	Pn	20 05 11.0	-0.1
KHZ	Kahutara	10.44	209	P	Pn	20 05 13.6	-0.7
CTZ	Chatham Island	10.61	168	P	P	20 05 34.8	+.16
DSZ	Dennistoun Nort	10.69	216	P	Pn	20 05 17.5	+0.1
GVZ	Greta Valley S	11.11	209	P	Pn	20 05 21.5	-1.0
LTZ	Lake Taylor	11.27	212	P	Pn	20 05 23.5	-1.1
INZ	Inchbonnie	11.60	214	P	Pn	20 05 27.5	-1.0
OXZ	Oxford	11.81	211	P	Pn	20 05 30.0	-1.1
RPZ	Rata Peaks	12.55	212	P	P	20 05 42.0	+1.1
	2.1nm,0.3s,baz=22,slow=11,SNR=6.1						
RPZ				S	S	20 07 56.9	-2.3
	5.7nm,0.9s,baz=38,slow=13,SNR=1.7						
ASAR	Alice Springs	41.57	271	P	P	20 10 08.8	-1.3
	0.6nm,0.5s,baz=109,slow=7.7,SNR=19						
	0.6nm,0.5s						
WRA	Warramunga Arr	42.83	276	P	P	20 10 18.5	-1.8
	1.0nm,0.3s,baz=113,slow=8.1,SNR=35						
	1.0nm,0.3s						
FINES	FINESS Array B	147.38	337	PKPbc	PKiKP	20 21 58.5	-2.1
	0.8nm,0.7s,baz=16,slow=4.3,SNR=4.1						

RSNC 10 20:20:02.3±1.1, 6°.81N×73°.12W, h150km±4km, ML3.3, Mw3.6, 3C-3D, Fault plane solution: NP1: ϕs52.00000°, δ37.00000°, λ-122.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.23	195	*i*P	Pn	20 20 22.5	-0.5
BARC				*e*S	Sn	20 20 38.1	-0.6
BARC				IAML		20 20 38.8	
	comp=Z,500nm,0.2s						
BRRC	Barranca, Sant	0.65	297	⇓*i*P	Pn	20 20 24.4	-0.1
BRRC				*e*S	Sn	20 20 41.6	+0.2
BRRC				IAML		20 20 44.8	
	comp=Z,334nm,0.3s						
PAMC	Pamplona, Colo	0.67	39	*e*P	Pn	20 20 25.4	+0.2
PAMC				*e*S	Sn	20 20 42.4	-0.2
PAMC				IAML		20 20 44.7	
	comp=Z,744nm,0.5s						
RUSC	La Rusia	0.92	177	⇓*i*P	Pn	20 20 26.5	-0.5
RUSC				*e*S	Sn	20 20 45.1	-0.6
RUSC				IAML		20 20 46.4	
	comp=Z,284nm,0.3s						
PTBC	PUERTO BERRIO,	1.35	258	*e*P	Pn	20 20 29.0	-1.3
PTBC				*e*S	Sn	20 20 50.3	-1.5
PTBC				IAML		20 20 54.7	
	comp=Z,133nm,0.3s						
TAMC	Tame, Arauca	1.38	106	*e*P	Pn	20 20 30.9	+0.2
OCAC	Ocana	1.43	352	*e*P	Pn	20 20 30.6	-0.8
OCAC				*e*S	Sn	20 20 52.5	-1.1
OCAC				IAML		20 20 55.9	
	comp=Z,327nm,0.2s						
SPBC	San Pablo de B	1.49	219	*e*P	Pn	20 20 31.3	-0.6
SPBC				*e*S	Sn	20 20 53.7	-0.8
SPBC				IAML		20 20 56.2	
	comp=Z,317nm,0.2s						
ZARC	Zaragoza, Cauc	1.85	291	*e*P	Pn	20 20 35.0	-0.7
ZARC				*e*S	Sn	20 21 00.9	-0.4
ZARC				IAML		20 21 06.4	
	comp=Z,129nm,0.3s						
NORC	Norcasia	2.13	234	*e*P	Pn	20 20 38.7	-0.4
NORC				*e*S	Sn	20 21 06.6	-0.8
NORC				IAML		20 21 12.2	
	comp=Z,142nm,0.2s						
CHIC	Chingaza	2.25	196	⇑*e*P	Pn	20 20 40.7	-0.2
CHIC				*e*S	Sn	20 21 09.9	-0.6
CHIC				IAML		20 21 13.5	
	comp=Z,121nm,0.5s						
ROSC	El Rosal	2.29	211	*e*P	Pn	20 20 42.1	+0.8
ROSC				*e*S	Sn	20 21 12.4	+1.1
ROSC				IAML		20 21 14.7	
	comp=Z,228nm,0.3s						
HELC	Santa Helena	2.47	256	*e*P	Pn	20 20 43.7	+0.3
HELC				*e*S	Sn	20 21 14.9	-0.1
HELC				IAML		20 21 21.6	
	comp=Z,83nm,0.4s						
UREC	San Jos de Ur	2.56	291	*e*P	Pn	20 20 42.4	-1.9
UREC				*e*S	Sn	20 21 14.5	-2.1
UREC				IAML		20 21 25.6	
	comp=Z,140nm,0.2s						
SOCV	Socops	2.68	57	*e*P	Pn	20 20 45.5	-0.2
SOCV				*e*S	Sn	20 21 17.1	-2.1
GUY2C	Guyana, Caldas	2.73	235	*e*P	Pn	20 20 46.5	-0.2
GUY2C				*e*S	Sn	20 21 23.4	+2.3
GUY2C				IAML		20 21 28.7	
	comp=Z,118nm,0.3s						
VILC	Villavicencio,	2.74	192	*e*P	Pn	20 20 46.1	-0.5
VILC				*e*S	Sn	20 21 20.5	-0.3
VILC				IAML		20 21 23.2	
	comp=Z,195nm,0.4s						
LL1C	La Loma 1 Cana	2.74	351	*e*P	Pn	20 20 47.6	+1.1
LL1C				*e*S	Sn	20 21 23.4	+2.8
PTGC	Puerto Gaitan,	2.78	159	*e*P	Pn	20 20 45.7	-1.3
PTGC				*e*S	Sn	20 21 18.6	-2.8
PTGC				IAML		20 21 23.9	
	comp=Z,162nm,0.3s						
LL6C	La Loma 6 Bece	2.91	357	⇑*e*P	Pn	20 20 47.0	-1.5
LL6C				*e*S	Sn	20 21 23.1	-1.1
LL6C				IAML		20 21 29.5	
	comp=Z,59nm,0.4s						
CBOC	Ciudad Bolivar	3.02	252	*e*P	Pn	20 20 50.1	0.0
CBOC				*e*S	Sn	20 21 27.7	+0.6
CBOC				IAML		20 21 35.9	
	comp=Z,25nm,0.4s						
DBBC	Dabeiba	3.07	274	⇑*e*P	Pn	20 20 50.0	-0.6
DBBC				*e*S	Sn	20 21 26.0	-2.0
DBBC				IAML		20 21 30.2	
	comp=Z,43nm,0.7s						
ARGC	Ariguani, Magd	3.22	340	*e*P	Pn	20 20 53.2	+0.7
ARGC				*e*S	Sn	20 21 31.4	0.0
ARGC				IAML		20 21 36.6	
	comp=Z,36nm,0.2s						
ANIL	Santa Ana	3.24	225	*e*P	Pn	20 20 53.9	+1.0
ANIL				*e*S	Sn	20 21 34.8	+2.6
ANIL				IAML		20 21 41.8	
	comp=Z,222nm,0.5s						
PLMC	San Jos del P	3.67	239	*e*P	Pn	20 20 58.3	-0.1
PLMC				*e*S	Sn	20 21 42.3	+0.4
PLMC				IAML		20 21 44.1	
	comp=Z,32nm,0.2s						
SJCC	San Jacinto, C	3.68	327	*e*P	Pn	20 20 56.0	-2.4
SJCC				*e*S	Sn	20 21 37.2	-4.8
SJCC				IAML		20 21 42.3	
	comp=Z,44nm,0.6s						
CRJC	Cerrejon, Guaj	4.19	3	*e*P	Pn	20 21 03.1	-2.0
CRJC				*e*S	Sn	20 21 51.5	-2.5
CRJC				IAML		20 21 57.7	
	comp=Z,54nm,0.4s						
YOTC	Yotoco, Valle	4.26	229	*e*P	Pn	20 21 07.7	+1.5
YOTC				*e*S	Sn	20 22 00.9	+5.1
YOTC				IAML		20 22 07.2	
	comp=Z,13nm,0.9s						
GUVC	San Jose del G	4.27	173	*e*P	Pn	20 21 05.0	-1.2
GUVC				*e*S	Sn	20 21 54.6	-1.3
GUVC				IAML		20 21 59.7	
	comp=Z,61nm,0.2s						
SMRC	Santa Marta, M	4.46	346	*e*P	Pn	20 21 07.6	-1.0
SMRC				*e*S	Sn	20 21 55.3	-4.9
SMRC				IAML		20 21 59.0	
	comp=Z,38nm,0.3s						
MACC	Macarena, Meta	4.69	189	*e*P	Pn	20 21 09.5	-2.2
MACC				*e*S	Sn	20 22 01.4	-4.4
MACC				IAML		20 22 10.7	
	comp=Z,20nm,0.4s						
DABV	Dabajuro	4.76	31	*e*P	Pn	20 21 11.8	-0.9
DABV				*e*S	Sn	20 22 04.0	-3.5
URIC	Uribia, Colomb	4.98	13	*e*P	Pn	20 21 13.1	-2.4
URIC				*e*S	Sn	20 22 11.8	-0.9
URIC				IAML		20 22 16.1	
	comp=Z,7.8nm,0.3s						
GARC	Garzon, Huila	5.17	207	*e*P	Pn	20 21 16.7	-1.6
GARC				*e*S	Sn	20 22 13.8	-3.6
GARC				IAML		20 22 18.9	
	comp=Z,34nm,0.2s						
FLOC	Florencia	5.78	206	*e*P	Pn	20 21 25.7	-0.4
F

2016 SEP

ZAK				*e*				20 23 44.7		
ZAK				*e*				20 24 26.9		
ZAK					pmax		pmax			
	comp=Z,197nm,0.3s									
ZAK					smax		smax			
	comp=N,1μm,0.5s									
ARDR	**Aradan**	**3.37**	**301**		Pg		**Pb**	**20 23 49.4**	**+1.4**	
ARDR					Sg		**Sg**	**20 24 34.6**	**-1.9**	
TLY	**Talaya**	**3.52**	**76**	*e*PN			**Pb**	**20 23 49.1**	**-1.3**	
IRK	**Irkutsk**	**4.03**	**69**	PN			**Pb**	**20 23 58.0**	**-1.0**	
IRK								20 24 48.4		
LSTR	**Listvyanka**	**4.28**	**75**	*e*PN			**Pn**	**20 23 53.0**	**-0.1**	
LSTR				*e*				20 24 01.9		
LSTR				*e*				20 24 56.5		
LSTR					smax		smax			
	comp=N,498nm,0.5s									
DJOS	**Djoyskaya Sosn**	**4.59**	**297**		Pg		**Pg**	**20 24 12.7**	**-3.4**	
DJOS					Sg		**Sg**	**20 25 12.2**	**-3.3**	
CERR	**Cheremushki**	**4.60**	**297**		Pg		**Pg**	**20 24 13.3**	**-3.1**	
CERR					Sg		**Sg**	**20 25 15.4**	**-0.5**	
MINR	**Mina**	**4.64**	**330**		Pg		**Pg**	**20 24 15.0**	**-2.0**	
MINR					Sg		**Sg**	**20 25 17.4**	**+0.3**	
DJO	**Djoy, Khakassi**	**4.69**	**296**		Pg		**Pb**	**20 24 13.8**	**+3.5**	
DJO					Sg		**Sg**	**20 25 17.4**	**-1.2**	
GZL	**Zheleznogorsk**	**6.01**	**335**		Pg		**Pb**	**20 24 36.8**	**+4.0**	
GZL					Sg		**Sb**	**20 25 52.3**	**+7.8**	
GZLN	**Zheleznogorsk**	**6.05**	**336**		Pg		**Pb**	**20 24 38.2**	**+4.7**	
GZLN					Sg		**Sg**	**20 25 57.0**	**-5.2**	
SONM	**Songino Array**	**6.20**	**117**		Pn		**Pn**	**20 24 19.7**	**0.0**	
	comp=N,0.3nm,0.3s,baz=300,slow=15,SNR=6.3									
SONM					Pg		**Pb**	**20 24 37.3**	**+1.1**	
	comp=N,6.0nm,0.3s,baz=300,slow=18,SNR=123									
SONM					Lg		Lg	20 25 57.5		
	comp=N,5.7nm,0.3s,baz=302,slow=29,SNR=4.7									
SONM					LR		LR	20 26 57.0		
	comp=N,62nm,19.9s,baz=269,slow=41									
	comp=N,0.5nm,0.4s									
LUZB	**Luzhba, Kemero**	**6.31**	**299**		Pg		Pb	20 24 43.1	+5.2	
LUZB					Sg		**Sg**	**20 26 04.9**	**-5.6**	
SLNR	**Muhor-Tarhata,**	**6.32**	**263**		Pn		**Pn**	**20 24 25.2**	**+3.8**	
SLNR					Pg		**Pg**	**20 24 47.2**	**-2.0**	
SLNR					Sg		**Sg**	**20 26 09.0**	**-1.9**	
CUR	**Chagan-Uzun**	**6.32**	**266**		Pn		**Pn**	**20 24 25.4**	**+4.1**	
CUR					Pg		Pg	20 24 44.1	-5.0	
CUR					Sg		**Sg**	**20 26 10.2**	**-0.7**	
ULGR	**Ulagan, Altay**	**6.48**	**271**	P*			**Pg**	**20 24 50.1**	**-2.2**	
ULGR								20 26 05.5		
ULGR	**Ulagan, Altay**	**6.48**	**271**		Pg		**Pg**	**20 24 50.1**	**-2.2**	
ULGR					Sg		**Sg**	**20 26 16.8**	**+0.7**	
ULN	**Ulaanbaatar**	**6.56**	**114**	*i* PN			**Pn**	**20 24 24.1**	**-0.5**	
ULN				*i*				20 24 43.1		
ULN	**Ulaanbaatar**	**6.56**	**114**		Pn		**Pn**	**20 24 21.6**	**-3.1**	
ULN					Pg		**Pb**	**20 24 43.6**	**+1.3**	
ULN					Sg		**Sg**	**20 26 12.8**	**-6.0**	
TASR	**Tashtagol**	**6.63**	**290**		Sg		**Sg**	**20 26 16.8**	**-4.1**	
AKAR	**Aktash**	**6.74**	**269**		Pn		**Pn**	**20 24 31.3**	**+4.2**	
AKAR					Pg		**Pg**	**20 24 54.1**	**-3.1**	
AKAR					Sg		**Sg**	**20 26 23.7**	**-0.7**	
CHBI	**Chibit, Altay**	**6.82**	**269**		Pn		Pn	20 24 33.3	+5.3	
CHBI					Pg		**Pg**	**20 24 58.5**	**-0.1**	
CHBI					Sg		**Sg**	**20 26 26.7**	**-0.1**	
ARTR	**Artybash**	**6.87**	**281**		Pn		Pn	20 24 36.6	+7.9	
ARTR					Pg		Pg	20 24 55.0	-4.7	
ARTR					Sg		**Sg**	**20 26 25.6**	**-3.0**	
DGZ	**Jazzator, Alta**	**6.99**	**264**	*i* PN			**Pn**	**20 24 33.4**	**+2.9**	
DGZ	**Jazzator, Alta**	**6.99**	**264**		Pn		**Pn**	**20 24 33.7**	**+3.2**	
DGZ					Pg		**Pg**	**20 24 58.4**	**-3.5**	
DGZ					Sg		**Sg**	**20 26 29.7**	**-2.6**	
ERU	**Erunakovo, Kuz**	**7.32**	**300**		Sg		**Sg**	**20 26 40.7**	**-2.2**	
ELT	**Eltsovka**	**7.71**	**292**		Pg		Pb	20 25 07.7	+6.0	
ELT					Sg		**Sg**	**20 26 53.5**	**-1.9**	
GALT	**Gorno-Altaysk,**	**7.71**	**282**		Pg		**Pg**	**20 25 11.9**	**-3.8**	
GALT					Sg		**Sg**	**20 26 55.2**	**-0.2**	
SYVR	**Suvo**	**7.75**	**65**	*e*P			Pb	20 24 50.7	-12	
POMOR	**Pomortsevo, Ku**	**7.88**	**301**		Sg		**Sg**	**20 27 03.8**	**+2.8**	
SALR	**Pechorkino, Sa**	**8.34**	**300**		Sg		**Sg**	**20 27 08.6**	**-6.9**	
ZALV	**Zalesovo Beam**	**8.70**	**295**		Pn		**Pn**	**20 24 56.5**	**+2.8**	
	comp=N,0.1nm,0.3s,baz=105,slow=11,SNR=2.1									
ZALV					Pg		Pg	20 25 25.3	-9.3	
	comp=N,0.4nm,0.3s,baz=105,slow=14,SNR=10									
ZALV					Lg		Lg	20 27 19.6		
	comp=N,1.6nm,0.3s,baz=113,slow=24,SNR=5.9									
	comp=N,0.7nm,0.7s									
CIT	**Chita**	**9.66**	**78**	*e*P			**Pn**	**20 25 06.4**	**-0.6**	
CIT				*e*S			**Sn**	**20 26 48.8**	**-6.7**	
CIT					pmax		pmax			
	comp=Z,69nm,0.3s									
CIT					smax		smax			
	comp=N,156nm,1.5s									
MK31	**Makanchi Array**	**11.25**	**255**	*e*P			**Pn**	**20 25 30.2**	**+1.5**	
MKAR	**Makanchi Array**	**11.25**	**255**	Pn			**Pn**	**20 25 31.5**	**+2.8**	
	baz=71,slow=15,SNR=3.0									
MKAR					Lg		Lg	20 28 45.3		
	comp=N,0.3nm,0.3s,baz=61,slow=40,SNR=5.3									
MKAR					LR		LR	20 29 25.4		
	comp=N,23nm,19.2s,baz=74,slow=35									
	comp=N,0.8nm,0.9s									
KURK	**Kurchatov**	**12.36**	**277**	*e*P			**Pn**	**20 25 46.4**	**+2.5**	
KURBB	**Kurchatov Arra**	**12.44**	**276**	Pn			**Pn**	**20 25 47.2**	**+2.4**	
	baz=78,slow=15,SNR=6.5									
KURBB					Lg		Lg	20 29 22.0		
	baz=69,slow=24,SNR=3.8									
KURBB					LR		LR	20 30 50.4		
	comp=N,54nm,18.8s,baz=263,slow=38									
	comp=N,1.6nm,0.2s									
BVAR	**Borovoye Array**	**17.20**	**288**		Pn		**Pn**	**20 26 47.9**	**-0.2**	
	comp=N,0.1nm,0.3s,baz=75,slow=13,SNR=12									
	comp=N,0.1nm,0.5s									
BRVK	**Borovoye**	**17.26**	**288**	*e*P			**P**	**20 26 51.0**	**+0.6**	
AAK	**Ala-Archa**	**18.15**	**252**	P			**P**	**20 27 01.1**	**+0.7**	
	comp=N,0.8nm,0.3s,baz=38,slow=7.1,SNR=1.2									
AAK	**Ala-Archa**	**18.15**	**252**	*e*P			**P**	**20 27 02.1**	**+1.6**	
AAK					pmax		pmax			
	comp=Z,3.0nm,1.3s									
YAK	**Yakutsk**	**20.41**	**45**	Lg			Lg	20 33 18.1		
	baz=194,slow=12									
YAK	**Yakutsk**	**20.41**	**45**	*i* P			**P**	**20 27 24.9**	**+0.1**	
YAK					pmax		pmax			
	comp=Z,2.0nm,0.9s									
KLR	**Kul'dur**	**21.51**	**81**	Lg			Lg	20 33 54.2		
	baz=193,slow=19,SNR=2.0									
KLR					LR		LR	20 36 13.8		
	comp=Z,38nm,18.5s,baz=306,slow=38									
ARU	**Arti**	**23.84**	**299**		P		**P**	**20 28 02.2**	**+1.3**	
ARU					S		**S**	**20 32 18.7**	**+2.4**	
TIXI	**Tiksi**	**24.93**	**23**		P		**P**	**20 28 12.2**	**+1.4**	
	comp=Z,4.1nm,0.8s,baz=270,slow=20,SNR=5.9									
TIXI					Lg		Lg	20 35 42.0		
	comp=Z,36nm,0.3s,baz=91,slow=23,SNR=1.9									
	comp=Z,4.1nm,0.8s									
KSRS	**Korea Array**	**25.03**	**111**	LR			LR	20 37 39.9		
	comp=Z,14nm,19.8s,baz=215,slow=36									
AKTO	**Aktyubinsk**	**25.23**	**285**	P			**P**	**20 28 15.5**	**+1.8**	
	comp=Z,0.8nm,0.6s,baz=61,slow=7.7,SNR=2.0									
	comp=Z,0.8nm,0.6s									
FINES	**FINESS Array B**	**39.41**	**314**	P			**P**	**20 30 19.4**	**+2.0**	
	comp=Z,1.3nm,0.9s,baz=71,slow=9.0,SNR=3.5									
	comp=Z,1.3nm,0.9s									
FINES	**FINESS Array B**	**39.41**	**314**	*i* P			**P**	**20 30 21.0**	**+3.5**	
FINES					pmax		pmax			
	comp=Z,1.0nm,0.9s									
NOA	**NORSAR Array B**	**46.15**	**318**	P			**P**	**20 31 13.0**	**+0.9**	
	comp=Z,0.3nm,0.4s,baz=60,slow=7.9,SNR=2.3									
	comp=Z,0.3nm,0.4s									
WRA	**Warramunga Arr**	**77.41**	**145**	P			**P**	**20 34 41.8**	**-1.3**	
	comp=Z,0.5nm,1.1s,baz=341,slow=5.6,SNR=1.5									
	comp=Z,0.5nm,1.1s									
ASAR	**Alice Springs**	**80.69**	**147**	P			**P**	**20 35 02.0**	**+1.0**	
	comp=Z,0.4nm,1.0s,baz=352,slow=6.0,SNR=1.8									
	comp=Z,0.4nm,1.0s									
ASAR	**Alice Springs**	**80.69**	**147**	P			**P**	**20 35 02.0**	**+1.0**	
TORD	**Torodi Ar. Bea**	**83.94**	**283**	P			**P**	**20 35 19.8**	**+1.5**	
	comp=Z,0.4nm,0.7s,baz=33,slow=4.5,SNR=2.0									
	comp=Z,0.4nm,0.7s									
MSVF	**Nonsavu**	**97.38**	**109**	LR			LR	21 21 31.5		
	comp=Z,30nm,18.1s,baz=149,slow=36									

NOU ***10*** *20:35:59.9, 37.˚13S×179.˚78E, h150km, mb4.1/5, Off E. Coast of N. Island, N.Z.*
WEL ***10*** *20:36:04.4±1.0, 37.˚5S±6.˚×17.˚9E±.˚, h14km±6km, M3.2/24, ML3.5/31, MLv3.2/24, Error ellipse: s-maj=0.0km s-min=0.0km az=120.1*
ISC 10 20:36:02.4±3.7**, 37.06S**±0.˚09×**179.˚3E**±0.˚1**, h11**km±15km**,**
n47,σ1°18/58, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MXZ	**Matakaoa Point**	**0.96**	**238**	P			**Pb**	**20 36 20.2**	**-0.9**
MXZ				S			**Sb**	**20 36 31.6**	**-2.3**
WMGZ	**Waiomatatini S**	**1.06**	**224**	P			**Pn**	**20 36 24.3**	**+1.1**
WMGZ				S			**Sn**	**20 36 39.1**	**+1.3**
PKGZ	**Pakihiroa**	**1.30**	**230**	P			**Pn**	**20 36 27.5**	**+1.0**
PKGZ				S			**Sg**	**20 36 44.4**	**+0.1**
PUZ	**Puketiti**	**1.33**	**220**	P			**Pn**	**20 36 27.9**	**+1.0**
PUZ				S			**Sg**	**20 36 45.8**	**+0.7**
HAZ	**Te Kaha**	**1.42**	**240**	P			**Pn**	**20 36 28.2**	**+0.1**
HAZ				S			**Sg**	**20 36 48.2**	**+0.2**
TWGZ	**Tauwhareparae**	**1.55**	**224**	P			**Pn**	**20 36 31.3**	**+1.3**
TWGZ				S			**Sb**	**20 36 51.6**	**+0.8**
RUGZ	**Raukumara Rang**	**1.60**	**235**	P			**Pn**	**20 36 32.1**	**+1.3**
RUGZ				S			**Sb**	**20 36 52.6**	**+0.3**
CNGZ	**Carnagh Statio**	**1.68**	**212**	P			**Pn**	**20 36 33.6**	**+1.9**
TKGZ	**Te Karaka**	**1.81**	**200**	P			**Pn**	**20 36 34.7**	**+1.2**
MWZ	**Matawai**	**1.92**	**228**	P			**Pn**	**20 36 35.9**	**+0.9**
MWZ				S			**Sn**	**20 36 59.0**	**-0.2**
WHRZ	**Whale Island**	**2.04**	**246**	P			**Pn**	**20 36 37.6**	**+0.9**
WHRZ				S			**Sn**	**20 37 02.1**	**-0.1**
RIGZ	**Rimuhau**	**2.06**	**217**	P			**Pn**	**20 36 37.9**	**+0.9**
RIGZ				S			**Sn**	**20 37 02.6**	**-0.1**
URZ	**Urewera**	**2.13**	**235**	P			**Pn**	**20 36 38.7**	**+0.7**
URZ				S			**Sn**	**20 37 04.6**	**+0.2**
URZ	**Urewera**	**2.13**	**235**	P			**Pn**	**20 36 39.0**	**+1.0**
EDRZ	**Edgecumbe**	**2.31**	**242**	P			**Pn**	**20 36 41.3**	**+0.8**
SNGZ	**Shannon Statio**	**2.34**	**222**	P			**Pn**	**20 36 42.4**	**+1.7**
MUGZ	**Murupara**	**2.48**	**234**	P			**Pn**	**20 36 43.1**	**+0.4**
TARZ	**Mount Tarawera**	**2.54**	**242**	P			**Pn**	**20 36 44.6**	**+1.1**
RAHZ	**Arahi**	**2.57**	**223**	P			**Pn**	**20 36 45.2**	**+1.2**
MTHZ	**Maungataniwha**	**2.67**	**227**	P			**Pn**	**20 36 46.5**	**+1.2**
NMHZ	**Naumai**	**2.85**	**224**	P			**Pn**	**20 36 48.8**	**+0.9**
BKZ	**Black Stump Fm**	**3.08**	**226**	P			**Pn**	**20 36 51.2**	**+0.3**
BKZ	**Black Stump Fm**	**3.08**	**226**	P			**Pn**	**20 36 51.6**	**+0.6**
TOZ	**Tahuroa Road**	**3.13**	**256**	P			**Pn**	**20 36 51.9**	**+0.3**
MCHZ	**McNeill Hill**	**3.16**	**220**	P			**Pn**	**20 36 53.2**	**+1.1**
KWHZ	**Kaweka Forest**	**3.29**	**223**	P			**Pn**	**20 36 54.4**	**+0.4**
TMVZ	**Te Maari**	**3.53**	**233**	P			**Pn**	**20 36 58.1**	**+0.9**
ETAZ	**East Tamaki Re**	**3.53**	**270**	P			**Pn**	**20 36 57.8**	**+0.6**
ETVZ	**East Tongariro**	**3.53**	**233**	P			**Pn**	**20 36 57.8**	**+0.4**
NTVZ	**North Tongarir**	**3.54**	**234**	P			**Pn**	**20 36 57.7**	**+0.4**
BHHZ	**Black Hill Sta**	**3.54**	**226**	P			**Pn**	**20 36 58.0**	**+0.6**
OTVZ	**Oturere**	**3.58**	**233**	P			**Pn**	**20 36 58.5**	**+0.5**
NNVZ	**North Ngauruho**	**3.59**	**234**	P			**Pn**	**20 36 59.5**	**+1.4**
SNVZ	**South Ngauruho**	**3.61**	**233**	P			**Pn**	**20 36 58.5**	**+0.2**
NGZ	**Ngauruhoe**	**3.63**	**233**	P			**Pn**	**20 36 59.1**	**+0.5**
FWVZ	**Far West T-bar**	**3.70**	**233**	P			**Pn**	**20 36 58.2**	**-1.5**
WNVZ	**Wahianoa**	**3.72**	**231**	P			**Pn**	**20 36 59.9**	**0.0**
AWAZ	**Awhitu Peninsu**	**3.75**	**268**	P			**Pn**	**20 37 01.1**	**+0.9**
PNHZ	**Puhenui**	**3.77**	**220**	P			**Pn**	**20 36 59.8**	**-0.6**
WTAZ	**Waiatarua**	**3.81**	**270**	P			**Pn**	**20 37 01.4**	**+0.3**
RVAZ	**Riverhead Bore**	**3.82**	**273**	P			**Pn**	**20 37 01.8**	**+0.6**
HIZ	**Hauiti**	**3.84**	**246**	P			**Pn**	**20 37 02.8**	**+1.4**
HIZ	**Hauiti**	**3.84**	**246**	P			**Pn**	**20 37 02.6**	**+1.3**
BFZ	**Birch Farm**	**4.35**	**213**	P			**Pn**	**20 37 06.7**	**-1.7**
KHEZ	**Kahui Hut**	**4.75**	**240**	P			**Pn**	**20 37 17.8**	**+3.8**
QRZ	**Quartz Range**	**6.50**	**233**	P			**Pn**	**20 37 36.0**	**-2.0**
QRZ	**Quartz Range**	**6.50**	**233**	P			**Pn**	**20 37 35.6**	**-2.4**

IDC ***10*** *20:36:20.8±0.7, 29.˚23S×61.˚07E, h0km, mb4.0/11, mbtmp4.0/12, ML4.5/1, MS3.2/8, Error ellipse: s-maj=23.9km s-min=20.7km az=48.0*
NEIC ***10*** *20:36:21.8±1.6, 29.˚3S±0.˚1×60.˚8E±0.˚1, h10km±1km, mb4.4/14, Error ellipse: s-maj=20.6km s-min=17.8km az=226.0*
ISC 10 20:36:21.8±0.5**, 29.˚24S**±0.˚09×**60.˚84E**±0.˚10**, h10**km**, n49,**
σ1°21/39, mb4.2/17, MS3.3/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
RER	**Riviere de l'E**	**9.27**	**329**	Pn			**Pn**	**20 38 33.8**	**-1.9**
FOMA	**Nahampoana Res**	**13.05**	**286**	Pn			**Pn**	**20 39 26.3**	**-1.0**
VOI	**Vohitsoka**	**14.62**	**297**				**Pn**	**20 39 49.2**	**+0.3**
ABPO	**Ambohimpanom**	**16.05**	**306**				**Pn**	**20 40 08.1**	**+0.3**
OPO	**Ambohidratompo**	**16.37**	**307**	Pn			**Pn**	**20 40 13.9**	**+2.0**
	0.2nm,0.3s,baz=111,slow=13,SNR=9.6								
OPO					Sn		Sn	20 43 02.3	-12
	0.1nm,0.3s,baz=105,slow=21,SNR=5.7								
	3.3nm,0.4s								
LBTB	**Lobatse**	**31.57**	**269**	LR			LR	20 52 08.6	
	comp=Z,23nm,20.9s,baz=126,slow=30								
LBTB	**Lobatse**	**31.57**	**269**	P			**P**	**20 42 40.7**	**-4.1**
LBTB					IAmb		IAmb	20 42 52.3	
	comp=Z,11nm,1.2s								
KMBO	**Kilima Mbogo**	**35.88**	**317**	LR			LR	20 54 56.4	
	comp=Z,38nm,20.2s,baz=90,slow=31								
MAW	**Mawson**	**38.41**	**179**	LR			LR	20 56 28.8	
	comp=Z,47nm,18.6s,baz=58,slow=31								
MAW	**Mawson**	**38.41**	**179**	P			**P**	**20 43 43.4**	**+0.4**
MBAR	**Mbarara**	**40.44**	**309**	LR			LR	20 59 16.4	
	comp=Z,13nm,21.4s,baz=90,slow=34								
H01W2	**Cape Leeuwin H**	**45.08**	**111**	T			T	21 32 13.8	
	baz=261,slow=75								
H01W3	**Cape Leeuwin H**	**45.08**	**111**	T			T	21 32 15.5	
	baz=261,slow=75								
H01W1	**Cape Leeuwin H**	**45.09**	**111**	T			T	21 32 19.1	
	baz=261,slow=75								
SMRI	**Semarang**	**51.58**	**75**	P			**P**	**20 45 26.8**	**-1.7**
SNAA	**Sanae**	**54.29**	**200**	P			**P**	**20 45 48.9**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=94,slow=7.5,SNR=2.4								
	comp=Z,1.1nm,1.0s								
SNAA	**Sanae**	**54.29**	**200**	P			**P**	**20 45 47.4**	**-0.5**
SNAA					IAmb		IAmb	20 45 57.4	
	comp=Z,6.1nm,1.4s								
CMAR	**Chiang Mai Arr**	**60.01**	**43**	P			**P**	**20 46 29.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=225,slow=7.1,SNR=7.9								
	comp=Z,0.7nm,0.6s								
CMAR	**Chiang Mai Arr**	**60.01**	**43**	P			**P**	**20 46 28.4**	**-0.5**
QSPA	**South Pole Qui**	**60.91**	**180**	P			**P**	**20 46 36.0**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=269,slow=3.2,SNR=9.1								
	comp=Z,1.5nm,0.8s								
QSPA	**South Pole Qui**	**60.91**	**180**	P			**P**	**20 46 35.3**	**+0.7**
QSPA					IAmb		IAmb	20 46 36.5	
	comp=Z,7.2nm,1.5s								
SHL	**Shillong**	**62.12**	**32**	P			**P**	**20 46 43.5**	**+0.3**
EIL	**Elat**	**63.58**	**335**	LR			LR	21 10 15.5	
	comp=Z,18nm,19.2s,baz=90,slow=32								
VNDA	**Vanda**	**64.02**	**166**	P			**P**	**20 46 54.7**	**-0.3**
ASAR	**Alice Springs**	**64.70**	**104**	P			**P**	**20 46 59.1**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=246,slow=5.8,SNR=8.0								
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**64.70**	**104**	P			**P**	**20 46 59.9**	**-0.6**
LSA	**Lhasa**	**65.36**	**29**	P			**P**	**20 47 05.0**	**0.0**
LSA					IAmb		IAmb	20 47 07.3	
	comp=Z,7.2nm,1.3s								
WRA	**Warramunga Arr**	**66.53**	**100**	P			**P**	**20 47 11.4**	**-0.9**
	comp=Z,1.6nm,1.0s,baz=247,slow=5.4,SNR=6.7								
	comp=Z,1.6nm,1.0s								
WB0	**Warramunga Arr**	**66.65**	**100**	P			**P**	**20 47 12.5**	**-0.5**
GNI	**Garni**	**70.64**	**347**	LR			LR	21 16 55.3	
	comp=Z,22nm,18.9s,baz=139,slow=34								
TORD	**Torodi Ar. Bea**	**70.93**	**298**	P			**P**	**20 47 41.3**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=117,slow=4.2,SNR=6.1								
TORD					LR		LR	21 18 49.7	
	comp=Z,30nm,18.1s,baz=216,slow=36								
	comp=Z,1.4nm,0.8s								
KK31	**Karatay Array**	**72.54**	**7**	P			**P**	**20 47 49.7**	**+1.0**
KK31					IAmb		IAmb	20 47 50.9	
	comp=Z,1.9nm,1.1s								
KKAR	**Karatay Array**	**72.54**	**7**	P			**P**	**20 47 49.6**	**+0.8**
SIJI	**Sorong**	**72.54**	**81**	P			**P**	**20 47 49.5**	**+0.1**
	comp=Z,4.5nm,0.6s,baz=224,slow=10,SNR=4.3								
	comp=Z,4.5nm,0.6s								
BRTR	**Keskin Array B**	**73.14**	**338**	P			**P**	**20 47 53.2**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=151,slow=9.2,SNR=3.8								
	comp=Z,0.7nm,0.9s								
BRTR	**Keskin Array B**	**73.14**	**338**	P			**P**	**20 47 52.2**	**-0.3**
KBZ	**Khabaz**	**74.46**	**347**	LR			LR	21 18 32.5	
	comp=Z,23nm,21.0s,baz=175,slow=34								
MKAR	**Makanchi Array**	**78.13**	**15**	P			**P**	**20 48 21.0**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=194,slow=4.6,SNR=7.3								
	comp=Z,1.1nm,0.9s								
ABKAR	**Akbulak array**	**78.15**	**359**	P			**P**	**20 48 21.8**	**+1.0**
ABKAR	**Akbulak array**	**78.15**	**359**	P			**P**	**20 48 20.9**	**+0.1**
ABKAR					IAmb		IAmb	20 48 22.2	
	comp=Z,1.4nm,0.8s								
KURK	**Kurchatov**	**81.15**	**11**	P			**P**	**20 48 37.5**	**+0.5**
KURK					IAmb		IAmb	20 48 38.4	
	comp=Z,5.4nm,1.4s								

ZAA0	**Zalesovo Array**	**85.41**	**14**	P			**P**	**20 48 58.4**	**-0.5**
ZAA0					IAmb		IAmb	20 49 01.0	
	comp=Z,3.2nm,1.0s								
ZALV	**Zalesovo Beam**	**85.41**	**14**	P			**P**	**20 48 58.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=224,slow=4.1,SNR=6.8								
	comp=Z,0.9nm,0.6s								
ZALV	**Zalesovo Beam**	**85.41**	**14**	P			**P**	**20 48 58.8**	**-0.2**
ESDC	**Sonseca Array**	**91.25**	**316**	P			**P**	**20 49 29.9**	**+2.6**
	comp=Z,0.7nm,0.9s,baz=112,slow=3.0,SNR=6.3								
	comp=Z,0.7nm,0.9s								
ILAR	**Eielson Array**	**140.41**	**18**	PKP			**PKPdf**	**20 55 49.2**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=299,slow=3.7,SNR=2.9								
ULM	**Lac du Bonnet**	**152.62**	**327**	PKPbc			**PKPbc**	**20 56 17.7**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=30,slow=2.9,SNR=4.4								
PDAR	**Pinedale Array**	**164.44**	**333**	PKP			**PKPdf**	**20 56 25.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=83,slow=2.8,SNR=4.5								
NVAR	**Mina Array Bea**	**170.81**	**356**	PKP			**PKPdf**	**20 56 31.8**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=132,slow=2.2,SNR=4.1								

IDC ***10*** *20:47:14.3±5.4, 44.˚92S×167.˚55E, h102km±50km, mb2.9/2, mbtmp3.3/3, Error ellipse: s-maj=68.8km s-min=30.4km az=14.0*
WEL ***10*** *20:47:15.1, 45.˚5S±7.˚×16.˚8E±1.˚1, h80km±12km, M4.1/35, ML4.1/13, MLv4.1/35, Error ellipse: s-maj=0.0km s-min=0.0km az=72.0*
ISC 10 20:47:13.2±0.9**, 45.08S**±0.˚05×**167.44E**±0.˚06**, h98**km±6km**,**
n45,σ0°82/51, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DCZ	**Deep Cove**	**0.43**	**207**	P			**Pn**	**20 47 27.8**	**-0.5**
DCZ				S			**Sn**	**20 47 38.1**	**-1.5**
MSZ	**Milford Sound**	**0.54**	**41**	P			**Pn**	**20 47 29.7**	**+0.7**
MSZ				S			**Sn**	**20 47 40.8**	**0.0**
MLZ	**Mavora Lakes**	**0.56**	**121**	P			**Pn**	**20 47 29.7**	**+0.4**
MLZ				S			**Sn**	**20 47 41.2**	**-0.1**
WHZ	**Wether Hill Ro**	**0.89**	**156**	P			**Pn**	**20 47 32.5**	**+0.2**
WHZ				S			**Sn**	**20 47 45.9**	**-0.7**
WKZ	**Wanaka**	**1.15**	**78**	P			**Pn**	**20

HNR Honiara 13.32 104 Pn 20 57 15.6 +1.0
HNR Honiara 13.32 104 P Pn 20 57 15.8 +1.2
RKPI Ransiki, Papua 13.55 291 P Pn 20 57 24.7 +7.0
38nm,0.8s
CTA Charters Tower 13.56 182 P Pn 20 57 18.9 +1.2
29nm,0.5s,baz=1.5,slow=13,SNR=104
CTA S Sn 20 59 48.7 +1.9
7.8nm,0.7s,baz=264,slow=19,SNR=1.7
CTA LR LR 21 02 18.6
comp=Z,359nm,20.8s,baz=3.5,slow=36
CTA Charters Tower 13.56 182 P Pn 20 57 19.8 +2.0
CTAO Charters Tower 13.56 182 Pn Pn 20 57 19.2 +1.4
CTAO Charters Tower 13.56 182 P Pn 20 57 19.8 +2.0
FAKI Fak Fak 14.96 283 Pn 20 57 39.3 +3.2
FAKI Fak Fak 14.96 283 P Pn 20 57 39.2 +3.2
46nm,1.2s
FAKI Fak Fak 14.96 283 P Pn 20 57 35.5 -0.6
KDU Kakadu 15.45 245 P Pn 20 57 42.2 -0.2
baz=15,SNR=74
KDU Kakadu 15.45 245 P Pn 20 57 42.3 -0.1
QIS Mount Isa 15.67 206 P Pn 20 57 46.1 +0.9
baz=16,SNR=317
QIS Mount Isa 15.67 206 P Pn 20 57 47.0 +1.8
SIJI Sorong 16.50 289 P Pn 20 57 55.5 -0.1
21nm,0.7s,baz=90,slow=10,SNR=14
SIJI LR LR 21 06 01.7
comp=Z,206nm,21.7s,baz=117,slow=43
SWI Sorong 16.50 289 P P 20 58 00.5 +3.3
968nm118nm,0.8s
MTN Manton Dam 16.72 247 P Pn 20 57 57.8 -0.6
baz=17,SNR=28
MTN Manton Dam 16.72 247 Pn Pn 20 57 57.6 -0.8
MTN Manton Dam 16.72 247 P Pn 20 57 58.2 -0.2
RK1H Rockhampton Ha 17.19 169 P P 20 58 05.2 +0.4
PATS Pohnpei 17.48 41 Pn 20 58 08.7 +1.0
WB0 Warramunga Arr 17.92 221 P P 20 58 12.3 -0.6
WR0 Warramunga Arr 17.96 221 P P 20 58 12.8 -0.4
WRAB Tennant Creek 18.07 221 P P 20 58 14.2 -0.2
WB2 Warramunga Arr 18.07 221 P P 20 58 14.2 -0.3
WRA Warramunga Arr 18.08 221 P P 20 58 13.9 -0.7
41nm,0.8s,baz=48,slow=13,SNR=135
WRA LR LR 21 06 07.3
comp=Z,279nm,21.7s,baz=46,slow=40
WRA Warramunga Arr 18.08 221 P P 20 58 12.8 -1.8
AAI Ambon 18.77 278 P P 20 58 24.5 +2.3
1um127nm,0.8s
EIDS Eidsvold 19.23 168 P Pn 20 58 27.4 -1.4
baz=19,SNR=13
EIDS Eidsvold 19.23 168 P Pn 20 58 28.3 -0.5
EIDS Eidsvold 19.23 168 P Pn 20 58 28.8 0.0
NLAI Namlea 19.92 278 P P 20 58 35.6 +0.8
3um36nm,0.6s
KNRA Kununurra 19.94 241 P P 20 58 33.5 -1.4
baz=20,SNR=22
KNRA Kununurra 19.94 241 P P 20 58 33.6 -1.4
KNRA IAmb IAmb 20 58 40.7
comp=Z,58nm,0.9s
KNRA Kununurra 19.94 241 P P 20 58 33.7 -1.3
RMQ Roma 20.00 175 P P 20 58 35.8 +0.3
baz=20,SNR=33
RMQ Roma 20.00 175 P Pn 20 58 36.5 -1.3
GUMO Guam 20.02 354 P P 20 58 34.0 -1.7
comp=Z,21nm,0.5s,baz=162,slow=19,SNR=2.3
GUMO LR LR 21 06 12.2
comp=Z,63nm,19.0s,baz=174,slow=36
GUMO Guam 20.02 354 P P 20 58 35.9 +0.1
GUMO IAmb IAmb 20 58 45.3
comp=Z,81nm,1.2s
QLP Quilpie 20.16 187 P P 20 58 37.0 -0.2
baz=20,SNR=12
QLP Quilpie 20.16 187 P Pn 20 58 38.8 -0.9
AS31 Alice Springs 21.15 215 P P 20 58 47.9 0.0
AS31 IAmb IAmb 20 59 08.0
comp=Z,24nm,0.6s
ASAR Alice Springs 21.15 215 P P 20 58 47.5 -0.4
comp=Z,27nm,0.6s,baz=51,slow=8.2,SNR=320
ASAR S S 21 02 36.3 -3.3
comp=Z,4.5nm,0.9s,baz=33,slow=22,SNR=3.9
ASAR LR LR 21 07 54.6
comp=Z,310nm,21.0s,baz=65,slow=39
comp=Z,27nm,0.6s
ASAR Alice Springs 21.15 215 P P 20 58 47.9 -0.1
SANI Sanana 21.24 281 P P 20 58 52.2 +3.2
comp=Z,60nm,0.9s
SANI Sanana 21.24 281 P P 20 58 50.6 +1.6
INKA Innaminka 21.94 195 P P 20 58 57.1 +0.8
KOUNC Koumac, New Ca 21.97 131 P P 20 58 57.8 +1.1
KOUNC Koumac, New Ca 21.97 131 P P 20 58 59.3 +2.6
BATI Baumata 23.22 259 P P 20 59 09.6 -0.4
comp=Z,29nm,0.5s,baz=133,slow=1.3,SNR=13
comp=Z,29nm,0.5s
BATI Baumata 23.22 259 P P 20 59 13.0 +3.1
comp=Z,57nm,0.7s
SGSI Sangihe 23.54 295 P P 20 59 15.4 +2.6
comp=Z,88nm,0.8s
FITZ Fitzroy Crossi 23.69 239 P P 20 59 13.1 -1.0
comp=Z,88nm,0.8s,baz=63,slow=8.0,SNR=154
FITZ LR LR 21 08 17.9
comp=Z,181nm,20.7s,baz=64,slow=36
comp=Z,88nm,0.8s
FITZ Fitzroy Crossi 23.69 239 P P 20 59 12.2 -1.9
baz=24,SNR=135
FITZ Fitzroy Crossi 23.69 239 P P 20 59 12.6 -1.5
FITZ IAmb IAmb 20 59 19.7
comp=Z,89nm,0.8s
FITZ Fitzroy Crossi 23.69 239 P P 20 59 12.4 -1.7
OOD Oodnadatta 23.71 205 P P 20 59 14.2 0.0
KMSI Cibinong 23.86 286 P P 20 59 20.4 +4.7
comp=Z,142nm,0.7s
ARMA Armidale 24.25 170 P P 20 59 20.0 +0.7
baz=24,SNR=12
ARMA Armidale 24.25 170 P P 20 59 19.5 +0.3
ARMA IAmb IAmb 20 59 25.0
comp=Z,48nm,1.4s
ARMA Armidale 24.25 170 P P 20 59 19.9 +0.7
LIFNC LIFOU 24.36 128 P P 20 59 17.7 -2.4
LIFNC LIFOU 24.36 128 P P 20 59 19.9 -0.2
NOUC Port Laguerre 24.40 132 P P 20 59 20.1 -0.3
MMRI Maumere 24.48 263 P P 20 59 20.6 -0.7
MMRI Maumere 24.48 263 P P 20 59 21.9 +0.6
comp=Z,2µmcomp=Z,84nm,0.9s
MMRI Maumere 24.48 263 P P 20 59 21.3 0.0
DZM Mont Dzumac 24.48 131 eP P 20 59 20.1 -1.3
comp=Z,49nm,0.9s
DZM epP pP 20 59 34.3 -3.3
comp=Z,84nm,1.2s
DZM eLR LR 21 05 29.7
comp=Z,262nm,30.5s
DZM Mont Dzumac 24.48 131 P P 20 59 20.6 -0.7
comp=Z,23nm,0.9s,baz=257,slow=12,SNR=15
DZM LR LR 21 08 34.9
comp=Z,148nm,19.8s,baz=296,slow=35
comp=Z,23nm,0.9s
DZM Mont Dzumac 24.48 131 P P 20 59 20.7 -0.7
DZM Mont Dzumac 24.48 131 P P 20 59 21.1 -0.3
LUWI Luwuk 24.60 282 P P 20 59 23.1 +0.7
LUWI IAmb IAmb 20 59 41.1
comp=Z,74nm,0.7s
LUWI Luwuk 24.60 282 P P 20 59 25.2 +2.8
comp=Z,1µmcomp=Z,118nm,1.3s
LUWI Luwuk 24.60 282 P P 20 59 20.4 -2.0
GTOI Gorontalo 24.80 286 P P 20 59 27.8 +3.6
comp=Z,757nmcomp=Z,89nm,0.7s
YATNC Mamie plateau, 24.81 131 P P 20 59 24.3 0.0
CMSA Cobar Meteorol 24.97 182 P P 20 59 26.3 +0.7
baz=25,SNR=24
CMSA Cobar Meteorol 24.97 182 P P 20 59 26.0 +0.4
EDFI Ende, Flores 25.02 263 P P 20 59 26.4 0.0
comp=Z,29nm,0.6s
DAV Davao City (W) 25.11 302 LR LR 21 08 19.0
comp=Z,55nm,21.7s,baz=119,slow=34
LCRK Leigh Creek 25.20 198 P P 20 59 28.1 +0.4
MARNC Mare, Loyalty 25.36 128 P P 20 59 29.0 -0.3
WRKA Warakurna 25.62 222 P P 20 59 30.7 -0.9
baz=26,SNR=149
WRKA Warakurna 25.62 222 P P 20 59 31.3 -0.3
STKA Stephens Creek 25.75 190 P P 20 59 32.6 -0.1
comp=Z,12nm,0.4s,baz=0.0,slow=8.8,SNR=48
STKA LR LR 21 10 27.1
comp=Z,266nm,19.1s,baz=356,slow=38
comp=Z,12nm,0.4s
STKA Stephens Creek 25.75 190 P P 20 59 32.8 +0.1
baz=26,SNR=49
STKA Stephens Creek 25.75 190 P P 20 59 32.9 +0.2
STKA Stephens Creek 25.75 190 P P 20 59 33.1 +0.4
MRSI Marisa 25.78 285 P P 20 59 46.5 +13

MULG Mulgathing 26.57 205 P P 20 59 40.0 -0.1
KAPI Kappang 26.98 272 P P 20 59 45.7 +1.7
PTPS Port Pirie 27.82 196 P P 20 59 51.8 +0.6
HTT Hallett 27.82 194 P P 20 59 51.5 +0.2
baz=28,SNR=50
HTT Hallett 27.82 194 P P 20 59 51.6 +0.3
BBOO Buckleboo 28.07 200 P P 20 59 53.4 -0.1
baz=28,SNR=28
BBOO Buckleboo 28.07 200 P P 20 59 53.2 -0.3
BBOO IAmb IAmb 20 59 54.3
comp=Z,34nm,0.8s
BBOO Buckleboo 28.07 200 P P 20 59 53.4 -0.1
CAN Canberra 28.79 176 P P 21 00 00.1 +0.2
CAN IAmb IAmb 21 00 08.9
comp=Z,105nm,1.8s
CAN Canberra 28.79 176 P P 21 00 01.0 +1.1
PLAI Plampang 28.89 263 P P 20 59 59.6 -1.4
TWOA Tennyson Woods 29.43 194 P P 21 00 06.8 +1.2
FORT Forrest 29.93 214 P P 21 00 09.7 -0.3
baz=30,SNR=22
FORT Forrest 29.93 214 P P 21 00 09.1 -0.9
FORT IAmb IAmb 21 01 09.9
comp=Z,31nm,0.7s
FORT Forrest 29.93 214 P P 21 00 09.7 -0.3
MBWA Marble Bar 30.02 238 P P 21 00 10.7 -0.3
MBWA IAmb IAmb 21 00 15.7
comp=Z,16nm,0.6s
MBWA Marble Bar 30.02 238 P P 21 00 11.2 +0.2
MBWA Marble Bar 30.02 238 P P 21 00 10.1 -0.9
MBWA pP pP 21 00 31.4 +3.7
PSA00 Pilbara Seismi 30.11 237 P P 21 00 11.1 -0.6
PSA00 Pilbara Seismi 30.11 237 P P 21 00 11.3 -0.4
PSA00 IAmb IAmb 21 00 12.8
comp=Z,16nm,0.7s
PSA00 Pilbara Seismi 30.11 237 P P 21 00 11.8 +0.1
ARPS Mount Arapiles 30.51 188 P P 21 00 15.9 +0.8
baz=30,SNR=9.4
ARPS Mount Arapiles 30.51 188 P P 21 00 15.9 +0.8
MYLDM Lahad Datu 30.56 292 P P 21 00 16.0 +0.3
MYLDM IAmb IAmb 21 00 41.8
comp=Z,40nm,1.1s
TOO Toolangi 30.99 182 P P 21 00 19.4 +0.1
MTKI Muara Teweh, K 32.33 278 P P 21 00 30.8 -0.6
MSVF Nonsavu 32.45 113 P P 21 00 32.0 -0.4
comp=Z,6.1nm,0.6s,baz=199,slow=19,SNR=3.7
MSVF LR LR 21 12 12.8
comp=Z,153nm,19.8s,baz=350,slow=33
comp=Z,6.1nm,0.6s
MSVF Nonsavu 32.45 113 P P 21 00 32.1 -0.4
JAGI Jajag, Banyuwa 32.46 264 P P 21 00 30.2 -2.3
JAGI Jajag, Banyuwa 32.46 264 P P 21 00 30.7 -1.8
comp=Z,37nm,1.6s
H11N1 WAKE ISLAND Hy 32.66 37 T T 21 34 41.1
baz=218,slow=76
H11N3 WAKE ISLAND Hy 32.67 37 T T 21 34 38.6
baz=218,slow=76
H11N2 WAKE ISLAND Hy 32.67 37 T T 21 34 41.7
baz=218,slow=76
KKM Kota Kinabalu 32.99 292 P P 21 00 36.8 -0.5
KKM IAmb IAmb 21 00 55.5
comp=Z,46nm,1.2s
MEEK Meekatharra 33.53 230 P P 21 00 41.9 +0.1
baz=34,SNR=56
MEEK Meekatharra 33.53 230 P P 21 00 42.0 +0.2
JCJ Chichijima 33.66 353 LR LR 21 12 34.5
comp=Z,53nm,21.7s,baz=172,slow=33
GIRL Giralia 35.29 239 P P 21 00 58.3 +1.3
baz=35,SNR=3.4
GIRL Giralia 35.29 239 P P 21 00 57.7 +0.7
GIRL Giralia 35.29 239 P P 21 00 58.2 +1.2
UGM Wanagama 36.05 265 P P 21 01 02.3 -1.3
UGM Wanagama 36.05 265 P P 21 01 03.0 -0.6
MORW Morawa 36.74 229 P P 21 01 09.5 +0.1
baz=37,SNR=5.1
MORW Morawa 36.74 229 P P 21 01 09.3 0.0
MORW IAmb IAmb 21 01 15.2
comp=Z,52nm,1.6s
MORW Morawa 36.74 229 P P 21 01 09.7 +0.4
KLBR Kellerberrin 36.93 224 P P 21 01 10.3 -0.6
baz=37,SNR=74
KLBR Kellerberrin 36.93 224 P P 21 01 10.7 -0.2
BLDU Ballidu 37.09 226 P P 21 01 12.0 -0.3
baz=37,SNR=9.0
BLDU Ballidu 37.09 226 P P 21 01 12.1 -0.2
JOW Kunigami 37.67 332 LR LR 21 15 03.4
comp=Z,29nm,18.9s,baz=146,slow=33
JOW Kunigami 37.67 332 P P 21 01 16.9 -0.3
JOW IAmb IAmb 21 01 17.6
comp=Z,20nm,0.7s
JOW Kunigami 37.67 332 P P 21 01 17.0 -0.1
NWAO Narrogin (SRO) 38.08 222 P P 21 01 20.5 0.0
baz=38,SNR=11
NWAO P P 21 01 20.5 0.0
baz=38,SNR=11
NWAO Narrogin (SRO) 38.08 222 P P 21 01 20.3 -0.3
NWAO Narrogin (SRO) 38.08 222 P P 21 01 20.7 +0.1
MUN Mundaring 38.22 224 P P 21 01 21.9 +0.2
baz=38,SNR=9.8
MUN Mundaring 38.22 224 P P 21 01 22.0 +0.2
YOJ Yonaguni jima 38.52 324 P P 21 01 24.1 -0.2
YULB Yu-li 38.77 321 P P 21 01 26.5 0.0
LEM Lembang 38.95 267 LR LR 21 19 17.2
comp=Z,47nm,20.0s,baz=56,slow=39
RKGY Rocky Gully 39.28 220 P P 21 01 31.5 +0.9
baz=39,SNR=14
RKGY Rocky Gully 39.28 220 P P 21 01 31.3 +0.7
YHNB Yeheng 39.66 322 P P 21 01 34.4 +0.5
QRZ Quartz Range 41.20 150 P P 21 01 48.1 +1.7
QRZ Quartz Range 41.20 150 P P 21 01 48.9 +2.5
AFI Afiamalu 41.35 104 LR LR 21 16 36.0
comp=Z,107nm,19.6s,baz=18,slow=33
JMN Monobe 41.81 344 P P 21 01 50.3 -1.2
JMN IAmb IAmb 21 02 09.9
comp=Z,20nm,1.0s
URZ Urewera 41.88 144 P P 21 01 51.8 -0.1
URZ IAmb IAmb 21 02 36.5
comp=Z,78nm,1.7s
THZ Tophouse 42.10 151 P P 21 01 54.0 +0.2
THZ IAmb IAmb 21 02 22.8
comp=Z,13nm,0.7s
BKZ Black Stump Fm 42.13 145 P P 21 01 54.3 +0.2
BKZ IAmb IAmb 21 02 15.0
comp=Z,61nm,1.5s
BKZ Black Stump Fm 42.13 145 P P 21 01 55.0 +0.9
DCZ Deep Cove 42.67 159 P P 21 01 58.8 +0.5
RPZ Rata Peaks 42.77 154 P P 21 02 00.2 +1.1
RPZ IAmb IAmb 21 02 02.8
comp=Z,66nm,1.6s
RPZ Rata Peaks 42.77 154 P P 21 02 00.6 +1.5
KHZ Kahutara 42.90 151 P P 21 02 00.7 +0.5
MLZ Mavora Lakes 42.94 158 P P 21 02 01.1 +0.6
BFZ Birch Farm 43.04 147 P P 21 02 01.5 +0.2
BFZ Birch Farm 43.04 147 P P 21 02 02.2 +0.9
JHS Saijyo 43.22 343 P P 21 02 01.8 -1.1
MJAR Matsushiro Arr 43.53 350 P P 21 02 04.0 -1.3
comp=Z,0.7nm,0.5s,baz=189,slow=7.6,SNR=6.0
MJAR pP pP 21 02 19.6 -3.5
comp=Z,4.5nm,0.9s,baz=170,slow=8.4,SNR=8.5
comp=Z,0.7nm,0.5s
MAJO Matsushiro 43.54 350 P P 21 02 05.1 -0.3
MAJO IAmb IAmb 21 02 35.6
comp=Z,30nm,1.6s
MAJO Matsushiro 43.54 350 P P 21 02 04.0 -1.4
NIUE Niue 43.86 111 P P 21 02 09.1 +0.8
QIZ Qiongzhong 44.39 306 P P 21 02 12.1 -0.4
QIZ IAmb IAmb 21 03 30.1
comp=Z,64nm,1.5s
NAWB Namwon 45.50 338 P P 21 02 20.0 -1.0
SDSI Sungai Dareh 45.62 275 P P 21 02 22.2 -0.2
comp=Z,12nm,0.7s
UBPT Khong Chiam 46.33 298 P P 21 02 28.4 +0.5
UBPT IAmb IAmb 21 03 11.2
comp=Z,56nm,1.8s
KSCHJ Chungju 46.58 339 P P 21 02 29.1 -0.4
KSCHJ IAmb IAmb 21 02 29.7
comp=Z,20nm,0.6s
IPM Ipoh 47.01 282 P P 21 02 33.8 +0.5
IPM IAmb IAmb 21 02 59.7
comp=Z,18nm,0.8s
IPM Ipoh 47.01 282 P P 21 02 34.3 +1.0
KSRS Korea Array 47.12 339 P P 21 02 33.1 -0.6
comp=Z,8.1nm,0.8s,baz=156,slow=8.6,SNR=34
KSRS pP pP 21 02 48.8 -3.0
comp=Z,9.2nm,0.8s,baz=157,slow=9.1,SNR=11
KSRS LR LR 21 20 42.6
comp=Z,63nm,20.9s,baz=155,slow=34
comp=Z,8.1nm,0.8s
KSAR Wonju Array Be 47.13 339 P P 21 02 33.4 -0.3
KS19 Wonju Array Si 47.19 339 P P 21 02 33.4 -0.8
KS19 IAmb IAmb 21 02 50.4
comp=Z,26nm,1.3s
JTM Tenmabayashi 47.31 354 P P 21 02 34.4 -0.7
JTM IAmb IAmb 21 03 07.6
comp=Z,30nm,1.0s
KULM Kulim 47.56 283 P P 21 02 37.2 -0.3
KULM IAmb IAmb 21 02 55.8
comp=Z,13nm,0.8s
SEHB SEOHWA 47.74 340 P P 21 02 37.8 -0.8
SEHB IAmb IAmb 21 02 57.8
comp=Z,24nm,1.0s
PSI Prapat 48.71 279 LR LR 21 27 21.6
comp=Z,55nm,19.4s,baz=130,slow=41
GSI Gunungsitoli 49.77 277 P P 21 02 53.6 -0.9
GSI Gunungsitoli 49.77 277 P P 21 02 53.0 -1.5
LHMI Lhok Sumawe 51.13 282 P P 21 03 04.1 -0.7
LYN LuoYang 52.13 324 eP P 21 03 26.9 +15
LYN pmax pmax
comp=Z,10.0nm,0.7s
USA0B Ussuriysk Arra 52.18 347 P P 21 03 12.2 +0.2
USRK Ussuriysk Ar. 52.18 347 P P 21 03 11.4 -0.6
comp=Z,2.8nm,0.5s,baz=166,slow=8.4,SNR=15
USRK pP pP 21 03 27.1 -3.3
comp=Z,2.7nm,0.5s,baz=152,slow=8.4,SNR=4.2
comp=Z,2.8nm,0.5s
USRK Ussuriysk Ar. 52.18 347 P P 21 03 11.8 -0.3
PHRA Phrae 52.22 299 P P 21 03 13.8 +1.0
CRAI Chiangrai 52.81 301 P P 21 03 18.2 +1.0
CRAI IAmb IAmb 21 03 37.0
comp=Z,16nm,0.9s
HNS HongShan 52.94 328 ⇑P P 21 03 16.9 -0.9
HNS pmax pmax
comp=Z,8.0nm,0.7s
MDJ Mudanjiang 53.16 345 P P 21 03 18.9 -0.4
MDJ pP pP 21 03 38.0 +0.4
MDJ sP sP 21 03 47.4 +1.7
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ pmax pmax
comp=Z,90nm,4.3s
CM31 Chiang Mai Arr 53.32 299 P P 21 03 22.0 +1.0
CM31 IAmb IAmb 21 03 47.4
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 53.32 299 P P 21 03 21.4 +0.4
comp=Z,3.6nm,0.8s,baz=121,slow=5.9,SNR=30
CMAR LR LR 21 25 09.9
comp=Z,15nm,22.0s,baz=135,slow=35
comp=Z,3.6nm,0.8s
CMAR Chiang Mai Arr 53.32 299 P P 21 03 22.0 +1.0
CHTO Chiang Mai 53.46 299 P P 21 03 23.3 +1.3
CHTO pP pP 21 03 39.4 -0.8
CN2 Changchun 53.64 341 eP P 21 03 27.3 +4.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
XAN Xi'an 53.93 321 P P 21 03 39.5 +14
XAN pP sP 21 04 00.1 +8.3
XAN pmax pmax
comp=Z,11nm,1.4s
XAN pmax pmax
comp=Z,120nm,5.3s
PZH PanZhiHua 54.62 309 P P 21 03 32.7 +2.3
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.6s
CD2 Chengdu 55.48 315 eP P 21 03 37.0 +0.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 57.14 329 eP P 21 03 52.6 +4.4
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.4s
LZH Lanzhou 58.45 320 eP P 21 03 55.9 -1.6
LZH pP pP 21 04 13.9 -2.3
LZH pmax pmax
comp=Z,18nm,1.1s
PEA0B Petropavlovsk- 60.05 8 P P 21 04 07.8 -0.3
PETK Petropavlovsk- 60.05 8 P P 21 04 07.2 -0.9
comp=Z,6.2nm,0.5s,baz=152,slow=5.6,SNR=28
PETK LR LR 21 25 55.0
comp=Z,78nm,21.9s,baz=215,slow=32
comp=Z,6.2nm,0.5s
PETK Petropavlovsk- 60.05 8 P P 21 04 07.4 -0.6
DRV Dumont d'Urvil 60.29 183 P P 21 04 09.7 +0.3
DRV pP pP 21 04 23.6 -4.4
DRV sP sP 21 04 37.4 +1.4
HIA Hailar 60.33 340 P P 21 04 08.9 -1.2
HIA IAmb IAmb 21 04 29.3
comp=Z,12nm,0.9s
SHL Shillong 62.13 303 P P 21 04 23.9 +1.0
SHL IAmb IAmb 21 04 51.5
comp=Z,21nm,1.0s
PPT2 Papeete2 62.92 106 eLR LR 21 23 19.2
comp=Z,63nm,26.2s
GTA Gaotai 62.99 320 eP P 21 04 28.4 +0.1
GTA pP pP 21 04 44.8 -2.4
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA pmax pmax
comp=Z,47nm,5.5s
GTA LR LR
comp=Z,72nm,16.4s
GTA LR LR
comp=Z,92nm,18.2s
GTA LR LR
comp=Z,57nm,16.0s
TBI Tubuai 63.34 113 eLR LR 21 23 31.2
comp=Z,78nm,37.8s
LSA Lhasa 64.39 307 P P 21 04 38.2 +0.1
ULN Ulaanbaatar 64.43 331 P P 21 04 37.3 -0.3
ULN Ulaanbaatar 64.43 331 P P 21 04 37.2 -0.4
ULN pP pP 21 04 53.9 -2.8
SONM Songino Array 64.73 331 P P 21 04 38.4 -1.1
comp=Z,0.6nm,0.5s,baz=149,slow=3.8,SNR=5.3
SONM pP pP 21 04 53.6 -5.0
comp=Z,3.1nm,0.8s,baz=153,slow=6.5,SNR=9.8
SONM LR LR 21 33 49.8
comp=Z,24nm,19.5s,baz=135,slow=37
SONM Songino Array 64.73 331 P P 21 04 38.8 -0.8
CASY Casey 64.77 195 P P 21 04 39.6 +0.3
CASY IAmb IAmb 21 05 04.5
comp=Z,9.3nm,0.8s
CASY Casey 64.77 195 P P 21 04 39.3 0.0
CASY pP pP 21 04 56.6 -1.1
CASY sP sP 21 05 03.5 -2.0
MA2 Magadan 65.90 2 LR LR 21 29 52.8
comp=Z,25nm,21.8s,baz=132,slow=33
MA2 Magadan 65.90 2 P P 21 04 46.3 -0.4
MA2 IAmb IAmb 21 05 06.2
comp=Z,33nm,1.1s
MA2 Magadan 65.90 2 P P 21 04 45.9 -0.8
MA2 pP pP 21 05 04.8 -1.3
MA2 sP PcP 21 05 15.1 -2.0
RAMN Ramite 67.05 303 eP P 21 04 56.3 +1.3
GUN Gumba 67.98 303 eP P 21 05 01.7 +0.7
comp=Z,13nm,0.4s
DMN Daman 68.52 303 eP P 21 05 04.5 +0.2
GKN Gorkha 69.05 303 eP P 21 05 07.8 +0.4
comp=Z,10nm,0.6s
SEY Seymchan 69.33 3 P P 21 05 07.5 -0.7
comp=Z,3.8nm,0.9s,baz=101,slow=3.5,SNR=5.8
comp=Z,3.8nm,0.9s
YAK Yakutsk 69.57 351 P P 21 05 09.2 -0.5
comp=Z,2.2nm,0.4s,baz=185,slow=0.7,SNR=1.9
YAK pP PcP 21 05 24.2 -8.1
comp=Z,4.2nm,0.5s,baz=212,slow=1.7,SNR=3.4
comp=Z,2.2nm,0.4s
YAK Yakutsk 69.57 351 P P 21 05 09.1 -0.6
KOLN Koldanda 69.83 303 eP P 21 05 13.2 +0.8
CCD Concordia, Ant 69.90 186 P P 21 05 12.0 -0.1
CCD pP PcP 21 05 31.1 -3.0
CCD sP sP 21 05 40.3 +1.8
PYUN Piuthan 70.45 303 eP P 21 05 16.3 +0.2
comp=Z,12nm,0.3s
VNDA Vanda 71.46 177 P P 21 05 21.7 +0.6
comp=Z,4.4nm,0.5s,baz=330,slow=7.0,SNR=30
comp=Z,4.4nm,0.5s
VNDA Vanda 71.46 177 P P 21 05 22.0 +0.9
VNDA Vanda 71.46 177 P P 21 05 21.6 +0.6
VNDA pP PcP 21 05 39.7 -0.5

HYBB Hyderabad (bro 71.47 291 *e*P P 21 05 22.4 +0.1
WMQ Urumqi 73.03 319 *e*P P 21 05 32.2 +1.1
MK31 Makanchi Array 77.75 321 P P 21 05 57.5 -0.5
MKAR Makanchi Array 77.75 321 P P 21 05 57.0 -1.0
comp=Z,1.2nm,0.7s,baz=100,slow=8.2,SNR=13
MKAR pP **PcP** 21 06 12.2 +4.3
comp=Z,1.2nm,0.5s,baz=101,slow=7.4,SNR=6.2
MKAR LR LR 21 40 10.2
comp=Z,19nm,20.4s,baz=118,slow=36
comp=Z,1.2nm,0.7s
MKAR Makanchi Array 77.75 321 P P 21 05 57.3 -0.7
MAKZ Makanchi 77.95 321 P P 21 05 58.5 -0.7
ZAA0 Zalesovo Array 79.31 328 P P 21 06 04.4 -2.1
ZALV Zalesovo Beam 79.31 328 P P 21 06 04.0 -2.5
comp=Z,2.2nm,0.6s,baz=112,slow=6.6,SNR=11
ZALV pP **PcP** 21 06 21.1 +6.7
comp=Z,3.9nm,0.7s,baz=117,slow=6.6,SNR=6.3
ZALV LR LR 21 41 27.5
comp=Z,11nm,19.6s,baz=84,slow=36
comp=Z,2.2nm,0.6s
ZALV Zalesovo Beam 79.31 328 P P 21 06 04.5 -2.0
O17K Koliganek Bris 79.39 25 P P 21 06 06.7 0.0
baz=237
KSH Kashi 79.56 312 P P 21 06 10.5 +2.2
KDAK Kodiak Island 80.38 28 P P 21 06 11.1 -1.1
Q19K Cape Douglas, 80.45 27 P P 21 06 11.4 -1.1
BOOM Boomskoye usch 80.48 315 P P 21 06 12.6 -0.6
SVW2 Sparrevohn 80.73 25 P P 21 06 13.9 -0.1
SVW2 IAmb IAmb 21 08 33.2
comp=Z,24nm,1.8s
P19K Oil Pt 81.00 26 P P 21 06 14.4 -1.0
baz=240
AAK Ala-Archa 81.55 315 P P 21 06 17.3 -1.6
L19K White Mountain 81.60 24 P P 21 06 18.7 +0.1
baz=239
M19K Big River Lodg 81.64 24 P P 21 06 19.2 +0.4
baz=239
MAW Mawson 81.76 203 P P 21 06 20.3 +1.0
comp=Z,3.8nm,0.7s,baz=113,slow=6.1,SNR=8.2
MAW pP **pP** 21 06 35.2 -3.2
comp=Z,5.0nm,0.7s,baz=103,slow=5.3,SNR=5.3
comp=Z,3.8nm,0.7s
MAW Mawson 81.76 203 P P 21 06 19.4 +0.1
CNPM China Poot 81.83 27 P P 21 06 19.2 -0.6
M20K Styx River 82.14 24 P P 21 06 21.3 -0.2
baz=240
K20K Telida 82.51 23 P P 21 06 23.2 -0.1
K20K IAmb IAmb 21 07 33.5
comp=Z,28nm,2.0s
J20K Nowinta River 82.90 22 P P 21 06 25.1 -0.2
baz=239
SUA Susitna One 82.94 25 P P 21 06 24.4 -1.3
SUA IAmb IAmb 21 09 03.5
comp=Z,22nm,1.6s
QSPA South Pole Qui 83.51 180 LR LR 21 43 13.5
comp=Z,45nm,18.7s,baz=357,slow=35
QSPA South Pole Qui 83.51 180 P P 21 06 28.7 +0.1
QSPA IAmb IAmb 21 06 53.3
comp=Z,13nm,0.7s
IMAR Indian Mountai 83.98 21 P P 21 06 30.2 -0.6
TRF Thorofare Moun 84.05 24 P P 21 06 29.8 -1.6
TRF IAmb IAmb 21 07 03.1
comp=Z,38nm,2.0s
BPAW Bear Paw Mtn. 84.07 23 P P 21 06 30.1 -1.2
BPAW IAmb IAmb 21 06 35.9
comp=Z,23nm,1.9s
BPAW Bear Paw Mtn. 84.07 23 P P 21 06 30.2 -1.2
baz=242
I21K Tanana 84.21 22 P P 21 06 32.6 +0.7
baz=241
G21K Allakaket 84.33 20 P P 21 06 32.8 +0.2
baz=240
WAT1 Susitna Watana 84.48 25 P P 21 06 32.7 -0.8
baz=244
KK31 Karatay Array 84.49 314 P P 21 06 32.9 -1.1
KKAR Karatay Array 84.49 314 P P 21 06 33.5 -0.4
RND Reindeer 84.60 24 P P 21 06 32.6 -1.5
MLY Manley 84.61 22 P P 21 06 33.3 -0.8
MLY IAmb IAmb 21 06 34.1
comp=Z,14nm,1.3s
MLY Manley 84.61 22 P P 21 06 33.3 -0.8
baz=242
MCK McKinley 84.72 24 P P 21 06 33.1 -1.5
MCK IAmb IAmb 21 06 34.6
comp=Z,28nm,1.5s
MCK McKinley 84.72 24 P P 21 06 33.0 -1.6
baz=244
H22K Ishtalitna Cre 84.78 21 P P 21 06 34.6 -0.2
baz=242
NEA2 Nenana 85.04 23 P P 21 06 34.8 -1.4
baz=244
KLU Klutina 85.05 26 P P 21 06 36.1 -0.3
baz=247
DHY Denali Highway 85.07 25 P P 21 06 35.6 -0.9
DHY IAmb IAmb 21 07 06.2
comp=Z,6.8nm,0.8s
DHY Denali Highway 85.07 25 P P 21 06 36.2 -0.3
baz=245
I23K Minto, Yukon-K 85.18 22 P P 21 06 36.2 -0.6
baz=244
G22K Bettles 85.23 20 P P 21 06 37.2 +0.2
baz=241
F22K John River 85.28 20 P P 21 06 37.6 +0.2
baz=241
H23K Yukon River 85.42 22 P P 21 06 37.8 -0.3
baz=243
CCB Clear Creek Bu 85.56 23 P P 21 06 36.6 -2.1
G23K Bananza Creek 85.64 21 P P 21 06 39.0 -0.2
baz=243
NRIK Noril'sk 85.66 342 pP pP 21 06 55.1 -3.8
comp=Z,8.4nm,0.8s,baz=110,slow=5.6,SNR=3.5
NRIK LR LR 21 45 57.9
comp=Z,22nm,18.8s,baz=250,slow=36
PAX Paxson 85.82 25 P P 21 06 39.9 -0.3
baz=247
COLD Coldfoot 85.82 20 P P 21 06 40.1 +0.1
baz=243
IL31 85.97 23 P P 21 06 38.5 -2.2
IL31 IAmb IAmb 21 06 39.4
comp=Z,5.5nm,0.6s
ILAR Eielson Array 85.97 23 P P 21 06 38.5 -2.3
comp=Z,4.2nm,0.5s,baz=251,slow=4.9,SNR=47
ILAR pP pP 21 06 57.0 -3.7
comp=Z,3.9nm,0.6s,baz=250,slow=4.4,SNR=6.8
ILAR LR LR 21 39 11.1
comp=Z,35nm,20.3s,baz=236,slow=32
comp=Z,4.2nm,0.5s
RIDG Independent Ri 86.38 24 P P 21 06 42.2 -0.7
baz=248
E23K Chandalar 86.40 20 P P 21 06 43.3 +0.3
baz=243
D23K Nanushuk River 86.47 19 P P 21 06 43.6 +0.4
baz=242
J25K Salcha River, 86.50 24 P P 21 06 42.5 -1.0
baz=247
G24K Hadweenzic Riv 86.55 21 P P 21 06 44.0 +0.3
baz=245
DOT Dot Lake 86.67 25 P P 21 06 43.0 -1.3
M26K Nabesna, AK 86.67 26 P P 21 06 44.5 +0.2
baz=249
L26K Log Cabin Wild 86.74 25 P P 21 06 44.2 -0.5
baz=249
F24K Squaw Lake 86.75 20 P P 21 06 44.6 0.0
baz=245
C23K Itkillik River 86.91 18 P P 21 06 45.6 +0.3
baz=242
CTG Chitna Glacier 86.93 28 P P 21 06 45.8 0.0
baz=251
BRVK Borovoye 87.11 324 P P 21 06 45.9 -0.8
M27K Edge Creek, AK 87.15 26 P P 21 06 47.0 +0.3
baz=250
D24K Happy Valley 87.16 19 P P 21 06 47.3 +0.8
baz=244
J26L Joseph Creek 87.18 24 P P 21 06 46.7 -0.2
baz=249
O28M Mount Upton 87.40 28 P P 21 06 48.3 +0.1
baz=252
L27K Beaver Creek, 87.40 26 P P 21 06 48.0 +0.2
baz=250
BCAR Beaver Creek A 87.42 26 P P 21 06 47.8 -0.2
C24K Franklin Bluff 87.44 18 P P 21 06 48.7 +0.8
baz=244
F25K Christian Rive 87.57 21 P P 21 06 48.9 +0.3
baz=247
K27K Chicken 87.63 25 P P 21 06 49.1 +0.2
baz=250
BMAR Burnt Mountain 87.88 21 P P 21 06 50.1 +0.1

G26K Porcupine Rive 87.99 22 P P 21 06 51.1 +0.6
baz=248
D25K Kavik River 88.02 19 P P 21 06 50.7 0.0
baz=246
F26K Sheenjek River 88.14 21 P P 21 06 51.8 +0.5
baz=248
EGAK Eagle 88.25 24 P P 21 06 50.7 -1.1
EGAK IAmb IAmb 21 07 24.6
comp=Z,6.5nm,0.9s
EGAK Eagle 88.25 24 P P 21 06 51.7 -0.1
baz=251
YUK4 Talbot Arm 88.29 28 P P 21 06 52.6 +0.3
baz=253
I27K Kandik River 88.34 23 P P 21 06 52.4 +0.1
baz=251
H27K Steamboat Moun 88.59 23 P P 21 06 53.5 +0.1
baz=251
HYT Haines Junctio 88.67 28 P P 21 06 53.1 -0.9
HYT IAmb IAmb 21 07 26.0
comp=Z,7.8nm,0.9s
HYT Haines Junctio 88.67 28 P P 21 06 54.3 +0.3
baz=254
M29M Somme Creek 88.69 27 P P 21 06 54.1 +0.1
baz=254
G27K Doyon Strip 88.73 22 P P 21 06 53.9 -0.2
baz=250
DAWY Dawson 88.76 25 P P 21 06 54.7 +0.4
baz=253
C27K Jago River 89.00 19 P P 21 06 55.6 +0.3
baz=248
L29M L29M 89.02 26 P P 21 06 55.8 +0.3
baz=254
HRA Herat 89.16 305 P P 21 06 56.2 -0.9
HRA IAmb IAmb 21 07 18.6
comp=Z,7.5nm,1.1s
E27K Coleen River 89.21 21 P P 21 06 56.6 +0.3
baz=250
K29M Barlow Dome 89.49 25 P P 21 06 58.0 +0.2
baz=254
EPYK Eagle Plains 90.48 23 P P 21 07 01.7 -0.6
baz=255
BBB Bella Bella 92.03 38 LR LR 21 46 20.9
comp=Z,25nm,19.0s,baz=292,slow=34
INK Inuvik 92.14 21 P P 21 07 08.4 -1.5
comp=Z,4.3nm,1.0s,baz=291,slow=7.2,SNR=3.5
comp=Z,4.3nm,1.0s
ARU Arti 94.38 326 LR LR 21 52 55.7
comp=Z,19nm,18.3s,baz=333,slow=37
YBH Yreka Blue Hor 94.59 49 LR LR 21 44 37.6
comp=Z,27nm,19.6s,baz=290,slow=32
NVAR Mina Array Bea 97.78 52 P Pdif 21 07 36.5 -0.2
comp=Z,0.6nm,0.7s,baz=249,slow=6.4,SNR=5.5
NVAR LR LR 21 47 41.7
comp=Z,29nm,18.1s,baz=271,slow=33
comp=Z,0.6nm,0.7s
TROLL Troll, Antarti 98.31 191 P P 21 07 37.8 -0.4
SNAA Sanae 99.52 189 LR LR 21 53 10.5
comp=Z,67nm,18.2s,baz=122,slow=36
VNA2 Neumayer--Watz 100.87 188 Pdiff **Pdif** 21 07 51.9 +2.4
VNA3 Neumayer Olymp 100.90 188 Pdiff **Pdif** 21 07 50.1 +0.5
ARCES ARCESS Array B 106.64 342 PKiKP **PKiKP** 21 12 24.7 -0.5
comp=Z,2.5nm,1.0s,baz=98,slow=1.8,SNR=5.4
ARCES PKKPbc **PKKPbc** 21 23 43.4 -4.1
comp=Z,0.9nm,0.5s,baz=242,slow=1.9,SNR=11
FINES FINESS Array B 110.01 334 PKiKP **PKiKP** 21 12 31.0 -0.7
comp=Z,1.7nm,0.9s,baz=114,slow=3.5,SNR=4.4
TXAR Lajitas Array 110.13 61 PKiKP **PKiKP** 21 12 32.4 -0.7
comp=Z,0.3nm,0.7s,baz=218,slow=1.0,SNR=4.2
ECSD EROS Data Cent 113.52 45 P **PKiKP** 21 12 38.2 -0.8
baz=284
HDIL Hopedale 119.63 47 P **PKiKP** 21 12 51.5 +0.7
baz=288
KRLC Kraliky 119.84 325 *e*PKPDF **PKPdf** 21 12 49.7 -1.3
DPC Dobruska-Polom 119.96 326 *e*PKPDF **PKiKP** 21 12 52.6 +1.3
RONA Rosalia, Austr 121.25 323 *i* P **PKPdf** 21 12 54.0 +0.2
comp=Z,2.5nm,1.0s
PLCA Paso Flores 121.83 147 PKP **PKPdf** 21 12 54.4 -0.8
comp=Z,1.4nm,0.7s,baz=243,slow=1.2,SNR=9.7
CKRC Cesky Krumlov 121.86 325 *e*PKPDF **PKPdf** 21 12 54.5 -0.4
KHC Kasperske Hory 122.11 326 *e*PKPDF **PKPdf** 21 12 55.0 -0.4
GERES GERESS Array B 122.19 325 PKP **PKPdf** 21 12 54.6 -1.0
comp=Z,1.0nm,0.7s,baz=64,slow=3.1,SNR=14
SOKA Soboth 122.49 323 *e*P **PKPdf** 21 12 56.0 -0.2
comp=Z,2.5nm,1.0s
O48B Farmland 122.70 46 P **PKPdf** 21 12 56.2 -0.5
LRAL Lakeview Retre 123.59 54 P **PKiKP** 21 12 58.6 -0.2
baz=286
ABTA Abfaltersbach 123.96 324 *e*P **PKPdf** 21 12 58.6 -0.5
comp=Z,2.4nm,0.7s
WTTA Wattenberg 124.20 325 *e*P **PKPdf** 21 12 59.7 +0.1
comp=Z,4.4nm,1.0s
MOTA Moosalm 124.46 325 *e*P **PKPdf** 21 12 59.9 -0.2
comp=Z,1.7nm,0.6s
SQTA Sankt Quirin 124.47 325 *i* P **PKPdf** 21 12 59.9 -0.2
comp=Z,1.8nm,0.6s
DAVA Damuels 125.19 325 *i* P **PKPdf** 21 13 01.6 +0.1
comp=Z,2.6nm,0.7s
LPAZ La Paz 138.67 124 PKhKP PKPpre 21 13 20.4
comp=Z,1.5nm,0.7s,baz=286,slow=1.7,SNR=4.4
LPAZ PKP **PKPdf** 21 13 27.7 -0.6
comp=Z,2.1nm,0.6s,baz=282,slow=1.4,SNR=6.9
ROSC El Rosal 139.02 90 PKP **PKiKP** 21 13 29.6 -1.4
comp=Z,11nm,0.4s,baz=313,slow=19,SNR=4.2
CPUP Villa Florida 139.85 145 PKP **PKPdf** 21 13 29.6 +0.1
comp=Z,1.3nm,0.6s,baz=273,slow=2.2,SNR=3.9
TORD Torodi Ar. Bea 145.04 284 PKPbc **PKPbc** 21 13 39.0 +0.6
comp=Z,29nm,0.9s,baz=78,slow=3.3,SNR=99
TORD pPKPbc pPKPab 21 13 56.0 -2.1
comp=Z,21nm,0.7s,baz=80,slow=3.5,SNR=8.9
TORD SKPbc **SKiKP** 21 17 13.6 +0.5
comp=Z,1.2nm,0.8s,baz=61,slow=1.9,SNR=3.9
KIC Kosan Boka 151.75 271⇑ *e*P **PKPbc** 21 13 56.7 +0.4
comp=Z,4.9nm,0.3s
DBIC Dimbokro 151.88 272 PKPbc **PKPbc** 21 13 56.8 +0.2
comp=Z,5.2nm,0.6s,baz=104,slow=1.7,SNR=9.3
DBIC pPKPbc **pPKPdf** 21 14 14.0 +3.6
comp=Z,8.6nm,0.7s,baz=103,slow=4.2,SNR=3.8
LIC Lamto 152.03 271⇑ *i*P **PKiKP** 21 13 59.6 +2.3
comp=Z,20nm,0.5s
TIC Toumodi 152.04 272⇑ *i*P **PKPbc** 21 13 57.2 +0.2
comp=Z,9.2nm,0.3s
BDFB Brasilia 153.57 146 PKP **PKPdf** 21 13 53.1 +0.4
comp=Z,1.5nm,0.4s,baz=1.2,slow=9.6,SNR=3.5
BDFB PKPbc **PKiKP** 21 14 00.2 -0.3
comp=Z,4.3nm,0.4s,baz=55,slow=0.7,SNR=11

*IDC **10** 21:20:03.2±8.2, 0.°59N×123.°11E, h173km±82km, mb3.1/5, mbtmp3.6/6, Error ellipse: s-maj=93.0km s-min=18.0km az=65.0*
*DJA **10** 21:20:06.9±0.6, 0.°N±4.°×12.°2E±.°, h166km±5km, M3.4/7, MLv3.4/7*
ISC 10 21:20:04.9±0.8, **0.°25N**±0.°07×**122.°10E**±0.°07, **h186**km±7km, **n13**, σ1§14/19, **mb3.4**/5, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.27**	**325**	P	**Pn**	**21 20 29.6**	**0.0**
MRSI				S	**Sn**	**21 20 46.7**	**-2.0**
GTOI	**Gorontalo**	**0.99**	**67**	P	**Pn**	**21 20 33.0**	**-0.1**
GTOI				S	**Sn**	**21 20 54.7**	**-0.1**
APSI	**Ampana**	**1.24**	**201**	P	**Pn**	**21 20 36.2**	**+1.1**
APSI				S	**Sn**	**21 20 59.6**	**+1.1**
LUWI	**Luwuk**	**1.45**	**152**	P	**Pn**	**21 20 37.5**	**+0.6**
LUWI				S	**Sn**	**21 21 01.1**	**-0.7**
KMSI	**Cibinong**	**1.91**	**80**	P	**Pn**	**21 20 43.0**	**+1.6**
KMSI				S	**Sn**	**21 21 10.9**	**+1.2**
MPSI	**Mapaga**	**2.20**	**272**	P	**Pn**	**21 20 45.7**	**+1.2**
TTSI	**Tana Toraja**	**3.99**	**215**	P	**Pn**	**21 21 06.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.57**	**169**	P	**P**	**21 24 07.5**	**-0.4**
	2.8nm,0.6s,baz=355,slow=8.3,SNR=16						
WRA	**Warramunga Arr**	**23.38**	**150**	P	**P**	**21 24 55.4**	**-1.7**
	0.9nm,0.5s,baz=339,slow=9.1,SNR=26						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**26.40**	**155**	P	**P**	**21 25 23.4**	**-1.0**
	0.5nm,0.6s,baz=332,slow=9.3,SNR=17						
ASAR				PcP	**PcP**	**21 28 44.0**	**-1.1**
	0.2nm,0.3s,baz=341,slow=1.9,SNR=4.3						
	0.0nm,0.6s						
SONM	**Songino Array**	**49.32**	**346**	P	**P**	**21 28 35.6**	**+0.3**
	0.4nm,0.4s,baz=148,slow=8.5,SNR=5.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**57.93**	**329**	P	**P**	**21 29 38.4**	**+0.7**
	0.3nm,0.4s,baz=122,slow=8.7,SNR=6.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.30**	**330**	P	**P**	**21 30 07.5**	**+0.3**
	0.3nm,0.7s,baz=133,slow=8.4,SNR=4.3						
	0.3nm,0.7s						

*IDC **10** 21:28:27.6±1.8, 2.°04S×139.°20E, h0km, mb3.8/5, mbtmp4.0/9, ML3.9/4, MS2.7/1, Error ellipse: s-maj=42.2km s-min=20.2km az=70.0*
ISC 10 21:28:31.9±1.6, **2.°1S**±0.°2×**139.°2E**±0.°2, **h29**km, **n12**, σ1§11/9, **mb3.9**/4, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**7.98**	**278**	Pn	**Pn**	**21 30 25.8**	**-0.2**
	0.4nm,0.3s,baz=132,slow=14,SNR=2.1						
SIJI				LR	LR	21 33 39.9	
	comp=Z,46nm,19.6s,baz=94,slow=39						
	3.0nm,0.4s						
BATI	**Baumata**	**17.39**	**242**	P	**P**	**21 32 33.9**	**+0.1**
	1.2nm,0.3s,baz=131,slow=21,SNR=1.9						
	5.7nm,0.4s						
WRA	**Warramunga Arr**	**18.38**	**195**	P	**P**	**21 32 42.9**	**-1.8**
	0.5nm,0.3s,baz=17,slow=12,SNR=24						
	2.7nm,0.5s						
CTA	**Charters Tower**	**19.21**	**159**	P	**P**	**21 32 52.6**	**-1.1**
	0.1nm,0.3s,baz=330,slow=8.1,SNR=1.4						
	0.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.73**	**219**	P	**P**	**21 33 11.3**	**+1.0**
	1.4nm,0.7s,baz=41,slow=11,SNR=2.6						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**22.07**	**193**	P	**P**	**21 33 24.6**	**-0.1**
	3.7nm,0.8s,baz=23,slow=9.9,SNR=38						
	3.7nm,0.8s						
STKA	**Stephens Creek**	**29.74**	**176**	P	**P**	**21 34 37.2**	**+1.3**
	0.8nm,0.3s,baz=338,slow=11,SNR=3.7						
	0.8nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**33.93**	**52**	T	T	22 11 02.7	
	baz=236,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**33.94**	**52**	T	T	22 11 03.4	
	baz=236,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**33.95**	**52**	T	T	22 11 04.7	
	baz=236,slow=75,SNR=9.5						
CMAR	**Chiang Mai Arr**	**44.51**	**299**	P	**P**	**21 36 40.8**	**-0.5**
	1.0nm,0.8s,baz=122,slow=6.3,SNR=9.6						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**69.56**	**322**	P	**P**	**21 39 38.6**	**+0.4**
	1.2nm,0.9s,baz=118,slow=6.9,SNR=5.6						
	1.2nm,0.9s						

IDC 10 22:13:05.6±4.0, **4.°77S**×**153.°67E**, **h42**km±32km, **mb3.2**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=46.3km s-min=29.1km az=43.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.70**	**286**	P	Pn	22 13 32.7	-0.1
	132nm,0.3s,baz=337,slow=1.0,SNR=27						
KRVT				S	Sn	22 13 58.5	+5.2
	236nm,0.4s,baz=263,slow=23,SNR=10						
DZM	**Mont Dzumac**	**21.19**	**145**	P	P	22 17 47.6	-0.2
	2.7nm,0.5s,baz=223,slow=8.6,SNR=8.3						
	2.7nm,0.5s						
WRA	**Warramunga Arr**	**24.11**	**230**	P	P	22 18 15.7	-2.0
	0.6nm,0.8s,baz=55,slow=9.9,SNR=4.0						
WRA				PcP	PcP	22 21 58.4	0.0
	0.4nm,0.8s,baz=63,slow=1.8,SNR=2.2						
	0.6nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.44**	**29**	T	T	22 47 09.6	
	baz=208,slow=74						
H11S2	**WAKE ISLAND Hy**	**26.45**	**29**	T	T	22 47 04.5	
	baz=208,slow=74						
H11S1	**WAKE ISLAND Hy**	**26.46**	**29**	T	T	22 47 06.8	
	baz=208						
ASAR	**Alice Springs**	**26.76**	**224**	P	P	22 18 43.0	+1.3
	0.2nm,0.7s,baz=54,slow=9.4,SNR=8.6						
ASAR				PcP	PcP	22 22 04.0	-0.2
	0.1nm,0.7s,baz=72,slow=2.2,SNR=5.0						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.12**	**289**	PKPbc	PKPbc	22 32 54.7	-0.6
	0.9nm,0.6s,baz=70,slow=2.7,SNR=12						

*IDC **10** 22:20:18.6±2.4, **20.°9S**±0.°3×**178.°7W**±0.°4, **h579**km, **n9**, σ0§48/9, **mb3.9**/5, **Fiji Islands region***

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.45**	**315**	P	**P**	**22 21 46.0**	**0.0**
	5.9nm,0.6s,baz=263,slow=23,SNR=4.4						
CTA	**Charters Tower**	**32.85**	**265**	P	**P**	**22 26 06.2**	**+0.2**
	1.9nm,0.4s,baz=97,slow=12,SNR=2.0						
	1.9nm,0.4s						
STKA	**Stephens Creek**	**37.06**	**245**	P	**P**	**22 26 40.6**	**-0.1**
	1.8nm,0.6s,baz=90,slow=9.9,SNR=5.0						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**43.83**	**257**	P	**P**	**22 27 34.4**	**-0.4**
	3.7nm,0.5s,baz=95,slow=7.9,SNR=76						
ASAR				PcP	**PcP**	**22 29 08.2**	**+0.1**
	0.7nm,0.6s,baz=113,slow=3.9,SNR=7.8						
	3.7nm,0.5s						
WRA	**Warramunga Arr**	**43.94**	**263**	P	**P**	**22 27 34.8**	**-0.8**
	0.8nm,0.3s,baz=97,slow=7.6,SNR=34						
	0.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.37**	**263**	P	**P**	**22 28 38.8**	**+0.6**
	0.9nm,0.4s,baz=89,slow=6.2,SNR=7.4						
	0.9nm,0.4s						
AKASG	**Malin Array Be**	**143.08**	**330**	PKP	PKPab	22 38 45.1	+0.2
	1.3nm,0.4s,baz=43,slow=4.3,SNR=8.6						
BRTR	**Keskin Array B**	**146.67**	**311**	PKPbc	**PKPbc**	**22 38 56.8**	**+0.3**
	0.6nm,0.6s,baz=140,slow=6.5,SNR=5.6						
GERES	**GERESS Array B**	**150.44**	**343**	PKPbc	**PKPbc**	**22 39 05.2**	**-0.3**
	0.3nm,0.5s,baz=48,slow=2.0,SNR=4.9						

*IDC **10** 22:46:16.7±6.1, 14.°84S×167.°24E, h131km±47km, mb3.6/5, mbtmp4.0/6, Error ellipse: s-maj=45.9km s-min=30.4km az=34.0*
ISC 10 22:46:18.3±1.5, **14.°9S**±0.°1×**167.°3E**±0.°2, **h150**km, **n11**, σ0§93/11, **mb3.8**/4, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.17**	**186**	P	**Pn**	**22 47 59.8**	**-0.9**
	5.0nm,0.3s,baz=15,slow=12,SNR=24						
DZM				S	**Sn**	**22 49 21.4**	**+0.4**
	6.1nm,0.7s,baz=194,slow=21,SNR=1.3						
STKA	**Stephens Creek**	**28.89**	**230**	P	**P**	**22 52 04.7**	**+1.6**
	2.2nm,0.4s,baz=49,slow=8.9,SNR=10						
	2.2nm,0.4s						
WRA	**Warramunga Arr**	**31.80**	**256**	P	**P**	**22 52 27.5**	**-1.3**
	0.3nm,0.7s,baz=87,slow=9.7,SNR=2.3						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**32.62**	**249**	P	**P**	**22 52 35.5**	**-0.5**
	0.9nm,0.5s,baz=78,slow=9.1,SNR=17						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**75.12**	**180**	P	**P**	**22 57 44.1**	**+0.4**
	1.8nm,0.8s,baz=50,slow=1.4,SNR=10						
	1.8nm,0.8s						
TROLL	**Troll, Antarti**	**92.69**	**185**	P	**P**	**22 59 13.4**	**+0.3**
SNAA	**Sanae**	**93.37**	**183**	P	**P**	**22 59 15.3**	**-0.9**
VNA3	**Neumayer Olymp**	**94.04**	**181**	P	**P**	**22 59 18.7**	**-0.4**
VNA2	**Neumayer--Watz**	**94.30**	**182**	P	**P**	**22 59 20.2**	**-0.1**
	baz=179,slow=3.0						
MKAR	**Makanchi Array**	**97.34**	**316**	P	Pdif	22 59 35.3	+0.7
	0.3nm,0.6s,baz=87,slow=5.9,SNR=1.9						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**125.89**	**338**	PKP	**PKiKP**	**23 05 02.8**	**+0.4**
	1.3nm,1.0s,baz=85,slow=3.1,SNR=1.7						

*NOU **10** 22:51:45.4, 14.°08S×167.°47E, h126km, MLv4.8/10, Vanuatu Islands*
*IDC **10** 22:51:54.7±7.0, 14.°89S×167.°39E, h126km±51km, mb3.8/3, mbtmp4.2/4, Error ellipse: s-maj=53.3km s-min=36.8km az=28.0*
ISC 10 22:51:57.5±1.4, **15.°0S**±0.°1×**167.°4E**±0.°2, **h150**km, **n16**, σ0§97/17, **mb4.0**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.81**	**164**	P	**Pn**	**22 52 42.0**	**-0.5**
KOUNC	**Koumac, New Ca**	**6.25**	**208**	P	**Pn**	**22 53 26.9**	**-0.6**
MARNC	**Mare, Loyalty**	**6.47**	**175**	P	**Pn**	**22 53 29.7**	**-0.8**
YATNC	**Mamie plateau,**	**7.03**	**184**	P	**Pn**	**22 53 37.3**	**-0.7**
DZM	**Mont Dzumac**	**7.08**	**187**	P	**Pn**	**22 53 37.8**	**-0.9**

9.8nm,0.5s,baz=17,slow=14,SNR=20
DZM S **Sn** **22 54 57.9 -0.3**
8.5nm,0.6s,baz=319,slow=22,SNR=1.7
DZM Mont Dzumac 7.08 187 P **Pn** **22 53 37.9 -0.8**
NOUC Port Laguerre 7.13 188 P **Pn** **22 53 40.8 +1.5**
ONTNC Ouen Toro 7.31 187 P **Pn** **22 53 43.1 +1.4**
STKA Stephens Creek 28.89 230 P **P** **22 57 43.8 +1.5**
3.3nm,0.5s,baz=46,slow=9.1,SNR=14
3.3nm,0.5s
ASAR Alice Springs 32.67 250 P **P** **22 58 14.1 -1.6**
0.5nm,0.7s,baz=85,slow=8.8,SNR=4.6
0.5nm,0.7s
QSPA South Pole Qui 75.02 180 P **P** **23 03 22.8 +0.4**
2.2nm,0.7s,baz=356,slow=3.4,SNR=15
2.2nm,0.7s
TROLL Troll, Antarti 92.59 185 P **P** **23 04 52.4 +0.6**
SNAA Sanae 93.28 183 P **P** **23 04 54.9 0.0**
VNA3 Neumayer Olymp 93.94 181 P **P** **23 04 57.7 -0.1**
VNA2 Neumayer--Watz 94.21 182 P **P** **23 04 59.3 +0.2**
baz=185,slow=2.7
ARCES ARCESS Array B 120.54 345 PKP **PKiKP** **23 10 30.8 0.0**
1.9nm,0.9s,baz=25,slow=3.0,SNR=3.6

NOU 10 23:05:20.3, 10.30S×167.89E, h196km, mb4.8/10, Santa Cruz Islands, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**7.39**	**178**	P	Pn	23 07 05.3	-0.3
LIFNC	**LIFOU**	**10.44**	**183**	P	Pn	23 07 45.1	-0.1
MARNC	**Mare, Loyalty**	**11.12**	**179**	P	Pn	23 07 53.5	-0.5
	0.5nm,0.9s						
YATNC	**Mamie plateau,**	**11.73**	**185**	P	Pn	23 08 01.6	-0.3
DZM	**Mont Dzumac**	**11.79**	**187**	P	Pn	23 08 03.0	+0.3
NOUC	**Port Laguerre**	**11.83**	**187**	P	Pn	23 08 03.2	0.0
ONTNC	**Ouen Toro**	**12.02**	**186**	P	Pn	23 08 05.6	0.0

*CNRM **10** 23:07:21.7, 35.70N×3.65W, h26km, ml2.4*
*INMG **10** 23:07:21.9±1.7, 35.70N×3.64W, h0km±7km, ML2.2, Error ellipse: s-maj=6.4km s-min=3.0km az=81.0*
*SFS **10** 23:07:21.0, 35.69N×3.62W, ML2.6, ALBORAN SUR*
*MDD **10** 23:07:21.0±0.3, 35.68N×3.61W, h0km, mb_Lg2.4/13, Error ellipse: s-maj=3.7km s-min=2.6km az=49.0*
*IGIL **10** 23:07:22.4, 35.70N×3.62W, h0km*
ISC 10 23:07:21.0±1.4, 35.67N±0.02×3.61W±0.03, h14km±11km, n55, σ1s30/95, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.53**	**211**	P	**Pb**	**23 07 33.1**	**+1.0**
PALE				S	**Sb**	**23 07 41.1**	**+1.6**
WMELI	**Melilla**	**0.64**	**123**	P	**Pb**	**23 07 34.0**	**0.0**
WMELI				S	**Sg**	**23 07 42.0**	**0.0**
EMEL	**Melilla**	**0.65**	**125**	Pg	**Pb**	**23 07 34.1**	**0.0**
EMEL				Sg	**Sb**	**23 07 42.9**	**-0.1**
GOG	**Mont Gurugu**	**0.67**	**132**	P	**Pb**	**23 07 34.7**	**+0.1**
GOG				S	**Sg**	**23 07 43.4**	**+0.4**
PVLZ	**Peæn de**	**0.75**	**229**	P	**Pn**	**23 07 37.8**	**+0.6**
PVLZ				S	**Sg**	**23 07 46.1**	**+0.6**
CHAS	**Isla Isabel II**	**1.08**	**116**	P	**Pb**	**23 07 40.4**	**-1.0**
CHAS				S	**Sg**	**23 07 53.8**	**-2.0**
AKLM	**AKL**	**1.18**	**190**	P	**Pb**	**23 07 43.4**	**+0.3**
AKLM				S	**Sb**	**23 07 58.1**	**-0.2**
ELGU	**Los Guajares,**	**1.19**	**359**	Pg	**Pb**	**23 07 42.9**	**-0.5**
ELGU				Sg	**Sb**	**23 07 57.9**	**-0.9**
ELGU				*i* Vmb_Lg		23 08 02.7	
EMIJ	**Mijas**	**1.30**	**314**	Pg	**Pn**	**23 07 44.4**	**-0.3**
EMIJ				Sg	**Sb**	**23 08 00.5**	**-1.2**
EMIJ				*i* Vmb_Lg		23 08 02.7	
TAF	**Taforalt**	**1.30**	**131**	P	**Pn**	**23 07 44.7**	**-0.1**
EBER	**Berja**	**1.35**	**25**	Pg	**Pn**	**23 07 44.8**	**-0.9**
EBER				Sg	**Sg**	**23 08 04.1**	**-0.7**
EBER				*i* Vmb_Lg		23 08 06.2	
SMIR	**Smir Dam**	**1.44**	**271**	P	**Pn**	**23 07 45.0**	**-1.7**
SMIR				S	**Sn**	**23 08 03.2**	**-2.2**
CEU	**Ceuta**	**1.45**	**280**	P	**Pn**	**23 07 45.5**	**-1.3**
CEU				S	**Sn**	**23 08 02.0**	**-3.7**
EGOR	**Sierra Gorda,**	**1.49**	**344**	Pg	**Pb**	**23 07 48.1**	**-0.5**
EGOR				Sg	**Sb**	**23 08 07.6**	**+0.2**
EGOR				*i* Vmb_Lg		23 08 14.5	
CHEFC	**Chefchaouen**	**1.52**	**249**	P	**Pn**	**23 07 49.0**	**+1.1**
JBK	**JBK**	**1.58**	**147**	P	**Pn**	**23 07 48.5**	**-0.3**
EJIF	**Jimena Fronter**	**1.70**	**298**	Pg	**Pn**	**23 07 50.6**	**+0.4**
EQES	**Quesada**	**2.17**	**11**	Pg	**Pb**	**23 07 59.8**	**-0.4**
EQES				Sg	**Sb**	**23 08 27.4**	**+0.4**
EQES				*i* Vmb_Lg		23 08 29.3	
LCRM	**LCR**	**2.23**	**208**	P	**Pn**	**23 07 59.0**	**+1.3**
LCRM				S	**Sb**	**23 08 29.2**	**+0.4**
IFR	**Ifrane**	**2.49**	**211**	P	**Pn**	**23 08 01.9**	**+0.7**
IFR				S	**Sn**	**23 08 31.6**	**+0.1**
EADA	**Adamuz**	**2.61**	**343**	Pn	**Pn**	**23 08 04.5**	**+1.7**
EADA				Sn	**Sn**	**23 08 36.1**	**+1.8**
EADA				*i* Vmb_Lg		23 08 43.2	
ECAB	**El Cabril**	**2.80**	**329**	Pn	**Pn**	**23 08 07.5**	**+2.1**
ECAB				Sn	**Sn**	**23 08 39.4**	**+0.3**
ECAB				*i* Vmb_Lg		23 08 51.9	
CZD	**Col de Zad**	**2.89**	**205**	P	**Pn**	**23 08 08.2**	**+1.4**
MD31	**MD31**	**2.96**	**199**	P	**Pn**	**23 08 09.5**	**+1.9**
MD31				S	**Sn**	**23 08 42.7**	**-0.2**
MDT	**Midelt**	**2.97**	**196**	P	**Pb**	**23 08 11.9**	**-1.8**
EMIN	**Mina Concepcio**	**3.23**	**311**	Pn	**Pn**	**23 08 11.7**	**+0.4**
EMIN				Sn	**Sn**	**23 08 49.5**	**-0.1**
EMIN				*i* Vmb_Lg		23 08 56.7	
ZHG	**ZHG**	**3.34**	**229**	P	**Pn**	**23 08 13.9**	**+0.9**
ZHG				S	**Sn**	**23 08 50.6**	**-1.9**
ETOB	**Tobarra**	**3.39**	**28**	Pn	**Pn**	**23 08 16.0**	**+2.4**
ETOB				Sn	**Sn**	**23 08 52.8**	**-0.9**
ETOB				*i* Vmb_Lg		23 08 59.3	
EGRO	**El Granado**	**3.63**	**302**	Pn	**Pn**	**23 08 17.8**	**+1.0**
EGRO				Sn	**Sn**	**23 08 58.8**	**-0.6**
EGRO				*i* Vmb_Lg		23 09 02.0	
PBAR	**Barrancos**	**3.71**	**313**	*e*Pn	**Pn**	**23 08 19.1**	**+1.2**
PBAR				*e*Sn	**Sn**	**23 09 01.4**	**-0.1**
PBAR				A	A	23 09 07.1	
	2.7nm,0.8s						
PVAQ	**Vaqueiros**	**3.73**	**299**	*e*Pn	**Pn**	**23 08 19.2**	**+1.0**
PVAQ				*e*Sn	**Sn**	**23 09 01.1**	**-0.9**
PVAQ				A	A	23 09 05.3	
	5.1nm,0.3s						
PVAQ	**Vaqueiros**	**3.73**	**299**	P	**Pn**	**23 08 18.3**	**+0.2**
PVAQ				S	**Sn**	**23 09 00.5**	**-1.5**
PAB	**San Pablo**	**3.91**	**352**	Pn	**Pn**	**23 08 22.5**	**+1.8**
PAB				*i* Vmb_Lg		23 09 26.7	
FIGM	**Figuig**	**4.03**	**150**	P	**Pn**	**23 08 23.7**	**+0.3**
PCVE	**Castro Verde**	**4.06**	**300**	*e*Pn	**Pn**	**23 08 23.7**	**+1.0**
PCVE				*e*Sn	**Sn**	**23 09 09.5**	**-0.6**
PCVE				A	A	23 09 12.9	
	4.4nm,0.5s						
EBAD	**Badajoz**	**4.11**	**320**	Pn	**Pn**	**23 08 24.5**	**+1.2**
EBAD				Sn	**Sn**	**23 09 08.8**	**-2.4**
EBAD				*i* Vmb_Lg		23 09 15.3	
PBEJ	**Beja**	**4.14**	**306**	*e*Pn	**Pn**	**23 08 25.3**	**+1.4**
PBEJ				*e*Sn	**Sn**	**23 09 11.9**	**-0.2**
PBEJ				A	A	23 09 14.0	
	1.7nm,0.3s						
MESJ	**Messejana**	**4.29**	**302**	*e*P	**Pn**	**23 08 26.6**	**+0.8**
MESJ	**Messejana**	**4.29**	**302**	*e*Pn	**Pn**	**23 08 26.7**	**+0.8**
MESJ				*e*Sn	**Sn**	**23 09 14.8**	**-0.9**
MESJ				A	A	23 09 26.3	
	2.8nm,0.7s						
PESTR	**Estremoz**	**4.50**	**316**	*e*Sn	**Sn**	**23 09 20.4**	**-0.5**
PESTR				A	A	23 09 26.5	
	1.9nm,0.7s						
PTEO	**Sao Teotonio**	**4.52**	**296**	*e*Pn	**Pn**	**23 08 30.3**	**+1.3**
PTEO				*e*Sn	**Sn**	**23 09 20.6**	**-0.8**
EVO	**Evora**	**4.53**	**310**	*e*Pn	**Pn**	**23 08 30.6**	**+1.4**
EVO				*e*Sn	**Sn**	**23 09 21.2**	**-0.5**
EVO				A	A	23 09 28.0	
	4.1nm,0.2s						
PNCL	**Nicolau / Gran**	**4.63**	**303**	*e*Pn	**Pn**	**23 08 31.6**	**+1.0**
PNCL				*e*Sn	**Sn**	**23 09 23.4**	**-0.8**
PNCL				A	A	23 09 24.3	
	2.3nm,0.4s						
PMRV	**Marv??o**	**4.81**	**322**	*e*Pn	**Pn**	**23 08 34.5**	**+1.5**
PMRV				*e*Sn	**Sn**	**23 09 28.3**	**-0.2**
PMRV				A	A	23 09 39.4	
	1.6nm,0.5s						
PCBR	**Castelo Branco**	**5.17**	**325**	*e*Pn	**Pn**	**23 08 40.1**	**+2.2**
PCBR				*e*Sn	**Sn**	**23 09 36.8**	**-0.5**
PCBR				A	A	23 09 39.5	
	2.1nm,0.5s						
PACT	**Alcochete**	**5.19**	**308**	*e*Pn	**Pn**	**23 08 40.1**	**+1.9**
PACT				*e*Sn	**Sn**	**23 09 38.8**	**+1.0**
PSBE	**So Bento**	**5.63**	**315**	*e*Pn	**Pn**	**23 08 46.2**	**+1.9**
MTE	**Manteigas**	**5.65**	**328**	*e*Pn	**Pn**	**23 08 46.8**	**+2.2**
MTE				*e*Sn	**Sn**	**23 09 48.7**	**-0.6**
PCAS	**Casmilo, Conde**	**5.84**	**320**	*e*Pn	**Pn**	**23 08 49.1**	**+2.0**
PCAS				*e*Sn	**Sn**	**23 09 52.8**	**-1.1**
PCAS				A	A	23 09 53.2	
	1.9nm,0.6s						
PVIS	**Viseu**	**6.06**	**327**	*e*Pn	**Pn**	**23 08 52.0**	**+1.8**
PVIS				*e*Sn	**Sn**	**23 09 58.7**	**-0.8**
MVO	**Moncorvo**	**6.11**	**335**	*e*Pn	**Pn**	**23 08 53.3**	**+2.4**
MVO				*e*Sn	**Sn**	**23 10 00.9**	**+0.3**
MVO				A	A	23 10 12.1	
	1.5nm,0.6s						
PVRL	**Vila Real**	**6.46**	**331**	*e*Pn	**Pn**	**23 08 57.7**	**+2.1**
POLO	**Lamas de Olo**	**6.57**	**331**	*e*Pn	**Pn**	**23 08 59.1**	**+1.8**
PBRG	**Braganca**	**6.59**	**339**	*e*Pn	**Pn**	**23 08 59.6**	**+2.0**
PGAV	**Gavieira, Arco**	**7.26**	**331**	*e*Pn	**Pn**	**23 09 09.1**	**+2.4**

*IDC **10** 23:14:59.8±1.5, 30.06N×82.63E, h0km, mb3.5/8, mbtmp3.6/11, ML3.4/2, MS3.2/4, Error ellipse: s-maj=40.3km s-min=20.5km az=49.0*
ISC 10 23:15:01.5±1.0, 30.1N±0.1×82.70E±0.09, h10km, n16, σ1s00/14, mb3.5/7, MS3.1/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**2.23**	**254**	*e*P	Pn	23 15 33.4	-5.1
LGTI				*e*S	**Sn**	**23 16 06.1**	**-0.1**
THW	**Thamme Wali**	**9.74**	**289**	P	**Pn**	**23 17 20.4**	**-1.3**
CEP	**Cherat**	**9.89**	**295**	P	**Pn**	**23 17 25.7**	**+1.8**
AAK	**Ala-Archa**	**14.14**	**334**	Pn	**Pn**	**23 18 22.3**	**+0.3**
	0.3nm,0.3s,baz=293,slow=5.9,SNR=1.9						
AAK				LR	LR	23 24 36.7	
	comp=Z,36nm,20.8s,baz=168,slow=41						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**16.67**	**359**	Pn	**Pn**	**23 18 53.6**	**-1.6**
	0.1nm,0.3s,baz=179,slow=13,SNR=2.3						
	0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.78**	**124**	P	**Pn**	**23 19 22.1**	**+0.7**
	1.3nm,0.3s,baz=310,slow=11,SNR=6.2						
KURBB	**Kurchatov Arra**	**20.74**	**352**	P	**P**	**23 19 41.7**	**-0.4**
	1.0nm,0.7s,baz=180,slow=9.8,SNR=11						
	1.0nm,0.7s						
GEYT	**Alibeck**	**21.78**	**298**	P	**P**	**23 19 54.1**	**+0.5**
	1.0nm,0.5s,baz=139,slow=9.6,SNR=2.1						
	1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**23.88**	**3**	P	**P**	**23 20 15.3**	**+0.3**
	1.1nm,0.8s,baz=194,slow=11,SNR=4.0						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**24.62**	**342**	P	**P**	**23 20 21.6**	**-0.3**
	0.4nm,0.5s,baz=146,slow=10,SNR=5.7						
BVAR				LR	LR	23 30 39.6	
	comp=Z,41nm,19.5s,baz=145,slow=38						
	0.4nm,0.5s						
SONM	**Songino Array**	**25.39**	**39**	P	**P**	**23 20 30.3**	**+1.2**
	0.4nm,0.6s,baz=234,slow=11,SNR=2.6						
	0.4nm,0.6s						
ARU	**Arti**	**31.32**	**334**	P	**P**	**23 21 21.4**	**-0.4**
	1.3nm,0.5s,baz=205,slow=3.0,SNR=4.0						
	1.3nm,0.5s						
GNI	**Garni**	**32.41**	**298**	LR	LR	23 37 14.2	
	comp=Z,40nm,18.1s,baz=71,slow=41						
MJAR	**Matsushiro Arr**	**46.29**	**67**	LR	LR	23 42 47.7	
	comp=Z,68nm,18.7s,baz=137,slow=36						
FINES	**FINESS Array B**	**48.19**	**327**	P	**P**	**23 23 41.4**	**-0.4**
	0.8nm,0.4s,baz=120,slow=9.2,SNR=13						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**70.32**	**128**	P	**P**	**23 26 14.9**	**-0.6**
	0.4nm,0.8s,baz=318,slow=6.1,SNR=2.9						
	0.4nm,0.8s						

*IDC **10** 23:15:58.5±1.1, 20.97N×122.17E, h0km, mb3.5/7, mbtmp3.6/9, ML3.7/2, MS2.5/2, Error ellipse: s-maj=41.1km s-min=20.7km az=70.0*
ISC 10 23:15:58.0±0.8, 20.72N±0.07×122.06E±0.2, h10km, n18, σ2s09/13, mb3.5/7, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICP	**Calayan Island**	**1.54**	**200**	⇑*e*P	**Pg**	**23 16 26.9**	**-0.6**
CICP				*i* S	**Sn**	**23 16 45.3**	**-0.1**
PACPP	**Pamplona Cagay**	**2.34**	**196**	⇓*e*P	**Pb**	**23 16 38.8**	**-1.4**
PACPP				*i* S	**Sb**	**23 17 07.4**	**-1.7**
JOW	**Kunigami**	**8.35**	**42**	Pn	**Pn**	**23 17 57.1**	**-2.0**
	3.6nm,0.3s,baz=185,slow=8.8,SNR=8.5						
	7.3nm,0.4s						
KSRS	**Korea Array**	**17.45**	**16**	P	**Pn**	**23 20 00.2**	**-1.2**
	0.1nm,0.3s,baz=200,slow=12,SNR=6.9						
KSRS				LR	LR	23 26 43.1	
	comp=Z,14nm,18.2s,baz=335,slow=38						
	2.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.87**	**268**	LR	LR	23 29 27.2	
	comp=Z,12nm,20.3s,baz=315,slow=37						
SONM	**Songino Array**	**29.86**	**339**	P	**P**	**23 22 05.0**	**-0.6**
	0.6nm,0.8s,baz=155,slow=10.0,SNR=3.0						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**41.40**	**318**	P	**P**	**23 23 46.2**	**+1.7**
	0.5nm,0.6s,baz=109,slow=9.7,SNR=4.2						
	0.5nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.01**	**83**	T	T	00 08 51.5	
	baz=274,slow=75,SNR=27						
H11N2	**WAKE ISLAND Hy**	**42.01**	**83**	T	T	00 08 50.9	
	baz=274,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**42.02**	**83**	T	T	00 08 51.4	
	baz=274,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**42.03**	**85**	T	T	00 08 43.8	
	baz=281,slow=75,SNR=100						
H11S1	**WAKE ISLAND Hy**	**42.04**	**85**	T	T	00 08 45.9	
	baz=281,slow=75,SNR=124						
H11S2	**WAKE ISLAND Hy**	**42.05**	**85**	T	T	00 08 45.3	
	baz=281,slow=75,SNR=98						
WRA	**Warramunga Arr**	**42.17**	**163**	P	**P**	**23 23 53.5**	**+2.5**
	0.2nm,0.6s,baz=345,slow=9.0,SNR=1.7						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**43.59**	**329**	P	**P**	**23 24 02.8**	**+0.7**
	0.5nm,0.5s,baz=126,slow=9.6,SNR=2.4						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**45.28**	**322**	P	**P**	**23 24 16.4**	**+0.6**
	0.8nm,0.3s,baz=118,slow=7.6,SNR=1.5						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**45.61**	**165**	P	**P**	**23 24 23.2**	**+4.5**
	0.2nm,0.5s,baz=354,slow=7.7,SNR=2.2						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**50.86**	**322**	P	**P**	**23 25 00.3**	**+1.4**
	0.3nm,0.5s,baz=104,slow=6.1,SNR=2.7						
	0.3nm,0.5s						

*IDC **10** 23:20:00.3±2.1, 37.89N×69.80E, h0km, mb3.5/3, mbtmp3.5/8, ML3.3/5, MS3.4/1, Error ellipse: s-maj=38.7km s-min=14.7km az=147.0*
*NNC **10** 23:20:01.4±5.6, 37.98N×69.68E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=56.3km s-min=27.8km az=167.0*
ISC 10 23:20:02.4±1.8, 38.0N±0.2×69.5E±0.1, h12km, n15, σ1s89/18, 5C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.15**	**9**	⇑Pn	**Pn**	**23 21 20.2**	**+0.9**
	0.5nm,0.2s,baz=194,slow=14,SNR=33						
KK31				Pg	**Pb**	**23 21 36.0**	**+3.6**
	4.3nm,0.4s,baz=188,slow=18,SNR=14						
KK31				⇓Lg	Lg	23 22 45.9	
	8.0nm,0.6s,baz=197,slow=28,SNR=4.2						
AAK	**Ala-Archa**	**6.01**	**38**	Pn	**Pn**	**23 21 31.2**	**0.0**
	3.6nm,0.3s,baz=195,slow=5.3,SNR=16						
AAK				Sn	**Sn**	**23 22 39.4**	**-0.6**
	1.1nm,0.3s,baz=85,slow=22,SNR=1.2						
AAK				Lg	Lg	23 23 09.5	
	1.3nm,0.3s,baz=213,slow=22,SNR=2.2						
	6.0nm,0.3s						
TKM2	**Tokmak 2**	**6.77**	**42**	⇑Pn	**Pn**	**23 21 41.2**	**-0.6**
	1.0nm,0.3s						
TKM2				⇑Pg	Pb	23 22 03.5	+3.4
	7.4nm,0.8s						
TKM2				⇑Sn	**Sn**	**23 22 58.7**	**-0.2**
	5.4nm,0.7s						
GEYT	**Alibeck**	**8.97**	**273**	Pn	**Pn**	**23 22 10.7**	**-1.0**
	0.2nm,0.3s,baz=108,slow=9.3,SNR=1.6						
GEYT				Sn	**Sn**	**23 23 51.6**	**-1.1**
	1.0nm,0.3s,baz=56,slow=12,SNR=6.9						
MKAR	**Makanchi Array**	**12.90**	**43**	Pn	**Pn**	**23 23 04.3**	**-1.2**
	baz=236,slow=13,SNR=6.0						
	1.0nm,0.7s						
AB31	**Akbulak array**	**13.18**	**332**	P	**Pn**	**23 23 06.5**	**-2.7**
	0.5nm,0.5s,baz=170,slow=12,SNR=18						
AKTO	**Aktyubinsk**	**14.87**	**330**	Pn	**Pn**	**23 23 32.0**	**-0.3**
	0.3nm,0.3s,baz=151,slow=13,SNR=4.0						
	0.5nm,0.2s						
AKTO	**Aktyubinsk**	**14.87**	**330**	⇑P	**P**	**23 23 37.9**	**-0.2**
	9.4nm,0.8s						
BVA0	**Borovoye Array**	**15.03**	**2**	P	**P**	**23 23 36.7**	**-3.2**
	0.8nm,0.7s,baz=157,slow=10,SNR=11						
BVAR	**Borovoye Array**	**15.03**	**2**	Pn	**Pn**	**23 23 31.5**	**-3.0**
	0.1nm,0.3s,baz=168,slow=10.0,SNR=2.4						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**19.11**	**29**	P	**Pn**	**23 24 24.0**	**-1.7**
	0.3nm,0.3s,baz=212,slow=11,SNR=7.2						
	1.1nm,0.5s						
ARU	**Arti**	**19.82**	**342**	P	**P**	**23 24 32.8**	**+0.2**
	1.1nm,0.3s,baz=160,slow=13,SNR=5.5						
	1.1nm,0.3s						
KLR	**Kul'dur**	**45.26**	**55**	LR	LR	23 48 55.3	
	comp=Z,42nm,18.2s,baz=118,slow=38						
ESDC	**Sonseca Array**	**55.68**	**296**	P	**P**	**23 29 40.2**	**+1.7**
	0.4nm,0.8s,baz=59,slow=8.6,SNR=4.3						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**64.56**	**267**	P	**P**	**23 30 41.3**	**+1.7**
	0.3nm,0.8s,baz=69,slow=5.9,SNR=2.1						
	0.3nm,0.8s						

*IDC **10** 23:38:09.4±1.7, 33.93N×141.66E, h0km, mb3.5/4, mbtmp3.7/6, ML3.7/2, MS2.8/1, Error ellipse: s-maj=34.7km s-min=19.5km az=63.0*
*JMA **10** 23:38:14.0±1.0, 34°N±2°×14°1E±°, h36km, MV3.1/26, FAR SE OFF BOSO PEN*
ISC 10 23:38:12.2±1.2, 33.92N±0.05×141.58E±0.09, h24km, n22, σ1s41/19, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.89**	**326**	P	**Pn**	**23 38 27.9**	**-0.8**
BSO3	**Boso 3**	**1.25**	**315**	P	**Pb**	**23 38 33.9**	**-1.0**
BSO4	**Boso 4**	**1.48**	**317**	*e*P	**Pb**	**23 38 37.6**	**-1.4**
JMKN	**Mikurajimanish**	**1.66**	**270**	P	**Pn**	**23 38 40.7**	**+0.9**
JMKN				*e*S	**Sn**	**23 38 59.1**	**-1.1**
JHJ2	**Mitsune**	**1.68**	**242**	P	**Pb**	**23 38 42.1**	**-0.3**
JKUC	**kamogawauchiur**	**1.69**	**318**	P	**Pn**	**23 38 40.1**	**0.0**
JHJ	**Hachijo jima 2**	**1.70**	**243**	Pn	**Pb**	**23 38 42.2**	**-0.5**
	52nm,0.3s,baz=276,slow=23,SNR=20						
JHJ				Sn	**Sb**	**23 39 03.4**	**-0.3**
	88nm,0.3s,baz=240,slow=22,SNR=7.7						
JIM2	**Oshima 3**	**1.95**	**295**	P	**Pn**	**23 38 43.4**	**-0.5**
KTJ3	**Kamata3**	**2.31**	**297**	*e*P	**Pn**	**23 38 47.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.81**	**314**	Pn	**Pn**	**23 39 09.9**	**+0.6**
	1.7nm,0.3s,baz=157,slow=12,SNR=60						
MJAR				Sn	**Sn**	**23 39 54.2**	**+0.8**
	0.5nm,0.3s,baz=119,slow=14,SNR=5.7						
	8.0nm,0.3s						
JCJ	**Chichijima**	**6.82**	**175**	Pn	**Pn**	**23 39 52.3**	**+1.6**
	4.6nm,0.3s,baz=232,slow=20,SNR=1.7						
JCJ				Sn	**Sn**	**23 41 04.1**	**-3.5**
	5.1nm,0.3s,baz=276,slow=23,SNR=1.8						
	16nm,0.3s						
JOW	**Kunigami**	**13.48**	**242**	LR	LR	23 46 02.8	
	comp=Z,39nm,20.3s,baz=359,slow=35						
H11N2	**WAKE ISLAND Hy**	**26.55**	**116**	T	T	00 11 40.3	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**26.56**	**116**	T	T	00 11 41.3	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**26.57**	**116**	T	T	00 11 44.2	
	baz=308						
H11S3	**WAKE ISLAND Hy**	**27.16**	**118**	T	T	00 12 38.3	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.16**	**118**	T	T	00 12 37.1	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**27.18**	**118**	T	T	00 12 35.3	
	baz=313						
SONM	**Songino Array**	**29.74**	**308**	P	**P**	**23 44 16.4**	**-0.3**
	0.3nm,0.4s,baz=108,slow=9.3,SNR=2.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.95**	**305**	P	**P**	**23 46 35.8**	**+2.6**
	0.2nm,0.5s,baz=89,slow=9.6,SNR=4.6						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**54.00**	**188**	P	**P**	**23 47 34.3**	**-0.1**
	0.3nm,0.4s,baz=2.9,slow=7.6,SNR=15						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**57.73**	**188**	P	**P**	**23 48 02.4**	**+1.3**
	0.2nm,0.4s,baz=2.1,slow=7.1,SNR=9.2						
	0.2nm,0.4s						

*IDC **10** 23:44:13.6±0.8, 29.31S×60.93E, h0km, mb3.9/11, mbtmp3.9/12, ML3.9/1, MS3.4/14, Error ellipse: s-maj=26.0km s-min=20.2km az=30.0*
*NEIC **10** 23:44:15.0±0.8, 29.2S±0.1×61.0E±0.2, h10km±1km, mb4.3/7, Error ellipse: s-maj=26.3km s-min=17.0km az=62.0*
ISC 10 23:44:15.0±0.7, 29.2S±0.1×61.0E±0.1, h10km, n38, σ0s93/25, mb4.2/14, MS3.3/13, Southwest Indian Ridge

| Code | Station Name |

comp=Z,1.6nm,1.0s,baz=246,slow=5.3,SNR=5.2
comp=Z,1.6nm,1.0s

MMAI	**Mount Meron Ar**	**66.45**	**337**	LR	LR	00 20 51.0	
	comp=Z,30nm,19.0s,baz=140,slow=33						
TORD	**Torodi Ar. Bea**	**71.00**	**298**	P	**P**	**23 55 34.5**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=123,slow=5.9,SNR=7.6						
	comp=Z,2.0nm,0.9s						
KK31	**Karatay Array**	**72.47**	**7**	P	**P**	**23 55 41.0**	**-0.5**
KK31				IAmb	IAmb	23 55 46.7	
	comp=Z,1.5nm,1.0s						
KKAR	**Karatay Array**	**72.47**	**7**	P	**P**	**23 55 41.3**	**-0.3**
BRTR	**Keskin Array B**	**73.13**	**338**	P	**P**	**23 55 46.2**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=159,slow=8.4,SNR=4.7						
	comp=Z,0.8nm,0.9s						
BRTR	**Keskin Array B**	**73.13**	**338**	P	**P**	**23 55 45.5**	**-0.3**
MKAR	**Makanchi Array**	**78.05**	**15**	P	**P**	**23 56 15.5**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=212,slow=5.1,SNR=1.7						
	comp=Z,0.3nm,0.7s						
ABKAR	**Akbulak array**	**78.10**	**359**	P	**P**	**23 56 13.7**	**-0.1**
ABKAR	**Akbulak array**	**78.10**	**359**	P	**P**	**23 56 13.4**	**-0.3**
ABKAR				IAmb	IAmb	23 56 18.3	
	comp=Z,2.8nm,1.1s						
ZALV	**Zalesovo Beam**	**85.34**	**14**	P	**P**	**23 56 52.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=210,slow=8.3,SNR=4.1						
	comp=Z,1.1nm,0.7s						
ESDC	**Sonseca Array**	**91.30**	**316**	P	**P**	**23 57 19.2**	**-1.5**
	comp=Z,0.9nm,1.1s,baz=113,slow=2.9,SNR=4.7						
ESDC				LR	LR	00 39 12.6	
	comp=Z,20nm,18.1s,baz=30,slow=36						
	comp=Z,0.9nm,1.1s						

SKHL ***10*** *23:47:57.9±0.2, 44.˚20N×148.˚00E, h34km±2km, mb4.5/2*
JMA ***10*** *23:47:58.6±0.3, 44˚№1.˚1×14˚8E±˚, h20km, MV3.6/13, E OFF HOKKAIDO*

ISC 10 23:47:54.7±2.8, 44.˚2N±0.˚1×147.˚9E±0.˚2, h4km±14km, n12, σ1§29/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.07**	**359**	*e*P	**Pb**	**23 48 15.3**	**-0.5**
KUR				AMB	AMB	23 48 16.7	
	100nm,0.2s						
KUR				*e*S	**Sg**	**23 48 28.0**	**-1.2**
KUR				A	A	23 48 28.8	
	280nm,0.2s						
KUR				A	A	23 48 28.8	
	240nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.48**	**266**	*e*P	**Pg**	**23 48 23.5**	**+0.5**
YUK				AMB	AMB	23 48 24.6	
	120nm,0.2s						
YUK				*e*S	**Sn**	**23 48 41.7**	**0.0**
YUK				A	A	23 48 44.0	
	220nm,0.3s						
YUK				A	A	23 48 44.0	
	380nm,0.3s						
NEM2	**Nemuro 2**	**1.75**	**244**	*e*P	**Pb**	**23 48 26.7**	**-0.8**
NEM2				*e*S	**Sn**	**23 48 47.2**	**-1.4**
NMR	**Nemuro--Hokkai**	**1.76**	**244**	*e*P	**Pb**	**23 48 26.7**	**-0.9**
NMR				*e*S	**Sn**	**23 48 48.9**	**+0.1**
JRA	**Rausu**	**2.02**	**265**	*e*P	**Pb**	**23 48 31.3**	**-0.6**
JRA				*e*S	**Sn**	**23 48 55.6**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.13**	**261**	*e*P	**Pb**	**23 48 32.7**	**-1.1**
JKHN	**Kushirohamanak**	**2.26**	**243**	*e*P	**Pn**	**23 48 34.1**	**+1.2**
JNK	**Nakash**	**2.37**	**257**	*e*S	**Sn**	**23 49 03.0**	**-1.0**
AKK	**Akkeshi**	**2.50**	**244**	*e*P	**Pn**	**23 48 37.3**	**+1.2**
AKK				*e*S	**Sn**	**23 49 04.7**	**-2.3**
JAK	**Akkeshi**	**2.60**	**245**	*e*P	**Pn**	**23 48 38.8**	**+1.3**
JAK				*e*S	**Sn**	**23 49 08.2**	**-1.4**
JAR	**Ashorobuto**	**3.12**	**255**	*e*P	**Pn**	**23 48 47.0**	**+2.4**
JAR				*e*S	**Sn**	**23 49 22.3**	**0.0**
JOB	**Onbets**	**3.21**	**248**	*e*S	**Sn**	**23 49 23.7**	**-0.9**

NEIC ***11*** *00:02:13.2±1.4, 25.˚28S±0.˚09×179.˚8E±0.˚2, h536km±13km, mb4.1/9, Error ellipse: s-maj=30.0km s-min=11.8km az=81.0*
IDC ***11*** *00:02:13.5±2.5, 25.˚21S×179.˚65E, h529km±32km, mb3.0/4, mbtmp4.0/6, Error ellipse: s-maj=42.2km s-min=33.9km az=50.0*

ISC 11 00:02:11.9±1.0, 25.˚43S±0.˚09×179.˚7E±0.˚2, h507km, n23, σ1§65/25, mb3.9/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.81**	**349**	P	**P**	**00 04 06.8**	**0.0**
	6.3nm,0.6s,baz=162,slow=16,SNR=8.2						
MSVF	**Nonsavu**	**7.81**	**349**	P	**P**	**00 04 06.9**	**+0.2**
MARNC	**Mare, Loyalty**	**11.38**	**288**	P	**P**	**00 04 45.0**	**+1.1**
URZ	**Urewera**	**12.97**	**189**	P	**P**	**00 05 04.0**	**+3.6**
	2.5nm,0.3s,baz=31,slow=12,SNR=1.3						
URZ				S	**S**	**00 07 15.0**	**-4.4**
	7.7nm,0.9s,baz=211,slow=9.0,SNR=1.9						
URZ	**Urewera**	**12.97**	**189**	P	**P**	**00 05 04.0**	**+3.6**
BKZ	**Black Stump Fm**	**13.95**	**190**	P	**P**	**00 05 12.6**	**+1.7**
THZ	**Tophouse**	**17.22**	**197**	P	**P**	**00 05 43.8**	**-0.8**
CTA	**Charters Tower**	**31.21**	**273**	P	**P**	**00 07 49.9**	**+0.5**
	1.1nm,0.5s,baz=101,slow=10,SNR=1.5						
	1.1nm,0.5s						
CTAO	**Charters Tower**	**31.21**	**273**	P	**P**	**00 07 49.6**	**+0.2**
AS31	**Alice Springs**	**41.50**	**262**	P	**P**	**00 09 14.3**	**-0.2**
ASAR	**Alice Springs**	**41.50**	**262**	P	**P**	**00 09 14.3**	**-0.2**
	0.8nm,0.4s,baz=90,slow=7.1,SNR=18						
ASAR				PcP	**PcP**	**00 11 00.4**	**+0.1**
	0.2nm,0.7s,baz=102,slow=3.9,SNR=1.5						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**41.50**	**262**	P	**P**	**00 09 14.7**	**+0.2**
WB0	**Warramunga Arr**	**42.02**	**268**	P	**P**	**00 09 18.1**	**-0.5**
WB0				IAmb	IAmb	00 09 28.8	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**42.02**	**268**	P	**P**	**00 09 18.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=102,slow=7.7,SNR=11						
	comp=Z,1.0nm,0.6s						
KNRA	**Kununurra**	**48.39**	**271**	P	**P**	**00 10 07.6**	**0.0**
KNRA				IAmb	IAmb	00 10 31.3	
	comp=Z,7.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.42**	**267**	P	**P**	**00 10 22.7**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=92,slow=7.1,SNR=8.3						
	comp=Z,1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.42**	**267**	P	**P**	**00 10 22.4**	**-0.1**
FITZ				IAmb	IAmb	00 10 25.1	
	comp=Z,8.4nm,1.5s						
VNDA	**Vanda**	**52.83**	**185**	P	**P**	**00 10 40.0**	**+0.9**
QSPA	**South Pole Qui**	**64.66**	**180**	P	**P**	**00 11 59.6**	**+0.6**
QSPA				IAmb	IAmb	00 12 00.7	
	comp=Z,3.9nm,1.1s						
USA0B	**Ussuriysk Arra**	**81.88**	**328**	P	**P**	**00 13 36.0**	**-1.7**
USA0B				IAmb	IAmb	00 13 38.3	
	comp=Z,7.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**81.88**	**328**	P	**P**	**00 13 35.6**	**-2.1**
SNAA	**Sanae**	**83.14**	**179**	P	**P**	**00 13 43.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**167.63**	**189**	PKPab	**PKPab**	**00 22 29.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=163,slow=4.1,SNR=1.9						

JMA ***11*** *00:10:32.8±0.2, 35.˚6N±0.˚6×140.˚2E±0.˚8, h63km±2km, MV2.5/40, CENTRAL CHIBA PREF*
IDC ***11*** *00:10:34.9±4.2, 35.˚24N×139.˚71E, h72km±39km, mb3.0/2, mbtmp3.3/2, Error ellipse: s-maj=46.5km s-min=34.2km az=68.0*

ISC 11 00:10:32.5±1.1, 35.˚58N±0.˚05×140.˚21E±0.˚06, h70km±9km, n23, σ0§36/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.16**	**182**	P	**Pn**	**00 10 43.3**	**+0.3**
JSMT	**Sammumatsuo**	**0.20**	**73**	*e*P	**Pn**	**00 10 43.0**	**-0.1**
TOK	**Tokyo**	**0.38**	**286**	P	**Pn**	**00 10 44.6**	**+0.4**
JIHU	**Itakohorinouch**	**0.46**	**34**	*e*P	**Pn**	**00 10 45.0**	**0.0**
BSO3	**Boso 3**	**0.82**	**162**	P	**Pn**	**00 10 48.8**	**+0.3**
JOD2	**Odawara 2**	**0.97**	**251**	*i* P	**Pn**	**00 10 50.5**	**-0.1**
JOD2				S	**Sn**	**00 11 03.5**	**-0.6**
JAG	**Ashikaga**	**1.04**	**324**	*i* P	**Pn**	**00 10 50.9**	**-0.6**
JIM2	**Oshima 3**	**1.07**	**217**	P	**Pn**	**00 10 51.5**	**-0.4**
JIM2				S	**Sn**	**00 11 06.0**	**-0.4**
BSO1	**Boso 1**	**1.12**	**145**	P	**Pn**	**00 10 51.9**	**-0.1**
JRY	**Ryogami san**	**1.15**	**293**	*i* P	**Pn**	**00 10 53.2**	**+0.3**
JFNN	**Fujinakano**	**1.30**	**253**	P	**Pn**	**00 10 55.1**	**+0.2**
JFNN				S	**Sn**	**00 11 11.8**	**+0.1**
JYN	**Shimob**	**1.36**	**267**	*i* P	**Pn**	**00 10 55.8**	**+0.2**
JYN				S	**Sn**	**00 11 13.1**	**+0.1**
JIZS	**Izushimoda**	**1.39**	**232**	P	**Pn**	**00 10 56.0**	**0.0**
JIZS				S	**Sn**	**00 11 13.2**	**-0.5**
JKT	**Katashina**	**1.41**	**327**	P	**Pn**	**00 10 56.4**	**-0.1**
MJAR	**Matsushiro Arr**	**1.88**	**301**	P	**Pn**	**00 11 02.4**	**-0.2**
	5.1nm,0.3s,baz=133,slow=13,SNR=51						
MJAR				S	**Sn**	**00 11 25.1**	**-0.4**
	4.2nm,0.3s,baz=139,slow=22,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**28.30**	**117**	T	T	00 45 33.4	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**28.31**	**117**	T	T	00 45 34.0	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**28.32**	**117**	T	T	00 45 38.5	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**28.95**	**119**	T	T	00 46 23.8	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**28.95**	**119**	T	T	00 46 24.9	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**28.96**	**119**	T	T	00 46 24.1	
	baz=312						
MKAR	**Makanchi Array**	**44.08**	**303**	P	**P**	**00 18 34.1**	**+0.6**
	0.5nm,0.8s,baz=101,slow=7.5,SNR=2.4						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**55.50**	**187**	P	**P**	**00 20 00.0**	**-0.2**
	0.1nm,0.4s,baz=2.9,slow=7.5,SNR=1.3						
	0.1nm,0.4s						

TAP ***11*** *00:23:18.4, 24.˚81N×122.˚29E, h10km, ML2.8, C*
JMA ***11*** *00:23:19.3±0.2, 25.˚№1.˚1×122.˚3E±0.˚6, h48km±4km, MV2.1/9, TAIWAN REGION*

ISC 11 00:23:17.9±1.1, 24.˚82N±0.˚03×122.˚34E±0.˚03, h18km±6km, n61, σ0§66/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.38**	**301**	*i* P	**Pg**	**00 23 25.8**	**+0.1**
	baz=306						
TWB1				*i* S	**Sg**	**00 23 30.7**	**-0.4**
	baz=306						
NTC	**Toucheng**	**0.47**	**275**	*e*P	**Pb**	**00 23 28.1**	**+0.5**
	baz=276						
TWC	**Suao**	**0.49**	**246**	P	**Pg**	**00 23 27.2**	**-0.6**
	baz=242						
TIPB	**Shuangxi**	**0.50**	**288**	P	**Pb**	**00 23 28.2**	**+0.1**
	baz=290						
TIPB				*e*S	**Sb**	**00 23 35.3**	**+0.3**
	baz=290						
SXI1	**Grass Mountain**	**0.51**	**303**	*e*P	**Pb**	**00 23 28.7**	**+0.4**
	baz=306						
SXI1				*e*S	**Sb**	**00 23 35.4**	**-0.1**
	baz=306						
NWF	**Wu-fen Shan**	**0.57**	**297**	*e*P	**Pn**	**00 23 30.5**	**-0.7**
	baz=299						
NWF				S	**Sb**	**00 23 38.5**	**+1.3**
	baz=299						
WFSB	**Wu-fen Shan**	**0.57**	**297**	*e*P	**Pn**	**00 23 30.4**	**-0.7**
	baz=299						
WFSB				*e*S	**Sn**	**00 23 38.6**	**-1.5**
	baz=299						
NDS	**Dongshan**	**0.60**	**253**	*e*P	**Pb**	**00 23 27.2**	**-2.7**
	baz=242						
TNOU	**National Taiwa**	**0.62**	**303**	*e*P	**Pn**	**00 23 31.1**	**-0.6**
	baz=306						
TNOU				*e*S	**Sn**	**00 23 40.0**	**-1.2**
	baz=306						
TWE	**Neicheng**	**0.62**	**262**	*e*P	**Pb**	**00 23 29.7**	**-0.5**
	baz=261						
JYNG	**Yonagunijimaku**	**0.66**	**123**	P	**Pg**	**00 23 31.4**	**+0.6**
JYNG				*e*S	**Sn**	**00 23 40.9**	**-1.3**
ENA	**Nanau**	**0.67**	**235**	*e*P	**Pb**	**00 23 30.5**	**-0.6**
	baz=231						
FUSB	**Fushanzhiwuyua**	**0.69**	**266**	*e*P	**Pb**	**00 23 31.4**	**0.0**
	baz=265						
YOJ	**Yonaguni jima**	**0.70**	**120**	*i* P	**Pn**	**00 23 32.3**	**-0.6**
	baz=117						
YOJ	**Yonaguni jima**	**0.70**	**120**	P	**Pn**	**00 23 32.3**	**-0.6**
YOJ				S	**Sg**	**00 23 41.9**	**+0.9**
TWA	**Mucha**	**0.71**	**284**	S	**Sg**	**00 23 42.4**	**+1.0**
	baz=273						
ENTT	**Nioudou**	**0.73**	**256**	*e*P	**Pb**	**00 23 30.9**	**-1.1**
	baz=255						
YM01	**YM01**	**0.78**	**295**	*e*P	**Pn**	**00 23 33.9**	**-0.1**
	baz=297						
YM01				*e*S	**Sn**	**00 23 44.5**	**-0.7**
	baz=297						
YM08	**YM08**	**0.78**	**299**	*e*P	**Pn**	**00 23 33.8**	**-0.2**
	baz=301						
NDT	**Datong Townshi**	**0.79**	**255**	*e*P	**Pg**	**00 23 33.7**	**+0.4**
	baz=253						
LATG	**Datong**	**0.79**	**250**	*e*P	**Pb**	**00 23 33.0**	**-0.2**
	baz=256						
TATO	**Taipei**	**0.79**	**282**	*e*P	**Pn**	**00 23 34.5**	**+0.3**
	baz=272						
TATO				S	**Sn**	**00 23 45.0**	**-0.6**
	baz=272						
TWY	**Chenhua**	**0.82**	**304**	*e*P	**Pn**	**00 23 34.8**	**+0.3**
	baz=306						
TWY				*e*S	**Sn**	**00 23 46.3**	**+0.2**
	baz=306						
YHNB	**Yeheng**	**0.89**	**261**	*e*P	**Pb**	**00 23 35.1**	**+0.2**
	baz=270						
NSK	**Sanguang**	**0.91**	**261**	*e*P	**Pb**	**00 23 34.6**	**-0.5**
	baz=270						
ETL	**Fush Village**	**0.93**	**225**	*e*P	**Pn**	**00 23 35.9**	**-0.2**
	baz=222						
NACB	**Ninganchiao**	**0.94**	**227**	P	**Pb**	**00 23 35.2**	**-0.3**
	baz=224						
NNSB	**Datong**	**0.96**	**246**	P	**Pb**	**00 23 36.0**	**0.0**
	baz=245						
NNSH	**Datong**	**0.96**	**246**	P	**Pb**	**00 23 36.0**	**-0.1**
	baz=245						
NNS	**Nan Shan**	**0.96**	**247**	P	**Pb**	**00 23 36.0**	**0.0**
	baz=235						
NNS				S	**Sb**	**00 23 48.9**	**+0.4**
	baz=235						
ETLH	**Xiulin Townshi**	**0.99**	**233**	*e*P	**Pb**	**00 23 36.4**	**-0.2**
	baz=237						
TWD	**Chiawan**	**1.00**	**223**	*e*P	**Pg**	**00 23 37.5**	**+0.2**
	baz=219						
NFF	**Wufeng Townshi**	**1.13**	**261**	*e*P	**Pn**	**00 23 38.9**	**0.0**
	baz=268						
NFF				S	**Sn**	**00 23 54.2**	**+0.2**
	baz=268						
ETM	**Tongmen**	**1.15**	**223**	*e*P	**Pg**	**00 23 39.9**	**-0.2**
	baz=199						
FUSS	**Fushou**	**1.15**	**241**	P	**Pb**	**00 23 39.8**	**+0.4**
	baz=240						
FUSS				*e*S	**Sn**	**00 23 54.8**	**+0.1**
	baz=240						
WHF	**Hehuan Shan**	**1.19**	**236**	*e*P	**Pb**	**00 23 40.2**	**+0.1**
	baz=234						
WHF				*e*S	**Sb**	**00 23 55.7**	**+0.3**
	baz=234						
TWT	**Tachien**	**1.20**	**243**	P	**Pg**	**00 23 41.3**	**+0.1**
	baz=234						
TWT				*e*S	**Sn**	**00 23 56.3**	**+0.3**
	baz=234						
TDCB	**Techi**	**1.22**	**243**	*e*P	**Pb**	**00 23 41.1**	**+0.6**
	baz=242						
LIOB	**Emei**	**1.22**	**262**	*e*P	**Pb**	**00 23 40.9**	**+0.4**
	baz=283						
NSTT	**Nanjuang**	**1.23**	**262**	P	**Pb**	**00 23 41.3**	**+0.6**
	baz=283						
ESL	**Shilin**	**1.30**	**220**	P	**Pb**	**00 23 42.3**	**+0.5**
	baz=197						
CHGB	**Renai**	**1.30**	**235**	*e*P	**Pb**	**00 23 42.3**	**+0.3**
	baz=235						
IRIF	**Iriomote-Funau**	**1.35**	**110**	P	**Pn**	**00 23 41.4**	**-0.4**
OWD	**Renai**	**1.37**	**231**	*e*P	**Pb**	**00 23 43.3**	**+0.3**
	baz=224						
WHP	**Taichung City**	**1.38**	**248**	*e*P	**Pg**	**00 23 44.3**	**-0.3**
	baz=247						
WUSB	**Renai**	**1.39**	**234**	*e*P	**Pb**	**00 23 43.8**	**+0.5**
	baz=233						
WUSB				*e*S	**Sb**	**00 24 01.8**	**+1.0**
	baz=233						
WCS	**Beigang Elemen**	**1.51**	**240**	*e*P	**Pb**	**00 23 46.0**	**+0.7**
	baz=241						
VWDT	**VWDT**	**1.52**	**226**	*e*P	**Pb**	**00 23 46.5**	**+0.9**
	baz=232						
VWDT				*e*S	**Sg**	**00 24 06.1**	**-1.0**
	baz=232						
HATJ	**Hateruma jima**	**1.53**	**119**	P	**Pn**	**00 23 44.5**	**+0.2**
HGSD	**Ruisui**	**1.56**	**213**	*e*P	**Pb**	**00 23 46.8**	**+0.6**
	baz=194						
EHY	**Hungye**	**1.60**	**216**	*e*P	**Pb**	**00 23 47.0**	**+0.1**
	baz=212						
SMLT	**Sun Moon Lake**	**1.61**	**235**	*e*P	**Pb**	**00 23 48.2**	**+1.0**
	baz=235						
JKRS	**Kuro-shima**	**1.62**	**110**	P	**Pn**	**00 23 45.7**	**+0.1**
SSLB	**Suanglung**	**1.63**	**231**	*e*P	**Pb**	**00 23 48.1**	**+0.6**
	baz=232						
TYC	**Yuchr**	**1.63**	**237**	*e*P	**Pb**	**00 23 47.4**	**0.0**
	baz=237						
JIJ	**Ishigaki jima**	**1.70**	**105**	*e*P	**Pn**	**00 23 46.9**	**+0.3**
JIJ				*e*S	**Sn**	**00 24 06.8**	**-1.2**
YULB	**Yu-li**	**1.71**	**214**	*e*P	**Pb**	**00 23 48.2**	**-0.5**
	baz=210						
WHYT	**Xinyi Township**	**1.76**	**231**	*e*P	**Pb**	**00 23 50.2**	**+0.5**
	baz=212						
YUS	**Yu-Shan**	**1.83**	**224**	*e*P	**Pb**	**00 23 50.8**	**-0.4**
	baz=225						
EDH	**Donghe**	**2.07**	**208**	*e*P	**Pn**	**00 23 52.3**	**+0.6**
	baz=190						
WTP	**Ta-pu**	**2.22**	**226**	*e*P	**Pb**	**00 23 56.9**	**-0.7**
	baz=204						

JMA ***11*** *00:24:18.9±0.2, 35.˚7N±0.˚6×140.˚2E±0.˚9, h66km±2km, MV3.0/40, CENTRAL CHIBA PREF*
IDC ***11*** *00:24:20.6±2.9, 35.˚55N×140.˚16E, h76km±25km, mb3.3/12, mbtmp3.7/12, MS2.4/1, Error ellipse: s-maj=26.7km s-min=16.3km az=84.0*

ISC 11 00:24:19.8±0.8, 35.˚58N±0.˚04×140.˚19E±0.˚05, h69km±6km, n34, σ0§90/37, mb3.6/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.17**	**178**	P	**Pn**	**00 24 29.8**	**-0.3**
JCN				*e*S	**Sn**	**00 24 38.4**	**+0.9**
JSMT	**Sammumatsuo**	**0.22**	**74**	P	**Pn**	**00 24 29.4**	**-0.9**
TOK	**Tokyo**	**0.37**	**286**	P	**Pn**	**00 24 31.3**	**+0.1**
JIHU	**Itakohorinouch**	**0.47**	**35**	*e*P	**Pn**	**00 24 31.5**	**-0.7**
BSO3	**Boso 3**	**0.82**	**162**	P	**Pn**	**00 24 35.2**	**-0.5**
JOD2	**Odawara 2**	**0.96**	**251**	*i* P	**Pn**	**00 24 37.0**	**-0.7**
JOD2				S	**Sn**	**00 24 50.0**	**-1.0**
JAG	**Ashikaga**	**1.03**	**325**	*i* P	**Pn**	**00 24 37.4**	**-1.2**
JAG				S	**Sn**	**00 24 50.9**	**-1.7**
JIM2	**Oshima 3**	**1.07**	**216**	P	**Pn**	**00 24 38.3**	**-0.8**
JIM2				S	**Sn**	**00 24 52.5**	**-0.9**
BSO1	**Boso 1**	**1.13**	**145**	P	**Pn**	**00 24 38.7**	**-0.6**
JRY	**Ryogami san**	**1.14**	**293**	*i* P	**Pn**	**00 24 39.6**	**-0.4**
JRY				*e*S	**Sn**	**00 24 55.5**	**+0.5**
JFNN	**Fujinakano**	**1.29**	**253**	*i* P	**Pn**	**00 24 41.6**	**-0.3**
JFNN				S	**Sn**	**00 24 58.4**	**-0.1**
JYN	**Shimob**	**1.35**	**267**	*i* P	**Pn**	**00 24 42.3**	**-0.5**
JYN				S	**Sn**	**00 24 59.7**	**-0.3**
JIZS	**Izushimoda**	**1.38**	**232**	P	**Pn**	**00 24 42.5**	**-0.6**
JIZS				S	**Sn**	**00 24 59.8**	**-0.9**
JKT	**Katashina**	**1.41**	**327**	P	**Pn**	**00 24 42.4**	**-1.2**
MJAR	**Matsushiro Arr**	**1.87**	**301**	P	**Pn**	**00 24 49.2**	**-0.5**
	27nm,0.5s,baz=140,slow=14,SNR=80						
MJAR				S	**Sn**	**00 25 13.2**	**+0.9**
	25nm,0.4s,baz=132,slow=22,SNR=3.5						
MJAR				LR	LR	00 25 44.5	
	comp=Z,73nm,18.6s,baz=168,slow=45						
KSRS	**Korea Array**	**10.05**	**284**	P	**Pn**	**00 26 44.4**	**+3.1**
	0.6nm,0.5s,baz=104,slow=13,SNR=3.0						
KSRS				LR	LR	00 30 26.7	
	comp=Z,21nm,21.7s,baz=150,slow=36						
SONM	**Songino Array**	**27.82**	**307**	P	**P**	**00 30 01.8**	**-0.7**
	0.3nm,0.5s,baz=92,slow=10.0,SNR=2.4						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.31**	**117**	T	T	00 59 53.5	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.32**	**117**	T	T	00 59 44.1	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**28.33**	**117**	T	T	00 59 51.2	
	baz=308						
H11S3	**WAKE ISLAND Hy**	**28.96**	**119**	T	T	01 00 10.3	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**28.96**	**119**	T	T	01 00 07.2	
	baz=311						
H11S2	**WAKE ISLAND Hy**	**28.98**	**119**	T	T	01 00 19.4	
	baz=311						
ZALV	**Zalesovo Beam**	**42.18**	**314**	P	**P**	**00 32 05.3**	**-0.1**
	0.5nm,0.5s,baz=81,slow=8.9,SNR=3.9						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.07**	**303**	P	**P**	**00 32 21.1**	**+0.3**
	0.3nm,0.4s,baz=81,slow=9.2,SNR=4.7						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**51.24**	**32**	P	**P**	**00 33 16.8**	**+0.7**
	0.5nm,0.8s,baz=277,slow=7.0,SNR=4.0						
	0.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.14**	**197**	P	**P**	**00 33 45.5**	**+0.4**
	1.9nm,0.7s,baz=5.1,slow=6.1,SNR=6.6						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**55.50**	**187**	P	**P**	**00 33 46.9**	**-0.8**
	0.7nm,0.6s,baz=0.6,slow=7.5,SNR=11						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**59.23**	**187**	P	**P**	**00 34 13.8**	**-0.2**
	0.4nm,0.7s,baz=20,slow=12,SNR=6.5						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**69.63**	**332**	P	**P**	**00 35 21.1**	**-0.2**
	1.4nm,0.8s,baz=81,slow=8.6,SNR=2.3						
	1.4nm,0.8s						
AKASG	**Malin Array Be**	**74.83**	**322**	P	**P**	**00 35 52.4**	**-0.2**
	0.7nm,0.5s,baz=45,slow=4.9,SNR=2.5						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**75.14**	**337**	P	**P**	**00 35 54.7**	**+0.5**
	0.2nm,0.5s,baz=46,slow=5.5,SNR=1.9						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**76.65**	**52**	P	**P**	**00 36 03.5**	**0.0**
	0.3nm,0.7s,baz=282,slow=4.5,SNR=2.2						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**79.39**	**45**	P	**P**	**00 36 19.1**	**+0.6**
	0.3nm,0.6

comp=Z,0.5nm,0.8s,baz=294,slow=8.0,SNR=5.3
comp=Z,0.5nm,0.8s

ZAA0	**Zalesovo Array**	**49.07**	**353**	P	**P**	**00 33 05.2**	**-0.7**
ZAA0				IAmb	IAmb	00 33 20.0	

comp=Z,3.8nm,1.2s

ZALV	**Zalesovo Beam**	**49.07**	**353**	P	**P**	**00 33 05.8**	**-0.1**

comp=Z,1.2nm,0.3s,baz=181,slow=6.8,SNR=12
comp=Z,1.2nm,0.3s

ZALV	**Zalesovo Beam**	**49.07**	**353**	P	**P**	**00 33 05.5**	**-0.4**
ABKAR	**Akbulak array**	**52.43**	**332**	P	**P**	**00 33 31.6**	**+0.3**
ABKAR	**Akbulak array**	**52.43**	**332**	P	**P**	**00 33 31.6**	**+0.3**
ABKAR				IAmb	IAmb	00 33 37.9	

comp=Z,3.1nm,1.5s

MMAI	**Mount Meron Ar**	**60.96**	**305**	LR	LR	01 01 56.3	

comp=Z,10nm,21.9s,baz=136,slow=37

TIXI	**Tiksi**	**69.75**	**11**	P	**P**	**00 35 27.0**	**-1.4**
FIA1	**FINESS Array S**	**74.92**	**333**	P	**P**	**00 35 59.4**	**0.0**
FINES	**FINESS Array B**	**74.92**	**333**	P	**P**	**00 35 59.3**	**0.0**

comp=Z,0.5nm,0.4s,baz=90,slow=6.3,SNR=7.1
comp=Z,0.5nm,0.4s

GERES	**GERESS Array B**	**79.66**	**319**	P	**P**	**00 36 25.5**	**-0.9**

comp=Z,0.3nm,0.7s,baz=81,slow=6.1,SNR=2.6
comp=Z,0.3nm,0.7s

---

*IDC **11** 00:25:53.8±0.6,29.˝13S×61.˝03E,h0km,mb4.1/13, mbtmp4.1/14,ML4.0/1,MS3.3/11,Error ellipse: s-maj=24.2km s-min=18.5km az=21.0*
*NEIC **11** 00:25:55.3±1.7,29.˝11S±0.˝08×60.˝8E±0.˝2,h10km±1km, mb4.4/8,Error ellipse: s-maj=25.3km s-min=11.0km az=248.0*

ISC 11 00:25:55.3±0.5,29.˝1S±0.˝1×61.˝0E±0.˝1,h10km,n58, σ0§80/45,mb4.4/21,MS3.4/11,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.21**	**328**		**Pn**	**00 28 06.0**	**-2.3**
FOMA	**Nahampoana Res**	**13.11**	**285**	Pn	**Pn**	**00 29 00.0**	**-1.6**
VOI	**Vohitsoka**	**14.65**	**296**		**Pn**	**00 29 22.4**	**-0.4**
ABPO	**Ambohimpanom**	**16.05**	**306**		**Pn**	**00 29 42.2**	**+0.9**
OPO	**Ambohidratompo**	**16.37**	**307**	Pn	**Pn**	**00 29 46.4**	**+0.9**

0.1nm,0.3s,baz=114,slow=16,SNR=3.1

OPO				Sn	Sn	00 32 34.7	-13

0.3nm,0.3s,baz=152,slow=15,SNR=6.2
4.2nm,0.4s

BOSA	**Boshof**	**31.19**	**262**	P	**P**	**00 32 15.1**	**+0.2**

5.5nm,1.0s,baz=76,slow=4.2,SNR=3.2

BOSA				LR	LR	00 42 25.9	

comp=Z,42nm,19.3s,baz=192,slow=32
5.5nm,1.0s

LBTB	**Lobatse**	**31.67**	**269**	LR	LR	00 44 07.3	

comp=Z,30nm,18.6s,baz=130,slow=34

LSZ	**Lusaka**	**33.18**	**287**	LR	LR	00 45 29.2	

comp=Z,45nm,18.0s,baz=139,slow=35

KMBO	**Kilima Mbogo**	**35.85**	**317**	LR	LR	00 45 06.7	

comp=Z,28nm,19.6s,baz=89,slow=32

MBAR	**Mbarara**	**40.43**	**309**	LR	LR	00 48 55.9	

comp=Z,25nm,18.0s,baz=106,slow=34

TSUM	**Tsumeb**	**40.58**	**274**	LR	LR	00 49 05.2	

comp=Z,47nm,19.1s,baz=147,slow=34

ATD	**Arta Tunnel**	**44.03**	**334**	LR	LR	00 49 00.3	

comp=Z,45nm,18.5s,baz=351,slow=32

H01W2	**Cape Leeuwin H**	**45.04**	**112**	T	T	01 21 51.8	

baz=261,slow=75,SNR=14

H01W3	**Cape Leeuwin H**	**45.04**	**112**	T	T	01 21 50.2	

baz=261,slow=75,SNR=16

H01W1	**Cape Leeuwin H**	**45.05**	**112**	T	T	01 21 51.1	

baz=261,slow=75,SNR=16

VNA2	**Neumayer--Watz**	**55.71**	**202**	P	**P**	**00 35 30.8**	**-0.7**

baz=5.5,slow=2.7

VNA1	**Neumayer--Stat**	**55.95**	**202**	P	P	00 35 25.7	-7.5
VNA3	**Neumayer Olymp**	**56.49**	**201**	P	P	00 35 27.5	-10
CMAR	**Chiang Mai Arr**	**59.85**	**43**	P	**P**	**00 36 02.0**	**+0.7**

3.7nm,0.3s,baz=219,slow=7.0,SNR=6.7
3.7nm,0.3s

CMAR	**Chiang Mai Arr**	**59.85**	**43**	P	**P**	**00 36 00.1**	**-1.2**
PYUN	**Piuthan**	**60.68**	**22**	*e*P	**P**	**00 36 07.4**	**+0.4**
RAMN	**Ramite**	**60.93**	**26**	*e*P	**P**	**00 36 09.5**	**+0.7**
QSPA	**South Pole Qui**	**61.04**	**180**	P	**P**	**00 36 09.1**	**+0.1**

1.1nm,0.8s,baz=290,slow=3.3,SNR=9.2
1.1nm,0.8s

QSPA	**South Pole Qui**	**61.04**	**180**	P	**P**	**00 36 08.6**	**-0.4**
QSPA				IAmb	IAmb	00 36 22.3	

comp=Z,6.6nm,1.4s

GKN	**Gorkha**	**61.16**	**24**	*e*P	**P**	**00 36 10.5**	**+0.3**
DANN	**Dangsing**	**61.17**	**23**	*e*P	**P**	**00 36 10.9**	**+0.5**
ASAR	**Alice Springs**	**64.64**	**104**	P	**P**	**00 36 33.1**	**-0.4**

comp=Z,1.0nm,0.7s,baz=245,slow=6.2,SNR=12
comp=Z,1.0nm,0.7s

SBA	**Scott Base**	**65.00**	**167**	P	**P**	**00 36 34.2**	**-0.7**
WRA	**Warramunga Arr**	**66.46**	**100**	P	**P**	**00 36 44.5**	**-0.9**

comp=Z,1.4nm,1.0s,baz=246,slow=5.7,SNR=8.0
comp=Z,1.4nm,1.0s

WB0	**Warramunga AR**	**66.58**	**100**	P	**P**	**00 36 47.6**	**+1.5**
TOA0	**Torodi Ar. Sit**	**70.95**	**298**	P	**P**	**00 37 13.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**70.95**	**298**	P	**P**	**00 37 14.2**	**+0.9**

comp=Z,2.9nm,0.8s,baz=117,slow=4.8,SNR=14

TORD				LR	LR	01 07 31.6	

comp=Z,36nm,19.9s,baz=216,slow=35
comp=Z,2.9nm,0.8s

KK31	**Karatay Array**	**72.40**	**7**	P	**P**	**00 37 21.7**	**+0.2**
KK31				IAmb	IAmb	00 37 23.0	

comp=Z,2.8nm,1.2s

KKAR	**Karatay Array**	**72.40**	**7**	P	**P**	**00 37 21.6**	**+0.2**
DBIC	**Dimbokro**	**72.52**	**288**	P	**P**	**00 37 23.5**	**+0.7**

comp=Z,2.3nm,0.6s,baz=120,slow=3.1,SNR=3.9
comp=Z,2.3nm,0.6s

BRTR	**Keskin Array B**	**73.05**	**338**	P	**P**	**00 37 26.1**	**+0.5**

comp=Z,0.5nm,0.7s,baz=156,slow=7.6,SNR=4.7
comp=Z,0.5nm,0.7s

KOWA	**Kowa**	**76.22**	**295**	LR	LR	01 09 43.2	

comp=Z,35nm,18.6s,baz=112,slow=34

MKAR	**Makanchi Array**	**77.98**	**15**	P	**P**	**00 37 53.3**	**-0.3**

comp=Z,1.1nm,0.8s,baz=181,slow=7.0,SNR=7.8
comp=Z,1.1nm,0.8s

ABKAR	**Akbulak array**	**78.02**	**359**	P	**P**	**00 37 53.6**	**0.0**
ABKAR				IAmb	IAmb	00 37 55.0	

comp=Z,1.9nm,0.8s

AKTO	**Aktyubinsk**	**79.24**	**358**	LR	LR	01 09 26.0	

comp=Z,22nm,18.7s,baz=198,slow=33

AKASG	**Malin Array Be**	**84.28**	**340**	P	**P**	**00 38 26.6**	**-0.3**

comp=Z,0.5nm,0.5s,baz=153,slow=4.6,SNR=2.2
comp=Z,0.5nm,0.5s

ZAA0	**Zalesovo Array**	**85.27**	**14**	P	**P**	**00 38 32.0**	**+0.2**
ZAA0				IAmb	IAmb	00 38 36.7	

comp=Z,2.9nm,0.9s

ZALV	**Zalesovo Beam**	**85.27**	**14**	P	**P**	**00 38 31.7**	**-0.1**

comp=Z,1.2nm,0.5s,baz=204,slow=3.3,SNR=8.2
comp=Z,1.2nm,0.5s

ZALV	**Zalesovo Beam**	**85.27**	**14**	P	**P**	**00 38 32.0**	**+0.2**
SONM	**Songino Array**	**86.80**	**29**	P	**P**	**00 38 39.4**	**-0.3**

comp=Z,0.3nm,0.6s,baz=212,slow=5.1,SNR=2.1
comp=Z,0.3nm,0.6s

MDT	**Midelt**	**87.49**	**310**	LR	LR	01 20 25.8	

comp=Z,19nm,18.1s,baz=148,slow=37

WTTA	**Wattenberg**	**88.05**	**329**	*e*P	**P**	**00 38 45.9**	**+0.1**

comp=Z,1.3nm,0.5s

SQTA	**Sankt Quirin**	**88.21**	**329**	*e*P	**P**	**00 38 46.7**	**+0.2**

comp=Z,1.8nm,0.7s

FETA	**Feichten**	**88.28**	**328**	*e*P	**P**	**00 38 47.4**	**+0.5**

comp=Z,1.5nm,0.7s

RETA	**Reutte**	**88.61**	**329**	*i* P	**P**	**00 38 48.7**	**+0.3**

comp=Z,1.4nm,0.5s

DAVA	**Damuels**	**88.87**	**328**	*i* P	**P**	**00 38 49.6**	**-0.1**

comp=Z,1.8nm,0.7s

ESDC	**Sonseca Array**	**91.23**	**316**	P	**P**	**00 39 01.4**	**+0.6**

comp=Z,1.5nm,1.0s,baz=110,slow=4.2,SNR=9.6
comp=Z,1.5nm,1.0s

ILAR	**Eielson Array**	**140.26**	**18**	PKP	**PKPdf**	**00 45 23.2**	**-0.5**

comp=Z,0.2nm,0.4s,baz=317,slow=3.7,SNR=2.4

YKA	**Yellowknife Ar**	**146.49**	**356**	PKPbc	**PKPab**	**00 45 36.5**	**-0.5**

comp=Z,2.1nm,0.8s,baz=24,slow=4.7,SNR=4.8

ULM	**Lac du Bonnet**	**152.57**	**327**	PKPbc	**PKPbc**	**00 45 50.9**	**-0.8**

comp=Z,4.3nm,0.6s,baz=39,slow=5.1,SNR=10

ULM				PKPab	**PKPab**	**00 46 01.1**	**-1.0**

comp=Z,3.0nm,0.8s,baz=108,slow=3.2,SNR=3.1

PDAR	**Pinedale Array**	**164.37**	**333**	PKP	**PKPdf**	**00 45 59.5**	**+0.1**

comp=Z,0.5nm,0.7s,baz=270,slow=0.3,SNR=5.0

TXAR	**Lajitas Array**	**166.56**	**275**	PKP	**PKPdf**	**00 46 02.7**	**+1.2**

comp=Z,0.1nm,0.3s,baz=129,slow=1.3,SNR=2.1

NVAR	**Mina Array Bea**	**170.69**	**356**	PKP	**PKPdf**	**00 46 05.8**	**+1.8**

comp=Z,0.7nm,0.8s,baz=225,slow=2.4,SNR=5.3

IDC 11 00:29:04.1±3.0,29.˝90S×177.˝10W,h0km,mb3.6/2, mbtmp3.6/2,Error ellipse: s-maj=64.7km s-min=29.7km az=57.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**312**	Pn	Pn	00 29 24.9	+0.1

266nm,0.3s,baz=130,slow=16,SNR=15

RAO				Sn	Sn	00 29 40.2	+1.0

294nm,0.3s,baz=41,slow=20,SNR=6.8

URZ	**Urewera**	**9.62**	**208**	Sn	Sn	00 33 03.8	-8.9

0.4nm,0.3s,baz=213,slow=1.1,SNR=2.3

ASAR	**Alice Springs**	**43.92**	**266**	P	P	00 37 12.8	-0.1

0.3nm,0.4s,baz=106,slow=7.2,SNR=5.6
0.3nm,0.4s

WRA	**Warramunga Arr**	**44.87**	**271**	P	P	00 37 20.2	-0.2

0.4nm,0.4s,baz=112,slow=7.6,SNR=9.1
0.4nm,0.4s

FINES	**FINESS Array B**	**144.94**	**341**	PKP	PKPbc	00 48 42.0	+0.3

2.2nm,1.0s,baz=72,slow=4.5,SNR=4.1

---

*TAP **11** 00:40:54.9,24.˝82N×122.˝31E,h14km,ML2.9,C*
*JMA **11** 00:40:55.8±0.1,24.˝8N±1.˝0×122.˝3E±0.˝4,h39km±3km, MV2.5/9,TAIWAN REGION*

ISC 11 00:40:55.1±1.1,24.˝77N±0.˝03×122.˝31E±0.˝02,h19km±3km, n66,σ0§60/87,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.35**	**282**	P	**Pg**	**00 41 02.5**	**0.0**

baz=266

TWB1	**Santiao Chiao**	**0.38**	**309**	*i* P	**Pg**	**00 41 02.7**	**-0.3**

baz=303

TWB1				*i* S	**Sg**	**00 41 07.5**	**-0.9**

baz=303

NTC	**Toucheng**	**0.44**	**281**	*e*P	**Pb**	**00 41 04.6**	**+0.2**

baz=275

TWC	**Suao**	**0.45**	**249**	P	**Pg**	**00 41 03.8**	**-0.5**

baz=243

TIPB	**Shuangxi**	**0.48**	**294**	*e*P	**Pg**	**00 41 04.8**	**-0.1**

baz=290

SXI1	**Grass Mountain**	**0.51**	**309**	P	**Pb**	**00 41 05.4**	**-0.1**

baz=305

SXI1				*e*S	**Sg**	**00 41 12.3**	**-0.1**

baz=305

NDS	**Dongshan**	**0.56**	**256**	*e*P	**Pb**	**00 41 03.8**	**-2.4**

baz=244

NWF	**Wu-fen Shan**	**0.56**	**302**	*e*P	**Pg**	**00 41 07.3**	**+0.8**

baz=297

NWF				S	**Sg**	**00 41 14.8**	**+0.7**

baz=297

WFSB	**Wu-fen Shan**	**0.56**	**302**	*e*P	Pn	**00 41 07.4**	**-0.7**

baz=297

WFSB				*e*S	**Sg**	**00 41 14.9**	**+0.9**

baz=297

EWUT	**Wuta**	**0.58**	**236**	*e*P	**Pb**	**00 41 05.7**	**-0.9**

baz=233

TWE	**Neicheng**	**0.59**	**265**	P	**Pb**	**00 41 06.7**	**0.0**

baz=260

TNOU	**National Taiwa**	**0.61**	**308**	*e*P	**Pg**	**00 41 07.9**	**+0.5**

baz=304

ENA	**Nanau**	**0.62**	**237**	*e*P	**Pb**	**00 41 07.3**	**0.0**

baz=233

FUSB	**Fushanzhiwuyua**	**0.66**	**269**	*e*P	**Pb**	**00 41 08.2**	**+0.2**

baz=265

FUSB				*e*S	**Sn**	**00 41 18.4**	**-1.0**

baz=265

JYNG	**Yonagunijimaku**	**0.66**	**119**	*e*P	**Pb**	**00 41 08.1**	**+0.1**
JYNG				*e*S	**Sg**	**00 41 17.8**	**+0.8**
ENTT	**Nioudou**	**0.69**	**259**	*e*P	**Pb**	**00 41 07.8**	**-0.7**

baz=255

TWA	**Mucha**	**0.69**	**288**	*e*P	**Pn**	**00 41 10.0**	**+0.1**

baz=284

TWA				*e*S	**Sg**	**00 41 19.0**	**+1.1**

baz=284

YOJ	**Yonaguni jima**	**0.71**	**116**	*i* P	**Pg**	**00 41 09.1**	**0.0**

baz=119

YOJ				*i* S	**Sg**	**00 41 18.9**	**+0.4**

baz=119

YOJ	**Yonaguni jima**	**0.71**	**116**	P	**Pg**	**00 41 09.1**	**0.0**
YOJ				S	**Sg**	**00 41 18.7**	**+0.2**
NDT	**Datong Townshi**	**0.74**	**257**	*e*P	**Pg**	**00 41 10.3**	**+0.6**

baz=253

NDT				*e*S	**Sn**	**00 41 21.0**	**-0.5**

baz=253

LATG	**Datong**	**0.75**	**252**	*e*P	**Pb**	**00 41 09.8**	**+0.2**

baz=257

YM01	**YM01**	**0.77**	**299**	*e*P	**Pn**	**00 41 10.8**	**-0.2**

baz=296

YM01				*e*S	**Sg**	**00 41 21.2**	**+0.8**

baz=296

TATO	**Taipei**	**0.77**	**285**	*e*P	**Pg**	**00 41 10.6**	**+0.4**

baz=282

TATO				*e*S	**Sn**	**00 41 21.5**	**-0.6**

baz=282

YM08	**YM08**	**0.77**	**303**	*e*P	Pn	**00 41 10.8**	**-0.3**

baz=300

TWY	**Chenhua**	**0.82**	**308**	*e*S	**Sn**	**00 41 23.1**	**-0.2**

baz=305

ANP	**Anpu**	**0.83**	**300**	*e*P	**Pg**	**00 41 11.5**	**+0.2**

baz=297

YHNB	**Yeheng**	**0.85**	**263**	*e*P	**Pg**	**00 41 12.1**	**+0.2**

baz=260

YHNB				*e*S	**Sn**	**00 41 24.2**	**-0.1**

baz=260

NSK	**Sanguang**	**0.87**	**264**	*e*P	**Pb**	**00 41 11.4**	**-0.2**

baz=271

ETL	**Fush Village**	**0.87**	**226**	*e*P	**Pg**	**00 41 12.6**	**+0.4**

baz=223

NACB	**Ninganchiao**	**0.88**	**228**	P	**Pb**	**00 41 11.9**	**0.0**

baz=220

NNSB	**Datong**	**0.91**	**248**	P	**Pb**	**00 41 12.7**	**+0.4**

baz=252

NNSH	**Datong**	**0.91**	**248**	P	**Pb**	**00 41 12.8**	**+0.4**

baz=234

NNSH				*e*S	**Sg**	**00 41 25.1**	**+0.2**

baz=234

NNS	**Nan Shan**	**0.91**	**249**	*e*P	**Pb**	**00 41 12.6**	**+0.1**

baz=234

NNS				*e*S	**Sb**	**00 41 24.7**	**+0.4**

baz=234

ETLH	**Xiulin Townshi**	**0.94**	**233**	*e*P	**Pb**	**00 41 13.1**	**+0.2**

baz=231

TWD	**Chiawan**	**0.95**	**224**	P	Pn	**00 41 13.6**	**+0.2**

baz=221

NFF	**Wufeng Townshi**	**1.09**	**263**	*e*P	Pn	**00 41 15.5**	**0.0**

baz=261

ETM	**Tongmen**	**1.09**	**223**	*e*P	**Pg**	**00 41 16.6**	**+0.3**

baz=203

FUSS	**Fushou**	**1.10**	**242**	*e*P	**Pg**	**00 41 16.7**	**+0.2**

baz=240

WHF	**Hehuan Shan**	**1.14**	**237**	*e*P	**Pb**	**00 41 17.0**	**+0.6**

baz=234

TWT	**Tachien**	**1.15**	**244**	P	**Pg**	**00 41 17.9**	**+0.4**

baz=242

TDCB	**Techi**	**1.17**	**244**	*e*P	**Pg**	**00 41 17.7**	**-0.1**

baz=242

LIOB	**Emei**	**1.18**	**264**	*e*P	**Pg**	**00 41 17.7**	**-0.3**

baz=281

NSTT	**Nanjuang**	**1.20**	**264**	*e*P	**Pg**	**00 41 18.0**	**-0.3**

baz=280

ESL	**Shilin**	**1.24**	**220**	*e*P	**Pg**	**00 41 19.1**	**-0.1**

baz=201

CHGB	**Renai**	**1.25**	**236**	*e*P	**Pb**	**00 41 19.2**	**+0.9**

baz=233

CHGB				*e*S	**Sg**	**00 41 36.1**	**+0.3**

baz=233

OWD	**Renai**	**1.32**	**232**	*e*P	Pb	**00 41 20.1**	**+0.8**

baz=238

OWD				*e*S	**Sg**	**00 41 37.8**	**0.0**

baz=238

WHP	**Taichung City**	**1.34**	**249**	*e*P	**Pg**	**00 41 21.1**	**+0.1**

baz=247

WUSB	**Renai**	**1.34**	**235**	*e*P	**Pb**	**00 41 20.6**	**+0.9**

baz=233

IRIF	**Iriomote-Funau**	**1.36**	**108**	P	Pn	**00 41 18.4**	**-0.8**
IRIF				S	**Sn**	**00 41 36.2**	**-0.6**
WCS	**Beigang Elemen**	**1.46**	**241**	*e*P	**Pb**	**00 41 22.2**	**+0.5**

baz=239

DPDB	**Guoxing**	**1.46**	**240**	*e*P	**Pg**	**00 41 23.4**	**+0.1**

baz=238

VWDT	**VWDT**	**1.47**	**227**	*e*P	**Pg**	**00 41 23.2**	**-0.2**

baz=229

VWDT				*e*S	**Sg**	**00 41 42.7**	**0.0**

baz=229

HGSD	**Ruisui**	**1.51**	**213**	*e*P	**Pb**	**00 41 23.5**	**+1.0**

baz=197

HATJ	**Hateruma jima**	**1.54**	**117**	*e*P	Pn	**00 41 21.5**	**0.0**
HATJ				S	**Sn**	**00 41 40.5**	**-0.6**

SMLT	**Sun Moon Lake**	**1.56**	**236**	*e*P	**Pb**	**00 41 24.3**	**+0.8**

baz=233

SSLB	**Suanglung**	**1.58**	**232**	*e*P	**Pb**	**00 41 24.7**	**+1.0**

baz=230

TYC	**Yuchr**	**1.58**	**237**	*e*P	**Pb**	**00 41 25.0**	**+1.2**

baz=235

JKRS	**Kuro-shima**	**1.64**	**109**	P	**Pn**	**00 41 22.8**	**-0.1**
JKRS				S	**Sn**	**00 41 43.1**	**-0.4**
YULB	**Yu-li**	**1.66**	**214**	*e*P	**Pb**	**00 41 25.0**	**0.0**

baz=212

WHYT	**Xinyi Township**	**1.71**	**231**	*e*P	**Pb**	**00 41 27.3**	**+1.4**

baz=215

JIJ	**Ishigaki jima**	**1.72**	**103**	*e*P	**Pn**	**00 41 24.7**	**+0.6**
YUS	**Yu-Shan**	**1.78**	**224**	*e*P	**Pb**	**00 41 27.5**	**+0.1**

baz=222

ALS	**Alishan**	**1.86**	**228**	*e*P	**Pb**	**00 41 29.3**	**+0.6**

baz=209

EDH	**Donghe**	**2.01**	**207**	*e*P	**Pb**	**00 41 30.1**	**-1.0**

baz=192

TPUB	**Ta-pu**	**2.12**	**227**	*e*P	**Pb**	**00 41 32.4**	**-0.6**

baz=209

STYT	**Tauyuan**	**2.14**	**222**	*e*P	**Pb**	**00 41 32.9**	**-0.5**

baz=204

---

*IDC **11** 00:57:42.1±1.7,6.˝26S×152.˝64E,h0km,mb3.8/7, mbtmp3.9/8,ML4.0/1,MS3.6/2,Error ellipse: s-maj=56.7km s-min=20.7km az=115.0*

ISC 11 00:57:43.9±1.3,6.˝19S±0.˝10×152.˝6E±0.˝2,h10km,n12, σ0§70/12,mb3.8/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.96**	**342**	Pn	**Pn**	**00 58 17.6**	**+0.4**

55nm,0.3s,baz=254,slow=1.5,SNR=15

KRVT				Sn	**Sn**	**00 58 41.3**	**-0.6**

284nm,0.3s,baz=234,slow=23,SNR=62
278nm,0.5s

PMG	**Port Moresby**	**6.29**	**239**	Sn	**Sn**	**01 00 29.2**	**+0.5**

2.1nm,0.3s,baz=199,slow=22,SNR=2.2

WRA	**Warramunga Arr**	**22.42**	**231**	P	**P**	**01 02 42.3**	**-0.6**

1.1nm,0.9s,baz=55,slow=10,SNR=6.2
1.1nm,0.9s

| | | | | | | | |
|---|---

238nm,0.3s
CTRE Tremp 1.48 287 P **Pg** **01 17 45.1 -0.7**
CTRE S **Sg** **01 18 05.6 +0.6**
54nm,0.2s
MTLF Montolieu 1.48 347 *e*Pn **Pb** **01 17 44.3 -0.2**
MTLF Montolieu 1.48 347 *e*Pg **Pg** **01 17 46.3 +0.5**
MTLF *e*Sn **Sg** **01 18 04.0 -1.0**
44nm,0.2s
MTLF *e*Sg **Sb** **01 18 05.9 +2.8**
25nm,0.2s
MTLF Montolieu 1.48 347 Pg **Pg** **01 17 46.3 +0.5**
MTLF Montolieu 1.48 347 Pn **Pg** **01 17 44.9 -0.9**
MTLF Sn **Sg** **01 18 04.2 -0.9**
MLS Moulis 1.57 313 P **Pg** **01 17 47.3 -0.4**
MLS S **Sg** **01 18 08.4 +0.3**
120nm,0.4s
MLS Moulis 1.57 313 Pn **Pg** **01 17 47.6 -0.1**
MLS Sn **Sg** **01 18 09.5 +1.3**
CARA Val d'Aran 1.59 301 P **Pg** **01 17 47.4 -0.6**
CARA S **Sg** **01 18 09.2 +0.4**
159nm,0.3s
ECHI Chisagues Biel 1.99 293 P **Pb** **01 17 52.6 -0.8**
ECHI S **Sb** **01 18 18.4 +0.4**
36nm,0.3s
ERTA Horta de San J 2.00 243 P **Pn** **01 17 51.9 +1.3**
ERTA S **Sn** **01 18 16.7 +1.4**
58nm,0.3s
ERTA Horta de San J 2.00 243 Pg **Pb** **01 17 52.7 -0.6**
ERTA Sg **Sb** **01 18 19.8 +1.8**
ERTA *i* Vmb_Lg 01 18 22.6
EPF Esparros 2.06 304 *e*Pn **Pb** **01 17 54.0 -0.5**
EPF Esparros 2.06 304 *e*Pg **Pg** **01 17 56.4 -0.6**
EPF *e*Sg **Sg** **01 18 22.4 -1.3**
38nm,0.2s
ETOS Mallorca 2.13 177 Pn **Pn** **01 17 51.2 -1.3**
ETOS Sn **Sn** **01 18 14.3 -4.3**
ETOS *i* Vmb_Lg 01 18 17.1
LASF Ste Croix 2.34 21 *e*Pn **Pn** **01 17 56.7 +1.4**
LASF Ste Croix 2.34 21 *e*Pg **Pg** **01 18 02.8 +0.5**
LASF *e*Sn **Sn** **01 18 23.8 +0.1**
LASF *e*Sg **Sg** **01 18 33.5 +0.9**
8.7nm,0.3s
ESAC San Caprasio 2.36 267 Pn **Pn** **01 17 56.7 +1.2**
ESAC Pg **Pb** **01 18 00.4 +0.9**
ESAC Sn **Sn** **01 18 25.1 +1.0**
ESAC Sg **Sg** **01 18 32.4 -0.7**
ESAC *i* Vmb_Lg 01 18 33.9
ETSF Etsaut 2.59 294 *e*Pn **Pn** **01 18 00.3 +1.5**
ETSF Etsaut 2.59 294 *e*Pg **Pg** **01 18 06.8 -0.3**
ETSF *e*Sg **Sg** **01 18 39.7 -1.0**
34nm,0.3s
EMOS Mosqueruela 2.83 238 P **Pn** **01 18 03.5 +1.3**
EMOS S **Sn** **01 18 37.7 +1.6**
11nm,0.3s
EMOS Mosqueruela 2.83 238 Pn **Pn** **01 18 03.8 +1.7**
EMOS Pg **Pg** **01 18 09.9 -1.7**
EMOS Sn **Sn** **01 18 36.2 +0.2**
EMOS Sg **Sb** **01 18 43.7 +1.5**
EMOS *i* Vmb_Lg 01 18 51.1
ARTF Artigues 2.86 53 Pn **Pn** **01 18 03.6 +1.3**
RUSF Rustrel 2.90 44 Pn **Pn** **01 18 04.7 +1.8**
FLAF Flassans-sur-I 3.03 60 Pn **Pn** **01 18 05.7 +0.9**
CAF Calviac 3.05 352 *e*Pn **Pn** **01 18 07.0 +1.9**
CAF Calviac 3.05 352 *e*Pg **Pg** **01 18 15.9 0.0**
CAF *e*Sn **Sn** **01 18 41.8 +0.4**
CAF *e*Sg **Sg** **01 18 55.0 -0.5**
9.3nm,0.2s
EORO Oroz-Betelu 3.11 290 Pn **Pn** **01 18 06.9 +1.0**
EORO Pg **Pg** **01 18 16.2 -0.8**
EORO Sn **Sn** **01 18 44.3 +1.5**
EORO Sg **Sg** **01 18 55.4 -2.0**
EORO *i* Vmb_Lg 01 19 01.8
SJPF Ste Jean 3.13 294 *e*Pn **Pn** **01 18 07.6 +1.5**
SJPF Ste Jean 3.13 294 *e*Pg **Pg** **01 18 16.2 -1.1**
SJPF *e*Sg **Sg** **01 18 56.8 -1.0**
10nm,0.2s
LMR La Mourre 3.17 62 *e*Pn **Pn** **01 18 07.1 +0.4**
LMR La Mourre 3.17 62 *e*Pg **Pg** **01 18 17.3 -0.9**
LMR *e*Sn **Sn** **01 18 44.4 +0.2**
LMR *e*Sg **Sg** **01 18 58.4 -0.9**
3.0nm,0.2s
OSSF Osses 3.21 296 Pn **Pn** **01 18 09.4 +2.3**
BLAF les Blancs 3.21 49 Pn **Pn** **01 18 08.7 +1.4**
VIVF Saint-Julien-l 3.29 26 *e*Pn **Pn** **01 18 09.7 +1.3**
VIVF Saint-Julien-l 3.29 26 *e*Pg **Pg** **01 18 19.9 -0.6**
VIVF *e*Sn **Sn** **01 18 47.0 -0.3**
4.6nm,0.3s
VIVF *e*Sg **Sg** **01 19 02.1 -1.0**
3.0nm,0.2s
TERF Tercis-les-Bai 3.30 304 Pn **Pn** **01 18 11.2 +2.7**
TRIGF Trigance 3.31 55 Pn **Pn** **01 18 10.0 +1.4**
LFF La Frestale 3.35 336 *e*Pn **Pn** **01 18 10.1 +1.0**
LFF La Frestale 3.35 336 *e*Pg **Pg** **01 18 21.1 -0.4**
LFF *e*Sn **Sn** **01 18 48.4 -0.1**
LFF *e*Sg **Sg** **01 19 04.2 -0.6**
28nm,0.3s
EALK Alkurruntz 3.36 294 Pn **Pn** **01 18 11.5 +2.1**
EALK Pg **Pg** **01 18 19.3 -2.4**
EALK Sn **Sn** **01 18 51.4 +2.5**
EALK Sg **Sg** **01 19 04.7 -0.5**
EALK *i* Vmb_Lg 01 19 07.7
EALK Alkurruntz 3.36 294 Pn **Pn** **01 18 11.5 +2.1**
RJF Les Rejaudoux 3.50 347 *e*Pn **Pn** **01 18 12.3 +1.0**
RJF Les Rejaudoux 3.50 347 *e*Pg **Pg** **01 18 24.0 -0.5**
RJF *e*Sn **Sn** **01 18 51.2 -1.2**
RJF *e*Sg **Sg** **01 19 09.3 -0.6**
6.7nm,0.2s
CALF Calern 3.63 58 Pn **Pn** **01 18 14.0 +0.8**
ETOR Torete 3.72 255 Pn **Pn** **01 18 15.7 +1.3**
ETOR Pg **Pb** **01 18 22.8 0.0**
ETOR Sn **Sn** **01 18 58.4 +0.5**
ETOR Sg **Sg** **01 19 14.3 -2.5**
ETOR *i* Vmb_Lg 01 19 18.8
ORIF Oris-en-Rattie 3.81 37 *e*Pn **Pn** **01 18 17.2 +1.6**
ORIF *e*Sn **Sn** **01 18 59.1 -1.1**
1.2nm,0.3s
SBF Sospel 4.01 59 *e*Pn **Pn** **01 18 18.7 +0.4**
SBF Sospel 4.01 59 *e*P **Pn** **01 18 22.4 +4.1**
SBF *e*Sn **Sn** **01 19 03.8 -1.2**
SBF *e*Sg **Sg** **01 19 24.3 -1.8**
6.1nm,0.4s
TURF col de Turini 4.04 58 Pn **Pn** **01 18 19.9 +1.2**
MBDF Montbardon 4.11 45 *e*Pn **Pn** **01 18 21.4 +1.6**
MBDF *e*Sn **Sn** **01 19 06.0 -1.6**
MBDF *e*Sg **Sg** **01 19 27.5 -1.9**
0.5nm,0.3s
OGSM Saint Maurice 4.30 30 Pn **Pn** **01 18 24.5 +2.2**
TCF Toulx Ste Croi 4.40 356 *e*Pn **Pn** **01 18 24.6 +1.0**
TCF Toulx Ste Croi 4.40 356 *e*Pg **Pg** **01 18 40.9 -0.7**
TCF *e*Sn **Sn** **01 19 14.2 -0.3**
2.1nm,0.3s
TCF *e*Sg **Sg** **01 19 36.6 -1.9**
3.6nm,0.3s
ETOB Tobarra 4.58 226 Pn **Pn** **01 18 25.8 -0.4**
ETOB Sn **Sn** **01 19 16.8 -2.4**
ETOB *i* Vmb_Lg 01 19 18.5
LPG La Plagne 4.65 38 *e*Pn **Pn** **01 18 29.6 +2.3**
LPG *e*Sn **Sn** **01 19 20.7 -0.5**
LPG *e*Sg **Sg** **01 19 46.5 -0.3**
0.3nm,0.2s
BGF Bois d'Agland 4.66 1 *e*Pn **Pn** **01 18 27.6 +0.5**
BGF Bois d'Agland 4.66 1 *e*Pg **Pg** **01 18 44.9 -1.6**
BGF *e*Sn **Sn** **01 19 19.7 -1.1**
BGF *e*Sg **Sg** **01 19 46.0 -0.8**
5.7nm,0.3s
LPL La Plagne 4.66 38 *e*Pn **Pn** **01 18 28.5 +1.2**
LPL *e*Sn **Sn** **01 19 20.0 -1.2**
LPL *e*Sg **Sg** **01 19 44.4 -2.5**
0.3nm,0.1s
ELAN Lanestosa 4.70 288 Pn **Pn** **01 18 29.2 +1.5**
ELAN Sn **Sn** **01 19 23.2 +1.2**
ELAN *i* Vmb_Lg 01 19 25.4
PGF Pioggiola 4.74 80 *e*Pn **Pn** **01 18 27.4 -1.0**
PGF Pioggiola 4.74 80 *e*P **Pn** **01 18 32.3 +3.9**
PGF Pioggiola 4.74 80 *e*Pg **Pg** **01 18 45.9 -2.3**
PGF *e*Sn **Sn** **01 19 17.3 -5.8**
6.1nm,0.4s
UCM Universidad Co 4.75 252 P **Sg** **01 18 46.7 -1.6**
UCM S **Sg** **01 19 45.8 -4.0**
SMF Signal de Mont 4.81 10 *e*Pn **Pn** **01 18 30.8 +1.5**
SMF Signal de Mont 4.81 10 *e*Pg **Pg** **01 18 48.3 -1.3**
SMF *e*Sn **Sn** **01 19 24.0 -0.7**
SMF *e*Sg **Sg** **01 19 50.3 -1.6**
2.1nm,0.4s
AVF Avril sur Loir 4.91 5 *e*Pn **Pn** **01 18 31.8 +1.2**
AVF Avril sur Loir 4.91 5 *e*Pg **Pg** **01 18 49.8 -1.6**
AVF *e*Sn **Sn** **01 19 25.1 -2.0**
AVF *e*Sg **Sg** **01 19 52.8 -2.2**
1.6nm,0.3s
MFF Saint Martin d 5.12 338 *e*Pn **Pn** **01 18 34.1 +0.7**
MFF Saint Martin d 5.12 338 *e*Pg **Pg** **01 18 53.8 -1.5**
MFF *e*Sn **Sn** **01 19 30.1 -2.0**
MFF *e*Sg **Sg** **01 19 59.1 -2.4**
2.8nm,0.3s
SSF Saint Saulge 5.19 6 *e*Pn **Pn** **01 18 35.3 +0.8**
SSF Saint Saulge 5.19 6 *e*Pg **Pg** **01 18 55.5 -1.3**
SSF *e*Sn **Sn** **01 19 32.3 -1.7**
SSF *e*Sg **Sg** **01 20 02.0 -2.0**
0.8nm,0.3s
GUD Guadarrama 5.30 259 Pn **Pn** **01 18 36.0 0.0**
GUD Sn **Sn** **01 19 34.8 -2.0**
GUD *i* Vmb_Lg 01 19 36.6
CABF La Chapelle 5.31 26 *e*Pn **Pn** **01 18 37.5 +1.4**
CABF *e*Sn **Sn** **01 19 36.9 -0.1**
CABF *e*Sg **Sg** **01 20 06.8 -0.9**
0.2nm,0.2s
HYF Humbligny 5.37 360 *e*P Pn 01 18 42.2 +5.4
HYF Humbligny 5.37 360 *e*Pg **Pg** **01 18 57.8 -2.3**
LOR Lormes 5.43 9 *e*Pn **Pn** **01 18 39.0 +1.2**
LOR Lormes 5.43 9 *e*Pg **Pg** **01 18 58.9 -2.5**
LOR *e*Sn **Sn** **01 19 39.8 -0.1**
baz=192
LOR *e*Sg **Sg** **01 20 10.1 -1.6**
1.5nm,0.4s,baz=180
PAB San Pablo 5.83 249 Pn **Pn** **01 18 42.8 -0.5**
PAB Sg **Sg** **01 20 16.7 -7.8**
EARI Arriondas 5.98 286 Pn **Pn** **01 18 46.1 +0.7**
EARI Sn **Sn** **01 19 52.9 -0.6**
HAU Haudompre 6.63 22 *e*P Pn 01 19 00.6 +6.3
HAU *e*Sn **Sn** **01 20 08.5 -1.1**
0.9nm,0.3s
GRR Gorron 6.95 340 *e*Pn **Pn** **01 18 59.7 +1.2**
GRR Gorron 6.95 340 *e*Pg **Pg** **01 19 27.2 -3.1**
GRR *e*Sn **Sn** **01 20 13.3 -3.9**
GRR *e*Sg **Sg** **01 20 57.0 -3.2**
0.4nm,0.2s
LDF La Druitiere 6.97 345 *e*Pn **Pn** **01 18 59.9 +1.0**
LDF La Druitiere 6.97 345 *e*Pg **Pg** **01 19 27.4 -3.4**
LDF *e*Sn **Sn** **01 20 15.1 -2.8**
LDF *e*Sg **Sg** **01 20 58.5 -2.6**
0.1nm,0.2s
ECAL Calabor 7.02 273 Pn **Pn** **01 18 59.0 -0.6**
ECAL *i* Vmb_Lg 01 21 09.1
FLN La Foliniere 7.21 343 *e*Pn **Pn** **01 19 02.0 -0.1**
baz=163
FLN *e*Sn **Sn** **01 20 19.8 -3.9**
FLN *e*Sg **Sg** **01 21 06.0 -2.6**
0.7nm,0.3s
QUIF Quistinic 7.30 327 *e*Pn **Pn** **01 19 04.0 +0.6**
QUIF Quistinic 7.30 327 *e*Pg **Pg** **01 19 34.4 -2.7**
QUIF *e*Sn **Sn** **01 20 23.2 -2.7**
QUIF *e*Sg **Sg** **01 21 07.6 -3.9**
0.6nm,0.3s
MVO Moncorvo 7.32 267 *e*Pn **Pn** **01 19 03.6 -0.1**
MVO *e*Sn **Sn** **01 20 22.6 -3.9**
MVO A A 01 20 26.2
1.2nm,0.6s
ROSF Rostrenen 7.68 329 *e*Pn **Pn** **01 19 08.8 +0.2**
ROSF Rostrenen 7.68 329 *e*Pg 01 19 40.2
ROSF *e*Sn **Sn** **01 20 31.7 -3.6**
ROSF *e*Sg 01 21 19.0
0.5nm,0.4s
PMRV Marv??o 8.04 255 *e*Pn **Pn** **01 19 12.9 -0.7**
PMRV *e*Sn **Sn** **01 20 40.1 -4.1**
PMRV A A 01 20 40.8
1.1nm,0.5s
PESTR Estremoz 8.40 252 *e*Pn **Pn** **01 19 17.7 -0.8**

*GUC **11** 01:26:21.2±0.7,31°.44S×71°.44W,h48km±3km, ML3.8*
*IDC **11** 01:26:24.0±4.9,31°.62S×71°.20W,h64km±38km, mb3.5/1, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=78.1km s-min=36.5km az=109.0*
ISC 11 01:26:21.2±1.1,31°.44S±0°.03×71°.53W±0°.08,h43km±12km, n34,σ1s05/43,6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Corbarbal**	**0.51**	**63**	*e*P	**Pn**	**01 26 32.0**	**-0.3**
CO02				*e*S	**Sn**	**01 26 39.3**	**-0.9**
CO02				IAML		01 26 41.4	
	comp=N,29μm,0.1s						
CO06	**Fray Jorge**	**0.76**	**353**	⇓*i*P	**Pn**	**01 26 36.0**	**+0.4**
CO06				*e*S	**Sn**	**01 26 46.2**	**+0.2**
CO06				IAML		01 26 48.9	
	comp=E,6μm,0.2s						
VA06	**Catapilco**	**1.14**	**170**	*e*P	**Pn**	**01 26 40.5**	**-0.3**
VA06				*e*S	**Sn**	**01 26 54.8**	**-0.4**
GO04	**Tololo Observa**	**1.41**	**27**	⇓*i*P	**Pn**	**01 26 45.2**	**+0.6**
GO04				*e*S	**Sn**	**01 27 03.2**	**+1.2**
CO05	**La Serena**	**1.53**	**10**	*e*P	**Pn**	**01 26 47.3**	**+1.2**
CO05				*e*S	**Sn**	**01 27 06.5**	**+1.7**
CO05				IAML		01 27 14.3	
	comp=E,1μm,0.3s						
VA03	**San Esteban**	**1.56**	**148**	*e*P	**Pn**	**01 26 46.8**	**+0.1**
VA03				*e*S	**Sn**	**01 27 06.9**	**+1.1**
VA01	**Torpederas**	**1.59**	**184**	⇓*e*P	**Pn**	**01 26 46.6**	**-0.2**
VA01				*e*S	**Sn**	**01 27 08.3**	**+2.1**
VA01				IAML		01 27 11.8	
	comp=E,1μm,0.4s						
ROCH	**El Roble**	**1.59**	**164**	⇓*i*P	**Pn**	**01 26 47.7**	**+0.5**
ROCH				*e*S	**Sn**	**01 27 07.0**	**+0.3**
ROCH				IAML		01 27 12.4	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**1.85**	**157**	*e*P	**Pn**	**01 26 50.9**	**+0.4**
PEL				*e*S	**Sn**	**01 27 13.7**	**+1.0**
PEL				IAML		01 27 17.3	
	comp=E,1μm,0.2s						
MT02	**Curacav**	**1.85**	**170**	*e*P	**Pn**	**01 26 50.3**	**-0.2**
MT02				*e*S	**Sn**	**01 27 14.2**	**+1.6**
MT02				IAML		01 27 16.6	
	comp=E,760nm,0.3s						
CO01	**Juntas del Tor**	**1.91**	**41**	⇓*i*P	**Pn**	**01 26 53.1**	**+1.6**
CO01				*e*S	**Sn**	**01 27 15.1**	**+0.7**
CO01				IAML		01 27 18.5	
	comp=E,1μm,0.2s						
MT05	**Renca**	**2.06**	**161**	*e*P	**Pn**	**01 26 54.3**	**+0.8**
MT05				*e*S	**Sn**	**01 27 18.9**	**+0.9**
MT05				IAML		01 27 23.8	
	comp=E,2μm,0.2s						
FCH	**Farellones**	**2.16**	**151**	*e*P	**Pn**	**01 26 55.9**	**+0.9**
FCH				*e*S	**Sn**	**01 27 23.3**	**+2.5**
FCH				IAML		01 27 29.3	
	comp=E,544nm,0.2s						
VA05	**Santo Domingo**	**2.22**	**182**	*e*P	**Pn**	**01 26 55.1**	**-0.3**
VA05				*e*S	**Sn**	**01 27 22.7**	**+1.0**
VA05				IAML		01 27 30.4	
	comp=N,1μm,0.4s						
MT03	**Universidad Ad**	**2.23**	**157**	*e*P	**Pn**	**01 26 56.9**	**+1.1**
MT03				*e*S	**Sn**	**01 27 23.1**	**+1.1**
MT03				IAML		01 27 27.8	
	comp=E,1μm,0.2s						
MT09	**Talagante**	**2.38**	**169**	*e*P	**Pn**	**01 26 58.5**	**+0.6**
MT09				*e*S	**Sn**	**01 27 27.0**	**+1.1**
MT09				IAML		01 27 43.5	
	comp=E,671nm,0.4s						
MT01	**Popeta**	**2.43**	**175**	⇓*e*P	**Pn**	**01 26 58.6**	**+0.1**
MT01				*e*S	**Sn**	**01 27 28.3**	**+1.3**
MT01				IAML		01 27 35.7	
	comp=E,682nm,0.3s						
LCO	**Las Campanas**	**2.52**	**17**	*e*P	**Pn**	**01 27 01.1**	**+1.2**
LCO				*e*S	**Sn**	**01 27 31.5**	**+2.0**
H03N1	**Juan Fernandez**	**6.55**	**250**	T	T	01 34 33.7	
	baz=77,slow=72,SNR=1539						
H03N3	**Juan Fernandez**	**6.57**	**250**	T	T	01 34 32.7	
	baz=77,slow=72,SNR=1314						
H03N2	**Juan Fernandez**	**6.57**	**250**	T	T	01 34 36.8	
	baz=77,slow=72,SNR=1499						
PLCA	**Paso Flores**	**9.31**	**175**	P	**Pn**	**01 28 32.8**	**-0.1**
	comp=E,0.1nm,0.3s,baz=350,slow=18,SNR=0.9						
	comp=E,0.4nm,0.4s						
CPUP	**Villa Florida**	**13.44**	**71**	P	**Pn**	**01 29 28.8**	**-0.5**
	comp=E,0.2nm,0.3s,baz=248,slow=14,SNR=1.9						
	comp=E,0.6nm,0.3s						
LPAZ	**La Paz**	**15.39**	**12**	P	**P**	**01 29 59.6**	**-0.5**
	comp=E,0.1nm,0.3s,baz=207,slow=11,SNR=2.1						
	comp=E,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.93**	**70**	P	**P**	**01 38 41.2**	**-0.7**
	comp=E,0.7nm,0.8s,baz=240,slow=5.4,SNR=2.9						
	comp=E,0.7nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**26.20**	**271**	T	T	04 04 16.9	
	baz=116,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hyl**	**26.21**	**271**	T	T	04 04 09.5	
	baz=116,slow=75,SNR=9.6						
H11S3	**WAKE ISLAND Hyl**	**26.22**	**271**	T	T	04 04 12.8	
	baz=116,slow=75,SNR=8.3						
H11N3	**WAKE ISLAND Hyl**	**26.55**	**272**	T	T	04 04 39.3	
	baz=114,slow=74						
H11N1	**WAKE ISLAND Hyl**	**26.56**	**272**	T	T	04 04 49.2	
	baz=114						
H11N2	**WAKE ISLAND Hyl**	**26.57**	**272**	T	T	04 04 38.6	
	baz=114,slow=74						
BVAR	**Borovoye Array**	**145.09**	**41**	PKPbc	**PKPdf**	**01 45 53.4**	**0.0**
	comp=E,0.4nm,0.4s,baz=288,slow=1.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**150.68**	**40**	PKPbc	**PKPbc**	**01 46 07.3**	**-0.9**
	comp=E,0.3nm,0.7s,baz=298,slow=3.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**151.82**	**30**	PKPbc	**PKiKP**	**01 46 10.5**	**-0.5**
	comp=E,1.5nm,0.5s,baz=296,slow=3.7,SNR=5.2						

*IDC **11** 01:38:17.2±6.6,36°.13N×70°.30E,h160km±60km,mb2.9/5, mbtmp3.5/10, Error ellipse: s-maj=48.8km s-min=25.4km az=26.0*
*SOME **11** 01:38:31.7,38°.45N×72°.28E,h5km*
ISC 11 01:38:16.7±1.2,36°.2N±0°.1×70°.3E±0°.1,h150km,n22, σ1s87/26,mb3.2/4,1C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.94**	**358**	*e*P	**Pn**	**01 39 45.0**	**+2.3**
	860nm,0.2s						
IUG				*e*S	**Sn**	**01 40 47.1**	**-2.6**
	104nm,0.3s						
AML	**Almayashu**	**6.46**	**23**	P	**Pn**	**01 39 52.1**	**+2.2**
	SNR=45						
UCH	**Uchtor**	**6.83**	**27**	P	**Pn**	**01 39 57.1**	**+2.3**
	SNR=36						
KK31	**Karatay Array**	**6.89**	**1**	⇓Pn	**Pn**	**01 39 56.6**	**+1.4**
	1.7nm,0.3s,baz=168,slow=7.8,SNR=125						
KK31				⇑Pg		01 40 04.0	
	1.3nm,0.3s,baz=175,slow=13,SNR=3.2						
KK31				⇓Lg	Lg	01 41 05.7	
	2.0nm,0.3s,baz=190,slow=23,SNR=3.9						
EKS2	**Erkin-Say**	**6.97**	**21**	P	**Pn**	**01 39 58.7**	**+2.3**
	SNR=14						
AAK	**Ala-Archa**	**7.18**	**25**	P	**Pn**	**01 40 01.6**	**+2.3**
	SNR=11						
AAK	**Ala-Archa**	**7.18**	**25**	P	**Pn**	**01 40 01.4**	**+2.2**
	8.4nm,0.3s,baz=190,slow=6.8,SNR=18						
AAK				S	**Sn**	**01 41 17.5**	**-2.2**
	3.9nm,0.4s,baz=336,slow=22,SNR=10						
CHMS	**Chumysh**	**7.59**	**25**	P	**Pn**	**01 40 06.6**	**+2.0**
	SNR=6.1						
CHMS	**Chumysh**	**7.59**	**25**	⇓Pn	**Pn**	**01 40 06.1**	**+1.5**
	4.8nm,0.5s						
CHMS				⇓Lg	Lg	01 41 25.0	
	3.7nm,0.5s						
USP	**Ospenovka**	**7.74**	**23**	P	**Pn**	**01 40 08.0**	**+1.4**
	SNR=5.7						
TKM2	**Tokmak 2**	**7.84**	**30**	P	**Pn**	**01 40 09.9**	**+1.8**
	SNR=39						
KST	**Kastek**	**8.09**	**31**	*e*P	**Pn**	**01 40 13.7**	**+2.3**
	7.3nm,0.4s						
KST				*e*S	**Sn**	**01 41 39.4**	**-2.1**
	3.9nm,0.3s						
KOTS	**Kotyrbulak**	**8.74**	**35**	*e*P	**Pn**	**01 40 22.2**	**+2.1**
	7.5nm,0.5s						
KOTS				*e*S	**Sn**	**01 41 55.1**	**-2.1**
	4.1nm,0.4s						
MKAR	**Makanchi Array**	**13.84**	**36**	P	**Pn**	**01 41 27.2**	**+0.7**
	1.1nm,0.9s,baz=216,slow=14,SNR=3.8						
KURBB	**Kurchatov Arra**	**15.57**	**20**	P	**Pn**	**01 41 47.3**	**-0.8**
	0.3nm,0.6s,baz=206,slow=10,SNR=2.6						
AKTO	**Aktyubinsk**	**16.77**	**332**	P	**Pn**	**01 42 03.1**	**+0.5**
	1.5nm,0.7s,baz=131,slow=13,SNR=6.2						
BVAR	**Borovoye Array**	**16.82**	**0**	P	**Pn**	**01 42 04.7**	**+1.5**
	0.3nm,0.5s,baz=163,slow=10,SNR=3.6						
ZALV	**Zalesovo Beam**	**20.40**	**25**	P	**P**	**01 42 42.0**	**+0.3**
	0.6nm,0.3s,baz=224,slow=12,SNR=3.1						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**37.43**	**327**	P	**P**	**01 45 15.0**	**0.0**
	0.6nm,0.8s,baz=116,slow=8.7,SNR=4.6						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.17**	**268**	P	**P**	**01 48 40.9**	**-1.2**
	0.2nm,0.5s,baz=46,slow=7.2,SNR=1.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**82.29**	**121**	P	**P**	**01 50 20.9**	**-0.8**
	0.1nm,0.6s,baz=309,slow=4.9,SNR=0.9						
	0.1nm,0.6s						
ASAR	**Alice Springs**	**84.53**	**124**	P	**P**	**01 50 32.8**	**-0.3**
	0.2nm,0.6s,baz=297,slow=4.1,SNR=1.7						
	0.2nm,0.6s						

*JMA **11** 01:48:01.7±0.2,35°.7N±0°.4×140°.2E±0°.6,h62km±1km, MV3.0/39,CENTRAL CHIBA PREF*
*IDC **11** 01:48:02.2±1.9,35°.53N×140°.11E,h68km±16km,mb3.4/11, mbtmp3.8/13,MS2.6/1, Error ellipse: s-maj=27.1km s-min=6.9km az=67.0*
ISC 11 01:48:02.1±0.8,35°.58N±0°.05×140°.17E±0°.05,h66km±7km, n33,σ0s74/34,mb3.7/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.17**	**170**	P	**Pn**	**01 48 12.2**	**+0.2**
JSMT	**Sammumatsuo**	**0.24**	**75**	P	**Pn**	**01 48 11.8**	**-0.6**
BSO3	**Boso 3**	**0.83**	**160**	P	**Pn**	**01 48 17.6**	**-0.3**
JOD2	**Odawara 2**	**0.94**	**251**	P	**Pn**	**01 48 19.3**	**-0.3**
JOD2				S	**Sn**	**01 48 32.3**	**-0.3**
JAG	**Ashikaga**	**1.02**	**326**	P	**Pn**	**01 48 19.8**	**-0.9**
JIM2	**Oshima 3**	**1.05**	**215**	P	**Pn**	**01 48 20.4**	**-0.6**
JIM2				*e*S	**Sn**	**01 48 34.7**	**-0.4**
JRY	**Ryogami san**	**1.12**	**293**	P	**Pn**	**01 48 22.0**	**+0.1**
BSO1	**Boso 1**	**1.14**	**144**	P	**Pn**	**01 48 20.6**	**-1.0**
BSO1				S	**Sn**	**01 48 37.5**	**+1.2**
JFNN	**Fujinakano**	**1.27**	**253**	P	**Pn**	**01 48 23.9**	**+0.1**
JFNN				S	**Sn**	**01 48 40.7**	**+0.5**
JYN	**Shimob**	**1.33**	**267**	P	**Pn**	**01 48 24.7**	**0.0**
JIZS	**Izushimoda**	**1.36**	**231**	P	**Pn**	**01 48 24.8**	**-0.3**
JIZS				S	**Sn**	**01 48 42.0**	**-0.4**
JKT	**Katashina**	**1.40**	**328**	P	**Pn**	**01 48 25.1**	**-0.5**
MJAR	**Matsushiro Arr**	**1.85**	**302**	P	**Pn**	**01 48 31.0**	**-0.7**
	32nm,0.6s,baz=108,slow=12,SNR=91						
MJAR				S	**Sn**	**01 48 53.7**	**-0.5**
	16nm,0.4s,baz=194,slow=28,SNR=5.2						
MJAR				LR	LR	01 49 16.2	
	comp=Z,58nm,21.8s,baz=144,slow=40						
JHJ	**Hachijo jima 2**	**2.48**	**187**	P	**Pn**	**01 48 40.6**	**+0.5**
	150nm,0.3s,baz=76,slow=12,SNR=33						
JHJ				S	**Sn**	**01 49 08.6**	**-0.6**
	160nm,0.3s,baz=66,slow=23,SNR=11						
JCJ	**Chichijima**	**8.63**	**168**	P	**Pn**	**01 50 03.9**	**-0.4**
	26nm,0.3s,baz=269,slow=17,SNR=2.2						
JCJ				S	Sn	01 51 31.2	-8.9
	50nm,0.8s,baz=261,slow=19,SNR=2.0						
KSRS	**Korea Array**	**10.03**	**284**	P	**Pn**	**01 50 26.0**	**+2.7**
	0.9nm,0.6s,baz=95,slow=15,SNR=2.4						
KSRS				LR	LR	01 53 58.3	
	comp=Z,34nm,19.8s,baz=115,slow=36						
SONM	**Songino Array**	**27.80**	**307**	P	**P**	**01 53 44.1**	**-0.9**
	0.3nm,0.4s,baz=114,slow=9.6,SNR=2.8						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.33**	**117**	T	T	02 23 29.7	
	baz=308,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	02 23 18.7	
	baz=308,slow=75,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**28.35**	**117**	T	T	02 23 31.3	
	baz=308,sl

0.4nm,0.7s,baz=255,slow=5.5,SNR=3.3
0.4nm,0.7s
FITZ Fitzroy Crossi 55.13 197 P **P** **01 57 27.4 -0.3**
1.2nm,0.6s,baz=23,slow=7.8,SNR=5.5
1.2nm,0.6s
WRA Warramunga Arr 55.49 187 P **P** **01 57 29.4 -0.9**
0.8nm,0.6s,baz=2.3,slow=7.5,SNR=11
0.8nm,0.6s
ASAR Alice Springs 59.22 187 P **P** **01 57 57.0 +0.5**
0.2nm,0.5s,baz=18,slow=13,SNR=4.2
0.2nm,0.5s
FINES FINESS Array B 69.63 332 P **P** **01 59 03.8 -0.2**
0.8nm,0.8s,baz=51,slow=6.1,SNR=4.3
0.8nm,0.8s
AKASG Malin Array Be 74.82 322 P **P** **01 59 35.0 -0.2**
0.4nm,0.4s,baz=46,slow=5.2,SNR=6.8
0.4nm,0.4s
NOA NORSAR Array B 75.13 337 P **P** **01 59 37.0 +0.1**
0.3nm,0.6s,baz=37,slow=7.7,SNR=1.6
0.3nm,0.6s
PDAR Pinedale Array 79.40 45 P **P** **02 00 01.7 +0.3**
0.3nm,0.7s,baz=208,slow=2.9,SNR=3.6
0.3nm,0.7s

*IDC **11** 01:49:19.1±0.7,8.°44N×126.°21E,h0km,mb4.0/12, mbtmp4.1/13,ML4.2/1,MS3.0/5,Error ellipse: s-maj=27.9km s-min=10.6km az=97.0*
*MAN **11** 01:49:22.0,8.°33N×125.°93E,h9km,mb4.7,ML3.6,MS3.5 MAN INTENSITY II - LA PAZ & TALACOGON AGUSAN DEL SUR.*
*NEIC **11** 01:49:24.4±1.8,8.°12N±0.°08×126.°1E±0.°1,h10km±2km, mb4.2/10,Error ellipse: s-maj=24.5km s-min=14.3km az=92.0*

ISC 11 01:49:22.0±1.8,8.°36N±0.°04×126.°02E±0.°04,h13km±11km, n44,σ1°973/48,mb4.1/17,MS3.1/6,4C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.38**	**117**	⇓*i*P		**Pb**		**01 49 30.9**	**+0.2**
BIPH				*i* S		**Sb**		**01 49 37.6**	**+1.1**
CGP	**Cagayan de Oro**	**1.31**	**274**	⇑*e*P		**Pn**		**01 49 44.2**	**-1.8**
CGP				*e*S		**Sb**		**01 50 01.7**	**-1.6**
DAV	**Davao City (W)**	**1.35**	**199**	Pg		**Pg**		**01 49 47.8**	**-0.3**
DAV	257nm,0.3s,baz=45,slow=2.9,SNR=26			Lg		Lg		01 50 08.2	
	80nm,0.3s,baz=148,slow=23,SNR=12								
DAV	**Davao City (W)**	**1.35**	**199**			**Pn**		**01 49 47.0**	**+0.4**
SCPH	**Surigao**	**1.51**	**340**	⇑*e*P		**Pb**		**01 49 50.1**	**+0.2**
SCPH				*e*S		**Sn**		**01 50 03.4**	**-4.8**
KCP	**Kidapawan**	**1.62**	**214**	⇑*i*P		**Pn**		**01 49 50.0**	**-0.3**
KCP				*i* S		**Sn**		**01 50 12.0**	**+0.8**
CTBH	**Cotabato--PC H**	**2.09**	**237**	⇓*i*P		**Pn**		**01 49 57.3**	**+0.6**
CTBH				*i* S		**Sb**		**01 50 25.6**	**0.0**
GHBP	**Garcia Hernand**	**2.10**	**307**	⇓*e*P		**Pn**		**01 49 58.3**	**+1.5**
GHBP				*e*S		**Sb**		**01 50 26.5**	**+0.6**
TABP	**Talibon, Bohol**	**2.39**	**316**	⇓*i*P		**Pn**		**01 50 00.9**	**0.0**
TABP				*i* S		**Sn**		**01 50 30.7**	**+0.6**
LSIP	**Lazi, Siquijor**	**2.48**	**288**	⇓*e*P		**Pn**		**01 50 01.9**	**-0.2**
LSIP				*e*S		**Sn**		**01 50 32.2**	**0.0**
TBP	**Tagbilaran**	**2.51**	**302**	*e*P		**Pn**		**01 50 02.3**	**-0.2**
TBP				*i* S		**Sn**		**01 50 34.8**	**+1.9**
LLP	**Lapu-Lapu**	**2.81**	**314**	⇑*e*P		**Pn**		**01 50 07.8**	**+1.2**
LLP				*i* S		**Sn**		**01 50 43.9**	**+3.5**
TNTI	**Ternate**	**7.66**	**170**	Pn		**Pn**		**01 51 12.0**	**-1.3**
SIJI	**Sorong**	**10.55**	**150**	Pn		**Pn**		**01 51 52.3**	**-0.8**
	1.7nm,0.3s,baz=15,slow=7.3,SNR=5.4								
	9.7nm,0.5s								
MTN	**Manton Dam**	**21.67**	**166**	P		**P**		**01 54 11.6**	**-0.9**
KNRA	**Kununurra**	**24.04**	**173**	P		**P**		**01 54 35.8**	**-1.1**
KNRA				IAmb		IAmb		01 54 57.7	
	comp=Z,8.8nm,1.0s								
FITZ	**Fitzroy Crossi**	**26.29**	**181**	P		**P**		**01 54 56.0**	**-1.4**
	comp=Z,3.0nm,0.8s,baz=338,slow=7.1,SNR=8.3								
	comp=Z,3.0nm,0.8s								
FITZ	**Fitzroy Crossi**	**26.29**	**181**	P		**P**		**01 54 56.0**	**-1.4**
FITZ				IAmb		IAmb		01 55 06.8	
	comp=Z,5.7nm,1.1s								
COEN	**Coen**	**27.96**	**142**	P		**P**		**01 55 13.1**	**+0.6**
KSRS	**Korea Array**	**29.02**	**3**	LR		LR		02 07 01.2	
	comp=Z,14nm,20.3s,baz=175,slow=37								
WRA	**Warramunga Arr**	**29.29**	**164**	P		**P**		**01 55 23.6**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=348,slow=9.7,SNR=4.2								
	comp=Z,0.5nm,0.7s								
WB2	**Warramunga Arr**	**29.30**	**164**	P		**P**		**01 55 24.7**	**+0.4**
WB2				IAmb		IAmb		01 55 37.6	
	comp=Z,7.6nm,1.4s								
MJAR	**Matsushiro Arr**	**30.17**	**20**	LR		LR		02 07 27.5	
	comp=Z,20nm,19.1s,baz=194,slow=36								
PSA00	**Pilbara Seismi**	**30.36**	**191**	P		**P**		**01 55 34.4**	**+0.7**
PSA00				IAmb		IAmb		01 55 47.2	
	comp=Z,10nm,1.4s								
ASAR	**Alice Springs**	**32.75**	**167**	P		**P**		**01 55 54.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=340,slow=7.0,SNR=8.9								
	comp=Z,0.5nm,0.5s								
USA0B	**Ussuriysk Arra**	**36.08**	**7**	P		**P**		**01 56 26.9**	**+3.5**
USRK	**Ussuriysk Ar.**	**36.08**	**7**	P		**P**		**01 56 23.1**	**-0.3**
	comp=Z,7.9nm,0.7s,baz=200,slow=8.6,SNR=16								
	comp=Z,7.9nm,0.7s								
KLR	**Kul'dur**	**41.02**	**6**	P		**P**		**01 57 03.9**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=160,slow=8.7,SNR=7.6								
	comp=Z,1.5nm,0.6s								
STKA	**Stephens Creek**	**42.69**	**160**	P		**P**		**01 57 18.9**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=329,slow=12,SNR=1.9								
	comp=Z,1.5nm,0.8s								
SONM	**Songino Array**	**42.72**	**341**	LR		LR		02 17 37.5	
	comp=Z,34nm,18.0s,baz=27,slow=40								
PETK	**Petropavlovsk-**	**51.47**	**24**	LR		LR		02 19 56.0	
	comp=Z,12nm,20.7s,baz=240,slow=36								
MK31	**Makanchi Array**	**53.40**	**324**	P		P		01 58 47.1	+5.6
MK31				IAmb		IAmb		01 58 52.6	
	comp=Z,3.1nm,1.1s								
MKAR	**Makanchi Array**	**53.40**	**324**	P		**P**		**01 58 41.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=116,slow=7.3,SNR=5.5								
MKAR				PcP		**PcP**		**01 59 47.3**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=116,slow=3.4,SNR=5.3								
	comp=Z,0.9nm,0.7s								
ZALV	**Zalesovo Beam**	**56.18**	**332**	P		**P**		**01 59 00.9**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=126,slow=7.3,SNR=5.2								
	comp=Z,1.2nm,0.7s								
ZALV	**Zalesovo Beam**	**56.18**	**332**	P		**P**		**01 59 04.8**	**+3.4**
AAK	**Ala-Archa**	**56.51**	**316**	LR		LR		02 23 54.4	
	comp=Z,24nm,19.9s,baz=216,slow=37								
KK31	**Karatay Array**	**59.42**	**315**	P		**P**		**01 59 28.4**	**+4.0**
KKAR	**Karatay Array**	**59.42**	**315**	P		**P**		**01 59 28.4**	**+4.0**
KKAR				IAmb		IAmb		01 59 29.1	
	comp=Z,1.4nm,0.9s								
RAO	**Raoul Island**	**65.64**	**127**	LR		LR		02 26 18.2	
	comp=Z,203nm,20.3s,baz=150,slow=34								
ILAR	**Eielson Array**	**81.26**	**26**	P		**P**		**02 01 36.6**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=238,slow=5.2,SNR=3.4								
	comp=Z,0.4nm,0.7s								
FINES	**FINESS Array B**	**87.44**	**332**	P		**P**		**02 02 06.9**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=48,slow=4.5,SNR=7.8								
	comp=Z,0.7nm,0.6s								
MAW	**Mawson**	**87.83**	**200**	P		**P**		**02 02 09.1**	**-1.5**
	comp=Z,5.4nm,0.6s,baz=22,slow=6.5,SNR=7.1								
	comp=Z,5.4nm,0.6s								
VNDA	**Vanda**	**88.08**	**173**	P		**P**		**02 02 11.3**	**-0.4**
	comp=Z,0.9nm,1.1s,baz=314,slow=7.3,SNR=3.1								
	comp=Z,0.9nm,1.1s								
TORD	**Torodi Ar. Bea**	**120.72**	**291**	PKP		**PKPdf**		**02 08 13.1**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=31,slow=2.6,SNR=2.3								

*HVO **11** 01:50:53.3±1.5,19.°391N±0.°004×155.°278W±0.°009, h3km±3km,ML3.2/24,ML2.5/31(NEIC),Error ellipse: s-maj=1.3km s-min=0.7km az=98.0*

NEIC 11 01:50:53.7±1.2,19.°40N±0.°01×155.°297W±0.°009, h8km±2km,Error ellipse: s-maj=1.7km s-min=1.0km az=149.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDHHI	**Sand Hill**	**0.01**	**151**				Pg	01 50 54.9	-0.4
SDHHI	**Sand Hill**	**0.01**	**151**		IAML			01 50 54.0	
	comp=E,127nm,0.3s								
WRMHI	**West Rim**	**0.01**	**347**		IAML			01 50 54.6	
	comp=E,2μm,0.1s								
WRMHI					IAML			01 50 54.7	
	comp=N,5μm,0.1s								
WRMHI	**West Rim**	**0.01**	**347**				Pg	01 50 55.2	-0.1
RIM	**Rim**	**0.02**	**89**				Pg	01 50 54.8	-0.6
NPH	**North Pit**	**0.02**	**42**				Pg	01 50 55.1	-0.2
OBL	**Observatory Le**	**0.03**	**29**				Pg	01 50 55.9	+0.5
OBL	**Observatory Le**	**0.03**	**29**		IAML			01 50 54.3	
	comp=E,174nm,0.6s								
OBL					IAML			01 50 54.4	
	comp=N,334nm,0.4s								
UWE	**Uwekahuna**	**0.03**	**8**				Pg	01 50 55.9	+0.5
UWE	**Uwekahuna**	**0.03**	**8**		IAML			01 50 54.0	
	comp=E,827nm,1.7s								
UWE					IAML			01 50 54.8	
	comp=N,3μm,1.1s								
KKO	**Keanakako`i**	**0.03**	**84**				Pg	01 50 55.0	-0.4
UWB	**Uwekahuna B**	**0.04**	**31**				Pg	01 50 55.3	-0.1
UWB	**Uwekahuna B**	**0.04**	**31**		IAML			01 50 54.7	
	comp=N,5μm,0.7s								
UWB					IAML			01 50 55.0	
	comp=E,4μm,0.2s								
BYL	**Byron's Ledge**	**0.04**	**64**				Pg	01 50 55.5	0.0
BYL	**Byron's Ledge**	**0.04**	**64**		IAML			01 50 54.1	
	comp=E,173nm,1.3s								
SBLHI	**Steaming Bluff**	**0.04**	**41**				Pg	01 50 54.7	-0.8
SBLHI	**Steaming Bluff**	**0.04**	**41**		IAML			01 50 55.1	
	comp=E,7μm,0.4s								
SBLHI					IAML			01 50 55.1	
	comp=N,19μm,0.5s								
HATHI	**Halema'uma'u T**	**0.04**	**51**				Pg	01 50 54.7	-0.8
HATHI	**Halema'uma'u T**	**0.04**	**51**		IAML			01 50 55.0	
	comp=E,2μm,0.3s								
HATHI	**Halema'uma'u T**	**0.04**	**51**		IAML			01 50 54.6	
	comp=N,193nm,0.9s								
RSD	**Rainshed**	**0.07**	**15**				Pg	01 50 57.1	+1.3
PUH	**Pauahi**	**0.08**	**105**		IAML			01 50 55.8	
	comp=N,4μm,0.4s								
PUH					IAML			01 50 56.5	
	comp=E,5μm,0.5s								
PUH	**Pauahi**	**0.08**	**105**				Pg	01 50 56.8	+0.9
HLP	**Hilina Pali**	**0.10**	**186**				Pg	01 50 57.7	+1.6
HLP	**Hilina Pali**	**0.10**	**186**		IAML			01 50 58.1	
	comp=E,6μm,0.4s								
HLP					IAML			01 50 58.4	
	comp=N,6μm,0.5s								
KNHH	**Kane Nui o Ham**	**0.12**	**97**				Pg	01 50 56.0	-0.5
MLH	**Mauna Loa**	**0.13**	**320**				Pg	01 50 57.1	+0.4
MLH							Sg	01 51 00.1	+1.3
MLH	**Mauna Loa**	**0.13**	**320**		IAML			01 51 00.4	
	comp=E,5μm,0.3s								
MLH					IAML			01 51 00.8	
	comp=N,10μm,0.4s								
NPOC	**North of Pu'u**	**0.18**	**91**				Pg	01 50 58.8	+1.4
NPOC	**North of Pu'u**	**0.18**	**91**		IAML			01 51 00.1	
	comp=N,6μm,0.7s								
NPOC					IAML			01 51 00.1	
	comp=E,4μm,0.5s								
HTC	**Hot Caves**	**0.18**	**211**				Pg	01 50 57.7	+0.2
JCUZ	**Jacuzzi**	**0.18**	**93**				Pg	01 50 57.2	-0.4
JCUZ							Sg	01 50 60.0	-0.2
HMH	**Humu'ula Sheep**	**0.27**	**320**				Pg	01 50 59.5	+0.3
HMH							Sg	01 51 04.1	+1.2
HMH	**Humu'ula Sheep**	**0.27**	**320**		IAML			01 51 04.6	
	comp=N,2μm,0.4s								
HMH					IAML			01 51 08.8	
	comp=E,1μm,0.4s								
MWH	**Moku'aweowe**	**0.30**	**288**				Pg	01 50 59.9	+0.1
MWH	**Moku'aweowe**	**0.30**	**288**		IAML			01 51 08.3	
	comp=N,2μm,0.3s								
MWH					IAML			01 51 09.0	
	comp=E,4μm,0.9s								
MLOA	**Mauna Loa Obse**	**0.30**	**298**				Pg	01 51 00.0	+0.2
MLOA							Sg	01 51 04.5	+0.7
MLOA	**Mauna Loa Obse**	**0.30**	**298**		IAML			01 51 07.3	
	comp=E,2μm,0.4s								
MLOA					IAML			01 51 09.3	
	comp=N,1μm,0.9s								
KHU	**Kahuku**	**0.34**	**244**				Pg	01 51 00.2	-0.2
KHU							Sb	01 51 07.1	-0.6
ALEP	**Alea Permanent**	**0.36**	**294**				Pg	01 51 00.8	-0.1
ALEP							Sg	01 51 06.5	+0.9
POHA	**Pohakuloa**	**0.42**	**328**				Pg	01 51 00.9	-1.1
POHA					IAML			01 51 09.4	
	comp=N,774nm,0.6s								
POHA					IAML			01 51 17.2	
	comp=N,979nm,0.8s								
HUH	**Hualalai**	**0.58**	**300**				Pg	01 51 05.4	+0.4
CPH	**Captain Cook**	**0.59**	**279**				Pg	01 51 04.8	-0.4
KHLU	**Kahalu`u**	**0.60**	**289**				Pg	01 51 05.1	-0.2
KHLU	**Kahalu`u**	**0.60**	**289**				Sb	01 51 14.3	-0.8
HPAH	**Hawaii Prepara**	**0.74**	**329**				Sg	01 51 16.8	-0.7

ROM 11 01:54:12.2±0.0,42.°743N±0.°002×13.°178E±0.°004, h10km,ML1.1/8,3C,Error ellipse: s-maj=0.3km s-min=0.1km az=73.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.05**	**139**	P		P	Pg	01 54 14.6	+0.2
T1202				S		S	Sg	01 54 16.1	+0.2
T1242	**Castelluccio d**	**0.09**	**13**	P		P	Pg	01 54 15.1	+0.3
T1242				S		S	Sg	01 54 16.9	+0.2
NRCA	**Norcia**	**0.10**	**333**	P		P	Pg	01 54 15.0	+0.1
NRCA				S		S	Sg	01 54 17.1	+0.2
T1204	**Amatrice, Fraz**	**0.12**	**123**	P		P	Pg	01 54 15.8	+0.6
T1204				S		S	Sg	01 54 18.1	+0.7
SMA1	**SAN MARTINO**	**0.16**	**134**	P		P	Pg	01 54 16.6	+0.8
SMA1				S		S	Sg	01 54 19.6	+1.3
SMA1					AML	AML			
	comp=N,111μm,1.0s								
SMA1					AML	AML			
	comp=E,114μm,0.3s								
MC2	**Monte Cornacci**	**0.17**	**3**	P		P	Pg	01 54 16.4	+0.4
MC2				S		S	Sg	01 54 20.0	+1.3
LNSS	**Leonessa**	**0.17**	**216**	⇑P		P	Pg	01 54 16.6	+0.6
LNSS				S		S	Sg	01 54 19.7	+1.1
LNSS					AML	AML			
	comp=N,357μm,1.2s								
LNSS					AML	AML			
	comp=E,393μm,1.2s								
T1217	**Poggiodomo (PG**	**0.18**	**260**	P		P	Pg	01 54 16.7	+0.5
T1217				S		S	Sg	01 54 20.1	+1.2
T1216	**Preci, Frazion**	**0.19**	**322**	P		P	Pg	01 54 16.6	+0.4
T1216				S		S	Sg	01 54 20.5	+1.5
MMO1	**Montemonaco**	**0.19**	**35**	P		P	Pg	01 54 16.8	+0.5
MMO1				S		S	Sg	01 54 20.2	+1.1
T1243	**Rocca Santa Ma**	**0.20**	**103**	⇑P		P	Pg	01 54 16.9	+0.4
T1243				S		S	Sg	01 54 20.3	+0.8
T1241	**Roccafluvione,**	**0.22**	**59**	P		P	Pg	01 54 17.3	+0.5
T1241				S		S	Sg	01 54 21.0	+1.2
T1241					AML	AML			
	comp=N,66μm,0.6s								
T1241					AML	AML			
	comp=N,66μm,0.6s								
T1241					AML	AML			
	comp=E,164μm,0.2s								
T1215	**Vallo di Nera,**	**0.23**	**285**	P		P	Pg	01 54 17.5	+0.5
T1215				S		S	Sg	01 54 21.7	+1.4
RM33	**Pellescritta (**	**0.24**	**173**	P		P	Pg	01 54 17.6	+0.6
RM33				S		S	Sg	01 54 21.6	+1.3
RM33					AML	AML			
	comp=E,122μm,0.3s								
RM33					AML	AML			
	comp=N,79μm,0.9s								
RM33					AML	AML			
	comp=E,123μm,0.3s								
RM33					AML	AML			
	comp=N,79μm,0.2s								
AM05	**Amandola Campo**	**0.27**	**29**	P		P	Pb	01 54 18.4	-0.7
AM05				S		S	Sb	01 54 23.0	-0.7
CAMP	**Campotosto**	**0.27**	**140**	P		P	Pg	01 54 18.1	+0.5
CAMP				S		S	Sb	01 54 22.6	-1.2
CAMP					AML	AML			
	comp=N,20μm,1.0s								
CAMP					AML	AML			
	comp=E,19μm,0.6s								
FDMO	**Fiordimonte**	**0.30**	**347**	P		P	Pg	01 54 18.9	+0.6
FDMO				S		S	Sb	01 54 23.8	-0.9
FDMO					AML	AML			
	comp=E,36μm,0.2s								
FDMO					AML	AML			
	comp=N,37μm,0.9s								
T1247	**Pizzolo (AQ)**	**0.31**	**164**	P		P	Pb	01 54 19.6	-0.3
TERO	**Teramo**	**0.34**	**111**	⇑P		P	Pg	01 54 19.2	+0.3
TERO				S		S	Sb	01 54 24.7	-1.0
TERO					AML	AML			
	comp=E,56μm,1.5s								
TERO					AML	AML			
	comp=N,67μm,0.9s								
CSP1	**Cessapalombo**	**0.35**	**3**	P		P	Pg	01 54 19.6	+0.4
CSP1						S	Sb	01 54 25.4	-0.8
OFFI	**Offida**	**0.42**	**63**	P		P	Pb	01 54 21.7	0.0
FIAM	**Fiamignano**	**0.48**	**185**	P		P	Pg	01 54 21.8	+0.3
FIAM				S		S	Sb	01 54 29.1	-0.7
ASSB	**Assisi San Ben**	**0.48**	**308**	AML		AML			
	comp=E,30μm,1.0s								
ASSB				AML		AML			
	comp=N,31μm,0.2s								

*IDC **11** 02:04:18.3±1.0,49.°1S×125.°06E,h0km,mb3.9/6, mbtmp4.0/7,ML2.2/1,MS3.7/27,Error ellipse: s-maj=44.6km s-min=19.9km az=95.0*

ISC 11 02:04:19.8±0.9,49.°1S±0.°1×125.°1E±0.°2,h10km,n32, σ0°98/9,mb3.9/6,MS3.8/26,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.34**	**326**	T		T	T	02 24 51.9	
	baz=158,slow=79,SNR=101								
H01W2	**Cape Leeuwin H**	**16.34**	**326**	T		T	T	02 24 52.4	
	baz=158,slow=79,SNR=90								
H01W3	**Cape Leeuwin H**	**16.35**	**326**	T		T	T	02 24 46.5	
	baz=158,slow=79,SNR=82								
NWAO	**Narrogin (SRO)**	**17.21**	**337**	P		**Pn**		**02 08 20.4**	**+0.3**
	0.4nm,0.3s,baz=176,slow=19,SNR=1.1								
NWAO					LR	LR		02 13 22.1	
	comp=Z,285nm,21.1s,baz=11,slow=32								
	5.6nm,0.8s								
STKA	**Stephens Creek**	**21.25**	**42**	P		**P**		**02 09 07.0**	**+1.0**
	3.3nm,0.8s,baz=227,slow=11,SNR=5.8								
STKA					LR	LR		02 15 41.8	
	comp=Z,252nm,21.2s,baz=204,slow=32								
	3.3nm,0.8s								
ASAR	**Alice Springs**	**26.35**	**19**	P		**P**		**02 09 54.7**	**-1.3**
	2.2nm,0.9s,baz=191,slow=8.9,SNR=14								
ASAR					LR	LR		02 19 16.1	
	comp=Z,388nm,20.2s,baz=252,slow=34								
	2.2nm,0.9s								
WRA	**Warramunga Arr**	**30.06**	**18**	P		**P**		**02 10 27.7**	**-1.4**
	0.7nm,0.9s,baz=198,slow=7.9,SNR=2.8								
WRA					LR	LR		02 21 41.7	
	comp=Z,333nm,19.5s,baz=166,slow=35								
	0.7nm,0.9s								
FITZ	**Fitzroy Crossi**	**30.95**	**1**	LR		LR		02 22 17.3	
	comp=Z,122nm,19.4s,baz=153,slow=35								
VNDA	**Vanda**	**31.75**	**166**	P		**P**		**02 10 43.4**	**-0.1**
	2.2nm,0.9s,baz=306,slow=8.0,SNR=11								
VNDA					LR	LR		02 22 38.4	
	comp=Z,172nm,19.4s,baz=327,slow=35								
	2.2nm,0.9s								
CTA	**Charters Tower**	**33.59**	**38**	LR		LR		02 24 12.7	
	comp=Z,230nm,19.1s,baz=257,slow=36								
MAW	**Mawson**	**35.52**	**216**	LR		LR		02 22 38.3	
	comp=Z,76nm,20.5s,baz=92,slow=31								
BATI	**Baumata**	**38.81**	**358**	LR		LR		02 26 33.3	
	comp=Z,257nm,20.4s,baz=162,slow=34								
QSPA	**South Pole Qui**	**41.00**	**180**	LR		LR		02 28 12.8	
	comp=Z,204nm,19.9s,baz=346,slow=35								
DZM	**Mont Dzumac**	**42.37**	**66**	LR		LR		02 26 29.6	
	comp=Z,126nm,20.7s,baz=152,slow=31								
PMG	**Port Moresby**	**43.70**	**33**	LR		LR		02 30 34.6	
	comp=Z,130nm,18.3s,baz=258,slow=36								
SIJI	**Sorong**	**48.37**	**8**	LR		LR		02 33 17.1	
	comp=Z,82nm,19.5s,baz=86,slow=36								
SNAA	**Sanae**	**54.01**	**198**	P		**P**		**02 13 43.2**	**-0.3**
	1.0nm,0.9s,baz=150,slow=10,SNR=2.6								
SNAA					LR	LR		02 35 23.7	
	comp=Z,214nm,20.2s,baz=116,slow=34								
	1.0nm,0.9s								
DAV	**Davao City (W)**	**55.96**	**1**	LR		LR		02 39 26.9	
	comp=Z,34nm,18.4s,baz=314,slow=38								
PSI	**Prapat**	**56.46**	**328**	LR		LR		02 35 42.8	
	comp=Z,35nm,19.7s,baz=152,slow=33								
GUMO	**Guam**	**64.86**	**21**	LR		LR		02 43 22.6	
	comp=Z,38nm,19.2s,baz=73,slow=36								
PMSA	**Palmer Station**	**66.22**	**176**	LR		LR		02 42 40.3	
	comp=Z,52nm,21.8s,baz=206,slow=35								
PALK	**Pallekele**	**68.21**	**312**	LR		LR		02 36 49.1	
	comp=Z,42nm,21.9s,baz=227,slow=29								
CMAR	**Chiang Mai Arr**	**71.17**	**334**	P		**P**		**02 15 39.1**	**+0.5**
	1.8nm,0.4s,baz=187,slow=5.1,SNR=6.2								
CMAR					LR	LR		02 48 32.3	
	comp=Z,17nm,18.0s,baz=145,slow=37								
	1.8nm,0.4s								
SUR	**Sutherland**	**74.62**	**238**	LR		LR		02 43 19.3	
	comp=Z,52nm,18.1s,baz=162,slow=31								
LBTB	**Lobatse**	**77.34**	**247**	LR		LR		02 43 09.0	
	comp=Z,29nm,20.1s,baz=179,slow=30								
LSZ	**Lusaka**	**83.01**	**255**	LR		LR		02 46 18.9	
	comp=Z,46nm,21.1s,baz=138,slow=30								
TSUM	**Tsumeb**	**86.55**	**245**	LR		LR		02 49 33.1	
	comp=Z,56nm,18.6s,baz=152,slow=31								
PLCA	**Paso Flores**	**89.47**	**168**	LR		LR		02 55 44.8	
	comp=Z,17nm,18.1s,baz=177,slow=34								
MBAR	**Mbarara**	**92.38**	**266**	LR		LR		02 51 24.7	
	comp=Z,39nm,21.4s,baz=110,slow=31								
WSAR	**Wadi Sarin**	**93.10**	**302**	LR		LR		02 53 22.0	
	comp=Z,36nm,18.1s,baz=178,slow=32								
TXAR	**Lajitas Array**	**138.24

NMHZ	Naumai	3.06 233	P	Pn	02 17 32.1	+0.6	
NMHZ			S	Sn	02 18 09.4	+1.2	
ALRZ	Allen Road	3.12 245	P	Pn	02 17 33.7	+1.5	
MRHZ	Matea Rd	3.19 240	P	Pn	02 17 33.4	+0.3	
BKZ	Black Stump Fm	3.31 235	P	Pn	02 17 34.6	-0.1	
BKZ			S	Sn	02 18 14.8	+0.7	
BKZ	Black Stump Fm	3.31 235	P	Pn	02 17 34.8	+0.1	
MCHZ	McNeill Hill	3.34 229	P	Pn	02 17 35.6	+0.4	
MCHZ			S	Sn	02 18 15.3	+0.4	
KUZ	Kuaotunu	3.43 278	P	Pn	02 17 35.3	-1.2	
KAHZ	Kahuranaki	3.47 223	P	Pn	02 17 36.5	-0.5	
KAHZ			S	Sn	02 18 19.6	+1.5	
KWHZ	Kaweka Forest	3.50 232	P	Pn	02 17 37.0	-0.4	
KWHZ			S	Sn	02 18 18.9	+0.1	
TOZ	Tahuroa Road	3.57 262	P	Pn	02 17 38.8	+0.6	
KRHZ	Kereru	3.66 229	P	Pn	02 17 39.2	-0.4	
KATZ	Kakaramea	3.75 242	P	Pn	02 17 42.9	+1.9	
BHHZ	Black Hill Sta	3.76 233	P	Pn	02 17 40.7	-0.3	
TMVZ	Te Maari	3.81 240	P	Pn	02 17 41.6	-0.1	
ETVZ	East Tongariro	3.81 240	P	Pn	02 17 41.7	-0.1	
NTVZ	North Tongarir	3.82 241	P	Pn	02 17 41.8	-0.1	
MKAZ	Moumakai	3.83 271	P	Pn	02 17 40.8	-1.1	
OTVZ	Oturere	3.86 240	P	Pn	02 17 42.2	-0.2	
NNVZ	North Ngauruho	3.88 240	P	Pn	02 17 43.0	+0.3	
SNVZ	South Ngauruho	3.89 240	P	Pn	02 17 42.9	0.0	
WTVZ	West Tongariro	3.89 241	P	Pn	02 17 43.3	+0.4	
WPHZ	Waipukurau	3.90 224	P	Pn	02 17 42.0	-0.8	
NGZ	Ngauruhoe	3.91 240	P	Pn	02 17 43.1	0.0	
MOVZ	Moawhango	3.92 236	P	Pn	02 17 43.8	+0.6	
WNVZ	Wahianoa	3.98 238	P	Pn	02 17 45.0	+0.8	
ETAZ	East Tamaki Re	4.03 273	P	Pn	02 17 45.6	+0.9	
ABAZ	Army Bay	4.16 278	P	Pn	02 17 47.7	+1.2	
TSZ	Takapari Road	4.17 227	P	Pn	02 17 45.4	-1.2	
DVHZ	Dannevirke	4.21 223	P	Pn	02 17 46.3	-0.9	
HIZ	Hauiti	4.21 252	P	Pn	02 17 48.0	+0.9	
HIZ	Hauiti	4.21 252	P	Pn	02 17 50.2	+3.0	
AWAZ	Awhitu Peninsu	4.25 272	P	Pn	02 17 48.2	+0.5	
BFZ	Birch Farm	4.45 219	P	Pn	02 17 49.1	-1.3	
BFZ	Birch Farm	4.45 219	P	Pn	02 17 49.5	-0.9	
PRWZ	Pori Road	4.50 222	P	Pn	02 17 50.7	-0.4	
WAZ	Wanganui	4.61 236	P	Pn	02 17 54.1	+1.5	
HOWZ	Holdsworth Sta	4.99 222	P	Pn	02 17 56.5	-1.3	
PKE	Pukeiti	5.07 246	P	Pn	02 18 02.1	+3.2	
PAWZ	Paruwai Farm	5.38 219	P	Pn	02 18 02.6	-0.6	
OUZ	Omahuta	5.54 290	P	Pn	02 18 05.7	+0.3	
QRZ	Quartz Range	6.77 236	P	Pn	02 18 23.3	+1.0	
CTZ	Chatham Island	6.94 159	P	Pn	02 18 25.0	+0.4	
CTZ			S	Sn	02 19 44.6	+1.1	
KHZ	Kahutara	7.11 222	P	Pn	02 18 28.5	+1.6	
ASAR	Alice Springs	41.56 276	P	P	02 24 29.9	-1.0	
	0.6nm,0.6s,baz=119,slow=7.6,SNR=12 0.6nm,0.6s						
WRA	Warramunga Arr	43.17 281	P	P	02 24 42.5	-1.5	
	0.3nm,0.5s,baz=120,slow=8.1,SNR=2.4 0.3nm,0.5s						
H03S2	Juan Fernandez	78.09 123	T	T	03 54 53.5		
	baz=231						
H03S1	Juan Fernandez	78.10 123	T	T	03 54 54.8		
	baz=231						
H03S3	Juan Fernandez	78.11 123	T	T	03 54 53.8		
	baz=231						
H03N3	Juan Fernandez	78.32 123	T	T	03 55 03.0		
	baz=235,slow=72,SNR=34						
H03N2	Juan Fernandez	78.32 123	T	T	03 55 04.9		
	baz=235,slow=72,SNR=27						
H03N1	Juan Fernandez	78.33 123	T	T	03 55 07.6		
	baz=235,slow=72,SNR=21						
FINES	FINESS Array B	150.83 334	PKPbc	PKPbc	02 36 35.1	+0.5	
	0.8nm,0.8s,baz=64,slow=3.2,SNR=2.0						

*HVO **11** 02:33:25.0±1.0, 19°.39N±0°.02×155°.278W±0°.006, h3km±3km, ML2.6/23, ML1.8/32(NEIC), Error ellipse: s-maj=3.3km s-min=0.8km az=178.0*

NEIC 11 02:33:25.8±1.4, 19°.42N±0°.02×155°.275W±0°.009, h1km±10km, Error ellipse: s-maj=2.3km s-min=1.3km az=178.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	Uwekahuna B	0.00 314			Pg	02 33 26.4	+0.2
UWB	Uwekahuna B	0.00 314		IAML		02 33 27.0	
	comp=E,843nm,0.2s						
SBLHI	Steaming Bluff	0.01	52		Pg	02 33 26.5	+0.2
SBLHI	Steaming Bluff	0.01	52	IAML		02 33 26.9	
	comp=N,2µm,0.4s						
NPH	North Pit	0.01 211			Pg	02 33 26.9	+0.6
HATHI	Halema'uma'u T	0.01	85		Pg	02 33 26.5	+0.2
HATHI	Halema'uma'u T	0.01	85	IAML		02 33 26.9	
	comp=N,2µm,0.2s						
BYL	Byron's Ledge	0.02 125		IAML		02 33 26.6	
	comp=E,2µm,0.7s						
BYL	Byron's Ledge	0.02 125			Pg	02 33 27.2	+0.9
UWE	Uwekahuna	0.02 268		IAML		02 33 26.4	
	comp=E,1µm,1.7s						
UWE	Uwekahuna	0.02 268			Pg	02 33 27.7	+1.4
KKO	Keanakako`i	0.03 161			Pg	02 33 26.8	+0.4
RIM	Rim	0.03 178			Pg	02 33 26.5	+0.1
WRMHI	West Rim	0.03 237		IAML		02 33 26.4	
	comp=N,1µm,0.1s						
WRMHI	West Rim	0.03 237			Pg	02 33 27.1	+0.7
SDHHI	Sand Hill	0.04 209			Pg	02 33 26.8	+0.2
PUH	Pauahi	0.07 131			Pg	02 33 27.0	-0.3
PUH	Pauahi	0.07 131		IAML		02 33 27.7	
	comp=E,587nm,0.2s						
PUH				IAML		02 33 28.0	
	comp=N,978nm,0.1s						
KNHH	Kane Nui o Ham	0.11 113			Pg	02 33 27.7	-0.2
MLH	Mauna Loa	0.13 304			Pg	02 33 28.8	+0.5
MLH					Sg	02 33 32.0	+2.0
MLH	Mauna Loa	0.13 304		IAML		02 33 32.5	
	comp=N,1µm,0.3s						
HLP	Hilina Pali	0.13 194		Pg	Pg	02 33 27.8	-0.6
HLP				IAML		02 33 29.7	
	comp=N,568nm,0.4s						
AIN	Ainahou	0.18 254			Pg	02 33 29.3	0.0
AIN					Sg	02 33 32.5	+0.8
AIN	Ainahou	0.18 254		IAML		02 33 33.0	
	comp=E,704nm,0.4s						
HTC	Hot Caves	0.22 212			Pg	02 33 29.4	-0.6
JOKA	Jonika Flow	0.26	87		Pg	02 33 30.2	-0.5
JOKA					Sg	02 33 34.5	+0.5
HMH	Humu'ula Sheep	0.27 313			Pg	02 33 31.2	+0.3
HMH	Humu'ula Sheep	0.27 313		IAML		02 33 40.2	
	comp=N,184nm,0.6s						
HMH				IAML		02 33 40.6	
	comp=E,201nm,0.5s						
MLOA	Mauna Loa Obse	0.31 292			Pg	02 33 31.7	0.0
MLOA					Sg	02 33 36.7	+1.0
MLOA	Mauna Loa Obse	0.31 292		IAML		02 33 39.0	
	comp=E,216nm,0.4s						
MWH	Moku'aweowe	0.31 282			Pg	02 33 31.6	-0.2
MWH					Sg	02 33 36.2	+0.3
MWH	Moku'aweowe	0.31 282		IAML		02 33 40.7	
	comp=E,505nm,0.7s						
KHU	Kahuku	0.37 242			Sg	02 33 38.8	+1.1
KHU	Kahuku	0.37 242			Pg	02 33 31.9	-0.9
KHU	Kahuku	0.37 242		IAML		02 33 38.1	
	comp=N,205nm,3.2s						
ALEP	Alea Permanent	0.37 289			Pg	02 33 32.5	-0.4
POHA	Pohakuloa	0.41 324			Sg	02 33 39.0	-0.1
HUH	Hualalai	0.59 296			Pg	02 33 36.7	-0.5
KHLU	Kahalu`u	0.61 286			Sg	02 33 46.6	+1.2
KHLU	Kahalu`u	0.61 286		Pg	Pg	02 33 36.4	-1.1

*NOU **11** 02:41:34.0, 36°.45S×177°.67W, h0km, mb4.5/5, East of North Island, N.Z.*
*WEL **11** 02:42:07.7±1.0, 37°.5±4°×179°.9E±1°, h18km±8km, M3.2/36, ML3.5/42, MLv3.2/36, Error ellipse: s-maj=0.0km s-min=0.0km az=83.8*

ISC 11 02:42:06.3±2.5, 37°.00S±0°.07×179°.1E±0°.1, h10km, n62, σ1=92, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.86 229		P	Pg	02 42 23.0	0.0
MXZ				S	Sg	02 42 34.1	-0.1
WMGZ	Waiomatatini S	1.00 214		P	Pb	02 42 27.2	+1.5
WMGZ				S	Sn	02 42 42.0	+1.5
PKGZ	Pakihiroa	1.22 223		P	Pb	02 42 29.3	-0.2
PKGZ				S	Sb	02 42 46.2	+0.8
PUZ	Puketiti	1.28 212		P	Pn	02 42 30.6	+0.4
PUZ				S	Sn	02 42 48.8	+1.3
HAZ	Te Kaha	1.31 234		P	Pn	02 42 29.6	-1.1
TWGZ	Tauwhareparae	1.49 217		P	Pn	02 42 34.1	+0.9
RUGZ	Raukumara Rang	1.50 229		P	Pn	02 42 34.0	+0.6
CNGZ	Carnagh Statio	1.65 206		P	Pn	02 42 36.5	+1.1
TKGZ	Te Karaka	1.76 215		P	Pn	02 42 37.7	+0.8
TKGZ				S	Sn	02 42 59.6	+0.2
MWZ	Matawai	1.84 223		P	Pn	02 42 38.7	+0.7
WHRZ	Whale Island	1.91 243		P	Pn	02 42 40.1	+1.1
RAGZ	Rawiri	2.02 222		P	Pn	02 42 41.3	+0.8
RIGZ	Rimuhau	2.02 212		P	Pn	02 42 40.6	+0.2
RIGZ				S	Sn	02 43 06.1	+0.3
URZ	Urewera	2.04 231		P	Pn	02 42 41.3	+0.7
URZ				S	Sn	02 43 07.1	+1.0
URZ	Urewera	2.04 231		P	Pn	02 42 43.2	+2.6
PRGZ	Paritu Road	2.16 207		P	Pn	02 42 42.3	-0.1
EDRZ	Edgecumbe	2.19 239		P	Pn	02 42 43.8	+0.9
SNGZ	Shannon Statio	2.27 218		P	Pn	02 42 45.2	+1.2
MYRZ	Mayor Island	2.32 262		P	Pn	02 42 44.4	-0.1
MYRZ				S	Sn	02 43 13.6	+0.4
MHGZ	Mahia Peninsul	2.36 204		P	Pn	02 42 45.3	+0.2
MUGZ	Murupara	2.38 231		P	Pn	02 42 45.5	+0.1
TGRZ	Tauranga	2.40 251		P	Pn	02 42 45.6	+0.1
TARZ	Mount Tarawera	2.42 238		P	Pn	02 42 47.7	+1.6
RAHZ	Arahi	2.50 219		P	Pn	02 42 47.9	+0.8
MTHZ	Maungataniwha	2.59 224		P	Pn	02 42 49.0	+0.8
MTHZ				S	Sn	02 43 19.8	0.0
KMRZ	Kaimai	2.67 251		P	Pn	02 42 50.3	+0.9
KUZ	Kuaotunu	2.74 274		P	Pn	02 42 49.1	-1.2
NMHZ	Naumai	2.78 220		P	Pn	02 42 51.6	+0.6
MRHZ	Matea Rd	2.82 229		P	Pn	02 42 51.7	+0.2
TOZ	Tahuroa Road	2.98 255		P	Pn	02 42 53.3	-0.3
BKZ	Black Stump Fm	3.00 223		P	Pn	02 42 53.7	-0.2
BKZ	Black Stump Fm	3.00 223		P	Pn	02 42 54.2	+0.2
MCHZ	McNeill Hill	3.10 217		P	Pn	02 42 55.0	-0.3
MKAZ	Moumakai	3.17 267		P	Pn	02 42 55.7	-0.5
WIAZ	Waiheke Island	3.20 272		P	Pn	02 42 56.4	-0.3
KWHZ	Kaweka Forest	3.23 220		P	Pn	02 42 56.9	-0.1
KAHZ	Kahuranaki	3.31 212		P	Pn	02 42 56.8	-1.3
KAHZ				S	Sn	02 43 35.6	-1.9
ETAZ	East Tamaki Re	3.36 269		P	Pn	02 42 59.9	+1.1
MBAZ	Motutapu North	3.40 273		P	Pn	02 42 59.9	+0.6
KRHZ	Kereru	3.42 218		P	Pn	02 42 59.5	-0.2
TMVZ	Te Maari	3.43 231		P	Pn	02 43 00.3	+0.3
NTVZ	North Tongarir	3.44 231		P	Pn	02 42 60.0	0.0
ETVZ	East Tongariro	3.44 231		P	Pn	02 43 00.8	+0.8
BHHZ	Black Hill Sta	3.46 223		P	Pn	02 43 00.3	0.0
ABAZ	Army Bay	3.47 275		P	Pn	02 43 00.4	+0.1
OTVZ	Oturere	3.48 231		P	Pn	02 43 01.0	+0.3
NNVZ	North Ngauruho	3.50 231		P	Pn	02 43 03.1	+2.2
SNVZ	South Ngauruho	3.51 230		P	Pn	02 43 01.3	+0.2
NGZ	Ngauruhoe	3.53 231		P	Pn	02 43 01.6	+0.3
MOVZ	Moawhango	3.58 227		P	Pn	02 43 01.9	-0.1
AWAZ	Awhitu Peninsu	3.58 268		P	Pn	02 43 02.2	+0.2
WNVZ	Wahianoa	3.62 229		P	Pn	02 43 02.9	+0.2
RVAZ	Riverhead Bore	3.65 272		P	Pn	02 43 03.4	+0.6
HIZ	Hauiti	3.71 245		P	Pb	02 43 09.0	-2.8
PNHZ	Pukenui	3.71 217		P	Pn	02 43 02.5	-1.2
MTVZ	Mangateitei	3.74 229		P	Pn	02 43 02.1	-2.0
WCZ	Waipu Caves	3.99 284		P	Pn	02 43 07.9	+0.3
BFZ	Birch Farm	4.31 211		P	Pn	02 43 09.3	-2.6
OUZ	Omahuta	4.81 290		P	Pn	02 43 20.0	+1.2
OUZ	Omahuta	4.81 290		P	Pn	02 43 20.2	+1.4
CMWZ	Cape Campbell	6.08 217		P	Pn	02 43 36.1	-0.2
QRZ	Quartz Range	6.41 231		P	Pn	02 43 39.2	-1.6

*IDC **11** 02:55:33.6±0.6, 34°.41N×141°.60E, h0km, mb4.1/18, mbtmp4.1/21, ML3.6/2, MS3.3/11, Error ellipse: s-maj=15.8km s-min=13.8km az=114.0*
*JMA **11** 02:55:34.3±0.5, 34°.N±1°×14°.2E±°, h25km±2km, MV3.5/30, FAR SE OFF BOSO PEN*
*NEIC **11** 02:55:34.7±1.8, 34°.46N±0°.06×141°.7E±0°.1, h10km±1km, mb4.6/50, Error ellipse: s-maj=16.2km s-min=9.8km az=103.0*
*MOS **11** 02:55:36.7±1.1, 34°.45N×141°.61E, h35km, mb4.6/22, Error ellipse: s-maj=14.7km s-min=6.8km az=125.3*

ISC 11 02:55:36.6±0.5, 34°.41N±0°.04×141°.69E±0°.07, h27km, n131, σ1=11/110, mb4.5/54, MS3.3/8, 11C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.64 293		P	Pn	02 55 47.5	-1.9
BSO1				eX		02 55 56.2	
BSO3	Boso 3	1.05 292		eP	Pb	02 55 54.9	-1.1
BSO4	Boso 4	1.26 298		eP	Pb	02 55 57.6	-1.9
JKUC	kamogawauchiur	1.44 302		eP	Pb	02 56 00.7	-2.0
CHOJ	Chosi	1.46 332		eP	Pb	02 56 00.3	-2.9
JMKN	Mikurajimanish	1.81 254		P	Pn	02 56 05.5	-0.5
JIM2	Oshima 3	1.89 280		eP	Pn	02 56 05.9	-1.2
JHJ2	Mitsune	2.02 231		Pn	Pb	02 56 09.3	-3.4
JHJ	Hachijo jima 2	2.04 232		Pn	Pn	02 56 09.3	+0.2
	45nm,0.3s,baz=103,slow=23,SNR=21						
JHJ				Sn	Sb	02 56 35.4	-2.6
	90nm,0.3s,baz=61,slow=22,SNR=18						
JYT	Yasato	2.19 327			Pn	02 56 09.1	-2.1
JMM	Marumori	3.53 348			Pn	02 56 27.8	-1.8
MJAR	Matsushiro Arr	3.55 308		Pn	Pn	02 56 28.7	-1.2
	1.0nm,0.3s,baz=153,slow=13,SNR=28						
MJAR				Sn	Sn	02 57 12.5	+1.5
	0.6nm,0.3s,baz=131,slow=16,SNR=2.5 8.2nm,0.6s						
MAJO	Matsushiro	3.55 308			Pn	02 56 30.7	+0.7
MAJO	Matsushiro	3.55 308	c	iP	Pn	02 56 30.4	+0.4
JGF	Kuroka	3.75 290		Pn	Pn	02 56 33.7	+1.0
INU	Inuyama	3.95 285			Pn	02 56 36.4	+0.9
JSD	Sado	4.56 324		Pn	Pn	02 56 43.4	-0.4
JMN	Monobe	6.52 266		Pn	Pn	02 57 12.2	+1.5
JCJ	Chichijima	7.30 177		Pn	Pn	02 57 21.1	-0.4
	6.2nm,0.3s,baz=343,slow=15,SNR=1.5						
JCJ				Sn	Sn	02 58 41.6	-1.9
	4.3nm,0.3s,baz=237,slow=17,SNR=1.7 19nm,0.4s						
KSRS	Korea Array	11.57 289		Pn	Pn	02 58 22.5	+2.6
	0.2nm,0.3s,baz=105,slow=13,SNR=7.4						
KSRS				LR	LR	03 03 30.7	
	comp=Z,74nm,18.0s,baz=100,slow=41						
USA0B	Ussuriysk Arra	12.32 325		Pn	Pn	02 58 29.9	-0.3
USA0B	Ussuriysk Arra	12.32 325		P	Pn	02 58 29.9	-0.3
USRK	Ussuriysk Ar.	12.32 325		Pn	Pn	02 58 29.5	-0.7
	1.8nm,0.7s,baz=148,slow=12,SNR=4.4						
USRK				LR	LR	03 03 36.6	
	comp=Z,192nm,18.1s,baz=225,slow=39						
USRK	Ussuriysk Ar.	12.32 325		Pn	Pn	02 58 28.6	-1.6
YSS	Yuzh-Sakhalins	12.56 3		eP	Pn	02 58 30.6	-2.8
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,700nm,12.0s						
JOW	Kunigami	13.79 240		LR	LR	03 04 16.6	
	comp=Z,129nm,19.7s,baz=135,slow=38						
KLR	Kul'dur	16.54 337		LR	LR	03 05 35.3	
	comp=Z,80nm,18.7s,baz=149,slow=36						
ZEA	Zeya	21.86 337		eP	P	03 00 27.5	+0.6
ZEA				pmax	pmax		
	comp=N,20nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.1s						
ZEA				MLR	MLR		
	comp=N,200nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
PETK	Petropavlovsk-	21.89 26		LR	LR	03 12 30.7	
	comp=Z,50nm,18.1s,baz=253,slow=46						
MA2	Magadan	25.88 11		LR	LR	03 13 05.3	
	comp=Z,50nm,18.9s,baz=95,slow=41						
H11N2	WAKE ISLAND Hy	26.69 117		T	T	03 29 13.2	
	baz=309,slow=75,SNR=32						
H11N1	WAKE ISLAND Hy	26.70 117		T	T	03 29 14.2	
	baz=309,slow=75,SNR=31						
H11N3	WAKE ISLAND Hy	26.71 117		T	T	03 29 20.3	
	baz=309,slow=75,SNR=25						
H11S3	WAKE ISLAND Hy	27.32 119		T	T	03 30 16.4	
	baz=313,slow=75,SNR=10.0						
H11S1	WAKE ISLAND Hy	27.32 119		T	T	03 30 12.3	
	baz=313,slow=75,SNR=14						
H11S2	WAKE ISLAND Hy	27.33 119		T	T	03 30 13.9	
	baz=313,slow=75,SNR=9.0						
ULN	Ulaanbaatar	29.08 308		P	P	03 01 34.9	0.0
ULN				IAmb	IAmb	03 01 37.4	
	comp=Z,10nm,1.5s						
ULN	Ulaanbaatar	29.08 308	⇑	iP	P	03 01 36.3	+1.4
ULN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
SEY	Seymchan	29.33 10	⇑	iP	P	03 01 36.0	-0.7
SEY				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SONM	Songino Array	29.50 308		P	P	03 01 39.9	+1.3
	comp=Z,2.0nm,1.0s,baz=112,slow=9.5,SNR=12 comp=Z,2.0nm,1.0s						
SONM	Songino Array	29.50 308		P	P	03 01 39.4	+0.8
ZAK	Zakamensk	32.13 312		eP	P	03 02 01.2	-0.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CMAR	Chiang Mai Arr	41.12 258		P	P	03 03 18.7	+0.2
	comp=Z,1.1nm,0.3s,baz=40,slow=6.8,SNR=5.5						
CMAR				LR	LR	03 20 22.9	
	comp=Z,24nm,18.3s,baz=10.0,slow=36 comp=Z,1.1nm,0.3s						
DGZ	Jazzator, Alta	42.15 308	⇑	iP	P	03 03 28.1	+1.3
DGZ				pmax	pmax		
	comp=Z,12nm,1.1s						
ZAA0	Zalesovo Array	43.88 314		P	P	03 03 39.9	-0.6
ZALV	Zalesovo Beam	43.88 314		P	P	03 03 40.9	+0.4
	comp=Z,1.6nm,0.7s,baz=100,slow=7.7,SNR=6.0 comp=Z,1.6nm,0.7s						
ZALV	Zalesovo Beam	43.88 314		P	P	03 03 39.9	-0.6
MKAR	Makanchi Array	45.74 304		P	P	03 03 56.2	+0.7
	comp=Z,1.8nm,0.9s,baz=89,slow=8.6,SNR=6.0						
MKAR				LR	LR	03 24 52.5	
	comp=Z,52nm,19.7s,baz=104,slow=38 comp=Z,1.8nm,0.9s						
MKAR	Makanchi Array	45.74 304		P	P	03 03 55.9	+0.4
MKAR	Makanchi Array	45.74 304	i	P	P	03 03 59.5	+4.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NRIK	Noril'sk	45.75 336		P	P	03 03 55.9	+0.7
	comp=Z,6.8nm,1.0s,baz=124,slow=6.5,SNR=5.2 comp=Z,6.8nm,1.0s						
NRIK	Noril'sk	45.75 336		P	P	03 03 55.1	-0.1
NRIK				IAmb	IAmb	03 03 56.8	
	comp=Z,9.4nm,1.2s						
NRIK	Noril'sk	45.75 336	⇑	iP	P	03 03 55.7	+0.5
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KURK	Kurchatov	47.76 310		P	P	03 04 11.1	-0.1
KURK	Kurchatov	47.76 310	ce	P	P	03 04 10.8	-0.3
KURK				pmax	pmax		
	comp=Z,12nm,1.1s						
MTN	Manton Dam	48.05 194		P	P	03 04 12.6	-1.0
KDAK	Kodiak Island	48.93 40		P	P	03 04 21.3	+1.3
	comp=Z,3.9nm,0.8s,baz=318,slow=9.3,SNR=6.6 comp=Z,3.9nm,0.8s						
TARG	Taragay, Kyrgy	49.80 298		P	P	03 04 26.9	-0.6
TARG	Taragay, Kyrgy	49.80 298		P	P	03 04 26.9	-0.6
TARG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NEA2	Nenana	50.66 31		P	P	03 04 34.1	+1.0
NEA2				IAmb	IAmb	03 04 36.4	
	comp=Z,6.3nm,1.1s						
PSI	Prapat	50.68 241		LR	LR	03 24 46.9	
	comp=Z,25nm,18.1s,baz=6.0,slow=35						
MDM	Murphy Dome	51.03 31		P	P	03 04 36.7	+0.7
MDM				IAmb	IAmb	03 04 50.8	
	comp=Z,6.8nm,0.9s						
IL31		51.61 31		P	P	03 04 41.0	+0.8
IL31				IAmb	IAmb	03 04 54.0	
	comp=Z,3.9nm,0.8s						
ILAR	Eielson Array	51.61 31		P	P	03 04 41.5	+1.2
	comp=Z,1.6nm,0.8s,baz=269,slow=6.3,SNR=22 comp=Z,1.6nm,0.8s						
ILAR	Eielson Array	51.61 31		P	P	03 04 40.2	-0.1
AAK	Ala-Archa	51.97 300	⇑	iP	P	03 04 44.1	+0.6
AAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BRVK	Borovoye	52.59 314		P	P	03 04 47.9	+0.2
BRVK	Borovoye	52.59 314	c	iP	P	03 04 48.1	+0.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WB0	Warramunga Arr	54.32 188		P	P	03 05 00.9	+0.3
WB0				IAmb	IAmb	03 05 02.2	
	comp=Z,8.0nm,1.1s						
FITZ	Fitzroy Crossi	54.40 199		P	P	03 05 01.7	+0.4
FITZ				IAmb	IAmb	03 05 15.2	
	comp=Z,4.1nm,1.0s						
WRAB	Tennant Creek	54.49 188		P	P	03 05 02.4	+0.5
WRAB	Tennant Creek	54.49 188		P	P	03 05 02.4	+0.5
WRAB				pmax	pmax		
	comp=Z,24nm,1.5s						
WRA	Warramunga Arr	54.50 189		P	P	03 05 02.7	+0.7
	comp=Z,3.5nm,0.9s,baz=6.4,slow=7.7,SNR=18 comp=Z,3.5nm,0.9s						
WRA	Warramunga Arr	54.50 189		P	P	03 05 01.5	-0.5
KK31	Karatay Array	54.67 302		P	P	03 05 03.3	+0.1
KK31				IAmb	IAmb	03 05 05.0	
	comp=Z,6.9nm,0.9s						
KK31	Karatay Array	54.67 302		P	P	03 05 03.3	+0.1
KK31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KKAR	Karatay Array	54.67 302		P	P	03 05 03.5	+0.4
KKAR				IAmb	IAmb	03 05 05.0	
	comp=Z,6.9nm,0.9s						
KKAR	Karatay Array	54.67 302		P	P	03 05 03.5	+0.4
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	Inuvik	56.63 26		P	P	03 05 18.1	+1.3
	comp=Z,2.0nm,0.8s,baz=304,slow=3.6,SNR=3.5 comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	58.22 188		P	P	03 05 29.4	+0.9
	comp=Z,1.4nm,

NVAR **Mina Array Bea** 76.39 53 P P 03 07 23.7 -0.1
AKASG **Malin Array Be** 76.52 323 P P 03 07 24.6 +0.6
comp=Z,0.8nm,0.6s,baz=46,slow=4.8,SNR=7.1
comp=Z,0.8nm,0.6s
AKASG **Malin Array Be** 76.52 323 *i* P P 03 07 24.3 +0.3
AKBB **Malin Array Si** 76.52 323 *ce*P P 03 07 24.2 +0.2
AKBB pmax pmax
comp=Z,7.0nm,1.3s
NB2 **NORSAR Subarra** 76.69 338 P P 03 07 25.4 +0.5
comp=Z,0.6nm,0.7s,baz=39,slow=5.9
NOA **NORSAR Array B** 76.69 338 P P 03 07 25.5 +0.5
comp=Z,1.4nm,0.8s,baz=39,slow=5.7,SNR=5.3
comp=Z,1.4nm,0.8s
MARD **Mardin** 77.60 307 P P 03 07 31.2 +0.6
HVU **Hansel Valley** 78.01 47 IAmb IAmb 03 07 47.7
comp=Z,7.5nm,1.4s
TPAW **Teton Pass** 78.10 45 P P 03 07 32.5 -0.9
HWUT **Hardware Ranch** 78.85 47 IAmb IAmb 03 07 52.9
comp=Z,8.7nm,1.4s
DUG **Dugway, Tooele** 78.91 49 IAmb IAmb 03 07 53.0
comp=Z,4.1nm,0.8s
PDAR **Pinedale Array** 79.35 45 P P 03 07 41.7 +1.4
comp=Z,0.9nm,0.8s,baz=272,slow=3.3,SNR=9.2
comp=Z,0.9nm,0.8s
PDAR **Pinedale Array** 79.35 45 P P 03 07 40.2 -0.1
RDMU **Red Mountain** 80.67 47 IAmb IAmb 03 08 02.6
comp=Z,7.8nm,0.9s
Q16A **Castle Valley** 80.69 49 IAmb IAmb 03 08 02.9
comp=Z,5.3nm,1.0s
BRTR **Keskin Array B** 80.77 312 P P 03 07 49.3 +1.4
comp=Z,1.3nm,0.9s,baz=106,slow=4.0,SNR=9.4
comp=Z,1.3nm,0.9s
BRTR **Keskin Array B** 80.77 312 P P 03 07 48.7 +0.8
BRTR **Keskin Array B** 80.77 312 *i* P P 03 07 48.7 +0.8
BRTR pmax pmax
comp=Z,1.0nm,0.9s
RAYN **Ar Rayn** 81.87 293 P P 03 07 53.9 0.0
RAYN IAmb IAmb 03 08 08.0
comp=Z,6.5nm,1.3s
RAYN **Ar Rayn** 81.87 293 P P 03 07 53.9 0.0
RAYN pmax pmax
comp=Z,7.0nm,1.3s
N23A **Red Feather La** 82.63 45 P P 03 07 58.0 +0.1
SMCO **Snowmass** 83.11 47 P P 03 07 58.1 -2.4
SMCO IAmb IAmb 03 08 09.1
comp=Z,5.3nm,1.3s
MVCO **Mesa Verde** 83.40 49 IAmb IAmb 03 08 05.0
comp=Z,5.8nm,1.1s
S22A **4UR Ranch, Cre** 84.10 48 IAmb IAmb 03 08 20.9
comp=Z,3.8nm,0.9s
SDCO **Great Sand Dun** 84.91 47 IAmb IAmb 03 08 12.9
comp=Z,3.2nm,0.9s
GERES **GERESS Array B** 85.06 328 P P 03 08 10.8 +0.9
comp=Z,0.4nm,0.6s,baz=358,slow=4.0,SNR=4.8
comp=Z,0.4nm,0.6s
ANMO **Albuquerque** 86.11 50⇑ *i* P P 03 08 17.8 +2.3
ANMO pmax pmax
comp=Z,2.0nm,1.3s
LPAZ **La Paz** 147.75 63 PKPbc PKPab 03 15 21.7 -0.8
comp=Z,1.7nm,0.7s,baz=314,slow=3.1,SNR=11
PB16 **IPOC Station P** 147.96 68 PKPbc PKPab 03 15 22.2 -1.0

*IDC **11** 02:59:30.8±1.4, 19˚.80S×173˚.29E, h0km, mb4.2/9, mbtmp4.2/10, ML4.8/1, MS4.1/1, Error ellipse: s-maj=51.8km s-min=20.0km az=149.0*
*NEIC **11** 02:59:36.5±2.2, 19˚.9S±0˚.1×173˚.49E±0˚.10, h44km±7km, mb4.6/19, Error ellipse: s-maj=20.6km s-min=10.8km az=153.0*

ISC 11 02:59:35.2±0.5, **19˚.8S**±0˚.1×**173˚.44E**±0˚.10, **h35**km, **n64, σ0s71/58, mb4.5/20, MS3.8/3, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.85**	**65**	Pn	**Pn**	**03 00 46.1**	**+0.3**
	1.2nm,0.3s,baz=295,slow=13,SNR=6.6						
	18nm,0.8s						
MSVF	**Nonsavu**	**4.85**	**65**	Pn	**Pn**	**03 00 45.7**	**0.0**
LIFNC	**LIFOU**	**5.89**	**260**	Pn	**Pn**	**03 01 00.2**	**+0.2**
OUENC	**Ouen Island, N**	**6.67**	**246**	Pn	**Pn**	**03 01 11.2**	**+0.4**
DZM	**Mont Dzumac**	**6.90**	**250**	*e*Pn	**Pn**	**03 01 14.8**	**+0.8**
DZM	112nm,1.4s						
				*e*LR	LR	03 02 48.7	
	comp=Z,690nm,24.4s						
DZM	**Mont Dzumac**	**6.90**	**250**	Pn	**Pn**	**03 01 14.7**	**+0.7**
	0.3nm,0.3s,baz=75,slow=13,SNR=5.9						
TARA	**Tarawa**	**21.07**	**359**	P	**P**	**03 04 14.7**	**-1.8**
TARA				IAmb	IAmb	03 04 17.3	
	comp=Z,56nm,1.4s						
STKA	**Stephens Creek**	**30.94**	**241**	P	**P**	**03 05 49.4**	**+0.3**
	comp=Z,4.5nm,0.9s,baz=68,slow=11,SNR=6.2						
	comp=Z,4.5nm,0.9s						
TBI	**Tubuai**	**34.62**	**103**	*e*LR	LR	03 15 37.5	
	comp=Z,165nm,29.2s						
PPT2	**Papeete2**	**35.06**	**93**	*e*LR	LR	03 15 49.9	
	comp=Z,248nm,28.0s						
WRA	**Warramunga Arr**	**36.71**	**263**	P	**P**	**03 06 38.3**	**-0.9**
	comp=Z,2.4nm,1.1s,baz=95,slow=9.1,SNR=6.3						
	comp=Z,2.4nm,1.1s						
WRA	**Warramunga Arr**	**36.71**	**263**	P	**P**	**03 06 37.8**	**-1.5**
AS31	**Alice Springs**	**36.83**	**257**	P	**P**	**03 06 40.1**	**-0.2**
ASAR	**Alice Springs**	**36.83**	**257**	P	**P**	**03 06 39.7**	**-0.6**
	comp=Z,5.8nm,0.9s,baz=81,slow=9.1,SNR=26						
ASAR				PcP	**PcP**	**03 09 02.0**	**+0.2**
	comp=Z,1.3nm,1.1s,baz=89,slow=3.8,SNR=4.7						
	comp=Z,5.8nm,0.9s						
ASAR	**Alice Springs**	**36.83**	**257**	P	**P**	**03 06 39.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**45.12**	**264**	P	**P**	**03 07 48.4**	**-0.1**
FITZ				IAmb	IAmb	03 07 49.8	
	comp=Z,13nm,1.1s						
JCJ	**Chichijima**	**55.62**	**326**	LR	LR	03 29 55.3	
	comp=Z,175nm,21.7s,baz=102,slow=33						
CASY	**Casey**	**61.18**	**204**	P	**P**	**03 09 46.2**	**+0.2**
CASY				IAmb	IAmb	03 09 52.2	
	comp=Z,8.1nm,1.1s						
MJAR	**Matsushiro Arr**	**65.21**	**329**	P	**P**	**03 10 13.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=154,slow=7.2,SNR=6.7						
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**70.22**	**180**	P	**P**	**03 10 43.6**	**-0.9**
QSPA				IAmb	IAmb	03 10 46.8	
	comp=Z,6.9nm,1.2s						
USRK	**Ussuriysk Ar.**	**74.15**	**330**	P	**P**	**03 11 08.6**	**+0.6**
ENH	**Enshi**	**79.14**	**308**	P	**P**	**03 11 36.1**	**-0.5**
CRAI	**Chiangrai**	**81.86**	**295**	P	**P**	**03 11 51.7**	**+0.4**
CRAI				IAmb	IAmb	03 11 53.1	
	comp=Z,6.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**82.37**	**293**	P	**P**	**03 11 55.1**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=129,slow=3.6,SNR=11						
	comp=Z,1.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**82.37**	**293**	P	**P**	**03 11 54.4**	**+0.3**
CHTO	**Chiang Mai**	**82.51**	**293**	P	**P**	**03 11 55.7**	**+0.8**
ILSW	**Iliamna Southw**	**84.06**	**16**	P	**P**	**03 12 01.6**	**-0.4**
ILSW				IAmb	IAmb	03 12 03.1	
	comp=Z,19nm,1.3s						
SEY	**Seymchan**	**84.15**	**350**	P	**P**	**03 12 03.1**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=160,slow=9.4,SNR=5.3						
	comp=Z,3.3nm,0.8s						
ISA	**Isabella, Lake**	**84.82**	**49**	P	**P**	**03 12 07.1**	**+0.7**
ISA				IAmb	IAmb	03 12 12.9	
	comp=Z,7.9nm,1.4s						
MDPB	**Devils Postpil**	**85.35**	**47**	P	**P**	**03 12 09.8**	**+0.5**
MDPB				IAmb	IAmb	03 12 11.9	
	comp=Z,4.6nm,1.2s						
BEKR	**Beckworth**	**85.59**	**45**	P	**P**	**03 12 10.2**	**-0.1**
BEKR				IAmb	IAmb	03 12 12.1	
	comp=Z,6.2nm,1.4s						
PAHR	**Pah Rah Range**	**86.16**	**45**	P	**P**	**03 12 13.8**	**+0.7**
PAHR				IAmb	IAmb	03 12 19.2	
	comp=Z,5.0nm,1.3s						
NVAR	**Mina Array Bea**	**86.27**	**47**	P	**P**	**03 12 15.1**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=236,slow=6.0,SNR=5.4						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**86.27**	**47**	P	**P**	**03 12 14.1**	**+0.3**
WVOR	**Wild Horse Val**	**87.99**	**43**	P	**P**	**03 12 21.1**	**-0.8**
WVOR				IAmb	IAmb	03 12 24.0	
	comp=Z,4.1nm,1.4s						
TROLL	**Troll, Antarti**	**88.18**	**183**	P	**P**	**03 12 22.3**	**-0.1**
SNAA	**Sanae**	**88.69**	**181**	P	**P**	**03 12 25.0**	**+0.3**
SNAA	**Sanae**	**88.69**	**181**	P	**P**	**03 12 23.8**	**-0.9**
VNA3	**Neumayer Olymp**	**89.13**	**179**	P	**P**	**03 12 26.8**	**+0.1**
VNA2	**Neumayer--Watz**	**89.48**	**180**	P	**P**	**03 12 27.8**	**-0.5**
	baz=169,slow=3.4						
U15A	**North Rim**	**89.64**	**51**	P	**P**	**03 12 30.4**	**+0.4**
ILAR	**Eielson Array**	**89.67**	**16**	P	**P**	**03 12 31.2**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=223,slow=6.1,SNR=4.1						
	comp=Z,0.4nm,0.8s						
VNA1	**Neumayer--Stat**	**89.75**	**179**	P	**P**	**03 12 29.1**	**-0.4**
SONM	**Songino Array**	**90.11**	**322**	P	**P**	**03 12 31.9**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=116,slow=3.4,SNR=6.2						
	comp=Z,0.9nm,0.8s						
SONM	**Songino Array**	**90.11**	**322**	P	**P**	**03 12 31.2**	**-0.5**
DUG	**Dugway, Tooele**	**90.87**	**47**	P	**P**	**03 12 33.7**	**-1.7**
DUG				IAmb	IAmb	03 12 43.6	
	comp=Z,2.3nm,1.3s						
OSTC	**Ostas**	**144.43**	**335**	*e*PKP	**PKPab**	**03 19 05.6**	**-0.3**
DPC	**Dobrynska-Polom**	**144.55**	**335**	*e*PKP	PKPbc	03 19 06.9	+0.3
UPC	**Upice**	**144.55**	**335**	*e*PKP	PKPbc	03 19 06.6	0.0
KRLC	**Kraliky**	**144.57**	**334**	*e*PKP	PKPbc	03 19 06.4	-0.3
MAUC	**Maruska**	**144.66**	**332**	*e*PKP	PKPbc	03 19 07.2	+0.2
PVCC	**Panska Ves**	**145.10**	**336**	*e*PKP	**PKPdf**	**03 19 08.5**	**-0.3**
PRU	**Pruhonice**	**145.54**	**336**	*e*PKP	**PKPdf**	**03 19 09.3**	**-0.3**
NKC	**Novy Kostel**	**146.12**	**338**	*e*PKP	**PKPbc**	**03 19 11.4**	**-0.1**
CKRC	**Cesky Krumlov**	**146.56**	**335**	*e*PKP	**PKPbc**	**03 19 12.5**	**-0.4**
RONA	**Rosalia, Austr**	**146.58**	**332**	*e*P	**PKPbc**	**03 19 13.2**	**+0.2**
	comp=Z,3.9nm,1.1s						
CONA	**Conrad Observa**	**146.60**	**332**	*e*P	**PKPab**	**03 19 13.4**	**-0.8**
	comp=Z,4.4nm,0.9s						
KHC	**Kasperske Hory**	**146.60**	**336**	*e*PKP	**PKPbc**	**03 19 13.1**	**0.0**
GERES	**GERESS Array B**	**146.79**	**335**	PKPbc	**PKPbc**	**03 19 13.7**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=40,slow=2.3,SNR=16						
WATA	**Walderalm**	**148.84**	**336**	*e*P	**PKPbc**	**03 19 18.8**	**-0.5**
	comp=Z,3.0nm,1.2s						
WTTA	**Wattenberg**	**148.88**	**336**	*e*P	**PKPbc**	**03 19 19.1**	**-0.4**
	comp=Z,3.7nm,1.3s						
MOTA	**Moosalm**	**149.02**	**336**	*e*P	**PKPbc**	**03 19 19.3**	**-0.5**
	comp=Z,4.8nm,1.2s						
FETA	**Feichten**	**149.43**	**336**	*e*P	**PKPbc**	**03 19 20.8**	**0.0**
	comp=Z,4.8nm,1.3s						
ESDC	**Sonseca Array**	**160.10**	**354**	PKPab	**PKPab**	**03 20 11.5**	**+0.6**
	comp=Z,1.6nm,1.3s,baz=39,slow=3.8,SNR=6.6						

*IDC **11** 03:05:45.5±1.5, 19˚.67S×173˚.34E, h0km, mb4.0/6, mbtmp4.0/7, ML4.9/1, MS3.7/20, Error ellipse: s-maj=58.8km s-min=23.1km az=154.0*

ISC 11 03:05:50.2±0.7, **19.8S**±0.2×**173.4E**±0.1, **h35**km, **n44, σ0s58/21, mb4.1/6, MS3.8**/19, **Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.81**	**66**	Pn	**Pn**	**03 07 00.2**	**-0.1**
	1.6nm,0.3s,baz=265,slow=14,SNR=11						
	13nm,0.6s						
DZM	**Mont Dzumac**	**6.93**	**249**	*e*LR	LR	03 09 09.8	
	comp=Z,1μm,25.6s						
DZM	**Mont Dzumac**	**6.93**	**249**	LR	LR	03 09 50.0	
	comp=Z,1μm,20.7s,baz=34,slow=36						
AFI	**Afiamalu**	**15.30**	**70**	LR	LR	03 14 19.6	
	comp=Z,198nm,19.1s,baz=266,slow=34						
HNR	**Honara**	**16.59**	**306**	LR	LR	03 14 53.7	
	comp=Z,5μm,21.9s,baz=148,slow=33						
URZ	**Urewera**	**18.71**	**171**	LR	LR	03 15 48.7	
	comp=Z,130nm,18.1s,baz=38,slow=32						
RPZ	**Rata Peaks**	**23.97**	**184**	LR	LR	03 19 16.4	
	comp=Z,205nm,19.6s,baz=319,slow=34						
RAR	**Rarotonga**	**25.13**	**98**	LR	LR	03 18 44.7	
	comp=Z,201nm,21.7s,baz=290,slow=31						
CTA	**Charters Tower**	**25.55**	**265**	LR	LR	03 19 53.7	
	comp=Z,326nm,19.9s,baz=80,slow=33						
KRVT	**Keravat (AS076**	**25.91**	**304**	LR	LR	03 19 38.2	
	comp=Z,111nm,21.1s,baz=246,slow=32						
PMG	**Port Moresby**	**27.39**	**288**	LR	LR	03 20 50.9	
	comp=Z,167nm,19.4s,baz=134,slow=33						
STKA	**Stephens Creek**	**30.98**	**241**	P	**P**	**03 12 04.9**	**+0.6**
	3.0nm,0.8s,baz=49,slow=7.7,SNR=4.6						
STKA				LR	LR	03 23 10.8	
	comp=Z,220nm,20.4s,baz=42,slow=34						
	3.0nm,0.8s						
TBI	**Tubuai**	**34.63**	**103**	*e*LR	LR	03 21 59.5	
	comp=Z,275nm,28.5s						
PPT2	**Papeete2**	**35.06**	**93**	*e*LR	LR	03 22 12.0	
	comp=Z,420nm,28.2s						
PPT	**Papeete**	**35.07**	**93**	LR	LR	03 23 18.7	
	comp=Z,127nm,20.6s,baz=276,slow=30						
WRA	**Warramunga Arr**	**36.72**	**263**	P	**P**	**03 12 53.2**	**-1.2**
	0.6nm,0.8s,baz=100,slow=8.6,SNR=5.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**36.85**	**257**	P	**P**	**03 12 54.9**	**-0.6**
	2.4nm,0.8s,baz=82,slow=8.9,SNR=25						
	2.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**45.13**	**264**	LR	LR	03 32 04.4	
	comp=Z,162nm,19.1s,baz=101,slow=35						
BATI	**Baumata**	**48.86**	**274**	LR	LR	03 34 49.2	
	comp=Z,112nm,18.2s,baz=121,slow=36						
VNDA	**Vanda**	**58.08**	**183**	LR	LR	03 38 30.4	
	comp=Z,48nm,18.4s,baz=7.0,slow=34						
MJAR	**Matsushiro Arr**	**65.14**	**329**	P	**P**	**03 16 27.2**	**-0.5**
	1.9nm,1.0s,baz=155,slow=5.6,SNR=5.1						
MJAR				LR	LR	03 39 37.7	
	comp=Z,32nm,21.7s,baz=143,slow=31						
	1.9nm,1.0s						
RPN	**Rapa Nui**	**70.25**	**113**	LR	LR	03 43 06.7	
	comp=Z,28nm,20.7s,baz=114,slow=32						
PSI	**Prapat**	**76.42**	**278**	LR	LR	03 51 34.8	
	comp=Z,73nm,21.0s,baz=90,slow=36						
KLR	**Kul'dur**	**78.04**	**334**	LR	LR	03 50 38.2	
	comp=Z,22nm,18.3s,baz=134,slow=35						
CMAR	**Chiang Mai Arr**	**82.34**	**293**	P	**P**	**03 18 10.3**	**+1.4**
	0.9nm,0.3s,baz=125,slow=4.5,SNR=1.3						
	0.9nm,0.3s						
LPIG	**La Paz**	**86.10**	**63**	LR	LR	03 51 50.2	
	comp=Z,57nm,18.5s,baz=227,slow=32						
TROLL	**Troll, Antarti**	**88.26**	**183**	P	**P**	**03 18 37.7**	**0.0**
SNAA	**Sanae**	**88.77**	**181**	P	**P**	**03 18 39.7**	**-0.3**
VNA3	**Neumayer Olymp**	**89.21**	**179**	P	**P**	**03 18 41.4**	**-0.6**
VNA2	**Neumayer--Watz**	**89.56**	**180**	P	**P**	**03 18 43.5**	**-0.2**
	baz=183,slow=3.9						
VNA1	**Neumayer--Stat**	**89.83**	**179**	P	**P**	**03 18 44.7**	**-0.1**
TXAR	**Lajitas Array**	**93.56**	**60**	P	**P**	**03 19 03.3**	**+0.2**
	0.2nm,0.7s,baz=214,slow=4.4,SNR=2.1						
TXAR				LR	LR	03 53 48.3	
	comp=Z,62nm,18.7s,baz=257,slow=31						
	0.2nm,0.7s						
INK	**Inuvik**	**95.82**	**17**	LR	LR	03 59 55.0	
	comp=Z,62nm,18.2s,baz=192,slow=34						
MORC	**Moravsky Berou**	**144.41**	**333**	*e*PKP	PKPbc	03 25 21.2	0.0
DPC	**Dobruska-Polom**	**144.48**	**335**	*e*P	PKPbc	03 25 21.5	+0.1
KRLC	**Kraliky**	**144.50**	**334**	*e*P	**PKPab**	**03 25 20.9**	**-0.3**
CLL	**Collm**	**144.95**	**339**	*i* PKPbc	**PKPab**	**03 25 22.0**	**-0.7**
	comp=Z,10.0nm,0.9s						
CLL				*i* x	x	03 25 27.5	
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**144.98**	**337**	*i* P	**PKPdf**	**03 25 23.4**	**-0.1**
BRG				Amp		03 25 25.9	
	comp=Z,7.2nm,0.9s						
JAVC	**Velka Javorina**	**145.04**	**332**	*e*PKP	**PKPdf**	**03 25 24.5**	**+0.7**
VRAC	**Vranov**	**145.17**	**333**	*e*PKP	**PKPdf**	**03 25 23.9**	**-0.1**
KRUC	**Moravsky**	**145.44**	**333**	*e*PKP	**PKPab**	**03 25 24.8**	**+0.2**
CKRC	**Cesky Krumlov**	**146.50**	**335**	*e*P	**PKPbc**	**03 25 27.9**	**+0.2**
KHC	**Kasperske Hory**	**146.53**	**336**	*e*P	**PKPbc**	**03 25 27.7**	**-0.1**
GERES	**GERESS Array B**	**146.72**	**335**	PKPbc	**PKPbc**	**03 25 28.6**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=46,slow=3.9,SNR=10						

*MOS **11** 03:22:02.9±0.9, 37˚.52N×141˚.73E, h40km, mb4.7/39, Error ellipse: s-maj=10.2km s-min=5.6km az=113.8*
*JMA **11** 03:22:04.2±0.1, 37˚.5N±0˚.4×141˚.8E±0˚.7, h41km±2km, MD4.6/38, MW4.6/38, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
*BJI **11** 03:22:04.1±0.0, 37˚.49N×141˚.63E, h42km, mb4.5/37, mB4.7/16, Ms3.8/11, Ms7 3.7/10*
*NIED **11** 03:22:04.2, 37˚.51N×141˚.75E, h41km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.30; Mθθ-2.07; Mφφ-0.22; Mrθ7.09; Mθφ-1.15; Mφr-1.30; Fault plane solution: M0 7.60000×10¹⁵ NP1: ϕs224.00000°, δ13.00000°, λ37.00000°. NP2:ϕs98.00000°, δ82.00000°, λ101.00000°*
*NEIC **11** 03:22:05.0±1.7, 37˚.49N±0˚.05×141˚.70E±0˚.06, h39km±6km, mb4.5/50 Error ellipse: s-maj=9.0km s-min=3.1km az=138.0*
*IDC **11** 03:22:05.7±1.9, 37˚.42N×141˚.74E, h49km±18km, mb3.9/19, mbtmp4.2/23, ML2.8/3, MS3.7/48, Error ellipse: s-maj=15.2km s-min=11.4km az=82.0*

ISC 11 03:22:04.8±0.5, **37.51N**±0.04×**141.75E**±0.05, **h44**km±4km, **n255, σ1s53/197, mb4.4/79, MS3.8**/50, **23C-14D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.71**	**259**	*i* P	**Pn**	**03 22 17.9**	**-0.5**
JFK				S	**Sn**	**03 22 27.1**	**-1.2**
JFK	**Kawauchi**	**0.71**	**259**	A	A	03 22 17.9	
	comp=E,37nm,1.1s,comp=E,39nm,0.3s						
JMST	**Minamisoumatoc**	**0.72**	**288**	⇓ *i* P	**Pn**	**03 22 17.9**	**-0.5**
JMST				⇓S	**Sn**	**03 22 27.4**	**-1.0**
JMST	**Minamisoumatoc**	**0.72**	**288**	A	A	03 22 17.9	
	comp=E,22nm,1.0s,comp=E,29nm,1.6s						
JIKH	**Ishinomakikobu**	**0.83**	**344**	⇓ *i* P	**Pn**	**03 22 19.6**	**-0.4**
JIKH				⇓S	**Sn**	**03 22 30.3**	**-0.8**
JMM	**Marumori**	**0.84**	**295**		**Pn**	**03 22 19.9**	**-0.3**
JMM	**Marumori**	**0.84**	**295**	⇓ *i* P	**Pn**	**03 22 19.9**	**-0.3**
JMM				⇓S	**Sn**	**03 22 30.8**	**-0.5**
JMM	**Marumori**	**0.84**	**295**	A	A	03 22 19.9	
	comp=E,27nm,0.4s,comp=E,31nm,1.2s						
JIO	**Ouri**	**0.99**	**342**	⇓ *i* P	**Pn**	**03 22 22.0**	**-0.2**
JIO				⇓S	**Sn**	**03 22 34.2**	**-0.9**
JFFD	**Fukushimafurud**	**1.03**	**246**	A	A	03 22 22.6	
	comp=E,27nm,0.7s,comp=E,19nm,0.4s						
JFT	**Otama**	**1.12**	**271**	*i* P	**Pn**	**03 22 24.6**	**+0.5**
JFT				S	**Sn**	**03 22 38.8**	**+0.5**
JFT	**Otama**	**1.12**	**271**	A	A	03 22 24.6	
	comp=E,34nm,0.5s,comp=E,72nm,1.0s						
JOU	**Okura**	**1.21**	**315**	⇓ *i* P	**Pn**	**03 22 25.4**	**+0.2**
JOU				⇓S	**Sn**	**03 22 40.8**	**+0.4**
JOU	**Okura**	**1.21**	**315**	A	A	03 22 25.4	
	comp=E,15nm,1.7s,comp=E,18nm,1.9s						
JOFO	**Osakifurukawao**	**1.27**	**329**	A	A	03 22 26.2	
	comp=E,33nm,1.8s,comp=E,33nm,2.0s						
JHO	**Hitachi**	**1.30**	**227**	A	A	03 22 26.5	
	comp=E,8.0nm,0.9s,comp=E,9.0nm,0.6s						
JYAR	**Yonezawaarcadi**	**1.33**	**288**	A	A	03 22 27.0	
	comp=E,25nm,1.0s,comp=E,35nm,0.7s						
JHYU	**Hitachinakayam**	**1.49**	**219**	A	A	03 22 29.2	
	comp=E,9.0nm,0.4s,comp=E,12nm,0.3s						
JMK	**Ichinoseki**	**1.50**	**344**	⇓ *i* P	**Pn**	**03 22 29.5**	**+0.3**
JMK				⇓S	**Sn**	**03 22 48.3**	**+0.8**
JYS	**Shirataka**	**1.51**	**299**	*i* P	**Pn**	**03 22 29.8**	**+0.5**
JYS				S	**Sn**	**03 22 49.8**	**+2.0**
JYS	**Shirataka**	**1.51**	**299**	A	A	03 22 29.8	
	comp=E,12nm,1.8s,comp=E,11nm,2.0s						
JSB	**Shiboa**	**1.56**	**250**	A	A	03 22 30.2	
	comp=E,26nm,1.2s,comp=E,24nm,1.0s						
JFY	**Yanaizu**	**1.63**	**267**	P	**Pn**	**03 22 31.5**	**+0.5**
JFY	**Yanaizu**	**1.63**	**267**	A	A	03 22 31.5	
	comp=E,5.0nm,1.3s,comp=E,7.0nm,1.0s						
JYK	**Haneyama**	**1.78**	**323**	⇓ *i* P	**Pn**	**03 22 33.6**	**+0.6**
JYT	**Yasato**	**1.79**	**225**	Pn	**Pn**	**03 22 32.3**	**-0.8**
JYT	**Yasato**	**1.79**	**225**	A	A	03 22 33.5	
	comp=E,23nm,0.6s,comp=E,15nm,0.4s						
JIHU	**Itakohorinouch**	**1.83**	**213**	A	A	03 22 34.1	
	comp=E,31nm,2.8s,comp=E,30nm,2.0s						
JYA	**Atsumi**	**1.94**	**305**	A	A	03 22 35.8	
	comp=E,6.0nm,1.3s,comp=E,5.0nm,2.2s						
CHOJ	**Chosi**	**1.94**	**202**	A	A	03 22 35.6	
	comp=E,9.0nm,2.0s,comp=E,9.0nm,4.7s						
JOM	**Ohasama**	**1.99**	**350**	A	A	03 22 36.6	
	comp=E,5.0nm,0.6s,comp=E,3.0nm,2.6s						
JYYZ	**Yamagatayuza**	**2.08**	**317**	A	A	03 22 37.7	
	comp=E,11nm,4.8s,comp=E,9.0nm,2.6s						
JRG	**Rokugo**	**2.08**	**335**	A	A	03 22 37.8	
	comp=E,5.0nm,2.6s,comp=E,4.0nm,2.2s						
JSMT	**Sammumatsuo**	**2.14**	**210**	A	A	03 22 38.5	
	comp=E,20nm,2.7s,comp=E,18nm,1.2s						
JYW	**Yuwa**	**2.36**	**330**	A	A	03 22 41.9	
	comp=E,10.0nm,1.7s,comp=E,8.0nm,4.4s						
TOK	**Tokyo**	**2.42**	**222**	A	A	03 22 42.6	
	comp=E,20nm,0.5s,comp=E,15nm,0.7s						
JCN	**Nagara**	**2.43**	**211**	A	A	03 22 42.7	
	comp=E,18nm,3.6s,comp=E,16nm,2.2s						
JKUC	**kamogawauchiur**	**2.66**	**209**	A	A	03 22 45.9	
	comp=E,6.0nm,2.1s,comp=E,11nm,3.4s						
JGK	**Kuni**	**2.66**	**250**	A	A	03 22 46.1	
	comp=E,5.0nm,4.3s,comp=E,5.0nm,1.9s						
JSD	**Sado**	**2.81**	**282**	Pn	**Pn**	**03 22 48.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.99**	**252**	P	**Pn**	**03 22 49.2**	**-0.5**
	1.3nm,0.3s,baz=80,slow=15,SNR=92						
MJAR				S	**Sn**	**03 23 26.5**	**+2.1**
	110nm,0.4s,baz=130,slow=44,SNR=3.7						
MJAR				LR	LR	03 24 19.6	
	comp=Z,1μm,21.3s,baz=72,slow=45						
	15nm,0.3s						
MAJO	**Matsushiro**	**2.99**	**252**	Pn	**Pn**	**03 22 51.1**	**+1.4**
MAJO	**Matsushiro**	**2.99**	**252**	*c* *i* P	**Pn**	**03 22 50.9**	**+1.2**
JNTW	**Noshirotokiwa**	**3.02**	**336**	A	A	03 22 51.3	
	comp=E,10.0n

comp=Z,9.0nm,0.7s
HNS LR LR
comp=Z,110nm,12.4s
HNS LR LR
comp=Z,130nm,15.1s
MA2 Magadan 22.83 12 LR LR 03 36 54.6
comp=Z,116nm,18.2s,baz=206,slow=39
TWG Pinlang 23.03 236 P **P 03 27 04.8 -1.4**
TWG IAmb IAmb 03 27 18.8
comp=Z,13nm,0.8s
HHC Hu-ho-hao-te 23.58 288 *e*P **P 03 27 12.2 +0.7**
HHC pmax pmax
comp=Z,38nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.8s
LYN LuoYang 23.82 272 *e*P **P 03 27 12.5 -1.2**
LYN pmax pmax
comp=Z,10.0nm,0.6s
LYN pmax pmax
comp=Z,90nm,7.0s
LYN LR LR
comp=Z,130nm,16.5s
LYN LR LR
comp=Z,150nm,13.3s
YAK Yakutsk 25.66 347 LR LR 03 38 01.9
comp=Z,259nm,18.1s,baz=88,slow=37
YAK Yakutsk 25.66 347 *e*P **P 03 27 29.9 -0.2**
YAK *e**PP **sP 03 27 44.6 -2.2**
YAK *e*PPP PPP 03 28 19.5
YAK *e*S **S 03 31 54.9 -0.4**
YAK *e**SS **sS 03 32 12.4 -2.3**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=E,36nm,2.8s
YAK smax smax
comp=N,40nm,2.8s
SEY Seymchan 26.27 11 P **P 03 27 37.1 +1.4**
comp=N,4.9nm,1.1s,baz=172,slow=7.5,SNR=4.4
comp=N,4.9nm,1.1s
SEY Seymchan 26.27 11⇑ *i*P **P 03 27 36.8 +1.1**
SEY pmax pmax
comp=Z,16nm,1.4s
BOD Bodaibo 27.27 327 *e*P **P 03 27 44.1 -0.6**
BOD pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 27.31 303 P **P 03 27 45.1 -0.3**
ULN Ulaanbaatar 27.31 303*c i*P **P 03 27 45.9 +0.5**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 27.74 303 P **P 03 27 49.7 +0.5**
comp=Z,2.0nm,0.6s,baz=106,slow=9.5,SNR=15
SONM LR LR 03 38 33.4
comp=Z,68nm,20.1s,baz=92,slow=36
comp=Z,2.0nm,0.6s
SONM Songino Array 27.74 303 P **P 03 27 49.5 +0.2**
H11N2 WAKE ISLAND Hy 28.17 122 T T 03 57 26.1
baz=315,slow=75,SNR=366
H11N1 WAKE ISLAND Hy 28.18 122 T T 03 57 28.4
baz=315,slow=75,SNR=458
H11N3 WAKE ISLAND Hy 28.19 122 T T 03 57 30.4
baz=315,slow=75,SNR=496
H11S1 WAKE ISLAND Hy 28.90 124 T T 03 58 23.3
baz=316,slow=76,SNR=156
H11S3 WAKE ISLAND Hy 28.90 124 T T 03 58 25.2
baz=316,slow=76,SNR=173
H11S2 WAKE ISLAND Hy 28.92 124 T T 03 58 22.7
baz=316,slow=76,SNR=148
ZAK Zakamensk 30.19 308 *e*P **P 03 28 10.3 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
BILL Bilibino 33.49 16⇑ *e*P **P 03 28 42.9 +3.4**
BILL PPP PPP 03 30 04.0
BILL 03 31 24.0
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,141nm,18.0s
DAV Davao City (W) 33.68 210 LR LR 03 40 37.4
comp=Z,128nm,21.8s,baz=2.5,slow=33
KNGR Kungurtug, Tuv 33.86 307⇑ *i*P **P 03 28 44.3 +1.2**
KNGR pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 34.85 353 LR LR 03 43 35.1
comp=Z,118nm,21.1s,baz=181,slow=37
TIXI Tiksi 34.85 353⇑ *i*P **P 03 28 52.7 +1.5**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
KMI Kunming 35.30 261 ⇑P **P 03 28 57.3 +1.4**
KMI pP pP 03 29 08.6 +1.0
KMI pmax pmax
comp=Z,11nm,0.5s
PZH PanZhiHua 35.42 264 P **P 03 29 01.1 +4.3**
PZH S **S 03 34 28.9 +0.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.5s
PZH LR LR
comp=Z,270nm,21.1s
PZH LR LR
comp=Z,270nm,21.1s
PZH LR LR
comp=Z,270nm,25.0s
GOMU GeErMu 37.27 283 P **P 03 29 13.4 +0.6**
GOMU pP pP 03 29 23.1 -1.6
GOMU sP sP 03 29 29.4 -0.4
GOMU pmax pmax
comp=Z,3.0nm,0.7s
MYLDM Lahad Datu 38.55 219 P **P 03 29 22.9 -0.4**
SIJI Sorong 39.40 197 LR LR 03 44 17.0
comp=Z,126nm,18.4s,baz=298,slow=34
DGZ Jazzator, Alta 40.33 305*c i*P **P 03 29 39.5 +1.5**
DGZ pmax pmax
comp=Z,29nm,0.9s
WMQ Urumqi 40.87 296 *e*P **P 03 29 44.8 +2.4**
ZAA0 Zalesovo Array 41.79 312 P **P 03 29 49.6 -0.2**
ZAA0 IAmb IAmb 03 29 51.0
comp=Z,11nm,1.3s
ZALV Zalesovo Beam 41.79 312 P **P 03 29 50.4 +0.6**
comp=Z,4.0nm,0.8s,baz=94,slow=6.2,SNR=13
ZALV LR LR 03 47 53.4
comp=Z,105nm,18.5s,baz=87,slow=37
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 41.79 312 P **P 03 29 49.6 -0.2**
ZALV Zalesovo Beam 41.79 312 *i* P **P 03 29 50.4 +0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 41.88 255 P **P 03 29 51.3 +0.5**
comp=Z,1.6nm,0.3s,baz=56,slow=6.7,SNR=1.8
CMAR LR LR 03 47 45.3
comp=Z,53nm,20.1s,baz=75,slow=37
comp=Z,1.6nm,0.3s
NRIK Noril'sk 42.95 335 LR LR 03 49 13.1
comp=Z,132nm,19.6s,baz=138,slow=38
MK31 Makanchi Array 44.09 302 P **P 03 30 09.2 +0.7**
MK31 Makanchi Array 44.09 302⇑ *i*P **P 03 30 08.8 +0.3**
MKAR Makanchi Array 44.09 302 P **P 03 30 09.0 +0.5**
comp=Z,3.5nm,0.8s,baz=87,slow=9.1,SNR=21
MKAR LR LR 03 49 06.0
comp=Z,50nm,18.5s,baz=120,slow=37
comp=Z,3.5nm,0.8s
MKAR Makanchi Array 44.09 302*ce*P **P 03 30 09.0 +0.5**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
SBUM Sibu 44.19 225 P **P 03 30 09.6 +0.1**
SBUM IAmb IAmb 03 30 23.9
comp=Z,19nm,1.4s
BRDH Bariadhala 45.29 266 LR LR 03 53 02.2
comp=Z,112nm,19.5s,baz=86,slow=41
KURK Kurchatov 45.85 308 P **P 03 30 22.5 +0.1**
KURK Kurchatov 45.85 308*c i*P **P 03 30 22.4 +0.1**
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 45.92 308 LR LR 03 50 27.7
comp=Z,97nm,19.1s,baz=59,slow=37
IMAR Indian Mountai 46.11 31 P **P 03 30 25.3 +1.1**
PMG Port Moresby 46.94 173 LR LR 03 56 40.2
comp=Z,36nm,18.0s,baz=103,slow=44
KAPI Kappang 47.01 211 P **P 03 30 32.8 +1.0**
KAPI Kappang 47.01 211 P **P 03 30 32.8 +1.0**
KAPI pmax pmax
comp=Z,38nm,1.0s
H23K Yukon River 47.82 31 IAmb IAmb 03 30 40.5
comp=Z,3.5nm,0.9s
TOLK Toolik Lake Re 47.93 27 P **P 03 30 39.7 +1.3**
TOLK IAmb IAmb 03 30 41.4
comp=Z,7.8nm,1.1s
NEA2 Nenana 48.02 33 IAmb IAmb 03 30 42.1
comp=Z,7.6nm,1.2s
MDM Murphy Dome 48.37 32 IAmb IAmb 03 30 44.8
comp=Z,8.2nm,1.2s
TARG Taragay, Kyrgy 48.43 296 IAmb IAmb 03 30 46.7
comp=Z,3.8nm,0.8s
IL31 48.95 33 IAmb IAmb 03 30 48.0
comp=Z,3.2nm,0.9s
ILAR Eielson Array 48.95 33 P **P 03 30 47.0 +0.8**
comp=Z,1.8nm,0.8s,baz=266,slow=6.4,SNR=22
comp=Z,1.8nm,0.8s
ILAR Eielson Array 48.95 33 P **P 03 30 46.8 +0.5**
BOOM Boomskoye usch 49.53 298 P **P 03 30 51.4 +0.1**
BOOM IAmb IAmb 03 31 04.5
comp=Z,4.4nm,0.9s
BOOM Boomskoye usch 49.53 298 P **P 03 30 51.4 +0.1**
BOOM pmax pmax
comp=Z,4.0nm,1.0s
SCRK Sand Creek 50.26 34 P **P 03 30 57.1 +0.7**
SCRK IAmb IAmb 03 30 58.4
comp=Z,7.7nm,1.2s
BVAR Borovoye Array 50.45 312 LR LR 03 53 21.9
comp=Z,106nm,18.1s,baz=76,slow=37
AAK Ala-Archa 50.50 298 LR LR 03 53 37.6
comp=Z,81nm,18.8s,baz=66,slow=37
AAK Ala-Archa 50.50 298⇑ *i*P **P 03 30 58.9 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 50.51 312*c i*P **P 03 30 58.6 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
L26K Log Cabin Wild 50.65 35 IAmb IAmb 03 31 02.3
comp=Z,7.0nm,1.1s
MTN Manton Dam 51.07 193 P **P 03 31 02.9 +0.1**
I29M Ogilvie Camp, 52.51 31 IAmb IAmb 03 31 28.8
comp=Z,6.5nm,1.1s
KK31 Karatay Array 53.12 300 P **P 03 31 17.7 -0.2**
KK31 IAmb IAmb 03 31 31.3
comp=Z,4.8nm,1.2s
KK31 Karatay Array 53.12 300 P **P 03 31 17.7 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,1.2s
KKAR Karatay Array 53.12 300 P **P 03 31 18.6 +0.7**
KKAR Karatay Array 53.12 300 P **P 03 31 18.6 +0.7**
KNRA Kununurra 54.30 195 P **P 03 31 26.5 -0.2**
CHGR Chuyangaron 55.70 295 P **P 03 31 37.4 +0.5**
CHGR pmax pmax
comp=Z,22nm,0.9s
ARU Arti 56.18 318 LR LR 03 58 11.3
comp=Z,102nm,19.3s,baz=56,slow=38
ARU Arti 56.18 318 P **P 03 31 39.5 -0.3**
ARU Arti 56.18 318*c i*P **P 03 31 40.1 +0.2**
ARU 03 32 36.2
ARU S **S 03 39 27.2 +1.3**
ARU pmax pmax
comp=Z,14nm,1.0s
WB0 Warramunga Arr 57.39 188 P **P 03 31 48.5 -0.3**
CTAO Charters Tower 57.45 175 P **P 03 31 50.4 +1.2**
CTAO IAmb IAmb 03 32 10.1
comp=Z,8.8nm,1.2s
CTAO Charters Tower 57.45 175 P **P 03 31 50.4 +1.2**
CTAO pmax pmax
comp=Z,9.0nm,1.2s
WRAB Tennant Creek 57.56 188*c i*P **P 03 31 49.5 -0.5**
WRAB pmax pmax
comp=Z,38nm,4.0s
WRA Warramunga Arr 57.57 188 P **P 03 31 49.6 -0.4**
comp=Z,3.6nm,0.6s,baz=6.7,slow=7.4,SNR=83
WRA LR LR 03 59 21.2
comp=Z,46nm,18.0s,baz=26,slow=39
comp=Z,3.6nm,0.6s
ABKAR Akbulak array 57.84 310 P **P 03 31 51.5 -0.2**
AKTO Aktyubinsk 58.56 312 LR LR 03 57 24.2
comp=Z,67nm,19.1s,baz=63,slow=36
KIRV Kirov 60.03 323 LR LR 04 00 44.8
comp=Z,66nm,18.2s,baz=47,slow=39
KIRV Kirov 60.03 323*c i*P **P 03 32 07.3 +0.6**
PRGR Permogore 60.51 327 *e*P **P 03 32 06.2 -3.8**
PRGR pmax pmax
comp=Z,5.0nm,0.5s
ASAR Alice Springs 61.30 188 P **P 03 32 15.9 +0.3**
comp=Z,4.0nm,0.8s,baz=7.6,slow=5.7,SNR=33
ASAR LR LR 03 59 27.8
comp=Z,72nm,18.3s,baz=68,slow=37
comp=Z,4.0nm,0.8s
ASAR Alice Springs 61.30 188 P **P 03 32 15.5 -0.2**
ASAR Alice Springs 61.30 188 P **P 03 32 16.0 +0.3**
BBB Bella Bella 61.54 44 LR LR 03 56 43.3
comp=Z,28nm,20.6s,baz=312,slow=34
KLMR Klimovskoe 63.50 328 *e*P **P 03 32 29.2 -0.7**
KLMR *e* 03 34 51.6
KLMR pmax pmax
comp=Z,21nm,1.8s
KLMR Klimovskoe 63.50 328 *e*P **P 03 32 29.3 -0.7**
KLMR AMP 03 32 31.4
comp=Z,21nm,1.8s
KLMR *e*PP **PP 03 34 51.7 +2.2**
BELG Belogornoye 63.63 317 LR LR 04 02 00.8
comp=Z,40nm,20.7s,baz=198,slow=38
ARCES ARCESS Array B 63.65 339 P **P 03 32 30.4 -0.5**
comp=Z,1.3nm,0.7s,baz=54,slow=6.3,SNR=4.6
ARCES LR LR 04 02 44.6
comp=Z,81nm,20.9s,baz=42,slow=38
comp=Z,1.3nm,0.7s
SGF Sodankyl 64.62 337 P **P 03 32 37.3 0.0**
SGF pmax pmax
comp=Z,11nm,0.8s
MSF Maaselka 64.73 335 P **P 03 32 38.3 +0.3**
OUL Oulu 66.27 335 P **P 03 32 48.1 +0.1**
VRH Novokhopyorsk 67.41 318 *e*P **P 03 32 54.2 -1.2**
VRH pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 67.87 323‖ *e*P **P 03 32 58.8 +0.5**
OBN *PP **pP 03 33 11.0 +0.1**
OBN *SP **sP 03 33 17.0 +1.1**
OBN 03 33 24.0
OBN *e* 03 35 31.8
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,63nm,15.0s
FINES FINESS Array B 68.52 332 P **P 03 33 02.5 +0.3**
comp=Z,4.8nm,0.8s,baz=32,slow=9.9,SNR=19
FINES LR LR 04 03 58.9
comp=Z,63nm,19.0s,baz=32,slow=37
comp=Z,4.8nm,0.8s
FINES FINESS Array B 68.52 332 P **P 03 33 02.3 0.0**
FINES FINESS Array B 68.52 332*ce*P **P 03 33 02.4 +0.2**
FINES pmax pmax
comp=Z,5.0nm,0.8s
VSR Storozhevoye 68.75 319 *e*P **P 03 33 02.7 -1.2**
VSR pmax pmax
comp=Z,8.0nm,1.2s
STKA Stephens Creek 69.03 180 P **P 03 33 05.4 -0.3**
comp=Z,2.7nm,0.6s,baz=14,slow=7.2,SNR=5.4
comp=Z,2.7nm,0.6s
NEW Newport 69.60 44 LR LR 04 04 41.2
comp=Z,22nm,18.7s,baz=300,slow=37
PINE Pine Mountain 69.83 50 P **P 03 33 10.9 0.0**
PINE IAmb IAmb 03 33 14.2
comp=Z,7.8nm,0.9s
KBZ Khabaz 70.79 311 P **P 03 33 17.5 +1.0**
comp=Z,2.1nm,0.9s,baz=24,slow=12,SNR=3.8
comp=Z,2.1nm,0.9s
KBZ Khabaz 70.79 311⇑ *i*P **P 03 33 17.1 +0.6**
KBZ pmax pmax
comp=Z,4.0nm,1.2s
KIV Kislovodsk 70.80 311 P **P 03 33 17.6 +0.8**
KIV Kislovodsk 70.80 311 *i* P **P 03 33 17.8 +1.1**
KIV *i* 03 33 26.3
KIV *i* 03 33 34.6
KIV pmax pmax
comp=Z,3.0nm,0.7s
GNI Garni 71.64 307 LR LR 04 07 11.7
comp=Z,32nm,18.0s,baz=81,slow=38
WVOR Wild Horse Val 71.98 50 P **P 03 33 24.4 +0.4**
WVOR pmax pmax
comp=Z,3.0nm,1.1s
MNK Minsk 72.25 326 *i* P P 03 33 18.2 -6.9
MNK *i* 03 33 35.9
MNK *i* S **S 03 42 38.2 -6.3**
MNK *i* SS **SS 03 47 17.5 -4.4**
MNK *i* SSS SSS 03 50 37.8
MNK pmax pmax
comp=Z,4.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=N,17nm,16.0s
MNK MLR MLR
comp=Z,137nm,20.0s
MNK MLR MLR
comp=E,5.0nm,14.0s
MNK Minsk 72.25 326 *i* P P 03 33 18.3 -6.9
comp=E,1.0nm,0.8s
MNK *i* P P 03 33 18.3 -6.9
comp=N,7.0nm,1.0s
MNK *i* P P 03 33 18.3 -6.9
comp=Z,4.0nm,0.8s,baz=50
MNK *i* PcP pP 03 33 36.0 -1.9
MNK *i* PP **PP 03 35 59.0 -6.5**
MNK *i* PPP PPP 03 37 43.2
MNK *i* S **S 03 42 38.3 -6.3**
MNK *i* SS **SS 03 47 17.6 -4.4**
MNK *i* SSS SSS 03 50 37.9
MNK *i* LR LR 04 05 43.0
MNK *i* LRM MLR 04 07 23.8
comp=N,17nm,16.3s
MNK *i* LRM MLR 04 07 37.5
comp=Z,137nm,19.9s
MNK *i* LRM MLR 04 07 42.8
comp=E,5.0nm,13.6s
PAHR Pah Rah Range 73.07 53 P **P 03 33 30.2 -0.3**
YERR Yerington 73.57 53 IAmb IAmb 03 33 36.3
comp=Z,6.9nm,1.2s
HFS Hagfors 73.76 336 LR LR 04 08 24.6
comp=Z,155nm,18.1s,baz=14,slow=38
NB2 NORSAR Subarra 73.85 337 P **P 03 33 34.8 +0.2**
comp=Z,4.5nm,0.9s,baz=38,slow=5.9
NOA NORSAR Array B 73.85 337 P **P 03 33 35.0 +0.5**
comp=Z,2.3nm,0.7s,baz=38,slow=5.7,SNR=12
NOA LR LR 04 09 45.6
comp=Z,93nm,20.7s,baz=355,slow=39
comp=Z,2.3nm,0.7s
AKASG Malin Array Be 74.08 322 P **P 03 33 36.2 +0.2**
comp=Z,0.5nm,0.4s,baz=46,slow=6.4,SNR=8.2
AKASG LR LR 04 08 32.3
comp=Z,36nm,18.2s,baz=17,slow=38
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 74.08 322*ce*P **P 03 33 36.0 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 74.08 322 P **P 03 33 36.5 +0.4**
AKBB IAmb IAmb 03 33 49.8
comp=Z,5.4nm,0.9s
AKBB Malin Array Si 74.08 322⇑ *i*P **P 03 33 35.5 -0.5**
AKBB pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 74.21 44 IAmb IAmb 03 33 39.6
comp=Z,3.3nm,0.9s
KVN Kaiserville 74.26 53 IAmb IAmb 03 33 40.4
comp=Z,4.6nm,1.1s
GURO Guroymak-BITLI 74.27 307 P **P 03 33 36.4 -1.2**
LHV Little Huntoon 74.47 54 IAmb IAmb 03 33 41.9
comp=Z,7.4nm,1.1s
NVAR Mina Array Bea 74.49 53 P **P 03 33 40.5 +1.6**
comp=Z,1.8nm,0.9s,baz=284,slow=6.0,SNR=14
comp=Z,1.8nm,0.9s
NVAR Mina Array Bea 74.49 53 P **P 03 33 40.1 +1.2**
SFJD Kangerlussuaq 75.39 5 LR LR 04 09 29.6
comp=Z,55nm,18.0s,baz=353,slow=38
FRB Frobisher Bay 76.25 13 LR LR 04 12 16.0
comp=Z,56nm,18.0s,baz=326,slow=39
DUG Dugway, Tooele 76.84 49 P **P 03 33 53.1 +0.8**
DUG pmax pmax
comp=Z,4.0nm,1.2s
PDAR Pinedale Array 77.14 46 P **P 03 33 55.1 +1.0**
comp=Z,0.8nm,0.8s,baz=298,slow=3.2,SNR=7.5
comp=Z,0.8nm,0.8s
PDAR Pinedale Array 77.14 46 P **P 03 33 54.2 +0.2**
BORG Borgarnes 77.21 353 LR LR 04 10 44.3
comp=Z,21nm,18.4s,baz=5.1,slow=38
SHPR Sheep Range 77.64 53 P **P 03 33 56.5 -0.4**
SHPR IAmb IAmb 03 34 14.5
comp=Z,3.8nm,1.2s
BUR08 Bucovina Ar. S 78.09 322 P **P 03 33 59.5 +0.4**
BUR08 IAmb IAmb 03 34 15.3
comp=Z,3.5nm,1.1s
PFO Pinyon Flats O 78.55 56 LR LR 04 02 28.6
comp=Z,52nm,20.4s,baz=282,slow=31
BR131 Keskin Array S 78.73 312 P **P 03 34 00.1 -2.7**
BR131 IAmb IAmb 03 34 03.7
comp=Z,5.8nm,1.4s
BR131 Keskin Array S 78.73 312 P **P 03 34 00.1 -2.7**
BR131 pmax pmax
comp=Z,6.0nm,1.4s
BRTR Keskin Array B 78.73 312 P **P 03 34 03.6 +0.8**
comp=Z,0.6nm,0.8s,baz=90,slow=2.5,SNR=4.3
comp=Z,0.6nm,0.8s
KNB Kanab 78.81 52 P **P 03 34 03.4 +0.1**
KNB IAmb IAmb 03 34 06.6
comp=Z,7.2nm,1.3s
KNB Kanab 78.81 52 P **P 03 34 03.4 +0.1**
KNB pmax pmax
comp=Z,7.0nm,1.3s
MLR Muntele Rosu 79.19 320 LR LR 04 10 48.8
comp=Z,137nm,19.6s,baz=28,slow=37
KSP Ksiaz 79.84 328 P **P 03 34 08.5 +0.1**
KSP pmax pmax
comp=Z,5.0nm,1.4s
MORC Moravsky Berou 80.11 327 *e*P **P 03 34 11.1 +1.2**
DPC Dobruska-Polom 80.20 328 P **P 03 34 10.3 -0.1**
DPC pmax pmax
comp=Z,5.0nm,1.5s
DPC Dobruska-Polom 80.20 328 *e*P pP 03 34 22.8 -0.5
KRLC Kraliky 80.21 328 *e*P pP 03 34 22.9 -0.5
PSZ Piszkesteto 80.42 325 P **P 03 34 12.3 +0.6**
PSZ pmax pmax
comp=Z,5.0nm,1.4s
CLL Collm 80.82 330 *i* P **P 03 34 14.2 +0.6**
CLL *e**PP **pP 03 34 27.0 +0.4**
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 80.82 330 *i* P **P 03 34 14.2 +0.6**
comp=Z,7.0nm,1.3s
CLL *e*pP **pP 03 34 27.0 +0.4**
VRAC Vranov 80.87 327 LR LR 04 13 33.4
comp=Z,58nm,18.9s,baz=18,slow=38
VRAC Vranov 80.87 327 *e*P **P 03 34 15.6 +1.6**
KRUC Moravsky 81.14 327 *e*P **P 03 34 16.2 +0.8**
NKC Novy Kostel 81.88 330 *e*P **P 03 34 23.6 +4.3**
NKC Novy Kostel 81.88 330 *e*P **P 03 34 23.6 +4.3**
MMAI Mount Meron Ar 81.91 305 LR LR 04 12 32.1
comp=Z,38nm,19.2s,baz=200,slow=37
CKRC Cesky Krumlov 82.21 328 *e*P **P 03 34 20.8 -0.3**
KHC Kasperske Hory 82.28 329 P **P 03 34 21.0 -0.5**
KHC IAmb IAmb 03 34 35.9
comp=Z,2.9nm,0.9s
KHC Kasperske Hory 82.28 329 *e*P **P 03 34 21.9 +0.4**
KHC *e* 03 34 34.8
KHC Kasperske Hory 82.28 329 *e*P **P 03 34 21.9 +0.4**
KHC *ex* x 03 34 34.8
GERES GERESS Array B 82.45 328 P **P 03 34 22.9 +0.5**
comp=Z,0.7nm,0.9s,baz=22,slow=4.3,SNR=5.1
comp=Z,0.7nm,0.9s
GERES GERESS Array B 82.45 328 P **P 03 34 21.9 -0.6**
GERES GERESS Array B 82.45 328 P **P 03 34 23.0 +0.5**
EKA Eskdalemuir Ar 82.77 341 LR LR 04 14 50.9
comp=Z,94nm,18.1s,baz=13,slow=38
ANMO Albuquerque 84.08 50 LR LR 04 06 00.4
comp=Z,24nm,21.2s,baz=305,slow=31
ANMO Albuquerque 84.08 50⇑ *i*P **P 03 34 32.6 +1.4**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
SCHQ Schefferville 84.81 16 LR LR 04 14 24.1
comp=Z,70nm,20.5s,baz=48,slow=37
KBN Korca 85.30 319 P **P 03 34 36.9 -0.3**
KBN pmax pmax
comp=Z,8.0nm,1.7s
DAVOX Davos/Dischmat 85.66 329 LR LR 04 16 35.4
comp=Z,55nm,18.5s,baz=39,slow=38
LPIG La Paz 88.72 60 LR LR 04 05 49.4
comp=Z,32nm,20.6s,baz=312,slow=30
TXAR Lajitas Array 89.62 53 P **P 03 34 59.5 +1.3**

comp=Z,0.7nm,0.7s,baz=297,slow=4.2,SNR=5.6
TXAR LR LR 04 13 11.8
comp=Z,19nm,21.5s,baz=285,slow=34
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 89.62 53 P **P 03 34 58.6 +0.4**
ESDC Sonseca Array 96.98 334 LR LR 04 24 14.6
comp=Z,87nm,20.2s,baz=24,slow=38
LPAZ La Paz 146.22 59 PKPbc **PKPab 03 41 42.2 -0.2**
comp=Z,2.6nm,0.9s,baz=20,slow=4.9,SNR=11
H03N2 Juan Fernandez 146.81 95 T T 06 26 01.1
baz=291,slow=76,SNR=30
H03N3 Juan Fernandez 146.82 95 T T 06 25 58.3
baz=291,slow=76,SNR=22
H03N1 Juan Fernandez 146.82 95 T T 06 26 03.9
baz=291,slow=76,SNR=21

*MOS **11** 03:54:58.9±0.7, 44˚.43N×148˚.35E, h58km, mb4.1/4, Error ellipse: s-maj=16.8km s-min=15.4km az=104.3*
*SKHL **11** 03:55:00.0±0.0, 44˚.40N×148˚.40E, h57km±3km, mb4.7/3*
*JMA **11** 03:55:00.8±0.4, 44˚.N±2˚×14˚.8E±˚, h0km, MV4.2/21, SE OFF ETOROFU*
ISC 11 03:54:59.5±2.4, 44˚.36N±0˚.08×148˚.4E±0˚.2, h46km±17km, n28, σ1°21/40, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.94**	**339**	*d*	*i*	P	N	**03 55 16.5**	**+0.2**
KUR					*e*	S	N	**03 55 28.0**	**-0.7**
KUR						pmax	pmax		
	comp=Z,503nm,0.4s								
KUR						pmax	pmax		
	comp=E,235nm,0.1s								
KUR						pmax	pmax		
	comp=N,223nm,0.3s								
KUR						smax	smax		
	comp=E,2μm,0.5s								
KUR						smax	smax		
	comp=N,988nm,0.3s								
KUR	**Kuril'sk**	**0.94**	**339**	*i*	P	**Pn**		**03 55 16.5**	**+0.2**
KUR						AMB	AMB	03 55 17.1	
	comp=N,500nm,0.4s								
KUR					*e*	S	**Sn**	**03 55 28.0**	**-0.7**
KUR						A	A	03 55 28.9	
	comp=N,1μm,0.4s								
KUR						A	A	03 55 28.9	
	comp=N,2μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.82**	**261**	*d*	*i*	P	**Pn**	**03 55 28.7**	**+0.4**
YUK					*e*	S	**Sn**	**03 55 48.4**	**-1.7**
YUK						pmax	pmax		
	comp=N,341nm,0.2s								
YUK						pmax	pmax		
	comp=E,217nm,0.2s								
YUK						pmax	pmax		
	comp=Z,597nm,0.2s								
YUK						smax	smax		
	comp=N,400nm,0.2s								
YUK						smax	smax		
	comp=E,700nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.82**	**261**	*i*	P	**Pn**		**03 55 28.7**	**+0.4**
YUK						AMB	AMB	03 55 30.3	
	comp=E,600nm,0.2s								
YUK					*e*	S	**Sn**	**03 55 48.4**	**-1.7**
YUK						A	A	03 55 53.3	
	comp=E,400nm,0.3s								
YUK						A	A	03 55 53.3	
	comp=E,700nm,0.3s								
NEM2	**Nemuro 2**	**2.13**	**243**	*e*	P	**Pn**		**03 55 32.6**	**0.0**
NEM2					*e*	S	**Sn**	**03 55 56.1**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.14**	**243**	⇓	*i*	PN	**Pn**	**03 55 32.5**	**-0.2**
NMR					*i*	S	**Sn**	**03 55 56.0**	**-2.0**
NMR	**Nemuro--Hokkai**	**2.14**	**243**	*e*	P		**Pn**	**03 55 32.5**	**-0.2**
NMR					*i*	S	**Sn**	**03 55 56.0**	**-2.0**
JRA	**Rausu**	**2.36**	**261**	*e*	P		**Pn**	**03 55 37.2**	**+1.5**
JRA					*e*	S	**Sn**	**03 56 04.5**	**+1.0**
JNSB	**Nemuroshibetsu**	**2.48**	**258**	*e*	P		**Pn**	**03 55 38.8**	**+1.4**
JKHN	**Kushirohamanak**	**2.64**	**242**	*e*	P		**Pn**	**03 55 40.0**	**+0.4**
JKHN					*e*	S	**Sn**	**03 56 09.3**	**-1.1**
JNK	**Nakash**	**2.73**	**255**	*e*	P		**Pn**	**03 55 42.1**	**+1.2**
JNK					*e*	S	**Sn**	**03 56 11.9**	**-0.8**
JAK	**Akkeshi**	**2.98**	**244**	*e*	P		**Pn**	**03 55 44.8**	**+0.5**
JAK					*e*	S	**Sn**	**03 56 17.2**	**-1.5**
JAR	**Ashorobuto**	**3.48**	**254**	*e*	P		**Pn**	**03 55 53.0**	**+1.8**
JOB	**Onbets**	**3.59**	**248**	*e*	P		**Pn**	**03 55 54.0**	**+1.4**
JOB					*e*	S	**Sn**	**03 56 32.9**	**-0.7**
JCH	**Churui**	**4.03**	**246**	*e*	P		**Pn**	**03 56 00.1**	**+1.4**
ERM	**Erimo**	**4.46**	**240**	*i*	PN		**Pn**	**03 56 07.7**	**+3.1**
JNBK	**Urakawa-nobuka**	**4.58**	**245**	*e*	P		**Pn**	**03 56 07.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.70**	**305**	*e*	PN		**Pn**	**03 56 08.8**	**+0.9**
YSS						pmax	pmax		
	comp=Z,20nm,1.0s								
YSS	**Yuzh-Sakhalins**	**4.70**	**305**	*e*	P		**Pn**	**03 56 08.8**	**+0.9**
YSS						AMB	AMB	03 56 15.3	
	comp=Z,20nm,0.5s								
USA0B	**Ussuriysk Arra**	**11.73**	**275**	*i*	PN		**Pn**	**03 57 45.3**	**+1.1**
SEY	**Seymchan**	**18.76**	**6**	*i*	P		**P**	**03 59 14.0**	**-0.4**
SEY						pmax	pmax		
	comp=Z,1.0nm,0.1s								
SEY	**Seymchan**	**18.76**	**6**	*e*	P		**P**	**03 59 14.0**	**-0.4**
YAK	**Yakutsk**	**20.80**	**335**	*i*	P		**P**	**03 59 37.0**	**+0.4**
YAK						pmax	pmax		
	comp=Z,8.0nm,0.5s								
YAK	**Yakutsk**	**20.80**	**335**	*e*	P		**P**	**03 59 37.0**	**+0.4**
ULN	**Ulaanbaatar**	**28.60**	**292**	*i*	P		**P**	**04 00 51.5**	**+0.1**
ULN						pmax	pmax		
	comp=Z,1.0nm,0.9s								
ULN	**Ulaanbaatar**	**28.60**	**292**	*e*	P		**P**	**04 00 51.5**	**+0.1**
BELG	**Belogornoye**	**62.05**	**317**	*i*	P		**P**	**04 05 14.4**	**-0.5**
BELG						pmax	pmax		
	comp=Z,1.0nm,0.9s								
FINES	**FINESS Array B**	**64.72**	**333**	*i*	P		**P**	**04 05 32.4**	**-0.1**
FINES						pmax	pmax		
	comp=Z,2.0nm,0.9s								

MAN 11 03:56:17.9, 11˚.08N×124˚.71E, h4km, mb4.2, ML3.0, MS2.7, 2C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TABP	**Talibon, Bohol**	**1.05**	**201**	⇓	*i*	P	Pg	03 56 37.3	-0.7
TABP					*i*	S	Sb	03 56 53.6	+0.9
LLP	**Lapu-Lapu**	**1.05**	**224**	*e*	P		Pg	03 56 37.6	-0.4
LLP					*i*	S	Sb	03 56 52.9	+0.1
GHBP	**Garcia Hernand**	**1.49**	**195**	⇓	*e*	P	Pn	03 56 45.0	-0.4
GHBP					*i*	S	Sg	03 57 08.3	+2.5
SCPH	**Surigao**	**1.50**	**149**	⇓	*e*	P	Pg	03 56 47.2	+0.6
TBP	**Tagbilaran**	**1.61**	**211**	⇑	*e*	P	Pn	03 56 46.5	-0.6
TBP					*i*	S	Sg	03 57 10.2	+0.5
RCP	**Roxas**	**1.99**	**284**	⇑	*e*	P	Pn	03 56 52.5	+0.2
RCP					*e*	S	Sb	03 57 18.8	-0.9
CGP	**Cagayan de Oro**	**2.61**	**180**		*e*	P	Pb	03 57 04.7	-0.5

*SEA **11** 03:56:45.7±1.1, 47˚.59N±0˚.04×122˚.8W±0˚.1, h26km±7km, Md2.1/9, ML2.2/62, Error ellipse: s-maj=11.4km s-min=5.3km az=71.0*
*PNSN **11** 03:56:45.7, 47˚.59N×122˚.76W, h26km, MD2.5, Fault plane solution: NP1:φs130.00000°, δ55.00000°, λ120.00000°.*
NEIC 11 03:56:45.2±1.4, 47˚.56N±0˚.05×122˚.9W±0˚.1, h27km±11km, Error ellipse: s-maj=11.4km s-min=5.2km az=61.0, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GNW	**Green Mountain**	**0.03**	**81**				Pb	03 56 49.9	+0.1
GNW							Sb	03 56 53.0	+0.1
GMW	**Gold Mountain**	**0.06**	**103**				Pb	03 56 49.8	-0.1
GMW							Sb	03 56 53.0	-0.1
KIMR	**Kitsap County**	**0.09**	**131**				Pb	03 56 50.1	+0.1
KIMR							Sb	03 56 53.7	+0.4
PSNS	**PSNS Bremerton**	**0.15**	**90**				Pb	03 56 50.1	-0.4
PSNS							Sb	03 56 53.8	-0.4
HDW	**Hoodsport**	**0.16**	**305**				Pb	03 56 51.2	+0.5
HDW							Sb	03 56 55.5	+1.0
C04A	**Brinnon**	**0.17**	**335**				Pb	03 56 50.8	0.0
C04A							Sb	03 56 54.8	+0.3
KINR	**Kitsap County**	**0.24**	**38**				Pb	03 56 51.3	-0.3
KINR							Sb	03 56 56.1	+0.2
B013	**Quilcene**	**0.26**	**353**				Pb	03 56 51.4	-0.3
B013							Sb	03 56 55.9	-0.3
SP2	**Seward Park 2**	**0.42**	**90**				Pb	03 56 53.9	-0.2
SP2							Sb	03 57 00.5	+0.3
SQM	**Sequim**	**0.53**	**347**				Pb	03 56 56.0	+0.1
OSD	**Olympics--Snow**	**0.62**	**295**				Pn	03 56 59.0	+0.5
PCFR	**Pierce County**	**0.64**	**153**				Pb	03 56 57.4	-0.3
PCFR							Sb	03 57 06.5	+0.2
GHW	**Garrison Hill**	**0.66**	**142**				Pb	03 56 57.5	-0.6
B04A	**Port Angeles**	**0.66**	**319**				Pn	03 56 59.1	+0.4
D05A	**Enumclaw**	**0.70**	**122**		Pn		Pb	03 56 58.6	-0.2
NLWA	**Neilton Lookou**	**0.70**	**256**				Pn	03 57 00.0	+0.7
B941	**Kapowsin**	**0.72**	**142**				Pb	03 56 58.3	-0.9
RATT	**Rattlesnake La**	**0.73**	**100**				Pb	03 56 57.9	-1.4
B017	**Montesano**	**0.73**	**220**				Pn	03 57 00.8	+1.1
SVOH	**Skagit Valley**	**0.75**	**12**				Pb	03 56 58.5	-1.1
HTW	**Haystack Looko**	**0.78**	**71**				Pb	03 56 58.4	-1.8
HTW							Sb	03 57 07.7	-2.7
C05A	**Tolt Reservoir**	**0.81**	**80**				Pb	03 56 58.8	-1.8
C05A							Sb	03 57 08.4	-2.8
RVC	**Mount Rainier-**	**0.87**	**135**				Pn	03 57 00.7	-0.9
FMW	**Mount Fremont**	**1.03**	**127**				Pn	03 57 03.1	-0.9
PANH	**Panhandle Gap,**	**1.09**	**130**				Pn	03 57 04.3	-0.6
E03A	**Lebam**	**1.12**	**205**		Pn		Pb	03 57 06.3	+0.5
B011	**North Saanich**	**1.16**	**340**				Pn	03 57 05.4	-0.2
B06A	**Marblemount**	**1.33**	**44**				Pn	03 57 07.9	-0.1
JRO	**Jston Ridge Ob**	**1.36**	**161**				Pn	03 57 09.0	+0.6
B203	**Quarry, Mount**	**1.44**	**165**				Pn	03 57 10.2	+0.7
SHUK	**Shuksan-Mt. Ba**	**1.52**	**31**				Pn	03 57 10.9	+0.3
LTY	**Liberty**	**1.52**	**101**				Pn	03 57 10.1	-0.5
EBG	**Ellensburg**	**1.69**	**112**				Pb	03 57 14.9	-0.8

*IDC **11** 04:04:50.4±0.7, 31˚.39S×178˚.80W, h0km, mb4.3/8, mbtmp4.3/10, ML4.2/2, MS3.8/23, Error ellipse: s-maj=22.7km s-min=18.6km az=100.0*
*NEIC **11** 04:04:51.9±0.8, 31˚.55S±0˚.08×178˚.7W±0˚.1, h5km±4km, mb4.5/17, Error ellipse: s-maj=18.2km s-min=9.6km az=112.0*
*WEL **11** 04:04:54.8±1.0, 32˚S±8˚×17˚9W±2˚2, h35km±19km, M4.4/17, mB4.8/13, ML5.0/19, MLv4.9/17, Mw(mB)4.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=109.2*
ISC 11 04:04:55.7±0.5, 31˚.52S±0˚.05×178˚.82W±0˚.09, h35km, n110, σ1°32/102, mb4.5/16, MS3.7/23, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.38**	**19**			P	**Pn**	**04 05 30.7**	**-1.4**
GLKZ						S	**Sn**	**04 06 01.4**	**+1.4**
RAO	**Raoul Island**	**2.39**	**19**			Pn	**Pn**	**04 05 29.5**	**-2.7**
	67nm,0.3s,baz=187,slow=23,SNR=1.4								
RAO						Sn	**Sn**	**04 06 02.4**	**+2.1**
	224nm,0.3s,baz=103,slow=22,SNR=3.0 144nm,0.3s								
RAO	**Raoul Island**	**2.39**	**19**			Pn	**Pn**	**04 05 31.3**	**-1.0**
WMGZ	**Waiomatatini S**	**6.69**	**199**			P	**Pn**	**04 06 31.3**	**-0.1**
WMGZ						S	**Sn**	**04 07 45.7**	**-0.6**
HAZ	**Te Kaha**	**6.83**	**203**			P	**Pn**	**04 06 34.0**	**+0.7**
HAZ						S	**Sn**	**04 07 52.3**	**+2.6**
RUGZ	**Raukumara Rang**	**7.05**	**203**			P	**Pn**	**04 06 35.7**	**-0.8**
RUGZ						S	**Sn**	**04 07 57.9**	**+2.5**
TWGZ	**Tauwhareparae**	**7.15**	**201**			P	**Pn**	**04 06 38.2**	**+0.4**
TWGZ						S	**Sn**	**04 07 58.0**	**+0.3**
WCZ	**Waipu Caves**	**7.20**	**230**			P	**Pn**	**04 06 39.0**	**+0.5**
WHRZ	**Whale Island**	**7.21**	**208**			P	**Pn**	**04 06 42.3**	**+3.7**
OUZ	**Omahuta**	**7.34**	**238**		Pn		**Pn**	**04 06 39.8**	**-0.5**
CNGZ	**Carnagh Statio**	**7.37**	**199**			P	**Pn**	**04 06 41.2**	**+0.5**
OPRZ	**Ohinepanea**	**7.37**	**210**			P	**Pn**	**04 06 42.1**	**+1.3**
TKGZ	**Te Karaka**	**7.43**	**201**			P	**Pn**	**04 06 41.5**	**0.0**
TKGZ						S	**Sn**	**04 08 04.4**	**-0.1**
URZ	**Urewera**	**7.51**	**205**		Pn		**Pn**	**04 06 41.6**	**-1.1**
	3.8nm,0.3s,baz=31,slow=4.1,SNR=14								
URZ						Sn	**Sn**	**04 08 06.0**	**-0.6**
	3.2nm,0.3s,baz=211,slow=9.9,SNR=4.3 10nm,0.4s								
URZ	**Urewera**	**7.51**	**205**		Pn		**Pn**	**04 06 40.0**	**-2.7**
URZ	**Urewera**	**7.51**	**205**		P		**Pn**	**04 06 41.3**	**-1.3**
URZ					S		**Sn**	**04 08 06.6**	**0.0**
RIGZ	**Rimuhau**	**7.70**	**200**		P		**Pn**	**04 06 44.0**	**-1.3**
RIGZ					S		**Sn**	**04 08 10.6**	**-0.8**
MUGZ	**Murupara**	**7.83**	**206**		P		**Pn**	**04 06 44.3**	**-2.8**
MUGZ					S		**Sn**	**04 08 13.7**	**-0.8**
PRGZ	**Paritu Road**	**7.87**	**199**		P		**Pn**	**04 06 46.9**	**-0.7**
RAHZ	**Arahi**	**8.11**	**203**		P		**Pn**	**04 06 48.6**	**-2.3**
RAHZ					S		**Sn**	**04 08 23.6**	**+2.3**
MTHZ	**Maungataniwha**	**8.14**	**205**		P		**Pn**	**04 06 49.8**	**-1.5**
MTHZ					S		**Sn**	**04 08 22.0**	**0.0**
NMHZ	**Naumai**	**8.37**	**204**		P		**Pn**	**04 06 50.9**	**-3.6**
NMHZ					S		**Sn**	**04 08 27.2**	**-0.5**
BKZ	**Black Stump Fm**	**8.54**	**205**		Pn		**Pn**	**04 06 56.1**	**-0.7**
BKZ	**Black Stump Fm**	**8.54**	**205**		P		**Pn**	**04 06 55.1**	**-1.7**
BKZ					S		**Sn**	**04 08 29.7**	**-2.3**
MCHZ	**McNeill Hill**	**8.71**	**204**		P		**Pn**	**04 06 58.2**	**-1.0**
KWHZ	**Kaweka Forest**	**8.79**	**205**		P		**Pn**	**04 06 57.6**	**-2.7**
KWHZ					S		**Sn**	**04 08 38.9**	**+0.7**
TMVZ	**Te Maari**	**8.80**	**209**		P		**Pn**	**04 06 59.1**	**-1.4**
ETVZ	**East Tongariro**	**8.82**	**209**		P		**Pn**	**04 06 59.1**	**-1.6**
NNVZ	**North Ngauruho**	**8.86**	**209**		P		**Pn**	**04 07 03.7**	**+2.5**
OTVZ	**Oturere**	**8.86**	**209**		P		**Pn**	**04 06 59.5**	**-1.8**
SNVZ	**South Ngauruho**	**8.89**	**209**		P		**Pn**	**04 07 00.8**	**-0.9**
NGZ	**Ngauruhoe**	**8.90**	**209**		P		**Pn**	**04 07 00.9**	**-0.9**
KAHZ	**Kahuranaki**	**8.97**	**202**		P		**Pn**	**04 07 00.5**	**-2.3**
KAHZ					S		**Sn**	**04 08 39.2**	**-3.4**
BHHZ	**Black Hill Sta**	**8.98**	**206**		P		**Pn**	**04 07 00.2**	**-0.9**
BHHZ					S		**Sn**	**04 08 42.4**	**-0.4**
MSVF	**Nonsavu**	**14.01**	**348**		LR		LR	04 12 36.5	
	comp=Z,490nm,18.5s,baz=185,slow=34								
OUENC	**Ouen Island, N**	**15.66**	**302**		Pn		**Pn**	**04 08 32.7**	**-1.0**
OUENC							IAmb	IAmb	04 08 40.4
	comp=Z,28nm,1.1s								
ONTNC	**Ouen Toro**	**16.01**	**301**		Pn		**Pn**	**04 08 38.2**	**0.0**
ONTNC							IAmb	IAmb	04 08 57.6
	comp=Z,39nm,1.0s								
DZM	**Mont Dzumac**	**16.16**	**302**		*e*	LR	LR	04 12 26.0	
	comp=Z,1μm,24.9s								
DZM	**Mont Dzumac**	**16.16**	**302**			LR	LR	04 13 24.3	
	comp=Z,842nm,20.3s,baz=200,slow=32								
TBI	**Tubuai**	**27.23**	**80**		*e*	LR	LR	04 17 17.1	
	comp=Z,180nm,24.5s								
TBI	**Tubuai**	**27.23**	**80**		*e*	T	T	04 38 45.2	
	comp=Z,32nm,0.3s								
HNR	**Honiara**	**29.52**	**314**			LR	LR	04 21 27.9	
	comp=Z,1μm,19.5s,baz=152,slow=34								
PAE	**Paea**	**29.84**	**69**		*e*	T	T	04 42 01.3	
	comp=Z,9.7nm,0.3s								
PPT2	**Papeete2**	**29.88**	**69**		*e*	LR	LR	04 18 26.9	
	comp=Z,100nm,24.8s								
PPT2	**Papeete2**	**29.88**	**69**		*e*	T	T	04 42 03.0	
	comp=Z,9.0nm,0.3s								
VAH	**Vaihoa**	**32.74**	**68**		*e*	T	T	04 45 33.9	
	comp=Z,28nm,0.2s								
CTA	**Charters Tower**	**33.31**	**281**			P	**P**	**04 11 30.4**	**+0.2**
	comp=Z,7.7nm,1.0s,baz=109,slow=10,SNR=7.0								
CTA						LR	LR	04 22 45.9	
	comp=Z,186nm,20.3s,baz=84,slow=32 comp=Z,7.7nm,1.0s								
CTAO	**Charters Tower**	**33.31**	**281**			P	**P**	**04 11 30.8**	**+0.5**
STKA	**Stephens Creek**	**33.56**	**259**			P	**P**	**04 11 33.4**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=107,slow=11,SNR=2.7								
STKA						LR	LR	04 23 46.4	
	comp=Z,238nm,18.3s,baz=182,slow=34 comp=Z,2.1nm,0.6s								
STKA	**Stephens Creek**	**33.56**	**259**			P	**P**	**04 11 32.3**	**0.0**
PMG	**Port Moresby**	**38.47**	**297**			LR	LR	04 24 26.0	
	comp=Z,161nm,20.4s,baz=114,slow=31								
KRVT	**Keravat (AS076**	**38.50**	**309**			P	**P**	**04 12 13.3**	**-1.5**
	comp=Z,54nm,0.6s,baz=351,slow=23,SNR=5.1								
AS31	**Alice Springs**	**42.36**	**269**			P	**P**	**04 12 47.0**	**+0.3**
ASAR	**Alice Springs**	**42.36**	**269**			P	**P**	**04 12 46.8**	**0.0**
	comp=Z,4.4nm,0.8s,baz=106,slow=7.3,SNR=36								
ASAR						PcP	**PcP**	**04 14 38.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=108,slow=3.9,SNR=2.0								
ASAR						LR	LR	04 28 13.2	
	comp=Z,74nm,19.8s,baz=94,slow=33 comp=Z,4.4nm,0.8s								
ASAR	**Alice Springs**	**42.36**	**269**			P	**P**	**04 12 46.2**	**-0.5**
WR0	**Warramunga Arr**	**43.27**	**274**			P	**P**	**04 12 54.4**	**+0.3**
WR0						IAmb	IAmb	04 12 54.7	
	comp=Z,12nm,1.1s								
WB2	**Warramunga Arr**	**43.44**	**274**			P	**P**	**04 12 55.8**	**+0.3**
WRAB	**Tennant Creek**	**43.45**	**274**			P	**P**	**04 12 55.7**	**+0.2**
WRAB						IAmb	IAmb	04 12 56.5	
	comp=Z,12nm,0.8s								
WRA	**Warramunga Arr**	**43.45**	**274**			P	**P**	**04 12 55.5**	**0.0**
	comp=Z,11nm,0.9s,baz=114,slow=7.6,SNR=52								
WRA						PcP	**PcP**	**04 14 43.2**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=123,slow=3.1,SNR=3.4								
WRA						LR	LR	04 29 45.8	
	comp=Z,173nm,18.6s,baz=117,slow=34 comp=Z,11nm,0.9s								
WRA	**Warramunga Arr**	**43.45**	**274**			P	**P**	**04 12 55.8**	**+0.2**
SBA	**Scott Base**	**46.88**	**184**			P	**P**	**04 13 21.9**	**0.0**
SBA						IAmb	IAmb	04 13 25.9	
	comp=Z,4.1nm,0.8s								
VNDA	**Vanda**	**46.92**	**186**			P	**P**	**04 13 23.7**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=11,slow=7.1,SNR=4.7								
VNDA						LR	LR	04 28 46.5	
	comp=Z,56nm,21.0s,baz=9.5,slow=30 comp=Z,1.0nm,0.8s								
VNDA	**Vanda**	**46.92**	**186**			P	**P**	**04 13 22.8**	**+0.6**
MTN	**Manton Dam**	**49.48**	**280**			P	**P**	**04 13 43.3**	**+0.5**
KNRA	**Kununurra**	**50.10**	**276**			P	**P**	**04 13 47.7**	**+0.1**
KNRA						IAmb	IAmb	04 13 57.7	
	comp=Z,12nm,1.2s								
FITZ	**Fitzroy Crossi**	**51.67**	**271**			LR	LR	04 34 45.9	
	comp=Z,153nm,18.2s,baz=130,slow=35								
FITZ	**Fitzroy Crossi**	**51.67**	**271**			P	**P**	**04 13 59.1**	**-0.2**
FITZ						IAmb	IAmb	04 14 18.2	
	comp=Z,12nm,1.4s								
SIJI	**Sorong**	**56.10**	**293**			LR	LR	04 37 08.7	
	comp=Z,61nm,20.9s,baz=258,slow=35								
GUMO	**Guam**	**56.79**	**317**			LR	LR	04 37 34.4	
	comp=Z,35nm,18.4s,baz=117,slow=35								
BATI	**Baunata**	**57.11**	**279**			LR	LR	04 39 15.8	
	comp=Z,253nm,18.2s,baz=72,slow=36								
QSPA	**South Pole Qui**	**58.60**	**180**			P	**P**	**04 14 50.3**	**+1.5**
	comp=Z,3.6nm,0.8s,baz=38,slow=2.5,SNR=10.0								
QSPA						LR	LR	04 36 09.7	
	comp=Z,62nm,21.2s,baz=10,slow=32 comp=Z,3.6nm,0.8s								
QSPA	**South Pole Qui**	**58.60**	**180**			P	**P**	**04 14 49.9**	**+1.1**
RPN	**Rapa Nui**	**59.82**	**105**			LR	LR	04 35 04.7	
	comp=Z,52nm,19.5s,baz=230,slow=30								
DAV	**Davao City (W)**	**65.47**	**296**			LR	LR	04 43 52.7	
	comp=Z,28nm,20.3s,baz=150,slow=36								
PMSA	**Palmer Station**	**71.54**	**156**			LR	LR	04 40 22.8	
	comp=Z,31nm,19.4s,baz=242,slow=30								
TROLL	**Troll, Antarti**	**76.76**	**180**			P	**P**	**04 16 43.9**	**+0.7**
SNAA	**Sanae**	**77.06**	**179**			LR	LR	04 49 45.4	
	comp=Z,55nm,18.6s,baz=40,slow=35								
SNAA	**Sanae**	**77.06**	**179**			P	**P**	**04 16 43.6**	**-1.2**
SNAA						IAmb	IAmb	04 17 05.3	
	comp=Z,5.2nm,1.3s								
VNA3	**Neumayer Olymp**	**77.24**	**176**			P	**P**	**04 16 46.1**	**+0.3**
VNA2	**Neumayer--Watz**	**77.67**	**177**			P	**P**	**04 16 48.8**	**+0.7**
	baz=169,slow=4.9								
VNA1	**Neumayer--Stat**	**77.90**	**177**			P	**P**	**04 16 50.2**	**+0.8**
H03S2	**Juan Fernandez**	**80.43**	**124**			T	T	05 45 36.8	
	baz=236								
H03S1	**Juan Fernandez**	**80.44**	**124**			T	T	05 45 38.0	
	baz=236								
H03S3	**Juan Fernandez**	**80.45**	**124**			T	T	05 45 36.8	
	baz=236								
H03N3	**Juan Fernandez**	**80.63**	**123**			T	T	05 45 45.9	
	baz=241,slow=72,SNR=173								
H03N2	**Juan Fernandez**	**80.64**	**123**			T	T	05 45 44.7	
	baz=241,slow=72,SNR=167								
H03N1	**Juan Fernandez**	**80.65**	**123**			T	T	05 45 47.3	
	baz=241,slow=72,SNR=387								
PLCA	**Paso Flores**	**82.26**	**133**			LR	LR	04 44 50.6	
	comp=Z,36nm,20.2s,baz=208,slow=29								
NVAR	**Mina Array Bea**	**89.53**	**43**			P	**P**	**04 17 50.3**	**+0.8**
	comp=Z,8.8nm,0.9s,baz=223,slow=8.2,SNR=7.2 comp=Z,0.8nm,0.9s								
KLR	**Kul'dur**	**91.64**	**330**			P	**P**	**04 17 59.0**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=72,slow=2.1,SNR=4.5 comp=Z,1.0nm,0.7s								
MNTX	**Cornudas Mount**	**93.69**	**55**			P	**P**	**04 18 08.0**	**-0.8**
MNTX						IAmb	IAmb	04 18 18.2	
	comp=Z,1.5nm,1.2s								
NNA	**Nana**	**93.79**	**106**			LR	LR	04 51 23.3	
	comp=Z,25nm,20.0s,baz=250,slow=30								
LVC	**Limon Verde**	**94.01**	**119**			LR	LR	04 49 56.0	
	comp=Z,38nm,21.5s,baz=235,slow=29								
LPAZ	**La Paz**	**98.32**	**115**			LR	LR	04 53 14.5	
	comp=Z,24nm,20.6s,ba

KSRS				LR	LR	04 20 25.2			
	comp=Z,30nm,20.7s,baz=170,slow=38								
	0.5nm,0.3s								
MJAR	**Matsushiro Arr**	**6.96**	**56**	Pn	**Pn**	**04 18 50.8**	**+1.0**		
	baz=246,slow=14,SNR=3.3								
	1.3nm,0.6s								
WRA	**Warramunga Arr**	**52.62**	**176**	P	**P**	**04 26 21.5**	**-0.4**		
	0.4nm,1.0s,baz=355,slow=7.8,SNR=1.8								
WRA				LR	LR	04 51 41.9			
	comp=Z,76nm,18.3s,baz=112,slow=40								
	0.4nm,1.0s								

IDC 11 04:22:15.7±3.1, 31.50S×178.73W, h0km, mb3.4/2, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=71.0km s-min=48.1km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.56**	**206**	Pn	Pn	04 24 07.3	+0.2
	0.2nm,0.3s,baz=31,slow=22,SNR=1.4						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**42.44**	**268**	P	P	04 30 12.2	-0.3
	0.1nm,0.4s,baz=104,slow=7.4,SNR=6.0						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**43.53**	**274**	P	P	04 30 21.2	-0.1
	0.6nm,0.7s,baz=115,slow=7.4,SNR=4.9						
	0.6nm,0.7s						
H03S2	**Juan Fernandez**	**80.38**	**124**	T	T	06 02 58.8	
	baz=236						
H03S1	**Juan Fernandez**	**80.39**	**124**	T	T	06 03 00.0	
	baz=236						
H03S3	**Juan Fernandez**	**80.39**	**124**	T	T	06 02 59.0	
	baz=236						
H03N3	**Juan Fernandez**	**80.58**	**123**	T	T	06 03 10.2	
	baz=240,slow=74						
H03N2	**Juan Fernandez**	**80.58**	**123**	T	T	06 03 09.8	
	baz=240						
H03N1	**Juan Fernandez**	**80.59**	**123**	T	T	06 03 11.0	
	baz=240,slow=74						
FINES	**FINESS Array B**	**145.95**	**339**	PKPbc	PKPdf	04 41 55.8	-0.1
	1.4nm,1.0s,baz=52,slow=3.1,SNR=4.9						

IDC 11 04:38:53.5±2.9, 31.69S×178.68W, h0km, mb3.5/2, mbtmp3.8/4, ML3.1/2, Error ellipse: s-maj=61.4km s-min=46.2km az=104.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.41**	**207**	Pn	Pn	04 40 42.8	0.0
	0.3nm,0.3s,baz=210,slow=7.0,SNR=2.2						
URZ				Sn	Sn	04 42 01.3	-6.2
	0.3nm,0.3s,baz=31,slow=4.7,SNR=1.7						
	6.1nm,0.9s						
DZM	**Mont Dzumac**	**16.36**	**302**	Pn	Pn	04 42 45.1	+0.5
	0.1nm,0.3s,baz=300,slow=6.0,SNR=2.7						
	9.0nm,1.0s						
ASAR	**Alice Springs**	**42.48**	**269**	P	P	04 46 50.6	+0.1
	0.5nm,0.9s,baz=105,slow=7.9,SNR=4.7						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**43.58**	**274**	P	P	04 46 59.1	-0.4
	0.6nm,0.7s,baz=115,slow=7.7,SNR=7.9						
	0.6nm,0.7s						
H03S2	**Juan Fernandez**	**80.24**	**124**	T	T	06 19 38.4	
	baz=236,SNR=20						
H03S1	**Juan Fernandez**	**80.25**	**124**	T	T	06 19 39.6	
	baz=236,SNR=22						
H03S3	**Juan Fernandez**	**80.25**	**124**	T	T	06 19 38.8	
	baz=236,SNR=24						
H03N3	**Juan Fernandez**	**80.44**	**123**	T	T	06 19 50.3	
	baz=241,slow=72,SNR=8.7						
H03N2	**Juan Fernandez**	**80.44**	**123**	T	T	06 19 51.6	
	baz=241,slow=72,SNR=10.0						
H03N1	**Juan Fernandez**	**80.45**	**123**	T	T	06 19 49.4	
	baz=241,slow=72,SNR=19						
FINES	**FINESS Array B**	**146.15**	**339**	PKPbc	PKPdf	04 58 34.0	+0.1
	1.2nm,0.9s,baz=73,slow=4.7,SNR=5.3						

IDC 11 04:43:12.5±2.6, 8.52S×112.66E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=142.7km s-min=28.0km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.85**	**121**	P	P	04 48 27.5	-0.3
	0.3nm,0.8s,baz=294,slow=11,SNR=3.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**25.31**	**129**	P	P	04 48 41.4	+0.3
	0.2nm,0.6s,baz=307,slow=9.2,SNR=1.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**61.36**	**337**	P	P	04 53 30.2	-0.1
	0.3nm,0.3s,baz=155,slow=6.7,SNR=5.6						
	0.3nm,0.3s						

SOME 11 04:54:02.2, 37.33N×71.80E, h10km
IDC 11 04:54:12.3±4.5, 36.42N×71.09E, h60km±39km, mb3.4/5, mbtmp3.6/10, ML3.3/5, Error ellipse: s-maj=37.8km s-min=27.9km az=9.0
ISC 11 04:54:10.6±1.2, 36.4N±0.1×71.01E±0.09, h35km, n14, σ1s90/18, mb3.7/5, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**5.76**	**353**	*e*P	**Pn**	**04 55 36.0**	**+2.3**
	92nm,0.2s						
IUG				*e*S	**Sn**	**04 56 36.4**	**-2.2**
	57nm,0.3s						
MRKS	**Merke**	**6.54**	**14**	*e*P	**Pn**	**04 55 47.3**	**+3.0**
	5.7nm,0.2s						
MRKS				*e*S	**Sn**	**04 56 56.0**	**-1.8**
	8.0nm,0.2s						
KK31	**Karatay Array**	**6.68**	**357**	Pn	**Pn**	**04 55 48.5**	**+2.3**
	0.6nm,0.2s,baz=170,slow=11,SNR=26						
KK31				⇑Sn	**Sn**	**04 56 58.6**	**-2.4**
	4.6nm,0.6s,baz=190,slow=25,SNR=6.0						
KK31				⇑Lg	Lg	04 57 28.4	
	1.9nm,0.4s,baz=171,slow=32,SNR=4.5						
TKM2	**Tokmak 2**	**7.39**	**27**	⇑Pn	**Pn**	**04 55 56.9**	**+0.8**
	3.4nm,0.7s						
TKM2				⇑Lg	Lg	04 57 40.1	
	2.0nm,0.9s						
GEYT	**Alibeck**	**10.40**	**282**	P	**Pn**	**04 56 39.0**	**+1.8**
	0.5nm,0.3s,baz=98,slow=8.3,SNR=1.9						
GEYT				S	**Sn**	**04 58 30.4**	**-2.0**
	1.1nm,0.3s,baz=111,slow=18,SNR=2.3						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**13.35**	**36**	P	**Pn**	**04 57 19.1**	**+1.6**
	baz=217,slow=14,SNR=4.3						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**16.60**	**359**	P	**Pn**	**04 58 02.3**	**+1.8**
	0.2nm,0.3s,baz=172,slow=13,SNR=2.9						
	0.4nm,0.4s						
AKTO	**Aktyubinsk**	**16.85**	**330**	P	**Pn**	**04 58 05.0**	**+1.4**
	0.2nm,0.3s,baz=157,slow=7.6,SNR=4.2						
	2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**19.98**	**24**	P	**P**	**04 58 38.4**	**-1.3**
	0.2nm,0.3s,baz=222,slow=13,SNR=2.1						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**05 01 20.2**	**-0.9**
	1.9nm,1.1s,baz=126,slow=9.3,SNR=4.1						
	1.9nm,1.1s						
ARCES	**ARCESS Array B**	**41.22**	**338**	P	**P**	**05 01 51.3**	**-0.2**
	2.0nm,0.9s,baz=114,slow=9.0,SNR=4.9						
	2.0nm,0.9s						
HFS	**Hagfors**	**43.13**	**322**	P	**P**	**05 02 06.4**	**-0.8**
	1.1nm,0.7s,baz=96,slow=13,SNR=1.7						
	1.1nm,0.7s						
ESDC	**Sonseca Array**	**57.50**	**298**	P	**P**	**05 03 56.3**	**-0.1**
	0.2nm,0.5s,baz=64,slow=7.9,SNR=1.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**81.95**	**122**	P	**P**	**05 06 25.6**	**-1.3**
	0.3nm,0.8s,baz=328,slow=5.0,SNR=2.2						
	0.3nm,0.8s						

ROM 11 04:56:22.1±0.1, 42.775N±0.004×13.142E±0.005, h10km, ML1.1/8, 3C, Error ellipse: s-maj=0.4km s-min=0.3km az=15.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.06**	**341**	⇑P	Pg	04 56 24.3	-0.1
NRCA				S	Sg	04 56 25.8	-0.2
NRCA				AML	AML		
	comp=N,1890μm,0.2s						
NRCA				AML	AML		
	comp=N,2105μm,0.2s						
NRCA				AML	AML		
	comp=E,4265μm,1.0s						
NRCA				AML	AML		
	comp=E,4010μm,1.0s						
T1242	**Castelluccio d**	**0.07**	**40**	P	Pg	04 56 24.4	-0.1
T1242				S	Sg	04 56 26.0	-0.3
T1242				AML	AML		
	comp=N,820μm,1.0s						
T1242				AML	AML		
	comp=E,584μm,0.3s						
T1242				AML	AML		
	comp=E,646μm,1.1s						
T1242				AML	AML		
	comp=N,820μm,1.0s						
T1242				AML	AML		
	comp=E,585μm,0.3s						
T1242				AML	AML		
	comp=N,764μm,1.0s						
T1202	**Accumoli, Fraz**	**0.09**	**139**	P	Pg	04 56 25.0	+0.2
T1202				S	Sg	04 56 27.2	+0.5
MC2	**Monte Cornacci**	**0.14**	**14**	P	Pg	04 56 26.0	+0.5
MC2				S	Sg	04 56 29.1	+1.2
T1216	**Preci, Frazion**	**0.15**	**322**	P	Pg	04 56 26.0	+0.6
T1204	**Amatrice, Fraz**	**0.16**	**127**	P	Pg	04 56 26.3	+0.6
T1204				S	Sg	04 56 29.7	+1.4
T1217	**Poggiodomo (PG**	**0.17**	**248**	P	Pg	04 56 26.4	+0.6
MMO1	**Montemonaco**	**0.18**	**47**	P	Pg	04 56 26.6	+0.5
MMO1				S	Sg	04 56 29.9	+1.0
LNSS	**Leonessa**	**0.19**	**204**	P	Pg	04 56 26.6	+0.5
LNSS				AML	AML		
	comp=E,154μm,0.2s						
LNSS				AML	AML		
	comp=N,146μm,0.9s						
SMA1	**SAN MARTINO**	**0.20**	**135**	P	Pg	04 56 27.2	+0.8
T1215	**Vallo di Nera,**	**0.20**	**278**	P	Pg	04 56 27.0	+0.6
T1215				S	Sg	04 56 30.6	+1.3
T1215				AML	AML		
	comp=E,55μm,1.0s						
T1215				AML	AML		
	comp=N,63μm,1.3s						
T1241	**Roccafluvione,**	**0.23**	**69**	P	Pg	04 56 28.0	+1.1
T1241				S	Sg	04 56 31.4	+1.4
T1241				AML	AML		
	comp=E,70μm,0.6s						
T1241				AML	AML		
	comp=N,69μm,0.6s						
T1241				AML	AML		
	comp=E,70μm,0.6s						
T1243	**Rocca Santa Ma**	**0.24**	**109**	P	Pg	04 56 27.6	+0.6
T1243				S	Sg	04 56 31.4	+1.0
FDMO	**Fiordimonte**	**0.27**	**351**	⇑P	Pg	04 56 28.2	+0.7
FDMO				S	Sb	04 56 33.0	-0.6
FDMO				AML	AML		
	comp=E,71μm,1.0s						
FDMO				AML	AML		
	comp=N,64μm,0.3s						
CSP1	**Cessapalombo**	**0.32**	**8**	S	Sb	04 56 35.0	-0.3
GUMA	**Gualdo di Mace**	**0.32**	**26**	⇑P	Pb	04 56 29.7	-0.3
GUMA				AML	AML		
	comp=E,134μm,0.3s						
GUMA				AML	AML		
	comp=N,128μm,0.5s						
TERO	**Teramo**	**0.37**	**114**	P	Pg	04 56 29.9	+0.4
TERO				S	Sb	04 56 35.7	-1.0
TERO				AML	AML		
	comp=N,44μm,1.2s						
TERO				AML	AML		
	comp=E,36μm,1.6s						
ASSB	**Assisi San Ben**	**0.45**	**307**	S	Sb	04 56 39.0	+0.2
SNTG	**Esanatoglia**	**0.50**	**343**	P	Pb	04 56 32.5	-0.5
SNTG				S	Sb	04 56 41.0	+0.5
SNTG				AML	AML		
	comp=N,24μm,0.4s						
SNTG				AML	AML		
	comp=E,27μm,1.1s						
ATCC	**AVT- Casa Cast**	**0.55**	**318**	P	Pg	04 56 33.3	+0.4

TIR 11 04:57:57.5, 41.99N×21.54E, h2km±1km, Md3.9, Ml4.3
PRU 11 04:57:58.1±0.0, 41.77N×21.90E, h10km, M4.0
SKO 11 04:57:58.8, 42.00N×21.51E, h15km
BEO 11 04:57:58.8±0.4, 41.90N×21.38E, h0km±2km, ML3.7/17
IDC 11 04:57:58.7±0.6, 41.97N×21.44E, h0km, mb3.8/16, mbtmp3.7/27, ML3.3/11, MS3.0/7, Error ellipse: s-maj=10.9km s-min=9.2km az=32.0
PDG 11 04:57:59.2±0.2, 42.02N×21.54E, h7km, MD3.9/6, ML3.8/14, Error ellipse: s-maj=0.4km s-min=0.4km az=90.0
LDG 11 04:58:01.3±0.2, 42.01N×21.67E, h4km, Ml3.7/14, Error ellipse: s-maj=8.0km s-min=5.0km az=29.0
NEIC 11 04:58:01.2±1.6, 42.05N±0.02×21.54E±0.06, h11km±5km, Error ellipse: s-maj=6.9km s-min=1.5km az=114.0
ISC 11 04:58:00.2±0.8, 42.02N±0.02×21.49E±0.01, h11km±5km, n323, σ1s45/426, mb4.0/19, MS3.2/4, 44C-34D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.06**	**219**	⇓*i*Pg	**Pg**	**04 58 02.0**	**-0.5**
SKO				*i* Sg	**Sg**	**04 58 03.4**	**-0.8**
BARS	**Barje**	**0.83**	**17**	*e*Pg	**Pg**	**04 58 16.0**	**-0.4**
BARS				*e*Sg	**Sb**	**04 58 28.5**	**+0.5**
BARS	**Barje**	**0.83**	**17**	⇑*i*Pg	**Pb**	**04 58 16.2**	**-0.6**
BARS				*i* Sg	**Sb**	**04 58 28.6**	**+0.5**
PHP	**Peshkopia**	**0.85**	**247**	P	**Pg**	**04 58 15.5**	**-1.1**
PHP	**Peshkopia**	**0.85**	**247**	P	**Pg**	**04 58 15.6**	**-1.1**
	baz=250						
PHP				S	**Sg**	**04 58 26.1**	**-1.6**
	baz=250						
PHP				AMP			
	comp=N,22nm,0.2s,baz=250						
BOSS	**Bosilegrad**	**0.88**	**57**	*e*Pg	**Pb**	**04 58 17.2**	**-0.3**
BOSS				*e*Sg	**Sn**	**04 58 30.7**	**-0.6**
OHR	**Ohrid**	**1.04**	**210**	⇑*i*Pg	**Pg**	**04 58 19.6**	**-0.7**
OHR				*i* Sg	**Sg**	**04 58 34.0**	**+0.1**
OHR				*e*Lg	Lg	04 58 34.5	
	comp=N,3μm,0.4s						
VAY	**Valandovo**	**1.07**	**130**	⇑*i*Pg	**Pg**	**04 58 19.4**	**-1.4**
VAY				*i* Sg	**Sg**	**04 58 34.1**	**-0.6**
VAY				*e*Lg	Lg	04 58 37.7	
	comp=N,1μm,0.7s						
VAY				*e*Lg	Lg	04 58 38.5	
	comp=E,2μm,0.8s						
BCI	**Bajram Curri**	**1.11**	**289**	P	**Pb**	**04 58 20.1**	**-1.4**
	baz=290						
BCI				S	**Sn**	**04 58 37.6**	**+0.5**
	baz=290						
BCI				AMP			
	comp=N,26nm,0.7s,baz=290						
KKB	**Krupnik**	**1.20**	**97**	*i* P	**Pg**	**04 58 24.0**	**+0.7**
SELS	**Selova**	**1.23**	**347**	*e*Pg	**Pn**	**04 58 22.9**	**-0.5**
SELS				*e*Sg	**Sn**	**04 58 40.6**	**+0.5**
GRG	**Griva**	**1.26**	**147**	P	**Pn**	**04 58 22.2**	**-1.6**
GRG	**Griva**	**1.26**	**147**	P	**Pn**	**04 58 23.4**	**-0.4**
GRG				S	**Sb**	**04 58 40.6**	**+0.3**
GRG	**Griva**	**1.26**	**147**	⇑*i*Pg	**Pn**	**04 58 23.2**	**-0.6**
GRG				*i* Sg	**Sb**	**04 58 40.3**	**0.0**
PVY	**Plav**	**1.27**	**297**	⇑*i*Pg	**Pn**	**04 58 23.0**	**-1.1**
PVY				*e*Sg	**Sn**	**04 58 43.5**	**+2.3**
KNT	**Kendrikon**	**1.36**	**128**	P	**Pn**	**04 58 24.2**	**-1.0**
KNT	**Kendrikon**	**1.36**	**128**	P	**Pn**	**04 58 25.2**	**0.0**
KNT				S	**Sb**	**04 58 42.1**	**-1.0**
KNT	**Kendrikon**	**1.36**	**128**	*i* Pg	**Pn**	**04 58 25.0**	**-0.1**
KNT				*i* Sg	**Sg**	**04 58 45.0**	**+1.0**
TIR	**Tirane**	**1.39**	**242**	⇑P	**Pn**	**04 58 25.7**	**+0.1**
TIR	**Tirane**	**1.39**	**242**	P	**Pg**	**04 58 27.0**	**+0.1**
TIR				S	**Sg**	**04 58 45.8**	**+0.9**
TIR	**Tirane**	**1.39**	**242**		**Pb**	**04 58 26.8**	**+0.6**
TIR	**Tirane**	**1.39**	**242**	*i* Pn	**Pg**	**04 58 26.9**	**+0.1**
TIR				*i* Sn	**Sg**	**04 58 47.3**	**+2.4**
TIR	**Tirane**	**1.39**	**242**	P	**Pn**	**04 58 25.9**	**+0.3**
	baz=244						
TIR				S	**Sg**	**04 58 45.7**	**+0.9**
	baz=244						
VTS	**Vitosha**	**1.43**	**65**	⇓P	**Pb**	**04 58 26.7**	**-0.2**
VTS				⇑S	**Sg**	**04 58 48.1**	**+1.9**
VTS	**Vitosha**	**1.43**	**65**	Pn	**Pb**	**04 58 26.8**	**-0.2**
VTS	**Vitosha**	**1.43**	**65**	*e*Pg	**Pb**	**04 58 26.7**	**-0.2**
VTS				*e*Sg	**Sg**	**04 58 47.4**	**+1.2**
VTS	**Vitosha**	**1.43**	**65**	*i* Pn	**Pg**	**04 58 26.8**	**-0.9**
VTS				*i* Sn	**Sg**	**04 58 48.5**	**+2.3**
VTS	**Vitosha**	**1.43**	**65**	*i* P	**Pg**	**04 58 26.8**	**-0.9**
BEY	**Berane**	**1.46**	**306**	*i* Pn	**Pb**	**04 58 27.6**	**+0.2**
IVA	**Berane**	**1.46**	**306**	⇑*i*Pg	**Pn**	**04 58 26.5**	**-0.1**
IVA				*i* Sg	**Sg**	**04 58 49.7**	**+2.5**
KBN	**Korca**	**1.49**	**201**	P	**Pn**	**04 58 27.1**	**+0.1**
KBN				S	**Sn**	**04 58 46.5**	**0.0**
KBN	**Korca**	**1.49**	**201**		**Pn**	**04 58 26.8**	**-0.2**
KBN	**Korca**	**1.49**	**201**	P	**Pn**	**04 58 26.7**	**-0.3**
	baz=203						
KBN				S	**Sb**	**04 58 47.6**	**+0.7**
	baz=203						
BOVS	**Bovan**	**1.62**	**6**	⇓P	**Pn**	**04 58 29.0**	**+0.2**
BOVS				⇓S	**Sg**	**04 58 52.4**	**0.0**
BOVS	**Bovan**	**1.62**	**6**	*e*Pn	**Pn**	**04 58 28.7**	**-0.1**
BOVS				*e*Sn	**Sg**	**04 58 54.0**	**+1.5**
NEST	**Nestorio**	**1.64**	**192**	P	**Pn**	**04 58 29.7**	**+0.7**
NEST				S	**Sn**	**04 58 50.9**	**+0.8**
SJES	**Sjenica**	**1.67**	**319**	*e*Pn	**Pn**	**04 58 30.2**	**+0.7**
SJES				*e*Sn	**Sg**	**04 58 53.2**	**-0.8**
ULC	**Ulcinj**	**1.67**	**269**	⇓*i*Pn	**Pb**	**04 58 30.9**	**-0.2**
ULC				*e*Sn	**Sg**	**04 58 55.3**	**+1.2**
KOME	**Kolasin**	**1.68**	**300**	⇑*i*Pn	**Pb**	**04 58 30.6**	**-0.6**
KOME				*e*Sn	**Sg**	**04 58 54.7**	**+0.4**
PDG	**Podgorica**	**1.71**	**285**	⇑P	**Pn**	**04 58 30.7**	**+0.8**
PDG				⇓S	**Sb**	**04 58 53.1**	**0.0**
PDG	**Podgorica**	**1.71**	**285**	Pn	**Pn**	**04 58 30.8**	**+0.8**
PDG	**Podgorica**	**1.71**	**285**	*e*Pg	**Pn**	**04 58 30.4**	**+0.5**
PDG				*e*Sg	**Sn**	**04 58 51.7**	**-0.1**
PDG	**Podgorica**	**1.71**	**285**	⇓*i*Pn	**Pn**	**04 58 31.0**	**+1.0**
PDG				*i* Sn	**Sg**	**04 58 55.6**	**+0.4**
TTG	**Podgorica**	**1.71**	**285**	⇓*i*Pn	**Pn**	**04 58 30.9**	**+1.0**
TTG				*i* Sn	**Sg**	**04 58 56.2**	**+1.0**
DRME	**Dracevica, Mon**	**1.72**	**276**	*e*Pn	**Pb**	**04 58 31.7**	**-0.2**
DRME	**Dracevica, Mon**	**1.72**	**276**	⇓*i*Pn	**Pn**	**04 58 31.2**	**+1.1**
DRME				*i* Sn	**Sg**	**04 58 56.1**	**+0.5**
KZN	**Kozani**	**1.72**	**173**	P	**Pn**	**04 58 30.8**	**+0.6**
MMB	**Musomiste**	**1.73**	**104**	*i* P	**Pn**	**04 58 30.9**	**+0.7**
THE	**Thessaloniki**	**1.77**	**141**	P	**Pn**	**04 58 30.9**	**+0.1**
THE				S	**Sn**	**04 58 52.8**	**-0.6**
THE	**Thessaloniki**	**1.77**	**141**	*i* Pn	**Pn**	**04 58 31.5**	**+0.7**
SRS	**Serrai**	**1.82**	**119**	P	**Pn**	**04 58 31.7**	**+0.3**
SRS				S	**Sn**	**04 58 54.7**	**+0.2**
SRS	**Serrai**	**1.82**	**119**	*e*Pg	**Pn**	**04 58 31.6**	**+0.2**
SRS				*e*Sg	**Sg**	**04 58 57.4**	**-1.2**
SRS	**Serrai**	**1.82**	**119**	⇓*i*Pn	**Pn**	**04 58 31.7**	**+0.3**
SRS				*i* Sn	**Sn**	**04 58 53.3**	**-1.1**
BLKB	**Belogradchik**	**1.83**	**28**	⇑P	**Pb**	**04 58 33.1**	**-0.5**
BLKB				⇓S	**Sb**	**04 58 56.8**	**+0.3**
IVAS	**Ivanjica**	**1.84**	**328**	*e*Pn	**Pn**	**04 58 31.6**	**-0.3**
IVAS				*e*Sn	**Sb**	**04 58 58.0**	**+0.9**
SOH	**Sokhos**	**1.84**	**130**	P	**Pn**	**04 58 32.2**	**+0.4**
SOH				S	**Sb**	**04 58 56.4**	**-0.6**
SOH	**Sokhos**	**1.84**	**130**	⇑*i*Pn	**Pn**	**04 58 32.2**	**+0.4**
SOH				*i* Sn	**Sg**	**04 59 00.7**	**+1.2**
HORT	**Hortiatis**	**1.87**	**139**	P	**Pn**	**04 58 32.2**	**0.0**
HORT	**Hortiatis**	**1.87**	**139**	P	**Pn**	**04 58 32.7**	**+0.5**
ZAGS	**Zajecar**	**1.88**	**17**	*e*Pn	**Pb**	**04 58 33.1**	**-1.4**
ZAGS				*e*Sn	**Sg**	**04 59 00.2**	**-0.3**
NVR	**Nevrokopi**	**1.90**	**110**	P	**Pn**	**04 58 33.1**	**+0.5**
BUM	**Brajici-Budva**	**1.95**	**279**	⇑*i*Pn	**Pn**	**04 58 34.5**	**+1.2**
BUM				*i* Sn	**Sb**	**04 59 01.6**	**+1.5**
GRUS	**Gruza**	**1.95**	**343**	*e*Pn	**Pn**	**04 58 33.0**	**+0.6**
GRUS				*e*Sn	**Sb**	**04 59 00.0**	**-0.2**
CEME	**Cevo**	**1.98**	**286**	⇑*i*Pn	**Pn**	**04 58 34.6**	**+0.9**
CEME				*i* Sn	**Sb**	**04 59 02.3**	**+1.3**
LSK	**Leskovik**	**1.98**	**200**	P	**Pn**	**04 58 34.9**	**+1.1**
LSK	**Leskovik**	**1.98**	**200**	P	**Pn**	**04 58 34.9**	**+1.1**
	baz=202						
LSK				S	**Sg**	**04 59 03.6**	**-0.3**
	baz=202						
LSK				AMP			
	comp=N,12nm,0.7s,baz=202						
NKY	**Niksic**	**2.01**	**294**	⇑*i*Pn	**Pn**	**04 58 35.1**	**+0.9**
NKY				*i* Sn	**Sb**	**04 59 03.2**	**+1.2**
NKME	**Niksic**	**2.02**	**293**	⇑*i*Pn	**Pn**	**04 58 35.1**	**+0.8**
NKME				*i* Sn	**Sb**	**04 59 03.7**	**+1.5**
PLE	**Pljevlja**	**2.03**	**311**	*e*Pn	**Pn**	**04 58 35.2**	**+0.7**
PLE				*e*Sn	**Sb**	**04 59 03.4**	**+0.9**
PGB	**Panagyurishte**	**2.06**	**74**	*i* P	**Pb**	**04 58 35.9**	**-1.7**
LIT	**Litokhoron**	**2.06**	**158**	P	**Pn**	**04 58 35.2**	**+0.4**
LIT	**Litokhoron**	**2.06**	**158**		**Pn**	**04 58 35.0**	**+0.2**
LIT	**Litokhoron**	**2.06**	**158**	⇑*i*Pn	**Pn**	**04 58 34.9**	**+0.1**
KPRO	**Kipourio**	**2.06**	**183**	P	**Pn**	**04 58 35.2**	**+0.3**
MPEP	**Malo Peshtene**	**2.13**	**50**	*i* P	**Pg**	**04 58 41.8**	**+0.7**
VLO	**Vlora**	**2.16**	**225**	Pn	**Pb**	**04 58 39.1**	**-0.2**
RUDO	**Rudo**	**2.23**	**316**	*e*Pn	**Pn**	**04 58 36.8**	**-0.4**
KOKK	**Kokkinochori,**	**2.24**	**122**	P	**Pn**	**04 58 37.9**	**+0.7**
UPM	**Unac-Piva**	**2.25**	**303**	*e*Pn	**Pn**	**04 58 38.6**	**+1.1**
UPM	**Unac-Piva**	**2.25**	**303**	⇑*i*Pn	**Pn**	**04 58 38.5**	**+1.1**
UPM				*i* Sn	**Sb**	**04 59 08.7**	**-0.1**
SVIS	**Svilajnac**	**2.26**	**355**	*e*Pn	**Pb**	**04 58 39.8**	**-1.2**
SVIS				*e*Sn	**Sb**	**04 59 09.2**	**+0.3**
HCY	**Herceg Novi**	**2.27**	**282**	*e*Pn	**Pb**	**04 58 39.8**	**-1.3**
HCY	**Herceg Novi**	**2.27**	**282**	⇑*i*Pn	**Pn**	**04 58 39.3**	**+1.7**
HCY				*i* Sn	**Sb**	**04 59 08.8**	**-0.3**
TRUS	**Trudelj**	**2.34**	**341**	*e*Pn	**Pn**	**04 58 39.0**	**+0.3**
TRUS				*e*Sn	**Sb**	**04 59 10.7**	**-0.7**
DIVS	**Divibare**	**2.35**	**333**	Pn	**Pn**	**04 58 39.0**	**+0.1**
DIVS	**Divibare**	**2.35**	**333**	*e*Pn	**Pn**	**04 58 38.9**	**0.0**
DIVS	**Divibare**	**2.35**	**333**	*e*Pn	**Pn**	**04 58 39.0**	**+0.1**
BRY	**Bratogost**	**2.35**	**293**	*e*Pn	**Pb**	**04 58 41.1**	**-1.6**
BRY	**Bratogost**	**2.35**	**293**	⇓*i*Pn	**Pn**	**04 58 40.1**	**+1.1**
BRY				*i* Sn	**Sb**	**

GZR	Gura Zlata	3.50	15	⇓P		Pn	04 58 55.6	+0.9
BZS	Buzias	3.60	1	⇑P		Pn	04 58 55.7	-0.2
BZS				⇑S		Sb	04 59 43.0	-4.5
EFP	Efpalio	3.60	175	P		Pn	04 58 57.2	+1.3
ALN	Alexandroupoli	3.60	107	*e*P		Pn	04 58 56.4	+0.4
ALN	Alexandroupoli	3.60	107	P		Pn	04 58 56.6	+0.6
ALN	Alexandroupoli	3.60	107			Pn	04 58 57.0	+1.0
FSK	Fiskardo	3.62	192	P		Pn	04 58 57.7	+1.4
SERG	Sergoula	3.63	173	P		Pn	04 58 56.9	+0.6
DOB	Doboj	3.67	319	*e*Pn		Pn	04 58 57.5	+0.6
ENEZ	Enez	3.74	108	*e*P		Pn	04 58 59.0	+1.2
SRKY	Kupres RS	3.77	304	*e*Pn		Pn	04 58 59.4	+1.0
STFAR	Stefanesti-Arg	3.81	40	⇓P		Pn	04 59 00.6	+1.8
LOT	Lotru	3.81	25	⇑P		Pn	04 58 59.6	+0.7
MATE	Matera	3.85	251	⇓P		Pn	04 59 00.6	+1.2
MATE				⇓S		Sn	04 59 42.3	-2.3
VLS	Valsamata	3.90	190	P		Pn	04 59 00.5	+0.5
EDRB	Edirne	3.92	91	*e*P		Pn	04 59 00.4	0.0
SGRR	Singureni	3.96	55	⇑P		Pn	04 59 02.6	+1.8
DEV	Deva	4.00	14	⇓P		Pn	04 59 02.9	+1.5
KLV	Kalavryta, Ach	4.00	172	P		Pn	04 59 02.4	+0.9
RAZG	Razgrad	4.00	66	⇓P		Pn	04 59 03.4	+1.9
MGRS	Mrkonjic Grad	4.01	308	*e*Pn		Pn	04 59 02.9	+1.2
ARR	Arges	4.05	33	⇓P		Pn	04 59 03.5	+1.3
DRO	Drossia	4.06	178	P		Pn	04 59 03.5	+1.2
BLY	Banja Luka	4.16	312	*e*Pn		Pn	04 59 04.6	+1.0
SIRR	Siria	4.25	2	⇑P		Pn	04 59 05.6	+0.7
EZN	Ezine	4.27	119	*e*P		Pn	04 59 06.2	+1.1
VOIR		4.28	36	⇑P		Pn	04 59 07.8	+2.4
SGRT	San Giovanni R	4.30	268			Pn	04 59 07.7	+2.1
SIGR	SIGRI	4.35	129	*e*P		Pn	04 59 07.3	+1.1
SULR		4.38	51	⇓P		Pn	04 59 09.9	+3.3
A050A	Klekovaca	4.38	306	*e*Pn		Pn	04 59 07.7	+1.0
A051A	Mrakovica	4.48	313	*e*Pn		Pn	04 59 08.8	+0.7
TIP	Timpagrande	4.58	233	⇑P		Pn	04 59 09.9	+0.4
TIP	Timpagrande	4.58	233			Pn	04 59 10.8	+1.3
MDB	Medias	4.62	26	⇓P		Pn	04 59 12.7	+2.8
MORH	Mrgy, Hungar	4.67	335	⇑P		Pn	04 59 11.0	+0.4
MORH	Mrgy, Hungar	4.67	335	P		Pn	04 59 10.8	+0.2
MLR	Muntele Rosu	4.74	41	⇑P		Pn	04 59 14.5	+2.8
MLR	Muntele Rosu	4.74	41	Pn		Pn	04 59 14.5	+2.8
	comp=N,1.1nm,0.3s,baz=249,slow=11,SNR=11							
MLR				Pg		Pb	04 59 24.7	+1.3
	comp=N,2.2nm,0.3s,baz=271,slow=12,SNR=9.2							
MLR				Sn		Sn	05 00 06.4	-0.3
	comp=N,0.9nm,0.3s,baz=166,slow=16,SNR=2.1							
MLR				Lg		Lg	05 00 36.4	
	comp=N,2.2nm,0.3s,baz=19,slow=2.5,SNR=4.6							
MLR				LR		LR	05 01 21.1	
	comp=N,54nm,20.0s,baz=187,slow=42							
	comp=N,4.6nm,0.5s							
MLR	Muntele Rosu	4.74	41	Pn		Pn	04 59 12.6	+0.9
CUC	Castrocucco	4.75	247			Pn	04 59 13.6	+1.9
KOVH	Kovagotottos	4.75	330	P		Pn	04 59 12.5	+0.8
KOVH				S		Sn	05 00 07.4	+0.8
ISR	Istrita	4.80	48	⇑P		Pn	04 59 15.3	+2.8
ITM	Ithomi	4.84	176			Pn	04 59 14.8	+1.8
DOPR	Dopca	4.85	34	⇓P		Pn	04 59 14.6	+1.5
DRGR		4.85	10	⇓P		Pn	04 59 13.4	+0.1
NEHR	Nehoiu	4.87	44	⇑P		Pn	04 59 16.0	+2.5
ICOR	Ion Corvin	5.08	63	⇑P		Pn	04 59 17.8	+1.6
OZUR		5.12	36	⇑P		Pn	04 59 19.2	+2.3
PAOL	Paolisi	5.29	262			Pn	04 59 20.7	+1.5
PLOR	Plostina	5.34	42	⇑P		Pn	04 59 21.5	+1.5
VRI	Vrincioaia	5.39	43	⇑P		Pn	04 59 22.8	+2.2
TIH	Tihany	5.52	333	P		Pn	04 59 23.7	+1.4
TIRR	Tirgusor	5.62	62	⇑P		Pn	04 59 24.5	+1.0
TIRR	Tirgusor	5.62	62	Pn		Pn	04 59 22.7	-0.9
BOJS	Bojanci	5.70	310	*e*Pn		Pn	04 59 26.1	+1.3
BUD	Budapest	5.74	343	P		Pn	04 59 26.3	+1.0
BUD				S		Sn	05 00 34.3	+3.1
CFR	Carcaliu	5.77	55	⇓P		Pn	04 59 27.7	+2.0
CRES	Cresnjev	5.78	313	*e*Pn		Pn	04 59 26.6	+0.6
CRES	Cresnjev	5.78	313	*i* Pn		Pn	04 59 27.1	+1.2
TPGR	Topolog	5.79	58	⇓P		Pn	04 59 27.2	+1.2
GOLS	Golise	5.81	315	*i* Pn		Pn	04 59 26.9	+0.5
BMR	Baia Mare	5.83	13	⇓P		Pn	04 59 28.2	+1.6
APE	Apeiranthos	5.85	146	⇓P		Pn	04 59 27.8	+0.9
MPLH	Magyarpolny	5.87	333	P		Pn	04 59 28.6	+1.5
BIZ	Bicaz	5.92	32	⇑P		Pn	04 59 30.0	+2.1
SCTR	Scanteiesti	5.96	50	⇑P		Pn	04 59 29.9	+1.6
PSZ	Piszkesteto	6.01	350	⇑P		Pn	04 59 29.7	+0.6
PSZ	Piszkesteto	6.01	350	Pn		Pn	04 59 28.2	-0.9
PSZ	Piszkesteto	6.01	350	P		Pn	04 59 29.9	+0.8
PSZ				S		Sn	05 00 39.8	+1.9
CAMP	Campotosto	6.02	278			Pn	04 59 30.4	+1.2
AQU	L'Aquila	6.02	276	Pn		Pn	04 59 30.9	+1.7
EGYH	Egyhazaskeszo	6.16	333	P		Pn	04 59 34.0	+3.0
BURAR	Bucovina Array	6.19	24	⇓P		Pn	04 59 33.7	+2.1
BURAR	Bucovina Array	6.19	24	Pn		Pn	04 59 32.1	+0.5
BUR08	Bucovina Ar. S	6.21	24	Pn		Pn	04 59 32.6	+0.7
SRO	Srobarova	6.22	340	*e*PN		Pn	04 59 35.6	+3.7
SRO				*e*SN		Sn	05 00 46.7	+3.8
NRCA	Norcia	6.25	280	Pn		Pn	04 59 33.1	+0.7
CEY	Cerknica	6.31	308	*e*Pn		Pn	04 59 33.4	+0.1
MANT	Manisa	6.45	121	Pn		Pn	04 59 35.8	+0.5
SKDS	Skadanscina	6.46	306	*e*Pn		Pn	04 59 35.6	+0.4
PERS	Pernice	6.50	317	*i* Pn		Pn	04 59 36.5	+0.8
KECS	Kecovo	6.50	354	*e*PN		Pn	04 59 37.0	+1.2
SOP	Sopron	6.66	330	P		Pn	04 59 40.3	+2.4
SOP				S		Sn	05 00 56.4	+2.6
OBKA	Obir	6.71	314	*e*Pn		Pn	04 59 39.4	+0.7
OBKA	Obir	6.71	314	*e*Pn		Pn	04 59 40.0	+1.3
	comp=N,4.2nm,0.3s,SNR=15							
MURB	Monte Urbino	6.73	284			Pn	04 59 40.3	+1.3
VYHS	Vyhne	6.74	345	*e*PN		Pn	04 59 40.4	+1.3
VYHS				*e*SN		Sn	05 00 54.0	-1.8
ARSA	Arzberg	6.74	323	*i* Pn		Pn	04 59 40.0	+0.8
	comp=N,9.5nm,0.3s							
RONA	Rosalia, Austr	6.77	329	*i* Pn		Pn	04 59 41.1	+1.5
	comp=N,2.2nm,0.3s							
RONA				*e*Sn		Sn	05 00 57.5	+0.9
	comp=N,8.3nm,0.6s							
CRVS	Cervenica-Dubn	6.88	360	*e*PN		Pn	04 59 42.0	+0.9
SABO	M.te Sabotino	6.93	308			Pn	04 59 42.9	+1.1
KOLS	Kolonicke sedl	6.94	4	*e*PN		Pn	04 59 44.1	+2.3
MODS	Modra-Piesok	7.02	336	*e*PN		Pn	04 59 44.7	+1.8
MODS				*e*SN		Sn	05 01 02.6	0.0
VAE	Valguarnera	7.09	233	Pn		Pn	04 59 45.0	+1.0
	comp=N,0.8nm,0.3s,baz=333,slow=9.8,SNR=1.4							
VAE				Sn		Sn	05 01 01.0	-3.5
	comp=N,1.7nm,0.3s,baz=204,slow=21,SNR=2.0							
	comp=N,3.2nm,0.4s							
CONA	Conrad Observa	7.13	328	*e*Pn		Pn	04 59 45.2	+0.8
	comp=N,2.3nm,0.3s,SNR=5.5							
CONA				*e*Sn		Sn	05 01 04.6	-0.8
	comp=N,4.7nm,0.5s							
IDI	Anoyia	7.23	157	Pn		Pn	04 59 45.9	+0.1
	comp=N,0.7nm,0.3s,baz=319,slow=16,SNR=3.0							
IDI				Sn		Sn	05 01 09.4	+1.5
	comp=N,0.1nm,0.3s,baz=166,slow=1.6,SNR=1.4							
	comp=N,6.0nm,0.9s							
LANS	Liptovska Anna	7.27	349	*e*PN		Pn	04 59 51.6	+5.2
MYKA	Terra Mystica	7.27	312	*e*Pn		Pn	04 59 47.3	+0.9
	comp=N,5.1nm,0.4s							
JAVC	Velka Javorina	7.35	340	*e*Pn		Pn	04 59 49.5	+2.0
JAVC				*e*SN		Sn	05 01 14.9	+4.1
STAL	STALIGIAL	7.60	307			Pn	04 59 51.5	+0.6
CLUD	Cludinico	7.61	309			Pn	04 59 51.8	+0.8
MOA	Molln	7.76	321	*e*Pn		Pn	04 59 54.9	+1.8
	comp=N,1.4nm,0.2s							
MOA				*e*Sn		Sn	05 01 19.3	-1.6
	comp=N,5.2nm,0.6s							
MAUC	Maruska	7.78	342	*e*PN		Pn	04 59 54.9	+1.5
KRUC	Moravsky	7.90	335	*e*PN		Pn	04 59 56.5	+1.6
KRUC				*e*SN		Sn	05 01 25.5	+1.3
BIOA	Bad Ischl, Aus	7.95	318	*e*Pn		Pn	04 59 57.6	+1.8
	comp=N,2.7nm,0.3s,SNR=5.7							
BIOA				*e*Sn		Sn	05 01 23.7	-1.9
	comp=N,7.6nm,0.5s							
ABTA	Abfaltersbach	7.98	309	*e*Pn		Pn	04 59 57.9	+1.8
	comp=N,5.6nm,0.5s							
ABTA				*e*Sn		Sn	05 01 26.5	+0.1
	comp=N,5.4nm,0.6s							
ZCCA	Zocca	8.03	290			Pn	04 59 57.8	+1.0
VRAC	Vranov	8.05	337	Pn		Pn	04 59 57.6	+0.5
	comp=N,0.1nm,0.3s,baz=170,slow=14,SNR=3.1							
VRAC				Sn		Sn	05 01 21.9	-6.2
	comp=N,0.2nm,0.3s,baz=146,slow=8.4,SNR=2.1							
VRAC				LR		LR	05 04 04.6	
	comp=N,57nm,18.6s,baz=121,slow=45							
	comp=N,2.5nm,0.7s							

VRAC	Vranov	8.05	337	*e*PN		Pn	04 59 59.1	+2.0
VRAC				*e*SN		Sn	05 01 29.8	+1.7
CTI	Castel Tesino	8.15	303			Pn	04 59 59.8	+1.2
MORC	Moravsky Berou	8.23	342	Pn		Pn	04 59 59.6	+0.1
MORC	Moravsky Berou	8.23	342	*e*PN		Pn	05 00 01.3	+1.7
MORC				*e*SN		Sn	05 01 31.9	-0.6
VLC	Villacollemand	8.40	288	Pn		Pn	05 00 03.5	+1.6
KRLC	Kraliky	8.70	340	*e*PN		Pn	05 00 06.5	+0.6
KRLC				*e*SN		Sn	05 01 43.8	-0.1
GERES	GERESS Array B	8.75	324	Pn		Pn	05 00 07.9	+1.2
	comp=N,0.6nm,0.3s,baz=151,slow=13,SNR=15							
GERES				Sn		Sn	05 01 46.5	+1.2
	comp=N,0.3nm,0.3s,baz=143,slow=30,SNR=2.2							
GERES				Lg		Lg	05 02 31.0	
	baz=157,slow=26							
	comp=N,0.4nm,0.3s							
GERES	GERESS Array B	8.75	324	Pn		Pn	05 00 08.0	+1.4
WTTA	Wattenberg	8.76	310	*e*Pn		Pn	05 00 09.2	+2.2
	comp=N,2.1nm,0.3s							
WTTA				*e*Sn		Sn	05 01 46.9	+1.1
	comp=N,7.4nm,0.5s							
WATA	Walderalm	8.84	310	*e*Pn		Pn	05 00 11.3	+3.3
	comp=N,6.2nm,0.4s							
SQTA	Sankt Quirin	8.99	309	*e*Pn		Pn	05 00 12.3	+2.4
	comp=N,6.8nm,0.4s							
SQTA				*e*Sn		Sn	05 01 51.8	+0.7
	comp=N,6.2nm,0.6s							
KHC	Kasperske Hory	9.02	325			Pn	05 00 12.8	+2.4
KHC	Kasperske Hory	9.02	325	*e*PN		Pn	05 00 11.8	+1.5
KHC				*e*SN		Sn	05 01 53.2	+1.4
MSSA	Maissana	9.05	289			Pn	05 00 12.4	+1.6
DPC	Dobruska-Polom	9.07	339	*e*PN		Pn	05 00 12.4	+1.4
DPC				*e*SN		Sn	05 01 54.4	+1.3
MOTA	Moosalm	9.11	309	*e*Pn		Pn	05 00 15.2	+3.4
	comp=N,2.0nm,0.4s							
MOTA				*e*Sn		Sn	05 01 54.9	+0.6
	comp=N,2.0nm,0.5s							
FETA	Feichten	9.17	307	*e*Pn		Pn	05 00 15.0	+2.5
	comp=N,2.0nm,0.6s							
FETA				*e*Sn		Sn	05 01 58.0	+2.3
	comp=N,4.9nm,0.7s							
PGF	Pioggiola	9.28	277	*e*Pn		Pn	05 00 14.7	+0.8
OSTC	Ostas	9.29	339	*e*SN		Sn	05 01 59.6	+1.2
RETA	Reutte	9.38	309	*e*Pn		Pn	05 00 18.6	+3.2
	comp=N,0.9nm,0.3s							
RETA				*e*Sn		Sn	05 02 03.4	+2.5
	comp=N,5.8nm,0.6s							
BRTR	Keskin Array B	9.49	100	Pn		Pn	05 00 18.4	+1.5
	comp=N,0.1nm,0.3s,baz=174,slow=18,SNR=5.7							
BRTR				Sn		Sn	05 01 59.6	-4.0
	comp=N,0.1nm,0.3s,baz=314,slow=13,SNR=1.7							
BRTR				Lg		Lg	05 03 02.2	
	baz=319,slow=17,SNR=2.4							
	comp=N,0.7nm,0.6s							
DAVOX	Davos/Dischmat	9.57	304	Pn		Pn	05 00 18.2	+0.1
	comp=N,0.3nm,0.3s,baz=126,slow=10.0,SNR=7.9							
DAVOX				Sn		Sn	05 02 03.9	-1.8
	comp=N,0.5nm,0.3s,baz=127,slow=22,SNR=2.4							
DAVOX				LR		LR	05 04 18.2	
	comp=N,114nm,20.6s,baz=130,slow=40							
	comp=N,1.0nm,0.4s							
DAVA	Damuels	9.80	306	*e*Pn		Pn	05 00 24.9	+3.7
	comp=N,1.8nm,0.5s							
AKASG	Malin Array Be	10.19	29	Pn		Pn	05 00 27.1	+0.8
	comp=N,0.2nm,0.3s,baz=221,slow=12,SNR=2.6							
AKASG				Lg		Lg	05 03 29.5	
	comp=N,0.3nm,0.3s,baz=220,slow=37,SNR=1.6							
	comp=N,0.4nm,0.5s							
SBF	Sospel	10.47	285	*e*Pn		Pn	05 00 30.7	+0.4
SBF				*e*Sn		Sn	05 02 27.4	-0.1
	comp=N,8.8nm,0.6s							
MBDF	Montbardon	11.05	289	*e*Pn		Pn	05 00 38.5	+0.2
MBDF				*e*Sn		Sn	05 02 40.7	-1.2
	comp=N,4.7nm,0.9s							
SENIN	Lac Senin/Sane	11.07	298	Pn		Pn	05 00 37.9	-0.8
LMR	La Mourre	11.11	282	*e*Pn		Pn	05 00 40.6	+1.7
BNI	Bardonecchia	11.17	291	Pn		Pn	05 00 40.0	+0.1
LPG	La Plagne	11.21	293	*e*Pn		Pn	05 00 41.8	+1.2
LPG				*e*Sn		Sn	05 02 46.2	+0.2
	comp=N,7.9nm,0.6s							
LPL	La Plagne	11.23	293	*e*Pn		Pn	05 00 41.2	+0.4
LPL				*e*Sn		Sn	05 02 46.4	+0.1
	comp=N,7.3nm,0.6s							
KEST	Kesra	11.35	240	Pn		Pn	05 00 47.0	+4.6
	comp=N,0.1nm,0.3s,baz=134,slow=23,SNR=1.5							
ORIF	Oris-en-Rattie	11.71	290	*e*Pn		Pn	05 00 48.8	+1.6
ORIF				*e*Sn		Sn	05 02 56.2	-1.7
	comp=N,2.8nm,0.3s							
HINF	Hinteralfeld	11.88	304	*e*Pn		Pn	05 00 51.3	+1.8
HINF				*e*Sn		Sn	05 02 59.5	-2.5
	comp=N,2.7nm,0.6s							
CDF	Champ du Feu	11.88	307	*e*Pn		Pn	05 00 51.5	+1.9
CABF	La Chapelle	11.95	298	*e*Pn		Pn	05 00 52.2	+1.7
CABF				*e*Sn		Sn	05 03 04.0	+0.3
	comp=N,4.7nm,0.6s							
HAU	Haudompre	12.27	304	*e*Pn		Pn	05 00 56.0	+1.2
HAU				*e*Sn		Sn	05 03 09.4	-2.0
	comp=N,2.8nm,0.2s							
VIVF	Saint-Julien-l	12.55	289	*e*Pn		Pn	05 00 59.3	+0.6
SFTF	Sexfontaines	13.15	304	*e*P		P	05 01 12.2	-4.8
SFTF				*e*Sn		Sn	05 03 31.0	-2.0
	comp=N,0.9nm,0.2s							
SAVF	Savonnieres en	13.26	305	*e*P		P	05 01 15.0	-3.2
	baz=123							
SMF	Signal de Mont	13.45	296	*e*Pn		Pn	05 01 10.9	0.0
SMF				*e*Sn		Sn	05 03 37.8	-2.5
	comp=N,4.1nm,0.6s							
LOR	Lormes	13.60	299	*e*Pn		Pn	05 01 14.3	+1.4
	baz=116							
LOR				*e*Sn		Sn	05 03 37.9	-6.0
	comp=N,0.7nm,0.2s							
SSF	Saint Saulge	13.77	298	*e*Pn		Pn	05 01 15.9	+0.6
AVF	Avril sur Loir	13.81	296	*e*Pn		Pn	05 01 16.8	+1.0
HFS	Hagfors	18.76	348	P		Pn	05 02 20.2	+0.7
	comp=N,0.1nm,0.3s,baz=150,slow=12,SNR=4.2							
HFS				LR		LR	05 10 03.4	
	comp=N,114nm,18.3s,baz=354,slow=38							
	comp=N,0.9nm,0.5s							
ESDC	Sonseca Array	19.38	272	P		P	05 02 25.9	-0.1
	baz=67,slow=9.3,SNR=2.5							
	comp=N,0.3nm,0.8s							
FINES	FINESS Array B	19.65	7	P		P	05 02 27.6	-1.1
	comp=N,0.2nm,0.3s,baz=186,slow=12,SNR=9.8							
	comp=N,1.1nm,0.6s							
NB2	NORSAR Subarra	20.05	345	P		P	05 02 32.7	-0.4
	comp=Z,3.2nm,0.9s,baz=157,slow=11							
NOA	NORSAR Array B	20.05	345	P		P	05 02 32.6	-0.4
	comp=Z,1.0nm,0.7s,baz=157,slow=11,SNR=5.8							
NOA				LR		LR	05 11 13.6	
	comp=Z,13nm,19.5s,baz=15,slow=40							
	comp=Z,1.0nm,0.7s							
BELG	Belogornoye	20.46	51	P		P	05 02 37.3	-0.3
	comp=Z,21nm,0.8s,baz=324,slow=4.4,SNR=3.7							
	comp=Z,21nm,0.8s							
EKA	Eskdalemuir Ar	20.89	318	P		P	05 02 42.2	0.0
	comp=Z,3.9nm,0.7s,baz=116,slow=11,SNR=6.1							
	comp=Z,3.9nm,0.7s							
KLMR	Klimovskoe	21.82	24	*e*		P	05 02 49.8	-2.3
KLMR				AMP			05 02 55.4	
	comp=Z,17nm,1.5s							
MDT	Midelt	22.60	255	P		P	05 02 59.5	-1.4
	comp=Z,1.1nm,0.8s,baz=83,slow=15,SNR=6.7							
	comp=Z,1.1nm,0.8s							
AKTO	Aktyubinsk	26.41	59	P		P	05 03 39.1	+2.4
	comp=Z,0.8nm,0.5s,baz=258,slow=7.3,SNR=4.3							
AKTO				LR		LR	05 16 30.6	
	comp=Z,44nm,19.1s,baz=5.7,slow=42							
	comp=Z,0.8nm,0.5s							
ARCES	ARCESS Array B	27.66	3	P		P	05 03 43.9	-3.8
	comp=Z,4.5nm,1.1s,baz=198,slow=10,SNR=2.7							
ARU	Arti	27.77	46	P		P	05 03 48.2	-0.6
ARU				IAmb		IAmb	05 03 50.2	
	comp=Z,3.6nm,1.1s							
TORD	Torodi Ar. Bea	33.52	217	P		P	05 04 39.6	-0.2
	comp=Z,1.6nm,0.8s,baz=23,slow=8.1,SNR=9.0							
	comp=Z,1.6nm,0.8s							
BVAR	Borovoye Array	34.17	54	P		P	05 04 45.9	+0.7
	comp=Z,0.1nm,0.4s,baz=179,slow=14,SNR=1.4							
	comp=Z,0.1nm,0.4s							
WSAR	Wadi Sarin	36.10	109	P		P	05 05 03.1	+0.9
	comp=Z,2.9nm,0.8s,baz=104,slow=16,SNR=2.1							
	comp=Z,2.9nm,0.8s							
BTK	Batken	36.85	76	P		P	05 05 08.9	+0.4
BTK				IAmb		IAmb	05 05 10.5	
	comp=Z,3.9nm,1.1s							
GAR	Garm	36.85	78	P		P	05 05 08.4	-0.2
DRK	Karamyk	37.76	77	P		P	05 05 16.7	+0.2
AAK	Ala-Archa	38.65	71	P		P	05 05 25.2	+1.4
BBTS	Babate	42.62	242	LR		LR	05 24 40.0	
	comp=Z,56nm,19.4s,baz=250,slow=38							
ZAA0	Zalesovo Array	42.64	51	P		P	05 05 55.8	-0.6
ZAA0				IAmb		IAmb	05 05 57.1	
	comp=Z,1.4nm,0.7s							
ZALV	Zalesovo Beam	42.64	51	P		P	05 05 56.6	+0.2
	comp=Z,1.2nm,0.7s,baz=265,slow=9.9,SNR=5.7							
	comp=Z,1.2nm,0.7s							
ZALV	Zalesovo Beam	42.64	51	P		P	05 05 55.0	-1.4
MKAR	Makanchi Array	42.75	62	P		P	05 05 57.2	-0.2
	comp=Z,0.5nm,0.6s,baz=283,slow=7.8,SNR=2.5							
MKAR				PcP		PcP	05 07 47.6	-1.2
	comp=Z,0.9nm,0.9s,baz=292,slow=4.5,SNR=2.9							
	comp=Z,0.5nm,0.6s							
KMBO	Kilima Mbogo	45.25	158	P		P	05 06 18.5	+0.5
	comp=Z,3.9nm,0.7s,baz=230,slow=12,SNR=8.1							
	comp=Z,3.9nm,0.7s							
KMBO	Kilima Mbogo	45.25	158	P		P	05 06 18.4	+0.5
KMBO				IAmb		IAmb	05 06 21.4	
	comp=Z,3.7nm,0.8s							
WMQ	Urumqi	47.33	64	*e*P		P	05 06 36.6	+2.6
WMQ				LR		LR		
	comp=N,600nm,12.5s							
WMQ				LR		LR		
	comp=Z,230nm,19.9s							
SONM	Songino Array	57.49	53	P		P	05 07 49.2	-0.2
	comp=Z,0.7nm,0.8s,baz=282,slow=8.7,SNR=3.8							
	comp=Z,0.7nm,0.8s							
HHC	Hu-ho-hao-te	64.29	57	*e*P		P	05 08 35.1	-0.6
HHC				pmax		pmax		
	comp=Z,36nm,0.8s							
HHC				pmax		pmax		
	comp=Z,160nm,4.9s							
PZH	PanZhiHua	65.86	75	P		P	05 08 47.1	+1.0
PZH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,80nm,5.0s							
CMAR	Chiang Mai Arr	68.69	84	P		P	05 09 03.1	-0.9
	comp=Z,0.9nm,0.3s,baz=316,slow=6.3,SNR=5.2							
	comp=Z,0.9nm,0.3s							
KLR	Kul'dur	70.46	41	P		P	05 09 15.3	+0.9
	comp=Z,1.2nm,0.5s,baz=307,slow=7.2,SNR=5.0							
	comp=Z,1.2nm,0.5s							
ILAR	Eielson Array	73.16	355	P		P	05 09 31.6	+1.2
	comp=Z,0.4nm,0.7s,baz=2.4,slow=5.4,SNR=4.8							
	comp=Z,0.4nm,0.7s							
KSRS	Korea Array	76.35	52	P		P	05 09 50.0	+0.7
	comp=Z,1.0nm,0.7s,baz=311,slow=6.3,SNR=2.3							
	comp=Z,1.0nm,0.7s							

NDI ***11*** *05:07:41.3±3.5, 9.°07N×93.°51E, h80km, ML4.2, mb4.6(NEIC)*
NEIC ***11*** *05:07:48.7±1.4, 9.°83N±0.°07×93.°22E±0.°09, h75km±6km, mb4.6/54, Error ellipse: s-maj=12.9km s-min=9.4km az=61.0*
IDC ***11*** *05:07:48.5±2.1, 9.°84N×93.°36E, h84km±19km, mb3.8/22, mbtmp4.1/25, MS3.3/4, Error ellipse: s-maj=20.7km s-min=10.7km az=53.0*

ISC 11 05:07:48.0±0.4, 9.°81N±0.°06×93.°24E±0.°06, h75km, n114, σ1§18/112, mb4.4/50, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

comp=Z,4.8nm,0.9s
KKAR Karatay Array 38.64 333 P P 05 15 04.7 +0.5
KKAR IAmb IAmb 05 15 06.4
comp=Z,4.8nm,0.9s
SONM Songino Array 39.49 14 P P 05 15 10.8 -0.5
comp=Z,2.2nm,1.0s,baz=191,slow=7.0,SNR=1.5
comp=Z,2.2nm,1.0s
KSCHJ Chungju 41.35 44 P P 05 15 26.8 +0.1
GEYT Alibeck 42.18 317 P P 05 15 34.6 +1.2
comp=Z,13nm,0.5s,baz=142,slow=7.5,SNR=22
comp=Z,13nm,0.5s
GEYT Alibeck 42.18 317 P P 05 15 35.9 +2.4
GYA0B ALIBECK ARRAY 42.18 317 P P 05 15 36.0 +2.5
GYA0B IAmb IAmb 05 15 36.8
comp=Z,21nm,0.9s
FITZ Fitzroy Crossi 42.34 131 P P 05 15 34.1 -0.8
FITZ IAmb IAmb 05 16 12.6
comp=Z,9.6nm,1.5s
KURBB Kurchatov Arra 42.46 346 P P 05 15 35.8 +0.3
comp=Z,2.0nm,0.2s,baz=169,slow=6.3,SNR=6.5
comp=Z,2.0nm,0.2s
CN2 Changchun 43.90 34 *eP* **P 05 15 46.7 -0.5**
CN2 pmax pmax
comp=Z,20nm,1.1s
ZAA0 Zalesovo Array 44.53 353 P P 05 15 52.4 +0.3
ZAA0 IAmb IAmb 05 16 12.4
comp=Z,7.8nm,1.1s
ZALV Zalesovo Beam 44.53 353 P P 05 15 50.1 -2.0
comp=Z,0.9nm,0.4s,baz=164,slow=9.4,SNR=7.4
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 44.53 353 P P 05 15 52.6 +0.5
BVAR Borovoye Array 46.88 341 P P 05 16 10.0 -0.6
comp=Z,0.6nm,0.3s,baz=140,slow=7.7,SNR=6.9
comp=Z,0.6nm,0.3s
RAYN Ar Rayn 47.50 293 P P 05 16 16.5 +0.5
RAYN IAmb IAmb 05 16 19.1
comp=Z,7.5nm,0.8s
ABKAR Akbulak array 48.12 331 P P 05 16 20.5 +0.2
ABKAR IAmb IAmb 05 16 21.9
comp=Z,3.1nm,0.6s
MJAR Matsushiro Arr 48.55 49 PcP PcP 05 17 49.2 +0.5
comp=Z,1.8nm,0.8s,baz=234,slow=4.4,SNR=4.7
MJAR LR LR 05 36 08.0
comp=Z,32nm,21.7s,baz=242,slow=35
WB0 Warramunga Arr 50.06 126 P P 05 16 34.5 -1.1
WB0 IAmb IAmb 05 16 50.1
comp=Z,15nm,1.2s
WRA Warramunga Arr 50.11 126 P P 05 16 34.8 -1.2
comp=Z,2.6nm,0.6s,baz=306,slow=8.4,SNR=82
WRA ScP **ScP 05 21 42.0 -2.0**
comp=Z,0.7nm,1.0s,baz=315,slow=3.5,SNR=2.2
comp=Z,2.6nm,0.6s
WRA Warramunga Arr 50.11 126 P P 05 16 34.6 -1.4
WB2 Warramunga Arr 50.12 126 P P 05 16 34.9 -1.1
WB2 IAmb IAmb 05 16 51.5
comp=Z,12nm,1.2s
WR0 Warramunga Arr 50.28 126 P P 05 16 36.4 -0.8
WR0 IAmb IAmb 05 17 01.0
comp=Z,8.1nm,1.1s
AS31 Alice Springs 51.84 131 P P 05 16 50.0 +1.1
ASAR Alice Springs 51.84 131 P P 05 16 47.2 -1.7
comp=Z,2.5nm,0.6s,baz=302,slow=7.4,SNR=20
comp=Z,2.5nm,0.6s
GNI Garni 52.46 314 P P 05 16 52.3 -1.2
GNI IAmb IAmb 05 16 56.2
comp=Z,11nm,1.2s
KBZ Khabaz 55.07 317 P P 05 17 12.3 +0.1
comp=Z,2.3nm,0.8s,baz=145,slow=7.5,SNR=7.1
comp=Z,2.3nm,0.8s
KIBK Kibwezi 56.27 261 P P 05 17 24.1 +2.6
KIBK IAmb IAmb 05 17 25.1
comp=Z,4.8nm,0.9s
KMBO Kilima Mbogo 56.78 262 P P 05 17 25.5 +0.3
comp=Z,1.3nm,0.4s,baz=62,slow=12,SNR=4.4
comp=Z,1.3nm,0.4s
BR131 Keskin Array S 60.50 310 P P 05 17 50.3 -0.3
BR131 IAmb IAmb 05 17 50.9
comp=Z,4.7nm,0.8s
BRTR Keskin Array B 60.50 310 P P 05 17 50.1 -0.5
comp=Z,2.9nm,0.8s,baz=121,slow=7.4,SNR=22
comp=Z,2.9nm,0.8s
BZK Bozkurt 60.74 313 P P 05 17 51.2 -0.7
STKA Stephens Creek 62.08 134 P P 05 18 00.4 -0.7
comp=Z,0.8nm,0.4s,baz=325,slow=9.2,SNR=3.1
comp=Z,0.8nm,0.4s
AKASG Malin Array Be 66.09 321 P P 05 18 25.7 -1.5
comp=Z,0.4nm,0.4s,baz=87,slow=5.0,SNR=5.8
comp=Z,0.4nm,0.4s
MLR Muntele Rosu 67.17 315 P P 05 18 34.1 -0.2
MLR IAmb IAmb 05 18 36.0
comp=Z,7.4nm,1.0s
BURAR Bucovina Array 68.02 317 P P 05 18 38.6 -1.0
BUR08 Bucovina Ar. S 68.04 317 P P 05 18 38.8 -1.0
LSZ Lusaka 69.09 250 P P 05 18 44.5 -2.3
LSZ IAmb IAmb 05 18 57.1
comp=Z,9.5nm,0.9s
ITM Ithomi 69.26 306 P P 05 18 46.8 -0.6
ITM IAmb IAmb 05 19 09.1
comp=Z,13nm,1.3s
FIA1 FINESS Array S 70.59 332 P P 05 18 54.9 -0.1
FIA1 IAmb IAmb 05 18 59.9
comp=Z,5.6nm,1.1s
FINES FINESS Array B 70.59 332 P P 05 18 54.9 -0.1
comp=Z,1.2nm,0.5s,baz=90,slow=5.1,SNR=18
comp=Z,1.2nm,0.5s
FINES FINESS Array B 70.59 332 P P 05 18 55.2 +0.2
SCTE Santa Cesarea 72.11 309 P P 05 19 04.2 -0.4
ARCES ARCESS Array B 73.15 340 P P 05 19 10.2 -0.1
comp=Z,0.5nm,0.5s,baz=74,slow=5.2,SNR=6.4
comp=Z,0.5nm,0.5s
ARCES ARCESS Array B 73.15 340 P P 05 19 11.1 +0.8
MORC Moravsky Berou 73.34 319 P P 05 19 11.9 +0.1
MORC Moravsky Berou 73.34 319 *eP* **P 05 19 11.6 -0.2**
KRUC Moravsky 74.03 318 *eP* **P 05 19 16.1 +0.3**
GEC2 GERESS Array S 75.80 318 P P 05 19 26.8 +0.7
GEC2 IAmb IAmb 05 19 27.1
comp=Z,3.0nm,0.7s
GERES GERESS Array B 75.80 318 P P 05 19 26.5 +0.4
comp=Z,1.9nm,0.6s,baz=89,slow=5.9,SNR=27
comp=Z,1.9nm,0.6s
GERES GERESS Array B 75.80 318 P P 05 19 26.9 +0.8
KHC Kasperske Hory 75.89 318 P P 05 19 27.0 +0.5
KHC Kasperske Hory 75.89 318 *eP* **P 05 19 27.0 +0.5**
CLL Collm 76.31 320 *eS* **S 05 29 06.0 -1.7**
CLL *eS*S **SS 05 34 06.0 +3.1**
CLL *e*SSSS 05 39 42.0
CLL LmH 05 56 00.0
comp=N,300nm,18.9s
CLL LmH 05 56 00.0
comp=E,200nm,18.8s
CLUD Cludinico 76.32 315 P P 05 19 29.4 +0.3
CLUD IAmb IAmb 05 19 29.9
comp=Z,7.1nm,0.9s
STAL STALIGIAL 76.44 315 P P 05 19 29.6 -0.1
STAL IAmb IAmb 05 19 30.6
comp=Z,8.9nm,1.2s
CIMO Cimolais 76.63 315 P P 05 19 31.1 +0.3
CIMO IAmb IAmb 05 19 31.8
comp=Z,6.2nm,0.8s
CTI Castel Tesino 77.18 315 P P 05 19 34.6 +0.6
CTI IAmb IAmb 05 19 35.2
comp=Z,6.9nm,1.1s
NOA NORSAR Array B 77.62 330 P P 05 19 34.5 -1.5
comp=Z,0.5nm,0.7s,baz=92,slow=6.1,SNR=2.1
comp=Z,0.5nm,0.7s
MSSA Maissana 78.74 313 P P 05 19 42.1 -0.6
MSSA IAmb IAmb 05 20 26.3
comp=Z,4.8nm,0.9s
KEST Kesra 79.41 305 P P 05 19 46.5 -0.1
comp=Z,3.5nm,0.9s,baz=337,slow=7.9,SNR=4.8
comp=Z,3.5nm,0.9s
SENIN Lac Senin/Sane 80.19 315 P P 05 19 51.3 +0.6
SENIN IAmb IAmb 05 20 20.9
comp=Z,5.8nm,1.3s
TORD Torodi Ar. Bea 89.29 283 P P 05 20 36.8 +0.1
comp=Z,0.8nm,0.9s,baz=102,slow=3.3,SNR=4.6
comp=Z,0.8nm,0.9s
ESDC Sonseca Array 89.30 310 P P 05 20 36.4 0.0
comp=Z,0.3nm,0.6s,baz=60,slow=5.3,SNR=4.6
comp=Z,0.3nm,0.6s
ILAR Eielson Array 93.29 22 P P 05 20 53.3 -1.0
comp=Z,0.4nm,0.7s,baz=289,slow=3.5,SNR=3.2
comp=Z,0.4nm,0.7s
PDAR Pinedale Array 123.68 20 PKP PKPdf 05 26 36.3 -1.5
comp=Z,0.2nm,0.5s,baz=325,slow=1.4,SNR=2.4
TXAR Lajitas Array 137.81 22 PKP PKPdf 05 27 03.9 -0.7
comp=Z,0.2nm,0.5s,baz=302,slow=2.0,SNR=1.8

PLCA Paso Flores 146.02 202 PKPbc PKPbc 05 27 20.4 +0.7
comp=Z,1.0nm,0.6s,baz=146,slow=2.8,SNR=7.1

NIED ***11*** *05:08:18.6,25˚.34N×124˚.43E,h1km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.64; $M_{\theta\theta}$1.48; $M_{\phi\phi}$0.16; $M_{r\theta}$-0.91; $M_{\theta\phi}$0.01; $M_{\phi r}$-0.41; Fault plane solution: $M_0$1.85000×10^{16} NP1: ϕ_s278.00000°,δ30.00000°,λ-72.00000°. NP2:ϕ_s78.00000°, δ61.00000°, λ-100.00000°.*

JMA ***11*** *05:08:18.6±0.2,25˚.3N±0˚.6×124˚.4E±0˚.3,h1km±2km, MD5.0/12,MV4.5/12,NW OFF MIYAKOJIMA ISLAND*

IDC ***11*** *05:08:19.1±0.6,25˚.36N×124˚.53E,h0km,mb4.0/19, mbtmp4.0/20,ML3.4/1,MS4.1/54,Error ellipse: s-maj=18.6km s-min=14.5km az=65.0*

GCMT ***11*** *05:08:22.1±0.3,25˚.20N±0˚.01×124˚.41E±0˚.03,h13km±1km, MW4.8/97,Moment Tensor Solution. s25,c28; s97,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.82±.12; $M_{\theta\theta}$1.95±.09; $M_{\phi\phi}$-0.13±.07; $M_{r\theta}$0.18±.15; $M_{\theta\phi}$-0.11±.04; $M_{\phi r}$0.18±.20; Best double couple: $M_0$1.90600×10^{16} NP1:ϕ_s267.00000°,δ48.00000°,λ-99.00000°. NP2: ϕ_s99.00000°,δ43.00000°,λ-81.00000°. Principal axes: T 1.9630, Plg3.0000°, Azm3.0000°; N -0.1210, Plg6.0000°, Azm272.0000°; P -1.8490, Plg83.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *05:08:22.1±1.0,25˚.5N±0˚.1×124˚.40E±0˚.08,h10km±1km, mb4.9/30,Mwr4.5/26 Error ellipse: s-maj=18.8km s-min=9.6km az=150.0*

NEIC ***11*** *05:08:22.1,25˚.53N×124˚.40E,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-7.88; $M_{\theta\theta}$6.97; $M_{\phi\phi}$0.90; $M_{r\theta}$1.26; $M_{\theta\phi}$-0.87; $M_{\phi r}$-1.31; Fault plane solution: $M_0$7.73000×10^{15} NP1:ϕ_s91.23000°, δ40.00000°,λ-100.93000°. NP2:ϕ_s285.38000°, δ50.87000°,λ-80.96000°. Principal axes: T 7.2303, Plg5.0000°, Azm9.0000°; N 0.9197, Plg7.0000°, Azm100.0000°; P -8.1500, Plg81.0000°, Azm241.0000°;*

ISC 11 05:08:20.5±0.4,25˚.24N±0˚.04×124˚.54E±0˚.04,h10km,n133, s1§13/87,mb4.5/36,MS4.1/49,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.61**	**166**	P		**Pb**	**05 08 33.2**		**-0.1**
JTJ				S		**Sb**	**05 08 43.4**		**+1.4**
JTJ	**Tarama**	**0.61**	**166**	A		A	05 08 33.2		
	comp=E,96nm,2.0s,comp=E,119nm,4.6s								
JISG	**Ishigakijimahi**	**0.68**	**198**	A		A	05 08 33.6		
	comp=E,37nm,0.9s,comp=E,33nm,4.4s								
JIRB	**Irabujima**	**0.71**	**125**	P		**Pb**	**05 08 35.0**		**+0.1**
JIRB				*e*S		**Sn**	**05 08 46.4**		**-1.1**
JIRB	**Irabujima**	**0.71**	**125**	A		A	05 08 35.0		
	comp=E,106nm,4.1s,comp=E,99nm,2.5s								
JIKM	**Ikemajima**	**0.72**	**116**	P		**Pn**	**05 08 35.2**		**-1.5**
JIKM				S		**Sn**	**05 08 47.1**		**-0.6**
JIKM	**Ikemajima**	**0.72**	**116**	A		A	05 08 35.2		
	comp=E,162nm,3.6s,comp=E,164nm,2.3s								
JMJ2	**Miyako jima3**	**0.87**	**124**	P		**Pn**	**05 08 38.1**		**-0.8**
JMJ2				*e*S		**Sn**	**05 08 52.2**		**+0.6**
JMJ2	**Miyako jima3**	**0.87**	**124**	A		A	05 08 38.1		
	comp=E,121nm,4.5s,comp=E,102nm,3.0s								
JOGS	**Gusukube**	**0.92**	**121**	P		**Pn**	**05 08 39.2**		**-0.4**
JOGS				*e*S		**Sn**	**05 08 53.5**		**+0.6**
JOGS	**Gusukube**	**0.92**	**121**	A		A	05 08 39.2		
	comp=E,136nm,6.4s,comp=E,117nm,6.6s								
JIJ	**Ishigaki jima**	**0.94**	**202**	P		**Pg**	**05 08 37.9**		**-0.8**
JIJ				*e*S		**Sg**	**05 08 51.4**		**+0.4**
JIJ	**Ishigaki jima**	**0.94**	**202**	A		A	05 08 37.9		
	comp=E,21nm,6.1s,comp=E,22nm,5.8s								
JKRS	**Kuro-shima**	**1.11**	**206**	P		**Pb**	**05 08 40.8**		**-0.9**
JKRS	**Kuro-shima**	**1.11**	**206**	A		A	05 08 40.8		
	comp=E,86nm,2.4s,comp=E,69nm,2.0s								
IRIF	**Iriomote-Funau**	**1.16**	**219**	P		**Pn**	**05 08 41.0**		**-1.9**
IRIF	**Iriomote-Funau**	**1.16**	**219**	A		A	05 08 41.0		
	comp=E,24nm,5.8s,comp=E,30nm,4.7s								
HATJ	**Hateruma jima**	**1.35**	**210**	P		**Pn**	**05 08 44.6**		**-0.9**
HATJ	**Hateruma jima**	**1.35**	**210**	A		A	05 08 44.6		
	comp=E,37nm,4.2s,comp=E,49nm,5.4s								
YOJ	**Yonaguni jima**	**1.59**	**241**	Pn		**Pb**	**05 08 50.8**		**+0.8**
YOJ	**Yonaguni jima**	**1.59**	**241**	A		A	05 08 47.4		
	comp=E,13nm,4.0s,comp=E,15nm,6.0s								
JYNG	**Yonagunijimaku**	**1.65**	**242**	P		**Pn**	**05 08 48.8**		**-0.7**
JYNG	**Yonagunijimaku**	**1.65**	**242**	A		A	05 08 48.8		
	comp=E,13nm,4.0s,comp=E,19nm,4.7s								
JKE	**Kume jima 2**	**2.30**	**61**	A		A	05 08 59.0		
	comp=E,6.0nm,8.2s,comp=E,7.0nm,7.2s								
TATO	**Taipei**	**2.78**	**265**	Pn		**Pn**	**05 09 04.4**		**-0.7**
JAGN	**Aguni-jima**	**2.78**	**61**	A		A	05 09 06.0		
	comp=E,10.0nm,4.7s,comp=E,9.0nm,7.8s								
NACB	**Ninganchiao**	**2.88**	**249**	Pn		**Pn**	**05 09 08.4**		**+1.9**
YHNB	**Yeheng**	**2.92**	**260**	Pn		**Pn**	**05 09 07.9**		**+0.7**
JJT3	**Tamagusuku3**	**3.06**	**72**	A		A	05 09 10.3		
	comp=E,19nm,2.8s,comp=E,17nm,2.4s								
YULB	**Yu-li**	**3.48**	**239**	Pn		**Pn**	**05 09 15.6**		**+0.8**
SSLB	**Suanglung**	**3.57**	**247**	Pn		**Pn**	**05 09 18.6**		**+2.5**
JOW	**Kunigami**	**3.72**	**64**	Pn		**Pn**	**05 09 17.6**		**-0.4**
	6.5nm,0.3s,baz=154,slow=18,SNR=36								
JOW						Sn	**Sn**	**05 10 03.0**	**+1.1**
	13nm,0.3s,baz=260,slow=28,SNR=3.9								
JOW						LR	LR	05 10 31.5	
	comp=Z,446nm,19.4s,baz=298,slow=36								
	39nm,0.6s								
JOW	**Kunigami**	**3.72**	**64**	Pn		**Pn**	**05 09 19.0**		**+1.0**
TWG	**Pinlang**	**3.98**	**233**	Pn		**Pn**	**05 09 21.3**		**-0.4**
TPUB	**Ta-pu**	**4.05**	**242**	Pn		**Pn**	**05 09 25.1**		**+2.4**
NJ2	**Nanjing**	**8.43**	**325**	*e*P		**Pn**	**05 10 26.2**		**+3.5**
NJ2					pmax	pmax			
	comp=Z,13nm,0.5s								
NJ2					LR	LR			
	comp=N,4μm,8.4s								
NJ2					LR	LR			
	comp=E,3μm,9.8s								
NJ2					LR	LR			
	comp=Z,2μm,8.9s								
KSRS	**Korea Array**	**12.52**	**13**	LR		LR	05 16 24.6		
	comp=Z,2μm,19.8s,baz=195,slow=39								
JHJ	**Hachijo jima 2**	**15.45**	**56**	LR		LR	05 17 45.4		
	comp=Z,325nm,19.0s,baz=308,slow=37								
JHJ2	**Mitsune**	**15.47**	**56**	Pn		**Pn**	**05 11 59.3**		**+0.5**
MJAR	**Matsushiro Arr**	**16.25**	**43**	Pn		**P**	**05 12 11.3**		**-0.6**
	baz=241,slow=11								
MJAR						LR	LR	05 18 34.5	
	comp=Z,661nm,20.6s,baz=216,slow=38								
DAV	**Davao City (W)**	**18.09**	**177**	LR		LR	05 20 52.3		
	comp=Z,653nm,18.4s,baz=346,slow=41								
USRK	**Ussuriysk Ar.**	**19.87**	**16**	P		**Pn**	**05 12 54.3**		**+0.9**
	comp=Z,2.0nm,0.6s,baz=198,slow=8.7,SNR=1.9								
USRK						LR	LR	05 20 10.0	
	comp=Z,718nm,19.2s,baz=233,slow=36								
LZH	**Lanzhou**	**20.79**	**306**	*e*P		Pn	05 13 10.8		+6.4
LZH						pP	pwP	05 13 16.7	+10
LZH						sP	sP	05 13 19.7	+14
LZH						S	Sn	05 16 59.5	+0.3
LZH						sS	pS	05 17 09.8	+7.6
LZH						pmax	pmax		
	comp=Z,37nm,1.0s								
LZH						pmax	pmax		
	comp=Z,260nm,5.2s								
LZH						LR	LR		
	comp=N,920nm,15.0s								
LZH						LR	LR		
	comp=E,1μm,15.8s								
LZH						LR	LR		
	comp=Z,1μm,17.2s								
GUMO	**Guam**	**22.37**	**117**	LR		LR	05 20 01.8		
	comp=Z,163nm,21.9s,baz=314,slow=31								
KLR	**Kul'dur**	**24.60**	**11**	P		**P**	**05 13 40.9**		**+0.1**
	comp=Z,0.8nm,0.5s,baz=209,slow=10,SNR=5.1								
KLR						LR	LR	05 23 20.0	
	comp=Z,643nm,19.8s,baz=192,slow=37								
	comp=Z,0.8nm,0.5s								
CMAR	**Chiang Mai Arr**	**24.67**	**259**	P		**P**	**05 13 43.6**		**+1.8**
	comp=Z,1.8nm,0.3s,baz=60,slow=8.2,SNR=9.6								
CMAR						LR	LR	05 24 44.5	
	comp=Z,260nm,18.7s,baz=65,slow=40								
	comp=Z,1.8nm,0.3s								
GTA	**Gaotai**	**25.12**	**310**	*e*P		**P**	**05 13 45.6**		**-0.2**
GTA						sP	pwP	05 14 10.9	+20
GTA						pmax	pmax		
	comp=Z,5.0nm,1.2s								
SONM	**Songino Array**	**26.72**	**332**	P		**P**	**05 13 59.7**		**-0.5**
	comp=Z,1.5nm,0.9s,baz=154,slow=9.4,SNR=11								
SONM						LR	LR	05 25 40.5	
	comp=Z,676nm,18.4s,baz=146,slow=39								
	comp=Z,1.5nm,0.9s								
SIJI	**Sorong**	**26.76**	**165**	LR		LR	05 22 26.1		
	comp=Z,455nm,21.7s,baz=18,slow=32								
PSI	**Prapat**	**33.25**	**232**	LR		LR	05 28 01.0		
	comp=Z,231nm,19.1s,baz=59,slow=35								
LEM	**Lembang**	**35.87**	**210**	LR		LR	05 30 51.5		
	comp=Z,118nm,21.7s,baz=357,slow=38								
YAK	**Yakutsk**	**36.95**	**4**	LR		LR	05 31 50.9		
	comp=Z,351nm,18.4s,baz=230,slow=38								
PETK	**Petropavlovsk-**	**37.31**	**33**	LR		LR	05 30 56.6		
	comp=Z,299nm,18.9s,baz=230,slow=36								
MA2	**Magadan**	**38.88**	**21**	LR		LR	05 32 20.0		
	comp=Z,346nm,19.9s,baz=214,slow=37								
KRVT	**Keravat (AS076**	**39.69**	**134**	LR		LR	05 29 12.9		
	comp=Z,97nm,21.0s,baz=87,slow=32								
MKAR	**Makanchi Array**	**39.76**	**314**	P		**P**	**05 15 53.0**		**-0.5**
	comp=Z,0.8nm,0.8s,baz=93,slow=10,SNR=2.1								
MKAR					PcP	PcP	**05 17 59.4**		**-0.4**
	comp=Z,1.2nm,0.7s,baz=104,slow=4.4,SNR=4.0								
	comp=Z,0.8nm,0.8s								
PMG	**Port Moresby**	**40.88**	**145**	LR		LR	05 31 39.7		
	comp=Z,89nm,21.9s,baz=296,slow=34								
ZALV	**Zalesovo Beam**	**41.08**	**325**	P		**P**	**05 16 03.3**		**-1.0**
	comp=Z,0.6nm,0.4s,baz=126,slow=7.3,SNR=2.9								
ZALV						LR	LR	05 34 35.9	
	comp=Z,474nm,18.3s,baz=126,slow=38								
	comp=Z,0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**43.32**	**318**	P		**P**	**05 16 21.9**		**-0.7**
	comp=Z,7.3nm,0.2s,baz=109,slow=6.3,SNR=8.9								
WRA	**Warramunga Arr**	**45.91**	**167**	P		**P**	**05 16 43.8**		**+0.3**
	comp=Z,4.0nm,0.7s,baz=345,slow=8.3,SNR=21								
WRA						LR	LR	05 34 51.0	
	comp=Z,152nm,20.4s,baz=356,slow=35								
	comp=Z,4.0nm,0.7s								
SHEM	**Shemya Is, Ala**	**46.06**	**40**	LR		LR	05 35 38.4		
	comp=Z,108nm,21.2s,baz=283,slow=36								
TIXI	**Tiksi**	**46.51**	**2**	LR		LR	05 38 15.4		
	comp=Z,659nm,19.4s,baz=181,slow=39								
PSA00	**Pilbara Seismi**	**46.75**	**186**	P		**P**	**05 16 53.9**		**+3.8**
KBL	**Kabul**	**48.48**	**295**	P		**P**	**05 17 03.5**		**-0.4**
KBL						IAmb	IAmb	05 17 12.3	
	comp=Z,9.2nm,1.2s								
HNR	**Honiara**	**48.76**	**131**	LR		LR	05 36 22.1		
	comp=Z,1μm,20.3s,baz=356,slow=34								
BVAR	**Borovoye Array**	**48.83**	**319**	P		**P**	**05 17 08.6**		**+2.6**
	comp=Z,0.7nm,0.6s,baz=233,slow=37,SNR=1.8								
BVAR					PcP	PcP	**05 18 30.0**		**-0.5**
	comp=Z,1.1nm,0.8s,baz=77,slow=6.2,SNR=3.1								
NRIK	**Noril'sk**	**49.22**	**344**	P		**P**	**05 17 08.1**		**-0.6**
	comp=Z,1.3nm,0.3s,baz=120,slow=9.9,SNR=2.3								
NRIK						LR	LR	05 40 12.6	
	comp=Z,590nm,19.5s,baz=136,slow=39								
	comp=Z,1.3nm,0.3s								
NRIK	**Noril'sk**	**49.22**	**344**	P		**P**	**05 17 07.2**		**-1.4**
NRIK						IAmb	IAmb	05 17 15.2	
	comp=Z,15nm,1.3s								
ASAR	**Alice Springs**	**49.45**	**169**	P		**P**	**05 17 12.7**		**+1.6**
	comp=Z,2.2nm,0.7s,baz=356,slow=12,SNR=18								
ASAR					PcP	PcP	**05 18 33.0**		**-0.2**
	comp=Z,0.9nm,0.8s,baz=1.1,slow=4.6,SNR=2.1								
ASAR						LR	LR	05 36 55.2	
	comp=Z,93nm,21.9s,baz=312,slow=35								
	comp=Z,2.2nm,0.7s								
CTA	**Charters Tower**	**49.76**	**153**	LR		LR	05 38 03.4		
	comp=Z,209nm,19.8s,baz=270,slow=36								
ABKAR	**Akbulak array**	**54.91**	**314**	P		**P**	**05 17 50.3**		**-1.1**
AKTO	**Aktyubinsk**	**56.17**	**315**	LR		LR	05 43 30.2		
	comp=Z,205nm,19.0s,baz=90,slow=38								
GEYT	**Alibeck**	**56.90**	**300**	P		**P**	**05 18 06.0**		**+0.1**
	comp=Z,2.5nm,0.7s,baz=52,slow=7.8,SNR=2.7								
	comp=Z,2.5nm,0.7s								
GYA0B	**ALIBECK ARRAY**	**56.90**	**300**	P		**P**	**05 18 05.0**		**-1.0**
NWAO	**Narrogin (SRO)**	**58.26**	**187**	LR		LR	05 43 57.5		
	comp=Z,69nm,20.3s,baz=134,slow=37								
STKA	**Stephens Creek**	**59.09**	**163**	P		**P**	**05 18 22.2**		**+1.2**
	comp=Z,2.0nm,0.7s,baz=342,slow=9.2,SNR=3.3								
STKA						LR	LR	05 44 09.5	
	comp=Z,60nm,20.8s,baz=325,slow=36								
	comp=Z,2.0nm,0.7s								
BELG	**Belogornoye**	**62.56**	**318**	LR		LR	05 47 51.8		
	comp=Z,106nm,19.5s,baz=128,slow=38								
L19K	**White Mountain**	**63.65**	**31**	P		**P**	**05 18 52.6**		**+0.9**
L19K						IAmb	IAmb	05 18 59.7	
	comp=Z,8.6nm,1.2s								
J20K	**Nowinta River**	**63.83**	**29**	P		**P**	**05 18 53.2**		**+0.5**
J20K						IAmb	IAmb	05 18 55.7	
	comp=Z,14nm,1.4s								
IMAR	**Indian Mountai**	**63.88**	**27**	P		**P**	**05 18 53.3**		**+0.3**
P19K	**Oil Pt**	**64.69**	**34**	P		**P**	**05 18 59.0**		**+0.4**
MLY	**Manley**	**65.21**	**28**	P		**P**	**05 19 01.6**		**-0.3**
KDAK	**Kodiak Island**	**65.28**	**36**	P		**P**	**05 19 01.1**		**-1.3**
	comp=Z,3.7nm,0.8s,baz=248,slow=16,SNR=1.7								
	comp=Z,3.7nm,0.8s								
SUA	**Susitna One**	**65.67**	**32**	P		**P**	**05 19 04.7**		**-0.3**
SUA						IAmb	IAmb	05 19 15.3	
	comp=Z,9.3nm,0.8s								
RND	**Reindeer**	**66.25**	**29**	P		**P**	**05 19 08.2**		**-0.4**
MDM	**Murphy Dome**	**66.28**	**28**	P		**P**	**05 19 09.0**		**+0.3**
MDM						IAmb	IAmb	05 19 16.2	
	comp=Z,15nm,1.3s								
GNI	**Garni**	**66.71**	**305**	LR		LR	05 52 27.8		
	comp=Z,117nm,18.3s,baz=74,slow=40								
ILAR	**Eielson Array**	**66.87**	**28**	P		**P**	**05 19 12.4**		**-0.1**
	comp=Z,0.3nm,0.7s,baz=254,slow=4.7,SNR=2.8								
	comp=Z,0.3nm,0.7s								
HDA	**Harding Lake**	**66.91**	**28**	P		**P**	**05 19 12.6**		**-0.2**
KBZ	**Khabaz**	**67.20**	**309**	P		**P**	**05 19 13.9**		**-1.0**
	comp=Z,2.8nm,0.8s,baz=93,slow=11,SNR=5.5								
KBZ						LR	LR	05 51 15.4	
	comp=Z,96nm,18.4s,baz=73,slow=38								
	comp=Z,2.8nm,0.8s								
KIV	**Kislovodsk**	**67.29**	**309**	P		**P**	**05 19 14.8**		**-0.9**
GLI	**Glacier Island**	**67.51**	**32**	P		**P**	**05 19 16.6**		**0.0**
GLI						IAmb	IAmb	05 19 18.6	
	comp=Z,11nm,1.0s								
SCRK	**Sand Creek**	**68.27**	**28**	P		**P**	**05 19

YKA	**Yellowknife Ar**	**80.80**	**24**	LR	LR	05 59 53.3	
	comp=Z,131nm,19.3s,baz=327,slow=38						
RPZ	**Rata Peaks**	**80.80**	**148**	LR	LR	05 55 07.8	
	comp=Z,93nm,20.3s,baz=286,slow=35						
VRAC	**Vranov**	**82.07**	**321**	LR	LR	05 59 45.5	
	comp=Z,170nm,18.3s,baz=57,slow=38						
GERES	**GERESS Array B**	**83.94**	**322**	LR	LR	06 01 23.6	
	comp=Z,159nm,18.3s,baz=57,slow=38						
BORG	**Borgarnes**	**86.47**	**346**	LR	LR	06 03 48.1	
	comp=Z,149nm,19.0s,baz=27,slow=39						
B08A	**Colville Reser**	**87.14**	**37**	P	**P**	**05 21 07.7**	**+0.8**
B08A				IAmb	IAmb	05 21 14.9	
	comp=Z,12nm,1.3s						
EDM	**Edmonton**	**87.17**	**31**	P	**P**	**05 21 07.0**	**+0.1**
DAVOX	**Davos/Dischmat**	**87.23**	**321**	LR	LR	06 03 41.5	
	comp=Z,272nm,18.1s,baz=41,slow=38						
SFJD	**Kangerlussuaq**	**87.98**	**358**	LR	LR	06 03 15.7	
	comp=Z,103nm,18.1s,baz=358,slow=38						
KMBO	**Kilima Mbogo**	**88.02**	**268**	LR	LR	06 00 39.1	
	comp=Z,24nm,20.2s,baz=88,slow=36						
KMBO	**Kilima Mbogo**	**88.02**	**268**	P	**P**	**05 21 09.4**	**-2.6**
C09A	**Chrisman Ranch**	**88.04**	**37**	P	**P**	**05 21 11.1**	**-0.1**
NEW	**Newport**	**88.38**	**36**	LR	LR	06 03 51.3	
	comp=Z,40nm,18.2s,baz=316,slow=38						
NEW	**Newport**	**88.38**	**36**	P	**P**	**05 21 13.5**	**+0.7**
NEW				IAmb	IAmb	05 21 21.0	
	comp=Z,7.9nm,1.1s						
PINE	**Pine Mountain**	**88.84**	**41**	P	**P**	**05 21 16.2**	**+0.9**
PINE				IAmb	IAmb	05 21 24.0	
	comp=Z,10nm,1.2s						
E09A	**Wood Farm, Sta**	**88.87**	**38**	P	**P**	**05 21 16.0**	**+0.9**
E09A				IAmb	IAmb	05 21 18.9	
	comp=Z,6.6nm,1.0s						
FRB	**Frobisher Bay**	**90.72**	**6**	LR	LR	06 05 05.0	
	comp=Z,118nm,18.9s,baz=20,slow=38						
NVAR	**Mina Array Bea**	**93.57**	**44**	P	**P**	**05 21 38.0**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=290,slow=4.2,SNR=9.8						
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**95.98**	**37**	P	**P**	**05 21 48.4**	**0.0**
	comp=Z,0.3nm,0.8s,baz=250,slow=1.8,SNR=3.9						
	comp=Z,0.3nm,0.8s						
PFO	**Pinyon Flats O**	**97.63**	**47**	LR	LR	06 03 54.1	
	comp=Z,33nm,18.4s,baz=254,slow=34						
SCHQ	**Schefferville**	**99.66**	**7**	LR	LR	06 10 56.1	
	comp=Z,132nm,18.2s,baz=28,slow=38						

*IDC **11** 05:11:26.9±0.7,25°.29N×124°.46E,h0km,mb4.0/16, mbtmp4.0/18,ML3.0/2,Error ellipse: s-maj=21.1km s-min=17.0km az=65.0*
*JMA **11** 05:11:27.4±0.2,25°.4N±0°.7×124°.5E±0°.4,h11km±3km, MV3.8/11,NW OFF MIYAKOJIMA ISLAND*
*NIED **11** 05:11:27.4,25°.35N×124°.46E,h11km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-1.92; Mθθ1.62; Mφφ0.30; Mrθ-1.57; Mθφ0.11; Mφr0.11; Fault plane solution: M₀2.37000×10¹⁵ NP1: φs262.00000°,δ24.00000°,λ-98.00000°. NP2:φs91.00000°, δ66.00000°,λ-86.00000°.*

ISC 11 05:11:27.7±1.6,25°.29N±0°.06×124°.46E±0°.04,h5km±11km, n28,σ0ˢ58/40,mb4.0/16,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.68**	**161**	P	**Pg**	**05 11 41.3**	**+0.5**
JTJ				eS	**Sb**	**05 11 51.8**	**+0.2**
JISG	**Ishigakijimahi**	**0.71**	**191**	P	**Pb**	**05 11 42.1**	**-0.4**
JISG				S	**Sb**	**05 11 52.8**	**+0.2**
JIRB	**Irabujima**	**0.79**	**125**	*eP*	**Pb**	**05 11 43.2**	**-0.7**
JIRB				S	**Sg**	**05 11 53.4**	**+0.2**
JIKM	**Ikemajima**	**0.80**	**117**	*eP*	**Pg**	**05 11 43.1**	**0.0**
JIKM				S	**Sb**	**05 11 54.3**	**-0.9**
JMJ2	**Miyako jima3**	**0.96**	**124**	*eP*	**Pg**	**05 11 46.0**	**0.0**
JMJ2				*i* S	**Sb**	**05 11 59.4**	**-0.2**
JIJ	**Ishigaki jima**	**0.96**	**198**	P	**Pg**	**05 11 46.2**	**0.0**
JIJ				eS	**Sg**	**05 11 59.2**	**+0.6**
JOGS	**Gusukube**	**1.00**	**121**	P	**Pg**	**05 11 46.7**	**-0.3**
JOGS				eS	**Sg**	**05 12 00.0**	**0.0**
JKRS	**Kuro-shima**	**1.12**	**202**	P	**Pg**	**05 11 49.2**	**0.0**
IRIF	**Iriomote-Funau**	**1.16**	**215**	P	**Pg**	**05 11 49.8**	**-0.1**
HATJ	**Hateruma jima**	**1.36**	**206**	P	**Pn**	**05 11 53.0**	**-0.3**
HATJ				S	**Sg**	**05 12 12.0**	**+0.6**
JOW	**Kunigami**	**3.76**	**65**	Pn	**Pn**	**05 12 26.6**	**+0.3**
	2.6nm,0.3s,baz=263,slow=28,SNR=0.8						
JOW				Sn	**Sn**	**05 13 13.3**	**+2.3**
	3.8nm,0.3s,baz=76,slow=29,SNR=1.2						
	23nm,0.6s						
KSRS	**Korea Array**	**12.48**	**13**	Pn	**Pn**	**05 14 26.1**	**+0.2**
	0.1nm,0.3s,baz=187,slow=10,SNR=1.8						
	1.4nm,1.0s						
KLR	**Kul'dur**	**24.57**	**12**	P	**P**	**05 16 48.4**	**-0.1**
	2.2nm,0.8s,baz=214,slow=6.7,SNR=3.5						
	2.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**24.61**	**259**	P	**P**	**05 16 49.0**	**-0.1**
	1.6nm,0.4s,baz=67,slow=7.9,SNR=4.4						
	1.6nm,0.4s						
SONM	**Songino Array**	**26.65**	**332**	P	**P**	**05 17 07.4**	**0.0**
	3.2nm,1.0s,baz=152,slow=8.3,SNR=4.7						
	3.2nm,1.0s						
MKAR	**Makanchi Array**	**39.68**	**314**	P	**P**	**05 19 00.9**	**+0.2**
	0.8nm,0.8s,baz=113,slow=6.6,SNR=2.4						
MKAR				PcP	**PcP**	**05 21 07.3**	**-0.1**
	1.0nm,0.9s,baz=90,slow=2.9,SNR=3.5						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**41.00**	**325**	P	**P**	**05 19 10.8**	**-0.6**
	1.8nm,0.8s,baz=128,slow=9.3,SNR=3.1						
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**43.24**	**318**	P	**P**	**05 19 29.8**	**+0.1**
	2.6nm,0.2s,baz=97,slow=7.6,SNR=2.1						
	2.6nm,0.2s						
WRA	**Warramunga Arr**	**45.97**	**167**	P	**P**	**05 19 51.5**	**-0.4**
	1.2nm,0.7s,baz=349,slow=8.4,SNR=5.0						
	1.2nm,0.7s						
BVAR	**Borovoye Array**	**48.75**	**319**	P	**P**	**05 20 13.4**	**+0.2**
	0.2nm,0.4s,baz=313,slow=42,SNR=1.1						
BVAR				PcP	**PcP**	**05 21 37.6**	**-0.6**
	1.2nm,0.9s,baz=94,slow=4.5,SNR=4.1						
	0.2nm,0.4s						
NRIK	**Noril'sk**	**49.15**	**344**	P	**P**	**05 20 15.0**	**-1.1**
	4.3nm,0.8s,baz=109,slow=4.9,SNR=4.7						
	4.3nm,0.8s						
ASAR	**Alice Springs**	**49.52**	**169**	P	**P**	**05 20 19.6**	**+0.3**
	0.8nm,0.8s,baz=354,slow=14,SNR=6.5						
ASAR				PcP	**PcP**	**05 21 41.0**	**-0.3**
	0.6nm,0.8s,baz=336,slow=3.3,SNR=4.1						
	0.8nm,0.8s						
GEYT	**Alibeck**	**56.82**	**300**	P	**P**	**05 21 13.8**	**+0.6**
	2.2nm,0.7s,baz=60,slow=8.5,SNR=3.1						
	2.2nm,0.7s						
KBZ	**Khabaz**	**67.11**	**309**	P	**P**	**05 22 23.1**	**+0.8**
	2.3nm,0.9s,baz=105,slow=4.7,SNR=4.1						
	2.3nm,0.9s						
FINES	**FINESS Array B**	**71.99**	**330**	P	**P**	**05 22 51.5**	**-0.6**
	1.1nm,0.8s,baz=108,slow=4.5,SNR=1.9						
	1.1nm,0.8s						
BRTR	**Keskin Array B**	**74.91**	**307**	P	**P**	**05 23 10.4**	**+0.5**
	1.7nm,0.9s,baz=94,slow=5.3,SNR=6.5						
	1.7nm,0.9s						
NVAR	**Mina Array Bea**	**93.58**	**44**	P	**P**	**05 24 45.5**	**+0.1**
	0.8nm,0.8s,baz=284,slow=4.7,SNR=6.7						
	0.8nm,0.8s						
PDAR	**Pinedale Array**	**95.99**	**37**	P	**P**	**05 24 56.5**	**+0.2**
	0.3nm,0.8s,baz=97,slow=3.6,SNR=3.8						
	0.3nm,0.8s						

*JMA **11** 05:17:49.2±0.2,25°.N±3°.3×122°.5E±0°.5,h96km±1km, MV1.5/10,NW OFF ISHIGAKIJIMA IS*
*TAP **11** 05:17:50.3,24°.62N×122°.47E,h93km±1km,ML2.6,D*

ISC 11 05:17:50.6±1.6,24°.62N±0°.05×122°.50E±0°.03,h91km±10km, n56,σ0ˢ64/101,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**112**	*eP*	**Pn**	**05 18 04.5**	**-0.4**
JYNG				eS	**Sn**	**05 18 16.4**	**+0.8**
YOJ	**Yonaguni jima**	**0.49**	**108**	P	**Pn**	**05 18 06.1**	**+0.8**
	baz=107						
YOJ				S	**Sn**	**05 18 17.1**	**+0.8**
	baz=107						
YOJ	**Yonaguni jima**	**0.49**	**108**	P	**Pn**	**05 18 05.0**	**-0.3**
YOJ				S	**Sn**	**05 18 16.8**	**+0.5**
EGS		**0.57**	**294**	*eP*	**Pn**	**05 18 08.2**	**+2.2**
	baz=294						
EGS				S	**Sn**	**05 18 17.3**	**-0.1**
	baz=294						
TWC	**Suao**	**0.59**	**269**	P	**Pn**	**05 18 05.4**	**-0.8**
	baz=268						
TWC				*i* S	**Sn**	**05 18 18.0**	**+0.2**
	baz=268						
TWB1	**Santiao Chiao**	**0.61**	**310**	*i* P	**Pn**	**05 18 06.3**	**0.0**
	baz=311						
TWB1				*i* S	**Sn**	**05 18 18.2**	**+0.1**
	baz=311						
NTC	**Toucheng**	**0.66**	**291**	*eP*	**Pn**	**05 18 06.8**	**0.0**
	baz=291						
NTC				eS	**Sn**	**05 18 18.9**	**+0.1**
	baz=291						
EWUT	**Wuta**	**0.68**	**256**	*eP*	**Pn**	**05 18 06.1**	**-0.9**
	baz=254						
EWUT				S	**Sn**	**05 18 19.0**	**-0.2**
	baz=254						
TIPB	**Shuangxi**	**0.71**	**300**	P	**Pn**	**05 18 07.2**	**-0.1**
	baz=300						
TIPB				S	**Sn**	**05 18 19.3**	**-0.5**
	baz=300						
NDS	**Dongshan**	**0.72**	**272**	P	**Pn**	**05 18 06.6**	**-0.7**
	baz=270						
NDS				S	**Sn**	**05 18 18.6**	**-1.2**
	baz=270						
ENA	**Nanau**	**0.72**	**255**	*i* P	**Pn**	**05 18 07.3**	**0.0**
	baz=253						
ENA				*i* S	**Sn**	**05 18 20.6**	**+0.7**
	baz=253						
SXI1	**Grass Mountain**	**0.74**	**310**	P	**Pn**	**05 18 08.1**	**+0.4**
	baz=310						
SXI1				eS	**Sn**	**05 18 20.7**	**+0.2**
	baz=310						
TWE	**Neicheng**	**0.77**	**278**	P	**Pn**	**05 18 07.9**	**+0.1**
	baz=277						
TWE				S	**Sn**	**05 18 20.7**	**0.0**
	baz=277						
FUSB	**Fushanzhiwuyua**	**0.84**	**280**	P	**Pn**	**05 18 09.1**	**+0.4**
	baz=279						
FUSB				S	**Sn**	**05 18 21.9**	**-0.4**
	baz=279						
ENTT	**Nioudou**	**0.85**	**272**	*i* P	**Pn**	**05 18 08.3**	**-0.5**
	baz=271						
ENTT				*i* S	**Sn**	**05 18 22.3**	**0.0**
	baz=271						
LATG	**Datong**	**0.89**	**265**	P	**Pn**	**05 18 09.3**	**+0.1**
	baz=264						
LATG				eS	**Sn**	**05 18 23.1**	**-0.2**
	baz=264						
NDT	**Datong Townshi**	**0.90**	**269**	P	**Pn**	**05 18 09.3**	**0.0**
	baz=268						
NDT				S	**Sn**	**05 18 23.1**	**-0.2**
	baz=268						
NACB	**Ninganchiao**	**0.94**	**242**	P	**Pn**	**05 18 09.2**	**-0.4**
	baz=240						
NACB				S	**Sn**	**05 18 23.8**	**-0.1**
	baz=240						
TWD	**Chiawan**	**0.98**	**237**	P	**Pn**	**05 18 09.7**	**-0.5**
	baz=235						
TWD				S	**Sn**	**05 18 23.8**	**-1.1**
	baz=235						
YM01	**YM01**	**1.00**	**302**	*eP*	**Pn**	**05 18 10.2**	**-0.2**
	baz=302						
YM01				S	**Sn**	**05 18 24.4**	**-0.8**
	baz=302						
ETLH	**Xiulin Townshi**	**1.02**	**247**	P	**Pn**	**05 18 10.3**	**-0.3**
	baz=245						
ETLH				S	**Sn**	**05 18 25.5**	**-0.2**
	baz=245						
YHNB	**Yeheng**	**1.03**	**273**	P	**Pn**	**05 18 10.8**	**+0.1**
	baz=272						
YHNB				S	**Sn**	**05 18 25.9**	**0.0**
	baz=272						
HWA	**Hwalien**	**1.04**	**232**	*eS*	**Sn**	**05 18 25.7**	**-0.2**
	baz=230						
NNSB	**Datong**	**1.04**	**260**	P	**Pn**	**05 18 11.1**	**+0.2**
	baz=258						
NNSB				eS	**Sn**	**05 18 26.3**	**+0.2**
	baz=258						
NNS	**Nan Shan**	**1.04**	**261**	*eP*	**Pn**	**05 18 11.1**	**+0.2**
	baz=259						
NNS				S	**Sn**	**05 18 25.4**	**-0.9**
	baz=259						
NSK	**Sanguang**	**1.04**	**274**	*i* P	**Pn**	**05 18 10.1**	**-0.8**
	baz=272						
NSK				*i* S	**Sn**	**05 18 25.1**	**-1.0**
	baz=272						
IRIF	**Iriomote-Funau**	**1.15**	**104**	P	**Pn**	**05 18 12.0**	**0.0**
IRIF				S	**Sn**	**05 18 28.5**	**+0.3**
FUSS	**Fushou**	**1.21**	**253**	*i* P	**Pn**	**05 18 13.4**	**+0.4**
	baz=251						
FUSS				S	**Sn**	**05 18 29.9**	**0.0**
	baz=251						
WHF	**Hehuan Shan**	**1.22**	**248**	*i* P	**Pn**	**05 18 13.3**	**-0.1**
	baz=246						
WHF				*i* S	**Sn**	**05 18 30.1**	**-0.4**
	baz=246						
NFF	**Wufeng Townshi**	**1.26**	**271**	*eP*	**Pn**	**05 18 12.6**	**-0.9**
	baz=270						
NFF				S	**Sn**	**05 18 29.9**	**-0.9**
	baz=270						
ESL	**Shilin**	**1.26**	**231**	*i* P	**Pn**	**05 18 12.6**	**-0.8**
	baz=229						
ESL				S	**Sn**	**05 18 30.0**	**-0.7**
	baz=229						
TWT	**Tachien**	**1.26**	**254**	*i* P	**Pn**	**05 18 14.2**	**+0.6**
	baz=252						
TWT				*i* S	**Sn**	**05 18 31.7**	**+0.8**
	baz=252						
TDCB	**Techi**	**1.28**	**254**	P	**Pn**	**05 18 14.3**	**+0.5**
	baz=252						
TDCB				S	**Sn**	**05 18 31.2**	**0.0**
	baz=252						
HATJ	**Hateruma jima**	**1.31**	**115**	S	**Sn**	**05 18 31.9**	**+0.2**
CHGB	**Renai**	**1.33**	**246**	P	**Pn**	**05 18 14.7**	**+0.2**
	baz=244						
CHGB				S	**Sn**	**05 18 32.4**	**-0.2**
	baz=244						
LIOB	**Emei**	**1.35**	**272**	S	**Sn**	**05 18 32.8**	**+0.1**
	baz=271						
EGFH	**Guangfu**	**1.36**	**226**	P	**Pn**	**05 18 14.0**	**-0.7**
	baz=225						
NSTT	**Nanjuang**	**1.37**	**271**	*i* S	**Sn**	**05 18 33.1**	**+0.2**
	baz=270						
OWD	**Renai**	**1.38**	**242**	*i* P	**Pn**	**05 18 14.9**	**0.0**
	baz=240						
OWD				S	**Sn**	**05 18 33.4**	**-0.1**
	baz=240						
WUSB	**Renai**	**1.41**	**244**	P	**Pn**	**05 18 15.4**	**+0.1**
	baz=243						
WUSB				S	**Sn**	**05 18 33.7**	**-0.4**
	baz=243						
JKRS	**Kuro-shima**	**1.42**	**105**	P	**Pn**	**05 18 15.3**	**0.0**
JKRS				S	**Sn**	**05 18 34.5**	**+0.3**
WHP	**Taichung City**	**1.46**	**257**	P	**Pn**	**05 18 16.7**	**+0.8**
	baz=256						
WHP				S	**Sn**	**05 18 35.9**	**+0.8**
	baz=256						
HGSD	**Ruisui**	**1.49**	**222**	*eP*	**Pn**	**05 18 17.1**	**+0.8**
	baz=220						
HGSD				eS	**Sn**	**05 18 35.9**	**+0.2**
	baz=220						
VWDT	**VWDT**	**1.51**	**236**	*eP*	**Pn**	**05 18 16.8**	**+0.3**
	baz=234						
VWDT				eS	**Sn**	**05 18 36.1**	**0.0**
	baz=234						
JIJ	**Ishigaki jima**	**1.52**	**99**	P	**Pn**	**05 18 16.3**	**-0.2**
JIJ				S	**Sn**	**05 18 35.3**	**-0.9**
EHY	**Hungye**	**1.54**	**225**	*eP*	**Pn**	**05 18 15.8**	**-1.1**
	baz=223						
WCS	**Beigang Elemen**	**1.56**	**249**	*eP*	**Pn**	**05 18 16.5**	**-0.5**
	baz=248						
WCS				eS	**Sn**	**05 18 37.2**	**+0.1**
	baz=248						
SMLT	**Sun Moon Lake**	**1.64**	**244**	P	**Pn**	**05 18 19.3**	**+1.1**
	baz=242						
SSLB	**Suanglung**	**1.64**	**240**	*eP*	**Pn**	**05 18 18.5**	**+0.4**
	baz=239						
SSLB				eS	**Sn**	**05 18 41.0**	**+1.9**
	baz=239						
YULB	**Yu-li**	**1.64**	**222**	*eP*	**Pn**	**05 18 17.3**	**-0.9**
	baz=221						
JISG	**Ishigakijimahi**	**1.65**	**91**	*eP*	**Pn**	**05 18 18.1**	**-0.1**
JISG				eS	**Sn**	**05 18 38.7**	**-0.4**
TYC	**Yuchr**	**1.66**	**245**	P	**Pn**	**05 18 19.1**	**+0.7**
	baz=243						
TYC				S	**Sn**	**05 18 41.0**	**+1.5**
	baz=243						
WHYT	**Xinyi Township**	**1.76**	**239**	*eP*	**Pn**	**05 18 20.8**	**+1.0**
	baz=238						
WHYT				*eS*	**Sn**	**05 18 43.1**	**+1.1**
	baz=238						
ALS	**Alishan**	**1.90**	**235**	*eP*	**Pn**	**05 18 22.5**	**+0.7**
	baz=233						
ELDTW	**Lidau**	**1.97**	**224**	*eP*	**Pn**	**05 18 21.6**	**-0.9**
	baz=222						
JTJ	**Tarama**	**2.00**	**89**	*eS*	**Sn**	**05 18 47.1**	**-0.3**

*IDC **11** 05:42:52.8±3.6,37°.11S×178°.91E,h0km,mb3.1/2, mbtmp3.1/2,MS3.3/1,Error ellipse: s-maj=87.5km s-min=33.6km az=130.0*
*WEL **11** 05:42:54.5±0.8,37°.S±5°×17°.9E±°,h12km,M3.2/31, mB4.9/1,ML3.5/36,MLv3.2/31,Mw(mB)4.2/1,Error ellipse: s-maj=0.0km s-min=0.0km az=119.4*

ISC 11 05:42:52.4±2.3,37°.33S±0°.06×179°.13E±0°.09,h2km±11km, n59,σ1ˢ13/65,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.70**	**250**	P	**Pg**	**05 43 05.4**	**-0.3**
MXZ				S	**Sg**	**05 43 14.1**	**-0.8**
WMGZ	**Waiomatatini S**	**0.75**	**229**	P	**Pb**	**05 43 09.2**	**+1.0**
WMGZ				S	**Sn**	**05 43 21.1**	**-0.9**
PKGZ	**Pakihiroa**	**1.01**	**236**	P	**Pg**	**05 43 12.0**	**+0.3**
PKGZ				S	**Sb**	**05 43 27.4**	**+1.1**
PUZ	**Puketiti**	**1.02**	**223**	P	**Pg**	**05 43 13.5**	**+1.6**
PUZ				S	**Sb**	**05 43 28.4**	**+1.8**
HAZ	**Te Kaha**	**1.15**	**248**	P	**Pg**	**05 43 13.5**	**-1.1**
HAZ				S	**Sn**	**05 43 31.0**	**-0.9**
TWGZ	**Tauwhareparae**	**1.25**	**227**	P	**Pg**	**05 43 17.2**	**+0.9**
TWGZ				S	**Sn**	**05 43 36.3**	**+2.1**
RUGZ	**Raukumara Rang**	**1.32**	**241**	P	**Pn**	**05 43 17.2**	**-0.8**
CNGZ	**Carnagh Statio**	**1.37**	**212**	P	**Pn**	**05 43 19.4**	**+0.9**
TKGZ	**Te Karaka**	**1.50**	**222**	P	**Pn**	**05 43 17.6**	**-2.8**
TKGZ				S	**Sn**	**05 43 41.3**	**+0.8**
MWZ	**Matawai**	**1.62**	**231**	P	**Pn**	**05 43 22.0**	**0.0**
RIGZ	**Rimuhau**	**1.75**	**218**	P	**Pn**	**05 43 23.8**	**0.0**
RIGZ				S	**Sn**	**05 43 46.6**	**-0.1**
RAGZ	**Rawiri**	**1.79**	**229**	P	**Pn**	**05 43 24.7**	**+0.3**
RAGZ				S	**Sb**	**05 43 49.0**	**+0.1**
URZ	**Urewera**	**1.85**	**239**	Pn	**Pn**	**05 43 25.5**	**+0.4**
	16nm,0.3s,baz=216,slow=0.2,SNR=2.7						
URZ				Sn	**Sn**	**05 43 49.2**	**+0.1**
	9.1nm,0.3s,baz=31,slow=4.8,SNR=2.5						
URZ	**Urewera**	**1.85**	**239**	P	**Pn**	**05 43 25.6**	**+0.5**
URZ				S	**Sb**	**05 43 49.9**	**-0.7**
EDRZ	**Edgecumbe**	**2.05**	**247**	P	**Pn**	**05 43 28.8**	**+0.9**
MUGZ	**Murupara**	**2.19**	**238**	P	**Pn**	**05 43 30.1**	**+0.2**
RAHZ	**Arahi**	**2.26**	**225**	P	**Pn**	**05 43 32.3**	**+1.4**
TARZ	**Mount Tarawera**	**2.27**	**246**	P	**Pn**	**05 43 32.1**	**+1.1**
MTHZ	**Maungataniwha**	**2.36**	**229**	P	**Pn**	**05 43 32.6**	**+0.3**
NMHZ	**Naumai**	**2.54**	**225**	P	**Pn**	**05 43 35.3**	**+0.5**
ARHZ	**Aropaoanui**	**2.56**	**220**	P	**Pn**	**05 43 35.1**	**+0.2**
MRHZ	**Matea Rd**	**2.62**	**234**	P	**Pn**	**05 43 35.7**	**-0.1**
BKZ	**Black Stump Fm**	**2.77**	**228**	P	**Pn**	**05 43 37.6**	**-0.3**
MCHZ	**McNeill Hill**	**2.85**	**221**	P	**Pn**	**05 43 38.9**	**0.0**
KWHZ	**Kaweka Forest**	**2.99**	**225**	P	**Pn**	**05 43 40.0**	**-0.8**
KAHZ	**Kahuranaki**	**3.03**	**215**	P	**Pn**	**05 43 40.5**	**-1.0**
RITZ	**Rihia Road**	**3.06**	**236**	P	**Pn**	**05 43 40.8**	**+0.1**
KATZ	**Kakaramea**	**3.17**	**238**	P	**Pn**	**05 43 44.4**	**+1.0**
KRHZ	**Kereru**	**3.17**	**222**	P	**Pn**	**05 43 43.1**	**-0.3**
MKAZ	**Moumakai**	**3.18**	**273**	P	**Pn**	**05 43 43.8**	**+0.5**
BHHZ	**Black Hill Sta**	**3.24**	**227**	P	**Pn**	**05 43 43.6**	**-0.6**
TMVZ	**Te Maari**	**3.24**	**235**	P	**Pn**	**05 43 44.0**	**-0.4**
WIAZ	**Waiheke Island**	**3.24**	**278**	P	**Pb**	**05 43 48.4**	**-2.2**
ETVZ	**East Tongariro**	**3.24**	**235**	P	**Pn**	**05 43 44.0**	**-0.4**
NTVZ	**North Tongarir**	**3.25**	**236**	P	**Pn**	**05 43 44.2**	**-0.3**
KRVZ	**Karewarewa**	**3.27**	**236**	P	**Pn**	**05 43 44.4**	**-0.4**
OTVZ	**Oturere**	**3.29**	**235**	P	**Pn**	**05 43 44.7**	**-0.4**
NNVZ	**North Ngauruho**	**3.30**	**236**	P	**Pn**	**05 43 45.3**	**0.0**
WTVZ	**West Tongariro**	**3.31**	**236**	P	**Pn**	**05 43 45.4**	**0.0**
SNVZ	**South Ngauruho**	**3.32**	**235**	P	**Pn**	**05 43 45.0**	**-0.4**
NGZ	**Ngauruhoe**	**3.34**	**235**	P	**Pn**	**05 43 45.3**	**-0.4**
MOVZ	**Moawhango**	**3.37**	**231**	P	**Pn**	**05 43 45.9**	**-0.2**
ETAZ	**East Tamaki Re**	**3.38**	**275**	P	**Pn**	**05 43 48.0**	**+1.9**
WNVZ	**Wahianoa**	**3.42**	**233**	P	**Pn**	**05 43 46.5**	**-0.4**
WPHZ	**Waipukurau**	**3.45**	**217**	P	**Pn**	**05 43 45.7**	**-1.5**
HIZ	**Hauiti**	**3.58**	**249**	P	**Pn**	**05 43 50.3**	**+1.4**
WAZ	**Wanganui**	**4.05**	**232**	P	**Pn**	**05 43 55.7**	**+0.3**
WCZ	**Waipu Caves**	**4.09**	**288**	P	**Pn**	**05 43 59.6**	**+3.7**
NEZ	**North Egmont**	**4.41**	**242**	P	**Pn**	**05 44 02.8**	**+2.4**
KHEZ	**Kahui Hut**	**4.48**	**242**	P	**Pn**	**05 44 03.2**	**+1.8**
TUWZ	**Tuamarina**	**5.74**	**223**	P	Pn	05 44 23.9	+5.3
MQZ	**McQueen's Vall**	**8.06**	**216**	P	**Pn**	**05 44 52.5**	**+2.1**
RAR	**Rarotonga**	**24.34**	**55**	LR	LR	05 58 08.3	
	comp=Z,60nm,19.0s,baz=284,slow=38						
ASAR	**Alice Springs**	**40.91**	**276**	P	**P**	**05 50 35.3**	**-1.0**
	0.2nm,0.7s,baz=118,slow=8.4,SNR=2.0						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**42.53**	**281**	P	**P**	**05 50 48.8**	**-0.8**
	0.1nm,0.4s,baz=121,slow=7.8,SNR=6.9						
	0.1nm,0.4s						
H03N3	**Juan Fernandez**	**78.85**	**124**	T	T	07 21 38.2	
	baz=234,slow=72,SNR=4.2						
H03N2	**Juan Fernandez**	**78.86**	**124**	T	T	07 21 37.0	
	baz=234,slow=72,SNR=3.7						
H03N1	**Juan Fernandez**	**78.87**	**124**	T	T	07 21 38.2	
	baz=234,slow=72,SNR=4.6						
FINES	**FINESS Array B**	**150.57**	**334**	PKPbc	**PKPbc**	**06 02 44.4**	**-0.5**
	1.4nm,1.0s,baz=46,slow=6.0,SNR=1.7						

*IDC **11** 05:53:56.9±1.5,39

SNR=17
ZRD Sn Sg 05 54 50.7 +3.2
CSN1 Caspian 1.54 176 *e*Pg Pg 05 54 27.8 +0.1
ISRB Sarab 1.64 219 *e*Pn Pg 05 54 30.5 +1.0
IHRS Heris 1.70 243 *e*Pn Pg 05 54 30.9 +0.2
IHRS *e* 05 54 59.1
comp=Z,11μm,0.3s
PQL Pirkuli 1.71 350 *e*Pn Pg 05 54 30.2 -0.7
PQL Pirkuli 1.71 350 Pn Pg 05 54 30.3 -0.7
PQL Sn Sg 05 54 55.3 +2.2
AGDM Agdam 1.75 306 Pn Pb 05 54 30.5 +0.1
SNR=15
AGDM Sn Sg 05 54 55.9 +1.4
ATGJ Altiaghaj 1.76 359 *e*Pn Pg 05 54 31.0 -0.8
ATGJ Altiaghaj 1.76 359 Pn Pg 05 54 31.0 -0.8
IML Ismayilli 1.79 341 *e*Pn Pn 05 54 29.4 +0.2
IML Ismayilli 1.79 341 Pn Pn 05 54 30.0 +0.9
SNR=7.9
IML Sn Sg 05 54 57.1 +1.3
BRDA Brd 1.80 311 *e*Pn Pg 05 54 32.1 -0.5
BRDA Brd 1.80 311 Pn Pg 05 54 32.2 -0.5
SNR=7.5
BRDA Sn Sg 05 54 57.1 +1.1
TVRZ Varzaqan 1.89 252 *e*Pn Pg 05 54 34.7 +0.2
TVRZ *e* 05 55 09.0
comp=Z,8μm,0.7s
SIZA Siyzn 1.97 358 *e*Pn Pg 05 54 35.3 -0.6
SIZA Siyzn 1.97 358 Pn Pg 05 54 35.4 -0.6
SNR=13
SIZA Sn Sg 05 55 03.4 +1.9
LHJ2 Lahijan - Gila 2.12 156 *e* Sn 05 54 59.8 0.0
comp=Z,4μm,0.2s
IBST Bostanabad 2.15 230 *e*Pn Pb 05 54 37.5 +0.2
IBST *e* 05 54 40.2
comp=Z,2μm,0.2s
XNQ Khinaliq 2.16 343 *e*Pn Pn 05 54 35.2 +0.8
XNQ Khinaliq 2.16 343 Pn Pn 05 54 35.2 +0.8
SNR=13
XNQ Sn Sg 05 55 06.8 -0.8
MNGR Mingechevir, A 2.21 320 Sn Sb 05 55 06.1 +0.6
IHSH Hashtrud 2.24 217 *e*Pn Pb 05 54 38.8 -0.1
IHSH *e* 05 55 17.5
comp=Z,2μm,0.4s
QUBA Quba, Azerbaij 2.28 351 Pn Pb 05 54 38.8 -0.5
GIDE GILAN DEYLAMAN 2.30 161 *e*Pn Pn 05 54 35.7 -0.6
QUB Quba 2.32 349 *e*Pn Pn 05 54 37.3 +0.8
ORD Ordubad 2.32 267 *e*Pn Pb 05 54 40.3 +0.2
ORD Ordubad 2.32 267 Pn Pb 05 54 40.3 +0.2
SNR=20
ORD Sn Sg 05 55 11.2 -1.6
ITBZ Tabriz 2.37 249 *e*Pn Pb 05 54 40.6 -0.4
ITBZ *e* 05 54 49.6
comp=Z,1μm,0.3s
ZNJK Zanjan 2.44 185 *e*Pn Pn 05 54 39.8 +1.6
QSAR Qusar 2.47 348 *e*Pn Pn 05 54 40.0 +1.6
QSAR Qusar 2.47 348 Pn Pn 05 54 40.0 +1.6
SNR=5.7
QSAR Sn Sb 05 55 14.7 +1.7
SEKA Sheki 2.50 328 *e*Pn Pn 05 54 40.2 +1.2
SEKA Sheki 2.50 328 Pn Pn 05 54 40.1 +1.2
SNR=17
SEKA Sn Sn 05 55 11.8 +2.2
GANJ Ganja 2.55 308 *e*Pn Pn 05 54 40.7 +1.1
GANJ Ganja 2.55 308 Pn Pn 05 54 41.0 +1.4
SNR=6.8
GANJ Sn Sb 05 55 13.2 -2.3
IMRD Marand 2.58 262 *e*Pn Pb 05 54 44.0 -0.5
IMRD *e* 05 55 27.9
comp=Z,3μm,0.4s
SBZ Shahbuz 2.67 277 *e*Pn Pb 05 54 45.1 -0.9
SBZ Shahbuz 2.67 277 Pg Pb 05 54 45.2 -0.9
SNR=27
SBZ Sg Sg 05 55 21.3 -2.6
NAX Nakhchivan 2.70 273 *e*Pn Pb 05 54 46.4 -0.2
NAX Nakhchivan 2.70 273 Pg Pb 05 54 46.4 -0.2
NAX Sg Sg 05 55 22.8 -2.1
IAZR Azarshahr 2.75 240 *e*Pn Pb 05 54 45.5 -1.9
IAZR *e* 05 54 60.0
comp=Z,2μm,0.5s
ISHB Shabestar 2.75 254 *e*Pn Pb 05 54 45.5 -1.9
ISHB *e* 05 54 58.9
comp=Z,1μm,0.4s
GDB GEDABAY 2.95 304 *e*Pn Pn 05 54 47.6 +2.4
GDB GEDABAY 2.95 304 Pn Pn 05 54 47.6 +2.4
SNR=23
GDB Sn Sb 05 55 24.1 -3.0
ZKT Zaqatala 3.10 326 *e*Pn Pn 05 54 49.4 +2.4
ZKTA Zakatala 3.10 325 Pn Pn 05 54 49.4 +2.3
SNR=13
ZKTA Sn Sn 05 55 27.3 +3.1
MAKU Maku 3.34 276 *e*Pn Pn 05 54 53.0 +2.5
QZX Qazax, Azerbai 3.38 306 *e*Pn Pn 05 54 53.6 +2.7
QZX Qazax, Azerbai 3.38 306 Pn Pn 05 54 53.6 +2.7
QZX Sn Sb 05 55 35.3 -4.0
GNI Garni 3.43 289 Pn Pb 05 54 57.2 -1.8
comp=Z,5.3nm,0.3s,baz=21,slow=3.8,SNR=3.0
GNI Pg Pg 05 55 03.1 -0.6
comp=Z,3.7nm,0.3s,baz=199,slow=1.8,SNR=11
GNI Lg Lg 05 55 44.0
comp=Z,2.8nm,0.3s,baz=32,slow=22,SNR=1.7
CHTH Charan 3.62 151 *e*Pn Pn 05 54 55.6 +1.1
IPRN Peran 3.91 136 *e*Pn Pn 05 54 57.9 -0.5
IPRN *e* 05 55 00.1
comp=Z,2μm,0.3s
SNGE Sanandaj 4.21 198 *e*Pn Pn 05 55 06.5 +4.0
DAMV Damavand 4.21 144 *e*Pn Pn 05 55 03.7 +1.1
IDMV Damavand 4.28 144 *e*Pn Pn 05 55 05.1 +1.5
IFIR Firoozkooh 4.58 138 *e*Pn Pn 05 55 09.0 +1.2
IGLO Ghaloghah 4.64 122 *e*Pn Pn 05 55 08.4 -0.1
IGLO *e* 05 56 08.1
comp=Z,405nm,0.4s
ISHM Shahmirzad 4.76 132 *e*Pn Pn 05 55 10.5 +0.3
ISHM *e* 05 56 10.0
comp=Z,922nm,0.3s
IANJ Anjilo 5.36 131 *e*Pn Pn 05 55 18.4 0.0
IANJ *e* 05 55 19.7
comp=Z,270nm,0.6s
ISFB Sefidab 5.42 150 *e*Pn Pn 05 55 20.4 +1.3
MRVT Maraveh tapeh 5.78 102 *e*Pn Pn 05 55 22.6 -1.3
SHRO Shahrood 6.40 117 *e*Pn Pn 05 55 33.3 +0.8
BJRD Bojnurd 6.78 99 *e*Pn Pn 05 55 36.0 -1.7
GEYT Alibeck 7.27 96 Pn Pn 05 55 41.8 -2.6
comp=Z,1.2nm,0.3s,baz=295,slow=14,SNR=5.1
GEYT Sn Sn 05 56 58.3 -8.7
comp=Z,0.4nm,0.3s,baz=247,slow=30,SNR=1.7
comp=Z,3.3nm,0.4s
SBZV Sabzevar 7.36 109 *e*Pn Pn 05 55 45.4 -0.5
ISFR Sfrayin 7.41 103 *e*Pn Pn 05 55 45.6 -1.0
IEMG Emamgholi 7.80 99 *e*Pn Pn 05 55 49.6 -2.4
IEMG *e* 05 55 51.5
comp=Z,277nm,0.2s
IAKL Akhelmad 8.14 105 *e*Pn Pn 05 55 55.6 -0.9
BRTR Keskin Array B 11.88 278 Pn Pn 05 56 51.7 +4.1
baz=78,slow=17,SNR=2.1
comp=Z,0.2nm,0.5s
AKTO Aktyubinsk 13.01 27 Pn Pn 05 57 00.2 -2.8
comp=Z,0.2nm,0.3s,baz=176,slow=10,SNR=4.9
AKTO Sn Sn 05 59 13.2 -15
comp=Z,0.1nm,0.3s,baz=311,slow=18,SNR=1.3
comp=Z,1.1nm,0.5s
ARU Arti 18.46 17 P P 05 58 10.8 -3.0
baz=300,slow=9.3,SNR=3.9
comp=Z,2.1nm,0.2s
AAK Ala-Archa 19.60 71 P P 05 58 25.8 -0.8
comp=Z,0.3nm,0.3s,baz=231,slow=5.8,SNR=5.8
comp=Z,1.9nm,0.4s
BVAR Borovoye Array 20.26 40 P P 05 58 30.5 -2.9
comp=Z,1.3nm,0.5s,baz=222,slow=7.8,SNR=6.5
comp=Z,1.3nm,0.5s
KURBB Kurchatov Arra 23.75 51 P P 05 59 08.8 -1.5
comp=Z,2.0nm,0.8s,baz=258,slow=9.8,SNR=16
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 25.43 62 P P 05 59 25.1 -0.8
comp=Z,2.4nm,0.6s,baz=260,slow=7.8,SNR=22
comp=Z,2.4nm,0.6s
FINES FINESS Array B 26.45 335 P P 05 59 33.5 -1.3
comp=Z,0.5nm,0.4s,baz=142,slow=7.2,SNR=7.3
comp=Z,0.5nm,0.4s
GERES GERESS Array B 26.97 303 P P 05 59 41.4 +1.5
comp=Z,0.2nm,0.6s,baz=84,slow=10,SNR=2.4
comp=Z,0.2nm,0.6s
ZALV Zalesovo Beam 28.42 47 P P 05 59 50.5 -2.1
comp=Z,1.2nm,0.3s,baz=256,slow=9.7,SNR=7.8
comp=Z,1.2nm,0.3s
DAVOX Davos/Dischmat 29.38 298 P P 06 00 03.5 +2.0
comp=Z,0.9nm,0.6s,baz=290,slow=4.6,SNR=3.3
comp=Z,0.9nm,0.6s
HFS Hagfors 30.49 325 P P 06 00 10.3 -0.6
comp=Z,1.3nm,0.7s,baz=130,slow=9.5,SNR=6.8
comp=Z,1.3nm,0.7s
NOA NORSAR Array B 31.99 326 P P 06 00 23.6 -0.5
comp=Z,0.2nm,0.7s,baz=117,slow=8.3,SNR=3.3
comp=Z,0.2nm,0.7s
ARCES ARCESS Array B 32.96 345 P P 06 00 31.2 -1.4
comp=Z,0.9nm,0.7s,baz=141,slow=10,SNR=3.7
comp=Z,0.9nm,0.7s
KSRS Korea Array 60.06 64 P P 06 04 04.2 -1.1
comp=Z,0.8nm,0.6s,baz=294,slow=7.3,SNR=2.8
comp=Z,0.8nm,0.6s

NEIC ***11*** *06:10:44.9±1.5, 37°.33S±0°.10×96°.18W±0°.10, h10km±1km, mb4.5/54, Error ellipse: s-maj=20.2km s-min=6.3km az=141.0*
IDC ***11*** *06:10:44.1±0.7, 37°.05S×96°.06W, h0km, mb3.9/10, mbtmp3.9/10, MS3.6/10, Error ellipse: s-maj=26.3km s-min=17.8km az=87.0*
ISC 11 06:10:45.5±0.6, 37°.23S±0°.09×96°.08W±0°.09, h10km, n84, σ1$33/64, mb4.4/33, MS3.6/10, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**14.37**	**81**	T	T	06 28 49.3	
	baz=252,SNR=164						
H03S1	**Juan Fernandez**	**14.38**	**82**	T	T	06 28 50.1	
	baz=252,SNR=84						
H03S3	**Juan Fernandez**	**14.39**	**81**	T	T	06 28 48.8	
	baz=252,SNR=110						
H03N2	**Juan Fernandez**	**14.50**	**80**	T	T	06 28 54.7	
	baz=248,slow=72,SNR=44						
H03N3	**Juan Fernandez**	**14.50**	**80**	T	T	06 29 03.1	
	baz=248,slow=72,SNR=45						
H03N1	**Juan Fernandez**	**14.51**	**80**	T	T	06 28 51.7	
	baz=248,slow=72,SNR=37						
RPN	**Rapa Nui**	**15.07**	**308**	Pn	**Pn**	**06 14 18.0**	**-0.5**
LR04	**Corral**	**17.91**	**105**	P	**Pn**	**06 14 51.6**	**-3.0**
LR04				IAmb	IAmb	06 15 16.6	
	comp=Z,25nm,1.1s						
PLCA	**Paso Flores**	**20.13**	**108**	P	**P**	**06 15 20.9**	**+1.3**
	comp=Z,1.3nm,1.0s,baz=263,slow=8.1,SNR=2.3						
PLCA				LR	LR	06 21 10.6	
	comp=Z,148nm,20.0s,baz=272,slow=31						
	comp=Z,1.3nm,1.0s						
PLCA	**Paso Flores**	**20.13**	**108**	P	**P**	**06 15 19.4**	**-0.3**
LMEL	**Las Melosas**	**21.30**	**89**	P	**P**	**06 15 31.1**	**-1.5**
AC05	**El Transito**	**23.14**	**76**	P	**P**	**06 15 51.5**	**-0.7**
AC02	**Maricunga**	**25.01**	**73**	P	**P**	**06 16 09.8**	**-0.3**
AC02				IAmb	IAmb	06 16 14.5	
	comp=Z,11nm,1.5s						
LVC	**Limon Verde**	**27.57**	**66**	LR	LR	06 24 29.7	
	comp=Z,162nm,21.8s,baz=248,slow=30						
TA02	**Huaiquique**	**28.20**	**60**	P	**P**	**06 16 40.2**	**+1.8**
NNA	**Nana**	**30.49**	**39**	LR	LR	06 25 52.5	
	comp=Z,123nm,21.7s,baz=240,slow=30						
LPAZ	**La Paz**	**32.32**	**57**	P	**P**	**06 17 15.0**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=198,slow=8.7,SNR=5.6						
LPAZ				LR	LR	06 27 10.5	
	comp=Z,45nm,21.8s,baz=38,slow=31						
	comp=Z,0.9nm,0.8s						
LPAZ	**La Paz**	**32.32**	**57**	P	**P**	**06 17 15.8**	**+0.2**
ITQB	**Itaqui**	**33.58**	**89**	P	**P**	**06 17 25.6**	**-0.2**
ITQB				IAmb	IAmb	06 17 32.9	
	comp=Z,9.2nm,1.1s						
ATAH	**Atahualpa**	**34.01**	**33**	LR	LR	06 27 41.5	
	comp=Z,107nm,21.5s,baz=336,slow=30						
CPUP	**Villa Florida**	**34.47**	**83**	LR	LR	06 29 49.3	
	comp=Z,90nm,18.3s,baz=232,slow=33						
CZSB	**Cruzeiro do Su**	**36.23**	**42**	P	**P**	**06 17 51.2**	**+2.4**
CZSB				IAmb	IAmb	06 18 13.9	
	comp=Z,7.5nm,0.4s						
SIV	**San Ignacio**	**37.46**	**65**	P	**P**	**06 17 59.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=238,slow=13,SNR=2.4						
	comp=Z,0.4nm,0.5s						
CDITO	**Canoas**	**47.21**	**18**	P	**P**	**06 19 21.8**	**+3.2**
BDFB	**Brasilia**	**47.52**	**76**	P	**P**	**06 19 20.0**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=240,slow=6.6,SNR=4.3						
BDFB				LR	LR	06 38 08.9	
	comp=Z,130nm,20.3s,baz=4.3,slow=35						
	comp=Z,1.4nm,0.5s						
DUNO	**Dulce Nombre,**	**48.09**	**14**	P	**P**	**06 19 28.9**	**+3.4**
ORTG	**Ortega, Santa**	**48.38**	**14**	P	**P**	**06 19 31.1**	**+3.3**
PPT	**Papeete**	**50.68**	**278**	LR	LR	06 35 06.6	
	comp=Z,83nm,20.8s,baz=112,slow=29						
QSPA	**South Pole Qui**	**52.99**	**180**	P	**P**	**06 20 03.7**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=165,slow=1.2,SNR=9.9						
QSPA				PcP	**PcP**	**06 21 11.2**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=37,slow=3.8,SNR=4.4						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**52.99**	**180**	P	**P**	**06 20 01.5**	**-0.6**
QSPA				IAmb	IAmb	06 20 10.3	
	comp=Z,5.4nm,1.4s						
VNA3	**Neumayer Olymp**	**54.11**	**157**	P	**P**	**06 20 11.5**	**+1.3**
VNA1	**Neumayer--Stat**	**54.68**	**156**	P	**P**	**06 20 15.3**	**+1.1**
VNA2	**Neumayer--Watz**	**54.90**	**156**	P	**P**	**06 20 17.2**	**+1.4**
	baz=238,slow=3.1						
PCRV	**Puerto La Cruz**	**55.62**	**38**	LR	LR	06 42 05.5	
	comp=Z,73nm,19.0s,slow=34						
SNAA	**Sanae**	**56.14**	**158**	P	**P**	**06 20 25.6**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=300,slow=11,SNR=9.8						
	comp=Z,1.1nm,0.9s						
SNAA	**Sanae**	**56.14**	**158**	P	**P**	**06 20 23.8**	**-1.0**
SNAA				IAmb	IAmb	06 20 32.5	
	comp=Z,6.2nm,1.4s						
VNDA	**Vanda**	**56.52**	**195**	P	**P**	**06 20 29.1**	**+1.7**
	comp=Z,1.1nm,1.0s,baz=127,slow=6.2,SNR=3.7						
	comp=Z,1.1nm,1.0s						
TROLL	**Troll, Antarti**	**57.62**	**159**	P	**P**	**06 20 36.1**	**+0.7**
ZAIG	**Zacatecas**	**59.99**	**353**	P	**P**	**06 20 52.5**	**-0.1**
ZAIG				IAmb	IAmb	06 20 52.6	
	comp=Z,3.9nm,1.1s						
BANI	**BANI**	**60.40**	**28**	P	**P**	**06 20 54.6**	**-0.6**
SOR	**Soroa**	**60.96**	**14**	P	**P**	**06 20 58.6**	**-0.2**
HPIG		**64.46**	**351**	P	**P**	**06 21 21.5**	**-0.9**
HPIG				IAmb	IAmb	06 21 22.4	
	comp=Z,3.8nm,0.8s						
833A	**Chaparral WMA,**	**65.28**	**357**	P	**P**	**06 21 26.8**	**-0.6**
833A				IAmb	IAmb	06 21 27.3	
	comp=Z,6.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**66.60**	**353**	P	**P**	**06 21 34.2**	**-1.8**
TX32	**Lajitas Array**	**66.60**	**353**	P	**P**	**06 21 34.0**	**-1.9**
TX32				IAmb	IAmb	06 21 36.3	
	comp=Z,3.1nm,1.0s						
TXAR	**Lajitas Array**	**66.60**	**353**	P	**P**	**06 21 35.0**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=174,slow=7.7,SNR=16						
	comp=Z,2.2nm,1.0s						
TXAR	**Lajitas Array**	**66.60**	**353**	P	**P**	**06 21 35.4**	**-0.6**
JCT	**Junction City**	**67.45**	**357**	P	**P**	**06 21 40.5**	**-0.8**
WHZ	**Wether Hill Ro**	**68.09**	**228**	P	**P**	**06 21 43.7**	**-1.7**
TIGA	**Tifton**	**69.30**	**11**	P	**P**	**06 21 53.6**	**+0.8**
CLN7	**Carlsbad 7**	**69.66**	**353**	P	**P**	**06 21 54.1**	**-1.0**
TUC	**Tucson**	**70.53**	**347**	P	**P**	**06 22 00.2**	**-0.3**
TUC				IAmb	IAmb	06 22 00.9	
	comp=Z,4.6nm,1.2s						
MSTX	**Muleshoe**	**71.11**	**354**	P	**P**	**06 22 02.7**	**-1.3**
AMTX	**Amarillo**	**71.94**	**355**	P	**P**	**06 22 08.4**	**-0.6**
AMTX				IAmb	IAmb	06 22 08.8	
	comp=Z,7.5nm,0.9s						
ANMO	**Albuquerque**	**72.45**	**351**	P	**P**	**06 22 11.9**	**-0.3**
Y14A	**Wickenburg**	**72.54**	**345**	P	**P**	**06 22 12.3**	**-0.2**
X18A	**Snowflake**	**72.55**	**348**	P	**P**	**06 22 12.7**	**-0.1**
X18A				IAmb	IAmb	06 22 13.6	
	comp=Z,5.1nm,1.0s						
BLYC	**Blythe**	**72.68**	**344**	P	**P**	**06 22 13.0**	**-0.3**
BLYC				IAmb	IAmb	06 22 14.1	
	comp=Z,5.6nm,1.1s						
X16A	**Lo Mia Camp, P**	**72.70**	**347**	P	**P**	**06 22 13.5**	**-0.2**
X16A				IAmb	IAmb	06 22 14.4	
	comp=Z,3.9nm,1.3s						
BG3	**Lake Jocassee**	**72.89**	**11**	P	**P**	**06 22 13.3**	**-1.3**
BG3				IAmb	IAmb	06 22 13.5	
	comp=Z,5.6nm,0.9s						
U38A	**Gravette**	**73.32**	**1**	P	**P**	**06 22 15.7**	**-1.4**
U38A				IAmb	IAmb	06 22 16.2	
	comp=Z,4.8nm,1.1s						
V55A	**Taylorsville**	**74.01**	**13**	P	**P**	**06 22 20.0**	**-1.1**
V55A				IAmb	IAmb	06 22 22.9	
	comp=Z,15nm,1.5s						
V12A	**Nelson**	**74.65**	**344**	P	**P**	**06 22 23.4**	**-1.6**
S22A	**4UR Ranch, Cre**	**75.26**	**351**	P	**P**	**06 22 28.4**	**-0.3**
S22A				IAmb	IAmb	06 22 29.5	
	comp=Z,3.4nm,1.1s						
SHPR	**Sheep Range**	**75.47**	**344**	IAmb	IAmb	06 22 30.8	
	comp=Z,2.8nm,1.0s						
PV13	**Radium Mtn., P**	**75.93**	**350**	P	**P**	**06 22 32.0**	**-0.5**
PV13				IAmb	IAmb	06 22 32.8	
	comp=Z,5.3nm,1.3s						
CCUT	**Cedar City**	**76.11**	**346**	IAmb	IAmb	06 22 35.0	
	comp=Z,8.4nm,1.4s						
SMCO	**Snowmass**	**76.69**	**351**	P	**P**	**06 22 36.3**	**-0.7**
SMCO				IAmb	IAmb	06 22 45.9	
	comp=Z,3.7nm,1.2s						
GMN	**Gold Mountain**	**76.70**	**343**	IAmb	IAmb	06 22 38.3	
	comp=Z,3.9nm,1.4s						
DSP	**Deep Springs**	**76.94**	**342**	IAmb	IAmb	06 22 39.0	
	comp=Z,4.8nm,1.2s						
SPR3	**Spring Creek 3**	**77.70**	**346**	IAmb	IAmb	06 22 56.4	
	comp=Z,2.6nm,1.1s						
NVAR	**Mina Array Bea**	**78.03**	**342**	P	**P**	**06 22 44.4**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=172,slow=7.0,SNR=18						
	comp=Z,2.5nm,0.9s						
CMB	**Columbia Colle**	**78.19**	**341**	P	**P**	**06 22 44.9**	**-0.1**
BW06	**Boulder Array**	**80.56**	**350**	P	**P**	**06 22 57.0**	**-1.0**
PD31	**Pinedale Array**	**80.56**	**350**	P	**P**	**06 22 56.8**	**-1.2**
PDAR	**Pinedale Array**	**80.56**	**350**	P	**P**	**06 22 57.0**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=164,slow=5.5,SNR=19						
	comp=Z,1.6nm,0.7s						
PDAR	**Pinedale Array**	**80.56**	**350**	P	**P**	**06 22 56.8**	**-1.2**
WVOR	**Wild Horse Val**	**81.91**	**343**	P	**P**	**06 23 05.0**	**-0.1**
WVOR				IAmb	IAmb	06 23 05.9	
	comp=Z,4.0nm,1.1s						
HLID	**Hailey**	**82.12**	**347**		**P**	**06 23 06.0**	**-0.2**
HLID				IAmb	IAmb	06 23 07.0	
	comp=Z,3.0nm,0.9s						
DBIC	**Dimbokro**	**94.96**	**85**	LR	LR	07 01 32.9	
	comp=Z,28nm,19.4s,baz=158,slow=32						
H01W1	**Cape Leeuwin H**	**102.93**	**205**	T	T	08 20 35.2	
	baz=154,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**102.94**	**205**	T	T	08 20 37.5	
	baz=154,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**102.95**	**205**	T	T	08 20 38.6	
	baz=154,slow=76,SNR=12						
KURBB	**Kurchatov Arra**	**166.06**	**14**	PKPab	**PKPab**	**06 31 48.2**	**-2.3**
	comp=Z,0.5nm,0.2s,baz=335,slow=4.7,SNR=4.7						

JMA ***11*** *06:22:17.0±0.3, 33°.N±3°.×13°.8E±°, h330km, MV3.0/32, FAR S OFF TOKAI DISTRICT*
IDC ***11*** *06:22:19.6±0.8, 33°.14N×137°.97E, h328km±24km, mb2.8/5, mbtmp3.4/7, Error ellipse: s-maj=66.6km s-min=14.7km az=59.0*
ISC 11 06:22:19.3±0.9, 33°.45N±0°.09×138°.15E±0°.09, h330km, n18, σ1$57/21, mb2.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO4	**TONANKAI O.B.S**	**0.76**	**318**	P	**Pn**	**06 23 01.3**	**-0.2**
TTO2	**TONANKAI O.B.S**	**0.98**	**287**	P	**Pn**	**06 23 02.1**	**-0.3**
JHJ	**Hachijo jima 2**	**1.41**	**103**	P	**Pn**	**06 23 05.9**	**+1.0**
	64nm,0.8s,baz=63,slow=20,SNR=1.3						
JHJ				S	**S**	**06 23 43.2**	**+1.8**
	91nm,1.0s,baz=58,slow=21,SNR=1.5						
JKN2	**Miekihoku**	**1.75**	**297**	P	**Pn**	**06 23 06.2**	**-0.7**
BSO4	**Boso 4**	**2.38**	**49**	*e*S	**S**	**06 23 53.1**	**-0.2**
BSO3	**Boso 3**	**2.38**	**55**	*e*S	**S**	**06 23 52.6**	**-0.4**
JHU	**Hanno**	**3.57**	**21**	*e*S	**S**	**06 23 55.1**	**-1.4**
MJAR	**Matsushiro Arr**	**3.09**	**1**	P	**Pn**	**06 23 19.7**	**+1.8**
	0.5nm,0.4s,baz=214,slow=13,SNR=2.0						
JAI	**Aioi**	**3.10**	**277**	P	**Pn**	**06 23 16.8**	**-1.3**
JAG	**Ashikaga**	**3.16**	**19**	*e*P	**Pn**	**06 23 18.9**	**+0.3**
JAG				*e*S	**S**	**06 24 05.3**	**-0.8**
JYT	**Yasato**	**3.24**	**31**	*e*S	**S**	**06 24 05.2**	**-2.4**
JHO	**Hitachi**	**3.73**	**32**	*e*P	**Pn**	**06 23 23.8**	**-0.4**
JHO				*e*S	**S**	**06 24 13.2**	**-3.2**
KSRS	**Korea Array**	**9.25**	**298**	P	**Pn**	**06 24 28.6**	**+0.5**
	1.6nm,0.7s,baz=111,slow=13,SNR=6.0						
SONM	**Songino Array**	**27.82**	**311**	P	**P**	**06 27 41.7**	**+2.6**
	0.8nm,0.7s,baz=120,slow=8.4,SNR=4.4						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**43.86**	**305**	P	**P**	**06 29 54.8**	**+1.0**
	0.2nm,0.3s,baz=88,slow=10,SNR=3.0						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**46.19**	**310**	P	**P**	**06 30 12.2**	**+0.4**
	0.2nm,0.3s,baz=88,slow=7.0,SNR=4.7						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**53.22**	**184**	P	**P**	**06 31 02.4**	**-2.2**
	0.4nm,0.4s,baz=0.9,slow=7.5,SNR=12						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**56.94**	**185**	P	**P**	**06 31 29.6**	**-1.5**
	0.1nm,0.5s,baz=19,slow=10,SNR=6.2						
	0.1nm,0.5s						

IDC 11 06:22:54.4±2.2, 25°.93N×143°.15E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=90.6km s-min=19.5km az=71.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.45**	**324**	Pn	Pb	06 23 22.4	0.0
	32nm,0.3s,baz=287,slow=18,SNR=18						
JCJ				Sn	Sn	06 23 41.7	0.0
	186nm,0.3s,baz=134,slow=23,SNR=25						
WRA	**Warramunga Arr**	**46.39**	**191**	P	P	06 31 22.6	-0.2
	0.5nm,0.5s,baz=12,slow=8.5,SNR=7.5						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**50.11**	**191**	P	P	06 31 51.4	-0.1
	0.1nm,0.6s,baz=29,slow=11,SNR=1.4						
	0.1nm,0.6s						
FINES	**FINESS Array B**	**79.37**	**334**	P	P	06 35 01.9	0.0
	0.4nm,0.4s,baz=74,slow=5.8,SNR=9.6						
	0.4nm,0.4s						

JMA ***11*** *06:25:28.6±0.2, 25°.3N±0°.6×124°.5E±0°.3, h15km±2km, MV3.6/13, NW OFF MIYAKOJIMA ISLAND*
IDC ***11*** *06:25:28.3±0.9, 25°.27N×124°.50E, h0km, mb3.8/11, mbtmp3.8/11, ML2.7/1, MS3.4/13, Error ellipse: s-maj=23.0km s-min=19.5km az=60.0*
NIED ***11*** *06:25:28.6, 25°.34N×124°.49E, h15km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.25; Mθθ1.13; Mφφ0.12; Mrθ-0.83; Mθφ-0.00; Mφr-0.38; Fault plane solution: M0 1.50000×10^15 NP1: φs280.00000°, δ28.00000°, λ-69.00000°. NP2: φs77.00000°, δ64.00000°, λ-101.00000°.*
ISC 11 06:25:30.1±1.6, 25°.24N±0°.06×124°.51E±0°.04, h13km±11km, n33, σ0$83/35, mb3.6/11, MS3.4/11, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.62**	**163**	P	**Pg**	**06 25 42.2**	**0.0**
JTJ				S	**Sg**	**06 25 52.2**	**+1.7**
JISG	**Ishigakijimahi**	**0.67**	**195**	*i* P	**Pg**	**06 25 43.3**	**+0.1**
JISG				*i* S	**Sb**	**06 25 53.9**	**+0.9**
JIRB	**Irabujima**	**0.73**	**124**	P	**Pg**	**06 25 43.6**	**-0.6**
JIRB				S	**Sg**	**06 25 54.1**	**+0.2**
JIKM	**

comp=Z,63nm,20.7s,baz=162,slow=36 0.8nm,0.5s
CMAR Chiang Mai Arr 24.64 259 P **P 06 30 52.1 +1.5**
3.4nm,0.4s,baz=60,slow=8.9,SNR=5.7
CMAR LR LR 06 41 35.3
comp=Z,25nm,20.1s,baz=320,slow=39 3.4nm,0.4s
SONM Songino Array 26.71 332 P **P 06 31 09.8 +0.6**
0.9nm,0.7s,baz=152,slow=9.0,SNR=6.5
SONM LR LR 06 42 02.8
comp=Z,68nm,18.1s,baz=152,slow=37 0.9nm,0.7s
SIJI Sorong 26.77 165 LR LR 06 39 23.2
comp=Z,38nm,20.6s,baz=359,slow=31
PSI Prapat 33.23 232 LR LR 06 44 37.5
comp=Z,78nm,18.8s,baz=360,slow=34
PETK Petropavlovsk- 37.32 33 LR LR 06 47 45.1
comp=Z,28nm,19.6s,baz=261,slow=36
MA2 Magadan 38.89 21 LR LR 06 48 47.6
comp=Z,50nm,19.1s,baz=196,slow=36
MKAR Makanchi Array 39.74 314 P **P 06 33 01.9 -0.6**
0.4nm,0.5s,baz=98,slow=6.6,SNR=3.6 0.4nm,0.5s
ZALV Zalesovo Beam 41.06 325 P **P 06 33 12.5 -0.7**
0.4nm,0.3s,baz=111,slow=7.9,SNR=2.0 0.4nm,0.3s
KURBB Kurchatov Arra 43.30 318 P **P 06 33 30.5 -1.0**
0.7nm,0.6s,baz=110,slow=8.5,SNR=5.8 0.7nm,0.6s
WRA Warramunga Arr 45.92 167 P **P 06 33 52.5 -0.2**
0.5nm,0.7s,baz=350,slow=9.9,SNR=3.0 0.5nm,0.7s
ASAR Alice Springs 49.46 169 P **P 06 34 20.8 +0.6**
0.3nm,0.6s,baz=358,slow=14,SNR=6.8 0.3nm,0.6s
KBZ Khabaz 67.17 309 P **P 06 36 24.1 +0.3**
1.0nm,0.4s,baz=165,slow=9.3,SNR=3.6 1.0nm,0.4s
ARCES ARCESS Array B 69.69 338 LR LR 07 10 43.1
comp=Z,30nm,19.1s,baz=140,slow=39
FINES FINESS Array B 72.05 330 LR LR 07 12 36.7
comp=Z,110nm,18.8s,baz=340,slow=39
BRTR Keskin Array B 74.97 307 P **P 06 37 11.2 -0.3**
0.9nm,1.0s,baz=132,slow=8.8,SNR=5.2 0.9nm,1.0s
MLR Muntele Rosu 78.08 315 LR LR 07 18 12.3
comp=Z,57nm,18.7s,baz=285,slow=40
NVAR Mina Array Bea 93.58 44 P **P 06 38 46.1 -0.5**
0.5nm,0.9s,baz=268,slow=3.5,SNR=3.9 0.5nm,0.9s
PPT Papeete 93.77 108 LR LR 07 16 39.5
comp=Z,25nm,18.2s,baz=118,slow=33

---

*STR **11** 06:43:06.3±1.9,46˚N±6˚×1˚1E±1˚8,h0km,MLv3.0/16, Error ellipse: s-maj=0.0km s-min=0.0km az=85.5, preliminary*
*ROM **11** 06:43:08.8±0.1,45˚827N±0˚002×11˚012E±0˚001, h11km,ML2.9/37,Error ellipse: s-maj=0.2km s-min=0.0km az=347.0*
*GEN **11** 06:43:08.3,45˚84N×11˚02E,h7km±1km,Ml2.6*
*LDG **11** 06:43:09.1±0.1,45˚84N×11˚17E,h14km,Ml2.7/26,Error ellipse: s-maj=3.4km s-min=3.3km az=167.0*
*PRU **11** 06:43:11.2±0.0,45˚94N×11˚24E,h2km*
ISC 11 06:43:08.7±0.8,45˚84N±0˚01×11˚02E±0˚01,h18km±3km, n190,σ1§42/248,7C-11D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VARA	**Varagna**	**0.09**	**261**	⇓	*e*Pg		**Pg**	**06 43 12.1**	**-0.3**
VARA					*e*Sg		**Sg**	**06 43 14.2**	**-0.7**
VARA	**Varagna**	**0.09**	**261**	⇑	P		**Pg**	**06 43 12.1**	**-0.3**
VARA					S		**Sg**	**06 43 14.3**	**-0.7**
VARA	comp=E,10315μm,0.9s				AML		AML		
VARA	comp=E,10330μm,0.9s				AML		AML		
VARA	comp=E,10350μm,0.9s				AML		AML		
VARA	comp=N,17150μm,0.7s				AML		AML		
DOSS	**Dosso del Somm**	**0.13**	**71**	⇑	*e*Pg		**Pg**	**06 43 12.4**	**-0.4**
DOSS					*e*Sg		**Sg**	**06 43 14.6**	**-0.9**
DOSS	**Dosso del Somm**	**0.13**	**71**		P		**Pg**	**06 43 12.4**	**-0.4**
DOSS					S		**Sg**	**06 43 14.7**	**-0.9**
DOSS	**Dosso del Somm**	**0.13**	**71**	⇑	P		**Pg**	**06 43 12.4**	**-0.4**
DOSS					S		**Sg**	**06 43 14.7**	**-0.9**
DOSS	comp=N,10870μm,0.1s				AML		AML		
DOSS	comp=N,10880μm,0.1s				AML		AML		
DOSS	comp=E,12550μm,0.1s				AML		AML		
DOSS	comp=N,13550μm,0.8s				AML		AML		
DOSS	comp=E,12650μm,0.9s				AML		AML		
DOSS	comp=N,10885μm,0.1s				AML		AML		
LUSI	**Trento, Gardas**	**0.13**	**337**	⇓	P		**Pg**	**06 43 12.5**	**-0.3**
LUSI					S		**Sg**	**06 43 15.0**	**-0.5**
LUSI	comp=N,14050μm,0.8s				AML		AML		
LUSI	comp=E,10250μm,0.4s				AML		AML		
ROVR	**Rover Verones**	**0.20**	**169**	⇓	P		**Pg**	**06 43 13.3**	**-0.3**
ROVR					S		**Sg**	**06 43 16.2**	**-0.8**
ROVR	comp=N,14750μm,1.6s				AML		AML		
ROVR	comp=N,6245μm,1.6s				AML		AML		
ROVR	comp=E,2525μm,0.5s				AML		AML		
ROVR	comp=E,5920μm,0.5s				AML		AML		
BALD	**Monte Baldo**	**0.21**	**222**	⇓	*e*Pg		**Pg**	**06 43 13.8**	**-0.1**
BALD					*e*Sg		**Sg**	**06 43 17.0**	**-0.4**
BALD	**Monte Baldo**	**0.21**	**222**		P		**Pg**	**06 43 13.8**	**-0.1**
BALD					S		**Sg**	**06 43 17.1**	**-0.4**
BALD	**Monte Baldo**	**0.21**	**222**	⇓	P		**Pg**	**06 43 13.7**	**-0.1**
MARN	**Marana (Italy)**	**0.24**	**146**	⇑	*e*Pg		**Pg**	**06 43 14.0**	**-0.3**
MARN					*e*Sg		**Sg**	**06 43 17.4**	**-0.6**
MARN	**Marana (Italy)**	**0.24**	**146**		P		**Pg**	**06 43 14.0**	**-0.3**
MARN					S		**Sg**	**06 43 17.4**	**-0.6**
GAGG	**Gaggia**	**0.25**	**351**	⇓	*e*Pg		**Pg**	**06 43 14.3**	**-0.2**
GAGG					*e*Sg		**Sg**	**06 43 18.1**	**-0.3**
GAGG	**Gaggia**	**0.25**	**351**		P		**Pg**	**06 43 14.3**	**-0.2**
GAGG					S		**Sg**	**06 43 18.2**	**-0.3**
GAGG	**Gaggia**	**0.25**	**351**	⇓	P		**Pg**	**06 43 14.3**	**-0.2**
GAGG					S		**Sg**	**06 43 18.1**	**-0.3**
GAGG	comp=E,3665μm,0.1s				AML		AML		
GAGG	comp=N,6875μm,0.8s				AML		AML		
GAGG	comp=E,7420μm,0.8s				AML		AML		
GAGG	comp=E,3660μm,0.1s				AML		AML		
GAGG	comp=N,6870μm,0.8s				AML		AML		
GAGG	comp=N,3990μm,0.1s				AML		AML		
MAGA	**Magasa**	**0.28**	**257**		P		**Pg**	**06 43 14.8**	**-0.1**
MAGA					S		**Sg**	**06 43 19.1**	**0.0**
MAGA	comp=E,6655μm,0.6s				AML		AML		
MAGA	comp=N,5205μm,0.3s				AML		AML		
ZEN8	**San Zeno di Mo**	**0.28**	**225**		P		**Pg**	**06 43 14.7**	**-0.2**
ZEN8					S		**Sg**	**06 43 18.7**	**-0.5**
ZEN8	comp=E,2545μm,0.3s				AML		AML		
ZEN8	comp=N,2810μm,0.2s				AML		AML		
ZEN8	comp=N,2815μm,0.2s				AML		AML		
ZEN8	comp=E,2550μm,0.3s				AML		AML		
GARGN	**Gargnano BS**	**0.29**	**239**	⇓	*e*Pg		**Pg**	**06 43 14.8**	**-0.3**
GARGN					*e*Sg		**Sg**	**06 43 19.0**	**-0.4**
PANI	**Panarotta**	**0.31**	**46**	⇑	*e*Pg		**Pg**	**06 43 15.2**	**-0.2**
PANI					*e*Sg		**Sg**	**06 43 19.5**	**-0.5**
RONC	**Roncone**	**0.31**	**297**		*e*Pg		**Pg**	**06 43 15.3**	**-0.2**
RONC	**Roncone**	**0.31**	**297**		P		**Pg**	**06 43 15.2**	**-0.2**
TREG	**Tregnago**	**0.33**	**162**		P		**Pg**	**06 43 15.6**	**-0.1**
TREG					S		**Sg**	**06 43 20.2**	**-0.3**
TREG	comp=E,10035μm,0.2s				AML		AML		
TREG	comp=N,9110μm,1.0s				AML		AML		
TREG	comp=E,10020μm,0.2s				AML		AML		
TREG	comp=N,9120μm,1.0s				AML		AML		
TREG	comp=N,9135μm,1.0s				AML		AML		
TREG	comp=E,10055μm,0.2s				AML		AML		
BAG8	**Bagolino**	**0.39**	**268**		P		**Pg**	**06 43 16.6**	**-0.1**
BAG8					S		**Sg**	**06 43 22.2**	**+0.1**
BAG8	**Bagolino**	**0.39**	**268**		P		**Pg**	**06 43 16.6**	**-0.1**
GAVI	**Passo Gaver BS**	**0.40**	**282**	⇑	*e*Pg		**Pg**	**06 43 16.7**	**-0.3**
GAVI					*e*Sg		**Sg**	**06 43 22.8**	**+0.1**
VOBA	**Vobarno**	**0.41**	**242**		P		**Pg**	**06 43 17.1**	**0.0**
VOBA					S		**Sg**	**06 43 22.9**	**+0.1**
VOBA	comp=N,4450μm,1.1s				AML		AML		
VOBA	comp=E,7195μm,0.2s				AML		AML		
SALO	**Salr**	**0.41**	**238**		P		**Pg**	**06 43 17.1**	**0.0**
SALO					S		**Sb**	**06 43 23.7**	**+0.3**
SALO	**Salr**	**0.41**	**238**		P		**Pb**	**06 43 17.4**	**-0.1**
SALO					S		**Sb**	**06 43 23.7**	**+0.3**
SALO	comp=E,2025μm,0.6s				AML		AML		
SALO	comp=E,1980μm,0.6s				AML		AML		
SALO	comp=N,2685μm,1.6s				AML		AML		
SALO	comp=N,2430μm,0.8s				AML		AML		
MABI	**Malga Bissina**	**0.41**	**302**		P		**Pg**	**06 43 16.9**	**-0.3**
MABI					S		**Sg**	**06 43 22.9**	**-0.2**
MABI	**Malga Bissina**	**0.41**	**302**		P		**Pg**	**06 43 16.9**	**-0.3**
MABI					S		**Sg**	**06 43 22.9**	**-0.2**
MABI	comp=E,705μm,1.4s				AML		AML		
MABI	comp=N,1035μm,0.2s				AML		AML		
MABI	comp=E,704μm,1.4s				AML		AML		
SANR	**Sandrigo**	**0.46**	**115**		P		**Pg**	**06 43 17.7**	**-0.2**
CTI	**Castel Tesino**	**0.49**	**64**		P		**Pg**	**06 43 18.1**	**-0.4**
CTI					S		**Sg**	**06 43 24.4**	**-0.8**
CTI	**Castel Tesino**	**0.49**	**64**	⇑	P		**Pg**	**06 43 18.2**	**-0.4**
CTI	comp=E,3720μm,0.2s				AML		AML		
CTI	comp=N,4880μm,1.4s				AML		AML		
TRES	**Parco Tresine**	**0.50**	**224**		*e*Pg		**Pg**	**06 43 18.7**	**+0.1**
TRES	**Parco Tresine**	**0.50**	**224**		P		**Pg**	**06 43 18.7**	**+0.1**
TRES					S		**Sb**	**06 43 25.9**	**+0.1**
ZOVE	**Zovencedo**	**0.51**	**139**		P		**Pg**	**06 43 18.7**	**-0.1**
ZOVE					S		**Sg**	**06 43 25.5**	**-0.3**
CGRP	**Cima Grappa**	**0.55**	**85**		*e*Pg		**Pg**	**06 43 19.4**	**-0.4**
CGRP	**Cima Grappa**	**0.55**	**85**		P		**Pg**	**06 43 19.3**	**-0.4**
CGRP	comp=N,1276μm,0.5s				AML		AML		
CGRP	comp=E,1700μm,1.4s				AML		AML		
CGRP	comp=N,1274μm,0.5s				AML		AML		
CGRP	comp=N,1325μm,0.5s				AML		AML		
CGRP	comp=E,1690μm,1.4s				AML		AML		
OZOL	**Ozolo**	**0.57**	**2**		*e*Pg		**Pg**	**06 43 19.9**	**-0.1**
ZIAN	**Ziano**	**0.58**	**41**		*e*Pg		**Pg**	**06 43 20.0**	**-0.3**
GRDM	**Monte Maddalen**	**0.59**	**241**		*e*Pg		**Pg**	**06 43 20.5**	**0.0**
ASOL	**Asolo**	**0.62**	**93**		P		**Pg**	**06 43 21.1**	**+0.2**
CARE	**Lago del Cares**	**0.63**	**339**		*e*Pg		**Pg**	**06 43 21.1**	**-0.1**
CARE	**Lago del Cares**	**0.63**	**339**		P		**Pg**	**06 43 21.1**	**-0.1**
ZONE	**Zone**	**0.63**	**264**		P		**Pg**	**06 43 21.0**	**-0.2**
ZONE	comp=E,326μm,1.4s				AML		AML		
ZONE	comp=N,353μm,0.5s				AML		AML		
ZONE	comp=N,1420μm,0.2s				AML		AML		
ZONE	comp=E,1255μm,1.4s				AML		AML		
APPI	**Appiano**	**0.66**	**13**	⇓	P		**Pg**	**06 43 21.5**	**-0.2**
APPI	comp=N,1130μm,1.2s				AML		AML		
APPI	comp=E,1049μm,0.4s				AML		AML		
APPI	comp=N,1135μm,1.2s				AML		AML		
TEOL	**Teolo**	**0.66**	**136**		*e*Pg		**Pg**	**06 43 21.5**	**-0.2**
TEOL	**Teolo**	**0.66**	**136**		P		**Pg**	**06 43 21.6**	**-0.2**
TEOL					S		**Sg**	**06 43 30.6**	**0.0**
TEOL	comp=E,2100μm,0.5s				AML		AML		
TEOL	comp=N,1750μm,0.5s				AML		AML		
KOSI	**Kohlern**	**0.67**	**22**		P		**Pg**	**06 43 21.8**	**-0.2**
KOSI					S		**Sg**	**06 43 30.6**	**-0.4**
KOSI	comp=E,456μm,1.3s				AML		AML		
KOSI	comp=N,608μm,0.1s				AML		AML		
BOSI	**Bolzano**	**0.69**	**18**		P		**Pg**	**06 43 22.2**	**-0.1**
BOSI	comp=E,1100μm,0.3s				AML		AML		
BOSI	comp=N,1480μm,0.2s				AML		AML		
CRND	**Cornuda**	**0.74**	**90**	⇓	P		**Pg**	**06 43 22.3**	**-0.9**
MTLO	**Montello**	**0.76**	**92**		*e*Pg		**Pg**	**06 43 23.6**	**+0.1**
BORM	**Bormio**	**0.77**	**325**		P		**Pg**	**06 43 23.9**	**0.0**
VARN	**Col Varnada, M**	**0.78**	**78**		*e*Pg		**Pg**	**06 43 23.6**	**-0.2**
VARN	**Col Varnada, M**	**0.78**	**78**		P		**Pg**	**06 43 23.0**	**-0.8**
VARN	comp=E,1585μm,0.3s				AML		AML		
VARN	comp=N,1695μm,0.4s				AML		AML		
VARN	comp=N,1690μm,0.4s				AML		AML		
VARN	comp=N,1745μm,0.4s				AML		AML		
VARN	comp=E,1665μm,0.3s				AML		AML		
FAU	**Forcella Aurin**	**0.78**	**59**		*e*Pg		**Pg**	**06 43 23.4**	**-0.5**
BRMO	**Bormio**	**0.78**	**325**		P		**Pg**	**06 43 23.8**	**-0.2**
BRMO					S		**Sg**	**06 43 34.2**	**-0.2**
BRMO	**Bormio**	**0.78**	**325**		P		**Pg**	**06 43 23.7**	**-0.2**
BRMO					S		**Sg**	**06 43 34.1**	**-0.2**
BRMO	comp=N,511μm,0.5s				AML		AML		
BRMO	comp=E,724μm,0.2s				AML		AML		
CAPR	**Capriolo**	**0.78**	**255**		P		**Pg**	**06 43 23.9**	**-0.1**
ED06	**Collalto TV**	**0.83**	**88**		*e*Pg		**Pg**	**06 43 24.9**	**-0.1**
MOSI	**Grossmontoni**	**0.84**	**338**	⇓	P		**Pg**	**06 43 25.2**	**0.0**
MOSI					S		**Sg**	**06 43 36.3**	**-0.1**
MOSI	comp=E,710μm,1.1s				AML		AML		
MOSI	comp=N,1295μm,0.8s				AML		AML		
AGOR	**Agordo**	**0.84**	**58**		*e*Pg		**Pg**	**06 43 24.9**	**-0.3**
AGOR	**Agordo**	**0.84**	**58**		P		**Pg**	**06 43 24.8**	**-0.3**
AGOR	comp=N,1040μm,0.3s				AML		AML		
AGOR	comp=E,1145μm,0.3s				AML		AML		
AGOR	comp=N,829μm,0.3s				AML		AML		
AGOR	comp=E,846μm,0.3s				AML		AML		
AGOR	comp=N,1036μm,0.3s				AML		AML		
SERM	**Sermide**	**0.85**	**167**		P		**Pb**	**06 43 25.6**	**+0.7**
SERM					S		**Sn**	**06 43 37.9**	**+0.1**
SERM	**Sermide**	**0.85**	**167**		P		**Pb**	**06 43 25.4**	**+0.5**
SERM	comp=E,344μm,0.3s				AML		AML		
SERM	comp=N,290μm,0.4s				AML		AML		
SERM	comp=N,290μm,0.3s				AML		AML		
SERM	comp=E,344μm,0.3s				AML		AML		
BERNI	**Berninapass**	**0.90**	**310**		P		**Pg**	**06 43 25.9**	**-0.3**
BERNI					S		**Sg**	**06 43 37.6**	**-0.6**
BERNI	**Berninapass**	**0.90**	**310**		AML		AML		
BERNI	comp=N,386μm,0.5s				AML		AML		
FRE8	**Fregona**	**0.95**	**79**		P		**Pg**	**06 43 26.9**	**-0.2**
CAVE	**Cavezzo**	**0.97**	**181**		P		**Pb**	**06 43 27.7**	**+0.7**
CAVE					S		**Sn**	**06 43 42.9**	**+2.1**
CAVE	**Cavezzo**	**0.97**	**181**		AML		AML		
CAVE	comp=N,1405μm,1.5s				AML		AML		
CAVE	comp=E,1470μm,0.5s				AML		AML		
CAE	**Caneva**	**1.00**	**80**		P		**Pg**	**06 43 27.5**	**-0.7**
CIMO	**Cimolais**	**1.10**	**64**		P		**Pb**	**06 43 28.8**	**-0.4**
CIMO	comp=E,467μm,0.7s				AML		AML		
CIMO	comp=N,326μm,1.5s				AML		AML		
CIMO	comp=N,328μm,1.5s				AML		AML		
CIMO	comp=E,482μm,0.7s				AML		AML		
ROSI	**Rosskopf**	**1.12**	**14**		P		**Pb**	**06 43 29.7**	**0.0**
ROSI	comp=N,587μm,0.2s				AML		AML		
ROSI	comp=E,479μm,0.2s				AML		AML		
FETA	**Feichten**	**1.20**	**351**		*e*Pg		**Pb**	**06 43 31.2**	**+0.2**
FETA	comp=E,2.5nm,0.1s,SNR=56				*e*Sg		**Sb**	**06 43 47.0**	**+0.8**
DAVOX	**Davos/Dischmat**	**1.23**	**320**		P		**Pn**	**06 43 32.1**	**+0.9**
DAVOX	**Davos/Dischmat**	**1.23**	**320**		AML		AML		
DAVOX	comp=E,258μm,0.3s				AML		AML		
DAVOX	comp=N,292μm,0.4s				AML		AML		
STAL	**STALIGIAL**	**1.25**	**70**		P		**Pn**	**06 43 32.2**	**+0.8**
STAL	comp=N,1335μm,1.2s				AML		AML		
STAL	comp=E,1385μm,1.2s				AML		AML		
STAL	comp=N,1390μm,0.2s				AML		AML		
STAL	comp=E,1770μm,1.2s				AML		AML		
VDL	**Val di Lei**	**1.27**	**301**		P		**Pn**	**06 43 32.6**	**+0.9**
RISI	**Rein**	**1.33**	**33**		P		**Pn**	**06 43 33.5**	**+0.9**
RISI	comp=E,2475μm,0.5s				AML		AML		
RISI	comp=N,1455μm,0.2s				AML		AML		
ABTA	**Abfaltersbach**	**1.38**	**48**		Pg		**Pn**	**06 43 34.4**	**+1.2**
ABTA	comp=N,5.1nm,0.1s,SNR=80				*e*Sn		**Sb**	**06 43 52.0**	**+0.7**
ABTA	comp=N,29nm,0.2s				*e*Sg		**Sn**	**06 43 52.4**	**+1.2**
MUGIO	**Muggio**	**1.38**	**274**		P		**Pn**	**06 43 33.7**	**+0.5**
SQTA	**Sankt Quirin**	**1.39**	**5**		*e*Pn		**Pn**	**06 43 34.2**	**+0.9**
SQTA	comp=N,70nm,0.1s,SNR=295				*e*Sg		**Sn**	**06 43 52.4**	**+1.2**
MPRI	**Monte Prat**	**1.43**	**73**		P		**Pn**	**06 43 35.1**	**+1.3**
MPRI	comp=N,646μm,0.4s				AML		AML		
MPRI	comp=E,362μm,0.6s				AML		AML		
MPRI	comp=E,276μm,0.5s				AML		AML		
MPRI	comp=N,494μm,0.4s				AML		AML		
CLUD	**Cludinico**	**1.44**	**64**		P		**Pb**	**06 43 35.3**	**+0.4**
WTTA	**Wattenberg**	**1.49**	**16**		*e*Pn		**Pn**	**06 43 35.7**	**+0.9**
WTTA	comp=N,18nm,0.1s,SNR=115				*e*Sg		**Sb**	**06 43 55.7**	**+1.1**
WTTA	**Wattenberg**	**1.49**	**16**		P		**Pn**	**06 43 35.9**	**+1.2**
WTTA	comp=N,47nm,0.2s				AML		AML		
WTTA	comp=E,298μm,0.3s				AML		AML		
WTTA	comp=N,178μm,0.3s				AML		AML		
ZCCA	**Zocca**	**1.49**	**181**		P		**Pg**	**06 43 38.1**	**+0.7**
FUSE	**Fusea**	**1.50**	**67**		P		**Pn**	**06 43 36.1**	**+1.4**
GRAM	**Graiana**	**1.51**	**207**		P		**Pb**	**06 43 36.2**	**+0.1**
GRAM	**Graiana**	**1.51**	**207**		P		**Pb**	**06 43 36.4**	**+0.2**
GRAM	comp=E,371μm,0.4s				AML		AML		
GRAM	comp=N,343μm,0.9s				AML		AML		
MOTA	**Moosalm**	**1.51**	**2**		*i* Pn		**Pb**	**06 43 36.7**	**+0.4**
MOTA	comp=N,17nm,0.1s,SNR=114				*e*Sg		**Sb**	**06 43 56.6**	**+1.6**
MOTA	comp=N,16nm,0.2s				AML		AML		
GSCL	**Gusciola**	**1.52**	**192**		P		**Pg**	**06 43 38.1**	**+0.2**
ZOU	**Zoufplan**	**1.54**	**61**		P		**Pb**	**06 43 37.1**	**+0.3**
ZOU	comp=E,229μm,1.0s				AML		AML		
ZOU	comp=N,144μm,1.1s				AML		AML		
BOB	**Bobbio (Coli)**	**1.54**	**226**		P		**Pb**	**06 43 37.4**	**+0.6**
WATA	**Walderalm**	**1.55**	**14**		*e*Pn		**Pn**	**06 43 36.6**	**+1.1**
WATA	comp=N,23nm,0.1s,SNR=6.8				*e*Sg		**Sb**	**06 43 57.7**	**+1.5**
WATA	comp=N,54nm,0.2s				AML		AML		
VARE	**Varese**	**1.57**	**272**		P		**Pn**	**06 43 36.5**	**+0.7**
VARE	comp=E,166μm,0.2s				AML		AML		
VARE	comp=N,178μm,1.3s				AML		AML		
DAVA	**Damuels**	**1.65**	**332**		*e*Pn		**Pg**	**06 43 40.2**	**-0.2**
PLONS	comp=N,3.9nm,0.3s **Plons/SG**	**1.66**	**318**		AML		AML		
PLONS	comp=N,87μm,1.2s				AML		AML		
RETA	**Reutte**	**1.66**	**354**		*e*Pn		**Pb**	**06 43 39.3**	**+0.5**
RETA	comp=E,5.0nm,0.3s,SNR=20				Sg		**Sg**	**06 44 03.3**	**+1.1**
PTCC	**Patocco-Chiusa**	**1.72**	**70**		P		**Pn**	**06 43 39.7**	**+1.9**
PTCC	comp=E,9.9nm,0.2s				AML		AML		
PTCC	comp=E,200μm,0.4s				AML		AML		
PTCC	comp=N,238μm,0.3s				AML		AML		
VLC	**Villacollemand**	**1.74**	**195**		AML		AML		
VLC	comp=E,55μm,0.8s				AML		AML		
VLC	comp=N,72μm,0.8s				AML		AML		
FUSIO	**Fusio**	**1.75**	**291**		AML		AML		
FUSIO	comp=E,114μm,1.0s				AML		AML		
FUSIO	comp=N,74μm,0.5s				AML		AML		
POPM	**Popiglio**	**1.80**	**186**		AML		AML		
POPM	comp=E,92μm,1.5s				AML		AML		
POPM	comp=N,130μm,0.8s				AML		AML		
SABO	**M.te Sabotino**	**1.81**	**85**		AML		AML		
SABO	comp=N,1690μm,0.6s				AML		AML		
SABO	comp=E,360μm,0.4s				AML		AML		
SABO	comp=N,440μm,0.6s				AML		AML		
SABO	comp=E,1480μm,0.4s				AML		AML		
LMD	**Lutirano**	**1.83**	**164**		AML		AML		
LMD	comp=E,70μm,0.3s				AML		AML		
LMD	comp=N,86μm,0.9s				AML		AML		
MSSA	**Maissana**	**1.86**	**215**		P		**Pn**	**06 43 41.1**	**+1.5**
MSSA	comp=N,81μm,0.8s				AML		AML		
MSSA	comp=E,63μm,1.5s				AML		AML		
ACOM	**Acomizza, Ital**	**1.87**	**67**		AML		AML		
ACOM	comp=E,584μm,1.2s				AML		AML		
ACOM	comp=N,642μm,0.5s				AML		AML		
ACOM	comp=E,618μm,1.2s				AML		AML		
ACOM	comp=N,622μm,0.5s				AML		AML		
MYKA	**Terra Mystica**	**1.99**	**66**		*e*Pn		**Pn**	**06 43 43.0**	**+1.5**
KBA	comp=N,2.6nm,0.2s,SNR=5.1 **Koelnbreinsper**	**2.03**	**52**		*e*Pn		**Pn**	**06 43 42.8**	**+0.6**
	comp=N,9.5nm,0.2s,SNR=57								

MMK	**Mattmark**	**2.14**	**277**	AML	AML		
	comp=N,56µm,0.4s						
MMK				AML	AML		
	comp=E,88µm,0.3s						
PCP	**Piancastagn**	**2.18**	**234**	P	**Pn**	**06 43 45.3**	**+1.2**
PCP				AML	AML		
	comp=E,95µm,0.4s						
PCP				AML	AML		
	comp=N,86µm,0.4s						
EMBD	**Embd, Matterta**	**2.25**	**281**	P	**Pn**	**06 43 46.7**	**+1.5**
OBKA	**Obir**	**2.54**	**73**	*e*Pn	**Pn**	**06 43 49.5**	**+0.4**
	comp=N,0.3nm,0.2s						
BIOA	**Bad Ischl, Aus**	**2.58**	**43**	Pn	**Pb**	**06 43 55.3**	**+0.8**
	comp=N,5.4nm,0.3s						
SLE	**Schleitheim**	**2.59**	**319**	P	**Pn**	**06 43 51.8**	**+2.0**
SULZ	**Cheisacher**	**2.62**	**311**	P	**Pn**	**06 43 52.3**	**+2.2**
REMY	**Saint-Rhmy-en**	**2.70**	**271**	P	**Pn**	**06 43 52.7**	**+1.2**
REMY				AML	AML		
	comp=E,41µm,1.6s						
REMY				AML	AML		
	comp=N,40µm,1.6s						
BALST	**Balsthal**	**2.74**	**304**	P	**Pn**	**06 43 53.8**	**+2.0**
SOKA	**Soboth**	**2.91**	**72**	*e*Pn	**Pn**	**06 43 54.7**	**+0.5**
	comp=N,1.0nm,0.3s						
KIZ	**Kirchzarten**	**3.00**	**316**	P	**Pn**	**06 43 57.5**	**+2.1**
MOA	**Molln**	**3.00**	**47**	*e*Pn	**Pn**	**06 43 56.4**	**+1.0**
	comp=N,0.9nm,0.1s,SNR=5.3						
LPG	**La Plagne**	**3.01**	**265**	*e*Pn	**Pn**	**06 43 57.0**	**+1.3**
LPG	**La Plagne**	**3.01**	**265**	*e*P	**Pb**	**06 44 00.1**	**-1.8**
LPG				*e*Sn	**Sn**	**06 44 32.6**	**+1.1**
	comp=N,5.6nm,0.3s						
LPL	**La Plagne**	**3.02**	**265**	*e*Pn	**Pn**	**06 43 57.2**	**+1.4**
LPL	**La Plagne**	**3.02**	**265**	*e*P	**Pb**	**06 44 00.2**	**-1.9**
LPL				*e*Sn	**Sn**	**06 44 33.0**	**+1.3**
	comp=N,4.9nm,0.4s						
BOURR	**Bourrignon**	**3.04**	**302**	P	**Pn**	**06 43 57.9**	**+1.9**
STV	**Sant Anna di V**	**3.06**	**240**	AML	AML		
	comp=E,19µm,0.5s						
STV				AML	AML		
	comp=N,17µm,0.6s						
MBDF	**Montbardon**	**3.20**	**251**	*e*Pn	**Pn**	**06 43 57.6**	**-0.6**
MBDF	**Montbardon**	**3.20**	**251**	*e*P	**Pb**	**06 44 02.4**	**-2.6**
MBDF				*e*Sn	**Sn**	**06 44 37.0**	**+1.1**
	comp=N,4.7nm,0.3s						
SPIF	**crte de Spivo**	**3.22**	**238**	P	**Pn**	**06 43 59.3**	**+0.8**
SBF	**Sospel**	**3.22**	**233**	*e*Pn	**Pn**	**06 43 59.1**	**+0.6**
SBF				*e*Sn	**Sn**	**06 44 36.3**	**-0.1**
	comp=N,12nm,0.3s						
ESCA	**l'Escarene**	**3.28**	**234**	P	**Pn**	**06 44 00.4**	**+1.2**
T1216	**Preci, Frazion**	**3.28**	**153**	AML	AML		
	comp=E,3430µm,1.6s						
T1216				AML	AML		
	comp=N,3950µm,1.6s						
AM05	**Amandola Campo**	**3.31**	**149**	AML	AML		
	comp=N,55µm,0.4s						
AM05				AML	AML		
	comp=E,44µm,1.2s						
CHMF	**Charmoille**	**3.33**	**297**	P	**Pn**	**06 44 01.3**	**+1.5**
BRANT	**Les Verrieres**	**3.33**	**291**	P	**Pn**	**06 44 01.7**	**+1.7**
MOF	**Molkenrain**	**3.34**	**308**	P	**Pn**	**06 44 02.0**	**+1.9**
MOF				S	**Sn**	**06 44 42.0**	**+2.7**
NRCA	**Norcia**	**3.36**	**153**	AML	AML		
	comp=N,274µm,1.0s						
NRCA				AML	AML		
	comp=E,358µm,0.5s						
ARSA	**Arzberg**	**3.42**	**64**	Pg	**Pg**	**06 44 12.8**	**-1.3**
	comp=E,0.6nm,0.2s						
HINF	**Hinteralfeld**	**3.48**	**306**	*e*Pn	**Pn**	**06 44 03.5**	**+1.6**
HINF				*e*Sn	**Sn**	**06 44 43.6**	**+1.0**
	comp=E,3.5nm,0.3s						
CABF	**La Chapelle**	**3.51**	**284**	*e*Pn	**Pn**	**06 44 03.5**	**+1.1**
CABF	**La Chapelle**	**3.51**	**284**	*e*Pg	**Pg**	**06 44 15.0**	**-0.9**
CABF				*e*Sn	**Sn**	**06 44 43.9**	**+0.4**
CABF				*e*Sg	**Sg**	**06 45 01.2**	**-0.1**
	comp=E,3.4nm,0.4s						
ECH	**Echery**	**3.55**	**313**	P	**Pn**	**06 44 04.7**	**+1.8**
CALF	**Calern**	**3.58**	**236**	P	**Pn**	**06 44 04.2**	**+0.7**
PGF	**Pioggiola**	**3.59**	**205**	*e*Pn	**Pn**	**06 44 04.0**	**+0.4**
PGF				*e*Sn	**Sn**	**06 44 43.8**	**-1.9**
	comp=E,4.0nm,0.3s						
PGF	**Pioggiola**	**3.59**	**205**	P	**Pn**	**06 44 04.0**	**+0.4**
CDF	**Champ du Feu**	**3.63**	**317**	*e*Pn	**Pn**	**06 44 05.9**	**+1.9**
CDF				*e*Sn	**Sn**	**06 44 46.8**	**+0.4**
	comp=E,2.7nm,0.3s						
TERO	**Teramo**	**3.71**	**149**	AML	AML		
	comp=N,23µm,1.2s						
TERO				AML	AML		
	comp=E,20µm,1.0s						
KHC	**Kasperske Hory**	**3.72**	**27**	*e*PN	**Pn**	**06 44 06.3**	**+1.0**
KHC				*e*PG	**Pb**	**06 44 17.5**	**+3.6**
KHC				*e*SN	**Sn**	**06 44 48.5**	**-0.2**
KHC				*e*SG	**Sg**	**06 45 05.3**	**-2.9**
	comp=E,6.4nm,0.5s						
CKRC	**Cesky Krumlov**	**3.73**	**36**	*e*PG	**Pb**	**06 44 15.6**	**+1.6**
CKRC				*e*SG	**Sb**	**06 45 03.5**	**+4.6**
OGSM	**Saint Maurice**	**3.73**	**268**	P	**Pn**	**06 44 07.2**	**+1.7**
ORIF	**Oris-en-Rattie**	**3.73**	**258**	*e*Pn	**Pn**	**06 44 07.1**	**+1.6**
ORIF				*e*Sn	**Sn**	**06 44 48.8**	**-0.3**
	comp=E,4.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.73**	**258**	P	**Pn**	**06 44 07.9**	**+2.4**
OG35	**Corcelles**	**3.81**	**275**	P	**Pn**	**06 44 07.4**	**+0.9**
HAU	**Haudompre**	**3.86**	**306**	*e*Pn	**Pn**	**06 44 08.8**	**+1.6**
HAU				*e*Sn	**Sn**	**06 44 53.4**	**+1.2**
	comp=E,15nm,0.4s						
TRIGF	**Trigance**	**3.89**	**239**	P	**Pn**	**06 44 08.0**	**+0.3**
CONA	**Conrad Observa**	**3.92**	**56**	*i* Pn	**Pn**	**06 44 08.5**	**+0.4**
	comp=E,0.1nm,0.2s						
RONA	**Rosalia, Austr**	**4.08**	**61**	*e*Pn	**Pn**	**06 44 11.0**	**+0.8**
	comp=E,0.5nm,0.2s						
LMR	**La Mourre**	**4.08**	**234**	*e*Pn	**Pn**	**06 44 09.3**	**-0.8**
LMR	**La Mourre**	**4.08**	**234**	*e*P	**Pn**	**06 44 14.0**	**+3.9**
LMR				*e*Sn	**Sn**	**06 44 55.5**	**-1.9**
	comp=E,4.0nm,0.3s						
ARTF	**Artigues**	**4.34**	**241**	P	**Pn**	**06 44 14.0**	**+0.2**
NKC	**Novy Kostel**	**4.50**	**12**	*e*SG	**Sg**	**06 45 29.9**	**-3.2**
	comp=E,6.0nm,0.3s						
PAGF	**Fort de Pagny**	**4.52**	**309**	*e*Pn	**Pn**	**06 44 17.7**	**+1.5**
PAGF	**Fort de Pagny**	**4.52**	**309**	*e*P	Pn	06 44 21.2	+5.0
PAGF				*e*Sn	**Sn**	**06 45 07.3**	**-0.9**
	comp=E,3.5nm,0.4s						
VIVF	**Saint-Julien-l**	**4.58**	**260**	*e*Pn	**Pn**	**06 44 17.6**	**+0.5**
VIVF	**Saint-Julien-l**	**4.58**	**260**	*e*P	Pn	06 44 22.0	+4.9
VIVF				*e*Sn	**Sn**	**06 45 07.5**	**-2.3**
	comp=E,1.2nm,0.2s						
SFTF	**Sexfontaines**	**4.72**	**302**	*e*Pn	**Pn**	**06 44 20.5**	**+1.5**
	baz=125						
SFTF	**Sexfontaines**	**4.72**	**302**	*e*P	**Pn**	**06 44 23.6**	**+4.6**
	baz=125						
SFTF				*e*Sn	**Sn**	**06 45 13.8**	**+0.5**
	comp=E,1.8nm,0.2s						
PRU	**Pruhonice**	**4.78**	**28**	*e*SG	**Sg**	**06 45 38.2**	**-3.8**
	comp=E,4.9nm,0.5s						
GOPC	**GO Pecny, Ondr**	**4.80**	**31**	*e*SG	**Sg**	**06 45 37.9**	**-4.8**
	comp=E,6.0nm,0.4s						
KRUC	**Moravsky**	**4.87**	**47**	*e*PN	**Pn**	**06 44 21.3**	**+0.3**
KRUC				*e*SG	**Sg**	**06 45 42.8**	**-2.1**
SAVF	**Savonnieres en**	**4.88**	**307**	*e*Pn	**Pn**	**06 44 23.8**	**+2.6**
SAVF	**Savonnieres en**	**4.88**	**307**	*e*Pg	**Pg**	**06 44 40.4**	**-1.7**
SAVF				*e*Sg	**Sg**	**06 45 44.8**	**-0.5**
	comp=E,2.4nm,0.4s						
SMF	**Signal de Mont**	**5.04**	**282**	*e*Pn	**Pn**	**06 44 24.0**	**+0.6**
SMF				*e*Sn	**Sn**	**06 45 21.0**	**-0.2**
	comp=E,2.6nm,0.3s						
LOR	**Lormes**	**5.14**	**289**	*e*Pn	**Pn**	**06 44 25.6**	**+0.8**
	baz=114						
LOR				*e*Sn	**Sn**	**06 45 23.2**	**-0.4**
	comp=E,2.4nm,0.3s						
SSF	**Saint Saulge**	**5.33**	**286**	*e*Pn	**Pn**	**06 44 28.3**	**+0.9**
SSF	**Saint Saulge**	**5.33**	**286**	*e*Pg	**Pg**	**06 44 48.7**	**-2.0**
SSF				*e*Sn	**Sn**	**06 45 28.2**	**-0.1**
	comp=E,2.0nm,0.4s						
LASF	**Ste Croix**	**5.38**	**253**	*e*Pn	**Pn**	**06 44 28.4**	**+0.4**
LASF	**Ste Croix**	**5.38**	**253**	*e*P	**Pn**	**06 44 32.6**	**+4.6**
LASF				*e*Sn	**Sn**	**06 45 27.4**	**-2.1**
	comp=E,0.4nm,0.2s						
AVF	**Avril sur Loir**	**5.39**	**283**	*e*Pn	**Pn**	**06 44 28.8**	**+0.6**
AVF				*e*Sn	**Sn**	**06 45 27.8**	**-2.0**
	comp=E,0.5nm,0.3s						
BRG	**Berggiesshubel**	**5.40**	**20**	Sg	**Sg**	**06 45 58.4**	**-3.5**
BRG				Amp		06 46 06.6	
	comp=Z,2.4nm,0.4s						
BGF	**Bois d'Agland**	**5.72**	**280**	*e*Pn	**Pn**	**06 44 33.3**	**+0.6**
BGF				*e*Sn	**Sn**	**06 45 37.0**	**-0.8**
	comp=Z,2.4nm,0.4s						
BGF				*e*Sg	**Sg**	**06 46 10.8**	**-1.3**
	comp=Z,2.2nm,0.3s						
KRLC	**Kraliky**	**5.74**	**40**	*e*SG	**Sg**	**06 46 08.0**	**-4.8**
	comp=Z,6.9nm,0.7s						
UPC	**Upice**	**5.74**	**34**	*e*SG	**Sg**	**06 46 07.0**	**-5.8**
	comp=Z,5.1nm,0.5s						
DPC	**Dobruska-Polom**	**5.74**	**36**	*e*SG	**Sg**	**06 46 07.9**	**-5.0**
	comp=Z,4.5nm,0.7s						
OSTC	**Ostas**	**5.86**	**34**	*e*SG	**Sg**	**06 46 11.6**	**-5.0**
	comp=Z,10nm,0.8s						
TCF	**Toulx Ste Croi**	**6.14**	**277**	*e*Pn	**Pn**	**06 44 39.1**	**+0.5**
TCF				*e*Sn	**Sn**	**06 45 46.1**	**-2.3**
	comp=Z,0.6nm,0.2s						
CAF	**Calviac**	**6.37**	**265**	*e*Pn	**Pn**	**06 44 42.7**	**+1.0**
CAF				*e*Sn	**Sn**	**06 45 52.6**	**-1.4**
	comp=Z,0.3nm,0.2s						
RJF	**Les Rejaudoux**	**6.69**	**269**	*e*Pn	**Pn**	**06 44 47.6**	**+1.6**
MTLF	**Montolieu**	**6.76**	**251**	*e*Pn	**Pn**	**06 44 45.7**	**-1.3**
MTLF				*e*Sn	**Sn**	**06 46 01.5**	**-2.0**
	comp=Z,0.3nm,0.2s						

NOU ***11*** *06:49:28.4, 37˚.37S×179˚.42E, h130km, mb3.8/8, Off E. Coast of N. Island, N.Z.*
WEL ***11*** *06:49:30.4±0.8, 37˚S±4˚×17˚9E±˚, h12km, M3.5/58, ML3.7/63, MLv3.5/58, Error ellipse: s-maj=0.0km s-min=0.0km az=86.6*

ISC 11 06:49:30.6±2.8, 37˚.24S±0˚.08×179˚.1E±0˚.2, h30km±21km, n92, σ1°37/98, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.73**	**244**	P	**Pn**	**06 49 43.1**	**-1.7**
MXZ				S	**Sn**	**06 49 48.9**	**-6.1**
WMGZ	**Waiomatatini S**	**0.81**	**224**	P	**Pn**	**06 49 47.1**	**+1.1**
WMGZ				S	**Sn**	**06 49 57.2**	**+0.2**
PKGZ	**Pakihiroa**	**1.06**	**232**	P	**Pn**	**06 49 49.6**	**+0.2**
PKGZ				S	**Sn**	**06 50 03.3**	**+0.1**
PUZ	**Puketiti**	**1.08**	**220**	P	**Pn**	**06 49 50.9**	**+1.2**
PUZ				S	**Sn**	**06 50 04.0**	**+0.3**
HAZ	**Te Kaha**	**1.19**	**244**	P	**Pn**	**06 49 50.2**	**-1.0**
TWGZ	**Tauwhareparae**	**1.31**	**224**	P	**Pn**	**06 49 54.3**	**+1.5**
TWGZ				S	**Sn**	**06 50 10.7**	**+1.5**
RUGZ	**Raukumara Rang**	**1.36**	**237**	P	**Pn**	**06 49 54.2**	**+0.6**
CNGZ	**Carnagh Statio**	**1.44**	**210**	P	**Pb**	**06 49 56.7**	**0.0**
CNGZ				S	**Sn**	**06 50 16.1**	**+3.6**
TKGZ	**Te Karaka**	**1.57**	**220**	P	**Pn**	**06 49 57.4**	**+1.1**
WIZ	**White Island**	**1.57**	**259**	P	**Pn**	**06 49 57.8**	**+1.4**
MWZ	**Matawai**	**1.67**	**229**	P	**Pn**	**06 49 59.0**	**+1.1**
RIGZ	**Rimuhau**	**1.82**	**216**	P	**Pn**	**06 50 00.8**	**+0.9**
RAGZ	**Rawiri**	**1.85**	**227**	P	**Pn**	**06 50 01.4**	**+1.2**
URZ	**Urewera**	**1.90**	**237**	P	**Pn**	**06 50 02.0**	**+1.1**
URZ	**Urewera**	**1.90**	**237**	P	**Pn**	**06 50 02.2**	**+1.3**
PRGZ	**Paritu Road**	**1.95**	**210**	P	**Pn**	**06 50 03.3**	**+1.7**
EDRZ	**Edgecumbe**	**2.08**	**245**	P	**Pn**	**06 50 04.8**	**+1.3**
SNGZ	**Shannon Statio**	**2.09**	**222**	P	**Pn**	**06 50 04.5**	**+0.9**
KNZ	**Kokohu**	**2.12**	**212**	P	**Pn**	**06 50 04.1**	**+0.2**
OPRZ	**Ohinepanea**	**2.13**	**253**	P	**Pn**	**06 50 04.5**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.14**	**206**	P	**Pn**	**06 50 05.2**	**+1.0**
MUGZ	**Murupara**	**2.24**	**236**	P	**Pn**	**06 50 06.3**	**+0.7**
MYRZ	**Mayor Island**	**2.31**	**268**	P	**Pn**	**06 50 06.3**	**-0.2**
TARZ	**Mount Tarawera**	**2.31**	**244**	P	**Pn**	**06 50 08.0**	**+1.5**
RAHZ	**Arahi**	**2.32**	**223**	P	**Pn**	**06 50 07.9**	**+1.1**
TGRZ	**Tauranga**	**2.33**	**257**	P	**Pn**	**06 50 07.6**	**+0.7**
RRRZ	**Republican Roa**	**2.34**	**241**	P	**Pn**	**06 50 08.4**	**+1.3**
WHHZ	**Waihua**	**2.37**	**219**	P	**Pn**	**06 50 08.4**	**+1.0**
KARZ	**Kaharoa**	**2.42**	**250**	P	**Pn**	**06 50 09.0**	**+0.9**
MTHZ	**Maungataniwha**	**2.42**	**228**	P	**Pn**	**06 50 09.3**	**+1.2**
HLRZ	**Highlands Stat**	**2.42**	**244**	P	**Pn**	**06 50 09.0**	**+0.8**
PRRZ	**Plateau Road**	**2.50**	**239**	P	**Pn**	**06 50 10.2**	**+0.9**
ALRZ	**Allen Road**	**2.57**	**238**	P	**Pn**	**06 50 11.8**	**+1.6**
KMRZ	**Kaimai**	**2.60**	**256**	P	**Pn**	**06 50 10.9**	**+0.2**
NMHZ	**Naumai**	**2.61**	**224**	P	**Pn**	**06 50 12.0**	**+1.3**
ARHZ	**Aropaoanui**	**2.63**	**219**	P	**Pn**	**06 50 11.9**	**+1.0**
MRHZ	**Matea Rd**	**2.67**	**233**	P	**Pn**	**06 50 12.7**	**+1.2**
BKZ	**Black Stump Fm**	**2.83**	**226**	P	**Pn**	**06 50 14.4**	**+0.7**
BKZ	**Black Stump Fm**	**2.83**	**226**	P	**Pn**	**06 50 14.5**	**+0.7**
KUTZ	**Kaahu Road**	**2.90**	**244**	P	**Pn**	**06 50 15.8**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.90**	**213**	P	**Pn**	**06 50 14.6**	**-0.1**
MCHZ	**McNeill Hill**	**2.92**	**220**	P	**Pn**	**06 50 15.6**	**+0.7**
TOZ	**Tahuroa Road**	**2.93**	**259**	P	**Pn**	**06 50 15.5**	**+0.4**
KWHZ	**Kaweka Forest**	**3.05**	**223**	P	**Pn**	**06 50 16.9**	**+0.2**
KAHZ	**Kahuranaki**	**3.10**	**214**	P	**Pn**	**06 50 17.1**	**-0.4**
RATZ	**Rangitukua**	**3.11**	**237**	P	**Pn**	**06 50 18.9**	**+1.3**
GRZ	**Great Barrier**	**3.11**	**287**	P	**Pn**	**06 50 17.9**	**+0.4**
MKAZ	**Moumakai**	**3.17**	**271**	P	**Pn**	**06 50 17.8**	**-0.6**
KATZ	**Kakaramea**	**3.21**	**236**	P	**Pn**	**06 50 20.3**	**+1.1**
WIAZ	**Waiheke Island**	**3.23**	**277**	P	**Pn**	**06 50 18.6**	**-0.6**
KRHZ	**Kereru**	**3.23**	**221**	P	**Pn**	**06 50 19.2**	**-0.1**
TMVZ	**Te Maari**	**3.29**	**234**	P	**Pn**	**06 50 20.6**	**+0.5**
ETVZ	**East Tongariro**	**3.29**	**234**	P	**Pn**	**06 50 20.7**	**+0.5**
BHHZ	**Black Hill Sta**	**3.29**	**226**	P	**Pn**	**06 50 20.6**	**+0.5**
NTVZ	**North Tongarir**	**3.29**	**235**	P	**Pn**	**06 50 20.8**	**+0.6**
PXZ	**Pawanui**	**3.30**	**212**	P	**Pn**	**06 50 19.3**	**-0.9**
KRVZ	**Karewarewa**	**3.31**	**235**	P	**Pn**	**06 50 21.3**	**+0.8**
OTVZ	**Oturere**	**3.34**	**234**	P	**Pn**	**06 50 21.3**	**+0.5**
NNVZ	**North Ngauruho**	**3.35**	**235**	P	**Pn**	**06 50 21.7**	**+0.7**
WTVZ	**West Tongariro**	**3.36**	**235**	P	**Pn**	**06 50 21.9**	**+0.8**
SNVZ	**South Ngauruho**	**3.37**	**234**	P	**Pn**	**06 50 21.7**	**+0.5**
ETAZ	**East Tamaki Re**	**3.37**	**274**	P	**Pn**	**06 50 21.1**	**-0.1**
NGZ	**Ngauruhoe**	**3.38**	**234**	P	**Pn**	**06 50 22.2**	**+0.7**
MBAZ	**Motutapu North**	**3.42**	**277**	P	**Pn**	**06 50 22.1**	**+0.3**
MOVZ	**Moawhango**	**3.42**	**230**	P	**Pn**	**06 50 22.1**	**+0.2**
TWVZ	**Taurewa**	**3.44**	**237**	P	**Pn**	**06 50 23.2**	**+1.0**
WHVZ	**Whangaehu Hut**	**3.45**	**233**	P	**Pn**	**06 50 22.8**	**+0.3**
FWVZ	**Far West T-bar**	**3.46**	**233**	P	**Pn**	**06 50 22.9**	**+0.3**
WNVZ	**Wahianoa**	**3.47**	**232**	P	**Pn**	**06 50 23.0**	**+0.3**
ABAZ	**Army Bay**	**3.50**	**279**	P	**Pn**	**06 50 23.0**	**+0.1**
PNHZ	**Pukenui**	**3.52**	**220**	P	**Pn**	**06 50 22.4**	**-0.9**
MTVZ	**Mangateitei**	**3.59**	**232**	P	**Pn**	**06 50 25.1**	**+0.9**
AWAZ	**Awhitu Peninsu**	**3.59**	**271**	P	**Pn**	**06 50 25.8**	**+1.7**
PRHZ	**Porangahau**	**3.60**	**212**	P	**Pn**	**06 50 23.2**	**-1.1**
HIZ	**Hauiti**	**3.61**	**248**	P	**Pn**	**06 50 26.3**	**+1.8**
HIZ	**Hauiti**	**3.61**	**248**	P	**Pn**	**06 50 26.6**	**+2.1**
PKVZ	**Pokaka**	**3.61**	**234**	P	**Pn**	**06 50 25.6**	**+1.1**
RVAZ	**Riverhead Bore**	**3.67**	**276**	P	**Pn**	**06 50 25.4**	**+0.2**
DVHZ	**Dannevirke**	**3.83**	**216**	P	**Pn**	**06 50 26.4**	**-1.1**
WCZ	**Waipu Caves**	**4.06**	**287**	P	**Pn**	**06 50 31.2**	**+0.5**
BFZ	**Birch Farm**	**4.11**	**212**	P	**Pn**	**06 50 29.7**	**-1.6**
BFZ	**Birch Farm**	**4.11**	**212**	P	**Pn**	**06 50 29.9**	**-1.4**
WAZ	**Wanganui**	**4.11**	**231**	P	**Pn**	**06 50 32.4**	**+1.1**
LREZ	**Lake Rotokare**	**4.33**	**238**	P	**Pn**	**06 50 36.1**	**+1.9**
NEZ	**North Egmont**	**4.45**	**241**	P	**Pn**	**06 50 38.5**	**+2.5**
PKEZ	**Pukeiti**	**4.50**	**243**	P	**Pn**	**06 50 39.8**	**+3.2**
KHEZ	**Kahui Hut**	**4.52**	**241**	P	**Pn**	**06 50 39.6**	**+2.6**
OUZ	**Omahuta**	**4.91**	**293**	P	**Pn**	**06 50 43.4**	**+1.2**
OUZ	**Omahuta**	**4.91**	**293**	P	**Pn**	**06 50 43.5**	**+1.2**
QRZ	**Quartz Range**	**6.26**	**233**	P	**Pn**	**06 50 58.4**	**-2.5**
KHZ	**Kahutara**	**6.72**	**218**	P	**Pn**	**06 51 04.5**	**-2.7**
ODZ	**Otahua Downs**	**10.08**	**217**	P	**Pn**	**06 51 50.9**	**-2.3**

IDC ***11*** *07:03:53.4±2.4, 59˚.75N×19˚.27E, h0km, mbtmp2.7/3, ML1.3/2, Error ellipse: s-maj=35.0km s-min=9.1km az=176.0*
UPP ***11*** *07:03:53.8±0.1, 59˚.87N×19˚.36E, h0km, ML2.2, Explosion*
HEL ***11*** *07:03:54.2±0.1, 59˚.85N×19˚.41E, h0km, ML1.7, ML2.2(UPP), Explosion*
DNK ***11*** *07:03:54.2±0.5, 59˚.86N×19˚.37E, h0km, ML2.2(UPP), Explosion*

ISC 11 07:03:53.1±0.8, 59˚.87N±0˚.02×19˚.39E±0˚.02, h0km, n51, σ0°90/71, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.43**	**244**	P	**Pg**	**07 04 01.7**	**+0.4**
NRTU	**Norrtaelje**	**0.43**	**244**	P	**Pg**	**07 04 01.7**	**+0.4**
NRTU	**Norrtaelje**	**0.43**	**244**	*e*P	**Pg**	**07 04 01.6**	**+0.3**
NRTU				*e*S	**Sg**	**07 04 08.0**	**+1.2**
AAL	**Aland**	**0.44**	**44**	P	**Pg**	**07 04 02.3**	**+0.8**
AAL				S	**Sg**	**07 04 08.3**	**+1.2**
AAL	**Aland**	**0.44**	**44**	*e*P	**Pg**	**07 04 02.3**	**+0.8**
AAL				*e*S	**Sg**	**07 04 08.0**	**+0.9**
GRAU	**Graesoe**	**0.63**	**318**	P	**Pg**	**07 04 05.5**	**+0.2**
GRAU				S	**Sg**	**07 04 14.0**	**+0.5**
GRAU	**Graesoe**	**0.63**	**318**	P	**Pg**	**07 04 05.5**	**+0.2**
GRAU				S	**Sg**	**07 04 14.0**	**+0.5**
GRAU	**Graesoe**	**0.63**	**318**	*i* P	**Pg**	**07 04 05.5**	**+0.2**
GRAU				*i* S	**Sg**	**07 04 14.0**	**+0.5**
FLYU	**Flymyra**	**0.80**	**290**	P	**Pg**	**07 04 08.8**	**+0.3**
FLYU	**Flymyra**	**0.80**	**290**	P	**Pg**	**07 04 08.8**	**+0.3**
FLYU	**Flymyra**	**0.80**	**290**	*i* P	**Pg**	**07 04 08.8**	**+0.3**
FORU	**Forsmark**	**0.80**	**311**	P	**Pg**	**07 04 08.5**	**+0.1**
FORU				S	**Sg**	**07 04 19.8**	**+1.0**
FORU	**Forsmark**	**0.80**	**311**	P	**Pg**	**07 04 08.5**	**+0.1**
FORU				S	**Sg**	**07 04 19.8**	**+1.0**
FORU	**Forsmark**	**0.80**	**311**	*i* P	**Pg**	**07 04 08.5**	**+0.1**
FORU				*i* S	**Sg**	**07 04 19.8**	**+1.0**
UPP	**Uppsala**	**0.89**	**270**	P	**Pg**	**07 04 10.4**	**+0.2**
UPP	**Uppsala**	**0.89**	**270**	*i* P	**Pg**	**07 04 10.4**	**+0.2**
FIBU	**Brunna**	**1.03**	**273**	P	**Pg**	**07 04 12.7**	**-0.1**
FIBU	**Brunna**	**1.03**	**273**	P	**Pg**	**07 04 12.7**	**-0.1**
NYNU	**Nynaeshamn**	**1.12**	**220**	P	**Pg**	**07 04 14.4**	**-0.1**
NYNU	**Nynaeshamn**	**1.12**	**220**	P	**Pg**	**07 04 14.4**	**-0.1**
NYNU	**Nynaeshamn**	**1.12**	**220**	*e*P	**Pg**	**07 04 14.4**	**-0.1**
OSTU	**Oestervaala**	**1.19**	**289**	P	**Pg**	**07 04 15.9**	**0.0**
OSTU	**Oestervaala**	**1.19**	**289**	P	**Pg**	**07 04 15.9**	**0.0**
OSTU	**Oestervaala**	**1.19**	**289**	*e*P	**Pg**	**07 04 15.9**	**0.0**
IGGU	**Iggoen**	**1.44**	**315**	P	**Pn**	**07 04 20.0**	**-0.4**
IGGU	**Iggoen**	**1.44**	**315**	P	**Pn**	**07 04 20.0**	**-0.4**
IGGU	**Iggoen**	**1.44**	**315**	*e*P	**Pn**	**07 04 20.0**	**-0.4**
ESKU	**Eskilstuna**	**1.65**	**249**	P	**Pb**	**07 04 24.1**	**-0.3**
ESKU	**Eskilstuna**	**1.65**	**249**	P	**Pb**	**07 04 24.1**	**-0.3**
ESKU	**Eskilstuna**	**1.65**	**249**	*e*P	**Pb**	**07 04 24.1**	**-0.3**
RAF	**Rauma**	**1.65**	**44**	*e*P	**Pn**	**07 04 23.2**	**-0.1**
RAF	**Rauma**	**1.65**	**44**	*e*P	**Pn**	**07 04 23.1**	**-0.3**
RAF				*e*S	**Sn**	**07 04 45.2**	**-0.1**
RAF				MSG		07 04 50.5	
	comp=Z,4.6nm,0.1s						
FALU	**Falun**	**1.89**	**291**	P	**Pb**	**07 04 27.6**	**-0.8**
FALU	**Falun**	**1.89**	**291**	P	**Pb**	**07 04 27.6**	**-0.8**
FALU	**Falun**	**1.89**	**291**	*e*P	**Pb**	**07 04 27.6**	**-0.8**
ARNU	**Arnoeviken**	**2.08**	**333**	*e*PB	**Pb**	**07 04 31.2**	**-0.5**
ARNU				*e*SG	**Sg**	**07 04 59.1**	**-0.8**
GOTU	**Gotland**	**2.23**	**191**	*e*PG	**Pb**	**07 04 33.5**	**-0.7**
GOTU				*e*SG	**Sb**	**07 05 02.1**	**-0.2**
MEF	**Metsahovi**	**2.54**	**80**	*e*P	**Pn**	**07 04 36.1**	**+0.6**
MEF	**Metsahovi**	**2.54**	**80**	*e*PB	**Pb**	**07 04 38.3**	**-1.2**
MEF				*e*SG	**Sb**	**07 05 11.5**	**+0.3**
MEF				MSG		07 05 13.0	
	comp=Z,3.4nm,0.1s						
MTSE	**Matsula**	**2.55**	**115**	*e*PG	**Pb**	**07 04 38.9**	**-0.8**
MTSE				*e*SG	**Sb**	**07 05 11.5**	**0.0**
**NUR

MKAR	**Makanchi Array**	**13.50**	**36**	Pn		**Pn**	**07 10 05.9**	**+0.6**
BHPL	**Bhopal**	**14.31**	**154**	*e*P		**P**	**07 10 19.1**	**+1.6**
BHPL				IAmb		IAmb	07 10 19.8	
	comp=Z,15nm,0.8s							
BHPL				*e*S		Sn	07 12 47.3	-8.1
ABKAR	**Akbulak array**	**15.09**	**332**			**Pn**	**07 10 24.6**	**-0.3**
KURBB	**Kurchatov Area**	**15.29**	**19**	P		**P**	**07 10 27.7**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=208,slow=10,SNR=10.0							
BVAR	**Borovoye Array**	**16.64**	**359**	P		**Pn**	**07 10 44.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=173,slow=12,SNR=2.6							
AKTO	**Aktyubinsk**	**16.78**	**331**	P		**Pn**	**07 10 45.8**	**+0.5**
	comp=Z,5.4nm,0.5s,baz=141,slow=10,SNR=9.4							
AKTO				LR		LR	07 17 08.7	
	comp=Z,35nm,18.8s,baz=341,slow=36							
ZAA0	**Zalesovo Array**	**20.10**	**25**	P		**P**	**07 11 21.0**	**+0.7**
ZAA0				IAmb		IAmb	07 11 21.5	
	comp=Z,2.7nm,0.5s							
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**07 11 20.8**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=216,slow=14,SNR=6.9							
	comp=Z,2.5nm,0.5s							
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**07 11 21.1**	**+0.8**
ARU	**Arti**	**21.68**	**341**	P		**P**	**07 11 37.8**	**+0.9**
	comp=Z,3.3nm,0.4s,baz=157,slow=7.2,SNR=5.2							
	comp=Z,3.3nm,0.4s							
BELG	**Belogornoye**	**22.86**	**322**	P		**P**	**07 11 49.1**	**+1.0**
	comp=Z,6.0nm,0.6s,baz=173,slow=5.4,SNR=4.3							
	comp=Z,6.0nm,0.6s							
NRIK	**Noril'sk**	**34.27**	**10**	P		**P**	**07 13 30.6**	**+1.5**
	comp=Z,3.0nm,0.4s,baz=171,slow=6.7,SNR=3.2							
	comp=Z,3.0nm,0.4s							
NRIK	**Noril'sk**	**34.27**	**10**	P		**P**	**07 13 29.4**	**+0.4**
NRIK				IAmb		IAmb	07 13 31.1	
	comp=Z,7.0nm,1.2s							
FIA1	**FINESS Array S**	**37.47**	**326**	P		**P**	**07 13 56.5**	**+0.2**
FIA1				IAmb		IAmb	07 14 21.2	
	comp=Z,8.2nm,1.2s							
FINES	**FINESS Array B**	**37.47**	**326**	P		**P**	**07 13 56.6**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=119,slow=9.5,SNR=15							
	comp=Z,0.8nm,0.4s							
ARCES	**ARCESS Array B**	**41.17**	**338**	P		**P**	**07 14 26.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=106,slow=8.3,SNR=9.2							
	comp=Z,0.9nm,0.6s							
ARCES	**ARCESS Array B**	**41.17**	**338**	P		**P**	**07 14 25.4**	**-1.5**
ARCES				IAmb		IAmb	07 14 31.9	
	comp=Z,17nm,1.5s							
TIP	**Timpagrande**	**42.24**	**291**	P		**P**	**07 14 35.2**	**-0.8**
NB201	**NORSAR Array S**	**44.32**	**323**	P		**P**	**07 14 52.0**	**-0.2**
NB2	**NORSAR Subarra**	**44.35**	**323**	P		**P**	**07 14 51.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.35**	**323**	P		**P**	**07 14 51.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=97,slow=7.7,SNR=4.6							
	comp=Z,0.6nm,0.6s							
NC204	**NORSAR Array S**	**44.59**	**323**	P		**P**	**07 14 54.2**	**-0.2**
JOW	**Kunigami**	**49.28**	**84**	LR		LR	07 39 58.5	
	comp=Z,65nm,18.8s,baz=303,slow=40							
ESDC	**Sonseca Array**	**57.34**	**298**	P		**P**	**07 16 29.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=56,slow=7.3,SNR=2.4							
	comp=Z,0.2nm,0.5s							
TOA0	**Torodi Ar. Sit**	**65.52**	**269**	P		**P**	**07 17 23.0**	**-1.8**
TORD	**Torodi Ar. Bea**	**65.52**	**269**	P		**P**	**07 17 22.9**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=50,slow=5.8,SNR=14							
	comp=Z,0.9nm,0.5s							
J20K	**Nowinta River**	**73.70**	**19**	P		**P**	**07 18 14.9**	**+0.9**
J20K				IAmb		IAmb	07 18 15.5	
	comp=Z,6.5nm,1.4s							
SCRK	**Sand Creek**	**76.26**	**15**	P		**P**	**07 18 29.3**	**+0.5**
BCAR	**Beaver Creek A**	**77.52**	**15**	P		**P**	**07 18 36.8**	**+1.0**
P33M	**Teslin, Yukon**	**81.81**	**12**	P		**P**	**07 18 58.7**	**-0.2**
P33M				IAmb		IAmb	07 18 60.0	
	comp=Z,5.3nm,1.3s							
WRA	**Warramunga Arr**	**82.10**	**122**	P		**P**	**07 18 59.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=331,slow=5.0,SNR=1.9							
	comp=Z,0.1nm,0.3s							

NEIC ***11*** *07:17:27.6±2.0,9.°90S±0.°09×111.°63E±0.°05,h10km±1km, mb4.2/8, Error ellipse: s-maj=16.0km s-min=6.8km az=195.0*

IDC ***11*** *07:17:29.4±2.3,9.°07S×112.°28E,h0km,mb3.8/3, mbtmp3.8/4,ML3.6/1, Error ellipse: s-maj=119.4km s-min=23.6km az=47.0*

DJA ***11*** *07:17:30.8±0.8,10.°S±6.°×11.°2E±.°,h10km,M3.6/11, MLv3.6/11*

ISC 11 07:17:27.1±0.7,9.°85S±0.°07×111.°61E±0.°06,h10km,n33, σ1§47/35,mb4.1/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.70**	**345**	P	**Pn**	**07 17 57.7**	**+0.8**
PWJI	**Pagerwojo**	**1.83**	**6**	P	**Pn**	**07 17 58.8**	**+0.2**
UGM	**Wanagama**	**2.21**	**331**		**Pb**	**07 18 05.9**	**-1.3**
UGM	**Wanagama**	**2.21**	**331**	P	**Pb**	**07 18 06.3**	**-0.9**
UGM				S	**Sb**	**07 18 33.9**	**-0.7**
GMJI	**Gumukmas**	**2.40**	**49**	P	**Pn**	**07 18 07.5**	**+1.0**
YOGI	**Yogyakarta**	**2.40**	**327**	P	**Pb**	**07 18 09.4**	**-1.1**
NGJI	**Ngawi**	**2.47**	**357**	P	**Pb**	**07 18 12.9**	**+1.2**
JAGI	**Jajag, Banyuwa**	**2.86**	**62**		**Pn**	**07 18 13.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**2.86**	**62**	P	**Pn**	**07 18 14.9**	**+2.0**
JAGI				S	**Sn**	**07 18 48.8**	**+1.4**
BLJI	**Banyuglugur**	**2.87**	**43**	P	**Pn**	**07 18 13.8**	**+0.8**
SMRI	**Semarang**	**3.02**	**337**	Pn	**Pn**	**07 18 16.3**	**+1.3**
SMRI	**Semarang**	**3.02**	**337**	P	**Pn**	**07 18 17.8**	**+2.8**
ABJI	**Asem Bagus**	**3.30**	**52**	P	**Pb**	**07 18 23.3**	**-2.5**
SRBI	**Singaraja**	**3.97**	**64**	P	**Pn**	**07 18 30.3**	**+2.2**
KAPI	**Kappang**	**9.39**	**60**	Pn	**Pn**	**07 19 43.7**	**+1.0**
GIRL	**Giralia**	**12.96**	**169**	Pn	**Pn**	**07 20 33.5**	**+2.0**
MBWA	**Marble Bar**	**13.69**	**146**	Pn	**Pn**	**07 20 41.6**	**+0.1**
PSA00	**Pilbara Seismi**	**14.09**	**147**	Pn	**Pn**	**07 20 47.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**15.88**	**123**	Pn	**Pn**	**07 21 11.8**	**+0.8**
	0.2nm,0.3s,baz=307,slow=13,SNR=2.0						
	0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.88**	**123**	Pn	**Pn**	**07 21 11.1**	**+0.1**
KNRA	**Kununurra**	**17.70**	**111**		**Pn**	**07 21 33.5**	**-0.4**
WRA	**Warramunga Arr**	**24.12**	**117**	P	**P**	**07 22 45.5**	**+2.1**
	1.9nm,0.8s,baz=293,slow=11,SNR=21						
	1.9nm,0.8s						
WB2	**Warramunga Arr**	**24.13**	**117**	P	**P**	**07 22 41.8**	**-1.7**
WR0	**Warramunga Arr**	**24.30**	**117**	P	**P**	**07 22 43.9**	**-1.1**
WR0				IAmb	IAmb	07 22 50.2	
	comp=Z,3.8nm,0.8s						
ASAR	**Alice Springs**	**25.33**	**126**	P	**P**	**07 22 57.8**	**+3.4**
	comp=Z,1.4nm,0.8s,baz=299,slow=9.2,SNR=11						
	comp=Z,1.4nm,0.8s						
CAN	**Canberra**	**42.43**	**133**	P	**P**	**07 25 19.9**	**-2.4**
CAN				IAmb	IAmb	07 25 22.1	
	comp=Z,5.8nm,1.0s						
HNR	**Honiara**	**47.62**	**94**	P	**P**	**07 26 02.7**	**-1.1**
MK31	**Makanchi Array**	**62.17**	**338**	P	**P**	**07 27 48.4**	**-0.3**
MK31				IAmb	IAmb	07 27 50.3	
	comp=Z,2.2nm,1.3s						
MKAR	**Makanchi Array**	**62.17**	**338**	P	**P**	**07 27 49.4**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=157,slow=6.6,SNR=9.6						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**62.17**	**338**	P	**P**	**07 27 48.6**	**-0.1**
VNDA	**Vanda**	**72.36**	**170**	P	**P**	**07 28 52.2**	**-0.7**
VNDA				IAmb	IAmb	07 28 59.2	
	comp=Z,2.4nm,1.2s						
SBA	**Scott Base**	**73.42**	**170**	P	**P**	**07 28 59.3**	**+0.2**
ABKAR	**Akbulak array**	**74.22**	**328**	P	**P**	**07 29 04.3**	**+0.2**

IDC 11 07:30:24.7±3.0,8.°76S×112.°50E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=167.6km s-min=28.2km az=47.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.86**	**120**	P	P	07 35 40.2	+0.1
	0.7nm,0.8s,baz=294,slow=11,SNR=7.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**25.28**	**128**	P	P	07 35 52.7	-0.3
	0.2nm,0.4s,baz=308,slow=9.0,SNR=3.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**61.51**	**337**	P	P	07 40 43.5	+0.1
	0.2nm,0.3s,baz=141,slow=7.9,SNR=4.3						
	0.2nm,0.3s						

JMA ***11*** *07:31:41.2±0.3,25.°4N±0.°8×124.°5E±0.°4,h4km±3km, MV3.6/11,NW OFF MIYAKOJIMA ISLAND*

IDC ***11*** *07:31:41.8±1.1,25.°28N×124.°42E,h0km,mb3.7/6, mbtmp3.7/7,ML2.4/1, Error ellipse: s-maj=29.6km s-min=22.9km az=57.0*

NIED ***11*** *07:31:41.2,25.°35N×124.°48E,h4km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.90; Mθθ0.84; Mφφ0.06; Mrθ-0.88; Mrφ-0.01; Mθφ-0.51; Fault plane solution: M₀1.33000×10¹⁵ NP1: φs284.00000°,δ24.00000°,λ-57.00000°. NP2:φs69.00000°, δ70.00000°,λ-103.00000°.*

ISC 11 07:31:42.2±1.8,25.°27N±0.°06×124.°46E±0.°04,h2km±12km, n18,σ0§92/24,mb3.7/6,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.67**	**161**	P	**Pg**	**07 31 55.5**	**+0.5**
JTJ				S	**Sb**	**07 32 05.7**	**-0.6**
JIRB	**Irabujima**	**0.78**	**124**	P	**Pg**	**07 31 57.0**	**-0.2**
JIRB				S	**Sg**	**07 32 07.5**	**0.0**
JIKM	**Ikemajima**	**0.80**	**116**	S	**Sg**	**07 32 07.9**	**+0.1**
JMJ2	**Miyako jima3**	**0.95**	**124**	P	**Pg**	**07 32 00.4**	**0.0**
JMJ2				*e*S	**Sg**	**07 32 13.6**	**+0.8**
JIJ	**Ishigaki jima**	**0.95**	**198**	*i* P	**Pg**	**07 32 00.8**	**+0.4**
JIJ				S	**Sg**	**07 32 13.9**	**+1.1**
JOGS	**Gusukube**	**1.00**	**121**	*e*P	**Pg**	**07 32 00.5**	**-0.9**
JOGS				*e*S	**Sb**	**07 32 15.5**	**-0.4**
JKRS	**Kuro-shima**	**1.11**	**202**	P	**Pg**	**07 32 03.6**	**+0.2**
IRIF	**Iriomote-Funau**	**1.15**	**215**	P	**Pg**	**07 32 04.1**	**-0.1**
HATJ	**Hateruma jima**	**1.35**	**206**	P	**Pn**	**07 32 07.5**	**-0.6**
HATJ				*e*S	**Sn**	**07 32 26.5**	**0.0**
JYNG	**Yonagunijimaku**	**1.60**	**240**	P	**Pn**	**07 32 11.2**	**-0.3**
JOW	**Kunigami**	**3.77**	**65**	Pn	**Pn**	**07 32 40.4**	**-0.9**
	0.6nm,0.3s,baz=248,slow=12,SNR=7.7						
JOW				Sn	**Sn**	**07 33 29.6**	**+3.3**
	1.3nm,0.3s,baz=89,slow=26,SNR=1.4						
	11nm,0.7s						
KSRS	**Korea Array**	**12.50**	**13**	Pn	Pn	07 34 47.1	+6.1
	baz=191,slow=12						
SONM	**Songino Array**	**26.66**	**332**	P	**P**	**07 37 22.1**	**-0.4**
	1.3nm,0.6s,baz=146,slow=8.2,SNR=5.4						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**39.69**	**314**	P	**P**	**07 39 15.5**	**-0.2**
	0.7nm,0.8s,baz=96,slow=13,SNR=3.1						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**45.96**	**167**	P	**P**	**07 40 06.4**	**-0.5**
	0.7nm,0.9s,baz=348,slow=8.2,SNR=4.5						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**49.50**	**169**	P	**P**	**07 40 34.6**	**+0.3**
	0.4nm,0.7s,baz=356,slow=11,SNR=3.0						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**74.91**	**307**	P	**P**	**07 43 24.5**	**-0.5**
	1.2nm,1.0s,baz=87,slow=6.3,SNR=5.9						
	1.2nm,1.0s						
NVAR	**Mina Array Bea**	**93.59**	**44**	P	**P**	**07 45 01.0**	**+0.5**
	0.3nm,0.8s,baz=297,slow=4.0,SNR=2.7						
	0.3nm,0.8s						

INMG 11 07:34:27.4±1.4,37.°90N×3.°27W,h0km,ML3.1,Error ellipse: s-maj=2.2km s-min=2.0km az=135.0,Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBAR	**Barrancos**	**2.99**	**276**	*e*Pn	Pn	07 35 14.5	-1.5
PBAR				*e*Sg	Sg	07 36 02.6	-0.8
PESTR	**Estremoz**	**3.53**	**287**	*e*Pn	Pn	07 35 22.0	-1.5
PESTR				*e*Sg	Sg	07 36 21.0	+0.3
PVAQ	**Vaqueiros**	**3.56**	**263**	*e*Pn	Pn	07 35 22.2	-1.7
PMRV	**Marv??o**	**3.57**	**297**	*e*Pn	Pn	07 35 24.1	+0.1
EVO	**Evora**	**3.79**	**281**	*e*Pn	Pn	07 35 27.4	+0.4
PCVE	**Castro Verde**	**3.79**	**267**	*e*Pn	Pn	07 35 25.8	-1.2
PCBR	**Castelo Branco**	**3.81**	**302**	*e*Pn	Pn	07 35 27.5	+0.2
MESJ	**Messejana**	**3.92**	**271**	*e*Pn	Pn	07 35 27.6	-1.2
MESJ	**Messejana**	**3.92**	**271**	*e*P	Pn	07 35 27.2	-1.6
PNCL	**Nicolau / Gran**	**4.16**	**274**	*e*Pn	Pn	07 35 32.0	-0.1
MVO	**Moncorvo**	**4.36**	**319**	*e*Pn	Pn	07 35 34.9	-0.1
PVIS	**Viseu**	**4.55**	**310**	*e*Pn	Pn	07 35 37.0	-0.6
PCAS	**Casmilo, Conde**	**4.60**	**299**	*e*Pn	Pn	07 35 37.8	-0.5
PSBE	**So Bento**	**4.61**	**292**	*e*Pn	Pn	07 35 38.7	+0.3

IGIL ***11*** *07:34:26.7,37.°81N×3.°18W,h1km,ML2.9*

LDG ***11*** *07:34:29.9±0.1,37.°78N×3.°10W,h10km,Ml3.1/6,Error ellipse: s-maj=3.2km s-min=2.1km az=117.0*

MDD ***11*** *07:34:29.3±0.2,37.°82N×3.°17W,h0km,mb_Lg3.1/12, Error ellipse: s-maj=1.8km s-min=1.5km az=137.0*

SFS ***11*** *07:34:29.0,37.°81N×3.°17W,ML3.1,LARVA (JAEN)*

CNRM ***11*** *07:34:33.0,37.°80N×3.°29W,h98km,ml2.8*

INMG 11 07:34:30.1±2.2,37.°79N×3.°09W,h11km±5km,ML3.0,1D, Error ellipse: s-maj=3.3km s-min=2.6km az=73.0,Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EQUE	**Quentar**	**0.64**	**205**	Pg	Pg	07 34 41.1	-1.5
EQUE				Sg	Sg	07 34 50.0	-1.1
EBER	**Berja**	**0.90**	**170**	Pg	Pg	07 34 46.7	-0.9
EBER				Sg	Sg	07 34 58.4	-0.9
EBER				*i* Vmb_Lg		07 35 11.3	
ELGU	**Los Guajares,**	**1.01**	**205**	ǁPg	Pg	07 34 47.8	-1.8
ELGU				Sg	Sg	07 35 01.3	-1.4
ELGU				*i* Vmb_Lg		07 35 13.2	
EGOR	**Sierra Gorda,**	**1.05**	**230**	Pg	Pg	07 34 47.6	-2.8
EGOR				Sg	Sg	07 35 02.8	-1.3
EGOR				*i* Vmb_Lg		07 35 10.6	
ENIJ	**Nijar**	**1.08**	**139**	Pg	Pb	07 34 50.3	-0.5
ENIJ				Sg	Sn	07 35 06.2	0.0
ENIJ				*i* Vmb_Lg		07 35 14.0	
EZAR	**Zarzadilla de**	**1.11**	**85**	Pg	Pb	07 34 50.1	-1.3
EZAR				Sg	Sn	07 35 07.1	0.0
EADA	**Adamuz**	**1.23**	**288**	Pn	Pn	07 34 48.4	-4.9
EADA				Pg	Pb	07 34 53.4	0.0
EADA				Sn	Sb	07 35 03.7	-5.6
EADA				Sg	Sg	07 35 08.4	-1.4
EMUR	**La Murta**	**1.47**	**87**	Pg	Pn	07 34 56.3	-0.3
EMUR				Sg	Sg	07 35 18.0	+0.6
EMUR				*i* Vmb_Lg		07 35 24.5	
ETOB	**Tobarra**	**1.49**	**54**	Pn	Pn	07 34 54.9	-2.0
ETOB				Sg	Sb	07 35 16.7	0.0
ETOB				*i* Vmb_Lg		07 35 24.1	
CART	**Cartagena**	**1.67**	**96**	P	Pn	07 34 59.4	+0.1
CART				S	Sn	07 35 21.1	+0.4
CART	**Cartagena**	**1.67**	**96**	P	Pg	07 35 01.7	-0.5
CART				S	Sg	07 35 26.8	+2.9
EMIJ	**Mijas**	**1.81**	**228**	Pn	Pn	07 35 00.3	-1.0
EMIJ				Sn	Sn	07 35 22.7	-1.6
EMIJ				Sg	Sg	07 35 27.4	-1.0
EMIJ				*i* Vmb_Lg		07 35 33.6	
ECAB	**El Cabril**	**1.86**	**280**	Pn	Pn	07 34 57.1	-4.8
ECAB				Sn	Sn	07 35 22.5	-2.9
ECAB				Sg	Sb	07 35 27.1	-0.3
ESDC	**Sonseca Array**	**2.00**	**340**	Pn	Pn	07 35 03.2	-0.7
ESDC				Sn	Sn	07 35 26.6	-2.4
ESDC				Sg	Sb	07 35 31.8	+0.3
ESDC				*i* Vmb_Lg		07 35 33.4	
PAB	**San Pablo**	**2.01**	**331**	Pn	Pn	07 35 02.7	-1.4
PAB				Sn	Sn	07 35 26.7	-2.5
PAB				*i* Vmb_Lg		07 35 34.6	
UCM	**Universidad Co**	**2.52**	**357**	P	Pb	07 35 13.3	-2.1
UCM				S	Sb	07 35 45.0	-1.4
PALE	**Palemas**	**2.66**	**195**	P	Pn	07 35 15.2	+2.4
PALE				S	Sn	07 35 45.9	+0.8
SMIR	**Smir Dam**	**2.79**	**222**	P	Pn	07 35 15.9	+1.3
EMIN	**Mina Concepcio**	**2.83**	**271**	Pn	Pn	07 35 10.2	-5.1
EMIN				Sn	Sn	07 35 47.8	-1.7
EMIN				Sg	Sb	07 35 55.5	0.0
GUD	**Guadarrama**	**2.97**	**344**	Sn	Sn	07 35 51.4	-1.6
GUD				Sg	Sb	07 35 58.3	-1.1
TAF	**Taforalt**	**3.02**	**169**	P	Pb	07 35 21.1	-2.8
ETOR	**Torete**	**3.13**	**15**	Pn	Pn	07 35 15.3	-4.2
ETOR				Sn	Sn	07 35 56.0	-0.9
ETOR				Sg	Sb	07 36 05.1	+1.0
PBAR	**Barrancos**	**3.14**	**278**	*e*Pn	Pn	07 35 19.6	+0.1
PBAR	**Barrancos**	**3.14**	**278**	*e*Pg	Pb	07 35 27.8	+1.9
PBAR				*e*Sn	Sn	07 35 55.0	-2.0
PBAR				*e*Sg	Sb	07 36 06.5	+2.3
PBAR				A	A	07 36 14.5	
	44nm,1.0s						
EBAD	**Badajoz**	**3.23**	**289**	Pn	Pn	07 35 15.4	-5.3
EBAD				Sg	Sb	07 36 08.0	+1.1
AKLM	**AKL**	**3.33**	**191**	P	Pn	07 35 22.7	+0.5
AKLM				S	Sn	07 36 00.0	-1.8
JBK	**JBK**	**3.47**	**173**	P	Pn	07 35 26.3	+2.0
JBK				S	Sn	07 36 07.3	+1.9
EGRO	**El Granado**	**3.49**	**267**	Pn	Pn	07 35 19.4	-4.9
EGRO				Sn	Sn	07 36 02.9	-2.8
EGRO				Sg	Sb	07 36 17.3	+2.9
PVAQ	**Vaqueiros**	**3.69**	**265**	*e*Pn	Pn	07 35 27.8	+0.7
PVAQ				*e*Sn	Sn	07 36 08.6	-2.0
PVAQ				A	A	07 36 29.6	
	22nm,0.4s						
PVAQ	**Vaqueiros**	**3.69**	**265**	P	Pn	07 35 23.7	-3.4
PESTR	**Estremoz**	**3.70**	**288**	*e*Pn	Pn	07 35 28.5	+1.3
PESTR				*e*Sn	Sn	07 36 08.5	-2.2
PESTR				*e*Sg	Sb	07 36 23.8	+3.6
PESTR				A	A	07 36 28.8	
	34nm,0.7s						
PESTR	**Estremoz**	**3.70**	**288**	P	Pn	07 35 27.0	-0.2
PESTR				S	Sn	07 36 07.8	-2.9
EIBI	**Ibiza**	**3.70**	**69**	Pn	Pn	07 35 25.4	-1.8
EIBI				*i* Vmb_Lg		07 36 13.8	
PMRV	**Marv??o**	**3.74**	**297**	*e*Pn	Pn	07 35 28.9	+1.1
PMRV				*e*Sn	Sn	07 36 09.3	-2.6
PMRV				*e*Sg	Sg	07 36 26.4	-3.9
PMRV				A	A	07 36 36.4	
	31nm,0.4s						
PBEJ	**Beja**	**3.78**	**275**	*e*Sn	Sn	07 36 11.2	-1.6
PBEJ				A	A	07 36 31.9	
	22nm,0.5s						
PCVE	**Castro Verde**	**3.92**	**269**	*e*Pn	Pn	07 35 30.9	+0.6
PCVE				*e*Sn	Sn	07 36 14.1	-2.2
PCVE				*e*Sg	Sb	07 36 29.9	+3.1
PCVE				A	A	07 36 35.9	
	21nm,0.4s						
EVO	**Evora**	**3.95**	**282**	P	Pn	07 35 30.4	-0.2
EVO				S	Sn	07 36 13.9	-2.9
EVO	**Evora**	**3.95**	**282**	*e*Pn	Pn	07 35 32.5	+1.9
EVO				*e*Sg	Sb	07 36 31.1	+3.7
EVO				A	A	07 36 37.9	
	25nm,0.3s						
PCBR	**Castelo Branco**	**3.99**	**302**	*e*Pn	Pn	07 35 32.2	+1.0
PCBR				*e*Sn	Sn	07 36 15.5	-2.4
PCBR				A	A	07 36 45.4	
	18nm,0.3s						
MESJ	**Messejana**	**4.06**	**272**	*e*S	Sn	07 36 11.4	-8.3
MESJ				IAML		07 36 40.7	
	comp=N,26nm,0.5s						
MESJ	**Messejana**	**4.06**	**272**	*e*Pn	Pn	07 35 33.0	+0.9
MESJ				*e*Sn	Sn	07 36 17.4	-2.2
MESJ				A	A	07 36 38.5	
	comp=N,22nm,0.4s						
PMTG	**Montargil**	**4.23**	**289**	*e*Pn	Pn	07 35 33.6	-0.8
PMTG				*e*Sn	Sn	07 36 20.7	-3.1
PMTG				*e*Sg	Sb	07 36 39.9	+4.4
PMTG				A	A	07 36 45.2	
	comp=N,31nm,0.7s						
PNCL	**Nicolau / Gran**	**4.31**	**276**	*e*Pn	Pn	07 35 36.4	+0.9
PNCL				*e*Sg	Sb	07 36 40.9	+3.1
PNCL				A	A	07 36 45.7	
	comp=N,16nm,0.4s						
MTE	**Manteigas**	**4.33**	**308**	*e*Sn	Sn	07 36 24.9	-1.6
MTE				A	A	07 36 57.5	
	comp=N,20nm,0.3s						
MORF	**Marmelete**	**4.44**	**265**	*e*Sn	Sn	07 36 26.4	-2.8
MORF				*e*Sg	Sb	07 36 46.6	+4.8
MORF				A	A	07 36 57.7	
	comp=N,15nm,0.8s						
PTEO	**Sao Teotonio**	**4.47**	**269**	*e*Sn	Sn	07 36 28.4	-1.4
PTEO				*e*Sg	Sg	07 36 48.2	-5.5
PTEO				A	A	07 36 56.5	
	comp=N,27nm,0.8s						
MVO	**Moncorvo**	**4.54**	**319**	*e*Pn	Pn	07 35 38.9	+0.1
MVO				*e*Sg	Sb	07 36 48.7	+4.1
MVO				A	A	07 36 55.7	
	comp=N,20nm,0.6s						
PACT	**Alcochete**	**4.62**	**284**	*e*Pn	Pn	07 35 41.6	+1.8
PACT				*e*Sn	Sn	07 36 31.7	-1.7
PACT				A	A	07 37 04.3	
	comp=N,27nm,0.6s						
PVIS	**Viseu**	**4.74**	**310**	*e*Pn	Pn	07 35 42.0	+0.5
PVIS				*e*Sn	Sn	07 36 33.3	-3.1
PVIS				*e*Sg	Sg	07 36 57.9	-4.2
PVIS				A	A	07 37 04.2	
	comp=N,14nm,0.8s						
PCAS	**Casmilo, Conde**	**4.78**	**300**	*e*Pn	Pn	07 35 42.7	+0.6
PCAS				*e*Sn	Sn	07 36 34.9	-2.6
PCAS				A	A	07 37 06.7	
	comp=N,23nm,0.6s						
PSBE	**So Bento**	**4.78**	**293**	*e*Pn	Pn	07 35 42.5	+0.4
PSBE				*e*Sn	Sn	07 36 34.9	-2.7
PSBE				A	A	07 37 06.3	
	comp=N,26nm,0.4s						
PBRG	**Braganca**	**4.90**	**326**	*e*Pn	Pn	07 35 44

JOGS				S	Sb	07 36 09.1	0.0
JKRS	Kuro-shima	1.15	202	P	Pg	07 35 57.8	+0.1
JKRS				eS	Sg	07 36 12.9	+0.3
IRIF	Iriomote-Funau	1.18	215	eP	Pg	07 35 58.2	-0.3
HATJ	Hateruma jima	1.39	206	eP	Pn	07 36 01.4	-0.4
JOW	Kunigami 0.9nm,0.3s,baz=270,slow=9.3,SNR=3.5	3.74	65	Pn	Pn	07 36 33.9	-0.3
JOW	1.7nm,0.3s,baz=224,slow=15,SNR=3.7			Sn	Sn	07 37 18.5	-0.1
KSRS	13nm,0.8s Korea Array baz=188,slow=16	12.46	13	Pn	Pn	07 38 38.8	+4.9
KSRS				LR	LR	07 43 40.5	
MJAR	comp=Z,122nm,20.4s,baz=190,slow=39 Matsushiro Arr comp=Z,53nm,21.9s,baz=241,slow=38	16.23	43	LR	LR	07 45 51.3	
DAV	Davao City (W) comp=Z,58nm,18.2s,baz=348,slow=40	18.16	177	LR	LR	07 47 49.0	
GUMO	Guam comp=Z,12nm,21.8s,baz=96,slow=31	22.44	117	LR	LR	07 47 16.1	
KLR	Kul'dur comp=Z,75nm,21.8s,baz=196,slow=35	24.55	12	LR	LR	07 50 03.0	
CMAR	Chiang Mai Arr comp=Z,29nm,18.0s,baz=115,slow=38	24.63	259	LR	LR	07 51 11.0	
SONM	Songino Array 1.5nm,0.8s,baz=143,slow=7.5,SNR=4.9	26.64	332	P	P	07 41 15.4	-0.1
SONM				LR	LR	07 52 56.6	
SIJI	comp=Z,62nm,18.2s,baz=146,slow=39 1.5nm,0.8s Sorong	26.84	165	LR	LR	07 49 30.7	
MA2	comp=Z,47nm,21.7s,baz=8.5,slow=31 Magadan comp=Z,40nm,18.4s,baz=218,slow=37	38.84	21	LR	LR	07 59 35.9	
MKAR	Makanchi Array 0.4nm,0.7s,baz=89,slow=10,SNR=3.1 0.4nm,0.7s	39.68	314	P	P	07 43 08.8	-0.1
ZALV	Zalesovo Beam 0.7nm,0.4s,baz=114,slow=13,SNR=1.9 0.7nm,0.4s	41.00	325	P	P	07 43 20.1	+0.4
WRA	Warramunga Arr 0.6nm,0.7s,baz=354,slow=8.1,SNR=4.2 0.6nm,0.7s	45.98	167	P	P	07 44 00.1	-0.1
ASAR	Alice Springs 0.4nm,0.7s,baz=350,slow=6.4,SNR=4.3 0.4nm,0.7s	49.53	169	P	P	07 44 27.6	-0.1
BRTR	Keskin Array B 0.9nm,0.9s,baz=76,slow=5.2,SNR=4.7 0.9nm,0.9s	74.91	307	P	P	07 47 18.6	+0.4
NVAR	Mina Array Bea 0.3nm,0.8s,baz=283,slow=2.5,SNR=3.9 0.3nm,0.8s	93.56	44	P	P	07 48 54.0	+0.5

NOU ***11*** *07:48:36.4, 36˚.74S×179˚.61W, h0km, mb3.9/6, East of North Island, N.Z.*
WEL ***11*** *07:48:50.5±1.2, 37˚S±4˚×17˚9E±˚, h15km±6km, M3.2/31, mB4.6/1, ML3.4/42, MLv3.2/31, Mw(mB)3.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=90.7*

ISC 11 07:48:49.0±2.8, 36˚.97S±0˚.08×179˚.2E±0˚.1, h17km±14km, n61,σ1°08/69, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.95	231	P	Pn	07 49 06.4	-1.3
MXZ				S	Sb	07 49 17.7	-1.7
WMGZ	Waiomatatini S	1.07	217	P	Pg	07 49 10.6	+0.7
WMGZ				S	Sn	07 49 25.5	+1.6
PKGZ	Pakihiroa	1.30	225	P	Pb	07 49 12.9	-0.3
PKGZ				S	Sn	07 49 30.3	+0.6
PUZ	Puketiti	1.35	215	P	Pb	07 49 14.1	+0.1
PUZ				S	Sn	07 49 31.8	+1.1
HAZ	Te Kaha	1.40	235	P	Pn	07 49 13.0	-0.9
HAZ				S	Sn	07 49 32.6	+0.6
TWGZ	Tauwhareparae	1.57	219	P	Pb	07 49 17.4	-0.2
RUGZ	Raukumara Rang	1.59	231	P	Pb	07 49 17.2	-0.9
CNGZ	Carnagh Statio	1.72	208	P	Pb	07 49 19.7	-0.6
TKGZ	Te Karaka	1.84	216	P	Pn	07 49 20.3	+0.5
MWZ	Matawai	1.92	224	P	Pn	07 49 22.0	+0.9
MWZ				S	Sn	07 49 44.7	-0.2
RIGZ	Rimuhau	2.09	213	P	Pn	07 49 23.8	+0.4
RIGZ				S	Sn	07 49 50.6	+1.5
RAGZ	Rawiri	2.10	223	P	Pn	07 49 24.4	+0.8
URZ	Urewera	2.12	232	P	Pn	07 49 24.7	+0.9
URZ				S	Sn	07 49 49.5	-0.4
URZ	Urewera	2.12	232	P	Pn	07 49 24.9	+1.1
EDRZ	Edgecumbe	2.29	239	P	Pn	07 49 26.8	+0.7
OPRZ	Ohinepanea	2.31	247	P	Pn	07 49 26.9	+0.6
MYRZ	Mayor Island	2.41	262	P	Pn	07 49 28.4	+0.5
MHGZ	Mahia Peninsul	2.42	205	P	Pn	07 49 27.9	0.0
MUGZ	Murupara	2.47	232	P	Pn	07 49 29.0	+0.4
TGRZ	Tauranga	2.49	251	P	Pb	07 49 31.1	-2.3
TARZ	Mount Tarawera	2.51	239	P	Pn	07 49 31.0	+1.7
RAHZ	Arahi	2.58	220	P	Pn	07 49 31.2	+1.0
MTHZ	Maungataniwha	2.67	224	P	Pn	07 49 32.2	+0.8
PRRZ	Plateau Road	2.72	235	P	Pn	07 49 32.6	+0.5
KMRZ	Kaimai	2.77	250	P	Pn	07 49 33.6	+1.0
ALRZ	Allen Road	2.79	234	P	Pn	07 49 33.5	+0.5
KUZ	Kuaotunu	2.83	273	P	Pn	07 49 32.4	-1.1
NMHZ	Naumai	2.86	221	P	Pn	07 49 34.8	+0.7
ARHZ	Aropaoanui	2.89	217	P	Pn	07 49 35.0	+0.6
MRHZ	Matea Rd	2.91	229	P	Pn	07 49 35.0	+0.3
BKZ	Black Stump Fm	3.08	224	P	Pn	07 49 37.1	0.0
BKZ	Black Stump Fm	3.08	224	P	Pn	07 49 37.5	+0.4
MCHZ	McNeill Hill	3.18	218	P	Pn	07 49 38.7	+0.3
TLZ	Tolley Road	3.23	244	P	Pn	07 49 38.8	-0.4
MKAZ	Moumakai	3.26	266	P	Pn	07 49 38.9	-0.5
WIAZ	Waiheke Island	3.29	272	P	Pn	07 49 39.8	-0.1
KWHZ	Kaweka Forest	3.31	221	P	Pn	07 49 39.9	-0.2
KAHZ	Kahuranaki	3.38	213	P	Pn	07 49 40.0	-1.1
ETAZ	East Tamaki Re	3.45	269	P	Pn	07 49 42.3	+0.2
MBAZ	Motutapu North	3.48	272	P	Pn	07 49 43.5	+1.0
TMVZ	Te Maari	3.52	231	P	Pn	07 49 43.7	+0.6
ETVZ	East Tongariro	3.52	231	P	Pn	07 49 43.3	+0.1
NTVZ	North Tongarir	3.52	232	P	Pn	07 49 44.2	+1.0
BHHZ	Black Hill Sta	3.55	224	P	Pn	07 49 43.7	+0.2
ABAZ	Army Bay	3.55	275	P	Pn	07 49 43.8	+0.4
OTVZ	Oturere	3.57	231	P	Pn	07 49 44.3	+0.4
SNVZ	South Ngauruho	3.60	231	P	Pn	07 49 44.7	+0.4
TWVZ	Taurewa	3.66	234	P	Pn	07 49 46.4	+1.3
MOVZ	Moawhango	3.67	227	P	Pn	07 49 47.0	+1.9
AWAZ	Awhitu Peninsu	3.68	267	P	Pn	07 49 45.6	+0.5
RVAZ	Riverhead Bore	3.74	272	P	Pn	07 49 46.6	+0.6
HIZ	Hauiti	3.80	245	P	Pn	07 49 48.9	+2.1
HIZ	Hauiti	3.80	245	P	Pn	07 49 49.2	+2.4
MTVZ	Mangateitei	3.82	230	P	Pn	07 49 47.6	+0.3
TSZ	Takapari Road	4.01	219	P	Pn	07 49 48.6	-1.3
BFZ	Birch Farm	4.38	211	P	Pn	07 49 53.1	-1.8
NEZ	North Egmont	4.66	239	P	Pn	07 50 02.3	+3.6
OUZ	Omahuta	4.89	289	P	Pn	07 50 03.3	+1.5
OUZ	Omahuta	4.89	289	P	Pn	07 50 02.3	+0.5
TKNZ	Takaka Hill	6.35	228	P	Pn	07 50 20.5	-1.4
KHZ	Kahutara	6.99	217	P	Pn	07 50 31.4	+0.7

IGIL ***11*** *08:01:04.7, 37˚.87N×3˚.24W, h4km, ML3.3*
LDG ***11*** *08:01:05.2±0.2, 37˚.87N×3˚.24W, h10km, Ml3.1/6, Error ellipse: s-maj=4.1km s-min=3.3km az=139.0*
SFS ***11*** *08:01:05.0, 37˚.80N×3˚.20W, h12km, ML3.3, PEAL DE BECERRO (JAEN)*
INMG ***11*** *08:01:05.7±1.8, 37˚.86N×3˚.20W, h18km±3km, ML3.2, Error ellipse: s-maj=2.1km s-min=1.7km az=17.0*
MDD ***11*** *08:01:06.1±0.2, 37˚.87N×3˚.24W, h12km, mb_Lg3.4/35, Error ellipse: s-maj=1.5km s-min=1.1km az=155.0*
CNRM ***11*** *08:01:09.3, 37˚.63N×3˚.30W, h62km, ml3.0*

ISC 11 08:01:04.7±0.9, 37˚.90N±0˚.02×3˚.23W±0˚.01, h13km±7km, n117,σ2°15/234, 1C-4D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	Quesada	0.16	126	↓Pg	Pg	08 01 08.0	-0.6
EQES				Sg	Sg	08 01 10.4	-1.0
EQES				*i* Vmb_Lg		08 01 10.8	
EQUE	Quentar	0.71	193	Pg	Pg	08 01 17.8	-0.8
EQUE				Sg	Sg	08 01 27.0	-0.8
EQUE				*i* Vmb_Lg		08 01 30.4	
EBER	Berja	1.03	165	Pg	Pg	08 01 24.0	-0.7
EBER				Sg	Sg	08 01 36.9	-1.2
EBER				*i* Vmb_Lg		08 01 44.9	
EGOR	Sierra Gorda,	1.05	222	Pg	Pb	08 01 24.5	-0.3
EGOR				Sg	Sn	08 01 40.9	+1.1
EGOR				*i* Vmb_Lg		08 01 45.3	
ELGU	Los Guajares,	1.07	197	Pg	Pb	08 01 24.8	-0.4
ELGU				Sg	Sb	08 01 39.1	0.0
ELGU				*i* Vmb_Lg		08 01 50.2	
EADA	Adamuz	1.10	285	Pg	Pb	08 01 25.4	-0.2
EADA				Sg	Sb	08 01 40.2	+0.4
EADA				*i* Vmb_Lg		08 01 42.8	
ELOR	Lorca, Murcia	1.21	102	Pg	Pn	08 01 28.3	+1.0
ELOR				Sg	Sg	08 01 44.4	+0.7
ELOR				*i* Vmb_Lg		08 01 47.5	
EZAR	Zarzadilla de	1.22	90	Pg	Pn	08 01 26.6	-0.9
EZAR				Sg	Sb	08 01 43.2	-0.1
ENIJ	Nijar	1.23	138	↓Pg	Pn	08 01 27.4	-0.2
ENIJ				Sg	Sg	08 01 44.7	+0.2
ENIJ				*i* Vmb_Lg		08 01 48.4	
TLOR	Lorca, Murcia	1.25	101	Pg	Pg	08 01 29.4	+0.7
TLOR				Sg	Sg	08 01 46.2	+1.2
ETOB	Tobarra	1.52	60	↑Pg	Pn	08 01 32.0	+0.3
ETOB				Sg	Sn	08 01 52.8	+1.4
ETOB				*i* Vmb_Lg		08 01 56.6	
EMUR	La Murta	1.58	91	Pg	Pn	08 01 33.4	+1.0
EMUR				Sg	Sn	08 01 54.2	+1.5
EMUR				*i* Vmb_Lg		08 01 56.8	
ECAB	El Cabril	1.74	277	↓Pn	Pn	08 01 34.3	-0.3
ECAB				Sg	Sb	08 01 59.2	+1.0
ECAB				*i* Vmb_Lg		08 02 00.9	
CART	Cartagena	1.80	99	P	Pn	08 01 36.0	+0.7
CART				S	Sn	08 01 58.4	+0.4
CART	Cartagena	1.80	99	P	Pn	08 01 35.8	+0.5
CART	Cartagena	1.80	99	P	Pn	08 01 35.8	+0.5
CART				S	Sn	08 01 59.3	+1.3
EMIJ	Mijas	1.81	223	Pn	Pn	08 01 36.9	+1.3
EMIJ				Sg	Sg	08 02 04.0	+1.1
EMIJ				*i* Vmb_Lg		08 02 06.7	
PAB	San Pablo	1.86	332	Pn	Pn	08 01 36.8	+0.4
PAB				Pg	Pb	08 01 39.7	+1.0
PAB				Sn	Sn	08 01 59.0	-0.9
PAB				Sg	Sb	08 02 03.7	+1.8
PAB				*i* Vmb_Lg		08 02 06.7	
ESDC	Sonseca Array	1.87	342	Pg	Pb	08 01 39.9	+1.2
ESDC				Sn	Sn	08 01 59.7	-0.2
ESDC				Sg	Sb	08 02 03.9	+2.0
ESDC				*i* Vmb_Lg		08 02 05.8	
ETRV	Los Montesinos	1.96	86	Pg	Pb	08 01 41.9	+1.7
ETRV				Sn	Sn	08 02 03.9	+2.0
ETRV				Sg	Sg	08 02 07.4	-0.2
ETRV				*i* Vmb_Lg		08 02 10.6	
LIJA	Lijar	1.99	241	P	Pn	08 01 40.2	+2.0
LIJA				S	Sn	08 02 01.0	-2.0
AFON	Font Roja	2.25	69	Pn	Pn	08 01 42.5	+0.7
AFON				Pg	Pg	08 01 48.4	+0.4
AFON				Sg	Sg	08 02 17.8	+0.6
AFON				*i* Vmb_Lg		08 02 20.6	
ESPR	Espera	2.33	245	Pn	Pn	08 01 43.2	+0.5
ESPR				Pg	Pb	08 01 46.0	-0.5
ESPR				Sn	Sn	08 02 11.3	+0.2
ESPR				Sg	Sg	08 02 20.3	+0.8
ESPR				*i* Vmb_Lg		08 02 24.2	
ALJ	Aljibe	2.36	235	P	Pg	08 01 51.7	+1.7
UCM	Universidad Co	2.41	360	P	Pb	08 01 50.5	+2.6
UCM				S	Sb	08 02 21.4	+3.9
ECHE	Chera	2.45	46	Pn	Pn	08 01 44.7	+0.3
ECHE				Pg	Pg	08 01 51.7	0.0
ECHE				Sn	Sn	08 02 16.2	+1.9
ECHE				Sg	Sg	08 02 23.8	+0.3
ECHE				*i* Vmb_Lg		08 02 27.9	
CEU	Ceuta	2.63	221	P	Pn	08 01 46.1	-0.7
CEU				S	Sn	08 02 19.8	+1.2
EMIN	Mina Concepcio	2.73	268	↓Pn	Pn	08 01 49.6	-0.6
EMIN				Sg	Sb	08 02 28.1	+1.5
EMIN				*i* Vmb_Lg		08 02 32.9	
PALE	Palemas	2.73	192	P	Pn	08 01 49.7	+1.4
PALE				S	Sn	08 02 16.1	-5.1
SMIR	Smir Dam	2.80	219	P	Pn	08 01 52.0	+2.8
SMIR	Smir Dam	2.80	219	P	Pn	08 01 51.4	+2.2
SMIR				S	Sn	08 02 20.0	-2.9
GUD	Guadarrama	2.84	346	Pn	Pn	08 01 50.9	+1.1
GUD				Pg	Pb	08 01 58.3	+3.0
GUD				Sg	Sb	08 02 34.5	+4.5
GUD				*i* Vmb_Lg		08 02 35.6	
PBAR	Barrancos	3.02	276	*e*Pn	Pn	08 01 51.7	-0.5
PBAR				*e*Sn	Sn	08 02 27.5	-0.7
PBAR				*e*Sg	Sg	08 02 39.9	-1.8
PBAR				A	A	08 02 49.0	
	67nm,0.4s						
PBAR	Barrancos	3.02	276	*e*Pn	Pn	08 01 54.4	+2.2
PBAR				A	A	08 02 49.0	
	67nm,0.4s						
ETOR	Torete	3.06	17	Pn	Pn	08 01 52.9	0.0
ETOR				Pg	Pg	08 02 03.0	-0.4
ETOR				Sg	Sg	08 02 41.8	-1.2
ETOR				*i* Vmb_Lg		08 02 43.7	
EBAD	Badajoz	3.10	287	Pn	Pn	08 01 52.7	-0.5
EBAD				Sg	Sb	08 02 40.2	+2.9
TAF	Taforalt	3.15	168	P	Pn	08 01 56.0	+2.0
TAF				S	Sn	08 02 26.5	-5.0
EMOS	Mosqueruela	3.27	40	Pn	Pn	08 01 56.6	+0.8
EMOS				Sg	Sg	08 02 47.9	-1.8
EMOS				*i* Vmb_Lg		08 02 52.9	
EGRO	El Granado	3.39	265	Pn	Pn	08 01 56.6	-0.7
EGRO				Sn	Sn	08 02 36.1	-1.3
EGRO				Sg	Sb	08 02 49.8	+4.0
EGRO				*i* Vmb_Lg		08 02 53.2	
AKLM	AKL	3.42	189	P	Pn	08 01 58.1	+0.4
AKLM				S	Sn	08 02 32.3	-5.9
PESTR	Estremoz	3.56	287	*e*Pn	Pn	08 01 58.9	-0.7
PESTR	Estremoz	3.56	287	*e*Pg	Pb	08 02 09.9	+2.4
PESTR				*e*Sn	Sn	08 02 40.7	-0.9
PESTR				*e*Sg	Sg	08 02 56.1	-2.9
PESTR				A	A	08 03 01.4	
	62nm,0.6s						
PESTR	Estremoz	3.56	287	*e*Pn	Pn	08 02 00.7	+1.1
PESTR				*e*Sn	Sn	08 02 41.8	+0.2
PESTR				*e*Sg	Sg	08 02 58.3	-0.7
PESTR				A	A	08 03 01.4	
	62nm,0.6s						
PESTR	Estremoz	3.56	287	P	Pn	08 01 58.9	-0.7
PESTR	Estremoz	3.56	287	P	Pn	08 01 58.9	-0.7
PESTR				S	Sn	08 02 44.6	+3.0
PVAQ	Vaqueiros	3.59	264	*e*Pn	Pn	08 01 59.3	-0.8
PVAQ				*e*Sn	Sn	08 02 40.6	-1.8
PVAQ				*e*Sg	Sb	08 02 56.7	+5.1
PVAQ				A	A	08 03 03.2	
	42nm,0.3s						
PVAQ	Vaqueiros	3.59	264	*e*Pn	Pn	08 02 02.3	+2.2
PVAQ	Vaqueiros	3.59	264	P	Pn	08 01 59.1	-0.9
PVAQ	Vaqueiros	3.59	264	P	Pn	08 01 59.1	-0.9
PVAQ				S	Sn	08 02 41.8	-0.5
JBK	JBK	3.59	171	P	Pn	08 02 04.0	+3.7
JBK	JBK	3.59	171	P	Pn	08 02 01.9	+1.6
JBK				S	Sn	08 02 37.9	-4.7
PMRV	Marv??o	3.60	296	*e*Pn	Pn	08 01 59.7	-0.5
PMRV				*e*Sn	Sn	08 02 41.7	-0.8
PMRV				*e*Sg	Sg	08 02 58.8	-1.4
PMRV				A	A	08 03 06.9	
	51nm,0.3s						
PMRV	Marv??o	3.60	296	*e*Pn	Pn	08 02 01.4	+1.2
PMRV				*e*Sg	Sg	08 02 59.5	-0.7
PMRV				A	A	08 03 06.9	
	51nm,0.3s						
EIBI	Ibiza	3.77	71	Pn	Pn	08 02 02.2	-0.3
EIBI				Sn	Sn	08 02 44.7	-1.9
EIBI				*i* Vmb_Lg		08 02 46.4	
PCVE	Castro Verde	3.82	268	*e*Pn	Pn	08 02 02.9	-0.3
PCVE				*e*Sn	Sn	08 02 46.5	-1.4
PCVE				*e*Sg	Sb	08 03 03.4	+5.3
PCVE				A	A	08 03 10.2	
	52nm,0.5s						
PCVE	Castro Verde	3.82	268	*e*Pn	Pn	08 02 05.3	+2.1
EVO	Evora	3.82	281	P	Pn	08 02 03.5	+0.3
EVO				S	Sn	08 02 47.0	-0.9
EVO	Evora	3.82	281	*e*Pn	Pn	08 02 03.0	-0.2
EVO				*e*Sn	Sn	08 02 46.1	-1.8
EVO				*e*Sg	Sb	08 03 03.4	+5.3
EVO				A	A	08 03 09.5	
	52nm,0.3s						
EVO	Evora	3.82	281	*e*Pg	Pb	08 02 15.2	+3.3
EVO				*e*Sg	Sg	08 03 06.8	-0.5
EVO				A	A	08 03 09.5	
	52nm,0.3s						
PCBR	Castelo Branco	3.84	302	*e*Pn	Pn	08 02 03.4	-0.1
PCBR				*e*Sn	Sn	08 02 48.0	-0.5
PCBR				*e*Sg	Sg	08 03 07.8	-0.2
PCBR				A	A	08 03 18.1	
	40nm,0.4s						
PCBR	Castelo Branco	3.84	302	*e*Pn	Pn	08 02 04.7	+1.2
PCBR				*e*Sn	Sn	08 02 48.0	-0.5
PCBR				A	A	08 03 18.1	
	40nm,0.4s						
MESJ	Messejana	3.95	271	*e*P	Pn	08 02 04.1	-0.8
MESJ				*e*S	Sn	08 02 47.7	-3.4
MESJ				IAML		08 03 15.7	
	comp=N,43nm,0.6s						
MESJ	Messejana	3.95	271	*e*Pn	Pn	08 02 04.3	-0.7
MESJ				*e*Sn	Sn	08 02 49.1	-2.0
MESJ				*e*Sg	Sg	08 03 08.0	-3.5
MESJ				A	A	08 03 19.6	
	comp=N,36nm,0.7s						
MESJ	Messejana	3.95	271	*e*Pn	Pn	08 02 07.4	+2.4
MESJ				*e*Sn	Sn	08 02 52.1	+1.0
MESJ				*e*Sg	Sg	08 03 09.8	-1.6
MESJ				A	A	08 03 19.6	
	comp=N,36nm,0.7s						
PMTG	Montargil	4.09	288	*e*Pn	Pn	08 02 05.8	-1.1
PMTG				*e*Sn	Sn	08 02 52.9	-1.7
PMTG				*e*Sg	Sg	08 03 14.1	-1.9
PMTG				A	A	08 03 24.1	
	comp=N,50nm,0.5s						
PMTG	Montargil	4.09	288	*e*Pn	Pn	08 02 07.1	+0.2
ERTA	Horta de San J	4.12	41	Pn	Pn	08 02 08.3	+0.9
ERTA				*i* Vmb_Lg		08 03 24.2	
MTE	Manteigas	4.18	308	*e*Pn	Pn	08 02 09.1	+0.9
MTE	Manteigas	4.18	308	*e*Pg	Pb	08 02 22.6	+4.4
MTE				*e*Sn	Sn	08 02 57.2	+0.2
MTE				*e*Sg	Sg	08 03 17.4	-1.6
MTE				A	A	08 03 22.7	
	comp=N,44nm,0.5s						
PNCL	Nicolau / Gran	4.19	275	*e*Pn	Pn	08 02 08.7	+0.4
PNCL				*e*Sn	Sn	08 02 54.8	-2.2
PNCL				*e*Sg	Sb	08 03 12.9	+4.2
PNCL				A	A	08 03 23.2	
	comp=N,29nm,0.4s						
MORF	Marmelete	4.34	264	*e*S	Sn	08 02 56.7	-4.3
MORF				IAML		08 03 27.3	
	comp=N,76nm,0.3s						
MORF	Marmelete	4.34	264	*e*Pn	Pn	08 02 10.4	-0.1
MORF				*e*Sn	Sn	08 02 59.0	-2.0
MORF				*e*Sg	Sg	08 03 19.7	-4.5
MORF				A	A	08 03 29.0	
	comp=N,22nm,0.2s						
PTEO	Sao Teotonio	4.37	267	*e*Sn	Sn	08 03 00.7	-0.8
PTEO				*e*Sg	Sg	08 03 21.2	-3.8
PTEO				A	A	08 03 25.1	
	comp=N,33nm,0.8s						
MVO	Moncorvo	4.39	319	*e*Pn	Pn	08 02 11.3	+0.2
MVO				*e*Sn	Sn	08 03 00.3	-1.8
MVO				*e*Sg	Sg	08 03 23.2	-2.5
MVO				A	A	08 03 33.9	
	comp=N,42nm,0.4s						
PACT	Alcochete	4.49	283	*e*Pn	Pn	08 02 14.0	+1.6
PACT				*e*Sn	Sn	08 03 04.2	-0.2
PACT				*e*Sg	Sg	08 03 27.8	-1.0
PACT				A	A	08 03 36.0	
	comp=N,50nm,0.6s						
PFVI	Vila Bisbo	4.51	262	*e*Sn	Sn	08 03 02.2	-2.8
PFVI				A	A	08 03 34.5	
	comp=N,19nm,0.5s						
PFVI	Vila Bisbo	4.51	262	*e*Sn	Sn	08 03 04.5	-0.6
PFVI				A	A	08 03 34.5	
	comp=N,19nm,0.5s						
PFVI	Vila Bisbo	4.51	262	P	Pn	08 02 12.7	-0.1
PFVI				S	Sn	08 03 04.5	-0.6
PVIS	Viseu	4.58	309	*e*Pn	Pn	08 02 14.2	+0.4
PVIS				*e*Sn	Sn	08 03 06.5	-0.4
PVIS				*e*Sg	Sg	08 03 28.6	-3.2
PVIS				A	A	08 03 37.0	
	comp=N,21nm,0.8s						
PVIS	Viseu	4.58	309	*e*Pn	Pn	08 02 14.7	+0.9
PVIS				*e*Sg	Sg	08 03 31.0	-0.8
PVIS				A	A	08 03 36.9	
	comp=N,21nm,0.8s						
PCAS	Casmilo, Conde	4.63	299	*e*Pn	Pn	08 02 14.9	+0.5
PCAS				*e*Sn	Sn	08 03 07.0	-1.1
PCAS				A	A	08 03 34.6	
	comp=N,35nm,0.7s						
PCAS	Casmilo, Conde	4.63	299	*e*Sg	Sg	08 03 31.6	-1.9
PCAS				A	A	08 03 34.6	
	comp=N,35nm,0.7s						
PSBE	So Bento	4.64	292	*e*Pn	Pn	08 02 14.4	-0.1
PSBE				*e*Sn	Sn	08 03 07.0	-1.3
PSBE				*e*Sg	Sg	08 03 32.7	-1.0
PSBE				A	A	08 03 40.4	
	comp=N,39nm,0.6s						
PSBE	So Bento	4.64	292	*e*Pn	Pn	08 02 16.6	+2.1
PBRG	Braganca	4.75	326	*e*Pn	Pn	08 02 17.0	+1.0
PBRG				*e*Sg	Sg	08 03 33.0	-4.1
PBRG				A	A	08 03 49.0	
	comp=N,24nm,0.6s						
PBRG	Braganca	4.75	326	*e*Sg	Sg	08 03 34.1	-3.0
PBRG				A	A	08 03 49.0	
	comp=N,24nm,0.6s						
PMST	Lisbon--Monsan	4.75	282	*e*Sg	Sg	08 03 34.1	-3.2
PMST				A	A	08 03 50.9	
	comp=N,36nm,0.4s						
EPOB	Poblet	4.80	43	Pn	Pn	08 02 17.2	+0.5
EPOB				Sn	Sn	08 03 10.6	-1.5
EPOB				*i* Vmb_Lg		08 03 42.2	
ECAL	Calabor	4.86	327	Pn	Pn	08 02 18.5	+1.0
ECAL				Sn	Sn	08 03 13.0	-0.7
ECAL				*i* Vmb_Lg		08 03 44.1	
PMAFR	Mafra	4.87	284	*e*Pn	Pn	08 02 17.6	0.0
PMAFR				*e*Sg	Sg	08 03 37.4	-3.6
PMAFR				A	A	08 03 47.6	
	comp=N,52nm,

MTLF				*e*Sg	**Sg**	**08 04 39.6**	**-4.5**
	comp=N,3.7nm,0.5s							
CAF	**Calviac**	**8.07**	**28**	*e*Pn	**Pn**	**08 03 01.8**	**+0.2**
CAF	**Calviac**	**8.07**	**28**	*e*P	Pn	08 03 06.8	+5.2
LASF	**Ste Croix**	**8.18**	**39**	*e*Pn	**Pn**	**08 03 03.3**	**+0.3**
LASF				*e*Sg	**Pg**	**08 03 37.8**	**-3.4**
LASF				*e*Sn	**Sn**	**08 04 29.3**	**-6.0**
	comp=N,0.5nm,0.3s							
TTIG	**Tnine Tigouga,**	**8.50**	**212**	P	**Pn**	**08 03 06.3**	**-1.4**
VIVF	**Saint-Julien-l**	**9.14**	**38**	*e*Pn	**Pn**	**08 03 14.8**	**-1.5**

NEIC ***11*** *08:07:40.3±1.1,53.54N±0.06×127.3E±0.2,h10km±1km, Error ellipse: s-maj=20.2km s-min=9.1km az=76.0*
MOS ***11*** *08:07:41.5±1.1,53.57N×127.15E,h9km,mb4.4/11, MS3.3/16,Error ellipse: s-maj=10.8km s-min=6.0km az=96.5*
MOS Felt (II-III) at Zeya.
IDC ***11*** *08:07:42.1±0.6,53.49N×127.17E,h0km,mb3.7/15, mbtmp3.8/20,ML3.1/3,MS3.4/25,Error ellipse: s-maj=16.1km s-min=11.9km az=69.0*
SKHL ***11*** *08:07:43.4±0.4,53.55N×127.14E,h10km±2km,mb4.8/7, ms4.1/5,Felt (IV) at Nikolaevka, Berezovka, Ovsaynka, Sosnovy Bor, Algach, Zea; (III)at Aleksandrovka; (II-III)at Yubileyny; (I-II)at Kirovsky*
BJI ***11*** *08:07:45.6±0.0,53.17N×127.06E,h7km,mb4.4/12, mB4.3/6,ML4.7/6,Ms4.2/7,Ms7 3.9/7*
ISC 11 08:07:43.0±0.4,53.51N±0.03×127.18E±0.03,h10km,n129, c2s23/125,mb4.0/33,MS3.6/26,8C-4D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**0.23**	**10**	*c*i P	**Pg**	**08 07 48.0**	**+0.1**
ZEA				*i*		08 07 50.9	
ZEA				pmax	pmax		
	comp=Z,15μm,0.1s						
ZEA				pmax	pmax		
	comp=Z,22μm,0.7s						
ZEA				smax	smax		
	comp=N,81μm,0.4s						
ZEA				smax	smax		
	comp=E,204μm,0.4s						
ZEA				smax	smax		
	comp=N,86μm,0.5s						
ZEA				smax	smax		
	comp=E,299μm,0.7s						
ZEA	**Zeya**	**0.23**	**10**	⇑*i* Pg	**Pg**	**08 07 47.9**	**+0.1**
ZEA				AMB	AMB	08 07 48.1	
	comp=E,20μm,0.1s						
ZEA				*e*Sg	**Sg**	**08 07 50.8**	**-0.2**
ZEA				A	A	08 07 51.0	
	comp=E,87μm,0.5s						
ZEA				A	A	08 07 51.0	
	comp=E,226μm,0.5s						
KROS	**Kirovskiy**	**0.93**	**352**	⇑*i* Pg	**Pg**	**08 07 59.7**	**-1.3**
KROS				AMB	AMB	08 08 00.6	
	comp=E,2μm,0.4s						
KROS				*e*Sg	**Sg**	**08 08 11.4**	**-1.7**
TNDR	**Tynda**	**2.18**	**320**	*e*Pn	**Pn**	**08 08 19.6**	**+0.2**
TNDR				*e*rx	rx	08 08 21.0	
TNDR				P	**Pb**	**08 08 21.9**	**-0.7**
TNDR				*e*Pg	**Pg**	**08 08 22.5**	**-2.3**
TNDR				*e*rx	rx	08 08 49.6	
TNDR				*e*Sg	**Sg**	**08 08 50.8**	**-2.3**
EKMR	**Ekimchan**	**3.49**	**95**	⇓*i* Pn	**Pn**	**08 08 38.1**	**+0.8**
EKMR				P	**Pb**	**08 08 42.7**	**-2.2**
EKMR				*e*Pg	**Pg**	**08 08 47.5**	**-2.3**
EKMR				AMB	AMB	08 08 48.7	
	comp=E,68nm,0.5s						
EKMR				*e*Sn	**Sn**	**08 09 18.5**	**-0.2**
EKMR				*e*Sg	**Sb**	**08 09 32.6**	**+5.3**
EKMR				A	A	08 09 34.7	
	comp=E,782nm,0.6s						
EKMR				AMS	AMS	08 10 03.0	
	comp=E,440nm,5.0s						
EKMR				AMS	AMS	08 10 03.0	
	comp=E,500nm,5.0s						
TUP	**Tupik**	**4.37**	**285**	*e*Pn	**Pn**	**08 08 50.2**	**+0.8**
TUP				*e*Pg	**Pb**	**08 09 01.2**	**+1.4**
TUP				AMB	AMB	08 09 13.3	
	comp=E,123nm,0.3s						
TUP				*e*Sg	**Sg**	**08 09 58.5**	**-4.6**
TUP				A	A	08 10 01.2	
	comp=E,2μm,0.6s						
KLR	**Kul'dur**	**5.15**	**144**	Pn	**Pn**	**08 09 01.9**	**+1.8**
	comp=E,97nm,0.4s,baz=330,slow=14,SNR=332						
KLR				Pg	**Pb**	**08 09 17.2**	**+4.0**
	comp=E,15nm,0.3s,baz=330,slow=16,SNR=7.2						
KLR				Lg	Lg	08 10 24.3	
	comp=E,37nm,0.3s,baz=42,slow=23,SNR=15						
KLR	**Kul'dur**	**5.15**	**144**	*ce*P	**Pn**	**08 09 01.8**	**+1.6**
KLR				pmax	pmax		
	comp=Z,69nm,0.6s						
KLR	**Kul'dur**	**5.15**	**144**	⇑*i* Pn	**Pn**	**08 09 02.0**	**+1.8**
KLR				P	Pb	08 09 05.1	-8.1
KLR				*e*Pg	Pg	08 09 17.8	-3.8
KLR				*e*Sg	**Sg**	**08 10 24.3**	**-4.0**
CRS	**Chara**	**6.13**	**307**	*e*Sg	**Sg**	**08 10 53.0**	**-6.6**
HIA	**Hailar**	**6.30**	**231**		**Pn**	**08 09 14.1**	**-1.8**
HIA	**Hailar**	**6.30**	**231**	*i* P	**Pn**	**08 09 18.5**	**+2.5**
HIA				pmax	pmax		
	comp=E,6.0nm,0.2s						
HIA				MLR	MLR		
	comp=Z,152nm,8.0s						
GRNR	**Gornyy**	**6.32**	**112**	*e*P	**Pn**	**08 09 18.4**	**+2.3**
GRNR				*e*		08 10 26.7	
GRNR				pmax	pmax		
	comp=N,7.0nm,0.3s						
GRNR				pmax	pmax		
	comp=E,10.0nm,0.3s						
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
GRNR				smax	smax		
	comp=E,20nm,0.2s						
GRNR				MLR	MLR		
	comp=E,340nm,16.0s						
GRNR				MLR	MLR		
	comp=N,290nm,11.0s						
GRNR				MLR	MLR		
	comp=Z,190nm,15.0s						
GRNR	**Gornyy**	**6.32**	**112**	*e*Pn	**Pn**	**08 09 17.8**	**+1.7**
GRNR				AMB	AMB	08 09 18.6	
	comp=Z,7.0nm,0.2s						
GRNR				P	**Pn**	**08 09 20.6**	**+4.5**
GRNR				*e*rx	rx	08 10 58.3	
GRNR				*e*Sg	**Sg**	**08 11 01.2**	**-4.4**
GRNR				A	A	08 11 04.2	
	comp=Z,860nm,1.0s						
GRNR				AMS	AMS	08 11 40.0	
	comp=Z,350nm,6.0s						
GRNR				AMS	AMS	08 11 40.0	
	comp=Z,360nm,6.0s						
GRNR				AMS	AMS	08 11 40.0	
	comp=Z,430nm,6.0s						
KHBR	**Khabarovsk**	**7.08**	**132**	*e*rx	rx	08 09 57.2	
KHBR				*e*Sg	**Sg**	**08 11 24.4**	**-5.6**
KHBR				A	A	08 11 32.4	
	comp=Z,591nm,0.8s						
KHBR				AMS	AMS	08 12 47.0	
	comp=Z,260nm,5.0s						
BNX	**BinXian**	**7.78**	**179**	⇑P	Pn	08 09 44.1	+7.9
BNX				smax	smax		
	comp=N,370nm,0.9s						
BNX				smax	smax		
	comp=E,780nm,1.0s						
NKL	**Nikolayevsk**	**8.09**	**87**	*e*Pn	**Pn**	**08 09 43.1**	**+2.7**
NKL				*e*rx	rx	08 11 58.9	
YAK	**Yakutsk**	**8.65**	**8**	Pn	**Pn**	**08 09 47.0**	**-1.0**
	comp=E,28nm,0.4s,baz=194,slow=7.5,SNR=12						
YAK				Lg	Lg	08 12 01.6	
	comp=E,1.6nm,0.3s,baz=180,slow=20,SNR=13						
YAK	**Yakutsk**	**8.65**	**8**		**Pn**	**08 09 44.7**	**-3.3**
YAK	**Yakutsk**	**8.65**	**8**	*e*P	**Pn**	**08 09 46.7**	**-1.3**
YAK				*e*		08 11 17.4	
YAK				pmax	pmax		
	comp=Z,65nm,0.4s						
YAK				smax	smax		
	comp=E,46nm,0.6s						
YAK				smax	smax		
	comp=N,74nm,0.6s						
YAK	**Yakutsk**	**8.65**	**8**	P	**Pn**	**08 09 46.9**	**-1.1**
MDJ	**Mudanjiang**	**9.04**	**169**		**Pn**	**08 09 53.0**	**-0.5**
MDJ	**Mudanjiang**	**9.04**	**169**	P	**Pn**	**08 09 55.5**	**+2.0**
MDJ				smax	smax		
	comp=N,73nm,0.9s						
MDJ				smax	smax		
	comp=N,76nm,0.7s						
OKH	**Okha**	**9.38**	**83**	*de*P	Pn	08 09 51.5	-6.6
OKH				MLR	MLR		
	comp=N,400nm,5.0s						
OKH				MLR	MLR		
	comp=E,400nm,4.0s						
OKH				MLR	MLR		
	comp=Z,100nm,6.0s						
USA0B	**Ussuriysk Arra**	**9.84**	**159**	Pn	Pn	08 09 59.9	-4.5
USA0B	**Ussuriysk Arra**	**9.84**	**159**	*i* P	**Pn**	**08 10 06.1**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.84**	**159**	Pn	**Pn**	**08 10 06.0**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=349,slow=14,SNR=13						
USRK				Lg	Lg	08 12 45.2	
	comp=Z,0.4nm,0.3s,baz=342,slow=21,SNR=4.1						
	comp=Z,3.7nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.84**	**159**	Pn	**Pn**	**08 10 01.3**	**-3.1**
USRK	**Ussuriysk Ar.**	**9.84**	**159**	P	**Pn**	**08 10 06.0**	**+1.6**
TYV	**Tymovskoe**	**9.87**	**99**	*e*P	Pn	08 09 52.6	-12
TYV				pmax	pmax		
	comp=Z,200nm,3.2s						
TYV				pmax	pmax		
	comp=Z,13nm,1.3s						
GRTR	**Gornotajezhnoj**	**10.35**	**159**	*e*P	**Pn**	**08 10 13.4**	**+2.0**
GRTR				AMB	AMB	08 10 16.7	
	comp=Z,6.0nm,0.7s						
VLA	**Vladivostok**	**10.86**	**161**	*i* P	**Pn**	**08 10 21.1**	**+2.8**
VLA	**Vladivostok**	**10.86**	**161**	P	**Pn**	**08 10 21.1**	**+2.8**
MSHR	**Mys Shultsa**	**11.25**	**165**	*i* P	**Pn**	**08 10 24.8**	**+1.0**
MSHR				pmax	pmax		
	comp=Z,17nm,1.0s						
MSHR				MLR	MLR		
	comp=Z,79nm,9.0s						
YSS	**Yuzh-Sakhalins**	**11.92**	**117**	*e*P	**Pn**	**08 10 34.5**	**+1.6**
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.92**	**117**	*e*P	**Pn**	**08 10 34.5**	**+1.6**
ULN	**Ulaanbaatar**	**13.93**	**254**	*i* P	**Pn**	**08 11 02.7**	**+2.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN				MLR	MLR		
	comp=Z,198nm,10.0s						
ULN	**Ulaanbaatar**	**13.93**	**254**	*e*P	**Pn**	**08 11 02.7**	**+2.2**
MA2	**Magadan**	**14.31**	**55**	LR	LR	08 16 48.5	
	comp=Z,107nm,19.0s,baz=256,slow=38						
MA2	**Magadan**	**14.31**	**55**	*i* P	**Pn**	**08 11 07.1**	**+1.7**
MA2				pmax	pmax		
	comp=Z,59nm,1.6s						
MA2				MLR	MLR		
	comp=Z,105nm,11.0s						
MA2	**Magadan**	**14.31**	**55**	*e*P	**Pn**	**08 11 07.1**	**+1.7**
SONM	**Songino Array**	**14.33**	**255**	Pn	**Pn**	**08 11 07.1**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=58,slow=14,SNR=6.1						
SONM				Lg	Lg	08 15 11.9	
	comp=Z,1.2nm,0.3s,baz=64,slow=23,SNR=6.5						
SONM				LR	LR	08 16 44.7	
	comp=Z,130nm,18.8s,baz=48,slow=38						
	comp=Z,0.6nm,0.3s						
ZAK	**Zakamensk**	**15.05**	**268**	*e*P	**P**	**08 11 23.1**	**+2.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KSRS	**Korea Array**	**16.07**	**178**	Pn	**P**	**08 11 32.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=1.3,slow=11,SNR=7.9						
KSRS				Lg	Lg	08 16 07.0	
	comp=Z,0.2nm,0.3s,baz=2.6,slow=30,SNR=2.2						
KSRS				LR	LR	08 18 05.3	
	comp=Z,83nm,22.0s,baz=5.0,slow=39						
SEY	**Seymchan**	**16.17**	**44**	Lg	Lg	08 16 04.4	
	baz=325,slow=19						
SEY	**Seymchan**	**16.17**	**44**	*i* P	**Pn**	**08 11 31.0**	**+0.9**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SEY				MLR	MLR		
	comp=Z,226nm,18.0s						
SEY	**Seymchan**	**16.17**	**44**	*e*P	**Pn**	**08 11 31.0**	**+0.9**
PETK	**Petropavlovsk-**	**18.18**	**79**	Pn	**Pn**	**08 11 55.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=2.3						
PETK				LR	LR	08 18 29.0	
	comp=Z,65nm,21.6s,baz=283,slow=36						
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**18.22**	**2**	Pn	**Pn**	**08 11 55.0**	**-0.6**
	comp=Z,47nm,0.3s,baz=88,slow=22,SNR=6.4						
TIXI				Lg	Lg	08 17 07.1	
	comp=Z,27nm,0.3s,baz=87,slow=23,SNR=1.6						
TIXI	**Tiksi**	**18.22**	**2**	P	**Pn**	**08 11 52.5**	**-3.1**
TIXI				IAmb	IAmb	08 12 02.3	
	comp=Z,13nm,1.1s						
TIXI	**Tiksi**	**18.22**	**2**	*i* P	**P**	**08 11 55.8**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,147nm,13.0s						
TIXI	**Tiksi**	**18.22**	**2**	*e*P	**P**	**08 11 55.8**	**-0.1**
HNS	**HongShan**	**18.29**	**213**	⇑P	P	08 12 05.7	+8.9
HNS				*e*S	**S**	**08 15 28.1**	**+2.3**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HNS				LR	LR		
	comp=E,580nm,17.3s						
HNS				LR	LR		
	comp=Z,200nm,14.1s						
MJAR	**Matsushiro Arr**	**18.63**	**151**	LR	LR	08 18 42.4	
	comp=Z,54nm,20.3s,baz=348,slow=36						
LYN	**LuoYang**	**21.62**	**215**	*e*P	**P**	**08 12 38.3**	**+5.2**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN				pmax	pmax		
	comp=Z,80nm,9.4s						
LYN				LR	LR		
	comp=Z,260nm,8.2s						
LYN				LR	LR		
	comp=Z,130nm,6.5s						
LYN				LR	LR		
	comp=Z,170nm,14.2s						
NJ2	**Nanjing**	**22.27**	**199**	*e*P	**P**	**08 12 38.4**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JHJ	**Hachijo jima 2**	**22.28**	**151**	LR	LR	08 20 35.9	
	comp=Z,157nm,19.6s,baz=76,slow=35						
SSE	**Sheshan**	**22.82**	**193**	P	**P**	**08 12 44.5**	**-1.4**
SSE				S	**S**	**08 16 53.9**	**-1.1**
SSE				pmax	pmax		
	comp=Z,12nm,0.6s						
SSE				pmax	pmax		
	comp=Z,33nm,4.5s						
SSE				LR	LR		
	comp=Z,140nm,16.5s						
SSE				LR	LR		
	comp=Z,350nm,16.0s						
BILL	**Bilibino**	**23.44**	**37**	⇓*e*P	**P**	**08 12 50.7**	**-1.3**
BILL				*e*S	**S**	**08 17 09.5**	**+4.6**
BILL				pmax	pmax		
	comp=Z,14nm,0.5s						
BILL				MLR	MLR		
	comp=Z,74nm,15.0s						
NRIK	**Noril'sk**	**24.06**	**326**	P	**P**	**08 12 58.6**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=104,slow=6.0,SNR=2.2						
NRIK				Lg	Lg	08 20 13.6	
	comp=Z,0.3nm,0.3s,baz=196,slow=7.4,SNR=1.4						
NRIK				LR	LR	08 23 11.3	
	comp=Z,119nm,18.4s,baz=124,slow=39						
	comp=Z,1.7nm,0.5s						
NRIK	**Noril'sk**	**24.06**	**326**	*i* P	**P**	**08 12 56.6**	**-1.4**
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
NRIK				MLR	MLR		
	comp=Z,85nm,7.0s						
DGZ	**Jazzator, Alta**	**24.75**	**277**	*i* P	**P**	**08 13 03.5**	**-1.1**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DGZ				MLR	MLR		
	comp=Z,62nm,7.0s						
ZALV	**Zalesovo Beam**	**24.80**	**288**	P	**P**	**08 13 06.8**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=71,slow=9.6,SNR=1.7						
ZALV				Lg	Lg	08 20 41.4	
	comp=Z,0.1nm,0.3s,baz=64,slow=23,SNR=1.1						
ZALV				LR	LR	08 23 33.2	
	comp=Z,37nm,20.9s,baz=24,slow=38						
	comp=Z,0.4nm,0.3s						
ENH	**Enshi**	**26.55**	**216**	P	**P**	**08 13 18.2**	**-2.7**
JOW	**Kunigami**	**26.66**	**178**	LR	LR	08 24 58.9	
	comp=Z,52nm,18.3s,baz=284,slow=39						
SHEM	**Shemya Is, Ala**	**27.78**	**72**	LR	LR	08 24 03.3	
	comp=Z,48nm,21.2s,baz=12,slow=35						
JMZ	**Minamidaito 2**	**27.82**	**172**	P	**P**	**08 13 29.6**	**-2.7**
MK31	**Makanchi Array**	**29.13**	**275**	P	**P**	**08 13 40.3**	**-3.6**
MK31	**Makanchi Array**	**29.13**	**275**	P	**P**	**08 13 40.3**	**-3.6**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**29.13**	**275**	P	**P**	**08 13 45.3**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=60,slow=8.5,SNR=6.0						
MKAR				Lg	Lg	08 22 55.8	
	baz=95,slow=16,SNR=1.5						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**29.13**	**275**	P	**P**	**08 13 40.6**	**-3.3**
MKAR	**Makanchi Array**	**29.13**	**275**	*e*P	**P**	**08 13 45.8**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**29.13**	**275**	*e*P	**P**	**08 13 45.8**	**+1.9**
KURK	**Kurchatov**	**29.49**	**285**	P	**P**	**08 13 43.2**	**-3.7**
KURK				IAmb	IAmb	08 13 53.7	
	comp=Z,5.1nm,1.3s						
KURK	**Kurchatov**	**29.49**	**285**	*i* P	**P**	**08 13 47.3**	**+0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK				MLR	MLR		
	comp=Z,78nm,7.0s						
KURK	**Kurchatov**	**29.49**	**285**	*e*P	**P**	**08 13 47.3**	**+0.3**
KURBB	**Kurchatov Arra**	**29.59**	**284**	P	**P**	**08 13 49.1**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=70,slow=8.7,SNR=2.1						
KURBB				Lg	Lg	08 23 11.1	
	baz=68,slow=30,SNR=5.2						
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**36.05**	**274**	LR	LR	08 29 05.7	
	comp=Z,86nm,18.2s,baz=46,slow=36						
AAK	**Ala-Archa**	**36.05**	**274**	*i* P	**P**	**08 14 44.1**	**-0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.2s						
AAK				MLR	MLR		
	comp=Z,72nm,8.0s						
ARU	**Arti**	**38.02**	**303**	LR	LR	08 31 36.0	
	comp=Z,59nm,18.2s,baz=186,slow=38						
ARU	**Arti**	**38.02**	**303**	*c* i P	**P**	**08 15 00.2**	**-0.7**
ARU				S	**S**	**08 20 52.3**	**-0.5**
ARU				SS	**SnSn**	**08 23 30.7**	**-3.8**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ABKAR	**Akbulak array**	**40.77**	**292**	P	**P**	**08 15 21.0**	**-2.9**
ABKAR				IAmb	IAmb	08 15 29.8	
	comp=Z,3.1nm,0.8s						
AKTO	**Aktyubinsk**	**41.20**	**295**	LR	LR	08 33 06.4	
	comp=Z,74nm,18.5s,baz=34,slow=37						
CMAR	**Chiang Mai Arr**	**41.25**	**223**	LR	LR	08 33 55.5	
	comp=Z,62nm,19.3s,baz=45,slow=38						
PRGR	**Permogore**	**41.70**	**315**	*e*P	P	08 15 36.3	+4.9
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ILAR	**Eielson Array**	**42.03**	**40**	P	**P**	**08 15 34.5**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=288,slow=6.8,SNR=12						
ILAR				LR	LR	08 33 32.6	
	comp=Z,84nm,19.4s,baz=240,slow=37						
	comp=Z,1.2nm,0.9s						
GUMO	**Guam**	**42.22**	**154**	LR	LR	08 32 46.6	
	comp=Z,20nm,18.8s,baz=74,slow=36						
KLMR	**Klimovskoe**	**44.66**	**316**	*e*P	**P**	**08 15 54.5**	**-0.8**
KLMR						08 17 40.9	
KLMR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KLMR	**Klimovskoe**	**44.66**	**316**	*e*P	**P**	**08 15 54.5**	**-0.8**
KLMR				AMP		08 16 00.7	
	comp=Z,5.0nm,1.1s						
KLMR				PP	**PP**	**08 17 41.0**	**+1.8**
INK	**Inuvik**	**44.87**	**31**	P	**P**	**08 15 58.0**	**+1.1**
	comp=Z,3.7nm,1.2s,baz=286,slow=9.6,SNR=2.1						
	comp=Z,3.7nm,1.2s						
ARCES	**ARCESS Array B**	**44.90**	**331**	LR	LR	08 37 46.2	
	comp=Z,43nm,19.8s,baz=294,slow=40						
BELG	**Belogornoye**	**45.56**	**302**	*i* P	**P**	**08 16 01.0**	**-1.6**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BELG				MLR	MLR		
	comp=Z,17nm,17.0s						
OBN	**Obninsk**	**49.25**	**311**	⇓*e*P	**P**	**08 16 29.4**	**-1.8**
OBN				*e*S	S	08 23 48.7	+12
OBN				*e*SS	**SS**	**08 27 09.0**	**+1.5**
OBN				pmax	pmax		
	comp=Z,12nm,0.5s						
OBN				MLR	MLR		
	comp=Z,37nm,13.0s						
FINES	**FINESS Array B**	**49.60**	**322**	P	**P**	**08 16 33.8**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=44,slow=9.1,SNR=10						
	comp=Z,0.8nm,0.5s						
FINES	**FINESS Array B**	**49.60**	**322**	*e*P	**P**	**08 16 34.3**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIV	**Kislovodsk**	**53.41**	**296**	*i* P	**P**	**08 17 06.0**	**+3.3**
KIV				pmax	pmax		
	comp=Z,1.5nm,1.0s						
KIV				MLR	MLR		
	comp=Z,124nm,14.0s						
HFS	**Hagfors**	**54.88**	**326**	LR	LR	08 40 50.6	
	comp=Z,44nm,18.3s,baz=16,slow=36						
NB2	**NORSAR Subarra**	**55.02**	**328**	P	**P**	**08 17 14.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=41,slow=7.4						
NOA	**NORSAR Array B**	**55.02**	**328**	P	**P**	**08 17 13.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=39,slow=6.9,SNR=3.0						
NOA				LR	LR	08 42 26.9	
	comp=Z,23nm,20.8s,baz=40,slow=38						
	comp=Z,0.6nm,0.7s						
AKASG	**Malin Array Be**	**55.50**	**310**	P	**P**	**08 17 17.7**	**0.0**
	comp=Z,0.4nm,0.5s,baz=42,slow=8.2,SNR=4.1						
	comp=Z,0.4nm,0.5s						
AKASG	**Malin Array Be**	**55.50**	**310**	*i* P	**P**	**08 17 19.3**	**+1.6**
BURAR	**Bucovina Array**	**59.55**	**310**	P	**P**	**08 17 44.0**	**-2.4**
SFJD	**Kangerlussuaq**	**59.81**	**359**	LR	LR	08 44 06.9	
	comp=Z,63nm,18.2s,baz=28,slow=36						
MLR	**Muntele Rosu**	**60.78**	**308**	LR	LR	08 44 59.6	
	comp=Z,88nm,18.9s,baz=48,slow=37						
BR131	**Keskin Array S**	**61.18**	**299**	P	**P**	**08 17 55.1**	**-2.6**
BR131				IAmb	IAmb	08 18 04.7	
	comp=Z,4.1nm,1.2s						
BR131	**Keskin Array S**	**61.18**	**299**	P	**P**	**08 17 55.1**	**-2.6**
BR131				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BRTR	**Keskin Array B**	**61.18**	**299**	P	**P**	**08 17 54.7**	**-3.0**
BRTR	**Keskin Array B**	**61.18**	**299**	P	**P**	**08 17 54.7**	**-3.0**
DPC	**Dobruska-Polom**	**61.34**	**317**	*e*P	**P**	**08 17 59.6**	**+1.1**
DPC				*e*		08 18 04.5	
DPC	**Dobruska-Polom**	**61.34**	**317**	*e*P	**P**	**08 17 59.6**	**+1.1**
DPC				*ex*	x	08 18 04.5	
KRLC	**Kraliky**	**61.36**	**317**	*e*P	P	08 18 03.4	+4.7
KRLC	**Kraliky**	**61.36**	**317**	*e*P	P	08 18 03.4	+4.7
CLL	**Collm**	**61.91**	**320**	P	**P**	**08 17 59.5**	**-2.8**
CLL	**Collm**	**61.91**	**320**	*e*P	**P**	**08 18 02.0**	**-0.3**
CLL				*e*		08 18 07.0	
CLL	**Collm**	**61.91**	**320**	*e*P	**P**	**08 18 02.0**	**-0.3**
CLL				*es*P	**sP**	**08 18 07.0**	**+0.1**
	comp=Z,5.0nm,1.0s						
CKRC	**Cesky Krumlov**	**63.35**	**317**	*e*P	P	08 18 17.3	+5.3
KHC	**Kasperske Hory**	**63.41**	**318**	P	**P**	**08 18 10.8**	**-1.6**
KHC				IAmb	IAmb	08 18 19.6	
	comp=Z,4.2nm,1.1s						
KHC	**Kasperske H

ESDC				LR	LR	08 55 30.7		
	comp=Z,31nm,20.3s,baz=8.0,slow=37							
	comp=Z,0.4nm,0.8s							

TAP ***11*** *08:22:51.8, 24°.83N × 122°.24E, h15km, ML2.9, C*
JMA ***11*** *08:22:53.3 ± 0.1, 24°.7N ± 0°.7 × 122°.2E ± 0°.3, h38km, MV1.8/5, TAIWAN REGION*

ISC 11 08:22:51.8 ± 1.0, **24°.81N** ± 0°.03 × **122°.23E** ± 0°.02, **h14** km ± 7 km, **n58**, σ 0**s**76/101, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.27**	**277**	*i*	P		**Pg**	**08 22 58.0**	**+0.5**
	baz=267								
EGS					*e*S		**Sb**	**08 23 02.9**	**0.0**
	baz=267								
TWB1	**Santiao Chiao**	**0.29**	**312**	*i*	P		**Pg**	**08 22 58.1**	**+0.2**
	baz=308								
TWB1					S		**Sg**	**08 23 02.0**	**0.0**
	baz=308								
NTC	**Toucheng**	**0.36**	**277**	*e*	P		**Pb**	**08 23 00.3**	**+0.3**
	baz=273								
NTC					*e*S		**Sb**	**08 23 06.5**	**+0.9**
	baz=273								
TIPB	**Shuangxi**	**0.40**	**294**		P		**Pb**	**08 23 00.2**	**-0.4**
	baz=290								
TWC	**Suao**	**0.40**	**239**		P		**Pg**	**08 22 59.8**	**0.0**
	baz=238								
TWC					*e*S		**Sg**	**08 23 05.7**	**+0.4**
	baz=238								
SXI1	**Grass Mountain**	**0.42**	**311**	*i*	P		**Pb**	**08 23 01.0**	**-0.1**
	baz=307								
SXI1					S		**Sb**	**08 23 07.5**	**+0.1**
	baz=307								
ILA	**Ilan**	**0.44**	**264**	*e*	S		**Sb**	**08 23 08.2**	**+0.5**
	baz=253								
NWF	**Wu-fen Shan**	**0.48**	**303**	*e*	P		**Pn**	**08 23 03.1**	**-1.2**
	baz=299								
WFSB	**Wu-fen Shan**	**0.48**	**303**	*e*	P		**Pn**	**08 23 03.1**	**-1.1**
	baz=299								
NDS	**Dongshan**	**0.50**	**249**	*e*	P		**Pg**	**08 22 59.7**	**-1.9**
	baz=241								
TWE	**Neicheng**	**0.52**	**260**		P		**Pb**	**08 23 02.6**	**0.0**
	baz=250								
TWE					S		**Sg**	**08 23 09.2**	**+0.4**
	baz=250								
TNOU	**National Taiwa**	**0.53**	**309**		P		**Pb**	**08 23 02.8**	**-0.1**
	baz=306								
EWUT	**Wuta**	**0.55**	**228**	*e*	P		**Pg**	**08 23 01.4**	**-1.1**
	baz=221								
EWUT					*e*S		**Sg**	**08 23 08.2**	**-1.6**
	baz=221								
FUSB	**Fushanzhiwuyua**	**0.58**	**265**		P		**Pb**	**08 23 04.1**	**+0.2**
	baz=263								
FUSB					*e*S		**Sg**	**08 23 11.6**	**+0.6**
	baz=263								
ENA	**Nanau**	**0.58**	**229**	*e*	P		**Pg**	**08 23 03.2**	**0.0**
	baz=221								
ENA					*e*S		**Sg**	**08 23 10.3**	**-0.7**
	baz=221								
TWA	**Mucha**	**0.61**	**286**	*e*	P		**Pn**	**08 23 05.4**	**-0.6**
	baz=284								
TWA					*e*S		**Sb**	**08 23 13.7**	**+1.1**
	baz=284								
ENTT	**Nioudou**	**0.62**	**254**	*e*	P		**Pb**	**08 23 04.7**	**+0.2**
	baz=253								
ENTT					*e*S		**Sg**	**08 23 11.9**	**-0.4**
	baz=253								
NDT	**Datong Townshi**	**0.68**	**252**	*e*	P		**Pg**	**08 23 05.2**	**+0.1**
	baz=251								
NDT					*e*S		**Sb**	**08 23 15.1**	**+0.3**
	baz=251								
YM01	**YM01**	**0.68**	**299**		P		**Pn**	**08 23 06.3**	**-0.7**
	baz=296								
YM01					*e*S		**Sn**	**08 23 16.0**	**-1.5**
	baz=296								
YM08	**YM08**	**0.69**	**303**	*e*	P		**Pb**	**08 23 05.8**	**+0.2**
	baz=301								
LATG	**Datong**	**0.69**	**247**	*e*	P		**Pg**	**08 23 05.5**	**+0.1**
	baz=246								
LATG					*e*S		**Sg**	**08 23 14.5**	**0.0**
	baz=246								
TWY	**Chenhua**	**0.73**	**309**	*e*	P		**Pn**	**08 23 07.0**	**-0.8**
	baz=306								
TWY					*e*S		**Sb**	**08 23 16.8**	**+0.6**
	baz=306								
JYNG	**Yonaguni jima**	**0.75**	**119**		P		**Pb**	**08 23 06.8**	**+0.2**
JYNG					*e*S		**Sb**	**08 23 17.5**	**+0.8**
YHNB	**Yeheng**	**0.79**	**260**	*e*	P		**Pg**	**08 23 07.3**	**+0.2**
	baz=259								
YHNB					*e*S		**Sg**	**08 23 17.9**	**+0.4**
	baz=259								
YOJ	**Yonaguni jima**	**0.80**	**116**	*i*	P		**Pb**	**08 23 07.7**	**+0.3**
	baz=118								
YOJ				*i*	S		**Sb**	**08 23 18.2**	**+0.2**
	baz=118								
YOJ	**Yonaguni jima**	**0.80**	**116**	*e*	P		**Pn**	**08 23 07.9**	**-0.7**
YOJ					*e*S		**Sb**	**08 23 17.9**	**-0.1**
NSK	**Sanguang**	**0.80**	**260**	*e*	P		**Pg**	**08 23 06.5**	**-0.9**
	baz=259								
NSK					*e*S		**Sg**	**08 23 16.0**	**-1.9**
	baz=259								
ETL	**Fush Village**	**0.85**	**220**	*e*	P		**Pb**	**08 23 08.1**	**-0.2**
	baz=222								
ETL					*e*S		**Sb**	**08 23 19.6**	**-0.1**
	baz=222								
NACB	**Ninganchiao**	**0.86**	**222**	*e*	P		**Pb**	**08 23 08.1**	**-0.4**
	baz=224								
NACB					*e*S		**Sb**	**08 23 19.1**	**-0.7**
	baz=224								
NNSB	**Datong**	**0.86**	**244**	*e*	P		**Pb**	**08 23 08.3**	**-0.2**
	baz=234								
NNSB					*e*S		**Sb**	**08 23 19.6**	**-0.3**
	baz=234								
NNSH	**Datong**	**0.86**	**244**	*e*	P		**Pb**	**08 23 08.4**	**-0.1**
	baz=236								
NNSH					*e*S		**Sb**	**08 23 19.8**	**-0.1**
	baz=236								
NNS	**Nan Shan**	**0.86**	**245**	*e*	P		**Pb**	**08 23 07.5**	**-1.1**
	baz=236								
NNS					*e*S		**Sb**	**08 23 18.4**	**-1.6**
	baz=236								
ETLH	**Xiulin Townshi**	**0.91**	**228**	*e*	P		**Pb**	**08 23 09.5**	**+0.1**
	baz=220								
ETLH					*e*S		**Sb**	**08 23 20.4**	**-1.0**
	baz=220								
TWD	**Chiawan**	**0.93**	**218**	*e*	P		**Pb**	**08 23 09.5**	**-0.2**
	baz=228								
TWD					*e*S		**Sb**	**08 23 21.2**	**-0.7**
	baz=228								
NFF	**Wufeng Townshi**	**1.02**	**260**	*e*	P		**Pb**	**08 23 11.4**	**+0.1**
	baz=265								
NFF					*e*S		**Sb**	**08 23 25.1**	**+0.4**
	baz=265								
FUSS	**Fushou**	**1.06**	**238**	*e*	P		**Pg**	**08 23 12.7**	**+0.5**
	baz=239								
FUSS					*e*S		**Sn**	**08 23 27.4**	**+0.3**
	baz=239								
ETM	**Tongmen**	**1.08**	**219**	*e*	P		**Pb**	**08 23 12.3**	**+0.1**
	baz=227								
ETM					*e*S		**Sb**	**08 23 26.9**	**+0.8**
	baz=227								
WHF	**Hehuan Shan**	**1.10**	**233**	*e*	P		**Pb**	**08 23 13.1**	**+0.3**
	baz=234								
WHF					*e*S		**Sb**	**08 23 27.4**	**+0.2**
	baz=234								
TWT	**Tachien**	**1.11**	**240**	*e*	P		**Pg**	**08 23 13.8**	**+0.6**
	baz=232								
TWT					*e*S		**Sb**	**08 23 27.5**	**+0.4**
	baz=232								
LIOB	**Emei**	**1.11**	**262**	*e*	P		**Pg**	**08 23 15.1**	**+1.8**
	baz=279								
TDCB	**Techi**	**1.12**	**240**	*e*	P		**Pg**	**08 23 14.7**	**+1.2**
	baz=232								
TDCB					*e*S		**Sn**	**08 23 29.3**	**+0.8**
	baz=232								
NSTT	**Nanjuang**	**1.13**	**261**	*e*	P		**Pg**	**08 23 15.0**	**+1.4**
	baz=260								
NSTT					*e*S		**Sg**	**08 23 30.3**	**+2.0**
	baz=260								
CHGB	**Renai**	**1.22**	**232**	*e*	P		**Pb**	**08 23 15.0**	**+0.3**
	baz=234								
CHGB					*e*S		**Sn**	**08 23 31.1**	**+0.1**
	baz=234								
ESL	**Shilin**	**1.23**	**216**	*e*	P		**Pg**	**08 23 15.6**	**+0.1**
	baz=224								
ESL					*e*S		**Sg**	**08 23 32.5**	**+0.9**
	baz=224								
WHP	**Taichung City**	**1.28**	**246**	*e*	P		**Pg**	**08 23 16.8**	**+0.3**
	baz=246								
WHP					*e*S		**Sb**	**08 23 32.4**	**+0.3**
	baz=246								
OWD	**Renai**	**1.28**	**228**	*e*	P		**Pb**	**08 23 16.4**	**+0.6**
	baz=230								
OWD					*e*S		**Sn**	**08 23 32.8**	**+0.3**
	baz=230								
WUSB	**Renai**	**1.30**	**231**	*e*	P		**Pg**	**08 23 16.8**	**0.0**
	baz=233								
WUSB					*e*S		**Sn**	**08 23 33.3**	**+0.4**
	baz=233								
WCS	**Beigang Elemen**	**1.41**	**238**	*e*	P		**Pb**	**08 23 18.3**	**+0.3**
	baz=231								
VWDT	**VWDT**	**1.45**	**223**	*e*	P		**Pb**	**08 23 19.2**	**+0.7**
	baz=226								
VWDT					*e*S		**Sg**	**08 23 39.7**	**+1.3**
	baz=226								
HGSD	**Ruisui**	**1.50**	**209**	*e*	P		**Pb**	**08 23 19.9**	**+0.4**
	baz=199								
SMLT	**Sun Moon Lake**	**1.52**	**233**	*e*	P		**Pg**	**08 23 20.8**	**-0.3**
	baz=223								
TYC	**Yuchr**	**1.54**	**234**	*e*	P		**Pg**	**08 23 21.1**	**-0.3**
	baz=236								
TYC					*e*S		**Sg**	**08 23 41.8**	**+0.3**
	baz=236								
SSLB	**Suanglung**	**1.54**	**229**	*e*	P		**Pb**	**08 23 21.1**	**+0.8**
	baz=238								
SSLB					*e*S		**Sg**	**08 23 41.5**	**-0.1**
	baz=238								
YULB	**Yu-li**	**1.65**	**211**	*e*	P		**Pb**	**08 23 21.7**	**-0.3**
	baz=214								
YUS	**Yu-Shan**	**1.76**	**222**	*e*	P		**Pb**	**08 23 24.7**	**+0.5**
	baz=224								
ALS	**Alishan**	**1.83**	**225**	*e*	P		**Pg**	**08 23 27.1**	**0.0**
	baz=209								
TPUB	**Ta-pu**	**2.10**	**224**	*e*	P		**Pb**	**08 23 30.6**	**+0.9**
	baz=210								
STYH	**Taoyuan**	**2.10**	**219**	*e*	P		**Pb**	**08 23 30.6**	**+0.8**
	baz=221								
STYH					*e*S		**Sb**	**08 23 57.8**	**+2.0**
	baz=221								

IDC ***11*** *08:35:16.0 ± 2.4, 31°.22S × 68°.31W, h86km ± 20km, mb3.5/5, mbtmp3.8/10, MS3.2/1, Error ellipse: s-maj=28.2km s-min=23.0km az=69.0*

ISC 11 08:35:15.9 ± 0.7, **31°.13S** ± 0°.05 × **68°.28W** ± 0°.07, **h80** km ± 7 km, **n30**, σ 1**s**76/44, **mb3.6**/4, **8C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**2.37**	**293**	⇑*i*	P		**Pn**	**08 35 56.1**	**+3.1**
GO04				*i*	S		**Sn**	**08 36 24.4**	**+3.0**
VA03	**San Esteban**	**2.53**	**229**	⇑*i*	P		**Pn**	**08 35 57.5**	**+2.5**
VA03				*i*	S		**Sn**	**08 36 27.8**	**+2.9**
VA03					IAML			08 36 29.2	
	comp=N,2μm,0.6s								
CO05	**La Serena**	**2.83**	**294**	*e*	P		**Pn**	**08 36 00.7**	**+1.9**
PEL	**Peldehue**	**2.87**	**225**	⇑*i*	P		**Pn**	**08 36 01.0**	**+1.6**
PEL				*i*	S		**Sn**	**08 36 34.0**	**+1.0**
CO06	**Fray Jorge**	**2.92**	**278**	⇑*i*	P		**Pn**	**08 36 00.9**	**+0.7**
CO06				*i*	S		**Sn**	**08 36 31.8**	**-2.5**
VA06	**Catapilco**	**2.94**	**240**	*e*	P		**Pn**	**08 36 00.8**	**+0.4**
VA06				*i*	S		**Sn**	**08 36 32.6**	**-2.1**
ROCH	**El Roble**	**2.96**	**231**	*e*	P			08 36 02.3	
ROCH				*e*	P		**Pn**	**08 36 02.3**	**+1.3**
ROCH				*i*	S		**Sn**	**08 36 35.3**	**-0.3**
ROCH				*i*	S			08 36 36.0	
ROCH					IAML			08 36 37.7	
	comp=N,934nm,0.2s								
ROCH					IAML			08 36 38.5	
	comp=N,1μm,0.4s								
MT03	**Universidad Ad**	**3.02**	**218**	⇑*i*	P		**Pn**	**08 36 03.7**	**+2.0**
MT03				*i*	S		**Sn**	**08 36 39.8**	**+2.9**
MT03					IAML			08 36 46.6	
	comp=E,941nm,0.3s								
LMEL	**Las Melosas**	**3.16**	**210**	⇑*i*	P		**Pn**	**08 36 06.0**	**+2.4**
LMEL				*i*	S		**Sn**	**08 36 44.4**	**+4.0**
LMEL					IAML			08 36 52.6	
	comp=N,393nm,0.1s								
MT02	**Curacav**	**3.23**	**228**	*i*	P		**Pn**	**08 36 04.8**	**+0.5**
MT02				*i*	S		**Sn**	**08 36 40.5**	**-1.2**
MT02					IAML			08 36 46.1	
	comp=E,195nm,0.6s								
MT09	**Talagante**	**3.50**	**220**	⇑*i*	P		**Pn**	**08 36 08.7**	**+0.6**
MT09				*i*	S		**Sn**	**08 36 48.0**	**-0.4**
MT09					IAML			08 36 50.2	
	comp=N,786nm,0.5s								
MT01	**Popeta**	**3.71**	**222**	⇑*i*	P		**Pn**	**08 36 10.7**	**-0.2**
MT01				*i*	S		**Sn**	**08 36 51.3**	**-2.2**
VA05	**Santo Domingo**	**3.79**	**227**	*e*	P		**Pn**	**08 36 11.6**	**-0.3**
VA05				*i*	S		**Sn**	**08 36 52.0**	**-3.3**
LVC	**Limon Verde**	**8.50**	**356**	*e*	P		**Pn**	**08 37 18.1**	**+1.5**
	comp=N,14nm,0.3s,baz=174,slow=10,SNR=46								
LVC					S		**Sn**	**08 38 49.6**	**-1.5**
	comp=N,4.7nm,0.4s,baz=120,slow=20,SNR=2.3								
PLCA	**Paso Flores**	**9.76**	**190**		P		**Pn**	**08 37 32.2**	**-1.2**
	comp=N,0.8nm,0.3s,baz=1.8,slow=12,SNR=18								
CPUP	**Villa Florida**	**10.73**	**66**		P		**Pn**	**08 37 47.5**	**+0.8**
	comp=N,1.3nm,0.9s,baz=246,slow=12,SNR=2.9								
LPAZ	**La Paz**	**14.77**	**1**		P		**Pn**	**08 38 43.0**	**+1.8**
	comp=N,1.4nm,0.5s,baz=190,slow=6.6,SNR=9.1								
SIV	**San Ignacio**	**16.44**	**25**		P		**Pn**	**08 39 01.8**	**0.0**
	comp=N,0.4nm,0.4s,baz=204,slow=13,SNR=6.2								
NNA	**Nana**	**20.63**	**336**		P		**P**	**08 39 49.1**	**+0.2**
	comp=N,4.3nm,0.4s,baz=135,slow=1.4,SNR=1.8								
	comp=N,4.3nm,0.4s								
MDP	**Montagnes des**	**39.00**	**25**	LR		LR		08 59 33.0	
	comp=N,36nm,19.9s,baz=188,slow=37								
VNA3	**Neumayer Olymp**	**50.86**	**159**		P		**P**	**08 44 07.9**	**-0.2**
VNA2	**Neumayer--Watz**	**51.47**	**158**		P		**P**	**08 44 12.4**	**-0.2**
	baz=286,slow=8.4								
SNAA	**Sanae**	**53.08**	**159**		P		**P**	**08 44 24.2**	**-0.4**
TROLL	**Troll, Antarti**	**54.79**	**159**		P		**P**	**08 44 37.0**	**-0.2**
TXAR	**Lajitas Array**	**68.92**	**327**		P		**P**	**08 46 12.2**	**-0.1**
	comp=N,0.7nm,0.6s,baz=151,slow=7.4,SNR=9.9								
	comp=N,0.7nm,0.6s								
TORD	**Torodi Ar. Bea**	**80.22**	**68**		P		**P**	**08 47 17.7**	**-0.3**
	comp=N,1.2nm,0.6s,baz=234,slow=4.8,SNR=7.8								
TORD					pP		**sP**	**08 47 46.0**	**-2.6**
	comp=N,1.0nm,0.7s,baz=250,slow=4.3,SNR=4.1								
	comp=N,1.2nm,0.6s								
PDAR	**Pinedale Array**	**82.73**	**331**		P		**P**	**08 47 30.4**	**-0.5**
	comp=N,0.4nm,0.7s,baz=134,slow=6.4,SNR=5.5								
	comp=N,0.4nm,0.7s								
NVAR	**Mina Array Bea**	**83.44**	**323**		P		**P**	**08 47 34.7**	**0.0**
	comp=N,0.4nm,0.8s,baz=156,slow=6.8,SNR=2.5								
	comp=N,0.4nm,0.8s								
ZALV	**Zalesovo Beam**	**150.11**	**32**		PKPbc		**PKPbc**	**08 54 55.9**	**-0.9**
	comp=N,2.1nm,0.6s,baz=301,slow=3.5,SNR=8.2								
MKAR	**Makanchi Array**	**152.49**	**47**		PKPbc		**PKPbc**	**08 55 01.9**	**-0.8**
	comp=N,0.7nm,0.7s,baz=296,slow=1.4,SNR=5.7								
MKAR					PKPab		**PKPab**	**08 55 13.3**	**0.0**
	comp=N,0.6nm,0.5s,baz=287,slow=2.5,SNR=7.1								

IDC ***11*** *08:37:17.2 ± 1.8, 5°.84S × 130°.04E, h186km ± 18km, mb3.7/9, mbtmp4.2/14, MS3.8/1, Error ellipse: s-maj=23.3km s-min=10.2km az=90.0*
DJA ***11*** *08:37:18.0 ± 0.4, 6°.3S × 13°.0E ± °, h203km ± 6km, M4.4/11, mb4.3/6, mB5.0/6, MLv4.5/11, Mw(mB)4.4/6*
NEIC ***11*** *08:37:18.1 ± 1.7, 5°.88S ± 0°.06 × 130°.1E ± 0°.1, h194km ± 9km, mb4.1/7, Error ellipse: s-maj=16.4km s-min=9.2km az=91.0*

ISC 11 08:37:17.9 ± 0.5, **5°.89S** ± 0°.04 × **130°.11E** ± 0°.06, **h200** km, **n48**, σ 1**s**56/55, **mb3.8**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.37**	**351**		P		**Pn**	**08 37 51.9**	**+1.4**
BNDI					S		**Sn**	**08 38 17.3**	**+1.4**
SAUI	**Saumlaki**	**2.39**	**150**		Pn		**Pn**	**08 38 00.6**	**0.0**
SAUI					Sn		**Sn**	**08 38 34.3**	**+0.3**
SAUI	**Saumlaki**	**2.39**	**150**		P		**Pn**	**08 38 02.5**	**+1.9**
MSAI	**Masohi**	**2.79**	**335**		P		**Pn**	**08 38 05.2**	**+0.2**
MSAI					S		**Sn**	**08 38 39.0**	**-2.9**
FAKI	**Fak Fak**	**3.64**	**36**				**Pn**	**08 38 15.3**	**0.0**
FAKI						Sn	**Sn**	**08 38 57.4**	**-2.8**
FAKI	**Fak Fak**	**3.64**	**36**		P		**Pn**	**08 38 15.5**	**+0.3**
FAKI					S		**Sn**	**08 38 58.0**	**-2.3**
NLAI	**Namlea**	**3.99**	**311**		P		**Pn**	**08 38 22.1**	**+2.6**
SIJI	**Sorong**	**5.12**	**13**		P		**Pn**	**08 38 33.5**	**-0.4**
	16nm,0.2s,baz=237,slow=15,SNR=54								
SIJI					S		Sn	08 39 22.9	-11
	15nm,0.2s,baz=199,slow=9.2,SNR=5.9								
SWI	**Sorong**	**5.12**	**13**		P		**Pn**	**08 38 32.1**	**-1.8**
SANI	**Sanana**	**5.61**	**313**		P		**Pn**	**08 38 40.5**	**+0.4**
	0.1nm769nm37nm,0.8s								
RKPI	**Ransiki, Papua**	**5.95**	**43**		P		**Pn**	**08 38 45.0**	**+0.5**
	1.1nm6μm131nm,0.7s								
SOEI	**Soe**	**6.95**	**236**		Pn		**Pn**	**08 38 57.4**	**-0.2**
MTN	**Manton Dam**	**6.99**	**172**				**Pn**	**08 38 58.0**	**0.0**
MTN	**Manton Dam**	**6.99**	**172**		P		**Pn**	**08 38 58.1**	**+0.2**
BATI	**Baumata**	**7.69**	**236**		P		**Pn**	**08 39 06.7**	**-0.4**
	27nm,0.3s,baz=105,slow=19,SNR=3.0								
BATI					S		**Sn**	**08 40 31.1**	**-3.0**
	39nm,0.5s,baz=168,slow=20,SNR=1.8								
KNRA	**Kununurra**	**9.82**	**188**				**Pn**	**08 39 34.1**	**-0.7**
KNRA	**Kununurra**	**9.82**	**188**		P		**Pn**	**08 39 33.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**12.90**	**199**		P		**Pn**	**08 40 13.8**	**-0.4**
	1.9nm,0.3s,baz=37,slow=9.6,SNR=37								
FITZ					S		S	08 42 25.8	-12
	5.1nm,0.3s,baz=75,slow=18,SNR=6.2								
FITZ	**Fitzroy Crossi**	**12.90**	**199**				**Pn**	**08 40 13.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.90**	**199**		P		**Pn**	**08 40 14.2**	**+0.1**
WB0	**Warramunga Arr**	**14.41**	**164**				**Pn**	**08 40 32.5**	**-0.4**
WRAB	**Tennant Creek**	**14.56**	**164**		Pn		**Pn**	**08 40 34.3**	**-0.5**
WRA	**Warramunga Arr**	**14.56**	**164**		P		**Pn**	**08 40 34.1**	**-0.7**
	1.0nm,0.3s,baz=340,slow=13,SNR=29								
WRA					S		**S**	**08 43 10.6**	**-6.3**
	3.1nm,0.5s,baz=343,slow=23,SNR=6.0								
WRA	**Warramunga Arr**	**14.56**	**164**				**Pn**	**08 40 32.8**	**-2.0**
WB2	**Warramunga Arr**	**14.57**	**164**				**Pn**	**08 40 34.4**	**-0.5**
WR0	**Warramunga Arr**	**14.64**	**163**		Pn		**Pn**	**08 40 35.1**	**-0.6**
COEN	**Coen**	**15.16**	**123**				**P**	**08 40 42.2**	**-0.4**
COEN						IAmb	IAmb	08 40 44.9	
	comp=Z,7.1nm,0.8s								
QIS	**Mount Isa**	**17.25**	**149**		P		**Pn**	**08 41 07.8**	**+0.6**
AS31	**Alice Springs**	**18.05**	**169**		P		**Pn**	**08 41 16.2**	**-0.4**
ASAR	**Alice Springs**	**18.05**	**169**		P		**Pn**	**08 41 16.1**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=345,slow=9.3,SNR=42								
ASAR					S		**S**	**08 44 34.2**	**+3.2**
	comp=Z,1.0nm,0.8s,baz=357,slow=28,SNR=6.4								
MBWA	**Marble Bar**	**18.21**	**213**		P		**P**	**08 41 16.2**	**+0.2**
PSA00	**Pilbara Seismi**	**18.49**	**212**		P		**P**	**08 41 19.3**	**+0.2**
PSA00					IAmb		IAmb	08 41 20.9	
	comp=Z,5.0nm,1.3s								
PSA00	**Pilbara Seismi**	**18.49**	**212**		P		**P**	**08 41 19.7**	**+0.6**
PSA00					IAmb		IAmb	08 41 20.8	
	comp=Z,9.2nm,0.7s								
WRKA	**Warakurna**	**19.12**	**185**		P		**Pn**	**08 41 27.6**	**-1.6**
OOD	**Oodnadatta**	**22.42**	**167**		P		**P**	**08 42 02.1**	**+2.1**
MULG	**Mulgathing**	**24.55**	**172**		P		**P**	**08 42 22.3**	**+3.0**
EIDS	**Eidsvold**	**27.90**	**136**		P		**P**	**08 42 50.2**	**+0.8**
EIDS						IAmb	IAmb	08 42 58.4	
	comp=Z,7.3nm,1.3s								
PSI	**Prapat**	**32.32**	**285**		LR		LR	08 57 51.1	
	comp=Z,158nm,18.3s,baz=222,slow=38								
MJAR	**Matsushiro Arr**	**42.88**	**10**		P		**P**	**08 44 55.8**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=177,slow=9.6,SNR=5.0								
	comp=Z,1.4nm,0.8s								
KSRS	**Korea Array**	**43.16**	**357**		P		**P**	**08 44 59.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=176,slow=10,SNR=2.2								
	comp=Z,0.4nm,0.4s								
USRK	**Ussuriysk Ar.**	**49.88**	**2**		P		**P**	**08 45 51.5**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=189,slow=7.5,SNR=5.5								
	comp=Z,1.6nm,0.5s								
SONM	**Songino Array**	**57.43**	**341**		P		**P**	**08 46 46.0**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=158,slow=6.3,SNR=3.5								
	comp=Z,0.6nm,0.4s								
PETK	**Petropavlovsk-**	**63.24**	**18**		P		**P**	**08 47 24.6**	**-0.2**
	comp=Z,3.9nm,1.0s,baz=203,slow=9.7,SNR=4.4								
	comp=Z,3.9nm,1.0s								
MKAR	**Makanchi Array**	**67.36**	**327**		P		**P**	**08 47 52.6**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=121,slow=8.3,SNR=17								
	comp=Z,2.1nm,0.6s								
ZALV	**Zalesovo Beam**	**70.64**	**334**		P		**P**	**08 48 11.1**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=127,slow=4.3,SNR=2.8								
	comp=Z,0.8nm,0.4s								
SEY	**Seymchan**	**70.70**	**11**		P		**P**	**08 48 12.4**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=259,slow=10,SNR=6.7								
	comp=Z,3.0nm,0.6s								
TIXI	**Tiksi**	**77.39**	**360**		P		**P**	**08 48 50.3**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=90,slow=20,SNR=2.7								
	comp=Z,2.9nm,0.5s								
QSPA	**South Pole Qui**	**84.08**	**180**		P		**P**	**08 49 26.4**	**+0.4**
QSPA						IAmb	IAmb	08 49 36.1	
	comp=Z,1.9nm,1.2s								

TRN ***11*** *08:50:37.2, 10°.44N × 62°.37W, h2km, MD4.1*
FUNV ***11*** *08:50:37.7, 10°.17N × 62°.24W, h5km, MW3.9*

ISC 11 08:50:36.9 ± 1.8, **10

LNSS					AML	AML		
	comp=E,866μm,0.2s							
LNSS					AML	AML		
	comp=N,412μm,0.7s							
LNSS					AML	AML		
	comp=E,866μm,0.2s							
LNSS					AML	AML		
	comp=N,412μm,0.7s							
T1246	**Crognaleto (TE**	**0.18**	**79**	P	Pg	08 58 22.1	+0.5	
T1246				S	Sg	08 58 25.3	+0.9	
T1243	**Rocca Santa Ma**	**0.21**	**45**	P	Pg	08 58 22.6	+0.5	
T1243				S	Sg	08 58 26.0	+0.9	
TERO	**Teramo**	**0.27**	**74**	P	Pg	08 58 23.7	+0.5	
TERO				AML	AML			
	comp=E,116μm,1.5s							
TERO				AML	AML			
	comp=N,165μm,0.1s							
MC2	**Monte Cornacci**	**0.37**	**353**	P	Pg	08 58 23.9	-1.1	
T1215	**Vallo di Nera,**	**0.38**	**312**	P	Pg	08 58 25.6	+0.4	
T1215				S	Sb	08 58 31.5	-0.9	

*THE **11** 09:00:01.6,37°.34N×20°.60E,h0km±1km,ML2.8/18,Error ellipse: s-maj=2.4km s-min=0.7km az=226.0*
*ATH **11** 09:00:02.3,37°.38N×20°.63E,h9km±2km,ML2.8/3,Error ellipse: s-maj=3.1km s-min=1.3km az=50.0*
ISC 11 08:59:59.5±1.8,37°.27N±0°.05×20°.54E±0°.06,h1km±11km, n40,σ0s53/61,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.50**	**28**	P	**Pg**	**09 00 09.6**	**+0.5**
LTHK				S	**Sg**	**09 00 15.2**	**-0.4**
	2μm,0.2s						
LTHK	**Lithakia**	**0.50**	**28**	P	**Pg**	**09 00 09.5**	**+0.4**
LTHK				S	**Sg**	**09 00 14.6**	**-1.1**
LTHK				AML	AML	09 00 15.1	
	comp=E,3476μm,0.4s						
LTHK				AML	AML	09 00 15.3	
	comp=N,5322μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.85**	**2**	P	**Pg**	**09 00 16.2**	**+0.4**
PSDA				S	**Sg**	**09 00 27.6**	**+0.8**
	comp=N,138nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.85**	**2**	P	**Pg**	**09 00 16.1**	**+0.4**
VLS	**Valsamata**	**0.91**	**2**	P	**Pg**	**09 00 17.1**	**+0.1**
VLS				S	**Sg**	**09 00 29.3**	**+0.5**
	comp=N,602nm,0.1s						
VLS	**Valsamata**	**0.91**	**2**	P	**Pg**	**09 00 17.1**	**+0.1**
VLS				S	**Sg**	**09 00 28.2**	**-0.6**
VLS				AML	AML	09 00 32.9	
	comp=E,1766μm,0.4s						
VLS				AML	AML	09 00 35.5	
	comp=N,1245μm,0.4s						
KEF3	**Kipouria, Keph**	**0.95**	**351**	P	**Pb**	**09 00 19.0**	**+0.3**
KEF3				S	**Sb**	**09 00 31.4**	**-0.4**
	comp=N,2μm,0.4s						
KEF3	**Kipouria, Keph**	**0.95**	**351**	P	**Pb**	**09 00 18.7**	**0.0**
DMLN	**Damoulianata-K**	**0.98**	**352**	P	**Pb**	**09 00 19.1**	**-0.2**
DMLN				S	**Sb**	**09 00 32.1**	**-0.6**
	comp=N,1μm,0.5s						
KEF4	**Livadi, Kephal**	**1.00**	**355**	P	**Pn**	**09 00 20.0**	**-0.6**
KEF4				S	**Sb**	**09 00 33.5**	**+0.4**
	comp=N,4μm,0.4s						
KEF4	**Livadi, Kephal**	**1.00**	**355**	P	**Pb**	**09 00 19.8**	**+0.3**
PYL	**PYLOS**	**1.03**	**111**	P	**Pn**	**09 00 21.1**	**+0.1**
PYL				S	**Sn**	**09 00 36.0**	**-0.1**
PYL	**PYLOS**	**1.03**	**111**	P	**Pn**	**09 00 21.1**	**+0.1**
RLS	**Riolos of Patr**	**1.08**	**43**	P	**Pg**	**09 00 19.9**	**-0.3**
RLS	**Riolos of Patr**	**1.08**	**43**	P	**Pg**	**09 00 19.8**	**-0.3**
ITM	**Ithomi**	**1.11**	**94**	P	**Pb**	**09 00 22.0**	**+0.5**
ITM				S	**Sn**	**09 00 38.3**	**+0.2**
	comp=N,318nm,0.6s						
ITM	**Ithomi**	**1.11**	**94**	P	**Pb**	**09 00 21.9**	**+0.5**
DRO	**Drossia**	**1.16**	**53**	P	**Pg**	**09 00 21.6**	**0.0**
DRO				S	**Sg**	**09 00 37.2**	**+0.6**
	comp=N,688nm,0.5s						
DRO	**Drossia**	**1.16**	**53**	P	**Pg**	**09 00 21.6**	**0.0**
DRO				AML	AML	09 00 47.8	
	comp=N,1166μm,0.5s						
DRO				AML	AML	09 00 49.4	
	comp=E,1571μm,0.6s						
FSK	**Fiskardo**	**1.19**	**1**	P	**Pb**	**09 00 22.8**	**-0.1**
FSK				S	**Sn**	**09 00 39.4**	**-0.7**
	comp=E,675nm,0.6s						
FSK	**Fiskardo**	**1.19**	**1**	P	**Pb**	**09 00 22.8**	**-0.1**
EVGI	**Lefkada island**	**1.36**	**4**	P	**Pg**	**09 00 24.8**	**-0.7**
EVGI				S	**Sn**	**09 00 43.8**	**-0.4**
	comp=E,518nm,0.3s						
EVGI	**Lefkada island**	**1.36**	**4**	P	**Pg**	**09 00 24.8**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.42**	**1**	P	**Pn**	**09 00 26.1**	**-0.3**
DRAG				S	**Sn**	**09 00 47.1**	**+1.4**
	comp=E,4μm,0.3s						
NYDR	**Nydri-Lefkada**	**1.45**	**5**	P	**Pn**	**09 00 26.7**	**-0.1**
NYDR				S	**Sn**	**09 00 46.7**	**+0.2**
	comp=E,222nm,0.6s						
KLV	**Kalavryta, Ach**	**1.50**	**58**	P	**Pn**	**09 00 27.3**	**-0.2**
KLV				S	**Sn**	**09 00 48.2**	**+0.5**
	comp=E,125nm,0.5s						
KLV	**Kalavryta, Ach**	**1.50**	**58**	P	**Pn**	**09 00 27.2**	**-0.2**
LAKA	**Lakka**	**1.50**	**49**	P	**Pn**	**09 00 27.5**	**0.0**
LKD2	**Lefkada island**	**1.52**	**3**	P	**Pn**	**09 00 27.7**	**-0.2**
LKD2				S	**Sn**	**09 00 49.5**	**+1.1**
	comp=E,548nm,0.5s						
LKD2	**Lefkada island**	**1.52**	**3**	P	**Pn**	**09 00 27.5**	**-0.4**
PVO	**Paravola**	**1.56**	**30**	P	**Pn**	**09 00 28.5**	**+0.2**
PVO				S	**Sg**	**09 00 49.9**	**+0.4**
	comp=E,392nm,0.5s						
PVO	**Paravola**	**1.56**	**30**	P	**Pn**	**09 00 28.3**	**0.0**
TSLK	**Tsoukalades, L**	**1.56**	**3**	P	**Pb**	**09 00 28.9**	**-0.2**
TSLK				S	**Sg**	**09 00 51.1**	**+1.5**
	comp=E,462nm,0.6s						
TSLK	**Tsoukalades, L**	**1.56**	**3**	P	**Pb**	**09 00 28.7**	**-0.5**
EFP	**Efpalio**	**1.58**	**43**	P	**Pn**	**09 00 28.3**	**-0.4**
EFP				S	**Sg**	**09 00 50.7**	**+0.3**
	comp=E,202nm,0.5s						
EFP	**Efpalio**	**1.58**	**43**	P	**Pn**	**09 00 29.1**	**+0.5**
SERG	**Sergoula**	**1.66**	**46**	P	**Pn**	**09 00 29.5**	**-0.2**
SERG				S	**Sg**	**09 00 53.2**	**+0.4**
	comp=E,172nm,0.5s						
SERG	**Sergoula**	**1.66**	**46**	P	**Pb**	**09 00 30.5**	**-0.3**
LTK	**Loutraki**	**2.07**	**68**	P	**Pb**	**09 00 36.8**	**-1.0**
KTHA	**Kythira Island**	**2.26**	**116**	P	**Pg**	**09 00 42.4**	**-0.4**

*IDC **11** 09:22:23.7±0.9,54°.94N×167°.66E,h0km,mb3.4/7, mbtmp3.4/9,ML3.2/2,MS2.4/1,Error ellipse: s-maj=38.2km s-min=18.7km az=162.0*
*KRSC **11** 09:22:24.6±1.8,54°.74N×167°.52E,h30km±17km,ML3.9*
ISC 11 09:22:28.5±0.8,54°.80N±0°.09×167°.69E±0°.06,h35km,n34, σ1s65/37,mb3.5/7,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.07**	**293**	*eP*	**Pn**	**09 22 43.3**	**-3.7**
BKI				*eS*	**Sn**	**09 22 57.1**	**-3.5**
KBTR	**Krutoberegovo**	**3.11**	**299**	*eP*	**Pn**	**09 23 12.9**	**-2.1**
KBG	**Krutoberegovo**	**3.19**	**299**	*eS*	**Sn**	**09 23 50.6**	**-2.2**
SMKR	**Semkarok**	**3.95**	**299**	*eS*	**Sn**	**09 24 12.6**	**+0.9**
SRKR	**Sorokina**	**4.13**	**299**	*eS*	**Sn**	**09 24 16.9**	**+0.7**
SHEM	**Shemya Is, Ala**	**4.33**	**116**	Pn	**Pn**	**09 23 30.4**	**-1.3**
	3.0nm,0.3s,baz=292,slow=19,SNR=1.6						
SHEM				Sn	**Sn**	**09 24 19.6**	**-1.3**
	2.8nm,0.3s,baz=287,slow=19,SNR=1.8						
	51nm,1.0s						
TUMR	**Tumrok**	**4.37**	**280**	*eP*	**Pn**	**09 23 32.4**	**0.0**
TUMR				*eS*	**Sn**	**09 24 23.0**	**+0.9**
KMNR	**Kamenistaya**	**4.37**	**286**	*eP*	**Pn**	**09 23 34.1**	**+1.7**
KPT	**Kopyto**	**4.42**	**288**	*eP*	**Pn**	**09 23 33.1**	**0.0**
KOZ	**Kozyrevsk**	**4.63**	**289**	*eP*	**Pn**	**09 23 34.9**	**-1.0**
SRDR	**Sredinnyy**	**4.78**	**292**	*eS*	**Sn**	**09 24 33.2**	**+1.1**
SPN	**Mys Shipunski**	**4.84**	**253**	S	**Sn**	**09 24 31.6**	**-1.9**
KRER	**Koryakskii**	**5.48**	**258**	*eP*	**Pn**	**09 23 47.6**	**-0.1**
KRER				*eS*	**Sn**	**09 24 47.1**	**-2.4**
AVH	**Avacha**	**5.50**	**257**	*eP*	**Pn**	**09 23 47.7**	**-0.1**
AVH				*eS*	**Sn**	**09 24 49.0**	**-0.8**
KRX	**Arik**	**5.51**	**259**	*eP*	**Pn**	**09 23 47.7**	**-0.5**
KRX				*eS*	**Sn**	**09 24 49.3**	**-1.1**
KOK	**Koryaka**	**5.54**	**258**	*eP*	**Pn**	**09 23 48.1**	**-0.4**
KOK				*eS*	**Sn**	**09 24 49.7**	**-1.3**
DALK	**Dalny**	**5.57**	**255**	S	**Sn**	**09 24 50.4**	**-1.1**
GNL	**Ganaly**	**5.82**	**263**	*eP*	**Pn**	**09 23 52.9**	**+0.5**
GNL				*eS*	**Sn**	**09 24 58.0**	**+0.1**
KRMR	**Karymshinskiy**	**6.00**	**255**	*eS*	**Sn**	**09 25 02.0**	**0.0**
PETK	**Petropavlovsk-**	**6.14**	**258**	Pn	**Pn**	**09 23 57.1**	**+0.5**
	1.2nm,0.3s,baz=84,slow=15,SNR=2.1						
PETK				Sn	**Sn**	**09 25 07.0**	**+1.5**
	0.9nm,0.3s,baz=72,slow=26,SNR=1.7						
	1.3nm,0.4s						
ILAR	**Eielson Array**	**24.39**	**48**	P	**P**	**09 27 42.1**	**-0.9**
	0.4nm,0.7s,baz=258,slow=8.3,SNR=3.4						
ILAR				ScP	**ScP**	**09 35 01.6**	**+4.8**
	0.2nm,0.4s,baz=279,slow=2.3,SNR=1.6						
	0.4nm,0.7s						
KSRS	**Korea Array**	**32.02**	**254**	LR	LR	09 43 02.9	
	comp=Z,6.1nm,18.5s,baz=40,slow=39						
H11N2	**WAKE ISLAND Hy**	**35.01**	**181**	T	T	10 06 15.2	
	baz=0.9,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.02**	**181**	T	T	10 06 13.7	
	baz=0.9,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.03**	**181**	T	T	10 06 16.6	
	baz=0.9,slow=76						
H11S1	**WAKE ISLAND Hy**	**36.23**	**182**	T	T	10 07 43.7	
	baz=2.0,slow=76						
H11S3	**WAKE ISLAND Hy**	**36.24**	**182**	T	T	10 07 45.3	
	baz=2.0,slow=76						
H11S2	**WAKE ISLAND Hy**	**36.25**	**182**	T	T	10 07 45.0	
	baz=2.0,slow=76						
NVAR	**Mina Array Bea**	**50.95**	**76**	P	**P**	**09 31 27.5**	**+1.0**
	0.1nm,0.5s,baz=307,slow=3.3,SNR=1.9						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**51.37**	**299**	P	**P**	**09 31 28.3**	**-1.1**
	0.1nm,0.3s,baz=51,slow=6.5,SNR=2.8						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**52.74**	**67**	P	**P**	**09 31 39.8**	**0.0**
	0.4nm,0.8s,baz=302,slow=2.8,SNR=3.7						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**65.84**	**73**	P	**P**	**09 33 10.8**	**+0.5**
	0.4nm,0.7s,baz=304,slow=4.2,SNR=7.9						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**79.71**	**212**	P	**P**	**09 34 33.8**	**+1.4**
	0.7nm,1.0s,baz=24,slow=6.6,SNR=3.4						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**83.35**	**211**	P	**P**	**09 34 52.9**	**+1.3**
	0.5nm,0.7s,baz=27,slow=4.5,SNR=5.4						
	0.5nm,0.7s						

KRSC 11 09:23:34.2±3.1,54°.69N×167°.41E,h30km±17km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.98**	**302**	P	Pb	09 23 52.3	-0.2
BKI				S	Sb	09 24 05.8	+0.8
KBTR	**Krutoberegovo**	**3.03**	**302**	P	Pn	09 24 23.0	+3.0
KBTR				S	Sn	09 24 57.6	+2.4
KBG	**Krutoberegovo**	**3.10**	**302**	S	Sn	09 24 59.6	+2.5
SMKR	**Semkarok**	**3.87**	**302**	S	Sn	09 25 21.4	+5.4
TUMR	**Tumrok**	**4.23**	**281**	P	Pn	09 24 42.1	+5.5
TUMR				S	Sn	09 25 30.8	+5.8
SPN	**Mys Shipunski**	**4.65**	**253**	S	Sn	09 25 39.0	+3.8
SRDR	**Sredinnyy**	**4.67**	**294**	S	Sn	09 25 42.8	+7.0
KRER	**Koryakskii**	**5.29**	**258**	S	Sn	09 25 56.3	+4.9
AVH	**Avacha**	**5.31**	**258**	S	Sn	09 25 58.4	+6.7
KRX	**Arik**	**5.33**	**259**	S	Sn	09 25 56.6	+4.3
DALK	**Dalny**	**5.39**	**256**	S	Sn	09 25 57.5	+4.2
KRMR	**Karymshinskiy**	**5.81**	**255**	S	Sn	09 26 09.6	+5.8

KRSC 11 09:26:41.1±1.9,54°.81N×167°.57E,h31km±18km,ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.00**	**294**	*eP*	Pb	09 26 59.8	-0.1
BKI				*eS*	Sb	09 27 13.6	+0.8
KBTR	**Krutoberegovo**	**3.05**	**299**	*eP*	Pn	09 27 29.2	+2.1
KBG	**Krutoberegovo**	**3.12**	**300**	*eS*	Sn	09 28 07.9	+3.5
TUMR	**Tumrok**	**4.30**	**279**	*eP*	Pn	09 27 50.0	+5.6
TUMR				*eS*	Sn	09 28 40.4	+6.9
KRER	**Koryakskii**	**5.41**	**257**	*eP*	Pn	09 28 04.9	+5.1
KRER				*eS*	Sn	09 29 05.8	+4.8
AVH	**Avacha**	**5.43**	**257**	*eS*	Sn	09 29 05.8	+4.5
KRX	**Arik**	**5.45**	**258**	*eP*	Pn	09 28 06.3	+6.1
KRX				*eS*	Sn	09 29 05.7	+3.8
KOK	**Koryaka**	**5.48**	**258**	*eP*	Pn	09 28 03.6	+3.0
GNL	**Ganaly**	**5.76**	**263**	*eP*	Pn	09 28 09.7	+5.3
GNL				*eS*	Sn	09 29 14.4	+5.0

IDC 11 09:38:32.1±1.9,2°.77S×139°.39E,h0km,mb3.4/3, mbtmp3.5/4,ML3.7/1,Error ellipse: s-maj=114.2km s-min=30.2km az=112.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.77**	**196**	P	Pn	09 42 39.7	-1.4
	0.2nm,0.3s,baz=17,slow=12,SNR=23						
	0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.34**	**221**	P	P	09 43 10.4	+0.2
	0.7nm,0.4s,baz=46,slow=12,SNR=2.1						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**21.44**	**194**	P	P	09 43 22.7	+0.6
	0.8nm,0.4s,baz=18,slow=9.0,SNR=19						
	0.8nm,0.4s						
ILAR	**Eielson Array**	**85.61**	**24**	P	P	09 51 12.2	-0.1
	0.3nm,0.6s,baz=254,slow=5.2,SNR=2.4						
	0.3nm,0.6s						

IDC 11 09:53:54.4±6.8,4°.81S×106°.12E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=379.8km s-min=26.2km az=52.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.32**	**121**	P	P	10 00 16.1	-0.7
	0.2nm,0.9s,baz=297,slow=7.7,SNR=1.8						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**32.69**	**128**	P	P	10 00 29.5	+0.7
	0.2nm,0.8s,baz=305,slow=8.3,SNR=1.2						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**55.54**	**340**	P	P	10 03 30.8	-0.7
	0.4nm,0.7s,baz=139,slow=8.0,SNR=3.8						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**61.21**	**346**	P	P	10 04 11.7	+0.7
	0.8nm,0.3s,baz=167,slow=5.6,SNR=4.5						
	0.8nm,0.3s						
TXAR	**Lajitas Array**	**142.73**	**46**	PKP	PKPdf	10 13 28.2	-2.4
	0.2nm,0.5s,baz=293,slow=0.7,SNR=5.1						

*NEIC **11** 10:06:11.6±0.7,18°.4N±0°.2×145°.8E±0°.6,h195km±14km, mb4.1/5,Error ellipse: s-maj=85.6km s-min=18.1km az=98.0*
*IDC **11** 10:06:12.7±3.2,18°.39N×145°.73E,h213km±27km,mb2.8/3, mbtmp3.6/5,Error ellipse: s-maj=42.0km s-min=24.4km az=80.0*
ISC 11 10:06:11.8±0.9,18°.5N±0°.1×145°.8E±0°.2,h200km,n12, σ0s92/13,mb3.6/6,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.92**	**191**	P	**Pn**	**10 07 27.0**	**+1.8**
	12nm,0.4s,baz=9.5,slow=12,SNR=1.6						
GUMO				S	**Sn**	**10 08 22.4**	**-0.8**
	74nm,1.0s,baz=0.0,slow=20,SNR=2.6						
JOW	**Kunigami**	**18.20**	**300**	P	**P**	**10 10 09.7**	**0.0**
	2.4nm,0.6s,baz=124,slow=18,SNR=1.3						
WRAB	**Tennant Creek**	**39.78**	**197**	P	**P**	**10 13 24.8**	**-0.6**
WRAB				IAmb	IAmb	10 13 42.1	
	comp=Z,8.3nm,1.4s						
WB2	**Warramunga Arr**	**39.78**	**197**	P	**P**	**10 13 24.9**	**-0.6**
WB2				IAmb	IAmb	10 14 04.0	
	comp=Z,8.2nm,1.5s						
WRA	**Warramunga Arr**	**39.79**	**197**	P	**P**	**10 13 24.7**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=14,slow=8.4,SNR=7.9						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**43.45**	**196**	P	**P**	**10 13 53.9**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=11,slow=6.5,SNR=1.9						
	comp=Z,0.3nm,0.7s						
BPAW	**Bear Paw Mtn.**	**61.92**	**26**	P	**P**	**10 16 10.2**	**+0.3**
MLY	**Manley**	**62.29**	**25**	P	**P**	**10 16 12.8**	**+0.4**
MLY				IAmb	IAmb	10 16 51.1	
	comp=Z,3.8nm,1.4s						
J26L	**Joseph Creek**	**65.16**	**27**	P	**P**	**10 16 31.1**	**-0.2**
BMAR	**Burnt Mountain**	**65.29**	**23**	P	**P**	**10 16 33.0**	**+1.0**
BCAR	**Beaver Creek A**	**65.74**	**28**	P	**P**	**10 16 35.1**	**+0.2**
NVAR	**Mina Array Bea**	**83.20**	**52**	P	**P**	**10 18 15.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=250,slow=4.5,SNR=3.7						
	comp=Z,0.3nm,0.7s						

*IDC **11** 10:25:33.6±3.0,2°.22N×98°.82E,h95km±17km,mb3.3/4, mbtmp3.7/4,Error ellipse: s-maj=97.4km s-min=21.4km az=52.0*
*DJA **11** 10:25:35.9±0.6,2°.N±4°.×9°.9E±°,h69km±11km,M3.3/8, MLv3.3/8*
ISC 11 10:25:33.0±1.0,2°.16N±0°.05×98°.60E±0°.09,h78km,n11, σ2s70/12,mb3.7/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.71**	**27**	P	**Pn**	**10 25 49.9**	**+1.1**
	34nm,0.3s,baz=196,slow=7.4,SNR=40						
PSI				S	**Sn**	**10 26 02.3**	**+1.8**
	61nm,0.4s,baz=241,slow=15,SNR=9.1						
GSI	**Gunungsitoli**	**1.33**	**230**	P	**Pn**	**10 25 58.8**	**+2.8**
TSI	**Tuntungan**	**1.33**	**359**	P	**Pn**	**10 25 59.6**	**+3.5**
KCSI	**Kotacane, Aceh**	**1.58**	**329**	P	**Pn**	**10 26 01.5**	**+2.2**
MNSI	**Mandailing Nat**	**1.68**	**144**	P	**Pn**	**10 26 03.4**	**+2.8**
PBSI	**Pulau Batu**	**2.23**	**188**	P	**Pn**	**10 26 09.2**	**+1.3**
PDSI	**Padang**	**3.58**	**149**	P	**Pn**	**10 26 29.8**	**+3.6**
WRA	**Warramunga Arr**	**41.38**	**124**	P	**P**	**10 33 09.7**	**-2.2**
	0.7nm,0.5s,baz=312,slow=8.8,SNR=30						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**42.88**	**129**	P	**P**	**10 33 21.5**	**-2.6**
	0.5nm,0.9s,baz=298,slow=7.9,SNR=4.8						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**46.67**	**345**	P	**P**	**10 33 52.7**	**-1.1**
	0.5nm,0.7s,baz=150,slow=8.0,SNR=4.1						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**79.80**	**332**	P	**P**	**10 37 31.6**	**-0.9**
	1.4nm,0.9s,baz=106,slow=4.5,SNR=3.9						
	1.4nm,0.9s						

*BER **11** 10:38:45.1±1.7,59°.73N×23°.20E,h0km,ML2.1,Suspected explosion*
*DNK **11** 10:39:08.5±0.5,59°.87N×19°.37E,h0km,ML2.5(UPP), Explosion*
*IDC **11** 10:39:08.4±1.3,59°.86N×19°.44E,h0km,mbtmp2.7/4, ML1.8/3,Error ellipse: s-maj=21.3km s-min=6.2km az=167.0*
*UPP **11** 10:39:08.0±0.1,59°.86N×19°.37E,h0km,ML2.5,Explosion*
*HEL **11** 10:39:08.6±0.1,59°.87N×19°.40E,h0km,ML2.0, ML2.5(UPP),Explosion*
ISC 11 10:39:07.0±0.7,59°.82N±0°.02×19°.40E±0°.02,h0km,n60, σ1s52/92,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.41**	**250**	P	**Pg**	**10 39 16.0**	**+1.0**
NRTU	**Norrtaelje**	**0.41**	**250**	P	**Pg**	**10 39 16.0**	**+1.0**
NRTU	**Norrtaelje**	**0.41**	**250**	*eP*	**Pg**	**10 39 15.9**	**+1.0**
NRTU				*eS*	**Sg**	**10 39 20.5**	**+0.3**
AAL	**Aland**	**0.47**	**40**	P	**Pg**	**10 39 16.6**	**+0.6**
AAL				S	**Sg**	**10 39 22.4**	**+0.5**
AAL	**Aland**	**0.47**	**40**	*eP*	**Pg**	**10 39 16.5**	**+0.6**
AAL				*eS*	**Sg**	**10 39 22.5**	**+0.5**
GRAU	**Graesoe**	**0.67**	**321**	P	**Pg**	**10 39 19.8**	**0.0**
GRAU				S	**Sg**	**10 39 28.3**	**-0.2**
GRAU	**Graesoe**	**0.67**	**321**	P	**Pg**	**10 39 19.8**	**0.0**
GRAU				S	**Sg**	**10 39 28.3**	**-0.2**
GRAU	**Graesoe**	**0.67**	**321**	*i* P	**Pg**	**10 39 19.8**	**0.0**
GRAU				*i* S	**Sg**	**10 39 28.3**	**-0.2**
FLYU	**Flymyra**	**0.82**	**293**	P	**Pg**	**10 39 23.1**	**+0.4**
FLYU	**Flymyra**	**0.82**	**293**	P	**Pg**	**10 39 23.1**	**+0.4**
FLYU	**Flymyra**	**0.82**	**293**	*i* P	**Pg**	**10 39 23.1**	**+0.4**
UPP	**Uppsala**	**0.89**	**273**	P	**Pg**	**10 39 24.7**	**+0.6**
UPP	**Uppsala**	**0.89**	**273**	*i* P	**Pg**	**10 39 24.7**	**+0.6**
FIBU	**Brunna**	**1.03**	**275**	P	**Pg**	**10 39 27.1**	**+0.2**
FIBU	**Brunna**	**1.03**	**275**	P	**Pg**	**10 39 27.1**	**+0.2**
NYNU	**Nynaeshamn**	**1.08**	**222**	P	**Pg**	**10 39 28.6**	**+0.8**
NYNU	**Nynaeshamn**	**1.08**	**222**	P	**Pg**	**10 39 28.6**	**+0.8**
NYNU	**Nynaeshamn**	**1.08**	**222**	*eP*	**Pg**	**10 39 28.6**	**+0.8**
OSTU	**Oestervaala**	**1.21**	**291**	P	**Pg**	**10 39 29.7**	**-0.4**
OSTU	**Oestervaala**	**1.21**	**291**	P	**Pg**	**10 39 29.7**	**-0.4**
OSTU	**Oestervaala**	**1.21**	**291**	*eP*	**Pg**	**10 39 29.7**	**-0.4**
RAF	**Rauma**	**1.68**	**43**	*eP*	**Pn**	**10 39 36.6**	**-1.1**
RAF	**Rauma**	**1.68**	**43**	*eP*	**Pn**	**10 39 37.2**	**-0.4**
RAF				*eS*	**Sn**	**10 39 59.4**	**-0.5**
RAF				MSG		10 40 04.7	
	comp=Z,8.1nm,0.1s						
VIKU	**Vikbolandet**	**1.92**	**228**	P	**Pb**	**10 39 43.3**	**+0.5**
VIKU				S	**Sb**	**10 40 08.1**	**+0.9**
VIKU	**Vikbolandet**	**1.92**	**228**	P	**Pb**	**10 39 43.3**	**+0.5**
VIKU				S	**Sb**	**10 40 08.1**	**+0.9**
VIKU	**Vikbolandet**	**1.92**	**228**	*eP*	**Pb**	**10 39 43.3**	**+0.5**
VIKU				*eS*	**Sb**	**10 40 08.1**	**+0.9**
ARNU	**Arnoeviken**	**2.12**	**333**	*eP*	**Pn**	**10 39 45.2**	**+1.5**
ARNU				*eSG*	**Sb**	**10 40 12.9**	**-0.2**
GOTU	**Gotland**	**2.19**	**192**	*eP*	**Pb**	**10 39 47.7**	**+0.3**
GOTU				*eSG*	**Sb**	**10 40 17.1**	**+2.1**
MTSE	**Matsula**	**2.53**	**114**	*eP*	**Pb**	**10 39 52.5**	**-0.7**
MTSE				*eSG*	**Sb**	**10 40 26.2**	**+1.5**
MEF	**Metsahovi**	**2.54**	**79**	*eP*	**Pn**	**10 39 50.6**	**+1.2**
MEF	**Metsahovi**	**2.54**	**79**	*e

NAO01				IAML			10 41 27.1	
	comp=Z,5.2nm,0.4s							
NBO00	**NORSAR Array S**	**4.44**	**290**	*eP*		**Pn**	**10 40 16.2**	**+0.7**
NBO00				*eS*		**Sb**	**10 41 24.1**	**+4.3**
NBO00				IAML			10 41 29.6	
	comp=Z,3.1nm,0.5s							
DEL	**Delary**	**4.46**	**223**	*i* P		**Pn**	**10 40 17.0**	**+1.3**
NC204	**NORSAR Array S**	**4.50**	**293**	*eP*		**Pn**	**10 40 17.5**	**+1.1**
NC204				*e*			10 41 28.8	
NC204				IAML			10 41 32.6	
	comp=Z,3.0nm,0.4s							
KONO	**Kongsberg**	**4.96**	**272**	*eS*		**Sb**	**10 41 39.5**	**+4.8**
BJUU	**Bjuv**	**5.06**	**225**	*i* P		**Pn**	**10 40 26.2**	**+2.1**
LUNU	**Lund**	**5.27**	**220**	*eP*		**Pn**	**10 40 27.4**	**+0.4**
BSD	**Bornholm Skovb**	**5.30**	**209**	*eP*		**Pn**	**10 40 28.8**	**+1.4**
BSD				*eS*		**Sg**	**10 41 53.5**	**-3.7**
BSD				IAML			10 41 59.0	
	comp=Z,8.3nm,0.6s							
HOMB	**Homborsund**	**5.83**	**259**	*eP*		**Pn**	**10 40 34.5**	**-0.1**
HOMB				*eS*		**Sn**	**10 41 39.1**	**-3.0**
HOMB	**Homborsund**	**5.83**	**259**	*eP*		**Pn**	**10 40 35.1**	**+0.5**
ARCES	**ARCESS Array B**	**10.09**	**12**	Pn		**Pn**	**10 41 30.4**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=195,slow=13,SNR=18							
ARCES				Sn		Sn	10 43 17.5	-9.2
	comp=Z,0.1nm,0.3s,baz=196,slow=25,SNR=1.6							
ARCES				Lg		Lg	10 44 19.1	
	comp=Z,0.1nm,0.3s,baz=58,slow=4.7,SNR=1.5							

IDC ***11*** *10:45:16.4±1.2,36.00N×71.26E,h0km,mb3.7/8, mbtmp3.7/12,ML3.3/3,Error ellipse: s-maj=28.0km s-min=23.0km az=61.0*
SOME ***11*** *10:45:32.3,38.13N×72.42E,h15km*
NNC ***11*** *10:45:32.9±2.2,36.98N×71.39E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=17.2km s-min=16.5km az=134.0*

ISC 11 10:45:18.7±1.1,36.12N±0.09×71.20E±0.09,h10km,n24, σ3900/28,mb3.6/7,3C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IUG	**luzhnay**	**6.09**	**352**	*eP*		Pn	10 46 54.0	+5.2
	165nm,0.2s							
IUG				*eS*		**Sn**	**10 47 57.3**	**-1.3**
	24nm,0.3s							
AML	**Almayashu**	**6.31**	**17**	P		**Pn**	**10 46 56.6**	**+4.5**
	SNR=46							
EKS2	**Erkin-Say**	**6.83**	**16**	P		**Pn**	**10 47 03.6**	**+4.6**
	SNR=7.5							
AAK	**Ala-Archa**	**6.99**	**20**	P		**Pn**	**10 47 05.9**	**+4.7**
	SNR=9.3							
KK31	**Karatay Array**	**6.99**	**356**	P		**Pn**	**10 47 05.0**	**+3.8**
	7.0nm,0.3s,baz=179,slow=11,SNR=162							
KK31				⇓S		**Sn**	**10 48 17.6**	**-3.2**
	1.9nm,0.4s,baz=170,slow=21,SNR=4.6							
CHMS	**Chumysh**	**7.39**	**21**	P		**Pn**	**10 47 10.7**	**+4.0**
	SNR=6.0							
CHMS	**Chumysh**	**7.39**	**21**	⇓P		**Pn**	**10 47 10.3**	**+3.6**
	6.3nm,0.5s							
CHMS				⇑S		**Sn**	**10 48 26.2**	**-4.5**
	4.5nm,0.6s							
TKM2	**Tokmak 2**	**7.59**	**25**	P		**Pn**	**10 47 14.0**	**+4.5**
	SNR=15							
TKM2	**Tokmak 2**	**7.59**	**25**	⇑P		**Pn**	**10 47 13.7**	**+4.1**
	13nm,0.9s							
TKM2				⇑S		**Sn**	**10 48 33.2**	**-2.5**
	3.3nm,0.9s							
DGS	**Degeres**	**7.93**	**25**	*eP*		**Pn**	**10 47 18.1**	**+3.9**
	5.1nm,0.5s							
DGS				*eS*		**Sn**	**10 48 40.2**	**-3.8**
	1.8nm,0.2s							
GEYT	**Alibeck**	**10.62**	**284**	Sn		**Sn**	**10 49 47.7**	**-2.2**
	0.9nm,0.3s,baz=97,slow=26,SNR=3.3							
MKAR	**Makanchi Array**	**13.51**	**34**	Pn		**Pn**	**10 48 30.5**	**+0.2**
	baz=226,slow=12,SNR=2.7							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**15.43**	**18**	Pn		**Pn**	**10 48 55.3**	**-1.1**
	3.3nm,0.2s,baz=209,slow=9.2,SNR=2.1							
BVAR	**Borovoye Array**	**16.91**	**358**	P		**Pn**	**10 49 15.4**	**+0.1**
	0.1nm,0.3s,baz=161,slow=9.4,SNR=5.2							
	0.5nm,0.5s							
AKTO	**Aktyubinsk**	**17.19**	**330**	P		**Pn**	**10 49 18.8**	**-0.1**
	0.4nm,0.3s,baz=140,slow=12,SNR=3.9							
	0.9nm,0.3s							
ZALV	**Zalesovo Beam**	**20.19**	**24**	P		**P**	**10 49 52.5**	**-0.9**
	1.8nm,0.3s,baz=216,slow=9.9,SNR=6.8							
	1.8nm,0.3s							
BELG	**Belogornoye**	**23.29**	**322**	P		**P**	**10 50 28.2**	**+1.8**
	13nm,0.8s,baz=221,slow=11,SNR=2.3							
	13nm,0.8s							
FINES	**FINESS Array B**	**37.89**	**326**	P		**P**	**10 52 35.6**	**0.0**
	0.5nm,0.4s,baz=129,slow=8.1,SNR=6.3							
	0.5nm,0.4s							
ARCES	**ARCESS Array B**	**41.56**	**338**	P		**P**	**10 53 06.5**	**+0.4**
	1.0nm,0.8s,baz=98,slow=8.8,SNR=4.2							
	1.0nm,0.8s							
NB2	**NORSAR Subarra**	**44.78**	**323**	P		**P**	**10 53 32.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.78**	**323**	P		**P**	**10 53 31.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=100,slow=7.8,SNR=2.1							
	comp=Z,0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**65.87**	**269**	P		**P**	**10 56 04.0**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=58,slow=4.8,SNR=1.7							
	comp=Z,0.4nm,0.8s							
WRA	**Warramunga Arr**	**81.65**	**122**	P		**P**	**10 57 37.0**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=328,slow=5.4,SNR=2.2							
	comp=Z,0.5nm,1.0s							
ASAR	**Alice Springs**	**83.90**	**125**	P		**P**	**10 57 47.2**	**-1.7**
	comp=Z,0.1nm,0.6s,baz=329,slow=4.4,SNR=1.5							
	comp=Z,0.1nm,0.6s							

IDC ***11*** *11:02:46.0±0.6,12.19N×143.90E,h0km,mb4.1/19, mbtmp4.1/19,MS3.3/17,Error ellipse: s-maj=20.6km s-min=13.9km az=101.0*
NEIC ***11*** *11:02:49.6±1.9,12.09N±0.09×144.1E±0.1,h10km±1km, mb4.6/19,Error ellipse: s-maj=24.5km s-min=14.2km az=276.0*

ISC 11 11:02:50.3±0.5,12.20N±0.07×143.96E±0.10,h26km,n67, σ1914/52,mb4.3/28,MS3.5/15,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.65**	**33**	Pn		**Pn**	**11 03 17.5**	**-0.1**
	203nm,0.3s,baz=208,slow=5.5,SNR=228							
GUMO				Sn		**Sn**	**11 03 38.6**	**+0.7**
	321nm,0.3s,baz=162,slow=20,SNR=30							
GUMO	**Guam**	**1.65**	**33**			**Pn**	**11 03 18.0**	**+0.4**
JCJ	**Chichijima**	**14.92**	**354**	LR		LR	11 10 56.1	
	comp=Z,84nm,21.0s,baz=125,slow=33							
PATS	**Pohnpei**	**15.12**	**109**	Pn		**Pn**	**11 06 19.6**	**-2.8**
DAV	**Davao City (W)**	**18.81**	**256**	LR		LR	11 14 35.7	
	comp=Z,28nm,20.5s,baz=55,slow=38							
JOW	**Kunigami**	**20.71**	**317**	P		**P**	**11 07 29.6**	**+0.8**
	3.1nm,0.7s,baz=128,slow=14,SNR=1.5							
JOW				LR		LR	11 14 02.0	
	comp=Z,62nm,21.2s,baz=34,slow=33							
	3.1nm,0.7s							
JOW	**Kunigami**	**20.71**	**317**	P		Pn	11 07 32.9	+1.6
JOW				IAmb		IAmb	11 07 38.6	
	comp=Z,35nm,1.5s							
H11S3	**WAKE ISLAND Hy**	**22.79**	**71**	T		T	11 31 48.1	
	baz=253,slow=74							
H11S1	**WAKE ISLAND Hy**	**22.80**	**71**	T		T	11 31 37.0	
	baz=253							
H11S2	**WAKE ISLAND Hy**	**22.80**	**71**	T		T	11 31 28.7	
	baz=253,slow=74							
H11N1	**WAKE ISLAND Hy**	**23.27**	**68**	T		T	11 32 28.1	
	baz=255,slow=75,SNR=8.6							
H11N2	**WAKE ISLAND Hy**	**23.28**	**68**	T		T	11 32 19.9	
	baz=255,slow=75,SNR=8.6							
H11N3	**WAKE ISLAND Hy**	**23.29**	**68**	T		T	11 32 16.3	
	baz=255,slow=75,SNR=7.7							
MJAR	**Matsushiro Arr**	**24.79**	**349**	LR		LR	11 16 44.3	
	comp=Z,28nm,20.2s,baz=172,slow=34							
WB0	**Warramunga Arr**	**33.13**	**197**	P		**P**	**11 09 25.1**	**+0.6**
WB0				IAmb		IAmb	11 09 39.8	
	comp=Z,9.7nm,1.4s							
WR0	**Warramunga Arr**	**33.27**	**196**	P		**P**	**11 09 25.9**	**+0.1**
WRAB	**Tennant Creek**	**33.30**	**197**	P		**P**	**11 09 26.4**	**+0.3**
WRAB				IAmb		IAmb	11 09 27.2	
	comp=Z,12nm,1.5s							
WB2	**Warramunga Arr**	**33.31**	**197**	P		**P**	**11 09 25.6**	**-0.5**
WB2				IAmb		IAmb	11 09 50.8	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**33.31**	**197**	P		**P**	**11 09 25.1**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=19,slow=9.5,SNR=38							
	comp=Z,1.5nm,0.6s							
WRA	**Warramunga Arr**	**33.31**	**197**	P		**P**	**11 09 25.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**35.11**	**211**	P		**P**	**11 09 41.9**	**+0.1**
AS31	**Alice Springs**	**36.97**	**195**	P		**P**	**11 09 58.8**	**+1.1**
ASAR	**Alice Springs**	**36.97**	**195**	P		**P**	**11 09 56.5**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=19,slow=9.6,SNR=12							
ASAR				PcP		**PcP**	**11 12 19.7**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=18,slow=3.9,SNR=5.2							
	comp=Z,1.3nm,0.9s							
ASAR	**Alice Springs**	**36.97**	**195**	P		**P**	**11 09 59.0**	**+1.3**
EIDS	**Eidsvold**	**37.98**	**169**	P		**P**	**11 10 06.2**	**+0.1**
EIDS				IAmb		IAmb	11 10 07.0	
	comp=Z,15nm,1.4s							
KLR	**Kul'dur**	**38.28**	**347**	LR		LR	11 24 50.0	
	comp=Z,40nm,19.3s,baz=138,slow=35							
PETK	**Petropavlovsk-**	**42.27**	**12**	LR		LR	11 25 32.4	
	comp=Z,30nm,20.1s,baz=202,slow=32							
ARMA	**Armidale**	**43.01**	**170**	P		**P**	**11 10 47.6**	**-0.2**
ARMA				IAmb		IAmb	11 10 59.4	
	comp=Z,16nm,1.4s							
CMAR	**Chiang Mai Arr**	**43.77**	**284**	P		**P**	**11 10 51.9**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=104,slow=3.8,SNR=1.5							
CMAR				PcP		**PcP**	**11 12 40.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=114,slow=2.3,SNR=1.4							
CMAR				LR		LR	11 28 22.9	
	comp=Z,22nm,20.2s,baz=210,slow=35							
	comp=Z,0.4nm,0.4s							
STKA	**Stephens Creek**	**43.88**	**183**	P		**P**	**11 10 53.8**	**-0.9**
	comp=Z,3.1nm,0.8s,baz=6.9,slow=8.6,SNR=8.7							
	comp=Z,3.1nm,0.8s							
STKA	**Stephens Creek**	**43.88**	**183**	P		**P**	**11 10 54.0**	**-0.7**
FORT	**Forrest**	**45.38**	**199**	P		**P**	**11 11 07.7**	**+1.1**
BBOO	**Buckleboo**	**45.38**	**189**	P		**P**	**11 11 06.7**	**0.0**
PSI	**Prapat**	**45.54**	**262**	LR		LR	11 32 17.0	
	comp=Z,25nm,20.9s,baz=270,slow=39							
SONM	**Songino Array**	**47.37**	**326**	P		**P**	**11 11 20.1**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=134,slow=8.3,SNR=1.1							
SONM				LR		LR	11 32 21.9	
	comp=Z,46nm,18.2s,baz=105,slow=38							
	comp=Z,0.3nm,0.4s							
MORW	**Morawa**	**49.09**	**213**	P		**P**	**11 11 35.8**	**+0.2**
MORW				IAmb		IAmb	11 11 50.1	
	comp=Z,16nm,1.1s							
TOO	**Toolangi**	**49.52**	**178**	P		**P**	**11 11 38.8**	**0.0**
TOO				IAmb		IAmb	11 12 03.3	
	comp=Z,24nm,1.4s							
NWAO	**Narrogin (SRO)**	**51.62**	**209**	P		**P**	**11 11 55.0**	**+0.2**
OUZ	**Omahuta**	**54.88**	**150**	P		**P**	**11 12 19.8**	**+1.1**
MKAR	**Makanchi Array**	**61.88**	**317**	P		**P**	**11 13 07.4**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=90,slow=12,SNR=4.1							
	comp=Z,0.6nm,0.8s							
MKAR	**Makanchi Array**	**61.88**	**317**	P		**P**	**11 13 10.4**	**+2.9**
ZALV	**Zalesovo Beam**	**62.24**	**325**	P		**P**	**11 13 08.9**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=57,slow=5.3,SNR=2.0							
ZALV				LR		LR	11 40 10.0	
	comp=Z,25nm,19.8s,baz=67,slow=36							
	comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**65.11**	**320**	P		**P**	**11 13 29.4**	**+0.6**
	comp=Z,1.5nm,0.2s,baz=101,slow=7.0,SNR=7.8							
	comp=Z,1.5nm,0.2s							
ILAR	**Eielson Array**	**70.20**	**25**	P		**P**	**11 13 59.7**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=250,slow=5.6,SNR=13							
	comp=Z,0.7nm,0.5s							
BVAR	**Borovoye Array**	**70.47**	**322**	P		**P**	**11 14 02.3**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=111,slow=8.3,SNR=11							
	comp=Z,0.9nm,0.4s							
DOT	**Dot Lake**	**71.17**	**27**	P		**P**	**11 14 07.7**	**+1.1**
DOT				IAmb		IAmb	11 14 15.9	
	comp=Z,1.9nm,0.8s							
BMAR	**Burnt Mountain**	**71.72**	**23**	P		**P**	**11 14 12.3**	**+2.3**
PPT	**Papeete**	**71.98**	**113**	LR		LR	11 38 15.7	
	comp=Z,53nm,21.4s,baz=285,slow=30							
L27K	**Beaver Creek,**	**72.06**	**27**	P		**P**	**11 14 13.3**	**+1.3**
L27K				IAmb		IAmb	11 14 29.5	
	comp=Z,3.9nm,1.4s							
BCAR	**Beaver Creek A**	**72.08**	**27**	P		**P**	**11 14 13.6**	**+1.5**
EGAK	**Eagle**	**72.61**	**26**	P		**P**	**11 14 17.1**	**+1.9**
EGAK				IAmb		IAmb	11 14 49.6	
	comp=Z,4.6nm,1.3s							
INK	**Inuvik**	**75.98**	**22**	P		**P**	**11 14 35.3**	**+0.5**
	comp=Z,5.4nm,1.1s,baz=356,slow=3.6,SNR=3.3							
	comp=Z,5.4nm,1.1s							
ABKAR	**Akbulak array**	**76.97**	**318**	P		**P**	**11 14 41.4**	**+0.6**
ARU	**Arti**	**77.40**	**325**	P		**P**	**11 14 43.8**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=106,slow=19,SNR=1.7							
ARU				LR		LR	11 49 34.6	
	comp=Z,23nm,18.7s,baz=15,slow=36							
	comp=Z,1.4nm,0.3s							
AKTO	**Aktyubinsk**	**78.13**	**319**	P		**P**	**11 14 47.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=111,slow=7.6,SNR=3.7							
	comp=Z,0.9nm,0.7s							
BBB	**Bella Bella**	**79.22**	**39**	LR		LR	11 48 12.2	
	comp=Z,25nm,19.3s,baz=266,slow=34							
YBH	**Yreka Blue Hor**	**84.45**	**49**	LR		LR	11 53 26.9	
	comp=Z,16nm,18.0s,baz=302,slow=36							
YKA	**Yellowknife Ar**	**84.50**	**27**	P		**P**	**11 15 20.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=287,slow=5.1,SNR=4.1							
YKA				LR		LR	11 52 23.0	
	comp=Z,24nm,19.6s,baz=338,slow=35							
	comp=Z,0.7nm,0.5s							
NEW	**Newport**	**86.86**	**41**	LR		LR	11 51 28.4	
	comp=Z,25nm,18.8s,baz=310,slow=34							
ARCES	**ARCESS Array B**	**88.13**	**342**	P		**P**	**11 15 38.5**	**0.0**
	comp=Z,5.9nm,1.2s,baz=7.6,slow=3.7,SNR=7.2							
	comp=Z,5.9nm,1.2s							
NVAR	**Mina Array Bea**	**88.48**	**51**	P		**P**	**11 15 42.1**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=277,slow=4.8,SNR=14							
	comp=Z,0.7nm,0.6s							
ELK	**Elko**	**90.16**	**48**	LR		LR	11 50 00.6	
	comp=Z,20nm,19.4s,baz=280,slow=31							
FINES	**FINESS Array B**	**92.04**	**335**	P		**P**	**11 15 55.4**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=64,slow=6.1,SNR=11							
	comp=Z,1.7nm,0.6s							
PDAR	**Pinedale Array**	**93.57**	**45**	P		**P**	**11 16 03.0**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=263,slow=3.5,SNR=2.3							
	comp=Z,0.2nm,0.4s							
TORD	**Torodi Ar. Bea**	**134.89**	**303**	PKP		**PKPdf**	**11 22 08.9**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=58,slow=2.0,SNR=1.7							
PLCA	**Paso Flores**	**138.48**	**140**	PKP		**PKPdf**	**11 22 14.7**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=158,slow=4.0,SNR=5.3							
LPAZ	**La Paz**	**148.66**	**101**	PKPbc		**PKiKP**	**11 22 38.0**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=191,slow=2.4,SNR=4.6							

IDC 11 11:06:17.5±3.4,11.28S×163.75E,h0km,mb3.6/3, mbtmp3.6/3,ML5.4/1,MS3.7/2,Error ellipse: s-maj=58.9km s-min=46.3km az=69.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**4.17**	**296**	Pn		Pn	11 07 23.9	+1.5
	242nm,0.3s,baz=114,slow=20,SNR=1.7							
HNR				Sn		Sn	11 08 12.2	+0.3
	39nm,0.3s,baz=119,slow=19,SNR=1.1							
HNR				LR		LR	11 08 53.5	
	comp=Z,2μm,18.9s,baz=204,slow=37							
WRA	**Warramunga Arr**	**29.57**	**249**	P		P	11 12 24.6	+0.2
	0.4nm,0.4s,baz=79,slow=9.2,SNR=10							
WRA				LR		LR	11 23 02.9	
	comp=Z,76nm,18.7s,baz=13,slow=34							
	0.4nm,0.4s							
H11S2	**WAKE ISLAND Hy**	**29.73**	**6**	T		T	11 42 44.4	
	baz=184,slow=76,SNR=7.5							
H11S3	**WAKE ISLAND Hy**	**29.73**	**6**	T		T	11 42 54.8	
	baz=184,slow=76,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**29.74**	**6**	T		T	11 42 52.9	
	baz=184,slow=76,SNR=6.1							
ASAR	**Alice Springs**	**30.94**	**243**	P		P	11 12 36.0	-0.6
	0.2nm,0.5s,baz=62,slow=10,SNR=6.9							
	0.2nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**30.95**	**6**	T		T	11 44 22.7	
	baz=184,slow=76,SNR=6.9							
H11N3	**WAKE ISLAND Hy**	**30.96**	**6**	T		T	11 44 19.4	
	baz=184,slow=76,SNR=7.5							
H11N2	**WAKE ISLAND Hy**	**30.97**	**6**	T		T	11 44 24.1	
	baz=184,slow=76,SNR=6.7							
MKAR	**Makanchi Array**	**92.36**	**317**	P		P	11 19 29.9	-0.1
	0.2nm,0.4s,baz=98,slow=4.4,SNR=2.1							
	0.2nm,0.4s							

IDC ***11*** *11:33:41.7±2.0,0.46N×125.49E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=167.6km s-min=27.9km az=64.0*
DJA ***11*** *11:33:50.8±1.4,0.5S±4.2×12.4E±,h33km±25km,M3.9/10, mb4.2/2,mB4.6/1,MLv3.7/10,Mw(mB)3.9/1*

ISC 11 11:33:49.8±1.0,0.34S±0.06×124.17E±0.05,h35km,n13, σ2907/15,mb3.4/3,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**0.92**	**348**	P		**Pn**	**11 34 06.9**	**+0.6**
GTOI	**Gorontalo**	**1.51**	**310**	P		**Pn**	**11 34 16.2**	**+1.9**
GTOI				S		**Sn**	**11 34 35.5**	**+2.7**
LUWI	**Luwuk**	**1.56**	**243**	P		**Pn**	**11 34 16.1**	**+1.0**
MRSI	**Marisa**	**2.37**	**290**	P		**Pn**	**11 34 24.2**	**-2.0**
SANI	**Sanana**	**2.49**	**133**	P		**Pn**	**11 34 28.1**	**+0.2**
SANI				S		**Sn**	**11 34 55.7**	**-1.4**
APSI	**Ampana**	**2.58**	**257**	P		**Pn**	**11 34 31.2**	**+2.1**
LBMI	**Labuha**	**3.35**	**95**	S		**Sn**	**11 35 21.7**	**+3.5**
NLAI	**Namlea**	**4.11**	**135**	P		**Pn**	**11 34 52.1**	**+1.9**
TTSI	**Tana Toraja**	**5.11**	**238**	P		**Pn**	**11 35 05.5**	**+1.6**
	0.2nm668nm20nm,0.5s							
BSSI	**Bau Bau, Buton**	**6.84**	**212**	P		**Pn**	**11 35 29.2**	**+1.5**
WRA	**Warramunga Arr**	**21.88**	**154**	P		**P**	**11 38 38.4**	**-1.5**
	0.8nm,1.0s,baz=338,slow=10,SNR=8.5							
	0.8nm,1.0s							
ASAR	**Alice Springs**	**25.04**	**159**	P		**P**	**11 39 10.3**	**-0.6**
	0.8nm,0.8s,baz=344,slow=16,SNR=14							
	0.8nm,0.8s							
MKAR	**Makanchi Array**	**59.51**	**328**	P		**P**	**11 43 47.2**	**-2.4**
	0.2nm,0.4s,baz=116,slow=8.0,SNR=2.6							
	0.2nm,0.4s							

IDC ***11*** *11:49:03.5±1.6,0.32S×17.84W,h0km,mb3.8/6, mbtmp3.9/7,ML4.3/1,MS3.1/3,Error ellipse: s-maj=58.9km s-min=28.7km az=156.0*

ISC 11 11:49:03.2±1.4,0.8S±0.4×17.7W±0.2,h10km,n18,σ0873/9, mb3.7/4,MS3.1/3,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.69**	**156**	T		T	11 59 44.8	
	baz=335,slow=73,SNR=30							
H10N3	**ASCENSION HYDR**	**7.70**	**156**	T		T	11 59 43.6	
	baz=335,slow=73,SNR=77							
H10N1	**ASCENSION HYDR**	**7.71**	**156**	T		T	11 59 42.2	
	baz=335,slow=73,SNR=50							
H10S3	**ASCENSION HYDR**	**8.66**	**160**	T		T	12 00 56.0	
	baz=339,slow=74,SNR=30							
H10S2	**ASCENSION HYDR**	**8.67**	**160**	T		T	12 00 56.8	
	baz=241,slow=74,SNR=14							
DBIC	**Dimbokro**	**14.80**	**60**	Pn		**Pn**	**11 52 32.9**	**+0.1**
	1.5nm,0.3s,baz=266,slow=12,SNR=18							
DBIC				Sn		Sn	11 55 03.6	-13
	0.2nm,0.3s,baz=312,slow=13,SNR=2.0							
	2.5nm,0.3s							
KOWA	**Kowa**	**20.34**	**41**	P		**P**	**11 53 38.7**	**-1.2**
	2.9nm,0.6s,baz=225,slow=8.3,SNR=8.5							
	2.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**23.69**	**54**	P		**P**	**11 54 15.1**	**-0.3**
	1.1nm,0.6s,baz=232,slow=11,SNR=8.4							
	1.1nm,0.6s							
H09N1	**TRISTAN DA CUN**	**36.45**	**173**	T		T	12 35 00.8	
	SNR=4.7							
TSUM	**Tsumeb**	**39.12**	**120**	LR		LR	12 09 40.0	
	comp=Z,27nm,18.8s,baz=306,slow=31							
SIV	**San Ignacio**	**45.35**	**248**	LR		LR	12 13 25.7	
	comp=Z,17nm,20.9s,baz=274,slow=32							
LBTB	**Lobatse**	**48.24**	**123**	LR		LR	12 14 15.8	
	comp=Z,20nm,21.5s,baz=181,slow=31							
BRTR	**Keskin Array B**	**61.76**	**43**	P		**P**	**11 59 23.5**	**+1.1**
	0.3nm,0.6s,baz=251,slow=4.4,SNR=1.8							
	0.3nm,0.6s							
FINES	**FINESS Array B**	**70.43**	**21**	P		**P**	**12 00 17.3**	**-0.1**
	1.5nm,0.7s,baz=188,slow=5.8,SNR=9.7							
	1.5nm,0.7s							
TXAR	**Lajitas Array**	**86.86**	**299**	P		**P**	**12 01 48.9**	**+0.1**
	0.5nm,0.7s,baz=120,slow=7.3,SNR=7.8							
	0.5nm,0.7s							
NVAR	**Mina Array Bea**	**98.80**	**309**	P		**Pdif**	**12 02 43.9**	**-0.1**
	0.2nm,0.7s,baz=127,slow=1.4,SNR=2.2							
	0.2nm,0.7s							
ASAR	**Alice Springs**	**143.23**	**133**	PKP		**PKPdf**	**12 08 38.5**	**-0.2**
	0.2nm,0.5s,baz=225,slow=2.8,SNR=6.2							
WRA	**Warramunga Arr**	**145.71**	**128**	PKPbc	

STKA	**Stephens Creek**	**50.26**	**185**	P	**P**	**12 26 52.5**	**+1.0**
BBOO	**Buckleboo**	**51.88**	**190**	P	**P**	**12 27 03.8**	**+0.3**
BBOO				IAmb	IAmb	12 27 46.6	
	comp=E,23nm,1.5s						
FORT	**Forrest**	**51.90**	**200**	P	**P**	**12 27 04.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**58.00**	**208**	P	**P**	**12 27 47.8**	**+0.4**
ZALV	**Zalesovo Beam**	**58.26**	**323**	P	**P**	**12 27 48.6**	**-0.4**
	comp=Z,0.5nm,0.2s,baz=116,slow=6.6,SNR=1.3 comp=Z,0.5nm,0.2s						
MKAR	**Makanchi Array**	**58.70**	**314**	P	**P**	**12 27 51.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=93,slow=7.4,SNR=4.3 comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.70**	**314**	P	**P**	**12 27 53.0**	**+0.8**
ILAR	**Eielson Array**	**63.76**	**26**	P	**P**	**12 28 25.1**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=254,slow=6.4,SNR=1.4 comp=Z,0.2nm,0.8s						
BKZ	**Black Stump Fm**	**64.13**	**154**	P	**P**	**12 28 28.7**	**+0.1**
BMAR	**Burnt Mountain**	**65.24**	**23**	P	**P**	**12 28 35.5**	**+0.2**
ABKAR	**Akbulak array**	**73.58**	**317**	P	**P**	**12 29 26.9**	**+0.1**
YKA	**Yellowknife Ar**	**78.09**	**28**	P	**P**	**12 29 52.0**	**0.0**
	comp=Z,1.3nm,0.8s,baz=291,slow=5.7,SNR=2.9 comp=Z,1.3nm,0.8s						
ARCES	**ARCESS Array B**	**82.72**	**342**	P	**P**	**12 30 15.7**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=87,slow=8.6,SNR=6.8 comp=Z,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**83.14**	**52**	P	**P**	**12 30 20.5**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=269,slow=4.8,SNR=3.7 comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**87.12**	**335**	P	**P**	**12 30 36.9**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=61,slow=4.7,SNR=12 comp=Z,0.5nm,0.4s						
FINES	**FINESS Array B**	**87.12**	**335**	P	**P**	**12 30 37.4**	**-1.1**
TXAR	**Lajitas Array**	**97.83**	**56**	P	Pdif	12 31 29.6	+0.8
	comp=Z,0.1nm,0.7s,baz=218,slow=5.7,SNR=2.4 comp=Z,0.1nm,0.7s						
SNAA	**Sanae**	**123.76**	**191**	PKP	**PKPdf**	**12 36 48.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=202,slow=5.4,SNR=9.9						
LPAZ	**La Paz**	**147.52**	**91**	PKPbc	**PKPbc**	**12 37 36.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=247,slow=5.1,SNR=6.5						

*IDC **11** 12:19:11.4±1.9, 15°.68N×94°.34W, h0km, mb3.3/4, mbtmp3.3/5, ML3.0/1, MS3.1/3, Error ellipse: s-maj=47.4km s-min=19.9km az=60.0*
*MEX **11** 12:19:15.1±0.9, 15°.51N×94°.76W, h20km±40km, MD4.2*
ISC 11 12:19:10.5±3.1, **15°.45N**±0°.07×**94°.74W**±0°.03, **h9**km±21km, **n26**, σ2§**36**/40, **mb3.4**/4, **MS2.9**/3, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.12**	**6**	*e*P	**Pb**	**12 19 31.1**	**-0.9**
NILT				*e*S	**Sb**	**12 19 43.9**	**-2.8**
CARR	**Arriaga**	**1.12**	**45**	*e*P	**Pb**	**12 19 31.5**	**-0.6**
CARR				*i* S	**Sb**	**12 19 44.7**	**-2.1**
HUIG	**Huatulco**	**1.36**	**284**	*e*P	**Pn**	**12 19 35.5**	**-0.1**
HUIG				*e*S	**Sn**	**12 19 50.7**	**-3.1**
PCIG		**1.48**	**80**	*e*P	**Pn**	**12 19 37.6**	**+0.2**
PCIG				*e*S	**Sn**	**12 19 55.0**	**-1.9**
CMIG	**Matias Romero**	**1.64**	**355**	Pg	**Pn**	**12 19 39.7**	**+0.1**
	115nm,0.3s,baz=164,slow=11,SNR=984						
CMIG				Lg	Lg	12 19 58.2	
	139nm,0.3s,baz=160,slow=13,SNR=12						
CMIG				LR	LR	12 20 30.2	
	comp=Z,224nm,21.4s,baz=208,slow=53						
CMIG	**Matias Romero**	**1.64**	**355**	*e*P	**Pn**	**12 19 39.6**	**+0.1**
CMIG				*e*S	**Sn**	**12 19 58.3**	**-2.5**
TGIG		**2.04**	**49**	*e*P	**Pb**	**12 19 46.5**	**-1.3**
TGIG				*i* S	**Sb**	**12 20 11.8**	**-1.5**
TGBT	**Tuxtla Gutierr**	**2.06**	**50**	*e*P	**Pb**	**12 19 47.8**	**-0.3**
TGBT				*i* S	**Sb**	**12 20 12.2**	**-1.6**
PEIG	**Puerto Escondi**	**2.39**	**284**	*e*P	**Pn**	**12 19 50.0**	**+0.2**
PEIG				*e*S	**Sn**	**12 20 14.6**	**-4.6**
VHO	**Vista Hermosa**	**2.51**	**310**	*e*P	**Pb**	**12 19 54.2**	**-1.6**
VHO				*e*S	**Sn**	**12 20 22.0**	**-0.5**
CCIG	**Comitan**	**2.63**	**71**	*e*P	**Pb**	**12 19 55.9**	**-2.1**
CCIG				*e*S	**Sn**	**12 20 25.1**	**-0.5**
TXIG	**Tlaxiaco**	**3.42**	**302**	*e*P	**Pn**	**12 20 07.3**	**+3.0**
TXIG				*e*S	**Sn**	**12 20 43.5**	**-1.6**
TOIG	**Toxpalan**	**3.45**	**320**	*e*P	**Pn**	**12 20 07.9**	**+3.4**
TOIG				*e*S	**Sn**	**12 20 44.4**	**-1.3**
HLIG	**Huajuapan de L**	**3.78**	**309**	*e*P	**Pn**	**12 20 09.0**	**-0.1**
HLIG				*e*S	**Sn**	**12 20 52.0**	**-1.8**
FTIG	**Fresnillo de T**	**4.07**	**307**	*e*P	**Pn**	**12 20 16.6**	**+3.5**
FTIG				*e*S	**Sn**	**12 20 59.7**	**-1.3**
MGIG	**Malinaltepec**	**4.14**	**296**	*e*P	**Pn**	**12 20 16.3**	**+2.2**
MGIG				*e*S	**Sn**	**12 21 00.2**	**-2.6**
TLIG	**Tlapa**	**4.23**	**300**	*e*P	**Pn**	**12 20 18.8**	**+3.5**
TLIG				*e*S	**Sn**	**12 21 01.1**	**-3.9**
CRIG	**Cruz Grande**	**4.42**	**287**	*e*P	**Pn**	**12 20 19.1**	**+1.3**
CRIG				*e*S	**Sn**	**12 21 04.0**	**-5.2**
TXAR	**Lajitas Array**	**16.09**	**331**	Pn	**P**	**12 23 00.4**	**-0.1**
	baz=148,slow=12,SNR=7.8 0.4nm,0.7s						
ANMO	**Albuquerque**	**22.09**	**334**	P	**P**	**12 24 09.4**	**+3.2**
	0.3nm,0.6s,baz=149,slow=12,SNR=1.7 0.3nm,0.6s						
PFO	**Pinyon Flats O**	**26.69**	**317**	LR	LR	12 34 06.0	
	comp=Z,34nm,21.5s,baz=164,slow=33						
SJG	**San Juan**	**27.48**	**80**	LR	LR	12 34 49.6	
	comp=Z,21nm,21.8s,baz=142,slow=35						
NVAR	**Mina Array Bea**	**30.90**	**322**	P	**P**	**12 25 30.8**	**+3.1**
	0.3nm,0.7s,baz=131,slow=9.8,SNR=3.6 0.3nm,0.7s						
YBH	**Yreka Blue Hor**	**35.61**	**323**	LR	LR	12 41 44.2	
	comp=Z,64nm,21.5s,baz=128,slow=38						
ILAR	**Eielson Array**	**60.48**	**337**	P	**P**	**12 29 21.7**	**+1.2**
	0.4nm,0.9s,baz=131,slow=5.6,SNR=4.1 0.4nm,0.9s						
ESDC	**Sonseca Array**	**80.89**	**51**	P	**P**	**12 31 25.2**	**-0.2**
	0.6nm,0.8s,baz=301,slow=5.2,SNR=4.6 0.6nm,0.8s						

*IDC **11** 12:20:17.1±1.5, 34°.38N×26°.80E, h0km, mb3.5/3, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=204.5km s-min=25.2km az=141.0*
*ATH **11** 12:20:20.5, 34°.99N×26°.26E, h22km±2km, ML3.2/4, Error ellipse: s-maj=3.6km s-min=1.3km az=340.0*
*THE **11** 12:20:20.2, 34°.94N×26°.30E, h3km±3km, ML3.1/2, Error ellipse: s-maj=3.0km s-min=1.1km az=353.0*
*ISK **11** 12:20:21.6, 35°.25N×26°.28E, h1km, ML3.0/9*
ISC 11 12:20:19.0±1.6, **34°.86N**±0°.08×**26°.29E**±0°.03, **h11**km±9km, **n35**, σ0§**89**/48, **mb3.5**/3, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.26**	**346**	P	**Pg**	**12 20 24.9**	**+0.5**
ZKR				S	**Sg**	**12 20 28.0**	**0.0**
	19µm,0.3s						
ZKR	**Zakros**	**0.26**	**346**	PG	**Pg**	**12 20 24.8**	**+0.4**
ZKR				SG	**Sg**	**12 20 27.9**	**0.0**
ZKR	**Zakros**	**0.26**	**346**	P	**Pg**	**12 20 24.8**	**+0.4**
ZKR				S	**Sg**	**12 20 27.8**	**-0.2**
ZKR				AML	AML	12 20 29.0	
	comp=E,64115µm,0.2s						
ZKR				AML	AML	12 20 29.9	
	comp=N,12692µm,0.4s						
STIA	**Sitia Lasithi**	**0.38**	**334**	P	**Pg**	**12 20 26.5**	**0.0**
STIA				S	**Sg**	**12 20 31.3**	**-0.3**
STIA	**Sitia Lasithi**	**0.38**	**334**	P	**Pg**	**12 20 26.4**	**-0.1**
STIA				S	**Sg**	**12 20 31.3**	**-0.3**
STIA				AML	AML	12 20 31.6	
	comp=E,16406µm,0.3s						
STIA				AML	AML	12 20 32.5	
	comp=N,11837µm,0.3s						
FRMA	**Ierapetra Chan**	**0.48**	**289**	P	**Pg**	**12 20 27.5**	**-1.0**
FRMA				S	**Sg**	**12 20 33.4**	**-1.5**
FRMA	**Ierapetra Chan**	**0.48**	**289**	P	**Pg**	**12 20 27.4**	**-1.0**
FRMA				S	**Sg**	**12 20 33.3**	**-1.5**
FRMA				AML	AML	12 20 33.7	
	comp=E,21949µm,0.2s						
FRMA				AML	AML	12 20 35.4	
	comp=N,11877µm,0.3s						
KARP	**Karpathos**	**0.99**	**46**	P	**Pg**	**12 20 37.6**	**-0.5**
KARP				S	**Sb**	**12 20 51.4**	**+0.2**
	comp=N,792nm,0.3s						
KARP	**Karpathos**	**0.99**	**46**	PG	**Pg**	**12 20 37.5**	**-0.5**
KARP	**Karpathos**	**0.99**	**46**	P	**Pg**	**12 20 37.3**	**-0.7**
KARP				S	**Sg**	**12 20 50.5**	**-0.4**
KARP				AML	AML	12 20 54.9	
	comp=E,1573µm,0.3s						
KARP				AML	AML	12 20 55.2	
	comp=N,1570µm,0.3s						
HRKL	**Herakleio**	**1.08**	**295**	PG	**Pn**	**12 20 41.1**	**+1.1**
HRKL	**Herakleio**	**1.08**	**295**	P	**Pg**	**12 20 39.6**	**-0.1**
IDI	**Anoyia**	**1.23**	**291**	P	**Pb**	**12 20 42.2**	**0.0**
IDI				S	**Sb**	**12 20 58.8**	**+0.7**
IDI	**Anoyia**	**1.23**	**291**	P	**Pb**	**12 20 41.8**	**-0.5**
PRNS	**Prines Rethymn**	**1.55**	**289**	P	**Pb**	**12 20 49.0**	**+1.3**
PRNS				S	**Sg**	**12 21 09.7**	**+0.8**
SANT	**Santorini**	**1.65**	**336**	PN	**Pn**	**12 20 47.3**	**-0.7**
SANT	**Santorini**	**1.65**	**336**	P	**Pn**	**12 20 47.4**	**-0.7**
THR8	**Santorini-Mono**	**1.68**	**337**	P	**Pn**	**12 20 47.8**	**-0.5**
THR8	**Santorini-Mono**	**1.68**	**337**	P	**Pn**	**12 20 47.8**	**-0.5**
THR5	**Thira Island,**	**1.73**	**334**	P	**Pn**	**12 20 48.9**	**-0.2**
THR5	**Thira Island,**	**1.73**	**334**	P	**Pn**	**12 20 48.8**	**-0.3**
KOSK	**Kos Island**	**1.97**	**16**	PN	**Pn**	**12 20 52.1**	**-0.2**
IMMV	**Iera Moni Meta**	**1.99**	**288**	PN	**Pb**	**12 20 56.3**	**+1.1**
IMMV				SN	**Sb**	**12 21 21.3**	**+1.4**
IMMV	**Iera Moni Meta**	**1.99**	**288**	P	**Pb**	**12 20 55.6**	**+0.4**
ARG	**Arkhangelos**	**2.02**	**47**	P	**Pn**	**12 20 53.9**	**+1.0**
ARG	**Arkhangelos**	**2.02**	**47**	PN	**Pb**	**12 20 54.9**	**-0.8**
ARG				SN	**Sn**	**12 21 18.8**	**+0.6**
ARG	**Arkhangelos**	**2.02**	**47**	P	**Pb**	**12 20 54.9**	**-0.8**
DAT	**Datca**	**2.14**	**29**	PN	**Pn**	**12 20 54.9**	**+0.2**
APE	**Apeiranthos**	**2.29**	**345**	PN	**Pn**	**12 20 56.6**	**-0.2**
APE	**Apeiranthos**	**2.29**	**345**	P	**Pn**	**12 20 56.4**	**-0.4**
YER	**Yerkesik**	**2.79**	**35**	P	**Pn**	**12 21 04.5**	**+0.9**
BRTR	**Keskin Array B**	**7.61**	**48**	Pn	**Pn**	**12 22 13.2**	**+3.3**
	comp=N,0.1nm,0.3s,baz=231,slow=16,SNR=1.8 comp=N,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**31.02**	**232**	P	**P**	**12 26 37.2**	**+0.4**
	comp=N,0.3nm,0.5s,baz=32,slow=8.6,SNR=5.7 comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**43.16**	**56**	P	**P**	**12 28 19.0**	**-0.6**
	comp=N,0.5nm,0.5s,baz=275,slow=7.8,SNR=4.9 comp=N,0.5nm,0.5s						
SONM	**Songino Array**	**58.96**	**51**	P	**P**	**12 30 17.2**	**-1.3**
	comp=N,0.2nm,0.4s,baz=286,slow=5.4,SNR=2.1 comp=N,0.2nm,0.4s						

ROM 11 12:34:07.7±0.1, **42°.855N**±0°.003×**13°.277E**±0°.004, **h7**km, **ML1.1**/3, **Error ellipse: s-maj=0.3km s-min=0.0km az=222.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMO1	**Montemonaco**	**0.06**	**39**	P	Pg	12 34 09.5	0.0
MMO1				S	Sg	12 34 10.8	+0.1
MMO1	**Montemonaco**	**0.06**	**39**	P	Pg	12 34 09.5	0.0
MMO1				S	Sg	12 34 10.8	+0.1
T1242	**Castelluccio d**	**0.06**	**245**	P	Pg	12 34 09.5	0.0
T1242				S	Sg	12 34 11.0	+0.2
T1242				AML	AML		
	comp=E,183µm,1.2s						
T1242				AML	AML		
	comp=N,229µm,0.3s						
T1242				AML	AML		
	comp=N,228µm,0.3s						
T1242				AML	AML		
	comp=E,182µm,1.2s						
T1242	**Castelluccio d**	**0.06**	**245**	P	Pg	12 34 09.5	0.0
T1242				S	Sg	12 34 11.0	+0.1
T1242				AML	AML		
	comp=E,182µm,1.2s						
T1242				AML	AML		
	comp=N,228µm,0.3s						
T1242				AML	AML		
	comp=N,228µm,0.3s						
T1242				AML	AML		
	comp=E,182µm,1.2s						
T1241	**Roccafluvione,**	**0.11**	**89**	P	Pg	12 34 10.8	+0.5
T1241				S	Sg	12 34 13.0	+1.1
T1241				AML	AML		
	comp=E,137µm,0.7s						
T1241				AML	AML		
	comp=N,69µm,1.0s						
T1241				AML	AML		
	comp=N,69µm,1.0s						
T1241				AML	AML		
	comp=E,137µm,0.7s						
NRCA	**Norcia**	**0.12**	**260**	P	Pg	12 34 11.0	+0.6
NRCA				S	Sg	12 34 13.1	+0.9
NRCA				AML	AML		
	comp=E,396µm,0.1s						
NRCA				AML	AML		
	comp=N,333µm,0.1s						
NRCA				AML	AML		
	comp=N,333µm,0.1s						
NRCA				AML	AML		
	comp=E,396µm,0.1s						
NRCA	**Norcia**	**0.12**	**260**	AML	AML		
	comp=E,396µm,0.1s						
NRCA				AML	AML		
	comp=N,333µm,0.1s						
T1204	**Amatrice, Fraz**	**0.18**	**171**	P	Pg	12 34 12.1	+0.7
T1204				S	Sg	12 34 15.4	+1.5
T1204	**Amatrice, Fraz**	**0.18**	**171**	P	Pg	12 34 11.9	+0.5
T1204				S	Sg	12 34 15.2	+1.3
T1216	**Preci, Frazion**	**0.19**	**281**	P	Pg	12 34 12.2	+0.5
T1243	**Rocca Santa Ma**	**0.20**	**141**	P	Pg	12 34 12.2	+0.4
T1243				S	Sg	12 34 15.9	+1.3
T1243	**Rocca Santa Ma**	**0.20**	**141**	P	Pg	12 34 12.2	+0.4
T1243				S	Sg	12 34 15.7	+1.2
FDMO	**Fiordimonte**	**0.23**	**323**	P	Pg	12 34 10.0	-2.3
CSP1	**Cessapalombo**	**0.24**	**347**	P	Pg	12 34 13.2	+0.7
CSP1				S	Sg	12 34 17.4	+1.5
CSP1				AML	AML		
	comp=E,57µm,1.6s						
CSP1				AML	AML		
	comp=N,65µm,1.4s						
CSP1				AML	AML		
	comp=N,65µm,1.4s						
CSP1				AML	AML		
	comp=E,57µm,1.6s						
T1217	**Poggiodomo (PG**	**0.29**	**241**	S	Sb	12 34 20.0	-0.5
T1215	**Vallo di Nera,**	**0.30**	**260**	S	Sg	12 34 19.0	+1.2
LNSS	**Leonessa**	**0.31**	**215**	S	Sg	12 34 19.0	+1.2
LNSS	**Leonessa**	**0.31**	**215**	AML	AML		
	comp=N,150µm,0.1s						
LNSS				AML	AML		
	comp=E,156µm,0.3s						
TERO	**Teramo**	**0.33**	**134**	S	Sb	12 34 22.0	+0.4
TERO	**Teramo**	**0.33**	**134**	AML	AML		
	comp=N,73µm,0.1s						
TERO				AML	AML		
	comp=E,66µm,0.1s						
TERO				AML	AML		
	comp=E,66µm,0.1s						

*PRU **11** 12:37:20.6±0.0, 46°.10N×9°.41E, h0km*
*LDG **11** 12:37:46.0, 46°.06N×7°.83E, h63km*
VIE 11 12:37:19.3±0.6, **46°.26N×9°.62E, h0**km, **mb1.7**/3, **ml2.1**/12, **Error ellipse: s-maj=3.8km s-min=2.5km az=25.0 22 km WNW of Sondrio, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVA	**Damuels**	**1.04**	**10**	Pg	Pg	12 37 39.6	+0.3
	1.3nm,0.2s						
FETA	**Feichten**	**1.08**	**45**	Pg	Pg	12 37 40.4	+0.4
	0.5nm,0.2s						
FETA				Sg	Sb	12 37 56.2	+0.5
	1.0nm,0.3s						
SQTA	**Sankt Quirin**	**1.46**	**48**	Pg	Pb	12 37 47.4	0.0
	0.3nm,0.2s						
SQTA				Sg	Sn	12 38 07.2	+0.3
	9.0nm,0.4s						
RETA	**Reutte**	**1.46**	**32**	Pg	Pb	12 37 48.2	+0.9
	0.2nm,0.3s						
RETA				*e*Sg	Sn	12 38 07.1	+0.3
	2.6nm,0.3s						
MOTA	**Moosalm**	**1.49**	**43**	Pg	Pn	12 37 47.4	-0.1
	3.7nm,0.6s						
WTTA	**Wattenberg**	**1.71**	**53**	Pg	Pb	12 37 51.5	-0.3
	0.1nm,0.1s						
WATA	**Walderalm**	**1.72**	**51**	Pg	Pg	12 37 52.2	-0.1
	0.3nm,0.1s						
WATA				Sn	Sn	12 38 13.5	0.0
	7.7nm,0.5s						
ABTA	**Abfaltersbach**	**2.06**	**75**	Pg	Pg	12 37 58.7	0.0
	4.2nm,1.7s						
LPG	**La Plagne**	**2.15**	**250**	*e*Pn	Pg	12 38 05.3	+4.9
LPG				*e*Sg	Sn	12 38 17.9	-6.2
	15nm,0.4s						
LPL	**La Plagne**	**2.15**	**251**	*e*Pn	Pg	12 38 04.5	+4.0
LPL				*e*Sg	Sn	12 38 17.4	-6.7
	21nm,0.8s						
HINF	**Hinteralfeld**	**2.45**	**310**	*e*Pn	Pg	12 38 16.0	+10
CABF	**La Chapelle**	**2.47**	**279**	*e*Pn	Pg	12 38 09.4	+2.7
MBDF	**Montbardon**	**2.52**	**234**	*e*Pn	Pg	12 38 12.8	+5.1
HAU	**Haudompre**	**2.84**	**309**	*e*Pn	Pg	12 38 20.7	+7.0
ORIF	**Oris-en-Rattie**	**2.95**	**244**	*e*Pn	Pg	12 38 18.3	+2.4
KHC	**Kasperske Hory**	**3.92**	**41**	*e*PG	Pg	12 38 34.7	+0.2
KHC				*e*SG	Sg	12 39 32.2	+6.9
	comp=Z,2.7nm,0.5s						

*IDC **11** 12:37:57.4±1.2, 4°.11S×125°.08E, h0km, mb3.9/5, mbtmp3.9/8, ML3.4/3, MS3.1/6, Error ellipse: s-maj=65.2km s-min=18.3km az=69.0*
*DJA **11** 12:38:01.1±2.4, 5°.5±2°×12°.4E±°, h17km±22km, M4.2/18, mb4.7/9, mB4.8/7, MLv4.1/18, Mw(mB)4.1/7*
ISC 11 12:38:00.8±0.7, **4°.80S**±0°.06×**123°.97E**±0°.06, **h27**km, **n26**, σ1§**43**/24, **mb4.0**/5, **MS3.0**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.55**	**244**	P	**Pn**	**12 38 28.0**	**+1.3**
BBSI				S	**Sb**	**12 38 48.3**	**+0.1**
SANI	**Sanana**	**3.39**	**36**	P	**Pn**	**12 38 51.7**	**-0.3**
NLAI	**Namlea**	**3.48**	**64**	P	**Pn**	**12 38 54.9**	**+1.6**
BSSI	**Bau Bau, Buton**	**3.71**	**249**	P	**Pn**	**12 38 57.8**	**+1.4**
BKSI	**Bulukumba**	**3.87**	**262**	P	**Pn**	**12 38 59.1**	**+0.5**
LUWI	**Luwuk**	**3.92**	**342**	P	**Pn**	**12 38 58.8**	**-0.5**
SPSI	**Sidrap Palu**	**4.27**	**281**	P	**Pn**	**12 39 05.0**	**+0.9**
AAI	**Ambon**	**4.35**	**75**	P	**Pn**	**12 39 07.0**	**+1.7**
APSI	**Ampana**	**4.50**	**329**	P	**Pn**	**12 39 07.2**	**-0.1**
EDFI	**Ende, Flores**	**4.53**	**210**	P	**Pn**	**12 39 09.5**	**+1.7**
KMSI	**Cibinong**	**5.34**	**0**	P	**Pn**	**12 39 19.4**	**+0.6**
	0.5nm116nm,0.6s						
BATI	**Baumata**	**5.38**	**183**	Pn	**Pb**	**12 39 32.7**	**-1.5**
	3.3nm,0.3s,baz=18,slow=19,SNR=4.0 15nm,0.6s						
MRSI	**Marisa**	**5.62**	**339**	P	**Pn**	**12 39 23.0**	**+0.3**
	0.2nm882nm55nm,0.5s						
TNTI	**Ternate**	**6.49**	**32**	P	**Pn**	**12 39 35.5**	**+0.9**
	0.2nm826nm35nm,0.8s						
MPSI	**Mapaga**	**6.53**	**321**	P	**Pn**	**12 39 35.8**	**+0.7**
	0.1nm602nm33nm,0.8s						
SIJI	**Sorong**	**8.26**	**62**	LR	LR	12 43 37.2	
	comp=Z,65nm,19.5s,baz=178,slow=49						
FAKI	**Fak Fak**	**8.47**	**78**	P	**Pn**	**12 40 04.1**	**+2.3**
FITZ	**Fitzroy Crossi**	**13.32**	**173**	Pn	**P**	**12 41 15.3**	**-2.3**
	0.1nm,0.3s,baz=259,slow=9.8,SNR=2.5 1.1nm,0.6s						
WRA	**Warramunga Arr**	**18.13**	**147**	P	**Pn**	**12 42 09.4**	**-1.4**
	0.1nm,0.3s,baz=322,slow=12,SNR=12						
WRA				LR	LR	12 49 29.8	
	comp=Z,77nm,18.9s,baz=10,slow=38 2.7nm,0.9s						
ASAR	**Alice Springs**	**21.06**	**154**	P	**P**	**12 42 45.0**	**+1.9**
	7.8nm,1.0s,baz=334,slow=12,SNR=34						
ASAR				LR	LR	12 50 48.7	
	comp=Z,82nm,18.7s,baz=268,slow=36 7.8nm,1.0s						
CTA	**Charters Tower**	**26.48**	**127**	LR	LR	12 53 45.4	
	comp=Z,80nm,18.3s,baz=256,slow=36						
GUMO	**Guam**	**27.64**	**48**	LR	LR	12 54 45.3	
	comp=Z,18nm,18.1s,baz=102,slow=38						
CMAR	**Chiang Mai Arr**	**33.80**	**314**	P	**P**	**12 44 42.8**	**+1.9**
	0.6nm,0.4s,baz=136,slow=6.9,SNR=8.9						
CMAR				LR	LR	12 59 25.8	
	comp=Z,18nm,18.8s,baz=140,slow=38 0.6nm,0.4s						
SONM	**Songino Array**	**54.64**	**346**	P	**P**	**12 47 25.4**	**-1.9**
	0.6nm,0.7s,baz=157,slow=7.8,SNR=1.6 0.6nm,0.7s						
MKAR	**Makanchi Array**	**63.19**	**329**	P	**P**	**12 48 28.2**	**+1.6**
	1.8nm,0.7s,baz=125,slow=7.8,SNR=14 1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**67.06**	**336**	P	**P**	**12 48 51.5**	**0.0**
	0.6nm,0.4s,baz=116,slow=3.4,SNR=4.2 0.6nm,0.4s						

*JMA **11** 12:39:52.3±0.2, 23°.4N±0°.6×12°.1E±°, h0km, MV3.2/12, TAIWAN REGION*
*TAP **11** 12:39:56.3, 23°.46N×121°.29E, h12km, ML3.8, B*
ISC 11 12:39:55.9±0.8, **23°.44N**±0°.01×**121°.34E**±0°.02, **h13**km±4km, **n123**, σ0§**90**/220, **27C-24D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YULB	**Yu-li**	**0.06**	**215**	⇑*i*P	**Pg**	**12 39 58.9**	**+0.3**
	baz=176						
YULB				*i* S	**Sg**	**12 40 00.5**	**0.0**
	baz=176						
EHY	**Hungye**	**0.06**	**349**	⇑*i*P	**Pg**	**12 39 58.8**	**+0.2**
	baz=38						
EHY				*i* S	**Sg**	**12 40 00.3**	**-0.2**
	baz=38						
HGSD	**Ruisui**	**0.10**	**59**	*i* P	**Pg**	**12 40 00.0**	**+1.1**
	baz=75						
HGSD				*i* S	**Sg**	**12 40 03.0**	**+1.9**
	baz=75						
EYUL	**Yuli**	**0.10**	**189**	⇑*i*P	**Pg**	**12 39 59.4**	**+0.4**
	baz=168						
EYUL				*i* S	**Sg**	**12 40 01.6**	**+0.6**
	baz=168						
TWF1	**Yuli**	**0.10**	**201**	⇑*i*P	**Pg**	**12 39 59.4**	**+0.4**
	baz=174						
TWF1				S	**Sg**	**12 40 01.6**	**+0.5**
	baz=174						
EGFH	**Guangfu**	**0.24**	**21**	⇑*i*P	**Pb**	**12 40 01.4**	**-0.8**
	baz=31						
EGFH				*e*S	**Sb**	**12 40 04.7**	**-1.6**
	baz=31						
TEGC	**Jichi Village**	**0.33**	**35**	*e*P	**Pg**	**12 40 03.9**	**+1.3**
	baz=43						
TEGC				*e*S	**Sb**	**12 40 09.9**	**+1.2**
	baz=43						
CHKT	**Chengkung**	**0.34**	**175**	⇓*e*P	**Pg**	**12 40 03.8**	**+0.9**
	baz=168						
YUS	**Yu-Shan**	**0.35**	**278**	⇑*i*P	**Pg**	**12 40 03.7**	**+0.4**
	baz=275						
YU

LONT				*i* S	Sg	12 40 15.5	+0.9	**WCHH**	**Zhanghua**			0.95 312	*e*P	Pg	12 40 15.3	+0.9	**IRIF**	**Iriomote-Funau**	2.37	67	P	Pn	12 40 34.3	-0.1
	baz=195								baz=313								IRIF				*e*S	Sn	12 41 04.0	+0.7
STYH	**Taoyuan**	0.58 242	⇑	*e*P	Pb	12 40 06.6	-1.4	WCHH					*e*S	Sn	12 40 29.2	+0.8	**JKRS**	**Kuro-shima**	2.57	72	P	Pn	12 40 37.2	-0.1
	baz=239								baz=313								**JIJ**	**Ishigaki jima**	2.73	70	P	Pn	12 40 38.8	-0.7
STYH				*e*S	Sb	12 40 13.6	-2.5	**CHN3**	**Shinhua**			0.96 248	*e*P	Pg	12 40 16.7	+2.1	JIJ				*e*S	Sn	12 41 12.0	-0.3
	baz=239								baz=246								**JTJ**	**Tarama**	3.30	68	P	Pn	12 40 46.8	-0.5
WUSB	**Renai**	0.58 340	⇓	*i*P	Pb	12 40 07.5	-0.6	**TSMG**	**Majia**			0.97 221	⇑	*e*P	Pb	12 40 14.1	-0.5	JTJ				*e*S	Sn	12 41 27.8	+1.4
	baz=343								baz=218								**JMJ2**	**Miyako jima3**	3.87	70	P	Pn	12 40 55.1	0.0
WUSB				S	Sb	12 40 14.5	-1.8	TSMG					*e*S	Sb	12 40 27.2	-0.1	**JOGS**	**Gusukube**	3.94	70	*e*P	Pn	12 40 55.4	-0.8
	baz=343								baz=218															
HWA	**Hwalien**	0.59	25	*e*P	Pb	12 40 08.0	-0.1	**ICHU**	**Yijhu**			0.97 265	*e*P	Pb	12 40 15.0	+0.3								
	baz=30								baz=264															
SMLT	**Sun Moon Lake**	0.59 318	⇓	*i*P	Pb	12 40 07.7	-0.5	ICHU					*e*S	Sn	12 40 29.0	+0.1								
	baz=320								baz=264															
SMLT				*e*S	Sb	12 40 15.4	-1.1	**NNSB**	**Datong**	0.98		3	⇑	*e*P	Pb	12 40 13.8	-1.1								
	baz=320								baz=5.0															
STYT	**Tauyuan**	0.60 242	⇑	*e*P	Pb	12 40 08.1	-0.3	NNSB					*e*S	Sb	12 40 27.1	-0.7								
	baz=238								baz=5.0															
STYT				*e*S	Sb	12 40 15.5	-1.2	**NNSH**	**Datong**	0.98		3	⇑	*e*P	Pb	12 40 13.8	-1.1								
	baz=238								baz=5.0															
CHN5	**Tsauling**	0.62 284	⇓	*e*P	Pb	12 40 08.0	-0.7	NNSH					*e*S	Sb	12 40 26.9	-0.9								
	baz=284								baz=5.0															
CHN5				*e*S	Sb	12 40 16.7	-0.7	**WRL**	**Guolierlin Hig**			0.99 298	*e*P	Pb	12 40 14.4	-0.5								
	baz=284								baz=298															
CHGB	**Renai**	0.63 347	⇓	*i*P	Pb	12 40 08.4	-0.5	WRL					*e*S	Sn	12 40 29.3	0.0								
	baz=350								baz=298															
CHGB				*e*S	Sb	12 40 17.0	-0.8	**NNS**	**Nan Shan**	0.99		2	⇓	*e*P	Pb	12 40 14.0	-1.0								
	baz=350								baz=5.0															
TYC	**Yuchr**	0.64 316	⇓	P	Pb	12 40 08.5	-0.4	NNS					*e*S	Sb	12 40 26.8	-1.4								
	baz=319								baz=5.0															
TYC				*e*S	Sb	12 40 16.6	-1.0	**SHHT**	**Tainan City**	1.00 245			*e*P	Pg	12 40 16.2	+1.0								
	baz=319								baz=243															
TPUB	**Ta-pu**	0.66 258	⇑	*e*P	Pg	12 40 09.6	+0.7	**WSL**	**Shuilin Townsh**	1.02 275			*e*P	Pb	12 40 15.0	-0.5								
	baz=255								baz=274															
TPUB				*e*S	Sg	12 40 18.6	+0.9	WSL					*e*S	Sb	12 40 28.8	0.0								
	baz=255								baz=274															
WPL	**Puli Township**	0.66 329		*e*P	Pb	12 40 09.0	-0.4	**CHN8**	**Yiju**	1.04 265			*e*P	Pg	12 40 16.8	+0.8								
	baz=330								baz=263															
WPL				*e*S	Sb	12 40 17.1	-1.4	CHN8					*e*S	Sg	12 40 31.7	+2.2								
	baz=330								baz=263															
TWGBT	**Beinan**	0.67 201		*e*P	Pb	12 40 07.7	-1.7	**TWQ1**	**Liyutan**	1.04 330			*e*P	Pg	12 40 16.8	+0.8								
	baz=197								baz=332															
TWGBT				*e*S	Sb	12 40 18.0	-0.5	TWQ1					*e*S	Sg	12 40 31.9	+2.3								
	baz=197								baz=332															
WCKO	**Fanlu**	0.67 270	⇓	*e*P	Pb	12 40 09.0	-0.5	**WSF**	**Szhu**	1.04 281			*e*P	Pn	12 40 16.3	+0.2								
	baz=268								baz=280															
WCKO				*e*S	Sb	12 40 18.1	-0.6	WSF					*e*S	Sg	12 40 31.0	+1.4								
	baz=268								baz=280															
WJS	**Zhushan**	0.67 304	⇓	*e*P	Pg	12 40 10.3	+1.2	**ENA**	**Nanau**	1.05		21	*e*P	Pb	12 40 13.8	-2.2								
	baz=305								baz=23															
WJS				*e*S	Sn	12 40 20.3	-1.2	ENA					*e*S	Sn	12 40 30.2	-0.6								
	baz=305								baz=23															
TWD	**Chiawan**	0.68	21	*e*P	Pb	12 40 08.3	-1.3	**MASBT**	**Mashibuluo**	1.05 218			⇑	*e*P	Pb	12 40 15.7	-0.3								
	baz=25								baz=216															
TWD				*e*S	Sb	12 40 18.3	-0.6	MASBT					*e*S	Sb	12 40 29.1	-0.5								
	baz=25								baz=216															
WTP	**Ta-pu**	0.69 254	⇑	*e*P	Pg	12 40 10.1	+0.7	**WTCT**	**Ta-ch'eng**	1.05 294			*e*P	Pn	12 40 16.4	0.0								
	baz=251								baz=293															
WTP				*e*S	Sg	12 40 19.3	+0.7	**SGLT**	**Jiouru**	1.06 228			*e*P	Pg	12 40 17.5	+1.2								
	baz=251								baz=225															
DPDB	**Guoxing**	0.70 328	⇓	*e*P	Pb	12 40 09.8	-0.2	**EWUT**	**Wuta**	1.08		22	*e*P	Pb	12 40 15.4	-1.0								
	baz=330								baz=24															
DPDB				*e*S	Sb	12 40 18.6	-1.0	EWUT					*e*S	Sb	12 40 30.3	-0.1								
	baz=330								baz=24															
WHF	**Hehuan Shan**	0.70 355	⇑	P	Pb	12 40 09.4	-0.9	**SCLT**	**Jiali**	1.08 256			*e*P	Pn	12 40 16.9	+0.1								
	baz=358								baz=254															
WHF				*e*S	Sb	12 40 18.5	-1.5	**LATG**	**Datong**	1.10		9	*e*P	Pn	12 40 15.3	-1.8								
	baz=358								baz=11															
TTN	**Taitung**	0.71 194		*e*P	Pb	12 40 09.4	-0.7	LATG					*e*S	Sb	12 40 31.0	-0.2								
	baz=190								baz=11															
WCS	**Beigang Elemen**	0.72 328	⇓	*e*P	Pb	12 40 09.2	-1.2	**NSY**	**Sanyi**	1.10 332			*e*P	Pg	12 40 18.0	+0.8								
	baz=330								baz=333															
WCS				*e*S	Sb	12 40 18.1	-2.1	NSY					*e*S	Sg	12 40 34.0	+2.4								
	baz=330								baz=333															
WNT	**Mingjian**	0.74 306	⇓	*e*P	Pn	12 40 11.8	-0.2	**WDJ**	**Dajia District**	1.10 325			*e*P	Pg	12 40 18.5	+1.2								
	baz=307								baz=326															
WNT				*e*S	Sn	12 40 23.2	+0.1	**EAST**	**Anshuo**	1.15 203			⇑	*e*P	Pb	12 40 17.8	+0.1								
	baz=307								baz=201															
WGK	**Gukeng**	0.75 289	⇓	*e*P	Pn	12 40 11.9	-0.3	EAST					*e*S	Sg	12 40 34.6	+1.6								
	baz=289								baz=201															
WGK				*e*S	Sn	12 40 23.2	-0.2	**TAW**	**Tawu**	1.15 201			*e*P	Pb	12 40 18.0	+0.3								
	baz=289								baz=198															
WNT1	**Nantou City**	0.76 308		*e*P	Pn	12 40 12.3	0.0	**NDT**	**Datong Townshi**	1.17		8	⇓	*e*P	Pn	12 40 18.1	+0.2								
	baz=308								baz=10.0															
WNT1				*e*S	Sn	12 40 23.6	0.0	NDT					*e*S	Sb	12 40 32.7	-0.2								
	baz=308								baz=10.0															
ETL	**Fush Village**	0.76	20	*e*P	Pb	12 40 10.6	-0.4	**TAWH**	**Dawu Township**	1.17 201			*e*P	Pn	12 40 17.3	-0.7								
	baz=24								baz=199															
ETL				*e*S	Sb	12 40 20.9	-0.4	**TSCK**	**Chigu Township**	1.19 256			*e*P	Pn	12 40 18.0	-0.2								
	baz=24								baz=254															
NACB	**Ninganchiao**	0.77	18	*e*P	Pb	12 40 09.2	-1.9	**SSPT**	**Xinbi**	1.19 217			⇑	*e*P	Pb	12 40 18.8	+0.5								
	baz=21								baz=214															
NACB				*e*S	Sb	12 40 21.1	-0.3	SSPT					*e*S	Sg	12 40 34.9	+0.6								
	baz=21								baz=214															
WDLH	**Douliu**	0.77 289	⇓	*e*P	Pn	12 40 12.2	-0.3	**NMLH**	**Miaoli**	1.20 336			*e*P	Pg	12 40 19.8	+0.7								
	baz=288								baz=337															
WDLH				*e*S	Sn	12 40 22.8	-1.1	NMLH					*e*S	Sg	12 40 36.6	+1.9								
	baz=288								baz=337															
ETLH	**Xiulin Townshi**	0.77	10	⇑	*e*P	Pb	12 40 09.6	-1.7	**NFF**	**Wufeng Townshi**	1.20 351			*e*P	Pn	12 40 17.6	-0.9								
	baz=13								baz=352															
ETLH				*e*S	Sb	12 40 21.0	-0.7	**ENTT**	**Nioudou**	1.21		10	*e*P	Pn	12 40 18.1	-0.5								
	baz=13								baz=12															
LDUT	**Ludao**	0.78 171	⇑	*i*P	Pb	12 40 10.5	-0.7	ENTT					*e*S	Sb	12 40 33.7	-0.5								
	baz=168								baz=12															
LDUT				S	Sb	12 40 21.5	-0.2	**NSTT**	**Nanjuang**	1.22 346			*e*P	Pb	12 40 19.6	+0.7								
	baz=168								baz=347															
SLGT	**Liugui**	0.78 235		*e*P	Pb	12 40 11.5	+0.2	NSTT					*e*S	Sn	12 40 34.9	-0.2								
	baz=232								baz=347															
SLGT				*e*S	Sb	12 40 21.7	0.0	**YHNB**	**Yeheng**	1.22		2	*e*P	Pb	12 40 19.3	+0.3								
	baz=232								baz=4.0															
SGST	**Jiashian**	0.78 243	⇑	*e*P	Pb	12 40 10.9	-0.4	YHNB					*e*S	Sb	12 40 34.2	-0.5								
	baz=240								baz=4.0															
SGST				*e*S	Sb	12 40 21.7	-0.1	**NSK**	**Sanguang**	1.23		1	*e*P	Pn	12 40 18.2	-0.7								
	baz=240								baz=3.0															
CHN1	**Nanshi**	0.79 251	⇑	*e*P	Pg	12 40 12.1	+0.9	NSK					*e*S	Sb	12 40 33.3	-1.5								
	baz=249								baz=3.0															
CHN1				*e*S	Sn	12 40 23.1	-1.2	**LIOB**	**Emei**	1.23 346			*e*P	Pb	12 40 19.9	+0.8								
	baz=249								baz=348															
CHN2	**Minshiung**	0.80 277	⇓	*e*P	Pn	12 40 12.9	+0.1	LIOB					*e*S	Sg	12 40 37.0	+1.2								
	baz=275								baz=348															
CHN2				*e*S	Sn	12 40 24.8	+0.3	**NDS**	**Dongshan**	1.23		16	*e*P	Pn	12 40 17.2	-1.6								
	baz=275								baz=18															
TWK	**Hsinying**	0.80 257	⇑	*e*P	Pg	12 40 12.1	+0.6	NDS					*e*S	Sb	12 40 33.8	-1.2								
	baz=255								baz=18															
TWK				*e*S	Sn	12 40 23.6	-1.0	**TWC**	**Suao**	1.25		22	*e*P	Pn	12 40 19.3	+0.2								
	baz=255								baz=24															
SNST	**Tainan City**	0.80 254		*e*P	Pg	12 40 12.4	+0.9	TWC					*e*S	Sn	12 40 36.3	+0.5								
	baz=252								baz=24															
SNST				*e*S	Sn	12 40 23.8	-0.8	**SCZT**	**Fangliau**	1.25 212			*e*P	Pb	12 40 19.6	+0.2								
	baz=252								baz=209															
FUSS	**Fushou**	0.81 354	P		Pb	12 40 11.4	-0.5	SCZT					*e*S	Sg	12 40 36.7	+0.3								
	baz=357								baz=209															
FUSS				*e*S	Sb	12 40 21.8	-1.1	**TWE**	**Neicheng**	1.31		13	*e*P	Pb	12 40 20.5	+0.1								
	baz=357								baz=16															
TWT	**Tachien**	0.82 350	⇓	*e*P	Pb	12 40 11.8	-0.3	**SLIU**	**Shizi**	1.32 202			*e*P	Pb	12 40 20.6	+0.1								
	baz=351								baz=200															
TWT				*e*S	Sb	12 40 20.7	-2.5	**FUSB**	**Fushanzhiwuyua**	1.33		10	*e*P	Pb	12 40 21.0	+0.2								
	baz=351								baz=12															
TDCB	**Techi**	0.82 349		*e*P	Pb	12 40 11.8	-0.4	FUSB					*e*S	Sn	12 40 37.7	-0.2								
	baz=351								baz=12															
TDCB				*e*S	Sb	12 40 22.3	-0.9	**LAY**	**Lan-yu**	1.41 172			*e*P	Pn	12 40 19.9	-1.4								
	baz=351								baz=170															
WWF	**Wufeng**	0.83 316		*e*P	Pb	12 40 12.7	+0.4	LAY					*e*S	Sn	12 40 39.0	-0.8								
	baz=317								baz=170															
CHY	**Chiayi**	0.84 274	⇓	*e*P	Pn	12 40 13.3	-0.1	**LYUB**	**Lan-yu**	1.45 171			*e*P	Pn	12 40 20.0	-1.9								
	baz=273								baz=169															
CHY				*e*S	Sn	12 40 25.1	-0.5	**WDGT**	**Dungji**	1.55 264			*e*P	Pn	12 40 23.2	0.0								
	baz=273								baz=262															
WYL	**Yuanlin Townsh**	0.86 307		*e*P	Pn	12 40 14.1	+0.4	WDGT					*e*S	Sn	12 40 43.2	0.0								
	baz=307								baz=262															
WHP	**Taichung City**	0.90 337		*e*P	Pb	12 40 13.4	-0.1	**TWKBT**	**Hengchun**	1.57 198			*e*P	Pg	12 40 26.1	-0.1								
	baz=339								baz=196															
ECL	**Taimali**	0.91 203		*e*P	Pb	12 40 12.8	-0.8	**TIPB**	**Shuangxi**	1.59		16	*e*P	Pn	12 40 23.3	-0.5								
	baz=200								baz=18															
ECL				*e*S	Sb	12 40 24.5	-1.1	**SXI1**	**Grass Mountain**	1.72		17	*e*P	Pn	12 40 25.8	+0.2								
	baz=200								baz=18															
TCU	**Taichung**	0.93 319	⇓	*e*P	Pg	12 40 15.2	+1.3	**JYNG**	**Yonagunijimaku**	1.78		55	P	Pn	12 40 26.1	-0.3								
	baz=321							JYNG					*e*S	Sb	12 40 50.8	+0.1								
TCU				*e*S	Sn	12 40 28.1	+0.4	**YOJ**	**Yonaguni jima**	1.84		56	*e*P	Pn	12 40 26.8	-0.3								
	baz=321								baz=57															
SSD	**Sandimen**	0.95 223	⇑	*e*P	Pb	12 40 13.8	-0.4	YOJ					*e*S	Sn	12 40 50.6	+0.3								
	baz=220								baz=57															
SSD				*e*S	Sg	12 40 27.1	+0.4	**YOJ**	**Yonaguni jima**	1.84		56	P	Pn	12 40 26.9	-0.3								
	baz=220							YOJ					*e*S	Sb	12 40 52.6	+0.3								
SCST	**Cishan**	0.95 235	⇑	*e*P	Pg	12 40 15.4	+1.0	**VWUC**	**VWUC**	2.31 312			*e*P	Pn	12 40 33.6	0.0								
	baz=232								baz=312															
SCST				*e*S	Sn	12 40 29.7	+1.3	**HATJ**	**Hateruma jima**	2.34		74	P	Pn	12 40 33.7	-0.4								
	baz=232							HATJ					*e*S	Sn	12 41 02.3	-0.4								

IDC ***11*** *12:57:12.2±2.0,28.°59N×107.°34W,h0km,mb3.3/2, mbtmp3.3/6,ML3.9/3,MS2.6/2,Error ellipse: s-maj=25.7km s-min=10.4km az=15.0*

MEX ***11*** *12:57:14.7±0.5,28.°45N×107.°52W,h5km,MD4.2*

ISC 11 12:57:10.7±0.8,28.°45N±0.°03×107.°47W±0.°04,h10km,n19, σ1§61/34,Chihuahua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSIG	**Choix**	1.80	207	*e*P	Pn	12 57 41.9	+0.2
CSIG				*e*S	Sn	12 58 04.6	0.0
CGIG		1.96	347	*e*P	Pn	12 57 45.0	+0.8
CGIG				*e*S	Sb	12 58 09.9	-1.2
HPIG		2.20	133	*e*P	Pn	12 57 48.6	+1.2
HPIG				*e*S	Sn	12 58 16.6	+1.8
NZIG	**Nacozari, Sono**	2.64	317	*e*P	Pn	12 57 54.6	+1.1
NZIG				*e*S	Sn	12 58 25.8	+0.1
GUYB	**Guaymas**	3.05	260	*e*P	Pn	12 57 58.7	-0.2
GUYB				*e*S	Sn	12 58 36.1	+0.5
HSIG		3.11	281	*e*P	Pn	12 57 59.9	+0.2
HSIG				*e*S	Sn	12 58 37.2	+0.2
TSIG	**Topolobambo**	3.16	207	*e*P	Pn	12 58 03.7	+3.2
TSIG				*e*S	Sn	12 58 34.9	-3.4
TXAR	**Lajitas Array**	3.45	74	Pn	Pn	12 58 04.1	-0.5
	6.1nm,0.3s,baz=247,slow=13,SNR=112						
TXAR				Pg	Pb	12 58 12.0	+0.1
	27nm,0.3s,baz=255,slow=18,SNR=39						
TXAR				Sn	Sn	12 58 45.3	-0.3
	20nm,0.3s,baz=256,slow=26,SNR=6.3						
TXAR				Lg	Lg	12 58 56.8	
	46nm,0.3s,baz=254,slow=29,SNR=6.6 10nm,0.4s						
SSIG	**Sanalona**	3.62	175	*e*P	Pn	12 58 06.3	-0.6
SSIG				*e*S	Sn	12 58 48.9	-0.8
MNTX	**Cornudas Mount**	3.71	29	*e*P	Pn	12 58 08.2	+0.1
MNTX				*i* S	Sn	12 58 50.0	-2.0
PDIG	**Papasquiaro**	3.87	151	*e*P	Pn	12 58 12.9	+2.5
PDIG				*e*S	Sn	12 58 57.4	+1.3
121A	**Cookes Peak, D**	4.08	356	*e*P	Pn	12 58 14.1	+0.8
121A				*e*S	Sn	12 59 00.4	-0.8
214A	**Organ Pipe Nat**	5.79	308	*e*P	Pn	12 58 37.4	+0.7
214A				*e*S	Sn	12 59 44.1	+0.9
ANMO	**Albuquerque**	6.54	7	Pn	Pn	12 58 48.6	+1.5
	0.7nm,0.4s,baz=184,slow=13,SNR=2.3						
ANMO				Pg	Pb	12 59 06.9	+2.3
	0.4nm,0.3s,baz=183,slow=17,SNR=7.5						
ANMO				Lg	Lg	13 00 32.4	
	1.2nm,0.3s,baz=77,slow=23,SNR=6.9						
ANMO				LR	LR	13 01 07.3	
	comp=Z,66nm,19.6s,baz=99,slow=37						
JCT	**Junction City**	6.99	71	*e*P	Pn	12 58 50.5	-2.7
NVAR	**Mina Array Bea**	13.44	321	Pn	P	13 00 27.5	-3.6
	0.1nm,0.3s,baz=138,slow=11,SNR=2.5 0.1nm,0.3s						
PDAR	**Pinedale Array**	14.39	354	Pn	P	13 00 40.1	-1.6
	0.1nm,0.3s,baz=164,slow=11,SNR=2.0						
PDAR				Lg	Lg	13 04 40.2	
	baz=169,slow=31						
PDAR				LR	LR	13 07 14.5	
	comp=Z,17nm,19.3s,baz=47,slow=42 1.3nm,0.7s						
TKL	**Tuckaleechee C**	21.30	64	P	P	13 01 59.2	+1.6
	1.5nm,0.8s,baz=253,slow=14,SNR=2.0 1.5nm,0.8s						
ILAR	**Eielson Array**	43.97	337	P	P	13 05 18.8	+1.1
	0.3nm,0.7s,baz=140,slow=4.7,SNR=2.9 0.3nm,0.7s						

ROM 11 13:09:20.8±0.1,42.°787N±0.°003×13.°131E±0.°004, h10km,ML1.2/8,Error ellipse: s-maj=0.3km s-min=0.2km az=244.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	0.05	346	P	Pg	13 09 22.6	-0.3
NRCA				AML	AML		
	comp=E,3305μm,0.2s						
NRCA				AML	AML		
	comp=E,3655μm,0.2s						
NRCA				AML	AML		
	comp=N,3175μm,0.4s						
NRCA				AML	AML		
	comp=N,2870μm,0.4s						
T1242	**Castelluccio d**	0.07	52	P	Pg	13 09 23.0	-0.1
T1242				AML	AML		
	comp=E,1155μm,0.4s						
T1242				AML	AML		
	comp=N,799μm,0.2s						
T1242				AML	AML		
	comp=N,786μm,0.2s						
T1242				AML	AML		
	comp=N,798μm,0.2s						
T1242				AML	AML		
	comp=E,1105μm,0.4s						
T1242				AML	AML		
	comp=E,1151μm,0.4s						
T1242				AML	AML		
	comp=N,786μm,0.2s						
T1202	**Accumoli, Fraz**	0.11	140	P	Pg	13 09 24.0	+0.4
T1216	**Preci, Frazion**	0.13	322	P	Pg	13 09 24.4	+0.5
MC2	**Monte Cornacci**	0.13	19	P	Pg	13 09 24.6	+0.6
MC2				S	Sg	13 09 27.4	+1.0
T1217	**Poggiodomo (PG**	0.17	243	P	Pg	13 09 25.0	+0.6
T1217				S	Sg	13 09 28.1	+1.1
T1204	**Amatrice, Fraz**	0.18	129	P	Pg	13 09 25.4	+0.8
MMO1	**Montemonaco**	0.18	52	P	Pg	13 09 25.2	+0.4
MMO1				S	Sg	13 09 28.4	+0.9
T1215	**Vallo di Nera,**	0.19	275	P	Pg	13 09 25.4	+0.6
T1215				AML	AML		
	comp=N,110μm,1.4s						
T1215				AML	AML		
	comp=E,68μm,1.6s						
LNSS	**Leonessa**	0.20	200	P	Pg	13 09 25.6	+0.6
LNSS				AML	AML		
	comp=E,121μm,0.2s						
LNSS				AML	AML		
	comp=N,109μm,0.5s						
SMA1	**SAN MARTINO**	0.22	136	P	Pg	13 09 26.3	+1.0
SMA1				AML	AML		
	comp=N,104μm,1.2s						
SMA1				AML	AML		
	comp=E,155μm,0.5s						
T1241	**Roccafluvione,**	0.23	72	P	Pg	13 09 26.3	+0.7
T1241				S	Sg	13 09 30.4	+1.5
T1243	**Rocca Santa Ma**	0.25	111	P	Pg	13 09 26.2	+0.2
T1243				S	Sb	13 09 31.0	-1.0
FDMO	**Fi

TERO			AML	AML	
	comp=N,36μm,1.0s				
TERO			AML	AML	
	comp=E,39μm,0.7s				
SNTG	**Esanatoglia**	**0.49 343**	P	Pg	13 09 30.9 +0.5
RMP	**Rome, Mte Porz**	**1.02 198**	AML	AML	
	comp=N,136μm,1.3s				
RMP			AML	AML	
	comp=E,120μm,0.1s				

MAN 11 13:09:31.1, 10°01N × 123°09E, h2km, mb4.7, ML3.6, MS3.5, 6C-4D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.68**	**168**	⇓*i*P		Pg	13 09 44.1	0.0
SNPH				*i* S		Sg	13 09 54.0	+1.0
TBP	**Tagbilaran**	**0.82**	**113**	⇓*i*P		Pg	13 09 47.0	+0.2
TBP				*i* S		Sb	13 09 58.8	-0.8
LLP	**Lapu-Lapu**	**0.91**	**71**	⇑*i*P		Pg	13 09 48.5	0.0
LLP				*i* S		Sb	13 10 01.8	-0.4
LSIP	**Lazi, Siquijor**	**1.02**	**149**	⇓*i*P		Pg	13 09 49.6	-1.1
LSIP				*i* S		Sg	13 10 03.6	-0.4
TABP	**Talibon, Bohol**	**1.22**	**86**	⇓*e*P		Pg	13 09 53.3	-1.2
TABP				*e*S		Sn	13 10 12.3	0.0
GHBP	**Garcia Hernand**	**1.27**	**107**	⇑*e*P		Pg	13 09 54.4	-1.0
GHBP				*e*S		Sn	13 10 13.1	-0.3
RCP	**Roxas**	**1.57**	**347**	⇑*e*P		Pb	13 10 00.9	0.0
RCP				*e*S		Sg	13 10 23.5	+1.8
CGP	**Cagayan de Oro**	**2.21**	**134**	⇑*e*P		Pn	13 10 05.4	-3.4
CGP				*e*S		Sn	13 10 33.2	-3.5
CTBH	**Cotabato--PC H**	**3.00**	**158**	⇑*i*P		Pn	13 10 20.9	+1.3
BIPH	**Bislig**	**3.70**	**119**	⇑*e*P		Pn	13 10 30.1	+0.8
BIPH				*e*S		Sn	13 11 12.9	-0.7

PRU ***11*** *13:10:02.5±0.0, 41°.74N×22°.25E, h10km, M5.2*
SOF ***11*** *13:10:03.7, 41°.95N×21°.33E, h1km, MD5.3*
TIR ***11*** *13:10:05.3, 41°.97N×21°.55E, h6km, Md4.9*
SKO ***11*** *13:10:06.0, 42°.00N×21°.50E, h15km*
CFUSG ***11*** *13:10:05.3, 42°.09N×21°.70E, h11km, mb3.9/6, Macedonia Magtype MSH 4.0 from 6 stations*
IDC ***11*** *13:10:05.5±0.3, 41°.98N×21°.44E, h0km, mb5.0/35, mbtmp4.9/51, ML4.2/15, MS4.3/80, Error ellipse: s-maj=7.6km s-min=6.3km az=48.0*
PDG ***11*** *13:10:06.9±0.4, 41°.99N×21°.50E, h10km, MD4.9/13, ML4.7/14, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0*
GII ***11*** *13:10:06.4±0.0, 42°.01N×21°.48E, h10km*
MOS ***11*** *13:10:06.6±1.0, 42°.05N×21°.45E, h16km, mb5.3/103, MS4.5/38, Error ellipse: s-maj=2.9km s-min=2.1km az=96.4*
LDG ***11*** *13:10:07.2±0.2, 42°.04N×21°.58E, h4km, Ml4.9/35, Error ellipse: s-maj=7.2km s-min=4.4km az=21.0*
MED_RC ***11*** *13:10:07.0±0.2, 41°.96N×21°.46E, h10km, MW5.1/20, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s20,c40; Duration: 1±5 Moment tensor: Scale 10^16Nm; Mrr=2.24±.13; Mθθ4.83±.09; Mφφ=2.59±.12; Mrθ=-1.91±.31; Mrφ 1.06±.09; Mθφ2.88±.43; Best double couple: M=5.52000×10^16 NP1:φs119.00000°,δ71.00000°, λ=43.00000°. NP2:φs226.00000°,δ50.00000°, λ=155.00000°. Principal axes: T 5.3300, Plg13.0000°, Azm177.0000°; N 0.3900, Plg44.0000°, Azm280.0000°; P =5.7100, Plg43.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
BJI ***11*** *13:10:07.0±0.0, 42°.00N×21°.50E, h9km, mb5.2/76, mB5.2/55, Ms5.1/61, Ms7 4.6/60*
BEO ***11*** *13:10:07.5±0.3, 41°.94N×21°.52E, h11km±2km, ML5.0/12*
BGS ***11*** *13:10:08.4±2.0, 41°.96N×21°.23E, h13km, mb5.2, MW5.3(NEIC)*
NEIC ***11*** *13:10:08.1±1.2, 42°.01N±0°.04×21°.49E±0°.05, h13km±3km, mb5.4/528, Mww5.1, Error ellipse: s-maj=6.3km s-min=5.8km az=192.0*
THE ***11*** *13:10:08.2, 41°.98N×21°.51E, h1km±1km, ML5.0/13, Error ellipse: s-maj=1.7km s-min=0.6km az=356.0*
GCMT ***11*** *13:10:09.0±0.1, 41°.88N±0°.01×21°.50E±0°.02, h18km, MW5.1/111, Moment Tensor Solution. s69,c95; s111,c187; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.73±.17; Mθθ6.28±.11; Mφφ -1.55±.11; Mrθ 0.22±.21; Mrφ=0.80±.08; Mθφ 0.44±.32; Best double couple: M=5.57900×10^16 NP1:φs257.00000°,δ47.00000°, λ=-100.00000°. NP2:φs92.00000°,δ44.00000°, λ=-79.00000°. Principal axes: T 6.3670, Plg1.0000°, Azm354.0000°; N -1.5760, Plg8.0000°, Azm264.0000°; P -4.7910, Plg82.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
RHSSO ***11*** *13:10:09.1±0.6, 42°.15N×21°.56E, h10km, ML5.1/11*
ROM ***11*** *13:10:09.5, 41°.98N×21°.43E, h20km, mb5.0/38, Mwp5.2/18, Error ellipse: s-maj=1.7km s-min=0.2km az=25.0*
NEIC ***11*** *13:10:11, 41°.91N×21°.48E, h16km, Moment Tensor Solution. Duration: 8±0 Moment tensor: Scale 10^16Nm; Mrr=4.12; Mθθ5.59; Mφφ -1.47; Mrθ -0.83; Mrφ 0.77; Mθφ=1.90; Fault plane solution: M=5.49000×10^16 NP1: φs238.00000°,δ48.00000°,λ=-129.00000°. NP2: φs109.00000°,δ55.00000°,λ=-54.00000°. Principal axes: T 5.7159, Plg4.0000°, Azm175.0000°; N -0.4920, Plg28.0000°, Azm267.0000°; P -5.2239, Plg62.0000°, Azm78.0000°;*

ISC 11 13:10:07.5±0.4, 42°.03N±0°.01×21°.46E±0°.01, h11km±2km, h12km:pP-P, n2357, σ1.940/2626, mb5.3/410, MS4.5/104, 139C-127D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.06**	**196**	P		**Pg**	**13 10 09.3**	**-0.4**
SKO				S		**Sg**	**13 10 11.1**	**-0.3**
SKO	**Skopje**	**0.06**	**196**	*i* Pg		**Pg**	**13 10 08.2**	**-1.6**
SKO				*i* Sg		**Sg**	**13 10 11.0**	**-0.3**
SKO	**Skopje**	**0.06**	**196**	⇓*i*Pg		**Pg**	**13 10 09.3**	**-0.4**
SKO				*i* Sg		**Sg**	**13 10 11.1**	**-0.3**
STIP	**Stip**	**0.64**	**121**	*i* Pg		**Pb**	**13 10 21.1**	**+0.5**
STIP				*i* Sg		**Sn**	**13 10 32.3**	**-0.2**
STIP	**Stip**	**0.64**	**121**	*i* Pg		**Pb**	**13 10 21.5**	**+0.9**
STIP				*i* Sg		**Sn**	**13 10 32.0**	**-0.5**
BARS	**Barje**	**0.83**	**18**	*e*Pg		**Pg**	**13 10 23.4**	**-0.1**
BARS				*e*Sg		**Sn**	**13 10 36.4**	**-1.0**
BARS	**Barje**	**0.83**	**18**	⇑*i*Pg		**Pg**	**13 10 23.4**	**-0.1**
BARS				*i* Sg		**Sn**	**13 10 36.0**	**-1.4**
BARS	**Barje**	**0.83**	**18**	⇑*i*Pg		**Pg**	**13 10 23.5**	**-0.1**
BARS				*i* Sg		**Sn**	**13 10 36.5**	**-0.9**
PHP	**Peshkopia**	**0.83**	**246**	P		**Pg**	**13 10 22.9**	**-0.7**
PHP				S		**Sg**	**13 10 34.2**	**-0.3**
	90μm,0.7s							
PHP	**Peshkopia**	**0.83**	**246**	P		**Pg**	**13 10 22.4**	**-1.2**
PHP				S		**Sg**	**13 10 35.0**	**+0.6**
PHP	**Peshkopia**	**0.83**	**246**	P		**Pg**	**13 10 22.4**	**-1.2**
	baz=252							
PHP				S		**Sg**	**13 10 35.1**	**+0.6**
	baz=252							
BOSS	**Bosilegrad**	**0.89**	**58**	*e*Pg		**Pg**	**13 10 23.9**	**-0.7**
BOSS				*e*Sg		**Sg**	**13 10 35.9**	**-0.4**
OHR	**Ohrid**	**1.04**	**209**	*i* P		**Pb**	**13 10 26.8**	**-0.6**
OHR				*i* S		**Sb**	**13 10 40.7**	**-0.4**
OHR	**Ohrid**	**1.04**	**209**	*i* Pg		**Pb**	**13 10 26.4**	**-1.1**
OHR				*i* Sg		**Sg**	**13 10 41.7**	**+0.7**
OHR				*e*Lg		Lg	13 10 42.2	
	comp=E,120μm,0.6s							
OHR				*e*Lg		Lg	13 10 42.5	
	comp=N,106μm,0.6s							
OHR	**Ohrid**	**1.04**	**209**	⇑*i*Pg		**Pb**	**13 10 26.9**	**-0.6**
OHR				*i* Sg		**Sb**	**13 10 40.8**	**-0.4**
OHR				*e*Lg		Lg	13 10 42.0	
	comp=E,120μm,0.6s							
BCI	**Bajram Curri**	**1.09**	**289**	P		**Pb**	**13 10 28.3**	**0.0**
	baz=291							
BCI				S		**Sn**	**13 10 47.5**	**+3.8**
	baz=291							
VAY	**Valandovo**	**1.09**	**130**	*i* P		**Pb**	**13 10 26.6**	**-1.7**
VAY				*i* S		**Sb**	**13 10 41.2**	**-1.3**
VAY	**Valandovo**	**1.09**	**130**	⇑*i*Pg		**Pb**	**13 10 26.5**	**-1.7**
VAY				*i* Sg		**Sb**	**13 10 41.4**	**-1.1**
VAY				*e*Lg		Lg	13 10 43.9	
	comp=E,90μm,1.0s							
VAY				*e*Lg		Lg	13 10 45.1	
	comp=N,53μm,0.7s							
VAY	**Valandovo**	**1.09**	**130**	*i* Pg		**Pb**	**13 10 26.7**	**-1.7**
VAY				*i* Sg		**Sb**	**13 10 41.2**	**-1.3**
VAY				*e*Lg		Lg	13 10 43.9	
	comp=N,53μm,0.7s							
SELS	**Selova**	**1.22**	**348**	*e*Pg		**Pb**	**13 10 30.4**	**-0.1**
SELS				*e*Sg		**Sg**	**13 10 49.1**	**+2.4**
KKB	**Krupnik**	**1.22**	**97**	P		**Pb**	**13 10 30.6**	**0.0**
KKB	**Krupnik**	**1.22**	**97**	*i* P		**Pb**	**13 10 30.5**	**0.0**
PVY	**Plav**	**1.25**	**298**	⇓*i*Pg		**Pn**	**13 10 30.6**	**-0.4**
PVY				*i* Sg		**Sg**	**13 10 50.9**	**+3.2**
GRG	**Griva**	**1.28**	**146**	P		**Pn**	**13 10 30.8**	**-0.6**
GRG				S		**Sb**	**13 10 47.7**	**-0.3**
	comp=N,83μm,0.8s							
GRG	**Griva**	**1.28**	**146**	*i* P		**Pn**	**13 10 30.7**	**-0.6**
GRG				*i* S		**Sb**	**13 10 47.4**	**-0.6**
GRG	**Griva**	**1.28**	**146**	⇑*i*Pg		**Pn**	**13 10 30.4**	**-0.8**
GRG				*i* Sg		**Sb**	**13 10 47.5**	**-0.6**
GRG	**Griva**	**1.28**	**146**	⇑*i*Pg		**Pn**	**13 10 30.7**	**-0.6**
GRG				*i* Sg		**Sb**	**13 10 47.5**	**-0.6**
TIR	**Tirane**	**1.37**	**241**	⇑P		**Pn**	**13 10 32.9**	**+0.3**
TIR				S		**Sg**	**13 10 55.5**	**+3.8**
TIR	**Tirane**	**1.37**	**241**	P		**Pb**	**13 10 33.2**	**+0.1**
TIR				S		**Sg**	**13 10 52.9**	**+1.3**
	comp=N,17μm,0.8s							
TIR	**Tirane**	**1.37**	**241**	Pn		**Pn**	**13 10 32.0**	**-0.5**
TIR	**Tirane**	**1.37**	**241**	P		**Pn**	**13 10 32.0**	**-0.5**
TIR	**Tirane**	**1.37**	**241**	*e*Pg		**Pb**	**13 10 33.4**	**+0.3**
TIR				*e*Sg		**Sg**	**13 10 51.6**	**0.0**
TIR	**Tirane**	**1.37**	**241**	*i* Pg		**Pn**	**13 10 32.3**	**-0.2**
TIR				*i* Sg		**Sg**	**13 10 53.8**	**+2.1**
TIR	**Tirane**	**1.37**	**241**	*i* Pn		**Pn**	**13 10 32.8**	**+0.3**
TIR	**Tirane**	**1.37**	**241**	P		**Pb**	**13 10 33.3**	**+0.1**
	baz=245							
TIR				S		**Sg**	**13 10 54.6**	**+3.0**
	baz=245							
TIR	**Tirane**	**1.37**	**241**	⇑P		**Pn**	**13 10 32.3**	**-0.2**
KNT	**Kendrikon**	**1.38**	**128**	*e*P		**Pn**	**13 10 31.8**	**-0.9**
KNT	**Kendrikon**	**1.38**	**128**	P		**Pn**	**13 10 32.7**	**+0.1**
KNT				S		**Sn**	**13 10 50.8**	**-0.1**
	comp=N,59μm,0.6s							
KNT	**Kendrikon**	**1.38**	**128**	*i* P		**Pn**	**13 10 32.7**	**+0.1**
KNT	**Kendrikon**	**1.38**	**128**	⇑*i*Pg		**Pn**	**13 10 31.8**	**-0.9**
KNT				*i* Sg		**Sn**	**13 10 50.8**	**-0.1**
KNT	**Kendrikon**	**1.38**	**128**	*i* Pg		**Pn**	**13 10 32.8**	**+0.1**
IVA	**Berane**	**1.44**	**307**	⇑*i*Pg		**Pb**	**13 10 34.4**	**+0.2**
IVA				*i* Sg		**Sg**	**13 10 56.6**	**+2.9**
VTS	**Vitosha**	**1.44**	**65**	⇓P		**Pb**	**13 10 34.1**	**-0.3**
VTS				⇑S		**Sg**	**13 10 53.8**	**-0.2**
VTS	**Vitosha**	**1.44**	**65**	*e*P		**Pb**	**13 10 34.1**	**-0.3**
VTS	**Vitosha**	**1.44**	**65**	Pn		**Pn**	**13 10 33.1**	**-0.5**
VTS	**Vitosha**	**1.44**	**65**	P		**Pn**	**13 10 33.1**	**-0.5**
VTS	**Vitosha**	**1.44**	**65**	*e*Pg		**Pb**	**13 10 34.2**	**-0.3**
VTS				*e*Sg		**Sg**	**13 10 53.5**	**-0.4**
VTS	**Vitosha**	**1.44**	**65**	⇓*i*Pn		**Pb**	**13 10 34.1**	**-0.3**
VTS				*i* Sg		**Sg**	**13 10 54.1**	**+0.2**
VTS	**Vitosha**	**1.44**	**65**	*i* Pn		**Pb**	**13 10 34.1**	**-0.3**
VTS	**Vitosha**	**1.44**	**65**	*i* P		**Pb**	**13 10 34.1**	**-0.3**
VTS	**Vitosha**	**1.44**	**65**	⇑P		**Pn**	**13 10 33.5**	**-0.2**
KBN	**Korca**	**1.49**	**200**	P		**Pn**	**13 10 34.6**	**+0.4**
KBN				S		**Sg**	**13 10 56.2**	**+0.8**
	comp=N,50μm,1.1s							
KBN	**Korca**	**1.49**	**200**	Pn		**Pn**	**13 10 33.8**	**-0.4**
KBN	**Korca**	**1.49**	**200**	P		**Pn**	**13 10 33.8**	**-0.4**
KBN	**Korca**	**1.49**	**200**	P		**Pn**	**13 10 34.0**	**-0.2**
	baz=204							
KBN				S		**Sg**	**13 10 55.4**	**0.0**
	baz=204							
BOVS	**Bovan**	**1.62**	**6**	⇑P		**Pn**	**13 10 35.7**	**-0.2**
BOVS				⇑S		**Sg**	**13 11 01.1**	**+1.6**
BOVS	**Bovan**	**1.62**	**6**	*e*Pn		**Pn**	**13 10 36.0**	**+0.1**
BOVS				*e*Sn		**Sg**	**13 11 00.3**	**+0.8**
NEST	**Nestorio**	**1.64**	**191**	P		**Pn**	**13 10 37.1**	**+0.8**
NEST				S		**Sb**	**13 10 58.7**	**+0.3**
	comp=N,49μm,0.9s							
SJES	**Sjenica**	**1.65**	**319**	*e*Pn		**Pb**	**13 10 38.3**	**+0.4**
SJES				*e*Sn		**Sb**	**13 10 59.3**	**+0.5**
SJES	**Sjenica**	**1.65**	**319**	*e*Pn		**Pb**	**13 10 38.1**	**+0.2**
SJES				*e*Sn		**Sg**	**13 11 01.8**	**+1.2**
ULC	**Ulcinj**	**1.65**	**269**	P		**Pb**	**13 10 38.0**	**+0.1**
ULC				S		**Sg**	**13 11 01.0**	**+0.4**
ULC	**Ulcinj**	**1.65**	**269**	*i* Pn		**Pb**	**13 10 38.2**	**+0.3**
ULC	**Ulcinj**	**1.65**	**269**	⇑*i*Pn		**Pb**	**13 10 38.0**	**+0.1**
ULC				*i* Sn		**Sg**	**13 11 01.9**	**+1.3**
KOME	**Kolasin**	**1.66**	**300**	⇑*i*Pn		**Pn**	**13 10 37.1**	**+0.6**
KOME				*i* Sn		**Sg**	**13 11 01.7**	**+0.9**
PDG	**Podgorica**	**1.69**	**285**	⇓P		**Pb**	**13 10 38.2**	**-0.3**
PDG				⇓S		**Sg**	**13 11 03.4**	**+1.7**
PDG	**Podgorica**	**1.69**	**285**	*e*P		**Pb**	**13 10 37.9**	**-0.5**
PDG	**Podgorica**	**1.69**	**285**	Pn		**Pb**	**13 10 37.7**	**-0.7**
PDG	**Podgorica**	**1.69**	**285**	*i* Pn		**Pb**	**13 10 38.3**	**-0.2**
PDG	**Podgorica**	**1.69**	**285**	⇑P		**Pn**	**13 10 37.4**	**+0.6**
TTG	**Podgorica**	**1.69**	**285**	P		**Pb**	**13 10 37.8**	**-0.7**
TTG				S		**Sg**	**13 11 01.7**	**+0.7**
TTG	**Podgorica**	**1.69**	**285**	⇑*i*Pn		**Pb**	**13 10 37.8**	**-0.7**
TTG				*i* Sn		**Sg**	**13 11 02.0**	**+0.3**
DRME	**Dracevica, Mon**	**1.70**	**276**	*e*Pn		**Pb**	**13 10 38.9**	**+0.2**
DRME				*e*Sn		**Sg**	**13 11 02.4**	**+0.3**
DRME	**Dracevica, Mon**	**1.70**	**276**	⇓*i*Pn		**Pb**	**13 10 38.2**	**-0.5**
DRME				*i* Sn		**Sg**	**13 11 02.7**	**+0.6**
KTI	**Kastanea**	**1.71**	**163**	P		**Pn**	**13 10 37.5**	**+0.3**
KZN	**Kozani**	**1.73**	**172**	P		**Pn**	**13 10 38.1**	**+0.6**
KZN				S		**Sn**	**13 10 59.7**	**0.0**
	comp=N,21μm,0.6s							
MMB	**Musomiste**	**1.75**	**104**	P		**Pn**	**13 10 38.2**	**+0.4**
MMB				S		**Sg**	**13 11 05.1**	**+1.4**
MMB	**Musomiste**	**1.75**	**104**	*i* P		**Pn**	**13 10 38.2**	**+0.4**
THE	**Thessaloniki**	**1.80**	**140**	P		**Pn**	**13 10 38.4**	**+0.1**
THE				S		**Sb**	**13 11 02.2**	**-0.6**
	comp=N,11μm,0.6s							
THE	**Thessaloniki**	**1.80**	**140**	*i* P		**Pn**	**13 10 37.9**	**-0.4**
THE	**Thessaloniki**	**1.80**	**140**	⇑*i*Pn		**Pn**	**13 10 38.0**	**-0.4**
THE				*i* Sg		**Sn**	**13 11 00.2**	**-0.8**
THE	**Thessaloniki**	**1.80**	**140**	*i* Pn		**Pn**	**13 10 38.0**	**-0.4**
IVAS	**Ivanjica**	**1.82**	**329**	*e*Pn		**Pn**	**13 10 38.9**	**+0.1**
IVAS				*e*Sn		**Sg**	**13 11 04.9**	**-1.2**
BLKB	**Belogradchik**	**1.83**	**29**	⇓P		**Pb**	**13 10 39.7**	**-1.2**
BLKB				⇑S		**Sg**	**13 11 05.5**	**-0.7**
SRS	**Serrai**	**1.84**	**119**	P		**Pn**	**13 10 39.1**	**+0.1**
SRS				S		**Sn**	**13 11 03.0**	**+0.8**
	comp=N,30μm,1.1s							
SRS	**Serrai**	**1.84**	**119**	*i* P		**Pn**	**13 10 39.0**	**+0.1**
SRS	**Serrai**	**1.84**	**119**	*e*Pn		**Pn**	**13 10 38.9**	**-0.1**
SRS				*e*Sn		**Sn**	**13 11 00.2**	**-2.0**
SRS	**Serrai**	**1.84**	**119**	⇓*i*Pn		**Pn**	**13 10 38.9**	**0.0**
SRS				*i* Sg		**Sn**	**13 11 02.2**	**0.0**
SRS	**Serrai**	**1.84**	**119**	*i* Pn		**Pn**	**13 10 39.1**	**+0.1**
SOH	**Sokhos**	**1.86**	**130**	P		**Pn**	**13 10 39.5**	**+0.2**
SOH				S		**Sb**	**13 11 05.4**	**+0.6**
	comp=N,29μm,0.7s							
SOH	**Sokhos**	**1.86**	**130**	P		**Pn**	**13 10 39.2**	**-0.1**
SOH	**Sokhos**	**1.86**	**130**	⇓*i*Pn		**Pn**	**13 10 39.2**	**-0.1**
SOH				*i* Sg		**Sg**	**13 11 06.8**	**-0.6**
ZAGS	**Zajecar**	**1.87**	**17**	*e*Pn		**Pn**	**13 10 40.2**	**+0.8**
ZAGS				*e*Sn		**Sb**	**13 11 04.0**	**-1.1**
HORT	**Hortiatis**	**1.89**	**139**	*e*P		**Pn**	**13 10 39.7**	**0.0**
HORT	**Hortiatis**	**1.89**	**139**	P		**Pn**	**13 10 39.9**	**+0.2**
NVR	**Nevrokopi**	**1.92**	**110**	P		**Pn**	**13 10 40.5**	**+0.4**
BUM	**Brajici-Budva**	**1.93**	**279**	⇓*i*Pn		**Pn**	**13 10 42.8**	**+0.2**
BUM				*i* Sn		**Sb**	**13 11 08.0**	**+1.3**
GRUS	**Gruza**	**1.94**	**344**	*e*Pn		**Pb**	**13 10 41.9**	**-0.9**
GRUS				*e*Sn		**Sg**	**13 11 09.1**	**-0.7**
CEME	**Cevo**	**1.96**	**286**	⇓*i*Pn		**Pb**	**13 10 42.3**	**-0.8**
CEME				*i* Sn		**Sg**	**13 11 08.9**	**-1.4**
LSK	**Leskovik**	**1.98**	**199**	P		**Pn**	**13 10 42.3**	**+1.3**
LSK				S		**Sn**	**13 11 07.0**	**+1.2**
	comp=N,73μm,1.1s							
LSK	**Leskovik**	**1.98**	**199**	P		**Pn**	**13 10 42.3**	**+1.3**
	baz=202							
LSK				S		**Sg**	**13 11 12.8**	**+1.6**
	baz=202							
NKY	**Niksic**	**1.99**	**294**	P		**Pb**	**13 10 43.0**	**-0.7**
NKY				S		**Sg**	**13 11 10.0**	**-1.3**
NKY	**Niksic**	**1.99**	**294**	⇓*i*Pn		**Pb**	**13 10 43.0**	**-0.7**
NKY				*i* Sn		**Sg**	**13 11 10.1**	**-1.3**
NKME	**Niksic**	**2.00**	**293**	⇑*i*Pn		**Pb**	**13 10 43.0**	**-0.8**
NKME				*i* Sn		**Sb**	**13 11 09.8**	**+1.1**
PLE	**Pljevlja**	**2.01**	**311**	P		**Pb**	**13 10 42.7**	**-1.3**
PLE	**Pljevlja**	**2.01**	**311**	⇑*i*Pn		**Pb**	**13 10 42.7**	**-1.3**
KPRO	**Kipourio**	**2.07**	**182**	P		**Pn**	**13 10 43.4**	**+1.2**
LIT	**Litokhoron**	**2.08**	**158**	P		**Pn**	**13 10 42.3**	**+0.1**
LIT	**Litokhoron**	**2.08**	**158**	Pn		**Pn**	**13 10 42.0**	**-0.2**
LIT	**Litokhoron**	**2.08**	**158**	P		**Pn**	**13 10 42.0**	**-0.2**
LIT				S		**Sn**	**13 11 08.5**	**+0.5**
LIT	**Litokhoron**	**2.08**	**158**	*i* Pn		**Pn**	**13 10 42.2**	**0.0**
LIT	**Litokhoron**	**2.08**	**158**	⇑P		**Pn**	**13 10 42.0**	**-0.2**
PGB	**Panagyurishte**	**2.08**	**74**	P		**Pn**	**13 10 43.3**	**+1.1**
PGB	**Panagyurishte**	**2.08**	**74**	*i* P		**Pn**	**13 10 43.4**	**+1.2**
MPEP	**Malo Peshtene**	**2.14**	**51**	*i* P		**Pg**	**13 10 49.1**	**+0.6**
VLO	**Vlora**	**2.15**	**224**	P		**Pb**	**13 10 45.5**	**-0.8**
VLO	**Vlora**	**2.15**	**224**	Pn		**Pn**	**13 10 43.5**	**+0.4**
VLO	**Vlora**	**2.15**	**224**	P		**Pn**	**13 10 43.6**	**+0.4**
VLO	**Vlora**	**2.15**	**224**	P		**Pb**	**13 10 47.6**	**+1.3**
	baz=227							
VLO				S		**Sg**	**13 11 17.0**	**+0.5**
	baz=227							
RUDO	**Rudo**	**2.21**	**317**	*e*Pn		**Pn**	**13 10 44.8**	**+0.7**
RUDO				*e*Sn		**Sn**	**13 11 12.6**	**+1.2**
UPM	**Unac-Piva**	**2.22**	**303**	*e*Pn		**Pb**	**13 10 46.1**	**-1.7**
UPM	**Unac-Piva**	**2.22**	**303**	⇓*i*Pn		**Pb**	**13 10 46.0**	**-1.7**
UPM				*i* Sn		**Sb**	**13 11 15.4**	**+0.1**
HCY	**Herceg Novi**	**2.24**	**282**	*e*Pn		**Pb**	**13 10 46.7**	**-1.2**
HCY				*e*Sn		**Sb**	**13 11 15.8**	**+0.1**
HCY	**Herceg Novi**	**2.24**	**282**	P		**Pb**	**13 10 46.8**	**-1.2**
HCY				S		**Sb**	**13 11 15.0**	**-0.7**
HCY	**Herceg Novi**	**2.24**	**282**	⇓*i*Pn		**Pb**	**13 10 46.8**	**-1.2**
HCY				*i* Sn		**Sb**	**13 11 15.7**	**+0.1**
SVIS	**Svilajnac**	**2.25**	**356**	*e*Pn		**Pb**	**13 10 47.1**	**-0.9**
SVIS				*e*Sn		**Sb**	**13 11 13.9**	**-1.9**
KOKK	**Kokkinochori,**	**2.26**	**121**	P		**Pn**	**13 10 45.3**	**+0.6**
TRUS	**Trudelj**	**2.33**	**341**	*e*Pn		**Pn**	**13 10 46.6**	**+0.9**
TRUS				*e*Sn		**Sb**	**13 11 18.4**	**+0.2**
BRY	**Bratogost**	**2.33**	**293**	*e*Pn		**Pb**	**13 10 48.3**	**-1.2**
BRY				*e*Sn		**Sn**	**13 11 16.0**	**+1.5**
BRY	**Bratogost**	**2.33**	**293**	P		**Pb**	**13 10 48.4**	**-1.1**
BRY				S		**Sb**	**13 11 17.0**	**-1.4**
BRY	**Bratogost**	**2.33**	**293**	⇓*i*Pn		**Pb**	**13 10 47.9**	**-1.6**
BRY				*i* Sn		**Sb**	**13 11 17.6**	**-0.8**
DIVS	**Divibare**	**2.33**	**333**	Pn		**Pn**	**13 10 46.1**	**+0.3**
DIVS	**Divibare**	**2.33**	**333**	*e*Pn		**Pn**	**13 10 46.5**	**+0.6**
DIVS				*e*Sn		**Sn**	**13 11 14.6**	**+0.1**
DIVS	**Divibare**	**2.33**	**333**	*e*Pn		**Pn**	**13 10 46.4**	**+0.6**
DIVS				*e*Sn		**Sb**	**13 11 15.7**	**-0.8**
DIVS	**Divibare**	**2.33**	**333**	⇑P		**Pn**	**13 10 46.4**	**+0.6**
BBLS	**Lazići**	**2.38**	**321**	*e*Pn		**Pn**	**13 10 47.7**	**+1.3**
KUBS	**Kucevo**	**2.39**	**4**	*e*Pn		**Pn**	**13 10 46.2**	**-0.3**
KUBS				*e*Sn		**Sb**	**13 11 18.5**	**-1.5**
TREB	**Trebinje**	**2.41**	**288**	*e*Pn		**Pb**	**13 10 49.4**	**-1.3**
TREB				*e*Sn		**Sb**	**13 11 19.0**	**-1.4**
JAN	**Janina**	**2.41**	**191**	P		**Pn**	**13 10 47.7**	**+0.9**
SRN	**Sarande**	**2.41**	**208**	P		**Pn**	**13 10 49.0**	**+2.2**
SRN				S		**Sb**	**13 11 20.0**	**-0.5**
	comp=N,18μm,1.9s							
SRN	**Sarande**	**2.41**	**208**	P		**Pb**	**13 10 49.1**	**-1.7**
	baz=210							
SRN				S		**Sg**	**13 11 23.6**	**-1.3**
	baz=210							
PLD	**Plovdiv**	**2.42**	**87**	*e*P		**Pn**	**13 10 47.9**	**+1.1**
PLD	**Plovdiv**	**2.42**	**87**	P		**Pn**	**13 10 47.7**	**+0.9**
PLD	**Plovdiv**	**2.42**	**87**	⇓*i*Pn		**Pn**	**13 10 47.9**	**+1.1**
PLD	**Plovdiv**	**2.42**	**87**	*i* P		**Pn**	**13 10 47.9**	**+1

KEF4	Livadi, Kephal	3.85	192	P		Pn		13 11 06.9	+0.4		
DMLN	Damoulianata-K	3.87	193	P		Pn		13 11 07.1	+0.2		
VLS	Valsamata	3.90	190	P		Pn		13 11 07.5	+0.2		
KEF3	Kipouria, Keph	3.91	193	P		Pn		13 11 07.2	-0.2		
SKY	Skiros Island	3.93	142	P		Pn		13 11 08.1	+0.4		
KYMI	Kymi, Euboea I	3.94	148	P		Pn		13 11 08.1	+0.2		
EDRB	Edirne	3.95	91	*e*P		Pn		13 11 07.5	-0.4		
EDRB	Edirne	3.95	91	P		Pn		13 11 08.2	+0.3		
RLS	Riolos of Patr	3.96	180	P		Pn		13 11 10.1	+2.0		
PSDA	Pessada-Kefalo	3.96	190	P		Pn		13 11 08.6	+0.5		
SGRR	Singureni	3.97	55	⇑P		Pn		13 11 09.2	+1.0		
UKOP	Uzunkopru-Edir	3.98	101	*e*P		Pg		13 11 22.7	-1.0		
MGRS	Mrkonjic Grad	3.99	308	*e*Pn		Pn		13 11 10.5	+1.9		
MGRS				*e*Sn		Sn		13 11 56.5	+1.2		
DEV	Deva	4.00	15	⇑P		Pn		13 11 09.9	+1.4		
DEV	Deva	4.00	15	P		Pn		13 11 09.9	+1.4		
KLV	Kalavryta, Ach	4.01	172	P		Pn		13 11 10.0	+1.1		
RAZG	Razgrad	4.02	66	⇓P		Pn		13 11 09.8	+0.9		
ARR	Arges	4.06	33	⇑P		Pn		13 11 10.8	+1.3		
BUC1	Bucharest	4.07	54	⇓P		Pn		13 11 11.6	+2.0		
BUC1	Bucharest	4.07	54	P		Pn		13 11 11.5	+2.0		
MRVN	Minervino Murg	4.07	258	⇓P		Pn		13 11 09.9	+0.3		
DRO	Drossia	4.07	177	P		Pn		13 11 11.7	+2.0		
THAL	Thalero	4.09	167	P		Pn		13 11 10.6	+0.7		
BOZC	Bozcaada	4.11	121	*e*P		Pn		13 11 10.6	+0.5		
VILL	Villia	4.11	159	P		Pn		13 11 10.8	+0.6		
GELI	Tayfur-Gelibol	4.12	112	*e*P		Pn		13 11 10.3	+0.1		
MTUR	Matau	4.13	38	⇑P		Pn		13 11 12.7	+2.2		
BLY	Banja Luka	4.14	313	*e*Pn		Pn		13 11 12.0	+1.5		
BLY	Banja Luka	4.14	313	⇑P		Pn		13 11 12.0	+1.5		
LOUT	Loutraki	4.20	163	P		Pn		13 11 11.8	+0.4		
SIRR	Siria	4.24	2	⇑P		Pn		13 11 11.9	-0.1		
SGRT	San Giovanni R	4.28	268	Pn		Pn		13 11 12.8	+0.2		
VOIR		4.29	36	⇑P		Pn		13 11 14.3	+1.6		
VOIR		4.29	36	P		Pn		13 11 13.6	+0.9		
EZN	Ezine	4.29	119	*e*P		Pn		13 11 13.2	+0.6		
EZN	Ezine	4.29	119	P		Pn		13 11 13.2	+0.6		
LTHK	Lithakia	4.34	187	P		Pn		13 11 14.7	+1.4		
PIPA	Pietrapaola	4.34	236	⇓P		Pn		13 11 05.3	-8.1		
PIPA					AML	AML					
	comp=E,1585µm,0.5s										
PIPA					AML	AML					
	comp=N,1099µm,0.8s										
PIPA					AML	AML					
	comp=E,1570µm,0.5s										
PIPA					AML	AML					
	comp=N,1116µm,0.7s										
PIPA					AML	AML					
	comp=E,1700µm,0.7s										
PIPA					AML	AML					
	comp=N,1200µm,1.0s										
PIPA					AML	AML					
	comp=E,1730µm,0.7s										
PIPA					AML	AML					
	comp=N,1139µm,0.9s										
A050A	Klekovaca	4.36	306	*e*Pn		Pn		13 11 15.1	+1.5		
SIGR	SIGRI	4.37	129	*e*P		Pn		13 11 14.5	+0.9		
SIGR	SIGRI	4.37	129	P		Pn		13 11 14.6	+0.9		
DION	Dionisos Attik	4.38	153	P		Pn		13 11 14.5	+0.7		
PTL	Penteli	4.38	154	P		Pn		13 11 14.6	+0.7		
SULR		4.39	51	⇓P		Pn		13 11 15.9	+1.9		
ATH	Athens Observa	4.40	156	P		Pn		13 11 15.1	+0.9		
ATHU	Athens Univers	4.43	155	P		Pn		13 11 15.3	+0.7		
A051A	Mrakovica	4.46	314	*e*Pn		Pn		13 11 16.2	+1.2		
RKY	Sarkoy-Tekirda	4.51	105	*e*P		Pg		13 11 34.1	+0.3		
VLY	Voula,Athens	4.54	156	P		Pn		13 11 16.7	+0.7		
PRIJ	Prijedor	4.54	312	*e*Pn		Pn		13 11 17.3	+1.3		
PHSR	Pinarhisar	4.55	93	*e*P		Pn		13 11 16.6	+0.4		
TIP	Timpagrande	4.57	233	⇓P		Pn		13 11 16.8	+0.3		
TIP	Timpagrande	4.57	233	P		Pn		13 11 16.6	0.0		
TIP	Timpagrande	4.57	233	⇓P		Pn		13 11 16.4	-0.1		
EPID	Epidavros	4.59	163	P		Pn		13 11 17.2	+0.5		
PRK	Paraskevi	4.59	126	P		Pn		13 11 19.1	+2.3		
LEHL	Lehliu	4.62	56	⇓P		Pn		13 11 18.5	+1.4		
MDB	Medias	4.62	26	⇓P		Pn		13 11 18.8	+1.6		
MORH	Mrgy, Hungar	4.65	335	⇓P		Pn		13 11 18.4	+0.8		
MORH	Mrgy, Hungar	4.65	335	*e*Pn		Pn		13 11 17.9	+0.3		
MORH				*e*Sn		Sn		13 12 09.5	-2.0		
MORH	Mrgy, Hungar	4.65	335	P		Pn		13 11 18.3	+0.7		
MORH				S		Sn		13 12 12.8	+1.2		
RASA	Rasa	4.70	60	⇓P		Pn		13 11 19.9	+1.6		
CUC	Castrocucco	4.73	246			Pn		13 11 19.2	+0.5		
KOVH	Kovagotottos	4.73	330	P		Pn		13 11 19.3	+0.7		
KOVH				S		Sn		13 12 15.3	+1.9		
MLR	Muntele Rosu	4.75	42	⇓P		Pn		13 11 20.9	+1.9		
MLR	Muntele Rosu	4.75	42	Pn		Pn		13 11 20.5	+1.5		
	comp=N,6.7nm,0.3s,baz=220,slow=6.4,SNR=57										
	comp=N,27nm,0.3s										
MLR	Muntele Rosu	4.75	42	*e*P		Pn		13 11 22.1	+3.1		
MLR	Muntele Rosu	4.75	42	Pn		Pn		13 11 20.4	+1.3		
CRLT	Corlu	4.79	99	*e*P		Pb		13 11 35.1	+3.7		
ISR	Istrita	4.82	48	⇑P		Pn		13 11 21.8	+1.9		
ISR	Istrita	4.82	48	P		Pn		13 11 21.8	+1.9		
KRND	KRANIDI	4.82	164	P		Pn		13 11 20.7	+0.8		
MRMT	Marmara Adasi	4.83	105	*e*P		Pn		13 11 20.3	+0.1		
DRGR		4.85	10	⇑P		Pn		13 11 20.3	-0.1		
DRGR		4.85	10	P		Pn		13 11 20.2	-0.1		
DOPR	Dopca	4.85	34	⇑P		Pn		13 11 21.8	+1.4		
ITM	Ithomi	4.85	176	*e*P		Pn		13 11 21.8	+1.4		
ITM	Ithomi	4.85	176	P		Pn		13 11 22.3	+1.9		
ITM	Ithomi	4.85	176	Pn		Pn		13 11 21.8	+1.4		
ITM	Ithomi	4.85	176	⇑P		Pn		13 11 21.8	+1.4		
NEHR	Nehoiu	4.88	44	⇓P		Pn		13 11 23.1	+2.4		
CJR	Cluj-Napoca	4.93	17	⇑P		Pn		13 11 22.8	+1.3		
CJR	Cluj-Napoca	4.93	17	P		Pn		13 11 22.7	+1.3		
CMPR	Campora	4.95	252	AML		AML					
	comp=N,978µm,0.4s										
CMPR				AML		AML					
	comp=E,803µm,1.1s										
CBBR	Cluj-Babes-Bol	4.97	17	⇓P		Pn		13 11 23.4	+1.4		
AMRR	Amara	5.00	57	⇓P		Pn		13 11 23.6	+1.2		
TGMR	Targu Mures	5.01	25	⇑P		Pn		13 11 24.5	+2.0		
CHOS	Chios island	5.06	134	*e*P		Pn		13 11 24.3	+1.1		
CHOS	Chios island	5.06	134	P		Pn		13 11 24.4	+1.2		
BORR	Bors	5.07	3	⇓P		Pn		13 11 24.9	+1.6		
DKL	Dikili	5.09	124	⇑P		Pn		13 11 25.1	+1.5		
ICOR	Ion Corvin	5.09	64	⇑P		Pn		13 11 25.0	+1.4		
EDC	Edincik	5.11	107	*e*P		Pn		13 11 24.7	+0.8		
SLVT	Silivri	5.12	97	*e*P		Pn		13 11 24.9	+0.9		
OZUR		5.12	36	⇓P		Pn		13 11 25.5	+1.4		
PYL	PYLOS	5.13	177	P		Pn		13 11 24.7	+0.6		
COVR	Voineasa-Covas	5.13	40	⇑P		Pn		13 11 26.1	+1.9		
CTYL	Yalikoy Yolu	5.14	94	*e*P		Pn		13 11 24.9	+0.7		
PSN	Preselentsi	5.21	69	P		Pn		13 11 25.8	+0.5		
GRER		5.22	48	⇑P		Pn		13 11 28.6	+3.3		
MESR	Meseseni	5.23	11	⇓P		Pn		13 11 27.6	+2.0		
PAOL	Paolisi	5.27	261			Pn		13 11 27.1	+1.0		
CVDA	Cernavoda	5.33	62	⇓P		Pn		13 11 28.5	+1.6		
CTKS	Kestanelik-??a	5.34	96	*e*P		Pn		13 11 27.6	+0.6		
BSZH	Besenyszg	5.34	351	⇑P		Pn		13 11 28.7	+1.6		
BSZH	Besenyszg	5.34	351	P		Pn		13 11 28.6	+1.6		
PLOR	Plostina	5.35	43	⇑P		Pn		13 11 29.4	+2.1		
PLOR	Plostina	5.35	43	P		Pn		13 11 29.3	+2.1		
LTVH	Ltavrtes, Hu	5.37	3	⇑P		Pn		13 11 29.3	+1.9		
LTVH	Ltavrtes, Hu	5.37	3	P		Pn		13 11 28.9	+1.6		
URLA	Izmir	5.37	131	*e*P		Pn		13 11 27.7	+0.2		
VRI	Vrincioaia	5.40	43	⇓P		Pn		13 11 29.8	+1.9		
VRI	Vrincioaia	5.40	43	*e*P		Pn		13 11 30.8	+2.9		
VRI	Vrincioaia	5.40	43	P		Pn		13 11 29.4	+1.5		
VRI				pmax		pmax					
	comp=Z,434nm,1.5s										
HARR	Harsova	5.42	58	⇑P		Pn		13 11 29.3	+1.2		
HARR	Harsova	5.42	58	P		Pn		13 11 29.3	+1.2		
LPEL	Lama dei Pelig	5.42	273	AML		AML					
	comp=E,1755µm,0.8s										
LPEL				AML		AML					
	comp=N,1218µm,0.5s										
VLI	Veliai	5.42	167	P		Pn		13 11 28.6	+0.4		
TLBR	Topalu	5.43	60	⇑P		Pn		13 11 29.4	+1.2		
ARCR	ARCALIA	5.46	21	⇑P		Pn		13 11 29.7	+1.0		
ZAG	Zagreb	5.48	316	P		Pn		13 11 30.8	+1.8		
TIH	Tihany	5.50	334	P		Pn		13 11 30.6	+1.3		
TIH				S		Sn		13 12 35.2	+2.8		
TSMN	Mangalia Port-	5.53	69	⇑P		Pn		13 11 30.7	+1.1		
PTJ	Puntijarka	5.54	316	P		Pn		13 11 30.6	+0.7		
BGKT	Bogazkoy	5.55	96	*e*P		Pg		13 11 56.5	+2.8		
BLCB	Balcova	5.61	129	*e*P		Pn		13 11 32.3	+1.5		
BLCB	Balcova	5.61	129	P		Pn		13 11 32.2	+1.5		
PANC	Panciu	5.62	45	⇓P		Pn		13 11 33.1	+2.2		
TIRR	Tirgusor	5.63	62	⇑P		Pn		13 11 31.9	+0.9		
TIRR	Tirgusor	5.63	62	*e*P		Pn		13 11 31.7	+0.7		
TIRR	Tirgusor	5.63	62	Pn		Pn		13 11 31.4	+0.4		
TIRR	Tirgusor	5.63	62	P		Pn		13 11 31.4	+0.4		
EFOR	EFORIE	5.64	66	⇓P		Pn		13 11 31.9	+0.8		
BOJS	Bojanci	5.68	310	*e*Pn		Pn		13 11 33.2	+1.5		
BOJS	Bojanci	5.68	310	*i* Pn		Pn		13 11 33.3	+1.5		
BOJS				*i*				13 11 53.5			
BOJS				*e*Sn		Sn		13 12 44.6	+7.7		
BOJS				*e*Sg		Sg		13 13 18.4	+8.6		
BOJS				IAML				13 13 52.7			
	comp=Z,18µm,6.2s										
TSCT	Constanta Port	5.69	66	⇓P		Pn		13 11 33.5	+1.8		
CEL	Celeste	5.69	230	Pn		Pn		13 11 31.5	-0.4		
CEL	Celeste	5.69	230	⇑P		Pn		13 11 32.5	+0.6		
BUD	Budapest	5.73	343	P		Pn		13 11 32.9	+0.6		
BUD				pmax		pmax					
	comp=Z,997nm,0.6s										
BUD	Budapest	5.73	343	P		Pn		13 11 33.5	+1.2		
BUD				S		Sn		13 12 40.6	+2.6		
KLYT	Kilyos	5.73	95	*e*P		Pg		13 11 58.3	+1.1		
TUDR		5.74	49	⇑P		Pn		13 11 34.5	+2.1		
MODR	Mondragone	5.75	264	AML		AML					
	comp=N,534µm,0.7s										
MODR				AML		AML					
	comp=E,628µm,0.6s										
MODR				AML		AML					
	comp=N,526µm,0.5s										
IZVR	Izvoarele	5.76	50	⇓P		Pn		13 11 33.9	+1.1		
ARMT	Armutlu	5.76	102	*e*P		Pg		13 12 00.7	+2.9		
CRES	Cresnjev	5.76	313	*e*Pn		Pn		13 11 34.0	+1.1		
SCHL	Schela	5.77	51	⇑P		Pn		13 11 33.0	0.0		
CFR	Carcaliu	5.78	55	⇓P		Pn		13 11 33.5	+0.5		
CFR	Carcaliu	5.78	55	P		Pn		13 11 33.6	+0.5		
CFR				pmax		pmax					
	comp=Z,667nm,1.0s										
ISK	Istanbul-Kandi	5.78	97	*e*P		Pg		13 11 54.7	-3.5		
ISK	Istanbul-Kandi	5.78	97	P		Pn		13 11 33.3	+0.2		
KAVV	Kandilli-Istan	5.78	97	*e*P		Pg		13 11 57.2	-1.0		
MHLO	Agia Marina, M	5.80	156	P		Pn		13 11 35.6	+2.3		
CSKK	Cskako	5.80	338	P		Pn		13 11 35.4	+2.0		
CSKK				S		Sn		13 12 42.3	+2.4		
TPGR	Topolog	5.80	58	⇑P		Pn		13 11 34.5	+1.0		
TESR	Tescani	5.83	38	⇑P		Pn		13 11 35.2	+1.5		
BMR	Baia Mare	5.83	14	⇑P		Pn		13 11 35.0	+1.2		
BMR	Baia Mare	5.83	14	P		Pn		13 11 35.2	+1.5		
BMR				pmax		pmax					
	comp=Z,479nm,0.9s										
MDNY	Mudanya-Bursa	5.84	104	*e*P		Pb		13 11 48.5	-0.7		
MPLH	Magyarpolny	5.86	333	P		Pn		13 11 34.8	+0.7		
APE	Apeiranthos	5.87	146	⇑P		Pn		13 11 34.9	+0.6		
APE	Apeiranthos	5.87	146	*e*P		Pn		13 11 33.9	-0.4		
APE	Apeiranthos	5.87	146	P		Pn		13 11 35.1	+0.8		
APE	Apeiranthos	5.87	146	*i* P		Pn		13 11 34.6	+0.3		
APE				pmax		pmax					
	comp=Z,92nm,0.6s										
APE				MLR		MLR					
	comp=Z,3µm,9.0s										
KTHR	Kythira	5.88	168	P		Pn		13 11 36.5	+2.0		
GHRR		5.88	45	⇑P		Pn		13 11 36.0	+1.5		
KTHA	Kythira Island	5.89	167	*e*P		Pn		13 11 36.1	+1.4		
BIZ	Bicaz	5.93	32	⇑P		Pn		13 11 37.2	+2.1		
TATR	Tatarca	5.96	51	⇓P		Pn		13 11 37.0	+1.5		
SCTR	Scanteiesti	5.97	50	⇓P		Pn		13 11 36.5	+0.9		
SMG	Samos	5.97	134	P		Pn		13 11 37.0	+1.2		
AQU	L'Aquila	6.00	276	Pn		Pn		13 11 37.1	+1.0		
AQU	L'Aquila	6.00	276	P		Pn		13 11 37.1	+1.0		
AQU	L'Aquila	6.00	276	⇓P		Pn		13 11 37.4	+1.3		
PSZ	Piszkesteto	6.00	350	⇓P		Pn		13 11 36.6	+0.5		
PSZ	Piszkesteto	6.00	350	Pn		Pn		13 11 36.5	+0.5		
PSZ	Piszkesteto	6.00	350	P		Pn		13 11 36.6	+0.5		
PSZ	Piszkesteto	6.00	350	P		Pn		13 11 36.9	+0.8		
PSZ				S		Sn		13 12 47.0	+2.3		
T1241	Roccafluvione,	6.00	281	P		Pn		13 11 37.4	+1.3		
T1241				AML		AML					
	comp=E,864µm,1.1s										
T1241				AML		AML					
	comp=N,820µm,0.4s										
T1241				AML		AML					
	comp=E,1855µm,0.9s										
T1241				AML		AML					
	comp=N,1830µm,0.8s										
T1241				AML		AML					
	comp=E,1805µm,0.9s										
T1241				AML		AML					
	comp=N,1900µm,0.8s										
VARL	Varlezi	6.02	48	⇑P		Pn		13 11 38.9	+2.6		
GEMT	Gemlik	6.04	103	*e*P		Pn		13 11 36.6	-0.1		
JURR	Jurilovca	6.06	61	⇓P		Pn		13 11 37.9	+1.1		
VLDR	Vladesti	6.12	49	⇑P		Pn		13 11 39.9	+2.2		
YLV	Yalova	6.14	101	*e*P		Pn		13 11 38.0	0.0		
EGYH	Egyhazaskeszo	6.14	333	P		Pn		13 11 39.9	+1.9		
EGYH				S		Sn		13 12 50.0	+1.9		
CSP1	Cessapalombo	6.19	283	⇑P		Pn		13 11 39.9	+1.1		
CSP1				AML		AML					
	comp=E,592µm,1.6s										
CSP1				AML		AML					
	comp=N,800µm,0.8s										
BURAR	Bucovina Array	6.19	24	⇑P		Pn		13 11 40.8	+2.0		
BURAR	Bucovina Array	6.19	24	Pn		Pn		13 11 39.9	+1.0		
BURAR	Bucovina Array	6.19	24	P		Pn		13 11 40.8	+2.0		
GCAM	G?zelcaml?	6.20	132	*e*P		Pn		13 11 39.8	+1.0		
SILT	Sile	6.20	95	*e*P		Pb		13 11 58.3	+3.0		
SRO	Srobarova	6.20	340	P		Pn		13 11 40.1	+1.2		
SRO				pmax		pmax					
	comp=Z,3µm,0.8s										
SRO	Srobarova	6.20	340	*e*PN		Pn		13 11 41.6	+2.8		
SRO				*e*SN		Sn		13 12 53.6	+3.9		
TLCR		6.20	57	⇓P		Pn		13 11 40.1	+1.2		
TLCR		6.20	57	P		Pn		13 11 40.0	+1.2		
BUR08	Bucovina Ar. S	6.21	24	Pn		Pn		13 11 40.1	+1.0		
NRCA	Norcia	6.23	280			Pn		13 11 40.3	+1.0		
CING	Cingoli	6.24	285	⇓P		Pn		13 11 40.4	+1.0		
CING				AML		AML					
	comp=E,458µm,1.3s										
CING				AML		AML					
	comp=N,350µm,1.3s										
CING				AML		AML					
	comp=E,1255µm,0.7s										
CING				AML		AML					
	comp=N,827µm,0.7s										
FDMO	Fiordimonte	6.27	282			Pn		13 11 40.5	+0.7		
FDMO	Fiordimonte	6.27	282	P		Pn		13 11 40.8	+1.0		
FDMO				AML		AML					
	comp=E,647µm,0.4s										
FDMO				AML		AML					
	comp=N,630µm,0.8s										
FDMO				AML		AML					
	comp=E,649µm,1.1s										
FDMO				AML		AML					
	comp=N,788µm,1.5s										
SENI	Senigallia	6.27	288	S		Sn		13 12 45.0	-6.5		
HRT	Hereke	6.29	98	*e*P		Pn		13 11 40.7	+0.6		
CEY	Cerknica	6.29	309	*e*Pn		Pn		13 11 41.5	+1.4		
CEY				*e*Sn		Sn		13 12 50.0	-2.0		
EL6	Elcito	6.30	285	⇓P		Pn		13 11 41.1	+0.8		
EL6				AML		AML					
	comp=E,922µm,0.9s										
EL6				AML		AML					
	comp=N,1054µm,0.4s										
ANKY	Antikythira Is	6.32	166	P		Pn		13 11 41.7	+1.3		
THR5	Thira Island,	6.36	150	P		Pn		13 11 42.1	+1.0		
AYDB	Zeytinkoy-Aydi	6.40	127	*e*P		Pn		13 11 43.4	+1.7		
SNTG	Esanatoglia	6.40	284	⇓P		Pn		13 11 42.5	+0.8		
SNTG				AML		AML					
	comp=N,468µm,0.6s										
SNTG				AML		AML					
	comp=E,510µm,0.6s										
SNTG				AML		AML					
	comp=N,640µm,0.8s										
LJU	Ljubljana	6.41	311	*i* Pn		Pn		13 11 43.0	+1.3		
SKDS	Skadanscina	6.43	306	*e*Pn		Pn		13 11 43.4	+1.3		
SKDS				*e*Sn		Sn		13 12 54.0	-1.5		
ADVT	Abdulvahap	6.44	102	*e*P		Pn		13 11 41.9	-0.3		
SANT	Santorini	6.44	150	⇑P		Pn		13 11 43.6	+1.4		
SANT	Santorini	6.44	150	*e*P		Pn		13 11 45.6	+3.3		
SANT	Santorini	6.44	150	Pn		Pn		13 11 42.2	0.0		
VASR	Vaslui	6.47	42	⇑P		Pn		13 11 43.8	+1.3		
PERS	Pernice	6.47	318	*i* Pn		Pn		13 11 43.4	+0.8		
MANT	Manisa	6.47	121	Pn		Pn		13 11 43.7	+0.8		
MTCE	Montecelio	6.49	273	⇓P		Pn		13 11 41.9	-1.0		
MTCE				AML		AML					
	comp=E,559µm,0.8s										
MTCE				AML		AML					
	comp=N,376µm,0.8s										
MTCE				AML		AML					
	comp=E,764µm,0.9s										
MTCE				AML		AML					
	comp=N,474µm,0.9s										
KECS	Kecovo	6.49	354	*e*P		Pn		13 11 44.0	+1.1		
KECS	Kecovo	6.49	354	*e*PN		Pn		13 11 44.0	+1.1		
FOSV	Fossato di Vic	6.54	284	⇓P		Pn		13 11 44.5	+1.0		
FOSV				AML		AML					
	comp=E,1020µm,1.2s										
FOSV				AML		AML					
	comp=N,948µm,1.1s										
SOKA	Soboth	6.54	317	*i* Pn		Pn		13 11 44.3	+0.6		
	comp=N,66nm,0.5s,SNR=140										
SOKA				*e*Sn		Sn		13 12 58.5	+0.2		
	comp=N,87nm,0.9s										
CAVI	Cavuskoy	6.59	103	*e*P		Pn		13 11 44.9	+0.7		
FSSB	Fossombrone	6.59	288	⇓P		Pn		13 11 45.1	+0.8		
FRON	Frontone	6.60	286	⇑P		Pn		13 11 45.8	+1.4		
FRON				AML		AML					
	comp=E,1085µm,1.0s										
FRON				AML		AML					
	comp=N,830µm,1.6s										
TVSB	Tavsanli	6.60	110	*e*P		Pn		13 11 44.9	+0.5		
CESX	Cesi	6.61	278			Pn		13 11 45.3	+0.8		
CESX	Cesi	6.61	278	AML		AML					
	comp=E,790µm,1.2s										
CESX				AML		AML					
	comp=N,1065µm,1.2s										
ATCC	AVT- Casa Cast	6.61	283	P		Pn		13 11 45.7	+1.2		
ATCC				AML		AML					
	comp=E,1805µm,0.9s										
ATCC				AML		AML					
	comp=N,1835µm,0.8s										
UZH	Uzhgorod	6.63	5	⇓*i*P		Pn		13 11 45.8	+1.1		
UZH				*e*S		Sn		13 13 01.0	+0.8		
UZH				smax		smax					
	comp=N,120nm,1.0s										
UZH				smax		smax					
	comp=E,120nm,1.0s										
UZH				MLR		MLR					
	comp=E,1µm,10.0s										
UZH				MLR		MLR					
	comp=Z,2µm,10.0s										
SOP	Sopron	6.64	330	P		Pn		13 11 45.2	+0.3		
SOP				pmax		pmax					
	comp=Z,245nm,0.8s										
SOP	Sopron	6.64	330	P		Pn		13 11 45.2	+0.3		
SOP				S		Sn		13 13 01.5	+1.0		
TRI	Trieste	6.67	306			Pn		13 11 46.0	+0.7		
TRI	Trieste	6.67	306	P		Pn		13 11 46.0	+0.7		
OBKA	Obir	6.68	314	*e*Pn		Pn		13 11 46.9	+1.3		
OBKA	Obir	6.68	314	*e*Pn		Pn		13 11 46.7	+1.2		
	comp=Z,70nm,0.4s,SNR=65										
ATFO	Monte Foce - G	6.69	285	P	

IDI	Anoyia	7.24	157	P	Pn	13 11 53.3	+0.1		
IDI	Anoyia	7.24	157	Pn	Pn	13 11 52.7	-0.5		
IDI	Anoyia	7.24	157	⇓P	Pn	13 11 53.2	-0.1		
MYKA	Terra Mystica	7.25	312	ePn	Pn	13 11 54.8	+1.5		
	comp=Z,35nm,0.6s,SNR=42								
LANS	Liptovska Anna	7.26	350	eP	Pn	13 11 55.7	+2.3		
LANS				e		13 13 18.8			
LANS	Liptovska Anna	7.26	350	ePN	Pn	13 11 55.7	+2.3		
LANS				eSN	Sn	13 13 18.8	+3.0		
RAFF	Raffo Rosso	7.28	231	Pn	Pn	13 11 52.9	-0.8		
HRKL	Herakleio	7.28	156	P	Pn	13 11 55.0	+1.3		
PTCC	Patocco-Chiusa	7.28	310	⇑P	Pn	13 11 55.0	+1.2		
ASQU	Asqua	7.32	287	⇑P	Pn	13 11 55.3	+1.0		
ASQU				AML	AML				
	comp=E,618μm,0.8s								
ASQU				AML	AML				
	comp=N,542μm,0.9s								
JAVC	Velka Javorina	7.33	340	ePN	Pn	13 11 55.2	+0.8		
TURN	Turunc	7.42	133	eP	Pn	13 11 57.5	+1.9		
LMD	Lutirano	7.43	289	⇑P	Pn	13 11 54.4	-1.4		
NIE	Niedzica	7.44	354	eP	Pn	13 11 58.0	+2.1		
NIE	Niedzica	7.44	354	P	Pn	13 11 58.1	+2.2		
NIE				pmax	pmax				
	comp=Z,84nm,1.0s								
GVDS	Gavdos	7.46	163	eP	Pn	13 11 57.8	+1.6		
GVD	Gavdhos	7.46	163	eP	Pn	13 11 57.2	+1.0		
GVD	Gavdhos	7.46	163	P	Pn	13 11 57.2	+1.0		
MDUB	Mudurnu	7.50	99	eP	Pn	13 11 57.1	+0.3		
MDUB	Mudurnu	7.50	99	Pn	Pn	13 11 56.6	-0.2		
MDUB	Mudurnu	7.50	99	⇓P	Pn	13 11 56.8	0.0		
KDZE	Karadeniz Ereo	7.51	92	eP	Pg	13 12 35.1	+3.9		
RUFI	Rufina	7.52	287	⇓P	Pn	13 11 59.5	+2.5		
APMY	Acipayam-Denizli	7.56	124	eP	Pn	13 11 59.6	+2.0		
STAL	STALIGIAL	7.58	307	Pn	Pn	13 11 58.0	+0.1		
CLUD	Cludinico	7.58	309	Pn	Pn	13 11 58.9	+1.0		
DALY	Dalyan (Mula)	7.62	131	eP	Pn	13 11 59.4	+1.1		
CSNT	Castellina Chi	7.62	284	⇑P	Pn	13 12 00.2	+1.8		
CSNT				AML	AML				
	comp=E,249μm,1.5s								
CSNT				AML	AML				
	comp=N,366μm,0.8s								
KWP	Kalwaria Pacla	7.66	6	P	Pn	13 12 01.8	+2.9		
KWP				pmax	pmax				
	comp=Z,74nm,0.9s								
KWP	Kalwaria Pacla	7.66	6	⇓P	Pn	13 12 01.8	+2.9		
FAVR	Favara	7.66	234	AML	AML				
	comp=N,336μm,1.6s								
FAVR				AML	AML				
	comp=E,231μm,0.8s								
OSSC	Osservatorio P	7.66	285	Pn	Pn	13 11 58.7	-0.2		
KBA	Koelnbreinsper	7.69	314	P	Pn	13 12 01.1	+1.7		
KBA				pmax	pmax				
	comp=Z,173nm,1.4s								
KBA	Koelnbreinsper	7.69	314	ePn	Pn	13 12 00.7	+1.3		
	comp=Z,16nm,0.3s,SNR=37								
KBA				eSn	Sn	13 13 24.8	-1.6		
	comp=Z,48nm,0.7s								
KBA	Koelnbreinsper	7.69	314	⇑P	Pn	13 12 00.9	+1.6		
MOA	Molln	7.74	321	ePn	Pn	13 12 01.4	+1.4		
	comp=Z,21nm,0.5s,SNR=42								
MOA				eSn	Sn	13 13 35.1	+7.5		
	comp=Z,64nm,0.5s								
CIFT	Cifteler, Eski	7.77	107	eP	Pn	13 12 01.3	+0.9		
SHUT	Suhut-Afyon	7.77	114	eP	Pn	13 12 02.6	+2.1		
MAUC	Maruska	7.77	342	ePN	Pn	13 12 00.7	+0.3		
MAUC				eSN	Sn	13 13 30.7	+2.4		
MAUC				AMS	AMS	13 16 20.0			
	comp=Z,19μm,7.2s								
CIMO	Cimolais	7.77	306	Pn	Pn	13 12 00.5	+0.1		
ARG	Arkhangelos	7.78	136	Pn	Pn	13 12 01.7	+1.2		
ARG	Arkhangelos	7.78	136	P	Pn	13 12 01.7	+1.2		
ARG	Arkhangelos	7.78	136	⇓P	Pn	13 12 02.8	+2.3		
TEOL	Teolo	7.84	298	Pn	Pn	13 12 00.8	-0.5		
ZKR	Zakros	7.84	150	eP	Pn	13 12 04.1	+2.7		
KARP	Karpathos	7.85	144	eP	Pn	13 12 06.8	+5.2		
CASP	Castiglione de	7.88	279	Pn	Pn	13 12 01.7	-0.2		
KRUC	Moravsky	7.88	335	ePN	Pn	13 12 02.7	+0.8		
KRUC				eSN	Sn	13 13 33.1	+2.1		
YUVA	Yuva-Kibriscik	7.88	99	eP	Pn	13 12 03.2	+1.1		
AUMIH	MIHALICIK	7.89	103	eP	Pn	13 12 03.0	+0.8		
BIOA	Bad Ischl, Aus	7.93	318	i Pn	Pn	13 12 04.4	+1.8		
	comp=Z,38nm,0.3s,SNR=77								
BIOA				eSn	Sn	13 13 32.1	-0.2		
	comp=Z,77nm,0.6s								
ABTA	Abfaltersbach	7.96	309	ePn	Pn	13 12 04.5	+1.4		
	comp=Z,42nm,0.5s,SNR=46								
ABTA				Sn	Sn	13 13 33.7	+0.7		
	comp=Z,106nm,0.8s								
LVV	L'vov	8.00	12	eP	Pn	13 12 05.4	+1.9		
LVV				eS	Sn	13 13 36.7	+2.8		
LVV				MLR	MLR				
	comp=Z,7μm,9.2s								
ZCCA	Zocca	8.01	290	Pn	Pn	13 12 03.2	-0.4		
ZCCA	Zocca	8.01	290	P	Pn	13 12 05.4	+1.7		
VRAC	Vranov	8.04	337	⇑P	Pn	13 12 05.4	+1.4		
VRAC	Vranov	8.04	337	Pn	Pn	13 12 04.1	0.0		
	comp=Z,1.8nm,0.3s,baz=164,slow=12,SNR=66								
VRAC				Sn	Sn	13 13 37.1	+2.2		
	comp=Z,6.5nm,0.3s,baz=83,slow=18,SNR=6.9								
VRAC				LR	LR	13 15 54.8			
	comp=Z,2μm,19.6s,baz=170,slow=43								
	comp=Z,58nm,0.9s								
VRAC	Vranov	8.04	337	ePN	Pn	13 12 04.4	+0.3		
VRAC				eSN	Sn	13 13 36.3	+1.4		
SVRH	Sivrihisar-ESK	8.06	105	eP	Pn	13 12 05.6	+1.1		
AUSIV	SIVRIHISAR	8.08	105	eP	Pn	13 12 04.8	+0.1		
ISP	Isparta	8.13	118	eP	Pn	13 12 06.9	+1.5		
ISP	Isparta	8.13	118	Pn	Pn	13 12 05.1	-0.4		
ISP	Isparta	8.13	118	i P	Pn	13 12 05.6	+0.2		
ISP				pmax	pmax				
	comp=Z,30nm,0.8s								
ISP				MLR	MLR				
	comp=Z,6μm,9.0s								
CTI	Castel Tesino	8.13	303	Pn	Pn	13 12 05.2	-0.2		
CTI	Castel Tesino	8.13	303	P	Pn	13 12 05.2	-0.2		
OKC	Ostrava-Krasne	8.15	345	eP	Pn	13 12 05.5	0.0		
OKC				e		13 13 37.6			
OKC				MLR	MLR				
	comp=Z,7μm,9.2s								
OKC	Ostrava-Krasne	8.15	345	ePN	Pn	13 12 05.5	0.0		
OKC				eSN	Sn	13 13 37.6	+0.1		
OKC				AMS	AMS	13 16 00.0			
	comp=Z,7μm,9.2s								
MORC	Moravsky Berou	8.22	342	⇑P	Pn	13 12 07.2	+0.7		
MORC	Moravsky Berou	8.22	342	Pn	Pn	13 12 06.6	0.0		
MORC	Moravsky Berou	8.22	342	ePN	Pn	13 12 07.0	+0.4		
MORC				eSN	Sn	13 13 40.9	+1.5		
MORC	Moravsky Berou	8.22	342	P	Pn	13 12 06.6	0.0		
MAIM	Mastiano	8.26	287	⇓P	Pn	13 12 07.4	+0.2		
OJC	Ojcow	8.28	353	eP	Pn	13 12 07.4	+0.1		
OJC	Ojcow	8.28	353	Pn	Pn	13 12 07.4	+0.1		
OJC	Ojcow	8.28	353	P	Pn	13 12 07.4	+0.1		
OJC	Ojcow	8.28	353	⇓P	Pn	13 12 07.7	+0.4		
BCK	Bucak	8.38	120	eP	Pn	13 12 11.1	+2.3		
VLC	Villacollemand	8.38	288	Pn	Pn	13 12 08.6	-0.2		
VLC	Villacollemand	8.38	288	⇑P	Pn	13 12 09.3	+0.5		
TREC	Trest	8.38	332	eP	Pn	13 12 10.3	+1.5		
TREC				e		13 13 46.3			
TREC				MLR	MLR				
	comp=Z,6μm,10.1s								
TREC	Trest	8.38	332	ePN	Pn	13 12 10.3	+1.5		
TREC				eSN	Sn	13 13 46.3	+2.9		
TREC				AMS	AMS	13 15 30.0			
	comp=Z,6μm,10.1s								
ELL	Elmali	8.40	126	P	Pn	13 12 11.4	+2.2		
ELL				S	Sn	13 13 42.8	-1.2		
CKRC	Cesky Krumlov	8.45	326	ePN	Pn	13 12 11.1	+1.4		
KIZT	Kizilcal	8.54	108	eP	Pn	13 12 12.3	+1.2		
EQUI	Equi	8.55	288	⇓P	Pn	13 12 12.4	+1.4		
PRMA	PARMA	8.56	292	Pn	Pn	13 12 11.9	+0.6		
AKAS	Kas	8.57	130	eP	Pn	13 12 14.4	+2.9		
KRLC	Kraliky	8.68	340	eP	Pn	13 12 13.6	+0.7		
KRLC				e		13 13 52.2			
KRLC				MLR	MLR				
	comp=Z,5μm,9.8s								
KRLC	Kraliky	8.68	340	ePN	Pn	13 12 13.6	+0.7		
KRLC				eSN	Sn	13 13 52.2	+1.5		
KRLC				AMS	AMS	13 16 10.0			
	comp=Z,5μm,9.8s								
SALO	Salr	8.68	298	Pn	Pn	13 12 13.1	+0.1		
SALO	Salr	8.68	298	⇑P	Pn	13 12 13.2	+0.2		
GEC2	GERESS Array S	8.73	324		Pn	13 12 14.7	+1.1		
GERES	GERESS Array B	8.73	324	Pn	Pn	13 12 15.3	+1.7		
	comp=Z,2.5nm,0.3s,baz=149,slow=13,SNR=61								
GERES				Sn	Sn	13 13 51.6	-0.4		
	comp=Z,1.2nm,0.3s,baz=123,slow=27,SNR=1.3								
GERES				Lg	Lg	13 14 45.5			
	baz=144,slow=23								
GERES				LR	LR	13 16 21.1			
	comp=Z,3μm,21.5s,baz=154,slow=43								
	comp=Z,7.2nm,0.5s								
GERES	GERESS Array B	8.73	324	Pn	Pn	13 12 13.9	+0.3		
WTTA	Wattenberg	8.74	310	P	Pn	13 12 15.8	+1.9		
WTTA				pmax	pmax				
	comp=Z,160nm,0.6s								
WTTA	Wattenberg	8.74	310	ePn	Pn	13 12 15.9	+2.1		
	comp=Z,64nm,0.3s,SNR=51								
WTTA				eSn	Sn	13 13 55.2	+2.7		
	comp=Z,88nm,0.6s								
ANTB	Antalya	8.76	123	eP	Pg	13 13 00.6	+5.5		
WATA	Walderalm	8.81	310	ePn	Pn	13 12 16.7	+1.8		
	comp=Z,46nm,0.3s,SNR=36								
BR231	Keskin MP Arra	8.84	101	Pn	Pn	13 12 15.3	+0.1		
ANTO	Ankara	8.84	100	⇑P	Pn	13 12 16.2	+1.0		
ANTO	Ankara	8.84	100	eP	Pn	13 12 20.9	+5.7		
ANTO	Ankara	8.84	100	Pn	Pn	13 12 15.2	0.0		
ANTO	Ankara	8.84	100	P	Pn	13 12 15.2	0.0		
ANTO	Ankara	8.84	100	S	Sn	13 13 53.4	-1.5		
SQTA	Sankt Quirin	8.96	309	i Pn	Pn	13 12 18.9	+2.0		
	comp=Z,93nm,0.5s,SNR=37								
KHC	Kasperske Hory	9.00	325	Pn	Pn	13 12 17.7	+0.5		
KHC	Kasperske Hory	9.00	325	eP	Pn	13 12 18.4	+1.2		
KHC				e		13 14 02.7			
KHC				MLR	MLR				
	comp=Z,11μm,8.9s								
KHC	Kasperske Hory	9.00	325	ePN	Pn	13 12 18.4	+1.2		
KHC				eSN	Sn	13 14 02.7	+4.2		
KHC				AMS	AMS	13 16 00.0			
	comp=Z,11μm,8.9s								
KHC	Kasperske Hory	9.00	325	⇓P	Pn	13 12 18.8	+1.6		
MSSA	Maissana	9.02	289	Pn	Pn	13 12 17.2	-0.4		
MSSA	Maissana	9.02	289	⇑P	Pn	13 12 18.9	+1.2		
DPC	Dobruska-Polom	9.05	339	eP	Pn	13 12 19.1	+1.1		
DPC				e		13 14 02.2			
DPC				MLR	MLR				
	comp=Z,4μm,10.8s								
DPC	Dobruska-Polom	9.05	339	ePN	Pn	13 12 19.1	+1.1		
DPC				eSN	Sn	13 14 02.2	+2.3		
DPC				AMS	AMS	13 16 10.0			
	comp=Z,4μm,10.8s								
MOTA	Moosalm	9.09	309	ePn	Pn	13 12 20.3	+1.6		
	comp=Z,66nm,0.8s,SNR=49								
FETA	Feichten	9.14	307	ePn	Pn	13 12 21.3	+1.9		
	comp=Z,20nm,0.6s,SNR=29								
GOPC	GO Pecny, Ondr	9.15	332	eP	Pn	13 12 20.5	+1.2		
GOPC				e		13 14 05.1			
GOPC				MLR	MLR				
	comp=Z,4μm,9.9s								
GOPC	GO Pecny, Ondr	9.15	332	ePN	Pn	13 12 20.5	+1.2		
GOPC				eSN	Sn	13 14 05.1	+2.8		
GOPC				AMS	AMS	13 16 00.0			
	comp=Z,4μm,9.9s								
LADK	Ladik-KONYA	9.19	111	eP	Pn	13 12 26.7	+6.8		
FUORN	Ofenpass-Fuorn	9.24	304	Pn	Pn	13 12 22.7	+1.9		
PGF	Pioggiola	9.25	277	ePn	Pn	13 12 21.3	+0.5		
PGF	Pioggiola	9.25	277	eP	Pn	13 12 27.3	+6.5		
PGF				eSn	Sn	13 14 01.0	-3.9		
	comp=Z,58nm,1.0s								
SEV	Sevastopol'	9.25	70	⇓i P	Pn	13 12 20.0	-0.7		
SEV				eS	Sn	13 14 04.8	+0.1		
SEV	Sevastopol'	9.25	70	⇓i P	Pn	13 12 20.0	-0.7		
SEV				Pm		13 12 25.3			
	comp=Z,421nm,0.8s								
SEV				eS	Sn	13 14 04.8	+0.1		
SEV				Sm		13 14 10.5			
	comp=N,33nm,0.8s								
SEV				Sm		13 14 10.5			
	comp=E,144nm,1.0s								
OSTC	Ostas	9.27	339	ePN	Pn	13 12 22.2	+1.2		
OSTC				eSN	Sn	13 14 07.2	+2.0		
OSTC				AMS	AMS	13 17 10.0			
	comp=E,5μm,7.2s								
UPC	Upice	9.28	338	eP	Pn	13 12 22.7	+1.6		
UPC				MLR	MLR				
	comp=Z,8μm,8.3s								
UPC	Upice	9.28	338	ePN	Pn	13 12 22.7	+1.6		
UPC				AMS	AMS	13 16 20.0			
	comp=Z,8μm,8.3s								
PRU	Pruhonice	9.30	331	eP	Pn	13 12 22.4	+1.0		
PRU				MLR	MLR				
	comp=Z,5μm,9.9s								
PRU	Pruhonice	9.30	331	ePN	Pn	13 12 22.4	+1.0		
PRU				AMS	AMS	13 15 50.0			
	comp=Z,5μm,9.9s								
WET	Wettzell	9.31	323	P	Pn	13 12 23.3	+1.7		
WET				pmax	pmax				
	comp=Z,44nm,1.0s								
CHVC	Chvalec	9.34	338	AMS	AMS	13 16 20.0			
	comp=Z,6μm,10.4s								
BZK	Bozkurt	9.34	86	⇑P	Pn	13 12 23.5	+1.6		
BZK	Bozkurt	9.34	86	eP	Pn	13 12 24.6	+2.7		
RETA	Reutte	9.36	309	ePn	Pn	13 12 23.3	+1.1		
	comp=Z,21nm,0.5s,SNR=8.8								
RETA				eSn	Sn	13 14 11.0	+3.4		
	comp=Z,45nm,0.5s								
CHBY	Cihanbeyli	9.38	108	eP	Pn	13 12 30.0	+7.4		
FUR	Furstenfeldbru	9.46	314	P	Pn	13 12 26.0	+2.5		
FUR				pmax	pmax				
	comp=Z,130nm,0.8s								
EUCT	Pavia	9.49	294	P	Pn	13 12 24.3	+0.4		
BR131	Keskin Array S	9.51	100	Pn	Pn	13 12 24.5	+0.1		
BR131	Keskin Array S	9.51	100	d iP	Pn	13 12 24.7	+0.3		
BR131	Keskin Array S	9.51	100	P	Pn	13 12 25.2	+0.8		
	SNR=16								
BR131				P	Pn	13 12 25.2	+0.8		
BR131				S	Sn	13 14 08.8	-2.5		
BRTR	Keskin Array B	9.51	100	Pn	Pn	13 12 25.1	+0.7		
	comp=Z,2.0nm,0.3s,baz=278,slow=12,SNR=65								
BRTR				Sn	Sn	13 14 06.5	-4.8		
	comp=Z,0.4nm,0.3s,baz=282,slow=22,SNR=1.1								
BRTR				Lg	Lg	13 15 08.3			
	baz=266,slow=29								
	comp=Z,12nm,0.6s								
BRTR	Keskin Array B	9.51	100	Pn	Pn	13 12 24.5	+0.1		
KSP	Ksiaz	9.51	340	eP	Pn	13 12 26.8	+2.6		
KSP	Ksiaz	9.51	340	P	Pn	13 12 26.4	+2.2		
KSP				pmax	pmax				
	comp=Z,46nm,1.0s								
KSP	Ksiaz	9.51	340	⇑P	Pn	13 12 26.6	+2.4		
DAVOX	Davos/Dischmat	9.55	304	Pn	Pn	13 12 26.4	+1.4		
	comp=Z,3.0nm,0.3s,baz=134,slow=15,SNR=44								
DAVOX				Sn	Sn	13 14 08.9	-3.4		
	comp=Z,2.1nm,0.3s,baz=137,slow=16,SNR=1.1								
DAVOX				Lg	Lg	13 15 09.8			
	comp=Z,1.2nm,0.3s,baz=174,slow=19,SNR=3.3								
DAVOX				LR	LR	13 16 25.7			
	comp=Z,4μm,21.3s,baz=115,slow=40								
	comp=Z,24nm,0.6s								
YAL	Yalta	9.58	71	eP	Pn	13 12 25.0	-0.2		
YAL				eS	Sn	13 14 12.0	-0.8		
YAL	Yalta	9.58	71	eP	Pn	13 12 25.0	-0.2		
YAL				Pm		13 12 30.4			
	comp=Z,145nm,0.8s								
YAL				eS	Sn	13 14 12.0	-0.8		
YAL				Sm		13 14 14.1			
	comp=E,62nm,0.8s								
YAL				Sm		13 14 14.2			
	comp=N,44nm,1.0s								
SIM	Simferopol'	9.65	68	eP	Pn	13 12 27.8	+1.6		
SIM				eS	Sn	13 14 15.6	+1.1		
SIM				pmax	pmax				
	comp=Z,20nm,0.5s								
SIM				smax	smax				
	comp=N,163nm,2.0s								
SIM				MLR	MLR				
	comp=Z,3μm,14.6s								
SIM	Simferopol'	9.65	68	eP	Pn	13 12 26.7	+0.5		
SIM				Pm		13 12 34.3			
	comp=Z,55nm,0.8s								
SIM				eS	Sn	13 14 14.2	-0.3		
SIM				Sm		13 14 20.5			
	comp=N,50nm,1.1s								
SIM				Sm		13 14 20.5			
	comp=E,195nm,1.1s								
SERE	Sereflikochisa	9.72	104	eP	Pn	13 12 32.0	+4.7		
PVCC	Panska Ves	9.75	333	eP	Pn	13 12 28.7	+1.3		
PVCC				MLR	MLR				
	comp=Z,4μm,12.9s								
PVCC	Panska Ves	9.75	333	ePN	Pn	13 12 28.7	+1.3		
PVCC				AMS	AMS	13 16 20.0			
	comp=Z,4μm,12.9s								
DAVA	Damuels	9.78	306	ePn	Pn	13 12 29.2	+1.1		
	comp=Z,24nm,0.6s,SNR=14								
DAVA	Damuels	9.78	306	⇓P	Pn	13 12 29.9	+1.8		
ALU	Alushta	9.79	70	eP	Pn	13 12 26.9	-1.2		
ALU				eS	Sn	13 14 15.0	-3.0		
ALU	Alushta	9.79	70	eP	Pn	13 12 26.9	-1.2		
ALU				Pm		13 12 32.7			
	comp=Z,218nm,0.9s								
ALU				eS	Sn	13 14 15.0	-3.0		
ALU				Sm		13 14 16.0			
	comp=N,22nm,0.9s								
ALU				Sm		13 14 16.1			
	comp=E,91nm,1.0s								
BEL	Belsk	9.82	358	eP	Pn	13 12 32.6	+4.1		
BEL	Belsk	9.82	358	P	Pn	13 12 29.4	+0.9		
SULT	Sultanhani-AKS	9.99	109	eP	Pn	13 12 33.7	+2.7		
GRB1	Grafenberg Arr	10.06	320	P	Pn	13 12 32.4	+0.7		
GRB1				pmax	pmax				
	comp=Z,57nm,0.8s								
CORM	Corum	10.11	96	eP	Pn	13 12 36.5	+3.9		
IMI	Imperia	10.12	285	P	Pn	13 12 31.2	-1.5		
FUSIO	Fusio	10.19	300	⇓P	Pn	13 12 41.0	+7.3		
AKASG	Malin Array Be	10.20	29	Pn	Pn	13 12 33.4	-0.2		
	comp=Z,1.3nm,0.3s,baz=213,slow=13,SNR=9.4								
AKASG				Sn	Sn	13 14 26.4	-1.4		
	comp=Z,0.9nm,0.3s,baz=211,slow=28,SNR=4.2								
AKASG				Lg	Lg	13 15 35.7			
	baz=216,slow=29								
	comp=Z,2.9nm,0.5s								
AKBB	Malin Array Si	10.20	29	Pn	Pn	13 12 33.1	-0.5		
AKBB	Malin Array Si	10.20	29	ceP	Pn	13 12 34.5	+0.9		
GAZI	Gazipasa	10.22	121	eP	Pn	13 12 37.1	+3.1		
BRG	Berggiesshubel	10.25	332	i P	Pn	13 12 35.5	+1.2		
BRG				Amp		13 12 42.6			
	comp=Z,65nm,1.5s								
BRG				ex	x	13 14 01.3			
BRG				ex	x	13 15 20.9			
BRG				Amp		13 15 58.4			
	comp=Z,119nm,1.5s								
BRG				Amp		13 16 31.0			
	comp=N,3.5nm,11.7s								
BRG				Amp		13 16 35.0			
	comp=E,3.0nm,10.4s								
BRG				Amp		13 16 36.0			
	comp=Z,4.3nm,10.0s								
BRG	Berggiesshubel	10.25	332	i P	Pn	13 12 35.5	+1.2		
BRG				pmax	pmax				
	comp=Z,65nm,1.5s								
BRG				MLR	MLR				
	comp=N,3μm,11.7s								
BRG				MLR	MLR				
	comp=E,3μm,10.4s								
BRG				MLR	MLR				
	comp=Z,4μm,10.0s								
SUDU	Sudak	10.25	69	eP	Pn	13 12 33.9	-0.5		
SUDU				eS	Sn	13 14 24.7	-4.6		
MONC	Moncucco Torin	10.29	292	⇓P	Pn	13 12 35.2	+0.3		
DIKM	Dikmen	10.31	87	⇓P	Pn	13 12 35.7	+0.5		
DIKM	Dikmen	10.31	87	eP	Pn	13 12 40.4	+5.2		
NKC	Novy Kostel	10.31	326	eP	Pn	13 12 35.8	+0.6		
NKC				MLR	MLR				
	comp=Z,7μm,9.3s								
NKC	Novy Kostel	10.31	326	ePN	Pn	13 12 35.8	+0.6		
NKC				AMS	AMS	13 16 40.0			
	comp=Z,7μm,9.3s								
YESY	Yesilyurt	10.34	110	eP	Pn	13 12 40.9	+5.1		
SAOF	Saorge	10.37	286	P	Pn	13 12 37.5	+1.4		
SBF	Sospel	10.45	285	ePn	Pn	13 12 36.7	-0.5		
SBF	Sospel	10.45	285	eP	Pn	13 12 42.4	+5.2		
SBF				eSn	Sn	13 14 28.6	-5.6		
	comp=Z,174nm,1.0s								
GRA1	Grafenberg Arr	10.47	321	Pn	Pn	13 12 37.0	-0.4		
GRF	Grafenberg Arr	10.47	321	P	Pn	13 12 37.0	-0.4		
GRFO	Grafenberg	10.47	321	Pn	Pn	13 12 37.3	0.0		
GRFO	Grafenberg	10.47	321	P	Pn	13 12 37.3	0.0		
FEO	Feodosiya	10.55	69	eP	Sn	13 14 38.8	+2.3		
FEO				Pm		13 12 43.3			
	comp=Z,193nm,1.0s								
FEO				eS	Sn	13 14 33.3	-3.2		
FEO				Sm		13 14 43.1			
	comp=N,191nm,1.0s								
FEO				Sm		13 14 43.1			
	comp=E,57nm,0.7s								
BERE	Bereket-Mersin	10.74	118	eP	Pn	13 12 44.8	+3.5		
YOZ	Yozgat	10.77	98	eP	Pn	13 12 45.5	+3.8		
TEKE	Tekeli-Mersin	10.79	119	eP	Pn	13 12 46.2	+4.4		
TEVE	Tevekalti-Mers	10.84	117	eP	Pn	13 12 47.2	+4.7		
STU	Stuttgart	10.94	312	Pn	Pn	13 12 43.2	-0.6		
STU	Stuttgart	10.94	312	P

ORIF Oris-en-Rattie 11.69 290 P **Pn** **13 12 55.3 +1.2**
ORIF pmax pmax
comp=Z,78nm,1.3s
ECH Echery 11.84 306 Pn **Pn** **13 12 55.6 -0.5**
ECH Echery 11.84 306 P **Pn** **13 12 55.6 -0.5**
ECH Echery 11.84 306 ⇓P **Pn** **13 12 56.2 +0.1**
HINF Hinteralfeld 11.86 304 *e*Pn **Pn** **13 12 55.9 -0.5**
HINF *e*Sn Sn 13 14 59.5 -9.1
comp=Z,35nm,0.6s
HINF *e*Sg 13 16 20.6
comp=Z,624nm,2.0s
CDF Champ du Feu 11.86 307 *e*Pn **Pn** **13 12 56.1 -0.3**
CDF *e*Sn Sn 13 14 57.3 -11
comp=Z,153nm,1.5s
CABF La Chapelle 11.92 298 *e*Pn **Pn** **13 12 56.7 -0.7**
CABF *e*Sn **Sn** **13 15 03.6 -6.7**
comp=Z,63nm,0.8s
SVSK Karacayir 11.94 95 *e*P **Pn** **13 13 02.1 +4.7**
ANN Anapa 11.94 71 *e*P **Pn** **13 12 58.0 +0.5**
ANN *e*S **Sn** **13 15 12.6 +1.9**
ANN pmax pmax
comp=Z,120nm,1.2s
ANN MLR MLR
comp=Z,2µm,12.0s
CEYT Ceyhan 12.11 110 *e*P Pn 13 13 04.7 +4.8
TNS Taunus Mts 12.18 317 P **Pn** **13 13 03.1 +2.3**
TNS pmax pmax
comp=Z,75nm,0.8s
HAU Haudompre 12.24 304 *e*Pn **Pn** **13 13 01.2 -0.5**
HAU *e*Sn **Sn** **13 15 10.4 -7.6**
comp=Z,58nm,0.6s
VIVF Saint-Julien-l 12.53 289 *e*Pn **Pn** **13 13 04.1 -1.4**
VIVF Saint-Julien-l 12.53 289 *e*P Pn 13 13 10.5 +5.0
VIVF *e*Sn **Sn** **13 15 17.9 -7.1**
comp=Z,11nm,0.5s
SSB Saint Sauveur 12.68 291 Pn **Pn** **13 13 05.8 -1.8**
SSB Saint Sauveur 12.68 291 P **Pn** **13 13 06.1 -1.5**
SSB pmax pmax
comp=Z,33nm,0.7s
SSB Saint Sauveur 12.68 291 ⇑P **Pn** **13 13 06.0 -1.5**
TAHT Tahtakopru-Hat 12.73 111 *e*P **Pn** **13 13 13.1 +4.7**
PAGF Fort de Pagny 12.85 306 *e*Pn **Pn** **13 13 08.4 -1.5**
baz=128
PAGF Fort de Pagny 12.85 306 *e*P Pn 13 13 14.8 +4.9
PAGF *e*Sn **Sn** **13 15 31.9 -0.9**
comp=Z,2µm,2.4s
LASF Ste Croix 13.04 285 *e*Pn **Pn** **13 13 11.5 -1.0**
LASF Ste Croix 13.04 285 *e*P **Pn** **13 13 17.0 +4.5**
LASF *e*Sn **Sn** **13 15 32.0 -5.5**
comp=Z,15nm,0.9s
WLF Walferdange 13.11 311 P **Pn** **13 13 16.2 +2.8**
WLF pmax pmax
comp=Z,31nm,1.0s
WLF Walferdange 13.11 311 *dx* x 13 13 15.9
SFTF Sexfontaines 13.13 304 *e*Pn **Pn** **13 13 13.1 -0.6**
baz=123
SFTF Sexfontaines 13.13 304 *e*P P 13 13 18.7 -5.2
SFTF *e*Sn **Sn** **13 15 32.0 -7.7**
comp=Z,39nm,0.9s
ARPR Arapgir-MALATY 13.16 97 *e*P P 13 13 19.5 -5.0
MNK Minsk 13.19 17 *i*P **Pn** **13 13 14.5 0.0**
MNK *i*S **Sn** **13 15 42.5 +1.5**
MNK pmax pmax
comp=Z,37nm,0.9s
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,49nm,19.0s
MNK MLR MLR
comp=Z,994nm,15.0s
MNK MLR MLR
comp=E,366nm,17.0s
MNK Minsk 13.19 17 *i*P **Pn** **13 13 14.5 0.0**
comp=E,2.0nm,0.9s
MNK *i*P **Pn** **13 13 14.5 0.0**
comp=N,7.0nm,1.0s
MNK *i*P **Pn** **13 13 14.5 0.0**
comp=Z,37nm,0.9s,baz=203
MNK *i*PP **PnPn** **13 13 22.4 +0.1**
MNK *i*PPP PPP 13 13 30.1
MNK *i*S **Sn** **13 15 42.6 +1.5**
MNK *i*SS S 13 15 56.0 -10
MNK *i*SSS SSS 13 16 08.5
MNK *i*LQ LQ 13 17 06.5
MNK *i*LR LR 13 18 06.9
MNK *i*LRM MLR 13 18 42.5
comp=N,49nm,18.9s
MNK *i*LRM MLR 13 18 48.5
comp=E,366nm,16.8s
MNK *i*LRM MLR 13 18 48.5
comp=Z,994nm,14.6s
MEZF Maizieres J'vi 13.23 305 *e*Pn **Pn** **13 13 13.8 -1.4**
baz=127
MEZF Maizieres J'vi 13.23 305 *e*P **Pn** **13 13 19.7 +4.5**
MEZF *e*Sn **Sn** **13 15 34.7 -7.5**
comp=Z,65nm,1.0s
MEZF *e*Sg Sg 13 17 03.5
comp=Z,2µm,2.5s
SAVF Savonnieres en 13.24 305 *e*Pn **Pn** **13 13 13.5 -1.7**
baz=127
SAVF Savonnieres en 13.24 305 *e*P **Pn** **13 13 19.8 +4.6**
SAVF *e*Sn **Sn** **13 15 35.2 -7.1**
comp=Z,43nm,1.2s
SAVF *e*Sg Sg 13 17 05.3
comp=Z,811nm,2.3s
NACGM Naroch 13.36 13 ⇑*i*P **Pn** **13 13 17.1 +0.4**
baz=188
SMF Signal de Mont 13.43 296 *e*Pn **Pn** **13 13 16.0 -1.8**
SMF Signal de Mont 13.43 296 *e*P **P** **13 13 22.8 -4.4**
SMF *e*Sn **Sn** **13 15 38.9 -8.0**
comp=Z,99nm,1.0s
SOC Sochi 13.50 77 *e*P **Pn** **13 13 17.0 -1.8**
SOC *e* 13 15 47.7
SOC pmax pmax
comp=Z,34nm,1.0s
SOC MLR MLR
comp=Z,684nm,17.0s
BUG Bochum--Univer 13.52 319 P **Pn** **13 13 19.8 +0.8**
BUG pmax pmax
comp=Z,38nm,1.6s
BHOU Houvegnez 13.54 313 *d*pP **Pn** **13 13 21.4 +2.0**
BHOU *d*PP **PnPn** **13 13 26.4 -0.8**
LOR Lormes 13.57 299 *e*Pn **Pn** **13 13 19.0 -0.8**
baz=114
LOR *e*Sn **Sn** **13 15 45.8 -4.8**
comp=Z,46nm,0.7s
LOR Lormes 13.57 299 P **Pn** **13 13 19.5 -0.3**
LOR pmax pmax
comp=Z,36nm,0.7s
PABE Paberze 13.59 6 Pn **Pn** **13 13 19.3 -0.6**
PABE Paberze 13.59 6 *e*P **Pn** **13 13 21.8 +1.9**
MEM Membach 13.68 314 P **Pn** **13 13 24.5 +3.3**
MEM pmax pmax
comp=Z,48nm,1.2s
MEM Membach 13.68 314 *d*P **Pn** **13 13 22.1 +0.9**
MEM *dx* **Pn** **13 13 24.1 +2.9**
MEM *d*PP **PbPb** **13 14 03.5 -2.4**
IIGN Ignalina 13.70 12 *e*P **Pn** **13 13 23.0 +1.6**
IIGN IAmb IAmb 13 13 40.3
comp=Z,33nm,1.0s
SSF Saint Saulge 13.75 298 *e*Pn **Pn** **13 13 21.3 -0.9**
SSF *e*Sn **Sn** **13 15 54.6 -0.2**
comp=Z,32nm,0.6s
AVF Avril sur Loir 13.79 296 *e*Pn **Pn** **13 13 21.8 -0.9**
AVF *e*Sn **Sn** **13 15 47.7 -8.0**
comp=Z,54nm,1.1s
BSD Bornholm Skovb 13.79 344 P **Pn** **13 13 25.8 +3.2**
BSD pmax pmax
comp=Z,49nm,0.9s
BSD Bornholm Skovb 13.79 344 *e*P **Pn** **13 13 22.1 -0.5**
BSD Bornholm Skovb 13.79 344 *e*P **P** **13 13 30.9 -0.2**
RCHB Rochefort 13.87 311 *d*pP **Pn** **13 13 25.3 +1.5**
ISAL Salakas 13.89 11 *e*P **Pn** **13 13 23.5 -0.6**
ISAL IAmb IAmb 13 13 39.4
comp=Z,24nm,1.1s
BSTI Sart Tilman 13.90 313 *dx* **Pn** **13 13 27.5 +3.2**
BEBN Eben Emael 13.96 314 *d*PP **P** **13 13 33.4 +0.3**
PBUR Paburge 14.01 1 *e*P **Pn** **13 13 26.8 +1.1**
VSVD Vaisvydziai 14.06 6 *e*P **Pn** **13 13 26.5 +0.2**
GIVF Givet 14.07 311 *e*P **P** **13 13 30.7 -3.7**
GIVF *e*Sn **Sn** **13 16 10.3 +7.7**
comp=Z,3.4nm,0.2s
BGF Bois d'Agland 14.07 295 *e*Pn **Pn** **13 13 25.7 -0.9**

BGF Bois d'Agland 14.07 295 *e*P **P** **13 13 31.6 -2.8**
BGF *e*Sn **Sn** **13 15 54.9 -7.8**
comp=Z,79nm,1.1s
DOU Dourbes 14.20 310 *dx* Pn 13 13 22.9 -5.4
MTLF Montolieu 14.22 282 *e*Pn **Pn** **13 13 27.9 -0.7**
MMAI Mount Meron Ar 14.24 125 Pn **Pn** **13 13 28.2 -0.9**
comp=Z,1.7nm,0.3s,baz=306,slow=13,SNR=14
MMAI LR LR 13 19 52.5
comp=Z,1µm,18.6s,baz=352,slow=41
comp=Z,28nm,0.9s
GEM Giv'at Ha'Em 14.27 123 Pn **Pn** **13 13 28.4 -1.0**
HYF Humbligny 14.38 298 *e*P **P** **13 13 35.1 -2.7**
HYF *e*Sn **Sn** **13 16 02.0 -8.1**
CAF Calviac 14.38 288 *e*Pn **Pn** **13 13 30.4 -0.4**
BAIF Baives 14.40 310 *e*P **P** **13 13 34.6 -3.4**
BAIF *e*Sn **Sn** **13 16 17.6 +7.0**
comp=Z,4.2nm,0.6s
TCF Toulx Ste Croi 14.45 294 *e*Pn **Pn** **13 13 30.9 -1.0**
TCF *e*Sn **Sn** **13 16 10.3 -1.7**
comp=Z,27nm,0.9s
SLTI Sal'it 14.57 128 Pn **Pn** **13 13 33.2 -0.3**
LUNU Lund 14.59 342 *e*P **P** **13 13 40.3 +0.2**
MMLI Mount Malkishu 14.65 126 Pn **Pn** **13 13 32.9 -1.8**
BLEU Blekinge 14.75 348 *e*P **P** **13 13 41.4 -0.4**
RJF Les Rejaudoux 14.80 290 *e*Pn **Pn** **13 13 36.1 -0.4**
CLF Chambon-Foret 14.83 300 Pn **Pn** **13 13 37.3 +0.4**
CLF Chambon-Foret 14.83 300 ⇑P **Pn** **13 13 39.4 +2.5**
HMDT Nahal Hemdat 14.85 127 Pn **Pn** **13 13 36.5 -0.8**
KZIT Kziot 15.19 133 Pn **Pn** **13 13 40.9 -1.0**
VSR Storozhevoye 15.21 47 *e*P **Pn** **13 13 39.7 -2.3**
VSR pmax pmax
comp=Z,40nm,1.0s
VSR MLR MLR
comp=Z,3µm,10.0s
DSI Dead Sea 15.25 129 Pn **Pn** **13 13 41.3 -1.4**
YTIR Yattir 15.25 130 Pn **Pn** **13 13 40.8 -1.9**
DEL Delary 15.27 344 *i*P **P** **13 13 48.1 +0.5**
MAZI Mazidag 15.30 101 *e*P **P** **13 13 46.9 -1.3**
LFF La Frestale 15.32 288 *e*Pn **Pn** **13 13 43.2 -0.2**
LFF *e*Sn **Sn** **13 16 25.0 -8.0**
comp=Z,53nm,1.3s
VORR Voronezh 15.47 45 *e*P **Pn** **13 13 43.3 -2.1**
VORR pmax pmax
comp=Z,17nm,1.0s
GHAJ Ghor Haditha 15.55 129 Pn **Pn** **13 13 46.2 -0.4**
SVAN Silvan-Diyarba 15.59 98 *e*P **P** **13 13 50.8 -0.6**
EPF Esparros 15.60 281 *e*P **P** **13 13 50.9 -0.6**
SLIT Siltere, Latvi 15.63 2 *e*P **Pn** **13 13 47.6 +0.2**
SHA1 Shidzhatmaz 15.63 77*c i*P **P** **13 13 50.0 -2.0**
KIV Kislovodsk 15.65 76 Pn **Pn** **13 13 47.4 -0.5**
KIV Kislovodsk 15.65 76*d i*P **Pn** **13 13 48.7 +0.8**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,611nm,14.0s
KIV Kislovodsk 15.65 76 P **P** **13 13 50.1 -2.0**
KIV P **P** **13 13 50.1 -2.0**
KIV S **Sn** **13 16 45.9 +4.7**
KIV S **Sn** **13 16 45.9 +4.7**
KIV Kislovodsk 15.65 76 *i*P **P** **13 13 50.8 -1.2**
SNR=5.8
NEY Neytrino 15.70 78 *i*P **Pn** **13 13 48.9 +0.3**
NEY pmax pmax
comp=Z,11nm,0.9s
NEY MLR MLR
comp=Z,129nm,11.0s
ASF Jabal al Asfar 15.74 124 Pn **Pn** **13 13 50.4 +1.2**
comp=Z,0.2nm,0.3s,baz=300,slow=3.1,SNR=11
ASF Sn **Sn** **13 16 45.2 +1.7**
comp=Z,0.1nm,0.3s,baz=351,slow=23,SNR=1.6
comp=Z,3.9nm,0.9s
KBZ Khabaz 15.81 77 Pn **P** **13 13 52.2 -1.4**
comp=Z,0.4nm,0.3s,baz=271,slow=12,SNR=12
KBZ LR LR 13 22 23.4
comp=Z,691nm,18.1s,baz=261,slow=47
comp=Z,18nm,1.1s
KBZ Khabaz 15.81 77*ce*P **Pn** **13 13 51.5 +1.7**
KBZ pmax pmax
comp=Z,59nm,1.4s
LPSR Galich'ya Gora 15.84 42 *e*P **Pn** **13 13 47.9 -2.3**
LPSR pmax pmax
comp=Z,80nm,0.8s
LPSR MLR MLR
comp=Z,2µm,10.0s
ZFRI Zfri 15.89 132 Pn **Pn** **13 13 48.9 -2.1**
GOF Gofitskoye 15.94 72⇑*e*P **Pn** **13 13 52.9 +1.4**
GOF pmax pmax
comp=Z,60nm,0.6s
PRNI Paran 15.95 133 Pn **Pn** **13 13 50.6 -1.2**
KRMI Paran Flat 15.98 134 Pn **Pn** **13 13 51.0 -1.2**
FABU Falkenberg 16.01 342 *e*P **P** **13 13 57.6 +1.8**
MFF Saint Martin d 16.11 294 *e*Pn **Pn** **13 13 53.8 0.0**
MFF *e*Sn **Sn** **13 16 43.5 -8.8**
comp=Z,18nm,0.9s
HRFI Mount Harif 16.21 133 Pn **Pn** **13 13 54.1 -1.1**
ETSF Etsaut 16.27 280 *e*P **P** **13 13 59.5 +0.6**
ONI Oni 16.28 81 Pn **Pn** **13 13 55.8 -0.2**
ONI Oni 16.28 81 P **Pn** **13 13 55.8 -0.2**
ONI pmax pmax
comp=Z,44nm,1.1s
NCK Nalchik 16.32 77 *i*P **Pn** **13 13 56.9 +0.4**
NCK pmax pmax
comp=Z,71nm,1.4s
NCK MLR MLR
comp=Z,587nm,11.0s
OBN Obninsk 16.43 32 Pn **Pn** **13 13 55.9 -1.7**
comp=Z,1.2nm,0.3s,baz=209,slow=10,SNR=17
OBN Lg Lg 13 18 49.8
comp=Z,2.3nm,0.3s,baz=143,slow=20,SNR=2.1
OBN Obninsk 16.43 32 Pn **Pn** **13 13 56.9 -0.8**
OBN IAmb IAmb 13 14 01.2
comp=Z,471nm,1.4s
OBN Obninsk 16.43 32*c i*P **Pn** **13 13 56.3 -1.4**
OBN *e*S **Sn** **13 16 59.1 -0.7**
OBN pmax pmax
comp=Z,338nm,1.3s
OBN MLR MLR
comp=Z,865nm,13.0s
OBN Obninsk 16.43 32 ⇓P **P** **13 13 59.8 -0.6**
EIL Elat 16.45 134 Pn **Pn** **13 13 57.0 -1.2**
comp=Z,1.6nm,0.3s,baz=356,slow=16,SNR=12
EIL Sn **Sn** **13 16 59.9 -0.9**
comp=Z,0.1nm,0.3s,baz=358,slow=19,SNR=1.7
comp=Z,18nm,1.1s
EIL Elat 16.45 134 Pn **Pn** **13 13 56.8 -1.4**
MUD Monsted U'grnd 16.48 335 P **Pn** **13 13 59.4 +1.1**
MUD Monsted U'grnd 16.48 335 *e*P **P** **13 14 02.7 +1.7**
LDF La Druitiere 16.51 301 *e*P **P** **13 14 01.7 +0.2**
ONAU Onsala 16.55 342 *e*P **P** **13 14 01.8 0.0**
BORU Boraas 16.58 343 *i*P **P** **13 14 02.6 +0.5**
ZEI Tsey 16.59 80 *e*P **P** **13 14 01.5 -1.1**
ZEI pmax pmax
comp=Z,78nm,1.3s
VRH Novokhopyorsk 16.63 50 *e*P **Pn** **13 13 58.1 -2.2**
VRH pmax pmax
comp=Z,80nm,0.8s
VRH MLR MLR
comp=Z,1µm,8.0s
SJPF Ste Jean 16.74 281 *e*Pn **Pn** **13 14 01.4 -0.4**
SJPF Ste Jean 16.74 281 *e*P **P** **13 14 05.5 +1.4**
FLN La Foliniere 16.79 301 *e*Pn **Pn** **13 14 02.3 0.0**
baz=120
VSU Vasula 16.79 10 *i*P **P** **13 14 03.2 -1.2**
VSU pmax pmax
comp=Z,1µm,1.0s
VSU MLR MLR
comp=Z,7µm,14.0s
VSU Vasula 16.79 10 *e*P **Pn** **13 14 00.9 -1.4**
GEVA Gevas 16.91 95 P **P** **13 14 06.9 +0.7**
GRR Gorron 16.93 300 *e*Pn **Pn** **13 14 03.8 -0.4**
CLDR Caldiran 17.29 92 *e*P **P** **13 14 09.8 -0.6**
MOS Moscow 17.30 32 *e*P **Pn** **13 14 05.1 -3.5**
MOS *e*S **Sn** **13 17 19.9 -0.9**
MOS pmax pmax
comp=Z,292nm,1.1s
MOS MLR MLR
comp=Z,1µm,10.0s
GNI Garni 17.64 88 Pn **Pn** **13 14 13.3 +0.1**
comp=Z,14nm,0.8s,baz=250,slow=17,SNR=3.3
GNI Garni 17.64 88 P **Pn** **13 14 12.9 -0.4**
GNI Garni 17.64 88*de*P **P** **13 14 15.5 +1.3**
GNI pmax pmax
comp=Z,59nm,1.3s
GNI Garni 17.64 88 P **P** **13 14 15.8 +1.6**

GNI S **Sn** **13 17 28.8 -1.0**
GNI Garni 17.64 88 P **P** **13 14 16.8 +2.6**
GNI Garni 17.64 88 ⇓P **P** **13 14 16.0 +1.8**
GROC Groznyy 17.94 78 *e*P **P** **13 14 17.0 -0.3**
GROC *e*S **S** **13 17 43.3 +0.3**
GROC pmax pmax
comp=Z,104nm,1.0s
GROC MLR MLR
comp=Z,42nm,2.0s
MEF Metsahovi 18.31 5 *e*P **Pn** **13 14 20.3 -0.8**
QUIF Quistinic 18.35 297 *e*Pn **P** **13 14 24.5 +2.7**
ROSF Rostrenen 18.50 298 *e*Pn **Pn** **13 14 25.6 +2.1**
PUL Pulkovo 18.60 14*ce*P **Pn** **13 14 24.6 0.0**
PUL pmax pmax
comp=Z,215nm,1.0s
HFS Hagfors 18.75 348 P **P** **13 14 24.7 -1.4**
comp=Z,1.2nm,0.3s,baz=155,slow=11,SNR=23
HFS LR LR 13 22 43.9
comp=Z,519nm,18.4s,baz=156,slow=40
comp=Z,15nm,0.6s
RAF Rauma 19.03 0 *e*P **P** **13 14 27.7 -1.4**
KONO Kongsberg 19.11 341 P **P** **13 14 29.7 -0.4**
KONO Kongsberg 19.11 341*ce*P **P** **13 14 30.0 -0.1**
KONO pmax pmax
comp=Z,54nm,1.7s
KONO Kongsberg 19.11 341 *e*P **P** **13 14 29.6 -0.5**
MONM Monmouth 19.18 309 *e*P **Pn** **13 14 31.8 +0.1**
MONM IAmb IAmb 13 14 35.6
comp=Z,90nm,1.2s
MAK Makhachkala 19.21 78 *e*P **P** **13 14 31.2 0.0**
MAK *e*S **S** **13 18 08.9 +0.2**
MAK pmax pmax
comp=Z,210nm,0.9s
MAK MLR MLR
comp=Z,1µm,12.0s
GUD Guadarrama 19.27 274 P **P** **13 14 31.9 -0.2**
MCH1 Michaelchurch 19.34 309 *e*P **P** **13 14 32.5 -0.1**
MCH1 IAmb IAmb 13 14 38.4
comp=Z,42nm,1.0s
MCH1 Michaelchurch 19.34 309 ⇓P **Pn** **13 14 33.4 -0.3**
ESBB Sonseca Array 19.36 272 P **P** **13 14 32.0 -0.9**
ESDC Sonseca Array 19.36 272 P **P** **13 14 31.8 -1.2**
comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=33
ESDC LR LR 13 23 11.4
comp=Z,1µm,18.5s,baz=70,slow=41
comp=Z,5.3nm,0.9s
ESDC Sonseca Array 19.36 272 P **P** **13 14 32.6 -0.3**
DYA Yadsworthy 19.40 304 *e*P **P** **13 14 32.6 -0.7**
HPK Haverah Park 19.42 316 *e*P **Pn** **13 14 33.9 -0.8**
HLM1 Long Mynd 19.47 311⇑*e*P **Pn** **13 14 35.0 -0.3**
HLM1 IAmb IAmb 13 14 41.4
comp=Z,34nm,0.9s
FINES FINESS Array B 19.65 7 P **P** **13 14 35.3 -0.6**
comp=Z,1.9nm,0.3s,baz=179,slow=9.4,SNR=66
FINES LR LR 13 23 12.7
comp=Z,385nm,19.3s,baz=189,slow=40
comp=Z,12nm,0.5s
FINES FINESS Array B 19.65 7 P **P** **13 14 35.1 -0.8**
FIA1 FINESS Array S 19.65 7 P **P** **13 14 35.1 -0.8**
PAB San Pablo 19.68 271 P **P** **13 14 36.3 -0.2**
PAB San Pablo 19.68 271 P **P** **13 14 36.3 -0.2**
PAB pmax pmax
comp=Z,33nm,1.3s
PAB San Pablo 19.68 271 ⇑P **P** **13 14 36.8 +0.3**
NC602 NORSAR Array S 19.69 345 P **P** **13 14 36.0 -0.4**
NC602 NORSAR Array S 19.69 345 *e*P **P** **13 14 36.3 0.0**
NC602 IAmb IAmb 13 14 37.7
comp=Z,53nm,0.8s
NORES NORESS Array B 19.69 345 P **P** **13 14 35.6 -0.7**
NORES pmax pmax
comp=Z,9.0nm,0.7s
BLS5 Blasjo 19.75 337 *e*P **Pn** **13 14 38.2 -0.4**
FOEL Foel Wylfa 19.80 312 *e*P **P** **13 14 36.5 -1.1**
NAO01 NORSAR Array S 19.91 345 P **P** **13 14 39.0 +0.2**
TAF Taforalt 20.00 257 P Pn 13 14 41.3 -0.5
NC405 NORSAR Array S 20.01 346 P **P** **13 14 39.8 0.0**
NC405 IAmb IAmb 13 14 40.7
comp=Z,141nm,0.8s
EDMD Edmundbyers 20.02 318 *e*P **P** **13 14 39.9 -0.1**
NB201 NORSAR Array S 20.03 345 P **P** **13 14 40.2 +0.1**
NB201 IAmb IAmb 13 14 43.9
comp=Z,134nm,0.9s
NB2 NORSAR Subarra 20.03 345 P **P** **13 14 39.5 -0.6**
comp=Z,64nm,1.0s,baz=157,slow=11
NB2 NORSAR Subarra 20.03 345 P **P** **13 14 39.5 -0.6**
baz=157,slow=11
NOA NORSAR Array B 20.03 345 P **P** **13 14 39.8 -0.3**
comp=Z,42nm,0.9s,baz=153,slow=9.0,SNR=106
NOA LR LR 13 23 29.1
comp=Z,471nm,19.4s,baz=165,slow=40
comp=Z,42nm,0.9s
LLW Llanuwchllyn 20.04 311 *e*P **P** **13 14 40.2 0.0**
NC303 NORSAR Array S 20.18 346 P **P** **13 14 41.8 +0.2**
NC303 IAmb IAmb 13 14 43.3
comp=Z,139nm,0.8s
VALR Valaam 20.18 13 *i*P **P** **13 14 40.8 -0.9**
VALR pmax pmax
comp=Z,167nm,1.1s
VALR MLR MLR
comp=Z,1µm,10.0s
GOG Mont Gurugu 20.24 258 P Pn 13 14 44.0 -0.6
SKAR Skarslia 20.33 341 *e*P **P** **13 14 43.9 +0.5**
SKAR IAmb IAmb 13 14 45.5
comp=Z,22nm,1.0s
RSBS Rosebush, Pemb 20.34 308 *e*P **P** **13 14 43.7 +0.1**
JBK JBK 20.35 256 P Pn 13 14 45.1 -0.9
YLL Llanberis 20.44 312 *e*P **P** **13 14 44.3 -0.2**
BELG Belogornoye 20.47 51 P **P** **13 14 45.3 +0.4**
comp=Z,216nm,0.9s,baz=271,slow=4.9,SNR=39
BELG LR LR 13 22 46.7
comp=Z,990nm,18.7s,baz=250,slow=37
comp=Z,216nm,0.9s
BELG Belogornoye 20.47 51*d i*P **P** **13 14 44.9 +0.1**
BELG pmax pmax
comp=Z,45nm,0.9s
BELG MLR MLR
comp=Z,131nm,18.0s
KESW Keswick, Cumbr 20.48 316 *e*P **P** **13 14 45.2 +0.2**
FIGM Figuig 20.59 249 P **P** **13 14 46.0 -0.5**
WLF1 Llynfaes 20.62 312 *e*P **P** **13 14 46.4 -0.1**
WLF1 IAmb IAmb 13 14 50.8
comp=Z,705nm,2.4s
EKA Eskdalemuir Ar 20.87 318 P **P** **13 14 49.2 +0.1**
comp=Z,175nm,0.9s,baz=114,slow=11,SNR=156
EKA LR LR 13 22 32.9
comp=Z,697nm,21.4s,baz=119,slow=36
comp=Z,175nm,0.9s
ESK Eskdalemuir 20.88 318 *e*P **P** **13 14 49.6 +0.3**
ESK Eskdalemuir 20.88 318 P **P** **13 14 49.8 +0.5**
ESK IAmb IAmb 13 14 51.2
comp=Z,272nm,1.1s
ESK Eskdalemuir 20.88 318 P **P** **13 14 49.8 +0.5**
ESK pmax pmax
comp=Z,272nm,1.1s
ESK Eskdalemuir 20.88 318 ⇓P **P** **13 14 49.4 0.0**
ESY Stoneypath 20.90 320 *e*P **P** **13 14 49.0 -0.5**
PBRG Braganca 20.95 279 *e*P **P** **13 14 51.0 +0.7**
comp=Z,87nm,1.6s
EBL Broad Law 21.03 319 *e*P **P** **13 14 51.1 +0.1**
EDI Edinburgh 21.18 319 *e*P **P** **13 14 52.8 +0.3**
AKLM AKL 21.20 258 P **P** **13 14 54.0 +0.9**
HYA Hoyanger 21.28 339 *e*P **P** **13 14 54.8 +1.3**
HYA IAmb IAmb 13 15 03.2
comp=Z,66nm,1.1s
MVO Moncorvo 21.29 277 *e*P **P** **13 14 54.5 +0.6**
comp=Z,44nm,1.8s
MVO *e*S **S** **13 18 53.5 +3.2**
MVO *e*LR LR 13 22 35.1
comp=Z,767nm,18.0s
NEWG New Galloway 21.30 317 *e*P **P** **13 14 53.6 -0.3**
NEWG IAmb IAmb 13 14 56.1
comp=Z,48nm,1.0s
DOMB Dombas 21.37 344 *e*P **P** **13 14 56.0 +1.3**
DOMB IAmb IAmb 13 14 57.2
comp=Z,148nm,1.0s
EDU Dundee 21.42 321 *e*P **P** **13 14 55.3 +0.2**
PGBU Glenifferbraes 21.76 318 *e*P **P** **13 14 59.2 +0.5**
PGBU IAmb IAmb 13 15 00.6
comp=Z,105nm,1.2s
PVRL Vila Real 21.77 278 *e*P **P** **13 14 59.5 +0.4**
comp=Z,66nm,1.7s
SMIR Smir Dam 21.79 262 P **P** **13 14 60.0 +0.7**
POLO Lamas de Olo 21.81 278 *e*P **P** **13 14 59.7 +0.1**
comp=Z,35nm,1.8s
KLMR Klimovskoe 21.82 24*d i*P **P** **13 14 58.2 -1.1**

KLMR e 13 15 20.0
KLMR S Sn 13 19 04.9 -4.9
KLMR pmax pmax
comp=Z,182nm,1.2s
KLMR MLR MLR
comp=Z,1μm,8.0s
KLMR Klimovskoe 21.82 24 ⇓*i*P **P** **13 14 58.2 -1.1**
KLMR ⇑*i*P **P** **13 14 58.2 -1.1**
KLMR ⇓*i*P **P** **13 14 58.2 -1.1**
KLMR AMP 13 15 07.0
comp=Z,182nm,1.2s
KLMR e PP **PnPn** **13 15 20.0 -0.4**
KLMR S Sn 13 19 05.0 -4.8
KLMR S Sn 13 19 05.0 -4.8
KLMR LQ LQ 13 21 42.6
KLMR LQ LQ 13 21 42.6
KLMR LR LR 13 22 09.3
KLMR AMP 13 26 15.8
comp=Z,1μm,7.5s
MTE Manteigas 21.84 275 *e*P **P** **13 15 00.1 +0.3**
comp=Z,140nm,1.4s
MTE e S **S** **13 19 04.3 +3.2**
MTE e LR LR 13 22 47.2
comp=Z,544nm,20.0s
MTE Manteigas 21.84 275 P **P** **13 15 01.0 +1.1**
INVG Invergeldie, C 21.85 320 *e*P **P** **13 14 59.5 -0.2**
EAB Aberfoyle 21.87 319 *e*P **P** **13 14 60.0 0.0**
PCAB Cabril 21.92 279 *e*P **P** **13 15 02.5 +1.9**
comp=Z,88nm,1.5s
PCBR Castelo Branco 21.93 274 *e*P **P** **13 15 00.7 0.0**
comp=Z,49nm,1.4s
AKN Aaknes 21.95 342 *e*P **P** **13 15 03.0 +2.2**
PMRV Marv??o 21.98 273 *e*P **P** **13 15 00.8 -0.5**
comp=Z,52nm,1.7s
PMRV e S **S** **13 19 03.5 -0.2**
PMRV e LR LR 13 23 38.6
comp=Z,552nm,18.0s
PVIS Viseu 22.02 276 *e*P **P** **13 15 02.3 +0.5**
comp=Z,74nm,1.4s
PGAV Gavieira, Arco 22.05 280 *e*P **P** **13 15 03.1 +1.0**
comp=Z,105nm,1.7s
PGAV e S **S** **13 19 07.6 +2.4**
PGAV e LR LR 13 22 56.9
comp=Z,564nm,18.0s
PBAR Barrancos 22.09 269 *e*P **P** **13 15 01.7 -0.8**
comp=Z,90nm,1.9s
MCD Coleburn Disti 22.10 323 *e*P **P** **13 15 02.0 -0.5**
MOL Molde 22.17 343 *e*P **P** **13 15 03.2 +0.1**
MOL IAmb IAmb 13 15 04.8
comp=Z,72nm,1.1s
TBLU Trondheim 22.25 347 *e*P **P** **13 15 04.8 +0.7**
PESTR Estremoz 22.29 272 *e*P **P** **13 15 03.9 -0.7**
comp=Z,96nm,1.6s
PESTR Estremoz 22.29 272 P **P** **13 15 04.4 -0.2**
PESTR Estremoz 22.29 272 P **P** **13 15 05.9 +1.3**
PESTR Estremoz 22.29 272 ⇑P **P** **13 15 03.9 -0.7**
LCRM LCR 22.32 257 P **P** **13 15 05.0 -0.2**
LAWE Loch Awe, Argy 22.42 319 *e*P **P** **13 15 04.5 -1.4**
COI Coimbra 22.53 275 P **P** **13 15 06.2 -0.9**
COI Coimbra 22.53 275 P **P** **13 15 06.3 -0.9**
COI pmax pmax
comp=Z,47nm,0.8s
MDT Midelt 22.58 254 P **P** **13 15 07.0 -0.9**
comp=Z,25nm,0.8s,baz=85,slow=11,SNR=51
MDT LR LR 13 23 36.3
comp=Z,570nm,21.1s,baz=66,slow=36
comp=Z,25nm,0.8s
MDT Midelt 22.58 254 P **P** **13 15 07.0 -0.9**
PCAS Casmilo, Conde 22.63 275 *e*P **P** **13 15 08.6 +0.3**
comp=Z,76nm,1.5s
PMTG Montargil 22.70 272 *e*P **P** **13 15 07.8 -1.2**
comp=Z,70nm,1.5s
EVO Evora 22.70 271 *e*P **P** **13 15 07.8 -1.2**
comp=Z,44nm,1.7s
PBEJ Beja 22.76 270 *e*P **P** **13 15 10.5 +0.9**
comp=Z,62nm,1.7s
LRW Lerwick 22.84 330 *e*P **P** **13 15 09.5 -0.7**
LRW IAmb IAmb 13 15 10.6
comp=Z,93nm,0.9s
PVAQ Vaqueiros 22.86 268 *e*P **P** **13 15 09.9 -0.8**
comp=Z,70nm,1.6s
PVAQ e S **S** **13 19 20.8 +0.8**
PVAQ e LR LR 13 23 32.2
comp=Z,579nm,18.0s
PVAQ Vaqueiros 22.86 268 P **P** **13 15 10.3 -0.3**
PVAQ Vaqueiros 22.86 268 ⇑P **P** **13 15 10.4 -0.2**
PSBE So Bento 23.00 274 *e*P **P** **13 15 11.6 -0.5**
comp=Z,95nm,1.5s
PCVE Castro Verde 23.02 269 *e*P **P** **13 15 11.4 -0.9**
comp=Z,119nm,1.4s
KPL Plockton 23.07 321 *e*P **P** **13 15 11.2 -1.4**
MESJ Messejana 23.08 269 *e*P **P** **13 15 11.7 -1.3**
MESJ IAmb IAmb 13 15 14.3
comp=Z,134nm,1.5s
MESJ e S **S** **13 19 24.0 +0.1**
MESJ Messejana 23.08 269 *e*P **P** **13 15 11.7 -1.3**
comp=Z,111nm,1.5s
MESJ Messejana 23.08 269 *e*P **P** **13 15 11.7 -1.3**
MESJ e S **S** **13 19 24.0 +0.1**
MESJ Messejana 23.08 269 ⇓P **P** **13 15 12.1 -0.9**
NSS Namsos 23.20 350 *e*P **P** **13 15 13.0 -0.8**
NSS IAmb IAmb 13 15 16.9
comp=Z,59nm,1.0s
PNCL Nicolau / Gran 23.22 270 *e*P **P** **13 15 13.5 -0.9**
comp=Z,111nm,1.8s
OUL Oulu 23.24 5 P **P** **13 15 14.1 -0.2**
OUL pmax pmax
comp=Z,48nm,1.9s
LIS Lisbon 23.49 272 *e*P **P** **13 15 16.2 -0.9**
LIS IAmb IAmb 13 15 18.8
comp=Z,99nm,1.2s
LIS e S **S** **13 19 30.7 +0.1**
LIS Lisbon 23.49 272 *e*P **P** **13 15 16.2 -0.9**
LIS e S **S** **13 19 30.7 +0.1**
PMST Lisbon--Monsan 23.51 272 *e*P **P** **13 15 18.9 +1.6**
PTEO Sao Teotonio 23.56 269 *e*P **P** **13 15 18.2 +0.4**
comp=Z,130nm,1.6s
MORF Marmelete 23.59 269 *e*P **P** **13 15 17.0 -1.1**
MORF IAmb IAmb 13 15 19.6
comp=Z,47nm,1.1s
MORF e S **S** **13 19 32.4 +0.1**
MORF Marmelete 23.59 269 *e*P **P** **13 15 18.7 +0.6**
comp=Z,94nm,1.6s
MORF Marmelete 23.59 269 *e*P **P** **13 15 17.0 -1.1**
MORF e S **S** **13 19 32.4 +0.1**
PFVI Vila Bisbo 23.78 268 *e*P **P** **13 15 19.5 -0.4**
comp=Z,199nm,1.6s
KIRV Kirov 24.09 37 P **P** **13 15 22.1 -0.6**
comp=Z,85nm,0.9s,baz=251,slow=4.5,SNR=31
KIRV LR LR 13 25 48.9
comp=Z,1μm,20.9s,baz=236,slow=39
comp=Z,85nm,0.9s
MSF Maaselka 24.31 8 P **P** **13 15 24.0 -0.6**
MSF pmax pmax
comp=Z,50nm,1.2s
AVE Averroes 24.37 259 P **P** **13 15 24.9 -0.6**
PRGR Permogore 24.41 28 *e*P **P** **13 15 24.0 -1.5**
PRGR *e* 13 19 03.1
PRGR pmax pmax
comp=Z,70nm,0.8s
MOR8 Moi Rana 24.51 353 *e*P **P** **13 15 26.0 -0.5**
MOR8 IAmb IAmb 13 15 27.5
comp=Z,397nm,2.2s
SRHM Skhour des Reh 25.14 257 P **P** **13 15 32.0 -0.5**
SGF Sodankyl 25.62 5 P **P** **13 15 36.5 +0.1**
SGF pmax pmax
comp=Z,35nm,1.0s
STEI Steigen 26.18 355 *e*P **P** **13 15 41.8 +0.4**
STEI IAmb IAmb 13 15 42.1
comp=Z,55nm,1.0s
APA Apatity 26.41 10 ⇑*i*P P 13 15 54.2 +11
APA pmax pmax
comp=Z,24nm,1.0s
APA MLR MLR
comp=Z,2μm,10.0s
AKTO Aktyubinsk 26.43 59 P **P** **13 15 43.3 -0.7**
comp=Z,19nm,0.8s,baz=263,slow=10,SNR=35
AKTO LR LR 13 27 14.8
comp=Z,1μm,20.3s,baz=267,slow=39
comp=Z,19nm,0.8s
AKTO Aktyubinsk 26.43 59 P **P** **13 15 43.5 -0.5**
LVZ Lovozero 26.89 11 P **P** **13 15 47.5 -0.4**
LVZ Lovozero 26.89 11 *i*P **P** **13 15 50.4 +2.4**
LVZ pmax pmax
comp=Z,33nm,1.1s
LVZ MLR MLR
comp=Z,2μm,16.0s
KTK1 Kautokeino 27.06 1 *e*P **P** **13 15 49.1 -0.4**
KTK1 IAmb IAmb 13 15 50.1
comp=Z,71nm,1.2s
RAYN Ar Rayn 27.22 125 P **P** **13 15 50.2 -1.1**
RAYN Ar Rayn 27.22 125 P **P** **13 15 50.3 -1.1**
RAYN pmax pmax
comp=Z,50nm,1.3s
RAYN Ar Rayn 27.22 125 P **P** **13 15 51.8 +0.5**
RAYN S **S** **13 20 31.2 +0.9**
RAYN Ar Rayn 27.22 125 *i*P **P** **13 15 51.7 +0.3**
SNR=36
JETT Jettan, Norway 27.60 359 *e*P **P** **13 15 53.4 -1.0**
JETT IAmb IAmb 13 15 54.5
comp=Z,30nm,0.7s
AB31 Akbulak array 27.62 62 *e*P **P** **13 15 54.2 -0.5**
ABKAR Akbulak array 27.62 62 P **P** **13 15 54.5 -0.2**
ABKAR Akbulak array 27.62 62 P **P** **13 15 54.6 -0.1**
ABKAR IAmb IAmb 13 16 22.0
comp=Z,18nm,0.8s
ABKAR Akbulak array 27.62 62 ⇓P **P** **13 15 54.8 +0.1**
ARA0 ARCESS Array S 27.66 3 *e*P **P** **13 15 54.1 -0.7**
ARA0 IAmb IAmb 13 15 54.6
comp=Z,40nm,1.0s
ARCES ARCESS Array B 27.66 3 P **P** **13 15 53.7 -1.1**
comp=Z,20nm,0.7s,baz=187,slow=9.8,SNR=62
ARCES PcP **PcP** **13 19 12.2 +0.6**
comp=Z,3.9nm,0.9s,baz=197,slow=1.9,SNR=2.3
ARCES LR LR 13 26 35.8
comp=Z,423nm,20.8s,baz=178,slow=36
comp=Z,20nm,0.7s
ARCES ARCESS Array B 27.66 3 P **P** **13 15 53.9 -0.9**
ARCES ARCESS Array B 27.66 3 P **P** **13 15 53.9 -0.9**
ARCES pmax pmax
comp=Z,33nm,1.0s
TRO Tromso 27.70 358 *e*P **P** **13 15 54.2 -1.0**
TRO IAmb IAmb 13 15 58.7
comp=Z,66nm,1.3s
ARU Arti 27.78 46 P **P** **13 15 55.8 -0.3**
comp=Z,21nm,0.8s,baz=240,slow=7.7,SNR=28
comp=Z,21nm,0.8s
ARU Arti 27.78 46 *d*i P **P** **13 15 56.1 0.0**
ARU 13 16 40.4
ARU S **S** **13 20 40.9 +2.4**
ARU SS **SnSn** **13 21 54.4 +3.6**
ARU pmax pmax
comp=Z,43nm,1.0s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 27.78 46 ⇑P **P** **13 15 56.2 +0.1**
KEV Kevo 27.94 4 P **P** **13 15 56.7 -0.6**
KEV Kevo 27.94 4 P **P** **13 15 56.7 -0.6**
KEV pmax pmax
comp=Z,39nm,1.2s
KEV Kevo 27.94 4 ⇑P **P** **13 15 57.0 -0.4**
GEYT Alibeck 28.25 86 P **P** **13 16 01.5 +1.0**
comp=Z,20nm,0.7s,baz=292,slow=7.8,SNR=42
GEYT PcP **PcP** **13 19 12.3 -1.3**
comp=Z,3.2nm,0.8s,baz=204,slow=3.3,SNR=2.7
GEYT LR LR 13 29 32.1
comp=Z,273nm,18.5s,baz=308,slow=41
comp=Z,20nm,0.7s
GEYT Alibeck 28.25 86 P **P** **13 15 59.4 -1.1**
GYA0B ALIBECK ARRAY 28.25 86 P **P** **13 15 59.0 -1.5**
HAMF Hammerfest 28.71 2 *e*P **P** **13 16 04.0 -0.1**
SHMA Al-Shehemyia 29.12 114 P **P** **13 16 08.5 +0.2**
SHMA S **S** **13 20 59.9 -0.1**
MZWR Madinat Zayed 32.49 114 P **P** **13 16 37.8 -0.2**
MZWR S **S** **13 21 50.4 -2.4**
UMQ Umm Al-Quwin 32.58 109 P **P** **13 16 39.5 +0.7**
SNR=13
UMQ S **S** **13 21 53.8 -0.4**
UMQ Umm Al-Quwin 32.58 109 *i*P **P** **13 16 39.7 +0.9**
SNR=12
SHME Shamm 32.60 108 P **P** **13 16 38.2 -0.7**
SNR=10
SHME P **P** **13 16 38.2 -0.7**
SNR=10
SHME S **S** **13 21 51.2 -3.3**
SHME S **S** **13 21 51.2 -3.3**
SHME Shamm 32.60 108 *i*P **P** **13 16 38.2 -0.7**
SNR=21
HRA Herat 32.70 90 P **P** **13 16 40.3 +0.3**
HRA IAmb IAmb 13 16 42.2
comp=Z,56nm,1.1s
AJN Ajban 32.73 112 P **P** **13 16 40.2 +0.1**
SNR=6.9
AJN S **S** **13 21 55.1 -1.3**
AJN Ajban 32.73 112 *i*P **P** **13 16 40.1 +0.1**
SNR=5.7
MZR Muzera 32.73 115 *i*P **P** **13 16 39.9 -0.2**
SNR=6.3
BANOM Banah 32.79 108 P **P** **13 16 40.3 -0.3**
SNR=9.5
BANOM P **P** **13 16 40.3 -0.3**
SNR=9.5
BANOM S **S** **13 21 54.9 -2.6**
BANOM S **S** **13 21 54.9 -2.6**
BANOM Banah 32.79 108 *i*P **P** **13 16 40.3 -0.3**
SNR=17
ASUD Al Ashush, Dub 32.92 111 P **P** **13 16 42.1 +0.3**
SNR=15
ASUD S **S** **13 22 00.2 +0.7**
ASUD Al Ashush, Dub 32.92 111 *i*P **P** **13 16 42.1 +0.3**
SNR=21
NAZ Nazwa, Dubai 32.92 110 P **P** **13 16 41.9 0.0**
SNR=23
NAZ S **S** **13 21 58.7 -0.9**
NAZ Nazwa, Dubai 32.92 110 *i*P **P** **13 16 41.8 0.0**
SNR=21
FAQ Al Faqa, Dubai 33.03 111 P **P** **13 16 42.4 -0.3**
SNR=12
FAQ S **S** **13 21 59.9 -1.3**
FAQ Al Faqa, Dubai 33.03 111 *i*P **P** **13 16 42.4 -0.3**
SNR=12
MASF Masafi 33.03 109 P **P** **13 16 42.5 -0.3**
SNR=12
MASF S **S** **13 21 59.4 -1.9**
MSFE Esma-Masafi 33.04 109 *i*P **P** **13 16 42.7 -0.1**
SNR=7.8
BORG Borgarnes 33.17 328 LR LR 13 31 05.7
comp=Z,526nm,18.3s,baz=124,slow=38
MDH Madha 33.17 109 P **P** **13 16 43.4 -0.6**
SNR=9.6
MDH P **P** **13 16 43.4 -0.6**
SNR=9.6
MDH S **S** **13 22 01.7 -1.8**
MDH S **S** **13 22 01.7 -1.8**
MDH Madha 33.17 109 *i*P **P** **13 16 43.5 -0.6**
SNR=16
UOSS Minazif 33.33 110 P **P** **13 16 44.3 -1.0**
UOSS IAmb IAmb 13 16 45.8
comp=Z,80nm,1.1s
UOSS Minazif 33.33 110 P **P** **13 16 44.7 -0.7**
UOSS S **S** **13 22 03.2 -2.7**
UOSS Minazif 33.33 110 *i*P **P** **13 16 44.7 -0.7**
SNR=26
UOSS Minazif 33.33 110 ⇓P **P** **13 16 44.3 -1.0**
HATD Hatta, Dubai 33.35 110 P **P** **13 16 45.2 -0.4**
SNR=18
HATD P **P** **13 16 45.2 -0.4**
SNR=18
HATD S **S** **13 22 04.4 -1.9**
HATD S **S** **13 22 04.4 -1.9**
HATD Hatta, Dubai 33.35 110 *i*P **P** **13 16 45.3 -0.3**
SNR=11
ASHO Ashiyiah 33.39 110 P **P** **13 16 45.5 -0.5**
SNR=24
ASHO P **P** **13 16 45.5 -0.5**
SNR=24
ASHO S **S** **13 22 05.4 -1.5**
ASHO S **S** **13 22 05.4 -1.5**
ASHO Ashiyiah 33.39 110 *i*P **P** **13 16 45.4 -0.5**
SNR=13
TOA0 Torodi Ar. Sit 33.51 217 P **P** **13 16 47.0 0.0**
TOA0 IAmb IAmb 13 16 48.4
comp=Z,54nm,1.0s
TOA0 Torodi Ar. Sit 33.51 217 P **P** **13 16 47.9 +0.9**
SNR=12
TOA0 S **S** **13 22 13.4 +4.6**
TORD Torodi Ar. Bea 33.51 217 P **P** **13 16 47.1 +0.1**
comp=Z,34nm,0.8s,baz=28,slow=7.2,SNR=144
TORD PcP **PcP** **13 19 26.8 -1.0**
comp=Z,4.1nm,1.0s,baz=346,slow=2.7,SNR=3.6
TORD LR LR 13 32 07.0
comp=Z,368nm,20.4s,baz=24,slow=40
comp=Z,34nm,0.8s
TORD Torodi Ar. Bea 33.51 217 P **P** **13 16 46.8 -0.2**
TORD IAmb IAmb 13 16 48.5
comp=Z,44nm,1.1s
ALNE Al Ain 33.58 111 P **P** **13 16 47.4 -0.2**
SNR=24
ALNE S **S** **13 22 07.8 -2.0**
ALNE Al Ain 33.58 111 *i*P **P** **13 16 47.4 -0.2**
SNR=18
JASK Jask - Hormozg 33.94 107 P **P** **13 16 50.6 -0.1**
SNR=6.6
SOHO SOHO 34.08 110 P **P** **13 16 51.4 -0.4**
SOHO SOHO 34.08 110 *i*P **P** **13 16 51.5 -0.4**
SNR=12
BRVK Borovoye 34.12 54 P **P** **13 16 52.4 +0.4**
BRVK Borovoye 34.12 54 *de*P **P** **13 16 52.7 +0.8**
BRVK pmax pmax
comp=Z,30nm,1.7s
BRVK Borovoye 34.12 54 P **P** **13 16 52.7 +0.8**
BRVK Borovoye 34.12 54 ⇑P **P** **13 16 52.7 +0.8**
BVA0 Borovoye Array 34.18 54 *i*P **P** **13 16 53.0 +0.5**
BVAR Borovoye Array 34.18 54 P **P** **13 16 53.2 +0.7**
comp=Z,3.9nm,0.8s,baz=272,slow=6.7,SNR=30
BVAR PP **PnPn** **13 18 04.5 -1.8**
comp=Z,3.8nm,0.8s,baz=280,slow=12,SNR=2.3
BVAR PcP **PcP** **13 19 29.1 -0.1**
comp=Z,0.8nm,0.6s,baz=220,slow=3.8,SNR=2.3
BVAR LR LR 13 31 17.6
comp=Z,547nm,18.6s,baz=273,slow=37
comp=Z,3.9nm,0.8s
ARQ Araqi 34.59 112 P **P** **13 16 56.1 -0.2**
SNR=13
ARQ P **P** **13 16 56.1 -0.2**
SNR=13
HOQ Hoqain 34.98 110 P **P** **13 16 58.6 -1.1**
SNR=16
KOWA Kowa 35.17 226 LR LR 13 34 06.0
comp=Z,518nm,18.1s,baz=42,slow=41
KOWA Kowa 35.17 226 **P** **13 17 01.5 +0.1**
KOWA PcP **PcP** **13 19 32.4 -0.2**
KOWA Kowa 35.17 226 ⇑P **P** **13 17 02.0 +0.6**
BSY Bisya 35.44 112 P **P** **13 17 03.1 -0.7**
SNR=6.3
BIDO Bidbid 35.59 110 P **P** **13 17 04.5 -0.4**
SNR=11
BIDO P **P** **13 17 04.5 -0.4**
SNR=11
IUG Iuzhnay 35.66 73 *e*P **P** **13 17 06.1 +0.7**
IUG Iuzhnay 35.66 73 *e*P **P** **13 17 06.2 +0.7**
baz=73
ATD Arta Tunnel 35.67 142 P **P** **13 17 06.0 +0.2**
comp=Z,50nm,1.3s,baz=351,slow=7.0,SNR=4.9
ATD LR LR 13 32 07.4
comp=Z,117nm,21.9s,baz=342,slow=37
comp=Z,50nm,1.3s
KK31 Karatay Array 35.73 71 P **P** **13 17 06.4 +0.4**
KK31 Karatay Array 35.73 71 *i*P **P** **13 17 06.4 +0.4**
KKAR Karatay Array 35.73 71 P **P** **13 17 06.3 +0.3**
KKAR Karatay Array 35.73 71 P **P** **13 17 06.4 +0.3**
KKAR IAmb IAmb 13 17 13.4
comp=Z,27nm,1.1s
KKAR Karatay Array 35.73 71 P **P** **13 17 06.3 +0.3**
KKAR pmax pmax
comp=Z,27nm,1.2s
KKAR Karatay Array 35.73 71 ⇓P **P** **13 17 07.1 +1.1**
SMDO Samad 35.83 110 P **P** **13 17 06.3 -0.9**
SNR=15
SMDO P **P** **13 17 06.3 -0.9**
SNR=15
BRZS Berezniki 35.84 59 *e*P **P** **13 17 06.7 -0.1**
BRZS Berezniki 35.84 59 *e*P **P** **13 17 06.8 -0.1**
baz=59
WSAR Wadi Sarin 36.12 109 P **P** **13 17 08.6 -0.9**
comp=Z,28nm,1.0s,baz=325,slow=8.5,SNR=16
WSAR LR LR 13 35 18.0
comp=Z,442nm,19.0s,baz=324,slow=42
comp=Z,28nm,1.0s
WSAR Wadi Sarin 36.12 109 P **P** **13 17 09.1 -0.4**
SNR=10
CHGR Chuyangaron 36.14 79 P **P** **13 17 10.2 +0.5**
CHGR Chuyangaron 36.14 79 P **P** **13 17 10.2 +0.5**
CHGR pmax pmax
comp=Z,104nm,0.9s
JMDO Jabal Madar 36.32 111 P **P** **13 17 10.5 -0.7**
SNR=14
SPB2 Spitsbergen Ar 36.32 358 P **P** **13 17 10.8 +0.2**
SPA0 Spitsbergen Ar 36.32 358 *e*P **P** **13 17 11.4 +0.7**
SPA0 IAmb IAmb 13 17 14.2
comp=Z,42nm,1.1s
SPITS Spitsbergen Ar 36.32 358 LR LR 13 34 19.0
comp=Z,368nm,18.9s,baz=119,slow=40
SPITS Spitsbergen Ar 36.32 358 P **P** **13 17 11.0 +0.3**
SPITS pmax pmax
comp=Z,33nm,1.1s
DZA Taraz 36.37 71 *e*P **P** **13 17 12.2 +0.7**
DZA Taraz 36.37 71 *e*P **P** **13 17 12.3 +0.7**
baz=71
WHFO Wadi Hawf 36.53 121 P **P** **13 17 12.6 -0.5**
WBK Wadi Bani Khal 36.77 110 P **P** **13 17 15.0 0.0**
SNR=14
WBK P **P** **13 17 15.0 0.0**
SNR=14
BTK Batken 36.87 76 P **P** **13 17 16.1 +0.2**
BTK IAmb IAmb 13 17 17.9
comp=Z,46nm,1.0s
BTK Batken 36.87 76 P **P** **13 17 16.1 +0.2**
BTK pmax pmax
comp=Z,47nm,1.0s
GAR Garm 36.87 78 P **P** **13 17 16.9 +1.0**
RBK Rabkut 37.12 121 P **P** **13 17 17.9 -0.1**
MHTO MHTO 37.15 113 P **P** **13 17 18.0 -0.3**
SNR=10
MHTO P **P** **13 17 18.0 -0.3**
SNR=10
MHTO S **S** **13 23 04.5 -0.1**
MHTO S **S** **13 23 04.5 -0.1**
KBS Kingsbay 37.21 357 P **P** **13 17 19.0 +0.8**
KBS Kingsbay 37.21 357 *i*P **P** **13 17 19.4 +1.3**
KBS pmax pmax
comp=Z,30nm,1.0s
DMTO DMTO 37.44 120 P **P** **13 17 19.9 -0.8**
DQM DQM 37.58 115 P **P** **13 17 21.2 -0.7**
SHAO Shalim 37.65 119 P **P** **13 17 22.1 -0.5**
BTLS Baital 37.69 67 *c*i P **P** **13 17 23.6 +0.9**
BTLS Baital 37.69 67 ⇑*i*P **P** **13 17 23.6 +0.9**
baz=67
KBL Kabul 37.69 85 P **P** **13 17 23.1 0.0**
KBL Kabul 37.69 85 P **P** **13 17 23.1 0.0**
KBL pmax pmax
comp=Z,15nm,1.0s
KBL Kabul 37.69 85 P **P** **13 17 23.8 +0.8**
SNR=7.4
KBL P **P** **13 17 23.8 +0.8**
SNR=7.4
EKS2 Erkin-Say 38.16 71 P **P** **13 17 28.6 +1.9**
SNR=45
AML Almayashu 38.26 72 P **P** **13 17 29.1 +1.1**
SNR=10
USP Ospenovka 38.49 70 P **P** **13 17 30.3 +0.8**
SNR=8.4
SGDS Sogindy 38.52 69 *c*i P **P** **13 17 30.2 +0.4**
SGDS Sogindy 38.52 69 ⇑*i*P **P** **13 17 30.2 +0.4**
baz=69
AAK Ala-Archa 38.67 71 P **P** **13 17 33.0 +1.9**
SNR=9.8
AAK Ala-Archa 38.67 71 *ce*P **P** **13 17 32.8 +1.7**
AAK pmax pmax
comp=Z,52nm,1.7s
AAK Ala-Archa 38.67 71 P **P** **13 17 32.8 +1.7**
AAK Ala-Archa 38.67 71 *i*P **P** **13 17 32.2 +1.0**
SNR=13
CHMS Chumysh 38.74 70 P **P** **13 17 31.4 -0.2**
SNR=5.7
KBK Karagaybulak 38.98 70 P **P** **13 17 34.9 +1.1**
SNR=7.5
TKM2 Tokmak 2 39.36 70 P **P** **13 17 35.0 -1.9**
KURBB Kurchatov Arra 39.45 57 P **P** **13 17 37.0 -0.4**
comp=Z,1.5nm,0.2s,baz=282,slow=9.6,SNR=18
KURBB PP **PP** **13 19 08.1 +0.3**
comp=Z,5.5nm,0.2s,baz=288,slow=11,SNR=6.8
KURBB PcP **PcP** **13 19 45.5 +0.4**
comp=Z,12nm,0.8s,baz=280,slow=3.9,SNR=13
KURBB LR LR 13 37 08.0
comp=Z,591nm,18.2s,baz=267,slow=41
comp=Z,1.5nm,0.2s

KURK	**Kurchatov**	39.49	57	P		**P**		**13 17 35.8**	**-1.9**
KURK	**Kurchatov**	**39.49**	**57**	*ce*P		**P**		**13 17 37.8**	**+0.1**
KURK				pmax		pmax			
	comp=Z,15nm,1.3s								
KURK	**Kurchatov**	**39.49**	**57**	⇓P		**P**		**13 17 37.8**	**+0.1**
KUU	**Kurty**	**39.58**	**68**	*c* /P		**P**		**13 17 39.8**	**+1.2**
KUU				pmax		pmax			
	comp=Z,67nm,1.4s								
KUU	**Kurty**	**39.58**	**68**	⇑ /P		**P**		**13 17 39.9**	**+1.2**
	comp=Z,67nm,1.4s,baz=68								
BOOM	**Boomskoye usch**	**39.73**	**70**	P		**P**		**13 17 39.6**	**-0.4**
BOOM	**Boomskoye usch**	**39.73**	**70**	P		**P**		**13 17 39.6**	**-0.4**
BOOM				pmax		pmax			
	comp=Z,23nm,1.0s								
CHKK	**Chushkaly**	**40.04**	**68**	*e*P		**P**		**13 17 43.3**	**+0.9**
CHKK	**Chushkaly**	**40.04**	**68**	*e*P		**P**		**13 17 43.4**	**+0.9**
	baz=68								
NRN	**Naryn**	**40.12**	**72**	P		**P**		**13 17 43.9**	**+0.5**
NRN	**Naryn**	**40.12**	**72**	P		**P**		**13 17 43.9**	**+0.5**
NRN				pmax		pmax			
	comp=Z,18nm,1.0s								
AAA	**Alma-Ata**	**40.19**	**69**	*e*P		**P**		**13 17 44.1**	**+0.4**
AAA				pmax		pmax			
	comp=Z,35nm,1.0s								
AAA	**Alma-Ata**	**40.19**	**69**	*e*P		**P**		**13 17 44.1**	**+0.4**
	comp=Z,35nm,1.0s,baz=69								
MDOK	**Medeo**	**40.30**	**69**	*/* P		**P**		**13 17 45.7**	**+1.1**
MDOK	**Medeo**	**40.30**	**69**	*/* P		**P**		**13 17 45.8**	**+1.1**
	baz=69								
LODK	**Lodwar**	**40.40**	**158**	P		**P**		**13 17 45.6**	**-0.1**
LODK	**Lodwar**	**40.40**	**158**	P		**P**		**13 17 46.3**	**+0.6**
	SNR=5.8								
SEM	**Semipalatinsk**	**40.57**	**57**	*e*P		**P**		**13 17 47.1**	**+0.2**
SEM	**Semipalatinsk**	**40.57**	**57**	*e*P		**P**		**13 17 47.1**	**+0.2**
	baz=57								
TDK	**Taldyqorghan**	**40.68**	**66**	*e*P		**P**		**13 17 48.1**	**+0.4**
TDK	**Taldyqorghan**	**40.68**	**66**	*e*P		**P**		**13 17 48.1**	**+0.4**
	baz=66								
KSH	**Kashi**	**40.77**	**75**	P		**P**		**13 17 49.1**	**+0.4**
KSH				pmax		pmax			
	comp=Z,20nm,1.2s								
KSH				pmax		pmax			
	comp=Z,290nm,6.4s								
KSH				LR		LR			
	comp=Z,600nm,14.4s								
KSH				LR		LR			
	comp=Z,340nm,13.7s								
KSH				LR		LR			
	comp=Z,540nm,16.5s								
ZHN	**Zhinishke**	**41.26**	**68**	*e*P		**P**		**13 17 53.1**	**+0.5**
ZHN	**Zhinishke**	**41.26**	**68**	*e*P		**P**		**13 17 53.1**	**+0.5**
	baz=68								
ICESG	**Greenland Ices**	**41.26**	**332**	*e*P		**P**		**13 17 51.4**	**-1.1**
ICESG	**Greenland Ices**	**41.26**	**332**	⇑P		**P**		**13 17 53.2**	**+0.7**
SATY	**Saty**	**41.27**	**69**	*e*P		**P**		**13 17 53.7**	**+1.0**
SATY				pmax		pmax			
	comp=Z,28nm,1.2s								
SATY	**Saty**	**41.27**	**69**	*e*P		**P**		**13 17 53.8**	**+1.0**
	comp=Z,28nm,1.2s,baz=69								
TARG	**Taragay, Kyrgy**	**41.29**	**71**	P		**P**		**13 17 54.6**	**+1.4**
TARG	**Taragay, Kyrgy**	**41.29**	**71**	P		**P**		**13 17 54.6**	**+1.4**
TARG				pmax		pmax			
	comp=Z,31nm,1.0s								
SUMG	**Summit**	**41.54**	**337**	*/* P		**P**		**13 17 51.0**	**-3.8**
UZB	**Uzynbulak**	**41.67**	**68**	*e*P		**P**		**13 17 56.4**	**+0.4**
UZB	**Uzynbulak**	**41.67**	**68**	*e*P		**P**		**13 17 56.5**	**+0.4**
	baz=68								
PDGK	**Podgornoye**	**41.93**	**68**	P		**P**		**13 17 56.4**	**-1.7**
SHLS	**Shalkode**	**41.97**	**68**	*e*P		**P**		**13 18 01.6**	**+3.2**
SHLS	**Shalkode**	**41.97**	**68**	*e*P		**P**		**13 18 01.6**	**+3.2**
	baz=68								
DBIC	**Dimbokro**	**42.24**	**221**	P		**P**		**13 17 59.8**	**-0.9**
	comp=Z,36nm,0.8s,baz=38,slow=9.2,SNR=26								
DBIC				LR		LR		13 38 01.2	
	comp=Z,409nm,18.2s,baz=33,slow=40								
	comp=Z,36nm,0.8s								
DBIC	**Dimbokro**	**42.24**	**221**	P		**P**		**13 17 59.6**	**-1.0**
DBIC	**Dimbokro**	**42.24**	**221**	⇑P		**P**		**13 18 00.4**	**-0.3**
TIC	**Toumodi**	**42.34**	**221**	⇓*e*P		**P**		**13 18 01.1**	**-0.4**
	comp=Z,35nm,0.8s								
KIC	**Kosan Boka**	**42.45**	**221**	⇓*e*P		**P**		**13 18 01.8**	**-0.6**
	comp=Z,15nm,0.5s								
MAKZ	**Makanchi**	**42.56**	**62**	P		**P**		**13 18 02.3**	**-0.7**
MAKZ	**Makanchi**	**42.56**	**62**	P		**P**		**13 18 02.3**	**-0.7**
MAKZ				pmax		pmax			
	comp=Z,14nm,1.1s								
BBTS	**Babate**	**42.60**	**242**	LR		LR		13 37 28.2	
	comp=Z,626nm,18.0s,baz=50,slow=39								
ZAA0	**Zalesovo Array**	**42.65**	**51**	P		**P**		**13 18 03.3**	**-0.4**
ZALV	**Zalesovo Beam**	**42.65**	**51**	P		**P**		**13 18 03.9**	**+0.2**
	comp=Z,17nm,0.8s,baz=279,slow=8.8,SNR=73								
ZALV				PP		**PP**		**13 19 41.9**	**-0.5**
	comp=Z,13nm,0.9s,baz=281,slow=10,SNR=4.1								
ZALV				ScP		**ScP**		**13 23 48.8**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=270,slow=5.8,SNR=2.0								
ZALV				LR		LR		13 37 02.9	
	comp=Z,460nm,18.2s,baz=271,slow=38								
	comp=Z,17nm,0.8s								
ZALV	**Zalesovo Beam**	**42.65**	**51**	P		**P**		**13 18 03.5**	**-0.2**
LIC	**Lamto**	**42.71**	**221**	⇑*e*P		**P**		**13 18 03.8**	**-0.7**
	comp=Z,182nm,0.9s								
MK31	**Makanchi Array**	**42.77**	**62**	P		**P**		**13 18 04.9**	**+0.2**
MK31	**Makanchi Array**	**42.77**	**62**	*d* /P		**P**		**13 18 05.2**	**+0.5**
MKAR	**Makanchi Array**	**42.77**	**62**	P		**P**		**13 18 05.3**	**+0.5**
	comp=Z,8.5nm,0.7s,baz=279,slow=7.4,SNR=50								
MKAR				PcP		**PcP**		**13 19 55.6**	**-0.4**
	comp=Z,8.4nm,0.8s,baz=297,slow=3.6,SNR=3.9								
MKAR				LR		LR		13 37 48.7	
	comp=Z,655nm,19.7s,baz=292,slow=39								
	comp=Z,8.5nm,0.7s								
MKAR	**Makanchi Array**	**42.77**	**62**	P		**P**		**13 18 04.8**	**+0.1**
NRIK	**Noril'sk**	**43.05**	**28**	P		**P**		**13 18 07.2**	**+0.5**
	comp=Z,9.7nm,0.8s,baz=251,slow=6.0,SNR=10.0								
NRIK				LR		LR		13 38 00.2	
	comp=Z,431nm,20.1s,baz=264,slow=39								
	comp=Z,9.7nm,0.8s								
NRIK	**Noril'sk**	**43.05**	**28**	P		**P**		**13 18 07.5**	**+0.8**
NRIK	**Noril'sk**	**43.05**	**28**	*ce*P		**P**		**13 18 06.2**	**-0.5**
NRIK				pmax		pmax			
	comp=Z,14nm,1.0s								
NRIK				MLR		MLR			
	comp=Z,464nm,16.0s								
MBAR	**Mbarara**	**43.25**	**166**	P		**P**		**13 18 09.1**	**0.0**
	comp=Z,2.8nm,0.4s,baz=8.7,slow=13,SNR=7.3								
MBAR				LR		LR		13 38 05.7	
	comp=Z,286nm,20.4s,baz=349,slow=39								
	comp=Z,2.8nm,0.4s								
MBAR	**Mbarara**	**43.25**	**166**	P		**P**		**13 18 09.0**	**-0.1**
MBAR	**Mbarara**	**43.25**	**166**	*ce*P		**P**		**13 18 10.0**	**+0.9**
MBAR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
MBAR	**Mbarara**	**43.25**	**166**	P		**P**		**13 18 09.4**	**+0.3**
MBAR	**Mbarara**	**43.25**	**166**	⇑P		**P**		**13 18 09.6**	**+0.5**
DY2G	**Dye2**	**43.59**	**327**	*e*P		**P**		**13 18 10.3**	**-1.0**
DY2G	**Dye2**	**43.59**	**327**	⇑P		**P**		**13 18 12.1**	**+0.7**
ZSN	**Zaisan**	**44.26**	**60**	*e*P		**P**		**13 18 17.5**	**+0.8**
ZSN	**Zaisan**	**44.26**	**60**	*e*P		**P**		**13 18 17.5**	**+0.8**
	baz=60								
KMBO	**Kilima Mbogo**	**45.27**	**157**	P		**P**		**13 18 25.7**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=9.6,slow=11,SNR=5.7								
KMBO				PcP		**PcP**		**13 20 05.8**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=23,slow=1.3,SNR=4.5								
KMBO				LR		LR		13 38 39.2	
	comp=Z,239nm,19.1s,baz=300,slow=38								
	comp=Z,2.5nm,0.3s								
KMBO	**Kilima Mbogo**	**45.27**	**157**	*/* P		**P**		**13 18 26.8**	**+1.5**
KMBO				pmax		pmax			
	comp=Z,3.0nm,0.2s								
SFJD	**Kangerlussuaq**	**45.30**	**328**	LR		LR		13 36 57.5	
	comp=Z,310nm,20.8s,baz=88,slow=36								
SFJD	**Kangerlussuaq**	**45.30**	**328**	P		**P**		**13 18 23.3**	**-1.4**
SFJD	**Kangerlussuaq**	**45.30**	**328**	P		**P**		**13 18 23.3**	**-1.4**
SFJD				pmax		pmax			
	comp=Z,25nm,1.1s								
ILULI	**Ilulissat**	**45.35**	**331**	P		**P**		**13 18 23.7**	**-1.4**
ILULI	**Ilulissat**	**45.35**	**331**	P		**P**		**13 18 23.7**	**-1.4**
ILULI				pmax		pmax			
	comp=Z,28nm,1.1s								
NEEM	**North Greenlan**	**45.59**	**343**	*e*P		**P**		**13 18 26.3**	**-1.0**
WMQ	**Urumqi**	**47.35**	**64**	*e*P		**P**		**13 18 37.0**	**-4.3**
WMQ				pP		**pP**		**13 18 42.2**	**-2.8**
WMQ				sP		**sP**		**13 18 46.1**	**-0.3**
WMQ				pmax		pmax			
	comp=Z,46nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,340nm,4.7s								
WMQ				LR		LR			
	comp=N,1μm,18.3s								
WMQ				LR		LR			
	comp=E,720nm,15.1s								
WMQ				LR		LR			
	comp=Z,520nm,15.3s								
PYUN	**Piuthan**	**51.22**	**85**	*e*P		**P**		**13 19 11.0**	**-0.3**
	comp=Z,235nm,1.2s								
DANN	**Dangsing**	**51.66**	**84**	*e*P		**P**		**13 19 14.6**	**0.0**
	comp=Z,385nm,0.9s								
KOLN	**Koldanda**	**51.85**	**85**	*e*P		**P**		**13 19 14.7**	**-1.3**
EUNU	**Eureka**	**51.90**	**348**	P		**P**		**13 19 15.8**	**+0.4**
EUNU				lAmb		lAmb		13 19 20.7	
	comp=Z,61nm,1.3s								
GKN	**Gorkha**	**52.50**	**84**	*e*P		**P**		**13 19 20.1**	**-0.6**
	comp=Z,407nm,1.1s								
MOY	**Mondy**	**52.69**	**50**	*e*P		**P**		**13 19 22.9**	**+1.1**
MOY				pmax		pmax			
	comp=Z,24nm,1.2s								
DMN	**Daman**	**53.06**	**84**	*e*P		**P**		**13 19 24.7**	**-0.3**
	comp=Z,311nm,1.1s								
KKN	**Kakani**	**53.09**	**84**	*e*P		**P**		**13 19 24.7**	**-0.5**
PKIN	**Phulchoki**	**53.29**	**84**	*e*P		**P**		**13 19 26.0**	**-0.7**
	comp=Z,88nm,0.8s								
PKI	**Pulchoki**	**53.30**	**84**	*e*P		**P**		**13 19 26.1**	**-0.8**
	comp=Z,199nm,1.2s								
FRB	**Frobisher Bay**	**53.32**	**326**	LR		LR		13 43 53.0	
	comp=Z,214nm,18.0s,baz=54,slow=38								
FRB	**Frobisher Bay**	**53.32**	**326**	P		**P**		**13 19 25.7**	**-0.3**
FRB				pmax		pmax			
	comp=Z,25nm,1.2s								
DRLN	**Deer Lake**	**53.32**	**307**	P		**P**		**13 19 26.0**	**-0.3**
DRLN				lAmb		lAmb		13 21 11.1	
	comp=Z,116nm,1.9s								
GUN	**Gumba**	**53.47**	**83**	*e*P		**P**		**13 19 27.7**	**-0.4**
	comp=Z,407nm,1.0s								
JIRN	**Jiri**	**53.84**	**83**	*e*P		**P**		**13 19 30.5**	**-0.3**
HYBB	**Hyderabad (bro**	**54.20**	**99**	*e*P		**P**		**13 19 30.6**	**-2.6**
RAMN	**Ramite**	**54.53**	**84**	*e*P		**P**		**13 19 35.0**	**-0.8**
	comp=Z,322nm,1.0s								
ZAK	**Zakamensk**	**54.53**	**51**	*e*P		**P**		**13 19 35.4**	**+0.1**
ZAK				*e*				13 20 38.4	
ZAK				pmax		pmax			
	comp=Z,14nm,1.2s								
ZAK				pmax		pmax			
	comp=Z,11nm,1.3s								
TAPN	**Taplejung**	**55.13**	**83**	*e*P		**P**		**13 19 39.8**	**-0.4**
ODAN	**Odare**	**55.17**	**84**	*e*P		**P**		**13 19 39.0**	**-1.3**
	comp=Z,46nm,1.3s								
GOMU	**GeErMu**	**55.61**	**70**	P		**P**		**13 19 44.2**	**+0.6**
GOMU				PcP		**PcP**		**13 20 42.9**	**-0.3**
GOMU				S		**S**		**13 27 26.5**	**-3.1**
GOMU				pmax		pmax			
	comp=Z,10.0nm,1.1s								
GOMU				LR		LR			
	comp=Z,330nm,15.3s								
GOMU				LR		LR			
	comp=Z,250nm,16.8s								
TIXI	**Tiksi**	**55.80**	**21**	LR		LR		13 45 00.4	
	comp=Z,406nm,20.1s,baz=355,slow=38								
TIXI	**Tiksi**	**55.80**	**21**	*ce*P		**P**		**13 19 44.4**	**+0.4**
TIXI				pmax		pmax			
	comp=Z,14nm,1.3s								
TIXI				MLR		MLR			
	comp=Z,972nm,17.0s								
SCHQ	**Schefferville**	**56.16**	**316**	P		**P**		**13 19 46.0**	**-0.9**
	comp=Z,7.1nm,0.7s,baz=80,slow=9.4,SNR=5.0								
SCHQ				LR		LR		13 41 32.1	
	comp=Z,69nm,21.8s,baz=78,slow=34								
	comp=Z,7.1nm,0.7s								
SCHQ	**Schefferville**	**56.16**	**316**	P		**P**		**13 19 46.3**	**-0.6**
SCHQ				lAmb		lAmb		13 19 48.1	
	comp=Z,46nm,1.4s								
RES	**Resolute Bay**	**56.28**	**343**	LR		LR		13 45 01.9	
	comp=Z,225nm,18.5s,baz=30,slow=37								
LSA	**Lhasa**	**56.37**	**79**	P		**P**		**13 19 49.1**	**-0.1**
LSA				lAmb		lAmb		13 19 50.7	
	comp=Z,32nm,0.9s								
LSA	**Lhasa**	**56.37**	**79**	P		**P**		**13 19 49.5**	**+0.3**
LSA				pmax		pmax			
	comp=Z,43nm,0.9s								
LSA	**Lhasa**	**56.37**	**79**	P		**P**		**13 19 49.1**	**-0.1**
LSA				pmax		pmax			
	comp=Z,32nm,0.9s								
LSA	**Lhasa**	**56.37**	**79**	P		**P**		**13 19 49.6**	**+0.4**
BOD	**Bodaibo**	**56.92**	**40**	*e*P		**P**		**13 19 51.5**	**-0.7**
BOD				pmax		pmax			
	comp=Z,43nm,1.3s								
PCHI	**Peechi**	**57.14**	**107**	*e*P		**P**		**13 19 50.7**	**-3.6**
LSZ	**Lusaka**	**57.35**	**172**	P		**P**		**13 19 56.1**	**+0.4**
LSZ	**Lusaka**	**57.35**	**172**	P		**P**		**13 19 56.1**	**+0.4**
LSZ				pmax		pmax			
	comp=Z,24nm,1.5s								
GTA	**Gaotai**	**57.44**	**64**	⇓P		**P**		**13 19 57.1**	**+0.8**
GTA				pP		**sP**		**13 20 01.5**	**+0.1**
GTA				sP		**pP**		**13 20 04.7**	**+4.7**
GTA				PcP		**PcP**		**13 20 51.2**	**+1.2**
GTA				PcS		**PcS**		**13 24 50.7**	**-0.5**
GTA				pmax		pmax			
	comp=Z,23nm,0.9s								
GTA				pmax		pmax			
	comp=Z,140nm,6.9s								
GTA				LR		LR			
	comp=Z,560nm,18.2s								
GTA				LR		LR			
	comp=Z,600nm,21.1s								
GBN	**Guysborough**	**57.48**	**304**	P		**P**		**13 19 56.2**	**-0.1**
SONM	**Songino Array**	**57.51**	**53**	P		**P**		**13 19 57.5**	**+0.8**
	comp=Z,20nm,1.0s,baz=289,slow=8.8,SNR=100								
SONM				PcP		**PcP**		**13 20 51.0**	**+0.9**
	comp=Z,20nm,1.1s,baz=274,slow=3.8,SNR=9.5								
SONM				LR		LR		13 45 24.6	
	comp=Z,636nm,18.8s,baz=303,slow=37								
	comp=Z,20nm,1.0s								
SONM	**Songino Array**	**57.51**	**53**	P		**P**		**13 19 57.0**	**+0.4**
SONM				lAmb		lAmb		13 19 58.7	
	comp=Z,32nm,1.1s								
ULN	**Ulaanbaatar**	**57.88**	**52**	P		**P**		**13 19 59.8**	**+0.5**
ULN	**Ulaanbaatar**	**57.88**	**52**	*ce*P		**P**		**13 20 00.3**	**+1.0**
ULN				pmax		pmax			
	comp=Z,18nm,1.0s								
SHL	**Shillong**	**59.22**	**82**	P		**P**		**13 20 07.2**	**-1.7**
SHL	**Shillong**	**59.22**	**82**	P		**P**		**13 20 07.3**	**-1.7**
SHL				pmax		pmax			
	comp=Z,66nm,1.0s								
SHL	**Shillong**	**59.22**	**82**	P		**P**		**13 20 07.7**	**-1.3**
	SNR=18								
BRDH	**Bariadhala**	**60.73**	**85**	LR		LR		13 53 37.7	
	comp=Z,362nm,18.6s,baz=324,slow=43								
TSUM	**Tsumeb**	**61.02**	**184**	LR		LR		13 48 49.4	
	comp=Z,400nm,18.6s,baz=333,slow=38								
TSUM	**Tsumeb**	**61.02**	**184**	P		**P**		**13 20 20.7**	**-0.4**
TSUM				lAmb		lAmb		13 20 26.9	
	comp=Z,46nm,1.8s								
D62A	**Allapoint, All**	**61.16**	**309**	P		**P**		**13 20 22.2**	**+0.5**
D62A				lAmb		lAmb		13 20 26.3	
	comp=Z,30nm,1.2s								
YAK	**Yakutsk**	**61.42**	**31**	LR		LR		13 49 30.7	
	comp=Z,436nm,20.0s,baz=278,slow=38								
YAK	**Yakutsk**	**61.42**	**31**	*e*P		**P**		**13 20 22.7**	**-0.5**
YAK				*e*S		**S**		**13 28 43.7**	**0.0**
YAK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
YAK				pmax		pmax			
	comp=N,4.0nm,0.9s								
YAK				pmax		pmax			
	comp=E,5.0nm,0.9s								
YAK				smax		smax			
	comp=E,31nm,2.6s								
YAK				smax		smax			
	comp=N,11nm,2.0s								
YAK				MLR		MLR			
	comp=Z,452nm,20.0s								
LZH	**Lanzhou**	**61.89**	**66**	*e*P		**P**		**13 20 28.3**	**+1.2**
LZH				pP		**sP**		**13 20 32.6**	**+0.3**
LZH				sP		**pP**		**13 20 35.5**	**+4.6**
LZH				pmax		pmax			
	comp=Z,82nm,1.1s								
LZH				pmax		pmax			
	comp=Z,280nm,4.4s								
LZH				LR		LR			
	comp=Z,450nm,15.5s								
LZH				LR		LR			
	comp=Z,550nm,17.2s								
PKME	**Peaks-Kenny Pk**	**62.27**	**307**	P		**P**		**13 20 29.3**	**+0.1**
	baz=57								
BTO	**Baotou**	**63.47**	**58**	*e*P		**P**		**13 20 37.3**	**-0.1**
BTO				LR		LR			
	comp=Z,5μm,16.4s								
BTO				LR		LR			
	comp=Z,3μm,16.3s								
A36M	**Sachs Harbour**	**63.89**	**349**	P		**P**		**13 20 40.5**	**+0.9**
A36M	**Sachs Harbour**	**63.89**	**349**	P		**P**		**13 20 40.4**	**+0.9**
	baz=27								
I62A	**Tamworth**	**64.25**	**307**	P		**P**		**13 20 43.1**	**+0.7**
I62A				lAmb		lAmb		13 20 52.4	
	comp=Z,22nm,1.1s								
HIA	**Hailar**	**64.30**	**46**	P		**P**		**13 20 43.7**	**+1.0**
HIA				lAmb		lAmb		13 20 45.1	
	comp=Z,31nm,1.3s								
HIA	**Hailar**	**64.30**	**46**	P		**P**		**13 20 43.7**	**+1.0**
HIA				pmax		pmax			
	comp=Z,31nm,1.3s								
HHC	**Hu-ho-hao-te**	**64.31**	**57**	*e*P		**P**		**13 20 44.2**	**+1.2**
HHC				pmax		pmax			
	comp=Z,57nm,0.8s								
HHC				pmax		pmax			
	comp=Z,370nm,6.1s								
HHC				LR		LR			
	comp=Z,950nm,14.1s								
HHC				LR		LR			
	comp=Z,760nm,15.7s								
HHC				LR		LR			
	comp=Z,1μm,14.5s								
LBNH	**Lisbon**	**64.40**	**307**	P		**P**		**13 20 44.4**	**+1.0**
	baz=56								
CD2	**Chengdu**	**64.74**	**70**	P		**P**		**13 20 46.1**	**+0.3**
CD2				S		**S**		**13 29 26.3**	**0.0**
CD2				pmax		pmax			
	comp=Z,120nm,0.7s								
CD2				LR		LR			
	comp=Z,290nm,15.7s								
CD2				LR		LR			
	comp=Z,280nm,17.2s								
CD2				LR		LR			
	comp=Z,220nm,14.2s								
OPO	**Ambohidratompo**	**64.81**	**153**	LR		LR		13 53 57.0	
	comp=Z,64nm,18.1s,baz=168,slow=41								
HRV	**Adam Dziewonsk**	**65.17**	**306**	P		**P**		**13 20 48.8**	**+0.4**
HRV				lAmb		lAmb		13 20 49.5	
	comp=Z,36nm,1.3s								
HRV	**Adam Dziewonsk**	**65.17**	**306**	P		**P**		**13 20 48.8**	**+0.4**
HRV				pmax		pmax			
	comp=Z,36nm,1.3s								
HRV	**Adam Dziewonsk**	**65.17**	**306**	P		**P**		**13 20 48.9**	**+0.5**
	baz=55								
ABPO	**Ambohimpanom**	**65.24**	**153**	P		**P**		**13 20 49.2**	**0.0**
ABPO				lAmb		lAmb		13 20 50.6	
	comp=Z,26nm,1.1s								
ABPO	**Ambohimpanom**	**65.24**	**153**	P		**P**		**13 20 49.2**	**0.0**
ABPO				pmax		pmax			
	comp=Z,26nm,1.2s								
VLDQ	**Val d'Or**	**65.31**	**313**	P		**P**		**13 20 49.9**	**+0.7**
VLDQ				lAmb		lAmb		13 20 51.4	
	comp=Z,22nm,1.1s								
XLT	**XiLinHaoTe**	**65.32**	**52**	*e*P		**P**		**13 20 48.8**	**-0.7**
XLT				PcP		**PcP**		**13 21 22.7**	**+1.0**
XLT				S		**S**		**13 29 32.4**	**-0.8**
XLT				pmax		pmax			
	comp=Z,18nm,1.1s								
XLT				pmax		pmax			
	comp=Z,210nm,7.1s								
XLT				LR		LR			
	comp=Z,650nm,14.0s								
XLT				LR		LR			
	comp=Z,770nm,13.0s								
ZEA	**Zeya**	**65.41**	**39**	*e*P		**P**		**13 20 51.1**	**+1.3**
ZEA				pmax		pmax			
	comp=N,10.0nm,0.9s								
ZEA				pmax		pmax			
	comp=Z,10.0nm,1.1s								
ZEA				pmax		pmax			
	comp=Z,100nm,7.6s								
ZEA				MLR		MLR			
	comp=E,200nm,13.0s								
ZEA				MLR		MLR			
	comp=N,200nm,11.0s								
ZEA				MLR		MLR			
	comp=Z,300nm,14.0s								
LONY	**Lake Ozonia**	**65.74**	**309**	P		**P**		**13 20 52.3**	**+0.2**
LONY				lAmb		lAmb		13 20 53.9	
	comp=Z,25nm,1.3s								
LONY	**Lake Ozonia**	**65.74**	**309**	P		**P**		**13 20 52.7**	**+0.6**
	baz=54								
PZH	**PanZhiHua**	**65.88**	**75**	P		**P**		**13 20 52.8**	**-0.6**
PZH				S		**S**		**13 29 39.7**	**-0.8**
PZH				pmax		pmax			
	comp=Z,100nm,0.9s								
PZH				pmax		pmax			
	comp=Z,220nm,7.0s								
PZH				LR		LR			
	comp=Z,500nm,20.6s								
PZH				LR		LR			
	comp=Z,590nm,19.0s								
PZH				LR		LR			
	comp=Z,850nm,23.0s								
L61B	**Northampton**	**65.88**	**306**	P		**P**		**13 20 53.9**	**+1.0**
	baz=54								
ACCN	**Adirondack Com**	**65.92**	**307**	P		**P**		**13 20 54.2**	**+0.9**
C36M	**Paulatuk**	**66.07**	**347**	P		**P**		**13 20 54.3**	**+0.7**
C36M	**Paulatuk**	**66.07**	**347**	P		**P**		**13 20 54.4**	**+0.7**
	baz=27								
FCC	**Fort Churchill**	**66.31**	**329**	P		**P**		**13 20 55.2**	**-0.2**
FCC	**Fort Churchill**	**66.31**	**329**	P		**P**		**13 20 55.3**	**-0.2**
FCC				pmax		pmax			
	comp=Z,66nm,1.5s							

comp=Z,260nm,20.7s
L59A Walton 67.44 307 P **P** **13 21 04.1 +1.1**
L59A lAmb lAmb 13 21 05.4
comp=Z,42nm,1.1s
L59A Walton 67.44 307 P **P** **13 21 04.5 +1.4**
baz=53,SNR=5.2
L59A P **P** **13 21 04.5 +1.4**
baz=53,SNR=5.2
PAL Palisades 67.47 305 P **P** **13 21 04.6 +1.5**
baz=53
BJI Beijing 67.64 56 P **P** **13 21 05.0 +0.8**
BJI pP **pP** **13 21 08.6 +0.6**
BJI pmax pmax
comp=Z,20nm,1.0s
BJI pmax pmax
comp=Z,220nm,5.9s
BJT Baijiatuau 67.65 56 P **P** **13 21 04.3 0.0**
BJT lAmb lAmb 13 21 05.5
comp=Z,18nm,1.0s
BJT Baijiatuau 67.65 56 P **P** **13 21 04.3 0.0**
BJT pmax pmax
comp=Z,18nm,1.0s
VOI Vohitsoka 67.79 155 P **P** **13 21 05.1 -0.3**
VOI lAmb lAmb 13 21 07.9
comp=Z,18nm,1.0s
VOI Vohitsoka 67.79 155 P **P** **13 21 06.5 +1.2**
ODNJ Ogdensburg 67.84 306 P **P** **13 21 05.3 -0.2**
ODNJ lAmb lAmb 13 21 06.7
comp=Z,36nm,1.4s
ODNJ Ogdensburg 67.84 306 P **P** **13 21 06.0 +0.5**
baz=53
C26K Camden Bay 67.92 355 P **P** **13 21 07.0 +1.5**
baz=11
BINY Binghamton 68.00 307 P **P** **13 21 07.5 +0.9**
BINY lAmb lAmb 13 21 08.7
comp=Z,26nm,1.1s
BINY Binghamton 68.00 307 P **P** **13 21 07.8 +1.3**
baz=53
BINY Binghamton 68.00 307 P **P** **13 21 07.4 +0.9**
baz=53
C27K Jago River 68.13 354 P **P** **13 21 08.1 +1.3**
baz=12,SNR=13
SADO Sadowa 68.25 311 LR LR 13 50 15.5
comp=Z,188nm,18.8s,baz=42,slow=35
SADO Sadowa 68.25 311 P **P** **13 21 07.5 -0.6**
SADO lAmb lAmb 13 21 10.0
comp=Z,20nm,1.1s
KSPA Keystone Colle 68.26 307 P **P** **13 21 08.2 +0.1**
KSPA lAmb lAmb 13 21 10.2
comp=Z,28nm,1.1s
KSPA Keystone Colle 68.26 307 P **P** **13 21 09.3 +1.1**
baz=53
SEY Seymchan 68.30 22 LR LR 13 52 48.5
comp=Z,548nm,20.4s,baz=330,slow=38
SEY Seymchan 68.30 22 *i* P **P** **13 21 07.4 -0.6**
SEY pmax pmax
comp=Z,7.0nm,0.9s
SEY MLR MLR
comp=Z,549nm,20.0s
HNS HongShan 68.30 59 ⇓P **P** **13 21 09.0 +0.6**
HNS S **S** **13 30 07.7 -1.4**
HNS pmax pmax
comp=Z,22nm,1.1s
HNS pmax pmax
comp=Z,260nm,5.3s
HNS LR LR
comp=Z,760nm,18.6s
HNS LR LR
comp=Z,290nm,19.2s
C23K Itkillik River 68.30 357 P **P** **13 21 09.7 +1.8**
baz=6.3,SNR=12
C24K Franklin Bluff 68.33 356 P **P** **13 21 09.4 +1.2**
baz=7.8
INK Inuvik 68.40 350 LR LR 13 53 16.9
comp=Z,96nm,19.1s,baz=18,slow=38
INK Inuvik 68.40 350 P **P** **13 21 08.4 0.0**
INK lAmb lAmb 13 21 15.3
comp=Z,29nm,1.1s
INK Inuvik 68.40 350 P **P** **13 21 08.5 0.0**
INK pmax pmax
comp=Z,29nm,1.2s
INK Inuvik 68.40 350 P **P** **13 21 08.6 +0.1**
baz=20,SNR=12
CHTO Chiang Mai 68.48 84 P **P** **13 21 08.4 -1.5**
CHTO Chiang Mai 68.48 84 P **P** **13 21 08.4 -1.5**
CHTO pmax pmax
comp=Z,2.0nm,1.0s
CHTO Chiang Mai 68.48 84 P **P** **13 21 08.8 -1.1**
LYN LuoYang 68.55 62 ⇓*i*P **P** **13 21 09.8 -0.2**
LYN PP **PP** **13 23 45.4 +4.4**
LYN S **S** **13 30 09.7 -2.5**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN pmax pmax
comp=Z,160nm,6.3s
LYN LR LR
comp=Z,360nm,17.7s
LYN LR LR
comp=Z,370nm,16.4s
LYN LR LR
comp=Z,240nm,17.1s
D25K Kavik River 68.61 355 P **P** **13 21 10.8 +0.8**
baz=9.7,SNR=13
CRAI Chiangrai 68.67 82 **P** **13 21 09.7 -1.3**
CM31 Chiang Mai Arr 68.70 84 P **P** **13 21 10.0 -1.2**
CM31 lAmb lAmb 13 21 11.4
comp=Z,31nm,0.9s
CM31 Chiang Mai Arr 68.70 84 P **P** **13 21 10.4 -0.9**
SNR=12
CMAR Chiang Mai Arr 68.70 84 P **P** **13 21 10.2 -1.1**
comp=Z,22nm,0.9s,baz=305,slow=7.6,SNR=118
CMAR LR LR 13 57 16.2
comp=Z,78nm,19.4s,baz=295,slow=41
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 68.70 84 P **P** **13 21 09.8 -1.4**
CMAR Chiang Mai Arr 68.70 84 *i* P **P** **13 21 10.1 -1.2**
CMAR pmax pmax
comp=Z,23nm,0.9s
TUPA Temple Univers 68.75 305 P **P** **13 21 12.1 +0.9**
baz=52,SNR=9.4
MMNY Mt. Morris Dam 68.80 309 P **P** **13 21 12.1 +0.6**
MMNY lAmb lAmb 13 21 13.5
comp=Z,38nm,1.1s
D24K Happy Valley 68.91 356 P **P** **13 21 13.1 +1.4**
baz=7.7
L56A Greenwood 68.96 308 P **P** **13 21 13.1 +0.5**
L56A lAmb lAmb 13 21 14.7
comp=Z,28nm,1.1s
L56A Greenwood 68.96 308 P **P** **13 21 13.9 +1.3**
baz=52
L56A P **P** **13 21 13.9 +1.3**
baz=52
PSUB Penn St. - Bra 69.06 305 P **P** **13 21 13.7 +0.6**
baz=52
ENH Enshi 69.10 68 P **P** **13 21 13.4 -0.2**
D23K Nanushuk River 69.17 357 P **P** **13 21 14.9 +1.5**
baz=6.2,SNR=18
M57A Sunshine Farm, 69.20 307 P **P** **13 21 14.8 +0.8**
M57A lAmb lAmb 13 21 16.3
comp=Z,38nm,1.1s
M57A Sunshine Farm, 69.20 307 P **P** **13 21 15.4 +1.3**
baz=52,SNR=7.5
M57A P **P** **13 21 15.4 +1.3**
baz=52,SNR=7.5
GEDE Greenville 69.24 305 P **P** **13 21 15.1 +0.8**
baz=52
F31M Tsiigehtchic 69.25 350 P **P** **13 21 14.2 +0.4**
baz=20,SNR=20
N58A Sunbury 69.26 307 P **P** **13 21 14.9 +0.5**
N58A lAmb lAmb 13 21 16.4
comp=Z,31nm,1.1s
N58A Sunbury 69.26 307 P **P** **13 21 15.5 +1.2**
baz=52,SNR=7.0
N58A P **P** **13 21 15.5 +1.2**
baz=52,SNR=7.0
E27K Coleen River 69.37 353 P **P** **13 21 15.7 +1.0**
baz=13,SNR=34
GYA Guiyang 69.43 73 ⇑*i*P **P** **13 21 15.8 0.0**
GYA S **S** **13 30 23.1 0.0**
GYA pmax pmax
comp=Z,45nm,1.0s
GYA LR LR
comp=Z,180nm,12.4s
TOLK Toolik Lake Re 69.45 357 P **P** **13 21 16.0 +0.8**
TOLK lAmb lAmb 13 21 41.3
comp=Z,27nm,0.9s
TOLK Toolik Lake Re 69.45 357 P **P** **13 21 16.5 +1.4**
baz=7.1,SNR=7.8
MVL Millersville 69.56 306 P **P** **13 21 17.0 +0.8**
MVL lAmb lAmb 13 21 18.4
comp=Z,25nm,1.1s
PHRA Phrae 69.63 83 P **P** **13 21 15.8 -1.1**
POGA Pongola 69.67 170 P **P** **13 21 16.4 -0.4**
POGA lAmb lAmb 13 21 24.0
comp=Z,86nm,1.9s
E25K Arctic Village 69.74 355 P **P** **13 21 18.0 +1.1**
baz=10,SNR=10
E24K Your Creek 69.96 356 P **P** **13 21 19.3 +0.9**
baz=7.9,SNR=13
YKA Yellowknife Ar 70.03 340 P **P** **13 21 19.0 +0.3**
comp=Z,36nm,1.1s,baz=30,slow=6.5,SNR=34
YKA LR LR 13 52 29.4
comp=Z,180nm,18.2s,baz=32,slow=36
comp=Z,36nm,1.1s
YKA Yellowknife Ar 70.03 340 P **P** **13 21 18.9 +0.2**
E46A Sault Ste Mari 70.06 315 P **P** **13 21 19.2 -0.1**
E46A lAmb lAmb 13 21 21.2
comp=Z,32nm,1.1s
F26K Sheenjek River 70.06 354 P **P** **13 21 20.5 +1.6**
baz=11,SNR=23
M55A Ridgway 70.08 308 P **P** **13 21 19.6 +0.1**
M55A lAmb lAmb 13 21 21.6
comp=Z,27nm,1.0s
M55A Ridgway 70.08 308 P **P** **13 21 20.6 +1.1**
baz=51
M55A P **P** **13 21 20.6 +1.1**
baz=51
SSPA Standing Stone 70.09 307 P **P** **13 21 19.7 +0.2**
SSPA lAmb lAmb 13 21 21.6
comp=Z,46nm,1.2s
SSPA Standing Stone 70.09 307 P **P** **13 21 20.5 +1.1**
baz=51,SNR=11
SSPA Standing Stone 70.09 307 P **P** **13 21 20.4 +0.9**
baz=51
SDMD Soldier's Deli 70.22 305 P **P** **13 21 20.8 +0.4**
SDMD Soldier's Deli 70.22 305 P **P** **13 21 21.2 +0.9**
baz=52
F25K Christian Rive 70.27 355 P **P** **13 21 21.7 +1.5**
baz=10,SNR=15
PSDB Penn State Uni 70.29 308 P **P** **13 21 19.8 -0.9**
baz=51
BMAR Burnt Mountain 70.36 354 P **P** **13 21 21.7 +1.0**
BOSA Boshof 70.37 176 P **P** **13 21 21.1 -0.2**
comp=Z,24nm,1.0s,baz=3.6,slow=5.8,SNR=17
BOSA LR LR 13 55 06.9
comp=Z,549nm,18.4s,baz=0.5,slow=38
comp=Z,24nm,1.0s
BOSA Boshof 70.37 176 P **P** **13 21 21.4 +0.1**
BOSA Boshof 70.37 176 P **P** **13 21 21.4 +0.1**
BOSA pmax pmax
comp=Z,67nm,1.4s
ERPA Erie 70.39 309 P **P** **13 21 22.0 +0.7**
baz=51
KLR Kul'dur 70.47 41 *ce*P **P** **13 21 21.7 0.0**
KLR pmax pmax
comp=Z,51nm,1.3s
KLR MLR MLR
comp=Z,322nm,16.0s
F24K Squaw Lake 70.48 356 P **P** **13 21 23.3 +1.8**
baz=8.4,SNR=31
MA2 Magadan 70.49 25 LR LR 13 53 57.5
comp=Z,202nm,19.3s,baz=310,slow=37
MA2 Magadan 70.49 25 *i* P **P** **13 21 21.4 -0.2**
MA2 pmax pmax
comp=Z,22nm,1.2s
MA2 MLR MLR
comp=Z,216nm,17.0s
TIA Tai'an 70.56 59 ⇓P **P** **13 21 22.3 -0.2**
TIA pmax pmax
comp=Z,23nm,1.0s
TIA pmax pmax
comp=Z,140nm,5.9s
TIA LR LR
comp=Z,650nm,17.9s
TIA LR LR
comp=Z,690nm,17.9s
TIA LR LR
comp=Z,310nm,15.1s
BNX BinXian 70.56 46 ⇓P **P** **13 21 22.5 +0.2**
BNX pmax pmax
comp=Z,20nm,1.0s
BNX pmax pmax
comp=Z,220nm,4.9s
RCBR Riachuelo 70.58 243 LR LR 13 53 52.0
comp=Z,208nm,18.1s,baz=168,slow=37
RCBR Riachuelo 70.58 243 *eP* **P** **13 21 23.1 +0.3**
EPYK Eagle Plains 70.64 351 **P** **13 21 22.6 +0.2**
EPYK lAmb lAmb 13 21 23.9
comp=Z,30nm,0.9s
EPYK Eagle Plains 70.64 351 P **P** **13 21 22.7 +0.2**
baz=17,SNR=9.8
F22K John River 70.69 357 P **P** **13 21 24.3 +1.6**
baz=5.0,SNR=23
FOMA Nahampoana Res 70.72 156 P **P** **13 21 23.0 -0.3**
FOMA lAmb lAmb 13 21 29.1
comp=Z,36nm,1.1s
G27K Doyon Strip 70.73 353 P **P** **13 21 24.3 +1.3**
baz=13,SNR=33
CN2 Changchun 70.75 48 *eP* **P** **13 21 22.5 -1.0**
CN2 *ePP* **PP** **13 24 00.3 +0.6**
CN2 SKS **SKSac** **13 31 21.0 -4.5**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,190nm,5.0s
CN2 LR LR
comp=Z,870nm,16.0s
CN2 LR LR
comp=Z,510nm,16.0s
G26K Porcupine Rive 70.77 354 P **P** **13 21 24.9 +1.7**
baz=12,SNR=33
I49A Point Hope 70.83 312 P **P** **13 21 23.9 0.0**
P57A Homestead Farm 70.88 306 P **P** **13 21 25.1 +0.8**
P57A lAmb lAmb 13 21 26.5
comp=Z,36nm,1.1s
P57A Homestead Farm 70.88 306 P **P** **13 21 25.7 +1.3**
baz=51,SNR=7.6
P57A P **P** **13 21 25.7 +1.3**
baz=51,SNR=7.6
COLD Coldfoot 70.89 357 P **P** **13 21 24.8 +0.8**
COLD lAmb lAmb 13 21 26.3
comp=Z,49nm,1.0s
COLD Coldfoot 70.89 357 P **P** **13 21 25.1 +1.2**
baz=6.5,SNR=31
SNY Shenyang 70.96 51 ⇑P **P** **13 21 25.2 +0.4**
SNY *e*S **S** **13 30 46.9 +6.6**
SNY pmax pmax
comp=Z,23nm,1.1s
SNY LR LR
comp=Z,430nm,13.0s
SNY LR LR
comp=Z,420nm,15.2s
SNY LR LR
comp=Z,740nm,13.3s
F21K Alatna River 71.01 358 P **P** **13 21 26.3 +1.6**
baz=4.0,SNR=36
M53A WI Miller and 71.22 309 P **P** **13 21 26.6 +0.3**
M53A WI Miller and 71.22 309 P **P** **13 21 26.8 +0.4**
baz=50
GLMI Grayling 71.23 314 P **P** **13 21 27.1 +0.7**
baz=49
G22K Bettles 71.25 357 P **P** **13 21 27.1 +1.0**
baz=5.5
FYU Fort Yukon 71.26 354 P **P** **13 21 27.8 +1.7**
G24K Hadweenzic Riv 71.27 355 P **P** **13 21 27.9 +1.6**
baz=8.7,SNR=17
H27K Steamboat Moun 71.28 353 P **P** **13 21 27.9 +1.6**
baz=13,SNR=56
CBN Corbin Frederi 71.30 305 P **P** **13 21 27.5 +0.7**
CBN Corbin Frederi 71.30 305 P **P** **13 21 27.5 +0.7**
baz=51
CBN Corbin Frederi 71.30 305 P **P** **13 21 27.6 +0.7**
baz=51
G23K Bananza Creek 71.40 356 P **P** **13 21 28.2 +1.2**
baz=6.7,SNR=16
WRGLY Wrigley 71.42 344 P **P** **13 21 28.4 +1.2**
baz=27,SNR=16
UPAO U. Pittsburgh 71.45 308 P **P** **13 21 28.9 +1.1**
baz=50
E43A Lone Tree Farm 71.46 316 P **P** **13 21 28.1 +0.4**
E43A lAmb lAmb 13 21 29.2
comp=Z,30nm,1.1s
H25K Birch Creek 71.59 355 P **P** **13 21 30.3 +2.1**
baz=9.9,SNR=40
GRNR Gornyy 71.60 37 ⇓*i*P **P** **13 21 29.4 +0.8**
GRNR *e* 13 24 14.9
GRNR *e*S **S** **13 30 53.4 +5.9**
GRNR pmax pmax
comp=E,8.0nm,1.0s
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR pmax pmax
comp=N,7.0nm,0.9s
GRNR smax smax
comp=E,3.0nm,0.7s
GRNR MLR MLR
comp=N,260nm,15.0s
GRNR MLR MLR
comp=E,300nm,15.0s
GRNR MLR MLR
comp=Z,360nm,13.0s
G45A Suttons Bay 71.64 314 P **P** **13 21 28.8 -0.1**
G45A lAmb lAmb 13 21 46.2
comp=Z,32nm,0.7s
N53A Lisbon 71.72 309 P **P** **13 21 29.4 0.0**
N53A Lisbon 71.72 309 P **P** **13 21 30.6 +1.2**
baz=50,SNR=6.2
N53A P **P** **13 21 30.6 +1.2**
baz=50,SNR=6.2
G21K Allakaket 71.72 358 P **P** **13 21 30.3 +1.3**
baz=3.9,SNR=30
R58B Mineral 71.76 305 P **P** **13 21 30.0 +0.4**
R58B lAmb lAmb 13 21 31.4
comp=Z,31nm,1.1s
R58B Mineral 71.76 305 P **P** **13 21 30.1 +0.4**
baz=51,SNR=12
R58B P **P** **13 21 30.1 +0.4**
baz=51,SNR=12
I29M Ogilvie Camp, 71.79 351 P **P** **13 21 29.4 -0.1**
I29M Ogilvie Camp, 71.79 351 P **P** **13 21 30.1 +0.6**
baz=16,SNR=8.7
D41A Chassel 71.80 317 P **P** **13 21 29.9 +0.1**
D41A lAmb lAmb 13 21 31.6
comp=Z,53nm,1.0s
D41A Chassel 71.80 317 P **P** **13 21 30.6 +0.8**
baz=47
O54A Avella 71.85 308 P **P** **13 21 30.3 +0.1**
O54A lAmb lAmb 13 21 32.3
comp=Z,36nm,1.2s
O54A Avella 71.85 308 P **P** **13 21 31.3 +1.1**
baz=50,SNR=5.6
O54A P **P** **13 21 31.3 +1.1**
baz=50,SNR=5.6
MCWV Mont Chateau 71.87 307 P **P** **13 21 30.8 +0.5**
MCWV lAmb lAmb 13 21 32.6
comp=Z,51nm,1.0s
MCWV Mont Chateau 71.87 307 P **P** **13 21 31.6 +1.3**
baz=50,SNR=10
MCWV Mont Chateau 71.87 307 P **P** **13 21 31.3 +1.0**
baz=50,SNR=10
Q56A Snyder Ridge, 71.87 306 P **P** **13 21 30.4 +0.1**
Q56A Snyder Ridge, 71.87 306 P **P** **13 21 31.3 +1.0**
baz=50,SNR=16
Q56A P **P** **13 21 31.3 +1.0**
baz=50,SNR=16
I27K Kandik River 71.90 353 P **P** **13 21 31.4 +1.3**
baz=13,SNR=39
JSRW J. Sargeant Re 71.93 305 P **P** **13 21 31.2 +0.5**
H24K Noodor Dome 72.15 355 P **P** **13 21 32.2 +0.5**
H24K lAmb lAmb 13 21 34.1
comp=Z,25nm,1.1s
H24K Noodor Dome 72.15 355 P **P** **13 21 32.9 +1.3**
baz=8.3,SNR=23
T59A Double "B" Far 72.19 304 P **P** **13 21 32.6 +0.3**
T59A lAmb lAmb 13 21 34.0
comp=Z,36nm,1.1s
T59A Double "B" Far 72.19 304 P **P** **13 21 33.0 +0.8**
baz=50,SNR=8.2
T59A P **P** **13 21 33.0 +0.8**
baz=50,SNR=8.2
NBRF Rio Formoso - 72.20 240 *e*P **P** **13 21 33.2 +0.7**
FFC Flin Flon 72.23 329 P **P** **13 21 32.3 0.0**
FFC Flin Flon 72.23 329 P **P** **13 21 32.3 0.0**
FFC pmax pmax
comp=Z,25nm,1.3s
WHN Wuhan 72.25 65 ⇑P **P** **13 21 33.3 +0.6**
H23K Yukon River 72.26 356 P **P** **13 21 33.5 +1.2**
H23K lAmb lAmb 13 21 35.3
comp=Z,57nm,1.1s
H23K Yukon River 72.26 356 P **P** **13 21 33.9 +1.6**
baz=7.0,SNR=38
IMAR Indian Mountai 72.26 358 P **P** **13 21 33.2 +1.0**
H22K Ishtalitna Cre 72.27 357 P **P** **13 21 34.4 +2.1**
baz=5.6,SNR=36
O53A New Philadelph 72.29 308 P **P** **13 21 33.3 +0.4**
O53A lAmb lAmb 13 21 34.9
comp=Z,48nm,1.1s
O53A New Philadelph 72.29 308 P **P** **13 21 33.9 +1.0**
baz=50,SNR=8.3
PRP Porcupine Dome 72.31 354 P **P** **13 21 33.6 +0.8**
PRP lAmb lAmb 13 21 35.4
comp=Z,52nm,1.2s
PRP Porcupine Dome 72.31 354 P **P** **13 21 34.0 +1.3**
baz=10,SNR=16
I26K Coal Creek Min 72.33 353 P **P** **13 21 33.7 +1.0**
I26K lAmb lAmb 13 21 35.1
comp=Z,26nm,0.9s
I26K Coal Creek Min 72.33 353 P **P** **13 21 33.9 +1.3**
baz=12
AAM Ann Arbor 72.36 311 P **P** **13 21 33.8 +0.7**
baz=49
J47A Sunmer 72.39 313 P **P** **13 21 33.9 +0.5**
J47A lAmb lAmb 13 21 35.2
comp=Z,49nm,1.0s
J47A Sunmer 72.39 313 P **P** **13 21 34.4 +1.0**
baz=48,SNR=5.6
J47A P **P** **13 21 34.4 +1.0**
baz=48,SNR=5.6
F42A Maple Grove Fa 72.46 316 P **P** **13 21 34.8 +1.0**
baz=47
TNA Tin City 72.50 4 P **P** **13 21 34.4 +0.8**
baz=353
N51A Ashland 72.53 310 P **P** **13 21 34.7 +0.4**
N51A lAmb lAmb 13 21 35.9
comp=Z,44nm,1.0s
N51A Ashland 72.53 310 P **P** **13 21 35.0 +0.7**
baz=49
N51A P **P** **13 21 35.0 +0.7**
baz=49
S57A Dark Hollow, R 72.54 305 P **P** **13 21 35.0 +0.6**
S57A Dark Hollow, R 72.54 305 P **P** **13 21 35.2 +0.8**
baz=50,SNR=5.6
S57A P **P** **13 21 35.2 +0.8**
baz=50,SNR=5.6
H21K Melozitna Rive 72.56 358 P **P** **13 21 35.7 +1.7**
H21K Melozitna Rive 72.56 358 P **P** **13 21 36.0 +1.9**
baz=4.5,SNR=61
I45A Fountain 72.62 314 P **P** **13 21 34.3 -0.5**
EYMN Ely 72.64 320 P **P** **13 21 34.4 -0.4**
EYMN lAmb lAmb 13 21 36.3
comp=Z,25nm,1.1s
EYMN Ely 72.64 320 P **P** **13 21 34.7 -0.1**
baz=46,SNR=5.6
EYMN Ely 72.64 320 P **P** **13 21 35.1 +0.3**
baz=46,SNR=5.6
J29M Klondike Camp 72.66 351 P **P** **13 21 36.1 +1.4**
baz=16
EGAK Eagle 72.66 352 P **P** **13 21 34.7 0.0**
EGAK Eagle 72.66 352 P **P** **13 21 35.5 +0.9**
baz=13,SNR=14
U59A Littleton 72.73 303 P **P** **13 21 36.4 +0.9**
baz=50,SNR=6.9
U59A P **P** **13 21 36.4 +0.9**
baz=50,SNR=6.9
COWI Conover 72.74 317 P **P** **13 21 35.7 +0.3**
COWI lAmb lAmb 13 21 36.9
comp=Z,34nm,1.0s
COWI Conover 72.74 317 P **P** **13 21 35.8 +0.3**
baz=47
O52A Adamsville 72.74 309 P **P** **13 21 35.8 +0.2**
O52A lAmb lAmb 13 21 37.3
comp=Z,51nm,1.1s
O52A Adamsville 72.74 309 P **P** **13 21 36.2 +0.7**
baz=49,SNR=8.0
O52A P **P** **13 21 36.2 +0.7**
baz=49,SNR=8.0
CNSH ChangSha 72.75 68 ⇑P **P** **13 21 36.1 +0.3**
CNSH pmax pmax
comp=Z,77nm,0.9s
POKR Poker Plat Res 72.84 355 P **P** **13 21 36.5 +0.7**

POKR Poker Plat Res 72.84 355 P **P** 13 21 37.0 +1.3
baz=8.6,SNR=41
Q54A Coxs Mills 72.89 307 P **P** 13 21 36.8 +0.4
Q54A IAmb IAmb 13 21 38.0
comp=Z,44nm,1.2s
Q54A Coxs Mills 72.89 307 P **P** 13 21 37.0 +0.6
baz=50
Q54A P **P** 13 21 37.0 +0.6
baz=50
P53A Whipple 72.89 308 P **P** 13 21 36.8 +0.4
P53A Whipple 72.89 308 P **P** 13 21 37.5 +1.1
baz=49,SNR=15
P53A P **P** 13 21 37.5 +1.1
baz=49,SNR=15
R55A Marlinton 72.91 306 P **P** 13 21 36.9 +0.2
R55A IAmb IAmb 13 21 38.7
comp=Z,31nm,1.1s
R55A Marlinton 72.91 306 P **P** 13 21 37.5 +0.9
baz=50,SNR=9.5
R55A P **P** 13 21 37.5 +0.9
baz=50,SNR=9.5
I21K Tanana 73.01 357 P **P** 13 21 37.4 +0.8
I21K IAmb IAmb 13 21 39.6
comp=Z,38nm,1.1s
I21K Tanana 73.01 357 P **P** 13 21 38.4 +1.7
baz=5.1,SNR=16
L48A N Adams 73.03 311 P **P** 13 21 36.8 -0.4
L48A IAmb IAmb 13 21 38.8
comp=Z,48nm,1.1s
L48A N Adams 73.03 311 P **P** 13 21 37.9 +0.7
baz=48,SNR=5.9
L48A P **P** 13 21 37.9 +0.7
baz=48,SNR=5.9
ULM Lac du Bonnet 73.04 323 P **P** 13 21 36.8 -0.3
comp=Z,37nm,1.1s,baz=44,slow=5.7,SNR=20
ULM LR LR 13 52 58.3
comp=Z,293nm,18.7s,baz=56,slow=35
comp=Z,37nm,1.1s
ULM Lac du Bonnet 73.04 323 P **P** 13 21 36.8 -0.3
ULM IAmb IAmb 13 21 38.2
comp=Z,41nm,1.1s
MDM Murphy Dome 73.05 355 P **P** 13 21 37.7 +0.7
MLY Manley 73.11 357 P **P** 13 21 38.2 +0.8
MLY IAmb IAmb 13 21 40.1
comp=Z,53nm,1.2s
MLY Manley 73.11 357 P **P** 13 21 38.8 +1.4
baz=6.0,SNR=33
COLA College 73.11 355 P **P** 13 21 37.9 +0.7
COLA IAmb IAmb 13 21 39.5
comp=Z,28nm,0.9s
COLA College 73.11 355 P **P** 13 21 37.9 +0.7
COLA pmax pmax
comp=Z,28nm,1.0s
COLA College 73.11 355 P **P** 13 21 38.4 +1.1
baz=8.3
TCOL CIGO, UAF Yank 73.11 355 P **P** 13 21 38.0 +0.7
TCOL IAmb IAmb 13 21 39.5
comp=Z,33nm,1.1s
TCOL CIGO, UAF Yank 73.11 355 P **P** 13 21 38.3 +1.0
baz=8.3,SNR=6.1
IL31 73.15 355 P **P** 13 21 37.7 +0.2
ILAR Eielson Array 73.15 355 P **P** 13 21 37.9 +0.4
comp=Z,10nm,0.9s,baz=2.9,slow=4.9,SNR=108
ILAR PP **PP** 13 24 16.2 -3.4
comp=Z,0.2nm,0.6s,baz=90,slow=9.6,SNR=2.8
ILAR LR LR 13 54 46.0
comp=Z,80nm,20.4s,baz=346,slow=37
comp=Z,10nm,0.9s
ILAR Eielson Array 73.15 355 P **P** 13 21 37.6 +0.1
J26L Joseph Creek 73.16 353 P **P** 13 21 37.8 +0.1
J26L IAmb IAmb 13 21 39.8
comp=Z,45nm,0.9s
J26L Joseph Creek 73.16 353 P **P** 13 21 38.6 +0.8
baz=12,SNR=48
K29M Barlow Dome 73.16 350 P **P** 13 21 38.8 +1.0
baz=16,SNR=28
DAWY Dawson 73.17 351 P **P** 13 21 37.9 +0.1
DAWY Dawson 73.17 351 P **P** 13 21 38.7 +1.0
baz=15,SNR=68
MAYO Mayo, Yukon 73.19 350 P **P** 13 21 38.4 +0.6
MAYO Mayo, Yukon 73.19 350 P **P** 13 21 39.1 +1.3
baz=17,SNR=16
J25K Salcha River, 73.20 354 P **P** 13 21 38.0 +0.1
J25K Salcha River, 73.20 354 P **P** 13 21 38.7 +0.8
baz=10,SNR=14
T57A Hurt 73.22 305 P **P** 13 21 38.4 +0.1
T57A IAmb IAmb 13 21 40.3
comp=Z,41nm,1.2s
T57A Hurt 73.22 305 P **P** 13 21 39.5 +1.1
baz=50,SNR=9.1
T57A P **P** 13 21 39.5 +1.1
baz=50,SNR=9.1
P52A Corning 73.23 308 P **P** 13 21 38.0 -0.4
P52A IAmb IAmb 13 21 39.9
comp=Z,37nm,1.1s
P52A Corning 73.23 308 P **P** 13 21 38.9 +0.4
baz=49,SNR=8.4
ACSO Alum Creek Sta 73.33 309 P **P** 13 21 39.3 +0.3
baz=49
ACSO Alum Creek Sta 73.33 309 P **P** 13 21 39.3 +0.3
baz=49
CCB Clear Creek Bu 73.33 355 P **P** 13 21 38.4 -0.2
B35A Bob, Littlefor 73.41 321 P **P** 13 21 39.0 -0.3
B35A IAmb IAmb 13 21 40.8
comp=Z,30nm,1.2s
B35A Bob, Littlefor 73.41 321 P **P** 13 21 39.6 +0.3
baz=45,SNR=8.7
MMPY Sheldon Lake, 73.43 347 P **P** 13 21 41.5 +2.2
baz=21,SNR=23
NEA2 Nenana 73.46 356 P **P** 13 21 39.7 +0.3
NEA2 IAmb IAmb 13 21 41.5
comp=Z,42nm,1.1s
NEA2 Nenana 73.46 356 P **P** 13 21 40.3 +1.0
baz=7.3,SNR=27
K27K Chicken 73.49 353 P **P** 13 21 40.5 +1.0
K27K Chicken 73.49 353 P **P** 13 21 41.0 +1.5
baz=13
CNNC Cliffs of the 73.50 303 P **P** 13 21 40.6 +0.5
baz=50
HDA Harding Lake 73.51 355 P **P** 13 21 40.1 +0.4
HDA Harding Lake 73.51 355 P **P** 13 21 40.3 +0.6
baz=8.9,SNR=38
WRH Wood River Hil 73.52 355 P **P** 13 21 39.9 +0.1
WRH IAmb IAmb 13 21 41.6
comp=Z,51nm,1.0s
GCSA Galena City Sc 73.56 359 P **P** 13 21 41.4 +1.5
baz=1.3,SNR=14
N49A Columbus Grove 73.56 310 P **P** 13 21 40.9 +0.5
baz=48,SNR=6.1
N49A P **P** 13 21 40.9 +0.5
baz=48,SNR=6.1
E38A The Farm, Brul 73.60 319 P **P** 13 21 40.4 -0.1
E38A IAmb IAmb 13 21 41.6
comp=Z,41nm,1.2s
E38A The Farm, Brul 73.60 319 P **P** 13 21 40.7 +0.2
baz=46,SNR=5.2
ANM Nome 73.61 3 P **P** 13 21 41.3 +1.0
baz=355
NBAN Anadia - AL 73.69 240 *e*P **P** 13 21 42.0 +0.6
SCRK Sand Creek 73.71 353 P **P** 13 21 41.4 +0.3
SCRK IAmb IAmb 13 21 43.6
comp=Z,70nm,1.6s
SCRK Sand Creek 73.71 353 P **P** 13 21 42.2 +1.2
baz=11,SNR=22
Q52A Bidwell 73.75 308 P **P** 13 21 41.8 +0.3
Q52A IAmb IAmb 13 21 43.0
comp=Z,50nm,1.1s
Q52A Bidwell 73.75 308 P **P** 13 21 42.2 +0.7
baz=49,SNR=9.2
Q52A P **P** 13 21 42.2 +0.7
baz=49,SNR=9.2
BLA Blacksburg 73.79 306 P **P** 13 21 42.0 +0.2
BLA Blacksburg 73.79 306 P **P** 13 21 42.0 +0.2
BLA pmax pmax
comp=Z,14nm,1.2s
BLA Blacksburg 73.79 306 P **P** 13 21 42.3 +0.5
baz=49
G40A Rib Lake 73.86 317 P **P** 13 21 41.6 -0.4
G40A IAmb IAmb 13 21 43.5
comp=Z,28nm,1.1s
G40A Rib Lake 73.86 317 P **P** 13 21 42.0 0.0
baz=46,SNR=5.4
P51A Williamsport 73.87 309 P **P** 13 21 41.9 -0.3
P51A IAmb IAmb 13 21 43.2
comp=Z,34nm,1.1s
P51A Williamsport 73.87 309 P **P** 13 21 42.4 +0.2
baz=48
P51A P **P** 13 21 42.4 +0.2
baz=48
BWN Browne 73.90 356 P **P** 13 21 42.0 +0.1
BWN IAmb IAmb 13 22 14.6
comp=Z,43nm,1.2s
V58A Windy Hill, Pi 73.91 304 P **P** 13 21 42.7 +0.2
V58A Windy Hill, Pi 73.91 304 P **P** 13 21 43.2 +0.7
baz=50,SNR=5.9
V58A P **P** 13 21 43.2 +0.7
baz=50,SNR=5.9
TGTN Hyland Airport 73.92 345 P **P** 13 21 44.4 +2.2
baz=23,SNR=15
S54A Dingess, Beckl 73.94 306 P **P** 13 21 42.7 0.0
S54A Dingess, Beckl 73.94 306 P **P** 13 21 43.0 +0.3
baz=49
S54A P **P** 13 21 43.0 +0.3
baz=49
L29M L29M 73.95 351 P **P** 13 21 43.5 +1.1
baz=16
R53A Hurricane 73.98 307 P **P** 13 21 42.7 -0.2
R53A IAmb IAmb 13 21 44.6
comp=Z,50nm,1.1s
R53A Hurricane 73.98 307 P **P** 13 21 43.4 +0.6
baz=49,SNR=12
R53A P **P** 13 21 43.4 +0.6
baz=49,SNR=12
USRK Ussuriysk Ar. 74.01 44 P **P** 13 21 43.2 +0.3
comp=Z,9.3nm,0.8s,baz=281,slow=4.8,SNR=22
comp=Z,9.3nm,0.8s
USRK Ussuriysk Ar. 74.01 44 P **P** 13 21 42.4 -0.6
RIDG Independent Ri 74.02 354 P **P** 13 21 43.4 +0.7
RIDG Independent Ri 74.02 354 P **P** 13 21 44.0 +1.3
baz=10,SNR=34
K24K Donnelly Dome 74.03 354 P **P** 13 21 43.5 +0.8
baz=9.8,SNR=9.8
DOT Dot Lake 74.04 353 P **P** 13 21 43.5 +0.7
SUR Sutherland 74.04 181 LR LR 13 57 10.5
comp=Z,403nm,18.7s,baz=356,slow=38
BPAW Bear Paw Mtn. 74.05 357 P **P** 13 21 43.0 +0.2
BPAW IAmb IAmb 13 21 44.5
comp=Z,36nm,1.0s
BPAW Bear Paw Mtn. 74.05 357 P **P** 13 21 43.4 +0.5
baz=5.8,SNR=32
J20K Nowinta River 74.08 358 P **P** 13 21 43.1 +0.1
J20K IAmb IAmb 13 21 45.6
comp=Z,38nm,1.2s
J20K Nowinta River 74.08 358 P **P** 13 21 44.5 +1.5
baz=3.4,SNR=15
ROSB Rosario 74.09 251 *e*P **P** 13 21 44.2 +0.4
FLDN Fort Liard 74.11 343 P **P** 13 21 44.8 +1.6
baz=26
FARO Faro, Yukon 74.13 348 P **P** 13 21 45.0 +1.7
baz=19,SNR=30
O49A Covington 74.14 310 P **P** 13 21 43.0 -0.8
O49A IAmb IAmb 13 21 44.9
comp=Z,33nm,0.9s
O49A Covington 74.14 310 P **P** 13 21 43.5 -0.2
baz=48,SNR=8.1
O49A P **P** 13 21 43.5 -0.2
baz=48,SNR=8.1
I42A Draeger Farm, 74.14 315 P **P** 13 21 43.6 -0.1
I42A Draeger Farm, 74.14 315 P **P** 13 21 43.9 +0.1
baz=46
NJ2 Nanjing 74.29 61 ⇓P **P** 13 21 44.9 +0.2
NJ2 pmax pmax
comp=Z,43nm,0.9s
M30M Minto, Yukon 74.29 350 P **P** 13 21 44.8 +0.5
M30M Minto, Yukon 74.29 350 P **P** 13 21 45.6 +1.3
baz=17,SNR=15
M31M Drury Creek, Y 74.31 349 P **P** 13 21 45.3 +0.9
M31M IAmb IAmb 13 21 47.3
comp=Z,39nm,1.1s
M31M Drury Creek, Y 74.31 349 P **P** 13 21 46.1 +1.7
baz=18,SNR=27
MCK McKinley 74.31 356 P **P** 13 21 44.5 +0.2
MCK McKinley 74.31 356 P **P** 13 21 44.6 +0.2
MCK pmax pmax
comp=Z,70nm,1.1s
MCK McKinley 74.31 356 P **P** 13 21 44.9 +0.5
baz=7.4,SNR=31
U56A King 74.33 305 P **P** 13 21 46.0 +1.0
baz=49,SNR=9.1
U56A P **P** 13 21 46.0 +1.0
baz=49,SNR=9.1
Q51A Peebles 74.34 309 P **P** 13 21 44.8 -0.2
Q51A IAmb IAmb 13 21 46.3
comp=Z,53nm,1.1s
Q51A Peebles 74.34 309 P **P** 13 21 45.0 +0.1
baz=48,SNR=14
Q51A P **P** 13 21 45.0 +0.1
baz=48,SNR=14
BCAR Beaver Creek A 74.40 352 P **P** 13 21 46.0 +1.0
L27K Beaver Creek, 74.41 352 P **P** 13 21 46.0 +1.0
L27K IAmb IAmb 13 21 47.8
comp=Z,50nm,1.1s
L27K Beaver Creek, 74.41 352 P **P** 13 21 46.6 +1.7
baz=13,SNR=48
N47A Urbana 74.44 311 P **P** 13 21 45.4 -0.1
N47A IAmb IAmb 13 21 47.0
comp=Z,34nm,1.1s
AGMN Agassiz Nation 74.45 322 P **P** 13 21 45.3 -0.1
AGMN Agassiz Nation 74.45 322 P **P** 13 21 45.6 +0.2
baz=43,SNR=6.6
SOE Somerset East 74.47 176 P **P** 13 21 46.1 +0.5
O48B Farmland 74.56 310 P **P** 13 21 45.6 -0.6
baz=48,SNR=5.2
O48B Farmland 74.56 310 P **P** 13 21 45.9 -0.3
baz=48,SNR=5.2
L26K Log Cabin Wild 74.59 353 P **P** 13 21 47.0 +0.9
L26K IAmb IAmb 13 21 48.8
comp=Z,38nm,1.0s
L26K Log Cabin Wild 74.59 353 P **P** 13 21 47.6 +1.5
baz=12,SNR=25
RND Reindeer 74.63 355 P **P** 13 21 45.6 -0.7
RND Reindeer 74.63 355 P **P** 13 21 45.6 -0.7
RND pmax pmax
comp=Z,17nm,1.0s
M29M Somme Creek 74.63 350 P **P** 13 21 48.1 +1.7
baz=15,SNR=77
K43A Burlington 74.65 314 P **P** 13 21 46.8 +0.1
K43A IAmb IAmb 13 21 48.2
comp=Z,54nm,1.1s
TRF Thorofare Moun 74.66 356 P **P** 13 21 46.6 0.0
TRF IAmb IAmb 13 21 48.4
comp=Z,30nm,1.1s
TRF Thorofare Moun 74.66 356 P **P** 13 21 47.2 +0.6
baz=6.3,SNR=13
L44A Lake County Fo 74.78 313 P **P** 13 21 47.2 -0.3
baz=47
P49A Miami Univ. Ec 74.79 310 P **P** 13 21 46.7 -0.9
P49A Miami Univ. Ec 74.79 310 P **P** 13 21 47.2 -0.4
baz=28
MDP Montagnes des 74.80 263 LR LR 13 49 37.3
comp=Z,128nm,21.9s,baz=100,slow=32
PAX Paxson 74.83 354 P **P** 13 21 47.6 +0.1
PAX Paxson 74.83 354 P **P** 13 21 47.6 +0.1
PAX pmax pmax
comp=Z,25nm,1.1s
PAX Paxson 74.83 354 P **P** 13 21 48.0 +0.5
baz=10.0,SNR=14
X58A Rowland 74.85 303 P **P** 13 21 47.9 -0.1
X58A IAmb IAmb 13 21 49.9
comp=Z,41nm,1.2s
X58A Rowland 74.85 303 P **P** 13 21 48.5 +0.5
baz=49
X58A P **P** 13 21 48.5 +0.5
baz=49
DHY Denali Highway 74.86 355 P **P** 13 21 48.2 +0.4
DHY Denali Highway 74.86 355 P **P** 13 21 48.5 +0.8
baz=8.6,SNR=40
W57A Gilead 74.87 304 P **P** 13 21 47.9 -0.2
W57A Gilead 74.87 304 P **P** 13 21 48.6 +0.5
baz=49,SNR=7.2
W57A P **P** 13 21 48.6 +0.5
baz=49,SNR=7.2
K20K Telida 74.90 358 P **P** 13 21 48.3 +0.5
K20K IAmb IAmb 13 21 50.9
comp=Z,40nm,1.1s
K20K Telida 74.90 358 P **P** 13 21 49.0 +1.2
baz=3.4,SNR=29
Y59A Loris 74.92 302 P **P** 13 21 49.7 +1.3
baz=49
Y59A P **P** 13 21 49.7 +1.3
baz=49
BIM Bigot 74.93 276 P **P** 13 21 49.4 +0.6
BVCY Beaver Creek 74.94 352 P **P** 13 21 49.8 +1.7
baz=14,SNR=8.6
I40A Norwalk 75.03 316 P **P** 13 21 48.9 0.0
I40A Norwalk 75.03 316 P **P** 13 21 49.4 +0.5
baz=46
U54A Nelsons Funny 75.09 306 P **P** 13 21 49.3 -0.1
U54A IAmb IAmb 13 21 50.9
comp=Z,46nm,1.0s
U54A Nelsons Funny 75.09 306 P **P** 13 21 50.2 +0.8
baz=48,SNR=14
U54A P **P** 13 21 50.2 +0.8
baz=48,SNR=14
F36A Milaca 75.10 319 P **P** 13 21 48.6 -0.6
F36A IAmb IAmb 13 21 50.3
comp=Z,27nm,1.1s
F36A Milaca 75.10 319 P **P** 13 21 49.3 +0.1
baz=44,SNR=14
M27K Edge Creek, AK 75.10 352 P **P** 13 21 49.7 +0.6
M27K IAmb IAmb 13 21 52.3
comp=Z,73nm,1.4s
M27K Edge Creek, AK 75.10 352 P **P** 13 21 50.7 +1.6
baz=13,SNR=22
N32M Quiet Lake 75.11 348 P **P** 13 21 50.4 +1.3
baz=19
V55A Taylorsville 75.16 305 P **P** 13 21 50.1 +0.3
V55A IAmb IAmb 13 21 51.7
comp=Z,40nm,1.1s
V55A Taylorsville 75.16 305 P **P** 13 21 50.7 +1.0
baz=49,SNR=18
V55A P **P** 13 21 50.7 +1.0
baz=49,SNR=18
M26K Nabesna, AK 75.17 353 P **P** 13 21 50.1 +0.7
M26K IAmb IAmb 13 21 52.1
comp=Z,40nm,1.1s
M26K Nabesna, AK 75.17 353 P **P** 13 21 50.9 +1.5
baz=12,SNR=38
WAT1 Susitna Watana 75.19 355 P **P** 13 21 49.4 0.0
baz=7.7
SPMN Marine on St. 75.20 318 P **P** 13 21 49.6 -0.2
SPMN IAmb IAmb 13 21 51.2
comp=Z,43nm,1.2s
SPMN Marine on St. 75.20 318 P **P** 13 21 50.1 +0.3
baz=44,SNR=8.4
SPMN Marine on St. 75.20 318 P **P** 13 21 49.8 0.0
baz=44,SNR=8.4
N31M Braeburn, Yuko 75.20 349 P **P** 13 21 50.0 +0.4
N31M IAmb IAmb 13 21 52.2
comp=Z,54nm,1.1s
N31M Braeburn, Yuko 75.20 349 P **P** 13 21 50.4 +0.8
baz=17,SNR=21
P48A Milroy 75.25 310 P **P** 13 21 49.5 -0.8
P48A Milroy 75.25 310 P **P** 13 21 50.2 0.0
baz=47,SNR=6.4
P48A P **P** 13 21 50.2 0.0
baz=47,SNR=6.4
WTLY Watson Lake, Y 75.33 345 P **P** 13 21 51.5 +1.2
WTLY IAmb IAmb 13 21 53.1
comp=Z,59nm,1.1s
WTLY Watson Lake, Y 75.33 345 P **P** 13 21 52.0 +1.6
baz=22,SNR=17
HARP HAARP 75.37 354 P **P** 13 21 51.7 +1.2
baz=10,SNR=6.5
TTA Tatalina 75.37 359 P **P** 13 21 50.9 +0.3
TTA IAmb IAmb 13 21 53.4
comp=Z,46nm,1.4s
TTA Tatalina 75.37 359 P **P** 13 21 50.9 +0.3
TTA pmax pmax
comp=Z,47nm,1.4s
TTA Tatalina 75.37 359 P **P** 13 21 51.9 +1.3
baz=1.9,SNR=9.4
WAT6 Susitna Watana 75.38 355 P **P** 13 21 51.2 +0.4
baz=8.3,SNR=19
N30M Aishikik Lake 75.41 350 P **P** 13 21 52.0 +1.2
baz=16,SNR=21
S51A Beattyville 75.41 308 P **P** 13 21 51.2 0.0
S51A Beattyville 75.41 308 P **P** 13 21 51.6 +0.5
baz=48,SNR=6.2
S51A P **P** 13 21 51.6 +0.5
baz=48,SNR=6.2
R50A Paris 75.41 309 P **P** 13 21 51.3 +0.2
baz=48
R50A P **P** 13 21 51.3 +0.2
baz=48
BIRD Birdtown, Kers 75.49 304 P **P** 13 21 51.3 -0.4
BIRD IAmb IAmb 13 21 53.4
comp=Z,35nm,1.2s
BIRD Birdtown, Kers 75.49 304 P **P** 13 21 52.2 +0.6
baz=49,SNR=9.0
YUK3 Moose Creek 75.52 351 P **P** 13 21 53.2 +1.6
baz=14,SNR=42
JFWS Jewell Farm 75.52 315 P **P** 13 21 51.3 -0.4
JFWS IAmb IAmb 13 21 52.6
comp=Z,30nm,1.1s
JFWS Jewell Farm 75.52 315 P **P** 13 21 51.3 -0.4
JFWS pmax pmax
comp=Z,30nm,1.1s
JFWS Jewell Farm 75.52 315 P **P** 13 21 51.8 +0.1
baz=46,SNR=5.3
JFWS Jewell Farm 75.52 315 P **P** 13 21 51.6 -0.2
baz=46,SNR=5.3
UBPT Khong Chiam 75.54 82 P **P** 13 21 51.0 -1.1
SFIN Lafayette 75.56 312 P **P** 13 21 51.7 -0.3
SFIN Lafayette 75.56 312 P **P** 13 21 51.8 -0.2
baz=47
NBLA Lagarto - SE 75.66 241 *e*P **P** 13 21 53.0 +0.2
KMSC Kings Mountain 75.70 304 P **P** 13 21 53.0 +0.1
KMSC IAmb IAmb 13 21 54.6
comp=Z,30nm,1.0s
KMSC Kings Mountain 75.70 304 P **P** 13 21 53.4 +0.5
baz=48,SNR=12
CUT Chulitna 75.71 356 P **P** 13 21 52.4 0.0
CUT IAmb IAmb 13 21 53.9
comp=Z,58nm,1.1s
CUT Chulitna 75.71 356 P **P** 13 21 52.0 -0.4
baz=6.3,SNR=6.1
YUK4 Talbot Arm 75.72 350 P **P** 13 21 53.5 +0.7
baz=15,SNR=12
M24K Tolsona, Glenn 75.74 354 P **P** 13 21 53.2 +0.5
M24K IAmb IAmb 13 21 55.1
comp=Z,39nm,1.0s
M24K Tolsona, Glenn 75.74 354 P **P** 13 21 53.7 +1.0
baz=9.4,SNR=6.6
L20K Farewell, AK 75.78 358 P **P** 13 21 53.4 +0.5
baz=3.6,SNR=7.1
WHY Whitehorse 75.86 348 P **P** 13 21 54.1 +0.6
baz=18,SNR=9.0
Y57A Sumter 75.86 303 P **P** 13 21 54.4 +0.6
Y57A IAmb IAmb 13 21 55.5
comp=Z,38nm,0.9s
Y57A Sumter 75.86 303 P **P** 13 21 54.8 +1.0
baz=49
Y57A P **P** 13 21 54.8 +1.0
baz=49
R49A Shelbyville 75.89 309 P **P** 13 21 54.4 +0.5
baz=47,SNR=8.4
R49A P **P** 13 21 54.4 +0.5
baz=47,SNR=8.4
O30N Mendenhall 75.93 349 P **P** 13 21 54.6 +0.8
baz=17,SNR=22
P33M Teslin, Yukon 75.95 347 P **P** 13 21 54.0 0.0
P33M IAmb IAmb 13 21 56.4
comp=Z,36nm,1.2s
P33M Teslin, Yukon 75.95 347 P **P** 13 21 55.1 +1.1
baz=19,SNR=16
SEHB SEOHWA 76.00 51 P **P** 13 21 54.8 +0.3
SEHB IAmb IAmb 13 22 06.2
comp=Z,34nm,1.1s
CBYP Canovanas 76.06 282 P **P** 13 21 55.3 +0.1
BLO Bloomington 76.07 310 P **P** 13 21 55.1 +0.2
BLO IAmb IAmb 13 21 56.1
comp=Z,33nm,0.9s
BLO Bloomington 76.07 310 P **P** 13 21 55.1 +0.2
BLO pmax pmax
comp=Z,33nm,1.0s
YUK6 Outpost Mounta 76.07 350 P **P** 13 21 56.4 +1.6
baz=15,SNR=24
HYT Haines Junctio 76.07 350 P **P** 13 21 55.6 +0.9
HYT IAmb IAmb 13 21 57.3
comp=Z,42nm,1.1s
HYT Haines Junctio 76.07 350 P **P** 13 21 56.0 +1.3
baz=16,SNR=29
SCM Sheep Creek Mo 76.09 355 P **P** 13 21 55.5 +0.7
SCM Sheep Creek Mo 76.09 355 P **P** 13 21 55.5 +0.7
SCM pmax pmax
comp=Z,99nm,1.3s
SCM Sheep Creek Mo 76.09 355 P **P** 13 21 55.8 +1.1
baz=8.6,SNR=17
L19K White Mountain 76.10 358 P **P** 13 21 55.7 +1.0

L19K	**White Mountain**	**76.10**	**358**	P	**P**	**13 21 56.0**	**+1.3**	
	baz=2.8,SNR=26							
N25K	**Chitina, Valde**	**76.10**	**353**	P	**P**	**13 21 55.5**	**+0.6**	
N25K				IAmb	IAmb	13 21 56.8		
	comp=Z,39nm,1.1s							
N25K	**Chitina, Valde**	**76.10**	**353**	P	**P**	**13 21 55.6**	**+0.8**	
	baz=11,SNR=16							
TZTN	**Tazewell**	**76.11**	**307**	P	**P**	**13 21 55.4**	**+0.2**	
TZTN				IAmb	IAmb	13 21 56.9		
	comp=Z,30nm,1.2s							
TZTN	**Tazewell**	**76.11**	**307**	P	**P**	**13 21 55.8**	**+0.6**	
	baz=48,SNR=9.7							
TZTN	**Tazewell**	**76.11**	**307**	P	**P**	**13 21 55.7**	**+0.5**	
	baz=48,SNR=9.7							
P46A	**Rosedale**	**76.15**	**311**	P	**P**	**13 21 55.0**	**-0.4**	
P46A	**Rosedale**	**76.15**	**311**	P	**P**	**13 21 55.4**	**+0.1**	
	baz=46							
M23K	**Glacier View**	**76.16**	**355**	P	**P**	**13 21 55.9**	**+0.8**	
	baz=8.2,SNR=23							
MCARA	**McCarthy VSAT**	**76.17**	**352**	P	**P**	**13 21 55.1**	**0.0**	
MCARA				IAmb	IAmb	13 22 03.5		
	comp=Z,33nm,1.1s							
MCARA	**McCarthy VSAT**	**76.17**	**352**	P	**P**	**13 21 56.3**	**+1.2**	
	baz=12,SNR=8.3							
SML	**Sawmill**	**76.19**	**355**	P	**P**	**13 21 55.7**	**+0.4**	
SML				IAmb	IAmb	13 21 57.8		
	comp=Z,54nm,1.1s							
SML	**Sawmill**	**76.19**	**355**	P	**P**	**13 21 56.0**	**+0.8**	
	baz=7.8,SNR=17							
SKT	**Skwentna**	**76.19**	**357**	P	**P**	**13 21 54.9**	**-0.3**	
SKT				IAmb	IAmb	13 21 58.0		
	comp=Z,54nm,1.1s							
SKT	**Skwentna**	**76.19**	**357**	P	**P**	**13 21 55.2**	**0.0**	
	baz=5.3,SNR=23							
PAULI	**Pauline**	**76.21**	**304**	P	**P**	**13 21 56.5**	**+0.7**	
	baz=48,SNR=14							
JSC	**Jenkinsville**	**76.22**	**304**	P	**P**	**13 21 55.1**	**-0.7**	
JSC				IAmb	IAmb	13 21 57.6		
	comp=Z,28nm,1.2s							
JSC	**Jenkinsville**	**76.22**	**304**	P	**P**	**13 21 55.1**	**-0.7**	
JSC				pmax	pmax			
	comp=Z,28nm,1.2s							
JSC	**Jenkinsville**	**76.22**	**304**	P	**P**	**13 21 56.7**	**+0.8**	
	baz=48,SNR=6.6							
V53A	**Saluda**	**76.25**	**306**	P	**P**	**13 21 55.1**	**-0.9**	
V53A	**Saluda**	**76.25**	**306**	P	**P**	**13 21 56.0**	**-0.1**	
	baz=48,SNR=6.8							
V53A				P	**P**	**13 21 56.0**	**-0.1**	
	baz=48,SNR=6.8							
GHO	**Glory Hole Cre**	**76.26**	**355**	P	**P**	**13 21 55.4**	**-0.3**	
GHO				IAmb	IAmb	13 21 57.6		
	comp=Z,44nm,1.0s							
KS19	**Wonju Array Si**	**76.29**	**52**	P	**P**	**13 21 56.6**	**+0.4**	
KS19				IAmb	IAmb	13 21 58.4		
	comp=Z,41nm,1.0s							
NHSC	**New Hope**	**76.32**	**302**	P	**P**	**13 21 56.5**	**+0.1**	
NHSC	**New Hope**	**76.32**	**302**	P	**P**	**13 21 57.6**	**+1.1**	
	baz=48							
KLU	**Klutina**	**76.33**	**354**	P	**P**	**13 21 56.1**	**0.0**	
KLU				IAmb	IAmb	13 21 58.2		
	comp=Z,37nm,1.0s							
KLU	**Klutina**	**76.33**	**354**	P	**P**	**13 21 57.1**	**+1.0**	
	baz=9.6,SNR=16							
KSAR	**Wonju Array Be**	**76.34**	**52**	P	**P**	**13 21 56.6**	**+0.1**	
KSAR	**Wonju Array Be**	**76.34**	**52**	P	**P**	**13 21 56.6**	**+0.1**	
QIZ	**Qiongzhong**	**76.35**	**77**	P	**P**	**13 21 56.8**	**0.0**	
QIZ				IAmb	IAmb	13 21 57.8		
	comp=Z,38nm,1.0s							
QIZ	**Qiongzhong**	**76.35**	**77**	P	**P**	**13 21 56.3**	**-0.5**	
QIZ				S	**S**	**13 31 40.1**	**-1.7**	
QIZ				LR	LR			
	comp=Z,250nm,18.0s							
QIZ				LR	LR			
	comp=Z,180nm,17.7s							
M22K	**Willow**	**76.35**	**356**	P	**P**	**13 21 56.4**	**+0.4**	
	baz=6.4,SNR=19							
M20K	**Styx River**	**76.35**	**357**	P	**P**	**13 21 56.1**	**-0.1**	
M20K				IAmb	IAmb	13 21 57.8		
	comp=Z,46nm,1.1s							
M20K	**Styx River**	**76.35**	**357**	P	**P**	**13 21 56.8**	**+0.5**	
	baz=4.1,SNR=17							
KSRS	**Korea Array**	**76.36**	**52**	P	**P**	**13 21 57.2**	**+0.7**	
	comp=Z,25nm,0.9s,baz=316,slow=5.0,SNR=73							
KSRS				LR	LR	13 57 44.5		
	comp=Z,189nm,18.7s,baz=310,slow=37							
	comp=Z,25nm,0.9s							
I37B	**Waseca**	**76.36**	**318**	P	**P**	**13 21 56.8**	**+0.4**	
	baz=44							
M19K	**Big River Lodg**	**76.37**	**358**	P	**P**	**13 21 57.0**	**+0.8**	
M19K				IAmb	IAmb	13 22 03.5		
	comp=Z,22nm,0.9s							
M19K	**Big River Lodg**	**76.37**	**358**	P	**P**	**13 21 57.3**	**+1.1**	
	baz=3.2							
SJG	**San Juan**	**76.37**	**282**	LR	LR	13 53 52.5		
	comp=Z,28nm,18.9s,baz=88,slow=34							
R33M	**Jennings River**	**76.40**	**346**	P	**P**	**13 21 58.8**	**+2.2**	
	baz=21,SNR=38							
CTGM	**Chitina Glacie**	**76.41**	**351**	P	**P**	**13 21 57.6**	**+0.9**	
CTGM				IAmb	IAmb	13 21 59.1		
	comp=Z,36nm,1.2s							
CTG	**Chitna Glacier**	**76.41**	**351**	P	**P**	**13 21 57.7**	**+1.1**	
	baz=13,SNR=10.0							
F33A	**5 Mile Ranch,**	**76.44**	**320**	P	**P**	**13 21 56.8**	**-0.1**	
F33A				IAmb	IAmb	13 21 58.2		
	comp=Z,32nm,1.1s							
F33A	**5 Mile Ranch,**	**76.44**	**320**	P	**P**	**13 21 57.2**	**+0.3**	
	baz=43,SNR=9.5							
PMR	**Palmer**	**76.45**	**355**	P	**P**	**13 21 56.8**	**+0.2**	
PMR				IAmb	IAmb	13 21 58.5		
	comp=Z,36nm,1.0s							
PMR	**Palmer**	**76.45**	**355**	P	**P**	**13 21 56.8**	**+0.2**	
PMR				pmax	pmax			
	comp=Z,36nm,1.0s							
PMR	**Palmer**	**76.45**	**355**	P	**P**	**13 21 57.2**	**+0.5**	
	baz=7.2,SNR=24							
MDND	**Maddock**	**76.47**	**324**	P	**P**	**13 21 57.2**	**+0.2**	
MDND	**Maddock**	**76.47**	**324**	P	**P**	**13 21 56.7**	**-0.3**	
	baz=41							
O28M	**Mount Upton**	**76.47**	**351**	P	**P**	**13 21 58.5**	**+1.3**	
	baz=14,SNR=18							
O44A	**Mansfield**	**76.48**	**312**	P	**P**	**13 21 57.2**	**0.0**	
O44A				IAmb	IAmb	13 21 58.5		
	comp=Z,40nm,1.2s							
O44A	**Mansfield**	**76.48**	**312**	P	**P**	**13 21 57.7**	**+0.5**	
	baz=46							
LOGN	**Logan Glacier**	**76.51**	**351**	P	**P**	**13 21 57.2**	**0.0**	
LOGN				IAmb	IAmb	13 21 59.7		
	comp=Z,51nm,1.1s							
TMAB	**Tom-Au,PA,Br**	**76.55**	**254**	*e*P	**P**	**13 21 58.7**	**+0.8**	
WCI	**Wyandotte Cave**	**76.58**	**310**	P	**P**	**13 21 57.7**	**-0.1**	
WCI				IAmb	IAmb	13 21 59.2		
	comp=Z,34nm,1.1s							
WCI	**Wyandotte Cave**	**76.58**	**310**	P	**P**	**13 21 57.7**	**-0.1**	
WCI				pmax	pmax			
	comp=Z,34nm,1.1s							
WCI	**Wyandotte Cave**	**76.58**	**310**	P	**P**	**13 21 58.0**	**+0.2**	
	baz=47,SNR=9.0							
WCI	**Wyandotte Cave**	**76.58**	**310**	P	**P**	**13 21 57.8**	**0.0**	
	baz=47							
KNK	**Knik Glacier**	**76.59**	**355**	P	**P**	**13 21 57.6**	**+0.1**	
KNK				IAmb	IAmb	13 21 59.8		
	comp=Z,44nm,1.0s							
KNK	**Knik Glacier**	**76.59**	**355**	P	**P**	**13 21 58.7**	**+1.2**	
	baz=7.7,SNR=11							
V52A	**Sevierville**	**76.61**	**306**	P	**P**	**13 21 57.7**	**-0.4**	
L40A	**Anamosa**	**76.63**	**315**	P	**P**	**13 21 57.7**	**-0.3**	
L40A				IAmb	IAmb	13 21 58.9		
	comp=Z,42nm,1.1s							
L40A	**Anamosa**	**76.63**	**315**	P	**P**	**13 21 58.0**	**0.0**	
	baz=45,SNR=8.3							
HDIL	**Hopedale**	**76.66**	**313**	P	**P**	**13 21 58.0**	**-0.2**	
HDIL				IAmb	IAmb	13 21 59.4		
	comp=Z,40nm,1.1s							
HDIL	**Hopedale**	**76.66**	**313**	P	**P**	**13 21 58.6**	**+0.4**	
	baz=46							
HDIL	**Hopedale**	**76.66**	**313**	P	**P**	**13 21 58.2**	**0.0**	
	baz=46							
SUA	**Susitna One**	**76.67**	**356**	P	**P**	**13 21 58.8**	**+0.7**	
SUA	**Susitna One**	**76.67**	**356**	P	**P**	**13 21 58.9**	**+0.8**	
	baz=5.9,SNR=17							
DIV	**Divide**	**76.67**	**354**	P	**P**	**13 21 58.4**	**+0.3**	
P30M	**Million Dollar**	**76.67**	**349**	P	**P**	**13 21 59.6**	**+1.5**	
	baz=16							
P32M	**Atlin**	**76.69**	**347**	P	**P**	**13 21 58.4**	**+0.3**	
	baz=19,SNR=8.6							
O29M	**Mount Kennedy**	**76.72**	**350**	P	**P**	**13 21 59.3**	**+1.0**	
	baz=15,SNR=11							
BMRM	**Bremner River**	**76.73**	**353**	P	**P**	**13 21 58.9**	**+0.5**	
BMRM	**Bremner River**	**76.73**	**353**	P	**P**	**13 21 59.1**	**+0.8**	
	baz=11,SNR=19							
OBIP	**Obispado Ponce**	**76.75**	**282**	P	**P**	**13 21 58.8**	**-0.2**	
OBIP				IAmb	IAmb	13 21 59.7		
	comp=Z,28nm,1.1s							
TJN	**Taejon**	**76.76**	**53**	P	**P**	**13 21 58.3**	**-0.5**	
TJN	**Taejon**	**76.76**	**53**	P	**P**	**13 21 58.3**	**-0.5**	
TJN				pmax	pmax			
	comp=Z,159nm,1.1s							
BG3	**Lake Jocassee**	**76.78**	**305**	P	**P**	**13 21 59.3**	**+0.3**	
CASEE	**Lake Jocassee**	**76.78**	**305**	P	**P**	**13 21 59.9**	**+0.9**	
	baz=48,SNR=7.2							
KSCHJ	**Chungju**	**76.78**	**52**	P	**P**	**13 21 59.1**	**+0.1**	
KSCHJ				IAmb	IAmb	13 22 01.1		
	comp=Z,52nm,1.0s							
TKL	**Tuckaleechee C**	**76.84**	**306**	LR	LR	13 55 54.0		
	comp=Z,176nm,18.5s,baz=61,slow=36							
TKL	**Tuckaleechee C**	**76.84**	**306**	P	**P**	**13 21 59.0**	**-0.4**	
TKL				IAmb	IAmb	13 22 00.8		
	comp=Z,24nm,1.1s							
TKL	**Tuckaleechee C**	**76.84**	**306**	P	**P**	**13 21 59.0**	**-0.4**	
TKL				pmax	pmax			
	comp=Z,24nm,1.1s							
TKL	**Tuckaleechee C**	**76.84**	**306**	P	**P**	**13 21 59.7**	**+0.3**	
	baz=48,SNR=12							
HODGE	**Hodges**	**76.87**	**304**	P	**P**	**13 21 59.5**	**-0.1**	
HODGE	**Hodges**	**76.87**	**304**	P	**P**	**13 22 00.0**	**+0.5**	
	baz=48,SNR=8.0							
TABL	**Table Mountain**	**76.90**	**351**	P	**P**	**13 21 59.8**	**+0.3**	
TABL				IAmb	IAmb	13 22 01.7		
	comp=Z,38nm,1.1s							
RC01	**Rabbit Creek A**	**76.99**	**356**	P	**P**	**13 22 00.1**	**+0.4**	
RC01	**Rabbit Creek A**	**76.99**	**356**	P	**P**	**13 22 00.7**	**+1.0**	
	baz=6.7,SNR=16							
SPCR	**Spurr Chakacha**	**77.00**	**357**	P	**P**	**13 22 00.0**	**+0.1**	
	baz=4.8,SNR=5.9							
N20K	**Mount Spurr**	**77.00**	**357**	P	**P**	**13 22 00.2**	**+0.3**	
	baz=4.8,SNR=6.6							
SPU	**Mount Spurr**	**77.01**	**357**	P	**P**	**13 22 00.1**	**+0.1**	
K38A	**Parkersburg**	**77.02**	**316**	P	**P**	**13 21 59.7**	**-0.5**	
K38A				IAmb	IAmb	13 22 00.7		
	comp=Z,26nm,1.1s							
K38A	**Parkersburg**	**77.02**	**316**	P	**P**	**13 21 59.7**	**-0.5**	
	baz=44							
GLI	**Glacier Island**	**77.02**	**354**	P	**P**	**13 21 59.9**	**0.0**	
GLI				IAmb	IAmb	13 22 02.0		
	comp=Z,47nm,1.0s							
GLI	**Glacier Island**	**77.02**	**354**	P	**P**	**13 22 00.7**	**+0.8**	
	baz=8.7,SNR=8.8							
Q32M	**Nakina River**	**77.04**	**346**	P	**P**	**13 22 02.0**	**+1.7**	
	baz=20							
YAH	**Yahtse**	**77.04**	**352**	P	**P**	**13 22 00.9**	**+0.6**	
YAH				IAmb	IAmb	13 22 03.0		
	comp=Z,32nm,1.1s							
HAW	**Hawthorne Fire**	**77.05**	**303**	P	**P**	**13 22 01.2**	**+0.6**	
	baz=48,SNR=11							
SKAG	**Skagway**	**77.07**	**348**	P	**P**	**13 22 00.5**	**+0.3**	
SKAG				IAmb	IAmb	13 22 02.6		
	comp=Z,39nm,1.2s							
SKAG	**Skagway**	**77.07**	**348**	P	**P**	**13 22 01.3**	**+1.1**	
	baz=18,SNR=11							
WAX	**Waxell Ridge**	**77.07**	**352**	P	**P**	**13 22 00.3**	**0.0**	
WAX				IAmb	IAmb	13 22 06.3		
	comp=Z,57nm,1.2s							
V51A	**Loudon**	**77.09**	**307**	P	**P**	**13 22 00.3**	**-0.4**	
V51A				IAmb	IAmb	13 22 02.6		
	comp=Z,41nm,1.2s							
V51A	**Loudon**	**77.09**	**307**	P	**P**	**13 22 01.5**	**+0.8**	
	baz=47,SNR=9.4							
FID	**Port Fidalgo**	**77.11**	**354**	P	**P**	**13 22 01.4**	**+1.0**	
FID				IAmb	IAmb	13 22 02.9		
	comp=Z,52nm,1.0s							
DLBC	**Dease Lake**	**77.12**	**345**	LR	LR	14 00 31.0		
	comp=Z,119nm,18.1s,baz=18,slow=39							
DLBC	**Dease Lake**	**77.12**	**345**	P	**P**	**13 22 01.1**	**+0.5**	
DLBC	**Dease Lake**	**77.12**	**345**	P	**P**	**13 22 02.5**	**+1.8**	
	baz=21,SNR=5.7							
PCA	**Pinnacle**	**77.13**	**351**	P	**P**	**13 22 01.6**	**+1.0**	
PINM	**Pinnacle**	**77.13**	**351**	P	**P**	**13 22 02.0**	**+1.4**	
	baz=14,SNR=9.2							
PWL	**Port Wells**	**77.13**	**355**	P	**P**	**13 22 00.5**	**0.0**	
PWL				IAmb	IAmb	13 22 02.5		
	comp=Z,47nm,1.0s							
PWL	**Port Wells**	**77.13**	**355**	P	**P**	**13 22 01.4**	**+0.8**	
	baz=7.8,SNR=15							
CRPR	**Cabo Rojo, PR**	**77.14**	**283**	P	**P**	**13 22 01.3**	**+0.1**	
CRPR				IAmb	IAmb	13 22 03.0		
	comp=Z,39nm,1.0s							
PLBC	**Pleasant Camp**	**77.23**	**349**	P	**P**	**13 22 02.2**	**+1.1**	
	baz=17,SNR=7.7							
MESA	**MESA**	**77.24**	**352**	P	**P**	**13 22 02.0**	**+0.5**	
MESA	**MESA**	**77.24**	**352**	P	**P**	**13 22 02.7**	**+1.3**	
	baz=13,SNR=5.0							
YSS	**Yuzh-Sakhalins**	**77.25**	**37**	P	**P**	**13 22 02.0**	**+0.6**	
YSS	**Yuzh-Sakhalins**	**77.25**	**37**	*ke*P	**P**	**13 22 02.6**	**+1.2**	
YSS				*e*S	**S**	**13 31 51.0**	**+0.2**	
YSS				pmax	pmax			
	comp=Z,200nm,1.0s							
YSS				pmax	pmax			
	comp=Z,600nm,5.1s							
YSS				MLR	MLR			
	comp=Z,500nm,16.0s							
EYAK	**Cordova Ski Ar**	**77.25**	**354**	P	**P**	**13 22 01.8**	**+0.6**	
EYAK				IAmb	IAmb	13 22 03.7		
	comp=Z,49nm,1.1s							
EYAK	**Cordova Ski Ar**	**77.25**	**354**	P	**P**	**13 22 02.6**	**+1.4**	
	baz=9.7,SNR=10							
P29M	**Windy Craggy**	**77.26**	**349**	P	**P**	**13 22 01.7**	**+0.4**	
P29M	**Windy Craggy**	**77.26**	**349**	P	**P**	**13 22 02.7**	**+1.4**	
	baz=16,SNR=27							
OLIL	**Olney**	**77.26**	**311**	P	**P**	**13 22 01.3**	**-0.3**	
OLIL				IAmb	IAmb	13 22 02.6		
	comp=Z,37nm,1.1s							
OLIL	**Olney**	**77.26**	**311**	P	**P**	**13 22 01.7**	**+0.1**	
	baz=46,SNR=6.8							
W52A	**Murphy**	**77.31**	**306**	P	**P**	**13 22 02.6**	**+0.6**	
	baz=47							
N41A	**Harden Midland**	**77.39**	**314**	P	**P**	**13 22 01.8**	**-0.6**	
N41A				IAmb	IAmb	13 22 03.2		
	comp=Z,48nm,1.1s							
N41A	**Harden Midland**	**77.39**	**314**	P	**P**	**13 22 02.2**	**-0.1**	
	baz=45,SNR=7.1							
P43A	**Skaggs, Pawnee**	**77.42**	**312**	P	**P**	**13 22 02.3**	**-0.2**	
P43A				IAmb	IAmb	13 22 03.6		
	comp=Z,23nm,1.0s							
CPCT	**Cooper Cave**	**77.43**	**306**	P	**P**	**13 22 02.8**	**+0.1**	
CPCT				IAmb	IAmb	13 22 04.5		
	comp=Z,37nm,1.2s							
PNL	**Peninsula**	**77.44**	**350**	P	**P**	**13 22 03.6**	**+1.3**	
	baz=14,SNR=7.2							
U49A	**Red Boiling Sp**	**77.45**	**308**	P	**P**	**13 22 02.5**	**-0.3**	
U49A				IAmb	IAmb	13 22 04.3		
	comp=Z,59nm,1.2s							
U49A	**Red Boiling Sp**	**77.45**	**308**	P	**P**	**13 22 03.1**	**+0.4**	
	baz=47,SNR=24							
EDM	**Edmonton**	**77.46**	**334**	P	**P**	**13 22 02.7**	**+0.2**	
EDM				IAmb	IAmb	13 22 04.0		
	comp=Z,50nm,1.1s							
EDM	**Edmonton**	**77.46**	**334**	P	**P**	**13 22 02.7**	**+0.2**	
EDM				pmax	pmax			
	comp=Z,50nm,1.1s							
N19K	**Bonanza Creek**	**77.46**	**358**	P	**P**	**13 22 03.0**	**+0.5**	
N19K				IAmb	IAmb	13 22 05.0		
	comp=Z,54nm,1.2s							
N19K	**Bonanza Creek**	**77.46**	**358**	P	**P**	**13 22 03.5**	**+1.0**	
	baz=3.1,SNR=10							
KCSI	**Kotacane, Aceh**	**77.49**	**97**	P	**P**	**13 21 59.9**	**-3.4**	
USIN	**University of**	**77.55**	**310**	P	**P**	**13 22 02.8**	**-0.5**	
USIN				IAmb	IAmb	13 22 04.2		
	comp=Z,35nm,1.1s							
O22K	**Cooper Landing**	**77.59**	**356**	P	**P**	**13 22 03.3**	**+0.2**	
O22K	**Cooper Landing**	**77.59**	**356**	P	**P**	**13 22 04.0**	**+0.9**	
	baz=6.7,SNR=5.2							
N18K	**Kilae Creek**	**77.63**	**359**	P	**P**	**13 22 03.9**	**+0.6**	
N18K				IAmb	IAmb	13 22 06.2		
	comp=Z,52nm,1.3s							
N18K	**Kilae Creek**	**77.63**	**359**	P	**P**	**13 22 05.0**	**+1.7**	
	baz=2.0,SNR=8.0							
Q44A	**Meyer Farm, Va**	**77.66**	**312**	P	**P**	**13 22 03.8**	**0.0**	
Q44A				IAmb	IAmb	13 22 05.0		
	comp=Z,31nm,1.1s							
Q44A	**Meyer Farm, Va**	**77.66**	**312**	P	**P**	**13 22 04.2**	**+0.3**	
	baz=46							
KAIM	**Kayak Island**	**77.74**	**353**	P	**P**	**13 22 05.5**	**+1.6**	
	baz=11							
S34M	**Telegraph Cree**	**77.82**	**345**	P	**P**	**13 22 06.6**	**+2.1**	
	baz=20							
BESE	**Bessie Mountai**	**77.84**	**348**	P	**P**	**13 22 05.8**	**+1.2**	
BESE				IAmb	IAmb	13 22 07.5		
	comp=Z,34nm,1.0s							
N16K	**Nishlik Lake**	**77.86**	**0**	P	**P**	**13 22 06.4**	**+1.8**	
	baz=360,SNR=8.8							
T47A	**Sharon Grove**	**77.90**	**309**	P	**P**	**13 22 05.0**	**-0.3**	
T47A				IAmb	IAmb	13 22 06.5		
	comp=Z,49nm,1.1s							
T47A	**Sharon Grove**	**77.90**	**309**	P	**P**	**13 22 05.4**	**+0.1**	
	baz=46,SNR=17							
E28A	**Huff**	**77.92**	**323**	P	**P**	**13 22 05.4**	**+0.2**	
E28A	**Huff**	**77.92**	**323**	P	**P**	**13 22 06.2**	**+0.9**	
	baz=40,SNR=8.7							
P23K	**Montague Islan**	**77.92**	**354**	P	**P**	**13 22 05.7**	**+0.7**	
	baz=8.4							
DGMT	**Dagmar**	**77.95**	**326**	P	**P**	**13 22 05.6**	**+0.2**	
DGMT	**Dagmar**	**77.95**	**326**	P	**P**	**13 22 06.1**	**+0.7**	
	baz=38							
SEW	**Seward**	**77.95**	**355**	P	**P**	**13 22 05.4**	**+0.3**	
SEW				IAmb	IAmb	13 22 07.0		
	comp=Z,35nm,1.0s							
SEW	**Seward**	**77.95**	**355**	P	**P**	**13 22 05.8**	**+0.8**	
	baz=6.9,SNR=14							
PETK	**Petropavlovsk-**	**78.01**	**25**	P	**P**	**13 22 05.6**	**0.0**	
	comp=Z,7.8nm,1.1s,baz=316,slow=4.0,SNR=1.8							
PETK				LR	LR	14 00 48.5		
	comp=Z,196nm,18.2s,baz=326,slow=39							
	comp=Z,7.8nm,1.1s							
JIS	**Juneau Island**	**78.05**	**347**	P	**P**	**13 22 06.8**	**+1.1**	
JIS				IAmb	IAmb	13 22 08.6		
	comp=Z,33nm,1.2s							
CLTN	**Cedars of Leba**	**78.07**	**308**	P	**P**	**13 22 06.1**	**-0.1**	
CLTN				IAmb	IAmb	13 22 07.6		
	comp=Z,41nm,1.1s							
R32K	**Eaglecrest**	**78.07**	**347**	P	**P**	**13 22 07.9**	**+2.0**	
	baz=18,SNR=8.9							
W50A	**Signal Mountai**	**78.07**	**307**	P	**P**	**13 22 06.5**	**+0.2**	
W50A				IAmb	IAmb	13 22 08.1		
	comp=Z,55nm,1.0s							
W50A	**Signal Mountai**	**78.07**	**307**	P	**P**	**13 22 07.3**	**+1.0**	
	baz=47,SNR=21							
O19K	**Port Alsworth**	**78.08**	**358**	P	**P**	**13 22 06.2**	**+0.4**	
O19K				IAmb	IAmb	13 22 07.6		
	comp=Z,37nm,0.9s							
O19K	**Port Alsworth**	**78.08**	**358**	P	**P**	**13 22 06.5**	**+0.7**	
	baz=3.2,SNR=7.0							
O20K	**Slope Mountain**	**78.13**	**357**	P	**P**	**13 22 06.1**	**-0.2**	
	baz=4.5,SNR=11							
ECSD	**EROS Data Cent**	**78.15**	**319**	P	**P**	**13 22 06.3**	**-0.3**	
ECSD	**EROS Data Cent**	**78.15**	**319**	P	**P**	**13 22 06.9**	**+0.3**	
	baz=42,SNR=16							
ECSD	**EROS Data Cent**	**78.15**	**319**	P	**P**	**13 22 06.4**	**-0.2**	
	baz=42,SNR=16							
GOGA	**Godfrey**	**78.17**	**304**	P	**P**	**13 22 06.2**	**-0.6**	
GOGA				IAmb	IAmb	13 22 08.6		
	comp=Z,33nm,1.1s							
GOGA	**Godfrey**	**78.17**	**304**	P	**P**	**13 22 06.2**	**-0.6**	
GOGA				pmax	pmax			
	comp=Z,33nm,1.2s							
GOGA	**Godfrey**	**78.17**	**304**	P	**P**	**13 22 07.6**	**+0.8**	
	baz=47,SNR=13							
GOGA	**Godfrey**	**78.17**	**304**	P	**P**	**13 22 07.2**	**+0.5**	
	baz=47,SNR=13							
Y52A	**Lilburn**	**78.23**	**305**	P	**P**	**13 22 07.4**	**+0.3**	
Y52A				IAmb	IAmb	13 22 08.9		
	comp=Z,43nm,1.0s							
Y52A	**Lilburn**	**78.23**	**305**	P	**P**	**13 22 08.0**	**+0.8**	
	baz=47,SNR=18							
Y52A				P	**P**	**13 22 08.0**	**+0.8**	
	baz=47,SNR=18							
X51A	**Calhoun**	**78.23**	**306**	P	**P**	**13 22 07.2**	**+0.1**	
X51A				IAmb	IAmb	13 22 08.9		
	comp=Z,36nm,1.1s							
X51A	**Calhoun**	**78.23**	**306**	P	**P**	**13 22 07.9**	**+0.8**	
	baz=47,SNR=6.7							
X51A				P	**P**	**13 22 07.9**	**+0.8**	
	baz=47,SNR=6.7							
ILSW	**Iliamna Southw**	**78.25**	**357**	P	**P**	**13 22 07.2**	**+0.3**	
ILSW				IAmb	IAmb	13 24 43.9		
	comp=Z,27nm,0.5s							
BRLK	**Bradley Lake**	**78.37**	**356**	P	**P**	**13 22 07.7**	**+0.2**	
PET	**Petropavlovsk**	**78.38**	**25**	*e*P	**P**	**13 22 04.8**	**-2.8**	
PET				MLR	MLR			
	comp=Z,300nm,18.0s							
BRSE	**Bradley Lake S**	**78.39**	**356**	P	**P**	**13 22 08.5**	**+0.9**	
	baz=5.9,SNR=6.3							
Q23K	**Middleton Isla**	**78.40**	**354**	P	**P**	**13 22 08.9**	**+1.3**	
	baz=9.2							
SWET	**Sewanee**	**78.43**	**307**	P	**P**	**13 22 08.0**	**-0.2**	
O18K	**Koktuh Hills**	**78.44**	**358**	P	**P**	**13 22 08.9**	**+1.0**	
O18K	**Koktuh Hills**	**78.44**	**358**	P	**P**	**13 22 09.1**	**+1.2**	
	baz=2.5,SNR=7.2							
KULM	**Kulim**	**78.45**	**93**	P	**P**	**13 22 06.6**	**-2.0**	
KULM				IAmb	IAmb	13 22 11.6		
	comp=Z,28nm,1.0s							
154A	**Montrose**	**78.48**	**304**	P	**P**	**13 22 08.9**	**+0.3**	

WVT **Waverly** 78.91 309 P **P** 13 22 10.1 -0.8
WVT pmax pmax
comp=Z,31nm,1.3s
WVT **Waverly** 78.91 309 P **P** 13 22 10.5 -0.3
baz=46,SNR=12
WVT **Waverly** 78.91 309 P **P** 13 22 10.3 -0.5
baz=46
P17K **Kvichak River** 79.12 359 P **P** 13 22 12.5 +1.0
baz=1.6
T33K **Petersburg** 79.19 346 P **P** 13 22 13.7 +1.7
baz=19
IPM **Ipoh** 79.26 94 P **P** 13 22 10.8 -2.4
P16K **Nushagak River** 79.30 360 P **P** 13 22 11.8 -0.7
baz=0.4
L34A **Svendsen Farm,** 79.34 318 P **P** 13 22 12.7 -0.5
L34A IAmb IAmb 13 22 13.6
comp=Z,38nm,0.9s
L34A **Svendsen Farm,** 79.34 318 P **P** 13 22 12.8 -0.3
baz=42
SIT **Sitka** 79.37 347 P **P** 13 22 14.4 +1.5
baz=17
HICK **Hickman** 79.43 310 P **P** 13 22 13.4 -0.3
152A **Waverly Hall** 79.44 305 P **P** 13 22 14.3 +0.5
baz=47,SNR=16
WRAK **Wrangell Islan** 79.45 346 P **P** 13 22 14.8 +1.4
WRAK **Wrangell Islan** 79.45 346 P **P** 13 22 15.1 +1.6
baz=20,SNR=6.4
CCM **Cathedral Cave** 79.49 312 P **P** 13 22 13.6 -0.4
CCM IAmb IAmb 13 22 15.0
comp=Z,26nm,0.9s
CCM **Cathedral Cave** 79.49 312 P **P** 13 22 13.6 -0.4
CCM pmax pmax
comp=Z,26nm,1.0s
CCM **Cathedral Cave** 79.49 312 P **P** 13 22 14.0 0.0
baz=44,SNR=19
CCM **Cathedral Cave** 79.49 312 P **P** 13 22 13.9 -0.1
baz=44
TIGA **Tifton** 79.58 303 P **P** 13 22 14.4 -0.1
TIGA IAmb IAmb 13 22 16.3
comp=Z,48nm,1.1s
TIGA **Tifton** 79.58 303 P **P** 13 22 15.0 +0.4
baz=47,SNR=6.6
TIGA **Tifton** 79.58 303 P **P** 13 22 15.3 +0.7
baz=47,SNR=6.6
Q20K **Shuyak Island** 79.60 357 P **P** 13 22 15.0 +0.9
baz=4.6,SNR=11
P38A **Dawn** 79.60 315 P **P** 13 22 14.2 -0.4
P38A IAmb IAmb 13 22 15.7
comp=Z,33nm,1.0s
P38A **Dawn** 79.60 315 P **P** 13 22 14.7 +0.1
baz=43,SNR=14
X48A **Hartselle** 79.62 307 P **P** 13 22 14.3 -0.4
X48A IAmb IAmb 13 22 16.2
comp=Z,54nm,1.1s
X48A **Hartselle** 79.62 307 P **P** 13 22 15.1 +0.3
baz=46,SNR=17
Q16K **King Salmon** 79.65 359 P **P** 13 22 14.7 +0.3
baz=1.4
Y49A **Blount Mountai** 79.65 306 P **P** 13 22 14.9 -0.1
Y49A IAmb IAmb 13 22 16.6
comp=Z,38nm,1.2s
Y49A **Blount Mountai** 79.65 306 P **P** 13 22 15.2 +0.3
baz=46,SNR=14
JEW **Eniwo** 79.75 40 P **P** 13 22 15.6 +0.3
PLAL **Pickwick Lake** 79.86 308 P **P** 13 22 15.3 -0.7
PLAL IAmb IAmb 13 22 16.9
comp=Z,42nm,1.1s
R40A **Maddies Statio** 79.88 313 P **P** 13 22 15.8 -0.3
R40A IAmb IAmb 13 22 17.5
comp=Z,41nm,1.1s
R40A **Maddies Statio** 79.88 313 P **P** 13 22 16.5 +0.4
baz=44,SNR=20
CMC01 **Camacan, BA** 80.03 239 *e*P **P** 13 22 17.2 +0.1
PEBM **Pemiscott Bayo** 80.09 310 P **P** 13 22 17.1 -0.2
LAO **LASA Array** 80.20 326 P **P** 13 22 18.8 +1.0
LAO **LASA Array** 80.20 326 P **P** 13 22 19.3 +1.5
baz=37,SNR=21
LAO **LASA Array** 80.20 326 P **P** 13 22 19.2 +1.5
baz=37,SNR=21
V35K **Ketchikan** 80.34 345 P **P** 13 22 19.6 +1.4
baz=20
W45A **Hickory Valley** 80.38 309 P **P** 13 22 17.9 -0.9
W45A IAmb IAmb 13 22 19.2
comp=Z,30nm,0.8s
352A **Blakely** 80.39 304 P **P** 13 22 18.9 0.0
352A IAmb IAmb 13 22 20.4
comp=Z,38nm,1.1s
PRPB **Paraiapebas** 80.41 253 *e*P **P** 13 22 20.4 +1.1
KDAK **Kodiak Island** 80.43 357 P **P** 13 22 19.5 +0.8
KDAK **Kodiak Island** 80.43 357 P **P** 13 22 19.5 +0.8
KDAK pmax pmax
comp=Z,89nm,1.1s
KDAK **Kodiak Island** 80.43 357 P **P** 13 22 20.1 +1.4
baz=4.5
CRAG **Craig** 80.50 346 P **P** 13 22 20.0 +1.0
baz=19
EGMT **Eagleton** 80.51 329 P **P** 13 22 19.8 +0.4
EGMT **Eagleton** 80.51 329 P **P** 13 22 20.4 +1.0
baz=34,SNR=42
LRAL **Lakeview Retre** 80.58 306 P **P** 13 22 19.9 0.0
LRAL **Lakeview Retre** 80.58 306 P **P** 13 22 20.4 +0.5
baz=46,SNR=45
BGNE **Belgrade** 80.64 318 P **P** 13 22 20.4 +0.2
BGNE **Belgrade** 80.64 318 P **P** 13 22 20.3 +0.2
baz=41
MNSI **Mandailing Nat** 80.64 97 P **P** 13 22 18.8 -1.7
comp=Z,659nmcomp=Z,23nm,0.9s
MALB **Monte Alegre** 80.67 259 *e*P **P** 13 22 21.5 +0.8
MGMO **Mountain Grove** 80.70 312 P **P** 13 22 20.7 +0.1
MGMO IAmb IAmb 13 22 22.5
comp=Z,59nm,1.3s
SMTB **Santa Maria do** 80.72 249 *e*P **P** 13 22 21.9 +1.0
YHNB **Yeheng** 80.79 65 P **P** 13 22 22.1 +0.8
N33A **J Bar K, Exete** 80.80 318 P **P** 13 22 21.2 +0.2
N33A IAmb IAmb 13 22 22.0
comp=Z,67nm,1.2s
LCAR **Lake Charles** 80.86 311 P **P** 13 22 21.1 -0.3
LCAR **Lake Charles** 80.86 311 P **P** 13 22 21.7 +0.3
baz=44,SNR=12
250A **Grady** 80.87 305 P **P** 13 22 21.8 +0.3
250A **Grady** 80.87 305 P **P** 13 22 21.8 +0.3
baz=46,SNR=9.4
S39A **Bolivar** 80.89 313 P **P** 13 22 21.5 -0.1
S39A IAmb IAmb 13 22 23.0
comp=Z,26nm,1.0s
S39A **Bolivar** 80.89 313 P **P** 13 22 22.1 +0.5
baz=43,SNR=9.6
OXF **Oxford** 80.97 309 P **P** 13 22 20.6 -1.4
OXF IAmb IAmb 13 22 23.9
comp=Z,34nm,1.0s
OXF **Oxford** 80.97 309 P **P** 13 22 20.6 -1.4
OXF **Oxford** 80.97 309 P **P** 13 22 21.2 -0.8
baz=45
OHAK **Old Harbor** 81.02 357 P **P** 13 22 22.7 +0.9
baz=3.9
SSLB **Suanglung** 81.09 66 P **P** 13 22 22.8 0.0
SSLB IAmb IAmb 13 22 25.0
comp=Z,43nm,1.2s
JTM **Tenmabayashi** 81.11 42 P **P** 13 22 22.9 +0.2
GUA01 **Guaratinga, BA** 81.12 238 *e*P **P** 13 22 23.6 +0.7
WALA **Waterton Lakes** 81.17 332 P **P** 13 22 22.8 -0.2
WALA IAmb IAmb 13 22 24.7
comp=Z,33nm,1.1s
TPUB **Ta-pu** 81.19 67 P **P** 13 22 24.1 +0.7
ERM **Erimo** 81.20 40 P **P** 13 22 24.1 +1.0
ERM **Erimo** 81.20 40 P **P** 13 22 24.1 +1.0
ERM pmax pmax
comp=Z,112nm,1.1s
NACB **Ninganchiao** 81.27 65 P **P** 13 22 24.2 +0.4
NACB IAmb IAmb 13 22 56.0
comp=Z,34nm,1.1s
RSSD **Black Hills** 81.31 324 P **P** 13 22 23.9 0.0
RSSD **Black Hills** 81.31 324 P **P** 13 22 23.9 0.0
RSSD pmax pmax
comp=Z,12nm,1.1s
RSSD **Black Hills** 81.31 324 P **P** 13 22 24.9 +0.9
baz=38,SNR=7.5
RSSD **Black Hills** 81.31 324 P **P** 13 22 24.3 +0.3
baz=38
GRNB **Grenville Isla** 81.39 343 P **P** 13 22 24.7 +0.8
BIRV **Birongo** 81.40 276 P **P** 13 22 24.6 0.0
BIRV IAmb IAmb 13 22 26.1
comp=Z,36nm,1.2s
SDBA **SAO DESIDERIO** 81.41 245 *e*P **P** 13 22 24.9 +0.3
Y45A **Yeager Farm, C** 81.50 308 P **P** 13 22 24.7 -0.2
Y45A IAmb IAmb 13 22 25.9
comp=Z,56nm,1.0s
FCAR **Ozark Folk Cen** 81.53 311 P **P** 13 22 25.1 +0.1
FCAR IAmb IAmb 13 22 26.6
comp=Z,42nm,1.2s
YULB **Yu-li** 81.58 66 P **P** 13 22 25.1 -0.3
YULB IAmb IAmb 13 22 31.6
comp=Z,48nm,0.9s
KSU1 **Kansas State U** 81.59 316 P **P** 13 22 26.1 +0.9
baz=42
KSU1 **Kansas State U** 81.59 316 P **P** 13 22 25.3 0.0
baz=42
TWG **Pinlang** 81.81 67 P **P** 13 22 25.9 -0.7
TWG IAmb IAmb 13 22 32.4
comp=Z,48nm,1.2s
BRAL **Brewton** 81.91 305 P **P** 13 22 27.2 +0.1
BRAL IAmb IAmb 13 22 29.1
comp=Z,54nm,1.1s
WHAR **Wooly Hollow** 82.06 311 P **P** 13 22 27.8 0.0
146A **Union** 82.09 307 P **P** 13 22 28.1 +0.1
HHAR **Hobbs** 82.26 313 P **P** 13 22 28.9 0.0
HHAR IAmb IAmb 13 22 30.1
comp=Z,30nm,1.1s
HHAR **Hobbs** 82.26 313 P **P** 13 22 29.1 +0.3
baz=43
GCMT **Greycliff** 82.32 328 P **P** 13 22 29.5 +0.4
U38A **Gravette** 82.39 313 P **P** 13 22 29.2 -0.3
U38A IAmb IAmb 13 22 30.9
comp=Z,47nm,1.1s
U38A **Gravette** 82.39 313 P **P** 13 22 29.7 +0.2
baz=42,SNR=22
HRY **Holter Researc** 82.39 330 P **P** 13 22 29.7 +0.2
JTMT **Jette** 82.41 332 P **P** 13 22 30.0 +0.4
PDSI **Padang** 82.44 98 P **P** 13 22 27.0 -3.1
BOAV **Boa Vista** 82.44 266 *e*P **P** 13 22 30.7 +0.6
UALR **University of** 82.46 311 P **P** 13 22 30.2 +0.3
UALR IAmb IAmb 13 22 31.4
comp=Z,33nm,1.1s
CHIR **Chirikof Islan** 82.49 358 P **P** 13 22 30.7 +1.1
baz=2.2
BBB **Bella Bella** 82.53 342 LR LR 14 00 03.6
comp=Z,158nm,20.0s,baz=34,slow=36
SHEM **Shemya Is, Ala** 82.70 16 LR LR 14 03 01.0
comp=Z,86nm,18.8s,baz=291,slow=38
RLMT **Red Lodge** 82.71 327 P **P** 13 22 32.4 +1.1
baz=35,SNR=6.0
CCAR **Cane Creek** 82.76 310 P **P** 13 22 31.3 -0.1
MAJO **Matsushiro** 82.80 46 P **P** 13 22 32.0 +0.3
MAJO IAmb IAmb 13 22 33.6
comp=Z,52nm,1.2s
MAJO **Matsushiro** 82.80 46 P **P** 13 22 32.0 +0.3
MAJO pmax pmax
comp=Z,52nm,1.3s
MJAR **Matsushiro Arr** 82.80 46 P **P** 13 22 31.4 -0.3
comp=Z,13nm,0.9s,baz=322,slow=3.6,SNR=28
comp=Z,13nm,0.9s
OGNE **Ogallala** 82.88 320 P **P** 13 22 32.6 +0.5
OGNE IAmb IAmb 13 22 34.0
comp=Z,58nm,1.4s
OGNE **Ogallala** 82.88 320 P **P** 13 22 33.0 +0.9
baz=39
OGNE **Ogallala** 82.88 320 P **P** 13 22 32.5 +0.4
baz=39
JANB **Januaria** 82.92 243 *e*P **P** 13 22 32.8 +0.3
RLO **Rose Lookout** 82.93 313 P **P** 13 22 31.9 -0.5
RLO IAmb IAmb 13 22 33.7
comp=Z,34nm,1.1s
NEW **Newport** 82.94 334 LR LR 14 00 15.0
comp=Z,176nm,19.5s,baz=38,slow=36
NEW **Newport** 82.94 334 P **P** 13 22 32.0 -0.2
NEW **Newport** 82.94 334 P **P** 13 22 32.0 -0.2
NEW pmax pmax
comp=Z,18nm,1.1s
NEW **Newport** 82.94 334 P **P** 13 22 32.7 +0.5
baz=30,SNR=11
SDPT **Sand Point** 82.98 1 P **P** 13 22 32.2 0.0
baz=358
INU **Inuyama** 83.03 48 P **P** 13 22 32.6 -0.2
INU IAmb IAmb 13 22 57.6
comp=Z,28nm,1.3s
MSO **Missoula** 83.07 331 P **P** 13 22 32.6 -0.4
MSO **Missoula** 83.07 331 P **P** 13 22 33.2 +0.2
baz=32,SNR=15
SDSI **Sungai Dareh** 83.17 97 P **P** 13 22 30.5 -3.3
JMM **Marumori** 83.18 44 P **P** 13 22 34.0 +0.5
T35A **Sooner Cattle** 83.18 315 P **P** 13 22 33.3 -0.3
T35B **Sooner Cattle** 83.18 315 P **P** 13 22 34.2 +0.6
baz=41,SNR=12
R32A **Long Quarter,** 83.19 317 P **P** 13 22 33.8 +0.1
R32A **Long Quarter,** 83.19 317 P **P** 13 22 34.0 +0.4
baz=40,SNR=10.0
346A **Big Creek Wild** 83.22 306 P **P** 13 22 34.6 +0.7
346A **Big Creek Wild** 83.22 306 P **P** 13 22 35.2 +1.4
baz=44
BOZ **Bozeman (W)** 83.25 329 P **P** 13 22 34.6 +0.7
BOZ **Bozeman (W)** 83.25 329 P **P** 13 22 34.7 +0.7
BOZ pmax pmax
comp=Z,20nm,1.3s
BOZ **Bozeman (W)** 83.25 329 P **P** 13 22 35.0 +1.0
baz=33,SNR=12
VBMS **Vicksburg** 83.25 308 P **P** 13 22 34.3 +0.3
VBMS IAmb IAmb 13 22 35.9
comp=Z,51nm,1.2s
VBMS **Vicksburg** 83.25 308 P **P** 13 22 35.0 +1.0
baz=44
MIAR **Mount Ida** 83.33 311 P **P** 13 22 34.7 +0.3
MIAR **Mount Ida** 83.33 311 P **P** 13 22 34.7 +0.3
MIAR pmax pmax
comp=Z,46nm,1.1s
MIAR **Mount Ida** 83.33 311 P **P** 13 22 35.2 +0.9
baz=43,SNR=26
MIAR **Mount Ida** 83.33 311 P **P** 13 22 35.1 +0.7
baz=43,SNR=26
LRM **Limekiln Ridge** 83.37 330 P **P** 13 22 34.8 0.0
CBKS **Cedar Bluff** 83.41 318 P **P** 13 22 35.1 +0.3
CBKS **Cedar Bluff** 83.41 318 P **P** 13 22 35.1 +0.3
CBKS pmax pmax
comp=Z,118nm,1.4s
CBKS **Cedar Bluff** 83.41 318 P **P** 13 22 35.6 +0.8
baz=40
CBKS **Cedar Bluff** 83.41 318 P **P** 13 22 35.3 +0.5
baz=40
143A **Socs Landing,** 83.42 309 P **P** 13 22 35.5 +0.6
143A **Socs Landing,** 83.42 309 P **P** 13 22 35.8 +1.0
baz=44,SNR=5.0
ITTB **Itaituba** 83.44 258 *e*P **P** 13 22 36.3 +1.1
KS20 **Mayfield South** 83.49 315 P **P** 13 22 35.6 +0.3
RIB01 **Linhares ES** 83.53 237 *e*P **P** 13 22 36.5 +1.0
TUL1 **Leonard** 83.54 313 P **P** 13 22 35.7 +0.2
TUL1 **Leonard** 83.54 313 P **P** 13 22 36.1 +0.7
baz=42,SNR=12
TUL1 **Leonard** 83.54 313 P **P** 13 22 36.0 +0.5
baz=42,SNR=12
K22A **Casper** 83.57 324 P **P** 13 22 35.4 -0.4
K22A **Casper** 83.57 324 P **P** 13 22 35.7 0.0
baz=36,SNR=21
SJMB **Sao Joao De Ma** 83.57 238 *e*P **P** 13 22 36.5 +0.8
B08A **Colville Reser** 83.58 335 P **P** 13 22 35.6 +0.2
KAN09 **Caldwell North** 83.59 315 **P** 13 22 36.4 +0.6
KAN13 **South Haven SW** 83.61 315 P **P** 13 22 36.1 +0.3
YHH **Holmes Hill** 83.62 328 P **P** 13 22 36.3 +0.2
OK047 **Pawnee, Statio** 83.62 314 **P** 13 22 36.5 +0.6
LKWY **Lake** 83.62 328 P **P** 13 22 36.2 +0.2
LKWY IAmb IAmb 13 22 40.3
comp=Z,42nm,1.2s
LKWY **Lake** 83.62 328 P **P** 13 22 36.3 +0.2
LKWY pmax pmax
comp=Z,42nm,1.3s
KAN06 **Argonia West S** 83.64 316 P **P** 13 22 36.3 +0.3
KAN01 **Argonia South** 83.66 315 **P** 13 22 36.4 +0.4
BLOK **Blackwell** 83.67 315 P **P** 13 22 37.0 +0.8
BLOK IAmb IAmb 13 22 38.2
comp=Z,64nm,1.1s
WLAR **White Oak Lake** 83.69 310 P **P** 13 22 36.7 +0.4
YHL **Hebgen Lake** 83.70 328 P **P** 13 22 37.4 +0.8
YHL IAmb IAmb 13 22 39.2
comp=Z,34nm,1.2s
KAN08 **Anthony NE Sta** 83.71 316 P **P** 13 22 36.9 +0.5
BAUV **El Baul** 83.72 276 P **P** 13 22 36.3 -0.4
BAUV IAmb IAmb 13 22 38.0
comp=Z,45nm,1.2s
OK044 **Pawnee Station** 83.73 314 P **P** 13 22 37.1 +0.6
KAN17 **Caldwell West** 83.74 315 **P** 13 22 36.9 +0.4
OK045 **Pawnee Station** 83.75 314 **P** 13 22 37.3 +0.7
KAN05 **Bluff City Nor** 83.75 315 P **P** 13 22 37.1 +0.5
YMR **Madison River** 83.76 328 P **P** 13 22 38.1 +1.4
YMR IAmb IAmb 13 22 40.3
comp=Z,47nm,1.3s
OK046 **Pawnee Station** 83.78 314 **P** 13 22 37.4 +0.7
OK048 **Pawnee Station** 83.78 314 **P** 13 22 37.2 +0.5
QLMT **Earthquake Lak** 83.81 328 P **P** 13 22 38.1 +1.1
CBB **Campbell River** 83.82 339 P **P** 13 22 37.4 +0.8
H17A **Grant Village** 83.84 328 P **P** 13 22 39.8 +2.6
baz=34,SNR=14
QUOK **Quay** 83.84 314 **P** 13 22 37.1 +0.1
QUOK IAmb IAmb 13 22 39.1
comp=Z,96nm,1.2s
JOW **Kunigami** 83.86 59 LR LR 14 04 01.2
comp=Z,218nm,18.9s,baz=325,slow=39
JOW **Kunigami** 83.86 59 P **P** 13 22 37.2 -0.1
MC01 **Montes Claros** 83.88 241 *e*P **P** 13 22 38.6 +1.2
KAN14 **Manchester OK** 83.91 315 P **P** 13 22 37.8 +0.4
344A **Westbrook Farm** 83.93 307 P **P** 13 22 38.5 +1.0
344A **Westbrook Farm** 83.93 307 P **P** 13 22 39.0 +1.5
baz=44,SNR=8.5
OK034 **N. Norfolk Rd.** 83.96 314 **P** 13 22 38.1 +0.5
DEOK **Depew** 83.97 314 **P** 13 22 38.1 +0.4
DEOK IAmb IAmb 13 22 39.6
comp=Z,82nm,1.1s
OK049 **E0420 Rd and N** 83.98 315 P **P** 13 22 37.9 +0.1
AKUT **Akutan** 84.01 4 P **P** 13 22 37.5 0.0
OK030 **Cody Creek RV** 84.06 314 P **P** 13 22 38.6 +0.5
OK031 **S. Brethren Rd** 84.07 314 P **P** 13 22 38.5 +0.3
B06A **Marblemount** 84.10 336 P **P** 13 22 37.8 -0.3
B06A IAmb IAmb 13 22 38.9
comp=Z,23nm,1.3s
PHWY **Pilot Hill** 84.18 323 P **P** 13 22 39.0 -0.1
PHWY IAmb IAmb 13 22 40.9
comp=Z,42nm,1.1s
CROK **Carrier** 84.26 315 **P** 13 22 39.3 +0.1
CROK IAmb IAmb 13 22 40.9
comp=Z,43nm,1.1s
X37A **Clayton** 84.29 312 P **P** 13 22 39.4 +0.1
X37A **Clayton** 84.29 312 P **P** 13 22 40.4 +1.0
baz=42,SNR=21
IMW **Indian Meadow** 84.39 328 P **P** 13 22 41.2 +1.1
IMW IAmb IAmb 13 22 43.1
comp=Z,36nm,1.1s
MOOW **Moose Ponds** 84.44 327 P **P** 13 22 40.7 +0.5
MOOW IAmb IAmb 13 22 42.9
comp=Z,18nm,1.1s
LOHW **Long Hollow** 84.50 327 P **P** 13 22 40.9 +0.4
OK029 **Liberty Lake** 84.52 314 **P** 13 22 41.2 +0.7
PGC **Sidney** 84.55 337 P **P** 13 22 40.8 +0.5
D08A **Wollman Farm,** 84.59 334 P **P** 13 22 41.2 +0.6
D08A IAmb IAmb 13 22 42.7
comp=Z,33nm,1.5s
OK025 **Westminster Rd** 84.62 314 **P** 13 22 41.2 +0.2
FXWY **Fox Creek** 84.65 327 P **P** 13 22 41.9 +0.6
FXWY IAmb IAmb 13 22 44.1
comp=Z,31nm,1.3s
RWWY **Rawlins** 84.65 324 P **P** 13 22 40.6 -0.8
RWWY IAmb IAmb 13 22 41.8
comp=Z,27nm,1.2s
KSCO **Kaye Shedlock'** 84.67 320 P **P** 13 22 42.1 +0.7
KSCO **Kaye Shedlock'** 84.67 320 P **P** 13 22 42.5 +1.2
baz=38,SNR=6.4
KSCO **Kaye Shedlock'** 84.67 320 P **P** 13 22 42.3 +0.9
baz=38,SNR=6.4
SNOW **Snow King Moun** 84.68 327 P **P** 13 22 42.3 +0.8
BCOK **Bluff Creek, N** 84.71 314 **P** 13 22 41.9 +0.5
BCOK IAmb IAmb 13 22 43.4
comp=Z,48nm,1.1s
N23A **Red Feather La** 84.73 323 P **P** 13 22 42.1 +0.3
N23A IAmb IAmb 13 22 43.8
comp=Z,35nm,1.2s
N23A **Red Feather La** 84.73 323 P **P** 13 22 42.3 +0.5
baz=36,SNR=9.1
TPAW **Teton Pass** 84.74 327 P **P** 13 22 41.4 -0.4
PD31 **Pinedale Array** 84.77 326 P **P** 13 22 41.4 -0.6
PDAR **Pinedale Array** 84.77 326 P **P** 13 22 41.5 -0.4
comp=Z,7.3nm,1.0s,baz=46,slow=4.3,SNR=38
PDAR LR LR 14 00 35.6
comp=Z,159nm,20.9s,baz=40,slow=36
comp=Z,7.3nm,1.0s
PDAR **Pinedale Array** 84.77 326 P **P** 13 22 41.2 -0.7
BW06 **Boulder Array** 84.77 326 P **P** 13 22 41.6 -0.3
BW06 IAmb IAmb 13 22 43.1
comp=Z,19nm,1.2s
BW06 **Boulder Array** 84.77 326 P **P** 13 22 42.2 +0.2
baz=34,SNR=18
REDW **Red Top Meadow** 84.81 327 P **P** 13 22 42.4 +0.3
REDW IAmb IAmb 13 22 44.4
comp=Z,28nm,1.3s
E09A **Wood Farm, Sta** 84.81 333 P **P** 13 22 42.1 +0.4
DIAM **Diamantina, MG** 84.86 240 *e*P **P** 13 22 43.1 +0.7
U32A **Winter Ranch,** 84.89 316 **P** 13 22 42.4 0.0
U32A **Winter Ranch,** 84.89 316 P **P** 13 22 43.5 +1.1
baz=40,SNR=11
FNO **Franklin** 84.90 314 **P** 13 22 42.7 +0.3
F10A **Beach Ranch, E** 84.97 332 P **P** 13 22 42.4 -0.3
F10A IAmb IAmb 13 22 44.1
comp=Z,27nm,1.1s
LTY **Liberty** 84.97 335 P **P** 13 22 42.5 -0.2
LTY IAmb IAmb 13 22 43.9
comp=Z,20nm,1.2s
NPGB **Novo Progresso** 84.99 256 *e*P **P** 13 22 43.5 +0.5
Z38A **Mt. Pleasant** 85.06 311 P **P** 13 22 44.0 +0.7
B04A **Port Angeles** 85.10 337 P **P** 13 22 44.3 +1.1
B04A IAmb IAmb 13 22 46.6
comp=Z,36nm,1.4s
LCCY **Blossom Villag** 85.26 292 P **P** 13 22 45.1 +0.8
ELIS **Ellis County** 85.35 316 P **P** 13 22 45.2 +0.5
ELIS IAmb IAmb 13 22 46.7
comp=Z,52nm,1.3s
HAWA **Hanford** 85.37 334 P **P** 13 22 45.3 +0.7
AHID **Auburn Hatcher** 85.40 327 P **P** 13 22 45.2 +0.1
D05A **Enumclaw** 85.44 336 P **P** 13 22 45.0 +0.2
D05A IAmb IAmb 13 23 15.7
comp=Z,56nm,1.5s
ISCO **Idaho Springs** 85.46 322 P **P** 13 22 45.6 +0.1
ISCO **Idaho Springs** 85.46 322 P **P** 13 22 45.6 +0.1
ISCO pmax pmax
comp=Z,12nm,1.4s
ISCO **Idaho Springs** 85.46 322 P **P** 13 22 46.1 +0.6
baz=36,SNR=6.8
ISCO **Idaho Springs** 85.46 322 P **P** 13 22 46.1 +0.6
baz=36,SNR=6.8
SNDB **Serra Nova Dou** 85.49 250 *e*P **P** 13 22 46.5 +1.0
X34A **Smith Ranch, M** 85.62 314 **P** 13 22 46.9 +0.9
X34A IAmb IAmb 13 22 48.4
comp=Z,30nm,1.0s
SDV **Santo Domingo** 85.67 278 LR LR 13 57 59.9
comp=Z,54nm,20.1s,baz=61,slow=34
SDV **Santo Domingo** 85.67 278 *e*P **P** 13 22 47.2 +0.4
LOOK **Love County** 85.73 313 P **P** 13 22 46.2 -0.4
LOOK IAmb IAmb 13 22 48.5
comp=Z,56nm,1.3s
BDFB **Brasilia** 85.81 245 P **P** 13 22 47.9 +0.6
comp=Z,9.5nm,0.8s,baz=43,slow=6.8,SNR=14
comp=Z,9.5nm,0.8s
BDFB **Brasilia** 85.81 245 P **P** 13 22 47.4 +0.2
BDFB IAmb IAmb 13 22 49.6
comp=Z,18nm,1.0s
BDFB **Brasilia** 85.81 245 *e*P **P** 13 22 48.3 +1.1
Q24A **Divide** 85.91 321 P **P** 13 22 48.1 +0.3
baz=37
F07A **Phinny Hill Vi** 85.94 334 P **P** 13 22 48.1 +0.7
F07A IAmb IAmb 13 22 50.2
comp=Z,48nm,1.2s
BMO **Blue Mountains** 85.97 332 P **P** 13 22 46.7 -1.0
BMO IAmb IAmb 13 22 48.7
comp=Z,37nm,1.4s
BMO **Blue Mountains** 85.97 332 P **P** 13 22 46.7 -1.0
BMO pmax pmax
comp=Z,37nm,1.4s
NATX **Nacogdoches** 85.99 310 P **P** 13 22 48.7 +0.8
NATX **Nacogdoches** 85.99 310 P **P** 13 22 49.2 +1.3
baz=42
NATX **Nacogdoches** 85.99 310 P **P** 13 22 49.1 +1.2
baz=42
WMOK **Wichita Mounta** 86.03 315 **P** 13 22 48.3 +0.2
WMOK IAmb IAmb 13 22 50.0
comp=Z,34nm,1.2s
WMOK **Wichita Mounta** 86.03 315 P **P** 13 22 48.3 +0.2
WMOK pmax pmax
comp=Z,34nm,1.3s
WMOK **Wichita Mounta** 86.03 315 P **P** 13 22 49.0 +0.9
baz=40,SNR=13
WMOK **Wichita Mounta** 86.03 315 P **P** 13 22 48.8 +0.7
baz=40,SNR=13

HLID	**Hailey**	**86.03 330**	P	**P**	**13 22 48.5**	**+0.4**
	baz=31					
G08A	**Pilot Rock**	**86.15 333**	P	**P**	**13 22 48.5**	**-0.1**
MACA	**Manacapuru-AM**	**86.26 262**	*e*P	**P**	**13 22 50.6**	**+1.1**
Z35A	**Perchaven, San**	**86.27 313**	P	**P**	**13 22 49.6**	**+0.3**
Z35A			IAmb	IAmb	13 22 51.0	
	comp=Z,46nm,1.2s					
Z35A	**Perchaven, San**	**86.27 313**	P	**P**	**13 22 49.9**	**+0.7**
	baz=41,SNR=5.5					
O20A	**White River Ci**	**86.37 324**	P	**P**	**13 22 49.5**	**-0.4**
O20A	**White River Ci**	**86.37 324**	P	**P**	**13 22 49.6**	**-0.3**
	baz=35,SNR=6.1					
237A	**Washetta, Mont**	**86.46 311**	P	**P**	**13 22 52.2**	**+2.0**
	baz=41					
HWUT	**Hardware Ranch**	**86.56 327**	P	**P**	**13 22 50.1**	**-0.7**
RDMU	**Red Mountain**	**86.59 325**	P	**P**	**13 22 50.5**	**-0.4**
RDMU			IAmb	IAmb	13 22 52.1	
	comp=Z,26nm,1.2s					
MFID	**Camas Ranch**	**86.68 330**	P	**P**	**13 22 51.4**	**+0.1**
MFID			IAmb	IAmb	13 22 53.2	
	comp=Z,28nm,1.1s					
DUB01	**Friburgo-RJ**	**86.82 236**	*e*P	**P**	**13 22 52.6**	**+0.6**
PMNB	**Patos De Minas**	**86.83 242**	*e*P	**P**	**13 22 52.7**	**+0.6**
HVU	**Hansel Valley**	**86.91 328**	P	**P**	**13 22 52.1**	**-0.3**
HVU	**Hansel Valley**	**86.91 328**	P	**P**	**13 22 52.1**	**-0.3**
HVU			pmax	pmax		
	comp=Z,15nm,1.5s					
HOOD	**Mount Hood Mea**	**87.00 335**	P	**P**	**13 22 53.3**	**+0.5**
HOOD			IAmb	IAmb	13 22 54.8	
	comp=Z,32nm,1.2s					
T25A	**Trinidad**	**87.01 320**	P	**P**	**13 22 53.1**	**-0.1**
	baz=37					
SDCO	**Great Sand Dun**	**87.05 321**	P	**P**	**13 22 52.9**	**-0.5**
SDCO	**Great Sand Dun**	**87.05 321**	P	**P**	**13 22 53.1**	**-0.3**
	baz=36					
SDCO	**Great Sand Dun**	**87.05 321**	P	**P**	**13 22 52.9**	**-0.5**
	baz=36					
JLU	**Jordanelle**	**87.36 326**	P	**P**	**13 22 54.6**	**-0.2**
JLU			IAmb	IAmb	13 22 56.2	
	comp=Z,30nm,1.7s					
WHTX	**Lake Whitney,**	**87.39 312**	P	**P**	**13 22 55.3**	**+0.6**
WHTX			IAmb	IAmb	13 22 56.6	
	comp=Z,23nm,1.0s					
WHTX	**Lake Whitney,**	**87.39 312**	P	**P**	**13 22 55.2**	**+0.6**
	baz=41					
I07A	**Izee**	**87.40 333**	P	**P**	**13 22 55.2**	**+0.4**
I07A			IAmb	IAmb	13 22 57.1	
	comp=Z,20nm,1.2s					
BSCB	**Bom Sucesso**	**87.54 239**	*e*P	**P**	**13 22 55.8**	**+0.3**
IPMB	**Ipameri, GO**	**87.61 243**	*e*P	**P**	**13 22 56.6**	**+0.7**
S22A	**4UR Ranch, Cre**	**87.67 321**	P	**P**	**13 22 56.4**	**0.0**
S22A	**4UR Ranch, Cre**	**87.67 321**	P	**P**	**13 22 56.3**	**-0.1**
	baz=36,SNR=5.6					
BGU	**Big Grassy Mou**	**87.73 327**	P	**P**	**13 22 56.6**	**+0.2**
H04A	**Detroit Lake**	**87.74 335**	P	**P**	**13 22 56.4**	**+0.2**
I05D	**Terrebonne, OR**	**87.78 334**	P	**P**	**13 22 57.5**	**+1.0**
	baz=27					
CLDB	**Colider**	**87.91 253**	*e*P	**P**	**13 22 58.1**	**+0.7**
MPU	**Maple Canyon**	**87.92 326**	P	**P**	**13 22 56.8**	**-0.6**
PV07	**Paradox Valley**	**87.94 323**	P	**P**	**13 22 56.9**	**-0.7**
PV07			IAmb	IAmb	13 22 58.7	
	comp=Z,25nm,1.4s					
PV15	**Paradox Valley**	**87.94 323**	P	**P**	**13 22 57.3**	**-0.3**
PV15			IAmb	IAmb	13 22 58.6	
	comp=Z,15nm,1.1s					
HKT	**Hockley**	**88.01 309**		**P**	**13 22 58.7**	**+1.1**
HKT	**Hockley**	**88.01 309**	P	**P**	**13 22 58.7**	**+1.1**
HKT			pmax	pmax		
	comp=Z,52nm,1.5s					
HKT	**Hockley**	**88.01 309**	P	**P**	**13 22 59.3**	**+1.7**
	baz=41					
ABTX	**Abilene, Hawle**	**88.10 314**	P	**P**	**13 22 58.4**	**+0.2**
	baz=40					
PINE	**Pine Mountain**	**88.14 334**		**P**	**13 23 00.1**	**+1.7**
PINE			IAmb	IAmb	13 23 01.3	
	comp=Z,20nm,1.1s					
NLU	**North Lily Min**	**88.16 326**	P	**P**	**13 22 58.4**	**-0.2**
NLU			IAmb	IAmb	13 25 23.4	
	comp=Z,8.6nm,0.4s					
SRU	**San Rafael Swe**	**88.21 325**	P	**P**	**13 22 57.6**	**-1.2**
SRU	**San Rafael Swe**	**88.21 325**	P	**P**	**13 22 57.6**	**-1.2**
SRU			pmax	pmax		
	comp=Z,12nm,1.1s					
DUG	**Dugway, Tooele**	**88.26 327**	P	**P**	**13 22 58.6**	**-0.3**
DUG	**Dugway, Tooele**	**88.26 327**	P	**P**	**13 22 58.7**	**-0.3**
DUG			pmax	pmax		
	comp=Z,11nm,1.0s					
DUG	**Dugway, Tooele**	**88.26 327**	P	**P**	**13 22 59.4**	**+0.4**
	baz=32,SNR=14					
TMUT	**Trail Mountain**	**88.34 325**	P	**P**	**13 22 59.0**	**-0.5**
435B	**Jarrell**	**88.38 311**		**P**	**13 23 00.5**	**+1.0**
435B	**Jarrell**	**88.38 311**	P	**P**	**13 23 00.5**	**+1.0**
	baz=40					
WVOR	**Wild Horse Val**	**88.55 332**	P	**P**	**13 23 00.0**	**-0.3**
WVOR			IAmb	IAmb	13 23 02.3	
	comp=Z,18nm,1.3s					
WVOR	**Wild Horse Val**	**88.55 332**	P	**P**	**13 23 00.0**	**-0.3**
WVOR			pmax	pmax		
	comp=Z,18nm,1.3s					
I04A	**Tendick Farm,**	**88.61 335**	P	**P**	**13 23 00.2**	**-0.2**
	baz=26					
Q16A	**Castle Valley**	**88.65 325**	P	**P**	**13 23 00.5**	**-0.4**
J05D	**Fort Rock, OR**	**88.69 334**	P	**P**	**13 23 02.1**	**+1.2**
	baz=27,SNR=12					
MSTX	**Muleshoe**	**88.70 317**	P	**P**	**13 23 00.7**	**-0.4**
MSTX	**Muleshoe**	**88.70 317**	P	**P**	**13 23 01.0**	**-0.2**
	baz=38					
MSTX	**Muleshoe**	**88.70 317**	P	**P**	**13 23 00.9**	**-0.2**
	baz=38					
ELK	**Elko**	**88.76 329**	LR	LR	14 01 56.4	
	comp=Z,190nm,21.7s,baz=37,slow=35					
ELK	**Elko**	**88.76 329**	P	**P**	**13 23 01.4**	**0.0**
ELK	**Elko**	**88.76 329**	P	**P**	**13 23 01.4**	**0.0**
ELK			pmax	pmax		
	comp=Z,12nm,1.4s					
I02E	**Swisshome, OR**	**88.78 336**	P	**P**	**13 23 01.1**	**0.0**
	baz=25					
MVCO	**Mesa Verde**	**88.88 322**	P	**P**	**13 23 02.1**	**0.0**
MVCO	**Mesa Verde**	**88.88 322**	P	**P**	**13 23 02.1**	**0.0**
	baz=35,SNR=6.2					
SBUM	**Sibu**	**88.94 88**	P	**P**	**13 23 02.0**	**-0.4**
I03D	**Drain, OR**	**89.00 335**	P	**P**	**13 23 02.9**	**+0.7**
	baz=25					
J04D	**Umpqua Nationa**	**89.01 334**	P	**P**	**13 23 03.1**	**+0.6**
	baz=26					
K05A	**Summer Lake**	**89.07 333**	P	**P**	**13 23 03.5**	**+0.7**
K05A			IAmb	IAmb	13 23 05.3	
	comp=Z,31nm,1.2s					
PDRB	**Porto dos Gac**	**89.08 254**	*e*P	**P**	**13 23 03.6**	**+0.7**
MSU	**Marysvale**	**89.41 325**	P	**P**	**13 23 04.8**	**+0.3**
MSU	**Marysvale**	**89.41 325**	P	**P**	**13 23 04.8**	**+0.3**
MVU	**Marysvale**	**89.44 325**	P	**P**	**13 23 04.5**	**-0.2**
K04D	**Chiloquin, OR**	**89.45 334**	P	**P**	**13 23 05.0**	**+0.5**
	baz=26					
MOD	**Modoc Plateau**	**89.60 332**	P	**P**	**13 23 05.7**	**+0.4**
MOD			IAmb	IAmb	13 23 07.6	
	comp=Z,19nm,1.1s					
ANMO	**Albuquerque**	**89.76 320**	LR	LR	14 04 16.5	
	comp=Z,289nm,18.4s,baz=47,slow=36					
ANMO	**Albuquerque**	**89.76 320**	P	**P**	**13 23 05.5**	**-0.7**
ANMO	**Albuquerque**	**89.76 320**	P	**P**	**13 23 05.5**	**-0.7**
ANMO			pmax	pmax		
	comp=Z,7.0nm,1.4s					
ANMO	**Albuquerque**	**89.76 320**	P	**P**	**13 23 06.3**	**+0.1**
	baz=36,SNR=6.0					
ANMO	**Albuquerque**	**89.76 320**	P	**P**	**13 23 06.3**	**+0.1**
	baz=36					
PARB	**Paraibuna**	**89.77 238**	*e*P	**P**	**13 23 06.1**	**+0.1**
BMN	**Battle Mountai**	**89.79 330**	P	**P**	**13 23 05.7**	**-0.4**
BMN	**Battle Mountai**	**89.79 330**	P	**P**	**13 23 05.7**	**-0.4**
BMN			pmax	pmax		
	comp=Z,10.0nm,1.3s					
MTPU	**Mount Pierson**	**89.81 325**	P	**P**	**13 23 07.0**	**+0.4**
JCT	**Junction City**	**89.84 312**	P	**P**	**13 23 06.8**	**+0.5**
JCT			IAmb	IAmb	13 23 08.3	
	comp=Z,26nm,1.3s					
JCT	**Junction City**	**89.84 312**	P	**P**	**13 23 06.9**	**+0.5**
JCT			pmax	pmax		
	comp=Z,26nm,1.3s					
JCT	**Junction City**	**89.84 312**	P	**P**	**13 23 07.3**	**+0.9**
	baz=39					
JCT	**Junction City**	**89.84 312**	P	**P**	**13 23 07.0**	**+0.6**
	baz=39					
HUMO	**Hull Mountain**	**89.86 335**	P	**P**	**13 23 06.4**	**+0.2**
STKI	**Sintang**	**89.97 90**	P	**P**	**13 23 06.4**	**-0.7**
L04D	**Klamath Falls**	**89.99 334**	P	**P**	**13 23 07.1**	**+0.1**
	baz=26,SNR=5.9					
K02D	**Willamette Mer**	**90.00 335**	P	**P**	**13 23 07.1**	**+0.1**
	baz=25					
L02F	**Cave Junction**	**90.49 335**	P	**P**	**13 23 10.4**	**+1.2**
	baz=25					
YBH	**Yreka Blue Hor**	**90.56 334**	LR	LR	14 04 48.5	
	comp=Z,117nm,20.2s,baz=22,slow=36					
Y22D	**IRIS PASSCAL I**	**90.69 319**	P	**P**	**13 23 11.0**	**+0.5**
	baz=36					
Y22A	**Socorro**	**90.82 319**	P	**P**	**13 23 11.5**	**+0.4**
	baz=36					
R11A	**Troy Canyon, C**	**90.95 328**	P	**P**	**13 23 11.3**	**-0.4**
R11A	**Troy Canyon, C**	**90.95 328**	P	**P**	**13 23 12.2**	**+0.6**
	baz=30,SNR=10					
LCMT	**Little Creek M**	**91.13 325**	P	**P**	**13 23 12.3**	**-0.1**
U15A	**North Rim**	**91.22 324**	P	**P**	**13 23 12.9**	**-0.2**
833A	**Chaparral WMA,**	**91.26 311**	P	**P**	**13 23 14.7**	**+1.7**
	baz=40,SNR=7.6					
833A	**Chaparral WMA,**	**91.26 311**	P	**P**	**13 23 14.3**	**+1.3**
	baz=40,SNR=7.6					
SALV	**Santo Antonio**	**91.27 250**	*e*P	**P**	**13 23 13.5**	**+0.5**
WUAZ	**Wupatki**	**91.58 323**	P	**P**	**13 23 15.0**	**+0.4**
	baz=33,SNR=10					
LEM	**Lembang**	**91.67 98**	LR	LR	14 08 38.7	
	comp=Z,100nm,19.5s,baz=308,slow=38					
VCNR	**Virginia City**	**91.68 331**	P	**P**	**13 23 15.7**	**+0.7**
YERR	**Yerington**	**91.80 330**	P	**P**	**13 23 16.4**	**+0.8**
YERR			IAmb	IAmb	13 23 18.7	
	comp=Z,31nm,1.4s					
MPK	**Martis Peak**	**91.82 331**	P	**P**	**13 23 16.6**	**+0.9**
MPK			IAmb	IAmb	13 23 18.8	
	comp=Z,31nm,1.3s					
TPH	**Tonopah**	**91.83 329**	P	**P**	**13 23 14.9**	**-0.8**
TPH	**Tonopah**	**91.83 329**	P	**P**	**13 23 15.0**	**-0.8**
TPH			pmax	pmax		
	comp=Z,53nm,1.9s					
MNTX	**Cornudas Mount**	**91.84 317**	P	**P**	**13 23 15.3**	**-0.3**
	baz=36,SNR=8.5					
MNTX	**Cornudas Mount**	**91.84 317**	P	**P**	**13 23 15.1**	**-0.5**
	baz=36					
RYN	**Ryan**	**91.85 330**	P	**P**	**13 23 16.0**	**+0.2**
NV11	**Mina Array Sit**	**91.88 329**	P	**P**	**13 23 15.7**	**-0.3**
NVAR	**Mina Array Bea**	**91.94 329**	P	**P**	**13 23 15.1**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=45,slow=5.8,SNR=11					
NVAR			PP	**PP**	**13 26 53.9**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=78,slow=5.8,SNR=3.1					
NVAR			PKKPbc	**PKKPbc**	**13 40 32.5**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=200,slow=4.7,SNR=7.9					
NVAR			LR	LR	14 03 58.9	
	comp=Z,184nm,21.6s,baz=32,slow=35					
	comp=Z,1.1nm,0.9s					
NVAR	**Mina Array Bea**	**91.94 329**	P	**P**	**13 23 16.5**	**+0.2**
JCJ	**Chichijima**	**92.13 50**	LR	LR	14 06 10.0	
	comp=Z,182nm,20.0s,baz=97,slow=36					
PCMB	**Pacaembu**	**92.19 243**	*e*P	**P**	**13 23 18.1**	**+0.9**
121A	**Cookes Peak, D**	**92.36 319**	P	**P**	**13 23 18.4**	**+0.1**
	baz=35					
TPNV	**Topopah Spring**	**92.43 327**	P	**P**	**13 23 18.7**	**+0.2**
	baz=30					
VILB	**Vilhena**	**92.48 255**	*e*P	**P**	**13 23 19.8**	**+1.1**
X16A	**Lo Mia Camp, P**	**92.52 323**	P	**P**	**13 23 19.0**	**0.0**
LCH	**Last Change Ra**	**92.73 328**	P	**P**	**13 23 20.3**	**+0.4**
LCH			IAmb	IAmb	13 23 23.0	
	comp=Z,20nm,1.5s					
TX31	**Lajitas Ar. Si**	**92.82 314**	P	**P**	**13 23 20.4**	**+0.1**
TX31	**Lajitas Ar. Si**	**92.82 314**	P	**P**	**13 23 21.0**	**+0.6**
	baz=38,SNR=17					
TX32	**Lajitas Array**	**92.82 314**	P	**P**	**13 23 20.8**	**+0.5**
TX32			IAmb	IAmb	13 23 22.2	
	comp=Z,28nm,1.4s					
TXAR	**Lajitas Array**	**92.82 314**	P	**P**	**13 23 20.9**	**+0.5**
	comp=Z,8.7nm,1.1s,baz=62,slow=3.4,SNR=44					
TXAR			PKKPbc	**PKKPbc**	**13 40 30.6**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=179,slow=5.0,SNR=3.7					
TXAR			LR	LR	14 03 33.7	
	comp=Z,114nm,21.3s,baz=40,slow=35					
	comp=Z,8.7nm,1.1s					
TXAR	**Lajitas Array**	**92.82 314**	P	**P**	**13 23 20.6**	**+0.3**
W13A	**Hualapai Mount**	**93.03 325**	P	**P**	**13 23 21.2**	**-0.2**
CMB	**Columbia Colle**	**93.06 331**	P	**P**	**13 23 21.6**	**+0.4**
CMB	**Columbia Colle**	**93.06 331**	P	**P**	**13 23 21.6**	**+0.4**
CMB			pmax	pmax		
	comp=Z,10.0nm,1.5s					
FURC	**Furnace Creek,**	**93.09 328**	P	**P**	**13 23 22.0**	**+0.7**
	baz=30					
GWY	**Greenwater Val**	**93.25 327**	P	**P**	**13 23 22.6**	**+0.3**
CWC	**Cottonwood Cre**	**93.59 328**	P	**P**	**13 23 24.4**	**+0.5**
	baz=29					
MPMC	**Manual Prospec**	**93.69 328**	P	**P**	**13 23 24.9**	**+0.6**
	baz=29					
PDMCI	**Park Dam,Lak**	**93.81 325**	P	**P**	**13 23 25.7**	**+1.0**
	baz=31					
TUC	**Tucson**	**93.98 321**	P	**P**	**13 23 26.3**	**+0.7**
TUC			pmax	pmax		
	comp=Z,7.0nm,1.4s					
TUC	**Tucson**	**93.98 321**	P	**P**	**13 23 26.3**	**+0.7**
	baz=33					
GMRC	**Granite Mounta**	**94.05 326**	P	**P**	**13 23 26.5**	**+0.6**
	baz=30					
HEC	**Hector,Ludlow**	**94.29 326**	P	**P**	**13 23 27.9**	**+0.9**
	baz=30					
IRM	**Iron Mountain**	**94.37 325**	P	**P**	**13 23 27.8**	**+0.5**
	baz=31					
ISA	**Isabella, Lake**	**94.43 328**	P	**P**	**13 23 27.6**	**0.0**
	baz=29,SNR=6.0					
VES	**Vestal, Richgr**	**94.51 329**	P	**P**	**13 23 28.9**	**+1.1**
	baz=28					
ETMB	**Extrema**	**94.77 261**	*e*P	**P**	**13 23 28.9**	**-0.3**
BELC	**Belle Mtn. Jos**	**94.86 326**	P	**P**	**13 23 30.2**	**+0.5**
	baz=30					
EDW2	**Edwards Air Fo**	**94.92 328**	P	**P**	**13 23 30.5**	**+0.7**
	baz=29					
BC3	**Big Chuckawall**	**94.93 325**	P	**P**	**13 23 30.4**	**+0.5**
	baz=31					
BBRC	**Big Bear Solar**	**95.02 326**	P	**P**	**13 23 31.8**	**+1.2**
	baz=30					
SIV	**San Ignacio**	**95.13 253**	LR	LR	14 07 13.4	
	comp=Z,121nm,18.9s,baz=88,slow=36					
GLA	**Glamis**	**95.18 324**	P	**P**	**13 23 31.4**	**+0.3**
	baz=31					
214A	**Organ Pipe Nat**	**95.21 322**	P	**P**	**13 23 31.2**	**0.0**
	baz=32					
SMMC	**Simmler**	**95.32 329**	P	**P**	**13 23 32.4**	**+0.8**
	baz=28					
PFO	**Pinyon Flats O**	**95.39 326**	LR	LR	14 07 29.8	
	comp=Z,203nm,19.2s,baz=26,slow=36					
PFO	**Pinyon Flats O**	**95.39 326**	P	**P**	**13 23 33.1**	**+1.0**
PFO			pmax	pmax		
	comp=Z,10.0nm,1.3s					
PFO	**Pinyon Flats O**	**95.39 326**	P	**P**	**13 23 32.3**	**+0.2**
	baz=30					
TPFO	**Pinon Flats**	**95.40 326**	P	**P**	**13 23 32.2**	**+0.1**
	baz=30					
DAV	**Davao City (W)**	**95.67 75**	LR	LR	14 11 31.4	
	comp=Z,207nm,21.5s,baz=340,slow=38					
CMIG	**Matias Romero**	**96.97 300**	LR	LR	14 08 42.3	
	comp=Z,82nm,19.2s,baz=35,slow=36					
OTAV	**Otavalo**	**97.21 277**	P	Pdif	13 23 42.4	+1.3
OTAV			pmax	pmax		
	comp=Z,6.0nm,1.4s					
OTAV	**Otavalo**	**97.21 277**	*e*P	**P**	**13 23 40.8**	**-0.2**
CPUP	**Villa Florida**	**99.45 243**	LR	LR	14 10 37.1	
	comp=Z,174nm,18.7s,baz=42,slow=36					
VNA2	**Neumayer--Watz**	**114.54 190**	PP	**PP**	**13 29 45.2**	**+1.1**
SNAA	**Sanae**	**114.70 188**	PP	**PP**	**13 29 46.2**	**+1.0**
VNA3	**Neumayer Olymp**	**115.14 191**	PP	**PP**	**13 29 46.9**	**-1.3**
PLCA	**Paso Flores**	**116.96 238**	PKKPbc	PKKPbc	13 39 18.1	+1.1
	comp=Z,1.3nm,0.9s,baz=246,slow=10.0,SNR=2.2					
WRA	**Warramunga Arr**	**119.91 91**	PKP	**PKPdf**	**13 28 56.0**	**-2.2**
	comp=Z,3.3nm,1.1s,baz=306,slow=2.2,SNR=11					
WRA			PP	**PP**	**13 30 17.9**	**-4.5**
	comp=Z,1.1nm,0.9s,baz=316,slow=5.5,SNR=4.7					
WRA	**Warramunga Arr**	**119.91 91**		**PKPdf**	**13 28 56.3**	**-1.8**
WRA	**Warramunga Arr**	**119.91 91**	PKIKP	**PKPdf**	**13 28 56.3**	**-1.8**
AS31	**Alice Springs**	**121.81 94**	PKPdf	**PKPdf**	**13 28 59.9**	**-1.8**
ASAR	**Alice Springs**	**121.81 94**	PKP	**PKPdf**	**13 29 00.1**	**-1.6**
	comp=Z,5.2nm,0.8s,baz=336,slow=1.9,SNR=40					
ASAR			PP	**PP**	**13 30 36.0**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=316,slow=6.3,SNR=6.7					
ASAR			PKKPbc	**PKKPab**	**13 39 00.1**	**0.0**
	comp=Z,0.5nm,0.8s,baz=124,slow=3.4,SNR=5.5					
QSPA	**South Pole Qui**	**131.88 180**	PKPdf	**PKiKP**	**13 29 20.0**	**-0.6**
STKA	**Stephens Creek**	**131.97 98**	PKP	**PKPdf**	**13 29 19.4**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=313,slow=7.4,SNR=3.9					
VNDA	**Vanda**	**140.88 167**	PKhKP	PKPpre	13 29 29.2	
	comp=Z,0.7nm,0.7s,baz=316,slow=13,SNR=3.5					
VNDA			PKP	**PKiKP**	**13 29 37.7**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=261,slow=5.1,SNR=3.5					
TAOE	**Nuku Hiva Isla**	**143.20 329**	*e*LR	LR	14 16 29.2	
	comp=Z,479nm,28.8s					
DZM	**Mont Dzumac**	**144.61 67**	*e*LR	LR	14 17 06.9	
	comp=Z,153nm,24.6s					
PPT2	**Papeete2**	**154.47 340**	*e*LR	LR	14 21 40.8	
	comp=Z,102nm,22.2s					
TBI	**Tubuai**	**159.89 335**	*e*LR	LR	14 24 12.0	
	comp=Z,153nm,27.5s					

ROM 11 13:12:06.5±0.1, 42°682N±0°004×13°194E±0°004, h12km, Md1.4/3, Error ellipse: s-maj=0.4km s-min=0.2km az=194.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.03**	**47**	P	Pg	13 12 09.1	+0.2
T1202				AML	AML		
	comp=E,1905μm,0.9s						
T1202				AML	AML		
	comp=N,1686μm,1.6s						
T1202				AML	AML		
	comp=E,2440μm,1.0s						
T1202				AML	AML		
	comp=N,3500μm,0.3s						
T1202	**Accumoli, Fraz**	**0.03**	**47**	S	Sg	13 12 10.8	+0.1
T1204	**Amatrice, Fraz**	**0.09**	**94**	P	Pg	13 12 09.8	+0.3
T1204				END			
T1204	**Amatrice, Fraz**	**0.09**	**94**	S	Sg	13 12 11.8	+0.2
T1242	**Castelluccio d**	**0.15**	**3**	P	Pg	13 12 10.7	+0.5
T1242				AML	AML		
	comp=E,4770μm,0.1s						
T1242				AML	AML		
	comp=E,4845μm,0.1s						
T1242				AML	AML		
	comp=N,5790μm,0.4s						
T1242				AML	AML		
	comp=E,4765μm,0.1s						
T1242				AML	AML		
	comp=N,5960μm,0.4s						
NRCA	**Norcia**	**0.16**	**339**	P	Pg	13 12 10.7	+0.3
NRCA				AML	AML		
	comp=E,2460μm,0.7s						
NRCA				AML	AML		
	comp=N,2535μm,0.7s						
NRCA				AML	AML		
	comp=E,2760μm,0.7s						
NRCA				AML	AML		
	comp=N,2670μm,0.7s						
NRCA				END			
NRCA	**Norcia**	**0.16**	**339**	S	Sg	13 12 13.6	+0.5
T1243	**Rocca Santa Ma**	**0.19**	**86**	P	Pg	13 12 11.0	+0.2
MMO1	**Montemonaco**	**0.24**	**24**	P	Pg	13 12 12.0	+0.4
MMO1	**Montemonaco**	**0.24**	**24**	S	Sg	13 12 16.2	+1.1
T1247	**Pizzolo (AQ)**	**0.25**	**162**	AML	AML		
	comp=E,2565μm,0.8s						
T1247				AML	AML		
	comp=N,1880μm,0.6s						
T1215	**Vallo di Nera,**	**0.27**	**297**	P	Pg	13 12 12.5	+0.3
T1215				AML	AML		
	comp=E,785μm,0.8s						
T1215				AML	AML		
	comp=N,640μm,1.4s						
T1215				END			
T1215	**Vallo di Nera,**	**0.27**	**297**	S	Sg	13 12 16.9	+1.0

SKO ***11*** *13:14:27.2, 42°.01N×21°.46E, h2km*
BEO ***11*** *13:14:27.3±0.9, 42°.03N×21°.43E, h0km, ML2.6/7*
ISC 11 13:14:26.2±0.9, 42°.02N±0°.03×21°.45E±0°.04, h8km±6km, n12, σ0s50/23, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.05**	**188**	⇓*i* Pg	**Pg**	**13 14 27.9**	**0.0**
SKO				*i* Sg	**Sg**	**13 14 29.0**	**-0.2**
STIP	**Stip**	**0.64**	**121**	*i* Pg	**Pb**	**13 14 40.5**	**+0.9**
STIP				*i* Sg	**Sn**	**13 14 51.3**	**-0.6**
BARS	**Barje**	**0.84**	**19**	*e*Pg	**Pg**	**13 14 41.8**	**-0.5**
BARS				*e*Sg	**Sb**	**13 14 54.5**	**+0.1**
BARS	**Barje**	**0.84**	**19**	*i* Pg	**Pg**	**13 14 42.3**	**0.0**
BARS				*i* Sg	**Sb**	**13 14 54.9**	**+0.5**
BOSS	**Bosilegrad**	**0.90**	**58**	*e*Pg	**Pg**	**13 14 43.1**	**-0.4**
BOSS				*e*Sg	**Sg**	**13 14 54.9**	**-0.3**
OHR	**Ohrid**	**1.03**	**208**	*i* Pg	**Pg**	**13 14 45.8**	**-0.2**
OHR				*i* Sg	**Sg**	**13 14 59.7**	**+0.3**
OHR				*e*Lg	Lg	13 15 00.4	
	comp=N,190nm,0.4s						
VAY	**Valandovo**	**1.09**	**129**	*i* Pg	**Pg**	**13 14 46.8**	**-0.4**
VAY				*i* Sg	**Sb**	**13 15 01.9**	**+0.2**
VAY				*e*Lg	Lg	13 15 03.4	
	comp=N,75nm,0.4s						
SELS	**Selova**	**1.22**	**349**	*e*Pg	**Pn**	**13 14 49.0**	**-0.6**
SELS				*e*Sg	**Sn**	**13 15 06.4**	**+0.1**
GRG	**Griva**	**1.28**	**146**	*i* Pg	**Pn**	**13 14 49.5**	**-0.9**
VTS	**Vitosha**	**1.45**	**65**	*e*Pg	**Pn**	**13 14 53.2**	**+0.4**
VTS				*e*Sg	**Pn**	**13 15 13.3**	**+0.4**
BOVS	**Bovan**	**1.62**	**7**	*e*Pg	**Pn**	**13 14 55.3**	**+0.3**
BOVS				*e*Sg	**Sg**	**13 15 18.2**	**-0.1**
ZAGS	**Zajecar**	**1.88**	**18**	*e*Pg	**Pb**	**13 15 01.1**	**+0.4**
ZAGS				*e*Sg	**Sg**	**13 15 25.8**	**-0.8**

SKO ***11*** *13:19:04.7, 42°.38N×21°.30E, h9km*
TIR ***11*** *13:19:10.4, 41°.95N×21°.44E, h3km, Md3.1*
BEO ***11*** *13:19:12.9±0.3, 42°.09N×21°.46E, h11km±3km, ML2.4/11*
PDG ***11*** *13:19:12.7±0.4, 42°.13N×21°.49E, h16km, ML2.8/11, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0*
THE ***11*** *13:19:12.0, 41°.93N×21°.47E, h0km±3km, ML2.5/6, Error ellipse: s-maj=5.2km s-min=1.

	baz=244								
TIR					S		Sn	13 19 57.9	+2.7
	baz=244								
VTS	**Vitosha**	**1.43**	**63**	⇑	P		**Pb**	13 19 37.9	0.0
VTS				⇓	S		**Sn**	13 19 58.1	+1.6
VTS	**Vitosha**	**1.43**	**63**	*e*	Pg		**Pb**	13 19 37.9	0.0
VTS				*e*	Sg		**Sn**	13 19 57.7	+1.2
VTS	**Vitosha**	**1.43**	**63**	*i*	Pn		**Pb**	13 19 38.0	0.0
VTS	**Vitosha**	**1.43**	**63**	*i*	P		**Pg**	13 19 38.3	-0.1
KBN	**Korca**	**1.46**	**203**		P		**Pg**	13 19 38.2	-0.7
KBN					S		**Sn**	13 19 57.7	+0.7
	comp=N,132nm,0.6s								
KBN	**Korca**	**1.46**	**203**		P		**Pg**	13 19 38.2	-0.7
	baz=201								
KBN					S		**Sn**	13 19 59.1	+2.1
	baz=201								
IVA	**Berane**	**1.50**	**307**	⇑	*i* Pg		**Pn**	13 19 38.6	+0.2
IVA					*i* Sg		**Sn**	13 19 58.8	+0.6
NEST	**Nestorio**	**1.59**	**193**		P		**Pg**	13 19 40.9	-0.6
NEST					S		**Sg**	13 20 02.1	-0.1
	comp=N,145nm,0.4s								
BOVS	**Bovan**	**1.67**	**5**	⇓	P		**Pn**	13 19 40.3	-0.3
BOVS				⇓	S		**Sg**	13 20 04.6	0.0
BOVS	**Bovan**	**1.67**	**5**	*e*	Pg		**Pn**	13 19 39.5	-1.1
BOVS				*e*	Sg		**Sn**	13 20 02.2	0.0
KZN	**Kozani**	**1.67**	**173**		P		**Pg**	13 19 42.4	-0.7
KZN					S		**Sg**	13 20 03.1	-1.6
	comp=N,105nm,0.6s								
MMB	**Musomiste**	**1.69**	**102**	*e*	P		**Pb**	13 19 42.4	0.0
ULC	**Ulcinj**	**1.70**	**270**	⇓	*i* Pn		**Pg**	13 19 42.7	-0.8
ULC				*i*	Sn		**Sg**	13 20 06.1	+0.6
SJES	**Sjenica**	**1.72**	**319**	*e*	Pg		**Pn**	13 19 41.2	-0.2
SJES				*e*	Sg		**Sn**	13 20 03.5	-0.2
KOME	**Kolasin**	**1.73**	**301**	⇑	*i* Pn		**Pn**	13 19 41.8	+0.4
KOME				*i*	Sn		**Sn**	13 20 04.2	+0.5
PDG	**Podgorica**	**1.74**	**286**	⇓	P		**Pn**	13 19 41.8	+0.2
PDG				⇓	S		**Sg**	13 20 06.9	0.0
TTG	**Podgorica**	**1.74**	**286**	⇓	*i* Pn		**Pn**	13 19 42.3	+0.7
TTG				*i*	Sn		**Sb**	13 20 05.4	+0.1
DRME	**Dracevica, Mon**	**1.75**	**278**	⇓	*i* Pn		**Pb**	13 19 43.3	-0.1
DRME				*i*	Sn		**Sb**	13 20 06.1	+0.6
SRS	**Serrai**	**1.77**	**118**		P		**Pb**	13 19 42.8	-1.0
SRS					S		**Sg**	13 20 07.4	-0.6
SRS	**Serrai**	**1.77**	**118**	*i*	Pn		**Pb**	13 19 42.9	-0.9
SOH	**Sokhos**	**1.80**	**129**		P		**Pb**	13 19 43.0	-1.2
SOH					S		**Sg**	13 20 08.7	0.0
	comp=N,75nm,0.5s								
BLKB	**Belogradchik**	**1.86**	**27**	⇓	P		**Pn**	13 19 43.7	+0.5
BLKB				⇓	S		**Sn**	13 20 08.5	+1.6
IVAS	**Ivanjica**	**1.89**	**328**	*e*	Pn		**Pn**	13 19 42.8	-0.9
IVAS				*e*	Sn		**Sn**	13 20 05.9	-1.9
ZAGS	**Zajecar**	**1.91**	**16**	*e*	Pn		**Pn**	13 19 43.7	-0.2
LSK	**Leskovik**	**1.95**	**201**		P		**Pb**	13 19 45.7	-1.1
LSK	**Leskovik**	**1.95**	**201**		P		**Pg**	13 19 48.1	-0.2
	baz=200								
LSK					S		**Sg**	13 20 15.4	+1.9
	baz=200								
BUM	**Brajici-Budva**	**1.98**	**280**	⇑	*i* Pn		**Pn**	13 19 46.1	+1.2
BUM				*i*	Sn		**Sb**	13 20 12.2	0.0
GRUS	**Gruza**	**2.00**	**343**	*e*	Pn		**Pn**	13 19 44.8	-0.4
GRUS				*e*	Sn		**Sn**	13 20 09.6	-0.9
CEME	**Cevo**	**2.02**	**287**	⇓	*i* Pn		**Pb**	13 19 47.2	-0.7
CEME				*i*	Sn		**Sn**	13 20 12.0	+1.2
NKME	**Niksic**	**2.06**	**294**	⇓	*i* Pn		**Pn**	13 19 46.7	+0.7
NKME				*i*	Sn		**Sn**	13 20 13.5	+1.6
UPM	**Unac-Piva**	**2.29**	**303**	⇓	*i* Pn		**Pn**	13 19 49.4	+0.1
UPM				*i*	Sn		**Sn**	13 20 18.1	+0.3
HCY	**Herceg Novi**	**2.30**	**283**	*e*	Pn		**Pb**	13 19 51.7	-1.0
HCY				*i*	Sn		**Sn**	13 20 19.7	+2.0
BRY	**Bratogost**	**2.39**	**294**	*e*	Pn		**Pn**	13 19 52.0	+1.3
BRY				*i*	Sn		**Sn**	13 20 21.1	+0.8
DIVS	**Divibare**	**2.40**	**333**	*e*	Pn		**Pn**	13 19 50.3	-0.4
DIVS				*e*	Sn		**Sn**	13 20 18.7	-1.7
PUNG	**Punghina**	**2.53**	**24**	⇓	P		**Pn**	13 19 53.0	+0.7
PUNG				⇓	S		**Sn**	13 20 25.6	+2.3
MDVR	**Moldovita**	**2.81**	**3**	⇓	P		**Pn**	13 19 56.2	-0.1
MDVR				⇑	S		**Sn**	13 20 33.4	+2.9
HERR	**Herculane**	**2.98**	**12**	⇓	P		**Pn**	13 19 58.5	-0.1
HERR				⇑	S		**Sn**	13 20 36.6	+2.0
FRGS	**Fruska Gora**	**3.42**	**339**	⇓	P		**Pn**	13 20 04.3	-0.4
FRGS	**Fruska Gora**	**3.42**	**339**	*e*	Pn		**Pn**	13 20 04.0	-0.6
GZR	**Gura Zlata**	**3.54**	**15**	⇑	P		**Pn**	13 20 06.4	+0.1
BZS	**Buzias**	**3.65**	**1**	⇓	P		**Pn**	13 20 07.8	+0.1
BZS				⇑	S		**Sn**	13 20 53.3	+2.4
SIRR	**Siria**	**4.30**	**1**	⇑	P		**Pn**	13 20 16.9	+0.2
MORH	**Mrgy, Hungar**	**4.72**	**335**	⇑	P		**Pn**	13 20 22.4	-0.1
VYHS	**Vyhne**	**6.79**	**345**	*e*	PN		**Pn**	13 20 51.5	+0.6

ROM 11 13:22:29.1±0.0,**42°780N**±0°002,**13°129E**±0°003,
h10km,**ML2.4**/31,**3C-8D**,**Error ellipse: s-maj=0.3km**
s-min=0.1km az=230.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC		h m s		ISC
NRCA	**Norcia**	**0.06**	**349**	P		Pg	13 22 31.1		-0.2
NRCA				AML		AML			
	comp=E,1585μm,1.1s								
NRCA				AML		AML			
	comp=N,1140μm,1.5s								
NRCA				AML		AML			
	comp=E,1760μm,0.1s								
NRCA				AML		AML			
	comp=N,1240μm,0.1s								
NRCA				AML		AML			
	comp=E,30100μm,0.1s								
NRCA				AML		AML			
	comp=N,15850μm,1.5s								
NRCA				AML		AML			
	comp=E,33200μm,0.1s								
NRCA				AML		AML			
	comp=N,17300μm,1.5s								
NRCA				END					
NRCA	**Norcia**	**0.06**	**349**	P		Pg	13 22 31.1		-0.2
NRCA				AML		AML			
	comp=E,30100μm,0.1s								
NRCA				AML		AML			
	comp=N,15850μm,1.5s								
NRCA				AML		AML			
	comp=E,33200μm,0.1s								
NRCA				AML		AML			
	comp=N,17300μm,1.5s								
NRCA				AML		AML			
	comp=E,30100μm,0.1s								
NRCA				AML		AML			
	comp=N,15800μm,1.5s								
NRCA				AML		AML			
	comp=E,33200μm,0.1s								
NRCA				AML		AML			
	comp=N,17300μm,1.5s								
NRCA				AML		AML			
	comp=E,30100μm,0.1s								
NRCA				AML		AML			
	comp=N,15850μm,1.5s								
NRCA				AML		AML			
	comp=E,33200μm,0.1s								
NRCA				AML		AML			
	comp=N,17300μm,1.5s								
NRCA				AML		AML			
	comp=E,30100μm,0.1s								
NRCA				AML		AML			
	comp=E,33200μm,0.1s								
NRCA				AML		AML			
	comp=N,15850μm,1.5s								
NRCA				AML		AML			
	comp=N,17300μm,1.5s								
T1242	**Castelluccio d**	**0.07**	**48**	P		Pg	13 22 31.5		-0.1
T1242				AML		AML			
	comp=E,20150μm,0.4s								
T1242				AML		AML			
	comp=N,33000μm,0.4s								
T1242				AML		AML			
	comp=E,19850μm,0.4s								
T1242				AML		AML			
	comp=N,32850μm,0.5s								
T1242				END					
T1242				END					
T1242	**Castelluccio d**	**0.07**	**48**	⇑	P	Pg	13 22 31.6		0.0
T1242				AML		AML			
	comp=E,20100μm,0.4s								
T1242				AML		AML			
	comp=N,33050μm,0.5s								
T1242				AML		AML			
	comp=E,19850μm,0.4s								
T1242				AML		AML			
	comp=N,32850μm,0.5s								
T1242				AML		AML			
	comp=E,20150

RM33 AML AML
comp=E,1480μm,0.4s
RM33 AML AML
comp=N,1285μm,0.3s
RM33 AML AML
comp=E,1500μm,0.4s
RM33 AML AML
comp=N,1319μm,0.3s
RM33 AML AML
comp=E,1480μm,0.4s
RM33 AML AML
comp=N,1285μm,0.3s
RM33 AML AML
comp=E,1500μm,0.4s
RM33 AML AML
comp=N,1320μm,0.3s
RM33 AML AML
comp=E,1480μm,0.4s
RM33 AML AML
comp=N,1285μm,0.3s
RM33 AML AML
comp=E,1480μm,0.4s
RM33 AML AML
comp=E,1500μm,0.4s
RM33 AML AML
comp=N,1285μm,0.3s
RM33 AML AML
comp=N,1318μm,0.3s
CESI CESI - Serrava 0.28 324 P Pg 13 22 35.4 +0.6
CESI AML AML
comp=E,97μm,0.2s
CESI AML AML
comp=N,146μm,0.2s
CESI AML AML
comp=E,2135μm,0.3s
CESI AML AML
comp=N,2135μm,0.4s
CESI CESI - Serrava 0.28 324 ⇓P Pg 13 22 35.4 +0.6
CESI S Sg 13 22 39.5 +0.8
CESI AML AML
comp=E,2135μm,0.3s
CESI AML AML
comp=N,2135μm,0.4s
CESI AML AML
comp=E,2135μm,0.3s
CESI AML AML
comp=N,2135μm,0.4s
CESI AML AML
comp=N,2135μm,0.4s
CESI AML AML
comp=E,2135μm,0.3s
CSP1 Cessapalombo 0.32 10 P Pg 13 22 36.2 +0.6
CSP1 S Sb 13 22 41.5 -0.7
CSP1 AML AML
comp=E,1645μm,1.3s
CSP1 AML AML
comp=N,1805μm,0.3s
CSP1 Cessapalombo 0.32 10 P Pg 13 22 36.1 +0.6
CSP1 S Sb 13 22 41.4 -0.8
CSP1 AML AML
comp=E,1645μm,1.3s
CSP1 AML AML
comp=N,1805μm,0.3s
CSP1 AML AML
comp=E,1645μm,1.3s
CSP1 AML AML
comp=N,1805μm,0.3s
CSP1 AML AML
comp=E,1646μm,1.3s
CSP1 AML AML
comp=N,1805μm,0.3s
GUMA Gualdo di Mace 0.32 28 P Pg 13 22 36.2 +0.6
GUMA S Sb 13 22 41.8 -0.4
GUMA AML AML
comp=E,2860μm,0.4s
GUMA AML AML
comp=N,3230μm,0.4s
GUMA AML AML
comp=E,3355μm,0.4s
GUMA AML AML
comp=N,4165μm,0.4s
GUMA Gualdo di Mace 0.32 28 S Sb 13 22 41.4 -0.8
GUMA AML AML
comp=E,2860μm,0.4s
GUMA AML AML
comp=N,3230μm,0.3s
GUMA AML AML
comp=E,3355μm,0.4s
GUMA AML AML
comp=N,4165μm,0.4s
GUMA AML AML
comp=E,2860μm,0.4s
GUMA AML AML
comp=N,3230μm,0.4s
GUMA AML AML
comp=E,3355μm,0.4s
GUMA AML AML
comp=N,4165μm,0.4s
GUMA AML AML
comp=N,3230μm,0.3s
GUMA AML AML
comp=N,4165μm,0.4s
GUMA AML AML
comp=E,2860μm,0.4s
GUMA AML AML
comp=E,3355μm,0.4s
ARRO Arrone 0.34 233 P Pg 13 22 36.0 +0.3
ARRO AML AML
comp=E,554μm,1.5s
ARRO AML AML
comp=N,606μm,0.8s
ARRO AML AML
comp=E,553μm,1.5s
ARRO AML AML
comp=N,606μm,0.8s
ARRO AML AML
comp=N,606μm,0.8s
ARRO AML AML
comp=E,553μm,1.5s
T1247 Pizzolo (AQ) 0.36 160 P Pg 13 22 36.4 +0.1
T1247 AML AML
comp=E,766μm,1.5s
T1247 AML AML
comp=N,1018μm,1.1s
T1247 AML AML
comp=E,766μm,1.5s
T1247 AML AML
comp=N,1018μm,1.1s
T1247 AML AML
comp=N,1018μm,1.1s
T1247 AML AML
comp=E,766μm,1.5s
TERO Teramo 0.38 114 P Pg 13 22 37.1 +0.4
TERO AML AML
comp=E,748μm,0.2s
TERO AML AML
comp=N,976μm,0.5s
TERO Teramo 0.38 114 P Pg 13 22 37.0 +0.3
TERO S Sg 13 22 42.6 +0.8
TERO AML AML
comp=E,748μm,0.2s
TERO AML AML
comp=N,976μm,0.5s
TERO AML AML
comp=E,748μm,0.2s
TERO AML AML
comp=N,976μm,0.5s
TERO AML AML
comp=N,976μm,0.5s
TERO AML AML
comp=E,748μm,0.2s
ASSB Assisi San Ben 0.43 307 P Pg 13 22 37.9 +0.3
ASSB AML AML
comp=E,543μm,0.5s
ASSB AML AML
comp=N,566μm,1.5s
ASSB AML AML
comp=E,543μm,0.5s
ASSB AML AML
comp=N,566μm,1.5s
ASSB AML AML
comp=N,566μm,1.5s
ASSB AML AML
comp=E,543μm,0.5s
OFFI Offida 0.44 69 P Pb 13 22 38.7 -0.2
OFFI AML AML
comp=E,968μm,0.8s
OFFI AML AML
comp=N,1515μm,0.5s
OFFI AML AML
comp=E,968μm,0.8s
OFFI AML AML
comp=N,1515μm,0.5s
OFFI AML AML
comp=N,1515μm,0.5s
OFFI AML AML
comp=E,968μm,0.8s
SNTG Esanatoglia 0.49 344 P Pg 13 22 39.2 +0.4
SNTG AML AML
comp=E,273μm,0.4s
SNTG AML AML
comp=N,294μm,0.5s
SNTG Esanatoglia 0.49 344 P Pg 13 22 39.0 +0.3
SNTG AML AML
comp=E,273μm,0.4s
SNTG AML AML
comp=N,294μm,0.5s
SNTG AML AML
comp=E,273μm,0.4s
SNTG AML AML
comp=N,294μm,0.5s
SNTG AML AML
comp=E,273μm,0.4s
SNTG AML AML
comp=N,294μm,0.5s
FIAM Fiamignano 0.51 181 P Pg 13 22 39.1 0.0
FIAM AML AML
comp=E,258μm,0.5s
FIAM AML AML
comp=N,245μm,1.4s
FIAM AML AML
comp=E,258μm,0.5s
FIAM AML AML
comp=N,245μm,1.4s
FIAM AML AML
comp=N,245μm,1.4s
FIAM AML AML
comp=E,258μm,0.5s
ATCC AVT- Casa Cast 0.54 319 P Pg 13 22 40.0 +0.4
ATCC AML AML
comp=E,592μm,1.4s
ATCC AML AML
comp=N,536μm,0.6s
ATCC AML AML
comp=E,592μm,1.4s
ATCC AML AML
comp=N,536μm,0.6s
ATCC AML AML
comp=N,536μm,0.6s
ATCC AML AML
comp=E,592μm,1.4s
EL6 Elcito 0.55 358 P Pg 13 22 40.1 +0.3
EL6 Elcito 0.55 358 P Pg 13 22 40.1 +0.2
TRTR Tortoreto Alta 0.58 87 AML AML
comp=E,1160μm,0.5s
TRTR AML AML
comp=E,1160μm,0.5s
TRTR AML AML
comp=N,1050μm,0.5s
TRTR AML AML
comp=E,1160μm,0.5s
TRTR AML AML
comp=N,1050μm,0.5s
TRTR AML AML
comp=N,1050μm,0.5s
FOSV Fossato di Vic 0.58 332 P Pg 13 22 40.6 +0.2
FOSV AML AML
comp=E,311μm,0.4s
FOSV AML AML
comp=N,402μm,0.4s
FOSV AML AML
comp=E,311μm,0.4s
FOSV AML AML
comp=N,402μm,0.4s
FOSV AML AML
comp=N,402μm,0.4s
FOSV AML AML
comp=E,311μm,0.4s
CING Cingoli 0.60 5 P Pg 13 22 40.9 +0.2
CING AML AML
comp=E,316μm,0.5s
CING AML AML
comp=N,281μm,0.5s
CING AML AML
comp=E,316μm,0.5s
CING AML AML
comp=N,281μm,0.5s
VCEL Villa Celiera 0.65 126 P Pg 13 22 42.2 +0.4
VCEL AML AML
comp=E,613μm,1.1s
VCEL AML AML
comp=N,713μm,0.8s
VCEL AML AML
comp=E,613μm,1.1s
VCEL AML AML
comp=N,713μm,0.8s
VCEL AML AML
comp=N,713μm,0.8s
VCEL AML AML
comp=E,613μm,1.1s
PP3 Marolino 0.69 30 P Pg 13 22 42.8 +0.2
PP3 AML AML
comp=E,1245μm,0.4s
PP3 AML AML
comp=N,764μm,0.3s
PP3 AML AML
comp=E,1270μm,0.4s
PP3 AML AML
comp=N,866μm,0.3s
PP3 AML AML
comp=E,1250μm,0.4s
PP3 AML AML
comp=N,765μm,0.3s
PP3 AML AML
comp=E,1270μm,0.4s
PP3 AML AML
comp=N,866μm,0.3s
PP3 AML AML
comp=E,1270μm,0.4s
PP3 AML AML
comp=N,866μm,0.3s
PP3 AML AML
comp=N,765μm,0.3s
PP3 AML AML
comp=E,1250μm,0.4s
SSFR Montelago di S 0.70 339 P Pg 13 22 42.9 +0.2
SSFR AML AML
comp=E,357μm,0.2s
SSFR AML AML
comp=N,320μm,0.8s
SSFR AML AML
comp=N,320μm,0.8s
SSFR AML AML
comp=E,357μm,0.2s
ATFO Monte Foce - G 0.71 325 P Pg 13 22 43.0 0.0
ATFO AML AML
comp=E,210μm,1.4s
ATFO AML AML
comp=N,208μm,1.2s
ATFO AML AML
comp=E,210μm,1.4s
ATFO AML AML
comp=N,208μm,1.2s
ATFO AML AML
comp=N,208μm,1.2s
ATFO AML AML
comp=E,210μm,1.4s
ARVD Arcevia 0.73 349 P Pg 13 22 43.4 +0.1
ARVD AML AML
comp=E,132μm,0.4s
ARVD AML AML
comp=N,118μm,1.6s
ARVD AML AML
comp=E,132μm,0.4s
ARVD AML AML
comp=N,118μm,1.6s
ARVD AML AML
comp=N,118μm,1.6s
ARVD AML AML
comp=E,132μm,0.4s
T0110 Collepietro 0.73 139 P Pg 13 22 43.2 0.0
T0110 AML AML
comp=E,492μm,1.3s
T0110 AML AML
comp=N,455μm,0.4s
T0110 AML AML
comp=N,454μm,0.4s
T0110 AML AML
comp=E,492μm,1.3s
T0110 AML AML
comp=N,454μm,0.4s
ATVO AVT- Monte Val 0.80 319 P Pg 13 22 44.5 -0.1
ATVO AML AML
comp=E,142μm,0.6s
ATVO AML AML
comp=N,138μm,0.5s
ATVO AML AML
comp=E,142μm,0.6s
ATVO AML AML
comp=N,138μm,0.5s
ATVO AML AML
comp=N,138μm,0.5s
ATVO AML AML
comp=E,142μm,0.6s
CERT Cerreto 0.84 188 P Pb 13 22 45.6 -0.2
LPEL Lama dei Pelig 1.07 133 AML AML
comp=E,118μm,0.6s
LPEL AML AML
comp=E,118μm,0.6s
LPEL AML AML
comp=N,89μm,1.3s
LPEL AML AML
comp=N,89μm,1.3s

IDC 11 13:40:06.7±2.5, 5°51N×123°58E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=310.9km s-min=26.4km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.42**	**158**	P	P	13 45 54.4	+0.1
	0.4nm,0.4s,baz=336,slow=9.6,SNR=10.0 0.4nm,0.4s						
ASAR	**Alice Springs**	**30.70**	**161**	P	P	13 46 23.4	-0.1
	0.1nm,0.3s,baz=338,slow=7.1,SNR=15 0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.32**	**326**	P	P	13 49 35.0	-0.1
	0.2nm,0.3s,baz=112,slow=7.9,SNR=5.1 0.2nm,0.3s						

OMAN 11 13:52:26.1±1.8, 25°57N×63°60E, h114km±64km, mb4.0/15, ml3.5/3, Error ellipse: s-maj=14.8km s-min=12.1km az=129.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGCH	**Negor - Chabah**	**2.24**	**265**	P	Pn	13 53 03.0	+0.7
WSAR	**Wadi Sarin**	**5.09**	**244**	P	Pn	13 53 39.0	-1.3
WSAR				S	Sn	13 54 36.3	-1.6
WBK	**Wadi Bani Khal**	**5.16**	**236**	P	Pn	13 53 40.0	-1.2
WBK				S	Sn	13 54 39.4	-0.2
JASK	**Jask - Hormozg**	**5.18**	**275**	P	Pn	13 53 41.4	-0.1
BIDO	**Bidbid**	**5.38**	**249**	P	Pn	13 53 44.6	+0.4
BIDO				S	Sn	13 54 47.7	+2.6
SMDO	**Samad**	**5.65**	**245**	P	Pn	13 53 47.7	-0.2
SMDO				S	Sn	13 54 52.2	+0.6
JMDO	**Jabal Madar** SNR=11	**5.95**	**239**	P	Pn	13 53 52.1	+0.2
JMDO				S	Sn	13 54 59.7	+0.9
HOQ	**Hoqain**	**6.06**	**252**	P	Pn	13 53 51.9	-1.4
HOQ				S	Sn	13 55 04.3	+2.9
BSY	**Bisya** SNR=5.6	**6.49**	**246**	P	Pn	13 53 59.9	+0.7
BSY				S	Sn	13 55 15.8	+4.0
BANOM	**Banah**	**6.59**	**275**	P	Pn	13 54 01.4	+0.9
BANOM				S	Sn	13 55 13.4	-1.0
MDH	**Madha**	**6.61**	**269**	P	Pn	13 54 01.2	+0.4
MDH				S	Sn	13 55 12.6	-2.1
UOSS	**Minazif**	**6.72**	**266**	P	Pn	13 54 00.8	-1.6
UOSS				S	Sn	13 55 15.1	-2.4
MASF	**Masafi**	**6.73**	**270**	P	Pn	13 54 01.1	-1.4
SHME	**Shamm**	**6.74**	**276**	P	Pn	13 54 02.6	+0.1
SHME				S	Sn	13 55 19.8	+1.9
HATD	**Hatta, Dubai**	**6.80**	**265**	P	Pn	13 54 04.0	+0.6
ARQ	**Araqi** SNR=7.3	**6.82**	**252**	P	Pn	13 54 05.4	+1.7
ASHO	**Ashiyiah** SNR=15	**6.89**	**264**	P	Pn	13 54 06.4	+1.7
MHTO	**MHTO**	**6.90**	**230**	P	Pn	13 54 04.7	0.0
MHTO				S	Sn	13 55 21.7	-0.1
ALNE	**Al Ain** SNR=5.7	**7.29**	**260**	P	Pn	13 54 11.2	+1.1
FAQ	**Al Faqa, Dubai** SNR=5.3	**7.30**	**265**	P	Pn	13 54 11.5	+1.3
ASUD	**Al Ashush, Dub**	**7.56**	**265**	P	Pn	13 54 17.4	+3.8

*IDC **11** 13:53:03.0±0.9, 12°07N×143°88E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=29.9km s-min=18.5km az=120.0*

ISC 11 13:53:07.1±0.9, 12°1N±0°1×143°9E±0°2, h26km, n17, σ0°96/12, mb3.8/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.78**	**32**	Pn	**Pn**	**13 53 36.4**	**+0.1**
	63nm,0.3s,baz=180,slow=8.1,SNR=45						
GUMO				Sn	**Sb**	**13 54 00.8**	**-0.3**
	153nm,0.3s,baz=340,slow=23,SNR=37						
JOW	**Kunigami**	**20.76**	**317**	P	**P**	**13 57 47.0**	**+0.9**
	2.5nm,0.6s,baz=158,slow=8.9,SNR=6.8 2.5nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**22.88**	**71**	T	T	14 22 07.9	
	baz=253,slow=74						
H11S1	**WAKE ISLAND Hy**	**22.90**	**71**	T	T	14 22 11.8	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**22.90**	**71**	T	T	14 22 07.4	
	baz=253,slow=74						
H11N1	**WAKE ISLAND Hy**	**23.37**	**68**	T	T	14 22 46.1	
	baz=255,slow=75,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**23.38**	**68**	T	T	14 22 50.2	
	baz=255,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**23.39**	**68**	T	T	14 22 48.9	
	baz=255,slow=75,SNR=4.3						
WRA	**Warramunga Arr**	**33.18**	**197**	P	**P**	**13 59 40.8**	**-1.0**
	0.3nm,0.8s,baz=20,slow=10,SNR=2.6 0.3nm,0.8s						
ASAR	**Alice Springs**	**36.84**	**195**	P	**P**	**14 00 14.2**	**+0.7**
	0.2nm,0.8s,baz=17,slow=10.0,SNR=2.8 0.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.74**	**284**	P	**P**	**14 01 10.8**	**0.0**
	0.2nm,0.4s,baz=80,slow=6.5,SNR=1.9 0.2nm,0.4s						
MKAR	**Makanchi Array**	**61.93**	**317**	P	**P**	**14 03 24.8**	**+0.1**
	0.3nm,0.5s,baz=113,slow=6.7,SNR=2.4 0.3nm,0.5s						
ILAR	**Eielson Array**	**70.34**	**25**	P	**P**	**14 04 17.2**	**-1.1**
	0.5nm,0.5s,baz=251,slow=5.9,SNR=19 0.5nm,0.5s						
YKA	**Yellowknife Ar**	**84.64**	**27**	P	**P**	**14 05 38.9**	**+0.6**
	0.8nm,0.5s,baz=286,slow=5.0,SNR=5.4 0.8nm,0.5s						
ARCES	**ARCESS Array B**	**88.22**	**342**	P	**P**	**14 05 55.4**	**-0.3**
	1.4nm,0.6s,baz=70,slow=7.9,SNR=12 1.4nm,0.6s						
NVAR	**Mina Array Bea**	**88.61**	**51**	P	**P**	**14 05 59.8**	**+1.3**
	0.3nm,0.6s,baz=262,slow=6.3,SNR=5.7 0.3nm,0.6s						
FINES	**FINESS Array B**	**92.12**	**335**	P	**P**	**14 06 12.6**	**-1.5**
	1.2nm,0.5s,baz=74,slow=4.3,SNR=15 1.2nm,0.5s						

ROM 11 14:07:08.3±0.1, 42°718N±0°004×13°233E±0°005, h11km, ML1.2/5, 2C, Error ellipse: s-maj=0.5km s-min=0.3km az=215.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.02**	**202**	P	Pg	14 07 10.8	+0.3
T1202				S	Sg	14 07 12.0	+0.1
T1202				AML	AML		
	comp=E,335μm,1.4s						
T1202				AML	AML		
	comp=N,306μm,1.5s						
T1204	**Amatrice, Fraz**	**0.07**	**124**	⇑P	Pg	14 07 11.4	+0.5
T1204				S	Sg	14 07 13.1	+0.3
T1242	**Castelluccio d**	**0.11**	**349**	P	Pg	14 07 11.9	+0.6

T1242			AML	AML	
	comp=E,117μm,1.2s				
T1242			AML	AML	
	comp=N,166μm,0.2s				
NRCA	**Norcia**	**0.14 323**	P	Pg	14 07 12.2 +0.5
NRCA			S	Sg	14 07 14.8 +0.5
T1243	**Rocca Santa Ma**	**0.16 98** ⇑	P	Pg	14 07 12.6 +0.5
T1243			S	Sg	14 07 15.3 +0.7
T1241	**Roccafluvione,**	**0.20 47**	P	Pg	14 07 13.2 +0.6
T1241			S	Sg	14 07 16.6 +1.0
T1241			AML	AML	
	comp=N,30μm,0.7s				
T1241			AML	AML	
	comp=E,27μm,0.5s				
RM33	**Pellescritta (**	**0.21 184**	P	Pg	14 07 13.5 +0.7
RM33			S	Sg	14 07 16.9 +1.0
T1217	**Poggiodomo (PG**	**0.22 268**	AML	AML	
	comp=E,115μm,1.5s				
T1217			AML	AML	
	comp=N,155μm,1.6s				
T1216	**Preci, Frazion**	**0.23 318**	P	Pb	14 07 14.1 -0.5
T1216			S	Sg	14 07 17.2 +0.7
T1216			AML	AML	
	comp=E,3615μm,1.6s				
T1216			AML	AML	
	comp=N,3935μm,1.6s				
T1215	**Vallo di Nera,**	**0.28 287**	P	Pg	14 07 14.5 +0.4
T1215			S	Sb	14 07 19.2 -1.0
TERO	**Teramo**	**0.29 109**	P	Pg	14 07 14.6 +0.4
TERO			S	Sb	14 07 19.4 -1.0
TERO			AML	AML	
	comp=N,64μm,0.3s				
TERO			AML	AML	
	comp=E,52μm,0.1s				
FDMO	**Fiordimonte**	**0.34 341**	P	Pb	14 07 15.8 -0.6
FDMO			S	Sb	14 07 21.2 -0.6
ATFO	**Monte Foce - G**	**0.81 323**	AML	AML	
	comp=N,22μm,1.6s				
ATFO			AML	AML	
	comp=E,24μm,1.6s				

*SKO **11** 14:07:16.2, 42°.01′N × 21°.51′E, h15km*
*TIR **11** 14:07:20.9, 41°.97′N × 21°.41′E, h6km, Md3.0*
*PDG **11** 14:07:21.5 ± 0.4, 42°.05′N × 21°.43′E, h12km, ML2.5/12, Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*
*BEO **11** 14:07:21.0 ± 0.7, 42°.00′N × 21°.48′E, h0km, ML2.0/5*

ISC 11 14:07:20.7 ± 0.9, **42°.03N** ± 0°.02 × **21°.51E** ± 0°.02, **h6**km ± 7km, **n36**, σ 0**s67**/69, **6C-8D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.08**	**224**	⇑ *i* Pg	**Pg**	**14 07 22.7**	**+0.1**
SKO				*i* Sg	**Sg**	**14 07 23.9**	**0.0**
STIP	**Stip**	**0.60**	**123**	*i* Pg	**Pb**	**14 07 34.5**	**+0.8**
STIP				*i* Sg	**Sn**	**14 07 44.8**	**-1.1**
BARS	**Barje**	**0.82**	**16**	*e* Pg	**Pg**	**14 07 36.7**	**+0.2**
BARS				*e* Sg	**Sb**	**14 07 49.2**	**+0.5**
BARS	**Barje**	**0.82**	**16**	*i* Pg	**Pg**	**14 07 36.7**	**+0.2**
BARS				*i* Sg	**Sb**	**14 07 48.9**	**+0.2**
BOSS	**Bosilegrad**	**0.86**	**57**	*e* Pg	**Pg**	**14 07 37.5**	**+0.3**
BOSS				*e* Sg	**Sg**	**14 07 48.6**	**+0.2**
PHP	**Peshkopia**	**0.87**	**247**	P	**Pg**	**14 07 36.3**	**-1.2**
	baz=250						
PHP				S	**Sg**	**14 07 48.4**	**-0.3**
	baz=250						
OHR	**Ohrid**	**1.06**	**211**	⇑ *i* Pg	**Pg**	**14 07 40.6**	**-0.5**
OHR				*i* Sg	**Sg**	**14 07 54.8**	**-0.1**
OHR				*e* Lg	Lg	14 07 54.9	
	comp=E,268nm,0.6s						
OHR				*e* Lg	Lg	14 07 55.0	
	comp=N,139nm,0.6s						
VAY	**Valandovo**	**1.06**	**131**	*i* Pg	**Pg**	**14 07 40.5**	**-0.6**
VAY				*i* Sg	**Sb**	**14 07 55.8**	**+0.2**
VAY				*e* Lg	Lg	14 07 57.4	
	comp=N,32nm,0.6s						
VAY				*e* Lg	Lg	14 07 57.6	
	comp=E,43nm,0.7s						
BCI	**Bajram Curri**	**1.12**	**288**	P	**Pg**	**14 07 42.2**	**-0.1**
	baz=293						
BCI				S	**Sn**	**14 07 59.5**	**+0.6**
	baz=293						
SELS	**Selova**	**1.23**	**346**	*e* Pg	**Pg**	**14 07 43.8**	**-0.5**
SELS				*e* Sg	**Sn**	**14 08 00.9**	**-0.4**
GRG	**Griva**	**1.26**	**148**	*i* Pg	**Pn**	**14 07 44.0**	**-0.9**
GRG				*i* Sg	**Sb**	**14 08 01.3**	**-0.1**
PVY	**Plav**	**1.28**	**297**	⇓ *i* Pg	**Pn**	**14 07 44.6**	**-0.7**
PVY				*i* Sg	**Sn**	**14 08 03.3**	**+0.4**
KNT	**Kendrikon**	**1.35**	**129**	*e* Pg	**Pn**	**14 07 45.6**	**-0.5**
KNT				*i* Sg	**Sn**	**14 08 05.3**	**+0.9**
TIR	**Tirane**	**1.41**	**242**	*e* Pn	**Pg**	**14 07 48.0**	**+0.3**
TIR				*i* Sg	**Sg**	**14 08 07.3**	**+1.3**
TIR	**Tirane**	**1.41**	**242**	P	**Pg**	**14 07 48.1**	**+0.3**
	baz=243						
TIR				S	**Sg**	**14 08 07.6**	**+1.7**
	baz=243						
VTS	**Vitosha**	**1.41**	**65**	*e* Pg	**Pb**	**14 07 47.5**	**0.0**
VTS				*e* Sg	**Sb**	**14 08 04.7**	**-1.0**
VTS	**Vitosha**	**1.41**	**65**	*e* Pn	**Pb**	**14 07 47.6**	**+0.1**
VTS				*i* Sg	**Sg**	**14 08 06.6**	**+0.6**
VTS	**Vitosha**	**1.41**	**65**	S	**Pb**	**14 07 48.0**	**+0.5**
IVA	**Berane**	**1.47**	**306**	⇑ *i* Pg	**Pn**	**14 07 47.6**	**-0.2**
IVA				*i* Sg	**Sg**	**14 08 09.2**	**+1.4**
BOVS	**Bovan**	**1.61**	**5**	*e* Pg	**Pn**	**14 07 50.0**	**+0.3**
BOVS				*e* Sg	**Sb**	**14 08 11.5**	**0.0**
SJES	**Sjenica**	**1.68**	**318**	*e* Pn	**Pb**	**14 07 51.3**	**-0.7**
KOME	**Kolasin**	**1.69**	**300**	⇓ *i* Pn	**Pn**	**14 07 50.7**	**-0.2**
KOME				*i* Sn	**Sg**	**14 08 14.4**	**-0.7**
ULC	**Ulcinj**	**1.69**	**269**	*i* Pn	**Pb**	**14 07 52.3**	**+0.1**
ULC	**Ulcinj**	**1.69**	**269**	⇓ *i* Pn	**Pb**	**14 07 52.0**	**-0.2**
ULC				*i* Sn	**Sb**	**14 08 14.2**	**+0.4**
TTG	**Podgorica**	**1.72**	**284**	⇑ *i* Pn	**Pb**	**14 07 51.9**	**-0.9**
TTG				*i* Sn	**Sb**	**14 08 14.8**	**+0.2**
DRME	**Dracevica, Mon**	**1.74**	**276**	⇓ *i* Pn	**Pn**	**14 07 52.1**	**+0.7**
DRME				*i* Sn	**Sg**	**14 08 15.8**	**-0.8**
IVAS	**Ivanjica**	**1.84**	**328**	*e* Pn	**Pn**	**14 07 52.5**	**-0.4**
IVAS				*e* Sn	**Sb**	**14 08 19.0**	**+0.8**
ZAGS	**Zajecar**	**1.86**	**16**	*e* Pn	**Pb**	**14 07 54.5**	**-0.6**
ZAGS				*e* Sn	**Sg**	**14 08 20.0**	**-0.5**
GRUS	**Gruza**	**1.95**	**343**	*e* Pn	**Pn**	**14 07 54.1**	**-0.2**
GRUS				*e* Sn	**Sb**	**14 08 21.2**	**0.0**
BUM	**Brajici-Budva**	**1.96**	**279**	⇑ *i* Pn	**Pn**	**14 07 55.5**	**+0.9**
BUM				*i* Sn	**Sb**	**14 08 21.0**	**-0.7**
CEME	**Cevo**	**1.99**	**286**	⇓ *i* Pn	**Pn**	**14 07 55.6**	**+0.6**
CEME				*i* Sn	**Sb**	**14 08 21.4**	**-1.1**
LSK	**Leskovik**	**2.00**	**200**	P	**Pg**	**14 07 58.5**	**-0.5**
	baz=199						
LSK				S	**Sg**	**14 08 25.5**	**+0.6**
	baz=199						
NKME	**Niksic**	**2.03**	**292**	⇓ *i* Pn	**Pn**	**14 07 55.9**	**+0.4**
NKME				*i* Sn	**Sb**	**14 08 22.4**	**-1.3**
UPM	**Unac-Piva**	**2.25**	**302**	⇓ *i* Pn	**Pn**	**14 07 58.5**	**-0.2**
UPM				*i* Sn	**Sn**	**14 08 27.7**	**+0.8**
HCY	**Herceg Novi**	**2.28**	**282**	⇑ *i* Pn	**Pn**	**14 07 59.6**	**+0.7**
HCY				*i* Sn	**Sn**	**14 08 28.3**	**+1.0**
BRY	**Bratogost**	**2.37**	**293**	⇓ *i* Pn	**Pn**	**14 08 00.2**	**0.0**
BRY				*i* Sn	**Sn**	**14 08 30.4**	**+0.8**

WEL 11 14:07:21.9 ± 0.7, **37°S** ± 5′ × **17°9E** ± ′, **h5**km, **M3.6**/53, **ML3.8**/55, **MLv3.6**/53, **Error ellipse: s-maj=0.0km s-min=0.0km az=88.2, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.76**	**254**	P	Pg	14 07 35.3	-1.3
MXZ				S	Sg	14 07 43.3	-3.2
WMGZ	**Waiomatatini S**	**0.79**	**234**	P	Pb	14 07 39.0	+0.8
WMGZ				S	Sn	14 07 50.7	-1.3
PUZ	**Puketiti**	**1.05**	**227**	P	Pb	14 07 42.9	+0.3
PUZ				S	Sn	14 07 58.0	-0.4
PKGZ	**Pakihiroa**	**1.06**	**240**	P	Pg	14 07 41.9	-0.3
HAZ	**Te Kaha**	**1.22**	**251**	P	Pg	14 07 42.7	-2.6
TWGZ	**Tauwhareparae**	**1.28**	**230**	P	Pb	14 07 46.9	+0.3
TWGZ				S	Sn	14 08 06.4	+2.2
RUGZ	**Raukumara Rang**	**1.37**	**243**	P	Pn	14 07 47.1	-0.7
CNGZ	**Carnagh Statio**	**1.38**	**215**	P	Pg	14 07 48.7	+0.3
CNGZ				S	Sn	14 08 10.6	+4.0
TKGZ	**Te Karaka**	**1.54**	**225**	P	Pn	14 07 49.9	-0.1
TKGZ				S	Sg	14 08 11.5	+0.2
MWZ	**Matawai**	**1.66**	**234**	P	Pn	14 07 51.5	-0.3
RIGZ	**Rimuhau**	**1.77**	**220**	P	Pn	14 07 53.3	0.0
RAGZ	**Rawiri**	**1.83**	**231**	P	Pn	14 07 54.9	+0.8
WHRZ	**Whale Island**	**1.86**	**254**	P	Pb	14 07 55.5	-0.9
PRGZ	**Paritu Road**	**1.89**	**214**	P	Pn	14 07 55.0	+0.1
URZ	**Urewera**	**1.90**	**241**	P	Pn	14 07 55.3	+0.2
SNGZ	**Shannon Statio**	**2.06**	**226**	P	Pn	14 07 57.2	0.0
KNZ	**Kokohu**	**2.06**	**216**	P	Pn	14 07 56.6	-0.6
MHGZ	**Mahia Peninsul**	**2.07**	**210**	P	Pn	14 07 57.6	+0.2
EDRZ	**Edgecumbe**	**2.11**	**249**	P	Pn	14 07 58.3	+0.3
EDRZ				S	Sn	14 08 24.2	-0.4
OPRZ	**Ohinepanea**	**2.18**	**256**	P	Pn	14 07 58.9	+0.1
MUGZ	**Murupara**	**2.24**	**239**	P	Pn	14 07 59.8	0.0
RAHZ	**Arahi**	**2.30**	**227**	P	Pn	14 08 00.7	+0.2
MKRZ	**Makatiti**	**2.32**	**250**	P	Pn	14 08 02.6	+1.7
WHHZ	**Waihua**	**2.33**	**222**	P	Pn	14 08 01.0	+0.1
TARZ	**Mount Tarawera**	**2.33**	**247**	P	Pn	14 08 01.3	+0.3
RRRZ	**Republican Roa**	**2.36**	**245**	P	Pn	14 08 01.9	+0.6
OMRZ	**Omania**	**2.39**	**251**	P	Pn	14 08 01.9	+0.1
TGRZ	**Tauranga**	**2.39**	**260**	P	Pn	14 08 01.8	+0.1
MTHZ	**Maungataniwha**	**2.40**	**231**	P	Pn	14 08 02.2	+0.2
KARZ	**Kaharoa**	**2.46**	**254**	P	Pn	14 08 02.8	+0.1
PRRZ	**Plateau Road**	**2.52**	**242**	P	Pn	14 08 03.4	-0.1
HSRZ	**Hossack Road**	**2.55**	**247**	P	Pn	14 08 04.7	+0.8
HRRZ	**Handcock Road**	**2.55**	**245**	P	Pn	14 08 04.2	+0.3
ALRZ	**Allen Road**	**2.58**	**241**	P	Pn	14 08 04.6	+0.3
NMHZ	**Naumai**	**2.58**	**227**	P	Pn	14 08 04.8	+0.4
ARHZ	**Aropaoanui**	**2.59**	**222**	P	Pn	14 08 04.5	0.0
KMRZ	**Kaimai**	**2.66**	**258**	P	Pn	14 08 05.4	0.0
MRHZ	**Matea Rd**	**2.66**	**236**	P	Pn	14 08 05.6	0.0
BKZ	**Black Stump Fm**	**2.81**	**229**	P	Pn	14 08 07.1	-0.4
MCHZ	**McNeill Hill**	**2.88**	**223**	P	Pn	14 08 08.1	-0.4
KUTZ	**Kaahu Road**	**2.92**	**246**	P	Pn	14 08 09.3	+0.2
TOZ	**Tahuroa Road**	**2.99**	**262**	P	Pn	14 08 08.3	-1.6
KWHZ	**Kaweka Forest**	**3.02**	**226**	P	Pn	14 08 09.8	-0.6
KAHZ	**Kahuranaki**	**3.05**	**216**	P	Pn	14 08 09.7	-1.2
RATZ	**Rangitukua**	**3.12**	**240**	P	Pn	14 08 12.2	+0.4
KRHZ	**Kereru**	**3.20**	**224**	P	Pn	14 08 11.9	-1.0
KATZ	**Kakaramea**	**3.22**	**239**	P	Pn	14 08 13.8	+0.5
GRZ	**Great Barrier**	**3.22**	**289**	P	Pn	14 08 13.5	+0.3
PXZ	**Pawanui**	**3.25**	**214**	P	Pn	14 08 12.2	-1.3
MKAZ	**Moumakai**	**3.26**	**273**	P	Pn	14 08 13.2	-0.5
BHHZ	**Black Hill Sta**	**3.27**	**229**	P	Pn	14 08 13.2	-0.7
TMVZ	**Te Maari**	**3.28**	**237**	P	Pn	14 08 13.7	-0.5
ETVZ	**East Tongariro**	**3.29**	**236**	P	Pn	14 08 13.7	-0.5
NTVZ	**North Tongarir**	**3.29**	**237**	P	Pn	14 08 13.8	-0.5
KRVZ	**Karewarewa**	**3.31**	**237**	P	Pn	14 08 14.2	-0.4
WIAZ	**Waiheke Island**	**3.32**	**279**	P	Pn	14 08 14.7	+0.1
OTVZ	**Oturere**	**3.33**	**236**	P	Pn	14 08 14.5	-0.4
NNVZ	**North Ngauruho**	**3.35**	**237**	P	Pn	14 08 15.1	0.0
WTVZ	**West Tongariro**	**3.36**	**237**	P	Pn	14 08 15.0	-0.2
SNVZ	**South Ngauruho**	**3.36**	**236**	P	Pn	14 08 14.8	-0.5
NGZ	**Ngauruhoe**	**3.38**	**236**	P	Pn	14 08 15.1	-0.6
TUVZ	**Tukino**	**3.40**	**235**	P	Pn	14 08 15.2	-0.5
MOVZ	**Moawhango**	**3.41**	**232**	P	Pn	14 08 15.3	-0.6
TWVZ	**Taurewa**	**3.44**	**239**	P	Pn	14 08 16.4	+0.1
WHVZ	**Whangaehu Hut**	**3.45**	**235**	P	Pn	14 08 15.6	-0.9
FWVZ	**Far West T-bar**	**3.46**	**236**	P	Pn	14 08 15.9	-0.7
ETAZ	**East Tamaki Re**	**3.46**	**275**	P	Pn	14 08 16.7	+0.2
WNVZ	**Wahianoa**	**3.47**	**234**	P	Pn	14 08 15.9	-0.8
WPHZ	**Waipukurau**	**3.47**	**218**	P	Pn	14 08 15.1	-1.5
PNHZ	**Pukenui**	**3.48**	**222**	P	Pn	14 08 14.9	-1.9
MBAZ	**Motutapu North**	**3.52**	**278**	P	Pn	14 08 17.6	+0.4
PRHZ	**Porangahau**	**3.54**	**214**	P	Pn	14 08 16.0	-1.6
MTVZ	**Mangateitei**	**3.58**	**234**	P	Pn	14 08 17.8	-0.4
ABAZ	**Army Bay**	**3.60**	**281**	P	Pn	14 08 20.4	+2.0
PKVZ	**Pokaka**	**3.61**	**237**	P	Pn	14 08 18.7	+0.1
HIZ	**Hauiti**	**3.65**	**250**	P	Pn	14 08 19.9	+0.9
AWAZ	**Awhitu Peninsu**	**3.67**	**273**	P	Pn	14 08 20.0	+0.6
TSZ	**Takapari Road**	**3.71**	**222**	P	Pn	14 08 17.9	-2.1
RVAZ	**Riverhead Bore**	**3.77**	**278**	P	Pn	14 08 20.4	-0.2
ANWZ	**Angora Road**	**3.77**	**214**	P	Pn	14 08 19.1	-1.6
DVHZ	**Dannevirke**	**3.79**	**218**	P	Pn	14 08 18.7	-2.3
POWZ	**Post Office Ro**	**4.06**	**221**	P	Pn	14 08 23.5	-1.1
PRWZ	**Pori Road**	**4.08**	**218**	P	Pn	14 08 23.2	-1.8
WAZ	**Wanganui**	**4.10**	**233**	P	Pn	14 08 25.3	+0.1
LREZ	**Lake Rotokare**	**4.33**	**240**	P	Pn	14 08 29.1	+0.6
PREZ	**Palmer Road**	**4.45**	**242**	P	Pn	14 08 32.0	+1.8
NEZ	**North Egmont**	**4.47**	**243**	P	Pn	14 08 31.8	+1.4
PKE	**Pukeiti**	**4.51**	**244**	P	Pn	14 08 33.2	+2.3
KHEZ	**Kahui Hut**	**4.53**	**243**	P	Pn	14 08 32.9	+1.6
OGWZ	**Otaki Gorge**	**4.68**	**221**	P	Pn	14 08 31.0	-2.2
OUZ	**Omahuta**	**5.03**	**293**	P	Pn	14 08 36.2	-1.8
CTZ	**Chatham Island**	**7.11**	**155**	P	Pn	14 09 08.2	+1.7
GVZ	**Greta Valley S**	**7.34**	**218**	P	Pn	14 09 07.7	-2.0

*AEIC **11** 14:18:51 ± 0.7, 51°.1′N ± 0°.1 × 179°.01W ± 0°.04, h26km ± 8km, Error ellipse: s-maj=17.2km s-min=3.2km az=172.0*
*NEIC **11** 14:18:52.4 ± 0.8, 51°.2′N ± 0°.1 × 179°.02W ± 0°.05, h30km ± 14km, ML3.4(AEIC), Error ellipse: s-maj=20.5km s-min=3.6km az=174.0*
*IDC **11** 14:18:55.4 ± 3.5, 51°.22′N × 178°.97W, h72km ± 29km, mb3.3/11, mbtmp3.6/12, MS3.1/2, Error ellipse: s-maj=33.2km s-min=16.8km az=177.0*

ISC 11 14:18:51.5 ± 0.8, **51°.13N** ± 0°.10 × **179°.01W** ± 0°.03, **h35**km, **n49,** σ 1**s45**/44, **mb3.7**/11, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.65**	**13**		**Pn**	**14 19 04.5**	**+0.2**
GASW	**Gareloi Southw**	**0.66**	**9**		**Pn**	**14 19 04.4**	**+0.1**
GAEA	**Gareloi East**	**0.68**	**14**		**Pn**	**14 19 04.7**	**+0.2**
GANO	**Gareloi North**	**0.70**	**11**		**Pn**	**14 19 04.8**	**-0.1**
TASE	**Tanaga Southea**	**0.93**	**40**		**Pn**	**14 19 08.6**	**+0.5**
TAFP	**Tanaga Falls P**	**1.00**	**39**		**Pn**	**14 19 09.5**	**+0.5**
TAFP					**Sn**	**14 19 22.8**	**+0.8**
TAPA	**Tanaga Point A**	**1.02**	**47**		**Pn**	**14 19 09.7**	**+0.4**
AMKA	**Amchitka**	**1.09**	**284**		**Pn**	**14 19 09.2**	**-0.9**
AMKA					**Sn**	**14 19 25.7**	**+1.7**
CERAA	**Semis' Rag'd T**	**1.13**	**314**		**Pn**	**14 19 11.3**	**+0.5**
CESW	**Semis' Southwe**	**1.18**	**312**		**Pn**	**14 19 11.8**	**+0.4**
CEPE	**Semis' Perret**	**1.18**	**316**		**Pn**	**14 19 12.0**	**+0.5**
KIMD	**Kanaga Island**	**1.28**	**60**		**Pn**	**14 19 13.3**	**+0.5**
KIWB	**Kanaga Island**	**1.37**	**57**		**Pn**	**14 19 14.1**	**0.0**
KIKV	**Kanaga Island**	**1.37**	**56**		**Sn**	**14 19 31.9**	**+0.8**
ADK	**Adak**	**1.64**	**62**		**Pn**	**14 19 18.4**	**+0.6**
ADK					**Sn**	**14 19 38.2**	**+0.6**
LSSE	**Little Sitkin**	**1.71**	**299**		**Pn**	**14 19 19.5**	**+0.8**
LSPA	**Little Sitkin**	**1.72**	**300**		**Pn**	**14 19 19.5**	**+0.6**
LSSA	**Little Sitkin**	**1.75**	**299**		**Pn**	**14 19 20.0**	**+0.6**
LSNW	**Little Sitkin**	**1.76**	**300**		**Pn**	**14 19 20.3**	**+0.9**
GSTD	**Great Sitkin T**	**2.02**	**61**		**Sn**	**14 19 49.9**	**+3.0**
GSMY	**Great Sitkin M**	**2.06**	**62**		**Pn**	**14 19 25.3**	**+1.7**
ATKA	**Atka Island**	**3.19**	**68**		**Pn**	**14 19 40.7**	**+1.7**
ATKA					**Sn**	**14 20 18.6**	**+3.0**
SHEM	**Shemya Is, Ala**	**4.55**	**293**	P	**Pn**	**14 19 59.8**	**+2.0**
	14nm,0.4s,baz=153,slow=2.3,SNR=1.4						
SHEM				S	**Sn**	**14 20 55.1**	**+5.7**
	22nm,0.6s,baz=261,slow=19,SNR=1.9						
SMY	**Shemya**	**4.55**	**293**		**Pn**	**14 19 58.2**	**+0.4**
UNV	**Unalaska Valle**	**8.11**	**66**	Pn	**Pn**	**14 20 47.9**	**+1.4**
OHAK	**Old Harbor**	**16.19**	**58**	Pn	**Pn**	**14 22 36.4**	**+0.5**
KDAK	**Kodiak Island**	**16.67**	**56**	P	**Pn**	**14 22 38.9**	**-3.2**
	10nm,0.9s,baz=280,slow=12,SNR=9.6						
MA2	**Magadan**	**19.00**	**308**	LR	LR	14 29 39.0	
	comp=Z,35nm,18.5s,baz=318,slow=34						
ILAR	**Eielson Array**	**21.52**	**38**	P	**P**	**14 23 36.4**	**-0.7**
	0.3nm,0.5s,baz=242,slow=8.7,SNR=15						
ILAR				PcP	**PcP**	**14 27 37.7**	**-0.5**
	0.2nm,0.8s,baz=270,slow=3.2,SNR=2.0 0.3nm,0.5s						
INK	**Inuvik**	**27.74**	**35**	P	**P**	**14 24 36.2**	**+0.1**
	2.0nm,1.0s,baz=249,slow=8.6,SNR=1.4 2.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**33.25**	**205**	T	T	15 00 38.6	
	baz=16,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.26**	**205**	T	T	15 00 41.7	
	baz=16,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.27**	**205**	T	T	15 00 39.8	
	baz=16,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.47**	**204**	T	T	15 02 10.2	
	baz=16,slow=76						
H11S2	**WAKE ISLAND Hy**	**34.48**	**204**	T	T	15 02 11.1	
	baz=16,slow=76						
H11S3	**WAKE ISLAND Hy**	**34.48**	**204**	T	T	15 02 14.0	
	baz=16,slow=76						
YKA	**Yellowknife Ar**	**35.50**	**46**	P	**P**	**14 25 43.9**	**-0.4**
	0.7nm,0.7s,baz=274,slow=9.8,SNR=2.5 0.7nm,0.7s						
PDAR	**Pinedale Array**	**46.51**	**72**	P	**P**	**14 27 15.3**	**-0.2**
	1.4nm,0.6s,baz=303,slow=3.7,SNR=13 1.4nm,0.6s						
ULM	**Lac du Bonnet**	**49.93**	**56**	LR	LR	14 49 22.9	
	comp=Z,23nm,18.1s,baz=294,slow=37						
ARCES	**ARCESS Array B**	**58.31**	**350**	P	**P**	**14 28 41.5**	**-0.7**
	2.8nm,1.0s,baz=21,slow=8.7,SNR=2.0 2.8nm,1.0s						
TXAR	**Lajitas Array**	**58.82**	**81**	P	**P**	**14 28 47.2**	**+0.8**
	0.1nm,0.5s,baz=309,slow=5.7,SNR=2.0 0.1nm,0.5s						
MKAR	**Makanchi Array**	**60.08**	**308**	P	**P**	**14 28 54.3**	**-0.4**
	0.3nm,0.4s,baz=54,slow=6.3,SNR=7.2 0.3nm,0.4s						
FINES	**FINESS Array B**	**66.00**	**347**	P	**P**	**14 29 32.9**	**-0.8**
	0.7nm,0.6s,baz=18,slow=6.6,SNR=6.0 0.7nm,0.6s						
AKASG	**Malin Array Be**	**75.74**	**342**	P	**P**	**14 30 32.7**	**-0.3**
	0.2nm,0.3s,baz=19,slow=5.9,SNR=1.8 0.2nm,0.3s						
GERES	**GERESS Array B**	**79.81**	**352**	P	**P**	**14 30 54.9**	**-0.9**
	0.1nm,0.3s,baz=4.2,slow=5.3,SNR=2.4 0.1nm,0.3s						
WRA	**Warramunga Arr**	**81.74**	**224**	P	**P**	**14 31 05.9**	**-0.4**
	0.1nm,0.3s,baz=34,slow=6.2,SNR=1.9 0.1nm,0.3s						
H03N2	**Juan Fernandez**	**121.20**	**106**	T	T	16 50 45.8	
	baz=317,slow=78						
H03N1	**Juan Fernandez**	**121.22**	**106**	T	T	16 50 46.7	
	baz=317,slow=78						
H03N3	**Juan Fernandez**	**121.22**	**106**	T	T	16 50 43.0	
	baz=317,slow=78						

*NEIC **11** 14:40:44.7 ± 1.1, 6°.69S ± 0°.04 × 147°.0E ± 0°.1, h95km ± 9km, mb4.1/18, Error ellipse: s-maj=16.2km s-min=4.9km az=84.0*
*IDC **11** 14:40:45.5 ± 2.0, 6°.78S × 147°.20E, h114km ± 23km, mb3.5/5, mbtmp3.9/8, MS2.6/1, Error ellipse: s-maj=37.0km s-min=13.0km az=118.0*

ISC 11 14:40:45.0 ± 0.7, **6°.69S** ± 0°.07 × **146°.9E** ± 0°.1, **h100**km, **n49,** σ 1**s56**/52, **mb3.9**/11, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.71**	**175**	P	**Pn**	**14 41 26.3**	**-0.5**
	111nm,0.5s,baz=34,slow=5.7,SNR=202						
PMG				S	**Sn**	**14 41 58.9**	**-0.1**
	65nm,0.4s,baz=185,slow=21,SNR=12						
PMG				LR	LR	14 42 24.1	
	comp=Z,113nm,21.3s,baz=216,slow=38						
PMG	**Port Moresby**	**2.71**	**175**		**Pn**	**14 41 26.2**	**-0.7**
PMG	**Port Moresby**	**2.71**	**175**	P	**Pn**	**14 41 26.5**	**-0.4**
KRVT	**Keravat (AS076**	**5.61**	**65**	P	**Pn**	**14 42 04.2**	**-1.9**
	14nm,0.4s,baz=225,slow=1.3,SNR=11						
COEN	**Coen**	**8.10**	**207**		**Pn**	**14 42 40.0**	**+0.1**
COEN	**Coen**	**8.10**	**207**	P	**Pn**	**14 42 40.3**	**+0.4**
CTA	**Charters Tower**	**13.33**	**183**	P	**Pn**	**14 43 51.8**	**+1.5**
	4.3nm,0.7s,baz=16,slow=10,SNR=14						
CTA	**Charters Tower**	**13.33**	**183**	P	**Pn**	**14 43 52.0**	**+1.7**
CTAO	**Charters Tower**	**13.33**	**183**	P	**Pn**	**14 43 53.4**	**+3.1**
CTAO	**Charters Tower**	**13.33**	**183**	P	**Pn**	**14 43 52.1**	**+1.7**
QIS	**Mount Isa**	**15.50**	**206**	P	**Pn**	**14 44 19.5**	**+1.4**
WB0	**Warramunga Arr**	**17.80**	**222**	P	**P**	**14 44 46.0**	**+0.2**
WR0	**Warramunga Arr**	**17.84**	**221**	P	**P**	**14 44 46.4**	**+0.2**
WR0				IAmb	IAmb	14 44 53.4	
	comp=Z,5.8nm,1.2s						
WRAB	**Tennant Creek**	**17.95**	**222**	P	**P**	**14 44 47.7**	**+0.3**
WRAB	**Tennant Creek**	**17.95**	**222**	P	**P**	**14

VAY			*e*Lg	Lg	14 46 36.3		
	comp=N,64nm,0.5s						
SELS	**Selova**	**1.23 347**	*e*Pg	**Pg**	**14 46 21.6**	**-0.8**
SELS			*e*Sg	**Sb**	**14 46 38.5**	**+0.1**
GRG	**Griva**	**1.26 147**	*i* Pg	**Pg**	**14 46 21.9**	**-0.9**
GRG			*i* Sg	**Sg**	**14 46 39.5**	**+0.3**
PVY	**Plav**	**1.27 298**	*e*Pg	**Pg**	**14 46 22.0**	**-1.1**
PVY			*i* Sg	**Sn**	**14 46 41.4**	**+1.1**
KNT	**Kendrikon**	**1.36 128**	*e*Pg	**Pn**	**14 46 23.7**	**-0.3**
KNT			*i* Sg	**Sn**	**14 46 42.9**	**+0.6**
VTS	**Vitosha**	**1.43 64**	⇑P	**Pn**	**14 46 24.4**	**-0.7**
VTS			⇑S	**Sg**	**14 46 44.8**	**+0.2**
VTS	**Vitosha**	**1.43 64**	*e*Pg	**Pn**	**14 46 25.5**	**+0.4**
VTS			*e*Sg	**Sb**	**14 46 44.5**	**+0.3**
VTS	**Vitosha**	**1.43 64**	⇓*i*Pn	**Pn**	**14 46 25.5**	**+0.4**
VTS			*i* Sg	**Sg**	**14 46 45.2**	**+0.5**
BEY	**Berane**	**1.46 307**	*i* Pn	**Pb**	**14 46 25.9**	**-0.2**
IVA	**Berane**	**1.46 307**	*e*Pg	**Pn**	**14 46 25.7**	**+0.3**
IVA			*i* Sg	**Sg**	**14 46 47.0**	**+1.4**
BOVS	**Bovan**	**1.63 6**	*e*Pg	**Pn**	**14 46 27.2**	**-0.5**
BOVS			*e*Sg	**Sg**	**14 46 51.5**	**+0.5**
ULC	**Ulcinj**	**1.67 269**	*e*Pn	**Pb**	**14 46 29.8**	**0.0**
ULC			*i* Sn	**Sg**	**14 46 53.3**	**+0.9**
SJES	**Sjenica**	**1.67 319**	*e*Pn	**Pn**	**14 46 28.8**	**+0.4**
SJES			*e*Sn	**Sb**	**14 46 51.4**	**+0.3**
KOME	**Kolasin**	**1.68 300**	⇓*i*Pn	**Pn**	**14 46 29.3**	**+0.8**
KOME			*i* Sn	**Sg**	**14 46 52.8**	**+0.1**
PDG	**Podgorica**	**1.71 285**	⇑P	**Pb**	**14 46 29.8**	**-0.6**
PDG			⇑S	**Sg**	**14 46 55.1**	**+1.5**
TTG	**Podgorica**	**1.71 285**	*e*Pn	**Pb**	**14 46 30.0**	**-0.3**
TTG			*i* Sn	**Sg**	**14 46 53.5**	**-0.1**
DRME	**Dracevica, Mon**	**1.72 276**	⇓*i*Pn	**Pb**	**14 46 30.2**	**-0.4**
DRME			*i* Sn	**Sg**	**14 46 54.0**	**0.0**
SRS	**Serrai**	**1.82 119**	*e*Pn	**Pn**	**14 46 30.2**	**-0.1**
BLKB	**Belogradchik**	**1.83 28**	⇑P	**Pn**	**14 46 31.7**	**+1.1**
BLKB			⇓S	**Sg**	**14 46 57.7**	**+0.2**
SOH	**Sokhos**	**1.84 130**	*e*Pn	**Pn**	**14 46 30.6**	**0.0**
IVAS	**Ivanjica**	**1.84 328**	*e*Pn	**Pn**	**14 46 30.1**	**-0.6**
IVAS			*e*Sn	**Sb**	**14 46 55.5**	**-0.5**
ZAGS	**Zajecar**	**1.88 17**	*e*Pn	**Pn**	**14 46 31.5**	**+0.4**
ZAGS			*e*Sn	**Sb**	**14 46 56.7**	**-0.2**
BUM	**Brajici-Budva**	**1.95 279**	*e*Pn	**Pb**	**14 46 33.5**	**-1.0**
BUM			*i* Sn	**Sb**	**14 46 59.3**	**+0.3**
GRUS	**Gruza**	**1.96 343**	*e*Pn	**Pn**	**14 46 32.2**	**0.0**
CEME	**Cevo**	**1.98 286**	⇑*i*Pn	**Pn**	**14 46 33.8**	**+1.2**
CEME			*i* Sn	**Sb**	**14 47 00.0**	**+0.1**
NKY	**Niksic**	**2.01 294**	⇑*i*Pn	**Pn**	**14 46 33.8**	**+0.7**
NKY			*i* Sn	**Sb**	**14 47 00.9**	**+0.1**
NKME	**Niksic**	**2.02 293**	*e*Pn	**Pn**	**14 46 34.5**	**+1.3**
NKME			*i* Sn	**Sb**	**14 47 01.4**	**+0.3**
HCY	**Herceg Novi**	**2.26 282**	⇓*i*Pn	**Pn**	**14 46 37.7**	**+1.2**
HCY			*i* Sn	**Sb**	**14 47 06.8**	**-1.2**
TRUS	**Trudelj**	**2.34 341**	*e*Pn	**Pn**	**14 46 37.7**	**+0.1**
DIVS	**Divibare**	**2.35 333**	*e*Pn	**Pn**	**14 46 37.8**	**0.0**
DIVS			*e*Sn	**Sn**	**14 47 05.9**	**-1.0**
BRY	**Bratogost**	**2.35 293**	⇓*i*Pn	**Pn**	**14 46 39.1**	**+1.3**
BRY			*i* Sn	**Sb**	**14 47 09.1**	**-1.6**
MDVR	**Moldovita**	**2.77 3**	⇓P	**Pn**	**14 46 44.8**	**+1.3**
MDVR			⇑S	**Sb**	**14 47 23.5**	**+0.8**
FRGS	**Fruska Gora**	**3.37 339**	*e*Pn	**Pn**	**14 46 51.4**	**-0.3**
GZR	**Gura Zlata**	**3.50 15**	⇓P	**Pn**	**14 46 54.0**	**+0.4**

ROM 11 14:46:56.0±0.1,42°.900N±0°.003×13°.266E±0°.004, h8km,ML1.6/1,Error ellipse: s-maj=0.3km s-min=0.0km az=44.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMO1	**Montemonaco**	**0.04**	**90**	P	Pg	14 46 57.9	+0.1
MMO1				S	Sg	14 46 59.0	-0.1
MC2	**Monte Cornacci**	**0.06**	**283**	P	Pg	14 46 58.2	+0.1
MC2				S	Sg	14 46 59.6	0.0
T1242	**Castelluccio d**	**0.08**	**213**	P	Pg	14 46 58.5	+0.2
T1242				S	Sg	14 47 00.2	+0.3
T1241	**Roccafluvione,**	**0.13**	**110**	P	Pg	14 46 59.5	+0.6
T1241				S	Sg	14 47 01.9	+1.0
NRCA	**Norcia**	**0.13**	**239**	P	Pg	14 46 59.3	+0.4
NRCA				S	Sg	14 47 01.6	+0.6
T1216	**Preci, Frazion**	**0.18**	**267**	P	Pg	14 47 00.3	+0.5
T1216				S	Sg	14 47 03.6	+1.2
FDMO	**Fiordimonte**	**0.19**	**316**	P	Pg	14 47 00.6	+0.7
FDMO				S	Sg	14 47 03.8	+1.1
CSP1	**Cessapalombo**	**0.20**	**347**	P	Pg	14 47 00.9	+0.8
CSP1				S	Sg	14 47 04.3	+1.4
T1202	**Accumoli, Fraz**	**0.20**	**189**	P	Pg	14 47 01.2	+1.1
T1202				S	Sg	14 47 04.6	+1.7
T1202				AML	AML		
	comp=E,255µm,1.5s						
T1202				AML	AML		
	comp=N,364µm,0.4s						
T1204	**Amatrice, Fraz**	**0.23**	**171**	P	Pg	14 47 01.1	+0.5
T1204				S	Sg	14 47 05.1	+1.3
TERO	**Teramo**	**0.37**	**138**	P	Pb	14 47 04.2	-0.7
TERO				S	Sg	14 47 09.5	+1.2
PP3	**Marolino**	**0.54**	**28**	S	Sg	14 47 08.0	-5.6

*HVO **11** 15:08:50.1±0.6,19°.39N±0°.01×155°.245W±0°.008, h3km±2km,ML3.0/20,ML2.5/41(NEIC),Error ellipse: s-maj=1.9km s-min=1.1km az=170.0*

NEIC 11 15:08:50.5±0.9,19°.38N±0°.01×155°.258W±0°.009, h5km±1km,Error ellipse: s-maj=1.9km s-min=1.1km az=170.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.02**	**337**		Pg	15 08 51.3	-0.3
RIM	**Rim**	**0.02**	**314**		Pg	15 08 51.4	-0.2
RIM				IAML		15 08 51.5	
	comp=N,13µm,0.1s						
RIM				IAML		15 08 51.6	
	comp=E,15µm,0.1s						
BYL	**Byron's Ledge**	**0.03**	**357**		Pg	15 08 52.3	+0.6
SDHHI	**Sand Hill**	**0.04**	**284**		Pg	15 08 51.9	+0.1
NPH	**North Pit**	**0.04**	**325**		Pg	15 08 51.6	-0.2
NPH				IAML		15 08 52.3	
	comp=N,8µm,0.4s						
PUH	**Pauahi**	**0.04**	**100**		Pg	15 08 51.3	-0.4
HATHI	**Halema'uma'u T**	**0.04**	**357**		Pg	15 08 51.7	-0.2
HATHI				IAML		15 08 52.1	
	comp=E,10µm,0.1s						
OBL	**Observatory Le**	**0.04**	**326**		Pg	15 08 51.9	0.0
OBL				IAML		15 08 52.5	
	comp=E,6µm,0.1s						
SBLHI	**Steaming Bluff**	**0.05**	**349**		Pg	15 08 51.8	-0.1
SBLHI				IAML		15 08 52.4	
	comp=E,6µm,0.2s						
UWB	**Uwekahuna B**	**0.05**	**337**		Pg	15 08 51.8	-0.1
WRMHI	**West Rim**	**0.05**	**303**		Pg	15 08 52.0	+0.1
UWE	**Uwekahuna**	**0.05**	**321**		Pg	15 08 53.8	+1.8
KNHH	**Kane Nui o Ham**	**0.08**	**91**		Pg	15 08 52.3	-0.1
RSD	**Rainshed**	**0.08**	**347**		Pg	15 08 52.3	-0.1
HLP	**Hilina Pali**	**0.10**	**209**		Pg	15 08 54.9	+2.3
HLP	**Hilina Pali**	**0.10**	**209**	IAML		15 08 55.5	
	comp=N,4µm,0.6s						
NPOC	**North of Pu'u**	**0.14**	**85**		Pg	15 08 53.2	-0.1
NPOC				IAML		15 08 56.0	
	comp=E,2µm,0.3s						
NPOC				IAML		15 08 56.8	
	comp=N,2µm,0.4s						
JCUZ	**Jacuzzi**	**0.15**	**89**		Pg	15 08 53.4	-0.1
MLH	**Mauna Loa**	**0.17**	**313**		Pg	15 08 54.3	+0.4
MLH				IAML		15 08 58.3	
	comp=N,983nm,0.5s						
MLH				IAML		15 08 58.4	
	comp=E,1µm,0.4s						
AIN	**Ainahou**	**0.19**	**267**		Pg	15 08 54.9	+0.6
AIN				IAML		15 09 00.6	
	comp=N,1µm,0.4s						
AIN				IAML		15 09 00.7	
	comp=E,2µm,0.4s						
HTC	**Hot Caves**	**0.19**	**223**		Pg	15 08 54.8	+0.5
HMH	**Humu'ula Sheep**	**0.31**	**316**		Pg	15 08 56.6	+0.1
HMH				IAML		15 09 04.9	
	comp=N,480nm,0.8s						
HMH				IAML		15 09 05.8	
	comp=E,425nm,0.7s						
MWH	**Moku'aweowe**	**0.34**	**288**		Pg	15 08 57.6	+0.4
MWH				IAML		15 09 03.1	
	comp=N,713nm,0.9s						
MLOA	**Mauna Loa Obse**	**0.34**	**297**		Pg	15 08 57.0	-0.2
MLOA				IAML		15 09 04.6	
	comp=E,520nm,0.3s						
MLOA				IAML		15 09 07.4	
	comp=N,437nm,0.9s						
KHU	**Kahuku**	**0.36**	**248**		Pg	15 08 58.1	+0.6
KHU				IAML		15 09 04.6	
	comp=N,489nm,0.5s						
KHU				IAML		15 09 04.8	
	comp=E,728nm,0.4s						
ALEP	**Alea Permanent**	**0.40**	**294**		Pg	15 08 58.1	-0.2
POHA	**Pohakuloa**	**0.46**	**325**		Pg	15 08 59.2	-0.2
POHA				IAML		15 09 06.6	
	comp=E,600nm,0.4s						
POHA				IAML		15 09 07.5	
	comp=E,433nm,0.7s						
HUH	**Hualalai**	**0.62**	**299**		Pg	15 09 02.9	+0.4
CPH	**Captain Cook**	**0.63**	**280**		Pg	15 09 02.1	-0.5
KHLU	**Kahalu`u**	**0.64**	**289**		Pg	15 09 02.0	-0.7
HPAH	**Hawaii Prepara**	**0.77**	**327**		Pg	15 09 04.5	-0.7
MHA	**Mahukona**	**1.01**	**323**	Pg	Pg	15 09 09.2	-0.6

*IDC **11** 15:35:04.2±0.5,5°.89S×105°.41E,h0km,mb4.6/19, mbtmp4.6/21,ML4.3/2,MS3.8/38,Error ellipse: s-maj=22.9km s-min=11.2km az=46.0*

*NEIC **11** 15:35:05.9±2.4,6°.31S±0°.06×105°.21E±0°.06,h10km±1km, mb5.0/60,Error ellipse: s-maj=11.1km s-min=8.6km az=224.0*

*DJA **11** 15:35:07.5±0.2,6°.5±3°×10°5E±°,h10km,M4.6/25, mb4.6/23,mB5.2/14,MLv4.8/25,Mw(mB)4.5/14*

ISC 11 15:35:06.3±1.1,6°.24S±0°.04×105°.31E±0°.03,h11km±6km, n319,σ1°73/299,mb4.8/56,MS4.0/46,13C-7D,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.82**	**82**	P	**Pg**	**15 35 19.6**	**-2.5**
BLSI	**Bandar Lampung**	**0.87**	**355**	P	**Pg**	**15 35 20.2**	**-2.8**
BLSI				S	**Sg**	**15 35 34.5**	**+0.1**
KASI	**Kota Agung**	**1.08**	**311**	P	**Pg**	**15 35 26.6**	**-0.4**
TNG	**Tangerang**	**1.33**	**87**	P	**Pn**	**15 35 28.6**	**-2.2**
TNG				P	**Pg**	**15 35 31.5**	**-0.3**
TNG				S	**Sb**	**15 35 48.0**	**-0.3**
KLI	**Kotabumi**	**1.44**	**342**	P	**Pn**	**15 35 31.9**	**-0.5**
SKJI	**Sukabumi**	**1.45**	**122**	P	**Pn**	**15 35 31.8**	**-0.7**
DBJI	**Dramaga**	**1.46**	**102**	P	**Pn**	**15 35 31.0**	**-1.7**
CBJI	**Cileko**	**1.54**	**97**	P	**Pg**	**15 35 36.0**	**+0.2**
LWLI	**Liwa**	**1.74**	**314**	P	**Pb**	**15 35 37.8**	**-0.6**
CNJI	**Cibinong**	**2.09**	**121**	P	**Pn**	**15 35 41.9**	**+0.5**
LEM	**Lembang**	**2.36**	**104**	Pn	**Pn**	**15 35 46.8**	**+1.6**
	30nm,0.3s,baz=7.8,slow=20,SNR=41 352nm,0.7s						
LEM	**Lembang**	**2.36**	**104**	P	**Pn**	**15 35 45.9**	**+0.7**
JCJI	**Jatiwangi**	**2.95**	**95**	P	**Pb**	**15 36 00.4**	**+1.5**
MNAI	**Manna**	**3.00**	**308**	Pn	**Pn**	**15 35 53.4**	**-0.5**
MNAI	**Manna**	**3.00**	**308**	P	**Pn**	**15 35 55.6**	**+1.8**
PMBI	**Palembang**	**3.33**	**351**	Pn	**Pn**	**15 35 59.2**	**+0.8**
PMBI	**Palembang**	**3.33**	**351**	P	**Pn**	**15 35 59.8**	**+1.4**
KSI	**Kapahiang**	**3.73**	**313**	P	**Pn**	**15 36 05.3**	**+1.3**
PPBI	**Pangkal Pinang**	**4.13**	**11**	P	**Pn**	**15 36 09.9**	**+0.5**
TPI	**Tanjungpandan**	**4.17**	**34**	P	**Pn**	**15 36 11.1**	**+1.1**
XMIS	**Christmas Isla**	**4.23**	**175**	Pn	**Pn**	**15 36 08.2**	**-2.6**
MASI	**Maura Aman, Be**	**4.34**	**315**	P	**Pn**	**15 36 13.9**	**+1.6**
JMBI	**JAMBI**	**4.87**	**340**	P	**Pn**	**15 36 20.7**	**+1.1**
SMRI	**Semarang**	**5.16**	**99**	Pn	**Pn**	**15 36 24.0**	**+0.5**
UGM	**Wanagama**	**5.43**	**108**	Pn	**Pn**	**15 36 28.3**	**+1.0**
KRJI	**Kerinci**	**5.63**	**317**	P	Pb	15 36 38.0	-6.7
DSRI	**Dabo**	**5.77**	**353**	P	**Pn**	**15 36 33.2**	**+1.3**
	0.9nm813nm41nm,1.0s						
PCJI	**Pacitan**	**6.13**	**109**	P	**Pb**	**15 36 52.9**	**-0.3**
SDSI	**Sungai Dareh**	**6.54**	**324**	P	Pn	15 36 48.9	+6.3
PWJI	**Pagerwojo**	**6.68**	**106**	P	**Pn**	**15 36 46.3**	**+1.8**
	0.4nm115nm,0.9s						
PDSI	**Padang**	**7.17**	**317**	P	**Pn**	**15 36 52.4**	**+1.2**
	0.1nm23nm,0.9s						
PBKI	**Pangkalan Bun**	**7.24**	**61**	P	**Pn**	**15 36 52.6**	**+0.4**
	1.1nm5µm76nm,1.1s						
BKNI	**Bangkinang**	**7.79**	**327**	P	**Pn**	**15 37 01.8**	**+2.0**
	0.5nm1µm83nm,0.9s						
SISI	**Saibi**	**7.90**	**308**	P	**Pn**	**15 37 01.2**	**0.0**
	0.2nm31nm,1.1s						
MYKOM	**Kota Tinggi**	**8.11**	**350**	Pn	**Pn**	**15 37 04.5**	**+0.5**
STKI	**Sintang**	**8.78**	**45**	P	Pn	15 37 21.6	+8.3
ABJI	**Asem Bagus**	**8.99**	**100**	P	**Pn**	**15 37 17.4**	**+1.2**
	6µm570nm,1.0s						
MNSI	**Mandailing Nat**	**9.03**	**320**	P	Pn	15 37 29.7	+13
JAGI	**Jajag, Banyuwa**	**9.04**	**105**	Pn	**Pn**	**15 37 17.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**9.04**	**105**	P	**Pn**	**15 37 18.5**	**+1.6**
	106nm,1.3s						
COCO	**West Island**	**10.25**	**234**	Pn	**Pn**	**15 37 31.1**	**-2.3**
PSI	**Prapat**	**11.02**	**324**	LR	LR	15 41 53.0	
	comp=Z,453nm,20.8s,baz=141,slow=38						
SBUM	**Sibu**	**11.05**	**39**	Pn	**Pn**	**15 37 46.1**	**+1.7**
BKSI	**Bulukumba**	**14.76**	**87**	P	**P**	**15 38 43.6**	**+2.3**
TTSI	**Tana Toraja**	**14.80**	**78**	P	P	15 38 50.2	+8.5
MPSI	**Mapaga**	**15.96**	**66**	P	**Pn**	**15 38 51.5**	**+0.5**
	580nm36nm,1.6s						
EDFI	**Ende, Flores**	**16.43**	**100**	P	**Pn**	**15 38 58.1**	**+1.0**
	389nm14nm,1.5s						
MMRI	**Maumere**	**16.95**	**99**		**Pn**	**15 39 04.6**	**+0.9**
MMRI				IAmb	IAmb	15 39 12.2	
	comp=Z,81nm,1.3s						
MMRI	**Maumere**	**16.95**	**99**	P	**P**	**15 39 04.7**	**-0.9**
	comp=Z,70nm,1.3s						
TOLI2	**Tolitoli**	**17.08**	**65**		**P**	**15 39 06.9**	**-0.2**
APSI	**Ampana**	**17.14**	**73**	P	**Pn**	**15 39 06.6**	**+0.6**
	comp=Z,1µmcomp=Z,76nm,1.2s						
MRSI	**Marisa**	**17.89**	**69**	P	**P**	**15 39 16.3**	**+0.3**
	comp=Z,970nmcomp=Z,39nm,0.9s						
LUWI	**Luwuk**	**18.17**	**74**		**Pn**	**15 39 17.8**	**-1.0**
LUWI				IAmb	IAmb	15 39 28.9	
	comp=Z,176nm,1.7s						
LUWI	**Luwuk**	**18.17**	**74**	P	**Pn**	**15 39 18.8**	**0.0**
	comp=Z,2µmcomp=Z,87nm,1.4s						
BATI	**Baumata**	**18.58**	**103**	P	**Pn**	**15 39 24.3**	**+0.4**
	comp=Z,21nm,0.3s,baz=323,slow=8.6,SNR=4.9 comp=Z,50nm,1.0s						
BATI	**Baumata**	**18.58**	**103**	P	**Pn**	**15 39 24.2**	**+0.3**
	comp=Z,36nm,1.1s						
GTOI	**Gorontalo**	**18.94**	**69**	P	**Pn**	**15 39 31.5**	**+3.3**
MBWA	**Marble Bar**	**20.37**	**138**	P	**P**	**15 39 43.8**	**+0.6**
PSA00	**Pilbara Seismi**	**20.74**	**139**		**P**	**15 39 46.8**	**-0.3**
SANI	**Sanana**	**21.03**	**79**	P	**P**	**15 39 51.2**	**+0.8**
	comp=Z,23nm,1.2s						
LBMI	**Labuha**	**22.83**	**77**	P	**P**	**15 40 09.4**	**-0.3**
	comp=Z,780nmcomp=Z,22nm,1.2s						
FITZ	**Fitzoy Crossi**	**23.07**	**123**	P	**P**	**15 40 12.4**	**+0.3**
	comp=Z,7.7nm,0.8s,baz=329,slow=5.3,SNR=6.6						
FITZ				LR	LR	15 50 56.2	
	comp=Z,135nm,18.4s,baz=310,slow=41 comp=Z,7.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.07**	**123**	P	**P**	**15 40 11.3**	**-0.8**
TNTI	**Ternate**	**23.09**	**73**	P	**P**	**15 40 12.1**	**-0.3**
TNTI	**Ternate**	**23.09**	**73**	P	**P**	**15 40 12.5**	**+0.1**
	comp=Z,1µmcomp=Z,58nm,1.7s						
KNRA	**Kununurra**	**24.83**	**114**	P	**P**	**15 40 27.2**	**-1.7**
MORW	**Morawa**	**24.87**	**157**	P	**P**	**15 40 27.7**	**-1.5**
MORW				IAmb	IAmb	15 40 43.0	
	comp=Z,32nm,1.2s						
CMAR	**Chiang Mai Arr**	**25.33**	**346**	P	**P**	**15 40 30.3**	**-3.1**
	comp=Z,2.6nm,1.0s,baz=179,slow=7.9,SNR=15						
CMAR				LR	LR	15 52 32.3	
	comp=Z,143nm,18.6s,baz=190,slow=42 comp=Z,2.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**25.33**	**346**	P	**P**	**15 40 30.9**	**-2.5**
QIZ	**Qiongzhong**	**25.50**	**10**	P	**P**	**15 40 38.9**	**+4.0**
QIZ				S	**S**	**15 45 06.4**	**+4.0**
QIZ				LR	LR		
	comp=N,1µm,10.8s						
QIZ				LR	LR		
	comp=E,510nm,18.0s						
QIZ				LR	LR		
	comp=Z,750nm,13.9s						
CHTO	**Chiang Mai**	**25.67**	**346**	P	**P**	**15 40 35.2**	**-1.3**
MTN	**Manton Dam**	**26.28**	**106**	P	**P**	**15 40 41.0**	**-1.0**
MTN				IAmb	IAmb	15 40 48.1	
	comp=Z,19nm,0.9s						
SIJI	**Sorong**	**26.44**	**79**	P	**P**	**15 40 42.4**	**-1.2**
	comp=Z,8.0nm,1.1s,baz=219,slow=6.5,SNR=5.6 comp=Z,8.0nm,1.1s						
PALK	**Pallekele**	**27.98**	**298**	LR	LR	15 51 04.0	
	comp=Z,146nm,20.1s,baz=224,slow=34						
NWAO	**Narrogin (SRO)**	**28.78**	**159**	LR	LR	15 52 34.7	
	comp=Z,385nm,19.6s,baz=138,slow=36						

WB0	**Warramunga Arr**	**31.29**	**118**	P	**P**	**15 41 25.5**	**-1.2**
WB0				IAmb	IAmb	15 41 31.9	
	comp=Z,55nm,1.9s						
WRA	**Warramunga Arr**	**31.31**	**119**	P	**P**	**15 41 25.5**	**-1.4**
	comp=Z,2.1nm,0.5s,baz=301,slow=9.2,SNR=29						
WRA				PcP	**PcP**	**15 44 22.8**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=307,slow=1.9,SNR=5.2						
WRA				LR	LR	15 54 16.8	
	comp=Z,80nm,19.7s,baz=257,slow=37 comp=Z,2.1nm,0.5s						
WRA	**Warramunga Arr**	**31.31**	**119**	P	**P**	**15 41 25.6**	**-1.3**
WRAB	**Tennant Creek**	**31.31**	**119**	P	**P**	**15 41 25.4**	**-1.5**
WRAB				IAmb	IAmb	15 41 32.2	
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**31.32**	**119**	P	**P**	**15 41 25.3**	**-1.7**
WB2				IAmb	IAmb	15 41 32.2	
	comp=Z,16nm,1.1s						
WR0	**Warramunga Arr**	**31.49**	**118**	P	**P**	**15 41 27.1**	**-1.4**
WR0				IAmb	IAmb	15 41 33.3	
	comp=Z,11nm,0.7s						
BRDH	**Bariadhala**	**31.70**	**335**	LR	LR	15 56 42.1	
	comp=Z,169nm,18.1s,baz=99,slow=41						
ASAR	**Alice Springs**	**32.49**	**125**	P	**P**	**15 41 36.5**	**-0.8**
	comp=Z,4.7nm,1.0s,baz=299,slow=7.8,SNR=26						
ASAR				PcP	**PcP**	**15 44 24.4**	**0.0**
	comp=Z,2.2nm,0.8s,baz=307,slow=3.2,SNR=3.9						
ASAR				LR	LR	15 56 08.6	
	comp=Z,76nm,21.3s,baz=269,slow=39 comp=Z,4.7nm,1.0s						
ASAR	**Alice Springs**	**32.49**	**125**	P	**P**	**15 41 35.2**	**-2.1**
AS31	**Alice Springs**	**32.49**	**125**		**P**	**15 41 36.7**	**-0.6**
GYA	**Guiyang**	**32.53**	**2**	⇑*i*P	**P**	**15 41 40.9**	**+3.3**
GYA				sP	sP	15 42 03.0	+21
GYA				PcP	**PcP**	**15 44 28.2**	**+3.8**
GYA				S	**S**	**15 46 49.7**	**-3.3**
GYA				sS	sS	15 47 17.6	+19
GYA				SS	**SS**	**15 49 05.8**	**-7.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				LR	LR		
	comp=N,560nm,11.9s						
GYA				LR	LR		
	comp=E,530nm,12.8s						
GYA				LR	LR		
	comp=Z,410nm,10.1s						
H08S2	**Diego Garcia H**	**32.60**	**266**	T	T	16 15 58.2	
	baz=91						
H08S3	**Diego Garcia H**	**32.62**	**266**	T	T	16 15 50.9	
	baz=91						
H08S1	**Diego Garcia H**	**32.62**	**266**	T	T	16 15 53.9	
	baz=91						
PZH	**PanZhiHua**	**32.73**	**354**	P	**P**	**15 41 40.6**	**+1.2**
PZH				S	**S**	**15 46 53.4**	**-2.7**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,80nm,4.5s						
PZH				LR	LR		
	comp=N,1µm,12.9s						
PZH				LR	LR		
	comp=E,480nm,12.0s						
PZH				LR	LR		
	comp=Z,1µm,12.9s						
PCHI	**Peechi**	**33.31**	**300**	*e*P	**P**	**15 41 47.2**	**+2.7**
ENH	**Enshi**	**36.52**	**6**	P	**P**	**15 42 11.9**	**-0.2**
CD2	**Chengdu**	**36.97**	**358**	*e*P	**P**	**15 42 18.0**	**+2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JOW	**Kunigami**	**39.69**	**33**	LR	LR	15 59 27.5	
	comp=Z,71nm,19.7s,baz=311,slow=37						
NJ2	**Nanjing**	**40.21**	**18**	*e*P	**P**	**15 42 44.9**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				LR	LR		
	comp=N,330nm,15.4s						
NJ2				LR	LR		
	comp=E,320nm,14.0s						
NJ2				LR	LR		
	comp=Z,190nm,20.6s						
PMG	**Port Moresby**	**41.56**	**97**	LR	LR	16 05 01.3	
	comp=Z,70nm,20.1s,baz=268,slow=43						
CTA	**Charters Tower**	**42.04**	**113**	LR	LR	16 02 01.6	
	comp=Z,80nm,18.2s,baz=260,slow=38						
CTAO	**Charters Tower**	**42.04**	**113**	P	**P**	**15 42 57.6**	**-0.8**
CTAO				IAmb	IAmb	15 43 07.4	
	comp=Z,30nm,1.3s						
STKA	**Stephens Creek**	**42.39**	**132**	P	**P**	**15 43 01.1**	**0.0**
	comp=Z,7.2nm,0.5s,baz=304,slow=8.1,SNR=21						
STKA				LR	LR	16 02 22.3	
	comp=Z,104nm,20.2s,baz=240,slow=38 comp=Z,7.2nm,0.5s						
STKA	**Stephens Creek**	**42.39**	**132**	P	**P**	**15 43 00.4**	**-0.7**
GOMU	**GeErMu**	**43.35**	**348**	P	**P**	**15 43 10.9**	**+1.8**
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GOMU				LR	LR		
	comp=N,230nm,10.0s						
GOMU				LR	LR		
	comp=E,130nm,11.1s						
GOMU				LR	LR

comp=Z,27nm,1.2s
USRK Ussuriysk Ar. 55.67 23 P P 15 44 40.1 -2.5
comp=Z,3.2nm,0.8s,baz=211,slow=2.5,SNR=2.9
comp=Z,3.2nm,0.8s
USRK Ussuriysk Ar. 55.67 23 P P 15 44 40.8 -1.7
CHGR Chuyangaron 55.85 326 P P 15 44 41.3 -2.9
CHGR IAmb IAmb 15 44 45.2
comp=Z,30nm,1.1s
MK31 Makanchi Array 56.62 341 P P 15 44 46.5 -2.9
MKAR Makanchi Array 56.62 341 P P 15 44 45.8 -3.6
comp=Z,3.8nm,0.9s,baz=134,slow=6.9,SNR=19
MKAR PcP **PcP 15 45 46.6 +0.9**
comp=Z,2.0nm,0.9s,baz=141,slow=4.8,SNR=5.1
MKAR LR LR 16 13 09.4
comp=Z,77nm,19.3s,baz=136,slow=41
comp=Z,3.8nm,0.9s
MKAR Makanchi Array 56.62 341 P P 15 44 47.3 -2.1
ALNE Al Ain 56.93 304 P P 15 44 52.7 +0.7
UOSS Minazif 56.94 305 P P 15 44 52.9 +0.8
ASHO Ashiyiah 56.95 305 P P 15 44 53.4 +1.3
HATD Hatta, Dubai 56.95 305 *i* **P P 15 44 53.8 +1.7**
SNR=6.6
MDH Madha 57.02 305 P P 15 44 55.3 +2.7
MSFE Esma-Masafi 57.16 305 P P 15 44 54.2 +0.5
FAQ Al Faqa, Dubai 57.35 305 *i* **P P 15 44 55.0 +0.1**
SNR=15
NAZ Nazwa, Dubai 57.40 305 *i* **P P 15 44 55.1 -0.2**
SNR=5.9
ASUD Al Ashush, Dub 57.52 304 P P 15 44 56.4 +0.2
MZR Muzera 58.39 302 *i* **P P 15 45 03.2 +0.9**
SNR=6.1
KLR Kul'dur 59.87 20 LR LR 16 11 15.0
comp=Z,64nm,18.9s,baz=222,slow=36
KURBB Kurchatov Arra 61.18 341 LR LR 16 15 17.3
comp=Z,103nm,20.4s,baz=127,slow=40
KURK Kurchatov 61.23 341 P P 15 45 19.9 -1.4
KURK IAmb IAmb 15 45 23.2
comp=Z,6.5nm,1.1s
GEYT Alibeck 62.09 319 P P 15 45 25.3 -2.1
comp=Z,15nm,0.8s,baz=160,slow=5.7,SNR=26
comp=Z,15nm,0.8s
GEYT Alibeck 62.09 319 P P 15 45 25.8 -1.6
GYA0B ALIBECK ARRAY 62.09 319 P P 15 45 25.9 -1.5
ZAA0 Zalesovo Array 62.39 346 P P 15 45 27.5 -1.6
ZAA0 IAmb IAmb 15 45 30.7
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 62.39 346 P P 15 45 25.5 -3.5
comp=Z,13nm,1.1s,baz=149,slow=3.5,SNR=21
ZALV LR LR 16 14 55.9
comp=Z,151nm,18.1s,baz=170,slow=38
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 62.39 346 P P 15 45 27.1 -1.9
RAYN Ar Rayn 65.42 299 P P 15 45 48.6 -1.0
RAYN IAmb IAmb 15 45 54.7
comp=Z,10nm,1.0s
RAYN Ar Rayn 65.42 299 *i* **P P 15 45 49.6 -0.1**
SNR=11
BVAR Borovoye Array 66.03 338 LR LR 16 19 20.7
comp=Z,64nm,20.3s,baz=130,slow=40
BRVK Borovoye 66.09 338 P P 15 45 52.6 -0.7
MAW Mawson 67.61 196 LR LR 16 09 09.2
comp=Z,96nm,21.9s,baz=25,slow=30
ABKAR Akbulak array 67.91 330 P P 15 46 01.2 -3.8
ABKAR IAmb IAmb 15 46 07.5
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 68.07 271 LR LR 16 14 07.8
comp=Z,42nm,18.4s,baz=91,slow=34
RPZ Rata Peaks 68.25 135 LR LR 16 16 25.6
comp=Z,115nm,19.8s,baz=243,slow=36
THZ Tophouse 69.20 132 P P 15 46 12.6 -0.7
AKTO Aktyubinsk 69.62 330 LR LR 16 22 17.9
comp=Z,30nm,18.9s,baz=142,slow=41
LODK Lodwar 70.50 276 P P 15 46 20.3 -1.6
YAK Yakutsk 70.62 12 LR LR 16 20 56.0
comp=Z,75nm,18.3s,baz=267,slow=39
YAK Yakutsk 70.62 12 P P 15 46 18.4 -3.1
YAK IAmb IAmb 15 46 23.4
comp=Z,18nm,0.9s
BKZ Black Stump Fm 71.50 129 P P 15 46 26.2 -1.3
URZ Urewera 71.88 128 LR LR 16 20 32.7
comp=Z,109nm,18.8s,baz=155,slow=38
ARU Arti 73.22 335 LR LR 16 22 08.0
comp=Z,67nm,19.6s,baz=123,slow=39
ARU Arti 73.22 335 P P 15 46 35.9 -1.4
ARU IAmb IAmb 15 46 39.7
comp=Z,8.9nm,1.1s
MARD Mardin 74.00 312 P P 15 46 40.9 -1.6
KBZ Khabaz 74.97 318 P P 15 46 46.2 -1.5
comp=Z,18nm,1.0s,baz=108,slow=4.5,SNR=18
comp=Z,18nm,1.0s
KIV Kislovodsk 75.20 318 P P 15 46 47.4 -1.8
KIV IAmb IAmb 15 46 53.1
comp=Z,16nm,0.9s
KIV Kislovodsk 75.20 318 P P 15 46 50.3 +1.1
LSZ Lusaka 75.99 256 LR LR 16 15 39.7
comp=Z,85nm,20.8s,baz=132,slow=32
EIL Elat 76.25 302 LR LR 16 21 30.7
comp=Z,69nm,18.1s,baz=89,slow=37
VNDA Vanda 77.02 169 P P 15 46 59.7 +0.8
comp=Z,3.9nm,0.9s,baz=292,slow=6.4,SNR=11
VNDA LR LR 16 17 57.7
comp=Z,74nm,18.7s,baz=312,slow=33
comp=Z,3.9nm,0.9s
VNDA Vanda 77.02 169 P P 15 46 58.1 -0.8
LBTB Lobatse 78.09 246 LR LR 16 17 10.2
comp=Z,27nm,18.7s,baz=179,slow=32
BOSA Boshof 78.33 242 P P 15 47 09.8 +2.5
comp=Z,6.6nm,1.0s,baz=61,slow=8.8,SNR=5.2
comp=Z,6.6nm,1.0s
TIXI Tiksi 79.26 7 LR LR 16 25 32.7
comp=Z,81nm,20.1s,baz=181,slow=38
BRTR Keskin Array B 80.08 312 P P 15 47 14.6 -2.1
comp=Z,6.8nm,0.9s,baz=130,slow=6.2,SNR=23
comp=Z,6.8nm,0.9s
BRTR Keskin Array B 80.08 312 P P 15 47 14.4 -2.2
BR131 Keskin Array S 80.08 312 P P 15 47 14.4 -2.2
BR131 IAmb IAmb 15 47 20.4
comp=Z,14nm,0.9s
ANTO Ankara 80.74 312 P P 15 47 18.4 -1.7
ANTO IAmb IAmb 15 47 24.4
comp=Z,23nm,1.1s
SUR Sutherland 82.06 238 LR LR 16 18 17.2
comp=Z,70nm,19.1s,baz=140,slow=32
MDUB Mudurnu 82.08 312 P P 15 47 26.0 -1.3
QSPA South Pole Qui 83.75 180 LR LR 16 21 29.3
comp=Z,7.3nm,20.9s,baz=353,slow=33
QSPA South Pole Qui 83.75 180 P P 15 47 35.4 -0.1
QSPA IAmb IAmb 15 47 41.7
comp=Z,22nm,1.2s
KLMR Klimovskoe 83.95 333 *eP* **P 15 47 36.8 +0.5**
KLMR AMP 15 47 45.5
comp=Z,24nm,1.6s
TPGR Topolog 85.16 316 ⇓P P 15 47 47.0 +4.1
CFR Carcaliu 85.43 316 ⇓P P 15 47 46.0 +1.9
TSUM Tsumeb 85.84 251 LR LR 16 21 35.8
comp=Z,76nm,19.8s,baz=120,slow=32
AKASG Malin Array Be 86.06 322 P P 15 47 44.7 -2.5
comp=Z,2.7nm,0.8s,baz=85,slow=5.1,SNR=24
comp=Z,2.7nm,0.8s
AKASG Malin Array Be 86.06 322 P P 15 47 46.1 -1.0
AKASG IAmb IAmb 15 47 50.2
comp=Z,8.2nm,1.2s
AKBB Malin Array Si 86.06 322 P P 15 47 45.5 -1.7
AKBB IAmb IAmb 15 47 50.5
comp=Z,11nm,0.9s
VRI Vrincioaia 86.55 317 ⇑P P 15 47 49.1 -0.6
PLOR Plostina 86.60 317 P P 15 47 52.6 +2.6
TESR Tescani 86.74 317 P P 15 47 50.5 -0.1
NEHR Nehoiu 86.75 316 P P 15 47 50.0 -0.7
MLR Muntele Rosu 87.00 316 P P 15 47 51.3 -0.8
MLR Muntele Rosu 87.00 316 P P 15 47 51.0 -1.1
BIZ Bicaz 87.20 318 ⇓P P 15 47 50.0 -2.8
DOPR Dopca 87.48 317 ⇑P P 15 47 56.9 +2.6
MNK Minsk 87.79 325 *i* **P P 15 47 57.6 +2.1**
comp=E,7.0nm,1.1s
MNK *i* P P **15 47 57.6 +2.1**
comp=N,9.0nm,0.9s
MNK *i* P P **15 47 57.6 +2.1**
comp=Z,49nm,0.9s,baz=284
MNK *i* PP **PP 15 51 23.6 +2.3**
MNK *i* PPP PPP 15 53 19.0
MNK *i* S **SKSac 15 58 22.5 -1.1**
MNK *i* SS **SS 16 04 27.1 +2.2**
MNK *i* SSS SSS 16 08 01.2
MNK *i* LR LR 16 26 01.5
MNK *i* LRM MLR 16 28 02.6
comp=Z,24nm,12.0s
MNK *i* LRM MLR 16 28 33.6
comp=E,5.0nm,16.3s
MNK *i* LRM MLR 16 28 33.6
comp=N,61nm,20.6s
BURAR Bucovina Array 87.93 318 ⇑P P 15 47 56.8 +0.3
BURAR Bucovina Array 87.93 318 P P 15 47 55.0 -1.4
BUR08 Bucovina Ar. S 87.94 318 P P 15 47 55.5 -1.0
TROLL Troll, Antarti 88.04 198 P P 15 48 02.0 +5.4
VTS Vitosha 88.38 313 ⇑P P 15 47 58.5 -0.3
VTS Vitosha 88.38 313 P P 15 47 58.0 -0.8
VTS IAmb IAmb 15 48 03.5
comp=Z,16nm,1.1s
LOT Lotru 88.50 316 ⇑P P 15 48 01.7 +2.5
NACGM Naroch 88.51 326 *eP* **P 15 48 00.1 +1.3**
baz=102
LIT Litokhoron 88.51 310 P P 15 47 58.2 -1.1
VAY Valandovo 88.65 312 *i* **P P 15 48 01.9 +2.0**
IIGN Ignalina 88.92 326 *eP* **P 15 48 02.3 +1.4**
BLKB Belogradchik 88.95 314 ⇑P P 15 47 58.1 -3.2
STIP Stip 88.99 312 *i* **P P 15 48 02.4 +0.9**
GZR Gura Zlata 89.17 316 ⇓P P 15 48 07.0 +4.6
HERR Herculane 89.34 315 ⇑P P 15 48 06.9 +3.9
DRGR 89.45 317 ⇑P P 15 48 06.2 +2.6
SNAA Sanae 89.75 197 P P 15 48 08.7 +4.1
SNAA Sanae 89.75 197 LR LR 16 23 38.8
comp=Z,35nm,18.7s,baz=32,slow=32
MDVR Moldovita 89.82 315 ⇑P P 15 48 07.3 +2.0
OHR Ohrid 89.94 311 *i* **P P 15 48 06.9 +0.9**
BZS Buzias 90.02 316 ⇑P P 15 48 08.0 +1.8
SIRR Siria 90.09 316 ⇓P P 15 48 07.2 +0.7
KOLS Kolonicke sedl 90.10 319 *eP* **P 15 48 08.2 +1.7**
PABE Paberze 90.21 326 P P 15 48 07.0 +0.2
PABE Paberze 90.21 326 *eP* **P 15 48 08.1 +1.3**
FINES FINESS Array B 90.31 332 P P 15 48 05.1 -2.1
comp=Z,5.4nm,0.9s,baz=140,slow=4.5,SNR=15
comp=Z,5.4nm,0.9s
FINES FINESS Array B 90.31 332 P P 15 48 06.2 -0.9
KEK Kerkira 90.50 310 P P 15 48 07.5 -1.1
CRVS Cervenica-Dubn 90.62 319 *eP* **P 15 48 10.6 +1.6**
DIVS Divibare 90.94 314 P P 15 48 09.4 -1.2
DIVS IAmb IAmb 15 48 15.8
comp=Z,14nm,1.3s
VNA2 Neumayer--Watz 91.39 198 P P 15 48 17.3 +5.2
baz=88,slow=3.7
PSZ Piszkesteto 91.52 318 P P 15 48 13.7 +0.5
VNA1 Neumayer--Stat 91.76 198 P P 15 48 17.1 +3.3
VNA3 Neumayer Olymp 91.93 197 P P 15 48 17.6 +2.9
MORH Mrgy, Hungar 92.15 316 ⇑P P 15 48 19.6 +3.5
MORH Mrgy, Hungar 92.15 316 P P 15 48 18.7 +2.6
ARCES ARCESS Array B 92.25 340 LR LR 16 35 38.9
comp=Z,74nm,18.7s,baz=114,slow=40
VYHS Vyhne 92.29 318 *eP* **P 15 48 18.3 +1.6**
KOVH Kovagotottos 92.52 316 P P 15 48 20.9 +3.1
MPLH Magyarpolny 93.01 317 P P 15 48 23.3 +3.2
MORC Moravsky Berou 93.28 320 ⇓P P 15 48 24.5 +3.2
KRLC Kraliky 93.79 320 *eP* **P 15 48 24.8 +1.1**
DPC Dobruska-Polom 94.11 320 *eP* **P 15 48 26.5 +1.4**
OSTC Ostas 94.19 320 *eP* **P 15 48 26.9 +1.4**
CKRC Cesky Krumlov 95.31 318 *eP* **P 15 48 33.8 +3.2**
GERES GERESS Array B 95.71 318 P P 15 48 31.4 -1.1
comp=Z,0.9nm,0.9s,baz=121,slow=2.9,SNR=4.4
comp=Z,0.9nm,0.9s
KHC Kasperske Hory 95.81 319 *eP* **P 15 48 34.9 +2.0**
SPITS Spitsbergen Ar 95.85 348 LR LR 16 38 53.4
comp=Z,72nm,18.9s,baz=76,slow=40
NOA NORSAR Array B 97.41 331 P P 15 48 38.1 -1.8
comp=Z,2.4nm,1.1s,baz=89,slow=4.9,SNR=3.0
NOA LR LR 16 36 43.4
comp=Z,23nm,20.6s,baz=0.0,slow=38
comp=Z,2.4nm,1.1s
J05D Fort Rock, OR 124.96 40 P PKPdf 15 54 06.8 -0.4
baz=298
MSO Missoula 127.38 33 PKPdf PKPdf 15 54 11.5 -0.1
MSO Missoula 127.38 33 P PKPdf 15 54 11.6 0.0
baz=308
HLID Hailey 129.05 37 P PKPdf 15 54 14.6 -0.4
baz=305
NVAR Mina Array Bea 129.21 44 PKP PKPdf 15 54 14.9 -0.6
comp=Z,0.1nm,0.3s,baz=274,slow=2.5,SNR=1.1
MPMC Manual Prospec 130.87 47 P PKPdf 15 54 18.7 0.0
baz=297
EDW2 Edwards Air Fo 131.01 48 P PKPdf 15 54 18.4 -0.4
baz=296
R11A Troy Canyon, C 131.11 43 P PKPdf 15 54 18.6 -0.5
baz=300,SNR=7.2
TPNV Topopah Spring 131.34 45 P PKPdf 15 54 19.2 -0.4
baz=299
GSC Goldstone, Bar 131.70 47 P PKPdf 15 54 20.3 +0.1
baz=297
HWUT Hayware Ranch 131.90 37 PKPdf PKPdf 15 54 20.4 -0.1
DUG Dugway, Tooele 131.95 39 P PKPdf 15 54 20.7 +0.2
baz=304
BW06 Boulder Array 132.35 35 P PKPdf 15 54 21.4 +0.1
baz=310
PDAR Pinedale Array 132.35 35 PKP PKPdf 15 54 20.8 -0.6
comp=Z,0.2nm,0.4s,baz=270,slow=0.4,SNR=1.8
RSSD Black Hills 134.34 30 PKPdf PKPdf 15 54 24.8 -0.3
RSSD Black Hills 134.34 30 P PKPdf 15 54 24.8 -0.3
baz=317
AGMN Agassiz Nation 134.38 20 P PKPdf 15 54 24.5 -0.2
baz=330
O20A White River Ci 134.79 37 P PKPdf 15 54 25.9 -0.1
baz=309
WUAZ Wupatki 135.46 44 P PKiKP 15 54 28.2 -0.7
baz=302
SUSD Miller 136.43 25 P PKiKP 15 54 29.9 -0.5
baz=324
S22A 4UR Ranch, Cre 137.15 38 P PKPdf 15 54 31.0 +0.4
baz=309
SDCO Great Sand Dun 137.96 37 P PKiKP 15 54 33.0 -1.0
baz=311
ECSD EROS Data Cent 137.98 24 P PKiKP 15 54 33.0 -0.6
baz=326
T25A Trinidad 139.01 37 P PKPdf 15 54 34.6 +0.7
baz=312
ANMO Albuquerque 139.10 41 P PKPdf 15 54 34.8 +0.7
baz=307
CPUP Villa Florida 143.51 207 PKP PKPdf 15 54 42.2 +0.2
comp=Z,2.9nm,0.9s,baz=159,slow=5.1,SNR=5.7
CPUP Villa Florida 143.51 207 PKPdf PKPbc 15 54 39.8 +0.6
TXAR Lajitas Array 144.29 46 PKP PKPbc 15 54 41.9 +0.2
comp=Z,4.5nm,1.0s,baz=263,slow=1.0,SNR=16
TXAR Lajitas Array 144.29 46 PKPdf PKPab 15 54 41.1 -0.2
S39A Bolivar 144.39 26 PKPdf PKPbc 15 54 42.3 +0.7
TUL1 Leonard 144.68 30 P PKPdf 15 54 45.2 +1.5
baz=322
CCM Cathedral Cave 144.94 23 P PKPdf 15 54 45.2 +1.0
baz=331
ACSO Alum Creek Sta 145.34 11 P PKPdf 15 54 46.2 +1.4
baz=346
PAL Palisades 145.38 359 P PKPdf 15 54 45.9 +1.2
baz=1.6
SSPA Standing Stone 145.63 4 P PKPab 15 54 46.3 +0.5
baz=355
O53A New Philadelph 145.63 9 P PKPab 15 54 46.5 +0.8
baz=349
P49A Miami Univ. Ec 145.64 14 P PKPab 15 54 47.0 +1.2
baz=342
O52A Adamsville 145.66 10 PKPdf PKPdf 15 54 43.6 -1.7
BDFB Brasilia 145.79 230 PKPbc PKPab 15 54 48.6 +1.4
comp=Z,4.4nm,0.8s,baz=173,slow=3.4,SNR=7.2
P52A Corning 146.08 10 P PKPab 15 54 48.0 +0.5
baz=347
JCT Junction City 146.26 41 P PKPab 15 54 48.7 +0.3
baz=311
MCWV Mont Chateau 146.40 7 P PKPab 15 54 48.6 -0.1
baz=351
WCI Wyandotte Cave 146.46 17 P PKPab 15 54 48.9 0.0
baz=339
WHTX Lake Whitney, 146.70 37 P PKPbc 15 54 49.5 +0.5
baz=316
Q52A Bidwell 146.71 11 PKPdf PKPdf 15 54 45.6 -1.5
MIAR Mount Ida 146.86 29 PKPbc PKPdf 15 54 48.1 +0.5
MIAR Mount Ida 146.86 29 P PKPab 15 54 50.3 -0.3
baz=324,SNR=8.9
Q56A Snyder Ridge, 147.09 6 PKPdf PKPdf 15 54 46.8 -1.0
S51A Beattyville 147.71 13 PKiKP 15 54 53.5 -0.2
WVT Waverly 147.90 20 PKPdf PKPdf 15 54 48.4 -0.9
WVT Waverly 147.90 20 P PKPbc 15 54 52.3 +0.2
baz=335
833A Chaparral WMA, 147.91 44 P PKPbc 15 54 53.2 +0.8
baz=309
S54A Dingess, Beckl 148.01 10 PKiKP 15 54 54.2 -0.1
W45A Hickory Valley 148.27 23 PKiKP 15 54 54.5 -0.4
CLTN Cedars of Leba 148.43 18 PKPdf 15 54 51.1 +1.0
NATX Nacogdoches 148.48 34 P PKPbc 15 54 54.4 +0.6
baz=320
JSRW J. Sargeant Re 148.55 5 PKPab 15 54 56.3 -0.9
BLA Blacksburg 148.73 9 P PKPbc 15 54 54.7 +0.3
baz=349
OXF Oxford 148.75 24 P PKiKP 15 54 55.4 -0.5
baz=331,SNR=5.1
TZTN Tazewell 148.76 14 P PKiKP 15 54 55.6 -0.3
baz=343
HKT Hockley 149.13 38 PKPdf PKPdf 15 54 48.9 -2.4
V51A Loudon 149.26 15 PKPbc 15 54 54.0 -1.7
T59A Double "B" Far 149.30 5 PKPbc 15 54 54.4 -1.3
V52A Sevierville 149.42 14 PKPdf 15 54 53.6 +1.9
CPCT Cooper Cave 149.55 16 PKPdf 15 54 54.1 +2.2
TKL Tuckaleechee C 149.55 15 PKPdf 15 54 53.2 +1.3
W50A Signal Mountai 149.56 17 PKPdf 15 54 53.5 +1.5
VBMS Vicksburg 150.23 28 P PKPbc 15 54 57.7 -0.4
baz=327
Y49A Blount Mountai 150.44 20 PKPbc 15 54 56.7 -2.0
KMSC Kings Mountain 150.59 11 P PKPbc 15 54 58.3 -0.6
baz=347,SNR=10
W57A Gilead 150.81 9 PKPbc 15 54 58.2 -1.2
LRAL Lakeview Retre 150.98 22 PKPbc 15 54 59.0 -1.0
LRAL Lakeview Retre 150.98 22 P PKPbc 15 54 58.5 -1.4
baz=334,SNR=8.4
Y52A Lilburn 151.17 16 PKPbc 15 54 58.5 -1.9
HODGE Hodges 151.28 13 PKPbc 15 54 58.2 -2.4
GOGA Godfrey 151.76 16 P PKPbc 15 55 00.7 -1.0
baz=342,SNR=12
BRAL Brewton 152.62 24 P PKPbc 15 55 03.7 0.0
baz=333
NHSC New Hope 152.78 10 P PKiKP 15 55 04.7 +0.5
baz=348
TIGA Tifton 153.58 17 P PKiKP 15 55 05.9 0.0
baz=340

GUC 11 15:42:40.9±0.5, 23.94S×67.03W, h229km±13km, ML3.7, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**2.36**	**288**	⇑*iP*	Pn	15 43 25.8	+0.3
PB15				*i* S	S	15 43 59.5	-0.6
GO02	**Mina Guanaco**	**2.63**	**242**	⇑*iP*	Pn	15 43 28.5	+0.1
GO02				*i* S	S	15 44 05.3	-0.1
GO02				IAML		15 44 06.9	
	comp=E,140nm,0.1s						
PB06	**IPOC Station P**	**2.64**	**297**	⇑*iP*	Pn	15 43 28.7	+0.3
PB06				*i* S	S	15 44 04.7	-0.8
PB06				IAML		15 44 06.3	
	comp=N,104nm,0.2s						
PB09	**IPOC Station P**	**2.96**	**316**	*eP*	Pn	15 43 32.3	+0.5
PB09				*i* S	S	15 44 11.0	-0.7
PB14	**IPOC Station P**	**3.15**	**257**	⇑*iP*	Pn	15 43 34.9	+0.7
PB14				*i* S	S	15 44 14.8	-1.1
PB10	**IPOC Station P**	**3.26**	**277**	⇑*iP*	Pn	15 43 35.8	+0.7
PB10				*i* S	S	15 44 16.7	-0.8
PB04	**IPOC Station P**	**3.29**	**299**	⇓*iP*	Pn	15 43 36.0	+0.4
PB04				*i* S	S	15 44 17.2	-1.3
PB07	**IPOC Station P**	**3.44**	**309**	⇑*iP*	Pn	15 43 37.3	-0.1
PB07				*i* S	S	15 44 19.4	-2.2
AC02	**Maricunga**	**3.45**	**213**	*eP*	Pn	15 43 37.9	+0.2
PB01	**IPOC Station P**	**3.68**	**321**	⇑*iP*	Pn	15 43 39.7	-0.3
PB01				*i* S	S	15 44 24.3	-2.2
PB02	**IPOC Station P**	**3.72**	**314**	*eP*	Pn	15 43 40.6	0.0
PB02				*i* S	S	15 44 24.8	-2.7
AC01	**Pan de Azucar**	**3.91**	**235**	*eP*	Pn	15 43 42.0	-0.7
AC01				*i* S	S	15 44 29.0	-2.4
TA01	**Diego Aracena**	**4.45**	**318**	*eP*	Pn	15 43 49.1	-0.2
TA01				*i* S	S	15 44 40.2	-3.2
AC06	**Mina Casimiro**	**4.54**	**221**	*eP*	Pn	15 43 49.5	-0.8
AC06				*i* S	S	15 44 42.8	-2.4
AC04	**Llanos de Chal**	**5.59**	**220**	*eP*	Pn	15 44 02.0	-1.4

IDC 11 16:05:14.6±3.3, 7.88S×146.63E, h0km, mbtmp3.3/2, ML3.3/2, Error ellipse: s-maj=63.0km s-min=18.2km az=59.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.61**	**161**	Pg	Pn	16 05 43.9	-0.4
	13nm,0.3s,baz=338,slow=11,SNR=24						
PMG				Lg	Lg	16 06 05.8	
	24nm,0.3s,baz=156,slow=21,SNR=10						
WRA	**Warramunga Arr**	**16.90**	**224**	Pn	Pn	16 09 13.3	+0.5
	0.1nm,0.3s,baz=51,slow=12,SNR=15						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**19.89**	**216**	P	P	16 09 47.0	-0.7
	0.1nm,0.3s,baz=49,slow=9.5,SNR=11						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.15**	**282**	PKPbc	PKPbc	16 24 53.9	-0.8
	0.4nm,0.7s,baz=91,slow=1.8,SNR=2.0						

---

*SOME **11** 16:53:27.6, 39.05N×71.35E, h15km*
*NNC **11** 16:53:32.7±1.7, 38.85N×70.46E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.0km s-min=10.6km az=18.0*
ISC 11 16:53:22.0±2.5, 38.8N±0.1×70.99E±0.07, h10km, n10, σ2s90/18, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**3.39**	**348**	*eP*	**Pg**	**16 54 26.9**	**0.0**
	176nm,0.2s						
IUG				*eS*	**Sg**	**16 55 09.8**	**-1.0**
	163nm,0.4s						
MRKS	**Merke**	**4.26**	**23**	*eP*	**Pg**	**16 54 42.3**	**-1.3**
	4.7nm,0.1s						
MRKS				*eS*	**Sg**	**16 55 36.0**	**-2.7**
	19nm,0.3s						
KK31	**Karatay Array**	**4.28**	**355**	Pn	**Pb**	**16 54 38.0**	**+0.7**
	2.6nm,0.4s,baz=174,slow=12,SNR=79						
KK31				⇑Pg	Pg	16 54 49.9	+5.9
	1.8nm,0.4s,baz=186,slow=13,SNR=5.1						
KK31				Sn	**Sb**	**16 55 30.8**	**+1.7**
	3.7nm,0.5s,baz=202,slow=31,SNR=6.4						
KK31				⇑Lg	Lg	16 55 46.9	
	16nm,0.8s,baz=187,slow=30,SNR=4.4						
CHMS	**Chumysh**	**5.04**	**33**	⇑Pn	**Pb**	**16 54 52.8**	**+2.4**
	3.0nm,0.6s						
CHMS				⇓Lg	Lg	16 56 18.3	
	6.4nm,0.7s						
SGDS	**Sogindy**	**5.37**	**30**	*eP*	**Pb**	**16 54 57.7**	**+1.8**
	1.9nm,0.2s						
SGDS				*eS*	**Sb**	**16 56 02.5**	**+2.1**
	8.0nm,0.3s						
TKM2	**Tokmak 2**	**5.37**	**39**	⇑Pn	**Pb**	**16 54 58.6**	**+2.5**
	4.7nm,0.7s						
TKM2				⇑Sn	**Sb**	**16 56 04.9**	**+4.3**
	5.8nm,0.7s						
TKM2				⇓Lg	Lg	16 56 29.2	
	14nm,1.3s						
KST	**Kastek**	**5.64**	**40**	*eP*	**Pb**	**16 55 03.5**	**+2.9**
	2.0nm,0.3s						
KST				*eS*	**Sb**	**16 56 12.8**	**+4.4**
	5.6nm,0.3s						
DGS	**Degeres**	**5.70**	**38**	*eP*	**Pg**	**16 55 07.6**	**-3.4**
	1.4nm,0.2s						
DGS				*eS*	**Sg**	**16 56 19.2**	**-5.6**
	4.7nm,0.3s						
BTLS	**Baital**	**6.61**	**19**	*eP*	**Pg**	**16 55 27.4**	**-1.0**
	1.4nm,0.3s						
BTLS				*eS*	**Sg**	**16 56 52.9**	**-1.0**
	5.5nm,0.9s						
AB31	**Akbulak array**	**13.09**	**326**	Pn	**P**	**16 56 36.7**	**-1.4**
	0.8nm,0.5s,baz=163,slow=9.4,SNR=25						

---

*ISK **11** 16:56:16.3, 37.74N×23.51E, h6km, ML2.6/7*
*THE **11** 16:56:18.9, 37.58N×23.59E, h13km±1km, ML2.3/16, Error ellipse: s-maj=1.2km s-min=0.5km az=323.0*
*ATH **11** 16:56:18.6, 37.55N×23.62E, h15km±1km, ML2.2/13, Error ellipse: s-maj=1.5km s-min=0.7km az=104.0*
ISC 11 16:56:18.5±0.9, 37.57N±0.02×23.59E±0.02, h16km±7km, n45, σ0.64/78, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YDRA	**Hydra**	**0.24**	**205**	P	**Pg**	**16 56 23.7**	**-0.2**
YDRA				S	**Sg**	**16 56 27.9**	**+0.4**
YDRA				AML	AML	16 56 28.6	
	comp=N,7530μm,0.2s						

YDRA					AML	AML	16 56 29.1		
	comp=E,8948μm,0.2s								
VLY	**Voula,Athens**	**0.32**	**30**	P	**Pg**		**16 56 25.3**	**0.0**	
VLY				S	**Sb**		**16 56 30.7**	**-0.3**	
	comp=E,468nm,0.2s								
VLY	**Voula,Athens**	**0.32**	**30**	P	**Pg**		**16 56 25.3**	**0.0**	
VLY				S	**Sb**		**16 56 30.7**	**-0.3**	
VLY				AML	AML		16 56 32.1		
	comp=N,770μm,0.2s								
VLY				AML	AML		16 56 32.2		
	comp=E,1104μm,0.2s								
EPID	**Epidavros**	**0.38**	**277**	P	**Pg**		**16 56 26.0**	**-0.3**	
EPID				S	**Sg**		**16 56 32.1**	**+0.6**	
	comp=E,1μm,0.2s								
EPID	**Epidavros**	**0.38**	**277**	P	**Pg**		**16 56 25.9**	**-0.3**	
EPID				S	**Sb**		**16 56 32.2**	**-0.4**	
KRND	**KRANIDI**	**0.40**	**242**	P	**Pg**		**16 56 26.1**	**-0.5**	
KRND				S	**Sg**		**16 56 32.3**	**+0.2**	
	comp=E,558nm,0.3s								
KRND	**KRANIDI**	**0.40**	**242**	P	**Pg**		**16 56 25.9**	**-0.7**	
KRND				S	**Sg**		**16 56 32.4**	**+0.2**	
KRND				AML	AML		16 56 35.6		
	comp=E,1149μm,0.3s								
KRND				AML	AML		16 56 36.4		
	comp=N,1234μm,0.2s								
ATH	**Athens Observa**	**0.41**	**14**	P	**Pb**		**16 56 27.2**	**-0.3**	
ATH				S	**Sg**		**16 56 33.0**	**+0.5**	
	comp=N,482nm,0.4s								
ATH	**Athens Observa**	**0.41**	**14**	P	**Pg**		**16 56 26.7**	**-0.1**	
ATH				S	**Sb**		**16 56 33.7**	**+0.1**	
ATH				AML	AML		16 56 34.4		
	comp=N,937μm,0.4s								
ATH				AML	AML		16 56 38.0		
	comp=E,992μm,0.3s								
ATHU	**Athens Univers**	**0.42**	**21**	P	**Pg**		**16 56 27.0**	**-0.1**	
ATHU				S	**Sg**		**16 56 32.7**	**-0.2**	
	comp=E,112nm,0.1s								
ATHU	**Athens Univers**	**0.42**	**21**	P	**Pg**		**16 56 26.8**	**-0.3**	
ATHU				S	**Sg**		**16 56 32.7**	**-0.2**	
ATHU				AML	AML		16 56 34.4		
	comp=N,322μm,0.1s								
ATHU				AML	AML		16 56 38.3		
	comp=E,152μm,0.3s								
PTL	**Penteli**	**0.52**	**24**	P	**Pg**		**16 56 28.8**	**-0.1**	
PTL				S	**Sb**		**16 56 36.6**	**-0.2**	
	comp=E,268nm,0.1s								
PTL	**Penteli**	**0.52**	**24**	P	**Pg**		**16 56 28.8**	**-0.1**	
PTL				S	**Sb**		**16 56 37.0**	**+0.3**	
PTL				AML	AML		16 56 37.4		
	comp=N,663μm,0.2s								
PTL				AML	AML		16 56 40.6		
	comp=E,684μm,0.3s								
DION	**Dionisos Attik**	**0.57**	**28**	P	**Pg**		**16 56 29.9**	**0.0**	
DION				S	**Sb**		**16 56 38.9**	**+0.7**	
	comp=E,298nm,0.2s								
DION	**Dionisos Attik**	**0.57**	**28**	P	**Pg**		**16 56 29.7**	**-0.1**	
VILL	**Villia**	**0.63**	**340**	P	**Pg**		**16 56 31.0**	**0.0**	
VILL				S	**Sb**		**16 56 40.0**	**+0.1**	
	comp=E,420nm,0.4s								
LOUT	**Loutraki**	**0.64**	**311**	P	**Pb**		**16 56 31.8**	**+0.4**	
LOUT				S	**Sb**		**16 56 41.5**	**+1.3**	
	comp=E,248nm,0.2s								
LOUT	**Loutraki**	**0.64**	**311**	P	**Pb**		**16 56 31.7**	**+0.2**	
LOUT				S	**Sb**		**16 56 41.6**	**+1.5**	
LOUT				AML	AML		16 56 44.1		
	comp=E,99μm,0.3s								
LOUT				AML	AML		16 56 45.2		
	comp=N,84μm,0.2s								
LTK	**Loutraki**	**0.67**	**312**	P	**Pg**		**16 56 31.8**	**+0.1**	
LTK				S	**Sb**		**16 56 41.2**	**+0.2**	
	comp=N,190nm,0.5s								
LTK	**Loutraki**	**0.67**	**312**	P	**Pg**		**16 56 31.8**	**+0.1**	
LTK				S	**Sb**		**16 56 42.1**	**+1.1**	
LTK				AML	AML		16 56 46.9		
	comp=N,557μm,0.5s								
LTK				AML	AML		16 56 47.7		
	comp=E,678μm,0.3s								
VIL2	**Platees**	**0.69**	**338**	P	**Pg**		**16 56 30.7**	**-1.3**	
VIL2				S	**Sg**		**16 56 40.5**	**-0.7**	
VIL2				AML	AML		16 56 41.4		
	comp=N,825μm,0.4s								
VIL2				AML	AML		16 56 44.0		
	comp=E,674μm,0.4s								
THAL	**Thalero**	**0.87**	**303**	P	**Pn**		**16 56 35.9**	**-0.3**	
THAL				S	**Sn**		**16 56 48.0**	**-0.5**	
	comp=E,180nm,0.3s								
VLI	**Velíai**	**1.00**	**212**	P	**Pb**		**16 56 37.4**	**-0.1**	
VLI				S	**Sn**		**16 56 51.7**	**0.0**	
	comp=E,140nm,0.3s								
VLI	**Velíai**	**1.00**	**212**	P	**Pb**		**16 56 37.0**	**-0.5**	
VLI				AML	AML		16 56 53.3		
	comp=N,394μm,0.5s								
VLI				AML	AML		16 56 56.2		
	comp=E,276μm,0.6s								
KYMI	**Kymi, Euboea I**	**1.13**	**21**	P	**Pn**		**16 56 40.0**	**+0.2**	
KYMI				S	**Sg**		**16 56 55.0**	**-0.2**	
	comp=E,150nm,0.4s								
KYMI	**Kymi, Euboea I**	**1.13**	**21**	P	**Pn**		**16 56 40.0**	**+0.2**	
LKR	**Lokris**	**1.17**	**337**	P	**Pn**		**16 56 39.5**	**-0.9**	
LKR				S	**Sb**		**16 56 55.9**	**+0.4**	
	comp=E,202nm,0.3s								
LKR	**Lokris**	**1.17**	**337**	P	**Pn**		**16 56 40.1**	**-0.3**	
LKR				S	**Sb**		**16 56 55.8**	**+0.4**	
LKR				AML	AML		16 56 58.1		
	comp=N,361μm,0.4s								
LKR				AML	AML		16 56 59.5		
	comp=E,450μm,0.2s								
ATAL	**Atalanti**	**1.21**	**338**	P	**Pn**		**16 56 40.9**	**+0.1**	
ATAL				S	**Sb**		**16 56 56.8**	**+0.3**	
KLV	**Kalavryta, Ach**	**1.23**	**293**	P	**Pb**		**16 56 41.6**	**0.0**	
KLV				S	**Sg**		**16 56 58.6**	**+0.1**	
KLV				AML	AML		16 57 02.3		
	comp=N,68μm,0.4s								
KLV				AML	AML		16 57 09.2		
	comp=E,45μm,0.6s								
KTHA	**Kythira Island**	**1.38**	**198**	P	**Pn**		**16 56 43.0**	**-0.2**	
KTHA				S	**Sb**		**16 57 01.9**	**+0.5**	
	comp=E,112nm,0.3s								
KTHA	**Kythira Island**	**1.38**	**198**	PN	**Pb**		**16 56 44.5**	**+0.5**	
KTHA				SN	**Sg**		**16 57 05.8**	**+2.7**	
KTHA	**Kythira Island**	**1.38**	**198**	P	**Pn**		**16 56 42.7**	**-0.5**	
KTHA				S	**Sb**		**16 57 01.7**	**+0.3**	
KTHA				AML	AML		16 57 06.3		
	comp=N,155μm,0.4s								
KTHA				AML	AML		16 57 07.8		
	comp=E,299μm,0.3s								
ITM	**Ithomi**	**1.38**	**254**	PN	**Pn**		**16 56 42.8**	**-0.4**	
ITM				SN	**Sb**		**16 57 01.6**	**+0.1**	
ITM	**Ithomi**	**1.38**	**254**	P	**Pb**		**16 56 43.8**	**-0.2**	
KTHR	**Kythira**	**1.39**	**200**	P	**Pb**		**16 56 44.3**	**+0.1**	
KTHR				S	**Sg**		**16 57 02.8**	**-0.6**	
	comp=E,110nm,0.3s								
KTHR	**Kythira**	**1.39**	**200**	P	**Pb**		**16 56 44.0**	**-0.1**	
AXAR	**Agios Charalam**	**1.40**	**329**	P	**Pn**		**16 56 43.9**	**+0.4**	
AXAR				S	**Sg**		**16 57 03.7**	**-0.1**	
LAKA	**Lakka**	**1.44**	**298**	P	**Pb**		**16 56 45.2**	**+0.2**	
APE	**Apeiranthos**	**1.62**	**107**	PN	**Pn**		**16 56 46.9**	**+0.3**	
CHOS	**Chios island**	**2.11**	**67**	PN	**Pn**		**16 56 53.1**	**-0.2**	
IMMV	**Iera Moni Meta**	**2.13**	**171**	PN	**Pb**		**16 56 55.7**	**-1.1**	
URLA	**Izmir**	**2.50**	**71**	PN	**Pn**		**16 56 59.4**	**+0.8**	
IDI	**Anoyia**	**2.51**	**155**	PN	**Pb**		**16 57 01.6**	**-1.7**	
KOSK	**Kos Island**	**2.83**	**106**	PN	**Pn**		**16 57 04.9**	**+1.9**	

NEIC ***11*** *17:14:20.6±1.4, 4.°3S±0.°1×153.°1E±0.°1, h25km±11km, mb4.5/16, Error ellipse: s-maj=24.5km s-min=14.0km az=215.0*
IDC ***11*** *17:14:24.6±1.9, 4.°36S×152.°92E, h54km±13km, mb3.8/5, mbtmp4.1/6, Error ellipse: s-maj=26.0km s-min=18.2km az=3.0*
ISC 11 17:14:24.2±1.1,**4.°4S**±0.°1×**152.°99E**±0.°09,**h55**km,**n40,**
σ1ᵍ21/42,mb4.3/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.84**	**281**	P	**Pn**	**17 14 38.0**	**-1.9**
RABL	**Rabaul**	**0.84**	**281**	P	**Pn**	**17 14 38.4**	**-1.6**
KRVT	**Keravat (AS076**	**0.96**	**273**	P	**Pn**	**17 14 40.5**	**-1.1**
	1μm,0.5s,baz=164,slow=3.3,SNR=311						
KRVT				S	**Sn**	**17 14 54.0**	**-0.4**
	4μm,0.5s,baz=161,slow=22,SNR=27						
MANU	**Manus Island**	**6.07**	**292**	Pn	**Pn**	**17 15 53.6**	**+2.3**
PMG	**Port Moresby**	**7.66**	**229**	P	**Pn**	**17 16 14.5**	**+1.3**
	5.5nm,0.3s,baz=47,slow=12,SNR=6.9						
PMG				S	**Sn**	**17 17 39.6**	**+1.0**
	20nm,0.6s,baz=95,slow=21,SNR=2.0						
PMG	**Port Moresby**	**7.66**	**229**	Pn	**Pn**	**17 16 14.8**	**+1.7**
PMG	**Port Moresby**	**7.66**	**229**	P	**Pn**	**17 16 15.8**	**+2.6**
COEN	**Coen**	**13.59**	**225**	Pn	**Pn**	**17 17 32.9**	**-1.4**
CTAO	**Charters Tower**	**16.96**	**202**	Pn	**Pn**	**17 18 16.0**	**-1.8**
QIS	**Mount Isa**	**20.71**	**218**	P	**Pn**	17 19 02.3	-0.7
KDU	**Kakadu**	**21.90**	**247**	P	**P**	**17 19 12.5**	**-0.4**
DZM	**Mont Dzumac**	**21.91**	**145**	P	**P**	**17 19 14.1**	**+1.0**
	5.0nm,0.5s,baz=0.0,slow=20,SNR=11						
	5.0nm,0.5s						
DZM	**Mont Dzumac**	**21.91**	**145**	P	**P**	**17 19 10.9**	**-2.2**
DZM				IAmb	IAmb	17 19 54.2	
	comp=Z,38nm,1.5s						
SIJI	**Sorong**	**21.97**	**278**	P	**P**	**17 19 14.4**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=101,slow=9.8,SNR=3.6						
	comp=Z,1.5nm,0.4s						
MTN	**Manton Dam**	**23.18**	**247**	P	**P**	**17 19 25.8**	**-0.6**
MTN				IAmb	IAmb	17 20 02.5	
	comp=Z,13nm,1.1s						
MTN	**Manton Dam**	**23.18**	**247**	P	**P**	**17 19 26.6**	**+0.3**
WB0	**Warramunga Arr**	**23.73**	**228**	P	**P**	**17 19 31.5**	**0.0**
WB0				IAmb	IAmb	17 19 33.6	
	comp=Z,6.8nm,0.6s						
WR0	**Warramunga Arr**	**23.74**	**228**	P	**P**	**17 19 31.7**	**+0.1**
WRAB	**Tennant Creek**	**23.86**	**228**	P	**P**	**17 19 32.6**	**-0.2**
WRAB				IAmb	IAmb	17 19 34.8	
	comp=Z,10.0nm,0.6s						
WRAB	**Tennant Creek**	**23.86**	**228**	P	**P**	**17 19 33.4**	**+0.7**
WB2	**Warramunga Arr**	**23.87**	**228**	P	**P**	**17 19 32.7**	**-0.1**
WB2				IAmb	IAmb	17 19 34.9	
	comp=Z,9.3nm,0.5s						
WRA	**Warramunga Arr**	**23.88**	**228**	P	**P**	**17 19 33.1**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=54,slow=9.8,SNR=112						
WRA				S	**S**	**17 23 45.3**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=44,slow=16,SNR=6.0						
	comp=Z,5.3nm,0.5s						
WRA	**Warramunga Arr**	**23.88**	**228**	P	**P**	**17 19 32.5**	**-0.4**
ARMA	**Armidale**	**25.95**	**183**	P	**P**	**17 19 49.0**	**-2.7**
ARMA				IAmb	IAmb	17 20 07.1	
	comp=Z,14nm,1.4s						
KNRA	**Kununurra**	**26.34**	**243**	P	**P**	**17 19 56.4**	**+1.2**
KNRA	**Kununurra**	**26.34**	**243**	P	**P**	**17 19 55.5**	**+0.3**
AS31	**Alice Springs**	**26.60**	**222**	P	**P**	**17 19 57.5**	**-0.1**
ASAR	**Alice Springs**	**26.60**	**222**	P	**P**	**17 19 57.6**	**0.0**
	comp=Z,1.4nm,0.4s,baz=56,slow=8.7,SNR=30						
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**26.60**	**222**	P	**P**	**17 19 59.1**	**+1.5**
STKA	**Stephens Creek**	**29.39**	**200**	P	**P**	**17 20 22.6**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=22,slow=17,SNR=2.9						
	comp=Z,0.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**30.04**	**241**	P	**P**	**17 20 26.4**	**-1.8**
FITZ				IAmb	IAmb	17 20 28.9	
	comp=Z,7.8nm,1.3s						
FITZ	**Fitzroy Crossi**	**30.04**	**241**	P	**P**	**17 20 28.0**	**-0.2**
MULG	**Mulgathing**	**31.38**	**213**	P	**P**	**17 20 40.0**	**+0.1**
WRKA	**Warakurna**	**31.40**	**227**	P	**P**	**17 20 40.2**	**0.0**
FORT	**Forrest**	**35.25**	**219**	P	**P**	**17 21 13.9**	**+0.3**
FORT	**Forrest**	**35.25**	**219**	P	**P**	**17 21 13.8**	**+0.2**
MBWA	**Marble Bar**	**36.35**	**240**	P	**P**	**17 21 22.5**	**-0.8**
MBWA				IAmb	IAmb	17 21 23.7	
	comp=Z,4.9nm,0.7s						
LTZ	**Lake Taylor**	**41.93**	**159**	P	**P**	**17 22 11.2**	**+1.7**
QSPA	**South Pole Qui**	**85.60**	**180**	P	**P**	**17 26 57.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**150.34**	**289**	PKPbc	**PKiKP**	**17 34 10.7**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=72,slow=1.7,SNR=4.2						

NEIC ***11*** *17:26:13.6±0.7, 54.°20N±0.°09×162.°51W±0.°07, h29km±18km, Error ellipse: s-maj=13.8km s-min=2.5km az=154.0*
AEIC 11 17:26:12±0.8,**54.°17N**±0.°07×**162.°48W**±0.°08,**h39**km±10km,
ML2.9,ML3.0/6(NEIC),**Error ellipse: s-maj=12.0km**
s-min=1.3km az=147.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISLZ	**Isanotski Laza**	**0.91**	**308**		Pn	17 26 29.1	+0.8
DT1	**Dutton Round H**	**0.95**	**7**		Pn	17 26 29.6	+0.8
ISNN	**Isanotski Nort**	**1.01**	**312**		Pn	17 26 31.3	+1.7
SSLS	**Shishaldin Sou**	**1.04**	**302**		Pn	17 26 31.6	+1.5
SSLN	**Shishaldin Nor**	**1.09**	**307**		Pn	17 26 33.1	+2.3
HAG	**Hague Volcano**	**1.20**	**16**		Pn	17 26 34.1	+1.9
PS4A	**Pavlof South-4**	**1.24**	**17**		Pn	17 26 34.9	+2.2
WTUG	**Tugumak**	**1.30**	**302**		Pn	17 26 35.5	+1.8
WECS	**Westdahl Cape**	**1.39**	**286**		Pn	17 26 36.6	+1.7
SDPT	**Sand Point**	**1.66**	**44**		Pn	17 26 41.1	+2.6
SDPT	**Sand Point**	**1.66**	**44**	IAML		17 27 05.2	
	comp=N,247nm,0.6s						
CNBA	**Chernabura Isl**	**1.81**	**68**	Pn	Pn	17 26 41.8	+1.2
CNBA				IAML		17 27 03.6	
	comp=E,78nm,2.5s						
AKSA	**Akutan Strait**	**1.89**	**270**		Pn	17 26 43.5	+1.8
AKUT	**Akutan**	**1.94**	**270**	Pn	Pn	17 26 44.0	+1.7
AKUT				IAML		17 26 56.9	
	comp=N,121nm,3.5s						
AKUT				IAML		17 27 12.7	
	comp=E,110nm,1.0s						
AKBBA	**Akutan Broad B**	**2.03**	**269**		Pn	17 26 45.7	+2.0
AKMO	**Akutan Morgan**	**2.08**	**269**		Pn	17 26 46.2	+2.0
UNV	**Unalaska Valle**	**2.40**	**264**		Pn	17 26 50.3	+1.7
MNAT	**Makushin Natee**	**2.50**	**265**		Pn	17 26 51.9	+1.8
MGOD	**Makushin Gods**	**2.62**	**264**		Pn	17 26 53.7	+2.0
MAPS	**Pakushin South**	**2.66**	**264**		Pn	17 26 54.2	+2.0

JMA 11 17:49:50.2±0.2,**38.°4N**±0.°9×**14.°5E**±.°,**h48**km,**MV3.7**/32,
FAR E OFF NORTH HONSHU,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.35**	**288**	*i* P	Pn	17 50 27.6	+1.3
OFUJ				S	Sn	17 50 55.4	+1.4
JIKH	**Ishinomakikobu**	**2.42**	**269**	P	Pn	17 50 28.4	+1.1
JIKH				S	Sn	17 50 56.3	+0.7
MIYJ	**Miyakonagasawa**	**2.43**	**300**	*i* P	Pn	17 50 28.4	+1.0
MIYJ				S	Sn	17 50 56.6	+0.7
JKMT	**Kesennumamotoy**	**2.44**	**281**	P	Pn	17 50 29.0	+1.5
JKMT				S	Sn	17 50 57.4	+1.2
JMK	**Ichinoseki**	**2.66**	**283**	P	Pn	17 50 32.2	+1.6
JOM	**Ohasama**	**2.76**	**294**	*i* P	Pn	17 50 33.5	+1.6
JOM				S	Sn	17 51 05.9	+1.9
JANG	**Nango**	**3.07**	**311**	P	Pn	17 50 36.8	+0.6
JYK	**Kaneyama**	**3.32**	**280**	P	Pn	17 50 41.9	+2.3
JYK				S	Sn	17 51 20.9	+3.1
JFT	**Otama**	**3.44**	**257**	P	Pn	17 50 43.5	+2.3
JFT				S	Sn	17 51 22.4	+1.7
JOT	**Ohata**	**4.02**	**319**	*eP*	Pn	17 50 50.5	+1.3
JOT				S	Sn	17 51 34.6	-0.4
JCH	**Churui**	**4.32**	**348**	P	Pn	17 50 53.4	+0.1
JCH				S	Sn	17 51 41.0	-1.2
BSO1	**Boso 1**	**4.70**	**219**	P	Pn	17 50 59.6	+1.5
BSO1				S	Sn	17 51 51.4	+0.3
NEM2	**Nemuro 2**	**5.05**	**10**	*eP*	Pn	17 51 01.0	-2.3
NEM2				*eS*	Sn	17 51 54.1	-6.3
JRY	**Ryogami san**	**5.09**	**244**	P	Pn	17 51 05.2	+1.3
JRY				S	Sn	17 52 00.8	-0.5
JOSM	**Okushiri--Mats**	**5.35**	**315**	*eP*	Pn	17 51 09.4	+1.9
JTKR	**Abashiri--Toko**	**5.60**	**355**	*eP*	Pn	17 51 10.2	-0.7
JTKR				S	Sn	17 52 10.7	-3.0

IDC ***11*** *18:12:31.1±2.5, 32.°96N×139.°08E, h159km±29km, mb3.2/3, mbtmp3.6/3, Error ellipse: s-maj=82.1km s-min=22.6km az=74.0*
JMA ***11*** *18:12:32.9±0.3, 33.°2N±0.°5×140.°0E±.°, h177km±2km, MV2.9/30, NEAR HACHIJOJIMA ISLAND*
ISC 11 18:12:32.4±1.0,**33.°15N**±0.°07×**139.°52E**±0.°07,**h200**km,**n19,**
σ1ᵍ85/23,mb3.1/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.25**	**108**	*eP*	**Pn**	**18 12 56.5**	**-2.3**
JHJ2	**Mitsune**	**0.26**	**99**	P	**Pn**	**18 12 56.5**	**-2.3**
JAOM	**Aogashimamukai**	**0.72**	**163**	*eP*	**Pn**	**18 12 59.0**	**-1.6**
JMKN	**Mikurajimanish**	**0.74**	**5**	*eP*	**Pn**	**18 12 58.5**	**-2.1**
JIZS	**Izushimoda**	**1.65**	**341**	P	**Pn**	**18 13 06.1**	**-1.4**
TK02	**Tokai 2**	**1.67**	**299**	P	**Pn**	**18 13 06.0**	**-1.3**
TK04	**Tokai 4**	**1.84**	**312**	*eP*	**Pn**	**18 13 08.0**	**-1.2**
BSO1	**Boso 1**	**1.93**	**39**	P	**Pn**	**18 13 08.9**	**-0.7**
BSO1				*eS*	**Sn**	**18 13 36.7**	**-2.0**
JOD2	**Odawara 2**	**2.14**	**351**	P	**Pn**	**18 13 11.7**	**-0.7**
TTO2	**TONANKAI O.B.S**	**2.16**	**286**	P	**Pn**	**18 13 11.1**	**-1.2**
SHZ3	**Shizuoka 3**	**2.20**	**331**	P	**Pn**	**18 13 12.2**	**-0.9**
TTO1	**TONANKAI O.B.S**	**2.33**	**282**	*eP*	**Pn**	**18 13 12.9**	**-1.3**
JYN	**Shimob**	**2.48**	**341**	P	**Pn**	**18 13 15.6**	**-0.4**
JIE	**Ise**	**2.65**	**299**	P	**Pn**	**18 13 16.6**	**-1.4**
JIE				*eS*	**Sn**	**18 13 50.6**	**-2.9**
JRY	**Ryogami san**	**2.90**	**350**	*eP*	**Pn**	**18 13 20.1**	**-0.8**
JRY				*eS*	**Sn**	**18 13 56.8**	**-2.3**
MJAR	**Matsushiro Arr**	**3.55**	**343**	P	**Pn**	**18 13 27.9**	**-0.7**
	0.7nm,0.4s,baz=173,slow=15,SNR=6.4						
MJAR				S	**Sn**	**18 14 09.8**	**-3.0**
	1.4nm,0.5s,baz=110,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**44.97**	**305**	P	**P**	**18 20 29.4**	**+1.7**
	0.5nm,0.9s,baz=87,slow=8.8,SNR=4.6						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**53.03**	**186**	P	**P**	**18 21 29.7**	**+0.8**
	0.2nm,0.4s,baz=1.4,slow=7.7,SNR=12						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**71.52**	**332**	P	**P**	**18 23 33.8**	**+2.7**
	1.9nm,0.9s,baz=50,slow=7.4,SNR=4.9						
	1.9nm,0.9s						

JMA ***11*** *18:17:54.0±0.1, 39.°8N±0.°2×141.°8E±0.°4, h58km, MV3.2/38, NORTHERN IWATE PREF*
JMA Felt I J1 at NORTHERN IWATE PREF .
IDC ***11*** *18:17:56.0±5.0, 40.°32N×140.°44E, h0km, mb3.6/2, mbtmp3.4/3, ML1.8/1, MS2.2/1, Error ellipse: s-maj=101.3km s-min=31.5km az=89.0*
ISC 11 18:17:53.6±1.3,**39.°7N**±0.°04×**141.°88E**±0.°09,**h59**km±8km,
n21,σ0ᵍ92/24,13D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.17**	**357**	*i* P	**Pn**	**18 18 03.2**	**+0.4**
JTH				S	**Sn**	**18 18 09.8**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.19**	**193**	*i* P	**Pn**	**18 18 03.3**	**+0.3**
MIYJ				S	**Sn**	**18 18 09.6**	**0.0**
JKEN	**Kujiedanarisaw**	**0.46**	**344**	⇓*i* P	**Pn**	**18 18 05.3**	**+0.3**
JKEN				⇓S	**Sn**	**18 18 13.4**	**+0.1**
JKZ	**Kuzumaki**	**0.47**	**298**	⇓*i* P	**Pn**	**18 18 05.5**	**+0.2**
JKZ				⇓S	**Sn**	**18 18 13.5**	**-0.3**
JOM	**Ohasama**	**0.54**	**237**	⇓*i* P	**Pn**	**18 18 05.8**	**-0.1**
JOM				⇓S	**Sn**	**18 18 14.2**	**-0.6**
JANG	**Nango**	**0.67**	**336**	⇓*i* P	**Pn**	**18 18 07.4**	**0.0**
JANG				⇓S	**Sn**	**18 18 17.1**	**-0.4**
JMK	**Ichinoseki**	**0.96**	**212**	⇓*i* P	**Pn**	**18 18 10.9**	**-0.1**
JMK				⇓S	**Sn**	**18 18 23.3**	**-0.7**
JRG	**Rokugo**	**1.03**	**249**	⇓P	**Pn**	**18 18 11.6**	**-0.4**
JAH	**Hinai**	**1.04**	**294**	⇓*i* P	**Pn**	**18 18 12.1**	**-0.1**
JAH				⇓S	**Sn**	**18 18 26.1**	**+0.2**
JTM	**Tenmabayashi**	**1.19**	**329**	P	**Pn**	**18 18 14.2**	**+0.1**
JTM				S	**Sn**	**18 18 29.5**	**0.0**
JIO	**Ouri**	**1.37**	**198**	P	**Pn**	**18 18 16.5**	**-0.1**
JIO				S	**Sn**	**18 18 32.5**	**-1.2**
MJAR	**Matsushiro Arr**	**4.33**	**223**	Pn	Pn	18 19 01.5	+4.6
	0.1nm,0.3s,baz=30,slow=14,SNR=5.6						
MJAR				Sn	**Sn**	**18 19 49.8**	**+3.7**
	0.3nm,0.3s,baz=23,slow=22,SNR=12						
	0.8nm,0.6s						
KSRS	**Korea Array**	**11.16**	**262**	LR	LR	18 24 14.0	
	comp=Z,11nm,18.2s,baz=160,slow=37						
H11N2	**WAKE ISLAND Hy 29.34**	**126**		T	T	18 54 23.4	
	baz=318,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy 29.35**	**126**		T	T	18 54 32.4	
	baz=318,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy 29.36**	**126**		T	T	18 54 30.8	
	baz=318,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy 30.14**	**127**		T	T	18 55 30.9	
	baz=320,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy 30.14**	**128**		T	T	18 55 28.1	
	baz=320,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy 30.15**	**128**		T	T	18 55 32.8	
	baz=320,slow=76,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.39**	**310**	P	**P**	**18 25 25.3**	**-0.2**
	1.0nm,0.5s,baz=85,slow=7.7,SNR=5.6						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**43.03**	**300**	P	**P**	**18 25 46.9**	**-0.3**
	0.4nm,0.8s,baz=86,slow=9.0,SNR=2.7						
	0.4nm,0.8s						

IDC ***11*** *18:19:31.8±1.5, 10.°49S×161.°25E, h0km, mb3.7/8, mbtmp3.8/10, ML3.8/2, MS2.8/2, Error ellipse: s-maj=33.2km s-min=23.0km az=100.0*
ISC 11 18:19:34.2±0.9,**10.°5S**±0.°1×**161.°1E

comp=Z,2.5nm,0.6s
TOO Toolangi 35.60 234 P **P** **18 30 00.9 -0.1**
TOO IAmb IAmb 18 30 02.5
comp=Z,5.1nm,0.7s
STKA Stephens Creek 37.55 245 P **P** **18 30 17.6 +0.4**
comp=Z,3.4nm,0.8s,baz=80,slow=8.7,SNR=7.7
comp=Z,3.4nm,0.8s
STKA Stephens Creek 37.55 245 P **P** **18 30 16.7 -0.5**
BBOO Buckleboo 42.31 244 P **P** **18 30 54.8 -0.7**
BBOO IAmb IAmb 18 30 56.4
comp=Z,5.8nm,0.7s
WR0 Warramunga Arr 44.30 263 P **P** **18 31 10.4 -0.8**
WR0 IAmb IAmb 18 31 24.4
comp=Z,4.1nm,1.1s
AS31 Alice Springs 44.37 257 P **P** **18 31 11.5 -0.3**
AS31 IAmb IAmb 18 31 12.4
comp=Z,2.3nm,0.7s
ASAR Alice Springs 44.37 257 P **P** **18 31 11.7 -0.1**
comp=Z,7.2nm,0.6s,baz=92,slow=8.3,SNR=146
ASAR PcP **PcP** **18 32 44.8 -0.5**
comp=Z,0.6nm,0.6s,baz=100,slow=4.5,SNR=5.4
ASAR ScP **ScP** **18 35 53.1 +3.2**
comp=Z,0.4nm,0.9s,baz=107,slow=4.7,SNR=2.7
ASAR S **S** **18 37 09.6 -0.3**
comp=Z,0.5nm,0.8s,baz=91,slow=16,SNR=4.5
comp=Z,7.2nm,0.6s
ASAR Alice Springs 44.37 257 P **P** **18 31 10.1 -1.7**
WB0 Warramunga Arr 44.47 263 P **P** **18 31 11.7 -0.9**
WB0 IAmb IAmb 18 31 12.7
comp=Z,5.9nm,0.9s
WB2 Warramunga Arr 44.48 262 P **P** **18 31 12.1 -0.6**
WB2 IAmb IAmb 18 31 12.9
comp=Z,6.4nm,1.0s
WRAB Tennant Creek 44.48 263 P **P** **18 31 12.0 -0.6**
WRAB IAmb IAmb 18 31 13.2
comp=Z,6.4nm,1.1s
WRA Warramunga Arr 44.49 262 P **P** **18 31 12.0 -0.7**
comp=Z,1.3nm,0.3s,baz=97,slow=7.6,SNR=59
WRA S **S** **18 37 15.1 +3.5**
comp=Z,0.3nm,0.7s,baz=100,slow=13,SNR=2.5
comp=Z,1.3nm,0.3s
WRA Warramunga Arr 44.49 262 P **P** **18 31 11.2 -1.5**
FORT Forrest 49.08 247 P **P** **18 31 47.2 -0.1**
KNRA Kununurra 50.58 267 P **P** **18 31 57.7 -0.8**
FITZ Fitzroy Crossi 52.92 263 P **P** **18 32 15.5 0.0**
comp=Z,1.9nm,0.4s,baz=132,slow=2.9,SNR=15
comp=Z,1.9nm,0.4s
FITZ Fitzroy Crossi 52.92 263 P **P** **18 32 15.3 -0.1**
SIJI Sorong 53.30 285 P **P** **18 32 18.1 -0.2**
comp=Z,3.6nm,0.5s,baz=144,slow=8.5,SNR=11
comp=Z,3.6nm,0.5s
SBA Scott Base 57.43 184 P **P** **18 32 46.8 +0.8**
VNDA Vanda 57.47 185 P **P** **18 32 45.6 -0.8**
PSA00 Pilbara Seismi 57.52 257 P **P** **18 32 46.5 -1.1**
PSA00 IAmb IAmb 18 32 48.3
comp=Z,4.7nm,1.0s
MBWA Marble Bar 57.71 258 P **P** **18 32 47.4 -1.5**
QSPA South Pole Qui 69.13 180 P **P** **18 34 00.8 -0.9**
MJAR Matsushiro Arr 70.54 324 P **P** **18 34 10.3 0.0**
comp=Z,1.4nm,0.6s,baz=158,slow=5.9,SNR=7.0
comp=Z,1.4nm,0.6s
TPUB Ta-pu 74.17 303 P **P** **18 34 29.6 -2.2**
SSLB Suanglung 74.18 304 P **P** **18 34 29.8 -1.9**
SSLB IAmb IAmb 18 34 31.8
comp=Z,5.9nm,0.6s
PETK Petropavlovsk- 76.69 345 P **P** **18 34 45.5 +0.5**
comp=Z,2.9nm,0.7s,baz=184,slow=12,SNR=2.9
comp=Z,2.9nm,0.7s
KSRS Korea Array 77.19 319 P **P** **18 34 49.1 +1.1**
comp=Z,0.9nm,0.6s,baz=133,slow=5.9,SNR=5.9
comp=Z,0.9nm,0.6s
USRK Ussuriysk Ar. 79.30 326 P **P** **18 35 00.8 +1.4**
comp=Z,3.0nm,0.8s,baz=93,slow=5.8,SNR=4.1
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 81.38 43 P **P** **18 35 11.1 +0.4**
comp=Z,0.2nm,0.5s,baz=212,slow=9.6,SNR=2.4
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 87.34 57 P **P** **18 35 41.0 +1.0**
comp=Z,0.2nm,0.6s,baz=206,slow=6.0,SNR=2.7
comp=Z,0.2nm,0.6s
ILAR Eielson Array 88.75 13 P **P** **18 35 44.9 -0.7**
comp=Z,0.3nm,0.5s,baz=221,slow=3.6,SNR=2.0
comp=Z,0.3nm,0.5s
PDAR Pinedale Array 89.32 43 P **P** **18 35 49.3 +0.2**
comp=Z,0.2nm,0.4s,baz=238,slow=5.2,SNR=2.3
comp=Z,0.2nm,0.4s
CMAR Chiang Mai Arr 90.22 290 P **P** **18 35 55.0 +1.5**
comp=Z,0.7nm,0.8s,baz=85,slow=2.8,SNR=5.5
comp=Z,0.7nm,0.8s
AKASG Malin Array Be 143.38 331 PKP PKPab 18 42 20.8 -0.4
comp=Z,2.8nm,0.4s,baz=42,slow=4.2,SNR=23
ASF Jabal al Asfar 146.94 297 PKPbc **PKPbc** **18 42 33.4 +0.5**
comp=Z,1.8nm,0.8s,baz=211,slow=2.4,SNR=4.0
BRTR Keskin Array B 147.10 312 PKPbc **PKPbc** **18 42 32.5 -0.6**
comp=Z,0.7nm,0.5s,baz=136,slow=4.4,SNR=6.4
MMAI Mount Meron Ar 147.99 299 PKPbc **PKiKP** **18 42 36.6 -0.3**
comp=Z,1.7nm,0.5s,baz=68,slow=6.6,SNR=7.0

---

*ROM **11** 18:39:02.6±0.0,42.682N±0.002×13.280E±0.002, h10km,ML3.3/50,Error ellipse: s-maj=0.2km s-min=0.2km az=74.0*
*IDC **11** 18:39:02.9±1.2,42.82N×13.10E,h0km,mb3.5/5, mbtmp3.5/10,ML3.5/5,Error ellipse: s-maj=20.2km s-min=13.7km az=93.0*
*NEIC **11** 18:39:03.6±2.0,42.69N±0.06×13.16E±0.06,h10km±2km, Error ellipse: s-maj=10.7km s-min=6.9km az=209.0*
*LDG **11** 18:39:05.5±0.2,42.60N×13.23E,h10km,Ml3.0/15,Error ellipse: s-maj=5.6km s-min=3.2km az=37.0*
*PRU **11** 18:39:05.5±0.0,42.80N×13.40E,h0km,M4.0*
*BEO **11** 18:39:06.6±0.8,42.82N×13.48E,h0km,MLS.4/7*
ISC 11 18:39:02.8±0.7,42.68N±0.02×13.27E±0.02,h10km±4km, n229,σ1$77/249,mb3.7/4,17C-17D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.04**	**100**	P		**Pg**	**Pg**	**18 39 04.6**	**-0.2**
T1204				S		**Sg**	**Sg**	**18 39 05.6**	**-0.6**
T1204					AML	AML	AML		
T1204					AML	AML	AML		
T1204					AML	AML	AML		
T1202	**Accumoli, Fraz**	**0.04**	**303**	P		**Pg**	**Pg**	**18 39 04.9**	**+0.1**
T1202				S		**Sg**	**Sg**	**18 39 06.2**	**-0.1**
T1202					AML	AML	AML		
T1202					AML	AML	AML		
SMA1	**SAN MARTINO**	**0.07**	**137**	P		**Pg**	**Pg**	**18 39 05.2**	**+0.1**
T1243	**Rocca Santa Ma**	**0.13**	**84**	P		**Pg**	**Pg**	**18 39 06.1**	**+0.3**
T1243				S		**Sg**	**Sg**	**18 39 08.3**	**+0.3**
T1242	**Castelluccio d**	**0.15**	**342**	P		**Pg**	**Pg**	**18 39 06.9**	**+0.6**
T1242					AML	AML	AML		
	comp=E,23900μm,0.5s								
T1242					AML	AML	AML		
	comp=N,42050μm,0.5s								
T1242					AML	AML	AML		
	comp=E,23800μm,0.5s								
T1242					AML	AML	AML		
	comp=N,42000μm,0.5s								
T1242					AML	AML	AML		
	comp=N,41600μm,0.5s								
T1242					AML	AML	AML		
	comp=E,23850μm,0.5s								
RM33	**Pellescritta (**	**0.18**	**193**	P		**Pg**	**Pg**	**18 39 07.2**	**+0.6**
RM33					AML	AML	AML		
	comp=E,35050μm,0.6s								
RM33					AML	AML	AML		
	comp=N,32250μm,0.4s								
RM33					AML	AML	AML		
	comp=N,30950μm,0.4s								
RM33					AML	AML	AML		
	comp=E,35100μm,0.6s								
RM33					AML	AML	AML		
	comp=E,36600μm,0.6s								
LNSS	**Leonessa**	**0.19**	**245**	⇓P		**Pg**	**Pg**	**18 39 07.5**	**+0.7**
LNSS				S		**Sg**	**Sg**	**18 39 11.0**	**+1.5**
LNSS					AML	AML	AML		
	comp=E,50150μm,0.2s								
LNSS					AML	AML	AML		
	comp=N,63150μm,0.3s								
NRCA	**Norcia**	**0.19**	**323**	Pg		**Pg**	**Pg**	**18 39 06.5**	**-0.3**
NRCA	**Norcia**	**0.19**	**323**	P		**Pg**	**Pg**	**18 39 07.3**	**+0.5**
NRCA				S		**Sg**	**Sg**	**18 39 10.6**	**+1.0**
NRCA					AML	AML	AML		
	comp=E,25150μm,0.6s								
NRCA					AML	AML	AML		
	comp=N,17700μm,1.1s								
NRCA					AML	AML	AML		
	comp=N,16350μm,1.1s								
NRCA					AML	AML	AML		
	comp=N,16400μm,1.1s								
NRCA					AML	AML	AML		
	comp=E,23450μm,0.5s								
T1246	**Crognaleto (TE**	**0.19**	**121**	P		**Pg**	**Pg**	**18 39 07.3**	**+0.5**
T1246				S		**Sg**	**Sg**	**18 39 10.4**	**+0.8**
T1241	**Roccafluvione,**	**0.21**	**34**	P		**Pg**	**Pg**	**18 39 07.6**	**+0.4**
T1241				S		**Sg**	**Sg**	**18 39 10.8**	**+0.7**
T1241					AML	AML	AML		
	comp=N,23550μm,0.7s								
T1241					AML	AML	AML		
	comp=E,20800μm,0.6s								
T1241					AML	AML	AML		
	comp=N,22800μm,0.7s								
T1241					AML	AML	AML		
	comp=E,21550μm,0.9s								
MMO1	**Montemonaco**	**0.22**	**11**	P		**Pg**	**Pg**	**18 39 07.9**	**+0.5**
MMO1				S		**Sg**	**Sg**	**18 39 11.7**	**+1.2**
MC2	**Monte Cornacci**	**0.24**	**346**	P		**Pg**	**Pg**	**18 39 08.2**	**+0.5**
T1247	**Pizzolo (AQ)**	**0.24**	**175**	P		**Pg**	**Pg**	**18 39 08.3**	**+0.6**
T1247					AML	AML	AML		
	comp=N,25400μm,1.5s								
T1247					AML	AML	AML		
	comp=E,24750μm,0.3s								
T1217	**Poggiodomo (PG**	**0.25**	**277**	P		**Pg**	**Pg**	**18 39 08.5**	**+0.6**
T1217				S		**Sg**	**Sg**	**18 39 12.7**	**+1.4**
T1217					AML	AML	AML		
	comp=E,13050μm,0.5s								
T1217					AML	AML	AML		
	comp=N,15500μm,0.5s								
T1217					AML	AML	AML		
	comp=N,15450μm,0.5s								
T1217					AML	AML	AML		
	comp=N,15750μm,0.5s								
T1217					AML	AML	AML		
	comp=E,13450μm,0.4s								
T1217					AML	AML	AML		
	comp=E,13000μm,0.5s								
TERO	**Teramo**	**0.25**	**103**	P		**Pg**	**Pg**	**18 39 08.2**	**+0.3**
TERO				S		**Sg**	**Sg**	**18 39 12.2**	**+0.9**
TERO					AML	AML	AML		
	comp=E,30600μm,0.3s								
TERO					AML	AML	AML		
	comp=N,25000μm,1.1s								
TERO					AML	AML	AML		
	comp=N,23500μm,1.1s								
TERO					AML	AML	AML		
	comp=N,23550μm,1.1s								
TERO					AML	AML	AML		
	comp=E,32600μm,0.3s								
T1216	**Preci, Frazion**	**0.28**	**319**	P		**Pg**	**Pg**	**18 39 08.8**	**+0.4**
T1216				S		**Sb**	**Sb**	**18 39 13.5**	**-1.2**
T1216					AML	AML	AML		
T1216					AML	AML	AML		
	comp=E,12500μm,0.4s								
T1216					AML	AML	AML		
T1216					AML	AML	AML		
	comp=N,17250μm,0.4s								
T1216					AML	AML	AML		
T1216					AML	AML	AML		
	comp=E,12500μm,0.3s								
AM05	**Amandola Campo**	**0.30**	**12**	P		**Pg**	**Pg**	**18 39 09.4**	**+0.6**
AM05				S		**Sg**	**Sg**	**18 39 14.1**	**+1.3**
AM05					AML	AML	AML		
	comp=E,2840μm,0.5s								
AM05					AML	AML	AML		
	comp=N,2920μm,0.5s								
AM05					AML	AML	AML		
	comp=N,11800μm,0.5s								
AM05					AML	AML	AML		
	comp=E,11450μm,0.6s								
T1215	**Vallo di Nera,**	**0.32**	**292**	P		**Pg**	**Pg**	**18 39 09.6**	**+0.4**
T1215				S		**Sb**	**Sb**	**18 39 14.7**	**-1.2**
T1215					AML	AML	AML		
	comp=E,5295μm,0.4s								
T1215					AML	AML	AML		
	comp=N,4990μm,0.3s								
T1215					AML	AML	AML		
	comp=E,5145μm,0.3s								
T1215					AML	AML	AML		
	comp=N,4755μm,0.3s								
AQU	**L'Aquila**	**0.34**	**163**	Pg		**Pg**	**Pg**	**18 39 09.7**	**+0.2**
AQU	**L'Aquila**	**0.34**	**163**	P		**Pg**	**Pg**	**18 39 09.9**	**+0.3**
AQU					AML	AML	AML		
	comp=N,10110μm,0.6s								
AQU					AML	AML	AML		
	comp=E,11795μm,1.0s								
AQU					AML	AML	AML		
	comp=N,10375μm,0.6s								
AQU					AML	AML	AML		
	comp=E,12400μm,1.0s								
FDMO	**Fiordimonte**	**0.38**	**339**			**Pg**	**Pg**	**18 39 10.3**	**+0.1**
FDMO	**Fiordimonte**	**0.38**	**339**	P		**Pg**	**Pg**	**18 39 10.6**	**+0.3**
FDMO				S		**Sb**	**Sb**	**18 39 16.5**	**-1.1**
FDMO					AML	AML	AML		
	comp=E,3435μm,0.6s								
FDMO					AML	AML	AML		
	comp=N,4210μm,0.8s								
GUMA	**Gualdo di Mace**	**0.38**	**7**	⇑P		**Pg**	**Pg**	**18 39 10.7**	**+0.3**
GUMA				S		**Sb**	**Sb**	**18 39 17.2**	**-0.6**
GUMA					AML	AML	AML		
	comp=E,49400μm,0.4s								
GUMA					AML	AML	AML		
	comp=N,39100μm,0.4s								
GUMA					AML	AML	AML		
	comp=N,48150μm,0.4s								
GUMA					AML	AML	AML		
	comp=E,51500μm,0.4s								
ARRO	**Arrone**	**0.39**	**255**	P		**Pg**	**Pg**	**18 39 10.8**	**+0.4**
ARRO					AML	AML	AML		
	comp=E,3590μm,1.0s								
ARRO					AML	AML	AML		
	comp=E,3595μm,1.0s								
ARRO					AML	AML	AML		
	comp=N,3600μm,0.7s								
OFFI	**Offida**	**0.40**	**50**	P		**Pg**	**Pg**	**18 39 11.4**	**+0.9**
OFFI					AML	AML	AML		
	comp=E,27700μm,0.3s								
OFFI					AML	AML	AML		
	comp=N,22300μm,0.5s								
CSP1	**Cessapalombo**	**0.41**	**353**	P		**Pg**	**Pg**	**18 39 11.3**	**+0.4**
CSP1					AML	AML	AML		
	comp=E,5380μm,0.5s								
CSP1					AML	AML	AML		
	comp=N,10255μm,1.0s								
CSP1					AML	AML	AML		
	comp=N,10270μm,1.0s								
CESI	**CESI - Serrava**	**0.42**	**320**	⇓P		**Pg**	**Pg**	**18 39 11.5**	**+0.5**
CESI				S		**Sb**	**Sb**	**18 39 17.9**	**-1.0**
CESI					AML	AML	AML		
	comp=E,8810μm,0.4s								
CESI					AML	AML	AML		
	comp=N,18050μm,0.4s								
FIAM	**Fiamignano**	**0.43**	**195**	⇓P		**Pg**	**Pg**	**18 39 11.5**	**+0.3**
FIAM					AML	AML	AML		
	comp=N,8965μm,0.8s								
FIAM					AML	AML	AML		
	comp=E,6160μm,0.4s								
TRTR	**Tortoreto Alta**	**0.49**	**75**		AML	AML	AML		
	comp=N,18850μm,0.5s								
TRTR					AML	AML	AML		
	comp=E,15050μm,1.3s								
VCEL	**Villa Celiera**	**0.51**	**124**	P		**Pg**	**Pg**	**18 39 13.3**	**+0.6**
VCEL					AML	AML	AML		
	comp=N,11130μm,0.8s								
VCEL					AML	AML	AML		
	comp=N,11150μm,0.8s								
VCEL					AML	AML	AML		
	comp=E,9590μm,0.4s								
CESX	**Cesi**	**0.51**	**262**			**Pg**	**Pg**	**18 39 11.4**	**-1.3**
CESX	**Cesi**	**0.51**	**262**	P		**Pg**	**Pg**	**18 39 12.9**	**+0.2**
CESX					AML	AML	AML		
	comp=E,4040μm,0.6s								
CESX					AML	AML	AML		
	comp=N,2725μm,1.2s								
ASSB	**Assisi San Ben**	**0.58**	**309**	⇓P		**Pg**	**Pg**	**18 39 14.1**	**+0.1**
ASSB					AML	AML	AML		
	comp=N,3750μm,1.4s								
ASSB					AML	AML	AML		
	comp=E,3065μm,0.4s								
T0110	**Collepietro**	**0.59**	**140**	P		**Pg**	**Pg**	**18 39 14.1**	**-0.1**
T0110					AML	AML	AML		
	comp=N,7770μm,0.4s								
T0110					AML	AML	AML		
	comp=E,7560μm,0.5s								
SNTG	**Esanatoglia**	**0.62**	**337**	P		**Pg**	**Pg**	**18 39 14.7**	**-0.1**
SNTG					AML	AML	AML		
	comp=N,1675μm,0.9s								
SNTG					AML	AML	AML		
	comp=E,1048μm,0.4s								
EL6	**Elcito**	**0.66**	**349**	⇓P		**Pg**	**Pg**	**18 39 15.6**	**+0.1**
EL6					AML	AML	AML		
	comp=E,3470μm,1.0s								
EL6					AML	AML	AML		
	comp=E,3475μm,1.0s								
EL6					AML	AML	AML		
	comp=N,5665μm,0.4s								
PTQR	**Pietraquaria**	**0.67**	**172**	P		**Pg**	**Pg**	**18 39 15.2**	**-0.5**
PTQR					AML	AML	AML		
	comp=E,1195μm,1.4s								
PTQR					AML	AML	AML		
	comp=N,994μm,0.3s								
ATCC	**AVT- Casa Cast**	**0.68**	**318**	P		**Pg**	**Pg**	**18 39 16.0**	**+0.1**
ATCC					AML	AML	AML		
	comp=E,2920μm,0.7s								
ATCC					AML	AML	AML		
	comp=E,2915μm,0.7s								
ATCC					AML	AML	AML		
	comp=N,2540μm,0.3s								
CING	**Cingoli**	**0.69**	**356**	P		**Pg**	**Pg**	**18 39 16.3**	**+0.1**
CING					AML	AML	AML		
	comp=E,3735μm,0.4s								
CING					AML	AML	AML		
	comp=N,2600μm,0.2s								
FOSV	**Fossato di Vic**	**0.72**	**329**	P		**Pg**	**Pg**	**18 39 16.6**	**0.0**
FOSV					AML	AML	AML		
	comp=N,2425μm,0.5s								
FOSV					AML	AML	AML		
	comp=E,1540μm,0.9s								
FOSV					AML	AML	AML		
	comp=N,2420μm,0.5s								
PP3	**Marolino**	**0.74**	**20**	P		**Pg**	**Pg**	**18 39 16.9**	**-0.1**
PP3					AML	AML	AML		
	comp=N,6245μm,0.5s								
PP3					AML	AML	AML		
	comp=N,6400μm,0.5s								
PP3					AML	AML	AML		
	comp=N,6245μm,0.5s								
PP3					AML	AML	AML		
	comp=E,4100μm,1.0s								
PP3					AML	AML	AML		
	comp=E,4530μm,1.1s								
CERT	**Cerreto**	**0.76**	**196**	⇑P		**Pg**	**Pg**	**18 39 17.1**	**-0.4**
CERT					AML	AML	AML		
	comp=E,3435μm,0.6s								
CERT					AML	AML	AML		
	comp=N,2480μm,1.6s								
MTCE	**Montecelio**	**0.77**	**211**	P		**Pg**	**Pg**	**18 39 17.0**	**-0.5**
MTCE					AML	AML	AML		
	comp=E,1775μm,0.6s								
MTCE					AML	AML	AML		
	comp=N,1755μm,0.9s								
MURB	**Monte Urbino**	**0.80**	**317**			**Pg**	**Pg**	**18 39 17.4**	**-0.7**
INTR	**Introdacqua**	**0.82**	**145**	P		**Pg**	**Pg**	**18 39 17.9**	**-0.7**
INTR					AML	AML	AML		
	comp=E,1μm,0.7s								
INTR					AML	AML	AML		
	comp=E,1385μm,0.7s								
INTR					AML	AML	AML		
	comp=N,3380μm,0.6s								
INTR					AML	AML	AML		
	comp=N,2μm,0.6s								
SSFR	**Montelago di S**	**0.83**	**335**	P		**Pg**	**Pg**	**18 39 18.8**	**-0.1**
SSFR					AML	AML	AML		
	comp=E,2350μm,0.9s								
SSFR					AML	AML	AML		
	comp=N,1950μm,0.3s								
SSFR					AML	AML	AML		
	comp=E,2350μm,0.2s								
SSFR					AML	AML	AML		
	comp=N,2105μm,0.3s								
ATTE	**AVT- Monte Tez**	**0.85**	**308**		AML	AML	AML		
	comp=N,846μm,0.7s								
ATTE					AML	AML	AML		
	comp=E,966μm,1.5s								
ATTE					AML	AML	AML		
	comp=N,846μm,0.7s								
ARVD	**Arcevia**	**0.85**	**344**		AML	AML	AML		
	comp=E,1010μm,1.1s								
ARVD					AML	AML	AML		
	comp=N,914μm,0.7s								
VVLD	**Villa Vallelon**	**0.85**	**162**	⇑P		**Pg**	**Pg**	**18 39 16.1**	**-3.0**
MGAB	**Montegabbione**	**0.88**	**286**	AML	AML	AML			
	comp=N,3730μm,0.5s								
MGAB					AML	AML	AML		
	comp=N,4010μm,0.5s								
MGAB					AML	AML	AML		
	comp=E,3320μm,0.7s								
MGAB					AML	AML	AML		
	comp=E,2785μm,0.5s								
LPEL	**Lama dei Pelig**	**0.93**	**133**		AML	AML	AML		
	comp=E,1970μm,0.7s								
LPEL					AML	AML	AML		
	comp=N,1745μm,0.4s								
ATVO	**AVT- Monte Val**	**0.94**	**318**		AML	AML	AML		
	comp=N,1335μm,0.7s								
ATVO					AML	AML	AML		
	comp=E,1049μm,0.6s								
RMP	**Rome, Mte Porz**	**0.97**	**206**		AML	AML	AML		
	comp=N,3185μm,0.5s								
RMP					AML	AML	AML		
	comp=E,2675μm,0.5s								
ATPI	**Pietralunga -**	**1.00**	**321**		AML	AML	AML		
	comp=N,1034μm,0.6s								
ATPI					AML	AML	AML		
	comp=E,1220μm,0.7s								
VIVA	**Pratoni del Vi**	**1.00**	**202**		AML	AML	AML		
	comp=N,5410μm,1.1s								
VIVA					AML	AML	AML		
	comp=E,4655μm,0.5s								
SACS	**San Casciano d**	**1.01**	**280**		AML	AML	AML		
	comp=E,1063μm,0.5s								
SACS					AML	AML	AML		
	comp=N,1565μm,1.1s								
SACS					AML	AML	AML		
	comp=N,1475μm,1.1s								
SACS					AML	AML	AML		
	comp=E,1130μm,1.1s								
MPAG	**Monte Paganucc**	**1.02**	**339**		AML	AML	AML		
	comp=E,1365μm,0.6s								
MPAG					AML	AML	AML		
	comp=N,981μm,0.6s								
POFI	**Posta Fibreno**	**1.02**	**161**		AML	AML	AML		
	comp=E,1315μm,1.0s								
POFI					AML	AML	AML		
	comp=N,874μm,1.6s								
NARO	**Abbazia di Nar**	**1.06**	**332**		AML	AML	AML		
	comp=E,709μm,0.7s								
NARO					AML	AML	AML		
	comp=N,654μm,0.9s								
LRP	**Arpino**	**1.06**	**167**		AML	AML	AML		
	comp=E,694μm,0.5s								
LRP					AML	AML	AML		
	comp=N,739μm,1.3s								
FSSB	**Fossombrone**	**1.07**	**341**		AML	AML	AML		
	comp=N,3950μm,0.5s								
FSSB					AML	AML	AML		
	comp=E,2790μm,0.4s								
LATE	**Laterza**	**1.08**	**267**			**Pg**	**Pg**	**18 39 23.4**	**-0.1**
GIUL	**Giuliano Di Ro**	**1.12**	**181**		AML	AML	AML		
	comp=N,903μm,1.0s								
GIUL					AML	AML	AML		
	comp=E,969μm,0.7s								
TOLF	**Tolfa**	**1.13**	**237**		AML	AML	AML		
	comp=E,788μm,1.0s								
TOLF					AML	AML	AML		
	comp=N,666μm,1.0s								
CAFI	**Castiglion Fio**	**1.15**	**305**		AML	AML	AML		
	comp=E,730μm,0.7s								
CAFI					AML	AML	AML		
	comp=N,986μm,0.5s								
RNI2	**Rionero Sannit**	**1.18**	**146**		AML	AML	AML		
	comp=N,1290μm,0.8s								
RNI2					AML	AML	AML		
	comp=E,1066μm,0.6s								
RNI2					AML	AML	AML		
	comp=E,1090μm,0.6s								
RNI2					AML	AML	AML		
	comp=N,1310μm,0.8s								
CERA	**Filignano**	**1.22**	**153**		AML	AML	AML		
	comp=E,1375μm,0.7s								
CERA					AML	AML	AML		

comp=N,1160µm,1.1s
CERA AML AML
comp=N,1205µm,1.1s
CERA AML AML
comp=E,1415µm,0.7s
PARC Parchiule 1.23 322 AML AML
comp=E,1032µm,0.6s
PARC AML AML
comp=N,1006µm,0.9s
MIDA Miranda 1.27 145 AML AML
comp=E,730µm,0.8s
MIDA AML AML
comp=N,906µm,0.8s
PESA Pesaro 1.30 346 AML AML
comp=N,1545µm,1.3s
PESA AML AML
comp=E,1330µm,0.8s
TRIV Trivento 1.32 133 AML AML
comp=N,708µm,0.8s
TRIV AML AML
comp=N,701µm,0.8s
TRIV AML AML
comp=E,856µm,0.7s
TRIV AML AML
comp=E,794µm,0.7s
ARCI Arcidosso 1.33 278 AML AML
comp=N,132µm,1.0s
ARCI AML AML
comp=E,156µm,1.4s
CRE Caprese Michel 1.34 315 AML AML
comp=N,434µm,0.9s
CRE AML AML
comp=E,337µm,1.6s
PIGN Pignataro Magg 1.63 155 AML AML
comp=E,186µm,0.9s
PIGN AML AML
comp=N,188µm,0.9s
SACR S. Croce Del S 1.67 140 AML AML
comp=E,244µm,1.5s
SACR AML AML
comp=N,340µm,0.9s
OSSC Osservatorio P 1.70 300 Pn **Pb** **18 39 33.5 -0.7**
CASP Castiglione de 1.77 274 Pn **Pn** **18 39 33.7 +0.1**
CASP Castiglione de 1.77 274 ⇓P **Pn** **18 39 34.0 +0.4**
CASP AML AML
comp=N,146µm,1.2s
CASP AML AML
comp=E,77µm,0.5s
TRIF Trifonti 1.79 285 ⇑P **Pb** **18 39 34.9 -0.9**
TRIF AML AML
comp=N,172µm,0.8s
TRIF AML AML
comp=E,170µm,0.8s
VITU Vitulano (BN) 1.81 145 ⇓P **Pg** **18 39 38.0 +0.6**
PAOL Paolisi 1.91 149 **Pn** **18 39 36.9 +1.4**
PAOL Paolisi 1.91 149 P **Pg** **18 39 40.6 +1.1**
APRC Apricena 1.93 118 ⇓P **Pn** **18 39 37.3 +1.6**
APRC AML AML
comp=E,402µm,0.8s
APRC AML AML
comp=N,553µm,0.5s
SGRT San Giovanni R 2.06 116 **Pn** **18 39 38.8 +1.3**
SGRT San Giovanni R 2.06 116 ⇑P **Pn** **18 39 39.3 +1.7**
SGRT AML AML
comp=E,345µm,1.6s
SGRT AML AML
comp=N,410µm,0.6s
MSAG Monte S. Angel 2.19 115 ⇑P **Pb** **18 39 41.5 -1.0**
MSAG AML AML
comp=E,437µm,0.9s
MSAG AML AML
comp=N,772µm,0.3s
ZCCA Zocca 2.36 316 **Pn** **18 39 42.2 +0.6**
HVAR Hvar 2.39 77 ⇓P **Pn** **18 39 43.5 +1.6**
CARD Cardoso 2.44 304 P **Pn** **18 39 44.0 +1.3**
CARD AML AML
comp=N,90µm,0.9s
CARD AML AML
comp=E,104µm,0.6s
VLC Villacollemand 2.57 306 **Pn** **18 39 44.5 0.0**
PALZ Palazzo San Ge 2.66 130 ⇑P **Pn** **18 39 48.1 +2.4**
PALZ AML AML
comp=E,262µm,1.0s
PALZ AML AML
comp=N,306µm,1.2s
MRVN Minervino Murg 2.72 126 ⇓P **Pn** **18 39 49.0 +2.4**
MRVN S **Sb** **18 40 23.0 -2.0**
MRVN AML AML
comp=E,72µm,0.9s
MRVN AML AML
comp=N,87µm,0.7s
CMPR Campora 2.81 146 ⇑P **Pg** **18 39 55.8 -0.8**
SKDS Skadanscina 2.91 10 *e*Pn **Pn** **18 39 49.2 0.0**
TEOL Teolo 2.92 337 Pn **Pn** **18 39 48.8 -0.4**
A050A Klekovaca 2.98 52 *e*Pn **Pn** **18 39 52.5 +2.4**
TRI Trieste 3.05 7 Pn **Pn** **18 39 52.6 +1.6**
AMUR Altamura 3.06 124 ⇑P **Pn** **18 39 53.4 +2.2**
AMUR AML AML
comp=E,208µm,0.5s
AMUR AML AML
comp=N,118µm,1.5s
PGF Pioggiola 3.15 269 *e*Pn **Pn** **18 39 53.9 +1.3**
PGF *e*Sn **Sn** **18 40 30.3 -0.1**
comp=N,12nm,0.9s
MIGL Miglionico 3.16 130 ⇓P **Pn** **18 39 55.3 +2.7**
MIGL AML AML
comp=N,368µm,1.1s
MIGL AML AML
comp=E,284µm,1.6s
SRKY Kupres RS 3.16 63 *e*Pn **Pb** **18 39 56.5 -2.6**
BOJS Bojanci 3.16 26 *e*Pn **Pn** **18 39 54.1 +1.5**
BOJS Bojanci 3.16 26 ⇓P **Pn** **18 39 54.6 +2.0**
BOJS AML AML
comp=E,284µm,1.1s
BOJS AML AML
comp=N,239µm,0.7s
CEY Cerknica 3.17 15 *e*Pn **Pn** **18 39 54.7 +2.0**
MSSA Maissana 3.18 302 Pn **Pn** **18 39 53.8 +0.8**
STON Ston 3.27 85 *e*Pn **Pn** **18 39 54.4 +0.4**
STON Ston 3.27 85 *e*Pn **Pn** **18 39 54.7 +0.7**
STON *e*Sn **Sn** **18 40 33.4 +0.4**
STON Ston 3.27 85 ⇑P **Pn** **18 39 54.5 +0.4**
STON AML AML
comp=N,71µm,0.5s
STON AML AML
comp=E,65µm,1.5s
MGRS Mrkonjic Grad 3.27 57 *e*Pn **Pn** **18 39 57.0 +2.9**
CUC Castrocucco 3.30 144 **Pn** **18 39 57.4 +2.9**
SABO M.te Sabotino 3.31 4 **Pn** **18 39 55.4 +0.7**
SABO M.te Sabotino 3.31 4 P **Pn** **18 39 56.6 +2.0**
SABO AML AML
comp=N,1205µm,0.9s
SABO AML AML
comp=N,316µm,0.9s
SABO AML AML
comp=E,148µm,0.6s
SABO AML AML
comp=E,664µm,1.6s
ROVR Rover Verones 3.36 333 ⇓P **Pn** **18 39 57.4 +1.9**
ROVR AML AML
comp=N,46µm,0.6s
ROVR AML AML
comp=E,39µm,0.6s
CGRP Cima Grappa 3.37 342 ⇑P **Pn** **18 39 57.3 +1.7**
CGRP AML AML
comp=N,164µm,0.5s
CGRP AML AML
comp=E,150µm,0.6s
LTRZ Laterza 3.38 127 ⇑P **Pn** **18 39 57.9 +2.3**
NOCI Noci 3.41 122 ⇑P **Pn** **18 39 58.2 +2.1**
NOCI AML AML
comp=N,97µm,1.1s
NOCI AML AML
comp=E,110µm,0.5s
BLY Banja Luka 3.51 53 *e*Pn **Pn** **18 40 00.8 +3.4**
A051A Mrakovica 3.51 47 *e*Pn **Pn** **18 40 00.3 +2.8**
CRES Cresnjev 3.51 26 *e*Pn **Pn** **18 39 59.3 +1.8**
DOSS Dosso del Somm 3.53 336 ⇓P **Pn** **18 39 60.0 +2.1**
DOSS AML AML
comp=N,118µm,0.7s
DOSS AML AML
comp=E,81µm,0.7s
SALO Salr 3.54 327 **Pn** **18 39 59.9 +2.1**
SALO Salr 3.54 327 P **Pn** **18 40 00.4 +2.6**
SALO AML AML
comp=E,108µm,0.7s
SALO AML AML
comp=N,140µm,0.8s
CTI Castel Tesino 3.56 342 Pn **Pn** **18 39 58.5 +0.3**
STAL STALIGIAL 3.60 354 **Pn** **18 39 59.5 +0.8**
MAGA Magasa 3.63 329 ⇑P **Pn** **18 40 00.8 +1.7**
MAGA AML AML
comp=E,244µm,0.7s
MAGA AML AML
comp=N,160µm,0.5s
CIMO Cimolais 3.67 351 Pn **Pn** **18 40 00.4 +0.7**
LUSI Trento, Gardas 3.68 334 ⇓P **Pn** **18 40 02.1 +2.3**
LUSI AML AML
comp=E,72µm,0.8s
LUSI AML AML
comp=N,99µm,0.5s
PTCC Patocco-Chiusa 3.72 1 ⇓P **Pn** **18 40 02.7 +2.3**
PTCC AML AML
comp=E,58µm,1.0s
PTCC AML AML
comp=N,61µm,1.3s
CLUD Cludinico 3.78 356 **Pn** **18 40 02.3 +1.1**
SARZ Sarezzano 3.84 306 S **Sb** **18 40 53.0 -4.1**
HCY Herceg Novi 3.87 92 *e*Pn **Pn** **18 40 03.8 +1.5**
BRY Bratogost 3.88 85 *e*Pn **Pn** **18 40 04.7 +2.0**
MABI Malga Bissina 3.91 331 ⇑P **Pn** **18 40 03.0 -0.1**
MABI AML AML
comp=E,34µm,1.6s
MABI AML AML
comp=N,33µm,0.7s
OBKA Obir 3.93 13 *e*Pn **Pn** **18 40 05.7 +2.4**
OBKA Obir 3.93 13 *e*Pn **Pn** **18 40 05.4 +2.1**
comp=N,2.9nm,0.4s,SNR=8.1
MYKA Terra Mystica 3.96 4 *e*Pn **Pn** **18 40 04.5 +0.9**
comp=N,5.7nm,0.7s
CANO Canova, Maglio 3.97 294 P **Pn** **18 40 04.5 +0.7**
CANO AML AML
comp=E,58µm,1.0s
CANO AML AML
comp=N,36µm,1.5s
KOSI Kohlern 4.01 341 ⇑P **Pn** **18 40 06.5 +2.0**
KOSI AML AML
comp=E,117µm,1.1s
KOSI AML AML
comp=N,122µm,1.1s
APPI Appiano 4.07 340 ⇑P **Pn** **18 40 07.1 +2.0**
ABTA Abfaltersbach 4.10 353 *i* Pn **Pn** **18 40 07.3 +1.7**
comp=N,13nm,0.5s,SNR=39
UPM Unac-Piva 4.17 81 *e*Pn **Pn** **18 40 09.6 +2.9**
SOKA Soboth 4.19 17 *e*Pn **Pn** **18 40 08.5 +1.7**
comp=N,0.9nm,0.3s
SOKA *e*Sn **Sn** **18 40 56.8 +0.9**
comp=N,6.8nm,0.7s
VSL Villasalto 4.33 224 ⇓P **Pn** **18 40 10.5 +1.7**
KBA Koelnbreinsper 4.40 1 *e*Pn **Pn** **18 40 11.1 +1.4**
comp=N,4.0nm,0.4s,SNR=18
KBA *e*Sn **Sn** **18 41 03.0 +1.9**
comp=N,7.6nm,0.4s
DRME Dracevica, Mon 4.41 94 *e*Pn **Pn** **18 40 12.0 +2.3**
SBF Sospel 4.42 287 *e*Pn **Pn** **18 40 11.1 +1.1**
SBF *e*Sn **Sn** **18 41 00.6 -1.0**
comp=N,9.4nm,0.8s
PDG Podgorica 4.43 91 Pn **Pn** **18 40 12.5 +2.5**
FUORN Ofenpass-Fuorn 4.48 332 Pn **Pn** **18 40 12.0 +1.0**
RUDO Rudo 4.56 76 *e*Pn **Pn** **18 40 14.4 +2.5**
BBLS Lazići 4.63 73 *e*Pn **Pn** **18 40 15.5 +2.6**
BBLS *e*Sn **Sn** **18 41 05.2 -1.6**
FETA Feichten 4.70 338 *e*Pn **Pn** **18 40 16.5 +2.6**
comp=N,2.4nm,0.4s,SNR=8.3
SCTE Santa Cesarea 4.70 122 Pn **Pn** **18 40 15.6 +1.8**
WTTA Wattenberg 4.72 346 *e*Pn **Pn** **18 40 17.2 +3.0**
comp=N,3.5nm,0.4s
WTTA *e*Sn **Sn** **18 41 15.3 +6.0**
comp=N,23nm,0.8s
DAVOX Davos/Dischmat 4.76 331 Pn **Pn** **18 40 17.8 +3.1**
comp=N,1.6nm,0.3s,baz=146,slow=13,SNR=15
DAVOX Sn **Sn** **18 41 11.1 +1.1**
comp=N,0.5nm,0.3s,baz=95,slow=22,SNR=3.5
SQTA Sankt Quirin 4.77 343 **Pn** **18 40 17.3 +2.5**
SQTA Sankt Quirin 4.77 343 *e*Pn **Pn** **18 40 17.3 +2.5**
comp=N,4.2nm,0.6s,SNR=7.1
ARSA Arzberg 4.84 19 *i* Pn **Pn** **18 40 18.0 +2.3**
comp=N,1.8nm,0.4s,SNR=8.4
ARSA *e*Sn **Sn** **18 41 10.8 -1.0**
comp=N,7.3nm,0.6s
MOTA Moosalm 4.91 343 **Pn** **18 40 19.2 +2.5**
MOTA **Sn** **18 41 18.0 +4.3**
MOTA Moosalm 4.91 343 *e*Pn **Pn** **18 40 19.2 +2.5**
comp=N,2.0nm,0.4s,SNR=6.5
MOTA *e*Sn **Sn** **18 41 18.0 +4.3**
comp=N,6.2nm,0.7s
SJES Sjenica 4.95 81 *e*Pn **Pn** **18 40 19.9 +2.6**
SJES *e*Sn **Sn** **18 41 14.4 -0.3**
LMR La Mourre 5.00 280 *e*Pn **Pn** **18 40 17.9 0.0**
LMR *e*Sn **Sn** **18 41 15.3 -0.4**
comp=N,1.3nm,0.5s
BIOA Bad Ischl, Aus 5.02 3 **Pn** **18 40 19.9 +1.7**
BIOA Bad Ischl, Aus 5.02 3 *e*Pn **Pn** **18 40 19.9 +1.7**
comp=N,3.4nm,0.3s,SNR=6.6
TIR Tirane 5.09 103 **Pn** **18 40 20.5 +1.3**
DIVS Divibare 5.10 72 Pn **Pn** **18 40 22.3 +3.0**
DIVS Divibare 5.10 72 *e*Pn **Pn** **18 40 23.2 +3.9**
DIVS Divibare 5.10 72 *e*Pn **Pn** **18 40 21.3 +2.0**
IVAS Ivanjica 5.12 78 *e*Pn **Pn** **18 40 21.5 +2.0**
IVAS *e*Sn **Sn** **18 41 17.5 -1.2**
MBDF Montbardon 5.13 296 *e*Pn **Pn** **18 40 21.3 +1.4**
MBDF *e*Sn **Sn** **18 41 18.2 -1.1**
comp=N,7.8nm,0.7s
DAVA Damuels 5.19 334 *e*Pn **Pn** **18 40 23.3 +2.7**
comp=N,2.6nm,0.3s,SNR=5.3
MOA Molln 5.21 7 *e*Pn **Pn** **18 40 22.9 +2.1**
MOA *e*Sn **Sn** **18 41 20.4 -0.7**
MOA Molln 5.21 7 *e*Pn **Pn** **18 40 23.2 +2.3**
comp=N,2.8nm,0.4s,SNR=12
MOA *e*Sn **Sn** **18 41 19.3 -1.8**
comp=N,3.9nm,0.3s
BNI Bardonecchia 5.32 299 **Pn** **18 40 21.0 -1.4**
FRGS Fruska Gora 5.33 60 *e*Pn **Pn** **18 40 22.2 -0.3**
TRUS Trudelj 5.42 71 *e*Pn **Pn** **18 40 26.2 +2.6**
TRUS *e*Sn **Sn** **18 41 24.8 -1.3**
RONA Rosalia, Austr 5.45 22 **Pn** **18 40 26.3 +2.1**
RONA Rosalia, Austr 5.45 22 *i* Pn **Pn** **18 40 26.3 +2.1**
comp=N,2.1nm,0.4s,SNR=5.6
LPG La Plagne 5.47 303 *e*Pn **Pn** **18 40 26.4 +1.8**
LPG *e*Sn **Sn** **18 41 24.5 -3.3**
comp=N,3.6nm,0.6s
LPL La Plagne 5.49 303 *e*Pn **Pn** **18 40 25.5 +0.6**
LPL *e*Sn **Sn** **18 41 26.0 -2.2**
comp=N,1.5nm,0.4s
CONA Conrad Observa 5.55 18 *e*Pn **Pn** **18 40 26.5 +0.9**
comp=N,3.0nm,0.4s,SNR=8.2
CONA *e*Sn **Sn** **18 41 28.3 -1.2**
comp=N,6.2nm,0.5s
GRUS Gruza 5.57 75 *e*Pn **Pn** **18 40 28.4 +2.7**
SENIN Lac Senin/Sane 5.63 313 Pn **Pn** **18 40 29.4 +2.7**
KEK Kerkira 5.75 119 **Pn** **18 40 30.8 +2.6**
SELS Selova 5.79 82 *e*Pn **Pn** **18 40 29.9 +1.2**
ORIF Oris-en-Rattie 5.80 295 *e*Pn **Pn** **18 40 30.2 +1.3**
ORIF *e*Sn **Sn** **18 41 33.5 -2.0**
comp=N,1.9nm,0.4s
OHR Ohrid 5.83 103 *i* Pn **Pn** **18 40 32.5 +3.1**
GEC2 GERESS Array S 6.17 3 **Pn** **18 40 34.0 -0.1**
GERES GERESS Array B 6.17 3 Pn **Pn** **18 40 34.3 +0.3**
comp=N,0.4nm,0.3s,baz=175,slow=12,SNR=16
GERES Sn **Sn** **18 41 43.2 -1.5**
comp=N,1.2nm,0.3s,baz=169,slow=23,SNR=6.9
comp=N,0.8nm,0.3s
GERES GERESS Array B 6.17 3 Pn **Pn** **18 40 34.2 +0.1**
CKRC Cesky Krumlov 6.18 6 *e*PN **Pn** **18 40 34.8 +0.7**
CKRC *e*SN **Sn** **18 41 44.0 -0.8**
BARS Barje 6.29 86 *e*Pn **Pn** **18 40 37.2 +1.5**
BARS *e*Sn **Sn** **18 41 46.7 -0.9**
MODS Modra-Piesok 6.35 25 *e*PN **Pn** **18 40 32.8 -3.6**
KHC Kasperske Hory 6.45 2 Pn **Pn** **18 40 37.7 -0.2**
KHC Kasperske Hory 6.45 2 *e*PN **Pn** **18 40 38.8 +0.9**
KHC *e*SN **Sn** **18 41 49.6 -2.0**
CABF La Chapelle 6.45 310 *e*Pn **Pn** **18 40 38.7 +0.8**
VIVF Saint-Julien-l 6.59 292 *e*Pn **Pn** **18 40 40.5 +0.7**
ZAGS Zajecar 6.64 77 *e*Pn **Pn** **18 40 42.7 +2.3**
BOSS Bosilegrad 6.80 88 *e*Pn **Pn** **18 40 43.8 +1.2**
HINF Hinteralfeld 6.84 321 *e*Pn **Pn** **18 40 43.5 +0.3**
HINF *e*Sn **Sn** **18 41 58.4 -2.8**
comp=N,5.0nm,0.4s
LASF Ste Croix 7.00 285 *e*Pn **Pn** **18 40 46.0 +0.7**
VYHS Vyhne 7.00 32 *e*PN **Pn** **18 40 46.1 +0.8**
ECH Echery 7.00 324 Pn **Pn** **18 40 46.2 +0.8**
CDF Champ du Feu 7.11 326 *e*Pn **Pn** **18 40 47.8 +0.9**
CDF *e*Sn **Sn** **18 42 04.6 -3.1**
comp=N,11nm,0.8s
HAU Haudompre 7.22 320 *e*Pn **Pn** **18 40 49.2 +0.9**
HAU *e*Sn **Sn** **18 42 07.7 -2.6**
comp=N,6.4nm,0.4s
VTS Vitosha 7.35 87 **Pn** **18 40 52.6 +2.3**
LIT Litokhoron 7.40 107 Pn **Pn** **18 40 49.6 -1.2**
KEST Kesra 7.58 205 Pn **Pn** **18 40 57.3 +3.9**
comp=N,0.5nm,0.3s,baz=275,slow=3.4,SNR=12
comp=N,1.6nm,0.5s
LANS Liptovska Anna 7.78 32 *e*PN **Pn** **18 40 53.4 -2.6**
SMF Signal de Mont 7.80 304 *e*Pn **Pn** **18 40 56.8 +0.5**
SMF *e*Sn **Sn** **18 42 21.5 -3.2**
comp=N,34nm,1.5s
SFTF Sexfontaines 8.00 316 *e*Pn **Pn** **18 40 59.6 +0.6**
LOR Lormes 8.09 308 *e*Pn **Pn** **18 41 01.1 +0.8**
baz=132
LOR *e*Sn **Sn** **18 42 30.6 -1.3**
comp=N,3.6nm,0.7s
SAVF Savonnieres en 8.23 319 *e*Pn **Pn** **18 41 02.0 -0.2**
BGF Bois d'Agland 8.38 301 *e*Pn **Pn** **18 41 05.0 +0.7**
CAF Calviac 8.41 289 *e*Pn **Pn** **18 41 05.3 +0.6**
CLL Collm 8.63 359 *ex* x 18 42 36.0
CLL *e*Sg **Sg** **18 43 40.0 +0.5**
RJF Les Rejaudoux 8.87 291 *e*Pn **Pn** **18 41 11.7 +0.7**
MLR Muntele Rosu 9.54 69 Pn **Pn** **18 41 24.5 +4.2**
comp=N,0.1nm,0.3s,baz=147,slow=15,SNR=6.3
comp=N,1.4nm,0.6s
BAIF Baives 9.67 323 *e*P **Pn** **18 41 26.1 +4.2**
IDI Anoyia 11.67 125 Pn **Pn** **18 41 53.5 +4.1**
comp=N,0.1nm,0.3s,baz=354,slow=18,SNR=2.2
comp=N,6.1nm,0.9s
ESDC Sonseca Array 13.32 263 Pn **Pn** **18 42 12.6 +0.6**
comp=N,0.2nm,0.3s,baz=66,slow=16,SNR=4.2
comp=N,0.3nm,0.8s
AKASG Malin Array Be 13.55 48 Pn **Pn** **18 42 13.3 -1.6**
ANTO Ankara 14.95 94 Pn **Pn** **18 42 30.1 -4.0**
NC602 NORSAR Array S 18.11 357 Pn **Pn** **18 43 12.4 -1.8**
NC602 IAmb IAmb 18 43 22.1
comp=Z,22nm,1.3s
FINES FINESS Array B 20.30 18 P **P** **18 43 38.7 +0.2**
comp=Z,1.2nm,0.7s,baz=202,slow=6.9,SNR=1.6
comp=Z,1.2nm,0.7s
KBZ Khabaz 21.57 77 P **P** **18 43 54.8 +2.4**
comp=Z,1.3nm,0.7s,baz=270,slow=3.0,SNR=2.6
comp=Z,1.3nm,0.7s
TORD Torodi Ar. Bea 31.09 202 P **P** **18 45 23.2 +2.0**
comp=Z,0.6nm,0.6s,baz=9.0,slow=9.3,SNR=3.2
comp=Z,0.6nm,0.6s
MKAR Makanchi Array 47.76 60 P **P** **18 47 41.4 +1.4**
comp=Z,0.5nm,0.8s,baz=305,slow=5.1,SNR=2.7
comp=Z,0.5nm,0.8s
SONM Songino Array 61.83 50 P **P** **18 49 22.2 +0.2**
comp=Z,0.4nm,0.6s,baz=270,slow=5.8,SNR=3.6
comp=Z,0.4nm,0.6s

NOU ***11*** *18:49:22.8,37°.35S×179°.85E,h111km,mb4.2/9,Off E. Coast of N. Island, N.Z.*
NEIC ***11*** *18:49:23.8±0.7,37°.37S±0°.06×179°.48E±0°.08,h10km±2km, mb4.3/10,Error ellipse: s-maj=11.9km s-min=8.0km az=48.0*
IDC ***11*** *18:49:27.6±1.5,36°.96S×178°.62E,h0km,mb4.1/4, mbtmp4.1/4,MS3.3/1,Error ellipse: s-maj=34.8km s-min=31.2km az=56.0*
WEL ***11*** *18:49:30.3±0.8,37°S±3°×17°9E±°,h20km,M3.8/36, ML4.0/35,MLv3.8/36,Error ellipse: s-maj=0.0km s-min=0.0km az=93.4*
ISC 11 18:49:29.6±2.0,37°28S±0°.05×179°00E±0°.08,h26km±12km, n131,σ1°42/157,mb4.2/10,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.62**	**243**			**Pb**	**18 49 42.1**	**+0.2**
MXZ	**Matakaoa Point**	**0.62**	**243**	P		**Pn**	**18 49 42.2**	**-0.5**
MXZ				S		**Sb**	**18 49 49.8**	**-0.4**
WMGZ	**Waiomatatini S**	**0.71**	**221**	P		**Pn**	**18 49 45.4**	**+1.4**
WMGZ				S		**Sn**	**18 49 56.5**	**+2.3**
PKGZ	**Pakihiroa**	**0.95**	**230**	P		**Pn**	**18 49 48.5**	**+1.1**
PKGZ				S		**Sn**	**18 50 01.5**	**+1.3**
PUZ	**Puketiti**	**0.99**	**216**	P		**Pn**	**18 49 49.0**	**+1.1**
PUZ				S		**Sn**	**18 50 02.2**	**+1.2**
HAZ	**Te Kaha**	**1.08**	**243**	P		**Pn**	**18 49 49.2**	**+0.1**
HAZ				S		**Sn**	**18 50 05.0**	**+1.9**
TWGZ	**Tauwhareparae**	**1.21**	**222**	P		**Pb**	**18 49 52.1**	**+0.3**
TWGZ				S		**Sn**	**18 50 08.7**	**+2.3**
RUGZ	**Raukumara Rang**	**1.25**	**236**	P		**Pn**	**18 49 53.1**	**+0.4**
RUGZ				S		**Sb**	**18 50 09.5**	**+1.0**
CNGZ	**Carnagh Statio**	**1.36**	**207**	P		**Pb**	**18 49 54.7**	**+0.3**
CNGZ				S		**Sb**	**18 50 13.4**	**+2.1**
WIZ	**White Island**	**1.46**	**260**	P		**Pn**	**18 49 54.4**	**+0.1**
TKGZ	**Te Karaka**	**1.48**	**218**	P		**Pb**	**18 49 55.4**	**-1.0**
MWZ	**Matawai**	**1.57**	**227**	P		**Pn**	**18 49 56.8**	**+0.9**
WHRZ	**Whale Island**	**1.71**	**250**	P		**Pb**	**18 49 59.0**	**-1.3**
RIGZ	**Rimuhau**	**1.73**	**214**	P		**Pn**	**18 49 58.6**	**+0.6**
RAGZ	**Rawiri**	**1.75**	**225**	P		**Pb**	**18 49 59.6**	**-1.4**
RAGZ				S		**Sn**	**18 50 20.8**	**+1.0**
URZ	**Urewera**	**1.79**	**236**	Pn		**Pn**	**18 50 00.0**	**+1.2**
URZ	50nm,0.3s,baz=31,slow=1.9,SNR=289			Sn		**Sn**	**18 50 20.0**	**-0.7**
URZ	82nm,0.3s,baz=211,slow=22,SNR=28			LR		LR	18 50 52.0	
URZ	**Urewera**	**1.79**	**236**			**Pn**	**18 49 59.7**	**+0.9**
URZ	**Urewera**	**1.79**	**236**	P		**Pn**	**18 49 59.9**	**+1.1**
URZ				S		**Sn**	**18 50 20.8**	**+0.1**
URZ	**Urewera**	**1.79**	**236**	P		**Pn**	**18 49 59.9**	**+1.1**
EDRZ	**Edgecumbe**	**1.98**	**245**	P		**Pn**	**18 50 02.6**	**+1.2**
OPRZ	**Ohinepanea**	**2.02**	**253**	P		**Pn**	**18 50 02.3**	**+0.2**
KNZ	**Kokohu**	**2.03**	**211**	P		**Pn**	**18 50 02.0**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.06**	**204**	P		**Pn**	**18 50 03.0**	**+0.4**
MUGZ	**Murupara**	**2.13**	**235**	P		**Pn**	**18 50 04.4**	**+0.8**
MKRZ	**Makatiti**	**2.19**	**246**	P		**Pn**	**18 50 05.9**	**+1.6**
TARZ	**Mount Tarawera**	**2.20**	**243**	P		**Pn**	**18 50 05.9**	**+1.4**
MYRZ	**Mayor Island**	**2.20**	**269**	P		**Pn**	**18 50 04.9**	**+0.4**
RAHZ	**Arahi**	**2.23**	**222**	P		**Pn**	**18 50 05.6**	**+0.7**
RAHZ				S		**Sn**	**18 50 32.7**	**+1.2**
RRRZ	**Republican Roa**	**2.24**	**241**	P		**Pn**	**18 50 06.4**	**+1.4**
OMRZ	**Omania**	**2.24**	**248**	P		**Pn**	**18 50 06.5**	**+1.4**
WHHZ	**Waihua**	**2.27**	**217**	P		**Pn**	**18 50 06.0**	**+0.5**
WHHZ				S		**Sn**	**18 50 33.3**	**+0.7**
KARZ	**Kaharoa**	**2.31**	**250**	P		**Pn**	**18 50 06.8**	**+0.8**
MTHZ	**Maungataniwha**	**2.32**	**227**	P		**Pn**	**18 50 07.2**	**+1.1**
MTHZ				S		**Sn**	**18 50 34.3**	**+0.4**
HSRZ	**Hossack Road**	**2.42**	**244**	P		**Pn**	**18 50 09.4**	**+1.9**
ALRZ	**Allen Road**	**2.46**	**238**	P		**Pn**	**18 50 09.1**	**+1.0**
KMRZ	**Kaimai**	**2.50**	**256**	P		**Pn**	**18 50 09.0**	**+0.4**
NMHZ	**Naumai**	**2.51**	**223**	P		**Pn**	**18 50 10.0**	**+1.2**
NMHZ				S		**Sn**	**18 50 39.6**	**+1.0**
ARHZ	**Aropaoanui**	**2.53**	**218**	P		**Pn**	**18 50 09.5**	**+0.5**
ARHZ				S		**Sn**	**18 50 39.4**	**+0.4**
MRHZ	**Matea Rd**	**2.56**	**232**	P		**Pn**	**18 50 10.3**	**+0.8**
MRHZ				S		**Sn**	**18 50 39.4**	**-0.5**
KUZ	**Kuaotunu**	**2.68**	**280**	P		**Pn**	**18 50 10.5**	**-0.5**
KUZ				S		**Sn**	**18 50 39.4**	**-3.2**
BKZ	**Black Stump Fm**	**2.73**	**226**			**Pn**	**18 50 11.7**	**-0.2**
BKZ	**Black Stump Fm**	**2.73**	**226**	P		**Pn**	**18 50 12.2**	**+0.4**
BKZ				S		**Sn**	**18 50 43.6**	**-0.4**
BKZ	**Black Stump Fm**	**2.73**	**226**	P		**Pn**	**18 50 12.2**	**+0.4**
CKHZ	**Cape Kidnapper**	**2.82**	**212**	P		**Pn**	**18 50 12.4**	**-0.5**
CKHZ				S		**Sn**	**18 50 44.9**	**-1.1**
TOZ	**Tahuroa Road**	**2.82**	**260**	P		**Pn**	**18 50 13.4**	**+0.5**
MCHZ	**McNeill Hill**	**2.82**	**219**	P		**Pn**	**18 50 13.2**	**+0.2**
MCHZ				S		**Sn**	**18 50 46.5**	**+0.4**
TLZ	**Tolley Road**	**2.94**	**248**	P		**Pn**	**18 50 15.6**	**+1.0**
KWHZ	**Kaweka Forest**	**2.95**	**223**	P		**Pn**	**18 50 14.7**	**-0.1**
RATZ	**Rangitukua**	**3.00**	**237**	P		**Pn**	**18 50 16.8**	**+1.2**
KAHZ	**Kahuranaki**	**3.02**	**213**	P		**Pn**	**18 50 15.1**	**-0.6**
GRZ	**Great Barrier**	**3.02**	**289**	P		**Pn**	**18 50 16.7**	**+0.9**
MKAZ	**Moumakai**	**3.07**	**272**	P		**Pn**	**18 50 16.5**	**+0.1**
KATZ	**Kakaramea**	**3.11**	**236**	P		**Pn**	**18 50 19.2**	**+2.2**
WIAZ	**Waiheke Island**	**3.13**	**278**	P		**Pn**	**18 50 17.4**	**+0.1**
KRHZ	**Kereru**	**3.14**	**220**	P		**Pn**	**18 50 16.6**	**-0.8**
KRHZ				S		**Sn**	**18 50 52.8**	**-1.2**
TMVZ	**Te Maari**	**3.18**	**234**	P		**Pn**	**18 50 18.5**	**+0.4**
TMVZ				S		**Sn**	**18 50 53.6**	**-1.6**
ETVZ	**East Tongariro**	**3.19**	**233**	P		**Pn**	**18 50 18.5**	**+0.4**
ETVZ				S		**Sn**	**18 50 54.1**	**-1.3**

NTVZ	**North Tongarir**	**3.19**	**234**	P		**Pn**	**18 50 18.6**	**+0.5**
NTVZ				S		**Sn**	**18 50 54.1**	**-1.3**
BHHZ	**Black Hill Sta**	**3.19**	**225**	P		**Pn**	**18 50 18.2**	**0.0**
KRVZ	**Karewarewa**	**3.21**	**235**	P		**Pn**	**18 50 19.1**	**+0.7**
OTVZ	**Oturere**	**3.23**	**233**	P		**Pn**	**18 50 19.2**	**+0.4**
OTVZ				S		**Sn**	**18 50 54.8**	**-1.7**
NNVZ	**North Ngauruho**	**3.25**	**234**	P		**Pn**	**18 50 19.9**	**+0.9**
WTVZ	**West Tongariro**	**3.25**	**235**	P		**Pn**	**18 50 20.1**	**+1.0**
SNVZ	**South Ngauruho**	**3.26**	**233**	P		**Pn**	**18 50 19.4**	**+0.2**
SNVZ				S		**Sn**	**18 50 55.8**	**-1.5**
ETAZ	**East Tamaki Re**	**3.27**	**274**	P		**Pn**	**18 50 19.7**	**+0.5**
NGZ	**Ngauruhoe**	**3.28**	**234**	P		**Pn**	**18 50 20.0**	**+0.5**
NGZ				S		**Sn**	**18 50 56.7**	**-1.0**
TUVZ	**Tukino**	**3.30**	**232**	P		**Pn**	**18 50 20.2**	**+0.5**
MBAZ	**Motutapu North**	**3.32**	**278**	P		**Pn**	**18 50 20.9**	**+1.1**
MOVZ	**Moawhango**	**3.32**	**229**	P		**Pn**	**18 50 20.0**	**+0.1**
MOVZ				S		**Sn**	**18 50 56.0**	**-2.7**
TWVZ	**Taurewa**	**3.33**	**236**	P		**Pn**	**18 50 21.0**	**+0.9**
FWVZ	**Far West T-bar**	**3.36**	**233**	P		**Pn**	**18 50 21.2**	**+0.6**
WNVZ	**Wahianoa**	**3.37**	**232**	P		**Pn**	**18 50 20.8**	**+0.2**
WNVZ				S		**Sn**	**18 50 57.6**	**-2.3**
ABAZ	**Army Bay**	**3.41**	**280**	P		**Pn**	**18 50 21.7**	**+0.7**
PNHZ	**Pukenui**	**3.43**	**219**	P		**Pn**	**18 50 20.3**	**-1.1**
PNHZ				S		**Sn**	**18 50 59.0**	**-2.2**
WPHZ	**Waipukurau**	**3.43**	**215**	P		**Pn**	**18 50 20.4**	**-1.0**
WPHZ				S		**Sn**	**18 50 59.2**	**-2.0**
HBAZ	**Herne Bay Bore**	**3.44**	**276**	P		**Pn**	**18 50 23.2**	**+1.7**
MTVZ	**Mangateitei**	**3.48**	**232**	P		**Pn**	**18 50 22.7**	**+0.6**
MTVZ				S		**Sn**	**18 51 00.7**	**-1.9**
AWAZ	**Awhitu Peninsu**	**3.49**	**272**	P		**Pn**	**18 50 23.0**	**+0.8**
HIZ	**Hauiti**	**3.50**	**248**			**Pn**	**18 50 23.0**	**+0.6**
HIZ	**Hauiti**	**3.50**	**248**	P		**Pn**	**18 50 24.0**	**+1.6**
HIZ	**Hauiti**	**3.50**	**248**	P		**Pn**	**18 50 24.3**	**+1.9**
PRHZ	**Porangahau**	**3.51**	**211**	P		**Pn**	**18 50 21.3**	**-1.2**
WTAZ	**Waiatarua**	**3.56**	**274**	P		**Pn**	**18 50 24.0**	**+0.9**
RVAZ	**Riverhead Bore**	**3.57**	**277**	P		**Pn**	**18 50 24.3**	**+0.9**
WCZ	**Waipu Caves**	**3.98**	**288**	P		**Pn**	**18 50 29.9**	**+1.0**
WAZ	**Wanganui**	**4.00**	**231**	P		**Pn**	**18 50 30.1**	**+0.8**
BFZ	**Birch Farm**	**4.02**	**211**	Pn		**Pn**	**18 50 26.7**	**-2.7**
BFZ	**Birch Farm**	**4.02**	**211**	P		**Pn**	**18 50 26.8**	**-2.7**
PRWZ	**Pori Road**	**4.04**	**215**	P		**Pn**	**18 50 28.6**	**-1.1**
LREZ	**Lake Rotokare**	**4.22**	**238**	P		**Pn**	**18 50 33.8**	**+1.6**
PREZ	**Palmer Road**	**4.33**	**240**	P		**Pn**	**18 50 36.3**	**+2.5**
NEZ	**North Egmont**	**4.34**	**241**	P		**Pn**	**18 50 36.4**	**+2.4**
PKE	**Pukeiti**	**4.39**	**243**	P		**Pn**	**18 50 37.1**	**+2.5**
KHEZ	**Kahui Hut**	**4.41**	**241**	P		**Pn**	**18 50 37.6**	**+2.7**
OUZ	**Omahuta**	**4.83**	**294**			**Pn**	**18 50 41.8**	**+1.3**
OUZ	**Omahuta**	**4.83**	**294**	P		**Pn**	**18 50 41.9**	**+1.3**
OUZ	**Omahuta**	**4.83**	**294**	P		**Pn**	**18 50 42.0**	**+1.4**
QRZ	**Quartz Range**	**6.16**	**233**	P		**Pn**	**18 50 57.3**	**-1.5**
THZ	**Tophouse**	**6.50**	**225**	Pn		**Pn**	**18 51 01.0**	**-2.6**
KHZ	**Kahutara**	**6.63**	**218**	P		**Pn**	**18 51 02.3**	**-3.0**
CTZ	**Chatham Island**	**7.26**	**154**	P		**Pn**	**18 51 15.5**	**+1.6**
LTZ	**Lake Taylor**	**7.54**	**221**	Pn		**Pn**	**18 51 15.6**	**-2.3**
MQZ	**McQueen's Vall**	**8.04**	**215**	Pn		Pn	18 51 19.7	-4.9
RPZ	**Rata Peaks**	**8.83**	**221**	Pn		**Pn**	**18 51 31.8**	**-3.6**
	1.0nm,0.3s,baz=341,slow=22,SNR=1.7							
RPZ				Sn		Sn	18 53 01.8	-12
	2.1nm,0.3s,baz=101,slow=2.8,SNR=16							
RPZ	**Rata Peaks**	**8.83**	**221**	P		**Pn**	**18 51 32.5**	**-3.0**
ODZ	**Otahua Downs**	**9.99**	**216**	P		**Pn**	**18 51 48.6**	**-2.8**
STKA	**Stephens Creek**	**31.13**	**269**	P		**P**	**18 55 45.9**	**-0.2**
	1.0nm,0.3s,baz=117,slow=7.7,SNR=5.6							
	1.0nm,0.3s							
STKA	**Stephens Creek**	**31.13**	**269**	P		**P**	**18 55 45.2**	**-0.8**
COEN	**Coen**	**39.43**	**297**	P		**P**	**18 56 57.4**	**-0.2**
COEN				IAmb		IAmb	18 57 17.1	
	comp=Z,22nm,1.4s							
AS31	**Alice Springs**	**40.80**	**276**	P		**P**	**18 57 07.8**	**-1.1**
AS31				IAmb		IAmb	18 57 08.8	
	comp=Z,1.4nm,0.8s							
ASAR	**Alice Springs**	**40.80**	**276**	P		**P**	**18 57 07.5**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=113,slow=6.0,SNR=48							
	comp=Z,2.2nm,0.7s							
ASAR	**Alice Springs**	**40.80**	**276**	P		**P**	**18 57 07.2**	**-1.7**
FORT	**Forrest**	**42.30**	**263**	P		**P**	**18 57 20.0**	**-1.1**
WB2	**Warramunga Arr**	**42.41**	**281**	P		**P**	**18 57 21.0**	**-1.2**
WB2				IAmb		IAmb	18 57 21.6	
	comp=Z,4.6nm,0.5s							
WRAB	**Tennant Creek**	**42.41**	**281**	P		**P**	**18 57 20.9**	**-1.3**
WRAB				IAmb		IAmb	18 57 21.8	
	comp=Z,4.5nm,1.0s							
WRA	**Warramunga Arr**	**42.42**	**281**	P		**P**	**18 57 20.8**	**-1.4**
	comp=Z,2.3nm,0.4s,baz=123,slow=7.0,SNR=102							
WRA				PcP		**PcP**	**18 59 15.8**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=126,slow=3.3,SNR=2.2							
	comp=Z,2.3nm,0.4s							
WRA	**Warramunga Arr**	**42.42**	**281**	P		**P**	**18 57 20.4**	**-1.8**
WB0	**Warramunga Arr**	**42.47**	**282**	P		**P**	**18 57 21.3**	**-1.4**
WB0				IAmb		IAmb	18 57 22.0	
	comp=Z,5.3nm,0.4s							
KNRA	**Kununurra**	**49.20**	**282**	P		**P**	**18 58 14.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**50.28**	**277**	P		**P**	**18 58 22.7**	**-1.3**
FITZ				IAmb		IAmb	18 59 03.8	
	comp=Z,4.5nm,1.4s							
QSPA	**South Pole Qui**	**52.85**	**180**	P		**P**	**18 58 46.0**	**+3.2**
	comp=Z,1.3nm,0.9s,baz=10.0,slow=4.4,SNR=3.0							
	comp=Z,1.3nm,0.9s							
H03S2	**Juan Fernandez**	**78.73**	**124**	T		T	20 27 53.9	
	baz=230							
H03S1	**Juan Fernandez**	**78.74**	**124**	T		T	20 27 51.3	
	baz=230							
H03S3	**Juan Fernandez**	**78.75**	**124**	T		T	20 27 52.8	
	baz=230							
H03N3	**Juan Fernandez**	**78.96**	**124**	T		T	20 28 08.1	
	baz=234,slow=72,SNR=10							
H03N2	**Juan Fernandez**	**78.97**	**124**	T		T	20 28 09.9	
	baz=234,slow=72,SNR=8.4							
H03N1	**Juan Fernandez**	**78.98**	**124**	T		T	20 28 00.7	
	baz=234,slow=72,SNR=8.1							
ANMO	**Albuquerque**	**99.74**	**53**	LR		LR	19 40 15.8	
	comp=Z,1.9nm,19.3s,baz=76,slow=30							
ARCES	**ARCESS Array B**	**144.65**	**344**	PKP		**PKiKP**	**19 09 04.7**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=64,slow=2.1,SNR=5.3							
FINES	**FINESS Array B**	**150.48**	**334**	PKPbc		**PKiKP**	**19 09 19.0**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=67,slow=3.6,SNR=10							
TORD	**Torodi Ar. Bea**	**155.85**	**186**	PKPab		**PKPab**	**19 09 52.4**	**+4.0**
	comp=Z,0.1nm,0.4s,baz=156,slow=3.0,SNR=1.7							

*IDC **11** 18:53:26.0±0.8,29°.10S×61°.02E, h0km, mb4.0/10, mbtmp4.0/11, ML4.5/1, MS3.3/10, Error ellipse: s-maj=26.9km s-min=18.3km az=177.0*

ISC 11 18:53:27.7±0.8, 29°.1S±0°.2×61°.0E±0°.1, h10km, n26, σ0.85/11, mb4.2/10, MS3.4/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.38**	**307**	Pn	**Pn**	**18 57 18.4**	**+0.4**
	0.2nm,0.3s,baz=123,slow=14,SNR=8.8						
OPO				Sn	Sn	19 00 08.0	-12
	0.2nm,0.3s,baz=253,slow=8.8,SNR=3.4						
	3.4nm,0.4s						
H08S1	**Diego Garcia H**	**23.93**	**29**	T	T	19 23 39.3	
	baz=202						
H08S2	**Diego Garcia H**	**23.93**	**29**	T	T	19 23 13.5	
	baz=202						
H08S3	**Diego Garcia H**	**23.95**	**29**	T	T	19 22 54.7	
	baz=202						
BOSA	**Boshof**	**31.22**	**262**	P	**P**	**18 59 47.7**	**+0.1**
	3.0nm,0.9s,baz=72,slow=6.4,SNR=2.0						
	3.0nm,0.9s						
LBTB	**Lobatse**	**31.70**	**269**	P	**P**	**18 59 51.9**	**+0.1**
	2.7nm,0.8s,baz=117,slow=2.3,SNR=3.5						
	2.7nm,0.8s						
LSZ	**Lusaka**	**33.20**	**287**	LR	LR	19 11 35.8	
	comp=Z,28nm,20.9s,baz=152,slow=33						
SUR	**Sutherland**	**34.54**	**254**	P	**P**	**19 00 17.2**	**+0.5**
	6.9nm,0.9s,baz=166,slow=8.3,SNR=2.2						
SUR				LR	LR	19 12 38.6	
	comp=Z,57nm,18.9s,baz=155,slow=33						
	6.9nm,0.9s						
KMBO	**Kilima Mbogo**	**35.85**	**317**	LR	LR	19 11 53.8	
	comp=Z,68nm,18.6s,baz=94,slow=31						
MAW	**Mawson**	**38.56**	**179**	LR	LR	19 14 47.9	
	comp=Z,54nm,18.6s,baz=349,slow=33						
MBAR	**Mbarara**	**40.44**	**309**	LR	LR	19 15 16.6	
	comp=Z,44nm,21.2s,baz=126,slow=32						
TSUM	**Tsumeb**	**40.61**	**274**	LR	LR	19 17 51.9	
	comp=Z,19nm,18.7s,baz=191,slow=36						
PALK	**Pallekele**	**40.84**	**31**	LR	LR	19 13 35.8	
	comp=Z,30nm,18.2s,baz=272,slow=30						
ATD	**Arta Tunnel**	**44.02**	**334**	LR	LR	19 18 22.1	
	comp=Z,40nm,18.4s,baz=100,slow=34						
H01W2	**Cape Leeuwin H**	**45.02**	**112**	T	T	19 49 23.0	
	baz=261,slow=75,SNR=7.2						
H01W3	**Cape Leeuwin H**	**45.02**	**112**	T	T	19 49 23.2	
	baz=261,slow=75,SNR=6.4						
H01W1	**Cape Leeuwin H**	**45.04**	**112**	T	T	19 49 24.2	
	baz=261,slow=75,SNR=8.3						
SNAA	**Sanae**	**54.48**	**200**	P	**P**	**19 02 55.3**	**+0.2**
	0.6nm,0.9s,baz=100,slow=6.1,SNR=2.0						
	0.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**59.82**	**42**	P	**P**	**19 03 34.8**	**+1.2**
	0.7nm,0.7s,baz=228,slow=6.6,SNR=5.4						
	0.7nm,0.7s						
QSPA	**South Pole Qui**	**61.06**	**180**	P	**P**	**19 03 42.1**	**+0.5**
	0.6nm,0.6s,baz=289,slow=2.9,SNR=6.6						
	0.6nm,0.6s						
VNDA	**Vanda**	**64.14**	**166**	LR	LR	19 29 29.3	
	comp=Z,26nm,18.7s,baz=289,slow=34						
ASAR	**Alice Springs**	**64.62**	**104**	P	**P**	**19 04 05.0**	**-0.8**
	1.2nm,0.7s,baz=240,slow=6.3,SNR=13						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**66.44**	**100**	P	**P**	**19 04 16.7**	**-0.9**
	1.5nm,0.9s,baz=246,slow=5.6,SNR=9.1						
	1.5nm,0.9s						
GNI	**Garni**	**70.52**	**347**	LR	LR	19 33 52.2	
	comp=Z,22nm,19.3s,baz=144,slow=34						
TORD	**Torodi Ar. Bea**	**70.96**	**298**	P	**P**	**19 04 44.4**	**-1.4**
	2.8nm,1.1s,baz=117,slow=5.8,SNR=2.9						
	2.8nm,1.1s						
ZALV	**Zalesovo Beam**	**85.24**	**14**	P	**P**	**19 06 04.1**	**0.0**
	0.6nm,0.5s,baz=242,slow=3.1,SNR=3.4						
	0.6nm,0.5s						

*JMA **11** 18:55:44.2±0.6,22°.N±2°.×12°.2E±°, h39km, MV3.2/13, TAIWAN REGION*

*TAP **11** 18:55:44.7,22°.20N×122°.01E, h41km, ML3.0, D*

ISC 11 18:55:43.9±1.3, 22°.11N±0°.04×122°.13E±0°.03, h35km, n82, σ1.9/31/134, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**0.52**	**258**	*i* P	**Pn**	**18 55 54.4**	**-0.5**
	baz=249						
LYUB				*i* S	**Sn**	**18 56 01.4**	**-1.1**
	baz=249						
LAY	**Lan-yu**	**0.54**	**262**	*i* P	**Pn**	**18 55 54.1**	**-1.1**
	baz=255						
LAY				*i* S	**Sn**	**18 56 01.9**	**-1.2**
	baz=255						
LDUT	**Ludao**	**0.83**	**312**	P	**Pn**	**18 55 57.6**	**-1.5**
	baz=313						
LDUT				S	**Sn**	**18 56 07.6**	**-2.6**
	baz=313						
EDH	**Donghe**	**1.15**	**318**	P	**Pn**	**18 56 02.1**	**-1.4**
	baz=319						
EDH				*e*S	**Sn**	**18 56 16.0**	**-2.0**
	baz=319						
TSEB	**Hengchuen, Pin**	**1.16**	**260**	P	**Pn**	**18 56 04.7**	**+1.0**
	baz=254						
TSEB				S	**Sn**	**18 56 19.8**	**+1.4**
	baz=254						
TAW	**Tawu**	**1.17**	**282**	*e*P	**Pn**	**18 56 02.8**	**-1.0**
	baz=278						
TAW				*e*S	**Sn**	**18 56 17.0**	**-1.5**
	baz=278						
TAWH	**Dawu Township**	**1.17**	**281**	*e*P	**Pn**	**18 56 02.2**	**-1.7**
	baz=277						
TAWH				*e*S	**Sn**	**18 56 16.1**	**-2.5**
	baz=277						
ECL	**Taimali**	**1.19**	**294**	P	**Pn**	**18 56 03.7**	**-0.4**
	baz=280						
ECL				*e*S	**Sn**	**18 56 18.0**	**-1.1**
	baz=280						
TWGBT	**Beinan**	**1.20**	**306**	*e*P	**Pn**	**18 56 04.2**	**-0.1**
	baz=305						
TWGBT				*e*S	**Sn**	**18 56 18.7**	**-0.6**
	baz=305						
SMST	**Manzhou Townsh**	**1.20**	**266**	*e*S	**Sn**	**18 56 18.5**	**-0.9**
	baz=260						
LONT	**Longtian**	**1.22**	**311**	*e*P	**Pn**	**18 56 04.2**	**-0.2**
	baz=316						
LONT				*e*S	**Sn**	**18 56 17.2**	**-2.5**
	baz=316						
EAST	**Anshuo**	**1.22**	**283**	P	**Pn**	**18 56 04.0**	**-0.5**
	baz=279						
EAST				*e*S	**Sn**	**18 56 18.3**	**-1.5**
	baz=279						
TWKBT	**Hengchun**	**1.23**	**262**	*e*P	**Pn**	**18 56 03.9**	**-0.8**
	baz=257						
TWKBT				*e*S	**Sn**	**18 56 20.8**	**+0.6**
	baz=257						
SLIU	**Shizi**	**1.24**	**275**	P	**Pn**	**18 56 04.2**	**-0.5**
	baz=271						
SLIU				*e*S	**Sn**	**18 56 18.8**	**-1.5**
	baz=271						
TWK1	**Hengchun**	**1.24**	**262**	P	**Pn**	**18 56 05.2**	**+0.5**
	baz=257						
TWK1				S	**Sn**	**18 56 19.9**	**-0.5**
	baz=257						
ECS	**Chishang**	**1.29**	**319**	P	**Pn**	**18 56 05.1**	**-0.4**
	baz=320						
ECS				*e*S	**Sn**	**18 56 21.0**	**-0.6**
	baz=320						
HEN	**Hengchun**	**1.30**	**266**	*e*S	**Sn**	**18 56 22.1**	**+0.4**
	baz=260						
SCZT	**Fangliau**	**1.42**	**281**	*e*P	**Pn**	**18 56 07.4**	**+0.1**
	baz=283						
EYUL	**Yuli**	**1.44**	**329**	P	**Pn**	**18 56 06.5**	**-1.0**
	baz=337						
TWF1	**Yuli**	**1.46**	**328**	*e*P	**Pn**	**18 56 07.5**	**-0.2**
	baz=336						
TWF1				*e*S	**Sn**	**18 56 24.3**	**-1.3**
	baz=336						
MASBT	**Mashibuluo**	**1.47**	**290**	*e*P	**Pn**	**18 56 08.4**	**+0.4**
	baz=288						
ELDTW	**Lidau**	**1.49**	**316**	P	**Pn**	**18 56 07.2**	**-1.1**
	baz=321						
ELDTW				*e*S	**Sn**	**18 56 24.9**	**-1.7**
	baz=321						
YULB	**Yu-li**	**1.49**	**329**	*e*P	**Pn**	**18 56 07.3**	**-1.0**
	baz=337						
YULB				*e*S	**Sn**	**18 56 25.6**	**-0.8**
	baz=337						
SSPT	**Xinbi**	**1.49**	**285**	*e*P	**Pn**	**18 56 07.7**	**-0.5**
	baz=282						
HGSD	**Ruisui**	**1.52**	**335**	P	**Pn**	**18 56 07.2**	**-1.5**
	baz=342						
HGSD				S	**Sn**	**18 56 24.7**	**-2.5**
	baz=342						
SSD	**Sandimen**	**1.52**	**295**	*e*P	**Pn**	**18 56 09.8**	**+1.1**
	baz=297						
EHY	**Hungye**	**1.57**	**332**	P	**Pn**	**18 56 09.0**	**-0.4**
	baz=339						
EHY				S	**Sn**	**18 56 28.0**	**-0.6**
	baz=339						
STYH	**Taoyuan**	**1.64**	**310**	*e*P	**Pn**	**18 56 09.1**	**-1.1**
	baz=310						
STYT	**Tauyuan**	**1.65**	**310**	*e*P	**Pn**	**18 56 10.3**	**-0.1**
	baz=310						
EGFH	**Guangfu**	**1.68**	**337**	*e*S	**Sn**	**18 56 30.8**	**-0.4**
	baz=346						
TEGC	**Jichi Village**	**1.68**	**341**	*e*S	**Sn**	**18 56 29.6**	**-1.5**
	baz=344						
YUS	**Yu-Shan**	**1.75**	**322**	*e*P	**Pn**	**18 56 12.2**	**-0.1**
	baz=323						
YUS				*e*S	**Sn**	**18 56 32.7**	**-0.9**
	baz=323						
WTP	**Ta-pu**	**1.80**	**309**	*e*P	**Pn**	**18 56 14.7**	**+2.1**
	baz=309						
WTP				*e*S	**Sn**	**18 56 36.8**	**+2.6**
	baz=309						
ESL	**Shilin**	**1.81**	**339**	*e*P	**Pn**	**18 56 12.1**	**-0.6**
	baz=348						
ESL				*e*S	**Sn**	**18 56 33.1**	**-1.4**
	baz=348						
TEYL	**Yanliau Villag**	**1.81**	**344**	*e*S	**Sn**	**18 56 34.3**	**-0.2**
	baz=347						
TPUB	**Ta-pu**	**1.82**	**311**	*e*P	**Pn**	**18 56 14.1**	**+1.3**
	baz=311						
TPUB				*e*S	**Sn**	**18 56 36.9**	**+2.1**
	baz=311						
CHN1	**Nanshi**	**1.83**	**306**	*e*P	**Pn**	**18 56 15.5**	**+2.6**
	baz=306						
CHN1				*e*S	**Sn**	**18 56 38.8**	**+3.9**
	baz=306						
ALS	**Alishan**	**1.85**	**319**	*e*P	**Pn**	**18 56 14.7**	**+1.2**
	baz=325						
ALS				*e*S	**Sn**	**18 56 37.6**	**+1.8**
	baz=325						
VWDT	**VWDT**	**1.87**	**331**	*e*P	**Pn**	**18 56 13.7**	**+0.2**
	baz=332						
TWK	**Hsinying**	**1.90**	**307**	*e*P	**Pn**	**18 56 16.2**	**+2.2**
	baz=307						
WCKO	**Fanlu**	**1.93**	**313**	*e*P	**Pn**	**18 56 15.4**	**+1.1**
	baz=313						
WHYT	**Xinyi Township**	**1.97**	**323**	*e*P	**Pn**	**18 56 16.2**	**+1.4**
	baz=328						
SSLB	**Suanglung**	**1.99**	**327**	*e*P	**Pn**	**18 56 15.6**	**+0.4**
	baz=336						
SSLB				*e*S	**Sn**	**18 56 39.1**	**+0.3**
	baz=336						
OWD	**Renai**	**2.03**	**335**	*e*P	**Pn**	**18 56 15.9**	**+0.1**
	baz=344						
OWD				*e*S	**Sn**	**18 56 38.6**	**-1.5**
	baz=344						
WUSB	**Renai**	**2.09**	**334**	*e*P	**Pn**	**18 56 17.0**	**+0.4**
	baz=344						
WUSB				*e*S	**Sn**	**18 56 40.5**	**-1.1**
	baz=344						
SMLT	**Sun Moon Lake**	**2.10**	**327**	*e*P	**Pn**	**18 56 17.8**	**+1.1**
	baz=334						
NACB	**Ninganchiao**	**2.11**	**347**	*e*P	**Pn**	**18 56 16.2**	**-0.6**
	baz=356						
NACB				*e*S	**Sn**	**18 56 40.3**	**-1.5**
	baz=356						
CHGB	**Renai**	**2.13**	**336**	*e*P	**Pn**	**18 56 17.5**	**+0.3**
	baz=345						
CHGB				*e*S	**Sn**	**18 56 41.8**	**-0.8**
	baz=345						
TYC	**Yuchr**	**2.13**	**327**	*e*P	**Pn**	**18 56 18.7**	**+1.6**
	baz=336						
TYC				*e*S	**Sn**	**18 56 44.6**	**+2.2**
	baz=336						
ETLH	**Xiulin Townshi**	**2.17**	**344**	*e*P	**Pn**	**18 56 17.4**	**-0.3**
	baz=353						
ETLH				*e*S	**Sn**	**18 56 41.7**	**-1.7**
	baz=353						
WNT	**Mingjian**	**2.21**	**323**	*e*P	**Pn**	**18 56 20.4**	**+2.4**
	baz=324						
WCS	**Beigang Elemen**	**2.24**	**330**	*e*P	**Pn**	**18 56 19.5**	**+1.0**
	baz=340						
WCS				*e*S	**Sn**	**18 56 44.3**	**-0.6**
	baz=340						
TWT	**Tachien**	**2.31**	**338**	*e*S	**Sn**	**18 56 46.0**	**-0.9**
	baz=348						
TDCB	**Techi**	**2.31**	**337**	*e*P	**Pn**	**18 56 20.2**	**+0.6**
	baz=348						
TDCB				*e*S	**Sn**	**18 56 46.2**	**-0.8**
	baz=348						
ENA	**Nanau**	**2.33**	**351**	*e*P	**Pn**	**18 56 19.8**	**-0.1**
	baz=353						
ENA				*e*S	**Sn**	**18 56 46.2**	**-1.1**
	baz=353						
EWUT	**Wuta**	**2.34**	**352**	*e*P	**Pn**	**18 56 19.3**	**-0.6**
	baz=354						
EWUT				*e*S	**Sn**	**18 56 45.4**	**-2.2**
	baz=354						
NNSB	**Datong**	**2.41**	**344**	*e*P	**Pn**	**18 56 21.8**	**+0.9**
	baz=345						
NNSB				*e*S	**Sn**	**18 56 48.2**	**-1.1**
	baz=345						
NNS	**Nan Shan**	**2.42**	**343**	*e*P	**Pn**	**18 56 20.7**	**-0.4**
	baz=345						
NNS				*e*S	**Sn**	**18 56 47.6**	**-2.0**
	baz=345						
JYNG	**Yonagunijimaku**	**2.45**	**18**	*e*P	**Pn**	**18 56 21.9**	**+0.5**
JYNG				*e*S	**Sn**	**18 56 49.5**	**-0.6**
HATJ	**Hateruma jima**	**2.47**	**38**	P	**Pn**	**18 56 22.3**	**+0.5**
HATJ				*e*S	**Sn**	**18 56 50.4**	**-0.4**
LATG	**Datong**	**2.48**	**347**	*e*P	**Pn**	**18 56 22.0**	**+0.1**
	baz=356						
LATG				*e*S	**Sn**	**18 56 50.7**	**-0.3**
	baz=356						
YOJ	**Yonaguni jima**	**2.48**	**19**	*i* P	**Pn**	**18 56 22.4**	**+0.6**
	baz=21						
YOJ				*i* S	**Sn**	**18 56 51.2**	**+0.4**
	baz=21						
NDT	**Datong Townshi**	**2.54**	**347**	*e*P	**Pn**	**18 56 24.3**	**+1.5**
	baz=349						
TWQ1	**Liyutan**	**2.55**	**331**	*e*P	**Pn**	**18 56 25.4**	**+2.5**
	baz=320						
TWQ1				*e*S	**Sn**	**18 56 56.3**	**+3.6**
	baz=320						
WDGT	**Dungji**	**2.55**	**297**	*e*P	**Pn**	**18 56 24.0**	**+1.2**
	baz=296						
WDGT				*e*S	**Sn**	**18 56 52.5**	**-0.2**
	baz=296						
YHNB	**Yeheng**	**2.64**	**345**	*e*P	**Pn**	**18 56 25.0**	**+0.9**
	baz=354						
NSK	**Sanguang**	**2.65**	**345**	*e*P	**Pn**	**18 56 24.3**	**0.0**
	baz=354						
IRIF	**Iriomote-Funau**	**2.66**	**33**	P	**Pn**	**18 56 24.8**	**+0.6**
IRIF				*e*S	**Sn**	**18 56 55.0**	**-0.2**
NFF	**Wufeng Townshi**	**2.67**	**340**	*e*P	**Pn**	**18 56 26.1**	**+1.5**
	baz=348						
FUSB	**Fushanzhiwuyua**	**2.68**	**349**	*e*P	**Pn**	**18 56 25.9**	**+1.2**
	baz=351						
NSTT	**Nanjuang**	**2.71**	**338**	*e*P	**Pn**	**18 56 27.9**	**+2.8**
	baz=339						
LIOB	**Emei**	**2.72**	**338**	*e*P	**Pn**	**18 56 27.3**	**+2.1**
	baz=339						
VCHM	**Qimei**	**2.72**	**294**	*e*P	**Pn**	**18 56 26.2**	**+1.0**
	baz=293						
JKRS	**Kuro-shima**	**2.73**	**39**	P	**Pn**	**18 56 26.1**	**+0.8**
JKRS				S	**

JHS					IAmb	IAmb	19 03 54.7			
	comp=Z,8.4nm,1.0s									
WRA	**Warramunga Arr**	**35.35**	**198**	P	**P**		19 05 24.0	**+0.4**		
	comp=Z,0.5nm,0.8s,baz=17,slow=8.9,SNR=3.4									
	comp=Z,0.5nm,0.8s									
WRA	**Warramunga Arr**	**35.35**	**198**	P	pP		19 05 58.5	+7.9		
	comp=Z,0.5nm,0.8s,baz=25,slow=10,SNR=8.2									
	comp=Z,0.5nm,0.8s									
KLR	**Kul'dur**	**36.82**	**345**	P	**P**		**19 05 35.2**	**-0.6**		
	comp=Z,0.6nm,0.4s,baz=149,slow=12,SNR=4.5									
	comp=Z,0.6nm,0.4s									
ASAR	**Alice Springs**	**39.00**	**196**	P	**P**		**19 05 55.1**	**+0.7**		
	comp=Z,0.2nm,0.6s,baz=18,slow=6.2,SNR=4.5									
	comp=Z,0.2nm,0.6s									
ASAR	**Alice Springs**	**39.00**	**196**	P	**pP**		19 06 27.2	**+5.4**		
	comp=Z,0.2nm,0.7s,baz=19,slow=10,SNR=2.2									
	comp=Z,0.2nm,0.7s									
SONM	**Songino Array**	**46.54**	**325**	P	P		19 07 03.3	+8.1		
	comp=Z,0.2nm,0.4s,baz=132,slow=7.4,SNR=1.7									
	comp=Z,0.2nm,0.4s									
SONM	**Songino Array**	**46.54**	**325**	P	**P**		**19 06 56.0**	**+0.8**		
	comp=Z,0.3nm,0.5s,baz=122,slow=7.0,SNR=2.3									
	comp=Z,0.3nm,0.5s									
YAK	**Yakutsk**	**49.23**	**350**	P	**P**		**19 07 14.0**	**-1.4**		
YAK					IAmb	IAmb	19 07 15.8			
	comp=Z,2.7nm,0.5s									
MK31	**Makanchi Array**	**61.37**	**316**	P	**P**		**19 08 43.2**	**+0.4**		
MK31					IAmb	IAmb	19 08 55.7			
	comp=Z,1.4nm,1.1s									
MKAR	**Makanchi Array**	**61.37**	**316**	P	**P**		**19 08 43.4**	**+0.6**		
	comp=Z,0.6nm,0.4s,baz=95,slow=8.5,SNR=9.8									
	comp=Z,0.6nm,0.4s									
MKAR	**Makanchi Array**	**61.37**	**316**	P	**P**		**19 08 43.4**	**+0.6**		
ZALV	**Zalesovo Beam**	**61.44**	**324**	P	**P**		**19 08 41.9**	**-1.2**		
	comp=Z,0.4nm,0.4s,baz=106,slow=8.4,SNR=1.9									
	comp=Z,0.4nm,0.4s									
K20K	**Telida**	**64.67**	**26**	P	**P**		**19 09 05.4**	**+1.1**		
J20K	**Nowinta River**	**64.93**	**25**	P	**P**		**19 09 06.5**	**+0.6**		
SKT	**Skwentna**	**65.33**	**28**	P	**P**		**19 09 07.6**	**-1.0**		
SKT					IAmb	IAmb	19 09 23.5			
	comp=Z,3.1nm,1.1s									
H21K	**Melozitna Rive**	**65.98**	**24**	P	**P**		**19 09 12.4**	**-0.3**		
H21K					IAmb	IAmb	19 09 13.3			
	comp=Z,2.5nm,1.1s									
BPAW	**Bear Paw Mtn.**	**66.21**	**26**	P	**P**		**19 09 13.1**	**-1.1**		
BPAW					IAmb	IAmb	19 09 13.6			
	comp=Z,2.1nm,1.2s									
GHO	**Glory Hole Cre**	**66.46**	**28**	P	**P**		**19 09 16.1**	**+0.2**		
PWL	**Port Wells**	**66.51**	**29**	P	**P**		**19 09 16.4**	**+0.3**		
MLY	**Manley**	**66.60**	**25**	P	**P**		**19 09 17.0**	**+0.4**		
SML	**Sawmill**	**66.75**	**28**	P	**P**		**19 09 16.7**	**-0.9**		
SML					IAmb	IAmb	19 09 21.6			
	comp=Z,6.2nm,1.1s									
SCM	**Sheep Creek Mo**	**67.21**	**28**	P	**P**		**19 09 20.8**	**+0.2**		
COLD	**Coldfoot**	**67.49**	**22**	P	**P**		**19 09 21.4**	**-0.8**		
COLD					IAmb	IAmb	19 09 23.9			
	comp=Z,1.4nm,0.9s									
MDM	**Murphy Dome**	**67.60**	**25**	P	**P**		**19 09 22.7**	**-0.2**		
EYAK	**Cordova Ski Ar**	**67.69**	**30**	P	**P**		**19 09 23.2**	**-0.3**		
IL31		**68.11**	**25**	P	**P**		**19 09 25.2**	**-0.8**		
ILAR	**Eielson Array**	**68.11**	**25**	P	**P**		**19 09 25.3**	**-0.8**		
	comp=Z,0.4nm,0.3s,baz=250,slow=5.8,SNR=17									
	comp=Z,0.4nm,0.3s									
ILAR	**Eielson Array**	**68.11**	**25**	P	**P**		**19 09 25.5**	**-0.6**		
TOLK	**Toolik Lake Re**	**68.16**	**21**	P	**P**		**19 09 25.9**	**-0.5**		
TOLK					IAmb	IAmb	19 09 39.7			
	comp=Z,5.2nm,1.1s									
J25K	**Salcha River,**	**68.70**	**26**	P	**P**		**19 09 29.5**	**-0.4**		
KKAR	**Karatay Array**	**69.37**	**311**	P	**P**		**19 09 34.0**	**-0.4**		
J26L	**Joseph Creek**	**69.44**	**26**	P	**P**		**19 09 34.6**	**+0.1**		
J26L					IAmb	IAmb	19 09 49.6			
	comp=Z,1.8nm,1.1s									
BMAR	**Burnt Mountain**	**69.64**	**23**	P	**P**		**19 09 36.3**	**+0.7**		
L27K	**Beaver Creek,**	**69.96**	**28**	P	**P**		**19 09 37.5**	**-0.1**		
BCAR	**Beaver Creek A**	**69.98**	**28**	P	**P**		**19 09 37.8**	**0.0**		
LOGN	**Logan Glacier**	**70.04**	**30**	P	**P**		**19 09 38.2**	**-0.1**		
M30M	**Minto, Yukon**	**72.20**	**28**	P	**P**		**19 09 50.8**	**-0.4**		
M30M					IAmb	IAmb	19 09 53.0			
	comp=Z,1.5nm,1.1s									
EPYK	**Eagle Plains**	**72.54**	**24**	P	**P**		**19 09 53.8**	**+0.7**		
EPYK					IAmb	IAmb	19 10 10.5			
	comp=Z,4.0nm,1.1s									
ABKAR	**Akbulak array**	**76.41**	**318**	P	**P**		**19 10 14.9**	**-0.8**		
NVAR	**Mina Array Bea**	**86.49**	**51**	P	**P**		**19 11 11.5**	**+2.1**		
	comp=Z,1.0nm,0.6s,baz=276,slow=5.4,SNR=13									
	comp=Z,1.0nm,0.6s									
ELK	**Elko**	**88.13**	**49**	P	**P**		**19 11 19.1**	**+1.9**		
	comp=Z,1.2nm,0.6s,baz=331,slow=1.7,SNR=5.3									
	comp=Z,1.2nm,0.6s									
FINES	**FINESS Array B**	**90.90**	**335**	P	**P**		**19 11 27.7**	**-1.7**		
	comp=Z,1.8nm,1.0s,baz=64,slow=7.0,SNR=1.0									
	comp=Z,1.8nm,1.0s									
PDAR	**Pinedale Array**	**91.52**	**45**	P	**P**		**19 11 33.9**	**+0.9**		
	comp=Z,0.2nm,0.4s,baz=309,slow=5.7,SNR=2.2									
	comp=Z,0.2nm,0.4s									
TORD	**Torodi Ar. Bea**	**134.83**	**305**	PKP	**PKiKP**		**19 17 46.6**	**0.0**		
	comp=Z,0.3nm,0.6s,baz=58,slow=1.8,SNR=5.3									

TAP 11 19:03:16.1, 23.80N×121.50E, h9km, ML0.7, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.06**	**283**	P	Pg	19 03 18.2	+0.1
	baz=282						
ESL				S	Sg	19 03 19.5	0.0
	baz=282						
EGFH	**Guangfu**	**0.15**	**206**	*e*P	Pg	19 03 19.2	-0.1
	baz=215						
EGFH				*e*S	Sg	19 03 22.2	+0.6
	baz=215						
ETM	**Tongmen**	**0.16**	**359**	*e*P	Pg	19 03 20.1	+0.5
	baz=351						
VWDT	**VWDT**	**0.33**	**262**	*e*P	Pg	19 03 22.8	+0.2
	baz=262						
OWD	**Renai**	**0.33**	**298**	*e*P	Pg	19 03 22.8	+0.1
	baz=304						
OWD				*e*S	Sg	19 03 27.1	-0.1
	baz=304						
WUSB	**Renai**	**0.40**	**299**	*e*P	Pg	19 03 24.2	+0.2
	baz=304						

*IDC **11** 19:10:17.7±1.3, 43.14N×126.22W, h0km, mb3.6/5, mbtmp3.7/13, ML3.7/8, MS3.4/28, Error ellipse: s-maj=24.0km s-min=9.9km az=47.0*
*NEIC **11** 19:10:19.4±2.1, 43.06N±0.04×126.24W±0.08, h10km±2km, ML3.4/73, Error ellipse: s-maj=10.2km s-min=6.1km az=299.0*
*ANF **11** 19:10:20.6±1.2, 43.07N×126.22W, h18km±18km, ML3.7/14, Error ellipse: s-maj=18.4km s-min=6.4km az=80.0*
ISC 11 19:10:17.8±2.6, 43.08N±0.06×126.25W±0.06, h1km±16km, n116, σ1°34/104, mb3.7/5, MS3.5/21, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.42**	**98**		**Pn**	**19 10 43.8**	**-1.1**
KEBM					**Sg**	**19 11 04.3**	**+0.9**
KEBM				IAML		19 11 13.4	
	comp=N,583nm,0.9s						
J01E	**Myrtle Point**	**1.70**	**86**		**Pn**	**19 10 47.7**	**-0.8**
J01E				Sn	**Sn**	**19 11 10.8**	**-0.2**
J01E				IAML		19 11 12.1	
	comp=N,393nm,0.2s						
J01E				IAML		19 11 15.5	
	comp=E,564nm,0.8s						
J01E	**Myrtle Point**	**1.70**	**86**	P	**Pn**	**19 10 47.9**	**-0.7**
	baz=266,SNR=212						
J01E				S	**Sb**	**19 11 11.1**	**-0.6**
	baz=266						
KBO	**Bosley Butte**	**1.73**	**119**	Pn	**Pn**	**19 10 48.0**	**-1.0**
KBO				IAML		19 11 16.2	
	comp=E,436nm,1.8s						
KBO				IAML		19 11 34.5	
	comp=N,371nm,1.5s						
K02D	**Willamette Mer**	**1.94**	**100**	P	**Pn**	**19 10 51.4**	**-0.6**
	baz=281,SNR=29						
K02D				S	**Sn**	**19 11 16.3**	**-0.7**
	baz=281						
I02E	**Swisshome, OR**	**2.03**	**59**		**Pn**	**19 10 52.8**	**-0.3**
I02E				Sn	**Sn**	**19 11 18.5**	**-0.5**
I02E				IAML		19 11 24.4	
	comp=N,240nm,0.7s						
I02E				IAML		19 11 39.8	
	comp=E,194nm,1.9s						
I02E	**Swisshome, OR**	**2.03**	**59**	P	**Pn**	**19 10 52.8**	**-0.3**
	baz=239,SNR=132						
I02E				S	**Sn**	**19 11 18.5**	**-0.5**
	baz=239						
KSXB	**Camp Six Broad**	**2.15**	**125**	Pn	**Pn**	**19 10 53.9**	**-1.0**
KSXB				IAML		19 11 39.2	
	comp=E,188nm,1.9s						
L02F	**Cave Junction**	**2.20**	**115**	P	**Pn**	**19 10 55.2**	**-0.3**
	baz=296,SNR=24						
L02F				S	**Sn**	**19 11 23.0**	**-0.2**
	baz=296						
DBO	**Dodson Butte**	**2.20**	**88**	Pn	**Pn**	**19 10 55.6**	**0.0**
DBO				IAML		19 11 28.0	
	comp=N,176nm,0.8s						
DBO				IAML		19 11 28.2	
	comp=E,238nm,1.4s						
I03D	**Drain, OR**	**2.20**	**73**	P	**Pn**	**19 10 55.3**	**-0.2**
	baz=254,SNR=308						
I03D				S	**Sn**	**19 11 23.8**	**+0.4**
	baz=254						
KRMB	**Red Mountain**	**2.33**	**131**		**Pn**	**19 10 56.0**	**-1.4**
HUMO	**Hull Mountain**	**2.47**	**100**	Pn	**Pn**	**19 10 59.0**	**-0.1**
KRPM	**Rodgers**	**2.53**	**138**		**Pn**	**19 10 58.4**	**-1.7**
KRPM				IAML		19 11 31.9	
	comp=E,118nm,1.8s						
COR	**Corvallis**	**2.61**	**54**	Pn	**Pn**	**19 11 01.4**	**+0.3**
COR				IAML		19 11 37.8	
	comp=E,223nm,1.1s						
COR				IAML		19 11 46.0	
	comp=E,162nm,1.0s						
BUCK	**Buck Mountain**	**2.62**	**64**	Pn	**Pn**	**19 11 02.0**	**+0.7**
BUCK				IAML		19 11 40.2	
	comp=N,186nm,0.7s						
BUCK				IAML		19 11 57.0	
	comp=E,171nm,1.4s						
JCC	**Jacoby Creek,**	**2.80**	**143**	Pn	**Pn**	**19 11 03.0**	**-0.7**
I04A	**Tendick Farm,**	**2.89**	**74**	P	**Pn**	**19 11 05.7**	**+0.7**
	baz=256,SNR=65						
I04A				S	**Sn**	**19 11 41.5**	**+1.2**
	baz=256						
KHMM	**Horse Mountain**	**2.89**	**139**		**Pn**	**19 11 03.5**	**-1.7**
H04D	**Lebanon**	**2.92**	**59**		**Pn**	**19 11 06.1**	**+0.6**
H04D				IAML		19 11 50.9	
	comp=N,199nm,0.8s						
H04D	**Lebanon**	**2.92**	**59**	P	**Pn**	**19 11 05.4**	**0.0**
	baz=241,SNR=32						
H04D				S	**Sn**	**19 11 42.3**	**+1.1**
	baz=241						
YBH	**Yreka Blue Hor**	**2.95**	**116**	Pn	**Pn**	**19 11 06.8**	**+1.0**
	comp=N,5.8nm,0.3s,baz=296,slow=15,SNR=109						
YBH				Sn	**Sn**	**19 11 42.3**	**+0.5**
	comp=N,1.9nm,0.3s,baz=297,slow=9.7,SNR=5.4						
	comp=N,17nm,0.4s						
YBH	**Yreka Blue Hor**	**2.95**	**116**	Pn	**Pn**	**19 11 06.5**	**+0.6**
G03D	**McMinnville, O**	**3.03**	**44**		**Pn**	**19 11 07.3**	**+0.5**
G03D	**McMinnville, O**	**3.03**	**44**	P	**Pn**	**19 11 07.0**	**+0.1**
	baz=226,SNR=58						
G03D				S	**Sn**	**19 11 44.5**	**+0.8**
	baz=226						
J04D	**Umpqua Nationa**	**3.03**	**86**		**Pn**	**19 11 08.6**	**+1.5**
J04D	**Umpqua Nationa**	**3.03**	**86**	P	**Pn**	**19 11 09.0**	**+1.8**
	baz=267,SNR=92						
J04D				Sb	**Sg**	**19 11 53.6**	**-1.7**
	baz=267						
L04D	**Klamath Falls**	**3.03**	**105**		**Pn**	**19 11 08.0**	**+1.0**
L04D				IAML		19 11 50.1	
	comp=N,91nm,1.2s						
L04D				IAML		19 12 02.8	
	comp=E,107nm,1.6s						
L04D	**Klamath Falls**	**3.03**	**105**	P	**Pn**	**19 11 08.1**	**+1.0**
	baz=287,SNR=25						
L04D				S	**Sn**	**19 11 43.9**	**-0.2**
	baz=287						
KMPM	**Mount Pierce**	**3.10**	**148**	Pn	**Pn**	**19 11 07.4**	**-0.5**
K04D	**Chiloquin, OR**	**3.34**	**96**	P	**Pn**	**19 11 13.0**	**+1.8**
	baz=278						
H04A	**Detroit Lake**	**3.35**	**60**		**Pn**	**19 11 12.0**	**+0.7**
H04A				IAML		19 11 57.0	
	comp=N,135nm,0.4s						
KMRM	**Mail Ridge**	**3.43**	**145**	Pn	**Pn**	**19 11 12.5**	**+0.1**
J05D	**Fort Rock, OR**	**3.67**	**85**	P	**Pn**	**19 11 16.7**	**+0.8**
	baz=268,SNR=31						
RADR	**Rader Ridge**	**3.77**	**27**	Pn	**Pn**	**19 11 17.8**	**+0.7**
RADR				IAML		19 12 15.0	
	comp=E,85nm,2.7s						
RADR				IAML		19 12 15.9	
	comp=N,83nm,2.1s						
I05D	**Terrebonne, OR**	**3.78**	**69**	P	**Pn**	**19 11 18.1**	**+0.8**
	baz=252,SNR=28						
PINE	**Pine Mountain**	**3.93**	**78**	Pn	**Pn**	**19 11 20.4**	**+0.9**
PINE				IAML		19 12 17.0	
	comp=E,40nm,2.0s						
PINE				IAML		19 12 38.4	
	comp=N,41nm,0.7s						
KCPM	**Cahto Peak**	**3.94**	**148**	Pn	**Pn**	**19 11 19.0**	**-0.5**
KCPM				IAML		19 13 39.3	
	comp=E,40nm,4.6s						
K05A	**Summer Lake**	**3.95**	**93**	Pn	**Pn**	**19 11 20.9**	**+1.2**
K05A				IAML		19 12 37.4	
	comp=E,51nm,2.1s						
K05A				IAML		19 12 59.6	
	comp=N,36nm,4.3s						
E03A	**Lebam**	**3.96**	**28**	Pn	**Pn**	**19 11 19.2**	**-0.4**
E03A				IAML		19 12 15.0	
	comp=E,89nm,1.2s						
HOOD	**Mount Hood Mea**	**4.00**	**54**		**Pn**	**19 11 21.0**	**+0.7**
G05D	**Wamic, OR**	**4.16**	**57**	P	**Pn**	**19 11 23.6**	**+1.2**
	baz=240,SNR=12						
WISH	**Wishkah**	**4.40**	**23**	Pn	**Pn**	**19 11 26.9**	**+1.2**
NLWA	**Neilton Lookou**	**4.63**	**20**		**Pn**	**19 11 28.7**	**-0.2**
NLWA				IAML		19 12 30.9	
	comp=E,30nm,1.2s						
NLWA				IAML		19 12 40.3	
	comp=E,31nm,3.4s						
HOPS	**Hopland Field**	**4.74**	**148**		**Pn**	**19 11 30.3**	**0.0**
HOPS				IAML		19 12 36.7	
	comp=N,32nm,2.9s						
HOPS				IAML		19 12 42.3	
	comp=E,39nm,4.2s						
I07A	**Izee**	**5.00**	**76**		**Pn**	**19 11 35.7**	**+1.6**
D05A	**Enumclaw**	**5.10**	**35**		**Pn**	**19 11 37.3**	**+2.0**
F07A	**Phinny Hill Vi**	**5.33**	**56**		**Pn**	**19 11 38.9**	**+0.4**
F07A				IAML		19 12 34.6	
	comp=E,22nm,1.6s						
F07A				IAML		19 13 14.2	
	comp=N,29nm,1.4s						
B04A	**Port Angeles**	**5.34**	**20**		**Pn**	**19 11 38.7**	**0.0**
WVOR	**Wild Horse Val**	**5.64**	**94**		**Pn**	**19 11 42.5**	**-0.4**
G08A	**Pilot Rock**	**5.69**	**65**		**Pn**	**19 11 44.9**	**+1.4**
LTY	**Liberty**	**5.75**	**41**		**Pn**	**19 11 45.9**	**+1.6**
HAWA	**Hanford**	**5.82**	**53**		**Pn**	**19 11 46.1**	**+0.8**
PGC	**Sidney**	**5.91**	**18**	Pn	**Pn**	**19 11 46.1**	**-0.3**
OZB	**Mount Ozzard**	**5.91**	**5**	Pn	**Pn**	**19 11 45.5**	**-1.0**
B06A	**Marblemount**	**6.38**	**30**		**Pn**	**19 11 54.0**	**+1.1**
PNTR	**Pine Nut**	**6.41**	**126**	Pn	**Pn**	**19 11 55.8**	**+2.3**
BMO	**Blue Mountains**	**6.69**	**72**		**Pn**	**19 11 57.4**	**+0.1**
CBB	**Campbell River**	**6.98**	**5**		**Pn**	**19 12 02.0**	**+0.8**
B08A	**Colville Reser**	**7.16**	**40**		**Pn**	**19 12 04.4**	**+0.8**
NVAR	**Mina Array Bea**	**7.61**	**125**	Pn	**Pn**	**19 12 12.0**	**+2.0**
	comp=N,0.3nm,0.3s,baz=302,slow=14,SNR=13						
	comp=N,1.4nm,0.6s						
PMPB	**Monarch Peak**	**8.04**	**147**		**Pn**	**19 12 16.8**	**+1.1**
LLLB	**Lillooet**	**8.11**	**20**		**Pn**	**19 12 17.3**	**+0.7**
NEW	**Newport**	**8.23**	**48**	Pn	**Pn**	**19 12 19.4**	**+1.2**
	comp=N,0.6nm,0.3s,baz=245,slow=15,SNR=6.9						
NEW				LR	LR	19 15 36.5	
	comp=N,416nm,21.1s,baz=266,slow=39						
	comp=N,2.0nm,0.4s						
NEW	**Newport**	**8.23**	**48**	Pn	**Pn**	**19 12 21.1**	**+2.8**
NEW	**Newport**	**8.23**	**48**	P	**Pn**	**19 12 19.5**	**+1.2**
	baz=234						
ELK	**Elko**	**8.54**	**102**	Pn	**Pn**	**19 12 24.8**	**+2.0**
	comp=N,0.1nm,0.3s,baz=294,slow=14,SNR=7.7						
ELK				LR	LR	19 15 50.8	
	comp=N,156nm,20.5s,baz=280,slow=39						
	comp=N,1.9nm,0.7s						
HLID	**Haley**	**8.64**	**83**	Pn	**Pn**	**19 12 25.1**	**+0.9**
HLID	**Hailey**	**8.64**	**83**	P	**Pn**	**19 12 25.6**	**+1.4**
	baz=271						
BBB	**Bella Bella**	**9.20**	**353**	Pn	**Pn**	**19 12 31.2**	**-0.3**
	comp=N,0.6nm,0.3s,baz=185,slow=12,SNR=5.2						
BBB				LR	LR	19 15 23.4	
	comp=N,284nm,19.5s,baz=170,slow=34						
	comp=N,6.5nm,0.7s						
BBB	**Bella Bella**	**9.20**	**353**	Pn	**Pn**	**19 12 32.6**	**+1.1**
MSO	**Missoula**	**9.50**	**63**	P	**Pn**	**19 12 36.0**	**+0.2**
	baz=251						
ARVC	**Arvin**	**9.81**	**142**	P	**Pn**	**19 12 42.3**	**+2.4**
	baz=326						
LRM	**Limekiln Ridge**	**10.24**	**70**	Pn	**Pn**	**19 12 46.8**	**+0.7**
WALA	**Waterton Lakes**	**10.45**	**51**	Pn	**Pn**	**19 12 51.7**	**+2.9**
DUG	**Dugway, Tooele**	**10.46**	**101**	P	**Pn**	**19 12 50.2**	**+1.2**
	baz=290						
BOZ	**Bozeman (W)**	**10.77**	**71**	Pn	**Pn**	**19 12 55.4**	**+2.1**
BOZ	**Bozeman (W)**	**10.77**	**71**	P	**Pn**	**19 12 54.6**	**+1.3**
	baz=261						
LOHW	**Long Hollow**	**11.41**	**82**	Pn	**Pn**	**19 12 57.6**	**-4.4**
PFO	**Pinyon Flats O**	**12.17**	**138**	LR	LR	19 18 05.4	
	comp=N,296nm,19.9s,baz=316,slow=38						
PD31	**Pinedale Array**	**12.24**	**86**	Pn	**Pn**	**19 13 13.7**	**+0.2**
PDAR	**Pinedale Array**	**12.24**	**86**	Pn	**Pn**	**19 13 17.4**	**+4.0**
	comp=N,0.4nm,0.3s,baz=288,slow=12,SNR=7.6						
PDAR				LR	LR	19 18 27.3	
	comp=N,403nm,18.3s,baz=278,slow=40						
	comp=N,2.1nm,0.9s						
Y14A	**Wickenburg**	**13.80**	**127**	Pn	**Pn**	**19 13 31.3**	**-3.2**
DLBC	**Dease Lake**	**15.56**	**353**	Pn	**Pn**	**19 13 59.2**	**+1.0**
	comp=N,0.2nm,0.3s,baz=174,slow=13,SNR=1.6						
DLBC				LR	LR	19 19 13.7	
	comp=N,118nm,18.9s,baz=107,slow=35						
	comp=N,0.6nm,0.3s						
ANMO	**Albuquerque**	**17.37**	**111**	Pn	**P**	**19 14 23.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=304,slow=14,SNR=16						
ANMO				LR	LR	19 20 46.0	
	comp=N,68nm,20.2s,baz=300,slow=36						
	comp=N,6.1nm,0.9s						
YKA	**Yellowknife Ar**	**20.62**	**15**	P	**P**	**19 14 57.1**	**-1.2**
	comp=N,1.1nm,0.8s,baz=203,slow=11,SNR=4.1						
	comp=N,1.1nm,0.8s						
ULM	**Lac du Bonnet**	**21.93**	**60**	P	**P**	**19 15 11.2**	**-1.3**
	comp=N,4.1nm,1.0s,baz=263,slow=11						
	comp=N,4.1nm,1.0s						
KDAK	**Kodiak Island**	**22.11**	**321**	LR	LR	19 21 52.1	
	comp=N,99nm,18.6s,baz=217,slow=32						
TXAR	**Lajitas Array**	**22.72**	**120**	P	**P**	**19 15 25.0**	**+3.8**
	comp=N,0.5nm,0.7s,baz=295,slow=8.9,SNR=6.5						
TXAR				LR	LR	19 24 30.2	
	comp=N,40nm,18.1s,baz=302,slow=38						
LPIG	**La Paz**	**23.05**	**140**	LR	LR	19 23 48.9	
	comp=N,102nm,21.6s,baz=327,slow=35						
ILAR	**Eielson Array**	**24.67**	**339**	P	**P**	**19 15 40.0**	**+0.1**
	comp=N,0.6nm,0.7s,baz=148,slow=8.6,SNR=8.1						
	comp=N,0.6nm,0.7s						
INK	**Inuvik**	**25.58**	**354**	LR	LR	19 25 30.1	
	comp=N,138nm,19.5s,baz=288,slow=36						
TKL	**Tuckaleechee C**	**33.38**	**88**	LR	LR	19 31 15.5	
	comp=N,102nm,18.6s,baz=302,slow=38						
CMIG	**Matias Romero**	**37.14**	**124**	LR	LR	19 33 49.6	
	comp=N,60nm,20.0s,baz=249,slow=38						
FRB	**Frobisher Bay**	**38.40**	**37**	LR	LR	19 33 56.4	
	comp=N,64nm,18.2s,baz=294,slow=37						
SCHQ	**Schefferville**	**39.58**	**51**	LR	LR	19 34 24.2	
	comp=N,105nm,21.0s,baz=137,slow=37						
SFJD	**Kangerlussuaq**	**45.79**	**32**	LR	LR	19 38 57.9	
	comp=N,41nm,19.6s,baz=278,slow=38						
MA2	**Magadan**	**50.85**	**319**	LR	LR	19 39 28.2	
	comp=N,48nm,18.8s,baz=48,slow=34						
YAK	**Yakutsk**	**58.92**	**328**	LR	LR	19 44 25.1	
	comp=N,30nm,18.2s,baz=91,slow=35						
H11N3	**WAKE ISLAND Hy**	**60.02**	**270**	T	T	20 25 22.0	
	baz=51,slow=75,SNR=396						
H11N2	**WAKE ISLAND Hy**	**60.02**	**270**	T	T	20 25 19.4	
	baz=51,slow=75,SNR=244						
H11N1	**WAKE ISLAND Hy**	**60.03**	**270**	T	T	20 25 23.6	
	baz=51,slow=75,SNR=388						
H11S1	**WAKE ISLAND Hy**	**60.93**	**269**	T	T	20 26 26.9	
	baz=50,slow=75,SNR=664						
H11S2	**WAKE ISLAND Hy**	**60.94**	**269**	T	T	20 26 19.5	
	baz=50,slow=75,SNR=310						
H11S3	**WAKE ISLAND Hy**	**60.95**	**269**	T	T	20 26 15.5	
	baz=50,slow=75,SNR=262						
ARCES	**ARCESS Array B**	**65.79**	**11**	LR	LR	19 50 04.5	
	comp=N,47nm,18.5s,baz=28,slow=36						
NOA	**NORSAR Array B**	**70.63**	**20**	LR	LR	19 50 33.0	
	comp=N,23nm,21.1s,baz=340,slow=34						
FINES	**FINESS Array B**	**73.44**	**13**	LR	LR	19 54 51.8	
	comp=N,48nm,18.1s,baz=38,slow=36						
SONM	**Songino Array**	**78.27**	**327**	P	**P**	**19 22 17.9**	**-1.4**
	comp=N,0.6nm,0.8s,baz=46,slow=4.3,SNR=4.2						
SONM				LR	LR	19 54 48.2	
	comp=N,32nm,19.2s,baz=30,slow=34						
	comp=N,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**79.75**	**342**	P	**P**	**19 22 27.3**	**+0.1**
	comp=N,0.3nm,0.3s,baz=46,slow=4.2,SNR=1.6						
	comp=N,0.3nm,0.3s						
ARU	**Arti**	**80.78**	**357**	LR	LR	20 02 09.3	
	comp=N,18nm,18.2s,baz=348,slow=39						
DAVOX	**Davos/Dischmat**	**82.45**	**29**	LR	LR	20 03 17.0	
	comp=N,19nm,18.5s,baz=318,slow=39						
ESDC	**Sonseca

*NEIC **11** 19:59:07.1±2.6, 2.65S±0.06×77.58W±0.07, h104km±5km, mb4.5/61, Error ellipse: s-maj=10.2km s-min=8.3km az=92.0*
*IGQ **11** 19:59:07±0.5, 3.3°S±3.7°W±, h109km*
*VAO **11** 19:59:08.0±0.5, 2.66S×77.39W, h97km±5km, mb4.7*

ISC 11 19:59:06.4±0.4, 2.62S±0.04×77.56W±0.04, h105km±4km, n214, σ1ş40/224, mb4.4/39, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOSC	**San Juan Bosco**	**1.07**	**241**	Pn		**Pn**	**19 59 27.6**	**-0.6**
BOSC	**San Juan Bosco**	**1.07**	**241**	P		**Pn**	**19 59 28.0**	**-0.2**
BOSC				S		**Sn**	**19 59 45.0**	**+0.3**
PUYO	**Puyo, Santa Ro**	**1.22**	**337**	P		**Pn**	**19 59 30.0**	**+0.2**
PUYO				S		**Sn**	**19 59 49.0**	**+1.6**
ARRY	**Arrayan**	**1.43**	**321**	P		**Pn**	**19 59 33.0**	**+0.5**
ACUE	**Ecuador-Cuenca**	**1.43**	**258**	P		**Pn**	**19 59 34.0**	**+1.6**
IGUA	**Igualata**	**1.56**	**316**	P		**Pn**	**19 59 35.0**	**+0.7**
LOJ1	**Universidad t**	**1.58**	**210**	P		Pn	19 59 41.0	+6.9
ARDO	**Archidona, Ten**	**1.64**	**351**	P		**Pn**	**19 59 35.0**	**+0.3**
COHC	**Cochancay**	**1.70**	**275**	Pn		**Pn**	**19 59 36.9**	**+1.5**
CHSH	**Refugio Sur-Vo**	**1.73**	**311**	Pn		**Pn**	**19 59 36.4**	**+0.1**
CHSH	**Refugio Sur-Vo**	**1.73**	**311**	P		**Pn**	**19 59 37.0**	**+0.7**
APSY	**Ecuador-Napo A**	**1.78**	**337**	P		**Pn**	**19 59 37.0**	**+0.2**
TAMB	**Tambo**	**2.08**	**337**	P		**Pn**	**19 59 42.0**	**+1.2**
BMOR	**Cotopaxi Volca**	**2.08**	**334**	P		**Pn**	**19 59 42.0**	**+1.1**
SLOR	**San Lorenzo -**	**2.10**	**333**	Pn		**Pn**	**19 59 42.3**	**+1.3**
SLOR	**San Lorenzo -**	**2.10**	**333**	P		**Pn**	**19 59 42.0**	**+1.0**
BTAM	**Cotopaxi Volca**	**2.11**	**337**	P		**Pn**	**19 59 42.0**	**+0.8**
SRAM	**San Ramn-Vol**	**2.12**	**332**	P		**Pn**	**19 59 43.0**	**+1.9**
BVC2	**Cotopaxi Volca**	**2.13**	**336**	P		**Pn**	**19 59 43.0**	**+1.5**
BREF	**Cotopaxi Volca**	**2.13**	**336**	P		**Pn**	**19 59 43.0**	**+1.5**
VC1	**Cotopaxi 1**	**2.14**	**337**	P		**Pn**	**19 59 43.0**	**+1.4**
BNAS	**Cotopaxi Volca**	**2.15**	**335**	P		**Pn**	**19 59 43.0**	**+1.4**
CAMI	**Rancho Maria**	**2.15**	**334**	P		**Pn**	**19 59 44.0**	**+2.3**
NAS2	**Nasa**	**2.17**	**335**	P		**Pn**	**19 59 42.0**	**+0.1**
ANTM	**Antisana-La Mi**	**2.18**	**342**	P		**Pn**	**19 59 43.0**	**+1.0**
SUCR	**Mariscal Sucre**	**2.18**	**335**	P		**Pn**	**19 59 44.0**	**+2.0**
ANTS	**Antisana-Sarah**	**2.20**	**344**	P		**Pn**	**19 59 43.0**	**+0.6**
PAST	**Pastocalle**	**2.20**	**330**	P		**Pn**	**19 59 44.0**	**+1.7**
ANTG	**Antisana-Guama**	**2.22**	**342**	P		**Pn**	**19 59 43.0**	**+0.4**
ANTI	**Antisana**	**2.24**	**344**	P		**Pn**	**19 59 43.0**	**+0.1**
TOMA	**Boca Toma-Volc**	**2.29**	**337**	P		**Pn**	**19 59 45.0**	**+1.7**
ACH2	**Ecuador-Machal**	**2.34**	**254**	P		**Pn**	**19 59 42.0**	**-1.6**
GONZ	**Gonzanam**	**2.44**	**229**	P		**Pn**	**19 59 45.0**	**-0.3**
ACH1	**Ecuador-Univer**	**2.44**	**254**	P		**Pn**	**19 59 44.0**	**-0.9**
CAYR	**Refugio Cayamb**	**2.66**	**350**	P		**Pn**	**19 59 50.0**	**+1.6**
PINO	**Pino**	**2.66**	**337**	P		**Pn**	**19 59 50.0**	**+1.5**
ARNL	**Arenillas**	**2.67**	**250**	Pn		**Pn**	**19 59 46.3**	**-1.6**
ARNL	**Arenillas**	**2.67**	**250**	P		**Pn**	**19 59 46.0**	**-1.9**
ANGU	**Angureal**	**2.69**	**350**	P		**Pn**	**19 59 50.0**	**+1.2**
ZUMB	**Zumba**	**2.73**	**215**	P		**Pn**	**19 59 49.0**	**+0.1**
MORR	**Playas El Morr**	**2.78**	**270**	P		**Pn**	**19 59 48.0**	**-1.4**
LAMO	**ALAMOR**	**2.82**	**241**	P		**Pn**	**19 59 49.0**	**-1.1**
IMBA	**Imbabura, San**	**2.95**	**347**	Pn		**Pn**	**19 59 55.3**	**+3.2**
IMBA	**Imbabura, San**	**2.95**	**347**	P		**Pn**	**19 59 56.0**	**+3.9**
AMCR	**Ecuador-Macara**	**2.96**	**234**	P		**Pn**	**19 59 50.0**	**-1.8**
MCRA	**Macar, Loja**	**2.96**	**234**	Pn		**Pn**	**19 59 50.3**	**-1.5**
MCRA	**Macar, Loja**	**2.96**	**234**	P		**Pn**	**19 59 50.0**	**-1.8**
OTAV	**Otavalo**	**2.98**	**343**	Pn		**Pn**	**19 59 53.8**	**+1.4**
OTAV	**Otavalo**	**2.98**	**343**	*eP*		**Pn**	**19 59 54.4**	**+1.9**
CUSE	**Cuicocha Este**	**3.03**	**344**	P		Pn	20 00 00.0	+6.9
COTA	**Cotacachi**	**3.04**	**345**	P		**Pn**	**19 59 53.0**	**-0.4**
BONI	**La Bonita**	**3.06**	**1**	P		**Pn**	**19 59 54.0**	**+0.7**
FLF1	**Flavio Alfaro-**	**3.21**	**315**	P		**Pn**	**19 59 55.0**	**+0.1**
LNGL	**El Angel-Carch**	**3.37**	**352**	P		**Pn**	**20 00 00.0**	**+2.2**
CABP	**Cabo Pasado**	**3.63**	**308**	P		**Pn**	**20 00 00.0**	**-0.7**
ISPT	**Isla de la Pla**	**3.77**	**291**	P		**Pn**	**20 00 02.0**	**-0.6**
PTLC	**Puerto Leguiza**	**3.91**	**45**	P		**Pn**	**20 00 02.0**	**-2.6**
ALOR	**Ecuador-San Lo**	**4.10**	**342**	P		Pn	20 00 20.0	+13
PTGL	**Punta Galera**	**4.19**	**324**	P		**Pn**	**20 00 11.0**	**+2.7**
ATAH	**Atahualpa**	**4.56**	**191**	P		**Pn**	**20 00 16.2**	**+2.6**
	409nm,0.6s,baz=18,slow=15,SNR=336							
ATAH				S		**Sn**	**20 01 05.4**	**-0.4**
	616nm,0.9s,baz=353,slow=16,SNR=13							
CZSB	**Cruzeiro do Su**	**7.01**	**137**	Pn		**Pn**	**20 00 47.1**	**+0.6**
CZSB	**Cruzeiro do Su**	**7.01**	**137**	*eP*		**Pn**	**20 00 47.3**	**+0.9**
TBTG	**Tabatinga, AM**	**7.79**	**102**	Pn		**Pn**	**20 00 56.5**	**-0.6**
TBTG	**Tabatinga, AM**	**7.79**	**102**	*eP*		**Pn**	**20 00 56.8**	**-0.3**
TBTG				*eS*		**Sn**	**20 02 21.3**	**-2.5**
ROSC	**El Rosal**	**8.09**	**24**	P		**Pn**	**20 01 02.8**	**+1.3**
	11nm,0.4s,baz=161,slow=18,SNR=6.4							
ROSC	**El Rosal**	**8.09**	**24**	Pn		**Pn**	**20 01 02.9**	**+1.4**
NNA	**Nana**	**9.33**	**176**	P		**Pn**	**20 01 18.8**	**+0.7**
	60nm,0.4s,baz=339,slow=12,SNR=34							
NNA				S		**Sn**	**20 02 52.6**	**-8.8**
	46nm,0.4s,baz=6.6,slow=14,SNR=7.6							
NNA				LR		LR	20 04 38.0	
	comp=Z,51nm,19.8s,baz=358,slow=35							
NNA	**Nana**	**9.33**	**176**	Pn		**Pn**	**20 01 19.5**	**+1.3**
ETMB	**Extrema**	**13.35**	**123**	Pn		**Pn**	**20 02 09.6**	**-2.2**
ETMB	**Extrema**	**13.35**	**123**	*eP*		**Pn**	**20 02 09.1**	**-2.7**
SDV	**Santo Domingo**	**13.36**	**31**	P		**Pn**	**20 02 13.2**	**+1.2**
	23nm,0.5s,baz=223,slow=13,SNR=11							
SDV	**Santo Domingo**	**13.36**	**31**	*eP*		**Pn**	**20 02 12.2**	**+0.2**
BAUV	**El Baul**	**14.90**	**39**	Pn		**Pn**	**20 02 32.0**	**+0.2**
ORTG	**Ortega, Santa**	**15.11**	**329**	P		**P**	**20 02 38.1**	**+1.0**
SAML	**Samuel**	**15.62**	**114**	Pn		**Pn**	**20 02 39.3**	**-1.5**
LPAZ	**La Paz**	**16.45**	**146**	P		**P**	**20 02 53.5**	**+0.9**
	10nm,0.6s,baz=336,slow=10,SNR=4.0							
LPAZ	**La Paz**	**16.45**	**146**			**Pn**	**20 02 50.5**	**-1.1**
LPAZ	**La Paz**	**16.45**	**146**			**Pn**	**20 02 50.7**	**-0.9**
LPAZ	**La Paz**	**16.45**	**146**	*eP*		**Pn**	**20 02 51.9**	**+0.3**
MACA	**Manacapuru-AM**	**16.86**	**92**			**Pn**	**20 02 54.5**	**-1.7**
MACA				IAmb		IAmb	20 02 58.5	
	comp=Z,93nm,0.5s							
MACA	**Manacapuru-AM**	**16.86**	**92**	*eP*		**P**	**20 02 56.9**	**+0.3**
BIRV	**Birongo**	**17.19**	**41**			**Pn**	**20 03 03.4**	**+3.2**
PB12	**IPOC Station P**	**17.40**	**156**			**Pn**	**20 03 04.9**	**+2.1**
PB12				IAmb		IAmb	20 03 15.0	
	comp=Z,26nm,0.5s							
PB16	**IPOC Station P**	**17.50**	**154**			**Pn**	**20 03 06.7**	**+2.2**
PB16				IAmb		IAmb	20 03 07.9	
	comp=Z,32nm,1.0s							
BOAV	**Boa Vista**	**17.74**	**74**	P		**P**	**20 03 05.0**	**-1.3**
BOAV				IAmb		IAmb	20 03 11.1	
	comp=Z,8.1nm,0.9s							
BOAV	**Boa Vista**	**17.74**	**74**	*eP*		**Pn**	**20 03 07.9**	**+1.0**
PCRV	**Puerto La Cruz**	**18.09**	**45**	P		**Pn**	**20 03 12.1**	**+1.0**
	comp=Z,6.0nm,0.5s,baz=206,slow=6.3,SNR=11							
PCRV				LR		LR	20 10 19.4	
	comp=Z,56nm,19.4s,slow=37							
GO01	**Chusmiza**	**18.81**	**155**	P		**P**	**20 03 18.7**	**+0.3**
GO01				IAmb		IAmb	20 03 23.6	
	comp=Z,24nm,0.7s							
TA01	**Diego Aracena**	**19.23**	**159**	P		**P**	**20 03 20.6**	**-1.8**
VILB	**Vilhena**	**20.01**	**122**	P		Pn	20 03 32.6	-1.1
VILB				IAmb		IAmb	20 03 33.4	
	comp=Z,20nm,0.7s							
VILB	**Vilhena**	**20.01**	**122**	*eP*		**P**	**20 03 32.1**	**+1.1**
PB02	**IPOC Station P**	**20.03**	**159**	P		Pn	20 03 33.7	-0.2
PB07	**IPOC Station P**	**20.40**	**159**	P		Pn	20 03 38.0	-0.4
PB09	**IPOC Station P**	**20.70**	**158**	P		Pn	20 03 41.0	-0.9
PB04	**IPOC Station P**	**20.87**	**160**	P		Pn	20 03 42.2	-1.6
SIV	**San Ignacio**	**20.97**	**130**	P		**P**	**20 03 42.4**	**+1.0**
	comp=Z,8.2nm,0.4s,baz=307,slow=8.9,SNR=50							
SIV				S		**S**	**20 07 33.3**	**+3.9**
	comp=Z,2.4nm,0.8s,baz=311,slow=21,SNR=2.2							
SIV				LR		LR	20 13 06.1	
	comp=Z,46nm,18.2s,baz=273,slow=40							
	comp=Z,8.2nm,0.4s							
LVC	**Limon Verde**	**21.57**	**158**	P		**P**	**20 03 49.9**	**+1.9**
	comp=Z,13nm,0.7s,baz=339,slow=7.8,SNR=11							
LVC				S		**S**	**20 07 44.0**	**+2.6**
	comp=Z,2.0nm,0.6s,baz=282,slow=20,SNR=1.9							
	comp=Z,13nm,0.7s							
LVC	**Limon Verde**	**21.57**	**158**	P		**P**	**20 03 50.9**	**+2.8**
LVC				IAmb		IAmb	20 03 53.2	
	comp=Z,18nm,0.9s							
LVC	**Limon Verde**	**21.57**	**158**	*eP*		**P**	**20 03 48.9**	**+0.9**
ITTB	**Itaituba**	**21.85**	**95**	*eP*		**P**	**20 03 50.5**	**-0.2**
TOSP	**Speyside**	**21.86**	**50**	P		**P**	**20 03 49.8**	**-1.0**
TOSP				IAmb		IAmb	20 03 51.8	
	comp=Z,31nm,1.1s							
PTLB	**Pontes e Lacer**	**22.18**	**126**	P		**P**	**20 03 55.2**	**+1.0**
PTLB				IAmb		IAmb	20 03 55.8	
	comp=Z,8.1nm,0.7s							
PTLB	**Pontes e Lacer**	**22.18**	**126**	*eP*		**P**	**20 03 54.7**	**+0.5**
PDRB	**Porto dos Gac**	**22.50**	**114**	*eP*		**P**	**20 03 59.1**	**+1.6**
NPGB	**Novo Progresso**	**22.55**	**102**	*eP*		**P**	**20 03 59.1**	**+1.1**
CLDB	**Colider**	**23.09**	**112**	*eP*		**P**	**20 04 04.0**	**+0.6**
MALB	**Monte Alegre**	**23.29**	**89**	*eP*		**P**	**20 04 04.9**	**-0.3**
SJG	**San Juan**	**23.47**	**28**	P		**P**	**20 04 05.1**	**-1.6**
	comp=Z,3.9nm,0.3s,baz=186,slow=9.2,SNR=2.2							
	comp=Z,3.9nm,0.3s							
GO02	**Mina Guanaco**	**23.69**	**162**	P		**P**	**20 04 11.5**	**+2.5**
GO02				IAmb		IAmb	20 04 30.9	
	comp=Z,13nm,0.7s							
CBYP	**Canovanas**	**23.75**	**29**	P		**P**	**20 04 06.7**	**-2.6**
SVN	**Savane Anatole**	**23.76**	**43**	P		**P**	**20 04 09.4**	**0.0**
GDHS	**Morne Mazeau,**	**24.41**	**39**	P		**P**	**20 04 13.4**	**-2.0**
GDSD	**La Dsirade Is**	**24.89**	**40**	P		**P**	**20 04 17.5**	**-2.2**
SALV	**Santo Antonio**	**25.25**	**123**	*eP*		**P**	**20 04 24.7**	**+1.7**
AC02	**Maricunga**	**25.40**	**162**	P		**P**	**20 04 25.2**	**+0.5**
AC02				IAmb		IAmb	20 04 30.9	
	comp=Z,13nm,1.0s							
CMIG	**Matias Romero**	**26.00**	**319**	P		**P**	**20 04 27.9**	**-1.8**
	comp=Z,2.1nm,0.6s,baz=108,slow=3.2,SNR=3.5							
CMIG				pP		**pP**	**20 04 54.7**	**+1.5**
	comp=Z,4.2nm,0.8s,baz=143,slow=7.3,SNR=3.7							
	comp=Z,2.1nm,0.6s							
MDP	**Montagnes des**	**26.05**	**73**	P		**P**	**20 04 29.6**	**-0.6**
	comp=Z,5.5nm,0.4s,baz=245,slow=11,SNR=12							
MDP				LR		LR	20 16 49.8	
	comp=Z,28nm,20.3s,baz=244,slow=41							
	comp=Z,5.5nm,0.4s							
SNDB	**Serra Nova Dou**	**27.63**	**111**	*eP*		**P**	**20 04 45.3**	**+0.9**
AQDB	**Aquidauana**	**27.74**	**131**	P		**P**	**20 04 46.6**	**+1.3**
AQDB	**Aquidauana**	**27.74**	**131**	*eP*		**P**	**20 04 46.1**	**+0.9**
PRPB	**Parauapebas**	**27.88**	**98**	*eP*		**P**	**20 04 47.8**	**+1.1**
CO01	**Juntas del Tor**	**28.11**	**166**	P		**P**	**20 04 48.4**	**-0.4**
GO04	**Tololo Observa**	**28.14**	**168**	P		**P**	**20 04 50.7**	**+1.7**
GO04				IAmb		IAmb	20 04 51.9	
	comp=Z,11nm,0.8s							
CO06	**Fray Jorge**	**28.46**	**169**	P		**P**	**20 04 51.2**	**-0.3**
C2SB	**Chapadao do Su**	**29.04**	**125**	*eP*		**P**	**20 04 58.5**	**+1.7**
CO02	**Combarbal**	**29.09**	**168**	P		**P**	**20 04 58.5**	**+1.2**
CO02				IAmb		IAmb	20 05 00.3	
	comp=Z,12nm,0.8s							
TMAB	**Tom-Au,PA,Br**	**29.43**	**90**	*eP*		**P**	**20 05 02.4**	**+1.9**
SMTB	**Santa Maria do**	**30.44**	**103**	*eP*		**P**	**20 05 09.8**	**+0.5**
CPUP	**Villa Florida**	**30.54**	**142**	P		**P**	**20 05 10.5**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=339,slow=14,SNR=5.3							
CPUP				PcP		**PcP**	**20 08 06.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=297,slow=6.8,SNR=2.8							
CPUP				LR		LR	20 19 14.5	
	comp=Z,34nm,18.2s,baz=320,slow=40							
	comp=Z,1.4nm,0.5s							
ROC1	**El Roble**	**30.81**	**169**	P		**P**	**20 05 13.5**	**+0.9**
TRCB	**Terra Rica**	**31.40**	**132**	*eP*		**P**	**20 05 18.3**	**+0.6**
ITRB	**Iturama**	**31.53**	**125**	*eP*		**P**	**20 05 19.2**	**+0.3**
MT09	**Talagante**	**31.60**	**170**	P		**P**	**20 05 20.6**	**+1.2**
MT09				IAmb		IAmb	20 05 21.7	
	comp=Z,14nm,1.1s							
PCMB	**Pacaembu**	**31.78**	**128**	*eP*		**P**	**20 05 21.6**	**+0.6**
LMEL	**Las Melosas**	**31.82**	**168**	P		**P**	**20 05 23.6**	**+2.3**
BDFB	**Brasilia**	**31.84**	**116**	P		**P**	**20 05 22.4**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=298,slow=17,SNR=3.9							
	comp=Z,1.5nm,0.5s							
IPMB	**Ipameri, GO**	**32.57**	**120**	*eP*		**P**	**20 05 28.8**	**+0.7**
PTGB	**Pitanga**	**32.97**	**134**	*eP*		**P**	**20 05 31.6**	**+0.1**
ITAB	**Concordia**	**34.51**	**138**	P		**P**	**20 05 44.6**	**-0.1**
JANB	**Januaria**	**35.03**	**113**	*eP*		**P**	**20 05 50.3**	**+0.9**
PLTB	**Pedras Altas**	**36.73**	**145**	P		**P**	**20 06 02.1**	**-1.6**
PLTB	**Pedras Altas**	**36.73**	**145**	*eP*		**P**	**20 06 04.3**	**+0.6**
GO06	**Curarrehue**	**37.20**	**172**	P		**P**	**20 06 07.6**	**0.0**
V53A	**Saluda**	**38.41**	**353**	P		**P**	**20 06 17.3**	**-0.4**
PLCA	**Paso Flores**	**38.46**	**171**	P		**P**	**20 06 19.4**	**+1.2**
	comp=Z,5.2nm,1.0s,baz=355,slow=11,SNR=10							
PLCA				PcP		**PcP**	**20 08 29.8**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=326,slow=3.8,SNR=4.1							
	comp=Z,5.2nm,1.0s							
PLCA	**Paso Flores**	**38.46**	**171**	P		**P**	**20 06 17.8**	**-0.4**
PLCA				IAmb		IAmb	20 06 20.5	
	comp=Z,12nm,1.1s							
PLCA				PcP		**PcP**	**20 08 30.5**	**+1.2**
PLCA	**Paso Flores**	**38.46**	**171**	*eP*		**P**	**20 06 20.3**	**+2.1**
V48A	**Smith Brothers**	**39.13**	**348**	P		**P**	**20 06 23.5**	**-0.3**
V48A				IAmb		IAmb	20 06 23.9	
	comp=Z,5.5nm,0.6s							
TZTN	**Tazewell**	**39.36**	**352**	P		**P**	**20 06 25.0**	**-0.7**
TZTN				IAmb		IAmb	20 06 26.2	
	comp=Z,3.5nm,0.7s							
TXAR	**Lajitas Aray**	**40.44**	**324**	P		**P**	**20 06 35.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=146,slow=8.9,SNR=12							
TXAR				pP		**pP**	**20 06 59.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=135,slow=9.0,SNR=5.8							
TXAR				PcP		**PcP**	**20 08 36.8**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=148,slow=6.7,SNR=13							
	comp=Z,0.8nm,0.7s							
TX31	**Lajitas Ar. Si**	**40.44**	**324**	P		**P**	**20 06 34.8**	**0.0**
319A	**Douglas**	**45.31**	**321**	P		**P**	**20 07 14.0**	**-0.2**
319A				IAmb		IAmb	20 07 16.4	
	comp=Z,8.3nm,0.7s							
ANMO	**Albuquerque**	**46.17**	**327**	LR		LR	20 28 26.5	
	comp=Z,21nm,19.0s,baz=134,slow=38							
ANMO	**Albuquerque**	**46.17**	**327**	P		**P**	**20 07 21.0**	**+0.1**
ANMO				IAmb		IAmb	20 07 22.9	
	comp=Z,6.6nm,0.8s							
TUC	**Tucson**	**46.89**	**321**	P		**P**	**20 07 26.0**	**-0.4**
TUC				IAmb		IAmb	20 07 28.2	
	comp=Z,4.1nm,0.8s							
SDCO	**Great Sand Dun**	**47.79**	**330**	P		**P**	**20 07 33.6**	**+0.1**
SDCO				IAmb		IAmb	20 07 35.5	
	comp=Z,4.8nm,0.6s							
DUG	**Dugway, Tooele**	**53.44**	**327**	P		**P**	**20 08 16.5**	**+0.6**
DUG				IAmb		IAmb	20 08 17.4	
	comp=Z,2.4nm,0.7s							
PDAR	**Pinedale Array**	**53.62**	**331**	P		**P**	**20 08 17.1**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=125,slow=9.4,SNR=9.8							
PDAR				pP		**pP**	**20 08 41.6**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=120,slow=8.4,SNR=2.9							
PDAR				PcP		**PcP**	**20 09 21.8**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=127,slow=3.9,SNR=3.9							
	comp=Z,0.9nm,0.6s							
HWUT	**Hardware Ranch**	**53.77**	**329**	P		**P**	**20 08 16.8**	**-1.5**
HWUT				IAmb		IAmb	20 08 19.4	
	comp=Z,4.6nm,0.7s							
HWUT				PcP		**PcP**	**20 09 23.1**	**+0.1**
DSP	**Deep Springs**	**54.65**	**321**	P		**P**	**20 08 24.6**	**+0.1**
ULM	**Lac du Bonnet**	**54.97**	**346**	P		**P**	**20 08 25.1**	**-1.5**
	comp=Z,3.7nm,0.5s,baz=161,slow=7.8,SNR=12							
	comp=Z,3.7nm,0.5s							
ELK	**Elko**	**55.17**	**326**	LR		LR	20 31 00.3	
	comp=Z,29nm,21.6s,baz=209,slow=35							
NV11	**Mina Array Sit**	**55.42**	**322**	P		**P**	**20 08 29.5**	**-0.7**
NV11				IAmb		IAmb	20 08 31.7	
	comp=Z,2.3nm,0.6s							
NVAR	**Mina Array Bea**	**55.51**	**322**	P		**P**	**20 08 31.6**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=128,slow=7.2,SNR=26							
NVAR				pP		**pP**	**20 08 57.5**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=133,slow=6.4,SNR=5.3							
NVAR				PcP		**PcP**	**20 09 29.8**	**0.0**
	comp=Z,0.9nm,0.6s,baz=137,slow=4.0,SNR=4.2							
	comp=Z,1.8nm,0.5s							
NVAR	**Mina Array Bea**	**55.51**	**322**	P		**P**	**20 08 31.3**	**+0.3**
NVAR				PcP		**PcP**	**20 09 29.9**	**+0.1**
LHV	**Little Huntoon**	**55.52**	**321**	P		**P**	**20 08 31.5**	**+0.8**
LHV				IAmb		IAmb	20 08 33.1	
	comp=Z,2.6nm,1.1s							
KVN	**Kaiserville**	**55.77**	**322**	P		**P**	**20 08 32.0**	**-0.7**
KVN				IAmb		IAmb	20 08 33.7	
	comp=Z,2.3nm,0.6s							
BMN	**Battle Mountai**	**56.11**	**324**	P		**P**	**20 08 34.4**	**-0.7**
BMN				IAmb		IAmb	20 08 36.6	
	comp=Z,5.3nm,0.7s							
AFDM	**Forest Hills D**	**57.49**	**321**	P		**P**	**20 08 45.2**	**+0.4**
BEKR	**Beckworth**	**57.65**	**322**	P		**P**	**20 08 46.2**	**+0.2**
BEKR				IAmb		IAmb	20 08 47.8	
	comp=Z,3.8nm,0.7s							
I07A	**Izee**	**59.74**	**326**	P		**P**	**20 09 01.3**	**+0.9**
I07A				IAmb		IAmb	20 09 02.7	
	comp=Z,4.5nm,1.0s							
YKA	**Yellowknife Ar**	**70.73**	**343**	P		**P**	**20 10 09.9**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=141,slow=6.5,SNR=9.5							
YKA				pP		**pP**	**20 10 36.4**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=126,slow=8.3,SNR=2.1							
	comp=Z,1.7nm,0.6s							
DBIC	**Dimbokro**	**73.15**	**82**	P		**P**	**20 10 26.2**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=273,slow=8.9,SNR=5.3							
DBIC				pP		**pP**	**20 10 55.0**	**+1.9**
	comp=Z,3.8nm,0.6s,baz=275,slow=4.5,SNR=3.0							
	comp=Z,4.8nm,0.8s							
KOWA	**Kowa**	**74.76**	**74**	P		**P**	**20 10 35.8**	**+0.2**
MDT	**Midelt**	**77.17**	**56**	P		**P**	**20 10 50.2**	**+1.1**
	comp=Z,2.1nm,1.0s,baz=286,slow=4.7,SNR=2.7							
	comp=Z,2.1nm,1.0s							
ESDC	**Sonseca Array**	**79.11**	**49**	P		**P**	**20 11 00.4**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=269,slow=4.0,SNR=4.0							
ESDC				pP		**pP**	**20 11 25.5**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=264,slow=7.3,SNR=3.3							
	comp=Z,0.8nm,1.0s							
TORD	**Torodi Ar. Bea**	**80.14**	**76**	P		**P**	**20 11 04.9**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=282,slow=7.1,SNR=15							
TORD				pP		**pP**	**20 11 33.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=283,slow=6.1,SNR=3.4							
	comp=Z,0.8nm,0.4s							
VNA3	**Neumayer Olymp**	**80.52**	**162**	P		**P**	**20 11 07.5**	**+0.9**
VNA3	**Neumayer Olymp**	**80.52**	**162**	pP		pP	20 11 37.6	+3.8
VNA3	**Neumayer Olymp**	**80.52**	**162**	sP		sP	20 11 49.2	+4.1
VNA1	**Neumayer--Stat**	**80.76**	**162**	P		**P**	**20 11 09.0**	**+1.2**
VNA2	**Neumayer--Watz**	**81.12**	**162**	P		**P**	**20 11 10.5**	**+0.7**
	baz=291,slow=5.2							
VNA2	**Neumayer--Watz**	**81.12**	**162**	pP		pP	20 11 40.7	+3.7
VNA2	**Neumayer--Watz**	**81.12**	**162**	sP		sP	20 11 50.9	+2.6
J26L	**Joseph Creek**	**82.25**	**336**	P		**P**	**20 11 15.8**	**-0.1**
SNAA	**Sanae**	**82.74**	**162**	P		**P**	**20 11 18.9**	**+0.5**
SNAA	**Sanae**	**82.74**	**162**	pP		pP	20 11 46.1	+0.4
SNAA	**Sanae**	**82.74**	**162**	P		**P**	**20 11 18.8**	**+0.5**
SNAA				IAmb		IAmb	20 11 19.4	
	comp=Z,4.9nm,0.6s							
ILAR	**Eielson Array**	**83.68**	**336**	P		**P**	**20 11 21.2**	**-1.9**
	comp=Z,1.3nm,0.9s,baz=123,slow=3.9,SNR=8.5							
ILAR				pP		**pP**	**20 11 48.9**	**-1.8**
	comp=Z,1.4nm,0.9s,baz=104,slow=4.4,SNR=5.3							
	comp=Z,1.3nm,0.9s							
TROLL	**Troll, Antarti**	**84.45**	**162**	P		**P**	**20 11 28.1**	**+0.9**

s-min=24.6km az=111.0

ISC 11 20:27:50.3±1.6, 34°44N±0°08×141°8E±0°1, h10km, n13, σ1§17/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.69**	**289**	P			**Pg**	**20 28 04.5**	**+0.9**
BSO1				*eX*				20 28 15.5	
BSO3	**Boso 3**	**1.10**	**290**	P			**Pn**	**20 28 11.2**	**-0.4**
BSO3				*eS*			**Sb**	**20 28 26.9**	**+1.2**
BSO4	**Boso 4**	**1.30**	**296**	P			**Pn**	**20 28 15.0**	**+0.5**
CHOJ	**Chosi**	**1.47**	**330**	P			**Pn**	**20 28 16.6**	**-0.3**
CHOJ				*eS*			**Sn**	**20 28 36.0**	**-0.2**
JKUC	**kamogawauchiur**	**1.48**	**300**	P			**Pn**	**20 28 16.9**	**-0.2**
JKUC				S			**Sn**	**20 28 36.8**	**+0.3**
JMKN	**Mikurajimanish**	**1.89**	**254**	*eP*			**Pn**	**20 28 21.7**	**-1.0**
JMKN				*eS*			**Sn**	**20 28 45.8**	**-0.7**
JOD2	**Odawara 2**	**2.36**	**291**	*eP*			**Pn**	**20 28 28.2**	**-0.9**
MJAR	**Matsushiro Arr**	**3.59**	**307**	Pn			**Pn**	**20 28 44.7**	**-1.4**
MJAR	0.4nm,0.3s,baz=207,slow=12,SNR=23				Sn		**Sn**	**20 29 25.6**	**-2.9**
	0.1nm,0.3s,baz=210,slow=17,SNR=1.5 1.1nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**26.64**	**117**	T			T	21 05 58.2	
	baz=310,slow=75								
H11N1	**WAKE ISLAND Hy**	**26.65**	**117**	T			T	21 06 00.7	
	baz=310,slow=75								
H11N3	**WAKE ISLAND Hy**	**26.66**	**117**	T			T	21 05 57.7	
	baz=310,slow=75								
WRA	**Warramunga Arr**	**54.54**	**189**	P			**P**	**20 37 18.2**	**-0.4**
	0.2nm,0.4s,baz=0.2,slow=7.4,SNR=16 0.2nm,0.4s								
ASAR	**Alice Springs**	**58.26**	**188**	P			**P**	**20 37 46.2**	**+1.1**
	0.2nm,0.7s,baz=4.2,slow=6.3,SNR=2.3 0.2nm,0.7s								

*IDC **11** 20:31:19.9±2.5, 32°.71N×139°.19E, h98km±45km, mb3.2/2, mbtmp3.6/4, Error ellipse: s-maj=113.4km s-min=20.7km az=72.0*
*JMA **11** 20:31:21.1±0.2, 33°.2N±0°.7×14°0E±°, h121km±1km, MV2.9/22, NEAR HACHIJOJIMA ISLAND*

ISC 11 20:31:19.8±1.1, 33°06N±0°06×139°91E±0°08, h127km±8km, n14, σ1§26/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.09**	**302**	P			**Pn**	**20 31 38.0**	**+1.0**
JHJ2				*eS*			**Sn**	**20 31 50.2**	**+0.2**
JHCJ	**Hachijojimakas**	**0.09**	**275**	P			**Pn**	**20 31 37.5**	**+0.5**
JHCJ				*eS*			**Sn**	**20 31 50.6**	**+0.6**
JMKN	**Mikurajimanish**	**0.87**	**342**	P			**Pn**	**20 31 40.5**	**-0.6**
JMKN				*eS*			**Sn**	**20 31 55.2**	**-2.2**
JIM2	**Oshima 3**	**1.70**	**347**	P			**Pn**	**20 31 49.4**	**-0.5**
BSO3	**Boso 3**	**1.80**	**16**	P			**Pn**	**20 31 50.8**	**-0.1**
BSO1	**Boso 1**	**1.82**	**29**	P			**Pn**	**20 31 51.1**	**+0.3**
BSO1				S			**Sn**	**20 32 14.8**	**+0.1**
TK02	**Tokai 2**	**2.00**	**297**	*eP*			**Pn**	**20 31 53.2**	**-0.1**
TK04	**Tokai 4**	**2.15**	**308**	*eP*			**Pn**	**20 31 55.2**	**0.0**
JOD2	**Odawara 2**	**2.30**	**343**	P			**Pn**	**20 31 57.0**	**-0.2**
JOD2				*eS*			**Sn**	**20 32 24.2**	**-1.9**
TTO2	**TONANKAI O.B.S**	**2.50**	**286**	P			**Pn**	**20 31 59.4**	**-0.1**
MJAR	**Matsushiro Arr**	**3.74**	**339**	P			**Pn**	**20 32 16.3**	**+0.3**
	1.5nm,0.4s,baz=169,slow=13,SNR=5.9								
MJAR				S			**Sn**	**20 33 03.2**	**+3.7**
	0.9nm,0.3s,baz=160,slow=18,SNR=4.7								
JCJ	**Chichijima**	**6.27**	**161**	P			**Pn**	**20 32 48.8**	**-1.1**
	22nm,0.7s,baz=336,slow=20,SNR=1.5								
WRA	**Warramunga Arr**	**52.98**	**187**	P			**P**	**20 40 23.2**	**-0.2**
	0.3nm,0.3s,baz=2.6,slow=7.6,SNR=16 0.3nm,0.3s								
ASAR	**Alice Springs**	**56.70**	**187**	P			**P**	**20 40 50.3**	**+0.1**
	0.2nm,0.4s,baz=356,slow=6.2,SNR=6.9 0.2nm,0.4s								

NNC 11 20:53:28.0±3.6, 36°73N×69°67E, h0km, mb4.0, mpv3.8, 3C-3D, Error ellipse: s-maj=32.1km s-min=26.0km az=144.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.40**	**6**	P			Pn	20 55 02.9	-0.7
	1.8nm,0.5s,baz=185,slow=10.0,SNR=63								
KK31				⇑S			Sn	20 56 19.3	+2.0
	1.6nm,0.4s								
CHMS	**Chumysh**	**7.38**	**30**	⇓P			Pn	20 55 18.0	+1.0
	6.5nm,0.6s								
CHMS				⇑S			Sn	20 56 41.2	-0.2
	3.2nm,0.7s								
TKM2	**Tokmak 2**	**7.68**	**35**	⇓P			Pn	20 55 21.8	+0.4
	3.7nm,0.6s								
TKM2				⇓S			Sn	20 56 50.9	+1.7
	4.4nm,1.4s								
AB31	**Akbulak array**	**14.38**	**334**	⇑P			Pn	20 56 51.6	-1.2
	0.3nm,0.4s,baz=278,slow=66,SNR=18								

*SJA **11** 21:03:50.7±0.7, 23°.02S×69°.14W, h89km±3km, ML4.3, MW4.1*
*IDC **11** 21:03:51.3±0.7, 22°.95S×68°.91W, h86km±4km, mb3.7/9, mbtmp4.0/13, MS2.7/4, Error ellipse: s-maj=20.5km s-min=16.1km az=57.0*
*NEIC **11** 21:03:51.3±1.5, 23°.02S±0°.04×69°.11W±0°.04, h86km±3km, mb4.2/8, ML4.5(GUC), Error ellipse: s-maj=6.8km s-min=5.5km az=154.0*
*GUC **11** 21:03:52.4±0.8, 23°.04S×69°.06W, h78km±4km, ML4.5*
*VAO **11** 21:03:54.4±0.4, 22°.55S×68°.37W, h10km, mb4.2*

ISC 11 21:03:50.8±0.5, 23°05S±0°02×69°10W±0°03, h82km±4km, n111, σ1§75/143, mb4.1/11, 2C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.38**	**245**				**Pn**	**21 04 04.6**	**+0.5**
PB15					Sn		**Sn**	**21 04 15.5**	**+1.6**
PB15	**IPOC Station P**	**0.38**	**245**	⇓*iP*			**Pn**	**21 04 05.3**	**+1.2**
PB15				*iS*			**Sn**	**21 04 15.8**	**+1.8**
PB15	**IPOC Station P**	**0.38**	**245**	*eP*			**Pn**	**21 04 05.2**	**+1.1**
PB15				*eS*			**Sn**	**21 04 15.8**	**+1.8**
LVC	**Limon Verde**	**0.47**	**21**	P			**Pn**	**21 04 05.6**	**+0.6**
	5μm,0.4s,baz=175,slow=6.2								
LVC				S			**Sn**	**21 04 15.9**	**+0.5**
	3μm,0.3s,baz=270,slow=20,SNR=21								
LVC	**Limon Verde**	**0.47**	**21**				**Pn**	**21 04 05.2**	**+0.2**
LVC					Sn		**Sn**	**21 04 16.1**	**+0.8**
LVC	**Limon Verde**	**0.47**	**21**	⇓*iP*			**Pn**	**21 04 05.6**	**+0.6**
LVC				*iS*			**Sn**	**21 04 16.2**	**+0.8**
LVC	**Limon Verde**	**0.47**	**21**	*eP*			**Pn**	**21 04 05.1**	**+0.2**
PB06	**IPOC Station P**	**0.56**	**308**				**Pn**	**21 04 05.7**	**+0.2**
PB06					Sn		**Sn**	**21 04 17.4**	**+1.1**
PB06	**IPOC Station P**	**0.56**	**308**	*iP*			**Pn**	**21 04 06.2**	**+0.7**
PB06				*iS*			**Sn**	**21 04 17.7**	**+1.4**
PB06				IAML				21 04 18.0	
	comp=E,33μm,0.1s								
PB06	**IPOC Station P**	**0.56**	**308**	*eP*			**Pn**	**21 04 06.2**	**+0.7**
PB06				IAML				21 04 20.2	
	comp=Z,10μm,0.3s								
AF01	**San Pedro de A**	**0.85**	**84**				**Pn**	**21 04 09.7**	**+1.2**
AF01					Sn		**Sn**	**21 04 23.7**	**+1.9**
AF01	**San Pedro de A**	**0.85**	**84**	⇓*iP*			**Pn**	**21 04 09.6**	**+1.0**
AF01				*iS*			**Sn**	**21 04 23.7**	**+1.9**
AF01				IAML				21 04 25.1	
	comp=N,31μm,0.1s								
PB04	**IPOC Station P**	**1.21**	**306**				**Pn**	**21 04 12.5**	**-0.2**
PB04	**IPOC Station P**	**1.21**	**306**	⇑*iP*			**Pn**	**21 04 13.3**	**+0.7**
PB04				*iS*			**Sn**	**21 04 30.8**	**+1.7**
PB04				IAML				21 04 36.8	
	comp=N,8μm,0.2s								
PB04	**IPOC Station P**	**1.21**	**306**	*eP*			**Pn**	**21 04 13.4**	**+0.7**
PB04				*eS*			**Sn**	**21 04 30.4**	**+1.4**
PB04				IAML				21 04 33.9	
	comp=Z,6μm,0.2s								
PB09	**IPOC Station P**	**1.25**	**354**				**Pn**	**21 04 13.9**	**+0.7**
PB09	**IPOC Station P**	**1.25**	**354**	⇓*iP*			**Pn**	**21 04 14.5**	**+1.2**
PB09				*iS*			**Sn**	**21 04 32.1**	**+1.9**
PB09				IAML				21 04 36.6	
	comp=N,2μm,0.2s								
PB09	**IPOC Station P**	**1.25**	**354**	*eP*			**Pn**	**21 04 14.0**	**+0.7**
PB09				*eS*			**Sn**	**21 04 33.0**	**+2.8**
PB09				IAML				21 04 38.9	
	comp=Z,2μm,0.2s								
PB10	**IPOC Station P**	**1.42**	**251**				**Pn**	**21 04 15.9**	**+0.8**
PB10	**IPOC Station P**	**1.42**	**251**	⇑*iP*			**Pn**	**21 04 16.2**	**+1.1**
PB10				*iS*			**Sn**	**21 04 34.2**	**+0.6**
PB10				IAML				21 04 40.6	
	comp=E,2μm,0.6s								
PB10	**IPOC Station P**	**1.42**	**251**	*eP*			**Pn**	**21 04 16.0**	**+0.8**
PB10				*eS*			**Sn**	**21 04 35.0**	**+1.4**
PB07	**IPOC Station P**	**1.51**	**331**				**Pn**	**21 04 16.8**	**+0.3**
PB02	**IPOC Station P**	**1.87**	**337**				**Pn**	**21 04 21.9**	**+0.6**
PB02	**IPOC Station P**	**1.87**	**337**	*iP*			**Pn**	**21 04 22.1**	**+0.9**
PB02				*iS*			**Sn**	**21 04 45.4**	**+1.1**
PB02				IAML				21 04 51.2	
	comp=N,6μm,0.3s								
PB02	**IPOC Station P**	**1.87**	**337**	*eP*			**Pn**	**21 04 22.0**	**+0.8**
PB02				*eS*			**Sn**	**21 04 46.2**	**+1.9**
PB02				IAML				21 04 49.6	
	comp=Z,5μm,0.3s								
PB14	**IPOC Station P**	**1.98**	**217**				**Pn**	**21 04 23.8**	**+1.0**
PB14	**IPOC Station P**	**1.98**	**217**	*eP*			**Pn**	**21 04 24.1**	**+1.4**
PB14				*iS*			**Sn**	**21 04 52.2**	**+5.2**
PB14				IAML				21 04 56.4	
	comp=N,2μm,0.4s								
PB14	**IPOC Station P**	**1.98**	**217**	*eP*			**Pn**	**21 04 19.4**	**-3.3**
PB14				*eP*			**Pn**	**21 04 23.9**	**+1.2**
PB14				*eS*			**Sn**	**21 04 50.0**	**+2.9**
PB14				IAML				21 04 54.2	
	comp=Z,2μm,0.7s								
PB01	**IPOC Station P**	**2.03**	**350**				**Pn**	**21 04 24.1**	**+0.8**
PB01	**IPOC Station P**	**2.03**	**350**	*iP*			**Pn**	**21 04 24.2**	**+1.0**
PB01				*iS*			**Sn**	**21 04 50.8**	**+2.8**
PB01				IAML				21 04 55.9	
	comp=E,3μm,0.2s								
PB01	**IPOC Station P**	**2.03**	**350**	*eP*			**Pn**	**21 04 24.2**	**+1.0**
PB01				*eS*			**Sn**	**21 04 50.7**	**+2.8**
PB01				IAML				21 04 54.5	
	comp=Z,2μm,0.2s								
GO02	**Mina Guanaco**	**2.15**	**192**				**Pn**	**21 04 26.1**	**+1.0**
GO02	**Mina Guanaco**	**2.15**	**192**	⇓*iP*			**Pn**	**21 04 26.5**	**+1.4**
GO02				*iS*			**Sn**	**21 04 53.4**	**+2.2**
GO02				IAML				21 05 01.1	
	comp=E,2μm,0.2s								
GO02	**Mina Guanaco**	**2.15**	**192**	*eP*			**Pn**	**21 04 26.8**	**+1.7**
GO02				*eS*			**Sn**	**21 04 54.2**	**+3.0**
TA01	**Diego Aracena**	**2.67**	**338**	Pn			**Pn**	**21 04 31.2**	**-0.5**
TA01	**Diego Aracena**	**2.67**	**338**	*eP*			**Pn**	**21 04 31.3**	**-0.5**
TA01				*iS*			**Sn**	**21 05 07.6**	**+4.5**
TA01				IAML				21 05 15.6	
	comp=N,1μm,0.3s								
TA01	**Diego Aracena**	**2.67**	**338**	*eP*			**Pn**	**21 04 31.0**	**-0.7**
TA01				IAML				21 05 18.6	
	comp=E,631nm,0.5s								
TA02	**Huaiquique**	**2.93**	**341**				**Pn**	**21 04 34.5**	**-0.7**
TA02	**Huaiquique**	**2.93**	**341**	*eP*			Pn	21 04 30.4	-4.8
TA02				*eP*			**Pn**	**21 04 36.2**	**+1.0**
TA02				*eS*			Sn	21 05 19.4	+10
TA02				IAML				21 05 21.4	
	comp=Z,736nm,0.6s								
GO01	**Chusmiza**	**3.37**	**358**				**Pn**	**21 04 41.8**	**+0.2**
GO01	**Chusmiza**	**3.37**	**358**	*eP*			**Pn**	**21 04 42.0**	**+0.4**
AC01	**Pan de Azucar**	**3.38**	**204**				**Pn**	**21 04 41.1**	**-0.1**
AC01	**Pan de Azucar**	**3.38**	**204**	*eP*			**Pn**	**21 04 40.6**	**-0.6**
AC01				*iS*			**Sn**	**21 05 19.2**	**-1.1**
AC01				IAML				21 05 33.9	
	comp=E,2μm,0.3s								
AC01	**Pan de Azucar**	**3.38**	**204**	*eP*			**Pn**	**21 04 41.0**	**-0.3**
AC01				*eS*			**Sn**	**21 05 19.9**	**-0.3**
AC01				IAML				21 05 31.4	
	comp=Z,776nm,0.6s								
HJA	**Humahuaca**	**3.40**	**93**	*eP*			**Pn**	**21 04 45.0**	**+3.1**
YJA	**Yavi**	**3.42**	**76**	*eP*			**Pn**	**21 04 46.0**	**+3.7**
SLA	**San Lorenzo**	**3.68**	**118**	*eP*			Pn	21 04 51.0	+5.4
AC02	**Maricunga**	**3.77**	**180**	Pn			**Pn**	**21 04 48.5**	**+1.4**
AC02	**Maricunga**	**3.77**	**180**	*eP*			**Pn**	**21 04 48.9**	**+1.8**
AC02				*eS*			**Sn**	**21 05 35.5**	**+4.9**
AC02				IAML				21 05 46.5	
	comp=Z,293nm,0.3s								
AZAP	**Zapla**	**3.88**	**108**	*eP*			**Pn**	**21 04 51.0**	**+2.7**
ASTB	**Santa Barbara**	**4.35**	**103**	*eP*			**Pn**	**21 04 57.0**	**+2.3**
AC06	**Mina Casimiro**	**4.44**	**195**	Pn			**Pn**	**21 04 55.2**	**-0.5**
PB12	**IPOC Station P**	**4.56**	**345**	Pn			**Pn**	**21 04 56.5**	**-1.0**
PB16	**IPOC Station P**	**4.71**	**355**	Pn			**Pn**	**21 04 59.9**	**0.0**
PB16	**IPOC Station P**	**4.71**	**355**	*eP*			**Pn**	**21 05 00.7**	**+0.8**
PB16				*iS*			**Sn**	**21 06 01.9**	**+8.4**
PB16				IAML				21 06 18.6	
	comp=E,118nm,0.2s								
PB16	**IPOC Station P**	**4.71**	**355**	*eP*			**Pn**	**21 05 00.7**	**+0.8**
PB16				*eS*			Sn	21 06 09.9	+16
AC05	**El Transito**	**5.86**	**190**	Pn			**Pn**	**21 05 14.3**	**-1.0**
LPAZ	**La Paz**	**6.79**	**8**	P			**Pn**	**21 05 29.1**	**+0.8**
	comp=E,1.7nm,0.3s,baz=172,slow=18,SNR=14								
LPAZ					LR		LR	21 09 08.4	
	comp=E,18nm,19.6s,baz=232,slow=48								
LPAZ	**La Paz**	**6.79**	**8**	Pn			**Pn**	**21 05 29.3**	**+0.9**
GO04	**Tololo Observa**	**7.26**	**192**	Pn			**Pn**	**21 05 30.6**	**-3.8**
SIV	**San Ignacio**	**10.32**	**49**	P			**Pn**	**21 06 13.6**	**-2.4**
	comp=E,22nm,0.6s,baz=264,slow=8.9,SNR=116								
SIV					S		Sn	21 07 58.9	-11
	comp=E,3.4nm,0.7s,baz=164,slow=19,SNR=2.4								
SIV					LR		LR	21 10 53.4	
	comp=E,48nm,21.8s,baz=270,slow=42								
CPUP	**Villa Florida**	**11.19**	**109**	P			**Pn**	**21 06 27.0**	**-0.7**
	comp=E,5.1nm,0.9s,baz=296,slow=12,SNR=12								
CPUP	**Villa Florida**	**11.19**	**109**	Pn			**Pn**	**21 06 27.6**	**-0.1**
CPUP	**Villa Florida**	**11.19**	**109**	*eP*			**Pn**	**21 06 27.4**	**-0.3**
PTLB	**Pontes e Lacer**	**12.06**	**53**	Pn			**Pn**	**21 06 36.9**	**-2.8**
AQDB	**Aquidauana**	**12.71**	**81**	Pn			**Pn**	**21 06 48.2**	**-0.2**
AQDB	**Aquidauana**	**12.71**	**81**	*eP*			**Pn**	**21 06 44.9**	**-3.5**
ITQB	**Itaqui**	**12.97**	**123**	*eP*			**P**	**21 06 56.7**	**-2.6**
MCR1	**Marechal Candi**	**13.86**	**99**	*eP*			**Pn**	**21 07 04.4**	**+0.7**
UNIS	**Unistalda (Bra**	**13.95**	**118**	*eP*			**Pn**	**21 07 07.3**	**+2.5**
CRSM	**Crissiumal (Br**	**14.32**	**111**	*eP*			**Pn**	**21 07 11.5**	**+1.9**
RODS	**Rosario do Sul**	**14.38**	**123**	*eP*			**P**	**21 07 14.6**	**-0.4**
SALV	**Santo Antonio**	**14.49**	**63**	*eP*			**Pn**	**21 07 09.1**	**-2.8**
FRBT	**Francisco Belt**	**14.88**	**105**	*eP*			**Pn**	**21 07 18.7**	**+1.8**
ALGR	**Alto Alegre (B**	**15.54**	**115**	*eP*			**P**	**21 07 27.9**	**-0.1**
CZSB	**Cruzeiro do Su**	**15.62**	**347**				**Pn**	**21 07 27.5**	**+1.2**
CZSB						IAmb	IAmb	21 07 30.6	
	comp=Z,26nm,1.0s								
CZSB	**Cruzeiro do Su**	**15.62**	**347**	*eP*			**P**	**21 07 30.1**	**+1.3**
PTGB	**Pitanga**	**15.67**	**99**	*eP*			**P**	**21 07 28.4**	**-0.9**
ITAB	**Concordia**	**15.91**	**109**	*eP*			**P**	**21 07 32.0**	**0.0**
PDRB	**Porto dos Gac**	**16.38**	**48**	*eP*			**Pn**	**21 07 33.7**	**-2.0**
PCMB	**Pacaembu**	**16.56**	**88**	*eP*			**P**	**21 07 38.7**	**-0.5**
GO06	**Curarrehue**	**16.61**	**186**				**P**	**21 07 39.9**	**+0.1**
CLDB	**Colider**	**17.54**	**49**	*eP*			**P**	**21 07 49.1**	**-1.0**
PLCA	**Paso Flores**	**17.68**	**184**	P			**Pn**	**21 07 51.8**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=349,slow=10,SNR=3.9								
PLCA					LR		LR	21 16 08.6	
	comp=Z,62nm,18.6s,baz=152,slow=41								
PLCA	**Paso Flores**	**17.68**	**184**	P			**Pn**	**21 07 52.3**	**+0.7**
ITRB	**Iturama**	**17.76**	**83**	*eP*			**P**	**21 07 51.3**	**-1.2**
BDFB	**Brasilia**	**21.20**	**73**	P			**P**	**21 08 27.7**	**-2.3**
	comp=Z,4.5nm,0.9s,baz=247,slow=11,SNR=8.8 comp=Z,4.5nm,0.9s								
BDFB	**Brasilia**	**21.20**	**73**	P			**P**	**21 08 28.1**	**-1.8**
BDFB						IAmb	IAmb	21 08 30.3	
	comp=Z,6.2nm,0.9s								
BOAV	**Boa Vista**	**26.64**	**19**	P			**P**	**21 09 21.2**	**-0.7**
BOAV						IAmb	IAmb	21 09 36.4	
	comp=Z,5.4nm,1.2s								
MDP	**Montagnes des**	**32.27**	**32**	LR			LR	21 25 26.8	
	comp=Z,24nm,18.7s,baz=243,slow=40								
VNA3	**Neumayer Olymp**	**58.67**	**161**	P			**P**	**21 13 40.2**	**+0.9**
VNA1	**Neumayer--Stat**	**58.89**	**160**	P			**P**	**21 13 42.0**	**+1.3**
VNA2	**Neumayer--Watz**	**59.26**	**160**	P			**P**	**21 13 43.7**	**+0.4**
	baz=288,slow=8.7								
TKL	**Tuckaleechee C**	**60.02**	**346**	P			**P**	**21 13 48.2**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=148,slow=12,SNR=3.7 comp=Z,2.1nm,0.8s								
SNAA	**Sanae**	**60.88**	**161**	P			**P**	**21 13 54.4**	**0.0**
SNAA	**Sanae**	**60.88**	**161**	P			**P**	**21 13 54.5**	**+0.1**
SNAA						IAmb	IAmb	21 13 56.9	
	comp=Z,4.9nm,1.3s								
TXAR	**Lajitas Array**	**61.80**	**326**	P			**P**	**21 14 01.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=140,slow=8.2,SNR=5.0 comp=Z,0.3nm,0.7s								
TROLL	**Troll, Antarti**	**62.60**	**161**	P			**P**	**21 14 06.4**	**+0.4**
N51A	**Ashland**	**64.83**	**349**	P			**P**	**21 14 20.8**	**-0.1**
QSPA	**South Pole Qui**	**67.15**	**180**	P			**P**	**21 14 36.7**	**+1.0**
ANMO	**Albuquerque**	**67.70**	**327**	P			**P**	**21 14 40.9**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=148,slow=5.4,SNR=4.4 comp=Z,0.9nm,0.7s								
DBIC	**Dimbokro**	**69.34**	**73**	P			**P**	**21 14 49.2**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=323,slow=2.5,SNR=1.6 comp=Z,2.3nm,0.7s								
NVAR	**Mina Array Bea**	**76.61**	**322**	P			**P**	**21 15 32.7**	**0.0**
	comp=Z,0.1nm,0.4s,baz=160,slow=2.9,SNR=3.1 comp=Z,0.1nm,0.4s								
ULM	**Lac du Bonnet**	**76.74**	**343**	P			**P**	**21 15 32.2**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=139,slow=11,SNR=2.1 comp=Z,1.3nm,0.5s								
TORD	**Torodi Ar. Bea**	**78.04**	**70**	P			**P**	**21 15 40.1**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=254,slow=5.3,SNR=39								
TORD					pP		**pP**	**21 16 02.5**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=253,slow=5.2,SNR=5.4								
TORD					sP		**sP**	**21 16 12.1**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=250,slow=5.5,SNR=2.4 comp=Z,4.3nm,0.7s								
MAW	**Mawson**	**82.90**	**163**	P			**P**	**21 16 06.9**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=254,slow=8.5,SNR=2.4								
MAW					pP		**pP**	**21 16 30.1**	**+1.1**
	comp=Z,4.3nm,0.7s,baz=212,slow=6.5,SNR=5.8 comp=Z,0.8nm,0.4s								
ASAR	**Alice Springs**	**128.47**	**207**	PKP			**PKPdf**	**21 22 48.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=133,slow=2.4,SNR=2.6								
WRA	**Warramunga Arr**	**131.54**	**210**	PKP			**PKPdf**	**21 22 54.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=148,slow=1.6,SNR=12								
WRA					pPKP		**pPKPdf**	**21 23 19.1**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=152,slow=1.7,SNR=1.4								
ZALV	**Zalesovo Beam**	**143.42**	**26**	PKP			PKPbc	21 23 13.6	+0.7
	comp=Z,0.3nm,0.3s,baz=308,slow=5.3,SNR=2.6								
ZALV					pPKP		pPKPdf	21 23 37.1	-2.3
	comp=Z,0.4nm,0.4s,baz=310,slow=5.4,SNR=1.7								
KSH	**Kashi**	**146.19**	**53**	PKPbc			**PKPab**	**21 23 23.2**	**+0.3**
KSH					pPKP		pPKPab	21 23 46.4	+0.1
MKAR	**Makanchi Array**	**146.97**	**37**	PKP			**PKPdf**	**21 23 19.2**	**-2.6**
	comp=Z,0.4nm,0.5s,baz=329,slow=1.7,SNR=7.7								
MKAR					PKPbc		**PKPbc**	**21 23 22.4**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=313,slow=2.8,SNR=9.9								
MKAR					pPKPbc		pPKPbc	21 23 47.1	-0.5
	comp=Z,0.6nm,0.5s,baz=334,slow=3.5,SNR=3.4								

*IDC **11** 21:27:29.1±0.7, 2°.48S×100°.04E, h0km, mb4.5/19, mbtmp4.5/20, ML3.4/1, MS3.6/28, Error ellipse: s-maj=24.3km s-min=12.6km az=48.0*
*DJA **11** 21:27:32.1±0.4, 2°.5S±3°×10°0E±°, h14km±4km, M4.5/25, mb4.7/12, mB5.0/7, MLv4.6/25, Mw(mB)4.3/7*
*NEIC **11** 21:27:34.6±1.2, 2°.47S±0°.08×99°.94E±0°.09, h38km±8km, mb4.7/52, Error ellipse: s-maj=13.8km s-min=9.6km az=58.0*

ISC 11 21:27:33.1±0.4, 2°50S±0°05×99°95E±0°05, h30km, n172, σ1§13/160, mb4.7/54, MS3.7/34, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.27**	**168**	P			**Pb**	**21 27 40.0**	**-0.2**
PPSI				S			**Sn**	**21 27 46.0**	**-0.1**
SISI	**Saibi**	**1.45**	**323**	P			**Pn**	**21 27 57.3**	**0.0**
SISI				S			**Sb**	**21 28 23.6**	**+6.0**
KRJI	**Kerinci**	**1.56**	**75**	P			**Pn**	**21 27 59.6**	**+0.7**
KRJI				S			**Sb**	**21 28 22.0**	**+1.1**
PDSI	**Padang**	**1.66**	**18**	P			**Pn**	**21 28 00.1**	**-0.1**
SDSI	**Sungai Dareh**	**2.14**	**43**	P			**Pn**	**21 28 07.4**	**+0.5**
MASI	**Maura Aman, Be**	**2.37**	**106**	P			**Pn**	**21 28 11.9**	**+1.9**
KSI	**Kapahiang**	**2.87**	**

SHL IAmb IAmb 21 33 38.6
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 29.57 123 P **P** **21 33 34.9 -0.7**
comp=Z,2.1nm,0.8s,baz=288,slow=7.4,SNR=6.6
FITZ LR LR 21 45 21.3
comp=Z,64nm,21.2s,baz=302,slow=36
comp=Z,2.1nm,0.8s
FITZ Fitzroy Crossi 29.57 123 P **P** **21 33 35.0 -0.7**
KNRA Kununurra 31.25 117 P **P** **21 33 48.8 -1.7**
SIJI Sorong 31.34 88 P **P** **21 33 50.1 -1.3**
comp=Z,8.2nm,0.7s,baz=285,slow=12,SNR=9.2
comp=Z,8.2nm,0.7s
TPUB Ta-pu 32.61 37 P **P** **21 34 01.4 -1.0**
LSA Lhasa 33.11 346 P **P** **21 34 07.3 +0.1**
LSA IAmb IAmb 21 34 09.2
comp=Z,6.3nm,0.6s
LSA Lhasa 33.11 346 P **P** **21 34 08.0 +0.9**
LSA pmax pmax
comp=Z,10.0nm,0.7s
ENH Enshi 33.84 15 P **P** **21 34 10.7 -2.3**
ENH IAmb IAmb 21 34 13.1
comp=Z,8.2nm,0.6s
XAN Xi'an 37.31 12 P **P** **21 34 41.8 -1.0**
XAN pP pP 21 34 52.6 +1.0
XAN pmax pmax
comp=Z,13nm,0.9s
WB0 Warramunga Arr 37.76 120 P **P** **21 34 46.4 -0.5**
WB0 IAmb IAmb 21 34 47.4
comp=Z,9.4nm,0.7s
WRA Warramunga Arr 37.78 120 P **P** **21 34 46.5 -0.5**
comp=Z,4.4nm,0.5s,baz=304,slow=9.1,SNR=103
WRA PcP **PcP** **21 37 03.5 -0.1**
comp=Z,0.3nm,0.6s,baz=303,slow=2.1,SNR=1.8
WRA LR LR 21 52 45.9
comp=Z,61nm,18.2s,baz=326,slow=40
comp=Z,4.4nm,0.5s
WRA Warramunga Arr 37.78 120 P **P** **21 34 46.3 -0.7**
WRAB Tennant Creek 37.79 120 P **P** **21 34 45.5 -1.5**
WRAB IAmb IAmb 21 34 47.9
comp=Z,8.7nm,0.6s
WB2 Warramunga Arr 37.79 120 P **P** **21 34 46.5 -0.6**
WR0 Warramunga Arr 37.97 120 P **P** **21 34 47.8 -0.7**
WR0 IAmb IAmb 21 34 48.9
comp=Z,12nm,1.0s
LZH Lanzhou 38.56 5 *eP* **P** **21 34 52.5 -0.9**
LZH pP sP 21 35 04.2 -1.6
LZH sP pP 21 35 09.6 +7.4
LZH pmax pmax
comp=Z,12nm,1.0s
LZH LR LR
comp=N,160nm,15.7s
LZH LR LR
comp=E,200nm,14.2s
LZH LR LR
comp=Z,200nm,16.5s
LYN LuoYang 38.69 17 ⇓P **P** **21 34 53.8 -0.5**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN LR LR
comp=E,120nm,11.1s
NJ2 Nanjing 38.76 26 *eP* **P** **21 34 56.0 +1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
GOMU GeErMu 38.80 353 P **P** **21 34 56.0 +0.3**
GOMU pP sP 21 35 08.8 +0.8
GOMU pmax pmax
comp=Z,4.0nm,0.7s
AS31 Alice Springs 39.00 126 P **P** **21 34 57.8 +0.5**
ASAR Alice Springs 39.00 126 P **P** **21 34 57.4 +0.1**
comp=Z,3.5nm,0.5s,baz=302,slow=7.3,SNR=39
ASAR PcP **PcP** **21 37 08.0 +0.6**
comp=Z,0.8nm,0.6s,baz=305,slow=1.9,SNR=4.2
ASAR S **S** **21 40 53.7 -0.8**
comp=Z,0.7nm,1.0s,baz=290,slow=18,SNR=5.2
ASAR LR LR 21 53 14.9
comp=Z,88nm,18.1s,baz=269,slow=40
comp=Z,3.5nm,0.5s
ASAR Alice Springs 39.00 126 P **P** **21 34 57.2 -0.1**
JOW Kunigami 39.97 41 P **P** **21 35 05.3 +0.2**
comp=Z,4.5nm,0.5s,baz=211,slow=5.0,SNR=11
comp=Z,4.5nm,0.5s
JOW Kunigami 39.97 41 P **P** **21 35 04.6 -0.6**
JOW IAmb IAmb 21 35 05.6
comp=Z,28nm,1.4s
GTA Gaotai 41.70 360 ⇑P **P** **21 35 19.1 -0.3**
GTA pP pP 21 35 27.0 -1.3
GTA sP sP 21 35 31.6 -0.3
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,69nm,5.1s
GTA LR LR
comp=N,97nm,14.2s
GTA LR LR
comp=E,140nm,15.3s
GTA LR LR
comp=Z,83nm,15.6s
HHC Hu-ho-hao-te 44.43 13 *eP* **P** **21 35 43.2 +1.8**
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,160nm,6.0s
BJI Beijing 44.87 18 P **P** **21 35 45.3 +0.5**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=N,34nm,15.6s
BJI LR LR
comp=E,69nm,15.8s
BJI LR LR
comp=Z,170nm,16.0s
WMQ Urumqi 47.41 348 *eP* **P** **21 36 07.0 +2.1**
WMQ pmax pmax
comp=Z,18nm,1.1s
KSRS Korea Array 47.47 30 P **P** **21 36 05.3 0.0**
comp=Z,4.2nm,0.7s,baz=225,slow=8.5,SNR=18
KSRS LR LR 21 55 39.8
comp=Z,26nm,21.7s,baz=225,slow=36
comp=Z,4.2nm,0.7s
TARG Taragay, Kyrgy 48.40 338 P **P** **21 36 12.2 -0.8**
TARG IAmb IAmb 21 36 49.4
comp=Z,9.3nm,1.1s
NRN Naryn 48.85 336 P **P** **21 36 15.4 -1.0**
NRN IAmb IAmb 21 36 24.1
comp=Z,8.3nm,0.8s
STKA Stephens Creek 48.85 131 P **P** **21 36 16.7 +0.5**
comp=Z,2.8nm,0.7s,baz=326,slow=7.9,SNR=5.9
STKA LR LR 21 58 01.3
comp=Z,74nm,20.4s,baz=228,slow=38
comp=Z,2.8nm,0.7s
SHLS Shalkode 49.06 340 *eP* **P** **21 36 17.1 -0.6**
comp=Z,4.7nm,0.6s,baz=340
DRK Karamyk 49.13 331 P **P** **21 36 18.5 0.0**
UZB Uzynbulak 49.20 340 *eP* **P** **21 36 19.4 +0.6**
baz=340
SATY Saty 49.34 339 *eP* **P** **21 36 20.4 +0.5**
comp=Z,6.8nm,0.9s,baz=339
GAR Garm 49.50 330 P **P** **21 36 20.7 -0.4**
GAR IAmb IAmb 21 36 39.0
comp=Z,10nm,1.0s
KPKS Kokpek 49.60 340 *eP* **P** **21 36 22.0 +0.3**
baz=340
CHGR Chuyangaron 49.84 328 P **P** **21 36 23.0 -0.7**
CHGR IAmb IAmb 21 36 38.9
comp=Z,12nm,1.0s
MDOK Medeo 49.92 338 *eP* **P** **21 36 25.1 +0.8**
baz=338
BTK Batken 50.06 331 P **P** **21 36 24.3 -1.0**
BTK IAmb IAmb 21 37 01.8
comp=Z,5.1nm,0.7s
SONM Songino Array 50.44 6 P **P** **21 36 28.9 +0.8**
comp=Z,16nm,0.7s,baz=188,slow=9.3,SNR=126
SONM PcP **PcP** **21 37 46.7 +0.5**
comp=Z,2.6nm,0.7s,baz=189,slow=4.8,SNR=5.0
SONM LR LR 22 01 33.2
comp=Z,93nm,18.2s,baz=200,slow=40
comp=Z,16nm,0.7s
SONM Songino Array 50.44 6 P **P** **21 36 28.6 +0.5**
AAK Ala-Archa 50.48 336 P **P** **21 36 28.5 0.0**
CHKK Chushkaly 50.54 339 *eP* **P** **21 36 28.7 -0.1**
baz=339
ULN Ulaanbaatar 50.54 6 P **P** **21 36 28.9 0.0**
KUU Kurty 50.81 338 *eP* **P** **21 36 31.0 +0.1**
comp=Z,13nm,1.0s,baz=338
TDK Taldyqorghan 51.04 340 *eP* **P** **21 36 32.9 +0.3**
baz=340
SGDS Sogindy 51.10 336 *eP* **P** **21 36 33.2 +0.1**
baz=336
CN2 Changchun 51.46 23 *eP* **P** **21 36 33.6 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
ZSN Zaisan 51.47 347 *eP* **P** **21 36 36.5 +0.7**
baz=347
MK31 Makanchi Array 51.49 345 P **P** **21 36 36.5 +0.6**
MK31 IAmb IAmb 21 36 37.6
comp=Z,7.5nm,0.7s
MKAR Makanchi Array 51.49 345 P **P** **21 36 36.8 +0.9**
comp=Z,8.4nm,0.5s,baz=159,slow=8.6,SNR=106
comp=Z,8.4nm,0.5s
MKAR Makanchi Array 51.49 345 P **P** **21 36 36.6 +0.6**
MAKZ Makanchi 51.59 344 P **P** **21 36 36.6 -0.1**
MAKZ IAmb IAmb 21 36 38.3
comp=Z,5.9nm,0.9s
IUG Iuzhnay 52.05 332 *eP* **P** **21 36 40.6 +0.3**
baz=332
KK31 Karatay Array 52.58 333 P **P** **21 36 44.4 +0.3**
KKAR Karatay Array 52.58 333 P **P** **21 36 44.5 +0.5**
KKAR Karatay Array 52.58 333 P **P** **21 36 44.4 +0.3**
BTLS Baital 52.66 337 *eP* **P** **21 36 44.7 +0.1**
baz=337
MJAR Matsushiro Arr 52.69 39 P **P** **21 36 44.1 -0.9**
comp=Z,1.2nm,0.5s,baz=216,slow=7.5,SNR=6.5
comp=Z,1.2nm,0.5s
BNX BinXian 53.85 24 ⇓P **P** **21 36 53.4 +0.1**
BNX pmax pmax
comp=Z,16nm,0.8s
BNX pmax pmax
comp=Z,150nm,5.0s
MDJ Mudanjiang 53.85 26 P **P** **21 36 52.8 -0.6**
MDJ IAmb IAmb 21 36 57.1
comp=Z,9.7nm,1.1s
USRK Ussuriysk Ar. 54.62 28 P **P** **21 36 59.2 +0.3**
comp=Z,25nm,0.6s,baz=224,slow=4.6,SNR=41
USRK LR LR 22 01 14.2
comp=Z,56nm,19.2s,baz=137,slow=37
comp=Z,25nm,0.6s
SEM Semipalatinsk 55.35 345 *eP* **P** **21 37 04.3 -0.1**
baz=345
GEYT Alibeck 55.80 320 P **P** **21 37 08.2 +0.6**
comp=Z,1.6nm,0.7s,baz=151,slow=6.6,SNR=1.7
comp=Z,1.6nm,0.7s
GEYT Alibeck 55.80 320 P **P** **21 37 07.3 -0.4**
KURBB Kurchatov Arra 56.01 344 LR LR 22 05 13.4
comp=Z,38nm,18.6s,baz=158,slow=40
KURK Kurchatov 56.07 344 P **P** **21 37 09.9 +0.6**
BRZS Berezniki 57.31 339 *eP* **P** **21 37 18.0 -0.1**
baz=339
ZAA0 Zalesovo Array 57.65 349 P **P** **21 37 20.2 -0.2**
ZALV Zalesovo Beam 57.65 349 P **P** **21 37 20.5 +0.1**
comp=Z,14nm,0.7s,baz=165,slow=6.4,SNR=24
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 57.65 349 P **P** **21 37 20.3 -0.1**
ATD Arta Tunnel 58.45 285 LR LR 21 59 10.8
comp=Z,27nm,20.7s,baz=86,slow=32
BRVK Borovoye 60.70 340 P **P** **21 37 41.1 -0.5**
BRVK IAmb IAmb 21 37 47.6
comp=Z,5.3nm,0.7s
ABKAR Akbulak array 62.05 332 P **P** **21 37 50.6 -0.2**
AKTO Aktyubinsk 63.77 332 LR LR 22 07 16.0
comp=Z,27nm,18.5s,baz=61,slow=37
MARD Mardin 67.54 312 P **P** **21 38 26.3 -0.7**
MARD IAmb IAmb 21 38 46.2
comp=Z,5.0nm,0.5s
ARU Arti 67.64 337 LR LR 22 11 22.3
comp=Z,36nm,18.4s,baz=130,slow=39
ARU Arti 67.64 337 P **P** **21 38 27.2 +0.1**
ARU IAmb IAmb 21 38 28.0
comp=Z,5.4nm,1.0s
YAK Yakutsk 68.23 15 P **P** **21 38 29.6 -1.0**
KBZ Khabaz 68.65 319 P **P** **21 38 34.7 +1.0**
comp=Z,4.6nm,0.9s,baz=140,slow=5.3,SNR=10
comp=Z,4.6nm,0.9s
MBAR Mbarara 69.21 270 LR LR 22 05 50.3
comp=Z,32nm,18.5s,baz=64,slow=33
BELG Belogornoye 70.13 329 LR LR 22 13 49.3
comp=Z,35nm,18.3s,baz=150,slow=40
LSZ Lusaka 71.76 255 LR LR 22 06 52.2
comp=Z,30nm,18.2s,baz=150,slow=33
MA2 Magadan 73.50 24 LR LR 22 13 47.8
comp=Z,29nm,19.5s,baz=194,slow=38
BR131 Keskin Array S 73.62 313 P **P** **21 39 03.7 -0.4**
BRTR Keskin Array B 73.62 313 P **P** **21 39 04.3 +0.3**
comp=Z,2.0nm,0.7s,baz=131,slow=6.5,SNR=16
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 73.62 313 P **P** **21 39 03.5 -0.6**
BOSA Boshof 75.38 241 LR LR 22 08 47.6
comp=Z,45nm,18.6s,baz=18,slow=33
MDUB Mudurnu 75.63 313 P **P** **21 39 14.6 -1.1**
TIXI Tiksi 76.36 9 LR LR 22 18 39.8
comp=Z,65nm,18.8s,baz=182,slow=40
TIXI Tiksi 76.36 9 P **P** **21 39 18.0 -1.0**
TIXI IAmb IAmb 21 39 22.7
comp=Z,9.9nm,1.0s
URZ Urewera 78.37 128 LR LR 22 17 09.2
comp=Z,89nm,18.3s,baz=276,slow=38
SUR Sutherland 79.49 238 LR LR 22 08 20.3
comp=Z,70nm,19.1s,baz=113,slow=31
BURAR Bucovina Array 81.60 319 P **P** **21 39 49.1 +0.7**
BUR08 Bucovina Ar. S 81.62 319 P **P** **21 39 49.2 +0.7**
VNDA Vanda 81.68 169 LR LR 22 10 39.4
comp=Z,46nm,21.1s,baz=302,slow=32
MNK Minsk 81.71 326 *i* P **P** **21 39 47.4 -1.2**
comp=E,1.0nm,1.0s
MNK *i* P **P** **21 39 47.4 -1.2**
comp=N,6.0nm,0.9s
MNK *i* P **P** **21 39 47.4 -1.2**
comp=Z,5.0nm,0.8s,baz=287
MNK *i* PP **PP** **21 42 54.3 -1.5**
MNK *i* PPP PPP 21 44 45.0
MNK *i* S **S** **21 49 58.4 -1.0**
MNK *i* SS **SS** **21 55 17.4 +0.1**
MNK *i* SSS SSS 21 58 45.4
MNK *i* LR LR 22 17 02.7
MNK *i* LRM MLR 22 17 55.3
comp=E,10.0nm,15.3s
MNK *i* LRM MLR 22 17 55.3
comp=N,10.0nm,13.4s
MNK *i* LRM MLR 22 17 55.3
comp=Z,36nm,12.8s
TSUM Tsumeb 81.98 251 LR LR 22 12 17.5
comp=Z,55nm,19.4s,baz=352,slow=33
FINES FINESS Array B 84.53 332 P **P** **21 40 04.3 +1.2**
comp=Z,1.7nm,0.6s,baz=97,slow=6.1,SNR=12
comp=Z,1.7nm,0.6s
PDG Podgorica 84.81 313 P **P** **21 40 04.5 -0.4**
PDG IAmb IAmb 21 40 06.3
comp=Z,5.1nm,1.2s
ARCES ARCESS Array B 86.92 340 P **P** **21 40 15.8 +0.9**
comp=Z,2.5nm,0.8s,baz=99,slow=4.9,SNR=12
comp=Z,2.5nm,0.8s
QSPA South Pole Qui 87.47 180 LR LR 22 16 00.5
comp=Z,52nm,19.7s,baz=350,slow=33
GERES GERESS Array B 89.39 319 P **P** **21 40 28.1 +0.9**
comp=Z,0.6nm,0.7s,baz=83,slow=3.1,SNR=7.0
comp=Z,0.6nm,0.7s
CIMO Cimolais 90.07 316 P **P** **21 40 30.3 0.0**
CIMO IAmb IAmb 21 40 31.9
comp=Z,4.3nm,1.0s
SPITS Spitsbergen Ar 91.11 348 LR LR 22 28 31.5
comp=Z,44nm,18.1s,baz=102,slow=40
TXAR Lajitas Array 145.12 38 PKPbc **PKPdf** **21 47 08.9 +0.3**
comp=Z,7.9nm,0.7s,baz=278,slow=0.9,SNR=96

*CNRM **11** 21:32:07.5, 36.77N×13.24W, h163km, ml2.7*
*INMG **11** 21:32:17.0±1.2, 37.02N×13.35W, h10km, ML2.0, Error ellipse: s-maj=13.9km s-min=8.3km az=100.0*
IGIL 11 21:32:14.3, 37.42N×13.32W, h18km, ML1.6, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.53**	**63**	*e*Sn		Sn	Sn	21 33 48.2	-1.4
PFVI	**Vila Bisbo**	**3.59**	**93**	*e*Pn		Pn	Pn	21 33 06.5	-2.6
PFVI				*e*Sn		Sn	Sn	21 33 44.7	-6.4
PFVI				A		A	A	21 33 45.5	
	4.9nm,0.6s								
PFVI	**Vila Bisbo**	**3.59**	**93**	P		Pn	Pn	21 33 02.1	-7.0
PFVI				S		Sn	Sn	21 33 44.7	-6.5
PTEO	**Sao Teotonio**	**3.66**	**87**	*e*Sn		Sn	Sn	21 33 47.0	-5.6
PTEO				A		A	A	21 34 04.1	
	5.8nm,0.8s								
MORF	**Marmelete**	**3.72**	**90**	*e*Pn		Pn	Pn	21 33 09.4	-1.5
MORF				*e*Sn		Sn	Sn	21 33 48.8	-5.5
MORF				A		A	A	21 33 49.5	
	3.5nm,0.3s								
PNCL	**Nicolau / Gran**	**3.86**	**78**	*e*Sn		Sn	Sn	21 33 53.2	-4.4
PNCL				A		A	A	21 33 53.5	
	1.8nm,0.2s								
MESJ	**Messejana**	**4.07**	**83**	*e*S		Sn	Sn	21 33 57.9	-5.0
MESJ				IAML				21 34 01.6	
	comp=N,1.3nm,0.1s								
MESJ	**Messejana**	**4.07**	**83**	*e*Sn		Sn	Sn	21 33 58.2	-4.6
MESJ				A		A	A	21 33 59.1	
	comp=N,2.4nm,1.0s								
PSBE	**So Bento**	**4.12**	**58**	*e*Sn		Sn	Sn	21 34 04.9	+0.8
PSBE				A		A	A	21 34 18.4	
	comp=N,2.0nm,0.8s								
PCVE	**Castro Verde**	**4.20**	**86**	*e*Sn		Sn	Sn	21 34 00.0	-6.1
PCVE				A		A	A	21 34 06.5	
	comp=N,1.8nm,0.8s								
PMTG	**Montargil**	**4.33**	**66**	*e*Sn		Sn	Sn	21 34 06.8	-2.6
PMTG				A		A	A	21 34 16.9	
	comp=N,1.7nm,0.6s								
PVAQ	**Vaqueiros**	**4.46**	**89**	*e*Pn		Pn	Pn	21 33 19.8	-1.2
PVAQ				*e*Sn		Sn	Sn	21 34 06.2	-6.3
PVAQ				A		A	A	21 34 09.3	
	comp=N,1.7nm,0.1s								
PVAQ	**Vaqueiros**	**4.46**	**89**	P		Pn	Pn	21 33 16.9	-4.2
PVAQ				S		Sn	Sn	21 34 05.5	-6.9
PESTR	**Estremoz**	**4.74**	**71**	*e*Sn		Sn	Sn	21 34 15.4	-4.0
PESTR				A		A	A	21 34 23.9	
	comp=N,1.2nm,0.8s								
PBAR	**Barrancos**	**5.03**	**79**	*e*Sn		Sn	Sn	21 34 21.1	-5.4
PBAR				A		A	A	21 34 26.0	
	comp=N,1.1nm,0.7s								
PMRV	**Marv??o**	**5.07**	**65**	*e*Pn		Pn	Pn	21 33 27.3	-2.1
PMRV				*e*Sn		Sn	Sn	21 34 24.4	-3.1
PMRV				A		A	A	21 34 26.5	
	comp=N,1.2nm,0.5s								
MD31	**MD31**	**8.35**	**120**	P		Pn	Pn	21 33 59.9	-15
MD31				S		Sn	Sn	21 35 30.2	-18
MDT	**Midelt**	**8.49**	**120**	P		Pn	Pn	21 34 00.7	-16
MDT				S		Sn	Sn	21 35 35.4	-16

*IDC **11** 21:37:59.7±16.0, 21.12S×177.61W, h543km±103km, mb2.7/4, mbtmp3.6/5, Error ellipse: s-maj=335.2km s-min=28.2km az=142.0*
ISC 11 21:38:00.5±2.0, 20.9S±0.4×177.7W±0.3, h550km, n8, σ0.96/7, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.15**	**307**	P		P	**P**	**21 39 31.9**	**+0.1**
	5.3nm,0.5s,baz=225,slow=1.4,SNR=5.2								
ASAR	**Alice Springs**	**44.73**	**257**	P		P	**P**	**21 45 25.8**	**+0.4**
	1.0nm,0.9s,baz=90,slow=8.3,SNR=7.5								
	1.0nm,0.9s								
WRA	**Warramunga Arr**	**44.85**	**262**	P		P	**P**	**21 45 25.0**	**-1.5**
	0.4nm,0.8s,baz=99,slow=8.0,SNR=9.3								
	0.4nm,0.8s								
FITZ	**Fitzroy Crossi**	**53.28**	**263**	P		P	**P**	**21 46 28.8**	**+0.1**
	1.4nm,1.0s,baz=120,slow=8.1,SNR=1.9								
	1.4nm,1.0s								
ILAR	**Eielson Array**	**88.66**	**13**	P		P	**P**	**21 49 55.5**	**+0.6**
	0.2nm,0.3s,baz=217,slow=5.3,SNR=1.6								
	0.2nm,0.3s								
AKASG	**Malin Array Be**	**143.54**	**331**	PKP		PKPbc		21 56 30.7	-0.7
	0.7nm,0.5s,baz=48,slow=1.4,SNR=4.4								
BRTR	**Keskin Array B**	**147.36**	**312**	PKPbc		**PKiKP**		**21 56 43.9**	**-0.8**
	0.3nm,0.7s,baz=93,slow=3.4,SNR=1.7								
GERES	**GERESS Array B**	**150.70**	**345**	PKPbc		**PKiKP**		**21 56 50.6**	**-0.6**
	0.3nm,0.6s,baz=20,slow=3.1,SNR=3.6								

*IDC **11** 21:44:24.4±1.7, 37.90N×142.58E, h0km, mb3.6/5, mbtmp3.6/7, ML3.0/2, MS2.8/1, Error ellipse: s-maj=38.5km s-min=22.4km az=72.0*
*NIED **11** 21:44:25.0, 38.43N×142.30E, h29km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=1.97; Mθθ=2.75; Mϕϕ=0.78; Mrθ=1.52; Mθϕ=0.26; Mϕr=1.22; Fault plane solution: M₀3.13000×10¹⁴ NP1:ϕ₁=67.00000°, δ=34.00000°, λ=-135.00000°. NP2:ϕ₂=298.00000°, δ=67.00000°, λ=-64.00000°.*
*JMA **11** 21:44:25.0±0.1, 38.4N±0.4×142.3E±0.7, h29km±1km, MD3.8/40, MV4.1/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
ISC 11 21:44:21.0±2.0, 38.38N±0.05×142.46E±0.08, h10km±11km, n27, σ1.85/28, mb3.6/5, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.78**	**265**	⇓*i*P		P	**Pn**	**21 44 37.7**	**-0.4**
JIKH				⇓S		S	**Sg**	**21 44 46.4**	**0.0**
JIO	**Ouri**	**0.88**	**275**	⇓*i*P		P	**Pn**	**21 44 39.2**	**-0.1**
JIO				⇓S		S	**Sb**	**21 44 48.9**	**-1.1**
JKMT	**Kesennumamotoy**	**0.88**	**299**	*i* P		P	**Pn**	**21 44 39.3**	**-0.1**
JKMT				S		S	**Sb**	**21 44 49.3**	**-0.9**
OFUJ	**Ofunato**	**0.93**	**319**	*i* P		P	**Pn**	**21 44 40.2**	**0.0**
OFUJ				S		S	**Sb**	**21 44 50.8**	**-0.8**
JMK	**Ichinoseki**	**1.12**	**301**	*i* P		P	**Pg**	**21 44 43.1**	**+0.4**
JMK				*e*S		S	**Sb**	**21 44 55.8**	**-1.3**
JMK	**Ichinoseki**	**1.12**	**301**	A		A	A	21 44 43.1	
	comp=E,1.0nm,5.9s,comp=E,1.0nm,9.0s								
JMM	**Marumori**	**1.41**	**249**	*i* P		P	**Pb**	**21 44 47.0**	**-0.4**
JMM				*e*S		S	**Sn**	**21 45 03.5**	**-1.8**
JOU	**Okura**	**1.41**	**270**	*i* P		P	**Pb**	**21 44 47.7**	**+0.3**
JOU				S		S	**Sn**	**21 45 04.1**	**-1.3**
JOU	**Okura**	**1.41**	**270**	A		A	A	21 44 47.7	
	comp=E,5.0nm,0.7s,comp=E,4.0nm,0.7s								
JOM	**Ohasama**	**1.42**	**320**	*i* P		P	**Pg**	**21 44 47.9**	**-0.4**
JOM				S		S	**Sn**	**21 45 04.5**	**-1.1**
JOM	**Ohasama**	**1.42**	**320**	A		A	A	21 44 47.9	
	comp=E,3.0nm,0.3s,comp=E,3.0nm,0.3s								
JFK	**Kawauchi**	**1.61**	**232**	*i* P		P	**Pn**	**21 44 49.7**	**+0.1**
JFK				*e*S		S	**Sn**	**21 45 08.5**	**-1.9**
JYK	**Kaneyama**	**1.73**	**289**	P		P	**Pb**	**21 44 52.2**	**-0.6**
JYK				*e*S		S	**Sn**	**21 45 12.5**	**-0.7**
JRG	**Rokugo**	**1.75**	**306**	⇓*i*P		P	**Pb**	**21 44 53.1**	**0.0**
JRG				⇓S		S	**Sb**	**21 45 14.1**	**-1.0**
MJAR	**Matsushiro Arr**	**3.85**	**243**	Pn		P	**Pn**	**21 45 23.2**	**+3.0**
	0.2nm,0.3s,baz=77,slow=12,SNR=13								
MJAR				Sn		Sn	**Sn**	**21 46 10.2**	**+4.7**
	0.2nm,0.3s,baz=49,slow=18,SNR=2.2								
MJAR				LR		LR	LR	21 47 11.5	
	comp=Z,120nm,18.9s,baz=16,slow=45								
	4.4nm,0.6s								
JHJ	**Hachijo jima 2**	**5.68**	**203**	Pn		P	**Pn**	**21 45 44.5**	**-1.0**
	8.5nm,0.3s,baz=14,slow=15,SNR=1.4								
JHJ				Sn		Sn	**Sn**	**21 46 45.6**	**-5.2**
	6.2nm,0.3s,baz=72,slow=20,SNR=2.5								
	27nm,0.3s								
SONM	**Songino Array**	**27.75**	**302**	P		P	P	21 50 17.0	+7.1
	0.2nm,0.5s,baz=93,slow=12,SNR=2.4								
	0.2nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**28.17**	**124**	T		T		22 20 01.8	
	baz=316,slow=76,SNR=225								
H11N1	**WAKE ISLAND Hy**	**28.18**	**124**	T		T		22 20 05.6	
	baz=316,slow=76,SNR=174								
H11N3	**WAKE ISLAND Hy**	**28.19**	**124**	T		T		22 20 00.5	
	baz=316,slow=76,SNR=107								
H11S1	**WAKE ISLAND Hy**	**28.94**	**126**	T		T		22 20 55.9	
	baz=318,slow=74								
H11S3	**WAKE ISLAND Hy**	**28.94**	**126**	T		T		22 20 53.5	
	baz=318,slow=74								
H11S2	**WAKE ISLAND Hy**	**28.96**	**126**	T		T		22 20 55.9	
	baz=318								
ZALV	**Zalesovo Beam**	**41.63**	**311**	P		P	P	21 52 17.6	+8.5
	0.6nm,0.5s,baz=90,slow=4.3,SNR=2.4								
	0.6nm,0.5s								
MKAR	**Makanchi Array**	**44.12**	**301**	P		P	P	21 52 37.1	+7.7
	0.4nm,0.7s,baz=92,slow=7.2,SNR=2.7								
	0.4nm,0.7s								
WRA	**Warramunga Arr**	**58.51**	**189**	P		P	**P**	**21 54 19.4**	**+1.9**
	0.9nm,0.7s,baz=5.9,slow=7.2,SNR=12								
	0.9nm,0.7s								
ASAR	**Alice Springs**	**62.24**	**189**	P		P	**P**	**21 54 44.9**	**+1.9**
	0.6nm,0.7s,baz=6.6,slow=5.4,SNR=7.2								
	0.6nm,0.7s								

*TAP **11** 21:47:29.2, 24.87N×122.67E, h10km, ML2.7, D*
*JMA **11** 21:47:29.4±0.1, 24.9N±0.6×122.7E±0.5, h21km±1km,*

MV1.9/8,NW OFF ISHIGAKIJIMA IS
ISC 11 21:47:29.4±1.1,24°89.N±0.05×122°69.E±0.03,h17km±8km, n50,σ0°57/77,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.49**	**152**	P	**Pb**	**21 47 39.6**	**0.0**
JYNG				S	**Sb**	**21 47 47.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.51**	**146**	⇑P	**Pg**	**21 47 39.9**	**+0.2**
	baz=143						
YOJ				S	**Sg**	**21 47 47.1**	**+0.5**
	baz=143						
YOJ	**Yonaguni jima**	**0.51**	**146**	P	**Pg**	**21 47 39.9**	**+0.2**
YOJ				*e*S	**Sg**	**21 47 47.1**	**+0.5**
TWB1	**Santiao Chiao**	**0.65**	**281**	*i* P	**Pb**	**21 47 42.5**	**+0.2**
	baz=282						
TWB1				S	**Sb**	**21 47 51.9**	**+0.8**
	baz=282						
EGS		**0.69**	**267**	*i* P	**Pb**	**21 47 43.2**	**+0.2**
	baz=267						
EGS				*i* S	**Sb**	**21 47 52.6**	**+0.3**
	baz=267						
SXI1	**Grass Mountain**	**0.77**	**286**	P	**Pg**	**21 47 44.2**	**-0.2**
	baz=287						
NTC	**Toucheng**	**0.78**	**268**	*i* P	**Pg**	**21 47 44.1**	**-0.6**
	baz=268						
NTC				*e*S	**Sb**	**21 47 55.5**	**+0.5**
	baz=268						
TIPB	**Shuangxi**	**0.79**	**276**	P	**Pg**	**21 47 43.5**	**-1.4**
	baz=277						
TIPB				*e*S	**Sg**	**21 47 54.3**	**-1.1**
	baz=277						
TWC	**Suao**	**0.81**	**250**	P	**Pb**	**21 47 44.8**	**-0.4**
	baz=250						
TWC				*i* S	**Sb**	**21 47 56.0**	**+0.2**
	baz=250						
NWF	**Wu-fen Shan**	**0.85**	**283**	P	**Pn**	**21 47 46.7**	**+0.1**
	baz=284						
WFSB	**Wu-fen Shan**	**0.85**	**283**	*e*P	**Pn**	**21 47 46.9**	**+0.4**
	baz=284						
NDS	**Dongshan**	**0.92**	**254**	P	**Pb**	**21 47 46.6**	**-0.4**
	baz=254						
NDS				*e*S	**Sg**	**21 47 59.9**	**+0.4**
	baz=254						
EWUT	**Wuta**	**0.94**	**242**	P	**Pb**	**21 47 47.4**	**+0.1**
	baz=242						
EWUT				S	**Sb**	**21 47 59.5**	**+0.1**
	baz=242						
TWE	**Neicheng**	**0.95**	**260**	*i* P	**Pb**	**21 47 47.2**	**-0.1**
	baz=260						
TWE				*i* S	**Sg**	**21 48 00.5**	**+0.2**
	baz=260						
ENA	**Nanau**	**0.98**	**242**	*i* P	**Pb**	**21 47 47.7**	**-0.2**
	baz=242						
ENA				*i* S	**Sb**	**21 48 00.0**	**-0.6**
	baz=242						
FUSB	**Fushanzhiwuyua**	**1.01**	**263**	P	**Pn**	**21 47 49.2**	**+0.3**
	baz=263						
FUSB				S	**Sg**	**21 48 02.3**	**0.0**
	baz=263						
YM01	**YM01**	**1.05**	**284**	P	**Pg**	**21 47 50.6**	**+0.8**
	baz=285						
ENTT	**Nioudou**	**1.05**	**257**	P	**Pg**	**21 47 49.7**	**-0.1**
	baz=256						
ENTT				S	**Sg**	**21 48 03.7**	**+0.1**
	baz=256						
TAP	**Taipei**	**1.09**	**278**	*e*P	**Pg**	**21 47 51.0**	**+0.5**
	baz=279						
IRIF	**Iriomote-Funau**	**1.09**	**120**	*e*P	**Pb**	**21 47 49.3**	**-0.6**
NDT	**Datong Townshi**	**1.11**	**255**	P	**Pb**	**21 47 50.1**	**0.0**
	baz=255						
NDT				S	**Sn**	**21 48 05.3**	**+0.2**
	baz=255						
LATG	**Datong**	**1.12**	**252**	P	**Pb**	**21 47 50.1**	**-0.2**
	baz=252						
LATG				S	**Sg**	**21 48 05.3**	**-0.4**
	baz=252						
YHNB	**Yeheng**	**1.22**	**260**	*e*P	**Pb**	**21 47 52.1**	**+0.1**
	baz=260						
YHNB				*e*S	**Sb**	**21 48 06.7**	**-0.8**
	baz=260						
NACB	**Ninganchiao**	**1.23**	**235**	P	**Pn**	**21 47 51.9**	**+0.1**
	baz=234						
NACB				S	**Sb**	**21 48 07.9**	**+0.2**
	baz=234						
NSK	**Sanguang**	**1.23**	**260**	P	**Pb**	**21 47 52.2**	**0.0**
	baz=260						
NSK				S	**Sn**	**21 48 08.5**	**+0.3**
	baz=260						
NNSB	**Datong**	**1.28**	**249**	*e*P	**Pn**	**21 47 52.1**	**-0.4**
	baz=249						
NNSB				*e*S	**Sb**	**21 48 08.2**	**-1.0**
	baz=249						
NNS	**Nan Shan**	**1.28**	**250**	P	**Pg**	**21 47 53.8**	**-0.3**
	baz=249						
NNS				S	**Sn**	**21 48 09.8**	**+0.3**
	baz=249						
TWD	**Chiawan**	**1.28**	**231**	*e*P	**Pn**	**21 47 52.8**	**+0.3**
	baz=239						
TWD				S	**Sb**	**21 48 09.5**	**+0.2**
	baz=239						
ETLH	**Xiulin Townshi**	**1.29**	**239**	*e*P	**Pb**	**21 47 53.9**	**+0.6**
	baz=251						
ETLH				S	**Sn**	**21 48 10.3**	**+0.5**
	baz=251						
HATJ	**Hateruma jima**	**1.31**	**129**	*e*S	**Sn**	**21 48 09.3**	**-0.7**
JKRS	**Kuro-shima**	**1.36**	**118**	*e*P	**Pn**	**21 47 53.7**	**+0.1**
JIJ	**Ishigaki jima**	**1.42**	**111**	*e*P	**Pn**	**21 47 54.2**	**-0.2**
NFF	**Wufeng Townshi**	**1.45**	**260**	*e*P	**Pb**	**21 47 55.8**	**-0.2**
	baz=259						
NFF				*e*S	**Sg**	**21 48 15.7**	**-0.7**
	baz=259						
FUSS	**Fushou**	**1.47**	**244**	*e*P	**Pb**	**21 47 56.8**	**+0.5**
	baz=244						
FUSS				*e*S	**Sb**	**21 48 15.7**	**+0.9**
	baz=244						
WHF	**Hehuan Shan**	**1.50**	**241**	*e*P	**Pb**	**21 47 56.8**	**-0.2**
	baz=251						
WHF				*e*S	**Sb**	**21 48 15.9**	**+0.1**
	baz=251						
TWT	**Tachien**	**1.52**	**246**	*e*P	**Pb**	**21 47 56.9**	**-0.3**
	baz=246						
TDCB	**Techi**	**1.53**	**246**	*e*P	**Pn**	**21 47 56.9**	**+0.8**
	baz=246						
NSTT	**Nanjuang**	**1.56**	**261**	*e*P	**Pb**	**21 47 57.9**	**+0.1**
	baz=252						
ESL	**Shilin**	**1.57**	**227**	*e*P	**Pn**	**21 47 55.9**	**-0.6**
	baz=225						
ESL				*e*S	**Sn**	**21 48 15.0**	**-1.5**
	baz=225						
CHGB	**Renai**	**1.61**	**240**	*e*P	**Pb**	**21 47 58.8**	**-0.1**
	baz=240						
OWD	**Renai**	**1.67**	**236**	*e*P	**Pb**	**21 47 59.2**	**-0.5**
	baz=237						
WUSB	**Renai**	**1.69**	**238**	*e*P	**Pb**	**21 47 59.5**	**-0.7**
	baz=222						
HGSD	**Ruisui**	**1.81**	**220**	*e*P	**Pn**	**21 48 00.7**	**+0.9**
	baz=205						
VWDT	**VWDT**	**1.81**	**232**	*e*P	**Pn**	**21 48 00.9**	**+1.1**
	baz=216						
WCS	**Beigang Elemen**	**1.82**	**243**	*e*P	**Pn**	**21 48 00.9**	**+1.0**
	baz=226						
SMLT	**Sun Moon Lake**	**1.92**	**239**	*e*P	**Pb**	**21 48 03.7**	**-0.3**
	baz=221						
SSLB	**Suanglung**	**1.93**	**236**	*e*P	**Pn**	**21 48 02.8**	**+1.3**
	baz=218						
TYC	**Yuchr**	**1.94**	**240**	*e*P	**Pb**	**21 48 03.8**	**-0.5**
	baz=223						
YULB	**Yu-li**	**1.96**	**221**	*e*P	**Pn**	**21 48 01.2**	**-0.7**
	baz=220						
ALS	**Alishan**	**2.20**	**232**	*e*P	**Pn**	**21 48 06.4**	**+0.9**
	baz=215						

IDC 11 22:14:23.2±3.8,4°81S×151°58E,h0km,mb3.6/2, mbtmp3.6/2,Error ellipse: s-maj=155.2km s-min=47.8km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**227**	P	P	22 19 24.9	-0.1
	1.1nm,0.6s,baz=51,slow=10.0,SNR=18 1.1nm,0.6s						
ASAR	**Alice Springs**	**25.34**	**221**	P	P	22 19 52.1	+0.1
	1.1nm,0.8s,baz=45,slow=10,SNR=9.9 1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.15**	**288**	PKPbc	PKPbc	22 34 14.1	-0.6
	0.5nm,0.8s,baz=88,slow=2.4,SNR=6.5						

SCB 11 22:16:03.7±1.3,21°.37S×67°.25W,h216km,ML3.6/4, MW3.4,Error ellipse: s-maj=5.9km s-min=3.6km az=0.0
GUC 11 22:16:04.8±0.7,21°.41S×67°.45W,h211km±8km,ML3.9
IDC 11 22:16:08.2±7.7,20°.95S×66°.69W,h202km±27km,mb3.0/1, mbtmp3.5/3,MS3.0/1,Error ellipse: s-maj=209.3km s-min=23.6km az=59.0
VAO 11 22:16:08.9±0.8,21°.06S×66°.83W,h189km±11km,mb3.8
ISC 11 22:16:02.3±0.7,21°.38S±0°.04×67°.26W±0°.05,h203km±9km, n42,σ1°82/63,11C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.52**	**85**	P	**Pn**	**22 16 38.6**	**+1.6**
MOCB				S	**S**	**22 17 03.1**	**-0.3**
MOCB				IAML		22 17 07.4	
	136nm,0.3s						
YJA	**Yavi**	**1.81**	**116**	P	**Pn**	**22 16 40.9**	**+1.3**
PB09	**IPOC Station P**	**1.89**	**257**	⇑*i*P	**Pn**	**22 16 41.5**	**+1.3**
PB09				*i* S	**S**	**22 17 09.6**	**+0.5**
LVC	**Limon Verde**	**1.96**	**231**	⇑*i*P	**Pn**	**22 16 42.2**	**+1.1**
LVC				*i* S	**S**	**22 17 10.7**	**0.0**
LVC	**Limon Verde**	**1.96**	**231**	P	**Pn**	**22 16 42.3**	**+1.2**
PB01	**IPOC Station P**	**2.10**	**279**	⇓*i*P	**Pn**	**22 16 42.8**	**+0.5**
PB01				*i* S	**S**	**22 17 12.1**	**-0.7**
PB01				IAML		22 17 13.3	
	comp=N,429nm,0.3s						
PB02	**IPOC Station P**	**2.46**	**271**	⇓*i*P	**Pn**	**22 16 46.7**	**+0.6**
PB02				*i* S	**S**	**22 17 18.1**	**-1.5**
PB02	**IPOC Station P**	**2.46**	**271**	P	**Pn**	**22 16 46.9**	**+0.8**
PB02				S	**S**	**22 17 18.3**	**-1.3**
PB02				IAML		22 17 19.1	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**2.47**	**261**	⇑*i*P	**Pn**	**22 16 47.1**	**+0.9**
PB07				*i* S	**S**	**22 17 18.5**	**-1.4**
PB07				IAML		22 17 19.6	
	comp=N,602nm,0.3s						
GO01	**Chusmiza**	**2.49**	**313**	⇑*i*P	**Pn**	**22 16 48.3**	**+1.5**
GO01				IAML		22 17 27.2	
	comp=N,248nm,0.1s						
GO01	**Chusmiza**	**2.49**	**313**	P	**Pn**	**22 16 48.3**	**+1.5**
PB06	**IPOC Station P**	**2.52**	**238**	⇑*i*P	**Pn**	**22 16 47.4**	**+0.6**
PB06				*i* S	**S**	**22 17 20.6**	**-0.3**
PB06				IAML		22 17 22.0	
	comp=E,322nm,0.3s						
PB06	**IPOC Station P**	**2.52**	**238**	P	**Pn**	**22 16 47.5**	**+0.7**
PB06				S	**S**	**22 17 20.1**	**-0.8**
PB06				IAML		22 17 21.5	
	comp=E,190nm,0.5s						
PB15	**IPOC Station P**	**2.74**	**228**	⇑*i*P	**Pn**	**22 16 50.3**	**+1.0**
PB15				*i* S	**S**	**22 17 25.6**	**+0.1**
PB15	**IPOC Station P**	**2.74**	**228**	P	**Pn**	**22 16 50.4**	**+1.0**
PB04	**IPOC Station P**	**2.85**	**250**	⇑*i*P	**Pn**	**22 16 51.2**	**+0.7**
PB04				*i* S	**S**	**22 17 25.7**	**-1.9**
PB04				IAML		22 17 31.8	
	comp=N,230nm,0.2s						
PB04	**IPOC Station P**	**2.85**	**250**	P	**Pn**	**22 16 51.3**	**+0.7**
TA01	**Diego Aracena**	**2.85**	**286**	*e*P	**Pn**	**22 16 50.4**	**0.0**
TA01				*i* S	**S**	**22 17 24.9**	**-2.4**
TA01				IAML		22 17 25.9	
	comp=E,170nm,0.2s						
TA01	**Diego Aracena**	**2.85**	**286**	P	**Pn**	**22 16 50.4**	**0.0**
PB16	**IPOC Station P**	**3.69**	**325**	⇓*i*P	**Pn**	**22 17 02.9**	**+1.8**
PB16				*i* S	**S**	**22 17 47.7**	**+1.2**
PB16				IAML		22 17 49.5	
	comp=E,131nm,0.5s						
PB10	**IPOC Station P**	**3.71**	**235**	⇓*i*P	**Pn**	**22 17 01.1**	**+0.4**
PB10				*i* S	**S**	**22 17 43.6**	**-2.4**
PB10				IAML		22 17 48.4	
	comp=N,71nm,0.4s						
PB12	**IPOC Station P**	**3.99**	**313**	⇑*i*P	**Pn**	**22 17 03.5**	**-0.8**
PB12				*i* S	**S**	**22 17 49.0**	**-3.2**
PB12				IAML		22 17 56.0	
	comp=N,70nm,0.3s						
GO02	**Mina Guanaco**	**4.33**	**209**	⇑*i*P	**Pn**	**22 17 09.7**	**+1.1**
GO02				*i* S	**S**	**22 17 59.0**	**-1.3**
GO02	**Mina Guanaco**	**4.33**	**209**	P	**Pn**	**22 17 09.8**	**+1.1**
PB14	**IPOC Station P**	**4.34**	**221**	⇑*i*P	**Pn**	**22 17 09.5**	**+0.8**
PB14				*i* S	**S**	**22 17 57.1**	**-3.4**
PB14				IAML		22 18 00.2	
	comp=E,27nm,0.2s						
BBOE	**La Paz, Chanca**	**4.59**	**351**	P	**Pn**	**22 17 13.5**	**+1.2**
BBOE				IAML		22 18 14.3	
	comp=E,11nm,0.9s						
LPAZ	**La Paz**	**5.13**	**351**	P	**Pn**	**22 17 21.3**	**+2.1**
	comp=E,2.1nm,0.3s,baz=164,slow=7.4,SNR=23						
LPAZ				S	**S**	**22 18 19.3**	**0.0**
	comp=E,7.3nm,0.8s,baz=145,slow=19,SNR=9.2						
LPAZ	**La Paz**	**5.13**	**351**	P	**Pn**	**22 17 19.8**	**+0.6**
LPAZ	**La Paz**	**5.13**	**351**	*e*P	**Pn**	**22 17 21.9**	**+2.7**
AC01	**Pan de Azucar**	**5.65**	**212**	⇑*i*P	**Pn**	**22 17 24.8**	**-0.2**
AC01				*i* S	**S**	**22 18 26.1**	**-4.2**
BBSD	**Serra de San D**	**7.54**	**58**	P	**Pn**	**22 17 49.0**	**-0.7**
PTLB	**Pontes e Lacer**	**9.71**	**54**	*e*P	**Pn**	**22 18 17.9**	**+0.1**
PTLB				*e*S	**S**	**22 20 01.2**	**-5.5**
CPUP	**Villa Florida**	**10.34**	**120**	P	**Pn**	**22 18 28.8**	**+3.0**
	comp=E,0.9nm,0.4s,baz=301,slow=14,SNR=5.0						
CPUP	**Villa Florida**	**10.34**	**120**	*e*P	**P**	**22 18 30.2**	**-3.0**
CPUP				*e*S	**S**	**22 20 24.0**	**+2.3**
VILB	**Vilhena**	**10.76**	**40**	*e*P	**Pn**	**22 18 32.0**	**+0.7**
AQDB	**Aquidauana**	**10.84**	**87**	*e*P	**Pn**	**22 18 34.1**	**+1.7**
AQDB				*e*S	**S**	**22 20 31.2**	**-2.6**
SALV	**Santo Antonio**	**12.24**	**66**	*e*S	**S**	**22 21 02.2**	**-4.3**
PDRB	**Porto dos Gac**	**14.00**	**48**	*e*P	**Pn**	**22 19 12.7**	**+0.4**
SNDB	**Serra Nova Dou**	**17.91**	**61**	*e*P	**Pn**	**22 19 59.5**	**+0.2**
NPGB	**Novo Progresso**	**18.32**	**41**	*e*P	**P**	**22 20 03.3**	**+1.7**
PLCA	**Paso Flores**	**19.50**	**188**	LR	LR	22 29 43.4	
	comp=E,42nm,18.6s,baz=214,slow=41						
TORD	**Torodi Ar. Bea**	**75.87**	**70**	P	**P**	**22 27 29.2**	**+2.4**
	comp=E,0.2nm,0.4s,baz=255,slow=5.2,SNR=6.2 comp=E,0.2nm,0.4s						

ECX 11 22:32:12.3±0.5,27°.17N×112°.24W,h20km±3km,MD3.5, ML3.3
MEX 11 22:32:12.4±0.6,27°.11N×112°.31W,h5km,MD3.2
ISC 11 22:32:12.2±1.1,27°19N±0°04×112°21W±0°05,h18km±4km, n16,σ1°31/25,2C-5D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.13**	**346**	⇓*i*P	**Pg**	**22 32 16.1**	**-0.3**
	baz=198,slow=11						
SRIG				*e*S	**Sg**	**22 32 19.7**	**+0.6**
SRIG	**Santa Rosalia**	**0.13**	**346**	⇓*i*P	**Pg**	**22 32 16.1**	**-0.3**
SRIG				*e*S	**Sg**	**22 32 19.7**	**+0.6**
SRIG				IAML		22 32 24.5	
	comp=N,9μm,0.6s						
SRIG				IAML		22 32 29.7	
	comp=E,6μm,0.5s						
SNIRB	**San Nicol¡s**	**0.87**	**138**	⇑*e*P	**Pg**	**22 32 27.6**	**-1.6**
SNIRB				*e*S	**Sg**	**22 32 39.8**	**-0.9**
SFQB	**San Francisqui**	**1.34**	**334**	⇓*e*P	**Pn**	**22 32 34.8**	**-1.3**
GUYB	**Guaymas**	**1.38**	**59**	*e*P	**Pn**	**22 32 36.1**	**-0.4**
GUYB				*i* S	**Sn**	**22 32 54.6**	**+0.4**
GUYB	**Guaymas**	**1.38**	**59**	⇓*i*P	**Pn**	**22 32 36.2**	**-0.4**
GUYB				*e*S	**Sn**	**22 32 54.4**	**+0.1**
GUYB				IAML		22 32 56.0	
	comp=E,232nm,0.4s						
GUYB				IAML		22 32 56.1	
	comp=N,313nm,0.4s						
NE77	**Loreto B.C.S**	**1.39**	**147**	⇑*e*P	**Pn**	**22 32 35.1**	**-1.6**
NE77				IAML		22 33 01.1	
	comp=N,734nm,0.6s						
NE74	**Guerrero Negro**	**1.80**	**297**	*e*P	**Pn**	**22 32 42.5**	**+0.1**
BAHB	**Baha de los**	**2.12**	**326**	*e*P	**Pn**	**22 32 45.7**	**-1.0**
BAHB				*i* S	**Sn**	**22 33 12.1**	**-0.5**
BAHB	**Baha de los**	**2.12**	**326**	*e*P	**Pn**	**22 32 46.8**	**0.0**
HSIG		**2.13**	**31**	*e*P	**Pn**	**22 32 47.5**	**+0.6**
HSIG				*e*S	**Sn**	**22 33 12.7**	**-0.3**
HSIG		**2.13**	**31**	⇓*e*P	**Pn**	**22 32 47.4**	**+0.5**
NE80	**Navojoa**	**2.67**	**95**	*e*P	**Pn**	**22 32 54.4**	**+0.1**
LAPR	**La Primavera**	**3.30**	**358**	*i* P	**Pn**	**22 33 03.5**	**+0.5**
LAPR				*e*		22 33 48.5	
SLBS	**Sierra La Lagu**	**4.04**	**149**	*e*P	**Pn**	**22 33 15.0**	**+1.6**
SLBS				*e*S	**Sn**	**22 34 04.1**	**+3.9**
TUC	**Tucson**	**5.25**	**13**	*e*P	**Pn**	**22 33 32.0**	**+2.1**
TUC				*e*S	**Sn**	**22 34 28.4**	**-1.6**

IDC 11 22:32:23.2±1.6,12°.74N×144°.55E,h86km±15km,mb3.2/3, mbtmp3.5/3,Error ellipse: s-maj=59.4km s-min=25.5km az=102.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.90**	**20**	LR	LR	22 32 39.0	
	comp=Z,96nm,21.2s,baz=146,slow=18						
GUMO				P	Pn	22 32 42.0	+0.5
	314nm,0.2s,baz=163,slow=21,SNR=30						
GUMO				S	Sn	22 32 55.8	+0.7
	1μm,0.4s,baz=66,slow=23,SNR=48						
H11S3	**WAKE ISLAND Hy**	**22.07**	**72**	T	T	23 00 22.2	
	baz=258,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**22.08**	**72**	T	T	23 00 22.2	
	baz=258,slow=75,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**22.08**	**72**	T	T	23 00 22.2	
	baz=258,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**22.53**	**69**	T	T	23 00 56.8	
	baz=255,slow=75,SNR=47						
H11N2	**WAKE ISLAND Hy**	**22.54**	**69**	T	T	23 00 56.8	
	baz=255,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**22.55**	**69**	T	T	23 00 56.8	
	baz=255,slow=75,SNR=35						
WRA	**Warramunga Arr**	**34.00**	**197**	P	P	22 38 58.7	-0.3
	0.9nm,0.7s,baz=17,slow=9.4,SNR=6.4 0.9nm,0.7s						
MKAR	**Makanchi Array**	**61.88**	**316**	P	P	22 42 34.0	+0.2
	0.2nm,0.4s,baz=95,slow=8.6,SNR=4.7 0.2nm,0.4s						
ILAR	**Eielson Array**	**69.46**	**25**	P	P	22 43 21.9	-0.2
	0.2nm,0.6s,baz=243,slow=6.2,SNR=4.5 0.2nm,0.6s						

IDC 11 22:32:38.1±0.8,54°.56N×168°.78E,h0km,mb3.7/9, mbtmp3.7/11,ML3.5/2,Error ellipse: s-maj=28.7km s-min=16.6km az=173.0
KRSC 11 22:32:39.9±1.6,54°.29N×168°.10E,h8km±26km,ML4.1
ISC 11 22:32:39.0±0.8,54°.5N±0°.1×168°.61E±0°.06,h10km,n34, σ1°62/31,mb3.7/9,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.71**	**297**	*e*P	**Pn**	**22 33 06.9**	**-1.9**
BKI				*e*S	**Sn**	**22 33 27.6**	**-3.0**
SHEM	**Shemya Is, Ala**	**3.70**	**116**	Pn	Pn	22 33 34.5	-1.6
	17nm,0.3s,baz=6.3,slow=3.5,SNR=13						
SHEM				Sn	**Sn**	**22 34 18.6**	**-1.1**
	15nm,0.3s,baz=61,slow=24,SNR=6.9 37nm,0.4s						
KBTR	**Krutoberegovo**	**3.75**	**300**	*e*P	**Pn**	**22 33 37.3**	**+0.4**
SMKR	**Semkarok**	**4.59**	**301**	*e*P	**Pn**	**22 33 51.5**	**+3.0**
TUMR	**Tumrok**	**4.96**	**283**	*e*P	Pn	22 33 56.4	+2.8
TUMR				*e*S	**Sn**	**22 34 51.3**	**+0.2**
SPN	**Mys Shipunski**	**5.27**	**259**	*e*P	**Pn**	**22 33 58.3**	**+0.5**
SPN				*e*S	**Sn**	**22 34 55.3**	**-3.2**
SRDR	**Sredinnyy**	**5.41**	**294**	*e*P	Pn	22 34 03.6	+3.9
SDLR	**Sedlovina**	**5.87**	**262**	*e*P	**Pn**	**22 34 07.4**	**+1.2**
KRER	**Koryakskii**	**5.95**	**263**	*e*P	Pn	22 34 08.6	+1.4
KRX	**Arik**	**5.99**	**264**	*e*P	**Pn**	**22 34 08.9**	**+1.1**
KRX				*e*S	**Sn**	**22 35 15.9**	**-0.5**
KOK	**Koryaka**	**6.01**	**263**	*e*P	**Pn**	**22 34 09.3**	**+1.2**
DALK	**Dalny**	**6.02**	**260**	*e*S	**Sn**	**22 35 15.4**	**-1.5**
GNL	**Ganaly**	**6.33**	**268**	*e*P	**Pn**	**22 34 13.7**	**+1.3**
KRMR	**Karymshinskiy**	**6.44**	**260**	*e*P	**Pn**	**22 34 14.4**	**+0.6**
KRMR				*e*S	**Sn**	**22 35 26.3**	**-1.0**
MTVR	**Mutnovka**	**6.53**	**257**	*e*S	**Sn**	**22 35 26.5**	**-3.2**
GRL	**Gorelyy**	**6.57**	**257**	*e*P	Pn	22 34 17.5	+1.8
GRL				*e*S	**Sn**	**22 35 29.1**	**-1.5**
PETK	**Petropavlovsk-**	**6.61**	**263**	Pn	Pn	22 34 18.4	+2.3
	1.3nm,0.3s,baz=116,slow=17,SNR=11						
PETK				Sn	**Sn**	**22 35 31.6**	**+0.2**
	1.0nm,0.3s,baz=331,slow=33,SNR=4.5 2.8nm,0.5s						
ASAK	**Asacha**	**6.73**	**256**	*e*P	**Pn**	**22 34 18.6**	**+0.7**
ASAK				*e*S	**Sn**	**22 35 31.9**	**-2.6**
KDAK	**Kodiak Island**	**21.68**	**65**	P	**P**	**22 37 28.9**	**-0.7**
	5.0nm,0.6s,baz=280,slow=11,SNR=5.6 5.0nm,0.6s						
ILAR	**Eielson Array**	**24.23**	**47**	P	**P**	**22 37 54.9**	**-0.7**
	0.9nm,0.6s,baz=248,slow=8.0,SNR=14 0.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**34.68**	**183**	T	T	23 16 07.7	
	baz=1.5,slow=76,SNR=259						
H11N3	**WAKE ISLAND Hy**	**34.69**	**183**	T	T	23 16 06.2	
	baz=1.5,slow=76,SNR=208						
H11N1	**WAKE ISLAND Hy**	**34.70**	**183**	T	T	23 16 06.7	
	baz=1.5,slow=76,SNR=237						
H11S1	**WAKE ISLAND Hy**	**35.90**	**183**	T	T	23 17 38.7	
	baz=1.6,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy**	**35.92**	**183**	T	T	23 17 40.0	
	baz=1.6,slow=76,SNR=60						
H11S2	**WAKE ISLAND Hy**	**35.92**	**183**	T	T	23 17 39.9	
	baz=1.6,slow=76,SNR=128						
SONM	**Songino Array**	**38.44**	**287**	P	**P**	**22 40 02.1**	**+1.3**
	0.9nm,0.6s,baz=57,slow=8.0,SNR=9.2 0.9nm,0.6s						
NVAR	**Mina Array Bea**	**50.51**	**77**	P	**P**	**22 41 36.6**	**-0.8**
	0.3nm,0.5s,baz=305,slow=6.3,SNR=4.4 0.3nm,0.5s						
MKAR	**Makanchi Array**	**52.01**	**300**	P	**P**	**22 41 47.7**	**-0.6**
	0.4nm,0.6s,baz=43,slow=6.4,SNR=4.9 0.4nm,0.6s						
NB2	**NORSAR Subarra**	**63.47**	**348**	P	**P**	**22 43 08.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=15,slow=6.9						
NOA	**NORSAR Array B**	**63.47**	**348**	P	**P**	**22 43 08.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=16,slow=6.8,SNR=4.5 comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**65.42**	**74**	P	**P**	**22 43 22.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=301,slow=4.7,SNR=13 comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**79.70**	**213**	P	**P**	**22 44 48.0**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=22,slow=6.1,SNR=2.2 comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**83.33**	**212**	P	**P**	**22 45 07.9**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=23,slow=7.3,SNR=5.4 comp=Z,0.6nm,0.8s						

**ID

comp=Z,109nm,19.8s,baz=102,slow=32
5.4nm,0.8s
BOSA Boshof 31.29 262 P **P** **22 59 36.1 -1.0**
BOSA IAmb IAmb 23 00 12.9
comp=Z,21nm,1.4s
LBTB Lobatse 31.77 269 LR LR 23 10 00.2
comp=Z,50nm,21.1s,baz=107,slow=32
LSZ Lusaka 33.28 287 LR LR 23 12 23.6
comp=Z,43nm,18.1s,baz=176,slow=34
SUR Sutherland 34.60 254 P **P** **23 00 06.0 -0.2**
comp=Z,11nm,1.0s,baz=57,slow=11,SNR=2.5
SUR LR LR 23 11 52.1
comp=Z,118nm,18.5s,baz=115,slow=32
comp=Z,11nm,1.0s
SUR Sutherland 34.60 254 P **P** **23 00 05.9 -0.3**
KMBO Kilima Mbogo 35.93 317 LR LR 23 12 22.3
comp=Z,103nm,18.5s,baz=102,slow=32
MAW Mawson 38.52 179 P **P** **23 00 39.3 +0.4**
comp=Z,3.9nm,0.8s,baz=344,slow=10,SNR=6.8
MAW LR LR 23 12 40.3
comp=Z,104nm,18.2s,baz=10,slow=30
comp=Z,3.9nm,0.8s
MAW Mawson 38.52 179 P **P** **23 00 39.6 +0.7**
MBAR Mbarara 40.52 309 LR LR 23 16 09.8
comp=Z,78nm,19.6s,baz=123,slow=34
TSUM Tsumeb 40.68 274 P **P** **23 01 00.1 +2.4**
comp=Z,2.6nm,0.9s,baz=115,slow=17,SNR=2.5
TSUM LR LR 23 15 39.3
comp=Z,42nm,20.2s,baz=90,slow=33
comp=Z,2.6nm,0.9s
PALK Pallekele 40.84 31 LR LR 23 13 46.1
comp=Z,103nm,19.4s,baz=310,slow=30
ATD Arta Tunnel 44.09 334 LR LR 23 17 16.1
comp=Z,93nm,18.0s,baz=2.5,slow=33
H01W2 Cape Leeuwin H 44.94 112 T T 23 49 11.7
baz=261,slow=75,SNR=7.9
H01W3 Cape Leeuwin H 44.94 111 T T 23 49 11.9
baz=261,slow=75,SNR=7.0
H01W1 Cape Leeuwin H 44.95 112 T T 23 49 12.7
baz=261,slow=75,SNR=9.0
CASY Casey 47.71 155 P **P** **23 01 52.7 -0.6**
CASY IAmb IAmb 23 02 05.2
comp=Z,9.1nm,1.4s
WSAR Wadi Sarin 52.12 357 LR LR 23 19 01.1
comp=Z,40nm,20.3s,baz=198,slow=30
TROLL Troll, Antarti 52.97 199 P **P** **23 02 32.9 -0.3**
PSA00 Pilbara Seismi 53.20 96 P **P** **23 02 33.8 -1.6**
SNAA Sanae 54.46 200 P **P** **23 02 43.8 -0.2**
SNAA Sanae 54.46 200 P **P** **23 02 43.8 -0.2**
comp=Z,3.2nm,0.9s,baz=94,slow=9.3,SNR=18
SNAA LR LR 23 21 18.7
comp=Z,47nm,19.7s,baz=78,slow=31
comp=Z,3.2nm,0.9s
SNAA Sanae 54.46 200 P **P** **23 02 43.3 -0.7**
SNAA IAmb IAmb 23 02 44.6
comp=Z,5.2nm,1.1s
VNA2 Neumayer--Watz 55.73 202 P **P** **23 02 53.1 0.0**
baz=70,slow=6.0
VNA1 Neumayer--Stat 55.97 202 P **P** **23 02 54.4 -0.4**
VNA3 Neumayer Olymp 56.52 201 P **P** **23 02 58.5 -0.2**
BRDH Bariadhala 59.34 33 LR LR 23 24 44.1
comp=Z,45nm,20.7s,baz=270,slow=32
CM31 Chiang Mai Arr 59.80 42 P **P** **23 03 21.1 -1.2**
CMAR Chiang Mai Arr 59.80 42 P **P** **23 03 24.6 +2.2**
comp=Z,1.3nm,0.5s,baz=234,slow=6.8,SNR=6.0
CMAR LR LR 23 26 06.8
comp=Z,34nm,19.3s,baz=195,slow=33
comp=Z,1.3nm,0.5s
CMAR Chiang Mai Arr 59.80 42 P **P** **23 03 21.1 -1.2**
QSPA South Pole Qui 61.02 180 P **P** **23 03 29.9 -0.4**
comp=Z,3.8nm,0.7s,baz=270,slow=4.0,SNR=13
QSPA LR LR 23 26 09.7
comp=Z,82nm,21.4s,baz=295,slow=32
comp=Z,3.8nm,0.7s
QSPA South Pole Qui 61.02 180 P **P** **23 03 30.3 0.0**
VNDA Vanda 64.08 166 LR LR 23 29 57.0
comp=Z,110nm,18.1s,baz=259,slow=34
ASAR Alice Springs 64.53 104 P **P** **23 03 55.0 +0.7**
comp=Z,1.4nm,0.7s,baz=244,slow=6.3,SNR=13
comp=Z,1.4nm,0.7s
LSA Lhasa 65.17 29 P **P** **23 03 56.0 -2.7**
LSA IAmb IAmb 23 04 11.5
comp=Z,4.5nm,1.1s
WRA Warramunga Arr 66.36 100 P **P** **23 04 06.9 +0.8**
comp=Z,1.5nm,0.9s,baz=245,slow=5.7,SNR=8.4
comp=Z,1.5nm,0.9s
WRA Warramunga Arr 66.36 100 P **P** **23 04 05.3 -0.8**
WB2 Warramunga Arr 66.37 100 P **P** **23 04 06.6 +0.4**
WB0 Warramunga Arr 66.47 100 P **P** **23 04 07.1 +0.2**
WB0 IAmb IAmb 23 04 29.8
comp=Z,8.7nm,1.2s
GEYT Alibeck 66.77 357 LR LR 23 30 32.2
comp=Z,35nm,20.5s,baz=164,slow=33
GNI Garni 70.58 347 LR LR 23 33 50.1
comp=Z,53nm,20.0s,baz=174,slow=34
TOA0 Torodi Ar. Sit 71.05 298 P **P** **23 04 33.3 -2.0**
TOA0 IAmb IAmb 23 04 46.6
comp=Z,7.2nm,1.1s
TORD Torodi Ar. Bea 71.05 298 P **P** **23 04 36.6 +1.3**
comp=Z,1.8nm,0.8s,baz=128,slow=4.3,SNR=8.4
comp=Z,1.8nm,0.8s
TORD Torodi Ar. Bea 71.05 298 P **P** **23 04 32.8 -2.5**
TORD IAmb IAmb 23 04 35.3
comp=Z,6.6nm,0.7s
BRTR Keskin Array B 73.11 338 P **P** **23 04 49.3 +2.0**
comp=Z,1.2nm,1.0s,baz=190,slow=4.1,SNR=5.1
BRTR LR LR 23 34 02.0
comp=Z,24nm,20.2s,baz=135,slow=33
comp=Z,1.2nm,1.0s
KBZ Khabaz 74.39 346 LR LR 23 35 39.4
comp=Z,63nm,21.8s,baz=156,slow=34
KOWA Kowa 76.31 295 LR LR 23 38 13.5
comp=Z,40nm,18.6s,baz=102,slow=35
COEN Coen 76.55 99 P **P** **23 05 06.7 -1.0**
COEN IAmb IAmb 23 05 48.0
comp=Z,10nm,1.1s
PMSA Palmer Station 77.17 201 LR LR 23 32 35.0
comp=Z,34nm,21.0s,baz=126,slow=31
MKAR Makanchi Array 77.97 15 P **P** **23 05 17.1 +2.2**
comp=Z,0.6nm,0.7s,baz=193,slow=5.9,SNR=2.7
comp=Z,0.6nm,0.7s
ABKAR Akbulak array 78.04 359 P **P** **23 05 14.0 -1.2**
AKTO Aktyubinsk 79.26 358 LR LR 23 37 21.6
comp=Z,38nm,20.5s,baz=186,slow=33
VAE Valguarnera 79.38 324 LR LR 23 44 06.0
comp=Z,27nm,18.2s,baz=138,slow=38
BELG Belogornoye 82.03 352 LR LR 23 45 20.9
comp=Z,23nm,18.0s,baz=111,slow=38
BVAR Borovoye Array 82.21 6 LR LR 23 39 15.0
comp=Z,40nm,20.1s,baz=196,slow=34
AKASG Malin Array Be 84.33 340 P **P** **23 05 49.1 +0.5**
comp=Z,0.2nm,0.3s,baz=156,slow=3.9,SNR=2.4
comp=Z,0.2nm,0.3s
ZALV Zalesovo Beam 85.26 14 P **P** **23 05 55.3 +2.2**
comp=Z,0.9nm,0.6s,baz=201,slow=6.2,SNR=4.7
ZALV LR LR 23 40 18.1
comp=Z,33nm,20.4s,baz=74,slow=33
comp=Z,0.9nm,0.6s
OBN Obninsk 86.50 346 LR LR 23 44 57.6
comp=Z,10nm,18.6s,baz=9.5,slow=36
SONM Songino Array 86.76 29 P **P** **23 06 02.3 +1.3**
comp=Z,0.8nm,1.0s,baz=238,slow=2.7,SNR=4.6
SONM LR LR 23 42 25.3
comp=Z,40nm,21.3s,baz=241,slow=34
comp=Z,0.8nm,1.0s
VRAC Vranov 87.57 333 LR LR 23 44 27.9
comp=Z,19nm,19.0s,baz=248,slow=35
MDT Midelt 87.57 310 LR LR 23 46 17.0
comp=Z,34nm,18.2s,baz=119,slow=36
ESDC Sonseca Array 91.31 316 P **P** **23 06 25.9 +3.3**
comp=Z,0.7nm,1.0s,baz=122,slow=3.3,SNR=4.2
comp=Z,0.7nm,1.0s
RCBR Riachuelo 93.25 262 LR LR 23 42 07.5
comp=Z,32nm,19.0s,baz=306,slow=32
FINES FINESS Array B 94.61 344 LR LR 23 49 01.1
comp=Z,16nm,21.2s,baz=358,slow=35
PLCA Paso Flores 97.28 215 LR LR 23 46 47.6
comp=Z,15nm,18.4s,baz=147,slow=33
NOA NORSAR Array B 98.54 338 LR LR 23 51 11.6
comp=Z,15nm,19.4s,baz=355,slow=35
YKA Yellowknife Ar 146.51 356 PKPbc **PKPab** **23 12 58.3 -0.2**
comp=Z,1.2nm,0.8s,baz=350,slow=3.4,SNR=3.0

WEL 11 23:02:39.4±0.8, 36°S±7°×17°8E±°, h202km±7km, M3.6/30, mB4.0/1, ML3.9/30, MLv3.6/30, Mw(mB)3.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=104.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.57**	**184**	P		Pn	23 03 13.2	-0.5
MXZ				S		S	23 03 39.4	-0.9
WMGZ	**Waiomatatini S**	**1.82**	**180**	P		Pn	23 03 16.9	+0.7
WMGZ				S		S	23 03 45.8	+1.3
HAZ	**Te Kaha**	**1.83**	**196**	P		Pn	23 03 15.7	-0.6
HAZ				S		S	23 03 43.9	-0.8
PKGZ	**Pakihiroa**	**1.91**	**188**	P		Pn	23 03 17.3	+0.2
PKGZ				S		S	23 03 46.5	+0.3
RUGZ	**Raukumara Rang**	**2.06**	**197**	P		Pn	23 03 18.4	-0.2
PUZ	**Puketiti**	**2.08**	**184**	P		Pn	23 03 19.4	+0.6
MYRZ	**Mayor Island**	**2.18**	**233**	P		Pn	23 03 19.1	-0.7
TWGZ	**Tauwhareparae**	**2.21**	**189**	P		Pn	23 03 21.0	+0.8
TWGZ				S		S	23 03 53.7	+2.1
KUZ	**Kuaotunu**	**2.31**	**250**	P		Pn	23 03 19.1	-2.1
MWZ	**Matawai**	**2.44**	**197**	P		Pn	23 03 23.0	+0.3
MWZ				S		S	23 03 56.5	+0.4
TKGZ	**Te Karaka**	**2.48**	**191**	P		Pn	23 03 23.5	+0.4
TKGZ				S		S	23 03 57.4	+0.6
CNGZ	**Carnagh Statio**	**2.49**	**184**	P		Pn	23 03 24.0	+0.8
URZ	**Urewera**	**2.50**	**205**	P		Pn	23 03 23.1	-0.1
RAGZ	**Rawiri**	**2.62**	**198**	P		Pn	23 03 25.4	+0.6
RIGZ	**Rimuhau**	**2.76**	**191**	P		Pn	23 03 26.5	+0.2
RIGZ				S		S	23 04 02.8	+0.3
MUGZ	**Murupara**	**2.81**	**208**	P		Pn	23 03 27.2	+0.3
MUGZ				S		S	23 04 04.9	+1.5
MKAZ	**Moumakai**	**2.86**	**246**	P		Pn	23 03 26.5	-0.8
SNGZ	**Shannon Statio**	**2.91**	**197**	P		Pn	23 03 28.5	+0.4
SNGZ				S		S	23 04 07.5	+1.9
TOZ	**Tahuroa Road**	**2.92**	**233**	P		Pn	23 03 29.4	+1.3
PRGZ	**Paritu Road**	**2.96**	**188**	P		Pn	23 03 28.8	+0.3
KNZ	**Kokohu**	**3.08**	**191**	P		Pn	23 03 29.9	-0.1
KNZ				S		S	23 04 07.8	-1.3
RAHZ	**Arahi**	**3.11**	**200**	P		Pn	23 03 30.6	+0.2
RAHZ				S		S	23 04 10.9	+1.2
MTHZ	**Maungataniwha**	**3.12**	**203**	P		Pn	23 03 30.3	-0.2
MTHZ				S		S	23 04 10.6	+0.5
MHGZ	**Mahia Peninsul**	**3.18**	**187**	P		Pn	23 03 31.6	+0.4
WHHZ	**Waihua**	**3.22**	**197**	P		Pn	23 03 32.3	+0.6
WHHZ				S		S	23 04 13.1	+1.0
NMHZ	**Naumai**	**3.35**	**202**	P		Pn	23 03 33.9	+0.5
NMHZ				S		S	23 04 17.4	+2.3
ARHZ	**Aropaoanui**	**3.46**	**199**	P		Pn	23 03 34.5	0.0
ARHZ				S		S	23 04 18.3	+1.2
BKZ	**Black Stump Fm**	**3.52**	**205**	P		Pn	23 03 35.5	+0.2
KWHZ	**Kaweka Forest**	**3.78**	**204**	P		Pn	23 03 38.4	-0.1
KWHZ				S		S	23 04 25.5	+1.2
TMVZ	**Te Maari**	**3.79**	**214**	P		Pn	23 03 39.4	+0.6
ETVZ	**East Tongariro**	**3.81**	**214**	P		Pn	23 03 39.5	+0.6
WTVZ	**West Tongariro**	**3.85**	**215**	P		Pn	23 03 40.3	+0.9
NNVZ	**North Ngauruho**	**3.85**	**215**	P		Pn	23 03 41.8	+2.4
OTVZ	**Oturere**	**3.85**	**214**	P		Pn	23 03 40.1	+0.6
SNVZ	**South Ngauruho**	**3.88**	**214**	P		Pn	23 03 40.5	+0.6
TWVZ	**Taurewa**	**3.88**	**217**	P		Pn	23 03 41.2	+1.4
NGZ	**Ngauruhoe**	**3.89**	**214**	P		Pn	23 03 40.6	+0.6
BHHZ	**Black Hill Sta**	**3.96**	**208**	P		Pn	23 03 40.4	-0.3
KAHZ	**Kahuranaki**	**3.99**	**198**	P		Pn	23 03 40.9	-0.1
MOVZ	**Moawhango**	**4.01**	**211**	P		Pn	23 03 40.8	-0.7
PXZ	**Pawanui**	**4.21**	**197**	P		Pn	23 03 42.9	-0.9
PNHZ	**Pukenui**	**4.29**	**204**	P		Pn	23 03 43.9	-1.0
PRHZ	**Porangahau**	**4.49**	**198**	P		Pn	23 03 46.4	-1.0
TSZ	**Takapari Road**	**4.50**	**205**	P		Pn	23 03 46.6	-0.9
BFZ	**Birch Farm**	**4.99**	**200**	P		Pn	23 03 52.8	-0.7
MRZ	**Mangatainoka R**	**5.17**	**205**	P		Pn	23 03 54.4	-1.5
HOWZ	**Holdsworth Sta**	**5.40**	**204**	P		Pn	23 03 57.3	-1.6
OGWZ	**Otaki Gorge**	**5.45**	**207**	P		Pn	23 03 57.8	-1.7
TMWZ	**Te Maipa**	**5.48**	**201**	P		Pn	23 03 58.0	-1.9

TAP ***11*** *23:24:12.6, 24.°45N×121.°96E, h12km, ML2.8, C*
JMA ***11*** *23:24:12.6±0.1, 24.°4N±0.°3×121.°9E±0.°3, h36km±1km, MV2.3/9, TAIWAN REGION*
ISC 11 23:24:12.0±0.9, 24.°45N±0.°02×121.°97E±0.°02, h12km±6km, n71, σ0°69/122, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.18**	**269**	P		**Pg**	**23 24 15.7**	**-0.3**
EWUT	baz=276			S		**Sg**	**23 24 18.4**	**-0.3**
TWC	**Suao**	**0.19**	**325**	*i* P		**Pg**	**23 24 16.9**	**+0.6**
TWC	baz=336			S		**Sg**	**23 24 19.6**	**+0.3**
ENA	**Nanau**	**0.21**	**264**	*i* P		**Pg**	**23 24 17.1**	**+0.6**
ENA	baz=269			S		**Sg**	**23 24 20.3**	**+0.7**
NDS	**Dongshan**	**0.30**	**308**	*e*P		**Pg**	**23 24 16.6**	**-1.5**
NDS	baz=309			*e*S		**Sg**	**23 24 20.1**	**-2.1**
TWE	**Neicheng**	**0.39**	**314**	*e*P		**Pb**	**23 24 20.6**	**-0.3**
EGS	baz=316	**0.40**	**355**	*i* P		**Pb**	**23 24 21.0**	**0.0**
EGS	baz=349			S		**Sb**	**23 24 26.0**	**-1.0**
LATG	**Datong**	**0.41**	**282**	P		**Pb**	**23 24 21.1**	**-0.2**
LATG	baz=282			S		**Sb**	**23 24 26.8**	**-0.9**
ENTT	**Nioudou**	**0.41**	**297**	*e*P		**Pg**	**23 24 20.2**	**-0.1**
ENTT	baz=298			*e*S		**Sg**	**23 24 25.7**	**-0.1**
NTC	**Toucheng**	**0.42**	**342**	P		**Pb**	**23 24 21.4**	**-0.1**
NTC	baz=342			*e*S		**Sb**	**23 24 28.0**	**+0.2**
ETL	**Fush Village**	**0.43**	**228**	*e*P		**Pb**	**23 24 21.0**	**-0.6**
ETL	baz=227			*e*S		**Sb**	**23 24 27.1**	**-0.9**
NACB	**Ninganchiao**	**0.44**	**231**	P		**Pb**	**23 24 21.1**	**-0.6**
NACB	baz=231			S		**Sb**	**23 24 27.3**	**-1.0**
NDT	**Datong Townshi**	**0.45**	**290**	*i* P		**Pb**	**23 24 21.8**	**-0.1**
NDT	baz=290			S		**Sb**	**23 24 27.8**	**-0.7**
FUSB	**Fushanzhiwuyua**	**0.47**	**312**	*i* P		**Pb**	**23 24 22.2**	**0.0**
FUSB	baz=312			S		**Sb**	**23 24 28.8**	**-0.4**
TWD	**Chiawan**	**0.50**	**223**	P		**Pb**	**23 24 22.2**	**-0.6**
TWD	baz=222			*e*S		**Sb**	**23 24 29.1**	**-1.0**
ETLH	**Xiulin Townshi**	**0.51**	**242**	*e*P		**Pb**	**23 24 22.5**	**-0.5**
ETLH	baz=241			*e*S		**Sb**	**23 24 30.2**	**-0.1**
NNSB	**Datong**	**0.54**	**268**	*i* P		**Pb**	**23 24 23.2**	**-0.2**
NNSB	baz=268			S		**Sb**	**23 24 30.4**	**-0.8**
NNSH	**Datong**	**0.54**	**268**	*i* P		**Pb**	**23 24 23.2**	**-0.2**
NNSH	baz=268			S		**Sb**	**23 24 30.2**	**-1.0**
TIPB	**Shuangxi**	**0.54**	**346**	*e*P		**Pb**	**23 24 23.5**	**+0.1**
TIPB	baz=353			*e*S		**Sb**	**23 24 31.0**	**-0.2**
NNS	**Nan Shan**	**0.55**	**269**	*e*P		**Pg**	**23 24 22.4**	**-0.3**
NNS	baz=269			*e*S		**Sg**	**23 24 29.6**	**-0.3**
TWB1	**Santiao Chiao**	**0.56**	**2**	*e*P		**Pb**	**23 24 24.3**	**+0.5**
YHNB	**Yeheng**	**0.58**	**292**	P		**Pb**	**23 24 24.6**	**+0.3**
YHNB	baz=292			S		**Sg**	**23 24 30.6**	**-0.6**
NSK	**Sanguang**	**0.60**	**292**	*e*P		**Pb**	**23 24 24.2**	**-0.3**
NSK	baz=297			*e*S		**Sg**	**23 24 31.5**	**-0.3**
TWA	**Mucha**	**0.64**	**326**	*e*S		**Sb**	**23 24 34.8**	**+0.8**
NWF	**Wu-fen Shan**	**0.64**	**344**	P		**Pb**	**23 24 26.0**	**+0.7**
NWF	baz=333			*e*S		**Sb**	**23 24 35.3**	**+1.1**
WFSB	**Wu-fen Shan**	**0.64**	**344**	*e*P		**Pn**	**23 24 26.2**	**-0.8**
WFSB	baz=333			*e*S		**Sb**	**23 24 34.3**	**+0.1**
SXI1	**Grass Mountain**	**0.65**	**352**	P		**Pb**	**23 24 25.9**	**+0.6**
SXI1	baz=359			*e*S		**Sb**	**23 24 35.6**	**+1.2**
ETM	**Tongmen**	**0.65**	**222**	P		**Pb**	**23 24 25.1**	**-0.2**
ETM	baz=222			S		**Sb**	**23 24 33.8**	**-0.5**
TATO	**Taipei**	**0.68**	**320**	*e*P		**Pn**	**23 24 26.9**	**-0.6**
TATO	baz=309			*e*S		**Sb**	**23 24 35.3**	**0.0**
FUSS	**Fushou**	**0.69**	**253**	*e*P		**Pb**	**23 24 26.3**	**+0.1**
FUSS	baz=253			*e*S		**Sb**	**23 24 36.0**	**+0.2**
WHF	**Hehuan Shan**	**0.71**	**245**	P		**Pb**	**23 24 26.4**	**-0.2**
WHF	baz=244			*e*S		**Sb**	**23 24 35.9**	**-0.6**
TNOU	**National Taiwa**	**0.72**	**346**	*e*P		**Pn**	**23 24 27.6**	**-0.5**
TWT	**Tachien**	**0.75**	**255**	*e*P		**Pn**	**23 24 27.7**	**-0.9**
TWT	baz=255			*e*S		**Sb**	**23 24 38.3**	**+0.9**
TDCB	**Techi**	**0.77**	**255**	*e*P		**Pb**	**23 24 27.8**	**+0.4**
TDCB	baz=255			*e*S		**Sb**	**23 24 37.6**	**-0.2**
YM01	**YM01**	**0.78**	**332**	*e*P		**Pn**	**23 24 29.1**	**+0.1**
NFF	**Wufeng Townshi**	**0.80**	**283**	P		**Pb**	**23 24 27.8**	**-0.1**
NFF	baz=283			*e*S		**Sb**	**23 24 37.9**	**-0.8**
ESL	**Shilin**	**0.80**	**218**	*e*P		**Pb**	**23 24 27.9**	**0.0**
TWS1	**Kuangyinshan**	**0.82**	**322**	*e*P		**Pn**	**23 24 30.0**	**+0.6**
CHGB	**Renai**	**0.82**	**242**	*e*P		**Pn**	**23 24 28.6**	**+0.2**
CHGB	baz=253			*e*S		**Sb**	**23 24 40.3**	**+0.7**
ANP	**Anpu**	**0.84**	**331**	*e*P		**Pn**	**23 24 29.9**	**+0.1**
OWD	**Renai**	**0.88**	**236**	*e*P		**Pb**	**23 24 29.5**	**+0.2**
OWD	baz=236			*e*S		**Sb**	**23 24 40.8**	**-0.2**
NCU	**National Centr**	**0.88**	**306**	*e*P		**Pg**	**23 24 28.6**	**-0.5**
NCUH	**Zhongli**	**0.88**	**306**	*e*P		**Pn**	**23 24 32.0**	**+1.7**
JYNG	**Yonagunijimaku**	**0.89**	**90**	P		**Pb**	**23 24 29.4**	**+0.1**
JYNG				S		**Sb**	**23 24 41.5**	**+0.4**
TWY	**Chenhua**	**0.89**	**338**	*e*P		**Pn**	**23 24 31.0**	**+0.6**
TWY	baz=337			*e*S		**Sb**	**23 24 42.2**	**+1.0**
LIOB	**Emei**	**0.89**	**283**	*e*P		**Pn**	**23 24 30.8**	**+0.4**
NSTT	**Nanjuang**	**0.90**	**282**	*e*P		**Pn**	**23 24 30.7**	**+0.2**
NSTT	baz=282			*e*S		**Sb**	**23 24 42.4**	**+0.8**
WUSB	**Renai**	**0.90**	**240**	P		**Pn**	**23 24 30.1**	**-0.5**
WUSB	baz=248			*e*S		**Sb**	**23 24 42.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.95**	**89**	*i* P		**Pb**	**23 24 30.2**	**-0.1**
YOJ	baz=89			*i* S		**Sn**	**23 24 44.2**	**-0.4**
YOJ	**Yonaguni jima**	**0.95**	**89**	P		**Pb**	**23 24 30.4**	**0.0**
YOJ				S		**Sb**	**23 24 43.5**	**+0.6**
WHP	**Taichung City**	**0.95**	**260**	*e*P		**Pn**	**23 24 31.7**	**+0.4**
WHP	baz=260			*e*S		**Sn**	**23 24 43.9**	**-0.9**
SBCB	**Hsinchu**	**0.96**	**291**	P		**Pn**	**23 24 31.4**	**0.0**
WPL	**Puli Township**	**1.02**	**245**	*e*P		**Pn**	**23 24 32.7**	**+0.5**
WPL	baz=245			*e*S		**Sn**	**23 24 46.7**	**+0.2**
VWDT	**VWDT**	**1.03**	**228**	*e*P		**Pn**	**23 24 32.5**	**+0.2**
VWDT	baz=234			*e*S		**Sn**	**23 24 47.1**	**+0.5**
DPDB	**Guoxing**	**1.04**	**247**	*e*P		**Pn**	**23 24 33.1**	**+0.6**
DPDB	baz=247			*e*S		**Sn**	**23 24 47.0**	**0.0**
WCS	**Beigang Elemen**	**1.04**	**248**	*e*P		**Pn**	**23 24 32.2**	**-0.3**
WCS	baz=248			*e*S		**Sb**	**23 24 45.7**	**+0.1**
HGSD	**Ruisui**	**1.08**	**208**	*e*P		**Pn**	**23 24 34.3**	**+1.3**
NSY	**Sanyi**	**1.10**	**269**	*e*P		**Pn**	**23 24 36.4**	**+3.1**
EHY	**Hungye**	**1.11**	**212**	*e*P		**Pn**	**23 24 34.1**	**+0.6**
EHY	baz=225			*e*S		**Sn**	**23 24 48.1**	**-0.6**
SMLT	**Sun Moon Lake**	**1.13**	**240**	*e*P		**Pn**	**23 24 34.3**	**+0.5**
SMLT	baz=248			*e*S		**Sn**	**23 24 49.7**	**+0.4**
SSLB	**Suanglung**	**1.14**	**235**	P		**Pn**	**23 24 34.3**	**+0.4**
SSLB	baz=243			*e*S		**Sb**	**23 24 48.4**	**-0.1**
TYC	**Yuchr**	**1.15**	**242**	*e*P		**Pn**	**23 24 34.7**	**+0.7**
YULB	**Yu-li**	**1.22**	**211**	*e*P		**Pn**	**23 24 35.7**	**+0.7**
YULB	baz=213			*e*S		**Sn**	**23 24 53.2**	**+1.8**
TWF1	**Yuli**	**1.25**	**210**	*e*P		**Pg**	**23 24 35.8**	**-0.4**
WHYT	**Xinyi Township**	**1.27**	**234**	*e*P		**Pg**	**23 24 37.2**	**+0.9**
ALS	**Alishan**	**1.42**	**229**	*e*P		**Pg**	**23 24 39.8**	**+0.5**
EDH	**Donghe**	**1.59**	**203**	*e*P		**Pb**	**23 24 41.0**	**-0.3**
EDH	baz=191			*e*S		**Sn**	**23 25 00.4**	**-0.1**
IRIF	**Iriomote-Funau**	**1.61**	**94**	P		**Pn**	**23 24 39.6**	**-0.6**
STYH	**Taoyuan**	**1.68**	**221**	*e*P		**Pg**	**23 24 44.1**	**-0.1**
STYH	baz=223			*e*S		**Sg**	**23 25 06.8**	**+0.7**
JKRS	**Kuro-shima**	**1.87**	**96**	*e*P		**Pn**	**23 24 44.1**	**+0.2**
JKRS				*e*S		**Sn**	**23 25 07.1**	**-0.3**
JIJ	**Ishigaki jima**	**1.98**	**92**	P		**Pn**	**23 24 45.2**	**-0.2**
JIJ				*e*S		**Sn**	**23 25 09.1**	**-1.0**
JTJ	**Tarama**	**2.49**	**85**	P		**Pn**	**23 24 52.7**	**+0.3**

NEIC ***11*** *23:43:14.7±2.0, 17.°0S±0.°2×178.°83W±0.°10, h571km±10km, mb4.3/18, Error ellipse: s-maj=25.6km s-min=13.2km az=169.0*
IDC ***11*** *23:43:17.3±2.7, 16.°75S×179.°43W, h570km±19km, mb3.2/4, mbtmp4.2/5, Error ellipse: s-maj=132.3km s-min=23.9km az=143.0*
ISC 11 23:43:14.4±0.6, 17.°0S±0.°1×178.°86W±0.°09, h571km, n46, σ0°88/46, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.04**	**256**	P		**P**	**23 44 32.0**	**+0.6**
	135nm,0.8s,baz=123,slow=22,SNR=64							
MSVF	**Nonsavu**	**3.04**	**256**	P		**P**	**23 44 31.8**	**+0.3**
NIUE	**Niue**	**8.74**	**105**	P		**P**	**23 45 18.4**	**-1.6**
RAR	**Rarotonga**	**18.51**	**106**	P		**P**	**23 46 56.7**	**+0.7**

PLWZ	**Palliser**	**24.99**	**190**	P	**P**	**23 47 57.0**	**+3.2**
RABL	**Rabaul**	**31.14**	**291**	P	**P**	**23 48 46.2**	**-1.5**
COEN	**Coen**	**36.68**	**269**	P	**P**	**23 49 34.5**	**+0.4**
COEN				IAmb	IAmb	23 49 55.4	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**38.69**	**240**	P	**P**	**23 49 49.9**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=88,slow=7.7,SNR=3.6						
	comp=Z,1.4nm,0.5s						
STKA	**Stephens Creek**	**38.69**	**240**	P	**P**	**23 49 49.8**	**-0.4**
BBOO	**Buckleboo**	**43.47**	**240**	P	**P**	**23 50 27.1**	**-0.9**
BBOO				IAmb	IAmb	23 50 27.8	
	comp=Z,19nm,1.1s						
WR0	**Warramunga Arr**	**44.19**	**259**	P	**P**	**23 50 33.9**	**+0.1**
WR0				IAmb	IAmb	23 51 14.7	
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**44.34**	**259**	P	**P**	**23 50 34.0**	**-1.0**
WB0				IAmb	IAmb	23 50 58.4	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**44.37**	**259**	P	**P**	**23 50 34.3**	**-0.8**
WRAB	**Tennant Creek**	**44.37**	**259**	P	**P**	**23 50 34.7**	**-0.4**
WRAB				IAmb	IAmb	23 50 35.0	
	comp=Z,8.2nm,0.7s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**23 50 34.2**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=96,slow=7.1,SNR=46						
	comp=Z,1.3nm,0.6s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**23 50 34.2**	**-1.0**
AS31	**Alice Springs**	**44.62**	**253**	P	**P**	**23 50 36.7**	**-0.4**
AS31				IAmb	IAmb	23 50 37.2	
	comp=Z,4.4nm,0.6s						
ASAR	**Alice Springs**	**44.63**	**253**	P	**P**	**23 50 36.6**	**-0.5**
	comp=Z,13nm,0.6s,baz=88,slow=8.1,SNR=186						
	comp=Z,13nm,0.6s						
ASAR	**Alice Springs**	**44.63**	**253**	P	**P**	**23 50 36.4**	**-0.7**
FORT	**Forrest**	**50.01**	**244**	P	**P**	**23 51 16.0**	**-1.3**
KNRA	**Kununurra**	**50.16**	**264**	P	**P**	**23 51 19.1**	**+0.5**
KNRA				IAmb	IAmb	23 51 32.5	
	comp=Z,8.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.76**	**260**	P	**P**	**23 51 37.8**	**+0.6**
PSA00	**Pilbara Seismi**	**57.72**	**255**	P	**P**	**23 52 11.6**	**-0.1**
MBWA	**Marble Bar**	**57.88**	**255**	P	**P**	**23 52 12.4**	**-0.3**
MBWA				IAmb	IAmb	23 52 56.0	
	comp=Z,30nm,1.5s						
GIRL	**Giralia**	**62.74**	**253**	P	**P**	**23 52 45.2**	**+0.3**
QSPA	**South Pole Qui**	**73.03**	**180**	P	**P**	**23 53 46.2**	**-0.5**
QSPA				IAmb	IAmb	23 53 50.3	
	comp=Z,8.5nm,1.4s						
KMRM	**Mail Ridge**	**76.61**	**40**	P	**P**	**23 54 07.0**	**-0.1**
KMRM				IAmb	IAmb	23 54 50.0	
	comp=Z,28nm,1.4s						
ILAR	**Eielson Array**	**85.12**	**13**	P	**P**	**23 54 51.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=225,slow=5.4,SNR=4.4						
	comp=Z,0.3nm,0.5s						
TROLL	**Troll, Antarti**	**91.19**	**180**	P	**P**	**23 55 18.1**	**-0.8**
SNAA	**Sanae**	**91.49**	**179**	P	**P**	**23 55 19.0**	**-1.1**
VNA3	**Neumayer Olymp**	**91.65**	**177**	P	**P**	**23 55 19.8**	**-1.0**
VNA2	**Neumayer--Watz**	**92.08**	**177**	P	**P**	**23 55 22.0**	**-0.7**
	baz=199,slow=1.2						
BRTR	**Keskin Array B**	**143.85**	**315**	PKP	**PKPdf**	**00 01 46.9**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=55,slow=2.5,SNR=7.5						
GERES	**GERESS Array B**	**146.65**	**345**	PKPbc	**PKiKP**	**00 01 54.6**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=44,slow=3.1,SNR=13						
CONA	**Conrad Observa**	**146.89**	**342**	*e*P	**PKiKP**	**00 01 55.7**	**+0.4**
	comp=Z,2.5nm,0.6s						
RONA	**Rosalia, Austr**	**146.96**	**341**	*e*P	**PKiKP**	**00 01 55.6**	**+0.2**
	comp=Z,2.5nm,0.8s						
ARSA	**Arzberg**	**147.60**	**342**	*e*P	**PKiKP**	**00 01 57.2**	**+0.6**
	comp=Z,0.8nm,0.5s						
SOKA	**Soboth**	**148.26**	**342**	*e*P	**PKiKP**	**00 01 58.2**	**+0.1**
	comp=Z,0.9nm,0.5s						
KBA	**Koelnbreinsper**	**148.37**	**344**	*e*P	**PKiKP**	**00 01 58.3**	**-0.2**
	comp=Z,1.3nm,0.5s						
WATA	**Walderalm**	**148.56**	**346**	*i* P	**PKiKP**	**00 01 58.9**	**+0.1**
	comp=Z,2.0nm,0.7s						
RETA	**Reutte**	**148.60**	**347**	*e*P	**PKiKP**	**00 01 59.3**	**+0.5**
	comp=Z,1.1nm,0.5s						
WTTA	**Wattenberg**	**148.62**	**346**	*e*P	**PKiKP**	**00 01 59.5**	**+0.5**
	comp=Z,2.3nm,0.5s						
MOTA	**Moosalm**	**148.66**	**347**	*i* P	**PKiKP**	**00 01 59.2**	**+0.2**
	comp=Z,2.0nm,0.6s						
SQTA	**Sankt Quirin**	**148.75**	**347**	*i* P	**PKiKP**	**00 01 59.5**	**+0.4**
	comp=Z,2.1nm,0.5s						
ABTA	**Abfaltersbach**	**148.89**	**345**	*e*P	**PKPbc**	**00 01 59.0**	**+0.5**
	comp=Z,1.9nm,0.6s						
FETA	**Feichten**	**149.05**	**347**	*e*P	**PKiKP**	**00 02 00.5**	**+0.7**
	comp=Z,1.4nm,0.7s						

WEL** 12 00:01:12.7,41.°S±2.°×17.°6E±.°, h24km±3km, **M3.4**/51, **ML3.7**/31, **MLv3.4**/51, **Error ellipse: s-maj=0.0km s-min=0.0km az=93.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTW	**Mount Morrison**	**0.12**	**203**	P	Pb	00 01 17.9	+0.4
MTW				S	Sb	00 01 21.6	+0.9
HOWZ	**Holdsworth Sta**	**0.15**	**347**	P	Pb	00 01 18.2	+0.4
HOWZ				S	Sb	00 01 22.1	+0.9
TMWZ	**Te Maipa**	**0.26**	**103**	P	Pb	00 01 19.6	+0.5
TMWZ				S	Sn	00 01 24.9	-1.4
PAWZ	**Paruwai Farm**	**0.35**	**197**	P	Pb	00 01 21.1	+0.6
PAWZ				S	Sn	00 01 27.5	-1.0
TRWZ	**Traveller**	**0.36**	**165**	P	Pb	00 01 21.4	+0.7
TRWZ				S	Sn	00 01 28.4	-0.5
TIWZ	**Tintock**	**0.37**	**42**	P	Pb	00 01 21.2	+0.5
TIWZ				S	Sb	00 01 27.5	+1.3
OGWZ	**Otaki Gorge**	**0.38**	**308**	P	Pb	00 01 21.5	+0.6
OGWZ				S	Sb	00 01 27.6	+1.1
CAW	**Cannon Point**	**0.38**	**261**	P	Pb	00 01 21.6	+0.7
CAW				S	Sn	00 01 28.0	-1.3
MRZ	**Mangatainoka R**	**0.39**	**2**	P	Pb	00 01 21.4	+0.3
MSWZ	**Moikau Station**	**0.44**	**213**	P	Pb	00 01 22.3	+0.5
MSWZ				S	Sb	00 01 29.4	+1.3
CPWZ	**Castlepoint**	**0.50**	**74**	P	Pn	00 01 23.8	-0.6
CPWZ				S	Sn	00 01 33.3	+1.0
KIW	**Kapiti Island**	**0.53**	**291**	P	Pb	00 01 24.0	+0.6
KIW				S	Sn	00 01 31.9	-1.0
PLWZ	**Palliser**	**0.57**	**204**	P	Pb	00 01 24.3	+0.2
PLWZ				S	Sn	00 01 33.2	-0.8
PRWZ	**Pori Road**	**0.58**	**32**	P	Pn	00 01 24.9	-0.6
PRWZ				S	Sn	00 01 34.6	+0.3
BFZ	**Birch Farm**	**0.64**	**55**	P	Pb	00 01 25.1	-0.1
BFZ				S	Sn	00 01 35.0	-0.6
WEL	**Wellington**	**0.64**	**248**	P	Pb	00 01 25.8	+0.5
WEL				S	Sn	00 01 35.3	-0.4
POWZ	**Post Office Ro**	**0.68**	**14**	P	Pb	00 01 26.1	+0.2
OHWZ	**Ohakea**	**0.86**	**347**	P	Pn	00 01 30.1	+0.7
OHWZ				S	Sn	00 01 42.8	+1.6
DVHZ	**Dannevirke**	**0.88**	**32**	P	Pb	00 01 28.8	-0.5
DVHZ				S	Sb	00 01 40.9	+0.3
ANWZ	**Angora Road**	**0.91**	**50**	P	Pb	00 01 29.0	-0.9
TCW	**Tory Channel**	**0.98**	**260**	P	Pn	00 01 30.8	-0.3
TCW				S	Sn	00 01 44.1	-0.1
TSZ	**Takapari Road**	**1.03**	**17**	P	Pn	00 01 31.2	-0.5
TSZ				S	Sn	00 01 45.8	+0.3
PRHZ	**Porangahau**	**1.13**	**47**	P	Pn	00 01 31.8	-1.3
WPHZ	**Waipukurau**	**1.19**	**35**	P	Pn	00 01 33.2	-0.7
PNHZ	**Pukenui**	**1.23**	**23**	P	Pn	00 01 33.9	-0.6
DUWZ	**D'Urville Isla**	**1.27**	**281**	P	Pb	00 01 35.5	-0.4
DUWZ				S	Sb	00 01 52.2	+0.4
WAZ	**Wanganui**	**1.37**	**341**	P	Pb	00 01 38.3	+0.7
PXZ	**Pawanui**	**1.42**	**45**	P	Pn	00 01 35.6	-1.4
BSWZ	**Blackbirch Sta**	**1.43**	**242**	P	Pn	00 01 36.5	-0.7
KRHZ	**Kereru**	**1.53**	**24**	P	Pn	00 01 37.8	-0.8
BHHZ	**Black Hill Sta**	**1.60**	**14**	P	Pn	00 01 39.5	-0.1
KAHZ	**Kahuranaki**	**1.61**	**39**	P	Pn	00 01 38.2	-1.4
MOVZ	**Moawhango**	**1.65**	**5**	P	Pn	00 01 40.3	+0.1
NNZ	**Nelson**	**1.66**	**263**	P	Pn	00 01 40.2	-0.1
WNVZ	**Wahianoa**	**1.72**	**1**	P	Pn	00 01 41.9	+0.6
KWHZ	**Kaweka Forest**	**1.75**	**22**	P	Pn	00 01 40.8	-0.8
WHVZ	**Whangaehu Hut**	**1.76**	**1**	P	Pn	00 01 42.7	+0.7
PKVZ	**Pokaka**	**1.77**	**355**	P	Pb	00 01 43.2	-1.3
TUVZ	**Tukino**	**1.78**	**2**	P	Pn	00 01 42.8	+0.7
LREZ	**Lake Rotokare**	**1.82**	**330**	P	Pb	00 01 45.5	+0.2
SNVZ	**South Ngauruho**	**1.86**	**2**	P	Pn	00 01 44.1	+0.9
NGZ	**Ngauruhoe**	**1.87**	**1**	P	Pn	00 01 44.3	+0.9
OTVZ	**Oturere**	**1.89**	**2**	P	Pn	00 01 44.2	+0.6
ETVZ	**East Tongariro**	**1.91**	**3**	P	Pn	00 01 44.6	+0.7
NNVZ	**North Ngauruho**	**1.92**	**1**	P	Pn	00 01 44.8	+0.8
WTVZ	**West Tongariro**	**1.93**	**1**	P	Pn	00 01 44.9	+0.8
TMVZ	**Te Maari**	**1.93**	**3**	P	Pn	00 01 44.8	+0.6
NTVZ	**North Tongarir**	**1.95**	**3**	P	Pn	00 01 44.9	+0.5
KRVZ	**Karearewa**	**1.95**	**2**	P	Pn	00 01 45.2	+0.8
TKNZ	**Takaka Hill**	**1.97**	**270**	P	Pn	00 01 45.0	+0.5
TWVZ	**Taurewa**	**1.98**	**357**	P	Pn	00 01 45.4	+0.6
BKZ	**Black Stump Fm**	**2.01**	**21**	P	Pn	00 01 44.1	-1.1
PREZ	**Palmer Road**	**2.02**	**327**	P	Pb	00 01 48.4	-0.3
KHZ	**Kahutara**	**2.04**	**227**	P	Pn	00 01 43.8	-1.7
KATZ	**Kakaramea**	**2.07**	**3**	P	Pn	00 01 47.0	+0.9
ARHZ	**Aropaoanui**	**2.10**	**32**	P	Pn	00 01 45.5	-0.8
NEZ	**North Egmont**	**2.10**	**327**	P	Pb	00 01 50.0	-0.2
KHEZ	**Kahui Hut**	**2.12**	**325**	P	Pb	00 01 49.8	-0.6
THZ	**Tophouse**	**2.12**	**249**	P	Pn	00 01 45.8	-1.0
MRNZ	**Matariki Terra**	**2.14**	**260**	P	Pn	00 01 46.9	-0.1
PKE	**Pukeiti**	**2.21**	**326**	P	Pb	00 01 51.8	-0.2
QRZ	**Quartz Range**	**2.31**	**275**	P	Pn	00 01 49.9	+0.7
MTHZ	**Maungataniwha**	**2.40**	**25**	P	Pn	00 01 49.9	-0.7
HIZ	**Hauiti**	**2.59**	**348**	P	Pn	00 01 54.1	+1.0
MHGZ	**Mahia Peninsul**	**2.61**	**44**	P	Pn	00 01 51.3	-2.1
GVZ	**Greta Valley S**	**2.69**	**224**	P	Pn	00 01 52.6	-1.9
DSZ	**Denniston Nort**	**2.91**	**255**	P	Pn	00 01 56.7	-0.8
LTZ	**Lake Taylor**	**3.00**	**234**	P	Pn	00 01 57.5	-1.4
MWZ	**Matawai**	**3.11**	**30**	P	Pn	00 01 57.6	-2.7
MQZ	**McQueen's Vall**	**3.42**	**218**	P	Pn	00 02 01.3	-3.2
AKCZ	**Akaroa Harbour**	**3.44**	**214**	P	Pn	00 02 02.8	-2.0
INZ	**Inchbonnie**	**3.50**	**240**	P	Pn	00 02 04.2	-1.4
TMZ	**Timaru**	**4.73**	**224**	P	Pn	00 02 20.8	-1.8
CTZ	**Chatham Island**	**6.38**	**117**	P	Pn	00 02 43.4	-1.8

*DJA **12** 00:22:03.0±0.5, 9.°S±4.°×11.°9E±.°, h115km±6km, M3.4/9, MLv3.4/9*
*IDC **12** 00:22:06.5±7.6, 9.°32S×119.°02E, h108km±53km, mb3.3/2, mbtmp3.5/5, Error ellipse: s-maj=62.1km s-min=50.4km az=130.0*

ISC** 12 00:22:01.9±0.9, 8.°84S±0.°07×118.°91E±0.°04, **h131**km±9km, **n14**, σ2.°9 19/22, **Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.92**	**149**	P	**Pn**	**00 22 25.1**	**+0.7**
WBSI				S	**Sn**	**00 22 41.7**	**+0.3**
PLAI	**Plampang**	**1.12**	**271**	P	**Pn**	**00 22 26.6**	**+0.4**
PLAI				S	**Sn**	**00 22 43.7**	**-0.8**
TWSI	**Taliwang, Sumb**	**2.01**	**273**	P	**Pn**	**00 22 36.8**	**+0.7**
TWSI				S	**Sn**	**00 23 02.3**	**0.0**
BASI	**Baing, Sumba**	**2.14**	**130**	P	**Pn**	**00 22 39.0**	**+1.3**
BASI				S	**Sn**	**00 23 06.0**	**+0.9**
EDFI	**Ende, Flores**	**2.75**	**88**	P	**Pn**	**00 22 46.2**	**+0.8**
EDFI				S	**Sn**	**00 23 18.9**	**0.0**
BSSI	**Bau Bau, Buton**	**3.10**	**30**	P	**Pn**	**00 22 49.6**	**-0.4**
MMRI	**Maumere**	**3.29**	**87**	P	**Pn**	**00 22 53.2**	**+0.8**
BKSI	**Bulukumba**	**3.70**	**19**	P	**Pn**	**00 22 57.3**	**-0.5**
JAGI	**Jajag, Banyuwa**	**4.72**	**274**	P	**Pn**	**00 23 12.0**	**+0.6**
BATI	**Baumata**	**4.88**	**107**	P	**Pn**	**00 23 14.8**	**+1.3**
	15nm,0.3s,baz=270,slow=1.0,SNR=8.1						
BATI				S	**Sn**	**00 24 08.3**	**-0.8**
	14nm,0.3s,baz=248,slow=19,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.29**	**145**	P	**Pn**	**00 24 38.4**	**-1.0**
	1.2nm,0.8s,baz=308,slow=12,SNR=1.9						
FITZ				S	**Sn**	**00 26 38.1**	**-5.9**
	0.7nm,0.3s,baz=336,slow=20,SNR=11						
WRA	**Warramunga Arr**	**18.56**	**128**	P	**P**	**00 26 10.5**	**+1.7**
	0.2nm,0.6s,baz=305,slow=13,SNR=5.7						
WRA				S	**S**	**00 29 28.6**	**-5.1**
	0.2nm,0.4s,baz=304,slow=27,SNR=2.0						
ASAR	**Alice Springs**	**20.57**	**138**	P	**P**	**00 26 33.0**	**+2.4**
	0.6nm,0.5s,baz=311,slow=8.6,SNR=7.1						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**31.13**	**141**	P	**P**	**00 28 10.9**	**+2.7**
	1.9nm,0.8s,baz=328,slow=13,SNR=2.3						
	1.9nm,0.8s						

*IDC **12** 00:32:08.4±2.0, 1.°61N×126.°57E, h37km±16km, mb4.3/25, mbtmp4.5/29, ML4.4/4, MS3.2/15, Error ellipse: s-maj=21.2km s-min=8.0km az=75.0*
*DJA **12** 00:32:09.9±1.1, 2.°N±3.°×12.°7E±.°, h21km±11km, M4.5/17, mb4.7/12, mB5.0/9, MLv4.5/17, Mw(mB)4.4/9, MwMwp5.6/1, Mwp5.7/1*
*NEIC **12** 00:32:09.9±2.4, 1.°60N±0.°07×126.°80E±0.°06, h42km±6km, mb4.8/81, Error ellipse: s-maj=12.4km s-min=3.6km az=220.0*
*BJI **12** 00:32:09.0±0.0, 1.°52N×127.°13E, h68km, mb4.6/28, mB4.9/15, Ms4.2/3, Ms7 3.9/3*

ISC** 12 00:32:09.9±0.3, 1.°63N±0.°03×126.°73E±0.°04, **h47**km, **n221**, σ1.°**28**/235, **mb4.7**/69, **MS3.2**/14, **6C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**143**		**Pn**	**00 32 28.8**	**+0.3**
TNTI	**Ternate**	**1.07**	**143**	P	**Pn**	**00 32 28.8**	**+0.3**
TNTI	**Ternate**	**1.07**	**143**	P	**Pn**	**00 32 29.1**	**+0.6**
SGSI	**Sangihe**	**2.37**	**330**	P	**Pn**	**00 32 45.8**	**-0.5**
LBMI	**Labuha**	**2.38**	**161**	P	**Pn**	**00 32 47.6**	**+1.0**
LBMI				S	**Sn**	**00 33 16.7**	**+2.1**
KMSI	**Cibinong**	**2.94**	**249**	P	**Pn**	**00 32 54.8**	**+0.7**
KMSI				S	**Sn**	**00 33 29.8**	**+1.6**
SANI	**Sanana**	**3.73**	**191**	P	**Pn**	**00 33 05.0**	**0.0**
SANI	**Sanana**	**3.73**	**191**	P	**Pn**	**00 33 05.1**	**0.0**
DDMP	**Don Marcelino,**	**4.56**	**347**	⇑P	**Pn**	**00 33 16.2**	**-0.2**
DDMP				*e*S	**Sn**	**00 34 07.2**	**-0.9**
NLAI	**Namlea**	**4.85**	**176**	P	**Pn**	**00 33 21.2**	**+0.7**
MRSI	**Marisa**	**4.92**	**257**	P	**Pn**	**00 33 22.3**	**+0.9**
SWI	**Sorong**	**5.17**	**119**	P	**Pn**	**00 33 26.2**	**+1.4**
	0.1nm36nm,0.9s						
SIJI	**Sorong**	**5.17**	**119**	Pn	**Pn**	**00 33 25.1**	**+0.2**
	2.6nm,0.3s,baz=313,slow=6.8,SNR=7.7						
SIJI				Sn	**Sn**	**00 34 24.7**	**+1.3**
	baz=255,slow=22						
SIJI				LR	LR	00 35 47.6	
	comp=Z,774nm,21.1s,baz=241,slow=41						
	5.4nm,0.3s						
SKMP	**Bagumbayan, Su**	**5.32**	**336**	⇑P	**Pn**	**00 33 27.8**	**+0.9**
SKMP				*e*S	**Sn**	**00 34 26.2**	**-0.8**
MSAI	**Masohi**	**5.41**	**156**	P	**Pn**	**00 33 30.8**	**+2.6**
	0.1nm640nm14nm,0.6s						
AAI	**Ambon**	**5.48**	**164**	P	**Pn**	**00 33 31.7**	**+2.6**
DAV	**Davao City (W)**	**5.52**	**348**	Pn	**Pn**	**00 33 27.7**	**-2.0**
	52nm,0.3s,baz=84,slow=15,SNR=1.6						
DAV				Sn	**Sn**	**00 34 32.8**	**+0.9**
	57nm,0.3s,baz=67,slow=15,SNR=1.7						
	184nm,0.4s						
KCP	**Kidapawan**	**5.58**	**343**	⇑*e*P	**Pn**	**00 33 33.3**	**+2.7**
KCP				*e*S	**Sn**	**00 34 39.2**	**+5.7**
APSI	**Ampana**	**5.67**	**244**	P	**Pn**	**00 33 32.9**	**+1.2**
	0.6nm2μm115nm,0.5s						
TOLI2	**Tolitoli**	**5.96**	**265**	Pn	**Pn**	**00 33 36.5**	**+0.8**
BUKP	**Musuan**	**6.42**	**345**	⇑iP	**Pn**	**00 33 44.0**	**+1.9**
BIPH	**Bislig**	**6.52**	**357**	⇑*e*P	**Pn**	**00 33 43.9**	**+0.6**
BIPH				*e*S	**Sn**	**00 34 56.6**	**+0.2**
MPSI	**Mapaga**	**6.95**	**259**	P	**Pn**	**00 33 50.1**	**+0.9**
	0.2nm42nm,0.8s						
PAGZ	**Pagadian**	**7.02**	**332**	⇑*e*P	**Pn**	**00 33 49.6**	**-0.6**
FAKI	**Fak Fak**	**7.14**	**129**	Pn	**Pn**	**00 33 48.2**	**-3.6**
FAKI	**Fak Fak**	**7.14**	**129**	P	**Pn**	**00 33 54.4**	**+2.6**
	0.2nm44nm,1.0s						
FAKI	**Fak Fak**	**7.14**	**129**	P	**Pn**	**00 33 54.2**	**+2.4**
RKPI	**Ransiki, Papua**	**8.08**	**113**	P	**Pn**	**00 34 07.1**	**+2.4**
	33nm,0.9s						
BBSI	**Bau Bau**	**8.20**	**210**	P	**Pn**	**00 34 08.1**	**+1.7**
	187nm16nm,0.8s						
GHBP	**Garcia Hernand**	**8.30**	**343**	*e*P	**Pn**	**00 34 07.6**	**-0.1**
TTSI	**Tana Toraja**	**8.32**	**236**	P	**Pn**	**00 34 08.4**	**+0.3**
	88nm73nm,0.7s						
SPSI	**Sidrap Palu**	**8.90**	**231**	P	**Pn**	**00 34 17.3**	**+1.3**
	1μm59nm,0.4s						
MYLDM	**Lahad Datu**	**8.93**	**293**	Pn	**Pn**	**00 34 19.1**	**+2.6**
BKSI	**Bulukumba**	**9.55**	**224**	P	**Pn**	**00 34 26.3**	**+1.4**
	22μm570nm44nm,0.6s						
KAPI	**Kappang**	**9.60**	**227**	Pn	**Pn**	**00 34 26.4**	**+0.9**
KAPI	**Kappang**	**9.60**	**227**	P	**Pn**	**00 34 27.7**	**+2.1**
KKM	**Kota Kinabalu**	**11.36**	**293**	Pn	**Pn**	**00 34 51.6**	**+1.7**
KKM	**Kota Kinabalu**	**11.36**	**293**	P	**Pn**	**00 34 52.9**	**+3.1**
SOEI	**Soe**	**11.57**	**192**		**Pn**	**00 34 52.1**	**-0.7**
BATI	**Baumata**	**12.15**	**194**	Pn	**Pn**	**00 34 59.5**	**-0.9**
	2.0nm,0.3s,baz=332,slow=15,SNR=1.3						
	8.3nm,0.3s						
PLAI	**Plampang**	**13.69**	**220**	P	**Pn**	**00 35 22.8**	**+1.2**
TWSI	**Taliwang, Sumb**	**14.23**	**223**	P	**P**	**00 35 36.4**	**+1.4**
SBUM	**Sibu**	**14.52**	**273**		**P**	**00 35 38.2**	**-0.1**
MTN	**Manton Dam**	**15.03**	**163**	Pn	**Pn**	**00 35 39.4**	**-0.1**
JAGI	**Jajag, Banyuwa**	**16.06**	**231**	P	**P**	**00 35 56.2**	**+0.8**
JAGI				IAmb	IAmb	00 36 02.2	
	comp=Z,55nm,0.9s						

JAGI	**Jajag, Banyuwa**	**16.06**	**231**	P	**Pn**	**00 35 53.6**	**+0.9**
GMJI	**Gumukmas**	**16.50**	**233**	P	**P**	**00 36 02.2**	**+1.9**
KNRA	**Kununurra**	**17.32**	**173**		**Pn**	**00 36 08.0**	**-0.4**
KNRA				IAmb	IAmb	00 36 08.7	
	comp=Z,36nm,0.7s						
KNRA	**Kununurra**	**17.32**	**173**	P	**Pn**	**00 36 08.5**	**+0.1**
UGM	**Wanagama**	**18.73**	**239**	P	**Pn**	**00 36 26.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.64**	**183**	P	**P**	**00 36 33.2**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=22,slow=7.1,SNR=26						
	comp=Z,7.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.64**	**183**	P	**P**	**00 36 33.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**19.64**	**183**	P	**P**	**00 36 33.4**	**-1.4**
TWG	**Pinlang**	**21.77**	**346**	P	**P**	**00 36 55.9**	**-1.9**
TWG				IAmb	IAmb	00 37 06.0	
	comp=Z,17nm,0.6s						
YULB	**Yu-li**	**22.26**	**347**	P	**P**	**00 37 01.7**	**-1.4**
TPUB	**Ta-pu**	**22.34**	**345**	P	**P**	**00 37 02.7**	**-1.2**
TPUB				IAmb	IAmb	00 37 09.8	
	comp=Z,21nm,0.7s						
TPUB	**Ta-pu**	**22.34**	**345**	P	**P**	**00 37 05.5**	**+1.6**
COEN	**Coen**	**22.49**	**134**	P	**P**	**00 37 04.7**	**-0.9**
COEN	**Coen**	**22.49**	**134**	P	**P**	**00 37 04.4**	**-1.2**
WB0	**Warramunga Arr**	**22.56**	**161**	P	**P**	**00 37 05.0**	**-1.3**
WRAB	**Tennant Creek**	**22.70**	**161**	P	**P**	**00 37 06.2**	**-1.6**
WRAB	**Tennant Creek**	**22.70**	**161**	P	**P**	**00 37 06.9**	**-0.9**
WRA	**Warramunga Arr**	**22.70**	**161**	P	**P**	**00 37 06.6**	**-1.3**
	comp=Z,82nm,0.9s,baz=338,slow=10,SNR=239						
WRA				PcP	**PcP**	**00 40 58.4**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=322,slow=2.3,SNR=5.2						
WRA				S	**S**	**00 41 13.3**	**+0.1**
	comp=Z,4.1nm,1.0s,baz=339,slow=18,SNR=6.7						
WRA	**Warramunga Arr**	**22.70**	**161**	P	**P**	**00 37 05.5**	**-2.4**
WB2	**Warramunga Arr**	**22.71**	**161**	P	**P**	**00 37 06.7**	**-1.3**
SSLB	**Suanglung**	**22.72**	**346**	P	**P**	**00 37 07.2**	**-0.8**
WR0	**Warramunga Arr**	**22.79**	**161**	IAmb	IAmb	00 37 14.2	
	comp=Z,48nm,0.8s						
PMG	**Port Moresby**	**23.12**	**119**	LR	LR	00 48 11.2	
	comp=Z,94nm,18.2s,baz=273,slow=41						
MBWA	**Marble Bar**	**23.66**	**196**	P	**P**	**00 37 15.8**	**-1.5**
PSA00	**Pilbara Seismi**	**24.02**	**196**	P	**P**	**00 37 19.6**	**-1.0**
PSA00				IAmb	IAmb	00 37 41.6	
	comp=Z,38nm,1.4s						
PSA00	**Pilbara Seismi**	**24.02**	**196**	P	**P**	**00 37 19.8**	**-0.8**
UBPT	**Khong Chiam**	**24.98**	**304**	P	**P**	**00 37 30.6**	**+1.3**
JOW	**Kunigami**	**25.10**	**3**	P	**P**	**00 37 30.1**	**-0.2**
	comp=Z,49nm,0.8s,baz=194,slow=7.9,SNR=15						
JOW				LR	LR	00 50 10.8	
	comp=Z,16nm,18.1s,baz=138,slow=43						
	comp=Z,49nm,0.8s						
JOW	**Kunigami**	**25.10**	**3**	P	**P**	**00 37 31.3**	**+1.0**
QIS	**Mount Isa**	**25.41**	**151**	P	**P**	**00 37 33.9**	**+0.6**
AS31	**Alice Springs**	**26.10**	**165**	P	**P**	**00 37 39.2**	**-0.3**
AS31				IAmb	IAmb	00 37 42.2

CAN				IAmb	IAmb	00 40 00.7		
	comp=Z,16nm,0.9s							
USRK	**Ussuriysk Ar.**	**42.64**	**6**	P	**P**	**00 40 02.3**	**+0.5**	
	comp=Z,5.0nm,0.7s,baz=190,slow=9.5,SNR=9.2							
	comp=Z,5.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**42.64**	**6**	P	**P**	**00 40 02.7**	**+0.9**	
TOO	**Toolangi**	**42.70**	**158**	P	**P**	**00 40 04.1**	**+1.6**	
XLT	**XiLinHaoTe**	**43.14**	**349**	*eP*	**P**	**00 40 06.2**	**+0.3**	
XLT				pmax	pmax			
	comp=Z,12nm,0.8s							
XLT				pmax	pmax			
	comp=Z,100nm,4.8s							
DZM	**Mont Dzumac**	**45.36**	**124**	P	**P**	**00 40 23.9**	**-0.2**	
DZM				IAmb	IAmb	00 40 25.3		
	comp=Z,10nm,0.9s							
RAMN	**Ramite**	**45.97**	**307**	*eP*	**P**	**00 40 31.0**	**+2.0**	
	comp=Z,9.6nm,0.5s							
JIRN	**Jiri**	**46.61**	**308**	*eP*	**P**	**00 40 35.2**	**+1.0**	
	comp=Z,7.2nm,0.3s							
GUN	**Gumba**	**46.97**	**308**	*eP*	**P**	**00 40 37.3**	**+0.3**	
	comp=Z,16nm,0.4s							
KLR	**Kul'dur**	**47.61**	**4**	LR	LR	01 04 52.3		
	comp=Z,9.8nm,18.1s,baz=158,slow=41							
DANN	**Dangsing**	**48.85**	**307**	*eP*	**P**	**00 40 51.1**	**-0.3**	
	comp=Z,20nm,0.5s							
ULN	**Ulaanbaatar**	**49.10**	**343**	P	**P**	**00 40 52.8**	**-0.1**	
ULN				IAmb	IAmb	00 41 17.6		
	comp=Z,10nm,1.4s							
SONM	**Songino Arrray**	**49.27**	**342**	P	**P**	**00 40 53.7**	**-0.5**	
	comp=Z,0.9nm,0.3s,baz=156,slow=8.7,SNR=9.0							
SONM				LR	LR	01 04 37.9		
	comp=Z,28nm,18.3s,baz=162,slow=40							
	comp=Z,0.9nm,0.3s							
SONM	**Songino Array**	**49.27**	**342**	P	**P**	**00 40 53.5**	**-0.6**	
PYUN	**Piuthan**	**49.36**	**306**	*eP*	**P**	**00 40 54.3**	**-1.0**	
	comp=Z,14nm,0.5s							
MSVF	**Nonsavu**	**54.07**	**113**	P	**P**	**00 41 31.6**	**+1.2**	
WMQ	**Urumqi**	**54.44**	**326**	*eP*	P	00 41 38.8	+6.2	
WMQ				sP	sP	00 42 00.3	+10	
WMQ				pmax	pmax			
	comp=Z,17nm,0.9s							
PEA0B	**Petropavlovsk-**	**57.37**	**22**	P	**P**	**00 41 54.4**	**+1.0**	
PETK	**Petropavlovsk-**	**57.37**	**22**	P	**P**	**00 41 53.5**	**+0.2**	
	comp=Z,1.0nm,0.5s,baz=183,slow=7.2,SNR=1.4							
	comp=Z,1.0nm,0.5s							
PETK	**Petropavlovsk-**	**57.37**	**22**	P	**P**	**00 41 54.1**	**+0.8**	
DCZ	**Deep Cove**	**58.98**	**148**	P	**P**	**00 42 04.0**	**-0.7**	
MK31	**Makanchi Array**	**59.27**	**326**	P	**P**	**00 42 05.6**	**-1.2**	
MKAR	**Makanchi Array**	**59.27**	**326**	P	**P**	**00 42 05.5**	**-1.3**	
	comp=Z,1.8nm,0.3s,baz=120,slow=7.4,SNR=74							
	comp=Z,1.8nm,0.3s							
TARG	**Taragay, Kyrgy**	**59.31**	**319**	P	**P**	**00 42 08.3**	**+0.7**	
TARG				IAmb	IAmb	00 42 13.8		
	comp=Z,9.4nm,1.4s							
QRZ	**Quartz Range**	**59.31**	**141**	P	**P**	**00 42 06.3**	**-0.8**	
MAKZ	**Makanchi**	**59.46**	**326**	P	**P**	**00 42 06.4**	**-1.6**	
LBZ	**Lake Benmore**	**59.97**	**145**	P	**P**	**00 42 11.5**	**-0.1**	
THZ	**Tophouse**	**60.06**	**141**	P	**P**	**00 42 11.6**	**-0.8**	
MA2	**Magadan**	**60.73**	**14**	LR	LR	01 10 40.7		
	comp=Z,14nm,19.1s,baz=113,slow=38							
KHZ	**Kahutara**	**60.82**	**142**	P	**P**	**00 42 16.7**	**-0.7**	
BOOM	**Boomskoye usch**	**60.89**	**319**	P	**P**	**00 42 20.1**	**+1.9**	
BOOM				IAmb	IAmb	00 42 40.3		
	comp=Z,5.8nm,1.1s							
MQZ	**McQueen's Vall**	**61.00**	**143**	P	**P**	**00 42 19.0**	**+0.4**	
MQZ				IAmb	IAmb	00 42 37.2		
	comp=Z,20nm,1.3s							
URZ	**Urewera**	**61.03**	**136**	P	**P**	**00 42 18.6**	**-0.3**	
URZ				IAmb	IAmb	00 42 38.7		
	comp=Z,17nm,1.3s							
BKZ	**Black Stump Fm**	**61.05**	**137**	P	**P**	**00 42 18.3**	**-0.8**	
BKZ				IAmb	IAmb	00 42 22.7		
	comp=Z,7.1nm,0.8s							
PLWZ	**Palliser**	**61.44**	**140**	P	**P**	**00 42 19.8**	**-1.9**	
MXZ	**Matakaoa Point**	**61.55**	**135**	P	**P**	**00 42 21.0**	**-1.5**	
ZALV	**Zalesovo Beam**	**62.45**	**334**	P	**P**	**00 42 25.7**	**-2.4**	
	comp=Z,1.1nm,0.3s,baz=149,slow=6.9,SNR=4.8							
	comp=Z,1.1nm,0.3s							
KBL	**Kabul**	**62.80**	**308**	P	**P**	**00 42 29.8**	**-1.4**	
KBL				IAmb	IAmb	00 42 36.0		
	comp=Z,4.3nm,0.7s							
AFI	**Afiamalu**	**62.84**	**106**	LR	LR	01 09 19.4		
	comp=Z,21nm,18.2s,baz=57,slow=35							
GAR	**Garm**	**63.34**	**313**	P	**P**	**00 42 33.5**	**-1.2**	
GAR				IAmb	IAmb	00 42 57.1		
	comp=Z,20nm,1.4s							
BTK	**Batken**	**63.37**	**315**	P	**P**	**00 42 35.7**	**+0.9**	
BTK				IAmb	IAmb	00 42 43.1		
	comp=Z,2.9nm,0.6s							
KURK	**Kurchatov**	**63.50**	**328**	P	**P**	**00 42 34.4**	**-0.8**	
KURK	**Kurchatov**	**63.50**	**328**	P	**P**	**00 42 34.0**	**-1.2**	
KURK				pP	**sP**	**00 42 53.3**	**+0.3**	
KURK				sP	pwP	00 42 59.9	+9.1	
KK31	**Karatay Array**	**64.76**	**318**	P	**P**	**00 42 42.3**	**-1.5**	
KKAR	**Karatay Array**	**64.76**	**318**	P	**P**	**00 42 42.3**	**-1.5**	
KKAR	**Karatay Array**	**64.76**	**318**	P	**P**	**00 42 43.5**	**-0.2**	
KKAR				IAmb	IAmb	00 42 57.5		
	comp=Z,1.5nm,0.8s							
CASY	**Casey**	**68.75**	**187**	P	**P**	**00 43 08.8**	**+0.2**	
CASY				IAmb	IAmb	00 43 09.4		
	comp=Z,6.2nm,0.8s							
CASY	**Casey**	**68.75**	**187**	P	**P**	**00 43 07.7**	**-0.8**	
CASY				pP	**sP**	**00 43 26.4**	**-0.1**	
DRV	**Dumont d'Urvil**	**68.80**	**174**	P	**P**	**00 43 06.0**	**-2.9**	
DRV				pP	**pP**	**00 43 22.7**	**+1.0**	
BRVK	**Borovoye**	**69.14**	**327**	P	**P**	**00 43 11.1**	**-0.2**	
BRVK				IAmb	IAmb	00 43 13.1		
	comp=Z,7.5nm,1.3s							
BRVK	**Borovoye**	**69.14**	**327**	P	**P**	**00 43 09.8**	**-1.5**	
BRVK				pP	**pP**	**00 43 25.1**	**+1.0**	
TIXI	**Tiksi**	**69.93**	**1**	P	**P**	**00 43 15.4**	**-0.3**	
UOSS	**Minazif**	**71.67**	**296**	P	**P**	**00 43 26.8**	**-0.6**	
GEYT	**Alibeck**	**72.20**	**309**	P	**P**	**00 43 29.3**	**-1.0**	
	comp=Z,1.1nm,0.7s,baz=178,slow=3.7,SNR=3.8							
	comp=Z,1.1nm,0.7s							
GEYT	**Alibeck**	**72.20**	**309**	P	**P**	**00 43 32.3**	**+2.0**	
NRIK	**Noril'sk**	**72.45**	**346**	P	**P**	**00 43 31.2**	**+0.1**	
	comp=Z,1.7nm,0.4s,baz=116,slow=8.8,SNR=6.0							
NRIK				LR	LR	01 17 29.5		
	comp=Z,35nm,19.1s,baz=132,slow=38							
	comp=Z,1.7nm,0.4s							
NRIK	**Noril'sk**	**72.45**	**346**	P	**P**	**00 43 31.6**	**+0.5**	
ABKAR	**Akbulak array**	**73.77**	**321**	P	**P**	**00 43 38.4**	**-0.9**	
ARU	**Arti**	**76.70**	**328**	P	**P**	**00 43 55.6**	**-0.4**	
ARU				IAmb	IAmb	00 43 57.1		
	comp=Z,8.7nm,1.1s							
CHGN	**Chignik**	**80.27**	**33**	P	**P**	**00 44 16.1**	**+0.5**	
VOI	**Vohitsoka**	**81.27**	**248**	P	**P**	**00 44 21.9**	**0.0**	
VOI				IAmb	IAmb	00 44 49.6		
	comp=Z,14nm,1.3s							
RAYN	**Ar Rayn**	**81.30**	**293**	P	**P**	**00 44 21.2**	**-0.8**	
VNDA	**Vanda**	**81.36**	**173**	P	**P**	**00 44 21.1**	**+0.1**	
	comp=Z,11nm,0.7s,baz=317,slow=6.6,SNR=88							
VNDA				LR	LR	01 20 01.8		
	comp=Z,31nm,18.3s,baz=350,slow=35							
	comp=Z,11nm,0.7s							
VNDA	**Vanda**	**81.36**	**173**	P	**P**	**00 44 21.2**	**+0.1**	
VNDA				IAmb	IAmb	00 44 21.9		
	comp=Z,14nm,0.8s							
MAW	**Mawson**	**81.80**	**200**	P	**P**	**00 44 23.0**	**-0.5**	
	comp=Z,3.6nm,0.8s,baz=72,slow=6.8,SNR=7.3							
	comp=Z,3.6nm,0.8s							
MAW	**Mawson**	**81.80**	**200**	P	**P**	**00 44 24.0**	**+0.5**	
BELG	**Belogornoye**	**82.06**	**323**	P	**P**	**00 44 22.8**	**-2.4**	
	comp=Z,9.9nm,1.0s,baz=68,slow=5.4,SNR=2.2							
	comp=Z,9.9nm,1.0s							
SBA	**Scott Base**	**82.27**	**172**	P	**P**	**00 44 26.9**	**+1.0**	
SBA				IAmb	IAmb	00 44 27.8		
	comp=Z,8.5nm,0.9s							
M19K	**Big River Lodg**	**83.33**	**28**	P	**P**	**00 44 33.3**	**+1.6**	
M19K				IAmb	IAmb	00 44 41.6		
	comp=Z,24nm,1.4s							
P19K	**Oil Pt**	**83.56**	**30**	P	**P**	**00 44 33.5**	**+0.5**	
KDAK	**Kodiak Island**	**83.66**	**32**	P	**P**	**00 44 35.3**	**+1.9**	
J20K	**Nowinta River**	**83.80**	**26**	P	**P**	**00 44 35.8**	**+1.8**	
J20K				IAmb	IAmb	00 44 36.4		
	comp=Z,6.2nm,1.3s							
M20K	**Styx River**	**83.92**	**28**	P	**P**	**00 44 36.5**	**+1.7**	
M20K				IAmb	IAmb	00 44 42.7		
	comp=Z,10nm,1.1s							
IMAR	**Indian Mountai**	**84.25**	**24**	P	**P**	**00 44 37.6**	**+1.2**	
KBZ	**Khabaz**	**84.41**	**314**	P	**P**	**00 44 35.2**	**-2.4**	
	comp=Z,1.9nm,0.8s,baz=146,slow=4.9,SNR=4.7							
KBZ				LR	LR	01 26 36.3		
	comp=Z,11nm,21.5s,baz=130,slow=39							
	comp=Z,1.9nm,0.8s							
H21K	**Melozitna Rive**	**84.59**	**24**	P	**P**	**00 44 39.6**	**+1.6**	
H21K				IAmb	IAmb	00 44 43.3		
	comp=Z,8.5nm,1.4s							
SKT	**Skwentna**	**84.68**	**28**	P	**P**	**00 44 39.0**	**+0.4**	
SKT				IAmb	IAmb	00 44 41.4		
	comp=Z,8.7nm,1.3s							
GURO	**Guroymak-BITLI**	**84.83**	**308**	P	**P**	**00 44 40.7**	**+0.6**	
GURO				IAmb	IAmb	00 44 42.0		
	comp=Z,10nm,1.1s							
KOPT	**Kop Dagi**	**86.06**	**310**	P	**P**	**00 44 46.8**	**+0.4**	
KOPT				IAmb	IAmb	00 44 49.4		
	comp=Z,6.8nm,0.9s							
ILAR	**Eielson Array**	**86.99**	**25**	P	**P**	**00 44 48.3**	**-1.6**	
	comp=Z,0.5nm,0.6s,baz=262,slow=5.3,SNR=6.0							
	comp=Z,0.5nm,0.6s							
KLMR	**Klimovskoe**	**87.22**	**331**	*eP*	**P**	**00 44 48.4**	**-2.7**	
KLMR				AMP		00 45 06.2		
	comp=Z,24nm,1.8s							
ASF	**Jabal al Asfar**	**89.00**	**302**	P	**P**	**00 45 00.7**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=39,slow=6.5,SNR=3.1							
	comp=Z,1.4nm,0.7s							
KMBO	**Kilima Mbogo**	**89.50**	**269**	P	**P**	**00 45 01.9**	**-1.4**	
	comp=Z,1.4nm,1.1s,baz=26,slow=5.5,SNR=3.0							
	comp=Z,1.4nm,1.1s							
BRTR	**Keskin Array B**	**91.35**	**310**	P	**P**	**00 45 09.8**	**-1.4**	
	comp=Z,0.6nm,0.9s,baz=125,slow=4.4,SNR=3.7							
BRTR				PKKP	**PKKPdf**	**01 02 29.6**	**-1.0**	
	comp=Z,1.0nm,1.0s,baz=291,slow=6.0,SNR=2.8							
	comp=Z,0.6nm,0.9s							
QSPA	**South Pole Qui**	**91.55**	**180**	P	**P**	**00 45 11.8**	**+0.3**	
QSPA				IAmb	IAmb	00 45 12.1		
	comp=Z,5.6nm,1.1s							
ARCES	**ARCESS Array B**	**92.40**	**340**	P	**P**	**00 45 14.2**	**-1.1**	
	comp=Z,6.1nm,1.2s,baz=72,slow=6.0,SNR=1.5							
ARCES				LR	LR	01 30 28.7		
	comp=Z,29nm,18.4s,baz=16,slow=38							
	comp=Z,6.1nm,1.2s							
FINES	**FINESS Array B**	**93.67**	**332**	P	**P**	**00 45 21.2**	**0.0**	
	comp=Z,1.4nm,0.9s,baz=71,slow=6.0,SNR=1.3							
	comp=Z,1.4nm,0.9s							
HFS	**Hagfors**	**99.86**	**332**	P	**Pdif**	**00 45 47.5**	**-1.8**	
	comp=Z,1.1nm,0.8s,baz=74,slow=5.2,SNR=1.9							
	comp=Z,1.1nm,0.8s							
SCHQ	**Schefferville**	**122.62**	**9**	PKP	**PKPdf**	**00 51 00.3**	**-0.1**	
	comp=Z,1.0nm,0.3s,baz=40,slow=4.4,SNR=7.4							
MDT	**Midelt**	**122.73**	**311**	PKP	**PKPdf**	**00 51 01.4**	**0.0**	
	comp=Z,1.0nm,0.8s,baz=118,slow=6.2,SNR=1.8							
TXAR	**Lajitas Array**	**122.86**	**53**	PKP	**PKiKP**	**00 51 01.9**	**-0.1**	
	comp=Z,0.4nm,0.7s,baz=215,slow=1.2,SNR=6.3							
TORD	**Torodi Ar. Bea**	**123.54**	**287**	PKP	**PKPdf**	**00 51 02.4**	**-0.9**	
	comp=Z,1.9nm,0.8s,baz=88,slow=2.0,SNR=10							
TORD				PKKPbc	**PKKPbc**	**01 00 51.1**	**-0.4**	
	comp=Z,1.2nm,0.6s,baz=270,slow=3.0,SNR=10							
PLCA	**Paso Flores**	**138.05**	**160**	PKP	**PKPdf**	**00 51 30.8**	**+0.7**	
	comp=Z,2.0nm,0.7s,baz=291,slow=2.4,SNR=4.4							
CPUP	**Villa Florida**	**155.13**	**171**	PKP	**PKPdf**	**00 51 56.9**	**-1.8**	
	comp=Z,0.7nm,0.7s,baz=203,slow=14,SNR=1.9							
CPUP				PKPbc	PKPbc	00 52 08.1		
	comp=Z,1.6nm,0.6s,baz=180,slow=3.0,SNR=5.4							
CPUP				PKPab	**PKPab**	**00 52 23.1**	**-0.1**	
	comp=Z,4.2nm,0.7s,baz=174,slow=5.5,SNR=12							
LPAZ	**La Paz**	**159.35**	**136**	PKP	**PKPdf**	**00 52 04.2**	**-0.8**	
	comp=Z,0.6nm,0.6s,baz=214,slow=3.6,SNR=3.8							
LPAZ				PKPab	**PKPab**	**00 52 42.5**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=127,slow=3.8,SNR=4.0							
BDFB	**Brasilia**	**165.14**	**200**	PKPab	**PKPab**	**00 53 06.1**	**-1.0**	
	comp=Z,1.0nm,0.3s,baz=82,slow=7.1,SNR=3.0							

IDC 12 00:52:36.4±1.6, 10.95S×163.89E, h0km, mb3.6/5, mbtmp3.6/5, MS3.5/2, Error ellipse: s-maj=51.5km s-min=33.9km az=124.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.16**	**291**	LR	LR	00 55 24.3	
	comp=Z,3μm,19.3s,baz=96,slow=40						
PMG	**Port Moresby**	**16.54**	**274**	LR	LR	01 03 07.7	
	comp=Z,35nm,18.2s,baz=128,slow=38						
H11S2	**WAKE ISLAND Hy**	**29.38**	**5**	T	T	01 29 12.7	
	baz=183,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.38**	**5**	T	T	01 29 11.6	
	baz=183						
H11S1	**WAKE ISLAND Hy**	**29.40**	**5**	T	T	01 29 15.0	
	baz=183,slow=74						
WRA	**Warramunga Arr**	**29.81**	**249**	P	P	00 58 45.3	-0.1
	0.3nm,0.5s,baz=79,slow=8.8,SNR=5.2						
	0.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**30.61**	**6**	T	T	01 30 45.4	
	baz=184,slow=76,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**30.61**	**6**	T	T	01 30 48.2	
	baz=184,slow=76,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**30.63**	**6**	T	T	01 30 47.0	
	baz=184,slow=76,SNR=4.3						
ASAR	**Alice Springs**	**31.22**	**242**	P	P	00 58 58.3	+0.4
	0.2nm,0.4s,baz=62,slow=10,SNR=2.2						
	0.2nm,0.4s						
SONM	**Songino Array**	**77.52**	**324**	P	P	01 04 33.8	-0.3
	0.6nm,0.9s,baz=131,slow=4.0,SNR=2.5						
	0.6nm,0.9s						
QSPA	**South Pole Qui**	**79.06**	**180**	P	P	01 04 42.1	-0.4
	0.9nm,0.8s,baz=342,slow=3.2,SNR=2.0						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**84.00**	**19**	P	P	01 05 08.9	+0.6
	0.2nm,0.7s,baz=214,slow=6.1,SNR=1.6						
	0.2nm,0.7s						

*NOU **12** 00:56:47.0, 37.40S×178.13E, h114km, MLv4.3/8, Off E. Coast of N. Island, N.Z.*
*WEL **12** 00:56:50.9±0.6, 37.5S×17.8E±, h35km±6km, M3.5/30, ML3.6/24, MLv3.5/30, Error ellipse: s-maj=0.0km s-min=0.0km az=32.0*

ISC 12 00:56:51.9±1.4, 37.35S±0.05×177.74E±0.04, h35km, n117, σ1.9 60/126, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.41**	**176**	P	**Pn**	**00 57 01.1**	**-0.1**
HAZ				S	**Sn**	**00 57 09.6**	**+2.0**
WIZ	**White Island**	**0.47**	**248**	P	**Pn**	**00 57 02.3**	**+0.1**
WSRZ	**White Island S**	**0.48**	**250**	P	**Pn**	**00 57 02.6**	**+0.3**
WSRZ				S	**Sn**	**00 57 12.1**	**+2.6**
MXZ	**Matakaoa Point**	**0.49**	**115**	P	**Pn**	**00 57 01.3**	**-1.2**
PKGZ	**Pakihiroa**	**0.60**	**154**	P	**Pn**	**00 57 03.1**	**-0.9**
RUGZ	**Raukumara Rang**	**0.61**	**185**	P	**Pn**	**00 57 03.5**	**-0.8**
WMGZ	**Waiomatatini S**	**0.71**	**131**	Pg	**Pn**	**00 57 05.9**	**+0.5**
WMGZ				S	**Sn**	**00 57 18.6**	**+3.4**
WHRZ	**Whale Island**	**0.79**	**230**	P	**Pn**	**00 57 06.6**	**0.0**
WHRZ				S	**Sn**	**00 57 18.9**	**+1.7**
PUZ	**Puketiti**	**0.83**	**151**	P	**Pn**	**00 57 07.3**	**+0.1**
PUZ				S	**Sn**	**00 57 21.1**	**+3.0**
TWGZ	**Tauwhareparae**	**0.84**	**167**	P	**Pn**	**00 57 07.7**	**+0.3**
TWGZ				S	**Sn**	**00 57 23.5**	**+4.9**
MWZ	**Matawai**	**0.99**	**190**	P	**Pn**	**00 57 08.8**	**-0.7**
MWZ				S	**Sn**	**00 57 22.1**	**-0.2**
URZ	**Urewera**	**1.03**	**209**	P	**Pn**	**00 57 09.4**	**-0.5**
URZ				S	**Sn**	**00 57 23.6**	**+0.4**
URZ	**Urewera**	**1.03**	**209**	P	**Pn**	**00 57 09.5**	**-0.4**
MARZ	**Manawahe**	**1.06**	**233**	P	**Pn**	**00 57 10.0**	**-0.3**
OPRZ	**Ohinepanea**	**1.06**	**242**	P	**Pn**	**00 57 09.8**	**-0.6**
OPRZ				S	**Sn**	**00 57 24.1**	**+0.2**
TKGZ	**Te Karaka**	**1.09**	**176**	P	**Pn**	**00 57 11.1**	**+0.4**
EDRZ	**Edgecumbe**	**1.10**	**226**	P	**Pn**	**00 57 10.6**	**-0.2**
RAGZ	**Rawiri**	**1.17**	**193**	P	**Pn**	**00 57 12.2**	**+0.3**
CNGZ	**Carnagh Statio**	**1.19**	**162**	P	**Pn**	**00 57 12.1**	**0.0**
MYRZ	**Mayor Island**	**1.20**	**273**	P	**Pn**	**00 57 11.5**	**-0.7**
TGRZ	**Tauranga**	**1.24**	**252**	P	**Pn**	**00 57 12.2**	**-0.5**
MKRZ	**Makatiti**	**1.28**	**232**	P	**Pn**	**00 57 14.4**	**+1.0**
TARZ	**Mount Tarawera**	**1.32**	**228**	P	**Pn**	**00 57 14.3**	**+0.4**
OMRZ	**Omania**	**1.32**	**235**	P	**Pn**	**00 57 14.0**	**0.0**
RIGZ	**Rimuhau**	**1.35**	**179**	P	**Pn**	**00 57 14.2**	**-0.1**
MUGZ	**Murupara**	**1.36**	**214**	P	**Pn**	**00 57 13.8**	**-0.7**
KARZ	**Kaharoa**	**1.36**	**240**	P	**Pn**	**00 57 14.3**	**-0.1**
RRRZ	**Republican Roa**	**1.39**	**224**	P	**Pn**	**00 57 14.6**	**-0.2**
HLRZ	**Highlands Stat**	**1.42**	**230**	P	**Pn**	**00 57 15.5**	**+0.2**
NGRZ	**Ngongotaha**	**1.44**	**238**	P	**Pn**	**00 57 15.7**	**+0.1**
SNGZ	**Shannon Statio**	**1.46**	**192**	P	**Pn**	**00 57 16.4**	**+0.5**
KMRZ	**Kaimai**	**1.51**	**250**	P	**Pn**	**00 57 16.1**	**-0.5**
HSRZ	**Hossack Road**	**1.52**	**231**	P	**Pn**	**00 57 17.2**	**+0.5**
HRRZ	**Handcock Road**	**1.55**	**228**	P	**Pn**	**00 57 17.4**	**+0.3**
PRRZ	**Plateau Road**	**1.57**	**223**	P	**Pn**	**00 57 16.7**	**-0.6**
PRGZ	**Paritu Road**	**1.57**	**176**	P	**Pn**	**00 57 16.8**	**-0.6**
GRRZ	**Galatos Road**	**1.63**	**232**	P	**Pn**	**00 57 18.5**	**+0.3**
ALRZ	**Allen Road**	**1.64**	**222**	P	**Pn**	**00 57 18.6**	**+0.3**
RAHZ	**Arahi**	**1.65**	**198**	P	**Pn**	**00 57 19.0**	**+0.6**
MTHZ	**Maungataniwha**	**1.66**	**205**	P	**Pn**	**00 57 18.4**	**-0.2**
KNZ	**Kokohu**	**1.67**	**182**	P	**Pn**	**00 57 17.6**	**-1.0**
KUZ	**Kuaotunu**	**1.73**	**290**	P	**Pn**	**00 57 18.2**	**-1.2**
KUZ				S	**Sn**	**00 57 39.1**	**-1.2**
WHHZ	**Waihua**	**1.77**	**193**	P	**Pn**	**00 57 20.0**	**0.0**
MHGZ	**Mahia Peninsul**	**1.80**	**176**	P	**Pn**	**00 57 19.7**	**-0.8**
MRHZ	**Matea Rd**	**1.81**	**215**	P	**Pn**	**00 57 20.2**	**-0.4**
TOZ	**Tahuroa Road**	**1.82**	**257**	P	**Pn**	**00 57 20.2**	**-0.6**
NMHZ	**Naumai**	**1.89**	**203**	P	**Pn**	**00 57 22.6**	**+0.8**
ARHZ	**Aropaoanui**	**2.00**	**197**	P	**Pn**	**00 57 23.0**	**-0.1**
TLZ	**Tolley Road**	**2.00**	**240**	P	**Pn**	**00 57 23.0**	**-0.3**
BKZ	**Black Stump Fm**	**2.06**	**208**	P	**Pn**	**00 57 23.5**	**-0.6**
BKZ	**Black Stump Fm**	**2.06**	**208**	P	**Pn**	**00 57 23.7**	**-0.4**
MKAZ	**Moumakai**	**2.08**	**276**	P	**Pn**	**00 57 23.7**	**-0.5**
WATZ	**Wairara**	**2.09**	**229**	P	**Pn**	**00 57 24.7**	**+0.3**
GRZ	**Great Barrier**	**2.14**	**300**	P	**Pn**	**00 57 24.0**	**-1.1**
WIAZ	**Waiheke Island**	**2.16**	**284**	P	**Pn**	**00 57 24.8**	**-0.6**
RATZ	**Rangitukua**	**2.17**	**225**	P	**Pn**	**00 57 26.9**	**+1.3**
RITZ	**Rihia Road**	**2.20**	**222**	P	**Pn**	**00 57 27.5**	**+1.5**
MCHZ	**McNeill Hill**	**2.25**	**201**	P	**Pn**	**00 57 26.4**	**-0.2**
ETAZ	**East Tamaki Re**	**2.28**	**279**	P	**Pn**	**00 57 26.9**	**-0.2**
KATZ	**Kakaramea**	**2.29**	**224**	P	**Pn**	**00 57 28.7**	**+1.4**
KWHZ	**Kaweka Forest**	**2.31**	**206**	P	**Pn**	**00 57 27.2**	**-0.4**
CKHZ	**Cape Kidnapper**	**2.36**	**193**	P	**Pn**	**00 57 26.9**	**-1.3**
TMVZ	**Te Maari**	**2.38**	**222**	P	**Pn**	**00 57 28.9**	**+0.3**
NTVZ	**North Tongarir**	**2.39**	**222**	P	**Pn**	**00 57 29.8**	**+1.1**
ETVZ	**East Tongariro**	**2.40**	**221**	P	**Pn**	**00 57 29.0**	**+0.2**
KRVZ	**Karewarewa**	**2.40**	**223**	P	**Pn**	**00 57 30.0**	**+1.2**
OTVZ	**Oturere**	**2.44**	**221**	P	**Pn**	**00 57 29.5**	**+0.1**
NNVZ	**North Ngauruho**	**2.44**	**223**	P	**Pn**	**00 57 29.8**	**+0.4**
EPAZ	**Eden Park BICE**	**2.44**	**280**	P	**Pn**	**00 57 29.5**	**+0.2**
WTVZ	**West Tongariro**	**2.44**	**223**	P	**Pn**	**00 57 30.4**	**+1.0**
ABAZ	**Army Bay**	**2.45**	**287**	P	**Pn**	**00 57 29.1**	**-0.3**
HBAZ	**Herne Bay Bore**	**2.46**	**281**	P	**Pn**	**00 57 29.7**	**+0.2**
SNVZ	**South Ngauruho**	**2.47**	**221**	P	**Pn**	**00 57 30.0**	**+0.2**
NGZ	**Ngauruhoe**	**2.48**	**222**	P	**Pn**	**00 57 30.3**	**+0.3**
AWAZ	**Awhitu Peninsu**	**2.49**	**276**	P	**Pn**	**00 57 30.1**	**+0.2**
TWVZ	**Taurewa**	**2.50**	**226**	P	**Pn**	**00 57 31.0**	**+0.8**
BHHZ	**Black Hill Sta**	**2.51**	**211**	P	**Pn**	**00 57 30.0**	**-0.3**
TUVZ	**Tukino**	**2.52**	**220**	P	**Pn**	**00 57 31.0**	**+0.5**
KRHZ	**Kereru**	**2.53**	**205**	P	**Pn**	**00 57 29.4**	**-1.1**
KAHZ	**Kahuranaki**	**2.53**	**195**	P	**Pn**	**00 57 29.4**	**-1.1**
HIZ	**Hauiti**	**2.56**	**242**	P	**Pn**	**00 57 31.2**	**+0.3**
HIZ	**Hauiti**	**2.56**	**242**

CCB	**Clear Creek Bu**	**17.96**	**39**	P	**P**	**01 37 12.2**	**-0.7**
CCB				IAmb	IAmb	01 37 17.2	
	comp=Z,7.4nm,1.1s						
HDA	**Harding Lake**	**18.18**	**40**	P	**Pn**	**01 37 18.0**	**+0.2**
IL31		**18.37**	**39**	P	**P**	**01 37 16.7**	**-0.6**
ILAR	**Eielson Array**	**18.37**	**39**	P	**P**	**01 37 16.5**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=239,slow=10,SNR=17						
ILAR	**Eielson Array**	**18.37**	**39**	P	**P**	**01 37 16.9**	**-0.5**
H24K	**Noodor Dome**	**18.54**	**35**	P	**P**	**01 37 20.9**	**+1.7**
RIDG	**Independent Ri**	**18.76**	**43**	P	**P**	**01 37 22.4**	**+0.8**
RIDG				IAmb	IAmb	01 37 51.3	
	comp=Z,9.7nm,1.2s						
J25K	**Salcha River,**	**18.89**	**40**	P	**P**	**01 37 21.9**	**-1.2**
J25K				IAmb	IAmb	01 37 24.7	
	comp=Z,11nm,1.4s						
J26L	**Joseph Creek**	**19.56**	**42**	P	**P**	**01 37 30.8**	**+0.5**
J26L				IAmb	IAmb	01 37 31.9	
	comp=Z,4.6nm,0.7s						
L27K	**Beaver Creek,**	**19.82**	**46**	P	**P**	**01 37 33.5**	**+0.4**
L27K				IAmb	IAmb	01 37 36.0	
	comp=Z,7.2nm,1.4s						
BCAR	**Beaver Creek A**	**19.84**	**46**	P	**P**	**01 37 34.1**	**+0.8**
K27K	**Chicken**	**20.01**	**44**	P	**P**	**01 37 36.8**	**+1.8**
K27K				IAmb	IAmb	01 37 38.8	
	comp=Z,4.9nm,0.8s						
BMAR	**Burnt Mountain**	**20.49**	**33**	P	**P**	**01 37 41.6**	**+1.5**
EGAK	**Eagle**	**20.63**	**42**	P	**P**	**01 37 43.3**	**+1.8**
EGAK				IAmb	IAmb	01 37 44.8	
	comp=Z,5.6nm,0.8s						
DAWY	**Dawson**	**21.15**	**44**	P	**P**	**01 37 48.1**	**+1.1**
INK	**Inuvik**	**24.66**	**36**	P	**P**	**01 38 20.1**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=227,slow=6.1,SNR=8.9						
	comp=Z,0.9nm,0.3s						
INK	**Inuvik**	**24.66**	**36**	P	**P**	**01 38 20.7**	**+1.1**
INK				IAmb	IAmb	01 38 31.1	
	comp=Z,7.0nm,1.4s						
B08A	**Colville Reser**	**34.51**	**75**	P	**P**	**01 39 47.5**	**+0.9**
B08A				IAmb	IAmb	01 40 24.1	
	comp=Z,3.8nm,1.1s						
HAWA	**Hanford**	**35.37**	**78**	P	**P**	**01 39 54.2**	**+0.3**
HAWA				IAmb	IAmb	01 39 55.5	
	comp=Z,3.2nm,0.8s						
NEW	**Newport**	**35.84**	**74**	P	**P**	**01 39 58.0**	**-0.1**
NEW				IAmb	IAmb	01 40 06.9	
	comp=Z,3.2nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**36.13**	**211**	T	T	02 17 02.5	
	baz=17						
H11N3	**WAKE ISLAND Hy**	**36.14**	**211**	T	T	02 16 58.0	
	baz=17						
H11N1	**WAKE ISLAND Hy**	**36.15**	**211**	T	T	02 17 14.9	
	baz=17						
BCYI	**Bear Canyon**	**40.13**	**77**	P	**P**	**01 40 34.5**	**+0.5**
BOZ	**Bozeman (W)**	**40.45**	**74**	P	**P**	**01 40 36.9**	**+0.4**
RYN	**Ryan**	**40.47**	**88**	P	**P**	**01 40 40.4**	**+3.5**
RYN				IAmb	IAmb	01 40 41.0	
	comp=Z,4.6nm,0.6s						
NVAR	**Mina Array Bea**	**40.73**	**88**	P	**P**	**01 40 39.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=283,slow=8.6,SNR=4.9						
	comp=Z,0.7nm,0.7s						
YHH	**Holmes Hill**	**41.36**	**75**	P	**P**	**01 40 44.5**	**+0.4**
HVU	**Hansel Valley**	**41.99**	**80**	P	**P**	**01 40 50.2**	**+1.1**
BW06	**Boulder Array**	**43.30**	**76**	P	**P**	**01 41 00.1**	**+0.3**
PD31	**Pinedale Array**	**43.30**	**76**	P	**P**	**01 40 59.8**	**+0.1**
PDAR	**Pinedale Array**	**43.30**	**76**	P	**P**	**01 40 59.9**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=302,slow=4.3,SNR=14						
	comp=Z,1.4nm,0.5s						
U15A	**North Rim**	**45.67**	**85**	P	**P**	**01 41 18.9**	**+0.3**
O20A	**White River Ci**	**45.70**	**78**	P	**P**	**01 41 18.7**	**+0.1**
O20A				IAmb	IAmb	01 41 19.5	
	comp=Z,3.6nm,0.8s						
SDCO	**Great Sand Dun**	**48.87**	**79**	P	**P**	**01 41 44.6**	**+1.3**
AMTX	**Amarillo**	**53.08**	**79**	P	**P**	**01 42 12.9**	**-1.4**
TX31	**Lajitas Ar. Si**	**55.79**	**85**	P	**P**	**01 42 34.2**	**+0.3**
TX32	**Lajitas Array**	**55.79**	**85**	P	**P**	**01 42 34.2**	**+0.3**
TXAR	**Lajitas Array**	**55.79**	**85**	P	**P**	**01 42 33.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=296,slow=4.9,SNR=8.4						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**55.79**	**85**	P	**P**	**01 42 34.2**	**+0.3**
X37A	**Clayton**	**57.01**	**75**	P	**P**	**01 42 42.2**	**-0.1**
X37A				IAmb	IAmb	01 42 42.8	
	comp=Z,2.7nm,0.7s						
ABKAR	**Akbulak array**	**68.31**	**325**	P	**P**	**01 43 56.9**	**+0.2**
KKAR	**Karatay Array**	**69.30**	**315**	P	**P**	**01 44 03.1**	**+0.2**
GERES	**GERESS Array B**	**78.41**	**355**	P	**P**	**01 44 55.3**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=27,slow=5.5,SNR=3.6						
	comp=Z,0.3nm,0.7s						
BUR08	**Bucovina Ar. S**	**78.46**	**347**	P	**P**	**01 44 56.5**	**+0.5**
BUR08				IAmb	IAmb	01 45 13.6	
	comp=Z,5.4nm,1.4s						
BURAR	**Bucovina Array**	**78.49**	**347**	P	**P**	**01 44 56.5**	**+0.4**
BRTR	**Keskin Array B**	**84.61**	**339**	P	**P**	**01 45 28.2**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=357,slow=7.4,SNR=2.5						
	comp=Z,0.5nm,0.8s						
ESDC	**Sonseca Array**	**87.44**	**7**	P	**P**	**01 45 40.8**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=342,slow=8.1,SNR=3.1						
	comp=Z,0.6nm,1.0s						

IDC ***12*** *01:33:35.0±0.7, 19°.38S×174°.06W, h0km, mb4.3/14, mbtmp4.3/16, ML4.1/2, MS3.6/18, Error ellipse: s-maj=26.3km s-min=15.6km az=131.0*

NEIC ***12*** *01:33:38.8±2.2, 19°.5S±0°.1×173°.6W±0°.1, h35km±2km, mb4.6/21, Error ellipse: s-maj=21.0km s-min=18.0km az=24.0*

ISC 12 01:33:39.8±0.6, 19°.3S±0°.1×174°.0W±0°.1, h32km, n105, σ1°31/82, mb4.5/23, MS3.7/17, 4C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.82**	**87**		Pn	01 34 30.9	-5.5
AFI	**Afiamalu**	**5.75**	**22**	Pn	**Pn**	**01 35 03.0**	**0.0**
	5.2nm,0.3s,baz=306,slow=21,SNR=3.0			Sn	**Sn**	**01 36 03.2**	**-4.8**
AFI	13nm,0.3s,baz=143,slow=22,SNR=4.8			LR	LR	01 36 55.7	
	comp=Z,257nm,21.1s,baz=170,slow=34						
	26nm,0.5s						
AFI	**Afiamalu**	**5.75**	**22**	Pn	**Pn**	**01 35 03.0**	**0.0**
MSVF	**Nonsavu**	**7.74**	**280**	Pn	Pn	01 35 37.5	+7.2
	1.4nm,0.3s,baz=129,slow=19,SNR=11						
MSVF				LR	LR	01 38 17.2	
	comp=Z,507nm,18.5s,baz=71,slow=37						
MSVF	**Nonsavu**	**7.74**	**280**	Pn	Pn	01 35 40.4	+10
RAR	**Rarotonga**	**13.45**	**101**	Pn	Pn	01 36 42.0	-6.4
	3.5nm,0.3s,baz=291,slow=7.4,SNR=12						
RAR				LR	LR	01 40 31.9	
	comp=Z,155nm,20.1s,baz=292,slow=31						
MARNC	**Mare, Loyalty**	**17.02**	**260**	P	**P**	**01 37 37.9**	**+0.9**
PINNC	**Pines Island,**	**17.67**	**256**	P	**P**	**01 37 46.2**	**+1.9**
PINNC				IAmb	IAmb	01 37 53.9	
	comp=Z,47nm,0.6s						
DZM	**Mont Dzumac**	**18.54**	**258**	*e*LR	LR	01 42 33.8	
	comp=Z,317nm,22.8s						
DZM	**Mont Dzumac**	**18.54**	**258**	P	**Pn**	**01 37 54.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=79,slow=18,SNR=6.2						
DZM				LR	LR	01 43 51.9	
	comp=Z,275nm,19.8s,baz=54,slow=34						
	comp=Z,13nm,0.8s						
DZM	**Mont Dzumac**	**18.54**	**258**	P	**Pn**	**01 37 55.5**	**+1.2**
URZ	**Urewera**	**20.43**	**200**	P	**P**	**01 38 12.7**	**-1.6**
	comp=Z,9.6nm,0.5s,baz=31,slow=2.3,SNR=7.7						
	comp=Z,9.6nm,0.5s						
URZ	**Urewera**	**20.43**	**200**	P	**P**	**01 38 10.7**	**-3.6**
TBI	**Tubuai**	**23.17**	**104**	*e*LR	LR	01 44 15.4	
	comp=Z,164nm,27.2s						
TBI	**Tubuai**	**23.17**	**104**	*e*T	T	02 02 58.9	
	comp=Z,11nm,0.3s						
PAE	**Paea**	**23.18**	**90**	*e*T	T	02 02 54.0	
	comp=Z,3.5nm,0.2s						
PPT2	**Papeete2**	**23.19**	**90**	*e*LR	LR	01 43 56.6	
	comp=Z,173nm,23.8s						
NNZ	**Nelson**	**24.38**	**204**	P	**P**	**01 38 53.3**	**-1.7**
KHZ	**Kahutara**	**25.36**	**202**	P	**P**	**01 39 02.3**	**-1.6**
KHZ				IAmb	IAmb	01 39 36.9	
	comp=Z,21nm,1.0s						
RPZ	**Rata Peaks**	**27.40**	**204**	P	**P**	**01 39 22.2**	**-0.1**
	comp=Z,8.0nm,0.6s,baz=66,slow=23,SNR=2.6						
RPZ				LR	LR	01 49 36.2	
	comp=Z,272nm,20.9s,baz=39,slow=35						
	comp=Z,8.0nm,0.6s						
EIDS	**Eidsvold**	**32.83**	**253**	P	**P**	**01 40 10.4**	**-0.2**
TAOE	**Nuku Hiva Isla**	**34.34**	**77**	*e*LR	LR	01 48 47.8	
	comp=Z,150nm,25.8s						
CTA	**Charters Tower**	**37.41**	**262**	LR	LR	01 54 27.7	
	comp=Z,151nm,19.0s,baz=81,slow=34						
CTAO	**Charters Tower**	**37.41**	**262**	P	**P**	**01 40 49.2**	**-1.0**
CTAO				IAmb	IAmb	01 40 58.5	
	comp=Z,17nm,1.1s						
PMG	**Port Moresby**	**38.84**	**279**	LR	LR	01 55 11.5	
	comp=Z,96nm,18.1s,baz=134,slow=33						
TOO	**Toolangi**	**39.67**	**234**	P	**P**	**01 41 08.5**	**-0.5**
TOO				IAmb	IAmb	01 41 22.6	
	comp=Z,9.1nm,1.1s						
COEN	**Coen**	**41.34**	**271**	P	**P**	**01 41 23.1**	**+0.1**
COEN				IAmb	IAmb	01 41 57.1	
	comp=Z,16nm,1.3s						
STKA	**Stephens Creek**	**41.73**	**244**	P	**P**	**01 41 24.8**	**-1.2**
	comp=Z,1.7nm,0.4s,baz=92,slow=10,SNR=3.3						
STKA				LR	LR	01 56 16.2	
	comp=Z,108nm,18.8s,baz=42,slow=33						
	comp=Z,1.7nm,0.4s						
STKA	**Stephens Creek**	**41.73**	**244**	P	**P**	**01 41 25.1**	**-0.8**
BBOO	**Buckleboo**	**46.48**	**243**	P	**P**	**01 42 04.8**	**+0.7**
WR0	**Warramunga Arr**	**48.35**	**260**	P	**P**	**01 42 17.1**	**-1.7**
WR0				IAmb	IAmb	01 43 01.4	
	comp=Z,9.6nm,1.3s						
AS31	**Alice Springs**	**48.49**	**255**	P	**P**	**01 42 19.9**	**0.0**
AS31				IAmb	IAmb	01 42 28.3	
	comp=Z,2.9nm,0.7s						
ASAR	**Alice Springs**	**48.49**	**255**	P	**P**	**01 42 18.1**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=84,slow=8.2,SNR=24						
ASAR				PcP	**PcP**	**01 43 46.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=95,slow=4.2,SNR=1.4						
	comp=Z,2.2nm,0.5s						
ASAR	**Alice Springs**	**48.49**	**255**	P	**P**	**01 42 19.5**	**-0.4**
WB0	**Warramunga Arr**	**48.52**	**260**	P	**P**	**01 42 17.4**	**-2.7**
WB0				IAmb	IAmb	01 42 26.5	
	comp=Z,5.9nm,0.8s						
WB2	**Warramunga Arr**	**48.53**	**260**	P	**P**	**01 42 17.8**	**-2.4**
WB2				IAmb	IAmb	01 42 19.6	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**48.53**	**260**	P	**P**	**01 42 18.7**	**-1.5**
WRAB				IAmb	IAmb	01 42 25.0	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**48.54**	**260**	P	**P**	**01 42 17.8**	**-2.5**
	comp=Z,2.0nm,0.5s,baz=98,slow=8.8,SNR=55						
WRA				LR	LR	02 02 47.5	
	comp=Z,66nm,18.0s,baz=76,slow=36						
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**48.54**	**260**	P	**P**	**01 42 17.6**	**-2.7**
KNRA	**Kununurra**	**54.55**	**264**	P	**P**	**01 43 04.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**56.96**	**261**	P	**P**	**01 43 21.9**	**-0.6**
FITZ				IAmb	IAmb	01 43 39.3	
	comp=Z,8.0nm,1.5s						
VNDA	**Vanda**	**59.47**	**186**	P	**P**	**01 43 39.0**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=300,slow=12,SNR=4.1						
VNDA				LR	LR	02 07 37.9	
	comp=Z,22nm,19.0s,baz=9.5,slow=34						
	comp=Z,0.6nm,0.8s						
PSA00	**Pilbara Seismi**	**61.64**	**255**	P	**P**	**01 43 54.3**	**-0.6**
MBWA	**Marble Bar**	**61.83**	**256**	P	**P**	**01 43 54.3**	**-1.8**
QSPA	**South Pole Qui**	**70.77**	**180**	LR	LR	02 09 53.4	
	comp=Z,32nm,21.0s,baz=36,slow=31						
MJAR	**Matsushiro Arr**	**71.58**	**321**	P	**P**	**01 44 58.5**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=157,slow=7.0,SNR=12						
MJAR				LR	LR	02 10 54.5	
	comp=Z,25nm,20.4s,baz=189,slow=31						
	comp=Z,3.8nm,0.8s						
LPIG	**La Paz**	**75.54**	**58**	LR	LR	02 09 44.0	
	comp=Z,47nm,19.4s,baz=234,slow=29						
PETK	**Petropavlovsk-**	**76.17**	**343**	LR	LR	02 12 41.2	
	comp=Z,31nm,21.4s,baz=115,slow=31						
NVAR	**Mina Array Bea**	**77.58**	**42**	P	**P**	**01 45 34.0**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=226,slow=8.8,SNR=12						
	comp=Z,1.3nm,0.7s						
KSRS	**Korea Array**	**78.58**	**316**	P	**P**	**01 45 39.4**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=134,slow=6.2,SNR=6.8						
KSRS				LR	LR	02 16 22.0	
	comp=Z,12nm,19.5s,baz=340,slow=33						
	comp=Z,2.6nm,0.8s						
TXAR	**Lajitas Array**	**83.22**	**56**	P	**P**	**01 46 04.8**	**+1.4**
	comp=Z,1.4nm,1.1s,baz=222,slow=8.4,SNR=7.7						
	comp=Z,1.4nm,1.1s						
KLR	**Kul'dur**	**83.49**	**328**	LR	LR	02 16 11.0	
	comp=Z,41nm,21.5s,baz=174,slow=31						
H03S2	**Juan Fernandez**	**83.51**	**123**	T	T	03 18 35.4	
	baz=249						
H03S1	**Juan Fernandez**	**83.52**	**123**	T	T	03 18 45.6	
	baz=249						
H03S3	**Juan Fernandez**	**83.52**	**123**	T	T	03 18 44.3	
	baz=249						
H03N2	**Juan Fernandez**	**83.63**	**123**	T	T	03 18 43.3	
	baz=256,slow=72,SNR=31						
H03N3	**Juan Fernandez**	**83.63**	**123**	T	T	03 18 27.9	
	baz=256,slow=72,SNR=19						
H03N1	**Juan Fernandez**	**83.64**	**123**	T	T	03 18 25.2	
	baz=256,slow=72,SNR=19						
MAW	**Mawson**	**83.95**	**199**	LR	LR	02 20 48.3	
	comp=Z,40nm,21.0s,baz=68,slow=34						
PDAR	**Pinedale Array**	**85.51**	**42**	P	**P**	**01 46 15.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=227,slow=3.7,SNR=4.9						
	comp=Z,0.3nm,0.5s						
SEY	**Seymchan**	**86.13**	**345**	P	**P**	**01 46 18.0**	**+0.9**
	comp=Z,2.1nm,0.2s,baz=85,slow=2.9,SNR=5.7						
	comp=Z,2.1nm,0.2s						
ILAR	**Eielson Array**	**86.35**	**11**	P	**P**	**01 46 19.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=237,slow=6.5,SNR=7.6						
	comp=Z,1.0nm,0.8s						
ATAH	**Atahualpa**	**92.89**	**99**	LR	LR	02 19 59.9	
	comp=Z,39nm,18.2s,baz=40,slow=30						
CMAR	**Chiang Mai Arr**	**93.32**	**288**	P	**P**	**01 46 53.3**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=111,slow=3.0,SNR=14						
	comp=Z,1.3nm,0.5s						
MKAR	**Makanchi Array**	**113.14**	**313**	PKiKP	**PKiKP**	**01 52 13.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=78,slow=2.7,SNR=2.4						
ARCES	**ARCESS Array B**	**128.37**	**351**	PKP	**PKPdf**	**01 52 42.7**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=339,slow=2.2,SNR=4.9						
FINES	**FINESS Array B**	**135.60**	**346**	PKP	**PKPdf**	**01 52 55.5**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=7.6,slow=4.2,SNR=4.0						
AKASG	**Malin Array Be**	**143.67**	**335**	PKP	PKPbc	01 53 09.3	+0.5
	comp=Z,0.7nm,0.4s,baz=36,slow=3.6,SNR=5.7						
CLL	**Collm**	**147.59**	**352**	*i*PKPbc	**PKiKP**	**01 53 22.3**	**-0.5**
	comp=Z,9.0nm,0.7s						
BURAR	**Bucovina Array**	**147.72**	**335**	⇓P	**PKiKP**	**01 53 23.0**	**-0.4**
OSTC	**Ostas**	**147.78**	**348**	*e*PKP	**PKiKP**	**01 53 23.8**	**+0.5**
DPC	**Dobruska-Polom**	**147.78**	**348**	*e*PKP	**PKiKP**	**01 53 24.1**	**+0.4**
PVCC	**Paneka Ves**	**148.11**	**350**	*e*PKP	**PKiKP**	**01 53 24.4**	**+0.5**
KRLC	**Kraliky**	**148.12**	**347**	*e*PKP	**PKiKP**	**01 53 24.2**	**+0.2**
MAUC	**Maruska**	**148.54**	**345**	*e*PKP	**PKiKP**	**01 53 25.7**	**+0.8**
PRU	**Pruhonice**	**148.63**	**349**	*e*PKP	**PKiKP**	**01 53 25.4**	**+0.4**
NKC	**Novy Kostel**	**148.71**	**352**	*e*PKP	**PKiKP**	**01 53 25.9**	**+0.7**
BRTR	**Keskin Array B**	**148.72**	**317**	PKPbc	**PKPbc**	**01 53 24.6**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=136,slow=4.1,SNR=11						
DRGR		**149.36**	**337**	⇑P	**PKiKP**	**01 53 27.6**	**+0.9**
VOIR		**149.54**	**333**	⇓P	**PKPbc**	**01 53 26.8**	**+0.8**
KHC	**Kasperske Hory**	**149.62**	**350**	*e*PKP	**PKiKP**	**01 53 28.1**	**+1.0**
ARR	**Arges**	**149.78**	**333**	⇑P	**PKiKP**	**01 53 28.8**	**+1.2**
CKRC	**Cesky Krumlov**	**149.80**	**349**	*e*PKP	**PKiKP**	**01 53 28.5**	**+1.0**
GERES	**GERESS Array B**	**149.88**	**350**	PKPbc	**PKPbc**	**01 53 27.1**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=29,slow=3.0,SNR=23						
SIRR	**Siria**	**150.18**	**338**	⇓P	**PKiKP**	**01 53 29.3**	**+1.0**
CONA	**Conrad Observa**	**150.34**	**347**	*i* P	**PKiKP**	**01 53 29.4**	**+0.7**
	comp=Z,5.9nm,1.1s,SNR=6.9						
RONA	**Rosalia, Austr**	**150.46**	**346**	*e*P	**PKiKP**	**01 53 30.0**	**+1.1**
	comp=Z,8.0nm,1.2s						
GZR	**Gura Zlata**	**150.51**	**336**	⇓P	**PKiKP**	**01 53 29.5**	**+0.4**
MOA	**Molln**	**150.74**	**349**	*e*P	**PKPdf**	**01 53 22.8**	**-0.4**
	comp=Z,4.8nm,1.4s						
BZS	**Buzias**	**150.76**	**337**	⇓P	**PKiKP**	**01 53 30.4**	**+0.9**
BIOA	**Bad Ischl, Aus**	**151.01**	**349**	*e*P	**PKiKP**	**01 53 30.5**	**+0.5**
	comp=Z,3.0nm,0.8s						
ARSA	**Arzberg**	**151.06**	**347**	*e*P	**PKiKP**	**01 53 31.5**	**+1.3**
	comp=Z,3.8nm,1.3s						
HERR	**Herculane**	**151.08**	**336**	⇑P	**PKiKP**	**01 53 30.8**	**+0.6**
RETA	**Reutte**	**151.62**	**353**	*e*P	**PKiKP**	**01 53 32.7**	**+1.3**
	comp=Z,4.9nm,1.0s						
KBA	**Koelnbreinsper**	**151.65**	**349**	*e*P	**PKiKP**	**01 53 32.1**	**+0.6**
	comp=Z,1.7nm,0.5s						
WATA	**Walderalm**	**151.67**	**352**	*e*P	**PKiKP**	**01 53 31.8**	**+0.2**
	comp=Z,3.2nm,0.7s						
SOKA	**Soboth**	**151.71**	**347**	*e*P	**PKPdf**	**01 53 27.8**	**+3.0**
	comp=Z,3.9nm,0.7s						
MOTA	**Moosalm**	**151.72**	**353**	*e*P	**PKiKP**	**01 53 32.9**	**+1.2**
	comp=Z,8.3nm,1.2s						
WTTA	**Wattenberg**	**151.73**	**352**	*e*P	**PKiKP**	**01 53 32.3**	**+0.6**
	comp=Z,3.3nm,0.5s						
SQTA	**Sankt Quirin**	**151.83**	**353**	*e*P	**PKiKP**	**01 53 32.1**	**+0.3**
	comp=Z,2.3nm,0.8s						
DAVA	**Damuels**	**151.91**	**354**	*e*P	**PKiKP**	**01 53 33.8**	**+1.7**
	comp=Z,5.2nm,0.8s						
OBKA	**Obir**	**151.97**	**347**	*e*P	**PKiKP**	**01 53 33.0**	**+0.9**
	comp=Z,1.7nm,0.7s						
FETA	**Feichten**	**152.08**	**353**	*e*P	**PKiKP**	**01 53 33.4**	**+0.9**
	comp=Z,4.3nm,1.1s						
ABTA	**Albfaltersbach**	**152.11**	**350**	*e*P	**PKiKP**	**01 53 32.8**	**+0.4**
	comp=Z,5.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**172.60**	**145**	PKP	**PKPdf**	**01 53 44.8**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=241,slow=4.1,SNR=4.4						

IDC ***12*** *01:50:32.6±1.5, 30°.86S×179°.60W, h362km±13km, mb3.1/6, mbtmp4.0/9, Error ellipse: s-maj=23.6km s-min=18.1km az=145.0*

WEL ***12*** *01:50:34.5±0.6, 31°.S±11°×17°.9W±2°.5, h333km, M4.4/36, mB4.9/36, ML5.2/30, MLv5.2/33, Mw(mB)4.2/36, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6*

ISC 12 01:50:31.6±0.6, 30°.93S±0°.06×179°.7W±0°.1, h350km, n89, σ1°29/97, mb3.4/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.24**	**43**	P	**Pn**	**01 51 25.5**	**+0.9**
RIZ	**Raoul Island**	**2.25**	**42**	P	**Pn**	**01 51 27.4**	**+2.7**
RAO	**Raoul Island**	**2.25**	**42**	P	**Pn**	**01 51 26.0**	**+1.3**
	160nm,0.2s,baz=239,slow=20,SNR=5.2						
RAO				S	S	01 51 58.7	-8.7
	302nm,0.2s,baz=148,slow=14,SNR=6.0						
MXZ	**Matakaoa Point**	**6.83**	**194**	P	**Pn**	**01 52 13.6**	**+1.7**
MXZ				S	**S**	**01 53 32.7**	**-0.7**
WMGZ	**Waiomatatini S**	**7.06**	**193**	P	**Pn**	**01 52 16.6**	**+2.1**
HAZ	**Te Kaha**	**7.13**	**197**	P	**Pn**	**01 52 17.0**	**+1.6**
PKGZ	**Pakihiroa**	**7.19**	**194**	P	**Pn**	**01 52 17.2**	**+1.1**
PUZ	**Puketiti**	**7.33**	**193**	P	**Pn**	**01 52 20.8**	**+3.0**
RUGZ	**Raukumara Rang**	**7.36**	**197**	P	**Pn**	**01 52 18.3**	**+0.2**
TWGZ	**Tauwhareparae**	**7.49**	**194**	P	**Pn**	**01 52 22.0**	**+2.4**
CNGZ	**Carnagh Statio**	**7.74**	**193**	P	**Pn**	**01 52 23.9**	**+1.4**
TKGZ	**Te Karaka**	**7.77**	**195**	P	**Pn**	**01 52 23.9**	**+1.1**
URZ	**Urewera**	**7.78**	**199**	P	**Pn**	**01 52 21.3**	**-1.7**
	20nm,0.3s,baz=211,slow=2.0,SNR=25						
URZ				S	**S**	**01 53 52.0**	**-1.9**
	72nm,0.4s,baz=211,slow=20,SNR=20						
URZ	**Urewera**	**7.78**	**199**	P	**Pn**	**01 52 21.5**	**-1.5**
TARZ	**Mount Tarawera**	**7.95**	**202**	P	Pn	01 52 30.0	+4.9
RIGZ	**Rimuhau**	**8.04**	**195**	P	**P**	**01 52 28.2**	**-1.0**
RIGZ				S	**S**	**01 53 58.1**	**-1.5**
MUGZ	**Murupara**	**8.09**	**200**	P	**Pn**	**01 52 25.3**	**-1.3**
HSRZ	**Hossack Road**	**8.10**	**204**	P	**P**	**01 52 32.5**	**+2.7**
HRRZ	**Handcock Road**	**8.16**	**203**	P	**P**	**01 52 32.7**	**+2.2**
GRRZ	**Galatos Road**	**8.18**	**204**	P	**P**	**01 52 33.1**	**+2.4**
PRGZ	**Paritu Road**	**8.23**	**194**	P	**P**	**01 52 31.1**	**-0.1**
ALRZ	**Allen Road**	**8.30**	**202**	P	**Pn**	**01 52 30.1**	**+1.0**
KNZ	**Kokohu**	**8.37**	**194**	P	**Pn**	**01 52 28.0**	**-1.9**
TLZ	**Tolley Road**	**8.38**	**207**	P	**P**	**01 52 35.2**	**+2.3**
RAHZ	**Arahi**	**8.41**	**198**	P	**Pn**	**01 52 31.3**	**+0.9**
RAHZ				S	**S**	**01 54 06.7**	**-0.8**
KUTZ	**Kaahu Road**	**8.41**	**205**	P	**P**	**01 52 35.2**	**+2.0**
MTHZ	**Maungataniwha**	**8.41**	**199**	P	**Pn**	**01 52 31.5**	**+1.0**
MTHZ				S	**S**	**01 54 06.9**	**-0.8**
MHGZ	**Mahia Peninsul**	**8.45**	**193**	P	**Pn**	**01 52 31.7**	**-0.8**
MRHZ	**Matea Rd**	**8.52**	**201**	P	**P**	**01 52 33.7**	**-0.8**
WHHZ	**Waihua**	**8.52**	**197**

REN	**Reno**	**0.13**	**343**		Pg	01 53 00.1	-0.2
VCNR	**Virginia City**	**0.15**	**144**	Pg	Pg	01 53 00.5	-0.1
VPK	**Verdi Peak**	**0.22**	**285**		Pg	01 53 01.9	+0.1
MPK	**Martis Peak**	**0.24**	**240**	Pg	Pg	01 53 01.9	-0.2
MPK				IAML		01 53 06.3	
	comp=E,419nm,0.2s						
PEAR	**Peavine Mounta**	**0.24**	**321**		Pg	01 53 02.3	+0.1
PEAR					Sg	01 53 06.2	+0.5
BABR	**Babbit Peak**	**0.32**	**305**		Pg	01 53 03.8	0.0
PNTR	**Pine Nut**	**0.35**	**159**		Pg	01 53 04.3	+0.1
PNTR				Sg	Sg	01 53 09.8	+0.9
KBF	**Kyburz Flat**	**0.36**	**285**		Pg	01 53 04.4	0.0
PAHR	**Pah Rah Range**	**0.41**	**45**	Pg	Pg	01 53 05.0	-0.3
PAHR				Sg	Sg	01 53 11.2	+0.4
PAHR				IAML		01 53 12.6	
	comp=N,97nm,0.4s						
PAHR				IAML		01 53 12.7	
	comp=E,154nm,0.4s						
DONR	**Donner Summit**	**0.44**	**262**		Pg	01 53 05.7	0.0
DONR					Sg	01 53 11.9	+0.4
LOY	**Loyalton**	**0.44**	**304**		Pg	01 53 05.7	-0.1
LOY					Sg	01 53 12.0	+0.4
EMB	**Emerald Bay**	**0.51**	**211**	Pg	Pg	01 53 06.8	-0.4
EMB				Sg	Sg	01 53 14.4	+0.4
EMB				IAML		01 53 15.6	
	comp=E,49nm,0.2s						
WVA	**Winnemucca Val**	**0.53**	**355**		Pg	01 53 07.5	0.0
WVA					Sg	01 53 15.4	+0.9
YERR	**Yerington**	**0.59**	**136**	Pg	Pg	01 53 08.7	0.0
YERR				Sg	Sg	01 53 16.6	+0.1
YERR				IAML		01 53 17.5	
	comp=N,78nm,0.4s						
YERR				IAML		01 53 18.5	
	comp=E,142nm,0.3s						
BEKR	**Beckworth**	**0.64**	**315**	Pg	Pg	01 53 09.0	-0.7
BEKR				Sg	Sg	01 53 17.9	-0.2
BEKR				IAML		01 53 21.5	
	comp=E,34nm,0.4s						
BMRR	**Black Mountain**	**0.80**	**330**		Pg	01 53 12.2	-0.4
BMRR					Sg	01 53 23.1	-0.1
AFDM	**Forest Hills D**	**1.05**	**244**		Pg	01 53 16.4	-0.9
AFDM				IAML		01 53 33.6	
	comp=N,23nm,0.5s						
AFDM				IAML		01 53 34.2	
	comp=E,24nm,0.3s						
RYN	**Ryan**	**1.25**	**129**	Pg	Pn	01 53 20.3	-0.6
RYN				IAML		01 53 41.1	
	comp=N,38nm,0.3s						
RYN				IAML		01 53 41.0	
	comp=E,34nm,0.5s						
KVN	**Kaiserville**	**1.34**	**105**	Pn	Pn	01 53 22.2	-0.1
KVN				IAML		01 53 43.0	
	comp=E,19nm,0.6s						
KVN				IAML		01 53 43.4	
	comp=N,18nm,0.6s						
ORV	**Oroville**	**1.35**	**276**	Pn	Pn	01 53 21.5	-0.7
CMB	**Columbia Colle**	**1.46**	**200**	Pn	Pn	01 53 23.5	-0.2
CMB				IAML		01 53 48.5	
	comp=N,8.4nm,0.3s						
NVAR	**Mina Array Bea**	**1.51**	**130**	Pn	Pn	01 53 24.8	+0.3
NV08	**Mina Array Sit**	**1.52**	**131**		Pn	01 53 24.6	0.0
LHV	**Little Huntoon**	**1.52**	**139**	Pn	Pn	01 53 24.9	+0.4
LHV				IAML		01 53 48.7	
	comp=E,18nm,0.5s						
LHV				IAML		01 53 49.4	
	comp=N,21nm,0.6s						
LCMM	**Colby Mountain**	**1.54**	**299**		Pb	01 53 25.8	-0.1
NV11	**Mina Array Sit**	**1.59**	**128**	Pn	Pn	01 53 25.6	0.0
NV11				IAML		01 53 51.0	
	comp=E,7.6nm,1.4s						
BMN	**Battle Mountai**	**2.20**	**62**	Pn	Pn	01 53 32.2	-1.8
TPH	**Tonopah**	**2.40**	**123**	Pn	Pn	01 53 36.7	0.0
DSP	**Deep Springs**	**2.48**	**145**	Pn	Pn	01 53 36.6	-1.0
R11A	**Troy Canyon, C**	**3.43**	**107**	Pn	Pn	01 53 50.2	-0.7
R11A				IAML		01 55 43.2	
	comp=N,2.1nm,3.9s						
R11A				IAML		01 55 57.5	
	comp=E,2.8nm,4.8s						

IDC 12 02:05:04.5±26.0, 17°08S×172°01W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=503.2km s-min=178.7km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.61**	**259**	P	P	02 12 37.7	-0.4
	2.0nm,0.7s,baz=90,slow=11,SNR=1.3 2.0nm,0.7s						
STKA	**Stephens Creek**	**44.39**	**242**	P	P	02 13 16.9	-0.2
	1.2nm,0.5s,baz=53,slow=5.1,SNR=3.4 1.2nm,0.5s						
WRA	**Warramunga Arr**	**50.78**	**258**	P	P	02 14 07.1	+0.1
	0.7nm,0.4s,baz=97,slow=6.8,SNR=22 0.7nm,0.4s						
ASAR	**Alice Springs**	**50.89**	**253**	P	P	02 14 07.5	-0.2
	1.1nm,0.5s,baz=85,slow=8.2,SNR=19 1.1nm,0.5s						

*IDC **12** 02:10:59.9±2.2, 42°92N×13°58E, h0km, mb3.3/1, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=86.6km s-min=14.6km az=98.0*
*LDG **12** 02:10:59.8±0.1, 42°81N×13°20E, h7km, Md3.2/2, Ml2.5/19, Error ellipse: s-maj=2.6km s-min=1.9km az=25.0*
*ROM **12** 02:10:59.7±0.1, 42°798N±0°003×13°225E±0°004, h7km, ML3.1/61, Error ellipse: s-maj=0.3km s-min=0.2km az=236.0*
*PRU **12** 02:10:59.2±0.0, 42°73N×13°95E, h0km*

ISC 12 02:11:00.1±0.7, 42°80N±0°01×13°20E±0°01, h9km±4km, n155,σ2°17/217, 37C-39D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.03**	**3**	P	**Pg**	**02 11 01.3**	**-0.8**
T1242				S	**Sg**	**02 11 02.1**	**-1.4**
T1242				AML	AML		
	comp=E,87350µm,1.2s						
T1242				AML	AML		
T1242				AML	AML		
	comp=E,88450µm,1.1s						
T1242				AML	AML		
NRCA	**Norcia**	**0.07**	**300**	⇑P	**Pg**	**02 11 02.4**	**0.0**
NRCA				S	**Sg**	**02 11 04.1**	**+0.1**
NRCA				AML	AML		
	comp=N,97850µm,0.2s						
NRCA				AML	AML		
	comp=E,51500µm,0.1s						
NRCA				AML	AML		
	comp=N,97800µm,0.2s						
NRCA				AML	AML		
	comp=N,97550µm,0.1s						
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,97700µm,0.2s						
NRCA				AML	AML		
	comp=E,54150µm,0.1s						
T1202	**Accumoli, Fraz**	**0.09**	**170**	P	**Pg**	**02 11 02.7**	**+0.1**
T1202				S	**Sg**	**02 11 05.1**	**+0.6**
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
MC2	**Monte Cornacci**	**0.12**	**356**	⇑P	**Pg**	**02 11 02.8**	**-0.2**
MC2				S	**Sg**	**02 11 05.2**	**+0.1**
MMO1	**Montemonaco**	**0.14**	**42**	⇑P	**Pg**	**02 11 02.7**	**-0.5**
MMO1				S	**Sg**	**02 11 05.0**	**-0.5**
T1204	**Amatrice, Fraz**	**0.15**	**145**	⇓P	**Pg**	**02 11 03.5**	**0.0**
T1204				S	**Sg**	**02 11 06.1**	**+0.3**
T1204				AML	AML		
	comp=E,21500µm,0.3s						
T1204				AML	AML		
	comp=N,13300µm,1.5s						
T1204				AML	AML		
	comp=E,21450µm,0.3s						
T1204				AML	AML		
	comp=N,13250µm,1.5s						
T1216	**Preci, Frazion**	**0.16**	**305**	P	**Pg**	**02 11 04.0**	**+0.4**
T1216				S	**Sg**	**02 11 07.4**	**+1.3**
T1216				AML	AML		
T1216				AML	AML		
	comp=E,13750µm,0.5s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,13700µm,0.5s						
T1216				AML	AML		
	comp=N,15850µm,1.4s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,13650µm,0.5s						
T1216				AML	AML		
	comp=N,15800µm,1.4s						
T1216				AML	AML		
	comp=N,15900µm,1.4s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,13700µm,0.5s						
T1216				AML	AML		
T1241	**Roccafluvione,**	**0.18**	**70**	P	**Pg**	**02 11 03.6**	**-0.2**
T1241				S	**Sg**	**02 11 06.4**	**-0.1**
T1241				AML	AML		
	comp=E,31200µm,0.5s						
T1241				AML	AML		
	comp=E,31400µm,0.5s						
T1241				AML	AML		
	comp=N,26700µm,0.7s						
T1241				AML	AML		
	comp=N,26750µm,0.7s						
T1241				AML	AML		
	comp=E,31350µm,0.5s						
T1241				AML	AML		
	comp=N,24950µm,0.7s						
SMA1	**SAN MARTINO**	**0.19**	**149**	⇓P	**Pg**	**02 11 04.2**	**0.0**
SMA1				S	**Sg**	**02 11 07.1**	**+0.1**
SMA1				AML	AML		
	comp=E,26050µm,0.6s						
SMA1				AML	AML		
	comp=N,18450µm,0.9s						
T1243	**Rocca Santa Ma**	**0.21**	**119**	⇓P	**Pg**	**02 11 04.2**	**-0.2**
T1243				S	**Sg**	**02 11 07.5**	**+0.1**
AM05	**Amandola Campo**	**0.21**	**31**	⇑P	**Pg**	**02 11 04.4**	**-0.1**
AM05				S	**Sg**	**02 11 07.8**	**+0.4**
AM05				AML	AML		
	comp=E,4110µm,0.3s						
AM05				AML	AML		
	comp=N,16450µm,0.5s						
AM05				AML	AML		
	comp=E,16400µm,0.3s						
AM05				AML	AML		
	comp=N,4205µm,0.5s						
AM05				AML	AML		
	comp=N,16400µm,0.5s						
T1217	**Poggiodomo (PG**	**0.22**	**247**	⇓P	**Pg**	**02 11 05.1**	**+0.6**
T1217				S	**Sg**	**02 11 09.1**	**+1.5**
T1217				AML	AML		
	comp=E,5170µm,1.2s						
T1217				AML	AML		
	comp=N,9305µm,0.4s						
T1217				AML	AML		
	comp=E,5190µm,1.2s						
T1217				AML	AML		
	comp=N,9295µm,0.4s						
T1217				AML	AML		
	comp=N,9335µm,0.4s						
T1217				AML	AML		
	comp=E,5190µm,1.2s						
T1217				AML	AML		
	comp=N,9270µm,0.4s						
T1217				AML	AML		
	comp=E,5170µm,1.2s						
LNSS	**Leonessa**	**0.23**	**212**	⇑P	**Pg**	**02 11 05.3**	**+0.6**
LNSS				S	**Sg**	**02 11 09.7**	**+1.7**
LNSS				AML	AML		
	comp=E,15000µm,0.5s						
LNSS				AML	AML		
	comp=N,10605µm,0.4s						
T1215	**Vallo di Nera,**	**0.25**	**271**	⇓P	**Pg**	**02 11 05.6**	**+0.5**
T1215				S	**Sg**	**02 11 10.2**	**+1.8**
T1215				AML	AML		
	comp=E,3060µm,0.5s						
T1215				AML	AML		
	comp=N,3110µm,0.7s						
T1215				AML	AML		
	comp=E,3061µm,0.5s						
T1215				AML	AML		
	comp=N,3070µm,1.1s						
T1215				AML	AML		
	comp=E,2990µm,0.5s						
T1215				AML	AML		
	comp=N,3115µm,0.7s						
T1215				AML	AML		
	comp=N,3075µm,1.1s						
FDMO	**Fiordimonte**	**0.25**	**341**	⇓P	**Pg**	**02 11 05.3**	**+0.1**
FDMO				S	**Sg**	**02 11 09.6**	**+0.9**
FDMO				AML	AML		
	comp=E,3400µm,0.8s						
FDMO				AML	AML		
	comp=N,5065µm,0.6s						
GUMA	**Gualdo di Mace**	**0.28**	**20**	⇑P	**Pg**	**02 11 05.3**	**-0.5**
GUMA				S	**Sg**	**02 11 10.3**	**+0.6**
GUMA				AML	AML		
	comp=E,21600µm,0.5s						
GUMA				AML	AML		
	comp=E,19600µm,0.4s						
GUMA				AML	AML		
	comp=N,22550µm,0.5s						
GUMA				AML	AML		
	comp=N,23100µm,0.4s						
RM33	**Pellescritta (**	**0.29**	**178**	⇓P	**Pg**	**02 11 06.1**	**+0.3**
RM33				S	**Sb**	**02 11 11.2**	**-1.1**
RM33				AML	AML		
	comp=N,5100µm,0.3s						
RM33				AML	AML		
	comp=E,6650µm,0.3s						
RM33				AML	AML		
	comp=E,6685µm,0.8s						
RM33				AML	AML		
	comp=N,5095µm,0.3s						
RM33				AML	AML		
	comp=N,5065µm,0.3s						
RM33				AML	AML		
	comp=E,6655µm,0.3s						
CSP1	**Cessapalombo**	**0.29**	**0**	⇑P	**Pg**	**02 11 05.9**	**-0.1**
CSP1				S	**Sg**	**02 11 10.9**	**+0.9**
CSP1				AML	AML		
	comp=N,8810µm,0.8s						
CSP1				AML	AML		
	comp=E,6355µm,0.6s						
CSP1				AML	AML		
	comp=N,8795µm,0.8s						
CSP1				AML	AML		
	comp=N,8785µm,0.8s						
CSP1				AML	AML		
	comp=E,6350µm,0.6s						
CESI	**CESI - Serrava**	**0.30**	**314**	⇓P	**Pg**	**02 11 06.5**	**+0.4**
CESI				S	**Sb**	**02 11 11.9**	**-0.9**
CESI				AML	AML		
	comp=E,4875µm,0.7s						
CESI				AML	AML		
	comp=N,8560µm,0.5s						
TERO	**Teramo**	**0.34**	**120**	⇓P	**Pg**	**02 11 06.5**	**-0.4**
TERO				S	**Sg**	**02 11 11.9**	**+0.5**
TERO				AML	AML		
	comp=E,8880µm,0.2s						
TERO				AML	AML		
	comp=E,8890µm,0.2s						
TERO				AML	AML		
	comp=N,12650µm,1.2s						
TERO				AML	AML		
	comp=E,9625µm,0.2s						
TERO				AML	AML		
	comp=N,12600µm,1.2s						
TERO				AML	AML		
	comp=N,13350µm,1.2s						
TERO				AML	AML		
	comp=E,8870µm,0.2s						
T1247	**Pizzolo (AQ)**	**0.36**	**169**	⇓P	**Pg**	**02 11 07.3**	**+0.1**
T1247				AML	AML		
	comp=E,5790µm,1.5s						
T1247				AML	AML		
	comp=N,4855µm,0.5s						
OFFI	**Offida**	**0.38**	**69**	⇑P	**Pg**	**02 11 08.2**	**+0.6**
OFFI				S	**Sb**	**02 11 14.8**	**-0.2**
OFFI				AML	AML		
	comp=E,9395µm,0.8s						
OFFI				AML	AML		
	comp=N,11400µm,0.6s						
ARRO	**Arrone**	**0.39**	**236**	⇑P	**Pg**	**02 11 08.2**	**+0.5**
ARRO				S	**Sb**	**02 11 14.5**	**-0.6**
ARRO				AML	AML		
	comp=E,2180µm,0.7s						
ARRO				AML	AML		
	comp=N,2655µm,0.3s						
ARRO				AML	AML		
	comp=N,2650µm,0.3s						
MNTP	**Montappone**	**0.39**	**30**	P	**Pg**	**02 11 08.1**	**+0.3**
MNTP				S	**Sb**	**02 11 15.6**	**+0.2**
MNTP				AML	AML		
	comp=E,4625µm,0.5s						
MNTP				AML	AML		
	comp=N,4420µm,1.5s						
MNTP				AML	AML		
	comp=E,4620µm,0.5s						
SEF1	**Sefro**	**0.40**	**332**	⇓P	**Pg**	**02 11 08.2**	**+0.3**
SEF1				S	**Sb**	**02 11 14.8**	**-0.7**
SEF1				AML	AML		
	comp=E,5235µm,0.2s						
SEF1				AML	AML		
	comp=N,4525µm,0.6s						
SEF1				AML	AML		
	comp=E,5230µm,0.2s						
ASSB	**Assisi San Ben**	**0.47**	**302**	⇓P	**Pg**	**02 11 09.4**	**+0.1**
ASSB				S	**Sb**	**02 11 17.0**	**-0.6**
ASSB				AML	AML		
	comp=N,1845µm,0.8s						
ASSB				AML	AML		
	comp=E,1745µm,0.4s						
CESX	**Cesi**	**0.49**	**248**	⇑P	**Pg**	**02 11 10.0**	**+0.3**
CESX				S	**Sb**	**02 11 17.5**	**-0.8**
CESX				AML	AML		
	comp=N,2085µm,0.4s						
CESX				AML	AML		
	comp=E,2020µm,0.4s						
SNTG	**Esanatoglia**	**0.50**	**337**	⇓P	**Pg**	**02 11 09.7**	**-0.1**
SNTG				S	**Sb**	**02 11 17.7**	**-0.6**
SNTG				AML	AML		
	comp=E,184µm,0.8s						
SNTG				AML	AML		
	comp=N,1785µm,0.4s						
SNTG				AML	AML		
	comp=N,280µm,0.4s						
SNTG				AML	AML		
	comp=E,1340µm,0.7s						
SNTG				AML	AML		
	comp=E,184µm,0.8s						
TRTR	**Tortoreto Alta**	**0.52**	**88**	P	**Pb**	**02 11 11.2**	**-0.2**
TRTR				S	**Sb**	**02 11 20.6**	**+1.6**
TRTR				AML	AML		
	comp=E,10700µm,0.5s						
TRTR				AML	AML		
	comp=N,9660µm,0.8s						
FIAM	**Fiamignano**	**0.53**	**187**	⇓P	**Pg**	**02 11 10.4**	**0.0**
FIAM				S	**Sg**	**02 11 18.1**	**+0.7**
FIAM				AML	AML		
	comp=E,2575µm,0.3s						
FIAM				AML	AML		
	comp=N,1870µm,0.8s						
EL6	**Elcito**	**0.54**	**352**	⇓P	**Pg**	**02 11 10.3**	**-0.2**
EL6				S	**Sb**	**02 11 19.6**	**0.0**
EL6				AML	AML		
	comp=E,2720µm,1.5s						
EL6				AML	AML		
	comp=N,2600µm,0.5s						
ATCC	**AVT- Casa Cast**	**0.57**	**313**	⇓P	**Pg**	**02 11 11.2**	**+0.1**
ATCC				S	**Sb**	**02 11 20.6**	**+0.2**
ATCC				AML	AML		
	comp=E,2655µm,0.5s						
ATCC				AML	AML		
	comp=N,1950µm,1.1s						
CING	**Cingoli**	**0.58**	**360**	⇑P	**Pg**	**02 11 11.1**	**-0.3**
CING				S	**Sb**	**02 11 20.5**	**-0.2**
CING				AML	AML		
	comp=E,1515µm,1.2s						
CING				AML	AML		
	comp=N,1000µm,0.7s						
FOSV	**Fossato di Vic**	**0.59**	**327**	⇓P	**Pg**	**02 11 11.5**	**-0.1**
FOSV				S	**Sb**	**02 11 21.0**	**-0.2**
FOSV				AML	AML		
	comp=E,2125µm,0.4s						
FOSV				AML	AML		
	comp=N,2395µm,0.3s						
FOSV				AML	AML		
	comp=E,2120µm,0.4s						
FOSV				AML	AML		
	comp=N,2390µm,0.3s						
VCEL	**Villa Celiera**	**0.62**	**130**	⇓P	**Pg**	**02 11 11.8**	**-0.3**
VCEL				S	**Sb**	**02 11 21.6**	**-0.3**
VCEL				AML	AML		
	comp=E,2635µm,1.3s						
VCEL				AML	AML		
	comp=N,2445µm,1.5s						
PP3	**Marolino**	**0.65**	**27**	⇑P	**Pg**	**02 11 13.2**	**+0.5**
PP3				S	**Sn**	**02 11 24.7**	**-1.1**
PP3				AML	AML		
	comp=E,5995µm,0.5s						
PP3				AML	AML		
	comp=N,4930µm,0.4s						
PP3				AML	AML		
	comp=E,5755µm,0.5s						
PP3				AML	AML		
	comp=E,5995µm,0.5s						
PP3				AML	AML		
	comp=N,5000µm,0.4s						
MURB	**Monte Urbino**	**0.68**	**313**	P	**Pg**	**02 11 13.3**	**+0.1**
MURB				S	**Sb**	**02 11 24.5**	**+0.8**
MURB				AML	AML		
	comp=E,2210µm,0.9s						
MURB				AML	AML		
	comp=N,2385µm,1.3s						
MURB				AML	AML		
	comp=N,2775µm,1.3s						
MURB				AML	AML		
	comp=E,2305µm,0.8s						
MURB				AML	AML		
	comp=E,2215µm,0.9s						
SSFR	**Montelago di S**	**0.71**	**334**	⇓P	**Pg**	**02 11 13.5**	**-0.3**
SSFR				S	**Sb**	**02 11 25.0**	**+0.5**
SSFR				AML	AML		
	comp=E,3150µm,1.2s						
SSFR				AML	AML		
	comp=E,3150µm,1.3s						
SSFR				AML	AML		
	comp=N,1855µm,0.2s						
SSFR				AML	AML		
	comp=N,2005µm,0.2s						
T0110	**Collepietro**	**0.71**	**143**	⇓P	**Pg**	**02 11 13.1**	**-0.7**
T0110				S	**Sg**	**02 11 23.8**	**+0.7**
T0110				AML	AML		
	comp=N,2580µm,1.5s						
T0110				AML	AML		
	comp=N,2585µm,1.5s						
T0110				AML	AML		
	comp=E,2395µm,0.7s						
ARVD	**Arcevia**	**0.73**	**345**	⇓P	**Pg**	**02 11 13.7**	**-0.4**
ARVD				S	**Sb**	**02 11 25.6**	**+0.7**
ARVD				AML	AML		
	comp=E,786µm,0.7s						
ARVD				AML	AML		
	comp=N,554µm,0.9s						
ATFO	**Monte Foce - G**	**0.73**	**321**	⇓P	**Pg**	**02 11 14.1**	**-0.1**
ATFO				S	**Sb**	**02 11 26.0**	**+0.8**
ATFO				AML	AML		
	comp=N,902µm,0.4s						
ATFO				AML	AML		
	comp=E,886µm,0.5s						
ATTE	**AVT- Monte Tez**	**0.74**	**303**	⇑P	**Pg**	**02 11 14.4**	**0.0**
ATTE				AML	AML		
	comp=N,482µm,0.8s						
ATTE				AML	AML		
	comp=N,482µm,0.8s						
ATTE				AML	AML		
	comp=E,505µm,0.8s						
FRON	**Frontone**	**0.80**	**334**	⇓P	**Pg**	**02 11 15.0**	**-0.5**
FRON				S	**Sb**	**02 11 27.8**	**+0.7**
FRON				AML	AML		
	comp=E,734µm,0.8s						
FRON				AML	AML		
	comp=N,899µm,0.8s						
AOI	**Ancona**	**0.81**	**21**	⇑P	**Pg**	**02 11 15.7**	**0.0**
AOI				AML	AML		
	comp=E,1046µm,0.4s						
AOI				AML	AML		
	comp=N,843µm,0.6s						
AOI				AML	AML		
	comp=N,844µm,0.6s						
MGAB	**Montegabbione**	**0.81**	**279**	⇑P	**Pg**	**02 11 16.0**	**+0.3**
MGAB				AML	AML		

	comp=N,1037µm,0.5s								
MGAB					AML	AML			
	comp=E,1500µm,1.4s								
MGAB					AML	AML			
	comp=N,1035µm,0.5s								
MGAB					AML	AML			
	comp=N,1110µm,0.5s								
MGAB					AML	AML			
	comp=E,1625µm,1.4s								
ATVO	**AVT- Monte Val**	**0.83**	**315**	⇓P		**Pg**	**02 11 15.6**	**-0.3**	
ATVO					AML	AML			
	comp=E,593µm,1.3s								
ATVO					AML	AML			
	comp=N,525µm,0.8s								
ATVO					AML	AML			
	comp=E,594µm,1.3s								
ATVO					AML	AML			
	comp=N,524µm,0.8s								
MTCE	**Montecelio**	**0.84**	**204**	⇓P		**Pg**	**02 11 16.0**	**-0.4**	
MTCE					AML	AML			
	comp=N,804µm,0.9s								
MTCE					AML	AML			
	comp=E,1016µm,0.4s								
COR1	**Corinaldo**	**0.85**	**350**	⇑P		**Pg**	**02 11 16.8**	**+0.4**	
COR1				S		**Sn**	**02 11 32.4**	**+1.7**	
COR1					AML	AML			
	comp=E,1069µm,0.6s								
COR1					AML	AML			
	comp=N,2080µm,0.6s								
COR1					AML	AML			
	comp=N,2075µm,0.6s								
COR1					AML	AML			
	comp=E,1073µm,0.6s								
CERT	**Cerreto**	**0.86**	**191**	P		**Pg**	**02 11 15.8**	**-0.9**	
CERT					AML	AML			
	comp=E,1500µm,0.4s								
CERT					AML	AML			
	comp=N,1120µm,0.4s								
ATMI	**Monte Miggiano**	**0.87**	**308**	⇑P		**Pb**	**02 11 17.4**	**0.0**	
ATMI					AML	AML			
	comp=N,1240µm,0.7s								
ATMI					AML	AML			
	comp=E,1255µm,0.7s								
ATPI	**Pietralunga -**	**0.88**	**318**	⇓P		**Pg**	**02 11 16.6**	**-0.3**	
ATPI				S		**Sn**	**02 11 31.0**	**-0.5**	
MPAG	**Monte Paganucc**	**0.89**	**339**	⇑P		**Pg**	**02 11 16.9**	**-0.3**	
MPAG				S		**Sn**	**02 11 32.0**	**+0.1**	
MPAG					AML	AML			
	comp=N,505µm,0.8s								
MPAG					AML	AML			
	comp=E,834µm,0.7s								
NARO	**Abbazia di Nar**	**0.93**	**331**	⇑P		**Pg**	**02 11 17.4**	**-0.6**	
NARO				S		**Sn**	**02 11 33.0**	**+0.2**	
NARO					AML	AML			
	comp=E,404µm,0.8s								
NARO					AML	AML			
	comp=N,396µm,0.5s								
INTR	**Introdacqua**	**0.94**	**146**	⇓P		**Pg**	**02 11 16.7**	**-1.5**	
INTR					AML	AML			
	comp=E,498nm,1.1s								
INTR					AML	AML			
	comp=N,632nm,0.7s								
INTR					AML	AML			
	comp=E,508µm,1.1s								
INTR					AML	AML			
	comp=N,986µm,0.8s								
INTR					AML	AML			
	comp=N,985µm,0.8s								
FSSB	**Fossombrone**	**0.95**	**341**	⇑P		**Pg**	**02 11 18.0**	**-0.3**	
FSSB					AML	AML			
	comp=E,1660µm,0.4s								
FSSB					AML	AML			
	comp=N,2020µm,0.4s								
SACS	**San Casciano d**	**0.95**	**274**	⇓P		**Pn**	**02 11 20.2**	**+0.6**	
SACS					AML	AML			
	comp=E,832µm,1.0s								
SACS					AML	AML			
	comp=N,582µm,0.9s								
APEC	**Apecchio**	**0.95**	**323**	⇑P		**Pg**	**02 11 18.4**	**0.0**	
BADI	**Badiali**	**1.00**	**316**	S		**Sn**	**02 11 36.0**	**+1.5**	
PE3	**Peglio**	**1.04**	**330**	P		**Pg**	**02 11 19.6**	**-0.4**	
LPEL	**Lama dei Pelig**	**1.04**	**136**	⇓P		**Pg**	**02 11 20.1**	**0.0**	
LPEL					AML	AML			
	comp=N,493µm,0.6s								
LPEL					AML	AML			
	comp=E,592µm,1.0s								
CAFI	**Castiglion Fio**	**1.05**	**301**	⇑P		**Pg**	**02 11 20.1**	**-0.2**	
CAFI					AML	AML			
	comp=N,356µm,1.0s								
CAFI					AML	AML			
	comp=E,550µm,1.6s								
RMP	**Rome, Mte Porz**	**1.05**	**201**	⇑P		**Pn**	**02 11 22.6**	**+1.6**	
SSP9	**Sansepolcro**	**1.10**	**315**	⇓P		**Pb**	**02 11 21.4**	**+0.1**	
SSP9					AML	AML			
	comp=E,537µm,1.6s								
SSP9					AML	AML			
	comp=N,565µm,1.6s								
PARC	**Parchiule**	**1.10**	**321**	⇑P		**Pg**	**02 11 20.9**	**-0.4**	
PARC					AML	AML			
	comp=E,459µm,0.5s								
PARC					AML	AML			
	comp=N,546µm,0.9s								
MCIV	**Monte Civitell**	**1.12**	**270**	⇑P		**Pn**	**02 11 22.6**	**+0.6**	
MCIV					AML	AML			
	comp=E,234µm,0.9s								
MCIV					AML	AML			
	comp=N,330µm,0.6s								
PESA	**Pesaro**	**1.17**	**347**	⇑P		**Pg**	**02 11 22.8**	**+0.2**	
PESA					AML	AML			
	comp=E,932µm,1.1s								
PESA					AML	AML			
	comp=N,723µm,1.3s								
SF01	**Poggio Pratacc**	**1.21**	**271**	⇓P		**Pg**	**02 11 24.5**	**+1.3**	
CRE	**Caprese Michel**	**1.23**	**312**	⇑P		**Pg**	**02 11 25.2**	**+1.5**	
CERA	**Filignano**	**1.34**	**153**	P		**Pn**	**02 11 24.7**	**-0.3**	
CERA					AML	AML			
	comp=N,516µm,0.5s								
CERA					AML	AML			
	comp=E,362µm,0.9s								
MIDA	**Miranda**	**1.39**	**146**	⇓P		**Pg**	**02 11 27.4**	**+0.6**	
TRIV	**Trivento**	**1.44**	**135**	P		**Pg**	**02 11 28.1**	**+0.5**	
RUFI	**Rufina**	**1.62**	**311**	⇑P		**Pb**	**02 11 30.2**	**+0.2**	
CIGN	**Sant'Elia a Pi**	**1.70**	**131**	⇑P		**Pb**	**02 11 32.1**	**+0.6**	
TRIF	**Trifonti**	**1.72**	**281**	P		**Pn**	**02 11 30.9**	**+0.8**	
TRIF					AML	AML			
	comp=E,80µm,0.6s								
TRIF					AML	AML			
	comp=N,75µm,0.6s								
MELA	**Melanico ??? S**	**1.80**	**127**	⇓P		**Pb**	**02 11 32.6**	**-0.5**	
SGRT	**San Giovanni R**	**2.15**	**118**	⇓P		**Pn**	**02 11 37.8**	**+1.6**	
HVAR	**Hvar**	**2.41**	**80**	⇓P		**Pn**	**02 11 40.7**	**+1.1**	
MCRV	**Calabrutti - M**	**2.49**	**143**	P		**Pb**	**02 11 45.2**	**+0.1**	
VULT	**Monte Vulture**	**2.58**	**135**	P		**Pn**	**02 11 41.7**	**-0.3**	
VULT					AML	AML			
	comp=N,148µm,0.4s								
VULT					AML	AML			
	comp=E,109µm,0.8s								
VENL	**Venezia Lido**	**2.69**	**348**	⇑P		**Pb**	**02 11 48.9**	**+0.7**	
PALZ	**Palazzo San Ge**	**2.77**	**131**	⇑P		**Pn**	**02 11 46.2**	**+1.7**	
SKDS	**Skadanscina**	**2.81**	**12**	*e*Pn		**Pn**	**02 11 44.9**	**-0.3**	
SKDS	**Skadanscina**	**2.81**	**12**	*i* Pn		**Pn**	**02 11 45.1**	**0.0**	
SKDS				*i* Sn		**Sn**	**02 12 18.9**	**-0.2**	
SKDS					IAML		02 12 24.0		
	comp=Z,12nm,0.3s								
A050A	**Klekovaca**	**2.95**	**54**	*e*Pn		**Pb**	**02 11 50.8**	**-1.9**	
CEY	**Cerknica**	**3.07**	**16**	*e*Pn		**Pn**	**02 11 48.7**	**0.0**	
BOJS	**Bojanci**	**3.08**	**28**	*e*Pn		**Pn**	**02 11 49.7**	**+0.8**	
BOJS	**Bojanci**	**3.08**	**28**	*i* Pn		**Pn**	**02 11 50.3**	**+1.4**	
BOJS	**Bojanci**	**3.08**	**28**	P		**Pn**	**02 11 51.1**	**+2.3**	
PGF	**Pioggiola**	**3.11**	**267**	*e*P		**Pn**	**02 11 50.5**	**+1.2**	
PGF				*e*Sn		**Sn**	**02 12 22.8**	**-3.8**	
	comp=Z,5.7nm,0.7s								
SRKY	**Kupres RS**	**3.15**	**65**	*e*Pn		**Pn**	**02 11 51.5**	**+1.6**	
SABO	**M.te Sabotino**	**3.20**	**5**	⇑P		**Pn**	**02 11 50.7**	**+0.3**	
SABO					AML	AML			
	comp=E,396µm,1.4s								
SABO					AML	AML			
	comp=N,480µm,0.6s								
SABO					AML	AML			
	comp=E,84µm,0.6s								
SABO					AML	AML			
	comp=N,122µm,0.6s								
ROVR	**Rover Verones**	**3.23**	**332**	⇑P		**Pn**	**02 11 53.4**	**+2.3**	
MGRS	**Mrkonjic Grad**	**3.25**	**59**	*e*Pn		**Pn**	**02 11 52.6**	**+1.4**	
STON	**Ston**	**3.31**	**87**	*e*Pn		**Pn**	**02 11 51.2**	**-0.7**	
DOSS	**Dosso del Somm**	**3.41**	**336**	⇓P		**Pn**	**02 11 55.8**	**+2.3**	
CRES	**Cresnjev**	**3.43**	**27**	*e*Pn		**Pn**	**02 11 56.5**	**+2.8**	
A051A	**Mrakovica**	**3.48**	**49**	*e*Pn		**Pn**	**02 11 55.6**	**+1.3**	
STAL	**STALIGIAL**	**3.48**	**354**	⇓P		**Pn**	**02 11 54.7**	**+0.3**	
STAL					AML	AML			
	comp=E,65µm,0.8s								
STAL					AML	AML			
	comp=N,60µm,1.5s								
BLY	**Banja Luka**	**3.48**	**55**	*e*Pn		**Pb**	**02 11 58.4**	**-3.4**	
MAGA	**Magasa**	**3.50**	**329**	⇑P		**Pn**	**02 11 56.9**	**+2.1**	
LUSI	**Trento, Gardas**	**3.55**	**334**	⇑P		**Pn**	**02 11 57.5**	**+2.1**	
ACOM	**Acomizza, Ital**	**3.76**	**3**	⇓P		**Pn**	**02 11 59.7**	**+1.4**	
OBKA	**Obir**	**3.83**	**14**	*e*Pn		**Pn**	**02 12 01.3**	**+2.0**	
OBKA	**Obir**	**3.83**	**14**	*e*Pn		**Pn**	**02 12 01.9**	**+2.6**	
	comp=N,0.7nm,0.2s								
MYKA	**Terra Mystica**	**3.85**	**5**	*e*Pn		**Pn**	**02 12 01.5**	**+2.1**	
	comp=N,2.4nm,0.3s								
KOSI	**Kohlern**	**3.89**	**341**	⇓P		**Pn**	**02 12 02.3**	**+2.2**	
HCY	**Herceg Novi**	**3.92**	**93**	*e*Pn		**Pn**	**02 11 59.4**	**-1.0**	
BRY	**Bratogost**	**3.92**	**87**	*e*Pn		**Pn**	**02 12 02.1**	**+1.5**	
ABTA	**Abfaltersbach**	**3.98**	**353**	*e*Pn		**Pn**	**02 12 02.7**	**+1.5**	
	comp=N,9.6nm,0.5s								
SOKA	**Soboth**	**4.09**	**18**	*e*Pn		Pn	02 12 07.7	+4.9	
	comp=N,1.0nm,0.1s								
UPM	**Unac-Piva**	**4.20**	**83**	*e*Pn		**Pn**	**02 12 06.1**	**+1.7**	
RISI	**Rein**	**4.23**	**350**	⇑P		**Pn**	**02 12 07.2**	**+2.4**	
KBA	**Koelnbreinsper**	**4.28**	**1**	*e*Pn		**Pn**	**02 12 07.7**	**+2.2**	
	comp=N,1.3nm,0.2s								
SBF	**Sospel**	**4.34**	**286**	*e*P		**Pn**	**02 12 07.9**	**+1.7**	
SBF				*e*Sn		**Sn**	**02 12 52.3**	**-4.6**	
	comp=N,5.8nm,0.4s								
VSL	**Villasalto**	**4.38**	**222**	⇑P		**Pn**	**02 12 08.8**	**+2.1**	
DRME	**Dracevica, Mon**	**4.46**	**96**	*e*Pn		**Pn**	**02 12 09.5**	**+1.6**	
FETA	**Feichten**	**4.58**	**338**	*e*Pn		**Pn**	**02 12 13.3**	**+3.8**	
	comp=N,1.1nm,0.4s								
RUDO	**Rudo**	**4.58**	**78**	*e*Pn		**Pn**	**02 12 09.1**	**-0.4**	
WTTA	**Wattenberg**	**4.60**	**347**	*e*Pn		**Pn**	**02 12 12.5**	**+2.5**	
	comp=N,1.2nm,0.4s								
SQTA	**Sankt Quirin**	**4.64**	**343**	*e*Pn		**Pn**	**02 12 13.4**	**+2.9**	
	comp=N,1.3nm,0.3s								
WATA	**Walderalm**	**4.68**	**346**	*e*Pn		**Pn**	**02 12 13.7**	**+2.7**	
	comp=N,3.3nm,0.4s								
ARSA	**Arzberg**	**4.75**	**19**	*e*Pn		**Pn**	**02 12 12.5**	**+0.7**	
	comp=N,0.6nm,0.4s								
MOTA	**Saalm**	**4.79**	**343**	*e*Pn		**Pn**	**02 12 15.2**	**+2.8**	
	comp=N,0.5nm,0.4s								
BIOA	**Bad Ischl, Aus**	**4.91**	**3**	*e*Pn		**Pn**	**02 12 15.8**	**+1.8**	
	comp=N,1.3nm,0.3s								
LMR	**La Mourre**	**4.93**	**279**	*e*P		**Pn**	**02 12 16.2**	**+1.9**	
LMR				*e*Sn		**Sn**	**02 13 06.3**	**-5.1**	
	comp=N,0.3nm,0.2s								
RETA	**Reutte**	**5.00**	**341**	*e*Pn		**Pn**	**02 12 18.2**	**+2.9**	
	comp=N,0.2nm,0.2s								
MBDF	**Montbardon**	**5.04**	**295**	*e*P		**Pn**	**02 12 18.1**	**+2.2**	
MBDF				*e*Sn		**Sn**	**02 13 09.1**	**-5.2**	
	comp=N,0.4nm,0.3s								
DAVA	**Damuels**	**5.07**	**333**	*e*Pn		**Pn**	**02 12 16.6**	**+0.3**	
	comp=N,2.3nm,0.6s								
MOA	**Molln**	**5.11**	**8**	*e*Pn		**Pn**	**02 12 18.4**	**+1.7**	
	comp=N,0.9nm,0.4s								
RONA	**Rosalia, Austr**	**5.37**	**23**	*e*Pn		**Pn**	**02 12 21.9**	**+1.6**	
	comp=N,0.4nm,0.2s								
LPG	**La Plagne**	**5.37**	**302**	*e*P		**Pn**	**02 12 22.9**	**+2.4**	
LPG				*e*Sn		**Sn**	**02 13 17.1**	**-5.5**	
	comp=N,0.1nm,0.1s								
LPL	**La Plagne**	**5.39**	**303**	*e*P		**Pn**	**02 12 23.1**	**+2.3**	
LPL				*e*Sn		**Sn**	**02 13 17.5**	**-5.5**	
	comp=N,0.9nm,0.3s								
CONA	**Conrad Observa**	**5.46**	**19**	*e*Pn		**Pn**	**02 12 22.0**	**+0.3**	
	comp=N,0.5nm,0.3s								
ORIF	**Oris-en-Rattie**	**5.70**	**294**	*e*P		**Pn**	**02 12 27.3**	**+2.3**	
ORIF				*e*Sn		**Sn**	**02 13 24.8**	**-5.7**	
	comp=N,0.3nm,0.2s								
OHR	**Ohrid**	**5.91**	**104**	*i* Pn		**Pn**	**02 12 30.3**	**+2.6**	
GERES	**GERESS Array B**	**6.06**	**3**	Pn		**Pn**	**02 12 29.0**	**-0.8**	
	comp=N,0.2nm,0.3s,baz=173,slow=13,SNR=5.6								
GERES				Sn		**Sn**	**02 13 37.7**	**-1.6**	
	comp=N,0.5nm,0.3s,baz=181,slow=25,SNR=7.6								
GERES				Lg		Lg	02 14 08.6		
	baz=182,slow=31 comp=N,0.3nm,0.4s								
KHC	**Kasperske Hory**	**6.34**	**2**	*e*PN		**Pn**	**02 12 34.4**	**+0.8**	
KHC				x		x	02 12 46.0		
KHC				*e*SN		**Sn**	**02 13 44.0**	**-2.1**	
CABF	**La Chapelle**	**6.34**	**309**	*e*P		**Pn**	**02 12 36.6**	**+2.9**	
CABF				*e*Sn		**Sn**	**02 13 40.2**	**-6.1**	
	comp=N,0.2nm,0.3s								
VIVF	**Saint-Julien-l**	**6.50**	**291**	*e*P		**Pn**	**02 12 38.8**	**+2.9**	
VIVF				*e*Sn		**Sn**	**02 13 43.9**	**-6.3**	
	comp=N,0.4nm,0.3s								
HINF	**Hinteralfeld**	**6.72**	**320**	*e*P		**Pn**	**02 12 41.4**	**+2.5**	
HINF				*e*Sn		**Sn**	**02 13 49.1**	**-6.5**	
	comp=N,8.1nm,0.7s								
STIP	**Stip**	**6.76**	**96**	*i* Pn		**Pn**	**02 12 42.6**	**+3.2**	
LASF	**Ste Croix**	**6.92**	**284**	*e*P		**Pn**	**02 12 44.4**	**+2.8**	
LASF				*e*Sn		**Sn**	**02 13 53.8**	**-6.7**	
	comp=N,0.3nm,0.3s								
CDF	**Champ du Feu**	**6.99**	**326**	*e*P		**Pn**	**02 12 44.1**	**+1.6**	
CDF				*e*Sn		**Sn**	**02 13 55.2**	**-6.9**	
	comp=N,3.3nm,0.6s								
HAU	**Haudompre**	**7.10**	**320**	*e*P		**Pn**	**02 12 46.2**	**+2.2**	
HAU				*e*Sn		**Sn**	**02 13 58.0**	**-6.8**	
	comp=N,5.6nm,0.5s								
KEST	**Kesra**	**7.66**	**204**	Pn		Pn	02 12 57.5	+5.7	
	comp=N,0.1nm,0.3s,baz=21,slow=17,SNR=4.3 comp=N,0.7nm,0.6s								
SMF	**Signal de Mont**	**7.70**	**303**	*e*P		**Pn**	**02 12 54.4**	**+2.2**	
SFTF	**Sexfontaines**	**7.88**	**316**	*e*P		**Pn**	**02 12 57.1**	**+2.4**	
LOR	**Lormes**	**7.98**	**307**	*e*P		**Pn**	**02 12 59.6**	**+3.4**	
	baz=122								
LOR				*e*Sn		**Sn**	**02 14 19.2**	**-7.4**	
	comp=N,0.3nm,0.2s								
AVF	**Avril sur Loir**	**8.06**	**303**	*e*P		**Pn**	**02 13 00.2**	**+3.0**	
MTLF	**Montolieu**	**8.06**	**278**	*e*P		**Pn**	**02 13 00.4**	**+3.1**	
MTLF				*e*Sn		**Sn**	**02 14 21.1**	**-7.4**	
	comp=N,0.3nm,0.3s								
SSF	**Saint Saulge**	**8.09**	**305**	*e*P		**Pn**	**02 13 00.0**	**+2.4**	
SSF				*e*Sn		**Sn**	**02 14 21.9**	**-7.3**	
	comp=N,0.5nm,0.4s								
SAVF	**Savonnieres en**	**8.11**	**319**	*e*P		**Pn**	**02 13 01.0**	**+3.1**	
CAF	**Calviac**	**8.32**	**289**	*e*P		**Pn**	**02 13 03.7**	**+2.8**	
EPF	**Esparros**	**9.44**	**276**	*e*P		**Pn**	**02 13 19.5**	**+3.3**	
TORD	**Torodi Ar. Bea**	**31.18**	**202**	P		**P**	**02 17 22.1**	**+2.7**	
	comp=N,0.2nm,0.5s,baz=20,slow=9.1,SNR=1.7 comp=N,0.2nm,0.5s								

ROM 12 02:11:56.3±0.0, 42°.804N±0°.002×13°.239E±0°.003, h10km, ML2.5/3, 8C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=211.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**315**	P		Pg	02 11 58.0	-0.3
T1242					AML	AML		
	comp=E,5050µm,0.2s							
T1242					AML	AML		
	comp=N,7535µm,1.2s							
T1242					AML	AML		
	comp=N,7585µm,1.2s							
T1242					AML	AML		
	comp=E,5065µm,0.2s							
NRCA	**Norcia**	**0.10**	**288**	⇑P		Pg	02 11 59.1	+0.2
NRCA				S		Sg	02 12 00.9	+0.1
NRCA					AML	AML		
	comp=N,3485µm,0.2s							
NRCA					AML	AML		
	comp=N,3770µm,0.2s							
NRCA					AML	AML		
	comp=E,3130µm,0.1s							
NRCA					AML	AML		
	comp=E,2905µm,1.5s							
NRCA					AML	AML		
	comp=N,3490µm,0.2s							
T1202	**Accumoli, Fraz**	**0.10**	**186**	⇑P		Pg	02 11 59.3	+0.4
T1202				S		Sg	02 12 01.8	+1.0
T1202					AML	AML		
	comp=N,4280µm,1.0s							
T1202					AML	AML		
	comp=N,4270µm,1.0s							
T1202					AML	AML		
	comp=E,4125µm,0.3s							
MC2	**Monte Cornacci**	**0.11**	**342**	⇑P		Pg	02 11 59.6	+0.3
MC2				S		Sg	02 12 01.9	+0.5
MMO1	**Montemonaco**	**0.12**	**34**	⇑P		Pg	02 11 59.5	+0.3
MMO1				S		Sg	02 12 01.7	+0.5
T1204	**Amatrice, Fraz**	**0.14**	**156**	P		Pg	02 12 00.1	+0.5
T1241	**Roccafluvione,**	**0.15**	**70**	⇑P		Pg	02 12 00.4	+0.7
T1241				S		Sg	02 12 03.2	+1.2
T1216	**Preci, Frazion**	**0.18**	**298**	P		Pg	02 12 00.7	+0.5
T1216				S		Sg	02 12 04.5	+1.6
SMA1	**SAN MARTINO**	**0.19**	**158**	⇑P		Pg	02 12 00.8	+0.6
T1243	**Rocca Santa Ma**	**0.19**	**125**	P		Pg	02 12 00.8	+0.5
T1243				S		Sg	02 12 04.1	+1.0
AM05	**Amandola Campo**	**0.19**	**26**	P		Pg	02 12 01.1	+0.8
AM05				S		Sg	02 12 04.6	+1.5
T1217	**Poggiodomo (PG**	**0.24**	**248**	P		Pg	02 12 02.0	+0.7
T1217				S		Sg	02 12 06.4	+1.7
LNSS	**Leonessa**	**0.25**	**216**	⇓P		Pg	02 12 02.0	+0.6
LNSS				S		Sg	02 12 06.5	+1.7
FDMO	**Fiordimonte**	**0.26**	**334**	⇑P		Pg	02 12 02.1	+0.5
FDMO				S		Sb	02 12 06.6	-1.1
T1215	**Vallo di Nera,**	**0.27**	**270**	P		Pg	02 12 02.4	+0.6
T1215				S		Sb	02 12 07.1	-0.9
CSP1	**Cessapalombo**	**0.29**	**355**	P		Pg	02 12 02.8	+0.6
CSP1				S		Sb	02 12 07.7	-0.9
RM33	**Pellescritta (**	**0.29**	**183**	P		Pg	02 12 03.0	+0.7
RM33				S		Sb	02 12 08.3	-0.5
CESI	**CESI - Serrava**	**0.32**	**309**	P		Pg	02 12 03.2	+0.6
CESI				S		Sb	02 12 08.6	-0.8
TERO	**Teramo**	**0.32**	**124**	P		Pg	02 12 03.1	+0.4
TERO				S		Sb	02 12 08.6	-1.0
SNTG	**Esanatoglia**	**0.50**	**334**	⇑P		Pg	02 12 06.4	+0.3
SNTG				S		Sb	02 12 14.2	-0.5

IDC 12 02:19:18.6±4.5, 55°.31S×30°.32W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=150.2km s-min=51.6km az=175.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**47.87**	**21**	T		T	03 19 27.4	
	baz=199							
H10S3	**ASCENSION HYDR**	**47.87**	**21**	T		T	03 19 22.5	
	baz=21							
LPAZ	**La Paz**	**48.51**	**308**	P		P	02 28 03.7	-0.2
	0.8nm,0.7s,baz=175,slow=14,SNR=5.0 0.8nm,0.7s							
H10N1	**ASCENSION HYDR**	**48.99**	**21**	T		T	03 20 43.9	
	baz=192,slow=76,SNR=20							
H10N3	**ASCENSION HYDR**	**48.99**	**21**	T		T	03 20 43.9	
	baz=192,slow=76,SNR=13							
H10N2	**ASCENSION HYDR**	**49.00**	**21**	T		T	03 20 45.1	
	baz=192,slow=76,SNR=12							
TORD	**Torodi Ar. Bea**	**73.33**	**33**	P		P	02 30 52.0	0.0
	0.6nm,0.8s,baz=204,slow=6.8,SNR=5.4 0.6nm,0.8s							
ILAR	**Eielson Array**	**148.30**	**313**	PKPbc		PKPbc	02 39 04.7	-0.6
	0.5nm,0.6s,baz=112,slow=0.8,SNR=4.5							

*IDC **12** 02:33:54.9±4.7, 14°.64S×167°.25E, h114km±38km, mb3.7/9, mbtmp4.1/10, MS3.2/2, Error ellipse: s-maj=30.0km s-min=22.0km az=36.0*

*NEIC **12** 02:33:55.4±2.1, 14°.5S±0°.1×167°.4E±0°.2, h124km±5km, mb4.5/19, Error ellipse: s-maj=24.0km s-min=16.4km az=86.0*

ISC 12 02:33:59.0±0.8, 14°.79S±0°.09×167°.2E±0°.1, h150km, n41, σ1s12/43, mb4.4/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**6.39**	**206**			**Pn**	**02 35 29.7**	**-1.2**
MARNC	**Mare, Loyalty**	**6.70**	**174**	Pn		Pn	02 35 30.2	-4.9
DZM	**Mont Dzumac**	**7.29**	**186**	P		**Pn**	**02 35 41.8**	**-1.2**
	16nm,0.3s,baz=358,slow=11,SNR=32							
DZM				S		**Sn**	**02 37 02.2**	**-2.3**
	7.2nm,0.3s,baz=115,slow=23,SNR=1.8							
DZM	**Mont Dzumac**	**7.29**	**186**	Pn		**Pn**	**02 35 41.2**	**-1.7**
ONTNC	**Ouen Toro**	**7.52**	**186**	Pn		**Pn**	**02 35 45.0**	**-0.9**
OUENC	**Ouen Island, N**	**7.60**	**183**	Pn		**Pn**	**02 35 45.6**	**-1.5**
EIDS	**Eidsvold**	**18.45**	**233**	P		**P**	**02 38 04.8**	**+1.6**
CTA	**Charters Tower**	**20.70**	**252**	P		**P**	**02 38 27.4**	**-0.1**
	2.0nm,0.7s,baz=66,slow=9.8,SNR=1.5							
CTA				LR		LR	02 46 43.8	
	comp=Z,55nm,18.2s,baz=268,slow=37 2.0nm,0.7s							
CTAO	**Charters Tower**	**20.70**	**252**	P		**P**	**02 38 29.1**	**+1.5**
CTAO				IAmb		IAmb	02 39 02.2	
	comp=Z,16nm,1.2s							
OUZ	**Omahuta**	**21.14**	**165**	P		**P**	**02 38 33.7**	**+1.6**
OUZ				IAmb		IAmb	02 38 35.2	
	comp=Z,30nm,1.1s							
ARMA	**Armidale**	**21.17**	**220**	P		**P**	**02 38 33.9**	**+1.3**
MANU	**Manus Island**	**23.35**	**301**	P		**P**	**02 38 51.9**	**-2.2**
URZ	**Urewera**	**24.96**	**161**	P		**P**	**02 39 08.8**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=211,slow=11,SNR=3.8 comp=Z,3.3nm,0.6s							
URZ	**Urewera**	**24.96**	**161**	P		**P**	**02 39 08.6**	**+0.1**
URZ				IAmb		IAmb	02 39 29.2	
	comp=Z,27nm,1.5s							
BKZ	**Black Stump Fm**	**25.62**	**163**	P		**P**	**02 39 14.7**	**+0.2**
BKZ				IAmb		IAmb	02 39 39.7	
	comp=Z,17nm,1.5

IDC ***12*** *02:40:02.5±2.1,39°.14N×23°.73E,h0km,mb3.3/2, mbtmp3.2/3,ML2.5/1,Error ellipse: s-maj=65.0km s-min=29.4km az=171.0*
ATH ***12*** *02:40:03.1,39°.51N×23°.56E,h18km±2km,ML2.9/30,Error ellipse: s-maj=2.6km s-min=0.9km az=225.0*
THE ***12*** *02:40:03.2,39°.52N×23°.55E,h8km±1km,ML3.0/14,Error ellipse: s-maj=1.0km s-min=0.5km az=281.0*
ISC 12 02:40:03.0±1.0,**39°.50N**±0°.02×**23°.58E**±0°.02,**h10**km±8km, **n88**,σ**0**:**94**/110,**13C-5D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.33**	**246**	P	**Pb**	**02 40 09.9**	**-1.0**
XOR				S	**Sg**	**02 40 14.4**	**+0.5**
	3μm,0.5s						
XOR	**Xorichti**	**0.33**	**246**	P	**Pg**	**02 40 09.7**	**+0.2**
XOR				S	**Sb**	**02 40 15.2**	**-1.0**
XOR				AML	AML	02 40 15.6	
	comp=E,5262μm,0.6s						
XOR				AML	AML	02 40 21.9	
	comp=N,5536μm,0.3s						
NEO	**Neokhori**	**0.33**	**235**	P	**Pg**	**02 40 10.0**	**+0.3**
NEO				S	**Sg**	**02 40 15.0**	**+0.9**
	comp=N,5μm,0.3s						
NEO	**Neokhori**	**0.33**	**235**	P	**Pg**	**02 40 09.9**	**+0.3**
NEO				S	**Sb**	**02 40 15.1**	**-1.3**
NEO				AML	AML	02 40 15.7	
	comp=E,11804μm,0.3s						
NEO				AML	AML	02 40 17.2	
	comp=N,7122μm,0.5s						
ALNA	**Alonissos**	**0.42**	**147**	P	**Pb**	**02 40 12.3**	**-0.1**
ALNA				S	**Sb**	**02 40 18.2**	**-0.7**
ALNA				AML	AML	02 40 25.5	
	comp=E,5596μm,0.6s						
ALNA				AML	AML	02 40 26.9	
	comp=N,6543μm,0.7s						
PAIG	**Paliouri**	**0.43**	**11**	P	**Pb**	**02 40 11.9**	**-0.8**
PAIG				S	**Sg**	**02 40 17.6**	**+0.3**
	comp=N,2μm,0.5s						
PAIG	**Paliouri**	**0.43**	**11**	P	**Pb**	**02 40 11.9**	**-0.8**
PAIG				S	**Sg**	**02 40 17.7**	**+0.3**
PAIG				AML	AML	02 40 20.9	
	comp=N,4259μm,0.5s						
PAIG				AML	AML	02 40 25.8	
	comp=E,3603μm,0.4s						
OUR	**Ouranopolis**	**0.89**	**20**	P	**Pb**	**02 40 20.0**	**-0.5**
OUR				S	**Sb**	**02 40 32.2**	**-0.2**
	comp=E,1μm,0.6s						
OUR	**Ouranopolis**	**0.89**	**20**	P	**Pb**	**02 40 20.2**	**-0.3**
OUR				S	**Sg**	**02 40 30.7**	**-1.0**
OUR				AML	AML	02 40 41.2	
	comp=N,3063μm,0.4s						
OUR				AML	AML	02 40 42.0	
	comp=E,3916μm,0.7s						
ATAL	**Atalanti**	**0.91**	**208**	P	**Pb**	**02 40 21.0**	**+0.1**
ATAL				AML	AML	02 40 36.5	
	comp=N,2049μm,0.6s						
ATAL				AML	AML	02 40 37.6	
	comp=E,1454μm,0.7s						
LRSO	**Larissa Observ**	**0.93**	**281**	P	**Pg**	**02 40 20.4**	**-0.5**
KYMI	**Kymi, Euboea I**	**0.96**	**155**	P	**Pn**	**02 40 21.6**	**-0.8**
KYMI				S	**Sn**	**02 40 35.6**	**-0.5**
	comp=E,1μm,0.4s						
KYMI	**Kymi, Euboea I**	**0.96**	**155**	P	**Pn**	**02 40 21.7**	**-0.8**
KYMI				AML	AML	02 40 39.5	
	comp=E,2524μm,0.3s						
KYMI				AML	AML	02 40 39.6	
	comp=N,1572μm,0.3s						
LKR	**Lokris**	**0.96**	**208**	P	**Pg**	**02 40 20.5**	**-1.0**
LKR				S	**Sb**	**02 40 34.6**	**+0.2**
	comp=N,592nm,0.4s						
SKY	**Skiros Island**	**0.98**	**129**	P	**Pn**	**02 40 22.1**	**-0.7**
SKY				AML	AML	02 40 39.0	
	comp=N,1824μm,0.5s						
SKY				AML	AML	02 40 39.0	
	comp=E,2697μm,0.2s						
AXAR	**Agios Charalam**	**1.02**	**224**	P	**Pb**	**02 40 22.6**	**-0.2**
AXAR				S	**Sn**	**02 40 38.3**	**+0.5**
	comp=E,1μm,0.5s						
AXAR	**Agios Charalam**	**1.02**	**224**	P	**Pb**	**02 40 22.7**	**0.0**
AXAR				AML	AML	02 40 45.8	
	comp=E,2640μm,0.7s						
AXAR				AML	AML	02 40 46.2	
	comp=N,2983μm,0.5s						
LIT	**Litokhoron**	**1.03**	**306**	P	**Pg**	**02 40 22.3**	**-0.5**
LIT				S	**Sg**	**02 40 35.8**	**-0.4**
	comp=N,278nm,0.6s						
LIT	**Litokhoron**	**1.03**	**306**	P	**Pg**	**02 40 22.1**	**-0.7**
LIT				AML	AML	02 40 37.4	
	comp=N,701μm,0.7s						
LIT				AML	AML	02 40 50.3	
	comp=E,509μm,0.4s						
HORT	**Hortiatis**	**1.16**	**342**	P	**Pg**	**02 40 24.3**	**-0.9**
HORT	**Hortiatis**	**1.16**	**342**	P	**Pg**	**02 40 24.4**	**-0.8**
HORT				AML	AML	02 40 43.0	
	comp=N,773μm,0.9s						
HORT				AML	AML	02 40 48.6	
	comp=E,989μm,0.5s						
THL	**Klokotos Trika**	**1.21**	**274**	P	**Pb**	**02 40 24.8**	**-1.1**
THL				S	**Sb**	**02 40 42.1**	**+0.5**
	comp=E,155nm,0.6s						
THL	**Klokotos Trika**	**1.21**	**274**	P	**Pb**	**02 40 25.1**	**-0.9**
THL				AML	AML	02 40 51.1	
	comp=N,376μm,0.6s						
THL				AML	AML	02 40 52.6	
	comp=E,262μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.22**	**247**	P	**Pb**	**02 40 25.7**	**-0.5**
MAKR				S	**Sn**	**02 40 43.6**	**+0.9**
	comp=E,695nm,0.5s						
MAKR	**Makrakomi, Fth**	**1.22**	**247**	P	**Pb**	**02 40 25.7**	**-0.5**
MAKR				AML	AML	02 40 51.1	
	comp=E,1546μm,0.5s						
MAKR				AML	AML	02 40 56.3	
	comp=N,1228μm,0.5s						
THE	**Thessaloniki**	**1.22**	**338**	P	**Pb**	**02 40 25.4**	**-0.8**
THE	**Thessaloniki**	**1.22**	**338**	P	**Pb**	**02 40 25.2**	**-1.0**
THE				AML	AML	02 40 50.4	
	comp=N,321μm,1.0s						
THE				AML	AML	02 40 52.3	
	comp=E,448μm,0.5s						
LIA	**Limnos Island**	**1.30**	**72**	P	**Pn**	**02 40 26.2**	**-1.0**
LIA				S	**Sn**	**02 40 46.9**	**+2.3**
	comp=E,445nm,0.6s						
LIA	**Limnos Island**	**1.30**	**72**	P	**Pn**	**02 40 26.5**	**-0.7**
LIA				AML	AML	02 40 47.5	
	comp=E,862μm,0.6s						
LIA				AML	AML	02 40 47.6	
	comp=N,913μm,0.6s						
VIL2	**Platees**	**1.31**	**191**	P	**Pg**	**02 40 27.5**	**-0.6**
VIL2				AML	AML	02 40 51.9	
	comp=N,1333μm,0.6s						
VIL2				AML	AML	02 40 54.2	
	comp=E,1807μm,0.5s						
SOH	**Sokhos**	**1.33**	**353**	P	**Pn**	**02 40 27.0**	**-0.7**
SOH				S	**Sb**	**02 40 44.9**	**-0.3**
	comp=E,440nm,0.5s						
SOH	**Sokhos**	**1.33**	**353**	P	**Pn**	**02 40 27.2**	**-0.4**
SOH				AML	AML	02 40 55.9	
	comp=E,1548μm,0.6s						
SOH				AML	AML	02 40 56.2	
	comp=N,951μm,0.5s						
VILL	**Villia**	**1.35**	**189**	P	**Pn**	**02 40 27.5**	**-0.4**
KOKK	**Kokkinochori,**	**1.35**	**14**	P	**Pn**	**02 40 26.8**	**-1.2**
KOKK	**Kokkinochori,**	**1.35**	**14**	P	**Pn**	**02 40 27.0**	**-0.9**
DION	**Dionisos Attik**	**1.45**	**169**	P	**Pn**	**02 40 28.9**	**-0.3**
DION				S	**Sg**	**02 40 49.6**	**0.0**
	comp=N,2μm,0.5s						
DION	**Dionisos Attik**	**1.45**	**169**	P	**Pn**	**02 40 29.0**	**-0.3**
DION				AML	AML	02 40 54.9	
	comp=E,3488μm,0.6s						
DION				AML	AML	02 40 55.4	
	comp=N,2803μm,0.3s						
PTL	**Penteli**	**1.47**	**171**	P	**Pn**	**02 40 29.1**	**-0.4**
PTL	**Penteli**	**1.47**	**171**	P	**Pn**	**02 40 29.4**	**-0.1**
EVR	**Evrytania**	**1.49**	**248**	P	**Pn**	**02 40 29.7**	**-0.2**
EVR	**Evrytania**	**1.49**	**248**	P	**Pn**	**02 40 29.7**	**-0.2**
EVR				AML	AML	02 41 04.5	
	comp=E,330μm,0.7s						
EVR				AML	AML	02 41 10.0	
	comp=N,391μm,1.0s						
ATH	**Athens Observa**	**1.53**	**176**	P	**Pn**	**02 40 30.3**	**0.0**
ATH				S	**Sg**	**02 40 52.0**	**-0.2**
	comp=N,502nm,0.4s						
ATH	**Athens Observa**	**1.53**	**176**	P	**Pn**	**02 40 30.3**	**0.0**
ATHU	**Athens Univers**	**1.54**	**174**	P	**Pn**	**02 40 30.2**	**-0.3**
LTK	**Loutraki**	**1.55**	**198**	P	**Pn**	**02 40 30.0**	**-0.6**
LTK	**Loutraki**	**1.55**	**198**	P	**Pn**	**02 40 30.2**	**-0.4**
LTK				AML	AML	02 40 59.7	
	comp=N,897μm,0.5s						
LTK				AML	AML	02 41 04.1	
	comp=E,891μm,0.5s						
LOUT	**Loutraki**	**1.58**	**197**	P	**Pn**	**02 40 30.7**	**-0.4**
LOUT				AML	AML	02 41 00.3	
	comp=N,175μm,0.6s						
LOUT				AML	AML	02 41 03.4	
	comp=E,140μm,0.8s						
KZN	**Kozani**	**1.60**	**301**	P	**Pn**	**02 40 30.5**	**-0.9**
SERG	**Sergoula**	**1.61**	**228**	P	**Pn**	**02 40 31.1**	**-0.3**
SERG	**Sergoula**	**1.61**	**228**	P	**Pn**	**02 40 31.2**	**-0.2**
SERG				AML	AML	02 40 59.1	
	comp=E,444μm,0.6s						
SERG				AML	AML	02 41 00.9	
	comp=N,524μm,0.5s						
SRS	**Serrai**	**1.61**	**0**	P	**Pn**	**02 40 30.7**	**-0.9**
SRS	**Serrai**	**1.61**	**0**	P	**Pn**	**02 40 30.7**	**-0.9**
SRS				AML	AML	02 41 02.8	
	comp=E,344μm,0.6s						
SRS				AML	AML	02 41 06.2	
	comp=N,599μm,1.0s						
THAL	**Thalero**	**1.63**	**206**	P	**Pn**	**02 40 31.2**	**-0.5**
THAL				AML	AML	02 41 02.0	
	comp=N,764μm,0.7s						
THAL				AML	AML	02 41 12.4	
	comp=E,904μm,0.6s						
VLY	**Voula,Athens**	**1.65**	**174**	P	**Pn**	**02 40 31.7**	**-0.4**
VLY	**Voula,Athens**	**1.65**	**174**	P	**Pn**	**02 40 32.0**	**-0.1**
VLY				AML	AML	02 40 58.4	
	comp=E,1333μm,0.6s						
VLY				AML	AML	02 41 01.4	
	comp=N,1745μm,0.5s						
EFP	**Efpalio**	**1.69**	**231**	P	**Pn**	**02 40 32.3**	**-0.1**
EFP				AML	AML	02 41 09.1	
	comp=N,395μm,1.5s						
EFP				AML	AML	02 41 14.5	
	comp=E,474μm,0.9s						
GRG	**Griva**	**1.71**	**329**	P	**Pn**	**02 40 32.2**	**-0.7**
GRG	**Griva**	**1.71**	**329**	P	**Pn**	**02 40 32.4**	**-0.4**
GRG				AML	AML	02 40 59.6	
	comp=N,437μm,0.5s						
GRG				AML	AML	02 41 07.2	
	comp=E,324μm,0.5s						
KNT	**Kendrikon**	**1.74**	**343**	P	**Pn**	**02 40 33.0**	**-0.2**
KNT	**Kendrikon**	**1.74**	**343**	P	**Pn**	**02 40 33.0**	**-0.2**
LAKA	**Lakka**	**1.77**	**225**	P	**Pn**	**02 40 33.7**	**0.0**
LAKA				AML	AML	02 41 07.4	
	comp=E,598μm,0.7s						
LAKA				AML	AML	02 41 16.5	
	comp=N,520μm,0.8s						
SMTH	**Samothraki Isl**	**1.79**	**57**	P	**Pn**	**02 40 33.5**	**-0.4**
SMTH				AML	AML	02 41 03.8	
	comp=N,162μm,0.9s						
SMTH				AML	AML	02 41 04.4	
	comp=E,269μm,0.5s						
PVO	**Paravola**	**1.82**	**242**	P	**Pn**	**02 40 34.5**	**+0.1**
KLV	**Kalavryta, Ach**	**1.83**	**218**	P	**Pn**	**02 40 34.0**	**-0.6**
KLV	**Kalavryta, Ach**	**1.83**	**218**	P	**Pn**	**02 40 34.2**	**-0.3**
KLV				AML	AML	02 41 08.7	
	comp=N,120μm,1.2s						
KLV				AML	AML	02 41 08.9	
	comp=E,188μm,0.8s						
NVR	**Nevrokopi**	**1.86**	**7**	P	**Pn**	**02 40 34.1**	**-0.8**
NVR				S	**Sg**	**02 41 02.6**	**-0.2**
STIP	**Stip**	**2.43**	**335**	*i* Pn	**Pn**	**02 40 42.6**	**-0.2**
OHR	**Ohrid**	**2.66**	**308**	*i* Pn	**Pg**	**02 40 57.0**	**+3.0**
APE	**Apeiranthos**	**2.87**	**147**	⇑P	**Pn**	**02 40 48.8**	**-0.1**
APE				⇑S	**Sb**	**02 41 28.0**	**-1.6**
SKO	**Skopje**	**2.95**	**327**	*i* Pn	**Pb**	**02 40 55.0**	**-0.7**
VTS	**Vitosha**	**3.12**	**355**	⇑P	**Pn**	**02 40 53.0**	**+0.6**
IDI	**Anoyia**	**4.33**	**166**	⇑P	**Pn**	**02 41 10.2**	**+1.3**
BOVS	**Bovan**	**4.36**	**342**	⇑P	**Pn**	**02 41 09.0**	**-0.3**
COPA	**Copaceanca**	**4.79**	**14**	⇓P	**Pn**	**02 41 16.7**	**+1.6**
HUMR	**Humele**	**5.13**	**11**	⇑P	**Pn**	**02 41 21.9**	**+2.1**
TIP	**Timpagrande**	**5.29**	**269**	⇑P	**Pn**	**02 41 20.7**	**-1.5**
TIP				⇓S	**Sn**	**02 42 19.7**	**-3.5**
HERR	**Herculane**	**5.45**	**351**	⇑P	**Pn**	**02 41 23.1**	**-1.0**
ARR	**Arges**	**5.92**	**7**	⇑P	**Pn**	**02 41 31.8**	**+1.1**
GZR	**Gura Zlata**	**5.92**	**355**	⇓P	**Pn**	**02 41 30.9**	**+0.2**
VOIR		**6.03**	**10**	⇑P	**Pn**	**02 41 32.9**	**+0.6**
MLR	**Muntele Rosu**	**6.24**	**16**	⇑P	**Pn**	**02 41 36.4**	**+1.3**
BZS	**Buzias**	**6.28**	**347**	⇑P	**Pn**	**02 41 35.9**	**+0.3**
PLOR	**Plostina**	**6.74**	**19**	⇓P	**Pn**	**02 41 43.1**	**+1.2**
VRI	**Vrincioaia**	**6.77**	**19**	⇑P	**Pn**	**02 41 44.1**	**+1.7**
TESR	**Tescani**	**7.36**	**17**	⇓P	**Pn**	**02 41 52.6**	**+2.1**
BRTR	**Keskin Array B**	**7.77**	**85**	Pn	**Pn**	**02 41 57.8**	**+1.5**
	comp=E,0.1nm,0.3s,baz=268,slow=12,SNR=5.0						
	comp=E,0.2nm,0.4s						
ESDC	**Sonseca Array**	**21.20**	**279**	P	**P**	**02 44 51.3**	**+2.6**
	comp=E,0.6nm,0.8s,baz=86,slow=9.5,SNR=6.0						
	comp=E,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**32.59**	**222**	P	**P**	**02 46 34.2**	**-0.4**
	comp=E,0.7nm,0.7s,baz=34,slow=9.0,SNR=5.7						
	comp=E,0.7nm,0.7s						

IDC ***12*** *02:56:47.6±1.5,27°.07N×112°.06W,h0km,mb3.2/1, mbtmp3.3/7,ML3.3/6,MS2.8/5,Error ellipse: s-maj=25.8km s-min=13.4km az=63.0*
ECX ***12*** *02:56:47.5±0.5,27°.15N×112°.27W,h20km±3km,MD3.4, ML3.7*
MEX ***12*** *02:56:47.4±0.6,27°.11N×112°.37W,h5km,MD3.5*
ISC 12 02:56:47.0±1.0,**27°.12N**±0°.04×**112°.26W**±0°.05,**h13**km±6km, **n26**,σ**1**:**92**/35,**4C-4D,Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.20**	**5**	*i* P	**Pg**	**02 56 51.6**	**+0.1**
	baz=209,slow=3.0						
SRIG				*i* S	**Sg**	**02 56 55.3**	**+0.7**
SRIG	**Santa Rosalia**	**0.20**	**5**	*i* P	**Pg**	**02 56 51.6**	**+0.1**
SRIG				*e*S	**Sg**	**02 56 55.5**	**+0.9**
SRIG				*e*		02 56 59.8	
SRIG				IAML		02 56 59.8	
	comp=N,19μm,0.5s						
SNIRB	**San Nicol¡s**	**0.85**	**132**	⇑*i* P	**Pg**	**02 57 03.2**	**-0.4**
SNIRB				*e*S	**Sg**	**02 57 15.5**	**+0.8**
NE77	**Loreto B.C.S**	**1.36**	**143**	⇑*e* P	**Pn**	**02 57 10.6**	**-1.0**
NE77				*e*S	**Sb**	**02 57 29.7**	**+0.2**
NE77				⇑*e*		02 57 36.0	
NE77				IAML		02 57 36.0	
	comp=N,1μm,0.3s						
SFQB	**San Francisqui**	**1.39**	**338**	*e*P	**Pn**	**02 57 10.3**	**-1.7**
SFQB				*e*S	**Sb**	**02 57 31.9**	**+1.5**
GUYB	**Guaymas**	**1.46**	**57**	*e*P	**Pn**	**02 57 11.8**	**-1.2**
GUYB				*e*S	**Sn**	**02 57 30.0**	**-1.9**
GUYB	**Guaymas**	**1.46**	**57**	⇓*e*P	**Pn**	**02 57 11.8**	**-1.2**
GUYB				*e*S	**Sn**	**02 57 30.6**	**-1.4**
GUYB				IAML		02 57 31.7	
	comp=E,564nm,0.5s						
GUYB				*e*		02 57 31.7	
GUYB				⇑*e*		02 57 31.7	
GUYB				IAML		02 57 31.7	
	comp=N,841nm,0.6s						
NE74	**Guerrero Negro**	**1.79**	**300**	*e*P	**Pn**	**02 57 17.8**	**+0.3**
NE74				*e*S	**Sn**	**02 57 40.7**	**+0.6**
BAHB	**Baha de los**	**2.15**	**328**	*e*P	**Pn**	**02 57 20.4**	**-2.1**
BAHB				*e*S	**Sb**	**02 57 54.9**	**+2.4**
HSIG		**2.22**	**31**	*e*P	**Pn**	**02 57 23.1**	**-0.5**
HSIG				*e*S	**Sn**	**02 57 49.2**	**-1.7**
HSIG		**2.22**	**31**	⇓*e*P	**Pn**	**02 57 23.0**	**-0.5**
NE80	**Navojoa**	**2.71**	**94**	*e*P	**Pn**	**02 57 31.1**	**+0.9**
LAPR	**La Primavera**	**3.37**	**359**	*i* P	**Pn**	**02 57 39.5**	**+0.2**
LAPR				*i* S	**Sn**	**02 58 16.3**	**-2.9**
LAPR	**La Primavera**	**3.37**	**359**	⇓*e*P	**Pn**	**02 57 39.8**	**+0.4**
LPIG	**La Paz**	**3.48**	**149**	Pn	**Pn**	**02 57 42.2**	**+1.4**
	comp=N,4.6nm,0.3s,baz=4.7,slow=5.4,SNR=2.4						
LPIG				Pg	**Pb**	**02 57 49.0**	**+0.5**
	comp=N,13nm,0.3s,baz=312,slow=5.4,SNR=6.0						
LPIG				Lg	Lg	02 58 33.3	
	comp=N,7.8nm,0.3s,baz=157,slow=16,SNR=7.5						
LPIG				LR	LR	02 59 03.7	
	comp=N,102nm,21.9s,baz=355,slow=41						
	comp=N,10nm,0.4s						
LPIG	**La Paz**	**3.48**	**149**	*e*	**Pb**	**02 57 46.3**	**-2.1**
LPIG				*e*		02 58 29.9	
CBX	**Cerro Bola**	**6.44**	**325**	*e*	**Pb**	**02 58 35.8**	**-3.2**
CBX				*e*		02 59 60.0	
PFO	**Pinyon Flats O**	**7.42**	**332**	Lg	Lg	03 00 38.5	
	comp=N,0.2nm,0.3s,baz=197,slow=8.4,SNR=5.4						
TXAR	**Lajitas Array**	**7.90**	**72**	Pn	**Pn**	**02 58 43.1**	**+1.5**
	comp=N,0.2nm,0.3s,baz=250,slow=13,SNR=14						
TXAR				Lg	Lg	03 00 51.2	
	baz=255,slow=18,SNR=1.6						
TXAR				LR	LR	03 01 44.0	
	comp=N,86nm,20.5s,baz=252,slow=38						
	comp=N,0.4nm,0.4s						
ANMO	**Albuquerque**	**9.26**	**31**	Pn	**Pn**	**02 59 01.7**	**+1.4**
	comp=N,0.1nm,0.3s,baz=207,slow=12,SNR=2.7						
ANMO				Lg	Lg	03 01 36.1	
	comp=N,0.1nm,0.3s,baz=282,slow=22,SNR=1.3						
	comp=N,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**12.37**	**337**	Pn	Pn	02 59 49.1	+6.1
	baz=158,slow=12,SNR=2.0						
	comp=N,0.3nm,0.8s						
ELK	**Elko**	**13.82**	**350**	Pn	**P**	**03 00 08.9**	**-2.3**
	baz=177,slow=19,SNR=1.4						
ELK				LR	LR	03 05 33.6	
	comp=N,50nm,19.5s,baz=82,slow=38						
	comp=N,0.2nm,0.3s						
PDAR	**Pinedale Array**	**15.77**	**7**	Pn	**P**	**03 00 34.9**	**+2.0**
	comp=N,0.1nm,0.3s,baz=178,slow=11,SNR=17						
PDAR				LR	LR	03 05 40.0	
	comp=N,26nm,20.8s,baz=233,slow=34						
	comp=N,1.7nm,0.8s						
NEW	**Newport**	**21.45**	**351**	P	**P**	**03 01 41.1**	**+6.2**
	comp=N,1.7nm,0.8s,baz=146,slow=7.3,SNR=2.0						
SDV	**Santo Domingo**	**43.29**	**107**	LR	LR	03 24 49.0	
	comp=N,16nm,18.1s,baz=73,slow=39						
ILAR	**Eielson Array**	**43.62**	**339**	P	**P**	**03 04 53.2**	**+2.5**
	comp=N,0.4nm,0.9s,baz=151,slow=6.1,SNR=2.9						
	comp=N,0.4nm,0.9s						

IDC ***12*** *03:12:58.1±1.1,19°.13S×177°.59W,h538km±11km, mb4.2/27,mbtmp5.1/30,Error ellipse: s-maj=11.0km s-min=8.7km az=129.0*
NOU ***12*** *03:12:58.1,19°.17S×177°.36W,h555km,mb5.1/67,Fiji Islands Region*
NEIC ***12*** *03:12:58.5±1.9,19°.18S±0°.08×177°.58W±0°.08, h539km±5km,mb4.8/338,Error ellipse: s-maj=15.0km s-min=5.4km az=139.0*
GCMT ***12*** *03:13:00.5±0.4,19°.13S±0°.05×177°.49W±0°.04, h558km±3km,MW5.2/53,Moment Tensor Solution. s53,c62; Duration: 1§0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.62±.03; Mθθ0.09±.06; Mφφ0.52±.06; Mrθ-0.22±.08; Mθφ0.17±.05; Mφr0.56±.07; Best double couple: M₀0.84400×10¹⁷ NP1:φs174.00000°,δ68.00000°, λ-108.00000°. NP2:φs34.00000°,δ28.00000°, λ-53.00000°. Principal axes: T 0.7670, Plg21.0000°, Azm277.0000°; N 0.1540, Plg17.0000°, Azm181.0000°; P -0.9200, Plg63.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 12 03:12:58.2±0.4,**19°.17S**±0°.05×**177°.54W**±0°.04, **h545**km±4km,**h546**km:**pP-P**,**n885**,σ**1**§**25**/813,**mb4.8**/206, **32C-39D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**1.53**	**307**	P	**P**	**03 14 07.4**	**+1.8**
TAVE	**Taveuni**	**3.33**	**317**	P	**P**	**03 14 17.3**	**+2.3**
DGTI	**Dogotuki**	**3.86**	**317**	P	**P**	**03 14 20.6**	**+1.8**
MSVF	**Nonsavu**	**4.43**	**288**	P	**P**	**03 14 25.0**	**+1.8**
	342nm,0.6s,baz=163,slow=3.7,SNR=223						
MSVF				S	**S**	**03 15 36.5**	**+4.1**
	137nm,0.9s,baz=222,slow=20,SNR=17						
MSVF	**Nonsavu**	**4.43**	**288**	P	**P**	**03 14 25.5**	**+2.3**
MSVF	**Nonsavu**	**4.43**	**288**	P	**P**	**03 14 25.7**	**+2.5**
FUTU	**Fugatoga**	**4.86**	**353**	P	**P**	**03 14 26.0**	**-0.7**
NIUE	**Niue**	**7.19**	**91**	P	**P**	**03 14 48.3**	**+0.4**
	baz=7.2,SNR=14						
NIUE	**Niue**	**7.19**	**91**	P	**P**	**03 14 47.7**	**-0.1**
NIUE	**Niue**	**7.19**	**91**	P	**P**	**03 14 48.3**	**+0.4**
AFI	**Afiamalu**	**7.60**	**47**	P	**P**	**03 14 50.5**	**-1.5**
	210nm,0.5s,baz=256,slow=12,SNR=29						
AFI				S	**S**	**03 16 18.9**	**-6.3**
	369nm,0.9s,baz=198,slow=20,SNR=8.3						
AFI	**Afiamalu**	**7.60**	**47**	P	**P**	**03 14 50.2**	**-1.8**
AFI	**Afiamalu**	**7.60**	**47**	P	**P**	**03 14 50.6**	**-1.5**
RAO	**Raoul Island**	**10.05**	**182**	S	**S**	**03 17 08.2**	**-1.9**
	251nm,0.3s,baz=266,slow=23,SNR=6.2						
FUNA	**Funafuti**	**11.04**	**343**	P	**P**	**03 15 29.2**	**+2.3**
MARNC	**Mare, Loyalty**	**13.73**	**258**	P	**P**	**03 15 53.6**	**-1.1**
LIFNC	**LIFOU**	**14.40**	**261**	P	**P**	**03 15 57.9**	**-3.7**
LIFNC	**LIFOU**	**14.40**	**261**	P	**P**	**03 16 00.1**	**-1.5**
PINNC	**Pines Island,**	**14.45**	**254**	P	**P**	**03 16 01.3**	**-0.8**
PINNC	**Pines Island,**	**14.45**	**254**	P	**P**	**03 16 03.9**	**+1.8**
YATNC	**Mamie plateau,**	**14.86**	**256**	P	**P**	**03 16 08.3**	**+1.9**
OUENC	**Ouen Island, N**	**14.96**	**255**	P	**P**	**03 16 06.4**	**-1.0**
OUENC	**Ouen Island, N**	**14.96**	**255**	P	**P**	**03 16 07.1**	**-0.3**
DZM	**Mont Dzumac**	**15.27**	**256**	*e*P	**P**	**03 16 08.7**	**-2.0**
	191nm,1.3s						
DZM				*e*LR	LR	03 20 01.9	
	comp=Z,84nm,24.1s						
DZM	**Mont Dzumac**	**15.27**	**256**	P	**P**	**03 16 09.8**	**-1.0**
	36nm,0.6s,baz=77,slow=17,SNR=35						
DZM	**Mont Dzumac**	**15.27**	**256**	P	**P**	**03 16 09.1**	**-1.7**
DZM	**Mont Dzumac**	**15.27**	**256**	P	**P**	**03 16 11.2**	**+0.5**
ONTNC	**Ouen Toro**	**15.30**	**255**	P	**P**	**03 16 09.9**	**-0.9**
ONTNC	**Ouen Toro**	**15.30**	**255**	P	**P**	**03 16 13.1**	**+2.2**
NOUC	**Port Laguerre**	**15.41**	**256**	P	**P**	**03 16 13.8**	**+1.8**
RAR	**Rarotonga**	**16.80**	**100**	P	**P**	**03 16 25.7**	**+0.3**
	43nm,0.8s,baz=251,slow=11,SNR=7.0						
RAR	**Rarotonga**	**16.80**	**100**	P	**P**	**03 16 26.5**	**+1.1**
KOUNC	**Koumac, New Ca**	**17.16**	**262**	P	**P**	**03 16 28.7**	**+0.1**
KOUNC	**Koumac, New Ca**	**17.16**	**262**	P	**P**

CNB Canberra Magne 33.34 234 P P 03 18 51.9 +0.5
baz=33,SNR=18
CNB Canberra Magne 33.34 234 P P 03 18 52.1 +0.6
CAN Canberra 33.63 235 P P 03 18 54.2 +0.4
CAN IAmb IAmb 03 18 55.1
comp=Z,39nm,1.0s
CAN Canberra 33.63 235 P P 03 18 54.7 +0.9
CAN Canberra 33.63 235 P P 03 18 53.3 -0.6
CTA Charters Tower 34.08 262 P P 03 18 58.5 +0.7
CTAO Charters Tower 34.08 262 P P 03 18 57.8 0.0
CTAO Charters Tower 34.08 262 P P 03 18 58.5 +0.7
CTAO Charters Tower 34.08 262 P P 03 18 56.6 -1.1
CMSA Cobar Meteorol 35.28 242 P P 03 19 07.7 +0.1
baz=35,SNR=107
CMSA Cobar Meteorol 35.28 242 P P 03 19 07.9 +0.3
PMG Port Moresby 35.50 281 P P 03 19 10.4 +0.7
comp=Z,73nm,0.8s,baz=65,slow=5.1,SNR=15
comp=Z,73nm,0.8s
PMG Port Moresby 35.50 281 P P 03 19 10.9 +1.2
PMG Port Moresby 35.50 281 P P 03 19 08.9 -0.7
PMG Port Moresby 35.50 281 P P 03 19 08.8 -0.8
PMG Port Moresby 35.50 281 P P 03 19 09.4 -0.2
QLP Quilpie 35.89 251 P P 03 19 12.7 -0.1
baz=36,SNR=86
QLP Quilpie 35.89 251 P P 03 19 13.2 +0.4
MTSU Mount Surprise 36.11 265 P P 03 19 14.7 -0.1
baz=36,SNR=36
MTSU Mount Surprise 36.11 265 P P 03 19 15.6 +0.8
TOO Toolangi 37.04 232 P P 03 19 22.4 +0.2
baz=37,SNR=22
TOO Toolangi 37.04 232 P P 03 19 22.3 +0.2
TOO Toolangi 37.04 232 P P 03 19 21.4 -0.8
CORO Coronation Par 37.35 226 P P 03 19 24.7 +0.2
MOO Moorlands 37.75 224 P P 03 19 28.7 +0.8
baz=38,SNR=4.3
TAU Tasmania Unive 37.88 224 P P 03 19 28.6 -0.3
COEN Coen 37.96 272 P P 03 19 30.3 +0.5
baz=38,SNR=28
COEN Coen 37.96 272 P P 03 19 30.3 +0.5
COEN Coen 37.96 272 P P 03 19 30.7 +0.8
BRAT Ballarat 38.21 233 P P 03 19 32.1 +0.5
MANU Manus Island 38.33 292 P P 03 19 33.2 +0.3
STKA Stephens Creek 38.77 243 P P 03 19 36.8 +0.5
comp=Z,59nm,0.8s,baz=92,slow=9.6,SNR=96
STKA ScP ScP 03 24 31.5 +1.1
comp=Z,5.8nm,1.0s,baz=45,slow=2.9,SNR=3.9
comp=Z,59nm,0.8s
STKA Stephens Creek 38.77 243 P P 03 19 36.8 +0.5
baz=39,SNR=27
STKA Stephens Creek 38.77 243 P P 03 19 36.9 +0.5
STKA IAmb IAmb 03 19 37.8
comp=Z,18nm,1.1s
STKA Stephens Creek 38.77 243 P P 03 19 37.1 +0.8
INKA Innaminka 39.06 249 P P 03 19 40.0 +1.3
ARPS Mount Arapiles 39.59 235 P P 03 19 42.8 0.0
baz=40,SNR=9.1
ARPS Mount Arapiles 39.59 235 P P 03 19 42.9 +0.1
QIS Mount Isa 40.25 261 P P 03 19 47.7 -0.6
baz=40,SNR=8.4
QIS Mount Isa 40.25 261 P P 03 19 48.0 -0.3
HTT Hallett 41.24 241 P P 03 19 56.3 +0.2
baz=41,SNR=32
HTT Hallett 41.24 241 P P 03 19 56.8 +0.7
LCRK Leigh Creek 41.47 245 P P 03 19 58.4 +0.5
TWOA Tennyson Woods 41.79 239 P P 03 20 00.7 +0.4
WHYH Whyalla 42.30 242 P P 03 20 04.9 +0.5
BBOO Buckleboo 43.54 242 P P 03 20 14.0 0.0
baz=44,SNR=42
BBOO Buckleboo 43.54 242 P P 03 20 14.1 0.0
BBOO Buckleboo 43.54 242 P P 03 20 14.4 +0.3
OOD Oodnadatta 43.54 250 P P 03 20 15.7 +1.6
KHLU Kahalu`u 43.98 30 P P 03 20 17.8 +0.2
MLOA Mauna Loa Obse 44.08 30 P P 03 20 19.2 +0.4
MLH Mauna Loa 44.14 31 P P 03 20 18.8 -0.2
HMH Humu'ula Sheep 44.18 31 P P 03 20 20.0 +0.5
KEKH Kekaha 44.46 24 P P 03 20 21.6 +0.4
GENI Genyem 44.51 286 P P 03 20 21.5 -0.3
comp=Z,1µmcomp=Z,82nm,0.6s
GENI Genyem 44.51 286 P P 03 20 24.2 +2.4
WR0 Warramunga Arr 45.04 261 IAmb IAmb 03 20 26.7
comp=Z,29nm,0.8s
MULG Mulgathing 45.05 246 P P 03 20 25.7 0.0
WRAB Tennant Creek 45.22 261 P P 03 20 26.6 -0.6
WRAB Tennant Creek 45.22 261 P P 03 20 27.1 -0.1
WRAB Tennant Creek 45.22 261 P P 03 20 25.5 -1.7
WRA Warramunga Ar 45.23 261 P P 03 20 26.5 -0.8
comp=Z,38nm,0.6s,baz=97,slow=8.5,SNR=587
WRA PcP PcP 03 21 55.9 0.0
comp=Z,3.3nm,0.9s,baz=100,slow=3.6,SNR=4.5
WRA PP PP 03 22 22.2 -0.2
comp=Z,8.9nm,1.1s,baz=95,slow=10,SNR=4.7
WRA ScP ScP 03 24 57.5 +0.8
comp=Z,3.4nm,1.0s,baz=96,slow=4.0,SNR=6.6
WRA S S 03 26 24.9 -3.2
comp=Z,9.2nm,1.1s,baz=98,slow=13,SNR=13
comp=Z,38nm,0.6s
WRA Warramunga Arr 45.23 261 P P 03 20 25.7 -1.6
AS31 Alice Springs 45.26 255 P P 03 20 27.4 -0.1
AS31 IAmb IAmb 03 20 28.5
comp=Z,29nm,0.7s
ASAR Alice Springs 45.26 255 P P 03 20 27.2 -0.3
comp=Z,98nm,0.7s,baz=87,slow=8.8,SNR=655
ASAR PcP PcP 03 21 55.2 -0.7
comp=Z,4.7nm,0.7s,baz=100,slow=3.9,SNR=5.0
ASAR PP PP 03 22 21.1 -1.6
comp=Z,9.3nm,0.9s,baz=87,slow=8.8,SNR=5.1
ASAR ScP ScP 03 24 56.7 0.0
comp=Z,3.0nm,1.0s,baz=102,slow=3.7,SNR=4.1
ASAR S S 03 26 26.2 -2.1
comp=Z,14nm,1.1s,baz=89,slow=15,SNR=32
comp=Z,98nm,0.7s
SMPI Sarmi 46.08 286 P P 03 20 33.7 -0.1
comp=Z,17nm,0.8s
KDU Kakadu 48.37 270 P P 03 20 50.5 -0.5
baz=48,SNR=15
KDU Kakadu 48.37 270 P P 03 20 50.9 -0.1
MTN Manton Dam 49.60 269 P P 03 20 59.6 -0.5
baz=50,SNR=9.7
MTN Manton Dam 49.60 269 P P 03 21 00.0 -0.1
FORT Forrest 50.23 246 P P 03 21 03.9 -0.7
baz=50,SNR=7.5
FORT Forrest 50.23 246 P P 03 21 03.8 -0.7
FORT IAmb IAmb 03 21 04.6
comp=Z,42nm,0.8s
WRKA Warakurna 50.26 253 P P 03 21 04.5 -0.4
baz=50,SNR=68
WRKA Warakurna 50.26 253 P P 03 21 05.1 +0.2
KNRA Kununurra 51.20 265 P P 03 21 11.3 -0.4
baz=51,SNR=31
KNRA Kununurra 51.20 265 P P 03 21 11.9 +0.2
FAKI Fak Fak 51.64 282 P P 03 21 14.7 -0.3
FAKI IAmb IAmb 03 21 15.8
comp=Z,52nm,1.7s
FITZ Fitzroy Crossi 53.65 261 P P 03 21 29.1 -0.1
baz=54,SNR=31
FITZ Fitzroy Crossi 53.65 261 P P 03 21 29.8 +0.5
DRV Dumont d'Urvil 54.75 199 P P 03 21 35.2 -1.0
LBMI Labuha 56.89 282 P P 03 21 52.4 +0.5
comp=Z,24nm,0.8s
SOEI Soe 56.91 271 P P 03 21 51.6 -0.6
comp=Z,83nm,0.7s
SOEI Soe 56.91 271 P P 03 21 53.2 +1.0
SANI Sanana 57.77 280 P P 03 21 57.5 -0.4
comp=Z,32nm,0.9s
SANI Sanana 57.77 280 P P 03 21 58.0 +0.1
PSA00 Pilbara Seismi 58.40 256 P P 03 22 01.7 -0.4
MBWA Marble Bar 58.58 256 P P 03 22 02.6 -0.6
MEEK Meekatharra 58.78 250 P P 03 22 03.6 -1.0
baz=59,SNR=7.1
KLBR Kellerberrin 59.02 244 P P 03 22 05.6 -0.5
baz=59,SNR=24
KLBR Kellerberrin 59.02 244 P P 03 22 06.1 0.0
SBA Scott Base 59.22 184 P P 03 22 09.4 +2.8
SBA Scott Base 59.22 184 P P 03 22 08.4 +1.9
SBA pP pwP 03 23 59.4 +2.9
VNDA Vanda 59.27 185 P P 03 22 08.2 +1.3
comp=Z,2.4nm,0.7s,baz=352,slow=7.4,SNR=27
comp=Z,2.4nm,0.7s
VNDA Vanda 59.27 185 P P 03 22 08.7 +1.8
VNDA Vanda 59.27 185 P P 03 22 07.7 +0.8
NWAO Narrogin (SRO) 59.36 243 P P 03 22 07.5 -0.8
NWAO IAmb IAmb 03 24 18.6
comp=Z,102nm,1.8s
EDFI Ende, Flores 59.63 271 P P 03 22 06.8 -3.8
comp=Z,17nm,0.7s

BLDU Ballidu 60.00 245 P P 03 22 11.9 -0.7
baz=60,SNR=21
MUN Mundaring 60.30 244 P P 03 22 14.5 -0.1
baz=60,SNR=4.8
MORW Morawa 60.74 247 P P 03 22 16.9 -0.7
baz=61,SNR=3.4
MORW Morawa 60.74 247 P P 03 22 16.9 -0.7
MORW IAmb IAmb 03 22 28.6
comp=Z,107nm,1.9s
TOLI2 Tolitoli 63.77 281 IAmb IAmb 03 22 38.1
comp=Z,55nm,2.0s
CCD Concordia, Ant 63.86 194 P P 03 22 37.2 -0.2
CCD x x 03 23 08.0
CCD pP pwP 03 24 28.6 0.0
MPSI Mapaga 64.31 280 P P 03 22 39.6 -1.2
comp=Z,18nm,0.8s
CASY Casey 65.35 205 P P 03 22 45.7 -0.7
CASY Casey 65.35 205 P P 03 22 45.6 -0.8
CASY pP pP 03 24 35.1 -1.2
MJAR Matsushiro Arr 69.41 323 P P 03 23 11.6 -0.1
comp=Z,7.2nm,0.8s,baz=152,slow=6.7,SNR=16
comp=Z,7.2nm,0.8s
MAJO Matsushiro 69.41 323 P P 03 23 11.3 -0.4
KKM Kota Kinabalu 69.85 284 P P 03 23 14.7 -0.3
KKM IAmb IAmb 03 23 17.0
comp=Z,33nm,1.3s
ADK Adak 70.75 1 P P 03 23 19.1 -0.2
ADK Adak 70.75 1 P P 03 23 18.6 -0.7
QSPA South Pole Qui 70.90 180 P P 03 23 19.9 -0.4
QSPA pP pwP 03 25 16.6 +0.9
JHS Saijyo 71.38 319 P P 03 23 23.5 0.0
JHS IAmb IAmb 03 23 25.9
comp=Z,48nm,1.1s
NIKH Nikolski High 72.23 6 P P 03 23 26.4 -1.5
baz=189
UNV Unalaska Valle 73.33 7 P P 03 23 33.0 -1.2
baz=191
TPUB Ta-pu 73.63 302 IAmb IAmb 03 23 37.4
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 74.91 333 P P 03 23 44.4 +1.2
YSS IAmb IAmb 03 23 46.5
comp=Z,49nm,1.0s
PEA0B Petropavlovsk- 75.10 345 P P 03 23 44.4 +0.1
PEA0B IAmb IAmb 03 23 46.1
comp=Z,56nm,1.0s
PETK Petropavlovsk- 75.10 345 P P 03 23 44.1 -0.2
comp=Z,34nm,0.9s,baz=129,slow=7.2,SNR=23
comp=Z,34nm,0.9s
PETK Petropavlovsk- 75.10 345 P P 03 23 44.0 -0.2
CHNA Chernabura Isl 75.28 11 P P 03 23 44.3 -0.8
baz=198
SDPT Sand Point 75.62 10 P P 03 23 46.5 -0.5
baz=197
KSRS Korea Array 76.19 318 P P 03 23 51.2 +0.6
comp=Z,3.8nm,1.0s,baz=139,slow=5.9,SNR=7.3
comp=Z,3.8nm,1.0s
SPIA Saint Paul Isl 76.29 4 P P 03 23 51.2 +0.5
baz=187
SCI2 San Clemente I 76.55 48 P P 03 23 53.6 +0.8
baz=236
SBC Santa Barbara 76.57 46 P P 03 23 53.4 +0.6
baz=235
S14K Fog Glacier 76.67 10 P P 03 23 54.1 +1.1
baz=197
PKM Mcpherson Peak 76.75 46 P P 03 23 55.1 +1.1
baz=235,SNR=7.2
SAO San Andreas Ge 76.76 43 IAmb IAmb 03 23 56.4
comp=Z,29nm,0.9s
KASI Kota Agung 76.86 269 P P 03 23 52.4 -2.5
comp=Z,39nm,0.9s
PMPB Monarch Peak 76.86 44 IAmb IAmb 03 23 57.2
comp=Z,29nm,1.0s
SMMC Simmler 76.87 45 P P 03 23 55.8 +1.3
baz=235,SNR=8.1
CIS Catalina Islan 76.88 47 P P 03 23 54.7 +0.1
baz=236
CHGN Chignik 76.89 11 P P 03 23 54.4 +0.4
baz=198
BBGB Big Mountain B 76.92 44 IAmb IAmb 03 23 58.0
comp=Z,28nm,1.0s
CHIR Chirikof Islan 76.97 12 P P 03 23 55.0 +0.5
baz=201
BCW Bitter Crk WRg 77.05 46 IAmb IAmb 03 23 58.5
comp=Z,36nm,0.8s
HOPS Hopland Field 77.08 41 IAmb IAmb 03 24 16.1
comp=Z,53nm,1.6s
FMP Fort Macarthur 77.13 47 P P 03 23 56.3 +0.4
baz=236
GDXM Geysers 77.14 41 IAmb IAmb 03 23 58.2
comp=Z,44nm,1.7s
KMPM Mount Pierce 77.33 39 P P 03 23 58.6 +1.7
KMPM IAmb IAmb 03 24 00.4
comp=Z,43nm,1.1s
DECC Green Verdugo 77.41 47 P P 03 23 58.3 +0.9
baz=236
PMBI Palembang 77.42 271 P P 03 24 10.4 +12
PASC Pasadena Art C 77.46 47 IAmb IAmb 03 23 59.7
comp=Z,30nm,0.8s
109C Camp Elliot, M 77.52 49 P P 03 23 59.2 +1.1
baz=237
ARVC Arvin 77.55 46 P P 03 23 59.6 +1.4
baz=236,SNR=10.0
ELS Elsinore Mount 77.70 48 IAmb IAmb 03 24 01.9
comp=Z,26nm,0.9s
VES Vestal, Richgr 77.78 45 P P 03 24 00.4 +1.0
baz=235,SNR=17
MURC Murrieta 77.84 48 P P 03 24 01.0 +1.2
baz=237,SNR=13
KHMM Horse Mountain 77.84 39 IAmb IAmb 03 24 03.2
comp=Z,35nm,1.1s
VOG Valley Oaks Go 77.86 45 P P 03 24 00.6 +0.8
baz=235
BFSC Mount Baldy Ra 77.86 47 P P 03 24 01.2 +1.1
baz=237,SNR=9.1
ESJX Sierra Juarez 77.88 50 P P 03 24 01.2 +1.0
EDW2 Edwards Air Fo 77.99 46 P P 03 24 02.1 +1.5
baz=238,SNR=32
MONP2 Monument Peak 78.01 49 P P 03 24 02.5 +1.6
baz=238,SNR=19
ISA Isabella, Lake 78.09 46 IAmb IAmb 03 24 03.7
comp=Z,26nm,0.9s
ISA Isabella, Lake 78.09 46 P P 03 24 02.4 +1.3
baz=236,SNR=26
IKP In-Ko-Pah, Jac 78.10 49 P P 03 24 03.0 +1.7
baz=238,SNR=11
USRK Uusuriysk Ar. 78.11 325 P P 03 24 02.6 +1.7
comp=Z,11nm,1.0s,baz=134,slow=4.2,SNR=12
comp=Z,11nm,1.0s
CCAC Calif City Air 78.12 46 IAmb IAmb 03 24 05.4
comp=Z,24nm,0.8s
CMB Columbia Colle 78.19 43 IAmb IAmb 03 24 03.7
comp=Z,25nm,0.9s
AFDM Forest Hills D 78.36 42 P P 03 24 03.1 +0.6
AFDM IAmb IAmb 03 24 05.6
comp=Z,25nm,1.0s
PFO Pinyon Flats O 78.36 48 P P 03 24 03.7 +0.9
PFO Pinon Flats O 78.36 48 P P 03 24 04.1 +1.4
baz=238,SNR=7.7
TPFO Pinon Flats 78.36 48 P P 03 24 04.0 +1.3
baz=238,SNR=6.3
ORV Oroville 78.39 41 IAmb IAmb 03 24 05.3
comp=Z,24nm,1.1s
PMD Palm Desert 78.44 48 IAmb IAmb 03 24 05.3
comp=Z,16nm,1.1s
SLBS Sierra La Lagu 78.46 60 P P 03 24 05.0 +1.6
SWSC Sam W. Stewart 78.48 49 P P 03 24 04.6 +1.4
baz=236,SNR=5.6
R17K Ugashik Creek 78.52 11 P P 03 24 03.0 +0.2
baz=200
LRMC Laurel Mtn Rad 78.53 46 P P 03 24 04.7 +1.2
baz=236
RRX Edison Barstow 78.67 47 P P 03 24 05.1 +0.9
baz=237
L02F Cave Junction 78.72 38 P P 03 24 05.2 +0.9
baz=231
OHAK Old Harbor 78.76 13 P P 03 24 04.6 +0.5
baz=203
CWC Cottonwood Cre 78.79 45 P P 03 24 05.7 +0.7
baz=236
MDPB Devils Postpil 78.80 44 IAmb IAmb 03 24 07.5
comp=Z,26nm,0.9s
BELC Belle Mtn. Jos 78.89 48 P P 03 24 06.6 +1.0
baz=238,SNR=6.2
MLAC Mammoth, Mammo 78.96 44 P P 03 24 07.2 +1.3
baz=235
MPMC Manual Prospec 78.98 46 P P 03 24 07.1 +1.1
baz=236,SNR=13

YBH Yreka Blue Hor 78.98 39 P P 03 24 07.4 +1.7
comp=Z,22nm,0.8s,baz=197,slow=2.0,SNR=46
comp=Z,22nm,0.8s
YBH Yreka Blue Hor 78.98 39 P P 03 24 07.2 +1.4
YBH IAmb IAmb 03 24 08.4
comp=Z,24nm,0.9s
K02D Willamette Mer 79.02 37 P P 03 24 07.8 +1.8
baz=231
GSC Goldstone, Bar 79.03 47 P P 03 24 07.2 +1.0
baz=237,SNR=5.9
TIN Tinemaha, Big 79.03 44 P P 03 24 07.8 +1.5
baz=236,SNR=7.3
BC3 Big Chuckawall 79.10 49 P P 03 24 08.1 +1.4
baz=238,SNR=6.0
HEC Hector,Ludlow 79.10 47 P P 03 24 07.5 +0.9
baz=237,SNR=10
MPK Martis Peak 79.15 42 IAmb IAmb 03 24 09.4
comp=Z,51nm,1.0s
J01E Myrtle Point 79.17 37 P P 03 24 08.0 +1.4
J01E IAmb IAmb 03 24 48.5
comp=Z,88nm,1.4s
J01E Myrtle Point 79.17 37 P P 03 24 08.0 +1.4
baz=231
GLA Glamis 79.23 49 IAmb IAmb 03 24 10.3
comp=Z,28nm,0.9s
GLA Glamis 79.23 49 P P 03 24 09.1 +1.8
baz=239,SNR=7.0
BEKR Beckworth 79.28 41 IAmb IAmb 03 24 09.8
comp=Z,22nm,1.0s
NJ2 Nanjing 79.37 309 eP P 03 24 08.3 +0.4
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
HUMO Hull Mountain 79.38 38 IAmb IAmb 03 24 10.7
comp=Z,26nm,1.1s
VCNR Virginia City 79.39 42 IAmb IAmb 03 24 10.6
comp=Z,22nm,0.9s
KDAK Kodiak Island 79.42 13 P P 03 24 08.1 +0.5
comp=Z,30nm,0.9s,baz=264,slow=2.0,SNR=9.9
comp=Z,30nm,0.9s
KDAK Kodiak Island 79.42 13 P P 03 24 08.2 +0.6
KDAK Kodiak Island 79.42 13 P P 03 24 09.8 +2.2
baz=204
Q16K King Salmon 79.45 11 P P 03 24 08.0 +0.3
baz=200
L04D Klamath Falls 79.52 38 P P 03 24 09.7 +1.1
baz=232
LHV Little Huntoon 79.53 43 IAmb IAmb 03 24 11.5
comp=Z,31nm,1.0s
GMRC Granite Mounta 79.55 48 P P 03 24 10.2 +1.2
baz=238,SNR=9.7
P16K Nushagak River 79.55 10 P P 03 24 08.4 +0.2
baz=199,SNR=6.1
GRAC Grapevine Rang 79.58 45 IAmb IAmb 03 24 11.7
comp=Z,19nm,0.8s
GRAC Grapevine Rang 79.58 45 P P 03 24 10.5 +1.5
comp=Z,36nm,1.6s
IRM Iron Mountain 79.58 48 P P 03 24 10.8 +1.7
baz=238
FURC Furnace Creek, 79.62 46 P P 03 24 10.6 +1.5
baz=237
MDJ Mudanjiang 79.69 325 P P 03 24 10.9 +1.6
MDJ pmax pmax
comp=Z,25nm,1.1s
MDJ pmax pmax
comp=Z,100nm,3.5s
TUQ Turquoise Moun 79.71 47 P P 03 24 10.9 +1.1
baz=238
SHOC Shoshone, Teco 79.72 46 P P 03 24 10.8 +1.0
baz=237
NVAR Mina Array Bea 79.76 43 P P 03 24 11.5 +1.3
comp=Z,14nm,0.8s,baz=224,slow=8.7,SNR=121
comp=Z,14nm,0.8s
BLYC Blythe 79.81 49 P P 03 24 11.5 +1.3
BLYC IAmb IAmb 03 24 13.0
comp=Z,20nm,0.8s
I02E Swisshome, OR 79.81 36 P P 03 24 12.5 +2.5
baz=231
I03D Drain, OR 79.83 37 P P 03 24 10.8 +0.7
baz=231
NV11 Mina Array Sit 79.86 43 IAmb IAmb 03 24 12.9
comp=Z,26nm,1.1s
P17K Kvichak River 79.98 11 P P 03 24 10.3 -0.1
baz=200,SNR=10
O16K Kokwok River B 80.07 10 P P 03 24 10.3 -0.7
baz=199,SNR=9.3
K04D Chiloquin, OR 80.09 38 P P 03 24 12.9 +1.2
baz=232
214A Organ Pipe Nat 80.14 51 P P 03 24 13.8 +1.8
baz=240,SNR=11
Q20K Shuyak Island 80.22 13 P P 03 24 12.9 +1.1
baz=204
KVN Kaiserville 80.24 43 IAmb IAmb 03 24 14.8
comp=Z,30nm,1.2s
J04D Umpqua Nationa 80.26 38 P P 03 24 14.0 +1.4
baz=232,SNR=18
NEE2 Needles Airpor 80.27 48 P P 03 24 13.9 +1.3
baz=238
TPNV Topopah Spring 80.30 45 P P 03 24 13.6 +0.7
TPNV Topopah Spring 80.30 45 P P 03 24 14.4 +1.5
baz=237,SNR=13
PLTX Planet X, Gerl 80.33 41 IAmb IAmb 03 24 15.8
comp=Z,28nm,0.9s
BUCK Buck Mountain 80.35 36 IAmb IAmb 03 24 16.1
comp=Z,50nm,1.1s
PDMCI Parker Dam,Lak 80.36 49 P P 03 24 14.2 +1.1
baz=239,SNR=18
P18K Big Mountain, 80.38 11 P P 03 24 12.2 -0.4
baz=201
O17K Koliganek Bris 80.41 10 P P 03 24 12.6 -0.1
baz=200
I04A Tendick Farm, 80.42 37 P P 03 24 14.4 +1.1
baz=232,SNR=5.7
MOD Modoc Plateau 80.52 40 IAmb IAmb 03 24 16.2
comp=Z,35nm,0.9s
H04D Lebanon 80.69 36 IAmb IAmb 03 24 17.1
comp=Z,28nm,1.0s
H04D Lebanon 80.69 36 P P 03 24 15.7 +1.1
baz=231,SNR=6.1
Q09A Carvers 80.71 43 IAmb IAmb 03 24 17.4
comp=Z,35nm,0.9s
WTNK Soaring Height 80.74 47 IAmb IAmb 03 24 17.6
comp=Z,6.3nm,1.4s
J05D Fort Rock, OR 80.79 38 P P 03 24 17.0 +1.7
baz=233,SNR=50
N16K Nishlik Lake 80.80 9 P P 03 24 15.6 +0.8
baz=198,SNR=8.0
G03D McMinnville, O 80.83 36 P P 03 24 16.7 +1.4
G03D McMinnville, O 80.83 36 P P 03 24 16.6 +1.4
baz=231
S11A Rachel 81.01 45 IAmb IAmb 03 24 18.9
comp=Z,33nm,0.9s
H04A Detroit Lake 81.10 36 P P 03 24 17.7 +1.0
H04A IAmb IAmb 03 24 18.6
comp=Z,27nm,0.9s
PRN Pahroc Range 81.35 46 IAmb IAmb 03 24 21.1
comp=Z,30nm,0.9s
I05D Terrebonne, OR 81.37 37 P P 03 24 19.7 +1.6
baz=232,SNR=12
N18K Kilae Creek 81.47 11 P P 03 24 17.9 -0.3
baz=201
R11A Troy Canyon, C 81.50 45 P P 03 24 20.0 +0.9
baz=237,SNR=25
CN2 Changchun 81.52 322 eP P 03 24 19.9 +1.1
CN2 eS S 03 33 48.2 +2.5
CN2 Changchun 81.52 322 esS sS 03 37 14.4 +1.4
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,70nm,4.5s
O20K Slope Mountain 81.53 12 P P 03 24 18.2 -0.4
baz=204
BMN Battle Mountai 81.58 42 IAmb IAmb 03 24 21.7
comp=Z,41nm,1.1s
BNX BinXian 81.59 325 ⇑P P 03 24 19.8 +0.6
BNX pmax pmax
comp=Z,19nm,1.0s
BNX pmax pmax
comp=Z,96nm,4.3s
BRSE Bradley Lake S 81.61 13 P P 03 24 19.3 +0.4
baz=206,SNR=6.2
HOOD Mount Hood Mea 81.79 36 IAmb IAmb 03 24 23.0
comp=Z,38nm,0.9s
TUC Tucson 81.81 52 P P 03 24 22.7 +2.0
TUC IAmb IAmb 03 24 24.1
comp=Z,35nm,1.0s
TUC Tucson 81.81 52 P P 03 24 22.8 +2.0
baz=241
WVOR Wild Horse Val 81.83 40 IAmb IAmb 03 24 23.1

comp=Z,40nm,1.0s
N19K **Bonanza Creek** 81.84 11 IAmb IAmb 03 24 21.3
comp=Z,46nm,1.1s
N19K **Bonanza Creek** 81.84 11 P P 03 24 19.8 -0.4
baz=202,SNR=5.5
NLWA **Neilton Lookou** 81.89 34 IAmb IAmb 03 24 23.2
comp=Z,43nm,1.1s
DIB **Dawson Inlet,** 81.89 25 IAmb IAmb 03 24 23.3
comp=Z,39nm,1.2s
G05D **Wamic, OR** 81.93 36 P P 03 24 22.4 +1.4
baz=232,SNR=6.5
SEW **Seward** 82.22 14 P P 03 24 21.6 -0.4
baz=207
I07A **Izee** 82.27 38 IAmb IAmb 03 24 25.3
comp=Z,39nm,0.9s
PMSA **Palmer Station** 82.33 157 P P 03 24 23.5 +0.9
comp=Z,8.4nm,0.6s,baz=229,slow=2.3,SNR=11
comp=Z,8.4nm,0.6s
PMSA **Palmer Station** 82.33 157 P P 03 24 23.5 +0.9
LCMT **Little Creek M** 82.38 47 IAmb IAmb 03 24 26.1
comp=Z,20nm,0.9s
J08A **Circle Bar Ran** 82.46 39 IAmb IAmb 03 24 26.1
comp=Z,53nm,1.2s
B04A **Port Angeles** 82.50 33 IAmb IAmb 03 24 26.2
comp=Z,36nm,1.1s
CCUT **Cedar City** 82.57 46 IAmb IAmb 03 24 27.4
comp=Z,21nm,0.9s
N20K **Mount Spurr** 82.63 12 P P 03 24 23.3 -0.9
baz=204,SNR=7.1
SPCR **Spurr Chakacha** 82.63 12 P P 03 24 23.5 -0.7
baz=204,SNR=5.5
KNB **Kanab** 82.67 47 P P 03 24 26.4 +1.3
KNB IAmb IAmb 03 24 27.8
comp=Z,23nm,0.9s
SPR3 **Spring Creek 3** 82.67 45 IAmb IAmb 03 24 27.0
comp=Z,14nm,1.0s
U15A **North Rim** 82.74 48 IAmb IAmb 03 24 28.4
comp=Z,36nm,0.8s
SZCU **Shurtz Canyon** 82.78 46 IAmb IAmb 03 24 28.4
comp=Z,19nm,1.0s
CBB **Campbell River** 82.85 31 IAmb IAmb 03 24 27.7
comp=Z,28nm,0.9s
M19K **Big River Lodg** 82.88 11 IAmb IAmb 03 24 26.1
comp=Z,23nm,0.7s
M19K **Big River Lodg** 82.88 11 P P 03 24 25.1 -0.2
baz=202,SNR=11
PGC **Sidney** 82.91 33 IAmb IAmb 03 24 27.8
comp=Z,23nm,0.8s
WUAZ **Wupatki** 82.94 49 IAmb IAmb 03 24 29.2
comp=Z,18nm,1.0s
WUAZ **Wupatki** 82.94 49 P P 03 24 28.1 +1.6
baz=240,SNR=12
MAW **Mawson** 82.96 200 P P 03 24 26.7 +0.9
comp=Z,4.2nm,0.8s,baz=136,slow=7.2,SNR=11
comp=Z,4.2nm,0.8s
MAW **Mawson** 82.96 200 P P 03 24 26.1 +0.3
baz=83,SNR=5.8
MAW **Mawson** 82.96 200 P P 03 24 25.9 +0.2
ELK **Elko** 83.01 43 IAmb IAmb 03 24 29.4
comp=Z,21nm,0.9s
BBB **Bella Bella** 83.03 28 P P 03 24 27.2 +1.0
comp=Z,19nm,0.8s,baz=305,slow=4.0,SNR=9.5
comp=Z,19nm,0.8s
RC01 **Rabbit Creek A** 83.04 13 P P 03 24 26.3 +0.1
baz=206
L19K **White Mountain** 83.05 10 IAmb IAmb 03 24 28.9
comp=Z,33nm,1.1s
L19K **White Mountain** 83.05 10 P P 03 24 26.5 +0.3
baz=202,SNR=9.4
M20K **Styx River** 83.08 11 P P 03 24 26.6 +0.2
baz=203
F07A **Phinny Hill Vi** 83.10 36 IAmb IAmb 03 24 28.9
comp=Z,18nm,0.9s
PWL **Port Wells** 83.15 14 P P 03 24 26.6 -0.1
baz=208
SUA **Susitna One** 83.17 13 P P 03 24 26.7 -0.2
baz=205
PKCU **Pink Cliffs** 83.24 47 IAmb IAmb 03 24 31.5
comp=Z,31nm,0.9s
KAIM **Kayak Island** 83.29 16 P P 03 24 28.2 +0.8
KAIM **Kayak Island** 83.29 16 P P 03 24 28.0 +0.6
baz=211
G08A **Pilot Rock** 83.30 37 IAmb IAmb 03 24 30.2
comp=Z,27nm,0.9s
CRAG **Craig** 83.33 24 P P 03 24 27.9 +0.3
baz=222
IPM **Ipoh** 83.40 277 P P 03 24 27.6 -1.5
IPM IAmb IAmb 03 24 31.5
comp=Z,20nm,0.7s
GRNB **Grenville Isla** 83.40 26 IAmb IAmb 03 24 30.7
comp=Z,18nm,1.0s
GLI **Glacier Island** 83.45 14 P P 03 24 27.9 -0.3
baz=209,SNR=5.0
SKT **Skwentna** 83.48 12 IAmb IAmb 03 24 28.2
comp=Z,16nm,0.8s
SKT **Skwentna** 83.48 12 P P 03 24 26.7 -1.6
baz=205,SNR=7.7
EYAK **Cordova Ski Ar** 83.49 15 P P 03 24 28.1 -0.2
baz=210
L20K **Farewell, AK** 83.50 11 P P 03 24 27.6 -0.9
baz=202
LTY **Liberty** 83.51 35 IAmb IAmb 03 24 31.2
comp=Z,16nm,1.0s
M22K **Willow** 83.56 13 P P 03 24 28.3 -0.3
baz=206,SNR=13
TTA **Tatalina** 83.56 10 P P 03 24 29.2 +0.4
baz=200
KNK **Knik Glacier** 83.61 14 P 03 24 29.1 +0.1
KNK IAmb IAmb 03 24 30.0
comp=Z,32nm,0.8s
KNK **Knik Glacier** 83.61 14 P P 03 24 29.0 0.0
baz=208,SNR=5.8
HAWA **Hanford** 83.62 36 IAmb IAmb 03 24 31.7
comp=Z,34nm,1.1s
PMR **Palmer** 83.63 13 P P 03 24 28.9 -0.1
baz=207,SNR=10
MTPU **Mount Pierson** 83.63 46 IAmb IAmb 03 24 33.2
comp=Z,17nm,0.9s
SIT **Sitka** 83.73 22 P P 03 24 30.6 +1.0
baz=220
V35K **Ketchikan** 83.80 24 P P 03 24 31.1 +1.1
baz=223
MVU **Marysvale** 83.84 46 IAmb IAmb 03 24 33.3
comp=Z,25nm,0.8s
B06A **Marblemount** 83.84 34 IAmb IAmb 03 24 32.4
comp=Z,16nm,0.9s
W18A **Petrified Fore** 83.92 50 P P 03 24 32.7 +1.3
baz=242
SNH **Sunshine Point** 83.93 17 P P 03 24 31.3 +0.7
E08A **Dider Farm, El** 83.94 36 IAmb IAmb 03 24 33.2
comp=Z,18nm,0.8s
SML **Sawmill** 83.99 13 IAmb IAmb 03 24 44.7
comp=Z,24nm,0.9s
SML **Sawmill** 83.99 13 P P 03 24 30.9 0.0
baz=208
BMO **Blue Mountains** 84.00 38 IAmb IAmb 03 24 33.4
comp=Z,11nm,0.8s
MFID **Camas Ranch** 84.09 40 IAmb IAmb 03 24 34.1
comp=Z,15nm,0.9s
MG05 **Puerto Natales** 84.10 143 P P 03 24 32.9 +1.1
MG05 IAmb IAmb 03 24 34.4
comp=Z,18nm,1.0s
M23K **Glacier View** 84.11 14 P P 03 24 31.4 -0.1
baz=208
CUT **Chulitna** 84.12 12 P P 03 24 31.1 -0.3
baz=206,SNR=8.5
BMRM **Bremner River** 84.14 15 P P 03 24 31.8 +0.1
baz=211,SNR=10
121A **Cookes Peak, D** 84.16 53 IAmb IAmb 03 24 35.8
comp=Z,22nm,0.8s
121A **Cookes Peak, D** 84.16 53 P P 03 24 34.5 +1.8
baz=243
MESA **MESA** 84.17 17 P P 03 24 32.7 +0.7
baz=214,SNR=6.7
SCM **Sheep Creek Mo** 84.24 14 P P 03 24 32.2 +0.1
baz=209,SNR=12
KLU **Klutina** 84.27 15 IAmb IAmb 03 24 33.5
comp=Z,23nm,1.0s
KLU **Klutina** 84.27 15 P P 03 24 32.1 -0.2
baz=210,SNR=6.1
K20K **Telida** 84.28 10 P P 03 24 32.4 +0.1
baz=202,SNR=21
WRAK **Wrangell Islan** 84.33 23 IAmb IAmb 03 24 34.6
comp=Z,24nm,0.8s
WRAK **Wrangell Islan** 84.33 23 P P 03 24 33.7 +1.2
baz=222,SNR=11
D08A **Wollman Farm,** 84.35 36 IAmb IAmb 03 24 35.2
comp=Z,26nm,1.0s

TGL **Tana Glacier** 84.42 16 IAmb IAmb 03 24 34.5
comp=Z,42nm,1.1s
ISLE **Juniper Island** 84.42 17 P P 03 24 33.5 +0.4
ISLE IAmb IAmb 03 24 34.4
comp=Z,37nm,0.9s
E09A **Wood Farm, Sta** 84.47 37 IAmb IAmb 03 24 36.0
comp=Z,14nm,0.9s
PNL **Peninsula** 84.48 18 P P 03 24 33.8 +0.5
baz=216,SNR=7.1
PINM **Pinnacle** 84.58 18 P P 03 24 34.1 +0.2
baz=215
BCPM **Bancas Point** 84.64 18 IAmb IAmb 03 24 35.6
comp=Z,30nm,1.0s
N25K **Chitina, Valde** 84.69 15 P P 03 24 34.6 +0.2
baz=211,SNR=25
M24K **Tolsona, Glenn** 84.75 14 P P 03 24 35.0 +0.4
baz=210
TNA **Tin City** 84.78 4 P P 03 24 35.0 +0.4
baz=189
WAT6 **Susitna Watana** 84.81 13 P P 03 24 35.0 -0.1
baz=208,SNR=11
WAT1 **Susitna Watana** 84.86 13 P P 03 24 34.9 -0.3
baz=207
B08A **Colville Reser** 84.89 35 IAmb IAmb 03 24 37.0
comp=Z,21nm,0.8s
MCARA **McCarthy VSAT** 84.90 16 IAmb IAmb 03 24 37.3
comp=Z,33nm,1.0s
MCARA **McCarthy VSAT** 84.90 16 P P 03 24 35.6 +0.3
baz=212,SNR=7.5
TMUT **Trail Mountain** 84.91 46 P P 03 24 37.9 +1.5
TMUT IAmb IAmb 03 24 41.5
comp=Z,16nm,0.8s
LLLB **Lillooet** 84.94 32 IAmb IAmb 03 24 37.6
comp=Z,25nm,1.0s
R32K **Eaglecrest** 84.94 21 P P 03 24 36.0 +0.4
baz=220
P29M **Windy Craggy** 84.95 19 IAmb IAmb 03 24 37.7
comp=Z,25nm,0.8s
P29M **Windy Craggy** 84.95 19 P P 03 24 36.8 +1.1
baz=217,SNR=10.0
LOGN **Logan Glacier** 84.97 17 IAmb IAmb 03 24 37.3
comp=Z,44nm,1.2s
HNS **HongShan** 84.97 312 ⇑P P 03 24 37.5 +1.3
HNS pmax pmax
comp=Z,13nm,1.1s
JIS **Juneau Island** 84.99 21 IAmb IAmb 03 24 37.6
comp=Z,14nm,0.9s
CTG **Chitna Glacier** 84.99 17 P P 03 24 36.3 +0.4
baz=214,SNR=14
CTGM **Chitina Glacie** 85.00 17 IAmb IAmb 03 24 37.9
comp=Z,30nm,0.9s
J20K **Nowinta River** 85.03 10 P P 03 24 36.1 +0.2
baz=202,SNR=14
HLID **Hailey** 85.03 41 IAmb IAmb 03 24 39.1
comp=Z,14nm,0.8s
HLID **Hailey** 85.03 41 P P 03 24 37.9 +1.3
baz=238,SNR=28
TRF **Thorofare Moun** 85.06 12 P P 03 24 35.4 -0.8
baz=206,SNR=22
HVU **Hansel Valley** 85.13 43 P P 03 24 37.7 +0.6
C09A **Chrisman Ranch** 85.14 36 IAmb IAmb 03 24 38.6
comp=Z,17nm,0.8s
O28M **Mount Upton** 85.15 17 P P 03 24 37.3 +0.4
baz=215,SNR=17
SEY **Seymchan** 85.18 347 P P 03 24 36.8 +0.2
comp=Z,30nm,0.9s,baz=150,slow=5.4,SNR=33
comp=Z,30nm,0.9s
HARP **HAARP** 85.24 14 P P 03 24 37.5 +0.6
baz=210
O29M **Mount Kennedy** 85.24 18 P P 03 24 37.8 +0.7
baz=217,SNR=6.9
PLBC **Pleasant Camp** 85.25 20 P P 03 24 37.9 +0.9
baz=219,SNR=12
LYN **LuoYang** 85.26 309 ⇑/P P 03 24 38.2 +0.5
LYN S S 03 34 29.2 +6.3
LYN pmax pmax
comp=Z,20nm,0.9s
SRU **San Rafael Swe** 85.29 46 IAmb IAmb 03 24 39.9
comp=Z,16nm,0.7s
RND **Reindeer** 85.31 13 P P 03 24 36.6 -0.7
DHY **Denali Highway** 85.33 13 IAmb IAmb 03 24 38.5
comp=Z,23nm,1.2s
DHY **Denali Highway** 85.33 13 P P 03 24 36.9 -0.6
baz=208,SNR=7.3
BPAW **Bear Paw Mtn.** 85.52 11 P P 03 24 37.1 -1.1
baz=205
T35M **Bob Quinn** 85.53 24 P P 03 24 39.6 +1.1
baz=224,SNR=6.1
MCK **McKinley** 85.58 12 P P 03 24 38.5 -0.1
baz=207,SNR=24
P30M **Million Dollar** 85.58 19 P P 03 24 39.8 +1.1
baz=218
SKAG **Skagway** 85.58 20 IAmb IAmb 03 24 41.1
comp=Z,19nm,1.0s
SKAG **Skagway** 85.58 20 P P 03 24 40.1 +1.5
baz=220
MNTX **Cornudas Mount** 85.62 54 P P 03 24 40.8 +1.3
MNTX IAmb IAmb 03 24 42.3
comp=Z,19nm,0.9s
MNTX **Cornudas Mount** 85.62 54 P P 03 24 41.4 +1.9
baz=244
PAX **Paxson** 85.66 14 P P 03 24 38.6 -0.5
baz=210,SNR=6.4
TCUT **Toone Canyon** 85.68 44 IAmb IAmb 03 24 42.0
comp=Z,13nm,0.8s
TLIG **Tlapa** 85.72 70 IAmb IAmb 03 24 43.1
comp=Z,11nm,0.8s
M26K **Nabesna, AK** 85.77 15 IAmb IAmb 03 24 41.6
comp=Z,26nm,0.9s
M26K **Nabesna, AK** 85.77 15 P P 03 24 40.0 +0.5
baz=212,SNR=21
MVCO **Mesa Verde** 85.79 48 P P 03 24 41.3 +0.8
baz=242
YUK6 **Outpost Mounta** 85.82 18 P P 03 24 40.6 +0.5
baz=217
S34M **Telegraph Cree** 85.87 23 P P 03 24 41.5 +1.4
baz=223,SNR=26
YUK3 **Moose Creek** 85.90 17 P P 03 24 40.8 +0.4
baz=215,SNR=11
TX32 **Lajitas Array** 85.97 57 IAmb IAmb 03 24 44.5
comp=Z,28nm,1.1s
TXAR **Lajitas Array** 85.97 57 P P 03 24 43.2 +1.9
comp=Z,16nm,0.8s,baz=217,slow=6.3,SNR=210
TXAR PKKPbc PKKPbc 03 42 39.3 +0.9
comp=Z,0.4nm,0.9s,baz=90,slow=2.5,SNR=3.7
comp=Z,16nm,0.8s
TXAR **Lajitas Array** 85.97 57 P P 03 24 42.6 +1.2
HYT **Haines Junctio** 85.98 18 IAmb IAmb 03 24 42.5
comp=Z,20nm,1.0s
HYT **Haines Junctio** 85.98 18 P P 03 24 41.5 +0.8
baz=218,SNR=11
PV13 **Radium Mtn., P** 86.00 47 P P 03 24 42.0 +0.5
M27K **Edge Creek, AK** 86.01 16 P P 03 24 41.4 +0.6
baz=214,SNR=10
NEW **Newport** 86.04 36 P P 03 24 41.4 +0.3
baz=235,SNR=6.3
MENT **Mentasta** 86.04 15 IAmb IAmb 03 24 42.3
comp=Z,37nm,1.5s
YUK4 **Talbot Arm** 86.06 18 P P 03 24 42.0 +0.9
baz=217
L26K **Log Cabin Wild** 86.21 15 IAmb IAmb 03 24 43.7
comp=Z,34nm,1.5s
L26K **Log Cabin Wild** 86.21 15 P P 03 24 42.1 +0.5
baz=212
P32M **Atlin** 86.22 21 P P 03 24 42.2 +0.5
baz=221,SNR=5.9
ANMO **Albuquerque** 86.23 51 P P 03 24 43.5 +0.9
ANMO IAmb IAmb 03 24 45.2
comp=Z,15nm,0.9s
ANMO **Albuquerque** 86.23 51 P P 03 24 43.7 +1.1
baz=244
Q32M **Nakina River** 86.24 22 P P 03 24 42.8 +0.8
baz=222
I21K **Tanana** 86.32 11 IAmb IAmb 03 24 43.0
comp=Z,30nm,1.1s
I21K **Tanana** 86.32 11 P P 03 24 42.0 0.0
baz=204,SNR=13
BVCY **Beaver Creek** 86.33 16 P P 03 24 42.8 +0.7
baz=214,SNR=6.2
NEA2 **Nenana** 86.33 12 P P 03 24 41.1 -1.0
baz=207,SNR=7.3
O30N **Mendenhall** 86.36 19 P P 03 24 43.4 +1.0
baz=219,SNR=14
MLY **Manley** 86.41 11 IAmb IAmb 03 24 42.7
comp=Z,16nm,1.0s
MLY **Manley** 86.41 11 P P 03 24 41.6 -0.9
baz=205,SNR=12
RIDG **Independent Ri** 86.47 14 IAmb IAmb 03 24 44.1

comp=Z,23nm,1.1s
RIDG **Independent Ri** 86.47 14 P P 03 24 42.8 0.0
baz=211,SNR=6.7
HDA **Harding Lake** 86.59 13 P P 03 24 42.8 -0.6
HDA **Harding Lake** 86.59 13 P P 03 24 43.2 -0.1
baz=209,SNR=22
N30M **Aishikik Lake** 86.60 18 P P 03 24 43.9 +0.4
baz=218,SNR=5.7
L27K **Beaver Creek,** 86.61 15 P P 03 24 43.6 +0.1
baz=214,SNR=11
H21K **Melozitna Rive** 86.62 10 P P 03 24 43.7 +0.2
baz=203,SNR=6.1
WHY **Whitehorse** 86.65 20 IAmb IAmb 03 24 45.7
comp=Z,13nm,0.9s
WHY **Whitehorse** 86.65 20 P P 03 24 44.6 +0.7
baz=220,SNR=7.1
DLBC **Dease Lake** 86.66 23 P P 03 24 44.9 +1.1
comp=Z,9.9nm,0.8s,baz=216,slow=5.8,SNR=24
comp=Z,9.9nm,0.8s
DLBC **Dease Lake** 86.66 23 IAmb IAmb 03 24 46.0
comp=Z,13nm,0.9s
DLBC **Dease Lake** 86.66 23 P P 03 24 44.6 +0.8
baz=224,SNR=11
TCOL **CIGO, UAF Yank** 86.81 12 P P 03 24 44.0 -0.3
baz=208,SNR=12
COLA **College** 86.82 12 P P 03 24 43.7 -0.6
COLA **College** 86.82 12 P P 03 24 44.0 -0.3
baz=208
COYC **Coyhaique** 86.83 137 P P 03 24 46.5 +1.5
COYC IAmb IAmb 03 24 48.4
comp=Z,16nm,1.0s
SCRK **Sand Creek** 86.87 14 P P 03 24 45.0 +0.2
baz=212,SNR=7.5
IL31 86.92 13 IAmb IAmb 03 24 45.9
comp=Z,38nm,1.2s
ILAR **Eielson Array** 86.92 13 P P 03 24 44.4 -0.5
comp=Z,11nm,0.8s,baz=228,slow=4.7,SNR=139
ILAR PP PP 03 28 20.2 +1.8
comp=Z,2.1nm,1.0s,baz=212,slow=7.5,SNR=5.0
comp=Z,11nm,0.8s
P33M **Teslin, Yukon** 86.98 21 P P 03 24 46.0 +0.6
baz=222,SNR=9.0
M29M **Somme Creek** 87.00 17 P P 03 24 45.9 +0.5
baz=217,SNR=22
R33M **Jennings River** 87.01 22 P P 03 24 46.7 +1.2
baz=223,SNR=14
N31M **Braeburn, Yuko** 87.02 19 IAmb IAmb 03 24 47.3
comp=Z,25nm,1.1s
N31M **Braeburn, Yuko** 87.02 19 P P 03 24 46.0 +0.5
baz=219,SNR=9.7
MSO **Missoula** 87.06 38 P P 03 24 46.4 +0.3
baz=238,SNR=8.0
H22K **Ishtalitna Cre** 87.08 10 P P 03 24 45.8 +0.2
baz=205,SNR=28
J25K **Salcha River,** 87.11 13 IAmb IAmb 03 24 46.8
comp=Z,15nm,0.6s
J25K **Salcha River,** 87.11 13 P P 03 24 45.6 -0.2
baz=210,SNR=18
POKR **Poker Flat Res** 87.12 12 P P 03 24 44.9 -0.9
baz=208,SNR=19
REDW **Red Top Meadow** 87.16 42 P P 03 24 47.6 +0.9
REDW IAmb IAmb 03 24 49.7
comp=Z,26nm,1.1s
TPAW **Teton Pass** 87.16 42 IAmb IAmb 03 24 48.2
comp=Z,14nm,0.9s
S22A **4UR Ranch, Cre** 87.21 49 IAmb IAmb 03 24 50.1
comp=Z,15nm,1.0s
S22A **4UR Ranch, Cre** 87.21 49 P P 03 24 48.4 +1.2
baz=243
SNOW **Snow King Moun** 87.27 42 IAmb IAmb 03 24 49.7
comp=Z,24nm,0.9s
G21K **Allakaket** 87.31 9 P P 03 24 46.6 0.0
baz=203,SNR=22
O20A **White River Ci** 87.32 46 P P 03 24 48.3 +0.7
baz=242
H23K **Yukon River** 87.34 11 IAmb IAmb 03 24 47.6
comp=Z,8.6nm,0.8s
H23K **Yukon River** 87.34 11 P P 03 24 47.1 +0.2
baz=206,SNR=6.8
K27K **Chicken** 87.36 15 P P 03 24 47.5 +0.6
baz=213
IMW **Indian Meadow** 87.37 42 P P 03 24 48.8 +1.0
IMW IAmb IAmb 03 24 50.3
comp=Z,21nm,0.9s
J26L **Joseph Creek** 87.41 14 P P 03 24 48.1 +0.8
baz=212,SNR=30
LOHW **Long Hollow** 87.44 42 IAmb IAmb 03 24 50.3
comp=Z,10nm,1.0s
M30M **Minto, Yukon** 87.57 18 P P 03 24 48.5 +0.4
baz=218,SNR=38
N32M **Quiet Lake** 87.60 20 P P 03 24 49.2 +1.0
baz=222
L29M **L29M** 87.62 17 P P 03 24 49.4 +1.2
baz=217
H24K **Noodor Dome** 87.67 12 P P 03 24 46.9 -1.5
baz=208
XAN **Xi'an** 87.68 307 P P 03 24 50.7 +1.5
XAN pP PcP 03 24 57.9 +7.4
XAN pmax pmax
comp=Z,18nm,1.0s
BW06 **Boulder Array** 87.69 43 P P 03 24 49.4 +0.1
BW06 IAmb IAmb 03 24 50.9
comp=Z,13nm,1.0s
BW06 **Boulder Array** 87.69 43 P P 03 24 49.3 -0.1
baz=241
PD31 **Pinedale Array** 87.69 43 IAmb IAmb 03 24 50.9
comp=Z,12nm,1.0s
PDAR **Pinedale Array** 87.69 43 P P 03 24 49.9 +0.5
comp=Z,8.1nm,0.8s,baz=211,slow=2.9,SNR=63
PDAR PP PP 03 28 24.7 -0.6
comp=Z,0.2nm,0.6s,baz=144,slow=20,SNR=3.7
comp=Z,8.1nm,0.8s
SMCO **Snowmass** 87.75 47 IAmb IAmb 03 28 22.9
comp=Z,9.1nm,0.5s
BOZ **Bozeman (W)** 87.79 40 IAmb IAmb 03 24 52.0
comp=Z,24nm,0.9s
BOZ **Bozeman (W)** 87.79 40 P P 03 24 50.7 +1.1
baz=240,SNR=46
H17A **Grant Village** 87.84 41 IAmb IAmb 03 24 54.0
comp=Z,20nm,0.9s
H17A **Grant Village** 87.84 41 P P 03 24 52.4 +2.4
baz=240,SNR=8.2
PRP **Porcupine Dome** 87.86 13 P P 03 24 48.6 -0.8
PRP IAmb IAmb 03 24 51.3
comp=Z,8.2nm,0.7s
PRP **Porcupine Dome** 87.86 13 P P 03 24 48.7 -0.8
baz=210,SNR=7.7
YHH **Holmes Hill** 87.86 41 IAmb IAmb 03 24 54.0
comp=Z,18nm,1.2s
YNR **Norris Junctio** 87.93 41 IAmb IAmb 03 24 58.0
comp=Z,13nm,0.9s
F21K **Alatna River** 87.97 9 P P 03 24 49.6 -0.2
baz=203,SNR=11
M31M **Drury Creek, Y** 87.99 19 IAmb IAmb 03 24 51.6
comp=Z,10nm,1.0s
M31M **Drury Creek, Y** 87.99 19 P P 03 24 50.0 +0.1
baz=220,SNR=9.4
G22K **Bettles** 88.00 10 P P 03 24 50.1 +0.2
baz=204
G23K **Bananza Creek** 88.06 11 P P 03 24 50.4 +0.2
baz=206,SNR=18
DAWY **Dawson** 88.06 16 IAmb IAmb 03 24 51.9
comp=Z,19nm,0.8s
DAWY **Dawson** 88.06 16 P P 03 24 50.8 +0.5
baz=216,SNR=23
SDCO **Great Sand Dun** 88.16 49 P P 03 24 52.4 +0.7
baz=244
I26K **Coal Creek Min** 88.19 14 P P 03 24 51.1 +0.3
baz=212
EGAK **Eagle** 88.21 15 P P 03 24 51.3 +0.4
baz=214,SNR=24
WALA **Waterton Lakes** 88.26 36 P P 03 24 52.1 +0.5
WALA IAmb IAmb 03 24 53.0
comp=Z,8.2nm,0.8s
WTLY **Watson Lake, Y** 88.30 22 IAmb IAmb 03 24 53.5
comp=Z,15nm,1.0s
WTLY **Watson Lake, Y** 88.30 22 P P 03 24 51.9 +0.5
baz=225,SNR=8.2
FARO **Faro, Yukon** 88.33 19 P P 03 24 52.0 +0.4
baz=221,SNR=8.6
K29M **Barlow Dome** 88.38 17 P P 03 24 52.5 +0.7
baz=217,SNR=30
F22K **John River** 88.43 9 P P 03 24 52.2 +0.3
baz=204
H25K **Birch Creek** 88.45 12 P P 03 24 51.2 -0.8
baz=210,SNR=6.2
COLD **Coldfoot** 88.49 10 P P 03 24 52.6 +0.4
baz=206,SNR=27

G24K	Hadweenzic Riv	88.51	11	P		P	03 24 52.3	0.0
	baz=208,SNR=5.2							
MSTX	Muleshoe	88.57	53	P		P	03 24 54.3	+0.8
	baz=246							
MAYO	Mayo, Yukon	88.63	17	P		P	03 24 53.7	+0.9
	baz=219,SNR=17							
T25A	Trinidad	88.68	50	P		P	03 24 54.6	+0.6
	baz=245							
RWWY	Rawlins	88.73	45	IAmb		IAmb	03 24 55.1	
	comp=Z,25nm,1.2s							
HHC	Hu-ho-hao-te	88.74	314	*e*P		P	03 24 56.1	+2.0
HHC				pmax		pmax		
	comp=Z,20nm,1.0s							
HHC				pmax		pmax		
	comp=Z,100nm,7.7s							
I27K	Kandik River	88.79	14	P		P	03 24 53.6	-0.1
	baz=214,SNR=6.5							
CMIG	Matias Romero	88.84	72	P		P	03 24 56.0	+1.1
	comp=Z,7.0nm,0.8s,baz=283,slow=7.2,SNR=8.0							
	comp=Z,7.0nm,0.8s							
Q24A	Divide	88.93	48	P		P	03 24 55.8	+0.5
	baz=244							
PHRA	Phrae	88.95	290	P		P	03 24 56.8	+1.4
ISCO	Idaho Springs	88.97	47	P		P	03 24 56.4	+0.9
	baz=244							
RLMT	Red Lodge	89.01	41	P		P	03 24 56.4	+1.0
RLMT				IAmb		IAmb	03 24 58.4	
	comp=Z,21nm,1.0s							
RLMT	Red Lodge	89.01	41	P		P	03 24 56.7	+1.4
	baz=241							
833A	Chaparral WMA,	89.01	60	IAmb		IAmb	03 24 57.7	
	comp=Z,16nm,0.9s							
833A	Chaparral WMA,	89.01	60	P		P	03 24 56.5	+1.0
	baz=248							
TROLL	Troll, Antarti	89.06	180	P		P	03 24 55.3	+0.2
TROLL	Troll, Antarti	89.06	180	pP		pP	03 26 58.1	+4.3
KMI	Kunming	89.14	297	⇓P		P	03 24 56.9	+0.5
KMI				pmax		pmax		
	comp=Z,9.0nm,1.1s							
F24K	Squaw Lake	89.16	11	P		P	03 24 55.9	+0.6
	baz=208,SNR=16							
N23A	Red Feather La	89.23	46	IAmb		IAmb	03 24 59.3	
	comp=Z,14nm,1.1s							
N23A	Red Feather La	89.23	46	P		P	03 24 57.7	+1.1
	baz=244							
MMPY	Sheldon Lake,	89.27	20	P		P	03 24 56.8	+0.8
	baz=229,SNR=17							
SNAA	Sanae	89.32	178	P		P	03 24 56.1	-0.2
SNAA	Sanae	89.32	178	pP		pP	03 26 58.1	+3.1
H27K	Steamboat Moun	89.33	14	P		P	03 24 56.6	+0.4
	baz=214,SNR=16							
E23K	Chandalar	89.34	10	P		P	03 24 56.8	+0.6
	baz=206							
I29M	Ogilvie Camp,	89.39	15	IAmb		IAmb	03 24 57.4	
	comp=Z,21nm,1.1s							
I29M	Ogilvie Camp,	89.39	15	P		P	03 24 56.4	0.0
	baz=217,SNR=18							
VNA3	Neumayer Olymp	89.44	176	P		P	03 24 56.8	+0.1
VNA3				S		S	03 34 58.9	-1.7
VNA3	Neumayer Olymp	89.44	176	pP		pP	03 26 56.1	+0.6
G26K	Porcupine Rive	89.45	13	P		P	03 24 56.6	0.0
	baz=212,SNR=24							
TGTN	Hyland Airport	89.47	21	P		P	03 24 57.9	+1.0
	baz=226,SNR=5.7							
JCT	Junction City	89.50	58	IAmb		IAmb	03 24 59.4	
	comp=Z,9.9nm,0.8s							
JCT	Junction City	89.50	58	P		P	03 24 58.3	+0.5
	baz=247							
E24K	Your Creek	89.55	11	P		P	03 24 57.3	+0.2
	baz=207							
K22A	Casper	89.62	44	IAmb		IAmb	03 25 00.1	
	comp=Z,11nm,0.8s							
K22A	Casper	89.62	44	P		P	03 24 58.6	+0.4
	baz=243							
F25K	Christian Rive	89.64	12	P		P	03 24 58.5	+1.0
	baz=210,SNR=6.5							
PHWY	Pilot Hill	89.74	46	IAmb		IAmb	03 25 00.6	
	comp=Z,8.4nm,0.9s							
AMTX	Amarillo	89.76	53	P		P	03 24 59.7	+0.7
	baz=246							
G27K	Doyon Strip	89.79	13	P		P	03 24 58.7	+0.4
	baz=214,SNR=8.8							
PLCA	Paso Flores	89.87	133	P		P	03 25 00.3	+0.9
	comp=Z,3.2nm,0.9s,baz=243,slow=5.0,SNR=8.9							
	comp=Z,3.2nm,0.9s							
TOLK	Toolik Lake Re	89.87	10	IAmb		IAmb	03 24 59.9	
	comp=Z,13nm,0.8s							
TOLK	Toolik Lake Re	89.87	10	P		P	03 24 58.7	+0.1
	baz=206,SNR=5.0							
VNA2	Neumayer--Watz	89.88	177	P		P	03 24 59.0	+0.3
	baz=184,slow=3.8							
VNA2				S		S	03 35 03.5	-1.1
VNA2	Neumayer--Watz	89.88	177	pP		pP	03 26 59.0	+1.3
D23K	Nanushuk River	89.99	9	P		P	03 25 00.0	+0.9
	baz=205							
F26K	Sheenjek River	90.02	12	P		P	03 25 00.2	+0.9
	baz=211,SNR=6.6							
CMAR	Chiang Mai Arr	90.08	289	P		P	03 25 02.0	+1.4
	comp=Z,6.8nm,0.8s,baz=113,slow=2.8,SNR=32							
	comp=Z,6.8nm,0.8s							
VNA1	Neumayer--Stat	90.11	176	P		P	03 25 00.2	+0.4
VNA1	Neumayer--Stat	90.11	176	pP		pP	03 27 01.8	+3.1
EGMT	Eagleton	90.11	38	IAmb		IAmb	03 25 02.2	
	comp=Z,11nm,1.1s							
EGMT	Eagleton	90.11	38	P		P	03 25 01.1	+0.9
	baz=241							
E25K	Arctic Village	90.11	11	P		P	03 25 00.4	+0.7
	baz=210,SNR=5.8							
CHTO	Chiang Mai	90.20	290	P		P	03 25 02.3	+1.1
FLDN	Fort Liard	90.35	24	P		P	03 25 02.2	+1.3
	baz=230							
ABTX	Abilene, Hawle	90.45	56	IAmb		IAmb	03 25 04.5	
	comp=Z,12nm,1.1s							
ABTX	Abilene, Hawle	90.45	56	P		P	03 25 02.9	+0.8
	baz=248							
D24K	Happy Valley	90.46	10	P		P	03 25 01.5	+0.3
	baz=207							
PZH	PanZhiHua	90.47	298	P		P	03 25 03.5	+1.0
PZH				pmax		pmax		
	comp=Z,30nm,1.1s							
PZH				pmax		pmax		
	comp=Z,60nm,3.5s							
EPYK	Eagle Plains	90.59	15	P		P	03 25 02.0	+0.1
	baz=218,SNR=17							
KSCO	Kaye Shedlock'	90.74	49	P		P	03 25 04.5	+1.1
	baz=246							
C23K	Itkillik River	90.79	9	P		P	03 25 03.3	+0.6
	baz=205,SNR=6.0							
E27K	Coleen River	90.95	13	P		P	03 25 04.3	+0.7
	baz=214							
C24K	Franklin Bluff	90.98	10	P		P	03 25 04.2	+0.6
	baz=207							
D25K	Kavik River	91.02	11	P		P	03 25 04.5	+0.6
	baz=209							
435B	Jarrell	91.39	58	P		P	03 25 07.3	+0.9
	baz=248							
LAO	LASA Array	91.62	41	P		P	03 25 08.9	+1.7
	baz=244							
C27K	Jago River	91.76	11	P		P	03 25 07.0	-0.3
	baz=212							
RSSD	Black Hills	91.89	44	P		P	03 25 09.1	+0.4
RSSD	Black Hills	91.89	44	P		P	03 25 08.9	+0.2
	baz=245							
WMOK	Wichita Mounta	91.91	54	IAmb		IAmb	03 25 11.7	
	comp=Z,4.8nm,0.8s							
WMOK	Wichita Mounta	91.91	54	P		P	03 25 09.6	+0.8
	baz=248							
ELIS	Ellis County	91.92	52	IAmb		IAmb	03 25 10.9	
	comp=Z,24nm,1.1s							
WHTX	Lake Whitney,	91.93	57	P		P	03 25 09.4	+0.5
	baz=249							
F31M	Tsiigehtchic	92.17	15	P		P	03 25 09.1	0.0
	baz=221,SNR=16							
WRGLY	Wrigley	92.28	22	P		P	03 25 10.7	+0.9
	baz=230							
HKT	Hockley	92.50	59	P		P	03 25 11.9	+0.4
HKT				IAmb		IAmb	03 25 14.9	
	comp=Z,21nm,1.9s							
X34A	Smith Ranch, M	92.58	54	IAmb		IAmb	03 25 14.1	
	comp=Z,13nm,0.9s							
CBKS	Cedar Bluff	92.73	50	P		P	03 25 13.1	+0.6
	baz=248							
INK	Inuvik	92.88	15	P		P	03 25 12.2	-0.1
	comp=Z,15nm,0.8s,baz=191,slow=1.8,SNR=18							
	comp=Z,15nm,0.8s							
INK	Inuvik	92.88	15	P		P	03 25 11.8	-0.5
INK	Inuvik	92.88	15	P		P	03 25 12.0	-0.3
	baz=221,SNR=8.9							
DGMT	Dagmar	93.62	40	P		P	03 25 17.1	+0.8
	baz=245							
TUL1	Leonard	94.61	54	P		P	03 25 21.6	+0.5
	baz=250							
BGNE	Belgrade	94.82	48	P		P	03 25 22.6	+0.7
	baz=249							
SONM	Songino Array	95.04	319	P		P	03 25 23.5	+0.7
	comp=Z,0.7nm,0.8s,baz=136,slow=3.7,SNR=4.2							
	comp=Z,0.7nm,0.8s							
KSU1	Kansas State U	95.11	50	P		P	03 25 24.4	+1.1
	baz=250							
YKA	Yellowknife Ar	95.12	25	P		P	03 25 22.6	-0.1
	comp=Z,6.5nm,0.9s,baz=241,slow=4.3,SNR=9.7							
	comp=Z,6.5nm,0.9s							
U38A	Gravette	95.86	54	IAmb		IAmb	03 27 09.2	
	comp=Z,5.1nm,0.6s							
MDND	Maddock	96.20	41	P		P	03 25 28.9	+0.9
	baz=248							
ECSD	EROS Data Cent	96.70	46	P		P	03 25 29.4	-0.9
ECSD				IAmb		IAmb	03 25 33.9	
	comp=Z,5.8nm,1.0s							
ECSD	EROS Data Cent	96.70	46	P		P	03 25 30.4	+0.1
	baz=250							
MGMO	Mountain Grove	97.70	53	IAmb		IAmb	03 25 38.1	
	comp=Z,5.2nm,0.8s							
ZALV	Zalesovo Beam	109.73	322	PKiKP		PKiKP	03 30 25.9	-1.1
	comp=Z,1.6nm,0.5s,baz=99,slow=1.7,SNR=7.1							
MK31	Makanchi Array	110.60	314	PKiKP		PKiKP	03 30 27.5	-1.5
MKAR	Makanchi Array	110.60	314	PKiKP		PKiKP	03 30 28.1	-0.8
	comp=Z,1.6nm,0.5s,baz=132,slow=0.9,SNR=26							
MKAR				PKKPbc		PKKPbc	03 41 30.1	-0.7
	comp=Z,0.7nm,0.7s,baz=279,slow=3.2,SNR=4.5							
BOOM	Boomskoye usch	114.74	309			PKPdf	03 30 36.6	-0.6
BRVK	Borovoye	118.40	321	PKPdf		PKPdf	03 30 42.1	-1.5
KK31	Karatay Array	118.75	309	PKPdf		PKPdf	03 30 43.8	-1.0
BDFB	Brasilia	119.48	121	PKP		PKPdf	03 30 46.2	-0.8
	comp=Z,1.3nm,0.4s,baz=228,slow=3.6,SNR=5.4							
KBL	Kabul	119.63	299	PKPdf		PKPdf	03 30 46.1	-0.8
KBS	Kingsbay	120.03	358	*e*PKPdf		PKiKP	03 30 46.6	+0.3
SPA0	Spitsbergen Ar	120.57	357	*e*PKPdf		PKPdf	03 30 47.2	0.0
SPITS	Spitsbergen Ar	120.57	357	PKP		PKPdf	03 30 46.9	-0.3
	comp=Z,13nm,0.8s,baz=29,slow=3.3,SNR=8.2							
SFJD	Kangerlussuaq	121.55	22	PKP		PKPdf	03 30 48.5	-0.8
	comp=Z,12nm,0.7s,baz=296,slow=3.1,SNR=6.8							
SUMG	Summit	121.76	13			PKPdf	03 30 49.3	-0.8
SUMG	Summit	121.76	13	*i* P		PKPdf	03 30 49.0	-1.1
ARU	Arti	124.35	326	PKPdf		PKPdf	03 30 53.6	-1.4
ABKAR	Akbulak array	125.42	317	PKPdf		PKPdf	03 30 55.9	-1.4
HAMF	Hammerfest	126.98	351	*e*PKPdf		PKPdf	03 30 59.3	-0.3
BOSA	Boshof	127.64	205	PKP		PKPdf	03 31 02.4	-0.1
	comp=Z,4.4nm,0.9s,baz=198,slow=2.4,SNR=5.5							
ARA0	ARCESS Array S	127.69	350	*e*PKPdf		PKPdf	03 31 00.9	-0.1
ARA0				IAmb		IAmb	03 31 01.5	
	comp=Z,12nm,0.7s							
ARCES	ARCESS Array B	127.69	350	PKP		PKPdf	03 31 00.9	-0.2
	comp=Z,6.2nm,0.5s,baz=14,slow=1.4,SNR=46							
ARCES	ARCESS Array B	127.69	350	PKPdf		PKPdf	03 31 01.3	+0.2
GEYT	Alibeck	128.43	304	PKP		PKiKP	03 31 04.1	-0.1
	comp=Z,5.2nm,0.9s,baz=251,slow=4.5,SNR=8.2							
KTK1	Kautokeino	128.52	351	*e*PKPdf		PKPdf	03 31 02.8	+0.1
TRO	Tromso	128.54	353	*e*PKPdf		PKPdf	03 31 02.7	+0.1
TRO				IAmb		IAmb	03 31 03.5	
	comp=Z,44nm,1.3s							
MDH	Madha	130.06	287	PKPdf		PKPdf	03 31 03.8	-3.0
BANOM	Banah	130.11	288	*i* PKiKP		PKiKP	03 31 10.3	+2.4
	SNR=9.3							
UOSS	Minazif	130.12	287	PKPdf		PKPdf	03 31 06.0	-1.0
UOSS	Minazif	130.12	287	*i* PKiKP		PKPdf	03 31 06.7	-0.3
	SNR=11							
HATD	Hatta, Dubai	130.18	287	*i* PKiKP		PKPdf	03 31 07.1	0.0
	SNR=6.5							
MSFE	Esna-Masafi	130.19	287	*i* PKiKP		PKPdf	03 31 07.6	+0.4
	SNR=14							
ASHO	Ashiyiah	130.23	286	*i* PKiKP		PKPdf	03 31 07.0	-0.3
	SNR=7.3							
SHME	Shamm	130.26	288	PKiKP		PKiKP	03 31 10.1	+2.0
ALNE	Al Ain	130.46	286	PKiKP		PKPdf	03 31 07.8	+0.1
STEI	Steigen	130.58	354	*e*PKPdf		PKPdf	03 31 07.0	+0.5
NAZ	Nazwa, Dubai	130.62	287	*i* PKiKP		PKPdf	03 31 08.0	0.0
	SNR=6.4							
LBTB	Lobatse	130.65	208	PKP		PKiKP	03 31 08.9	-0.2
	baz=67,slow=3.6							
LBTB				SKPbc		SKPab	03 33 43.2	+1.2
	comp=Z,15nm,0.9s,baz=163,slow=6.1,SNR=14							
FAQ	Al Faqa, Dubai	130.66	286	*i* PKiKP		PKPdf	03 31 08.2	+0.2
	SNR=6.1							
KLMR	Klimovskoe	130.83	337	*e*PKPdf		PKPdf	03 31 07.2	0.0
KLMR				AMP			03 31 08.9	
	comp=Z,18nm,1.1s							
KLMR				*e*PP		PP	03 33 40.6	+9.2
ASUD	Al Ashush, Dub	130.89	286	PKiKP		PKPdf	03 31 08.8	+0.3
FAUS	Fauske	131.10	353	*e*PKPdf		PKPdf	03 31 07.7	+0.1
MOR8	Moi Rana	132.37	353	*e*PKPdf		PKPdf	03 31 10.1	0.0
NSS	Nanoos	134.22	354	*e*PKPdf		PKiKP	03 31 14.3	-0.7
FINES	FINESS Array B	134.62	344	PKhKP		PKPpre	03 31 00.3	
	comp=Z,2.4nm,1.0s,baz=66,slow=5.2,SNR=5.0							
FINES				PKP		PKPdf	03 31 13.8	-0.5
	comp=Z,4.7nm,0.7s,baz=46,slow=0.9,SNR=7.2							
FINES				SKPbc		SKPbc	03 33 52.7	-0.8
	comp=Z,5.0nm,1.0s,baz=46,slow=4.0,SNR=5.7							
NC303	NORSAR Array S	137.51	354	PKPdf		PKPdf	03 31 19.3	-0.4
NB2	NORSAR Subarra	137.71	354	PKP		PKPpre	03 31 11.8	
	comp=Z,1.8nm,0.7s,baz=17,slow=2.6							
NOA	NORSAR Array B	137.71	354	PKhKP		PKPpre	03 31 11.5	
	comp=Z,2.5nm,0.9s,baz=17,slow=2.5,SNR=5.1							
NOA				PKP		PKPdf	03 31 20.2	+0.1
	comp=Z,1.9nm,0.6s,baz=13,slow=4.1,SNR=10							
NC602	NORSAR Array S	137.98	353	*e*PKPdf		PKPdf	03 31 20.9	+0.4
KBZ	Khabaz	138.28	315	PKP		PKiKP	03 31 23.1	-0.7
	comp=Z,2.9nm,0.9s,baz=174,slow=2.2,SNR=5.5							
SKAR	Skarslia	138.32	356	*e*PKPdf		PKPdf	03 31 21.4	+0.1
MNK	Minsk	139.73	337	*i* PKP		PKPdf	03 31 18.1	-5.9
	comp=E,1.0nm,0.9s							
MNK				*i* PKP		PKPdf	03 31 18.1	-5.9
	comp=N,7.0nm,0.9s							
MNK				*i* PKP		PKPdf	03 31 18.1	-5.9
	comp=Z,9.0nm,0.9s,baz=39							
MNK				*i* PKiKP		PKiKP	03 31 21.6	-4.9
MNK				*i* pPKP		pPKPdf	03 33 24.7	-6.2
MNK				*i* sPKP			03 34 46.5	
MNK				*i* PPP		PPP	03 38 28.9	
MNK				*i* SKS			03 39 12.7	
MNK				*i* SS		SS	03 52 00.8	-2.7
MNK				*i* SSS		SSS	03 56 46.5	
NACGM	Naroch	139.81	338	⇑*e*PKP		PKPdf	03 31 18.0	-6.1
	comp=Z,16nm,1.5s,baz=43							
BORU	Boras	140.84	351	*i* P		PKPdf	03 31 19.2	-6.6
ONAU	Onsala	141.19	352	*e*P		PKPdf	03 31 21.6	-4.8
FABU	Falkenberg	141.46	351	*i* P		PKPdf	03 31 21.6	-5.3
BLEU	Blekinge	141.59	348	*i* P		PKPdf	03 31 22.2	-5.0
DEL	Delary	141.78	350	*i* P		PKPdf	03 31 22.0	-5.5
AKASG	Malin Array Be	142.05	332	PKhKP		PKPpre	03 31 23.6	
	comp=Z,3.7nm,0.3s,baz=42,slow=4.4,SNR=27							
INVG	Invergeldie, C	142.48	6	*e*P		PKPdf	03 31 25.1	-3.6
LAWE	Loch Awe, Argy	142.50	7	*e*P		PKPdf	03 31 24.4	-4.4
LUNU	Lund	142.66	350	*i* P		PKPdf	03 31 25.2	-3.9
BSD	Bornholm Skovb	142.88	348	*e*P		PKPdf	03 31 27.0	-2.5
PGBU	Glenifferbraes	143.04	7	*e*P		PKPab	03 31 26.4	-0.9
EBL	Broad Law	143.22	5	*e*P		PKPab	03 31 28.1	0.0
ESK	Eskdalemuir	143.65	5	*e*P		PKPab	03 31 29.2	-0.5
ESK	Eskdalemuir	143.65	5			PKPab	03 31 29.1	-0.6
NEWG	New Galloway	143.75	7	*e*P		PKPbc	03 31 28.9	-1.1
EDMD	Edmundbyers	144.24	4	*e*P		PKPbc	03 31 31.3	-0.3
KESW	Keswick, Cumbr	144.38	6	*e*P		PKPbc	03 31 31.7	-0.4
GDLE	Glaisdale, N Y	144.72	3	*e*P		PKPbc	03 31 33.3	+0.2
MILM	Milestii Mici	144.91	328	⇑P		PKPdf	03 31 33.3	0.0
WME	Myndd Eilian	145.43	7	*e*P		PKPbc	03 31 35.3	0.0
WLF1	Llynfaes	145.53	7	*e*P		PKPbc	03 31 35.5	-0.1
VASR	Vaslui	145.61	329	⇓P		PKPbc	03 31 36.6	+0.5
YLL	Llanberis	145.70	7	*e*P		PKPab	03 31 37.6	0.0
VLDR	Vladesti	146.01	327	⇑P		PKPbc	03 31 38.0	+0.8
FOEL	Foel Wylfa	146.05	6	*e*P		PKPbc	03 31 36.2	-0.8
TLCR		146.07	326	⇓P		PKPbc	03 31 37.4	+0.1
BUR08	Bucovina Ar. S	146.09	332			PKPbc	03 31 37.8	+0.3
BURAR	Bucovina Array	146.11	332	⇑P		PKPbc	03 31 38.0	+0.4
BIZ	Bicaz	146.21	330	⇓P		PKPbc	03 31 38.1	+0.4
BRTR	Keskin Array B	146.25	314	PKPbc		PKPdf	03 31 36.4	+0.4
	comp=Z,20nm,1.0s,baz=129,slow=3.3,SNR=45							
BRTR	Keskin Array B	146.25	314			PKPdf	03 31 34.9	-1.1
BRTR				PKPbc		PKPbc	03 31 38.4	+0.1
TESR	Tescani	146.26	329	⇑P		PKPbc	03 31 37.5	-0.4
CFR	Carcaliu	146.44	326	⇑P		PKPbc	03 31 38.2	-0.1
HLM1	Long Mynd	146.45	6	*e*P		PKPbc	03 31 37.9	-0.3
PANC	Panciu	146.47	328	⇓P		PKPbc	03 31 38.8	+0.4
TPGR	Topolog	146.50	326	⇓P		PKPbc	03 31 38.6	0.0
NIE	Niedzica	146.59	339	*e*PKP		PKPbc	03 31 39.5	+0.8
VRI	Vrincioaia	146.68	328	⇑P		PKPbc	03 31 39.2	+0.1
PLOR	Plostina	146.73	329	⇑P		PKPbc	03 31 39.4	+0.1
ANTO	Ankara	146.75	315	⇑P		PKPbc	03 31 39.6	+0.1
ANTO	Ankara	146.75	315	PKPdf		PKPdf	03 31 35.9	-0.9
ANTO				PKPbc		PKPbc	03 31 39.8	+0.2
TIRR	Tirgusor	146.77	325	⇓P		PKPbc	03 31 39.4	+0.2
OSTC	Ostas	146.82	344	*e*PKPdf		PKPdf	03 31 37.4	+0.9
OSTC				⇑*e*PKP		PKPbc	03 31 40.2	+0.9
OSTC				*e*PKPAB		PKPab	03 31 43.6	+1.3
HARR	Harsova	146.87	326	⇑P		PKPbc	03 31 39.4	-0.1
UPC	Upice	146.92	344	⇑*e*PKP		PKPbc	03 31 40.3	+0.8
UPC				*e*PKPAB		PKPab	03 31 43.8	+1.2
MCH1	Michaelchurch	146.96	6	*e*P		PKPbc	03 31 38.3	-1.2
DPC	Dobruska-Polom	146.98	344	*e*PKPDF		PKPdf	03 31 36.8	0.0
DPC				⇑*e*PKP		PKPbc	03 31 40.6	+0.8
DPC				*e*PKPAB		PKPab	03 31 44.2	+1.3
BRG	Berggiesshubel	147.08	347	*e*PKP		PKPdf	03 31 37.3	+0.4
BRG				Amp			03 31 38.8	
	comp=Z,9.4nm,1.2s							
BRG				*i* x		x	03 31 40.6	
BRG				Amp			03 31 41.9	
	comp=Z,27nm,1.0s							
BRG				*e*x		x	03 31 43.6	
BRG				Amp			03 31 45.2	
	comp=Z,15nm,0.8s							
KRLC	Kraliky	147.11	343	⇑*e*PKP		PKPbc	03 31 40.7	+0.7
KRLC				⇑*e*PKP		PKPbc	03 31 40.8	+0.7
MONM	Monmouth	147.13	6	*e*P		PKPbc	03 31 38.9	-1.1
PVCC	Panska Ves	147.26	346	⇑*e*PKP		PKPbc	03 31 41.2	+0.8
MAUC	Maruska	147.44	341	*e*PKPDF		PKPdf	03 31 38.9	+1.3
MAUC				⇑*e*PKP		PKiKP	03 31 42.0	-0.6
CJR	Cluj-Napoca	147.51	332	⇑P		PKPbc	03 31 41.5	+0.2
PRU	Pruhonice	147.77	345	⇑*e*PKP		PKPbc	03 31 42.3	+0.6
GOPC	GO Pecny, Ondr	147.78	345	⇑*e*PKP		PKPbc	03 31 42.4	+0.6
GOPC				*e*PKPAB		PKPab	03 31 47.0	+0.9
NKC	Novy Kostel	148.00	348	*e*PKPDF		PKPdf	03 31 39.3	+0.9
NKC				⇑*e*PKP		PKPbc	03 31 43.0	+0.7
NKC				*e*PKPAB		PKPab	03 31 47.6	+0.6
ARR	Arges	148.05	330	⇓P		PKiKP	03 31 43.7	-0.4
TREC	Trest	148.17	344	⇑*e*PKP		PKPbc	03 31 43.4	+0.6
MODS	Modra-Piesok	148.49	341	*e*PKP		PKPbc	03 31 43.4	-0.2
MODS				*e*			03 31 48.8	
CSS	Mathiatis	148.49	306	PKPbc		PKPbc	03 31 42.8	-1.3
MEM	Membach	148.50	356	*d*PKPbc		PKPbc	03 31 43.6	+0.1
BTNL	Ternell	148.51	356	*d*PKPdf		PKPdf	03 31 39.1	-0.1
BTNL				*d*PKPbc		PKPbc	03 31 43.4	-0.2
BSTI	Sart Tilman	148.56	356	*d*PKPbc		PKPbc	03 31 44.0	+0.3
BSTI				*d*PKPab		PKPab	03 31 49.9	+0.7
SRO	Srobarova	148.65	339	*e*PKP		PKPdf	03 31 40.7	+1.2
SRO				*e*			03 31 44.8	
BUD	Budapest	148.69	338	PKP		PKiKP	03 31 45.1	0.0
ZST	Bratislava	148.70	341	*e*PKP		PKiKP	03 31 44.9	-0.2
BCLA	Clavier	148.73	357	*d*PKP		PKPbc	03 31 44.0	-0.1
BCLA				*d*PKPab		PKPab	03 31 49.4	-0.6
GRFO	Grafenberg	148.75	349			PKPbc	03 31 44.2	0.0
BHOU	Houvegnez	148.75	356	*d*PKPbc		PKPbc	03 31 44.0	-0.2
BHOU				*d*PKPab		PKPab	03 31 50.1	0.0
KHC	Kasperske Hory	148.79	346	PKPdf		PKPdf	03 31 39.2	-0.6
KHC				PKPbc		PKPbc	03 31 44.3	-0.1
KHC	Kasperske Hory	148.79	346	*e*PKPDF		PKPdf	03 31 40.4	+0.6
KHC				⇑*e*PKP		PKiKP	03 31 44.9	-0.5
KHC				*e*PKPAB		PKPab

PDG	Podgorica	152.79	332	⇓P	PKPbc	03 31 52.4	-1.2	
DRME	Dracevica, Mon	153.02	332	eP	PKiKP	03 31 54.4	+0.1	
STON	Ston	153.09	335	⇓iP	PKPbc	03 31 51.6	-2.7	
OHR	Ohrid	153.09	328	iP	PKiKP	03 31 55.3	+0.8	
BNI	Bardonecchia	153.95	353	PKPdf	PKPdf	03 31 49.4	+1.6	
BNI				PKPbc	PKPbc	03 31 56.2	0.0	
BNI				PKPab	PKPab	03 32 12.4	+0.1	
FDMO	Fiordimonte	154.57	342	PKPdf	PKPdf	03 31 46.9	-1.7	
FDMO					PKiKP	03 31 57.3	-0.2	
FDMO					PKPab	03 32 14.3	-0.6	
PCAB	Cabril	155.82	19	ePKPab	PKPab	03 32 21.1	+0.8	
PBRG	Braganca	156.11	17	ePKPab	PKPab	03 32 21.9	+0.3	
POLO	Lamas de Olo	156.19	19	ePKPdf	PKPdf	03 31 51.3	+0.5	
POLO	Lamas de Olo	156.19	19	ePKPab	PKPab	03 32 21.5	-0.5	
MVO	Moncorvo	156.62	18	ePKPdf	PKPdf	03 31 52.3	+1.0	
MVO	Moncorvo	156.62	18	ePKPab	PKPab	03 32 24.5	+0.6	
PVIS	Viseu	156.76	20	ePKPab	PKPab	03 32 23.5	-1.0	
PCAS	Casmilo, Conde	157.14	22	ePKPab	PKPab	03 32 26.1	0.0	
MTE	Manteigas	157.16	20	ePKPdf	PKPdf	03 31 49.9	-2.1	
MTE	Manteigas	157.16	20	ePKPab	PKPab	03 32 26.5	+0.3	
PSBE	So Bento	157.51	23	ePKPdf	PKPdf	03 31 50.4	-2.1	
PSBE	So Bento	157.51	23	ePKPab	PKPab	03 32 28.2	+0.5	
PCBR	Castelo Branco	157.68	20	ePKPdf	PKPdf	03 31 53.0	+0.4	
PCBR	Castelo Branco	157.68	20	ePKPab	PKPab	03 32 28.4	0.0	
PMAFR	Mafra	157.81	25	ePKPab	PKPab	03 32 29.6	+0.6	
PMRV	Marv??o	158.08	21	ePKPdf	PKPdf	03 31 53.6	+0.5	
PMRV	Marv??o	158.08	21	ePKPab	PKPab	03 32 30.4	+0.2	
PMTG	Montargil	158.11	23	ePKPdf	PKPdf	03 31 54.0	+0.9	
PMTG	Montargil	158.11	23	ePKPab	PKPab	03 32 30.2	-0.1	
PACT	Alcochete	158.15	24	ePKPab	PKPab	03 32 30.2	-0.2	
PESTR	Estremoz	158.52	22	ePKPab	PKPab	03 32 32.0	-0.1	
ESDC	Sonseca Array	158.82	14	PKP	PKPdf	03 31 53.9	-0.1	
	comp=Z,1.2nm,0.9s,baz=331,slow=3.3,SNR=9.7							
ESDC				PKPab	PKPab	03 32 32.8	-0.6	
	comp=Z,4.4nm,0.9s,baz=341,slow=4.1,SNR=16							
ESDC				PP	PP	03 36 14.7	-0.6	
	comp=Z,0.6nm,0.9s,baz=0.0,slow=3.8,SNR=4.4							
PNCL	Nicolau / Gran	158.83	25	ePKPdf	PKPdf	03 31 55.0	+1.0	
PNCL	Nicolau / Gran	158.83	25	ePKPab	PKPab	03 32 33.9	+0.4	
PAB	San Pablo	158.85	15	PKPdf	PKPdf	03 31 53.5	-0.7	
MESJ	Messejana	159.19	24	ePKPdf	PKPdf	03 31 55.6	+1.1	
MESJ	Messejana	159.19	24	ePKPab	PKPab	03 32 35.4	+0.4	
PBAR	Barrancos	159.33	22	ePKPdf	PKPdf	03 31 54.8	+0.2	
PBAR	Barrancos	159.33	22	ePKPab	PKPab	03 32 36.2	+0.6	
PCVE	Castro Verde	159.44	24	ePKPab	PKPab	03 32 34.8	-1.3	
MORF	Marmelete	159.47	26	ePKPab	PKPab	03 32 36.7	+0.3	
PVAQ	Vaqueiros	159.76	24	ePKPab	PKPab	03 32 37.2	-0.4	
KEST	Kesra	162.41	341	PKP	PKPdf	03 31 58.0	-0.1	
	comp=Z,3.7nm,1.0s,baz=284,slow=4.2,SNR=4.6							
KEST				PKPab	PKPab	03 32 49.1	-0.2	
	comp=Z,8.4nm,0.9s,baz=348,slow=3.8,SNR=8.9							
KEST	Kesra	162.41	341	PKPab	PKPab	03 32 48.4	-0.9	
LIC	Lamto	165.21	149	⇑iPKIKP	PKPdf	03 32 00.5	-0.6	
	comp=Z,32nm,1.1s							
KIC	Kosan Boka	165.47	150	⇑iPKIKP	PKPdf	03 32 00.7	-0.6	
	comp=Z,6.7nm,0.7s							
TIC	Toumodi	165.58	149	⇑iPKIKP	PKPdf	03 32 00.8	-0.6	
	comp=Z,9.5nm,0.8s							
DBIC	Dimbokro	165.68	149	PKP	PKPdf	03 32 00.8	-0.7	
	comp=Z,7.2nm,0.9s,baz=236,slow=2.0,SNR=7.7							
DBIC				PKPab	PKPab	03 33 04.5	+0.3	
	comp=Z,4.0nm,1.0s,baz=198,slow=3.2,SNR=1.7							
TORD	Torodi Ar. Bea	173.97	173	PKP	PKPdf	03 32 04.8	-1.4	
	comp=Z,6.1nm,1.0s,baz=166,slow=2.3,SNR=18							
TORD				PKPab	PKPab	03 33 41.1	+0.4	
	comp=Z,0.7nm,0.6s,baz=189,slow=4.5,SNR=3.5							
TORD				PP	PP	03 37 34.0	+2.2	
	comp=Z,2.0nm,1.3s,baz=214,slow=4.0,SNR=3.3							

RSNC **12** *03:21:46.6±1.2,* **6°.83N×73°.12W, h154**km±4km, **ML3.4, Mw3.8, 6C-9D, Fault plane solution: NP1:**ϕ_s10.00000°, δ42.00000°, λ-22.00000°, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BARC	Barichara	0.24	196	⇓iP	Pn	03 22 07.4		-0.4
BARC				eS	Sn	03 22 22.9		-1.2
BARC				IAML		03 22 25.3		
	comp=Z,644nm,0.5s							
BRRC	Barranca, Sant	0.66	295	eP	Pn	03 22 09.3		0.0
BRRC				eS	Sn	03 22 26.6		-0.1
BRRC				IAML		03 22 30.8		
	comp=Z,194nm,0.6s							
PAMC	Pamplona, Colo	0.66	39	⇑iP	Pn	03 22 10.2		+0.3
PAMC				eS	Sn	03 22 27.3		-0.4
PAMC				IAML		03 22 29.6		
	comp=Z,364nm,0.2s							
RUSC	La Rusia	0.93	178	⇓iP	Pn	03 22 11.3		-0.5
RUSC				eS	Sn	03 22 30.1		-0.9
RUSC				IAML		03 22 32.9		
	comp=Z,216nm,0.4s							
PTBC	PUERTO BERRIO,	1.36	258	⇓iP	Pn	03 22 13.9		-1.2
PTBC				eS	Sn	03 22 35.2		-1.7
PTBC				IAML		03 22 42.7		
	comp=Z,498nm,0.5s							
TAMC	Tame, Arauca	1.37	106	⇓iP	Pn	03 22 15.6		+0.3
TAMC				IAML		03 22 36.4		
	comp=Z,282nm,0.4s							
TAMC				eS	Sn	03 22 37.4		+0.2
OCAC	Ocana	1.42	352	⇑iP	Pn	03 22 15.4		-0.4
OCAC				eS	Sn	03 22 38.1		-0.3
OCAC				IAML		03 22 44.0		
	comp=Z,621nm,0.3s							
SPBC	San Pablo de B	1.51	219	⇓iP	Pn	03 22 16.2		-0.5
SPBC				eS	Sn	03 22 39.0		-0.7
ZARC	Zaragoza, Cauc	1.85	291	eP	Pn	03 22 20.1		-0.3
ZARC				eS	Sn	03 22 45.8		-0.4
ZARC				IAML		03 22 51.8		
	comp=Z,342nm,0.3s							
NORC	Norcasia	2.15	234	⇑eP	Pn	03 22 23.3		-0.5
NORC				eS	Sn	03 22 51.9		-0.5
NORC				IAML		03 22 55.2		
	comp=Z,284nm,0.3s							
CHIC	Chingaza	2.27	196	⇓eP	Pn	03 22 25.2		-0.4
CHIC				eS	Sn	03 22 54.5		-1.1
CHIC				IAML		03 23 03.5		
	comp=Z,114nm,0.6s							
ROSC	El Rosal	2.31	211	⇓iP	Pn	03 22 27.1		+1.0
ROSC				eS	Sn	03 22 58.0		+1.6
HELC	Santa Helena	2.48	255	eP	Pn	03 22 28.1		0.0
HELC				eS	Sn	03 23 00.9		+1.0
HELC				IAML		03 23 06.1		
	comp=Z,164nm,0.3s							
UREC	San Jos de Ur	2.57	291	eP	Pn	03 22 27.3		-1.5
UREC				eS	Sn	03 22 58.3		-3.1
UREC				IAML		03 23 05.9		
	comp=Z,111nm,0.3s							
SOCV	Socops	2.67	57	eS	Sn	03 23 02.1		-1.5
LL1C	La Loma 1 Cana	2.73	351	eP	Pn	03 22 33.5		+2.7
LL1C				eS	Sn	03 23 07.3		+2.2
GUY2C	Guyana, Caldas	2.75	235	eP	Pn	03 22 31.6		+0.2
GUY2C				eS	Sn	03 23 06.6		+0.5
GUY2C				IAML		03 23 14.3		
	comp=Z,311nm,0.7s							
VILC	Villavicencio,	2.76	192	eP	Pn	03 22 30.5		-0.8
VILC				eS	Sn	03 23 05.6		-0.3
VILC				IAML		03 23 15.8		
	comp=Z,161nm,0.6s							
PTGC	Puerto Gaitan,	2.79	159	⇓iP	Pn	03 22 30.3		-1.2
PTGC				eS	Sn	03 23 03.5		-2.8
PTGC				IAML		03 23 10.8		
	comp=Z,81nm,0.2s							
LL6C	La Loma 6 Bece	2.89	357	eP	Pn	03 22 32.0		-0.9
LL6C				eS	Sn	03 23 06.8		-1.9
LL6C				IAML		03 23 19.0		
	comp=Z,46nm,0.4s							
CBOC	Ciudad Bolivar	3.03	252	⇑eP	Pn	03 22 35.0		+0.2
CBOC				eS	Sn	03 23 11.2		-0.8
CBOC				IAML		03 23 31.9		
	comp=Z,62nm,0.7s							
DBBC	Dabeiba	3.08	274	⇑eP	Pn	03 22 34.9		-0.3
DBBC				eS	Sn	03 23 11.8		-1.1
DBBC				IAML		03 23 13.9		
	comp=Z,76nm,0.5s							
ARGC	Ariguani, Magd	3.21	340	eP	Pn	03 22 37.5		+0.6
ARGC				eS	Sn	03 23 15.5		-0.4
ARGC				IAML		03 23 28.2		
	comp=Z,59nm,0.4s							
ANIL	Santa Ana	3.25	225	eP	Pn	03 22 38.7		+1.0
ANIL				eS	Sn	03 23 19.4		+2.2
SJCC	San Jacinto, C	3.67	326	eP	Pn	03 22 41.3		-1.5
SJCC				eS	Sn	03 23 22.8		-3.7
SJCC				IAML		03 23 35.3		
	comp=Z,37nm,0.3s							
PLMC	San Jos del P	3.68	239	⇑iP	Pn	03 22 43.0		0.0
PLMC				eS	Sn	03 23 25.3		-1.4
PLMC				IAML		03 23 37.8		
	comp=Z,61nm,0.7s							
CRJC	Cerrejon, Guaj	4.17	3	eP	Pn	03 22 47.3		-2.0
CRJC				eS	Sn	03 23 35.2		-3.0
CRJC				IAML		03 23 40.9		
	comp=Z,59nm,0.7s							
YOTC	Yotoco, Valle	4.28	229	eP	Pn	03 22 50.0		-0.8
YOTC				eS	Sn	03 23 40.9		+0.1
GUVC	San Jose del G	4.28	173	eP	Pn	03 22 49.7		-1.0
GUVC				eS	Sn	03 23 39.9		-0.8
GUVC				IAML		03 23 43.2		
	comp=Z,34nm,0.4s							
SMRC	Santa Marta, M	4.45	346	eP	Pn	03 22 51.9		-0.9
SMRC				eS	Sn	03 23 40.2		-4.3
SMRC				IAML		03 23 47.0		
	comp=Z,38nm,0.3s							
MACC	Macarena, Meta	4.71	189	⇓eP	Pn	03 22 54.1		-2.2
MACC				eS	Sn	03 23 45.7		-5.0
MACC				IAML		03 24 12.1		
	comp=Z,17nm,0.5s							
DABV	Dabajuro	4.75	31	eP	Pn	03 22 56.1		-0.7
DABV				eS	Sn	03 23 49.1		-2.5
URIC	Uribia, Colomb	4.97	13	eP	Pn	03 22 57.9		-1.9
URIC				eS	Sn	03 23 51.9		-4.9
URIC				IAML		03 23 58.4		
	comp=Z,43nm,0.9s							
MALC	Bahia Malaga	5.05	237	eP	Pn	03 23 01.8		+1.1
MALC				eS	Sn	03 24 00.4		+1.8
GARC	Garzon, Huila	5.18	207	eP	Pn	03 23 01.3		-1.5
GARC				eS	Sn	03 23 57.6		-4.7
GARC				IAML		03 24 00.2		
	comp=Z,43nm,0.3s							
BBAC	Balboa, Cauca	6.30	221	eP	Pn	03 23 17.7		0.0
BBAC				eS	Sn	03 24 26.3		-2.7
BBAC				IAML		03 24 33.0		
	comp=Z,7.9nm,0.3s							

IDC **12** *03:30:15.0±0.6,29°.34S×61°.05E,h0*km*,mb4.0/13, mbtmp4.0/14,ML4.4/1,MS3.6/28,Error ellipse: s-maj=24.3km s-min=17.5km az=88.0*
NEIC **12** *03:30:16.4±2.1,29°.3S±0°.1×60°.8E±0°.1,h10km±1km, mb4.6/9,Error ellipse: s-maj=21.0km s-min=10.0km az=36.0*
ISC 12 03:30:17.2±0.6,**29°.34S**±0°.09×**60°.8E**±0°.1,**h14**km,**n60,** σ1$\hat{s}$**19**/33,**mb4.2**/18,**MS3.6**/28,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RER	Riviere de l'E	9.35	329		Pn	03 32 30.4		-1.4
FOMA	Nahampoana Res	13.08	286	Pn	Pn	03 33 19.8		-2.8
VOI	Vohitsoka	14.66	297	Pn	Pn	03 33 44.0		-0.4
ABPO	Ambohimpanom	16.10	307		Pn	03 34 04.9		+1.4
OPO	Ambohidratompo	16.43	308	Pn	P	03 34 09.4		-0.9
	0.1nm,0.3s,baz=108,slow=20,SNR=6.3							
	1.8nm,0.3s							
H08S1	Diego Carcia H	24.20	29	T	T	04 01 22.6		
	baz=202							
H08S2	Diego Garcia H	24.21	29	T	T	04 01 15.5		
	baz=202							
H08S3	Diego Garcia H	24.22	29	T	T	04 01 19.4		
	baz=202							
BOSA	Boshof	31.06	262	LR	LR	03 47 19.2		
	comp=Z,82nm,19.1s,baz=100,slow=33							
LBTB	Lobatse	31.57	269	LR	LR	03 47 41.5		
	comp=Z,37nm,20.1s,baz=108,slow=33							
SUR	Sutherland	34.36	255	LR	LR	03 48 21.3		
	comp=Z,105nm,20.5s,baz=132,slow=32							
SUR	Sutherland	34.36	255	P	P	03 37 03.8		-0.2
KMBO	Kilima Mbogo	35.94	317	LR	LR	03 49 48.9		
	comp=Z,86nm,18.2s,baz=90,slow=32							
MAW	Mawson	38.31	179	P	P	03 37 37.1		0.0
	5.4nm,1.0s,baz=356,slow=9.2,SNR=7.3							
MAW				LR	LR	03 50 18.8		
	comp=Z,89nm,18.2s,baz=7.5,slow=31							
	5.4nm,1.0s							
MBAR	Mbarara	40.49	309	LR	LR	03 54 21.5		
	comp=Z,59nm,18.1s,baz=130,slow=36							
TSUM	Tsumeb	40.50	274	LR	LR	03 52 39.9		
	comp=Z,47nm,20.4s,baz=112,slow=33							
PALK	Pallekele	41.12	31	LR	LR	03 50 45.0		
	comp=Z,86nm,21.3s,baz=302,slow=30							
ATD	Arta Tunnel	44.18	334	LR	LR	03 53 23.5		
	comp=Z,80nm,21.5s,baz=206,slow=31							
H01W2	Cape Leeuwin H	45.04	111	T	T	04 26 55.5		
	baz=261,slow=74							
H01W3	Cape Leeuwin H	45.05	111	T	T	04 27 02.0		
	baz=261							
H01W1	Cape Leeuwin H	45.06	111	T	T	04 27 03.8		
	baz=261,slow=74							
UOSS	Minazif	54.16	355	P	P	03 39 42.3		+0.2
UOSS				IAmb	IAmb	03 39 57.7		
	comp=Z,7.4nm,1.4s							
SNAA	Sanae	54.20	200	P	P	03 39 42.1		0.0
SNAA	Sanae	54.20	200	P	P	03 39 42.0		0.0
	comp=Z,2.8nm,1.0s,baz=103,slow=6.7,SNR=11							
SNAA				LR	LR	03 59 25.2		
	comp=Z,53nm,18.4s,baz=16,slow=32							
	comp=Z,2.8nm,1.0s							
SNAA	Sanae	54.20	200	P	P	03 39 42.0		0.0
SNAA				IAmb	IAmb	03 39 42.7		
	comp=Z,6.2nm,1.2s							
VNA2	Neumayer--Watz	55.47	202	P	P	03 39 51.4		+0.3
	baz=64,slow=5.6							
VNA3	Neumayer Olymp	56.26	202	P	P	03 39 56.8		+0.1
CMAR	Chiang Mai Arr	60.08	43	P	P	03 40 23.6		-0.5
	comp=Z,0.7nm,0.3s,baz=238,slow=8.1,SNR=4.3							
CMAR				LR	LR	04 04 20.2		
	comp=Z,32nm,18.4s,baz=220,slow=34							
	comp=Z,0.7nm,0.3s							
QSPA	South Pole Qui	60.82	180	P	P	03 40 29.0		+0.2
	comp=Z,2.2nm,0.8s,baz=128,slow=1.0,SNR=8.9							
QSPA				LR	LR	04 03 28.8		
	comp=Z,79nm,20.0s,baz=294,slow=33							
	comp=Z,2.2nm,0.8s							
QSPA	South Pole Qui	60.82	180	P	P	03 40 28.5		-0.3
VNDA	Vanda	63.93	166	P	P	03 40 49.0		-0.2
	comp=Z,0.9nm,0.8s,baz=264,slow=6.9,SNR=6.6							
VNDA				LR	LR	04 06 57.1		
	comp=Z,132nm,18.2s,baz=268,slow=34							
	comp=Z,0.9nm,0.8s							
VNDA	Vanda	63.93	166	P	P	03 40 49.9		+0.6
ASAR	Alice Springs	64.68	104	P	P	03 40 53.8		-1.3
	comp=Z,1.0nm,0.8s,baz=244,slow=6.2,SNR=7.3							
	comp=Z,1.0nm,0.8s							
SBA	Scott Base	64.81	167	P	P	03 40 56.5		+1.5
SBA				IAmb	IAmb	03 41 04.5		
	comp=Z,9.7nm,1.4s							
WRA	Warramunga Arr	66.51	100	P	P	03 41 05.8		-1.1
	comp=Z,1.4nm,1.0s,baz=247,slow=5.6,SNR=7.3							
	comp=Z,1.4nm,1.0s							
WB2	Warramunga Arr	66.52	100	P	P	03 41 05.3		-1.8
WB2				IAmb	IAmb	03 41 34.3		
	comp=Z,8.2nm,1.3s							
GEYT	Alibeck	66.97	358	LR	LR	04 07 50.8		
	comp=Z,31nm,20.5s,baz=344,slow=34							
GNI	Garni	70.73	347	LR	LR	04 10 27.9		
	comp=Z,47nm,19.8s,baz=173,slow=34							
TORD	Torodi Ar. Bea	70.97	298	P	P	03 41 35.6		+0.9
	comp=Z,1.1nm,0.9s,baz=114,slow=5.3,SNR=2.6							
	comp=Z,1.1nm,0.9s							
DBIC	Dimbokro	72.50	288	LR	LR	04 12 27.1		
	comp=Z,32nm,18.8s,baz=122,slow=35							
BRTR	Keskin Array B	73.22	338	P	P	03 41 51.2		+3.4
	comp=Z,0.6nm,0.8s,baz=157,slow=6.7,SNR=4.8							
KBZ	Khabaz	74.55	347	LR	LR	04 12 37.0		
	comp=Z,48nm,22.0s,baz=142,slow=34							
KOWA	Kowa	76.22	295	LR	LR	04 17 08.2		
	comp=Z,34nm,18.3s,baz=94,slow=37							
PMSA	Palmer Station	76.91	201	LR	LR	04 08 48.1		
	comp=Z,43nm,19.9s,baz=256,slow=30							
MKAR	Makanchi Array	78.22	15	P	P	03 42 15.4		-0.7
	comp=Z,0.5nm,0.7s,baz=200,slow=7.7,SNR=2.8							
MKAR				LR	LR	04 14 09.7		
	comp=Z,26nm,19.2s,baz=290,slow=34							
	comp=Z,0.5nm,0.7s							
ABKAR	Akbulak array	78.24	359	P	P	03 42 15.0		-1.1
AKTO	Aktyubinsk	79.46	358	LR	LR	04 13 23.0		
	comp=Z,17nm,21.6s,baz=169,slow=33							
KEST	Kesra	80.86	320	LR	LR	04 19 50.0		
	comp=Z,50nm,18.2s,baz=293,slow=37							
MLR	Muntele Rosu	80.95	336	LR	LR	04 18 00.3		
	comp=Z,27nm,18.5s,baz=51,slow=35							
KURBB	Kurchatov Arra	81.14	11	P	P	03 42 31.4		-0.3
	comp=Z,0.6nm,0.3s,baz=198,slow=5.8,SNR=2.0							
	comp=Z,0.6nm,0.3s							
KURK	Kurchatov	81.24	11	P	P	03 42 31.3		-1.0
KURK				IAmb	IAmb	03 42 51.2		
	comp=Z,2.4nm,0.6s							
BELG	Belogornoye	82.20	352	LR	LR	04 19 05.8		
	comp=Z,18nm,19.6s,baz=44,slow=36							
BVAR	Borovoye Array	82.44	6	P	P	03 42 38.1		-0.5
	comp=Z,0.6nm,0.8s,baz=244,slow=41,SNR=2.3							
	comp=Z,0.6nm,0.8s							
ZALV	Zalesovo Beam	85.50	14	P	P	03 42 56.0		+1.7
	comp=Z,1.4nm,0.6s,baz=202,slow=1.6,SNR=1.9							
ZALV				LR	LR	04 18 04.2		
	comp=Z,30nm,18.9s,baz=51,slow=34							
	comp=Z,1.4nm,0.6s							
MDT	Midelt	87.56	310	LR	LR	04 23 14.8		
	comp=Z,23nm,18.7s,baz=130,slow=36							
ESDC	Sonseca Array	91.32	316	P	P	03 43 22.9		+0.4
	comp=Z,0.6nm,1.0s,baz=108,slow=4.2,SNR=3.0							
	comp=Z,0.6nm,1.0s							
RCBR	Riachuelo	93.02	262	LR	LR	04 19 06.8		
	comp=Z,22nm,18.6s,baz=318,slow=32							
NOA	NORSAR Array B	98.66	338	LR	LR	04 29 54.3		
	comp=Z,9.0nm,18.1s,baz=280,slow=36							
PDAR	Pinedale Array	164.53	333	PKP	PKPdf	03 50 20.2		-0.6
	comp=Z,0.1nm,0.4s,baz=65,slow=3.2,SNR=3.0							
TXAR	Lajitas Array	166.48	274	PKPab	PKPab	03 51 25.9		+1.3
	comp=Z,0.1nm,0.6s,baz=81,slow=1.2,SNR=2.1							

IDC **12** *03:40:58.9±1.1,27°.49N×140°.21E,h262*km*±13*km*, mb3.0/10,mbtmp3.7/10,Error ellipse: s-maj=29.1km s-min=20.0km az=82.0*
JMA **12** *03:41:02.2±0.1,27°.8N±0°.9×14°.1E±°,h278*km*,MV4.0/24, W OFF OGASAWARA*
ISC 12 03:40:58.8±0.7,**27°.59N**±0°.08×**140°.1E**±0°.1,**h250**km,**n21,** σ1$\hat{s}$**72**/23,**mb3.1**/11,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CBIJ	Chichi jima	1.93	104	P	Pn	03 41 42.6		+1.9
CBIJ				S	S	03 42 13.9		+0.3
JCJ	Chichijima	1.93	104	P	Pn	03 41 42.4		+1.7
	63nm,0.3s,baz=252,slow=20,SNR=34							
JCJ				S	S	03 42 13.7		+0.1
	164nm,0.4s,baz=287,slow=19,SNR=24							
JHH2	Haha-jima-NKT2	2.09	117	P	Pn	03 41 44.3		+2.2
JHH2				S	S	03 42 17.2		+1.0
BSO1	Boso 1	7.09	6	eP	Pn	03 42 43.2		+3.2
BSO3	Boso 3	7.20	3	S	S	03 44 03.6		-0.9
BSO4	Boso 4	7.38	2	eS	S	03 44 08.0		-0.9
JAG	Ashikaga	8.83	357	eS	S	03 44 40.7		-1.8
JHO	Hitachi	9.01	2	eS	S	03 44 44.0		-2.6
KSRS	Korea Array	14.21	317	P	P	03 44 16.0		+6.2
	3.6nm,0.7s,baz=132,slow=11,SNR=8.2							
SONM	Songino Array	33.08	317	P	P	03 47 15.0		+3.7
	0.4nm,0.5s,baz=109,slow=8.1,SNR=2.8							
WRA	Warramunga Arr	47.58	187	P	P	03 49 07.8		-2.0
	0.2nm,0.3s,baz=7.4,slow=8.0,SNR=9.0							
	0.2nm,0.3s							
MKAR	Makanchi Array	48.73	309	P	P	03 49 18.5		+0.1
	0.1nm,0.5s,baz=98,slow=6.0,SNR=1.5							
	0.1nm,0.5s							
KURBB	Kurchatov Arra	51.37	314	P	P	03 49 38.0		+0.1
	0.2nm,0.4s,baz=93,slow=7.4,SNR=4.4							
	0.2nm,0.4s							
BVAR	Borovoye Array	56.42	317	P	P	03 50 14.4		0.0
	0.2nm,0.4s,baz=98,slow=11,SNR=1.6							
	0.2nm,0.4s							
ILAR	Eielson Array	58.18	29	P	P	03 50 25.2		-1.2
	0.5nm,0.9s,baz=234,slow=5.4,SNR=3.3							
	0.5nm,0.9s							
ARCES	ARCESS Array B	72.46	340	P	P	03 51 57.8		+0.1
	4.8nm,1.1s,baz=69,slow=7.9,SNR=6.2							
	4.8nm,1.1s							
FINES	FINESS Array B	76.68	333	P	P	03 52 21.2		-0.8
	1.0nm,0.3s,baz=62,slow=5.7,SNR=12							
	1.0nm,0.3s							
AKASG	Malin Array Be	81.11	323	P	P	03 52 45.3		-1.0
	0.2nm,0.4s,baz=56,slow=1.3,SNR=1.6							
	0.2nm,0.4s							
NVAR	Mina Array Bea	81.67	51	P	P	03 52 49.4		-0.4
	0.1nm,0.3s,baz=273,slow=5.3,SNR=1.8							
	0.1nm,0.3s							
NB2	NORSAR Subarra	82.46	338	P	P	03 52 52.0		-1.1
	comp=Z,0.4nm,0.6s,baz=47,slow=5.1							
NOA	NORSAR Array B	82.46

EMOS	**Mosqueruela**	**2.57**	**170**	Pn	**Pn**	**03 54 26.7**	**+1.3**
EMOS				Sn	**Sn**	**03 54 55.7**	**-0.6**
EMOS				Sg	**Sb**	**03 55 03.2**	**+1.8**
EMOS				*i* Vmb_Lg		03 55 09.3	
FILF	**Fillols**	**2.68**	**96**	Pn	**Pn**	**03 54 28.3**	**+1.5**
CAF	**Calviac**	**3.02**	**47**	*e*Pn	**Pn**	**03 54 32.1**	**+0.6**
CAF				*e*Sn	**Sn**	**03 55 07.1**	**-0.3**
	4.4nm,0.2s						
RJF	**Les Rejaudoux**	**3.03**	**37**	*e*Pn	**Pn**	**03 54 32.5**	**+0.9**
RJF				*e*Sn	**Sn**	**03 55 07.6**	**+0.1**
	5.0nm,0.2s						
EARI	**Arriondas**	**3.08**	**279**	Pn	**Pn**	**03 54 34.3**	**+2.0**
EARI				Sn	**Sn**	**03 55 09.7**	**+0.9**
LASF	**Ste Croix**	**3.75**	**70**	*e*Pn	**Pn**	**03 54 43.1**	**+1.5**
LASF				*e*Sn	**Sn**	**03 55 24.9**	**-0.5**
	1.8nm,0.2s						
MFF	**Saint Martin d**	**3.76**	**9**	*e*Pn	**Pn**	**03 54 42.3**	**+0.7**
MFF				*e*Sn	**Sn**	**03 55 24.9**	**-0.5**
	1.0nm,0.2s						
MFF				*e*Sg	**Sg**	**03 55 43.7**	**-1.4**
	1.5nm,0.3s						
TCF	**Toulx Ste Croi**	**4.11**	**33**	*e*Pn	**Pn**	**03 54 47.1**	**+0.7**
TCF				*e*Sn	**Sn**	**03 55 32.6**	**-1.5**
	1.7nm,0.2s						
PAB	**San Pablo**	**4.17**	**218**	Pn	**Pn**	**03 54 46.7**	**-0.7**
PAB				Sn	**Sn**	**03 55 32.5**	**-3.3**
PAB				Sg	**Sg**	**03 55 57.9**	**-0.5**
ECAL	**Calabor**	**4.32**	**259**	Pn	**Pn**	**03 54 49.8**	**+0.4**
ECAL				Sn	**Sn**	**03 55 38.1**	**-1.3**
EPON	**Pontenova**	**4.49**	**278**	Pn	**Pn**	**03 54 53.4**	**+1.7**
EPON				Sn	**Sn**	**03 55 44.4**	**+0.9**
VIVF	**Saint-Julien-l**	**4.57**	**63**	*e*Pn	**Pn**	**03 54 53.8**	**+1.0**
VIVF				*e*Sn	**Sn**	**03 55 44.4**	**-1.1**
	1.5nm,0.3s						
BGF	**Bois d'Agland**	**4.59**	**36**	*e*Pn	**Pn**	**03 54 53.7**	**+0.7**
BGF				*e*Sn	**Sn**	**03 55 45.0**	**-0.9**
	4.7nm,0.4s						
BGF				*e*Sg	**Sg**	**03 56 08.9**	**-2.8**
	4.1nm,0.4s						
MVO	**Moncorvo**	**4.78**	**251**	*e*Pn	**Pn**	**03 54 57.3**	**+1.6**
MVO				*e*Sn	**Sn**	**03 55 50.4**	**-0.4**
MVO				A	A	03 55 51.2	
	1.5nm,0.5s						
AVF	**Avril sur Loir**	**4.99**	**37**	*e*Pn	**Pn**	**03 54 59.1**	**+0.6**
AVF				*e*Sn	**Sn**	**03 55 54.1**	**-1.7**
	1.3nm,0.4s						
SMF	**Signal de Mont**	**5.11**	**41**	*e*Pn	**Pn**	**03 55 00.6**	**+0.4**
SMF				*e*Sn	**Sn**	**03 55 57.0**	**-1.8**
	1.3nm,0.4s						
QUIF	**Quistinic**	**5.24**	**344**	*e*Pn	**Pn**	**03 55 03.0**	**+1.1**
QUIF				*e*Sn	**Sn**	**03 56 00.3**	**-1.5**
	2.1nm,0.3s						
POLO	**Lamas de Olo**	**5.25**	**255**	*e*Pn	**Pn**	**03 55 03.1**	**+1.0**
POLO				*e*Sn	**Sn**	**03 56 00.4**	**-1.8**
POLO				A	A	03 56 08.9	
	0.6nm,0.7s						
SSF	**Saint Saulge**	**5.27**	**36**	*e*Pn	**Pn**	**03 55 02.9**	**+0.6**
SSF				*e*Sn	**Sn**	**03 56 00.8**	**-1.8**
	3.4nm,0.4s						
PCAB	**Cabril**	**5.31**	**259**	*e*Pn	**Pn**	**03 55 03.9**	**+0.9**
PCAB				*e*Sn	**Sn**	**03 56 03.1**	**-0.7**
PCAB				A	A	03 56 05.2	
	1.6nm,0.7s						
GRR	**Gorron**	**5.49**	**1**	*e*Pn	**Pn**	**03 55 06.0**	**+0.6**
GRR				*e*Sn	**Sn**	**03 56 06.5**	**-1.6**
	1.6nm,0.3s						
ROSF	**Rostrenen**	**5.66**	**345**	*e*Pn	**Pn**	**03 55 08.4**	**+0.7**
ROSF				*e*Sn	**Sn**	**03 56 10.4**	**-1.9**
	1.7nm,0.3s						
LDF	**La Druitiere**	**5.73**	**6**	*e*Sn	**Sn**	**03 56 12.2**	**-1.9**
	0.5nm,0.2s						
FLN	**La Foliniere**	**5.88**	**4**	*e*Pn	**Pn**	**03 55 11.2**	**+0.5**
FLN	**La Foliniere**	**5.88**	**4**	*e*Pg	**Pg**	**03 55 34.2**	**-2.7**
FLN				*e*Sn	**Sn**	**03 56 15.7**	**-1.9**
	1.4nm,0.4s						
PMRV	**Marv??o**	**5.91**	**236**	*e*Pn	**Pn**	**03 55 10.9**	**-0.3**
PMRV				*e*Sn	**Sn**	**03 56 16.7**	**-1.9**
PESTR	**Estremoz**	**6.39**	**233**	*e*Pn	**Pn**	**03 55 18.8**	**+1.1**

MAN 12 04:19:31.1, 15°38N×119°91E, h30km, mb4.5, ML3.4, MS3.2, 8C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.40**	**0**	*e*P	Pn	04 19 41.1	+0.2
SCZP				*e*S	Sn	04 19 48.6	+1.2
BOLP	**Bolinao**	**1.00**	**0**	*i* P	Pn	04 19 48.4	-0.8
BOLP				*e*S	Sb	04 20 03.9	+1.1
SMPP	**San Manuel, Pa**	**1.07**	**44**	*i* P	Pn	04 19 49.8	-0.3
SMPP				*e*S	Sn	04 20 04.3	+0.3
MACP	**Maragondon, Ca**	**1.35**	**145**	*e*P	Pn	04 19 52.3	-1.7
MACP				*e*S	Sn	04 20 11.5	+0.5
BALP	**Baler**	**1.65**	**77**	*e*P	Pn	04 19 58.0	0.0
BALP				*e*S	Sn	04 20 18.2	0.0
LUBP	**Lubang**	**1.66**	**169**	*e*P	Pn	04 19 59.1	+0.8
LUBP				*i* S	Sn	04 20 19.6	+1.0
SAMP	**Sagada Mountai**	**1.95**	**29**	*e*P	Pn	04 20 02.2	+0.1
LQP	**Lukban**	**2.02**	**128**	*e*P	Pn	04 20 04.0	+0.7
LQP				*e*S	Sb	04 20 30.1	-2.0
APYP	**Conner**	**2.79**	**27**	*e*P	Pb	04 20 17.2	-3.0
APYP				*e*S	Sn	04 20 47.8	+1.5

NIED ***12*** *04:33:19.5, 35°.86N×140°.53E, h37km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.16; Mθθ-1.98; Mφφ-0.18; Mrθ0.94; Mrφ-0.79; Mθr1.45; Fault plane solution: M₀2.81000×10¹⁴ NP1: φs267.00000°, δ32.00000°, λ124.00000°. NP2: φs49.00000°, δ64.00000°, λ71.00000°.*

JMA 12 04:33:19.5±0.1, 35°.9N±0°.3×140°.5E±0°.5, h37km±1km, MV3.5/37, 5D, SOUTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.11**	**356**	P	Pn	04 33 26.3	-6.2
JIHU				S	Sn	04 33 31.2	-14
JSMT	**Sammumatsuo**	**0.22**	**198**	P	Pn	04 33 27.0	-1.3
JSMT				S	Sn	04 33 32.7	-4.1
CHOJ	**Chosi**	**0.30**	**120**	P	Pn	04 33 27.3	-0.4
CHOJ				S	Sn	04 33 32.5	-2.2
JYT	**Yasato**	**0.46**	**324**	⇓P	Pn	04 33 29.7	+0.2
JYT				⇓S	Sn	04 33 36.8	+0.2
JHO	**Hitachi**	**0.76**	**2**	⇓*i* P	Pn	04 33 33.5	-0.1
JHO				⇓S	Sn	04 33 43.2	-0.6
JAG	**Ashikaga**	**1.04**	**303**	⇓*i* P	Pn	04 33 37.5	0.0
BSO3	**Boso 3**	**1.05**	**181**	*i* P	Pn	04 33 38.1	+0.7

IDC ***12*** *04:38:23.6±0.7, 86°.85N×50°.39E, h0km, mb3.7/15, mbtmp3.7/17, ML3.7/2, MS3.3/43, Error ellipse: s-maj=25.0km s-min=13.4km az=105.0*
IEPN ***12*** *04:38:28.0, 86°.30N×58°.72E, h10km*
ISC 12 04:38:25.1±0.7, 86°.63N±0°.07×49°.76E±0°.08, h10km, n56, σ2s48/30, mb3.8/15, MS3.3/39, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.87**	**183**	*e*P	**Pn**	**04 39 52.1**	**+0.2**
ZFI2				*e*S	**Sn**	**04 40 52.9**	**-6.1**
	26nm,2.4s						
ZFI2				*i* tx	tx	04 43 55.8	
ZFI	**Zemlya Franca-**	**5.87**	**183**	*e*P	**Pn**	**04 39 52.2**	**+0.2**
ZFI				*e*S	**Sn**	**04 40 52.9**	**-6.2**
	25nm,1.0s						
ZFI				*i* tx	tx	04 43 58.8	
NOR	**Nord**	**7.75**	**270**	*e*P	**Pn**	**04 40 19.5**	**+1.8**
KBS	**Kingsbay**	**8.72**	**231**	*i* P	**Pn**	**04 40 31.4**	**+0.4**
KBS	**Kingsbay**	**8.72**	**231**	*e*P	**Pn**	**04 40 31.3**	**+0.4**
KBS				*i* S	**Sn**	**04 42 04.4**	**-4.7**
SPA0	**Spitsbergen Ar**	**9.26**	**225**	*e*P	**Pn**	**04 40 38.1**	**-0.3**
SPA0				*e*S	Sn	04 42 14.2	-8.2
SPITS	**Spitsbergen Ar**	**9.26**	**225**	Pn	**Pn**	**04 40 38.3**	**-0.1**
	baz=38,slow=14						
SPITS				Sn	**Sn**	**04 42 20.4**	**-2.0**
	baz=38,slow=22 1.4nm,0.3s						
NEEM	**North Greenlan**	**13.68**	**295**	*e*P	**Pn**	**04 41 35.6**	**-3.3**
ARCES	**ARCESS Array B**	**17.55**	**209**	Pn	**Pn**	**04 42 29.3**	**-0.1**
	0.1nm,0.3s,baz=332,slow=9.3,SNR=2.0						
ARCES				LR	LR	04 48 38.6	
	comp=Z,65nm,21.2s,baz=312,slow=35						
	4.3nm,1.0s						
TIXI	**Tiksi**	**18.12**	**91**	LR	LR	04 49 36.4	
	comp=Z,16nm,20.2s,baz=359,slow=37						
NRIK	**Noril'sk**	**18.22**	**136**	LR	LR	04 50 13.6	
	comp=Z,72nm,18.0s,baz=22,slow=39						
RES	**Resolute Bay**	**18.28**	**331**	LR	LR	04 49 33.5	
	comp=Z,57nm,18.9s,baz=13,slow=37						
INK	**Inuvik**	**25.21**	**3**	P	**P**	**04 43 48.9**	**-1.4**
	2.6nm,0.9s,baz=348,slow=14,SNR=3.0 2.6nm,0.9s						
FINES	**FINESS Array B**	**25.65**	**206**	P	**P**	**04 43 57.3**	**+3.0**
	2.9nm,0.9s,baz=18,slow=9.4,SNR=4.7						
FINES				LR	LR	04 53 30.8	
	comp=Z,64nm,21.9s,baz=18,slow=35 2.9nm,0.9s						
NOA	**NORSAR Array B**	**26.55**	**223**	P	**P**	**04 44 04.4**	**+1.8**
	0.6nm,0.7s,baz=4.5,slow=9.0,SNR=2.6						
NOA				LR	LR	04 53 20.7	
	comp=Z,19nm,20.4s,baz=345,slow=34 0.6nm,0.7s						
HFS	**Hagfors**	**27.36**	**220**	P	**P**	**04 44 11.6**	**+1.8**
	0.6nm,0.6s,baz=50,slow=9.5,SNR=1.2						
HFS				LR	LR	04 53 59.6	
	comp=Z,26nm,20.5s,baz=357,slow=34 0.6nm,0.6s						
YAK	**Yakutsk**	**27.72**	**94**	LR	LR	04 54 37.5	
	comp=Z,43nm,21.3s,baz=90,slow=35						
FRB	**Frobisher Bay**	**28.16**	**304**	LR	LR	04 54 36.1	
	comp=Z,38nm,19.2s,baz=354,slow=35						
KIRV	**Kirov**	**28.20**	**180**	LR	LR	04 58 06.3	
	comp=Z,16nm,18.6s,baz=11,slow=42						
ILAR	**Eielson Array**	**28.64**	**15**	P	**P**	**04 44 20.1**	**-1.1**
	0.8nm,0.9s,baz=357,slow=10.0,SNR=6.9						
ILAR				LR	LR	04 56 17.5	
	comp=Z,36nm,18.7s,baz=8.5,slow=38 0.8nm,0.9s						
ARU	**Arti**	**30.40**	**170**	LR	LR	04 58 10.0	
	comp=Z,59nm,18.3s,baz=342,slow=39						
YKA	**Yellowknife Ar**	**30.94**	**346**	LR	LR	04 56 56.1	
	comp=Z,89nm,19.8s,baz=348,slow=36						
ZALV	**Zalesovo Beam**	**33.51**	**142**	PcP	**PcP**	**04 47 45.9**	**+1.5**
	0.6nm,0.3s,baz=275,slow=6.4,SNR=1.8						
ZALV				LR	LR	05 00 06.9	
	comp=Z,25nm,18.6s,baz=130,slow=39						
BVAR	**Borovoye Array**	**34.01**	**158**	LR	LR	05 01 41.8	
	comp=Z,75nm,19.1s,baz=14,slow=41						
BELG	**Belogornoye**	**34.41**	**182**	LR	LR	05 00 59.9	
	comp=Z,24nm,21.8s,baz=148,slow=39						
DLBC	**Dease Lake**	**35.12**	**360**	LR	LR	05 01 35.6	
	comp=Z,50nm,18.1s,baz=327,slow=40						
KDAK	**Kodiak Island**	**35.55**	**21**	LR	LR	04 59 47.4	
	comp=Z,34nm,18.1s,baz=19,slow=36						
AKASG	**Malin Array Be**	**36.33**	**202**	P	**P**	**04 45 30.4**	**+1.9**
	0.2nm,0.3s,baz=357,slow=8.1,SNR=2.0						
AKASG				LR	LR	05 00 27.7	
	comp=Z,65nm,18.9s,baz=358,slow=36 0.2nm,0.3s						
AKTO	**Aktyubinsk**	**36.40**	**171**	LR	LR	05 01 27.0	
	comp=Z,54nm,19.5s,baz=4.2,slow=38						
KURBB	**Kurchatov Arra**	**36.63**	**149**	LR	LR	05 03 51.0	
	comp=Z,67nm,18.5s,baz=326,slow=42						
VRAC	**Vranov**	**38.08**	**215**	LR	LR	05 01 10.6	
	comp=Z,29nm,18.6s,baz=348,slow=36						
GERES	**GERESS Array B**	**38.65**	**219**	P	**P**	**04 45 51.4**	**+3.2**
	0.2nm,0.4s,baz=11,slow=11,SNR=2.0 0.2nm,0.4s						
SONM	**Songino Array**	**40.57**	**120**	P	**P**	**04 46 05.2**	**+0.9**
	0.7nm,0.7s,baz=344,slow=4.8,SNR=3.2						
SONM				LR	LR	05 04 11.5	
	comp=Z,33nm,18.6s,baz=22,slow=38 0.7nm,0.7s						
MKAR	**Makanchi Array**	**40.57**	**145**	P	**P**	**04 46 05.1**	**+0.9**
	0.5nm,0.8s,baz=9.2,slow=7.6,SNR=3.4						
MKAR				PcP	**PcP**	**04 48 05.0**	**-1.0**
	0.8nm,0.9s,baz=338,slow=2.9,SNR=4.1						
MKAR				LR	LR	05 04 40.1	
	comp=Z,43nm,21.3s,baz=303,slow=39 0.5nm,0.8s						
KLR	**Kul'dur**	**40.60**	**94**	LR	LR	05 02 20.0	
	comp=Z,40nm,20.0s,baz=28,slow=35						
BBB	**Bella Bella**	**41.39**	**358**	LR	LR	05 04 55.4	
	comp=Z,47nm,18.4s,baz=322,slow=39						
MLR	**Muntele Rosu**	**41.62**	**205**	LR	LR	05 03 48.5	
	comp=Z,72nm,19.6s,baz=354,slow=36						
KBZ	**Khabaz**	**43.10**	**187**	LR	LR	05 07 31.0	
	comp=Z,30nm,20.2s,baz=16,slow=40						
NEW	**Newport**	**45.23**	**348**	LR	LR	05 06 12.6	
	comp=Z,76nm,19.0s,baz=2.0,slow=37						
GNI	**Garni**	**46.66**	**185**	LR	LR	05 11 36.7	
	comp=Z,16nm,18.4s,baz=3.0,slow=42						
SADO	**Sadowa**	**47.61**	**311**	LR	LR	05 05 20.7	
	comp=Z,18nm,19.9s,baz=324,slow=34						
ESDC	**Sonseca Array**	**48.57**	**236**	P	**P**	**04 47 09.3**	**+1.3**
	1.0nm,0.8s,baz=0.1,slow=7.7,SNR=8.4 1.0nm,0.8s						
GEYT	**Alibeck**	**48.91**	**171**	LR	LR	05 10 03.8	
	comp=Z,34nm,18.5s,baz=84,slow=39						
PDAR	**Pinedale Array**	**50.61**	**340**	P	**P**	**04 47 22.7**	**-1.1**
	0.9nm,0.7s,baz=24,slow=4.8,SNR=9.2						
PDAR				LR	LR	05 08 28.5	
	comp=Z,58nm,20.4s,baz=40,slow=36 0.9nm,0.7s						
KEST	**Kesra**	**51.90**	**222**	P	**P**	**04 47 34.7**	**+1.3**
	2.6nm,1.0s,baz=346,slow=12,SNR=2.7 2.6nm,1.0s						
KSRS	**Korea Array**	**52.11**	**99**	LR	LR	05 08 48.1	
	comp=Z,18nm,19.8s,baz=5.0,slow=35						
ELK	**Elko**	**52.72**	**346**	LR	LR	05 10 48.6	
	comp=Z,72nm,18.4s,baz=12,slow=37						
NVAR	**Mina Array Bea**	**55.08**	**349**	P	**P**	**04 47 54.9**	**-1.9**
	0.7nm,0.7s,baz=5.7,slow=6.2,SNR=4.4						
NVAR				LR	LR	05 12 42.9	
	comp=Z,51nm,18.6s,baz=266,slow=38 0.7nm,0.7s						
TKL	**Tuckaleechee C**	**56.89**	**315**	LR	LR	05 11 29.4	
	comp=Z,60nm,18.9s,baz=348,slow=35						
ANMO	**Albuquerque**	**58.35**	**337**	LR	LR	05 12 40.7	
	comp=Z,53nm,20.5s,baz=344,slow=35						
PFO	**Pinyon Flats O**	**59.86**	**347**	LR	LR	05 15 29.9	
	comp=Z,39nm,18.9s,baz=30,slow=37						
TXAR	**Lajitas Array**	**63.87**	**334**	P	**P**	**04 48 55.8**	**-1.7**
	0.6nm,0.7s,baz=1.7,slow=3.5,SNR=11						
TXAR				LR	LR	05 18 04.9	
	comp=Z,63nm,18.1s,baz=350,slow=37 0.6nm,0.7s						
BRDH	**Bariadhala**	**64.96**	**137**	LR	LR	05 20 51.3	
	comp=Z,37nm,18.3s,baz=132,slow=39						
LPIG	**La Paz**	**69.23**	**341**	LR	LR	05 20 44.8	
	comp=Z,46nm,18.4s,baz=6.5,slow=37						
CMAR	**Chiang Mai Arr**	**69.46**	**130**	LR	LR	05 22 02.5	
	comp=Z,20nm,18.3s,baz=235,slow=38						
TORD	**Torodi Ar. Bea**	**74.69**	**229**	P	**P**	**04 50 05.0**	**+0.5**
	1.1nm,1.0s,baz=355,slow=8.2,SNR=3.6 1.1nm,1.0s						

NOU ***12*** *04:40:12.1, 37°.80S×176°.44E, h224km, MLv3.8/8, North Island, New Zealand*
WEL ***12*** *04:40:20.0±0.6, 38°.5±4°×17°.6E±°, h156km±5km, M3.0/40, MLv3.0/40, Error ellipse: s-maj=0.0km s-min=0.0km az=138.7*
ISC 12 04:40:13.7±1.9, 37°.95S±0°.06×176°.29E±0°.05, h205km±10km, n99, σ1s85/124, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUGZ	**Murupara**	**0.65**	**145**	P	**Pn**	**04 40 43.0**	**+1.0**
MUGZ				S	**S**	**04 41 01.1**	**-3.0**
TOZ	**Tahuroa Road**	**0.66**	**289**	P	**Pn**	**04 40 43.6**	**+1.6**
TOZ				S	**S**	**04 41 02.6**	**-1.3**
TLZ	**Tolley Road**	**0.71**	**237**	P	**Pn**	**04 40 43.9**	**+1.6**
URZ	**Urewera**	**0.72**	**116**	P	**Pn**	**04 40 43.1**	**+0.8**
URZ				S	**S**	**04 41 01.4**	**-3.0**
URZ	**Urewera**	**0.72**	**116**	P	**Pn**	**04 40 43.1**	**+0.8**
MRHZ	**Matea Rd**	**0.89**	**174**	P	**Pn**	**04 40 44.8**	**+1.5**
MRHZ				S	**S**	**04 41 03.7**	**-2.7**
MTHZ	**Maungataniwha**	**1.00**	**155**	P	**Pn**	**04 40 45.6**	**+1.6**
MTHZ				S	**S**	**04 41 05.4**	**-2.2**
RATZ	**Rangitukua**	**1.01**	**204**	P	**Pn**	**04 40 45.8**	**+1.8**
RAGZ	**Rawiri**	**1.04**	**122**	P	**Pn**	**04 40 46.0**	**+1.7**
RAGZ				S	**S**	**04 41 06.1**	**-1.8**
MWZ	**Matawai**	**1.05**	**112**	P	**Pn**	**04 40 45.7**	**+1.4**
MWZ				S	**S**	**04 41 05.7**	**-2.2**
RITZ	**Rihia Road**	**1.08**	**198**	P	**Pn**	**04 40 46.7**	**+2.2**
RUGZ	**Raukumara Rang**	**1.10**	**91**	P	**Pn**	**04 40 45.2**	**+0.5**
RUGZ				S	**S**	**04 41 05.1**	**-3.5**
RAHZ	**Arahi**	**1.15**	**147**	P	**Pn**	**04 40 47.2**	**+2.2**
RAHZ				S	**S**	**04 41 08.4**	**-0.9**
HAZ	**Te Kaha**	**1.20**	**81**	P	**Pn**	**04 40 46.7**	**+1.4**
HAZ				S	**S**	**04 41 07.0**	**-2.6**
NMHZ	**Naumai**	**1.22**	**161**	P	**Pn**	**04 40 48.2**	**+2.7**
NMHZ				S	**S**	**04 41 09.5**	**-0.8**
BKZ	**Black Stump Fm**	**1.23**	**173**	P	**Pn**	**04 40 47.1**	**+1.5**
BKZ				S	**S**	**04 41 07.9**	**-2.5**
BKZ	**Black Stump Fm**	**1.23**	**173**	P	**Pn**	**04 40 47.1**	**+1.5**
NTVZ	**North Tongarir**	**1.25**	**203**	P	**Pn**	**04 40 47.7**	**+1.9**
TMVZ	**Te Maari**	**1.26**	**201**	P	**Pn**	**04 40 47.7**	**+1.8**
HIZ	**Hauiti**	**1.26**	**243**	P	**Pn**	**04 40 48.1**	**+2.3**
HIZ	**Hauiti**	**1.26**	**243**	P	**Pn**	**04 40 48.2**	**+2.4**
ETVZ	**East Tongariro**	**1.27**	**201**	P	**Pn**	**04 40 47.9**	**+1.9**
KUZ	**Kuaotunu**	**1.28**	**339**	P	**Pn**	**04 40 47.9**	**+1.9**
WTVZ	**West Tongariro**	**1.29**	**205**	P	**Pn**	**04 40 48.0**	**+1.8**
NNVZ	**North Ngauruho**	**1.30**	**204**	P	**Pn**	**04 40 48.2**	**+1.9**
TWVZ	**Taurewa**	**1.31**	**211**	P	**Pn**	**04 40 48.2**	**+1.9**
OTVZ	**Oturere**	**1.31**	**202**	P	**Pn**	**04 40 48.5**	**+2.1**
TKGZ	**Te Karaka**	**1.32**	**112**	P	**Pn**	**04 40 48.4**	**+2.1**
TKGZ				S	**S**	**04 41 10.0**	**-1.3**
SNVZ	**South Ngauruho**	**1.34**	**202**	P	**Pn**	**04 40 48.6**	**+1.9**
NGZ	**Ngauruhoe**	**1.34**	**204**	P	**Pn**	**04 40 48.8**	**+2.2**
WHHZ	**Waihua**	**1.35**	**147**	P	**Pn**	**04 40 48.9**	**+2.4**
WHHZ				S	**S**	**04 41 11.1**	**-0.8**
TWGZ	**Tauwhareparae**	**1.35**	**100**	P	**Pn**	**04 40 48.7**	**+2.1**
TWGZ				S	**S**	**04 41 11.2**	**-0.6**
RIGZ	**Rimuhau**	**1.38**	**124**	P	**Pn**	**04 40 49.2**	**+2.3**
RIGZ				S	**S**	**04 41 11.3**	**-1.0**
TUVZ	**Tukino**	**1.41**	**201**	P	**Pn**	**04 40 49.2**	**+2.0**
PKGZ	**Pakihiroa**	**1.41**	**88**	P	**Pn**	**04 40 48.8**	**+1.7**
ARHZ	**Aropaoanui**	**1.43**	**157**	P	**Pn**	**04 40 49.5**	**+2.4**
ARHZ				S	**S**	**04 41 12.2**	**-0.8**
FWVZ	**Far West T-bar**	**1.43**	**204**	P	**Pn**	**04 40 49.5**	**+2.0**
WHVZ	**Whangaehu Hut**	**1.44**	**202**	P	**Pn**	**04 40 49.5**	**+1.9**
KWHZ	**Kaweka Forest**	**1.48**	**176**	P	**Pn**	**04 40 49.8**	**+2.2**
WNVZ	**Wahianoa**	**1.48**	**201**	P	**Pn**	**04 40 49.7**	**+1.9**
MOVZ	**Moawhango**	**1.52**	**196**	P	**Pn**	**04 40 49.6**	**+1.6**
KNZ	**Kokohu**	**1.53**	**135**	P	**Pn**	**04 40 50.3**	**+2.3**
MCHZ	**McNeill Hill**	**1.53**	**168**	P	**Pn**	**04 40 50.6**	**+2.6**
MCHZ				S	**S**	**04 41 14.2**	**-0.4**
PKVZ	**Pokaka**	**1.53**	**209**	P	**Pn**	**04 40 50.1**	**+2.0**
BHHZ	**Black Hill Sta**	**1.55**	**187**	P	**Pn**	**04 40 50.0**	**+1.7**
BHHZ				S	**S**	**04 41 12.8**	**-2.3**
PUZ	**Puketiti**	**1.56**	**95**	P	**Pn**	**04 40 50.0**	**+1.7**
PRGZ	**Paritu Road**	**1.59**	**128**	P	**Pn**	**04 40 50.9**	**+2.3**
MXZ	**Matakaoa Point**	**1.64**	**77**	P	**Pn**	**04 40 51.3**	**+2.2**
WMGZ	**Waiomatatini S**	**1.69**	**86**	P	**Pn**	**04 40 51.6**	**+2.1**
WMGZ				S	**S**	**04 41 16.7**	**-0.1**
KRHZ	**Kereru**	**1.70**	**178**	P	**Pn**	**04 40 51.6**	**+2.0**
KRHZ				S	**S**	**04 41 15.7**	**-1.6**
MHGZ	**Mahia Peninsul**	**1.75**	**134**	P	**Pn**	**04 40 52.9**	**+2.8**
CKHZ	**Cape Kidnapper**	**1.82**	**160**	P	**Pn**	**04 40 53.2**	**+2.5**
CKHZ				S	**S**	**04 41 18.5**	**-0.8**
KAHZ	**Kahuranaki**	**1.90**	**166**	P	**Pn**	**04 40 54.1**	**+2.5**
KAHZ				S	**S**	**04 41 20.1**	**-0.6**
PNHZ	**Pukenui**	**1.97**	**182**	P	**Pn**	**04 40 54.0**	**+1.8**
PNHZ				S	**S**	**04 41 20.4**	**-1.5**
WAZ	**Wanganui**	**2.07**	**209**	P	**Pn**	**04 40 55.6**	**+2.3**
LREZ	**Lake Rotokare**	**2.11**	**224**	P	**Pn**	**04 40 56.9**	**+3.3**
WPHZ	**Waipukurau**	**2.12**	**177**	P	**Pn**	**04 40 55.7**	**+2.0**
TSZ	**Takapari Road**	**2.13**	**187**	P	**Pn**	**04 40 55.6**	**+1.8**
PXZ	**Pawanui**	**2.13**	**168**	P	**Pn**	**04 40 56.0**	**+2.2**
PXZ				S	**S**	**04 41 24.2**	**-0.6**
NEZ	**North Egmont**	**2.17**	**232**	P	**Pn**	**04 40 58.0**	**+3.6**
PKE	**Pukeiti**	**2.19**	**235**	P	**Pn**	**04 40 58.0**	**+3.5**
KHEZ	**Kahui Hut**	**2.23**	**232**	P	**Pn**	**04 40 58.5**	**+3.5**
PRHZ	**Porangahau**	**2.33**	**174**	P	**Pn**	**04 40 58.1**	**+2.1**
DVHZ	**Dannevirke**	**2.35**	**182**	P	**Pn**	**04 40 57.9**	**+1.6**
POWZ	**Post Office Ro**	**2.48**	**189**	P	**Pn**	**04 40 59.2**	**+1.7**
ANWZ	**Angora Road**	**2.52**	**177**	P	**Pn**	**04 41 00.2**	**+2.3**
PRWZ	**Pori Road**	**2.62**	**185**	P	**Pn**	**04 41 01.1**	**+2.0**
BFZ	**Birch Farm**	**2.73**	**181**	P	**Pn**	**04 41 02.1**	**+1.7**
BFZ	**Birch Farm**	**2.73**	**181**	P	**Pn**	**04 41 02.2**	**+1.8**
MRZ	**Mangatainoka R**	**2.77**	**191**	P	**Pn**	**04 41 02.2**	**+1.4**
TIWZ	**Tintock**	**2.84

PMSA					IAmb	IAmb	04 57 09.7	
	comp=Z,9.8nm,1.2s							
SMAI	**San Martin Ant**	**33.87**	**213**	P		**P**	**04 57 09.0**	**-0.2**
SMAI					IAmb	IAmb	04 57 13.3	
	comp=Z,8.9nm,1.2s							
BOSA	**Boshof**	**35.12**	**71**	LR		LR	05 08 44.2	
	comp=Z,302nm,21.2s,baz=198,slow=32							
TSUM	**Tsumeb**	**37.64**	**52**	LR		LR	05 09 41.1	
	comp=Z,150nm,19.4s,baz=190,slow=31							
ITQB	**Itaqui**	**37.83**	**282**	P		**P**	**04 57 44.1**	**+0.5**
LBTB	**Lobatse**	**37.85**	**67**	LR		LR	05 10 43.0	
	comp=Z,185nm,19.4s,baz=210,slow=33							
H10S2	**ASCENSION HYDR**	**38.38**	**358**	T		T	05 38 48.7	
	baz=178,slow=74,SNR=5.0							
H10S3	**ASCENSION HYDR**	**38.39**	**357**	T		T	05 38 49.1	
	baz=42,slow=74,SNR=11							
CPUP	**Villa Florida**	**40.52**	**285**	LR		LR	05 11 50.1	
	comp=Z,164nm,22.0s,baz=150,slow=31							
CPUP	**Villa Florida**	**40.52**	**285**			**P**	**04 58 06.7**	**+0.5**
PLCA	**Paso Flores**	**41.00**	**258**	LR		LR	05 12 12.9	
	comp=Z,127nm,20.8s,baz=138,slow=32							
QSPA	**South Pole Qui**	**42.81**	**180**	LR		LR	05 14 27.9	
	comp=Z,71nm,20.5s,baz=196,slow=34							
QSPA	**South Pole Qui**	**42.81**	**180**			**P**	**04 58 24.4**	**-0.3**
BDFB	**Brasilia**	**42.88**	**306**	LR		LR	05 12 50.8	
	comp=Z,210nm,20.8s,baz=128,slow=31							
MT09	**Talagante**	**45.03**	**266**	P		**P**	**04 58 41.8**	**-1.1**
MT09					IAmb	IAmb	04 59 01.2	
	comp=Z,5.3nm,1.1s							
LSZ	**Lusaka**	**46.79**	**61**	LR		LR	05 16 13.1	
	comp=Z,207nm,19.2s,baz=188,slow=33							
AC05	**El Transito**	**47.55**	**272**	P		**P**	**04 59 03.1**	**+0.3**
AC05					IAmb	IAmb	04 59 16.2	
	comp=Z,8.8nm,1.1s							
GO02	**Mina Guanaco**	**49.47**	**276**	P		**P**	**04 59 18.4**	**+0.6**
SIV	**San Ignacio**	**50.37**	**292**	LR		LR	05 17 38.7	
	comp=Z,187nm,21.5s,baz=94,slow=32							
LVC	**Limon Verde**	**50.73**	**279**	LR		LR	05 19 23.1	
	comp=Z,88nm,20.0s,baz=135,slow=34							
LVC	**Limon Verde**	**50.73**	**279**	P		**P**	**04 59 28.6**	**+1.2**
LVC					IAmb	IAmb	04 59 35.8	
	comp=Z,13nm,1.4s							
PB16	**IPOC Station P**	**54.12**	**282**	P		**P**	**04 59 51.7**	**-1.2**
PB16					IAmb	IAmb	04 59 53.2	
	comp=Z,10.0nm,1.5s							
DBIC	**Dimbokro**	**54.38**	**10**	LR		LR	05 17 00.0	
	comp=Z,58nm,20.1s,baz=164,slow=29							
LPAZ	**La Paz**	**54.69**	**285**	LR		LR	05 21 44.7	
	comp=Z,124nm,21.7s,baz=114,slow=34							
SBA	**Scott Base**	**54.97**	**180**	P		**P**	**04 59 57.6**	**+0.1**
SBA					IAmb	IAmb	05 00 00.3	
	comp=Z,5.8nm,1.1s							
VNDA	**Vanda**	**55.26**	**179**	LR		LR	05 21 10.1	
	comp=Z,76nm,21.6s,baz=169,slow=34							
VNDA	**Vanda**	**55.26**	**179**	P		**P**	**05 00 00.4**	**+0.7**
VNDA					IAmb	IAmb	05 00 09.0	
	comp=Z,7.7nm,1.5s							
OPO	**Ambohidratompo**	**56.51**	**81**	LR		LR	05 21 39.5	
	comp=Z,87nm,18.8s,baz=298,slow=34							
MBAR	**Mbarara**	**60.17**	**53**	LR		LR	05 24 52.3	
	comp=Z,87nm,18.9s,baz=200,slow=35							
TORD	**Torodi Ar. Bea**	**61.76**	**16**	P		**P**	**05 00 45.0**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=192,slow=7.9,SNR=4.5							
	comp=Z,1.3nm,0.9s							
BBTS	**Babate**	**61.91**	**356**	LR		LR	05 20 58.0	
	comp=Z,66nm,21.9s,baz=176,slow=29							
KOWA	**Kowa**	**62.20**	**10**	LR		LR	05 21 50.3	
	comp=Z,62nm,21.0s,baz=134,slow=30							
KMBO	**Kilima Mbogo**	**63.41**	**59**	LR		LR	05 26 00.7	
	comp=Z,57nm,20.2s,baz=270,slow=34							
NNA	**Nana**	**63.57**	**281**	LR		LR	05 27 20.6	
	comp=Z,66nm,21.8s,baz=151,slow=34							
ATAH	**Atahualpa**	**68.17**	**284**	LR		LR	05 30 55.5	
	comp=Z,53nm,22.0s,baz=161,slow=35							
BAUV	**El Baul**	**74.25**	**303**	P		**P**	**05 02 05.5**	**+1.3**
RPN	**Rapa Nui**	**74.50**	**247**	LR		LR	05 31 45.2	
	comp=Z,34nm,18.7s,baz=138,slow=33							
ROSC	**El Rosal**	**74.71**	**295**	LR		LR	05 33 46.0	
	comp=Z,106nm,18.5s,baz=55,slow=34							
SDV	**Santo Domingo**	**75.70**	**301**	LR		LR	05 33 32.0	
	comp=Z,76nm,22.0s,baz=92,slow=34							
ATD	**Arta Tunnel**	**76.89**	**56**	LR		LR	05 34 59.7	
	comp=Z,107nm,19.3s,baz=28,slow=35							
SJG	**San Juan**	**80.75**	**310**	LR		LR	05 35 55.2	
	comp=Z,51nm,20.8s,baz=152,slow=34							
ESDC	**Sonseca Array**	**87.13**	**7**	P		**P**	**05 03 11.5**	**-1.1**
	comp=Z,1.1nm,1.1s,baz=196,slow=3.7,SNR=3.1							
	comp=Z,1.1nm,1.1s							
EIL	**Elat**	**88.09**	**40**	LR		LR	05 39 29.3	
	comp=Z,97nm,20.4s,baz=273,slow=34							
WSAR	**Wadi Sarin**	**95.29**	**61**	LR		LR	05 45 25.5	
	comp=Z,77nm,19.2s,baz=226,slow=35							
CMIG	**Matias Romero**	**97.01**	**287**	LR		LR	05 46 25.2	
	comp=Z,22nm,20.3s,baz=146,slow=34							
PALK	**Pallekele**	**97.86**	**88**	LR		LR	05 38 31.0	
	comp=Z,108nm,20.9s,baz=349,slow=30							
NVAR	**Mina Array Bea**	**126.49**	**290**	PKP		**PKPdf**	**05 09 30.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=160,slow=2.9,SNR=2.1							
M31M	**Drury Creek, Y**	**144.50**	**316**			**PKPab**	**05 10 01.1**	**+0.3**
M30M	**Minto, Yukon**	**145.63**	**317**	PKPdf		**PKPdf**	**05 10 04.2**	**-0.2**
I26K	**Coal Creek Min**	**148.22**	**322**	PKPdf		**PKPdf**	**05 10 09.7**	**+1.2**
ILAR	**Eielson Array**	**149.88**	**322**	PKPbc		**PKPbc**	**05 10 15.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=68,slow=0.6,SNR=9.4							
ILAR	**Eielson Array**	**149.88**	**322**	PKPdf		**PKPdf**	**05 10 12.4**	**+1.2**
BPAW	**Bear Paw Mtn.**	**151.77**	**322**			**PKPbc**	**05 10 20.1**	**-0.4**
I21K	**Tanana**	**151.85**	**324**	PKPbc		**PKiKP**	**05 10 21.2**	**+0.2**

*IDC **12** 04:57:34.8±6.1,35.99N×77.84E,h56km±57km,mb3.3/6, mbtmp3.6/10,ML2.9/3,Error ellipse: s-maj=41.3km s-min=21.5km az=37.0*
*NNC **12** 04:57:40.3±4.7,36.56N×78.90E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=41.8km s-min=34.9km az=71.0*

ISC 12 04:57:36.3±0.6,36.18N±0.05×78.53E±0.07,h35km,n26, σ3.9°03/36,mb3.5/5,5C-4D,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**4.40**	**213**	*e*PN			**Pn**	**04 58 44.0**	**+3.5**
THN				*e*SN			**Sn**	**04 59 30.0**	**-0.5**
CHCP	**Chirah Chowk**	**5.00**	**241**	P			**Pn**	**04 58 48.9**	**0.0**
CEP	**Cherat**	**5.92**	**249**	P			**Pn**	**04 59 00.1**	**-1.4**
CEP				S			Sn	04 59 59.0	-9.2
MDOK	**Medeo**	**7.07**	**351**	⇑P			**Pn**	**04 59 20.8**	**+3.4**
	5.2nm,0.5s								
MDOK				⇓S			**Sn**	**05 00 38.5**	**+2.0**
	14nm,0.5s								
TKM2	**Tokmak 2**	**7.10**	**342**	⇓P			**Pn**	**04 59 20.1**	**+2.2**
	1.2nm,0.2s								
TKM2				⇑S			**Sn**	**05 00 45.0**	**+7.6**
	11nm,0.7s								
PDGK	**Podgornoye**	**7.18**	**6**	⇓P			**Pn**	**04 59 22.5**	**+3.7**
	36nm,0.6s								
PDGK				⇑S			**Sn**	**05 00 39.5**	**+0.3**
	72nm,0.5s								
PYUN	**Piuthan**	**8.90**	**154**	*e*Pn			**Pn**	**04 59 46.8**	**+4.3**
PYUN				*e*Sn			**Sn**	**05 01 21.0**	**-0.7**
	58nm,0.4s								
DANN	**Dangsing**	**8.97**	**149**	*e*Pn			**Pn**	**04 59 48.1**	**+4.5**
DANN				*e*Sn			**Sn**	**05 01 23.0**	**-0.6**
	29nm,0.4s								
KOLN	**Koldanda**	**9.42**	**151**	*e*Pn			**Pn**	**04 59 53.7**	**+4.0**
KOLN				*e*Sn			**Sn**	**05 01 33.7**	**-0.9**
KKN	**Kakani**	**10.14**	**144**	*e*Sn			**Sn**	**05 01 49.5**	**-2.6**
PKIN	**Phulchoki**	**10.37**	**144**	*e*Pn			**Pn**	**05 00 06.0**	**+3.2**
PKIN				*e*Sn			**Sn**	**05 01 55.7**	**-2.2**
	22nm,0.3s								
PKI	**Pulchoki**	**10.38**	**144**	*e*Pn			**Pn**	**05 00 07.0**	**+4.0**
JIRN	**Jiri**	**10.70**	**140**	*e*Sn			**Sn**	**05 02 04.0**	**-2.0**
	12nm,0.3s								
MAKZ	**Makanchi**	**10.93**	**13**	⇓P			**Pn**	**05 00 12.3**	**+2.2**
	11nm,0.5s								
MAKZ				⇑S			**Sn**	**05 02 12.0**	**+0.9**
	6.4nm,0.7s								
MK31	**Makanchi Array**	**10.97**	**14**	P			**Pn**	**05 00 12.9**	**+2.2**
	1.3nm,0.2s,baz=199,slow=13,SNR=122								
MK31				⇑S			**Sn**	**05 02 11.3**	**-0.9**
	18nm,0.8s,baz=198,slow=23,SNR=4.6								
MKAR	**Makanchi Array**	**10.97**	**14**	P			**Pn**	**05 00 12.6**	**+1.9**
	3.8nm,0.3s,baz=193,slow=12,SNR=93								
MKAR				S			**Sn**	**05 02 08.9**	**-3.2**
	21nm,0.8s,baz=198,slow=23,SNR=19								
RAMN	**Ramite**	**11.48**	**141**	*e*Pn			**Pn**	**05 00 21.4**	**+3.4**
KURBB	**Kurchatov Arra**	**14.44**	**0**	P			**Pn**	**05 00 58.8**	**+0.8**
	baz=183,slow=12,SNR=1.4								
	0.3nm,0.4s								
BVAR	**Borovoye Array**	**17.79**	**344**	P			**Pn**	**05 01 39.2**	**-1.7**
	0.1nm,0.3s,baz=153,slow=13,SNR=4.2								
	0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**18.30**	**12**	P			**P**	**05 01 47.5**	**+0.4**
	0.1nm,0.3s,baz=199,slow=12,SNR=2.3								
	0.5nm,0.4s								
AKTO	**Aktyubinsk**	**20.54**	**320**	P			**P**	**05 02 05.8**	**-5.7**
	0.8nm,0.5s,baz=120,slow=15,SNR=2.4								
	0.8nm,0.5s								
SONM	**Songino Array**	**23.63**	**52**	P			**P**	**05 02 45.9**	**+1.7**
	0.8nm,0.7s,baz=254,slow=11,SNR=5.6								
	0.8nm,0.7s								
CMAR	**Chiang Mai Arr**	**25.22**	**129**	P			**P**	**05 02 58.9**	**0.0**
	1.0nm,0.4s,baz=313,slow=9.8,SNR=4.1								
	1.0nm,0.4s								
ARCES	**ARCESS Array B**	**43.84**	**336**	P			**P**	**05 05 34.4**	**-4.2**
	1.0nm,0.6s,baz=98,slow=8.7,SNR=6.1								
	1.0nm,0.6s								
TORD	**Torodi Ar. Bea**	**71.80**	**273**	P			P	05 08 48.5	-7.1
	0.3nm,0.7s,baz=50,slow=5.7,SNR=1.8								
	0.3nm,0.7s								
WRA	**Warramunga Arr**	**76.80**	**127**	P			**P**	**05 09 22.0**	**-2.5**
	0.5nm,0.9s,baz=326,slow=6.0,SNR=5.1								
	0.5nm,0.9s								

*NEIC **12** 05:01:22.4±2.0,47.2N±0.3×151.7E±0.3,h138km±18km, mb4.3/13,Error ellipse: s-maj=47.1km s-min=8.6km az=147.0*
*MOS **12** 05:01:22.9±1.2,47.55N×151.42E,h61km,mb4.1/18,Error ellipse: s-maj=12.6km s-min=8.9km az=93.6*
*SKHL **12** 05:01:22.1±0.4,47.70N×151.30E,h99km±6km,mb4.9/3, msha5.5/4*
*IDC **12** 05:01:23.7±3.1,47.25N×152.08E,h142km±28km, mb3.6/21,mbtmp4.0/22,MS3.1/5,Error ellipse: s-maj=16.7km s-min=12.4km az=157.0*
*JMA **12** 05:01:24.5±0.7,46°N×15°2E±°,h116km,MV3.9/11, KURILE ISLANDS REGION*

ISC 12 05:01:22.6±0.7,47.04N±0.08×152.04E±0.08,h150km, n109,σ2.9s35/105,mb4.0/34,9C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.42**	**240**	*e*PN			**Pn**	**05 02 17.9**	**+2.8**
KUR						pmax	pmax		
	comp=Z,66nm,0.7s								
KUR	**Kuril'sk**	**3.42**	**240**	*e*P			**Pn**	**05 02 18.0**	**+2.8**
KUR					AMB	AMB	AMB	05 02 23.6	
	comp=Z,70nm,0.7s								
KUR				*e*S			**Sn**	**05 03 00.9**	**+5.0**
KUR				A			A	05 03 04.0	
	comp=Z,140nm,0.6s								
SKR	**Severo-Kuril's**	**4.53**	**35**	*e*P			**Pn**	**05 02 26.9**	**-2.8**
SKR				*e*S			**Sn**	**05 03 15.4**	**-6.6**
SKR				A			A	05 03 17.1	
	comp=Z,60nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**5.28**	**238**	*e*P			**Pn**	**05 02 40.9**	**+1.3**
YUK					AMB	AMB	AMB	05 02 42.4	
	comp=Z,170nm,0.5s								
YUK				*e*S			**Sn**	**05 03 38.2**	**-1.5**
YUK				A			A	05 03 41.1	
	comp=Z,190nm,0.8s								
YUK				A			A	05 03 41.1	
	comp=Z,180nm,0.8s								
PAU	**Pauzhetka**	**5.42**	**33**	*e*P			**Pn**	**05 02 38.6**	**-2.8**
PAU				*e*S			**Sn**	**05 03 37.0**	**-6.1**
PAU				A			A	05 03 38.4	
	comp=Z,200nm,0.3s								
PAU				A			A	05 03 38.4	
	comp=Z,120nm,0.3s								
NEM2	**Nemuro 2**	**5.77**	**233**	*e*P			**Pn**	**05 02 45.4**	**-0.8**
NEM2				*e*S			**Sn**	**05 03 47.9**	**-3.4**
NMR	**Nemuro--Hokkai**	**5.77**	**233**	*e*P			**Pn**	**05 02 45.5**	**-0.7**
NMR				*e*S			**Sn**	**05 03 47.5**	**-4.0**
JNK	**Nakash**	**6.21**	**239**	*e*P			**Pn**	**05 02 53.2**	**+1.2**
JNK				*e*S			**Sn**	**05 04 02.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**6.35**	**273**	*e*PN			Pn	05 02 45.8	-8.1
YSS	**Yuzh-Sakhalins**	**6.35**	**273**	*e*P			Pn	05 02 47.8	-6.1
YSS					AMB	AMB	AMB	05 02 49.2	
	comp=Z,20nm,0.4s								
AKK	**Akkeshi**	**6.49**	**234**	*e*P			**Pn**	**05 02 55.5**	**-0.3**
AKK				*e*S			**Sn**	**05 04 05.1**	**-3.6**
JAK	**Akkeshi**	**6.59**	**235**	*e*P			**Pn**	**05 02 56.3**	**-0.7**
JAK				*e*S			**Sn**	**05 04 07.3**	**-3.7**
JAR	**Ashorobuto**	**6.94**	**240**	*e*P			**Pn**	**05 03 03.4**	**+1.6**
JAR				*e*S			**Sn**	**05 04 19.7**	**+0.3**
PEA0B	**Petropavlovsk-**	**7.08**	**29**	Pn			**Pn**	**05 03 02.7**	**-0.9**
PEA0B	**Petropavlovsk-**	**7.08**	**29**	PN			**Pn**	**05 03 02.7**	**-0.9**
PETK	**Petropavlovsk-**	**7.08**	**29**	P			**Pn**	**05 03 02.1**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=202,slow=14,SNR=4.9								
JOB	**Onbets**	**7.14**	**238**	*e*P			**Pn**	**05 03 04.7**	**+0.4**
JOB				*e*S			**Sn**	**05 04 22.1**	**-2.0**
JKK2	**Kamakawa 2**	**7.26**	**248**	*e*P			**Pn**	**05 03 08.7**	**+2.7**
JCH	**Churui**	**7.59**	**238**	*e*P			**Pn**	**05 03 10.2**	**-0.2**
JCH				*e*S			**Sn**	**05 04 31.2**	**-3.8**
ERM	**Erimo**	**8.09**	**235**	Pn			**Pn**	**05 03 15.7**	**-1.4**
ERM	**Erimo**	**8.09**	**235**	*i* PN			**Pn**	**05 03 17.1**	**0.0**
JNBK	**Urakawa-nobuka**	**8.15**	**238**	*e*P			**Pn**	**05 03 17.1**	**-0.8**
JNBK				*e*S			**Sn**	**05 04 44.9**	**-3.7**
OKH	**Okha**	**8.74**	**322**	*e*P			Pn	05 03 15.2	-10
JTM	**Tenmabayashi**	**10.08**	**236**	Pn			**Pn**	**05 03 41.9**	**-1.7**
JANG	**Nango**	**10.12**	**233**	*e*P			**Pn**	**05 03 41.0**	**-3.0**
JANG				*e*S			**Sn**	**05 05 28.0**	**-7.9**
JTH	**Tanohata**	**10.24**	**230**	*e*S			**Sn**	**05 05 31.4**	**-7.6**
MA2	**Magadan**	**12.59**	**357**	LR			LR	05 08 24.4	
	comp=Z,24nm,19.9s,baz=351,slow=34								
KLR	**Kul'dur**	**13.72**	**287**	*i* PN			Pn	05 04 22.1	-8.7
KLR						pmax	pmax		
	comp=Z,3.0nm,0.9s								
KLR	**Kul'dur**	**13.72**	**287**	*e*P			Pn	05 04 22.1	-8.7
SEY	**Seymchan**	**15.93**	**1**	P			**P**	**05 04 55.4**	**-3.3**
	comp=Z,3.5nm,0.9s,baz=187,slow=16,SNR=3.7								
SEY	**Seymchan**	**15.93**	**1**	*i* P			**P**	**05 04 56.0**	**-2.7**
SEY						pmax	pmax		
	comp=Z,5.0nm,1.0s								
YAK	**Yakutsk**	**19.68**	**328**	LR			LR	05 12 45.4	
	comp=Z,26nm,19.8s,baz=267,slow=35								
KSRS	**Korea Array**	**20.19**	**250**	P			Pn	05 05 49.4	+0.5
	comp=Z,4.5nm,0.8s,baz=52,slow=11,SNR=11								
	comp=Z,4.5nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**29.82**	**151**	T			T	05 39 03.8	
	baz=340,slow=76,SNR=114								
H11N1	**WAKE ISLAND Hy**	**29.83**	**151**	T			T	05 38 59.0	
	baz=340,slow=76,SNR=48								
H11N3	**WAKE ISLAND Hy**	**29.84**	**151**	T			T	05 39 06.0	
	baz=340,slow=76,SNR=50								
H11S1	**WAKE ISLAND Hy**	**30.90**	**152**	T			T	05 40 18.6	
	baz=341,slow=76,SNR=84								
H11S3	**WAKE ISLAND Hy**	**30.91**	**152**	T			T	05 40 23.0	
	baz=341,slow=76,SNR=59								
H11S2	**WAKE ISLAND Hy**	**30.92**	**152**	T			T	05 40 19.8	
	baz=341,slow=76,SNR=43								
IMAR	**Indian Mountai**	**33.97**	**36**	P			**P**	**05 07 52.0**	**+0.8**
H23K	**Yukon River**	**35.68**	**37**	P			**P**	**05 08 07.8**	**+1.8**
H23K						IAmb	IAmb	05 08 10.8	
	comp=Z,8.2nm,1.4s								
ILAR	**Eielson Array**	**36.78**	**39**	P			**P**	**05 08 15.7**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=284,slow=7.5,SNR=6.1								
	comp=Z,0.8nm,0.8s								
NRIK	**Noril'sk**	**38.13**	**329**	*i* P			**P**	**05 08 26.9**	**+0.3**
NRIK						pmax	pmax		
	comp=Z,2.0nm,1.1s								
L27K	**Beaver Creek,**	**39.15**	**41**	P			**P**	**05 08 37.2**	**+2.1**
L27K						IAmb	IAmb	05 08 39.7	
	comp=Z,7.8nm,1.5s								
INK	**Inuvik**	**41.80**	**33**	P			**P**	**05 08 57.4**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=284,slow=8.5,SNR=8.1								
	comp=Z,3.4nm,0.8s								
INK	**Inuvik**	**41.80**	**33**	P			**P**	**05 08 58.6**	**+1.8**
INK	**Inuvik**	**41.80**	**33**	P			**P**	**05 08 58.6**	**+1.8**
INK						pmax	pmax		
	comp=Z,5.0nm,1.0s								
ZALV	**Zalesovo Beam**	**41.84**	**305**	P			**P**	**05 08 57.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=69,slow=8.1,SNR=3.7								
	comp=Z,0.5nm,0.3s								
ZALV	**Zalesovo Beam**	**41.84**	**305**	*i* P			**P**	**05 08 57.5**	**+0.2**
ZALV						pmax	pmax		
	comp=Z,1.0nm,0.5s								
MK31	**Makanchi Array**	**46.16**	**297**	P			**P**	**05 09 31.4**	**-0.4**
MK31	**Makanchi Array**	**46.16**	**297**	*i* P			**P**	**05 09 32.1**	**+0.3**
MKAR	**Makanchi Array**	**46.16**	**297**	P			**P**	**05 09 33.0**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=69,slow=8.3,SNR=12								
	comp=Z,2.9nm,0.8s								
MKAR	**Makanchi Array**	**46.16**	**297**	P			**P**	**05 09 30.4**	**-1.4**
MKAR	**Makanchi Array**	**46.16**	**297**	*ce*P			**P**	**05 09 33.5**	**+1.7**
MKAR						pmax	pmax		
	comp=Z,3.0nm,0.9s								
MKAR	**Makanchi Array**	**46.16**	**297**	*e*P			**P**	**05 09 33.5**	**+1.7**
KURK	**Kurchatov**	**46.59**	**303**	P			**P**	**05 09 35.3**	**+0.2**
KURK	**Kurchatov**	**46.59**	**303**	*ce*P			**P**	**05 09 36.3**	**+1.2**
KURK						pmax	pmax		
	comp=Z,4.0nm,0.7s								
KURK	**Kurchatov**	**46.59**	**303**	*e*P			**P**	**05 09 36.3**	**+1.2**
KURBB	**Kurchatov Arra**	**46.68**	**303**	P			**P**	**05 09 36.3**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=68,slow=8.5,SNR=18								
	comp=Z,3.5nm,0.8s								
BVAR	**Borovoye Array**	**50.11**	**309**	P			**P**	**05 10 02.8**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=64,slow=8.4,SNR=8.0								
	comp=Z,0.8nm,0.5s								
BRVK	**Borovoye**	**50.15**	**309**	P			**P**	**05 10 01.3**	**-1.0**
BRVK						IAmb	IAmb	05 10 04.3	
	comp=Z,4.7nm,1.1s								
BRVK	**Borovoye**	**50.15**	**309**	*ce*P			**P**	**05 10 02.5**	**+0.2**
BRVK						pmax	pmax		
	comp=Z,10.0nm,2.5s								
BRVK	**Borovoye**	**50.15**	**309**	*e*P			**P**	**05 10 02.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**51.73**	**255**	P			**P**	**05 10 17.5**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=37,slow=8.2,SNR=4.6								
	comp=Z,0.6nm,0.3s								
CMAR	**Chiang Mai Arr**	**51.73**	**255**	*ce*P			P	05 10 18.2	+3.7
CMAR						pmax	pmax		
	comp=Z,1.0nm,0.3s								
KBS	**Kingsbay**	**52.10**	**351**	*ce*P			**P**	**05 10 18.6**	**+2.1**
KBS						pmax	pmax		
	comp=Z,20nm,1.7s								
AAK	**Ala-Archa**	**53.05**	**296**	*ce*P			**P**	**05 10 25.5**	**+1.3**
AAK						pmax	pmax		
	comp=Z,2.0nm,1.0s								
AAK	**Ala-Archa**	**53.05**	**296**	*e*P			**P**	**05 10 25.5**	**+1.3**
ARU	**Arti**	**54.30**	**317**	*c i* P			**P**	**05 10 33.5**	**+0.7**
ARU								05 12 32.9	
ARU				S			**S**	**05 17 59.5**	**+0.9**
ARU						SS	**SS**	**05 21 36.3**	**-5.7**
ARU						pmax	pmax		
	comp=Z,6.0nm,1.1s								
ARU	**Arti**	**54.30**	**317**	*e*P			**P**	**05 10 25.5**	**+1.3**
ABKAR	**Akbulak array**	**57.68**	**309**	P			**P**	**05 10 57.9**	**+1.0**
AKTO	**Aktyubinsk**	**57.98**	**311**	P			**P**	**05 11 00.3**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=117,slow=9.0,SNR=2.2								
	comp=Z,0.6nm,0.5s								
CHGR	**Chuyangaron**	**58.66**	**295**	P			**P**	**05 11 02.8**	**-1.2**
CHGR	**Chuyangaron**	**58.66**	**295**	P			**P**	**05 11 02.8**	**-1.2**
CHGR						pmax	pmax		
	comp=Z,7.0nm,0.8s								
FFC	**Flin Flon**	**60.99**	**40**	*ce*P			P	05 11 30.8	+11
KBL	**Kabul**	**61.28**	**291**	P			**P**	**05 11 22.6**	**+0.5**
KBL						IAmb	IAmb	05 11 25.8	
	comp=Z,6.9nm,1.3s								
KBL	**Kabul**	**61.28**	**291**	P			**P**	**05 11 22.6**	**+0.5**
KBL						pmax	pmax		
	comp=Z,7.0nm,1.3s								
NVAR	**Mina Array Bea**	**62.95**	**62**	P			**P**	**05 11 34.5**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=296,slow=6.3,SNR=4.1								
	comp=Z,0.4nm,0.6s								
FINES	**FINESS Array B**	**63.46**	**334**	P			**P**	**05 11 36.4**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=40,slow=7.5,SNR=14								
	comp=Z,2.8nm,0.6s								
FINES	**FINESS Array B**	**63.46**	**334**	*e*P			**P**	**05 11 36.7**	**+0.8**
PDAR	**Pinedale Array**	**65.17**	**53**	P			**P**	**05 11 48.2**	**+

THN eP Pn 05 15 25.3 +3.6
THN eS Sn 05 16 19.9 +6.7
THN eS Sn 05 16 20.0 +6.7
THN IAML 05 16 22.2
comp=N,1µm,0.2s
THN IAML 05 16 24.6
comp=N,1µm,0.1s
BTK Batken 4.58 351 Pn Pn 05 15 23.2 +0.9
BTK Batken 4.58 351 PN Pn 05 15 23.2 +0.9
OHH Osh 5.06 9 PN Pn 05 15 30.4 +1.4
KSH Kashi 5.23 39 P Pn 05 15 28.0 -3.3
KSH sP 05 15 41.4
KSH S Sn 05 16 24.0 -6.5
BHK Bhakra 5.68 135 eP Pn 05 15 42.7 +5.2
BHK eS Sn 05 16 47.2 +5.7
TRKS Terek-Say 6.01 356 PN Pn 05 15 42.6 +0.5
TRKS pmax pmax
comp=Z,26nm,1.1s
ARLS Aral 6.65 17 PN Pn 05 15 51.3 +0.5
ARLS pmax pmax
comp=Z,11nm,0.6s
NRN Naryn 6.79 28 Pn Pn 05 15 51.1 -1.8
NRN Naryn 6.79 28 PN Pn 05 15 51.1 -1.8
AAK Ala-Archa 7.42 16 Pn Pn 05 16 01.2 -0.2
AAK Ala-Archa 7.42 16 ceP Pn 05 16 02.3 +0.8
AAK pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 7.62 353 Pn Pn 05 16 04.5 +0.4
KK31 Karatay Array 7.62 353 P Pn 05 16 04.5 +0.4
KK31 Karatay Array 7.62 353 ⇑P Pn 05 16 05.1 +1.1
comp=Z,6.4nm,0.3s,baz=177,slow=12,SNR=170
KK31 ⇑S Sn 05 17 28.9 -0.3
comp=Z,23nm,0.7s,baz=180,slow=22
KKAR Karatay Array 7.62 353 Pn Pn 05 16 04.5 +0.4
KKAR Karatay Array 7.62 353 Pn 05 16 04.6 +0.5
KKAR Karatay Array 7.62 353 P Pn 05 16 04.5 +0.4
BOOM Boomskoye usch 7.69 24 Pn Pn 05 16 05.5 +0.4
BOOM Boomskoye usch 7.69 24 P Pn 05 16 05.6 +0.4
TARG Taragay, Kyrgy 7.82 36 Pn 05 16 07.3 +0.2
TARG Taragay, Kyrgy 7.82 36 P Pn 05 16 07.3 +0.2
TKM2 Tokmak 2 7.97 21 P Pn 05 16 11.5 +2.4
TKM2 S Sn 05 17 45.3 +7.2
TKM2 Tokmak 2 7.97 21 ⇓P Pn 05 16 11.5 +2.4
comp=Z,2.1nm,0.4s
TKM2 ⇓S Sn 05 17 45.3 +7.2
comp=Z,3.6nm,0.6s
AJM Ajmer 9.36 164 eP Pn 05 16 26.7 -1.4
AJM eS Sn 05 18 09.6 -2.5
GEYT Alibeck 11.17 286 Pn Pn 05 16 52.1 -0.5
comp=Z,0.9nm,0.3s,baz=118,slow=7.8,SNR=5.2
GEYT Sn Sn 05 18 56.5 +0.2
comp=Z,0.3nm,0.3s,baz=131,slow=18,SNR=2.2
comp=Z,2.0nm,0.4s
GEYT Alibeck 11.17 286 Pn 05 16 52.3 -0.4
GYA0 ALIBECK ARRAY 11.17 286 P Pn 05 16 51.8 -0.9
GYA0 S Sn 05 18 52.6 -3.6
GYA0B ALIBECK ARRAY 11.17 286 ⇓P Pn 05 16 51.8 -0.8
GYA0B ⇓S Sn 05 18 52.6 -3.7
JHNI Jhansi 11.63 148 eP Pn 05 16 58.8 -0.2
JHNI eS Sn 05 19 02.8 -4.8
PYUN Piuthan 12.12 125 eP Pn 05 17 05.2 -0.6
comp=Z,24nm,0.5s
PYUN eS Sn 05 19 15.6 -4.2
DANN Dangsing 12.48 122 eP Pn 05 17 09.3 -1.7
KOLN Koldanda 12.74 124 eP Pn 05 17 13.7 -0.7
GKN Gorkha 13.31 121 eP Pn 05 17 20.0 -2.1
comp=Z,9.7nm,0.3s
GKN eS Sn 05 19 43.8 -5.1
MAKZ Makanchi 13.65 31 Pn Pn 05 17 23.5 -3.1
MAKZ Makanchi 13.65 31 P Pn 05 17 23.5 -3.1
MK31 Makanchi Array 13.78 32 Pn 05 17 27.5 -0.8
MK31 Makanchi Array 13.78 32 iP Pn 05 17 26.7 -1.6
MKAR Makanchi Array 13.78 32 Pn Pn 05 17 27.9 -0.3
comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=9.2
MKAR LR LR 05 23 41.9
comp=Z,28nm,18.1s,baz=298,slow=41
comp=Z,0.8nm,0.7s
MKAR Makanchi Array 13.78 32 Pn Pn 05 17 27.0 -1.3
MKAR Makanchi Array 13.78 32 iP Pn 05 17 27.3 -1.0
MKAR pmax pmax
comp=Z,1.0nm,0.7s
PKIN Phulchoki 14.10 120 eP Pn 05 17 30.9 -2.1
comp=Z,14nm,0.4s
PKI Pulchoki 14.11 120 eP Pn 05 17 31.1 -2.1
comp=Z,14nm,0.4s
GUN Gumba 14.24 118 eP Pn 05 17 32.6 -2.4
comp=Z,14nm,0.4s
JIRN Jiri 14.61 118 eP Pn 05 17 36.9 -3.2
comp=Z,16nm,0.3s
KURBB Kurchatov Arra 15.88 16 Pn Pn 05 17 55.1 -1.0
comp=Z,0.2nm,0.3s,baz=204,slow=10,SNR=18
comp=Z,1.7nm,0.7s
KURK Kurchatov 15.98 16 Pn Pn 05 17 55.0 -2.6
KURK IAmb IAmb 05 18 04.1
comp=Z,5.5nm,0.9s
KURK Kurchatov 15.98 16 ceP Pn 05 17 57.0 -0.5
KURK pmax pmax
comp=Z,6.0nm,0.8s
AB31 Akbulak array 16.21 331 P Pn 05 17 58.4 -2.0
AB31 S Sn 05 20 54.2 -4.8
AB31 Akbulak array 16.21 331 ⇑P Pn 05 17 58.4 -2.0
comp=Z,5.7nm,0.9s,baz=151,slow=12,SNR=52
AB31 ⇓S Sn 05 20 54.2 -4.8
comp=Z,2.1nm,0.6s,baz=144,slow=37,SNR=4.3
ABKAR Akbulak array 16.21 331 Pn 05 17 59.1 -1.3
BVAR Borovoye Array 17.52 357 P Pn 05 18 14.4 -2.4
comp=Z,1.4nm,0.7s,baz=167,slow=15,SNR=5.7
BRVK Borovoye 17.56 357 P Pn 05 18 17.1 -0.2
BRVK Borovoye 17.56 357 ceP Pn 05 18 17.4 +0.1
BRVK pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 17.91 331 P Pn 05 18 21.1 -0.5
comp=Z,0.6nm,0.3s,baz=132,slow=11,SNR=16
AKTO S Sn 05 21 34.6 -5.5
comp=Z,0.9nm,0.5s,baz=177,slow=17,SNR=2.2
comp=Z,3.8nm,0.6s
AKTO Aktyubinsk 17.91 331 ⇑P Pn 05 18 22.4 +0.7
comp=Z,5.8nm,0.8s
AKTO ⇑S Sn 05 21 34.5 -5.7
comp=Z,2.9nm,0.8s
DGZ Jazzator, Alta 18.24 34 iP P 05 18 23.8 -2.0
DGZ pmax pmax
comp=Z,8.0nm,1.1s
SHL Shillong 19.98 114 P P 05 18 44.1 -1.0
SHL pmax pmax
comp=Z,9.0nm,0.6s
ZAA0 Zalesovo Array 20.58 22 P P 05 18 49.1 -2.1
ZAA0 IAmb IAmb 05 18 51.2
comp=Z,4.5nm,0.7s
ZALV Zalesovo Beam 20.58 22 P P 05 18 50.1 -1.0
comp=Z,3.7nm,0.4s,baz=217,slow=12,SNR=18
comp=Z,3.7nm,0.4s
ZALV Zalesovo Beam 20.58 22 P P 05 18 48.9 -2.2
ZALV Zalesovo Beam 20.58 22 iP P 05 18 50.0 -1.1
ZALV pmax pmax
comp=Z,4.0nm,0.4s
GNI Garni 21.75 290 ceP P 05 19 07.1 +3.0
GNI pmax pmax
comp=Z,13nm,1.1s
GTA Gaotai 22.60 72 eP P 05 19 15.8 +2.6
GTA pP pP 05 19 19.8 -3.5
GTA sP sP 05 19 23.8 -4.3
GTA pmax pmax
comp=Z,4.0nm,0.7s
ZEI Tsey 22.68 297 eP P 05 19 21.2 +7.1
ZEI pmax pmax
comp=Z,5.0nm,1.1s
ARU Arti 22.74 341 P P 05 19 15.9 +1.6
comp=Z,4.3nm,0.2s,baz=235,slow=2.1,SNR=5.0
comp=Z,4.3nm,0.2s
ARU Arti 22.74 341 c iP P 05 19 17.7 +3.4
ARU 05 19 45.5
ARU S S 05 23 25.9 +5.5
ARU SS SnSn 05 24 03.6 +11
ARU pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 23.76 300 iP P 05 19 23.9 -0.8
KIV i 05 19 28.1
KIV pmax pmax
comp=Z,2.0nm,0.5s
RAYN Ar Rayn 25.66 249 P P 05 19 45.5 +3.3
RAYN pmax pmax
comp=Z,1.0nm,2.3s
SONM Songino Array 28.43 54 P P 05 20 06.5 -0.5
comp=Z,0.3nm,0.3s,baz=258,slow=9.3,SNR=3.8
comp=Z,0.3nm,0.3s
BRTR Keskin Array B 30.29 289 P P 05 20 24.4 +1.0
comp=Z,0.8nm,0.8s,baz=89,slow=6.9,SNR=5.9
comp=Z,0.8nm,0.8s
OBN Obninsk 31.05 320 eP P 05 20 28.5 -1.3
OBN e 05 21 39.3
OBN pmax pmax
comp=Z,3.0nm,0.4s
HIA Hailar 37.40 53 iP P 05 21 18.2 -6.8
HIA pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 38.61 327 P P 05 21 34.6 -0.3
comp=Z,1.4nm,0.4s,baz=120,slow=9.7,SNR=12
comp=Z,1.4nm,0.4s
FINES FINESS Array B 38.61 327 P P 05 21 35.0 +0.1
FINES FINESS Array B 38.61 327 ceP P 05 21 35.0 +0.1
FINES pmax pmax
comp=Z,1.0nm,0.4s
MSF Maaselka 39.31 334 P P 05 21 40.1 -0.7
ARCES ARCESS Array B 42.26 338 P P 05 22 05.2 +0.2
comp=Z,2.3nm,0.6s,baz=111,slow=8.4,SNR=16
comp=Z,2.3nm,0.6s
ARCES ARCESS Array B 42.26 338 P P 05 22 05.3 +0.3
ARCES ARCESS Array B 42.26 338 P P 05 22 05.4 +0.3
ARCES pmax pmax
comp=Z,25nm,1.5s
NC303 NORSAR Array S 45.44 324 P P 05 22 31.1 +0.3
NB2 NORSAR Subarra 45.50 324 P P 05 22 30.2 -1.0
comp=Z,1.1nm,0.7s,baz=95,slow=7.9
NOA NORSAR Array B 45.50 324 P P 05 22 30.0 -1.2
comp=Z,0.5nm,0.6s,baz=96,slow=7.8,SNR=3.8
comp=Z,0.5nm,0.6s
BILL Bilibino 59.23 26 eP P 05 24 06.0 -6.8
BILL e 05 24 58.3
BILL pmax pmax
comp=Z,7.0nm,1.2s
TOA0 Torodi Ar. Sit 66.27 269 P P 05 25 00.0 -0.5
TOA0 IAmb IAmb 05 25 03.5
comp=Z,7.0nm,1.2s
TORD Torodi Ar. Bea 66.27 269 P P 05 24 59.9 -0.6
comp=Z,2.7nm,0.6s,baz=49,slow=6.0,SNR=38
comp=Z,2.7nm,0.6s
KOWA Kowa 70.20 274 P P 05 25 24.8 -0.3
KOWA IAmb IAmb 05 25 43.7
comp=Z,7.3nm,1.2s
INK Inuvik 74.77 9 P P 05 25 50.8 -0.7
comp=Z,2.9nm,1.0s,baz=344,slow=4.9,SNR=3.7
comp=Z,2.9nm,1.0s
INK Inuvik 74.77 9 P P 05 25 50.9 -0.6
INK IAmb IAmb 05 25 55.7
comp=Z,5.6nm,1.2s
INK Inuvik 74.77 9 P P 05 25 50.9 -0.6
INK pmax pmax
comp=Z,6.0nm,1.3s
DBIC Dimbokro 75.22 268 P P 05 25 54.2 -0.8
comp=Z,2.0nm,0.8s,baz=37,slow=7.1,SNR=4.9
comp=Z,2.0nm,0.8s
BOSA Boshof 77.38 221 P P 05 26 04.9 -2.0
comp=Z,3.0nm,1.0s,baz=30,slow=4.9,SNR=2.1
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 80.99 122 P P 05 26 26.6 -0.2
comp=Z,0.5nm,0.6s,baz=322,slow=5.1,SNR=9.2
comp=Z,0.5nm,0.6s
WB2 Warramunga Arr 81.00 122 P P 05 26 26.4 -0.5
WB2 IAmb IAmb 05 26 50.9
comp=Z,2.6nm,1.1s
ASAR Alice Springs 83.23 125 P P 05 26 37.9 -0.5
comp=Z,0.4nm,0.5s,baz=312,slow=5.1,SNR=2.1
comp=Z,0.4nm,0.5s

NEIC ***12*** *05:36:59.5±2.9,24.2°S±0.05°×66.99°W±0.07, h171km±10km, mb4.6/13, Md3.8(SJA), Mwr4.6(GUC), Error ellipse: s-maj=11.1km s-min=4.1km az=52.0*
IDC ***12*** *05:37:00.6±0.9,24.12°S×66.97°W,h170km±9km, mb3.8/12, mbtmp4.3/19, MS3.0/2, Error ellipse: s-maj=13.1km s-min=11.6km az=18.0*
VAO ***12*** *05:37:00.7±0.3,24.10°S×67.09°W,h181km, mb4.4*
GUC ***12*** *05:37:01.6±0.6,24.17°S×67.41°W,h210km±6km, ML5.1*
ISC 12 05:37:00.3±0.6, 24°18S±0.04°×67°12W±0.06, h178km±6km, n173, σ1⇕32/191, mb4.2/15, 14C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.56**	**321**			**Pn**	**05 37 34.9**	**+1.9**
AF01	**San Pedro de A**	**1.56**	**321**	⇑*iP*		**Pn**	**05 37 35.2**	**+2.2**
AF01				*i* S		**Sn**	**05 38 00.9**	**+2.7**
LVC	**Limon Verde**	**2.27**	**313**	P		**Pn**	**05 37 42.1**	**+1.5**
	424nm,0.3s,baz=126,slow=7.9,SNR=1665							
LVC				S		**Sn**	**05 38 12.3**	**+0.5**
	1µm,0.2s,baz=17,slow=22,SNR=53							
LVC				LR		LR	05 38 44.6	
	comp=Z,112nm,20.0s,baz=138,slow=45							
LVC	**Limon Verde**	**2.27**	**313**	⇑*iP*		**Pn**	**05 37 42.0**	**+1.5**
LVC				*i* S		**Sn**	**05 38 12.2**	**+0.5**
LVC	**Limon Verde**	**2.27**	**313**	*eP*		**Pn**	**05 37 41.8**	**+1.3**
LVC				*eS*		**Sn**	**05 38 12.2**	**+0.5**
PB15	**IPOC Station P**	**2.36**	**294**			**Pn**	**05 37 42.7**	**+1.5**
PB15	**IPOC Station P**	**2.36**	**294**	⇑*iP*		**Pn**	**05 37 42.8**	**+1.3**
PB15				*i* S		**Sn**	**05 38 13.7**	**+0.3**
GO02	**Mina Guanaco**	**2.45**	**246**			**Pn**	**05 37 43.6**	**+1.0**
GO02	**Mina Guanaco**	**2.45**	**246**	⇑*iP*		**Pn**	**05 37 43.6**	**+1.0**
GO02				*i* S		**Sn**	**05 38 15.8**	**+0.4**
PB06	**IPOC Station P**	**2.68**	**303**			**Pn**	**05 37 46.1**	**+0.9**
PB06	**IPOC Station P**	**2.68**	**303**	⇑*iP*		**Pn**	**05 37 46.5**	**+1.2**
PB06				*i* S		**Sn**	**05 38 19.8**	**-0.3**
PB06				IAML			05 38 22.5	
	comp=N,7µm,0.3s							
PB14	**IPOC Station P**	**3.02**	**261**			**Pn**	**05 37 49.5**	**+0.1**
PB14	**IPOC Station P**	**3.02**	**261**	⇑*iP*		**Pn**	**05 37 49.8**	**+0.3**
PB14				*i* S		**Sn**	**05 38 26.4**	**-1.2**
PB09	**IPOC Station P**	**3.07**	**320**			**Pn**	**05 37 51.3**	**+1.4**
PB09	**IPOC Station P**	**3.07**	**320**	⇑*iP*		**Pn**	**05 37 51.4**	**+1.4**
PB09				*i* S		**Sn**	**05 38 28.7**	**+0.2**
PB09				IAML			05 38 30.3	
	comp=N,2µm,0.5s							
AC02	**Maricunga**	**3.21**	**214**			**Pn**	**05 37 52.8**	**+0.9**
AC02	**Maricunga**	**3.21**	**214**	⇑*iP*		**Pn**	**05 37 53.0**	**+1.1**
AC02				*i* S		**Sn**	**05 38 32.7**	**+0.6**
PB04	**IPOC Station P**	**3.33**	**303**	Pn		**Pn**	**05 37 53.6**	**+0.5**
PB04	**IPOC Station P**	**3.33**	**303**	⇑*iP*		**Pn**	**05 37 53.6**	**+0.5**
PB04				*i* S		**Sn**	**05 38 32.3**	**-2.0**
PB07	**IPOC Station P**	**3.53**	**313**			**Pn**	**05 37 55.7**	**+0.1**
PB07	**IPOC Station P**	**3.53**	**313**	⇑*iP*		**Pn**	**05 37 56.1**	**+0.5**
PB07				*i* S		**Sn**	**05 38 36.5**	**-2.2**
AC01	**Pan de Azucar**	**3.71**	**237**			**Pn**	**05 37 57.0**	**-0.7**
AC01	**Pan de Azucar**	**3.71**	**237**	⇑*iP*		**Pn**	**05 37 57.0**	**-0.7**
AC01				*i* S		**Sn**	**05 38 39.9**	**-2.6**
PB01	**IPOC Station P**	**3.81**	**325**			**Pn**	**05 37 59.2**	**+0.2**
PB01	**IPOC Station P**	**3.81**	**325**	⇑*iP*		**Pn**	**05 37 59.2**	**+0.2**
PB01				*i* S		**Sn**	**05 38 43.5**	**-1.4**
PB02	**IPOC Station P**	**3.83**	**317**			**Pn**	**05 37 59.4**	**+0.1**
PB02	**IPOC Station P**	**3.83**	**317**	⇑*iP*		**Pn**	**05 37 59.4**	**+0.1**
PB02				*i* S		**Sn**	**05 38 43.4**	**-1.9**
AC06	**Mina Casimiro**	**4.30**	**222**	Pn		**Pn**	**05 38 04.2**	**-1.0**
AC06	**Mina Casimiro**	**4.30**	**222**	⇑*iP*		**Pn**	**05 38 04.2**	**-1.0**
TA01	**Diego Aracena**	**4.58**	**321**	Pn		**Pn**	**05 38 08.0**	**-0.7**
TA01	**Diego Aracena**	**4.58**	**321**	*eP*		**Pn**	**05 38 07.8**	**-0.9**
TA02	**Huaiquique**	**4.78**	**324**			**Pn**	**05 38 10.7**	**-0.7**
TA02	**Huaiquique**	**4.78**	**324**	*eP*		**Pn**	**05 38 11.5**	**+0.1**
GO01	**Chusmiza**	**4.88**	**336**			**Pn**	**05 38 13.6**	**+0.4**
GO01	**Chusmiza**	**4.88**	**336**	*eP*		**Pn**	**05 38 13.5**	**+0.4**
AC04	**Llanos de Chal**	**5.36**	**221**	Pn		**Pn**	**05 38 16.9**	**-2.0**
AC04	**Llanos de Chal**	**5.36**	**221**	*eP*		**Pn**	**05 38 16.7**	**-2.1**
AC04				*i* S		**Sn**	**05 39 16.7**	**-3.8**
AC05	**El Transito**	**5.43**	**211**	Pn		**Pn**	**05 38 19.0**	**-0.9**
AC05	**El Transito**	**5.43**	**211**	*eP*		**Pn**	**05 38 18.8**	**-1.2**
AC05				*i* S		**Sn**	**05 39 19.9**	**-2.7**
LCO	**Las Campanas**	**5.78**	**213**			**Pn**	**05 38 22.8**	**-1.9**
PB16	**IPOC Station P**	**6.22**	**339**	Pn		**Pn**	**05 38 30.8**	**0.0**
PB12	**IPOC Station P**	**6.29**	**331**	Pn		**Pn**	**05 38 30.0**	**-1.2**
CO01	**Juntas del Tor**	**6.35**	**204**			**Pn**	**05 38 31.9**	**-0.2**
CO05	**La Serena**	**6.79**	**212**			**Pn**	**05 38 35.1**	**-2.6**
GO04	**Tololo Observa**	**6.81**	**208**	Pn		**Pn**	**05 38 35.8**	**-2.3**
ZON	**Zonda**	**7.47**	**190**	Pn		**Pn**	**05 38 45.9**	**-0.7**
CO06	**Fray Jorge**	**7.61**	**211**	Pn		**Pn**	**05 38 45.7**	**-2.8**
CO02	**Combarbal**	**7.80**	**205**			**Pn**	**05 38 48.5**	**-2.5**
LPAZ	**La Paz**	**7.91**	**353**	P		**Pn**	**05 38 53.9**	**+0.8**
	comp=N,29nm,0.3s,baz=158,slow=5.8,SNR=348							
LPAZ				S		**Sn**	**05 40 19.4**	**-2.6**
	comp=N,7.7nm,0.5s,baz=91,slow=3.9,SNR=2.4							
LPAZ	**La Paz**	**7.91**	**353**	Pn		**Pn**	**05 38 52.8**	**-0.3**
LPAZ	**La Paz**	**7.91**	**353**	*eP*		**Pn**	**05 38 53.0**	**0.0**
VA03	**San Esteban**	**9.07**	**199**			**Pn**	**05 39 06.1**	**-1.6**
CPUP	**Villa Florida**	**9.12**	**106**	P		**Pn**	**05 39 07.2**	**-1.2**
	comp=N,2.8nm,0.7s,baz=302,slow=12,SNR=7.9							
CPUP	**Villa Florida**	**9.12**	**106**	Pn		**Pn**	**05 39 05.1**	**-3.2**
CPUP	**Villa Florida**	**9.12**	**106**	*eP*		**Pn**	**05 39 08.4**	**0.0**
VA06	**Catapilco**	**9.12**	**203**	Pn		**Pn**	**05 39 05.3**	**-3.0**
ROC1	**El Roble**	**9.41**	**200**			**Pn**	**05 39 09.9**	**-2.5**
MT02	**Curacav**	**9.71**	**200**			**Pn**	**05 39 12.6**	**-3.4**
MT05	**Renca**	**9.71**	**198**	Pn		**Pn**	**05 39 16.0**	**-0.1**
MT03	**Universidad Ad**	**9.74**	**197**	Pn		**Pn**	**05 39 15.4**	**-1.2**
SIV	**San Ignacio**	**9.93**	**36**	P		**Pn**	**05 39 17.7**	**-1.4**
	comp=N,7.3nm,0.3s,baz=233,slow=10.0,SNR=60							
SIV				S		Sn	05 41 01.2	-8.4
	comp=N,1.8nm,0.5s,baz=224,slow=14,SNR=5.0							
LMEL	**Las Melosas**	**10.01**	**195**			**Pn**	**05 39 19.5**	**-0.5**
MT09	**Talagante**	**10.14**	**199**			**Pn**	**05 39 19.8**	**-2.1**
MT01	**Popeta**	**10.30**	**200**			**Pn**	**05 39 20.7**	**-3.1**
ANTJ	**Antonio Joao (**	**10.46**	**80**	*eP*		**Pn**	**05 39 24.9**	**-1.1**
ITQB	**Itaqui**	**10.85**	**123**	*eP*		**Pn**	**05 39 31.3**	**+0.4**
AQDB	**Aquidauana**	**11.20**	**73**	Pn		**Pn**	**05 39 32.5**	**-3.0**
AQDB	**Aquidauana**	**11.20**	**73**	*eP*		**Pn**	**05 39 37.1**	**+1.7**
PTLB	**Pontes e Lacer**	**11.48**	**42**	Pn		**Pn**	**05 39 37.9**	**-1.3**
PTLB	**Pontes e Lacer**	**11.48**	**42**	*eP*		**Pn**	**05 39 38.6**	**-0.6**
UNIS	**Unistalda (Bra**	**11.83**	**117**	*eP*		**Pn**	**05 39 43.0**	**-0.6**
MCR1	**Marechal Candi**	**11.94**	**94**	*eP*		**Pn**	**05 39 46.9**	**+1.8**
ML02	**Panimavida**	**12.13**	**197**			**Pn**	**05 39 46.5**	**-0.9**
CRSM	**Crissiumal (Br**	**12.23**	**108**	*eP*		**Pn**	**05 39 50.2**	**+1.4**
RODS	**Rosario do Sul**	**12.26**	**123**	*eP*		**Pn**	**05 39 49.4**	**+0.3**
FRBT	**Francisco Belt**	**12.87**	**101**	*eP*		**Pn**	**05 39 57.5**	**+0.5**
VILB	**Vilhena**	**12.95**	**32**	Pn		**Pn**	**05 39 56.9**	**-1.1**
VILB	**Vilhena**	**12.95**	**32**	*eP*		**Pn**	**05 39 57.7**	**-0.3**
RPRD	**Ribas do Rio P**	**12.95**	**76**	*eP*		**Pn**	**05 39 58.0**	**-0.1**
TRCB	**Terra Rica**	**13.37**	**87**	*eP*		**Pn**	**05 40 03.1**	**-0.2**
ALGR	**Alto Alegre (B**	**13.43**	**113**	*eP*		**Pn**	**05 40 04.6**	**+0.5**
SALV	**Santo Antonio**	**13.53**	**55**	*eP*		**Pn**	**05 40 04.4**	**-0.9**
CPSB	**Cacapava Do Su**	**13.65**	**120**	*eP*		**Pn**	**05 40 06.4**	**-0.3**
PTGB	**Pitanga**	**13.73**	**95**	*eP*		**P**	**05 40 08.9**	**-1.7**
ITAB	**Concordia**	**13.85**	**106**	P		**Pn**	**05 40 08.8**	**-0.4**
ITAB	**Concordia**	**13.85**	**106**	*eP*		**P**	**05 40 10.2**	**-1.8**
PLTB	**Pedras Altas**	**14.13**	**125**	*eP*		**Pn**	**05 40 11.6**	**-1.1**
ETMB	**Extrema**	**14.31**	**4**	Pn		**Pn**	**05 40 13.5**	**-1.6**
ETMB	**Extrema**	**14.31**	**4**	*eP*		**Pn**	**05 40 13.3**	**-1.7**
C2SB	**Chapadao do Su**	**14.34**	**71**	*eP*		**P**	**05 40 16.5**	**-0.9**
TRQA	**Tornquist**	**14.52**	**164**	Pn		**Pn**	**05 40 15.0**	**-2.5**
TRQA	**Tornquist**	**14.52**	**164**	*eP*		**P**	**05 40 18.7**	**-0.5**
PCMB	**Pacaembu**	**14.84**	**83**	*eP*		**Pn**	**05 40 21.2**	**-0.4**
NNA	**Nana**	**15.23**	**321**	P		**P**	**05 40 28.8**	**+1.4**
	comp=N,8.9nm,0.8s,baz=164,slow=9.5,SNR=4.4							
CNLB	**Canela**	**15.40**	**113**	*eP*		**P**	**05 40 29.4**	**+0.2**
GO06	**Curarrehue**	**15.79**	**192**	Pn		**Pn**	**05 40 30.5**	**-2.7**
GO06				IAmb		IAmb	05 40 35.0	
	comp=Z,43nm,1.1s							
PDRB	**Porto dos Gac**	**15.93**	**40**	*eP*		**P**	**05 40 34.6**	**-0.4**
ITRB	**Iturama**	**16.18**	**77**	*eP*		**Pn**	**05 40 38.6**	**+0.7**
TIJ01	**Guaruva-PR**	**16.50**	**98**	*eP*		**Pn**	**05 40 41.7**	**-0.2**
TER01	**Tubaro-SC**	**16.70**	**109**	*eP*		**Pn**	**05 40 43.4**	**-0.7**
PLCA	**Paso Flores**	**16.76**	**189**	P		**Pn**	**05 40 44.9**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=5.8,slow=9.7,SNR=17							
PLCA	**Paso Flores**	**16.76**	**189**	P		**Pn**	**05 40 43.8**	**-1.0**
PLCA	**Paso Flores**	**16.76**	**189**	*eP*		**Pn**	**05 40 45.4**	**+0.6**
CLDB	**Colider**	**17.06**	**41**	*eP*		**P**	**05 40 46.9**	**-0.6**
CZSB	**Cruzeiro do Su**	**17.21**	**341**	P		**Pn**	**05 40 50.3**	**0.0**
CZSB				IAmb		IAmb	05 40 52.8	
	comp=Z,12nm,0.6s							
CZSB	**Cruzeiro do Su**	**17.21**	**341**	*eP*		**P**	**05 40 48.5**	**-0.6**
LL04	**Puerto Octay**	**17.26**	**194**	P		**Pn**	**05 40 50.2**	**-0.5**
LL04				IAmb		IAmb	05 40 52.4	
	comp=Z,20nm,0.9s							
BB19B	**Bebedouro**	**17.45**	**83**	*eP*		**Pn**	**05 40 52.1**	**-1.0**
PET01	**Itanhaem-SP**	**18.10**	**94**	*eP*		**P**	**05 40 59.0**	**+0.1**
VAO	**Valinhos**	**18.51**	**90**	*eP*		**P**	**05 41 03.2**	**-0.2**
IPMB	**Ipameri, GO**	**18.68**	**74**	*eP*		**P**	**05 41 05.3**	**0.0**
SNDB	**Serra Nova Dou**	**19.31**	**54**	*eP*		**P**	**05 41 11.2**	**-0.8**
GO07	**Milladeo Hill,**	**19.64**	**194**	P		**P**	**05 41 15.0**	**-0.3**
PARB	**Paraibuna**	**19.70**	**92**	*eP*		**P**	**05 41 16.4**	**+0.2**
BDFB	**Brasilia**	**19.86**	**68**	P		**P**	**05 41 17.8**	**-0.2**
	comp=Z,37nm,0.5s,baz=241,slow=10,SNR=85							
BDFB	**Brasilia**	**19.86**	**68**	P		**P**	**05 41 17.8**	**-0.2**
BDFB	**Brasilia**	**19.86**	**68**	*eP*		**P**	**05 41 17.8**	**-0.2**
TBTG	**Tabatinga, AM**	**20.06**	**352**	P		**P**	**05 41 21.0**	**+1.1**
TBTG				IAmb		IAmb	05 41 23.8	
	comp=Z,50nm,0.7s							
TBTG	**Tabatinga, AM**	**20.06**	**352**	*eP*		**P**	**05 41 20.3**	**+0.3**
PMNB	**Patos De Minas**	**20.06**	**78**	*eP*		**P**	**05 41 19.8**	**-0.3**
NPGB	**Novo Progresso**	**20.43**	**35**	*eP*		**P**	**05 41 22.0**	**-2.0**
AY01	**Puyuhuapi**	**20.69**	**191**	P		**P**	**05 41 26.5**	**+0.1**
AY01				IAmb		IAmb	05 41 27.8	
	comp=Z,49nm,1.4s							
BSCB	**Bom Sucesso**	**20.87**	**86**	*eP*		**P**	**05 41 27.9**	**-0.8**
COYC	**Coyhaique**	**21.72**	**189**	P		**P**	**05 41 37.4**	**+0.1**
COYC				IAmb		IAmb	05 41 38.7	
	comp=Z,35nm,1.0s							
MACA	**Manacapuru-AM**	**21.80**	**18**	P		**P**	**05 41 37.7**	**-0.7**
MACA				IAmb		IAmb	05 41 39.5	
	comp=Z,17nm,0.5s							
MACA	**Manacapuru-AM**	**21.80**	**18**	*eP*		**P**	**05 41 36.9**	**-1.6**
VAS01	**Vassouras-RJ**	**21.84**	**90**	*eP*		**P**	**05 41 38.6**	**-0.2**
ITTB	**Itaituba**	**22.55**	**31**	*eP*		**P**	**05 41 44.4**	**-1.3**
DIAM	**Diamantina, MG**	**22.61**	**80**	*eP*		**P**	**05 41 46.1**	**-0.3**
DUB01	**Friburgo-RJ**	**22.85**	**90**	*eP*		**P**	**05 41 47.6**	**-0.8**
MC01	**Montes Claros**	**22.94**	**75**	*eP*		**P**	**05 41 48.1**	**-1.2**
JANB	**Januaria**	**23.30**	**71**	*eP*		**P**	**05 41 51.4**	**-1.1**
SDBA	**SAO DESIDERIO**	**24.09**	**65**	*eP*		**P**	**05 41 58.3**	**-1.4**
SMTB	**Santa Maria do**	**24.09**	**54**	*eP*		**P**	**05 41 58.3**	**-1.3**
PRPB	**Parauapebas**	**24.43**	**46**	*eP*		**P**	**05 42 00.7**	**

comp=Z,1.0nm,1.1s,baz=200,slow=5.0,SNR=4.9
comp=Z,1.0nm,1.1s

DAVOX	**Davos/Dischmat**	**98.90**	**43**	LR	LR	06 33 28.3			
	comp=Z,19nm,18.7s,baz=263,slow=34								
ASAR	**Alice Springs**	**128.25**	**205**	PKP	**PKiKP**	**05 55 47.3**	**+0.4**		
	comp=Z,1.2nm,0.5s,baz=145,slow=2.0,SNR=19								
WRA	**Warramunga Arr**	**131.42**	**207**	PKP	**PKiKP**	**05 55 53.7**	**+0.4**		
	comp=Z,1.2nm,0.5s,baz=157,slow=1.8,SNR=35								
WRA				SKPbc	**SKPab**	**05 59 01.4**	**-0.2**		
	comp=Z,0.5nm,0.5s,baz=149,slow=3.5,SNR=19								
ZALV	**Zalesovo Beam**	**143.60**	**28**	PKP	**PKPdf**	**05 56 12.8**	**-0.8**		
	comp=Z,1.8nm,0.5s,baz=312,slow=3.2,SNR=6.3								
MKAR	**Makanchi Array**	**146.73**	**40**	PKPbc	**PKPab**	**05 56 21.1**	**-1.7**		
	comp=Z,3.8nm,0.6s,baz=298,slow=2.6,SNR=26								
CMAR	**Chiang Mai Arr**	**165.83**	**111**	PKPab	**PKPab**	**05 57 45.4**	**+0.3**		
	comp=Z,0.6nm,0.5s,baz=252,slow=5.4,SNR=4.1								

IDC 12 05:43:11.5±2.5, 14°02S×70°72W, h0km, mb3.2/2, mbtmp3.4/4, ML3.4/2, MS2.7/1, Error ellipse: s-maj=95.0km s-min=25.8km az=41.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.37**	**132**	Pn	Pn	05 44 05.5	-0.5
	3.3nm,0.3s,baz=304,slow=15,SNR=28						
LPAZ				Sn	Sn	05 44 49.3	+2.4
	baz=286,slow=5.6						
LPAZ				LR	LR	05 45 33.4	
	comp=Z,109nm,20.9s,baz=284,slow=42 20nm,0.7s						
SIV	**San Ignacio**	**9.52**	**103**	Pn	Pn	05 45 31.7	+1.6
	baz=281,slow=13,SNR=4.2						
SIV				Lg	Lg	05 48 12.0	
	baz=298,slow=17,SNR=1.3 2.1nm,0.7s						
TXAR	**Lajitas Array**	**53.57**	**324**	P	P	05 52 35.0	+0.4
	0.1nm,0.5s,baz=142,slow=9.1,SNR=1.9 0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.63**	**73**	P	P	05 55 04.0	-0.8
	0.4nm,0.8s,baz=251,slow=4.4,SNR=1.9 0.4nm,0.8s						

*HVO **12** 05:51:38.6±1.0, 19°.42N±0°.05×155°.62W±0°.02, h3km±7km, ML2.5/11, ML2.1/26(NEIC), Error ellipse: s-maj=7.7km s-min=0.7km az=197.0*

NEIC 12 05:51:39.1±1.0, 19°.40N±0°.06×155°.63W±0°.02, h4km±11km, Error ellipse: s-maj=9.0km s-min=0.7km az=197.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Moku'aweowe**	**0.09**	**18**	Pg	Pg	05 51 40.8	-0.3
MWH				Sg	Sg	05 51 42.3	-0.2
ALEP	**Alea Permanent**	**0.14**	**353**		Pg	05 51 41.9	-0.1
ALEP					Sg	05 51 44.1	+0.2
MLOA	**Mauna Loa Obse**	**0.14**	**20**		Pg	05 51 41.8	-0.3
MLOA					Sg	05 51 44.0	0.0
MLOA	**Mauna Loa Obse**	**0.14**	**20**	IAML		05 51 44.5	
	comp=E,720nm,0.7s						
MLOA				IAML		05 51 44.8	
	comp=N,473nm,0.6s						
KHU	**Kahuku**	**0.15**	**176**		Pg	05 51 42.5	+0.3
KHU	**Kahuku**	**0.15**	**176**	IAML		05 51 46.4	
	comp=E,304nm,1.5s						
KHU				IAML		05 51 47.9	
	comp=N,287nm,0.6s						
AIN	**Ainahou**	**0.16**	**101**		Pg	05 51 42.6	+0.3
AIN	**Ainahou**	**0.16**	**101**	IAML		05 51 47.0	
	comp=N,1μm,0.5s						
AIN				IAML		05 51 47.2	
	comp=E,1μm,0.2s						
HMH	**Humu'ula Sheep**	**0.24**	**34**		Pg	05 51 43.5	-0.3
HMH	**Humu'ula Sheep**	**0.24**	**34**	IAML		05 51 44.0	
	comp=E,130nm,3.9s						
HMH				IAML		05 51 47.7	
	comp=N,180nm,0.4s						
MLH	**Mauna Loa**	**0.24**	**68**		Pg	05 51 43.9	0.0
MLH					Sg	05 51 47.8	+0.7
MLH	**Mauna Loa**	**0.24**	**68**	IAML		05 51 48.2	
	comp=E,222nm,0.5s						
MLH				IAML		05 51 48.5	
	comp=N,406nm,0.5s						
HTC	**Hot Caves**	**0.27**	**127**		Pg	05 51 44.3	0.0
CPH	**Captain Cook**	**0.29**	**287**		Pg	05 51 45.4	+0.7
KHLU	**Kahalu`u**	**0.32**	**307**		Pg	05 51 45.7	+0.5
KHLU					Sg	05 51 48.5	-0.8
KHLU				IAML		05 51 52.1	
	comp=N,272nm,0.4s						
KHLU				IAML		05 51 55.1	
	comp=E,305nm,0.4s						
HLP	**Hilina Pali**	**0.32**	**109**		Pg	05 51 45.3	0.0
HLP				IAML		05 51 54.3	
	comp=N,289nm,0.6s						
UWB	**Uwekahuna B**	**0.33**	**86**	Sg	Sg	05 51 49.3	-0.5
RIM	**Rim**	**0.33**	**91**	Pg	Pg	05 51 45.3	-0.3
RSD	**Rainshed**	**0.33**	**79**		Pg	05 51 45.4	-0.2
RSD					Sg	05 51 49.0	-1.0
HUH	**Hualalai**	**0.34**	**325**		Pg	05 51 46.4	+0.6
HUH				IAML		05 51 56.3	
	comp=N,292nm,0.7s						
HUH				IAML		05 51 56.7	
	comp=E,275nm,0.4s						
HATHI	**Halema'uma'u T**	**0.34**	**86**	Pg	Pg	05 51 44.6	-1.2
POHA	**Pohakuloa**	**0.36**	**14**	Pg	Pg	05 51 46.0	-0.2
POHA				IAML		05 51 55.8	
	comp=E,146nm,0.6s						
POHA				IAML		05 51 56.8	
	comp=E,143nm,0.9s						
PUH	**Pauahi**	**0.39**	**94**		Pg	05 51 45.8	-0.8
PUH				IAML		05 51 51.5	
	comp=N,312nm,1.4s						
PUH				IAML		05 51 52.0	
	comp=E,179nm,1.1s						

*NNC **12** 06:15:37.8±2.2, 54°.18N×86°.61E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=24.3km s-min=10.6km az=2.0, Suspected Mining explosion.*

*IDC **12** 06:15:41.0±2.3, 54°.12N×86°.42E, h0km, mbtmp3.5/2, ML3.3/2, Error ellipse: s-maj=18.2km s-min=11.4km az=59.0*

ISC 12 06:15:40.9±4.2, 54°.1N±0°.2×86°.4E±0°.2, h0km, n8, σ1s30/12, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**262**	*i*		06 21 10.0	
	baz=78,slow=329,SNR=0.7						
ZAA0	**Zalesovo Array**	**0.96**	**262**	⇑P	**Pg**	**06 15 57.9**	**-1.4**
	0.4nm,0.3s						
ZAA0				⇑S	**Sb**	**06 16 13.4**	**-0.2**
	1.5nm,0.5s						
ZALV	**Zalesovo Beam**	**0.96**	**262**	Pg	**Pg**	**06 15 58.0**	**-1.3**
	3.6nm,0.3s,baz=79,slow=17,SNR=26						
ZALV				Lg	Lg	06 16 12.5	
	4.5nm,0.3s,baz=80,slow=29,SNR=15						
ZALV				Rg	Rg	06 16 20.2	
	7.4nm,0.5s,baz=75,slow=33,SNR=6.4						
KURK	**Kurchatov**	**5.85**	**238**	⇓Pn	**Pn**	**06 17 09.2**	**+0.4**
	1.3nm,0.9s						
KURK				⇓Lg	Lg	06 18 48.8	
	3.2nm,0.7s						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	**Pn**	**06 17 11.6**	**+1.4**
	0.5nm,0.3s,baz=54,slow=13,SNR=44						
KURBB				Sn	**Sn**	**06 18 20.5**	**+1.4**
	baz=190,slow=29						
KURBB				Lg	Lg	06 18 50.5	
	baz=54,slow=35,SNR=4.9 3.7nm,0.5s						
KURBB	**Kurchatov Arra**	**5.96**	**237**	⇑Pn	**Pn**	**06 17 11.2**	**+1.0**
	3.6nm,0.5s						
KURBB				⇓Sn	**Sn**	**06 18 20.5**	**+1.4**
	5.0nm,0.8s						
KURBB				⇓Lg	Lg	06 18 51.6	
	4.1nm,0.7s						
MK31	**Makanchi Array**	**7.77**	**202**	⇑Pn	**Pn**	**06 17 35.8**	**+0.7**
	0.3nm,0.3s,baz=28,slow=14,SNR=33						
MK31				⇓Sn	**Sn**	**06 19 02.2**	**-1.6**
	0.4nm,0.5s						
MK31				⇑Lg	Lg	06 19 48.5	
	2.4nm,0.9s,baz=24,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	**Pn**	**06 17 36.4**	**+1.3**
	0.7nm,0.3s,baz=24,slow=13,SNR=33						
MKAR				Sn	**Sn**	**06 19 03.4**	**-0.4**
	0.1nm,0.3s,baz=23,slow=27,SNR=3.7						
MKAR				Lg	Lg	06 19 47.4	
	0.1nm,0.3s,baz=20,slow=28,SNR=6.4 0.8nm,0.3s						

JMA 12 06:17:40.8±0.2, 24°.9N±0°.6×123°.4E±0°.4, h23km±4km, MV1.5/7, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.58**	**216**	P	Pb	06 17 52.1	-0.3
YOJ				*e*S	Sb	06 17 59.9	-0.3
IRIF	**Iriomote-Funau**	**0.68**	**152**	P	Pb	06 17 53.6	-0.4
IRIF				*e*S	Sb	06 18 02.9	0.0
JIJ	**Ishigaki jima**	**0.90**	**129**	*e*S	Sb	06 18 08.9	-0.3
JKRS	**Kuro-shima**	**0.90**	**141**	*e*P	Pb	06 17 57.5	-0.2
JKRS				S	Sb	06 18 09.4	+0.1
HATJ	**Hateruma jima**	**0.96**	**156**	*e*S	Sb	06 18 10.6	-0.3

TAP 12 06:18:19.6, 24°.12N×121°.67E, h16km, ML2.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.06**	**310**	*i* P	Pg	06 18 23.1	+0.4
	baz=309						
ETL				S	Sg	06 18 25.9	+1.2
	baz=309						
TWD	**Chiawan**	**0.08**	**240**	P	Pg	06 18 23.6	+0.7
	baz=237						
TWD				*i* S	Sg	06 18 25.9	+1.0
	baz=237						
NACB	**Ninganchiao**	**0.09**	**307**	*e*P	Pg	06 18 23.6	+0.7
	baz=306						
NACB				*i* S	Sg	06 18 26.0	+0.9
	baz=306						
HWA	**Hwalien**	**0.16**	**203**	*e*P	Pb	06 18 24.4	+0.2
	baz=200						
ETLH	**Xiulin Townshi**	**0.19**	**296**	P	Pb	06 18 25.1	+0.2
	baz=296						
ETLH				S	Sb	06 18 28.6	+0.2
	baz=296						
ETM	**Tongmen**	**0.23**	**227**	*i* P	Pb	06 18 25.4	+0.1
	baz=226						
ETM				*e*S	Sb	06 18 29.0	-0.2
	baz=226						
ENA	**Nanau**	**0.31**	**12**	*i* P	Pb	06 18 27.1	+0.2
	baz=12						
ENA				S	Sb	06 18 31.9	+0.2
	baz=12						
EWUT	**Wuta**	**0.34**	**17**	*e*P	Pg	06 18 26.6	0.0
	baz=16						
EWUT				*e*S	Sg	06 18 31.5	0.0
	baz=16						
WHF	**Hehuan Shan**	**0.37**	**274**	P	Pb	06 18 28.4	+0.2
	baz=273						
WHF				S	Sb	06 18 33.8	-0.1
	baz=273						
ESL	**Shilin**	**0.38**	**216**	*i* P	Pb	06 18 27.9	0.0
	baz=214						
ESL				*e*S	Sb	06 18 33.2	-0.3
	baz=214						
NNSB	**Datong**	**0.40**	**319**	P	Pb	06 18 28.9	+0.4
	baz=319						
NNSB				*i* S	Sb	06 18 35.1	+0.6
	baz=319						
NNSH	**Datong**	**0.40**	**319**	P	Pb	06 18 28.9	+0.4
	baz=319						
NNSH				*i* S	Sb	06 18 35.1	+0.6
	baz=319						
FUSS	**Fushou**	**0.41**	**288**	*e*P	Pb	06 18 29.1	+0.5
	baz=287						
FUSS				*i* S	Sb	06 18 35.2	+0.4
	baz=287						
NNS	**Nan Shan**	**0.42**	**319**	P	Pb	06 18 28.6	-0.2
	baz=319						
NNS				S	Sb	06 18 34.8	-0.1
	baz=319						
LATG	**Datong**	**0.43**	**342**	P	Pb	06 18 29.3	+0.3
	baz=342						
LATG				S	Sb	06 18 35.7	+0.4
	baz=342						
CHGB	**Renai**	**0.46**	**263**	*e*P	Pb	06 18 30.0	+0.5
	baz=262						
CHGB				*i* S	Sb	06 18 36.7	+0.5
	baz=262						
TWT	**Tachien**	**0.47**	**286**	*e*P	Pb	06 18 30.6	+0.9
	baz=285						
TWT				S	Sb	06 18 37.7	+1.2
	baz=285						
OWD	**Renai**	**0.48**	**250**	*e*P	Pb	06 18 30.3	+0.5
	baz=249						
OWD				*i* S	Sb	06 18 37.4	+0.6
	baz=249						
TDCB	**Techi**	**0.49**	**286**	*e*P	Pb	06 18 30.6	+0.7
	baz=285						
TDCB				S	Sb	06 18 37.5	+0.6
	baz=285						
NDT	**Datong Townshi**	**0.50**	**343**	P	Pb	06 18 30.4	+0.3
	baz=343						
NDT				*i* S	Sb	06 18 38.2	+1.0
	baz=343						
EGFH	**Guangfu**	**0.50**	**206**	*e*P	Pg	06 18 29.6	0.0
	baz=206						
EGFH				S	Sb	06 18 37.8	+0.7
	baz=206						
TWC	**Suao**	**0.51**	**18**	*e*P	Pb	06 18 31.1	+0.8
	baz=19						
TWC				S	Sb	06 18 38.0	+0.5
	baz=19						
WUSB	**Renai**	**0.52**	**256**	*i* P	Pb	06 18 30.6	+0.1
	baz=255						
WUSB				S	Sb	06 18 38.4	+0.5
	baz=255						
ENTT	**Nioudou**	**0.53**	**349**	P	Pg	06 18 30.3	+0.2
	baz=350						
ENTT				*e*S	Sb	06 18 37.9	0.0
	baz=350						
VWDT	**VWDT**	**0.61**	**233**	P	Pb	06 18 31.9	0.0
	baz=233						
VWDT				S	Sb	06 18 41.0	+0.8
	baz=233						
YHNB	**Yeheng**	**0.61**	**334**	*i* P	Pb	06 18 32.2	+0.2
	baz=333						
YHNB				S	Sb	06 18 41.2	+0.8
	baz=333						
NSK	**Sanguang**	**0.62**	**333**	P	Pb	06 18 32.1	-0.1
	baz=333						
NSK				*e*S	Sb	06 18 40.8	+0.1
	baz=333						
FUSB	**Fushanzhiwuyua**	**0.64**	**353**	*e*P	Pb	06 18 33.4	-0.8
	baz=353						
FUSB				S	Sb	06 18 42.2	+1.0
	baz=353						
EHY	**Hungye**	**0.69**	**208**	P	Pb	06 18 33.8	+0.5
	baz=207						
EHY				S	Sb	06 18 43.7	+1.1
	baz=207						
SSLB	**Suanglung**	**0.74**	**243**	P	Pb	06 18 34.6	+0.5
	baz=243						
SSLB				*e*S	Sb	06 18 44.5	+0.5
	baz=243						
SMLT	**Sun Moon Lake**	**0.74**	**252**	P	Pb	06 18 34.3	0.0
	baz=251						
SMLT				*e*S	Sn	06 18 46.1	-0.6
	baz=251						
TYC	**Yuchr**	**0.78**	**254**	P	Pb	06 18 34.5	-0.2
	baz=253						
TYC				S	Sb	06 18 46.0	+1.0
	baz=253						
YOJ	**Yonaguni jima**	**1.27**	**74**	*e*P	Pg	06 18 44.3	+0.2
	baz=74						

*IDC **12** 06:31:53.3±1.6, 30°.88S×179°.25W, h82km±22km, mb3.8/4, mbtmp4.1/5, Error ellipse: s-maj=27.8km s-min=15.0km az=112.0*

*NEIC **12** 06:31:53.7±0.1, 30°.9S±0°.1×179°.2W±0°.2, h86km±16km, mb4.4/9, Error ellipse: s-maj=31.2km s-min=8.8km az=114.0*

ISC 12 06:31:53.7±0.9, 30°.93S±0°.10×179°.1W±0°.1, h100km, n17, σ0s92/19, mb4.3/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.95**	**32**	P	**Pn**	**06 32 26.2**	**+0.5**
	208nm,0.2s,baz=98,slow=11,SNR=7.4						
RAO				S	**Sn**	**06 32 49.5**	**-0.6**
	246nm,0.2s,baz=78,slow=18,SNR=2.4						
RAO	**Raoul Island**	**1.95**	**32**	Pn	**Pn**	**06 32 25.5**	**-0.2**
URZ	**Urewera**	**7.96**	**202**	P	**Pn**	**06 33 45.3**	**-1.2**
	2.2nm,0.3s,baz=213,slow=3.9,SNR=1.6						
URZ				S	**Sn**	**06 35 14.6**	**-0.2**
	6.5nm,0.3s,baz=210,slow=14,SNR=11						
URZ	**Urewera**	**7.96**	**202**	Pn	**Pn**	**06 33 46.1**	**-0.4**
CTAO	**Charters Tower**	**32.96**	**281**	P	**P**	**06 38 18.5**	**-0.6**
CTAO				IAmb	IAmb	06 38 49.9	
	comp=Z,24nm,1.5s						
STKA	**Stephens Creek**	**33.44**	**258**	P	**P**	**06 38 25.1**	**+2.0**
	comp=Z,3.6nm,0.5s,baz=98,slow=11,SNR=13 comp=Z,3.6nm,0.5s						
STKA	**Stephens Creek**	**33.44**	**258**	P	**P**	**06 38 24.6**	**+1.4**
BBOO	**Buckleboo**	**37.92**	**255**	P	**P**	**06 39 01.7**	**+0.3**
ASAR	**Alice Springs**	**42.14**	**268**	P	**P**	**06 39 36.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=103,slow=7.4,SNR=7.4 comp=Z,0.3nm,0.3s						
WR0	**Warramunga Arr**	**43.00**	**273**	P	**P**	**06 39 43.0**	**-0.4**
WR0				IAmb	IAmb	06 39 57.3	
	comp=Z,5.4nm,1.2s						
WB2	**Warramunga Arr**	**43.17**	**273**	P	**P**	**06 39 44.4**	**-0.4**
WB2				IAmb	IAmb	06 40 19.7	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**43.18**	**273**	P	**P**	**06 39 44.1**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=111,slow=8.1,SNR=48 comp=Z,1.1nm,0.3s						
WRA	**Warramunga Arr**	**43.18**	**273**	P	**P**	**06 39 44.6**	**-0.3**
WB0	**Warramunga Arr**	**43.21**	**274**	P	**P**	**06 39 44.6**	**-0.4**
WB0				IAmb	IAmb	06 39 52.9	
	comp=Z,5.3nm,1.2s						
FORT	**Forrest**	**45.00**	**256**	P	**P**	**06 39 59.3**	**0.0**
QSPA	**South Pole Qui**	**59.19**	**180**	P	**P**	**06 41 45.8**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=12,slow=9.1,SNR=15 comp=Z,1.0nm,0.4s						
QSPA	**South Pole Qui**	**59.19**	**180**	P	**P**	**06 41 43.8**	**-0.2**
QSPA				IAmb	IAmb	06 42 04.5	
	comp=Z,5.3nm,1.4s						

SSNC 12 06:38:06.7±1.6, 18°.47N×75°.55W, h15km±13km, MD2.9, ML1.7, MW2.9, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**1.52**	**355**	*e*P	Pn	06 38 31.5	-1.9
RCC				*e*S	Sn	06 38 49.9	-3.0
RCC				*e*Sg	Sb	06 38 50.8	-2.9
RCC				IAML		06 38 51.6	
	comp=N,5.6nm,0.2s						
RCC				IAML		06 38 52.1	
	comp=E,3.2nm,0.1s						
LMGC	**Las Mercedes**	**2.09**	**319**	*e*P	Pn	06 38 38.8	-2.5
LMGC				*e*S	Sn	06 39 02.8	-4.3
LMGC				*e*Sg	Sb	06 39 04.2	-6.1
LMGC				IAML		06 39 04.2	
	comp=E,9.1nm,0.1s						
LMGC				IAML		06 39 04.8	
	comp=N,23nm,0.2s						
CCCC	**Cccc**	**3.42**	**323**	*e*P	Pn	06 38 58.5	-1.0
CCCC				*e*S	Sn	06 39 35.1	-4.7

*NEIC **12** 06:51:53.8, 28°.78S×112°.37W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 0.19; Mθθ -4.00; Mφφ 3.81; Mrθ -0.49; Mθφ -3.02; Mφr 0.82; Fault plane solution: M0 5.03000×10^17 NP1: φs 26.64000°, δ 80.68000°, λ 6.23000°. NP2: φs 295.63000°, δ 83.85000°, λ 170.63000°. Principal axes: T 5.0229, Plg11.0000°, Azm251.0000°; N 0.0187, Plg79.0000°, Azm83.0000°; P -5.0416, Plg2.0000°, Azm341.0000°;*

*IDC **12** 06:51:53.2±0.5, 28°.69S×112°.71W, h0km, mb4.6/23, mbtmp4.5/23, MS5.6/55 Error ellipse: s-maj=15.6km s-min=15.4km az=113.0*

*MOS **12** 06:51:53.5±1.4, 28°.61S×112°.40W, h16km, mb5.4/43, Error ellipse: s-maj=10.4km s-min=7.0km az=76.4*

*NEIC **12** 06:51:53.4±1.5, 28°.76S±0°.09×112°.3W±0°.1, h10km±1km, mb5.4/450, Ms_20 5.7/420, Mwb5.7/50, Mww5.8, Error ellipse: s-maj=17.9km s-min=13.5km az=312.0*

*BJI **12** 06:51:55.0±0.0, 28°.70S×112°.60W, h10km, mB5.6/24, Ms5.8/39, Ms7 5.8/38*

*GCMT **12** 06:51:59.4±0.1, 28°.76S×112°.60W, h13km, MW5.8/165, Moment Tensor Solution. s161,c323; s165,c528; Duration: 2s0 Moment tensor: Scale 10^17 Nm; Mrr 0.13±.04; Mθθ 5.36±.05; Mφφ 5.49±.05; Mrθ 0.09±.10; Mθφ -4.57±.04; Mφr 0.13±.10; Best double couple: M0 7.09500×10^17 NP1: φs 115.00000°, δ 89.00000°, λ 179.00000°. NP2: φs 205.00000°, δ 89.00000°, λ 1.00000°. Principal axes: T 7.1610, Plg1.0000°, Azm70.0000°; N -0.1370, Plg89.0000°, Azm265.0000°; P -7.0290, Plg0.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **12** 06:52:01.2, 29°.07S×112°.45W, h12km, Moment Tensor Solution. Duration: 12s6 Moment tensor: Scale 10^17 Nm; Mrr 0.17; Mθθ -4.73; Mφφ 4.90; Mrθ 0.59; Mθφ -4.42; Mφr 1.04; Fault plane solution: M0 6.64000×10^17 NP1: φs 294.00000°, δ 80.00000°, λ -178.00000°. NP2: φs 204.00000°, δ 89.00000°, λ -10.00000°. Principal axes: T 6.7019, Plg6.0000°, Azm249.0000°; N -0.1196, Plg80.0000°, Azm16.0000°; P -6.5823, Plg8.0000°, Azm158.0000°;*

ISC 12 06:51:53.8±0.2, 28°.87S±0°.05×112°.40W±0°.05, h10km, n1204, σ1s94/1053, mb5.4/259, MS5.7/264, 15C-10D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**3.12**	**58**		**Pn**	**06 52 40.6**	**-2.6**
I13CL	**EASTER ISLAND**	**3.19**	**58**	Pn	**Pb**	**06 52 49.4**	**-1.3**
	baz=248,slow=26						
I13CL				*i*		07 09 50.0	
	baz=241,slow=333,SNR=0.6						
RPN	**Rapa Nui**	**3.22**	**58**	Pn	**Pn**	**06 52 42.3**	**-2.1**
	52nm,0.3s,baz=250,slow=11,SNR=25						
RPN				Sn	**Sn**	**06 53 20.3**	**-2.5**
	24nm,0.3s,baz=42,slow=4.5,SNR=4.8						
RPN	**Rapa Nui**	**3.22**	**58**		**Pn**	**06 52 42.2**	**-2.2**
RPN	**Rapa Nui**	**3.22**	**58**	P	**Pn**	**06 52 42.2**	**-2.2**
H03N2	**Juan Fernandez**	**28.92**	**108**	T	T	07 28 27.0	
	baz=274,slow=74,SNR=8527						
H03N3	**Juan Fernandez**	**28.93**	**108**	T	T	07 28 23.7	
	baz=274,slow=74,SNR=8071						
H03S2	**Juan Fernandez**	**28.93**	**108**	T	T	07 28 37.3	
	baz=259						
H03N1	**Juan Fernandez**	**28.94**	**108**	T	T	07 28 23.5	
	baz=274,slow=74						
H03S3	**Juan Fernandez**	**28.94**	**108**	T	T	07 28 38.1	
	baz=259						
H03S1	**Juan Fernandez**	**28.95**	**108**	T	T	07 28 38.6	
	baz=259						
TAOE	**Nuku Hiva Isla**	**32.81**	**302**	*e*S	**S**	**07 03 43.9**	**-1.1**
	1μm,27.1s						
TAOE				*e*LR	LR	07 07 02.1	
	comp=Z,11μm,23.6s						
TBI	**Tubuai**	**33.64**	**271**	*e*S	**S**	**07 03 57.0**	**-0.7**
	1μm,39.0s						
TBI				*e*LR	LR	07 07 25.9	
	comp=Z,22μm,27.0s						
TBI	**Tubuai**	**33.64**	**271**	*e*T	T	07 33 37.3	
	11nm,0.3s						
BI05	**Punta Hualpn**	**33.69**	**114**	P	**P**	**06 58 33.3**	**-1.8**
BI05				IAmb	IAmb	06 58 58.0	
	comp=Z,75nm,1.0s						
LL04	**Puerto Octay**	**34.65**	**121**	P	**P**	**06 58 40.8**	**-2.5**
LL04				IAmb	IAmb	06 58 56.9	
	comp=Z,88nm,1.7s						
LL03	**Petrohue**	**34.68**	**121**	P	**P**	**06 58 42.6**	**-1.0**
LL03				IAmb	IAmb	06 58 53.7	
	comp=Z,48nm,0.8s						
VA05	**Santo Domingo**	**35.02**	**108**	P	**P**	**06 58 44.7**	**-1.9**
VA05				IAmb	IAmb	06 58 59.9	
	comp=Z,68nm,1.6s						
VA01	**Torpederas**	**35.04**	**107**	P	**P**	**06 58 44.8**	**-2.0**
VA01				IAmb	IAmb	06 58 59.5	
	comp=Z,76nm,1.6s						
PAYG	**Puerto Ayora**	**35.10**	**41**	P	**P**	**06 58 45.4**	**-2.1**
PAYG				IAmb	IAmb	06 59 10.8	

comp=Z,60nm,1.3s
PAYG Puerto Ayora 35.10 41 IAMs_20 IAMs_20 07 09 03.7
comp=Z,10µm,20.0s
ML02 Panimavida 35.11 112 P **P** **06 58 47.2 -0.3**
ML02 IAmb IAmb 06 58 53.3
comp=Z,88nm,1.1s
GO06 Curarrehue 35.21 119 P **P** **06 58 46.9 -1.5**
CO06 Fray Jorge 35.29 103 P **P** **06 58 45.8 -3.3**
CO06 IAmb IAmb 06 59 20.2
comp=Z,116nm,1.9s
MT01 Popeta 35.31 109 P **P** **06 58 46.6 -2.6**
VA06 Catapilco 35.37 106 P **P** **06 58 46.9 -2.8**
VA06 IAmb IAmb 06 59 34.3
comp=Z,114nm,1.9s
LL02 Futaleuf 35.41 125 P **P** **06 58 48.3 -1.7**
LL02 IAmb IAmb 06 59 04.1
comp=Z,124nm,2.0s
MT02 Curacav 35.45 108 P **P** **06 58 48.6 -1.7**
MT02 IAmb IAmb 06 59 14.4
comp=Z,100nm,2.0s
MT09 Talagante 35.53 109 P **P** **06 58 49.6 -1.7**
ROC1 El Roble 35.57 107 P **P** **06 58 50.3 -1.5**
TIAR Tiarei 35.64 280 *e*T T 07 36 01.9
comp=Z,2.1nm,0.3s
BO02 Sierra Bellavi 35.66 110 P **P** **06 58 51.4 -0.8**
CO05 La Serena 35.74 102 P **P** **06 58 51.0 -1.9**
CO05 IAmb IAmb 06 59 01.0
comp=Z,97nm,1.5s
COYC Coyhaique 35.74 129 P **P** **06 58 49.9 -2.8**
COYC IAmb IAmb 06 59 17.3
comp=Z,78nm,1.3s
CO02 Combarbal 35.76 104 P **P** **06 58 51.8 -1.5**
MT05 Renca 35.77 108 P **P** **06 58 50.8 -2.5**
MT05 IAmb IAmb 06 59 13.8
comp=Z,78nm,1.4s
PPT2 Papeete2 35.83 280 *e*S **S** **07 04 31.1 -0.5**
comp=Z,752nm,36.2s
PPT2 *e*LR LR 07 08 25.9
comp=Z,6µm,23.2s
PEL Peldehue 35.83 108 P **P** **06 58 52.3 -1.4**
PEL IAmb IAmb 06 59 06.8
comp=Z,158nm,1.9s
PEL Peldehue 35.83 108 P **P** **06 58 52.3 -1.4**
PEL pmax pmax
comp=Z,158nm,1.9s
PPT Papeete 35.84 280 LR LR 07 09 04.7
comp=Z,8µm,21.3s,baz=106,slow=29
MT03 Universidad Ad 35.95 108 P **P** **06 58 54.4 -0.5**
MT03 IAmb IAmb 06 59 40.6
comp=Z,69nm,1.2s
VA03 San Esteban 35.98 107 P **P** **06 58 52.9 -2.1**
VA03 IAmb IAmb 06 59 21.2
comp=Z,57nm,1.4s
PLCA Paso Flores 36.02 120 P **P** **06 58 59.9 +4.5**
comp=Z,4.4nm,0.9s,baz=278,slow=7.2,SNR=6.5
PLCA LR LR 07 10 00.1
comp=Z,3µm,18.8s,baz=274,slow=30
comp=Z,4.4nm,0.9s
PLCA Paso Flores 36.02 120 P **P** **06 58 53.5 -1.8**
PLCA IAmb IAmb 06 59 09.7
comp=Z,141nm,2.0s
PLCA Paso Flores 36.02 120 *e*P **P** **06 58 55.2 -0.1**
PLCA Paso Flores 36.02 120 *e*P **P** **06 58 59.8 +4.5**
LMEL Las Melosas 36.18 109 P **P** **06 58 56.7 -0.1**
LMEL IAmb IAmb 06 59 03.3
comp=Z,54nm,0.9s
LCO Las Campanas 36.35 101 IAMs_20 IAMs_20 07 10 17.4
comp=Z,8µm,20.0s
LCO Las Campanas 36.35 101 *e*P **P** **06 59 03.2 +4.7**
CO01 Juntas del Tor 36.71 102 P **P** **06 58 58.5 -3.1**
AC05 El Transito 36.75 100 P **P** **06 58 59.3 -2.4**
AC06 Mina Casimiro 36.97 98 P **P** **06 59 02.6 -0.9**
AC06 IAmb IAmb 06 59 31.6
comp=Z,91nm,1.7s
NNA Nana 37.12 71 P **P** **06 59 07.8 +2.9**
comp=Z,3.4nm,0.7s,baz=246,slow=10.0,SNR=1.4
NNA LR LR 07 10 15.8
comp=Z,16µm,21.0s,baz=245,slow=30
comp=Z,3.4nm,0.7s
NNA Nana 37.12 71 P **P** **06 59 03.4 -1.6**
NNA Nana 37.12 71 IAMs_20 IAMs_20 07 10 01.7
comp=Z,11µm,19.0s
NNA Nana 37.12 71⇑ *e*P **P** **06 59 05.8 +0.9**
NNA pmax pmax
comp=Z,15nm,1.1s
GO09 Cerro Castillo 37.30 138 P **P** **06 59 05.3 -0.6**
GO09 IAmb IAmb 06 59 10.7
comp=Z,99nm,1.5s
MG05 Puerto Natales 37.35 139 P **P** **06 59 06.1 -0.3**
MG05 IAmb IAmb 06 59 14.8
comp=Z,184nm,1.8s
PB14 IPOC Station P 37.60 94 P **P** **06 59 06.4 -2.8**
ZON Zonda 37.69 105 P **P** **06 59 10.2 +0.6**
ZON IAmb IAmb 06 59 16.7
comp=Z,65nm,1.1s
ZON Zonda 37.69 105 P **P** **06 59 10.2 +0.6**
ZON pmax pmax
comp=Z,65nm,1.1s
AC02 Maricunga 38.15 98 P **P** **06 59 11.9 -2.2**
GO02 Mina Guanaco 38.16 95 P **P** **06 59 12.5 -1.5**
MG04 Isla Riesco 38.33 140 P **P** **06 59 13.2 -1.5**
MG04 IAmb IAmb 06 59 58.2
comp=Z,155nm,1.6s
PB04 IPOC Station P 38.50 90 P **P** **06 59 15.1 -1.6**
ATAH Atahualpa 38.66 63 P **P** **06 59 21.6 +3.3**
comp=Z,31nm,1.1s,baz=254,slow=5.7,SNR=15
ATAH LR LR 07 11 15.7
comp=Z,16µm,18.9s,baz=243,slow=30
comp=Z,31nm,1.1s
GO10 Punta Arenas 38.74 141 P **P** **06 59 18.1 0.0**
GO10 IAmb IAmb 06 59 42.4
comp=Z,101nm,1.4s
PB15 IPOC Station P 38.82 92 P **P** **06 59 17.8 -1.6**
PB06 IPOC Station P 38.89 91 P **P** **06 59 18.5 -1.4**
PB07 IPOC Station P 38.92 89 P **P** **06 59 19.4 -0.9**
PB07 IAmb IAmb 06 59 45.0
comp=Z,102nm,1.7s
TA02 Huaiquique 39.21 87 P **P** **06 59 20.2 -2.2**
MCRA Macar, Loja 39.25 58 P **P** **06 59 20.9 -1.9**
PB09 IPOC Station P 39.47 90 P **P** **06 59 22.8 -1.9**
LVC Limon Verde 39.50 91 P **P** **06 59 29.1 +3.9**
comp=Z,3.8nm,0.7s,baz=262,slow=8.8,SNR=5.5
LVC LR LR 07 11 39.1
comp=Z,12µm,20.6s,baz=254,slow=30
comp=Z,3.8nm,0.7s
LVC Limon Verde 39.50 91 P **P** **06 59 22.8 -2.5**
LVC Limon Verde 39.50 91 IAMs_20 IAMs_20 07 11 17.3
comp=Z,12µm,21.0s
LVC Limon Verde 39.50 91 *e*P **P** **06 59 27.7 +2.5**
PB01 IPOC Station P 39.51 89 P **P** **06 59 23.8 -1.2**
MG02 Cerro Sombrero 39.63 139 P **P** **06 59 24.9 -0.6**
PB12 IPOC Station P 39.66 85 P **P** **06 59 23.6 -2.7**
ARNL Arenillas 39.71 57 P **P** **06 59 25.0 -1.6**
ARNL IAmb IAmb 06 59 34.5
comp=Z,98nm,1.3s
AF01 San Pedro de A 40.03 92 P **P** **06 59 27.6 -1.9**
AF01 IAmb IAmb 07 00 45.6
comp=Z,142nm,1.6s
GO01 Chusmiza 40.25 87 P **P** **06 59 28.8 -2.8**
PB16 IPOC Station P 40.48 85 P **P** **06 59 32.1 -1.6**
USHA Ushuaia 40.79 142 LR LR 07 12 32.1
comp=Z,15µm,19.4s,baz=288,slow=30
BOSC San Juan Bosco 41.14 58 P **P** **06 59 36.3 -2.3**
LPAZ La Paz 42.52 83 P **P** **06 59 53.5 +3.1**
comp=Z,11nm,1.1s,baz=264,slow=3.3,SNR=22
LPAZ LR LR 07 13 35.8
comp=Z,8µm,20.1s,baz=252,slow=30
comp=Z,11nm,1.1s
LPAZ La Paz 42.52 83 P **P** **06 59 48.6 -1.8**
LPAZ La Paz 42.52 83 *e*P **P** **06 59 51.9 +1.5**
TRQA Tornquist 42.60 116 P **P** **06 59 48.8 -1.5**
TRQA Tornquist 42.60 116 P **P** **06 59 48.8 -1.5**
TRQA pmax pmax
comp=Z,90nm,1.8s
TRQA Tornquist 42.60 116 *e*P **P** **06 59 53.7 +3.5**
SLOR San Lorenzo - 42.78 55 P **P** **06 59 50.1 -2.3**
CZSB Cruzeiro do Su 42.86 69 P **P** **06 59 51.4 -1.1**
CZSB IAmb IAmb 07 00 04.7
comp=Z,112nm,1.2s
CZSB Cruzeiro do Su 42.86 69 *e*P **P** **06 59 53.5 +0.9**
RAR Rarotonga 43.37 269 LR LR 07 13 07.5
comp=Z,5µm,18.2s,baz=112,slow=30
RAR Rarotonga 43.37 269 IAMs_20 IAMs_20 07 12 21.6
comp=Z,8µm,19.0s
OTAV Otavalo 43.48 54 P **P** **06 59 55.9 -2.1**
OTAV Otavalo 43.48 54 *e*P **P** **06 59 59.9 +1.8**
IMBA Imbabura, San 43.69 54 P **P** **06 59 57.9 -1.9**
IMBA IAmb IAmb 07 00 16.1
comp=Z,92nm,1.4s
TULM Tulcn-Chalpat 44.29 54 P **P** **07 00 02.0 -2.6**
PMSA Palmer Station 46.86 154 P **P** **07 00 27.2 +3.5**
comp=Z,7.3nm,0.9s,baz=337,slow=8.1,SNR=6.2
PMSA LR LR 07 15 09.5
comp=Z,7µm,20.3s,baz=299,slow=30
comp=Z,7.3nm,0.9s
PMSA Palmer Station 46.86 154 P **P** **07 00 23.2 -0.5**
PMSA IAmb IAmb 07 00 39.4
comp=Z,90nm,1.9s
PMSA Palmer Station 46.86 154 IAMs_20 IAMs_20 07 14 47.2
comp=Z,8µm,19.0s
JTS Las Juntas de 47.10 38 P **P** **07 00 22.5 -3.7**
JTS IAmb IAmb 07 00 38.9
comp=Z,66nm,1.4s
JTS Las Juntas de 47.10 38 P **P** **07 00 26.5 +0.3**
JTS pmax pmax
comp=Z,33nm,1.2s
SRBA San Rafael, Bu 47.12 41 P **P** **07 00 22.7 -3.8**
SRBA IAmb IAmb 07 00 44.9
comp=Z,62nm,1.6s
BRU2 Volcan 47.16 42 P **P** **07 00 24.5 -2.4**
TBTG Tabatinga, AM 47.16 67 P **P** **07 00 24.6 -2.2**
TBTG IAmb IAmb 07 00 37.3
comp=Z,77nm,1.0s
TBTG Tabatinga, AM 47.16 67 *e*P **P** **07 00 26.9 +0.1**
ETMB Extrema 47.17 76 P **P** **07 00 23.5 -3.4**
ETMB IAmb IAmb 07 00 53.7
comp=Z,14nm,1.1s
ETMB Extrema 47.17 76 *e*P **P** **07 00 28.1 +1.2**
DRK0 Durika 47.21 41 P **P** **07 00 24.9 -2.4**
HDC Heredia 47.32 39 P **P** **07 00 26.5 -1.6**
HDC IAMs_20 IAMs_20 07 15 05.6
comp=Z,8µm,21.0s
SMAI San Martin Ant 47.42 159 P **P** **07 00 27.2 -0.8**
SMAI IAmb IAmb 07 00 37.4
comp=Z,49nm,1.6s
CVTR Volcan Turrial 47.53 40 P **P** **07 00 26.0 -4.0**
COVE Coope Vega, Sa 47.75 39 P **P** **07 00 28.7 -2.6**
COVE IAmb IAmb 07 00 36.4
comp=Z,47nm,1.2s
BATAN Batan 47.81 40 P **P** **07 00 30.2 -1.5**
TLIG Tlapa 48.06 18 P **P** **07 00 31.1 -2.6**
ITQB Itaqui 48.24 105 P **P** **07 00 33.5 -1.5**
ITQB IAmb IAmb 07 00 40.0
comp=Z,56nm,1.1s
ITQB Itaqui 48.24 105 *e*P **P** **07 00 38.3 +3.3**
ACON Acoyapa 48.38 37 P **P** **07 00 33.2 -2.9**
ACON IAmb IAmb 07 00 40.9
comp=Z,44nm,1.2s
MTO3 Montecristo 48.44 30 P **P** **07 00 34.6 -2.2**
CPUP Villa Florida 48.50 101 P **P** **07 00 39.4 +2.3**
comp=Z,7.5nm,0.9s,baz=262,slow=8.7,SNR=14
CPUP LR LR 07 18 01.2
comp=Z,3µm,18.6s,baz=258,slow=32
comp=Z,7.5nm,0.9s
CPUP Villa Florida 48.50 101 P **P** **07 00 34.9 -2.2**
CPUP Villa Florida 48.50 101 *e*P **P** **07 00 40.1 +3.1**
BOAB BOACO BROADBAND 48.53 36 P **P** **07 00 35.1 -2.2**
CMIG Matias Romero 48.73 23 P **P** **07 00 39.5 +0.8**
comp=Z,2.4nm,0.7s,baz=204,slow=9.9,SNR=2.3
CMIG LR LR 07 16 38.7
comp=Z,1µm,20.0s,baz=194,slow=30
comp=Z,2.4nm,0.7s
SIV San Ignacio 48.80 86 P **P** **07 00 41.5 +1.9**
comp=Z,22nm,0.9s,baz=253,slow=6.5,SNR=51
SIV LR LR 07 18 44.9
comp=Z,5µm,18.1s,baz=274,slow=33
comp=Z,22nm,0.9s
MATN Matagalpa 48.80 35 P **P** **07 00 36.8 -2.7**
CCIG Comitan 48.98 26 P **P** **07 00 36.2 -4.7**
TGUH Tegucigalpa,Un 49.10 33 P **P** **07 00 38.4 -3.4**
BCIP Isla Barro Col 49.16 45 IAMs_20 IAMs_20 07 16 07.4
comp=Z,7µm,19.0s
MOIG Morelia 49.46 14 P **P** **07 00 41.2 -3.4**
UNM Universidad Na 49.59 16 IAMs_20 IAMs_20 07 17 02.9
comp=Z,6µm,19.0s
ROSC El Rosal 49.63 54 P **P** **07 00 48.6 +2.4**
comp=Z,7.7nm,0.5s,baz=246,slow=5.6,SNR=14
ROSC LR LR 07 18 35.3
comp=Z,6µm,18.5s,baz=222,slow=32
comp=Z,7.7nm,0.5s
ROSC El Rosal 49.63 54 P **P** **07 00 43.2 -3.0**
ROSC IAmb IAmb 07 01 06.8
comp=Z,50nm,1.2s
PLTB Pedras Altas 50.30 109 P **P** **07 00 48.6 -2.2**
PLTB IAmb IAmb 07 01 06.3
comp=Z,55nm,1.3s
PLTB Pedras Altas 50.30 109 *e*P P 07 00 55.7 +4.9
PTLB Pontes e Lacer 50.72 87 P **P** **07 00 52.5 -1.6**
PTLB IAmb IAmb 07 01 02.4
comp=Z,90nm,1.9s
PTLB Pontes e Lacer 50.72 87 *e*P **P** **07 00 56.5 +2.5**
CPSB Cacapava Do Su 50.75 107 *e*P **P** **07 00 58.6 +4.4**
VILB Vilhena 50.87 83 P **P** **07 00 54.4 -0.9**
VILB IAmb IAmb 07 01 03.4
comp=Z,72nm,1.3s
VILB Vilhena 50.87 83 *e*P **P** **07 00 57.7 +2.4**
AQDB Aquidauana 51.79 94 P **P** **07 00 59.3 -2.7**
ZAIG Zacatecas 52.21 12 P **P** **07 01 03.0 -2.3**
SLBS Sierra La Lagu 52.31 3 IAMs_20 IAMs_20 07 17 58.5
comp=Z,5µm,19.0s
LPIG La Paz 52.71 2 LR LR 07 18 20.0
comp=Z,6µm,21.5s,baz=190,slow=30
CNLB Canela 53.20 106 *e*P P 07 01 18.0 +5.4
PTGB Pitanga 53.52 101 *e*P **P** **07 01 19.4 +4.5**
SALV Santo Antonio 53.55 89 *e*P **P** **07 01 16.8 +1.6**
TRCB Terra Rica 53.65 98 *e*P **P** **07 01 20.0 +4.1**
ORCD Orcadas 54.40 146 P **P** **07 01 20.8 +0.2**
ORCD IAmb IAmb 07 01 39.2
comp=Z,47nm,1.0s
PDRB Porto dos Gac 54.49 84 *e*P **P** **07 01 24.1 +2.0**
C2SB Chapadao do Su 54.92 93 *e*P **P** **07 01 28.2 +3.1**
SDV Santo Domingo 55.06 53 P **P** **07 01 27.6 +1.2**
comp=Z,3.6nm,0.3s,baz=162,slow=8.7,SNR=7.0
SDV LR LR 07 23 02.2
comp=Z,5µm,18.3s,baz=222,slow=34
comp=Z,3.6nm,0.3s
SDV Santo Domingo 55.06 53 P **P** **07 01 23.0 -3.3**
SDV Santo Domingo 55.06 53 IAMs_20 IAMs_20 07 22 50.6
comp=Z,5µm,18.0s
SDV Santo Domingo 55.06 53 *e*P **P** **07 01 27.4 +1.0**
PCMB Pacaembu 55.26 97 *e*P **P** **07 01 30.3 +2.7**
MACA Manacapuru-AM 55.32 72 P **P** **07 01 27.5 -0.6**
MACA IAmb IAmb 07 01 55.4
comp=Z,43nm,1.0s
MACA Manacapuru-AM 55.32 72 *e*P **P** **07 01 29.1 +1.0**
CLDB Colider 55.65 83 *e*P **P** **07 01 31.5 +1.0**
HPIG 55.86 7 P **P** **07 01 29.8 -2.1**
TIJ01 Guaruva-PR 55.95 102 *e*P **P** **07 01 35.3 +2.6**
RAO Raoul Island 56.56 252 LR LR 07 19 16.7
comp=Z,6µm,21.9s,baz=108,slow=29
RAO Raoul Island 56.56 252 IAMs_20 IAMs_20 07 18 42.6
comp=Z,6µm,22.0s
AFI Afiamalu 56.73 272 LR LR 07 19 11.1
comp=Z,3µm,18.8s,baz=118,slow=29
AFI Afiamalu 56.73 272 IAMs_20 IAMs_20 07 20 03.7
comp=Z,4µm,18.0s
ITRB Iturama 56.74 96 *e*P **P** **07 01 41.4 +3.2**
BAUV El Baul 56.95 55 P **P** **07 01 38.3 -1.3**
HSIG 57.58 2 P **P** **07 01 42.5 -1.3**
HSIG IAmb IAmb 07 01 48.0
comp=Z,71nm,1.9s
MTDJ Mount Denham 57.68 40 IAMs_20 IAMs_20 07 20 60.0
comp=Z,5µm,21.0s
KVTX Kingsville 57.79 15 S **S** **07 09 51.6 +7.1**
baz=195
NPGB Novo Progresso 57.85 80 *e*P **P** **07 01 46.4 +0.3**
URZ Urewera 58.21 241 LR LR 07 21 22.8
comp=Z,13µm,19.6s,baz=122,slow=30
833A Chaparral WMA, 58.22 13 P **P** **07 01 46.7 -1.6**
833A IAmb IAmb 07 01 58.9
comp=Z,52nm,1.1s
833A Chaparral WMA, 58.22 13 P **P** **07 01 47.6 -0.7**
baz=194
833A S **S** **07 09 52.3 +2.2**
baz=194
833A Chaparral WMA, 58.22 13 P **P** **07 01 47.6 -0.7**
baz=194,SNR=12
TX31 Lajitas Ar. Si 58.48 9 P **P** **07 01 48.7 -1.5**
TX31 IAmb IAmb 07 02 00.7
comp=Z,53nm,1.2s
TX31 Lajitas Ar. Si 58.48 9 P **P** **07 01 50.7 +0.5**
baz=189
TX31 S **S** **07 09 59.5 +5.8**
baz=189
TX32 Lajitas Array 58.48 9 P **P** **07 01 48.7 -1.5**
TXAR Lajitas Array 58.48 9 P **P** **07 01 50.5 +0.3**
comp=Z,2.3nm,1.1s,baz=187,slow=8.8,SNR=15
TXAR LR LR 07 21 54.8
comp=Z,1µm,19.5s,baz=180,slow=31
comp=Z,2.3nm,1.1s
TXAR Lajitas Array 58.48 9 P **P** **07 01 48.8 -1.4**
VAO Valinhos 58.49 101 *e*P **P** **07 01 54.3 +3.8**
BOAV Boa Vista 58.59 67 P **P** **07 01 49.7 -1.6**
BOAV IAmb IAmb 07 01 58.4
comp=Z,94nm,1.8s
BOAV Boa Vista 58.59 67 *e*P **P** **07 01 52.3 +1.0**
SOR Soroa 58.65 32 P **P** **07 01 50.9 -0.5**
SOR Soroa 58.65 32 P **P** **07 01 50.9 -0.5**
SOR pmax pmax
comp=Z,88nm,1.2s
ITTB Itaituba 58.87 77 *e*P **P** **07 01 53.8 +0.5**
735A Kenedy 59.07 15 S **S** **07 10 06.3 +5.1**
baz=195
SNDB Serra Nova Dou 59.08 87 *e*P **P** **07 01 56.1 +1.4**
BIRV Birongo 59.26 56 P **P** **07 01 53.5 -2.4**
IPMB Ipameri, GO 59.27 95 *e*P **P** **07 01 59.0 +3.0**
319A Douglas 59.99 3 P **P** **07 01 59.1 -1.5**
319A IAmb IAmb 07 02 06.1
comp=Z,51nm,1.5s
SBA Scott Base 60.06 194 P **P** **07 01 60.0 -0.5**
SBA IAmb IAmb 07 02 38.9
comp=Z,63nm,1.8s
SBA Scott Base 60.06 194 IAMs_20 IAMs_20 07 25 23.6
comp=Z,3µm,18.0s
SBA Scott Base 60.06 194 P **P** **07 02 01.7 +1.2**
SBA pmax pmax
comp=Z,63nm,1.7s
PIX Pinacate 60.11 359 P **P** **07 01 59.0 -2.2**
JCT Junction City 60.23 13 P **P** **07 02 01.3 -0.9**
JCT Junction City 60.23 13 P **P** **07 02 01.3 -0.9**
JCT pmax pmax
comp=Z,54nm,1.0s
JCT Junction City 60.23 13 P **P** **07 02 02.2 0.0**
baz=193
JCT S **S** **07 10 19.9 +3.7**
baz=193
JCT Junction City 60.23 13 P **P** **07 02 01.3 -0.9**
baz=193,SNR=25
PCRV Puerto La Cruz 60.26 57 LR LR 07 24 29.7
comp=Z,7µm,21.6s,slow=32
MQZ McQueen's Vall 60.27 234 P **P** **07 02 02.6 +0.2**
MQZ IAMs_20 IAMs_20 07 21 29.5
comp=Z,5µm,20.0s
BDFB Brasilia 60.39 92 P **P** **07 02 05.6 +1.8**
comp=Z,9.9nm,0.9s,baz=238,slow=5.8,SNR=14
BDFB LR LR 07 25 59.1
comp=Z,4µm,19.8s,baz=254,slow=34
comp=Z,9.9nm,0.9s
BDFB Brasilia 60.39 92 P **P** **07 02 02.8 -1.1**
BDFB Brasilia 60.39 92 *e*P **P** **07 02 06.4 +2.5**
214A Organ Pipe Nat 60.49 360 P **P** **07 02 01.5 -2.5**
214A IAmb IAmb 07 02 18.4
comp=Z,50nm,1.6s
214A Organ Pipe Nat 60.49 360 P **P** **07 02 02.9 -1.1**
baz=180
KIDD KIDD Seismic O 60.57 6 S **S** **07 10 24.2 +3.6**
baz=186
HKT Hockley 60.59 16 P **P** **07 02 02.5 -2.1**
HKT IAmb IAmb 07 02 21.6
comp=Z,75nm,1.6s
HKT Hockley 60.59 16⇑ *e*P **P** **07 02 04.9 +0.3**
HKT pmax pmax
comp=Z,40nm,2.0s
HKT Hockley 60.59 16 S **S** **07 10 21.9 +1.3**
baz=197
MNTX Cornudas Mount 60.60 7 P **P** **07 02 03.4 -1.4**
MNTX Cornudas Mount 60.60 7 P **P** **07 02 04.5 -0.2**
baz=187,SNR=11
MNTX S **S** **07 10 24.2 +3.3**
baz=187
MNTX Cornudas Mount 60.60 7 P **P** **07 02 03.3 -1.4**
baz=187,SNR=11
PMNB Patos De Minas 60.60 96 *e*P **P** **07 02 08.4 +3.2**
TUC Tucson 60.87 2 P **P** **07 02 04.9 -1.7**
TUC Tucson 60.87 2 P **P** **07 02 04.9 -1.7**
TUC pmax pmax
comp=Z,23nm,1.5s
TUC Tucson 60.87 2 P **P** **07 02 05.5 -1.1**
baz=182
435B Jarrell 60.98 15 P **P** **07 02 06.5 -0.8**
435B IAmb IAmb 07 02 14.9
comp=Z,29nm,0.8s
435B IAMs_20 IAMs_20 07 24 34.7
comp=Z,4µm,20.0s
435B Jarrell 60.98 15 S **S** **07 10 28.5 +2.8**
baz=195
435B Jarrell 60.98 15 P **P** **07 02 05.9 -1.4**
baz=195
QRZ Quartz Range 61.04 237 IAMs_20 IAMs_20 07 21 49.8
comp=Z,6µm,21.0s
VNDA Vanda 61.12 194 P **P** **07 02 09.4 +1.7**
comp=Z,1.7nm,1.0s,baz=70,slow=6.7,SNR=6.2
VNDA LR LR 07 24 42.7
comp=Z,3µm,18.5s,baz=88,slow=32
comp=Z,1.7nm,1.0s
VNDA Vanda 61.12 194 P **P** **07 02 07.6 -0.2**
GDL2 Guadalupe Moun 61.21 8 P **P** **07 02 08.0 -1.0**
121A Cookes Peak, D 61.22 4 P **P** **07 02 07.7 -1.4**
121A Cookes Peak, D 61.22 4 P **P** **07 02 09.7 +0.6**
baz=185
121A Cookes Peak, D 61.22 4 P **P** **07 02 07.0 -2.1**
baz=185
TKX Tecate 61.23 356 P **P** **07 02 07.8 -1.2**
TKX IAmb IAmb 07 02 11.5
comp=Z,27nm,1.1s
YUH Yuha Desert 61.27 357 P **P** **07 02 06.6 -2.7**
YUH IAmb IAmb 07 02 19.6
comp=Z,37nm,1.4s
IKP In-Ko-Pah, Jac 61.29 356 P **P** **07 02 06.9 -2.5**
baz=176
QSPA South Pole Qui 61.31 180 LR LR 07 24 60.0
comp=Z,7µm,19.2s,baz=105,slow=32
QSPA South Pole Qui 61.31 180 P **P** **07 02 09.7 +0.3**
QSPA IAmb IAmb 07 02 24.0
comp=Z,54nm,1.5s
113A Mohawk Valley, 61.32 359 P **P** **07 02 08.1 -1.4**
113A IAmb IAmb 07 02 23.9
comp=Z,37nm,1.4s
BAR Barrett 61.35 356 P **P** **07 02 08.5 -1.3**
BAR IAmb IAmb 07 02 31.5
comp=Z,38nm,1.5s
RPZ Rata Peaks 61.40 233 LR LR 07 24 27.7
comp=Z,6µm,18.3s,baz=95,slow=32
MALB Monte Alegre 61.43 75 *e*P **P** **07 02 12.5 +1.8**
CLN7 Carlsbad 7 61.49 8 P **P** **07 02 08.3 -2.6**
MONP2 Monument Peak 61.55 356 P **P** **07 02 10.3 -1.0**
baz=176
SWSC Sam W. Stewart 61.56 357 P **P** **07 02 09.7 -1.5**
baz=177
HTMS Hat Mesa 61.57 8 P **P** **07 02 10.7 -0.7**
109C Camp Elliot, M 61.59 355 P **P** **07 02 10.0 -1.3**
baz=176
GLA Glamis 61.63 358 P **P** **07 02 09.2 -2.5**
GLA IAmb IAmb 07 02 22.2
comp=Z,44nm,1.5s
GLA Glamis 61.63 358 P **P** **07 02 09.2 -2.5**
GLA pmax pmax
comp=Z,44nm,1.5s
GLA Glamis 61.63 358 P **P** **07 02 10.6 -1.1**
baz=178
OUZ Omahuta 61.73 243 P **P** **07 02 12.2 -0.3**
OUZ IAmb IAmb 07 02 28.4
comp=Z,33nm,1.3s
OUZ IAMs_20 IAMs_20 07 21 52.3
comp=Z,7µm,22.0s
VAS01 Vassouras-RJ 61.78 101 *e*P **P** **07 02 16.6 +3.5**
SCI2 San Clemente I 61.79 354 P **P** **07 02 11.9 -0.8**
baz=174
SDDR Presa de Saban 61.96 45 P **P** **07 02 12.0 -2.3**
441A DeRidder 62.05 19 S **S** **07 10 45.2 +5.9**
baz=199
SNCC San Nicolas Is 62.15 353 P **P** **07 02 13.8 -1.4**
baz=173

WHTX	**Lake Whitney,**	**62.17**	**14**	P		**P**	**07 02 12.5**	**-2.8**
WHTX	**Lake Whitney,** baz=195	**62.17**	**14**	P		**P**	**07 02 16.2**	**+0.9**
WHTX	baz=195			S		**S**	**07 10 42.9**	**+2.1**
WHTX	**Lake Whitney,** baz=195	**62.17**	**14**	P		**P**	**07 02 14.3**	**-1.0**
CIS	**Catalina Islan** baz=174	**62.20**	**354**	P		**P**	**07 02 13.8**	**-1.6**
BC3	**Big Chuckawall** baz=177	**62.26**	**357**	P		**P**	**07 02 15.6**	**-0.3**
TPFO	**Pinon Flats** baz=176	**62.26**	**356**	P		**P**	**07 02 14.8**	**-1.2**
PFO	**Pinyon Flats O** comp=Z,7µm,21.5s,baz=174,slow=30	**62.26**	**356**	LR		LR	07 22 44.9	
PFO	**Pinyon Flats O**	**62.26**	**356**	P		**P**	**07 02 13.7**	**-2.4**
PFO	**Pinyon Flats O** comp=Z,6µm,21.0s	**62.26**	**356**	IAMs_20	IAMs_20		07 22 32.2	
PFO	**Pinyon Flats O**	**62.26**	**356**⇓	*e*P		**P**	**07 02 16.2**	**+0.1**
PFO	comp=Z,7.0nm,1.3s			pmax	pmax			
PFO	**Pinyon Flats O** baz=176	**62.26**	**356**	P		**P**	**07 02 14.3**	**-1.7**
PMD	**Palm Desert**	**62.29**	**356**	P		**P**	**07 02 15.0**	**-1.1**
PMD	comp=Z,23nm,1.4s			IAmb	IAmb		07 02 25.8	
MURC	**Murrieta** baz=175	**62.30**	**355**	P		**P**	**07 02 15.4**	**-0.8**
BLYC	**Blythe**	**62.31**	**358**	P		**P**	**07 02 14.8**	**-1.4**
BLYC	comp=Z,35nm,1.2s			IAmb	IAmb		07 02 26.8	
ABTX	**Abilene, Hawle** baz=193	**62.35**	**12**	S		**S**	**07 10 44.5**	**+1.5**
ABTX	**Abilene, Hawle** baz=193	**62.35**	**12**	P		**P**	**07 02 14.9**	**-1.6**
Y14A	**Wickenburg**	**62.47**	**359**	P		**P**	**07 02 16.7**	**-0.7**
FMP	**Fort Macarthur** baz=174	**62.49**	**354**	P		**P**	**07 02 16.3**	**-1.1**
237A	**Washetta, Mont**	**62.56**	**16**	P		**P**	**07 02 15.9**	**-2.0**
237A	**Washetta, Mont** baz=196	**62.56**	**16**	P		**P**	**07 02 18.7**	**+0.8**
237A	baz=196			S		**S**	**07 10 50.5**	**+4.8**
NATX	**Nacogdoches**	**62.61**	**17**	P		**P**	**07 02 16.5**	**-1.7**
NATX	**Nacogdoches** baz=198	**62.61**	**17**	S		**S**	**07 10 50.6**	**+4.3**
NATX	**Nacogdoches** baz=198	**62.61**	**17**	P		**P**	**07 02 17.2**	**-1.1**
BELC	**Belle Mtn. Jos** baz=177	**62.62**	**357**	P		**P**	**07 02 18.0**	**-0.5**
Y22A	**Socorro** baz=186	**62.68**	**5**	S		**S**	**07 10 53.5**	**+6.1**
SBM	**South Baldy**	**62.70**	**5**	P		**P**	**07 02 17.5**	**-1.8**
CRNM	**Carthage**	**62.71**	**5**	P		**P**	**07 02 18.8**	**-0.3**
IRM	**Iron Mountain** baz=178,SNR=13	**62.74**	**357**	P		**P**	**07 02 18.1**	**-1.0**
Y22D	**IRIS PASSCAL I**	**62.82**	**5**	P		**P**	**07 02 17.5**	**-2.3**
Y22D	comp=Z,4µm,21.0s			IAMs_20	IAMs_20		07 24 01.9	
Y22D	**IRIS PASSCAL I** baz=186	**62.82**	**5**	P		**P**	**07 02 18.7**	**-1.1**
PDMCI	**Parker Dam,Lak** baz=178,SNR=8.2	**62.86**	**358**	P		**P**	**07 02 19.4**	**-0.4**
342A	**Flagon Creek P**	**62.89**	**19**	P		**P**	**07 02 19.3**	**-0.8**
342B	**Flagon Creek P** baz=200	**62.89**	**19**	S		**S**	**07 10 53.4**	**+3.6**
SCZ2	**Santa Cruz Isl** baz=173	**62.90**	**353**	P		**P**	**07 02 18.3**	**-1.9**
LENM	**Lemitar**	**62.91**	**5**	P		**P**	**07 02 18.5**	**-1.9**
BNM	**Barren Site**	**62.92**	**5**	P		**P**	**07 02 18.4**	**-2.1**
BBRC	**Big Bear Solar** baz=176	**62.94**	**356**	P		**P**	**07 02 18.3**	**-2.4**
PASC	**Pasadena Art C**	**62.94**	**355**	P		**P**	**07 02 18.3**	**-2.1**
PASC	comp=Z,67nm,1.9s			IAmb	IAmb		07 03 03.9	
X16A	**Lo Mia Camp, P**	**62.95**	**1**	P		**P**	**07 02 19.9**	**-0.8**
BFSC	**Mount Baldy Ra** baz=175	**62.97**	**355**	P		**P**	**07 02 17.4**	**-3.3**
DECC	**Green Verdugo** baz=174	**63.03**	**354**	P		**P**	**07 02 18.9**	**-2.2**
X18A	**Snowflake**	**63.10**	**2**	P		**P**	**07 02 20.3**	**-1.4**
X18A	comp=Z,26nm,1.3s			IAmb	IAmb		07 02 36.2	
DIAM	**Diamantina, MG**	**63.11**	**97**	*e*P		**P**	**07 02 25.7**	**+3.5**
MSTX	**Muleshoe**	**63.16**	**9**	P		**P**	**07 02 20.6**	**-1.4**
MSTX	**Muleshoe** baz=190,SNR=8.7	**63.16**	**9**	P		**P**	**07 02 21.6**	**-0.5**
MSTX	baz=190			S		**S**	**07 10 54.4**	**+1.1**
MSTX	**Muleshoe** baz=190,SNR=8.7	**63.16**	**9**	P		**P**	**07 02 19.3**	**-2.8**
NEE2	**Needles Airpor** baz=178	**63.33**	**358**	P		**P**	**07 02 21.3**	**-1.7**
SBC	**Santa Barbara** baz=173	**63.35**	**353**	P		**P**	**07 02 21.5**	**-1.6**
GMRC	**Granite Mounta** baz=177,SNR=9.0	**63.39**	**357**	P		**P**	**07 02 21.6**	**-2.0**
OSI	**Osito Audit: C** baz=174	**63.43**	**354**	P		**P**	**07 02 21.8**	**-1.9**
344A	**Westbrook Farm**	**63.44**	**21**	P		**P**	**07 02 21.4**	**-2.3**
344A	**Westbrook Farm** baz=201	**63.44**	**21**	P		**P**	**07 02 24.5**	**+0.7**
HEC	**Hector,Ludlow** baz=176	**63.47**	**356**	P		**P**	**07 02 22.2**	**-1.8**
Z35A	**Perchaven, San**	**63.51**	**14**	P		**P**	**07 02 22.3**	**-1.9**
Z35A	comp=Z,22nm,0.8s			IAmb	IAmb		07 02 34.1	
Z35A	**Perchaven, San** baz=195	**63.51**	**14**	P		**P**	**07 02 25.0**	**+0.8**
Z35A	baz=195			S		**S**	**07 10 59.6**	**+2.1**
MC01	**Montes Claros**	**63.52**	**95**	*e*P		**P**	**07 02 28.1**	**+3.3**
RRX	**Edison Barstow** baz=176	**63.55**	**356**	P		**P**	**07 02 22.9**	**-1.6**
EDW2	**Edwards Air Fo** baz=175	**63.63**	**355**	P		**P**	**07 02 23.7**	**-1.4**
W13A	**Hualapai Mount**	**63.64**	**359**	P		**P**	**07 02 23.5**	**-1.8**
W18A	**Petrified Fore**	**63.70**	**2**	P		**P**	**07 02 25.1**	**-0.5**
W18A	**Petrified Fore** baz=183	**63.70**	**2**	P		**P**	**07 02 25.1**	**-0.5**
ANMO	**Albuquerque** comp=Z,3µm,21.9s,baz=190,slow=31	**63.72**	**5**	LR		LR	07 24 54.7	
ANMO	**Albuquerque**	**63.72**	**5**	P		**P**	**07 02 23.8**	**-2.1**
ANMO	**Albuquerque**	**63.72**	**5**⇑	*e*P		**P**	**07 02 25.5**	**-0.3**
ANMO	comp=Z,37nm,3.0s			pmax	pmax			
ANMO	**Albuquerque** baz=186,SNR=10	**63.72**	**5**	P		**P**	**07 02 25.3**	**-0.5**
ANMO	baz=186			S		**S**	**07 11 03.5**	**+3.0**
ANMO	**Albuquerque** baz=186	**63.72**	**5**	P		**P**	**07 02 25.0**	**-0.8**
SMTB	**Santa Maria do**	**63.74**	**86**	*e*P		**P**	**07 02 28.7**	**+2.4**
346A	**Big Creek Wild**	**63.78**	**22**	P		**P**	**07 02 23.9**	**-2.1**
346A	**Big Creek Wild** baz=202	**63.78**	**22**	S		**S**	**07 11 04.9**	**+4.0**
PKM	**Mcpherson Peak** baz=173	**63.80**	**353**	P		**P**	**07 02 24.7**	**-1.6**
BCW	**Bitter Crk WRg**	**63.81**	**354**	P		**P**	**07 02 25.7**	**-0.6**
JANB	**Januaria**	**63.88**	**93**	*e*P		**P**	**07 02 30.1**	**+2.9**
CCAC	**Calif City Air**	**63.90**	**355**	P		**P**	**07 02 25.2**	**-1.6**
MLPR	**Magueyes Islan**	**63.94**	**49**	P		**P**	**07 02 26.5**	**-0.8**
MLPR	comp=Z,36nm,1.1s			IAmb	IAmb		07 02 38.0	
ARVC	**Arvin** baz=174	**63.95**	**354**	P		**P**	**07 02 26.3**	**-0.7**
DWPF	**Disney Wildern**	**63.95**	**30**	P		**P**	**07 02 26.1**	**-1.1**
DWPF	**Disney Wildern** baz=210	**63.95**	**30**	P		**P**	**07 02 28.7**	**+1.5**
Z38A	**Mt. Pleasant**	**63.96**	**16**	P		**P**	**07 02 25.5**	**-1.7**
Z38A	comp=Z,37nm,1.2s			IAmb	IAmb		07 03 07.3	
Z38A	**Mt. Pleasant** baz=197	**63.96**	**16**	S		**S**	**07 11 06.1**	**+3.0**
GSC	**Goldstone, Bar**	**63.97**	**356**	P		**P**	**07 02 25.6**	**-1.6**
GSC	comp=Z,54nm,1.4s			IAmb	IAmb		07 02 37.8	
GSC	**Goldstone, Bar**	**63.97**	**356**	P		**P**	**07 02 25.7**	**-1.6**
GSC	comp=Z,54nm,1.4s			pmax	pmax			
GSC	**Goldstone, Bar** baz=176,SNR=7.3	**63.97**	**356**	P		**P**	**07 02 26.7**	**-0.6**
TUQ	**Turquoise Moun** baz=177	**64.05**	**357**	P		**P**	**07 02 26.2**	**-1.7**
WUAZ	**Wupatki**	**64.05**	**1**	P		**P**	**07 02 27.2**	**-0.8**
WUAZ	comp=Z,37nm,1.5s			IAmb	IAmb		07 02 42.5	
WUAZ				IAMs_20	IAMs_20		07 24 01.5	
WUAZ	**Wupatki** baz=181	**64.05**	**1**	P		**P**	**07 02 27.6**	**-0.3**
MSVF	**Nonsavu** comp=Z,5µm,21.3s,baz=108,slow=30	**64.06**	**263**	LR		LR	07 23 18.1	
MSVF	**Nonsavu** comp=Z,5µm,21.0s	**64.06**	**263**	IAMs_20	IAMs_20		07 22 57.8	
MSVF	**Nonsavu**	**64.06**	**263**⇑	*e*P		**P**	**07 02 29.4**	**+1.0**
MSVF	comp=Z,20nm,1.1s			pmax	pmax			
LOOK	**Love County**	**64.16**	**14**	P		**P**	**07 02 26.1**	**-2.4**
LOOK	comp=Z,27nm,1.1s			IAmb	IAmb		07 03 02.0	
LRMC	**Laurel Mtn Rad** baz=175	**64.20**	**355**	P		**P**	**07 02 27.4**	**-1.4**
VBMS	**Vicksburg**	**64.21**	**21**	P		**P**	**07 02 28.8**	**-0.1**
VBMS	**Vicksburg** baz=201	**64.21**	**21**	S		**S**	**07 11 11.1**	**+4.8**
VBMS	**Vicksburg** baz=201	**64.21**	**21**	P		**P**	**07 02 27.8**	**-1.0**
AMTX	**Amarillo**	**64.22**	**10**	P		**P**	**07 02 27.3**	**-1.7**
AMTX	**Amarillo** baz=191	**64.22**	**10**	P		**P**	**07 02 27.0**	**-2.0**
SMMC	**Simmler** baz=173	**64.24**	**353**	P		**P**	**07 02 27.7**	**-1.4**
V12A	**Nelson**	**64.30**	**358**	P		**P**	**07 02 27.3**	**-2.2**
451A	**Vernon** baz=206	**64.38**	**25**	S		**S**	**07 11 11.7**	**+3.3**
143A	**Socs Landing,**	**64.40**	**20**	P		**P**	**07 02 28.9**	**-1.2**
143A	**Socs Landing,** baz=200	**64.40**	**20**	S		**S**	**07 11 12.8**	**+4.3**
BRAL	**Brewton** baz=205	**64.40**	**24**	S		**S**	**07 11 12.6**	**+3.9**
BRAL	**Brewton** baz=205	**64.40**	**24**	P		**P**	**07 02 30.9**	**+0.8**
ISA	**Isabella, Lake**	**64.44**	**355**	P		**P**	**07 02 28.8**	**-1.6**
ISA	comp=Z,42nm,1.6s			IAmb	IAmb		07 02 40.9	
ISA	**Isabella, Lake**	**64.44**	**355**	P		**P**	**07 02 28.8**	**-1.6**
ISA	comp=Z,42nm,1.7s			pmax	pmax			
ISA	**Isabella, Lake** baz=174	**64.44**	**355**	P		**P**	**07 02 29.0**	**-1.4**
SDBA	**SAO DESIDERIO**	**64.50**	**90**	*e*P		**P**	**07 02 34.5**	**+3.3**
SHOC	**Shoshone, Teco** baz=176,SNR=5.7	**64.53**	**357**	P		**P**	**07 02 29.9**	**-1.0**
656A	**Willston** baz=209	**64.56**	**29**	S		**S**	**07 11 15.2**	**+4.6**
WMOK	**Wichita Mounta**	**64.56**	**12**	P		**P**	**07 02 30.7**	**-0.4**
WMOK	comp=Z,11nm,0.9s			pmax	pmax			
WMOK	**Wichita Mounta** baz=193	**64.56**	**12**	P		**P**	**07 02 28.7**	**-2.4**
X34A	**Smith Ranch, M**	**64.61**	**13**	P		**P**	**07 02 29.7**	**-1.8**
X34A	comp=Z,24nm,1.2s			IAmb	IAmb		07 02 54.8	
QSM	**Queen of Sheba**	**64.63**	**356**	P		**P**	**07 02 30.1**	**-1.4**
SJG	**San Juan** comp=Z,2µm,19.4s,baz=218,slow=34	**64.63**	**49**	LR		LR	07 28 14.5	
VES	**Vestal, Richgr** baz=174,SNR=7.6	**64.68**	**354**	P		**P**	**07 02 30.3**	**-1.5**
PAGB	**Antelope Grade**	**64.68**	**353**	P		**P**	**07 02 30.8**	**-1.1**
PAGB	comp=Z,29nm,1.2s			IAmb	IAmb		07 02 41.5	
MPMC	**Manual Prospec** baz=175,SNR=32	**64.76**	**355**	P		**P**	**07 02 32.2**	**-0.4**
WTNK	**Soaring Height**	**64.77**	**358**	P		**P**	**07 02 30.8**	**-1.7**
WTNK	comp=Z,15nm,1.6s			IAmb	IAmb		07 02 54.5	
GWY	**Greenwater Val**	**64.84**	**356**	P		**P**	**07 02 32.3**	**-0.7**
GWY	comp=Z,56nm,1.4s			IAmb	IAmb		07 02 43.4	
WLAR	**White Oak Lake**	**64.85**	**18**	P		**P**	**07 02 31.0**	**-1.9**
U15A	**North Rim**	**64.95**	**0**	P		**P**	**07 02 31.3**	**-2.7**
U15A	comp=Z,48nm,1.4s			IAmb	IAmb		07 02 52.4	
146A	**Union**	**65.06**	**22**	P		**P**	**07 02 32.5**	**-1.9**
SHPR	**Sheep Range**	**65.08**	**358**	P		**P**	**07 02 33.8**	**-0.8**
SJMB	**Sao Joao De Ma**	**65.11**	**98**	*e*P		**P**	**07 02 37.8**	**+2.6**
FURC	**Furnace Creek,** baz=176,SNR=7.5	**65.13**	**356**	P		**P**	**07 02 34.3**	**-0.4**
X37A	**Clayton**	**65.14**	**15**			**P**	**07 02 32.8**	**-2.1**
X37A	**Clayton** baz=197,SNR=9.1	**65.14**	**15**	P		**P**	**07 02 34.9**	**0.0**
X37A	baz=197			S		**S**	**07 11 19.5**	**+1.9**
VOG	**Valley Oaks Go** baz=173	**65.18**	**354**	P		**P**	**07 02 33.8**	**-1.2**
CWC	**Cottonwood Cre** baz=175	**65.19**	**355**	P		**P**	**07 02 33.6**	**-1.7**
PMPB	**Monarch Peak**	**65.22**	**353**	P		**P**	**07 02 34.3**	**-1.2**
PMPB	comp=Z,44nm,1.2s			IAmb	IAmb		07 02 45.8	
FNO	**Franklin**	**65.34**	**13**			**P**	**07 02 33.4**	**-2.8**
FNO	comp=Z,41nm,1.1s			IAmb	IAmb		07 02 46.0	
250A	**Grady**	**65.42**	**24**	P		**P**	**07 02 35.6**	**-1.0**
250A	**Grady** baz=205	**65.42**	**24**	P		**P**	**07 02 36.0**	**-0.7**
250A	baz=205			S		**S**	**07 11 23.2**	**+2.1**
CCAR	**Cane Creek**	**65.43**	**19**	P		**P**	**07 02 35.1**	**-1.7**
CCAR	**Cane Creek** baz=200	**65.43**	**19**	S		**S**	**07 11 26.6**	**+5.4**
WCT	**Wildcat Mounta**	**65.44**	**356**	P		**P**	**07 02 35.9**	**-1.0**
WCT	comp=Z,50nm,1.3s			IAmb	IAmb		07 02 47.9	
CSTR	**Hydro, Custer**	**65.46**	**12**	P		**P**	**07 02 36.1**	**-0.9**
CSTR	comp=Z,14nm,1.7s			IAmb	IAmb		07 02 53.5	
352A	**Blakely**	**65.46**	**26**	P		**P**	**07 02 35.7**	**-1.3**
352A	**Blakely** baz=206	**65.46**	**26**	S		**S**	**07 11 24.9**	**+3.2**
MIAR	**Mount Ida**	**65.54**	**17**	P		**P**	**07 02 35.5**	**-1.9**
MIAR	comp=Z,26nm,1.1s			IAmb	IAmb		07 02 57.0	
MIAR	**Mount Ida**	**65.54**	**17**	P		**P**	**07 02 35.5**	**-1.9**
MIAR	comp=Z,26nm,1.1s			pmax	pmax			
MIAR	**Mount Ida** baz=198,SNR=16	**65.54**	**17**	P		**P**	**07 02 36.9**	**-0.6**
MIAR	baz=198			S		**S**	**07 11 24.0**	**+1.5**
MIAR	**Mount Ida** baz=198,SNR=16	**65.54**	**17**	P		**P**	**07 02 35.6**	**-1.8**
LCMT	**Little Creek M**	**65.54**	**359**	P		**P**	**07 02 36.3**	**-1.3**
LCMT	comp=Z,39nm,1.9s			IAmb	IAmb		07 02 59.7	
KNB	**Kanab**	**65.54**	**360**	P		**P**	**07 02 35.7**	**-2.0**
KNB	comp=Z,58nm,1.6s			IAmb	IAmb		07 02 58.7	
KNB	**Kanab**	**65.54**	**360**	P		**P**	**07 02 35.7**	**-2.0**
KNB	comp=Z,58nm,1.6s			pmax	pmax			
TPNV	**Topopah Spring**	**65.57**	**357**	P		**P**	**07 02 36.8**	**-1.0**
TPNV	comp=Z,34nm,1.2s			IAmb	IAmb		07 02 48.9	
TPNV	**Topopah Spring**	**65.57**	**357**	P		**P**	**07 02 36.8**	**-1.0**
TPNV	comp=Z,34nm,1.2s			pmax	pmax			
TPNV	**Topopah Spring** baz=176,SNR=15	**65.57**	**357**	P		**P**	**07 02 38.1**	**+0.2**
BBGB	**Big Mountain B**	**65.61**	**352**	P		**P**	**07 02 35.7**	**-2.3**
OK025	**Westminster Rd**	**65.66**	**13**	P		**P**	**07 02 35.9**	**-2.4**
OK025	comp=Z,48nm,1.5s			IAmb	IAmb		07 02 59.0	
BCOK	**Bluff Creek, N**	**65.68**	**13**			**P**	**07 02 37.0**	**-1.3**
BCOK	comp=Z,28nm,1.0s			IAmb	IAmb		07 02 46.7	
GRAC	**Grapevine Rang**	**65.69**	**356**	P		**P**	**07 02 37.3**	**-1.1**
GRAC	**Grapevine Rang** baz=175	**65.69**	**356**	P		**P**	**07 02 37.3**	**-1.1**
ELIS	**Ellis County**	**65.74**	**12**	P		**P**	**07 02 37.0**	**-1.7**
ELIS	comp=Z,161nm,1.9s			IAmb	IAmb		07 02 54.5	
FDF	**Fort de France**	**65.81**	**56**	P		**P**	**07 02 38.3**	**-1.3**
FDF	**Fort de France**	**65.81**	**56**	P		**P**	**07 02 38.3**	**-1.3**
FDF	comp=Z,96nm,1.1s			pmax	pmax			
TIN	**Tinemaha, Big** baz=175	**65.81**	**355**	P		**P**	**07 02 39.2**	**-0.1**
MVCO	**Mesa Verde**	**65.84**	**3**	P		**P**	**07 02 38.9**	**-0.7**
MVCO	comp=Z,45nm,1.3s			IAmb	IAmb		07 02 55.8	
MVCO	comp=Z,5µm,19.0s			IAMs_20	IAMs_20		07 26 20.5	
MVCO	**Mesa Verde** baz=184,SNR=13	**65.84**	**3**	P		**P**	**07 02 39.0**	**-0.6**
SAO	**San Andreas Ge**	**65.84**	**352**	P		**P**	**07 02 38.3**	**-1.1**
SAO	**San Andreas Ge**	**65.84**	**352**	P		**P**	**07 02 38.3**	**-1.1**
SAO	comp=Z,20nm,1.3s			pmax	pmax			
OK029	**Liberty Lake**	**65.85**	**13**			**P**	**07 02 37.1**	**-2.4**
OK029	comp=Z,51nm,1.4s			IAmb	IAmb		07 02 54.5	
Z47A	**Carrollton**	**65.90**	**22**	P		**P**	**07 02 38.1**	**-1.7**
Z47A	**Carrollton** baz=203	**65.90**	**22**	S		**S**	**07 11 28.2**	**+1.2**
LCH	**Last Change Ra**	**65.94**	**355**	P		**P**	**07 02 37.7**	**-2.5**
LCH	comp=Z,63nm,2.0s			IAmb	IAmb		07 03 01.1	
BBGH	**Gun Hill** comp=Z,5µm,20.0s	**65.95**	**58**	IAMs_20	IAMs_20		07 31 41.3	
TIGA	**Tifton**	**65.95**	**27**	P		**P**	**07 02 38.1**	**-2.0**
TIGA	**Tifton** baz=208	**65.95**	**27**	S		**S**	**07 11 30.4**	**+2.7**
TIGA	**Tifton** baz=208	**65.95**	**27**	P		**P**	**07 02 37.7**	**-2.4**
456A	**Hilliard** baz=209	**65.96**	**28**	S		**S**	**07 11 32.6**	**+4.8**
PKCU	**Pink Cliffs**	**65.97**	**0**	P		**P**	**07 02 38.7**	**-1.9**
PRN	**Pahroc Range**	**65.98**	**358**	P		**P**	**07 02 38.2**	**-2.2**
PRN	comp=Z,53nm,1.4s			IAmb	IAmb		07 02 55.4	
GMN	**Gold Mountain**	**65.98**	**356**	P		**P**	**07 02 39.1**	**-1.5**
Y45A	**Yeager Farm, C**	**66.04**	**21**	P		**P**	**07 02 38.6**	**-2.1**
Y45A	comp=Z,44nm,1.1s			IAmb	IAmb		07 02 54.5	
UALR	**University of**	**66.08**	**18**	P		**P**	**07 02 39.6**	**-1.3**
UALR	comp=Z,33nm,1.1s			IAmb	IAmb		07 02 56.4	
CCUT	**Cedar City**	**66.08**	**359**	P		**P**	**07 02 41.0**	**-0.1**
CCUT	comp=Z,56nm,1.5s			IAmb	IAmb		07 02 55.9	
DEOK	**Depew**	**66.09**	**14**			**P**	**07 02 40.1**	**-0.9**
DEOK	comp=Z,25nm,1.2s			IAmb	IAmb		07 03 11.5	
T25A	**Trinidad**	**66.09**	**7**	P		**P**	**07 02 39.5**	**-1.8**
T25A	comp=Z,52nm,1.9s			IAmb	IAmb		07 02 56.7	
T25A	**Trinidad** baz=188	**66.09**	**7**	P		**P**	**07 02 41.2**	**0.0**
DSP	**Deep Springs**	**66.10**	**355**	P		**P**	**07 02 40.8**	**-0.2**
DSP	comp=Z,50nm,1.4s			IAmb	IAmb		07 02 51.8	
OK030	**Cody Creek RV**	**66.11**	**14**	P		**P**	**07 02 39.2**	**-1.9**
OK030	comp=Z,72nm,1.8s			IAmb	IAmb		07 02 55.9	
LRAL	**Lakeview Retre**	**66.11**	**23**	P		**P**	**07 02 39.5**	**-1.7**
LRAL	**Lakeview Retre** baz=204,SNR=14	**66.11**	**23**	P		**P**	**07 02 41.9**	**+0.8**
LRAL	baz=204			S		**S**	**07 11 32.4**	**+2.8**
LRAL	**Lakeview Retre** baz=204,SNR=14	**66.11**	**23**	P		**P**	**07 02 40.4**	**-0.7**
U32A	**Winter Ranch,**	**66.12**	**12**			**P**	**07 02 39.4**	**-1.8**
U32A	**Winter Ranch,** baz=193	**66.12**	**12**	S		**S**	**07 11 32.4**	**+2.8**
SZCU	**Shurtz Canyon**	**66.12**	**359**	P		**P**	**07 02 39.2**	**-2.3**
SZCU	comp=Z,37nm,1.4s			IAmb	IAmb		07 02 48.5	
OK031	**S. Brethren Rd**	**66.12**	**14**	P		**P**	**07 02 38.8**	**-2.4**
OK033	**Mehan**	**66.19**	**14**	P		**P**	**07 02 39.8**	**-1.9**
OK033	comp=Z,17nm,0.9s			IAmb	IAmb		07 02 49.7	
OK034	**N. Norfolk Rd.**	**66.20**	**14**	P		**P**	**07 02 39.7**	**-2.0**
S11A	**Rachel**	**66.24**	**357**	P		**P**	**07 02 41.6**	**-0.5**
OK038	**West end E0370**	**66.26**	**12**	P		**P**	**07 02 41.5**	**-0.6**
TUL1	**Leonard**	**66.31**	**15**	P		**P**	**07 02 40.5**	**-1.9**
TUL1	**Leonard** baz=196,SNR=7.1	**66.31**	**15**	P		**P**	**07 02 42.7**	**+0.3**
TUL1	baz=196			S		**S**	**07 11 32.7**	**+0.8**
TUL1	**Leonard** baz=196,SNR=7.1	**66.31**	**15**	P		**P**	**07 02 41.4**	**-1.0**
NAN01	**Guarapari, ES**	**66.38**	**98**	*e*P		**P**	**07 02 48.0**	**+4.7**
GDHS	**Morne Mazeau,** comp=Z,3µm,18.0s	**66.39**	**54**	IAMs_20	IAMs_20		07 30 09.9	
MZP	**Montezuma Peak**	**66.39**	**356**	P		**P**	**07 02 41.0**	**-2.2**
MZP	comp=Z,35nm,1.3s			IAmb	IAmb		07 02 53.8	
OMMB	**Old Mammoth Mi**	**66.43**	**354**	P		**P**	**07 02 42.2**	**-1.3**
MLAC	**Mammoth, Mammo** baz=174	**66.43**	**354**	P		**P**	**07 02 41.9**	**-1.5**
TMAB	**Tom-Au,PA,Br**	**66.44**	**79**	*e*P		**P**	**07 02 47.8**	**+4.0**
MDPB	**Devils Postpil**	**66.45**	**354**	P		**P**	**07 02 42.4**	**-1.2**
S22A	**4UR Ranch, Cre**	**66.47**	**5**	P		**P**	**07 02 42.2**	**-1.7**
S22A	**4UR Ranch, Cre** baz=186,SNR=11	**66.47**	**5**	P		**P**	**07 02 42.1**	**-1.7**
MTPU	**Mount Pierson** comp=Z,46nm,1.8s	**66.56**	**0**	IAmb	IAmb		07 03 07.0	
MDP	**Montagnes des** comp=Z,6µm,19.8s,baz=248,slow=33	**66.57**	**70**	LR	LR		07 28 18.5	
SDCO	**Great Sand Dun** comp=Z,3µm,21.0s	**66.58**	**6**	IAMs_20	IAMs_20		07 26 29.5	
SDCO	**Great Sand Dun** baz=187,SNR=10	**66.58**	**6**	P		**P**	**07 02 44.2**	**-0.2**
SDCO	baz=187			S		**S**	**07 11 40.5**	**+4.7**
SDCO	**Great Sand Dun** baz=187,SNR=10	**66.58**	**6**	P		**P**	**07 02 43.3**	**-1.1**
KIP	**Kipapa** comp=Z,4µm,20.0s	**66.60**	**313**	IAMs_20	IAMs_20		07 26 33.3	
KIP	**Kipapa**	**66.60**	**313**⇑	*e*P		**P**	**07 02 44.2**	**-0.3**
KIP	comp=Z,36nm,1.1s			pmax	pmax			
152A	**Waverly Hall** comp=Z,45nm,1.2s	**66.61**	**25**	IAmb	IAmb		07 02 53.7	
152A	**Waverly Hall** baz=206,SNR=12	**66.61**	**25**	P		**P**	**07 02 45.0**	**+0.6**
152A	baz=206			S		**S**	**07 11 36.7**	**+1.1**
SMRT	**St. Maarten** comp=Z,3µm,18.0s	**66.67**	**52**	IAMs_20	IAMs_20		07 30 40.5	
OXF	**Oxford** comp=Z,27nm,1.0s	**66.68**	**21**	IAmb	IAmb		07 02 53.5	
OXF	**Oxford** baz=202	**66.68**	**21**	P		**P**	**07 02 42.8**	**-2.0**
RLO	**Rose Lookout** comp=Z,13nm,0.8s	**66.73**	**15**	IAmb	IAmb		07 02 51.4	
TPH	**Tonopah**	**66.75**	**356**	P		**P**	**07 02 45.2**	**-0.2**
TPH	**Tonopah**	**66.75**	**356**	P		**P**	**07 02 45.2**	**-0.2**
TPH	comp=Z,192nm,1.3s			pmax	pmax			
PV13	**Radium Mtn., P**	**66.77**	**3**	P		**P**	**07 02 44.2**	**-1.4**
PV13	comp=Z,42nm,1.7s			IAmb	IAmb		07 03 07.2	
255A	**Hazlehurst**	**66.82**	**27**	P		**P**	**07 02 44.6**	**-1.2**
255A	**Hazlehurst** baz=208	**66.82**	**27**	S		**S**	**07 11 41.9**	**+3.6**
VNA3	**Neumayer Olymp**	**66.92**	**160**	P		**P**	**07 02 46.1**	**+0.2**
R11A	**Troy Canyon, C** comp=Z,35nm,1.4s	**66.94**	**357**	IAmb	IAmb		07 03 00.6	
R11A	**Troy Canyon, C** baz=177,SNR=16	**66.94**	**357**	P		**P**	**07 02 46.2**	**-0.3**
PV15	**Paradox Valley**	**66.96**	**3**	P		**P**	**07 02 45.0**	**-1.8**
PV15	comp=Z,33nm,1.3s			IAmb	IAmb		07 02 59.8	
CMB	**Columbia Colle**	**66.98**	**353**	P		**P**	**07 02 44.3**	**-2.3**
CMB	comp=Z,38nm,1.4s			IAmb	IAmb		07 02 56.2	
CMB	**Columbia Colle**	**66.98**	**353**	P	

baz=205,SNR=8.2
Y49A S **S** **07 11 39.7 -1.5**
baz=205
PSUT Pine Spring 67.07 359 P **P** **07 02 45.9 -1.6**
PSUT IAmb IAmb 07 03 02.1
comp=Z,44nm,1.6s
HHAR Hobbs 67.09 16 P **P** **07 02 46.3 -1.1**
HHAR Hobbs 67.09 16 P **P** **07 02 46.4 -1.1**
baz=198
T35A Sooner Cattle 67.12 14 IAmb IAmb 07 02 55.2
comp=Z,18nm,0.8s
T35B Sooner Cattle 67.12 14 S **S** **07 11 43.0 +1.3**
baz=195
TCRU Three Creeks R 67.13 360 IAmb IAmb 07 03 04.7
comp=Z,21nm,0.9s
U38A Gravette 67.14 16 IAmb IAmb 07 03 08.7
comp=Z,41nm,1.5s
U38A Gravette 67.14 16 P **P** **07 02 47.4 -0.3**
baz=197,SNR=8.4
U38A S **S** **07 11 42.0 +0.1**
baz=197
NV11 Mina Array Sit 67.17 355 P **P** **07 02 46.4 -1.6**
NV11 IAmb IAmb 07 02 58.7
comp=Z,51nm,1.3s
154A Montrose 67.17 27 P **P** **07 02 49.3 +1.4**
baz=208
GUA01 Guaratinga, BA 67.17 97 *e*P **P** **07 02 52.1 +3.7**
NVAR Mina Array Bea 67.18 355 P **P** **07 02 48.2 +0.1**
comp=Z,12nm,1.0s,baz=182,slow=7.5,SNR=42
NVAR LR LR 07 25 57.3
comp=Z,10µm,19.3s,baz=162,slow=30
comp=Z,12nm,1.0s
NVAR Mina Array Bea 67.18 355 P **P** **07 02 46.5 -1.7**
FCAR Ozark Folk Cen 67.19 18 P **P** **07 02 46.7 -1.2**
X48A Hartselle 67.39 23 P **P** **07 02 50.0 +0.7**
baz=204
X48A S **S** **07 11 46.7 +1.7**
baz=204
RYN Ryan 67.39 355 IAmb IAmb 07 03 00.2
comp=Z,43nm,1.5s
PLAL Pickwick Lake 67.53 21 P **P** **07 02 48.6 -1.6**
PLAL IAmb IAmb 07 02 58.2
comp=Z,23nm,0.9s
SPR3 Spring Creek 3 67.54 358 P **P** **07 02 48.9 -1.7**
SPR3 IAmb IAmb 07 03 04.3
comp=Z,38nm,1.4s
VNA1 Neumayer--Stat 67.57 160 P **P** **07 02 51.5 +1.4**
LCAR Lake Charles 67.62 19 P **P** **07 02 48.5 -2.3**
LCAR Lake Charles 67.62 19 S **S** **07 11 50.5 +2.8**
baz=200
SRU San Rafael Swe 67.66 2 IAmb IAmb 07 03 06.8
comp=Z,38nm,1.0s
VNA2 Neumayer--Watz 67.73 160 P **P** **07 02 51.4 +0.3**
baz=260,slow=5.5
GOGA Godfrey 67.74 26 P **P** **07 02 49.6 -1.9**
GOGA IAmb IAmb 07 03 12.9
comp=Z,42nm,1.4s
GOGA Godfrey 67.74 26 P **P** **07 02 49.6 -1.9**
GOGA pmax pmax
comp=Z,42nm,1.4s
GOGA Godfrey 67.74 26 P **P** **07 02 51.8 +0.2**
baz=207
GOGA S **S** **07 11 47.7 -1.5**
baz=207
GOGA Godfrey 67.74 26 P **P** **07 02 52.1 +0.6**
baz=207
YERR Yerington 67.81 354 IAmb IAmb 07 03 02.8
comp=Z,55nm,1.4s
Q24A Divide 67.82 6 P **P** **07 02 51.5 -0.9**
baz=187
TMUT Trail Mountain 67.83 1 IAmb IAmb 07 03 15.7
comp=Z,31nm,1.2s
GNAR Gosnell 67.85 19 P **P** **07 02 50.0 -2.1**
SMCO Snowmass 67.89 5 P **P** **07 02 50.3 -2.5**
SMCO IAMs_20 IAMs_20 07 27 27.1
comp=Z,5µm,20.0s
Y52A Lilburn 67.92 25 IAmb IAmb 07 03 01.3
comp=Z,38nm,1.0s
Y52A Lilburn 67.92 25 P **P** **07 02 53.3 +0.6**
baz=207,SNR=10
Y52A P **P** **07 02 53.3 +0.6**
baz=207,SNR=10
Y52A S **S** **07 11 50.7 -0.7**
baz=207
Y52A S **S** **07 11 50.7 -0.7**
baz=207
CMC01 Camacan, BA 67.94 96 *e*P **P** **07 02 57.7 +4.4**
AFDM Forest Hills D 67.94 353 P **P** **07 02 50.9 -1.8**
AFDM IAmb IAmb 07 03 03.0
comp=Z,54nm,1.5s
PNTR Pine Nut 67.94 354 P **P** **07 02 50.4 -2.6**
PNTR IAmb IAmb 07 03 06.7
comp=Z,20nm,1.0s
FPAL Fort Paine 67.96 24 P **P** **07 02 51.7 -1.3**
FPAL IAmb IAmb 07 03 01.1
comp=Z,30nm,1.0s
KSCO Kaye Shedlock' 68.14 8 IAmb IAmb 07 03 04.7
comp=Z,32nm,1.1s
KSCO Kaye Shedlock' 68.14 8 P **P** **07 02 55.6 +1.4**
baz=189
KSCO S **S** **07 11 57.5 +3.3**
baz=189
KSCO Kaye Shedlock' 68.14 8 P **P** **07 02 53.2 -0.9**
baz=189
VCNR Virginia City 68.15 354 P **P** **07 02 51.8 -2.5**
R32A Long Quarter, 68.16 12 P **P** **07 02 52.1 -2.0**
R32A IAmb IAmb 07 03 04.7
comp=Z,28nm,0.9s
R32A Long Quarter, 68.16 12 S **S** **07 11 55.9 +1.8**
baz=193
X51A Calhoun 68.25 24 P **P** **07 02 53.9 -0.8**
X51A IAmb IAmb 07 03 03.1
comp=Z,38nm,1.0s
X51A Calhoun 68.25 24 P **P** **07 02 55.7 +1.0**
baz=206
X51A P **P** **07 02 55.7 +1.0**
baz=206
MGMO Mountain Grove 68.34 17 IAmb IAmb 07 03 10.7
comp=Z,42nm,1.2s
CBKS Cedar Bluff 68.37 11 S **S** **07 11 59.1 +2.5**
baz=192
CBKS Cedar Bluff 68.37 11 P **P** **07 02 54.9 -0.5**
baz=192
HAW Hawthorne Fire 68.43 27 S **S** **07 12 00.0 +2.6**
baz=209
NLU North Lily Min 68.48 0 IAmb IAmb 07 03 12.2
comp=Z,22nm,1.1s
PBMO Poplar Bluff 68.49 19 S **S** **07 11 59.9 +1.9**
baz=201
PAHR Pah Rah Range 68.54 354 P **P** **07 02 54.8 -1.8**
PAHR IAmb IAmb 07 03 16.2
comp=Z,58nm,2.0s
MPU Maple Canyon 68.54 1 P **P** **07 02 54.8 -1.9**
MPU IAmb IAmb 07 03 15.3
comp=Z,76nm,1.9s
PARMO Parma 68.58 19 P **P** **07 02 55.7 -1.0**
PARMO IAmb IAmb 07 03 03.1
comp=Z,39nm,1.0s
S39A Bolivar 68.58 16 P **P** **07 02 55.7 -1.0**
S39A Bolivar 68.58 16 P **P** **07 02 56.6 -0.2**
baz=198
S39A S **S** **07 12 01.0 +1.8**
baz=198
ORV Oroville 68.60 352 IAmb IAmb 07 03 07.3
comp=Z,55nm,1.8s
ISCO Idaho Springs 68.61 6 IAMs_20 IAMs_20 07 27 27.2
comp=Z,3µm,22.0s
ISCO Idaho Springs 68.61 6 P **P** **07 02 57.8 +0.5**
ISCO pmax pmax
comp=Z,12nm,1.5s
ISCO Idaho Springs 68.61 6 P **P** **07 02 58.0 +0.7**
baz=186,SNR=8.4
ISCO S **S** **07 12 03.0 +2.9**
baz=186
ISCO Idaho Springs 68.61 6 P **P** **07 02 56.6 -0.6**
baz=186,SNR=8.4
V48A Smith Brothers 68.64 22 IAmb IAmb 07 03 05.3
comp=Z,31nm,1.0s
V48A Smith Brothers 68.64 22 P **P** **07 02 57.5 +0.4**
baz=204,SNR=10.0
V48A S **S** **07 12 00.9 +1.0**
baz=204
W50A Signal Mountai 68.66 24 IAmb IAmb 07 03 05.6
comp=Z,23nm,1.1s
W50A Signal Mountai 68.66 24 P **P** **07 02 57.8 +0.5**
baz=206
W50A S **S** **07 12 02.2 +1.9**
baz=206
WVT Waverly 68.67 21 P **P** **07 02 55.8 -1.5**
WVT Waverly 68.67 21 P **P** **07 02 55.8 -1.5**
WVT pmax pmax
comp=Z,14nm,0.9s
WVT Waverly 68.67 21 P **P** **07 02 56.9 -0.3**
baz=203,SNR=15
WVT S **S** **07 11 59.6 -0.6**
baz=203
WVT Waverly 68.67 21 P **P** **07 02 56.8 -0.5**
baz=203
DUG Dugway, Tooele 68.72 360 P **P** **07 02 56.6 -1.1**
DUG IAmb IAmb 07 03 11.2
comp=Z,23nm,1.1s
DUG IAMs_20 IAMs_20 07 27 13.0
comp=Z,4µm,20.0s
DUG Dugway, Tooele 68.72 360 P **P** **07 02 56.6 -1.1**
DUG pmax pmax
comp=Z,23nm,1.2s
DUG Dugway, Tooele 68.72 360 P **P** **07 02 57.3 -0.4**
baz=180,SNR=9.5
SNAA Sanae 68.73 161 P **P** **07 02 57.5 +0.1**
SNAA Sanae 68.73 161 LR LR 07 27 19.8
comp=Z,2µm,21.5s,baz=281,slow=31
SNAA Sanae 68.73 161 P **P** **07 02 57.2 -0.3**
SNAA Sanae 68.73 161 I/P **P** **07 02 58.8 +1.4**
SNAA pmax pmax
comp=Z,35nm,2.1s
O20A White River Ci 68.76 3 IAmb IAmb 07 03 20.0
comp=Z,44nm,1.6s
O20A White River Ci 68.76 3 P **P** **07 02 57.6 -0.5**
baz=184
BEKR Beckworth 68.79 353 IAmb IAmb 07 03 08.6
comp=Z,32nm,1.5s
NHSC New Hope 68.80 29 P **P** **07 02 57.9 -0.3**
baz=210
HODGE Hodges 68.93 26 IAmb IAmb 07 03 20.7
comp=Z,52nm,1.4s
HODGE Hodges 68.93 26 P **P** **07 02 59.8 +0.8**
baz=208
W52A Murphy 69.06 25 P **P** **07 02 58.8 -1.0**
W52A IAmb IAmb 07 03 08.7
comp=Z,37nm,1.0s
W52A Murphy 69.06 25 P **P** **07 03 00.7 +0.8**
baz=207,SNR=10.0
W52A S **S** **07 12 05.6 +0.6**
baz=207
CPCT Cooper Cave 69.17 24 P **P** **07 02 59.1 -1.4**
CPCT IAmb IAmb 07 03 09.0
comp=Z,30nm,1.1s
CGM3 Cape Girardeau 69.19 19 IAmb IAmb 07 03 06.4
comp=Z,19nm,0.9s
KSU1 Kansas State U 69.21 13 P **P** **07 02 59.1 -1.5**
KSU1 IAmb IAmb 07 03 07.6
comp=Z,25nm,0.8s
KSU1 Kansas State U 69.21 13 P **P** **07 03 00.8 +0.2**
baz=195
KSU1 S **S** **07 12 09.1 +2.6**
baz=195
KSU1 Kansas State U 69.21 13 P **P** **07 02 59.4 -1.2**
baz=195
CTU Camp Tracy 69.21 1 IAmb IAmb 07 03 14.6
comp=Z,23nm,1.0s
T45B Paducah 69.23 20 S **S** **07 12 07.1 +0.3**
baz=202
ELK Elko 69.31 358 LR LR 07 27 42.4
comp=Z,7µm,19.1s,baz=184,slow=31
BG3 Lake Jocassee 69.35 26 P **P** **07 03 00.0 -1.6**
CASEE Lake Jocassee 69.35 26 P **P** **07 03 02.6 +1.0**
baz=208
JSC Jenkinsville 69.37 27 IAmb IAmb 07 03 23.6
comp=Z,41nm,1.3s
JSC Jenkinsville 69.37 27 P **P** **07 03 03.0 +1.3**
baz=209
R40A Maddies Statio 69.42 17 P **P** **07 03 00.2 -1.7**
R40A IAmb IAmb 07 03 17.0
comp=Z,26nm,1.1s
R40A Maddies Statio 69.42 17 P **P** **07 03 01.9 0.0**
baz=199,SNR=7.8
R40A S **S** **07 12 10.6 +1.6**
baz=199
BGU Big Grassy Mou 69.45 359 IAmb IAmb 07 03 16.1
comp=Z,33nm,1.4s
CCM Cathedral Cave 69.46 18 P **P** **07 03 00.6 -1.6**
CCM IAmb IAmb 07 03 23.3
comp=Z,27nm,1.1s
CCM Cathedral Cave 69.46 18 P **P** **07 03 00.6 -1.6**
CCM pmax pmax
comp=Z,27nm,1.1s
CCM Cathedral Cave 69.46 18 P **P** **07 03 02.4 +0.2**
baz=200,SNR=9.2
CCM S **S** **07 12 11.4 +1.9**
baz=200
CCM Cathedral Cave 69.46 18 P **P** **07 03 02.0 -0.2**
baz=200
V51A Loudon 69.55 24 IAmb IAmb 07 03 11.2
comp=Z,28nm,1.0s
V51A Loudon 69.55 24 P **P** **07 03 03.1 +0.4**
baz=206,SNR=11
V51A S **S** **07 12 12.9 +2.2**
baz=206
ROSB Rosrio 69.61 82 *e*P **P** **07 03 06.8 +3.1**
FVM French Village 69.62 18 P **P** **07 03 03.0 -0.1**
baz=201
PAULI Pauline 69.62 27 IAmb IAmb 07 03 25.0
comp=Z,64nm,1.4s
PAULI Pauline 69.62 27 P **P** **07 03 04.2 +0.9**
baz=208
PAULI S **S** **07 12 15.0 +3.4**
baz=208
TKL Tuckaleechee C 69.62 25 LR LR 07 29 54.2
comp=Z,1µm,19.4s,baz=206,slow=33
TKL Tuckaleechee C 69.62 25 S **S** **07 12 11.9 +0.3**
baz=207
TCUT Toone Canyon 69.64 1 IAmb IAmb 07 03 17.3
comp=Z,31nm,1.2s
N23A Red Feather La 69.67 5 P **P** **07 03 01.5 -2.3**
N23A IAmb IAmb 07 03 19.4
comp=Z,36nm,1.3s
N23A Red Feather La 69.67 5 P **P** **07 03 02.8 -1.0**
baz=186
S44A Carbondale 69.68 19 P **P** **07 03 04.5 +1.0**
baz=202,SNR=6.9
S44A S **S** **07 12 13.2 +1.1**
baz=202
T47A Sharon Grove 69.69 21 P **P** **07 03 02.3 -1.3**
T47A Sharon Grove 69.69 21 P **P** **07 03 03.6 0.0**
baz=204,SNR=17
T47A S **S** **07 12 13.7 +1.5**
baz=204
U49A Red Boiling Sp 69.69 23 IAmb IAmb 07 03 11.9
comp=Z,30nm,0.9s
U49A Red Boiling Sp 69.69 23 P **P** **07 03 03.7 +0.1**
baz=205,SNR=10
U49A S **S** **07 12 13.0 +0.8**
baz=205
Y58A Scranton 69.70 29 S **S** **07 12 19.2 +6.7**
baz=210
Y58A S **S** **07 12 19.2 +6.7**
baz=210
V52A Sevierville 69.85 25 P **P** **07 03 02.8 -1.9**
V52A Sevierville 69.85 25 P **P** **07 03 05.2 +0.5**
baz=207
V52A S **S** **07 12 15.2 +0.9**
baz=207
V53A Saluda 69.99 25 P **P** **07 03 05.9 +0.3**
baz=208,SNR=16
V53A P **P** **07 03 05.9 +0.3**
baz=208,SNR=16
V53A S **S** **07 12 16.3 +0.3**
baz=208
V53A S **S** **07 12 16.3 +0.3**
baz=208
BIRD Birdtown, Kers 70.01 28 P **P** **07 03 03.9 -1.8**
BIRD IAmb IAmb 07 03 27.5
comp=Z,50nm,1.3s
BIRD Birdtown, Kers 70.01 28 P **P** **07 03 06.7 +1.1**
baz=210
BIRD S **S** **07 12 19.0 +2.9**
baz=210
TROLL Troll, Antarti 70.02 163 P **P** **07 03 06.1 +0.6**
KMSC Kings Mountain 70.09 27 IAmb IAmb 07 03 27.8
comp=Z,47nm,1.4s
KMSC Kings Mountain 70.09 27 P **P** **07 03 07.0 +0.8**
baz=209
KMSC S **S** **07 12 18.6 +1.5**
baz=209
KMSC Kings Mountain 70.09 27 P **P** **07 03 07.2 +1.1**
baz=209
Y59A Loris 70.11 29 P **P** **07 03 07.9 +1.7**
baz=211
Y59A P **P** **07 03 07.9 +1.7**
baz=211
OGNE Ogallala 70.13 8 P **P** **07 03 05.3 -1.1**
OGNE Ogallala 70.13 8 P **P** **07 03 07.3 +0.9**
baz=190
OGNE S **S** **07 12 21.3 +3.9**
baz=190
OGNE Ogallala 70.13 8 P **P** **07 03 06.0 -0.3**
baz=190
HWUT Hardware Ranch 70.13 1 P **P** **07 03 04.8 -1.6**
HWUT IAMs_20 IAMs_20 07 28 07.4
comp=Z,4µm,20.0s
JCC Jacoby Creek, 70.17 351 IAMs_20 IAMs_20 07 25 51.7
comp=Z,5µm,22.0s
RWWY Rawlins 70.37 4 IAMs_20 IAMs_20 07 28 58.8
comp=Z,3µm,19.0s
P38A Dawn 70.37 15 IAmb IAmb 07 03 22.9
comp=Z,38nm,1.2s
P38A Dawn 70.37 15 P **P** **07 03 07.9 +0.1**
baz=198,SNR=9.0
P38A S **S** **07 12 21.9 +1.7**
baz=198
X58A Rowland 70.40 29 S **S** **07 12 25.4 +4.7**
baz=211
X58A S **S** **07 12 25.4 +4.7**
baz=211
USIN University of 70.41 21 IAmb IAmb 07 03 14.6
comp=Z,34nm,0.8s
TZTN Tazewell 70.50 24 P **P** **07 03 09.9 +1.3**
baz=207
TZTN S **S** **07 12 22.7 +0.9**
baz=207
TZTN Tazewell 70.50 24 P **P** **07 03 06.5 -2.1**
baz=207
N33B J Bar K, Exete 70.63 12 S **S** **07 12 25.1 +1.9**
baz=194
P40A Paris 70.64 17 S **S** **07 12 23.8 +0.5**
baz=199
W57A Gilead 70.64 28 P **P** **07 03 07.5 -2.0**
W57A IAmb IAmb 07 03 31.1
comp=Z,43nm,1.4s
W57A Gilead 70.64 28 P **P** **07 03 09.6 +0.1**
baz=210,SNR=5.1
W57A P **P** **07 03 09.6 +0.1**
baz=210,SNR=5.1
W57A S **S** **07 12 25.0 +1.5**
baz=210
W57A S **S** **07 12 25.0 +1.5**
baz=210
V55A Taylorsville 70.76 26 P **P** **07 03 09.2 -1.1**
V55A IAmb IAmb 07 03 31.9
comp=Z,60nm,1.4s
V55A Taylorsville 70.76 26 P **P** **07 03 11.0 +0.7**
baz=209
V55A P **P** **07 03 11.0 +0.7**
baz=209
V55A S **S** **07 12 26.0 +1.1**
baz=209
V55A S **S** **07 12 26.0 +1.1**
baz=209
MOD Modoc Plateau 70.80 354 IAmb IAmb 07 03 20.8
comp=Z,63nm,1.4s
Q44A Meyer Farm, Va 70.87 19 P **P** **07 03 08.7 -2.1**
Q44A Meyer Farm, Va 70.87 19 P **P** **07 03 11.2 +0.4**
baz=202,SNR=13
Q44A S **S** **07 12 28.3 +2.3**
baz=202
YBH Yreka Blue Hor 70.89 352 LR LR 07 27 58.7
comp=Z,7µm,18.1s,baz=166,slow=31
OLIL Olney 70.98 20 P **P** **07 03 09.8 -1.7**
OLIL IAmb IAmb 07 03 32.7
comp=Z,46nm,1.2s
OLIL Olney 70.98 20 P **P** **07 03 11.7 +0.3**
baz=202
OLIL S **S** **07 12 30.6 +3.3**
baz=202
WCI Wyandotte Cave 71.08 21 P **P** **07 03 10.4 -1.7**
WCI Wyandotte Cave 71.08 21 P **P** **07 03 10.4 -1.7**
WCI pmax pmax
comp=Z,19nm,1.1s
WCI Wyandotte Cave 71.08 21 P **P** **07 03 12.3 +0.2**
baz=204
WCI S **S** **07 12 28.4 -0.1**
baz=204
WCI Wyandotte Cave 71.08 21 P **P** **07 03 10.8 -1.2**
baz=204
N35A Tabor 71.10 13 S **S** **07 12 32.9 +4.3**
baz=196
U54A Nelsons Funny 71.12 26 S **S** **07 12 30.5 +1.3**
baz=208
U54A S **S** **07 12 30.5 +1.3**
baz=208
BGNE Belgrade 71.16 11 S **S** **07 12 31.2 +1.8**
baz=193
BGNE Belgrade 71.16 11 P **P** **07 03 11.8 -0.7**
baz=193
WVOR Wild Horse Val 71.19 355 P **P** **07 03 13.1 +0.3**
WVOR pmax pmax
comp=Z,34nm,1.7s
AHID Auburn Hatcher 71.29 1 IAmb IAmb 07 03 41.2
comp=Z,62nm,1.9s
AHID IAMs_20 IAMs_20 07 28 46.2
comp=Z,5µm,21.0s
L04D Klamath Falls 71.33 352 IAMs_20 IAMs_20 07 27 08.3
comp=Z,5µm,20.0s
L04D Klamath Falls 71.33 352 P **P** **07 03 11.5 -2.2**
baz=171
BW06 Boulder Array 71.33 2 P **P** **07 03 11.5 -2.4**
BW06 IAMs_20 IAMs_20 07 28 41.2
comp=Z,3µm,21.0s
BW06 Boulder Array 71.33 2 P **P** **07 03 12.6 -1.2**
baz=183,SNR=11
PD31 Pinedale Array 71.33 2 P **P** **07 03 11.5 -2.3**
PDAR Pinedale Array 71.33 2 P **P** **07 03 12.8 -1.0**
comp=Z,3.9nm,1.0s,baz=174,slow=4.5,SNR=23
PDAR LR LR 07 29 12.8
comp=Z,3µm,20.7s,baz=192,slow=32
comp=Z,3.9nm,1.0s
PDAR Pinedale Array 71.33 2 P **P** **07 03 11.6 -2.2**
NBLA Lagarto - SE 71.36 92 *e*P **P** **07 03 17.7 +3.2**
K22A Casper 71.37 5 P **P** **07 03 12.0 -2.0**
K22A IAmb IAmb 07 03 32.5
comp=Z,66nm,1.4s
K22A Casper 71.37 5 P **P** **07 03 14.1 +0.1**
baz=186
K22A S **S** **07 12 33.1 +1.0**
baz=186
K22A Casper 71.37 5 P **P** **07 03 11.4 -2.6**
baz=186
L02F Cave Junction 71.39 351 P **P** **07 03 12.4 -1.5**
baz=170
P43A Skaggs, Pawnee 71.41 18 IAmb IAmb 07 03 35.3
comp=Z,50nm,1.5s
P43A Skaggs, Pawnee 71.41 18 S **S** **07 12 33.4 +1.2**
baz=201
S51A Beattyville 71.46 24 IAmb IAmb 07 03 27.7
comp=Z,73nm,1.7s
S51A Beattyville 71.46 24 P **P** **07 03 14.9 +0.5**
baz=207
S51A P **P** **07 03 14.9 +0.5**
baz=207
R49A Shelbyville 71.50 22 P **P** **07 03 13.3 -1.4**
R49A Shelbyville 71.50 22 P **P** **07 03 14.3 -0.3**
baz=205
R49A P **P** **07 03 14.3 -0.3**
baz=205
R49A S **S** **07 12 32.6 -0.8**
baz=205
R49A S **S** **07 12 32.6 -0.8**
baz=205
U56A King 71.52 27 P **P** **07 03 13.5 -1.4**
U56A IAmb IAmb 07 03 36.5
comp=Z,39nm,1.4s
U56A King 71.52 27 S **S** **07 12 35.7 +2.0**
baz=209
U56A S **S** **07 12 35.7 +2.0**
baz=209
N38A Joes South For 71.56 15 S **S** **07 12 35.9 +2.0**
baz=198
V58A Windy Hill, Pi 71.56 28 P **P** **07 03 13.4 -1.6**
V58A Windy Hill, Pi 71.56 28 P **P** **07 03 15.8 +0.8**
baz=211
V58A P **P** **07 03 15.8 +0.8**
baz=211

V58A S **S** **07 12 35.5 +1.4**
baz=211
V58A S **S** **07 12 35.5 +1.4**
baz=211
CNNC Cliffs of the **71.60 29** S **S** **07 12 39.7 +5.2**
baz=212
CNNC Cliffs of the **71.60 29** P **P** **07 03 14.5 -0.8**
baz=212
K04D Chiloquin, OR **71.66 353** P **P** **07 03 14.6 -1.1**
baz=172
R50A Paris **71.78 23** IAmb IAmb 07 03 24.8
comp=Z,36nm,1.4s
R50A Paris **71.78 23** P **P** **07 03 16.1 -0.2**
baz=206
R50A P **P** **07 03 16.1 -0.2**
baz=206
R50A S **S** **07 12 36.8 +0.3**
baz=206
R50A S **S** **07 12 36.8 +0.3**
baz=206
HUMO Hull Mountain **71.79 352** IAmb IAmb 07 03 26.5
comp=Z,40nm,1.3s
REDW Red Top Meadow **71.89 1** P **P** **07 03 16.5 -0.7**
REDW IAMs_20 IAMs_20 07 29 06.1
comp=Z,5µm,20.0s
K02D Willamette Mer **71.97 351** P **P** **07 03 15.3 -2.1**
baz=170
SNOW Snow King Moun **72.00 1** P **P** **07 03 16.2 -1.7**
SNOW IAMs_20 IAMs_20 07 28 58.7
comp=Z,5µm,21.0s
MFID Camas Ranch **72.00 357** P **P** **07 03 16.0 -1.7**
MFID IAMs_20 IAMs_20 07 28 49.0
comp=Z,3µm,21.0s
TPAW Teton Pass **72.02 1** IAmb IAmb 07 03 32.0
comp=Z,34nm,1.1s
TPAW IAMs_20 IAMs_20 07 29 08.4
comp=Z,4µm,21.0s
L34A Svendsen Farm, **72.02 12** S **S** **07 12 41.3 +2.1**
baz=195
N41A Harden Midland **72.06 17** S **S** **07 12 41.5 +1.9**
baz=200
P46A Rosedale **72.06 20** IAmb IAmb 07 03 26.3
comp=Z,30nm,0.8s
P46A Rosedale **72.06 20** P **P** **07 03 18.7 +0.7**
baz=203
HLID Hailey **72.10 358** P **P** **07 03 17.5 -0.9**
HLID IAmb IAmb 07 03 32.6
comp=Z,64nm,1.4s
HLID Hailey **72.10 358** P **P** **07 03 16.5 -1.8**
baz=178,SNR=32
LIFNC LIFOU **72.14 256** IAMs_20 IAMs_20 07 27 48.0
comp=Z,4µm,20.0s
LOHW Long Hollow **72.15 1** P **P** **07 03 16.4 -2.3**
LOHW IAMs_20 IAMs_20 07 29 25.8
comp=Z,5µm,21.0s
FXWY Fox Creek **72.17 1** IAMs_20 IAMs_20 07 29 24.3
comp=Z,4µm,20.0s
O44A Mansfield **72.19 19** IAmb IAmb 07 03 33.7
comp=Z,41nm,1.4s
O44A Mansfield **72.19 19** P **P** **07 03 19.5 +0.8**
baz=202
O44A S **S** **07 12 43.5 +2.3**
baz=202
K31A O'Neill **72.24 11** P **P** **07 03 17.5 -1.6**
BLA Blacksburg **72.26 26** IAmb IAmb 07 03 28.1
comp=Z,36nm,1.1s
BLA Blacksburg **72.26 26** S **S** **07 12 44.9 +2.6**
baz=209
BLA Blacksburg **72.26 26** P **P** **07 03 18.7 -0.6**
baz=209
J05D Fort Rock, OR **72.26 353** P **P** **07 03 18.2 -1.1**
baz=172,SNR=14
DZM Mont Dzumac **72.27 254** *e*LR LR 07 25 21.0
comp=Z,13µm,27.4s
DZM Mont Dzumac **72.27 254** LR LR 07 27 21.7
comp=Z,5µm,21.0s,baz=113,slow=30
MOOW Moose Ponds **72.28 1** IAMs_20 IAMs_20 07 29 38.4
comp=Z,4µm,20.0s
J04D Umpqua Nationa **72.31 353** P **P** **07 03 18.7 -0.9**
baz=171
HDIL Hopedale **72.33 18** IAmb IAmb 07 03 26.2
comp=Z,24nm,0.7s
HDIL Hopedale **72.33 18** P **P** **07 03 19.8 +0.2**
baz=201
HDIL S **S** **07 12 45.0 +2.3**
baz=201
HDIL Hopedale **72.33 18** P **P** **07 03 19.7 +0.1**
baz=201
IMW Indian Meadow **72.43 1** IAMs_20 IAMs_20 07 30 36.1
comp=Z,4µm,18.0s
S54A Dingess, Beckl **72.43 25** S **S** **07 12 45.4 +1.2**
baz=208
S54A S **S** **07 12 45.4 +1.2**
baz=208
J01E Myrtle Point **72.46 351** P **P** **07 03 19.6 -0.7**
baz=170
P48A Milroy **72.48 22** P **P** **07 03 16.9 -3.6**
P48A IAmb IAmb 07 03 39.1
comp=Z,62nm,1.8s
T57A Hurt **72.54 27** S **S** **07 12 47.5 +2.1**
baz=210
T57A S **S** **07 12 47.5 +2.1**
baz=210
U59A Littleton **72.58 29** P **P** **07 03 20.8 -0.4**
U59A IAmb IAmb 07 03 42.8
comp=Z,51nm,1.4s
U59A Littleton **72.58 29** P **P** **07 03 22.2 +1.0**
baz=212
U59A P **P** **07 03 22.2 +1.0**
baz=212
U59A S **S** **07 12 47.5 +1.6**
baz=212
U59A S **S** **07 12 47.5 +1.6**
baz=212
SCIA State Center **72.62 15** P **P** **07 03 20.9 -0.4**
baz=198
R53A Hurricane **72.66 25** S **S** **07 12 50.1 +3.4**
baz=208
R53A S **S** **07 12 50.1 +3.4**
baz=208
PINE Pine Mountain **72.73 354** IAmb IAmb 07 03 32.6
comp=Z,60nm,1.3s
P49A Miami Univ. Ec **72.78 22** P **P** **07 03 22.3 +0.1**
baz=205
P49A Miami Univ. Ec **72.78 22** P **P** **07 03 22.3 +0.1**
baz=205
Q51A Peebles **72.78 23** IAmb IAmb 07 03 31.2
comp=Z,26nm,1.1s
Q51A Peebles **72.78 23** P **P** **07 03 22.7 +0.4**
baz=207
Q51A P **P** **07 03 22.7 +0.4**
baz=207
Q51A S **S** **07 12 49.2 +1.1**
baz=207
Q51A S **S** **07 12 49.2 +1.1**
baz=207
SFIN Lafayette **72.80 20** P **P** **07 03 22.9 +0.5**
baz=203
SFIN S **S** **07 12 48.3 +0.2**
baz=203
SFIN Lafayette **72.80 20** P **P** **07 03 21.1 -1.2**
baz=203
I07A Izee **72.89 355** P **P** **07 03 20.9 -2.1**
I07A IAmb IAmb 07 03 33.7
comp=Z,48nm,1.3s
I04A Tendick Farm, **72.89 352** P **P** **07 03 22.7 -0.2**
baz=171
I03D Drain, OR **72.91 352** P **P** **07 03 20.9 -2.0**
baz=170
H17A Grant Village **72.93 1** P **P** **07 03 20.7 -2.7**
baz=182
RSSD Black Hills **73.04 6** P **P** **07 03 21.7 -2.3**
RSSD Black Hills **73.04 6** IAMs_20 IAMs_20 07 30 21.0
comp=Z,5µm,21.0s
RSSD Black Hills **73.04 6** P **P** **07 03 21.7 -2.3**
RSSD pmax pmax
comp=Z,21nm,1.2s
RSSD Black Hills **73.04 6** P **P** **07 03 24.2 +0.2**
baz=188
RSSD S **S** **07 12 52.2 +1.0**
baz=188
RSSD Black Hills **73.04 6** P **P** **07 03 22.0 -2.1**
baz=188
LKWY Lake **73.11 1** IAMs_20 IAMs_20 07 29 49.2
comp=Z,5µm,21.0s
Q52A Bidwell **73.11 24** P **P** **07 03 22.7 -1.5**
Q52A IAmb IAmb 07 03 33.4
comp=Z,29nm,1.1s
Q52A Bidwell **73.11 24** P **P** **07 03 24.6 +0.3**
baz=208
Q52A P **P** **07 03 24.6 +0.3**
baz=208
Q52A S **S** **07 12 52.3 +0.5**
baz=208
Q52A S **S** **07 12 52.3 +0.5**
baz=208
NVL N'lazarevskaya **73.16 163** *e*P **P** **07 03 28.0 +3.8**
NVL *e*S **S** **07 12 47.8 -3.9**
NVL pmax pmax
comp=Z,28nm,1.1s
YMR Madison River **73.20 1** IAmb IAmb 07 03 41.3
comp=Z,46nm,1.6s
T59A Double "B" Far **73.21 29** S **S** **07 12 55.0 +2.0**
baz=212
T59A S **S** **07 12 55.0 +2.0**
baz=212
L40A Anamosa **73.24 16** P **P** **07 03 25.0 +0.1**
baz=199,SNR=10.0
L40A S **S** **07 12 55.1 +2.1**
baz=199
NBAN Anadia - AL **73.29 92** *e*P **P** **07 03 30.0 +4.0**
O48B Farmland **73.29 21** P **P** **07 03 25.7 +0.4**
baz=205
O48B Farmland **73.29 21** P **P** **07 03 26.2 +0.9**
baz=205
P51A Williamsport **73.29 23** P **P** **07 03 26.0 +0.7**
baz=207
P51A P **P** **07 03 26.0 +0.7**
baz=207
R55A Marlinton **73.31 26** S **S** **07 12 56.5 +2.3**
baz=209
R55A S **S** **07 12 56.5 +2.3**
baz=209
I05D Terrebonne, OR **73.31 353** P **P** **07 03 23.4 -2.0**
baz=172,SNR=8.8
S57A Dark Hollow, R **73.31 27** S **S** **07 12 56.3 +2.2**
baz=210
S57A S **S** **07 12 56.3 +2.2**
baz=210
YHL Hebgen Lake **73.38 1** P **P** **07 03 23.7 -2.4**
I02E Swisshome, OR **73.38 351** P **P** **07 03 25.0 -0.6**
baz=170
K38A Parkersburg **73.43 15** S **S** **07 12 57.6 +2.4**
baz=198
M44A Midewin, Midew **73.45 19** S **S** **07 12 56.4 +0.9**
baz=202
BMO Blue Mountains **73.51 356** P **P** **07 03 23.9 -2.6**
BMO IAmb IAmb 07 03 40.8
comp=Z,50nm,1.6s
BMO Blue Mountains **73.51 356** P **P** **07 03 24.0 -2.6**
BMO pmax pmax
comp=Z,50nm,1.7s
H04D Lebanon **73.65 352** IAMs_20 IAMs_20 07 28 18.7
comp=Z,5µm,22.0s
H04D Lebanon **73.65 352** P **P** **07 03 25.6 -1.7**
baz=171
Q54A Coxs Mills **73.65 25** P **P** **07 03 26.2 -1.3**
N47A Urbana **73.68 21** IAmb IAmb 07 03 36.0
comp=Z,38nm,1.1s
ECSD EROS Data Cent **73.69 12** P **P** **07 03 25.9 -1.6**
ECSD IAmb IAmb 07 03 42.6
comp=Z,72nm,1.9s
ECSD EROS Data Cent **73.69 12** P **P** **07 03 27.0 -0.6**
baz=194
ECSD S **S** **07 13 00.3 +2.2**
baz=194
ECSD EROS Data Cent **73.69 12** P **P** **07 03 25.8 -1.8**
baz=194,SNR=7.8
RLMT Red Lodge **73.69 2** IAMs_20 IAMs_20 07 30 28.7
comp=Z,3µm,20.0s
RLMT Red Lodge **73.69 2** P **P** **07 03 26.9 -0.9**
baz=183
P52A Corning **73.75 24** P **P** **07 03 26.5 -1.5**
P52A IAmb IAmb 07 03 36.8
comp=Z,48nm,1.1s
P52A Corning **73.75 24** P **P** **07 03 28.6 +0.5**
baz=208
P53A Whipple **73.89 25** P **P** **07 03 30.2 +1.4**
baz=208
P53A P **P** **07 03 30.2 +1.4**
baz=208
P53A S **S** **07 13 03.0 +2.4**
baz=208
P53A S **S** **07 13 03.0 +2.4**
baz=208
R58B Mineral **73.92 28** S **S** **07 13 04.1 +3.1**
baz=211
R58B S **S** **07 13 04.1 +3.1**
baz=211
ACSO Alum Creek Sta **73.99 23** P **P** **07 03 27.9 -1.5**
baz=207
SUSD Miller **73.99 10** S **S** **07 13 05.9 +4.3**
baz=192
SUSD Miller **73.99 10** P **P** **07 03 29.0 -0.4**
baz=192
G08A Pilot Rock **74.05 355** P **P** **07 03 27.4 -2.4**
G08A IAmb IAmb 07 03 40.5
comp=Z,57nm,1.4s
BOZ Bozeman (W) **74.12 1** P **P** **07 03 28.3 -1.9**
BOZ Bozeman (W) **74.12 1** P **P** **07 03 28.3 -1.9**
BOZ pmax pmax
comp=Z,48nm,2.0s
BOZ Bozeman (W) **74.12 1** P **P** **07 03 29.8 -0.4**
baz=181
G05D Wamic, OR **74.21 353** P **P** **07 03 29.9 -0.7**
baz=172
L44A Lake County Fo **74.22 19** IAMs_20 IAMs_20 07 33 48.1
comp=Z,2µm,18.0s
L44A Lake County Fo **74.22 19** P **P** **07 03 28.7 -2.0**
baz=202
JFWS Jewell Farm **74.28 17** P **P** **07 03 28.6 -2.4**
baz=200
O52A Adamsville **74.28 24** P **P** **07 03 29.0 -2.1**
O52A Adamsville **74.28 24** P **P** **07 03 32.2 +1.0**
baz=208
O52A P **P** **07 03 32.2 +1.0**
baz=208
O52A S **S** **07 13 08.1 +3.1**
baz=208
O52A S **S** **07 13 08.1 +3.1**
baz=208
Q56A Snyder Ridge, **74.33 26** S **S** **07 13 09.1 +3.5**
baz=210
Q56A S **S** **07 13 09.1 +3.5**
baz=210
CBN Corbin Frederi **74.34 28** P **P** **07 03 29.6 -1.8**
baz=212
LRM Limekiln Ridge **74.34 360** P **P** **07 03 29.9 -1.7**
GCMT Greycliff **74.35 2** P **P** **07 03 30.1 -1.5**
G03D McMinnville, O **74.39 352** IAMs_20 IAMs_20 07 28 41.3
comp=Z,3µm,22.0s
G03D McMinnville, O **74.39 352** P **P** **07 03 30.2 -1.4**
baz=170
I37A Lemond, Waseca **74.59 14** IAmb IAmb 07 03 43.4
comp=Z,40nm,1.1s
I37B Waseca **74.59 14** P **P** **07 03 34.3 +1.5**
baz=197
I37B S **S** **07 13 12.4 +4.2**
baz=197
K43A Burlington **74.59 18** S **S** **07 13 10.1 +1.8**
baz=202
MCWV Mont Chateau **74.61 26** P **P** **07 03 32.6 -0.4**
baz=209
F10A Beach Ranch, E **74.62 357** IAmb IAmb 07 03 46.6
comp=Z,43nm,1.4s
O53A New Philadelph **74.62 24** IAmb IAmb 07 03 55.0
comp=Z,87nm,1.4s
O53A New Philadelph **74.62 24** P **P** **07 03 33.6 +0.5**
baz=208
F07A Phinny Hill Vi **74.73 355** P **P** **07 03 33.1 -0.4**
N51A Ashland **74.81 23** IAmb IAmb 07 03 43.6
comp=Z,44nm,1.1s
O54A Avella **74.87 25** S **S** **07 13 15.0 +3.5**
baz=209
O54A S **S** **07 13 15.0 +3.5**
baz=209
I40A Norwalk **75.11 16** P **P** **07 03 33.6 -2.3**
I40A IAmb IAmb 07 03 53.2
comp=Z,56nm,1.6s
I40A Norwalk **75.11 16** S **S** **07 13 17.1 +3.0**
baz=200
HAWA Hanford **75.19 355** P **P** **07 03 34.0 -2.2**
HAWA IAMs_20 IAMs_20 07 29 56.4
comp=Z,5µm,22.0s
E09A Wood Farm, Sta **75.21 356** P **P** **07 03 34.7 -1.6**
E09A IAmb IAmb 07 03 45.4
comp=Z,43nm,1.6s
HRY Holter Researc **75.23 0** P **P** **07 03 36.3 -0.3**
N53A Lisbon **75.25 24** P **P** **07 03 35.6 -1.1**
N53A IAmb IAmb 07 03 51.7
comp=Z,66nm,1.4s
N53A Lisbon **75.25 24** S **S** **07 13 18.6 +2.9**
baz=208
N53A S **S** **07 13 18.6 +2.9**
baz=208
E08A Dider Farm, El **75.25 355** P **P** **07 03 35.6 -0.9**
E08A IAmb IAmb 07 03 55.0
comp=Z,45nm,1.4s
UPAO U. Pittsburgh **75.26 25** S **S** **07 13 19.7 +3.7**
baz=209
MSO Missoula **75.36 359** IAmb IAmb 07 03 51.3
comp=Z,48nm,1.8s
MSO Missoula **75.36 359** P **P** **07 03 35.3 -2.0**
baz=179
RCBR Riachuelo **75.39 89** LR LR 07 34 49.1
comp=Z,4µm,19.7s,baz=22,slow=34
RCBR Riachuelo **75.39 89** IAMs_20 IAMs_20 07 33 29.4
comp=Z,3µm,19.0s
LAO LASA Array **75.41 4** IAMs_20 IAMs_20 07 32 17.2
comp=Z,3µm,19.0s
LAO LASA Array **75.41 4** P **P** **07 03 36.5 -1.1**
baz=186
I42A Draeger Farm, **75.54 17** S **S** **07 13 20.7 +1.9**
baz=201
SDMD Soldier's Deli **75.58 28** S **S** **07 13 22.2 +2.7**
baz=212
AAM Ann Arbor **75.62 22** P **P** **07 03 37.3 -1.5**
baz=206
M52A Chesterland **75.71 24** S **S** **07 13 23.6 +2.8**
baz=208
M52A S **S** **07 13 23.6 +2.8**
baz=208
F33A 5 Mile Ranch, **75.78 12** IAmb IAmb 07 03 56.9
comp=Z,45nm,1.6s
F33A 5 Mile Ranch, **75.78 12** S **S** **07 13 24.0 +2.6**
baz=195
D08A Wollman Farm, **75.81 355** P **P** **07 03 38.9 -0.9**
M53A WI Miller and **75.86 24** P **P** **07 03 39.2 -1.0**
baz=208
SPMN Marine on St. **75.87 14** S **S** **07 13 26.9 +4.4**
baz=198
SPMN Marine on St. **75.87 14** P **P** **07 03 39.2 -0.9**
baz=198
BBSR BB Station **75.90 40** P **P** **07 03 38.3 -2.3**
BBSR BB Station **75.90 40** S **S** **07 13 28.2 +4.9**
baz=222
J47A Sunmer **76.10 20** S **S** **07 13 25.6 +0.6**
baz=205
J47A S **S** **07 13 25.6 +0.6**
baz=205
D05A Enumclaw **76.20 353** P **P** **07 03 40.3 -1.7**
MVL Millersville **76.28 28** P **P** **07 03 41.2 -1.4**
MVL IAmb IAmb 07 04 01.7
comp=Z,55nm,1.6s
JTMT Jette **76.28 359** P **P** **07 03 41.4 -1.3**
JTMT IAmb IAmb 07 03 56.5
comp=Z,61nm,1.4s
F36A Milaca **76.33 13** IAmb IAmb 07 03 49.4
comp=Z,23nm,0.8s
F36A Milaca **76.33 13** P **P** **07 03 43.4 +0.6**
baz=197
F36A S **S** **07 13 27.3 -0.1**
baz=197
H43A Windswept, Lux **76.38 18** S **S** **07 13 30.0 +1.9**
baz=202
G40A Rib Lake **76.51 16** P **P** **07 03 41.5 -2.2**
G40A IAmb IAmb 07 04 06.4
comp=Z,75nm,1.6s
G40A Rib Lake **76.51 16** P **P** **07 03 44.7 +0.9**
baz=200
G40A S **S** **07 13 31.7 +2.2**
baz=200
EGMT Eagleton **76.58 2** P **P** **07 03 41.6 -2.7**
EGMT IAmb IAmb 07 03 58.8
comp=Z,38nm,1.3s
EGMT IAMs_20 IAMs_20 07 32 09.1
comp=Z,4µm,20.0s
EGMT Eagleton **76.58 2** P **P** **07 03 43.4 -0.9**
baz=182,SNR=8.6
NLWA Neilton Lookou **76.61 352** IAmb IAmb 07 03 54.0
comp=Z,30nm,1.1s
NLWA IAMs_20 IAMs_20 07 30 05.1
comp=Z,4µm,20.0s
ERPA Erie **76.70 24** P **P** **07 03 44.6 -0.4**
baz=209
NEW Newport **76.90 357** LR LR 07 32 38.7
comp=Z,9µm,18.1s,baz=182,slow=32
NEW Newport **76.90 357** P **P** **07 03 45.0 -1.0**
NEW IAmb IAmb 07 03 56.3
comp=Z,42nm,1.1s
NEW Newport **76.90 357** P **P** **07 03 45.0 -1.0**
NEW pmax pmax
comp=Z,42nm,1.2s
NEW Newport **76.90 357** P **P** **07 03 45.4 -0.6**
baz=176,SNR=21
MDND Maddock **77.23 9** P **P** **07 03 46.0 -1.8**
baz=192
TARA Tarawa **77.27 279** IAMs_20 IAMs_20 07 30 54.7
comp=Z,2µm,20.0s
DGMT Dagmar **77.34 6** IAMs_20 IAMs_20 07 34 03.2
comp=Z,2µm,18.0s
DGMT Dagmar **77.34 6** P **P** **07 03 49.0 +0.5**
baz=188
DGMT Dagmar **77.34 6** P **P** **07 03 47.4 -1.0**
baz=188,SNR=9.8
E38A The Farm, Brul **77.46 15** S **S** **07 13 43.3 +3.6**
baz=199
G45A Suttons Bay **77.49 19** S **S** **07 13 43.6 +3.4**
baz=204
G45A S **S** **07 13 43.6 +3.4**
baz=204
COWI Conover **77.55 16** S **S** **07 13 42.9 +2.1**
baz=201
WALA Waterton Lakes **77.59 359** P **P** **07 03 48.5 -1.5**
GLMI Grayling **77.60 20** P **P** **07 03 49.2 -0.7**
baz=205
L56A Greenwood **77.62 26** IAmb IAmb 07 03 59.3
comp=Z,41nm,1.0s
L56A Greenwood **77.62 26** P **P** **07 03 51.8 +1.6**
baz=211
L56A P **P** **07 03 51.8 +1.6**
baz=211
PGC Sidney **77.80 353** IAmb IAmb 07 04 01.1
comp=Z,55nm,1.3s
PAL Palisades **78.14 29** P **P** **07 03 53.6 +0.6**
baz=214
J54A Appleton **78.20 24** S **S** **07 13 49.6 +1.8**
baz=210
J54A S **S** **07 13 49.6 +1.8**
baz=210
AGMN Agassiz Nation **78.24 11** P **P** **07 03 52.0 -1.4**
AGMN IAmb IAmb 07 04 15.8
comp=Z,85nm,1.9s
AGMN IAMs_20 IAMs_20 07 34 59.5
comp=Z,2µm,18.0s
AGMN Agassiz Nation **78.24 11** S **S** **07 13 51.9 +3.8**
baz=195
AGMN Agassiz Nation **78.24 11** P **P** **07 03 53.3 -0.1**
baz=195
BINY Binghamton **78.29 27** P **P** **07 03 53.9 0.0**
baz=212
E43A Lone Tree Farm **78.35 18** S **S** **07 13 52.8 +3.4**
baz=203
K57A Scipio Center **78.53 26** S **S** **07 13 54.7 +3.2**
baz=212
B35A Bob, Littlefor **78.68 13** P **P** **07 03 55.7 -0.2**
B35A Bob, Littlefor **78.68 13** S **S** **07 13 55.8 +2.9**
baz=197
EYMN Ely **78.74 14** S **S** **07 13 56.3 +2.8**
baz=199
EYMN Ely **78.74 14** P **P** **07 03 56.3 +0.1**
baz=199
E46A Sault Ste Mari **79.09 19** IAmb IAmb 07 04 20.2
comp=Z,60nm,1.3s
SADO Sadowa **79.32 23** LR LR 07 34 58.0
comp=Z,1µm,21.1s,baz=192,slow=33
LLLB Lillooet **79.58 354** P **P** **07 03 59.2 -1.6**
ULM Lac du Bonnet **80.12 11** P **P** **07 04 03.1 -0.6**
comp=Z,4.8nm,0.6s,baz=187,slow=4.6,SNR=6.8
ULM LR LR 07 36 34.4
comp=Z,2µm,18.7s,baz=196,slow=34
comp=Z,4.8nm,0.6s
ULM Lac du Bonnet **80.12 11** IAmb IAmb 07 04 25.5

comp=Z,129nm,2.0s
ULM Lac du Bonnet 80.12 11 *de*P **P 07 04 03.9 +0.2**
CAN Canberra 80.26 235 P **P 07 04 05.0 -0.1**
CAN IAMs_20 IAMs_20 07 31 36.7
comp=Z,3µm,21.0s
CAN Canberra 80.26 235 P **P 07 04 05.0 -0.1**
CAN pmax pmax
comp=Z,37nm,1.4s
HRV Adam Dziewonsk 80.37 29 P **P 07 04 04.6 -0.6**
baz=216
NCB Newcomb 80.47 27 P **P 07 04 07.3 +1.6**
baz=213
LONY Lake Ozonia 80.88 26 P **P 07 04 06.8 -1.1**
baz=213
TOO Toolangi 81.64 232 P **P 07 04 12.2 -0.1**
TOO IAmb IAmb 07 04 28.0
comp=Z,84nm,1.9s
TOO Toolangi 81.64 232 P **P 07 04 12.3 -0.1**
TOO pmax pmax
comp=Z,84nm,2.0s
EDM Edmonton 81.75 359 P **P 07 04 11.5 -0.8**
EDM Edmonton 81.75 359 P **P 07 04 11.5 -0.8**
EDM pmax pmax
comp=Z,105nm,1.3s
BBB Bella Bella 81.88 350 LR LR 07 32 50.5
comp=Z,3µm,20.7s,baz=172,slow=30
BBB Bella Bella 81.88 350 P **P 07 04 13.6 +0.7**
BBB IAmb IAmb 07 04 22.1
comp=Z,37nm,1.0s
EIDS Eidsvold 83.42 245 P **P 07 04 21.5 -0.3**
EIDS IAmb IAmb 07 04 24.1
comp=Z,34nm,1.7s
HNR Honiara 83.48 263 IAMs_20 IAMs_20 07 33 12.5
comp=Z,3µm,21.0s
FFC Flin Flon 83.74 6 IAMs_20 IAMs_20 07 37 33.0
comp=Z,2µm,20.0s
MAW Mawson 83.76 178 P **P 07 04 24.2 +1.5**
comp=Z,6.3nm,0.9s,baz=215,slow=5.6,SNR=11
MAW LR LR 07 39 42.4
comp=Z,4µm,18.1s,baz=180,slow=34
comp=Z,6.3nm,0.9s
MAW Mawson 83.76 178 P **P 07 04 23.1 +0.3**
F63A Nahmakanta, Br 83.99 29 IAmb IAmb 07 04 31.1
comp=Z,30nm,0.9s
LMQ La Malbaie 84.97 27 P **P 07 04 28.7 -0.3**
V35K Ketchikan 85.47 349 P **P 07 04 30.8 -0.5**
baz=163
KWAJ Kwajalein Atol 85.55 283 IAMs_20 IAMs_20 07 34 41.9
comp=Z,3µm,21.0s
CRAG Craig 85.86 348 P **P 07 04 32.5 -0.7**
baz=162
WRAK Wrangell Islan 86.63 349 IAmb IAmb 07 04 51.8
comp=Z,26nm,1.3s
WRAK Wrangell Islan 86.63 349 P **P 07 04 35.4 -1.6**
baz=163
T35M Bob Quinn 86.84 350 P **P 07 04 36.2 -1.9**
baz=164
STKA Stephens Creek 87.33 235 P **P 07 04 41.8 +0.5**
comp=Z,1.7nm,0.7s,baz=225,slow=11,SNR=3.3
STKA LR LR 07 36 17.9
comp=Z,3µm,21.5s,baz=122,slow=31
comp=Z,1.7nm,0.7s
SIT Sitka 87.76 348 P **P 07 04 41.5 -1.0**
baz=160
S34M Telegraph Cree 87.87 350 P **P 07 04 42.2 -0.8**
baz=164
S32K Killisnoo 88.02 348 P **P 07 04 42.4 -1.3**
baz=161
DLBC Dease Lake 88.22 351 LR LR 07 36 45.2
comp=Z,3µm,21.1s,baz=151,slow=31
DLBC Dease Lake 88.22 351 P **P 07 04 45.0 +0.2**
DLBC Dease Lake 88.22 351 P **P 07 04 44.3 -0.4**
baz=165
JIS Juneau Island 88.75 349 IAMs_20 IAMs_20 07 34 57.1
comp=Z,2µm,22.0s
R32K Eaglecrest 88.77 349 P **P 07 04 46.0 -1.2**
baz=161
Q32M Nakina River 89.05 350 P **P 07 04 48.0 -0.8**
baz=163
R33M Jennings River 89.28 351 P **P 07 04 48.8 -1.0**
baz=164
WTLY Watson Lake, Y 89.68 352 P **P 07 04 51.2 -0.3**
WTLY Watson Lake, Y 89.68 352 P **P 07 04 50.4 -1.1**
baz=166
P32M Atlin 89.88 349 P **P 07 04 51.4 -1.1**
baz=162
CTA Charters Tower 89.90 247 LR LR 07 37 45.6
comp=Z,3µm,21.8s,baz=126,slow=31
CTAO Charters Tower 89.90 247 P **P 07 04 52.8 -0.9**
CTAO pmax pmax
comp=Z,16nm,2.0s
PLBC Pleasant Camp 90.21 348 P **P 07 04 52.9 -1.0**
baz=159
P33M Teslin, Yukon 90.33 350 P **P 07 04 54.2 -0.4**
baz=162
P29M Windy Craggy 90.63 347 IAMs_20 IAMs_20 07 37 01.0
comp=Z,2µm,20.0s
P29M Windy Craggy 90.63 347 P **P 07 04 54.9 -1.1**
baz=158
P30M Million Dollar 90.94 348 P **P 07 04 55.9 -1.5**
baz=159
YKA Yellowknife Ar 91.06 359 P **P 07 04 58.4 +0.6**
comp=Z,3.5nm,0.9s,baz=174,slow=4.8,SNR=6.7
YKA LR LR 07 41 16.3
comp=Z,8µm,18.7s,baz=176,slow=33
comp=Z,3.5nm,0.9s
BCPM Bancas Point 91.30 347 IAMs_20 IAMs_20 07 38 16.7
comp=Z,3µm,18.0s
O30N Mendenhall 91.39 349 P **P 07 04 57.7 -1.8**
baz=160
O29M Mount Kennedy 91.41 347 P **P 07 04 59.2 -0.6**
baz=157
H11N3 WAKE ISLAND Hy 91.58 292 T T 08 46 12.9
baz=116,slow=78,SNR=15
H11N1 WAKE ISLAND Hy 91.59 292 T T 08 46 16.4
baz=116,slow=78,SNR=16
H11N2 WAKE ISLAND Hy 91.59 292 T T 08 46 11.8
baz=116,slow=78,SNR=20
HYT Haines Junctio 91.70 348 P **P 07 04 59.8 -1.3**
baz=158
YUK6 Outpost Mounta 91.97 348 P **P 07 05 01.5 -0.9**
baz=158
N31M Braeburn, Yuko 92.02 349 IAMs_20 IAMs_20 07 37 28.5
comp=Z,2µm,22.0s
TABL Table Mountain 92.06 346 IAMs_20 IAMs_20 07 37 05.7
comp=Z,3µm,22.0s
SCHQ Schefferville 92.09 24 LR LR 07 43 01.2
comp=Z,751nm,20.7s,baz=202,slow=33
YAH Yahtse 92.11 346 IAMs_20 IAMs_20 07 36 55.1
comp=Z,3µm,20.0s
O28M Mount Upton 92.16 347 P **P 07 05 01.4 -2.0**
baz=156
SNH Sunshine Point 92.19 345 IAMs_20 IAMs_20 07 36 32.2
comp=Z,3µm,22.0s
WRGLY Wrigley 92.21 355 P **P 07 05 03.4 +0.3**
baz=170
KAIM Kayak Island 92.32 344 IAMs_20 IAMs_20 07 36 51.8
comp=Z,3µm,21.0s
FARO Faro, Yukon 92.34 350 P **P 07 05 02.3 -1.6**
FARO Faro, Yukon 92.34 350 P **P 07 05 02.3 -1.6**
baz=162
Q23K Middleton Isla 92.35 343 IAMs_20 IAMs_20 07 35 12.5
comp=Z,2µm,21.0s
MMPY Sheldon Lake, 92.42 351 P **P 07 05 02.2 -2.1**
baz=164
WAX Waxell Ridge 92.43 345 IAMs_20 IAMs_20 07 36 51.6
comp=Z,3µm,20.0s
OHAK Old Harbor 92.43 339 P **P 07 05 03.2 -1.2**
baz=145
M31M Drury Creek, Y 92.47 350 IAMs_20 IAMs_20 07 38 59.5
comp=Z,3µm,20.0s
CTGM Chitina Glacie 92.57 346 IAMs_20 IAMs_20 07 36 30.4
comp=Z,3µm,21.0s
PATS Pohnpei 92.64 276 IAMs_20 IAMs_20 07 40 16.1
comp=Z,3µm,20.0s
KDAK Kodiak Island 92.68 340 LR LR 07 37 43.9
comp=Z,4µm,19.9s,baz=159,slow=30
KDAK Kodiak Island 92.68 340 ‖ *e*P **P 07 05 06.4 +1.0**
KDAK pmax pmax
comp=Z,43nm,1.3s
TGL Tana Glacier 92.70 346 IAMs_20 IAMs_20 07 37 21.8
comp=Z,3µm,22.0s
KRVT Keravat (AS076 92.82 264 LR LR 07 39 21.2
comp=Z,3µm,21.1s,baz=262,slow=31
M30M Minto, Yukon 93.21 349 P **P 07 05 06.5 -1.4**
baz=159
HIN Hinchinbrook I 93.23 344 IAMs_20 IAMs_20 07 37 15.9
comp=Z,3µm,20.0s
BMRM Bremner River 93.29 345 P **P 07 05 06.8 -1.5**
baz=152
MCARA McCarthy VSAT 93.31 346 IAMs_20 IAMs_20 07 37 11.8
comp=Z,3µm,22.0s
M29M Somme Creek 93.37 348 P **P 07 05 07.2 -1.5**
baz=157
GLB Gilahina Butte 93.53 345 IAMs_20 IAMs_20 07 37 14.7
comp=Z,3µm,22.0s
FID Port Fidalgo 93.54 344 IAMs_20 IAMs_20 07 37 07.2
comp=Z,3µm,22.0s
CNPM China Poot 93.73 341 IAMs_20 IAMs_20 07 37 57.2
comp=Z,3µm,20.0s
GLI Glacier Island 93.80 344 IAMs_20 IAMs_20 07 37 13.9
comp=Z,3µm,21.0s
BRLK Bradley Lake 93.83 342 IAMs_20 IAMs_20 07 38 48.8
comp=Z,3µm,20.0s
N25K Chitina, Valde 93.85 345 IAMs_20 IAMs_20 07 37 45.2
comp=Z,3µm,22.0s
HOM Homer 93.96 341 IAMs_20 IAMs_20 07 38 15.2
comp=Z,3µm,19.0s
KLU Klutina 94.06 345 IAMs_20 IAMs_20 07 38 28.6
comp=Z,3µm,21.0s
PWL Port Wells 94.09 343 IAMs_20 IAMs_20 07 37 31.6
comp=Z,2µm,21.0s
O22K Cooper Landing 94.13 342 IAMs_20 IAMs_20 07 37 29.6
comp=Z,3µm,21.0s
M26K Nabesna, AK 94.22 346 IAMs_20 IAMs_20 07 37 55.8
comp=Z,2µm,20.0s
M26K Nabesna, AK 94.22 346 P **P 07 05 10.2 -2.4**
baz=154
P19K Oil Pt 94.41 341 IAMs_20 IAMs_20 07 37 29.2
comp=Z,2µm,22.0s
PMG Port Moresby 94.53 257 LR LR 07 41 09.7
comp=Z,3µm,20.1s,baz=108,slow=31
PMG Port Moresby 94.53 257 IAMs_20 IAMs_20 07 41 08.3
comp=Z,3µm,20.0s
PMG Port Moresby 94.53 257 ⇑ *e*P **P 07 05 14.3 -0.8**
PMG pmax pmax
comp=Z,46nm,1.5s
KNK Knik Glacier 94.60 343 IAMs_20 IAMs_20 07 38 56.0
comp=Z,2µm,20.0s
RC01 Rabbit Creek A 94.65 343 IAMs_20 IAMs_20 07 39 14.3
comp=Z,3µm,19.0s
M24K Tolsona, Glenn 94.65 345 IAMs_20 IAMs_20 07 38 20.4
comp=Z,3µm,21.0s
SCM Sheep Creek Mo 94.68 344 IAMs_20 IAMs_20 07 38 16.2
comp=Z,2µm,21.0s
P18K Big Mountain, 94.80 340 IAMs_20 IAMs_20 07 39 10.4
comp=Z,3µm,20.0s
L26K Log Cabin Wild 94.85 346 IAMs_20 IAMs_20 07 40 39.5
comp=Z,3µm,19.0s
SML Sawmill 94.90 344 IAMs_20 IAMs_20 07 37 28.1
comp=Z,2µm,22.0s
GHO Glory Hole Cre 95.02 343 IAMs_20 IAMs_20 07 38 22.2
comp=Z,2µm,20.0s
DAWY Dawson 95.04 348 P **P 07 05 15.0 -1.2**
baz=157
O19K Port Alsworth 95.17 340 IAMs_20 IAMs_20 07 38 23.3
comp=Z,3µm,22.0s
J29M Klondike Camp 95.19 349 IAMs_20 IAMs_20 07 43 06.5
comp=Z,2µm,18.0s
SUA Susitna One 95.23 343 IAMs_20 IAMs_20 07 38 05.6
comp=Z,2µm,22.0s
K27K Chicken 95.50 347 IAMs_20 IAMs_20 07 42 17.7
comp=Z,2µm,18.0s
K27K Chicken 95.50 347 P **P 07 05 16.6 -1.7**
baz=154
N19K Bonanza Creek 95.72 341 IAMs_20 IAMs_20 07 38 20.8
comp=Z,3µm,22.0s
DHY Denali Highway 95.77 345 IAMs_20 IAMs_20 07 39 23.0
comp=Z,3µm,21.0s
RIDG Independent Ri 95.80 346 IAmb IAmb 07 05 28.7
comp=Z,22nm,1.0s
RIDG IAMs_20 IAMs_20 07 39 14.6
comp=Z,3µm,21.0s
RIDG Independent Ri 95.80 346 P **P 07 05 20.2 +0.5**
baz=152
SCRK Sand Creek 95.83 347 P **P 07 05 20.9 +0.9**
baz=153
SKT Skwentna 95.86 343 IAMs_20 IAMs_20 07 38 47.5
comp=Z,3µm,21.0s
SKT Skwentna 95.86 343 P **P 07 05 19.9 -0.2**
baz=145
CUT Chulitna 95.89 343 IAMs_20 IAMs_20 07 38 49.3
comp=Z,2µm,21.0s
EGAK Eagle 96.00 348 IAMs_20 IAMs_20 07 40 40.0
comp=Z,3µm,20.0s
N18K Kilae Creek 96.03 340 IAMs_20 IAMs_20 07 38 59.9
comp=Z,2µm,20.0s
I29M Ogilvie Camp, 96.05 349 IAMs_20 IAMs_20 07 41 24.2
comp=Z,2µm,20.0s
J26L Joseph Creek 96.21 347 P **P 07 05 22.6 +1.0**
baz=153
M20K Styx River 96.21 342 IAMs_20 IAMs_20 07 39 46.7
comp=Z,2µm,20.0s
RND Reindeer 96.40 344 IAMs_20 IAMs_20 07 38 38.6
comp=Z,3µm,22.0s
M19K Big River Lodg 96.58 341 IAMs_20 IAMs_20 07 41 57.4
comp=Z,2µm,18.0s
J25K Salcha River, 96.68 346 P **P 07 05 23.1 -0.6**
J25K IAmb IAmb 07 06 19.0
comp=Z,9.9nm,0.7s
J25K IAMs_20 IAMs_20 07 41 44.8
comp=Z,2µm,18.0s
J25K Salcha River, 96.68 346 P **P 07 05 24.1 +0.4**
baz=151
MCK McKinley 96.70 345 IAMs_20 IAMs_20 07 39 00.5
comp=Z,3µm,22.0s
MCK McKinley 96.70 345 P **P 07 05 24.3 +0.5**
baz=148
EPYK Eagle Plains 96.75 350 IAMs_20 IAMs_20 07 40 34.5
comp=Z,3µm,22.0s
TRF Thorofare Moun 96.78 344 P **P 07 05 23.3 -1.0**
TRF IAmb IAmb 07 05 32.8
comp=Z,19nm,1.1s
TRF IAMs_20 IAMs_20 07 39 48.7
comp=Z,2µm,22.0s
TRF Thorofare Moun 96.78 344 P **P 07 05 24.0 -0.3**
baz=147
HDA Harding Lake 96.83 346 IAMs_20 IAMs_20 07 42 19.0
comp=Z,2µm,18.0s
I27K Kandik River 96.84 348 P **P 07 05 24.7 +0.3**
baz=155
I26K Coal Creek Min 96.85 348 IAMs_20 IAMs_20 07 40 15.5
comp=Z,3µm,21.0s
I26K Coal Creek Min 96.85 348 P **P 07 05 24.8 +0.4**
baz=153
L19K White Mountain 96.93 341 IAMs_20 IAMs_20 07 39 10.8
comp=Z,2µm,20.0s
ILAR Eielson Array 97.14 346 P **P 07 05 25.4 -0.4**
comp=Z,1.4nm,0.9s,baz=176,slow=4.5,SNR=7.9
ILAR LR LR 07 40 15.2
comp=Z,2µm,21.1s,baz=121,slow=30
comp=Z,1.4nm,0.9s
ILAR Eielson Array 97.14 346 P Pdif 07 05 25.9 +0.1
ILAR Eielson Array 97.14 346 P Pdif 07 05 25.9 +0.1
WRH Wood River Hil 97.14 345 P **P 07 05 23.7 -2.0**
WRH IAmb IAmb 07 05 34.8
comp=Z,17nm,1.2s
WRH IAMs_20 IAMs_20 07 39 50.1
comp=Z,2µm,21.0s
BWN Browne 97.20 345 IAMs_20 IAMs_20 07 39 35.7
comp=Z,3µm,21.0s
CCB Clear Creek Bu 97.23 345 P **P 07 05 23.4 -2.7**
CCB IAmb IAmb 07 05 34.2
comp=Z,10.0nm,1.1s
CCB IAMs_20 IAMs_20 07 40 23.4
comp=Z,2µm,20.0s
COLA College 97.43 346 IAMs_20 IAMs_20 07 42 36.9
comp=Z,2µm,18.0s
COLA College 97.43 346 ‖ *e*P Pdif 07 05 27.9 +0.8
COLA pmax pmax
comp=Z,6.0nm,1.0s
TCOL CIGO, UAF Yank 97.44 346 IAMs_20 IAMs_20 07 42 36.9
comp=Z,2µm,18.0s
NEA2 Nenana 97.46 345 P **P 07 05 26.3 -0.9**
NEA2 IAMs_20 IAMs_20 07 39 45.7
comp=Z,2µm,22.0s
BPAW Bear Paw Mtn. 97.50 344 P **P 07 05 26.2 -1.2**
BPAW IAmb IAmb 07 05 33.2
comp=Z,17nm,1.1s
BPAW Bear Paw Mtn. 97.50 344 P **P 07 05 27.2 -0.2**
baz=147
POKR Poker Plat Res 97.55 346 IAMs_20 IAMs_20 07 40 06.0
comp=Z,3µm,22.0s
ASAR Alice Springs 97.56 238 P Pdif 07 05 30.2 +1.3
comp=Z,0.6nm,0.9s,baz=126,slow=4.7,SNR=3.0
ASAR LR LR 07 42 44.8
comp=Z,3µm,21.8s,baz=114,slow=31
comp=Z,0.6nm,0.9s
MDM Murphy Dome 97.59 345 P **P 07 05 27.0 -0.8**
MDM IAMs_20 IAMs_20 07 42 33.0
comp=Z,2µm,18.0s
K20K Telida 97.67 342 IAMs_20 IAMs_20 07 40 45.2
comp=Z,2µm,21.0s
ADK Adak 98.11 326 IAMs_20 IAMs_20 07 40 31.9
comp=Z,3µm,20.0s
INK Inuvik 98.15 352 LR LR 07 42 24.9
comp=Z,3µm,20.9s,baz=142,slow=31
MLY Manley 98.22 345 P Pdif 07 05 31.0 +0.3
MLY IAmb IAmb 07 05 38.8
comp=Z,11nm,1.2s
MLY IAMs_20 IAMs_20 07 40 19.7
comp=Z,2µm,21.0s
H24K Noodor Dome 98.27 346 IAMs_20 IAMs_20 07 41 18.9
comp=Z,2µm,20.0s
J20K Nowinta River 98.35 343 IAMs_20 IAMs_20 07 40 18.3
comp=Z,2µm,22.0s
FYU Fort Yukon 98.37 347 IAMs_20 IAMs_20 07 41 00.5
comp=Z,3µm,21.0s
FRB Frobisher Bay 98.57 18 LR LR 07 47 30.4
comp=Z,2µm,19.7s,baz=220,slow=34
H23K Yukon River 98.62 345 P **P 07 05 32.0 -0.4**
H23K IAmb IAmb 07 06 14.4
comp=Z,10nm,0.8s
H23K IAMs_20 IAMs_20 07 40 36.2
comp=Z,3µm,22.0s
I21K Tanana 98.64 344 IAMs_20 IAMs_20 07 40 18.7
comp=Z,2µm,22.0s
H21K Melozitna Rive 99.23 344 IAMs_20 IAMs_20 07 39 52.3
comp=Z,2µm,22.0s
WRA Warramunga Arr 99.38 241 P **Pdif 07 05 36.8 -0.3**
comp=Z,0.8nm,1.1s,baz=154,slow=7.9,SNR=1.7
WRA LR LR 07 44 41.5
comp=Z,8µm,20.8s,baz=124,slow=32
comp=Z,0.8nm,1.1s
A36M Sachs Harbour 100.98 356 IAMs_20 IAMs_20 07 45 24.3
comp=Z,3µm,20.0s
ANM Nome 101.84 339 IAMs_20 IAMs_20 07 42 52.7
comp=Z,3µm,20.0s
H01W1 Cape Leeuwin H 102.84 218 T T 09 00 50.6
baz=138,slow=76,SNR=5.0
H01W2 Cape Leeuwin H 102.85 218 T T 09 00 49.6
baz=138,slow=76,SNR=4.3
H01W3 Cape Leeuwin H 102.86 218 T T 09 00 56.5
baz=138,slow=76,SNR=4.9
RDOG Red Dog Mine 103.62 343 IAMs_20 IAMs_20 07 49 44.5
comp=Z,2µm,22.0s
A21K Barrow 104.61 347 IAMs_20 IAMs_20 07 50 06.5
comp=Z,2µm,18.0s
TULEG Thule 108.55 10 IAMs_20 IAMs_20 07 51 07.8
comp=Z,1µm,19.0s
FAKI Fak Fak 110.54 255 IAMs_20 IAMs_20 07 54 59.6
comp=Z,2µm,19.0s
TSUM Tsumeb 112.06 129 IAMs_20 IAMs_20 07 49 04.9
comp=Z,2µm,19.0s
BILL Bilibino 113.29 336 IAMs_20 IAMs_20 07 53 18.0
comp=Z,2µm,18.0s
BILL Bilibino 113.29 336 *i* PKIKP **PKiKP 07 10 30.9 0.0**
BILL *e* 07 11 23.1
BILL *e*PPP PPP 07 13 43.1
BILL *e* 07 17 44.5
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,1µm,15.0s
TORD Torodi Ar. Bea 117.21 90 PKP **PKiKP 07 10 40.8 +0.7**
comp=Z,1.0nm,0.8s,baz=287,slow=1.9,SNR=4.7
MA2 Magadan 117.82 325 IAMs_20 IAMs_20 07 59 09.0
comp=Z,1µm,18.0s
MTE Manteigas 118.80 57 IAMs_20 IAMs_20 07 54 25.1
comp=Z,1µm,20.0s
ERM Erimo 118.91 304 IAMs_20 IAMs_20 08 11 43.9
comp=Z,2µm,18.0s
LUWI Luwuk 119.49 251 IAMs_20 IAMs_20 07 59 55.6
comp=Z,1µm,20.0s
PAB San Pablo 120.98 59 IAMs_20 IAMs_20 07 58 04.8
comp=Z,2µm,20.0s
ESDC Sonseca Array 121.30 59 PKP **PKiKP 07 10 48.7 +1.3**
comp=Z,1.2nm,1.1s,baz=317,slow=2.6,SNR=5.7
DAV Davao City (W) 121.36 260 IAMs_20 IAMs_20 07 58 15.4
comp=Z,1µm,21.0s
JAGI Jajag, Banyuwa 121.76 238 IAMs_20 IAMs_20 08 02 08.2
comp=Z,2µm,20.0s
LSZ Lusaka 121.88 134 IAMs_20 IAMs_20 07 59 24.9
comp=Z,2µm,20.0s
INU Inuyama 121.92 296 IAMs_20 IAMs_20 07 57 40.3
comp=Z,1µm,20.0s
CART Cartagena 123.09 62 IAMs_20 IAMs_20 07 57 45.9
comp=Z,1µm,22.0s
TIXI Tiksi 126.10 340 IAMs_20 IAMs_20 08 00 49.8
comp=Z,2µm,20.0s
TIXI Tiksi 126.10 340 ‖ *i* PKIKP **PKiKP 07 10 57.0 +1.2**
MYLDM Lahad Datu 126.45 254 IAMs_20 IAMs_20 08 06 24.2
comp=Z,1µm,20.0s
KLR Kul'dur 127.84 312 ⇑ *i* PKIKP **PKiKP 07 11 01.0 +1.0**
YAK Yakutsk 128.12 328 IAMs_20 IAMs_20 08 00 14.1
comp=Z,2µm,20.0s
SSB Saint Sauveur 128.37 53 IAMs_20 IAMs_20 08 05 25.9
comp=Z,1µm,19.0s
ABPO Ambohimpanom 128.48 155 IAMs_20 IAMs_20 07 59 56.3
comp=Z,1µm,20.0s
MDJ Mudanjiang 129.08 306 IAMs_20 IAMs_20 08 05 12.9
comp=Z,1µm,19.0s
WLF Walferdange 129.60 48 IAMs_20 IAMs_20 08 05 10.1
comp=Z,2µm,20.0s
SBUM Sibu 130.10 247 IAMs_20 IAMs_20 08 07 43.0
comp=Z,2µm,19.0s
SENIN Lac Senin/Sane 130.35 52 IAMs_20 IAMs_20 08 11 06.2
comp=Z,1µm,18.0s
ZEA Zeya 130.52 318 ‖ *e*PKiKP **PKiKP 07 11 07.3 +2.1**
KONO Kongsberg 130.53 35 IAMs_20 IAMs_20 08 13 04.4
comp=Z,1µm,19.0s
INCN Inchon 130.55 296 IAMs_20 IAMs_20 08 02 46.1
comp=Z,1µm,20.0s
BFO Black Forest 131.06 50 IAMs_20 IAMs_20 08 09 19.7
comp=Z,1µm,19.0s
STU Stuttgart 131.62 49 IAMs_20 IAMs_20 08 08 31.5
comp=Z,1µm,20.0s
NACB Ninganchiao 131.80 278 IAMs_20 IAMs_20 08 02 21.8
comp=Z,928nm,20.0s
SSLB Suanglung 132.24 277 IAMs_20 IAMs_20 08 09 02.5
comp=Z,868nm,19.0s
PMBI Palembang 132.35 235 IAMs_20 IAMs_20 08 05 27.3
comp=Z,2µm,21.0s
TPUB Ta-pu 132.37 276 IAMs_20 IAMs_20 08 07 58.0
comp=Z,1µm,20.0s
VLC Villacollemand 132.48 55 IAMs_20 IAMs_20 08 02 53.8
comp=Z,1µm,22.0s
GRFO Grafenberg 132.89 48 IAMs_20 IAMs_20 08 11 22.1
comp=Z,989nm,19.0s
GRA1 Grafenberg Arr 132.89 48 IAMs_20 IAMs_20 08 11 21.1
comp=Z,1µm,20.0s
SNY Shenyang 133.31 302 ⇑ PKP **PKiKP 07 11 15.4 +4.2**
SNY AMB AMB
comp=Z,120nm,4.9s
SNY LR LR
comp=Z,750nm,18.2s
SNY LR LR
comp=Z,2µm,21.2s
SNY LR LR
comp=Z,2µm,21.4s
RGN Rugen 133.53 41 IAMs_20 IAMs_20 08 11 17.3
comp=Z,1µm,20.0s
CLL Collm 133.85 45 IAMs_20 IAMs_20 08 06 02.3
comp=Z,1µm,20.0s
CLL Collm 133.85 45 *e*(sPKPdf) **sPKPdf 07 11 18.0 +4.0**
CLL *ex* x 07 11 44.0
CLL *e*PP **PP 07 13 43.0 +2.2**
CLL *e*SKPdf **SKiKP 07 14 48.0 -0.2**
CLL *e*PS **PS 07 24 00.0 -0.2**
CLL *e*(PPS) 07 25 54.0
CLL *e*SS **SS 07 31 30.0 +1.8**
CLL *e*SSS SSS 07 36 30.0
CLL Lm MLR 08 08 00.0
comp=N,500nm,21.1s
CLL Lm MLR 08 08 00.0
comp=E,800nm,20.3s
CLL Lm MLR 08 08 00.0
comp=Z,1µm,19.6s
MBAR Mbarara 134.16 123 IAMs_20 IAMs_20 08 09 14.0
comp=Z,2µm,19.0s
KHC Kasperske Hory 134.48 48 *e*PKiKP **PKiKP 07 11 13.5 +0.1**
KHC Kasperske Hory 134.48 48 *e*PKPDF **PKiKP 07 11 13.5 +0.1**
BRG Berggiesshubel 134.50 46 SS SS 07 31 42.0 +6.0

BRG Amp 08 08 31.0
comp=Z,1.4nm,19.1s
BRG Amp 08 08 40.0
comp=N,0.3nm,16.3s
BRG Amp 08 08 44.0
comp=E,0.9nm,17.8s
GERES GERESS Array B 134.59 49 PKP **PKiKP 07 11 14.0 +0.2**
comp=E,0.4nm,0.4s,baz=338,slow=1.4,SNR=6.5
GERES GERESS Array B 134.59 49 PKIKP **PKiKP 07 11 14.0 +0.2**
AQU L'Aquila 134.64 58 IAms_20 IAms_20 08 23 41.5
comp=Z,1μm,18.0s
HIA Hailar 135.69 312 IAms_20 IAms_20 08 08 28.2
comp=Z,1μm,19.0s
NJ2 Nanjing 136.04 287 *e*PKP **PKiKP 07 11 17.9 +0.8**
MYKOM Kota Tinggi 136.21 239 IAms_20 IAms_20 08 06 31.3
comp=Z,2μm,21.0s
BOD Bodaibo 136.84 325 *e*PKIKP **PKPdf 07 11 15.4 -0.7**
BOD pmax pmax
comp=Z,20nm,2.1s
FINES FINESS Array B 137.46 28 PKP **PKPdf 07 11 17.1 0.0**
comp=Z,1.1nm,0.7s,baz=302,slow=8.1,SNR=1.2
KIBK Kibwezi 137.97 133 IAMs_20 IAMs_20 08 07 55.9
comp=Z,997nm,19.0s
KMBO Kilima Mbogo 138.36 131 IAms_20 IAms_20 08 12 27.8
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 138.36 131⇑ *i*PKIKP **PKiKP 07 11 24.7 +2.0**
PSZ Piszkesteto 138.80 49 IAMs_20 IAMs_20 08 11 49.5
comp=Z,1μm,19.0s
BJT Baijiatuau 138.89 299 IAMs_20 IAMs_20 08 08 38.3
comp=Z,950nm,20.0s
PABE Paberze 139.13 37 IAMs_20 IAMs_20 08 13 08.0
comp=Z,2μm,20.0s
TIR Tirane 139.48 59 IAMs_20 IAMs_20 08 11 31.6
comp=Z,1μm,20.0s
HNS HongShan 139.99 295⇑ PKP **PKPdf 07 11 22.0 -0.5**
HNS PP **PP 07 14 23.1 +3.4**
HNS SS SS 07 32 44.5 +2.3
HNS LR LR
comp=Z,720nm,18.0s
HNS LR LR
comp=Z,430nm,19.2s
HNS LR LR
comp=Z,780nm,18.2s
IPM Ipoh 140.09 239 IAMs_20 IAMs_20 08 08 48.1
comp=Z,1μm,21.0s
QIZ Qiongzhong 140.35 265 PKP **PKPdf 07 11 23.9 +0.2**
QIZ PP **PP 07 14 22.2 -0.1**
QIZ SS SS 07 32 42.3 -4.7
QIZ LR LR
comp=Z,690nm,19.2s
QIZ LR LR
comp=Z,550nm,27.5s
QIZ LR LR
comp=Z,660nm,26.2s
KULM Kulim 140.91 239 IAMs_20 IAMs_20 08 15 07.7
comp=Z,1μm,20.0s
MNK Minsk 141.60 37 *i* PKIKP **PKPdf 07 11 23.1 -1.8**
MNK *i* 07 11 28.9
MNK *i* 07 18 23.3
MNK *i* SS SS 07 33 00.6 +1.2
MNK *i* SSS SSS 07 38 17.9
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK MLR MLR
comp=E,200nm,20.0s
MNK MLR MLR
comp=Z,2μm,20.0s
MNK Minsk 141.60 37 *i* PKP **PKPdf 07 11 23.1 -1.8**
comp=E,1.0nm,0.9s
MNK *i* PKP **PKPdf 07 11 23.1 -1.8**
MNK *i* PKP **PKPdf 07 11 23.1 -1.8**
comp=Z,19nm,0.9s,baz=296
MNK *i* PKiKP **sPKPdf 07 11 29.0 +0.8**
MNK *i* PP PP 07 13 59.1 -30
MNK *i* PPP PPP 07 17 00.3
MNK *i* SKS SKSdf 07 18 23.4 -11
MNK *i* SKKS SKKSac 07 21 34.0 +12
MNK *i* SS **SS 07 33 00.6 +1.2**
MNK *i* SSS SSS 07 38 17.9
MNK *i* LR LR 08 12 13.4
MNK *i* LRM MLR 08 15 50.3
comp=E,200nm,19.7s
MNK *i* LRM MLR 08 16 10.1
comp=Z,2μm,19.7s
MNK *i* LRM MLR 08 16 11.8
HHC Hu-ho-hao-te 142.37 300 *e*PKP **PKPdf 07 11 23.9 -3.0**
HHC LR LR
comp=Z,1μm,20.0s
HHC LR LR
comp=Z,2μm,18.5s
HHC LR LR
comp=Z,3μm,20.0s
KLMR Klimovskoe 142.91 22 *e*PKIKP **PKPdf 07 11 24.7 -2.3**
KLMR *e* 07 14 33.5
KLMR pmax pmax
comp=Z,26nm,1.5s
KLMR Klimovskoe 142.91 22 *e*PKPdf **PKPdf 07 11 24.8 -2.3**
KLMR AMP 07 11 40.4
comp=Z,26nm,1.5s
KLMR *e*PP **PP 07 14 33.6 -2.6**
MLR Muntele Rosu 143.35 52 PKPdf PKPbc 07 11 26.8 +1.1
MLR IAMs_20 IAMs_20 08 18 00.3
comp=Z,1μm,20.0s
MLR Muntele Rosu 143.35 52 PKIKP PKPbc 07 11 26.8 +1.2
BTO Baotou 143.56 300 *e*PKP PKPbc 07 11 26.3 0.0
BTO LR LR
comp=Z,1μm,15.7s
BTO LR LR
comp=Z,670nm,16.1s
ENH Enshi 143.69 283 IAMs_20 IAMs_20 08 08 20.2
comp=Z,847nm,20.0s
AKASG Malin Array Be 143.90 42 PKP PKPbc 07 11 27.3 +0.5
comp=Z,5.3nm,0.9s,baz=290,slow=3.6,SNR=15
AKBB Malin Array Si 143.90 42 PKPdf **PKPdf 07 11 28.2 -0.8**
AKBB Malin Array Si 143.90 42⇓ *e*PKIKP **PKPdf 07 11 28.3 -0.8**
PRGR Permogore 144.14 18 *e*PKIKP **PKPdf 07 11 28.1 -1.0**
ULN Ulaanbaatar 144.21 313 PKPdf **PKPab 07 11 27.5 -0.3**
ULN Ulaanbaatar 144.21 313 IAMs_20 IAMs_20 08 06 01.4
comp=Z,2μm,22.0s
ULN Ulaanbaatar 144.21 313 *i* PKIKP **PKPab 07 11 27.7 -0.1**
IRK Irkutsk 144.23 321 *e*PKIKP PKPbc 07 11 27.9 0.0
IRK pmax pmax
comp=Z,118nm,2.6s
XAN Xi'an 144.56 289 PKP PKPbc 07 11 29.7 +0.2
XAN AMB AMB
comp=Z,450nm,7.3s
XAN LR LR
comp=Z,550nm,20.2s
XAN LR LR
comp=Z,760nm,21.1s
XAN LR LR
comp=Z,2μm,20.2s
SONM Songino Array 144.64 313 PKP **PKPab 07 11 28.8 -0.5**
comp=Z,8.7nm,0.9s,baz=101,slow=2.1,SNR=30
SONM Songino Array 144.64 313 PKPdf **PKPab 07 11 29.0 -0.3**
SONM Songino Array 144.64 313 PKIKP **PKPab 07 11 29.0 -0.3**
MSEY Mahe Island 144.67 159 IAMs_20 IAMs_20 08 07 07.9
comp=Z,1μm,20.0s
KIS Kishinev 144.90 48 *e* **PKiKP 07 11 34.0 -0.7**
GYA Guiyang 145.43 275⇑ PKPbc **PKPbc 07 11 32.3 -0.3**
GYA SKKS 07 21 45.4
GYA LR LR
comp=Z,560nm,21.5s
GYA LR LR
comp=Z,390nm,17.1s
GYA LR LR
comp=Z,710nm,16.8s
OBN Obninsk 145.58 32 IAMs_20 IAMs_20 08 16 47.2
comp=Z,1μm,19.0s
OBN Obninsk 145.58 32*d* *i* PKIKP **PKPab 07 11 32.7 +0.4**
OBN *e* 07 14 48.0
OBN *e*PPP PPP 07 18 16.0
OBN *e* 07 18 43.1
OBN *e*SS SS 07 33 47.4 +2.5
OBN *e*SSS SSS 07 39 14.1
OBN pmax pmax
comp=Z,64nm,1.1s
ZAK Zakamensk 145.60 319 *e*PKIKP **PKPdf 07 11 30.9 -1.3**
ZAK pmax pmax
comp=Z,40nm,2.2s
MOS Moscow 145.67 30 *e*PKIKP **PKPdf 07 11 31.5 -0.5**
MOS pmax pmax
comp=Z,700nm,2.8s
MOS pmax pmax
comp=Z,135nm,1.6s
MOY Mondy 146.30 322 *e*PKP2 **PKPbc 07 11 34.5 -0.1**
MOY pmax pmax
comp=Z,76nm,2.6s
FURI Furi 146.34 120 IAMs_20 IAMs_20 08 12 35.6
comp=Z,1μm,20.0s
KIRV Kirov 147.74 18*e*PKP2 **PKPbc 07 11 38.5 +0.3**
ISP Isparta 147.93 64 PKPbc **PKPbc 07 11 38.2 -1.4**
ISP Isparta 147.93 64 IAMs_20 IAMs_20 08 24 28.4
comp=Z,1μm,19.0s
ISP Isparta 147.93 64 PKP2 **PKPbc 07 11 38.2 -1.4**
LPSR Galich'ya Gora 148.21 34 *e*PKP2 **PKiKP 07 11 41.1 -0.3**
LPSR pmax pmax
comp=Z,70nm,1.2s
PHRA Phrae 148.48 258 PKPbc **PKPbc 07 11 39.8 -1.6**
KMI Kunming 148.54 272⇑ PKPbc **PKPbc 07 11 41.8 +0.1**
KMI pPKP pPKPbc 07 11 44.2 +0.1
CD2 Chengdu 148.67 283 PKPbc **PKPdf 07 11 37.7 -0.2**
LZH Lanzhou 148.73 293 *e*PKPbc **PKPbc 07 11 42.0 +0.2**
LZH AMB AMB
comp=Z,270nm,6.9s
LZH LR LR
comp=Z,490nm,18.3s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,1μm,19.5s
VORR Voronezh 148.91 35 *e*PKP2 **PKiKP 07 11 42.4 -0.4**
VORR pmax pmax
comp=Z,103nm,1.7s
CRAI Chiangrai 149.06 261 **PKPbc 07 11 41.7 -1.2**
VSR Storozhevoye 149.15 36 *e*PKP2 **PKPbc 07 11 41.4 -0.7**
VSR pmax pmax
comp=Z,40nm,1.1s
ANTO Ankara 149.42 60 PKPdf **PKPdf 07 11 35.8 -3.0**
ANTO PKPbc **PKPbc 07 11 43.4 +0.1**
ANTO Ankara 149.42 60 PKHKP PKPpre 07 11 35.8
ANTO 07 11 43.4
CMAR Chiang Mai Arr 149.57 257 PKPbc **PKPbc 07 11 44.1 0.0**
comp=Z,10nm,0.9s,baz=222,slow=0.3,SNR=12
CMAR Chiang Mai Arr 149.57 257 PKPdf **PKPdf 07 11 37.1 -2.4**
CMAR PKPbc **PKPbc 07 11 43.5 -0.7**
CMAR Chiang Mai Arr 149.57 257 PKIKP **PKPdf 07 11 37.2 -2.4**
CMAR 07 11 43.5
CHTO Chiang Mai 149.72 258 PKPdf **PKPdf 07 11 38.8 -1.1**
CHTO PKPbc **sPKPdf 07 11 43.6 +0.5**
CHTO Chiang Mai 149.72 258 IAMs_20 IAMs_20 08 15 21.0
comp=Z,1μm,21.0s
CHTO Chiang Mai 149.72 258 PKIKP **PKPdf 07 11 38.8 -1.1**
CHTO 07 11 43.6
PZH PanZhiHua 149.74 274 PKPbc **PKPdf 07 11 39.2 -0.6**
PZH PP **PP 07 15 21.8 +3.4**
PZH SKKS 07 22 09.1
PZH AMB AMB
comp=Z,400nm,9.0s
PZH LR LR
comp=Z,550nm,19.8s
PZH LR LR
comp=Z,590nm,19.4s
PZH LR LR
comp=Z,650nm,19.6s
BR131 Keskin Array S 150.09 60 PKPdf **PKPdf 07 11 38.2 -1.8**
BR131 Keskin Array S 150.09 60⇑ *e*PKHKP PKPpre 07 11 40.6
BRTR Keskin Array B 150.09 60 PKPbc **PKiKP 07 11 46.3 +0.4**
comp=Z,7.1nm,0.9s,baz=48,slow=1.8,SNR=4.3
BRTR Keskin Array B 150.09 60 PKPdf **PKPdf 07 11 37.5 -2.5**
BRTR **PKPbc 07 11 44.7 -0.3**
BRTR Keskin Array B 150.09 60 PKIKP **PKPdf 07 11 37.7 -2.5**
BRTR 07 11 44.7
VRH Novokhopyorsk 150.44 34 *e*PKIKP **PKiKP 07 11 46.1 +0.1**
VRH pmax pmax
comp=Z,40nm,0.7s
ATD Arta Tunnel 151.16 122 IAMs_20 IAMs_20 08 21 34.7
comp=Z,1μm,19.0s
ANN Anapa 151.30 48 *i* PKIKP **PKPab 07 11 52.7 -2.8**
ANN pmax pmax
comp=Z,80nm,1.2s
GTA Gaotai 151.48 300⇓ PKPbc **PKiKP 07 11 48.8 0.0**
GTA pPKP PKPab 07 11 54.4 -2.3
GTA sPKP 07 11 57.6
GTA PP **PP 07 15 35.4 +7.4**
ARU Arti 151.72 11 PKPdf **PKPdf 07 11 39.2 -2.5**
ARU **PKPbc 07 11 47.4 -0.7**
ARU **PKPab 07 11 56.9 +0.1**
ARU IAMs_20 IAMs_20 08 22 52.5
comp=Z,1μm,19.0s
ARU Arti 151.72 11 *i* PKIKP **PKPbc 07 11 48.1 0.0**
ARU 07 15 28.6
ARU PPP PPP 07 18 46.9
ARU SS SS 07 34 46.9 -6.0
BNN Bunyan 151.93 61 PKPdf **PKPdf 07 11 40.2 -2.6**
BNN **PKPbc 07 11 49.0 -0.4**
BNN PKPab **PKPab 07 11 57.2 -1.4**
ZAA0 Zalesovo Array 151.97 338 PKPdf **PKPdf 07 11 41.5 -0.7**
ZAA0 PKPbc **PKPbc 07 11 47.9 -0.9**
ZAA0 PKPab **PKPab 07 11 56.1 -1.9**
ZALV Zalesovo Beam 151.97 338 PKP **PKPdf 07 11 42.7 +0.5**
comp=Z,1.1nm,0.4s,baz=42,slow=2.4,SNR=7.2
ZALV PKPbc **pPKPbc 07 11 50.0 -1.2**
comp=Z,16nm,0.9s,baz=16,slow=3.7,SNR=13
ZALV Zalesovo Beam 151.97 338 PKPdf **PKPdf 07 11 41.6 -0.6**
ZALV PKPbc **PKPbc 07 11 48.5 -0.2**
ZALV PKPab **PKPab 07 11 57.3 -0.7**
ZALV Zalesovo Beam 151.97 338 PKIKP **PKPdf 07 11 41.6 -0.6**
ZALV 07 11 48.5
ZALV 07 11 57.3
SOC Sochi 153.29 49 *i* PKIKP **PKiKP 07 11 53.5 +1.3**
SOC *e* 07 15 43.2
SOC *e*PPP PPP 07 19 04.8
SOC pmax pmax
comp=Z,13nm,0.5s
KIV Kislovodsk 155.06 46 IAMs_20 IAMs_20 08 34 57.3
comp=Z,1μm,19.0s
KIV Kislovodsk 155.06 46 *i* PKIKP **PKPdf 07 11 52.4 +5.3**
KIV pmax pmax
comp=Z,34nm,1.3s
KBZ Khabaz 155.30 46 PKP **PKPdf 07 11 49.5 +2.2**
comp=Z,2.6nm,0.9s,baz=278,slow=9.3,SNR=2.8
KBZ PKPab **pPKPab 07 12 14.3 -0.5**
comp=Z,14nm,0.9s,baz=308,slow=3.3,SNR=7.1
BRVK Borovoye 155.76 356 PKPdf **PKPdf 07 11 45.7 -1.9**
BRVK **PKPab 07 12 14.0 0.0**
GOMU GeErMu 155.98 295 PKP **PKPdf 07 11 50.1 +1.1**
GOMU pPKP sPKPdf 07 11 54.1 +1.8
GOMU AMB AMB
comp=Z,120nm,5.5s
GOMU LR LR
comp=Z,1μm,18.7s
GOMU LR LR
comp=Z,480nm,19.5s
GOMU LR LR
comp=Z,1μm,17.9s
ZEI Tsey 156.39 48 *i* PKP2 **PKPab 07 12 19.0 +1.5**
ZEI pmax pmax
comp=Z,10.0nm,1.1s
KURK Kurchatov 156.65 342⇓ *e*PKIKP **PKPdf 07 11 50.5 +1.6**
GROC Groznyy 157.38 45 *e*PKIKP **PKPdf 07 11 52.8 +2.7**
GROC *e* 07 18 57.0
GROC pmax pmax
comp=Z,52nm,1.3s
WMQ Urumqi 158.07 318 *e*PKP **PKPdf 07 11 51.7 +0.7**
WMQ LR LR
comp=Z,1μm,21.9s
WMQ LR LR
comp=Z,1μm,20.1s
WMQ LR LR
comp=Z,1μm,21.9s
MAK Makhachkala 158.56 44 *e*PKIKP **PKPdf 07 11 48.5 -3.0**
MAK *e* 07 16 08.0
MAK *e* 07 18 52.1
MAK *e*SS SS 07 36 06.4 -2.2
MAK *e*SSS SSS 07 42 15.2
MAK pmax pmax
comp=Z,124nm,1.4s
MK31 Makanchi Array 158.74 331 PKPdf **PKPdf 07 11 49.3 -2.4**
MK31 PKPab **PKPab 07 12 26.6 -0.6**
MK31 Makanchi Array 158.74 331 PKIKP **PKPdf 07 11 49.3 -2.4**
MK31 07 12 26.6
MKAR Makanchi Array 158.74 331 PKP **PKPdf 07 11 52.5 +0.8**
comp=Z,0.4nm,0.3s,baz=45,slow=2.2,SNR=14
MKAR Makanchi Array 158.74 331 PKPdf **PKPdf 07 11 50.6 -1.1**
MKAR PKPab **PKPab 07 12 26.6 -0.6**
MKAR Makanchi Array 158.74 331 PKIKP **PKPdf 07 11 50.6 -1.1**
MKAR 07 12 26.6
ABKAR Akbulak array 158.81 14 PKPdf **PKPdf 07 11 50.0 -1.7**
ABKAR PKPab **PKPab 07 12 24.9 -2.5**
LSA Lhasa 159.45 278 IAMs_20 IAMs_20 08 24 37.5
comp=Z,1μm,22.0s
PCHI Peechi 160.00 206 *e*P PKPdf 07 11 40.6 -13
PCHI *ex* x 07 22 36.8
KK31 Karatay Array 165.61 351 PKPdf **PKPdf 07 11 55.3 -3.4**
KK31 PKPab **PKPab 07 12 54.8 -2.5**
KK31 Karatay Array 165.61 351 PKIKP **PKPdf 07 11 55.3 -3.4**
KK31 07 12 54.8
KSH Kashi 167.33 329 PKP **PKPdf 07 12 02.9 +2.6**
KSH LR LR
comp=Z,2μm,23.8s
KSH LR LR
comp=Z,1μm,24.4s
KSH LR LR
comp=Z,2μm,25.0s
GEYT Alibeck 167.99 39 PKP **PKPdf 07 12 01.8 +1.1**
comp=Z,2.6nm,0.8s,baz=255,slow=4.3,SNR=5.1
GAR Garm 169.65 348 PKPdf **PKPdf 07 11 58.6 -3.3**
GAR PKPab **PKPab 07 13 11.5 -3.9**

IDC 12 07:02:30.2±5.2, 29°91S×179°08W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=248.1km s-min=81.6km az=166.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.20**	**267**	P	P	07 10 24.8	-0.2
	0.2nm,0.3s,baz=109,slow=7.3,SNR=4.2						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.14**	**272**	P	P	07 10 32.7	0.0
	0.4nm,0.3s,baz=112,slow=7.9,SNR=15						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**144.36**	**339**	PKP	PKPdf	07 22 06.9	-0.7
	4.5nm,1.1s,baz=70,slow=4.6,SNR=1.8						

WEL 12 07:02:38.7, 42°S±5°×17°3E±°, h62km±14km, M2.8/12, ML2.9/23, MLv2.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=71.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.33**	**4**	P	Pn	07 02 50.0	+0.6
KHZ	**Kahutara**	**0.59**	**123**	P	Pn	07 02 52.5	+0.8
MRNZ	**Matariki Terra**	**0.70**	**353**	P	Pn	07 02 53.8	+0.7
LTZ	**Lake Taylor**	**0.82**	**213**	P	Pn	07 02 55.2	+0.6
BSWZ	**Blackbirch Sta**	**0.84**	**63**	P	Pn	07 02 56.0	+1.2
DSZ	**Denniston Nort**	**0.87**	**293**	P	Pn	07 02 55.6	+0.4
GVZ	**Greta Valley S**	**0.88**	**172**	P	Pn	07 02 56.1	+0.8
NNZ	**Nelson**	**0.95**	**23**	P	Pn	07 02 57.2	+1.0
TKNZ	**Takaka Hill**	**1.06**	**3**	P	Pn	07 02 58.8	+1.1
AMCZ	**Amberley**	**1.09**	**189**	P	Pn	07 02 58.4	+0.4
INZ	**Inchbonnie**	**1.23**	**239**	P	Pn	07 03 00.5	+0.7
QRZ	**Quartz Range**	**1.29**	**348**	P	Pn	07 03 01.4	+0.7
TCW	**Tory Channel**	**1.37**	**50**	P	Pn	07 03 03.1	+1.4
DUWZ	**D'Urville Isla**	**1.51**	**32**	P	Pn	07 03 05.3	+1.7
MQZ	**McQueen's Vall**	**1.62**	**186**	P	Pn	07 03 04.3	-0.8
OKCZ	**Okains Bay**	**1.63**	**175**	P	Pn	07 03 05.2	0.0
RACZ	**Rakaia**	**1.72**	**198**	P	Pn	07 03 05.8	-0.6
AKCZ	**Akaroa Harbour**	**1.78**	**179**	P	Pn	07 03 06.6	-0.5
MSWZ	**Moikau Station**	**1.90**	**70**	P	Pn	07 03 10.0	+1.1
CAW	**Cannon Point**	**1.92**	**60**	P	Pn	07 03 08.9	-0.2
KIW	**Kapiti Island**	**1.96**	**52**	P	Pn	07 03 10.2	+0.6
WACZ	**Wakanui South**	**2.00**	**202**	P	Pn	07 03 09.5	-0.6
OGWZ	**Otaki Gorge**	**2.14**	**54**	P	Pn	07 03 12.1	0.0
MTW	**Mount Morrison**	**2.18**	**65**	P	Pn	07 03 11.7	-0.9
ARCZ	**Arundel**	**2.23**	**213**	P	Pn	07 03 13.6	+0.2
MRZ	**Mangatainoka R**	**2.49**	**56**	P	Pn	07 03 16.4	-0.4
TMZ	**Timaru**	**2.67**	**210**	P	Pn	07 03 18.5	-0.8
KHEZ	**Kahui Hut**	**2.93**	**18**	P	Pn	07 03 24.9	+2.0
PKE	**Pukeiti**	**3.02**	**17**	P	Pn	07 03 25.9	+1.8
TSZ	**Takapari Road**	**3.09**	**50**	P	Pn	07 03 31.0	+5.8
TLZ	**Tolley Road**	**4.28**	**29**	P	Pn	07 03 43.2	+1.9

KRNET ***12*** *07:15:14.8±0.1, 39°46N×73°19E, mb2.8*
NNC ***12*** *07:15:19.1±1.6, 39°61N×73°28E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=11.2km s-min=5.3km az=2.0*
SOME ***12*** *07:15:27.3, 40°18N×72°80E, h0km*

ISC 12 07:15:22.9±1.9, 39°94N±0°07×72°91E±0°04, h7km±14km, n27, σ1842/43, 12C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.59**	**351**	⇑ *i*P	**Pb**	**07 15 35.9**	**+0.3**
	baz=44						
OHH				⇑ *i*S	Sb	07 15 51.4	+7.2
	baz=44						
BTK	**Batken**	**1.61**	**275**	⇑ *i*P	**Pn**	**07 15 50.7**	**-1.1**
	baz=89						
BTK				⇑ *i*S	**Sg**	**07 16 16.7**	**+2.0**
	baz=89						
ARLS	**Aral**	**2.19**	**29**	⇑ *e*P	**Pn**	**07 15 59.3**	**-0.6**
	baz=20						
ARLS				⇑ *i*S	**Sg**	**07 16 31.9**	**-1.5**
	baz=20						
GAR	**Garm**	**2.22**	**246**	⇓ *i*P	Pn	07 15 55.8	-4.4
	baz=59						
GAR				⇓ *i*S	**Sn**	**07 16 25.6**	**-2.3**
	baz=59						
UCH	**Uchtor**	**2.58**	**27**	⇑ *i*P	**Pn**	**07 16 05.0**	**-0.6**
	baz=20						
UCH				⇑ *i*S	**Sb**	**07 16 41.8**	**-0.2**
	baz=20						
MRKS	**Merke**	**2.81**	**5**	*e*P	**Pg**	**07 16 16.6**	**-0.1**
	3.5nm,0.2s						
MRKS				*e*S	**Sg**	**07 16 52.1**	**-1.0**
	5.4nm,0.3s						
MRKS	**Merke**	**2.81**	**5**	Pg	**Pg**	**07 16 15.9**	**-0.8**
	3.7nm,0.3s						
MRKS				Lg	Lg	07 16 58.7	
	13nm,0.5s						
IUG	**luzhnay**	**3.10**	**316**	*e*P	**Pg**	**07 16 21.1**	**-1.1**
	134nm,0.5s						
IUG				*e*S	**Sg**	**07 16 59.9**	**-2.4**
	11nm,0.3s						
IUG	**luzhnay**	**3.10**	**316**	Pg	**Pn**	**07 16 15.6**	**+3.3**
	63nm,0.3s						
IUG				Lg	Lg	07 16 58.6	
	10nm,0.5s						
TKM2	**Tokmak 2**	**3.59**	**33**	⇑ Pg	**Pb**	**07 16 27.0**	**+0.1**
	2.5nm,1.0s						
TKM2				⇑ Lg	Lg	07 17 17.1	
	2.6nm,0.6s						
KK31	**Karatay Array**	**3.63**	**331**	Pg	**Pg**	**07 16 32.5**	**0.0**
	0.5nm,0.3s,baz=151,slow=16,SNR=11						
KK31				⇑ Sn	**Sb**	**07 17 12.2**	**+0.4**
	1.2nm,0.5s,baz=152,slow=25,SNR=3.9						
KK31				⇑ Lg	Lg	07 17 28.5	
	1.6nm,0.4s						
SGDS	**Sogindy**	**3.73**	**20**	*e*P	**Pg**	**07 16 34.6**	**+0.2**
	1.0nm,0.2s						
SGDS				*e*S	**Sg**	**07 17 23.2**	**+0.4**
	2.0nm,0.3s						
KST	**Kastek**	**3.85**	**36**	*e*P	**Pb**	**07 16 35.6**	**+4.3**
	2.2nm,0.6s						
KST				*e*S	**Sg**	**07 17 25.1**	**-1.5**
	5.4nm,1.0s						
KST	**Kastek**	**3.85**	**36**	Pg	**Pb**	**07 16 30.4**	**-0.8**
	1.2nm,0.4s						
KST				Lg	Lg	07 17 23.9	
	2.8nm,0.4s						
DGS	**Degeres**	**3.93**	**32**	*e*P	**Pg**	**07 16 38.0**	**-0.2**
	2.1nm,0.8s						
DGS				*e*S	**Sg**	**07 17 29.1**	**0.0**
	5.2nm,0.7s						
DGS	**Degeres**	**3.93**	**32**	Pg	**Pb**	**07 16 34.2**	**+1.6**
	1.8nm,0.5s						
DGS				Lg	Lg	07 17 29.9	
	4.2nm,0.8s						
MTBS	**Maitube**	**4.14**	**39**	*e*P	**Pg**	**07 16 42.2**	**+0.1**
	1.6nm,0.3s						
MTBS				*e*S	**Sg**	**07 17 36.0**	**+0.3**
	3.2nm,0.3s						
KRBS	**Karabastau**	**4.28**	**28**	*e*P	**Pg**	**07 16 44.6**	**-0.3**
	1.3nm,1.0s						
KRBS				*e*S	**Sg**	**07 17 40.5**	**+0.1**
	2.7nm,0.3s						
KRBS	**Karabastau**	**4.28**	**28**	Pg	**Pb**	**07 16 40.4**	**+1.9**
	1.7nm,0.6s						
KRBS				Lg	Lg	07 17 40.3	
	2.7nm,0.6s						

MDOK	**Medeo**	**4.47**	**43**	*e*P		**Pg**	**07 16 47.9**	**-0.6**
	2.4nm,0.4s								
MDOK				*e*S		**Sg**	**07 17 45.6**	**-0.8**
	3.2nm,0.7s								
KOTS	**Kotyrbulak**	**4.55**	**42**	*e*P		**Pg**	**07 16 49.3**	**-0.8**
	1.3nm,0.5s								
KOTS				*e*S		**Sg**	**07 17 48.2**	**-0.9**
	7.8nm,0.6s								
KOTS	**Kotyrbulak**	**4.55**	**42**	Pg		**Pb**	**07 16 45.0**	**+1.8**
	2.7nm,0.5s								
KOTS				Lg		Lg	07 17 48.4		
	7.8nm,0.6s								
KTBS	**Karatobe**	**4.70**	**36**	*e*P		**Pg**	**07 16 52.8**	**-0.1**
	1.6nm,0.4s								
KTBS				*e*S		**Sg**	**07 17 54.2**	**+0.3**
	5.8nm,0.7s								
KTBS	**Karatobe**	**4.70**	**36**	Pg		**Pb**	**07 16 47.8**	**+2.1**
	1.9nm,0.7s								
KTBS				Lg		Lg	07 17 53.0		
	5.8nm,0.7s								
KUU	**Kurty**	**4.70**	**32**	*e*P		**Pg**	**07 16 52.0**	**-0.9**
	1.5nm,0.7s								
KUU				*e*S		**Sg**	**07 17 52.9**	**-1.0**
	3.8nm,0.3s								
KUU	**Kurty**	**4.70**	**32**	Pg		**Pb**	**07 16 47.4**	**+1.7**
	1.0nm,0.3s								
KUU				Lg		Lg	07 17 52.3		
	3.8nm,0.3s								
BTLS	**Baital**	**5.16**	**9**	*e*P		**Pg**	**07 17 00.9**	**-0.9**
	1.1nm,0.4s								
BTLS				*e*S		**Sg**	**07 18 08.0**	**-0.6**
	2.1nm,0.7s								

IDC ***12*** *07:23:07.3±2.0,24°.27S×179°.95E, h496km±19km, mb3.2/5, mbtmp4.1/7, Error ellipse: s-maj=38.8km s-min=18.9km az=151.0*

NEIC ***12*** *07:23:07.9±1.2,24°.1S±0°.2×179°.78W±0°.07, h529km±19km, mb4.3/10, Error ellipse: s-maj=28.0km s-min=9.3km az=180.0*

ISC 12 07:23:07.5±0.8,**24°.3S**±0°.1×**179°.9W**±0°.1,**h505**km,**n23,**
σ1**$44/25**,**mb4.2/11**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.79**	**343**	P		**P**	**07 24 52.3**	**+0.3**
	3.1nm,0.4s,baz=156,slow=20,SNR=6.2							
MSVF	**Nonsavu**	**6.79**	**343**			**P**	**07 24 51.8**	**-0.2**
NIUE	**Niue**	**10.59**	**63**	P		**P**	**07 25 30.1**	**-1.1**
MARNC	**Mare, Loyalty**	**11.50**	**282**	P		**P**	**07 25 41.2**	**+0.4**
OUZ	**Omahuta**	**12.29**	**206**	P		**P**	**07 25 51.5**	**+2.5**
DZM	**Mont Dzumac**	**12.78**	**277**	P		**P**	**07 25 55.3**	**+0.9**
	4.2nm,0.6s,baz=72,slow=20,SNR=2.8							
URZ	**Urewera**	**14.18**	**190**	P		**P**	**07 26 07.8**	**-1.0**
	4.3nm,0.8s,baz=33,slow=9.2,SNR=2.0							
QRZ	**Quartz Range**	**17.69**	**199**	P		**P**	**07 26 44.6**	**0.0**
EIDS	**Eidsvold**	**26.37**	**262**	P		**P**	**07 28 02.9**	**0.0**
EIDS				IAmb		IAmb	07 28 04.5	
	comp=Z,9.6nm,1.3s							
CTAO	**Charters Tower**	**31.60**	**271**	P		**P**	**07 28 48.2**	**-0.3**
STKA	**Stephens Creek**	**34.70**	**249**	P		**P**	**07 29 14.0**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=109,slow=10,SNR=5.3							
	comp=Z,1.2nm,0.4s							
AS31	**Alice Springs**	**42.10**	**261**	P		**P**	**07 30 12.0**	**-3.0**
ASAR	**Alice Springs**	**42.10**	**261**	P		**P**	**07 30 13.9**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=94,slow=7.1,SNR=31							
ASAR				ScP		**ScP**	**07 35 01.3**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=99,slow=5.8,SNR=3.0							
	comp=Z,1.4nm,0.4s							
ASAR	**Alice Springs**	**42.10**	**261**	P		**P**	**07 30 12.5**	**-2.4**
WR0	**Warramunga Arr**	**42.32**	**267**	P		**P**	**07 30 15.3**	**-1.4**
WR0				IAmb		IAmb	07 30 15.7	
	comp=Z,9.2nm,1.3s							
WB2	**Warramunga Arr**	**42.49**	**266**	P		**P**	**07 30 16.7**	**-1.4**
WB2				IAmb		IAmb	07 30 17.0	
	comp=Z,6.1nm,0.5s							
WRAB	**Tennant Creek**	**42.50**	**267**	P		**P**	**07 30 16.5**	**-1.6**
WRAB				IAmb		IAmb	07 30 17.1	
	comp=Z,5.5nm,0.8s							
WB0	**Warramunga Arr**	**42.50**	**267**	P		**P**	**07 30 16.6**	**-1.5**
WB0				IAmb		IAmb	07 30 17.2	
	comp=Z,7.2nm,0.8s							
WRA	**Warramunga Arr**	**42.51**	**266**	P		**P**	**07 30 16.7**	**-1.5**
	comp=Z,4.6nm,0.5s,baz=98,slow=8.3,SNR=142							
WRA				ScP		**ScP**	**07 35 03.7**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=102,slow=4.7,SNR=4.6							
	comp=Z,4.6nm,0.5s							
WRA	**Warramunga Arr**	**42.51**	**266**	P		**P**	**07 30 16.4**	**-1.8**
KNRA	**Kununurra**	**48.81**	**270**	P		**P**	**07 31 05.8**	**-0.6**
KNRA				IAmb		IAmb	07 31 06.1	
	comp=Z,7.6nm,0.5s							
NVAR	**Mina Array Bea**	**84.93**	**44**	P		**P**	**07 34 50.0**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=212,slow=9.4,SNR=3.1							
	comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**90.52**	**58**	P		**P**	**07 35 16.7**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=217,slow=6.2,SNR=11							
	comp=Z,0.7nm,0.7s							

NNC ***12*** *07:28:15.2±0.4,50°.00N×78°.72E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=3.7km s-min=1.8km az=71.0, Suspected Mining explosion.*

IDC ***12*** *07:28:16.8±0.8,50°.09N×78°.80E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=12.4km s-min=6.1km az=58.0.*

ISC 12 07:28:16.7±0.9,**50°.10N**±0°.05×**78°.76E**±0°.04,**h0**km,**n23,**
σ0**$79**/37,**23C-7D**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.51**	**342**	⇑P		**Pg**	**07 28 26.8**	**+0.3**
KUR07				⇑S		**Sb**	**07 28 35.9**	**-0.6**
KUR06	**Kurchatov Arra**	**0.53**	**343**	⇑P		**Pg**	**07 28 27.1**	**+0.3**
KUR06				⇑S		**Sb**	**07 28 36.1**	**-0.9**
KUR14	**Kurchatov Arra**	**0.53**	**348**	⇑P		**Pg**	**07 28 27.1**	**+0.3**
KUR14				⇑S		**Sb**	**07 28 36.3**	**-0.8**
KUR15	**Kurchatov Arra**	**0.54**	**346**	⇑P		**Pg**	**07 28 27.3**	**+0.3**
KUR15				⇑S		**Sb**	**07 28 36.7**	**-0.6**
KURBB	**Kurchatov Arra**	**0.55**	**344**	Pg		**Pg**	**07 28 27.4**	**+0.2**
	2.2nm,0.3s,baz=165,slow=19,SNR=27							
KURBB				Lg		Lg	07 28 36.1	
	2.8nm,0.3s,baz=166,slow=32,SNR=7.8							
KURBB	**Kurchatov Arra**	**0.55**	**344**	⇑P		**Pg**	**07 28 27.4**	**+0.2**
	14nm,0.2s							
KURBB				⇑S		**Sb**	**07 28 36.5**	**-1.1**
	138nm,0.6s							
KUR16	**Kurchatov Arra**	**0.56**	**342**	⇑P		**Pg**	**07 28 27.5**	**+0.1**
KUR16				⇓S		**Sb**	**07 28 36.9**	**-1.0**
KUR05	**Kurchatov Arra**	**0.57**	**345**	⇓P		**Pg**	**07 28 27.8**	**+0.3**
KUR05				⇓S		**Sb**	**07 28 37.2**	**-0.9**
KUR17	**Kurchatov Arra**	**0.57**	**341**	⇑P		**Pg**	**07 28 27.7**	**+0.1**
KUR17				⇓S		**Sb**	**07 28 37.5**	**-0.6**
KUR04	**Kurchatov Arra**	**0.58**	**346**	⇑P		**Pg**	**07 28 28.2**	**+0.3**
KUR04				⇑S		**Sb**	**07 28 37.6**	**-1.0**
KURK	**Kurchatov**	**0.63**	**352**	⇑P		**Pg**	**07 28 28.8**	**+0.1**
	16nm,0.6s							
KURK				⇑S		**Sb**	**07 28 39.5**	**-0.4**
	81nm,0.8s							
SEM	**Semipalatinsk**	**1.00**	**71**	P		**Pg**	**07 28 35.5**	**-0.4**
	8.1nm,0.1s							
SEM				S		**Sb**	**07 28 50.8**	**-0.1**
	47nm,0.2s							
MAKZ	**Makanchi**	**3.92**	**146**	⇑Pg		**Pb**	**07 29 26.7**	**0.0**
	4.1nm,0.8s							
MAKZ				⇓Lg		Lg	07 30 17.2	
	18nm,0.8s							
MK31	**Makanchi Array**	**4.05**	**143**	⇑Pn		**Pn**	**07 29 19.5**	**-0.4**
	0.3nm,0.2s,baz=279,slow=6.0,SNR=90							
MK31				⇑Pg		**Pb**	**07 29 27.8**	**-1.2**
	0.6nm,0.2s,baz=321,slow=15,SNR=7.5							
MK31				⇑Lg		Lg	07 30 22.1	
	20nm,0.6s,baz=326,slow=27,SNR=19							
MKAR	**Makanchi Array**	**4.05**	**143**	Pn		**Pn**	**07 29 19.7**	**-0.3**
	0.4nm,0.3s,baz=322,slow=10,SNR=169							
MKAR				Pg		**Pb**	**07 29 28.0**	**-0.9**
	0.9nm,0.3s,baz=320,slow=16,SNR=20							
MKAR				Lg		Lg	07 30 21.4	
	2.4nm,0.3s,baz=330,slow=27,SNR=14							
	1.0nm,0.2s							
OTUK	**Ortayu**	**4.61**	**249**	⇓Pn		**Pn**	**07 29 26.6**	**-0.9**
	0.6nm,0.2s							
OTUK				⇑Pg		**Pb**	**07 29 39.3**	**+1.0**
	2.1nm,0.6s							
OTUK				⇓Lg		Lg	07 30 43.1	
	9.7nm,0.8s							

ZSN	**Zaisan**	**4.83**	**121**	Pg		**Pb**	**07 29 43.3**	**+1.3**
	2.4nm,0.2s								
ZSN				Lg		Lg	07 30 47.1		
	21nm,0.8s								
ZALV	**Zalesovo Beam**	**5.37**	**42**	Pn		**Pn**	**07 29 40.1**	**+2.1**
	0.7nm,0.3s,baz=231,slow=14,SNR=15								
ZALV				Lg		Lg	07 31 04.3		
	0.5nm,0.3s,baz=227,slow=30,SNR=3.3								
	2.2nm,0.2s								
I46RU	**ZALESOVO INFRA**	**5.37**	**42**	*i*			07 57 30.0		
	baz=227,slow=316,SNR=0.8								
DJR	**Jarkent**	**5.81**	**173**	Pg		**Pb**	**07 30 00.2**	**+1.4**
	2.3nm,0.4s								
DJR				Lg		Lg	07 31 15.6		
	5.7nm,0.7s								
ARXS	**Arharly**	**5.92**	**187**	Pg		**Pb**	**07 30 01.7**	**+0.9**
	2.0nm,0.8s								
ARXS				Lg		Lg	07 31 18.4		
	15nm,0.4s								
BVAR	**Borovoye Array**	**5.99**	**303**	Pn		**Pn**	**07 29 46.2**	**-0.3**
	0.1nm,0.3s,baz=112,slow=13,SNR=1.9								
BVAR				Sn		**Sn**	**07 30 54.9**	**-0.9**
	0.3nm,0.3s,baz=114,slow=21,SNR=3.8								
BVAR				Lg		Lg	07 31 27.0		
	0.2nm,0.3s,baz=116,slow=26,SNR=3.6								
	0.2nm,0.2s								
BRVK	**Borovoye**	**6.06**	**303**	⇑Sn		**Sn**	**07 30 57.5**	**0.0**
	4.5nm,0.8s								
BRVK				⇑Lg		Lg	07 31 28.7		
	4.2nm,0.6s								

IDC ***12*** *07:42:47.7±1.1, 13°.22N×120°.08E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=22.0km s-min=13.5km az=117.0*

MAN ***12*** *07:42:51.2, 13°.34N×120°.29E, h8km, mb4.8, ML3.7, MS3.6*

ISC 12 07:42:49.4±1.4,**13°.27N**±0°.04×**120°.22E**±0°.06,**h9**km±9km,
n15,σ0**$83**/23,**mb3.9**/5,**7C-2D**,**Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.46**	**4**	⇑*i*P		**Pb**	**07 42 59.4**	**-0.3**
LUBP				*i* S		**Sg**	**07 43 05.4**	**+0.9**
PGP	**Puerto Galera**	**0.75**	**72**	⇓*e*P		**Pg**	**07 43 04.0**	**0.0**
PGP				*i* S		**Sg**	**07 43 13.6**	**-0.3**
TGY	**Tagaytay City**	**1.08**	**40**	Pg		**Pn**	**07 43 10.8**	**0.0**
	baz=270,slow=3.7							
TGY				Lg		Lg	07 43 27.2	
	baz=270,slow=19							
TGY	**Tagaytay City**	**1.08**	**40**	⇓*e*P		**Pn**	**07 43 11.5**	**+0.6**
TGY				*e*S		**Sn**	**07 43 27.4**	**+1.4**
MACP	**Maragondon, Ca**	**1.10**	**26**	⇑*i*P		**Pg**	**07 43 10.2**	**-0.3**
MACP				*e*S		**Sg**	**07 43 23.9**	**-1.0**
SJMP	**San Jose**	**1.19**	**132**	⇑*i*P		**Pn**	**07 43 12.7**	**+0.3**
SJMP				*e*S		**Sn**	**07 43 29.3**	**+0.6**
BUSP	**Coron**	**1.26**	**181**	⇑*e*P		**Pg**	**07 43 14.1**	**+0.5**
BUSP				*e*S		**Sn**	**07 43 30.7**	**+0.4**
LQP	**Lukban**	**1.53**	**57**	⇑*e*P		**Pn**	**07 43 17.3**	**+0.1**
LQP				*i* S		**Sg**	**07 43 38.8**	**-0.1**
BOAC	**Boac**	**1.60**	**83**	⇑*i*P		**Pn**	**07 43 18.6**	**+0.7**
BOAC				*e*S		**Sb**	**07 43 39.7**	**+0.3**
BALP	**Baler**	**2.79**	**28**	⇑*i*P		**Pn**	**07 43 36.5**	**+2.2**
WRA	**Warramunga Arr**	**35.81**	**157**	P		**P**	**07 49 48.6**	**-0.8**
	0.6nm,0.3s,baz=335,slow=9.6,SNR=20							
	0.6nm,0.3s							
SONM	**Songino Array**	**36.34**	**344**	P		**P**	**07 49 53.4**	**-0.4**
	0.7nm,0.6s,baz=159,slow=8.6,SNR=4.3							
	0.7nm,0.6s							
ASAR	**Alice Springs**	**39.08**	**160**	P		**P**	**07 50 17.1**	**0.0**
	1.9nm,0.7s,baz=340,slow=7.1,SNR=22							
	1.9nm,0.7s							
MKAR	**Makanchi Array**	**46.10**	**324**	P		**P**	**07 51 12.7**	**-1.3**
	0.2nm,0.4s,baz=114,slow=7.0,SNR=4.4							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**50.28**	**327**	P		**P**	**07 51 46.3**	**+0.1**
	1.1nm,0.2s,baz=131,slow=7.2,SNR=1.9							
	1.1nm,0.2s							

STR ***12*** *07:43:42.8±0.7, 43°.7N±5°×±°, h5km, MLv1.5/5, Error ellipse: s-maj=0.0km s-min=0.0km az=2.6, preliminary*

LDG ***12*** *07:43:42.9±0.1, 43°.06N×0°.31W, h2km, Md2.5/2, Ml2.5/9, Error ellipse: s-maj=1.3km s-min=1.1km az=134.0*

MDD ***12*** *07:43:43.6±0.3, 43°.04N×0°.33W, h0km, mb_Lg2.1/10, Error ellipse: s-maj=2.3km s-min=1.7km az=13.0*

ISC 12 07:43:42.0±0.9,**43°.09N**±0°.02×**0°.28W**±0°.02,**h12**km±7km,
n23,σ0**$82**/52,**1C**,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYLO	**Lourdes**	**0.17**	**89**	Pg		**Pb**	**07 43 46.6**	**-0.6**
PYLO				Sg		**Sg**	**07 43 49.4**	**+0.7**
ETSF	**Etsaut**	**0.28**	**226**	*e*Pg		**Pg**	**07 43 47.4**	**-0.4**
ETSF				*e*Sg		**Sg**	**07 43 51.0**	**-0.7**
	47nm,0.2s							
ATE	**Arette**	**0.30**	**269**	Pg		**Pg**	**07 43 48.2**	**-0.1**
ATE				Sg		**Sg**	**07 43 52.6**	**+0.2**
VIEF	**Viey**	**0.31**	**133**	Pg		**Pg**	**07 43 48.4**	**+0.1**
VIEF				Sg		**Sg**	**07 43 52.6**	**+0.1**
CANF	**Canfranc**	**0.37**	**208**	⇑Pg		**Pg**	**07 43 49.1**	**-0.4**
CANF				Sg		**Sg**	**07 43 53.8**	**-0.7**
EPF	**Esparros**	**0.46**	**98**	*e*Pg		**Pb**	**07 43 52.1**	**-0.1**
EPF				*e*Sg		**Sb**	**07 43 58.4**	**-0.6**
	17nm,0.2s							
ECHI	**Chisagues Biel**	**0.56**	**140**	Pg		**Pg**	**07 43 52.8**	**-0.1**
ECHI				Sg		**Sg**	**07 43 59.8**	**-0.5**
ECHI				*i* Vmb_Lg			07 44 00.7	
ECHI	**Chisagues Biel**	**0.56**	**140**	Pg		**Pg**	**07 43 52.8**	**-0.1**
ECHI				Sg		**Sg**	**07 43 59.8**	**-0.5**
SJPF	**Ste Jean**	**0.69**	**272**	*e*Pg		**Pb**	**07 43 56.0**	**0.0**
SJPF				*e*Sg		**Sg**	**07 44 04.7**	**+0.2**
	11nm,0.3s							
EORO	**Oroz-Betelu**	**0.78**	**255**	Pg		**Pg**	**07 43 56.8**	**-0.4**
EORO				Sg		**Sg**	**07 44 07.4**	**+0.1**
EORO				*i* Vmb_Lg			07 44 10.6	
EALK	**Alkurruntz**	**0.90**	**278**	Pg		**Pg**	**07 43 59.8**	**+0.3**
EALK				Sg		**Sb**	**07 44 16.3**	**-1.5**
ESAC	**San Caprasio**	**1.38**	**186**	Pg		**Pg**	**07 44 08.7**	**+0.1**
ESAC				Sg		**Sg**	**07 44 27.0**	**+0.6**
ESAC				*i* Vmb_Lg			07 44 29.9	
MTLF	**Montolieu**	**1.84**	**81**	*e*Pg		**Pg**	**07 44 17.7**	**+0.3**
MTLF				*e*Sg		**Sg**	**07 44 41.8**	**+0.4**
	3.0nm,0.2s							
LFF	**La Frestale**	**1.99**	**21**	*e*Pg		**Pg**	**07 44 21.0**	**+0.8**
LFF				*e*Sg		**Sg**	**07 44 46.7**	**+0.8**
	10nm,0.2s							
EPOB	**Poblet**	**2.01**	**149**	Pn		**Pn**	**07 44 16.5**	**+0.6**
EPOB				Pg		**Pg**	**07 44 19.6**	**-1.1**
EPOB				Sn		**Sn**	**07 44 42.4**	**-1.3**
EPOB				Sg		**Sg**	**07 44 45.4**	**-1.4**
EPOB				*i* Vmb_Lg			07 44 47.1	
ERTA	**Horta de San J**	**2.19**	**168**	Pg		**Pg**	**07 44 23.7**	**-0.2**
ERTA				Sn		**Sn**	**07 44 46.2**	**+0.9**
ERTA				Sg		**Sb**	**07 44 49.8**	**+1.2**
ERTA				*i* Vmb_Lg			07 44 53.4	
CAF	**Calviac**	**2.50**	**42**	*e*Pg		**Pg**	**07 44 29.9**	**0.0**
CAF				*e*Sn		**Sn**	**07 44 52.9**	**0.0**
CAF				*e*Sg		**Sg**	**07 45 02.5**	**+0.3**
	5.5nm,0.2s							
RJF	**Les Rejaudoux**	**2.56**	**30**	*e*Pg		**Pg**	**07 44 31.1**	**0.0**
RJF				*e*Sg		**Sg**	**07 45 04.5**	**+0.2**
	7.2nm,0.3s							
ETOR	**Torete**	**2.63**	**211**	Pn		**Pn**	**07 44 26.0**	**+1.6**
ETOR				Sn		**Sn**	**07 44 57.1**	**+0.8**
ETOR				Sg		**Sg**	**07 45 04.5**	**-2.0**
ETOR				*i* Vmb_Lg			07 45 09.6	
EMOS	**Mosqueruela**	**2.73**	**183**	Sn		**Sn**	**07 44 58.5**	**-0.5**
EMOS				Sg		**Sb**	**07 45 06.5**	**+2.0**
EMOS				*i* Vmb_Lg			07 45 10.8	
LASF	**Ste Croix**	**3.17**	**71**	*e*Pg		**Pg**	**07 44 42.0**	**-0.7**
LASF				*e*Sg		**Sg**	**07 45 23.3**	**-0.4**
	2.7nm,0.3s							
MFF	**Saint Martin d**	**3.51**	**2**	*e*Pg		**Pg**	**07 44 48.4**	**-0.9**
MFF				*e*Sn		**Sn**	**07 45 16.4**	**-1.5**
MFF				*e*Sg		**Sg**	**07 45 34.2**	**-0.5**
	2.4nm,0.3s							
TCF	**Toulx Ste Croi**	**3.66**	**28**	*e*Pg		**Pg**	**07 44 51.8**	**-0.3**
TCF				*e*Sg		**Sg**	**07 45 38.1**	**-1.3**
	1.9nm,0.2s							

IDC 12 07:45:22.5±3.1,**54°.33N**×**87°.31E**,**h0**km,**mbtmp2.9**/2,
ML2.7/2,**Error ellipse: s-maj=25.8km s-min=17.4km**
az=58.0,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**257**	*i*		07 54 10.0	
	baz=74,slow=330,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.51**	**257**	Pg		Pn	07 45 48.8	-2.1
	1.1nm,0.3s,baz=70,slow=17,SNR=6.6							
ZALV				Lg		Lg	07 46 11.3	
	2.6nm,0.3s,baz=72,slow=26,SNR=9.1							
KURBB	**Kurchatov Arra**	**6.52**	**239**	Pn		Pn	07 47 00.7	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=5.4							
KURBB				Lg		Lg	07 48 48.2	
	0.1nm,0.3s,baz=48,slow=29,SNR=2.1							
	0.8nm,0.4s							
MKAR	**Makanchi Array**	**8.19**	**205**	Pn		Pn	07 47 23.7	+1.1
	0.1nm,0.3s,baz=27,slow=13,SNR=5.2							
MKAR				Sn		Sn	07 48 54.6	-1.1
	0.1nm,0.3s,baz=25,slow=24,SNR=4.5							
MKAR				Lg		Lg	07 49 40.1	
	0.1nm,0.3s,baz=22,slow=29,SNR=2.3							
	0.2nm,0.3s							

MAN ***12*** *07:46:52.7, 10°.71N×125°.02E, h5km, mb4.5, ML3.3, MS3.2*
MAN INTENSITY III - MAHAPLAG, LEYTE; INTENSITY II - ABUYOG AND JAVIER, LEYTE.

IDC ***12*** *07:46:53.4±3.0, 10°.29N×124°.31E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=300.3km s-min=24.6km az=65.0*

ISC 12 07:46:52.6±1.3,**10°.68N**±0°.03×**124°.93E**±0°.03,**h4**km±10km,
n19,σ1**$03**/33,**mb3.4**/4,**9C-4D**,**Leyte**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.48**	**320**	⇑*i*P		**Pg**	**07 47 02.8**	**+0.8**
OCLP				*e*S		**Sb**	**07 47 11.2**	**0.0**
MSLP	**Maasin**	**0.55**	**187**	⇑*e*P		**Pb**	**07 47 04.5**	**-0.2**
MSLP				*e*S		**Sb**	**07 47 13.8**	**+0.8**
LLP	**Lapu-Lapu**	**1.01**	**249**	*e*P		**Pg**	**07 47 11.2**	**-0.8**
LLP				*i* S		**Sb**	**07 47 26.6**	**+0.2**
BESP	**Borongan**	**1.04**	**29**	⇑*i*P		**Pg**	**07 47 11.8**	**-0.9**
BESP				*e*S		**Sb**	**07 47 27.4**	**+0.1**
SCPH	**Surigao**	**1.05**	**148**	⇑*e*P		**Pb**	**07 47 13.1**	**-0.2**
SCPH				*e*S		**Sn**	**07 47 28.0**	**-1.1**
GHBP	**Garcia Hernand**	**1.20**	**210**	⇑*e*P		**Pn**	**07 47 15.4**	**-0.8**
GHBP				*i* S		**Sn**	**07 47 32.8**	**-0.2**
TBP	**Tagbilaran**	**1.44**	**227**	⇑*e*P		**Pn**	**07 47 19.6**	**+0.2**
TBP				*i* S		**Sg**	**07 47 40.7**	**+1.8**
CNP	**Catarman**	**1.84**	**352**	⇑*e*P		**Pn**	**07 47 25.0**	**0.0**
CNP				*e*S		**Sg**	**07 47 51.4**	**-0.4**
LSIP	**Lazi, Siquijor**	**2.00**	**220**	⇑*i*P		**Pb**	**07 47 29.0**	**-0.6**
LSIP				*i* S		**Sg**	**07 47 56.2**	**-0.7**
SNPH	**Sibulan**	**2.13**	**232**	⇓*i*P		**Pb**	**07 47 31.1**	**-0.8**
SNPH				*i* S		**Sg**	**07 48 01.1**	**-0.1**
CGP	**Cagayan de Oro**	**2.22**	**186**	⇓*e*P		**Pb**	**07 47 31.7**	**-1.6**
CGP				*e*S		**Sn**	**07 47 58.6**	**+0.5**
RCP	**Roxas**	**2.31**	**292**	⇓*e*P		**Pn**	**07 47 32.8**	**+1.3**
RCP				*e*S		**Sb**	**07 48 01.9**	**-2.0**
BUKP	**Musuan**	**2.79**	**177**	*e*P		**Pn**	**07 47 38.9**	**+0.8**
BUKP				*i* S		**Sb**	**07 48 16.4**	**-1.1**
BIPH	**Bislig**	**2.85**	**150**	⇑*e*P		**Pg**	**07 47 48.9**	**+1.6**
BIPH				*e*S		**Sb**	**07 48 17.8**	**-1.6**
KCP	**Kidapawan**	**3.65**	**177**	⇓*e*P		**Pb**	**07 47 56.9**	**-0.8**
WRA	**Warramunga Arr**	**31.81**	**163**	P		**P**	**07 53 18.7**	**+0.2**
	0.2nm,0.8s,baz=341,slow=9.1,SNR=1.8							
	0.2nm,0.8s							
ASAR	**Alice Springs**	**35.24**	**166**	P		**P**	**07 53 47.7**	**-0.8**
	0.3nm,0.5s,baz=344,slow=7.1,SNR=6.2							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**50.91**	**323**	P		**P**	**07 55 57.1**	**+2.1**
	0.3nm,0.6s,baz=116,slow=6.6,SNR=2.2							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**54.99**	**326**	P		**P**	**07 56 25.2**	**+0.1**
	0.9nm,0.2s,baz=119,slow=6.6,SNR=1.6							
	0.9nm,0.2s							

MOS ***12*** *08:01:25.0±1.1, 38°.38N×142°.19E, h37km, mb4.5/15, Error ellipse: s-maj=10.8km s-min=6.9km az=100.4*

JMA ***12*** *08:01:25.8±0.1, 38°.3N±0°.4×142°.1E±0°.7, h37km±1km, MD4.1/40, MV4.5/40, E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

IDC ***12*** *08:01:27.0±1.0, 38°.23N×141°

YUK				*e*S		**Sn**	**08 04 04.8**	**-4.6**	
YUK				pmax		pmax			
	comp=Z,71nm,0.5s								
YUK				pmax		pmax			
	comp=N,34nm,0.4s								
YUK				pmax		pmax			
	comp=E,44nm,0.4s								
YUK				smax		smax			
	comp=E,208nm,0.4s								
YUK				smax		smax			
	comp=N,416nm,0.5s								
KUR	**Kuril'sk**	**8.13**	**30**	P		**Pn**	**08 03 22.9**	**+0.9**	
KUR				*e*S		**Sn**	**08 04 48.5**	**-4.2**	
YSS	**Yuzh-Sakhalins**	**8.66**	**3⇑**	*e*P		**Pn**	**08 03 26.8**	**-2.4**	
YSS				pmax		pmax			
	comp=Z,10.0nm,1.1s								
USA0B	**Ussuriysk Arra**	**9.65**	**311⇑**	*e*P		**Pn**	**08 03 46.7**	**+3.8**	
USRK	**Ussuriysk Ar.**	**9.65**	**311**	Pn		**Pn**	**08 03 44.8**	**+1.9**	
	comp=Z,0.4nm,0.3s,baz=122,slow=14,SNR=8.4								
USRK	**Ussuriysk Ar.**	**9.65**	**311**	Pn		**Pn**	**08 03 44.5**	**+1.6**	
USRK	**Ussuriysk Ar.**	**9.65**	**311**	P		**Pn**	**08 03 44.5**	**+1.6**	
JCJ	**Chichijima**	**11.18**	**180**	Pn		**Pn**	**08 04 02.9**	**-0.9**	
	comp=Z,26nm,0.7s,baz=311,slow=22,SNR=1.0								
KLR	**Kul'dur**	**13.24**	**329**	Pn		**Pn**	**08 04 31.8**	**-0.2**	
	comp=Z,0.1nm,0.3s,baz=73,slow=19,SNR=1.5								
	comp=Z,0.5nm,0.3s								
KLR	**Kul'dur**	**13.24**	**329⇑**	*e*P		**Pn**	**08 04 32.1**	**+0.1**	
ZEA	**Zeya**	**18.52**	**331**	*e*P		**P**	**08 05 39.4**	**-0.4**	
ZEA				pmax		pmax			
	comp=Z,20nm,0.7s								
SEY	**Seymchan**	**25.43**	**11**	P		**P**	**08 06 52.6**	**+1.9**	
	comp=Z,1.9nm,0.8s,baz=195,slow=20,SNR=1.7								
	comp=Z,1.9nm,0.8s								
SEY	**Seymchan**	**25.43**	**11⇑**	*e*P		**P**	**08 06 51.3**	**+0.6**	
SEY				pmax		pmax			
	comp=Z,4.0nm,1.0s								
ULN	**Ulaanbaatar**	**27.15**	**302**	*ce*P		**P**	**08 07 07.6**	**+1.0**	
ULN				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SONM	**Songino Array**	**27.59**	**302**	P		**P**	**08 07 09.1**	**-1.4**	
	comp=Z,0.4nm,0.4s,baz=96,slow=8.9,SNR=3.7								
	comp=Z,0.4nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**28.33**	**124**	T		T	08 37 06.4		
	baz=317,slow=76								
H11N1	**WAKE ISLAND Hy**	**28.34**	**124**	T		T	08 37 38.2		
	baz=317								
H11N3	**WAKE ISLAND Hy**	**28.35**	**124**	T		T	08 37 06.9		
	baz=317,slow=76								
H11S1	**WAKE ISLAND Hy**	**29.09**	**126**	T		T	08 38 31.4		
	baz=317,slow=74								
H11S3	**WAKE ISLAND Hy**	**29.09**	**126**	T		T	08 38 00.0		
	baz=317								
H11S2	**WAKE ISLAND Hy**	**29.11**	**126**	T		T	08 38 02.3		
	baz=317,slow=74								
ZAK	**Zakamensk**	**29.96**	**306**	*e*P		**P**	**08 07 30.5**	**-1.1**	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
BILL	**Bilibino**	**32.65**	**17**	*e*P		P	08 08 12.0	+17	
BILL				pmax		pmax			
	comp=Z,8.0nm,1.2s								
KNGR	**Kungurtug, Tuv**	**33.65**	**306⇑**	*e*P		**P**	**08 08 03.7**	**-0.2**	
KNGR				pmax		pmax			
	comp=Z,3.0nm,1.0s								
DGZ	**Jazzator, Alta**	**40.14**	**305**	*de*P		**P**	**08 09 00.0**	**+0.9**	
DGZ				pmax		pmax			
	comp=Z,9.0nm,0.9s								
ZALV	**Zalesovo Beam**	**41.51**	**311**	P		**P**	**08 09 10.0**	**-0.1**	
	comp=Z,2.8nm,0.5s,baz=85,slow=8.2,SNR=11								
ZALV				pP		**pP**	**08 09 20.4**	**+0.4**	
	comp=Z,1.6nm,0.6s,baz=84,slow=8.5,SNR=2.5								
	comp=Z,2.8nm,0.5s								
ZALV	**Zalesovo Beam**	**41.51**	**311**	*i* P		**P**	**08 09 09.8**	**-0.3**	
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.5s								
MK31	**Makanchi Array**	**43.95**	**301**	P		**P**	**08 09 31.1**	**+0.9**	
MK31	**Makanchi Array**	**43.95**	**301⇓**	*e*P		**P**	**08 09 29.8**	**-0.3**	
MKAR	**Makanchi Array**	**43.95**	**301**	P		**P**	**08 09 29.5**	**-0.6**	
	comp=Z,1.1nm,0.8s,baz=89,slow=9.3,SNR=8.8								
	comp=Z,1.1nm,0.8s								
MKAR	**Makanchi Array**	**43.95**	**301**	P		**P**	**08 09 31.1**	**+1.0**	
MKAR	**Makanchi Array**	**43.95**	**301**	*i* P		**P**	**08 09 30.6**	**+0.5**	
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
KURK	**Kurchatov**	**45.62**	**307**	P		**P**	**08 09 43.4**	**+0.1**	
KURK				IAmb		IAmb	08 09 43.6		
	comp=Z,10.0nm,0.8s								
KURK	**Kurchatov**	**45.62**	**307**	*ce*P		**P**	**08 09 42.5**	**-0.8**	
KURK				pmax		pmax			
	comp=Z,8.0nm,0.8s								
ILAR	**Eielson Array**	**48.11**	**33**	P		**P**	**08 10 03.5**	**+1.0**	
	comp=Z,0.2nm,0.7s,baz=265,slow=9.0,SNR=2.2								
	comp=Z,0.2nm,0.7s								
BRVK	**Borovoye**	**50.22**	**312**	*ce*P		**P**	**08 10 19.3**	**+0.5**	
BRVK				pmax		pmax			
	comp=Z,5.0nm,2.5s								
CHGR	**Chuyangaron**	**55.66**	**295**	P		**P**	**08 11 00.2**	**+0.9**	
CHGR	**Chuyangaron**	**55.66**	**295**	P		**P**	**08 11 00.2**	**+0.9**	
CHGR				pmax		pmax			
	comp=Z,13nm,0.7s								
ARU	**Arti**	**55.80**	**318**	*c* P		**P**	**08 10 59.7**	**-0.2**	
ARU							08 13 01.0		
ARU				S		**S**	**08 18 46.1**	**+1.7**	
ARU				SS		**SS**	**08 22 30.4**	**+0.8**	
ARU				pmax		pmax			
	comp=Z,11nm,1.4s								
ABKAR	**Akbulak array**	**57.58**	**310**	P		**P**	**08 11 11.8**	**-0.8**	
WB0	**Warramunga Arr**	**58.22**	**189**	P		**P**	**08 11 17.0**	**-0.4**	
WB0				IAmb		IAmb	08 11 28.3		
	comp=Z,3.9nm,0.9s								
WRAB	**Tennant Creek**	**58.39**	**189**	*ce*P		**P**	**08 11 20.4**	**+1.9**	
WRAB				pmax		pmax			
	comp=Z,8.0nm,2.5s								
WR0	**Warramunga Arr**	**58.39**	**188**	P		**P**	**08 11 18.2**	**-0.3**	
WR0				IAmb		IAmb	08 11 47.0		
	comp=Z,5.8nm,1.4s								
WB2	**Warramunga Arr**	**58.40**	**189**	P		**P**	**08 11 16.7**	**-1.9**	
WB2				IAmb		IAmb	08 11 44.2		
	comp=Z,9.1nm,1.4s								
WRA	**Warramunga Arr**	**58.40**	**189**	P		**P**	**08 11 17.6**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=7.8,slow=7.7,SNR=4.7								
	comp=Z,0.2nm,0.3s								
WRA	**Warramunga Arr**	**58.40**	**189**	P		**P**	**08 11 18.2**	**-0.4**	
WRA	**Warramunga Arr**	**58.40**	**189**	P		**P**	**08 11 18.2**	**-0.4**	
ASAR	**Alice Springs**	**62.13**	**189**	P		**P**	**08 11 46.5**	**+2.4**	
	comp=Z,0.3nm,0.7s,baz=13,slow=8.6,SNR=2.6								
OBN	**Obninsk**	**67.43**	**323**	*e*P		P	08 12 23.1	+4.8	
OBN				*e*			08 12 49.1		
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
FIA1	**FINESS Array S**	**67.96**	**332**	P		**P**	**08 12 21.9**	**+0.4**	
FIA1				IAmb		IAmb	08 12 40.4		
	comp=Z,9.2nm,1.1s								
FINES	**FINESS Array B**	**67.97**	**332**	P		**P**	**08 12 21.6**	**+0.1**	
	comp=Z,3.1nm,0.6s,baz=38,slow=9.6,SNR=10								
FINES				pP		**pP**	**08 12 33.0**	**+1.0**	
	comp=Z,2.1nm,0.9s,baz=38,slow=7.0,SNR=1.1								
	comp=Z,3.1nm,0.6s								
FINES	**FINESS Array B**	**67.97**	**332**	P		**P**	**08 12 21.9**	**+0.4**	
KBZ	**Khabaz**	**70.52**	**311**	P		**P**	**08 12 37.8**	**+0.2**	
	comp=Z,3.1nm,0.9s,baz=24,slow=6.1,SNR=5.6								
	comp=Z,3.1nm,0.9s								
KBZ	**Khabaz**	**70.52**	**311⇓**	*e*P		**P**	**08 12 37.9**	**+0.2**	
KBZ				pmax		pmax			
	comp=Z,4.0nm,0.9s								
NB2	**NORSAR Subarra**	**73.24**	**337**	P		**P**	**08 12 53.5**	**-0.3**	
	comp=Z,2.8nm,0.8s,baz=40,slow=6.2								
NOA	**NORSAR Array B**	**73.24**	**337**	P		**P**	**08 12 53.8**	**-0.1**	
	comp=Z,1.6nm,0.7s,baz=39,slow=5.9,SNR=8.0								
	comp=Z,1.6nm,0.7s								
AKASG	**Malin Array Be**	**73.65**	**322**	P		**P**	**08 12 55.8**	**-0.5**	
	comp=Z,2.1nm,0.6s,baz=46,slow=5.9,SNR=6.7								
	comp=Z,2.1nm,0.6s								
AKBB	**Malin Array Si**	**73.65**	**322⇓**	*e*P		**P**	**08 12 55.1**	**-1.2**	
NVAR	**Mina Array Bea**	**73.76**	**54**	pP		pP	08 13 09.5	+1.5	
	comp=Z,0.6nm,0.9s,baz=290,slow=4.7,SNR=4.3								
PDAR	**Pinedale Array**	**76.36**	**46**	P		**P**	**08 13 13.5**	**+1.1**	
	comp=Z,0.1nm,0.5s,baz=327,slow=4.3,SNR=1.8								
PDAR				pP		**PcP**	**08 13 24.8**	**+0.6**	
	comp=Z,0.6nm,0.5s,baz=271,slow=2.3,SNR=6.3								
	comp=Z,0.1nm,0.5s								
BRTR	**Keskin Array B**	**78.45**	**312**	P		**P**	**08 13 23.1**	**-1.0**	
	comp=Z,0.4nm,0.8s,baz=43,slow=2.6,SNR=3.3								
	comp=Z,0.4nm,0.8s								
TXAR	**Lajitas Array**	**88.89**	**53**	P		**P**	**08 14 18.9**	**+1.3**	
	comp=Z,0.2nm,0.7s,baz=308,slow=4.4,SNR=2.7								
	comp=Z,0.2nm,0.7s								
LPAZ	**La Paz**	**145.54**	**59**	pPKPbc		pPKPbc	08 21 14.1	+0.7	
	comp=Z,1.8nm,0.9s,baz=11,slow=7.0,SNR=6.0								

IDC ***12*** *08:22:06.0±5.6, 16°.33S×174°.17W, h56km±45km, mb3.7/4, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=178.5km s-min=25.5km az=148.0*

NEIC ***12*** *08:22:09.3±0.6, 16°.5S±0°.1×173°.23W±0°.10, h138km±10km, mb4.1/5, Error ellipse: s-maj=17.8km s-min=12.0km az=209.0*

NOU ***12*** *08:22:41.3, 13°.94S×172°.00W, h95km, MLv2.7/5, Samoa Islands*

ISC 12 08:22:10.1±1.2, 17°.2S±0°.3×173°.5W±0°.1, h100km, n21, σ2ŝ43/12, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.69**	**28**	P	Pn	08 22 55.7	-9.4
	15nm,0.3s,baz=232,slow=12,SNR=14						
AFI				S	Sn	08 23 30.4	-17
	582nm,0.5s,baz=52,slow=22,SNR=34						
	46nm,0.4s						
AFI	**Afiamalu**	**3.69**	**28**		Pn	08 22 55.8	-9.3
AFI				Sn	Sn	08 23 30.7	-17
AFI	**Afiamalu**	**3.69**	**28**	P	Pn	08 22 56.0	-9.1
NIUE	**Niue**	**3.91**	**119**	Pn	**Pn**	**08 23 09.9**	**+2.0**
MSVF	**Nonsavu**	**8.05**	**265**	Pn	**Pn**	**08 24 08.2**	**+3.9**
ARMA	**Armidale**	**34.33**	**241**	P	**P**	**08 28 47.1**	**-0.3**
H11S2	**WAKE ISLAND Hy**	**40.44**	**330**	T	T	09 12 54.8	
	baz=146						
H11S3	**WAKE ISLAND Hy**	**40.46**	**330**	T	T	09 11 49.3	
	baz=146						
H11S1	**WAKE ISLAND Hy**	**40.46**	**330**	T	T	09 11 35.9	
	baz=146						
H11N3	**WAKE ISLAND Hy**	**41.41**	**332**	T	T	09 13 31.4	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**41.42**	**332**	T	T	09 13 27.0	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**41.43**	**332**	T	T	09 12 47.4	
	baz=150						
STKA	**Stephens Creek**	**43.05**	**242**	P	**P**	**08 29 59.6**	**-0.5**
	3.7nm,1.0s,baz=62,slow=15,SNR=4.1						
	3.7nm,1.0s						
WB0	**Warramunga Arr**	**49.30**	**258**		**P**	**08 30 47.4**	**-1.8**
WB0				IAmb	IAmb	08 31 07.8	
	comp=Z,2.2nm,0.9s						
WRAB	**Tennant Creek**	**49.32**	**258**	P	**P**	**08 30 46.8**	**-2.7**
WRAB				IAmb	IAmb	08 30 48.8	
	comp=Z,4.9nm,1.4s						
WRA	**Warramunga Arr**	**49.33**	**258**	P	**P**	**08 30 46.5**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=7.1,SNR=17						
	comp=Z,0.2nm,0.3s						
WRA	**Warramunga Arr**	**49.33**	**258**	P	**P**	**08 30 47.5**	**-2.0**
ASAR	**Alice Springs**	**49.45**	**253**	P	**P**	**08 30 48.6**	**-1.8**
	comp=Z,3.2nm,0.5s,baz=88,slow=8.6,SNR=50						
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**49.45**	**253**	P	**P**	**08 30 48.3**	**-2.2**
QSPA	**South Pole Qui**	**72.85**	**180**	P	**P**	**08 33 26.2**	**-1.7**
QSPA				IAmb	IAmb	08 33 33.1	
	comp=Z,5.8nm,1.4s						
PDAR	**Pinedale Array**	**83.69**	**42**	P	**P**	**08 34 27.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=207,slow=3.0,SNR=5.2						
	comp=Z,0.4nm,0.6s						

THE ***12*** *08:26:04.2, 38°.88N×27°.79E, h0km±1km, ML4.8/5, Error ellipse: s-maj=2.7km s-min=1.1km az=82.0*

DDA ***12*** *08:26:04.3±0.0, 38°.91N×27°.75E, h18km±1km, MW4.6*

PDG ***12*** *08:26:04.4±0.6, 38°.95N×27°.74E, h10km±1km, ML4.4/9, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*

ISK ***12*** *08:26:04.3, 38°.90N×27°.74E, h14km, ML5.0/62*

NEIC ***12*** *08:26:04.9±2.2, 38°.90N±0°.04×27°.75E±0°.06, h10km±1km, mb4.5/34, ML5.0(ISK), Error ellipse: s-maj=8.5km s-min=7.0km az=266.0*

IDC ***12*** *08:26:04.5±0.5, 38°.96N×27°.68E, h0km, mb4.1/27, mbtmp4.1/37, ML3.9/10, MS4.3/24, Error ellipse: s-maj=10.2km s-min=9.4km az=6.0*

GCMT ***12*** *08:26:05.9±0.3, 38°.82N±0°.02×27°.62E±0°.02, h16km±1km, MW5.2/101, Moment Tensor Solution. s13,c16; s101,c143; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.09±.21; Mθθ2.40±.18; Mϕϕ-0.31±.14; Mrθ-5.78±1.04; Mθϕ-2.95±.12; Mϕr0.35±.37; Best double couple: M₀6.83700×10¹⁶ NP1:ϕs94.00000°, δ79.00000°, λ-113.00000°. NP2:ϕs340.00000°, δ26.00000°, λ-26.00000°. Principal axes: T 7.2860, Plg30.0000°, Azm203.0000°; N -0.9060, Plg23.0000°, Azm98.0000°; P -6.3870, Plg51.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MED_RC ***12*** *08:26:05.0±0.2, 38°.98N×27°.74E, h14km±1km, MW5.0/22, Moment Tensor Solution.Mantle waves: s22,c32; Duration: 1s1 Moment tensor: Scale 10¹⁶Nm; Mrr-1.55±.20; Mθθ1.91±.14; Mϕϕ-0.36±.10; Mrθ-1.10±.21; Mθϕ-2.40±.12; Mϕr-1.04±.21; Best double couple: M₀3.33000×10¹⁶ NP1:ϕs86.00000°, δ65.00000°, λ-144.00000°. NP2:ϕs339.00000°, δ58.00000°, λ-29.00000°. Principal axes: T 3.4600, Plg5.0000°, Azm211.0000°; N -0.2600, Plg48.0000°, Azm116.0000°; P -3.2000, Plg42.0000°, Azm305.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

MOS ***12*** *08:26:05.0±1.3, 38°.98N×27°.79E, h17km, mb4.7/21, MS4.0/13 Error ellipse: s-maj=3.9km s-min=2.4km az=112.4*

CFUSG ***12*** *08:26:06.9, 39°.19N×28°.07E, h15km, mb3.8/1, Western Turkey Magtype MSH 3.4 from 5 stations*

ATH ***12*** *08:26:06.7, 38°.86N×27°.77E, h17km±10km, ML4.8/6, Error ellipse: s-maj=10.8km s-min=1.5km az=90.0*

HLW ***12*** *08:26:06.2, 38°.65N×27°.73E, h10km±21km, Md4.7, Ml4.6*

SOF ***12*** *08:26:07.5, 39°.20N×27°.58E, h8km, MD4.8*

ISC 12 08:26:05.1±0.6, 38°.92N±0°.01×27°.74E±0°.01, h7km±4km, n658, σ1ŝ54/733, mb4.5/62, MS4.4/15, 59C-42D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.07**	**125**	PG	**Pg**	**08 26 06.8**	**-0.2**
AKHS	**Akhisar**	**0.07**	**125**	P	**Pg**	**08 26 07.0**	**0.0**
AKHS				S	**Sg**	**08 26 08.7**	**+0.3**
GOMA	**Golmarmara-Man**	**0.25**	**147**	PG	**Pg**	**08 26 09.9**	**-0.2**
GOMA	**Golmarmara-Man**	**0.25**	**147**	Pg	**Pg**	**08 26 09.8**	**-0.2**
STEP	**BALIKESIR_Sava**	**0.46**	**358**	P	**Pg**	**08 26 13.9**	**-0.1**
STEP				S	**Sg**	**08 26 21.2**	**+1.1**
STEP				*i* AML	AML	08 26 25.0	
	comp=N,18μm,0.8s						
STEP				*i* AML	AML	08 26 28.0	
	comp=E,17μm,0.7s						
ZEDA	**zmir-Bergama**	**0.52**	**275**	P	**Pg**	**08 26 15.2**	**0.0**
ZEDA				S	**Sb**	**08 26 23.2**	**-1.1**
ZEDA				*i* AML	AML	08 26 24.0	
	comp=N,8μm,0.6s						
ZEDA				*i* AML	AML	08 26 28.0	
	comp=E,3μm,0.7s						
DKL	**Dikili**	**0.67**	**283**	PG	**Pg**	**08 26 17.9**	**-0.1**
DKL				SG	**Sb**	**08 26 27.8**	**-0.7**
DKL	**Dikili**	**0.67**	**283**	Pg	**Pg**	**08 26 18.0**	**-0.1**
BLCB	**Balcova**	**0.76**	**226**	P	**Pg**	**08 26 19.1**	**-0.7**
BLCB				S	**Sg**	**08 26 29.9**	**+0.2**
BLCB	**Balcova**	**0.76**	**226**	PG	**Pg**	**08 26 19.1**	**-0.7**
BLCB				SG	**Sg**	**08 26 30.3**	**+0.6**
BLCB	**Balcova**	**0.76**	**226**	Pg	**Pg**	**08 26 19.1**	**-0.7**
MANT	**Manisa**	**0.77**	**123**		**Pg**	**08 26 19.3**	**-0.7**
MANT	**Manisa**	**0.77**	**123**	P	**Pg**	**08 26 19.3**	**-0.7**
MANT				S	**Sg**	**08 26 30.0**	**0.0**
MANT				*i* AML	AML	08 26 33.0	
	comp=E,1μm,0.3s						
MANT				*i* AML	AML	08 26 34.0	
	comp=N,2μm,0.6s						
DEMI	**Demirci**	**0.77**	**80**	P	**Pg**	**08 26 19.8**	**-0.2**
DEMI				S	**Sg**	**08 26 30.0**	**0.0**
DEMI				*i* AML	AML	08 26 34.0	
	comp=E,5μm,0.6s						
DEMI				*i* AML	AML	08 26 35.0	
	comp=N,3μm,0.2s						
FOCM	**Foa**	**0.81**	**256**	PG	**Pg**	**08 26 20.8**	**0.0**
FOCM				SG	**Sb**	**08 26 32.4**	**-0.3**
FOCM	**Foa**	**0.81**	**256**	Pg	**Pg**	**08 26 20.8**	**0.0**
BALY	**Balya**	**0.83**	**354**	P	**Pg**	**08 26 19.7**	**-1.3**
BALY				S	**Sg**	**08 26 31.8**	**0.0**
BALY				*i* AML	AML	08 26 36.0	
	comp=N,7μm,0.5s						
BALY				*i* AML	AML	08 26 36.0	
	comp=E,5μm,0.4s						
DURS	**Dursunbey**	**0.89**	**40**	P	**Pg**	**08 26 21.4**	**-0.8**
DURS				S	**Sb**	**08 26 34.6**	**-0.4**
DURS				*i* AML	AML	08 26 37.0	
	comp=N,2μm,0.5s						
DURS				*i* AML	AML	08 26 37.0	
	comp=E,2μm,0.3s						
AYVA	**Ayvalik**	**0.91**	**296**	P	**Pg**	**08 26 22.5**	**0.0**
AYVA				S	**Sb**	**08 26 35.4**	**0.0**
AYVA				*i* AML	AML	08 26 37.0	
	comp=N,4μm,0.5s						
AYVA				*i* AML	AML	08 26 37.0	
	comp=E,5μm,0.6s						
DST	**Dursunbey**	**0.97**	**45**	PG	**Pg**	**08 26 23.5**	**-0.2**
DST				SG	**Sb**	**08 26 37.5**	**+0.3**
DST	**Dursunbey**	**0.97**	**45**	Pg	**Pg**	**08 26 23.5**	**-0.2**
DST	**Dursunbey**	**0.97**	**45**	P	**Pg**	**08 26 23.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**173**	PG	**Pg**	**08 26 23.5**	**-0.4**
AYDB				SG	**Sg**	**08 26 36.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**173**	Pg	**Pg**	**08 26 23.5**	**-0.4**
KRBN	**Karaburun**	**0.98**	**251**	PG	**Pb**	**08 26 24.2**	**-0.3**
KRBN	**Karaburun**	**0.98**	**251**	Pg	**Pb**	**08 26 24.2**	**-0.3**
SMAA	**Simav-Kutahya**	**0.98**	**79**	PG	**Pb**	**08 26 24.2**	**-0.3**
SMAA	**Simav-Kutahya**	**0.98**	**79**	Pg	**Pb**	**08 26 24.1**	**-0.3**
USAK	**Uak-Merkez**	**1.02**	**101**	P	**Pg**	**08 26 23.7**	**-1.0**
USAK				S	**Sn**	**08 26 39.7**	**-0.7**
USAK				*i* AML	AML	08 26 41.0	
	comp=N,9μm,1.0s						
USAK				*i* AML	AML	08 26 51.0	
	comp=E,7μm,0.6s						
URLA	**Izmir**	**1.06**	**238**	PG	**Pg**	**08 26 23.6**	**-1.8**
URLA				SG	**Sg**	**08 26 38.7**	**-0.4**
URLA	**Izmir**	**1.06**	**238**	P	**Pg**	**08 26 23.4**	**-2.0**
URLA				S	**Sg**	**08 26 39.2**	**+0.1**
URLA				*i* AML	AML	08 26 46.0	
	comp=N,1μm,0.5s						
URLA				*i* AML	AML	08 26 50.0	
	comp=E,1μm,0.4s						
GONE	**Gonen-Balikesi**	**1.13**	**358**	PN	**Pg**	**08 26 26.6**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**1.18**	**235**	P	**Pb**	**08 26 26.4**	**-1.4**
ZEYE				S	**Sb**	**08 26 43.3**	**0.0**
ZEYE				*i* AML	AML	08 26 46.0	
	comp=E,2μm,0.5s						
ZEYE				*i* AML	AML	08 26 50.0	
	comp=N,2μm,1.1s						
PRK	**Paraskevi**	**1.19**	**286**	P	**Pn**	**08 26 28.3**	**+0.2**
PRK				S	**Sn**	**08 26 44.8**	**+0.3**
	73μm,0.6s						
PRK	**Paraskevi**	**1.19**	**286**	P	**Pn**	**08 26 28.3**	**+0.2**
PRK				S	**Sn**	**08 26 44.8**	**+0.3**
PRK	**Paraskevi**	**1.19**	**286**	P	**Pn**	**08 26 28.5**	**+0.4**
PRK				S	**Sn**	**08 26 45.1**	**+0.6**
PRK				AML	AML	08 26 47.9	
PRK				AML	AML	08 26 50.6	
AYDN	**Tasoluk**	**1.26**	**175**	P	**Pn**	**08 26 27.6**	**-1.5**
AYDN				S	**Sb**	**08 26 45.1**	**-0.6**
AYDN				*i* AML	AML	08 26 48.0	
	comp=E,3μm,0.8s						
AYDN				*i* AML	AML	08 26 50.0	
	comp=N,1μm,1.2s						
GCAM	**G?zelcami?**	**1.28**	**198**	PN	**Pn**	**08 26 27.4**	**-2.0**
GCAM	**G?zelcami?**	**1.28**	**198**	P	**Pn**	**08 26 27.3**	**-2.0**
GCAM				S	**Sn**	**08 26 47.8**	**+1.0**
GCAM				*i* AML	AML	08 26 48.0	
	comp=N,9μm,0.6s						
GCAM				*i* AML	AML	08 26 53.0	
	comp=E,9μm,0.6s						
GEDZ	**Gediz**	**1.31**	**84**	PN	**Pn**	**08 26 29.2**	**-0.7**
GPNR	**Gulpinar-Canak**	**1.36**	**294**	PN	**Pn**	**08 26 29.8**	**-0.7**
KNL	**Balıkesir**	**1.36**	**353**	P	**Pn**	**08 26 29.7**	**-0.8**
KNL				S	**Sg**	**08 26 49.3**	**+0.4**
KNL				*i* AML	AML	08 26 55.0	
	comp=N,6μm,1.1s						
KNL				*i* AML	AML	08 26 56.0	
	comp=E,6μm,0.7s						
KOCA	**Canakkale, Ayv**	**1.37**	**296**	P	**Pn**	**08 26 29.9**	**-0.8**
KOCA				S	**Sb**	**08 26 48.2**	**-0.7**
KOCA				*i* AML	AML	08 26 55.0	
	comp=N,2μm,0.5s						
KOCA				*i* AML	AML	08 26 56.0	
	comp=E,2μm,0.8s						
SMG	**Samos**	**1.40**	**211**	P	**Pn**	**08 26 29.1**	**-2.0**
SMG				S	**Sg**	**08 26 50.5**	**+0.3**
	22μm,0.5s						
SMG	**Samos**	**1.40**	**211**	P	**Pn**	**08 26 31.1**	**0.0**
SMG				S	**Sb**	**08 26 49.3**	**-0.4**
SMG				AML	AML	08 26 53.1	
	comp=E,50924μm,0.7s						
SMG				AML	AML	08 26 56.4	
	comp=N,41160μm,0.6s						
CHOS	**Chios island**	**1.42**	**249**	P	**Pn**	**08 26 30.5**	**-1.0**
CHOS				S	**Sg**	**08 26 51.4**	**+0.5**
	comp=N,38μm,0.5s						
CHOS	**Chios island**	**1.42**	**249**	PN	**Pn**	**08 26 30.4**	**-1.0**
CHOS	**Chios island**	**1.42**	**249**	P	**Pg**	**08 26 32.2**	**-0.2**
CHOS				S	**Sg**	**08 26 51.0**	**+0.2**
CHOS				AML	AML	08 26 54.9	
	comp=N,75894μm,0.6s						

YER	Yerkesik	1.83	166	PN	Pn	08 26 35.9	-1.1		
YER	Yerkesik	1.83	166	P	Pn	08 26 35.8	-1.2		
YER				S	Sn	08 27 00.9	+0.4		
ARMT	Armutlu	1.86	27	PN	Pn	08 26 36.3	-1.1		
BDRM	Kayabasi	1.86	187	P	Pn	08 26 35.4	-2.0		
BDRM				S	Sg	08 27 05.0	-0.1		
BDRM				*i* AML	AML	08 27 12.0			
	comp=N,3µm,1.0s								
GEMT	Gemlik	1.88	36	PN	Pn	08 26 36.7	-1.0		
BODT	Bodrum	1.88	191	P	Pn	08 26 35.0	-2.8		
BODT	Bodrum	1.88	191	PN	Pn	08 26 34.9	-2.8		
APMY	Acipayam-Deniz	1.90	139	PN	Pn	08 26 37.7	-1.0		
GADA	Gvkgeada	1.91	312	PN	Pn	08 26 37.7	-0.3		
ESNK	Esenkʧy	1.95	29	P	Pn	08 26 36.5	-2.2		
ESNK				S	Sb	08 27 06.1	+0.5		
KZIL	AFYON_Kizioren	1.99	109	P	Pn	08 26 38.9	-0.5		
KZIL				S	Sg	08 27 12.2	+3.0		
KZIL				*i* AML	AML	08 27 21.0			
	comp=N,3µm,0.9s								
KZIL				*i* AML	AML	08 27 22.0			
	comp=N,3µm,0.8s								
AUBOZ	BOZOYUK	2.03	60	PN	Pn	08 26 38.9	-0.9		
AUBOZ	BOZOYUK	2.03	60	P	Pn	08 26 38.0	-1.9		
AUBOZ				S	Sg	08 27 09.6	-0.9		
AUBOZ				*i* AML	AML	08 27 17.0			
	comp=N,9µm,0.6s								
AUBOZ				*i* AML	AML	08 27 19.0			
	comp=N,8µm,0.8s								
CAVI	Cavuskoy	2.07	51	PN	Pn	08 26 39.7	-0.6		
BASM	Basmaki-Afyon	2.07	118	PN	Pn	08 26 39.6	-0.7		
KESN	Edirne-Kesan	2.07	337	P	Pn	08 26 40.0	-0.6		
KESN				S	Sg	08 27 11.1	-0.7		
KESN				*i* AML	AML	08 27 12.0			
	comp=N,3µm,0.7s								
KESN				*i* AML	AML	08 27 12.0			
	comp=N,2µm,0.6s								
YLV	Yalova	2.07	37	PN	Pn	08 26 39.1	-1.3		
CAVK	Edirne/Enez-Ca	2.15	326	P	Pn	08 26 41.4	+0.1		
CAVK				S	Sn	08 27 08.6	+0.4		
CAVK				*i* AML	AML	08 27 14.0			
	comp=N,3µm,0.9s								
CAVK				*i* AML	AML	08 27 14.0			
	comp=N,2µm,0.9s								
ADVT	Abdulvahap	2.16	45	PN	Pn	08 26 40.7	-0.8		
TURN	Turunc	2.18	169	PN	Pn	08 26 40.4	-1.3		
TURN	Turunc	2.18	169	P	Pn	08 26 40.2	-1.5		
TURN				S	Sg	08 27 16.3	+1.3		
TURN				*i* AML	AML	08 27 19.0			
	comp=N,6µm,1.3s								
TURN				*i* AML	AML	08 27 22.0			
	comp=N,6µm,1.3s								
ENEZ	Enez	2.19	327	P	Pn	08 26 42.0	+0.2		
ENEZ	Enez	2.19	327	PN	Pn	08 26 42.1	+0.2		
BRDR	BURDUR-Merkez	2.20	123	P	Pn	08 26 41.2	-0.9		
BRDR				S	Sg	08 27 18.1	+2.4		
BRDR				*i* AML	AML	08 27 28.0			
	comp=N,2µm,1.0s								
BRDR				*i* AML	AML	08 27 29.0			
	comp=N,2µm,1.0s								
CRLT	Corlu	2.21	360	PN	Pn	08 26 42.0	-0.2		
LIA	Limnos Island	2.21	297	P	Pn	08 26 41.8	-0.4		
LIA	Limnos Island	2.21	297	P	Pb	08 26 46.1	+0.7		
LIA				AML	AML	08 27 17.5			
	comp=E,26067µm,0.9s								
LIA				AML	AML	08 27 24.9			
	comp=N,15825µm,1.0s								
GOLH	Golhisar	2.21	139	P	Pn	08 26 41.9	-0.4		
GOLH				S	Sg	08 27 18.5	+2.4		
GOLH				*i* AML	AML	08 27 29.0			
	comp=N,3µm,0.9s								
GOLH				*i* AML	AML	08 27 31.0			
	comp=N,3µm,0.8s								
DALY	Dalyan (Mula)	2.22	161	PN	Pn	08 26 41.6	-0.7		
SHUT	Suhut-Afyon	2.23	99	PN	Pn	08 26 42.1	-0.5		
KOSK	Kos Island	2.25	196	PN	Pn	08 26 41.8	-0.9		
AFYN	Afyon-Dinar-K	2.26	106	P	Pg	08 26 47.4	-1.0		
AFYN				S	Sg	08 27 32.5	+15		
ELBA	Catalca	2.29	13	P	Pn	08 26 42.3	-1.0		
ELBA				S	Sn	08 27 10.3	-1.4		
SMTH	Samothraki Isl	2.30	313	P	Pn	08 26 43.0	-0.5		
SMTH	Samothraki Isl	2.30	313	P	Pg	08 26 48.8	-0.5		
SMTH				S	Sg	08 27 17.9	-1.3		
BORA	Eskisehir	2.31	65	PN	Pn	08 26 43.0	-0.7		
BORA	Eskisehir	2.31	65		Pn	08 26 43.8	+0.1		
BORA	Eskisehir	2.31	65	P	Pn	08 26 42.7	-1.0		
BORA				S	Sg	08 27 19.1	-0.3		
CAME	Cameli-Denizli	2.33	147	PN	Pn	08 26 42.9	-1.0		
SLVT	Silivri	2.34	9	PN	Pn	08 26 43.4	-0.5		
NISR	Nisiros	2.35	192	P	Pg	08 26 49.2	0.0		
NIS1	Nisyros Isl.	2.35	191	P	Pg	08 26 49.6	-0.7		
UKOP	Uzunkopru-Edir	2.37	339	PN	Pn	08 26 44.3	0.0		
ALN	Alexandroupoli	2.37	327	P	Pn	08 26 44.0	-0.3		
ALN	Alexandroupoli	2.37	327	PN	Pn	08 26 44.2	-0.1		
ALN	Alexandroupoli	2.37	327		Pn	08 26 44.1	-0.3		
ALN	Alexandroupoli	2.37	327	P	Pn	08 26 44.1	-0.3		
ALN	Alexandroupoli	2.37	327	P	Pg	08 26 49.3	-1.2		
ALN				S	Sb	08 27 19.3	+1.8		
ALN				AML	AML	08 27 21.7			
	comp=E,18960µm,0.3s								
ALN				AML	AML	08 27 23.3			
	comp=N,22550µm,0.7s								
KAVV	Kandilli-Istan	2.37	25	PN	Pn	08 26 43.1	-1.3		
ISK	Istanbul-Kandi	2.37	25	P	Pn	08 26 43.0	-1.4		
ISK	Istanbul-Kandi	2.37	25	PN	Pn	08 26 43.1	-1.4		
ISK	Istanbul-Kandi	2.37	25	P	Pn	08 26 43.0	-1.4		
CTKS	Kestanelik-??a	2.39	14	PN	Pn	08 26 43.9	-0.7		
BGKT	Bogazkoy	2.40	19	PN	Pn	08 26 44.6	-0.1		
GPA	Golpazari	2.41	55	PN	Pn	08 26 44.7	-0.3		
HRT	Hereke	2.41	37	PN	Pn	08 26 44.0	-1.0		
ISP	Isparta	2.44	116	PN	Pn	08 26 44.9	-0.6		
ISP	Isparta	2.44	116		Pn	08 26 44.7	-0.8		
ISP	Isparta	2.44	116	*d* iP	Pn	08 26 44.6	-0.9		
SGAZ	Eskisehir, Sey	2.48	75	P	Pn	08 26 45.5	-0.5		
SGAZ				S	Sg	08 27 24.4	-0.5		
ESKT	Eskisehir	2.49	75	PN	Pn	08 26 45.7	-0.5		
SRCK	Saricakaya, Es	2.50	62	PN	Pn	08 26 46.4	+0.2		
FETY	Fethiye	2.52	155	PN	Pn	08 26 45.7	-0.7		
GEYV	SAKARYA_Geyve	2.52	51	P	Pn	08 26 45.9	-0.5		
GEYV				S	Sg	08 27 24.1	-1.9		
KLYT	Kilyos	2.54	23	PN	Pn	08 26 45.7	-1.0		
APE	Apeiranthos	2.54	224	⇑P	Pn	08 26 44.6	-2.2		
APE	Apeiranthos	2.54	224	PN	Pn	08 26 46.0	-0.8		
APE	Apeiranthos	2.54	224	*de*P	Pn	08 26 44.8	-2.0		
BAGO	Egridir - ISPA	2.57	110	P	Pn	08 26 46.5	-0.7		
BAGO				S	Sg	08 27 31.6	+4.0		
CTYL	Yalikoy Yolu	2.59	9	PN	Pn	08 26 46.5	-0.9		
CIFT	Cifteler, Eski	2.62	79	PN	Pn	08 26 47.5	-0.4		
GULT	Gulveren	2.62	54	PN	Pn	08 26 47.7	-0.2		
VIZE	Kirklareli, Vi	2.66	2	P	Pn	08 26 46.7	-1.7		
VIZE				S	Sn	08 27 19.4	-1.4		
SILT	Sile	2.67	33	PN	Pn	08 26 48.7	+0.2		
BCK	Bucak	2.67	122	PN	Pn	08 26 48.0	-0.7		
BCK	Bucak	2.67	122	P	Pn	08 26 48.0	-0.7		
SAUV	Serdivan-Sakar	2.70	47	PN	Pn	08 26 48.5	-0.4		
ARG	Arkhangelos	2.71	173	P	Pn	08 26 47.9	-1.2		
ARG	Arkhangelos	2.71	173	PN	Pn	08 26 48.8	-0.3		
ARG	Arkhangelos	2.71	173		Pn	08 26 48.2	-0.9		
ARG	Arkhangelos	2.71	173	P	Pn	08 26 48.2	-0.9		
BUCA	Burdur, Bucak-	2.73	125	P	Pn	08 26 49.6	+0.1		
BUCA				S	Sg	08 27 34.8	+1.9		
ELL	Elmali	2.76	141		Pn	08 26 50.5	+0.6		
ELL	Elmali	2.76	141	P	Pn	08 26 50.5	+0.6		
RDO	Rodhopi	2.79	323	P	Pn	08 26 50.0	-0.2		
RDO	Rodhopi	2.79	323		Pn	08 26 49.8	-0.4		
KORT	Korkueli	2.81	132	P	Pn	08 26 50.5	-0.1		
KORT				S	Sg	08 27 38.1	+2.5		
YVAC	Isparta, Yalva	2.82	102	P	Pn	08 26 50.9	+0.2		
YVAC				S	Sg	08 27 38.0	+2.4		
KAND	Kocaeli-Kandir	2.88	40	P	Pn	08 26 50.5	-0.8		
KAND				S	Sb	08 27 33.4	+1.4		
AKAS	Kas	3.06	151		Pn	08 26 53.1	-1.0		
MDUB	Mudurnu	3.08	59		Pn	08 26 53.5	-0.8		
SANT	Santorini	3.12	216	⇑P	Pn	08 26 54.0	-0.8		
SANT	Santorini	3.12	216	Pn	Pn	08 26 52.9	-1.8		
OUR	Ouranopolis	3.23	297	P	Pn	08 26 55.7	-0.5		
OUR	Ouranopolis	3.23	297	P	Pn	08 26 55.7	-0.5		
KAVA	Kavala	3.23	311	P	Pn	08 26 55.8	-0.4		
KDZ	Kurdzhali	3.26	328	P	Pn	08 26 56.6	0.0		
PAIG	Paliouri	3.30	289	P	Pn	08 26 56.9	-0.3		
KARP	Karpathos	3.40	188		Pn	08 26 57.8	-0.7		
KOKK	Kokkinochori,	3.45	305	P	Pn	08 26 58.5	-0.7		
DIM	Dimitrovgrad	3.55	332	P	Pn	08 27 00.5	-0.2		
DIM	Dimitrovgrad	3.55	332	P	Pn	08 27 00.4	-0.2		
RZN	Rozhen	3.60	321	P	Pn	08 27 01.4	-0.1		
RZN	Rozhen	3.60	321	P	Pn	08 27 01.6	+0.1		
JMB	Yambol	3.65	346	P	Pn	08 26 59.0	-3.0		
KDZE	Karadeniz Ereo	3.71	49	⇑P	Pn	08 27 02.6	-0.3		
NVR	Nevrokopi	3.84	310	P	Pn	08 27 04.4	-0.2		
SRS	Serrai	3.87	306	P	Pn	08 27 04.5	-0.5		
SRS	Serrai	3.87	306	P	Pn	08 27 04.5	-0.5		
SOH	Sokhos	3.87	301	P	Pn	08 27 05.1	0.0		
PLD	Plovdiv	3.94	325	P	Pn	08 27 05.9	0.0		
PLD	Plovdiv	3.94	325	P	Pn	08 27 06.1	+0.2		
BR231	Keskin MP Arra	4.01	75		Pn	08 27 06.7	-0.3		
ANTO	Ankara	4.03	75	⇑P	Pn	08 27 07.7	+0.4		
ANTO	Ankara	4.03	75	Pn	Pn	08 27 07.5	+0.3		
ANTO	Ankara	4.03	75	P	Pn	08 27 07.6	+0.3		
THE	Thessaloniki	4.06	296	P	Pn	08 27 07.7	+0.1		
MMB	Musomiste	4.07	312	P	Pn	08 27 07.2	-0.6		
MMB	Musomiste	4.07	312	P	Pn	08 27 07.2	-0.6		
LIT	Litokhoron	4.23	288		Pn	08 27 10.4	+0.4		
LIT	Litokhoron	4.23	288	P	Pn	08 27 10.4	+0.4		
IDI	Anoyia	4.28	213	⇓P	Pn	08 27 09.4	-1.4		
IDI	Anoyia	4.28	213	Pn	Pn	08 27 09.4	-1.4		
	comp=N,4.3nm,0.3s,baz=44,slow=8.4,SNR=20								
IDI				Sn	Sn	08 27 57.3	-3.6		
	comp=N,15nm,0.3s,baz=284,slow=22,SNR=3.5								
IDI				Lg	Lg	08 28 23.3			
	comp=N,7.2nm,0.3s,baz=306,slow=22,SNR=1.9								
IDI				LR	LR	08 29 04.9			
	comp=N,5µm,19.0s,baz=22,slow=42								
	comp=N,27nm,0.5s								
IDI	Anoyia	4.28	213		Pn	08 27 09.1	-1.6		
PRD	Provadia	4.29	357	P	Pn	08 27 11.3	+0.6		
PRD	Provadia	4.29	357	P	Pn	08 27 10.9	+0.2		
PGB	Panagyurishte	4.53	324	P	Pn	08 27 13.7	-0.4		
SZH	Strazhica	4.55	343	P	Pn	08 27 13.5	-0.9		
GRG	Griva	4.58	298	P	Pn	08 27 15.3	+0.5		
KKB	Krupnik	4.62	311	P	Pn	08 27 15.3	0.0		
KKB	Krupnik	4.62	311	P	Pn	08 27 14.9	-0.4		
VAY	Valandovo	4.63	303	*i* Pn	Pn	08 27 15.8	+0.3		
BR131	Keskin Array S	4.64	78		Pn	08 27 16.2	+0.4		
BR131	Keskin Array S	4.64	78	*c* iP	Pn	08 27 16.1	+0.4		
BRTR	Keskin Array B	4.64	78	Pn	Pn	08 27 16.5	+0.7		
	comp=N,8.8nm,0.3s,baz=255,slow=14,SNR=144								
BRTR				Sn	Sn	08 28 07.4	-2.6		
	comp=N,5.3nm,0.3s,baz=274,slow=21,SNR=4.1								
BRTR				Lg	Lg	08 28 35.1			
	comp=N,11nm,0.3s,baz=257,slow=23,SNR=3.8								
BRTR				LR	LR	08 29 29.9			
	comp=N,4µm,19.5s,baz=279,slow=44								
	comp=N,34nm,0.5s								
BRTR	Keskin Array B	4.64	78		Pn	08 27 15.9	+0.1		
BRTR	Keskin Array B	4.64	78	*i* P	Pn	08 27 16.2	+0.4		
BRTR				pmax	pmax				
	comp=Z,36nm,0.5s								
PVL	Pavlikeni	4.66	338	P	Pn	08 27 15.5	-0.4		
ITM	Ithomi	4.91	251		Pn	08 27 19.9	+0.6		
MANR	Mangalia	4.94	7	⇓P	Pn	08 27 19.2	-0.4		
VTS	Vitosha	5.04	319	⇑P	Pn	08 27 21.4	+0.2		
VTS	Vitosha	5.04	319		Pn	08 27 21.0	-0.2		
VTS	Vitosha	5.04	319	P	Pn	08 27 21.0	-0.2		
VTS	Vitosha	5.04	319	P	Pn	08 27 21.3	+0.2		
ILGA	Ilgaz	5.06	63		Pn	08 27 22.3	+0.7		
STIP	Stip	5.07	305	*i* Pn	Pn	08 27 20.3	-1.2		
ICOR	Ion Corvin	5.19	0	⇓P	Pn	08 27 23.0	-0.1		
SGRR	Singureni	5.46	347	⇑P	Pn	08 27 27.2	+0.3		
TIRR	Tirgusor	5.56	5	⇑P	Pn	08 27 27.4	-0.7		
TIRR	Tirgusor	5.56	5		Pn	08 27 27.1	-1.1		
TIRR	Tirgusor	5.56	5	P	Pn	08 27 27.1	-1.1		
KBN	Korca	5.62	290		Pn	08 27 29.6	+0.5		
KBN	Korca	5.62	290	P	Pn	08 27 29.6	+0.5		
TLBR	Topalu	5.63	2	⇑P	Pn	08 27 28.9	-0.2		
VLAD	Vladila	5.66	335	⇑P	Pn	08 27 30.1	+0.5		
BZK	Bozkurt	5.66	56		Pn	08 27 27.6	-2.0		
SKO	Skopje	5.69	304	*i* Pn	Pn	08 27 31.1	+1.1		
OHR	Ohrid	5.76	295	*i* Pn	Pn	08 27 32.8	+1.8		
HARR	Harsova	5.77	1	⇑P	Pn	08 27 30.9	-0.2		
IGT	Igoumenitsa	5.79	278	P	Pn	08 27 34.2	+2.9		
IGT				pmax	pmax				
	comp=Z,166nm,0.9s								
JURR	Jurilovca	5.90	8	⇑P	Pn	08 27 32.6	-0.4		
CSS	Mathiatis	5.97	130		Pn	08 27 32.6	-1.3		
BLKB	Belogradchik	6.05	323	⇑P	Pn	08 27 35.2	+0.2		
KEK	Kerkira	6.21	280	Pn	Pn	08 27 39.6	+2.5		
ISR	Istrita	6.26	352	⇑P	Pn	08 27 39.2	+1.3		
ISR	Istrita	6.26	352	P	Pn	08 27 39.0	+1.1		
ISR				pmax	pmax				
	comp=Z,203nm,1.1s								
CFR	Carcaliu	6.26	3	⇓P	Pn	08 27 37.2	-0.6		
CFR	Carcaliu	6.26	3	P	Pn	08 27 37.1	-0.7		
CFR				pmax	pmax				
	comp=Z,60nm,0.6s								
TLCR		6.31	7	⇑P	Pn	08 27 38.5	0.0		
TLCR		6.31	7	P	Pn	08 27 38.5	0.0		
BNN	Bunyan	6.33	88		Pn	08 27 38.2	-0.7		
GRER		6.48	355	⇑P	Pn	08 27 41.6	+0.8		
TIR	Tirane	6.50	294		Pn	08 27 41.4	+0.2		
TIR	Tirane	6.50	294	P	Pn	08 27 41.4	+0.2		
BOVS	Bovan	6.55	318	⇓P	Pn	08 27 41.6	-0.1		
NEHR	Nehoiu	6.59	351	⇑P	Pn	08 27 43.6	+1.2		
MTUR	Matau	6.61	343	⇑P	Pn	08 27 43.6	+0.8		
SRE	Strehaia	6.66	331	⇓P	Pn	08 27 43.7	+0.3		
SRE	Strehaia	6.66	331	P	Pn	08 27 43.7	+0.3		
TATR	Tatarca	6.68	2	⇑P	Pn	08 27 43.7	+0.2		
MLR	Muntele Rosu	6.70	349	⇑P	Pn	08 27 44.8	+0.7		
MLR	Muntele Rosu	6.70	349	Pn	Pn	08 27 44.4	+0.4		
	comp=Z,3.2nm,0.3s,baz=159,slow=4.5,SNR=44								
MLR				Sn	Sn	08 29 00.3	-0.3		
	comp=Z,5.2nm,0.3s,baz=87,slow=19,SNR=1.5								
MLR				Lg	Lg	08 29 36.2			
	comp=Z,2.8nm,0.3s,baz=208,slow=20,SNR=2.2								
MLR	Muntele Rosu	6.70	349		Pn	08 27 44.5	+0.5		
MLR	Muntele Rosu	6.70	349	P	Pn	08 27 44.5	+0.5		
SCTR	Scanteiesti	6.75	2	⇑P	Pn	08 27 45.2	+0.6		
VOIR		6.81	344	⇓P	Pn	08 27 45.5	0.0		
VOIR		6.81	344	P	Pn	08 27 45.3	-0.2		
VOIR				pmax	pmax				
	comp=Z,72nm,1.1s								
ARR	Arges	6.84	341	⇑P	Pn	08 27 45.9	0.0		
VLDR	Vladesti	6.93	2	⇓P	Pn	08 27 47.4	+0.4		
DJES	Djerdap	6.94	328	⇓P	Pn	08 27 46.4	-0.8		
PVY	Plav	6.95	344	⇑*i*Pn	Pn	08 27 45.3	+1.8		
PLOR	Plostina	6.97	354	⇓P	Pn	08 27 48.5	+0.8		
PLOR	Plostina	6.97	354	P	Pn	08 27 48.5	+0.8		
VARL	Varlezi	6.98	1	⇓P	Pn	08 27 48.4	+0.7		
VRI	Vrincioaia	6.98	354	⇓P	Pn	08 27 48.3	+0.5		
VRI	Vrincioaia	6.98	354	P	Pn	08 27 48.8	+1.0		
VRI				pmax	pmax				
	comp=Z,147nm,0.7s								
COVR	Voineasa-Covas	7.01	351	⇑P	Pn	08 27 49.4	+1.2		
IVA	Berane	7.13	306	⇓*i*Pn	Pn	08 27 51.5	+1.6		
IVA				*i* Sn	Sn	08 29 10.0	-1.3		
ULC	Ulcinj	7.16	298	⇓*i*Pn	Pn	08 27 51.8	+1.6		
ULC				*i* Sn	Sn	08 29 10.4	-1.3		
HERR	Herculane	7.16	328	⇓P	Pn	08 27 49.1	-1.1		
SEV	Sevastopol'	7.16	36	*e*P	Pn	08 27 47.2	-2.9		
SEV				*e*S	Sn	08 29 03.6	-8.0		
SEV	Sevastopol'	7.16	36	*e*P	Pn	08 27 47.2	-2.9		
SEV				Pm		08 27 53.6			
	comp=Z,28nm,0.4s								
SEV				*e*S	Sn	08 29 03.6	-8.0		
SEV				Sm		08 29 05.3			
	comp=N,17nm,0.4s								
SEV				Sm		08 29 05.3			
	comp=E,61nm,0.4s								
LOT	Lotru	7.16	337	⇑P	Pn	08 27 49.7	-0.6		
SCTE	Santa Cesarea	7.26	282		Pn	08 27 52.9	+1.3		
DRME	Dracevica, Mon	7.29	299	*e*Pn	Pn	08 27 54.6	+2.7		
DRME	Dracevica, Mon	7.29	299	⇓*i*Pn	Pn	08 27 52.3	+0.4		
DRME				*i* Sn	Sn	08 29 13.1	-1.8		
OZUR		7.32	349	⇑P	Pn	08 27 53.2	+0.9		
PDG	Podgorica	7.34	301		Pn	08 27 50.7	-2.0		
TTG	Podgorica	7.34	301	⇓*i*Pn	Pn	08 27 54.2	+1.6		
TTG				*i* Sn	Sn	08 29 15.3	-0.8		
YAL	Yalta	7.35	39	*e*P	Pn	08 27 51.1	-1.6		
YAL				*e*S	Sn	08 29 13.6	-2.7		
YAL	Yalta	7.35	39	*e*P	Pn	08 27 51.1	-1.6		
YAL				Pm		08 28 56.6			
	comp=Z,11nm,0.2s								
YAL				*e*S	Sn	08 29 13.6	-2.7		
YAL				Sm		08 29 19.4			
	comp=N,80nm,0.5s								
YAL				Sm		08 29 19.4			
	comp=E,18nm,0.3s								
KOME	Kolasin	7.37	305	⇑*i*Pn	Pn	08 27 54.2	+1.1		
KOME				*i* Sn	Sn	08 29 15.1	-1.8		
MDVR	Moldovita	7.38	324	⇑P	Pn	08 27 53.1	-0.2		
GZR	Gura Zlata	7.45	332	⇑P	Pn	08 27 53.9	-0.3		
BUM	Brajici-Budva	7.53	299	⇓*i*Pn	Pn	08 27 57.7	+2.4		
BUM				*i* Sn	Sn	08 29 19.7	-1.2		
ALU	Alushta	7.61	39	*e*P	Pn	08 27 54.4	-1.9		
ALU				*e*S	Sn	08 29 18.9	-3.8		
ALU	Alushta	7.61	39	*e*P	Pn	08 27 54.4	-1.9		
ALU				Pm		08 28 02.2			
	comp=Z,20nm,0.4s								
ALU				*e*S	Sn	08 29 18.9	-3.8		
ALU				Sm		08 29 25.3			
	comp=E,23nm,0.3s								
ALU				Sm		08 29 25.4			
	comp=N,59nm,0.4s								
CEME	Cevo	7.62	301	⇑*i*Pn	Pn	08 27 57.6	+1.1		
CEME				*i* Sn	Sn	08 29 22.3	-0.8		
TESR	Tescani	7.63	354	⇑P	Pn	08 27 56.5	-0.1		
MDB	Medias	7.63	342	⇑P	Pn	08 27 58.0	+1.3		
MDB	Medias	7.63	342	P	Pn	08 27 57.9	+1.3		
SIM	Simferopol'	7.67	36	*e*P	Pn	08 27 55.9	-1.3		
SIM				*e*S	Sn	08 29 20.7	-3.6		
SIM	Simferopol'	7.67	36	*e*P	Pn	08 27 55.9	-1.3		
SIM				Pm		08 28 04.8			
	comp=Z,84nm,0.3s								
SIM				*e*S	Sn	08 29 20.7	-3.6		
SIM				Sm		08 29 29.0			
	comp=E,299nm,0.8s								
SIM				Sm		08 29 29.1			
	comp=N,91nm,0.4s								
NKY	Niksic	7.68	303	⇓*i*Pn	Pn	08 27 59.9	+2.4		
NKY				*i* Sn	Sn	08 29 23.4	-1.4		
NKME	Niksic	7.69	303	⇑*i*Pn	Pn	08 28 00.0	+2.5		
NKME				*i* Sn	Sn	08 29 23.7	-1.2		
VASR	Vaslui	7.72	0	⇑P	Pn	08 27 57.7	-0.1		
DIVS	Divibare	7.78	314		Pn	08 27 57.0	-1.8		
DIVS	Divibare	7.78	314	*e*Pn	Pn	08 27 58.8	0.0		
DEV	Deva	7.82	334	⇑P	Pn	08 27 59.3	0.0		
DEV	Deva	7.82	334	P	Pn	08 27 59.5	+0.2		
DEV				pmax	pmax				
	comp=Z,126nm,1.0s								
RUDO	Rudo	7.86	309	*e*Pn	Pn	08 27 59.1	-0.7		
HCY	Herceg Novi	7.86	300	*e*Pn	Pn	08 28 01.7	+1.9		
HCY	Herceg Novi	7.86	300	⇑*i*Pn	Pn	08 28 01.0	+1.2		
UPM	Unac-Piva	7.93	305	*e*Pn	Pn	08 28 02.7	+1.8		
UPM	Unac-Piva	7.93	305	⇑*i*Pn	Pn	08 28 01.9	+1.0		
UPM				*i* Sn	Sn	08 29 29.2	-1.7		
BRY	Bratogost	8.02	303	*e*Pn	Pn	08 28 04.8	+2.6		
BRY	Bratogost	8.02	303	⇑*i*Pn	Pn	08 28 04.7	+2.6		
BRY				*i* Sn	Sn	08 29 31.5	-1.7		
MILM	Milestii Mici	8.03	5	⇑P

VAGA Valle Agricola 10.63 288 ⇑P Pn 08 28 39.7 +1.8
PSZ Piszkesteto 10.65 330 ⇓P Pn 08 28 38.6 +0.5
PSZ Piszkesteto 10.65 330 Pn 08 28 39.2 +1.2
PSZ Piszkesteto 10.65 330 P Pn 08 28 39.2 +1.2
PSZ Piszkesteto 10.65 330 P Pn 08 28 39.8 +1.7
RAFF Raffo Rosso 10.68 265 Pn 08 28 38.7 +0.2
KOLS Kolonicke sedl 10.76 340 *e*P Pn 08 28 32.2 -7.3
KOLS MLR MLR
comp=Z,100nm,0.9s
KOLS Kolonicke sedl 10.76 340 *e*PN Pn 08 28 32.2 -7.3
CRVS Cervenica-Dubn 10.95 338 *e*P **Pn 08 28 43.7 +1.5**
CRVS Cervenica-Dubn 10.95 338 *e*PN **Pn 08 28 43.7 +1.5**
WDD Wied Dalam 10.96 258 Pn 08 28 43.2 +1.0
EIL Elat 10.98 145 Pn **Pn 08 28 39.6 -3.0**
comp=Z,3.6nm,0.3s,baz=254,slow=4.5,SNR=17
EIL Sn **Sn 08 30 38.0 -7.6**
comp=Z,1.6nm,0.3s,baz=329,slow=15,SNR=1.6
MPLH Magyarpolny 11.11 321 P **Pn 08 28 44.7 +0.4**
T0110 Collepietro 11.12 292 S **Pn 08 28 43.0 -1.6**
PTJ Puntijarka 11.15 313 P **Pn 08 28 47.1 +2.2**
LVV L'vov 11.21 348 *e*P **Pn 08 28 45.8 +0.1**
LVV *e*S **Sn 08 30 50.0 -1.3**
LVV MLR MLR
comp=Z,4μm,12.0s
SRO Srobarova 11.22 325 P **Pn 08 28 47.5 +1.7**
SRO pmax pmax
comp=Z,224nm,0.8s
BOJS Bojanci 11.35 309 *e*Pn **Pn 08 28 49.7 +2.1**
BOJS Bojanci 11.35 309 *i* Pn **Pn 08 28 48.9 +1.3**
BOJS Bojanci 11.35 309 S **Pn 08 28 49.0 +1.3**
EGYH Egyhazaskeszo 11.39 322 P **Pn 08 28 49.8 +1.7**
CRES Cresnjev 11.40 311 *e*Pn **Pn 08 28 47.1 -1.2**
AQU L'Aquila 11.42 292 Pn 08 28 49.4 +0.7
AQU L'Aquila 11.42 292 P **Pn 08 28 49.4 +0.7**
VYHS Vyhne 11.53 329 *e*P **Pn 08 28 45.6 -4.5**
VYHS Vyhne 11.53 329 *e*PN **Pn 08 28 45.6 -4.5**
VYHS *e*SN Sn 08 30 39.1 -20
VYHS *e*SG 08 32 18.4
CERT Cerreto 11.65 290 S **Pn 08 28 48.0 -3.8**
NIE Niedzica 11.77 336 P **Pn 08 28 54.6 +1.2**
NIE pmax pmax
comp=Z,9.0nm,1.2s
LANS Liptovska Anna 11.83 333 *e*P **Pn 08 28 53.0 -1.1**
LANS Liptovska Anna 11.83 333 *e*PN **Pn 08 28 53.0 -1.1**
AKASG Malin Array Be 11.83 5 Pn **Pn 08 28 51.2 -2.9**
comp=Z,1.2nm,0.3s,baz=193,slow=13,SNR=6.6
AKASG LR LR 08 33 24.3
comp=Z,1μm,21.2s,baz=191,slow=37
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 11.83 5 *i* P **Pn 08 28 54.5 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 11.83 5 Pn 08 28 50.9 -3.2
AKBB Malin Array Si 11.83 5⇑ *e*P **Pn 08 28 52.1 -2.0**
SOP Sopron 11.95 321 P **Pn 08 28 56.9 +1.1**
SOP pmax pmax
comp=Z,25nm,0.6s
SOP Sopron 11.95 321 P **Pn 08 28 57.1 +1.3**
CEY Cerknica 11.97 309 *e*Pn **Pn 08 28 57.2 +1.1**
ZST Bratislava 12.05 324 P **Pn 08 28 59.5 +2.3**
ZST pmax pmax
comp=Z,165nm,1.1s
ZST Bratislava 12.05 324 *e*PN **Pn 08 28 53.5 -3.7**
RONA Rosalia, Austr 12.09 320 *e*Pn **Pn 08 28 58.5 +0.7**
comp=Z,4.4nm,0.5s
MODS Modra-Piesok 12.10 325 *e*P **Pn 08 28 56.5 -1.4**
MODS Modra-Piesok 12.10 325 *e*PN **Pn 08 28 56.5 -1.4**
MODS *e*SN Sn 08 30 53.2 -20
SOKA Soboth 12.12 314 *e*Pn **Pn 08 29 00.4 +2.1**
comp=Z,1.2nm,0.2s
SKDS Skadanscina 12.13 307 *e*Pn **Pn 08 28 59.0 +0.7**
ARSA Arzberg 12.20 317 *e*Pn **Pn 08 29 02.0 +2.8**
comp=Z,3.2nm,0.5s
JAVS Javornik 12.27 309 *i* Pn **Pn 08 29 02.3 +2.1**
KIV Kislovodsk 12.29 61 Pn **Pn 08 28 58.8 -1.7**
KIV Kislovodsk 12.29 61 *i* P **Pn 08 29 01.0 +0.5**
KIV *i* S **Sn 08 31 20.8 +3.0**
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV MLR MLR
comp=Z,1μm,19.0s
JAVC Velka Javorina 12.30 327 *e*PN **Pn 08 29 00.6 0.0**
OBKA Obir 12.30 312 *e*Pn Pn 08 28 55.2 -5.5
OBKA Obir 12.30 312 *e*Pn **Pn 08 28 59.7 -1.0**
comp=Z,1.8nm,0.2s
TRI Trieste 12.36 308 P **Pn 08 29 02.2 +0.8**
KBZ Khabaz 12.36 62 Pn **Pn 08 29 04.3 +2.8**
comp=Z,0.1nm,0.3s,baz=266,slow=8.5,SNR=11
KBZ LR LR 08 34 25.4
comp=Z,819nm,18.0s,baz=237,slow=40
comp=Z,8.5nm,1.0s
KBZ Khabaz 12.36 62⇑ *e*P **Pn 08 29 03.7 +2.3**
KBZ pmax pmax
comp=Z,3.0nm,0.6s
CONA Conrad Observa 12.46 320 *i* Pn **Pn 08 29 03.7 +0.8**
comp=Z,3.3nm,0.6s,SNR=8.0
SABO M.te Sabotino 12.59 309 Pn 08 29 02.3 -2.3
MAUC Maruska 12.63 329 AMS AMS 08 34 20.0
comp=Z,3μm,15.1s
ZEI Tsey 12.83 67 *e*P **Pn 08 29 12.4 +4.4**
ZEI pmax pmax
comp=Z,12nm,1.2s
OKC Ostrava-Krasne 12.88 331 AMS AMS 08 34 40.0
comp=Z,2μm,11.1s
MYKA Terra Mystica 12.90 311 *e*Pn **Pn 08 29 09.5 +0.7**
comp=Z,4.0nm,0.4s
KRUC Moravsky 13.00 325 *e*PN **Pn 08 29 10.1 -0.1**
MORC Moravsky Berou 13.06 329 Pn 08 29 10.2 -0.9
MORC Moravsky Berou 13.06 329 *e*PN **Pn 08 29 11.2 +0.1**
MORC Moravsky Berou 13.06 329 P **Pn 08 29 10.2 -0.9**
VRAC Vranov 13.10 326 Pn **Pn 08 29 10.7 -0.8**
comp=Z,0.3nm,0.3s,baz=144,slow=11,SNR=3.3
VRAC LR LR 08 34 08.2
comp=Z,604nm,18.9s,baz=144,slow=37
comp=Z,1.7nm,0.4s
VRAC Vranov 13.10 326 *e*PN **Pn 08 29 11.4 -0.1**
GNI Garni 13.19 79⇑ *e*P **Pn 08 29 14.6 +1.7**
GNI pmax pmax
comp=Z,17nm,1.8s
CLUD Cludinico 13.26 309 Pn 08 29 12.3 -1.4
STAL STALIGIAL 13.27 308 Pn **Pn 08 29 12.9 -1.0**
KBA Koelnbreinsper 13.31 312 P **Pn 08 29 17.3 +2.8**
KBA pmax pmax
comp=Z,16nm,1.0s
KBA Koelnbreinsper 13.31 312 *e*Pn **Pn 08 29 14.3 -0.2**
comp=Z,0.1nm,0.2s
CASP Castiglione de 13.35 292 Pn **Pn 08 29 13.3 -1.5**
CIMO Cimolais 13.46 308 Pn 08 29 14.3 -2.1
TEOL Teolo 13.54 304 Pn **Pn 08 29 15.2 -2.3**
TREC Trest 13.59 324 P **Pn 08 29 18.8 +0.7**
TREC Trest 13.59 324 AMS AMS 08 35 10.0
comp=Z,2μm,11.3s
KRLC Kraliky 13.61 329 *e*P **Pn 08 29 19.5 +1.1**
KRLC MLR MLR
comp=Z,1μm,12.7s
KRLC Kraliky 13.61 329 *e*P **Pn 08 29 19.5 +1.1**
KRLC AMS AMS 08 35 00.0
comp=Z,1μm,12.7s
ABTA Abfaltersbach 13.63 310 *e*Pn **Pn 08 29 21.2 +2.5**
comp=Z,3.3nm,0.3s
ZCCA Zocca 13.65 299 Pn **Pn 08 29 15.6 -3.5**
CKRC Cesky Krumlov 13.83 320 AMS AMS 08 35 20.0
comp=Z,2μm,10.2s
CTI Castel Tesino 13.83 306 Pn 08 29 19.9 -1.7
CTI Castel Tesino 13.83 306 P **Pn 08 29 19.9 -1.7**
DPC Dobruska-Polom 14.01 328 *e*P **Pn 08 29 27.2 +3.3**
DPC MLR MLR
comp=Z,2μm,9.9s
DPC Dobruska-Polom 14.01 328 *e*P **Pn 08 29 27.2 +3.3**
DPC AMS AMS 08 37 40.0
comp=Z,2μm,9.9s
GEC2 GERESS Array S 14.15 319 Pn 08 29 25.3 -0.7
GERES GERESS Array B 14.15 319 Pn **Pn 08 29 26.0 0.0**
comp=Z,0.2nm,0.3s,baz=153,slow=10,SNR=7.3
GERES LR LR 08 34 29.0
comp=Z,792nm,21.1s,baz=139,slow=36
comp=Z,0.5nm,0.2s
GERES GERESS Array B 14.15 319 Pn 08 29 24.0 -1.9
GERES GERESS Array B 14.15 319 P **Pn 08 29 26.0 0.0**
OSTC Ostas 14.21 329 AMS AMS 08 34 50.0
comp=Z,2μm,13.7s
UPC Upice 14.25 328 AMS AMS 08 35 30.0
comp=Z,2μm,13.2s
GROC Groznyy 14.28 67 *e*P **Pn 08 29 28.5 +0.9**

GROC *e*S **Sn 08 32 06.6 +0.5**
GROC pmax pmax
comp=Z,66nm,0.9s
GROC MLR MLR
comp=Z,277nm,9.0s
GOPC GO Pecny, Ondr 14.35 324 AMS AMS 08 35 40.0
comp=Z,2μm,11.1s
SALO Salr 14.38 303 Pn **Pn 08 29 26.7 -2.4**
KHC Kasperske Hory 14.40 320 Pn **Pn 08 29 27.3 -2.0**
KHC Kasperske Hory 14.40 320 P **Pn 08 29 27.3 -2.0**
KHC Kasperske Hory 14.40 320 *e*P **P 08 29 36.9 +0.6**
KHC AMS AMS 08 35 40.0
comp=Z,2μm,13.4s
WTTA Wattenberg 14.40 311 P **P 08 29 33.9 -2.6**
WTTA pmax pmax
comp=Z,21nm,0.9s
WTTA Wattenberg 14.40 311 *e*Pn **Pn 08 29 30.4 +0.9**
comp=Z,2.0nm,0.5s
WATA Walderalm 14.47 311 *e*Pn **Pn 08 29 29.3 -1.1**
comp=Z,2.6nm,0.3s
PRU Pruhonice 14.51 324 P **Pn 08 29 32.4 +1.6**
PRU pmax pmax
comp=Z,9.0nm,1.3s
PRU Pruhonice 14.51 324 AMS AMS 08 35 50.0
comp=Z,2μm,11.9s
SQTA Sankt Quirin 14.64 310 *i* Pn **P 08 29 37.1 -2.0**
comp=Z,6.2nm,0.4s,SNR=5.6
MSSA Maissana 14.65 297 Pn **Pn 08 29 32.2 -0.6**
VSR Storozhevoye 14.69 29 *e*P **Pn 08 29 33.2 +0.1**
VSR pmax pmax
comp=Z,20nm,1.1s
MOTA Moosalm 14.76 310 *e*Pn **P 08 29 37.6 -2.8**
comp=Z,6.6nm,0.7s
FETA Feichten 14.83 309 *i* Pn **P 08 29 39.5 -1.8**
comp=Z,3.6nm,0.6s,SNR=9.6
PVCC Panska Ves 14.88 326 AMS AMS 08 37 30.0
comp=Z,2μm,13.7s
KEST Kesra 14.98 263 Pn **Pn 08 29 38.3 +1.1**
comp=Z,0.1nm,0.3s,baz=40,slow=7.9,SNR=2.4
comp=Z,1.7nm,0.8s
KEST Kesra 14.98 263 Pn **Pn 08 29 35.6 -1.6**
RETA Reutte 15.03 310 *e*Pn **Pn 08 29 39.3 +1.4**
comp=Z,1.8nm,0.2s
VORR Voronezh 15.06 28 *e*P **Pn 08 29 33.4 -4.8**
VORR pmax pmax
comp=Z,70nm,0.5s
DAVOX Davos/Dischmat 15.25 307 Pn **Pn 08 29 41.5 +0.6**
comp=Z,2.0nm,0.6s,baz=132,slow=20,SNR=2.0
DAVOX LR LR 08 36 38.1
comp=Z,669nm,19.7s,baz=106,slow=42
BRG Berggiesshubel 15.41 325 *e*P **P 08 29 48.3 +0.8**
BRG Amp 08 29 49.4
comp=Z,29nm,1.2s
BRG *ex* x 08 30 06.8
BRG Amp 08 30 08.4
comp=Z,21nm,1.3s
BRG Amp 08 37 35.0
comp=N,2.2nm,11.4s
BRG Amp 08 37 37.0
comp=Z,1.6nm,12.9s
BRG Amp 08 37 44.0
comp=E,1.2nm,13.5s
BRG Berggiesshubel 15.41 325 *e*P **P 08 29 48.3 +0.8**
BRG pmax pmax
comp=Z,29nm,1.3s
BRG MLR MLR
comp=N,2μm,11.4s
BRG MLR MLR
comp=Z,2μm,12.9s
BRG MLR MLR
comp=E,1μm,13.5s
MAK Makhachkala 15.47 69 *e*P **Pn 08 29 39.3 -4.3**
MAK *e*S **Sn 08 32 28.2 -6.9**
MAK pmax pmax
comp=Z,150nm,1.3s
MAK MLR MLR
comp=Z,836nm,13.0s
DAVA Damuels 15.47 308 *i* Pn **P 08 29 50.3 +1.9**
comp=Z,11nm,0.7s,SNR=13
GRB1 Grafenberg Arr 15.55 318 P **P 08 29 49.6 +0.5**
GRB1 pmax pmax
comp=Z,26nm,1.2s
MNK Minsk 15.59 0 *i* P **Pn 08 29 44.2 -0.9**
MNK *i* S **Sn 08 32 38.5 +0.6**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,39nm,0.8s
MNK MLR MLR
comp=E,308nm,18.0s
MNK MLR MLR
comp=Z,847nm,17.0s
MNK Minsk 15.59 0 *i* P **Pn 08 29 44.3 -0.9**
comp=E,2.0nm,0.8s
MNK *i* P **Pn 08 29 44.3 -0.9**
MNK *i* P **Pn 08 29 44.3 -0.9**
comp=Z,39nm,0.8s,baz=180
MNK *i* PP **sP 08 29 52.6 +0.1**
MNK *i* S **Sn 08 32 38.5 +0.6**
MNK *i* SS **S 08 32 52.6 -0.9**
MNK *i* LR LR 08 34 03.4
MNK *i* LRM MLR 08 34 39.7
comp=E,308nm,17.7s
MNK *i* LRM MLR 08 35 01.7
MNK *i* LRM MLR 08 35 29.1
comp=Z,847nm,17.1s
NKC Novy Kostel 15.67 321 P **P 08 29 51.5 +1.1**
NKC Novy Kostel 15.67 321 AMS AMS 08 38 20.0
comp=Z,1μm,15.6s
LPSR Galich'ya Gora 15.73 26 *e*P **Pn 08 29 45.0 -1.9**
LPSR pmax pmax
comp=Z,40nm,0.8s
VRH Novokhopyorsk 15.73 34 *e*P **Pn 08 29 47.5 +0.6**
VRH pmax pmax
comp=Z,60nm,1.0s
NACGM Naroch 16.00 358⇑ *e*P **Pn 08 29 50.1 -0.4**
baz=178
SBF Sospel 16.01 294 *e*P **P 08 29 52.4 -1.9**
SBF pmax pmax
comp=Z,13nm,0.8s
CLL Collm 16.14 325 Pn 08 29 52.6 +0.4
CLL Collm 16.14 325 *i* P **Pn 08 29 52.3 +0.1**
CLL pmax pmax
comp=Z,41nm,1.7s
CLL Collm 16.14 325 *i* P **Pn 08 29 52.3 +0.1**
comp=Z,41nm,1.7s
CLL *i* sP **P 08 29 55.1 -0.4**
comp=Z,25nm,1.2s
CLL *i* x x 08 30 07.1
CLL Lmax 08 37 00.0
MOX Moxa 16.34 321 P **P 08 29 58.5 +0.6**
MOX pmax pmax
comp=Z,25nm,1.5s
SLE Schleitheim 16.52 309 P **P 08 29 58.9 -1.0**
SLE pmax pmax
comp=Z,26nm,1.2s
MBDF Montbardon 16.66 297 *e*P **P 08 30 01.6 +0.1**
MBDF pmax pmax
comp=Z,28nm,0.9s
SENIN Lac Senin/Sane 16.75 303 Pn **Pn 08 29 59.7 -0.6**
SENIN IAmb IAmb 08 30 15.4
comp=Z,37nm,1.2s
PABE Paberze 16.79 353 Pn 08 30 00.1 -0.3
PABE IAmb IAmb 08 30 14.8
comp=Z,52nm,1.1s
PABE Paberze 16.79 353 *e*P **P 08 30 01.5 -1.2**
PABE IAmb IAmb 08 30 15.1
comp=Z,53nm,1.1s
BNI Bardonecchia 16.80 298 Pn **Pn 08 29 59.9 -0.9**
BNI IAmb IAmb 08 30 16.1
comp=Z,59nm,1.2s
BNI Bardonecchia 16.80 298 P **Pn 08 29 59.9 -0.9**
BNI pmax pmax
comp=Z,59nm,1.2s
LPG La Plagne 16.86 300 *e*P **P 08 30 04.1 +0.2**
LPG pmax pmax
comp=Z,25nm,1.0s
BFO Black Forest 16.87 310 Pn **Pn 08 30 01.2 -0.4**
BFO IAmb IAmb 08 30 11.4
comp=Z,38nm,1.4s
BFO Black Forest 16.87 310 P **Pn 08 30 01.2 -0.4**
BFO pmax pmax
comp=Z,38nm,1.4s
LPL La Plagne 16.88 300 *e*P **P 08 30 04.3 +0.3**
LPL pmax pmax
comp=Z,40nm,1.2s

OBN Obninsk 17.26 17 P **Pn 08 30 05.4 -1.0**
comp=Z,1.1nm,0.3s,baz=199,slow=18,SNR=8.8
OBN LR LR 08 36 52.9
comp=Z,155nm,20.7s,baz=191,slow=38
comp=Z,5.4nm,0.3s
OBN Obninsk 17.26 17 Pn **Pn 08 30 05.7 -0.7**
OBN Obninsk 17.26 17 *ce*P **Pn 08 30 06.3 -0.1**
OBN pmax pmax
comp=Z,45nm,1.4s
OBN MLR MLR
comp=Z,834nm,15.0s
ECH Echery 17.53 309 Pn **Pn 08 30 08.6 -1.3**
ECH Echery 17.53 309 P **Pn 08 30 08.6 -1.3**
ECH pmax pmax
comp=Z,24nm,1.4s
CDF Champ du Feu 17.54 309 *e*P **P 08 30 12.6 +1.4**
CDF pmax pmax
comp=Z,15nm,0.9s
PBUR Paburge 17.55 349 IAmb IAmb 08 30 11.2
comp=Z,66nm,0.6s
HINF Hinteralfeld 17.56 307 *e*P **P 08 30 14.6 +3.3**
HINF pmax pmax
comp=Z,9.0nm,0.9s
CABF La Chapelle 17.62 303 *e*P **P 08 30 13.4 +1.2**
CABF pmax pmax
comp=Z,37nm,1.3s
HAU Haudompre 17.94 307 *e*P **P 08 30 16.8 +1.2**
HAU pmax pmax
comp=Z,33nm,1.3s
MOS Moscow 18.08 18 *e*P **Pn 08 30 14.4 -2.2**
MOS *e*S **Sn 08 33 36.4 -1.9**
MOS pmax pmax
comp=Z,600nm,3.2s
MOS pmax pmax
comp=Z,106nm,1.4s
BSD Bornholm Skovb 18.36 336 P **Pn 08 30 18.9 -1.1**
BSD pmax pmax
comp=Z,26nm,1.2s
BSD Bornholm Skovb 18.36 336 *e*P **Pn 08 30 18.9 -1.1**
WLF Walferdange 18.75 312 P **Pn 08 30 26.1 +1.3**
WLF pmax pmax
comp=Z,24nm,1.7s
WLF Walferdange 18.75 312 *d*P **Pn 08 30 26.3 +1.5**
SMF Signal de Mont 19.12 302 *e*P **Pn 08 30 29.5 +0.2**
SMF pmax pmax
comp=Z,25nm,0.8s
BHOU Houvegnez 19.16 314 *d*P **Pn 08 30 31.2 +1.4**
BTNL Terneli 19.20 314 *d*P **Pn 08 30 31.3 +1.0**
BELG Belogornoye 19.27 39 P **Pn 08 30 32.7 +1.6**
comp=Z,83nm,1.1s,baz=218,slow=19,SNR=10
LOR Lormes 19.28 303 *e*P **Pn 08 30 34.2 +3.0**
LOR pmax pmax
comp=Z,11nm,0.9s
MEM Membach 19.28 314 P **Pn 08 30 32.4 +1.2**
MEM pmax pmax
comp=Z,20nm,1.6s
MEM Membach 19.28 314 *d*P **Pn 08 30 32.3 +1.1**
MEM *dx* x 08 30 51.3
MEM *dx* x 08 31 09.7
AVF Avril sur Loir 19.48 302 *e*P **Pn 08 30 33.2 -0.4**
AVF pmax pmax
comp=Z,28nm,1.0s
RCHB Rochefort 19.51 312 *d*P **Pn 08 30 33.8 -0.1**
VSU Vasula 19.57 358 *ce*P **P 08 30 33.2 -0.1**
VSU pmax pmax
comp=Z,62nm,0.9s
VSU Vasula 19.57 358 *e*P **P 08 30 32.8 -0.5**
BCLA Clavier 19.58 313 *d*P **Pn 08 30 35.5 +0.6**
MTLF Montolieu 19.70 291 *e*P **P 08 30 35.0 +0.1**
MTLF pmax pmax
comp=Z,10.0nm,0.9s
GIVF Givet 19.72 312 *e*P **Pn 08 30 36.1 -0.3**
GIVF pmax pmax
comp=Z,25nm,1.1s
BMRD Maredsous 19.84 312 *d*P **Pn 08 30 37.8 0.0**
DOU Dourbes 19.85 312 *d*P **Pn 08 30 37.9 -0.1**
BAIF Baives 20.06 311 *e*P **P 08 30 39.3 +0.6**
BAIF pmax pmax
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 20.13 300 *e*P Pn 08 30 40.7 -0.7
TCF pmax pmax
comp=Z,35nm,1.0s
RJF Les Rejaudoux 20.42 297 *e*P Pn 08 30 46.6 +1.8
RJF pmax pmax
comp=Z,57nm,1.7s
MEF Metsahovi 21.43 355 *e*P **P 08 30 51.6 -1.8**
RAYN Ar Rayn 21.54 130 P **P 08 30 53.7 -1.2**
RAYN IAmb IAmb 08 31 04.8
comp=Z,22nm,1.3s
RAYN Ar Rayn 21.54 130 P **P 08 30 53.7 -1.2**
RAYN pmax pmax
comp=Z,22nm,1.3s
RAYN Ar Rayn 21.54 130 P **P 08 30 55.7 +0.7**
ETSF Etsaut 21.71 290 *e*P **P 08 30 56.7 0.0**
ETSF pmax pmax
comp=Z,6.0nm,0.5s
MFF Saint Martin d 21.79 300 *e*P **P 08 30 59.3 +1.9**
MFF pmax pmax
comp=Z,44nm,1.0s
SJPF Ste Jean 22.20 290 *e*P **P 08 31 03.6 +1.7**
SJPF pmax pmax
comp=Z,18nm,1.0s
LDF La Druitiere 22.22 305 *e*P **P 08 31 01.6 -0.4**
LDF pmax pmax
comp=Z,54nm,1.7s
RAF Rauma 22.44 352 *e*P **P 08 31 03.2 -1.0**
FLN La Foliniere 22.49 305 *e*P **P 08 31 05.1 +0.1**
FLN pmax pmax
comp=Z,61nm,1.3s
VALR Valaam 22.55 4⇑ *e*P **P 08 31 09.1 +3.7**
VALR pmax pmax
comp=Z,78nm,0.9s
FIA1 FINESS Array S 22.57 358 P **P 08 31 04.7 -1.0**
FIA1 IAmb IAmb 08 31 13.6
comp=Z,30nm,1.1s
FINES FINESS Array B 22.57 358 P **P 08 31 05.3 -0.4**
comp=Z,15nm,0.9s,baz=160,slow=11,SNR=19
FINES LR LR 08 40 00.4
comp=Z,824nm,18.4s,baz=154,slow=37
comp=Z,15nm,0.9s
FINES FINESS Array B 22.57 358 P **P 08 31 04.5 -1.2**
FINES FINESS Array B 22.57 358 *i* P **P 08 31 06.1 +0.4**
FINES pmax pmax
comp=Z,15nm,0.9s
GRR Gorron 22.64 304 *e*P **P 08 31 05.9 -0.6**
GRR pmax pmax
comp=Z,39nm,0.9s
HFS Hagfors 23.01 342 P **P 08 31 09.5 -0.8**
comp=Z,3.7nm,0.8s,baz=163,slow=11,SNR=7.5
comp=Z,3.7nm,0.8s
KLMR Klimovskoe 23.16 15 *e*P **P 08 31 10.0 -1.8**
KLMR S **S 08 35 23.9 +0.4**
KLMR pmax pmax
comp=Z,70nm,1.3s
KLMR MLR MLR
comp=Z,976nm,14.0s
KLMR Klimovskoe 23.16 15 *e*P **P 08 31 10.0 -1.8**
KLMR *e*P **P 08 31 10.0 -1.8**
KLMR *e*P **P 08 31 10.0 -1.8**
KLMR AMP 08 31 19.4
comp=Z,70nm,1.3s
KLMR S **S 08 35 23.9 +0.4**
KLMR S **S 08 35 23.9 +0.4**
KLMR LQ LQ 08 37 25.4
KLMR LQ LQ 08 37 25.4
KLMR LR LR 08 38 25.2
KLMR AMP 08 40 43.3
comp=Z,976nm,13.6s
KONO Kongsberg 23.73 337⇓ *e*P **P 08 31 19.1 +1.6**
KONO pmax pmax
comp=Z,12nm,0.9s
GEYT Alibeck 23.77 83 P **P 08 31 19.1 +0.8**
comp=Z,10nm,0.7s,baz=316,slow=6.2,SNR=15
comp=Z,10nm,0.7s
GYA0B ALIBECK ARRAY 23.77 83 P **P 08 31 16.9 -1.4**
GYA0B IAmb IAmb 08 31 23.2
comp=Z,25nm,1.0s
QUIF Quistinic 24.05 302 *e*P **P 08 31 19.3 -1.4**
QUIF pmax pmax
comp=Z,65nm,1.5s
NC602 NORSAR Array S 24.07 340 P **P 08 31 19.2 -1.6**
KIRV Kirov 24.12 28 LR LR 08 41 19.5
comp=Z,593nm,20.4s,baz=171,slow=38
KIRV Kirov 24.12 28⇑ *e*P **P 08 31 23.1 +1.9**
ROSF Rostrenen 24.20 303 *e*P **P 08 31 20.6 -1.5**

ROSF pmax pmax
comp=Z,11nm,0.6s
AKTO Aktyubinsk 24.24 52 P **P 08 31 21.9 -0.5**
comp=Z,1.7nm,0.7s,baz=252,slow=10.0,SNR=6.3
comp=Z,1.7nm,0.7s
NAO01 NORSAR Array S 24.34 340 P **P 08 31 21.2 -2.1**
NB201 NORSAR Array S 24.41 341 P **P 08 31 23.4 -0.5**
NB2 NORSAR Subarra 24.42 340 P **P 08 31 23.1 -0.9**
comp=Z,5.0nm,0.7s,baz=145,slow=9.3
NOA NORSAR Array B 24.42 340 P **P 08 31 23.2 -0.8**
comp=Z,2.6nm,0.7s,baz=146,slow=9.2,SNR=14
NOA LR LR 08 41 04.9
comp=Z,270nm,18.2s,baz=115,slow=37
comp=Z,2.6nm,0.7s
ESBB Sonseca Array 24.48 282 P **P 08 31 23.9 -1.0**
ESBB IAmb IAmb 08 31 54.0
comp=Z,12nm,1.2s
ESDC Sonseca Array 24.48 282 P **P 08 31 24.3 -0.6**
comp=Z,2.7nm,0.8s,baz=75,slow=9.6,SNR=11
comp=Z,2.7nm,0.8s
ESDC Sonseca Array 24.48 282 P **P 08 31 24.0 -0.9**
NBO00 NORSAR Array S 24.53 340 P **P 08 31 23.1 -1.9**
NC303 NORSAR Array S 24.54 341 P **P 08 31 23.8 -1.2**
NC303 IAmb IAmb 08 31 53.4
comp=Z,20nm,1.2s
NC204 NORSAR Array S 24.74 340 P **P 08 31 25.1 -1.8**
PAB San Pablo 24.80 282 P **P 08 31 27.5 -0.2**
PAB IAmb IAmb 08 31 57.1
comp=Z,19nm,1.5s
PAB San Pablo 24.80 282 P **P 08 31 27.5 -0.2**
PAB pmax pmax
comp=Z,19nm,1.5s
ABKAR Akbulak array 25.16 55 P **P 08 31 30.4 -0.3**
ABKAR Akbulak array 25.16 55 P **P 08 31 29.8 -1.0**
PRGR Permogore 25.28 20 *eP* **P 08 31 31.5 -0.2**
PRGR pmax pmax
comp=Z,107nm,1.3s
EKA Eskdalemuir Ar 26.37 319 P **P 08 31 41.3 -0.4**
comp=Z,1.7nm,0.5s,baz=119,slow=11,SNR=12
comp=Z,1.7nm,0.5s
MVO Moncorvo 26.61 286 *eP* **P 08 31 45.2 +1.1**
MDT Midelt 26.82 267 P **P 08 31 46.7 +0.6**
comp=Z,2.2nm,0.9s,baz=69,slow=16,SNR=7.0
comp=Z,2.2nm,0.9s
ARU Arti 26.82 39 P **P 08 31 47.2 +1.5**
comp=Z,6.5nm,0.2s,baz=238,slow=8.7,SNR=8.3
ARU Arti 26.82 39 P **P 08 31 45.6 -0.1**
ARU IAmb IAmb 08 32 26.9
comp=Z,19nm,1.0s
ARU Arti 26.82 39 *d iP* **P 08 31 48.8 +3.0**
ARU 08 32 30.8
ARU SS 08 37 36.2
ARU pmax pmax
comp=Z,18nm,1.0s
SHME Shamm 27.06 110 P **P 08 31 49.8 +1.7**
MTE Manteigas 27.10 284 *eP* **P 08 31 50.8 +2.3**
PBAR Barrancos 27.12 279 *eP* **P 08 31 48.1 -0.5**
PMRV Marv??o 27.14 282 *eP* **P 08 31 50.8 +2.0**
POLO Lamas de Olo 27.16 287 *eP* **P 08 31 49.5 +0.4**
BANOM Banah 27.25 110 P **P 08 31 52.4 +2.5**
NAZ Nazwa, Dubai 27.33 112 P **P 08 31 50.6 -0.1**
PESTR Estremoz 27.40 281 P **P 08 31 49.3 -1.9**
MSFE Esma-Masafi 27.47 111 P **P 08 31 50.3 -1.6**
UOSS Minazif 27.75 112 P **P 08 31 53.3 -1.2**
UOSS IAmb IAmb 08 31 58.8
comp=Z,16nm,1.2s
UOSS Minazif 27.75 112 P **P 08 31 57.7 +3.3**
HATD Hatta, Dubai 27.77 112 P **P 08 31 54.5 -0.1**
ASHO Ashiyiah 27.80 112 P **P 08 31 57.9 +2.9**
PVAQ Vaqueiros 27.82 278 *eP* **P 08 31 57.4 +2.5**
PMTG Montargil 27.84 282 *eP* **P 08 31 56.6 +1.5**
SOHO SOHO 28.48 113 P **P 08 32 00.3 -0.6**
WSAR Wadi Sarin 30.55 112 P **P 08 32 19.8 +0.5**
comp=Z,2.4nm,0.8s,baz=3.2,slow=7.5,SNR=1.5
comp=Z,2.4nm,0.8s
ARCES ARCESS Array B 30.70 358 P **P 08 32 21.8 +1.6**
comp=Z,4.2nm,0.7s,baz=170,slow=7.4,SNR=8.8
comp=Z,4.2nm,0.7s
KKAR Karatay Array 32.28 69 P **P 08 32 32.9 -1.5**
KKAR Karatay Array 32.28 69 P **P 08 32 32.9 -1.5**
BVAR Borovoye Array 32.31 50 P **P 08 32 36.6 +2.1**
comp=Z,0.6nm,0.9s,baz=337,slow=3.3,SNR=2.2
comp=Z,0.6nm,0.9s
GAR Garm 32.89 76 P **P 08 32 38.0 -1.8**
KBL Kabul 33.19 85 P **P 08 32 41.2 -1.4**
KBL Kabul 33.19 85 P **P 08 32 41.2 -1.4**
KBL pmax pmax
comp=Z,2.0nm,0.8s
TOA0 Torodi Ar. Sit 34.50 229 P **P 08 32 52.6 -1.3**
TOA0 IAmb IAmb 08 33 12.5
comp=Z,7.9nm,1.1s
TORD Torodi Ar. Bea 34.50 229 P **P 08 32 53.0 -0.8**
comp=Z,1.6nm,0.8s,baz=36,slow=7.5,SNR=8.8
TORD LR LR 08 50 17.6
comp=Z,368nm,18.6s,baz=34,slow=42
comp=Z,1.6nm,0.8s
AAK Ala-Archa 35.25 69 P **P 08 32 57.8 -2.6**
AAK IAmb IAmb 08 33 10.0
comp=Z,4.2nm,0.8s
AAK Ala-Archa 35.25 69↑ *eP* **P 08 33 00.9 +0.5**
AAK pmax pmax
comp=Z,4.0nm,1.8s
KOWA Kowa 37.05 238 LR LR 08 50 12.3
comp=Z,424nm,18.3s,baz=52,slow=39
KURBB Kurchatov Arra 37.21 55 P **P 08 33 16.9 +0.1**
comp=Z,1.5nm,0.5s,baz=278,slow=9.0,SNR=15
comp=Z,1.5nm,0.5s
KURK Kurchatov 37.26 55 P **P 08 33 15.0 -2.3**
KURK IAmb IAmb 08 33 51.7
comp=Z,8.2nm,1.4s
KURK Kurchatov 37.26 55↑ *eP* **P 08 33 18.1 +0.8**
KURK pmax pmax
comp=Z,8.0nm,1.7s
TARG Taragay, Kyrgy 37.84 69 P **P 08 33 19.4 -3.4**
TARG Taragay, Kyrgy 37.84 69 P **P 08 33 19.4 -3.4**
TARG pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 40.05 60 P **P 08 33 40.3 -0.5**
MK31 Makanchi Array 40.05 60 *ceP* **P 08 33 40.7 -0.1**
MKAR Makanchi Array 40.05 60 P **P 08 33 40.6 -0.2**
comp=Z,1.9nm,0.5s,baz=279,slow=6.8,SNR=14
comp=Z,1.9nm,0.5s
MKAR Makanchi Array 40.05 60 P **P 08 33 39.9 -0.9**
KBS Kingsbay 40.63 355↓ *eP* **P 08 33 48.3 +3.2**
KBS pmax pmax
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 40.95 49 P **P 08 33 50.2 +2.1**
comp=Z,1.7nm,0.3s,baz=258,slow=7.2,SNR=2.3
comp=Z,1.7nm,0.3s
DGZ Jazzator, Alta 42.99 55↓ *eP* **P 08 34 05.6 +0.6**
DGZ pmax pmax
comp=Z,6.0nm,1.6s
DBIC Dimbokro 43.53 231 P **P 08 34 10.3 +0.8**
comp=Z,2.0nm,0.8s,baz=31,slow=22,SNR=2.8
comp=Z,2.0nm,0.8s
NRIK Noril'sk 43.60 26 P **P 08 34 10.5 +1.1**
comp=Z,3.2nm,0.7s,baz=228,slow=5.9,SNR=2.4
comp=Z,3.2nm,0.7s
NRIK Noril'sk 43.60 26↑ *eP* **P 08 34 10.4 +0.9**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 44.41 64 *eP* **P 08 34 17.6 +1.2**
BBTS Babate 45.74 251 LR LR 08 56 11.3
comp=Z,444nm,18.3s,baz=57,slow=40
KNGR Kungurtug, Tuv 49.16 52↓ *eP* **P 08 34 54.4 +0.9**
KNGR pmax pmax
comp=Z,3.0nm,1.6s
GTA Gaotai 54.44 65 *eP* **P 08 35 37.3 +4.2**
GTA pP sP 08 35 40.7 +4.3
GTA sP pP 08 35 43.8 +8.3
GTA pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 55.55 53 P **P 08 35 42.1 +1.1**
comp=Z,0.5nm,0.3s,baz=294,slow=8.0,SNR=5.1
comp=Z,0.5nm,0.3s
ULN Ulaanbaatar 55.95 53↑ *eP* **P 08 35 44.1 +0.2**
ULN pmax pmax
comp=Z,1.0nm,1.4s
TSUM Tsumeb 58.59 191 LR LR 09 05 39.8
comp=Z,294nm,18.2s,baz=330,slow=40
HHC Hu-ho-hao-te 61.88 59 *eP* **P 08 36 24.3 -0.9**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,620nm,8.2s
PZH PanZhiHua 61.94 77 P **P 08 36 26.4 +0.6**
PZH pmax pmax
comp=Z,20nm,0.6s
XAN Xi'an 63.39 67 P **P 08 36 38.7 +3.4**
XAN pP sP 08 36 47.5 +8.8
XAN pmax pmax
comp=Z,7.0nm,1.3s
CMAR Chiang Mai Arr 64.18 87 P **P 08 36 41.8 +1.1**
comp=Z,0.6nm,0.4s,baz=306,slow=7.7,SNR=5.5
comp=Z,0.6nm,0.4s
CMAR Chiang Mai Arr 64.18 87 *i* P **P 08 36 44.5 +3.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BOSA Boshof 67.22 182 P **P 08 37 00.8 +0.8**
comp=Z,2.8nm,0.8s,baz=14,slow=6.5,SNR=4.1
BOSA LR LR 09 06 58.7
comp=Z,278nm,21.6s,baz=14,slow=36
comp=Z,2.8nm,0.8s
KLR Kul'dur 69.59 43 LR LR 09 09 45.8
comp=Z,382nm,18.1s,baz=294,slow=38
MA2 Magadan 71.20 27 LR LR 09 10 35.4
comp=Z,338nm,19.2s,baz=293,slow=38
SUR Sutherland 71.23 186 LR LR 09 12 28.9
comp=Z,270nm,18.9s,baz=24,slow=39
NJ2 Nanjing 71.48 64 *eP* **P 08 37 27.7 +1.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
KSRS Korea Array 74.39 54 P **P 08 37 44.9 +1.3**
comp=Z,3.1nm,0.8s,baz=305,slow=4.3,SNR=6.9
KSRS LR LR 09 14 09.7
comp=Z,486nm,19.2s,baz=310,slow=39
comp=Z,3.1nm,0.8s
I29M Ogilvie Camp, 75.48 354 P **P 08 37 50.0 +0.5**
I29M IAmb IAmb 08 38 09.4
comp=Z,9.8nm,1.2s
ILAR Eielson Array 76.56 358 P **P 08 37 56.6 +1.0**
comp=Z,0.4nm,0.8s,baz=356,slow=3.9,SNR=2.0
comp=Z,0.4nm,0.8s
ULM Lac du Bonnet 78.32 327 P **P 08 38 07.5 +1.8**
comp=Z,4.4nm,0.9s,baz=1.4,slow=7.8,SNR=3.2
comp=Z,4.4nm,0.9s
PETK Petropavlovsk- 78.63 28 LR LR 09 15 00.3
comp=Z,236nm,18.4s,baz=301,slow=37
MJAR Matsushiro Arr 81.30 50 P **P 08 38 23.5 +1.3**
comp=Z,3.3nm,1.1s,baz=322,slow=4.7,SNR=4.2
comp=Z,3.3nm,1.1s
LRAL Lakeview Retre 86.26 310 P **P 08 38 44.9 -2.7**
LRAL IAmb IAmb 08 39 22.1
comp=Z,6.3nm,1.0s
BDFB Brasilia 89.01 249 P **P 08 39 01.7 +0.7**
comp=Z,5.2nm,0.7s,baz=70,slow=5.8,SNR=11
BDFB LR LR 09 19 57.6
comp=Z,159nm,19.5s,baz=7.8,slow=36
comp=Z,5.2nm,0.7s
PDAR Pinedale Array 89.94 330 P **P 08 39 05.9 +0.6**
comp=Z,0.2nm,0.6s,baz=28,slow=4.1,SNR=2.3
comp=Z,0.2nm,0.6s
TXAR Lajitas Array 98.37 319 P Pdif 08 39 45.0 +0.9
comp=Z,0.9nm,0.9s,baz=34,slow=4.7,SNR=4.3
comp=Z,0.9nm,0.9s
TXAR Lajitas Array 98.37 319 P Pdif 08 39 45.0 +0.9
WRA Warramunga Arr 114.95 96 PKP **PKiKP 08 44 47.3 +0.2**
comp=Z,0.6nm,1.0s,baz=314,slow=2.7,SNR=3.3
ASAR Alice Springs 116.67 100 PKP **PKiKP 08 44 50.7 +0.4**
comp=Z,0.9nm,0.8s,baz=340,slow=1.7,SNR=7.6

VIE 12 08:26:26.3±0.4, 47.42N×15.86E, h0km, mb0.5/1, ml1.1/3, Error ellipse: s-maj=3.3km s-min=1.7km az=135.0 11 km WNW of Rohrbach a.d. Lafnitz Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.28**	**234**	*e*Pg	Pg	08 26 31.6	0.0
	2.4nm,0.1s						
ARSA				*e*Sg	Sg	08 26 35.8	+0.5
	3.8nm,0.2s						
RONA	**Rosalia, Austr**	**0.41**	**46**	*e*Pg	Pg	08 26 34.6	+0.4
	0.6nm,0.1s						
RONA				*e*Sg	Sg	08 26 40.6	+1.0
	2.9nm,0.2s						
CONA	**Conrad Observa**	**0.51**	**1**	*e*Pg	Pg	08 26 35.9	-0.2
	0.6nm,0.2s						
CONA				*e*Sg	Sg	08 26 43.7	+1.0
	2.4nm,0.2s						

ROM 12 08:28:26.7±0.1, 42.926N×13.262E±0.004, h10km, ML2.5/10, Error ellipse: s-maj=0.3km s-min=0.3km az=13.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.05**	**256**	P	Pg	08 28 29.0	+0.1
MC2				S	Sg	08 28 30.3	-0.2
MMO1	**Montemonaco**	**0.05**	**119**	P	Pg	08 28 28.9	+0.2
MMO1				S	Sg	08 28 30.1	-0.2
AM05	**Amandola Campo**	**0.09**	**52**	P	Pg	08 28 29.7	+0.6
AM05				S	Sg	08 28 31.4	+0.6
T1242	**Castelluccio d**	**0.10**	**204**	P	Pg	08 28 29.9	+0.5
T1242				S	Sg	08 28 31.8	+0.5
T1242				AML	AML		
	comp=E,8515μm,0.5s						
T1242				AML	AML		
	comp=N,6130μm,0.3s						
T1242				AML	AML		
	comp=N,6095μm,0.8s						
T1242				AML	AML		
	comp=E,8510μm,0.5s						
T1242				AML	AML		
	comp=N,6135μm,0.3s						
T1242				AML	AML		
	comp=E,8500μm,0.5s						
NRCA	**Norcia**	**0.14**	**230**	P	Pg	08 28 30.4	+0.5
NRCA				S	Sg	08 28 32.8	+0.6
T1241	**Roccafluvione,**	**0.14**	**119**	P	Pg	08 28 30.6	+0.7
T1241				S	Sg	08 28 33.2	+1.1
T1241				AML	AML		
	comp=E,2050μm,0.7s						
T1241				AML	AML		
	comp=N,1290μm,0.6s						
T1241				AML	AML		
	comp=E,2055μm,0.7s						
T1241				AML	AML		
	comp=N,1630μm,1.5s						
T1241				AML	AML		
	comp=E,2210μm,0.7s						
T1241				AML	AML		
	comp=N,1285μm,0.6s						
FDMO	**Fiordimonte**	**0.17**	**311**	P	Pg	08 28 30.9	+0.6
FDMO				S	Sg	08 28 33.7	+0.9
FDMO				AML	AML		
	comp=N,1305μm,0.6s						
FDMO				AML	AML		
	comp=E,884μm,0.5s						
T1216	**Preci, Frazion**	**0.18**	**259**	P	Pg	08 28 31.2	+0.7
T1216				S	Sg	08 28 34.4	+1.3
T1216				AML	AML		
	comp=E,34550μm,0.3s						
T1216				AML	AML		
	comp=N,30500μm,0.3s						
T1216				AML	AML		
	comp=N,3335μm,0.3s						
T1216				AML	AML		
	comp=E,34550μm,0.3s						
T1216				AML	AML		
	comp=E,4615μm,0.3s						
T1216				AML	AML		
	comp=N,30550μm,0.2s						
T1216				AML	AML		
	comp=N,3331μm,0.3s						
T1202	**Accumoli, Fraz**	**0.22**	**187**	P	Pg	08 28 32.0	+0.7
T1202				S	Sg	08 28 36.3	+1.9
T1204	**Amatrice, Fraz**	**0.25**	**171**	P	Pg	08 28 32.5	+0.7
T1204				S	Sb	08 28 36.9	-1.1
T1243	**Rocca Santa Ma**	**0.27**	**149**	P	Pg	08 28 32.7	+0.6
T1243				S	Sb	08 28 37.1	-1.3
T1215	**Vallo di Nera,**	**0.31**	**247**	P	Pg	08 28 33.6	+0.6
T1215				S	Sb	08 28 38.9	-0.8
T1217	**Poggiodomo (PG**	**0.32**	**229**	P	Pg	08 28 33.7	+0.6
T1217				S	Sb	08 28 39.0	-0.9
LNSS	**Leonessa**	**0.36**	**207**	P	Pg	08 28 34.3	+0.5
LNSS				S	Sb	08 28 40.5	-0.5
TERO	**Teramo**	**0.39**	**140**	P	Pg	08 28 34.8	+0.4
TERO				S	Sb	08 28 41.2	-0.7
RM33	**Pellescritta (**	**0.42**	**185**	P	Pg	08 28 35.3	+0.4
RM33				S	Sb	08 28 42.2	-0.5

*IDC **12** 08:30:20.8±16.0, 6.77S×129.83E, h110km±175km, mb3.1/1, mbtmp3.5/4, ML3.4/3, MS3.4/1, Error ellipse: s-maj=130.6km s-min=62.1km az=36.0*
*DJA **12** 08:30:23.0±0.5, 7.5±4.4×13.0E±1.0, h194km±9km, M3.6/4, mb3.3/1, MLv3.8/4*
ISC 12 08:30:24.1±1.5, 6.89S±0.09×130.2E±0.2, h200km, n7, α3.3 73/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.53**	**135**	P	**Pn**	**08 30 59.3**	**+1.2**
SAUI				S	**Sn**	**08 31 26.2**	**+1.7**
FAKI	**Fak Fak**	**4.43**	**27**	P	**Pn**	**08 31 30.6**	**-0.8**
KAPI	**Kappang**	**10.57**	**280**	LR	LR	08 36 21.6	
	comp=Z,186nm,18.9s,baz=296,slow=36						
FITZ	**Fitzroy Crossi**	**12.00**	**201**	P	**Pn**	**08 33 08.7**	**-0.5**
	0.1nm,0.3s,baz=20,slow=11,SNR=7.2						
FITZ				S	Sn	08 35 11.1	-12
	0.7nm,0.5s,baz=107,slow=21,SNR=2.0						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**13.58**	**163**	P	**P**	**08 33 30.2**	**-1.1**
	0.3nm,0.3s,baz=343,slow=13,SNR=16						
WRA				S	**S**	**08 35 55.1**	**-5.3**
	0.3nm,0.3s,baz=342,slow=21,SNR=6.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.05**	**168**	P	**Pn**	**08 34 15.8**	**+4.6**
	0.1nm,0.3s,baz=346,slow=10,SNR=10						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**68.25**	**327**	P	P	08 41 07.9	+4.6
	0.2nm,0.4s,baz=119,slow=7.5,SNR=2.2						
	0.2nm,0.4s						

ROM 12 08:37:51.1±0.1, 42.917N±0.002×13.255E±0.003, h9km, ML1.6/11, 4C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=213.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.05**	**264**	P	Pg	08 37 53.3	+0.1
MC2				S	Sg	08 37 54.5	-0.1
MMO1	**Montemonaco**	**0.06**	**109**	P	Pg	08 37 53.2	+0.1
MMO1				S	Sg	08 37 54.4	-0.1
AM05	**Amandola Campo**	**0.09**	**50**	P	Pg	08 37 53.9	+0.4
AM05				S	Sg	08 37 55.7	+0.5
AM05				AML	AML		
	comp=N,2195μm,0.3s						
AM05				AML	AML		
	comp=E,1410μm,0.1s						
T1242	**Castelluccio d**	**0.10**	**203**	↑P	Pg	08 37 54.1	+0.5
T1242				S	Sg	08 37 56.1	+0.7
NRCA	**Norcia**	**0.13**	**231**	↑P	Pg	08 37 54.7	+0.6
NRCA				S	Sg	08 37 57.1	+0.8
NRCA				AML	AML		
	comp=E,1445μm,0.2s						
NRCA				AML	AML		
	comp=N,764μm,1.4s						
T1241	**Roccafluvione,**	**0.14**	**115**	P	Pg	08 37 54.9	+0.6
T1241				S	Sg	08 37 57.4	+1.0
T1241				AML	AML		
	comp=E,310μm,0.7s						
T1241				AML	AML		
	comp=N,274μm,0.6s						
GUMA	**Gualdo di Mace**	**0.16**	**22**	P	Pg	08 37 55.4	+0.9
GUMA				S	Sg	08 37 58.4	+1.6
GUMA				AML	AML		
	comp=N,780μm,0.2s						
GUMA				AML	AML		
	comp=E,1072μm,0.2s						
FDMO	**Fiordimonte**	**0.17**	**314**	P	Pg	08 37 55.2	+0.5
FDMO				S	Sg	08 37 58.2	+1.0
FDMO				AML	AML		
	comp=N,301μm,0.2s						
FDMO				AML	AML		
	comp=E,198μm,1.6s						
T1216	**Preci, Frazion**	**0.17**	**261**	P	Pg	08 37 55.5	+0.7
T1216				S	Sg	08 37 58.6	+1.3
CSP1	**Cessapalombo**	**0.18**	**348**	↑P	Pg	08 37 55.4	+0.5
CSP1				S	Sg	08 37 58.6	+1.1
T1204	**Amatrice, Fraz**	**0.24**	**169**	P	Pg	08 37 56.8	+0.7
T1204				S	Sg	08 38 01.2	+1.7
T1243	**Rocca Santa Ma**	**0.26**	**147**	P	Pg	08 37 57.1	+0.7
T1243				S	Sb	08 38 01.6	-1.3
CESI	**CESI - Serrava**	**0.27**	**289**	P	Pg	08 37 57.2	+0.6
CESI				S	Sb	08 38 01.9	-1.1
CESI				AML	AML		
	comp=E,160μm,1.3s						
CESI				AML	AML		
	comp=N,340μm,0.2s						
T1215	**Vallo di Nera,**	**0.31**	**248**	P	Pg	08 37 57.9	+0.6
T1215				S	Sb	08 38 03.1	-0.9
T1217	**Poggiodomo (PG**	**0.31**	**229**	P	Pg	08 37 57.7	+0.3
LNSS	**Leonessa**	**0.35**	**207**	P	Pg	08 37 58.7	+0.6
LNSS				S	Sb	08 38 04.8	-0.5
LNSS				AML	AML		
	comp=E,184μm,0.2s						
LNSS				AML	AML		
	comp=N,196μm,0.3s						
TERO	**Teramo**	**0.39**	**139**	P	Pg	08 37 59.2	+0.4
TERO				S	Sb	08 38 06.0	-0.4
TERO				AML	AML		
	comp=E,73μm,0.5s						
TERO				AML	AML		
	comp=N,68μm,0.1s						
SNTG	**Esanatoglia**	**0.41**	**326**	↓P	Pg	08 37 59.7	+0.6
SNTG				AML	AML		
	comp=N,45μm,0.2s						
SNTG				AML	AML		
	comp=E,45μm,0.1s						
EL6	**Elcito**	**0.43**	**345**	P	Pg	08 38 00.2	+0.6
ASSB	**Assisi San Ben**	**0.46**	**286**	P	Pg	08 38 00.4	+0.4
ASSB				S	Sb	08 38 07.7	-0.6
ASSB				AML	AML		
	comp=N,120μm,0.3s						
ASSB				AML	AML		
	comp=E,102μm,1.6s						
CING	**Cingoli**	**0.46**	**355**	↑P	Pg	08 38 00.7	+0.6
CING				AML	AML		
	comp=N,45μm,0.3s						
CING				AML	AML		
	comp=E,62μm,1.0s						
ARVD	**Arcevia**	**0.62**	**339**	S	Sb	08 38 14.0	+0.8
VIVA	**Pratoni del Vi**	**1.22**	**197**	P	Pg	08 38 14.8	+0.2
GIUL	**Giuliano Di Ro**	**1.36**	**180**	S	Sb	08 38 34.0	-0.3

KRSZO 12 08:40:06.5, 47.89N×19.41E, h0km, Explosion. locality : Bercel GT info : GT2 explosion, Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSZ	**Piszkesteto**	**0.33**	**85**	Pg	Pg	08 40 11.7	-1.2
PSZ				Lg	Lg	08 40 17.2	
PSZ	**Piszkesteto**	**0.33**	**85**	P	Pg	08 40 11.7	-1.2
PSZ				S	Sg	08 40 17.2	+0.1
BUD	**Budapest**	**0.48**	**212**	Lg	Lg	08 40 33.0	
BUD	**Budapest**	**0.48**	**212**	S	Sb	08 40 33.0	+7.5
VYHS	**Vyhne**	**0.71**	**328**	Pg	Pb	08 40 21.1	-0.7
VYHS				Lg	Lg	08 40 30.5	
VYHS	**Vyhne**	**0.71**	**328**	*e*PG	Pb	08 40 21.1	-0.7
VYHS				*e*SG	Sg	08 40 29.3	-0.1
LANS	**Liptovska Anna**	**1.26**	**2**	*e*PG	Pn	08 40 36.8	+5.4
LANS				*e*SG	Sg	08 40 43.0	-4.0
JAVC	**Velka Javorina**	**1.51**	**311**	*e*PG	Pb	08 40 45.3	+10
JAVC				*e*SG	Sg	08 40 54.9	0.0
JAVC	**Velka Javorina**	**1.51**	**311**	Lg	Lg	08 40 58.3	
MORC	**Moravsky Berou**	**2.25**	**328**	*e*PG	Pg	08 40 50.6	+0.9
MORC				*e*SG	Sn	08 41 03.1	-10
VRAC	**Vranov**	**2.34**	**308**	*e*PG	Pg	08 40 56.8	+5.4

*IDC **12** 08:43:57.6±4.1, 25.67S×129.88E, h0km, mbtmp3.1/4, ML3.0/4, Error ellipse: s-maj=46.5km s-min=30.1km az=42.0*
*AUST **12** 08:43:58.2±0.2, 25.60S×129.83E, h0km, Error ellipse: s-maj=3.5km s-min=2.5km az=26.0*
ISC 12 08:43:57.8±0.8, 25.61S±0.05×129.86E±0.04, h10km, n15, α2.9 77/31, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRKA	**Warakurna**	**1.52**	**292**	P	**Pn**	**08 44 26.3**	**+1.2**
	baz=1.5						

WRKA				S		**Sb**	**08 44 47.3**	**+1.8**
	baz=1.5							
ASPA	**Alice Springs**	**4.16**	**63**	P		**Pn**	**08 45 03.9**	**+2.5**
	baz=4.2							
ASPA				S		**Sn**	**08 45 51.0**	**+0.9**
	baz=4.2							
ASAR	**Alice Springs**	**4.16**	**63**	Pn		**Pn**	**08 45 03.4**	**+2.0**
	0.4nm,0.3s,baz=243,slow=12,SNR=20							
ASAR				Pg		**Pb**	**08 45 13.8**	**+2.7**
	0.6nm,0.3s,baz=237,slow=17,SNR=13							
ASAR				Sn		**Sn**	**08 45 51.7**	**+1.6**
	1.5nm,0.3s,baz=244,slow=24,SNR=18							
ASAR				Lg		Lg	08 46 04.3	
	1.0nm,0.3s,baz=252,slow=26,SNR=5.2							
	0.7nm,0.3s							
FORT	**Forrest**	**5.39**	**197**	P		**Pn**	**08 45 20.3**	**+2.1**
	baz=5.4							
FORT				S		**Sn**	**08 46 24.0**	**+3.6**
	baz=5.4							
OOD	**Oodnadatta**	**5.65**	**114**	P		**Pn**	**08 45 24.4**	**+2.5**
	baz=5.7							
OOD				S		**Sn**	**08 46 29.9**	**+3.0**
	baz=5.7							
MULG	**Mulgathing**	**5.96**	**142**	P		**Pn**	**08 45 28.7**	**+2.6**
	baz=6.0							
MULG				S		**Sn**	**08 46 32.3**	**-2.1**
	baz=6.0							
WRA	**Warramunga Arr**	**6.99**	**37**	Pn		**Pn**	**08 45 41.5**	**+1.1**
	0.2nm,0.3s,baz=214,slow=13,SNR=9.1							
WRA				Sn		**Sn**	**08 46 56.5**	**-3.5**
	0.4nm,0.3s,baz=218,slow=23,SNR=4.5							
WRA				Lg		Lg	08 47 32.2	
	0.4nm,0.3s,baz=210,slow=28,SNR=5.7							
	0.4nm,0.6s							
WB2	**Warramunga Arr**	**7.00**	**37**	P		**Pn**	**08 45 41.7**	**+1.3**
	baz=7.0							
WB2				S		**Sn**	**08 46 58.1**	**-2.0**
	baz=7.0							
FITZ	**Fitzroy Crossi**	**8.44**	**332**	Pn		**Pn**	**08 46 02.2**	**+2.0**
	0.1nm,0.3s,baz=157,slow=7.7,SNR=1.9							
FITZ				Sn		**Sn**	**08 47 32.7**	**-2.7**
	0.1nm,0.3s,baz=271,slow=15,SNR=1.8							
	0.4nm,0.3s							
FITZ	**Fitzroy Crossi**	**8.44**	**332**	P		**Pn**	**08 46 02.1**	**+2.0**
	baz=8.4							
FITZ				S		**Sn**	**08 47 32.4**	**-3.0**
	baz=8.4							
LCRK	**Leigh Creek**	**8.82**	**125**	P		**Pn**	**08 46 07.6**	**+2.2**
	baz=8.8							
LCRK				S		**Sn**	**08 47 43.4**	**-1.4**
	baz=8.8							
BBOO	**Buckleboo**	**8.99**	**144**	P		**Pn**	**08 46 07.8**	**0.0**
	baz=9.0							
BBOO				S		**Sn**	**08 47 46.3**	**-2.8**
	baz=9.0							
INKA	**Innaminka**	**9.97**	**105**	P		**Pn**	**08 46 22.0**	**+0.9**
	baz=10.0							
INKA				S		**Sn**	**08 48 09.9**	**-3.2**
	baz=10.0							
MEEK	**Meekatharra**	**10.16**	**262**	P		**Pn**	**08 46 23.7**	**0.0**
	baz=10							
MEEK				S		**Sn**	**08 48 12.8**	**-4.9**
	baz=10							
STKA	**Stephens Creek**	**12.04**	**124**	Pn		**Pn**	**08 46 48.8**	**-0.8**
	0.1nm,0.3s,baz=306,slow=16,SNR=1.9							
STKA				Sn		**Sn**	**08 48 56.8**	**-7.1**
	0.1nm,0.3s,baz=142,slow=21,SNR=1.9							
	1.0nm,0.7s							

NNC 12 08:54:43.6±4.6, 54°02N×86°85E, h0km, mb3.6, mpv3.2, 6C-2D, Error ellipse: s-maj=36.5km s-min=33.9km az=176.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.03**	**240**	⇑Pn	Pn	08 56 13.2	-0.7
	1.2nm,0.7s						
KURK				⇑Lg	Lg	08 57 53.1	
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**6.13**	**240**	⇑Pn	Pn	08 56 13.8	-1.5
	1.8nm,0.5s						
KURBB				⇓Sn	Sn	08 57 28.5	+2.5
	1.7nm,0.6s						
KURBB				⇑Lg	Lg	08 57 58.0	
	3.9nm,0.7s						
MK31	**Makanchi Array**	**7.80**	**204**	⇑Pn	Pn	08 56 40.7	+2.5
	0.9nm,0.6s,baz=28,slow=13,SNR=12						
MK31				⇑Sn	Sn	08 58 07.1	0.0
	0.1nm,0.3s						
MK31				⇓Lg	Lg	08 58 50.1	
	0.4nm,0.6s,baz=24,slow=28,SNR=4.0						

*IDC **12** 09:00:32.1±2.2, 24°20S×180°00E, h486km±23km, mb3.3/7, mbtmp4.1/8, Error ellipse: s-maj=22.4km s-min=17.4km az=162.0*

ISC 12 09:00:33.7±0.8, 24°3S±0°1×179°9W±0°1, h505km, n13, σ1s14/16, mb3.9/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.75**	**277**	P	**P**	**09 03 21.6**	**+1.3**
	10nm,0.7s,baz=202,slow=23,SNR=7.4						
URZ	**Urewera**	**14.13**	**190**	P	**P**	**09 03 33.0**	**-1.5**
	2.2nm,0.4s,baz=212,slow=1.5,SNR=2.0						
URZ				S	**S**	**09 06 05.1**	**+1.4**
	9.0nm,0.9s,baz=211,slow=22,SNR=8.9						
STKA	**Stephens Creek**	**34.65**	**249**	P	**P**	**09 06 40.2**	**-0.1**
	1.7nm,0.4s,baz=91,slow=10,SNR=18						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**09 07 40.0**	**-0.8**
	2.0nm,0.4s,baz=93,slow=7.2,SNR=71						
ASAR				ScP	**ScP**	**09 12 27.5**	**+1.1**
	1.0nm,0.9s,baz=90,slow=4.6,SNR=5.2						
	2.0nm,0.4s						
WRA	**Warramunga Arr**	**42.46**	**267**	P	**P**	**09 07 42.7**	**-1.3**
	5.0nm,0.3s,baz=98,slow=8.3,SNR=343						
WRA				ScP	**ScP**	**09 12 29.8**	**+1.7**
	1.7nm,1.0s,baz=102,slow=4.2,SNR=7.8						
	5.0nm,0.3s						
VNDA	**Vanda**	**53.98**	**185**	P	**P**	**09 09 09.6**	**+0.5**
	0.5nm,0.4s,baz=342,slow=4.6,SNR=10						
	0.5nm,0.4s						
NVAR	**Mina Array Bea**	**84.99**	**44**	P	**P**	**09 12 15.9**	**+0.2**
	0.4nm,0.8s,baz=224,slow=6.3,SNR=5.5						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**09 12 43.1**	**+1.2**
	1.0nm,0.7s,baz=213,slow=7.0,SNR=17						
	1.0nm,0.7s						
PDAR	**Pinedale Array**	**92.93**	**44**	P	**P**	**09 12 52.1**	**-0.5**
	0.3nm,0.6s,baz=218,slow=5.3,SNR=3.8						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**132.30**	**348**	PKP	**PKPdf**	**09 18 48.1**	**-1.1**
	2.9nm,0.9s,baz=20,slow=1.4,SNR=6.7						
AKASG	**Malin Array Be**	**145.36**	**327**	PKPbc	**PKPdf**	**09 19 13.1**	**-0.3**
	0.9nm,0.5s,baz=46,slow=3.4,SNR=4.6						
BRTR	**Keskin Array B**	**147.89**	**307**	PKPbc	**PKPbc**	**09 19 21.0**	**-1.0**
	0.6nm,0.7s,baz=146,slow=4.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**168.79**	**188**	PKPab	**PKPab**	**09 20 56.9**	**+0.1**
	0.3nm,0.5s,baz=179,slow=3.5,SNR=1.8						

IDC 12 09:10:16.3±3.5, 53°63N×87°66E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=33.3km s-min=17.0km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**282**	*i*		09 21 30.0	
	baz=99,slow=322,SNR=0.5						
ZALV	**Zalesovo Beam**	**1.71**	**282**	Pg	Pn	09 10 47.9	+0.6
	0.8nm,0.3s,baz=100,slow=16,SNR=10						
ZALV				Lg	Lg	09 11 09.8	
	1.0nm,0.3s,baz=98,slow=29,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.38**	**245**	Pn	Pn	09 11 52.2	+0.8
	baz=61,slow=14,SNR=4.5						
KURBB				Lg	Lg	09 13 34.9	
	baz=59,slow=30,SNR=4.4						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.66**	**209**	Pn	Pn	09 12 10.0	+0.9
	0.2nm,0.3s,baz=29,slow=13,SNR=5.6						
MKAR				Lg	Lg	09 14 16.4	
	baz=22,slow=27,SNR=7.1						
	0.3nm,0.3s						

NNC 12 09:10:44.6±1.4, 38°56N×76°86E, h0km, mb3.9, mpv3.5, 5C-1D, Error ellipse: s-maj=9.5km s-min=8.8km az=178.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.46**	**348**	⇑Pg	Pb	09 12 05.1	+1.2
	3.8nm,0.5s						
TKM2				⇑Lg	Lg	09 13 06.4	
	13nm,1.0s						
KST	**Kastek**	**4.53**	**352**	Pg	Pb	09 12 07.7	+2.6
KST				Lg	Lg	09 13 09.5	
MDOK	**Medeo**	**4.60**	**2**	Pg	Pg	09 12 09.7	-3.1
	7.4nm,0.7s						
MDOK				Lg	Lg	09 13 08.9	
	18nm,1.0s						
SATY	**Saty**	**4.65**	**14**	Pg	Pb	09 12 09.9	+2.9
	7.7nm,0.6s						
SATY				Lg	Lg	09 13 12.7	
	10.0nm,0.6s						
CHMS	**Chumysh**	**4.71**	**341**	⇑Pg	Pb	09 12 09.3	+1.2
	2.8nm,0.7s						
CHMS				⇑Lg	Lg	09 13 13.1	
	9.8nm,0.8s						
DGS	**Degeres**	**4.75**	**350**	Pg	Pg	09 12 12.2	-3.4
DGS				Lg	Lg	09 13 17.0	
UZB	**Uzynbulak**	**4.87**	**19**	Pg	Pb	09 12 13.7	+2.9
	1.8nm,0.4s						
UZB				Lg	Lg	09 13 20.1	
	4.1nm,0.5s						
SHLS	**Shalkode**	**5.00**	**22**	Pg	Pg	09 12 18.5	-1.9
	6.2nm,0.3s						
SHLS				Lg	Lg	09 13 27.5	
	7.5nm,0.5s						
MRKS	**Merke**	**5.01**	**328**	Pg	Pb	09 12 16.7	+3.5
	3.2nm,0.5s						
MRKS				Lg	Lg	09 13 24.7	
	6.0nm,0.6s						
KTBS	**Karatobe**	**5.15**	**359**	Pg	Pb	09 12 17.9	+2.4
	3.3nm,0.6s						
KTBS				Lg	Lg	09 13 27.2	
	11nm,0.6s						
PDGK	**Podgornoye**	**5.17**	**22**	⇑Pg	Pb	09 12 17.0	+1.1
	3.4nm,0.7s						
PDGK				⇓Lg	Lg	09 13 30.2	
	5.5nm,0.6s						
KRBS	**Karabastau**	**5.21**	**351**	Pg	Pb	09 12 19.7	+3.2
	2.1nm,0.5s						
KRBS				Lg	Lg	09 13 30.5	
	8.2nm,0.9s						
CHKK	**Chushkaly**	**5.29**	**1**	Pg	Pb	09 12 21.4	+3.5
	4.7nm,0.6s						
CHKK				Lg	Lg	09 13 32.9	
	8.2nm,0.6s						
ARXS	**Arharly**	**5.70**	**7**	Pg	Pb	09 12 28.1	+3.2
	3.5nm,0.9s						
ARXS				Lg	Lg	09 13 44.6	
	8.3nm,0.7s						

*ISK **12** 09:14:49.5, 38°90N×27°75E, h13km, ML3.1/20*
*DDA **12** 09:14:49.4±0.0, 38°88N×27°72E, h7km±2km, ML2.8*
*THE **12** 09:14:50.1, 38°92N×27°76E, h0km±6km, ML2.9/4, Error ellipse: s-maj=15.1km s-min=2.0km az=64.0*

ISC 12 09:14:50.0±0.9, 38°91N±0°03×27°75E±0°02, h12km±7km, n35, σ0s55/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.06**	**116**	PG	**Pg**	**09 14 51.9**	**-0.5**
GOMA	**Golmarmara-Man**	**0.24**	**146**	PG	**Pg**	**09 14 54.9**	**-0.1**
GOMA				SG	**Sg**	**09 14 59.0**	**+0.6**
DKL	**Dikili**	**0.68**	**285**	PG	**Pb**	**09 15 03.1**	**-0.6**
BLCB	**Balcova**	**0.76**	**227**	PG	**Pb**	**09 15 04.8**	**-0.3**
BLCB				SG	**Sb**	**09 15 15.6**	**+0.3**
MANT	**Manisa**	**0.76**	**123**	P	**Pb**	**09 15 04.7**	**-0.6**
MANT				S	**Sb**	**09 15 15.4**	**-0.3**
MANT				*i* AML	AML	09 15 16.0	
	comp=E,368nm,0.4s						
MANT				*i* AML	AML	09 15 18.0	
	comp=N,464nm,0.6s						
DEMI	**Demirci**	**0.77**	**79**	P	**Pb**	**09 15 04.9**	**-0.4**
DEMI				S	**Sb**	**09 15 15.5**	**-0.3**
DEMI				*i* AML	AML	09 15 19.0	
	comp=N,775nm,0.2s						
DEMI				*i* AML	AML	09 15 19.0	
	comp=E,972nm,0.3s						
FOCM	**Foa**	**0.81**	**257**	PG	**Pb**	**09 15 05.6**	**-0.5**
FOCM				SG	**Sb**	**09 15 17.2**	**+0.2**
AYVA	**Ayvalik**	**0.91**	**296**	P	**Pb**	**09 15 07.5**	**-0.3**
AYVA				S	**Sb**	**09 15 20.2**	**+0.3**
AYVA				*i* AML	AML	09 15 22.0	
	comp=E,406nm,0.7s						
AYVA				*i* AML	AML	09 15 22.0	
	comp=N,764nm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**0.96**	**173**	PG	**Pg**	**09 15 08.2**	**-0.4**
DST	**Dursunbey**	**0.97**	**44**	PG	**Pb**	**09 15 08.9**	**+0.1**
KRBN	**Karaburun**	**0.98**	**252**	PG	**Pb**	**09 15 09.0**	**+0.1**
SMAA	**Simav-Kutahya**	**0.98**	**78**	PG	**Pb**	**09 15 08.9**	**-0.1**
URLA	**Izmir**	**1.05**	**239**	PG	**Pg**	**09 15 08.9**	**-1.3**
URLA	**Izmir**	**1.05**	**239**	P	**Pg**	**09 15 09.0**	**-1.3**
URLA				S	**Sb**	**09 15 24.1**	**+0.2**
URLA				*i* AML	AML	09 15 25.0	
	comp=N,256nm,0.4s						
URLA				*i* AML	AML	09 15 28.0	
	comp=E,182nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**1.18**	**236**	P	**Pg**	**09 15 11.6**	**-1.1**
ZEYE				S	**Sn**	**09 15 28.3**	**0.0**
ZEYE				*i* AML	AML	09 15 30.0	
	comp=E,221nm,0.3s						
ZEYE				*i* AML	AML	09 15 31.0	
	comp=N,317nm,0.3s						
PRK	**Paraskevi**	**1.20**	**287**	P	**Pn**	**09 15 13.4**	**+0.9**
PRK				S	**Sn**	**09 15 29.6**	**+0.9**
	512nm,0.6s						
AYDN	**Tasoluk**	**1.25**	**175**	P	**Pb**	**09 15 13.1**	**-0.4**
AYDN				S	**Sn**	**09 15 30.4**	**+0.3**
AYDN				*i* AML	AML	09 15 33.0	
	comp=E,572nm,0.2s						
AYDN				*i* AML	AML	09 15 34.0	
	comp=N,423nm,0.3s						
GCAM	**G?zelcaml?**	**1.27**	**199**	PN	**Pn**	**09 15 13.0**	**-0.5**
GCAM	**G?zelcaml?**	**1.27**	**199**	P	**Pn**	**09 15 12.8**	**-0.7**
GCAM				*i* AML	AML	09 15 33.0	
	comp=N,153nm,0.3s						
GCAM				*i* AML	AML	09 15 34.0	
	comp=E,218nm,0.4s						
GEDZ	**Gediz**	**1.31**	**83**	PN	**Pn**	**09 15 14.1**	**0.0**
KOCA	**Canakkale, Ayv**	**1.38**	**296**	P	**Pn**	**09 15 15.2**	**+0.1**
KOCA				S	**Sb**	**09 15 33.2**	**-0.2**
KOCA				*i* AML	AML	09 15 36.0	
	comp=N,189nm,0.3s						
KOCA				*i* AML	AML	09 15 36.0	
	comp=E,160nm,0.3s						
SMG	**Samos**	**1.39**	**211**	P	**Pb**	**09 15 15.9**	**0.0**
SMG				S	**Sg**	**09 15 35.9**	**+1.1**
	448nm,0.4s						
CHOS	**Chios island**	**1.42**	**249**	P	**Pn**	**09 15 15.7**	**0.0**
CHOS				S	**Sg**	**09 15 36.6**	**+0.8**
	565nm,0.4s						
CHOS	**Chios island**	**1.42**	**249**	PN	**Pn**	**09 15 15.9**	**+0.2**
SIGR	**SIGRI**	**1.50**	**282**	P	**Pn**	**09 15 16.5**	**-0.2**
SIGR				S	**Sg**	**09 15 39.1**	**+0.7**
	252nm,0.4s						
ULDT	**Uludag**	**1.64**	**41**	P	**Pn**	**09 15 18.8**	**0.0**
ULDT				*i* AML	AML	09 15 45.0	
	comp=N,168nm,0.3s						
ULDT				*i* AML	AML	09 15 46.0	
	comp=E,241nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.71**	**147**	P	**Pn**	**09 15 19.6**	**0.0**
TAVA				S	**Sg**	**09 15 45.3**	**+0.4**
TAVA				*i* AML	AML	09 15 46.0	
	comp=E,64nm,0.6s						
TAVA				*i* AML	AML	09 15 49.0	
	comp=N,66nm,0.5s						
YER	**Yerkesik**	**1.82**	**166**	PN	**Pn**	**09 15 21.2**	**+0.1**
BODT	**Bodrum**	**1.87**	**191**	PN	**Pn**	**09 15 22.5**	**+0.7**
APMY	**Acipayam-Deniz**	**1.89**	**139**	PN	**Pn**	**09 15 22.1**	**0.0**
BASM	**Basmaki-Afyon**	**2.06**	**118**	PN	**Pn**	**09 15 24.4**	**-0.1**
TURN	**Turunc**	**2.16**	**169**	PN	**Pn**	**09 15 25.5**	**-0.3**
DALY	**Dalyan (Mula)**	**2.21**	**161**	PN	**Pn**	**09 15 26.6**	**+0.2**
CAME	**Cameli-Denizli**	**2.31**	**147**	PN	**Pn**	**09 15 28.5**	**+0.5**
ARG	**Arkhangelos**	**2.70**	**173**	PN	**Pn**	**09 15 34.1**	**+0.9**

*IDC **12** 09:28:59.8±2.8, 53°77N×87°04E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.7km s-min=15.2km az=68.0*
*NNC **12** 09:28:59.0±11.0, 53°72N×87°05E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=107.2km s-min=47.8km az=35.0, Suspected Mining explosion.*

ISC 12 09:29:00.4±4.7, 53°8N±0°2×86°9E±0°3, h0km, n8, σ0s66/9, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**277**	*i*		09 36 50.0	
	baz=99,slow=324,SNR=0.4						
ZAA0	**Zalesovo Array**	**1.22**	**277**	⇓P	**Pn**	**09 29 24.4**	**-0.3**
	0.2nm,0.2s						
ZAA0				⇓S	**Sn**	**09 29 42.1**	**+0.2**
	2.8nm,0.9s						
ZALV	**Zalesovo Beam**	**1.22**	**277**	Pg	**Pb**	**09 29 24.1**	**-0.1**
	1.3nm,0.3s,baz=101,slow=16,SNR=16						
ZALV				Lg	Lg	09 29 42.3	
	1.3nm,0.3s,baz=105,slow=28,SNR=4.0						
ZALV				Rg	Rg	09 29 48.9	
	1.7nm,0.4s,baz=96,slow=29,SNR=6.3						
KURK	**Kurchatov**	**5.94**	**242**	⇓Lg	Lg	09 32 08.0	
	3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**6.04**	**241**	Pn	**Pn**	**09 30 31.7**	**+0.7**
	0.1nm,0.3s,baz=59,slow=14,SNR=7.9						
KURBB				Lg	Lg	09 32 13.6	
	baz=60,slow=29,SNR=4.8						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**6.04**	**241**	⇑Pn	**Pn**	**09 30 31.3**	**+0.3**
	1.4nm,0.6s						
KURBB				⇑Lg	Lg	09 32 11.7	
	3.7nm,0.7s						
MK31	**Makanchi Array**	**7.62**	**204**	⇑Pn	**Pn**	**09 30 52.8**	**+0.1**
	0.4nm,0.6s,baz=31,slow=15,SNR=5.6						
MK31				⇑Sn	**Sn**	**09 32 18.5**	**-1.2**
	0.2nm,0.4s						
MK31				⇑Lg	Lg	09 33 00.8	
	0.8nm,0.7s,baz=39,slow=31						
MKAR	**Makanchi Array**	**7.62**	**204**	Pn	**Pn**	**09 30 53.2**	**+0.5**
	0.2nm,0.3s,baz=23,slow=14,SNR=6.7						
MKAR				Sn	**Sn**	**09 32 20.0**	**+0.2**
	0.1nm,0.3s,baz=20,slow=26,SNR=2.1						
MKAR				Lg	Lg	09 33 01.7	
	baz=29,slow=33,SNR=5.1						
	0.3nm,0.4s						

*MOS **12** 09:29:36.8±1.0, 38°93N×27°74E, h13km, mb4.5/10, Error ellipse: s-maj=5.2km s-min=3.2km az=101.7*
*ISK **12** 09:29:37.3, 38°89N×27°73E, h13km, ML4.4/37*
*THE **12** 09:29:37.6, 38°90N×27°77E, h3km±1km, ML4.5/5, Error ellipse: s-maj=2.0km s-min=0.9km az=102.0*
*IDC **12** 09:29:37.3±0.7, 38°84N×27°69E, h0km, mb4.0/15, mbtmp4.0/26, ML3.7/11, MS3.8/60, Error ellipse: s-maj=10.6km s-min=10.5km az=122.0*
*DDA **12** 09:29:37.1±0.0, 38°90N×27°75E, h17km±1km, MW4.5*
*MED_RC **12** 09:29:38.0±0.2, 38°94N×27°73E, h10km, MW4.7/26, Moment Tensor Solution. Mantle waves: s26,c36; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-0.33±.03; Mθθ 0.62±.03; Mϕϕ -0.29±.03; Mrθ -0.88±.09; Mθϕ -0.71±.02; Mϕr -0.37±.07; Best double couple: Ms 1.30000×10^16 NP1 ϕs 79.00000°, δ80.00000°, λ-131.00000°. NP2 ϕs 337.00000°, δ42.00000°, λ-15.00000°. Principal axes: T 1.2700, Plg24.0000°, Azm199.0000°; N 0.0600, Plg40.0000°, Azm87.0000°; P -1.3300, Plg41.0000°, Azm311.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **12** 09:29:38.5±2.7, 38°87N±0°05×27°72E±0°05, h10km±2km, mb4.3/13, ML4.4(ISK) Error ellipse: s-maj=8.8km s-min=6.2km az=206.0*
*HLW **12** 09:29:39.3, 38°68N×27°71E, h10km±18km, Md4.7, Ml4.4*
*CFUSG **12** 09:29:44.3, 39°32N×28°03E, h31km, mb3.4/2, Western Turkey Magtype MSH 3.3 from 4 stations*

ISC 12 09:29:38.2±0.6, 38°93N±0°02×27°75E±0°01, h8km±4km, n395, σ1s61/422, mb4.1/27, MS3.8/50, 44C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.07**	**131**	PG	**Pg**	**09 29 39.9**	**-0.3**
AKHS	**Akhisar**	**0.07**	**131**	P	**Pg**	**09 29 40.1**	**-0.1**
AKHS				S	**Sg**	**09 29 41.8**	**+0.2**
GOMA	**Golmarmara-Man**	**0.26**	**148**	PG	**Pg**	**09 29 42.9**	**-0.4**
GOMA				SG	**Sg**	**09 29 46.8**	**+0.1**
STEP	**BALIKESIR_Sava**	**0.45**	**357**	P	**Pg**	**09 29 46.7**	**-0.3**
STEP				S	**Sg**	**09 29 53.9**	**+0.9**
ZEDA	**zmir-Bergama**	**0.52**	**275**	P	**Pg**	**09 29 48.1**	**-0.3**
ZEDA				S	**Sg**	**09 29 55.9**	**+0.7**
DKL	**Dikili**	**0.67**	**283**	PG	**Pg**	**09 29 51.1**	**-0.1**
DKL				SG	**Sg**	**09 30 00.3**	**+0.4**
DEMI	**Demirci**	**0.77**	**81**	P	**Pg**	**09 29 52.8**	**-0.2**
DEMI				S	**Sg**	**09 30 02.5**	**-0.5**
MANT	**Manisa**	**0.77**	**124**		**Pg**	**09 29 52.5**	**-0.5**
MANT	**Manisa**	**0.77**	**124**	P	**Pg**	**09 29 52.4**	**-0.7**
MANT				S	**Sg**	**09 30 03.0**	**-0.1**
BLCB	**Balcova**	**0.77**	**226**	P	**Pg**	**09 29 52.1**	**-1.0**
BLCB				S	**Sb**	**09 30 04.0**	**-0.6**
BLCB	**Balcova**	**0.77**	**226**	PG	**Pg**	**09 29 52.1**	**-1.0**
BLCB				SG	**Sb**	**09 30 03.8**	**-0.8**
BALY	**Balya**	**0.82**	**353**	P	**Pg**	**09 29 52.6**	**-1.4**
BALY				S	**Sg**	**09 30 04.1**	**-0.6**
FOCM	**Foa**	**0.82**	**255**	PG	**Pg**	**09 29 53.4**	**-0.6**
FOCM				SG	**Sg**	**09 30 04.9**	**+0.2**
DURS	**Dursunbey**	**0.88**	**40**	P	**Pg**	**09 29 54.3**	**-0.9**
DURS				S	**Sb**	**09 30 07.5**	**-0.3**
AYVA	**Ayvalik**	**0.91**	**295**	P	**Pg**	**09 29 55.4**	**-0.3**
AYVA				S	**Sb**	**09 30 07.9**	**-0.6**
DST	**Dursunbey**	**0.96**	**45**	PG	**Pg**	**09 29 56.6**	**-0.1**
DST	**Dursunbey**	**0.96**	**45**	P	**Pg**	**09 29 56.5**	**-0.1**
SMAA	**Simav-Kutahya**	**0.98**	**79**	PG	**Pg**	**09 29 56.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**173**	PG	**Pg**	**09 29 56.1**	**-1.0**
AYDB				SG	**Sg**	**09 30 09.8**	**-0.1**
KRBN	**Karaburun**	**0.99**	**251**	PG	**Pg**	**09 29 56.4**	**-0.8**
KRBN				SG	**Sb**	**09 30 10.5**	**-0.3**
USAK	**Uak-Merkez**	**1.02**	**102**	P	**Pg**	**09 29 56.6**	**-1.1**
USAK				S	**Sg**	**09 30 10.6**	**-0.4**
URLA	**Izmir**	**1.06**	**238**	PG	**Pg**	**09 29 56.5**	**-2.2**
URLA				SG	**Sb**	**09 30 12.5**	**-0.5**
URLA	**Izmir**	**1.06**	**238**	P	**Pg**	**09 29 56.4**	**-2.2**
URLA				S	**Sg**	**09 30 11.8**	**-0.7**
GONE	**Gonen-Balikesi**	**1.12**	**358**	PN	**Pg**	**09 29 59.4**	**-0.4**
PRK	**Paraskevi**	**1.19**	**286**	P	**Pn**	**09 30 01.2**	**0.0**
PRK				S	**Sb**	**09 30 17.0**

CHOS	Chios island	1.43	248	PN	Pn	09 30 03.4	-1.2		
ORLT	Orhaneli	1.43	38	PN	Pn	09 30 04.7	+0.1		
TVSB	Tavsanli	1.43	68	PN	Pn	09 30 03.9	-0.8		
PASA	Karahalli, USA	1.48	112	P	Pn	09 30 04.5	-0.9		
PASA				S	Sb	09 30 25.0	-0.1		
SIGR	SIGRI	1.50	282	P	Pn	09 30 04.3	-1.2		
SIGR				S	Sg	09 30 26.4	0.0		
	13µm,0.6s								
SIGR	SIGRI	1.50	282	PN	Pn	09 30 04.3	-1.2		
KHL	Karahalli	1.52	113	PN	Pn	09 30 05.2	-0.6		
BOZC	Bozcaada	1.60	305	P	Pn	09 30 05.7	-1.2		
BOZC				S	Sg	09 30 29.5	-0.2		
ULDT	Uludag	1.62	41	P	Pn	09 30 06.3	-1.1		
ULDT				S	Sg	09 30 30.4	0.0		
ULDT				*i* AML	AML	09 30 34.0			
	comp=N,8µm,0.3s								
ULDT				*i* AML	AML	09 30 37.0			
	comp=E,9µm,0.6s								
TAVA	DENIZLI_Tavas	1.72	147	P	Pn	09 30 07.6	-1.1		
TAVA				S	Sb	09 30 32.5	+0.4		
TAVA				*i* AML	AML	09 30 35.0			
	comp=N,3µm,0.7s								
TAVA				*i* AML	AML	09 30 35.0			
	comp=E,4µm,0.7s								
MULA	Mugla, Merkez-	1.73	165	P	Pn	09 30 07.1	-1.6		
MULA				S	Sb	09 30 31.4	-0.8		
MULA				*i* AML	AML	09 30 35.0			
	comp=E,7µm,0.8s								
MULA				*i* AML	AML	09 30 38.0			
	comp=N,4µm,0.7s								
YER	Yerkesik	1.84	166	P	Pn	09 30 08.6	-1.6		
YER	Yerkesik	1.84	166	PN	Pn	09 30 08.7	-1.5		
YER	Yerkesik	1.84	166	P	Pn	09 30 08.7	-1.5		
BODT	Bodrum	1.89	191	PN	Pn	09 30 08.9	-2.0		
APMY	Acipayam-Deniz	1.90	139	PN	Pn	09 30 10.1	-1.0		
KZIL	AFYON_Kizioren	1.99	109	P	Pn	09 30 12.3	0.0		
KZIL				S	Sg	09 30 47.3	+5.0		
KZIL				*i* AML	AML	09 30 53.0			
	comp=E,2µm,0.6s								
KZIL				*i* AML	AML	09 30 57.0			
	comp=N,2µm,0.9s								
BASM	Basmaki-Afyon	2.07	118	PN	Pn	09 30 12.5	-0.9		
CAVK	Edirne/Enez-Ca	2.14	326	P	Pn	09 30 14.3	-0.1		
CAVK				S	Sn	09 30 42.1	+1.0		
CAVK				*i* AML	AML	09 30 46.0			
	comp=E,7µm,0.6s								
CAVK				*i* AML	AML	09 30 47.0			
	comp=N,7µm,1.1s								
TURN	Turunc	2.18	169	PN	Pn	09 30 13.4	-1.5		
ENEZ	Enez	2.19	326	P	Pn	09 30 14.8	-0.1		
BRDR	BURDUR-Merkez	2.20	123	P	Pn	09 30 14.6	-0.6		
BRDR				S	Sg	09 30 52.9	+4.1		
BRDR				*i* AML	AML	09 30 57.0			
	comp=N,1µm,0.5s								
BRDR				*i* AML	AML	09 30 58.0			
	comp=E,2µm,0.7s								
LIA	Limnos Island	2.21	297	P	Pn	09 30 14.5	-0.7		
DALY	Dalyan (Mula)	2.22	161	PN	Pn	09 30 14.6	-0.8		
SHUT	Suhut-Afyon	2.23	99	PN	Pn	09 30 15.5	-0.1		
KOSK	Kos Island	2.25	196	PN	Pn	09 30 14.8	-1.0		
SMTH	Samothraki Isl	2.30	318	P	Pn	09 30 15.8	-1.0		
BORA	Eskisehir	2.30	65		Pn	09 30 16.8	+0.2		
CAME	Cameli-Denizli	2.33	148	PN	Pn	09 30 16.3	-0.8		
ALN	Alexandroupoli	2.36	327	P	Pn	09 30 16.7	-0.7		
ALN	Alexandroupoli	2.36	327	Pn	Pn	09 30 17.2	-0.2		
ALN	Alexandroupoli	2.36	327	P	Pn	09 30 17.2	-0.2		
ISK	Istanbul-Kandi	2.36	25	P	Pn	09 30 16.1	-1.3		
ISK	Istanbul-Kandi	2.36	25	P	Pn	09 30 16.1	-1.3		
ISP	Isparta	2.44	116	PN	Pn	09 30 17.9	-0.7		
ISP	Isparta	2.44	116	Pn	Pn	09 30 17.9	-0.7		
ISP	Isparta	2.44	116	*d* iP	Pn	09 30 17.5	-1.1		
SGAZ	Eskisehir, Sey	2.48	75	P	Pn	09 30 20.2	+1.1		
SGAZ				S	Sg	09 30 58.1	+0.3		
SGAZ				*i* AML	AML	09 31 04.0			
	comp=N,2µm,0.9s								
SGAZ				*i* AML	AML	09 31 10.0			
	comp=E,2µm,0.5s								
FETY	Fethiye	2.52	155	PN	Pn	09 30 18.9	-0.7		
APE	Apeiranthos	2.55	224	⇑P	Pn	09 30 18.4	-1.6		
APE	Apeiranthos	2.55	224	P	Pn	09 30 17.5	-2.5		
APE	Apeiranthos	2.55	224	PN	Pn	09 30 19.4	-0.6		
APE	Apeiranthos	2.55	224	*ce*P	Pn	09 30 17.5	-2.5		
BCK	Bucak	2.67	122	PN	Pn	09 30 21.7	0.0		
BCK	Bucak	2.67	122	P	Pn	09 30 21.6	-0.1		
ARG	Arkhangelos	2.72	174	P	Pn	09 30 20.6	-1.7		
ARG	Arkhangelos	2.72	174	PN	Pn	09 30 21.5	-0.8		
ARG	Arkhangelos	2.72	174	Pn	Pn	09 30 20.8	-1.5		
ARG	Arkhangelos	2.72	174	P	Pn	09 30 20.8	-1.5		
ELL	Elmali	2.77	141	PN	Pn	09 30 22.9	-0.1		
ELL	Elmali	2.77	141	Pn	Pn	09 30 23.6	+0.6		
ELL	Elmali	2.77	141	P	Pn	09 30 23.6	+0.6		
RDO	Rodhopi	2.79	321	P	Pn	09 30 22.7	-0.4		
RDO	Rodhopi	2.79	323		Pn	09 30 23.2	-0.1		
KORT	Korkueli	2.82	132	PN	Pn	09 30 23.1	-0.6		
KIRK	Kırklareli	2.90	350	P	Pn	09 30 23.8	-0.9		
KIRK				S	Sn	09 30 57.6	-2.2		
KIRK				*i* AML	AML	09 31 12.0			
	comp=E,919nm,1.1s								
EDRB	Edirne	3.02	346	P	Pn	09 30 25.6	-0.8		
AKAS	Kas	3.07	151	PN	Pn	09 30 27.2	0.0		
AKAS	Kas	3.07	151	Pn	Pn	09 30 26.8	-0.4		
MDUB	Mudurnu	3.08	59	Pn	Pn	09 30 26.8	-0.5		
SANT	Santorini	3.13	216	⇑P	Pn	09 30 26.5	-1.5		
SANT	Santorini	3.13	216	Pn	Pn	09 30 25.2	-2.8		
OUR	Ouranopolis	3.23	297	P	Pn	09 30 28.6	-0.6		
OUR	Ouranopolis	3.23	297	P	Pn	09 30 28.6	-0.6		
KAVA	Kavala	3.23	311	P	Pn	09 30 28.7	-0.6		
KDZ	Kurdzhali	3.25	328	P	Pn	09 30 28.9	-0.7		
PAIG	Paliouri	3.30	289	P	Pn	09 30 29.7	-0.6		
KARP	Karpathos	3.40	188	Pn	Pn	09 30 30.3	-1.4		
KOKK	Kokkinochori,	3.45	304	P	Pn	09 30 31.2	-1.1		
SEDI	Konya, Seydise	3.48	114	P	Pn	09 30 33.4	+0.5		
SEDI				S	Sn	09 31 14.6	+0.1		
SEDI				*i* AML	AML	09 31 47.0			
	comp=E,267nm,1.6s								
SEDI				*i* AML	AML	09 31 53.0			
	comp=N,242nm,1.6s								
YIGI	Dzce	3.50	53	P	Pn	09 30 32.7	-0.3		
YIGI				S	Sg	09 31 28.4	-2.2		
YIGI				*i* AML	AML	09 31 36.0			
	comp=N,581nm,0.9s								
YIGI				*i* AML	AML	09 31 37.0			
	comp=E,538nm,1.0s								
KIBS	BOLU	3.50	63	P	Pn	09 30 32.6	-0.6		
XOR	Xorichti	3.57	279	P	Pn	09 30 33.3	-0.7		
RZN	Rozhen	3.60	321	P	Pn	09 30 34.5	-0.1		
NVR	Nevrokopi	3.84	310	P	Pn	09 30 37.3	-0.4		
SRS	Serrai	3.87	306	P	Pn	09 30 37.4	-0.7		
SRS	Serrai	3.87	306	P	Pn	09 30 37.4	-0.7		
SOH	Sokhos	3.87	301	P	Pn	09 30 37.9	-0.3		
SOH	Sokhos	3.87	301	P	Pn	09 30 37.9	-0.3		
PLD	Plovdiv	3.93	325	P	Pn	09 30 38.5	-0.4		
HORT	Hortiatis	3.95	296	P	Pn	09 30 39.1	-0.2		
ANTO	Ankara	4.02	75	⇓P	Pn	09 30 42.1	+1.9		
ANTO	Ankara	4.02	75	Pn	Pn	09 30 40.8	+0.5		
ANTO	Ankara	4.02	75	P	Pn	09 30 40.8	+0.5		
THE	Thessaloniki	4.06	296	P	Pn	09 30 41.2	+0.6		
MMB	Musomiste	4.07	312	P	Pn	09 30 40.2	-0.6		
LIT	Litokhoron	4.23	288	Pn	Pn	09 30 42.5	-0.6		
LIT	Litokhoron	4.23	288	P	Pn	09 30 42.5	-0.6		
PRD	Provadia	4.28	357	P	Pn	09 30 45.2	+1.5		
IDI	Anoyia	4.29	213	⇑P	Pn	09 30 42.6	-1.3		
IDI	Anoyia	4.29	213	Pn	Pn	09 30 42.3	-1.6		
	2.3nm,0.3s,baz=32,slow=13,SNR=12								
IDI				Pg	Pb	09 30 56.7	+2.8		
	6.1nm,0.3s,baz=360,slow=12,SNR=8.4								
IDI				Sn	Sn	09 31 30.8	-3.4		
	6.5nm,0.3s,baz=300,slow=20,SNR=2.1								
IDI				Lg	Lg	09 31 50.3			
	baz=207,slow=14								
IDI				LR	LR	09 32 39.3			
	comp=Z,1µm,22.0s,baz=76,slow=43								
	21nm,0.7s								
IDI	Anoyia	4.29	213	Pn	Pn	09 30 41.6	-2.3		
GRG	Griva	4.58	298	P	Pn	09 30 48.3	+0.4		
KKB	Krupnik	4.62	311	P	Pn	09 30 47.6	-0.7		
VAY	Valandovo	4.63	303	*i* Pn	Pg	09 31 04.8	-2.1		
BR131	Keskin Array S	4.64	78	Pn	Pn	09 30 49.2	+0.4		
BR131	Keskin Array S	4.64	78	*ce*P	Pn	09 30 48.0	-0.8		
BRTR	Keskin Array B	4.64	78	Pn	Pn	09 30 49.6	+0.8		
	2.4nm,0.3s,baz=251,slow=14,SNR=59								
BRTR				Pg	Pg	09 31 05.3	-1.8		
	5.4nm,0.3s,baz=266,slow=15,SNR=20								
BRTR				Sn	Sn	09 31 39.9	-3.0		
	2.6nm,0.3s,baz=275,slow=16,SNR=1.7								
BRTR				Lg	Lg	09 32 06.4			
	6.9nm,0.3s,baz=262,slow=26,SNR=11								
BRTR				LR	LR	09 33 02.0			
	comp=Z,2µm,19.1s,baz=270,slow=44								
	18nm,0.5s								
BRTR	Keskin Array B	4.64	78	Pn	Pn	09 30 48.8	0.0		
RAZG	Razgrad	4.73	349	⇑P	Pn	09 30 49.6	-0.3		
ITM	Ithomi	4.91	251	Pn	Pn	09 30 52.6	+0.2		
MANR	Mangalia	4.93	7	⇑P	Pn	09 30 53.6	+1.0		
VTS	Vitosha	5.03	319	⇓P	Pn	09 30 54.2	0.0		
VTS	Vitosha	5.03	319	Pn	Pn	09 30 54.2	0.0		
VTS	Vitosha	5.03	319	P	Pn	09 30 54.2	0.0		
ILGA	Ilgaz	5.05	63	Pn	Pn	09 30 54.7	+0.1		
ICOR	Ion Corvin	5.19	0	⇑P	Pn	09 30 56.0	-0.1		
SGRR	Singureni	5.46	346	⇑P	Pn	09 31 01.0	+1.1		
TIRR	Tirgusor	5.55	5	⇑P	Pn	09 31 01.4	+0.3		
TIRR	Tirgusor	5.55	5	Pn	Pn	09 31 00.3	-0.9		
TIRR	Tirgusor	5.55	5	P	Pn	09 31 00.3	-0.9		
TLBR	Topalu	5.62	2	⇑P	Pn	09 31 02.0	-0.1		
SKO	Skopje	5.69	304	*i* Pn	Pn	09 31 03.8	+0.7		
OHR	Ohrid	5.76	294	*i* Pn	Pn	09 31 05.7	+1.5		
TPGR	Topolog	5.95	5	⇑P	Pn	09 31 07.5	+0.9		
CSS	Mathiatis	5.97	130	Pn	Pn	09 31 07.8	+0.9		
BLKB	Belogradchik	6.05	322	⇑P	Pn	09 31 07.6	-0.4		
KEK	Kerkira	6.21	280	Pn	Pn	09 31 11.7	+1.4		
ISR	Istrita	6.25	352	⇑P	Pn	09 31 11.9	+1.0		
ISR	Istrita	6.25	352	P	Pn	09 31 11.9	+1.0		
ISR				pmax	pmax				
	comp=Z,75nm,1.0s								
CFR	Carcaliu	6.25	3	P	Pn	09 31 10.1	-0.7		
CFR				pmax	pmax				
	comp=Z,38nm,0.6s								
TLCR		6.31	7	⇑P	Pn	09 31 12.0	+0.4		
TLCR		6.31	7	P	Pn	09 31 11.9	+0.4		
TIR	Tirane	6.50	294		Pn	09 31 13.8	-0.4		
TIR	Tirane	6.50	294	P	Pn	09 31 13.9	-0.4		
BOVS	Bovan	6.54	318	⇓P	Pn	09 31 14.5	-0.3		
NEHR	Nehoiu	6.59	351	⇑P	Pn	09 31 16.7	+1.3		
MTUR	Matau	6.60	343	⇑P	Pn	09 31 16.1	+0.3		
MTUR	Matau	6.60	343	P	Pn	09 31 16.0	+0.3		
SRE	Strehaia	6.66	331	⇑P	Pn	09 31 16.4	0.0		
SRE	Strehaia	6.66	331	P	Pn	09 31 16.4	0.0		
MLR	Muntele Rosu	6.70	349	⇑P	Pn	09 31 18.2	+1.2		
MLR	Muntele Rosu	6.70	349	Pn	Pn	09 31 17.9	+0.9		
	comp=Z,1.0nm,0.3s,baz=198,slow=2.9,SNR=18								
MLR				Sn	Sn	09 32 34.0	+0.5		
	comp=Z,3.6nm,0.3s,baz=250,slow=18,SNR=3.1								
MLR				Lg	Lg	09 33 13.4			
	comp=Z,1.9nm,0.3s,baz=86,slow=20,SNR=2.2								
	comp=Z,39nm,1.0s								
MLR	Muntele Rosu	6.70	349		Pn	09 31 16.3	-0.7		
VOIR		6.81	344	⇑P	Pn	09 31 18.2	-0.3		
VOIR		6.81	344	P	Pn	09 31 17.8	-0.7		
VOIR				pmax	pmax				
	comp=Z,26nm,0.7s								
ARR	Arges	6.84	341	⇑P	Pn	09 31 19.2	+0.3		
DJES	Djerdap	6.94	327	⇓P	Pn	09 31 19.2	-1.0		
PLOR	Plostina	6.97	354	⇑P	Pn	09 31 21.9	+1.2		
PLOR	Plostina	6.97	354	P	Pn	09 31 21.8	+1.2		
VARL	Varlezi	6.97	1	⇑P	Pn	09 31 21.7	+1.1		
VRI	Vrincioaia	6.98	354	⇑P	Pn	09 31 22.1	+1.3		
VRI	Vrincioaia	6.98	354	P	Pn	09 31 21.4	+0.6		
VRI				pmax	pmax				
	comp=Z,69nm,0.6s								
COVR	Voineasa-Covas	7.01	351	⇓P	Pn	09 31 22.2	+1.0		
SEV	Sevastopol'	7.15	36	*e*P	Pn	09 31 23.9	+0.8		
SEV				*e*S	Sn	09 32 39.4	-5.1		
SEV	Sevastopol'	7.15	36	*e*P	Pn	09 31 23.9	+0.8		
SEV				Pm		09 31 32.8			
	comp=Z,10.0nm,0.3s								
SEV				*e*S	Sn	09 32 39.4	-5.1		
SEV				Sm		09 32 42.0			
	comp=N,4.0nm,0.2s								
SEV				Sm		09 32 42.1			
	comp=E,26nm,0.4s								
LOT	Lotru	7.15	337	⇑P	Pn	09 31 22.9	-0.4		
HERR	Herculane	7.16	328	⇑P	Pn	09 31 22.1	-1.1		
DOPR	Dopca	7.25	347	⇑P	Pn	09 31 25.3	+0.8		
YAL	Yalta	7.34	39	*e*P	Pn	09 31 26.1	+0.4		
YAL				*e*S	Sn	09 32 44.4	-4.7		
YAL	Yalta	7.34	39	*e*P	Pn	09 31 26.1	+0.4		
YAL				Pm		09 31 29.2			
	comp=Z,7.0nm,0.2s								
YAL				*e*S	Sn	09 32 44.4	-4.7		
YAL				Sm		09 32 48.3			
	comp=E,3.0nm,0.2s								
YAL				Sm		09 32 48.4			
	comp=N,52nm,0.4s								
PDG	Podgorica	7.34	301	Pn	Pn	09 31 27.6	+1.9		
MDVR	Moldovita	7.38	324	⇓P	Pn	09 31 25.8	-0.6		
GZR	Gura Zlata	7.44	332	⇑P	Pn	09 31 26.8	-0.4		
ALU	Alushta	7.60	39	*e*S	Sn	09 32 49.8	-5.8		
ALU				Sm		09 32 57.4			
	comp=E,25nm,0.4s								
ALU				Sm		09 32 57.5			
	comp=N,55nm,0.3s								
TESR	Tescani	7.62	354	⇓P	Pn	09 31 29.7	+0.1		
SIM	Simferopol'	7.66	36	*e*P	Pn	09 31 28.6	-1.6		
SIM				*e*S	Sn	09 32 51.0	-6.2		
SIM				*e*S	Sn	09 32 51.0	-6.2		
SIM				pmax	pmax				
	comp=Z,50nm,0.3s								
SIM				smax	smax				
	comp=E,74nm,0.5s								
SIM				smax	smax				
	comp=N,40nm,0.4s								
SIM	Simferopol'	7.66	36	*e*P	Pn	09 31 29.9	-0.3		
SIM				Pm		09 31 38.2			
	comp=Z,70nm,0.3s								
SIM				*e*S	Sn	09 32 52.1	-5.1		
SIM				Sm		09 32 53.6			
	comp=E,3.0nm,0.2s								
SIM				Sm		09 32 53.7			
	comp=N,86nm,0.6s								
DIVS	Divibare	7.78	314	Pn	Pn	09 31 31.3	-0.6		
DEV	Deva	7.82	334	P	Pn	09 31 32.8	+0.5		
DEV				pmax	pmax				
	comp=Z,51nm,0.7s								
MILM	Milestii Mici	8.03	5	⇑P	Pn	09 31 35.1	-0.1		
MILM	Milestii Mici	8.03	5	P	Pn	09 31 35.0	-0.1		
SUDU	Sudak	8.05	40	*e*P	Pn	09 31 36.0	+0.6		
SUDU	Sudak	8.05	40	*e*P	Pn	09 31 36.3	+0.9		
SUDU				Pm		09 31 41.5			
	comp=Z,19nm,0.3s								
SUDU				*e*S	Sn	09 33 03.1	-3.5		
SUDU				Sm		09 33 07.1			
	comp=N,58nm,0.5s								
SUDU				Sm		09 33 07.1			
	comp=E,13nm,0.3s								
BZS	Buzias	8.08	328	⇑P	Pn	09 31 35.0	-0.9		
BZS	Buzias	8.08	328	P	Pn	09 31 34.6	-1.3		
BZS				pmax	pmax				
	comp=Z,36nm,1.1s								
BIZ	Bicaz	8.10	352	⇑P	Pn	09 31 36.8	+0.7		
KIS	Kishinev	8.11	5	*e*P	Pb	09 31 59.0	+0.1		
KIS				LQM		09 34 41.0			
	comp=Z,1µm,12.0s								
KIS				LRM	MLR	09 35 00.9			
	comp=Z,500nm,10.5s								
KIS	Kishinev	8.11	5	*e*P	Pn	09 31 42.4	+6.2		
KIS				*e*S	Sb	09 33 31.2	-4.3		
KIS				LQM		09 34 26.3			
	comp=Z,2µm,12.5s								
KIS				LRM	MLR	09 34 59.5			
	comp=Z,2µm,11.3s								
TIP	Timpagrande	8.55	275	⇓P	Pn	09 31 41.8	-0.7		
TIP	Timpagrande	8.55	275	Pn	Pn	09 31 42.2	-0.3		
MMAI	Mount Meron Ar	8.56	131	Pn	Pn	09 31 41.1	-1.4		
	comp=Z,3.2nm,0.3s,baz=320,slow=11,SNR=7.1								
MMAI				Sn	Sn	09 33 13.2	-6.1		
	comp=Z,5.2nm,0.3s,baz=319,slow=28,SNR=6.8								
MMAI				LR	LR	09 36 52.7			
	comp=Z,333nm,20.4s,baz=164,slow=51								
	comp=Z,2.3nm,0.3s								
SIRR	Siria	8.60	331	⇑P	Pn	09 31 42.8	-0.2		
MATE	Matera	8.67	285	⇑P	Pn	09 31 42.9	-1.1		
DRGR		8.69	336	⇑P	Pn	09 31 44.1	-0.1		
DRGR		8.69	336	P	Pn	09 31 46.7	+2.5		
BURAR	Bucovina Array	8.88	349	⇓P	Pn	09 31 47.5	+0.6		
BURAR	Bucovina Array	8.88	349	Pn	Pn	09 31 46.0	-0.9		
BURAR	Bucovina Array	8.88	349	P	Pn	09 31 47.5	+0.6		
BUR08	Bucovina Ar. S	8.91	349	Pn	Pn	09 31 46.2	-1.2		
CUC	Castrocucco	9.29	280	Pn	Pn	09 31 52.6	+0.1		
HMYD	Mayadein	9.45	164	⇑P	Pn	09 31 52.7	-2.0		
	baz=163								
KOT	Kottamia	9.59	158	⇑P	Pn	09 31 52.3	-4.3		
	baz=157								
KOT				S	Sn	09 33 34.3	-10		
	baz=157								
HHAG	Hagoal	9.64	157	S	Sn	09 33 34.9	-11		
	baz=156								
HSAF	As Saff	9.80	160	⇓P	Pn	09 31 57.9	-1.6		
	baz=159								
SWA2		9.84	192	P	Pn	09 31 58.0	-2.1		
	baz=192								
MORH	Mrgy, Hungar	9.90	320	⇑P	Pn	09 32 00.4	-0.4		
MORH	Mrgy, Hungar	9.90	320	P	Pn	09 32 00.1	-0.7		
SUZ	Suez	9.99	154	P	Pn	09 32 00.7	-1.4		
	baz=152								
ASF	Jabal al Asfar	10.04	129	Pn	Pn	09 32 03.1	+0.2		
	comp=Z,0.2nm,0.3s,baz=326,slow=15,SNR=2.7								
ASF				Sn	Sn	09 33 56.6	+0.7		
	comp=Z,0.4nm,0.3s,baz=336,slow=13,SNR=2.0								
	comp=Z,0.8nm,0.3s								
KOVH	Kovagotottos	10.09	318	P	Pn	09 32 02.9	-0.5		
SOC	Sochi	10.14	59	*e*P	Pn	09 32 02.2	-1.9		
SOC				*e*		09 33 57.9			
SOC				MLR	MLR				
	comp=Z,506nm,17.0s								
PAOL	Paolisi	10.33	286	Pn	Pn	09 32 08.1	+1.3		
UZH	Uzhgorod	10.47	340	*e*P	Pn	09 32 09.2	+0.6		
UZH				*e*S	Sn	09 34 06.8	+0.8		
UZH				MLR	MLR				
	comp=N,200nm,10.0s								
UZH				MLR	MLR				
	comp=E,600nm,10.0s								
UZH				MLR	MLR				
	comp=Z,200nm,10.0s								
PSZ	Piszkesteto	10.64	330	Pn	Pn	09 32 12.6	+1.6		
PSZ	Piszkesteto	10.64	330	P	Pn	09 32 12.6	+1.6		
KECS	Kecovo	10.90	334	*e*PN	Pn	09 32 07.0	-7.5		
EIL	Elat	10.98	145	Pn	Pn	09 32 13.5	-2.2		
	comp=Z,0.9nm,0.3s,baz=251,slow=6.1,SNR=5.2								
EIL				Sn	Sn	09 34 11.6	-7.2		
	comp=Z,0.9nm,0.3s,baz=340,slow=21,SNR=2.7								
	comp=Z,3.8nm,0.4s								
MPLH	Magyarpolny	11.11	321	P	Pn	09 32 16.5	-0.9		
VYHS	Vyhne	11.53	329	*e*PN	Pn	09 32 14.8	-8.3		
NRCA	Norcia	11.74	294	Pn	Pn	09 32 24.1	-2.0		
FDMO	Fiordimonte	11.81	295	Pn	Pn	09 32 28.8	+1.8		
AKASG	Malin Array Be	11.82	5	Pn	Pn	09 32 28.4	+1.4		
	comp=Z,0.9nm,0.3s,baz=193,slow=13,SNR=5.0								
AKASG				Sn	Sn	09 34 43.1	+4.0		
	comp=Z,1.5nm,0.3s,baz=190,slow=25,SNR=8.9								
AKASG				LR	LR	09 36 57.3			
	comp=Z,475nm,21.4s,baz=189,slow=37								
	comp=Z,0.2nm,0.3s								
AKBB	Malin Array Si	11.82	5	⇑*e*P	Pn	09 32 24.2	-2.9		
RONA	Rosalia, Austr	12.09	320	*e*Pn	Pn	09 32 29.1	-1.7		
	comp=Z,5.1nm,0.9s								
MODS	Modra-Piesok	12.10	325	*e*P	Pn	09 32 29.5	-1.4		
MODS	Modra-Piesok	12.10	325	*e*PN	Pn	09 32 29.5	-1.4		
SOKA	Soboth	12.12	314	*e*Pn	Pn	09 32 32.5	+1.2		
	comp=Z,2.8nm,0.6s								
ARSA	Arzberg	12.20	317	*e*Pn	Pn	09 32 32.6	+0.4		
	comp=Z,2.5nm,0.6s								
MURB	Monte Urbino	12.27	296	Pn	Pn	09 32 35.1	+1.8		
OBKA	Obir	12.30	312	*e*Pn	Pn	09 32 33.9	+0.1		
	comp=Z,4.8nm,1.0s								
KBZ	Khabaz	12.36	62	Pn	Pn	09 32 37.8	+3.4		
	comp=Z,0.1nm,0.3s,baz=252,slow=13,SNR=3.1								
KBZ				LR	LR	09 38 45.2			
	comp=Z,555nm,18.2s,baz=252,slow=44								
	comp=Z,2.9nm,1.1s	

comp=Z,14nm,0.9s
MNK Minsk 15.58 0 *i* P **Pn 09 33 16.8 -1.3**
MNK *i* S **Sn 09 36 11.4 +0.6**
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK MLR MLR
comp=E,56nm,16.0s
MNK MLR MLR
comp=Z,186nm,15.0s
MNK Minsk 15.58 0 *i* P **Pn 09 33 16.8 -1.3**
MNK *i* P **Pn 09 33 16.8 -1.3**
MNK *i* P **Pn 09 33 16.8 -1.3**
comp=Z,8.0nm,0.8s,baz=180
MNK *i* PP **sP 09 33 25.2 -0.4**
MNK *i* S **Sn 09 36 11.4 +0.6**
MNK *i* SS **S 09 36 25.6 -0.9**
MNK *i* LR LR 09 38 07.4
MNK *i* LRM MLR 09 38 58.3
comp=E,56nm,15.6s
MNK *i* LRM MLR 09 40 02.2
comp=Z,186nm,15.4s
MNK *i* LRM MLR 09 40 05.7
CLL Collm 16.13 325 *eP* **P 09 33 29.0 +0.4**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 16.13 325 Lmax 09 40 00.0
CLL Collm 16.13 325 *es*P **P 09 33 29.0 +0.4**
comp=Z,7.0nm,1.0s
CLL Collm 16.13 325 *es*PP 09 33 39.0
MOX Moxa 16.34 321 P **P 09 33 31.8 +0.9**
MOX pmax pmax
comp=Z,11nm,1.8s
SENIN Lac Senin/Sane 16.75 303 P **P 09 33 35.7 0.0**
SENIN IAmb IAmb 09 33 47.3
comp=Z,18nm,1.2s
BNI Bardonecchia 16.80 298 P **P 09 33 37.2 +1.1**
BNI IAmb IAmb 09 33 52.1
comp=Z,28nm,1.3s
BNI Bardonecchia 16.80 298 P **P 09 33 37.7 +1.6**
BNI pmax pmax
comp=Z,19nm,1.4s
BFO Black Forest 16.87 310 P **P 09 33 37.1 +0.3**
BFO Black Forest 16.87 310 P **Pn 09 33 34.2 -0.5**
BFO pmax pmax
comp=Z,8.0nm,1.9s
OBN Obninsk 17.25 17 LR LR 09 41 42.7
comp=Z,68nm,18.1s,baz=210,slow=42
OBN Obninsk 17.25 17⇓ *eP* **Pn 09 33 39.0 -0.4**
OBN pmax pmax
comp=Z,61nm,2.5s
OBN MLR MLR
comp=Z,241nm,13.0s
MOS Moscow 18.07 18 *eP* **Pn 09 33 46.2 -3.3**
MOS pmax pmax
comp=Z,77nm,1.5s
BELG Belogornoye 19.26 39 P **Pn 09 34 04.8 +0.8**
comp=Z,0.7nm,0.3s,baz=184,slow=5.5,SNR=6.2
BELG LR LR 09 42 49.4
comp=Z,121nm,18.6s,baz=234,slow=41
comp=Z,21nm,0.9s
BELG Belogornoye 19.26 39 *ce*P **Pn 09 34 04.3 +0.3**
BELG pmax pmax
comp=Z,4.0nm,0.9s
VSU Vasula 19.56 358⇑ *eP* **P 09 34 06.4 +0.1**
VSU pmax pmax
comp=Z,32nm,1.1s
RAYN Ar Rayn 21.54 130 P **P 09 34 27.8 -0.2**
RAYN Ar Rayn 21.54 130 P **P 09 34 27.8 -0.2**
RAYN pmax pmax
comp=Z,8.0nm,1.3s
FINES FINESS Array B 22.57 358 P **P 09 34 38.8 +0.1**
comp=Z,10nm,0.9s,baz=156,slow=10.0,SNR=13
FINES LR LR 09 43 33.4
comp=Z,276nm,18.4s,baz=162,slow=37
comp=Z,10nm,0.9s
FINES FINESS Array B 22.57 358 P **P 09 34 38.1 -0.6**
FINES FINESS Array B 22.57 358 *ce*P **P 09 34 39.2 +0.5**
FINES pmax pmax
comp=Z,6.0nm,0.7s
HFS Hagfors 23.01 342 P **P 09 34 43.3 -0.1**
comp=Z,3.0nm,0.8s,baz=156,slow=12,SNR=3.3
HFS LR LR 09 44 54.7
comp=Z,134nm,18.8s,baz=149,slow=40
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 23.15 15 *eP* **P 09 34 44.2 -0.6**
KLMR pmax pmax
comp=Z,39nm,1.4s
KLMR Klimovskoe 23.15 15 *eP* **P 09 34 44.2 -0.6**
KLMR AMP 09 34 52.0
comp=Z,39nm,1.4s
GEYT Alibeck 23.77 83 P **P 09 34 53.7 +2.5**
comp=Z,9.9nm,0.9s,baz=286,slow=11,SNR=12
GEYT LR LR 09 45 07.2
comp=Z,205nm,19.2s,baz=298,slow=39
comp=Z,9.9nm,0.9s
GEYT Alibeck 23.77 83 P **P 09 34 51.9 +0.7**
GEYT IAmb IAmb 09 34 56.2
comp=Z,13nm,1.0s
GYA0B ALIBECK ARRAY 23.77 83 P **P 09 34 51.9 +0.7**
GYA0B IAmb IAmb 09 34 56.1
comp=Z,12nm,0.9s
KIRV Kirov 24.11 28 LR LR 09 44 51.8
comp=Z,222nm,21.3s,baz=216,slow=38
KIRV Kirov 24.11 28 *eP* **P 09 34 54.3 +0.1**
AKTO Aktyubinsk 24.23 52 P **P 09 34 57.3 +1.8**
comp=Z,1.9nm,0.8s,baz=242,slow=13,SNR=3.6
AKTO LR LR 09 47 09.4
comp=Z,205nm,19.3s,baz=245,slow=43
comp=Z,1.9nm,0.8s
NB2 NORSAR Subarra 24.41 340 P **P 09 34 55.9 -1.2**
comp=Z,11nm,1.4s,baz=144,slow=10
NOA NORSAR Array B 24.41 340 P **P 09 34 56.7 -0.3**
comp=Z,1.6nm,0.8s,baz=146,slow=9.2,SNR=5.6
NOA LR LR 09 47 09.7
comp=Z,117nm,18.8s,baz=150,slow=43
comp=Z,1.6nm,0.8s
ESDC Sonseca Array 24.49 282 P **P 09 34 58.6 +0.6**
comp=Z,1.9nm,1.0s,baz=77,slow=10,SNR=6.7
ESDC LR LR 09 44 32.4
comp=Z,95nm,18.4s,baz=86,slow=37
comp=Z,1.9nm,1.0s
ABKAR Akbulak array 25.15 55 P **P 09 35 03.9 +0.1**
PRGR Permogore 25.27 20 *eP* **P 09 35 04.5 -0.2**
EKA Eskdalemuir Ar 26.37 319 LR LR 09 45 59.0
comp=Z,225nm,19.6s,baz=106,slow=37
MVO Moncorvo 26.61 286 *eP* **P 09 35 20.1 +2.9**
ARU Arti 26.82 39 P **P 09 35 21.0 +2.3**
comp=Z,2.5nm,0.3s,baz=233,slow=11,SNR=8.6
ARU LR LR 09 46 29.4
comp=Z,114nm,19.8s,baz=248,slow=38
comp=Z,2.5nm,0.3s
ARU Arti 26.82 39 P **P 09 35 17.0 -1.8**
ARU Arti 26.82 39 *c i*P **P 09 35 21.3 +2.5**
ARU 09 35 57.3
ARU S **S 09 39 59.7 +4.7**
ARU SS **SnSn 09 41 01.8 +3.0**
ARU pmax pmax
comp=Z,18nm,1.2s
MDT Midelt 26.83 267 P **P 09 35 23.1 +3.8**
comp=Z,2.1nm,1.0s,baz=75,slow=16,SNR=3.7
MDT LR LR 09 47 07.6
comp=Z,77nm,18.1s,baz=100,slow=39
PBAR Barrancos 27.12 279 *eP* **P 09 35 25.3 +3.6**
PCBR Castelo Branco 27.14 283 *eP* **P 09 35 21.3 -0.5**
PVAQ Vaqueiros 27.82 278 *eP* **P 09 35 30.2 +2.2**
PMTG Montargil 27.84 282 *eP* **P 09 35 29.9 +1.7**
PNCL Nicolau / Gran 28.28 280 *eP* **P 09 35 36.0 +3.9**
WSAR Wadi Sarin 30.54 112 LR LR 09 50 59.3
comp=Z,100nm,20.8s,baz=323,slow=42
ARCES ARCESS Array B 30.70 358 P **P 09 35 55.2 +2.0**
comp=Z,6.5nm,1.1s,baz=169,slow=7.3,SNR=3.3
ARCES LR LR 09 48 44.4
comp=Z,166nm,20.6s,baz=192,slow=37
comp=Z,6.5nm,1.1s
CHGR Chuyangaron 32.08 77 P **P 09 36 05.4 -0.4**
CHGR Chuyangaron 32.08 77 P **P 09 36 05.4 -0.4**
CHGR pmax pmax
comp=Z,9.0nm,0.8s
KK31 Karatay Array 32.28 69 P **P 09 36 07.3 -0.1**
KK31 IAmb IAmb 09 36 11.9
comp=Z,6.1nm,1.3s
KK31 Karatay Array 32.28 69 P **P 09 36 07.3 -0.1**
KK31 pmax pmax
comp=Z,6.0nm,1.3s
KKAR Karatay Array 32.28 69 P **P 09 36 07.1 -0.3**
KKAR Karatay Array 32.28 69 P **P 09 36 08.5 +1.0**
KKAR IAmb IAmb 09 36 11.9
comp=Z,6.1nm,1.3s
KKAR Karatay Array 32.28 69 P **P 09 36 07.1 -0.3**
KKAR 09 36 08.5
BVAR Borovoye Array 32.30 50 LR LR 09 51 43.9
comp=Z,137nm,18.6s,baz=262,slow=41
GAR Garm 32.88 76 P **P 09 36 13.2 +0.3**
TORD Torodi Ar. Bea 34.51 229 P **P 09 36 26.1 -0.9**
comp=Z,0.8nm,0.7s,baz=32,slow=9.1,SNR=5.4
TORD LR LR 09 50 57.8
comp=Z,75nm,20.7s,baz=275,slow=37
comp=Z,0.8nm,0.7s
AAK Ala-Archa 35.24 69 P **P 09 36 33.4 0.0**
AAK IAmb IAmb 09 36 39.0
comp=Z,2.7nm,0.8s
AAK Ala-Archa 35.24 69⇓ *eP* **P 09 36 33.6 +0.2**
AAK pmax pmax
comp=Z,2.0nm,0.9s
KOWA Kowa 37.06 238 P **P 09 36 48.7 -0.3**
comp=Z,0.9nm,0.6s,baz=27,slow=6.8,SNR=2.2
KOWA LR LR 09 53 44.0
comp=Z,126nm,18.3s,baz=52,slow=39
comp=Z,0.9nm,0.6s
JMIC Jan Mayen 37.12 341 LR LR 09 51 52.0
comp=Z,114nm,19.3s,baz=46,slow=36
KURBB Kurchatov Arra 37.20 55 P **P 09 36 50.3 +0.5**
comp=Z,1.4nm,0.7s,baz=278,slow=8.7,SNR=8.4
KURBB PP **PnPn 09 38 17.2 +2.3**
comp=Z,1.3nm,1.0s,baz=275,slow=10,SNR=5.5
KURBB LR LR 09 55 15.0
comp=Z,174nm,19.0s,baz=242,slow=41
comp=Z,1.4nm,0.7s
KURK Kurchatov 37.26 55⇓ *eP* **P 09 36 50.0 -0.3**
KURK pmax pmax
comp=Z,2.0nm,1.1s
BORG Borgarnes 38.33 328 LR LR 09 56 20.8
comp=Z,202nm,18.2s,baz=112,slow=42
MBAR Mbarara 39.43 175 LR LR 09 56 22.4
comp=Z,83nm,18.4s,baz=84,slow=41
MK31 Makanchi Array 40.05 60 P **P 09 37 13.2 -0.6**
MK31 Makanchi Array 40.05 60 *ce*P **P 09 37 14.1 +0.3**
MKAR Makanchi Array 40.05 60 P **P 09 37 14.2 +0.4**
comp=Z,4.3nm,0.9s,baz=282,slow=6.5,SNR=20
MKAR LR LR 09 56 02.2
comp=Z,164nm,19.9s,baz=291,slow=40
comp=Z,4.3nm,0.9s
MKAR Makanchi Array 40.05 60 P **P 09 37 13.0 -0.8**
KMBO Kilima Mbogo 40.80 165 LR LR 09 56 15.8
comp=Z,100nm,18.1s,baz=40,slow=39
ZALV Zalesovo Beam 40.94 49 P **P 09 37 22.0 +0.9**
comp=Z,1.1nm,0.5s,baz=260,slow=5.9,SNR=4.8
ZALV LR LR 09 57 06.3
comp=Z,108nm,18.4s,baz=294,slow=40
comp=Z,1.1nm,0.5s
ZALV Zalesovo Beam 40.94 49 P **P 09 37 20.0 -1.1**
ZALV Zalesovo Beam 40.94 49 P **P 09 37 22.0 +0.9**
DBIC Dimbokro 43.54 231 LR LR 09 58 24.4
comp=Z,120nm,19.0s,baz=47,slow=40
NRIK Noril'sk 43.59 26 LR LR 09 57 59.7
comp=Z,164nm,20.5s,baz=251,slow=39
WMQ Urumqi 44.40 64 *eP* **P 09 37 52.7 +3.3**
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ LR LR
comp=Z,150nm,18.3s
ERNS Erzin 47.76 53 P **P 09 38 15.7 -0.1**
SFJD Kangerlussuaq 50.42 330 LR LR 10 02 40.5
comp=Z,58nm,18.4s,baz=91,slow=39
SONM Songino Array 55.54 53 LR LR 10 05 39.4
comp=Z,116nm,18.2s,baz=272,slow=39
TIXI Tiksi 56.91 22 LR LR 10 07 21.0
comp=Z,112nm,18.8s,baz=354,slow=40
FRB Frobisher Bay 58.50 329 LR LR 10 06 53.5
comp=Z,108nm,18.3s,baz=6.0,slow=38
TSUM Tsumeb 58.60 191 LR LR 10 07 39.0
comp=Z,96nm,19.5s,baz=330,slow=39
RES Resolute Bay 60.56 345 LR LR 10 07 00.9
comp=Z,90nm,18.1s,baz=11,slow=37
YAK Yakutsk 61.59 32 LR LR 10 10 47.1
comp=Z,66nm,19.3s,baz=268,slow=40
HHC Hu-ho-hao-te 61.87 59 *eP* **P 09 39 58.6 +0.4**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,150nm,7.6s
CMAR Chiang Mai Arr 64.18 87 P **P 09 40 14.1 +0.4**
comp=Z,0.5nm,0.3s,baz=303,slow=7.5,SNR=4.2
CMAR LR LR 10 13 31.8
comp=Z,34nm,20.7s,baz=295,slow=41
comp=Z,0.5nm,0.3s
CMAR Chiang Mai Arr 64.18 87 *ce*P **P 09 40 16.6 +2.9**
BILL Bilibino 68.90 15 *eP* **P 09 40 45.3 +2.2**
BILL *e* 09 41 07.1
BILL pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 69.59 43 LR LR 10 15 11.5
comp=Z,80nm,18.9s,baz=307,slow=39
MA2 Magadan 71.20 27 LR LR 10 15 49.9
comp=Z,110nm,18.1s,baz=303,slow=39
SUR Sutherland 71.24 186 LR LR 10 16 03.6
comp=Z,37nm,18.8s,baz=28,slow=39
INK Inuvik 72.17 353 LR LR 10 15 15.4
comp=Z,49nm,18.9s,baz=356,slow=38
USRK Ussuriysk Ar. 72.74 47 LR LR 10 19 27.4
comp=Z,50nm,18.9s,baz=71,slow=41
RCBR Riachuelo 73.66 248 LR LR 10 14 43.3
comp=Z,46nm,18.1s,baz=150,slow=37
SADO Sadowa 73.87 315 LR LR 10 13 16.6
comp=Z,74nm,18.5s,baz=24,slow=35
KSRS Korea Array 74.38 54 P **P 09 41 18.1 +1.4**
comp=Z,0.5nm,0.4s,baz=292,slow=4.7,SNR=2.2
KSRS LR LR 10 17 42.5
comp=Z,166nm,19.1s,baz=305,slow=39
comp=Z,0.5nm,0.4s
PETK Petropavlovsk- 78.62 28 LR LR 10 19 27.4
comp=Z,106nm,20.7s,baz=299,slow=38
SJG San Juan 81.78 287 LR LR 10 15 49.6
comp=Z,21nm,20.1s,baz=53,slow=34
TKL Tuckaleechee C 82.52 310 LR LR 10 17 55.4
comp=Z,67nm,21.1s,baz=61,slow=35
BBB Bella Bella 86.86 345 LR LR 10 25 42.9
comp=Z,34nm,18.4s,baz=32,slow=39
NEW Newport 87.75 337 LR LR 10 22 06.9
comp=Z,73nm,20.1s,baz=43,slow=36
PDAR Pinedale Array 89.93 330 LR LR 10 25 27.9
comp=Z,102nm,18.5s,baz=34,slow=37
ELK Elko 93.81 333 LR LR 10 28 08.4
comp=Z,86nm,18.5s,baz=27,slow=37
ANMO Albuquerque 95.16 324 LR LR 10 27 16.7
comp=Z,76nm,18.1s,baz=38,slow=36
TXAR Lajitas Array 98.37 319 LR LR 10 28 01.0
comp=Z,33nm,19.5s,baz=348,slow=36
MAW Mawson 109.48 166 PP **PP 09 48 40.0 +0.7**
comp=Z,2.1nm,0.7s,baz=324,slow=8.7,SNR=5.5

ROM 12 09:29:44.6±0.1, 42°.870N±0°.004×13°.262E±0°.004, h9km, ML1.9/14, 13C-2D, Error ellipse: s-maj=0.3km s-min=0.2km az=141.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMO1	**Montemonaco**	**0.06**	**58**	P	Pg	09 29 46.8	+0.1
MMO1				S	Sg	09 29 48.0	-0.2
T1242	**Castelluccio d**	**0.06**	**226**	⇑P	Pg	09 29 46.8	+0.1
T1242				S	Sg	09 29 48.1	-0.2
T1242				AML	AML		
	comp=E,3145μm,0.2s						
T1242				AML	AML		
	comp=N,8745μm,0.1s						
T1242				AML	AML		
	comp=E,3235μm,0.2s						
T1242				AML	AML		
	comp=N,8430μm,0.1s						
T1242				AML	AML		
	comp=N,8725μm,0.1s						
T1242				AML	AML		
	comp=E,3150μm,0.2s						
MC2	**Monte Cornacci**	**0.07**	**309**	⇑P	Pg	09 29 47.1	+0.2
MC2				S	Sg	09 29 48.8	+0.2
NRCA	**Norcia**	**0.11**	**252**	P	Pg	09 29 47.7	+0.4
NRCA				S	Sg	09 29 49.8	+0.5
NRCA				AML	AML		
	comp=E,1670μm,0.2s						
NRCA				AML	AML		
	comp=N,1405μm,0.1s						
NRCA				AML	AML		
	comp=E,1805μm,0.1s						
NRCA				AML	AML		
	comp=N,1495μm,0.1s						
T1241	**Roccafluvione,**	**0.12**	**96**	⇑P	Pg	09 29 48.0	+0.5
T1241				S	Sg	09 29 50.4	+0.9
T1241				AML	AML		
	comp=E,832μm,0.8s						
T1241				AML	AML		
	comp=N,603μm,0.6s						
T1241				AML	AML		
	comp=E,779μm,0.8s						
T1241				AML	AML		
	comp=N,639μm,0.6s						
AM05	**Amandola Campo**	**0.13**	**32**	⇑P	Pg	09 29 48.2	+0.7
AM05				S	Sg	09 29 50.6	+1.0
AM05				AML	AML		
	comp=E,438μm,0.4s						
AM05				AML	AML		
	comp=N,474μm,0.1s						
AM05				AML	AML		
	comp=E,1770μm,0.4s						
AM05				AML	AML		
	comp=N,1865μm,0.1s						
T1202	**Accumoli, Fraz**	**0.17**	**189**	P	Pg	09 29 49.0	+0.7
T1202				S	Sg	09 29 52.4	+1.6
T1216	**Preci, Frazion**	**0.18**	**277**	P	Pg	09 29 49.0	+0.6
T1216				S	Sg	09 29 52.2	+1.2
T1204	**Amatrice, Fraz**	**0.20**	**168**	P	Pg	09 29 49.4	+0.6
FDMO	**Fiordimonte**	**0.21**	**323**	P	Pg	09 29 49.5	+0.6
FDMO				S	Sg	09 29 53.2	+1.3
FDMO				AML	AML		
	comp=E,726μm,0.3s						
FDMO				AML	AML		
	comp=N,990μm,0.2s						
T1243	**Rocca Santa Ma**	**0.22**	**141**	⇑P	Pg	09 29 49.6	+0.5
T1243				S	Sg	09 29 53.4	+1.2
CSP1	**Cessapalombo**	**0.23**	**349**	⇓P	Pg	09 29 50.0	+0.7
T1217	**Poggiodomo (PG**	**0.29**	**237**	⇑P	Pg	09 29 50.9	+0.5
T1217				AML	AML		
	comp=E,84μm,0.1s						
T1217				AML	AML		
	comp=N,88μm,0.2s						
CESI	**CESI - Serrava**	**0.29**	**297**	⇑P	Pb	09 29 51.3	-0.7
CESI				AML	AML		
	comp=N,805μm,0.2s						
CESI				AML	AML		
	comp=E,313μm,0.2s						
T1215	**Vallo di Nera,**	**0.30**	**257**	⇑P	Pg	09 29 51.0	+0.5
LNSS	**Leonessa**	**0.31**	**212**	P	Pg	09 29 51.3	+0.4
LNSS				S	Sb	09 29 56.6	-1.0
LNSS				AML	AML		
	comp=N,192μm,0.6s						
LNSS				AML	AML		
	comp=E,324μm,0.3s						
OFFI	**Offida**	**0.32**	**78**	⇑P	Pb	09 29 52.6	+0.2
TERO	**Teramo**	**0.35**	**134**	⇑P	Pg	09 29 51.9	+0.4
TERO				AML	AML		
	comp=N,234μm,1.4s						
TERO				AML	AML		
	comp=E,163μm,0.4s						
RM33	**Pellescritta (**	**0.36**	**186**	P	Pg	09 29 52.3	+0.5
RM33				AML	AML		
	comp=N,87μm,1.4s						
RM33				AML	AML		
	comp=E,111μm,1.2s						
SNTG	**Esanatoglia**	**0.45**	**329**	⇑P	Pg	09 29 54.0	+0.6
SNTG				AML	AML		
	comp=E,47μm,0.1s						
SNTG				AML	AML		
	comp=N,65μm,0.1s						
EL6	**Elcito**	**0.47**	**346**	⇑P	Pg	09 29 54.5	+0.6
EL6				AML	AML		
	comp=E,800μm,1.6s						
EL6				AML	AML		
	comp=N,650μm,1.6s						
EL6				AML	AML		
	comp=E,800μm,1.6s						
ASSB	**Assisi San Ben**	**0.47**	**292**	⇓P	Pg	09 29 54.2	+0.4
ASSB				AML	AML		
	comp=N,117μm,0.2s						
ASSB				AML	AML		
	comp=E,137μm,0.7s						
CING	**Cingoli**	**0.51**	**355**	⇑P	Pb	09 29 55.4	-0.3
CING				AML	AML		
	comp=E,84μm,0.3s						
CING				AML	AML		
	comp=N,65μm,1.1s						
T0110	**Collepietro**	**0.75**	**149**	P	Pg	09 29 59.2	+0.2
FRON	**Frontone**	**0.76**	**329**	S	Sb	09 30 11.0	+0.6

ISK 12 09:31:20.1, 38°.93N×27°.72E, h6km, ML2.7/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.09**	**122**	PG	Pg	09 31 22.5	+0.4
AKS				SG	Sg	09 31 24.2	+0.7
GOMA	**Golmarmara-Man**	**0.27**	**145**	PG	Pg	09 31 25.8	+0.5
GOMA				SG	Sg	09 31 30.1	+1.3
BLCB	**Balcova**	**0.76**	**225**	PG	Pb	09 31 35.4	-0.2
BLCB				SG	Sb	09 31 46.0	-0.2
FOCM	**Foa**	**0.80**	**255**	PG	Pb	09 31 36.0	-0.4
FOCM				SG	Sb	09 31 47.5	0.0
AYDB	**Zeytinkoy-Aydi**	**0.98**	**172**	PG	Pg	09 31 39.3	+0.3

DDA 12 09:33:04.6±0.0, 38°.90N×27°.75E, h7km±2km, ML2.2
ISK 12 09:33:05.2, 38°.86N×27°.72E, h6km, ML2.8/7
ISC 12 09:33:05.1±1.1, 38°.89N±0°.03×27°.75E±0°.03, h10km±12km, n18, σ0°48/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STEP	**BALIKESIR_Sava**	**0.49**	**357**	P	**Pg**	**09 33 14.1**	**-0.6**
STEP				S	**Sg**	**09 33 21.7**	**+0.5**
STEP				*i* AML	AML	09 33 23.0	
	comp=N,358nm,0.6s						
STEP				*i* AML	AML	09 33 23.0	
	comp=E,231nm,0.4s						
ZEDA	**zmir-Bergama**	**0.53**	**279**	P	**Pg**	**09 33 15.3**	**-0.2**
ZEDA				S	**Sg**	**09 33 22.9**	**+0.4**
ZEDA				*i* AML	AML	09 33 24.0	
	comp=N,86nm,0.2s						
ZEDA				*i* AML	AML	09 33 27.0	
	comp=E,85nm,0.6s						
DKL	**Dikili**	**0.69**	**286**	PG	**Pg**	**09 33 18.2**	**-0.2**
MANT	**Manisa**	**0.74**	**122**	P	**Pb**	**09 33 20.2**	**-0.1**
MANT				S	**Sg**	**09 33 30.0**	**+0.7**
BLCB	**Balcova**	**0.75**	**228**	PG	**Pg**	**09 33 19.4**	**-0.2**
BLCB				SG	**Sb**	**09 33 29.7**	**-0.8**
DEMI	**Demirci**	**0.77**	**78**	P	**Pg**	**09 33 19.7**	**-0.2**
DEMI				*i* AML	AML	09 33 30.0	
	comp=N,63nm,0.1s						
DEMI				S	**Sg**	**09 33 30.2**	**+0.3**
DEMI				*i* AML	AML	09 33 31.0	
	comp=E,63nm,0.3s						
FOCM	**Foa**	**0.82**	**258**	PG	**Pb**	**09 33 20.8**	**-0.6**
FOCM				SG	**Sb**	**09 33 32.3**	**-0.2**
DURS	**Dursunbey**	**0.91**	**38**	P	**Pg**	**09 33 21.8**	**-0.8**
DURS				S	**Sg**	**09 33 34.6**	**+0.1**
DURS				*i* AML	AML	09 33 37.0	
	comp=N,121nm,0.2s						
DURS				*i* AML	AML	09 33 38.0	
	comp=E,160nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**0.94**	**173**	PG	**Pg**	**09 33 23.2**	**-0.1**
AYDB				SG	**Sb**	**09 33 36.3**	**0.0**
DST	**Dursunbey**	**0.98**	**43**	PG	**Pn**	**09 33 25.1**	**+0.1**
KRBN	**Karaburun**	**0.98**	**253**	PG	**Pb**	**09 33 23.9**	**-0.3**
URLA	**Izmir**	**1.05**	**240**	PG	**Pb**	**09 33 25.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.16**	**357**	PN	**Pn**	**09 33 28.6**	**+1.2**
CHOS	**Chios island**	**1.42**	**250**	PN	**Pb**	**09 33 31.7**	**0.0**
TVSB	**Tavsanli**	**1.44**	**67**	PN	**Pn**	**09 33 31.3**	**-0.1**
ORLT	**Orhaneli**	**1.46**	**37**	PN	**Pg**	**09 33 32.9**	**-0.2**
EDC	**Edincik**	**1.46**	**3**	PN	**Pg**	**09 33 32.9**	**-0.3**
MRMT	**Marmara Adasi**	**1.72**	**356**	PN	**Pb**	**09 33 36.9**	**+0.1**

DDA 12 09:36:46.7±0.0, 38°.90N×27°.74E, h10km, ML1.8
ISK 12 09:36:46.4, 38°.89N×27°.72E, h5km, ML2.5/9
ISC 12 09:36:46.6±0.9, 38°.89N±0°.03×27°.73E±0°.03, h10km±6km, n16, σ0°36/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.07**	**100**	P	**Pg**	**09 36 48.9**	**0.0**

AKHS				S	**Sg**	**09 36 50.6**	**+0.1**	
AKS	**Akhisar**	**0.07**	**100**	PG	**Pg**	**09 36 48.6**	**-0.2**	
AKS				SG	**Sg**	**09 36 50.2**	**-0.3**	
GOMA	**Golmarmara-Man**	**0.23**	**141**	PG	**Pg**	**09 36 51.6**	**+0.2**	
GOMA				SG	**Sg**	**09 36 55.6**	**+0.9**	
STEP	**BALIKESIR_Sava**	**0.48**	**359**	P	**Pb**	**09 36 57.0**	**-0.2**	
STEP				S	**Sg**	**09 37 03.2**	**+0.7**	
STEP				*i* AML	AML	09 37 04.0		
	comp=E,117nm,0.2s							
STEP				*i* AML	AML	09 37 05.0		
	comp=N,191nm,0.6s							
ZEDA	**zmir-Bergama**	**0.51**	**279**	P	**Pb**	**09 36 57.3**	**-0.3**	
ZEDA				*i* AML	AML	09 37 04.0		
	comp=N,100nm,0.5s							
ZEDA				S	**Sb**	**09 37 04.7**	**-0.4**	
ZEDA				*i* AML	AML	09 37 06.0		
	comp=E,38nm,0.2s							
DKL	**Dikili**	**0.67**	**286**	PG	**Pg**	**09 36 59.8**	**+0.3**	
DKL				SG	**Sb**	**09 37 09.4**	**-0.1**	
BLCB	**Balcova**	**0.74**	**227**	PG	**Pg**	**09 37 01.0**	**+0.2**	
BLCB				SG	**Sb**	**09 37 11.5**	**-0.1**	
MANT	**Manisa**	**0.76**	**121**	P	**Pb**	**09 37 02.0**	**0.0**	
MANT				S	**Sb**	**09 37 12.0**	**-0.5**	
MANT				*i* AML	AML	09 37 14.0		
	comp=E,44nm,0.6s							
MANT				*i* AML	AML	09 37 14.0		
	comp=N,33nm,0.3s							
DEMI	**Demirci**	**0.79**	**79**	P	**Pg**	**09 37 01.8**	**0.0**	
DEMI				*i* AML	AML	09 37 12.0		
	comp=N,34nm,0.2s							
DEMI				S	**Sg**	**09 37 12.2**	**+0.2**	
DEMI				*i* AML	AML	09 37 16.0		
	comp=E,42nm,0.4s							
FOCM	**Foa**	**0.80**	**257**	PG	**Pg**	**09 37 01.8**	**-0.2**	
FOCM				SG	**Sb**	**09 37 13.1**	**-0.2**	
AYDB	**Zeytinkoy-Aydi**	**0.95**	**172**	PG	**Pg**	**09 37 04.7**	**-0.2**	
KRBN	**Karaburun**	**0.97**	**252**	PG	**Pg**	**09 37 04.9**	**-0.2**	
URLA	**Izmir**	**1.03**	**240**	PG	**Pg**	**09 37 06.3**	**-0.1**	
GONE	**Gonen-Balikesi**	**1.16**	**358**	PN	**Pg**	**09 37 08.6**	**-0.2**	
EZN	**Ezine**	**1.43**	**311**	PN	**Pb**	**09 37 13.7**	**+0.4**	
SIGR	**SIGRI**	**1.49**	**283**	PN	**Pb**	**09 37 14.4**	**+0.1**	

***IDC* 12 09:38:13.3±3.5, 53°81N×88°13E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=32.0km s-min=19.8km az=45.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**275**	*i*		09 51 00.0	
	baz=91,slow=329,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.97**	**275**	Pg	Pn	09 38 48.4	+0.5
	1.3nm,0.3s,baz=93,slow=16,SNR=14						
ZALV				Lg	Lg	09 39 15.9	
	2.5nm,0.3s,baz=95,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.71**	**245**	Pn	Pn	09 39 53.8	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=5.5						
KURBB				Lg	Lg	09 41 46.3	
	baz=60,slow=30,SNR=3.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.96**	**210**	Pn	Pn	09 40 11.2	+1.0
	0.1nm,0.3s,baz=28,slow=16,SNR=2.4						
	0.2nm,0.4s						

ISK ***12*** *09:50:28.9, 38°.91N×27°.73E, h10km, ML3.6/18*
THE ***12*** *09:50:29.4, 38°.90N×27°.73E, h0km±1km, ML3.2/4, Error ellipse: s-maj=3.0km s-min=1.0km az=75.0*

ISC 12 09:50:29.5±0.9, 38°.90N±0°.03×27°.72E±0°.02, h8km±7km, n36, σ0°62/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.07**	**108**	PG	**Pg**	**09 50 31.4**	**-0.1**
AKS				SG	**Sg**	**09 50 33.2**	**+0.2**
GOMA	**Golmarmara-Man**	**0.25**	**142**	PG	**Pg**	**09 50 34.5**	**+0.1**
GOMA				SG	**Sg**	**09 50 38.4**	**+0.6**
DKL	**Dikili**	**0.66**	**285**	PG	**Pb**	**09 50 42.7**	**-0.5**
DKL				SG	**Sb**	**09 50 51.8**	**-0.7**
BLCB	**Balcova**	**0.74**	**226**	P	**Pg**	**09 50 43.6**	**-0.2**
BLCB				S	**Sb**	**09 50 55.0**	**+0.1**
BLCB	**Balcova**	**0.74**	**226**	PG	**Pg**	**09 50 43.7**	**-0.1**
BLCB				SG	**Sb**	**09 50 54.7**	**-0.2**
FOCM	**Foa**	**0.80**	**257**	PG	**Pg**	**09 50 44.8**	**0.0**
FOCM				SG	**Sb**	**09 50 56.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**172**	PG	**Pg**	**09 50 47.9**	**-0.1**
KRBN	**Karaburun**	**0.96**	**252**	PG	**Pg**	**09 50 47.8**	**-0.2**
SMAA	**Simav-Kutahya**	**1.00**	**78**	PG	**Pg**	**09 50 48.4**	**-0.3**
SMAA				SG	**Sb**	**09 51 02.5**	**+0.1**
URLA	**Izmir**	**1.03**	**239**	PG	**Pg**	**09 50 48.2**	**-1.2**
GONE	**Gonen-Balikesi**	**1.14**	**359**	PN	**Pg**	**09 50 51.1**	**-0.3**
PRK	**Paraskevi**	**1.18**	**287**	P	**Pn**	**09 50 52.8**	**+0.6**
PRK				S	**Sn**	**09 51 08.8**	**+0.3**
	2μm,0.3s						
GCAM	**G?zelcaml?**	**1.26**	**198**	PN	**Pg**	**09 50 52.8**	**-0.9**
GCAM				SN	**Sn**	**09 51 10.7**	**+0.3**
GEDZ	**Gediz**	**1.32**	**83**	PN	**Pn**	**09 50 53.9**	**-0.4**
GPNR	**Gulpinar-Canak**	**1.35**	**295**	PN	**Pn**	**09 50 54.5**	**-0.1**
SMG	**Samos**	**1.38**	**211**	P	**Pn**	**09 50 54.8**	**-0.2**
SMG				S	**Sn**	**09 51 14.8**	**+1.3**
	768nm,0.5s						
CHOS	**Chios island**	**1.40**	**249**	P	**Pn**	**09 50 54.9**	**-0.5**
CHOS				S	**Sn**	**09 51 15.5**	**+1.4**
	1μm,0.4s						
CHOS	**Chios island**	**1.40**	**249**	PN	**Pn**	**09 50 55.3**	**-0.1**
EDC	**Edincik**	**1.45**	**4**	PN	**Pn**	**09 50 55.5**	**-0.4**
ORLT	**Orhaneli**	**1.46**	**38**	PN	**Pn**	**09 50 55.9**	**-0.3**
TVSB	**Tavsanli**	**1.46**	**67**	PN	**Pn**	**09 50 55.9**	**-0.3**
SIGR	**SIGRI**	**1.48**	**283**	P	**Pn**	**09 50 55.8**	**-0.6**
SIGR				S	**Sg**	**09 51 17.3**	**+0.1**
	752nm,0.4s						
SIGR	**SIGRI**	**1.48**	**283**	PN	**Pn**	**09 50 56.4**	**0.0**
KHL	**Karahalli**	**1.53**	**112**	PN	**Pn**	**09 50 56.9**	**-0.2**
BOZC	**Bozcaada**	**1.60**	**306**	PN	**Pn**	**09 50 57.9**	**-0.1**
MRMT	**Marmara Adasi**	**1.70**	**357**	PN	**Pn**	**09 50 59.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.72**	**31**	PN	**Pn**	**09 50 59.3**	**-0.4**
YER	**Yerkesik**	**1.82**	**166**	P	**Pn**	**09 51 00.4**	**-0.7**
YER				S	**Sg**	**09 51 27.3**	**-0.7**
YER	**Yerkesik**	**1.82**	**166**	PN	**Pn**	**09 51 01.1**	**0.0**
ENEZ	**Enez**	**2.19**	**327**	P	**Pn**	**09 51 06.1**	**-0.1**
SMTH	**Samothraki Isl**	**2.30**	**314**	P	**Pn**	**09 51 07.5**	**-0.2**
ALN	**Alexandroupoli**	**2.37**	**328**	P	**Pn**	**09 51 08.3**	**-0.4**
RDO	**Rodhopi**	**2.80**	**324**	P	**Pn**	**09 51 14.3**	**-0.2**
KDZ	**Kurdzhali**	**3.26**	**328**	P	**Pn**	**09 51 20.6**	**-0.3**
KKB	**Krupnik**	**4.62**	**311**	P	**Pb**	**09 51 53.0**	**+2.3**
VTS	**Vitosha**	**5.04**	**319**	P	**Pb**	**09 51 56.7**	**-1.2**

IDC ***12*** *10:04:39.0±1.3, 33°.08N×140°.26E, h83km±10km, mb3.0/2, mbtmp3.4/4, Error ellipse: s-maj=33.2km s-min=8.3km az=86.0*
JMA ***12*** *10:04:40.0±0.1, 33°.2N±0°.3×14°.0E±°, h88km±1km, MV2.9/29, E OFF HACHIJOJIMA ISLAND*

ISC 12 10:04:39.3±1.1, 33°.16N±0°.04×140°.2E±0°.1, h93km±8km, n23, σ0°91/28, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.33**	**262**	P	**Pn**	**10 04 53.5**	**+0.3**
JHJ2				S	**Sn**	**10 05 03.5**	**-0.1**
JHCJ	**Hachijojimakas**	**0.35**	**256**	*eP*	**Pn**	**10 04 53.6**	**+0.2**
JHCJ				S	**Sn**	**10 05 03.6**	**-0.2**
JHJ	**Hachijo jima 2**	**0.36**	**264**	P	**Pn**	**10 04 53.4**	**+0.1**
	105nm,0.3s,baz=99,slow=22,SNR=109						
JHJ				S	**Sn**	**10 05 03.6**	**-0.2**
	273nm,0.3s,baz=89,slow=22,SNR=8.8						
JAOM	**Aogashimamukai**	**0.79**	**208**	*eP*	**Pn**	**10 04 58.0**	**+1.0**
JAOM				S	**Sn**	**10 05 11.6**	**+1.4**
JMKN	**Mikurajimanish**	**0.89**	**325**	*eP*	**Pn**	**10 04 57.5**	**-0.5**
JMKN				*eS*	**Sn**	**10 05 11.0**	**-1.1**
JTHY	**Toshimahigashi**	**1.56**	**331**	P	**Pn**	**10 05 06.3**	**+0.3**
JTHY				S	**Sn**	**10 05 26.1**	**-0.1**
BSO1	**Boso 1**	**1.62**	**23**	P	**Pn**	**10 05 06.8**	**+0.7**
BSO3	**Boso 3**	**1.66**	**9**	P	**Pn**	**10 05 07.7**	**+0.8**
JIM2	**Oshima 3**	**1.68**	**338**	P	**Pn**	**10 05 07.3**	**-0.2**
JIM2				S	**Sn**	**10 05 27.6**	**-1.3**
BSO4	**Boso 4**	**1.83**	**3**	P	**Pn**	**10 05 10.2**	**+0.9**
JIZS	**Izushimoda**	**1.91**	**325**	*eP*	**Pn**	**10 05 11.1**	**+0.7**
KTJ3	**Kamata3**	**2.00**	**332**	P	**Pn**	**10 05 11.9**	**+0.2**
KTJ3				S	**Sn**	**10 05 36.0**	**-0.3**
JOD2	**Odawara 2**	**2.29**	**336**	P	**Pn**	**10 05 15.7**	**+0.3**
JOD2				*eS*	**Sn**	**10 05 42.0**	**-1.2**
MJAR	**Matsushiro Arr**	**3.75**	**335**	P	**Pn**	**10 05 36.3**	**+1.3**
	1.2nm,0.4s,baz=164,slow=12,SNR=9.8						
MJAR				S	**Sn**	**10 06 20.2**	**+2.0**
	0.9nm,0.4s,baz=133,slow=15,SNR=1.7						
JCJ	**Chichijima**	**6.28**	**164**	P	**Pn**	**10 06 08.2**	**-1.2**
	27nm,0.8s,baz=2.9,slow=20,SNR=8.1						
JCJ				S	**Sn**	**10 07 18.5**	**-1.3**
	26nm,0.7s,baz=302,slow=17,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**27.29**	**113**	T	T	10 39 06.2	
	baz=306,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.30**	**113**	T	T	10 39 09.6	
	baz=306,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**27.31**	**113**	T	T	10 39 07.5	
	baz=306,slow=75,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**27.85**	**115**	T	T	10 39 57.7	
	baz=309						
H11S1	**WAKE ISLAND Hy**	**27.85**	**115**	T	T	10 39 49.9	
	baz=309						
H11S2	**WAKE ISLAND Hy**	**27.87**	**115**	T	T	10 39 54.9	
	baz=309						
WRA	**Warramunga Arr**	**53.10**	**187**	P	**P**	**10 13 46.9**	**-0.4**
	0.1nm,0.3s,baz=11,slow=8.3,SNR=8.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**56.83**	**187**	P	**P**	**10 14 14.0**	**-0.1**
	0.3nm,0.5s,baz=19,slow=11,SNR=6.8						
	0.3nm,0.5s						

IDC ***12*** *10:05:35.7±0.8, 38°.71N×27°.87E, h0km, mb3.6/8, mbtmp3.7/15, ML3.5/7, MS3.0/3, Error ellipse: s-maj=14.5km s-min=12.0km az=133.0*
ISK ***12*** *10:05:35.6, 38°.89N×27°.72E, h10km, ML4.1/31*
DDA ***12*** *10:05:35.3±0.0, 38°.91N×27°.74E, h17km±1km, MW3.9*
THE ***12*** *10:05:35.3, 38°.89N×27°.78E, h0km±1km, ML4.1/5, Error ellipse: s-maj=2.3km s-min=0.9km az=86.0*
NEIC ***12*** *10:05:36.7±1.9, 38°.80N±0°.05×27°.70E±0°.03, h10km±2km, mb4.2/3, ML4.1(ISK), Error ellipse: s-maj=8.9km s-min=3.3km az=199.0*

ISC 12 10:05:36.3±0.7, 38°.88N±0°.02×27°.75E±0°.01, h11km±4km, n162, σ1°29/204, mb3.7/11, 22C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.05**	**94**	P	**Pg**	**10 05 38.2**	**-0.4**
AKHS				S	**Sg**	**10 05 39.8**	**-0.5**
AKS	**Akhisar**	**0.05**	**94**	PG	**Pg**	**10 05 38.1**	**-0.5**
AKS				SG	**Sg**	**10 05 40.0**	**-0.2**
GOMA	**Golmarmara-Man**	**0.22**	**142**	PG	**Pg**	**10 05 41.0**	**0.0**
GOMA				SG	**Sb**	**10 05 45.1**	**+1.0**
STEP	**BALIKESIR_Sava**	**0.49**	**358**	P	**Pg**	**10 05 44.6**	**-1.4**
STEP				S	**Sg**	**10 05 52.0**	**-0.5**
STEP				*i* AML	AML	10 05 53.0	
	comp=N,10μm,0.5s						
STEP				*i* AML	AML	10 05 55.0	
	comp=E,7μm,1.0s						
ZEDA	**zmir-Bergama**	**0.53**	**279**	P	**Pg**	**10 05 46.2**	**-0.4**
ZEDA				S	**Sg**	**10 05 54.0**	**+0.3**
ZEDA				*i* AML	AML	10 05 58.0	
	comp=N,7μm,0.6s						
ZEDA				*i* AML	AML	10 05 58.0	
	comp=E,6μm,0.6s						
DKL	**Dikili**	**0.68**	**286**	PG	**Pg**	**10 05 49.2**	**-0.3**
DKL				SG	**Sg**	**10 05 58.7**	**+0.2**
BLCB	**Balcova**	**0.74**	**228**	P	**Pg**	**10 05 50.2**	**-0.5**
BLCB				S	**Sb**	**10 06 01.3**	**-0.1**
BLCB	**Balcova**	**0.74**	**228**	PG	**Pg**	**10 05 50.2**	**-0.5**
BLCB				SG	**Sb**	**10 06 00.9**	**-0.5**
MANT	**Manisa**	**0.75**	**121**		**Pg**	**10 05 50.5**	**-0.4**
MANT	**Manisa**	**0.75**	**121**	P	**Pg**	**10 05 50.4**	**-0.4**
MANT				S	**Sb**	**10 06 01.4**	**-0.3**
MANT				*i* AML	AML	10 06 03.0	
	comp=N,4μm,0.4s						
MANT				*i* AML	AML	10 06 03.0	
	comp=E,3μm,0.3s						
DEMI	**Demirci**	**0.77**	**78**	P	**Pg**	**10 05 50.7**	**-0.6**
DEMI				S	**Sg**	**10 06 01.0**	**-0.4**
FOCM	**Foa**	**0.81**	**258**	PG	**Pg**	**10 05 51.5**	**-0.5**
FOCM				SG	**Sb**	**10 06 02.7**	**-0.6**
BALY	**Balya**	**0.86**	**354**	P	**Pg**	**10 05 50.9**	**-2.1**
BALY				S	**Sg**	**10 06 02.2**	**-2.0**
DURS	**Dursunbey**	**0.91**	**38**	P	**Pb**	**10 05 52.1**	**-2.2**
DURS				S	**Sg**	**10 06 05.8**	**-0.1**
AYVA	**Ayvalik**	**0.93**	**298**	P	**Pb**	**10 05 53.4**	**-0.9**
AYVA				S	**Sb**	**10 06 05.8**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.94**	**173**	PG	**Pn**	**10 05 54.4**	**-1.2**
AYDB				SG	**Sn**	**10 06 07.5**	**-1.6**
KRBN	**Karaburun**	**0.98**	**253**	PG	**Pg**	**10 05 54.7**	**-0.4**
SMAA	**Simav-Kutahya**	**0.99**	**77**	PG	**Pg**	**10 05 55.3**	**0.0**
DST	**Dursunbey**	**0.99**	**43**	PG	**Pb**	**10 05 55.1**	**-0.4**
USAK	**Uak-Merkez**	**1.01**	**99**	P	**Pb**	**10 05 54.7**	**-1.1**
USAK				S	**Sb**	**10 06 08.3**	**-0.9**
USAK				*i* AML	AML	10 06 10.0	
	comp=N,2μm,0.5s						
USAK				*i* AML	AML	10 06 10.0	
	comp=E,1μm,0.6s						
URLA	**Izmir**	**1.04**	**240**	PG	**Pb**	**10 05 55.1**	**-1.3**
URLA	**Izmir**	**1.04**	**240**	P	**Pb**	**10 05 54.5**	**-1.8**
URLA				S	**Sg**	**10 06 09.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.16**	**358**	PN	**Pn**	**10 05 58.1**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**1.17**	**237**	P	**Pb**	**10 05 57.3**	**-1.1**
ZEYE				S	**Sn**	**10 06 14.5**	**+0.1**
ZEYE				*i* AML	AML	10 06 18.0	
	comp=E,4μm,0.6s						
ZEYE				*i* AML	AML	10 06 21.0	
	comp=N,4μm,0.4s						
PRK	**Paraskevi**	**1.20**	**288**	P	**Pg**	**10 05 59.3**	**-0.2**
PRK				S	**Sg**	**10 06 16.1**	**+1.0**
	9μm,0.4s						
AYDN	**Tasoluk**	**1.22**	**175**	P	**Pb**	**10 05 58.6**	**-0.9**
AYDN				S	**Sg**	**10 06 15.1**	**-0.6**
GCAM	**G?zelcaml?**	**1.25**	**199**	PN	**Pg**	**10 05 59.5**	**-0.8**
GCAM				SN	**Sg**	**10 06 16.7**	**+0.2**
GCAM	**G?zelcaml?**	**1.25**	**199**	P	**Pn**	**10 05 58.3**	**-1.3**
GCAM				S	**Sg**	**10 06 17.6**	**+1.1**
GEDZ	**Gediz**	**1.31**	**82**	PN	**Pb**	**10 06 00.8**	**-0.2**
GEDZ				SN	**Sg**	**10 06 18.9**	**+0.4**
GDZ	**Gediz**	**1.37**	**81**	P	**Pn**	**10 05 59.6**	**-1.9**
GDZ				S	**Sn**	**10 06 18.2**	**-1.5**
SMG	**Samos**	**1.37**	**212**	P	**Pb**	**10 06 01.4**	**-0.6**
SMG				S	**Sg**	**10 06 20.9**	**+0.4**
	8μm,0.4s						
KOCA	**Canakkale, Ayv**	**1.39**	**297**	P	**Pn**	**10 06 00.8**	**-0.9**
KOCA				S	**Sn**	**10 06 19.2**	**-0.9**
KOCA				*i* AML	AML	10 06 25.0	
	comp=E,4μm,0.8s						
KOCA				*i* AML	AML	10 06 28.0	
	comp=N,2μm,0.5s						
KNL	**Balıkesir**	**1.40**	**353**	P	**Pn**	**10 06 00.8**	**-0.9**
KNL				S	**Sn**	**10 06 19.3**	**-0.9**
KNL				*i* AML	AML	10 06 21.0	
	comp=N,3μm,0.7s						
KNL				*i* AML	AML	10 06 22.0	
	comp=E,2μm,0.7s						
CHOS	**Chios island**	**1.41**	**250**	P	**Pn**	**10 06 01.1**	**-0.9**
CHOS				S	**Sg**	**10 06 22.2**	**+0.4**
	10μm,0.3s						
CHOS	**Chios island**	**1.41**	**250**	PN	**Pb**	**10 06 01.8**	**-0.9**
EZN	**Ezine**	**1.45**	**311**	P	**Pn**	**10 06 01.6**	**-0.8**
EZN				S	**Sb**	**10 06 22.3**	**+0.6**
	3μm,0.5s						
EZN	**Ezine**	**1.45**	**311**	PN	**Pn**	**10 06 01.9**	**-0.5**
TVSB	**Tavsanli**	**1.45**	**66**	PN	**Pb**	**10 06 02.7**	**-0.7**
ORLT	**Orhaneli**	**1.46**	**37**	PN	**Pn**	**10 06 02.9**	**+0.2**
EDC	**Edincik**	**1.47**	**4**	PN	**Pn**	**10 06 02.7**	**0.0**
PASA	**Karahalli, USA**	**1.47**	**111**	P	**Pn**	**10 06 02.4**	**-0.4**
PASA				S	**Sg**	**10 06 22.6**	**-0.9**
KHL	**Karahalli**	**1.50**	**111**	PN	**Pb**	**10 06 03.6**	**-0.6**
SIGR	**SIGRI**	**1.51**	**283**	P	**Pn**	**10 06 02.3**	**-1.0**
SIGR				S	**Sg**	**10 06 24.1**	**-0.8**
	4μm,0.9s						
SIGR	**SIGRI**	**1.51**	**283**	PN	**Pn**	**10 06 02.7**	**-0.6**
BOZC	**Bozcaada**	**1.62**	**307**	PN	**Pn**	**10 06 04.5**	**-0.4**
BOZC	**Bozcaada**	**1.62**	**307**	P	**Pn**	**10 06 03.7**	**-1.1**
BOZC				S	**Sb**	**10 06 26.8**	**0.0**
ULDT	**Uludag**	**1.66**	**40**	P	**Pn**	**10 06 04.3**	**-1.2**
ULDT				S	**Sb**	**10 06 28.8**	**+0.9**
ULDT				*i* AML	AML	10 06 34.0	
	comp=E,2μm,0.7s						
ULDT				*i* AML	AML	10 06 35.0	
	comp=N,1μm,0.5s						
MULA	**Mugla, Merkez-**	**1.69**	**164**	P	**Pn**	**10 06 05.3**	**-0.5**
MULA				S	**Sg**	**10 06 31.6**	**+1.0**
MULA				*i* AML	AML	10 06 32.0	
	comp=E,2μm,0.6s						
MULA				*i* AML	AML	10 06 35.0	
	comp=N,963nm,0.8s						
TAVA	**DENIZLI_Tavas**	**1.69**	**147**	P	**Pn**	**10 06 05.2**	**-0.6**
TAVA				S	**Sg**	**10 06 30.9**	**+0.2**
TAVA				*i* AML	AML	10 06 35.0	
	comp=N,464nm,0.5s						
TAVA				*i* AML	AML	10 06 35.0	
	comp=E,415nm,0.5s						
MRMT	**Marmara Adasi**	**1.72**	**356**	PN	**Pn**	**10 06 06.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.73**	**30**	PN	**Pn**	**10 06 05.9**	**-0.3**
YER	**Yerkesik**	**1.80**	**166**	P	**Pn**	**10 06 06.7**	**-0.6**
YER	**Yerkesik**	**1.80**	**166**	PN	**Pb**	**10 06 07.6**	**-1.7**
GELI	**Tayfur-Gelibol**	**1.80**	**327**	PN	**Pn**	**10 06 07.5**	**+0.2**
BDRM	**Kayabasi**	**1.83**	**188**	P	**Pn**	**10 06 06.5**	**-1.2**
BDRM				S	**Sn**	**10 06 30.4**	**-0.5**
BODT	**Bodrum**	**1.85**	**191**	P	**Pn**	**10 06 05.6**	**-2.4**
BODT	**Bodrum**	**1.85**	**191**	PN	**Pn**	**10 06 08.1**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.85**	**347**	PN	**Pn**	**10 06 07.9**	**-0.2**
APMY	**Acipayam-Deniz**	**1.87**	**138**	PN	**Pn**	**10 06 08.5**	**+0.2**
ARMT	**Armutlu**	**1.89**	**27**	PN	**Pn**	**10 06 08.7**	**+0.2**
GEMT	**Gemlik**	**1.91**	**35**	PN	**Pn**	**10 06 09.1**	**+0.3**
GADA	**Gvkgeada**	**1.94**	**313**	PN	**Pn**	**10 06 09.2**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.98**	**108**	P	**Pn**	**10 06 09.9**	**0.0**
KZIL				*i* AML	AML	10 06 47.0	
	comp=E,559nm,0.6s						
KZIL				*i* AML	AML	10 06 49.0	
	comp=N,447nm,0.7s						
AUBOZ	**BOZOYUK**	**2.05**	**59**	PN	**Pn**	**10 06 11.4**	**+0.6**
BASM	**Basmaki-Afyon**	**2.05**	**117**	PN	**Pn**	**10 06 11.4**	**+0.6**
CAVI	**Cavuskoy**	**2.09**	**50**	PN	**Pn**	**10 06 11.9**	**+0.6**
YLV	**Yalova**	**2.10**	**36**	PN	**Pn**	**10 06 11.8**	**+0.3**
TURN	**Turunc**	**2.14**	**169**	PN	**Pn**	**10 06 12.6**	**+0.7**
BRDR	**BURDUR-Merkez**	**2.17**	**122**	P	**Pn**	**10 06 12.2**	**-0.3**
BRDR				S	**Sg**	**10 06 50.4**	**+4.2**
BRDR				*i* AML	AML	10 06 55.0	
	comp=N,288nm,0.5s						
BRDR				*i* AML	AML	10 06 58.0	
	comp=E,321nm,1.0s						
CAVK	**Edirne/Enez-Ca**	**2.18**	**327**	P	**Pn**	**10 06 12.5**	**0.0**
CAVK				S	**Sn**	**10 06 39.9**	**+0.5**
CAVK				*i* AML	AML	10 06 45.0	
	comp=N,2μm,0.8s						
CAVK				*i* AML	AML	10 06 46.0	
	comp=E,1μm,0.6s						
ADVT	**Abdulvahap**	**2.18**	**44**	PN	**Pn**	**10 06 13.2**	**+0.7**
DALY	**Dalyan (Mula)**	**2.18**	**161**	PN	**Pn**	**10 06 13.2**	**+0.7**
KOSK	**Kos Island**	**2.21**	**196**	PN	**Pn**	**10 06 13.7**	**+0.8**
SHUT	**Suhut-Afyon**	**2.22**	**98**	PN	**Pn**	**10 06 13.5**	**+0.3**
ENEZ	**Enez**	**2.22**	**327**	P	**Pn**	**10 06 12.9**	**-0.2**
LIA	**Limnos Island**	**2.23**	**298**	P	**Pn**	**10 06 12.6**	**-0.6**
BORA	**Eskisehir**	**2.32**	**64**		**Pb**	**10 06 18.3**	**0.0**
SMTH	**Samothraki Isl**	**2.33**	**314**	P	**Pn**	**10 06 13.9**	**-0.7**
ALN	**Alexandroupoli**	**2.40**	**328**	P	**Pn**	**10 06 14.8**	**-0.7**
ALN	**Alexandroupoli**	**2.40**	**328**	Pn	**Pn**	**10 06 14.9**	**-0.7**
ISK	**Istanbul-Kandi**	**2.40**	**24**	P	**Pn**	**10 06 13.9**	**-1.7**
ISP	**Isparta**	**2.43**	**115**	Pn	**Pn**	**10 06 15.6**	**-0.4**
SGAZ	**Eskisehir, Sey**	**2.49**	**74**	P	**Pn**	**10 06 16.7**	**-0.1**
SGAZ				S	**Sg**	**10 06 57.2**	**+0.9**
APE	**Apeiranthos**	**2.52**	**225**	⇓P	**Pn**	**10 06 15.8**	**-1.4**
APE	**Apeiranthos**	**2.52**	**225**	P	**Pn**	**10 06 15.8**	**-1.4**
ARG	**Arkhangelos**	**2.68**	**173**		**Pn**	**10 06 18.4**	**-0.9**
ELL	**Elmali**	**2.73**	**141**	Pn	**Pn**	**10 06 20.7**	**+0.5**
RDO	**Rodhopi**	**2.83**	**324**	P	**Pn**	**10 06 21.1**	**-0.3**
RDO	**Rodhopi**	**2.83**	**324**		**Pn**	**10 06 21.1**	**+0.1**
AKAS	**Kas**	**3.03**	**150**	Pn	**Pn**	**10 06 23.9**	**-0.4**
SANT	**Santorini**	**3.10**	**217**	⇑P	**Pn**	**10 06 24.0**	**-1.1**
SANT	**Santorini**	**3.10**	**217**	Pn	**Pn**	**10 06 25.2**	**+0.1**
PAIG	**Paliouri**	**3.32**	**290**	P	**Pn**	**10 06 27.5**	**-0.6**
KARP	**Karpathos**	**3.36**	**188**	Pn	**Pn**	**10 06 26.8**	**-2.0**
KOKK	**Kokkinochori,**	**3.47**	**305**	P	**Pn**	**10 06 29.6**	**-0.7**
KDZE	**Karadeniz Ereo**	**3.73**	**48**	⇑P	**Pn**	**10 06 35.5**	**+1.6**
NVR	**Nevrokopi**	**3.87**

GERES	**GERESS Array B**	**14.18**	**319**	Pn	**P**		**10 09 06.2**	**+1.6**
	comp=E,0.1nm,0.3s,baz=116,slow=12,SNR=3.7							
KEST	**Kesra**	**14.98**	**264**	Pn	**P**		**10 09 10.2**	**-3.4**
	baz=55,slow=6.2,SNR=2.7							
	comp=E,2.3nm,1.0s							
KEST	**Kesra**	**14.98**	**264**	P	**P**		**10 09 14.2**	**+0.7**
DAVOX	**Davos/Dischmat**	**15.28**	**307**	Pn	**P**		**10 09 15.7**	**-1.2**
	comp=E,0.1nm,0.3s,baz=135,slow=7.1,SNR=2.0							
	comp=E,1.2nm,0.6s							
FINES	**FINESS Array B**	**22.61**	**358**	P	**P**		**10 10 39.5**	**+2.8**
	comp=E,3.2nm,0.7s,baz=154,slow=11,SNR=7.9							
	comp=E,3.2nm,0.7s							
FINES	**FINESS Array B**	**22.61**	**358**	P	**P**		**10 10 39.0**	**+2.2**
HFS	**Hagfors**	**23.05**	**342**	P	**P**		**10 10 44.6**	**+3.3**
	comp=E,1.8nm,0.7s,baz=150,slow=15,SNR=2.9							
	comp=E,1.8nm,0.7s							
GEYT	**Alibeck**	**23.77**	**83**	P	**P**		**10 10 49.7**	**+0.9**
	comp=E,2.3nm,0.7s,baz=311,slow=5.7,SNR=4.5							
	comp=E,2.3nm,0.7s							
AKTO	**Aktyubinsk**	**24.26**	**52**	P	**P**		**10 10 56.3**	**+3.0**
	comp=E,0.6nm,0.5s,baz=248,slow=24,SNR=1.2							
	comp=E,0.6nm,0.5s							
NOA	**NORSAR Array B**	**24.45**	**340**	P	**P**		**10 10 57.3**	**+2.4**
	comp=E,0.9nm,0.9s,baz=145,slow=9.3,SNR=2.7							
	comp=E,0.9nm,0.9s							
ESDC	**Sonseca Array**	**24.50**	**282**	P	**P**		**10 10 58.4**	**+2.8**
	comp=E,0.9nm,0.9s,baz=69,slow=8.6,SNR=6.5							
	comp=E,0.9nm,0.9s							
ABKAR	**Akbulak array**	**25.17**	**55**	P	**P**		**10 11 06.1**	**+4.6**
KK31	**Karatay Array**	**32.29**	**69**	P	**P**		**10 12 05.2**	**+0.1**
KK31				IAmb	IAmb		10 12 09.3	
	comp=Z,5.1nm,1.4s							
KKAR	**Karatay Array**	**32.29**	**69**	P	**P**		**10 12 05.6**	**+0.5**
KKAR				IAmb	IAmb		10 12 09.3	
	comp=Z,5.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**34.48**	**229**	P	**P**		**10 12 24.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=34,slow=9.6,SNR=2.4							
	comp=Z,0.3nm,0.6s							
MK31	**Makanchi Array**	**40.07**	**60**	P	**P**		**10 13 11.0**	**-0.6**
MK31				IAmb	IAmb		10 13 13.9	
	comp=Z,2.6nm,1.5s							
MKAR	**Makanchi Array**	**40.07**	**60**	P	**P**		**10 13 11.7**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=291,slow=5.6,SNR=8.5							
	comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**40.07**	**60**	P	**P**		**10 13 11.1**	**-0.4**

*IDC **12** 10:11:22.3±2.2, 18.37N×145.73E, h203km±19km, mb3.2/4, mbtmp4.0/6, Error ellipse: s-maj=49.9km s-min=17.6km az=100.0*

ISC 12 10:11:22.0±1.2, 18.44N±0.07×145.6E±0.3, h200km, n6, σ1s61/8, mb3.5/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.87**	**188**	P	**Pn**	**10 12 35.0**	**+0.2**
	17nm,0.3s,baz=340,slow=15,SNR=5.3						
GUMO				S	**Sn**	**10 13 31.5**	**-0.7**
	24nm,0.5s,baz=133,slow=1.4,SNR=1.9						
JCJ	**Chichijima**	**9.16**	**341**	P	**Pn**	**10 13 32.5**	**+2.2**
	30nm,0.9s,baz=287,slow=19,SNR=1.2						
JCJ				S	**Sn**	**10 15 10.2**	**-2.7**
	51nm,1.0s,baz=304,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**39.71**	**197**	P	**P**	**10 18 34.8**	**-0.3**
	0.8nm,0.4s,baz=18,slow=8.7,SNR=40						
	0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.26**	**209**	P	**P**	**10 18 47.6**	**-0.1**
	0.5nm,0.3s,baz=27,slow=8.8,SNR=8.4						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**43.37**	**196**	P	**P**	**10 19 04.9**	**+0.1**
	0.2nm,0.4s,baz=12,slow=7.1,SNR=7.9						
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**83.39**	**52**	P	**P**	**10 23 26.8**	**-0.6**
	0.6nm,0.7s,baz=266,slow=6.2,SNR=7.4						
	0.6nm,0.7s						

ISK 12 10:14:06.7, 38.84N×27.75E, h4km, ML2.2/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.06**	**50**	PG	Pg	10 14 08.3	+0.2
AKS				SG	Sg	10 14 09.8	+0.7
GOMA	**Golmarmara-Man**	**0.18**	**136**	PG	Pg	10 14 11.1	+0.8
GOMA				SG	Sg	10 14 14.2	+1.5
BLCB	**Balcova**	**0.72**	**231**	PG	Pb	10 14 21.3	-0.5
BLCB				SG	Sb	10 14 31.8	-0.2
MANT	**Manisa**	**0.72**	**119**	P	Pb	10 14 21.6	-0.3
MANT				S	Sb	10 14 31.4	-0.8
FOCM	**Foa**	**0.81**	**261**	PG	Pb	10 14 23.0	-0.3
FOCM				SG	Sb	10 14 34.1	-0.5
AYDB	**Zeytinkoy-Aydi**	**0.90**	**173**	PG	Pb	10 14 24.6	-0.3
AYDB				SG	Sb	10 14 37.6	+0.3
KRBN	**Karaburun**	**0.97**	**256**	PG	Pb	10 14 26.0	-0.1
DST	**Dursunbey**	**1.02**	**41**	PG	Pb	10 14 26.6	-0.3
URLA	**Izmir**	**1.03**	**242**	PG	Pb	10 14 27.1	+0.1
CHOS	**Chios island**	**1.41**	**252**	PN	Pg	10 14 33.8	+0.1
TVSB	**Tavsanli**	**1.46**	**65**	PN	Pg	10 14 34.7	0.0
EZN	**Ezine**	**1.48**	**312**	PN	Pg	10 14 35.3	+0.2
EDC	**Edincik**	**1.51**	**3**	PN	Pb	10 14 35.3	+0.1

*DDA **12** 10:14:24.5±0.0, 38.54N×28.46E, h6km±31km, ML2.3*

ISK 12 10:14:40.6, 38.78N×27.82E, h18km, ML2.3/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.10**	**356**	P	Pg	10 14 40.2	-4.1
STEP	**BALIKESIR_Sava**	**0.60**	**352**	P	Pb	10 14 47.5	-5.0
STEP				S	Sg	10 14 53.9	-6.8
STEP				*i* AML	AML	10 14 57.0	
	comp=E,84nm,0.5s						
BLCB	**Balcova**	**0.73**	**237**	PG	Pn	10 14 55.5	-0.5
BLCB				SG	Sn	10 15 06.0	-0.6
AYDB	**Zeytinkoy-Aydi**	**0.83**	**176**	PG	Pn	10 14 57.3	-0.3
AYDB				SG	Sn	10 15 09.4	0.0
URLA	**Izmir**	**1.05**	**247**	PG	Pg	10 15 00.9	-0.1
TVSB	**Tavsanli**	**1.44**	**62**	PN	Pb	10 15 06.4	-0.5
TVSB				SN	Sb	10 15 25.2	+0.3
CHOS	**Chios island**	**1.44**	**255**	PN	Pb	10 15 06.6	-0.3
CHOS				SN	Sb	10 15 25.3	+0.3
EDC	**Edincik**	**1.56**	**1**	PN	Pn	10 15 08.2	+0.7
SIGR	**SIGRI**	**1.59**	**286**	PN	Pb	10 15 08.9	-0.6
MRMT	**Marmara Adasi**	**1.83**	**355**	PN	Pn	10 15 12.0	+0.8

*IDC **12** 10:24:38.3±2.1, 4.59S×154.12E, h430km±17km, mb2.9/5, mbtmp3.8/6, Error ellipse: s-maj=52.9km s-min=18.5km az=118.0*

ISC 12 10:24:40.1±1.5, 4.5S±0.2×153.9E±0.4, h450km, n8, σ1s28/9, mb3.2/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.89**	**277**	P	**P**	**10 25 37.8**	**-2.3**
	368nm,0.3s,baz=186,slow=3.7,SNR=121						
CTA	**Charters Tower**	**17.17**	**205**	P	**P**	**10 28 13.9**	**-0.4**
	5.8nm,0.7s,baz=35,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**24.45**	**230**	P	**P**	**10 29 22.6**	**+0.7**
	1.2nm,0.5s,baz=55,slow=8.4,SNR=44						
WRA				PcP	**PcP**	**10 32 47.2**	**+1.0**
	0.4nm,1.0s,baz=53,slow=2.5,SNR=1.7						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**27.10**	**224**	P	**P**	**10 29 45.2**	**0.0**
	0.3nm,0.3s,baz=56,slow=9.3,SNR=18						
	0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**30.76**	**242**	P	**P**	**10 30 18.0**	**+0.7**
	0.7nm,0.5s,baz=44,slow=8.6,SNR=6.5						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**80.85**	**319**	P	**P**	**10 36 07.5**	**+1.4**
	0.3nm,0.6s,baz=91,slow=6.0,SNR=4.2						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**81.50**	**22**	P	**P**	**10 36 08.5**	**-0.5**
	0.3nm,0.5s,baz=247,slow=4.7,SNR=6.2						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**151.27**	**289**	PKPbc	**PKiKP**	**10 43 43.7**	**+0.5**
	0.3nm,0.4s,baz=99,slow=1.0,SNR=5.8						

*DJA **12** 10:38:20.6±0.6, 11°S±3°×11°4E±°, h33km±6km, M4.8/37, mB5.3/13, mb4.9/37, MLv5.1/19, Mw(mB)4.7/13*
*NEIC **12** 10:38:20.9±3.0, 11.26S±0.06×113.87E±0.07, h35km±7km, mb4.7/33, Error ellipse: s-maj=10.2km s-min=9.0km az=97.0*
*IDC **12** 10:38:23.0±1.9, 10.91S×114.05E, h46km±18km, mb4.3/16, mbtmp4.6/19, ML4.8/3, MS3.6/9, Error ellipse: s-maj=13.5km s-min=9.3km az=40.0*

ISC 12 10:38:21.1±0.3, 11.16S±0.05×113.97E±0.05, h35km, n168, σ1s79/164, mb4.7/42, MS3.7/8, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.68**	**4**	Pn	**Pn**	**10 39 00.7**	**-1.0**
JAGI	**Jajag, Banyuwa**	**2.68**	**4**	P	**Pn**	**10 39 00.7**	**-1.0**
JAGI				S	**Sn**	**10 39 30.3**	**-2.7**
JAGI	**Jajag, Banyuwa**	**2.68**	**4**	P	**Pn**	**10 39 00.8**	**-1.0**
DNP	**Denpasar**	**2.75**	**26**	P	**Pn**	**10 39 03.4**	**+0.6**
DNP				S	**Sn**	**10 39 35.0**	**+0.2**
GMJI	**Gumukmas**	**2.92**	**350**	P	**Pn**	**10 39 04.2**	**-0.8**
GMJI				S	**Sn**	**10 39 35.7**	**-3.1**
SRBI	**Singaraja**	**3.29**	**22**	P	**Pn**	**10 39 10.6**	**+0.4**
ABJI	**Asem Bagus**	**3.35**	**4**	P	**Pn**	**10 39 11.4**	**+0.4**
BLJI	**Banyuglugur**	**3.41**	**354**	P	**Pn**	**10 39 11.8**	**0.0**
TWSI	**Taliwang, Sumb**	**3.74**	**50**	P	**Pn**	**10 39 16.8**	**+0.4**
PWJI	**Pagerwojo**	**3.78**	**325**	P	**Pn**	**10 39 14.9**	**-2.0**
PCJI	**Pacitan**	**4.03**	**317**	P	**Pn**	**10 39 20.2**	**-0.2**
KMMI	**Kalianget**	**4.08**	**360**	P	**Pn**	**10 39 20.6**	**-0.5**
PLAI	**Plampang**	**4.41**	**59**	P	**Pn**	**10 39 25.6**	**+0.1**
PLAI	**Plampang**	**4.41**	**59**	P	**Pn**	**10 39 26.0**	**+0.5**
NGJI	**Ngawi**	**4.51**	**326**	P	**Pn**	**10 39 26.6**	**-0.3**
UGM	**Wanagama**	**4.69**	**313**	Pn	**Pn**	**10 39 28.9**	**-0.4**
UGM	**Wanagama**	**4.69**	**313**	P	**Pn**	**10 39 28.5**	**-0.9**
UGM	**Wanagama**	**4.69**	**313**	P	**Pn**	**10 39 29.0**	**-0.4**
SMRI	**Semarang**	**5.37**	**319**	Pn	**Pn**	**10 39 37.8**	**-1.0**
SMRI	**Semarang**	**5.37**	**319**	P	**Pn**	**10 39 38.6**	**-0.2**
	0.9nm108nm,0.6s						
SMRI	**Semarang**	**5.37**	**319**	P	**Pn**	**10 39 40.2**	**+1.4**
WBSI	**Waikabubak, Su**	**5.54**	**75**	P	**Pn**	**10 39 39.6**	**-1.6**
	6.4nm4µm84nm,0.5s						
BASI	**Baing, Sumba**	**6.56**	**82**	P	**Pn**	**10 39 55.9**	**+0.8**
	1.9nm113nm,1.4s						
LEM	**Lembang**	**7.61**	**304**	P	**Pn**	**10 40 10.0**	**+0.3**
	3.1nm,0.3s,baz=144,slow=19,SNR=2.5						
LEM				S	**Sn**	**10 41 33.8**	**-1.0**
	41nm,0.8s,baz=81,slow=21,SNR=1.4						
LEM				LR	LR	10 43 39.6	
	comp=Z,328nm,18.8s,baz=86,slow=42						
	15nm,0.4s						
BBKI	**Banjar Baru**	**7.70**	**7**	P	**Pn**	**10 40 10.7**	**0.0**
	0.3nm94nm,0.7s						
EDFI	**Ende, Flores**	**7.97**	**73**	P	**Pn**	**10 40 15.7**	**+1.1**
	743nm47nm,0.5s						
BSSI	**Bau Bau, Buton**	**8.15**	**53**	P	**Pn**	**10 40 17.4**	**+0.5**
	2µm113nm,0.6s						
XMI	**Christmas Isla**	**8.17**	**274**	P	**Pn**	**10 40 14.7**	**-2.5**
XMIS	**Christmas Isla**	**8.20**	**274**	Pn	**Pn**	**10 40 14.1**	**-3.5**
XMIS	**Christmas Isla**	**8.20**	**274**	P	**Pn**	**10 40 14.5**	**-3.2**
KAPI	**Kappang**	**8.37**	**44**	LR	LR	10 44 22.1	
	comp=Z,271nm,18.2s,baz=310,slow=44						
KAPI	**Kappang**	**8.37**	**44**	Pn	**Pn**	**10 40 20.8**	**+0.8**
KAPI	**Kappang**	**8.37**	**44**	P	**Pn**	**10 40 21.4**	**+1.4**
SKJI	**Sukabumi**	**8.40**	**299**	P	**Pn**	**10 40 19.1**	**-1.4**
	62nm,0.7s						
BKSI	**Bulukumba**	**8.41**	**47**	P	**Pn**	**10 40 20.9**	**+0.4**
	0.5nm1µm131nm,0.5s						
MMRI	**Maumere**	**8.52**	**74**	Pn	**Pn**	**10 40 23.1**	**+1.0**
MMRI	**Maumere**	**8.52**	**74**	P	**Pn**	**10 40 22.7**	**+0.6**
	3µm106nm,0.8s						
SPSI	**Sidrap Palu**	**9.17**	**39**	P	**Pn**	**10 40 30.2**	**-0.8**
	25nm,0.7s						
BATI	**Baumata**	**9.57**	**85**	P	**Pn**	**10 40 38.0**	**+1.4**
	23nm,0.3s,baz=38,slow=2.2,SNR=9.2						
BATI				S	**Sn**	**10 42 18.0**	**-5.0**
	176nm,0.4s,baz=31,slow=22,SNR=21						
	86nm,0.5s						
BATI	**Baumata**	**9.57**	**85**	P	**Pn**	**10 40 37.2**	**+0.7**
TTSI	**Tana Toraja**	**9.93**	**36**	P	**Pn**	**10 40 42.0**	**+0.6**
	45nm,0.8s						
MTKI	**Muara Teweh, K**	**10.19**	**5**	P	**Pn**	**10 40 44.8**	**-0.2**
	53nm,0.8s						
MBWA	**Marble Bar**	**11.38**	**152**	Pn	**Pn**	**10 40 57.8**	**-3.4**
MBWA	**Marble Bar**	**11.38**	**152**	P	**Pn**	**10 40 57.8**	**-3.4**
GIRL	**Giralia**	**11.42**	**179**	Pn	**Pn**	**10 40 59.2**	**-2.6**
GIRL	**Giralia**	**11.42**	**179**	P	**Pn**	**10 41 00.2**	**-1.6**
STKI	**Sintang**	**11.42**	**347**	P	**Pn**	**10 41 01.7**	**-0.2**
	7µm22nm,0.8s						
PSA00	**Pilbara Seismi**	**11.79**	**152**	Pn	**Pn**	**10 41 03.5**	**-3.3**
PSA00	**Pilbara Seismi**	**11.79**	**152**	P	**Pn**	**10 41 03.7**	**-3.1**
PPBI	**Pangkal Pinang**	**11.85**	**318**	P	Pn	10 40 59.4	-8.3
MNAI	**Manna**	**12.83**	**301**	Pn	**Pn**	**10 41 19.2**	**-1.9**
MNAI	**Manna**	**12.83**	**301**	P	**Pn**	**10 41 20.4**	**-0.7**
MPSI	**Mapaga**	**12.85**	**28**	P	**Pn**	**10 41 21.7**	**+0.3**
	20nm,1.0s						
FITZ	**Fitzroy Crossi**	**13.23**	**123**	P	**Pn**	**10 41 24.6**	**-2.0**
	9.2nm,0.6s,baz=307,slow=8.4,SNR=68						
FITZ				S	Sn	10 43 41.0	-11
	14nm,0.3s,baz=197,slow=13,SNR=12						
FITZ				LR	LR	10 46 19.4	
	comp=Z,238nm,21.1s,baz=301,slow=36						
FITZ	**Fitzroy Crossi**	**13.23**	**123**	Pn	**Pn**	**10 41 24.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**13.23**	**123**	P	**Pn**	**10 41 25.8**	**-0.7**
SBUM	**Sibu**	**13.63**	**353**		**Pn**	**10 41 32.6**	**+0.5**
TOLI2	**Tolitoli**	**13.95**	**29**	P	**Pn**	**10 41 38.1**	**+1.8**
GTOI	**Gorontalo**	**14.77**	**38**	P	**Pn**	**10 41 48.1**	**+0.6**
	199nm15nm,0.6s						
SANI	**Sanana**	**14.97**	**54**	P	**Pn**	**10 41 50.9**	**+0.7**
	498nm58nm,0.8s						
KNRA	**Kununurra**	**15.07**	**109**	Pn	**Pn**	**10 41 50.4**	**-1.1**
KNRA				IAmb	IAmb	10 41 59.6	
	comp=Z,33nm,0.9s						
KNRA	**Kununurra**	**15.07**	**109**	P	**Pn**	**10 41 51.4**	**-0.2**
MEEK	**Meekatharra**	**16.01**	**165**	P	**Pn**	**10 42 02.0**	**-1.7**
MYLDM	**Lahad Datu**	**16.85**	**16**	Pn	**Pn**	**10 42 14.5**	**+0.2**
MTN	**Manton Dam**	**16.87**	**97**	P	**Pn**	**10 42 15.7**	**+1.0**
MORW	**Morawa**	**17.92**	**174**	P	**Pn**	**10 42 24.4**	**-3.2**
KDU	**Kakadu**	**18.17**	**97**	P	**Pn**	**10 42 33.8**	**+3.1**
MNSI	**Mandailing Nat**	**18.59**	**309**	P	**P**	**10 42 30.8**	**-4.7**
WRKA	**Warakurna**	**19.36**	**137**	P	**Pn**	**10 42 45.4**	**+0.2**
BLDU	**Ballidu**	**19.53**	**173**	P	**Pn**	**10 42 46.5**	**-0.5**
FAKI	**Fak Fak**	**19.89**	**67**	P	**P**	**10 42 48.4**	**-1.2**
FAKI				IAmb	IAmb	10 43 04.2	
	comp=Z,34nm,0.9s						
FAKI	**Fak Fak**	**19.89**	**67**	P	**P**	**10 42 50.0**	**+0.3**
	comp=Z,32nm,0.6s						
FAKI	**Fak Fak**	**19.89**	**67**	P	**P**	**10 42 50.7**	**+1.0**
SIGRI	**Sorong**	**19.99**	**60**	P	**P**	**10 42 51.4**	**+0.6**
	comp=Z,3.6nm,0.3s,baz=262,slow=7.3,SNR=24						
SIJI				S	**S**	**10 46 29.3**	**-4.6**
	comp=Z,5.4nm,0.9s,baz=89,slow=23,SNR=5.5						
	comp=Z,20nm,0.6s						
IPM	**Ipoh**	**20.18**	**320**	P	**P**	**10 42 52.9**	**0.0**
IPM	**Ipoh**	**20.18**	**320**	P	Pn	10 42 54.2	-0.7
PSI	**Prapat**	**20.41**	**312**	LR	LR	10 50 46.5	
	comp=Z,164nm,18.5s,baz=125,slow=37						
KULM	**Kulim**	**21.04**	**320**	P	**P**	**10 43 01.9**	**-0.3**
KULM				IAmb	IAmb	10 43 15.7	
	comp=Z,25nm,0.7s						
WB0	**Warramunga Arr**	**21.44**	**116**	P	**P**	**10 43 08.0**	**+1.5**
WB0				IAmb	IAmb	10 43 13.4	
	comp=Z,26nm,1.0s						
WRA	**Warramunga Arr**	**21.46**	**116**	P	**P**	**10 43 07.9**	**+1.3**
	comp=Z,18nm,0.5s,baz=291,slow=11,SNR=115						
WRA				S	**S**	**10 46 55.2**	**-7.8**
	comp=Z,4.1nm,0.6s,baz=288,slow=26,SNR=6.7						
WRA				LR	LR	10 51 32.8	
	comp=Z,114nm,19.6s,baz=232,slow=37						
	comp=Z,18nm,0.5s						
WRA	**Warramunga Arr**	**21.46**	**116**	P	**P**	**10 43 08.0**	**+1.3**
WRAB	**Tennant Creek**	**21.46**	**116**	P	**P**	**10 43 08.1**	**+1.4**
WRAB				IAmb	IAmb	10 43 11.1	
	comp=Z,22nm,0.6s						
WRAB	**Tennant Creek**	**21.46**	**116**	P	**P**	**10 43 08.5**	**+1.8**
WB2	**Warramunga Arr**	**21.47**	**116**	P	**P**	**10 43 08.1**	**+1.3**
WB2				IAmb	IAmb	10 43 11.1	
	comp=Z,20nm,0.5s						
WR0	**Warramunga Arr**	**21.64**	**116**	IAmb	IAmb	10 43 11.0	
	comp=Z,35nm,1.1s						
NWAO	**Narrogin (SRO)**	**21.87**	**173**	P	**P**	**10 43 15.6**	**+4.7**
	comp=Z,7.3nm,0.5s,baz=215,slow=10,SNR=14						
NWAO				S	**S**	**10 47 02.8**	**-7.9**
	comp=Z,13nm,0.5s,baz=117,slow=9.6,SNR=6.3						
	comp=Z,7.3nm,0.5s						
RKPI	**Ransiki, Papua**	**22.23**	**66**	P	**P**	**10 43 15.4**	**+0.4**
	comp=Z,4µmcomp=Z,74nm,0.8s						
ASAR	**Alice Springs**	**22.69**	**126**	P	**P**	**10 43 21.3**	**+1.5**
	comp=Z,20nm,0.6s,baz=305,slow=9.3,SNR=194						
ASAR				PcP	**PcP**	**10 47 12.7**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=336,slow=2.7,SNR=5.1						
ASAR				S	**S**	**10 47 28.7**	**+2.7**
	comp=Z,4.8nm,0.6s,baz=304,slow=23,SNR=9.6						
ASAR				LR	LR	10 51 55.8	
	comp=Z,120nm,21.8s,baz=272,slow=36						
	comp=Z,20nm,0.6s						
ASAR	**Alice Springs**	**22.69**	**126**	P	**P**	**10 43 20.6**	**+0.8**
FORT	**Forrest**	**23.49**	**148**	P	**P**	**10 43 27.6**	**-0.2**
FORT	**Forrest**	**23.49**	**148**	P	**P**	**10 43 28.7**	**+0.9**
	comp=Z,98nm,0.9s						
OOD	**Oodnadatta**	**26.25**	**132**	P	**P**	**10 43 54.7**	**+1.6**
QIS	**Mount Isa**	**26.34**	**114**	P	**P**	**10 43 56.2**	**+2.2**
MULG	**Mulgathing**	**26.66**	**139**	P	**P**	**10 43 58.2**	**+1.5**
COEN	**Coen**	**28.63**	**99**	P	**P**	**10 44 15.9**	**+1.3**
COEN				IAmb	IAmb	10 44 34.8	
	comp=Z,21nm,1.5s						
LCRK	**Leigh Creek**	**29.58**	**134**	P	**P**	**10 44 24.1**	**+1.2**
	comp=Z,27nm,1.5s						
BBOO	**Buckleboo**	**29.61**	**140**	P	**P**	**10 44 23.1**	**0.0**
BBOO				IAmb	IAmb	10 45 01.5	
	comp=Z,30nm,1.4s						
BBOO	**Buckleboo**	**29.61**	**140**	P	**P**	**10 44 23.7**	**+0.6**
	comp=Z,29nm,2.4s						
MTSU	**Mount Surprise**	**30.14**	**107**	P	**P**	**10 44 29.8**	**+1.8**
CTA	**Charters Tower**	**32.28**	**110**	LR	LR	10 58 40.8	
	comp=Z,128nm,18.9s,baz=254,slow=38						
PMG	**Port Moresby**	**32.69**	**90**	PcP	**PcP**	**10 47 36.8**	**+0.9**
	comp=Z,29nm,0.9s,baz=288,slow=3.2,SNR=5.8						
STKA	**Stephens Creek**	**32.78**	**133**	P	**P**	**10 44 52.9**	**+1.8**
	comp=Z,14nm,0.8s,baz=308,slow=9.2,SNR=24						
STKA				LR	LR	10 58 40.2	
	comp=Z,193nm,20.1s,baz=286,slow=37						
	comp=Z,14nm,0.8s						
STKA	**Stephens Creek**	**32.78**	**133**	P	**P**	**10 44 51.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**32.95**	**333**	P	**P**	**10 44 52.9**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=164,slow=8.3,SNR=19						
CMAR				PcP	**PcP**	**10 47 37.4**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=183,slow=3.0,SNR=5.2						
	comp=Z,3.3nm,0.7s						
CRAI	**Chiangrai**	**33.94**	**337**	P	**P**	**10 45 00.7**	**-0.5**
KMI	**Kunming**	**37.69**	**343**	↑P	P	10 45 38.3	+4.7
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PZH	**PanZhiHua**	**39.28**	**343**	P	**P**	**10 45 49.1**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,160nm,5.5s						
H08S2	**Diego Garcia H**	**41.04**	**271**	T	T	11 30 13.8	
	baz=96						
H08S3	**Diego Garcia H**	**41.06**	**271**	T	T	11 30 09.5	
	baz=96						
H08S1	**Diego Garcia H**	**41.06**	**271**	T	T	11 30 17.1	
	baz=96						
CD2	**Chengdu**	**42.96**	**347**	P	**P**	**10 46 19.2**	**+2.3**
CD2				pmax	pmax		
	comp=Z,60nm,0.7s						
XAN	**Xi'an**	**45.20**	**354**	P	**P**	**10 46 33.7**	**-1.2**
XAN				pP	sP	10 46 47.2	+0.4
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LZH	**Lanzhou**	**47.95**	**349**	*e*P	**P**	**10 46 58.7**	**+2.2**
LZH				pP	sP	10 47 09.2	+0.7
LZH				sP	pwP	10 47 14.2	+1.2
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
GTA	**Gaotai**	**52.01**	**346**	*e*P	**P**	**10 47 31.6**	**+4.4**
GTA				pP	pwP	10 47 41.2	-2.6
GTA				sP	sP	10 47 45.4	+6.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**57.48**	**15**	P	**P**	**10 48 06.1**	**-0.5**
	comp=Z,16nm,0.9s,baz=206,slow=8.2,SNR=4.0						
	comp=Z,16nm,0.9s						
SONM	**Songino Array**	**59.12**	**354**	P	**P**	**10 48 17.5**	**-0.7**
SONM				PcP	**PcP**	**10 49 07.2**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=174,slow=7.6,SNR=11						
	comp=Z,3.2nm,0.7s,baz=160,slow=4.6,SNR=2.0						
	comp=Z,2.4nm,0.6s						
SONM	**Songino Array**	**59.12**	**354**	P	**P**	**10 48 19.1**	**+0.9**
SONM				IAmb	IAmb	10 48 33.0	
	comp=Z,8.9nm,1.1s						
WMQ	**Urumqi**	**59.72**	**338**	*e*P	**P**	**10 48 23.7**	**+1.4**
WMQ				LR	LR		
	comp=N,4µm,14.3s						
WMQ				LR	LR		
	comp=E,1µm,17.5s						
WMQ				LR	LR		
	comp=Z,740nm,18.3s						
KSH	**Kashi**	**61.55**	**327**	P	**P**	**10 48 34.2**	**-0.8**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSH				LR	LR		
	comp=N,3µm,18.7s						
KSH				LR	LR		
	comp=E,1µm,17.3s		

comp=Z,2.9nm,1.0s,baz=310,slow=2.5,SNR=7.3
comp=Z,2.9nm,1.0s
TIXI Tiksi 83.22 5 P **P** **10 50 42.1 -1.3**
BOSA Boshof 83.63 242 P **P** **10 50 47.3 +0.7**
comp=E,5.0nm,1.0s,baz=80,slow=5.9,SNR=3.1
comp=Z,5.0nm,1.0s
KBZ Khabaz 84.36 316 P **P** **10 50 50.3 +0.6**
comp=Z,3.4nm,1.0s,baz=27,slow=7.6,SNR=5.0
comp=Z,3.4nm,1.0s
TROLL Troll, Antarti 85.91 197 P **P** **10 50 58.4 +1.1**
SNAA Sanae 87.57 196 P **P** **10 51 06.5 +1.2**
VNA2 Neumayer--Watz 89.22 196 P **P** **10 51 14.5 +1.5**
baz=115,slow=1.8
VNA1 Neumayer--Stat 89.61 196 P **P** **10 51 16.3 +1.5**
VNA3 Neumayer Olymp 89.65 196 P **P** **10 51 15.8 +0.7**
BRTR Keskin Array B 89.73 311 P **P** **10 51 15.9 -0.2**
comp=Z,1.0nm,1.0s,baz=121,slow=4.8,SNR=4.7
comp=Z,1.0nm,1.0s
TORD Torodi Ar. Bea 113.94 279 PKiKP **PKiKP** **10 56 57.2 -0.2**
comp=Z,0.6nm,0.7s,baz=72,slow=1.9,SNR=2.5
USHA Ushuaia 114.23 178 PKP PKPdf 10 56 57.6 +0.8
comp=Z,40nm,0.4s,baz=174,slow=0.1,SNR=5.7
TXAR Lajitas Array 140.56 57 PKhKP PKPpre 10 57 41.5
comp=Z,0.5nm,0.7s,baz=260,slow=3.4,SNR=7.4
BDFB Brasilia 147.95 214 PKPbc **PKiKP** **10 58 05.0 -0.8**
comp=Z,4.5nm,0.9s,baz=67,slow=2.7,SNR=5.7
SIV San Ignacio 152.58 190 PKP **PKPdf** **10 58 08.8 +0.8**
comp=Z,0.5nm,0.5s,baz=149,slow=4.4,SNR=5.2
SIV PKPbc **pPKPdf** **10 58 16.4 -1.3**
comp=Z,0.2nm,0.4s,baz=3.7,slow=3.0,SNR=3.5
LPAZ La Paz 152.65 176 PKPbc **PKiKP** **10 58 17.3 +1.2**
comp=Z,0.8nm,0.7s,baz=257,slow=5.9,SNR=4.5

MOS **12** *10:44:30.5±1.0,35.˚66N×129.˚09E,h10km,mb5.0/37, MS4.7/14,Error ellipse: s-maj=7.1km s-min=4.4km az=117.2*
BJI **12** *10:44:31.9±0.0,35.˚65N×129.˚27E,h23km,mb4.7/64, mB4.9/41,ML5.8/7,Ms5.2/72,Ms7 5.0/71*
IDC **12** *10:44:31.2±0.5,35.˚76N×129.˚15E,h0km,mb4.5/24, mbtmp4.4/27,ML3.2/3,MS4.4/68,Error ellipse: s-maj=13.6km s-min=9.3km az=68.0*
NIED **12** *10:44:32.8,35.˚82N×129.˚26E,h40km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.35; Mθθ2.52; Mϕϕ-2.87; Mrθ1.04; Mθϕ1.73; Mϕr-0.96; Fault plane solution: M₀3.49000×10¹⁶ NP1:φs29.00000°, δ67.00000°,λ-179.00000°. NP2:φs299.00000°, δ89.00000°,λ-23.00000°.*
KMA **12** *10:44:32.6±0.0,35.˚77N×129.˚19E,h17km Error ellipse: s-maj=0.6km s-min=0.3km az=292.0*
JMA **12** *10:44:32.8±0.2,35.˚8N±0.˚8×129.˚3E±0.˚8,h40km,MD5.2/40, MW5.1/40,S KOREAN PENINSULA REG*
JMA Felt II J1 at S KOREAN PENINSULA REG .
NEIC **12** *10:44:33.1±1.6,35.˚74N±0.˚03×129.˚11E±0.˚06,h10km±1km, mb4.9/118,Error ellipse: s-maj=8.3km s-min=5.3km az=78.0*
KEA **12** *10:44:33.5,35.˚78N×129.˚02E,h16km,ML5.4/4*
GCMT **12** *10:44:34.1±0.2,35.˚78N±0.˚01×129.˚14E±0.˚01,h22km, MW5.1/121,Moment Tensor Solution. s67,c88; s121,c202; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.04±.13; Mθθ4.37±.10; Mϕϕ-4.34±.11; Mrθ1.82±.18; Mθϕ3.05±.09; Mϕr0.09±.17; Best double couple: M₀5.60200×10¹⁶ NP1:φs119.00000°,δ82.00000°, λ16.00000°. NP2:φs26.00000°,δ74.00000°,λ172.00000°. Principal axes: T 5.8610, Plg17.0000°, Azm343.0000°; N -0.5230, Plg72.0000°, Azm145.0000°; P -5.3440, Plg5.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 10:44:32.8±0.3,35.˚79N±0.˚02×129.˚17E±0.˚03,h10km,n448, σ19/94/368,mb4.8/126,MS4.5/81,17C-12D,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.23**	**265**	P	**Pg**	**10 44 38.2**	**+0.8**
YOCB	**Yeongcheon** SNR=5346	**0.26**	**317**	P	**Pb**	**10 44 39.0**	**-0.7**
KSPHA	**Pohang** SNR=7696	**0.44**	**22**	P	**Pg**	**10 44 41.7**	**+0.4**
MIYA	**Miryang-si** SNR=670	**0.46**	**230**	P	**Pg**	**10 44 42.0**	**+0.2**
KSDAU	**Deagu-acc** SNR=2820	**0.46**	**282**	P	**Pb**	**10 44 42.4**	**-0.6**
KSBUS	**Busan**	**0.54**	**185**	Pg	**Pg**	**10 44 42.8**	**-0.5**
KSBUS	**Busan** SNR=8837	**0.54**	**185**	P	**Pg**	**10 44 42.9**	**-0.4**
KSCHR	**CHANGNYEONG** SNR=1100	**0.61**	**247**	P	**Pg**	**10 44 44.5**	**-0.1**
KSADO	**Andong** SNR=8027	**0.65**	**344**	P	**Pg**	**10 44 45.6**	**+0.2**
EUSB	**Uiseong** SNR=3547	**0.69**	**326**	P	**Pg**	**10 44 46.3**	**+0.1**
YODB	**Yeongdeok** SNR=3720	**0.77**	**14**	P	**Pg**	**10 44 47.6**	**-0.1**
YEYB	**Yeongyang** SNR=4443	**0.84**	**355**	P	**Pg**	**10 44 48.8**	**-0.2**
KSGUM	**GUMI** SNR=743	**0.84**	**302**	P	**Pg**	**10 44 49.1**	**+0.1**
EURB	**Uiryeong-eup** SNR=2550	**0.86**	**238**	P	**Pg**	**10 44 48.8**	**-0.5**
ADOA	**Andong Acc Bor** SNR=763	**0.87**	**334**	P	**Pg**	**10 44 49.4**	**-0.2**
KSGIC	**Gimchen** SNR=1540	**0.92**	**289**	P	**Pg**	**10 44 50.2**	**-0.2**
KSULJ	**Ulljn**	**0.93**	**12**	P	**Pg**	**10 44 50.3**	**-0.5**
HACA	**Hapcheon Acc B** SNR=2208	**0.95**	**247**	P	**Pg**	**10 44 50.3**	**-0.8**
KUJA	**Jangpyeong** SNR=299	**1.01**	**208**	P	**Pg**	**10 44 51.1**	**-1.1**
KSSAJ	**Sangju** SNR=306	**1.03**	**307**	P	**Pg**	**10 44 52.3**	**-0.3**
KSYCH	**Yecheon** SNR=199	**1.03**	**325**	P	**Pg**	**10 44 52.4**	**-0.4**
KSTOY	**TONGYEONG** SNR=505	**1.12**	**213**	P	**Pb**	**10 44 52.8**	**-1.4**
DUSB	**Deogyusan** SNR=5838	**1.14**	**276**	P	**Pb**	**10 44 54.1**	**-0.6**
CHYB	**Chungyang** SNR=5770	**1.17**	**350**	P	**Pb**	**10 44 54.3**	**-0.9**
HAMB	**Hamyang** SNR=2457	**1.19**	**257**	P	**Pb**	**10 44 54.7**	**-0.9**
YOJB	**Youngju** SNR=6512	**1.21**	**334**	P	**Pn**	**10 44 54.8**	**-0.9**
KSMGY	**Mungyeong** SNR=4002	**1.25**	**314**	P	**Pn**	**10 44 55.7**	**-0.6**
OKCB	**Cheongsan-myeo** SNR=3175	**1.25**	**297**	P	**Pn**	**10 44 55.8**	**-0.5**
JTU	**Tsushima**	**1.27**	**172**	Pn	**Pn**	**10 44 55.5**	**-1.2**
JTU	**Tsushima**	**1.27**	**172**	*e*P	**Pn**	**10 44 55.1**	**-1.6**
JTU				*e*S	**Sb**	**10 45 11.0**	**-2.3**
JTU	**Tsushima** comp=E,99nm,1.4s,comp=E,160nm,2.1s	**1.27**	**172**	A	A	10 44 55.1	
KSTBA	**Taebaek** SNR=4553	**1.34**	**352**	P	**Pn**	**10 44 57.0**	**-0.7**
YKDB	**Yokjido** SNR=6033	**1.38**	**213**	P	**Pn**	**10 44 57.1**	**-1.0**
KSMSA	**Geumsan** SNR=93	**1.41**	**284**	P	**Pb**	**10 44 59.0**	**-0.2**
KSCHJ	**Chungju**	**1.45**	**319**		**Pn**	**10 44 58.9**	**-0.3**
KSCHJ	**Chungju** SNR=2799	**1.45**	**319**	P	**Pn**	**10 44 58.5**	**-0.7**
IMWB	**Imwonan-gil** SNR=6716	**1.45**	**5**	P	**Pn**	**10 44 58.4**	**-0.8**
JTSM	**Tsushimamitsus**	**1.46**	**173**	*e*P	**Pn**	**10 44 57.7**	**-1.5**
JTSM				*e*S	**Sn**	**10 45 16.2**	**-2.0**
JTSM	**Tsushimamitsus** comp=E,167nm,2.3s,comp=E,151nm,0.9s	**1.46**	**173**	A	A	10 44 57.7	
GWYB	**Gwangyang** SNR=662	**1.47**	**236**	P	**Pn**	**10 44 59.0**	**-0.4**
NAWB	**Namwon**	**1.49**	**256**		**Pn**	**10 44 59.5**	**-0.2**
NAWB	**Namwon** SNR=2860	**1.49**	**256**	P	**Pn**	**10 44 59.4**	**-0.2**
KSJEO	**Jeonju** SNR=1672	**1.53**	**276**	P	**Pn**	**10 44 60.0**	**-0.3**
TJN	**Taejon**	**1.58**	**292**		**Pb**	**10 45 01.6**	**-0.5**
TJN	**Taejon**	**1.58**	**292**	*d* i P	**Pn**	**10 45 00.4**	**-0.5**
JECH	**Jecheon** SNR=1497	**1.58**	**330**	P	**Pn**	**10 45 00.2**	**-0.7**
JNPA	**Jeungpyeong Ac** SNR=225	**1.65**	**308**	P	**Pn**	**10 45 01.3**	**-0.4**
JHGM	**Hagimishima**	**1.90**	**121**	P	**Pn**	**10 45 03.5**	**-1.7**
JHGM	**Hagimishima**	**1.90**	**121**	A	A	10 45 03.5	
	comp=E,68nm,2.0s,comp=E,60nm,2.4s						
KSRS	**Korea Array** 308nm,0.3s,baz=146,slow=14,SNR=896	**1.94**	**329**	Pn	**Pn**	**10 45 05.7**	**-0.2**
KSRS				Pg	**Pb**	**10 45 08.2**	**-0.2**
KSRS	529nm,0.3s,baz=147,slow=20,SNR=185			Lg	Lg	10 45 33.8	
KS19	2μm,0.3s,baz=148,slow=31,SNR=46 **Wonju Array Si**	**2.01**	**329**		**Pn**	**10 45 05.5**	**-1.3**
JII	**Iki**	**2.04**	**167**	*e*P	**Pn**	**10 45 06.0**	**-1.2**
JII				*e*S	**Sn**	**10 45 30.6**	**-2.1**
JII	**Iki** comp=E,56nm,1.2s,comp=E,47nm,1.0s	**2.04**	**167**	A	A	10 45 06.0	
JTY	**Toyota**	**2.17**	**134**	*e*P	**Pn**	**10 45 06.9**	**-2.1**
JTY	**Toyota** comp=E,50nm,1.9s,comp=E,83nm,3.1s	**2.17**	**134**	A	A	10 45 06.9	
KSMOK	**Mokpo** SNR=96	**2.24**	**244**	P	Pn	10 45 01.0	-9.0
JFA	**Akaike** comp=E,29nm,2.4s,comp=E,19nm,2.3s	**2.46**	**147**	A	A	10 45 11.6	
JFI	**Itaya** comp=E,26nm,2.6s,comp=E,26nm,2.1s	**2.56**	**157**	A	A	10 45 13.2	
JHIK	**Hikimi** comp=E,17nm,3.2s,comp=E,17nm,1.9s	**2.58**	**118**	A	A	10 45 12.8	
INCN	**Inchon**	**2.65**	**310**		**Pn**	**10 45 15.6**	**0.0**
INCN	**Inchon**	**2.65**	**310**	P	**Pn**	**10 45 15.6**	**0.0**
JUR	**Ureshino** comp=E,34nm,2.3s,comp=E,28nm,1.6s	**2.76**	**166**	A	A	10 45 16.3	
JKD	**Kudamatsu** comp=E,15nm,2.9s,comp=E,26nm,3.4s	**2.81**	**127**	A	A	10 45 16.2	
JGT2	**ShimaneMisato**	**2.82**	**104**	*e*P	**Pn**	**10 45 15.7**	**-2.2**
JGT2	**ShimaneMisato** comp=E,40nm,1.7s,comp=E,48nm,2.0s	**2.82**	**104**	A	A	10 45 15.7	
JHT	**Toyohira**	**2.89**	**112**	*e*P	**Pn**	**10 45 17.4**	**-1.5**
JHT	**Toyohira** comp=E,14nm,4.1s,comp=E,13nm,2.9s	**2.89**	**112**	A	A	10 45 17.4	
JKI	**Kunimi** comp=E,52nm,3.0s,comp=E,79nm,2.9s	**2.92**	**137**	A	A	10 45 17.9	
JISK	**Izumosakaura** comp=E,20nm,3.5s,comp=E,20nm,2.3s	**3.01**	**94**	A	A	10 45 18.6	
JNU	**Nakatsue** comp=E,21nm,2.4s,comp=E,18nm,1.6s	**3.01**	**152**	A	A	10 45 19.5	
JTA	**Tamana** comp=E,16nm,4.6s,comp=E,16nm,3.7s	**3.03**	**158**	A	A	10 45 19.9	
JBEP	**Beppuamama** comp=E,68nm,1.5s,comp=E,46nm,2.0s	**3.06**	**142**	A	A	10 45 20.1	
JFU	**Fukue jima 2** comp=E,77nm,5.3s,comp=E,29nm,1.4s	**3.14**	**187**	A	A	10 45 22.1	
JNM	**Ikuma** comp=E,17nm,2.2s,comp=E,38nm,4.7s	**3.15**	**94**	A	A	10 45 20.6	
NGSJ	**Nagasakinomoza** comp=E,24nm,3.1s,comp=E,14nm,1.6s	**3.19**	**170**	A	A	10 45 22.5	
JHM	**Kurahashi** comp=E,10.0nm,3.4s,comp=E,16nm,3.4s	**3.21**	**120**	A	A	10 45 21.7	
JHS	**Saijyo**	**3.32**	**103**	Pn	**Pn**	**10 45 25.9**	**+1.1**
JHS	**Saijyo**	**3.32**	**103**	*e*P	**Pn**	**10 45 23.3**	**-1.5**
JHS	**Saijyo** comp=E,9.0nm,3.1s,comp=E,28nm,2.7s	**3.32**	**103**	A	A	10 45 23.3	
JOI	**OKI**	**3.34**	**80**	*e*P	**Pn**	**10 45 22.6**	**-2.5**
JOI	**OKI** comp=E,12nm,2.6s,comp=E,18nm,3.0s	**3.34**	**80**	A	A	10 45 22.6	
JHD	**Hondo** comp=E,22nm,3.0s,comp=E,14nm,6.6s	**3.41**	**166**	A	A	10 45 25.4	
JUS	**Usuki** comp=E,17nm,2.9s,comp=E,14nm,3.7s	**3.45**	**141**	A	A	10 45 25.5	
JJG	**Jouge** comp=E,10.0nm,6.1s,comp=E,20nm,2.0s	**3.46**	**108**	A	A	10 45 25.0	
JIU3	**Izumi3** comp=E,11nm,3.0s,comp=E,12nm,1.7s	**3.50**	**157**	A	A	10 45 26.6	
JNA	**Nagahama**	**3.52**	**128**	*e*P	**Pn**	**10 45 26.7**	**-0.9**
JNA	**Nagahama** comp=E,11nm,3.3s,comp=E,11nm,3.0s	**3.52**	**128**	A	A	10 45 26.7	
HJU	**Haeju**	**3.56**	**310**	Pg	**Pg**	**10 45 39.2**	**-1.8**
HJU				Sg	**Sg**	**10 46 23.9**	**-3.4**
HJU	comp=N,28μm,1.2s			AML	AML		
HJU	comp=E,13μm,1.1s			AML	AML		
HJU	comp=Z,22μm,1.3s			AML	AML		
WOSN	**Wonsan**	**3.65**	**338**	Pg	**Pg**	**10 45 40.7**	**-2.0**
WOSN				Sg	**Sg**	**10 46 28.5**	**-1.4**
WOSN	comp=N,4μm,1.0s			AML	AML		
WOSN	comp=E,7μm,0.9s			AML	AML		
WOSN	comp=Z,852nm,0.7s			AML	AML		
JKIT	**Kitakata** comp=Z,14nm,3.1s,comp=Z,13nm,2.3s	**3.68**	**148**	A	A	10 45 28.9	
JSKE	**Saikikamae** comp=Z,12nm,3.3s,comp=Z,10.0nm,3.0s	**3.74**	**142**	A	A	10 45 29.7	
JET	**Tanbara** comp=Z,9.0nm,3.2s,comp=Z,11nm,3.5s	**3.77**	**121**	A	A	10 45 29.6	
JHHC	**Hyugahichiya** comp=Z,19nm,3.6s,comp=Z,12nm,2.9s	**3.91**	**148**	A	A	10 45 32.2	
JTSN	**Tsuno** comp=Z,15nm,4.1s,comp=Z,8.0nm,2.6s	**4.03**	**151**	A	A	10 45 33.9	
JKU	**Kubokawa** comp=Z,24nm,4.7s,comp=Z,25nm,3.4s	**4.05**	**126**	A	A	10 45 33.7	
JSJ	**Shimokoshiki**	**4.12**	**174**	P	**Pn**	**10 45 34.5**	**-1.4**
JAD	**Aida** comp=Z,6.0nm,3.3s,comp=Z,10.0nm,3.8s	**4.17**	**100**	A	A	10 45 35.0	
JTO	**Tosashimizu**	**4.19**	**133**	P	**Pn**	**10 45 35.8**	**-1.0**
JTO	**Tosashimizu** comp=Z,14nm,2.2s,comp=Z,25nm,2.6s	**4.19**	**133**	A	A	10 45 35.8	
JTZ	**Takazaki**	**4.19**	**157**	P	**Pn**	**10 45 36.8**	**0.0**
JKHR	**Kochiharuno** comp=Z,17nm,2.6s,comp=Z,23nm,2.5s	**4.23**	**121**	A	A	10 45 36.2	
PYAG	**Pyongyang**	**4.24**	**321**	Pg	**Pg**	**10 45 51.7**	**-2.4**
PYAG				Sg	**Sg**	**10 46 47.0**	**-2.1**
PYAG	comp=N,8μm,1.0s			AML	AML		
PYAG	comp=E,7μm,0.7s			AML	AML		
PYAG	comp=Z,7μm,1.4s			AML	AML		
JMN	**Monobe**	**4.38**	**117**	Pn	**Pn**	**10 45 39.5**	**0.0**
JMN	**Monobe**	**4.38**	**117**	P	**Pn**	**10 45 39.3**	**-0.2**
JMN	**Monobe** comp=Z,15nm,3.7s,comp=Z,19nm,2.5s	**4.38**	**117**	A	A	10 45 39.3	
JSU	**Suzuyama**	**4.40**	**166**	Pn	**Pn**	**10 45 39.6**	**-0.1**
JMAF	**Mimaanabuki** comp=Z,8.0nm,5.0s,comp=Z,16nm,3.1s	**4.45**	**112**	A	A	10 45 39.1	
MRT2	**Murotomisaki 2** comp=Z,7.0nm,2.2s,comp=Z,11nm,3.2s	**4.75**	**119**	A	A	10 45 43.4	
JAI	**Aioi** comp=Z,8.0nm,2.7s,comp=Z,11nm,2.4s	**4.78**	**113**	A	A	10 45 43.7	
JKY	**Yasaka** comp=Z,5.0nm,4.0s,comp=Z,6.0nm,3.9s	**4.83**	**90**	A	A	10 45 44.2	
JAWN	**Awajishima-nag** comp=Z,12nm,3.0s,comp=Z,29nm,3.4s	**4.87**	**104**	A	A	10 45 45.0	
JMIK	**Miki** comp=Z,10.0nm,2.1s,comp=Z,20nm,4.2s	**4.91**	**100**	A	A	10 45 45.4	
JWM	**Minabe** comp=Z,6.0nm,3.9s,comp=Z,14nm,2.5s	**5.44**	**109**	A	A	10 45 52.9	
JHE	**Heguri** comp=Z,6.0nm,5.1s,comp=Z,11nm,3.1s	**5.45**	**100**	A	A	10 45 53.0	
JTNC	**Tanabenakahech** comp=Z,6.0nm,5.1s,comp=Z,10.0nm,2.9s	**5.65**	**108**	A	A	10 45 55.9	
SUJ	**Sinuiju**	**5.68**	**321**	Pg	**Pg**	**10 46 18.0**	**-3.5**
SUJ				Sg	**Sg**	**10 47 31.9**	**-3.1**
SUJ	comp=N,6μm,1.0s			AML	AML		
SUJ	comp=E,5μm,1.2s			AML	AML		
SUJ	comp=Z,6μm,1.0s			AML	AML		
JWKM	**Wakayamakushim** comp=Z,13nm,5.6s,comp=Z,13nm,6.2s	**5.91**	**111**	A	A	10 45 59.6	
JEG	**Eigenji** comp=Z,5.0nm,4.9s,comp=Z,7.0nm,6.0s	**5.93**	**94**	A	A	10 45 59.6	
TSUJ	**Tsu 2** comp=Z,7.0nm,4.4s,comp=Z,8.0nm,4.1s	**6.03**	**98**	A	A	10 46 01.0	
JKN2	**Miekihoku** comp=Z,4.0nm,4.5s,comp=Z,8.0nm,3.0s	**6.03**	**103**	A	A	10 46 01.1	
INU	**Inuyama**	**6.41**	**92**	Pn	**Pn**	**10 46 08.4**	**+1.1**
JGF	**Kuroka**	**6.66**	**89**	Pn	**Pn**	**10 46 13.4**	**+2.6**
DL2	**Dalian**	**6.77**	**300**	Pn	**Pn**	**10 46 13.0**	**+0.8**
DL2				Pg	**Pg**	**10 46 39.1**	**-3.3**
DL2				Sg	**Sg**	**10 48 04.1**	**-5.9**
DL2	comp=Z,6μm,1.0s			smax	smax		
DL2	comp=Z,4μm,1.0s			smax	smax		
DL2	comp=Z,28μm,3.9s			LR	LR		
DL2	comp=Z,20μm,4.1s			LR	LR		
DL2	comp=Z,7μm,3.9s			LR	LR		
MSHR	**Mys Shultsa**	**6.96**	**12**	*i* P	**Pn**	**10 46 15.1**	**+0.4**
MAJO	**Matsushiro**	**7.35**	**81**	Pn	**Pn**	**10 46 22.2**	**+2.1**
MAJO	**Matsushiro**	**7.35**	**81**	*i* P	**Pn**	**10 46 22.0**	**+1.8**
MJAR	**Matsushiro Arr** comp=Z,0.5nm,0.3s,baz=278,slow=12,SNR=15	**7.35**	**81**	Pn	**Pn**	**10 46 22.1**	**+1.9**
MJAR	baz=261,slow=30 comp=Z,12nm,0.6s			Lg	Lg	10 48 26.1	
SNY	**Shenyang**	**7.45**	**326**	⇑Pn	Pn	10 46 26.6	+5.2
SNY				Sg	**Sg**	**10 48 25.3**	**-6.4**
SNY	comp=Z,3μm,1.1s			smax	smax		
SNY	comp=Z,4μm,0.9s			smax	smax		
SSE	**Sheshan**	**8.15**	**237**	P	**Pn**	**10 46 30.4**	**-0.7**
SSE				S	**Sn**	**10 48 01.2**	**-2.1**
SSE	comp=Z,55nm,0.9s			pmax	pmax		
SSE	comp=Z,4μm,10.0s			LR	LR		
SSE	comp=Z,4μm,12.2s			LR	LR		
SSE	comp=Z,5μm,10.8s			LR	LR		
CN2	**Changchun**	**8.50**	**341**	*e*Pg	**Pg**	**10 47 11.6**	**-3.9**
CN2				*e*Sg	**Sg**	**10 49 00.5**	**-5.0**
CN2	comp=N,1μm,0.8s			smax	smax		
CN2	comp=E,1μm,0.8s			smax	smax		
USA0B	**Ussuriysk Arra**	**8.68**	**14**	*i* P	**Pn**	**10 46 40.6**	**+2.3**
USRK	**Ussuriysk Ar.** comp=E,0.9nm,0.3s,baz=192,slow=12,SNR=20	**8.68**	**14**	Pn	**Pn**	**10 46 40.4**	**+2.1**
USRK	comp=E,0.3nm,0.3s,baz=208,slow=19,SNR=1.7			Sn	**Sn**	**10 48 18.5**	**+2.3**
USRK	comp=E,4μm,21.2s,baz=210,slow=32			LR	LR	10 49 07.1	
USRK	baz=258,slow=20 comp=E,10nm,0.7s			Lg	Lg	10 49 08.4	
USRK	**Ussuriysk Ar.**	**8.68**	**14**	Pn	**Pn**	**10 46 40.2**	**+1.9**
JOW	**Kunigami** comp=E,0.6nm,0.3s,baz=2.9,slow=18,SNR=2.1	**8.96**	**185**	Pn	**Pn**	**10 46 45.1**	**+2.8**
JOW	comp=E,1μm,21.5s,baz=352,slow=39			LR	LR	10 50 16.8	
JOW	**Kunigami**	**8.96**	**185**	Pn	**Pn**	**10 46 43.8**	**+1.5**
JHJ	**Hachijo jima 2** comp=E,2μm,19.1s,baz=284,slow=38	**9.16**	**104**	LR	LR	10 50 17.1	
NJ2	**Nanjing**	**9.35**	**249**	⇑*i* P	**Pn**	**10 46 49.8**	**+2.2**
NJ2				sP		10 46 55.3	
NJ2				S	**Sn**	**10 48 32.9**	**+0.1**
NJ2	comp=E,67nm,0.8s			pmax	pmax		
NJ2	comp=E,9μm,9.1s			LR	LR		
NJ2	comp=E,9μm,8.0s			LR	LR		
NJ2	comp=E,9μm,8.9s			LR	LR		
JMM	**Marumori**	**9.54**	**74**	Pn	**Pn**	**10 46 51.4**	**+1.1**
TIA	**Tai'an**	**9.77**	**276**	⇓P	Pn	10 46 59.3	+5.9
TIA				S	**Sn**	**10 48 50.2**	**+7.0**
TIA				SS	**SnSn**	**10 49 05.9**	**+11**
TIA	comp=E,16nm,1.1s			pmax	pmax		
TIA	comp=E,120nm,3.9s			pmax	pmax		
TIA	comp=E,6μm,6.7s			LR	LR		
BNX	**BinXian**	**10.03**	**353**	⇓P	Pn	10 47 02.4	+5.5
BNX	comp=Z,650nm,4.2s			pmax	pmax		
BNX	comp=Z,77nm,1.7s			pmax	pmax		
BNX	**BinXian**	**10.03**	**353**	⇑P	**Pn**	**10 47 01.3**	**+4.4**
BNX				pP		10 47 04.8	
BNX				sP		10 47 08.0	
BNX				PP	**PnPn**	**10 47 10.0**	**+5.3**
BNX				S	Sn	10 48 59.6	+10
BNX				sS		10 49 03.5	
BNX	comp=Z,75nm,1.6s			pmax	pmax		
BNX	comp=Z,650nm,3.5s			pmax	pmax		
BNX	comp=Z,9μm,11.3s			LR	LR		
BNX	comp=Z,4μm,7.7s			LR	LR		
BNX	comp=Z,9μm,11.8s			LR	LR		
TEY	**Ternei**	**10.83**	**29**	*e*P	Pn	10 47 13.2	+5.4
TEY	comp=E,100nm,9.0s			MLR	MLR		
TEY	comp=N,100nm,11.0s			MLR	MLR		
TEY	comp=Z,100nm,10.0s			MLR	MLR		
BJT	**Baijiatuau**	**11.11**	**296**		**Pn**	**10 47 12.9**	**+1.3**
BJT	**Baijiatuau**	**11.11**	**296**	P	**Pn**	**10 47 13.0**	**+1.3**
BJI	**Beijing**	**11.11**	**296**	P	**Pn**	**10 47 12.5**	**+0.8**
BJI				S	**Sn**	**10 49 16.0**	**+0.1**
BJI	comp=Z,8.0nm,0.5s			pmax	pmax		
BJI	comp=Z,1μm,10.9s			LR	LR		
BJI	comp=Z,5μm,10.9s			LR	LR		
BJI	comp=Z,6μm,13.2s			LR	LR		
HNS	**HongShan**	**11.74**	**282**	⇓P	**Pn**	**10 47 20.6**	**+0.3**
HNS				S	**Sn**	**10 49 30.5**	**-0.9**
HNS	comp=Z,28nm,1.0s			pmax	pmax		
HNS	comp=Z,3μm,11.8s			LR	LR		
HNS	comp=Z,5μm,12.6s			LR	LR		
HNS	comp=Z,5μm,13.3s			LR	LR		
ERM	**Erimo**	**12.54**	**56**	*c* i P	**Pn**	**10 47 30.6**	**-0.6**
ERM	comp=Z,49nm,0.8s			pmax	pmax		
XLT	**XiLinHaoTe**	**12.90**	**313**	⇓*i* P	**Pn**	**10 47 39.9**	**+3.6**
XLT				pP		10 47 42.9	
XLT				sP		10 47 45.6	
XLT				S	**Sn**	**10 50 05.3**	**+5.3**
XLT				sS		10 50 11.1	
XLT				SS	**SnSn**	**10 50 18.4**	**+6.3**
XLT	comp=Z,38nm,1.4s			pmax	pmax		
XLT	comp=Z,130nm,4.5s			pmax	pmax		
XLT	comp=Z,1μm,9.2s			LR	LR		
XLT	comp=Z,9μm,8.8s			LR	LR		
XLT	comp=Z,2μm,6.4s			LR	LR		
WHN	**Wuhan**	**13.47**	**251**	P	**Pn**	**10 47 46.1**	**+2.1**
WHN				sP	**P**	**10 47 52.5**	**-0.8**
WHN				S	**Sn**	**10 50 20.1**	**+6.4**
WHN	comp=Z,6μm,11.1s			LR	LR		
WHN	comp=Z,18μm,11.6s			LR	LR		
WHN	comp=Z,20μm,12.0s			LR	LR		
KLR	**Kul'dur** comp=Z,0.2nm,0.3s,baz=209,slow=9.8,SNR=12	**13.57**	**7**	Pn	**Pn**	**10 47 46.1**	**+0.9**
KLR	comp=Z,0.1nm,0.3s,baz=274,slow=22,SNR=1.5			Lg	Lg	10 51 42.9	
KLR	comp=Z,1μm,18.2s,baz=182,slow=36 comp=Z,4.5nm,0.9s			LR	LR	10 52 36.3	
KLR	**Kul'dur**	**13.57**	**7**	*c* i P	**Pn**	**10 47 47.8**	**+2.6**
KLR	comp=Z,10.0nm,1.3s			pmax	pmax		
LYN	**LuoYang**	**13.72**	**270**	⇑*i* P	**Pn**	**10 47 48.6**	**+1.2**
LYN				sP	P	10 47 55.4	-0.8
LYN				S	**Sn**	**10 50 24.9**	**+4.9**
LYN				SS	**SnSn**	**10 50 33.9**	**+1.8**
LYN	comp=Z,60nm,2.4s			pmax	pmax		

LYN pmax pmax
comp=Z,190nm,3.7s
LYN LR LR
comp=Z,9μm,13.0s
LYN LR LR
comp=Z,5μm,11.4s
LYN LR LR
comp=Z,5μm,12.9s
JCJ Chichijima 14.08 124 LR LR 10 52 48.6
comp=Z,369nm,19.0s,baz=298,slow=35
YULB Yu-li 14.12 211 Pn **Pn** **10 47 52.1 -0.8**
QZH Quanzhou 14.14 223 P **Pn** **10 47 53.2 +0.1**
QZH S **Sn** **10 50 32.1 +2.0**
QZH LR LR
comp=Z,8μm,9.9s
QZH LR LR
comp=Z,3μm,9.9s
HHC Hu-ho-hao-te 14.71 295 *e*P **Pn** **10 48 01.4 +0.3**
HHC PP **PnPn** **10 48 13.5 +4.6**
HHC S **Sn** **10 50 44.1 -0.1**
HHC pmax pmax
comp=Z,160nm,8.2s
HHC LR LR
comp=Z,21μm,14.9s
HHC LR LR
comp=Z,9μm,13.6s
HHC LR LR
comp=Z,8μm,13.3s
TWG Pinlang 14.72 211 Pn **Pn** **10 47 59.4 -1.7**
YSS Yuzh-Sakhalins 15.09 38 Pn **Pn** **10 48 08.1 +2.2**
YSS IAmb IAmb 10 48 15.1
comp=Z,110nm,1.6s
YSS Yuzh-Sakhalins 15.09 38 *e*P **P** **10 48 09.2 -2.0**
YSS *e*S **Sn** **10 50 58.5 +5.4**
YSS pmax pmax
comp=Z,70nm,1.1s
YSS pmax pmax
comp=Z,700nm,6.0s
YSS pmax pmax
comp=N,300nm,4.3s
YSS smax smax
comp=N,300nm,3.6s
YSS MLR MLR
comp=E,1μm,14.0s
YSS MLR MLR
comp=Z,2μm,14.0s
HIA Hailar 15.14 336 P **P** **10 48 11.6 -0.3**
HIA IAmb IAmb 10 48 12.4
comp=Z,43nm,1.2s
HIA Hailar 15.14 336 P **P** **10 48 11.6 -0.3**
HIA pmax pmax
comp=Z,43nm,1.2s
CNSH ChangSha 15.72 246 ⇓P **Pn** **10 48 15.4 +1.1**
CNSH S **Sn** **10 51 12.6 +4.1**
CNSH LR LR
comp=Z,3μm,9.4s
CNSH LR LR
comp=Z,4μm,11.0s
CNSH LR LR
comp=Z,5μm,10.2s
GRNR Gornyy 15.87 17⇑ *i*P **P** **10 48 19.1 -0.8**
GRNR *e*S **S** **10 51 21.5 -4.9**
GRNR pmax pmax
comp=E,6.0nm,1.4s
GRNR pmax pmax
comp=N,10.0nm,1.3s
GRNR pmax pmax
comp=Z,20nm,1.5s
GRNR smax smax
comp=E,3.0nm,1.0s
GRNR MLR MLR
comp=E,870nm,10.0s
GRNR MLR MLR
comp=N,2μm,11.0s
GRNR MLR MLR
comp=Z,2μm,13.0s
UGL Uglegorsk 16.31 32 *e*P **Pn** **10 48 16.2 -5.6**
UGL *e*S **Sn** **10 51 23.0 +0.4**
UGL pmax pmax
comp=Z,1μm,5.0s
UGL smax smax
comp=N,1μm,8.0s
UGL smax smax
comp=E,900nm,8.0s
UGL MLR MLR
comp=E,3μm,11.0s
UGL MLR MLR
comp=N,2μm,10.0s
UGL MLR MLR
comp=Z,2μm,13.0s
XAN Xi'an 16.70 270 P **Pn** **10 48 27.4 +0.4**
XAN pP sP 10 48 36.3 +2.8
XAN S **Sn** **10 51 37.4 +4.8**
XAN pmax pmax
comp=Z,14nm,1.5s
XAN pmax pmax
comp=Z,230nm,3.5s
XAN LR LR
comp=Z,8μm,16.3s
XAN LR LR
comp=Z,3μm,17.4s
XAN LR LR
comp=Z,6μm,13.6s
ENH Enshi 17.39 257 P **P** **10 48 36.3 -0.6**
TYV Tymovskoe 17.93 29 *e*P **P** **10 48 44.6 +1.9**
TYV pmax pmax
comp=Z,50nm,1.1s
TYV pmax pmax
comp=Z,600nm,2.7s
ZEA Zeya 18.00 356 *e*P **P** **10 48 45.4 +2.0**
GULI GuiLin 19.25 242 ⇓P **P** **10 48 57.6 +0.2**
GULI S **Sn** **10 52 31.2 -3.0**
GULI pmax pmax
comp=Z,50nm,1.4s
GULI LR LR
comp=Z,2μm,8.4s
GULI LR LR
comp=Z,2μm,7.2s
GULI LR LR
comp=Z,3μm,9.4s
CIT Chita 19.68 330 *e*P **Pn** **10 49 03.4 0.0**
CIT pmax pmax
comp=Z,195nm,2.1s
ULN Ulaanbaatar 20.35 313 P Pn 10 49 11.3 -0.1
ULN IAmb IAmb 10 49 13.7
comp=Z,136nm,1.9s
ULN Ulaanbaatar 20.35 313*c i*P Pn 10 49 11.0 -0.4
ULN pmax pmax
comp=Z,98nm,2.2s
LZH Lanzhou 20.50 278 *e*P Pn 10 49 12.4 -0.9
LZH PP **PnPn** **10 49 34.7 +6.3**
LZH S **S** **10 52 58.9 -1.7**
LZH sS pS 10 53 09.7 -0.9
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,200nm,4.8s
LZH LR LR
comp=Z,3μm,13.4s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,3μm,15.8s
SONM Songino Array 20.73 313 P Pn 10 49 15.3 -0.5
comp=Z,26nm,1.0s,baz=123,slow=10,SNR=40
SONM Lg Lg 10 55 27.0
baz=132,slow=27
SONM LR LR 10 58 11.3
comp=Z,950nm,18.9s,baz=119,slow=40
comp=Z,26nm,1.0s
SONM Songino Array 20.73 313 P Pn 10 49 15.1 -0.8
SONM IAmb IAmb 10 49 16.8
comp=Z,75nm,1.3s
GYA Guiyang 21.36 250 P **P** **10 49 19.9 -0.5**
GYA pP sP 10 49 25.6 +1.0
GYA S **S** **10 53 17.6 0.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,320nm,3.5s
GYA LR LR
comp=Z,4μm,8.6s
GYA LR LR
comp=Z,3μm,13.6s
GYA LR LR
comp=Z,4μm,14.2s

CD2 Chengdu 21.76 264 P **P** **10 49 24.4 -0.2**
CD2 S **S** **10 53 23.5 -1.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,5μm,17.1s
CD2 LR LR
comp=Z,4μm,14.2s
CD2 LR LR
comp=Z,4μm,13.2s
GTA Gaotai 23.49 288 *e*P **P** **10 49 42.6 -0.3**
GTA pP sP 10 49 49.2 +2.0
GTA sP pP 10 49 53.2 +7.3
GTA S **S** **10 53 55.4 -1.3**
GTA pmax pmax
comp=Z,28nm,1.0s
GTA pmax pmax
comp=Z,140nm,4.0s
GTA LR LR
comp=Z,5μm,16.0s
GTA LR LR
comp=Z,2μm,14.9s
GTA LR LR
comp=Z,2μm,15.6s
ZAK Zakamensk 23.72 316 *e*P **P** **10 49 44.5 -0.5**
ZAK pmax pmax
comp=Z,27nm,1.3s
QIZ Qiongzhong 23.87 231 P **P** **10 49 47.0 +0.5**
QIZ LR LR
comp=Z,6μm,15.3s
QIZ LR LR
comp=Z,5μm,15.7s
QIZ LR LR
comp=Z,3μm,13.9s
IRK Irkutsk 24.14 321 *e*P **P** **10 49 49.6 +0.8**
IRK pmax pmax
comp=Z,108nm,2.1s
KMI Kunming 25.07 252 ⇓P **P** **10 49 56.9 -0.8**
KMI pP pP 10 49 59.4 -1.4
KMI S **S** **10 54 15.1 -7.3**
KMI pmax pmax
comp=Z,30nm,0.9s
KMI pmax pmax
comp=Z,170nm,3.7s
KMI LR LR
comp=Z,1μm,11.5s
KMI LR LR
comp=Z,3μm,11.5s
KMI LR LR
comp=Z,3μm,13.4s
PZH PanZhiHua 25.17 256 P **P** **10 49 56.1 -2.4**
PZH sP **sP** **10 50 06.9 +4.0**
PZH PP **PnPn** **10 50 32.2 -0.1**
PZH S **S** **10 54 21.1 -2.6**
PZH SS **SnSn** **10 55 17.2 +3.7**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,130nm,3.6s
PZH LR LR
comp=Z,2μm,12.4s
PZH LR LR
comp=Z,3μm,13.0s
PZH LR LR
comp=Z,4μm,14.3s
MOY Mondy 25.60 317 *e*P **P** **10 50 02.5 +0.3**
MOY pmax pmax
comp=Z,26nm,2.0s
GUMO Guam 26.23 143 LR LR 11 00 37.1
comp=Z,219nm,18.0s,baz=4.5,slow=37
YAK Yakutsk 26.27 1 P **P** **10 50 06.5 -1.4**
comp=Z,6.1nm,0.3s,baz=178,slow=2.2,SNR=8.0
YAK LR LR 11 00 39.2
comp=Z,1μm,20.3s,baz=159,slow=37
comp=Z,6.1nm,0.3s
YAK Yakutsk 26.27 1 P **P** **10 50 06.2 -1.7**
YAK Yakutsk 26.27 1 *e*P **P** **10 50 06.7 -1.3**
YAK *e**PP **sP** **10 50 12.9 +0.6**
YAK *e* 10 50 45.6
YAK *e* 10 53 32.5
YAK *e*S **S** **10 54 39.8 -0.4**
YAK pmax pmax
comp=Z,52nm,1.3s
YAK pmax pmax
comp=N,50nm,1.3s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=Z,84nm,2.7s
YAK pmax pmax
comp=N,46nm,2.2s
YAK pmax pmax
comp=E,76nm,3.6s
YAK smax smax
comp=E,224nm,4.8s
YAK smax smax
comp=N,82nm,3.1s
YAK MLR MLR
comp=Z,2μm,14.0s
YAK MLR MLR
comp=N,1μm,15.0s
YAK MLR MLR
comp=E,136nm,11.0s
PETK Petropavlovsk- 26.47 40 P **P** **10 50 09.8 -0.1**
comp=E,5.8nm,0.8s,baz=268,slow=5.2,SNR=3.0
PETK LR LR 11 00 20.3
comp=E,943nm,18.9s,baz=228,slow=36
comp=E,5.8nm,0.8s
PET Petropavlovsk 26.94 41 *e*P P 10 50 26.3 +12
PET *e* 10 51 14.6
PET pmax pmax
comp=Z,100nm,15.1s
PET pmax pmax
comp=Z,100nm,11.0s
MA2 Magadan 27.64 24 LR LR 11 01 56.0
comp=Z,1μm,18.2s,baz=224,slow=38
GOMU GeErMu 27.72 281 P **P** **10 50 21.0 -0.8**
GOMU S **S** **10 55 03.5 -0.9**
GOMU LR LR
comp=Z,2μm,16.4s
GOMU LR LR
comp=Z,880nm,20.0s
GOMU LR LR
comp=Z,1μm,18.0s
DAV Davao City (W) 28.77 187 LR LR 11 02 33.6
comp=Z,458nm,20.4s,baz=350,slow=38
CRAI Chiangrai 29.64 246 P **P** **10 50 37.5 -1.0**
PHRA Phrae 30.82 244 P **P** **10 50 48.6 -0.4**
CHTO Chiang Mai 31.57 246 P **P** **10 50 54.4 -1.2**
CHTO Chiang Mai 31.57 246 P **P** **10 50 54.4 -1.2**
CMAR Chiang Mai Arr 31.79 245 P **P** **10 50 57.2 -0.3**
comp=Z,3.0nm,0.9s,baz=42,slow=7.0,SNR=18
CMAR LR LR 11 02 53.6
comp=Z,428nm,20.1s,baz=50,slow=35
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 31.79 245 P **P** **10 50 56.4 -1.1**
CMAR Chiang Mai Arr 31.79 245 *i* P **P** **10 50 57.0 -0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
WMQ Urumqi 32.58 297 *e*P **P** **10 51 06.0 +1.6**
WMQ LR LR
comp=Z,4μm,15.9s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,710nm,16.9s
DGZ Jazzator, Alta 33.21 308 *i* P **P** **10 51 10.4 +0.5**
DGZ pmax pmax
comp=Z,9.0nm,1.0s
ZSN Zaisan 34.67 304 *e*P **P** **10 51 22.2 -0.2**
ZSN Zaisan 34.67 304 *e*P **P** **10 51 22.3 -0.2**
baz=304
BRDH Bariadhala 35.05 258 LR LR 11 07 17.3
comp=Z,689nm,18.1s,baz=101,slow=39
ZALV Zalesovo Beam 35.59 315 P **P** **10 51 29.7 -0.5**
comp=Z,1.4nm,0.6s,baz=99,slow=9.2,SNR=4.0
ZALV PcP **PcP** **10 53 58.6 -0.3**
comp=Z,0.9nm,0.3s,baz=97,slow=3.6,SNR=2.6
ZALV LR LR 11 04 50.2
comp=Z,310nm,19.7s,baz=106,slow=34
comp=Z,1.4nm,0.6s
TIXI Tiksi 35.93 360 LR LR 11 05 57.2
comp=Z,951nm,18.0s,baz=180,slow=36
TIXI Tiksi 35.93 360 *e*P **P** **10 51 32.0 -0.9**
TIXI pmax pmax
comp=Z,15nm,1.4s

MK31 Makanchi Array 36.41 302 P **P** **10 51 36.5 -0.9**
MK31 Makanchi Array 36.41 302 *e*P **P** **10 51 36.6 -0.8**
MKAR Makanchi Array 36.41 302 P **P** **10 51 37.2 -0.2**
comp=Z,2.4nm,0.7s,baz=92,slow=11,SNR=8.4
MKAR LR LR 11 06 18.1
comp=Z,498nm,20.1s,baz=102,slow=36
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 36.41 302 P **P** **10 51 37.0 -0.3**
SIJI Sorong 36.52 176 P **P** **10 51 38.6 +0.1**
comp=Z,11nm,0.9s,baz=355,slow=13,SNR=7.6
SIJI LR LR 11 05 22.8
comp=Z,377nm,19.3s,baz=24,slow=34
comp=Z,11nm,0.9s
MAKZ Makanchi 36.62 302 P **P** **10 51 38.5 -0.7**
MAKZ Makanchi 36.62 302 P **P** **10 51 38.5 -0.7**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 38.43 21 *e*P **P** **10 51 54.9 +0.7**
BILL pmax pmax
comp=Z,11nm,0.8s
PDGK Podgornoye 38.56 297 P **P** **10 51 54.8 -1.0**
SHLS Shalkode 38.60 297 *e*P **P** **10 51 52.5 -3.6**
SHLS Shalkode 38.60 297 *e*P **P** **10 51 52.6 -3.6**
baz=296
FAKI Fak Fak 38.61 175 P **P** **10 51 56.0 -0.3**
UZB Uzynbulak 38.92 297 *e*P **P** **10 51 57.7 -1.1**
UZB Uzynbulak 38.92 297 *e*P **P** **10 51 57.7 -1.1**
baz=297
KURK Kurchatov 38.94 309 P **P** **10 51 58.3 -0.4**
KURK IAmb IAmb 10 51 59.7
comp=Z,23nm,1.1s
KURK Kurchatov 38.94 309*c i*P **P** **10 51 58.5 -0.2**
KURK pmax pmax
comp=Z,23nm,1.1s
KURBB Kurchatov Arra 38.99 308 LR LR 11 08 15.1
comp=Z,719nm,20.8s,baz=72,slow=36
KURBB Kurchatov Arra 38.99 308 P **P** **10 51 58.9 -0.2**
KPKS Kokpek 39.13 297 *e*P **P** **10 51 59.6 -0.9**
KPKS Kokpek 39.13 297 *e*P **P** **10 51 59.7 -0.9**
baz=297
TDK Taldyqorghan 39.18 300 *e*P **P** **10 52 00.8 -0.1**
TDK Taldyqorghan 39.18 300 *e*P **P** **10 52 00.8 -0.1**
baz=300
SATY Saty 39.38 297 *e*P **P** **10 52 01.9 -0.7**
SATY Saty 39.38 297 *e*P **P** **10 52 02.0 -0.7**
baz=297
TARG Taragay, Kyrgy 40.00 295 IAmb IAmb 10 52 19.7
comp=Z,51nm,1.7s
KULM Kulim 40.12 228 P **P** **10 52 09.9 +1.0**
KULM IAmb IAmb 10 52 11.0
comp=Z,26nm,1.2s
CHKK Chushkaly 40.31 298 *e*P **P** **10 52 09.5 -0.7**
CHKK Chushkaly 40.31 298 *e*P **P** **10 52 09.5 -0.7**
baz=298
MDOK Medeo 40.35 297 P **P** **10 52 11.1 +0.3**
MDOK Medeo 40.35 297 *e*P **P** **10 52 10.3 -0.5**
baz=297
MDOK LR LR 11 09 01.0
comp=Z,727nm,14.5s,baz=297
AAA Alma-Ata 40.44 297 *e*P **P** **10 52 11.6 +0.2**
AAA Alma-Ata 40.44 297 *e*P **P** **10 52 11.6 +0.2**
baz=297
NRIK Noril'sk 40.53 339 P **P** **10 52 11.8 0.0**
comp=Z,11nm,1.0s,baz=119,slow=8.1,SNR=9.3
comp=Z,11nm,1.0s
NRIK Noril'sk 40.53 339 P **P** **10 52 11.2 -0.6**
NRIK IAmb IAmb 10 52 12.8
comp=Z,21nm,1.1s
NRIK Noril'sk 40.53 339*ce*P **P** **10 52 10.7 -1.0**
NRIK pmax pmax
comp=Z,22nm,1.1s
KUU Kurty 40.77 298 *e*P **P** **10 52 13.2 -0.8**
KUU pmax pmax
comp=Z,18nm,1.5s
KUU MLR MLR
comp=Z,737nm,16.0s
KUU Kurty 40.77 298 *e*P **P** **10 52 13.3 -0.8**
comp=Z,18nm,1.5s,baz=298
KUU LR LR 11 09 37.4
comp=Z,737nm,16.0s,baz=298
TKM2 Tokmak 2 41.44 297 P **P** **10 52 19.9 +0.1**
KAPI Kappang 41.54 194 LR LR 11 09 34.9
comp=Z,308nm,21.4s,baz=3.5,slow=36
KSH Kashi 41.78 292 P **P** **10 52 27.0 +4.4**
KSH pmax pmax
comp=Z,5.0nm,1.4s
SGDS Sogindy 42.06 298 *e*P **P** **10 52 24.1 -0.6**
SGDS Sogindy 42.06 298 *e*P **P** **10 52 24.2 -0.6**
baz=298
BTLS Baital 42.25 300 *e*P **P** **10 52 25.4 -0.8**
BTLS Baital 42.25 300 *e*P **P** **10 52 25.5 -0.8**
baz=300
AAK Ala-Archa 42.29 297 P **P** **10 52 24.7 -2.0**
AAK Ala-Archa 42.29 297*ce*P **P** **10 52 25.1 -1.6**
AAK pmax pmax
comp=Z,3.0nm,0.8s
BRZS Berezniki 42.75 308 *e*P **P** **10 52 29.4 -0.7**
BRZS Berezniki 42.75 308 *e*P **P** **10 52 29.5 -0.7**
baz=308
PSI Prapat 43.13 227 LR LR 11 11 07.2
comp=Z,872nm,18.4s,baz=34,slow=37
BVAR Borovoye Array 44.07 312 LR LR 11 12 00.5
comp=Z,1μm,18.5s,baz=84,slow=37
BRVK Borovoye 44.13 312 P **P** **10 52 40.5 -0.8**
BRVK Borovoye 44.13 312*c i*P **P** **10 52 41.3 0.0**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
KK31 Karatay Array 45.08 298 P **P** **10 52 48.6 -0.4**
KK31 IAmb IAmb 10 52 49.8
comp=Z,8.7nm,0.8s
KK31 Karatay Array 45.08 298 *i* P **P** **10 52 49.1 +0.1**
KKAR Karatay Array 45.08 298 IAmb IAmb 10 52 49.8
comp=Z,8.7nm,0.8s
IUG Iuzhnay 45.62 297 *e*P **P** **10 52 53.2 -0.2**
IUG Iuzhnay 45.62 297 *e*P **P** **10 52 53.3 -0.2**
baz=297
BATI Baumata 46.04 188 LR LR 11 16 17.4
comp=Z,177nm,18.0s,baz=13,slow=41
PMG Port Moresby 48.05 156 LR LR 11 12 26.9
comp=Z,139nm,19.3s,baz=318,slow=35
MTN Manton Dam 48.40 177 P **P** **10 53 14.2 -1.0**
ARU Arti 50.65 317 LR LR 11 15 01.8
comp=Z,629nm,19.0s,baz=90,slow=36
ARU Arti 50.65 317 P **P** **10 53 31.1 -0.8**
ARU IAmb IAmb 10 53 33.0
comp=Z,23nm,1.0s
ARU Arti 50.65 317*c i*P **P** **10 53 31.8 -0.1**
ARU 10 55 28.9
ARU PPP PPP 10 56 24.4
ARU S **S** **11 00 49.3 +2.7**
ARU SS **SS** **11 04 24.5 +4.1**
ARU pmax pmax
comp=Z,29nm,1.1s
ARU MLR MLR
comp=Z,714nm,17.0s
AB31 Akbulak array 51.04 308 *i* P **P** **10 53 35.2 +0.2**
ABKAR Akbulak array 51.04 308 P **P** **10 53 33.9 -1.1**
ABKAR IAmb IAmb 10 53 36.2
comp=Z,44nm,1.9s
KNRA Kununurra 51.18 181 P **P** **10 53 34.4 -1.9**
KNRA IAmb IAmb 10 53 40.8
comp=Z,25nm,1.1s
AKTO Aktyubinsk 52.01 310 LR LR 11 14 36.3
comp=Z,674nm,20.4s,baz=81,slow=35
AKTO Aktyubinsk 52.01 310 P **P** **10 53 42.3 +0.1**
PALK Pallekele 52.55 249 LR LR 11 19 13.8
comp=Z,397nm,18.5s,baz=151,slow=40
HNR Honiara 53.53 141 LR LR 11 17 44.1
comp=Z,1μm,18.0s,baz=358,slow=37
FITZ Fitzroy Crossi 53.69 184 P **P** **10 53 57.5 +2.7**
comp=Z,6.1nm,1.0s,baz=44,slow=5.7,SNR=3.9
FITZ LR LR 11 15 58.8
comp=Z,67nm,21.6s,baz=6.0,slow=35
MLY Manley 54.09 31 P **P** **10 53 57.8 +0.4**
MLY IAmb IAmb 10 53 59.4
comp=Z,19nm,1.5s
H23K Yukon River 54.46 30 IAmb IAmb 10 54 02.3
comp=Z,13nm,1.1s
KIRV Kirov 55.13 321 LR LR 11 17 20.4
comp=Z,521nm,18.4s,baz=82,slow=36
KIRV Kirov 55.13 321*d i*P **P** **10 54 05.5 +0.5**
H24K Noodor Dome 55.13 30 IAmb IAmb 10 54 07.2
comp=Z,22nm,1.4s
MDM Murphy Dome 55.15 31 IAmb IAmb 10 54 06.9
comp=Z,18nm,1.3s
COLA College 55.33 31*d i*P **P** **10 54 07.1 +0.8**

COLA pmax pmax
comp=Z,12nm,1.1s
WB0 Warramunga Arr 55.47 174 P **P** **10 54 06.7 -1.1**
GEYT Alibeck 55.59 295 P **P** **10 54 08.8 +0.1**
comp=Z,1.5nm,0.6s,baz=40,slow=4.8,SNR=4.4
GEYT LR LR 11 19 42.0
comp=Z,584nm,18.3s,baz=79,slow=38
comp=Z,1.5nm,0.6s
WRAB Tennant Creek 55.63 174 P **P** **10 54 08.1 -0.9**
WRAB Tennant Creek 55.63 174 P **P** **10 54 08.1 -0.9**
WRAB pmax pmax
comp=Z,29nm,0.9s
WRA Warramunga Arr 55.64 174 P **P** **10 54 08.2 -0.9**
comp=Z,16nm,0.9s,baz=352,slow=7.7,SNR=22
WRA LR LR 11 16 35.9
comp=Z,178nm,21.9s,baz=338,slow=35
comp=Z,16nm,0.9s
WRA Warramunga Arr 55.64 174 *i* P **P** **10 54 10.3 +1.3**
WRA pmax pmax
comp=Z,23nm,0.9s
WB2 Warramunga Arr 55.64 174 P **P** **10 54 08.7 -0.4**
ILAR Eielson Array 55.75 31 P **P** **10 54 09.5 +0.1**
comp=Z,1.4nm,0.8s,baz=285,slow=5.7,SNR=11
ILAR LR LR 11 18 22.3
comp=Z,173nm,19.2s,baz=266,slow=36
comp=Z,1.4nm,0.8s
HDA Harding Lake 55.80 31 P **P** **10 54 09.5 -0.2**
HDA lAmb lAmb 10 55 01.9
comp=Z,8.9nm,1.0s
PRGR Permogore 56.28 325 *e*P **P** **10 54 11.0 -2.1**
SCRK Sand Creek 57.16 32 P **P** **10 54 19.2 -0.4**
SCRK lAmb lAmb 10 54 30.2
comp=Z,8.1nm,1.0s
BELG Belogornoye 57.77 314 LR LR 11 18 45.5
comp=Z,621nm,18.7s,baz=14,slow=36
BELG Belogornoye 57.77 314 *d* *i* P **P** **10 54 22.0 -1.9**
BELG pmax pmax
comp=Z,8.0nm,1.0s
CTA Charters Tower 57.88 161 P **P** **10 54 27.6 +2.7**
comp=Z,8.0nm,1.0s,baz=334,slow=4.1,SNR=7.5
CTA LR LR 11 18 31.9
comp=Z,167nm,19.8s,baz=319,slow=35
M26K Nabesna, AK 58.03 33 lAmb lAmb 10 54 28.1
comp=Z,13nm,1.1s
L27K Beaver Creek, 58.35 32 lAmb lAmb 10 54 39.3
comp=Z,12nm,1.1s
ASAR Alice Springs 59.30 175 P **P** **10 54 34.2 -0.6**
comp=Z,5.2nm,0.9s,baz=356,slow=5.2,SNR=11
ASAR LR LR 11 21 16.0
comp=Z,156nm,19.1s,baz=90,slow=37
comp=Z,5.2nm,0.9s
ASAR Alice Springs 59.30 175 P **P** **10 54 33.9 -0.9**
KLMR Klimovskoe 59.33 325 *e*P **P** **10 54 31.8 -2.8**
KLMR pmax pmax
comp=Z,45nm,1.4s
KLMR MLR MLR
comp=Z,590nm,13.0s
KLMR Klimovskoe 59.33 325 *e*P **P** **10 54 31.8 -2.8**
KLMR AMP 10 54 35.3
comp=Z,45nm,1.4s
KLMR LQ LQ 11 15 34.3
KLMR LQ LQ 11 15 34.3
KLMR LR LR 11 17 14.4
KLMR AMP 11 22 59.0
comp=Z,590nm,13.1s
INK Inuvik 59.87 25 LR LR 11 23 43.5
comp=Z,316nm,18.5s,baz=280,slow=39
MAYO Mayo, Yukon 60.69 31 P **P** **10 54 45.1 +1.1**
MAYO lAmb lAmb 10 55 08.4
comp=Z,14nm,0.9s
HYT Haines Junctio 61.02 34 P **P** **10 54 48.0 +1.6**
HYT lAmb lAmb 10 54 58.1
comp=Z,11nm,1.1s
MAK Makhachkala 61.20 304 *e*P P 10 54 40.0 -7.7
MAK pmax pmax
comp=Z,213nm,1.5s
MAK MLR MLR
comp=Z,964nm,16.0s
WSAR Wadi Sarin 61.48 279 LR LR 11 25 25.6
comp=Z,337nm,20.1s,baz=56,slow=40
ARCES ARCESS Array B 61.48 337 P **P** **10 54 48.5 -0.7**
comp=Z,4.6nm,0.9s,baz=2.8,slow=5.0,SNR=4.1
ARCES LR LR 11 26 03.0
comp=Z,457nm,18.5s,baz=72,slow=40
comp=Z,4.6nm,0.9s
VRH Novokhopyorsk 61.62 314 *e*P **P** **10 54 47.4 -3.0**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 62.11 320 *e*P **P** **10 54 52.1 -1.5**
MOS pmax pmax
comp=Z,66nm,1.5s
MOS MLR MLR
comp=Z,700nm,18.0s
FARO Faro, Yukon 62.30 32 P **P** **10 54 55.4 +0.5**
FARO lAmb lAmb 10 54 56.8
comp=Z,14nm,1.2s
LPSR Galich'ya Gora 62.66 317 *e*P **P** **10 54 54.8 -2.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 62.92 320 *ce*P **P** **10 54 57.8 -1.2**
OBN pmax pmax
comp=Z,42nm,1.3s
VSR Storozhevoye 63.09 315 *e*P **P** **10 54 57.1 -3.2**
VSR pmax pmax
comp=Z,10.0nm,1.0s
GOF Gofitskoye 63.28 308 *e*P **P** **10 55 02.2 +0.5**
P33M Teslin, Yukon 63.39 34 P **P** **10 55 02.9 +0.6**
P33M lAmb lAmb 10 55 04.4
comp=Z,12nm,1.1s
ZEI Tsey 63.68 305 *e*P **P** **10 55 03.5 -1.1**
ZEI pmax pmax
comp=Z,15nm,1.4s
KBZ Khabaz 63.94 306 P **P** **10 55 06.4 +0.4**
comp=Z,10.0nm,0.9s,baz=57,slow=3.2,SNR=18
KBZ LR LR 11 24 02.9
comp=Z,570nm,19.9s,baz=70,slow=37
comp=Z,10.0nm,0.9s
KBZ Khabaz 63.94 306 *ce*P **P** **10 55 06.4 +0.4**
KBZ pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 63.98 307 P **P** **10 55 07.1 +0.7**
KIV Kislovodsk 63.98 307 *i* P **P** **10 55 07.3 +0.9**
KIV pmax pmax
comp=Z,46nm,1.2s
KIV MLR MLR
comp=Z,372nm,16.0s
GNI Garni 64.25 302 LR LR 11 24 46.6
comp=Z,284nm,19.4s,baz=86,slow=38
FINES FINESS Array B 65.03 329 P **P** **10 55 12.9 +0.1**
comp=Z,3.6nm,0.6s,baz=45,slow=3.5,SNR=8.3
FINES LR LR 11 26 42.4
comp=Z,390nm,18.4s,baz=72,slow=39
comp=Z,3.6nm,0.6s
FINES FINESS Array B 65.03 329 *i* P **P** **10 55 13.3 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.6s
WTLY Watson Lake, Y 65.23 33 lAmb lAmb 10 55 16.1
comp=Z,9.3nm,1.2s
RES Resolute Bay 66.05 12 LR LR 11 26 47.5
comp=Z,281nm,18.9s,baz=268,slow=38
SOC Sochi 66.07 307 *e*P **P** **10 55 17.4 -2.5**
SOC *e* 10 57 45.1
SOC *e*PPP PPP 10 59 19.7
SOC *e*S **S** **11 04 06.1 -1.9**
SOC *e*SS **SS** **11 08 17.9 -5.0**
SOC *e*SSS SSS 11 11 25.0
SOC MLR MLR
comp=Z,500nm,19.0s
GEVA Gevas 66.25 301 P **P** **10 55 20.7 -0.7**
ANN Anapa 66.97 309 *e*P **P** **10 55 25.6 0.0**
ANN pmax pmax
comp=Z,65nm,1.1s
ANN MLR MLR
comp=Z,491nm,12.0s
ANN MLR MLR
comp=N,658nm,16.0s
DZM Mont Dzumac 67.50 143 P **P** **10 55 29.5 +0.3**
comp=N,8.4nm,0.8s,baz=321,slow=14,SNR=2.7
DZM LR LR 11 22 00.3
comp=N,94nm,20.3s,baz=16,slow=33
comp=N,8.4nm,0.8s
MNK Minsk 67.66 322 *i* P **P** **10 55 27.4 -2.4**
MNK *i* 10 55 53.5
MNK *i* S **S** **11 04 25.6 -1.2**
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK MLR MLR
comp=E,63nm,16.0s
MNK MLR MLR
comp=Z,263nm,16.0s
MNK Minsk 67.66 322 *i* P **P** **10 55 27.4 -2.4**
comp=E,3.0nm,0.9s
MNK *i* P **P** **10 55 27.4 -2.4**
MNK *i* P **P** **10 55 27.4 -2.4**
comp=Z,7.0nm,0.9s,baz=60
MNK *i* PcP **PcP** **10 55 53.6 -3.2**
MNK *i* PPP PPP 10 59 05.8
MNK *i* S **S** **11 04 25.6 -1.2**
MNK *i* SS SS 11 08 34.5 -12
MNK *i* SSS SSS 11 12 02.1
MNK *i* LQ LQ 11 19 34.1
MNK *i* LR LR 11 21 52.1
MNK *i* LRM MLR 11 27 26.2
comp=E,63nm,16.3s
MNK *i* LRM MLR 11 27 30.5
MNK *i* LRM MLR 11 28 10.6
comp=Z,263nm,16.1s
NACGM Naroch 68.00 323 *e*P **P** **10 55 32.6 +0.7**
baz=59
MARD Mardin 68.31 301 P **P** **10 55 34.6 +0.3**
STKA Stephens Creek 68.31 169 P **P** **10 55 34.4 +0.4**
comp=Z,2.1nm,0.6s,baz=353,slow=8.1,SNR=2.2
STKA LR LR 11 24 04.7
comp=Z,122nm,21.9s,baz=12,slow=35
comp=Z,2.1nm,0.6s
AKASG Malin Array Be 68.90 318 P **P** **10 55 37.5 -0.2**
comp=Z,6.8nm,0.7s,baz=51,slow=6.8,SNR=51
AKASG LR LR 11 27 24.5
comp=Z,599nm,19.7s,baz=75,slow=37
comp=Z,6.8nm,0.7s
AKASG Malin Array Be 68.90 318 lAmb lAmb 10 55 38.3
comp=Z,16nm,1.4s
AKASG Malin Array Be 68.90 318 *i* P **P** **10 55 36.7 -0.9**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 68.90 318 P **P** **10 55 36.1 -1.5**
AKBB Malin Array Si 68.90 318 P **P** **10 55 36.1 -1.5**
AKBB pmax pmax
comp=Z,19nm,1.0s
SIM Simferopol' 68.96 311 *e*P **P** **10 55 37.0 -1.1**
SIM pmax pmax
comp=Z,26nm,0.8s
NWAO Narrogin (SRO) 69.27 191 LR LR 11 25 18.9
comp=Z,82nm,21.7s,baz=241,slow=35
JMIC Jan Mayen 69.33 346 LR LR 11 27 34.1
comp=Z,179nm,19.3s,baz=72,slow=37
YKA Yellowknife Ar 69.58 26 P **P** **10 55 41.8 +0.1**
comp=Z,5.4nm,0.9s,baz=308,slow=5.8,SNR=7.1
YKA LR LR 11 27 58.8
comp=Z,175nm,19.2s,baz=300,slow=37
comp=Z,5.4nm,0.9s
YKA Yellowknife Ar 69.58 26 *i* P **P** **10 55 41.4 -0.3**
YKA pmax pmax
comp=Z,7.0nm,1.0s
BBB Bella Bella 69.60 40 LR LR 11 25 54.4
comp=Z,93nm,18.3s,baz=305,slow=36
KVT Kavak 69.66 306 P **P** **10 55 43.3 +0.7**
HFS Hagfors 70.79 331 LR LR 11 31 27.4
comp=Z,264nm,20.3s,baz=44,slow=40
NB2 NORSAR Subarra 71.15 333 P **P** **10 55 50.3 -1.1**
comp=Z,8.1nm,1.0s,baz=45,slow=6.2
NOA NORSAR Array B 71.15 333 P **P** **10 55 51.6 +0.2**
comp=Z,2.8nm,0.8s,baz=48,slow=6.0,SNR=8.2
NOA LR LR 11 32 31.1
comp=Z,166nm,18.8s,baz=80,slow=40
comp=Z,2.8nm,0.8s
SUMG Summit 71.59 356 *i* P **P** **10 55 53.0 -1.2**
RAYN Ar Rayn 71.74 286 P **P** **10 55 55.3 -0.3**
RAYN Ar Rayn 71.74 286 P **P** **10 55 55.3 -0.3**
RAYN pmax pmax
comp=Z,8.0nm,1.3s
BR131 Keskin Array S 71.93 306 lAmb lAmb 10 55 57.6
comp=Z,16nm,1.1s
BRTR Keskin Array B 71.93 306 P **P** **10 55 56.5 0.0**
comp=Z,5.3nm,0.9s,baz=102,slow=6.1,SNR=24
BRTR LR LR 11 31 26.0
comp=Z,313nm,18.1s,baz=35,slow=39
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 71.93 306 *i* P **P** **10 55 56.7 +0.1**
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BUR08 Bucovina Ar. S 72.77 317 lAmb lAmb 10 56 11.3
comp=Z,1.1nm,1.0s
BURAR Bucovina Array 72.78 317 lAmb lAmb 10 56 03.0
comp=Z,8.9nm,0.9s
MLR Muntele Rosu 73.56 314 LR LR 11 30 31.1
comp=Z,498nm,19.0s,baz=49,slow=38
MLR Muntele Rosu 73.56 314 lAmb lAmb 10 56 07.5
comp=Z,21nm,1.3s
UZH Uzhgorod 73.80 319 *e*P **P** **10 56 04.0 -3.3**
UZH *i* 10 56 08.0
UZH *e* 10 56 10.5
UZH *e* 10 56 18.8
OJC Ojcow 74.16 321 P **P** **10 56 08.4 -1.0**
OJC lAmb lAmb 10 56 18.3
comp=Z,13nm,0.9s
OJC Ojcow 74.16 321 P **P** **10 56 08.4 -1.0**
OJC pmax pmax
comp=Z,13nm,0.9s
AFI Afiamalu 74.52 120 LR LR 11 22 01.2
comp=Z,54nm,19.8s,baz=308,slow=30
ISP Isparta 75.01 306 P **P** **10 56 13.3 -1.4**
PSZ Piszkesteto 75.51 319 P **P** **10 56 18.9 +1.5**
PSZ Piszkesteto 75.51 319 P **P** **10 56 18.9 +1.5**
PSZ pmax pmax
comp=Z,42nm,1.8s
MORC Moravsky Berou 75.58 322 *e*P **P** **10 56 21.0 +3.3**
JAVC Velka Javorina 76.09 321 *e*P **P** **10 56 21.2 +0.6**
VRAC Vranov 76.36 322 LR LR 11 31 16.3
comp=Z,405nm,18.9s,baz=46,slow=37
VRAC Vranov 76.36 322 *e*P **P** **10 56 22.9 +0.8**
B08A Colville Reser 76.40 40 lAmb lAmb 10 56 24.0
comp=Z,12nm,1.4s
EIL Elat 76.43 297 LR LR 11 35 01.2
comp=Z,390nm,18.1s,baz=88,slow=40
KRUC Moravsky 76.61 321 *e*P **P** **10 56 24.5 +1.0**
CLL Collm 76.81 325 *e*P **P** **10 56 25.0 +0.4**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL MLR MLR
comp=Z,700nm,18.0s
CLL Collm 76.81 325 *e*P **P** **10 56 25.0 +0.4**
comp=Z,7.0nm,0.8s
CLL *ex* x 10 56 32.0
CLL *e*PP **PP** **10 59 19.0 +2.3**
CLL *e*S **S** **11 06 12.0 +0.2**
CLL *e*SS SS 11 11 24.0 +17
CLL *e*SSS SSS 11 15 12.0
CLL *ex* x 11 16 00.0
CLL LmV 11 33 00.0
comp=Z,700nm,18.0s
BORG Borgarnes 77.15 347 LR LR 11 34 23.7
comp=Z,128nm,18.3s,baz=65,slow=39
RONA Rosalia, Austr 77.54 320 *e*P **P** **10 56 28.8 0.0**
comp=Z,12nm,1.8s
SFJD Kangerlussuaq 77.54 360 LR LR 11 31 41.0
comp=Z,345nm,18.6s,baz=352,slow=36
CONA Conrad Observa 77.61 321 *e*P **P** **10 56 30.2 +0.9**
comp=Z,13nm,1.6s
DIVS Divibare 77.80 316 lAmb lAmb 10 56 40.0
comp=Z,10nm,0.9s
VAY Valandovo 78.00 312 *i* P **P** **10 56 31.8 +0.4**
STIP Stip 78.00 313 *i* P **P** **10 56 30.8 -0.7**
ARSA Arzberg 78.23 320 *e*P **P** **10 56 33.0 +0.4**
comp=Z,4.3nm,0.8s
SKO Skopje 78.27 313 *i* P **P** **10 56 34.2 +1.2**
PINE Pine Mountain 78.39 44 P **P** **10 56 33.9 +0.1**
PINE lAmb lAmb 10 56 36.1
comp=Z,16nm,1.3s
MOA Molln 78.48 321 *e*P **P** **10 56 35.9 +1.9**
comp=Z,1.6nm,0.5s
LIT Litokhoron 78.78 311 lAmb lAmb 10 56 48.2
comp=Z,17nm,1.1s
SOKA Soboth 78.86 320 *e*P **P** **10 56 36.6 +0.4**
comp=Z,20nm,1.4s
BIOA Bad Ischl, Aus 78.90 322 *e*P **P** **10 56 36.9 +0.6**
comp=Z,2.9nm,0.5s
OBKA Obir 79.22 320 *e*P **P** **10 56 37.9 -0.2**
comp=Z,4.1nm,0.7s
PDG Podgorica 79.26 315 lAmb lAmb 10 56 48.1
comp=Z,11nm,0.9s
KBA Koelnbreinsper 79.46 321 *e*P **P** **10 56 40.0 +0.4**
comp=Z,4.0nm,0.8s
FRB Frobisher Bay 79.80 8 LR LR 11 32 06.9
comp=Z,296nm,21.7s,baz=348,slow=36
ABTA Abfaltersbach 80.11 321 *e*P **P** **10 56 41.4 -1.6**
comp=Z,5.3nm,1.1s
IDI Anoyia 80.17 306 LR LR 11 35 26.2
comp=Z,133nm,19.1s,baz=85,slow=38
WATA Walderalm 80.18 322 *e*P **P** **10 56 41.9 -1.5**
comp=Z,3.0nm,0.5s
WTTA Wattenberg 80.20 322 *e*P **P** **10 56 41.6 -2.0**
comp=Z,2.6nm,0.8s
ATD Arta Tunnel 80.40 277 LR LR 11 35 08.3
comp=Z,146nm,19.5s,baz=26,slow=38
MOTA Moosalm 80.41 323 *e*P **P** **10 56 44.2 -0.5**
comp=Z,5.6nm,1.0s
SQTA Sankt Quirin 80.44 322 *e*P **P** **10 56 45.7 +0.9**
comp=Z,5.6nm,1.1s
RETA Reutte 80.47 323 *e*P **P** **10 56 44.4 -0.5**
comp=Z,5.8nm,1.0s
EKA Eskdalemuir Ar 80.51 335 LR LR 11 36 37.7
comp=Z,280nm,18.6s,baz=46,slow=39
FETA Feichten 80.81 322 *e*P **P** **10 56 48.5 +1.7**
comp=Z,4.4nm,1.1s
DAVA Damuels 81.05 323 *e*P **P** **10 56 48.3 +0.2**
comp=Z,11nm,0.8s
BFO Black Forest 81.06 325 P **P** **10 56 47.4 -0.6**
BFO lAmb lAmb 10 57 02.1
comp=Z,9.7nm,0.9s
BFO Black Forest 81.06 325 P **P** **10 56 47.4 -0.6**
BFO pmax pmax
comp=Z,10.0nm,0.9s
BEKR Beckworth 81.21 47 P **P** **10 56 48.9 -0.2**
EGMT Eagleton 81.38 36 lAmb lAmb 10 56 51.2
comp=Z,10nm,1.1s
DAVOX Davos/Dischmat 81.40 323 LR LR 11 37 23.8
comp=Z,794nm,18.4s,baz=50,slow=39
MFID Camas Ranch 81.47 42 P **P** **10 56 49.9 -0.5**
MFID lAmb lAmb 10 57 05.6
comp=Z,10nm,1.2s
HLID Hailey 82.13 41 lAmb lAmb 10 57 03.5
comp=Z,11nm,1.4s
BOZ Bozeman (W) 82.18 38 lAmb lAmb 10 57 13.6
comp=Z,30nm,2.0s
FDMO Fiordimonte 82.31 318 lAmb lAmb 10 57 05.2
comp=Z,14nm,1.1s
KVN Kaiserville 83.07 46 lAmb lAmb 10 57 08.1
comp=Z,8.6nm,1.1s
RYN Ryan 83.09 47 lAmb lAmb 10 57 08.3
comp=Z,7.2nm,1.2s
NVAR Mina Array Bea 83.35 47 P **P** **10 57 00.9 +0.4**
comp=Z,0.9nm,0.7s,baz=296,slow=4.9,SNR=12
comp=Z,0.9nm,0.7s
DGMT Dagmar 83.59 33 P **P** **10 57 01.4 +0.2**
IMW Indian Meadow 83.72 39 lAmb lAmb 10 57 04.9
comp=Z,7.4nm,1.1s
R11A Troy Canyon, C 85.00 46 lAmb lAmb 10 57 18.1
comp=Z,7.5nm,1.4s
HWUT Hardware Ranch 85.00 41 lAmb lAmb 10 57 10.8
comp=Z,13nm,1.4s
PDAR Pinedale Array 85.23 39 P **P** **10 57 10.1 +0.1**
comp=Z,1.5nm,0.9s,baz=356,slow=1.9,SNR=10
comp=Z,1.5nm,0.9s
PDAR Pinedale Array 85.23 39 P **P** **10 57 09.1 -0.9**
SPR3 Spring Creek 3 85.28 44 lAmb lAmb 10 57 20.3
comp=Z,13nm,1.6s
WCT Wildcat Mounta 85.43 47 lAmb lAmb 10 57 20.1
comp=Z,12nm,1.5s
ULM Lac du Bonnet 85.55 27 P **P** **10 57 12.0 +1.0**
comp=Z,3.3nm,0.8s,baz=264,slow=6.1,SNR=3.4
comp=Z,3.3nm,0.8s
TPNV Topopah Spring 85.55 47 lAmb lAmb 10 57 20.6
comp=Z,11nm,1.4s
GWY Greenwater Val 85.81 48 lAmb lAmb 10 58 04.1
comp=Z,11nm,1.6s
QSM Queen of Sheba 85.84 48 lAmb lAmb 10 57 14.5
comp=Z,11nm,1.4s
SHPR Sheep Range 86.50 47 lAmb lAmb 10 57 25.8
comp=Z,9.5nm,1.6s
MSU Marysvale 86.83 44 P **P** **10 57 18.7 +0.8**
MSU Marysvale 86.83 44 P **P** **10 57 18.7 +0.8**
P17A Butcher Ranch, 86.95 42 lAmb lAmb 10 57 27.8
comp=Z,8.6nm,1.3s
KNB Kanab 87.51 45 lAmb lAmb 10 57 23.7
comp=Z,8.7nm,1.3s
PFO Pinyon Flats O 87.66 50 LR LR 11 32 06.2
comp=Z,100nm,20.5s,baz=358,slow=33
RAR Rarotonga 87.89 118 LR LR 11 29 12.6
comp=Z,96nm,21.8s,baz=122,slow=30
SCHQ Schefferville 88.70 9 LR LR 11 37 28.1
comp=Z,234nm,21.9s,baz=38,slow=36
ANMO Albuquerque 92.58 43 P **P** **10 57 43.0 -2.0**
ANMO lAmb lAmb 10 57 48.3
comp=Z,4.7nm,1.2s
ANMO Albuquerque 92.58 43 P **P** **10 57 43.0 -2.0**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ESDC Sonseca Array 93.37 326 PP **PP** **11 01 32.7 +1.2**
comp=Z,1.3nm,1.1s,baz=30,slow=7.5,SNR=6.6
SADO Sadowa 95.81 20 LR LR 11 42 36.5
comp=Z,134nm,21.6s,baz=357,slow=36
MBAR Mbarara 97.20 274 LR LR 11 43 37.4
comp=Z,204nm,21.1s,baz=100,slow=36
LPAZ La Paz 155.20 43 PKP **PKPdf** **11 04 27.8 +0.2**
comp=Z,1.2nm,1.1s,baz=11,slow=2.4,SNR=3.5
LPAZ PKPbc PKPbc 11 04 36.5
comp=Z,1.4nm,0.8s,baz=5.0,slow=4.4,SNR=5.0
SIV San Ignacio 158.27 28 PKP **PKPdf** **11 04 30.5 -0.3**
comp=Z,2.6nm,1.1s,baz=69,slow=3.8,SNR=4.0

---

*TEH **12** 10:47:04.4, 29°.92N×50°.82E, h16km, ML3.3*
*DSN **12** 10:47:07.8±2.0, 29°.50N×50°.96E, h14km, ML3.2/8, Error ellipse: s-maj=28.4km s-min=9.7km az=9.0*
ISC 12 10:47:04.8±1.0, **29°.86N**±0°.06×**50°.82E**±0°.06, **h22**km, **n48**, σ1§67/51, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAZ1	**Kazerun**	**0.75**	**108**	*e*Pg		**Pb**		**10 47 18.8**	**-0.5**
KAZ1				*e*				10 47 37.3	
	comp=Z,11μm,0.2s								
ABEH	**Behbahan**	**0.89**	**327**	*e*Pg		**Pb**		**10 47 20.6**	**-0.9**
ABEH				*e*				10 47 54.4	
	comp=Z,19μm,0.8s								
AHBU	**AHRAM**	**1.08**	**157**	*e*Pg		**Pb**		**10 47 26.1**	**+1.4**
AHBU				*e*Sg		**Sn**		**10 47 41.6**	**+2.8**
AHBU				*e*				10 47 48.0	
	comp=Z,99nm,0.3s								
KLNJ	**Kolanjah**	**1.33**	**30**	*e*Pg		**Pn**		**10 47 28.4**	**0.0**
KLNJ				*e*				10 47 51.0	
	comp=Z,9μm,0.4s								
SHI	**Shiraz**	**1.49**	**98**	*e*Pg		**Pb**		**10 47 32.9**	**+1.0**
IBRJ	**Brojen**	**2.08**	**10**	*e*Pn		**Pn**		**10 47 39.5**	**+0.9**
IBRJ				*e*				10 48 12.1	
	comp=Z,2μm,0.6s								
AMIS	**Naft Sefid**	**2.23**	**324**	*e*Pn		**Pn**		**10 47 41.7**	**+1.2**
AMIS				*e*				10 48 29.1	
	comp=Z,3μm,0.5s								
IRAM	**Ramesheh**	**2.36**	**34**	*e*Pn		**Pn**		**10 47 44.1**	**+1.6**
IRAM				*e*				10 48 21.4	
	comp=Z,1μm,0.4s								
QIR1	**Qir**	**2.38**	**125**	*e*Pn		**Pb**		**10 47 44.8**	**-2.3**
QIR1				*e*				10 48 33.2	
	comp=Z,3μm,0.4s								
SHK1	**Shahrekord**	**2.46**	**1**	*e*Pn		**Pn**		**10 47 44.9**	**+1.0**
SHK1				*e*				10 48 26.9	
	comp=Z,619nm,0.6s								
IGAR	**Gharneh**	**2.75**	**22**	*e*Pn		**Pn**		**10 47 49.5**	**+1.7**
IGAR				*e*				10 48 34.7	
	comp=Z,651nm,0.5s								
IPIR	**Pirpir**	**2.82**	**1**	*e*Pn		**Pn**		**10 47 50.7**	**+1.9**
IPIR				*e*				10 48 30.0	
	comp=Z,705nm,0.5s								
ISAD	**Sadrabad**	**3.20**	**50**	*e*Pn		**Pn**		**10 47 56.7**	**+2.6**
ISAD				*e*				10 48 51.1	
	comp=Z,423nm,0.4s								
IZEF	**Zefreh**	**3.29**	**23**	*e*Pn		**Pn**		**10 47 56.6**	**+1.3**
IZEF				*e*				10 47 59.2	
	comp=Z,320nm,0.2s								
NASN	**Na'in**	**3.39**	**30**	*e*Pn		**Pn**		**10 47 58.1**	**+1.4**
IKLH	**Kolahrood**	**3.51**	**10**	*e*Pn		**Pn**		**10 48 00.2**	**+1.9**
IKLH				*e*				10 48 02.5	
	comp=Z,312nm,0.2s								
IMEH	**Mehriz**	**3.61**	**64**	*e*Pn		**Pn**		**10 48 01.5**	**+1.8**
QAMS	**Qamsar**	**3.90**	**7**	*e*Pn		**Pn**		**10 48 05.0**	**+1.4**

QAMS				*e*			10 49 00.2		
	comp=Z,465nm,0.4s								
KHMZ	**Khomeyn**	**3.94**	**350**	*e*Pn	**Pn**		**10 48 05.7**	**+1.5**	
YZKH	**Yazd**	**4.10**	**51**	*e*Pn	**Pn**		**10 48 08.1**	**+1.8**	
KRSH	**Karshahi**	**4.25**	**15**	*e*Pn	**Pn**		**10 48 10.0**	**+1.6**	
KRSH				*e*			10 48 11.6		
	comp=Z,480nm,0.2s								
IKFM	**Kafar-mosalman**	**4.45**	**326**	*e*Pn	**Pn**		**10 48 13.0**	**+2.1**	
IKFM				*e*			10 49 48.1		
	comp=Z,426nm,0.8s								
ISFB	**Sefidab**	**4.64**	**15**	*e*Pn	**Pn**		**10 48 15.3**	**+1.6**	
ISFB				*e*			10 49 41.6		
	comp=Z,122nm,0.8s								
ASAO	**Ashtian**	**4.72**	**352**	*e*Pn	**Pn**		**10 48 16.6**	**+1.6**	
HSAM	**Samen**	**4.73**	**337**	*e*Pn	**Pn**		**10 48 16.2**	**+1.1**	
HSAM				*e*			10 48 20.0		
	comp=Z,150nm,0.2s								
KHGB	**Koh Gabri**	**4.93**	**83**	*e*Pn	**Pn**		**10 48 19.0**	**+1.2**	
IQOM	**Qom**	**4.97**	**2**	*e*Pn	**Pn**		**10 48 19.6**	**+1.2**	
IKOM	**Komasi**	**5.14**	**328**	*e*Pn	**Pn**		**10 48 22.1**	**+1.5**	
IKOM				*e*			10 50 06.0		
	comp=Z,209nm,0.9s								
NGRK	**Negar Kerman**	**5.14**	**91**	*e*Pn	**Pn**		**10 48 23.0**	**+2.1**	
HAGD	**Aghdareh**	**5.15**	**344**	*e*Pn	**Pn**		**10 48 21.8**	**+1.0**	
HAGD				*e*			10 49 24.4		
	comp=Z,324nm,0.4s								
KRBR	**Kerman**	**5.16**	**87**	*e*Pn	**Pn**		**10 48 23.4**	**+2.3**	
IVRN	**Varamin**	**5.18**	**8**	*e*Pn	**Pn**		**10 48 22.2**	**+1.1**	
IVRN				*e*			10 48 23.2		
	comp=Z,205nm,0.2s								
DAMV	**Damavand**	**5.84**	**9**	*e*Pn	**Pn**		**10 48 31.6**	**+1.3**	
SNGE	**Sanandaj**	**5.99**	**332**	*e*Pn	**Pn**		**10 48 33.1**	**+0.8**	
CHTH	**Charan**	**6.04**	**2**	*e*Pn	**Pn**		**10 48 34.7**	**+1.6**	
BANOM	**Banah**	**6.24**	**128**	P	**Pn**		**10 48 35.1**	**-0.5**	
BANOM				S	**Sn**		**10 49 42.2**	**-4.1**	
MSFE	**Esma-Masafi**	**6.52**	**132**	P	**Pn**		**10 48 38.9**	**-0.7**	
TKDS	**Koohdasht(Taba**	**6.54**	**54**	*e*Pn	**Pn**		**10 48 41.5**	**+1.6**	
ASUD	**Al Ashush, Dub**	**6.58**	**141**	P	**Pn**		**10 48 40.3**	**0.0**	
UOSS	**Minazif**	**6.85**	**134**	P	**Pn**		**10 48 43.3**	**-0.6**	
ASHO	**Ashiyiah**	**6.95**	**137**	P	**Pn**		**10 48 44.2**	**-1.2**	
ASHO				S	**Sn**		**10 50 00.8**	**-3.0**	
MZR	**Muzera**	**7.23**	**160**	P	**Pn**		**10 48 50.3**	**+1.0**	
ALNE	**Al Ain**	**7.26**	**142**	P	**Pn**		**10 48 49.0**	**-0.7**	
BSRN	**Basiran**	**7.44**	**72**	*e*Pn	**Pn**		**10 48 54.3**	**+2.1**	
SHRO	**Shahrood**	**7.51**	**34**	*e*Pn	**Pn**		**10 48 55.1**	**+1.9**	
SOHO	**SOHO**	**7.65**	**137**	P	**Pn**		**10 48 54.0**	**-1.0**	
RAYN	**Ar Rayn**	**7.90**	**218**	P	**Pn**		**10 48 58.0**	**-0.5**	
MRVT	**Maraveh tapeh**	**8.93**	**28**	*e*Pn	**Pn**		**10 49 14.5**	**+1.9**	

IDC 12 10:47:27.6±1.9, 5°60S×130°66E, h0km, mb3.7/1, mbtmp3.9/5, ML3.8/4, Error ellipse: s-maj=82.2km s-min=24.9km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.74**	**7**	Pn	Pn	10 48 42.0	+1.6
	8.2nm,0.3s,baz=149,slow=23,SNR=80						
SIJI				Sn	Sn	10 49 30.6	-5.5
	4.1nm,0.3s,baz=168,slow=23,SNR=8.2						
	20nm,0.3s						
FITZ	**Fitzroy Crossi**	**13.35**	**201**	Pn	Pn	10 50 40.0	+1.4
	0.4nm,0.3s,baz=18,slow=9.1,SNR=23						
FITZ				Sn	Sn	10 53 00.8	-7.1
	0.3nm,0.3s,baz=328,slow=12,SNR=2.3						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**14.70**	**166**	Pn	Pn	10 50 55.2	-1.7
	0.3nm,0.3s,baz=352,slow=13,SNR=5.9						
WRA				Sn	Sn	10 53 29.7	-11
	0.3nm,0.3s,baz=353,slow=24,SNR=6.9						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**18.23**	**170**	P	P	10 51 42.8	+0.2
	0.4nm,0.3s,baz=356,slow=11,SNR=6.3						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**67.43**	**326**	P	P	10 58 24.5	-0.7
	0.3nm,0.4s,baz=122,slow=8.2,SNR=4.3						
	0.3nm,0.4s						

*GEN **12** 10:52:00.5, 44°.22N×11°.89E, h17km, Ml0.0*
*LDG **12** 10:52:00.7±0.1, 44°.20N×11°.85E, h14km, Md2.6/1, Ml2.8/17, Error ellipse: s-maj=3.1km s-min=2.5km az=61.0*
ROM 12 10:52:01.1±0.1, 44°.246N±0°.007×11°.90E±0°.01, h22km±1km, ML2.6/28, 1C-5D, Error ellipse: s-maj=1.0km s-min=0.0km az=245.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAEN	**Faenza**	**0.05**	**337**	P	Pb	10 52 04.5	-0.5
FAEN				S	Sb	10 52 08.4	+0.8
BRSN	**Barisano**	**0.13**	**73**	P	Pb	10 52 05.3	-0.7
BRSN				S	Sb	10 52 10.3	+0.9
BRSN				AML	AML		
	comp=E,10875µm,0.3s						
BRSN				AML	AML		
	comp=E,10765µm,0.3s						
BRSN				AML	AML		
	comp=N,5560µm,1.5s						
BRSN				AML	AML		
	comp=E,10850µm,0.3s						
BRSN				AML	AML		
	comp=N,5410µm,1.5s						
BRSN				AML	AML		
	comp=E,10800µm,0.3s						
BRSN				AML	AML		
	comp=N,5550µm,1.5s						
BRSN				AML	AML		
	comp=N,5410µm,1.5s						
BRSN				AML	AML		
	comp=E,10795µm,0.3s						
BRSN				AML	AML		
	comp=N,5535µm,1.5s						
BRSN				AML	AML		
	comp=N,5410µm,0.5s						
BRSN				AML	AML		
	comp=N,5535µm,0.5s						
IMOL	**Imola, Italy**	**0.16**	**315**	P	Pb	10 52 06.0	-0.2
IMOL				S	Sb	10 52 11.0	+1.2
IMOL	**Imola, Italy**	**0.16**	**315**	P	Pb	10 52 06.0	-0.2
IMOL				S	Sb	10 52 10.8	+1.0
IMOL				AML	AML		
	comp=E,6530µm,0.7s						
IMOL				AML	AML		
	comp=N,6560µm,0.8s						
IMOL				AML	AML		
	comp=E,6530µm,0.7s						
IMOL				AML	AML		
	comp=N,6560µm,0.8s						
IMOL				AML	AML		
	comp=N,6565µm,0.8s						
LMD	**Lutirano**	**0.22**	**220**	P	Pb	10 52 06.0	-0.8
LMD				S	Sb	10 52 10.4	-0.3
LMD	**Lutirano**	**0.22**	**220**	P	Pb	10 52 06.0	-0.8
LMD				S	Sb	10 52 10.4	-0.3
BRIS	**BRISIGHELLA**	**0.30**	**251**	P	Pb	10 52 04.7	-3.1
BRIS				S	Sb	10 52 08.2	-4.2
BRIS				AML	AML		
	comp=E,4635µm,0.4s						
BRIS				AML	AML		
	comp=N,3440µm,0.3s						
MTRZ	**Monterenzio**	**0.34**	**293**	P	Pb	10 52 09.2	+0.7
MTRZ				S	Sb	10 52 14.4	+0.8
MTRZ	**Monterenzio**	**0.34**	**293**	P	Pb	10 52 09.1	+0.6
MTRZ				AML	AML		
	comp=N,860µm,0.6s						
MTRZ				AML	AML		
	comp=E,995µm,0.9s						
MTRZ				AML	AML		
	comp=E,968µm,0.4s						
MTRZ				AML	AML		
	comp=N,862µm,0.6s						
MTRZ				AML	AML		
	comp=E,964µm,0.4s						
MTRZ				AML	AML		
	comp=N,858µm,0.6s						
MTRZ				AML	AML		
	comp=N,896µm,0.6s						
MTRZ				AML	AML		
	comp=N,858µm,1.4s						
MTRZ				AML	AML		
	comp=N,896µm,1.4s						
CMPO	**Campotto Po**	**0.34**	**348**	P	Pb	10 52 08.6	+0.1
CMPO				S	Sb	10 52 13.8	+0.2
SEI	**Scarperia**	**0.44**	**244**	P	Pb	10 52 09.6	-0.6
SEI				S	Sb	10 52 17.1	+0.9
SEI	**Scarperia**	**0.44**	**244**	P	Pb	10 52 09.5	-0.6
SEI				S	Sb	10 52 16.8	+0.5
SEI				AML	AML		
	comp=N,3010µm,0.7s						
SEI				AML	AML		
	comp=E,1605µm,0.6s						
ASQU	**Asqua**	**0.46**	**190**	P	Pb	10 52 09.8	-0.6
ASQU				S	Sb	10 52 17.1	+0.2
ASQU	**Asqua**	**0.46**	**190**	⇓P	Pb	10 52 09.8	-0.6
ASQU				S	Sb	10 52 17.5	+0.7
ASQU				AML	AML		
	comp=N,599µm,0.5s						
ASQU				AML	AML		
	comp=E,444µm,0.5s						
ASQU				AML	AML		
	comp=N,598µm,0.5s						
ASQU				AML	AML		
	comp=E,444µm,1.5s						
RUFI	**Rufina**	**0.49**	**215**	P	Pb	10 52 10.6	-0.5
RUFI				S	Sb	10 52 19.0	+1.1
RUFI	**Rufina**	**0.49**	**215**	P	Pb	10 52 10.5	-0.5
RUFI				S	Sb	10 52 18.6	+0.7
RSM	**Repubblica di**	**0.51**	**129**	P	Pb	10 52 11.8	+0.5
CPGN	**Carpegna, Ital**	**0.54**	**146**	P	Pn	10 52 12.8	-0.7
FNVD	**Fontana Vidola**	**0.57**	**262**	P	Pb	10 52 12.2	-0.1
FNVD				S	Sn	10 52 21.6	-1.0
FNVD	**Fontana Vidola**	**0.57**	**262**	P	Pb	10 52 11.9	-0.4
FNVD				S	Sn	10 52 21.8	-0.7
CRE	**Caprese Michel**	**0.63**	**177**	P	Pb	10 52 12.7	-0.7
CRE				S	Sn	10 52 23.3	-0.8
CRE				AML	AML		
	comp=E,339µm,0.4s						
CRE				AML	AML		
	comp=N,425µm,0.4s						
CRE				AML	AML		
	comp=E,340µm,0.4s						
PARC	**Parchiule**	**0.65**	**158**	P	Pb	10 52 13.1	-0.6
PARC				S	Sn	10 52 23.8	-0.6
PARC				AML	AML		
	comp=N,218µm,0.7s						
PARC				AML	AML		
	comp=E,213µm,0.5s						
MPPT	**Montemurlo**	**0.65**	**244**	P	Pb	10 52 13.5	-0.4
ZCCA	**Zocca**	**0.67**	**279**	P	Pn	10 52 15.8	+0.5
ZCCA	**Zocca**	**0.67**	**279**	P	Pn	10 52 15.7	+0.4
MTCR	**Monte La Croce**	**0.69**	**252**	P	Pb	10 52 14.2	-0.2
MTCR	**Monte La Croce**	**0.69**	**252**	P	Pb	10 52 13.9	-0.5
PE3	**Peglio**	**0.70**	**142**	P	Pb	10 52 14.6	0.0
PE3				AML	AML		
	comp=N,3µm,0.9s						
PE3				AML	AML		
	comp=E,3µm,1.1s						
PESA	**Pesaro**	**0.74**	**114**	P	Pn	10 52 16.5	+0.4
BADI	**Badiali**	**0.78**	**161**	⇓P	Pb	10 52 15.7	-0.2
NARO	**Abbazia di Nar**	**0.80**	**142**	P	Pb	10 52 16.2	-0.1
NARO				AML	AML		
	comp=E,26µm,0.8s						
NARO				AML	AML		
	comp=N,18µm,1.4s						
A305A	**Porto Tolle (R**	**0.81**	**28**	P	Pn	10 52 17.9	+0.9
CRMI	**Carmignano**	**0.81**	**236**	P	Pn	10 52 17.0	-0.2
FSSB	**Fossombrone**	**0.84**	**131**	P	Pn	10 52 17.4	-0.2
FSSB				AML	AML		
	comp=E,304µm,0.8s						
FSSB				AML	AML		
	comp=E,304µm,1.2s						
FSSB				AML	AML		
	comp=N,326µm,1.5s						
PIEI	**Piela**	**0.84**	**147**	P	Pb	10 52 16.5	-0.6
PIEI				AML	AML		
	comp=N,150µm,0.7s						
PIEI				AML	AML		
	comp=E,228µm,0.7s						
POPM	**Popiglio**	**0.85**	**257**	P	Pn	10 52 17.8	+0.1
POPM				AML	AML		
	comp=E,371µm,0.7s						
POPM				AML	AML		
	comp=N,338µm,1.2s						
OSSC	**Osservatorio P**	**0.86**	**214**	P	Pn	10 52 17.8	-0.1
OSSC				AML	AML		
	comp=E,358µm,0.4s						
OSSC				AML	AML		
	comp=N,234µm,1.0s						
MPAG	**Monte Paganucc**	**0.87**	**135**	P	Pn	10 52 17.9	-0.2
MPAG				AML	AML		
	comp=N,224µm,0.5s						
MPAG				AML	AML		
	comp=E,138µm,0.7s						
MPAG				AML	AML		
	comp=E,138µm,1.3s						
MPAG				AML	AML		
	comp=N,224µm,1.5s						
SERM	**Sermide**	**0.88**	**331**	P	Pn	10 52 19.1	+1.0
CSNT	**Castellina Chi**	**0.89**	**210**	P	Pn	10 52 18.7	+0.4
CSNT	**Castellina Chi**	**0.89**	**210**	P	Pn	10 52 18.6	+0.3
CSNT				AML	AML		
	comp=N,242µm,0.7s						
CSNT				AML	AML		
	comp=E,224µm,0.5s						
CSNT				AML	AML		
	comp=E,224µm,1.5s						
ATVO	**AVT- Monte Val**	**0.94**	**157**	P	Pb	10 52 18.4	-0.2
ATVO				AML	AML		
	comp=N,280µm,0.7s						
ATVO				AML	AML		
	comp=E,378µm,0.8s						
GSCL	**Gusciola**	**0.95**	**277**	⇓P	Pn	10 52 21.8	+2.7
GSCL				AML	AML		
	comp=E,178µm,0.8s						
GSCL				AML	AML		
	comp=N,258µm,1.0s						
GSCL				AML	AML		
	comp=E,178µm,1.2s						
GSCL				AML	AML		
	comp=N,258µm,1.0s						
MAIM	**Mastiano**	**1.07**	**252**	P	Pb	10 52 21.2	+0.3
MAIM				AML	AML		
	comp=E,87µm,0.4s						
MAIM				AML	AML		
	comp=N,132µm,0.4s						
VLC	**Villacollemand**	**1.09**	**266**	P	Pb	10 52 23.8	+2.5
PII	**Pisa**	**1.12**	**243**	P	Pb	10 52 22.2	+0.5
PII	**Pisa**	**1.12**	**243**	⇑P	Pb	10 52 22.3	+0.5
PII				S	Sn	10 52 37.0	+0.8
PII				AML	AML		
	comp=N,259µm,0.3s						
PII				AML	AML		
	comp=E,280µm,0.9s						
TEOL	**Teolo**	**1.13**	**352**	P	Pn	10 52 21.1	-0.4
ZOVE	**Zovencedo**	**1.24**	**346**	P	Pn	10 52 23.4	+0.3
EQUI	**Equi**	**1.26**	**267**	P	Pb	10 52 25.6	+1.4
EQUI				AML	AML		
	comp=N,102µm,0.8s						
EQUI				AML	AML		
	comp=E,65µm,0.7s						
EQUI				AML	AML		
	comp=N,102µm,1.2s						
ROVR	**Rover Verones**	**1.52**	**337**	P	Pn	10 52 27.1	+0.1
ROVR				AML	AML		
	comp=E,105µm,0.4s						
ROVR				AML	AML		
	comp=N,195µm,0.3s						
CGRP	**Cima Grappa**	**1.64**	**357**	P	Pn	10 52 28.2	-0.5
CGRP				AML	AML		
	comp=N,238µm,0.5s						
CGRP				AML	AML		
	comp=E,202µm,0.7s						
DOSS	**Dosso del Somm**	**1.71**	**343**	P	Pn	10 52 29.5	-0.2
DOSS				AML	AML		
	comp=E,278µm,1.6s						
DOSS				AML	AML		
	comp=N,339µm,0.4s						
MSSA	**Maissana**	**1.71**	**273**	P	Pb	10 52 31.9	0.0
MSSA				AML	AML		
	comp=N,66µm,0.7s						
MSSA				AML	AML		
	comp=E,48µm,0.9s						
MSSA				AML	AML		
	comp=N,66µm,1.3s						
CTI	**Castel Tesino**	**1.81**	**354**	P	Pn	10 52 30.7	-0.3
CTI				AML	AML		
	comp=E,236µm,1.3s						
CTI				AML	AML		
	comp=E,236µm,0.7s						
CTI				AML	AML		
	comp=N,239µm,0.3s						
T1202	**Accumoli, Fraz**	**1.82**	**148**	P	Pb	10 52 32.4	-1.3
OFFI	**Offida**	**1.84**	**135**	S	Sb	10 53 04.0	+7.3
T1204	**Amatrice, Fraz**	**1.88**	**146**	S	Sb	10 53 05.0	+7.2
SKDS	**Skadanscina**	**1.99**	**48**	*i* Pn	Pn	10 52 32.1	-1.2
SKDS				*e*Sn	Sn	10 52 56.2	-1.3
SKDS				*e*		10 53 03.9	
SKDS				IAML		10 53 08.0	
	comp=Z,26nm,0.3s						
TERO	**Teramo**	**2.04**	**142**	S	Sb	10 53 08.0	+5.6
STAL	**STALIGIAL**	**2.09**	**16**	P	Pn	10 52 33.9	-0.9
STAL				AML	AML		
	comp=E,200µm,1.3s						
STAL				AML	AML		
	comp=N,156µm,0.3s						
STAL				AML	AML		
	comp=E,200µm,0.7s						
KOSI	**Kohlern**	**2.25**	**351**	P	Pn	10 52 37.9	+0.8
KOSI				AML	AML		
	comp=E,98µm,1.1s						
KOSI				AML	AML		
	comp=N,99µm,0.6s						
ABTA	**Abfaltersbach**	**2.54**	**10**	*e*Pn	Pn	10 52 41.4	+0.4
	comp=N,2.8nm,0.5s						
MYKA	**Terra Mystica**	**2.68**	**27**	*e*Pn	Pb	10 52 46.2	-2.2
	comp=N,2.1nm,0.4s						
RISI	**Rein**	**2.71**	**3**	P	Pn	10 52 45.9	+2.5
RISI				AML	AML		
	comp=E,144µm,0.5s						
RISI				AML	AML		
	comp=N,158µm,0.4s						
PGF	**Pioggiola**	**2.71**	**232**	*e*P	Pn	10 52 44.4	+1.0
PGF				*e*Sn	Sn	10 53 12.2	-3.4
	comp=N,6.6nm,0.3s						
FETA	**Feichten**	**2.90**	**344**	*e*Pn	Pn	10 52 48.6	+2.7
	comp=N,2.2nm,0.4s						
OBKA	**Obir**	**2.93**	**39**	*e*Pn	Pb	10 52 55.1	+2.4
	comp=N,3.5nm,0.6s						
KBA	**Koelnbreinsper**	**3.01**	**19**	*e*Pn	Pn	10 52 48.9	+1.4
	comp=N,1.6nm,0.4s						
SQTA	**Sankt Quirin**	**3.01**	**351**	*e*Pn	Pb	10 52 51.2	-2.9
	comp=N,5.3nm,0.3s						
WTTA	**Wattenberg**	**3.02**	**357**	*e*Pn	Pb	10 52 57.7	+3.5
	comp=N,3.4nm,0.4s						
WTTA	**Wattenberg**	**3.02**	**357**	⇓P	Pb	10 52 51.0	-3.3
WTTA				AML	AML		
	comp=N,74µm,0.5s						
WTTA				AML	AML		
	comp=E,55µm,1.0s						
WATA	**Walderalm**	**3.10**	**356**	*e*Pn	Pb	10 52 57.7	+2.2
	comp=E,3.5nm,0.4s						
MOTA	**Moosalm**	**3.15**	**350**	*e*Pn	Pb	10 52 59.0	+2.6
	comp=E,1.4nm,0.3s						
SBF	**Sospel**	**3.24**	**265**	*e*P	Pn	10 52 52.0	+1.4
SBF				*e*Sn	Sn	10 53 24.7	-3.9
	comp=E,8.3nm,0.3s						
SOKA	**Soboth**	**3.28**	**41**	*e*Pn	Pb	10 53 01.9	+3.3
	comp=E,1.1nm,0.4s						
MBDF	**Montbardon**	**3.70**	**279**	*e*P	Pn	10 52 57.6	+0.6
MBDF				*e*Sn	Sn	10 53 35.8	-4.3
	comp=E,1.9nm,0.3s						
LPG	**La Plagne**	**3.87**	**291**	*e*P	Pn	10 53 01.1	+1.6
LPG				*e*Sn	Sn	10 53 40.1	-4.3
	comp=E,3.7nm,0.4s						
MSAG	**Monte S. Angel**	**3.88**	**129**	P	Pn	10 53 03.9	+4.5
LPL	**La Plagne**	**3.89**	**291**	*e*P	Pn	10 53 00.6	+1.0
LPL				*e*Sn	Sn	10 53 40.6	-4.1
	comp=E,3.0nm,0.3s						
LMR	**La Mourre**	**4.01**	**259**	*e*P	Pn	10 53 02.5	+1.4
LMR				*e*Sn	Sn	10 53 42.9	-4.5
	comp=E,1.9nm,0.3s						
MCRV	**Calabrutti - M**	**4.22**	**144**	P	Pb	10 53 10.3	-4.3
ORIF	**Oris-en-Rattie**	**4.36**	**281**	*e*P	Pn	10 53 07.7	+1.8
ORIF				*e*Sn	Sn	10 53 51.3	-4.7
	comp=E,4.9nm,0.4s						
CABF	**La Chapelle**	**4.73**	**302**	*e*P	Pn	10 53 12.6	+1.5
CABF				*e*Sn	Sn	10 54 00.5	-4.7
	comp=E,1.6nm,0.3s						
HINF	**Hinteralfeld**	**5.01**	**317**	*e*Pn	Pn	10 53 13.2	-1.7
HINF				*e*Sn	Sn	10 54 07.6	-4.5
	comp=E,2.4nm,0.2s						
VIVF	**Saint-Julien-l**	**5.20**	**279**	*e*P	Pn	10 53 18.3	+0.8
CDF	**Champ du Feu**	**5.26**	**324**	*e*Pn	Pn	10 53 18.1	-0.2
CDF				*e*Sn	Sn	10 54 13.4	-4.8
	comp=E,2.3nm,0.2s						
HAU	**Haudompre**	**5.39**	**316**	*e*P	Pn	10 53 21.0	+0.9
HAU				*e*Sn	Sn	10 54 16.3	-5.1
	comp=E,9.5nm,0.3s						
TDS	**Terranova Siba**	**5.65**	**143**	P	Pn	10 53 22.7	-1.0
DIVS	**Divibare**	**5.82**	**89**	⇓P	Pn	10 53 30.3	+4.2
PIPA	**Pietrapaola**	**6.01**	**141**	P	Pn	10 53 32.4	+3.8
SMF	**Signal de Mont**	**6.16**	**296**	*e*Pn	Pn	10 53 29.1	-1.5
SMF				*e*Sn	Sn	10 54 34.5	-5.8
	comp=E,4.7nm,0.4s						
LOR	**Lormes**	**6.39**	**301**	*e*Pn	Pn	10 53 32.6	-1.2
	baz=119						
LOR				*e*Sn	Sn	10 54 40.1	-5.9
	comp=E,3.7nm,0.3s						
AVF	**Avril sur Loir**	**6.52**	**296**	*e*Pn	Pn	10 53 34.0	-1.6
AVF				*e*Sn	Sn	10 54 43.3	-6.0
	comp=E,1.1nm,0.4s						
MTLF	**Montolieu**	**7.07**	**266**	*e*P	Pn	10 53 45.8	+2.7

*IDC **12** 10:52:08.8±2.8, 15°.83S×173°.53W, h0km, mb3.5/5, mbtmp3.5/6, ML3.0/1, Error ellipse: s-maj=158.9km s-min=22.8km az=147.0*
ISC 12 10:52:14.6±2.6, 15°.6S±0°.8×173°.6W±0°.6, h42km, n7, σ1°69/8, mb3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.38**	**47**	Pn	**Pn**	**10 52 49.9**	**-1.3**
	3.2nm,0.3s,baz=225,slow=13,SNR=10						
AFI				Sn	**Sn**	**10 53 18.4**	**-0.8**
	14nm,0.3s,baz=260,slow=22,SNR=9.3						
	12nm,0.3s						
WRA	**Warramunga Arr**	**49.66**	**257**	P	**P**	**11 01 01.7**	**-0.9**
	0.2nm,0.7s,baz=91,slow=6.9,SNR=1.6						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**49.92**	**252**	P	**P**	**11 01 03.5**	**-1.1**
	0.4nm,0.6s,baz=86,slow=8.5,SNR=7.1						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**74.55**	**42**	P	**P**	**11 03 51.9**	**+2.4**
	0.6nm,0.8s,baz=233,slow=7.3,SNR=5.3						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**82.48**	**42**	P	**P**	**11 04 33.8**	**+0.6**
	0.4nm,0.8s,baz=241,slow=3.7,SNR=4.6						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**82.63**	**11**	P	**P**	**11 04 34.8**	**+1.7**
	0.4nm,0.8s,baz=236,slow=4.9,SNR=4.5						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**146.19**	**321**	PKPbc	**PKiKP**	**11 11 53.1**	**-1.0**
	0.5nm,0.7s,baz=31,slow=0.7,SNR=5.6						

ROM 12 10:52:59.5±0.5, 42°.785N±0°.009×13°.13E±0°.01, h8km±3km, ML1.3/2, 6C-1D, Error ellipse: s-maj=1.0km s-min=0.6km az=295.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**346**	⇓P	Pg	10 53 01.1	-0.2
NRCA				S	Sg	10 53 02.4	-0.3
NRCA				AML	AML		
	comp=E,3845µm,0.2s						
NRCA				AML	AML		
	comp=E,4155µm,0.2s						
NRCA				AML	AML		
	comp=N,2210µm,1.0s						
NRCA				AML	AML		
	comp=E,3840µm,0.2s						
NRCA				AML	AML		
	comp=N,2235µm,1.0s						
NRCA				AML	AML		
	comp=N,2215µm,1.0s						
T1242	**Castelluccio d**	**0.07**	**51**	⇑P	Pg	10 53 01.7	+0.1
T1242				S	Sg	10 53 03.4	+0.2
T1242				AML	AML		
	comp=E,474µm,1.4s						
T1242				AML	AML		
	comp=N,742µm,0.3s						
T1242				AML	AML		
	comp=E,474µm,1.4s						
T1242				AML	AML		
	comp=N,742µm,0.3s						

T1202	**Accumoli, Fraz**	**0.11**	**139**	P	Pg	10 53 01.6	-0.5
T1202				S	Sg	10 53 05.5	+1.6
T1216	**Preci, Frazion**	**0.13**	**322**	⇑P	Pg	10 53 03.1	+0.7
T1216				S	Sg	10 53 05.8	+1.2
MC2	**Monte Cornacci**	**0.14**	**19**	⇑P	Pg	10 53 03.1	+0.5
MC2				S	Sg	10 53 06.3	+1.5
T1217	**Poggiodomo (PG**	**0.16**	**244**	P	Pg	10 53 03.2	+0.2
T1217				S	Sg	10 53 06.8	+1.5
LNSS	**Leonessa**	**0.19**	**200**	⇑P	Pg	10 53 04.6	+1.1
LNSS				S	Sg	10 53 07.7	+1.5
LNSS				AML	AML		
	comp=E,88μm,0.6s						
LNSS				AML	AML		
	comp=N,87μm,0.4s						
LNSS				AML	AML		
	comp=N,87μm,0.4s						
LNSS				AML	AML		
	comp=E,88μm,0.6s						
T1215	**Vallo di Nera,**	**0.19**	**275**	⇑P	Pg	10 53 04.0	+0.5
T1215				S	Sg	10 53 07.3	+1.1
OFFI	**Offida**	**0.43**	**70**	AML	AML		
	comp=E,162μm,1.4s						
OFFI				AML	AML		
	comp=N,261μm,0.7s						
PP3	**Marolino**	**0.69**	**30**	⇑P	Pg	10 53 12.8	+0.1
ARVD	**Arcevia**	**0.73**	**349**	S	Sg	10 53 21.0	-2.0

*JMA **12** 11:04:15.7±1.0,36°N±4°×12°9E±°, h11km, MV3.1/8, S KOREAN PENINSULA REG*
*KMA **12** 11:04:19.3±0.3,35°.77N×129°.19E, h19km±3km, Error ellipse: s-maj=1.1km s-min=0.9km az=303.0*
ISC 12 11:04:18.4±1.3**, 35°.76N**±0°.06×**129°.20E**±0°.09**, h10**km**, n6, σ0s52/7, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOCB	**Yeongcheon** SNR=38	**0.30**	**317**	P	**Pb**	**11 04 25.7**	**-0.2**
KSPHA	**Pohang** SNR=29	**0.46**	**17**	P	**Pb**	**11 04 28.6**	**0.0**
MIYA	**Miryang-si** SNR=15	**0.46**	**235**	P	**Pb**	**11 04 28.6**	**+0.1**
JTU	**Tsushima**	**1.24**	**173**	P	**Pn**	**11 04 41.9**	**+0.2**
JTSM	**Tsushimamitsus**	**1.42**	**174**	P	**Pn**	**11 04 44.6**	**+0.4**
JTSM				*eS*	**Sg**	**11 05 04.3**	**+0.1**
JII	**Iki**	**2.00**	**167**	*eS*	**Sg**	**11 05 21.9**	**-0.9**

*KMA **12** 11:07:05.8±0.0,35°.77N×129°.18E, h14km, Error ellipse: s-maj=0.5km s-min=0.4km az=297.0*
*JMA **12** 11:07:06.7±0.3,35°.7N±0°.9×12°9E±°, h22km, MV3.1/9, S KOREAN PENINSULA REG*
ISC 12 11:07:05.8±1.2**, 35°.76N**±0°.03×**129°.18E**±0°.04**, h16**km±10km**, n36, σ0s40/39, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu** SNR=86	**0.23**	**272**	P	**Pg**	**11 07 11.3**	**+0.2**
YOCB	**Yeongcheon** SNR=99	**0.29**	**319**	P	**Pg**	**11 07 12.1**	**+0.2**
MIYA	**Miryang-si** SNR=21	**0.45**	**233**	P	**Pg**	**11 07 14.8**	**0.0**
KSPHA	**Pohang** SNR=52	**0.46**	**19**	P	**Pg**	**11 07 14.9**	**-0.1**
KSDAU	**Deagu-acc** SNR=32	**0.48**	**285**	P	**Pg**	**11 07 15.3**	**+0.1**
KSBUS	**Busan** SNR=44	**0.52**	**186**	P	**Pg**	**11 07 15.8**	**-0.2**
KSCHR	**CHANGNYEONG** SNR=14	**0.60**	**249**	P	**Pg**	**11 07 17.4**	**-0.2**
KSADO	**Andong** SNR=32	**0.68**	**344**	P	**Pb**	**11 07 18.7**	**-0.5**
EUSB	**Uiseong** SNR=31	**0.72**	**326**	P	**Pb**	**11 07 19.3**	**-0.6**
YODB	**Yeongdeok** SNR=28	**0.79**	**13**	P	**Pb**	**11 07 20.6**	**-0.5**
EURB	**Uiryeong-eup** SNR=19	**0.85**	**239**	P	**Pb**	**11 07 21.7**	**-0.4**
KSGUM	**GUMI** SNR=16	**0.86**	**303**	P	**Pb**	**11 07 22.1**	**-0.2**
YEYB	**Yeongyang** SNR=32	**0.86**	**355**	P	**Pb**	**11 07 22.1**	**-0.3**
ADOA	**Andong Acc Bor** SNR=12	**0.90**	**334**	P	**Pb**	**11 07 23.0**	**0.0**
KSGIC	**Gimchen** SNR=16	**0.93**	**290**	P	**Pb**	**11 07 23.3**	**-0.2**
HACA	**Hapcheon Acc B** SNR=24	**0.95**	**249**	P	**Pb**	**11 07 23.5**	**-0.2**
KSULJ	**Uljin** SNR=40	**0.96**	**11**	P	**Pb**	**11 07 23.5**	**-0.4**
KSSAJ	**Sangju** SNR=16	**1.05**	**308**	P	**Pb**	**11 07 25.3**	**-0.2**
DUSB	**Deogyusan** SNR=25	**1.15**	**277**	P	**Pb**	**11 07 27.1**	**-0.2**
HAMB	**Hamyang** SNR=21	**1.20**	**258**	P	**Pb**	**11 07 27.7**	**-0.3**
CHYB	**Chungyang** SNR=42	**1.20**	**350**	P	**Pn**	**11 07 27.7**	**-0.2**
YOJB	**Youngju** SNR=66	**1.23**	**334**	P	**Pn**	**11 07 28.0**	**-0.3**
JTU	**Tsushima**	**1.25**	**172**	*eP*	**Pn**	**11 07 28.5**	**0.0**
JTU				*eS*	**Sb**	**11 07 44.3**	**-0.4**
OKCB	**Cheongsan-myeo** SNR=15	**1.27**	**298**	P	**Pb**	**11 07 29.0**	**-0.2**
KSMGY	**Mungyeong** SNR=27	**1.27**	**315**	P	**Pn**	**11 07 29.0**	**+0.1**
KSBON	**Boeun** SNR=11	**1.34**	**304**	P	**Pb**	**11 07 31.0**	**+0.5**
YKDB	**Yokjido** SNR=17	**1.36**	**214**	P	**Pn**	**11 07 30.1**	**+0.1**
KSTBA	**Taebaek** SNR=49	**1.37**	**352**	P	**Pn**	**11 07 30.8**	**+0.5**
JTSM	**Tsushimamitsus**	**1.43**	**173**	*eP*	**Pn**	**11 07 31.4**	**+0.4**
JTSM				*eS*	**Sn**	**11 07 49.1**	**-0.3**
GWYB	**Gwangyang** SNR=10.0	**1.47**	**237**	P	**Pb**	**11 07 32.2**	**-0.4**
KSCHJ	**Chungju** SNR=20	**1.48**	**319**	P	**Pb**	**11 07 32.6**	**-0.2**
IMWB	**Imwonan-gil** SNR=52	**1.48**	**5**	P	**Pn**	**11 07 32.7**	**+1.0**
NAWB	**Namwon** SNR=37	**1.50**	**257**	P	**Pb**	**11 07 33.0**	**-0.1**
KSJEO	**Jeonju** SNR=15	**1.55**	**277**	P	**Pb**	**11 07 34.0**	**0.0**
JECH	**Jecheon** SNR=8.7	**1.61**	**331**	P	**Pn**	**11 07 33.3**	**-0.2**
JII	**Iki**	**2.01**	**167**	*eP*	**Pn**	**11 07 39.7**	**+0.7**
JII				*eS*	**Sn**	**11 08 04.7**	**+0.9**

*ANF **12** 11:08:21.0±0.6,32°.32N×117°.78W, h15km, ML2.7/11, Error ellipse: s-maj=4.6km s-min=2.8km az=7.0*
*MEX **12** 11:08:22.8±0.3,32°.31N×117°.79W, h10km, MD3.0*
*ECX **12** 11:08:23.7±0.6,32°.24N×117°.66W, h12km±7km, MD2.6, ML2.8*
ISC 12 11:08:19.9±1.6**, 32°.20N**±0°.06×**117°.79W**±0°.04**, h9**km±10km**, n22, σ0s87/41, 2C-4D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TJX	**Tijuana**	**0.69**	**64**	*eP*	**Pg**	**11 08 34.5**	**+1.2**
TJX				*eS*	**Sg**	**11 08 42.6**	**+0.3**
TJX				⇓*e*		11 08 46.0	
TJX				IAML		11 08 46.0	
	comp=N,704nm,0.4s						
TJX				IAML		11 08 46.3	
	comp=E,683nm,0.4s						
TJX				⇓*e*		11 08 46.3	
OLP	**Otay Lakes Par**	**0.83**	**61**	*eP*	**Pg**	**11 08 36.6**	**+0.7**
OLP				*eS*	**Sg**	**11 08 45.6**	**-1.1**
SDRC	**San Diego Road**	**0.89**	**53**	*eP*	**Pg**	**11 08 37.3**	**+0.3**
SDRC				*eS*	**Sg**	**11 08 48.0**	**-0.6**
SDRC				IAML		11 08 48.8	
	comp=E,251nm,0.4s						
SDRC				⇓*e*		11 08 48.8	
SDRC				*e*		11 08 49.4	
SDRC				IAML		11 08 49.4	
	comp=N,283nm,0.2s						
109C	**Camp Elliot, M** baz=218,SNR=52	**0.90**	**40**	P	**Pg**	**11 08 37.5**	**+0.4**
109C				S	**Sg**	**11 08 48.3**	**-0.5**
	baz=218						
CBX	**Cerro Bola**	**0.96**	**83**	*eP*	**Pg**	**11 08 38.2**	**-0.1**
CBX				*i S*	**Sg**	**11 08 50.5**	**-0.4**
CBX	**Cerro Bola**	**0.96**	**83**	*eP*	**Pg**	**11 08 38.3**	**-0.1**
CBX				*eS*	**Sg**	**11 08 50.1**	**-0.7**
TJIG	**Tijuana**	**0.97**	**76**	*eP*	**Pg**	**11 08 38.4**	**-0.1**
TJIG				*eS*	**Sg**	**11 08 50.5**	**-0.7**
TJIG	**Tijuana**	**0.97**	**76**	*eP*	**Pg**	**11 08 38.5**	**-0.1**
TJIG				*eS*	**Sg**	**11 08 50.6**	**-0.6**
SCI2	**San Clemente I** baz=139,SNR=5.7	**1.01**	**321**	P	**Pg**	**11 08 39.9**	**+0.6**
BAR	**Barrett**	**1.06**	**63**	*eP*	**Pb**	**11 08 39.9**	**-0.4**
BAR				*eS*	**Sg**	**11 08 52.7**	**-1.2**
BAR				IAML		11 08 53.8	
	comp=N,579nm,0.3s						
BAR				⇑*e*		11 08 53.8	
BAR				⇓*e*		11 08 54.9	
BAR				IAML		11 08 54.9	
	comp=E,296nm,0.2s						
CIS	**Catalina Islan** baz=155	**1.31**	**336**	P	**Pn**	**11 08 43.5**	**-0.9**
CIS				S	**Sb**	**11 08 59.8**	**-1.8**
	baz=155						
MONP2	**Monument Peak** baz=238	**1.34**	**59**	P	**Pn**	**11 08 44.4**	**-0.6**
MONP2				S	**Sb**	**11 09 01.1**	**-1.7**
	baz=238						
MURC	**Murrieta** baz=198,SNR=20	**1.48**	**20**	Pg	**Pn**	**11 08 47.6**	**+0.9**
MURC				Sg	**Sg**	**11 09 06.8**	**-0.8**
	baz=198						
IKP	**In-Ko-Pah, Jac** baz=252,SNR=22	**1.49**	**72**	P	**Pn**	**11 08 47.1**	**+0.2**
IKP				S	**Sn**	**11 09 05.3**	**-1.2**
	baz=252						
IKP	**In-Ko-Pah, Jac**	**1.49**	**72**	*eP*	**Pn**	**11 08 47.0**	**+0.1**
IKP				*eS*	**Sn**	**11 09 05.8**	**-0.7**
RMX	**La Rumorosa**	**1.50**	**74**	*eP*	**Pn**	**11 08 48.2**	**+1.1**
RMX				*eS*	**Sn**	**11 09 07.0**	**+0.2**
RMX				⇑*e*		11 09 08.6	
RMX				IAML		11 09 08.6	
	comp=N,136nm,0.5s						
RMX				IAML		11 09 09.1	
	comp=E,87nm,0.3s						
RMX				*e*		11 09 09.1	
TPFO	**Pinon Flats** baz=218,SNR=12	**1.79**	**38**	Pb	**Pn**	**11 08 52.0**	**+0.8**
PFO	**Pinyon Flats O** baz=218,SNR=7.3	**1.79**	**38**	Pb	**Pn**	**11 08 52.2**	**+1.0**
PFO				Sb	**Sb**	**11 09 15.1**	**-0.6**
	baz=218						
SWSC	**Sam W. Stewart** baz=246,SNR=20	**1.83**	**66**	Pg	**Pb**	**11 08 55.0**	**+1.4**
SWSC				Sb	**Sn**	**11 09 16.9**	**+2.0**
	baz=246						
BFSC	**Mount Baldy Ra** baz=182	**2.03**	**3**	Pg	**Pb**	**11 08 57.5**	**+0.4**
BFSC				Sb	**Sb**	**11 09 22.8**	**+0.3**
	baz=182						
BBRC	**Big Bear Solar** baz=199	**2.18**	**19**	Sb	**Sb**	**11 09 26.8**	**-0.1**
SPIG	**San Pedro Mart**	**2.29**	**120**	*eP*	**Pn**	**11 08 58.8**	**+0.6**
SPIG				*eS*	**Sn**	**11 09 26.5**	**-0.1**

*KMA **12** 11:08:50.2±0.0,35°.77N×129°.18E, h12km, Error ellipse: s-maj=0.5km s-min=0.4km az=297.0*
*JMA **12** 11:08:51.7±0.4,36°N±1°×12°9E±°, h15km±4km, MV2.9/7, S KOREAN PENINSULA REG*
ISC 12 11:08:49.5±0.9**, 35°.76N**±0°.03×**129°.21E**±0°.04**, h10**km**, n35, σ0s61/38, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu** SNR=44	**0.25**	**273**	P	**Pg**	**11 08 55.6**	**+0.9**
YOCB	**Yeongcheon** SNR=44	**0.30**	**317**	P	**Pg**	**11 08 56.4**	**+0.8**
KSPHA	**Pohang** SNR=41	**0.45**	**17**	P	**Pg**	**11 08 59.3**	**+0.9**
MIYA	**Miryang-si** SNR=11	**0.46**	**235**	P	**Pg**	**11 08 59.2**	**+0.6**
KSDAU	**Deagu-acc** SNR=23	**0.49**	**285**	P	**Pg**	**11 08 59.7**	**+0.5**
KSBUS	**Busan** SNR=40	**0.51**	**189**	P	**Pg**	**11 09 00.2**	**+0.6**
KSCHR	**CHANGNYEONG** SNR=7.4	**0.62**	**250**	P	**Pg**	**11 09 02.0**	**+0.4**
KSADO	**Andong** SNR=32	**0.69**	**342**	P	**Pg**	**11 09 03.1**	**+0.3**
EUSB	**Uiseong** SNR=15	**0.73**	**325**	P	**Pg**	**11 09 03.7**	**0.0**
YODB	**Yeongdeok** SNR=39	**0.79**	**12**	P	**Pg**	**11 09 05.0**	**+0.2**
EURB	**Uiryeong-eup** SNR=15	**0.87**	**240**	P	**Pg**	**11 09 06.1**	**-0.1**
YEYB	**Yeongyang** SNR=39	**0.87**	**354**	P	**Pg**	**11 09 06.5**	**+0.2**
KSGUM	**GUMI** SNR=14	**0.88**	**303**	P	**Pg**	**11 09 06.6**	**0.0**
ADOA	**Andong Acc Bor** SNR=12	**0.91**	**333**	P	**Pg**	**11 09 07.0**	**-0.1**
KSULJ	**Uljin** SNR=33	**0.96**	**10**	P	**Pg**	**11 09 08.0**	**+0.1**
HACA	**Hapcheon Acc B** SNR=15	**0.96**	**249**	P	**Pg**	**11 09 08.0**	**-0.1**
KSSAJ	**Sangju** SNR=11	**1.07**	**308**	P	**Pb**	**11 09 10.0**	**-0.2**
DUSB	**Deogyusan** SNR=13	**1.17**	**277**	P	**Pb**	**11 09 11.5**	**-0.4**
CHYB	**Chungyang** SNR=26	**1.21**	**349**	P	**Pn**	**11 09 12.2**	**-0.3**
HAMB	**Hamyang** SNR=20	**1.22**	**259**	P	**Pn**	**11 09 12.1**	**-0.5**
JTU	**Tsushima**	**1.24**	**173**	*eP*	**Pn**	**11 09 12.9**	**0.0**
JTU				*eS*	**Sb**	**11 09 28.4**	**-0.7**
YOJB	**Youngju** SNR=48	**1.24**	**334**	P	**Pn**	**11 09 12.8**	**-0.3**
OKCB	**Cheongsan-myeo** SNR=11	**1.29**	**298**	P	**Pn**	**11 09 14.0**	**-0.4**
KSMGY	**Mungyeong** SNR=11	**1.29**	**314**	P	**Pn**	**11 09 13.4**	**-0.2**
KSBON	**Boeun** SNR=5.6	**1.36**	**303**	P	**Pn**	**11 09 15.5**	**+0.9**
YKDB	**Yokjido** SNR=9.7	**1.37**	**214**	P	**Pn**	**11 09 15.1**	**+0.4**
KSTBA	**Taebaek** SNR=22	**1.38**	**352**	P	**Pn**	**11 09 15.3**	**+0.4**
JTSM	**Tsushimamitsus**	**1.42**	**174**	*eP*	**Pn**	**11 09 15.8**	**+0.4**
JTSM				*eS*	**Sb**	**11 09 32.9**	**-1.5**
GWYB	**Gwangyang** SNR=9.4	**1.48**	**237**	P	**Pn**	**11 09 17.0**	**+0.7**
IMWB	**Imwonan-gil** SNR=25	**1.48**	**4**	P	**Pn**	**11 09 17.1**	**+0.8**
KSCHJ	**Chungju** SNR=9.8	**1.49**	**319**	P	**Pn**	**11 09 17.0**	**+0.6**
NAWB	**Namwon** SNR=28	**1.51**	**258**	P	**Pn**	**11 09 17.2**	**+0.5**
SUCA	**Sunchang** SNR=8.9	**1.73**	**258**	P	**Pn**	**11 09 21.0**	**+1.3**
JHGM	**Hagimishima**	**1.86**	**121**	*eS*	**Sn**	**11 09 45.2**	**+0.3**
JII	**Iki**	**2.00**	**167**	*eP*	**Pn**	**11 09 24.2**	**+0.7**
JII				*eS*	**Sn**	**11 09 48.3**	**-0.2**

*JMA **12** 11:10:49.6±0.2,35°.9N±0°.9×12°9E±°, h34km, MV3.3/6, S KOREAN PENINSULA REG*
*KMA **12** 11:10:50.8±0.0,35°.78N×129°.18E, h16km, Error ellipse: s-maj=0.6km s-min=0.4km az=297.0*
ISC 12 11:10:49.4±0.9**, 35°.77N**±0°.03×**129°.23E**±0°.04**, h10**km**, n28, σ0s63/30, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu** SNR=62	**0.27**	**269**	P	**Pb**	**11 10 56.4**	**+0.1**
YOCB	**Yeongcheon** SNR=105	**0.30**	**312**	P	**Pb**	**11 10 57.2**	**+0.3**
KSPHA	**Pohang** SNR=57	**0.43**	**15**	P	**Pn**	**11 11 00.0**	**-1.6**
MIYA	**Miryang-si** SNR=24	**0.48**	**235**	P	**Pb**	**11 11 00.0**	**0.0**
KSDAU	**Deagu-acc** SNR=28	**0.51**	**283**	P	**Pb**	**11 11 00.5**	**+0.1**
KSBUS	**Busan** SNR=30	**0.53**	**190**	P	**Pb**	**11 11 01.0**	**+0.2**
KSCHR	**CHANGNYEONG**	**0.65**	**249**	P	**Pb**	**11 11 02.6**	**-0.1**
	SNR=12						
KSADO	**Andong** SNR=35	**0.68**	**340**	P	**Pn**	**11 11 03.8**	**-1.3**
EUSB	**Uiseong** SNR=20	**0.73**	**323**	P	**Pn**	**11 11 04.4**	**-1.3**
YODB	**Yeongdeok** SNR=33	**0.77**	**11**	P	**Pn**	**11 11 05.7**	**-0.6**
YEYB	**Yeongyang** SNR=26	**0.86**	**352**	P	**Pn**	**11 11 07.2**	**-0.3**
EURB	**Uiryeong-eup** SNR=17	**0.89**	**240**	P	**Pn**	**11 11 07.0**	**-0.9**
KSGUM	**GUMI** SNR=21	**0.89**	**301**	P	**Pn**	**11 11 07.2**	**-0.7**
ADOA	**Andong Acc Bor** SNR=28	**0.91**	**332**	P	**Pn**	**11 11 07.6**	**-0.5**
KSULJ	**Uljin** SNR=31	**0.94**	**9**	P	**Pn**	**11 11 08.6**	**0.0**
HACA	**Hapcheon Acc B** SNR=18	**0.99**	**249**	P	**Pn**	**11 11 08.5**	**-0.8**
KSSAJ	**Sangju** SNR=11	**1.08**	**306**	P	**Pn**	**11 11 10.6**	**+0.1**
DUSB	**Deogyusan** SNR=20	**1.19**	**276**	P	**Pn**	**11 11 12.3**	**+0.1**
CHYB	**Chungyang** SNR=40	**1.20**	**348**	P	**Pg**	**11 11 13.0**	**+0.6**
HAMB	**Hamyang** SNR=24	**1.24**	**258**	P	**Pg**	**11 11 13.0**	**-0.2**
YOJB	**Youngju** SNR=73	**1.24**	**332**	P	**Pg**	**11 11 13.1**	**-0.1**
JTU	**Tsushima**	**1.25**	**174**	P	**Pb**	**11 11 13.1**	**0.0**
JTU				*eS*	**Sn**	**11 11 29.9**	**+0.1**
OKCB	**Cheongsan-myeo** SNR=7.1	**1.30**	**297**	P	**Pg**	**11 11 15.0**	**+0.7**
YKDB	**Yokjido** SNR=11	**1.39**	**215**	P	**Pg**	**11 11 16.0**	**-0.1**
JTSM	**Tsushimamitsus**	**1.44**	**175**	*eP*	**Pb**	**11 11 15.7**	**-0.5**
JTSM				*eS*	**Sb**	**11 11 35.1**	**+0.6**
JHGM	**Hagimishima**	**1.85**	**122**	*eS*	**Sn**	**11 11 44.7**	**+0.2**
JII	**Iki**	**2.02**	**168**	*eS*	**Sn**	**11 11 49.1**	**+0.5**
JTY	**Toyota**	**2.13**	**135**	*eP*	**Pn**	**11 11 25.0**	**0.0**

*IDC **12** 11:17:59.4±1.1,5°.44S×108°.38E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=29.6km s-min=20.5km az=90.0*
ISC 12 11:17:56.3±1.4**, 7°.7S**±0°.2×**105°.8E**±0°.1**, h35**km**, n6, σ0s71/7, mb3.7/4, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang** 87nm,0.3s,baz=340,slow=8.2,SNR=48	**2.02**	**64**	Pn	**Pn**	**11 18 28.4**	**+0.2**
LEM				Sn	**Sn**	**11 18 52.2**	**0.0**
	59nm,0.3s,baz=338,slow=18,SNR=12						
WRA	**Warramunga Arr** 0.8nm,1.2s,baz=290,slow=10.0,SNR=2.3 0.8nm,1.2s	**30.22**	**117**	P	**P**	**11 24 02.8**	**-1.1**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=301,slow=7.7,SNR=4.3 0.1nm,0.4s	**31.28**	**124**	P	**P**	**11 24 14.1**	**+0.8**
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=149,slow=8.2,SNR=8.5 0.8nm,0.6s	**58.15**	**341**	P	**P**	**11 27 46.3**	**-0.3**
KURBB	**Kurchatov Arra** 0.6nm,0.3s,baz=150,slow=6.5,SNR=1.4 0.6nm,0.3s	**62.71**	**341**	P	**P**	**11 28 17.9**	**+0.2**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=250,slow=1.8,SNR=6.6	**144.94**	**48**	PKP	**PKPdf**	**11 37 30.8**	**+0.1**

*IDC **12** 11:20:14.0±4.8, 13°.47N×120°.52E, h55km±50km, mb3.5/4, mbtmp3.8/4, Error ellipse: s-maj=90.9km s-min=20.1km az=70.0*
*MAN **12** 11:20:14.1, 13°.51N×120°.49E, h29km, mb4.7, ML3.6, MS3.5*
ISC 12 11:20:14.0±0.8**, 13°.49N**±0°.04×**120°.42E**±0°.06**, h53**km±8km**, n14, σ0s79/26, mb3.9/4, 8C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**326**	⇑*iP*	**Pn**	**11 20 23.3**	**-0.1**
LUBP				*i S*	**Sn**	**11 20 29.7**	**-0.3**
TGY	**Tagaytay City** baz=90,slow=0.9	**0.79**	**40**	P	**Pn**	**11 20 29.3**	**+0.1**
TGY				S	**Sn**	**11 20 40.6**	**+0.4**
	baz=90,slow=19						
TGY	**Tagaytay City**	**0.79**	**40**	⇑*eP*	**Pn**	**11 20 29.3**	**+0.1**
TGY				*i S*	**Sn**	**11 20 40.5**	**+0.4**
MACP	**Maragondon, Ca**	**0.82**	**21**	⇑*iP*	**Pn**	**11 20 28.5**	**-1.0**
MACP				*eS*	**Sn**	**11 20 39.9**	**-0.9**
SJMP	**San Jose**	**1.23**	**146**	⇑*iP*	**Pn**	**11 20 35.7**	**+0.7**
SJMP				*eS*	**Sn**	**11 20 51.0**	**+0.4**
LQP	**Lukban**	**1.25**	**60**	⇓*eP*	**Pn**	**11 20 36.6**	**+1.1**
LQP				*eS*	**Sn**	**11 20 52.2**	**+0.8**
BOAC	**Boac**	**1.39**	**91**	⇑*eP*	**Pn**	**11 20 36.3**	**-0.8**
BOAC				*eS*	**Sn**	**11 20 53.1**	**-1.3**
BUSP	**Coron**	**1.49**	**188**	⇑*iP*	**Pn**	**11 20 39.0**	**+0.4**
BUSP				*eS*	**Sn**	**11 20 56.9**	**0.0**
JCNP	**Jose Panganiba**	**2.35**	**70**	⇑*iP*	**Pn**	**11 20 50.4**	**+0.2**
JCNP				*i S*	**Sn**	**11 21 17.3**	**-0.7**
BALP	**Baler**	**2.50**	**26**	⇑*eP*	**Pn**	**11 20 53.2**	**+0.9**
BALP				*eS*	**Sn**	**11 21 23.3**	**+1.7**
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=334,slow=9.6,SNR=23	**35.94**	**157**	P	**P**	**11 27 08.6**	**-1.1**
WRA	0.5nm,0.6s,baz=336,slow=9.4,SNR=3.7 0.6nm,0.6s			pP	**pP**	**11 27 23.2**	**0.0**
SONM	**Songino Array** 0.4nm,0.5s,baz=158,slow=8.2,SNR=1.9 0.4nm,0.5s	**36.18**	**344**	P	**P**	**11 27 11.6**	**-0.1**
ASAR	**Alice Springs** 1.0nm,0.4s,baz=336,slow=8.3,SNR=38	**39.21**	**160**	P	**P**	**11 27 36.9**	**-0.5**
ASAR	0.5nm,0.6s,baz=342,slow=7.1,SNR=7.5 1.0nm,0.4s			pP	**pP**	**11 27 52.0**	**+0.9**
KURBB	**Kurchatov Arra** 0.4nm,0.2s,baz=131,slow=7.9,SNR=1.3 0.4nm,0.2s	**50.21**	**326**	P	**P**	**11 29 04.8**	**+0.2**

*KMA **12** 11:26:22.7±0.0,35°.77N×129°.16E, h4km, Error ellipse: s-maj=0.6km s-min=0.3km az=297.0*
*JMA **12** 11:26:22.9±0.3,35°.8N±1°.0×12°9E±°, h41km, MV2.9/7, S KOREAN PENINSULA REG*
ISC 12 11:26:22.5±1.3**, 35°.77N**±0°.02×**129°.17E**±0°.04**, h16**km±11km**, n47, σ0s37/50, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu** SNR=144	**0.22**	**270**	P	**Pb**	**11 26 28.3**	**+0.1**
YOCB	**Yeongcheon** SNR=260	**0.28**	**320**	P	**Pb**	**11 26 29.0**	**-0.1**
MIYA	**Miryang-si** SNR=16	**0.44**	**232**	P	**Pb**	**11 26 31.9**	**0.0**
KSPHA	**Pohang** SNR=97	**0.45**	**21**	P	**Pg**	**11 26 31.8**	**+0.1**
KSDAU	**Deagu-acc** SNR=94	**0.47**	**285**	P	**Pb**	**11 26 32.4**	**0.0**
KSBUS	**Busan** SNR=70	**0.52**	**185**	P	**Pg**	**11 26 33.0**	**+0.2**
KSCHR	**CHANGNYEONG** SNR=18	**0.60**	**248**	P	**Pb**	**11 26 34.6**	**-0.1**
KSADO	**Andong** SNR=257	**0.67**	**344**	P	**Pg**	**11 26 35.5**	**-0.2**
EUSB	**Uiseong** SNR=55	**0.71**	**326**	P	**Pg**	**11 26 36.2**	**-0.1**
YODB	**Yeongdeok** SNR=58	**0.79**	**14**	P	**Pg**	**11 26 37.6**	**-0.3**
EURB	**Uiryeong-eup** SNR=26	**0.85**	**239**	P	**Pb**	**11 26 38.7**	**-0.1**
KSGUM	**GUMI** SNR=20	**0.85**	**303**	P	**Pb**	**11 26 39.1**	**+0.1**
YEYB	**Yeongyang** SNR=69	**0.86**	**355**	P	**Pg**	**11 26 39.0**	**-0.3**
ADOA	**Andong Acc Bor** SNR=58	**0.89**	**335**	P	**Pg**	**11 26 39.4**	**-0.4**
KSGIC	**Gimchen** SNR=50	**0.92**	**290**	P	**Pb**	**11 26 40.3**	**+0.1**
HACA	**Hapcheon Acc B** SNR=43	**0.94**	**248**	P	**Pb**	**11 26 40.4**	**-0.1**
KSULJ	**Uljin** SNR=133	**0.95**	**12**	P	**Pg**	**11 26 40.3**	**-0.6**
KUJA	**Jangpyeong** SNR=8.1	**0.99**	**208**	P	**Pb**	**11 26 42.0**	**+0.6**
KSSAJ	**Sangju**	**1.04**	**308**	P	**Pb**	**11 26 42.2**	**0.0**

	SNR=29							
KSYCH	**Yecheon**	**1.05**	**325**	P		**Pb**	**11 26 42.8**	**+0.4**
	SNR=6.4							
DUSB	**Deogyusan**	**1.14**	**277**	P		**Pn**	**11 26 44.2**	**+0.2**
	SNR=135							
HAMB	**Hamyang**	**1.19**	**258**	P		**Pg**	**11 26 44.8**	**-0.6**
	SNR=30							
CHYB	**Chungyang**	**1.19**	**350**	P		**Pb**	**11 26 44.5**	**-0.3**
	SNR=96							
JTU	**Tsushima**	**1.25**	**171**	*e*P		**Pn**	**11 26 45.2**	**-0.2**
JTU				*e*S		**Sb**	**11 27 01.5**	**-0.2**
OKCB	**Cheongsan-myeo**	**1.26**	**298**	P		**Pb**	**11 26 46.0**	**+0.1**
	SNR=69							
KSMGY	**Mungyeong**	**1.26**	**315**	P		**Pn**	**11 26 46.0**	**+0.5**
	SNR=64							
KSBON	**Boeun**	**1.33**	**304**	P		**Pb**	**11 26 47.4**	**+0.2**
	SNR=78							
YKDB	**Yokjido**	**1.36**	**213**	P		**Pn**	**11 26 47.2**	**+0.4**
	SNR=63							
KSTBA	**Taebaek**	**1.36**	**353**	P		**Pn**	**11 26 47.5**	**+0.4**
	SNR=139							
JTSM	**Tsushimamitsus**	**1.44**	**173**	*e*P		**Pn**	**11 26 47.8**	**-0.1**
JTSM				*e*S		**Sn**	**11 27 06.2**	**-0.2**
GWYB	**Gwangyang**	**1.46**	**236**	P		**Pb**	**11 26 49.4**	**+0.1**
	SNR=11							
KSCHJ	**Chungju**	**1.47**	**319**	P		**Pb**	**11 26 49.6**	**+0.1**
	SNR=28							
IMWB	**Imwonan-gil**	**1.47**	**5**	P		**Pb**	**11 26 50.0**	**+0.4**
	SNR=19							
NAWB	**Namwon**	**1.49**	**257**	P		**Pb**	**11 26 50.0**	**+0.2**
	SNR=30							
KSJEO	**Jeonju**	**1.54**	**277**	P		**Pb**	**11 26 51.0**	**+0.3**
	SNR=43							
JECH	**Jecheon**	**1.60**	**331**	P		**Pn**	**11 26 50.3**	**+0.1**
	SNR=16							
SUCA	**Sunchang**	**1.70**	**257**	P		**Pb**	**11 26 54.0**	**+0.5**
	SNR=9.9							
EMSB	**Eumseong**	**1.73**	**314**	P		**Pb**	**11 26 54.0**	**0.0**
	SNR=17							
YNDB	**Yeoundo**	**1.74**	**221**	P		**Pn**	**11 26 53.0**	**+0.8**
	SNR=12							
KSJEU	**Jeongeup**	**1.85**	**262**	P		**Pb**	**11 26 55.4**	**-0.6**
	SNR=33							
BURB	**Buron**	**1.86**	**322**	P		**Pb**	**11 26 56.1**	**0.0**
	SNR=12							
KSWJU	**Wonju**	**1.86**	**331**	P		**Pn**	**11 26 54.1**	**+0.3**
	SNR=42							
KSKWJ	**Gwangju**	**1.88**	**252**	P		**Pn**	**11 26 55.0**	**+1.0**
	SNR=49							
KSKWJ	**Gwangju**	**1.88**	**252**	P		**Pb**	**11 26 56.5**	**0.0**
	SNR=13							
BOSB	**Boseong-gun**	**1.89**	**239**	P		**Pb**	**11 26 56.0**	**-0.7**
	SNR=36							
JII	**Iki**	**2.02**	**167**	*e*S		**Sn**	**11 27 20.7**	**-0.2**
JTY	**Toyota**	**2.16**	**133**	*e*P		**Pn**	**11 26 58.2**	**+0.3**
JTY				*e*S		**Sn**	**11 27 24.3**	**0.0**

ROM 12 11:32:02.3±0.1, 42.924N±0.003×13.261E±0.004, h8km, ML1.4/4, 1C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=50.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.05**	**258**	P	Pg	11 32 04.3	+0.1
MC2				S	Sg	11 32 05.7	0.0
MMO1	**Montemonaco**	**0.05**	**117**	P	Pg	11 32 04.3	+0.2
MMO1				S	Sg	11 32 05.5	+0.1
AM05	**Amandola Campo**	**0.09**	**52**	AML	AML		
	comp=N,220μm,0.6s						
AM05				AML	AML		
	comp=E,294μm,0.1s						
AM05				AML	AML		
	comp=E,294μm,0.1s						
T1242	**Castelluccio d**	**0.10**	**204**	P	Pg	11 32 05.2	+0.4
T1242				S	Sg	11 32 07.2	+0.6
T1242				AML	AML		
	comp=E,126μm,0.2s						
T1242				AML	AML		
	comp=E,125μm,0.2s						
T1242				AML	AML		
	comp=N,178μm,1.4s						
NRCA	**Norcia**	**0.14**	**230**	AML	AML		
	comp=E,288μm,0.7s						
NRCA				AML	AML		
	comp=N,333μm,0.4s						
NRCA				AML	AML		
	comp=E,289μm,0.7s						
T1241	**Roccafluvione,**	**0.14**	**118**	P	Pg	11 32 05.9	+0.6
T1241				S	Sg	11 32 08.6	+1.1
FDMO	**Fiordimonte**	**0.17**	**311**	P	Pg	11 32 06.2	+0.4
FDMO				S	Sg	11 32 09.4	+1.1
CSP1	**Cessapalombo**	**0.17**	**346**	P	Pg	11 32 06.5	+0.6
CSP1				S	Sg	11 32 09.5	+1.0
T1202	**Accumoli, Fraz**	**0.22**	**187**	P	Pg	11 32 07.5	+0.7
T1243	**Rocca Santa Ma**	**0.27**	**149**	P	Pg	11 32 08.1	+0.5
T1243				S	Sg	11 32 12.7	+1.5
T1215	**Vallo di Nera,**	**0.31**	**247**	⇓P	Pg	11 32 09.0	+0.5
TERO	**Teramo**	**0.39**	**140**	⇑P	Pg	11 32 10.4	+0.4
FIAM	**Fiamignano**	**0.66**	**189**	S	Sn	11 32 30.0	+1.2

IDC ***12*** *11:32:53.0±0.3, 35.79N×129.18E, h0km, mb4.9/40, mbtmp4.9/42, ML3.4/2, MS5.0/83, Error ellipse: s-maj=11.1km s-min=7.0km az=65.0*

MOS ***12*** *11:32:53.1±1.0, 35.74N×129.09E, h11km, mb5.5/125, MS5.3/48, Error ellipse: s-maj=5.3km s-min=3.2km az=114.4*

BJI ***12*** *11:32:53.2±0.0, 35.75N×129.12E, h11km, mb5.2/71, mB5.4/51, ML5.9/5, Ms5.9/85, Ms7 5.7/81*

JMA ***12*** *11:32:54.6±0.2, 35.8N±0.8×129.3E±0.8, h36km, MD5.8/37, MW5.5/37, S KOREAN PENINSULA REG*

JMA Felt III J1 at S KOREAN PENINSULA REG .

KMA ***12*** *11:32:54.0±0.0, 35.76N×129.19E, h20km, Error ellipse: s-maj=0.8km s-min=0.8km az=330.0*

NIED ***12*** *11:32:54.6, 35.80N×129.27E, h36km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.14; $M_{\theta\theta}$ 1.10; $M_{\phi\phi}$ -1.24; $M_{r\theta}$0.77; $M_{r\phi}$0.78; $M_{\theta r}$-0.85; Fault plane solution: $M_0$1.78000×10^{17} NP1:ϕ_s31.00000°, δ53.00000°, λ-178.00000°. NP2:ϕ_s300.00000°, δ89.00000°, λ-37.00000°.*

KEA ***12*** *11:32:55.4, 35.82N×128.94E, h15km, ML6.0/6*

NEIC ***12*** *11:32:55.2, 35.78N×129.21E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.34; $M_{\theta\theta}$ 1.13; $M_{\phi\phi}$ -1.47; $M_{r\theta}$0.71; $M_{r\phi}$1.03; $M_{\theta r}$-0.54; Fault plane solution: $M_0$1.91000×10^{17} NP1:ϕ_s117.69000°, δ86.95000°, λ29.00000°. NP2:ϕ_s26.00000°, δ61.05000°, λ176.51000°. Principal axes: T 1.6957, Plg22.0000°, Azm346.0000°; N 0.3734, Plg61.0000°, Azm123.0000°; P -2.0691, Plg18.0000°, Azm248.0000°;*

NEIC ***12*** *11:32:55.2, 35.78N×129.21E, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.19; $M_{\theta\theta}$ 1.31; $M_{\phi\phi}$ -1.50; $M_{r\theta}$0.48; $M_{r\phi}$0.91; $M_{\theta r}$-0.32; Fault plane solution: $M_0$1.78000×10^{17} NP1:ϕ_s119.05000°, δ88.43000°, λ19.30000°. NP2:ϕ_s28.50000°, δ70.71000°, λ178.34000°. Principal axes: T 1.6754, Plg15.0000°, Azm345.0000°; N 0.1854, Plg71.0000°, Azm124.0000°; P -1.8608, Plg12.0000°, Azm252.0000°;*

NEIC ***12*** *11:32:55.8±1.7, 35.78N±0.04×129.22E±0.06, h13km±1km, mb5.5/211, Ms_20 5.2/311, Mwb5.4/39, Mwr5.5/18, Mww5.4 Error ellipse: s-maj=8.2km s-min=7.0km az=77.0*

GCMT ***12*** *11:32:56.8±0.1, 35.79N±0.01×129.12E±0.01, h20km, MW5.5/156, Moment Tensor Solution. s112,c197; s156,c312; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.23±.03; $M_{\theta\theta}$ 1.55±.02; $M_{\phi\phi}$ -1.78±.03; $M_{r\theta}$0.72±.06; $M_{\theta\phi}$ 1.39±.02; $M_{\phi r}$-0.26±.05; Best double couple: $M_0$2.30600×10^{17} NP1:ϕ_s116.00000°, δ86.00000°, λ20.00000°. NP2:ϕ_s24.00000°, δ70.00000°, λ176.00000°. Principal axes: T 2.2340, Plg17.0000°, Azm342.0000°; N 0.1430, Plg70.0000°, Azm127.0000°; P -2.3790, Plg11.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *11:32:59, 35.77N×129.23E, h14km, Moment Tensor Solution. Duration: 10s6 Moment tensor: Scale 10^{17}Nm; M_{rr}0.02; $M_{\theta\theta}$ 1.45; $M_{\phi\phi}$ -1.46; $M_{r\theta}$0.66; $M_{\theta\phi}$ 0.94; $M_{\phi r}$-0.25; Fault plane solution: $M_0$1.87000×10^{17} NP1:ϕ_s28.00000°, δ68.00000°, λ177.00000°. NP2:ϕ_s119.00000°, δ88.00000°, λ22.00000°. Principal axes: T 1.8928, Plg17.0000°, Azm346.0000°; N -0.0491, Plg68.0000°, Azm125.0000°; P -1.8438, Plg14.0000°, Azm251.0000°:*

ISC 12 11:32:55.0±0.4, 35.77N±0.02×129.16E±0.02, h12km×2km, h12km:pP-P, n1368, σ1.45/1243, mb5.3/314, MS5.2/278, 93C-47D, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.21**	**270**	P	**Pg**	**11 32 59.8**	**+0.2**
YOCB	**Yeongcheon**	**0.27**	**321**	P	**Pg**	**11 33 00.7**	**+0.1**
	SNR=9077						
MIYA	**Miryang-si**	**0.44**	**231**	P	**Pg**	**11 33 03.4**	**-0.1**
	SNR=689						
KSDAU	**Deagu-acc**	**0.46**	**285**	P	**Pg**	**11 33 03.9**	**0.0**
	SNR=6289						
KSPHA	**Pohang**	**0.46**	**22**	P	**Pg**	**11 33 03.5**	**-0.5**
KSBUS	**Busan**	**0.52**	**184**		**Pg**	**11 33 04.4**	**-0.7**
KSBUS	**Busan**	**0.52**	**184**	P	**Pg**	**11 33 04.5**	**-0.7**
	SNR=9529						
JTU	**Tsushima**	**1.26**	**171**		**Pn**	**11 33 16.9**	**-1.4**
JTU					**Sb**	**11 33 34.1**	**-0.5**
JTU	**Tsushima**	**1.26**	**171**	*e*P	**Pn**	**11 33 16.7**	**-1.6**
JTU	**Tsushima**	**1.26**	**171**	A	A	11 33 16.7	
	comp=E,346nm,2.6s,comp=E,412nm,1.9s						
JTSM	**Tsushimamitsus**	**1.44**	**173**	P	**Pn**	**11 33 19.4**	**-1.4**
JTSM				S	**Sn**	**11 33 37.3**	**-2.3**
JTSM	**Tsushimamitsus**	**1.44**	**173**	A	A	11 33 19.4	
	comp=E,645nm,2.6s,comp=E,494nm,0.8s						
KSCHJ	**Chungju**	**1.46**	**319**	Pn	**Pn**	**11 33 20.5**	**-0.6**
NAWB	**Namwon**	**1.48**	**257**	Pn	**Pn**	**11 33 21.7**	**+0.3**
TJN	**Taejon**	**1.58**	**293**	Pn	**Pn**	**11 33 22.5**	**-0.3**
TJN	**Taejon**	**1.58**	**293** *d*	*i*P	**Pn**	**11 33 22.4**	**-0.3**
TJN	**Taejon**	**1.58**	**293**	P	**Pb**	**11 33 24.1**	**+0.1**
JHGM	**Hagimishima**	**1.90**	**121**	P	**Pn**	**11 33 25.3**	**-1.8**
JHGM	**Hagimishima**	**1.90**	**121**	A	A	11 33 25.3	
	comp=E,248nm,2.1s,comp=E,262nm,3.3s						
KSRS	**Korea Array**	**1.96**	**330**	Pn	**Pn**	**11 33 27.1**	**-0.8**
	354nm,0.3s,baz=148,slow=14,SNR=1939						
KSRS				Pg	**Pb**	**11 33 30.2**	**-0.2**
	1μm,0.3s,baz=147,slow=17,SNR=160						
KSRS				Lg	Lg	11 33 54.6	
	4μm,0.3s,baz=148,slow=27,SNR=45						
KSRS				LR	LR	11 34 12.0	
	comp=E,135μm,19.0s,baz=200,slow=41						
KSAR	**Wonju Array Be**	**1.96**	**329**		**Pn**	**11 33 27.3**	**-0.7**
KSAR	**Wonju Array Be**	**1.96**	**329**	P	**Pn**	**11 33 27.3**	**-0.7**
KS19	**Wonju Array Si**	**2.02**	**329**	Pn	**Pn**	**11 33 27.5**	**-1.4**
JII	**Iki**	**2.02**	**166**	*e*P	**Pn**	**11 33 27.8**	**-1.0**
JII				*e*S	**Sn**	**11 33 52.0**	**-2.1**
JII	**Iki**	**2.02**	**166**	A	A	11 33 27.8	
	comp=E,203nm,2.4s,comp=E,193nm,4.1s						
JTY	**Toyota**	**2.17**	**133**	*e*P	**Pn**	**11 33 28.7**	**-2.1**
JTY	**Toyota**	**2.17**	**133**	A	A	11 33 28.7	
	comp=E,163nm,2.5s,comp=E,278nm,2.5s						
JFA	**Akaike**	**2.45**	**146**	A	A	11 33 33.3	
	comp=E,106nm,3.7s,comp=E,62nm,1.9s						
JFI	**Itaya**	**2.54**	**156**	A	A	11 33 34.8	
	comp=E,78nm,1.8s,comp=E,86nm,2.4s						
JHIK	**Hikimi**	**2.58**	**118**	A	A	11 33 34.5	
	comp=E,69nm,3.2s,comp=E,70nm,2.6s						
SEHB	**SEOHWA**	**2.60**	**344**		**Pn**	**11 33 36.0**	**-0.8**
INCN	**Inchon**	**2.66**	**311**		**Pn**	**11 33 37.1**	**-0.5**
INCN	**Inchon**	**2.66**	**311**	P	**Pn**	**11 33 37.1**	**-0.5**
INCN	**Inchon**	**2.66**	**311**	P	**Pn**	**11 33 38.0**	**+0.4**
JUR	**Ureshino**	**2.75**	**166**	A	A	11 33 37.9	
	comp=E,120nm,2.5s,comp=E,114nm,8.1s						
JKD	**Kudamatsu**	**2.81**	**127**	A	A	11 33 37.9	
	comp=E,52nm,2.9s,comp=E,89nm,2.2s						
JGT2	**ShimaneMisato**	**2.82**	**103**	*e*P	**Pn**	**11 33 37.5**	**-2.4**
JGT2	**ShimaneMisato**	**2.82**	**103**	A	A	11 33 37.5	
	comp=E,166nm,4.8s,comp=E,194nm,4.9s						
JHT	**Toyohira**	**2.89**	**111**	*e*P	**Pn**	**11 33 39.1**	**-1.7**
JHT	**Toyohira**	**2.89**	**111**	A	A	11 33 39.1	
	comp=E,59nm,3.7s,comp=E,54nm,2.7s						
JKI	**Kunimi**	**2.91**	**136**	A	A	11 33 39.6	
	comp=E,219nm,2.5s,comp=E,281nm,3.4s						
JNU	**Natsue**	**3.00**	**151**	A	A	11 33 41.1	
	comp=E,65nm,3.8s,comp=E,55nm,3.5s						
JISK	**Izumosakaura**	**3.02**	**94**	A	A	11 33 40.4	
	comp=E,80nm,6.2s,comp=E,92nm,2.8s						
JTA	**Tamana**	**3.02**	**158**	A	A	11 33 41.6	
	comp=E,59nm,2.8s,comp=E,69nm,9.6s						
JBEP	**Beppuamama**	**3.05**	**142**	A	A	11 33 41.8	
	comp=E,219nm,2.3s,comp=E,177nm,2.6s						
JFU	**Fukue jima 2**	**3.12**	**186**	A	A	11 33 43.7	
	comp=E,274nm,5.1s,comp=E,311nm,4.5s						
JNM	**Ikuma**	**3.16**	**94**	A	A	11 33 42.5	
	comp=E,80nm,2.6s,comp=E,144nm,2.9s						
NGSJ	**Nagasakinomoza**	**3.17**	**170**	A	A	11 33 44.1	
	comp=E,99nm,4.9s,comp=E,55nm,3.0s						
JHM	**Kurahashi**	**3.21**	**119**	A	A	11 33 43.5	
	comp=E,47nm,5.1s,comp=E,64nm,3.5s						
JHS	**Saijyo**	**3.32**	**102**		**Pn**	**11 33 45.1**	**-1.7**
JHS	**Saijyo**	**3.32**	**102**	P	**Pn**	**11 33 44.8**	**-2.0**
JHS	**Saijyo**	**3.32**	**102**	A	A	11 33 44.8	
	comp=E,32nm,3.6s,comp=E,124nm,2.7s						
JOI	**OKI**	**3.35**	**80**	*e*P	**Pn**	**11 33 45.3**	**-1.9**
JOI	**OKI**	**3.35**	**80**	A	A	11 33 45.3	
	comp=E,52nm,2.0s,comp=E,77nm,3.2s						
JHD	**Hondo**	**3.39**	**166**	A	A	11 33 47.1	
	comp=E,99nm,2.8s,comp=E,57nm,6.6s						
JUS	**Usuki**	**3.44**	**141**	A	A	11 33 47.2	
	comp=E,73nm,3.0s,comp=E,54nm,4.7s						
JJG	**Jouge**	**3.46**	**108**	A	A	11 33 46.8	
	comp=E,44nm,2.9s,comp=E,78nm,2.3s						
JIU3	**Izumi3**	**3.49**	**156**	A	A	11 33 48.3	
	comp=E,39nm,4.1s,comp=E,39nm,1.6s						
JNA	**Nagahama**	**3.51**	**128**	*e*P	**Pn**	**11 33 48.4**	**-1.0**
JNA	**Nagahama**	**3.51**	**128**	A	A	11 33 48.4	
	comp=E,54nm,3.4s,comp=E,46nm,2.9s						
HJU	**Haeju**	**3.57**	**311**	Pg	**Pb**	**11 33 59.5**	**+1.6**
HJU				Sg	**Sb**	**11 34 44.6**	**+3.4**
HJU				AML	AML		
	comp=N,109μm,1.0s						
HJU				AML	AML		
	comp=E,56μm,0.9s						
HJU				AML	AML		
	comp=Z,78μm,1.0s						
WOSN	**Wonsan**	**3.66**	**338**	Pg	**Pg**	**11 34 02.6**	**-2.5**
WOSN				Sg	**Sg**	**11 34 49.8**	**-2.8**
WOSN				AML	AML		
	comp=N,20μm,0.9s						
WOSN				AML	AML		
	comp=E,19μm,0.6s						
WOSN				AML	AML		
	comp=Z,8μm,1.0s						
JKIT	**Kitakata**	**3.67**	**148**	A	A	11 33 50.5	
	comp=Z,49nm,3.0s,comp=Z,45nm,2.2s						
JSKE	**Saikikamae**	**3.73**	**142**	A	A	11 33 51.4	
	comp=Z,47nm,5.0s,comp=Z,36nm,6.6s						
JET	**Tanbara**	**3.77**	**121**	A	A	11 33 51.4	
	comp=Z,33nm,3.1s,comp=Z,46nm,2.8s						
JZO	**Okuchi**	**3.81**	**161**	A	A	11 33 52.9	
	comp=Z,52nm,7.5s,comp=Z,46nm,6.2s						
JKR	**Kurayoshi**	**3.82**	**94**	A	A	11 33 51.7	
	comp=Z,33nm,2.8s,comp=Z,64nm,3.8s						
UWA2	**Uwa jima 2**	**3.83**	**131**	A	A	11 33 52.5	
	comp=Z,59nm,5.0s,comp=Z,57nm,5.5s						
JHHC	**Hyugahichiya**	**3.90**	**148**	A	A	11 33 53.9	
	comp=Z,69nm,3.5s,comp=Z,36nm,2.3s						
JTSN	**Tsuno**	**4.02**	**150**	A	A	11 33 55.5	
	comp=Z,46nm,4.3s,comp=Z,31nm,3.6s						
JKU	**Kubokawa**	**4.05**	**126**	A	A	11 33 55.4	
	comp=Z,99nm,4.5s,comp=Z,93nm,2.7s						
JSJ	**Shimokoshiki**	**4.11**	**173**	P	**Pn**	**11 33 56.3**	**-1.2**
JSJ	**Shimokoshiki**	**4.11**	**173**	A	A	11 33 56.3	
	comp=Z,66nm,4.2s,comp=Z,40nm,8.7s						
JAD	**Aida**	**4.18**	**100**	A	A	11 33 56.8	
	comp=Z,23nm,3.2s,comp=Z,46nm,4.3s						
JTZ	**Takazaki**	**4.18**	**157**	P	**Pn**	**11 33 58.4**	**0.0**
JTO	**Tosashimizu**	**4.18**	**133**	P	**Pn**	**11 33 57.4**	**-1.2**
JTO	**Tosashimizu**	**4.18**	**133**	A	A	11 33 57.4	
	comp=Z,56nm,2.3s,comp=Z,88nm,2.5s						
JKHR	**Kochiharuno**	**4.23**	**121**	A	A	11 33 57.9	
	comp=Z,65nm,3.7s,comp=Z,102nm,2.9s						
PYAG	**Pyongyang**	**4.25**	**321**	Pg	**Pg**	**11 34 13.1**	**-3.3**
PYAG				Sg	**Sg**	**11 35 07.5**	**-3.9**
PYAG				AML	AML		
	comp=N,33μm,1.1s						
PYAG				AML	AML		
	comp=E,34μm,0.7s						
PYAG				AML	AML		
	comp=Z,33μm,1.0s						
HHU	**Hamhung**	**4.35**	**343**	Pg	**Pg**	**11 34 15.6**	**-2.6**
HHU				Sg	**Sg**	**11 35 12.1**	**-2.5**
HHU				AML	AML		
	comp=N,15μm,0.9s						
HHU				AML	AML		
	comp=E,23μm,0.7s						
HHU				AML	AML		
	comp=Z,27μm,1.1s						
PYS	**Pyongsong**	**4.36**	**324**	Pg	**Pb**	**11 34 14.8**	**+3.4**
PYS				Sg	**Sg**	**11 35 10.3**	**-4.6**
PYS				AML	AML		
	comp=N,89μm,2.0s						
PYS				AML	AML		
	comp=E,106μm,1.4s						
PYS				AML	AML		
	comp=Z,69μm,0.7s						
JMN	**Monobe**	**4.39**	**116**		**Pn**	**11 34 00.3**	**-1.1**
JMN	**Monobe**	**4.39**	**116**	A	A	11 34 00.0	
	comp=Z,50nm,1.7s,comp=Z,69nm,2.4s						
JSU	**Suzuyama**	**4.39**	**165**	Pn	**Pn**	**11 34 00.2**	**-1.2**
JSU	**Suzuyama**	**4.39**	**165**	A	A	11 34 01.1	
	comp=Z,36nm,7.4s,comp=Z,36nm,8.3s						
JMAF	**Mimaanabuki**	**4.45**	**111**	A	A	11 34 00.9	
	comp=Z,29nm,4.9s,comp=Z,67nm,2.9s						
JKSM	**Kasumi**	**4.49**	**91**	A	A	11 34 01.1	
	comp=Z,22nm,9.2s,comp=Z,24nm,5.5s						
JNKG	**Nichinankitago**	**4.49**	**155**	A	A	11 34 02.4	
	comp=Z,43nm,3.4s,comp=Z,31nm,5.7s						
JNAR	**Kushima--Naru**	**4.58**	**157**	A	A	11 34 03.6	
	comp=Z,39nm,9.2s,comp=Z,35nm,2.3s						
MRT2	**Murotomisaki 2**	**4.75**	**119**	A	A	11 34 05.1	
	comp=Z,27nm,7.4s,comp=Z,40nm,2.8s						
JAI	**Aioi**	**4.78**	**113**	A	A	11 34 05.5	
	comp=Z,33nm,3.2s,comp=Z,45nm,4.3s						
JTSR	**Tashiro 2**	**4.82**	**162**	A	A	11 34 07.1	
	comp=Z,28nm,6.9s,comp=Z,29nm,9.9s						
JAWN	**Awajishima-nag**	**4.88**	**104**	A	A	11 34 06.8	
	comp=Z,50nm,2.9s,comp=Z,132nm,3.5s						
JMIK	**Miki**	**4.92**	**100**	A	A	11 34 07.2	
	comp=Z,39nm,3.0s,comp=Z,81nm,3.9s						
JWM	**Minabe**	**5.44**	**109**	A	A	11 34 14.7	
	comp=Z,25nm,3.6s,comp=Z,46nm,2.5s						
JHE	**Heguri**	**5.46**	**100**	A	A	11 34 14.8	
	comp=Z,28nm,4.7s,comp=Z,56nm,3.2s						
JWY	**Kouya**	**5.50**	**104**	A	A	11 34 15.5	
	comp=Z,24nm,2.8s,comp=Z,70nm,3.4s						
JTNC	**Tanabenakahech**	**5.65**	**108**	A	A	11 34 17.7	
	comp=Z,25nm,2.7s,comp=Z,42nm,2.8s						
SUJ	**Sinuiju**	**5.69**	**321**	Pg	**Pg**	**11 34 39.5**	**-4.3**
SUJ				Sg	**Sg**	**11 35 53.0**	**-4.5**
SUJ				AML	AML		
	comp=N,32μm,1.0s						
SUJ				AML	AML		
	comp=E,20μm,1.1s						
SUJ				AML	AML		
	comp=Z,34μm,1.0s						
JNTK	**Naratenkawa**	**5.72**	**103**	A	A	11 34 18.5	
	comp=Z,17nm,3.3s,comp=Z,35nm,3.3s						
JWKM	**Wakayamakushim**	**5.91**	**111**	A	A	11 34 21.3	
	comp=Z,53nm,3.0s,comp=Z,49nm,3.5s						
JEG	**Eigenji**	**5.94**	**94**	A	A	11 34 21.4	
	comp=Z,18nm,4.9s,comp=Z,30nm,5.9s						
JMMH	**Miemihama**	**5.97**	**107**	A	A	11 34 22.2	
	comp=Z,20nm,5.3s,comp=Z,26nm,3.1s						
JKN2	**Miekihoku**	**6.03**	**103**	A	A	11 34 22.9	
	comp=Z,21nm,2.8s,comp=Z,40nm,3.9s						
TSUJ	**Tsu 2**	**6.03**	**99**	A	A	11 34 22.8	
	comp=Z,31nm,3.8s,comp=Z,35nm,3.7s						
INU	**Inuyama**	**6.42**	**91**	Pn	**Pn**	**11 34 30.3**	**+1.0**
INU	**Inuyama**	**6.42**	**91**	P	**Pn**	**11 34 31.9**	**+2.6**
JGF	**Kuroka**	**6.67**	**89**	Pn	**Pn**	**11 34 34.3**	**+1.5**
DL2	**Dalian**	**6.77**	**300**	Pn	**Pn**	**11 34 34.5**	**+0.5**
DL2				Sg	**Sg**	**11 36 25.7**	**-6.4**
DL2				smax	smax		
	comp=Z,21μm,1.0s						
DL2				smax	smax		
	comp=Z,11μm,1.0s						
DL2				LR	LR		
	comp=Z,131μm,4.4s						
DL2				LR	LR		
	comp=Z,88μm,3.9s						
DL2				LR	LR		
	comp=Z,32μm,3.8s						
MSHR	**Mys Shultsa**	**6.98**	**12** *d*	*i*P	**Pn**	**11 34 36.9**	**0.0**
MSHR				pmax	pmax		
	comp=Z,97nm,0.8s						
MAJO	**Matsushiro**	**7.36**	**81**	Pn	**Pn**	**11 34 42.6**	**+0.4**
MAJO	**Matsushiro**	**7.36**	**81**	*ce*P	**Pn**	**11 34 43.4**	**+1.2**
MAJO	**Matsushiro**	**7.36**	**81**	P	**Pn**	**11 34 44.2**	**+2.0**
MJAR	**Matsushiro Arr**	**7.36**	**81**	Pn	**Pn**	**11 34 43.3**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=342,slow=10,SNR=39						
MJAR				Lg	Lg	11 36 45.5	
	baz=260,slow=22						
	comp=Z,14nm,0.4s						
SNY	**Shenyang**	**7.46**	**326**	⇑Pn	**Pn**	**11 34 47.5**	**+4.0**
SNY				Pg	Pg	11 35 12.6	-5.0
SNY				Sn	**Sb**	**11 36 34.4**	**+1.4**
SNY				Sg	**Sg**	**11 36 49.2**	**-4.9**
SNY				smax	smax		
	comp=N,21μm,0.9s						
SNY				smax	smax		
	comp=E,23μm,0.9s						
JSD	**Sado**	**7.63**	**70**	Pn	**Pn**	**11 34 45.4**	**-0.6**
SSE	**Sheshan**	**8.13**	**237**	P	**Pn**	**11 34 52.5**	**-0.2**
SSE				S	**Sn**	**11 36 24.9**	**+0.3**
SSE				pmax	pmax		
	comp=E,100nm,0.8s						
SSE				LR	LR		
	comp=E,7μm,10.2s						
CN2	**Changchun**	**8.52**	**342**	*e*Pg	Pg	11 35 32.8	-5.1
CN2				*e*Sg	**Sg**	**11 37 25.8**	**-2.3**

BNX sP 11 35 27.6
BNX PP **PnPn** **11 35 30.2 +3.4**
BNX S **Sn** **11 37 17.4 +5.7**
BNX sS 11 37 22.0
BNX pmax pmax
comp=E,31nm,0.9s
BNX pmax pmax
comp=E,3μm,3.6s
BNX LR LR
comp=E,40μm,11.5s
BNX LR LR
comp=E,18μm,8.2s
BNX LR LR
comp=E,46μm,11.4s
TEY Ternei 10.85 29 *e*P **Pn** **11 35 34.7 +4.7**
TEY *e* 11 37 41.9
BJT Baijiatuau 11.11 296 Pn **Pn** **11 35 34.8 +1.3**
BJT Baijiatuau 11.11 296 P **Pn** **11 35 34.8 +1.3**
BJI Beijing 11.11 296 P **Pn** **11 35 34.4 +0.9**
BJI pP 11 35 36.8
BJI sP 11 35 39.6
BJI PP **PnPn** **11 35 41.4 +0.2**
BJI S **Sn** **11 37 37.7 +0.1**
BJI pmax pmax
comp=E,40nm,0.6s
BJI LR LR
comp=E,13μm,12.2s
BJI LR LR
comp=E,13μm,12.0s
BJI LR LR
comp=E,26μm,13.0s
HNS HongShan 11.73 282 ⇓P **Pn** **11 35 42.3 +0.2**
HNS S **Sn** **11 37 57.6 +4.6**
HNS SS **SnSn** **11 38 12.8 +8.0**
HNS pmax pmax
comp=E,110nm,1.0s
HNS pmax pmax
comp=E,430nm,3.8s
HNS LR LR
comp=E,16μm,10.8s
HNS LR LR
comp=E,26μm,12.6s
HNS LR LR
comp=E,25μm,12.7s
ERM Erimo 12.56 56⇑*e*P **Pn** **11 35 51.9 -1.4**
XLT XiLinHaoTe 12.91 313⇑*i*P **Pn** **11 36 01.1 +2.8**
XLT pP P 11 36 04.1 -4.9
XLT sP 11 36 08.1
XLT S **Sn** **11 38 27.4 +5.5**
XLT sS 11 38 30.7
XLT SS 11 38 40.1
XLT pmax pmax
comp=E,110nm,1.3s
XLT pmax pmax
comp=E,940nm,7.9s
XLT LR LR
comp=E,6μm,9.3s
XLT LR LR
comp=E,36μm,9.3s
XLT LR LR
comp=E,11μm,12.6s
YHNB Yeheng 12.94 213 **Pn** **11 35 58.8 0.0**
YHNB Yeheng 12.94 213 P Pn 11 36 03.9 +5.2
WHN Wuhan 13.45 251 ⇑P **Pn** **11 36 08.4 +2.8**
WHN sP **P** **11 36 13.8 -1.2**
WHN S **Sn** **11 38 40.4 +5.3**
WHN pmax pmax
comp=E,260nm,1.1s
WHN LR LR
comp=E,28μm,10.4s
WHN LR LR
comp=E,84μm,10.6s
WHN LR LR
comp=E,98μm,12.0s
TIY Taiyuan 13.56 283 *e*P **Pn** **11 36 09.4 +2.3**
TIY pP **P** **11 36 14.0 -2.2**
TIY S **Sn** **11 38 39.1 +1.4**
TIY pmax pmax
comp=E,31nm,0.6s
TIY pmax pmax
comp=E,1μm,5.2s
TIY LR LR
comp=E,17μm,12.0s
TIY LR LR
comp=E,11μm,10.1s
TIY LR LR
comp=E,17μm,10.5s
KLR Kul'dur 13.59 7 Pn **Pn** **11 36 10.7 +3.3**
comp=E,0.5nm,0.3s,baz=195,slow=12,SNR=40
KLR Lg Lg 11 39 54.7
comp=E,0.4nm,0.3s,baz=205,slow=15,SNR=3.0
KLR LR LR 11 40 57.9
comp=E,6μm,18.3s,baz=182,slow=36
KLR Kul'dur 13.59 7*c i*P **Pn** **11 36 09.4 +2.0**
KLR MLR MLR
comp=Z,13μm,11.0s
LYN LuoYang 13.71 270⇓*i*P **Pn** **11 36 09.4 +0.2**
LYN sP P 11 36 15.8 -2.1
LYN S **Sn** **11 38 44.6 +3.2**
LYN pmax pmax
comp=Z,200nm,1.6s
LYN pmax pmax
comp=Z,960nm,4.6s
LYN LR LR
comp=Z,48μm,12.7s
LYN LR LR
comp=Z,23μm,13.3s
LYN LR LR
comp=Z,23μm,12.1s
SSLB Suanglung 13.89 213 **Pn** **11 36 13.7 +1.9**
SSLB Suanglung 13.89 213 P **P** **11 36 17.8 -2.2**
JCJ Chichijima 14.07 124 LR LR 11 41 10.4
comp=Z,1μm,18.6s,baz=307,slow=35
QZH Quanzhou 14.12 223⇓*i*P **Pn** **11 36 16.6 +1.9**
QZH LR LR
comp=Z,33μm,10.4s
QZH LR LR
comp=Z,13μm,10.9s
TPUB Ta-pu 14.46 213 P **Pn** **11 36 21.6 +2.1**
KNMB Chin-men Tao 14.61 222 P **Pn** **11 36 22.9 +1.4**
TWG Pinlang 14.69 211 P **Pn** **11 36 24.8 +2.1**
HHC Hu-ho-hao-te 14.71 295 *e*P **Pn** **11 36 24.7 +1.8**
HHC PP **PnPn** **11 36 36.8 +6.0**
HHC S **Sn** **11 39 09.5 +3.6**
HHC pmax pmax
comp=Z,990nm,6.7s
HHC LR LR
comp=Z,97μm,13.8s
HHC LR LR
comp=Z,42μm,14.6s
HHC LR LR
comp=Z,34μm,15.3s
YSS Yuzh-Sakhalins 15.11 38 **P** **11 36 30.8 -2.5**
YSS Yuzh-Sakhalins 15.11 38α *i*P **Pn** **11 36 30.3 +2.2**
YSS *e*S **Sn** **11 39 21.0 +5.7**
YSS pmax pmax
comp=Z,260nm,1.1s
YSS pmax pmax
comp=Z,3μm,6.2s
YSS smax smax
comp=E,1μm,4.1s
YSS MLR MLR
comp=Z,10μm,14.0s
YSS MLR MLR
comp=E,6μm,13.0s
YUK Yuzh-Kuril'sk 15.23 52*c i*P **Pn** **11 36 31.2 +1.5**
YUK *e*S **Sn** **11 39 25.8 +7.6**
YUK pmax pmax
comp=Z,814nm,1.4s
YUK pmax pmax
comp=N,570nm,1.6s
YUK pmax pmax
comp=E,703nm,1.1s
YUK pmax pmax
comp=Z,1μm,1.5s
YUK MLR MLR
comp=Z,978nm,14.0s
YUK MLR MLR
comp=N,629nm,10.0s
CNSH ChangSha 15.70 246 ⇓P **Pn** **11 36 36.2 +0.3**
CNSH S **Sn** **11 39 32.1 +2.3**
CNSH LR LR
comp=N,17μm,9.4s
CNSH LR LR
comp=N,21μm,10.7s
CNSH LR LR
comp=N,25μm,10.4s
BTO Baotou 15.80 294 *e*P **P** **11 36 42.9 +1.8**
BTO S **S** **11 39 42.1 -4.9**
BTO LR LR
comp=N,214μm,20.6s
BTO LR LR
comp=E,83μm,14.2s
GRNR Gornyy 15.89 17⇑*i*P **P** **11 36 41.0 -1.0**
GRNR *e*S **S** **11 39 43.2 -5.3**
GRNR pmax pmax
comp=E,7.0nm,1.5s
GRNR pmax pmax
comp=N,10.0nm,1.4s
GRNR pmax pmax
comp=Z,30nm,1.4s
GRNR smax smax
comp=E,5.0nm,0.9s
GRNR MLR MLR
comp=E,5μm,10.0s
GRNR MLR MLR
comp=N,9μm,11.0s
GRNR MLR MLR
comp=Z,9μm,11.0s
UGL Uglegorsk 16.33 31*c i*P **P** **11 36 46.1 -0.7**
UGL *e*S **S** **11 39 51.5 -6.0**
UGL pmax pmax
comp=Z,290nm,1.1s
UGL pmax pmax
comp=N,2μm,6.0s
UGL pmax pmax
comp=E,3μm,5.0s
UGL pmax pmax
comp=Z,5μm,5.0s
UGL smax smax
comp=N,4μm,7.0s
UGL smax smax
comp=E,3μm,7.0s
UGL MLR MLR
comp=N,9μm,11.0s
UGL MLR MLR
comp=E,14μm,11.0s
UGL MLR MLR
comp=Z,9μm,11.0s
XAN Xi'an 16.69 270 P **Pn** **11 36 49.0 +0.3**
XAN pP P 11 36 51.8 +0.8
XAN S **Sn** **11 39 57.7 +3.7**
XAN SS **SnSn** **11 40 13.8 +6.7**
XAN pmax pmax
comp=Z,47nm,1.6s
XAN pmax pmax
comp=Z,870nm,3.6s
XAN LR LR
comp=Z,19μm,12.6s
XAN LR LR
comp=Z,21μm,12.9s
XAN LR LR
comp=Z,32μm,13.2s
KUR Kuril'sk 17.05 51*d i*P **P** **11 36 56.0 +1.2**
KUR S **Sn** **11 40 00.2 -2.2**
KUR pmax pmax
comp=Z,607nm,1.3s
KUR MLR MLR
comp=Z,4μm,13.0s
CICP Calayan Island 17.78 204 *e*P **P** **11 37 04.3 +1.3**
TYV Tymovskoe 17.96 29 *e*P **P** **11 37 06.7 +1.9**
TYV pmax pmax
comp=Z,3μm,3.1s
TYV pmax pmax
comp=Z,354nm,1.4s
ZEA Zeya 18.02 356 *e*P **P** **11 37 05.9 +0.4**
ZEA *e* 11 40 31.8
ZEA pmax pmax
comp=E,200nm,2.3s
ZEA pmax pmax
comp=N,1μm,2.8s
ZEA pmax pmax
comp=Z,2μm,2.7s
ZEA pmax pmax
comp=N,130nm,1.1s
ZEA pmax pmax
comp=Z,190nm,1.2s
ZEA MLR MLR
comp=E,7μm,11.0s
ZEA MLR MLR
comp=N,8μm,10.0s
ZEA MLR MLR
comp=Z,9μm,13.0s
APYP Conner 19.17 204 *e*P **Pn** **11 37 19.3 +0.1**
GULI GuiLin 19.23 242 ⇓P **P** **11 37 18.6 -0.4**
GULI S **Sn** **11 40 53.6 -1.9**
GULI pmax pmax
comp=Z,190nm,1.3s
GULI LR LR
comp=Z,13μm,8.4s
GULI LR LR
comp=Z,12μm,8.2s
GULI LR LR
comp=Z,17μm,9.7s
CIT Chita 19.69 330 *e*P **Pn** **11 37 25.2 -0.2**
CIT pmax pmax
comp=Z,742nm,2.1s
SAMP Sagada Mountai 20.01 204⇑*e*P **P** **11 37 26.8 -0.8**
ULN Ulaanbaatar 20.35 313 P Pn 11 37 32.5 -0.8
ULN IAmb IAmb 11 37 36.7
comp=Z,243nm,1.4s
ULN Ulaanbaatar 20.35 313 IAMs_20 IAMs_20 11 46 16.6
comp=Z,8μm,19.0s
ULN Ulaanbaatar 20.35 313*c i*P Pn 11 37 32.8 -0.5
ULN pmax pmax
comp=Z,78nm,1.6s
LZH Lanzhou 20.49 278 ⇓P Pn 11 37 34.2 -0.9
LZH sP sP 11 37 39.8 +1.8
LZH S **S** **11 41 19.2 -2.9**
LZH sS pS 11 41 30.6 -2.2
LZH pmax pmax
comp=Z,220nm,1.2s
LZH pmax pmax
comp=Z,830nm,4.7s
LZH LR LR
comp=Z,15μm,15.5s
LZH LR LR
comp=Z,14μm,15.8s
LZH LR LR
comp=Z,15μm,16.8s
SONM Songino Array 20.73 313 P Pn 11 37 36.9 -0.9
comp=Z,38nm,0.8s,baz=126,slow=9.7,SNR=166
SONM S Sn 11 41 29.3 -2.2
comp=Z,3.7nm,1.1s,baz=144,slow=17,SNR=0.9
SONM Lg Lg 11 43 39.0
comp=Z,0.3nm,0.3s,baz=116,slow=20,SNR=3.9
SONM LR LR 11 46 32.7
comp=Z,6μm,18.8s,baz=119,slow=40
comp=Z,38nm,0.8s
SMPP San Manuel, Pa 20.95 203⇑*i*P **P** **11 37 37.7 -0.1**
BALP Baler 21.07 201⇑*e*P **P** **11 37 39.6 +0.7**
GYA Guiyang 21.34 250⇑*i*P **P** **11 37 42.0 -0.1**
GYA pP sP 11 37 47.3 +0.1
GYA S **S** **11 41 40.3 +1.3**
GYA pmax pmax
comp=Z,83nm,1.0s
GYA pmax pmax
comp=Z,610nm,3.5s
GYA LR LR
comp=Z,18μm,9.2s
GYA LR LR
comp=Z,17μm,13.6s
GYA LR LR
comp=Z,21μm,14.1s
CD2 Chengdu 21.74 264 P **P** **11 37 45.7 -0.6**
CD2 S **S** **11 41 45.3 -1.4**
CD2 pmax pmax
comp=Z,290nm,0.6s
CD2 LR LR
comp=Z,32μm,17.0s
CD2 LR LR
comp=Z,19μm,15.2s
CD2 LR LR
comp=Z,18μm,13.3s
JCNP Jose Panganiba 22.16 197⇓*i*P **P** **11 37 53.5 +2.7**
PVCP Virac 22.53 193⇑*i*P **P** **11 37 57.0 +2.3**
SCSP San Jose Seism 22.60 194⇑*i*P **P** **11 37 57.2 +1.8**
LQP Lukban 22.62 200⇑*e*P **P** **11 37 56.0 0.0**
MACP Maragondon, Ca 22.72 202⇑*e*P **P** **11 37 57.4 +0.7**
TGY Tagaytay City 22.80 201 P **P** **11 37 59.6 +1.9**
comp=Z,94nm,0.4s,baz=90,slow=18
comp=Z,94nm,0.4s
LUBP Lubang 23.36 202 *e*P **P** **11 38 03.1 -0.2**
GTA Gaotai 23.49 288 ⇓P **P** **11 38 04.6 -0.1**
GTA pP sP 11 38 09.8 -0.1
GTA sP pP 11 38 15.4 +7.1
GTA S **S** **11 42 17.0 -1.2**
GTA sS sS 11 42 24.2 -0.2
GTA SS Sn 11 42 59.5 +22
GTA pmax pmax
comp=Z,41nm,1.3s
GTA pmax pmax
comp=Z,480nm,4.4s
GTA LR LR
comp=Z,22μm,15.6s
GTA LR LR
comp=Z,10μm,14.2s
GTA LR LR
comp=Z,11μm,14.9s
CNP Catarman 23.51 191⇑*e*P **P** **11 38 05.5 +0.7**
ZAK Zakamensk 23.73 316 *e*P **P** **11 38 05.7 -1.2**
ZAK pmax pmax
comp=Z,71nm,1.4s
QIZ Qiongzhong 23.84 231 IAMs_20 IAMs_20 11 47 42.8
comp=Z,10μm,18.0s
QIZ Qiongzhong 23.84 231 P **P** **11 38 09.1 +1.0**
QIZ S **S** **11 42 26.8 +2.9**
QIZ pmax pmax
comp=Z,630nm,3.4s
QIZ LR LR
comp=Z,23μm,15.2s
QIZ LR LR
comp=Z,20μm,15.6s
QIZ LR LR
comp=Z,18μm,12.8s
IRK Irkutsk 24.14 321 *e*P **P** **11 38 10.7 0.0**
IRK pmax pmax
comp=Z,207nm,2.5s
BOD Bodaibo 24.27 340 *e*P **P** **11 38 11.0 -0.7**
BOD pmax pmax
comp=Z,167nm,1.8s
SJMP San Jose 24.32 199⇑*e*P **P** **11 38 13.7 +1.2**
RCP Roxas 24.79 195⇓*e*P **P** **11 38 17.7 +0.9**
KMI Kunming 25.05 252 ⇓P **P** **11 38 18.4 -1.0**
KMI pP sP 11 38 24.1 -0.6
KMI S **S** **11 42 39.5 -4.2**
KMI pmax pmax
comp=Z,130nm,0.7s
KMI pmax pmax
comp=Z,590nm,3.5s
KMI LR LR
comp=Z,7μm,11.6s
KMI LR LR
comp=Z,14μm,11.5s
KMI LR LR
comp=Z,12μm,9.8s
PZH PanZhiHua 25.15 256 P **P** **11 38 19.4 -0.8**
PZH sP **sP** **11 38 25.7 +0.2**
PZH S **S** **11 42 43.2 -1.9**
PZH pmax pmax
comp=Z,50nm,0.8s
PZH pmax pmax
comp=Z,360nm,4.0s
PZH LR LR
comp=Z,9μm,13.0s
PZH LR LR
comp=Z,15μm,15.1s
PZH LR LR
comp=Z,21μm,14.3s
MOY Mondy 25.61 317 *e*P **P** **11 38 24.2 +0.1**
MOY pmax pmax
comp=Z,81nm,2.4s
GUIM Jordan 25.73 195⇑*i*P **P** **11 38 24.4 -0.9**
MSLP Maasin 25.82 190⇑*e*P **P** **11 38 26.0 0.0**
GUMO Guam 26.22 143 P **P** **11 38 28.9 -0.8**
comp=Z,130nm,1.0s,baz=280,slow=6.1,SNR=2.9
GUMO LR LR 11 48 59.4
comp=Z,1μm,18.2s,baz=353,slow=37
comp=Z,130nm,1.0s
YAK Yakutsk 26.29 1 P **P** **11 38 29.5 -0.4**
comp=Z,60nm,0.8s,baz=136,slow=0.5,SNR=25
YAK Lg Lg 11 46 37.2
comp=Z,0.3nm,0.3s,baz=255,slow=19,SNR=1.9
YAK LR LR 11 49 00.5
comp=Z,5μm,20.6s,baz=176,slow=37
comp=Z,60nm,0.8s
YAK Yakutsk 26.29 1 P **P** **11 38 29.1 -0.9**
YAK IAMs_20 IAMs_20 11 48 49.4
comp=Z,6μm,20.0s
YAK Yakutsk 26.29 1*d i*P **P** **11 38 29.6 -0.4**
YAK *e**PP **sP** **11 38 35.6 +0.3**
YAK *e* 11 39 09.3
YAK *e* 11 41 55.3
YAK *e*S **S** **11 43 02.6 +0.5**
YAK *e*SS **SnSn** **11 44 04.4 +2.7**
YAK pmax pmax
comp=Z,179nm,1.5s
YAK pmax pmax
comp=N,149nm,1.3s
YAK pmax pmax
comp=E,45nm,1.5s
YAK pmax pmax
comp=Z,167nm,2.5s
YAK pmax pmax
comp=N,181nm,2.5s
YAK pmax pmax
comp=E,58nm,1.6s
YAK smax smax
comp=E,2μm,5.8s
YAK smax smax
comp=N,2μm,4.7s
YAK MLR MLR
comp=Z,8μm,14.0s
YAK MLR MLR
comp=N,5μm,13.0s
YAK MLR MLR
comp=E,767nm,13.0s
GHBP Garcia Hernand 26.39 191 *e*P **P** **11 38 28.7 -2.6**
TBP Tagbilaran 26.40 192⇓*e*P **P** **11 38 30.8 -0.6**
PETK Petropavlovsk- 26.49 40 P **P** **11 38 31.1 -0.8**
comp=E,4.9nm,0.9s,baz=324,slow=7.3,SNR=4.6
PETK LR LR 11 48 41.8
comp=E,5μm,18.9s,baz=229,slow=36
comp=E,4.9nm,0.9s
CNOP Candoni, Negro 26.50 195⇑*i*P **P** **11 38 31.5 -0.7**
PET Petropavlovsk 26.96 41 IAMs_20 IAMs_20 11 49 17.6
comp=Z,7μm,18.0s
PET Petropavlovsk 26.96 41 *e*P **P** **11 38 39.2 +3.1**
PET *e* 11 39 27.7
PET *e*S **S** **11 43 15.8 +2.9**
PET *e*SS SnSn 11 44 42.6 +24
PET pmax pmax
comp=Z,400nm,7.7s
PET pmax pmax
comp=Z,1μm,7.5s
PET MLR MLR
comp=Z,8μm,18.0s
LSIP Lazi, Siquijor 26.99 192⇑*i*P **P** **11 38 36.7 +0.1**
KNGR Kungurtug, Tuv 27.17 313⇓*e*P **P** **11 38 38.6 +0.4**
KNGR pmax pmax
comp=Z,33nm,1.6s
MA2 Magadan 27.66 24 P **P** **11 38 41.9 -0.4**
comp=Z,25nm,1.1s,baz=217,slow=8.1,SNR=4.6
MA2 LR LR 11 49 58.7
comp=Z,6μm,18.3s,baz=224,slow=37
comp=Z,25nm,1.1s
MA2 Magadan 27.66 24 P **P** **11 38 40.5 -1.8**
MA2 IAMs_20 IAMs_20 11 49 48.4
comp=Z,6μm,18.0s
MA2 Magadan 27.66 24*de*P **P** **11 38 41.7 -0.7**
MA2 pmax pmax
comp=Z,49nm,1.1s
MA2 MLR MLR
comp=Z,7μm,16.0s
GOMU GeÊrMu 27.71 281 P **P** **11 38 43.4 -0.1**
GOMU S **S** **11 43 25.8 -0.1**
GOMU pmax pmax
comp=Z,10.0nm,1.1s
GOMU pmax pmax
comp=Z,140nm,5.1s
GOMU LR LR
comp=Z,10μm,16.2s
GOMU LR LR
comp=Z,4μm,18.8s
GOMU LR LR
comp=Z,5μm,17.8s
BUKP Musuan 28.01 189⇑*i*P **P** **11 38 45.2 -0.7**

DAV Davao City (W) 28.75 187 LR LR 11 50 55.8
comp=Z,2µm,20.4s,baz=342,slow=38
CRAI Chiangrai 29.62 246 P **P** **11 38 59.5 -0.6**
CRAI IAmb IAmb 11 39 01.4
comp=Z,44nm,0.8s
DDMP Don Marcelino, 29.69 187⇑ *i*P **P** **11 38 59.8 -0.9**
SEY Seymchan 30.76 21⇑ *e*P **P** **11 39 09.4 -0.4**
SEY pmax pmax
comp=Z,45nm,2.5s
SEY MLR MLR
comp=Z,7µm,15.0s
PHRA Phrae 30.80 244 P **P** **11 39 10.4 -0.2**
MOKO MOKOCHONG 31.01 262 *e*P **P** **11 39 11.7 -0.8**
MOKO IAmb IAmb 11 39 14.3
comp=Z,120nm,1.1s
JORH JORHAT 31.04 263 *e*P **P** **11 39 10.0 -2.7**
ITAN ITANAGAR 31.29 264 *e*P **P** **11 39 14.6 -0.3**
ITAN IAmb IAmb 11 39 21.6
comp=Z,150nm,1.2s
CHTO Chiang Mai 31.55 246 P **P** **11 39 16.9 -0.3**
CHTO Chiang Mai 31.55 246 IAMs_20 IAMs_20 11 53 58.7
comp=Z,4µm,18.0s
CHTO Chiang Mai 31.55 246 P **P** **11 39 16.9 -0.3**
CHTO MLR MLR
comp=Z,4µm,18.0s
CM31 Chiang Mai Arr 31.77 245 P **P** **11 39 19.0 -0.2**
CMAR Chiang Mai Arr 31.77 245 P **P** **11 39 19.2 +0.1**
comp=Z,10nm,0.9s,baz=42,slow=7.3,SNR=64
CMAR Lg Lg 11 49 50.0
comp=Z,0.1nm,0.3s,baz=27,slow=21,SNR=1.0
CMAR LR LR 11 51 16.0
comp=Z,2µm,21.1s,baz=50,slow=35
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 31.77 245 P **P** **11 39 18.8 -0.4**
CMAR Chiang Mai Arr 31.77 245 *ce*P **P** **11 39 19.5 +0.3**
CMAR pmax pmax
comp=Z,11nm,0.9s
MYLDM Lahad Datu 31.98 200 IAMs_20 IAMs_20 11 54 33.2
comp=Z,4µm,19.0s
SGSI Sangihe 32.10 187 P **P** **11 39 20.4 -1.6**
comp=Z,99nm,0.8s
TEZP TEZPUR 32.26 264 *e*P **P** **11 39 22.7 -0.8**
TEZP IAmb IAmb 11 39 29.3
comp=Z,126nm,1.7s
LSA Lhasa 32.40 270 IAMs_20 IAMs_20 11 53 39.7
comp=Z,4µm,20.0s
LSA Lhasa 32.40 270 P **P** **11 39 25.6 +0.4**
WMQ Urumqi 32.58 297⇓ *i*P **P** **11 39 26.9 +0.7**
WMQ pP sP 11 39 31.2 -0.3
WMQ PP **PnPn** **11 40 33.5 -0.1**
WMQ S **S** **11 44 41.1 -0.4**
WMQ pmax pmax
comp=Z,29nm,1.7s
WMQ pmax pmax
comp=Z,140nm,3.6s
WMQ LR LR
comp=Z,16µm,14.1s
WMQ LR LR
comp=Z,6µm,17.3s
WMQ LR LR
comp=Z,3µm,19.5s
DGZ Jazzator, Alta 33.21 308 *c i*P **P** **11 39 31.7 0.0**
DGZ pmax pmax
comp=Z,9.0nm,1.0s
GUWA GUWAHATI 33.34 264 *e*P **P** **11 39 31.4 -1.4**
GUWA IAmb IAmb 11 39 38.2
comp=Z,31nm,0.9s
ZSN Zaisan 34.67 304 *e*P **P** **11 39 44.4 +0.2**
ZSN *e*S **S** **11 45 14.9 +1.3**
ZSN Zaisan 34.67 304 *e*P **P** **11 39 44.5 +0.2**
baz=304
ZSN *e*S **S** **11 45 15.0 +1.3**
baz=304
AGT Agartala 34.75 261 *e*P **P** **11 39 45.3 +0.2**
DHUB DHUBRI 34.79 265 *e*P **P** **11 39 44.6 -0.9**
TNTI Ternate 34.86 183 P **P** **11 39 44.4 -1.7**
TNTI IAmb IAmb 11 40 02.5
comp=Z,86nm,1.1s
TNTI Ternate 34.86 183 P **P** **11 39 45.5 -0.6**
comp=Z,1µmcomp=Z,82nm,1.1s
BRDH Bariadhala 35.03 258 LR LR 11 55 39.3
comp=Z,4µm,18.2s,baz=98,slow=39
KMSI Cibinong 35.34 189 P **P** **11 39 50.6 +0.3**
comp=Z,80nm,0.7s
TOLI2 Tolitoli 35.35 195 IAMs_20 IAMs_20 11 53 52.3
comp=Z,3µm,19.0s
GTK Tadong 35.38 268 *e*P **P** **11 39 49.8 -0.9**
GTK IAmb IAmb 11 39 56.8
comp=Z,22nm,0.9s
GTOI Gorontalo 35.42 191 P **P** **11 39 48.8 -2.1**
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 35.59 315 P **P** **11 39 52.1 0.0**
ZALV Zalesovo Beam 35.59 315 P **P** **11 39 51.7 -0.4**
comp=Z,3.3nm,0.7s,baz=101,slow=8.0,SNR=14
ZALV PcP **PcP** **11 42 20.5 -0.2**
comp=Z,11nm,1.0s,baz=100,slow=4.4,SNR=5.5
ZALV Lg Lg 11 51 36.7
baz=118,slow=21,SNR=4.4
ZALV LR LR 11 53 11.7
comp=Z,1µm,18.9s,baz=106,slow=34
comp=Z,3.3nm,0.7s
SHEM Shemya Is, Ala 35.71 47 LR LR 11 54 04.5
comp=Z,662nm,20.5s,baz=279,slow=36
MRSI Marisa 35.75 192 P **P** **11 39 54.1 +0.4**
comp=Z,1µmcomp=Z,50nm,1.2s
TIXI Tiksi 35.95 360 Lg Lg 11 51 46.9
comp=Z,42nm,0.3s,baz=268,slow=23,SNR=3.7
TIXI LR LR 11 54 18.9
comp=Z,5µm,18.2s,baz=180,slow=36
TIXI Tiksi 35.95 360 P **P** **11 39 54.0 -0.9**
TIXI Tiksi 35.95 360 *c i*P **P** **11 39 53.3 -1.6**
TIXI pmax pmax
comp=Z,27nm,1.2s
TIXI MLR MLR
comp=Z,6µm,14.0s
TAPN Taplejung 36.09 268 *e*P **P** **11 39 56.4 -0.6**
LBMI Labuha 36.25 183 P **P** **11 39 57.3 -0.8**
comp=Z,1µmcomp=Z,68nm,1.4s
MPSI Mapaga 36.29 196 P **P** **11 39 59.0 +0.6**
comp=Z,1µmcomp=Z,47nm,1.6s
MK31 Makanchi Array 36.41 302 P **P** **11 39 59.3 +0.1**
MK31 Makanchi Array 36.41 302 *c i*P **P** **11 39 58.5 -0.7**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 36.41 302 P **P** **11 39 59.0 -0.2**
comp=Z,5.5nm,0.6s,baz=93,slow=11,SNR=62
MKAR Lg Lg 11 52 03.0
baz=84,slow=29,SNR=1.1
MKAR LR LR 11 55 37.7
comp=Z,3µm,19.8s,baz=102,slow=38
comp=Z,5.5nm,0.6s
MKAR Makanchi Array 36.41 302 P **P** **11 39 58.5 -0.7**
MKAR Makanchi Array 36.41 302 *ce*P **P** **11 39 59.0 -0.2**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
SIJI Sorong 36.50 176 P **P** **11 39 59.9 -0.3**
comp=Z,29nm,0.9s,baz=13,slow=7.4,SNR=22
SIJI LR LR 11 53 36.0
comp=Z,2µm,20.0s,baz=9.5,slow=34
comp=Z,29nm,0.9s
ODAN Odare 36.55 268 *e*P **P** **11 39 59.1 -1.8**
MAKZ Makanchi 36.62 302 P **P** **11 40 01.0 -0.1**
MAKZ IAMs_20 IAMs_20 11 53 27.0
comp=Z,5µm,19.0s
MAKZ Makanchi 36.62 302 P **P** **11 40 01.0 -0.1**
MAKZ pmax pmax
comp=Z,13nm,0.8s
SBUM Sibu 36.68 209 P **P** **11 40 01.3 -0.4**
SBUM IAMs_20 IAMs_20 11 56 16.9
comp=Z,4µm,18.0s
RAMN Ramite 37.15 268 *e*P **P** **11 40 04.8 -1.2**
JIRN Jiri 37.20 270 *e*P **P** **11 40 06.3 -0.3**
GUN Gumba 37.35 270 *e*P **P** **11 40 07.6 -0.2**
SANI Sanana 37.74 185 P **P** **11 40 08.9 -1.8**
comp=Z,1µmcomp=Z,74nm,0.8s
PKI Pulchoki 37.87 270 *e*P **P** **11 40 11.0 -1.2**
comp=Z,288nm,1.5s
PKIN Phulchoki 37.88 270 *e*P **P** **11 40 11.3 -0.9**
KKN Kakani 37.89 271 *e*P **P** **11 40 10.8 -1.4**
DMN Daman 38.10 270 *e*P **P** **11 40 12.8 -1.3**
GKN Gorkha 38.33 271 *e*P **P** **11 40 14.9 -0.9**
comp=Z,295nm,1.4s
BILL Bilibino 38.45 21 *d i*P **P** **11 40 16.0 -0.2**
BILL *e* 11 41 44.6
BILL *e* 11 42 29.9
BILL *e*S **S** **11 46 13.3 +2.4**
BILL pmax pmax
comp=Z,26nm,1.2s
BILL MLR MLR
comp=Z,6µm,16.0s
PDGK Podgornoye 38.56 297 P **P** **11 40 16.6 -1.0**
FAKI Fak Fak 38.59 175 P **P** **11 40 18.0 +0.1**
FAKI Fak Fak 38.59 175 P **P** **11 40 18.1 +0.2**
comp=Z,3µmcomp=Z,232nm,0.8s
SHLS Shalkode 38.60 297 *e*P **P** **11 40 14.8 -3.1**
SHLS Shalkode 38.60 297 *e*P **P** **11 40 14.9 -3.1**
baz=296
SMPI Sarmi 38.61 165 P **P** **11 40 18.8 +0.8**
comp=Z,2µmcomp=Z,82nm,1.1s
NLAI Namlea 38.85 183 P **P** **11 40 20.4 +0.4**
comp=Z,3µmcomp=Z,40nm,1.1s
MTKI Muara Teweh, K 38.87 203 P **P** **11 40 21.5 +1.3**
comp=Z,17nm,0.7s
DANN Dangsing 38.91 272 *e*P **P** **11 40 20.3 -0.6**
comp=Z,288nm,1.2s
MSAI Masohi 38.91 180 P **P** **11 40 21.5 +1.0**
comp=Z,637nmcomp=Z,22nm,0.8s
UZB Uzynbulak 38.92 297 *e*P **P** **11 40 20.4 -0.2**
UZB *e*S **S** **11 46 19.4 +0.6**
UZB Uzynbulak 38.92 297 *e*P **P** **11 40 20.5 -0.2**
baz=297
UZB *e*S **S** **11 46 19.5 +0.6**
baz=297
KURK Kurchatov 38.94 309 P **P** **11 40 20.7 +0.1**
KURK Kurchatov 38.94 309 *c i*P **P** **11 40 19.9 -0.6**
KURK pmax pmax
comp=Z,36nm,0.9s
KURBB Kurchatov Arra 39.00 309 Lg Lg 11 53 28.7
baz=89,slow=25,SNR=8.8
KURBB LR LR 11 56 48.2
comp=Z,4µm,21.6s,baz=72,slow=37
KURBB Kurchatov Arra 39.00 309 P **P** **11 40 20.5 -0.5**
BOK Bokaro 39.12 264 *e*P **P** **11 40 21.9 -0.5**
BOK IAmb IAmb 11 40 28.6
comp=Z,40nm,0.8s
KPKS Kokpek 39.13 297 *e*P **P** **11 40 22.0 -0.3**
KPKS Kokpek 39.13 297 *e*P **P** **11 40 22.1 -0.3**
baz=297
TDK Taldyqorghan 39.18 300 *e*P **P** **11 40 22.8 +0.2**
TDK pmax pmax
comp=Z,49nm,1.8s
TDK MLR MLR
comp=Z,3µm,11.0s
TDK Taldyqorghan 39.18 300 *e*P **P** **11 40 22.9 +0.2**
comp=Z,48nm,1.8s,baz=300
TDK LR LR 11 56 21.7
comp=Z,3µm,11.3s,baz=300
AAI Ambon 39.26 182 P **P** **11 40 23.9 +0.4**
AAI pmax pmax
comp=Z,154nm,0.8s
AAI Ambon 39.26 182 P **P** **11 40 23.7 +0.2**
comp=Z,2µmcomp=Z,153nm,0.8s
KOLN Koldanda 39.26 271 *e*P **P** **11 40 23.1 -0.6**
SATY Saty 39.38 297 *e*P **P** **11 40 24.1 -0.3**
SATY Saty 39.38 297 *e*P **P** **11 40 24.1 -0.3**
baz=296
GENI Genyem 39.53 163 P **P** **11 40 27.0 +1.3**
comp=Z,4µmcomp=Z,106nm,1.6s
DGPR DIGLIPUR 39.58 245 *e*P **P** **11 40 25.5 -0.7**
DGPR IAmb IAmb 11 40 28.0
comp=Z,141nm,1.0s
TTSI Tana Toraja 39.59 195 P **P** **11 40 26.6 +0.4**
comp=Z,992nmcomp=Z,15nm,1.0s
PYUN Piuthan 39.63 272 *e*P **P** **11 40 26.2 -0.6**
comp=Z,383nm,1.2s
ARXS Arharly 39.67 298 *e*P **P** **11 40 26.3 -0.5**
TARG Taragay, Kyrgy 40.00 295 P **P** **11 40 30.5 +0.5**
TARG Taragay, Kyrgy 40.00 295 P **P** **11 40 30.5 +0.5**
TARG pmax pmax
comp=Z,26nm,0.8s
KULM Kulim 40.10 228 P **P** **11 40 31.4 +0.8**
KULM IAmb IAmb 11 40 33.1
comp=Z,95nm,1.2s
KULM IAMs_20 IAMs_20 11 57 10.6
comp=Z,3µm,20.0s
CHKK Chushkaly 40.31 298 *e*P **P** **11 40 31.6 -0.5**
CHKK Chushkaly 40.31 298 *e*P **P** **11 40 31.7 -0.4**
baz=298
MDOK Medeo 40.35 297 *e*P **P** **11 40 32.8 +0.2**
MDOK *i* S **S** **11 46 41.1 +0.8**
MDOK MLR MLR
comp=Z,3µm,16.0s
MDOK Medeo 40.35 297 *e*P **P** **11 40 32.8 +0.2**
baz=297
MDOK *i* S **S** **11 46 41.2 +0.8**
baz=297
MDOK LR LR 11 56 06.7
comp=Z,3µm,16.1s,baz=297
AAA Alma-Ata 40.44 297 *e*P **P** **11 40 33.4 +0.2**
AAA pmax pmax
comp=Z,35nm,0.7s
AAA MLR MLR
comp=Z,5µm,14.0s
AAA Alma-Ata 40.44 297 *e*P **P** **11 40 33.4 +0.2**
comp=Z,35nm,0.7s,baz=297
AAA LR LR 11 56 07.7
comp=Z,5µm,14.2s,baz=297
IPM Ipoh 40.52 226 P **P** **11 40 34.4 +0.4**
IPM IAmb IAmb 11 40 36.6
comp=Z,108nm,1.5s
NRIK Noril'sk 40.55 339 P **P** **11 40 33.4 -0.3**
comp=Z,22nm,0.9s,baz=115,slow=8.4,SNR=23
NRIK Lg Lg 11 54 18.9
comp=Z,0.3nm,0.3s,baz=225,slow=21,SNR=6.3
NRIK LR LR 11 59 22.0
comp=Z,4µm,19.2s,baz=132,slow=39
comp=Z,22nm,0.9s
NRIK Noril'sk 40.55 339 P **P** **11 40 33.1 -0.6**
NRIK Noril'sk 40.55 339 *c i*P **P** **11 40 32.8 -0.9**
NRIK pmax pmax
comp=Z,32nm,1.0s
KUU Kurty 40.77 298 *e*P **P** **11 40 35.6 -0.3**
KUU *e*S **S** **11 46 47.2 +0.9**
KUU pmax pmax
comp=Z,64nm,1.5s
KUU Kurty 40.77 298 *e*P **P** **11 40 35.6 -0.3**
comp=Z,64nm,1.5s,baz=298
KUU *e*S **S** **11 46 47.2 +0.9**
baz=298
MYKOM Kota Tinggi 41.16 220 P **P** **11 40 39.0 -0.2**
MYKOM IAMs_20 IAMs_20 11 57 13.6
comp=Z,4µm,20.0s
ADK Adak 41.25 50 P **P** **11 40 40.4 +0.7**
ADK pmax pmax
comp=Z,56nm,1.2s
BBKI Banjar Baru 41.27 202 P **P** **11 40 40.3 +0.2**
comp=Z,2µmcomp=Z,39nm,1.7s
TKM2 Tokmak 2 41.44 297 P **P** **11 40 42.3 +0.7**
SNR=57
TKM2 Tokmak 2 41.44 297 P **P** **11 40 42.0 +0.4**
KAPI Kappang 41.52 194 LR LR 11 57 57.0
comp=Z,2µm,21.0s,baz=4.0,slow=36
KAPI Kappang 41.52 194 *de*P **P** **11 40 43.1 +0.9**
KAPI pmax pmax
comp=Z,30nm,1.6s
KSH Kashi 41.78 292 P **P** **11 40 48.7 +4.4**
KSH S **S** **11 47 07.7 +6.1**
KSH pmax pmax
comp=Z,17nm,1.7s
KSH LR LR
comp=Z,13µm,18.4s
KSH LR LR
comp=Z,7µm,17.4s
KSH LR LR
comp=Z,6µm,19.8s
CHMS Chumysh 42.04 297 P **P** **11 40 47.2 +0.8**
SNR=6.7
CHMS Chumysh 42.04 297 *i*P **P** **11 40 47.1 +0.8**
CHMS pmax pmax
comp=Z,20nm,1.4s
SGDS Sogindy 42.06 298 *e*P **P** **11 40 46.2 -0.3**
SGDS Sogindy 42.06 298 *e*P **P** **11 40 46.3 -0.3**
baz=298
USP Ospenovka 42.18 297 P **P** **11 40 47.3 -0.2**
SNR=12
BTLS Baital 42.26 300 *e*P **P** **11 40 47.6 -0.4**
BTLS Baital 42.26 300 *e*P **P** **11 40 47.7 -0.4**
baz=300
AAK Ala-Archa 42.28 297 P **P** **11 40 49.5 +1.0**
SNR=6.5
AAK Ala-Archa 42.28 297 P **P** **11 40 48.6 +0.1**
AAK Ala-Archa 42.28 297 *ce*P **P** **11 40 48.6 +0.1**
AAK pmax pmax
comp=Z,18nm,1.3s
AAK Ala-Archa 42.28 297 *i*P **P** **11 40 48.8 +0.3**
SNR=7.7
LHMI Lhok Sumawe 42.45 232 IAMs_20 IAMs_20 11 58 10.7
comp=Z,3µm,18.0s
BRZS Berezniki 42.75 308 *e*P **P** **11 40 51.6 -0.4**
BRZS *e*S **S** **11 47 15.5 +0.1**
BRZS pmax pmax
comp=Z,38nm,1.8s
BRZS Berezniki 42.75 308 *e*P **P** **11 40 51.6 -0.4**
comp=Z,38nm,1.8s,baz=308
BRZS *e*S **S** **11 47 15.5 +0.1**
baz=308
AML Almayashu 42.96 296 P **P** **11 40 55.1 +0.8**
SNR=14
OTUK Ortayu 43.09 305 P **P** **11 40 55.1 +0.3**
PSI Prapat 43.11 227 LR LR 11 59 29.2
comp=Z,4µm,18.6s,baz=32,slow=37
PSI Prapat 43.11 227 P **P** **11 40 55.9 +0.5**
PSI pmax pmax
comp=Z,48nm,1.0s
PSI MLR MLR
comp=Z,4µm,18.0s
RPSI Rantau Prapat 43.20 227 P **P** **11 40 55.9 0.0**
SMLA Simla 43.22 279 *e*P **P** **11 40 54.9 -1.1**
SMLA IAmb IAmb 11 40 56.5
comp=Z,48nm,1.0s
SAUI Saumlaki 43.56 177 P **P** **11 40 59.3 +0.5**
comp=Z,367nm,1.0s
BKNI Bangkinang 43.90 223 IAMs_20 IAMs_20 12 00 31.2
comp=Z,2µm,19.0s
BKNI Bangkinang 43.90 223 P **P** **11 41 02.6 +1.0**
comp=Z,4µmcomp=Z,64nm,1.0s
BVAR Borovoye Array 44.07 312 LR LR 12 00 22.2
comp=Z,5µm,18.3s,baz=84,slow=37
BRVK Borovoye 44.14 312 P **P** **11 41 02.7 -0.4**
BRVK Borovoye 44.14 312 P **P** **11 41 03.0 -0.1**
JBP Jabalpur 44.20 267 *e*P **P** **11 41 01.7 -2.2**
JBP *e*S **S** **11 47 34.5 -2.6**
MNSI Mandailing Nat 44.34 225 P **P** **11 41 05.8 +0.7**
comp=Z,8µmcomp=Z,84nm,0.8s
SDSI Sungai Dareh 44.74 221 P **P** **11 41 09.6 +1.3**
comp=Z,28nm,1.6s
PMBI Palembang 44.75 216 IAMs_20 IAMs_20 12 01 47.1
comp=Z,2µm,18.0s
EDFI Ende, Flores 44.83 191 P **P** **11 41 09.8 +0.7**
comp=Z,300nmcomp=Z,12nm,1.6s
KK31 Karatay Array 45.08 298 P **P** **11 41 10.7 -0.1**
KK31 IAmb IAmb 11 41 23.8
comp=Z,27nm,0.7s
KK31 Karatay Array 45.08 298 *i*P **P** **11 41 10.9 +0.1**
KKAR Karatay Array 45.08 298 P **P** **11 41 10.8 0.0**
KKAR Karatay Array 45.08 298 P **P** **11 41 11.0 +0.2**
KKAR IAmb IAmb 11 41 23.8
comp=Z,27nm,0.7s
KKAR Karatay Array 45.08 298 P **P** **11 41 10.8 0.0**
KKAR 11 41 11.0
GSI Gunungsitoli 45.11 228 P **P** **11 41 11.0 -0.3**
GSI Gunungsitoli 45.11 228 P **P** **11 41 11.3 0.0**
comp=Z,4µmcomp=Z,133nm,1.1s
PDSI Padang 45.25 223 P **P** **11 41 12.3 -0.1**
comp=Z,14nm,1.1s
KRVT Keravat (AS076 45.26 147 P **P** **11 41 12.6 +0.1**
comp=Z,17nm,0.8s,baz=356,slow=14,SNR=2.7
comp=Z,17nm,0.8s
BTK Batken 45.52 294 P **P** **11 41 14.9 +0.4**
BTK Batken 45.52 294 P **P** **11 41 14.9 +0.4**
BTK pmax pmax
comp=Z,14nm,0.9s
IUG Iuzhnay 45.62 297 *e*P **P** **11 41 15.6 +0.4**
IUG Iuzhnay 45.62 297 *e*P **P** **11 41 15.6 +0.4**
baz=297
PLAI Plampang 45.64 196 P **P** **11 41 16.9 +1.6**
comp=Z,2µmcomp=Z,56nm,1.7s
TWSI Taliwang, Sumb 45.76 197 P **P** **11 41 17.7 +1.4**
comp=Z,28nm,1.7s
BATI Baumata 46.02 188 P **P** **11 41 18.7 +0.3**
comp=Z,13nm,0.4s,baz=333,slow=2.3,SNR=1.6
BATI LR LR 11 59 10.6
comp=Z,855nm,20.7s,baz=12,slow=34
comp=Z,13nm,0.4s
BATI Baumata 46.02 188 P P 11 41 30.8 +12
GAR Garm 46.16 292 P **P** **11 41 19.5 0.0**
GAR IAmb IAmb 11 41 39.8
comp=Z,35nm,0.9s
BHPL Bhopal 46.24 269 *e*P **P** **11 41 16.3 -3.9**
BHPL IAmb IAmb 11 41 19.0
comp=Z,34nm,1.1s
PWJI Pagerwojo 46.52 204 P **P** **11 41 23.1 +0.8**
comp=Z,84nm,0.8s
LEM Lembang 46.97 210 P **P** **11 41 26.7 +0.7**
comp=Z,28nm,0.7s,baz=332,slow=7.8,SNR=5.3
comp=Z,28nm,0.7s
LEM Lembang 46.97 210 P **P** **11 41 26.9 +0.9**
comp=Z,46nm,1.9s
CHGR Chuyangaron 47.13 292 P **P** **11 41 26.9 -0.2**
CHGR Chuyangaron 47.13 292 P **P** **11 41 26.9 -0.2**
CHGR pmax pmax
comp=Z,77nm,0.7s
ANM Nome 47.88 32 IAMs_20 IAMs_20 12 02 30.8
comp=Z,2µm,18.0s
PMG Port Moresby 48.03 156 P **P** **11 41 34.4 +0.3**
comp=Z,21nm,1.0s,baz=346,slow=12,SNR=2.4
PMG LR LR 12 00 29.8
comp=Z,734nm,20.1s,baz=326,slow=34
comp=Z,21nm,1.0s
HYBB Hyderabad (bro 48.25 261 *e*P **P** **11 41 36.0 +0.1**
HYB Hyderabad 48.25 261 *e*P **P** **11 41 35.6 -0.3**
HYB IAmb IAmb 11 41 36.7
comp=Z,48nm,1.3s
MTN Manton Dam 48.38 177 P **P** **11 41 35.9 -0.8**
MTN IAmb IAmb 11 41 42.0
comp=Z,50nm,0.8s
KBL Kabul 48.48 287 P **P** **11 41 37.8 +0.1**
KBL IAmb IAmb 11 41 50.1
comp=Z,44nm,1.4s
KBL Kabul 48.48 287 P **P** **11 41 37.8 +0.1**
KBL pmax pmax
comp=Z,44nm,1.4s
KBL Kabul 48.48 287 P P 11 41 32.3 -5.4
KBL P P 11 41 32.3 -5.4
ARU Arti 50.66 317 LR LR 12 03 23.7
comp=Z,3µm,19.1s,baz=90,slow=36
ARU Arti 50.66 317 P **P** **11 41 53.5 -0.3**
ARU IAmb IAmb 11 41 56.1
comp=Z,65nm,1.3s
ARU Arti 50.66 317 *c i*P **P** **11 41 53.4 -0.4**
ARU 11 43 44.0
ARU PPP PPP 11 44 43.1
ARU S **S** **11 49 10.3 +2.0**
ARU SS **SS** **11 52 42.5 +0.4**
ARU pmax pmax
comp=Z,97nm,1.9s
ARU MLR MLR
comp=Z,3µm,16.0s
ABKAR Akbulak array 51.05 308 P **P** **11 41 56.0 -0.9**
ABKAR Akbulak array 51.05 308 P **P** **11 41 56.5 -0.4**
ABKAR IAmb IAmb 11 42 01.8
comp=Z,20nm,0.9s
KNRA Kununurra 51.16 180 P **P** **11 41 57.8 -0.2**
KNRA IAmb IAmb 11 42 03.8
comp=Z,52nm,0.8s
COEN Coen 51.20 162 P **P** **11 41 58.9 +0.7**
COEN IAmb IAmb 11 42 06.7
comp=Z,122nm,1.7s
O16K Kokwok River B 51.41 38 P **P** **11 41 58.0 -1.4**
baz=276
O17K Koliganek Bris 51.90 38 P **P** **11 42 02.4 -0.6**
baz=277
AKTO Aktyubinsk 52.02 310 LR LR 12 02 58.2
comp=Z,3µm,20.6s,baz=81,slow=35
TTA Tatalina 52.06 34 P **P** **11 42 04.2 -0.1**
baz=276
P17K Kvichak River 52.30 39 P **P** **11 42 05.6 -0.4**
baz=278
N18K Kilae Creek 52.38 37 P **P** **11 42 07.8 +1.1**
N18K IAmb IAmb 11 42 13.7
comp=Z,136nm,1.9s
N18K Kilae Creek 52.38 37 P **P** **11 42 06.0 -0.6**
baz=277
PALK Pallekele 52.54 249 LR LR 12 07 35.8
comp=Z,2µm,18.6s,baz=147,slow=40
PALK Pallekele 52.54 249 IAMs_20 IAMs_20 12 07 15.2
comp=Z,2µm,19.0s
R17K Ugashik Creek 52.57 41 P **P** **11 42 07.2 -0.8**

L19K White Mountain 52.68 35 P P 11 42 09.8 +0.9
L19K IAmb IAmb 11 42 54.8
comp=Z,72nm,1.7s baz=279

L19K White Mountain 52.68 35 P P 11 42 08.3 -0.6
baz=277

F21K Alatna River 52.75 29 P P 11 42 08.6 -0.7
baz=274,SNR=5.2

IMAR Indian Mountai 52.75 30 P P 11 42 08.6 -0.7

J20K Nowinta River 52.76 32 P P 11 42 09.8 +0.4
J20K IAMs_20 IAMs_20 12 06 16.9
comp=Z,2µm,19.0s

J20K Nowinta River 52.76 32 P P 11 42 08.9 -0.5
baz=276,SNR=13

G21K Allakaket 52.80 29 P P 11 42 09.5 -0.1
baz=275

P18K Big Mountain, 52.89 38 P P 11 42 10.5 +0.1
baz=279

K20K Telida 52.89 33 P P 11 42 11.3 +0.9

K20K Telida 52.89 33 P P 11 42 10.3 -0.1
baz=277

M19K Big River Lodg 52.93 35 P P 11 42 10.5 -0.2
baz=278

N19K Bonanza Creek 53.04 37 P P 11 42 10.6 -1.0
baz=278

L20K Farewell, AK 53.09 34 P P 11 42 11.5 -0.4
baz=278

H21K Melozitna Rive 53.17 30 P P 11 42 12.0 -0.4
baz=276

O19K Port Alsworth 53.22 37 P P 11 42 12.9 +0.2
baz=279

F22K John River 53.23 28 P P 11 42 12.7 -0.1
baz=275,SNR=18

CHIR Chirikof Islan 53.31 43 P P 11 42 13.5 0.0
baz=281

HNR Honiara 53.52 141 LR LR 12 04 22.0
comp=Z,5µm,19.4s,baz=344,slow=35

M20K Styx River 53.52 35 P P 11 42 15.0 -0.2
baz=279

G22K Bettles 53.55 29 P P 11 42 15.0 -0.2
baz=276

I21K Tanana 53.57 31 P P 11 42 16.1 +0.8
I21K IAmb IAmb 11 42 24.2
comp=Z,92nm,1.7s

I21K Tanana 53.57 31 P P 11 42 14.5 -0.8
baz=277

C23K Ikiilik River 53.58 25 P P 11 42 14.6 -0.7
baz=275

D23K Nanushuk River 53.64 26 P P 11 42 14.2 -1.6
baz=276

FITZ Fitzroy Crossi 53.67 184 P P 11 42 16.2 -0.3
comp=Z,5.0nm,0.7s,baz=15,slow=9.0,SNR=11
FITZ LR LR 12 04 21.3
comp=Z,314nm,21.9s,baz=7.0,slow=35
comp=Z,5.0nm,0.7s

FITZ Fitzroy Crossi 53.67 184 P P 11 42 16.3 -0.2

H22K Ishtalitna Cre 53.73 30 P P 11 42 15.9 -0.6
baz=277,SNR=11

Q19K Cape Douglas, 53.77 39 P P 11 42 15.6 -1.3
baz=280

HRA Herat 53.78 289 P P 11 42 18.0 +0.4
HRA IAmb IAmb 11 42 20.1
comp=Z,58nm,1.8s

P19K Oil Pt 53.85 38 P P 11 42 16.5 -1.0
baz=280

SII Sitkinak Islan 53.95 42 P P 11 42 18.0 -0.3
baz=282

COLD Coldfoot 54.02 28 P P 11 42 18.3 -0.3
baz=277,SNR=7.4

O20K Slope Mountain 54.07 37 P P 11 42 18.3 -0.9
baz=280

SPCR Spurr Chakacha 54.07 36 P P 11 42 18.9 -0.3
baz=280

N20K Mount Spurr 54.07 36 P P 11 42 18.8 -0.4
baz=280

TOLK Toolik Lake Re 54.08 27 P P 11 42 18.4 -0.8
TOLK IAmb IAmb 11 42 25.0
comp=Z,74nm,1.6s

TOLK IAMs_20 IAMs_20 12 04 07.6
comp=Z,2µm,20.0s

TOLK Toolik Lake Re 54.08 27 P P 11 42 18.3 -0.8
baz=277,SNR=6.4

MLY Manley 54.11 31 P P 11 42 19.8 +0.4
MLY IAmb IAmb 11 42 25.9
comp=Z,58nm,1.4s

MLY Manley 54.11 31 P P 11 42 18.6 -0.7
baz=278,SNR=12

E23K Chandalar 54.13 27 P P 11 42 19.2 -0.3
baz=277

BPAW Bear Paw Mtn. 54.15 32 P P 11 42 20.2 +0.6
BPAW IAmb IAmb 11 42 26.1
comp=Z,50nm,1.4s

BPAW IAMs_20 IAMs_20 12 07 19.4
comp=Z,1µm,18.0s

BPAW Bear Paw Mtn. 54.15 32 P P 11 42 19.4 -0.2
baz=279

SPU Mount Spurr 54.15 36 P P 11 42 20.5 +0.8

G23K Bananza Creek 54.16 29 P P 11 42 18.9 -0.8
baz=278,SNR=11

C24K Franklin Bluff 54.26 25 P P 11 42 19.8 -0.5
baz=277

SKT Skwentna 54.26 35 P P 11 42 19.8 -0.7
baz=280

D24K Happy Valley 54.28 26 P P 11 42 20.4 -0.1
baz=277

OHAK Old Harbor 54.29 41 P P 11 42 19.4 -1.3
baz=282

Q20K Shuyak Island 54.47 39 P P 11 42 20.8 -1.2
baz=282

H23K Yukon River 54.48 30 P P 11 42 22.6 +0.5
H23K IAmb IAmb 11 42 28.8
comp=Z,99nm,1.4s

H23K Yukon River 54.48 30 P P 11 42 22.9 +0.8
baz=279,SNR=23

KDAK Kodiak Island 54.55 40 P P 11 42 22.2 -0.3
comp=Z,12nm,0.9s,baz=290,slow=5.9
KDAK LR LR 12 07 43.1
comp=Z,1µm,18.0s,baz=272,slow=38
comp=Z,12nm,0.9s

KDAK Kodiak Island 54.55 40 P P 11 42 21.8 -0.7
baz=282

E24K Your Creek 54.55 27 P P 11 42 22.7 +0.1
baz=278,SNR=13

TRF Thorofare Moun 54.56 33 P P 11 42 22.7 -0.1
baz=280

HOM Homer 54.64 38 P P 11 42 22.9 -0.2
baz=282

CAPN Captain Cook N 54.66 36 P P 11 42 22.9 -0.4
baz=281

SUA Susitna One 54.72 35 P P 11 42 23.5 -0.4
baz=281

CUT Chulitna 54.76 34 P P 11 42 23.5 -0.5
baz=281

BWN Browne 54.79 32 P P 11 42 25.3 +1.0

F24K Squaw Lake 54.86 28 P P 11 42 24.8 0.0
baz=279

NEA2 Nenana 54.89 31 P P 11 42 25.4 +0.5
NEA2 IAmb IAmb 11 42 31.2
comp=Z,67nm,1.4s

NEA2 Nenana 54.89 31 P P 11 42 24.6 -0.3
baz=280,SNR=11

M22K Willow 54.95 35 P P 11 42 24.6 -0.8
baz=281

BRLK Bradley Lake 54.99 37 IAMs_20 IAMs_20 12 07 51.7
comp=Z,2µm,18.0s

BRSE Bradley Lake S 55.07 37 P P 11 42 24.2 -2.1
baz=282

MCK McKinley 55.10 32 P P 11 42 27.2 +0.7
MCK IAmb IAmb 11 42 32.3
comp=Z,74nm,1.5s

MCK McKinley 55.10 32 P P 11 42 27.2 +0.7
MCK pmax pmax
comp=Z,74nm,1.5s

MCK MLR MLR
comp=Z,1µm,22.0s

MCK McKinley 55.10 32 P P 11 42 25.9 -0.6
baz=281

D25K Kavik River 55.12 26 P P 11 42 26.4 -0.2
baz=279,SNR=8.9

KIRV Kirov 55.14 321 LR LR 12 08 09.7
comp=Z,2µm,18.6s,baz=81,slow=38

KIRV Kirov 55.14 321 *ce*P P 11 42 26.5 -0.3

H24K Noodor Dome 55.16 30 P P 11 42 28.0 +1.1
H24K IAmb IAmb 11 42 33.7
comp=Z,72nm,1.5s

H24K Noodor Dome 55.16 30 P P 11 42 27.2 +0.3
baz=280,SNR=12

G24K Hadweenzic Riv 55.16 29 P P 11 42 27.3 +0.4
baz=280,SNR=10

MDM Murphy Dome 55.17 31 P P 11 42 27.6 +0.6
MDM IAmb IAmb 11 42 33.4
comp=Z,75nm,1.3s

RC01 Rabbit Creek A 55.27 36 P P 11 42 27.4 -0.3
baz=282

WRH Wood River Hil 55.33 32 P P 11 42 28.3 +0.2
WRH IAmb IAmb 11 42 36.6
comp=Z,62nm,1.8s

TCOL CIGO, UAF Yank 55.34 31 P P 11 42 28.9 +0.7
TCOL IAmb IAmb 11 42 34.5
comp=Z,74nm,1.2s

TCOL CIGO, UAF Yank 55.34 31 P P 11 42 28.2 0.0
baz=281

COLA College 55.35 31 P P 11 42 28.9 +0.7
COLA IAmb IAmb 11 42 34.5
comp=Z,73nm,1.2s

COLA College 55.35 31 *c i*P P 11 42 27.5 -0.7
COLA pmax pmax
comp=Z,17nm,1.1s

COLA College 55.35 31 P P 11 42 27.9 -0.3
baz=281

CCB Clear Creek Bu 55.41 31 P P 11 42 29.2 +0.6

PMR Palmer 55.45 35 P P 11 42 28.0 -1.0
baz=282,SNR=5.1

WB0 Warramunga Arr 55.45 174 P P 11 42 28.5 -1.0
WB0 IAmb IAmb 11 42 34.3
comp=Z,60nm,0.9s

WAT1 Susitna Watana 55.45 34 P P 11 42 28.6 -0.5
baz=282

POKR Poker Plat Res 55.48 31 P P 11 42 29.7 +0.5

POKR Poker Plat Res 55.48 31 P P 11 42 29.2 0.0
baz=281,SNR=13

GHO Glory Hole Cre 55.51 35 P P 11 42 29.5 -0.1

C26K Camden Bay 55.52 25 P P 11 42 29.2 -0.2
baz=280

GEYT Alibeck 55.59 295 P P 11 42 30.3 -0.2
comp=Z,9.1nm,0.9s,baz=29,slow=3.4,SNR=17
GEYT LR LR 12 08 03.9
comp=Z,3µm,18.3s,baz=82,slow=38
comp=Z,9.1nm,0.9s

GEYT Alibeck 55.59 295 P P 11 42 31.2 +0.7

GYA0B ALIBECK ARRAY 55.59 295 P P 11 42 31.3 +0.8

WRAB Tennant Creek 55.61 174 P P 11 42 29.8 -0.8

WRAB Tennant Creek 55.61 174 *c i*P P 11 42 30.2 -0.4
WRAB pmax pmax
comp=Z,79nm,1.3s

WRA Warramunga Arr 55.62 174 P P 11 42 30.1 -0.6
comp=Z,38nm,0.7s,baz=353,slow=7.7,SNR=325
WRA LR LR 12 04 58.2
comp=Z,905nm,21.8s,baz=339,slow=35
comp=Z,38nm,0.7s

WRA Warramunga Arr 55.62 174 P P 11 42 29.2 -1.5

WB2 Warramunga Ar 55.62 174 P P 11 42 29.7 -1.0

E25K Arctic Village 55.62 27 P P 11 42 30.3 0.0
baz=281,SNR=7.9

WR0 Warramunga Arr 55.66 174 P P 11 42 30.1 -0.8

F25K Christian Rive 55.70 28 P P 11 42 30.5 -0.3
baz=281,SNR=12

IL31 55.77 31 P P 11 42 30.8 -0.5

ILAR Eielson Array 55.77 31 P P 11 42 30.7 -0.6
comp=Z,3.2nm,0.5s,baz=271,slow=4.7,SNR=41
ILAR LR LR 12 06 43.8
comp=Z,842nm,18.8s,baz=268,slow=36
comp=Z,3.2nm,0.5s

ILAR Eielson Array 55.77 31 P P 11 42 30.4 -1.0

SML Sawmill 55.77 35 P P 11 42 31.4 0.0

SML Sawmill 55.77 35 P P 11 42 31.4 0.0
SML pmax pmax
comp=Z,110nm,1.5s

SML Sawmill 55.77 35 P P 11 42 30.6 -0.8
baz=283

KNK Knik Glacier 55.80 35 P P 11 42 32.5 +0.9
KNK IAmb IAmb 11 43 04.9
comp=Z,37nm,0.8s

KNK Knik Glacier 55.80 35 P P 11 42 30.9 -0.7
baz=283

HDA Harding Lake 55.82 31 P P 11 42 31.1 -0.6
HDA IAmb IAmb 11 42 39.0
comp=Z,41nm,1.1s

HDA IAMs_20 IAMs_20 12 06 45.8
comp=Z,2µm,20.0s

HDA Harding Lake 55.82 31 P P 11 42 30.7 -1.0
baz=282,SNR=11

WAT6 Susitna Watana 55.87 34 P P 11 42 31.4 -0.9
baz=283

H25K Birch Creek 55.90 29 P P 11 42 32.4 +0.2
baz=282,SNR=13

DHY Denali Highway 55.93 33 P P 11 42 32.1 -0.6
DHY IAmb IAmb 11 42 38.1
comp=Z,73nm,1.6s

DHY Denali Highway 55.93 33 P P 11 42 32.0 -0.6
baz=283

PWL Port Wells 55.99 36 IAMs_20 IAMs_20 12 05 35.2
comp=Z,2µm,22.0s

PWL Port Wells 55.99 36 P P 11 42 32.2 -0.8
baz=283

C27K Jago River 55.99 25 P P 11 42 32.6 -0.3
baz=282,SNR=14

M23K Glacier View 56.06 35 P P 11 42 33.3 -0.1
baz=283

FYU Fort Yukon 56.06 29 P P 11 42 33.7 +0.4
FYU IAMs_20 IAMs_20 12 07 15.1
comp=Z,1µm,19.0s

BMAR Burnt Mountain 56.13 28 P P 11 42 34.4 +0.5

PRP Porcupine Dome 56.18 30 P P 11 42 34.5 +0.1
PRP IAmb IAmb 11 42 40.7
comp=Z,52nm,1.2s

PRP IAMs_20 IAMs_20 12 09 58.0
comp=Z,2µm,18.0s

PRP Porcupine Dome 56.18 30 P P 11 42 34.2 -0.2
baz=283

SCM Sheep Creek Mo 56.23 35 P P 11 42 34.3 -0.4
baz=284

F26K Sheenjek River 56.24 27 P P 11 42 35.1 +0.5
baz=282,SNR=16

PRGR Permogore 56.29 325 *e*P P 11 42 33.6 -1.4

J25K Salcha River, 56.44 31 IAMs_20 IAMs_20 12 09 48.1
comp=Z,1µm,18.0s

J25K Salcha River, 56.44 31 P P 11 42 34.4 -1.8
baz=284

G26K Porcupine Rive 56.54 28 P P 11 42 37.0 +0.2
baz=283,SNR=24

GLI Glacier Island 56.57 36 P P 11 42 36.7 -0.4
baz=284

P23K Montague Islan 56.65 37 P P 11 42 36.5 -1.1
baz=285

M24K Tolsona, Glenn 56.70 34 P P 11 42 37.5 -0.5
baz=284

PAX Paxson 56.80 33 P P 11 42 37.8 -1.0
baz=284

RIDG Independent Ri 56.88 32 P P 11 42 38.8 -0.5
RIDG IAmb IAmb 11 42 44.5
comp=Z,57nm,1.4s

RIDG Independent Ri 56.88 32 P P 11 42 38.1 -1.2
baz=284

FID Port Fidalgo 56.90 36 IAMs_20 IAMs_20 12 05 50.8
comp=Z,2µm,20.0s

KLU Klutina 56.97 35 P P 11 42 39.2 -0.8
baz=285

E27K Coleen River 57.06 26 P P 11 42 40.1 -0.4
baz=284

SCRK Sand Creek 57.19 32 P P 11 42 40.8 -0.8
SCRK IAmb IAmb 11 42 46.8
comp=Z,68nm,1.4s

SCRK IAMs_20 IAMs_20 12 07 34.7
comp=Z,1µm,18.0s

SCRK Sand Creek 57.19 32 P P 11 42 40.5 -1.0
baz=285,SNR=21

I26K Coal Creek Min 57.19 30 P P 11 42 41.0 -0.4
I26K IAMs_20 IAMs_20 12 08 10.8
comp=Z,1µm,18.0s

I26K Coal Creek Min 57.19 30 P P 11 42 40.5 -0.8
baz=285

J26L Joseph Creek 57.23 31 P P 11 42 41.0 -0.9
J26L IAMs_20 IAMs_20 12 11 20.9
comp=Z,1µm,20.0s

J26L Joseph Creek 57.23 31 P P 11 42 40.4 -1.4
baz=285

EYAK Cordova Ski Ar 57.30 36 P P 11 42 41.2 -1.0

Q23K Middleton Isla 57.31 37 P P 11 42 41.2 -1.1
baz=286

G27K Doyon Strip 57.39 28 P P 11 42 41.2 -1.6
baz=285,SNR=13

N25K Chitina, Valde 57.55 34 P P 11 42 45.0 +0.9
N25K IAmb IAmb 11 42 50.8
comp=Z,62nm,1.4s

N25K Chitina, Valde 57.55 34 P P 11 42 43.5 -0.6
baz=286

MENT Mentasta 57.58 33 P P 11 42 45.1 +0.9
MENT IAmb IAmb 11 42 55.5
comp=Z,25nm,0.8s

H27K Steamboat Moun 57.59 29 P P 11 42 44.2 -0.2
baz=286,SNR=17

PSA00 Pilbara Seismi 57.70 190 P P 11 42 47.9 +2.4
PSA00 IAmb IAmb 11 43 00.4
comp=Z,118nm,1.8s

L26K Log Cabin Wild 57.72 33 P P 11 42 44.3 -0.9
baz=286

BMRM Bremner River 57.72 35 P P 11 42 44.3 -1.0
baz=286

I27K Kandik River 57.73 29 P P 11 42 44.6 -0.7
baz=286,SNR=22

BELG Belogornoye 57.78 314 LR LR 12 07 07.2
comp=Z,3µm,18.7s,baz=61,slow=36

BELG Belogornoye 57.78 314 *c i*P P 11 42 45.1 -0.6
BELG pmax pmax
comp=Z,18nm,1.0s

CTA Charters Tower 57.86 161 P P 11 42 46.6 0.0
comp=Z,35nm,1.0s,baz=344,slow=7.2,SNR=17
CTA LR LR 12 06 53.9
comp=Z,904nm,19.8s,baz=328,slow=35
comp=Z,35nm,1.0s

CTAO Charters Tower 57.86 161 P P 11 42 47.0 +0.4
CTAO IAmb IAmb 11 42 53.0
comp=Z,45nm,0.9s

CTAO Charters Tower 57.86 161 P P 11 42 47.0 +0.4
CTAO pmax pmax
comp=Z,45nm,1.0s

GLB Gilahina Butte 57.96 34 IAMs_20 IAMs_20 12 08 34.1
comp=Z,1µm,18.0s

K27K Chicken 57.98 31 P P 11 42 47.5 +0.5
K27K IAmb IAmb 11 42 53.3
comp=Z,80nm,1.6s

K27K IAMs_20 IAMs_20 12 07 41.8
comp=Z,2µm,18.0s

K27K Chicken 57.98 31 P P 11 42 46.3 -0.7
baz=286

M26K Nabesna, AK 58.05 33 P P 11 42 47.8 +0.2
M26K IAmb IAmb 11 42 54.0
comp=Z,100nm,1.5s

M26K Nabesna, AK 58.05 33 P P 11 42 46.1 -1.5
baz=287,SNR=14

HMT Hamilton 58.07 36 IAMs_20 IAMs_20 12 08 13.1
comp=Z,2µm,19.0s

EGAK Eagle 58.15 30 P P 11 42 48.0 -0.1
EGAK IAmb IAmb 11 42 53.8
comp=Z,108nm,1.8s

EGAK Eagle 58.15 30 P P 11 42 47.7 -0.4
baz=287,SNR=15

MCARA McCarthy VSAT 58.34 34 P P 11 42 50.6 +1.1

MCARA McCarthy VSAT 58.34 34 P P 11 42 49.2 -0.3
baz=287

L27K Beaver Creek, 58.37 32 P P 11 42 50.0 +0.2
L27K IAmb IAmb 11 42 56.5
comp=Z,104nm,1.6s

L27K IAMs_20 IAMs_20 12 08 25.1
comp=Z,1µm,18.0s

L27K Beaver Creek, 58.37 32 P P 11 42 49.6 -0.2
baz=287,SNR=28

BCAR Beaver Creek A 58.39 32 P P 11 42 50.3 +0.4

M27K Edge Creek, AK 58.56 33 IAMs_20 IAMs_20 12 11 35.1
comp=Z,2µm,18.0s

M27K Edge Creek, AK 58.56 33 P P 11 42 50.1 -1.1
baz=288

TGL Tana Glacier 58.62 35 P P 11 42 52.1 +0.5
TGL IAmb IAmb 11 43 21.3
comp=Z,50nm,1.2s

TGL IAMs_20 IAMs_20 12 06 51.6
comp=Z,2µm,19.0s

WAX Waxell Ridge 58.70 35 IAMs_20 IAMs_20 12 08 34.8
comp=Z,1µm,18.0s

ISLE Juniper Island 58.89 35 IAMs_20 IAMs_20 12 06 58.9
comp=Z,2µm,22.0s

BVCY Beaver Creek 58.99 33 P P 11 42 53.0 -1.1
baz=288

LVZ Lovozero 59.04 334 IAMs_20 IAMs_20 12 10 15.8
comp=Z,2µm,18.0s

DAWY Dawson 59.10 31 P P 11 42 54.2 -0.6

DAWY Dawson 59.10 31 P P 11 42 53.9 -1.0
baz=289,SNR=7.0

I29M Ogilvie Camp, 59.12 29 P P 11 42 55.3 +0.4
I29M IAmb IAmb 11 43 00.9
comp=Z,37nm,1.4s

I29M IAMs_20 IAMs_20 12 08 08.9
comp=Z,2µm,18.0s

I29M Ogilvie Camp, 59.12 29 P P 11 42 54.8 -0.1
baz=289,SNR=9.8

MESA MESA 59.21 36 IAMs_20 IAMs_20 12 10 18.3
comp=Z,2µm,19.0s

MESA MESA 59.21 36 P P 11 42 54.9 -1.0
baz=289

CTGM Chitina Glacie 59.24 35 IAMs_20 IAMs_20 12 07 03.1
comp=Z,2µm,20.0s

YAH Yahtse 59.25 35 IAMs_20 IAMs_20 12 07 21.3
comp=Z,2µm,19.0s

AS31 Alice Springs 59.28 175 P P 11 42 55.8 -0.6

ASAR Alice Springs 59.28 175 P P 11 42 56.1 -0.3
comp=Z,33nm,1.1s,baz=4.5,slow=13,SNR=72
ASAR LR LR 12 09 28.7
comp=Z,729nm,19.1s,baz=48,slow=37
ASAR PKP2bc 12 12 35.4
comp=Z,0.5nm,0.8s,baz=198,slow=2.6,SNR=4.1
comp=Z,33nm,1.1s

ASAR Alice Springs 59.28 175 P P 11 42 55.5 -1.0

KLMR Klimovskoe 59.34 325 *e*P P 11 42 54.2 -2.3
KLMR *e* 11 43 41.5
KLMR S S 11 51 05.2 +0.7
KLMR pmax pmax
comp=Z,132nm,1.8s

KLMR MLR MLR
comp=Z,3µm,15.0s

KLMR Klimovskoe 59.34 325 *e*P P 11 42 54.2 -2.3
KLMR *e*P P 11 42 54.2 -2.3
KLMR *e*P P 11 42 54.2 -2.3
KLMR AMP 11 42 57.3
comp=Z,132nm,1.8s

KLMR *e*PcP PcP 11 43 41.6 -2.8
KLMR S S 11 51 05.3 +0.7
KLMR S S 11 51 05.3 +0.7
KLMR LQ LQ 12 03 25.8
KLMR LQ LQ 12 03 25.8
KLMR LR LR 12 05 02.6
KLMR AMP 12 11 20.8
comp=Z,3µm,14.9s

EPYK Eagle Plains 59.40 28 P P 11 42 56.9 0.0
EPYK IAMs_20 IAMs_20 12 07 52.3
comp=Z,2µm,21.0s

EPYK Eagle Plains 59.40 28 P P 11 42 56.6 -0.3
baz=290,SNR=11

LOGN Logan Glacier 59.44 35 IAMs_20 IAMs_20 12 07 09.5
comp=Z,2µm,19.0s

J29M Klondike Camp 59.45 30 IAMs_20 IAMs_20 12 08 24.7
comp=Z,1µm,18.0s

TABL Table Mountain 59.51 35 IAMs_20 IAMs_20 12 07 50.1
comp=Z,1µm,20.0s

APA Apatity 59.60 334 *i*P P 11 42 55.4 -2.7
APA *i* S S 11 50 58.0 -10
APA pmax pmax
comp=Z,16nm,1.3s

APA MLR MLR
comp=Z,3µm,15.0s

SPA0 Spitsbergen Ar 59.70 347 *e*P P 11 42 59.3 +0.5

O28M Mount Upton 59.84 35 P P 11 42 59.6 -0.7
baz=290

INK Inuvik 59.89 25 LR LR 12 12 05.3
comp=Z,1µm,19.0s,baz=280,slow=39

INK Inuvik 59.89 25 P P 11 43 00.1 0.0
INK IAmb IAmb 11 43 05.6
comp=Z,73nm,1.9s

INK Inuvik 59.89 25 P P 11 43 00.1 0.0
INK pmax pmax
comp=Z,73nm,1.9s

INK Inuvik 59.89 25 P P 11 42 59.3 -0.8
baz=291

L29M L29M 59.95 32 P P 11 43 00.2 -0.5
baz=290

K29M Barlow Dome 59.95 31 P P 11 43 00.9 +0.1
baz=290,SNR=17

M29M Somme Creek 60.04 32 P P 11 43 00.5 -0.9
baz=290,SNR=13

PINM Pinnacle 60.04 35 P P 11 43 00.5 -0.9
baz=290

KBS Kingsbay 60.06 349 IAMs_20 IAMs_20 12 10 21.4
comp=Z,2µm,19.0s
KBS Kingsbay 60.06 349⇑ *e*P **P** **11 43 02.2 +1.0**
KBS pmax pmax
comp=Z,46nm,1.7s
F31M Tsiigehtchic 60.13 26 P **P** **11 43 01.2 -0.6**
baz=291
BCPM Bancas Point 60.38 35 P **P** **11 43 03.2 -0.5**
BCPM IAMs_20 IAMs_20 12 08 07.2
comp=Z,1µm,20.0s
HSPB Hornsund (broa 60.46 346 *e*P **P** **11 43 02.1 -1.8**
PNL Peninsula 60.59 36 P **P** **11 43 03.7 -1.4**
baz=291
YUK6 Outpost Mounta 60.61 34 P **P** **11 43 04.5 -1.0**
baz=291
M30M Minto, Yukon 60.71 32 P **P** **11 43 07.1 +1.2**
M30M IAmb IAmb 11 43 12.9
comp=Z,56nm,1.4s
M30M IAMs_20 IAMs_20 12 09 36.0
comp=Z,2µm,20.0s
M30M Minto, Yukon 60.71 32 P **P** **11 43 05.9 -0.1**
baz=292,SNR=15
MAYO Mayo, Yukon 60.72 31 P **P** **11 43 06.5 +0.6**
MAYO IAmb IAmb 11 43 14.6
comp=Z,45nm,1.0s
MAYO Mayo, Yukon 60.72 31 P **P** **11 43 05.8 -0.1**
baz=292,SNR=7.7
O29M Mount Kennedy 60.75 35 P **P** **11 43 05.7 -0.6**
baz=291
JASK Jask - Hormozg 60.82 282 P **P** **11 43 06.8 -0.5**
KEV Kevo 60.93 337 P **P** **11 43 06.9 -0.3**
KEV IAmb IAmb 11 43 12.5
comp=Z,62nm,1.3s
KEV IAMs_20 IAMs_20 12 10 30.5
comp=Z,2µm,22.0s
KEV Kevo 60.93 337 P **P** **11 43 06.9 -0.3**
KEV pmax pmax
comp=Z,62nm,1.3s
KEV MLR MLR
comp=Z,2µm,22.0s
A36M Sachs Harbour 60.99 20 P **P** **11 43 07.1 -0.5**
baz=296
N30M Aishikik Lake 61.00 33 P **P** **11 43 08.4 +0.5**
baz=292
HYT Haines Junctio 61.05 34 P **P** **11 43 09.3 +0.9**
HYT Haines Junctio 61.05 34 P **P** **11 43 07.4 -0.9**
baz=292,SNR=18
MAK Makhachkala 61.20 304 *e*P P 11 43 04.0 -5.5
MAK *e*S **S** **11 51 22.3 -6.6**
MAK *e*SS **SS** **11 55 23.9 -4.5**
MAK pmax pmax
comp=Z,91nm,0.7s
MAK MLR MLR
comp=Z,4µm,16.0s
P29M Windy Craggy 61.39 35 P **P** **11 43 11.6 +1.0**
P29M IAmb IAmb 11 43 21.7
comp=Z,39nm,1.0s
P29M Windy Craggy 61.39 35 P **P** **11 43 09.3 -1.2**
baz=292
WSAR Wadi Sarin 61.47 279 LR LR 12 13 47.4
comp=Z,2µm,20.3s,baz=60,slow=40
WSAR Wadi Sarin 61.47 279 P **P** **11 43 12.1 +0.5**
ARA0 ARCESS Array S 61.50 337 *e*P **P** **11 43 10.7 -0.4**
ARA0 IAmb IAmb 11 43 12.5
comp=Z,167nm,2.0s
ARCES ARCESS Array B 61.50 337 P **P** **11 43 10.6 -0.4**
comp=Z,15nm,1.1s,baz=57,slow=8.3,SNR=16
ARCES LR LR 12 14 24.3
comp=Z,3µm,18.1s,baz=68,slow=40
comp=Z,15nm,1.1s
ARCES ARCESS Array B 61.50 337 P **P** **11 43 10.7 -0.4**
ARCES ARCESS Array B 61.50 337 P **P** **11 43 10.7 -0.4**
ARCES pmax pmax
comp=Z,145nm,2.0s
WBK Wadi Bani Khal 61.50 278 P **P** **11 43 12.6 +0.7**
WBK P **P** **11 43 12.6 +0.7**
HAMF Hammerfest 61.56 339 *e*P **P** **11 43 12.2 +0.7**
P30M Million Dollar 61.56 35 P **P** **11 43 11.2 -0.6**
baz=293
N31M Braeburn, Yuko 61.57 33 P **P** **11 43 12.0 +0.3**
N31M IAMs_20 IAMs_20 12 09 21.6
comp=Z,1µm,19.0s
N31M Braeburn, Yuko 61.57 33 P **P** **11 43 11.5 -0.2**
baz=293,SNR=6.5
VRH Novokhopyorsk 61.63 314 *e*P **P** **11 43 11.1 -1.1**
VRH pmax pmax
comp=Z,50nm,1.5s
VRH MLR MLR
comp=Z,2µm,12.0s
O30N Mendenhall 61.71 34 P **P** **11 43 12.6 -0.2**
baz=293
BIDO Bidbid 61.73 280 P **P** **11 43 13.7 +0.3**
BIDO P **P** **11 43 13.7 +0.3**
M31M Drury Creek, Y 61.89 32 P **P** **11 43 14.5 +0.6**
M31M IAmb IAmb 11 43 20.5
comp=Z,52nm,1.4s
M31M IAMs_20 IAMs_20 12 09 17.1
comp=Z,2µm,20.0s
M31M Drury Creek, Y 61.89 32 P **P** **11 43 13.7 -0.2**
baz=294,SNR=11
SMDO Samad 62.02 279 P **P** **11 43 15.9 +0.4**
SMDO P **P** **11 43 15.9 +0.4**
SMDO P **sP** **11 43 21.0 0.0**
SNR=5.4
SMDO P **sP** **11 43 21.0 0.0**
SNR=5.4
BANOM Banah 62.04 283 *i* P **P** **11 43 16.7 +1.2**
SNR=6.1
PLBC Pleasant Camp 62.10 35 P **P** **11 43 15.6 +0.3**
baz=294
SHME Shamm 62.11 283 P **P** **11 43 16.3 +0.5**
SNR=5.3
SHME P **P** **11 43 16.3 +0.5**
SNR=5.3
SHME Shamm 62.11 283 *i* P **P** **11 43 16.8 +0.9**
SNR=9.3
MOS Moscow 62.12 320 *e*P **P** **11 43 11.2 -4.3**
MOS *e* 11 43 52.9
MOS *e*S **S** **11 51 36.3 -3.9**
MOS pmax pmax
comp=Z,500nm,2.2s
MOS pmax pmax
comp=Z,170nm,1.8s
MOS MLR MLR
comp=Z,2µm,17.0s
GROC Groznyy 62.25 305 *e*P **P** **11 43 15.6 -1.0**
GROC *e* 11 45 31.7
GROC *e*S **S** **11 51 40.8 -1.4**
GROC *e* 11 53 07.3
GROC pmax pmax
comp=Z,135nm,1.2s
GROC MLR MLR
comp=Z,877nm,11.0s
WHY Whitehorse 62.30 34 P **P** **11 43 17.6 +0.8**
WHY Whitehorse 62.30 34 P **P** **11 43 17.1 +0.4**
baz=294
JMDO Jabal Madar 62.32 279 P **P** **11 43 17.6 +0.2**
JMDO P **P** **11 43 17.6 +0.2**
JMDO P **P** **11 43 17.6 +0.2**
FARO Faro, Yukon 62.33 32 P **P** **11 43 17.1 +0.3**
FARO Faro, Yukon 62.33 32 P **P** **11 43 17.3 +0.5**
baz=294,SNR=26
MDH Madha 62.34 282 P **P** **11 43 17.0 -0.5**
MDH Madha 62.34 282 P **P** **11 43 16.9 -0.6**
HOQ Hoqain 62.36 280 P **P** **11 43 17.7 +0.1**
HOQ P **P** **11 43 17.7 +0.1**
MASF Masafi 62.41 283 P **P** **11 43 18.9 +0.9**
MASF P **P** **11 43 18.9 +0.9**
MSFE Esma-Masafi 62.42 283 *i* P **P** **11 43 18.9 +0.9**
SNR=6.2
KTK1 Kautokeino 62.45 337 *e*P **P** **11 43 16.6 -0.9**
KTK1 IAmb IAmb 11 43 27.1
comp=Z,930nm,3.3s
C36M Paulatuk 62.56 23 IAMs_20 IAMs_20 12 10 55.7
comp=Z,2µm,20.0s
C36M Paulatuk 62.56 23 P **P** **11 43 17.4 -0.8**
baz=299
UOSS Minazif 62.58 282 IAMs_20 IAMs_20 12 10 41.4
comp=Z,2µm,22.0s
UOSS Minazif 62.58 282 P **P** **11 43 19.5 +0.4**
UOSS P **P** **11 43 19.5 +0.4**
UOSS P **P** **11 43 19.5 +0.4**
UOSS Minazif 62.58 282 P **P** **11 43 20.3 +1.2**
SKAG Skagway 62.59 35 P **P** **11 43 18.6 +0.1**
baz=294
LPSR Galich'ya Gora 62.67 317 *e*P **P** **11 43 18.1 -1.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,2µm,14.0s
HATD Hatta, Dubai 62.70 282 P **P** **11 43 20.5 +0.6**
HATD P **P** **11 43 20.5 +0.6**
HATD Hatta, Dubai 62.70 282 *i* P **P** **11 43 20.8 +0.9**
SNR=6.9
SOHO SOHO 62.71 281 P **P** **11 43 20.3 +0.4**
SOHO P **P** **11 43 20.3 +0.4**
SOHO SOHO 62.71 281 *i* P **P** **11 43 20.7 +0.7**
SNR=11
UMQ Umm Al-Quwin 62.73 283 P **P** **11 43 21.3 +1.3**
UMQ P **P** **11 43 21.3 +1.3**
ASHO Ashiyiah 62.83 282 P **P** **11 43 21.5 +0.7**
SNR=7.6
ASHO P **P** **11 43 21.5 +0.7**
SNR=7.6
ASHO Ashiyiah 62.83 282 *i* P **P** **11 43 22.0 +1.3**
SNR=10
BSY Bisya 62.86 279 P **P** **11 43 21.4 +0.5**
BSY P **P** **11 43 21.4 +0.5**
VORR Voronezh 62.89 316 *e*P **P** **11 43 20.4 -0.3**
VORR pmax pmax
comp=Z,50nm,0.5s
N32M Quiet Lake 62.89 33 P **P** **11 43 20.0 -0.7**
baz=295
OBN Obninsk 62.92 320 LR LR 12 14 47.8
comp=Z,307nm,18.1s,baz=61,slow=40
OBN Obninsk 62.92 320 *d* iP **P** **11 43 20.7 -0.1**
OBN *e* 11 43 56.0
OBN *e*PPP PPP 11 47 12.1
OBN *e*S **S** **11 51 56.9 +6.6**
OBN *e*SS **SS** **11 55 57.8 +2.9**
OBN *e*SSS SSS 11 58 46.1
OBN pmax pmax
comp=Z,124nm,1.7s
OBN MLR MLR
comp=Z,3µm,16.0s
NAZ Nazwa, Dubai 62.99 282 P **P** **11 43 22.3 +0.5**
NAZ P **P** **11 43 22.3 +0.5**
NAZ Nazwa, Dubai 62.99 282 P **P** **11 43 22.3 +0.5**
VALR Valaam 63.03 328 *d* iP **P** **11 43 21.2 -0.2**
VALR pmax pmax
comp=Z,51nm,0.9s
MMPY Sheldon Lake, 63.04 31 P **P** **11 43 21.6 0.0**
baz=296,SNR=17
JETT Jettan, Norway 63.07 338 *e*P **P** **11 43 20.9 -0.8**
VSR Storozhevoye 63.10 315 *e*P **P** **11 43 20.6 -1.5**
VSR pmax pmax
comp=Z,60nm,1.6s
VSR MLR MLR
comp=Z,3µm,13.0s
ARQ Araqi 63.11 280 P **P** **11 43 23.3 +0.6**
SNR=5.1
ARQ P **P** **11 43 23.3 +0.6**
SNR=5.1
MHTO MHTO 63.12 277 P **P** **11 43 22.8 +0.2**
SNR=6.6
MHTO P **P** **11 43 22.8 +0.2**
SNR=6.6
FAQ Al Faqa, Dubai 63.16 282 P **P** **11 43 23.3 +0.3**
FAQ P **P** **11 43 23.3 +0.3**
FAQ P **P** **11 43 23.3 +0.3**
FAQ Al Faqa, Dubai 63.16 282 *i* P **P** **11 43 24.0 +1.0**
SNR=8.2
P32M Atlin 63.28 34 P **P** **11 43 22.6 -0.6**
baz=295
GOF Gofitskoye 63.28 308⇑ *e*P P 11 43 28.6 +5.1
GOF pmax pmax
comp=Z,143nm,1.1s
ALNE Al Ain 63.37 281 P **P** **11 43 24.9 +0.6**
SNR=12
ALNE Al Ain 63.37 281 *i* P **P** **11 43 25.1 +0.7**
SNR=6.9
P33M Teslin, Yukon 63.42 34 P **P** **11 43 24.7 +0.5**
P33M IAMs_20 IAMs_20 12 11 35.5
comp=Z,1µm,19.0s
P33M Teslin, Yukon 63.42 34 P **P** **11 43 24.1 -0.1**
baz=296,SNR=25
ASUD Al Ashush, Dub 63.43 282 P **P** **11 43 25.5 +0.7**
ASUD P **P** **11 43 25.5 +0.7**
ASUD Al Ashush, Dub 63.43 282 *i* P **P** **11 43 25.4 +0.7**
SNR=6.2
R32K Eaglecrest 63.47 36 P **P** **11 43 25.1 +0.7**
baz=295
JIS Juneau Island 63.53 36 P **P** **11 43 25.3 +0.5**
JIS IAmb IAmb 11 43 31.9
comp=Z,56nm,1.4s
JIS IAMs_20 IAMs_20 12 10 11.6
comp=Z,1µm,18.0s
NCK Nalchik 63.58 306⇑ *e*P **P** **11 43 26.5 +1.0**
NCK pmax pmax
comp=Z,43nm,1.3s
SIT Sitka 63.60 37 P **P** **11 43 25.2 -0.1**
baz=295
ZEI Tsey 63.68 305 *e*P **P** **11 43 24.4 -2.0**
ZEI pmax pmax
comp=Z,34nm,1.4s
AJN Ajban 63.74 282 P **P** **11 43 26.9 +0.2**
AJN P **P** **11 43 26.9 +0.2**
S32K Killisnoo 63.79 37 P **P** **11 43 26.2 -0.3**
baz=296
KBZ Khabaz 63.94 306 P **P** **11 43 27.9 +0.1**
comp=Z,19nm,0.9s,baz=64,slow=6.6,SNR=43
KBZ LR LR 12 12 24.7
comp=Z,3µm,19.7s,baz=70,slow=37
comp=Z,19nm,0.9s
KBZ Khabaz 63.94 306 *c e*P **P** **11 43 27.5 -0.3**
KBZ pmax pmax
comp=Z,59nm,1.2s
KBZ MLR MLR
comp=Z,3µm,16.0s
KIV Kislovodsk 63.98 307 ⇑P **P** **11 43 30.2 +2.0**
KIV Kislovodsk 63.98 307 P **P** **11 43 28.9 +0.7**
KIV Kislovodsk 63.98 307 *c* iP **P** **11 43 28.2 0.0**
KIV pmax pmax
comp=Z,165nm,1.7s
KIV MLR MLR
comp=Z,2µm,15.0s
KIV Kislovodsk 63.98 307 P **P** **11 43 28.8 +0.7**
KIV P **P** **11 43 28.8 +0.7**
KIV Kislovodsk 63.98 307 *i* P **P** **11 43 29.0 +0.7**
SNR=24
DQM DQM 64.00 277 P **P** **11 43 31.4 +2.9**
Q32M Nakina River 64.22 35 P **P** **11 43 29.8 +0.1**
baz=297
EIDS Eidsvold 64.24 158 P **P** **11 43 29.9 +0.1**
GNI Garni 64.25 302 LR LR 12 13 08.5
comp=Z,1µm,19.5s,baz=87,slow=38
GNI Garni 64.25 302 P **P** **11 43 31.3 +1.2**
GNI IAmb IAmb 11 44 11.2
comp=Z,39nm,1.1s
GNI Garni 64.25 302 IAMs_20 IAMs_20 12 10 45.5
comp=Z,1µm,19.0s
GNI Garni 64.25 302 *c* iP **P** **11 43 30.8 +0.7**
GNI pmax pmax
comp=Z,59nm,1.4s
GNI Garni 64.25 302 P **P** **11 43 30.8 +0.7**
NEY Neytrino 64.27 306⇓ *e*P **P** **11 43 29.0 -1.2**
NEY pmax pmax
comp=Z,12nm,1.1s
UMZA Um Al Zommool 64.51 280 P **P** **11 43 31.7 -0.1**
UMZA P **P** **11 43 31.7 -0.1**
R33M Jennings River 64.62 34 P **P** **11 43 32.0 -0.1**
baz=298
TGTN Hyland Airport 64.79 31 P **P** **11 43 33.4 +0.2**
baz=299,SNR=10
MZWR Madinat Zayed 65.01 282 P **P** **11 43 34.6 -0.5**
MZWR P **P** **11 43 34.6 -0.5**
FIA1 FINESS Array S 65.05 329 P **P** **11 43 35.0 +0.3**
FIA1 IAmb IAmb 11 43 39.3
comp=Z,30nm,0.9s
FINES FINESS Array B 65.05 329 P **P** **11 43 34.4 -0.4**
comp=Z,22nm,0.9s,baz=70,slow=5.1,SNR=20
FINES LR LR 12 13 53.8
comp=Z,2µm,18.5s,baz=66,slow=38
comp=Z,22nm,0.9s
FINES FINESS Array B 65.05 329 P **P** **11 43 34.2 -0.5**
KARS Kars 65.18 303 P **P** **11 43 38.2 +2.0**
KARS Kars 65.18 303 P **P** **11 43 38.2 +2.0**
KARS pmax pmax
comp=Z,149nm,1.2s
S34M Telegraph Cree 65.24 35 P **P** **11 43 35.0 -1.0**
baz=298
JRN Qarnain Island 65.24 284 P **P** **11 43 35.9 -0.7**
JRN P **P** **11 43 35.9 -0.7**
WTLY Watson Lake, Y 65.25 33 P **P** **11 43 36.6 +0.5**
WTLY Watson Lake, Y 65.25 33 P **P** **11 43 35.9 -0.2**
baz=299,SNR=18
WRAK Wrangell Islan 65.35 37 P **P** **11 43 36.0 -0.7**
baz=298
CRAG Craig 65.41 38 P **P** **11 43 35.8 -1.3**
baz=298
DLBC Dease Lake 65.50 35 LR LR 12 11 52.1
comp=Z,597nm,21.3s,baz=302,slow=36
DLBC Dease Lake 65.50 35 P **P** **11 43 39.2 +1.4**
DLBC IAmb IAmb 11 43 45.1
comp=Z,70nm,1.6s
DLBC Dease Lake 65.50 35 P **P** **11 43 36.5 -1.3**
baz=299,SNR=14
STEI Steigen 65.53 338 *e*P **P** **11 43 37.3 -0.5**
STEI IAmb IAmb 11 43 38.8
comp=Z,24nm,0.9s
MZR Muzera 65.70 282 P **P** **11 43 39.5 -0.1**
SNR=5.7
MZR Muzera 65.70 282 *i* P **P** **11 43 39.6 -0.1**
SNR=11
GHWR Ruwais 65.71 283 P **P** **11 43 39.4 -0.2**
GHWR P **P** **11 43 39.4 -0.2**
FAUS Fauske 65.84 337 *e*P **P** **11 43 40.2 +0.5**
WRGLY Wrigley 65.87 28 P **P** **11 43 39.3 -0.7**
baz=302
VSLR Vesyoloye 65.93 307 *d* iP **P** **11 43 40.7 -0.1**
RES Resolute Bay 66.07 12 LR LR 12 15 09.3
comp=Z,1µm,18.9s,baz=314,slow=38
SOC Sochi 66.08 307 *c e*P **P** **11 43 40.7 -1.0**
SOC *e* 11 46 05.1
SOC *e*PPP PPP 11 47 39.3
SOC *e*S **S** **11 52 30.1 +0.5**
SOC *e*SS **SS** **11 56 38.9 -5.6**
SOC *e*SSS SSS 11 59 46.7
SOC pmax pmax
comp=Z,49nm,1.1s
SOC MLR MLR
comp=Z,2µm,16.0s
T35M Bob Quinn 66.10 36 P **P** **11 43 42.0 +0.3**
baz=299
FORT Forrest 66.20 181 P **P** **11 43 42.6 +0.2**
VSU Vasula 66.23 326⇑ *e*P **P** **11 43 41.7 -0.7**
VSU pmax pmax
comp=Z,164nm,1.8s
VSU Vasula 66.23 326 *e*P **P** **11 43 42.4 0.0**
V35K Ketchikan 66.23 38 P **P** **11 43 41.7 -0.8**
baz=299
GEVA Gevas 66.25 301 P **P** **11 43 44.2 +1.1**
GEVA IAmb IAmb 11 43 45.3
comp=Z,47nm,1.1s
MEF Metsahovi 66.38 328 *e*P **P** **11 43 43.9 +0.6**
SLWR Sila 66.59 284 P **P** **11 43 45.2 -0.1**
SLWR P **P** **11 43 45.2 -0.1**
MOR8 Moi Rana 66.82 336 *e*P **P** **11 43 45.4 -0.7**
GURO Guroymak-BITLI 66.85 302 P **P** **11 43 48.2 +1.3**
GURO IAmb IAmb 11 43 49.3
comp=Z,53nm,1.3s
ANN Anapa 66.97 309 *e*P **P** **11 43 46.6 -0.8**
ANN *e**PP **pP** **11 43 49.9 -1.5**
ANN *e*S **S** **11 52 40.2 -0.2**
ANN pmax pmax
comp=Z,151nm,1.3s
ANN MLR MLR
comp=Z,3µm,16.0s
ANN MLR MLR
comp=E,2µm,15.0s
ANN MLR MLR
comp=N,997nm,14.0s
RAF Rauma 67.05 330 *e*P **P** **11 43 47.1 -0.5**
KOPT Kop Dagi 67.21 304 P **P** **11 43 51.0 +1.6**
KOPT IAmb IAmb 11 43 56.9
comp=Z,40nm,1.2s
KTUT Trabzon 67.25 305 ⇑P **P** **11 43 50.4 +1.2**
TULEG Thule 67.39 4 IAMs_20 IAMs_20 12 12 40.3
comp=Z,2µm,18.0s
MTSE Matsula 67.41 327 *e*P **P** **11 43 50.5 +0.6**
DZM Mont Dzumac 67.49 143 *e*P **P** **11 43 50.9 -0.1**
comp=Z,59nm,0.9s
DZM Mont Dzumac 67.49 143 *e*SS SS 11 57 09.2 +1.0
comp=Z,371nm,26.4s
DZM *e*LR LR 12 04 09.3
comp=Z,1µm,30.0s
DZM Mont Dzumac 67.49 143 P **P** **11 43 51.2 +0.2**
comp=Z,18nm,0.8s,baz=275,slow=2.9,SNR=10
comp=Z,18nm,0.8s
DZM Mont Dzumac 67.49 143 P **P** **11 43 50.9 -0.1**
DZM IAmb IAmb 11 43 58.1
comp=Z,29nm,0.8s
MNK Minsk 67.67 322 *i* P **P** **11 43 49.2 -2.4**
MNK *i* 11 44 15.9
MNK *i* 11 46 18.2
MNK *i* PPP PPP 11 47 55.4
MNK *i* S **S** **11 52 47.2 -1.3**
MNK *i* SS **SS** **11 57 09.1 +0.5**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK MLR MLR
comp=E,346nm,16.0s
MNK MLR MLR
comp=Z,2µm,16.0s
MNK Minsk 67.67 322 *i* P **P** **11 43 49.2 -2.4**
comp=E,2.0nm,0.9s
MNK *i* P **P** **11 43 49.2 -2.4**
MNK *i* P **P** **11 43 49.2 -2.4**
comp=Z,12nm,0.9s,baz=60
MNK *i* PcP **PcP** **11 44 15.9 -2.6**
MNK *i* PP **PP** **11 46 18.2 -2.2**
MNK *i* PPP PPP 11 47 55.5
MNK *i* S **S** **11 52 47.2 -1.3**
MNK *i* SS **SS** **11 57 09.2 +0.5**
MNK *i* SSS SSS 12 00 48.5
MNK *i* LQ LQ 12 07 25.3
MNK *i* LR LR 12 10 16.4
MNK *i* LRM MLR 12 15 54.6
comp=E,346nm,16.5s
MNK *i* LRM MLR 12 16 00.4
MNK *i* LRM MLR 12 16 33.0
comp=Z,2µm,16.3s
ISAL Salakas 67.99 323 *e*P **P** **11 43 54.2 +0.6**
NACGM Naroch 68.01 323⇑ *e*P **P** **11 43 53.3 -0.5**
IIGN Ignalina 68.06 323 *e*P **P** **11 43 54.6 +0.6**
STKA Stephens Creek 68.29 169 P **P** **11 43 55.6 -0.1**
comp=Z,6.8nm,0.6s,baz=341,slow=6.9,SNR=19
STKA LR LR 12 12 04.9
comp=Z,536nm,21.9s,baz=352,slow=34
comp=Z,6.8nm,0.6s
STKA Stephens Creek 68.29 169 P **P** **11 43 55.9 +0.3**
STKA Stephens Creek 68.29 169⇑ *e*P **P** **11 43 56.0 +0.3**
MARD Mardin 68.31 301 P **P** **11 43 56.9 +0.7**
VSVD Vaisvydziai 68.82 324 *e*P **P** **11 43 59.3 +0.5**
AKASG Malin Array Be 68.91 318 P **P** **11 43 58.8 -0.6**
comp=Z,33nm,0.8s,baz=53,slow=6.9,SNR=81
AKASG LR LR 12 15 46.2
comp=Z,3µm,19.7s,baz=66,slow=37
comp=Z,33nm,0.8s
AKASG Malin Array Be 68.91 318 P **P** **11 43 58.7 -0.8**
AKBB Malin Array Si 68.91 318 P **P** **11 43 58.5 -0.9**
AKBB Malin Array Si 68.91 318 *c e*P **P** **11 43 58.4 -1.1**
SIM Simferopol' 68.96 311 *e*P **P** **11 43 58.6 -1.3**
SIM *e* 11 46 33.4
SIM pmax pmax
comp=Z,63nm,1.1s
SIM pmax pmax
comp=Z,77nm,16.8s
SIM MLR MLR
comp=Z,706nm,15.9s
PABE Paberze 69.06 324 P **P** **11 44 00.3 0.0**
PABE Paberze 69.06 324 *e*P **P** **11 44 00.4 0.0**
ARMA Armidale 69.14 159 P **P** **11 44 01.6 +0.5**
ARMA IAmb IAmb 11 44 06.2
comp=Z,59nm,1.4s
NWAO Narrogin (SRO) 69.24 191 LR LR 12 14 02.3
comp=Z,393nm,21.9s,baz=234,slow=36
JMIC Jan Mayen 69.34 346 LR LR 12 15 54.8
comp=Z,929nm,19.0s,baz=80,slow=37
YKA Yellowknife Ar 69.61 26 P **P** **11 44 03.5 -0.1**
comp=Z,12nm,0.8s,baz=307,slow=6.7,SNR=17
comp=Z,12nm,0.8s
YKA Yellowknife Ar 69.61 26 P **P** **11 44 03.3 -0.3**
BBB Bella Bella 69.62 40 LR LR 12 11 60.0

comp=Z,514nm,20.9s,baz=308,slow=34
PBUR Paburge 69.74 325 *e*P **P 11 44 05.2 +0.7**
MSVF Nonsavu 70.52 130 P **P 11 44 11.8 +1.9**
comp=Z,25nm,0.9s,baz=84,slow=9.2,SNR=3.6
comp=Z,25nm,0.9s
MSVF Nonsavu 70.52 130⇑ *e*P **P 11 44 11.3 +1.4**
MSVF pmax pmax
comp=Z,43nm,1.0s
HFS Hagfors 70.81 331 LR LR 12 19 56.9
comp=Z,2µm,18.4s,baz=40,slow=40
BNN Bunyan 70.92 304 P **P 11 44 12.1 -0.2**
NC405 NORSAR Array S 70.93 333 P **P 11 44 11.1 -0.6**
KIS Kishinev 71.08 315 *e*LR LR 12 13 55.0
comp=Z,2µm,15.7s
KIS Kishinev 71.08 315 *e*P P 11 44 25.9 +13
KIS Kishinev 71.08 315 *e*LQ LQ 12 10 00.7
comp=Z,6µm,19.7s
MILM Milestii Mici 71.12 315 *e*P P 11 44 25.9 +13
MILM MLR MLR
comp=Z,2µm,15.7s
NB2 NORSAR Subarra 71.16 333 P **P 11 44 11.9 -1.3**
comp=Z,149nm,2.5s,baz=47,slow=6.2
NB2 NORSAR Subarra 71.16 333 P **P 11 44 10.8 -2.4**
NB2 pmax pmax
comp=Z,214nm,2.3s
NB2 NORSAR Subarra 71.16 333 P **P 11 44 11.9 -1.3**
baz=47,slow=6.2
NOA NORSAR Array B 71.16 333 P **P 11 44 12.1 -1.1**
comp=Z,4.9nm,0.8s,baz=47,slow=6.1,SNR=22
NOA LR LR 12 20 25.9
comp=Z,1µm,18.1s,baz=75,slow=40
comp=Z,4.9nm,0.8s
ILGA Ilgaz 71.19 307 P **P 11 44 15.4 +1.4**
NORES NORESS Array B 71.24 333 P **P 11 44 15.7 +2.1**
KLNR Kaliningrad 71.36 324⇑ *i*P **P 11 44 15.1 +0.7**
KLNR pmax pmax
comp=Z,120nm,1.8s
SUMG Summit 71.61 356 P **P 11 44 16.2 +0.1**
SUMG IAmb IAmb 11 44 18.6
comp=Z,64nm,1.4s
SUMG Summit 71.61 356 P **P 11 44 16.2 +0.1**
SUMG pmax pmax
comp=Z,64nm,1.4s
RAYN Ar Rayn 71.73 286 P **P 11 44 17.1 -0.2**
RAYN IAmb IAmb 11 44 22.5
comp=Z,40nm,1.2s
RAYN Ar Rayn 71.73 286 IAMs_20 IAMs_20 12 17 28.6
comp=Z,2µm,20.0s
RAYN Ar Rayn 71.73 286⇑ P **P 11 44 18.3 +1.0**
RAYN Ar Rayn 71.73 286 P **P 11 44 17.5 +0.2**
RAYN Ar Rayn 71.73 286 *i* P **P 11 44 17.2 -0.1**
SNR=30
AKN Aaknes 71.89 335 *e*P **P 11 44 16.8 -0.8**
BR131 Keskin Array S 71.94 306 P **P 11 44 18.4 -0.1**
BR131 IAmb IAmb 11 44 23.5
comp=Z,57nm,1.1s
BR131 Keskin Array S 71.94 306 *c i*P **P 11 44 17.7 -0.7**
BR131 Keskin Array S 71.94 306 P **P 11 44 18.8 +0.4**
SNR=20
BR131 P **P 11 44 18.8 +0.4**
SNR=20
BRTR Keskin Array B 71.94 306 P **P 11 44 18.0 -0.4**
comp=Z,12nm,1.0s,baz=87,slow=4.3,SNR=48
BRTR LR LR 12 18 24.6
comp=Z,1µm,18.6s,baz=30,slow=38
comp=Z,12nm,1.0s
BRTR Keskin Array B 71.94 306 P **P 11 44 18.3 -0.1**
BRTR Keskin Array B 71.94 306 P **P 11 44 18.3 -0.1**
LVV L'vov 72.19 319 *e*P **P 11 44 19.0 -0.5**
LVV *e*S **S 11 53 37.9 -3.8**
LVV MLR MLR
comp=Z,2µm,13.0s
ANTO Ankara 72.41 307⇑ P **P 11 44 23.3 +2.1**
ANTO Ankara 72.41 307 P **P 11 44 21.8 +0.7**
ANTO IAmb IAmb 11 44 26.4
comp=Z,35nm,1.0s
ANTO Ankara 72.41 307⇑ P **P 11 44 23.3 +2.1**
ANTO Ankara 72.41 307 P **P 11 44 21.1 -0.1**
ANTO P **P 11 44 21.1 -0.1**
BR231 Keskin MP Arra 72.44 307 P **P 11 44 21.1 -0.3**
BR231 IAmb IAmb 11 44 26.6
comp=Z,29nm,0.9s
CFR Carcaliu 72.46 313⇑ P **P 11 44 21.2 0.0**
CFR Carcaliu 72.46 313⇑ P **P 11 44 21.2 0.0**
SKAR Skarsila 72.47 334 *e*P **P 11 44 21.9 +0.8**
TPGR Topolog 72.47 313⇓ P **P 11 44 21.6 +0.3**
TESR Tescani 72.59 315⇓ P **P 11 44 21.9 -0.1**
BIZ Bicaz 72.67 316⇓ P **P 11 44 24.1 +1.6**
TIRR Tirgusor 72.69 313⇑ P **P 11 44 23.8 +1.2**
TIRR Tirgusor 72.69 313⇑ P **P 11 44 23.8 +1.2**
KONO Kongsberg 72.69 332 *e*P **P 11 44 22.7 +0.4**
BUR08 Bucovina Ar. S 72.78 317 P **P 11 44 23.4 +0.2**
BUR08 IAmb IAmb 11 44 28.6
comp=Z,32nm,0.9s
BURAR Bucovina Array 72.79 317⇑ P **P 11 44 24.1 +0.9**
VRI Vrincioaia 72.91 314⇑ P **P 11 44 25.4 +1.5**
VRI Vrincioaia 72.91 314⇑ P **P 11 44 25.4 +1.5**
PLOR Plostina 72.96 314⇓ P **P 11 44 25.6 +1.4**
PLOR Plostina 72.96 314⇓ P **P 11 44 25.6 +1.4**
CAN Canberra 73.10 163 P **P 11 44 26.1 +1.1**
CAN IAmb IAmb 11 44 27.6
comp=Z,78nm,1.2s
CAN Canberra 73.10 163 P **P 11 44 26.1 +1.1**
CAN pmax pmax
comp=Z,79nm,1.2s
COVR Voineasa-Covas 73.22 315⇓ P **P 11 44 26.2 +0.4**
OZUR 73.32 315⇑ P **P 11 44 26.6 +0.2**
ISR Istrita 73.43 314 P **P 11 44 27.3 +0.2**
ISR pmax pmax
comp=Z,62nm,1.3s
BSD Bornholm Skovb 73.48 327 P **P 11 44 27.6 +0.6**
BSD pmax pmax
comp=Z,31nm,1.2s
BSD Bornholm Skovb 73.48 327 *e*P **P 11 44 27.1 +0.1**
MLR Muntele Rosu 73.57 314⇑ P **P 11 44 28.5 +0.5**
MLR Muntele Rosu 73.57 314 LR LR 12 20 31.4
comp=Z,2µm,18.1s,baz=50,slow=39
MLR Muntele Rosu 73.57 314 P **P 11 44 28.5 +0.5**
MLR IAmb IAmb 11 44 34.1
comp=Z,66nm,1.2s
MLR Muntele Rosu 73.57 314⇑ P **P 11 44 28.5 +0.5**
DOPR Dopca 73.62 315⇑ P **P 11 44 29.4 +1.3**
KOLS Kolonicke sedl 73.64 319 *e*P **P 11 44 28.6 +0.4**
KOLS pmax pmax
comp=Z,19nm,1.0s
KOLS Kolonicke sedl 73.64 319 *e*P **P 11 44 28.6 +0.4**
ASF Jabal al Asfar 73.67 298 LR LR 12 22 34.9
comp=Z,1µm,18.1s,baz=83,slow=40
BMR Baia Mare 73.71 317 P **P 11 44 28.6 0.0**
BMR pmax pmax
comp=Z,78nm,1.6s
LLLB Lillooet 73.73 39 P **P 11 44 29.0 +0.3**
LLLB IAmb IAmb 11 44 34.9
comp=Z,80nm,1.7s
UZH Uzhgorod 73.81 319⇓ *e*P **P 11 44 26.2 -2.9**
UZH *e* 11 44 28.0
UZH *i* 11 44 35.1
UZH *i* 11 44 50.6
CRVS Cervenica-Dubn 74.09 319 *e*P **P 11 44 31.1 +0.3**
CRVS pmax pmax
comp=Z,130nm,2.1s
CRVS Cervenica-Dubn 74.09 319 *e*P **P 11 44 31.1 +0.3**
VOIR 74.12 315⇓ P **P 11 44 33.3 +2.2**
VOIR 74.12 315⇓ P **P 11 44 33.3 +2.2**
OJC Ojcow 74.17 321 *e*P **P 11 44 29.9 -1.4**
CJR Cluj-Napoca 74.21 316⇑ P P 11 44 36.9 +5.3
CJR Cluj-Napoca 74.21 316⇑ P P 11 44 36.9 +5.3
MMAI Mount Meron Ar 74.29 299 LR LR 12 19 13.3
comp=Z,912nm,21.5s,baz=272,slow=37
NIE Niedzica 74.39 320 *e*P **P 11 44 33.2 +0.6**
NIE Niedzica 74.39 320 P **P 11 44 32.8 +0.2**
NIE pmax pmax
comp=Z,16nm,0.9s
ARR Arges 74.40 315⇑ P **P 11 44 34.1 +1.4**
TOO Toolangi 74.53 167 P **P 11 44 33.8 +0.5**
TOO Toolangi 74.53 167 P **P 11 44 33.8 +0.5**
TOO pmax pmax
comp=Z,17nm,0.9s
DRGR 74.66 317⇓ P **P 11 44 34.9 +0.7**
DRGR 74.66 317⇓ P **P 11 44 34.9 +0.7**
CSS Mathiatis 74.69 302 IAMs_20 IAMs_20 12 18 17.6
comp=Z,2µm,20.0s
LANS Liptovska Anna 74.99 320 *e*P **P 11 44 37.7 +1.6**
LANS pmax pmax
comp=Z,12nm,1.6s
LANS Liptovska Anna 74.99 320 *e*P **P 11 44 37.7 +1.6**
ISP Isparta 75.01 306 P **P 11 44 36.5 0.0**
ISP IAmb IAmb 11 44 41.2
comp=Z,92nm,1.6s
ISP Isparta 75.01 306 IAMs_20 IAMs_20 12 17 21.9
comp=Z,958nm,22.0s
ISP Isparta 75.01 306 *de*P **P 11 44 36.3 -0.2**
ISP pmax pmax
comp=Z,58nm,1.6s
GHAJ Ghor Haditha 75.09 298 IAMs_20 IAMs_20 12 19 03.7
comp=Z,1µm,20.0s
OKC Ostrava-Krasne 75.25 321 AMS AMS 12 20 00.0
comp=Z,3µm,13.0s
GZR Gura Zlata 75.45 316⇑ P **P 11 44 40.0 +1.2**
GZR Gura Zlata 75.45 316⇑ P **P 11 44 40.0 +1.2**
PSZ Piszkesteto 75.52 319⇑ P **P 11 44 40.6 +1.4**
PSZ Piszkesteto 75.52 319 P **P 11 44 39.8 +0.7**
PSZ Piszkesteto 75.52 319⇑ P **P 11 44 40.6 +1.4**
PSZ Piszkesteto 75.52 319 P **P 11 44 39.2 +0.1**
KSP Ksiaz 75.54 323 *e*P **P 11 44 39.0 -0.2**
KSP Ksiaz 75.54 323 P **P 11 44 38.9 -0.2**
KSP pmax pmax
comp=Z,16nm,2.1s
SIRR Siria 75.55 317⇓ P **P 11 44 41.2 +1.8**
MORC Moravsky Berou 75.59 322⇑ P **P 11 44 41.2 +1.6**
MORC Moravsky Berou 75.59 322 P **P 11 44 39.5 0.0**
MORC Moravsky Berou 75.59 322 *e*P **P 11 44 39.6 0.0**
MORC Moravsky Berou 75.59 322 P **P 11 44 39.5 0.0**
MORC pmax pmax
comp=Z,16nm,1.0s
MAUC Maruska 75.70 321 *e*P P 11 44 45.1 +4.9
MAUC AMS AMS 12 22 00.0
comp=Z,4µm,14.1s
VYHS Vyhne 75.72 320 *e*P **P 11 44 40.5 +0.2**
VYHS pmax pmax
comp=Z,143nm,2.4s
VYHS Vyhne 75.72 320 *e*P **P 11 44 40.5 +0.2**
OSTC Ostas 75.76 323 *e*P **P 11 44 44.3 +3.8**
OSTC AMS AMS 12 20 50.0
comp=Z,3µm,15.7s
KRLC Kraliky 75.79 322 P **P 11 44 40.8 +0.2**
KRLC pmax pmax
comp=Z,17nm,0.9s
KRLC Kraliky 75.79 322 *e*P **P 11 44 45.3 +4.7**
KRLC AMS AMS 12 21 50.0
comp=Z,3µm,14.0s
DPC Dobruska-Polom 75.84 322 *e*P **P 11 44 45.3 +4.4**
DPC MLR MLR
comp=Z,4µm,15.3s
DPC Dobruska-Polom 75.84 322 *e*P **P 11 44 45.3 +4.4**
DPC AMS AMS 12 22 00.0
comp=Z,4µm,15.3s
UPC Upice 75.89 323 P **P 11 44 42.0 +0.8**
UPC pmax pmax
comp=Z,15nm,1.2s
UPC Upice 75.89 323 AMS AMS 12 21 00.0
comp=Z,3µm,14.6s
HERR Herculane 75.96 315⇑ P **P 11 44 44.0 +2.4**
BZS Buzias 75.97 316 P **P 11 44 41.3 -0.4**
BZS pmax pmax
comp=Z,35nm,1.2s
ELL Elmali 76.02 305 P **P 11 44 42.8 +0.5**
ELL Elmali 76.02 305 P **P 11 44 42.8 +0.5**
ELL pmax pmax
comp=Z,275nm,1.3s
PUNG Punghina 76.02 315⇑ P **P 11 44 43.9 +2.0**
DJES Djerdap 76.03 315⇑ P **P 11 44 42.8 +0.7**
KDZ Kurdzhali 76.08 311 P **P 11 44 42.0 -0.5**
JAVC Velka Javorina 76.10 321 *e*P **P 11 44 42.4 -0.1**
ALN Alexandroupoli 76.14 310 P **P 11 44 42.3 -0.4**
ALN pmax pmax
comp=Z,40nm,1.4s
EDM Edmonton 76.16 33 P **P 11 44 43.2 +0.5**
EDM IAmb IAmb 11 44 49.0
comp=Z,72nm,1.4s
EDM Edmonton 76.16 33 P **P 11 44 43.2 +0.5**
EDM pmax pmax
comp=Z,72nm,1.4s
G03D McMinnville, O 76.23 44 P **P 11 44 42.4 -0.7**
baz=307
BSEG Bad Segeberg 76.27 328 P **P 11 44 42.7 -0.5**
BSEG pmax pmax
comp=Z,23nm,0.9s
RDO Rodhopi 76.30 311 P **P 11 44 42.7 -1.0**
RDO Rodhopi 76.30 311 P **P 11 44 44.4 +0.7**
VRAC Vranov 76.37 322⇓ P **P 11 44 45.4 +1.5**
VRAC Vranov 76.37 322 LR LR 12 19 38.0
comp=Z,2µm,18.6s,baz=49,slow=37
VRAC Vranov 76.37 322 *e*P **P 11 44 44.2 +0.3**
VRAC Vranov 76.37 322⇓ P **P 11 44 45.4 +1.5**
MDVR Moldovita 76.42 316⇑ P **P 11 44 44.8 +0.5**
EIL Elat 76.43 297 LR LR 12 23 23.2
comp=Z,2µm,18.0s,baz=89,slow=40
SMOL Smolenice 76.44 321 *e*P **P 11 44 43.5 -0.8**
SMOL pmax pmax
comp=Z,16nm,1.5s
BLKB Belogradchik 76.56 314⇓ P **P 11 44 47.3 +2.2**
I02E Swisshome, OR 76.56 45 P **P 11 44 43.5 -1.5**
baz=307
PVCC Panska Ves 76.59 323 AMS AMS 12 21 50.0
comp=Z,3µm,15.9s
MODS Modra-Piesok 76.61 321 *e*P **P 11 44 46.0 +0.7**
MODS pmax pmax
comp=Z,238nm,2.1s
MODS Modra-Piesok 76.61 321 *e*P **P 11 44 46.0 +0.7**
KRUC Moravsky 76.62 321 *e*P **P 11 44 45.4 0.0**
KRUC Moravsky 76.62 321 P **P 11 44 46.1 +0.7**
KRUC pmax pmax
comp=Z,13nm,2.4s
BRG Berggiesshubel 76.66 324 *e*P **P 11 44 45.8 +0.3**
BRG Amp 11 44 53.2
comp=Z,8.8nm,0.8s
BRG PP **PP 11 47 40.3 +3.0**
BRG Amp 11 47 43.3
comp=Z,22nm,1.5s
BRG Amp 12 16 03.0
comp=E,4.4nm,17.5s
BRG Amp 12 16 04.0
comp=N,7.3nm,17.5s
BRG Amp 12 16 07.0
comp=Z,0.8nm,19.9s
BRG Amp 12 21 57.0
comp=E,2.0nm,14.2s
BRG Amp 12 22 01.0
comp=N,1.9nm,15.7s
BRG Amp 12 22 02.0
comp=Z,3.2nm,13.0s
BRG Berggiesshubel 76.66 324 *e*P **P 11 44 45.8 +0.3**
BRG 11 47 40.3
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG pmax pmax
comp=Z,22nm,1.5s
BRG MLR MLR
comp=E,2µm,14.2s
BRG MLR MLR
comp=N,2µm,15.7s
BRG MLR MLR
comp=Z,3µm,13.0s
CSKK Cskako 76.73 319 P P 11 44 52.7 +6.8
ZST Bratislava 76.81 320 *e*P **P 11 44 47.8 +1.4**
ZST pmax pmax
comp=Z,295nm,2.1s
ZST Bratislava 76.81 320 *e*P **P 11 44 47.8 +1.4**
CLL Collm 76.82 325 *i* P **P 11 44 45.9 -0.5**
CLL *e* 11 44 51.0
CLL *e*S **S 11 54 32.0 -1.5**
CLL pmax pmax
comp=Z,27nm,1.1s
CLL MLR MLR
comp=Z,3µm,18.0s
CLL Collm 76.82 325 *i* P **P 11 44 45.9 -0.5**
comp=Z,27nm,1.1s
CLL *e*pP **pP 11 44 51.0 +0.5**
CLL *e*PcP **PcP 11 45 00.0 +2.4**
CLL *e*PP **PP 11 47 40.0 +1.4**
comp=Z,73nm,2.0s
CLL *e*sPP 11 47 47.0
CLL *e*S **S 11 54 32.0 -1.5**
CLL *e*SS **SS 11 59 30.0 +1.4**
CLL *e*SSS SSS 12 03 30.0
CLL *e*x x 12 04 18.0
CLL LmV 12 22 00.0
comp=Z,3µm,18.0s
VTS Vitosha 76.83 313⇑ P **P 11 44 50.0 +3.2**
VTS Vitosha 76.83 313 P **P 11 44 47.8 +1.0**
VTS Vitosha 76.83 313⇑ P **P 11 44 50.0 +3.2**
VTS Vitosha 76.83 313 P **P 11 44 44.0 -2.8**
YER Yerkesik 76.87 306 P **P 11 44 46.2 -0.8**
GOPC GO Pecny, Ondr 76.88 323 *e*P **P 11 44 51.3 +4.5**
GOPC MLR MLR
comp=Z,3µm,15.9s
GOPC GO Pecny, Ondr 76.88 323 *e*P **P 11 44 51.3 +4.5**
GOPC AMS AMS 12 19 00.0
comp=Z,3µm,15.9s
TREC Trest 76.93 322 P **P 11 44 47.0 -0.1**
TREC pmax pmax
comp=Z,18nm,0.4s
TREC Trest 76.93 322 AMS AMS 12 22 30.0
comp=Z,3µm,14.6s
PRU Pruhonice 76.95 323 P **P 11 44 47.2 0.0**
PRU pmax pmax
comp=Z,11nm,0.9s
PRU Pruhonice 76.95 323 *e*P P 11 44 52.4 +5.2
PRU AMS AMS 12 22 20.0
comp=Z,3µm,16.8s
BUCK Buck Mountain 77.00 45 P **P 11 44 49.2 +1.5**
KAVA Kavala 77.02 311 P **P 11 44 46.1 -1.6**
J01E Myrtle Point 77.08 46 P **P 11 44 46.7 -1.3**
baz=307
I03D Drain, OR 77.10 45 P **P 11 44 46.5 -1.6**
baz=307
MMB Musomiste 77.14 312 P **P 11 44 45.7 -2.8**
MMB Musomiste 77.14 312 P **P 11 44 45.7 -2.8**
NVR Nevrokopi 77.21 312 P **P 11 44 46.7 -2.1**
MPLH Magyarpolny 77.23 319 P **P 11 44 49.4 +0.6**
MORH Mrgy, Hungar 77.24 318⇑ P **P 11 44 49.8 +1.0**
MORH Mrgy, Hungar 77.24 318 P **P 11 44 48.7 -0.2**
FRGS Fruska Gora 77.26 317⇑ P **P 11 44 50.2 +1.2**
G05D Wamic, OR 77.30 43 P **P 11 44 47.9 -1.4**
baz=306
KKB Krupnik 77.37 313 P **P 11 44 48.0 -1.7**
KKB Krupnik 77.37 313 P **P 11 44 48.0 -1.7**
SOP Sopron 77.42 320 P **P 11 44 50.1 +0.3**
SOP pmax pmax
comp=Z,23nm,0.9s
SOP Sopron 77.42 320 P **P 11 44 50.3 +0.5**
SRS Serrai 77.51 312 P **P 11 44 49.7 -0.8**
SRS Serrai 77.51 312 P **P 11 44 49.9 -0.6**
SRS pmax pmax
comp=Z,65nm,1.1s
K02D Willamette Mer 77.52 46 P **P 11 44 49.6 -1.0**
baz=307
RONA Rosalia, Austr 77.55 320 *i* P **P 11 44 51.6 +1.0**
comp=Z,34nm,2.3s,SNR=8.6
BODT Bodrum 77.55 307 P **P 11 44 48.5 -2.3**
HAWA Hanford 77.56 41 IAMs_20 IAMs_20 12 21 47.8
comp=Z,742nm,18.0s
SFJD Kangerlussuaq 77.56 360 LR LR 12 20 02.6
comp=Z,2µm,18.7s,baz=354,slow=36
I04A Tendick Farm, 77.58 45 P **P 11 44 49.7 -1.2**
baz=308,SNR=7.3
KOVH Kovagotottos 77.61 318 P **P 11 44 50.1 -0.8**
NEW Newport 77.62 39 LR LR 12 17 41.2
comp=Z,441nm,20.5s,baz=326,slow=35
NEW Newport 77.62 39 P **P 11 44 51.2 +0.2**
NEW pmax pmax
comp=Z,18nm,2.0s
NEW Newport 77.62 39 P **P 11 44 50.1 -0.9**
baz=310,SNR=5.1
CONA Conrad Observa 77.62 321 *i* P **P 11 44 51.4 +0.3**
comp=Z,25nm,2.1s,SNR=13
NKC Novy Kostel 77.80 324 P **P 11 44 51.9 -0.1**
NKC pmax pmax
comp=Z,11nm,0.7s
NKC Novy Kostel 77.80 324 *e*P **P 11 44 53.3 +1.3**
NKC AMS AMS 12 22 20.0
comp=Z,4µm,14.6s
DIVS Divibare 77.81 316 P **P 11 44 52.2 0.0**
DIVS IAmb IAmb 11 44 57.5
comp=Z,55nm,1.0s
CKRC Cesky Krumlov 77.83 322 *e*P **P 11 44 53.2 +1.0**
CKRC AMS AMS 12 23 00.0
comp=Z,3µm,14.1s
I05D Terrebonne, OR 77.85 44 P **P 11 44 51.6 -0.8**
baz=308
KNT Kendrikon 77.90 312 P P 11 44 43.5 -9.2
KNT Kendrikon 77.90 312 P **P 11 44 52.3 -0.4**
KNT pmax pmax
comp=Z,18nm,1.4s
MOX Moxa 77.92 325 P **P 11 44 52.0 -0.6**
MOX pmax pmax
comp=Z,15nm,2.8s
L02F Cave Junction 77.92 47 P **P 11 44 51.3 -1.5**
baz=308
KHC Kasperske Hory 77.99 323 P **P 11 44 53.3 +0.3**
KHC Kasperske Hory 77.99 323 *e*P **P 11 44 54.5 +1.4**
KHC MLR MLR
comp=Z,3µm,15.0s
KHC Kasperske Hory 77.99 323 *e*P **P 11 44 54.5 +1.4**
KHC x x 11 45 35.5
KHC AMS AMS 12 23 10.0
comp=Z,3µm,15.0s
GEC2 GERESS Array S 78.12 322 P **P 11 44 53.9 0.0**
GERES GERESS Array B 78.12 322 P **P 11 44 53.6 -0.3**
comp=Z,1.3nm,0.6s,baz=50,slow=7.1,SNR=11
GERES LR LR 12 21 34.0
comp=Z,2µm,18.3s,baz=60,slow=37
comp=Z,1.3nm,0.6s
GERES GERESS Array B 78.12 322 P **P 11 44 54.1 +0.3**
GERES GERESS Array B 78.12 322 P **P 11 44 54.1 +0.3**
PAIG Paliouri 78.17 311 P **P 11 44 53.4 -0.7**
PAIG pmax pmax
comp=Z,50nm,1.3s
THE Thessaloniki 78.18 312 P **P 11 44 53.2 -1.0**
THE pmax pmax
comp=Z,42nm,1.1s
ARSA Arzberg 78.24 320 *e*P **P 11 44 54.8 +0.4**
comp=Z,10.0nm,1.2s
WET Wettzell 78.32 323 P **P 11 44 54.6 -0.3**
WET pmax pmax
comp=Z,8.0nm,0.8s
GRG Griva 78.32 312 P **P 11 44 54.0 -1.0**
GRG Griva 78.32 312 P **P 11 44 54.1 -1.0**
GRG pmax pmax
comp=Z,70nm,1.2s
MOA Molln 78.49 321 *e*P **P 11 44 57.2 +1.4**
comp=Z,6.9nm,1.2s
J05D Fort Rock, OR 78.56 45 P **P 11 44 55.0 -1.6**
baz=309,SNR=22
L04D Klamath Falls 78.61 46 P **P 11 44 55.0 -1.7**
baz=308
YBH Yreka Blue Hor 78.67 47 P **P 11 44 57.7 +0.7**
comp=Z,15nm,1.2s,baz=286,slow=5.5,SNR=4.6
YBH LR LR 12 15 53.1
comp=Z,247nm,21.9s,baz=318,slow=33
comp=Z,15nm,1.2s
K04D Chiloquin, OR 78.68 45 P **P 11 44 55.8 -1.3**
baz=308
WALA Waterton Lakes 78.70 37 P **P 11 44 57.8 +0.7**
GRF Grafenberg Arr 78.75 324 P **P 11 44 57.4 +0.2**
GRF pmax pmax
comp=Z,34nm,0.9s
GRFO Grafenberg 78.75 324 P **P 11 44 57.9 +0.7**
GRFO IAmb IAmb 11 45 32.5
comp=Z,41nm,1.1s
GRFO Grafenberg 78.75 324 P **P 11 44 57.9 +0.7**
GRFO pmax pmax
comp=Z,41nm,1.1s
GRFO MLR MLR
comp=Z,3µm,19.0s
LIT Litokhoron 78.79 311 P **P 11 44 55.2 -2.4**
LIT Litokhoron 78.79 311 P **P 11 44 57.8 +0.2**
LIT Litokhoron 78.79 311 P **P 11 44 57.8 +0.2**
LIT pmax pmax
comp=Z,87nm,1.0s
PERS Pernice 78.85 320 *i* P **P 11 44 57.6 -0.3**
SOKA Soboth 78.86 320 *i* P **P 11 44 58.1 +0.1**
comp=Z,28nm,1.0s,SNR=18
BIOA Bad Ischl, Aus 78.91 322 *e*P **P 11 44 59.3 +1.1**
comp=Z,8.9nm,0.8s
I07A Izee 79.04 43 P **P 11 45 00.1 +1.0**
F10A Beach Ranch, E 79.06 41 P **P 11 44 59.8 +0.7**
K05A Summer Lake 79.11 45 P **P 11 45 00.2 +0.7**
K05A IAmb IAmb 11 45 08.7
comp=Z,41nm,1.1s
SANT Santorini 79.16 307 IAMs_20 IAMs_20 12 18 42.6
comp=Z,948nm,22.0s
OBKA Obir 79.23 320 *e*P **P 11 45 01.1 +1.1**

comp=Z,12nm,0.8s
PDG Podgorica 79.27 315 P P 11 44 59.9 -0.2
PDG IAmb IAmb 11 45 05.6
comp=Z,68nm,1.0s
THL Klokotos Trika 79.41 311 P P 11 44 56.1 -4.9
KBA Koelnbreinsper 79.47 321 P P 11 45 00.7 -0.7
KBA pmax pmax
comp=Z,17nm,0.9s
KBA Koelnbreinsper 79.47 321 *i* P **P 11 45 02.0 +0.5**
comp=Z,15nm,1.5s,SNR=6.0
KBN Korca 79.50 313 P P 11 45 01.6 0.0
KBN Korca 79.50 313 P P 11 45 01.4 -0.2
KBN pmax pmax
comp=Z,82nm,1.1s
MSEY Mahe Island 79.59 257 IAMs_20 IAMs_20 12 21 19.1
comp=Z,1µm,18.0s
TIR Tirane 79.59 314 P P 11 45 01.8 -0.2
TIR pmax pmax
comp=Z,61nm,1.1s
MYKA Terra Mystica 79.62 321 *e*P **P 11 45 02.5 +0.4**
comp=Z,15nm,1.3s
GBRS Gornja Briga 79.73 319 *i* P **P 11 45 02.4 -0.3**
BMO Blue Mountains 79.74 42 P P 11 45 02.9 0.0
BMO IAmb IAmb 11 45 09.3
comp=Z,56nm,1.6s
BMO Blue Mountains 79.74 42 P P 11 45 02.9 0.0
BMO pmax pmax
comp=Z,56nm,1.6s
FFC Flin Flon 79.75 27 P P 11 45 02.4 -0.1
FFC IAmb IAmb 11 45 08.2
comp=Z,49nm,1.4s
FFC IAMs_20 IAMs_20 12 24 00.1
comp=Z,935nm,20.0s
FFC Flin Flon 79.75 27 P P 11 45 02.4 -0.1
FFC pmax pmax
comp=Z,49nm,1.4s
FFC MLR MLR
comp=Z,900nm,20.0s
FRB Frobisher Bay 79.83 8 LR LR 12 20 28.6
comp=Z,1µm,21.8s,baz=346,slow=36
JAVS Javornik 79.89 320 *i* P **P 11 45 02.6 -1.0**
MOD Modoc Plateau 79.97 45 P P 11 45 04.4 +0.2
J08A Circle Bar Ran 80.07 43 P P 11 45 05.1 +0.4
J08A IAmb IAmb 11 45 11.4
comp=Z,57nm,1.4s
ABTA Abfaltersbach 80.11 321 *e*P **P 11 45 06.3 +1.5**
comp=Z,9.8nm,1.0s
IDI Anoyia 80.17 306 ⇑P **P 11 45 06.2 +0.9**
IDI Anoyia 80.17 306 LR LR 12 25 44.3
comp=Z,659nm,18.1s,baz=60,slow=40
IDI Anoyia 80.17 306 P P 11 45 05.3 0.0
IDI IAmb IAmb 11 45 09.3
comp=Z,73nm,1.2s
IDI IAMs_20 IAMs_20 12 26 50.6
comp=Z,834nm,20.0s
WATA Walderalm 80.19 322 *e*P **P 11 45 06.3 +1.0**
comp=Z,9.1nm,0.9s
MSO Missoula 80.19 38 P P 11 45 05.4 +0.2
MSO IAmb IAmb 11 45 11.3
comp=Z,50nm,1.4s
MSO IAMs_20 IAMs_20 12 21 37.2
comp=Z,1µm,21.0s
MSO Missoula 80.19 38 P P 11 45 04.1 -1.2
baz=313,SNR=19
WTTA Wattenberg 80.20 322 P P 11 45 04.6 -0.8
WTTA pmax pmax
comp=Z,14nm,1.7s
WTTA Wattenberg 80.20 322 *e*P **P 11 45 06.3 +0.9**
comp=Z,3.6nm,0.6s
KLV Kalavryta, Ach 80.25 310 P P 11 45 00.9 -4.8
STAL STALIGIAL 80.34 321 P P 11 45 05.8 -0.1
ATD Arta Tunnel 80.40 277 LR LR 12 24 40.2
comp=Z,579nm,18.4s,baz=35,slow=39
MOTA Moosalm 80.41 323 *e*P **P 11 45 07.2 +0.7**
comp=Z,4.6nm,0.9s
SQTA Sankt Quirin 80.45 322 *e*P **P 11 45 07.6 +1.0**
comp=Z,3.6nm,0.7s
IGT Igoumenitsa 80.45 312 P P 11 45 05.1 -1.5
RETA Reutte 80.48 323 *i* P **P 11 45 08.0 +1.3**
comp=Z,9.5nm,1.0s,SNR=5.4
MEM Membach 80.50 327 *d*PcP **PcP 11 45 11.4 -2.2**
EKA Eskdalemuir Ar 80.52 335 LR LR 12 23 29.2
comp=Z,1µm,19.8s,baz=47,slow=38
WVOR Wild Horse Val 80.58 44 P P 11 45 08.1 +0.7
WVOR Wild Horse Val 80.58 44 P P 11 45 08.1 +0.7
WVOR pmax pmax
comp=Z,15nm,1.1s
WVOR MLR MLR
comp=Z,600nm,18.0s
KEK Kerkira 80.66 312 P P 11 45 07.8 +0.1
KEK Kerkira 80.66 312 P P 11 45 07.6 -0.2
KEK IAmb IAmb 11 45 12.5
comp=Z,77nm,1.2s
LKD2 Lefkada island 80.71 311 P P 11 45 07.1 -1.0
FETA Feichten 80.82 322 *e*P **P 11 45 08.8 +0.1**
comp=Z,7.6nm,1.1s
ITM Ithomi 80.92 309 P P 11 45 05.7 -3.5
DAVA Damuels 81.06 323 *e*P **P 11 45 09.8 -0.1**
comp=Z,19nm,1.0s
BFO Black Forest 81.07 325 P P 11 45 08.9 -0.9
BFO pmax pmax
comp=Z,26nm,1.0s
RCHB Rochefort 81.17 327 *d*x **P 11 45 13.7 +3.4**
PYL PYLOS 81.22 309 P P 11 45 06.1 -4.7
BEKR Beckworth 81.23 47 P P 11 45 11.4 +0.3
BEKR IAmb IAmb 11 45 17.1
comp=Z,84nm,1.7s
SLE Schleitheim 81.39 324 P P 11 45 10.5 -1.1
SLE pmax pmax
comp=Z,15nm,1.2s
EGMT Eagleton 81.41 36 P P 11 45 12.1 +0.4
EGMT IAmb IAmb 11 45 20.0
comp=Z,41nm,1.1s
EGMT IAMs_20 IAMs_20 12 22 17.3
comp=Z,1000nm,19.0s
EGMT Eagleton 81.41 36 P P 11 45 11.1 -0.6
baz=315,SNR=11
DAVOX Davos/Dischmat 81.41 323 LR LR 12 25 45.2
comp=Z,4µm,18.2s,baz=44,slow=39
AFDM Forest Hills D 81.44 48 P P 11 45 12.5 +0.5
DOU Dourbes 81.49 328 *d*P **P 11 45 10.9 -1.0**
MFID Camas Ranch 81.49 42 P P 11 45 12.8 +0.5
MFID IAmb IAmb 11 45 18.9
comp=Z,98nm,1.6s
BAIF Baives 81.68 328 *e*P **P 11 45 16.7 +3.7**
BAIF pmax pmax
comp=Z,50nm,2.0s
ECH Echery 81.70 325 P P 11 45 13.8 +0.6
ECH pmax pmax
comp=Z,92nm,1.4s
MATE Matera 81.88 315 ⇓P **P 11 45 16.9 +2.7**
HINF Hinteralfeld 82.13 325 *e*P **P 11 45 18.1 +2.6**
HINF pmax pmax
comp=Z,15nm,1.1s
HLID Hailey 82.16 41 P P 11 45 16.1 +0.2
HLID IAmb IAmb 11 45 24.3
comp=Z,34nm,1.2s
HLID Hailey 82.16 41 P P 11 45 15.2 -0.7
baz=313,SNR=30
BOZ Bozeman (W) 82.20 38 P P 11 45 16.5 +0.5
BOZ IAmb IAmb 11 45 22.6
comp=Z,95nm,1.9s
BOZ IAMs_20 IAMs_20 12 26 16.4
comp=Z,872nm,18.0s
BOZ Bozeman (W) 82.20 38 P P 11 45 16.5 +0.5
BOZ pmax pmax
comp=Z,95nm,1.9s
BOZ MLR MLR
comp=Z,900nm,18.0s
BOZ Bozeman (W) 82.20 38 P P 11 45 15.4 -0.6
baz=314,SNR=20
HAU Haudompre 82.23 325 *e*P **P 11 45 19.0 +3.1**
HAU pmax pmax
comp=Z,38nm,1.7s
NRCA Norcia 82.44 318 P P 11 45 18.1 +0.9
AQU L'Aquila 82.61 318 P P 11 45 18.4 +0.3
AQU pmax pmax
comp=Z,84nm,1.1s
TIP Timpagrande 82.81 314 ⇓P **P 11 45 23.1 +3.9**
SENIN Lac Senin/Sane 82.96 324 P P 11 45 19.4 -0.6
OSSC Osservatorio P 82.97 320 P P 11 45 20.6 +0.7
KVN Kaiserville 83.09 46 P P 11 45 21.6 +0.8
KVN IAmb IAmb 11 45 29.5
comp=Z,40nm,1.0s
KVN Kaiserville 83.09 46 P **P 11 45 21.6 +0.8**
KVN pmax pmax
comp=Z,41nm,1.0s
NVAR Mina Array Bea 83.37 47 P **P 11 45 22.9 +0.5**
comp=Z,13nm,1.0s,baz=289,slow=5.1,SNR=28
comp=Z,13nm,1.0s
NVAR Mina Array Bea 83.37 47 P **P 11 45 22.6 +0.2**
NV11 Mina Array Sit 83.46 47 P **P 11 45 23.0 +0.3**
OMMB Old Mammoth Mi 83.49 48 P **P 11 45 23.4 +0.4**
OMMB IAmb IAmb 11 45 29.6
comp=Z,32nm,1.3s
H17A Grant Village 83.58 39 P **P 11 45 22.4 -0.9**
baz=315
MLAC Mammoth, Mammo 83.58 48 P **P 11 45 22.7 -0.8**
baz=311
ELK Elko 83.61 44 LR LR 12 22 59.3
comp=Z,240nm,19.2s,baz=342,slow=36
DGMT Dagmar 83.61 32 P **P 11 45 22.9 -0.3**
DGMT Dagmar 83.61 32 IAMs_20 IAMs_20 12 22 33.5
comp=Z,1µm,21.0s
DGMT Dagmar 83.61 32 P **P 11 45 22.8 -0.3**
baz=319,SNR=14
RLMT Red Lodge 83.71 37 P **P 11 45 23.6 -0.3**
baz=316,SNR=15
IMW Indian Meadow 83.74 39 P **P 11 45 25.0 +0.8**
IMW IAmb IAmb 11 45 30.7
comp=Z,26nm,1.1s
IMW IAMs_20 IAMs_20 12 24 23.3
comp=Z,752nm,18.0s
FXWY Fox Creek 83.88 39 IAMs_20 IAMs_20 12 24 31.0
comp=Z,765nm,19.0s
LOR Lormes 83.91 326 *e*P **P 11 45 28.4 +3.7**
LOR pmax pmax
comp=Z,61nm,1.9s
MOOW Moose Ponds 83.95 39 IAMs_20 IAMs_20 12 27 30.7
comp=Z,750nm,18.0s
TPAW Teton Pass 84.02 39 P **P 11 45 25.1 -0.5**
TPAW IAmb IAmb 11 45 33.3
comp=Z,28nm,1.3s
LAO LASA Array 84.03 35 IAMs_20 IAMs_20 12 24 43.7
comp=Z,1µm,18.0s
LAO LASA Array 84.03 35 P **P 11 45 24.9 -0.5**
baz=318
REDW Red Top Meadow 84.17 39 IAMs_20 IAMs_20 12 24 31.5
comp=Z,811nm,20.0s
BNI Bardonecchia 84.21 323 P **P 11 45 26.8 +0.4**
BNI pmax pmax
comp=Z,12nm,2.2s
SSF Saint Saulge 84.23 326 *e*P **P 11 45 30.1 +3.9**
SSF pmax pmax
comp=Z,11nm,1.0s
TIN Tinemaha, Big 84.32 48 P **P 11 45 26.8 -0.2**
baz=311
SMMC Simmler 84.36 50 P **P 11 45 26.5 -0.7**
baz=310,SNR=5.7
SMF Signal de Mont 84.38 326 *e*P **P 11 45 31.1 +4.0**
SMF pmax pmax
comp=Z,12nm,1.0s
AHID Auburn Hatcher 84.46 40 IAMs_20 IAMs_20 12 25 08.3
comp=Z,783nm,20.0s
VES Vestal, Richgr 84.59 49 P **P 11 45 27.5 -0.8**
baz=311,SNR=7.7
LDF La Druitiere 84.64 329 *e*P **P 11 45 31.8 +3.5**
LDF pmax pmax
comp=Z,84nm,2.0s
SBF Sospel 84.69 322 *e*P **P 11 45 33.1 +4.3**
SBF pmax pmax
comp=Z,15nm,0.7s
ORIF Oris-en-Rattie 84.70 323 P **P 11 45 27.9 -0.9**
ORIF pmax pmax
comp=Z,15nm,0.9s
PKM Mcpherson Peak 84.75 50 P **P 11 45 28.5 -0.9**
baz=310,SNR=7.1
CWC Cottonwood Cre 84.81 48 P **P 11 45 29.2 -0.4**
baz=311
GRAC Grapevine Rang 84.88 48 P **P 11 45 28.8 -1.0**
baz=312
BGF Bois d'Agland 84.90 326 *e*P **P 11 45 33.7 +4.0**
BGF pmax pmax
comp=Z,73nm,2.0s
R11A Troy Canyon, C 85.02 46 P **P 11 45 30.6 -0.1**
R11A Troy Canyon, C 85.02 46 P **P 11 45 29.4 -1.3**
baz=312,SNR=21
HWUT Hardware Ranch 85.03 41 IAMs_20 IAMs_20 12 26 02.4
comp=Z,774nm,20.0s
ISA Isabella, Lake 85.08 49 P **P 11 45 29.8 -1.0**
baz=311
ARVC Arvin 85.21 50 P **P 11 45 30.3 -1.1**
baz=311
BW06 Boulder Array 85.25 39 P **P 11 45 31.8 0.0**
BW06 IAMs_20 IAMs_20 12 24 38.3
comp=Z,779nm,19.0s
BW06 Boulder Array 85.25 39 P **P 11 45 30.8 -1.0**
baz=316,SNR=12
PD31 Pinedale Array 85.25 39 P **P 11 45 31.8 -0.1**
PDAR Pinedale Array 85.25 39 P **P 11 45 31.8 -0.1**
comp=Z,3.0nm,0.8s,baz=355,slow=1.0,SNR=22
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 85.25 39 P **P 11 45 30.9 -0.9**
FURI Furi 85.26 277 IAMs_20 IAMs_20 12 27 42.4
comp=Z,1µm,18.0s
VIVF Saint-Julien-l 85.32 324 *e*P **P 11 45 35.8 +3.9**
VIVF pmax pmax
comp=Z,24nm,1.0s
DUG Dugway, Tooele 85.33 43 P **P 11 45 32.8 +0.6**
DUG pmax pmax
comp=Z,20nm,2.4s
DUG Dugway, Tooele 85.33 43 P **P 11 45 32.3 +0.1**
baz=314,SNR=12
TCF Toulx Ste Croi 85.40 326 *e*P **P 11 45 36.3 +4.1**
TCF pmax pmax
comp=Z,18nm,1.0s
MPMC Manual Prospec 85.42 48 P **P 11 45 31.5 -1.2**
baz=312,SNR=20
RAFF Raffo Rosso 85.51 313 P **P 11 45 34.2 +1.2**
FURC Furnace Creek, 85.53 48 P **P 11 45 32.2 -0.7**
baz=312,SNR=22
LMR La Mourre 85.54 322 *e*P **P 11 45 36.8 +3.9**
LMR pmax pmax
comp=Z,29nm,1.1s
ULM Lac du Bonnet 85.57 27 P **P 11 45 31.6 -1.3**
comp=Z,9.4nm,0.9s,baz=249,slow=3.1,SNR=7.3
ULM LR LR 12 28 29.9
comp=Z,909nm,18.1s,baz=328,slow=39
comp=Z,9.4nm,0.9s
ULM Lac du Bonnet 85.57 27 ⇑*e*P **P 11 45 31.8 -1.1**
TPNV Topopah Spring 85.57 47 P **P 11 45 33.6 +0.1**
TPNV IAmb IAmb 11 45 42.1
comp=Z,40nm,1.2s
TPNV Topopah Spring 85.57 47 P **P 11 45 33.6 +0.1**
TPNV pmax pmax
comp=Z,40nm,1.3s
TPNV Topopah Spring 85.57 47 P **P 11 45 32.6 -0.8**
baz=312,SNR=15
OSI Osito Audit: C 85.61 50 P **P 11 45 31.5 -2.0**
baz=311
GWY Greenwater Val 85.83 48 P **P 11 45 35.2 +0.5**
EDW2 Edwards Air Fo 85.89 49 P **P 11 45 34.1 -0.8**
baz=311,SNR=5.9
PRN Pahroc Range 85.97 46 P **P 11 45 36.0 +0.6**
PRN IAmb IAmb 11 45 44.6
comp=Z,60nm,1.7s
SNCC San Nicolas Is 86.00 51 P **P 11 45 35.5 +0.2**
baz=311
MDND Maddock 86.04 31 P **P 11 45 34.8 -0.5**
baz=322
MPU Maple Canyon 86.11 42 P **P 11 45 36.2 +0.1**
MPU IAmb IAmb 11 45 42.8
comp=Z,77nm,2.0s
ROSF Rostrenen 86.14 330 *e*P P 11 45 41.1 +5.3
ROSF pmax pmax
comp=Z,77nm,1.6s
MFF Saint Martin d 86.20 328 *e*P **P 11 45 38.5 +2.4**
MFF pmax pmax
comp=Z,17nm,1.0s
SHOC Shoshone, Teco 86.26 48 P **P 11 45 36.3 -0.4**
baz=312
GSC Goldstone, Bar 86.34 48 P **P 11 45 37.7 +0.6**
GSC Goldstone, Bar 86.34 48 P **P 11 45 37.7 +0.6**
GSC pmax pmax
comp=Z,22nm,1.1s
GSC Goldstone, Bar 86.34 48 P **P 11 45 36.3 -0.8**
baz=312
RJF Les Rejaudoux 86.46 326 *e*P **P 11 45 41.0 +3.5**
RJF pmax pmax
comp=Z,38nm,1.6s
CAF Calviac 86.50 325 *e*P **P 11 45 38.5 +0.8**
CAF pmax pmax
comp=Z,32nm,1.4s
BFSC Mount Baldy Ra 86.52 50 P **P 11 45 37.5 -0.7**
baz=312
CIS Catalina Islan 86.60 51 P **P 11 45 37.6 -0.8**
baz=311
TUQ Turquoise Moun 86.78 48 P **P 11 45 38.3 -1.1**
baz=312
MSU Marysvale 86.86 44 P **P 11 45 40.5 +0.7**
MSU Marysvale 86.86 44 P **P 11 45 40.5 +0.7**
K22A Casper 86.87 38 P **P 11 45 38.6 -1.1**
baz=318
HEC Hector,Ludlow 86.94 49 P **P 11 45 39.6 -0.5**
baz=312
BBRC Big Bear Solar 86.96 49 P **P 11 45 38.9 -1.5**
baz=312
RSSD Black Hills 86.97 35 P **P 11 45 40.4 +0.1**
RSSD IAmb IAmb 11 45 46.6
comp=Z,37nm,1.2s
RSSD Black Hills 86.97 35 IAMs_20 IAMs_20 12 27 37.6
comp=Z,863nm,19.0s
RSSD Black Hills 86.97 35 P **P 11 45 40.4 +0.1**
RSSD pmax pmax
comp=Z,37nm,1.3s
RSSD MLR MLR
comp=Z,900nm,19.0s
RSSD Black Hills 86.97 35 P **P 11 45 39.7 -0.6**
baz=319
P17A Butcher Ranch, 86.98 42 P **P 11 45 40.6 +0.3**
LFF La Frestale 87.09 326 *e*P **P 11 45 43.1 +2.6**
LFF pmax pmax
comp=Z,10.0nm,0.8s
Q16A Castle Valley 87.13 43 P **P 11 45 41.7 +0.6**
Q16A IAmb IAmb 11 45 48.1
comp=Z,26nm,1.2s
AGMN Agassiz Nation 87.17 28 IAMs_20 IAMs_20 12 24 42.6
comp=Z,1µm,19.0s
AGMN Agassiz Nation 87.17 28 P **P 11 45 39.9 -0.9**
baz=325
MTPU Mount Pierson 87.18 44 P **P 11 45 42.8 +1.2**
MURC Murrieta 87.23 50 P **P 11 45 40.7 -0.7**
baz=312
RWWY Rawlins 87.24 39 IAMs_20 IAMs_20 12 27 23.7
comp=Z,1µm,18.0s
GMRC Granite Mounta 87.38 48 P **P 11 45 41.5 -0.8**
baz=313
PFO Pinyon Flats O 87.68 50 P **P 11 45 43.8 +0.1**
comp=Z,6.8nm,1.1s,baz=278,slow=4.9,SNR=7.8
PFO LR LR 12 24 33.3
comp=Z,361nm,18.2s,baz=332,slow=35
comp=Z,6.8nm,1.1s
PFO Pinyon Flats O 87.68 50 P **P 11 45 43.6 -0.1**
PFO IAmb IAmb 11 45 52.0
comp=Z,22nm,1.1s
PFO Pinyon Flats O 87.68 50 ⇓*e*P **P 11 45 43.9 +0.1**
PFO pmax pmax
comp=Z,32nm,1.1s
PFO Pinyon Flats O 87.68 50 P **P 11 45 42.7 -1.0**
baz=312
TPFO Pinon Flats 87.69 50 P **P 11 45 42.9 -0.9**
baz=312,SNR=8.7
PMD Palm Desert 87.71 49 P **P 11 45 43.6 -0.1**
PMD IAmb IAmb 11 45 49.6
comp=Z,31nm,1.4s
O20A White River Ci 87.84 40 P **P 11 45 43.9 -0.6**
baz=317,SNR=8.0
RAR Rarotonga 87.89 118 LR LR 12 22 40.1
comp=Z,274nm,18.5s,baz=288,slow=34
NEE2 Needles Airpor 88.02 48 P **P 11 45 44.8 -0.4**
baz=313
IRM Iron Mountain 88.12 48 P **P 11 45 45.4 -0.3**
baz=313
MONP2 Monument Peak 88.19 50 P **P 11 45 45.4 -0.9**
baz=312
U15A North Rim 88.25 45 P **P 11 45 47.4 +0.8**
BC3 Big Chuckawall 88.27 49 P **P 11 45 45.9 -0.6**
baz=313
PHWY Pilot Hill 88.41 38 IAMs_20 IAMs_20 12 24 06.7
comp=Z,721nm,19.0s
N23A Red Feather La 88.47 38 P **P 11 45 47.6 0.0**
N23A Red Feather La 88.47 38 P **P 11 45 47.1 -0.4**
baz=318,SNR=10
SWSC Sam W. Stewart 88.54 50 P **P 11 45 47.6 -0.1**
baz=313
IKP In-Ko-Pah, Jac 88.54 50 P **P 11 45 47.4 -0.5**
baz=312
PDMCI Parker Dam,Lak 88.63 48 P **P 11 45 47.8 -0.3**
baz=314
SCHQ Schefferville 88.72 9 LR LR 12 25 49.9
comp=Z,1µm,21.8s,baz=353,slow=36
SUSD Miller 89.02 32 P **P 11 45 49.2 -0.5**
baz=323
GLA Glamis 89.06 49 P **P 11 45 50.3 +0.1**
baz=313
EYMN Ely 89.08 26 P **P 11 45 49.0 -1.0**
baz=328
SMCO Snowmass 89.20 40 IAMs_20 IAMs_20 12 32 12.9
comp=Z,962nm,18.0s
MAHO Mahon 89.21 321 IAMs_20 IAMs_20 12 23 45.4
comp=Z,1µm,21.0s
ETSF Etsaut 89.27 326 *e*P **P 11 45 54.6 +3.6**
ETSF pmax pmax
comp=Z,7.0nm,0.8s
WUAZ Wupatki 89.42 45 P **P 11 45 52.7 +0.7**
WUAZ Wupatki 89.42 45 P **P 11 45 51.3 -0.7**
baz=315
ISCO Idaho Springs 89.45 39 P **P 11 45 52.0 -0.2**
ISCO IAmb IAmb 11 45 59.2
comp=Z,50nm,1.9s
ISCO IAMs_20 IAMs_20 12 28 27.3
comp=Z,788nm,19.0s
ISCO Idaho Springs 89.45 39 P **P 11 45 52.0 -0.2**
ISCO pmax pmax
comp=Z,50nm,1.9s
ISCO MLR MLR
comp=Z,800nm,19.0s
ISCO Idaho Springs 89.45 39 P **P 11 45 52.3 0.0**
baz=318,SNR=10
KEST Kesra 89.46 315 P **P 11 45 54.5 +2.4**
comp=Z,11nm,1.1s,baz=322,slow=6.5,SNR=11
KEST LR LR 12 28 24.7
comp=Z,793nm,20.4s,baz=350,slow=37
MVCO Mesa Verde 89.83 42 IAMs_20 IAMs_20 12 31 39.8
comp=Z,763nm,18.0s
MVCO Mesa Verde 89.83 42 P **P 11 45 53.5 -0.4**
baz=317,SNR=16
X16A Lo Mia Camp, P 90.15 46 P **P 11 45 56.1 +0.6**
Q24A Divide 90.31 39 P **P 11 45 55.5 -0.8**
baz=319
S22A 4UR Ranch, Cre 90.34 41 P **P 11 45 55.3 -1.1**
baz=318,SNR=14
OGNE Ogallala 90.36 36 IAMs_20 IAMs_20 12 29 49.2
comp=Z,968nm,19.0s
OGNE Ogallala 90.36 36 P **P 11 45 55.7 -0.5**
baz=321
ECSD EROS Data Cent 90.59 31 P **P 11 45 57.2 +0.1**
ECSD EROS Data Cent 90.59 31 IAMs_20 IAMs_20 12 27 36.1
comp=Z,984nm,19.0s
ECSD EROS Data Cent 90.59 31 P **P 11 45 56.6 -0.6**
baz=324
W18A Petrified Fore 90.64 45 P **P 11 45 57.0 -0.8**
baz=316
SPMN Marine on St. 90.90 28 P **P 11 45 58.1 -0.4**
baz=327
SDCO Great Sand Dun 91.04 40 IAMs_20 IAMs_20 12 29 53.5
comp=Z,980nm,19.0s
SDCO Great Sand Dun 91.04 40 P **P 11 45 59.4 -0.3**
baz=318,SNR=14
214A Organ Pipe Nat 91.05 49 P **P 11 45 59.5 0.0**
baz=314
LODK Lodwar 91.10 275 IAMs_20 IAMs_20 12 30 05.5
comp=Z,961nm,21.0s
COWI Conover 91.50 26 IAMs_20 IAMs_20 12 28 52.9
comp=Z,1µm,19.0s
KSCO Kaye Shedlock' 91.55 38 P **P 11 46 01.5 -0.4**
baz=320
BGNE Belgrade 91.80 34 P **P 11 46 02.4 -0.3**
baz=323
TUC Tucson 92.03 47 P **P 11 46 04.6 +0.5**
TUC IAmb IAmb 11 46 11.0
comp=Z,36nm,1.8s
TUC Tucson 92.03 47 P **P 11 46 04.6 +0.5**
TUC pmax pmax
comp=Z,36nm,1.8s
TUC MLR MLR
comp=Z,500nm,20.0s
TUC Tucson 92.03 47 P **P 11 46 03.6 -0.4**
baz=315

T25A	**Trinidad** baz=319	**92.07**	**40**	P	**P**	**11 46 03.9**	**-0.5**	
KMBO	**Kilima Mbogo** comp=Z,583nm,21.2s,baz=80,slow=36	**92.20**	**270**	LR	LR	12 27 23.4		
KIBK	**Kibwezi** comp=Z,786nm,19.0s	**92.26**	**269**	IAMs_20	IAMs_20	12 32 42.7		
ANMO	**Albuquerque**	**92.61**	**43**	P	**P**	**11 46 07.8**	**+0.9**	
ANMO	comp=Z,32nm,1.5s			IAmb	IAmb	11 46 14.3		
ANMO	**Albuquerque** comp=Z,760nm,19.0s	**92.61**	**43**	IAMs_20	IAMs_20	12 31 31.1		
ANMO	**Albuquerque**	**92.61**	**43**	*e*P	**P**	**11 46 07.8**	**+0.9**	
ANMO	comp=Z,26nm,1.6s			pmax	pmax			
ANMO	**Albuquerque** baz=318	**92.61**	**43**	P	**P**	**11 46 06.8**	**0.0**	
Y22D	**IRIS PASSCAL I** comp=Z,659nm,20.0s	**92.99**	**44**	IAMs_20	IAMs_20	12 27 13.4		
Y22D	**IRIS PASSCAL I** baz=318	**92.99**	**44**	P	**P**	**11 46 08.4**	**-0.2**	
CBKS	**Cedar Bluff** baz=322	**93.12**	**36**	P	**P**	**11 46 08.5**	**-0.5**	
PPT	**Papeete** comp=Z,290nm,18.3s,baz=302,slow=37	**93.25**	**109**	LR	LR	12 30 05.5		
PPT2	**Papeete2** comp=Z,710nm,29.2s	**93.27**	**109**	*e*LR	LR	12 16 05.0		
ESDC	**Sonseca Array** comp=Z,0.5nm,0.8s,baz=37,slow=4.0,SNR=2.5	**93.38**	**326**	P	**P**	**11 46 10.2**	**0.0**	
ESDC	comp=Z,3.0nm,1.1s,baz=20,slow=7.7,SNR=5.7			PP	**PP**	**11 49 51.9**	**-1.5**	
ESDC	comp=Z,1μm,18.4s,baz=32,slow=39 comp=Z,0.5nm,0.8s			LR	LR	12 33 52.1		
SCIA	**State Center** comp=Z,805nm,19.0s	**93.51**	**30**	IAMs_20	IAMs_20	12 30 53.4		
CART	**Cartagena** comp=Z,1μm,21.0s	**93.62**	**323**	IAMs_20	IAMs_20	12 35 00.2		
121A	**Cookes Peak, D** baz=317	**93.63**	**45**	P	**P**	**11 46 11.2**	**-0.4**	
GLMI	**Grayling** comp=Z,1μm,22.0s	**94.14**	**23**	IAMs_20	IAMs_20	12 27 59.8		
KSU1	**Kansas State U** comp=Z,813nm,18.0s	**94.35**	**34**	IAMs_20	IAMs_20	12 35 27.8		
OPO	**Ambohidratompo** comp=Z,195nm,18.2s,baz=172,slow=36	**94.39**	**250**	LR	LR	12 29 33.2		
EPT	**El Paso** comp=Z,654nm,19.0s	**94.92**	**45**	IAMs_20	IAMs_20	12 35 57.5		
AMTX	**Amarillo** comp=Z,687nm,19.0s	**95.22**	**40**	IAMs_20	IAMs_20	12 31 40.0		
L44A	**Lake County Fo** comp=Z,955nm,18.0s	**95.34**	**27**	IAMs_20	IAMs_20	12 34 07.6		
MNTX	**Cornudas Mount** comp=Z,804nm,20.0s	**95.62**	**44**	IAMs_20	IAMs_20	12 32 39.9		
MNTX	**Cornudas Mount** baz=318	**95.62**	**44**	P	**P**	**11 46 20.3**	**-0.3**	
TAOE	**Nuku Hiva Isla** comp=Z,503nm,24.5s	**95.66**	**97**	*e*LR	LR	12 17 12.1		
SADO	**Sadowa** comp=Z,666nm,21.5s,baz=358,slow=36	**95.83**	**20**	LR	LR	12 30 58.2		
OK049	**E0420 Rd and N** comp=Z,968nm,21.0s	**96.20**	**36**	IAMs_20	IAMs_20	12 34 00.9		
HDIL	**Hopedale** comp=Z,878nm,20.0s	**96.22**	**28**	IAMs_20	IAMs_20	12 33 02.0		
OK045	**Pawnee Station** comp=Z,929nm,20.0s	**96.35**	**36**	IAMs_20	IAMs_20	12 31 47.8		
OK050	**Pawnee Station** comp=Z,886nm,19.0s	**96.37**	**36**	IAMs_20	IAMs_20	12 31 42.3		
OK048	**Pawnee Station** comp=Z,837nm,19.0s	**96.37**	**36**	IAMs_20	IAMs_20	12 31 50.3		
OK046	**Pawnee Station** comp=Z,834nm,19.0s	**96.40**	**36**	IAMs_20	IAMs_20	12 31 43.1		
OK047	**Pawnee, Statio** comp=Z,757nm,18.0s	**96.43**	**36**	IAMs_20	IAMs_20	12 31 42.9		
OK044	**Pawnee Station** comp=Z,902nm,19.0s	**96.47**	**36**	IAMs_20	IAMs_20	12 31 53.0		
OK029	**Liberty Lake** comp=Z,905nm,19.0s	**96.62**	**36**	IAMs_20	IAMs_20	12 34 28.0		
OK033	**Mehan** comp=Z,863nm,18.0s	**96.67**	**36**	IAMs_20	IAMs_20	12 34 24.3		
AAM	**Ann Arbor** comp=Z,999nm,21.0s	**96.71**	**24**	IAMs_20	IAMs_20	12 33 42.8		
TBI	**Tubuai** comp=Z,457nm,26.8s	**96.74**	**114**	*e*LR	LR	12 17 41.6		
OK031	**S. Brethren Rd** comp=Z,776nm,19.0s	**96.79**	**36**	IAMs_20	IAMs_20	12 33 22.5		
OK034	**N. Norfolk Rd.** comp=Z,723nm,20.0s	**96.80**	**36**	IAMs_20	IAMs_20	12 33 42.8		
WMOK	**Wichita Mounta** comp=Z,731nm,18.0s	**96.81**	**38**	IAMs_20	IAMs_20	12 38 58.2		
WMOK	**Wichita Mounta**	**96.81**	**38**	P	**P**	**11 46 27.5**	**+1.6**	
WMOK	**Wichita Mounta** baz=323	**96.81**	**38**	P	**P**	**11 46 25.0**	**-0.9**	
OK030	**Cody Creek RV** comp=Z,744nm,19.0s	**96.84**	**36**	IAMs_20	IAMs_20	12 33 23.7		
OK025	**Westminster Rd** comp=Z,902nm,19.0s	**96.85**	**37**	IAMs_20	IAMs_20	12 34 34.1		
MBAR	**Mbarara** comp=Z,846nm,20.9s,baz=34,slow=37	**97.19**	**274**	LR	LR	12 32 09.8		
MBAR	**Mbarara** comp=Z,810nm,20.0s	**97.19**	**274**	IAMs_20	IAMs_20	12 31 47.9		
TUL1	**Leonard** comp=Z,967nm,18.0s	**97.32**	**35**	IAMs_20	IAMs_20	12 34 02.5		
CCM	**Cathedral Cave** comp=Z,778nm,19.0s	**97.57**	**31**	IAMs_20	IAMs_20	12 31 58.7		
VT1	**Waterbury** comp=Z,960nm,20.0s	**97.83**	**16**	IAMs_20	IAMs_20	12 31 10.4		
ERPA	**Erie** comp=Z,764nm,20.0s	**98.03**	**21**	IAMs_20	IAMs_20	12 33 13.5		
LPIG	**La Paz** comp=Z,170nm,19.9s,baz=342,slow=32	**98.12**	**53**	LR	LR	12 25 33.0		
TXAR	**Lajitas Array** comp=Z,1.3nm,1.0s,baz=319,slow=5.4,SNR=5.3	**98.36**	**45**	P	**P**	**11 46 33.0**	**-0.1**	
TXAR	comp=Z,0.5nm,0.9s,baz=280,slow=7.1,SNR=2.7			PP	**PP**	**11 50 33.8**	**+1.5**	
TXAR	comp=Z,0.9nm,1.0s,baz=142,slow=4.3,SNR=6.3 comp=Z,1.3nm,1.0s			PKKPbc	**PKKPbc**	**12 03 03.5**	**+0.6**	
TXAR	**Lajitas Array**	**98.36**	**45**	P	**P**	**11 46 33.0**	**-0.1**	
M53A	**Wf Miller and** comp=Z,524nm,19.0s	**98.44**	**22**	IAMs_20	IAMs_20	12 31 46.4		
ACSO	**Alum Creek Sta** comp=Z,879nm,18.0s	**98.79**	**24**	IAMs_20	IAMs_20	12 38 03.8		
P49A	**Miami Univ. Ec** comp=Z,1000nm,22.0s	**98.81**	**26**	IAMs_20	IAMs_20	12 30 15.5		
BINY	**Binghamton** comp=Z,1μm,22.0s	**99.07**	**19**	IAMs_20	IAMs_20	12 31 37.0		
TRY	**Troy** comp=Z,881nm,21.0s	**99.14**	**17**	IAMs_20	IAMs_20	12 30 39.9		
MDT	**Middelt** comp=Z,730nm,18.4s,baz=25,slow=38	**99.20**	**322**	LR	LR	12 36 17.4		
MIAR	**Mount Ida** comp=Z,829nm,19.0s	**99.47**	**35**	IAMs_20	IAMs_20	12 33 30.4		
L61B	**Northampton** comp=Z,750nm,20.0s	**99.64**	**16**	IAMs_20	IAMs_20	12 34 58.0		
QUA2	**Belchertown** comp=Z,795nm,20.0s	**99.87**	**16**	IAMs_20	IAMs_20	12 34 56.2		
MCWV	**Mont Chateau** comp=Z,892nm,19.0s	**100.32**	**22**	IAMs_20	IAMs_20	12 33 24.3		
435B	**Jarrell** comp=Z,746nm,19.0s	**100.56**	**40**	IAMs_20	IAMs_20	12 35 04.5		
OXF	**Oxford** comp=Z,810nm,19.0s	**101.36**	**32**	IAMs_20	IAMs_20	12 40 18.1		
PLAL	**Pickwick Lake** comp=Z,775nm,20.0s	**101.51**	**30**	IAMs_20	IAMs_20	12 32 41.1		
TZTN	**Tazewell** comp=Z,898nm,21.0s	**101.89**	**26**	IAMs_20	IAMs_20	12 32 56.0		
LRAL	**Lakeview Retre** comp=Z,740nm,19.0s	**103.64**	**31**	IAMs_20	IAMs_20	12 37 28.4		
GOGA	**Godfrey** comp=Z,861nm,20.0s	**104.71**	**28**	IAMs_20	IAMs_20	12 35 34.8		
LSZ	**Lusaka** comp=Z,738nm,20.0s	**107.56**	**264**	IAMs_20	IAMs_20	12 45 12.9		
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.9s,baz=27,slow=7.8,SNR=2.5	**110.51**	**304**	PP	**PP**	**11 51 58.0**	**-4.9**	
BBSR	**BB Station** comp=Z,464nm,19.0s	**110.98**	**13**	IAMs_20	IAMs_20	12 41 55.3		
TEIG	**Tepich** comp=Z,664nm,22.0s	**113.98**	**39**	IAMs_20	IAMs_20	12 41 22.9		
VNDA	**Vanda** comp=Z,4.2nm,1.3s,baz=332,slow=6.8,SNR=4.4	**114.78**	**173**	PP	**PP**	**11 52 32.9**	**-0.1**	
TGUH	**Tegucigalpa,Un** comp=Z,562nm,22.0s	**119.64**	**42**	IAMs_20	IAMs_20	12 45 02.1		
GRTK	**Grand Turk** comp=Z,591nm,18.0s	**119.88**	**22**	IAMs_20	IAMs_20	12 44 50.1		
MTDJ	**Mount Denham** comp=Z,687nm,21.0s	**120.64**	**30**	IAMs_20	IAMs_20	12 45 19.8		
SJG	**San Juan** comp=Z,568nm,22.0s	**124.49**	**18**	IAMs_20	IAMs_20	12 45 37.1		
SMRT	**St. Maarten** comp=Z,354nm,18.0s	**125.23**	**14**	IAMs_20	IAMs_20	12 54 13.8		
QSPA	**South Pole Qui**	**125.52**	**180**		**PKPdf**	**11 51 54.7**	**-0.4**	
ANWB	**Willy Bob** comp=Z,463nm,20.0s	**125.85**	**13**	IAMs_20	IAMs_20	12 48 40.2		
ABD	**La Joyeuse, An** comp=Z,596nm,20.0s	**127.07**	**13**	IAMs_20	IAMs_20	12 45 02.5		
BCIP	**Isla Barro Col** comp=Z,469nm,18.0s	**127.61**	**37**	IAMs_20	IAMs_20	12 51 58.9		
SDV	**Santo Domingo**	**131.82**	**27**	PKPdf	**PKiKP**	**11 52 09.5**	**-0.4**	
SDV	**Santo Domingo** comp=Z,510nm,20.0s	**131.82**	**27**	IAMs_20	IAMs_20	12 52 39.0		
BAUV	**El Baul**	**132.66**	**23**	PKPdf	**PKiKP**	**11 52 11.0**	**-0.3**	
TROLL	**Troll, Antarti**	**134.74**	**201**	PKPdf	**PKPdf**	**11 52 12.1**	**-0.4**	
SNAA	**Sanae**	**136.40**	**200**	PKPdf	**PKPdf**	**11 52 15.6**	**+0.1**	
VNA2	**Neumayer--Watz** baz=96,slow=2.0	**138.04**	**200**	PKPdf	PKPdf	11 52 10.5	-8.0	
VNA1	**Neumayer--Stat**	**138.44**	**200**	PKPdf	PKPdf	11 52 10.2	-9.0	
VNA3	**Neumayer Olymp**	**138.47**	**199**	PKPdf	**PKPdf**	**11 52 12.0**	**-7.3**	
CZSB	**Cruzeiro do Su**	**145.66**	**41**	PKPdf	**PKPdf**	**11 52 33.4**	**-0.5**	
SMAI	**San Martin Ant**	**146.31**	**169**		**PKPbc**	**11 52 34.5**	**+0.1**	
RCBR	**Riachuelo** comp=Z,416nm,20.0s	**147.19**	**332**	IAMs_20	IAMs_20	12 58 46.2		
RCBR	**Riachuelo**	**147.19**	**332**	*e*P	**PKPbc**	**11 52 37.6**	**-1.0**	
PMSA	**Palmer Station**	**149.89**	**169**		**PKiKP**	**11 52 45.2**	**+0.2**	
PMSA	**Palmer Station**	**149.89**	**169**	*e*P	**PKPdf**	**11 52 40.3**	**+1.1**	
ETMB	**Extrema**	**150.62**	**32**	PKPdf	**PKPdf**	**11 52 41.3**	**-0.6**	
ETMB				PKPbc	**pPKPdf**	**11 52 46.5**	**+0.2**	
LPAZ	**La Paz** comp=Z,2.9nm,0.9s,baz=358,slow=3.5,SNR=7.8	**155.22**	**43**	PKP	**PKPdf**	**11 52 50.5**	**+1.2**	
LPAZ	**La Paz**	**155.22**	**43**	*e*P	**PKPdf**	**11 52 49.6**	**+0.2**	
BDFB	**Brasilia** comp=Z,3.5nm,0.8s,baz=29,slow=3.6,SNR=2.1	**159.80**	**352**	PKP	**PKPdf**	**11 52 54.2**	**-0.3**	
PLCA	**Paso Flores** comp=Z,5.0nm,1.1s,baz=248,slow=5.4,SNR=3.8	**163.75**	**114**	PKPab	**PKPab**	**11 53 50.7**	**+0.6**	
PLCA	**Paso Flores**	**163.75**	**114**	*e*P	**PKPdf**	**11 52 58.2**	**+0.4**	

DDA 12 11:41:58.3±0.0, 38.90N×27.76E, h12km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.05**	**114**	P	Pg	11 42 00.8	+0.2
STEP	**BALIKESIR_Sava**	**0.48**	**356**	P	Pg	11 42 07.6	-0.1
STEP				S	Sg	11 42 14.9	+0.8
STEP	comp=N,28nm,0.7s			*i* AML	AML	11 42 16.0	
STEP	comp=E,21nm,0.2s			*i* AML	AML	11 42 17.0	
ZEDA	**zmir-Bergama**	**0.53**	**277**	P	Pg	11 42 09.1	+0.4
ZEDA				S	Sb	11 42 17.1	-0.2
ZEDA	comp=N,16nm,0.2s			*i* AML	AML	11 42 21.0	
ZEDA	comp=E,15nm,0.3s			*i* AML	AML	11 42 21.0	
MANT	**Manisa**	**0.75**	**123**	P	Pn	11 42 14.1	-0.7
MANT				S	Sb	11 42 23.8	+0.1
DEMI	**Demirci**	**0.76**	**79**	P	Pb	11 42 13.8	+0.3
DEMI				S	Sb	11 42 23.7	-0.2

ROM 12 11:42:27.7±0.1, 42.780N±0.003×13.131E±0.005, h10km, ML2.3/19, 11C-17D, Error ellipse: s-maj=0.3km s-min=0.3km az=27.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.06**	**347**	↑P	Pg	11 42 29.7	-0.1
NRCA				S	Sg	11 42 31.0	-0.5
NRCA	comp=E,27550μm,0.9s			AML	AML		
NRCA	comp=N,34700μm,0.1s			AML	AML		
NRCA	comp=N,37900μm,0.1s			AML	AML		
NRCA	comp=E,27550μm,0.9s			AML	AML		
NRCA	comp=E,30150μm,0.9s			AML	AML		
NRCA	comp=N,34700μm,0.1s			AML	AML		
T1242	**Castelluccio d**	**0.07**	**47**	↑P	Pg	11 42 30.1	0.0
T1242				S	Sg	11 42 31.7	-0.2
T1242	comp=E,11410μm,0.4s			AML	AML		
T1242	comp=N,13700μm,1.2s			AML	AML		
T1242	comp=E,11350μm,0.4s			AML	AML		
T1242	comp=E,11445μm,0.4s			AML	AML		
T1242	comp=N,13600μm,1.2s			AML	AML		
T1242	comp=N,13750μm,1.2s			AML	AML		
T1202	**Accumoli, Fraz**	**0.10**	**138**	↓P	Pg	11 42 30.7	+0.3
T1202				S	Sg	11 42 33.0	+0.6
T1202	comp=E,6520μm,1.2s			AML	AML		
T1202	comp=N,7020μm,0.3s			AML	AML		
T1202	comp=E,6515μm,1.2s			AML	AML		
T1216	**Preci, Frazion**	**0.14**	**324**	↓P	Pg	11 42 31.3	+0.4
T1216				S	Sg	11 42 34.5	+1.3
T1216	comp=E,38300μm,0.3s			AML	AML		
T1216	comp=E,38300μm,0.3s			AML	AML		
T1216	comp=N,35850μm,0.4s			AML	AML		
T1216	comp=E,4325μm,0.3s			AML	AML		
T1216	comp=N,4530μm,0.4s			AML	AML		
T1216	comp=E,4330μm,0.3s			AML	AML		
T1216	comp=N,35800μm,0.4s			AML	AML		
T1216	comp=E,38250μm,0.3s			AML	AML		
MC2	**Monte Cornacci**	**0.14**	**18**	P	Pg	11 42 31.5	+0.4
MC2				S	Sg	11 42 34.7	+1.2
T1217	**Poggiodomo (PG**	**0.16**	**245**	↓P	Pg	11 42 31.8	+0.5
T1217				S	Sg	11 42 35.0	+1.2
T1204	**Amatrice, Fraz**	**0.17**	**127**	↓P	Pg	11 42 32.2	+0.7
T1204				S	Sg	11 42 35.4	+1.2
MMO1	**Montemonaco**	**0.19**	**50**	P	Pg	11 42 32.3	+0.5
MMO1				S	Sg	11 42 35.6	+1.1
LNSS	**Leonessa**	**0.19**	**201**	↓P	Pg	11 42 32.2	+0.5
LNSS				S	Sg	11 42 36.0	+1.4
LNSS	comp=N,2285μm,0.5s			AML	AML		
LNSS	comp=E,1920μm,1.5s			AML	AML		
LNSS	comp=N,2290μm,0.5s			AML	AML		
FEMA	**Monte Fema**	**0.19**	**342**	P	Pg	11 42 32.5	+0.7
FEMA				S	Sg	11 42 36.0	+1.3
T1215	**Vallo di Nera,**	**0.19**	**277**	↓P	Pg	11 42 32.4	+0.5
T1215				S	Sg	11 42 35.9	+1.2
T1215	comp=E,775μm,0.2s			AML	AML		
T1215	comp=N,708μm,0.2s			AML	AML		
T1241	**Roccafluvione,**	**0.23**	**71**	↑P	Pg	11 42 33.2	+0.7
T1241				S	Sg	11 42 37.4	+1.6
T1241	comp=E,1299μm,1.0s			AML	AML		
T1241	comp=N,738μm,0.5s			AML	AML		
T1241	comp=N,776μm,0.8s			AML	AML		
T1241	comp=E,1235μm,1.0s			AML	AML		
T1241	comp=E,1298μm,1.0s			AML	AML		
T1241	comp=N,738μm,0.5s			AML	AML		
T1243	**Rocca Santa Ma**	**0.25**	**109**	↓P	Pg	11 42 33.3	+0.5
T1243				S	Sg	11 42 37.5	+1.3
AM05	**Amandola Campo**	**0.26**	**39**	↑P	Pg	11 42 33.7	+0.7
AM05				S	Sb	11 42 38.2	-0.7
AM05	comp=E,324μm,0.4s			AML	AML		
AM05	comp=N,352μm,0.2s			AML	AML		
AM05	comp=E,1270μm,0.1s			AML	AML		
AM05	comp=N,1410μm,0.2s			AML	AML		
FDMO	**Fiordimonte**	**0.26**	**353**	↑P	Pg	11 42 33.6	+0.6
FDMO				AML	AML		
FDMO	comp=E,890μm,0.7s			AML	AML		
FDMO	comp=N,832μm,1.2s			AML	AML		
RM33	**Pellescritta (**	**0.28**	**167**	↓P	Pg	11 42 33.8	+0.5
RM33				S	Sb	11 42 38.4	-1.2
RM33	comp=E,686μm,0.2s			AML	AML		
RM33	comp=N,600μm,0.3s			AML	AML		
RM33	comp=E,714μm,0.4s			AML	AML		
RM33	comp=N,600μm,0.4s			AML	AML		
RM33	comp=N,599μm,0.4s			AML	AML		
RM33	comp=N,600μm,0.4s			AML	AML		
RM33	comp=N,600μm,0.4s			AML	AML		
CESI	**CESI - Serrava**	**0.28**	**324**	↓P	Pg	11 42 34.0	+0.6
CESI				AML	AML		
CESI	comp=E,867μm,0.2s			AML	AML		
CESI	comp=N,1450μm,0.2s			AML	AML		
GUMA	**Gualdo di Mace**	**0.32**	**28**	↑P	Pb	11 42 34.9	-0.6
GUMA				AML	AML		
GUMA	comp=E,2820μm,0.3s			AML	AML		
GUMA	comp=N,2810μm,0.6s			AML	AML		
GUMA	comp=E,2420μm,1.4s			AML	AML		
GUMA	comp=N,3450μm,0.5s			AML	AML		
TERO	**Teramo**	**0.38**	**114**	↓P	Pg	11 42 35.6	+0.3
TERO				AML	AML		
TERO	comp=E,410μm,1.5s			AML	AML		
TERO	comp=N,578μm,0.4s			AML	AML		
ASSB	**Assisi San Ben**	**0.43**	**307**	↓P	Pg	11 42 36.6	+0.3
ASSB				AML	AML		
ASSB	comp=N,351μm,0.3s			AML	AML		
ASSB	comp=E,334μm,0.2s			AML	AML		
SNTG	**Esanatoglia**	**0.49**	**344**	P	Pg	11 42 37.6	+0.3
SNTG				S	Sb	11 42 47.0	+1.1
SNTG	comp=E,172μm,0.6s			AML	AML		
SNTG	comp=N,242μm,0.1s			AML	AML		
FIAM	**Fiamignano**	**0.51**	**181**	↑P	Pg	11 42 37.9	+0.2
FIAM				AML	AML		
FIAM	comp=E,150μm,1.0s			AML	AML		
FIAM	comp=E,150μm,1.0s			AML	AML		
FIAM	comp=N,136μm,0.9s			AML	AML		
ATCC	**AVT- Casa Cast**	**0.54**	**319**	↓P	Pg	11 42 38.6	+0.4
ATCC				S	Sb	11 42 48.0	+0.8
ATCC	comp=E,351μm,0.3s			AML	AML		
ATCC	comp=N,272μm,0.3s			AML	AML		
EL6	**Elcito**	**0.55**	**358**	↓P	Pg	11 42 38.8	+0.4
FOSV	**Fossato di Vic**	**0.58**	**332**	↑P	Pg	11 42 38.8	-0.2
FOSV	comp=E,180μm,0.9s			AML	AML		
FOSV	comp=N,224μm,1.2s			AML	AML		
CING	**Cingoli**	**0.60**	**5**	↓P	Pb	11 42 40.0	-0.2
CING				AML	AML		
CING	comp=E,188μm,1.3s			AML	AML		
CING	comp=N,191μm,0.1s			AML	AML		
CING	comp=E,188μm,1.3s			AML	AML		
VCEL	**Villa Celiera**	**0.65**	**126**	P	Pb	11 42 41.2	0.0
VCEL				AML	AML		
VCEL	comp=E,261μm,0.5s			AML	AML		
VCEL	comp=N,360μm,0.8s			AML	AML		
SSFR	**Montelago di S**	**0.70**	**339**	↑P	Pb	11 42 41.9	-0.2
SSFR				AML	AML		
SSFR	comp=N,284μm,1.4s			AML	AML		
SSFR	comp=E,338μm,0.2s			AML	AML		
ARVD	**Arcevia**	**0.73**	**349**	S	Sb	11 42 54.0	+1.3
T0110	**Collepietro**	**0.73**	**139**	↑P	Pg	11 42 42.0	+0.1
T0110	comp=N,223μm,0.3s			AML	AML		
T0110	comp=E,206μm,0.7s			AML	AML		
ATVO	**AVT- Monte Val**	**0.80**	**319**	↑P	Pb	11 42 43.7	-0.1
ATVO				AML	AML		
ATVO	comp=E,82μm,0.6s			AML	AML		
ATVO	comp=N,69μm,1.0s			AML	AML		
ATVO	comp=E,82μm,0.6s			AML	AML		
PIEI	**Pieia**	**0.87**	**330**	↓P	Pb	11 42 45.1	+0.2
PIEI				AML	AML		
PIEI	comp=E,62μm,0.6s			AML	AML		
PIEI	comp=N,66μm,0.5s			AML	AML		
CAFI	**Castiglion Fio**	**1.01**	**303**	↓P	Pn	11 42 47.8	-0.2
CAFI				AML	AML		
CAFI	comp=N,38μm,1.0s			AML	AML		
CAFI	comp=E,47μm,0.3s			AML	AML		
PARC	**Parchiule**	**1.09**	**323**	P	Pg	11 42 47.4	-1.2
PARC				AML	AML		
PARC	comp=N,51μm,0.5s			AML	AML		
PARC	comp=E,62μm,0.9s			AML	AML		
VENT	**Ventotene**	**2.00**	**174**	↓P	Pn	11 43 01.6	+0.2

*INET **12** 11:49:21.6±0.5, 12.91N×88.86W, h19km±7km, ML4.6*
*IDC **12** 11:49:21.2±10.0, 13.97N×88.31W, h0km, mb3.2/3, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=221.0km s-min=62.8km az=6.0*
*SNET **12** 11:49:22.0±1.2, 12.95N×88.85W, h53km, ML4.4*
*NEIC **12** 11:49:23.0±3.0, 12.97N±0.06×88.80W±0.02, h46km±21km, mb4.1/4, Md4.2(SNET), Error ellipse: s-maj=9.4km s-min=3.2km az=185.0*

ISC 12 11:49:22.4±1.2, 12.94N±0.08×88.86W±0.05, h51km±14km, n53, σ0.96/63, mb3.3/4, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEB	**Comit de Eme**	**0.64**	**30**	*e*P	**Pn**	**11 49 35.5**	**-0.1**
COEB				*e*S	**Sn**	**11 49 45.4**	**+0.2**
COEB	comp=Z,16μm,0.3s			IAML		11 49 50.6	
COEG	**Centro de Oper**	**0.68**	**358**	*e*P	**Pn**	**11 49 35.6**	**-0.5**
COEG	comp=Z,8μm,0.4s			IAML		11 49 49.6	
SJTE	**Alcalda de S**	**0.69**	**348**	*e*P	**Pn**	**11 49 35.7**	**-0.5**
LFRS	**El Faro**	**0.71**	**344**	*e*P	**Pn**	**11 49 36.0**	**-0.5**
LCY	**Lacayo**	**0.73**	**48**	*e*P	**Pn**	**11 49 36.5**	**-0.2**
PACA	**Pacayal**	**0.74**	**44**	*e*P	**Pn**	**11 49 37.2**	**+0.3**
PACA				*e*S	**Sn**	**11 49 48.3**	**+0.9**
PQSS	**Presa 15 de Se**	**0.74**	**23**	*e*P	**Pn**	**11 49 37.1**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.77**	**9**	*e*P	**Pn**	**11 49 37.3**	**+0.1**
SCLA				*e*S	**Sn**	**11 49 49.2**	**+1.2**
PAVA	**Las Pavas**	**0.78**	**354**	*e*P	**Pn**	**11 49 37.2**	**-0.2**
PAVA				*e*S	**Sn**	**11 49 48.3**	**+0.1**
PAVA	comp=Z,15μm,0.5s			IAML		11 49 50.8	
SNET	**Serv Nac Est T**	**0.83**	**334**	Pn	**Pn**	**11 49 37.3**	**-0.7**
SNET	**Serv Nac Est T**	**0.83**	**334**	*e*P	**Pn**	**11 49 37.5**	**-0.6**
SNET				*e*S	**Sn**	**11 49 48.9**	**-0.6**
SNET	**Serv Nac Est T**	**0.83**	**334**	*e*P	**Pn**	**11 49 37.3**	**-0.7**
LFU	**La Fuente**	**0.85**	**343**	*e*P	**Pn**	**11 49 38.2**	**0.0**
UEES	**Universidad Ev**	**0.86**	**334**	*e*P	**Pn**	**11 49 37.8**	**-0.7**
UEES				*e*S	**Sn**	**11 49 50.0**	**-0.2**
BOQS	**Boqueron**	**0.90**	**333**	*e*P	**Pn**	**11 49 38.6**	**-0.4**
LCND	**La Caada**	**1.01**	**68**	*e*P	**Pn**	**11 49 40.3**	**0.0**
LCND				*e*S	**Sn**	**11 49 53.8**	**+0.2**

CAHU	**Cacacuatique**	**1.04**	**37**	*e*P		**Pn**	**11 49 41.0**	**+0.1**
P5NO	**Presa 5 de nov**	**1.05**	**5**	*e*P		**Pn**	**11 49 40.9**	**0.0**
CNCH	**Conchagua**	**1.05**	**71**	⇓*i*P		**Pn**	**11 49 40.7**	**-0.3**
CNCH				*e*P			11 49 40.8	
CNCH				*e*S		**Sn**	**11 49 56.5**	**+1.8**
CEVE	**Cerro Verde**	**1.16**	**320**	*e*P		**Pn**	**11 49 42.7**	**+0.1**
CEVE				*e*S		**Sn**	**11 49 57.6**	**+0.1**
CEVE				IAML			11 50 06.0	
	comp=Z,7μm,0.5s							
SNJE	**San Jose**	**1.18**	**322**	*e*P		**Pn**	**11 49 42.4**	**-0.4**
RTR	**El Retiro**	**1.23**	**321**	*e*P		**Pn**	**11 49 43.5**	**+0.1**
MTO3	**Montecristo**	**1.54**	**341**	Pn		**Pn**	**11 49 47.6**	**-0.1**
MTO3	**Montecristo**	**1.54**	**341**	⇓*i*P		**Pn**	**11 49 47.6**	**-0.1**
ESQI	**Esquipulas**	**1.68**	**344**	Pn		**Pn**	**11 49 49.3**	**-0.2**
CRIN	**San Cristobal**	**1.78**	**97**	Pn		**Pn**	**11 49 50.3**	**-0.5**
CRIN	**San Cristobal**	**1.78**	**97**	*e*P		**Pn**	**11 49 50.6**	**-0.2**
CRIN				*e*S		**Sn**	**11 50 13.0**	**+0.7**
CRIN				IAML			11 50 17.3	
	comp=N,5μm,0.2s							
TGUH	**Tegucigalpa,Un**	**1.90**	**54**	Pn		**Pn**	**11 49 52.7**	**+0.2**
TELN	**Telica**	**2.00**	**99**	*e*P		**Pn**	**11 49 53.8**	**-0.1**
CNGN	**Cerro Negro**	**2.15**	**101**	Pn		**Pn**	**11 49 54.8**	**-1.1**
MOMN	**Momotombo**	**2.32**	**103**	*e*P		**Pn**	**11 49 57.2**	**-1.0**
RCON	**San Juan de Ri**	**2.69**	**78**	*e*P		**Pn**	**11 50 03.4**	**0.0**
WILN	**Americas 2**	**2.72**	**106**	*e*P		**Pn**	**11 50 03.7**	**+0.1**
MATN	**Matagalpa**	**2.86**	**90**	Pn		**Pn**	**11 50 04.0**	**-1.6**
MATN	**Matagalpa**	**2.86**	**90**	*e*P		**Pn**	**11 50 05.1**	**-0.6**
BOAB	**BOACO BROADBAN**	**3.15**	**98**	Pn		**Pn**	**11 50 08.5**	**-1.1**
BOAB	**BOACO BROADBAN**	**3.15**	**98**	*e*P		**Pn**	**11 50 08.5**	**-1.1**
HZTE	**Horizontes, Gu**	**3.88**	**124**	Pn		**Pn**	**11 50 17.6**	**-2.1**
PETF	**Flores**	**4.08**	**346**	Pn		**Pn**	**11 50 23.8**	**+1.5**
ORTG	**Ortega, Santa**	**4.20**	**127**	Pn		**Pn**	**11 50 25.3**	**+1.3**
DUNO	**Dulce Nombre,**	**4.35**	**130**	Pn		**Pn**	**11 50 27.4**	**+1.3**
JTS	**Las Juntas de**	**4.64**	**124**	Pn		**Pn**	**11 50 31.0**	**+0.9**
RIMA	**Rio Macho**	**5.82**	**122**	Pn		**Pn**	**11 50 47.6**	**+1.1**
SRBA	**San Rafael, Bu**	**6.53**	**124**			**Pn**	**11 50 57.9**	**+1.8**
CMIG	**Matias Romero**	**7.14**	**306**	Pn		**Pn**	**11 51 06.5**	**+2.2**
	comp=N,0.3nm,0.3s,baz=119,slow=11,SNR=4.1							
CMIG				Sn		**Sn**	**11 52 25.8**	**+1.7**
	comp=N,0.4nm,0.3s,baz=180,slow=20,SNR=1.4 comp=N,2.1nm,0.6s							
TEIG	**Tepich**	**7.27**	**4**	Pn		**Pn**	**11 51 06.7**	**+0.6**
BAUV	**El Baul**	**20.81**	**99**	P		**P**	**11 53 56.8**	**-3.1**
BAUV				IAmb		IAmb	11 54 00.8	
	comp=Z,7.7nm,0.7s							
GOGA	**Godfrey**	**20.97**	**13**	P		Pn	11 54 02.5	-1.9
TX31	**Lajitas Ar. Si**	**21.34**	**322**	P		**P**	**11 54 05.9**	**+0.4**
TX31				IAmb		IAmb	11 54 35.8	
	comp=Z,7.5nm,1.1s							
TX32	**Lajitas Array**	**21.34**	**322**	P		**P**	**11 54 05.9**	**+0.4**
TXAR	**Lajitas Array**	**21.34**	**322**	P		**P**	**11 54 06.0**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=145,slow=11,SNR=15 comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**34.71**	**333**	P		**P**	**11 56 06.7**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=144,slow=12,SNR=2.1 comp=Z,0.1nm,0.5s							
NVAR	**Mina Array Bea**	**36.44**	**319**	P		**P**	**11 56 24.2**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=134,slow=10,SNR=2.3 comp=Z,0.2nm,0.7s							

JMA ***12*** *11:49:40.6±0.1,35.°9N±0.°3×140.°8E±0.°6, h21km±1km, MD4.0/39, MV4.0/39, NEAR CHOSHI CITY*
JMA Felt II J1 at NEAR CHOSHI CITY .
IDC ***12*** *11:49:46.8±2.8, 35.°70N×140.°16E, h43km±25km, mb3.4/7, mbtmp3.6/8, ML3.3/1, Error ellipse: s-maj=37.6km s-min=13.1km az=72.0*

ISC 12 11:49:40.2±3.2, 35.°94N±0.°04×140.°81E±0.°07, h18km±22km, n27, σ1§40/23, mb3.6/7, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.23**	**277**	P	**Pb**	**11 49 46.8**	**+1.1**
CHOJ	**Chosi**	**0.24**	**169**	*i* P	**Pb**	**11 49 46.0**	**0.0**
CHOJ				S	**Sb**	**11 49 49.5**	**-0.3**
JSMT	**Sammumatsuo**	**0.41**	**225**	⇓P	**Pb**	**11 49 49.7**	**+0.7**
JHYU	**Hitachinakayam**	**0.44**	**336**	P	**Pb**	**11 49 50.1**	**+0.7**
JHYU				S	**Sb**	**11 49 56.6**	**+0.9**
JHYU	**Hitachinakayam**	**0.44**	**336**	A	A	11 49 50.1	
	comp=E,16nm,3.1s,comp=E,29nm,0.4s						
JYT	**Yasato**	**0.57**	**301**	P	**Pb**	**11 49 51.7**	**0.0**
JYT				S	**Sb**	**11 49 59.9**	**+0.4**
JYT	**Yasato**	**0.57**	**301**	A	A	11 49 51.7	
	comp=E,16nm,0.5s,comp=E,16nm,0.3s						
JHO	**Hitachi**	**0.70**	**344**	P	**Pb**	**11 49 53.8**	**-0.1**
JHO				S	**Sb**	**11 50 03.6**	**+0.3**
JHO	**Hitachi**	**0.70**	**344**	A	A	11 49 53.8	
	comp=E,9.0nm,0.5s,comp=E,7.0nm,0.2s						
BSO4	**Boso 4**	**1.02**	**202**	P	**Pn**	**11 50 00.4**	**+0.9**
BSO3	**Boso 3**	**1.16**	**192**	P	**Pb**	**11 50 02.2**	**+0.6**
MJAR	**Matsushiro Arr**	**2.18**	**287**	P	**Pn**	**11 50 13.3**	**-2.4**
	15nm,0.4s,baz=91,slow=12,SNR=31						
MJAR				S	**Sn**	**11 50 40.5**	**-1.9**
	34nm,0.6s,baz=107,slow=18,SNR=8.0						
JHJ	**Hachijo jima 2**	**2.94**	**197**	P	**Pn**	**11 50 26.8**	**+0.7**
	14nm,0.3s,baz=93,slow=17,SNR=5.4						
JHJ				S	**Sn**	**11 50 57.6**	**-3.2**
	37nm,0.3s,baz=240,slow=20,SNR=1.5 30nm,0.3s						
JCJ	**Chichijima**	**8.89**	**172**	P	**Pn**	**11 51 46.6**	**-1.3**
	24nm,0.4s,baz=288,slow=20,SNR=1.4						
SONM	**Songino Array**	**28.01**	**306**	P	**P**	**11 55 31.4**	**+1.2**
	0.5nm,0.6s,baz=105,slow=10,SNR=2.1 0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.04**	**118**	T	T	12 24 45.4	
	baz=311,slow=75,SNR=48						
H11N1	**WAKE ISLAND Hy**	**28.04**	**118**	T	T	12 24 45.8	
	baz=311,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**28.05**	**118**	T	T	12 24 41.0	
	baz=311,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**28.70**	**120**	T	T	12 25 36.7	
	baz=313						
H11S3	**WAKE ISLAND Hy**	**28.70**	**120**	T	T	12 25 37.2	
	baz=313,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.72**	**120**	T	T	12 25 29.4	
	baz=313,slow=74,SNR=35						
ZALV	**Zalesovo Beam**	**42.30**	**313**	P	**P**	**11 57 34.9**	**+2.2**
	0.4nm,0.2s,baz=79,slow=7.5,SNR=1.3 0.4nm,0.2s						
MKAR	**Makanchi Array**	**44.29**	**303**	P	**P**	**11 57 50.6**	**+1.7**
	0.4nm,0.7s,baz=86,slow=9.3,SNR=4.0 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**46.30**	**309**	P	**P**	**11 58 05.8**	**+1.2**
	0.7nm,0.4s,baz=83,slow=7.7,SNR=6.3 0.7nm,0.4s						
ILAR	**Eielson Array**	**50.68**	**32**	P	P	11 58 45.2	+6.9
	0.5nm,0.8s,baz=284,slow=8.1,SNR=4.2 0.5nm,0.8s						
WRA	**Warramunga Arr**	**55.91**	**187**	P	**P**	**11 59 17.1**	**0.0**
	0.3nm,0.5s,baz=2.4,slow=7.4,SNR=8.1 0.3nm,0.5s						
ASAR	**Alice Springs**	**59.64**	**187**	P	**P**	**11 59 44.3**	**+1.0**
	0.4nm,0.8s,baz=19,slow=12,SNR=4.6 0.4nm,0.8s						

IDC 12 11:49:49.3±2.8, 7.°00S×130.°03E, h106km±38km, mb3.1/1, mbtmp3.4/5, Error ellipse: s-maj=66.2km s-min=22.1km az=90.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.22**	**11**	P	Pn	11 51 19.1	+0.4
	1.6nm,0.4s,baz=200,slow=22,SNR=8.2						
SIJI				S	Sn	11 52 24.8	-3.6
	1.5nm,0.3s,baz=252,slow=23,SNR=2.0						
FITZ	**Fitzroy Crossi**	**11.83**	**201**	P	Pn	11 52 33.3	-1.4
	1.0nm,0.8s,baz=18,slow=10.0,SNR=17						
FITZ				S	Sn	11 54 37.9	-6.9
	1.2nm,0.7s,baz=93,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**13.53**	**162**	P	Pn	11 52 56.7	-0.3
	0.3nm,0.3s,baz=350,slow=14,SNR=28						
WRA				S	Sn	11 55 21.5	-4.5
	0.5nm,0.5s,baz=331,slow=21,SNR=2.2						
ASAR	**Alice Springs**	**16.98**	**168**	P	P	11 53 42.3	+1.6
	0.3nm,0.5s,baz=349,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**68.25**	**327**	P	P	12 00 38.6	-0.1
	0.2nm,0.4s,baz=115,slow=7.1,SNR=4.3 0.2nm,0.4s						

SKO ***12*** *12:19:02.0, 42.°02N×21.°49E, h15km*
SOF ***12*** *12:19:03.3, 42.°01N×21.°47E, h2km, MD3.3*

PDG ***12*** *12:19:04.8±0.5, 42.°02N×21.°50E, h12km, MD3.5/1, ML3.4/14, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
IDC ***12*** *12:19:05.0±1.1, 41.°96N×21.°28E, h0km, mb3.5/3, mbtmp3.4/8, ML3.5/4, Error ellipse: s-maj=25.4km s-min=15.0km az=25.0*
THE ***12*** *12:19:05.8, 41.°92N×21.°49E, h0km±4km, ML3.3/7, Error ellipse: s-maj=7.0km s-min=1.1km az=17.0*
NEIC ***12*** *12:19:05.7±2.4, 42.°00N±0.°05×21.°56E±0.°05, h10km±7km, Error ellipse: s-maj=7.2km s-min=5.3km az=154.0*
BEO ***12*** *12:19:06.3±0.3, 42.°05N×21.°50E, h18km±2km, ML3.2/20*

ISC 12 12:19:05.1±0.8, 42.°02N±0.°02×21.°50E±0.°02, h7km±6km, n142, σ1§05/197, 21C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.06**	**224**	*i* Pg	**Pg**	**12 19 06.8**	**+0.1**
SKO				*i* Sg	**Sg**	**12 19 08.1**	**+0.1**
SKO				*e*Lg	Lg	12 19 08.3	
	comp=E,3μm,0.4s						
STIP	**Stip**	**0.61**	**122**	*i* Pg	**Pn**	**12 19 18.8**	**-1.4**
STIP				*i* Sg	**Sn**	**12 19 29.7**	**-0.5**
STIP				*e*Lg	Lg	12 19 29.9	
	comp=E,433nm,0.2s						
BARS	**Barje**	**0.83**	**16**	*e*Pg	**Pg**	**12 19 20.8**	**-0.3**
BARS				*e*Sg	**Sb**	**12 19 32.9**	**-0.5**
BARS	**Barje**	**0.83**	**16**	*i* Pg	**Pg**	**12 19 20.9**	**-0.3**
BARS				*i* Sg	**Sb**	**12 19 33.5**	**+0.1**
PHP	**Peshkopia**	**0.85**	**248**	P	**Pg**	**12 19 20.4**	**-1.1**
PHP				S	**Sg**	**12 19 32.3**	**-0.3**
BOSS	**Bosilegrad**	**0.87**	**56**	*e*Pg	**Pg**	**12 19 21.8**	**-0.1**
BOSS				*e*Sg	**Sg**	**12 19 33.4**	**+0.2**
OHR	**Ohrid**	**1.04**	**210**	*i* Pg	**Pg**	**12 19 24.8**	**-0.3**
OHR				*i* Sg	**Sb**	**12 19 38.9**	**-0.5**
OHR				*e*Lg	Lg	12 19 39.1	
	comp=N,2μm,0.6s						
VAY	**Valandovo**	**1.06**	**130**	*i* Pg	**Pg**	**12 19 24.4**	**-1.0**
VAY				*i* Sg	**Sb**	**12 19 39.8**	**-0.2**
VAY				*e*Lg	Lg	12 19 40.3	
	comp=E,2μm,1.6s						
KKB	**Krupnik**	**1.19**	**97**	P	**Pg**	**12 19 28.1**	**+0.1**
SELS	**Selova**	**1.23**	**347**	*e*Pg	**Pn**	**12 19 27.6**	**-1.2**
SELS				*e*Sg	**Sg**	**12 19 44.9**	**+0.1**
GRG	**Griva**	**1.26**	**147**	P	**Pn**	**12 19 28.4**	**-0.7**
GRG				S	**Sb**	**12 19 44.8**	**-0.8**
	comp=E,2μm,0.4s						
GRG	**Griva**	**1.26**	**147**	*i* Pg	**Pn**	**12 19 28.2**	**-0.9**
GRG				*i* Sg	**Sn**	**12 19 46.0**	**-0.4**
PVY	**Plav**	**1.28**	**297**	*e*Pg	**Pn**	**12 19 28.3**	**-1.2**
PVY				*i* Sg	**Sn**	**12 19 48.7**	**+1.7**
KNT	**Kendrikon**	**1.35**	**129**	P	**Pn**	**12 19 30.2**	**-0.2**
KNT				S	**Sg**	**12 19 48.8**	**+0.2**
	comp=E,680nm,0.5s						
KNT	**Kendrikon**	**1.35**	**129**	*i* Pg	**Pn**	**12 19 30.0**	**-0.4**
KNT				*i* Sg	**Sg**	**12 19 48.3**	**-0.3**
TIR	**Tirane**	**1.39**	**242**	P	**Pb**	**12 19 30.9**	**-0.5**
TIR				S	**Sg**	**12 19 51.3**	**+1.5**
	comp=E,528nm,0.7s						
TIR	**Tirane**	**1.39**	**242**		**Pg**	**12 19 31.4**	**-0.3**
TIR	**Tirane**	**1.39**	**242**	*e*Pg	**Pg**	**12 19 31.4**	**-0.3**
TIR				*e*Sg	**Sg**	**12 19 51.3**	**+1.5**
TIR	**Tirane**	**1.39**	**242**	*i* Pn	**Pg**	**12 19 31.7**	**-0.1**
VTS	**Vitosha**	**1.42**	**64**	⇑P	**Pb**	**12 19 31.6**	**-0.5**
VTS				⇑S	**Sg**	**12 19 51.5**	**+0.7**
VTS	**Vitosha**	**1.42**	**64**		**Pb**	**12 19 31.5**	**-0.5**
VTS	**Vitosha**	**1.42**	**64**	*e*Pg	**Pb**	**12 19 31.6**	**-0.5**
VTS				*e*Sg	**Sg**	**12 19 50.9**	**0.0**
VTS	**Vitosha**	**1.42**	**64**	*i* Pn	**Pb**	**12 19 31.6**	**-0.5**
VTS				*i* Sn	**Sg**	**12 19 51.5**	**+0.7**
VTS	**Vitosha**	**1.42**	**64**	P	**Pn**	**12 19 31.4**	**-0.1**
BEY	**Berane**	**1.46**	**306**	*i* Pn	**Pb**	**12 19 32.3**	**-0.4**
IVA	**Berane**	**1.46**	**306**	*e*Pg	**Pb**	**12 19 32.0**	**-0.7**
IVA				*e*Sg	**Sg**	**12 19 53.8**	**+1.7**
KBN	**Korca**	**1.49**	**201**	P	**Pn**	**12 19 32.0**	**-0.4**
KBN				S	**Sb**	**12 19 52.0**	**-0.3**
	comp=E,1μm,0.5s						
KBN	**Korca**	**1.49**	**201**	Pn	**Pn**	**12 19 32.0**	**-0.4**
ZAPS	**Zavoj**	**1.51**	**33**	*e*Pg	**Pn**	**12 19 32.7**	**+0.1**
ZAPS				*e*Sg	**Sg**	**12 19 53.4**	**-0.3**
BOVS	**Bovan**	**1.63**	**5**	⇓P	**Pn**	**12 19 33.5**	**-0.7**
BOVS	**Bovan**	**1.63**	**5**	*e*Pn	**Pn**	**12 19 33.0**	**-1.2**
BOVS				*e*Sn	**Sn**	**12 19 54.2**	**-1.2**
NEST	**Nestorio**	**1.64**	**192**	P	**Pb**	**12 19 34.6**	**-1.0**
NEST				S	**Sb**	**12 19 56.3**	**-0.2**
	comp=E,1μm,0.4s						
SJES	**Sjenica**	**1.68**	**318**	*e*Pn	**Pn**	**12 19 35.3**	**+0.3**
SJES				*e*Sn	**Sn**	**12 19 56.4**	**-0.4**
ULC	**Ulcinj**	**1.68**	**269**	*i* Pn	**Pb**	**12 19 35.8**	**-0.6**
ULC	**Ulcinj**	**1.68**	**269**	*e*Pn	**Pb**	**12 19 35.6**	**-0.7**
ULC				*i* Sn	**Sg**	**12 19 59.5**	**+0.5**
KOME	**Kolasin**	**1.69**	**300**	⇓*i*Pn	**Pb**	**12 19 35.6**	**-0.9**
KOME				*i* Sn	**Sg**	**12 19 59.6**	**+0.3**
PDG	**Podgorica**	**1.71**	**285**	⇑P	**Pb**	**12 19 35.9**	**-1.0**
PDG	**Podgorica**	**1.71**	**285**		**Pb**	**12 19 35.8**	**-1.1**
PDG	**Podgorica**	**1.71**	**285**	*e*Pn	**Pb**	**12 19 35.9**	**-1.0**
PDG				*e*Sn	**Sn**	**12 19 57.3**	**-0.2**
PDG	**Podgorica**	**1.71**	**285**	*i* Pn	**Pb**	**12 19 36.1**	**-0.8**
TTG	**Podgorica**	**1.71**	**285**	⇑*i*Pn	**Pb**	**12 19 36.0**	**-1.0**
TTG				*e*Sn	**Sg**	**12 20 00.3**	**+0.1**
KZN	**Kozani**	**1.72**	**173**	P	**Pb**	**12 19 35.9**	**-1.2**
KZN				S	**Sb**	**12 19 57.8**	**-1.1**
	comp=E,730nm,0.4s						
DRME	**Dracevica, Mon**	**1.73**	**276**	*e*Pn	**Pb**	**12 19 36.2**	**-1.0**
DRME	**Dracevica, Mon**	**1.73**	**276**	⇑*i*Pn	**Pb**	**12 19 36.2**	**-1.0**
DRME				*i* Sn	**Sg**	**12 20 00.3**	**-0.3**
SRS	**Serrai**	**1.81**	**119**	*e*Pn	**Pn**	**12 19 36.7**	**0.0**
SRS				*e*Sn	**Sn**	**12 19 59.6**	**-0.4**
SRS	**Serrai**	**1.81**	**119**	*i* Pn	**Pn**	**12 19 36.8**	**0.0**
BLKB	**Belogradchik**	**1.83**	**28**	⇑P	**Pn**	**12 19 37.3**	**+0.3**
IVAS	**Ivanjica**	**1.85**	**328**	*e*Pn	**Pn**	**12 19 36.7**	**-0.6**
IVAS				*e*Sn	**Sn**	**12 19 59.7**	**-1.2**
ZAGS	**Zajecar**	**1.88**	**17**	*e*Pn	**Pn**	**12 19 37.1**	**-0.5**
ZAGS				*e*Sn	**Sn**	**12 19 59.7**	**-1.8**
BUM	**Brajici-Budva**	**1.96**	**279**	*e*Pn	**Pb**	**12 19 40.5**	**-0.6**
BUM				*e*Sn	**Sb**	**12 20 06.1**	**+0.4**
GRUS	**Gruza**	**1.96**	**343**	*e*Pn	**Pn**	**12 19 38.5**	**-0.2**
GRUS				*e*Sn	**Sn**	**12 20 03.1**	**-0.5**
CEME	**Cevo**	**1.98**	**286**	⇓*i*Pn	**Pb**	**12 19 40.2**	**-1.4**
CEME				*i* Sn	**Sb**	**12 20 06.9**	**+0.4**
NKY	**Niksic**	**2.02**	**294**	*e*Pn	**Pb**	**12 19 40.9**	**-1.2**
NKY				*i* Sn	**Sb**	**12 20 08.0**	**+0.5**
NKME	**Niksic**	**2.03**	**293**	*e*Pn	**Pb**	**12 19 40.8**	**-1.5**
NKME				*i* Sn	**Sb**	**12 20 07.9**	**+0.2**
PLE	**Pljevlja**	**2.03**	**311**	⇓*i*Pn	**Pn**	**12 19 40.8**	**+0.9**
PLE				*i* Sn	**Sb**	**12 20 07.8**	**-0.2**
PGB	**Panagyurishte**	**2.05**	**74**	P	**Pn**	**12 19 41.0**	**+0.9**
LIT	**Litokhoron**	**2.06**	**158**	P	**Pn**	**12 19 40.2**	**+0.1**
LIT				S	**Sn**	**12 20 05.7**	**-0.3**
LIT	**Litokhoron**	**2.06**	**158**	Pn	**Pn**	**12 19 39.9**	**-0.1**
VLO	**Vlora**	**2.16**	**225**	Pn	**Pb**	**12 19 43.3**	**-1.2**
RUDO	**Rudo**	**2.24**	**316**	*e*Pn	**Pn**	**12 19 42.3**	**-0.3**
UPM	**Unac-Piva**	**2.25**	**303**	*e*Pn	**Pn**	**12 19 43.7**	**+0.8**
UPM	**Unac-Piva**	**2.25**	**303**	⇑*i*Pn	**Pn**	**12 19 43.7**	**+0.8**
UPM				*i* Sn	**Sb**	**12 20 12.5**	**-1.8**
HCY	**Herceg Novi**	**2.27**	**282**	*e*Pn	**Pb**	**12 19 44.8**	**-1.6**
HCY	**Herceg Novi**	**2.27**	**282**	*e*Pn	**Pn**	**12 19 43.1**	**+0.1**
HCY				*i* Sn	**Sb**	**12 20 13.5**	**-1.2**
TRUS	**Trudelj**	**2.35**	**341**	*e*Pn	**Pn**	**12 19 44.0**	**-0.1**
TRUS				*e*Sn	**Sn**	**12 20 11.8**	**-1.4**
DIVS	**Divibare**	**2.35**	**333**	Pn	**Pn**	**12 19 43.8**	**-0.5**
DIVS	**Divibare**	**2.35**	**333**	*e*Pn	**Pn**	**12 19 44.0**	**-0.3**
DIVS	**Divibare**	**2.35**	**333**	*e*Pn	**Pn**	**12 19 43.7**	**-0.6**
DIVS				*e*Sn	**Sn**	**12 20 12.5**	**-1.0**
BRY	**Bratogost**	**2.36**	**293**	*e*Pn	**Pb**	**12 19 45.9**	**-2.1**
BRY	**Bratogost**	**2.36**	**293**	*e*Pn	**Pn**	**12 19 45.6**	**+1.2**
BRY				*i* Sn	**Sb**	**12 20 16.7**	**-0.7**
PLD	**Plovdiv**	**2.39**	**87**	*e*Pn	**Pn**	**12 19 45.8**	**+1.1**
KUBS	**Kucevo**	**2.40**	**3**	*e*Pn	**Pn**	**12 19 43.6**	**-1.2**
KUBS				*e*Sn	**Sn**	**12 20 12.3**	**-2.2**
BBLS	**Lazići**	**2.40**	**321**	*e*Pn	**Pn**	**12 19 45.0**	**+0.1**
RZN	**Rozhen**	**2.43**	**97**	P	**Pn**	**12 19 46.5**	**+1.1**
THL	**Klokotos Trika**	**2.48**	**171**	P	**Pn**	**12 19 46.4**	**+0.5**
THL				S	**Sn**	**12 20 16.1**	**-0.3**
	comp=E,260nm,0.7s						
PUNG	**Punghina**	**2.49**	**24**	⇑P	**Pn**	**12 19 46.3**	**+0.2**
IGT	**Igoumenitsa**	**2.63**	**200**	*e*Pn	**Pn**	**12 19 49.3**	**+1.3**
IGT				*e*Sn	**Sn**	**12 20 19.7**	**-0.5**
KEK	**Kerkira**	**2.64**	**210**	Pn	**Pn**	**12 19 48.6**	**+0.6**
MDVR	**Moldovita**	**2.77**	**3**	⇑P	**Pn**	**12 19 49.3**	**-0.6**
TEKS	**Tekeris**	**2.91**	**331**	*e*Pn	**Pn**	**12 19 50.6**	**-1.3**
TEKS				*e*Sn	**Sn**	**12 20 24.6**	**-2.5**
SRE	**Strehaia**	**2.92**	**25**	⇑P	**Pn**	**12 19 52.3**	**+0.3**
STON	**Ston**	**2.94**	**288**	*e*Pn	**Pn**	**12 19 52.3**	**+0.2**
HERR	**Herculane**	**2.94**	**13**	⇑P	**Pn**	**12 19 52.3**	**+0.1**
KDZ	**Kurdzhali**	**2.95**	**96**	P	**Pn**	**12 19 51.9**	**-0.5**
SCTE	**Santa Cesarea**	**3.00**	**231**	Pn	**Pn**	**12 19 52.9**	**-0.2**
RDO	**Rodhopi**	**3.15**	**105**	Pn	**Pn**	**12 19 54.9**	**-0.2**
FRGS	**Fruska Gora**	**3.37**	**339**	⇑P	**Pn**	**12 19 58.0**	**-0.1**
FRGS	**Fruska Gora**	**3.37**	**339**	*e*Pn	**Pn**	**12 19 57.8**	**-0.4**
FRGS	**Fruska Gora**	**3.37**	**339**	*e*Pn	**Pn**	**12 19 57.9**	**-0.3**
FRGS				*e*Sn	**Sn**	**12 20 35.8**	**-2.6**
GZR	**Gura Zlata**	**3.50**	**15**	⇑P	**Pn**	**12 20 00.3**	**+0.3**
BZS	**Buzias**	**3.60**	**1**	⇑P	**Pn**	**12 20 00.2**	**-1.1**
SRKY	**Kupres RS**	**3.78**	**304**	*e*Pn	**Pn**	**12 20 03.9**	**0.0**
LOT	**Lotru**	**3.81**	**25**	⇑P	**Pn**	**12 20 04.7**	**+0.5**
MATE	**Matera**	**3.86**	**251**	⇑P	**Pn**	**12 20 04.2**	**-0.6**
ARR	**Arges**	**4.05**	**33**	⇑P	**Pn**	**12 20 08.2**	**+0.7**
BLY	**Banja Luka**	**4.16**	**312**	*e*Pn	**Pn**	**12 20 09.8**	**+0.8**
SIRR	**Siria**	**4.25**	**2**	⇑P	**Pn**	**12 20 10.1**	**-0.2**
VOIR		**4.28**	**36**	⇑P	**Pn**	**12 20 11.9**	**+1.2**
SGRT	**San Giovanni R**	**4.30**	**268**	Pn	**Pn**	**12 20 10.9**	**-0.2**
A050A	**Klekovaca**	**4.38**	**306**	*e*Pn	**Pn**	**12 20 12.6**	**+0.5**
A051A	**Mrakovica**	**4.48**	**313**	*e*Pn	**Pn**	**12 20 13.2**	**-0.3**
TIP	**Timpagrande**	**4.59**	**233**	Pn	**Pn**	**12 20 13.8**	**-1.1**
MORH	**Mrgy, Hungar**	**4.67**	**335**	⇑P	**Pn**	**12 20 16.0**	**0.0**
MORH	**Mrgy, Hungar**	**4.67**	**335**	P	**Pn**	**12 20 15.7**	**-0.3**
MORH				S	**Sn**	**12 21 10.7**	**+0.3**
MLR	**Muntele Rosu**	**4.74**	**41**	Lg	Lg	12 21 35.3	
	comp=E,0.9nm,0.3s,baz=324,slow=17,SNR=2.0						
MLR	**Muntelu Rosu**	**4.74**	**41**	Pn	**Pn**	**12 20 17.6**	**+0.6**
CUC	**Castrocucco**	**4.75**	**247**	Pn	**Pn**	**12 20 17.3**	**+0.2**
KOVH	**Kovagotottos**	**4.75**	**330**	P	**Pn**	**12 20 17.0**	**-0.1**
KOVH				S	**Sn**	**12 21 13.4**	**+1.0**
ITM	**Ithomi**	**4.84**	**176**	Pn	**Pn**	**12 20 19.2**	**+0.8**
DRGR		**4.85**	**10**	⇑P	**Pn**	**12 20 18.4**	**-0.2**
PAOL	**Paolisi**	**5.29**	**262**	Pn	**Pn**	**12 20 25.0**	**+0.4**
TIH	**Tihany**	**5.52**	**333**	P	**Pn**	**12 20 27.6**	**0.0**
TIRR	**Tirgusor**	**5.61**	**62**	Pn	**Pn**	**12 20 29.2**	**+0.3**
BUD	**Budapest**	**5.74**	**343**	P	**Pn**	**12 20 31.0**	**+0.3**
BUD				S	**Sn**	**12 21 39.2**	**+2.4**
MPLH	**Magyarpolny**	**5.88**	**333**	P	**Pn**	**12 20 33.7**	**+1.2**
MPLH				S	**Sn**	**12 21 41.4**	**+1.2**
PSZ	**Piszkesteto**	**6.01**	**350**	Pn	**Pn**	**12 20 33.8**	**-0.7**
PSZ	**Piszkesteto**	**6.01**	**350**	P	**Pn**	**12 20 34.

	comp=E,67nm,0.5s					
HJU			AML	AML		
	comp=Z,84nm,0.5s					
PYAG	**Pyongyang**	**4.22**	**321**	Sg	**Sg**	**12 23 00.1 -3.2**
HHU	**Hamhung**	**4.32**	**343**	Sg	**Sg**	**12 23 03.8 -2.7**
PYS	**Pyongsong**	**4.33**	**324**	Sg	**Sg**	**12 23 03.7 -3.0**
SUJ	**Sinuiju**	**5.66**	**321**	Sg	**Sg**	**12 23 44.4 -4.9**

*KMA **12** 12:38:35.9±0.0,35.76N×129.17E,h12km,Error ellipse: s-maj=0.5km s-min=0.3km az=295.0*
*JMA **12** 12:38:36.2±0.3,36°N±1°×12°9E±°,h31km,MV3.0/6,S KOREAN PENINSULA REG*
ISC 12 12:38:34.9±0.9,**35°76N**±0°02×**129°20E**±0°04,**h10**km,**n45,** σ0§**44**/47,**South Korea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu** SNR=140	**0.25**	**271**	P		**Pg**		**12 38 41.3**	**+1.4**
YOCB	**Yeongcheon** SNR=72	**0.30**	**316**	P		**Pb**		**12 38 42.2**	**-0.1**
KSPHA	**Pohang** SNR=61	**0.45**	**17**	P		**Pb**		**12 38 45.1**	**+0.3**
MIYA	**Miryang-si** SNR=23	**0.46**	**234**	P		**Pb**		**12 38 44.9**	**-0.1**
KSDAU	**Deagu-acc** SNR=78	**0.49**	**285**	P		**Pb**		**12 38 45.5**	**-0.1**
KSBUS	**Busan** SNR=87	**0.52**	**188**	P		**Pb**		**12 38 46.0**	**0.0**
KSCHR	**CHANGNYEONG** SNR=16	**0.62**	**250**	P		**Pb**		**12 38 47.5**	**-0.2**
KSADO	**Andong** SNR=150	**0.68**	**342**	P		**Pb**		**12 38 48.9**	**+0.1**
EUSB	**Uiseong** SNR=54	**0.72**	**325**	P		**Pb**		**12 38 49.6**	**0.0**
YODB	**Yeongdeok** SNR=55	**0.79**	**12**	P		**Pb**		**12 38 51.0**	**+0.3**
YEYB	**Yeongyang** SNR=114	**0.86**	**354**	P		**Pb**		**12 38 52.2**	**+0.2**
EURB	**Uiryeong-eup** SNR=22	**0.87**	**240**	P		**Pb**		**12 38 52.0**	**0.0**
KSGUM	**GUMI** SNR=21	**0.88**	**303**	P		**Pb**		**12 38 52.3**	**+0.1**
ADOA	**Andong Acc Bor** SNR=23	**0.91**	**333**	P		**Pn**		**12 38 53.0**	**-0.7**
KSGIC	**Gimchen** SNR=51	**0.95**	**290**	P		**Pb**		**12 38 53.5**	**+0.1**
KSULJ	**Uljin** SNR=144	**0.95**	**10**	P		**Pn**		**12 38 54.0**	**-0.3**
HACA	**Hapcheon Acc B** SNR=32	**0.96**	**249**	P		**Pb**		**12 38 53.5**	**-0.2**
KUJA	**Jangpyeong** SNR=6.6	**1.00**	**209**	P		**Pn**		**12 38 55.0**	**0.0**
KSSAJ	**Sangju** SNR=31	**1.06**	**308**	P		**Pn**		**12 38 55.6**	**-0.2**
DUSB	**Deogyusan** SNR=89	**1.17**	**277**	P		**Pn**		**12 38 57.3**	**0.0**
CHYB	**Chungyang** SNR=60	**1.20**	**349**	P		**Pg**		**12 38 58.0**	**0.0**
HAMB	**Hamyang** SNR=26	**1.21**	**258**	P		**Pg**		**12 38 58.0**	**-0.2**
YOJB	**Youngju** SNR=143	**1.24**	**334**	P		**Pg**		**12 38 58.4**	**-0.3**
JTU	**Tsushima**	**1.25**	**173**	P		**Pn**		**12 38 58.3**	**0.0**
JTU				*eS*		**Sb**		**12 39 14.2**	**-0.3**
OKCB	**Cheongsan-myeo** SNR=46	**1.28**	**297**	P		**Pg**		**12 38 59.2**	**-0.2**
KSMGY	**Mungyeong** SNR=52	**1.28**	**314**	P		**Pg**		**12 38 59.1**	**-0.4**
KSBON	**Boeun** SNR=68	**1.35**	**303**	P		**Pg**		**12 39 00.7**	**-0.1**
YKDB	**Yokjido** SNR=67	**1.37**	**214**	P		**Pn**		**12 39 00.3**	**+0.2**
KSTBA	**Taebaek** SNR=51	**1.37**	**352**	P		**Pg**		**12 39 01.2**	**0.0**
JTSM	**Tsushimamitsus**	**1.43**	**174**	*eP*		**Pn**		**12 39 01.0**	**+0.1**
JTSM				*eS*		**Sn**		**12 39 19.1**	**-0.6**
IMWB	**Imwonan-gil** SNR=26	**1.48**	**4**	P		**Pg**		**12 39 03.0**	**-0.1**
GWYB	**Gwangyang** SNR=9.2	**1.48**	**237**	P		**Pg**		**12 39 03.0**	**-0.3**
KSCHJ	**Chungju** SNR=32	**1.49**	**318**	P		**Pg**		**12 39 03.0**	**-0.4**
NAWB	**Namwon** SNR=63	**1.51**	**257**	P		**Pb**		**12 39 03.0**	**0.0**
KSJEO	**Jeonju** SNR=31	**1.56**	**277**	P		**Pb**		**12 39 04.1**	**+0.3**
JECH	**Jecheon** SNR=19	**1.61**	**330**	P		**Pn**		**12 39 03.8**	**+0.3**
SUCA	**Sunchang** SNR=9.4	**1.73**	**258**	P		**Pb**		**12 39 07.0**	**+0.3**
EMSB	**Eumseong** SNR=11	**1.76**	**314**	P		**Pb**		**12 39 07.5**	**+0.3**
JHGM	**Hagimishima**	**1.86**	**121**	*eP*		**Pn**		**12 39 07.1**	**+0.3**
KSJEU	**Jeongeup** SNR=22	**1.87**	**262**	P		**Pn**		**12 39 07.9**	**+1.0**
KSWJU	**Wonju** SNR=26	**1.88**	**331**	P		**Pn**		**12 39 08.0**	**+0.9**
KSKWJ	**Gwangju** SNR=35	**1.90**	**252**	P		**Pb**		**12 39 09.0**	**-0.7**
BOSB	**Boseong-gun** SNR=45	**1.91**	**239**	P		**Pb**		**12 39 09.3**	**-0.4**
JII	**Iki**	**2.01**	**167**	*eP*		**Pn**		**12 39 09.9**	**+1.1**
BGDB	**Bigeumdo** SNR=7.0	**2.84**	**251**	P		**Pn**		**12 39 21.0**	**+0.7**

*JMA **12** 12:58:36.9±0.3,22°7N±1°0×12°1E±°,h29km,MV3.2/10, TAIWAN REGION*
*TAP **12** 12:58:40.3,22°84N×121°30E,h20km,ML3.2,B*
ISC 12 12:58:40.3±0.9,**22°81N**±0°02×**121°33E**±0°02,**h24**km±5km,
n122, σ0§**81**/139,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDH	**Donghe** baz=7.0	**0.16**	**353**	*eP*		**Pb**		**12 58 44.5**	**-1.0**
EDH				*eS*		**Sb**		**12 58 47.4**	**-1.6**
TTN	**Taitung** baz=235	**0.18**	**251**	*eP*		**Pb**		**12 58 45.3**	**-0.3**
TTN				*eS*		**Sb**		**12 58 49.2**	**0.0**
LDUT	**Ludao** baz=125	**0.19**	**136**	P		**Pb**		**12 58 46.2**	**+0.4**
LDUT				*eS*		**Sb**		**12 58 50.9**	**+1.4**
LONT	**Longtian** baz=295	**0.20**	**297**	*eP*		**Pb**		**12 58 45.6**	**-0.4**
LONT				*eS*		**Sb**		**12 58 49.9**	**+0.1**
TWGBT	**Beinan** baz=264	**0.23**	**271**	*eP*		**Pb**		**12 58 45.7**	**-0.5**
TWGBT				S		**Sb**		**12 58 49.9**	**-0.4**
TWG	**Pinlang** baz=264	**0.23**	**272**	P		**Pb**		**12 58 45.8**	**-0.6**
TWG				S		**Sb**		**12 58 50.1**	**-0.4**
ECS	**Chishang** baz=332	**0.30**	**341**	P		**Pb**		**12 58 47.3**	**0.0**
ECS				*eS*		**Sb**		**12 58 53.5**	**+1.4**
ECL	**Taimali** baz=232	**0.41**	**238**	P		**Pb**		**12 58 48.3**	**-0.7**
ECL				S		**Sb**		**12 58 54.5**	**-0.3**
ELDTW	**Lidau** baz=325	**0.47**	**323**	*eP*		**Pb**		**12 58 48.8**	**-1.3**
EYUL	**Yuli** baz=352	**0.53**	**359**	*eP*		**Pb**		**12 58 50.5**	**-0.6**
TWF1	**Yuli** baz=351	**0.54**	**357**	*eP*		**Pb**		**12 58 50.1**	**-1.1**
YULB	**Yu-li** baz=352	**0.58**	**357**	P		**Pb**		**12 58 50.5**	**-1.3**
TAW	**Tawu** baz=218	**0.60**	**221**	P		**Pb**		**12 58 51.7**	**-0.6**
TAW				S		**Sb**		**12 59 00.0**	**-0.3**
EAST	**Anshuo** baz=232	**0.61**	**226**	P		**Pb**		**12 58 52.0**	**-0.5**
STYH	**Taoyuan** baz=305	**0.62**	**305**	*eP*		**Pb**		**12 58 50.6**	**-2.0**
TAWH	**Dawu Township** baz=217	**0.62**	**221**	*eP*		**Pb**		**12 58 51.1**	**-1.5**
STYT	**Tauyuan** baz=304	**0.63**	**304**	P		**Pb**		**12 58 51.7**	**-1.0**
TSMG	**Majia** baz=258	**0.64**	**261**	*eP*		**Pb**		**12 58 51.9**	**-1.0**
SSD	**Sandimen** baz=262	**0.64**	**264**	P		**Pb**		**12 58 52.0**	**-1.0**
MASBT	**Mashibuluo** baz=244	**0.67**	**253**	P		**Pb**		**12 58 52.6**	**-0.8**
HGSD	**Ruisui** baz=356	**0.68**	**8**	P		**Pb**		**12 58 53.2**	**-0.4**
EHY	**Hungye** baz=2.0	**0.69**	**360**	*eP*		**Pb**		**12 58 52.4**	**-1.4**
SGST	**Jiashian** baz=291	**0.74**	**292**	*eP*		**Pb**		**12 58 53.4**	**-1.1**
YUS	**Yu-Shan** baz=328	**0.76**	**333**	*eP*		**Pb**		**12 58 54.0**	**-1.1**
SLIU	**Shizi** baz=218	**0.77**	**220**	*eP*		**Pb**		**12 58 54.3**	**-0.8**
SCST	**Cishan** baz=272	**0.77**	**276**	P		**Pb**		**12 58 55.2**	**-0.4**
SSPT	**Xinbi** baz=238	**0.77**	**245**	*eP*		**Pn**		**12 58 55.1**	**-0.6**
SSPT				*eS*		**Sn**		**12 59 06.2**	**-0.3**
SGLT	**Jiouru** baz=262	**0.78**	**264**	*eP*		**Pn**		**12 58 55.2**	**-0.5**
WTP	**Ta-pu** baz=303	**0.79**	**303**	P		**Pb**		**12 58 55.0**	**-0.3**
SCZT	**Fangliau** baz=228	**0.79**	**236**	P		**Pb**		**12 58 55.0**	**-0.3**
LAY	**Lan-yu** baz=154	**0.80**	**165**	P		**Pb**		**12 58 55.0**	**-0.5**
LAY				*eS*		**Sn**		**12 59 06.4**	**-0.8**
TPUB	**Ta-pu** baz=307	**0.81**	**307**	*eP*		**Pb**		**12 58 55.3**	**-0.4**
CHN1	**Nanshi** baz=297	**0.82**	**297**	P		**Pn**		**12 58 56.2**	**-0.2**
TWM1	**Shoushan** baz=270	**0.83**	**271**	*eP*		**Pn**		**12 58 57.1**	**+0.6**
LYUB	**Lan-yu** baz=153	**0.84**	**164**	*eP*		**Pb**		**12 58 54.2**	**-2.0**
LYUB				*eS*		**Sb**		**12 59 06.7**	**-0.5**
ALS	**Alishan** baz=326	**0.84**	**325**	P		**Pb**		**12 58 55.9**	**-0.7**
EGFH	**Guangfu** baz=354	**0.86**	**6**	*eP*		**Pb**		**12 58 55.0**	**-1.6**
SNST	**Tainan City** baz=298	**0.86**	**298**	P		**Pn**		**12 58 56.8**	**-0.2**
TWK	**Hsinying** baz=301	**0.90**	**300**	P		**Pn**		**12 58 57.2**	**-0.2**
SMST	**Manzhou Townsh** baz=197	**0.91**	**210**	P		**Pn**		**12 58 56.9**	**-0.7**
WCKO	**Fanlu** baz=321	**0.91**	**313**	*eP*		**Pn**		**12 58 56.5**	**-1.1**
WCKO				*eS*		**Sb**		**12 59 09.2**	**0.0**
TEGC	**Jichi Village** baz=321	**0.91**	**12**	P		**Pn**		**12 58 57.0**	**-0.6**
CHN3	**Shinhua** baz=286	**0.92**	**287**	*eP*		**Pb**		**12 58 59.2**	**+1.5**
SHHT	**Tainan City** baz=283	**0.93**	**283**	*eP*		**Pb**		**12 58 58.7**	**+1.0**
HEN	**Hengchun** baz=202	**0.97**	**214**	*eP*		**Pb**		**12 58 59.8**	**+1.4**
WHYT	**Xinyi Township** baz=327	**0.98**	**334**	P		**Pn**		**12 58 58.2**	**-0.4**
TSEB	**Hengchuen, Pin** baz=194	**0.99**	**204**	*eP*		**Pb**		**12 58 58.6**	**-0.2**
TWKBT	**Hengchun** baz=197	**0.99**	**209**	P		**Pn**		**12 58 58.1**	**-0.6**
TWK1	**Hengchun** baz=197	**0.99**	**209**	*eP*		**Pn**		**12 58 58.3**	**-0.4**
WSSB	**Gushan** baz=261	**1.00**	**260**	*eP*		**Pb**		**12 59 00.8**	**+1.9**
ESL	**Shilin** baz=7.0	**1.00**	**6**	*eP*		**Pn**		**12 58 58.3**	**-0.6**
SSLB	**Suanglung** baz=352	**1.03**	**341**	*eP*		**Pb**		**12 58 58.5**	**-0.8**
CHN2	**Minshiung** baz=312	**1.06**	**313**	*eP*		**Pb**		**12 59 00.1**	**+0.1**
CHY	**Chiayi** baz=310	**1.07**	**310**	*eP*		**Pb**		**12 59 00.4**	**+0.2**
TEYL	**Yanliau Villag** baz=1.0	**1.08**	**13**	*eP*		**Pn**		**12 58 59.8**	**-0.2**
ICHU	**Yijhu** baz=299	**1.11**	**300**	*eP*		**Pb**		**12 59 00.9**	**+0.1**
WGK	**Gukeng** baz=321	**1.12**	**321**	*eP*		**Pb**		**12 59 01.1**	**+0.1**
WDLH	**Douliu** baz=320	**1.13**	**320**	*eP*		**Pb**		**12 59 01.5**	**+0.2**
SMLT	**Sun Moon Lake** baz=341	**1.14**	**340**	*eP*		**Pn**		**12 59 00.9**	**+0.1**
OWD	**Renai** baz=4.0	**1.15**	**353**	*eP*		**Pn**		**12 59 00.5**	**-0.5**
WJS	**Zhushan** baz=331	**1.15**	**331**	*eP*		**Pb**		**12 59 01.9**	**+0.4**
CHN8	**Yiju** baz=298	**1.16**	**298**	*eP*		**Pb**		**12 59 01.8**	**+0.1**
ETM	**Tongmen** baz=8.0	**1.16**	**8**	*eP*		**Pn**		**12 59 00.0**	**-1.0**
WUSB	**Renai** baz=2.0	**1.19**	**351**	*eP*		**Pn**		**12 59 01.0**	**-0.6**
WUSB				*eS*		**Sn**		**12 59 15.8**	**-1.2**
WNT	**Mingjian** baz=331	**1.21**	**331**	*eP*		**Pb**		**12 59 03.0**	**+0.4**
WSL	**Shuilin Townsh** baz=305	**1.23**	**305**	*eP*		**Pn**		**12 59 01.7**	**-0.4**
WNT1	**Nantou City** baz=331	**1.24**	**332**	*eP*		**Pb**		**12 59 03.1**	**0.0**
WPL	**Puli Township** baz=345	**1.24**	**344**	*eP*		**Pn**		**12 59 02.4**	**+0.2**
CHGB	**Renai** baz=3.0	**1.25**	**354**	*eP*		**Pn**		**12 59 02.0**	**-0.5**
DPDB	**Guoxing** baz=344	**1.27**	**343**	*eP*		**Pb**		**12 59 03.5**	**-0.2**
TWD	**Chiawan** baz=11	**1.29**	**11**	*eP*		**Pn**		**12 59 02.6**	**-0.1**
WCS	**Beigang Elemen** baz=343	**1.30**	**343**	*eP*		**Pn**		**12 59 02.6**	**-0.2**
WSF	**Szhu** baz=309	**1.31**	**309**	*eP*		**Pn**		**12 59 03.3**	**+0.3**
WHF	**Hehuan Shan** baz=9.0	**1.33**	**358**	*eP*		**Pn**		**12 59 02.9**	**-0.8**
WWF	**Wufeng** baz=335	**1.35**	**335**	*eP*		**Pn**		**12 59 04.2**	**+0.5**
NACB	**Ninganchiao** baz=10.0	**1.38**	**10**	*eP*		**Pn**		**12 59 02.4**	**-1.7**
WRL	**Guolierlin Hig** baz=312	**1.39**	**321**	*eP*		**Pn**		**12 59 03.9**	**-0.3**
ETLH	**Xiulin Townshi** baz=6.0	**1.40**	**6**	*eP*		**Pn**		**12 59 04.1**	**-0.3**
FUSS	**Fushou** baz=10.0	**1.43**	**357**	*eP*		**Pn**		**12 59 04.7**	**-0.3**
FUSS				*eS*		**Sn**		**12 59 21.9**	**-1.2**
TWT	**Tachien** baz=6.0	**1.44**	**355**	*eP*		**Pn**		**12 59 05.3**	**+0.3**
TDCB	**Techi** baz=5.0	**1.44**	**354**	*eP*		**Pn**		**12 59 04.8**	**-0.3**
WHP	**Taichung City** baz=358	**1.50**	**347**	*eP*		**Pb**		**12 59 07.7**	**+0.2**
WDGT	**Dungji** baz=286	**1.60**	**287**	*eP*		**Pn**		**12 59 07.2**	**+0.2**
NNSB	**Datong** baz=15	**1.61**	**2**	*eP*		**Pn**		**12 59 06.8**	**-0.5**
NNSH	**Datong** baz=14	**1.61**	**2**	*eP*		**Pn**		**12 59 07.0**	**-0.3**
TWQ1	**Liyutan** baz=341	**1.61**	**342**	*eP*		**Pb**		**12 59 09.4**	**0.0**
NNS	**Nan Shan** baz=14	**1.62**	**1**	*eP*		**Pn**		**12 59 09.1**	**-0.6**
ENA	**Nanau** baz=2.0	**1.65**	**13**	*eP*		**Pn**		**12 59 08.1**	**+0.3**
EWUT	**Wuta** baz=3.0	**1.68**	**14**	*eP*		**Pn**		**12 59 08.0**	**-0.1**
NSY	**Sanyi** baz=343	**1.68**	**342**	*eP*		**Pn**		**12 59 08.9**	**+0.7**
LATG	**Datong** baz=17	**1.73**	**6**	*eP*		**Pb**		**12 59 10.3**	**-1.1**
NMLH	**Miaoli** baz=343	**1.79**	**344**	*eP*		**Pn**		**12 59 09.8**	**+0.1**
NDT	**Datong Townshi** baz=16	**1.79**	**5**	*eP*		**Pb**		**12 59 11.5**	**-1.0**
VCHM	**Qimei** baz=283	**1.79**	**283**	*eP*		**Pn**		**12 59 09.9**	**+0.2**
PNG	**Penghu** baz=295	**1.79**	**295**	*eP*		**Pn**		**12 59 10.0**	**+0.3**
NFF	**Wufeng Townshi** baz=3.0	**1.82**	**354**	*eP*		**Pn**		**12 59 11.4**	**+1.2**
ENTT	**Nioudou** baz=18	**1.83**	**7**	*eP*		**Pn**		**12 59 10.0**	**-0.3**
NSTT	**Nanjuang** baz=348	**1.83**	**351**	*eP*		**Pb**		**12 59 12.4**	**-0.8**
LIOB	**Emei** baz=350	**1.85**	**351**	*eP*		**Pb**		**12 59 12.0**	**-1.5**
YHNB	**Yeheng** baz=13	**1.85**	**1**	*eP*		**Pn**		**12 59 11.0**	**+0.4**
TWC	**Suao** baz=3.0	**1.85**	**15**	*eP*		**Pn**		**12 59 11.2**	**+0.7**
NSK	**Sanguang** baz=13	**1.85**	**1**	*eP*		**Pn**		**12 59 10.3**	**-0.4**
TWE	**Neicheng** baz=9.0	**1.93**	**9**	*eP*		**Pn**		**12 59 12.3**	**+0.8**
FUSB	**Fushanzhiwuyua** baz=17	**1.95**	**7**	*eP*		**Pn**		**12 59 12.2**	**+0.2**
TIPB	**Shuangxi** baz=10.0	**2.20**	**12**	*eP*		**Pn**		**12 59 16.3**	**+0.9**
JYNG	**Yonagunijimaku** baz=3.0	**2.21**	**42**	*eS*		**Sn**		**12 59 42.6**	**+0.7**
YOJ	**Yonaguni jima** baz=9.0	**2.25**	**43**	*eS*		**Sn**		**12 59 44.2**	**+1.1**
SXI1	**Grass Mountain** baz=9.0	**2.33**	**12**	*eP*		**Pn**		**12 59 18.1**	**+1.0**
YM01	**YM01** baz=16	**2.33**	**5**	*eP*		**Pn**		**12 59 17.6**	**+0.4**
IRIF	**Iriomote-Funau**	**2.68**	**55**	*eP*		**Pn**		**12 59 22.0**	**+0.1**
IRIF				*eS*		**Sn**		**12 59 55.6**	**+2.1**
VWUC	**VWUC** baz=321	**2.77**	**322**	*eP*		**Pn**		**12 59 23.5**	**+0.4**
JKRS	**Kuro-shima**	**2.84**	**60**	*eS*		**Sn**		**12 59 58.8**	**+1.2**
JIJ	**Ishigaki jima**	**3.01**	**59**	P		**Pn**		**12 59 26.6**	**+0.2**
JIJ				S		**Sn**		**13 00 02.7**	**+1.0**
KNM	**Kinmen** baz=300	**3.10**	**302**	*eP*		**Pn**		**12 59 29.6**	**+1.9**
KNMB	**Chin-men Tao** baz=301	**3.16**	**302**	*eP*		**Pn**		**12 59 28.9**	**+0.5**
MATB	**Ma-tsu** baz=338	**3.55**	**340**	*eP*		**Pn**		**12 59 34.8**	**+0.9**
JTJ	**Tarama**	**3.59**	**59**	*eP*		**Pn**		**12 59 35.3**	**+0.9**
AXDP	**Jialang** baz=304	**3.71**	**305**	*eP*		**Pn**		**12 59 36.6**	**+0.5**
MHZQ	**Yeshan** baz=328	**3.88**	**328**	*eP*		**Pn**		**12 59 39.2**	**+0.7**
LYJJ	**Jianjiangzhen** baz=339	**3.98**	**339**	*eP*		**Pn**		**12 59 41.0**	**+1.1**
JIRB	**Irabujima**	**4.05**	**60**	P		**Pn**		**12 59 41.1**	**+0.3**
SXFK	**Yanhouchang** baz=317	**4.90**	**318**	*eP*		**Pn**		**12 59 52.6**	**+0.2**

*IDC **12** 13:00:31.6±2.8,6°33S×127°36E,h422km±32km,mb2.9/2, mbtmp4.0/6,Error ellipse: s-maj=48.2km s-min=17.6km az=65.0*
ISC 12 13:00:30.6±1.5,**6°3S**±0°1×**127°5E**±0°1,**h408**km,**n6,** σ1§**07**/9,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 25nm,0.3s,baz=102,slow=2.5,SNR=9.3	**5.47**	**224**	P		**P**		**13 01 58.1**	**+0.5**
BATI						S		**13 03 08.3**	**-0.6**
	10nm,0.5s,baz=81,slow=19,SNR=1.6								
FITZ	**Fitzroy Crossi** 0.9nm,0.4s,baz=19,slow=8.4,SNR=10	**11.89**	**189**	P		**P**		**13 03 09.1**	**+0.2**
WRA	**Warramunga Arr** 3.7nm,0.5s,baz=332,slow=11,SNR=98	**15.11**	**155**	P		**P**		**13 03 44.0**	**+0.1**
WRA						S		**13 06 21.9**	**-2.2**
	0.8nm,0.8s,baz=335,slow=21,SNR=6.1								
ASAR	**Alice Springs** 1.8nm,0.5s,baz=341,slow=10,SNR=49	**18.34**	**161**	P		**P**		**13 04 18.8**	**+0.3**
ASAR						S		**13 07 26.9**	**+0.6**
	0.9nm,1.0s,baz=338,slow=17,SNR=5.0								
STKA	**Stephens Creek** 0.6nm,0.3s,baz=347,slow=14,SNR=2.2 0.6nm,0.3s	**28.66**	**154**	P		**P**		**13 05 52.8**	**+0.8**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=128,slow=4.7,SNR=3.1 0.3nm,0.5s	**66.30**	**328**	P		**P**		**13 10 36.3**	**-0.6**

*JMA **12** 13:13:13.0±0.3,36°N±1°×12°9E±°,h11km±4km,MV2.8/8,S KOREAN PENINSULA REG*
*KMA **12** 13:13:14.7±0.2,35.76N×129.19E,h17km±1km,Error ellipse: s-maj=1.6km s-min=1.0km az=158.0*
ISC 12 13:13:14.6±0.9,**35.77N**±0.03×**129.21E**±0.05,**h10**km,**n14,** σ0§**51**/22,**South Korea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu** SNR=127	**0.25**	**270**	P		**Pg**		**13 13 20.3**	**+0.5**
KSDAG				S		**Sg**		**13 13 23.9**	**+0.7**
YOCB	**Yeongcheon** SNR=36	**0.30**	**315**	P		**Pg**		**13 13 21.1**	**+0.6**
KSPHA	**Pohang** SNR=74	**0.45**	**17**	P		**Pb**		**13 13 24.0**	**-0.5**
KSPHA				P		**Pb**		**13 13 24.0**	**-0.5**
	SNR=74								
MIYA	**Miryang-si** SNR=9.4	**0.47**	**234**	P		**Pg**		**13 13 23.9**	**+0.2**
KSDAU	**Deagu-acc** SNR=48	**0.49**	**284**	P		**Pg**		**13 13 24.5**	**+0.3**
KSBUS	**Busan** SNR=55	**0.52**	**189**	P		**Pg**		**13 13 24.9**	**+0.1**
KSBUS				P		**Pg**		**13 13 24.9**	**+0.1**
	SNR=55								
KSCHR	**CHANGNYEONG** SNR=7.5	**0.63**	**249**	P		**Pg**		**13 13 26.6**	**-0.1**
KSADO	**Andong** SNR=59	**0.68**	**342**	P		**Pg**		**13 13 27.8**	**+0.1**
KSADO				P		**Pg**		**13 13 27.8**	**+0.1**
	SNR=59								
EUSB	**Uiseong** SNR=8.2	**0.72**	**325**	P		**Pg**		**13 13 28.5**	**-0.1**
EUSB				P		**Pg**		**13 13 28.5**	**-0.1**
	SNR=8.2								
JTU	**Tsushima**	**1.25**	**173**	*eP*		**Pn**		**13 13 37.2**	**-0.9**
JTU				*eS*		**Sb**		**13 13 54.0**	**-0.3**
JTSM	**Tsushimamitsus**	**1.43**	**174**	*eP*		**Pn**		**13 13 39.8**	**-0.8**
JTSM				*eS*		**Sn**		**13 13 59.7**	**+0.2**
JHGM	**Hagimishima**	**1.86**	**121**	*eS*		**Sb**		**13 14 12.2**	**+0.2**
JII	**Iki**	**2.01**	**167**	*eS*		**Sn**		**13 14 14.5**	**+0.7**
JTY	**Toyota**	**2.14**	**134**	*eP*		**Pn**		**13 13 51.3**	**+1.0**
JTY				*eS*		**Sb**		**13 14 19.8**	**-0.1**

*KMA **12** 13:17:35.2±0.0,35.76N×129.17E,h12km,Error ellipse: s-maj=0.5km s-min=0.4km az=298.0*
*JMA **12** 13:17:35.0±0.3,36°N±1°×12°9E±°,h21km,MV2.8/9,S KOREAN PENINSULA REG*
ISC 12 13:17:35.1±1.3,**35.76N**±0.02×**129.11E**±0.03,**h15**km±12km,
n40, σ0§**52**/45,**South Korea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu** SNR=100	**0.18**	**272**	P		**Pb**		**13 17 40.7**	**+0.7**
YOCB	**Yeongcheon** SNR=91	**0.25**	**328**	P		**Pb**		**13 17 41.6**	**+0.2**
MIYA	**Miryang-si** SNR=29	**0.40**	**228**	P		**Pb**		**13 17 44.2**	**+0.3**
KSDAU	**Deagu-acc** SNR=42	**0.42**	**287**	P		**Pb**		**13 17 44.9**	**+0.7**
KSPHA	**Pohang** SNR=61	**0.48**	**26**	P		**Pg**		**13 17 44.5**	**-0.1**
KSBUS	**Busan** SNR=81	**0.51**	**180**	P		**Pg**		**13 17 45.2**	**0.0**
KSCHR	**CHANGNYEONG** SNR=19	**0.55**	**247**	P		**Pb**		**13 17 46.9**	**+0.4**
KSADO	**Andong** SNR=54	**0.66**	**348**	P		**Pb**		**13 17 48.2**	**-0.1**
EUSB	**Uiseong** SNR=33	**0.68**	**330**	P		**Pb**		**13 17 49.0**	**+0.2**
EURB	**Uiryeong-eup** SNR=18	**0.80**	**237**	P		**Pn**		**13 17 51.2**	**-0.6**
YODB	**Yeongdeok** SNR=61	**0.81**	**17**	P		**Pb**		**13 17 50.3**	**-0.5**
KSGUM	**GUMI** SNR=25	**0.82**	**305**	P		**Pn**		**13 17 51.7**	**-0.4**
YEYB	**Yeongyang** SNR=49	**0.86**	**359**	P		**Pb**		**13 17 51.6**	**-0.1**
ADOA	**Andong Acc Bor** SNR=14	**0.87**	**338**	P		**Pg**		**13 17 52.2**	**+0.1**
KSGIC	**Gimchen** SNR=35	**0.88**	**291**	P		**Pn**		**13 17 52.9**	**0.0**

HACA	**Hapcheon Acc B** SNR=25	**0.90**	**247**	P	**Pn**	**13 17 53.0**	**-0.2**
KSULJ	**Uljin** SNR=57	**0.97**	**14**	P	**Pb**	**13 17 53.2**	**-0.4**
KSSAJ	**Sangju** SNR=26	**1.01**	**310**	P	**Pg**	**13 17 54.9**	**+0.4**
DUSB	**Deogyusan** SNR=26	**1.10**	**277**	P	**Pg**	**13 17 56.7**	**+0.4**
HAMB	**Hamyang** SNR=25	**1.14**	**258**	P	**Pg**	**13 17 57.2**	**+0.1**
CHYB	**Chungyang** SNR=26	**1.19**	**352**	P	**Pb**	**13 17 57.3**	**0.0**
YOJB	**Youngju** SNR=90	**1.21**	**337**	P	**Pb**	**13 17 58.0**	**+0.3**
OKCB	**Cheongsan-myeo** SNR=23	**1.22**	**299**	P	**Pg**	**13 17 58.7**	**+0.2**
KSMGY	**Mungyeong** SNR=19	**1.23**	**317**	P	**Pg**	**13 17 58.7**	**-0.2**
JTU	**Tsushima**	**1.26**	**169**	*e*P	**Pn**	**13 17 57.6**	**-0.5**
JTU				*e*S	**Sb**	**13 18 14.2**	**-0.3**
KSBON	**Boeun** SNR=17	**1.29**	**305**	P	**Pg**	**13 18 00.3**	**+0.3**
YKDB	**Yokjido** SNR=18	**1.33**	**211**	P	**Pb**	**13 17 59.7**	**-0.1**
KSTBA	**Taebaek** SNR=45	**1.36**	**355**	P	**Pb**	**13 18 00.5**	**+0.1**
GWYB	**Gwangyang** SNR=7.5	**1.42**	**235**	P	**Pg**	**13 18 02.0**	**-0.4**
JTSM	**Tsushimamitsus**	**1.44**	**171**	*e*P	**Pn**	**13 18 00.2**	**-0.4**
JTSM				*e*S	**Sn**	**13 18 18.4**	**-0.8**
KSCHJ	**Chungju** SNR=14	**1.44**	**321**	P	**Pg**	**13 18 02.3**	**-0.5**
NAWB	**Namwon** SNR=38	**1.44**	**257**	P	**Pg**	**13 18 02.6**	**-0.1**
IMWB	**Imwonan-gil** SNR=20	**1.48**	**7**	P	**Pb**	**13 18 02.4**	**+0.1**
KSJEO	**Jeonju** SNR=15	**1.49**	**277**	P	**Pg**	**13 18 03.4**	**-0.3**
JECH	**Jecheon** SNR=7.1	**1.58**	**332**	P	**Pn**	**13 18 03.0**	**+0.5**
SUCA	**Sunchang** SNR=9.9	**1.66**	**257**	P	**Pg**	**13 18 06.1**	**-0.8**
BOSB	**Boseong-gun** SNR=13	**1.85**	**238**	P	**Pb**	**13 18 08.7**	**+0.2**
JHGM	**Hagimishima**	**1.93**	**120**	*e*P	**Pn**	**13 18 08.2**	**+0.9**
JHGM				*e*S	**Sb**	**13 18 32.6**	**-1.1**
JII	**Iki**	**2.03**	**165**	*e*P	**Pn**	**13 18 09.8**	**+1.1**
JII				*e*S	**Sn**	**13 18 34.3**	**+0.5**
JTY	**Toyota**	**2.19**	**133**	*e*P	**Pn**	**13 18 11.9**	**+0.9**
JTY				*e*S	**Sn**	**13 18 38.8**	**+0.9**

NEIC ***12*** *13:26:27.9±1.5, 18°.2S±0°.2×178°.2W±0°.1, h607km±13km, mb4.1/11, Error ellipse: s-maj=27.6km s-min=21.0km az=148.0*

IDC ***12*** *13:26:28.9±3.7, 18°.12S×178°.30W, h606km±19km, mb3.1/4, mbtmp4.1/5, Error ellipse: s-maj=93.1km s-min=24.0km az=136.0*

ISC 12 13:26:27.1±0.9, 18°.2S±0°.2×178°.2W±0°.1, h590km, n22, σ1§68/25, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.62**	**277**	P	**P**	**13 27 51.8**	**+2.4**
	39nm,0.6s,baz=130,slow=11,SNR=37						
MSVF				S	**S**	**13 28 59.3**	**+2.9**
	3.7nm,0.3s,baz=135,slow=17,SNR=0.8						
AFI	**Afiamalu**	**7.49**	**56**	P	**P**	**13 28 22.6**	**+1.2**
MSWZ	**Moikau Station**	**23.81**	**192**	P	**P**	**13 30 55.0**	**-0.1**
ARMA	**Armidale**	**29.98**	**240**	P	**P**	**13 31 50.1**	**+0.7**
WR0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**13 33 48.0**	**-0.4**
WR0				IAmb	IAmb	13 34 15.0	
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**44.76**	**260**	P	**P**	**13 33 45.9**	**-3.8**
WB2	**Warramunga Arr**	**44.78**	**260**	P	**P**	**13 33 47.0**	**-2.9**
WB2				IAmb	IAmb	13 33 50.9	
	comp=Z,5.5nm,1.2s						
WRAB	**Tennant Creek**	**44.79**	**260**	P	**P**	**13 33 46.5**	**-3.3**
WRAB				IAmb	IAmb	13 34 00.5	
	comp=Z,7.5nm,1.5s						
WRA	**Warramunga Arr**	**44.80**	**260**	P	**P**	**13 33 49.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=96,slow=7.4,SNR=37						
WRA				PcP	**PcP**	**13 35 18.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=90,slow=3.3,SNR=5.6						
	comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**44.92**	**255**	P	**P**	**13 33 51.0**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=87,slow=8.4,SNR=43						
ASAR				PcP	**PcP**	**13 35 19.1**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=100,slow=4.1,SNR=8.5						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**44.92**	**255**	P	**P**	**13 33 49.5**	**-1.4**
KNRA	**Kununurra**	**50.68**	**264**	P	**P**	**13 34 31.8**	**-1.9**
KNRA				IAmb	IAmb	13 34 48.4	
	comp=Z,18nm,1.4s						
JWT	**Wachi**	**69.05**	**321**	P	**P**	**13 36 33.5**	**-1.4**
PETK	**Petropavlovsk-**	**74.02**	**345**	P	**P**	**13 37 03.0**	**-0.4**
	comp=Z,7.8nm,1.1s,baz=121,slow=7.9,SNR=1.8						
	comp=Z,7.8nm,1.1s						
CCB	**Clear Creek Bu**	**85.83**	**13**	P	**P**	**13 38 03.3**	**-1.3**
IL31		**86.13**	**13**	P	**P**	**13 38 05.6**	**-0.4**
IL31				IAmb	IAmb	13 38 25.4	
	comp=Z,8.0nm,1.5s						
ILAR	**Eielson Array**	**86.13**	**13**	P	**P**	**13 38 05.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=221,slow=5.3,SNR=5.0						
	comp=Z,0.2nm,0.4s						
J25K	**Salcha River,**	**86.32**	**14**	P	**P**	**13 38 06.5**	**-0.6**
J25K				IAmb	IAmb	13 38 17.3	
	comp=Z,3.6nm,1.2s						
J26L	**Joseph Creek**	**86.64**	**14**	P	**P**	**13 38 08.6**	**+0.1**
J26L				IAmb	IAmb	13 38 10.3	
	comp=Z,6.7nm,1.4s						
BMAR	**Burnt Mountain**	**88.90**	**12**	P	**P**	**13 38 19.1**	**+0.1**
BRTR	**Keskin Array B**	**145.15**	**315**	PKPbc	**PKPdf**	**13 44 59.6**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=75,slow=2.7,SNR=4.8						
GERES	**GERESS Array B**	**147.96**	**345**	PKPbc	**PKPbc**	**13 45 06.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=45,slow=4.2,SNR=4.1						

BJI ***12*** *13:39:17.1±0.0, 18°.56N×146°.41E, h99km, mb4.6/29, mB4.9/13*

IDC ***12*** *13:39:19.9±0.6, 18°.79N×146°.35E, h99km±5km, mb4.2/35, mbtmp4.6/39, MS3.2/23, Error ellipse: s-maj=13.0km s-min=7.4km az=91.0*

NEIC ***12*** *13:39:19.7±1.1, 18°.86N±0°.07×146°.3E±0°.1, h86km±7km, mb4.7/161, Error ellipse: s-maj=20.5km s-min=10.1km az=85.0*

ISC 12 13:39:18.5±0.6, 18°.83N±0°.04×146°.28E±0°.08, h86km±4km, h86km:pP-P, n425, σ0§99/422, mb4.7/118, 2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.38**	**195**	P	**Pn**	**13 40 37.3**	**+0.9**
	336nm,0.3s,baz=16,slow=19,SNR=119						
GUMO				S	**Sn**	**13 41 38.1**	**+1.1**
	130nm,0.3s,baz=18,slow=19,SNR=1.5						
GUMO	**Guam**	**5.38**	**195**	Pn	**Pn**	**13 40 37.6**	**+1.2**
JCJ	**Chichijima**	**9.05**	**336**	P	**Pn**	**13 41 26.7**	**+0.4**
	152nm,0.4s,baz=168,slow=17,SNR=23						
JCJ				S	**Sn**	**13 43 02.6**	**-4.0**
	141nm,0.5s,baz=108,slow=19,SNR=10						
JCJ	**Chichijima**	**9.05**	**336**	Pn	**Pn**	**13 41 26.0**	**-0.4**
JCJ					**Sn**	**13 43 04.2**	**-2.4**
JHJ	**Hachijo jima 2**	**15.38**	**339**	P	**P**	**13 42 53.0**	**-0.4**
	24nm,0.3s,baz=65,slow=15,SNR=1.5						
JHJ				S	**Sn**	**13 45 36.9**	**-3.4**
	72nm,0.7s,baz=14,slow=10.0,SNR=2.3						
JHJ				LR	LR	13 48 54.9	
	comp=Z,21nm,18.2s,baz=86,slow=37						
PATS	**Pohnpei**	**16.71**	**134**		**Pn**	**13 43 04.7**	**-2.6**
JYT	**Yasato**	**18.15**	**344**	P	**P**	**13 43 24.2**	**+0.3**
INU	**Inuyama**	**18.39**	**335**	P	**Pn**	**13 43 27.9**	**+0.2**
INU				IAmb	IAmb	13 43 42.1	
	comp=Z,40nm,1.2s						
JOW	**Kunigami**	**18.40**	**299**	LR	LR	13 49 09.1	
	comp=Z,163nm,19.8s,baz=138,slow=32						
JGF	**Kuroka**	**18.48**	**336**	P	**Pn**	**13 43 29.2**	**+0.4**
MJAR	**Matsushiro Arr**	**19.02**	**340**	P	**P**	**13 43 32.9**	**-0.7**
	comp=Z,2.6nm,0.4s,baz=166,slow=11,SNR=22						
MJAR				S	**S**	**13 47 04.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=133,slow=18,SNR=2.3						
MJAR				LR	LR	13 50 53.9	
	comp=Z,52nm,19.2s,baz=150,slow=36						
MAJO	**Matsushiro**	**19.02**	**340**	P	**Pn**	**13 43 34.6**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**19.34**	**88**	T	T	14 04 46.5	
	baz=275,slow=74,SNR=34						
H11S1	**WAKE ISLAND Hy**	**19.35**	**88**	T	T	14 04 31.1	
	baz=275,slow=74,SNR=27						
H11S2	**WAKE ISLAND Hy**	**19.35**	**88**	T	T	14 04 45.5	
	baz=275,slow=74,SNR=33						
H11N1	**WAKE ISLAND Hy**	**19.48**	**84**	T	T	14 04 53.7	
	baz=267,slow=74,SNR=10.0						
H11N2	**WAKE ISLAND Hy**	**19.48**	**84**	T	T	14 04 55.6	
	baz=267,slow=74,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**19.49**	**84**	T	T	14 04 58.5	
	baz=267,slow=74,SNR=8.6						
JMM	**Marumori**	**19.57**	**347**	Pn	**Pn**	**13 43 41.2**	**-0.4**
JMM				IAmb	IAmb	13 43 44.1	
	comp=Z,56nm,1.1s						
JSD	**Sado**	**20.38**	**342**	P	**P**	**13 43 49.2**	**+0.9**
JSD				IAmb	IAmb	13 43 51.3	
	comp=Z,25nm,0.6s						
MANU	**Manus Island**	**20.77**	**177**	P	**P**	**13 43 53.5**	**+0.9**
DAV	**Davao City (W)**	**23.29**	**243**	LR	LR	13 51 57.9	
	comp=Z,34nm,21.5s,baz=77,slow=32						
KRVT	**Keravat (AS076**	**23.68**	**166**	P	**P**	**13 44 22.2**	**-0.2**
	comp=Z,18nm,0.7s,baz=346,slow=4.2,SNR=2.0						
	comp=Z,18nm,0.7s						
SIJI	**Sorong**	**24.51**	**219**	P	**P**	**13 44 31.1**	**+1.0**
	comp=Z,7.3nm,0.6s,baz=12,slow=17,SNR=1.9						
SIJI				LR	LR	13 52 33.8	
	comp=Z,45nm,20.0s,baz=76,slow=32						
	comp=Z,7.3nm,0.6s						
KSRS	**Korea Array**	**24.55**	**323**	P	**P**	**13 44 31.8**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=143,slow=8.9,SNR=12						
KSRS				LR	LR	13 53 29.5	
	comp=Z,52nm,20.7s,baz=120,slow=34						
	comp=Z,2.9nm,0.6s						
FAKI	**Fak Fak**	**25.65**	**214**	P	**P**	**13 44 42.3**	**+1.9**
FAKI				IAmb	IAmb	13 45 15.0	
	comp=Z,21nm,0.9s						
NJ2	**Nanjing**	**27.96**	**303**	*e*P	**P**	**13 45 00.9**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**27.99**	**338**	P	**P**	**13 45 03.2**	**+2.1**
	comp=Z,3.6nm,0.6s,baz=165,slow=8.5,SNR=8.4						
	comp=Z,3.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**27.99**	**338**	P	**P**	**13 45 02.1**	**+0.9**
PMG	**Port Moresby**	**28.07**	**178**	P	**P**	**13 45 03.0**	**+0.9**
	comp=Z,16nm,0.9s,baz=342,slow=17,SNR=1.7						
PMG				LR	LR	13 57 01.6	
	comp=Z,31nm,18.2s,baz=359,slow=38						
	comp=Z,16nm,0.9s						
HNR	**Honiara**	**31.15**	**153**	LR	LR	13 57 05.6	
	comp=Z,1μm,20.6s,baz=308,slow=34						
KLR	**Kul'dur**	**32.51**	**342**	P	**P**	**13 45 42.5**	**+1.5**
	comp=Z,11nm,0.5s,baz=147,slow=7.5,SNR=64						
KLR				PcP	**PcP**	**13 48 26.4**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=190,slow=3.7,SNR=4.1						
	comp=Z,11nm,0.5s						
COEN	**Coen**	**32.72**	**186**	P	**P**	**13 45 42.7**	**-0.4**
HNS	**HongShan**	**33.21**	**310**	↓P	**P**	**13 45 49.4**	**+2.2**
HNS				pmax	pmax		
	comp=Z,12nm,0.5s						
BJI	**Beijing**	**33.43**	**316**	P	**P**	**13 45 53.2**	**+4.1**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MTN	**Manton Dam**	**34.84**	**207**	P	**P**	**13 46 01.1**	**-0.3**
MTN				IAmb	IAmb	13 46 13.2	
	comp=Z,8.8nm,1.0s						
PETK	**Petropavlovsk-**	**35.35**	**12**	P	**P**	**13 46 06.3**	**+0.8**
	comp=Z,5.5nm,1.0s,baz=167,slow=8.9,SNR=1.4						
PETK				LR	LR	13 58 32.5	
	comp=Z,39nm,20.1s,baz=172,slow=33						
	comp=Z,5.5nm,1.0s						
XLT	**XiLinHaoTe**	**35.57**	**321**	↓*i*P	**P**	**13 46 11.3**	**+3.6**
XLT				pP	pP	13 46 27.7	+0.9
XLT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,140nm,5.4s						
HHC	**Hu-ho-hao-te**	**36.91**	**314**	*e*P	**P**	**13 46 19.1**	**0.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,6.4s						
KNRA	**Kununurra**	**38.38**	**208**	P	**P**	**13 46 31.4**	**-0.2**
CTA	**Charters Tower**	**38.68**	**180**	LR	LR	14 03 21.3	
	comp=Z,35nm,18.1s,baz=146,slow=37						
WB0	**Warramunga Arr**	**40.09**	**198**	P	**P**	**13 46 46.3**	**+0.5**
WB0				IAmb	IAmb	13 46 48.6	
	comp=Z,9.4nm,0.9s						
WR0	**Warramunga Arr**	**40.23**	**197**	P	**P**	**13 46 47.0**	**+0.1**
WR0				IAmb	IAmb	13 46 49.3	
	comp=Z,9.6nm,1.1s						
WRAB	**Tennant Creek**	**40.26**	**198**	P	**P**	**13 46 47.5**	**+0.3**
WRAB				IAmb	IAmb	13 46 50.1	
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**40.27**	**198**	P	**P**	**13 46 46.9**	**-0.3**
WB2				IAmb	IAmb	13 46 50.2	
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**40.27**	**198**	P	**P**	**13 46 47.3**	**0.0**
	comp=Z,8.3nm,0.8s,baz=20,slow=9.2,SNR=43						
WRA				PcP	**PcP**	**13 48 49.7**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=21,slow=3.6,SNR=6.7						
WRA				ScP	**ScP**	**13 52 28.4**	**-2.8**
	comp=Z,0.8nm,0.9s,baz=16,slow=4.0,SNR=3.8						
WRA				S	**S**	**13 52 46.0**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=25,slow=14,SNR=2.3						
	comp=Z,8.3nm,0.8s						
WRA	**Warramunga Arr**	**40.27**	**198**	P	**P**	**13 46 47.7**	**+0.4**
MA2	**Magadan**	**40.83**	**3**	LR	LR	14 00 32.8	
	comp=Z,48nm,21.8s,baz=162,slow=31						
FITZ	**Fitzroy Crossi**	**41.93**	**210**	P	**P**	**13 47 01.7**	**+0.8**
FITZ				IAmb	IAmb	13 47 28.2	
	comp=Z,15nm,1.5s						
SONM	**Songino Array**	**43.39**	**321**	P	**P**	**13 47 13.6**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=140,slow=8.7,SNR=8.7						
SONM				PcP	**PcP**	**13 48 59.9**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=126,slow=3.3,SNR=2.5						
SONM				ScP	**ScP**	**13 52 40.5**	**-3.0**
	comp=Z,0.7nm,0.6s,baz=127,slow=3.1,SNR=4.7						
	comp=Z,1.8nm,0.5s						
SONM	**Songino Array**	**43.39**	**321**	P	**P**	**13 47 12.3**	**-0.3**
AS31	**Alice Springs**	**43.93**	**196**	P	**P**	**13 47 17.0**	**-0.1**
ASAR	**Alice Springs**	**43.93**	**196**	P	**P**	**13 47 16.5**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=22,slow=6.5,SNR=30						
ASAR				PcP	**PcP**	**13 49 01.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=22,slow=4.2,SNR=4.2						
ASAR				ScP	**ScP**	**13 52 44.0**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=21,slow=3.5,SNR=5.0						
ASAR				S	**S**	**13 53 39.9**	**-2.5**
	comp=Z,1.8nm,1.1s,baz=15,slow=18,SNR=6.9						
	comp=Z,1.1nm,0.4s						
ASAR	**Alice Springs**	**43.93**	**196**	P	**P**	**13 47 17.1**	**0.0**
SEY	**Seymchan**	**44.27**	**4**	P	**P**	**13 47 20.6**	**+1.4**
	comp=Z,5.3nm,0.9s,baz=179,slow=12,SNR=9.4						
	comp=Z,5.3nm,0.9s						
YAK	**Yakutsk**	**44.70**	**349**	P	**P**	**13 47 23.0**	**+0.4**
	comp=Z,11nm,0.4s,baz=173,slow=1.3,SNR=8.3						
YAK				LR	LR	14 06 56.2	
	comp=Z,11nm,20.1s,baz=91,slow=37						
	comp=Z,11nm,0.4s						
YAK	**Yakutsk**	**44.70**	**349**	P	**P**	**13 47 22.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**44.75**	**277**	P	**P**	**13 47 24.8**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=81,slow=5.8,SNR=5.4						
CMAR				pP	**pwP**	**13 47 48.9**	**+1.9**
	comp=Z,7.9nm,0.7s,baz=67,slow=7.0,SNR=22						
CMAR				LR	LR	14 05 16.2	
	comp=Z,13nm,21.2s,baz=270,slow=35						
	comp=Z,0.7nm,0.8s						
GTA	**Gaotai**	**44.91**	**307**	*e*P	P	13 47 35.1	+10
GTA				pP	pwP	13 47 49.8	+1.7
GTA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
DZM	**Mont Dzumac**	**45.18**	**153**	P	**P**	**13 47 26.8**	**-0.3**
OUENC	**Ouen Island, N**	**45.66**	**153**	P	**P**	**13 47 31.1**	**+0.4**
STKA	**Stephens Creek**	**50.62**	**185**	P	**P**	**13 48 08.1**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=16,slow=7.8,SNR=10						
	comp=Z,2.8nm,0.6s						
TIXI	**Tiksi**	**53.80**	**353**	P	**P**	**13 48 32.0**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=90,slow=20,SNR=5.1						
TIXI				LR	LR	14 13 54.1	
	comp=Z,14nm,18.5s,baz=305,slow=38						
	comp=Z,2.8nm,0.7s						
SDPT	**Sand Point**	**54.05**	**34**	P	**P**	**13 48 35.0**	**+1.1**
	baz=250						
WMQ	**Urumqi**	**54.64**	**311**	*e*P	**P**	**13 48 40.8**	**+2.2**
O16K	**Kokwok River B**	**56.76**	**30**	P	**P**	**13 48 54.5**	**+1.3**
	baz=249						
N16K	**Nishlik Lake**	**56.76**	**29**	P	**P**	**13 48 54.4**	**+1.0**
	baz=248						
O17K	**Koliganek Bris**	**57.29**	**30**	P	**P**	**13 48 57.8**	**+0.7**
	baz=250						
P18K	**Big Mountain,**	**58.07**	**31**	P	**P**	**13 49 03.4**	**+0.8**
	baz=252						
N18K	**Kilae Creek**	**58.16**	**29**	P	**P**	**13 49 03.7**	**+0.4**
	baz=251						
ZAA0	**Zalesovo Array**	**58.25**	**322**	P	**P**	**13 49 03.7**	**-0.2**
ZAA0				IAmb	IAmb	13 49 29.1	
	comp=Z,4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**58.25**	**322**	P	**P**	**13 49 04.2**	**+0.3**
	comp=Z,4.6nm,0.6s,baz=112,slow=8.8,SNR=21						
ZALV				LR	LR	14 14 17.8	
	comp=Z,32nm,18.5s,baz=230,slow=36						
	comp=Z,4.6nm,0.6s						
ZALV	**Zalesovo Beam**	**58.25**	**322**	P	**P**	**13 49 03.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**58.48**	**209**	P	**P**	**13 49 05.5**	**-0.2**
	comp=Z,4.9nm,0.6s,baz=351,slow=7.7,SNR=1.7						
	comp=Z,4.9nm,0.6s						
O19K	**Port Alsworth**	**58.75**	**30**	P	**P**	**13 49 07.6**	**+0.3**
	baz=252						
MK31	**Makanchi Array**	**58.77**	**314**	P	**P**	**13 49 08.3**	**+0.6**
MKAR	**Makanchi Array**	**58.77**	**314**	P	**P**	**13 49 08.3**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=92,slow=9.1,SNR=28						
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**58.77**	**314**	P	**P**	**13 49 08.2**	**+0.5**
N19K	**Bonanza Creek**	**58.86**	**29**	P	**P**	**13 49 08.9**	**+0.8**
	baz=252						
KDAK	**Kodiak Island**	**58.95**	**33**	P	**P**	**13 49 08.4**	**-0.2**
	comp=Z,8.9nm,0.9s,baz=277,slow=8.1,SNR=2.1						
KDAK				LR	LR	14 09 51.3	
	comp=Z,45nm,21.9s,baz=221,slow=31						
	comp=Z,8.9nm,0.9s						
MAKZ	**Makanchi**	**58.99**	**314**	P	**P**	**13 49 09.7**	**+0.5**
MAKZ				IAmb	IAmb	13 49 10.7	
	comp=Z,3.9nm,0.9s						
L19K	**White Mountain**	**59.13**	**28**	P	**P**	**13 49 11.0**	**+1.0**
	baz=251						
M20K	**Styx River**	**59.81**	**29**	P	**P**	**13 49 15.7**	**+1.1**
	baz=253						
K20K	**Telida**	**59.86**	**27**	P	**P**	**13 49 16.1**	**+1.2**
	baz=251						
N20K	**Mount Spurr**	**60.03**	**29**	P	**P**	**13 49 15.8**	**-0.5**
	baz=254						
SPCR	**Spurr Chakacha**	**60.03**	**29**	P	**P**	**13 49 15.9**	**-0.3**
	baz=254						
J20K	**Nowinta River**	**60.10**	**26**	P	**P**	**13 49 17.0**	**+0.5**
	baz=250						
SKT	**Skwentna**	**60.56**	**29**	P	**P**	**13 49 19.9**	**+0.2**
	baz=254						
SEW	**Seward**	**61.07**	**31**	P	**P**	**13 49 23.5**	**+0.3**
	baz=257						
H21K	**Melozitna Rive**	**61.13**	**24**	P	**P**	**13 49 24.2**	**+0.7**
	baz=251						
M22K	**Willow**	**61.15**	**29**	P	**P**	**13 49 23.6**	**-0.1**
	baz=256						
G21K	**Allakaket**	**61.15**	**23**	P	**P**	**13 49 24.6**	**+0.9**
	baz=250						
I21K	**Tanana**	**61.30**	**25**	P	**P**	**13 49 24.9**	**+0.3**
	baz=252						
BPAW	**Bear Paw Mtn.**	**61.39**	**26**	P	**P**	**13 49 25.9**	**+0.5**
BPAW	**Bear Paw Mtn.**	**61.39**	**26**	P	**P**	**13 49 26.1**	**+0.8**
	baz=254,SNR=10						
F21K	**Alatna River**	**61.41**	**23**	P	**P**	**13 49 26.2**	**+0.8**
	baz=250						
TRF	**Thorofare Moun**	**61.51**	**27**	P	**P**	**13 49 26.7**	**+0.4**
	baz=255						
KURK	**Kurchatov**	**61.55**	**318**	P	**P**	**13 49 26.6**	**+0.1**
KURK				IAmb	IAmb	13 49 52.2	
	comp=Z,7.5nm,1.1s						
PMR	**Palmer**	**61.57**	**29**	P	**P**	**13 49 26.6**	**+0.1**
	baz=257						
KURBB	**Kurchatov Arra**	**61.59**	**318**	P	**P**	**13 49 27.1**	**+0.3**
	comp=Z,8.2nm,0.6s,baz=92,slow=7.5,SNR=95						
	comp=Z,8.2nm,0.6s						
NRIK	**Noril'sk**	**61.68**	**340**	P	**P**	**13 49 28.2**	**+1.1**
	comp=Z,5.1nm,0.5s,baz=108,slow=9.5,SNR=7.5						
	comp=Z,5.1nm,0.5s						
NRIK	**Noril'sk**	**61.68**	**340**	P	**P**	**13 49 27.3**	**+0.2**
MLY	**Manley**	**61.76**	**25**	P	**P**	**13 49 28.5**	**+0.7**
MLY				IAmb	IAmb	13 49 29.2	
	comp=Z,6.0nm,0.6s						
MLY	**Manley**	**61.76**	**25**	P	**P**	**13 49 28.7**	**+0.9**
	baz=253,SNR=6.2						
H22K	**Ishtalitna Cre**	**61.77**	**24**	P	**P**	**13 49 28.4**	**+0.6**
	baz=252						
KNK	**Knik Glacier**	**61.84**	**30**	P	**P**	**13 49 28.7**	**+0.3**
	baz=257						
F22K	**John River**	**61.98**	**23**	P	**P**	**13 49 30.2**	**+1.0**
	baz=251,SNR=5.1						
SML	**Sawmill**	**61.99**	**29**	P	**P**	**13 49 30.0**	**+0.6**
	baz=257						
G22K	**Bettles**	**62.04**	**23**	P	**P**	**13 49 30.6**	**+1.1**
	baz=252						
WAT1	**Susitna Watana**	**62.12**	**28**	P	**P**	**13 49 30.3**	**0.0**
	baz=256						
MCK	**McKinley**	**62.17**	**27**	P	**P**	**13 49 31.3**	**+0.7**
	baz=256						
M23K	**Glacier View**	**62.27**	**29**	P	**P**	**13 49 31.5**	**+0.3**
	baz=258						
NEA2	**Nenana**	**62.33**	**26**	P	**P**	**13 49 32.4**	**+0.9**
NEA2				IAmb	IAmb	13 50 11.5	
	comp=Z,12nm,1.2s						
NEA2	**Nenana**	**62.33**	**26**	P	**P**	**13 49 32.5**	**+0.9**
	ba

baz=253,SNR=5.6
C24K Franklin Bluff 63.89 21 P P 13 49 42.6 +0.9
baz=253
J25K Salcha River, 63.89 26 P P 13 49 41.4 -0.6
J25K Salcha River, 63.89 26 P P 13 49 41.6 -0.4
baz=259
RIDG Independent Ri 63.95 28 P P 13 49 43.0 +0.7
baz=260
H25K Birch Creek 64.05 25 P P 13 49 44.3 +1.5
baz=257
SCRK Sand Creek 64.36 27 P P 13 49 45.6 +0.4
SCRK IAmb IAmb 13 49 46.3
comp=Z,12nm,1.1s
SCRK Sand Creek 64.36 27 P P 13 49 45.6 +0.4
baz=260,SNR=5.8
F25K Christian Rive 64.41 23 P P 13 49 45.9 +0.6
baz=257,SNR=5.8
L26K Log Cabin Wild 64.49 28 P P 13 49 46.1 +0.2
baz=261
E25K Arctic Village 64.56 23 P P 13 49 47.3 +1.1
baz=257
M26K Nabesna, AK 64.56 29 P P 13 49 47.0 +0.6
baz=262
D25K Kavik River 64.56 21 P P 13 49 46.9 +0.6
baz=256
PALK Pallekele 64.61 269 LR LR 14 16 07.3
comp=Z,42nm,20.1s,baz=308,slow=34
J26L Joseph Creek 64.64 27 P P 13 49 47.1 +0.2
J26L IAmb IAmb 13 49 48.1
comp=Z,10nm,0.9s
J26L Joseph Creek 64.64 27 P P 13 49 47.0 +0.2
baz=260,SNR=8.3
BMAR Burnt Mountain 64.78 23 P P 13 49 49.4 +1.8
MESA MESA 64.79 32 P P 13 49 48.1 0.0
baz=264
I26K Coal Creek Min 64.94 26 P P 13 49 49.2 +0.5
baz=260
G26K Porcupine Rive 64.98 24 P P 13 49 50.2 +1.3
baz=259,SNR=5.5
F26K Sheenjek River 64.99 23 P P 13 49 50.3 +1.2
baz=258,SNR=5.5
M27K Edge Creek, AK 65.07 29 P P 13 49 50.4 +0.6
baz=263
CTG Chitna Glacier 65.17 31 P P 13 49 51.1 +0.6
baz=264
L27K Beaver Creek, 65.19 28 P P 13 49 51.3 +0.9
L27K Beaver Creek, 65.19 28 P P 13 49 51.3 +0.9
baz=263
BCAR Beaver Creek A 65.20 28 P P 13 49 51.0 +0.5
K27K Chicken 65.20 27 P P 13 49 51.6 +1.2
baz=262
C27K Jago River 65.55 21 P P 13 49 53.1 +0.5
baz=258
I27K Kandik River 65.62 26 P P 13 49 53.8 +0.6
baz=262
YUK3 Moose Creek 65.67 30 P P 13 49 54.4 +0.6
baz=264
EGAK Eagle 65.70 27 P P 13 49 54.6 +0.9
baz=262
O28M Mount Upton 65.71 31 P P 13 49 54.6 +0.4
baz=265
H27K Steamboat Moun 65.75 25 P P 13 49 54.8 +0.8
baz=262
G27K Doyon Strip 65.79 24 P P 13 49 55.1 +0.9
baz=261
E27K Coleen River 66.03 23 P P 13 49 56.9 +1.1
baz=261
DAWY Dawson 66.38 28 P P 13 49 58.9 +0.8
DAWY Dawson 66.38 28 P P 13 49 59.5 +1.4
baz=264
M29M Somme Creek 66.66 29 P P 13 50 01.2 +1.2
baz=266,SNR=6.5
BRVK Borovoye 66.79 320 P P 13 50 01.2 +0.4
L29M L29M 66.86 29 P P 13 50 02.6 +1.4
baz=266
P29M Windy Craggy 66.86 32 P P 13 50 02.5 +1.2
baz=268
HYT Haines Junctio 67.03 31 P P 13 50 04.1 +1.8
HYT Haines Junctio 67.03 31 P P 13 50 03.5 +1.1
baz=268,SNR=5.7
KK31 Karatay Array 67.11 310 P P 13 50 03.5 +0.4
KK31 IAmb IAmb 13 50 05.0
comp=Z,6.7nm,0.7s
KKAR Karatay Array 67.11 310 P P 13 50 03.4 +0.3
KKAR Karatay Array 67.11 310 P P 13 50 03.7 +0.6
KKAR IAmb IAmb 13 50 05.0
comp=Z,6.7nm,0.7s
K29M Barlow Dome 67.19 28 P P 13 50 04.7 +1.4
baz=266
N30M Aishikik Lake 67.26 30 P P 13 50 05.0 +1.3
baz=268,SNR=5.6
P30M Million Dollar 67.27 32 P P 13 50 05.4 +1.6
baz=268
M30M Minto, Yukon 67.44 29 P P 13 50 05.9 +1.1
baz=268
PLBC Pleasant Camp 67.56 33 P P 13 50 06.6 +1.1
baz=269
GAR Garm 67.67 305 P P 13 50 06.9 +0.1
GAR IAmb IAmb 13 50 08.5
comp=Z,6.6nm,1.0s
EPYK Eagle Plains 67.70 25 P P 13 50 07.4 +1.0
baz=266
O30N Mendenhall 67.72 31 P P 13 50 07.9 +1.3
baz=269
N31M Braeburn, Yuko 67.89 30 P P 13 50 08.7 +1.0
baz=269
R32K Eaglecrest 68.52 34 P P 13 50 12.6 +1.0
baz=271
M31M Drury Creek, Y 68.56 30 P P 13 50 12.7 +1.0
baz=270
CHGR Chuyangaron 68.61 305 P P 13 50 12.9 +0.3
P32M Atlin 68.91 32 P P 13 50 15.1 +1.0
baz=271
INK Inuvik 69.03 23 P P 13 50 14.7 +0.1
comp=Z,3.8nm,0.6s,baz=280,slow=6.1,SNR=7.1
INK LR LR 14 19 40.4
comp=Z,25nm,21.1s,baz=192,slow=35
comp=Z,3.8nm,0.6s
INK Inuvik 69.03 23 P P 13 50 15.0 +0.4
baz=268
FARO Faro, Yukon 69.04 30 P P 13 50 15.7 +0.8
baz=271
P33M Teslin, Yukon 69.34 32 P P 13 50 17.6 +0.8
P33M Teslin, Yukon 69.34 32 P P 13 50 17.6 +0.8
baz=272
Q32M Nakina River 69.67 33 P P 13 50 19.6 +0.6
baz=273
WRAK Wrangell Islan 69.78 36 P P 13 50 19.6 +0.3
baz=274
MMPY Sheldon Lake, 70.00 29 P P 13 50 21.7 +0.9
baz=272
R33M Jennings River 70.32 33 P P 13 50 24.0 +1.2
baz=274,SNR=5.1
S34M Telegraph Cree 70.33 34 P P 13 50 24.0 +1.2
baz=274
DLBC Dease Lake 70.88 34 P P 13 50 26.0 -0.2
comp=Z,5.7nm,0.7s,baz=282,slow=6.4,SNR=18
comp=Z,5.7nm,0.7s
DLBC Dease Lake 70.88 34 P P 13 50 27.2 +1.0
DLBC IAmb IAmb 13 50 28.5
comp=Z,7.6nm,0.9s
DLBC Dease Lake 70.88 34 P P 13 50 27.6 +1.5
baz=275,SNR=6.9
T35M Bob Quinn 70.89 35 P P 13 50 27.2 +1.0
baz=275
WTLY Watson Lake, Y 71.36 32 P P 13 50 30.3 +1.3
WTLY IAmb IAmb 13 50 31.2
comp=Z,8.8nm,1.0s
WTLY Watson Lake, Y 71.36 32 P P 13 50 30.1 +1.1
baz=275
TGTN Hyland Airport 71.48 30 P P 13 50 30.7 +1.0
baz=275,SNR=5.7
BBB Bella Bella 72.69 40 LR LR 14 15 42.5
comp=Z,38nm,20.4s,baz=115,slow=30
ARU Arti 73.28 325 P P 13 50 40.5 0.0
ARU IAmb IAmb 13 50 41.5
comp=Z,11nm,0.7s
WRGLY Wrigley 73.50 28 P P 13 50 42.8 +1.3
baz=279
ABKAR Akbulak array 73.62 317 P P 13 50 41.9 -0.7
LLLB Lillooet 76.83 41 P P 13 51 01.5 +0.5
I02E Swisshome, OR 77.05 48 P P 13 51 03.5 +1.1
baz=284
GEYT Alibeck 77.27 306 P P 13 51 04.6 +0.8
comp=Z,2.2nm,0.8s,baz=123,slow=5.3,SNR=5.5
comp=Z,2.2nm,0.8s
GEYT Alibeck 77.27 306 P P 13 51 04.9 +1.1

I03D Drain, OR 77.50 48 P P 13 51 05.5 +0.6
baz=284
D05A Enumclaw 77.58 44 P P 13 51 05.8 +0.6
YKA Yellowknife Ar 77.61 28 P P 13 51 05.0 -0.1
comp=Z,5.9nm,0.6s,baz=284,slow=5.8,SNR=13
YKA pP pwP 13 51 31.4 +0.3
comp=Z,2.8nm,0.7s,baz=286,slow=5.5,SNR=4.2
comp=Z,5.9nm,0.6s
YKA Yellowknife Ar 77.61 28 P P 13 51 04.8 -0.4
L02F Cave Junction 77.73 50 P P 13 51 07.2 +1.0
baz=284
H04A Detroit Lake 78.07 47 P P 13 51 08.3 +0.2
H04A IAmb IAmb 13 51 09.6
comp=Z,11nm,0.9s
I04A Tendick Farm, 78.13 48 P P 13 51 09.0 +0.5
baz=285
LTY Liberty 78.43 44 P P 13 51 10.0 0.0
YBH Yreka Blue Hor 78.45 50 LR LR 14 19 51.3
comp=Z,24nm,19.8s,baz=149,slow=31
YBH Yreka Blue Hor 78.45 50 P P 13 51 11.7 +1.4
YBH IAmb IAmb 13 51 12.4
comp=Z,8.3nm,0.8s
G05D Wamic, OR 78.52 46 P P 13 51 11.2 +0.7
baz=285
L04D Klamath Falls 78.61 49 P P 13 51 12.3 +1.0
baz=285
B08A Colville Reser 79.00 43 P P 13 51 13.6 +0.4
B08A IAmb IAmb 13 51 14.6
comp=Z,9.4nm,0.8s
J05D Fort Rock, OR 79.09 48 P P 13 51 14.8 +0.9
baz=286,SNR=11
PINE Pine Mountain 79.16 47 P P 13 51 15.4 +1.1
HAWA Hanford 79.41 45 P P 13 51 15.8 +0.4
HAWA IAmb IAmb 13 51 17.1
comp=Z,8.7nm,0.9s
K05A Summer Lake 79.48 48 P P 13 51 17.1 +1.0
D08A Wollman Farm, 79.63 44 P P 13 51 16.7 +0.2
D08A IAmb IAmb 13 51 18.3
comp=Z,8.6nm,0.7s
E08A Dider Farm, El 79.70 44 P P 13 51 17.6 +0.7
E08A IAmb IAmb 13 51 18.2
comp=Z,7.1nm,0.9s
C09A Chrisman Ranch 79.84 43 P P 13 51 18.0 +0.3
C09A IAmb IAmb 13 51 19.2
comp=Z,8.5nm,0.8s
ORV Oroville 79.91 52 P P 13 51 18.5 +0.3
ORV IAmb IAmb 13 51 19.6
comp=Z,11nm,1.1s
G08A Pilot Rock 80.11 46 P P 13 51 20.0 +0.7
MOD Modoc Plateau 80.13 49 P P 13 51 19.6 0.0
MOD IAmb IAmb 13 51 21.1
comp=Z,6.3nm,0.8s
E09A Wood Farm, Sta 80.30 44 P P 13 51 20.7 +0.6
E09A IAmb IAmb 13 51 21.9
comp=Z,11nm,0.7s
NEW Newport 80.44 42 LR LR 14 23 49.1
comp=Z,27nm,18.8s,baz=132,slow=33
NEW Newport 80.44 42 P P 13 51 21.8 +0.8
NEW IAmb IAmb 13 51 22.4
comp=Z,8.3nm,0.7s
NEW Newport 80.44 42 P P 13 51 21.8 +0.8
baz=288,SNR=5.5
BEKR Beckworth 80.67 51 P P 13 51 22.9 +0.4
J08A Circle Bar Ran 81.00 47 P P 13 51 24.9 +0.8
J08A IAmb IAmb 13 51 25.9
comp=Z,7.4nm,0.8s
F10A Beach Ranch, E 81.07 45 P P 13 51 24.6 +0.2
BBGB Big Mountain B 81.10 54 P P 13 51 24.2 -0.6
EDM Edmonton 81.15 37 P P 13 51 25.0 +0.4
EDM IAmb IAmb 13 51 26.1
comp=Z,16nm,1.2s
WVOR Wild Horse Val 81.17 48 P P 13 51 24.9 -0.1
WVOR IAmb IAmb 13 51 26.6
comp=Z,6.4nm,0.8s
CMB Columbia Colle 81.18 53 P P 13 51 25.2 +0.1
CMB IAmb IAmb 13 51 26.6
comp=Z,5.9nm,0.8s
BMO Blue Mountains 81.36 46 P P 13 51 26.2 +0.3
VCNR Virginia City 81.36 52 P P 13 51 26.8 +0.6
PNTR Pine Nut 81.46 52 P P 13 51 27.9 +1.1
KLMR Klimovskoe 81.61 332 eP P 13 51 25.4 -1.4
KLMR AMP 13 51 27.4
comp=Z,9.0nm,0.5s
KLMR epP pP 13 51 45.1 -3.4
YERR Yerington 81.76 52 P P 13 51 28.8 +0.5
YERR IAmb IAmb 13 51 29.9
comp=Z,8.2nm,0.7s
WALA Waterton Lakes 82.21 41 P P 13 51 30.9 +0.5
WALA IAmb IAmb 13 51 32.6
comp=Z,15nm,1.4s
MDPB Devils Postpil 82.28 53 P P 13 51 30.3 -0.9
RYN Ryan 82.40 52 P P 13 51 32.4 +0.8
RYN IAmb IAmb 13 51 33.3
comp=Z,7.0nm,0.7s
ARA0 ARCESS Array S 82.54 342 eP P 13 51 32.4 +0.9
ARCES ARCESS Array B 82.54 342 P P 13 51 32.2 +0.7
comp=Z,7.6nm,0.6s,baz=71,slow=7.3,SNR=47
ARCES pP pwP 13 51 57.5 0.0
comp=Z,4.3nm,0.6s,baz=69,slow=7.3,SNR=3.3
comp=Z,7.6nm,0.6s
ARCES ARCESS Array B 82.54 342 P P 13 51 32.3 +0.7
PKM Mcpherson Peak 82.55 56 P P 13 51 33.5 +0.9
baz=288,SNR=5.5
KVN Kaiserville 82.58 51 P P 13 51 33.2 +0.6
KVN IAmb IAmb 13 51 34.1
comp=Z,8.9nm,0.7s
NVAR Mina Array Bea 82.62 52 P P 13 51 33.7 +0.8
comp=Z,7.8nm,0.6s,baz=269,slow=5.8,SNR=92
comp=Z,7.8nm,0.6s
NV11 Mina Array Sit 82.73 52 P P 13 51 33.9 +0.5
NV11 IAmb IAmb 13 51 35.0
comp=Z,5.5nm,0.7s
MFID Camas Ranch 82.82 47 P P 13 51 34.6 +0.9
MFID IAmb IAmb 13 51 35.4
comp=Z,6.3nm,0.9s
MSO Missoula 82.95 43 P P 13 51 34.7 +0.4
baz=290
SCZ2 Santa Cruz Isl 82.96 57 P P 13 51 34.9 +0.5
baz=288
DSP Deep Springs 83.20 53 P P 13 51 36.7 +1.1
DSP IAmb IAmb 13 51 37.8
comp=Z,11nm,1.5s
ISA Isabella, Lake 83.35 55 P P 13 51 36.6 0.0
baz=288
CWC Cottonwood Cre 83.41 54 P P 13 51 37.0 0.0
baz=288
LCH Last Change Ra 83.49 53 P P 13 51 37.8 +0.5
KTK1 Kautokeino 83.50 342 eP P 13 51 37.1 +0.6
MZP Montezuma Peak 83.54 53 P P 13 51 37.8 +0.1
TPH Tonopah 83.54 52 P P 13 51 38.0 +0.4
HLID Hailey 83.74 46 P P 13 51 39.2 +0.7
HLID Hailey 83.74 46 P P 13 51 38.8 +0.3
baz=290
GMN Gold Mountain 83.76 53 P P 13 51 39.2 +0.4
GMN IAmb IAmb 13 51 40.2
comp=Z,4.3nm,0.7s
GRAC Grapevine Rang 83.78 53 P P 13 51 38.9 +0.3
baz=289
JETT Jettan, Norway 83.95 343 eP P 13 51 39.7 +0.8
JETT IAmb IAmb 13 51 39.8
comp=Z,15nm,0.5s
EDW2 Edwards Air Fo 83.97 55 P P 13 51 40.3 +0.6
baz=289
MPMC Manual Prospec 83.99 54 P P 13 51 40.1 +0.2
baz=289,SNR=9.9
LRMC Laurel Mtn Rad 84.02 55 P P 13 51 40.4 +0.4
baz=289
CIS Catalina Islan 84.11 57 P P 13 51 40.8 +0.5
baz=289
ELK Elko 84.12 49 P P 13 51 41.1 +0.6
ELK IAmb IAmb 13 51 42.1
comp=Z,5.8nm,0.7s
LRM Limekiln Ridge 84.27 44 P P 13 51 41.1 -0.1
FURC Furnace Creek, 84.33 54 P P 13 51 41.9 +0.5
baz=289
HRY Holter Researc 84.34 43 P P 13 51 42.2 +0.8
WCT Wildcat Mounta 84.41 53 P P 13 51 41.9 0.0
WCT IAmb IAmb 13 51 43.3
comp=Z,6.9nm,1.0s
BFSC Mount Baldy Ra 84.44 56 P P 13 51 42.0 -0.1
baz=289
QSM Queen of Sheba 84.49 54 P P 13 51 42.6 +0.4
GWY Greenwater Val 84.57 54 P P 13 51 43.3 +0.4
GWY IAmb IAmb 13 51 44.1
comp=Z,5.5nm,0.9s
TPNV Topopah Spring 84.64 53 P P 13 51 43.8 +0.6
TPNV IAmb IAmb 13 51 44.2
comp=Z,5.9nm,0.7s
TPNV Topopah Spring 84.64 53 P P 13 51 43.4 +0.2
baz=290,SNR=7.4
R11A Troy Canyon, C 84.67 51 P P 13 51 43.9 +0.6
R11A Troy Canyon, C 84.67 51 P P 13 51 43.9 +0.6
baz=290,SNR=7.8
GSC Goldstone, Bar 84.76 55 P P 13 51 44.1 +0.4
GSC Goldstone, Bar 84.76 55 P P 13 51 44.0 +0.4
baz=289
S11A Rachel 84.79 52 P P 13 51 44.8 +0.9
S11A IAmb IAmb 13 51 45.1
comp=Z,6.4nm,0.7s
BOZ Bozeman (W) 84.88 44 P P 13 51 44.4 +0.2
BOZ Bozeman (W) 84.88 44 P P 13 51 44.9 +0.7
baz=292,SNR=6.5
EGMT Eagleton 85.16 41 P P 13 51 45.8 +0.4
baz=293
HEC Hector Ludlow 85.28 55 P P 13 51 47.0 +0.7
baz=290
QLMT Earthquake Lak 85.30 44 P P 13 51 47.0 +0.7
SPR3 Spring Creek 3 85.37 50 P P 13 51 48.0 +1.0
SPR3 IAmb IAmb 13 51 49.0
comp=Z,5.6nm,1.1s
PRN Pahroc Range 85.39 52 P P 13 51 47.6 +0.8
PRN IAmb IAmb 13 51 48.7
comp=Z,6.0nm,1.1s
YHL Hebgen Lake 85.45 44 P P 13 51 48.6 +1.4
PFO Pinyon Flats O 85.59 56 P P 13 51 48.1 +0.2
PFO IAmb IAmb 13 51 49.3
comp=Z,11nm,1.4s
PFO Pinyon Flats O 85.59 56 P P 13 51 47.9 0.0
baz=290
TPFO Pinon Flats 85.59 56 P P 13 51 48.0 0.0
baz=290
YMR Madison River 85.67 44 P P 13 51 49.7 +1.5
YHH Holmes Hill 85.69 44 P P 13 51 49.8 +1.4
YHH IAmb IAmb 13 51 50.8
comp=Z,16nm,1.4s
GMRC Granite Mounta 85.82 55 P P 13 51 49.1 +0.1
baz=290
YNR Norris Junctio 85.84 44 P P 13 51 51.2 +2.2
MONP2 Monument Peak 85.86 57 P P 13 51 49.3 -0.1
baz=290
PSUT Pine Spring 85.88 51 P P 13 51 49.9 +0.6
PSUT IAmb IAmb 13 51 50.9
comp=Z,14nm,1.4s
IMW Indian Meadow 85.97 45 P P 13 51 51.2 +1.4
IMW IAmb IAmb 13 51 52.0
comp=Z,7.0nm,0.8s
FXWY Fox Creek 86.01 45 P P 13 51 50.8 +0.9
FXWY IAmb IAmb 13 51 52.1
comp=Z,7.4nm,1.1s
DUG Dugway, Tooele 86.04 49 P P 13 51 49.8 -0.3
DUG IAmb IAmb 13 51 51.2
comp=Z,4.6nm,0.8s
DUG Dugway, Tooele 86.04 49 P P 13 51 50.6 +0.6
baz=291
GCMT Greycliff 86.08 43 P P 13 51 50.1 -0.1
V12A Nelson 86.12 54 P P 13 51 49.7 -0.8
TPAW Teton Pass 86.12 45 P P 13 51 50.4 -0.2
TPAW IAmb IAmb 13 51 51.1
comp=Z,4.9nm,0.7s
YMP Mirror Lake Pl 86.17 44 P P 13 51 52.6 +1.8
AHID Auburn Hatcher 86.29 46 P P 13 51 52.1 +0.8
AHID IAmb IAmb 13 51 53.0
comp=Z,11nm,1.2s
LOHW Long Hollow 86.31 45 P P 13 51 51.2 -0.2
BC3 Big Chuckawall 86.36 56 P P 13 51 52.1 +0.4
baz=290
HWUT Hardware Ranch 86.41 47 P P 13 51 51.9 +0.1
HWUT IAmb IAmb 13 51 53.0
comp=Z,6.3nm,0.8s
IRM Iron Mountain 86.43 55 P P 13 51 53.1 +1.1
baz=290
STEI Steigen 86.45 343 eP P 13 51 51.2 0.0
STEI IAmb IAmb 13 51 51.9
comp=Z,21nm,0.6s
CCUT Cedar City 86.59 52 P P 13 51 53.3 +0.4
CCUT IAmb IAmb 13 51 54.9
comp=Z,9.7nm,1.4s
RLMT Red Lodge 86.60 43 P P 13 51 53.6 +0.8
RLMT Red Lodge 86.60 43 P P 13 51 53.6 +0.8
baz=293,SNR=12
FFC Flin Flon 86.69 33 P P 13 51 52.4 -0.3
TCUT Toone Canyon 86.70 48 P P 13 51 53.4 0.0
SZCU Shurtz Canyon 86.78 51 P P 13 51 53.2 -0.6
SZCU IAmb IAmb 13 52 05.0
comp=Z,6.7nm,0.8s
FAUS Fauske 86.82 343 eP P 13 51 53.2 +0.2
JLU Jordanelle 86.86 48 P P 13 51 54.9 +0.7
JLU IAmb IAmb 13 51 55.3
comp=Z,5.5nm,0.8s
LCMT Little Creek M 86.88 52 P P 13 51 53.8 -0.4
FIA1 FINESS Array S 87.00 335 P P 13 51 52.9 -1.1
FINES FINESS Array B 87.00 335 P P 13 51 53.1 -0.9
comp=Z,6.4nm,0.4s,baz=70,slow=4.7,SNR=64
FINES pP pwP 13 52 18.2 -2.3
comp=Z,4.0nm,0.5s,baz=67,slow=5.2,SNR=3.9
comp=Z,6.4nm,0.4s
GLA Glamis 87.06 56 P P 13 51 55.0 0.0
baz=291
MVU Marysvale 87.09 50 P P 13 51 56.0 +0.7
MSU Marysvale 87.12 50 P P 13 51 54.4 -1.0
PDMCI Parker Dam,Lak 87.16 55 P P 13 51 56.4 +1.0
baz=291
KNB Kanab 87.19 52 P P 13 51 55.8 0.0
MTPU Mount Pierson 87.28 51 P P 13 51 57.5 +1.1
BW06 Boulder Array 87.34 46 P P 13 51 56.2 -0.2
BW06 Boulder Array 87.34 46 P P 13 51 56.6 +0.1
baz=293
PD31 Pinedale Array 87.34 46 P P 13 51 56.2 -0.2
PDAR Pinedale Array 87.34 46 P P 13 51 56.0 -0.5
comp=Z,1.5nm,0.7s,baz=139,slow=0.5,SNR=19
comp=Z,1.5nm,0.7s
Q16A Castle Valley 87.69 50 P P 13 51 58.8 +0.6
Q16A IAmb IAmb 13 52 00.3
comp=Z,8.6nm,1.1s
U15A North Rim 87.80 52 P P 13 51 59.7 +0.8
U15A IAmb IAmb 13 52 00.9
comp=Z,7.0nm,1.1s
LAO LASA Array 87.90 41 P P 13 51 59.9 +1.1
baz=295
MOR8 Moi Rana 87.91 342 eP P 13 51 55.6 -2.7
SRU San Rafael Swe 88.09 49 P P 13 52 00.2 +0.2
SRU IAmb IAmb 13 52 01.3
comp=Z,10.0nm,1.2s
Y14A Wickenburg 88.17 55 P P 13 51 59.2 -1.1
RDMU Red Mountain 88.19 48 P P 13 52 00.4 -0.1
RDMU IAmb IAmb 13 52 02.2
comp=Z,8.8nm,1.0s
WUAZ Wupatki 88.83 53 P P 13 52 03.7 +0.1
WUAZ Wupatki 88.83 53 P P 13 52 04.3 +0.7
baz=292,SNR=6.9
214A Organ Pipe Nat 89.05 57 P P 13 52 05.2 +0.7
baz=292
X16A Lo Mia Camp, P 89.20 54 P P 13 52 05.7 +0.4
X16A IAmb IAmb 13 52 07.7
comp=Z,4.5nm,1.1s
O20A White River Ci 89.30 48 P P 13 52 05.7 0.0
O20A White River Ci 89.30 48 P P 13 52 06.2 +0.5
baz=294,SNR=5.9
K22A Casper 89.43 45 P P 13 52 06.8 +0.6
K22A IAmb IAmb 13 52 08.2
comp=Z,5.1nm,0.9s
K22A Casper 89.43 45 P P 13 52 06.8 +0.6
baz=295
PV23 Carpenter Ridg 89.43 49 P P 13 52 06.9 +0.5
PV13 Radium Mtn., P 89.69 50 P P 13 52 07.3 -0.3
MVCO Mesa Verde 90.30 50 P P 13 52 10.5 0.0
MVCO IAmb IAmb 13 52 12.4
comp=Z,8.2nm,1.2s
MVCO Mesa Verde 90.30 50 P P 13 52 11.0 +0.5
baz=294
RSSD Black Hills 90.41 43 P P 13 52 11.3 +0.5
baz=297
TUC Tucson 90.51 56 P P 13 52 12.8 +1.4
TUC IAmb IAmb 13 52 13.7
comp=Z,7.9nm,1.4s
TUC Tucson 90.51 56 P P 13 52 12.3 +1.0
baz=293
N23A Red Feather La 90.57 46 P P 13 52 12.7 +0.9
N23A Red Feather La 90.57 46 P P 13 52 12.7 +0.9
baz=296,SNR=7.5
SMCO Snowmass 90.59 48 P P 13 52 12.7 +0.7

ISCO	**Idaho Springs**	**91.27**	**47**	P		**P**		**13 52 15.9**	**+0.9**
ISCO				IAmb		IAmb		13 52 17.2	
	comp=Z,5.0nm,1.1s								
ISCO	**Idaho Springs**	**91.27**	**47**	P		**P**		**13 52 15.9**	**+0.9**
	baz=296								
S22A	**4UR Ranch, Cre**	**91.29**	**49**	P		**P**		**13 52 16.1**	**+1.0**
S22A				IAmb		IAmb		13 52 16.7	
	comp=Z,3.0nm,0.8s								
S22A	**4UR Ranch, Cre**	**91.29**	**49**	P		**P**		**13 52 15.9**	**+0.7**
	baz=295								
AKASG	**Malin Array Be**	**91.51**	**325**	P		**P**		**13 52 14.2**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=54,slow=1.1,SNR=1.1								
	comp=Z,0.7nm,0.6s								
ULM	**Lac du Bonnet**	**92.18**	**35**	P		**P**		**13 52 18.3**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=294,slow=5.3,SNR=5.8								
	comp=Z,5.0nm,0.8s								
SDCO	**Great Sand Dun**	**92.24**	**49**	P		**P**		**13 52 19.8**	**+0.3**
SDCO				IAmb		IAmb		13 52 21.3	
	comp=Z,2.8nm,0.8s								
SDCO	**Great Sand Dun**	**92.24**	**49**	P		**P**		**13 52 20.2**	**+0.7**
	baz=296,SNR=5.3								
NB2	**NORSAR Subarra**	**92.64**	**340**	P		**P**		**13 52 19.5**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=44,slow=5.1								
NB2	**NORSAR Subarra**	**92.64**	**340**	P		**P**		**13 52 19.5**	**-1.1**
	baz=44,slow=5.1								
NOA	**NORSAR Array B**	**92.64**	**340**	P		**P**		**13 52 20.0**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=56,slow=6.4,SNR=3.9								
NOA				pP		**pwP**		**13 52 44.9**	**-2.3**
	comp=Z,0.8nm,0.7s,baz=42,slow=4.7,SNR=3.0								
NOA				LR		LR		14 37 45.4	
	comp=Z,14nm,19.9s,baz=240,slow=38								
	comp=Z,0.8nm,0.7s								
121A	**Cookes Peak, D**	**92.75**	**54**	P		**P**		**13 52 22.5**	**+0.7**
	baz=294								
ANMO	**Albuquerque**	**92.75**	**52**	P		**P**		**13 52 22.7**	**+0.9**
ANMO	**Albuquerque**	**92.75**	**52**	P		**P**		**13 52 22.3**	**+0.4**
	baz=295								
T25A	**Trinidad**	**93.29**	**49**	P		**P**		**13 52 24.9**	**+0.6**
T25A	**Trinidad**	**93.29**	**49**	P		**P**		**13 52 25.6**	**+1.2**
	baz=297,SNR=5.2								
SFJD	**Kangerlussuaq**	**93.51**	**7**	LR		LR		14 35 49.8	
	comp=Z,9.9nm,20.2s,baz=356,slow=36								
BRTR	**Keskin Array B**	**94.42**	**314**	P		**P**		**13 52 28.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=68,slow=2.7,SNR=3.9								
	comp=Z,0.4nm,0.5s								
MNTX	**Cornudas Mount**	**94.95**	**54**	P		**P**		**13 52 32.4**	**+0.7**
	baz=296								
AMTX	**Amarillo**	**96.29**	**50**	P		**P**		**13 52 38.5**	**+0.6**
	baz=298								
TXAR	**Lajitas Array**	**97.31**	**56**	P		**P**		**13 52 42.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=288,slow=3.7,SNR=4.1								
	comp=Z,0.5nm,0.8s								
VRAC	**Vranov**	**98.82**	**329**	LR		LR		14 38 25.6	
	comp=Z,11nm,21.9s,baz=28,slow=36								
TROLL	**Troll, Antarti**	**122.84**	**193**	PKPdf		**PKPdf**		**13 58 03.8**	**-0.3**
TROLL	**Troll, Antarti**	**122.84**	**193**	pPKPdf		pPKPdf		13 58 29.6	+2.8
SNAA	**Sanae**	**124.16**	**191**	PKPdf		**PKPdf**		**13 58 05.8**	**-0.7**
SNAA	**Sanae**	**124.16**	**191**	pPKPdf		pPKPdf		13 58 31.0	+1.7
VNA2	**Neumayer--Watz**	**125.60**	**190**	PKPdf		**PKPdf**		**13 58 08.9**	**-0.3**
	baz=111,slow=3.8								
VNA2	**Neumayer--Watz**	**125.60**	**190**	pPKPdf		pPKPdf		13 58 34.5	+2.6
VNA3	**Neumayer Olymp**	**125.69**	**189**	PKPdf		**PKPdf**		**13 58 08.6**	**-0.8**
VNA3	**Neumayer Olymp**	**125.69**	**189**	pPKPdf		pPKPdf		13 58 34.5	+2.3
VNA1	**Neumayer--Stat**	**125.98**	**190**	PKPdf		**PKPdf**		**13 58 09.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**132.80**	**310**	PKP		**PKPdf**		**13 58 23.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=35,slow=2.0,SNR=7.0								
TORD				SKPbc		**SKPbc**		**14 01 40.5**	**-4.0**
	comp=Z,1.2nm,1.0s,baz=71,slow=3.7,SNR=3.8								
PLCA	**Paso Flores**	**141.68**	**133**	PKhKP		PKPpre		13 58 35.3	
	comp=Z,1.4nm,0.6s,baz=235,slow=5.2,SNR=6.9								
DBIC	**Dimbokro**	**141.90**	**309**	PKhKP		PKPpre		13 58 35.5	
	comp=Z,1.6nm,0.8s,baz=90,slow=3.1,SNR=4.6								
LPAZ	**La Paz**	**147.12**	**91**	PKPbc		**PKPdf**		**13 58 52.0**	**+1.0**
	comp=Z,5.2nm,0.4s,baz=271,slow=3.4,SNR=23								
CPUP	**Villa Florida**	**156.98**	**113**	PKPab		**PKPab**		**13 59 34.8**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=292,slow=5.4,SNR=5.8								

***IDC* 12 13:43:43.1±16.0, 36°26N×71°02E, h258km±203km, mb3.0/3, mbtmp3.6/4, Error ellipse: s-maj=133.9km s-min=70.4km az=110.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.48**	**35**	P	Pn	13 46 44.1	-0.3
	0.7nm,0.7s,baz=224,slow=11,SNR=7.7						
ZALV	**Zalesovo Beam**	**20.12**	**24**	P	P	13 47 57.7	+0.1
	0.8nm,0.3s,baz=214,slow=11,SNR=4.9						
	0.8nm,0.3s						
NOA	**NORSAR Array B**	**44.58**	**323**	P	P	13 51 29.3	-0.1
	0.4nm,0.5s,baz=96,slow=7.8,SNR=1.7						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	P	13 54 00.6	0.0
	0.2nm,0.4s,baz=49,slow=6.0,SNR=2.2						
	0.2nm,0.4s						

IDC **12** *13:45:24.6±1.3, 0°92N×100°14E, h199km±9km, mb3.3/11, mbtmp3.8/12, Error ellipse: s-maj=37.1km s-min=14.9km az=50.0*
DJA **12** *13:45:24.6±0.4, 1°N±2°×10°0E±°, h183km±4km, M3.6/13, MLv3.6/13*
ISC 12 13:45:23.5±0.7, 0°80N±0°05×100°11E±0°06, h194km±6km, n23, σ0°98/33, mb3.4/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.53**	**269**	P	**Pn**	**13 45 50.7**	**+0.7**
MNSI				S	**Sn**	**13 46 10.6**	**+0.2**
BKNI	**Bangkinang**	**1.04**	**117**	P	**Pn**	**13 45 53.5**	**+0.6**
BKNI				S	**Sn**	**13 46 15.4**	**-0.3**
PDSI	**Padang**	**1.74**	**168**	P	**Pn**	**13 45 59.0**	**0.0**
PBSI	**Pulau Batu**	**2.02**	**245**	P	**Pn**	**13 46 02.9**	**+1.2**
PBSI				S	**Sn**	**13 46 31.7**	**+0.3**
SDSI	**Sungai Dareh**	**2.17**	**143**	P	**Pn**	**13 46 03.7**	**+0.3**
PSI	**Prapat**	**2.31**	**329**	P	**Pn**	**13 46 05.2**	**+0.1**
	48nm,0.4s,baz=148,slow=10.0,SNR=43						
PSI				S	**Sn**	**13 46 36.0**	**-1.5**
	20nm,0.7s,baz=180,slow=20,SNR=7.9						
SISI	**Saibi**	**2.35**	**206**	P	**Pn**	**13 46 05.1**	**-0.2**
SISI				S	**Sn**	**13 46 35.9**	**-2.1**
GSI	**Gunungsitoli**	**2.58**	**281**	P	**Pn**	**13 46 09.6**	**+1.6**
GSI				S	**Sn**	**13 46 41.9**	**-0.7**
TSI	**Tuntungan**	**3.10**	**330**	P	**Pn**	**13 46 15.0**	**+1.0**
KRJI	**Kerinci**	**3.17**	**155**	P	**Pn**	**13 46 15.9**	**+0.9**
KRJI				S	**Sn**	**13 46 56.2**	**+0.8**
PPSI	**Pulau Pagai**	**3.54**	**182**	P	**Pn**	**13 46 20.3**	**+0.9**
PPSI				S	**Sn**	**13 47 00.8**	**-2.5**
KCSI	**Kotacane, Aceh**	**3.57**	**319**	P	**Pn**	**13 46 20.4**	**+0.6**
KCSI				S	**Sn**	**13 47 02.7**	**-1.2**
WRA	**Warramunga Arr**	**39.37**	**123**	P	**P**	**13 52 35.3**	**+0.8**
	0.3nm,0.3s,baz=307,slow=8.7,SNR=6.1						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**40.86**	**129**	P	**P**	**13 52 47.6**	**+0.9**
	0.3nm,0.7s,baz=301,slow=7.8,SNR=2.2						
ASAR				PcP	**PcP**	**13 54 43.6**	**-0.1**
	0.3nm,0.7s,baz=302,slow=2.1,SNR=2.1						
	0.3nm,0.7s						
KSRS	**Korea Array**	**44.59**	**32**	P	**P**	**13 53 16.1**	**-0.2**
	0.6nm,0.6s,baz=217,slow=7.7,SNR=1.5						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**48.38**	**344**	P	**P**	**13 53 45.9**	**+0.1**
	0.9nm,0.3s,baz=160,slow=8.5,SNR=31						
	0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**52.92**	**343**	P	**P**	**13 54 18.2**	**-1.3**
	0.5nm,0.6s,baz=154,slow=6.8,SNR=3.8						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**54.46**	**349**	P	**P**	**13 54 29.9**	**-0.8**
	0.6nm,0.3s,baz=170,slow=7.1,SNR=3.6						
	0.6nm,0.3s						
KLR	**Kul'dur**	**55.35**	**25**	P	**P**	**13 54 36.6**	**-0.6**
	0.7nm,0.5s,baz=225,slow=7.1,SNR=4.2						
	0.7nm,0.5s						
BRTR	**Keskin Array B**	**71.54**	**312**	P	**P**	**13 56 23.9**	**+0.2**
	0.3nm,0.5s,baz=123,slow=5.9,SNR=1.5						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**77.35**	**322**	P	**P**	**13 56 56.9**	**+0.1**
	0.1nm,0.3s,baz=95,slow=4.6,SNR=2.0						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**81.70**	**332**	P	**P**	**13 57 20.4**	**+0.4**
	1.2nm,0.7s,baz=97,slow=6.0,SNR=7.5						
	1.2nm,0.7s						
ARCES	**ARCESS Array B**	**83.89**	**340**	P	**P**	**13 57 31.1**	**0.0**
	2.1nm,0.7s,baz=111,slow=2.7,SNR=5.4						
	2.1nm,0.7s						

TAP **12** *13:58:37.5, 22°63N×121°35E, h23km, ML3.4, B*
JMA **12** *13:58:37.4±0.4, 23°N±1°×12°1E±°, h31km, MV3.2/11, TAIWAN REGION*
ISC 12 13:58:36.8±0.9, 22°57N±0°02×121°40E±0°02, h27km±6km, n53, σ1°10/86, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.12**	**31**	P	**Pb**	**13 58 42.3**	**+0.5**
	baz=68						
LDUT				*i* S	**Sb**	**13 58 45.8**	**+0.6**
	baz=68						
TTN	**Taitung**	**0.30**	**307**	*i* P	**Pb**	**13 58 43.6**	**-0.3**
	baz=305						
TWGBT	**Beinan**	**0.39**	**309**	P	**Pb**	**13 58 44.7**	**-0.6**
	baz=308						
TWGBT				S	**Sb**	**13 58 50.2**	**-0.8**
	baz=308						
TWG	**Pinlang**	**0.39**	**309**	P	**Pb**	**13 58 44.9**	**-0.5**
	baz=308						
TWG				S	**Sb**	**13 58 50.2**	**-1.0**
	baz=308						
EDH	**Donghe**	**0.41**	**347**	*i* P	**Pb**	**13 58 44.9**	**-0.8**
	baz=359						
EDH				S	**Sb**	**13 58 51.2**	**-0.4**
	baz=359						
ECL	**Taimali**	**0.42**	**273**	*i* P	**Pb**	**13 58 45.2**	**-0.6**
	baz=277						
ECL				S	**Sb**	**13 58 50.8**	**-1.0**
	baz=277						
LONT	**Longtian**	**0.42**	**323**	P	**Pb**	**13 58 45.1**	**-0.7**
	baz=329						
TAW	**Tawu**	**0.52**	**246**	P	**Pb**	**13 58 47.4**	**0.0**
	baz=237						
TAW				*i* S	**Sb**	**13 58 54.5**	**0.0**
	baz=237						
TAWH	**Dawu Township**	**0.53**	**244**	*e*P	**Pb**	**13 58 46.6**	**-1.0**
	baz=237						
TAWH				*e*S	**Sb**	**13 58 52.8**	**-2.2**
	baz=237						
ECS	**Chishang**	**0.55**	**342**	P	**Pb**	**13 58 48.1**	**+0.2**
	baz=331						
ECS				*e*S	**Sn**	**13 58 57.2**	**0.0**
	baz=331						
EAST	**Anshuo**	**0.55**	**250**	P	**Pb**	**13 58 47.7**	**-0.2**
	baz=252						
LAY	**Lan-yu**	**0.55**	**166**	*i* P	**Pn**	**13 58 48.7**	**-0.2**
	baz=152						
LAY				*i* S	**Sn**	**13 58 57.9**	**+0.7**
	baz=152						
LYUB	**Lan-yu**	**0.59**	**164**	*e*P	**Pb**	**13 58 48.4**	**-0.2**
	baz=160						
LYUB				S	**Sn**	**13 58 58.1**	**-0.2**
	baz=160						
SLIU	**Shizi**	**0.66**	**238**	P	**Pb**	**13 58 49.5**	**-0.3**
	baz=231						
SLIU				*e*S	**Sb**	**13 58 57.9**	**-0.8**
	baz=231						
ELDTW	**Lidau**	**0.71**	**330**	*i* P	**Pb**	**13 58 49.3**	**-1.3**
	baz=323						
ELDTW				S	**Sb**	**13 58 57.5**	**-2.6**
	baz=323						
TSMG	**Majia**	**0.71**	**281**	P	**Pb**	**13 58 49.7**	**-1.0**
	baz=275						
TSMG				S	**Sb**	**13 58 58.8**	**-1.3**
	baz=275						
MASBT	**Mashibuluo**	**0.71**	**273**	P	**Pb**	**13 58 49.9**	**-0.7**
	baz=269						
MASBT				*i* S	**Sb**	**13 58 58.7**	**-1.5**
	baz=269						
SSD	**Sandimen**	**0.73**	**284**	P	**Pb**	**13 58 49.8**	**-1.2**
	baz=278						
SSD				S	**Sb**	**13 58 58.2**	**-2.5**
	baz=278						
SCZT	**Fangliau**	**0.75**	**255**	*i* P	**Pb**	**13 58 50.7**	**-0.6**
	baz=242						
EYUL	**Yuli**	**0.77**	**354**	P	**Pb**	**13 58 51.1**	**-0.6**
	baz=345						
EYUL				*e*S	**Sn**	**13 59 03.5**	**+0.7**
	baz=345						
SSPT	**Xinbi**	**0.78**	**264**	*e*P	**Pn**	**13 58 51.9**	**-0.1**
	baz=261						
SSPT				*e*S	**Sn**	**13 59 02.7**	**-0.1**
	baz=261						
TWF1	**Yuli**	**0.78**	**353**	*i* P	**Pb**	**13 58 51.0**	**-0.9**
	baz=346						
TSEB	**Hengchuen, Pin**	**0.82**	**215**	P	**Pn**	**13 58 53.3**	**+0.8**
	baz=213						
TSEB				*e*S	**Sn**	**13 59 05.6**	**+1.8**
	baz=213						
YULB	**Yu-li**	**0.82**	**353**	P	**Pb**	**13 58 51.1**	**-1.4**
	baz=344						
YULB				*e*S	**Sb**	**13 59 03.5**	**+0.2**
	baz=344						
STYH	**Taoyuan**	**0.83**	**316**	*e*P	**Pb**	**13 58 50.7**	**-1.9**
	baz=324						
TWKBT	**Hengchun**	**0.83**	**221**	P	**Pn**	**13 58 52.8**	**0.0**
	baz=206						
TWKBT				*i* S	**Sn**	**13 59 04.1**	**-0.2**
	baz=206						
HEN	**Hengchun**	**0.84**	**228**	P	**Pn**	**13 58 53.3**	**+0.5**
	baz=222						
HEN				S	**Sn**	**13 59 04.8**	**+0.6**
	baz=222						
STYT	**Tauyuan**	**0.84**	**315**	P	**Pb**	**13 58 52.0**	**-0.8**
	baz=315						
STYT				S	**Sb**	**13 59 02.9**	**-0.8**
	baz=315						
TWK1	**Hengchun**	**0.84**	**222**	P	**Pn**	**13 58 52.9**	**+0.1**
	baz=206						
TWK1				S	**Sn**	**13 59 04.8**	**+0.5**
	baz=206						
TSPT	**Pingtung City**	**0.84**	**277**	*e*P	**Pn**	**13 58 54.0**	**+1.1**
	baz=274						
TSPT				S	**Sn**	**13 59 04.6**	**+0.2**
	baz=274						
SCST	**Cishan**	**0.90**	**290**	*i* P	**Pn**	**13 58 53.9**	**+0.2**
	baz=286						
SCST				*e*S	**Sb**	**13 59 05.0**	**-0.3**
	baz=286						
SGST	**Jiashian**	**0.91**	**304**	*e*P	**Pb**	**13 58 52.9**	**-1.1**
	baz=312						
WTP	**Ta-pu**	**0.99**	**313**	P	**Pn**	**13 58 55.0**	**0.0**
	baz=321						
CHN1	**Nanshi**	**1.01**	**307**	*e*P	**Pb**	**13 58 56.0**	**+0.2**
	baz=314						
TPUB	**Ta-pu**	**1.02**	**316**	P	**Pb**	**13 58 55.7**	**-0.1**
TPUB	**Ta-pu**	**1.02**	**316**	*e*P	**Pn**	**13 58 55.5**	**+0.1**
	baz=323						
SNST	**Tainan City**	**1.05**	**308**	P	**Pb**	**13 58 56.7**	**+0.3**
	baz=317						
SNST				*e*S	**Sb**	**13 59 09.6**	**-0.2**
	baz=317						
WSSB	**Gushan**	**1.06**	**274**	*e*P	**Pb**	**13 58 58.5**	**+2.0**
	baz=270						
WSSB				*e*S	**Sn**	**13 59 14.5**	**+4.7**
	baz=270						
ALS	**Alishan**	**1.08**	**330**	*i* P	**Pn**	**13 58 56.3**	**-0.2**
	baz=330						
ALS				S	**Sb**	**13 59 10.2**	**-0.8**
	baz=330						
WCKO	**Fanlu**	**1.13**	**320**	P	**Pn**	**13 58 56.9**	**-0.1**
	baz=319						
WCKO				S	**Sn**	**13 59 11.4**	**-0.2**
	baz=319						
SSLB	**Suanglung**	**1.28**	**341**	P	**Pn**	**13 58 59.5**	**+0.5**
CHN2	**Minshiung**	**1.28**	**318**	S	**Sb**	**13 59 17.9**	**+1.6**
	baz=316						
CHY	**Chiayi**	**1.29**	**316**	P	**Pb**	**13 59 00.6**	**+0.2**
	baz=323						
CHY				S	**Sb**	**13 59 17.9**	**+1.3**
	baz=323						
YHNB	**Yeheng**	**2.09**	**359**	P	**Pn**	**13 59 11.9**	**+1.8**
JYNG	**Yonagunijimaku**	**2.34**	**37**	*e*S	**Sn**	**13 59 41.5**	**0.0**
HATJ	**Hateruma jima**	**2.66**	**56**	*e*S	**Sn**	**13 59 49.3**	**+0.1**
IRIF	**Iriomote-Funau**	**2.76**	**50**	*e*P	**Pn**	**13 59 20.8**	**+1.4**
IRIF				*e*S	**Sn**	**13 59 52.5**	**+0.6**
JKRS	**Kuro-shima**	**2.91**	**55**	*e*S	**Sn**	**13 59 56.4**	**+0.9**
JIJ	**Ishigaki jima**	**3.08**	**54**	P	**Pn**	**13 59 24.8**	**+1.1**
JIJ				S	**Sn**	**13 59 59.2**	**-0.5**
JISG	**Ishigakijimahi**	**3.34**	**52**	*e*S	**Sn**	**14 00 06.3**	**+0.3**
JTJ	**Tarama**	**3.66**	**55**	*e*P	**Pn**	**13 59 32.7**	**+1.0**
JTJ				*e*S	**Sn**	**14 00 14.0**	**+0.1**
JIRB	**Irabujima**	**4.12**	**56**	*e*P	**Pn**	**13 59 39.6**	**+1.6**
JMJ	**Miyako jima 2**	**4.21**	**57**	P	**Pb**	**13 59 47.6**	**-2.5**

JMA **12** *14:11:42.9±0.2, 23°8N±0°9×122°8E±0°7, h53km, MV2.0/8, NEAR ISHIGAKIJIMA ISLAND*
TAP **12** *14:11:44.4, 23°75N×122°70E, h86km±1km, ML2.6, D*
ISC 12 14:11:43.0±1.3, 23°69N±0°04×122°87E±0°03, h50km, n38, σ1°05/69, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.76**	**5**	*e*P	**Pn**	**14 11 56.6**	**-0.9**
JYNG				*e*S	**Sn**	**14 12 06.4**	**-1.6**
YOJ	**Yonaguni jima**	**0.78**	**10**	*e*P	**Pn**	**14 12 01.2**	**+3.5**
	baz=17						
YOJ	**Yonaguni jima**	**0.78**	**10**	P	**Pn**	**14 11 57.2**	**-0.5**
YOJ				*e*S	**Sn**	**14 12 06.7**	**-1.8**
HATJ	**Hateruma jima**	**0.93**	**67**	*e*P	**Pn**	**14 11 59.8**	**+0.1**
IRIF	**Iriomote-Funau**	**1.01**	**51**	P	**Pn**	**14 12 00.9**	**0.0**
IRIF				*e*S	**Sn**	**14 12 14.3**	**+0.2**
JKRS	**Kuro-shima**	**1.17**	**62**	*e*P	**Pn**	**14 12 03.3**	**+0.3**
JKRS				*e*S	**Sn**	**14 12 18.4**	**+0.4**
EWUT	**Wuta**	**1.25**	**307**	*e*P	**Pn**	**14 12 04.0**	**-0.1**
	baz=309						
NACB	**Ninganchiao**	**1.26**	**293**	*e*P	**Pn**	**14 12 03.7**	**-0.5**
	baz=293						
NACB				*e*S	**Sn**	**14 12 17.9**	**-2.2**
	baz=293						
ENA	**Nanau**	**1.27**	**306**	*e*P	**Pn**	**14 12 06.6**	**+2.3**
	baz=312						
ENA				*i* S	**Sn**	**14 12 20.2**	**0.0**
	baz=312						
ETM	**Tongmen**	**1.29**	**282**	*e*S	**Sn**	**14 12 18.9**	**-1.9**
	baz=284						
ESL	**Shilin**	**1.32**	**275**	*e*P	**Pn**	**14 12 04.6**	**-0.4**
	baz=269						
ESL				*e*S	**Sn**	**14 12 19.2**	**-2.4**
	baz=269						
EGFH	**Guangfu**	**1.32**	**269**	*e*P	**Pn**	**14 12 04.6**	**-0.5**
	baz=262						
JIJ	**Ishigaki jima**	**1.34**	**60**	*e*P	**Pn**	**14 12 05.3**	**0.0**
JIJ				*e*S	**Sn**	**14 12 21.4**	**-0.6**
HGSD	**Ruisui**	**1.34**	**262**	P	**Pn**	**14 12 05.3**	**-0.1**
	baz=257						
HGSD				*e*S	**Sn**	**14 12 20.7**	**-1.3**
	baz=257						
ETLH	**Xiulin Townshi**	**1.37**	**292**	P	**Pn**	**14 12 06.0**	**+0.2**
	baz=298						
ETLH				*e*S	**Sn**	**14 12 21.8**	**-1.0**
	baz=298						
EHY	**Hungye**	**1.43**	**263**	*i* P	**Pn**	**14 12 07.2**	**+0.6**

baz=255
EHY S Sn 14 12 23.8 -0.5
baz=255
YULB Yu-li 1.48 259 P Pn 14 12 07.9 +0.7
baz=252
YULB eS Sn 14 12 25.6 +0.2
baz=252
LATG Datong 1.49 305 eP Pn 14 12 09.0 +1.6
baz=306
LATG S Sn 14 12 25.2 -0.6
baz=306
ENTT Nioudou 1.52 309 eP Pn 14 12 08.6 +0.8
baz=305
ENTT S Sn 14 12 25.8 -0.6
baz=305
NDT Datong Townshi 1.54 306 P Pn 14 12 09.1 +1.1
baz=308
NDT iS Sn 14 12 26.2 -0.6
baz=308
WHF Hehuan Shan 1.54 287 iP Pn 14 12 08.5 +0.1
baz=294
WHF eS Sn 14 12 25.9 -1.5
baz=294
NNSB Datong 1.54 299 P Pn 14 12 08.7 +0.5
baz=306
NNSB iS Sn 14 12 26.4 -0.8
baz=306
NNSH Datong 1.54 299 iP Pn 14 12 08.8 +0.6
baz=299
NNSH eS Sn 14 12 25.9 -1.2
baz=299
OWD Renai 1.57 280 P Pn 14 12 08.8 +0.2
baz=278
OWD S Sn 14 12 27.2 -0.7
baz=278
FUSB Fushanzhiwuyua 1.58 312 P Pn 14 12 09.9 +1.2
baz=309
FUSB iS Sn 14 12 28.2 +0.2
baz=309
FUSS Fushou 1.59 291 P Pn 14 12 09.2 +0.3
baz=296
FUSS S Sn 14 12 27.6 -0.8
baz=296
TIPB Shuangxi 1.59 323 P Pn 14 12 09.2 +0.5
baz=335
TIPB eS Sn 14 12 28.6 +0.5
baz=335
EDH Donghe 1.61 244 iP Pn 14 12 09.2 +0.2
baz=238
EDH S Sn 14 12 27.5 -1.1
baz=238
WUSB Renai 1.63 281 iP Pn 14 12 10.1 +0.7
baz=280
WUSB eS Sn 14 12 29.4 0.0
baz=280
LDUT Ludao 1.64 232 P Pn 14 12 09.6 +0.2
baz=226
LDUT eS Sn 14 12 28.4 -1.0
baz=226
SXI1 Grass Mountain 1.66 327 P Pn 14 12 10.4 +0.6
baz=331
YHNB Yeheng 1.68 306 eP Pn 14 12 10.7 +0.7
baz=307
SSLB Suanglung 1.76 273 P Pn 14 12 12.4 +1.4
baz=267
SSLB S Sn 14 12 32.6 +0.3
baz=267
ELDTW Lidau 1.77 254 P Pn 14 12 11.8 +0.5
baz=250
ELDTW eS Sn 14 12 31.9 -1.0
baz=250
WHYT Xinyi Township 1.85 270 eP Pn 14 12 14.1 +1.8
baz=268
WHYT eS Sn 14 12 35.8 +1.2
baz=268
ALS Alishan 1.90 265 eP Pn 14 12 15.1 +1.8
baz=268
ALS eS Sn 14 12 36.8 +0.6
baz=268
STYH Taoyuan 1.99 255 P Pn 14 12 14.6 +0.4
baz=249
STYH S Sn 14 12 37.6 -0.4
baz=249
LAY Lan-yu 2.05 217 P Pn 14 12 15.9 +0.9
baz=211
LAY S Sn 14 12 39.4 -0.1
baz=211

NEIC ***12*** *14:17:42.0±1.1, 11.00S±0.09×161.75E±0.07, h10km±2km, mb4.2/3, Error ellipse: s-maj=15.5km s-min=10.5km az=343.0*
IDC ***12*** *14:17:44.2±1.6, 11.45S×161.24E, h0km, mb3.6/5, mbtmp3.8/7, ML4.4/2, MS3.7/4, Error ellipse: s-maj=46.2km s-min=23.8km az=70.0*
ISC 12 14:17:45.2±1.1, 11.4S±0.1×161.2E±0.2, h10km, n24, σ1s55/16, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.31 327**		Pn	**Pn**	**Pn**	**14 18 22.4**	**-0.9**
	425nm,0.3s,baz=161,slow=8.7,SNR=16							
HNR				Sn	**Sn**	**Sn**	**14 18 50.3**	**-1.4**
	689nm,0.3s,baz=156,slow=20,SNR=7.8							
HNR				LR	LR	LR	14 19 26.2	
	comp=Z,2µm,21.3s,baz=214,slow=43 2µm,0.4s							
HNR	**Honiara**	**2.31 327**		Pn	**Pn**	**Pn**	**14 18 21.0**	**-2.3**
KOUNC	**Koumac, New Ca**	**9.59 163**		Pn	**Pn**	**Pn**	**14 20 04.6**	**+1.2**
LIFNC	**LIFOU**	**10.99 149**		Pn	Pn	Pn	14 20 18.7	-4.0
DZM	**Mont Dzumac**	**11.75 156**		Pn	**Pn**	**Pn**	**14 20 33.2**	**+0.1**
	0.5nm,0.3s,baz=336,slow=20,SNR=19							
DZM				Sn	**Sn**	**Sn**	**14 22 42.1**	**-2.4**
	0.2nm,0.3s,baz=11,slow=23,SNR=1.6 4.7nm,0.7s							
DZM	**Mont Dzumac**	**11.75 156**		Pn	**Pn**	**Pn**	**14 20 34.1**	**+1.0**
PMG	**Port Moresby**	**13.98 277**		LR	LR	LR	14 25 44.5	
	comp=Z,124nm,18.4s,baz=98,slow=34							
AFI	**Afiamalu**	**26.45 98**		LR	LR	LR	14 31 57.4	
	comp=Z,43nm,19.9s,baz=245,slow=32							
WB0	**Warramunga Arr**	**27.14 249**		P	**P**	**P**	**14 23 30.4**	**+1.5**
WB0				IAmb	IAmb	IAmb	14 23 33.5	
	comp=Z,6.6nm,1.4s							
WRA	**Warramunga Arr**	**27.23 248**		P	**P**	**P**	**14 23 30.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=77,slow=9.1,SNR=4.7 comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**28.72 241**		P	**P**	**P**	**14 23 43.1**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=66,slow=10,SNR=2.2 comp=Z,0.3nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**30.16 10**		T	T	T	14 54 36.2	
	baz=191,slow=76							
H11S3	**WAKE ISLAND Hy**	**30.16 10**		T	T	T	14 54 38.7	
	baz=191,slow=76							
H11S1	**WAKE ISLAND Hy**	**30.18 10**		T	T	T	14 54 35.2	
	baz=191,slow=76							
H11N1	**WAKE ISLAND Hy**	**31.39 10**		T	T	T	14 55 58.7	
	baz=189,slow=76							
H11N3	**WAKE ISLAND Hy**	**31.40 10**		T	T	T	14 55 59.5	
	baz=189,slow=76							
H11N2	**WAKE ISLAND Hy**	**31.41 10**		T	T	T	14 55 59.3	
	baz=189,slow=76							
KNRA	**Kununurra**	**31.84 259**		P	**P**	**P**	**14 24 11.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**35.02 255**		P	**P**	**P**	**14 24 38.5**	**+0.1**
VNDA	**Vanda**	**66.14 180**		P	**P**	**P**	**14 28 31.3**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=352,slow=7.4,SNR=5.1 comp=Z,0.9nm,0.7s							
VNDA	**Vanda**	**66.14 180**		P	**P**	**P**	**14 28 31.0**	**-1.4**
SONM	**Songino Array**	**76.36 325**		P	**P**	**P**	**14 29 37.5**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=140,slow=5.1,SNR=2.7 comp=Z,0.6nm,0.8s							
TIXI	**Tiksi**	**85.61 350**		LR	LR	LR	15 03 16.0	
	comp=Z,297nm,21.6s,baz=248,slow=32							
MKAR	**Makanchi Array**	**90.75 318**		P		**P**	**14 30 49.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=109,slow=5.7,SNR=3.6 comp=Z,0.3nm,0.7s							

MAN 12 14:23:01.7, 16.67N×122.66E, h29km, mb4.2, ML3.0, MS2.7, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.46 330**	↑	eP	Pb	Pb	14 23 10.6	-0.8
PALP				eS	Sb	Sb	14 23 17.1	-0.9
BALP	**Baler**	**1.39 229**	↑	iP	Pn	Pn	14 23 25.8	+0.6
BALP				eS	Sn	Sn	14 23 42.6	+0.1
SAMP	**Sagada Mountai**	**1.73 284**	↑	iP	Pn	Pn	14 23 30.3	+0.3
SAMP				eS	Sn	Sn	14 23 51.9	+0.8
APYP	**Conner**	**1.80 312**	↑	iP	Pn	Pn	14 23 32.0	+1.2
APYP				iS	Sn	Sn	14 23 53.3	+0.5
JCNP	**Jose Panganiba**	**2.36 179**	↓	iP	Pn	Pn	14 23 40.6	+2.1
JCNP				iS	Sn	Sn	14 24 07.2	+0.6

NEIC ***12*** *14:29:21.8±1.8, 13.18S±0.10×74.85W±0.10, h67km±9km, mb4.2/8, Error ellipse: s-maj=16.2km s-min=10.3km az=222.0*
IDC ***12*** *14:29:23.1±1.7, 13.55S×75.28W, h88km±13km, mb3.3/3, mbtmp3.8/7, MS2.1/2, Error ellipse: s-maj=56.4km s-min=13.8km az=45.0*
ISC 12 14:29:23.4±0.7, 13.26S±0.08×74.92W±0.08, h101km, n34, σ2s36/33, mb3.9/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.26 304**		P	**Pn**	**Pn**	**14 29 58.1**	**-1.4**
	169nm,0.3s,baz=140,slow=13,SNR=67							
NNA				S	**Sn**	**Sn**	**14 30 24.3**	**-2.7**
	1µm,0.4s,baz=264,slow=13,SNR=24							
NNA				LR	LR	LR	14 30 60.0	
	comp=Z,26nm,18.3s,baz=174,slow=45							
NNA	**Nana**	**2.26 304**		Pn	**Pn**	**Pn**	**14 29 58.0**	**-1.4**
NNA				Sn	**Sn**	**Sn**	**14 30 22.7**	**-4.4**
CZSB	**Cruzeiro do Su**	**5.91 22**		Pn	**Pn**	**Pn**	**14 30 44.9**	**-3.7**
PB12	**IPOC Station P**	**6.92 141**		Pn	**Pn**	**Pn**	**14 31 00.7**	**-1.7**
ATAH	**Atahualpa**	**6.98 330**		P	**Pn**	**Pn**	**14 31 04.8**	**+1.3**
	13nm,0.5s,baz=170,slow=11,SNR=14							
ATAH				S	**Sn**	**Sn**	**14 32 25.4**	**+3.9**
	6.9nm,0.5s,baz=153,slow=16,SNR=1.5							
LPAZ	**La Paz**	**7.23 115**		P	**Pn**	**Pn**	**14 31 08.8**	**+1.7**
	2.9nm,0.3s,baz=298,slow=7.6,SNR=8.2							
LPAZ				S	**Sn**	**Sn**	**14 32 29.3**	**+1.4**
	2.1nm,0.6s,baz=50,slow=24,SNR=1.3							
LPAZ				LR	LR	LR	14 34 31.1	
	comp=Z,22nm,18.1s,baz=296,slow=42							
LPAZ	**La Paz**	**7.23 115**		Pn	**Pn**	**Pn**	**14 31 04.0**	**-3.1**
PB16	**IPOC Station P**	**7.25 135**		Pn	**Pn**	**Pn**	**14 31 06.6**	**-0.7**
GO01	**Chusmiza**	**8.41 140**			**Pn**	**Pn**	**14 31 22.6**	**-0.4**
ETMB	**Extrema**	**9.19 69**		Pn	**Pn**	**Pn**	**14 31 31.6**	**-1.7**
MCRA	**Macar, Loja**	**10.13 330**			**Pn**	**Pn**	**14 31 43.1**	**-2.9**
BOSC	**San Juan Bosco**	**10.64 340**		Pn	**Pn**	**Pn**	**14 31 49.1**	**-4.0**
LVC	**Limon Verde**	**10.92 149**		P	**Pn**	**Pn**	**14 31 56.0**	**-0.9**
	1.3nm,0.3s,baz=255,slow=22,SNR=1.0							
LVC				S	**Sn**	**Sn**	**14 33 52.8**	**-4.5**
	3.1nm,0.6s,baz=342,slow=13,SNR=1.6							
SAML	**Samuel**	**12.29 71**		Pn	**Pn**	**Pn**	**14 32 11.8**	**-3.3**
PORT	**Chimborazo Vol**	**12.32 342**		Pn	**Pn**	**Pn**	**14 32 14.3**	**-1.7**
H03N1	**Juan Fernandez**	**20.42 190**		T	T	T	14 53 21.1	
	baz=12,slow=74,SNR=27							
H03N2	**Juan Fernandez**	**20.42 190**		T	T	T	14 53 18.8	
	baz=12,slow=74,SNR=27							
H03N3	**Juan Fernandez**	**20.43 190**		T	T	T	14 53 21.5	
	baz=12,slow=74,SNR=25							
BAUV	**El Baul**	**23.09 18**		P	**P**	**P**	**14 34 19.5**	**-1.2**
BAUV				IAmb	IAmb	IAmb	14 34 24.5	
	comp=Z,13nm,1.2s							
TX31	**Lajitas Ar. Si**	**50.63 327**		P	**P**	**P**	**14 38 13.1**	**+0.6**
TX32	**Lajitas Array**	**50.63 327**		P	**P**	**P**	**14 38 13.4**	**+0.9**
TX32				IAmb	IAmb	IAmb	14 38 37.4	
	comp=Z,2.8nm,1.4s							
TXAR	**Lajitas Array**	**50.63 327**		P	**P**	**P**	**14 38 13.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=146,slow=8.3,SNR=9.4 comp=Z,0.9nm,0.8s							
TXAR	**Lajitas Array**	**50.63 327**		P	**P**	**P**	**14 38 13.3**	**+0.9**
PDAR	**Pinedale Array**	**64.17 332**		P	**P**	**P**	**14 39 48.5**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=126,slow=9.2,SNR=2.6 comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**65.50 324**		P	**P**	**P**	**14 39 57.7**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=159,slow=7.7,SNR=4.4 comp=Z,0.5nm,0.8s							
HLID	**Hailey**	**67.06 330**		P	**P**	**P**	**14 40 08.1**	**+2.0**
BOZ	**Bozeman (W)**	**67.31 333**		P	**P**	**P**	**14 40 09.0**	**+1.4**
SNAA	**Sanae**	**71.88 162**		P	**P**	**P**	**14 40 37.3**	**+2.1**
QSPA	**South Pole Qui**	**76.88 180**		P	**P**	**P**	**14 41 06.8**	**+2.4**
QSPA				IAmb	IAmb	IAmb	14 41 10.4	
	comp=Z,2.8nm,1.2s							
H11N3	**WAKE ISLAND Hy**	**20.63 285**		T	T	T	16 59 05.8	
	baz=96,slow=74							
H11N2	**WAKE ISLAND Hy**	**20.64 285**		T	T	T	16 59 04.7	
	baz=96,slow=74							
H11N1	**WAKE ISLAND Hy**	**20.64 285**		T	T	T	16 59 06.4	
	baz=96							
WRA	**Warramunga Arr**	**136.21 222**		PKP	**PKPdf**		**14 48 35.3**	**+1.3**
	comp=Z,0.5nm,1.1s,baz=121,slow=2.2,SNR=4.8							
SONM	**Songino Array**	**145.51 358**		PKPbc	**PKPab**		**14 48 51.8**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=17,slow=1.5,SNR=6.6							

KEA ***12*** *14:52:28.5, 35.83N×129.13E, h15km, ML3.5/1*
JMA ***12*** *14:52:28.9±0.2, 35.9N±0.8×129.2E±0.9, h23km, MV3.3/13, S KOREAN PENINSULA REG*
KMA ***12*** *14:52:30.5±0.1, 35.76N×129.18E, h17km±1km, Error ellipse: s-maj=1.2km s-min=0.9km az=159.0*
ISC 12 14:52:30.1±1.0, 35.77N±0.03×129.21E±0.05, h16km±9km, n19, σ1s94/30, South Korea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu**	**0.25 270**		P	**Pg**	**Pg**	**14 52 36.0**	**+0.3**
KSDAG				S	**Sg**	**Sg**	**14 52 39.5**	**0.0**
YOCB	**Yeongcheon**	**0.30 315**		P	**Pg**	**Pg**	**14 52 36.9**	**+0.5**
	SNR=101							
YOCB				S	**Sg**	**Sg**	**14 52 41.1**	**+0.3**
KSPHA	**Pohang**	**0.44 17**		P	**Pb**	**Pb**	**14 52 40.0**	**+0.4**
	SNR=78							
KSPHA				P	**Pb**	**Pb**	**14 52 40.0**	**+0.4**
	SNR=78							
KSPHA				mb			14 52 48.9	
	SNR=51							
KSPHA				mb			14 52 48.9	
	SNR=51							
MIYA	**Miryang-si**	**0.47 234**		P	**Pg**	**Pg**	**14 52 39.6**	**+0.1**
	SNR=58							
KSDAU	**Deagu-acc**	**0.49 284**		P	**Pg**	**Pg**	**14 52 40.2**	**+0.2**
	SNR=97							
KSBUS	**Busan**	**0.52 189**		P	**Pg**	**Pg**	**14 52 40.7**	**+0.1**
	SNR=70							
KSBUS				P	**Pg**	**Pg**	**14 52 40.7**	**+0.1**
	SNR=70							
KSBUS				mb			14 52 47.8	
	SNR=28							
KSBUS				mb			14 52 47.8	
	SNR=28							
KSCHR	**CHANGNYEONG**	**0.63 249**		P	**Pg**	**Pg**	**14 52 42.2**	**-0.2**
	SNR=46							
EUSB	**Uiseong**	**0.72 324**		P	**Pg**	**Pg**	**14 52 44.3**	**+0.1**
	SNR=30							
EUSB				P	**Pg**	**Pg**	**14 52 44.3**	**+0.1**
	SNR=30							
YODB	**Yeongdeok**	**0.78 12**		P	**Pb**	**Pb**	**14 52 45.8**	**+0.5**
	SNR=66							
YODB				P	**Pb**	**Pb**	**14 52 45.8**	**+0.5**
	SNR=66							
YODB				mb			14 52 58.9	
	SNR=22							
YODB				mb			14 52 58.9	
	SNR=22							
EURB	**Uiryeong-eup**	**0.87 240**		P	**Pb**	**Pb**	**14 52 46.5**	**-0.4**
	SNR=24							
EURB				P	**Pb**	**Pb**	**14 52 46.5**	**-0.4**
	SNR=24							
EURB				mb			14 52 58.1	
	SNR=24							
EURB				mb			14 52 58.1	
	SNR=24							
JTU	**Tsushima**	**1.25 173**		eP	**Pn**	**Pn**	**14 52 53.0**	**+0.1**
JTU				eS	**Sb**	**Sb**	**14 53 09.8**	**+0.7**
JTSM	**Tsushimamitsus**	**1.43 174**		eP	**Pn**	**Pn**	**14 52 55.7**	**+0.3**
JTSM				eS	**Sb**	**Sb**	**14 53 15.4**	**+0.9**
JHGM	**Hagimishima**	**1.86 121**		eS	**Sn**	**Sn**	**14 53 25.2**	**+0.7**
JII	**Iki**	**2.02 168**		eP	**Pn**	**Pn**	**14 53 04.1**	**+0.6**
JII				eS	**Sb**	**Sb**	**14 53 30.9**	**-0.3**
HJU	**Haeju**	**3.60 310**		Pg	**Pb**	**Pb**	**14 53 34.9**	**+1.6**
HJU				Sg	**Sb**	**Sb**	**14 54 21.4**	**+4.6**
HJU				AML	AML			
	comp=N,172nm,0.8s							
HJU				AML	AML			
	comp=E,111nm,0.5s							
HJU				AML	AML			
	comp=Z,76nm,0.3s							
PYAG	**Pyongyang**	**4.28 321**		Sg	**Sg**	**Sg**	**14 54 43.4**	**-4.0**
HHU	**Hamhung**	**4.36 343**		Sg	**Sg**	**Sg**	**14 54 46.1**	**-3.9**
PYS	**Pyongsong**	**4.38 324**		Sg	**Sg**	**Sg**	**14 54 46.3**	**-4.5**
SUJ	**Sinuiju**	**5.71 321**		Sg	**Sg**	**Sg**	**14 55 29.0**	**-4.3**

KMA ***12*** *15:07:43.2±0.0, 35.77N×129.18E, h14km, Error ellipse: s-maj=0.6km s-min=0.4km az=298.0*
JMA ***12*** *15:07:43.0±0.4, 36.1N±1.1×129.2E±1.1, h20km, MV2.5/6, S KOREAN PENINSULA REG*
ISC 12 15:07:43.1±1.3, 35.76N±0.03×129.20E±0.05, h17km±11km, n32, σ0s22/34, South Korea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu**	**0.24 272**		P	**Pb**	**Pb**	**15 07 48.8**	**-0.3**
	SNR=228							
YOCB	**Yeongcheon**	**0.29 318**		P	**Pg**	**Pg**	**15 07 49.5**	**0.0**
	SNR=56							
MIYA	**Miryang-si**	**0.45 234**		P	**Pg**	**Pg**	**15 07 52.4**	**+0.1**
	SNR=14							
KSPHA	**Pohang**	**0.46 18**		P	**Pg**	**Pg**	**15 07 52.4**	**+0.1**
	SNR=32							
KSDAU	**Deagu-acc**	**0.49 285**		P	**Pg**	**Pg**	**15 07 53.0**	**+0.1**
	SNR=22							
KSBUS	**Busan**	**0.51 188**		P	**Pb**	**Pb**	**15 07 53.4**	**-0.3**
	SNR=53							
KSCHR	**CHANGNYEONG**	**0.61 250**		P	**Pb**	**Pb**	**15 07 55.0**	**-0.4**
	SNR=14							
KSADO	**Andong**	**0.68 343**		P	**Pb**	**Pb**	**15 07 56.1**	**-0.4**
	SNR=76							
EUSB	**Uiseong**	**0.72 326**		P	**Pb**	**Pb**	**15 07 56.9**	**-0.4**
	SNR=36							
YODB	**Yeongdeok**	**0.79 13**		P	**Pb**	**Pb**	**15 07 58.2**	**-0.2**
	SNR=19							
EURB	**Uiryeong-eup**	**0.86 240**		P	**Pb**	**Pb**	**15 07 59.3**	**-0.2**
	SNR=8.8							
YEYB	**Yeongyang**	**0.87 354**		P	**Pb**	**Pb**	**15 07 59.7**	**-0.1**
	SNR=28							
KSGUM	**GUMI**	**0.88 303**		P	**Pb**	**Pb**	**15 07 59.8**	**-0.1**
	SNR=8.5							
ADOA	**Andong Acc Bor**	**0.91 334**		P	**Pb**	**Pb**	**15 08 00.1**	**-0.3**
	SNR=12							
KSGIC	**Gimchen**	**0.94 290**		P	**Pb**	**Pb**	**15 08 00.9**	**-0.1**
	SNR=22							
HACA	**Hapcheon Acc B**	**0.96 249**		P	**Pb**	**Pb**	**15 08 01.0**	**-0.2**
	SNR=11							
KSULJ	**Uljin**	**0.96 10**		P	**Pb**	**Pb**	**15 08 01.1**	**-0.1**
	SNR=37							
KSSAJ	**Sangju**	**1.06 308**		P	**Pb**	**Pb**	**15 08 02.8**	**-0.2**
	SNR=22							
DUSB	**Deogyusan**	**1.16 277**		P	**Pb**	**Pb**	**15 08 04.8**	**-0.1**
	SNR=56							
CHYB	**Chungyang**	**1.20 349**		P	**Pn**	**Pn**	**15 08 05.2**	**0.0**
	SNR=38							
HAMB	**Hamyang**	**1.21 259**		P	**Pb**	**Pb**	**15 08 05.3**	**-0.2**
	SNR=9.8							
YOJB	**Youngju**	**1.24 334**		P	**Pb**	**Pb**	**15 08 06.0**	**-0.1**
	SNR=58							
JTU	**Tsushima**	**1.24 172**		eP	**Pn**	**Pn**	**15 08 05.7**	**0.0**
JTU				eS	**Sn**	**Sn**	**15 08 22.2**	**+0.2**
OKCB	**Cheongsan-myeo**	**1.28 298**		P	**Pb**	**Pb**	**15 08 06.6**	**-0.1**
	SNR=44							
KSMGY	**Mungyeong**	**1.28 315**		P	**Pb**	**Pb**	**15 08 06.7**	**-0.1**
	SNR=28							
KSBON	**Boeun**	**1.35 304**		P	**Pb**	**Pb**	**15 08 08.3**	**+0.3**
	SNR=30							
YKDB	**Yokjido**	**1.36 214**		P	**Pb**	**Pb**	**15 08 08.0**	**-0.2**
	SNR=25							
KSTBA	**Taebaek**	**1.38 352**		P	**Pb**	**Pb**	**15 08 08.4**	**-0.1**
	SNR=44							
JTSM	**Tsushimamitsus**	**1.43 174**		eP	**Pn**	**Pn**	**15 08 08.3**	**+0.1**
JTSM				eS	**Sn**	**Sn**	**15 08 26.5**	**0.0**
IMWB	**Imwonan-gil**	**1.48 5**		P	**Pb**	**Pb**	**15 08 10.3**	**+0.1**
	SNR=8.8							
KSCHJ	**Chungju**	**1.49 319**		P	**Pb**	**Pb**	**15 08 10.1**	**-0.2**
	SNR=12							
NAWB	**Namwon**	**1.50 258**		P	**Pb**	**Pb**	**15 08 11.0**	**+0.4**
	SNR=17							

BJI ***12*** *15:10:04.5±0.0, 5.55S×101.78E, h27km, mb5.4/80, mB5.2/56, Ms5.1/79, Ms7 5.0/73*
IDC ***12*** *15:10:07.0±0.4, 4.91S×101.83E, h0km, mb5.0/31, mbtmp5.0/32, ML4.4/1, MS4.5/46, Error ellipse: s-maj=13.4km s-min=9.7km az=43.0*
DJA ***12*** *15:10:09.6±0.7, 5.2S×101.2E, h26km±6km, M5.0/61, mb5.2/61, mB5.4/39, MLv5.3/27, Mw(mB)4.9/39, MwMwp4.9/8, Mwp5.2/8*
NEIC ***12*** *15:10:10.7±2.2, 4.91S±0.07×101.77E±0.06, h18km±3km, mb5.3/133, Error ellipse: s-maj=10.7km s-min=8.6km az=213.0*
MOS ***12*** *15:10:11.7±1.0, 4.85S×101.84E, h43km, mb5.5/78, MS4.6/10, Error ellipse: s-maj=7.2km s-min=4.1km az=112.7*
GCMT ***12*** *15:10:12.7±0.2, 5.27S±0.02×101.50E±0.02, h29km±1km, MW5.1/84, Moment Tensor Solution. s63,c88; s84,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr3.83±.16; Mθθ-1.93±.10; Mφφ-1.90±.14; Mrθ2.88±.19; Mθφ1.81±.07; Mφr-3.64±.26; Best double couple: Mo5.98400×10^{16} NP1:φs140.00000°, δ70.00000°, λ93.00000°. NP2: φs310.00000°, δ20.00000°, λ80.00000°. Principal axes: T 6.0520, Plg64.0000°, Azm56.0000°; N -0.1360, Plg3.0000°, Azm319.0000°; P -5.9160, Plg25.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 15:10:11.2±0.4, 5.07S±0.03×101.76E±0.03, h32km±2km, h32km:pP-P, n805, σ1s43/818, mb5.3/185, MS4.7/91, 63C-21D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.38 60**		Pn	**Pn**	**Pn**	**15 10 34.7**	**+0.4**
MNAI	**Manna**	**1.38 60**		P	**Pn**	**Pn**	**15 10 35.0**	**+0.7**
MNAI				S	**Sb**	**Sb**	**15 10 56.4**	**+2.6**
MNAI	**Manna**	**1.38 60**		P	**Pn**	**Pn**	**15 10 35.2**	**+0.9**
KSI	**Kapahiang**	**1.63 31**		P	**Pn**	**Pn**	**15 10 37.5**	**-0.3**
KSI	**Kapahiang**	**1.63 31**		P	**Pn**	**Pn**	**15 10 37.2**	**-0.6**
MASI	**Maura Aman, Be**	**1.97 14**		P	**Pn**	**Pn**	**15 10 42.0**	**-0.4**
MASI				S	**Sn**	**Sn**	**15 11 05.9**	**-0.2**
LWLI	**Liwa**	**2.29 89**		P	**Pn**	**Pn**	**15 10 47.4**	**+0.5**
LWLI				S	Sn	Sn	15 10 58.5	-1.6
KASI	**Kota Agung**	**2.76 100**		P	**Pn**	**Pn**	**15 10 53.6**	**+0.3**
KASI				S	**Sn**	**Sn**	**15 11 24.8**	**-0.8**
PPSI	**Pulau Pagai**	**2.88 323**		P	**Pn**	**Pn**	**15 10 53.9**	**-1.0**
PPSI				S	**Sn**	**Sn**	**15 11 25.1**	**-3.3**
KRJI	**Kerinci**	**2.97 354**		P	**Pn**	**Pn**	**15 10 56.1**	**-0.1**
KLI	**Kotabumi**	**3.09 86**		P	**Pn**	**Pn**	**15 11 00.1**	**+2.3**
KLI	**Kotabumi**	**3.09 86**		P	**Pn**	**Pn**	**15 10 59.2**	**+1.4**
BLSI	**Bandar Lampung**	**3.48 95**		P	**Pn**	**Pn**	**15 11 05.5**	**+2.3**
PMBI	**Palembang**	**3.68 55**			**Pn**	**Pn**	**15 11 05.7**	**-0.3**
PMBI	**Palembang**	**3.68 55**		P	**Pn**	**Pn**	**15 11 06.4**	**+0.5**
PMBI	**Palembang**	**3.68 55**		P	**Pn**	**Pn**	**15 11 07.3**	**+1.4**
JMBI	**JAMBI**	**3.89 29**		P	**Pn**	**Pn**	**15 11 09.9**	**+1.1**
SDSI	**Sungai Dareh**	**4.12 355**		P	**Pn**	**Pn**	**15 11 11.0**	**-0.9**
PDSI	**Padang**	**4.32 343**		P	**Pn**	**Pn**	**15 11 13.5**	**-1.3**
SBJI	**Serang**	**4.47 104**		P	**Pn**	**Pn**	**15 11 18.2**	**+1.4**
SISI	**Saibi**	**4.57 324**		P	**Pn**	**Pn**	**15 11 17.1**	**-1.1**
TNG	**Tangerang**	**4.99 103**		P	**Pn**	**Pn**	**15 11 25.5**	**+1.6**
	5.5nm13µm884nm,0.9s							
TNG				P	Pb		15 11 29.5	-8.3
TNG				S	**Sb**	**Sb**	**15 12 29.7**	**-7.6**
	5.5nm13µm

21nm,0.3s,baz=235,slow=5.7,SNR=42
LEM Sn **Sn** **15 12 50.9 +3.1**
12nm,0.3s,baz=255,slow=20,SNR=1.1
LEM Lembang 6.08 107 P **Pn** **15 11 40.4 +1.3**
1.0nm2µm3µm265nm,0.9s
TPI Tanjungpandan 6.31 69 P **Pn** **15 11 43.0 +0.9**
0.6nm616nm28nm,0.9s
TPRI Tanjung Pinang 6.55 25 P **Pn** **15 11 47.0 +1.5**
1.1nm4µm304nm,1.0s
XMI Christmas Isla 6.62 144 P **Pn** **15 11 47.8 +1.5**
XMIS Christmas Isla 6.62 145 Pn 15 11 40.7 -5.6
JCJI Jatiwangi 6.63 103 P **Pn** **15 11 48.9 +2.4**
1.9nm274nm,1.3s
MYKOM **Kota Tinggi 7.12 17** **Pn** **15 11 52.5 -0.7**
GSI Gunungsitoli 7.58 326 Pn **Pn** **15 11 57.5 -2.1**
GSI Gunungsitoli 7.58 326 P **Pn** **15 11 57.1 -2.5**
0.9nm3µm288nm,0.8s
GSI Gunungsitoli 7.58 326 P **Pn** **15 11 58.6 -1.0**
RPSI Rantau Prapat 8.21 340 Pn **Pn** **15 12 06.1 -2.1**
RPSI Rantau Prapat 8.21 340 **Pn** **15 12 06.0 -2.2**
PSI Prapat 8.31 340 Pn **Pn** **15 12 06.0 -3.7**
5.5nm,0.3s,baz=171,slow=12,SNR=12
21nm,0.4s
PSI Prapat 8.31 340 P **Pn** **15 12 06.0 -3.7**
PSI Prapat 8.31 340 P **Pn** **15 12 07.2 -2.5**
COCO West Island 8.59 214 **Pn** **15 12 10.8 -2.6**
COCO West Island 8.59 214 P **Pn** **15 12 10.8 -2.6**
SMRI Semarang 8.86 103 **Pn** **15 12 17.5 +0.4**
SMRI Semarang 8.86 103 P **Pn** **15 12 17.8 +0.7**
185nm,0.9s
SMRI Semarang 8.86 103 P **Pn** **15 12 18.5 +1.4**
UGM Wanagama 9.16 108 Pn **Pn** **15 12 21.4 +0.2**
UGM Wanagama 9.16 108 P **Pn** **15 12 21.9 +0.7**
598nm,0.6s
UGM Wanagama 9.16 108 P **Pn** **15 12 21.6 +0.4**
KCSI Kotacane, Aceh 9.41 335 P **Pn** **15 12 23.5 -1.2**
1µm97nm,1.1s
IPM Ipoh 9.51 356 Pn **Pn** **15 12 24.8 -1.3**
IPM Ipoh 9.51 356 P **Pn** **15 12 26.2 +0.2**
PCJI Pacitan 9.86 109 P **Pn** **15 12 31.7 +0.9**
205nm,0.8s
NGJI Ngawi 9.91 104 P Pn 15 12 37.5 +6.0
PBKI Pangkalan Bun 10.16 77 P Pn 15 12 40.0 +5.0
TBJI Tambak Boyo 10.19 100 P **Pn** **15 12 39.0 +3.7**
198nm,1.1s
KULM Kulim 10.35 354 Pn **Pn** **15 12 36.7 -0.8**
PWJI Pagerwojo 10.40 107 P **Pn** **15 12 38.6 +0.3**
161nm,0.8s
STKI Sintang 10.96 63 P Pn 15 12 51.6 +5.6
KMMI Kalianget 12.30 100 P **Pn** **15 13 04.1 -0.1**
2µm135nm,1.3s
ABJI Asem Bagus 12.69 103 P **Pn** **15 13 11.1 +1.5**
4µm206nm,1.2s
JAGI Jajag, Banyuwa 12.76 106 Pn **Pn** **15 13 09.0 -1.6**
JAGI Jajag, Banyuwa 12.76 106 P **Pn** **15 13 11.6 +1.0**
97nm,1.2s
JAGI Jajag, Banyuwa 12.76 106 P **Pn** **15 13 11.9 +1.3**
SBUM Sibu 12.84 55 Pn **Pn** **15 13 09.8 -1.9**
SRBI Singaraja 13.70 103 P **Pn** **15 13 25.1 +1.8**
100nm,0.7s
SRIT Nakonsritamara 13.74 351 Pn Pn 15 13 18.6 -5.3
TWSI Taliwang, Sumb 15.45 104 P **Pn** **15 13 47.7 +0.7**
49nm,0.8s
BKB Balikpapan 15.58 76 **Pn** **15 13 47.3 -1.3**
BKB IAmb IAmb 15 13 56.2
comp=Z,163nm,0.7s
BKB Balikpapan 15.58 76 P **P** **15 13 50.6 -2.0**
comp=Z,257nm,0.9s
PLAI Plampang 16.33 104 P **Pn** **15 13 56.0 -2.3**
comp=Z,1µmcomp=Z,151nm,0.8s
PLAI Plampang 16.33 104 P **Pn** **15 13 57.7 -0.6**
KAPI Kappang 17.92 91 LR LR 15 21 57.6
comp=Z,2µm,18.6s,baz=264,slow=40
KAPI Kappang 17.92 91 Pn **Pn** **15 14 16.2 -2.0**
KAPI Kappang 17.92 91 P **Pn** **15 14 16.2 -2.0**
KAPI pmax pmax
comp=Z,15nm,0.9s
KAPI Kappang 17.92 91 P **P** **15 14 19.0 +0.4**
SPSI Sidrap Palu 17.99 87 P **Pn** **15 14 18.9 -0.1**
comp=Z,1µmcomp=Z,73nm,0.9s
WBSI Waikabubak, Su 18.06 106 P **P** **15 14 20.5 +0.3**
comp=Z,1µmcomp=Z,142nm,0.8s
TTSI Tana Toraja 18.12 84 P **P** **15 14 22.1 +1.3**
comp=Z,1µmcomp=Z,126nm,1.3s
KKM Kota Kinabalu 18.17 53 **Pn** **15 14 19.5 -1.8**
KKM Kota Kinabalu 18.17 53 P **P** **15 14 21.8 +0.4**
DLV T Lat 18.17 22 P **P** **15 14 21.8 +0.3**
BKSI Bulukumba 18.29 92 P **P** **15 14 21.4 -1.2**
comp=Z,822nmcomp=Z,74nm,0.9s
BSSI Bau Bau, Buton 18.67 94 P **Pn** **15 14 27.7 +0.3**
comp=Z,32nm,1.2s
PBA Port Blair 18.88 332 P **P** **15 14 28.3 -0.8**
MPSI Mapaga 18.89 74 P **Pn** **15 14 30.5 +0.5**
comp=Z,3µmcomp=Z,2µmcomp=Z,259nm,1.1s
BASI Baing, Sumba 19.34 106 P **Pn** **15 14 35.0 -0.3**
comp=Z,3µmcomp=Z,269nm,1.0s
MYLDM **Lahad Datu 19.57 59** P **P** **15 14 36.1 -0.6**
MYLDM IAmb IAmb 15 14 51.8
comp=Z,264nm,1.2s
TOLI2 Tolitoli 19.97 73 P **P** **15 14 40.7 -0.3**
TOLI2 IAmb IAmb 15 14 44.7
comp=Z,124nm,1.0s
TOLI2 Tolitoli 19.97 73 P **P** **15 14 41.5 +0.5**
EDFI Ende, Flores 20.12 102 P **P** **15 14 41.5 -1.3**
comp=Z,360nmcomp=Z,29nm,1.1s
APSI Ampana 20.28 79 P Pn 15 14 46.0 -0.6
comp=Z,2µmcomp=Z,156nm,1.3s
UBPT Khong Chiam 20.55 10 P **P** **15 14 46.2 -1.1**
MMRI Maumere 20.64 101 P **P** **15 14 46.0 -2.3**
MMRI IAmb IAmb 15 15 05.7
comp=Z,66nm,0.7s
MMRI Maumere 20.64 101 P **P** **15 14 47.5 -0.8**
MRSI Marisa 20.90 75 P Pn 15 14 52.9 -0.8
comp=Z,3µmcomp=Z,315nm,0.8s
BATP Bataraza 21.11 49⇑ *eP* **P** **15 14 53.2 -0.1**
LUWI Luwuk 21.36 80 P **P** **15 14 55.5 -0.6**
LUWI Luwuk 21.36 80 P **P** **15 14 57.8 +1.8**
comp=Z,3µmcomp=Z,291nm,1.3s
LUWI Luwuk 21.36 80 P **P** **15 14 56.4 +0.4**
GTOI Gorontalo 21.97 76 P **P** **15 15 03.5 +0.9**
comp=Z,728nmcomp=Z,62nm,1.4s
BATI Baumata 22.30 105 P **P** **15 15 06.1 -0.1**
comp=Z,107nm,0.6s,baz=265,slow=3.2,SNR=18
BATI S **S** **15 19 02.4 -7.5**
comp=Z,20nm,0.5s,baz=304,slow=21,SNR=1.5
comp=Z,107nm,0.6s
BATI Baumata 22.30 105 P **P** **15 15 06.8 +0.6**
comp=Z,1µmcomp=Z,118nm,0.8s
PHRA Phrae 23.46 356 P **P** **15 15 17.5 -0.6**
CMAR Chiang Mai Arr 23.54 353 P **P** **15 15 17.0 -1.8**
comp=Z,17nm,0.8s,baz=183,slow=8.6,SNR=58
CMAR PcP **PcP** **15 19 05.2 +1.3**
comp=Z,4.7nm,0.8s,baz=213,slow=3.2,SNR=6.2
CMAR LR LR 15 25 51.8
comp=Z,2µm,18.5s,baz=180,slow=40
comp=Z,17nm,0.8s
MBWA Marble Bar 23.67 134 P **P** **15 15 20.8 +0.7**
CHTO Chiang Mai 23.89 353 P **P** **15 15 21.3 -0.9**
CHTO Chiang Mai 23.89 353 P **P** **15 15 21.3 -0.9**
CHTO pmax pmax
comp=Z,6.0nm,1.9s
CHTO Chiang Mai 23.89 353 P **P** **15 15 21.6 -0.6**
PSA00 Pilbara Seismi 24.01 135 P **P** **15 15 24.4 +1.0**
PSA00 Pilbara Seismi 24.01 135 P **P** **15 15 24.0 +0.7**
PSA00 IAmb IAmb 15 15 35.8
comp=Z,45nm,1.4s
PSA00 Pilbara Seismi 24.01 135 P **P** **15 15 25.2 +1.8**
PALK Pallekele 24.33 300 LR LR 15 23 42.1
comp=Z,824nm,19.8s,baz=225,slow=34
SANI Sanana 24.36 84 P **P** **15 15 26.2 -0.5**
comp=Z,938nmcomp=Z,53nm,1.6s
SANI Sanana 24.36 84 P **P** **15 15 26.4 -0.3**
CUYO Cuyo Island 24.85 50⇑ *eP* **P** **15 15 33.3 +2.2**
BUSP Coron 24.98 47⇑ *eP* **P** **15 15 34.2 +2.1**
PAGZ Pagadian 25.10 59⇑ *eP* **P** **15 15 32.9 -0.4**
CRAI Chiangrai 25.17 357 P **P** **15 15 32.9 -1.0**
CRAI IAmb IAmb 15 15 38.2
comp=Z,62nm,1.1s
QIZ Qiongzhong 25.23 18 P **P** **15 15 34.0 -0.5**
QIZ IAmb IAmb 15 15 49.9
comp=Z,92nm,1.1s
QIZ Qiongzhong 25.23 18 P **P** **15 15 35.9 +1.5**
QIZ pmax pmax
comp=Z,52nm,1.1s
QIZ LR LR
comp=Z,2µm,14.1s
QIZ LR LR
comp=Z,1µm,19.4s
QIZ LR LR
comp=Z,2µm,17.8s
CNOP Candoni, Negro 25.53 55⇑ *eP* **P** **15 15 36.3 -0.9**
CTBH Cotabato--PC H 25.54 62⇓ *eP* **P** **15 15 37.5 +0.2**
SNPH Sibulan 25.75 56 *eP* P 15 15 31.6 -7.6
GUIM Jordan 25.95 53⇑ *eP* **P** **15 15 40.0 -0.9**
LBMI Labuha 26.08 81 P **P** **15 15 43.8 +1.6**
comp=Z,1µmcomp=Z,148nm,0.9s
KCP Kidapawan 26.19 63⇓ *iP* **P** **15 15 43.2 -0.2**
TNTI Ternate 26.23 78 P **P** **15 15 44.4 +0.8**
DDMP Don Marcelino, 26.36 65⇑ *iP* **P** **15 15 43.9 -0.9**
BUKP Musuan 26.57 61⇑ *iP* **P** **15 15 47.2 +0.5**
RCP Roxas 26.62 52⇑ *eP* **P** **15 15 48.3 +1.2**
DAV Davao City (W) 26.65 63 P **P** **15 15 47.9 +0.5**
comp=Z,172nm,0.4s,baz=232,slow=8.0,SNR=5.6
DAV LR LR 15 27 24.7
comp=Z,1µm,20.1s,baz=200,slow=39
FITZ Fitzroy Crossi 26.69 121 P **P** **15 15 48.9 +1.1**
comp=Z,47nm,0.9s,baz=298,slow=6.6,SNR=64
comp=Z,47nm,0.9s
FITZ Fitzroy Crossi 26.69 121 P **P** **15 15 48.7 +1.0**
baz=27,SNR=47
FITZ Fitzroy Crossi 26.69 121 P **P** **15 15 49.0 +1.3**
KNRA Kununurra 28.54 114 P **P** **15 16 04.3 +0.1**
baz=29,SNR=12
KNRA Kununurra 28.54 114 P **P** **15 16 04.4 +0.1**
KNRA IAmb IAmb 15 16 26.3
comp=Z,58nm,0.8s
KNRA Kununurra 28.54 114 P **P** **15 16 04.7 +0.4**
H08S2 Diego Garcia H 29.20 263 T T 15 46 36.3
baz=86,slow=74,SNR=474
H08S3 Diego Garcia H 29.20 263 T T 15 46 36.7
baz=86,slow=74,SNR=2272
H08S1 Diego Garcia H 29.21 263 T T 15 46 35.2
baz=86,slow=74,SNR=260
BRDH Bariadhala 29.29 341 LR LR 15 30 46.0
comp=Z,1µm,19.5s,baz=147,slow=42
PCHI Peechi 29.67 302 *eP* P 15 16 25.2 +11
PCHI *eS* **S** **15 21 07.3 -0.9**
SIJI Sorong 29.75 83 P **P** **15 16 13.8 -1.4**
comp=Z,11nm,0.6s,baz=285,slow=3.0,SNR=9.1
comp=Z,11nm,0.6s
MTN Manton Dam 30.00 107 P **P** **15 16 16.6 -0.6**
baz=30,SNR=8.3
MTN Manton Dam 30.00 107 P **P** **15 16 16.2 -1.1**
MTN IAmb IAmb 15 16 17.6
comp=Z,50nm,1.2s
MTN Manton Dam 30.00 107 P **P** **15 16 17.1 -0.2**
KMI Kunming 30.02 2 ⇑P **P** **15 16 18.5 +0.9**
KMI pmax pmax
comp=Z,29nm,1.3s
KMI LR LR
comp=Z,2µm,15.4s
KMI LR LR
comp=Z,1µm,17.1s
KMI LR LR
comp=Z,2µm,16.7s
FAKI Fak Fak 30.49 87 P **P** **15 16 20.3 -1.4**
FAKI IAmb IAmb 15 16 21.9
comp=Z,61nm,1.2s
FAKI Fak Fak 30.49 87 P **P** **15 16 20.4 -1.2**
KDU Kakadu 31.25 106 P **P** **15 16 27.4 -0.9**
baz=31,SNR=9.1
KDU Kakadu 31.25 106 P **P** **15 16 27.6 -0.7**
NWAO Narrogin (SRO) 31.26 154 LR LR 15 28 55.1
comp=Z,1µm,19.1s,baz=224,slow=36
PZH PanZhiHua 31.38 360 P **P** **15 16 26.8 -2.6**
PZH pP **sP** **15 16 41.3 -0.8**
PZH sP **pP** **15 16 43.5 +5.2**
PZH S **S** **15 21 42.1 +7.1**
PZH sS **sS** **15 21 50.2 +0.7**
PZH SS **SnSn** **15 23 24.4 +3.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,180nm,5.4s
PZH LR LR
comp=Z,4µm,21.0s
PZH LR LR
comp=Z,4µm,20.1s
PZH LR LR
comp=Z,5µm,22.3s
GYA Guiyang 31.70 8 ⇑P **P** **15 16 32.3 +0.1**
GYA S **S** **15 21 44.8 +4.9**
GYA pmax pmax
comp=Z,35nm,0.5s
GYA LR LR
comp=Z,1µm,15.2s
GYA LR LR
comp=Z,1µm,16.0s
GYA LR LR
comp=Z,2µm,15.2s
H01W3 Cape Leeuwin H 31.80 160 T T 15 49 57.2
baz=337,slow=76,SNR=259
H01W2 Cape Leeuwin H 31.82 160 T T 15 49 58.2
baz=337,slow=76,SNR=305
H01W1 Cape Leeuwin H 31.82 160 T T 15 49 58.3
baz=337,slow=76,SNR=209
SHL Shillong 31.92 343 P **P** **15 16 33.5 -0.8**
SHL Shillong 31.92 343 P **P** **15 16 33.5 -0.8**
SHL pmax pmax
comp=Z,72nm,1.0s
HYBB Hyderabad (bro 32.01 315 *eP* **P** **15 16 35.5 +0.6**
HYBB *eS* **S** **15 21 46.1 +1.3**
WRKA Warakurna 32.29 131 P **P** **15 16 38.5 +1.1**
baz=32,SNR=10
WRKA Warakurna 32.29 131 P **P** **15 16 39.0 +1.6**
TWG Pinlang 33.53 34 P **P** **15 16 46.6 -1.6**
TWG IAmb IAmb 15 17 03.6
comp=Z,32nm,0.9s
TPUB Ta-pu 33.68 32 P **P** **15 16 49.1 -0.4**
TPUB IAmb IAmb 15 17 21.7
comp=Z,40nm,0.9s
YULB Yu-li 34.12 33 P **P** **15 16 52.6 -0.6**
YULB IAmb IAmb 15 17 08.7
comp=Z,45nm,1.3s
SSLB Suanglung 34.25 32 P **P** **15 16 53.9 -0.6**
SSLB IAmb IAmb 15 16 55.7
comp=Z,41nm,1.2s
ODAN Odare 34.65 337 *eP* **P** **15 16 58.8 +0.7**
CNSH ChangSha 34.77 17 ⇑P **P** **15 16 58.4 -0.4**
CNSH S **S** **15 22 28.1 +0.8**
CNSH pmax pmax
comp=Z,18nm,1.2s
CNSH LR LR
comp=Z,2µm,15.1s
CNSH LR LR
comp=Z,1µm,18.8s
CNSH LR LR
comp=Z,2µm,15.1s
WB0 Warramunga Arr 34.96 118 P **P** **15 17 01.2 +0.5**
WB0 IAmb IAmb 15 17 31.0
comp=Z,27nm,0.8s
TAPN Taplejung 34.97 338 *eP* **P** **15 17 01.9 +0.9**
comp=Z,167nm,0.8s
WRA Warramunga Arr 34.97 118 P **P** **15 17 00.2 -0.6**
comp=Z,17nm,0.9s,baz=290,slow=12,SNR=66
WRA LR LR 15 34 08.7
comp=Z,469nm,19.1s,baz=293,slow=41
comp=Z,17nm,0.9s
WRA Warramunga Arr 34.97 118 P **P** **15 17 01.5 +0.7**
WRA Warramunga Arr 34.97 118 P **P** **15 17 01.5 +0.7**
WRA pmax pmax
comp=Z,3.0nm,1.2s
WRAB Tennant Creek 34.98 118 P **P** **15 17 01.2 +0.3**
WRAB IAmb IAmb 15 17 31.4
comp=Z,34nm,0.8s
WRAB Tennant Creek 34.98 118 *ceP* **P** **15 17 01.1 +0.3**
WRAB pmax pmax
comp=Z,39nm,1.3s
WRAB Tennant Creek 34.98 118 P **P** **15 17 01.7 +0.8**
WB2 Warramunga Arr 34.98 118 P **P** **15 17 01.4 +0.4**
WB2 IAmb IAmb 15 17 31.4
comp=Z,30nm,0.9s
RAMN Ramite 35.04 336 *eP* **P** **15 17 02.6 +1.1**
WR0 Warramunga Arr 35.16 118 P **P** **15 17 02.6 +0.2**
WR0 IAmb IAmb 15 17 33.0
comp=Z,28nm,0.8s
YHNB Yeheng 35.19 32 P **P** **15 17 01.9 -0.8**
FORT Forrest 35.59 139 P **P** **15 17 06.9 +1.0**
FORT IAmb IAmb 15 17 20.4
comp=Z,35nm,0.9s
CD2 Chengdu 35.82 3 P **P** **15 17 09.2 +1.3**
CD2 S **S** **15 22 52.1 +8.5**
CD2 pmax pmax
comp=Z,80nm,0.9s
CD2 LR LR
comp=Z,2µm,18.0s
CD2 LR LR
comp=Z,4µm,18.0s
CD2 LR LR
comp=Z,2µm,19.9s
JIRN Jiri 35.84 336 *eP* **P** **15 17 09.8 +1.3**
comp=Z,258nm,0.8s
ENH Enshi 35.91 11 P **P** **15 17 07.6 -1.1**
ENH IAmb IAmb 15 17 09.4
comp=Z,48nm,0.8s
LSA Lhasa 36.03 344 P **P** **15 17 10.5 +0.2**
LSA pmax pmax
comp=Z,44nm,1.2s
LSA Lhasa 36.03 344 P **P** **15 17 11.5 +1.2**
ASAR Alice Springs 36.06 124 P **P** **15 17 10.8 +0.6**
comp=Z,15nm,0.8s,baz=295,slow=8.2,SNR=122
ASAR S **S** **15 22 48.1 +0.5**
comp=Z,6.6nm,1.2s,baz=296,slow=15,SNR=6.8
ASAR LR LR 15 33 45.1
comp=Z,812nm,21.0s,baz=295,slow=39
ASAR P3KPbc 15 47 59.0
comp=Z,0.2nm,0.6s,baz=119,slow=4.3,SNR=5.1
comp=Z,15nm,0.8s
AS31 Alice Springs 36.07 124 P **P** **15 17 10.9 +0.7**
PKI Pulchoki 36.09 335 *eP* **P** **15 17 11.4 +0.8**
comp=Z,45nm,0.6s
PKIN Phulchoki 36.09 335 *eP* **P** **15 17 11.3 +0.7**
GUN Gumba 36.19 336 *eP* **P** **15 17 12.3 +0.8**
comp=Z,206nm,0.7s
DMN Daman 36.25 335 *eP* **P** **15 17 12.7 +0.8**
comp=Z,95nm,0.8s
SMPI Sarmi 37.00 87 P **P** **15 17 17.5 -0.7**
comp=Z,36nm,1.2s
KOLN Koldanda 37.05 333 *eP* **P** **15 17 19.7 +1.0**
WHN Wuhan 37.40 18 ⇓P **P** **15 17 21.6 +0.3**
WHN S **S** **15 23 10.0 +2.4**
WHN pmax pmax
comp=Z,120nm,1.1s
WHN LR LR
comp=Z,4µm,14.5s
WHN LR LR
comp=Z,2µm,13.7s
WHN LR LR
comp=Z,5µm,15.1s
GENI Genyem 38.40 88 P **P** **15 17 29.8 -0.2**
OOD Oodnadatta 39.38 129 P **P** **15 17 39.6 +1.5**
MULG Mulgathing 39.43 133 P **P** **15 17 40.1 +1.6**
XAN Xi'an 39.48 9 P **P** **15 17 37.7 -1.1**
XAN pP pP 15 17 45.4 -2.5
XAN S S 15 23 48.4 +9.4
XAN pmax pmax
comp=Z,64nm,1.4s
XAN pmax pmax
comp=Z,250nm,3.5s
XAN LR LR
comp=Z,770nm,18.6s
XAN LR LR
comp=Z,2µm,17.4s
XAN LR LR
comp=Z,3µm,14.7s
QIS Mount Isa 39.85 116 P **P** **15 17 42.6 +0.5**
baz=40,SNR=6.2
QIS Mount Isa 39.85 116 P **P** **15 17 43.0 +0.9**
NJ2 Nanjing 40.34 23 *eP* **P** **15 17 46.3 +0.4**
NJ2 pmax pmax
comp=Z,23nm,0.5s
NJ2 LR LR
comp=Z,1µm,17.8s
NJ2 LR LR
comp=Z,940nm,15.3s
NJ2 LR LR
comp=Z,2µm,15.1s
SSE Sheshan 40.47 26 P **P** **15 17 48.2 +1.2**
SSE S **S** **15 23 57.6 +3.9**
SSE pmax pmax
comp=Z,41nm,0.8s
SSE pmax pmax
comp=Z,190nm,11.3s
SSE LR LR
comp=Z,400nm,16.6s
SSE LR LR
comp=Z,330nm,17.6s
LYN LuoYang 40.68 14⇑ *iP* **P** **15 17 47.8 -0.9**
LYN pP sP 15 18 00.9 -0.6
LYN sP pP 15 18 05.8 +8.0
LYN S **S** **15 23 54.7 -2.1**
LYN pmax pmax
comp=Z,140nm,0.9s
LYN pmax pmax
comp=Z,160nm,7.2s
LYN LR LR
comp=Z,2µm,15.5s
LYN LR LR
comp=Z,780nm,13.2s
LYN LR LR
comp=Z,2µm,16.7s
JOW Kunigami 40.79 38 P **P** **15 17 49.4 -0.4**
JOW IAmb IAmb 15 17 58.8
comp=Z,132nm,1.8s
LZH Lanzhou 40.98 3 ⇑P **P** **15 17 51.8 +0.4**
LZH pP pP 15 17 58.1 -2.4
LZH sP sP 15 18 00.8 -3.4
LZH S **S** **15 24 06.8 +5.1**
LZH sS sS 15 24 24.6 +8.0
LZH pmax pmax
comp=Z,110nm,1.4s
LZH pmax pmax
comp=Z,180nm,5.5s
LZH LR LR
comp=Z,2µm,16.8s
LZH LR LR
comp=Z,2µm,18.0s
LZH LR LR
comp=Z,3µm,19.3s
GOMU GeErMu 41.56 352 P **P** **15 17 56.4 0.0**
GOMU pP sP 15 18 08.7 -0.6
GOMU sP pP 15 18 13.3 +7.7
GOMU S **S** **15 24 15.0 +4.4**
GOMU pmax pmax
comp=Z,28nm,0.9s
GOMU pmax pmax
comp=Z,120nm,5.4s
GOMU LR LR
comp=Z,580nm,17.6s
GOMU LR LR
comp=Z,390nm,21.4s
GOMU LR LR
comp=Z,600nm,18.4s
COEN Coen 41.73 105 P **P** **15 17 57.9 +0.2**
baz=42,SNR=12
COEN Coen 41.73 105 P **P** **15 17 58.0 +0.3**
COEN Coen 41.73 105 P **P** **15 17 58.1 +0.3**
BBOO Buckleboo 42.24 135 P **P** **15 18 02.2 +0.5**
LCRK Leigh Creek 42.60 131 P **P** **15 18 06.5 +1.9**
INKA Innaminka 43.37 126 P **P** **15 18 12.7 +1.8**
WHYH Whyalla 43.44 134 P **P** **15 18 12.8 +1.5**
TIA Tai'an 43.51 18 ⇓P **P** **15 18 11.3 -0.5**
TIA pmax pmax
comp=Z,25nm,0.8s
TIA pmax pmax
comp=Z,140nm,5.0s
TIA LR LR
comp=Z,1µm,20.4s
TIA LR LR
comp=Z,820nm,17.5s
TIA LR LR
comp=Z,1µm,20.2s
MTSU Mount Surprise 43.54 111 P **P** **15 18 13.7 +1.3**
baz=44,SNR=25
MTSU Mount Surprise 43.54 111 P **P** **15 18 14.0 +1.6**
TIY Taiyuan 43.70 12 *eP* **P** **15 18 13.6 +0.2**
TIY S **S** **15 24 34.3 -7.3**
TIY LR LR
comp=Z,900nm,19.6s
TIY LR LR
comp=Z,930nm,15.1s
TIY LR LR
comp=Z,1µm,17.8s
HNS HongShan 43.94 15 ⇓P **P** **15 18 15.6 +0.4**
HNS PP **PcP** **15 20 00.6 -0.2**
HNS S S 15 24 53.8 +9.0
HNS pmax pmax

	comp=Z,78nm,0.9s									
HNS					LR	LR				
	comp=Z,2μm,16.3s									
HNS					LR	LR				
	comp=Z,610nm,18.0s									
HNS					LR	LR				
	comp=Z,2μm,17.2s									
GTA	**Gaotai**	**44.29**	**358**	⇑	P	**P**		**15**	**18**	**18.0 -0.2**
GTA					pP	pP		15	18	22.7 -4.7
GTA					sP	sP		15	18	27.1 -3.9
GTA					PcP	**PcP**		**15**	**20**	**03.2 +1.0**
GTA					sS	sS		15	25	03.1 -2.1
GTA					pmax	pmax				
	comp=Z,41nm,0.9s									
GTA					pmax	pmax				
	comp=Z,220nm,4.7s									
GTA					LR	LR				
	comp=Z,1μm,18.2s									
GTA					LR	LR				
	comp=Z,1μm,18.5s									
GTA					LR	LR				
	comp=Z,2μm,18.9s									
HTT	**Hallett**	**44.61**	**134**		P	**P**		**15**	**18**	**22.2 +1.4**
	baz=45,SNR=7.5									
HTT	**Hallett**	**44.61**	**134**		P	**P**		**15**	**18**	**22.5 +1.7**
PMG	**Port Moresby**	**45.22**	**98**		P	**P**		**15**	**18**	**26.0 +0.2**
	comp=Z,74nm,0.9s,baz=225,slow=4.4,SNR=12									
	comp=Z,74nm,0.9s									
PMG	**Port Moresby**	**45.22**	**98**		P	**P**		**15**	**18**	**26.2 +0.3**
PMG	**Port Moresby**	**45.22**	**98**	*ce*	P	**P**		**15**	**18**	**25.2 -0.7**
PMG					pmax	pmax				
	comp=Z,102nm,1.0s									
PMG	**Port Moresby**	**45.22**	**98**		P	**P**		**15**	**18**	**26.2 +0.3**
PMG	**Port Moresby**	**45.22**	**98**		P	**P**		**15**	**18**	**26.4 +0.5**
JSU	**Suzuyama**	**45.51**	**35**		P	**P**		**15**	**18**	**27.9 0.0**
JSU					IAmb	IAmb		15	18	28.2
	comp=Z,41nm,1.1s									
MANU	**Manus Island**	**45.61**	**88**		P	**P**		**15**	**18**	**28.4 -0.6**
MANU					IAmb	IAmb		15	18	29.3
	comp=Z,26nm,0.8s									
CTA	**Charters Tower**	**45.75**	**113**		P	**P**		**15**	**18**	**31.0 +1.0**
	comp=Z,20nm,0.8s,baz=283,slow=10,SNR=15									
CTA					LR	LR		15	39	04.1
	comp=Z,468nm,21.5s,baz=280,slow=38									
	comp=Z,20nm,0.8s									
CTA	**Charters Tower**	**45.75**	**113**		P	**P**		**15**	**18**	**31.1 +1.1**
CTAO	**Charters Tower**	**45.75**	**113**		P	**P**		**15**	**18**	**30.5 +0.5**
CTAO					IAmb	IAmb		15	18	32.1
	comp=Z,35nm,1.1s									
CTAO	**Charters Tower**	**45.75**	**113**		P	**P**		**15**	**18**	**30.5 +0.5**
CTAO					pmax	pmax				
	comp=Z,35nm,1.1s									
CTAO	**Charters Tower**	**45.75**	**113**		P	**P**		**15**	**18**	**31.2 +1.2**
QLP	**Quilpie**	**45.81**	**123**		P	**P**		**15**	**18**	**32.4 +2.0**
	baz=46,SNR=4.7									
QLP	**Quilpie**	**45.81**	**123**		P	**P**		**15**	**18**	**32.2 +1.8**
STKA	**Stephens Creek**	**45.82**	**131**		P	**P**		**15**	**18**	**31.9 +1.6**
	comp=Z,12nm,0.7s,baz=305,slow=7.6,SNR=24									
STKA					LR	LR		15	39	36.4
	comp=Z,612nm,19.4s,baz=294,slow=39									
	comp=Z,12nm,0.7s									
STKA	**Stephens Creek**	**45.82**	**131**		P	**P**		**15**	**18**	**32.1 +1.7**
	baz=46,SNR=14									
STKA	**Stephens Creek**	**45.82**	**131**		P	**P**		**15**	**18**	**31.6 +1.2**
STKA	**Stephens Creek**	**45.82**	**131**	⇓	*e*P	**P**		**15**	**18**	**31.3 +0.9**
STKA	**Stephens Creek**	**45.82**	**131**		P	**P**		**15**	**18**	**32.0 +1.6**
BTO	**Baotou**	**46.08**	**9**		*e*P	**P**		**15**	**18**	**33.5 +1.2**
BTO					LR	LR				
	comp=Z,7μm,15.0s									
BTO					LR	LR				
	comp=Z,5μm,15.1s									
HHC	**Hu-ho-hao-te**	**46.57**	**10**		*e*P	**P**		**15**	**18**	**38.4 +2.2**
HHC					pmax	pmax				
	comp=Z,120nm,1.2s									
HHC					pmax	pmax				
	comp=Z,320nm,6.0s									
HHC					LR	LR				
	comp=Z,3μm,14.1s									
HHC					LR	LR				
	comp=Z,2μm,15.7s									
HHC					LR	LR				
	comp=Z,3μm,15.1s									
GUMO	**Guam**	**46.63**	**66**		P	**P**		**15**	**18**	**33.5 -3.5**
GUMO	**Guam**	**46.63**	**66**		P	**P**		**15**	**18**	**33.5 -3.5**
GUMO					pmax	pmax				
	comp=Z,697nm,1.9s									
BJT	**Baijiatuau**	**46.78**	**15**		P	**P**		**15**	**18**	**37.5 -0.2**
BJT	**Baijiatuau**	**46.78**	**15**		P	**P**		**15**	**18**	**37.5 -0.2**
BJT					pmax	pmax				
	comp=Z,55nm,0.7s									
BJI	**Beijing**	**46.80**	**15**		P	**P**		**15**	**18**	**37.5 -0.4**
BJI					pmax	pmax				
	comp=Z,74nm,0.7s									
BJI					pmax	pmax				
	comp=Z,240nm,3.8s									
BJI					LR	LR				
	comp=Z,420nm,16.0s									
BJI					LR	LR				
	comp=Z,600nm,15.8s									
BJI					LR	LR				
	comp=Z,2μm,16.0s									
NAWB	**Namwon**	**46.93**	**29**		P	**P**		**15**	**18**	**38.5 -0.4**
DL2	**Dalian**	**47.46**	**21**		P	**P**		**15**	**18**	**42.5 -0.5**
DL2					S	**S**		**15**	**25**	**35.4 -0.1**
DL2					pmax	pmax				
	comp=Z,24nm,0.9s									
DL2					pmax	pmax				
	comp=Z,160nm,6.5s									
DL2					LR	LR				
	comp=Z,860nm,18.1s									
DL2					LR	LR				
	comp=Z,720nm,14.7s									
DL2					LR	LR				
	comp=Z,840nm,16.9s									
TJN	**Taejon**	**47.69**	**28**	*de*	P	**P**		**15**	**18**	**45.4 +0.6**
TJN	**Taejon**	**47.69**	**28**		P	**P**		**15**	**18**	**46.0 +1.2**
KSCHJ	**Chungju**	**48.38**	**28**		P	**P**		**15**	**18**	**49.7 -0.5**
KSCHJ					IAmb	IAmb		15	19	02.1
	comp=Z,69nm,1.4s									
KSAR	**Wonju Array Be**	**48.79**	**28**		P	**P**		**15**	**18**	**53.1 -0.3**
KSAR	**Wonju Array Be**	**48.79**	**28**		P	**P**		**15**	**18**	**53.1 -0.3**
KSRS	**Korea Array**	**48.82**	**28**		P	**P**		**15**	**18**	**52.9 -0.7**
	comp=Z,31nm,0.9s,baz=219,slow=7.1,SNR=63									
	comp=Z,31nm,0.9s									
CMSA	**Cobar Meteorol**	**48.84**	**128**		P	**P**		**15**	**18**	**55.7 +1.8**
	baz=49,SNR=16									
CMSA	**Cobar Meteorol**	**48.84**	**128**		P	**P**		**15**	**18**	**56.0 +2.1**
JMN	**Monobe**	**49.11**	**36**		P	**P**		**15**	**18**	**55.5 -0.4**
JHS	**Saijyo**	**49.59**	**34**		P	**P**		**15**	**18**	**59.1 -0.5**
RMQ	**Roma**	**49.62**	**121**		P	**P**		**15**	**19**	**02.1 +2.1**
SEHB	**SEOHWA**	**49.63**	**27**		P	**P**		**15**	**18**	**59.5 -0.4**
SEHB					IAmb	IAmb		15	19	01.2
	comp=Z,32nm,1.0s									
BRAT	**Ballarat**	**50.21**	**136**		P	**P**		**15**	**19**	**05.5 +1.3**
WMQ	**Urumqi**	**50.29**	**347**	⇓	P	**P**		**15**	**19**	**05.8 +1.0**
WMQ					pP	pP		15	19	11.5 -2.6
WMQ					S	**S**		**15**	**26**	**15.6 +0.2**
WMQ					pmax	pmax				
	comp=Z,91nm,0.9s									
WMQ					pmax	pmax				
	comp=Z,230nm,4.3s									
WMQ					LR	LR				
	comp=Z,450nm,16.7s									
WMQ					LR	LR				
	comp=Z,870nm,17.3s									
WMQ					LR	LR				
	comp=Z,510nm,22.9s									
KSH	**Kashi**	**50.34**	**334**		P	**P**		**15**	**19**	**04.3 -1.0**
KSH					pP	pP		15	19	09.4 -5.2
KSH					S	**S**		**15**	**26**	**12.6 -3.7**
KSH					pmax	pmax				
	comp=Z,64nm,0.9s									
KSH					LR	LR				
	comp=Z,460nm,22.2s									
KSH					LR	LR				
	comp=Z,400nm,21.5s									
KSH					LR	LR				
	comp=Z,580nm,23.6s									
XLT	**XiLinHaoTe**	**50.42**	**13**	⇑	*i*P	**P**		**15**	**19**	**05.5 -0.3**
XLT					S	**S**		**15**	**26**	**20.0 +2.7**
XLT					sS	sS		15	26	30.3 -2.2
XLT					ScS	**ScS**		**15**	**28**	**54.8 +0.2**
XLT					pmax	pmax				
	comp=Z,110nm,1.0s									
XLT					pmax	pmax				
	comp=Z,330nm,6.2s									
XLT					LR	LR				
	comp=Z,100nm,16.5s									
XLT					LR	LR				
	comp=Z,780nm,17.0s									
XLT					LR	LR				
	comp=Z,1μm,16.5s									
JCJ	**Chichijima**	**50.48**	**49**		LR	LR		15	40	18.5
	comp=Z,216nm,21.2s,baz=255,slow=36									
WSAR	**Wadi Sarin**	**50.63**	**306**		LR	LR		15	38	27.0
	comp=Z,666nm,20.1s,baz=139,slow=34									
SNY	**Shenyang**	**50.74**	**21**	⇑	P	**P**		**15**	**19**	**07.0 -1.1**
SNY					pmax	pmax				
	comp=Z,45nm,1.1s									
SNY					pmax	pmax				
	comp=Z,200nm,6.1s									
SNY					LR	LR				
	comp=Z,640nm,16.7s									
SNY					LR	LR				
	comp=Z,850nm,17.3s									
SNY					LR	LR				
	comp=Z,1μm,14.6s									
EIDS	**Eidsvold**	**51.34**	**119**		P	**P**		**15**	**19**	**15.0 +2.1**
	baz=51,SNR=3.5									
EIDS	**Eidsvold**	**51.34**	**119**		P	**P**		**15**	**19**	**13.5 +0.6**
EIDS	**Eidsvold**	**51.34**	**119**		P	**P**		**15**	**19**	**14.2 +1.3**
NRN	**Naryn**	**51.92**	**335**		P	**P**		**15**	**19**	**17.3 -0.1**
NRN					IAmb	IAmb		15	19	18.8
	comp=Z,63nm,1.1s									
NRN	**Naryn**	**51.92**	**335**		P	**P**		**15**	**19**	**17.3 -0.1**
NRN					pmax	pmax				
	comp=Z,63nm,1.1s									
SHLS	**Shalkode**	**52.07**	**339**	*i*	P	**P**		**15**	**19**	**17.1 -1.1**
SHLS					*e*S	**S**		**15**	**26**	**39.5 -0.7**
SHLS					pmax	pmax				
	comp=Z,30nm,1.1s									
SHLS	**Shalkode**	**52.07**	**339**	*i*	P	**P**		**15**	**19**	**17.2 -1.1**
	comp=Z,30nm,1.1s,baz=340									
SHLS					*e*S	**S**		**15**	**26**	**39.5 -0.7**
	baz=340									
INU	**Inuyama**	**52.09**	**37**		P	**P**		**15**	**19**	**15.9 -2.4**
INU					IAmb	IAmb		15	19	19.8
	comp=Z,32nm,0.9s									
PDGK	**Podgornoye**	**52.21**	**340**		P	**P**		**15**	**19**	**19.5 +0.2**
UZB	**Uzynbulak**	**52.22**	**339**	*e*	P	**P**		**15**	**19**	**19.0 -0.3**
UZB					*e*S	**S**		**15**	**26**	**42.8 +0.6**
UZB	**Uzynbulak**	**52.22**	**339**	*e*	P	**P**		**15**	**19**	**19.0 -0.3**
	baz=339									
UZB					*e*S	**S**		**15**	**26**	**42.8 +0.6**
	baz=339									
DRK	**Karamyk**	**52.24**	**331**		P	**P**		**15**	**19**	**19.6 -0.1**
DRK					IAmb	IAmb		15	19	37.2
	comp=Z,86nm,1.4s									
SATY	**Saty**	**52.37**	**338**	*i*	P	**P**		**15**	**19**	**20.1 -0.3**
SATY					*e*S	**S**		**15**	**26**	**44.6 +0.4**
SATY					pmax	pmax				
	comp=Z,28nm,1.1s									
SATY	**Saty**	**52.37**	**338**	*i*	P	**P**		**15**	**19**	**20.1 -0.3**
	comp=Z,28nm,1.1s,baz=338									
SATY					*e*S	**S**		**15**	**26**	**44.6 +0.4**
	baz=338									
GAR	**Garm**	**52.61**	**329**		P	**P**		**15**	**19**	**21.1 -1.2**
GAR					IAmb	IAmb		15	19	31.9
	comp=Z,39nm,1.0s									
KPKS	**Kokpek**	**52.62**	**339**	*i*	P	**P**		**15**	**19**	**22.2 0.0**
KPKS					*e*S	**S**		**15**	**26**	**47.7 +0.1**
KPKS					pmax	pmax				
	comp=Z,21nm,0.9s									
KPKS	**Kokpek**	**52.62**	**339**	*i*	P	**P**		**15**	**19**	**22.2 0.0**
	comp=Z,20nm,0.9s,baz=339									
KPKS					*e*S	**S**		**15**	**26**	**47.7 +0.1**
	baz=339									
SOHO	**SOHO**	**52.75**	**305**	*i*	P	**P**		**15**	**19**	**24.8 +1.4**
	SNR=5.5									
SONM	**Songino Array**	**52.83**	**4**		P	**P**		**15**	**19**	**24.3 +0.5**
	comp=Z,80nm,0.8s,baz=183,slow=8.8,SNR=283									
SONM					LR	LR		15	45	05.3
	comp=Z,748nm,19.1s,baz=188,slow=40									
	comp=Z,80nm,0.8s									
SONM	**Songino Array**	**52.83**	**4**		P	**P**		**15**	**19**	**24.0 +0.2**
SONM	**Songino Array**	**52.83**	**4**		P	**P**		**15**	**19**	**24.0 +0.2**
SONM					pmax	pmax				
	comp=Z,93nm,0.9s									
ULN	**Ulaanbaatar**	**52.91**	**4**		P	**P**		**15**	**19**	**24.4 0.0**
ULN	**Ulaanbaatar**	**52.91**	**4**	*c*	*i*P	**P**		**15**	**19**	**24.7 +0.3**
ULN					pmax	pmax				
	comp=Z,65nm,1.0s									
CHGR	**Chuyangaron**	**52.95**	**328**		P	**P**		**15**	**19**	**22.7 -2.1**
CHGR					IAmb	IAmb		15	19	41.1
	comp=Z,86nm,1.4s									
CHGR	**Chuyangaron**	**52.95**	**328**		P	**P**		**15**	**19**	**22.7 -2.1**
CHGR					pmax	pmax				
	comp=Z,86nm,1.4s									
MDOK	**Medeo**	**52.96**	**337**	*i*	P	**P**		**15**	**19**	**25.0 +0.1**
MDOK					*e*S	**S**		**15**	**26**	**53.2 +0.8**
MDOK	**Medeo**	**52.96**	**337**	*i*	P	**P**		**15**	**19**	**25.0 +0.1**
	baz=338									
MDOK					*e*S	**S**		**15**	**26**	**53.3 +0.8**
	baz=338									
AAA	**Alma-Ata**	**53.05**	**337**		*e*P	**P**		**15**	**19**	**25.7 +0.3**
AAA					pmax	pmax				
	comp=Z,13nm,0.5s									
AAA	**Alma-Ata**	**53.05**	**337**		*e*P	**P**		**15**	**19**	**25.7 +0.3**
	comp=Z,13nm,0.5s,baz=337									
CN2	**Changchun**	**53.13**	**21**		*e*P	**P**		**15**	**19**	**23.9 -2.0**
CN2					*e*PP	**PP**		**15**	**21**	**25.8 -0.3**
CN2					*e*S	**S**		**15**	**26**	**54.0 -0.3**
CN2					*e*sS	sS		15	27	11.3 +1.7
CN2					pmax	pmax				
	comp=Z,100nm,0.8s									
CN2					LR	LR				
	comp=Z,990nm,17.0s									
CN2					LR	LR				
	comp=Z,520nm,17.0s									
CN2					LR	LR				
	comp=Z,600nm,18.0s									
BTK	**Batken**	**53.16**	**330**		P	**P**		**15**	**19**	**26.5 +0.2**
BTK					IAmb	IAmb		15	19	28.0
	comp=Z,38nm,1.1s									
BTK	**Batken**	**53.16**	**330**		P	**P**		**15**	**19**	**26.5 +0.2**
BTK					pmax	pmax				
	comp=Z,38nm,1.2s									
ARMA	**Armidale**	**53.22**	**124**		P	**P**		**15**	**19**	**27.8 +0.8**
TKM2	**Tokmak 2**	**53.33**	**336**		P	**P**		**15**	**19**	**28.6 +1.0**
	SNR=42									
TKM2	**Tokmak 2**	**53.33**	**336**		P	**P**		**15**	**19**	**27.9 +0.3**
ALNE	**Al Ain**	**53.35**	**305**	*i*	P	**P**		**15**	**19**	**28.7 +0.8**
	SNR=14									
KBK	**Karagaybulak**	**53.37**	**336**		P	**P**		**15**	**19**	**29.2 +1.3**
	SNR=25									
ASHO	**Ashiyiah**	**53.38**	**306**		P	**P**		**15**	**19**	**29.3 +1.2**
UOSS	**Minazif**	**53.39**	**306**		P	**P**		**15**	**19**	**28.8 +0.7**
HATD	**Hatta, Dubai**	**53.39**	**306**		P	**P**		**15**	**19**	**29.0 +0.8**
AML	**Almayashu**	**53.47**	**334**		P	**P**		**15**	**19**	**29.3 +0.4**
	SNR=42									
AAK	**Ala-Archa**	**53.54**	**335**		P	**P**		**15**	**19**	**30.1 +0.9**
	SNR=9.9									
AAK	**Ala-Archa**	**53.54**	**335**		P	**P**		**15**	**19**	**29.3 +0.2**
AAK					IAmb	IAmb		15	19	59.5
	comp=Z,29nm,1.2s									
AAK	**Ala-Archa**	**53.54**	**335**	*ce*	P	**P**		**15**	**19**	**29.6 +0.4**
AAK					pmax	pmax				
	comp=Z,56nm,2.5s									
AAK	**Ala-Archa**	**53.54**	**335**	*i*	P	**P**		**15**	**19**	**29.9 +0.7**
	SNR=12									
ARXS	**Arharly**	**53.57**	**339**	*e*	P	**P**		**15**	**19**	**28.7 -0.6**
CHKK	**Chushkaly**	**53.57**	**338**	*e*	P	**P**		**15**	**19**	**28.7 -0.5**
CHKK	**Chushkaly**	**53.57**	**338**	*e*	P	**P**		**15**	**19**	**28.8 -0.5**
	baz=338									
MAJO	**Matsushiro**	**53.61**	**36**		P	**P**		**15**	**19**	**27.9 -1.7**
MAJO					IAmb	IAmb		15	19	28.9
	comp=Z,34nm,0.8s									
MAJO	**Matsushiro**	**53.61**	**36**	*c*	*i*P	**P**		**15**	**19**	**27.5 -2.1**
MAJO					pmax	pmax				
	comp=Z,33nm,1.0s									
MAJO	**Matsushiro**	**53.61**	**36**		P	**P**		**15**	**19**	**28.2 -1.4**
MJAR	**Matsushiro Arr**	**53.61**	**36**		P	**P**		**15**	**19**	**28.0 -1.6**
	comp=Z,31nm,0.8s,baz=217,slow=7.3,SNR=74									
	comp=Z,31nm,0.8s									
CHMS	**Chumysh**	**53.73**	**336**		P	**P**		**15**	**19**	**31.0 +0.6**
	SNR=17									
CHMS	**Chumysh**	**53.73**	**336**	*i*	P	**P**		**15**	**19**	**30.3 -0.1**
CHMS					pmax	pmax				
	comp=Z,43nm,1.2s									
FAQ	**Al Faqa, Dubai**	**53.79**	**306**	*i*	P	**P**		**15**	**19**	**32.3 +1.2**
	SNR=11									
NAZ	**Nazwa, Dubai**	**53.84**	**306**	*i*	P	**P**		**15**	**19**	**33.0 +1.5**
	SNR=5.8									
KUU	**Kurty**	**53.85**	**337**	*i*	P	**P**		**15**	**19**	**30.6 -0.6**
KUU					pmax	pmax				
	comp=Z,43nm,0.7s									
KUU	**Kurty**	**53.85**	**337**	*i*	P	**P**		**15**	**19**	**30.7 -0.6**
	comp=Z,43nm,0.7s,baz=337									
EKS2	**Erkin-Say**	**53.87**	**335**		P	**P**		**15**	**19**	**32.1 +0.6**
	SNR=48									
ASUD	**Al Ashush, Dub**	**53.95**	**305**		P	**P**		**15**	**19**	**34.1 +1.8**
TDK	**Taldyqorghan**	**54.05**	**340**	*e*	P	**P**		**15**	**19**	**32.4 -0.2**
TDK					pmax	pmax				
	comp=Z,22nm,0.7s									
TDK	**Taldyqorghan**	**54.05**	**340**	*e*	P	**P**		**15**	**19**	**32.5 -0.2**
	comp=Z,22nm,0.7s,baz=340									
USP	**Ospenovka**	**54.06**	**336**		P	**P**		**15**	**19**	**32.7 -0.1**
	SNR=28									
HRA	**Herat**	**54.11**	**319**		P	**P**		**15**	**19**	**32.6 -0.9**
SGDS	**Sogindy**	**54.16**	**336**	*i*	P	**P**		**15**	**19**	**33.1 -0.4**
SGDS	**Sogindy**	**54.16**	**336**	*i*	P	**P**		**15**	**19**	**33.1 -0.4**
	baz=336									
ZSN	**Zaisan**	**54.37**	**346**	*i*	P	**P**		**15**	**19**	**35.4 +0.4**
ZSN					*e*S	**S**		**15**	**27**	**12.0 +0.9**
ZSN					pmax	pmax				
	comp=Z,36nm,1.0s									
ZSN	**Zaisan**	**54.37**	**346**	*i*	P	**P**		**15**	**19**	**35.4 +0.4**
	comp=Z,36nm,1.0s,baz=346									
ZSN					*e*S	**S**		**15**	**27**	**12.0 +0.9**
	baz=346									
MSHR	**Mys Shultsa**	**54.42**	**26**	*de*	P	**P**		**15**	**19**	**35.6 +0.3**
MSHR					pmax	pmax				
	comp=Z,40nm,0.8s									
MK31	**Makanchi Array**	**54.44**	**344**		P	**P**		**15**	**19**	**35.3 -0.2**
MK31					IAmb	IAmb		15	19	37.5
	comp=Z,27nm,0.8s									
MK31	**Makanchi Array**	**54.44**	**344**	*i*	P	**P**		**15**	**19**	**35.3 -0.2**
MKAR	**Makanchi Array**	**54.44**	**344**		P	**P**		**15**	**19**	**35.2 -0.3**
	comp=Z,36nm,0.8s,baz=152,slow=7.5,SNR=186									
MKAR					LR	LR		15	48	14.3
	comp=Z,241nm,18.9s,baz=149,slow=42									
	comp=Z,36nm,0.8s									
MKAR	**Makanchi Array**	**54.44**	**344**		P	**P**		**15**	**19**	**35.0 -0.5**
MKAR	**Makanchi Array**	**54.44**	**344**		P	**P**		**15**	**19**	**35.0 -0.5**
MAKZ	**Makanchi**	**54.54**	**343**		P	**P**		**15**	**19**	**36.2 0.0**
MAKZ					IAmb	IAmb		15	19	37.3
	comp=Z,42nm,1.3s									
MAKZ	**Makanchi**	**54.54**	**343**		P	**P**		**15**	**19**	**36.2 0.0**
MAKZ					pmax	pmax				
	comp=Z,42nm,1.3s									
JSD	**Sado**	**54.66**	**35**		P	**P**		**15**	**19**	**36.2 -0.9**
MZR	**Muzera**	**54.78**	**303**	*i*	P	**P**		**15**	**19**	**40.0 +1.6**
	SNR=8.8									
OPO	**Ambohidratompo**	**54.86**	**251**		P	**P**		**15**	**19**	**40.9 +1.7**
	comp=Z,6.9nm,0.7s,baz=85,slow=8.1,SNR=8.7									
	comp=Z,6.9nm,0.7s									
TAS	**Tashkent**	**54.88**	**330**		P	**P**		**15**	**19**	**38.5 -0.2**
TAS	**Tashkent**	**54.88**	**330**		P	**P**		**15**	**19**	**38.5 -0.2**
TAS					pmax	pmax				
	comp=Z,81nm,1.1s									
IUG	**Iuzhnay**	**55.15**	**332**	*e*	P	**P**		**15**	**19**	**40.6 -0.2**
IUG	**Iuzhnay**	**55.15**	**332**	*e*	P	**P**		**15**	**19**	**40.6 -0.2**
	baz=332									
ZAK	**Zakamensk**	**55.24**	**1**	*e*	P	**P**		**15**	**19**	**41.3 0.0**
ZAK					pmax	pmax				
	comp=Z,21nm,1.1s									
BNX	**BinXian**	**55.51**	**22**	⇑	P	**P**		**15**	**19**	**42.7 -0.4**
BNX					pmax	pmax				
	comp=Z,150nm,0.9s									
BNX					pmax	pmax				
	comp=Z,480nm,3.7s									
KK31	**Karatay Array**	**55.66**	**333**		P	**P**		**15**	**19**	**44.2 -0.2**
KK31	**Karatay Array**	**55.66**	**333**	*i*	P	**P**		**15**	**19**	**43.9 -0.5**
KKAR	**Karatay Array**	**55.66**	**333**		P	**P**		**15**	**19**	**43.6 -0.8**
KKAR	**Karatay Array**	**55.66**	**333**		P	**P**		**15**	**19**	**44.1 -0.3**
KKAR					IAmb	IAmb		15	19	46.2
	comp=Z,11nm,0.8s									
KKAR	**Karatay Array**	**55.66**	**333**		P	**P**		**15**	**19**	**43.6 -0.8**
BTLS	**Baital**	**55.71**	**336**	*c*	*i*P	**P**		**15**	**19**	**44.1 -0.5**
BTLS	**Baital**	**55.71**	**336**	⇑	*i*P	**P**		**15**	**19**	**44.1 -0.5**
	baz=336									
DGZ	**Jazzator, Alta**	**55.95**	**349**	*ce*	P	**P**		**15**	**19**	**46.8 +0.4**
DGZ					pmax	pmax				
	comp=Z,79nm,0.9s									
JMM	**Marumori**	**56.03**	**37**		P	**P**		**15**	**19**	**46.1 -1.0**
JMM					IAmb	IAmb		15	19	46.8
	comp=Z,49nm,0.9s									
USA0B	**Ussuriysk Arra**	**56.08**	**26**		P	**P**		**15**	**19**	**47.2 0.0**
USA0B					IAmb	IAmb		15	19	52.4
	comp=Z,20nm,0.9s									
USA0B	**Ussuriysk Arra**	**56.08**	**26**	*de*	P	**P**		**15**	**19**	**47.4 +0.2**
USRK	**Ussuriysk Ar.**	**56.08**	**26**		P	**P**		**15**	**19**	**46.9 -0.4**
	comp=Z,135nm,0.7s,baz=218,slow=6.0,SNR=169									
	comp=Z,135nm,0.7s									
USRK	**Ussuriysk Ar.**	**56.08**	**26**		P	**P**		**15**	**19**	**47.1 -0.2**
USRK	**Ussuriysk Ar.**	**56.08**	**26**		P	**P**		**15**	**19**	**47.1 -0.2**

SNR=7.6
ZEA Zeya 62.38 17 *e*P **P 15 20 31.1 +0.4**
ZEA pmax pmax
comp=Z,100nm,4.8s
GRNR Gornyy 63.09 24⇑ *i*P **P 15 20 35.0 -0.5**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR MLR MLR
comp=N,320nm,15.0s
GRNR MLR MLR
comp=Z,460nm,16.0s
YSS Yuzh-Sakhalins 63.18 30 P **P 15 20 35.9 -0.3**
YSS Yuzh-Sakhalins 63.18 30 *e*P **P 15 20 35.9 -0.3**
YSS *e**SP **sP 15 20 48.0 -1.4**
YSS *e*S **S 15 29 02.0 -3.5**
YSS pmax pmax
comp=Z,200nm,4.8s
YSS pmax pmax
comp=Z,70nm,1.1s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS Yuzh-Sakhalins 63.18 30 P **P 15 20 36.3 +0.1**
BOD Bodaibo 63.46 7 *e*P **P 15 20 37.4 -0.4**
BOD pmax pmax
comp=Z,38nm,1.2s
KIBK Kibwezi 63.62 270 P **P 15 20 41.2 +1.4**
BVA0 Borovoye Array 63.65 339 *i* P **P 15 20 38.6 -0.6**
BVAR Borovoye Array 63.65 339 LR LR 15 52 01.0
comp=Z,182nm,18.1s,baz=154,slow=40
BRVK Borovoye 63.71 339 P **P 15 20 38.5 -1.0**
BRVK IAmb IAmb 15 20 40.1
comp=Z,23nm,0.7s
BRVK Borovoye 63.71 339*c i*P **P 15 20 39.1 -0.5**
BRVK pmax pmax
comp=Z,24nm,1.0s
UGL Uglegorsk 64.31 28 *e*P **P 15 20 43.7 +0.1**
UGL pmax pmax
comp=Z,90nm,1.0s
KMBO Kilima Mbogo 64.51 271 P **P 15 20 48.1 +2.2**
comp=Z,0.9nm,0.4s,baz=29,slow=19,SNR=2.0
KMBO LR LR 15 44 29.2
comp=Z,206nm,20.9s,baz=94,slow=32
DZM Mont Dzumac 64.67 112 *e*LR LR 15 40 06.7
comp=Z,758nm,25.3s
DZM Mont Dzumac 64.67 112 P **P 15 20 47.1 +0.5**
comp=Z,9.1nm,0.9s,baz=131,slow=17,SNR=3.6
DZM LR LR 15 51 10.2
comp=Z,387nm,19.4s,baz=242,slow=38
comp=Z,9.1nm,0.9s
AB31 Akbulak array 65.15 331 *i* P **P 15 20 48.7 -0.4**
ABKAR Akbulak array 65.15 331 P **P 15 20 48.4 -0.6**
ABKAR Akbulak array 65.15 331 P **P 15 20 48.6 -0.5**
ABKAR IAmb IAmb 15 20 50.1
comp=Z,76nm,0.8s
TYV Tymovskoe 65.84 27 *e*P **P 15 20 53.3 -0.1**
TYV pmax pmax
comp=Z,15nm,1.4s
LODK Lodwar 66.86 276 P **P 15 21 03.4 +2.5**
SEKA Sheki 67.78 318 P **P 15 21 07.1 +1.0**
MAW Mawson 67.78 195 P **P 15 21 07.5 +2.0**
comp=Z,17nm,0.8s,baz=29,slow=7.5,SNR=21
MAW LR LR 15 45 51.8
comp=Z,933nm,18.2s,baz=33,slow=32
comp=Z,17nm,0.8s
MAW Mawson 67.78 195 P **P 15 21 07.6 +2.1**
baz=68,SNR=9.0
MAW Mawson 67.78 195 P **P 15 21 07.2 +1.6**
MAW Mawson 67.78 195 P **P 15 21 07.2 +1.6**
MAW pmax pmax
comp=Z,7.0nm,1.0s
NAX Nakhchivan 67.98 316 P **P 15 21 08.1 +0.6**
GANJ Ganja 68.09 318 P **P 15 21 08.9 +0.8**
ZKTA Zakatala 68.36 319 P **P 15 21 11.1 +1.4**
MAK Makhachkala 68.43 320 *e*P **P 15 21 07.4 -2.7**
MAK *e* 15 23 36.7
MAK *e*S **S 15 30 06.0 -3.6**
MAK pmax pmax
comp=Z,142nm,1.2s
GNI Garni 68.94 316 P **P 15 21 14.7 +1.1**
GEVA Gevas 69.33 314 P **P 15 21 15.8 -0.2**
GROC Groznyy 69.64 320 *e*P **P 15 21 18.0 +0.4**
GROC *e* 15 23 52.1
GROC pmax pmax
comp=Z,116nm,0.9s
GURO Guroymak-BITLI 70.17 314 P **P 15 21 21.7 +0.5**
YAK Yakutsk 70.27 14 LR LR 15 56 16.9
comp=Z,496nm,18.2s,baz=262,slow=40
YAK Yakutsk 70.27 14 P **P 15 21 20.0 -1.0**
YAK Yakutsk 70.27 14*c i*P **P 15 21 18.3 -2.7**
YAK *e**PP **pP 15 21 26.6 -4.0**
YAK *e* 15 21 39.5
YAK *e* 15 23 52.3
YAK *e*PPP PPP 15 25 36.0
YAK *e*S **S 15 30 27.3 -3.3**
YAK *e**SS **sS 15 30 47.6 +1.1**
YAK *e* 15 31 18.1
YAK *e*SS **SS 15 35 01.3 -0.2**
YAK pmax pmax
comp=Z,75nm,0.8s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=Z,104nm,4.6s
YAK pmax pmax
comp=N,95nm,4.8s
YAK pmax pmax
comp=E,33nm,3.0s
YAK smax smax
comp=E,46nm,2.9s
YAK smax smax
comp=N,65nm,3.0s
YAK MLR MLR
comp=Z,598nm,17.0s
YAK MLR MLR
comp=N,369nm,17.0s
YAK MLR MLR
comp=E,288nm,16.0s
KARS Kars 70.29 316 P **P 15 21 21.4 -0.5**
KARS Kars 70.29 316 P **P 15 21 21.4 -0.5**
KARS pmax pmax
comp=Z,64nm,1.0s
MARD Mardin 70.59 312 P **P 15 21 23.7 0.0**
ZEI Tsey 70.68 319 *e*P **P 15 21 24.5 +0.2**
ZEI pmax pmax
comp=Z,16nm,0.8s
ARU Arti 70.70 336 LR LR 15 55 37.4
comp=Z,350nm,21.5s,baz=134,slow=39
ARU Arti 70.70 336 P **P 15 21 23.0 -0.8**
ARU Arti 70.70 336*c i*P **P 15 21 23.4 -0.4**
ARU 15 21 46.9
ARU 15 23 57.1
ARU S **S 15 30 39.1 +3.2**
ARU pmax pmax
comp=Z,76nm,1.2s
ARU MLR MLR
comp=Z,468nm,23.0s
MBAR Mbarara 71.04 271 LR LR 15 48 58.4
comp=Z,303nm,19.5s,baz=61,slow=33
MBAR Mbarara 71.04 271 P **P 15 21 27.1 +0.1**
MBAR Mbarara 71.04 271 P **P 15 21 27.1 +0.1**
MBAR pmax pmax
comp=Z,9.0nm,0.9s
NCK Nalchik 71.20 319⇑ *e*P **P 15 21 28.2 +1.0**
NCK pmax pmax
comp=Z,16nm,0.9s
RPZ Rata Peaks 71.59 134 LR LR 15 52 12.5
comp=Z,518nm,20.7s,baz=275,slow=35
KBZ Khabaz 71.76 319 P **P 15 21 31.4 +1.0**
comp=Z,14nm,0.8s,baz=122,slow=5.1,SNR=41
comp=Z,14nm,0.8s
KBZ Khabaz 71.76 319*c i*P **P 15 21 30.6 +0.1**
KOPT Kop Dagi 71.84 315 P **P 15 21 31.6 +0.1**
KIV Kislovodsk 72.00 319 P **P 15 21 31.3 -0.8**
KIV Kislovodsk 72.00 319*c i*P **P 15 21 32.3 +0.2**
KIV *i* 15 21 49.0
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,154nm,20.0s
KIV Kislovodsk 72.00 319 P **P 15 21 33.2 +1.2**
GHAJ Ghor Haditha 72.61 305 P **P 15 21 36.4 +0.6**
GHAJ IAmb IAmb 15 21 38.2
comp=Z,19nm,0.9s
EIL Elat 72.65 303 LR LR 15 54 13.1
comp=Z,510nm,18.0s,baz=92,slow=36
LSZ Lusaka 72.85 256 LR LR 15 51 52.0
comp=Z,290nm,18.1s,baz=100,slow=34
BELG Belogornoye 73.24 329*ce*P **P 15 21 38.9 -0.2**
BELG pmax pmax
comp=Z,8.0nm,1.1s
MMAI Mount Meron Ar 73.26 307 LR LR 15 53 26.7
comp=Z,279nm,20.9s,baz=344,slow=36
VSLR Vesyoloye 73.53 318*ce*P **P 15 21 40.8 -0.3**
SOC Sochi 73.79 318 *e*P **P 15 21 39.9 -2.7**
SOC *e*PPP PPP 15 26 06.8
SOC *e*S **SKiKP 15 31 09.6 -0.2**
SOC pmax pmax
comp=Z,17nm,0.6s
SOC MLR MLR
comp=Z,151nm,22.0s
PETK Petropavlovsk- 74.55 31 P **P 15 21 46.1 -0.7**
comp=Z,13nm,0.8s,baz=215,slow=4.8,SNR=9.2
comp=Z,13nm,0.8s
BNN Bunyan 74.77 312 P **P 15 21 47.2 -1.4**
BNN IAmb IAmb 15 21 48.8
comp=Z,26nm,1.0s
NRIK Noril'sk 74.89 355 P **P 15 21 48.2 -0.2**
comp=Z,38nm,0.9s,baz=154,slow=4.3,SNR=33
NRIK LR LR 15 57 18.0
comp=Z,401nm,19.4s,baz=167,slow=38
comp=Z,38nm,0.9s
NRIK Noril'sk 74.89 355 P **P 15 21 47.1 -1.3**
NRIK Noril'sk 74.89 355*ce*P **P 15 21 47.7 -0.7**
NRIK pmax pmax
comp=Z,48nm,1.0s
BKZ Black Stump Fm 74.98 129 P **P 15 21 50.0 +0.2**
BKZ IAmb IAmb 15 22 11.6
comp=Z,25nm,0.9s
BKZ Black Stump Fm 74.98 129 P **P 15 21 50.5 +0.7**
PET Petropavlovsk 75.00 32 P **P 15 21 48.7 -0.6**
PET Petropavlovsk 75.00 32*de*P **P 15 21 49.2 -0.2**
PET pmax pmax
comp=Z,64nm,1.7s
MA2 Magadan 75.11 23 LR LR 15 58 04.0
comp=Z,356nm,18.5s,baz=248,slow=38
MA2 Magadan 75.11 23*de*P **P 15 21 50.5 +0.6**
MA2 pmax pmax
comp=Z,52nm,1.7s
MA2 Magadan 75.11 23 P **P 15 21 50.3 +0.4**
LBTB Lobatse 75.34 246 LR LR 15 50 33.6
comp=Z,511nm,19.2s,baz=58,slow=32
URZ Urewera 75.38 128 LR LR 15 57 30.0
comp=Z,458nm,18.3s,baz=265,slow=38
BOSA Boshof 75.75 242 P **P 15 21 55.1 +0.7**
comp=Z,3.1nm,0.7s,baz=108,slow=3.8,SNR=7.8
BOSA LR LR 15 51 24.0
comp=Z,540nm,18.1s,baz=90,slow=33
comp=Z,3.1nm,0.7s
VRH Novokhopyorsk 75.83 326 *e*P **P 15 21 52.2 -2.0**
VRH pmax pmax
comp=Z,30nm,0.8s
KIRV Kirov 75.87 335 LR LR 16 00 13.5
comp=Z,198nm,18.4s,baz=129,slow=40
KIRV Kirov 75.87 335*c i*P **P 15 21 54.7 +0.5**
BR131 Keskin Array S 76.67 313 P **P 15 21 58.5 -1.0**
BR131 Keskin Array S 76.67 313*c i*P **P 15 21 58.9 -0.5**
BRTR Keskin Array B 76.67 313 P **P 15 21 59.1 -0.3**
comp=Z,6.6nm,0.8s,baz=133,slow=7.2,SNR=40
comp=Z,6.6nm,0.8s
BRTR Keskin Array B 76.67 313 P **P 15 21 58.5 -1.0**
BRTR Keskin Array B 76.67 313*ce*P **P 15 21 59.0 -0.5**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
DGTI Dogotuki 77.07 105 P **P 15 22 03.6 +1.6**
VSR Storozhevoye 77.28 325 *e*P **P 15 22 01.2 -1.2**
VSR pmax pmax
comp=Z,20nm,0.7s
ANTO Ankara 77.34 313 P **P 15 22 02.8 -0.3**
ANTO Ankara 77.34 313 P **P 15 22 02.8 -0.3**
ANTO pmax pmax
comp=Z,16nm,1.0s
BR231 Keskin MP Arra 77.34 313 P **P 15 22 02.5 -0.7**
VORR Voronezh 77.45 326 *e*P **P 15 22 03.1 -0.2**
VORR pmax pmax
comp=Z,60nm,0.5s
SEY Seymchan 77.81 21⇑ *e*P **P 15 22 05.5 +0.4**
SEY pmax pmax
comp=Z,31nm,2.5s
LPSR Galich'ya Gora 78.00 326 *e*P **P 15 22 06.0 -0.4**
LPSR pmax pmax
comp=Z,30nm,1.0s
SIM Simferopol' 78.03 318 *e*P **P 15 22 06.4 -0.4**
SIM *e* 15 22 16.3
SIM *e*S **S 15 32 02.1 +3.5**
SIM pmax pmax
comp=Z,39nm,1.0s
TIXI Tiksi 78.60 8 LR LR 16 01 34.2
comp=Z,1μm,18.2s,baz=181,slow=39
TIXI Tiksi 78.60 8 P **P 15 22 08.0 -1.3**
TIXI IAmb IAmb 15 22 09.4
comp=Z,56nm,1.4s
TIXI Tiksi 78.60 8*c i*P **P 15 22 08.0 -1.3**
TIXI pmax pmax
comp=Z,21nm,1.1s
ELL Elmali 78.64 309 P **P 15 22 11.0 +0.5**
ELL IAmb IAmb 15 22 44.6
comp=Z,48nm,0.9s
ELL Elmali 78.64 309 P **P 15 22 11.0 +0.5**
ELL pmax pmax
comp=Z,48nm,0.9s
MDUB Mudurnu 78.69 313 P **P 15 22 09.7 -0.9**
VNDA Vanda 78.83 169 P **P 15 22 11.3 +0.7**
comp=Z,2.6nm,0.8s,baz=292,slow=5.5,SNR=13
comp=Z,2.6nm,0.8s
VNDA Vanda 78.83 169 P **P 15 22 11.1 +0.5**
VNDA Vanda 78.83 169 P **P 15 22 11.1 +0.5**
VNDA pmax pmax
comp=Z,13nm,1.2s
PRGR Permogore 79.16 336 *e*P **P 15 22 12.5 -0.1**
PRGR *e* 15 22 20.9
PRGR pmax pmax
comp=Z,103nm,0.8s
SUR Sutherland 79.67 238 LR LR 15 54 40.9
comp=Z,202nm,18.1s,baz=84,slow=34
SBA Scott Base 79.93 169 P **P 15 22 17.9 +1.3**
SBA IAmb IAmb 15 22 43.8
comp=Z,57nm,1.9s
SBA Scott Base 79.93 169 P **P 15 22 17.9 +1.3**
SBA pmax pmax
comp=Z,57nm,1.9s
MOS Moscow 80.01 329 *e*P **P 15 22 16.2 -1.1**
MOS *e* 15 25 19.1
MOS *e*S **S 15 32 20.8 +1.7**
MOS pmax pmax
comp=Z,34nm,0.9s
OBN Obninsk 80.31 328 P **P 15 22 17.0 -1.9**
OBN IAmb IAmb 15 22 20.5
comp=Z,41nm,1.0s
OBN Obninsk 80.31 328*ce*P **P 15 22 19.4 +0.5**
OBN *e* 15 22 34.8
OBN *e* 15 25 19.5
OBN *e*PPP PPP 15 27 11.6
OBN pmax pmax
comp=Z,33nm,1.0s
OBN MLR MLR
comp=Z,294nm,23.0s
KARP Karpathos 80.50 307 P **P 15 22 18.4 -2.1**
KLMR Klimovskoe 81.33 334 *e*P **P 15 22 23.0 -1.3**
KLMR *e* 15 25 27.2
KLMR pmax pmax
comp=Z,62nm,1.4s
KLMR Klimovskoe 81.33 334 *e*P **P 15 22 23.1 -1.3**
KLMR AMP 15 22 25.9
comp=Z,62nm,1.4s
KLMR *e*PP **PP 15 25 27.3 -3.1**
IDI Anoyia 82.26 306⇑ P **P 15 22 31.0 +1.2**
ALN Alexandroupoli 82.58 312 P **P 15 22 30.6 -0.7**
ALN IAmb IAmb 15 22 58.4
comp=Z,15nm,0.9s
ALN Alexandroupoli 82.58 312 P **P 15 22 30.6 -0.7**
ALN pmax pmax
comp=Z,15nm,0.9s
TSUM Tsumeb 82.86 251 LR LR 15 56 28.3
comp=Z,320nm,18.1s,baz=92,slow=34
TSUM Tsumeb 82.86 251 P **P 15 22 34.6 +1.2**
TSUM IAmb IAmb 15 22 44.7
comp=Z,15nm,1.0s
AK05 Malin Array Si 82.96 322 P **P 15 22 32.0 -1.0**
AK05 IAmb IAmb 15 22 34.0
comp=Z,14nm,0.8s
AKASG Malin Array Be 82.97 322 P **P 15 22 33.2 +0.1**
comp=Z,3.9nm,0.7s,baz=83,slow=5.0,SNR=25
AKASG LR LR 16 04 03.7
comp=Z,133nm,20.2s,baz=95,slow=39
comp=Z,3.9nm,0.7s
AKASG Malin Array Be 82.97 322 P **P 15 22 32.3 -0.8**
AKASG Malin Array Be 82.97 322*ce*P **P 15 22 33.2 +0.1**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 82.97 322 P **P 15 22 32.8 -0.3**
AKBB Malin Array Si 82.97 322⇓ *e*P **P 15 22 33.2 +0.1**
RDO Rodhopi 83.01 312 P **P 15 22 33.8 +0.3**
VRI Vrincioaia 83.28 317 ⇓P **P 15 22 36.4 +1.5**
VRI Vrincioaia 83.28 317 P **P 15 22 36.3 +1.5**
NEHR Nehoiu 83.47 317⇑P **P 15 22 37.2 +1.4**
TESR Tescani 83.49 318⇑P **P 15 22 37.4 +1.5**
COVR Voineasa-Covas 83.63 317⇑P **P 15 22 37.9 +1.2**
GIRR Girov 83.70 318 P **P 15 22 38.3 +1.3**
MLR Muntele Rosu 83.72 317 ⇓P **P 15 22 38.5 +1.2**
MLR Muntele Rosu 83.72 317 LR LR 16 05 53.9
comp=Z,153nm,18.8s,baz=64,slow=40
MLR Muntele Rosu 83.72 317 P **P 15 22 37.5 +0.2**
MLR IAmb IAmb 15 22 39.3
comp=Z,29nm,1.0s
MLR Muntele Rosu 83.72 317 P **P 15 22 37.5 +0.2**
MLR pmax pmax
comp=Z,29nm,1.0s
DOPR Dopca 84.21 317⇑P **P 15 22 39.9 +0.3**
BURAR Bucovina Array 84.71 319⇑P **P 15 22 44.2 +2.0**
BURAR Bucovina Array 84.71 319 P **P 15 22 43.4 +1.2**
BURAR IAmb IAmb 15 22 54.3
comp=Z,20nm,0.7s
BURAR Bucovina Array 84.71 319 P **P 15 22 43.4 +1.2**
BURAR pmax pmax
comp=Z,20nm,0.7s
BUR08 Bucovina Ar. S 84.72 319 P **P 15 22 43.7 +1.4**
BUR08 IAmb IAmb 15 22 54.1
comp=Z,17nm,0.8s
MNK Minsk 84.83 326 *i* P **P 15 22 42.8 +0.3**
MNK *i* 15 25 58.8
MNK *i* PPP PPP 15 27 51.8
MNK *i* S **S 15 33 03.4 -5.1**
MNK *i* PS PnS 15 34 31.0 +25
MNK *i* SS **SS 15 38 41.9 +0.6**
MNK *i* SSS SSS 15 42 12.7
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,36nm,0.9s
MNK Minsk 84.83 326 *i* P **P 15 22 42.8 +0.3**
comp=E,4.0nm,0.9s
MNK *i* P **P 15 22 42.8 +0.3**
MNK *i* P **P 15 22 42.8 +0.3**
comp=Z,36nm,0.9s,baz=106
MNK *i* PcP **PcP 15 22 45.5 -0.3**
MNK *i* PP **PP 15 25 58.9 -0.3**
MNK *i* PPP PPP 15 27 51.9
MNK *i* S **S 15 33 03.5 -5.1**
MNK *i* PS PnS 15 34 31.1 +25
MNK *i* SS **SS 15 38 41.9 +0.6**
MNK *i* SSS SSS 15 42 12.8
MNK *i* LQ LQ 15 55 04.7
MNK *i* LR LR 15 56 55.2
MNK *i* LRM MLR 15 59 45.7
MNK pmax pmax
comp=E,65nm,17.1s
MNK *i* LRM MLR 16 02 04.9
comp=E,21nm,17.1s
MNK *i* LRM MLR 16 02 04.9
QSPA South Pole Qui 84.92 180 LR LR 15 59 35.0
comp=E,267nm,18.3s,baz=317,slow=35
QSPA South Pole Qui 84.92 180 P **P 15 22 43.5 +0.6**
VTS Vitosha 85.00 313⇑P **P 15 22 44.2 +0.3**
VTS Vitosha 85.00 313 P **P 15 22 43.9 0.0**
VTS IAmb IAmb 15 23 11.6
comp=Z,23nm,1.3s
VTS Vitosha 85.00 313 P **P 15 22 43.9 0.0**
VTS pmax pmax
comp=Z,23nm,1.3s
LIT Litokhoron 85.07 311 P **P 15 22 43.7 -0.4**
LIT IAmb IAmb 15 22 54.6
comp=Z,17nm,0.8s
LIT Litokhoron 85.07 311 P **P 15 22 43.7 -0.4**
LIT pmax pmax
comp=Z,17nm,0.8s
NVL N'lazarevskaya 85.23 199 *e*P P 15 22 54.2 +10
NVL *e*S **S 15 33 10.0 -2.0**
NVL pmax pmax
comp=Z,28nm,1.1s
BILL Bilibino 85.41 20 P **P 15 22 45.1 0.0**
BILL IAmb IAmb 15 23 48.5
comp=Z,68nm,2.0s
BILL Bilibino 85.41 20 *e*P **P 15 22 45.2 0.0**
BILL *e* 15 26 03.7
BILL *e*PPP PPP 15 27 57.7
BILL pmax pmax
comp=Z,33nm,2.5s
NACGM Naroch 85.55 326⇑ *e*P **P 15 22 46.4 +0.3**
baz=105
BLKB Belogradchik 85.60 314⇑P **P 15 22 47.1 +0.4**
GZR Gura Zlata 85.88 316⇑P **P 15 22 49.6 +1.6**
LVV L'vov 85.97 321 *e*P P 15 23 02.6 +14
IIGN Ignalina 85.98 326 *e*P **P 15 22 48.8 +0.5**
ISAL Salakas 86.09 327 *e*P **P 15 22 49.3 +0.6**
DRGR 86.20 317⇑P **P 15 22 51.3 +1.7**
DRGR 86.20 317 P **P 15 22 51.3 +1.7**
BOVS Bovan 86.30 314⇑P **P 15 22 49.8 -0.3**
MDVR Moldovita 86.50 315⇑P **P 15 22 52.6 +1.5**
VSU Vasula 86.52 329*de*P **P 15 22 51.8 +1.0**
VSU pmax pmax
comp=Z,79nm,1.0s
VSU Vasula 86.52 329 *e*P **P 15 22 51.8 +1.0**
APA Apatity 86.56 339⇓ *i*P **P 15 22 48.6 -2.2**
APA *i* S **S 15 33 21.0 -4.0**
APA pmax pmax
comp=Z,10.0nm,1.3s
BZS Buzias 86.72 316⇑P **P 15 22 52.6 +0.5**
BZS Buzias 86.72 316 P **P 15 22 52.6 +0.5**
SIRR Siria 86.81 317⇓P **P 15 22 53.7 +1.1**
UZH Uzhgorod 86.84 319 *e*P **P 15 22 54.9 +2.3**
UZH *i* 15 23 09.9
UZH *i* S **S 15 33 29.2 +0.7**
KOLS Kolonicke sedl 86.91 320 *e*P **P 15 22 55.1 +2.1**
KOLS pmax pmax
comp=Z,31nm,0.9s
KOLS Kolonicke sedl 86.91 320 *e*P **P 15 22 55.1 +2.1**
KEK Kerkira 87.04 310 P **P 15 22 53.9 +0.1**
KEK IAmb IAmb 15 23 20.4
comp=Z,20nm,0.9s
PABE Paberze 87.27 326 P **P 15 22 54.8 +0.3**
PABE Paberze 87.27 326 *e*P **P 15 22 54.1 -0.4**
VSVD Vaisvydziai 87.39 327 *e*P **P 15 22 55.6 +0.5**
CRVS Cervenica-Dubn 87.43 319 *e*P **P 15 22 56.6 +1.1**
CRVS pmax pmax
comp=Z,119nm,2.6s
CRVS Cervenica-Dubn 87.43 319 *e*P **P 15 22 56.6 +1.1**
DIVS Divibare 87.60 314 P **P 15 22 56.5 0.0**
DIVS IAmb IAmb 15 23 17.8
comp=Z,13nm,1.1s
FIA1 FINESS Array S 87.62 332 P **P 15 22 56.6 +0.5**
FIA1 IAmb IAmb 15 22 57.8
comp=Z,23nm,1.0s
FINES FINESS Array B 87.62 332 P **P 15 22 56.8 +0.7**
comp=Z,15nm,0.9s,baz=90,slow=6.1,SNR=20
comp=Z,15nm,0.9s
FINES FINESS Array B 87.62 332 P **P 15 22 56.6 +0.5**
FINES FINESS Array B 87.62 332 *i* P **P 15 22 57.0 +0.9**
FINES pmax pmax
comp=Z,11nm,0.8s
PDG Podgorica 87.86 313 P **P 15 22 58.6 +0.9**
PDG Podgorica 87.86 313 P **P 15 22 57.8 +0.1**
PDG IAmb IAmb 15 23 17.9
comp=Z,9.9nm,0.9s
MTSE Matsula 88.06 329 *e*P **P 15 22 58.9 +0.7**
TROLL Troll, Antarti 88.07 198 P **P 15 23 00.9 +2.5**
TROLL Troll, Antarti 88.07 198 pP pP 15 23 09.5 +1.3
MEF Metsahovi 88.12 331 *e*P **P 15 22 59.1 +0.6**
PSZ Piszkesteto 88.28 318 P **P 15 22 58.5 -1.2**
PSZ IAmb IAmb 15 23 14.4
comp=Z,11nm,1.1s
PSZ Piszkesteto 88.28 318 P **P 15 22 58.5 -1.2**
PSZ pmax pmax

	comp=Z,11nm,1.1s							
PBUR	**Paburge**	**88.50**	**326**	*e*P	**P**	**15 23 01.4**	**+1.0**
LANS	**Liptovska Anna**	**88.76**	**319**	*e*P	**P**	**15 23 02.8**	**+0.9**
LANS				pmax	pmax			
	comp=Z,2.0nm,0.7s							
LANS	**Liptovska Anna**	**88.76**	**319**	*e*P	**P**	**15 23 02.8**	**+0.9**
MORH	**Mrgy, Hungar**	**88.87**	**316**	P	**P**	**15 23 03.3**	**+0.9**
VYHS	**Vyhne**	**89.08**	**319**	*e*P	**P**	**15 23 03.9**	**+0.6**
VYHS				pmax	pmax			
	comp=Z,11nm,1.3s							
VYHS	**Vyhne**	**89.08**	**319**	*e*P	**P**	**15 23 03.9**	**+0.6**
KLNR	**Kaliningrad**	**89.21**	**325**	⇓ *e*P	**P**	**15 23 05.0**	**+1.3**
KLNR				pmax	pmax			
	comp=Z,76nm,1.0s							
RAF	**Rauma**	**89.56**	**331**	*e*P	**P**	**15 23 06.0**	**+0.7**
OKC	**Ostrava-Krasne**	**89.72**	**320**	AMS	AMS	16 11 50.0		
	comp=Z,200nm,16.1s							
SNAA	**Sanae**	**89.78**	**198**	P	**P**	**15 23 08.7**	**+2.4**
SNAA	**Sanae**	**89.78**	**198**	pP	pP	15 23 17.3	+1.2
SNAA	**Sanae**	**89.78**	**198**	P	**P**	**15 23 08.6**	**+2.4**
SNAA				IAmb	IAmb	15 23 18.2		
	comp=Z,30nm,1.1s							
SNAA	**Sanae**	**89.78**	**198**	⇑ *i*P	**P**	**15 23 08.5**	**+2.2**
SNAA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
JAVC	**Velka Javorina**	**89.89**	**319**	*e*P	**P**	**15 23 09.1**	**+1.9**
ARCES	**ARCESS Array B**	**89.93**	**340**	P	**P**	**15 23 07.7**	**+0.8**
	comp=Z,11nm,0.8s,baz=101,slow=5.6,SNR=16							
ARCES				LR	LR	16 07 35.7		
	comp=Z,398nm,21.8s,baz=114,slow=38							
	comp=Z,11nm,0.8s							
ARCES	**ARCESS Array B**	**89.93**	**340**	P	**P**	**15 23 08.2**	**+1.3**
ARCES				IAmb	IAmb	15 23 08.7		
	comp=Z,25nm,1.1s							
ARCES	**ARCESS Array B**	**89.93**	**340**	P	**P**	**15 23 08.2**	**+1.3**
ARCES				pmax	pmax			
	comp=Z,25nm,1.1s							
MODS	**Modra-Piesok**	**90.08**	**318**	*e*P	**P**	**15 23 08.8**	**+0.7**
MODS				pmax	pmax			
	comp=Z,31nm,1.2s							
MODS	**Modra-Piesok**	**90.08**	**318**	*e*P	**P**	**15 23 08.8**	**+0.7**
MORC	**Moravsky Berou**	**90.10**	**320**	⇓ P	**P**	**15 23 09.7**	**+1.5**
MORC	**Moravsky Berou**	**90.10**	**320**	P	**P**	**15 23 09.1**	**+1.0**
MORC	**Moravsky Berou**	**90.10**	**320**	*e*P	**P**	**15 23 09.1**	**+1.0**
MORC	**Moravsky Berou**	**90.10**	**320**	P	**P**	**15 23 09.1**	**+1.0**
MORC				pmax	pmax			
	comp=Z,9.0nm,0.9s							
ZST	**Bratislava**	**90.18**	**318**	*e*P	**P**	**15 23 09.0**	**+0.5**
ZST	**Bratislava**	**90.18**	**318**	*e*P	**P**	**15 23 09.0**	**+0.5**
KRLC	**Kraliky**	**90.62**	**320**	*e*P	**P**	**15 23 11.8**	**+1.2**
KRLC				MLR	MLR			
	comp=Z,300nm,18.2s							
KRLC	**Kraliky**	**90.62**	**320**	*e*P	**P**	**15 23 11.8**	**+1.2**
KRLC				AMS	AMS	16 13 20.0		
	comp=Z,300nm,18.2s							
VRAC	**Vranov**	**90.65**	**319**	*e*P	**P**	**15 23 12.0**	**+1.3**
KRUC	**Moravsky**	**90.75**	**319**	*e*P	**P**	**15 23 11.6**	**+0.5**
DPC	**Dobruska-Polom**	**90.95**	**320**	*e*P	**P**	**15 23 13.7**	**+1.6**
DPC				MLR	MLR			
	comp=Z,300nm,21.6s							
DPC	**Dobruska-Polom**	**90.95**	**320**	*e*P	**P**	**15 23 13.7**	**+1.6**
DPC				AMS	AMS	16 12 40.0		
	comp=Z,300nm,21.6s							
OSTC	**Ostas**	**91.04**	**321**	AMS	AMS	16 13 00.0		
	comp=Z,300nm,17.0s							
UPC	**Upice**	**91.17**	**320**	AMS	AMS	16 14 20.0		
	comp=Z,300nm,24.5s							
TREC	**Trest**	**91.37**	**319**	AMS	AMS	16 11 10.0		
	comp=Z,400nm,6.6s							
VNA2	**Neumayer--Watz**	**91.41**	**198**	P	**P**	**15 23 16.0**	**+2.2**
	baz=88,slow=4.1							
VNA2	**Neumayer--Watz**	**91.41**	**198**	pP	pP	15 23 24.6	+0.9
VNA1	**Neumayer--Stat**	**91.78**	**198**	P	**P**	**15 23 17.9**	**+2.4**
VNA1	**Neumayer--Stat**	**91.78**	**198**	pP	pP	15 23 26.6	+1.3
GOPC	**GO Pecny, Ondr**	**91.89**	**320**	AMS	AMS	16 11 00.0		
	comp=Z,500nm,5.8s							
VNA3	**Neumayer Olymp**	**91.99**	**198**	P	**P**	**15 23 14.6**	**-1.9**
VNA3	**Neumayer Olymp**	**91.99**	**198**	pP	pP	15 23 27.1	+0.8
PRU	**Pruhonice**	**92.05**	**320**	AMS	AMS	16 13 30.0		
	comp=Z,200nm,17.5s							
PVCC	**Panska Ves**	**92.08**	**320**	AMS	AMS	16 13 40.0		
	comp=Z,300nm,23.8s							
CKRC	**Cesky Krumlov**	**92.09**	**319**	*e*P	**P**	**15 23 19.2**	**+1.8**
CKRC				AMS	AMS	16 14 50.0		
	comp=Z,300nm,15.1s							
GERES	**GERESS Array B**	**92.50**	**319**	P	**P**	**15 23 20.4**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=91,slow=5.6,SNR=17							
	comp=Z,1.8nm,0.8s							
GERES	**GERESS Array B**	**92.50**	**319**	P	**P**	**15 23 20.1**	**+0.7**
GERES	**GERESS Array B**	**92.50**	**319**	P	**P**	**15 23 20.1**	**+0.7**
KHC	**Kasperske Hory**	**92.60**	**319**	*e*P	**P**	**15 23 20.5**	**+0.7**
KHC				MLR	MLR			
	comp=Z,300nm,17.1s							
KHC	**Kasperske Hory**	**92.60**	**319**	*e*P	**P**	**15 23 20.5**	**+0.7**
KHC				AMS	AMS	16 14 30.0		
	comp=Z,300nm,17.1s							
CLL	**Collm**	**93.14**	**321**	*e*P	**P**	**15 23 22.0**	**-0.1**
CLL				*e**PP	**sP**	**15 23 35.0**	**-0.6**
CLL				*e*S	**S**	**15 34 18.0**	**-8.7**
CLL				pmax	pmax			
	comp=Z,7.0nm,1.3s							
CLL	**Collm**	**93.14**	**321**	*e*P	**P**	**15 23 22.0**	**-0.1**
	comp=Z,7.0nm,1.3s							
CLL				*e*SKKSac	**SKKSac**	**15 34 09.0**	**-3.8**
CLL				*e*S	**S**	**15 34 18.0**	**-8.7**
CLL				*e*PS	**PS**	**15 35 44.0**	**+0.8**
CLL				*ex*	x	15 37 27.0		
CLL				*e*SS	SS	15 41 00.0	+18	
CLL				*e*SSS	SSS	15 44 06.0		
CLL				*e*SSSS		15 47 42.0		
CLL				LmH		16 11 00.0		
	comp=N,100nm,21.9s							
CLL				LmH		16 11 00.0		
	comp=E,200nm,20.7s							
CLL				LmV		16 15 00.0		
	comp=Z,200nm,20.3s							
HFS	**Hagfors**	**93.39**	**330**	LR	LR	16 10 54.8		
	comp=Z,185nm,18.9s,baz=82,slow=39							
NKC	**Novy Kostel**	**93.41**	**320**	AMS	AMS	16 14 20.0		
	comp=Z,300nm,18.1s							
SPITS	**Spitsbergen Ar**	**93.97**	**348**	LR	LR	16 11 55.8		
	comp=Z,374nm,20.8s,baz=59,slow=40							
NB2	**NORSAR Subarra**	**94.66**	**331**	P	**P**	**15 23 29.2**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=96,slow=4.6							
NOA	**NORSAR Array B**	**94.66**	**331**	P	**P**	**15 23 29.1**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=92,slow=4.7,SNR=4.2							
NOA				PP	**PP**	**15 27 19.5**	**+2.2**
	comp=Z,2.0nm,0.9s,baz=88,slow=7.5,SNR=3.8							
NOA				LR	LR	16 10 44.3		
	comp=Z,180nm,21.0s,baz=90,slow=38							
	comp=Z,2.7nm,1.0s							
KEST	**Kesra**	**94.88**	**305**	P	**P**	**15 23 30.8**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=180,slow=2.0,SNR=2.6							
KEST				LR	LR	16 10 54.2		
	comp=Z,78nm,18.9s,baz=266,slow=38							
	comp=Z,2.1nm,0.9s							
RAR	**Rarotonga**	**96.05**	**112**	LR	LR	16 06 55.2		
	comp=Z,22nm,20.6s,baz=280,slow=36							
F21K	**Alatna River**	**100.35**	**23**	P	**Pdif**	**15 23 55.2**	**+0.8**
	baz=282							
G21K	**Allakaket**	**100.48**	**23**	P	**Pdif**	**15 23 56.0**	**+1.0**
	baz=282							
F22K	**John River**	**100.78**	**22**	P	**Pdif**	**15 23 57.4**	**+1.0**
	baz=283							
TORD	**Torodi Ar. Bea**	**100.92**	**282**	P	**Pdif**	**15 23 59.3**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=98,slow=6.3,SNR=1.8							
H21K	**Melozitna Rive**	**100.94**	**24**	P	**Pdif**	**15 23 58.3**	**+1.2**
	baz=282							
TOLK	**Toolik Lake Re**	**101.44**	**21**	P	**Pdif**	**15 23 59.8**	**+0.5**
	baz=286							
F24K	**Squaw Lake**	**102.37**	**22**	P	**Pdif**	**15 24 04.8**	**+1.3**
	baz=287							
ILAR	**Eielson Array**	**103.57**	**24**	Pdiff	**Pdif**	**15 24 09.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=259,slow=3.6,SNR=5.3							
ILAR				PP	**PP**	**15 28 24.9**	**0.0**
	comp=Z,1.7nm,1.0s,baz=291,slow=8.7,SNR=5.6							
TBI	**Tubuai**	**105.08**	**116**	*e*LR	LR	15 58 49.2		
	comp=Z,348nm,23.2s							
PPT2	**Papeete2**	**106.12**	**110**	*e*LR	LR	15 59 18.4		
	comp=Z,284nm,23.5s							
HOPE	**Hope Point**	**111.39**	**205**	*i* PKIKP	**PKiKP**	**15 28 44.5**	**+2.5**
TAOE	**Nuku Hiva Isla**	**116.75**	**102**	*e*LR	LR	16 04 15.0		
	comp=Z,209nm,23.7s							
H04D	**Lebanon**	**124.72**	**38**	P	**PKiKP**	**15 29 10.2**	**+2.0**
	baz=302							
I03D	**Drain, OR**	**124.77**	**39**	P	**PKiKP**	**15 29 10.0**	**+1.7**
	baz=301							
K02D	**Willamette Mer**	**125.08**	**40**	P	**PKiKP**	**15 29 10.7**	**+1.6**
	baz=300							
I04A	**Tendick Farm,**	**125.30**	**38**	P	**PKiKP**	**15 29 10.6**	**+1.1**
	baz=302							
HAWA	**Hanford**	**125.55**	**34**	PKPdf	**PKiKP**	**15 29 11.1**	**+1.3**
I05D	**Terrebonne, OR**	**125.66**	**37**	P	**PKiKP**	**15 29 11.8**	**+1.6**
	baz=303							
L04D	**Klamath Falls**	**126.19**	**40**	P	**PKiKP**	**15 29 12.6**	**+1.2**
	baz=301							
PINE	**Pine Mountain**	**126.20**	**37**	PKPdf	**PKPdf**	**15 29 08.8**	**-2.3**
J05D	**Fort Rock, OR**	**126.30**	**38**	P	**PKiKP**	**15 29 13.4**	**+1.8**
	baz=303							
K05A	**Summer Lake**	**126.81**	**39**	PKPdf	**PKiKP**	**15 29 12.6**	**-0.1**
F10A	**Beach Ranch, E**	**127.07**	**33**	PKPdf	**PKiKP**	**15 29 13.8**	**+0.8**
MOD	**Modoc Plateau**	**127.62**	**39**	PKPdf	**PKiKP**	**15 29 15.2**	**+0.8**
MSO	**Missoula**	**128.26**	**31**	PKPdf	**PKiKP**	**15 29 15.8**	**+0.4**
MSO	**Missoula**	**128.26**	**31**	P	**PKiKP**	**15 29 16.2**	**+0.8**
	baz=312							
AFDM	**Forest Hills D**	**128.72**	**43**	PKPdf	**PKiKP**	**15 29 16.7**	**+0.3**
EGMT	**Eagleton**	**129.43**	**27**	PKPdf	**PKiKP**	**15 29 17.9**	**+0.2**
EGMT	**Eagleton**	**129.43**	**27**	P	**PKiKP**	**15 29 18.3**	**+0.6**
	baz=318							
MFID	**Camas Ranch**	**129.44**	**35**	PKPdf	**PKiKP**	**15 29 18.6**	**+0.7**
HLID	**Hailey**	**130.15**	**34**	PKPdf	**PKiKP**	**15 29 19.7**	**+0.3**
HLID	**Hailey**	**130.15**	**34**	P	**PKiKP**	**15 29 20.8**	**+1.4**
	baz=310							
BOZ	**Bozeman (W)**	**130.27**	**30**	P	**PKiKP**	**15 29 20.5**	**+1.0**
	baz=314							
KVN	**Kaiserville**	**130.57**	**41**	PKPdf	**PKiKP**	**15 29 20.4**	**0.0**
KVN	**Kaiserville**	**130.57**	**41**	PKiKP	**PKiKP**	**15 29 20.4**	**0.0**
NVAR	**Mina Array Bea**	**130.77**	**42**	PKP	**PKiKP**	**15 29 21.7**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=276,slow=1.9,SNR=9.0							
NVAR				SKPbc	**SKPab**	**15 32 43.9**	**+2.0**
	comp=Z,2.2nm,0.8s,baz=267,slow=4.9,SNR=11							
YHL	**Hebgen Lake**	**131.02**	**31**	PKPdf	**PKiKP**	**15 29 21.6**	**+0.4**
ELK	**Elko**	**131.41**	**38**	PKPdf	**PKiKP**	**15 29 22.1**	**0.0**
ELK				SKPbc	**SKPab**	**15 32 44.9**	**+0.4**
ELK	**Elko**	**131.41**	**38**	PKIKP	**PKiKP**	**15 29 22.1**	**0.0**
IMW	**Indian Meadow**	**131.81**	**32**	SKPbc	**SKPbc**	**15 32 44.4**	**-1.1**
CWC	**Cottonwood Cre**	**131.96**	**44**	P	**PKiKP**	**15 29 23.9**	**+0.7**
	baz=301							
MPMC	**Manual Prospec**	**132.57**	**44**	P	**PKiKP**	**15 29 25.6**	**+1.0**
	baz=309							
ULM	**Lac du Bonnet**	**132.59**	**15**	PKP	**PKPdf**	**15 29 23.2**	**+0.5**
	comp=Z,10nm,0.8s,baz=298,slow=2.1,SNR=8.6							
R11A	**Troy Canyon, C**	**132.60**	**40**	P	**PKiKP**	**15 29 25.6**	**+1.1**
	baz=305							
TPNV	**Topopah Spring**	**132.94**	**42**	P	**PKiKP**	**15 29 25.9**	**+0.7**
	baz=303							
SPR3	**Spring Creek 3**	**133.02**	**39**	PKPdf	**PKiKP**	**15 29 25.1**	**-0.4**
HWUT	**Hardware Ranch**	**133.02**	**34**	PKPdf	**PKiKP**	**15 29 25.0**	**-0.3**
DUG	**Dugway, Tooele**	**133.21**	**37**	P	**PKiKP**	**15 29 26.6**	**+1.0**
	baz=309							
PDAR	**Pinedale Array**	**133.32**	**32**	PKP	**PKPdf**	**15 29 24.9**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=219,slow=1.9,SNR=5.8							
GMRC	**Granite Mounta**	**134.51**	**45**	P	**PKiKP**	**15 29 29.1**	**+0.7**
	baz=302							
PFO	**Pinyon Flats O**	**134.54**	**46**	P	**PKiKP**	**15 29 30.3**	**+1.8**
	baz=300							
MSU	**Marysvale**	**134.65**	**38**	PKPdf	**PKPdf**	**15 29 27.5**	**+0.2**
MSU	**Marysvale**	**134.65**	**38**	PKIKP	**PKPdf**	**15 29 27.5**	**+0.2**
BELC	**Belle Mtn. Jos**	**134.68**	**46**	P	**PKiKP**	**15 29 29.6**	**+0.8**
	baz=301							
RSSD	**Black Hills**	**134.97**	**26**	PKPdf	**PKPdf**	**15 29 27.5**	**-0.2**
RSSD	**Black Hills**	**134.97**	**26**	PKIKP	**PKPdf**	**15 29 27.5**	**-0.2**
RSSD	**Black Hills**	**134.97**	**26**	P	**PKiKP**	**15 29 28.8**	**-0.4**
	baz=322							
KNB	**Kanab**	**135.16**	**40**	PKPdf	**PKPdf**	**15 29 28.7**	**+0.5**
KNB	**Kanab**	**135.16**	**40**	PKIKP	**PKPdf**	**15 29 28.7**	**+0.5**
O20A	**White River Ci**	**135.86**	**33**	P	**PKiKP**	**15 29 31.7**	**+0.6**
	baz=315							
WUAZ	**Wupatki**	**136.99**	**41**	P	**PKiKP**	**15 29 34.4**	**+0.9**
	baz=307							
F36A	**Milaca**	**137.24**	**16**	PKPdf	**PKPdf**	**15 29 31.9**	**+0.3**
S22A	**4UR Ranch, Cre**	**138.32**	**35**	PKPdf	**PKiKP**	**15 29 35.8**	**-0.5**
S22A	**4UR Ranch, Cre**	**138.32**	**35**	P	**PKiKP**	**15 29 36.5**	**+0.2**
	baz=314							
T25A	**Trinidad**	**140.10**	**33**	PKPdf	**PKPdf**	**15 29 36.6**	**-0.8**
ANMO	**Albuquerque**	**140.45**	**38**	PKPdf	**PKPdf**	**15 29 35.5**	**-2.5**
ANMO	**Albuquerque**	**140.45**	**38**	PKIKP	**PKPdf**	**15 29 35.5**	**-2.5**
ANMO	**Albuquerque**	**140.45**	**38**	P	**PKiKP**	**15 29 40.4**	**-0.2**
	baz=313							
CPUP	**Villa Florida**	**142.79**	**212**	PKP	**PKiKP**	**15 29 45.4**	**0.0**
	comp=Z,2.7nm,0.9s,baz=53,slow=5.1,SNR=1.7							
CPUP	**Villa Florida**	**142.79**	**212**	*e*P	**PKiKP**	**15 29 46.0**	**+0.6**
P38A	**Dawn**	**142.92**	**20**	PKPdf	**PKPdf**	**15 29 39.0**	**-3.1**
MNTX	**Cornudas Mount**	**143.27**	**41**	PKPdf	PKPbc	15 29 40.8	+0.9
MSTX	**Muleshoe**	**143.31**	**35**	PKPdf	**PKPdf**	**15 29 41.8**	**-1.3**
MSTX	**Muleshoe**	**143.31**	**35**	P	**PKiKP**	**15 29 47.3**	**+0.9**
	baz=316							
BDFB	**Brasilia**	**143.68**	**235**	PKP	**PKiKP**	**15 29 47.2**	**-0.4**
	comp=Z,4.1nm,0.5s,baz=114,slow=3.4,SNR=6.9							
SFIN	**Lafayette**	**143.95**	**12**	P	PKPbc	15 29 42.3	+0.7
	baz=345							
GO04	**Tololo Observa**	**144.24**	**191**	PKPdf	PKPbc	15 29 43.7	+0.5	
SLBS	**Sierra La Lagu**	**144.29**	**56**	PKPdf	**PKPdf**	**15 29 44.3**	**-0.7**
O48B	**Farmland**	**144.41**	**9**	P	PKPbc	15 29 43.4	+0.3
	baz=348							
O53A	**New Philadelph**	**144.87**	**4**	P	**PKPab**	**15 29 44.1**	**-0.3**
	baz=355							
WMOK	**Wichita Mounta**	**144.88**	**30**	P	**PKPab**	**15 29 44.4**	**-0.3**
	baz=323							
O52A	**Adamsville**	**144.96**	**5**	PKPdf	**PKPab**	**15 29 44.4**	**-0.4**
CCM	**Cathedral Cave**	**145.09**	**18**	PKPdf	**PKPbc**	**15 29 44.4**	**-0.9**
CCM	**Cathedral Cave**	**145.09**	**18**	PKIKP	**PKPbc**	**15 29 44.4**	**-0.9**
CCM	**Cathedral Cave**	**145.09**	**18**	P	**PKPbc**	**15 29 44.9**	**-0.5**
	baz=337							
P48A	**Milroy**	**145.15**	**10**		**PKPbc**	**15 29 44.5**	**-0.9**
MVL	**Millersville**	**145.18**	**357**	PKPdf	**PKPab**	**15 29 45.6**	**+0.1**
P49A	**Miami Univ. Ec**	**145.19**	**9**	P	**PKPbc**	**15 29 45.2**	**-0.4**
	baz=349							
WUPA	**West Chester U**	**145.21**	**356**		**PKPbc**	**15 29 45.6**	**0.0**
TUL1	**Leonard**	**145.31**	**25**		**PKPbc**	**15 29 46.1**	**0.0**
TUL1	**Leonard**	**145.31**	**25**	P	**PKPbc**	**15 29 46.1**	**0.0**
	baz=328							
P52A	**Corning**	**145.41**	**5**	P	**PKPbc**	**15 29 45.4**	**-0.9**
	baz=353							
U38A	**Gravette**	**145.43**	**23**		**PKPbc**	**15 29 46.0**	**-0.5**
X34A	**Smith Ranch, M**	**145.46**	**29**		**PKPab**	**15 29 47.2**	**+0.3**
MCWV	**Mont Chateau**	**145.53**	**2**	P	**PKPab**	**15 29 46.9**	**0.0**
	baz=357							
MGMO	**Mountain Grove**	**145.58**	**20**		**PKPdf**	**15 29 46.7**	**-0.1**
HHAR	**Hobbs**	**145.75**	**23**		**PKPdf**	**15 29 46.5**	**-0.6**
SDMD	**Soldier's Deli**	**145.79**	**358**	PKPdf	**PKPdf**	**15 29 47.1**	**0.0**
TXAR	**Lajitas Array**	**145.93**	**42**	PKPbc	**PKPab**	**15 29 49.3**	**+0.4**
	comp=Z,36nm,0.8s,baz=302,slow=1.4,SNR=309							
TXAR	**Lajitas Array**	**145.93**	**42**	PKPdf	**PKPab**	**15 29 48.6**	**-0.2**
TXAR	**Lajitas Array**	**145.93**	**42**	PKP2	**PKPab**	**15 29 48.7**	**-0.2**
ABTX	**Abilene, Hawle**	**146.07**	**33**	PKPdf	**PKPdf**	**15 29 46.5**	**-1.3**
ABTX	**Abilene, Hawle**	**146.07**	**33**	P	**PKPab**	**15 29 49.9**	**+0.7**
	baz=320							
Q56A	**Snyder Ridge,**	**146.17**	**1**		**PKPbc**	**15 29 48.8**	**+0.1**
WCI	**Wyandotte Cave**	**146.19**	**11**		**PKPbc**	**15 29 48.9**	**+0.1**
WCI	**Wyandotte Cave**	**146.19**	**11**	PKP2	**PKPbc**	**15 29 48.9**	**+0.1**
WCI	**Wyandotte Cave**	**146.19**	**11**	P	**PKPbc**	**15 29 48.6**	**-0.1**
	baz=346							
LOOK	**Love County**	**146.27**	**29**		**PKPdf**	**15 29 48.0**	**-0.1**
AQDB	**Aquidauana**	**146.32**	**220**		**PKPab**	**15 29 50.5**	**0.0**
X37A	**Clayton**	**146.61**	**26**		**PKPbc**	**15 29 50.2**	**+0.1**
AC06	**Mina Casimiro**	**146.88**	**193**		**PKPdf**	**15 29 49.3**	**0.0**
R55A	**Marlinton**	**146.89**	**3**		**PKPbc**	**15 29 50.5**	**-0.4**
AC02	**Maricunga**	**147.08**	**195**		**PKPab**	**15 29 54.2**	**+0.4**
WHAR	**Wooly Hollow**	**147.24**	**22**		**PKPdf**	**15 29 50.6**	**+1.0**
MIAR	**Mount Ida**	**147.41**	**24**	PKPdf	**PKPdf**	**15 29 49.9**	**0.0**
MIAR	**Mount Ida**	**147.41**	**24**	PKIKP	**PKPdf**	**15 29 49.9**	**0.0**
MIAR	**Mount Ida**	**147.41**	**24**	P	**PKPbc**	**15 29 52.3**	**0.0**
	baz=324							
JCT	**Junction City**	**147.57**	**36**		**PKPbc**	**15 29 52.0**	**-1.0**
JCT	**Junction City**	**147.57**	**36**	PKP2	**PKPbc**	**15 29 52.0**	**-1.0**
JCT	**Junction City**	**147.57**	**36**	P	**PKPbc**	**15 29 53.5**	**+0.5**
	baz=317							
UALR	**University of**	**147.68**	**22**	PKPdf	**PKPdf**	**15 29 50.1**	**-0.3**
WHTX	**Lake Whitney,**	**147.73**	**32**	P	**PKPbc**	**15 29 53.7**	**+0.4**
	baz=322							
WVT	**Waverly**	**147.85**	**15**	PKPdf	**PKPdf**	**15 29 50.7**	**+0.1**
WVT	**Waverly**	**147.85**	**15**	PKIKP	**PKPdf**	**15 29 50.7**	**+0.1**
WVT	**Waverly**	**147.85**	**15**	P	**PKPbc**	**15 29 53.5**	**0.0**
	baz=342							
U49A	**Red Boiling Sp**	**147.95**	**11**		**PKPdf**	**15 29 51.7**	**+0.9**
CLTN	**Cedars of Leba**	**148.24**	**13**		**PKPbc**	**15 29 53.8**	**-0.8**
T59A	**Double "B" Far**	**148.24**	**359**		**PKPbc**	**15 29 55.0**	**+0.4**
TZTN	**Tazewell**	**148.29**	**8**		**PKPbc**	**15 29 55.0**	**+0.3**
TZTN	**Tazewell**	**148.29**	**8**	P	**PKPbc**	**15 29 54.5**	**-0.2**
	baz=350							
435B	**Jarrell**	**148.60**	**33**	P	**PKPbc**	**15 29 56.4**	**+0.7**
	baz=321							
PLAL	**Pickwick Lake**	**148.87**	**16**		**PKPbc**	**15 29 56.1**	**-0.1**
V51A	**Loudon**	**148.90**	**10**		**PKPbc**	**15 29 56.2**	**-0.1**
OXF	**Oxford**	**148.92**	**18**	P	**PKPbc**	**15 29 56.2**	**-0.2**
	baz=338							
V53A	**Saluda**	**149.25**	**7**		**PKPbc**	**15 29 57.0**	**-0.2**
NATX	**Nacogdoches**	**149.30**	**28**	P	**PKiKP**	**15 29 58.2**	**-0.4**
	baz=327							
833A	**Chaparral WMA,**	**149.37**	**39**		**PKPdf**	**15 29 55.5**	**+2.2**
833A	**Chaparral WMA,**	**149.37**	**39**	P	**PKiKP**	**15 29 58.9**	**0.0**
	baz=316							
X48A	**Hartselle**	**149.64**	**14**	PKPbc	**PKPbc**	**15 29 57.5**	**-0.7**
KMSC	**Kings Mountain**	**149.93**	**5**	P	**PKPbc**	**15 29 58.9**	**+0.1**
	baz=354							
W57A	**Gilead**	**150.02**	**3**		**PKPbc**	**15 29 59.1**	**0.0**
HKT	**Hockley**	**150.19**	**32**	PKPdf	**PKPdf**	**15 29 54.3**	**-0.2**
HKT	**Hockley**	**150.19**	**32**	PKHKP	**PKPdf**	**15 29 54.3**	**-0.2**
PAULI	**Pauline**	**150.21**	**6**		**PKPbc**	**15 29 58.7**	**-0.9**
Y49A	**Blount Mountai**	**150.36**	**14**	PKPdf	**PKPdf**	**15 29 54.4**	**-0.3**
Y49A				PKPbc	**PKPbc**	**15 29 59.7**	**-0.2**
VBMS	**Vicksburg**	**150.64**	**22**	P	**PKiKP**	**15 30 01.4**	**+0.1**
	baz=335							
LRAL	**Lakeview Retre**	**151.00**	**15**	PKPdf	**PKPdf**	**15 29 55.4**	**-0.3**
LRAL	**Lakeview Retre**	**151.00**	**15**	P	**PKPbc**	**15 30 01.2**	**-0.3**
	baz=342							
LVC	**Limon Verde**	**151.02**	**198**		**PKPbc**	**15 30 02.0**	**-0.3**
LVC	**Limon Verde**	**151.02**	**198**	PKIKP	**PKPbc**	**15 30 02.0**	**-0.3**
GOGA	**Godfrey**	**151.38**	**9**	P	**PKiKP**	**15 30 02.7**	**-0.1**
	baz=349							
PTLB	**Pontes e Lacer**	**152.19**	**223**		**PKPab**	**15 30 12.7**	**-1.6**
BRAL	**Brewton**	**152.74**	**17**	P	**PKiKP**	**15 30 06.6**	**+0.8**
	baz=341							
LPAZ	**La Paz**	**156.54**	**205**	PKPab	**PKPab**	**15 30 34.9**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=172,slow=3.1,SNR=3.9							
ETMB	**Extrema**	**160.97**	**219**	PKPab	**PKPab**	**15 30 51.0**	**-1.0**

IDC 12 15:14:36.0±47.0, 19°32S×177°82W, h544km±418km, mb3.1/4, mbtmp4.0/4, Error ellipse: s-maj=363.5km s-min=167.7km az=108.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.79**	**263**	P	P	15 20 33.8	+0.6
	4.7nm,0.9s,baz=82,slow=10,SNR=1.4						
	4.7nm,0.9s						
WRA	**Warramunga Arr**	**44.94**	**261**	P	P	15 22 02.4	-0.6
	0.6nm,0.3s,baz=

QSPA					IAmb	IAmb	15 40 16.0	
	comp=Z,7.8nm,1.4s							
CMAR	**Chiang Mai Arr**	**62.24**	**43**	P		**P**	**15 39 51.0**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=234,slow=7.5,SNR=5.3							
	comp=Z,0.6nm,0.6s							
ASAR	**Alice Springs**	**65.72**	**104**	P		**P**	**15 40 13.5**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=244,slow=5.3,SNR=5.2							
	comp=Z,0.2nm,0.7s							
WRA	**Warramunga Arr**	**67.67**	**100**	P		**P**	**15 40 26.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=242,slow=5.9,SNR=7.8							
	comp=Z,0.4nm,0.6s							

KEA ***12*** *15:37:07.1, 35°.82N × 129°.11E, h15km, ML3.3/1*
KMA ***12*** *15:37:10.5±0.1, 35°.78N × 129°.21E, h19km±1km, Error ellipse: s-maj=1.9km s-min=1.1km az=126.0*
JMA ***12*** *15:37:11.1±0.3, 36°N±1° × 12°.9E±°, h33km, MV3.3/13, S KOREAN PENINSULA REG*

ISC 12 15:37:08.9±1.0, **35°.80N**±0°.02×**129°.17E**±0°.04, **h10**km, **n32,** σ1**9**31/41, **South Korea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YOCB	**Yeongcheon**	**0.25**	**314**	P		**Pb**	**15 37 17.0**	**+1.4**
	SNR=79							
YOCB	**Yeongcheon**	**0.25**	**314**	P		**Pb**	**15 37 17.0**	**+1.4**
	SNR=79							
KSPHA	**Pohang**	**0.42**	**22**	P		**Pb**	**15 37 19.6**	**+1.1**
	SNR=108							
KSPHA	**Pohang**	**0.42**	**22**	P		**Pb**	**15 37 19.6**	**+1.1**
	SNR=108							
KSPHA				P		**Pb**	**15 37 19.6**	**+1.1**
	SNR=108							
KSDAU	**Deagu-acc**	**0.46**	**281**	P		**Pb**	**15 37 20.5**	**+1.4**
	SNR=54							
KSDAU	**Deagu-acc**	**0.46**	**281**	P		**Pb**	**15 37 20.5**	**+1.4**
	SNR=54							
MIYA	**Miryang-si**	**0.47**	**228**	P		**Pb**	**15 37 20.2**	**+1.0**
	SNR=59							
MIYA	**Miryang-si**	**0.47**	**228**	P		**Pb**	**15 37 20.2**	**+1.0**
	SNR=59							
KSBUS	**Busan**	**0.56**	**185**	P		**Pb**	**15 37 21.3**	**+0.6**
	SNR=111							
KSBUS	**Busan**	**0.56**	**185**	P		**Pb**	**15 37 21.3**	**+0.6**
	SNR=111							
KSBUS				P		**Pb**	**15 37 21.3**	**+0.6**
	SNR=111							
KSCHR	**CHANGNYEONG**	**0.61**	**245**	P		**Pb**	**15 37 22.8**	**+1.1**
	SNR=103							
KSCHR	**CHANGNYEONG**	**0.61**	**245**	P		**Pb**	**15 37 22.8**	**+1.1**
	SNR=103							
KSADO	**Andong**	**0.64**	**343**	P		**Pb**	**15 37 23.4**	**+1.3**
	SNR=101							
KSADO	**Andong**	**0.64**	**343**	P		**Pb**	**15 37 23.4**	**+1.3**
	SNR=101							
EUSB	**Uiseong**	**0.68**	**325**	P		**Pb**	**15 37 24.2**	**+1.4**
	SNR=132							
EUSB	**Uiseong**	**0.68**	**325**	P		**Pb**	**15 37 24.2**	**+1.4**
	SNR=132							
EUSB				P		**Pb**	**15 37 24.2**	**+1.4**
	SNR=132							
YODB	**Yeongdeok**	**0.75**	**15**	P		**Pb**	**15 37 25.3**	**+1.2**
	SNR=99							
YODB	**Yeongdeok**	**0.75**	**15**	P		**Pb**	**15 37 25.3**	**+1.2**
	SNR=99							
YODB				P		**Pb**	**15 37 25.3**	**+1.2**
	SNR=99							
YEYB	**Yeongyang**	**0.82**	**355**	P		**Pn**	**15 37 26.9**	**+0.2**
	SNR=165							
YEYB	**Yeongyang**	**0.82**	**355**	P		**Pn**	**15 37 26.9**	**+0.2**
	SNR=165							
YEYB				P		**Pn**	**15 37 26.9**	**+0.2**
	SNR=165							
ADOA	**Andong Acc Bor**	**0.86**	**334**	P		**Pn**	**15 37 27.4**	**+0.3**
	SNR=55							
ADOA	**Andong Acc Bor**	**0.86**	**334**	P		**Pn**	**15 37 27.4**	**+0.3**
	SNR=55							
EURB	**Uiryeong-eup**	**0.87**	**237**	P		**Pb**	**15 37 27.1**	**+1.1**
	SNR=45							
EURB	**Uiryeong-eup**	**0.87**	**237**	P		**Pb**	**15 37 27.1**	**+1.1**
	SNR=45							
EURB				P		**Pb**	**15 37 27.1**	**+1.1**
	SNR=45							
JTU	**Tsushima**	**1.29**	**172**	*e*P		**Pn**	**15 37 33.4**	**+0.4**
JTU				*e*S		**Sb**	**15 37 49.5**	**-0.4**
JTSM	**Tsushimamitsus**	**1.47**	**173**	*e*P		**Pn**	**15 37 36.1**	**+0.6**
JTSM				*e*S		**Sn**	**15 37 54.6**	**-0.2**
JII	**Iki**	**2.06**	**167**	*e*P		**Pn**	**15 37 44.7**	**+1.1**
HJU	**Haeju**	**3.55**	**310**	Pg		**Pb**	**15 38 14.1**	**+2.2**
HJU				Sg		**Sg**	**15 39 00.6**	**-2.4**
HJU				AML		AML		
	comp=N,134nm,0.5s							
HJU				AML		AML		
	comp=E,80nm,0.7s							
HJU				AML		AML		
	comp=Z,85nm,0.7s							
PYAG	**Pyongyang**	**4.23**	**321**	Sg		**Sg**	**15 39 22.7**	**-2.0**
HHU	**Hamhung**	**4.32**	**343**	Sg		**Sg**	**15 39 25.5**	**-2.0**
PYS	**Pyongsong**	**4.34**	**324**	Sg		**Sg**	**15 39 25.6**	**-2.5**
SUJ	**Sinuiju**	**5.67**	**321**	Sg		**Sg**	**15 40 08.8**	**-2.0**

DRS ***12*** *15:51:30.2±0.0, 43°.16N × 44°.00E, h24km*
AZER ***12*** *15:51:31.6±0.3, 42°.83N × 44°.11E, h41km±30km, Error ellipse: s-maj=60.7km s-min=5.8km az=314.0*
NORS ***12*** *15:51:31.4±0.0, 42°.76N × 44°.59E, h20km, MPVA4.4*
TIF ***12*** *15:51:31.7, 42°.85N × 44°.58E, h17km±1km*
MOS ***12*** *15:51:32.1±0.5, 42°.85N × 44°.55E, h10km, mb3.9/1, Error ellipse: s-maj=5.1km s-min=4.2km az=113.7*

ISC 12 15:51:32.4±0.8, **42°.85N**±0°.01×**44°.56E**±0°.01, **h17**km±5km, **n98,** σ1**9**31/178, **7C-6D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.20**	**264**	*i* Pg		**Pb**	**15 51 37.2**	**-0.4**
LACR				*e*S		**Sg**	**15 51 41.0**	**+0.5**
LACR				pmax		pmax		
	comp=Z,1μm,0.1s							
LACR				smax		smax		
	comp=E,2μm,0.3s							
LACR	**Lac**	**0.20**	**264**	*i* Pg		**Pb**	**15 51 37.3**	**-0.4**
LACR				*e*Sg		**Sg**	**15 51 41.1**	**+0.5**
VLKR	**Vladikavkaz**	**0.21**	**23**	⇑ *i* PG		**Pb**	**15 51 37.5**	**-0.4**
VLKR				*e*S		**Sg**	**15 51 42.2**	**+1.2**
VLKR	**Vladikavkaz**	**0.21**	**23**	*i* Pg		**Pb**	**15 51 37.5**	**-0.4**
VLKR				*e*Sg		**Sg**	**15 51 42.2**	**+1.2**
PNSH	**Pansheti**	**0.22**	**169**	P		**Pg**	**15 51 37.2**	**-0.5**
PNSH	**Pansheti**	**0.22**	**169**	PG		**Pg**	**15 51 37.1**	**-0.5**
KMGR	**Komgaron**	**0.30**	**47**	*e*PG		**Pb**	**15 51 38.9**	**-0.6**
KMGR				*e*S		**Sb**	**15 51 44.9**	**+0.7**
KMGR	**Komgaron**	**0.30**	**47**	*e*Pg		**Pb**	**15 51 38.9**	**-0.6**
KMGR				*e*Sg		**Sb**	**15 51 44.9**	**+0.7**
ARNR	**Ardon**	**0.39**	**329**	*e*PG		**Pb**	**15 51 41.2**	**+0.3**
ARNR				*e*S		**Sb**	**15 51 48.6**	**+2.0**
ARNR				pmax		pmax		
	comp=Z,214nm,0.2s							
ARNR				smax		smax		
	comp=E,474nm,0.3s							
ARNR	**Ardon**	**0.39**	**329**	*i* Pg		**Pb**	**15 51 41.2**	**+0.3**
ARNR				*e*Sg		**Sb**	**15 51 48.6**	**+2.0**
KORR	**Kora**	**0.43**	**303**	*e*PG		**Pn**	**15 51 42.6**	**-1.3**
KORR				*e*S		**Sb**	**15 51 50.0**	**+2.1**
KORR				pmax		pmax		
	comp=Z,184nm,0.1s							
KORR				smax		smax		
	comp=E,733nm,0.3s							
KORR	**Kora**	**0.43**	**303**	*e*Pg		**Pn**	**15 51 42.6**	**-1.3**
KORR				*e*Sg		**Sb**	**15 51 50.1**	**+2.1**
ZEI	**Tsey**	**0.49**	**263**	*e*PG		**Pg**	**15 51 41.9**	**-0.4**
ZEI				*e*S		**Sb**	**15 51 49.0**	**-0.6**
ZEI				pmax		pmax		
	comp=Z,151nm,0.1s							
ZEI				smax		smax		
	comp=E,2μm,0.3s							
ZEI	**Tsey**	**0.49**	**263**	*e*Pg		**Pg**	**15 51 42.0**	**-0.4**
ZEI				*e*Sg		**Sb**	**15 51 49.0**	**-0.6**
BTKR	**Batakoyurt**	**0.52**	**358**	⇑ *i* PG		**Pn**	**15 51 44.1**	**-1.0**
BTKR				*e*S		**Sn**	**15 51 54.0**	**+0.3**
BTKR	**Batakoyurt**	**0.52**	**358**	*i* Pg		**Pn**	**15 51 44.1**	**-1.0**
BTKR				*e*Sg		**Sn**	**15 51 54.0**	**+0.3**
STDR	**Stavd-Durt**	**0.64**	**325**	*e*PG		**Pn**	**15 51 46.0**	**-0.6**
STDR				*e*S		**Sn**	**15 51 55.8**	**-0.6**
STDR	**Stavd-Durt**	**0.64**	**325**	*e*Pg		**Pn**	**15 51 46.1**	**-0.6**
STDR				*e*Sg		**Sn**	**15 51 57.2**	**+0.8**
DIGR	**Digorskoe uzhe**	**0.72**	**274**	*e*PG		**Pb**	**15 51 46.2**	**-0.4**
DIGR				*e*S		**Sb**	**15 51 56.0**	**-0.4**
DIGR				pmax		pmax		
	comp=Z,95nm,0.2s							
DIGR				smax		smax		
	comp=N,697nm,0.2s							
DIGR	**Digorskoe uzhe**	**0.72**	**274**	*e*Pg		**Pb**	**15 51 46.2**	**-0.4**
DIGR				*e*Sg		**Sb**	**15 51 56.0**	**-0.4**
ONI	**Oni**	**0.86**	**253**	P		**Pb**	**15 51 48.8**	**0.0**
ONI				S		**Sb**	**15 52 00.8**	**+0.7**
ONI	**Oni**	**0.86**	**253**	PG		**Pb**	**15 51 48.8**	**0.0**
ONI				S		**Sb**	**15 52 00.8**	**+0.7**
TRKR	**Terskaya**	**0.88**	**8**	*e*PG		**Pn**	**15 51 49.8**	**-0.2**
TRKR				*e*S		**Sn**	**15 52 04.1**	**+1.6**
TRKR	**Terskaya**	**0.88**	**8**	*e*Pg		**Pn**	**15 51 49.8**	**-0.2**
TRKR				*e*Sg		**Sn**	**15 52 04.1**	**+1.6**
PRTR	**Priterechnaya**	**0.93**	**347**	*e*PG		**Pb**	**15 51 49.9**	**0.0**
PRTR				*e*S		**Sn**	**15 52 05.0**	**+1.5**
PRTR				pmax		pmax		
	comp=Z,301nm,0.1s							
PRTR				smax		smax		
	comp=E,842nm,0.3s							
PRTR	**Priterechnaya**	**0.93**	**347**	*e*Pg		**Pb**	**15 51 50.0**	**0.0**
PRTR				*e*Sg		**Sn**	**15 52 05.1**	**+1.5**
NCK	**Nalchik**	**0.96**	**313**	*d i* PG		**Pn**	**15 51 50.9**	**-0.2**
NCK				*i* S		**Sn**	**15 52 04.6**	**+0.2**
NCK				pmax		pmax		
	comp=Z,158nm,0.2s							
NCK				smax		smax		
	comp=Z,175nm,0.2s							
NCK	**Nalchik**	**0.96**	**313**	*e*Pg		**Pn**	**15 51 51.4**	**+0.3**
NCK				*e*Sg		**Sn**	**15 52 05.9**	**+1.5**
GROC	**Groznyy**	**0.97**	**68**	*e*PG		**Pn**	**15 51 51.0**	**-0.2**
GROC				*e*S		**Sn**	**15 52 05.5**	**+0.8**
GROC	**Groznyy**	**0.97**	**68**	*e*Pg		**Pn**	**15 51 51.0**	**-0.2**
GROC				*e*Sg		**Sn**	**15 52 05.5**	**+0.8**
ALIG	**Mtskhetisjvari**	**1.00**	**223**	P		**Pg**	**15 51 51.4**	**-0.4**
ALIG				S		**Sn**	**15 52 05.5**	**0.0**
DVE	**Vedeno**	**1.15**	**84**	*d i* PG		**Pb**	**15 51 52.7**	**-1.9**
DVE	**Vedeno**	**1.15**	**84**	*e*Pg		**Pb**	**15 51 53.0**	**-1.9**
DVE				*e*Sg		**Sg**	**15 52 09.2**	**-0.6**
BTNK	**Botanikuri**	**1.18**	**171**	P		Pn	15 51 46.3	-7.8
BTNK				S		**Sb**	**15 52 03.1**	**-6.2**
BTNK	**Botanikuri**	**1.18**	**171**	PG		Pn	15 51 46.2	-7.9
TKB	**Tkibuli**	**1.26**	**247**	P		**Pg**	**15 51 56.7**	**0.0**
TKB				S		**Sg**	**15 52 14.3**	**+1.1**
TKB	**Tkibuli**	**1.26**	**247**	PG		**Pg**	**15 51 56.7**	**0.0**
TKB				S		**Sg**	**15 52 14.2**	**+1.1**
KBTC	**Kuba-Taba**	**1.28**	**319**	*e*PG		**Pg**	**15 51 56.2**	**-0.9**
KBTC				*e*S		**Sg**	**15 52 14.1**	**+0.2**
BKRG	**Bakuriani**	**1.33**	**216**	P		**Pg**	**15 51 57.3**	**-0.8**
BKRG				S		**Sg**	**15 52 16.0**	**+0.4**
BKRG	**Bakuriani**	**1.33**	**216**	PG		**Pg**	**15 51 57.3**	**-0.8**
BKRG				S		**Sg**	**15 52 15.9**	**+0.4**
BRNG	**Burnasheti**	**1.34**	**204**	P		**Pg**	**15 51 58.0**	**-0.2**
BRNG				S		**Sg**	**15 52 17.0**	**+1.3**
NEY	**Neytrino**	**1.41**	**287**	*de*PG		**Pb**	**15 51 58.1**	**-0.2**
NEY	**Neytrino**	**1.41**	**287**	*e*Pg		**Pb**	**15 51 57.9**	**-0.4**
NEY				*e*Sg		**Sg**	**15 52 16.5**	**-1.4**
KZRT	**Kazreti**	**1.47**	**185**	P		**Pn**	**15 51 58.8**	**+0.6**
KZRT				S		**Sb**	**15 52 18.5**	**+0.9**
KZRT	**Kazreti**	**1.47**	**185**	PG		**Pn**	**15 51 58.7**	**+0.6**
KZRT				S		**Sb**	**15 52 18.5**	**+0.9**
KBZ	**Khabaz**	**1.50**	**306**	*d i* PG		**Pn**	**15 51 58.8**	**+0.3**
DGRG	**David-gareji**	**1.52**	**156**	P		**Pb**	**15 51 59.8**	**-0.4**
DGRG				S		**Sg**	**15 52 22.4**	**+0.9**
DGRG	**David-gareji**	**1.52**	**156**	PG		**Pb**	**15 51 59.7**	**-0.4**
DGRG				S		**Sg**	**15 52 22.3**	**+0.9**
DLMR	**Dylym**	**1.53**	**81**	*e*PG		**Pn**	**15 51 59.6**	**+0.6**
DLMR				*e*S		**Sg**	**15 52 21.2**	**-0.7**
DLMR				pmax		pmax		
	comp=Z,206nm,0.1s							
DLMR				smax		smax		
	comp=N,1μm,0.2s							
DLMR	**Dylym**	**1.53**	**81**	*e*Pg		**Pn**	**15 51 59.7**	**+0.6**
	comp=N,206nm,0.1s							
DLMR				*e*Sg		**Sb**	**15 52 19.7**	**+0.2**
	comp=N,164nm,0.4s							
DMNI	**Dmanisi**	**1.54**	**190**	P		**Pb**	**15 52 00.1**	**-0.6**
DMNI				S		**Sb**	**15 52 20.7**	**+0.7**
DMNI	**Dmanisi**	**1.54**	**190**	PG		**Pb**	**15 52 00.0**	**-0.6**
DMNI				S		**Sb**	**15 52 20.6**	**+0.7**
LGD	**Lagodekhi**	**1.61**	**129**	P		**Pb**	**15 52 01.5**	**-0.1**
LGD				S		**Sg**	**15 52 23.5**	**-0.5**
LGD	**Lagodekhi**	**1.61**	**129**	PG		**Pb**	**15 52 01.5**	**-0.1**
LGD				S		**Sg**	**15 52 23.6**	**-0.5**
XNZR	**Khunzakh**	**1.61**	**100**	*e*PG		**Pb**	**15 52 01.6**	**-0.1**
XNZR				*e*S		**Sg**	**15 52 24.4**	**+0.1**
XNZR				pmax		pmax		
	comp=Z,37nm,0.1s							
XNZR				smax		smax		
	comp=N,154nm,0.2s							
XNZR	**Khunzakh**	**1.61**	**100**	*e*Pg		**Pb**	**15 52 01.6**	**-0.1**
	comp=N,37nm,0.1s							
XNZR				*e*Sg		**Sg**	**15 52 23.5**	**-0.8**
	comp=N,340nm,0.4s							
AKH	**Akhalkalaki**	**1.64**	**209**	P		**Pb**	**15 52 02.5**	**+0.2**
AKH				S		**Sg**	**15 52 24.9**	**-0.5**
AKH	**Akhalkalaki**	**1.64**	**209**	PN		**Pb**	**15 52 02.4**	**+0.1**
UNCR	**Uncukul**	**1.65**	**94**	*e*PN		**Pb**	**15 52 01.5**	**-0.8**
UNCR				*e*S		**Sg**	**15 52 24.8**	**-0.7**
UNCR				pmax		pmax		
	comp=Z,88nm,0.4s							
UNCR				smax		smax		
	comp=N,373nm,0.4s							
UNCR	**Uncukul**	**1.65**	**94**	*e*Pg		**Pb**	**15 52 01.5**	**-0.8**
	comp=N,87nm,0.4s							
UNCR				*e*Sg		**Sb**	**15 52 23.9**	**+1.0**
	comp=N,173nm,0.2s							
SHA1	**Shidzhatmaz**	**1.65**	**303**	*de*PN		**Pn**	**15 52 00.9**	**+0.1**
SHA1	**Shidzhatmaz**	**1.65**	**303**	*e*Pg		**Pb**	**15 52 02.0**	**-0.5**
SHA1				*e*Sg		**Sb**	**15 52 23.6**	**+0.5**
DBC	**Dubki**	**1.67**	**83**	*de*PN		**Pn**	**15 52 01.5**	**+0.5**
DBC	**Dubki**	**1.67**	**83**	*e*Pg		**Pn**	**15 52 01.8**	**+0.8**
	comp=N,39nm,0.3s							
DBC				*e*Sg		**Sb**	**15 52 24.7**	**+1.1**
	comp=N,98nm,0.2s							
ABS	**Abastumani**	**1.70**	**230**	P		**Pn**	**15 51 59.8**	**-1.6**
ABS				S		**Sn**	**15 52 23.0**	**+0.2**
ABS	**Abastumani**	**1.70**	**230**	PN		**Pn**	**15 51 59.7**	**-1.6**
BEYR	**Belyy Ugol+**	**1.72**	**313**	*e*PN		**Pb**	**15 52 02.5**	**-1.1**
BEYR				*e*S		**Sb**	**15 52 25.1**	**+0.1**
KRNR	**Karanay**	**1.73**	**90**	*e*PN		**Pn**	**15 52 02.5**	**+0.8**
KRNR				*e*S		**Sg**	**15 52 26.7**	**-1.3**
KRNR				pmax		pmax		
	comp=Z,26nm,0.3s							
KRNR				smax		smax		
	comp=N,84nm,0.2s							
KRNR	**Karanay**	**1.73**	**90**	*e*Pg		**Pn**	**15 52 02.5**	**+0.8**
	comp=N,26nm,0.3s							
KRNR				*e*Sg		**Sb**	**15 52 26.0**	**+0.9**
	comp=N,101nm,0.3s							
KIV	**Kislovodsk**	**1.76**	**310**	*ce*PN		**Pn**	**15 52 02.9**	**+0.7**
KIV				*i* S		**Sg**	**15 52 27.5**	**-1.6**
KIV				pmax		pmax		
	comp=Z,17nm,0.4s							
AZMN	**Azmana**	**1.80**	**212**	P		**Pn**	**15 52 02.6**	**-0.2**
AZMN				S		**Sn**	**15 52 26.6**	**+1.2**
ARKR	**Arakani**	**1.81**	**97**	*e*PN		**Pb**	**15 52 04.7**	**-0.4**
ARKR				*e*S		**Sg**	**15 52 29.2**	**-1.5**
ARKR				pmax		pmax		
	comp=Z,30nm,0.7s							
ARKR				smax		smax		
	comp=N,151nm,0.4s							
ARKR	**Arakani**	**1.81**	**97**	*e*Pn		**Pb**	**15 52 04.7**	**-0.4**
	comp=N,29nm,0.7s							
ARKR				*e*Sn		**Sb**	**15 52 28.2**	**+0.8**
	comp=N,170nm,0.5s							
DDFL	**Dedoflistskaro**	**1.82**	**140**	P		**Pg**	**15 52 07.0**	**-0.3**
DDFL				S		**Sg**	**15 52 35.9**	**+5.0**
DDFL	**Dedoflistskaro**	**1.82**	**140**	PN		**Pg**	**15 52 07.0**	**-0.3**
DDFL				S		**Sg**	**15 52 35.9**	**+5.0**
GNBR	**Gunib**	**1.83**	**104**	*e*PN		**Pb**	**15 52 04.9**	**-0.6**
GNBR				*e*S		**Sg**	**15 52 29.9**	**-1.5**
GNBR				pmax		pmax		
	comp=Z,30nm,0.3s							
GNBR				smax		smax		
	comp=E,176nm,0.5s							
GNBR	**Gunib**	**1.83**	**104**	*e*Pn		**Pb**	**15 52 04.9**	**-0.6**
	comp=E,29nm,0.2s							
GNBR				*e*Sn		**Sb**	**15 52 29.3**	**+1.2**
	comp=E,296nm,0.6s							
BUJR	**Buynaksk**	**1.87**	**90**	*e*PN		**Pn**	**15 52 04.8**	**+1.1**
BUJR				pmax		pmax		
	comp=Z,60nm,0.2s							
BUJR	**Buynaksk**	**1.87**	**90**	*e*Pn		**Pn**	**15 52 04.8**	**+1.1**
	comp=Z,59nm,0.2s							
BUJR				*e*Sn		**Sb**	**15 52 29.4**	**+0.1**
	comp=Z,190nm,0.2s							
QZX	**Qazax, Azerbai**	**1.89**	**161**	P		**Pn**	**15 52 04.6**	**+0.7**
QZX				S		**Sb**	**15 52 30.6**	**+0.8**
ZKTA	**Zakatala**	**1.95**	**128**	P		**Pn**	**15 52 08.0**	**+0.5**
ZKTA				S		**Sg**	**15 52 34.5**	**-0.7**
KMKR	**Kumukh**	**2.01**	**110**	*e*PN		**Pb**	**15 52 08.4**	**-0.1**
KMKR				*e*S		**Sg**	**15 52 36.8**	**-0.3**
KMKR				pmax		pmax		
	comp=Z,32nm,0.5s							
KMKR				smax		smax		
	comp=E,195nm,0.2s							
KMKR	**Kumukh**	**2.01**	**110**	*e*Pn		**Pb**	**15 52 08.5**	**-0.1**
	comp=E,32nm,0.5s							
KMKR				*e*Sn		**Sg**	**15 52 35.7**	**-1.4**
	comp=E,190nm,0.2s							
MAK	**Makhachkala**	**2.17**	**86**	*e*PN		**Pn**	**15 52 08.7**	**+1.1**
MAK				*e*			15 52 12.3	
MAK				*e*			15 52 40.8	
MAK				*e*			15 52 43.3	
MAK				pmax		pmax		
	comp=Z,95nm,0.3s							
MAK				MLR		MLR		
	comp=Z,84nm,12.0s							
DOMR	**Dombai**	**2.20**	**283**	⇑ *e*PN		**Pn**	**15 52 09.4**	**+1.1**
ALER	**Alexandrovskoy**	**2.25**	**329**	*e*PN		**Pb**	**15 52 10.6**	**-2.1**
ALER				*e*S		**Sb**	**15 52 39.2**	**-1.1**
GDB	**GEDABAY**	**2.31**	**157**	P		**Pn**	**15 52 11.4**	**+1.6**
GDB				S		**Sb**	**15 52 40.6**	**-1.3**
GOF	**Gofitskoye**	**2.47**	**334**	⇑ *e*PN		**Pb**	**15 52 15.5**	**-0.7**
GOF				*e*S		**Sg**	**15 52 58.5**	**+6.8**
GOF				pmax		pmax		
	comp=Z,150nm,0.4s							
GOF				smax		smax		
	comp=N,103nm,0.4s							
GOF				smax		smax		
	comp=E,116nm,0.5s							
SEKA	**Sheki**	**2.56**	**129**	P		**Pb**	**15 52 16.7**	**-1.2**
SEKA				S		**Sb**	**15 52 50.0**	**+0.9**
GANJ	**Ganja**	**2.56**	**149**	P		**Pn**	**15 52 15.5**	**+2.3**
GANJ				S		**Sb**	**15 52 48.5**	**-0.7**
GNI	**Garni**	**2.70**	**177**	⇑ *e*PN		**Pb**	**15 52 18.0**	**-2.3**
GNI				*i* S		**Sb**	**15 52 55.3**	**+2.1**
GNI				pmax		pmax		
	comp=Z,22nm,1.4s							
GNI				smax		smax		
	comp=Z,62nm,0.8s							
QSAR	**Qusar**	**3.06**	**115**	P		**Pb**	**15 52 24.3**	**-2.0**
QSAR				S		**Sb**	**15 53 03.3**	**-0.1**
XNQ	**Khinaliq**	**3.15**	**121**	P		**Pn**	**15 52 24.0**	**+2.6**
XNQ				S		**Sb**	**15 53 05.4**	**-0.7**
QUBA	**Quba, Azerbaij**	**3.28**	**116**	S		**Sb**	**15 53 09.7**	**-0.2**
SBZ	**Shahbuz**	**3.53**	**167**	P		**Pn**	**15 52 28.9**	**+2.4**
SBZ				S		**Sn**	**15 53 10.6**	**+2.7**
NAX	**Nakhchivan**	**3.74**	**169**	P		**Pn**	**15 52 29.2**	**-0.1**
NAX				S		**Sn**	**15 53 14.6**	**+1.6**
BRVK	**Borovoye**	**19.92**	**50**	⇑ *e*P		**P**	**15 56 02.1**	**-1.0**
BRVK				pmax		pmax		
	comp=Z,6.0nm,2.2s							
BORG	**Borgarnes**	**42.19**	**324**	*i* P		**P**	**15 59 22.4**	**-1.3**

NNC ***12*** *15:52:13.2±7.8, 37°.42N × 74°.06E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=61.5km s-min=42.3km az=169.0*
IDC ***12*** *15:52:19.1±6.8, 37°.89N × 75°.66E, h75km±52km, mb3.4/2, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=79.9km s-min=30.1km az=170.0*

ISC 12 15:52:17.7±1.0, **38°.32N**±0°.06×**75°.63E**±0°.09, **h10**km, **n12,** σ2**5**71/16, **4C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.60**	**360**	⇓ P		**Pb**	**15 53 38.3**	**-0.2**
	3.8nm,0.5s							
TKM2				⇓ S		**Sg**	**15 54 42.2**	**-3.1**
	7.6nm,0.8s							
MDOK	**Medeo**	**4.96**	**12**	P		**Pb**	**15 53 46.9**	**+2.3**
	4.1nm,0.4s							
MDOK				⇑ S		**Sg**	**15 55 00.4**	**+3.6**
	16nm,0.8s							
CHCP	**Chirah Chowk**	**5.03**	**203**	P		**Pn**	**15 53 36.0**	**+2.7**
CEP	**Cherat**	**5.41**	**215**	P		**Pn**	**15 53 41.7**	**+3.2**
PDGK	**Podgornoye**	**5.80**	**29**	⇑ P		**Pb**	**15 53 58.7**	**-0.2**
	6.5nm,0.5s							
PDGK				⇑ S		**Sg**	**15 55 21.7**	**-2.0**
	9.3nm,0.9s							
KK31	**Karatay Array**	**6.16**	**322**	⇓ P		**Pn**	**15 53 48.6**	**-0.1**
	0.3nm,0.2s,baz=158,slow=15,SNR=12							
KK31				⇑ S		**Sn**	**15 55 01.8**	**+2.6**
	4.0nm,0.3s,baz=160,slow=24,SNR=4.5							
SARP	**Sargodha**	**6.83**	**202**	P		**Pn**	**15 53 57.8**	**-0.1**
MKAR	**Makanchi Array**	**9.79**	**28**	P		**Pn**	**15 54

RPZ	**Rata Peaks**	**17.50**	**211**	P	**Pn**	**16 15 41.2**	**-0.5**	
	comp=Z,8.3nm,0.5s,baz=12,slow=2.8,SNR=10							
RPZ	**Rata Peaks**	**17.50**	**211**	P	**Pn**	**16 15 41.4**	**-0.4**	
ODZ	**Otahua Downs**	**18.74**	**209**	P	**P**	**16 15 54.3**	**-2.2**	
ODZ	**Otahua Downs**	**18.74**	**209**	P	**P**	**16 15 54.6**	**-1.9**	
TBI	**Tubuai**	**25.11**	**83**	*e*LR	LR	16 23 06.4		
	comp=Z,203nm,26.8s							
PPT2	**Papeete2**	**27.40**	**71**	*e*LR	LR	16 24 01.6		
	comp=Z,207nm,25.0s							
PPT	**Papeete**	**27.41**	**71**	LR	LR	16 25 07.0		
	comp=Z,94nm,22.0s,baz=220,slow=30							
ARMA	**Armidale**	**27.43**	**259**	P	**P**	**16 17 21.2**	**-2.7**	
ARMA	**Armidale**	**27.43**	**259**	P	**P**	**16 17 25.5**	**+1.6**	
EIDS	**Eidsvold**	**28.80**	**270**	P	**P**	**16 17 35.4**	**-0.5**	
CNB	**Canberra Magne**	**29.22**	**249**	P	**P**	**16 17 41.0**	**+1.3**	
CAN	**Canberra**	**29.52**	**249**	P	**P**	**16 17 41.9**	**-0.4**	
CAN				IAmb	IAmb	16 18 00.5		
	comp=Z,17nm,1.2s							
CAN	**Canberra**	**29.52**	**249**	P	**P**	**16 17 43.7**	**+1.3**	
RK1H	**Rockhampton Ha**	**29.88**	**273**	P	**P**	**16 17 46.3**	**+0.8**	
RMQ	**Roma**	**30.57**	**267**	P	**P**	**16 17 52.9**	**+1.3**	
TAU	**Tasmania Unive**	**31.88**	**235**	P	**P**	**16 18 03.2**	**+0.2**	
TAU				IAmb	IAmb	16 18 04.1		
	comp=Z,26nm,1.2s							
TOO	**Toolangi**	**32.47**	**245**	P	**P**	**16 18 06.3**	**-1.9**	
TOO				IAmb	IAmb	16 18 44.3		
	comp=Z,17nm,1.4s							
CTA	**Charters Tower**	**34.71**	**277**	P	**P**	**16 18 26.4**	**-1.5**	
	comp=Z,5.5nm,0.7s,baz=97,slow=9.4,SNR=8.9							
CTA				LR	LR	16 31 11.7		
	comp=Z,264nm,18.2s,baz=80,slow=34 comp=Z,5.5nm,0.7s							
CTA	**Charters Tower**	**34.71**	**277**	P	**P**	**16 18 27.7**	**-0.3**	
CTAO	**Charters Tower**	**34.71**	**277**	P	**P**	**16 18 26.3**	**-1.7**	
CTAO				IAmb	IAmb	16 18 27.7		
	comp=Z,10nm,1.1s							
CTAO	**Charters Tower**	**34.71**	**277**	P	**P**	**16 18 27.9**	**-0.1**	
STKA	**Stephens Creek**	**35.84**	**255**	P	**P**	**16 18 36.5**	**-1.1**	
	comp=Z,3.0nm,0.5s,baz=101,slow=14,SNR=7.9							
STKA				LR	LR	16 31 11.0		
	comp=Z,180nm,19.9s,baz=39,slow=33 comp=Z,3.0nm,0.5s							
STKA	**Stephens Creek**	**35.84**	**255**	P	**P**	**16 18 36.2**	**-1.3**	
MTSU	**Mount Surprise**	**37.17**	**278**	P	**P**	**16 18 49.0**	**-0.1**	
KRVT	**Keravat (AS076**	**38.56**	**304**	P	P	16 18 56.5	-4.3	
	comp=Z,7.6nm,0.6s,baz=19,slow=2.1,SNR=5.3 comp=Z,7.6nm,0.6s							
PMG	**Port Moresby**	**39.10**	**293**	LR	LR	16 32 54.5		
	comp=Z,116nm,19.8s,baz=114,slow=33							
COEN	**Coen**	**40.02**	**284**	P	**P**	**16 19 11.6**	**-1.4**	
COEN				IAmb	IAmb	16 19 24.7		
	comp=Z,14nm,1.2s							
BBOO	**Buckleboo**	**40.37**	**253**	P	**P**	**16 19 13.8**	**-2.0**	
AS31	**Alice Springs**	**44.28**	**265**	P	P	16 19 45.0	-2.8	
ASAR	**Alice Springs**	**44.29**	**265**	P	P	16 19 45.4	-2.5	
	comp=Z,3.7nm,0.5s,baz=102,slow=6.8,SNR=138							
ASAR				PcP	**PP**	**16 21 30.4**	**-0.7**	
	comp=Z,0.8nm,0.5s,baz=119,slow=3.5,SNR=6.0							
ASAR				LR	LR	16 37 17.2		
	comp=Z,251nm,18.7s,baz=92,slow=35 comp=Z,3.7nm,0.5s							
ASAR	**Alice Springs**	**44.29**	**265**	P	P	16 19 45.1	-2.8	
WR0	**Warramunga Arr**	**44.98**	**270**	P	P	16 19 50.6	-2.8	
WR0				IAmb	IAmb	16 19 52.7		
	comp=Z,10nm,1.2s							
WB2	**Warramunga Arr**	**45.16**	**270**	P	P	16 19 51.7	-3.0	
WB2				IAmb	IAmb	16 19 53.1		
	comp=Z,7.2nm,0.8s							
WRAB	**Tennant Creek**	**45.16**	**270**	P	P	16 19 51.9	-2.9	
WRAB				IAmb	IAmb	16 19 53.0		
	comp=Z,5.8nm,0.8s							
WRA	**Warramunga Arr**	**45.16**	**270**	P	P	**16 19 52.5**	**-2.3**	
	comp=Z,4.7nm,0.7s,baz=110,slow=7.7,SNR=47							
WRA				PcP	**PcP**	**16 21 33.1**	**-2.1**	
	comp=Z,1.1nm,1.0s,baz=113,slow=3.0,SNR=2.8							
WRA				LR	LR	16 36 49.5		
	comp=Z,134nm,18.6s,baz=135,slow=34 comp=Z,4.7nm,0.7s							
WB0	**Warramunga Arr**	**45.18**	**271**	P	P	16 19 52.2	-2.8	
WB0				IAmb	IAmb	16 19 53.3		
	comp=Z,8.4nm,0.9s							
FORT	**Forrest**	**47.43**	**254**	P	P	16 20 10.3	-2.2	
SBA	**Scott Base**	**49.35**	**185**	P	**P**	**16 20 29.6**	**+3.0**	
SBA				IAmb	IAmb	16 20 50.5		
	comp=Z,11nm,0.9s							
VNDA	**Vanda**	**49.43**	**186**	P	**P**	**16 20 30.2**	**+2.9**	
	comp=Z,0.5nm,0.7s,baz=14,slow=9.4,SNR=2.1 comp=Z,0.5nm,0.7s							
VNDA	**Vanda**	**49.43**	**186**	P	**P**	**16 20 30.5**	**+3.2**	
MTN	**Manton Dam**	**50.89**	**277**	P	P	16 20 36.6	-2.6	
FITZ	**Fitzroy Crossi**	**53.47**	**268**	P	**P**	**16 20 56.0**	**-2.4**	
	comp=Z,5.9nm,1.0s,baz=136,slow=5.2,SNR=11							
FITZ				LR	LR	16 43 22.6		
	comp=Z,85nm,18.1s,baz=100,slow=36 comp=Z,5.9nm,1.0s							
FITZ	**Fitzroy Crossi**	**53.47**	**268**	P	P	16 20 55.8	-2.6	
FITZ				IAmb	IAmb	16 21 08.3		
	comp=Z,14nm,1.4s							
GUMO	**Guam**	**56.40**	**314**	LR	LR	16 42 37.2		
	comp=Z,31nm,21.8s,baz=160,slow=33							
CASY	**Casey**	**56.74**	**208**	P	**P**	**16 21 21.3**	**0.0**	
CASY				IAmb	IAmb	16 21 22.2		
	comp=Z,8.8nm,0.8s							
SIJI	**Sorong**	**56.92**	**290**	P	P	16 21 20.0	-3.4	
	comp=Z,7.9nm,0.9s,baz=103,slow=18,SNR=4.2							
SIJI				LR	LR	16 45 02.3		
	comp=Z,49nm,18.4s,baz=114,slow=35 comp=Z,7.9nm,0.9s							
MORW	**Morawa**	**57.94**	**252**	P	P	16 21 26.6	-3.8	
QSPA	**South Pole Qui**	**60.94**	**180**	P	**P**	**16 21 52.0**	**+1.3**	
	comp=Z,0.7nm,0.6s,baz=348,slow=0.6,SNR=5.2 comp=Z,0.7nm,0.6s							
QSPA	**South Pole Qui**	**60.94**	**180**	P	**P**	**16 21 53.0**	**+2.3**	
KAPI	**Kappang**	**64.48**	**279**	LR	LR	16 50 47.6		
	comp=Z,60nm,18.3s,baz=96,slow=37							
DAV	**Davao City (W)**	**66.12**	**293**	LR	LR	16 50 19.9		
	comp=Z,38nm,18.2s,baz=74,slow=35							
MAW	**Mawson**	**73.84**	**200**	P	**P**	**16 23 13.9**	**+1.8**	
	comp=Z,1.2nm,0.5s,baz=100,slow=6.1,SNR=2.2 comp=Z,1.2nm,0.5s							
LEM	**Lembang**	**74.18**	**271**	LR	LR	16 56 18.5		
	comp=Z,97nm,18.2s,baz=180,slow=36							
JOW	**Kunigami**	**76.66**	**311**	LR	LR	16 52 56.0		
	comp=Z,48nm,18.6s,baz=140,slow=32							
MJAR	**Matsushiro Arr**	**77.86**	**324**	P	**P**	**16 23 32.9**	**-2.5**	
	comp=Z,2.3nm,0.9s,baz=96,slow=9.4,SNR=3.0 comp=Z,2.3nm,0.9s							
TROLL	**Troll, Antarti**	**79.10**	**180**	P	**P**	**16 23 43.5**	**+1.4**	
SNAA	**Sanae**	**79.35**	**178**	P	**P**	**16 23 44.4**	**+1.1**	
VNA3	**Neumayer Olymp**	**79.46**	**176**	P	**P**	**16 23 44.7**	**+0.8**	
VNA2	**Neumayer--Watz**	**79.91**	**176**	P	**P**	**16 23 47.5**	**+1.2**	
	baz=175,slow=3.8							
VNA1	**Neumayer--Stat**	**80.13**	**176**	P	**P**	**16 23 47.5**	**0.0**	
PETK	**Petropavlovsk-**	**84.90**	**345**	P	**P**	**16 24 10.8**	**-1.6**	
	comp=Z,2.6nm,0.6s,baz=110,slow=6.6,SNR=2.1 comp=Z,2.6nm,0.6s							
IPM	**Ipoh**	**85.40**	**278**	P	P	16 24 12.7	-3.2	
PSI	**Prapat**	**86.41**	**275**	LR	LR	17 03 58.0		
	comp=Z,89nm,18.6s,baz=219,slow=36							
NVAR	**Mina Array Bea**	**86.59**	**42**	P	**P**	**16 24 19.9**	**-1.5**	
	comp=Z,0.2nm,0.5s,baz=224,slow=5.0,SNR=1.9 comp=Z,0.2nm,0.5s							
USRK	**Ussuriysk Ar.**	**86.75**	**326**	P	**P**	**16 24 20.5**	**-1.2**	
	comp=Z,2.3nm,0.9s,baz=160,slow=6.2,SNR=7.8 comp=Z,2.3nm,0.9s							
USRK	**Ussuriysk Ar.**	**86.75**	**326**	P	**P**	**16 24 20.0**	**-1.7**	
TXAR	**Lajitas Array**	**90.80**	**57**	P	**P**	**16 24 40.4**	**-1.1**	
	comp=Z,0.1nm,0.3s,baz=199,slow=4.8,SNR=2.0 comp=Z,0.1nm,0.3s							
MA2	**Magadan**	**92.40**	**344**	LR	LR	17 02 10.1		
	comp=Z,13nm,19.5s,baz=123,slow=33							
PDAR	**Pinedale Array**	**94.49**	**43**	LR	LR	17 02 56.0		
	comp=Z,49nm,18.5s,baz=77,slow=33							
ILAR	**Eielson Array**	**96.48**	**12**	P	P	16 25 04.1	-2.5	
	comp=Z,0.6nm,0.8s,baz=221,slow=7.0,SNR=4.4 comp=Z,0.6nm,0.8s							
MKAR	**Makanchi Array**	**117.81**	**310**	PKP	**PKPdf**	**16 30 21.9**	**-2.2**	
	comp=Z,1.0nm,0.6s,baz=172,slow=0.6,SNR=13							
ARCES	**ARCESS Array B**	**137.61**	**349**	PKP	**PKPdf**	**16 30 59.7**	**-1.4**	
	comp=Z,10nm,1.2s,baz=10,slow=7.4,SNR=5.2							
FINES	**FINESS Array B**	**144.34**	**341**	PKP	**PKPab**	**16 31 09.2**	**-2.1**	
	comp=Z,2.1nm,0.8s,baz=54,slow=3.3,SNR=8.2							
KBZ	**Khabaz**	**145.31**	**306**	PKP	**PKPbc**	**16 31 14.1**	**-1.3**	
	comp=Z,3.7nm,1.1s,baz=85,slow=2.8,SNR=5.6							
NB2	**NORSAR Subarra**	**147.68**	**353**	PKP	**PKPdf**	**16 31 19.6**	**+0.5**	
	comp=Z,1.0nm,0.5s,baz=9.6,slow=2.9							
NOA	**NORSAR Array B**	**147.68**	**353**	PKPbc	**PKPdf**	**16 31 19.9**	**+0.7**	
	comp=Z,1.4nm,0.6s,baz=14,slow=4.5,SNR=6.8							
AKASG	**Malin Array Be**	**150.95**	**325**	PKPbc	**PKPdf**	**16 31 28.5**	**+3.9**	
	comp=Z,13nm,0.6s,baz=45,slow=3.1,SNR=58							
BRTR	**Keskin Array B**	**152.94**	**301**	PKPbc	**PKPdf**	**16 31 33.5**	**+5.3**	
	comp=Z,2.3nm,0.9s,baz=141,slow=3.8,SNR=9.4							
DBIC	**Dimbokro**	**156.35**	**160**	PKPab	**PKPab**	**16 32 01.0**	**-0.4**	
	comp=Z,1.5nm,0.9s,baz=225,slow=4.3,SNR=1.2							
TORD	**Torodi Ar. Bea**	**164.00**	**174**	PKPab	**PKPab**	**16 32 35.0**	**+0.4**	
	comp=Z,0.6nm,0.6s,baz=187,slow=4.0,SNR=4.2							

IDC 12 16:26:19.2±1.8, 29.56S×60.99E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=65.7km s-min=34.5km az=24.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**60.16**	**42**	P	P	16 36 29.5	+0.6
	0.4nm,0.5s,baz=230,slow=6.7,SNR=2.5 0.4nm,0.5s						
ASAR	**Alice Springs**	**64.49**	**104**	P	P	16 36 57.3	-0.9
	0.3nm,0.9s,baz=244,slow=6.9,SNR=1.3 0.3nm,0.9s						
WRA	**Warramunga Arr**	**66.34**	**100**	P	P	16 37 11.0	+0.9
	0.2nm,0.8s,baz=249,slow=5.7,SNR=1.4 0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**71.19**	**298**	P	P	16 37 40.6	+0.3
	0.9nm,0.9s,baz=116,slow=3.4,SNR=3.2 0.9nm,0.9s						
MKAR	**Makanchi Array**	**78.40**	**15**	P	P	16 38 20.7	-0.7
	0.4nm,0.9s,baz=199,slow=4.0,SNR=3.7 0.4nm,0.9s						

*KMA **12** 16:35:51.1±0.2, 35.75N×129.17E, h17km±1km, Error ellipse: s-maj=1.6km s-min=1.2km az=71.0*
*JMA **12** 16:35:51.1±0.3, 35.7N±0.9×12.9E±, h0km, MV2.9/15, S KOREAN PENINSULA REG*
ISC 12 16:35:51.0±0.9, 35.74N±0.04×129.18E±0.04, h10km, n14, σ0s51/22, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.23**	**277**	P	**Pg**	**16 35 56.5**	**+0.7**
	SNR=99						
YOCB	**Yeongcheon**	**0.30**	**322**	P	**Pg**	**16 35 57.5**	**+0.5**
	SNR=37						
YOCB				S	**Sg**	**16 36 01.7**	**+0.6**
MIYA	**Miryang-si**	**0.43**	**235**	P	**Pb**	**16 36 00.0**	**-0.7**
	SNR=36						
KSPHA	**Pohang**	**0.48**	**19**	P	**Pg**	**16 36 00.6**	**+0.3**
	SNR=46						
KSPHA				P	**Pg**	**16 36 00.6**	**+0.3**
	SNR=46						
KSDAU	**Deagu-acc**	**0.48**	**288**	P	**Pg**	**16 36 00.7**	**+0.4**
	SNR=36						
KSBUS	**Busan**	**0.49**	**187**	P	**Pb**	**16 36 01.2**	**-0.6**
	SNR=58						
KSBUS				P	**Pb**	**16 36 01.2**	**-0.6**
	SNR=58						
KSCHR	**CHANGNYEONG**	**0.60**	**251**	P	**Pb**	**16 36 02.7**	**-0.8**
	SNR=32						
KSADO	**Andong**	**0.70**	**344**	P	**Pg**	**16 36 04.4**	**-0.1**
	SNR=63						
KSADO				P	**Pg**	**16 36 04.4**	**-0.1**
	SNR=63						
EUSB	**Uiseong**	**0.73**	**327**	P	**Pg**	**16 36 05.0**	**-0.2**
	SNR=35						
EUSB				P	**Pg**	**16 36 05.0**	**-0.2**
	SNR=35						
JTU	**Tsushima**	**1.23**	**172**	*e*P	**Pn**	**16 36 14.0**	**-0.2**
JTU				*e*S	**Sb**	**16 36 29.8**	**-0.3**
JTSM	**Tsushimamitsus**	**1.41**	**173**	*e*P	**Pn**	**16 36 17.0**	**+0.4**
JTSM				*e*S	**Sb**	**16 36 35.5**	**+0.3**
JHGM	**Hagimishima**	**1.87**	**120**	*e*S	**Sb**	**16 36 49.3**	**+0.8**
JII	**Iki**	**1.99**	**167**	*e*P	**Pb**	**16 36 26.4**	**-0.9**
JII				*e*S	**Sb**	**16 36 52.3**	**+0.2**
JTY	**Toyota**	**2.13**	**133**	*e*S	**Sb**	**16 36 56.5**	**+0.3**

IDC 12 16:42:57.6±1.6, 29.48S×60.89E, h0km, mb3.7/4, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=75.5km s-min=28.5km az=23.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.55**	**308**	Pn	Pn	16 46 51.4	0.0
	0.1nm,0.3s,baz=109,slow=17,SNR=2.6						
OPO				Sn	Sn	16 49 38.5	-17
	0.1nm,0.3s,baz=106,slow=23,SNR=1.6 1.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**60.16**	**42**	P	P	16 53 07.3	0.0
	0.6nm,0.6s,baz=220,slow=6.8,SNR=2.5 0.6nm,0.6s						
ASAR	**Alice Springs**	**64.60**	**104**	P	P	16 53 37.4	+0.1
	0.7nm,0.7s,baz=248,slow=6.2,SNR=8.9 0.7nm,0.7s						
WRA	**Warramunga Arr**	**66.45**	**100**	P	P	16 53 49.2	-0.1
	0.6nm,0.8s,baz=247,slow=5.4,SNR=5.2 0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**71.07**	**298**	P	P	16 54 18.0	0.0
	0.7nm,0.8s,baz=117,slow=5.0,SNR=3.1 0.7nm,0.8s						

*IDC **12** 16:46:34.8±6.9, 34.71N×140.76E, h31km±47km, mb3.7/5, mbtmp3.9/7, ML3.4/2, Error ellipse: s-maj=55.8km s-min=15.5km az=70.0*
*NEIC **12** 16:46:35.6±1.4, 34.7N±0.05×140.7E±0.1, h40km±10km, mb4.7/10, Error ellipse: s-maj=15.6km s-min=6.6km az=95.0*
*JMA **12** 16:46:35.8±0.2, 34.7N±0.6×140.6E±0.7, h55km±1km, MV3.3/33, SE OFF BOSO PENINSULA*
ISC 12 16:46:36.0±0.9, 34.66N±0.04×140.66E±0.06, h50km±8km, n46, σ1s29/49, mb4.5/11, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.19**	**320**	*i* P	**Pn**	**16 46 44.4**	**+0.3**
BSO3				X		16 46 51.2	
BSO1	**Boso 1**	**0.26**	**91**	*i* P	**Pn**	**16 46 45.2**	**+1.0**
BSO1				X		16 46 51.8	
BSO4	**Boso 4**	**0.42**	**322**	P	**Pn**	**16 46 46.9**	**+0.5**
BSO4				X		16 46 54.7	
KTR	**Katsuura**	**0.57**	**330**	P	**Pn**	**16 46 48.2**	**+0.1**
KTR				S	**Sn**	**16 46 56.7**	**-0.1**
JKUC	**kamogawauchiur**	**0.63**	**323**	*i* P	**Pn**	**16 46 48.9**	**0.0**
JKUC				S	**Sn**	**16 46 58.0**	**-0.1**
JSMT	**Sammumatsuo**	**1.00**	**350**	*e*P	**Pn**	**16 46 53.8**	**0.0**
JSMT				S	**Sn**	**16 47 06.5**	**-0.3**
JIM2	**Oshima 3**	**1.01**	**274**	||P	**Pn**	**16 46 53.6**	**-0.4**
JIM2				||S	**Sn**	**16 47 06.1**	**-1.1**
JTHY	**Toshimahigashi**	**1.14**	**264**	P	**Pn**	**16 46 55.8**	**+0.1**
JMKN	**Mikurajimanish**	**1.17**	**230**	||P	**Pn**	**16 46 56.2**	**+0.1**
JMKN				||S	**Sn**	**16 47 11.1**	**+0.2**
KTJ3	**Kamata3**	**1.34**	**282**	||P	**Pn**	**16 46 57.8**	**-0.5**
KTJ3				||S	**Sn**	**16 47 12.7**	**-2.3**
JYT	**Yasato**	**1.61**	**347**	Pn	**Pn**	**16 47 01.0**	**-1.1**
JHJ2	**Mitsune**	**1.69**	**205**	Pn	**Pn**	**16 47 03.9**	**+0.7**
JHJ	**Hachijo jima 2**	**1.70**	**206**	Pn	**Pn**	**16 47 04.0**	**+0.8**
	48nm,0.3s,baz=300,slow=8.8,SNR=30						
JHJ				Sn	**Sn**	**16 47 23.8**	**-0.1**
	290nm,0.3s,baz=283,slow=23,SNR=17						
MJAR	**Matsushiro Arr**	**2.74**	**314**	Pn	**Pn**	**16 47 15.7**	**-1.9**
	0.8nm,0.3s,baz=129,slow=14,SNR=37						
MJAR				Sn	**Sn**	**16 47 49.4**	**-0.1**
	1.6nm,0.3s,baz=145,slow=20,SNR=5.8 6.1nm,0.3s						
MAJO	**Matsushiro**	**2.75**	**314**	Pn	**Pn**	**16 47 17.9**	**+0.3**
INU	**Inuyama**	**3.07**	**284**	Pn	**Pn**	**16 47 23.2**	**+1.1**
JSD	**Sado**	**3.89**	**331**	Pn	**Pn**	**16 47 31.3**	**-2.0**
ERM	**Erimo**	**7.60**	**14**	Pn	**Pn**	**16 48 22.5**	**-1.7**
JCJ	**Chichijima**	**7.65**	**170**	Pn	**Pn**	**16 48 24.0**	**-0.9**
	4.8nm,0.3s,baz=297,slow=18,SNR=1.5						
JCJ				Sn	**Sn**	**16 49 44.8**	**-5.5**
	2.2nm,0.3s,baz=269,slow=23,SNR=1.5 22nm,0.4s						
KSAR	**Wonju Array Be**	**10.71**	**289**	Pn	**Pn**	**16 49 05.2**	**-1.4**
KS19	**Wonju Array Si**	**10.73**	**289**	Pn	**Pn**	**16 49 05.2**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**27.56**	**116**	T	T	17 21 36.9	
	baz=308,slow=74,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.57**	**116**	T	T	17 22 12.3	
	baz=308,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**27.58**	**116**	T	T	17 21 46.6	
	baz=308,slow=74,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.18**	**118**	T	T	17 22 39.9	
	baz=311,slow=75,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**28.18**	**118**	T	T	17 22 21.9	
	baz=311,slow=75,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**28.20**	**118**	T	T	17 22 27.9	
	baz=311,slow=75,SNR=4.1						
SONM	**Songino Array**	**28.68**	**308**	P	**P**	**16 52 28.7**	**+0.5**
	0.6nm,0.7s,baz=110,slow=7.5,SNR=4.0 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**43.10**	**314**	P	**P**	**16 54 31.9**	**+0.9**
	0.6nm,0.4s,baz=79,slow=9.4,SNR=2.7 0.6nm,0.4s						
MK31	**Makanchi Array**	**44.90**	**304**	P	**P**	**16 54 44.7**	**-0.9**
MKAR	**Makanchi Array**	**44.90**	**304**	P	**P**	**16 54 46.9**	**+1.3**
	0.6nm,0.6s,baz=87,slow=9.3,SNR=7.2 0.6nm,0.6s						
MKAR	**Makanchi Array**	**44.90**	**304**	P	**P**	**16 54 45.4**	**-0.2**
KURK	**Kurchatov**	**46.95**	**310**	P	**P**	**16 55 02.7**	**+1.1**
KURK				IAmb	IAmb	16 55 04.8	
	comp=Z,1.7nm,0.8s						
MTN	**Manton Dam**	**48.10**	**193**	P	**P**	**16 55 12.1**	**+1.3**
IMAR	**Indian Mountai**	**49.01**	**30**	P	**P**	**16 55 17.2**	**-0.1**
KNRA	**Kununurra**	**51.32**	**195**	P	**P**	**16 55 35.5**	**+0.3**
KNRA				IAmb	IAmb	16 56 36.0	
	comp=Z,27nm,1.6s						
GSI	**Gunungsitoli**	**52.07**	**240**	P	**P**	**16 55 41.0**	**0.0**
FITZ	**Fitzroy Crossi**	**54.37**	**198**	P	**P**	**16 55 59.3**	**+1.5**
FITZ				IAmb	IAmb	16 57 16.9	
	comp=Z,18nm,1.8s						
WB0	**Warramunga Arr**	**54.45**	**187**	P	**P**	**16 55 59.2**	**+0.9**
WB0				IAmb	IAmb	16 55 60.0	
	comp=Z,5.3nm,0.5s						
WRAB	**Tennant Creek**	**54.62**	**187**	P	**P**	**16 56 00.1**	**+0.6**
WRAB				IAmb	IAmb	16 57 17.3	
	comp=Z,17nm,1.6s						
WR0	**Warramunga Arr**	**54.62**	**187**	P	**P**	**16 56 00.3**	**+0.7**
WR0				IAmb	IAmb	16 56 03.6	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**54.63**	**187**	P	**P**	**16 56 00.6**	**+1.0**
	comp=Z,2.2nm,0.4s,baz=2.6,slow=7.6,SNR=139 comp=Z,2.2nm,0.4s						
AS31	**Alice Springs**	**58.35**	**187**	P	**P**	**16 56 27.2**	**+1.1**
ASAR	**Alice Springs**	**58.36**	**187**	P	**P**	**16 56 27.4**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=10.0,slow=9.0,SNR=27 comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**58.36**	**187**	P	**P**	**16 56 27.0**	**+0.8**
ABKAR	**Akbulak array**	**59.02**	**311**	P	**P**	**16 56 31.4**	**+0.8**

MAN 12 16:53:57.3, 8.97N×126.37E, h36km, mb4.1, ML2.9, MS2.5, 5C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.74**	**270**	↑*i*P	Pn	16 54 11.3	+0.2
BUTP				*e*S	Sn	16 54 21.3	+0.2
BIPH	**Bislig**	**0.78**	**181**	↑*i*P	Pn	16 54 12.4	+0.6
BIPH				*i* S	Sn	16 54 24.1	+1.8
SCPH	**Surigao**	**1.18**	**313**	↑*e*P	Pn	16 54 18.1	+0.9
SCPH				*e*S	Sn	16 54 33.3	+1.2
BUKP	**Musuan**	**1.69**	**230**	↑*i*P	Pn	16 54 25.0	+0.7
BUKP				*i* S	Sn	16 54 46.8	+2.1
CGP	**Cagayan de Oro**	**1.73**	**253**	↑*e*P	Pn	16 54 23.9	-0.9
CGP				*e*S	Sn	16 54 42.8	-2.9

*TIF **12** 16:54:19.3, 43.61N×43.50E, h9km±2km*
*NORS **12** 16:54:20.9±0.0, 43.50N×43.31E, h10km, MPVA4.7*
*MOS **12** 16:54:21.2±0.9, 43.55N×43.34E, h12km, mb4.2/1, Error ellipse: s-maj=5.9km s-min=3.7km az=120.2*
*AZER **12** 16:54:23.8±0.3, 43.97N×43.86E, h34km±50km, Error ellipse: s-maj=94.5km s-min=7.0km az=323.0*
ISC 12 16:54:21.4±0.8, 43.55N±0.02×43.42E±0.02, h16km±5km, n96, σ1s78/164, 16C-6D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NCK	**Nalchik**	**0.14**	**112**	*c i*PG	**Pg**	**16 54 25.2**	**-0.2**
NCK				pmax	pmax		
	comp=Z,2μm,0.2s						
NCK	**Nalchik**	**0.14**	**112**	*i* Pg	**Pg**	**16 54 25.4**	**0.0**
NCK				*e*Sg	**Sg**	**16 54 28.7**	**+0.7**
KBTC	**Kuba-Taba**	**0.27**	**359**	*i* PG	**Pb**	**16 54 27.2**	**-0.7**
KBTC				*i* S	**Sg**	**16 54 32.2**	**+0.8**
KBZ	**Khabaz**	**0.42**	**296**	*c i*PG	**Pg**	**16 54 28.4**	**-1.5**
STDR	**Stavd-Durt**	**0.50**	**111**	↓*i*PG	**Pn**	**16 54 32.7**	**-1.3**
STDR				*e*S	**Sn**	**16 54 41.8**	**-0.6**
STDR	**Stavd-Durt**	**0.50

TRKR				*e*S		**Sn**	**16 54 55.9**	**+2.1**
TRKR				pmax		pmax		
	comp=Z,471nm,0.6s							
TRKR				smax		smax		
	comp=N,4μm,0.3s							
TRKR	**Terskaya**	**0.97**	**79**	*e*Pg		**Pg**	**16 54 41.1**	**+0.8**
TRKR				*e*Sg		**Sn**	**16 54 55.9**	**+2.1**
VLKR	**Vladikavkaz**	**1.05**	**118⇑**	*i*PG		**Pg**	**16 54 42.3**	**+0.6**
VLKR				*e*S		**Sg**	**16 54 58.7**	**+3.2**
VLKR	**Vladikavkaz**	**1.05**	**118**	*i* Pg		**Pg**	**16 54 42.3**	**+0.6**
VLKR				*e*Sg		**Sg**	**16 54 58.7**	**+3.2**
KMGR	**Komgaron**	**1.17**	**114⇓**	*i*PG		**Pg**	**16 54 44.8**	**+0.8**
KMGR				*e*S		**Sg**	**16 55 03.2**	**+4.0**
KMGR	**Komgaron**	**1.17**	**114**	*i* Pg		**Pg**	**16 54 44.8**	**+0.8**
KMGR				*e*Sg		**Sg**	**16 55 03.2**	**+4.0**
TKB	**Tkibuli**	**1.24**	**195**	P		**Pn**	**16 54 44.3**	**+0.2**
TKB	**Tkibuli**	**1.24**	**195**	PG		**Pn**	**16 54 44.3**	**+0.2**
ALER	**Alexandrovskoy**	**1.27**	**344**	*i* PG		**Pb**	**16 54 45.2**	**+0.2**
ALER				*e*S		**Sg**	**16 55 02.8**	**+0.4**
PNSH	**Pansheti**	**1.27**	**136**	P		**Pn**	**16 54 44.3**	**-0.3**
PNSH				S		**Sn**	**16 55 01.2**	**-0.2**
PNSH	**Pansheti**	**1.27**	**136**	PG		**Pn**	**16 54 44.3**	**-0.3**
PNSH				S		**Sn**	**16 55 01.2**	**-0.2**
DOMR	**Dombai**	**1.33**	**260**	*c i*PG		**Pn**	**16 54 44.8**	**-0.7**
ALIG	**Mtskhetisjvari**	**1.45**	**173**	P		**Pb**	**16 54 48.2**	**+0.1**
ALIG				S		**Sg**	**16 55 07.8**	**-0.5**
NVNR	**Nevinnomyssk**	**1.49**	**316**	*i* PG		**Pb**	**16 54 48.3**	**-0.5**
NVNR				*e*S		**Sb**	**16 55 07.6**	**+0.1**
GOF	**Gofitskoye**	**1.53**	**350⇑**	*e*PG		**Pg**	**16 54 50.5**	**-0.4**
GOF				*e*S		**Sg**	**16 55 10.4**	**-0.5**
GOF				pmax		pmax		
	comp=Z,312nm,0.8s							
GOF				smax		smax		
	comp=E,1μm,0.9s							
GOF				smax		smax		
	comp=N,2μm,0.7s							
ARXR	**Arkhyz**	**1.56**	**271**	*ce*PG		**Pn**	**16 54 48.7**	**+0.1**
GROC	**Groznyy**	**1.77**	**100**	*ce*PN		**Pg**	**16 54 54.3**	**-1.1**
GROC	**Groznyy**	**1.77**	**100**	*e*Pg		**Pg**	**16 54 54.5**	**-0.9**
GROC				*e*Sg		**Sg**	**16 55 18.9**	**+0.5**
BKRG	**Bakuriani**	**1.79**	**177**	P		**Pb**	**16 54 53.6**	**-0.3**
BKRG				S		**Sg**	**16 55 18.6**	**-0.5**
BKRG	**Bakuriani**	**1.79**	**177**	PN		**Pb**	**16 54 53.6**	**-0.3**
BKRG				S		**Sg**	**16 55 18.6**	**-0.5**
AHMR	**Akhmetovskaya**	**1.82**	**290**	*e*PN		**Pn**	**16 54 53.2**	**+1.1**
AHMR				*e*S		**Sb**	**16 55 17.5**	**+0.5**
ABS	**Abastumani**	**1.85**	**194**	P		**Pn**	**16 54 50.4**	**-2.2**
ABS				S		**Sn**	**16 55 15.8**	**+0.1**
ABS	**Abastumani**	**1.85**	**194**	PN		**Pn**	**16 54 50.4**	**-2.2**
BRNG	**Burnasheti**	**1.95**	**171**	P		**Pb**	**16 54 56.0**	**-0.7**
BRNG				S		**Sg**	**16 55 25.6**	**+1.4**
DVE	**Vedeno**	**2.07**	**106**	*e*PN		**Pb**	**16 54 57.3**	**-1.3**
DVE				*e*S		**Sg**	**16 55 26.7**	**-1.2**
DVE	**Vedeno**	**2.07**	**106**	*e*Pg		**Pb**	**16 54 57.3**	**-1.3**
DVE				*e*Sg		**Sg**	**16 55 26.7**	**-1.2**
AKH	**Akhalkalaki**	**2.14**	**178**	P		**Pb**	**16 54 58.7**	**-1.2**
AKH				S		**Sb**	**16 55 27.3**	**+1.0**
AKH	**Akhalkalaki**	**2.14**	**178**	PN		**Pb**	**16 54 58.7**	**-1.2**
LABN	**Labinsk**	**2.23**	**300**	*e*PN		**Pn**	**16 54 59.2**	**+1.5**
LABN				*e*S		**Sn**	**16 55 26.7**	**+1.9**
AZMN	**Azmana**	**2.23**	**183**	P		**Pn**	**16 54 58.2**	**+0.3**
AZMN				S		**Sb**	**16 55 28.0**	**-1.0**
KZRT	**Kazreti**	**2.28**	**161**	P		**Pn**	**16 54 59.1**	**+0.6**
KZRT	**Kazreti**	**2.28**	**161**	PN		**Pn**	**16 54 59.1**	**+0.6**
BATM	**Batumi**	**2.32**	**214**	P		**Pb**	**16 55 03.9**	**+1.0**
BATM	**Batumi**	**2.32**	**214**	PN		**Pb**	**16 55 03.9**	**+1.0**
GUZR	**Guzeripl'**	**2.43**	**282**	*de*PN		**Pn**	**16 55 02.7**	**+2.2**
VSLR	**Vesyoloye**	**2.46**	**269**	*ce*PN		**Pn**	**16 55 03.0**	**+2.1**
DGRG	**David-gareji**	**2.55**	**145**	P		**Pn**	**16 55 03.7**	**+1.6**
DGRG				S		**Sg**	**16 55 43.8**	**+0.5**
DGRG	**David-gareji**	**2.55**	**145**	PN		**Pn**	**16 55 03.7**	**+1.6**
DGRG				S		**Sg**	**16 55 43.8**	**+0.5**
DBC	**Dubki**	**2.55**	**101**	*c i*PN		**Pb**	**16 55 03.9**	**-2.9**
DBC				*i* S		**Sb**	**16 55 36.5**	**-1.4**
DBC				pmax		pmax		
	comp=Z,31nm,0.4s							
DBC				smax		smax		
	comp=Z,81nm,0.4s							
SOC	**Sochi**	**2.69**	**272**	*e*PN		**Pn**	**16 55 02.9**	**-1.1**
SOC				*e*			16 55 09.6	
SOC				*e*PPP		PPP	16 55 11.3	
SOC				*e*SS		**Sb**	**16 55 44.4**	**+2.5**
SOC				*e*SSS		SSS	16 55 48.8	
SOC				MLR		MLR		
	comp=Z,41nm,10.0s							
LGD	**Lagodekhi**	**2.70**	**128**	P		**Pb**	**16 55 07.2**	**-2.1**
LGD	**Lagodekhi**	**2.70**	**128**	PN		**Pb**	**16 55 07.2**	**-2.1**
QZX	**Qazax, Azerbai**	**2.88**	**149**	P		**Pb**	**16 55 07.2**	**+0.2**
QZX				S		**Sb**	**16 55 50.0**	**+2.5**
LZRR	**Lazarevskoye**	**2.95**	**279**	*e*PN		**Pn**	**16 55 09.8**	**+2.2**
LZRR				*e*S		**Sn**	**16 55 43.6**	**+0.9**
GOYR	**Goytkh**	**3.00**	**285**	*e*PN		**Pn**	**16 55 10.4**	**+2.1**
GOYR				*e*S		**Sn**	**16 55 44.9**	**+0.9**
ZKTA	**Zakatala**	**3.04**	**128**	PN		**Pb**	**16 55 14.1**	**-1.1**
ZKTA	**Zakatala**	**3.04**	**128**	P		**Pb**	**16 55 14.1**	**-1.1**
ZKTA				S		**Sb**	**16 55 51.4**	**-0.7**
MAK	**Makhachkala**	**3.04**	**100⇑**	*i*PN		**Pb**	**16 55 11.6**	**-3.6**
MAK				*e*			16 55 19.4	
MAK				*e*S		**Sb**	**16 55 50.5**	**-1.6**
MAK				*e*S		**Sg**	**16 55 59.8**	**+0.6**
MAK				*e*			16 56 04.8	
MAK				pmax		pmax		
	comp=Z,88nm,0.3s							
MAK				smax		smax		
	comp=E,497nm,0.6s							
MAK				smax		smax		
	comp=E,382nm,0.5s							
MAK				MLR		MLR		
	comp=Z,46nm,9.0s							
GDB	**GEDABAY**	**3.32**	**148**	P		**Pb**	**16 55 18.8**	**-1.2**
GDB				S		**Sb**	**16 56 01.5**	**+1.3**
GNI	**Garni**	**3.54**	**163**	*ce*PN		**Pn**	**16 55 18.3**	**+2.4**
GNI				*i* S		**Sb**	**16 56 02.9**	**-3.6**
GNI				pmax		pmax		
	comp=Z,11nm,1.9s							
GNI				smax		smax		
	comp=Z,21nm,0.8s							
GANJ	**Ganja**	**3.62**	**142**	P		**Pb**	**16 55 23.5**	**-1.5**
GANJ				S		**Sb**	**16 56 07.6**	**-1.1**
SEKA	**Sheki**	**3.65**	**129**	PN		**Pn**	**16 55 20.4**	**+3.1**
SEKA	**Sheki**	**3.65**	**129**	P		**Pn**	**16 55 20.4**	**+3.1**
SEKA				S		**Sb**	**16 56 04.2**	**-5.4**
QSAR	**Qusar**	**4.12**	**118**	P		**Pn**	**16 55 25.5**	**+1.8**
QSAR				S		**Sn**	**16 56 13.9**	**+2.4**
XNQ	**Khinaliq**	**4.23**	**123**	P		**Pn**	**16 55 27.2**	**+1.8**
XNQ				S		**Sn**	**16 56 16.5**	**+2.0**
QUBA	**Quba, Azerbaij**	**4.35**	**119**	P		**Pn**	**16 55 29.6**	**+2.7**
QUBA				S		**Sn**	**16 56 19.4**	**+2.1**
SBZ	**Shahbuz**	**4.45**	**158**	P		**Pn**	**16 55 35.2**	**-4.0**
SBZ				S		**Sb**	**16 56 31.9**	**-2.6**
PQL	**Pirkuli**	**4.73**	**124**	P		**Pn**	**16 55 34.9**	**+2.6**
PQL				S		**Sn**	**16 56 30.3**	**+3.5**
SIZA	**Siyzn**	**4.76**	**119**	P		Pn	16 55 36.8	+4.2
SIZA				S		**Sn**	**16 56 29.5**	**+2.1**
ORD	**Ordubad**	**5.01**	**156**	P		Pb	16 55 43.9	-4.8
ORD				S		**Sb**	**16 56 45.1**	**-3.6**
AKTO	**Aktyubinsk**	**12.11**	**50**	P		**Pn**	**16 57 10.5**	**-2.6**
AKTO	**Aktyubinsk**	**12.11**	**50**	⇓P		**Pn**	**16 57 10.5**	**-2.6**
	comp=Z,1.4nm,0.6s							
AKTO				⇓S		Sn	16 59 15.2	-13
	comp=Z,3.2nm,0.6s							
OBN	**Obninsk**	**12.40**	**341**	*e*P		**Pn**	**16 57 18.1**	**+1.0**
OBN				*e*S		**Sn**	**16 59 37.5**	**+2.7**
OBN				pmax		pmax		
	comp=Z,12nm,0.4s							
OBN				MLR		MLR		
	comp=Z,50nm,12.0s							
AB31	**Akbulak array**	**12.74**	**58**	P		**Pn**	**16 57 21.2**	**-0.7**
AB31	**Akbulak array**	**12.74**	**58**	P		**Pn**	**16 57 21.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=256,slow=14,SNR=14							
AB31				⇑S		**Sn**	**16 59 37.5**	**-5.9**
	comp=Z,1.3nm,0.5s,baz=257,slow=27,SNR=4.1							
BRVK	**Borovoye**	**20.14**	**52⇑**	*e*P		Pn	16 58 58.4	+1.9
FINES	**FINESS Array B**	**20.68**	**336**	*i* P		Pn	16 59 06.1	+3.4
AAK	**Ala-Archa**	**22.65**	**82⇑**	*e*P		**P**	**16 59 25.5**	**+3.5**

KMA **12** *16:58:39.2±0.2,35°.77N×129°.18E,h17km±1km, Error ellipse: s-maj=1.4km s-min=1.3km az=160.0*
JMA **12** *16:58:39.2±0.4,36°N±1°×12°9E±°,h0km,MV2.7/9,S KOREAN PENINSULA REG*

ISC 12 16:58:39.3±1.1,35°.77N±0°.03×129°.20E±0°.05,h10km,n13, σθ36/20,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu**	**0.25**	**270**	P		**Pg**	**16 58 44.7**	**+0.4**
	SNR=443							
KSDAG				S		**Sg**	**16 58 48.4**	**+0.6**
YOCB	**Yeongcheon**	**0.29**	**315**	P		**Pg**	**16 58 45.4**	**+0.3**
	SNR=80							
KSPHA	**Pohang**	**0.44**	**18**	P		**Pg**	**16 58 48.3**	**+0.3**
	SNR=44							
KSPHA				P		**Pg**	**16 58 48.3**	**+0.3**
	SNR=44							
MIYA	**Miryang-si**	**0.47**	**234**	P		**Pg**	**16 58 48.5**	**+0.1**
	SNR=18							
KSDAU	**Deagu-acc**	**0.49**	**284**	P		**Pg**	**16 58 48.9**	**0.0**
	SNR=119							
KSBUS	**Busan**	**0.53**	**188**	P		**Pg**	**16 58 49.6**	**+0.1**
	SNR=84							
KSBUS				P		**Pg**	**16 58 49.6**	**+0.1**
	SNR=84							
KSCHR	**CHANGNYEONG**	**0.62**	**249**	P		**Pg**	**16 58 51.0**	**-0.3**
	SNR=64							
KSADO	**Andong**	**0.67**	**342**	P		**Pg**	**16 58 52.1**	**-0.2**
	SNR=111							
KSADO				P		**Pg**	**16 58 52.1**	**-0.2**
	SNR=111							
EUSB	**Uiseong**	**0.72**	**325**	P		**Pg**	**16 58 52.9**	**-0.3**
	SNR=40							
EUSB				P		**Pg**	**16 58 52.9**	**-0.3**
	SNR=40							
JTU	**Tsushima**	**1.25**	**173**	P		**Pn**	**16 59 02.4**	**-0.5**
JTU				*e*S		**Sb**	**16 59 18.5**	**-0.7**
JTSM	**Tsushimamitsus**	**1.44**	**174**	*e*P		**Pn**	**16 59 05.5**	**+0.1**
JTSM				*e*S		**Sn**	**16 59 24.2**	**0.0**
JII	**Iki**	**2.02**	**167**	*e*S		**Sb**	**16 59 41.8**	**+0.6**
JTY	**Toyota**	**2.14**	**134**	*e*S		**Sb**	**16 59 44.5**	**-0.3**

GCMT **12** *17:00:10.6±0.3,13°.23N±0°.01×50°.11E±0°.03,h18km, MW4.9/98,Moment Tensor Solution. s33,c38; s98,c145; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.21±.13; Mθθ2.55±.09; Mϕϕ-0.33±.09; Mrθ-0.46±.17; Mrϕ-0.42±.06; Mθϕ1.09±.24; Best double couple: M☉2.70700×10¹⁶ NP1:ϕs=120.00000°,δ57.00000°,λ-62.00000°. NP2: ϕs=256.00000°,δ42.00000°,λ-125.00000°. Principal axes: T 2.6910, Plg8.0000°, Azm191.0000°; N 0.0330, Plg23.0000°, Azm284.0000°; P -2.7220, Plg66.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC **12** *17:00:11.6±0.6,13°.23N×50°.48E,h0km,mb4.2/23, mbtmp4.2/26,ML3.9/3,MS4.0/40 Error ellipse: s-maj=16.0km s-min=14.0km az=178.0*

NEIC **12** *17:00:13.6±2.0,13°.2N±0°.1×50°.38E±0°.09,h10km±1km, mb4.5/52,Error ellipse: s-maj=21.4km s-min=9.8km az=142.0*

OMAN **12** *17:01:04.5±0.6,16°.20N×52°.72E,h34km±21km,mb4.0/4, ml2.8/4,Error ellipse: s-maj=27.2km s-min=3.3km az=28.0*

ISC 12 17:00:12.0±1.3,13°.18N±0°.07×50°.45E±0°.06,h2km±8km, n139,σ1°36/120,mb4.5/55,MS4.0/41,3C,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**3.59**	**106**	Sn		Sn	17 01 36.5	-15
ABTO	**Aybut**	**4.98**	**33**	P		**Pn**	**17 01 25.0**	**-2.8**
	SNR=9.0							
ABTO				S		**Sb**	**17 02 42.6**	**+2.3**
RBK	**Rabkut**	**5.62**	**40**	P		**Pn**	**17 01 34.6**	**-2.1**
	SNR=34							
RBK				S		**Sb**	**17 02 58.1**	**-0.7**
WHFO	**Wadi Hawf**	**5.70**	**34**	P		**Pn**	**17 01 34.9**	**-2.7**
	SNR=76							
DMTO	**DMTO**	**6.26**	**43**	P		**Pn**	**17 01 43.6**	**-1.7**
	SNR=46							
DMTO				S		**Sb**	**17 03 17.1**	**+0.1**
SHAO	**Shalim**	**6.93**	**45**	P		**Pn**	**17 01 53.4**	**-1.2**
	SNR=9.3							
ATD	**Arta Tunnel**	**7.61**	**258**	Pn		**Pn**	**17 02 03.4**	**-0.6**
	8.2nm,0.3s,baz=52,slow=14,SNR=23							
ATD				LR		LR	17 04 09.0	
	comp=Z,557nm,20.9s,baz=56,slow=31 20nm,0.3s							
ATD	**Arta Tunnel**	**7.61**	**258**			**Pn**	**17 02 02.5**	**-1.4**
MZR	**Muzera**	**10.19**	**16**	P		**Pn**	**17 02 42.4**	**+3.1**
UMZA	**Um Al Zommool**	**10.49**	**25**	P		**Pn**	**17 02 40.7**	**-2.6**
MHTO	**MHTO**	**10.58**	**42**	P		**Pn**	**17 02 43.2**	**-1.4**
RAYN	**Ar Rayn**	**11.31**	**336**	Pn		Pn	17 02 48.6	-6.0
RAYN				Sn		Sn	17 04 45.6	-16
ARQ	**Araqi**	**11.63**	**29**	P		**Pn**	**17 02 58.0**	**-1.1**
	SNR=6.1							
WSAR	**Wadi Sarin**	**12.67**	**37**	Pn		**Pn**	**17 03 12.4**	**-0.8**
	0.3nm,0.3s,baz=246,slow=11,SNR=5.4 1.8nm,0.5s							
UOSS	**Minazif**	**12.91**	**24**	Pn		**Pn**	**17 03 13.7**	**-2.8**
LODK	**Lodwar**	**17.79**	**238**	P		**Pn**	**17 04 21.0**	**+0.1**
KMBO	**Kilima Mbogo**	**19.32**	**224**	P		**P**	**17 04 38.0**	**-0.8**
	0.1nm,0.3s,baz=39,slow=9.1,SNR=4.8							
KMBO				LR		LR	17 12 00.2	
	comp=Z,405nm,20.2s,baz=88,slow=37 1.1nm,0.4s							
KMBO	**Kilima Mbogo**	**19.32**	**224**	P		**P**	**17 04 37.1**	**-1.7**
KIBK	**Kibwezi**	**19.73**	**219**	P		**P**	**17 04 42.2**	**-0.9**
EIL	**Elat**	**21.81**	**321**	P		**P**	**17 05 04.5**	**-0.9**
	14nm,1.1s,baz=102,slow=4.3,SNR=5.6							
EIL				LR		LR	17 13 20.2	
	comp=Z,836nm,18.9s,baz=138,slow=36 14nm,1.1s							
ASF	**Jabal al Asfar**	**22.63**	**329**	P		**P**	**17 05 13.8**	**-0.5**
	7.0nm,1.1s,baz=131,slow=9.3,SNR=5.3 7.0nm,1.1s							
GHAJ	**Ghor Haditha**	**22.65**	**325**	P		**P**	**17 05 11.9**	**-2.5**
GHAJ				lAmb		lAmb	17 05 28.0	
	comp=Z,23nm,1.1s							
HRA	**Herat**	**23.68**	**25**	P		**P**	**17 05 24.4**	**-0.8**
MMAI	**Mount Meron Ar**	**24.06**	**328**	P		**P**	**17 05 30.1**	**+1.4**
	comp=Z,3.7nm,0.9s,baz=110,slow=16,SNR=3.1							
MMAI				LR		LR	17 15 38.6	
	comp=Z,239nm,21.2s,baz=82,slow=39 comp=Z,3.7nm,0.9s							
MARD	**Mardin**	**25.55**	**342**	P		**P**	**17 05 40.6**	**-1.6**
MARD				lAmb		lAmb	17 05 46.6	
	comp=Z,11nm,1.1s							
GEYT	**Alibeck**	**25.58**	**14**	P		**P**	**17 05 42.5**	**0.0**
	comp=Z,4.8nm,0.8s,baz=203,slow=9.2,SNR=11							
GEYT				LR		LR	17 17 47.8	
	comp=Z,2μm,18.2s,baz=200,slow=41 comp=Z,4.8nm,0.8s							
GEYT	**Alibeck**	**25.58**	**14**	P		**P**	**17 05 42.5**	**0.0**
GEYT				lAmb		lAmb	17 05 53.0	
	comp=Z,11nm,0.9s							
GYA0B	**ALIBECK ARRAY**	**25.58**	**14**	P		**P**	**17 05 42.6**	**+0.2**
GYA0B				lAmb		lAmb	17 05 53.0	
	comp=Z,11nm,0.8s							
GEVA	**Gevas**	**25.88**	**347**	P		**P**	**17 05 45.1**	**-0.3**
GEVA				lAmb		lAmb	17 05 52.9	
	comp=Z,17nm,1.0s							
GURO	**Guroymak-BITLI**	**26.36**	**345**	P		**P**	**17 05 47.0**	**-2.6**
GURO				lAmb		lAmb	17 06 06.6	
	comp=Z,14nm,1.4s							
KBL	**Kabul**	**27.14**	**35**	P		**P**	**17 05 57.8**	**+0.9**
KBL				lAmb		lAmb	17 06 14.7	
	comp=Z,7.9nm,1.1s							
GNI	**Garni**	**27.34**	**350**	P		**P**	**17 05 59.4**	**+1.0**
	comp=Z,7.4nm,1.0s,baz=212,slow=19,SNR=1.5							
GNI				LR		LR	17 18 40.2	
	comp=Z,907nm,18.9s,baz=173,slow=41 comp=Z,7.4nm,1.0s							
KARS	**Kars**	**28.10**	**348**	P		**P**	**17 06 03.9**	**-1.4**
ELL	**Elmali**	**29.83**	**325**	P		**P**	**17 06 18.5**	**-2.2**
BRTR	**Keskin Array B**	**30.32**	**334**	LR		LR	17 18 52.2	
	comp=Z,301nm,20.9s,baz=144,slow=37							
CHGR	**Chuyangaron**	**30.32**	**30**	P		**P**	**17 06 25.2**	**+0.2**
PALK	**Pallekele**	**30.33**	**98**	LR		LR	17 16 08.0	
	comp=Z,64nm,20.4s,baz=1.7,slow=32							
ANTO	**Ankara**	**30.80**	**333**	P		**P**	**17 06 28.1**	**-1.1**
ANTO				lAmb		lAmb	17 06 57.7	
	comp=Z,6.7nm,0.9s							
KBZ	**Khabaz**	**31.13**	**349**	P		**P**	**17 06 33.6**	**+1.7**
	comp=Z,2.5nm,1.0s,baz=193,slow=9.5,SNR=4.0							
KBZ				LR		LR	17 21 27.0	
	comp=Z,474nm,18.7s,baz=161,slow=41 comp=Z,2.5nm,1.0s							
GAR	**Garm**	**31.16**	**31**	P		**P**	**17 06 32.1**	**-0.3**
GAR				lAmb		lAmb	17 06 42.8	
	comp=Z,11nm,1.1s							
KIV	**Kislovodsk**	**31.39**	**349**	P		**P**	**17 06 33.0**	**-1.3**
KIV				lAmb		lAmb	17 07 01.9	
	comp=Z,6.9nm,0.8s							
OPO	**Ambohidratompo**	**31.71**	**186**	LR		LR	17 17 16.4	
	comp=Z,190nm,21.2s,baz=170,slow=32							
BTK	**Batken**	**32.22**	**30**	P		**P**	**17 06 43.0**	**+1.4**
BTK				lAmb		lAmb	17 06 52.3	
	comp=Z,6.8nm,1.0s							
DRK	**Karamyk**	**32.27**	**32**	P		**P**	**17 06 43.4**	**+1.0**
KK31	**Karatay Array**	**34.48**	**26**	P		**P**	**17 07 01.9**	**+0.6**
KKAR	**Karatay Array**	**34.48**	**26**	P		**P**	**17 07 02.2**	**+0.9**
KKAR	**Karatay Array**	**34.48**	**26**	P		**P**	**17 07 02.4**	**+1.1**
LSZ	**Lusaka**	**35.84**	**219**	LR		LR	17 22 39.7	
	comp=Z,487nm,18.6s,baz=42,slow=38							
NRN	**Naryn**	**35.90**	**34**	P		**P**	**17 07 14.6**	**+0.7**
NRN				lAmb		lAmb	17 07 23.9	
	comp=Z,12nm,1.2s							
AAK	**Ala-Archa**	**35.98**	**31**	P		**P**	**17 07 16.2**	**+1.8**
AAK				lAmb		lAmb	17 07 23.7	
	comp=Z,5.7nm,1.1s							
ABKAR	**Akbulak array**	**36.82**	**10**	P		**P**	**17 07 20.9**	**-0.4**
ABKAR				lAmb		lAmb	17 07 31.5	
	comp=Z,9.6nm,1.2s							
ABKAR	**Akbulak array**	**36.82**	**10**	P		**P**	**17 07 20.7**	**-0.5**
TARG	**Taragay, Kyrgy**	**37.09**	**35**	P		**P**	**17 07 24.9**	**+0.7**
TARG				lAmb		lAmb	17 07 27.3	
	comp=Z,7.3nm,0.9s							
MLR	**Muntele Rosu**	**38.33**	**332**	LR		LR	17 25 42.7	
	comp=Z,255nm,18.1s,baz=152,slow=40							
BRDH	**Bariadhala**	**40.20**	**70**	LR		LR	17 23 23.7	
	comp=Z,205nm,21.5s,baz=262,slow=35							
BURAR	**Bucovina Array**	**40.28**	**334**	P		**P**	**17 07 49.2**	**-1.3**
AKASG	**Malin Array Be**	**41.22**	**340**	P		**P**	**17 07 56.5**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=146,slow=6.9,SNR=6.9							
AKASG				LR		LR	17 28 08.8	
	comp=Z,127nm,18.6s,baz=137,slow=41 comp=Z,0.6nm,0.5s							
KOLS	**Kolonicke sedl**	**42.57**	**333**	*e*P		**P**	**17 08 12.9**	**+3.7**
MAKZ	**Makanchi**	**42.70**	**32**	P		**P**	**17 08 10.6**	**+0.2**
MK31	**Makanchi Array**	**42.85**	**32**	P		**P**	**17 08 10.8**	**-0.8**
MKAR	**Makanchi Array**	**42.85**	**32**	P		**P**	**17 08 10.5**	**-1.1**
	comp=Z,4.0nm,1.0s,baz=223,slow=8.3,SNR=20							
MKAR				LR		LR	17 28 33.5	
	comp=Z,93nm,21.7s,baz=242,slow=40 comp=Z,4.0nm,1.0s							
MKAR	**Makanchi Array**	**42.85**	**32**	P		**P**	**17 08 11.1**	**-0.5**
KEST	**Kesra**	**43.21**	**309**	P		**P**	**17 08 15.9**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=63,slow=9.0,SNR=1.8							
KEST				LR		LR	17 26 05.6	
	comp=Z,138nm,20.5s,baz=312,slow=36 comp=Z,1.1nm,0.7s							
OBN	**Obninsk**	**43.23**	**348**	LR		LR	17 28 32.1	
	comp=Z,38nm,21.8s,baz=178,slow=39							
ARU	**Arti**	**43.61**	**7**	P		**P**	**17 08 15.1**	**-2.4**
VYHS	**Vyhne**	**43.87**	**330**	*e*P		P	17 08 26.8	+7.1
KURK	**Kurchatov**	**43.89**	**26**	P		**P**	**17 08 17.9**	**-1.8**
WMQ	**Urumqi**	**44.15**	**39**	*e*P		**P**	**17 08 24.9**	**+2.8**
WMQ				LR		LR		
	comp=Z,130nm,22.5s							
MODS	**Modra-Piesok**	**44.57**	**329**	*e*P		**P**	**17 08 29.1**	**+3.8**
LBTB	**Lobatse**	**45.04**	**213**	P		**P**	**17 08 31.6**	**+2.2**
	comp=Z,4.8nm,1.0s,baz=45,slow=5.7,SNR=4.0							
LBTB				LR		LR	17 27 03.4	
	comp=Z,306nm,19.9s,baz=8.5,slow=36 comp=Z,4.8nm,1.0s							
VRAC	**Vranov**	**45.52**	**329**	LR		LR	17 28 30.7	
	comp=Z,79nm,20.3s,baz=122,slow=37							
TSUM	**Tsumeb**	**45.65**	**226**	LR		LR	17 28 11.8	
	comp=Z,288nm,18.3s,baz=44,slow=37							
STAL	**STALIGIAL**	**45.77**	**324**	P		**P**	**17 08 34.5**	**-0.4**
STAL				lAmb		lAmb	17 08 45.2	
	comp=Z,12nm,1.5s							
CLUD	**Cludinico**	**45.78**	**324**	P		**P**	**17 08 35.2**	**+0.1**
CLUD				lAmb		lAmb	17 08 42.7	
	comp=Z,6.6nm,0.9s							
CIMO	**Cimolais**	**45.96**	**324**	P		**P**	**17 08 36.2**	**-0.2**
CIMO				lAmb		lAmb	17 08 44.0	
	comp=Z,5.3nm,1.1s							
GERES	**GERESS Array B**	**46.72**	**327**	P		**P**	**17 08 42.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=146,slow=9.5,SNR=2.3							
GERES				PcP		**PcP**	**17 10 15.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=134,slow=3.9,SNR=3.8 comp=Z,0.1nm,0.3s							
**

NOA	**NORSAR Array B**	**55.59**	**338**	P	**P**	**17 09 47.4**	**-1.5**
	comp=Z,1.4nm,0.9s,baz=124,slow=8.0,SNR=4.1						
	comp=Z,1.4nm,0.9s						
XAN	**Xi'an**	**56.69**	**58**	P	**P**	**17 09 57.2**	**0.0**
XAN				pP	pwP	17 10 03.4	+2.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ENH	**Enshi**	**56.83**	**62**	P	**P**	**17 09 58.5**	**+0.2**
SONM	**Songino Array**	**57.67**	**41**	P	**P**	**17 10 04.1**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=242,slow=7.7,SNR=16						
SONM				LR	LR	17 38 14.0	
	comp=Z,100nm,20.4s,baz=260,slow=40						
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**57.67**	**41**	P	**P**	**17 10 04.9**	**+0.9**
SONM				IAmb	IAmb	17 10 11.9	
	comp=Z,3.9nm,0.9s						
ULN	**Ulaanbaatar**	**58.10**	**41**	P	**P**	**17 10 07.1**	**0.0**
ULN				IAmb	IAmb	17 10 14.4	
	comp=Z,3.8nm,0.9s						
ARCES	**ARCESS Array B**	**58.49**	**350**	P	**P**	**17 10 08.8**	**-0.4**
	comp=Z,5.4nm,1.0s,baz=130,slow=8.4,SNR=3.4						
ARCES				LR	LR	17 37 54.2	
	comp=Z,244nm,20.1s,baz=120,slow=39						
	comp=Z,5.4nm,1.0s						
HHC	**Hu-ho-hao-te**	**59.70**	**50**	*e*P	**P**	**17 10 20.1**	**+1.8**
HHC				pmax	pmax		
	comp=Z,38nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,6.7s						
NRIK	**Noril'sk**	**60.83**	**14**	LR	LR	17 41 43.4	
	comp=Z,275nm,19.1s,baz=236,slow=41						
HNS	**HongShan**	**61.71**	**55**	⇑P	**P**	**17 10 33.3**	**+1.4**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
BJT	**Baijiatuau**	**63.09**	**52**	P	**P**	**17 10 41.0**	**-0.1**
BJI	**Beijing**	**63.09**	**52**	P	**P**	**17 10 41.5**	**+0.5**
BJI				sP	**pwP**	**17 10 46.0**	**+1.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XLT	**XiLinHaoTe**	**63.45**	**47**	*e*P	**P**	**17 10 45.0**	**+1.5**
XLT				pP	pwP	17 10 50.7	+3.6
XLT				sP	pP	17 10 54.8	+11
XLT				PcP	**PcP**	**17 11 19.6**	**-0.7**
XLT				pmax	pmax		
	comp=Z,5.0nm,1.3s						
XLT				pmax	pmax		
	comp=Z,66nm,4.5s						
TIA	**Tai'an**	**63.57**	**56**	⇑P	**P**	**17 10 45.4**	**+1.1**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**67.17**	**353**	LR	LR	17 43 55.0	
	comp=Z,146nm,18.9s,baz=110,slow=39						
BORG	**Borgarnes**	**70.41**	**334**	LR	LR	17 45 52.2	
	comp=Z,44nm,21.2s,baz=23,slow=39						
KSRS	**Korea Array**	**72.22**	**55**	P	**P**	**17 11 37.0**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=266,slow=6.2,SNR=5.9						
	comp=Z,1.7nm,0.8s						
YAK	**Yakutsk**	**73.41**	**29**	LR	LR	17 47 32.5	
	comp=Z,77nm,18.9s,baz=269,slow=39						
TIXI	**Tiksi**	**73.93**	**19**	LR	LR	17 48 17.2	
	comp=Z,89nm,19.4s,baz=186,slow=39						
KLR	**Kul'dur**	**74.48**	**42**	P	**P**	**17 11 50.2**	**-1.7**
	comp=Z,3.8nm,0.8s,baz=280,slow=6.7,SNR=12						
KLR				LR	LR	17 49 01.5	
	comp=Z,81nm,19.1s,baz=280,slow=39						
	comp=Z,3.8nm,0.8s						
USA0B	**Ussuriysk Arra**	**74.90**	**47**	P	**P**	**17 11 54.4**	**-0.1**
USA0B				IAmb	IAmb	17 11 56.5	
	comp=Z,3.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**74.90**	**47**	P	**P**	**17 11 53.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**78.44**	**128**	LR	LR	17 44 03.8	
	comp=Z,76nm,18.3s,baz=312,slow=34						
MAW	**Mawson**	**81.07**	**175**	LR	LR	17 42 54.2	
	comp=Z,120nm,19.8s,baz=340,slow=32						
SFJD	**Kangerlussuaq**	**82.25**	**337**	LR	LR	17 52 19.4	
	comp=Z,84nm,19.0s,baz=82,slow=38						
WRA	**Warramunga Arr**	**88.81**	**111**	P	**P**	**17 13 07.7**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=301,slow=3.7,SNR=38						
	comp=Z,3.3nm,0.8s						
WRA	**Warramunga Arr**	**88.81**	**111**	P	**P**	**17 13 07.3**	**-0.8**
WB0	**Warramunga Arr**	**88.82**	**110**	P	**P**	**17 13 07.2**	**-0.9**
WRAB	**Tennant Creek**	**88.82**	**111**	P	**P**	**17 13 08.1**	**-0.1**
WB2	**Warramunga Arr**	**88.82**	**111**	P	**P**	**17 13 08.0**	**-0.1**
ASAR	**Alice Springs**	**89.35**	**114**	P	**P**	**17 13 10.4**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=291,slow=4.5,SNR=20						
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**89.35**	**114**	P	**P**	**17 13 10.1**	**-0.5**
RES	**Resolute Bay**	**89.69**	**351**	LR	LR	17 57 25.5	
	comp=Z,58nm,18.7s,baz=24,slow=38						
FRB	**Frobisher Bay**	**90.41**	**337**	LR	LR	17 56 51.7	
	comp=Z,53nm,18.1s,baz=132,slow=38						
SNAA	**Sanae**	**91.76**	**195**	LR	LR	17 49 43.0	
	comp=Z,71nm,19.4s,baz=132,slow=32						
SCHQ	**Schefferville**	**94.22**	**329**	LR	LR	18 00 22.2	
	comp=Z,36nm,18.1s,baz=176,slow=38						
INK	**Inuvik**	**98.69**	**1**	LR	LR	18 04 57.6	
	comp=Z,59nm,20.9s,baz=305,slow=39						
NVAR	**Mina Array Bea**	**127.60**	**349**	PKP	**PKiKP**	**17 19 20.6**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=65,slow=1.8,SNR=7.2						

*GUC **12** 17:11:00.2±0.8, 19°.93S×70°.01W, h47km±3km, ML3.4*
*IDC **12** 17:11:04.5±3.2, 19°.97S×69°.59W, h97km±21km, mb3.5/1, mbtmp3.7/4, Error ellipse: s-maj=64.8km s-min=15.8km az=95.0*

ISC 12 17:10:59.4±1.0, **19°.94S**±0°.03×**70°.06W**±0°.08, **h51**km±10km, **n27**, σ1°50/29, **5C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.34**	**192**	↑*i*P	**Pn**	**17 11 09.1**	**+0.2**
TA02				*i* S	**Sn**	**17 11 15.9**	**+0.1**
TA02				IAML		17 11 16.5	
	comp=N,5μm,0.3s						
TA01	**Diego Aracena**	**0.63**	**190**	↑*i*P	**Pn**	**17 11 12.2**	**-0.2**
TA01				*i* S	**Sn**	**17 11 21.5**	**-0.2**
TA01				IAML		17 11 25.0	
	comp=N,2μm,0.4s						
GO01	**Chusmiza**	**0.86**	**72**	↓*i*P	**Pn**	**17 11 15.8**	**+0.1**
GO01				*i* S	**Sn**	**17 11 27.7**	**+0.1**
PB01	**IPOC Station P**	**1.22**	**154**	*e*P	**Pn**	**17 11 20.3**	**0.0**
PB01				*i* S	**Sn**	**17 11 35.5**	**-0.2**
PB12	**IPOC Station P**	**1.34**	**349**	*e*P	**Pn**	**17 11 22.2**	**+0.3**
PB12				*i* S	**Sn**	**17 11 38.8**	**+0.2**
PB12				IAML		17 11 42.0	
	comp=N,1μm,0.6s						
PB02	**IPOC Station P**	**1.38**	**174**	↑*i*P	**Pn**	**17 11 22.7**	**+0.2**
PB02				*i* S	**Sn**	**17 11 39.9**	**+0.3**
PB02				IAML		17 11 46.7	
	comp=E,2μm,0.3s						
AP01	**Chacalluta**	**1.58**	**350**	*e*P	**Pn**	**17 11 25.7**	**+0.7**
AP01				*i* S	**Sn**	**17 11 45.7**	**+1.3**
PB16	**IPOC Station P**	**1.68**	**18**	↓*i*P	**Pn**	**17 11 27.5**	**+0.6**
PB16				*i* S	**Sn**	**17 11 48.7**	**+1.1**
PB16				IAML		17 11 51.2	
	comp=N,734nm,0.3s						
PB07	**IPOC Station P**	**1.79**	**175**	↑*e*P	**Pn**	**17 11 28.7**	**+0.7**
PB07				*i* S	**Sn**	**17 11 50.6**	**+1.0**
PB07				IAML		17 11 56.7	
	comp=N,412nm,0.4s						
PB09	**IPOC Station P**	**2.00**	**158**	↑*i*P	**Pn**	**17 11 32.5**	**+1.6**
PB09				*i* S	**Sn**	**17 11 56.4**	**+1.5**
PB09				IAML		17 12 03.2	
	comp=E,542nm,0.3s						
PB04	**IPOC Station P**	**2.38**	**182**	*e*P	**Pn**	**17 11 37.2**	**+1.0**
PB06	**IPOC Station P**	**2.79**	**171**	*e*P	**Pn**	**17 11 42.1**	**+0.4**
PB06				IAML		17 12 31.0	
	comp=E,182nm,0.5s						
LVC	**Limon Verde**	**2.87**	**158**	P	**Pn**	**17 11 44.7**	**+1.8**
	comp=E,39nm,0.3s,baz=336,slow=11,SNR=42						
LVC				S	**Sn**	**17 12 19.7**	**+3.3**
	comp=E,62nm,0.3s,baz=118,slow=18,SNR=14						
LVC	**Limon Verde**	**2.87**	**158**	*e*P	**Pn**	**17 11 44.5**	**+1.6**
LPAZ	**La Paz**	**4.07**	**27**	P	**Pn**	**17 12 04.1**	**+4.4**
	comp=E,4.1nm,0.3s,baz=203,slow=7.9,SNR=31						
SIV	**San Ignacio**	**9.41**	**67**	P	**Pn**	**17 13 11.0**	**-1.4**
	comp=E,2.2nm,0.6s,baz=266,slow=12,SNR=13						
H03N1	**Juan Fernandez**	**15.59**	**209**	T	T	17 31 01.6	
	baz=32,slow=73,SNR=10						
H03N2	**Juan Fernandez**	**15.60**	**209**	T	T	17 31 08.0	
	baz=32,slow=73,SNR=9.2						
H03N3	**Juan Fernandez**	**15.61**	**209**	T	T	17 31 10.2	
	baz=32,slow=73,SNR=7.7						
TORD	**Torodi Ar. Bea**	**77.86**	**71**	P	**P**	**17 22 49.8**	**-2.5**
	comp=E,0.7nm,0.8s,baz=255,slow=5.4,SNR=5.8						
	comp=E,0.7nm,0.8s						
H11S2	**WAKE ISLAND Hyd**	**26.60**	**279**	T	T	19 49 15.3	
	baz=102,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hyd**	**26.61**	**279**	T	T	19 49 17.2	
	baz=102,slow=75,SNR=20						
H11S3	**WAKE ISLAND Hyd**	**26.62**	**279**	T	T	19 49 21.6	
	baz=102,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hyd**	**26.64**	**280**	T	T	19 49 18.3	
	baz=100,slow=74,SNR=6.9						
H11N2	**WAKE ISLAND Hyd**	**26.66**	**280**	T	T	19 49 26.0	
	baz=100,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hyd**	**26.66**	**280**	T	T	19 49 20.1	
	baz=100,slow=74,SNR=6.6						
MKAR	**Makanchi Array**	**144.97**	**34**	PKP	**PKPab**	**17 30 29.7**	**-0.7**
	comp=E,0.7nm,0.8s,baz=325,slow=3.4,SNR=6.3						

ROM 12 17:14:34.5±0.0, **42°.755N**±0°.002×**13°.150E**±0°.004, **h10**km, **ML1.8**/15, **2C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=51.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.08**	**133**	P	Pg	17 14 37.1	+0.2
T1202				S	Sg	17 14 38.9	+0.4
NRCA	**Norcia**	**0.08**	**341**	P	Pg	17 14 37.1	+0.1
NRCA				S	Sg	17 14 38.7	0.0
NRCA				AML	AML		
	comp=E,10165μm,0.2s						
NRCA				AML	AML		
	comp=E,9315μm,0.2s						
NRCA				AML	AML		
	comp=N,4290μm,0.4s						
NRCA				AML	AML		
	comp=N,4350μm,0.5s						
T1242	**Castelluccio d**	**0.08**	**28**	↑P	Pg	17 14 37.2	+0.1
T1242				S	Sg	17 14 38.8	0.0
T1242				AML	AML		
	comp=E,3275μm,0.2s						
T1242				AML	AML		
	comp=N,5285μm,0.4s						
T1242				AML	AML		
	comp=E,3225μm,0.2s						
T1242				AML	AML		
	comp=N,5205μm,0.4s						
T1204	**Amatrice, Fraz**	**0.15**	**123**	P	Pg	17 14 38.5	+0.6
T1204				S	Sg	17 14 41.6	+1.4
T1204				AML	AML		
	comp=E,669μm,0.7s						
T1204				AML	AML		
	comp=N,452μm,0.9s						
T1204				AML	AML		
	comp=E,674μm,0.7s						
T1204				AML	AML		
	comp=N,446μm,0.9s						
MC2	**Monte Cornacci**	**0.16**	**11**	P	Pg	17 14 38.7	+0.5
MC2				S	Sg	17 14 42.1	+1.4
T1216	**Preci, Frazion**	**0.17**	**325**	P	Pg	17 14 38.8	+0.7
T1216				S	Sg	17 14 42.0	+1.4
T1216				AML	AML		
	comp=E,6275μm,0.3s						
T1216				AML	AML		
	comp=E,755μm,0.3s						
T1216				AML	AML		
	comp=N,6480μm,0.4s						
T1216				AML	AML		
	comp=N,806μm,0.4s						
T1217	**Poggiodomo (PG**	**0.17**	**255**	P	Pg	17 14 38.8	+0.6
LNSS	**Leonessa**	**0.17**	**208**	P	Pg	17 14 38.8	+0.5
LNSS				S	Sg	17 14 41.9	+1.1
LNSS				AML	AML		
	comp=N,560μm,0.4s						
LNSS				AML	AML		
	comp=E,645μm,1.3s						
MMO1	**Montemonaco**	**0.19**	**42**	↓P	Pg	17 14 39.1	+0.5
MMO1				S	Sg	17 14 42.5	+1.0
T1215	**Vallo di Nera,**	**0.21**	**283**	P	Pg	17 14 39.5	+0.6
T1215				S	Sg	17 14 43.2	+1.3
T1243	**Rocca Santa Ma**	**0.23**	**105**	P	Pg	17 14 39.7	+0.5
T1243				S	Sg	17 14 43.7	+1.2
T1241	**Roccafluvione,**	**0.23**	**64**	P	Pg	17 14 39.9	+0.6
T1241				S	Sg	17 14 43.9	+1.4
T1241				AML	AML		
	comp=N,582μm,0.7s						
T1241				AML	AML		
	comp=N,506μm,0.7s						
T1241				AML	AML		
	comp=N,582μm,0.7s						
T1241				AML	AML		
	comp=E,406μm,0.7s						
T1241				AML	AML		
	comp=N,506μm,0.7s						
T1241				AML	AML		
	comp=E,405μm,0.7s						
RM33	**Pellescritta (**	**0.25**	**169**	P	Pg	17 14 40.4	+0.8
RM33				S	Sb	17 14 44.4	-1.3
RM33				AML	AML		
	comp=N,262μm,0.4s						
RM33				AML	AML		
	comp=N,261μm,0.4s						
RM33				AML	AML		
	comp=E,231μm,1.4s						
FDMO	**Fiordimonte**	**0.28**	**351**	P	Pg	17 14 40.8	+0.5
FDMO				S	Sb	17 14 45.7	-1.0
FDMO				AML	AML		
	comp=E,186μm,0.2s						
FDMO				AML	AML		
	comp=N,179μm,0.6s						
FDMO				AML	AML		
	comp=N,178μm,0.6s						
CAMP	**Campotosto**	**0.29**	**139**	P	Pg	17 14 41.1	+0.7
CAMP				AML	AML		
	comp=E,101μm,0.7s						
CAMP				AML	AML		
	comp=N,106μm,0.8s						
CESI	**CESI - Serrava**	**0.31**	**324**	P	Pg	17 14 41.4	+0.7
CESI				S	Sb	17 14 46.4	-0.9
CESI				AML	AML		
	comp=E,212μm,1.1s						
CESI				AML	AML		
	comp=N,282μm,0.5s						
CSP1	**Cessapalombo**	**0.34**	**7**	P	Pg	17 14 41.9	+0.6
CSP1				S	Sb	17 14 47.6	-0.7
TERO	**Teramo**	**0.36**	**111**	↓P	Pg	17 14 42.0	+0.4
TERO				S	Sb	17 14 48.1	-0.7
TERO				AML	AML		
	comp=E,122μm,0.5s						
TERO				AML	AML		
	comp=N,154μm,0.5s						
ASSB	**Assisi San Ben**	**0.46**	**309**	P	Pg	17 14 44.1	+0.6
ASSB				S	Sb	17 14 51.1	-0.6
ASSB				AML	AML		
	comp=N,96μm,0.2s						
ASSB				AML	AML		
	comp=E,103μm,0.3s						
SNTG	**Esanatoglia**	**0.52**	**343**	↓P	Pb	17 14 45.4	-0.5
SNTG				S	Sb	17 14 54.0	+0.5
SNTG				AML	AML		
	comp=N,57μm,0.8s						
SNTG				AML	AML		
	comp=E,57μm,1.6s						
ATCC	**AVT- Casa Cast**	**0.57**	**319**	↑P	Pg	17 14 46.0	+0.4
ATCC				S	Sb	17 14 56.0	+1.1
ATCC				AML	AML		
	comp=N,98μm,0.3s						
ATCC				AML	AML		
	comp=E,98μm,1.6s						
T0110	**Collepietro**	**0.70**	**138**	P	Pg	17 14 48.5	+0.4
T0110				AML	AML		
	comp=E,62μm,0.4s						
T0110				AML	AML		
	comp=N,64μm,0.6s						
PP3	**Marolino**	**0.71**	**28**	S	Sg	17 14 58.0	+0.6

*IDC **12** 17:25:13.4±0.8, 4°.44N×62°.59E, h0km, mb4.0/11, mbtmp4.0/11, MS3.7/51, Error ellipse: s-maj=26.5km s-min=17.3km az=8.0*
*GCMT **12** 17:25:15.8±0.3, 4°.22N±0°.04×62°.62E±0°.04, h13km±1km, MW4.7/72, Moment Tensor Solution. s15,c20; s72,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.22±.12; Mθθ 0.68±.08; Mφφ 0.53±.07; Mrθ-0.33±.24; Mrφ-0.49±.04; Mθφ-0.67±.24; Best double couple: Mw1.3 5 50 0 × 10^16 NP1: φs 335.00000°, δ55.00000°, λ-62.00000°. NP2: φs 112.00000°, δ44.00000°, λ-124.00000°. Principal axes:*
T 1.1210, Plg6.0000°, Azm45.0000°; N 0.4240, Plg23.0000°, Azm138.0000°; P -1.5480, Plg66.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*NEIC **12** 17:25:16.8±1.7, 4°.4N±0°.1×62°.47E±0°.10, h10km±1km, mb4.3/31 Error ellipse: s-maj=23.9km s-min=12.5km az=213.0*

ISC 12 17:25:17.2±0.9, **4°.4N**±0°.2×**62°.52E**±0°.10, **h22**km, **n90**, σ1°05/46, **mb4.2**/24, **MS3.7**/49, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**18.32**	**80**	LR	LR	17 35 03.5	
	comp=Z,358nm,19.2s,baz=11,slow=32						
WSAR	**Wadi Sarin**	**19.15**	**349**	LR	LR	17 36 08.8	
	comp=Z,109nm,19.0s,baz=182,slow=34						
ATD	**Arta Tunnel**	**20.73**	**291**	P	**P**	**17 29 58.0**	**+1.4**
	30nm,1.1s,baz=93,slow=19,SNR=5.1						
ATD				LR	LR	17 36 36.8	
	comp=Z,126nm,20.2s,baz=104,slow=33						
	30nm,1.1s						
ATD	**Arta Tunnel**	**20.73**	**291**	P	**P**	**17 29 56.4**	**-0.2**
FURI	**Furi**	**24.10**	**282**	P	**P**	**17 30 30.4**	**-1.5**
RAYN	**Ar Rayn**	**25.16**	**321**	P	**P**	**17 30 41.0**	**-0.2**
RAYN				IAmb	IAmb	17 30 45.5	
	comp=Z,11nm,1.4s						
KMBO	**Kilima Mbogo**	**25.82**	**258**	P	**P**	**17 30 49.2**	**+1.7**
	comp=Z,2.2nm,0.5s,baz=65,slow=9.9,SNR=5.9						
KMBO				LR	LR	17 39 45.4	
	comp=Z,246nm,21.3s,baz=92,slow=34						
	comp=Z,2.2nm,0.5s						
KMBO	**Kilima Mbogo**	**25.82**	**258**	P	**P**	**17 30 49.5**	**+2.0**
KMBO				IAmb	IAmb	17 30 54.2	
	comp=Z,16nm,1.4s						
LODK	**Lodwar**	**27.11**	**269**	P	**P**	**17 30 58.9**	**-0.1**
LODK				IAmb	IAmb	17 31 02.6	
	comp=Z,8.6nm,1.3s						
KBL	**Kabul**	**30.65**	**11**	P	**P**	**17 31 32.4**	**+2.1**
KBL				IAmb	IAmb	17 31 57.8	
	comp=Z,5.3nm,1.4s						
MBAR	**Mbarara**	**32.13**	**262**	LR	LR	17 44 05.0	
	comp=Z,151nm,19.8s,baz=56,slow=35						
BRDH	**Bariadhala**	**33.55**	**54**	LR	LR	17 45 39.8	
	comp=Z,413nm,19.4s,baz=289,slow=37						
GEYT	**Alibeck**	**33.66**	**354**	LR	LR	17 44 33.6	
	comp=Z,46nm,21.1s,baz=168,slow=34						
GEYT	**Alibeck**	**33.66**	**354**	P	**P**	**17 31 56.6**	**0.0**
GAR	**Garm**	**35.21**	**11**	P	**P**	**17 32 10.9**	**+0.8**
GAR				IAmb	IAmb	17 32 31.0	
	comp=Z,7.0nm,1.2s						
EIL	**Elat**	**36.25**	**317**	LR	LR	17 45 59.8	
	comp=Z,90nm,20.2s,baz=89,slow=34						
BTK	**Batken**	**36.33**	**11**	P	**P**	**17 32 21.4**	**+1.8**
BTK				IAmb	IAmb	17 32 28.2	
	comp=Z,9.4nm,1.4s						
PSI	**Prapat**	**36.37**	**91**	LR	LR	17 44 57.3	
	comp=Z,222nm,19.6s,baz=254,slow=33						
LSA	**Lhasa**	**37.00**	**44**	P	**P**	**17 32 26.2**	**+0.3**
LSA				IAmb	IAmb	17 32 34.0	
	comp=Z,4.6nm,0.9s						
MMAI	**Mount Meron Ar**	**38.13**	**322**	LR	LR	17 47 49.8	
	comp=Z,112nm,19.3s,baz=228,slow=36						
CM31	**Chiang Mai Arr**	**38.25**	**66**	P	**P**	**17 32 37.3**	**+1.2**
CM31				IAmb	IAmb	17 32 39.4	
	comp=Z,15nm,1.5s						
CMAR	**Chiang Mai Arr**	**38.25**	**66**	P	**P**	**17 32 36.5**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=249,slow=9.8,SNR=6.5						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.25**	**66**	P	**P**	**17 32 36.1**	**0.0**
CHTO	**Chiang Mai**	**38.36**	**65**	P	**P**	**17 32 36.8**	**-0.3**
MARD	**Mardin**	**38.38**	**332**	P	**P**	**17 32 38.2**	**+1.1**
MARD				IAmb	IAmb	17 32 41.2	
	comp=Z,4.5nm,0.6s						
LSZ	**Lusaka**	**39.19**	**239**	LR	LR	17 46 56.4	
	comp=Z,119nm,21.0s,baz=66,slow=33						
KK31	**Karatay Array**	**39.24**	**9**	P	**P**	**17 32 44.1**	**+0.1**
KKAR	**Karatay Array**	**39.24**	**9**	P	**P**	**17 32 44.4**	**+0.3**
KKAR	**Karatay Array**	**39.24**	**9**	P	**P**	**17 32 43.9**	**-0.1**
KKAR				IAmb	IAmb	17 32 58.5	
	comp=Z,3.1nm,1.3s						
AAK	**Ala-Archa**	**39.59**	**14**	P	**P**	**17 32 48.8**	**+1.6**
KOPT	**Kop Dagi**	**40.70**	**334**	P	**P**	**17 32 56.1**	**-0.4**
BR131	**Keskin Array S**	**43.83**	**327**	P	**P**	**17 33 21.5**	**-0.4**
BR131				IAmb	IAmb	17 33 22.8	
	comp=Z,3.8nm,0.9s						
BRTR	**Keskin Array B**	**43.83**	**327**	P	**P**	**17 33 21.7**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=141,slow=10.0,SNR=12						
	comp=Z,1.6nm,0.8s						
BRTR	**Keskin Array B**	**43.83**	**327**	P	**P**	**17 33 22.0**	**0.0**
ABKAR	**Akbulak array**	**44.80**	**358**	P	**P**	**17 33 29.7**	**+0.4**
ABKAR	**Akbulak array**	**44.80**	**358**	P	**P**	**17 33 30.4**	**+1.1**
ABKAR				IAmb	IAmb	17 33 31.8	
	comp=Z,5.4nm,1.2s						
MKAR	**Makanchi Array**	**45.62**	**19**	P	**P**	**17 33 33.4**	**-2.5**
	comp=Z,0.7nm,1.0s,baz=206,slow=6.3,SNR=5.6						
MKAR				PcP	**PcP**	**17 35 12.8**	**-1.2**
	comp=Z,0.7nm,1.0s,baz=224,slow=4.0,SNR=4.0						
MKAR				LR	LR	17 53 47.5	
	comp=Z,61nm,18.8s,baz=257,slow=38						
	comp=Z,0.7nm,1.0s						
MK31	**Makanchi Array**	**45.62**	**19**	P	**P**	**17 33 35.8**	**-0.1**
MK31				IAmb	IAmb	17 33 36.8	
	comp=Z,3.1nm,1.4s						
AKTO	**Aktyubinsk**	**46.08**	**356**	LR	LR	17 53 02.8	
	comp=Z,63nm,20.4s,baz=159,slow=36						
LBTB	**Lobatse**	**46.24**	**229**	LR	LR	17 50 04.4	
	comp=Z,109nm,21.5s,baz=1.0,slow=32						
LEM	**Lembang**	**46.37**	**104**	LR	LR	17 49 41.5	
	comp=Z,127nm,18.5s,baz=212,slow=32						
KURBB	**Kurchatov Arra**	**48.04**	**14**	LR	LR	17 54 21.8	
	comp=Z,84nm,21.2s,baz=207,slow=36						
BOSA	**Boshof**	**48.56**	**225**	LR	LR	17 51 55.5	
	comp=Z,109nm,21.0s,baz=19,slow=33						
BVAR	**Borovoye Array**	**48.95**	**6**	LR	LR	17 55 11.5	
	comp=Z,102nm,21.2s,baz=204,slow=37						
BELG	**Belogornoye**	**49.45**	**348**	LR	LR	17 57 08.1	
	comp=Z,35nm,18.1s,baz=140,slow=39						
MLR	**Muntele Rosu**	**51.91**	**328**	P	**P**	**17 34 23.7**	**-0.7**
ARU	**Arti**	**52.03**	**357**	LR	LR	17 59 13.5	
	comp=Z,43nm,18.4s,baz=134,slow=39						
ARU	**Arti**	**52.03**	**357**	P	**P**	**17 34 24.9**	**0.0**
ARU				IAmb	IAmb	17 34 26.8	
	comp=Z,3.4nm,0.8s						
ZAA0	**Zalesovo Array**	**52.69**	**16**	P	**P**	**17 34 29.5**	**-0.4**
ZAA0				IAmb	IAmb	17 34 31.0	
	comp=Z,2.1nm,0.9s						
ZALV	**Zalesovo Beam**	**52.69**	**16**	P	**P**	**17 34 28.2**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=227,slow=7.3,SNR=5.6						
ZALV

	comp=Z,76nm,19.2s,baz=109,slow=36								
KSRS	**Korea Array**	**67.92**	**51**	LR		LR		18 08 32.7	
	comp=Z,36nm,19.8s,baz=250,slow=38								
MDT	**Midelt**	**68.47**	**303**	LR		LR		18 07 01.8	
	comp=Z,32nm,20.0s,baz=102,slow=37								
SIJI	**Sorong**	**68.88**	**93**	LR		LR		18 07 29.5	
	comp=Z,34nm,18.5s,baz=76,slow=37								
ESDC	**Sonseca Array**	**69.20**	**311**	P		**P**		**17 36 21.4**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=89,slow=6.3,SNR=8.1								
	comp=Z,1.4nm,0.9s								
ESDC	**Sonseca Array**	**69.20**	**311**	P		**P**		**17 36 22.1**	**-0.4**
ARCES	**ARCESS Array B**	**69.48**	**347**	LR		LR		18 08 02.5	
	comp=Z,54nm,18.9s,baz=56,slow=37								
MAW	**Mawson**	**71.79**	**180**	LR		LR		18 03 30.9	
	comp=Z,87nm,18.6s,baz=316,slow=32								
EKA	**Eskdalemuir Ar**	**72.75**	**327**	LR		LR		18 09 48.3	
	comp=Z,20nm,19.7s,baz=162,slow=37								
KLR	**Kul'dur**	**73.22**	**40**	LR		LR		18 09 28.7	
	comp=Z,35nm,18.7s,baz=316,slow=36								
WRA	**Warramunga Arr**	**74.51**	**112**	P		**P**		**17 36 54.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=290,slow=5.1,SNR=15								
	comp=Z,1.2nm,0.7s								
WRA	**Warramunga Arr**	**74.51**	**112**	P		**P**		**17 36 55.8**	**+1.1**
WRAB	**Tennant Creek**	**74.52**	**112**	P		**P**		**17 36 56.0**	**+1.2**
WRAB				IAmb		IAmb		17 36 56.7	
	comp=Z,3.5nm,0.8s								
WB2	**Warramunga Arr**	**74.52**	**112**	P		**P**		**17 36 55.7**	**+0.9**
ASAR	**Alice Springs**	**74.83**	**116**	P		**P**		**17 36 55.7**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=290,slow=5.3,SNR=7.9								
ASAR				LR		LR		18 09 39.7	
	comp=Z,50nm,18.0s,baz=86,slow=36								
	comp=Z,0.9nm,0.9s								
YAK	**Yakutsk**	**75.59**	**27**	LR		LR		18 11 27.4	
	comp=Z,69nm,18.6s,baz=269,slow=37								
MJAR	**Matsushiro Arr**	**75.93**	**54**	LR		LR		18 11 58.5	
	comp=Z,49nm,20.4s,baz=253,slow=37								
SPITS	**Spitsbergen Ar**	**77.52**	**351**	LR		LR		18 14 56.4	
	comp=Z,60nm,18.8s,baz=96,slow=38								
TIXI	**Tiksi**	**78.57**	**17**	LR		LR		18 15 24.5	
	comp=Z,48nm,18.7s,baz=188,slow=38								
JCJ	**Chichijima**	**78.84**	**63**	LR		LR		18 13 03.2	
	comp=Z,21nm,18.5s,baz=119,slow=36								
GUMO	**Guam**	**81.57**	**77**	LR		LR		18 11 26.3	
	comp=Z,17nm,20.0s,baz=240,slow=34								
STKA	**Stephens Creek**	**83.04**	**123**	LR		LR		18 10 21.3	
	comp=Z,68nm,20.9s,baz=205,slow=33								
MA2	**Magadan**	**85.39**	**31**	LR		LR		18 17 59.2	
	comp=Z,109nm,19.3s,baz=286,slow=37								
SNAA	**Sanae**	**86.56**	**197**	LR		LR		18 10 22.1	
	comp=Z,63nm,20.6s,baz=107,slow=31								
QSPA	**South Pole Qui**	**94.31**	**180**	LR		LR		18 15 09.4	
	comp=Z,70nm,20.2s,baz=274,slow=32								
VNDA	**Vanda**	**96.24**	**168**	LR		LR		18 14 46.2	
	comp=Z,73nm,19.8s,baz=287,slow=31								
TXAR	**Lajitas Array**	**143.98**	**339**	PKP		PKPab		17 44 49.0	-0.1
	comp=Z,0.3nm,0.9s,baz=33,slow=5.4,SNR=4.0								

*IDC **12** 17:31:39.2±3.7, 58.70N×18.66E, h0km, mbtmp3.2/2, ML2.3/2, Error ellipse: s-maj=43.5km s-min=11.5km az=4.0*
*DNK **12** 17:31:51.9±1.2, 59.85N×19.41E, h0km, ML2.8, Explosion*
*UPP **12** 17:31:52.0±0.1, 59.87N×19.35E, h0km, ML2.3, Explosion*
*HEL **12** 17:31:53.2±0.1, 59.90N×19.30E, h0km, ML1.9, ML2.3(UPP), Explosion*

ISC 12 17:31:50.8±0.7, 59.86N±0.02×19.48E±0.02, h0km, n55, σ0s96/75, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AAL	**Aland**	**0.41**	**39**	P		**Pb**	**17 32 00.6**	**-0.2**
AAL	**Aland**	**0.41**	**39**	*e*P		**Pb**	**17 32 00.6**	**-0.2**
AAL				*e*S		**Sb**	**17 32 06.2**	**-1.3**
NRTU	**Norrtaelje**	**0.47**	**247**	P		**Pg**	**17 31 59.9**	**+0.1**
NRTU				S		**Sg**	**17 32 05.5**	**-0.4**
NRTU	**Norrtaelje**	**0.47**	**247**	P		**Pg**	**17 31 59.9**	**+0.1**
NRTU				S		**Sg**	**17 32 05.5**	**-0.4**
NRTU	**Norrtaelje**	**0.47**	**247**	*i* P		**Pg**	**17 31 59.9**	**+0.1**
NRTU				*i* S		**Sg**	**17 32 05.5**	**-0.4**
GRAU	**Graesoe**	**0.67**	**315**	P		**Pg**	**17 32 03.6**	**+0.1**
GRAU				S		**Sg**	**17 32 12.3**	**+0.1**
GRAU	**Graesoe**	**0.67**	**315**	P		**Pg**	**17 32 03.6**	**+0.1**
GRAU				S		**Sg**	**17 32 12.3**	**+0.1**
GRAU	**Graesoe**	**0.67**	**315**	*i* P		**Pg**	**17 32 03.6**	**+0.1**
GRAU				*i* S		**Sg**	**17 32 12.3**	**+0.1**
FORU	**Forsmark**	**0.84**	**309**	P		**Pg**	**17 32 06.6**	**-0.2**
FORU				S		**Sg**	**17 32 17.7**	**+0.1**
FORU	**Forsmark**	**0.84**	**309**	P		**Pg**	**17 32 06.6**	**-0.2**
FORU				S		**Sg**	**17 32 17.7**	**+0.1**
FORU	**Forsmark**	**0.84**	**309**	*i* P		**Pg**	**17 32 06.6**	**-0.2**
FORU				*i* S		**Sg**	**17 32 17.7**	**+0.1**
FLYU	**Flymyra**	**0.84**	**289**	P		**Pg**	**17 32 06.9**	**-0.1**
FLYU	**Flymyra**	**0.84**	**289**	P		**Pg**	**17 32 06.9**	**-0.1**
FLYU	**Flymyra**	**0.84**	**289**	*i* P		**Pg**	**17 32 06.9**	**-0.1**
UPP	**Uppsala**	**0.94**	**270**	P		**Pg**	**17 32 08.6**	**-0.1**
UPP	**Uppsala**	**0.94**	**270**	*i* P		**Pg**	**17 32 08.6**	**-0.1**
FIBU	**Brunna**	**1.07**	**273**	P		**Pg**	**17 32 10.9**	**-0.5**
FIBU	**Brunna**	**1.07**	**273**	P		**Pg**	**17 32 10.9**	**-0.5**
FIBU	**Brunna**	**1.07**	**273**	*e*P		**Pg**	**17 32 10.9**	**-0.5**
NYNU	**Nynaeshamn**	**1.15**	**222**	P		**Pg**	**17 32 12.5**	**-0.3**
NYNU	**Nynaeshamn**	**1.15**	**222**	P		**Pg**	**17 32 12.5**	**-0.3**
NYNU	**Nynaeshamn**	**1.15**	**222**	*e*P		**Pg**	**17 32 12.5**	**-0.3**
BACU	**Backbrunna**	**1.20**	**271**	P		**Pg**	**17 32 13.1**	**-0.6**
BACU	**Backbrunna**	**1.20**	**271**	P		**Pg**	**17 32 13.1**	**-0.6**
BACU	**Backbrunna**	**1.20**	**271**	*e*P		**Pg**	**17 32 13.1**	**-0.6**
OSTU	**Oestervaala**	**1.23**	**288**	P		**Pg**	**17 32 13.6**	**-0.8**
OSTU	**Oestervaala**	**1.23**	**288**	P		**Pg**	**17 32 13.6**	**-0.8**
OSTU	**Oestervaala**	**1.23**	**288**	*e*P		**Pg**	**17 32 13.6**	**-0.8**
IGGU	**Iggoen**	**1.48**	**314**	P		**Pn**	**17 32 18.1**	**-0.5**
IGGU	**Iggoen**	**1.48**	**314**	P		**Pn**	**17 32 18.1**	**-0.5**
IGGU	**Iggoen**	**1.48**	**314**	*e*P		**Pn**	**17 32 18.1**	**-0.5**
RAF	**Rauma**	**1.62**	**43**	*e*P		**Pg**	**17 32 22.5**	**+0.7**
RAF	**Rauma**	**1.62**	**43**	*e*P		**Pg**	**17 32 22.4**	**+0.5**
RAF				*e*S		**Sg**	**17 32 44.0**	**+1.1**
RAF				MSG			17 32 48.5	
	comp=Z,7.8nm,0.1s							
MEF	**Metsahovi**	**2.49**	**80**	*e*P		**Pb**	**17 32 36.7**	**+0.4**
MEF	**Metsahovi**	**2.49**	**80**	*e*P		**Pb**	**17 32 36.5**	**+0.1**
MEF				*e*S		**Sb**	**17 33 07.4**	**-0.1**
MEF				MSG			17 33 11.4	
	comp=Z,5.9nm,0.2s							
MTSE	**Matsula**	**2.50**	**116**	*e*P		**Pb**	**17 32 37.2**	**+0.6**
MTSE	**Matsula**	**2.50**	**116**	*e*P		**Pb**	**17 32 36.9**	**+0.3**
MTSE				*e*S		**Sg**	**17 33 09.4**	**-1.7**
NUR	**Nurmijrvi**	**2.66**	**74**	*e*P		**Pb**	**17 32 38.8**	**-0.4**
NUR				*e*S		**Sb**	**17 33 11.3**	**-1.1**
SLIT	**Slitere, Latvi**	**2.68**	**146**	*e*P		**Pb**	**17 32 37.9**	**-1.6**
SLIT	**Slitere, Latvi**	**2.68**	**146**	*e*P		**Pb**	**17 32 38.7**	**-0.8**
SLIT				*e*S		**Sb**	**17 33 11.4**	**-1.4**
HEMU	**Hemsoen**	**2.91**	**347**	*e*P		**Pn**	**17 32 39.8**	**+1.6**
HEMU				*e*S		**Sn**	**17 33 14.2**	**+0.4**
HUSU	**Husum**	**3.49**	**358**	*e*P		**Pn**	**17 32 48.4**	**+2.1**
HUSU				*e*S		**Sn**	**17 33 28.5**	**+0.2**
KEF	**Keuruu**	**3.50**	**46**	*e*P		**Pn**	**17 32 48.8**	**+2.4**
FINES	**FINESS Array B**	**3.61**	**61**	Pn		**Pn**	**17 32 50.5**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=240,slow=11,SNR=12							
FINES				Pg		**Pg**	**17 32 57.9**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=240,slow=13,SNR=3.5							
FINES				Sn		**Sg**	**17 33 45.4**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=238,slow=23,SNR=2.4							
	comp=Z,0.6nm,0.4s							
BLEU	**Blekinge**	**4.07**	**210**	*e*P		**Pn**	**17 32 55.2**	**+1.1**
PBUR	**Paburge**	**4.07**	**160**	*e*P		**Pn**	**17 32 57.8**	**+3.6**
BORU	**Boraas**	**4.15**	**240**	*e*P		**Pn**	**17 32 55.8**	**+0.5**
NOA	**NORSAR Array B**	**4.26**	**290**	Pg		**Pn**	**17 32 56.4**	**-0.5**
	baz=117,slow=12,SNR=6.1							
NOA				Lg		Lg	17 33 58.3	
	comp=Z,0.1nm,0.3s,baz=124,slow=22,SNR=1.8							
STRU	**Stroemstad**	**4.32**	**262**	*e*P		**Pn**	**17 32 58.8**	**+1.2**
STRU				*e*S		**Sn**	**17 33 49.6**	**+1.1**
DEL	**Delary**	**4.52**	**224**	*i* P		**Pn**	**17 33 01.0**	**+0.6**
LUNU	**Lund**	**5.33**	**220**	*e*P		**Pn**	**17 33 12.8**	**+1.2**
BSD	**Bornholm Skovb**	**5.36**	**209**	*e*P		**Pn**	**17 33 12.4**	**+0.4**
BSD				IAML			17 34 41.6	
	comp=Z,5.7nm,0.9s							
ISAL	**Salakas**	**5.58**	**138**	*e*P		**Pg**	**17 33 36.6**	**-1.1**
HOMB	**Homborsund**	**5.88**	**259**	*i* P		**Pn**	**17 33 19.1**	**+0.1**
ARCES	**ARCESS Array B**	**10.04**	**12**	Pn		**Pn**	**17 34 15.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=196,slow=14,SNR=15							
	comp=Z,0.5nm,0.3s							

*IDC **12** 17:35:26.0±1.6, 29.03S×112.15W, h0km, mb3.7/2, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=67.0km s-min=40.8km az=135.0*

ISC 12 17:35:26.9±1.8, 29.15S±0.5×112.2W±0.3, h10km, n10, σ0s44/7, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPN	**Rapa Nui**	**3.19**	**52**	Pn		**Pn**	**17 36 17.2**	**0.0**
	6.2nm,0.3s,baz=215,slow=5.4,SNR=1.7							
	19nm,0.4s							
H03N2	**Juan Fernandez**	**28.63**	**107**	T		T	18 11 59.6	
	baz=274,slow=74,SNR=60							
H03N3	**Juan Fernandez**	**28.64**	**107**	T		T	18 12 01.0	
	baz=274,slow=74,SNR=107							
H03N1	**Juan Fernandez**	**28.65**	**107**	T		T	18 12 00.8	
	baz=274,slow=74,SNR=137							
NVAR	**Mina Array Bea**	**67.47**	**355**	P		**P**	**17 46 23.5**	**+0.4**
	0.9nm,0.7s,baz=180,slow=8.8,SNR=6.6							
	0.9nm,0.7s							
PDAR	**Pinedale Array**	**71.59**	**2**	P		**P**	**17 46 48.1**	**-0.4**
	0.3nm,0.6s,baz=171,slow=6.1,SNR=4.7							
	0.3nm,0.6s							
SONM	**Songino Array**	**144.99**	**313**	PKP		**PKPbc**	**17 55 03.1**	**-0.6**
	1.1nm,0.8s,baz=81,slow=1.9,SNR=6.1							
CMAR	**Chiang Mai Arr**	**149.72**	**256**	PKPbc		**PKiKP**	**17 55 18.9**	**+0.3**
	0.3nm,0.3s,baz=166,slow=1.9,SNR=6.0							
BRTR	**Keskin Array B**	**150.03**	**60**	PKPbc		**PKPbc**	**17 55 17.9**	**0.0**
	1.5nm,1.1s,baz=310,slow=5.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**152.30**	**338**	PKPbc		**PKPbc**	**17 55 22.7**	**+0.2**
	0.3nm,0.3s,baz=45,slow=0.4,SNR=2.0							

*IDC **12** 17:35:53.9±1.4, 55.09S×28.26W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=105.0km s-min=35.1km az=101.0*
*NEIC **12** 17:35:59.5±1.3, 55.2S±0.2×28.5W±0.2, h35km±2km, mb4.0/5, Error ellipse: s-maj=40.2km s-min=14.1km az=352.0*

ISC 12 17:35:55.4±1.1, 55.1S±0.1×28.5W±0.1, h10km, n17, σ0s88/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**4.72**	**277**	Pn		**Pn**	**17 37 07.8**	**+1.3**
HOPE				Sn		**Sn**	**17 37 59.3**	**-2.0**
VNA1	**Neumayer--Stat**	**17.93**	**158**	P		**P**	**17 40 04.9**	**-0.1**
VNA3	**Neumayer Olymp**	**18.11**	**160**	P		**Pn**	**17 40 06.6**	**-0.1**
VNA2	**Neumayer--Watz**	**18.33**	**158**	P		**Pn**	**17 40 08.8**	**-0.6**
	baz=319,slow=12							
SNAA	**Sanae**	**19.89**	**156**	P		**P**	**17 40 26.0**	**-0.6**
SNAA	**Sanae**	**19.89**	**156**	P		**P**	**17 40 25.6**	**-1.0**
SNAA				IAmb		IAmb	17 40 31.8	
	comp=Z,9.8nm,1.5s							
PMSA	**Palmer Station**	**19.98**	**227**			**P**	**17 40 28.1**	**+0.7**
PMSA				IAmb		IAmb	17 40 35.4	
	comp=Z,8.5nm,0.8s							
TROLL	**Troll, Antarti**	**21.41**	**154**	P		**P**	**17 40 42.2**	**-0.9**
QSPA	**South Pole Qui**	**35.13**	**180**	P		**P**	**17 42 48.7**	**-0.1**
MAW	**Mawson**	**41.33**	**145**	P		**P**	**17 43 41.1**	**+0.4**
VNDA	**Vanda**	**47.47**	**183**	P		**P**	**17 44 29.9**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=190,slow=8.1,SNR=7.5							
	comp=Z,0.9nm,0.7s							
VNDA	**Vanda**	**47.47**	**183**	P		**P**	**17 44 30.2**	**+0.6**
VNDA				IAmb		IAmb	17 44 50.5	
	comp=Z,2.7nm,1.2s							
H10N1	**ASCENSION HYDR**	**48.45**	**19**	T		T	18 36 43.7	
	baz=191							
H10N3	**ASCENSION HYDR**	**48.45**	**19**	T		T	18 36 45.1	
	baz=191,slow=74							
H10N2	**ASCENSION HYDR**	**48.47**	**19**	T		T	18 36 44.2	
	baz=191,slow=74							
TORD	**Torodi Ar. Bea**	**72.62**	**31**	P		**P**	**17 47 22.5**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=198,slow=6.9,SNR=4.2							
	comp=Z,1.1nm,0.8s							
ILAR	**Eielson Array**	**148.95**	**313**	PKPbc		**PKPbc**	**17 55 41.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=117,slow=1.2,SNR=8.2							

*HVO **12** 17:49:50.3±1.0, 19.429N±0.009×155.615W±0.009, h3km±4km, ML3.4/28, ML3.2/48(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=223.0*

NEIC 12 17:49:50.6±0.9, 19.42N±0.01×155.608W±0.007, h9km±2km, Error ellipse: s-maj=1.6km s-min=0.9km az=197.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MWH	**Moku'aweowe**	**0.06**	**9**			Pg	17 49 53.9	+0.7
MLOA	**Mauna Loa Obse**	**0.12**	**15**			Pg	17 49 55.4	+1.7
MLOA	**Mauna Loa Obse**	**0.12**	**15**	IAML			17 49 55.6	
	comp=E,6µm,0.8s							
MLOA				IAML			17 49 56.1	
	comp=N,11µm,0.8s							
ALEP	**Alea Permanent**	**0.12**	**344**			Pg	17 49 53.5	-0.2
ALEP						Sg	17 49 55.8	-0.1
AIN	**Ainahou**	**0.15**	**109**			Pg	17 49 54.3	+0.3
AIN	**Ainahou**	**0.15**	**109**	IAML			17 49 57.3	
	comp=N,10µm,0.5s							
AIN				IAML			17 49 59.0	
	comp=E,11µm,0.3s							
KHU	**Kahuku**	**0.17**	**182**			Pg	17 49 54.5	+0.1
KHU						Sg	17 49 57.5	+0.5
KHU	**Kahuku**	**0.17**	**182**	IAML			17 49 57.8	
	comp=N,6µm,0.7s							
KHU				IAML			17 49 58.3	
	comp=E,4µm,0.4s							
HMH	**Humu'ula Sheep**	**0.21**	**33**			Pg	17 49 55.1	0.0
HMH						Sg	17 49 58.8	+0.6
MLH	**Mauna Loa**	**0.22**	**71**			Pg	17 49 55.5	+0.3
MLH						Sg	17 49 59.5	+1.2
MLH	**Mauna Loa**	**0.22**	**71**	IAML			17 49 59.7	
	comp=E,3µm,0.7s							
HTC	**Hot Caves**	**0.27**	**133**			Pg	17 49 56.1	+0.1
WRMHI	**West Rim**	**0.29**	**93**			Pg	17 49 56.5	+0.1
WRMHI	**West Rim**	**0.29**	**93**	IAML			17 50 06.0	
	comp=E,7µm,0.6s							
WRMHI				IAML			17 50 06.1	
	comp=N,5µm,1.2s							
UWE	**Uwekahuna**	**0.30**	**90**			Pg	17 49 56.0	-0.5
UWE				IAML			17 50 06.3	
	comp=E,5µm,0.6s							
SDHHI	**Sand Hill**	**0.30**	**96**			Pg	17 49 56.7	+0.1
SDHHI	**Sand Hill**	**0.30**	**96**	IAML			17 50 02.5	
	comp=N,4µm,0.4s							
SDHHI				IAML			17 50 03.3	
	comp=E,5µm,0.7s							
OBL	**Observatory Le**	**0.30**	**91**	Pg		Pg	17 49 56.0	-0.7
NPH	**North Pit**	**0.31**	**92**	Pg		Pg	17 49 55.8	-1.0
NPH				IAML			17 50 05.1	
	comp=N,2µm,0.8s							
HLP	**Hilina Pali**	**0.31**	**114**			Pg	17 49 56.9	+0.1
HLP	**Hilina Pali**	**0.31**	**114**	IAML			17 50 04.0	
	comp=N,4µm,0.6s							
HLP				IAML			17 50 06.2	
	comp=E,6µm,0.8s							
UWB	**Uwekahuna B**	**0.31**	**89**			Pg	17 49 56.8	0.0
UWB	**Uwekahuna B**	**0.31**	**89**	IAML			17 50 07.4	
	comp=E,3µm,0.9s							
RSD	**Rainshed**	**0.31**	**83**			Pg	17 49 57.1	+0.3
RIM	**Rim**	**0.32**	**95**			Pg	17 49 56.9	0.0
RIM						Sg	17 50 01.3	+0.2
RIM	**Rim**	**0.32**	**95**	IAML			17 50 07.2	
	comp=N,4µm,0.9s							
RIM				IAML			17 50 07.6	
	comp=E,3µm,0.7s							
KHLU	**Kahalu`u**	**0.32**	**302**			Pg	17 49 57.4	+0.4
KHLU						Sb	17 50 02.6	-1.2
KHLU	**Kahalu`u**	**0.32**	**302**	IAML			17 50 04.0	
	comp=N,5µm,0.5s							
KHLU				IAML			17 50 07.9	
	comp=E,6µm,0.6s							
SBLHI	**Steaming Bluff**	**0.32**	**89**			Pg	17 49 56.9	-0.1
SBLHI						Sg	17 50 01.8	+0.5
SBLHI	**Steaming Bluff**	**0.32**	**89**	IAML			17 50 07.2	
	comp=N,3µm,1.1s							
SBLHI				IAML			17 50 07.5	
	comp=E,2µm,1.1s							
KKO	**Keanakako`i**	**0.32**	**94**			Pg	17 49 57.0	-0.1
KKO	**Keanakako`i**	**0.32**	**94**	IAML			17 50 04.4	
	comp=E,3µm,1.1s							
KKO				IAML			17 50 07.0	
	comp=N,5µm,0.9s							
HATHI	**Halema'uma'u T**	**0.33**	**90**			Pg	17 49 57.1	-0.1
HATHI	**Halema'uma'u T**	**0.33**	**90**	IAML			17 50 04.5	
	comp=N,3µm,0.8s							
HATHI				IAML			17 50 06.7	
	comp=E,5µm,0.8s							
BYL	**Byron's Ledge**	**0.33**	**92**			Pg	17 49 57.1	0.0
BYL						Sg	17 50 01.6	+0.1
BYL	**Byron's Ledge**	**0.33**	**92**	IAML			17 50 06.0	
	comp=N,2µm,0.6s							
BYL				IAML			17 50 07.8	
	comp=E,2µm,0.8s							
HUH	**Hualalai**	**0.34**	**321**			Pg	17 49 58.1	+0.7
HUH	**Hualalai**	**0.34**	**321**	IAML			17 50 05.5	
	comp=N,3µm,0.4s							
HUH				IAML			17 50 05.7	
	comp=E,4µm,0.3s							
POHA	**Pohakuloa**	**0.34**	**12**			Pg	17 49 56.5	-1.0
POHA				IAML			17 50 08.5	
	comp=E,3µm,0.7s							
PUH	**Pauahi**	**0.37**	**97**			Pg	17 49 57.6	-0.4
PUH						Sg	17 50 02.9	0.0
PUH	**Pauahi**	**0.37**	**97**	IAML			17 50 10.7	
	comp=E,2µm,0.9s							
KNHH	**Kane Nui o Ham**	**0.42**	**96**			Pg	17 49 58.3	-0.5
NPOC	**North of Pu'u**	**0.47**	**93**			Pg	17 50 00.0	+0.3
NPOC						Sg	17 50 06.8	+0.8
NPOC	**North of Pu'u**	**0.47**	**93**	IAML			17 50 07.2	
	comp=E,2µm,1.0s							
NPOC				IAML			17 50 07.5	
	comp=N,2µm,0.6s							
JCUZ	**Jacuzzi**	**0.48**	**94**			Pg	17 49 59.9	0.0
JCUZ						Sb	17 50 07.6	-0.9
HPAH	**Hawaii Prepara**	**0.61**	**352**			Pg	17 50 01.5	-0.9
KHLH	**Kahului Airpor**	**1.66**	**332**	Pn		Pn	17 50 18.2	-1.7

*SKO **12** 17:53:51.7, 42.01N×21.49E, h15km*
*TIR **12** 17:53:51.9, 41.96N×21.48E, h4km, Md3.9*
*BEO **12** 17:53:52.4±0.4, 41.95N×21.43E, h2km±2km, ML3.6/17*
*PDG **12** 17:53:52.8±0.5, 42.01N×21.50E, h11km, MD3.8/6, ML3.8/13, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*LDG **12** 17:53:52.8±0.1, 41.99N×21.45E, h10km, Ml4.0/9, Error ellipse: s-maj=3.4km s-min=1.9km az=36.0*
*SOF **12** 17:53:53.9, 41.95N×21.64E, h11km, MD3.7*
*IDC **12** 17:53:53.2±1.0, 42.01N×21.26E, h0km, mb3.6/8, mbtmp3.6/17, ML3.4/9, MS3.0/7, Error ellipse: s-maj=13.9km s-min=12.8km az=10.0*
*THE **12** 17:53:53.2, 41.99N×21.49E, h1km±2km, ML3.6/8, Error ellipse: s-maj=3.2km s-min=1.0km az=1.0*
*NEIC **12** 17:53:54.8±1.6, 41.99N±0.04×21.45E±0.07, h16km±6km, mb3.8/4, Error ellipse: s-maj=7.6km s-min=6.4km az=106.0*
*PRU **12** 17:53:57.6±0.0, 41.99N×20.95E, h0km, M4.0*

ISC 12 17:53:53.3±0.8, 42.01N±0.02×21.49E±0.02, h6km±5km, n255, σ1s19/329, mb3.7/7, MS3.1/3, 27C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKO	**Skopje**	**0.05**	**225**	*i* Pg		**Pg**	**17 53 54.9**	**+0.1**
SKO				*i* Sg		**Sg**	**17 53 56.0**	**+0.3**
STIP	**Stip**	**0.61**	**121**	*i* Pg		**Pb**	**17 54 06.7**	**+0.3**
STIP				*i* Sg		**Sn**	**17 54 17.7**	**-1.0**
PHP	**Peshkopia**	**0.84**	**248**	P		**Pg**	**17 54 08.1**	**-1.4**
PHP				S		**Sg**	**17 54 20.1**	**-0.4**
PHP	**Peshkopia**	**0.84**	**248**	P		**Pg**	**17 54 08.4**	**-1.2**
	baz=251							
PHP				S		**Sb**	**17 54 20.6**	**-1.5**
	baz=251							
BARS	**Barje**	**0.85**	**17**	*e*Pg		**Pg**	**17 54 08.9**	**-0.7**
BARS				*e*Sg		**Sg**	**17 54 21.4**	**+0.8**
BARS	**Barje**	**0.85**	**17**	*i* Pg		**Pg**	**17 54 08.9**	**-0.7**
BARS				*i* Sg		**Sg**	**17 54 21.3**	**+0.7**
BOSS	**Bosilegrad**	**0.89**	**56**	*e*Pg		**Pg**	**17 54 09.1**	**-0.4**
BOSS				*e*Sg		**Sg**	**17 54 21.4**	**-0.4**
OHR	**Ohrid**	**1.03**	**210**	⇑*i* Pg		**Pg**	**17 54 12.7**	**-0.4**
OHR				*i* Sg		**Sb**	**17 54 26.6**	**-0.8**
OHR				*e*Lg		Lg	17 54 26.9	
	comp=N,5µm,0.5s							
VAY	**Valandovo**	**1.06**	**130**	*i* Pg		**Pg**	**17 54 12.6**	**-1.1**
VAY				*i* Sg		**Sg**	**17 54 27.0**	**-0.5**
VAY				*e*Lg		Lg	17 54 27.9	
	comp=N,1µm,0.6s							
BCI	**Bajram Curri**	**1.11**	**289**	P		**P

BLKB	**Belogradchik**	**1.84**	**28**	⇑P		**Pn**	**17 54 25.1**	**-0.4**
SOH	**Sokhos**	**1.84**	**129**	P		**Pn**	**17 54 25.4**	**-0.1**
SOH	**Sokhos**	**1.84**	**129**	*i* Pn		**Pn**	**17 54 25.4**	**-0.1**
IVAS	**Ivanjica**	**1.85**	**328**	*e*Pg		**Pn**	**17 54 25.1**	**-0.6**
IVAS				*e*Sg		**Sb**	**17 54 51.2**	**+0.1**
HORT	**Hortiatis**	**1.86**	**139**	P		**Pn**	**17 54 25.5**	**-0.3**
ZAGS	**Zajecar**	**1.89**	**17**	*e*Pn		**Pb**	**17 54 27.8**	**-0.4**
ZAGS				*e*Sn		**Sb**	**17 54 51.5**	**-0.5**
NVR	**Nevrokopi**	**1.90**	**109**	P		**Pn**	**17 54 25.8**	**-0.5**
NVR				S		**Sb**	**17 54 51.2**	**-1.2**
	comp=N,852nm,1.0s							
BUM	**Brajici-Budva**	**1.95**	**280**	⇓*i* Pn		**Pb**	**17 54 27.6**	**-1.7**
BUM				*e*Sn		**Sg**	**17 54 55.0**	**-1.0**
GRUS	**Gruza**	**1.96**	**344**	*e*Pn		**Pn**	**17 54 26.9**	**-0.3**
GRUS				*e*Sn		**Sb**	**17 54 53.3**	**-1.0**
LSK	**Leskovik**	**1.97**	**200**	P		**Pn**	**17 54 26.9**	**-0.5**
LSK				S		**Sb**	**17 54 53.8**	**-0.7**
	comp=N,3µm,0.7s							
LSK	**Leskovik**	**1.97**	**200**	P		**Pg**	**17 54 30.1**	**-1.0**
	baz=201							
LSK				S		**Sg**	**17 54 57.9**	**+1.2**
	baz=201							
CEME	**Cevo**	**1.98**	**287**	⇑*i* Pn		**Pn**	**17 54 28.0**	**+0.5**
CEME				*i* Sn		**Sb**	**17 54 55.1**	**+0.3**
NKY	**Niksic**	**2.01**	**294**	*e*Pn		**Pn**	**17 54 28.3**	**+0.3**
NKY				*i* Sn		**Sb**	**17 54 56.0**	**+0.2**
NKME	**Niksic**	**2.02**	**293**	⇑*i* Pn		**Pn**	**17 54 28.3**	**+0.2**
NKME				*i* Sn		**Sb**	**17 54 56.6**	**+0.6**
PLE	**Pljevlja**	**2.04**	**311**	*e*Pn		**Pn**	**17 54 28.5**	**+0.2**
PLE				*i* Sn		**Sb**	**17 54 56.3**	**-0.1**
LIT	**Litokhoron**	**2.05**	**158**	Pn		**Pn**	**17 54 27.7**	**-0.7**
LIT	**Litokhoron**	**2.05**	**158**	*i* Pn		**Pn**	**17 54 27.9**	**-0.5**
PGB	**Panagyurishte**	**2.06**	**74**	*i* P		**Pn**	**17 54 29.1**	**+0.5**
VLO	**Vlora**	**2.15**	**225**			**Pn**	**17 54 29.9**	**+0.2**
VLO	**Vlora**	**2.15**	**225**	P		**Pg**	**17 54 34.1**	**-0.3**
	baz=226							
VLO				S		**Sg**	**17 55 03.7**	**+1.4**
	baz=226							
RUDO	**Rudo**	**2.24**	**317**	*e*Pn		**Pn**	**17 54 29.9**	**-1.1**
UPM	**Unac-Piva**	**2.25**	**303**	*e*Pn		**Pn**	**17 54 31.8**	**+0.5**
UPM	**Unac-Piva**	**2.25**	**303**	*e*Pn		**Pn**	**17 54 31.6**	**+0.3**
UPM				*i* Sn		**Sb**	**17 55 01.7**	**-0.9**
HCY	**Herceg Novi**	**2.27**	**282**	*e*Pn		**Pb**	**17 54 32.7**	**-1.9**
HCY	**Herceg Novi**	**2.27**	**282**	*e*Pn		**Pn**	**17 54 31.9**	**+0.6**
HCY				*i* Sn		**Sb**	**17 55 01.6**	**-1.3**
SVIS	**Svilajnac**	**2.27**	**355**	*e*Pn		**Pn**	**17 54 31.9**	**+0.6**
TRUS	**Trudelj**	**2.35**	**341**	*e*Pn		**Pn**	**17 54 32.1**	**-0.4**
TRUS				*e*Sn		**Sn**	**17 55 02.6**	**+0.9**
BRY	**Bratogost**	**2.36**	**293**	*e*Pn		**Pb**	**17 54 34.2**	**-2.1**
BRY	**Bratogost**	**2.36**	**293**	*e*Pn		**Pn**	**17 54 32.8**	**+0.1**
BRY				*i* Sn		**Sb**	**17 55 03.9**	**-1.8**
DIVS	**Divibare**	**2.36**	**333**	Pn		**Pn**	**17 54 31.3**	**-1.4**
DIVS	**Divibare**	**2.36**	**333**	*e*Pn		**Pn**	**17 54 32.2**	**-0.5**
DIVS	**Divibare**	**2.36**	**333**	*e*Pn		**Pn**	**17 54 32.2**	**-0.5**
DIVS				*e*Sn		**Sn**	**17 55 03.3**	**+1.3**
PLD	**Plovdiv**	**2.40**	**87**	*e*Pn		**Pn**	**17 54 33.6**	**+0.4**
PLD				*e*Sn		**Sb**	**17 55 04.6**	**-2.1**
PLD	**Plovdiv**	**2.40**	**87**	*i* Pn		**Pn**	**17 54 33.5**	**+0.4**
PLD	**Plovdiv**	**2.40**	**87**	*i* P		**Pn**	**17 54 33.8**	**+0.7**
SRN	**Sarande**	**2.40**	**208**	P		**Pb**	**17 54 35.0**	**-2.0**
	baz=209							
SRN				S		**Sb**	**17 55 07.6**	**+0.8**
	baz=209							
BBLS	**Lazići**	**2.41**	**321**	*e*Pn		**Pn**	**17 54 33.2**	**-0.1**
KUBS	**Kucevo**	**2.41**	**3**	*e*Pn		**Pn**	**17 54 31.9**	**-1.4**
KUBS				*e*Sn		**Sb**	**17 55 06.0**	**-1.1**
RZN	**Rozhen**	**2.43**	**96**	*i* P		**Pn**	**17 54 34.2**	**+0.4**
KEK	**Kerkira**	**2.62**	**210**	Pn		**Pn**	**17 54 36.8**	**+0.5**
DJES	**Djerdap**	**2.76**	**16**	⇑P		**Pn**	**17 54 38.3**	**+0.1**
MDVR	**Moldovita**	**2.78**	**3**	⇑P		**Pn**	**17 54 32.4**	**-1.1**
RMGR	**Halanga-Turnu**	**2.80**	**18**	⇑P		**Pn**	**17 54 38.0**	**-0.7**
TEKS	**Tekeris**	**2.92**	**331**	*e*Pn		**Pn**	**17 54 39.3**	**-1.0**
TEKS				*e*Sn		**Sn**	**17 55 15.2**	**-0.5**
STON	**Ston**	**2.93**	**288**	*e*Pn		**Pn**	**17 54 40.3**	**-0.2**
SRE	**Strehaia**	**2.94**	**25**	⇑P		**Pn**	**17 54 41.0**	**+0.5**
HERR	**Herculane**	**2.95**	**13**	⇑P		**Pn**	**17 54 40.3**	**-0.5**
SCTE	**Santa Cesarea**	**2.99**	**231**	Pn		**Pn**	**17 54 41.1**	**-0.1**
RDO	**Rodhopi**	**3.16**	**104**			**Pn**	**17 54 43.5**	**-0.1**
BLJ	**Bijeljina**	**3.21**	**331**	*e*Pn		**Pn**	**17 54 42.5**	**-1.8**
FRGS	**Fruska Gora**	**3.38**	**339**	⇑P		**Pn**	**17 54 45.6**	**-1.0**
FRGS	**Fruska Gora**	**3.38**	**339**	*e*Pn		**Pn**	**17 54 45.8**	**-0.8**
FRGS	**Fruska Gora**	**3.38**	**339**	*e*Pn		**Pn**	**17 54 46.0**	**-0.6**
ALN	**Alexandroupoli**	**3.60**	**106**	Pn		**Pn**	**17 54 49.6**	**0.0**
BZS	**Buzias**	**3.61**	**1**	⇑P		**Pn**	**17 54 48.7**	**-1.1**
DOB	**Doboj**	**3.68**	**319**	*e*Pn		**Pn**	**17 54 49.7**	**-1.0**
SRKY	**Kupres RS**	**3.78**	**304**	*e*Pn		**Pn**	**17 54 52.0**	**-0.2**
LOT	**Lotru**	**3.82**	**25**	⇑P		**Pn**	**17 54 52.3**	**-0.5**
SGDR	**Singureni**	**3.96**	**55**	⇑P		**Pn**	**17 54 55.1**	**+0.4**
DEV	**Deva**	**4.01**	**14**	⇓P		**Pn**	**17 54 55.7**	**+0.4**
MGRS	**Mrkonjic Grad**	**4.02**	**308**	*e*Pn		**Pn**	**17 54 57.0**	**+1.5**
ARR	**Arges**	**4.06**	**33**	⇑P		**Pn**	**17 54 56.8**	**+0.7**
BLY	**Banja Luka**	**4.16**	**313**	*e*Pn		**Pn**	**17 54 57.8**	**+0.4**
A052A	**Srbac**	**4.23**	**318**	*e*Pn		**Pn**	**17 54 57.9**	**-0.4**
SIRR	**Siria**	**4.26**	**2**	⇑P		**Pn**	**17 54 58.4**	**-0.4**
SGRT	**San Giovanni R**	**4.29**	**269**	Pn		**Pn**	**17 54 58.8**	**-0.5**
A050A	**Klekovaca**	**4.38**	**306**	*e*Pn		**Pn**	**17 55 01.3**	**+0.8**
A051A	**Mrakovica**	**4.49**	**314**	*e*Pn		**Pn**	**17 55 02.1**	**+0.2**
TIP	**Timpagrande**	**4.58**	**233**			**Pn**	**17 55 02.1**	**-1.0**
MORH	**Mrgy, Hungar**	**4.68**	**335**	⇓P		**Pn**	**17 55 03.4**	**-1.0**
MORH	**Mrgy, Hungar**	**4.68**	**335**	P		**Pn**	**17 55 04.0**	**-0.4**
MORH				S		**Sn**	**17 55 58.6**	**-0.4**
CUC	**Castrocucco**	**4.74**	**247**			**Pn**	**17 55 05.3**	**0.0**
MLR	**Muntele Rosu**	**4.75**	**41**	⇑P		**Pn**	**17 55 06.0**	**+0.4**
MLR	**Muntele Rosu**	**4.75**	**41**	Pn		**Pn**	**17 55 08.8**	**+3.2**
	comp=N,0.6nm,0.3s,baz=226,slow=12,SNR=3.8							
MLR				Lg		Lg	17 56 26.5	
	comp=N,1.6nm,0.3s,baz=264,slow=10,SNR=5.0							
MLR				LR		LR	17 57 05.2	
	comp=N,164nm,19.8s,baz=353,slow=40							
	comp=N,3.5nm,0.6s							
MLR	**Muntele Rosu**	**4.75**	**41**			**Pn**	**17 55 06.2**	**+0.6**
KOVH	**Kovagotottos**	**4.75**	**330**	P		**Pn**	**17 55 05.1**	**-0.4**
KOVH				S		**Sn**	**17 56 01.6**	**+0.7**
ITM	**Ithomi**	**4.83**	**176**	Pn		**Pn**	**17 55 08.3**	**+1.6**
CJR	**Cluj-Napoca**	**4.94**	**17**	⇑P		**Pn**	**17 55 08.4**	**+0.2**
COVR	**Voineasa-Covas**	**5.13**	**40**	⇑P		**Pn**	**17 55 11.8**	**+1.0**
PAOL	**Paolisi**	**5.28**	**262**			**Pn**	**17 55 12.2**	**-0.6**
PLOR	**Plostina**	**5.36**	**42**	⇑P		**Pn**	**17 55 15.2**	**+1.4**
BSZH	**Besenyszg**	**5.36**	**351**	P		**Pn**	**17 55 14.6**	**+0.8**
VRI	**Vrincioaia**	**5.40**	**43**	⇑P		**Pn**	**17 55 15.4**	**+0.9**
TIH	**Tihany**	**5.53**	**334**	P		**Pn**	**17 55 16.6**	**+0.5**
TIRR	**Tirgusor**	**5.62**	**62**	Pn		**Pn**	**17 55 17.9**	**+0.5**
CEL	**Celeste**	**5.69**	**231**	Pn		**Pn**	**17 55 15.8**	**-2.6**
BOJS	**Bojanci**	**5.71**	**310**	*e*Pn		**Pn**	**17 55 19.0**	**+0.4**
BUD	**Budapest**	**5.75**	**343**	P		**Pn**	**17 55 18.9**	**-0.3**
BUD				S		**Sn**	**17 56 26.8**	**+1.4**
CFR	**Carcaliu**	**5.78**	**54**	⇑P		**Pn**	**17 55 20.8**	**+1.2**
CRES	**Cresnjev**	**5.79**	**313**	*i* Pn		**Pn**	**17 55 19.9**	**+0.1**
TPGR	**Topolog**	**5.80**	**58**	⇑P		**Pn**	**17 55 20.4**	**+0.5**
CSKK	**Cskako**	**5.83**	**338**	P		**Pn**	**17 55 21.0**	**+0.7**
CSKK				S		**Sn**	**17 56 27.8**	**+0.4**
MPLH	**Magyarpolny**	**5.88**	**333**	P		**Pn**	**17 55 21.2**	**+0.2**
MPLH				S		**Sn**	**17 56 29.3**	**+0.6**
CAMP	**Campotosto**	**6.01**	**278**			**Pn**	**17 55 23.1**	**+0.1**
AQU	**L'Aquila**	**6.02**	**276**			**Pn**	**17 55 22.7**	**-0.2**
PSZ	**Piszkesteto**	**6.02**	**350**	Pn		**Pn**	**17 55 21.4**	**-1.5**
EGYH	**Egyhazaskeszo**	**6.17**	**333**	P		**Pn**	**17 55 26.0**	**+1.1**
GROS	**Grobnik**	**6.19**	**318**	*i* Pn		**Pn**	**17 55 24.6**	**-0.6**
BURAR	**Bucovina Array**	**6.20**	**24**	Pn		**Pn**	**17 55 25.3**	**-0.3**
BUR08	**Bucovina Ar. S**	**6.22**	**24**			**Pn**	**17 55 24.9**	**-1.0**
SRO	**Srobarova**	**6.23**	**340**	*e*PN		**Pn**	**17 55 28.4**	**+2.7**
SRO				*e*SN		**Sn**	**17 56 41.3**	**+4.1**
NRCA	**Norcia**	**6.25**	**280**			**Pn**	**17 55 25.9**	**-0.2**
FDMO	**Fiordimonte**	**6.29**	**282**			**Pn**	**17 55 26.6**	**0.0**
CEY	**Cerknica**	**6.32**	**309**	*e*Pn		**Pn**	**17 55 27.4**	**+0.4**
MANT	**Manisa**	**6.45**	**121**	Pn		**Pn**	**17 55 28.9**	**-0.1**
SKDS	**Skadanscina**	**6.46**	**306**	*e*Pn		**Pn**	**17 55 29.2**	**+0.2**
KECS	**Kecovo**	**6.51**	**354**	*e*PN		**Pn**	**17 55 32.9**	**+3.2**
SOKA	**Soboth**	**6.57**	**317**	*e*Pn		**Pn**	**17 55 30.5**	**-0.1**
	comp=N,3.9nm,0.3s,SNR=12							
SOKA				*e*Sn		**Sn**	**17 56 44.4**	**-1.4**
	comp=N,4.1nm,0.5s							
CESX	**Cesi**	**6.63**	**278**			**Pn**	**17 55 31.5**	**+0.2**
OBKA	**Obir**	**6.71**	**314**	*e*Pn		**Pn**	**17 55 32.3**	**-0.2**
OBKA	**Obir**	**6.71**	**314**	*e*Pn		**Pn**	**17 55 33.4**	**+0.9**
	comp=N,2.4nm,0.3s,SNR=8.9							
MURB	**Monte Urbino**	**6.73**	**284**			**Pn**	**17 55 32.6**	**-0.1**
ARSA	**Arzberg**	**6.75**	**323**	*i* Pn		**Pn**	**17 55 33.2**	**+0.3**
	comp=N,20nm,0.3s,SNR=25							
ARSA				*i* Sn		**Sn**	**17 56 48.5**	**-1.7**
	comp=N,11nm,0.5s							
VYHS	**Vyhne**	**6.75**	**345**	*e*PN		**Pn**	**17 55 33.3**	**+0.3**
VYHS				*e*SN		**Sn**	**17 56 49.3**	**-0.8**
RONA	**Rosalia, Austr**	**6.78**	**329**	*e*Pn		**Pn**	**17 55 34.0**	**+0.6**
	comp=N,1.5nm,0.2s,SNR=5.5							
CRVS	**Cervenica-Dubn**	**6.90**	**360**	*e*PN		**Pn**	**17 55 35.1**	**+0.2**
ZST	**Bratislava**	**6.92**	**335**	*e*PN		**Pn**	**17 55 36.5**	**+1.2**
ZST				*e*SN		**Sn**	**17 56 53.7**	**-0.6**
SABO	**M.te Sabotino**	**6.94**	**308**			**Pn**	**17 55 36.4**	**+0.9**
KOLS	**Kolonicke sedl**	**6.95**	**4**	*e*PN		**Pn**	**17 55 37.3**	**+1.6**
MODS	**Modra-Piesok**	**7.03**	**336**	*e*PN		**Pn**	**17 55 37.7**	**+1.0**
MODS				*e*SN		**Sn**	**17 56 56.6**	**-0.3**
BORA	**Eskisehir**	**7.11**	**104**	Pn		**Pn**	**17 55 39.0**	**+0.9**
CONA	**Conrad Observa**	**7.14**	**328**	*e*Pn		**Pn**	**17 55 38.3**	**0.0**
	comp=N,2.1nm,0.3s,SNR=5.2							
CONA				*i* Sn		**Sn**	**17 57 01.7**	**+1.9**
	comp=N,6.1nm,0.5s							
LATE	**Laterza**	**7.20**	**278**	Pn		**Pn**	**17 55 36.8**	**-2.4**
PRED	**Cave del Predi**	**7.21**	**311**			**Pn**	**17 55 40.6**	**+1.2**
IDI	**Anoyia**	**7.22**	**157**	Pn		**Pn**	**17 55 40.8**	**+1.4**
	comp=N,1.2nm,0.3s,baz=322,slow=12,SNR=9.3							
IDI				Sn		**Sn**	**17 56 59.9**	**-1.9**
	comp=N,0.1nm,0.3s,baz=36,slow=17,SNR=2.1							
	comp=N,8.4nm,0.8s							
LANS	**Liptovska Anna**	**7.28**	**349**	*e*PN		**Pn**	**17 55 42.6**	**+2.3**
JAVC	**Velka Javorina**	**7.36**	**340**	*e*PN		**Pn**	**17 55 42.1**	**+0.8**
STAL	**STALIGIAL**	**7.61**	**307**			**Pn**	**17 55 44.4**	**-0.3**
CLUD	**Cludinico**	**7.61**	**309**			**Pn**	**17 55 46.5**	**+1.7**
OSSC	**Osservatorio P**	**7.69**	**285**	Pn		**Pn**	**17 55 44.8**	**-1.0**
KBA	**Koelnbreinsper**	**7.71**	**314**	*e*Pn		**Pn**	**17 55 47.2**	**+0.9**
	comp=N,2.2nm,0.2s,SNR=9.6							
MOA	**Molln**	**7.77**	**321**	*e*Pn		**Pn**	**17 55 48.1**	**+1.2**
	comp=N,0.6nm,0.1s							
MOA				*e*Sn		**Sn**	**17 57 11.6**	**-3.5**
	comp=N,8.5nm,0.4s							
CIMO	**Cimolais**	**7.80**	**307**			**Pn**	**17 55 47.4**	**+0.1**
TEOL	**Teolo**	**7.86**	**299**	Pn		**Pn**	**17 55 46.7**	**-1.5**
KRUC	**Moravsky**	**7.91**	**335**	*e*PN		**Pn**	**17 55 49.0**	**+0.2**
BIOA	**Bad Ischl, Aus**	**7.96**	**318**	*e*Pn		**Pn**	**17 55 50.4**	**+0.9**
	comp=N,2.8nm,0.3s							
BIOA				*e*Sn		**Sn**	**17 57 17.8**	**-2.1**
	comp=N,3.5nm,0.3s							
ABTA	**Abfaltersbach**	**7.98**	**309**	*i* Pn		**Pn**	**17 55 51.0**	**+1.1**
	comp=N,6.5nm,0.5s,SNR=4.8							
ZCCA	**Zocca**	**8.03**	**290**			**Pn**	**17 55 52.0**	**+1.5**
VRAC	**Vranov**	**8.06**	**337**	Pn		**Pn**	**17 55 50.5**	**-0.4**
	comp=N,0.3nm,0.3s,baz=144,slow=16,SNR=5.1							
	comp=N,1.7nm,0.5s							
VRAC	**Vranov**	**8.06**	**337**	*e*PN		**Pn**	**17 55 50.5**	**-0.4**
CTI	**Castel Tesino**	**8.16**	**303**	Pn		**Pn**	**17 55 51.6**	**-0.7**
MORC	**Moravsky Berou**	**8.24**	**342**	Pn		**Pn**	**17 55 53.6**	**+0.2**
MORC	**Moravsky Berou**	**8.24**	**342**	*e*PN		**Pn**	**17 55 53.0**	**-0.4**
OJC	**Ojcow**	**8.30**	**352**	Pn		**Pn**	**17 55 54.7**	**+0.6**
VLC	**Villacollemand**	**8.40**	**289**	Pn		**Pn**	**17 55 56.3**	**+0.7**
AKAS	**Kas**	**8.54**	**130**	Pn		**Pn**	**17 55 59.4**	**+1.7**
PRMA	**PARMA**	**8.59**	**292**	Pn		**Pn**	**17 55 57.5**	**-0.6**
KRLC	**Kraliky**	**8.71**	**340**	*e*PN		**Pn**	**17 56 02.9**	**+3.1**
KRLC				*e*SN		**Sn**	**17 57 34.5**	**-3.7**
GERES	**GERESS Array B**	**8.76**	**324**	Pn		**Pn**	**17 56 01.1**	**+0.6**
	comp=N,0.3nm,0.3s,baz=145,slow=14,SNR=9.5							
GERES				Sn		**Sn**	**17 57 39.0**	**-0.6**
	baz=115,slow=22							
	comp=N,0.5nm,0.4s							
WTTA	**Wattenberg**	**8.77**	**310**	*e*Pn		**Pn**	**17 56 01.6**	**+0.8**
	comp=N,4.0nm,0.3s							
WTTA				*e*Sn		**Sn**	**17 57 42.3**	**+2.3**
	comp=N,7.2nm,0.6s							
WATA	**Walderalm**	**8.84**	**310**	*e*Pn		**Pn**	**17 56 02.2**	**+0.5**
	comp=N,6.1nm,0.5s							
KHC	**Kasperske Hory**	**9.02**	**325**			**Pn**	**17 56 05.4**	**+1.2**
KHC	**Kasperske Hory**	**9.02**	**325**	*e*PN		**Pn**	**17 56 05.5**	**+1.4**
KHC				x		x	17 56 16.0	
KHC				*e*SN		**Sn**	**17 57 40.6**	**-5.5**
MSSA	**Maissana**	**9.05**	**289**	Pn		**Pn**	**17 56 04.5**	**-0.1**
DPC	**Dobruska-Polom**	**9.08**	**339**	*e*SN		**Sn**	**17 57 43.3**	**-4.1**
MOTA	**Moosalm**	**9.12**	**309**	*i* Pn		**Pn**	**17 56 05.6**	**0.0**
	comp=N,3.3nm,0.5s							
MOTA				*i* Sn		**Sn**	**17 57 49.5**	**+1.0**
	comp=N,7.6nm,0.9s							
FETA	**Feichten**	**9.17**	**307**	*i* Pn		**Pn**	**17 56 07.2**	**+0.9**
	comp=N,5.8nm,0.8s,SNR=4.5							
FETA				*i* Sn		**Sn**	**17 57 52.0**	**+2.1**
	comp=N,2.6nm,0.7s							
PGF	**Pioggiola**	**9.27**	**278**	*e*P		**Pn**	**17 56 09.6**	**+1.9**
PGF				*e*Sn		Sn	17 57 42.2	-10
	comp=N,13nm,0.9s							
PGF				*e*Sg			17 58 43.0	
	comp=N,44nm,1.2s							
BRTR	**Keskin Array B**	**9.49**	**100**	Pn		**Pn**	**17 56 11.1**	**+0.5**
	comp=N,0.2nm,0.3s,baz=278,slow=11,SNR=11							
BRTR				LR		LR	18 00 15.5	
	comp=N,79nm,20.6s,baz=304,slow=40							
DAVOX	**Davos/Dischmat**	**9.58**	**304**	Pn		**Pn**	**17 56 11.4**	**-0.5**
	comp=N,0.4nm,0.3s,baz=149,slow=16,SNR=7.0							
DAVOX				Sn		**Sn**	**17 57 58.0**	**-1.9**
	baz=342,slow=23							
	comp=N,4.2nm,0.7s							
SBF	**Sospel**	**10.47**	**285**	*e*P		**Pn**	**17 56 26.1**	**+2.1**
SBF				*e*Sn		Sn	17 58 10.8	-11
	comp=N,8.5nm,0.7s							
MBDF	**Montbardon**	**11.05**	**289**	*e*Pn		**Pn**	**17 56 29.3**	**-2.7**
MBDF				*e*Sn		Sn	17 58 24.6	-11
	comp=N,12nm,1.1s							
SENIN	**Lac Senin/Sane**	**11.08**	**298**	Pn		**Pn**	**17 56 31.7**	**-0.7**
LMR	**La Mourre**	**11.11**	**282**	*e*P		**Pn**	**17 56 34.5**	**+1.8**
LMR				*e*Sn		Sn	17 58 25.9	-11
	comp=N,37nm,1.5s							
BNI	**Bardonecchia**	**11.17**	**291**	Pn		**Pn**	**17 56 34.9**	**+1.2**
LPG	**La Plagne**	**11.21**	**293**	*e*P		**Pn**	**17 56 35.8**	**+1.4**
LPG				*e*Sn		Sn	17 58 29.2	-11
	comp=N,9.1nm,0.8s							
BFO	**Black Forest**	**11.23**	**309**	Pn		**Pn**	**17 56 33.5**	**-0.8**
LPL	**La Plagne**	**11.23**	**293**	*e*P		**Pn**	**17 56 36.5**	**+1.9**
LPL				*e*Sn		Sn	17 58 29.2	-11
	comp=N,14nm,0.9s							
KEST	**Kesra**	**11.34**	**240**	Pn		**Pn**	**17 56 36.4**	**+0.4**
	comp=N,0.1nm,0.3s,baz=277,slow=16,SNR=2.1							
	comp=N,1.7nm,0.9s							
ORIF	**Oris-en-Rattie**	**11.71**	**290**	*e*P		**Pn**	**17 56 43.2**	**+2.2**
ORIF				*e*Sn		Sn	17 58 40.7	-11
	comp=N,3.7nm,0.5s							
CDF	**Champ du Feu**	**11.88**	**307**	*e*P		**Pn**	**17 56 45.7**	**+2.3**
CABF	**La Chapelle**	**11.95**	**298**	*e*P		**Pn**	**17 56 46.0**	**+1.8**
HAU	**Haudompre**	**12.27**	**304**	*e*P		**Pn**	**17 56 50.6**	**+2.0**
VIVF	**Saint-Julien-l**	**12.55**	**289**	*e*Pn		**Pn**	**17 56 49.7**	**-2.7**
LASF	**Ste Croix**	**13.06**	**285**	*e*P		**Pn**	**17 57 01.2**	**+1.8**
SMF	**Signal de Mont**	**13.45**	**296**	*e*P		**Pn**	**17 57 06.0**	**+1.3**
SMF				*e*Sn		Sn	17 59 21.1	-13
	comp=N,1.3nm,0.3s							
LOR	**Lormes**	**13.60**	**299**	*e*P		**Pn**	**17 57 08.2**	**+1.5**
	baz=108							
SSF	**Saint Saulge**	**13.78**	**298**	*e*P		**Pn**	**17 57 09.8**	**+0.7**
GIVF	**Givet**	**14.10**	**311**	*e*P		**Pn**	**17 57 14.8**	**+1.3**
BGF	**Bois d'Agland**	**14.10**	**295**	*e*P		**Pn**	**17 57 15.1**	**+1.6**
TCF	**Toulx Ste Croi**	**14.48**	**294**	*e*P		**Pn**	**17 57 19.9**	**+1.1**
KBZ	**Khabaz**	**15.79**	**77**	LR		LR	18 06 41.5	
	comp=N,34nm,18.4s,baz=206,slow=48							
MFF	**Saint Martin d**	**16.14**	**294**	*e*P		**Pn**	**17 57 41.0**	**+0.3**
ETSF	**Etsaut**	**16.29**	**281**	*e*P		**Pn**	**17 57 43.1**	**+0.3**
LDF	**La Druitiere**	**16.54**	**301**	*e*P		**Pn**	**17 57 46.3**	**+0.5**
HFS	**Hagfors**	**18.77**	**348**	P		**Pn**	**17 58 13.3**	**-0.1**
	comp=N,0.1nm,0.3s,baz=152,slow=13,SNR=4.7							
	comp=N,0.8nm,0.5s							
ESDC	**Sonseca Array**	**19.38**	**272**	P		**P**	**17 58 18.7**	**-1.1**
	comp=N,0.2nm,0.3s,baz=77,slow=13,SNR=2.2							
ESDC				LR		LR	18 06 20.8	
	comp=N,44nm,18.2s,baz=106,slow=39							
	comp=N,0.4nm,0.7s							
FINES	**FINESS Array B**	**19.66**	**7**	P		**P**	**17 58 22.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=174,slow=14,SNR=1.4							
	comp=N,0.9nm,0.7s							
NC405	**NORSAR Array S**	**20.03**	**346**	P		**P**	**17 58 25.5**	**-1.2**
NB2	**NORSAR Subarra**	**20.06**	**345**	P		**P**	**17 58 26.1**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=157,slow=11							
NOA	**NORSAR Array B**	**20.06**	**345**	P		**P**	**17 58 26.1**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=155,slow=9.2,SNR=6.5							
NOA				LR		LR	18 07 16.6	
	comp=Z,24nm,21.7s,baz=110,slow=40							
	comp=Z,0.6nm,0.5s							
EKA	**Eskdalemuir Ar**	**20.89**	**318**	P		**P**	**17 58 34.9**	**-1.2**
	comp=Z,7.2nm,0.9s,baz=115,slow=11,SNR=9.9							
	comp=Z,7.2nm,0.9s							
MDT	**Midelt**	**22.59**	**255**	P		**P**	**17 58 53.0**	**-1.7**
	comp=Z,2.7nm,0.8s,baz=87,slow=12,SNR=5.1							
	comp=Z,2.7nm,0.8s							
ARCES	**ARCESS Array B**	**27.67**	**3**	P		**P**	**17 59 42.3**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=197,slow=12,SNR=0.8							
	comp=Z,0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**33.51**	**217**	P		**P**	**18 00 32.8**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=29,slow=7.0,SNR=4.4							
	comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**34.18**	**54**	LR		LR	18 15 15.1	
	comp=Z,34nm,19.0s,baz=224,slow=37							
KK31	**Karatay Array**	**35.72**	**71**	P		**P**	**18 00 51.8**	**-0.8**
KK31				lAmb		lAmb	18 00 52.9	
	comp=Z,1.6nm,1.1s							
KKAR	**Karatay Array**	**35.72**	**71**	P		**P**	**18 00 52.2**	**-0.4**
KKAR	**Karatay Array**	**35.72**	**71**	P		**P**	**18 00 51.8**	**-0.8**
KKAR				lAmb		lAmb	18 00 52.9	
	comp=Z,1.6nm,1.1s							
ZALV	**Zalesovo Beam**	**42.65**	**51**	P		**P**	**18 01 53.2**	**+2.8**
	comp=Z,0.9nm,0.5s,baz

comp=Z,2.2nm,0.3s,baz=21
AAA Alma-Ata 8.34 32 *e*PN **Pn** 18 22 50.8 -0.6
AAA Alma-Ata 8.34 32 *e*P **Pn** 18 22 50.8 -0.6
baz=32
MDOK Medeo 8.36 33 PN **Pn** 18 22 51.8 0.0
MDOK Medeo 8.36 33 *e*P **Pn** 18 22 50.9 -1.0
baz=33
MDOK *i* S **Sn** 18 24 24.3 -0.5
baz=33
MDOK *e*S **Sn** 18 24 24.4 -0.5
baz=33
MDOK Medeo 8.36 33 ⇑P **Pn** 18 22 52.5 +0.7
comp=Z,23nm,0.8s
MDOK ⇓S **Sn** 18 24 23.7 -1.1
comp=Z,13nm,0.8s
DDI Dehra Dun 8.51 133 *e*P **Pn** 18 22 51.6 -2.3
DDI *e*S **Sn** 18 24 23.1 -5.5
DDI IAML 18 24 32.4
comp=E,127nm,0.6s
KUU Kurty 8.67 28 *e*PN **Pn** 18 22 54.8 -1.0
KUU pmax pmax
comp=Z,4.0nm,0.9s
KUU Kurty 8.67 28 *e*P **Pn** 18 22 54.9 -1.0
comp=Z,3.6nm,0.9s,baz=27
KUU *e*S **Sn** 18 24 31.7 -0.4
baz=27
CHKK Chushkaly 8.89 30 *e*PN **Pn** 18 22 58.2 -0.6
CHKK Chushkaly 8.89 30 *e*P **Pn** 18 22 58.3 -0.6
baz=30
SATY Saty 8.92 39 *e*PN **Pn** 18 22 57.4 -1.9
SATY pmax pmax
comp=Z,3.0nm,0.9s
SATY Saty 8.92 39 *e*P **Pn** 18 22 57.5 -1.9
comp=Z,2.7nm,0.9s,baz=39
UZB Uzynbulak 9.30 40 *e*P **Pn** 18 23 03.4 -0.9
UZB pmax pmax
comp=Z,2.0nm,0.8s
UZB Uzynbulak 9.30 40 *e*P **Pn** 18 23 03.5 -0.9
comp=Z,2.4nm,0.8s,baz=40
KPKS Kokpek 9.36 38 *e*P **Pn** 18 23 02.8 -2.3
KPKS pmax pmax
comp=Z,6.0nm,0.8s
KPKS Kokpek 9.36 38 *e*P **Pn** 18 23 02.9 -2.2
comp=Z,5.9nm,0.8s,baz=38
KUDL Kundal 9.46 148 *e*P **Pn** 18 23 03.9 -2.5
KUDL *e*S Sn 18 24 42.3 -9.0
SHLS Shalkode 9.54 42 *e*P **Pn** 18 23 09.0 +1.5
SHLS Shalkode 9.54 42 *e*P **Pn** 18 23 09.0 +1.5
baz=43
SONA Sohna 9.63 145 *e*S **Sn** 18 24 48.3 -7.2
PDGK Podgornoye 9.67 41 P **Pn** 18 23 07.2 -2.1
PDGK Podgornoye 9.67 41 ⇑P **Pn** 18 23 07.3 -2.1
comp=Z,7.4nm,0.8s
PDGK ⇓S **Sn** 18 24 55.6 -0.9
comp=Z,26nm,1.1s
GEYT Alibeck 10.26 283 P **Pn** 18 23 16.1 -1.0
comp=Z,3.5nm,0.4s,baz=121,slow=9.7,SNR=16
GEYT S **Sn** 18 25 04.2 -6.4
comp=Z,2.2nm,0.4s,baz=114,slow=15,SNR=2.1
GEYT LR LR 18 28 14.5
comp=Z,38nm,20.7s,baz=357,slow=43
GEYT Alibeck 10.26 283 Pn **Pn** 18 23 15.7 -1.3
GYA0 ALIBECK ARRAY 10.26 283 P **Pn** 18 23 16.4 -0.7
GYA0 S **Sn** 18 25 07.4 -3.2
GYA0B ALIBECK ARRAY 10.26 283 Pn **Pn** 18 23 16.2 -0.8
GYA0B ALIBECK ARRAY 10.26 283 ⇓P **Pn** 18 23 16.5 -0.6
GYA0B ⇑S **Sn** 18 25 07.4 -3.2
AJM Ajmer 10.34 160 *e*P **Pn** 18 23 17.1 -1.1
AJM *e*S **Sn** 18 25 05.7 -6.9
PTH Pithoragarh 10.39 128 *e*P **Pn** 18 23 16.0 -3.0
PTH *e*S Sn 18 25 03.1 -11
TDK Taldyqorghan 10.42 31 *e*P **Pn** 18 23 18.7 -0.3
TDK pmax pmax
comp=Z,5.0nm,0.6s
TDK Taldyqorghan 10.42 31 *e*P **Pn** 18 23 18.7 -0.3
comp=Z,5.4nm,0.6s,baz=31
LGTI Lohaghat 10.47 128 *e*P **Pn** 18 23 16.5 -3.3
LGTI *e*S Sn 18 25 04.7 -11
OTUK Ortayu 11.97 5 P **Pn** 18 23 36.4 -3.0
OTUK S **Sn** 18 25 45.6 -6.1
OTUK Ortayu 11.97 5 ⇑P **Pn** 18 23 36.4 -3.0
comp=Z,4.3nm,1.1s
OTUK ⇓S **Sn** 18 25 45.6 -6.1
comp=Z,12nm,0.9s
JHNI Jhansi 12.68 146 *e*S Sn 18 25 58.0 -11
MAKZ Makanchi 13.39 35 Pn **Pn** 18 23 56.5 -1.2
MAKZ Makanchi 13.39 35 P **Pn** 18 23 56.5 -1.2
MK31 Makanchi Array 13.53 36 Pn **Pn** 18 23 60.0 +0.5
MK31 Makanchi Array 13.53 36 *de*P **Pn** 18 24 00.3 +0.9
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 13.53 36 P **Pn** 18 23 58.4 -1.1
comp=Z,3.2nm,0.8s,baz=224,slow=14,SNR=36
MKAR Makanchi Array 13.53 36 Pn **Pn** 18 23 59.4 0.0
BRZS Berezniki 13.73 5 *e*P **Pn** 18 24 00.0 -1.8
BRZS Berezniki 13.73 5 *e*P **Pn** 18 24 00.1 -1.8
baz=5.1
WMQ Urumqi 14.93 55 *e*P **P** 18 24 18.7 -0.3
AB31 Akbulak array 15.17 332 *e*P **P** 18 24 20.3 -1.2
AB31 *i* S Sn 18 26 55.0 -13
AB31 Akbulak array 15.17 332 ⇑P **P** 18 24 20.2 -1.2
comp=Z,2.5nm,0.3s,baz=156,slow=12,SNR=222
AB31 ⇑S **Sn** 18 27 01.7 -6.8
comp=Z,1.8nm,0.5s,baz=146,slow=23,SNR=6.3
ABKAR Akbulak array 15.17 332 P **P** 18 24 20.2 -1.3
ZSN Zaisan 15.25 39 *e*P **P** 18 24 21.5 -0.9
ZSN Zaisan 15.25 39 *e*P **P** 18 24 21.5 -0.9
baz=39
KURBB Kurchatov Arra 15.35 19 P **Pn** 18 24 20.4 -1.7
comp=Z,3.8nm,0.8s,baz=209,slow=11,SNR=21
KURBB Kurchatov Arra 15.35 19 P **Pn** 18 24 19.9 -2.2
KURBB Kurchatov Arra 15.35 19 ⇓P **P** 18 24 24.2 +0.8
comp=Z,11nm,1.1s
KURK Kurchatov 15.46 19 Pn **Pn** 18 24 21.9 -1.5
KURK IAmb IAmb 18 24 27.2
comp=Z,12nm,1.1s
KURK Kurchatov 15.46 19 P **Pn** 18 24 21.9 -1.5
KURK pmax pmax
comp=Z,12nm,1.2s
BVAR Borovoye Array 16.71 359 P **Pn** 18 24 39.0 +0.3
comp=Z,2.0nm,0.6s,baz=160,slow=15,SNR=11
BRVK Borovoye 16.75 359 IAmb IAmb 18 24 36.5 -2.3
BRVK IAmb IAmb 18 24 43.1
comp=Z,8.0nm,1.0s
BRVK Borovoye 16.75 359 *ce*P **Pn** 18 24 40.7 +1.6
BRVK pmax pmax
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 16.86 331 P **Pn** 18 24 41.6 +1.0
comp=Z,3.0nm,0.4s,baz=136,slow=13,SNR=14
AKTO S **S** 18 27 38.6 -9.3
comp=Z,2.6nm,1.0s,baz=103,slow=23,SNR=1.8
AKTO Aktyubinsk 16.86 331 ⇓P **Pn** 18 24 41.8 +1.2
comp=Z,5.7nm,0.9s
AKTO ⇓S **S** 18 27 44.9 -3.1
comp=Z,8.6nm,0.9s
DGZ Jazzator, Alta 18.02 37 *de*P **Pn** 18 24 54.0 -0.6
DGZ pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 18.28 105 P **P** 18 24 54.0 -2.4
LSA Lhasa 18.28 105 P **P** 18 24 54.0 -2.4
LSA pmax pmax
comp=Z,6.0nm,0.8s
ZAA0 Zalesovo Array 20.15 25 P **P** 18 25 16.3 +0.5
ZAA0 IAmb IAmb 18 25 21.4
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 20.15 25 P **P** 18 25 16.5 +0.7
comp=Z,9.5nm,0.5s,baz=223,slow=11,SNR=24
comp=Z,9.5nm,0.5s
ZALV Zalesovo Beam 20.15 25 P **P** 18 25 16.2 +0.4
SHL Shillong 20.97 115 P **P** 18 25 25.2 +0.1
SHL IAmb IAmb 18 25 29.6
comp=Z,12nm,1.0s
SHL Shillong 20.97 115 P **P** 18 25 25.2 +0.1
SHL pmax pmax
comp=Z,12nm,1.0s
ARU Arti 21.76 341 P **P** 18 25 35.2 +2.2
comp=Z,1.3nm,0.4s,baz=153,slow=9.2,SNR=7.0
comp=Z,1.3nm,0.4s
ARU Arti 21.76 341 P **P** 18 25 33.0 +0.1
ARU IAmb IAmb 18 25 41.0
comp=Z,8.8nm,1.0s
ARU Arti 21.76 341 *d* iP **P** 18 25 35.7 +2.7
ARU 18 26 09.4
ARU S **S** 18 29 31.4 +7.9
ARU pmax pmax
comp=Z,20nm,2.0s
KBZ Khabaz 22.55 298 P **P** 18 25 48.8 +7.9
comp=Z,1.1nm,0.6s,baz=178,slow=3.8,SNR=4.2
KBZ S S 18 29 51.2 +14
comp=Z,0.5nm,0.5s,baz=96,slow=6.5,SNR=1.6
KIV Kislovodsk 22.74 298 *i* P **P** 18 25 43.6 +0.7
KIV *i* *PP **pP** 18 26 09.3 -1.6
KIV pmax pmax
comp=Z,3.0nm,0.9s
GTA Gaotai 23.07 74 ⇑P **P** 18 25 48.1 +2.1
GTA pmax pmax
comp=Z,4.0nm,1.2s
RAYN Ar Rayn 25.28 247 P **P** 18 26 06.6 +0.4
RAYN Ar Rayn 25.28 247 P **P** 18 26 06.6 +0.4
RAYN pmax pmax
comp=Z,3.0nm,1.0s
PZH PanZhiHua 28.05 102 P **P** 18 26 33.5 +2.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 28.57 55 P **P** 18 26 38.7 +3.3
comp=Z,0.9nm,0.8s,baz=257,slow=10,SNR=5.7
comp=Z,0.9nm,0.8s
SONM Songino Array 28.57 55 P **P** 18 26 34.1 -1.3
ULN Ulaanbaatar 29.01 55 ⇓*e*P **P** 18 26 41.3 +2.0
ULN pmax pmax
comp=Z,6.0nm,2.8s
OBN Obninsk 29.98 320 *e*P **P** 18 26 50.8 +3.2
OBN *e* 18 27 53.3
OBN *e* 18 29 44.4
OBN pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 30.50 118 P **P** 18 26 54.9 +2.3
comp=Z,0.3nm,0.4s,baz=296,slow=9.1,SNR=5.4
comp=Z,0.3nm,0.4s
CMAR Chiang Mai Arr 30.50 118 *i* P **P** 18 26 56.5 +3.9
HHC Hu-ho-hao-te 31.97 69 *e*P **P** 18 27 06.3 +0.8
HHC pmax pmax
comp=Z,210nm,5.8s
NRIK Noril'sk 34.34 10 P **P** 18 27 27.4 +1.9
NRIK IAmb IAmb 18 27 30.3
comp=Z,13nm,1.5s
NRIK Noril'sk 34.34 10 ⇓*e*P **P** 18 27 27.3 +1.9
NRIK pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 41.26 338 P **P** 18 28 26.7 +3.2
comp=Z,2.3nm,0.9s,baz=96,slow=7.6,SNR=6.0
comp=Z,2.3nm,0.9s
YAK Yakutsk 44.21 35 ⇑*e*P **P** 18 28 50.1 +2.8
YAK pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 44.44 323 P **P** 18 28 51.0 +1.8
comp=Z,1.1nm,0.8s,baz=99,slow=8.0,SNR=3.8
comp=Z,1.1nm,0.8s
KS19 Wonju Array Si 45.03 71 P **P** 18 28 54.6 +0.4
KSAR Wonju Array Be 45.06 71 P **P** 18 28 53.6 -0.8
KSAR Wonju Array Be 45.06 71 P **P** 18 28 53.7 -0.8
OSSC Osservatorio P 45.39 298 P **P** 18 28 56.4 -0.6
OSSC IAmb IAmb 18 28 57.8
comp=Z,4.9nm,1.0s
ZCCA Zocca 45.42 299 P **P** 18 28 57.1 -0.1
BILL Bilibino 58.84 26 *e*P **P** 18 30 38.6 +2.7
BILL *e* 18 31 24.2
BILL pmax pmax
comp=Z,4.0nm,0.8s
SKR Severo-Kuril's 60.20 47 *ce*P **P** 18 30 45.9 +0.5
TORD Torodi Ar. Bea 65.56 269 P **P** 18 31 22.5 +1.1
comp=Z,0.5nm,0.7s,baz=49,slow=5.3,SNR=2.7
comp=Z,0.5nm,0.7s
ILAR Eielson Array 75.00 16 P **P** 18 32 21.2 +3.2
comp=Z,0.5nm,0.9s,baz=309,slow=4.3,SNR=4.4
comp=Z,0.5nm,0.9s
WRA Warramunga Arr 82.03 122 P **P** 18 32 57.9 +0.7
comp=Z,0.3nm,0.4s,baz=326,slow=4.9,SNR=8.1
comp=Z,0.3nm,0.4s
PB10 IPOC Station P 144.39 280 PKPdf **PKPab** 18 40 10.3 -0.4

*NEIC **12** 18:21:58.6±2.2, 18.8°S±0.1°×173.07°W±0.09, h10km±1km, mb4.4/23, Error ellipse: s-maj=24.7km s-min=14.7km az=182.0*
*IDC **12** 18:22:00.4±1.8, 18.16°S×173.79°W, h0km, mb4.2/4, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=55.8km s-min=32.0km az=128.0*
ISC 12 18:22:02.7±1.1, 18.7°S±0.1°×173.4°W±0.2, h31km, n37, σ1°§38/32, mb4.4/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.26**	**98**		Pn	18 22 46.7	-5.1
NIUE				Sn	Sn	18 23 20.9	-8.6
AFI	**Afiamalu**	**4.97**	**18**	Sn	**Sn**	**18 24 08.3**	**-3.4**
	30nm,0.3s,baz=296,slow=14,SNR=5.3						
AFI	**Afiamalu**	**4.97**	**18**	Pn	**Pn**	**18 23 17.9**	**+2.6**
LIFNC	**LIFOU**	**18.40**	**260**	P	**Pn**	**18 26 16.3**	**+0.8**
PINNC	**Pines Island,**	**18.40**	**254**	P	**Pn**	**18 26 17.4**	**+1.9**
DZM	**Mont Dzumac**	**19.25**	**256**	P	**Pn**	**18 26 25.5**	**-0.5**
	0.3nm,0.3s,baz=97,slow=17,SNR=1.8						
	3.0nm,0.6s						
DZM	**Mont Dzumac**	**19.25**	**256**	P	**Pn**	**18 26 25.8**	**-0.1**
OUZ	**Omahuta**	**20.15**	**212**	P	**P**	**18 26 34.3**	**-0.1**
URZ	**Urewera**	**21.22**	**201**	P	**P**	**18 26 45.8**	**-0.1**
	5.1nm,0.7s,baz=31,slow=20,SNR=2.6						
URZ	**Urewera**	**21.22**	**201**	P	**P**	**18 26 44.9**	**-1.0**
URZ				IAmb	IAmb	18 27 05.0	
	comp=Z,19nm,1.4s						
BKZ	**Black Stump Fm**	**22.25**	**201**	P	**P**	**18 26 55.8**	**-1.2**
BKZ				IAmb	IAmb	18 27 38.9	
	comp=Z,23nm,1.4s						
MSWZ	**Moikau Station**	**24.68**	**201**	P	**P**	**18 27 18.5**	**-2.4**
RPZ	**Rata Peaks**	**26.21**	**204**	P	**P**	**18 27 57.6**	**+4.9**
	comp=Z,4.9nm,0.5s,baz=13,slow=18,SNR=6.2						
	comp=Z,4.9nm,0.5s						
RPZ	**Rata Peaks**	**28.21**	**204**	P	**P**	**18 27 55.3**	**+2.6**
FOZ	**Fox Glacier**	**28.56**	**206**	P	**P**	**18 27 56.0**	**+0.3**
PATS	**Pohnpei**	**37.73**	**310**	P	**P**	**18 29 16.5**	**+0.6**
CTAO	**Charters Tower**	**38.08**	**261**	P	**P**	**18 29 17.2**	**-1.7**
CTAO				IAmb	IAmb	18 29 51.5	
	comp=Z,11nm,1.2s						
TOO	**Toolangi**	**40.51**	**234**	P	**P**	**18 29 37.8**	**-1.2**
TOO				IAmb	IAmb	18 30 05.4	
	comp=Z,17nm,1.3s						
COEN	**Coen**	**41.92**	**270**	P	**P**	**18 29 51.0**	**+0.2**
COEN				IAmb	IAmb	18 30 16.4	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**49.03**	**259**	P	**P**	**18 30 46.5**	**-0.7**
WB0	**Warramunga Arr**	**49.20**	**260**	P	**P**	**18 30 47.8**	**-0.7**
WB0				IAmb	IAmb	18 31 28.6	
	comp=Z,5.8nm,1.4s						
WB2	**Warramunga Arr**	**49.21**	**259**	P	**P**	**18 30 47.6**	**-1.0**
WB2				IAmb	IAmb	18 31 15.2	
	comp=Z,4.2nm,1.1s						
WRAB	**Tennant Creek**	**49.22**	**259**	P	**P**	**18 30 47.4**	**-1.2**
WRAB				IAmb	IAmb	18 31 02.6	
	comp=Z,5.3nm,1.3s						
AS31	**Alice Springs**	**49.22**	**255**	P	**P**	**18 30 48.6**	**0.0**
ASAR	**Alice Springs**	**49.22**	**255**	P	**P**	**18 30 48.3**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=91,slow=8.1,SNR=49						
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**49.22**	**255**	P	**P**	**18 30 47.6**	**-1.0**
WRA	**Warramunga Arr**	**49.23**	**259**	P	**P**	**18 30 48.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=97,slow=7.7,SNR=40						
	comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**49.23**	**259**	P	**P**	**18 30 47.5**	**-1.1**
MTN	**Manton Dam**	**53.58**	**268**	P	**P**	**18 31 21.1**	**-0.2**
BKB	**Balikpapan**	**70.44**	**275**	P	**P**	**18 33 16.6**	**+2.0**
JMM	**Marumori**	**70.85**	**323**	P	**P**	**18 33 15.6**	**-1.0**
SMY	**Shemya**	**71.93**	**352**	P	**P**	**18 33 21.9**	**-0.9**
H03S2	**Juan Fernandez**	**83.36**	**123**	T	T	20 07 18.3	
	baz=249						
H03S1	**Juan Fernandez**	**83.38**	**123**	T	T	20 07 13.6	
	baz=249						
H03S3	**Juan Fernandez**	**83.38**	**123**	T	T	20 07 14.6	
	baz=249						
ILAR	**Eielson Array**	**85.62**	**11**	P	**P**	**18 34 38.1**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=211,slow=5.1,SNR=3.6						
	comp=Z,0.4nm,0.7s						
BRTR	**Keskin Array B**	**148.66**	**318**	PKPbc	**PKPbc**	**18 41 48.2**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=112,slow=3.9,SNR=4.7						

*NEIC **12** 18:25:59.3±1.8, 21.2°S±0.1°×179.6°W±0.3, h604km±19km, mb4.3/19, Error ellipse: s-maj=36.9km s-min=19.9km az=86.0*
*IDC **12** 18:26:02.6±10.0, 21.45°S×179.81°E, h600km±96km, mb2.9/4, mbtmp3.9/5, Error ellipse: s-maj=245.7km s-min=96.1km az=82.0*
ISC 12 18:25:58.4±2.0, 21.7°S±0.1°×179.6°W±0.3, h600km, n26, σ0§86/26, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.57**	**330**	P	**P**	**18 27 28.6**	**+0.4**
	3.8nm,0.3s,baz=245,slow=19,SNR=13						
MSVF	**Nonsavu**	**4.57**	**330**		**P**	**18 27 27.7**	**-0.5**
SNZO	**South Karori**	**20.10**	**193**	P	**P**	**18 29 51.2**	**-1.5**
EIDS	**Eidsvold**	**27.11**	**257**	P	**P**	**18 30 53.4**	**-1.8**
EIDS				IAmb	IAmb	18 31 37.1	
	comp=Z,11nm,1.4s						
ARMA	**Armidale**	**27.20**	**246**	P	**P**	**18 30 57.8**	**+1.8**
ARMA				IAmb	IAmb	18 31 22.3	
	comp=Z,15nm,1.3s						
CTA	**Charters Tower**	**31.92**	**267**	P	**P**	**18 31 36.5**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=100,slow=6.1						
	comp=Z,1.7nm,0.5s						
CTAO	**Charters Tower**	**31.92**	**267**	P	**P**	**18 31 36.4**	**-0.2**
CTAO				IAmb	IAmb	18 32 03.7	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**35.92**	**245**	P	**P**	**18 32 10.5**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=90,slow=12,SNR=5.6						
	comp=Z,0.8nm,0.4s						
STKA	**Stephens Creek**	**35.92**	**245**	P	**P**	**18 32 08.8**	**-1.1**
MCQ	**Macquarie Isla**	**36.50**	**201**	P	**P**	**18 32 15.1**	**+0.9**
BBOO	**Buckleboo**	**40.68**	**245**	P	**P**	**18 32 48.6**	**+0.4**
WR0	**Warramunga Arr**	**42.79**	**264**	P	**P**	**18 33 04.6**	**-0.4**
WR0				IAmb	IAmb	18 33 43.2	
	comp=Z,5.6nm,1.5s						
AS31	**Alice Springs**	**42.80**	**258**	P	**P**	**18 33 05.0**	**-0.1**
ASAR	**Alice Springs**	**42.81**	**258**	P	**P**	**18 33 05.5**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=96,slow=7.8,SNR=11						
	comp=Z,2.2nm,0.8s						
ASAR	**Alice Springs**	**42.81**	**258**	P	**P**	**18 33 04.2**	**-0.9**
WB0	**Warramunga Arr**	**42.96**	**264**	P	**P**	**18 33 06.6**	**+0.3**
WB0				IAmb	IAmb	18 33 39.6	
	comp=Z,7.9nm,1.4s						
WB2	**Warramunga Arr**	**42.97**	**264**	P	**P**	**18 33 06.0**	**-0.4**
WB2				IAmb	IAmb	18 33 35.6	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**42.98**	**264**	P	**P**	**18 33 06.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=96,slow=8.2,SNR=21						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**42.98**	**264**	P	**P**	**18 33 05.3**	**-1.2**
MTN	**Manton Dam**	**47.71**	**272**	P	**P**	**18 33 41.3**	**-1.1**
MTN				IAmb	IAmb	18 33 51.6	
	comp=Z,17nm,1.4s						
KNRA	**Kununurra**	**49.12**	**268**	P	**P**	**18 33 53.4**	**+0.5**
KNRA				IAmb	IAmb	18 34 29.7	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.41**	**264**	P	**P**	**18 34 10.3**	**+0.8**
FITZ				IAmb	IAmb	18 34 13.0	
	comp=Z,7.6nm,1.4s						
PSA00	**Pilbara Seismi**	**55.95**	**258**	P	**P**	**18 34 40.8**	**-0.7**
MBWA	**Marble Bar**	**56.15**	**259**	P	**P**	**18 34 43.0**	**+0.3**
MBWA				IAmb	IAmb	18 35 02.1	
	comp=Z,24nm,1.4s						
GIRL	**Giralia**	**60.80**	**256**	P	**P**	**18 35 13.9**	**-0.1**
KS19	**Wonju Array Si**	**76.92**	**320**	P	**P**	**18 36 50.3**	**+0.2**
KS19				IAmb	IAmb	18 37 15.4	
	comp=Z,25nm,1.5s						

*INET **12** 18:26:01.6±0.8, 9.51°N×83.50°W, h6km±999km, MW2.8*
*UPA **12** 18:26:02.5±0.4, 9.24°N×83.47°W, h11km±2km, MW2.9*
ISC 12 18:26:01.5±1.1, 9.5°N±0.1°×83.43°W±0.08, h17km±9km, n9, σ0§62/15, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEZE	**Perez Zeledon,**	**0.26**	**254**	*e*P	**Pg**	**18 26 07.2**	**-0.2**
DRK0	**Durika**	**0.26**	**137**	⇑*i*P	**Pg**	**18 26 07.8**	**+0.2**
DRK0				*i* S	**Sg**	**18 26 11.8**	**+0.2**
DRK0	**Durika**	**0.26**	**137**	*e*P	**Pg**	**18 26 07.7**	**+0.2**
CDM	**Cerro de Muert**	**0.35**	**286**	*e*P	**Pg**	**18 26 08.8**	**-0.3**
CDM				*e*S	**Sg**	**18 26 14.2**	**0.0**
RIMA	**Rio Macho**	**0.53**	**306**	*e*P	**Pg**	**18 26 11.7**	**-0.6**
BRU2	**Volcan**	**0.98**	**132**	*e*P	**Pb**	**18 26 19.6**	**-0.5**
BRU2				*e*S	**Sb**	**18 26 33.0**	**+0.1**
BCO2	**Palmira**	**1.15**	**130**	*e*P	**Pn**	**18 26 22.4**	**-0.6**
BCO2				*e*S	**Sb**	**18 26 38.3**	**+0.5**
CHGR2	**Aguacate**	**1.37**	**112**	*e*P	**Pn**	**18 26 25.6**	**-0.3**
CHGR2				*e*S	**Sn**	**18 26 43.7**	**+0.3**
JTS	**Las Juntas de**	**1.72**	**299**	*e*P	**Pb**	**18 26 32.7**	**0.0**
JTS				*e*S	**Sb**	**18 26 55.6**	**+1.6**

*IDC **12** 18:35:27.0±0.9, 50.47°N×157.82°E, h0km, mb3.6/8, mbtmp3.6/10, ML2.7/2, MS3.0/7, Error ellipse: s-maj=26.2km s-min=19.1km az=127.0*
*MOS **12** 18:35:31.1±1.0, 50.43°N×157.79°E, h43km, mb3.9/1, Error ellipse: s-maj=18.6km s-min=4.9km az=84.7*
*KRSC **12** 18:35:31.1±1.4, 50.57°N×157.86°E, h49km±22km, ML4.2*
ISC 12 18:35:33.9±0.8, 50.53°N±0.07°×157.73°E±0.06, h56km, n65, σ1§25/73, mb3.6/8, MS3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.04**	**279**	*e*PN	**Pn**	**18 35 50.7**	**-1.5**
SKR				*e*S	**Sn**	**18 36 03.9**	**-1.9**
SKR				pmax	pmax		
	comp=Z,447nm,0.9s						
SKR				smax	smax		
	comp=N,2μm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR	**Severo-Kuril's**	**1.04**	**279**	*e*P	**Pn**	**18 35 50.6**	**-1.6**
SKR				*e*S	**Sn**	**18 36 03.4**	**-2.4**
PAU	**Pauzhetka**	**1.10**	**329**	PN	**Pn**	**18 35 52.2**	**-0.9**
PAU				S	**Sn**	**18 36 06.2**	**-1.2**
PAU	**Pauzhetka**	**1.10**	**329**	*e*P	**Pn**	**18 35 52.2**	**-0.9**
PAU				S	**Sn**	**18 36 06.2**	**-1.2**
KDTR	**Khodutka, Kamc**	**1.30**	**10**	PN	**Pn**	**18 35 53.7**	**-2.0**
KDTR				S	**Sn**	**18 36 09.4**	**-2.6**
KDTR	**Khodutka, Kamc**	**1.30**	**10**	*e*P	**Pn**	**18 35 53.7**	**-2.0**
KDTR				S	**Sn**	**18 36 09.4**	**-2.6**
ASAK	**Asacha**	**1.86**	**3**	PN	**Pn**	**18 36 03.2**	**-0.2**
ASAK	**Asacha**	**1.86**	**3**	*e*P	**Pn**	**18 36 03.2**	**-0.2**
RUS	**Russkaya**	**1.97**	**14**	PN	**Pn**	**18 36 03.4**	**-1.4**
RUS				S	**Sn**	**18 36 25.8**	**-2.5**
RUS	**Russkaya**	**1.97**	**14**	*e*P	**Pn**	**18 36 03.4**	**-1.4**
RUS				*e*S	**Sn**	**18 36 25.8**	**-2.5**
MTVR	**Mutnovka**	**1.98**	**8**	PN	**Pn**	**18 36 04.1**	**-0.9**
MTVR				S	**Sn**	**18 36 26.9**	**-1.8**
MTVR	**Mutnovka**	**1.98**	**8**	*e*P	**Pn**	**18 36 04.1**	**-0.9**
MTVR				*e*S	**Sn**	**18 36 26.9**	**-1.8**
GRL	**Gorelyy**	**2.04**	**6**	PN	**Pn**	**18 36 05.2**	**-0.6**
GRL				S	**Sn**	**18 36 29.2**	**-0.9**
GRL	**Gorelyy**	**2.04**	**6**	*e*P	**Pn**	**18 36 05.2**	**-0.6**
GRL				*e*S	**Sn**	**18 36 29.2**	**-0.9**
KRMR	**Karymshinskiy**	**2.31**	**6**	PN	**Pn**	**18 36 09.4**	**-0.1**
KRMR				S	**Sn**	**18 36 36.5**	**-0.3**
KRMR	**Karymshinskiy**	**2.31**	**6**	*e*P	**Pn**	**18 36 09.4**	**-0.1**
KRMR				*e*S	**Sn**	**18 36 36.5**	**-0.3**
APC	**Apacha**	**2.42**	**352**	PN	**Pn**	**18 36 10.9**	**-0.1**
APC				S	**Sn**	**18 36 39.7**	**+0.3**
APC	**Apacha**	**2.42**	**352**	*e*P	**Pn**	**18 36 10.9**	**-0.1**
APC				*e*S	**Sn**	**18 36 39.7**	**+0.3**
PET	**Petropavlovsk**	**2.56**	**13**	*e*PN	**Pn**	**18 36 12.5**	**-0.4**
PET				*e*S	**Sn**	**18 36 41.4**	**-1.4**
PET				smax	smax		
	comp=N,326nm,0.8s						
PET				smax	smax		
	comp=E,366nm,0.7s						
PET	**Petropavlovsk**	**2.56**	**13**	*e*P	**Pn**	**18 36 12.0**	**-0.9**
PET				*e*S	**Sn**	**18 36 41.9**	**-0.9**
PETK	**Petropavlovsk-**	**2.58**	**360**	Pn	**Pn**	**18 36 11.9**	**-1.3**
	comp=E,4.9nm,0.3s,baz=149,slow=13,SNR=112						
PETK				Sn	**Sn**	**18 36 45.8**	**+2.4**
	comp=E,3.9nm,0.3s,baz=119,slow=12,SNR=4.4						
PETK				LR	LR	18 37 29.3	
	comp=E,229nm,19.0s,baz=187,slow=46						
	comp=E,27nm,0.7s						
DALK	**Dalny**	**2.58**	**14**	PN	**Pn

AVH	**Avacha**	**2.81**	**12**	*e*P	**Pn**	**18 36 17.2**	**+0.9**
KOK	**Koryaka**	**2.82**	**11**	PN	**Pn**	**18 36 17.4**	**+0.9**
KOK	**Koryaka**	**2.82**	**11**	*e*P	**Pn**	**18 36 17.4**	**+0.9**
KRER	**Koryakskii**	**2.85**	**12**	PN	**Pn**	**18 36 17.0**	**0.0**
KRER	**Koryakskii**	**2.85**	**12**	*e*P	**Pn**	**18 36 17.0**	**0.0**
KRX	**Arik**	**2.89**	**11**	PN	**Pn**	**18 36 17.3**	**-0.2**
KRX	**Arik**	**2.89**	**11**	*e*P	**Pn**	**18 36 17.3**	**-0.2**
SPN	**Mys Shipunski**	**2.94**	**28**	PN	**Pn**	**18 36 17.2**	**-0.8**
SPN				S	**Sn**	**18 36 49.9**	**-2.1**
SPN	**Mys Shipunski**	**2.94**	**28**	*e*P	**Pn**	**18 36 17.2**	**-0.8**
SPN				*e*S	**Sn**	**18 36 49.9**	**-2.1**
GNL	**Ganaly**	**3.17**	**2**	PN	**Pn**	**18 36 22.2**	**+0.8**
GNL	**Ganaly**	**3.17**	**2**	*e*P	**Pn**	**18 36 22.2**	**+0.8**
TUMR	**Tumrok**	**4.98**	**16**	PN	**Pn**	**18 36 45.7**	**-0.4**
TUMR	**Tumrok**	**4.98**	**16**	*e*P	**Pn**	**18 36 45.7**	**-0.4**
KBTR	**Krutoberegovo**	**6.45**	**26**	PN	**Pn**	**18 37 05.2**	**-0.9**
KBTR	**Krutoberegovo**	**6.45**	**26**	P	**Pn**	**18 37 05.2**	**-0.9**
MA2	**Magadan**	**9.90**	**339**	LR	LR	18 42 10.8	
	comp=E,37nm,20.2s,baz=184,slow=40						
KLR	**Kul'dur**	**16.77**	**276**	LR	LR	18 46 23.9	
	comp=E,36nm,18.7s,baz=96,slow=39						
YAK	**Yakutsk**	**19.18**	**318**	LR	LR	18 47 22.9	
	comp=E,52nm,19.1s,baz=88,slow=37						
MJAR	**Matsushiro Arr**	**19.81**	**233**	P	**P**	**18 39 58.3**	**-1.4**
	baz=39,slow=9.3,SNR=2.6						
	comp=E,0.9nm,0.6s						
KSRS	**Korea Array**	**24.92**	**250**	P	**P**	**18 40 53.5**	**+2.0**
	comp=E,0.7nm,0.6s,baz=46,slow=11,SNR=4.3						
	comp=E,0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**31.58**	**163**	T	T	19 15 32.1	
	baz=349,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**31.60**	**163**	T	T	19 15 39.5	
	baz=349,slow=76,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**31.60**	**163**	T	T	19 15 34.6	
	baz=349,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**32.74**	**164**	T	T	19 16 59.2	
	baz=341,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**32.75**	**164**	T	T	19 17 03.4	
	baz=341,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**32.76**	**164**	T	T	19 16 48.9	
	baz=341,slow=76,SNR=34						
SONM	**Songino Array**	**33.12**	**286**	P	**P**	**18 42 04.3**	**-0.2**
	comp=E,0.3nm,0.5s,baz=72,slow=8.4,SNR=2.3						
	comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**42.96**	**304**	P	**P**	**18 43 26.8**	**-0.2**
	comp=E,0.3nm,0.3s,baz=74,slow=5.1,SNR=1.8						
	comp=E,0.3nm,0.3s						
MKAR	**Makanchi Array**	**47.96**	**296**	LR	LR	19 04 56.1	
	comp=E,21nm,19.7s,baz=80,slow=37						
ARCES	**ARCESS Array B**	**55.26**	**342**	LR	LR	19 16 26.2	
	comp=E,20nm,18.2s,baz=318,slow=44						
CMAR	**Chiang Mai Arr**	**56.21**	**258**	P	**P**	**18 45 09.5**	**+1.3**
	comp=E,1.0nm,0.6s,baz=20,slow=7.8,SNR=9.4						
	comp=E,1.0nm,0.6s						
PDAR	**Pinedale Array**	**60.09**	**58**	P	**P**	**18 45 35.5**	**+0.2**
	comp=E,0.4nm,0.7s,baz=317,slow=7.4,SNR=2.8						
	comp=E,0.4nm,0.7s						
HFS	**Hagfors**	**65.92**	**341**	LR	LR	19 20 15.8	
	comp=E,26nm,18.4s,baz=320,slow=41						
TXAR	**Lajitas Array**	**73.03**	**65**	P	**P**	**18 46 58.7**	**+0.9**
	comp=E,0.3nm,0.6s,baz=302,slow=6.9,SNR=4.3						
	comp=E,0.3nm,0.6s						
WRA	**Warramunga Arr**	**73.14**	**203**	P	**P**	**18 46 58.7**	**+0.4**
	comp=E,0.8nm,0.8s,baz=18,slow=6.1,SNR=7.9						
	comp=E,0.8nm,0.8s						
ASAR	**Alice Springs**	**76.82**	**202**	P	**P**	**18 47 20.8**	**+1.3**
	comp=E,0.5nm,0.6s,baz=21,slow=5.9,SNR=5.9						
	comp=E,0.5nm,0.6s						
H03N2	**Juan Fernandez**	**135.69**	**90**	T	T	21 25 50.2	
	baz=313,slow=74						
H03N1	**Juan Fernandez**	**135.70**	**90**	T	T	21 25 44.2	
	baz=313						
H03N3	**Juan Fernandez**	**135.70**	**90**	T	T	21 25 50.9	
	baz=313,slow=74						

TIF **12** *18:40:09.9, 41.˚39N×44.˚04E, h12km±1km*
ISK **12** *18:40:10.2, 41.˚39N×44.˚02E, h11km, ML2.5/7*
DDA **12** *18:40:11.6±0.0, 41.˚29N×43.˚90E, h7km±3km, ML2.2*
NORS **12** *18:40:11.5±0.0, 41.˚50N×43.˚98E, h7km, MPVA3.7*

ISC 12 18:40:10.5±0.9, **41.˚36N**±0.˚02×**44.˚04E**±0.˚02, **h11**km±8km, **n39**, σ1§**06**/69, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KZRT	**Kazreti**	**0.27**	**84**	P		**Pg**	**18 40 16.0**	**-0.1**
KZRT				S		**Sg**	**18 40 19.7**	**-0.2**
BRNG	**Burnasheti**	**0.31**	**329**	P		**Pg**	**18 40 17.0**	**+0.2**
BRNG				S		**Sg**	**18 40 22.1**	**+1.0**
AKH	**Akhalkalaki**	**0.41**	**277**	PG		**Pg**	**18 40 18.6**	**-0.2**
AKH				SG		**Sg**	**18 40 24.7**	**+0.4**
AKH	**Akhalkalaki**	**0.41**	**277**	P		**Pg**	**18 40 18.9**	**+0.1**
AKH				S		**Sg**	**18 40 24.6**	**+0.3**
BKRG	**Bakuriani**	**0.56**	**316**	P		**Pg**	**18 40 21.4**	**0.0**
BKRG				S		**Sg**	**18 40 29.6**	**+0.7**
AZMN	**Azmana**	**0.57**	**266**	P		**Pg**	**18 40 19.2**	**-2.5**
AZMN				S		**Sg**	**18 40 27.2**	**-2.0**
SEAG	**Tbilisi Sea**	**0.70**	**55**	P		**Pg**	**18 40 23.8**	**-0.3**
SEAG				S		**Sg**	**18 40 33.7**	**+0.4**
EAK	**Akyaka**	**0.75**	**206**	P		**Pg**	**18 40 23.7**	**-1.3**
EAK				*i* AML	AML	AML	18 40 37.0	
	comp=N,75nm,0.3s							
ALIG	**Mtskhetisjvari**	**0.80**	**339**	P		**Pg**	**18 40 25.4**	**-0.6**
ALIG				S		**Sg**	**18 40 36.2**	**-0.2**
ABS	**Abastumani**	**1.00**	**294**	P		Pb	18 40 25.1	-4.9
ABS				S		**Sb**	**18 40 39.1**	**-4.2**
KARS	**Kars**	**1.03**	**225**	PG		**Pb**	**18 40 30.8**	**+0.3**
KARS				SG		**Sg**	**18 40 45.3**	**+1.5**
DIGO	**Kars**	**1.07**	**208**	P		**Pb**	**18 40 29.8**	**-1.4**
DIGO				S		**Sb**	**18 40 44.5**	**-0.8**
DIGO				*i* AML	AML	AML	18 40 45.0	
	comp=N,178nm,0.5s							
DIGO				*i* AML	AML	AML	18 40 45.0	
	comp=E,240nm,0.4s							
TKB	**Tkibuli**	**1.26**	**322**	P		**Pn**	**18 40 33.9**	**-0.2**
TKB				S		**Sg**	**18 40 51.1**	**-0.1**
ONI	**Oni**	**1.31**	**341**	PN		**Pn**	**18 40 34.5**	**-0.3**
ONI				SN		**Sg**	**18 40 52.2**	**-0.4**
ONI	**Oni**	**1.31**	**341**	P		**Pn**	**18 40 34.3**	**-0.5**
ONI				S		**Sn**	**18 40 52.0**	**-0.3**
GNI	**Garni**	**1.32**	**156**	PN		**Pn**	**18 40 35.7**	**+0.6**
GNI				SN		**Sg**	**18 40 54.3**	**+1.2**
PNSH	**Pansheti**	**1.35**	**18**	P		**Pn**	**18 40 35.3**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.38**	**174**	PN		**Pn**	**18 40 36.4**	**+0.6**
ZEI	**Tsey**	**1.43**	**356**	*e*Pg		**Pb**	**18 40 37.5**	**+0.1**
ZEI				*e*Sg		**Sg**	**18 40 56.5**	**-0.2**
LACR	**Lac**	**1.48**	**7**	*e*Pg		**Pb**	**18 40 37.9**	**-0.3**
LACR				*e*Sg		**Sg**	**18 40 57.9**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.51**	**239**	PN		**Pn**	**18 40 38.0**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.58**	**348**	*e*Pg		**Pg**	**18 40 40.7**	**-0.1**
DIGR				*e*Sg		**Sg**	**18 41 01.5**	**+0.2**
DAGI	**Agillar**	**1.63**	**261**	P		**Pb**	**18 40 41.0**	**+0.4**
DAGI				S		**Sb**	**18 41 02.7**	**+1.4**
DAGI				*i* AML	AML	AML	18 41 03.0	
	comp=E,21nm,0.3s							
DAGI				*i* AML	AML	AML	18 41 04.0	
	comp=N,24nm,0.4s							
LGD	**Lagodekhi**	**1.72**	**73**	P		**Pb**	**18 40 41.8**	**-0.3**
LGD				S		**Sg**	**18 41 05.2**	**-0.6**
KORR	**Kora**	**1.73**	**1**	*e*Pg		**Pb**	**18 40 42.9**	**+0.6**
KORR				*e*Sg		**Sg**	**18 41 07.6**	**+1.6**
VLKR	**Vladikavkaz**	**1.75**	**15**	*e*Pg		**Pg**	**18 40 43.8**	**-0.3**
VLKR				*e*Sg		**Sg**	**18 41 08.6**	**+1.7**
BATM	**Batumi**	**1.78**	**279**	P		**Pb**	**18 40 42.8**	**-0.3**
BATM				S		**Sb**	**18 41 06.3**	**+0.9**
DBOC	**Borcka**	**1.79**	**270**	P		**Pb**	**18 40 43.2**	**-0.1**
DBOC				S		**Sb**	**18 41 06.4**	**+0.7**
DBOC				*i* AML	AML	AML	18 41 07.0	
	comp=E,46nm,0.2s							
DBAD	**Bademkaya**	**1.80**	**260**	P		**Pb**	**18 40 43.7**	**0.0**
DBAD				S		**Sb**	**18 41 07.3**	**+1.1**
DBAD				*i* AML	AML	AML	18 41 08.0	
	comp=N,88nm,0.5s							
DBAD				*i* AML	AML	AML	18 41 10.0	
	comp=E,52nm,0.3s							
ARNR	**Ardon**	**1.83**	**6**	*e*Pg		**Pg**	**18 40 45.9**	**+0.3**
ARNR				*e*Sg		**Sg**	**18 41 11.3**	**+2.0**
EATA	**Eleskirt**	**1.90**	**219**	P		**Pg**	**18 40 47.4**	**+0.3**
EATA				S		**Sg**	**18 41 12.8**	**+1.1**
AGRB	**Hanur-Agry**	**1.95**	**204**	PN		**Pn**	**18 40 44.6**	**+0.8**
HOPA	**Hopa-Artvin**	**1.95**	**272**	PN		**Pn**	**18 40 43.8**	**+0.2**
STDR	**Stavd-Durt**	**2.01**	**0**	*e*Pg		**Pg**	**18 40 49.2**	**+0.1**
STDR				*e*Sg		**Sg**	**18 41 17.1**	**+2.0**
NEY	**Neytrino**	**2.13**	**333**	*e*Pg		**Pb**	**18 40 49.9**	**+0.7**
NEY				*e*Sg		**Sb**	**18 41 16.1**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**2.15**	**231**	PN		**Pn**	**18 40 47.1**	**+0.6**
DVE	**Vedeno**	**2.23**	**43**	*e*Pg		**Pb**	**18 40 50.0**	**-0.8**
DVE				*e*Sg		**Sg**	**18 41 20.7**	**-1.4**
CHOM	**Cayeli-Rize**	**2.49**	**265**	PN		**Pn**	**18 40 51.7**	**+0.7**
SHA1	**Shidzhatmaz**	**2.59**	**337**	*e*Pn		**Pb**	**18 40 58.0**	**+0.9**
SHA1				*e*Sn		**Sg**	**18 41 31.1**	**-2.6**

IDC **12** *18:45:50.0±0.9, 9.˚35S×121.˚35E, h0km, mb4.0/4, mbtmp4.0/7, ML3.9/3, MS2.7/2, Error ellipse: s-maj=52.9km s-min=18.1km az=56.0*
DJA **12** *18:45:59.8±0.6, 9.˚S±3.˚×12.˚2E±.˚, h33km±8km, M4.1/12, mb4.2/2, MLv4.0/12*

ISC 12 18:45:58.9±0.8, **9.˚49S**±0.˚05×**121.˚81E**±0.˚04, **h54**km±12km, **n34**, σ2§**30**/41, **mb3.9**/4, **Savu Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.75**	**351**	P		**Pn**	**18 46 13.0**	**-0.5**
EDFI				S		**Sn**	**18 46 23.5**	**-0.7**
MMRI	**Maumere**	**0.95**	**26**	P		**Pn**	**18 46 16.1**	**+0.1**
MMRI				S		**Sn**	**18 46 27.6**	**-1.1**
MMRI	**Maumere**	**0.95**	**26**	P		**Pn**	**18 46 16.2**	**+0.2**
BASI	**Baing, Sumba**	**1.41**	**239**	P		**Pn**	**18 46 25.0**	**+2.7**
BASI				S		**Sn**	**18 46 43.8**	**+4.0**
BATI	**Baumata**	**1.96**	**111**	Pn		**Pn**	**18 46 32.5**	**+2.8**
	20nm,0.3s,baz=94,slow=3.6,SNR=27							
BATI				Sn		**Sn**	**18 46 58.1**	**+5.0**
	46nm,0.3s,baz=270,slow=20,SNR=3.4							
BATI				LR	LR		18 47 32.7	
	comp=Z,139nm,20.1s,baz=326,slow=42							
	55nm,0.3s							
BATI	**Baumata**	**1.96**	**111**	P		**Pn**	**18 46 32.1**	**+2.4**
BATI				S		**Sn**	**18 46 54.1**	**+1.0**
WBSI	**Waikabubak, Su**	**2.39**	**266**	P		**Pn**	**18 46 36.2**	**+0.5**
WBSI				S		**Sn**	**18 47 03.9**	**+0.1**
BSSI	**Bau Bau, Buton**	**3.58**	**338**	P		**Pn**	**18 46 52.7**	**+0.8**
PLAI	**Plampang**	**4.04**	**279**	P		**Pn**	**18 47 00.4**	**+2.2**
PLAI				S		**Sn**	**18 47 45.1**	**+0.8**
PLAI	**Plampang**	**4.04**	**279**	P		**Pn**	**18 47 01.1**	**+2.9**
BBSI	**Bau Bau**	**4.05**	**11**	P		**Pn**	**18 47 00.0**	**+1.6**
BKSI	**Bulukumba**	**4.47**	**338**	P		**Pn**	**18 47 05.4**	**+1.3**
KAPI	**Kappang**	**4.90**	**335**	P		**Pn**	**18 47 13.2**	**+3.2**
TWSI	**Taliwang, Sumb**	**4.93**	**278**	P		**Pn**	**18 47 12.9**	**+2.5**
TWSI				S		**Sn**	**18 48 09.2**	**+3.1**
SPSI	**Sidrap Palu**	**5.86**	**340**	P		**Pn**	**18 47 24.2**	**+1.1**
LUWI	**Luwuk**	**8.45**	**7**	P		**Pn**	**18 48 02.5**	**+3.8**
KNRA	**Kununurra**	**9.15**	**133**	P		**Pn**	**18 48 07.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**9.33**	**157**	Pn		**Pn**	**18 48 11.2**	**+0.5**
	0.8nm,0.3s,baz=359,slow=13,SNR=12							
FITZ				Sn		**Sn**	**18 49 47.6**	**-6.5**
	1.4nm,0.3s,baz=195,slow=12,SNR=7.7							
FITZ				LR	LR		18 52 47.0	
	comp=Z,45nm,18.1s,baz=356,slow=43							
	2.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**9.33**	**157**	P		**Pn**	**18 48 10.7**	**0.0**
MTN	**Manton Dam**	**9.73**	**111**	P		**Pn**	**18 48 15.2**	**-1.1**
KDU	**Kakadu**	**10.93**	**108**	P		**Pn**	**18 48 32.0**	**-0.7**
MBWA	**Marble Bar**	**11.77**	**190**	P		**Pn**	**18 48 44.8**	**+0.7**
PSA00	**Pilbara Seismi**	**12.16**	**189**	P		**Pn**	**18 48 49.2**	**-0.2**
FAKI	**Fak Fak**	**12.26**	**58**	P		**Pn**	**18 48 51.3**	**+0.5**
GIRL	**Giralia**	**14.96**	**208**	P		**Pn**	**18 49 27.4**	**+0.3**
	182nm,1.7s							
WRA	**Warramunga Arr**	**15.95**	**132**	Pn		**Pn**	**18 49 35.4**	**-4.4**
	0.4nm,0.3s,baz=310,slow=15,SNR=24							
WRA				Sn		Sn	18 52 22.3	-14
	0.6nm,0.3s,baz=308,slow=24,SNR=9.8							
MEEK	**Meekatharra**	**17.32**	**190**	P		**Pn**	**18 49 57.9**	**+0.9**
ASAR	**Alice Springs**	**18.23**	**142**	P		**P**	**18 50 07.8**	**-0.1**
	0.5nm,0.3s,baz=323,slow=13,SNR=27							
ASAR				S		Sn	18 53 17.1	-14
	2.6nm,1.0s,baz=313,slow=22,SNR=7.9							
	1.8nm,0.6s							
QIS	**Mount Isa**	**20.38**	**125**	P		**P**	**18 50 31.8**	**+0.5**
	16nm,1.2s							
STKA	**Stephens Creek**	**28.85**	**143**	P		**P**	**18 51 52.6**	**+0.2**
	1.5nm,0.5s,baz=326,slow=9.2,SNR=5.3							
	1.5nm,0.5s							
MKAR	**Makanchi Array**	**66.19**	**331**	P		P	18 56 37.7	-3.2
	0.6nm,0.4s,baz=136,slow=7.9,SNR=19							
	0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**70.52**	**338**	P		P	18 57 03.6	-4.2
	0.9nm,0.4s,baz=127,slow=5.4,SNR=4.6							
	0.9nm,0.4s							
VNDA	**Vanda**	**71.08**	**171**	P		**P**	**18 57 11.3**	**+0.4**
	0.7nm,0.5s,baz=309,slow=7.6,SNR=9.5							
	0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**121.28**	**280**	PKP		**PKPdf**	**19 04 45.5**	**-1.5**
	0.4nm,0.5s,baz=95,slow=1.5,SNR=6.0							

IDC **12** *18:47:52.8±1.1, 0.˚53N×125.˚54E, h0km, mb4.1/4, mbtmp4.0/5, ML3.2/1, MS3.3/2, Error ellipse: s-maj=57.8km s-min=20.8km az=59.0*
NEIC **12** *18:47:56.9±1.4, 0.˚56N±0.˚08×126.˚00E±0.˚05, h35km±2km, mb4.4/11, Error ellipse: s-maj=13.8km s-min=7.6km az=9.0*
DJA **12** *18:47:56.4±0.2, 1.˚N±3.˚×12.˚6E±.˚, h10km, M4.1/17, mb4.3/4, mB4.1/1, MLv4.0/17, Mw(mB)3.1/1*

ISC 12 18:47:57.9±0.7, **0.˚78N**±0.˚07×**126.˚12E**±0.˚06, **h44**km, **n41**, σ1§**89**/35, **mb4.3**/11, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.25**	**90**			**Pn**	**18 48 19.4**	**+0.5**
TNTI	**Ternate**	**1.25**	**90**	P		**Pn**	**18 48 19.5**	**+0.5**
LBMI	**Labuha**	**1.97**	**135**	P		**Pn**	**18 48 30.2**	**+1.3**
KMSI	**Cibinong**	**2.15**	**265**	P		**Pn**	**18 48 32.1**	**+0.9**
SANI	**Sanana**	**2.81**	**183**	P		**Pn**	**18 48 41.0**	**+0.6**
SGSI	**Sangihe**	**2.95**	**349**	P		**Pn**	**18 48 42.8**	**+0.6**
GTOI	**Gorontalo**	**3.11**	**267**	P		**Pn**	**18 48 47.2**	**+2.8**
LUWI	**Luwuk**	**3.80**	**242**			Pn	18 48 49.5	-4.5
LUWI	**Luwuk**	**3.80**	**242**	P		**Pn**	**18 48 55.0**	**+1.0**
NLAI	**Namlea**	**4.11**	**166**	P		**Pn**	**18 49 00.0**	**+1.8**
MRSI	**Marisa**	**4.19**	**266**	P		**Pn**	**18 49 00.5**	**+1.3**
APSI	**Ampana**	**4.77**	**249**	P		**Pn**	**18 49 10.2**	**+2.9**
AAI	**Ambon**	**4.90**	**155**	P		**Pn**	**18 49 10.3**	**+1.2**
MSAI	**Masohi**	**4.97**	**146**	P		**Pn**	**18 49 11.7**	**+1.7**
	0.0nm174nm6.0nm,0.4s							
TOLI2	**Tolitoli**	**5.34**	**274**			**Pn**	**18 49 15.3**	**+0.1**
SIJI	**Sorong**	**5.40**	**108**	Pn		Pn	18 49 22.1	+6.1
	0.6nm,0.3s,baz=284,slow=19,SNR=4.2							
	1.6nm,0.3s							
MPSI	**Mapaga**	**6.23**	**266**	P		Pn	18 49 32.9	+5.5
DAV	**Davao City (W)**	**6.27**	**355**	LR		LR	18 52 02.3	
	comp=Z,64nm,19.4s,baz=179,slow=38							
TTSI	**Tana Toraja**	**7.35**	**239**	P		**Pn**	**18 49 44.0**	**+1.3**
	0.1nm32nm,0.8s							
SPSI	**Sidrap Palu**	**7.90**	**233**	P		**Pn**	**18 49 52.1**	**+1.8**
KAPI	**Kappang**	**8.57**	**228**			Pn	18 49 55.4	-4.1
MYLDM	**Lahad Datu**	**8.77**	**300**			**Pn**	**18 50 00.8**	**-1.4**
SBUM	**Sibu**	**13.99**	**277**	P		**P**	**18 51 21.6**	**+1.1**
UGM	**Wanagama**	**17.78**	**241**	Pn		**Pn**	**18 51 57.6**	**-4.8**
FITZ	**Fitzroy Crossi**	**18.76**	**181**	P		**P**	**18 52 10.9**	**-2.5**
WB0	**Warramunga Arr**	**21.97**	**159**	P		**P**	**18 52 45.3**	**-3.0**
WB0				IAmb	IAmb	IAmb	18 52 53.5	
	comp=Z,10nm,0.9s							
WRAB	**Tennant Creek**	**22.11**	**159**	P		**P**	**18 52 47.0**	**-2.8**
WRAB				IAmb	IAmb	IAmb	18 52 56.7	
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**22.11**	**159**	P		**P**	**18 52 49.7**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=338,slow=11,SNR=11							
	comp=Z,3.7nm,0.5s							
WB2	**Warramunga Arr**	**22.12**	**159**	P		**P**	**18 52 46.9**	**-2.9**
WB2				IAmb	IAmb	IAmb	18 52 56.9	
	comp=Z,13nm,0.9s							
COEN	**Coen**	**22.36**	**132**	P		**P**	**18 52 53.1**	**+0.6**
COEN				IAmb	IAmb	IAmb	18 53 19.6	
	comp=Z,11nm,1.1s							
TPUB	**Ta-pu**	**23.01**	**347**	P		**P**	**18 53 00.8**	**+1.6**
IPM	**Ipoh**	**25.33**	**279**	P		**P**	**18 53 21.3**	**+0.4**
IPM				IAmb	IAmb	IAmb	18 54 03.6	
	comp=Z,19nm,1.4s							
AS31	**Alice Springs**	**25.45**	**163**	P		**P**	**18 53 18.2**	**-3.6**
ASAR	**Alice Springs**	**25.45**	**163**	P		**P**	**18 53 21.7**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=342,slow=11,SNR=8.9							
	comp=Z,1.1nm,0.4s							
ASAR	**Alice Springs**	**25.45**	**163**	P		**P**	**18 53 19.9**	**-2.0**
STKA	**Stephens Creek**	**35.64**	**157**	P		**P**	**18 54 52.8**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=334,slow=12,SNR=6.1							
	comp=Z,2.3nm,0.7s							
MKAR	**Makanchi Array**	**59.64**	**327**	P		**P**	**18 57 58.0**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=121,slow=8.6,SNR=20							
	comp=Z,1.2nm,0.4s							
MAKZ	**Makanchi**	**59.82**	**326**	P		**P**	**18 57 59.4**	**+0.6**
MAKZ				IAmb	IAmb	IAmb	18 58 00.2	
	comp=Z,3.4nm,1.4s							
KURK	**Kurchatov**	**63.90**	**329**	P		**P**	**18 58 26.5**	**+0.3**
KURK				IAmb	IAmb	IAmb	18 58 28.7	
	comp=Z,3.2nm,0.5s							
QSPA	**South Pole Qui**	**90.70**	**180**	LR		LR	19 41 58.9	
	comp=Z,64nm,18.6s,baz=15,slow=36							
TORD	**Torodi Ar. Bea**	**123.20**	**286**	PKP		**PKiKP**	**19 06 51.7**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=103,slow=2.0,SNR=3.1							

IDC **12** *18:54:51.4±1.8, 2.˚55N×128.˚23E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=91.4km s-min=24.6km az=69.0*
DJA **12** *18:55:09.2±0.5, 2.˚N±3.˚×12.˚8E±.˚, h145km±6km, M3.3/8, MLv3.3/8*

ISC 12 18:55:08.7±1.4, **2.˚33N**±0.˚09×**128.˚1E**±0.˚2, **h150**km, **n9**, σ1§**23**/12, **mb3.5**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.71**	**205**	P		**Pn**	**18 55 42.4**	**+1.9**
TNTI				S		**Sn**	**18 56 05.6**	**+0.7**
SGSI	**Sangihe**	**2.89**	**298**	P		**Pn**	**18 55 55.0**	**+0.4**
SGSI				S		**Sn**	**18 56 30.0**	**-0.2**
LBMI	**Labuha**	**3.01**	**191**	P		**Pn**	**18 55 57.7**	**+1.5**
LBMI				S		**Sn**	**18 56 30.6**	**-2.3**
SANI	**Sanana**	**4.83**	**206**	P		**Pn**	**18 56 20.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.44**	**187**	P		**P**	**18 59 33.4**	**-1.1**
	1.2nm,1.0s,baz=12,slow=9.7,SNR=6.2							
	1.2nm,1.0s							
WRA	**Warramunga Arr**	**22.97**	**165**	P		**P**	**18 59 60.0**	**-0.3**
	0.7nm,0.3s,baz=344,slow=10,SNR=29							
	0.7nm,0.3s							
ASAR	**Alice Springs**	**26.45**	**168**	P		**P**	**19 00 31.4**	**-0.5**
	0.3nm,0.8s,baz=349,slow=7.6,SNR=4.2							
	0.3nm,0.8s							
STKA	**Stephens Creek**	**36.36**	**160**	P		**P**	**19 01 58.3**	**-0.1**
	1.5nm,0.3s,baz=344,slow=7.5,SNR=11							
	1.5nm,0.3s,baz=344,slow=7.5,SNR=11							
MKAR	**Makanchi Array**	**59.47**	**325**	P		**P**	**19 04 56.0**	**+0.1**
	0.3nm,0.6s,baz=125,slow=6.9,SNR=4.3							
	0.3nm,0.6s							

DJA 12 18:58:05.9±0.3, **9.˚S**±3.˚×**11.˚9E**±.˚, **h49**km±13km, **M3.6**/12, **mb3.6**/6/2, **MLv3.6**/12, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.36**	**154**	P		Pn	18 58 16.7	+1.0
PLAI	**Plampang**	**1.51**	**288**	P		Pn	18 58 30.2	-0.4
BASI	**Baing, Sumba**	**1.61**	**124**	P		Pn	18 58 32.6	+0.7
TWSI	**Taliwang, Sumb**	**2.39**	**284**	P		Pn	18 58 43.1	+0.5
TWSI				S		Sn	18 59 11.4	+0.7
EDFI	**Ende, Flores**	**2.49**	**77**	P		Pn	18 58 44.6	+0.5
EDFI				S		Sn	18 59 13.3	-0.1
MMRI	**Maumere**	**3.05**	**78**	P		Pn	18 58 52.7	+1.1
MMRI				S		Sn	18

T1216				AML	AML			
	comp=E,46250µm,1.5s							
T1216				AML	AML			
	comp=E,5355µm,1.5s							
MMO1	**Montemonaco**	**0.16**	**45**	P	Pg	18 59 02.8	+0.5	
MMO1				S	Sg	18 59 05.6	+0.7	
T1217	**Poggiodomo (PG**	**0.20**	**247**	⇑P	Pg	18 59 03.6	+0.6	
T1217				S	Sg	18 59 07.2	+1.3	
T1217				AML	AML			
	comp=E,1885µm,0.3s							
T1217				AML	AML			
	comp=N,2160µm,0.3s							
T1217				AML	AML			
	comp=E,1755µm,0.3s							
T1217				AML	AML			
	comp=N,2110µm,0.3s							
T1217				AML	AML			
	comp=E,1886µm,0.3s							
T1217				AML	AML			
	comp=N,2160µm,0.3s							
T1217				AML	AML			
	comp=E,1760µm,0.3s							
T1217				AML	AML			
	comp=N,2105µm,0.3s							
T1217				AML	AML			
	comp=N,2160µm,0.3s							
FEMA	**Monte Fema**	**0.20**	**332**	P	Pg	18 59 03.6	+0.6	
FEMA				S	Sg	18 59 07.0	+1.0	
T1241	**Roccafluvione,**	**0.20**	**70**	⇑P	Pg	18 59 03.6	+0.6	
T1241				S	Sg	18 59 07.0	+1.1	
T1241				AML	AML			
	comp=N,3080µm,0.1s							
T1241				AML	AML			
	comp=E,2825µm,0.2s							
T1241				AML	AML			
	comp=E,2750µm,0.2s							
T1241				AML	AML			
	comp=E,2820µm,0.2s							
T1241				AML	AML			
	comp=N,3060µm,0.1s							
LNSS	**Leonessa**	**0.21**	**208**	⇑P	Pg	18 59 03.9	+0.6	
LNSS				S	Sg	18 59 07.7	+1.4	
LNSS				AML	AML			
	comp=E,2475µm,0.1s							
LNSS				AML	AML			
	comp=N,2875µm,0.1s							
LNSS				AML	AML			
	comp=E,8040µm,0.3s							
LNSS				AML	AML			
	comp=N,5905µm,0.2s							
T1243	**Rocca Santa Ma**	**0.22**	**114**	P	Pg	18 59 03.8	+0.4	
T1243				S	Sg	18 59 07.5	+0.9	
T1215	**Vallo di Nera,**	**0.23**	**274**	P	Pg	18 59 04.1	+0.6	
T1215				S	Sg	18 59 08.0	+1.2	
T1215				AML	AML			
	comp=E,1250µm,1.0s							
T1215				AML	AML			
	comp=N,1148µm,0.3s							
T1215				AML	AML			
	comp=E,1250µm,1.1s							
T1215				AML	AML			
	comp=N,1148µm,0.3s							
T1215				AML	AML			
	comp=E,1255µm,1.1s							
AM05	**Amandola Campo**	**0.23**	**34**	P	Pg	18 59 04.3	+0.7	
AM05				S	Sg	18 59 08.5	+1.7	
AM05				AML	AML			
	comp=E,991µm,0.4s							
AM05				AML	AML			
	comp=E,4090µm,0.4s							
AM05				AML	AML			
	comp=N,1655µm,0.2s							
AM05				AML	AML			
	comp=E,4085µm,0.4s							
AM05				AML	AML			
	comp=N,6615µm,0.1s							
AM05				AML	AML			
	comp=E,992µm,0.4s							
FDMO	**Fiordimonte**	**0.26**	**345**	⇑P	Pg	18 59 04.6	+0.5	
FDMO				S	Sb	18 59 08.9	-1.1	
FDMO				AML	AML			
	comp=E,2795µm,0.2s							
FDMO				AML	AML			
	comp=N,1925µm,0.2s							
RM33	**Pellescritta (**	**0.28**	**174**	⇑P	Pg	18 59 05.0	+0.5	
RM33				S	Sb	18 59 09.7	-1.1	
RM33				AML	AML			
	comp=E,853µm,0.2s							
RM33				AML	AML			
	comp=N,532µm,1.1s							
RM33				AML	AML			
	comp=E,848µm,0.2s							
RM33				AML	AML			
	comp=N,532µm,0.7s							
RM33				AML	AML			
	comp=N,662µm,0.7s							
RM33				AML	AML			
	comp=N,646µm,0.3s							
RM33				AML	AML			
	comp=E,906µm,1.1s							
RM33				AML	AML			
	comp=E,876µm,1.1s							
CESI	**CESI - Serrava**	**0.29**	**318**	P	Pg	18 59 05.4	+0.6	
CESI				S	Sb	18 59 10.3	-0.8	
CESI				AML	AML			
	comp=N,2300µm,0.3s							
CESI				AML	AML			
	comp=E,2220µm,0.4s							
CESI				AML	AML			
	comp=N,2305µm,0.3s							
GUMA	**Gualdo di Mace**	**0.30**	**23**	⇑P	Pg	18 59 05.3	+0.5	
GUMA				AML	AML			
	comp=N,5190µm,0.3s							
GUMA				AML	AML			
	comp=E,4760µm,0.3s							
GUMA				AML	AML			
	comp=E,4580µm,0.4s							
GUMA				AML	AML			
	comp=N,4760µm,0.4s							
CAMP	**Campotosto**	**0.30**	**146**	⇓P	Pg	18 59 05.3	+0.4	
CAMP				S	Sg	18 59 10.2	+1.1	
CAMP				AML	AML			
	comp=E,400µm,0.8s							
CAMP				AML	AML			
	comp=N,231µm,0.3s							
CAMP				AML	AML			
	comp=E,620µm,0.3s							
CAMP				AML	AML			
	comp=N,588µm,0.8s							
CAMP				AML	AML			
	comp=E,619µm,0.3s							
CSP1	**Cessapalombo**	**0.30**	**4**	⇑P	Pg	18 59 05.5	+0.5	
CSP1				S	Sb	18 59 10.5	-0.9	
CSP1				AML	AML			
	comp=N,1930µm,1.2s							
CSP1				AML	AML			
	comp=N,1935µm,1.2s							
CSP1				AML	AML			
	comp=E,2010µm,0.5s							
CSP1				AML	AML			
	comp=N,1905µm,1.2s							
T1246	**Crognaleto (TE**	**0.31**	**131**	P	Pg	18 59 05.4	+0.3	
T1246				S	Sg	18 59 10.3	+1.0	
TERO	**Teramo**	**0.36**	**117**	⇓P	Pg	18 59 06.1	+0.2	
TERO				S	Sb	18 59 11.8	-1.1	
TERO				AML	AML			
	comp=E,1420µm,0.4s							
TERO				AML	AML			
	comp=E,1415µm,0.4s							
TERO				AML	AML			
	comp=N,2650µm,0.5s							
TERO				AML	AML			
	comp=E,1435µm,0.4s							
TERO				AML	AML			
	comp=N,2800µm,0.5s							
TERO				AML	AML			
	comp=N,2645µm,0.5s							
T1247	**Pizzolo (AQ)**	**0.36**	**165**	P	Pg	18 59 06.4	+0.5	
T1247				S	Sb	18 59 12.2	-0.7	
T1247				AML	AML			
	comp=E,576µm,0.3s							
T1247				AML	AML			
	comp=N,756µm,0.2s							
T1247				AML	AML			
	comp=E,1064µm,0.1s							
T1247				AML	AML			
	comp=N,1180µm,0.2s							
T1247				AML	AML			
	comp=E,1064µm,0.1s							
T1247				AML	AML			
	comp=N,1185µm,0.2s							
ARRO	**Arrone**	**0.37**	**236**	P	Pg	18 59 06.5	+0.5	
ARRO				AML	AML			
	comp=E,346µm,0.2s							
ARRO				AML	AML			
	comp=N,452µm,1.2s							
ARRO				AML	AML			
	comp=N,569µm,0.2s							
ARRO				AML	AML			
	comp=E,381µm,0.8s							
OFFI	**Offida**	**0.40**	**68**	P	Pb	18 59 08.0	0.0	
OFFI				AML	AML			
	comp=E,357µm,0.5s							
OFFI				AML	AML			
	comp=N,776µm,0.6s							
OFFI				AML	AML			
	comp=E,830µm,0.9s							
OFFI				AML	AML			
	comp=N,851µm,1.2s							
ASSB	**Assisi San Ben**	**0.46**	**304**	⇓P	Pg	18 59 08.1	+0.3	
ASSB				AML	AML			
	comp=E,1096µm,1.5s							
ASSB				AML	AML			
	comp=N,1525µm,0.7s							
CESX	**Cesi**	**0.47**	**248**	S	Sb	18 59 16.0	-0.2	
SNTG	**Esanatoglia**	**0.50**	**340**	⇑P	Pg	18 59 09.0	+0.5	
SNTG				AML	AML			
	comp=E,225µm,0.6s							
SNTG				AML	AML			
	comp=N,258µm,0.2s							
SNTG				AML	AML			
	comp=E,289µm,1.4s							
SNTG				AML	AML			
	comp=N,258µm,0.2s							
FIAM	**Fiamignano**	**0.52**	**185**	⇑P	Pg	18 59 09.1	+0.1	
FIAM				AML	AML			
	comp=E,132µm,0.2s							
FIAM				AML	AML			
	comp=N,83µm,0.3s							
FIAM				AML	AML			
	comp=E,304µm,0.3s							
FIAM				AML	AML			
	comp=N,217µm,0.9s							
EL6	**Elcito**	**0.54**	**354**	⇓P	Pg	18 59 09.6	+0.2	
EL6				S	Sb	18 59 19.0	+0.7	
ATCC	**AVT- Casa Cast**	**0.56**	**315**	⇓P	Pg	18 59 10.0	+0.3	
ATCC				AML	AML			
	comp=E,370µm,0.3s							
ATCC				AML	AML			
	comp=N,298µm,0.8s							
ATCC				AML	AML			
	comp=N,309µm,0.9s							
ATCC				AML	AML			
	comp=E,408µm,1.1s							
CING	**Cingoli**	**0.59**	**1**	P	Pg	18 59 10.4	+0.2	
CING				AML	AML			
	comp=N,252µm,0.4s							
CING				AML	AML			
	comp=E,256µm,0.7s							
VCEL	**Villa Celiera**	**0.63**	**128**	P	Pg	18 59 11.4	+0.4	
VCEL				AML	AML			
	comp=E,138µm,0.6s							
VCEL				AML	AML			
	comp=N,121µm,0.4s							
VCEL				AML	AML			
	comp=E,332µm,0.4s							
VCEL				AML	AML			
	comp=N,453µm,0.8s							
VCEL				AML	AML			
	comp=N,454µm,0.8s							
PP3	**Marolino**	**0.67**	**28**	⇑P	Pb	18 59 12.2	-0.3	
PP3				AML	AML			
	comp=E,816µm,0.5s							
PP3				AML	AML			
	comp=N,384µm,0.7s							
PP3				AML	AML			
	comp=E,817µm,0.5s							
SSFR	**Montelago di S**	**0.71**	**336**	⇑P	Pg	18 59 12.9	+0.4	
SSFR				AML	AML			
	comp=E,580µm,0.2s							
SSFR				AML	AML			
	comp=E,538µm,0.2s							
SSFR				AML	AML			
	comp=N,500µm,0.2s							
SSFR				AML	AML			
	comp=N,502µm,0.2s							
T0110	**Collepietro**	**0.72**	**141**	P	Pg	18 59 12.7	0.0	
T0110				AML	AML			
	comp=E,106µm,0.5s							
T0110				AML	AML			
	comp=N,114µm,0.4s							
T0110				AML	AML			
	comp=E,408µm,0.4s							
T0110				AML	AML			
	comp=N,418µm,0.3s							
T0110				AML	AML			
	comp=N,418µm,0.3s							
ATFO	**Monte Foce - G**	**0.73**	**323**	P	Pg	18 59 13.1	+0.2	
ATFO				S	Sb	18 59 25.0	+1.4	
ATFO				AML	AML			
	comp=E,58µm,0.3s							
ATFO				AML	AML			
	comp=N,58µm,1.1s							
ATFO				AML	AML			
	comp=E,135µm,0.2s							
ATFO				AML	AML			
	comp=N,120µm,0.5s							
ARVD	**Arcevia**	**0.73**	**347**	P	Pg	18 59 13.1	+0.2	
ARVD				S	Sn	18 59 25.0	-1.4	
ARVD				AML	AML			
	comp=E,77µm,0.6s							
ARVD				AML	AML			
	comp=N,66µm,0.2s							
ARVD				AML	AML			
	comp=E,155µm,1.2s							
ARVD				AML	AML			
	comp=N,105µm,0.2s							
SRES	**S.Oreste - Sor**	**0.74**	**222**	S	Sn	18 59 26.0	-0.5	
MGAB	**Montegabbione**	**0.79**	**279**	⇑P	Pb	18 59 15.2	+0.6	
MGAB				AML	AML			
	comp=E,83µm,0.3s							
MGAB				AML	AML			
	comp=N,99µm,1.2s							
MGAB				AML	AML			
	comp=E,252µm,0.3s							
MGAB				AML	AML			
	comp=N,256µm,0.3s							
FRON	**Frontone**	**0.80**	**336**	P	Pg	18 59 14.4	+0.2	
FRON				AML	AML			
	comp=E,117µm,0.8s							
FRON				AML	AML			
	comp=N,212µm,0.3s							
ATVO	**AVT- Monte Val**	**0.82**	**317**	⇓P	Pg	18 59 14.6	0.0	
ATVO				AML	AML			
	comp=E,38µm,1.0s							
ATVO				AML	AML			
	comp=N,36µm,1.1s							
ATVO				AML	AML			
	comp=E,104µm,1.4s							
ATVO				AML	AML			
	comp=N,101µm,0.3s							
ATVO				AML	AML			
	comp=N,101µm,0.3s							
ATPI	**Pietralunga -**	**0.87**	**320**	⇑P	Pg	18 59 15.8	+0.2	
ATPI				AML	AML			
	comp=E,90µm,1.3s							
ATPI				AML	AML			
	comp=N,82µm,0.4s							
ATPI				AML	AML			
	comp=N,82µm,0.4s							
ATPI				AML	AML			
	comp=E,90µm,1.3s							
PIEI	**Pieia**	**0.88**	**328**	S	Sn	18 59 30.0	-0.1	
MPAG	**Monte Paganucc**	**0.89**	**340**	⇓P	Pb	18 59 16.3	-0.2	
MPAG				AML	AML			
	comp=N,144µm,0.7s							
MPAG				AML	AML			
	comp=E,148µm,0.3s							
MPAG				AML	AML			
	comp=N,144µm,0.7s							
INTR	**Introdacqua**	**0.94**	**145**	⇑P	Pg	18 59 16.4	-0.6	
INTR				AML	AML			
	comp=E,87µm,0.6s							
INTR				AML	AML			
	comp=N,144µm,0.8s							
INTR				AML	AML			
	comp=E,87µm,0.6s							
INTR				AML	AML			
	comp=N,144µm,0.8s							
PTRJ	**Pietraroja**	**1.74**	**144**	P	Pg	18 59 32.4	+0.2	

ROM 12 18:59:43.8±0.0, 42°870N±0'002×13°229E±0'003, h9km, ML2.4/44, 20C-13D, Error ellipse: s-maj=0.2km s-min=0.2km az=35.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
T1242	**Castelluccio d**	**0.04**	**204**	P	Pg	18	59	45.9	+0.1
T1242				S	Sg	18	59	47.1	0.0
T1242				AML	AML				
	comp=E,16200µm,0.9s								
T1242				AML	AML				
	comp=E,16000µm,0.4s								
T1242				AML	AML				
	comp=N,35250µm,0.2s								
T1242				AML	AML				
	comp=N,34700µm,0.2s								
MC2	**Monte Cornacci**	**0.05**	**326**	P	Pg	18	59	46.0	+0.1
MMO1	**Montemonaco**	**0.08**	**68**	P	Pg	18	59	46.3	+0.2
MMO1				S	Sg	18	59	47.8	+0.2
NRCA	**Norcia**	**0.09**	**247**	⇑P	Pg	18	59	46.6	+0.4
NRCA				S	Sg	18	59	48.5	+0.5
NRCA				AML	AML				
	comp=E,10750µm,0.9s								
NRCA				AML	AML				
	comp=N,10350µm,0.1s								
NRCA				AML	AML				
	comp=N,10335µm,0.1s								
NRCA				AML	AML				
	comp=N,10375µm,0.1s								
NRCA				AML	AML				
	comp=E,10745µm,0.9s								
NRCA				AML	AML				
	comp=E,11500µm,0.9s								
NRCA				AML	AML				
	comp=N,11000µm,0.4s								
AM05	**Amandola Campo**	**0.14**	**40**	⇑P	Pg	18	59	47.6	+0.7
AM05				S	Sg	18	59	50.0	+0.9
AM05				AML	AML				
	comp=E,991µm,0.4s								
AM05				AML	AML				
	comp=N,1655µm,0.2s								
AM05				AML	AML				
	comp=N,6615µm,0.1s								
AM05				AML	AML				
	comp=E,990µm,0.4s								
AM05				AML	AML				
	comp=N,6620µm,0.1s								
AM05				AML	AML				
	comp=E,4090µm,0.4s								
T1241	**Roccafluvione,**	**0.15**	**95**	⇑P	Pg	18	59	47.7	+0.6
T1241				S	Sg	18	59	50.3	+1.0
T1241				AML	AML				
	comp=E,2365µm,0.6s								
T1241				AML	AML				
	comp=N,2915µm,0.5s								
T1241				AML	AML				
	comp=E,2300µm,0.6s								
T1241				AML	AML				
	comp=N,2820µm,0.5s								
T1241				AML	AML				
	comp=N,2910µm,0.5s								
T1241				AML	AML				
	comp=E,2360µm,0.6s								
T1216	**Preci, Frazion**	**0.16**	**278**	P	Pg	18	59	47.7	+0.6
T1216				S	Sg	18	59	50.5	+1.0
T1216				AML	AML				
	comp=E,46250µm,1.5s								
T1216				AML	AML				
	comp=N,54700µm,0.4s								
T1216				AML	AML				
	comp=E,5350µm,1.5s								
T1216				AML	AML				
	comp=N,7195µm,0.3s								
T1216				AML	AML				
	comp=E,46300µm,1.5s								
T1216				AML	AML				
	comp=N,7185µm,0.3s								
T1216				AML	AML				
	comp=E,5355µm,1.5s								
FEMA	**Monte Fema**	**0.16**	**305**	⇑P	Pg	18	59	47.9	+0.6
FEMA				S	Sg	18	59	50.9	+1.1
FEMA				AML	AML				
	comp=E,3695µm,1.4s								
FEMA				AML	AML				
	comp=N,2885µm,0.7s								
FEMA				AML	AML				
	comp=E,3700µm,1.4s								
FEMA				AML	AML				
	comp=N,2885µm,0.7s								
T1202	**Accumoli, Fraz**	**0.17**	**181**	P	Pg	18	59	48.2	+0.8
T1202				S	Sg	18	59	51.5	+1.6
T1202				AML	AML				
	comp=E,6470µm,0.3s								
T1202				AML	AML				
	comp=N,8520µm,0.3s								
T1202				AML	AML				
	comp=E,6475µm,0.3s								
FDMO	**Fiordimonte**	**0.20**	**328**	P	Pg	18	59	48.3	+0.5
FDMO				S	Sg	18	59	51.8	+1.1
FDMO				AML	AML				
	comp=N,1925µm,0.2s								
FDMO				AML	AML				
	comp=E,2795µm,0.2s								
T1204	**Amatrice, Fraz**	**0.20**	**162**	⇓P	Pg	18	59	48.8	+0.7
T1204				S	Sg	18	59	52.5	+1.5
GUMA	**Gualdo di Mace**	**0.21**	**22**	⇑P	Pg	18	59	48.6	+0.6
GUMA				S	Sg	18	59	52.4	+1.4
GUMA				AML	AML				
	comp=E,4580µm,0.4s								
GUMA				AML	AML				
	comp=N,4760µm,0.4s								
GUMA				AML	AML				
	comp=N,5190µm,0.3s								
GUMA				AML	AML				
	comp=E,4760µm,0.3s								
CSP1	**Cessapalombo**	**0.22**	**355**	⇑P	Pg	18	59	48.9	+0.5
CSP1				S	Sg	18	59	52.8	+1.3
CSP1				AML	AML				
	comp=N,1915µm,1.2s								
CSP1				AML	AML				
	comp=N,1930µm,1.2s								
CSP1				AML	AML				
	comp=E,2010µm,0.5s								
CSP1				AML	AML				
	comp=N,1935µm,1.2s								
CSP1				AML	AML				
	comp=N,1905µm,1.2s								
T1243	**Rocca Santa Ma**	**0.24**	**137**	⇓P	Pg	18	59	49.2	+0.6
T1243				S	Sg	18	59	53.1	+1.2
T1217	**Poggiodomo (PG**	**0.27**	**234**	⇑P	Pg	18	59	49.9	+0.6
T1217				S	Sb	18	59	54.4	-1.3
T1217				AML	AML				
	comp=E,1332µm,0.5s								
T1217				AML	AML				
	comp=N,2160µm,0.3s								
T1217				AML	AML				
	comp=E,1275µm,1.2s								
T1217				AML	AML				
	comp=N,2110µm,0.3s								
T1217				AML	AML				
	comp=N,2160µm,0.3s								
T1217				AML	AML				
	comp=E,1330µm,0.5s								
T1217				AML	AML				
	comp=E,1275µm,1.2s								
T1217				AML	AML				
	comp=N,2105µm,0.3s								
T1217				AML	AML				
	comp=N,2160µm,0.3s								
CESI	**CESI - Serrava**	**0.27**	**300**	P	Pg	18	59	49.9	+0.6
CESI				S	Sb	18	59	54.6	-1.1
CESI				AML	AML				
	comp=E,2220µm,0.4s								
CESI				AML	AML				
	comp=N,2300µm,0.3s								
CESI				AML	AML				
	comp=N,2305µm,0.3s								
LNSS	**Leonessa**	**0.30**	**208**	⇑P	Pg	18	59	50.4	+0.6
LNSS				S	Sb	18	59	55.6	-0.9

LNSS AML AML
comp=E,8040µm,0.3s
LNSS AML AML
comp=N,5905µm,0.2s
OFFI Offida 0.34 79 ⇑P Pb 18 59 52.0 -0.1
OFFI AML AML
comp=E,830µm,0.9s
OFFI AML AML
comp=N,851µm,1.2s
CAMP Campotosto 0.36 158 ⇓P Pg 18 59 51.3 +0.4
CAMP S Sb 18 59 57.1 -1.1
CAMP AML AML
comp=E,619µm,0.3s
CAMP AML AML
comp=E,620µm,0.3s
CAMP AML AML
comp=N,588µm,0.8s
RM33 Pellescritta (0.36 182 P Pg 18 59 51.2 +0.2
RM33 S Sb 18 59 57.5 -0.8
RM33 AML AML
comp=E,906µm,1.1s
RM33 AML AML
comp=N,704µm,0.8s
RM33 AML AML
comp=N,645µm,0.3s
RM33 AML AML
comp=E,902µm,1.1s
RM33 AML AML
comp=E,876µm,1.1s
RM33 AML AML
comp=N,646µm,0.3s
RM33 AML AML
comp=N,710µm,1.1s
TERO Teramo 0.37 132 P Pg 18 59 51.5 +0.4
TERO S Sb 18 59 57.6 -0.9
TERO AML AML
comp=E,1420µm,0.4s
TERO AML AML
comp=E,1435µm,0.4s
TERO AML AML
comp=E,1415µm,0.4s
TERO AML AML
comp=N,2650µm,0.5s
TERO AML AML
comp=N,2645µm,0.5s
TERO AML AML
comp=N,2800µm,0.5s
T1247 Pizzolo (AQ) 0.43 173 ⇓P Pg 18 59 52.7 +0.5
T1247 S Sb 18 59 59.8 -0.5
T1247 AML AML
comp=E,1064µm,0.1s
T1247 AML AML
comp=N,1185µm,0.2s
T1247 AML AML
comp=E,1064µm,0.1s
T1247 AML AML
comp=N,1180µm,0.2s
SNTG Esanatoglia 0.44 331 ⇑P Pg 18 59 52.7 +0.3
SNTG AML AML
comp=E,289µm,1.4s
SNTG AML AML
comp=E,225µm,0.6s
SNTG AML AML
comp=N,258µm,0.2s
SNTG AML AML
comp=N,258µm,0.2s
ARRO Arrone 0.45 230 ⇑P Pg 18 59 52.9 +0.4
ARRO S Sb 19 00 00.2 -0.4
ARRO AML AML
comp=E,381µm,0.8s
ARRO AML AML
comp=N,569µm,0.2s
ASSB Assisi San Ben 0.45 293 ⇑P Pg 18 59 52.9 +0.3
ASSB S Sb 19 00 00.1 -0.7
ASSB AML AML
comp=N,1525µm,0.7s
ASSB AML AML
comp=E,1096µm,1.5s
EL6 Elcito 0.47 349 ⇑P Pg 18 59 53.1 +0.2
EL6 S Sb 19 00 02.0 +0.6
CING Cingoli 0.51 357 ⇓P Pg 18 59 54.0 +0.3
CING AML AML
comp=N,252µm,0.4s
CING AML AML
comp=E,256µm,0.7s
TRTR Tortoreto Alta 0.51 97 ⇑P Pb 18 59 55.4 +0.6
TRTR AML AML
comp=E,1060µm,0.4s
TRTR AML AML
comp=N,1495µm,0.4s
ATCC AVT- Casa Cast 0.53 306 P Pg 18 59 54.5 +0.3
ATCC S Sb 19 00 03.2 0.0
ATCC AML AML
comp=E,408µm,1.1s
ATCC AML AML
comp=N,309µm,0.9s
ATCC AML AML
comp=E,408µm,1.1s
CESX Cesi 0.54 242 P Pg 18 59 54.4 +0.1
CESX S Sb 19 00 03.3 -0.1
CESX AML AML
comp=N,290µm,0.2s
CESX AML AML
comp=N,290µm,0.2s
CESX AML AML
comp=E,463µm,1.5s
FOSV Fossato di Vic 0.55 321 ⇑P Pg 18 59 54.7 +0.3
FOSV S Sb 19 00 04.0 +0.5
FOSV AML AML
comp=E,358µm,0.2s
FOSV AML AML
comp=N,962µm,0.3s
PP3 Marolino 0.58 29 ⇓P Pb 18 59 56.5 +0.4
PP3 AML AML
comp=E,817µm,0.5s
PP3 AML AML
comp=N,384µm,0.7s
PP3 AML AML
comp=E,816µm,0.5s
PP3 AML AML
comp=N,384µm,0.7s
FIAM Fiamignano 0.61 188 ⇓P Pg 18 59 55.6 +0.1
FIAM AML AML
comp=E,304µm,0.3s
FIAM AML AML
comp=N,217µm,0.9s
MURB Monte Urbino 0.65 307 P Pb 18 59 56.9 -0.4
MURB AML AML
comp=E,1135µm,0.2s
MURB AML AML
comp=N,733µm,0.3s
SSFR Montelago di S 0.65 330 ⇓P Pg 18 59 56.6 +0.2
SSFR AML AML
comp=E,567µm,0.2s
SSFR AML AML
comp=E,523µm,0.2s
SSFR AML AML
comp=N,459µm,0.6s
SSFR AML AML
comp=N,432µm,0.2s
VCEL Villa Celiera 0.66 136 P Pg 18 59 57.0 +0.5
VCEL S Sb 19 00 07.5 +0.8
VCEL AML AML
comp=E,332µm,0.4s
VCEL AML AML
comp=N,453µm,0.8s
VCEL AML AML
comp=N,454µm,0.8s
ARVD Arcevia 0.66 342 P Pg 18 59 56.8 +0.2
ARVD S Sn 19 00 09.0 -1.0
ARVD AML AML
comp=E,155µm,1.2s
ARVD AML AML
comp=N,105µm,0.2s
ATFO Monte Foce - G 0.69 316 ⇓P Pg 18 59 57.1 0.0
ATFO AML AML
comp=N,120µm,0.5s
ATFO AML AML
comp=E,135µm,0.2s
ATTE AVT- Monte Tez 0.72 297 ⇓P Pg 18 59 57.9 +0.2
ATTE S Sb 19 00 10.0 +1.4
ATTE AML AML
comp=N,122µm,0.9s
ATTE AML AML
comp=E,150µm,0.3s
ATTE AML AML
comp=N,122µm,0.9s
FRON Frontone 0.74 331 P Pb 18 59 58.8 -0.1
FRON AML AML
comp=N,212µm,0.3s
FRON AML AML
comp=E,117µm,0.8s
T0110 Collepietro 0.76 148 ⇑P Pg 18 59 58.3 -0.1
T0110 S Sb 19 00 11.0 +1.3
T0110 AML AML
comp=N,418µm,0.3s
T0110 AML AML
comp=E,408µm,0.4s
T0110 AML AML
comp=N,418µm,0.3s
COR1 Corinaldo 0.78 348 P Pb 19 00 00.2 +0.7
ATVO AVT- Monte Val 0.79 311 ⇑P Pg 18 59 59.0 -0.1
ATVO AML AML
comp=E,104µm,1.4s
ATVO AML AML
comp=N,101µm,0.3s
ATVO AML AML
comp=N,101µm,0.3s
MGAB Montegabbione 0.82 273 ⇓P Pg 18 59 59.8 +0.2
MGAB AML AML
comp=E,226µm,0.4s
MGAB AML AML
comp=N,260µm,0.5s
MGAB AML AML
comp=N,256µm,0.3s
MGAB AML AML
comp=E,252µm,0.3s
SRES S.Oreste - Sor 0.83 220 S Sn 19 00 14.0 0.0
MPAG Monte Paganucc 0.83 336 ⇑P Pb 19 00 00.3 -0.1
MPAG AML AML
comp=N,144µm,0.7s
MPAG AML AML
comp=E,104µm,0.3s
MPAG AML AML
comp=N,144µm,0.7s
PIEI Pieia 0.84 323 ⇑P Pg 18 59 59.8 -0.1
PIEI AML AML
comp=N,88µm,0.8s
PIEI AML AML
comp=E,81µm,0.9s
ATPI Pietralunga - 0.84 314 ⇓P Pg 18 59 60.0 +0.1
ATPI S Sn 19 00 14.0 -0.3
ATPI AML AML
comp=E,90µm,1.3s
ATPI AML AML
comp=N,82µm,0.4s
ATPI AML AML
comp=N,82µm,0.4s
ATPI AML AML
comp=E,90µm,1.3s
NARO Abbazia di Nar 0.88 328 P Pg 19 00 00.9 +0.2
NARO AML AML
comp=N,54µm,0.5s
NARO AML AML
comp=E,73µm,1.3s
FSSB Fossombrone 0.89 338 P Pb 19 00 01.5 +0.2
FSSB AML AML
comp=N,335µm,0.3s
FSSB AML AML
comp=N,336µm,0.3s
FSSB AML AML
comp=E,262µm,0.3s
INTR Introdacqua 0.99 150 ⇓P Pg 19 00 02.5 -0.4
INTR AML AML
comp=E,87µm,0.6s
INTR AML AML
comp=N,144µm,0.8s
INTR AML AML
comp=E,87µm,0.6s
INTR AML AML
comp=N,144µm,0.8s
CAFI Castiglion Fio 1.03 297 ⇑P Pg 19 00 03.5 -0.1
CAFI AML AML
comp=E,52µm,0.8s
CAFI AML AML
comp=N,59µm,0.4s

*NOU **12** 19:07:44.0,28°.78S×174°.25W,h0km,mb4.8/24, Kermadec Islands Region*
*IDC **12** 19:08:01.8±0.7,28°.83S×176°.90W,h0km,mb4.4/10, mbtmp4.4/12,ML3.8/2,MS3.8/28,Error ellipse: s-maj=24.8km s-min=15.4km az=142.0*
*NEIC **12** 19:08:05.2±0.9,28°.75S±0°.09×176°.8W±0°.2,h27km±6km, mb4.7/40,Error ellipse: s-maj=20.0km s-min=12.3km az=105.0*
ISC 12 19:08:06.4±0.5,29°.17S±0°.07×176°.80W±0°.08,h36km, n155,σ2s09/118,mb4.6/21,MS3.8/29,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.98**	**265**	Pn	**Pn**	**19 08 24.2**	**+0.6**
	992nm,0.3s,baz=63,slow=9.0,SNR=51						
RAO				Sn	**Sn**	**19 08 37.4**	**+1.1**
	1µm,0.3s,baz=266,slow=22,SNR=8.4						
RAO				LR	LR	19 08 50.7	
	comp=Z,2µm,19.0s,baz=107,slow=49						
RAO	**Raoul Island**	**0.98**	**265**		**Pn**	**19 08 24.5**	**+0.9**
MXZ	**Matakaoa Point**	**9.32**	**205**	Pn	**Pn**	**19 10 19.2**	**+1.1**
OUZ	**Omahuta**	**10.13**	**231**	Pn	**Pn**	**19 10 32.6**	**+3.3**
OUZ	**Omahuta**	**10.13**	**231**	P	Pn	19 10 38.2	+9.0
URZ	**Urewera**	**10.39**	**208**	Pn	**Pn**	**19 10 34.6**	**+1.8**
	1.8nm,0.3s,baz=31,slow=16,SNR=7.2						
URZ				Sn	**Sn**	**19 12 25.5**	**-2.4**
	4.3nm,0.3s,baz=29,slow=19,SNR=10						
	5.5nm,0.4s						
URZ	**Urewera**	**10.39**	**208**	Pn	**Pn**	**19 10 29.2**	**-3.6**
URZ	**Urewera**	**10.39**	**208**	P	**Pn**	**19 10 35.0**	**+2.2**
BKZ	**Black Stump Fm**	**11.41**	**207**	Pn	**Pn**	**19 10 42.7**	**-4.2**
BKZ				Sn	**Sn**	**19 12 51.2**	**-1.9**
BKZ	**Black Stump Fm**	**11.41**	**207**	P	**Pn**	**19 10 46.7**	**-0.2**
HIZ	**Hauiti**	**11.61**	**214**	Pn	**Pn**	**19 10 46.6**	**-2.9**
HIZ	**Hauiti**	**11.61**	**214**	P	Pn	19 10 54.4	+4.8
MSVF	**Nonsavu**	**12.32**	**336**	LR	LR	19 15 02.8	
	comp=Z,293nm,19.6s,baz=150,slow=35						
MSWZ	**Moikau Station**	**13.83**	**206**	Pn	**Pn**	**19 11 16.2**	**-3.6**
SNZO	**South Karori**	**13.95**	**207**	Pn	**Pn**	**19 11 17.4**	**-4.1**
PLWZ	**Palliser**	**13.96**	**205**	Pn	**Pn**	**19 11 19.2**	**-2.4**
TUWZ	**Tuamarina**	**14.37**	**209**	P	P	19 11 51.1	+17
NNZ	**Nelson**	**14.44**	**211**	Pn	**Pn**	**19 11 25.5**	**-2.6**
QRZ	**Quartz Range**	**14.54**	**214**	Pn	Pn	19 11 22.1	-7.4
BSWZ	**Blackbirch Sta**	**14.63**	**209**	Pn	**Pn**	**19 11 26.8**	**-3.9**
THZ	**Tophouse**	**15.09**	**211**		**Pn**	**19 11 33.5**	**-3.5**
THZ				IAmb	IAmb	19 12 15.4	
	comp=Z,56nm,1.3s						
KHZ	**Kahutara**	**15.36**	**208**		**Pn**	**19 11 36.5**	**-3.8**
KHZ				IAmb	IAmb	19 11 48.4	
	comp=Z,49nm,1.1s						
LTZ	**Lake Taylor**	**16.19**	**210**	Pn	**Pn**	**19 11 45.9**	**-5.2**
LTZ				IAmb	IAmb	19 11 57.3	
	comp=Z,62nm,1.4s						
LTZ	**Lake Taylor**	**16.19**	**210**	P	**Pn**	**19 11 50.6**	**-0.5**
AMCZ	**Amberley**	**16.35**	**208**	P	**Pn**	**19 11 54.1**	**+1.0**
INZ	**Inchbonnie**	**16.52**	**212**	P	**Pn**	**19 11 55.7**	**+0.5**
DZM	**Mont Dzumac**	**16.67**	**291**	eLR	LR	19 15 46.9	
	comp=Z,610nm,21.9s						
DZM	**Mont Dzumac**	**16.67**	**291**	Pn	**Pn**	**19 11 58.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=135,slow=14,SNR=2.1						
DZM				LR	LR	19 17 09.7	
	comp=Z,614nm,19.0s,baz=160,slow=33						
DZM	**Mont Dzumac**	**16.67**	**291**		**Pn**	**19 11 54.8**	**-2.6**
LIFNC	**LIFOU**	**16.70**	**296**	Pn	**Pn**	**19 11 52.3**	**-5.3**
OXZ	**Oxford**	**16.73**	**209**		**Pn**	**19 11 54.6**	**-3.4**
OXZ	**Oxford**	**16.73**	**209**	P	P	**19 12 00.3**	**+0.4**
NOUC	**Port Laguerre**	**16.77**	**291**	P	**P**	**19 12 04.0**	**+3.5**
MQZ	**McQueen's Vall**	**16.79**	**207**	Pn	**Pn**	**19 11 54.1**	**-4.5**
MQZ				IAmb	IAmb	19 12 35.9	
	comp=Z,102nm,1.4s						
AKCZ	**Akaroa Harbour**	**16.82**	**207**	P	**P**	**19 12 03.9**	**+3.0**
WVZ	**Waitaha Valley**	**17.12**	**212**	P	**Pn**	**19 12 02.9**	**+0.2**
RAR	**Rarotonga**	**17.31**	**67**	Pn	**Pn**	**19 12 03.9**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=247,slow=13,SNR=3.9						
RAR				LR	LR	19 17 23.5	
	comp=Z,157nm,21.6s,baz=272,slow=32						
	comp=Z,25nm,0.9s						
WACZ	**Wakanui South**	**17.32**	**209**	P	**P**	**19 12 06.4**	**+0.1**
RPZ	**Rata Peaks**	**17.47**	**211**	P	**Pn**	**19 12 05.1**	**-2.1**
	comp=Z,16nm,0.5s,baz=54,slow=18,SNR=13						
RPZ				S	Sn	19 15 04.8	-16
	comp=Z,3.0nm,0.4s,baz=120,slow=21,SNR=1.2						
RPZ	**Rata Peaks**	**17.47**	**211**		**Pn**	**19 12 03.2**	**-4.0**
RPZ	**Rata Peaks**	**17.47**	**211**	P	**Pn**	**19 12 06.9**	**-0.3**
RPZ	**Rata Peaks**	**17.47**	**211**	P	**Pn**	**19 12 06.8**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**17.50**	**213**	P	**Pn**	**19 12 06.8**	**-0.6**
ARCZ	**Arundel**	**17.60**	**210**	P	**Pn**	**19 12 07.3**	**-1.5**
FOZ	**Fox Glacier**	**17.90**	**213**	Pn	**Pn**	**19 12 09.4**	**-3.0**
TMZ	**Timaru**	**18.02**	**209**	P	**Pn**	**19 12 11.5**	**-2.5**
LBZ	**Lake Benmore**	**18.39**	**211**	P	**P**	**19 12 14.7**	**-3.5**
LBZ				IAmb	IAmb	19 12 17.2	
	comp=Z,48nm,1.5s						
LBZ	**Lake Benmore**	**18.39**	**211**	P	**Pn**	**19 12 20.5**	**+2.1**
ODZ	**Otahua Downs**	**18.71**	**209**	P	**P**	**19 12 19.6**	**-2.1**
ODZ	**Otahua Downs**	**18.71**	**209**	P	**Pn**	**19 12 23.2**	**+0.9**
ODZ	**Otahua Downs**	**18.71**	**209**	P	**P**	**19 12 20.6**	**-1.1**
JCZ	**Jackson Bay**	**18.80**	**214**	P	**Pn**	**19 12 23.9**	**+0.4**
WKZ	**Wanaka**	**19.26**	**212**	P	**P**	**19 12 24.6**	**-3.1**
WKZ				IAmb	IAmb	19 12 42.1	
	comp=Z,83nm,1.3s						
MLZ	**Mavora Lakes**	**20.08**	**212**	P	**P**	**19 12 35.1**	**-1.7**
MLZ				IAmb	IAmb	19 12 50.3	
	comp=Z,52nm,1.4s						
WHZ	**Wether Hill Ro**	**20.56**	**212**	P	**P**	**19 12 40.0**	**-1.9**
WHZ				IAmb	IAmb	19 13 07.0	
	comp=Z,47nm,1.4s						
DCZ	**Deep Cove**	**20.61**	**214**	P	**P**	**19 12 40.1**	**-2.4**
DCZ				IAmb	IAmb	19 12 53.2	
	comp=Z,30nm,1.5s						
TBI	**Tubuai**	**25.16**	**83**	eLR	LR	19 19 44.1	
	comp=Z,288nm,25.5s						
ARMA	**Armidale**	**27.38**	**260**	P	**P**	**19 13 50.1**	**+1.5**
ARMA				IAmb	IAmb	19 14 05.0	
	comp=Z,9.2nm,0.8s						
ARMA	**Armidale**	**27.38**	**260**	P	**P**	**19 13 52.2**	**+3.6**
PPT2	**Papeete2**	**27.45**	**71**	eLR	LR	19 20 53.1	
	comp=Z,250nm,24.2s						
PPT	**Papeete**	**27.46**	**71**	LR	LR	19 21 44.0	
	comp=Z,99nm,20.3s,baz=194,slow=30						
EIDS	**Eidsvold**	**28.75**	**270**	P	**P**	**19 14 00.2**	**-0.5**
EIDS				IAmb	IAmb	19 14 34.4	
	comp=Z,12nm,1.2s						
HNR	**Honiara**	**29.34**	**307**	LR	LR	19 25 06.7	
	comp=Z,2µm,18.0s,baz=145,slow=35						
CAN	**Canberra**	**29.47**	**249**	P	**P**	**19 14 07.3**	**+0.2**
CAN				IAmb	IAmb	19 14 25.4	
	comp=Z,18nm,1.2s						
CAN	**Canberra**	**29.47**	**249**	P	**P**	**19 14 09.9**	**+2.8**
RK1H	**Rockhampton Ha**	**29.82**	**273**	P	**P**	**19 14 12.4**	**+2.2**
RMQ	**Roma**	**30.51**	**267**	P	**P**	**19 14 19.1**	**+2.8**
CMSA	**Cobar Meteorol**	**32.35**	**256**	P	**P**	**19 14 34.4**	**+2.0**
CTA	**Charters Tower**	**34.66**	**277**	P	**P**	**19 14 52.3**	**-0.4**
	comp=Z,6.7nm,0.9s,baz=102,slow=10,SNR=8.2						
CTA				LR	LR	19 27 18.6	
	comp=Z,343nm,19.1s,baz=80,slow=34						
	comp=Z,6.7nm,0.9s						
CTA	**Charters Tower**	**34.66**	**277**	P	**P**	**19 14 54.3**	**+1.6**
CTAO	**Charters Tower**	**34.66**	**277**	P	**P**	**19 14 52.6**	**-0.1**
CTAO	**Charters Tower**	**34.66**	**277**	P	**P**	**19 14 54.1**	**+1.4**
STKA	**Stephens Creek**	**35.79**	**255**	P	**P**	**19 15 02.9**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=108,slow=8.6,SNR=14						
STKA				LR	LR	19 28 07.0	
	comp=Z,185nm,18.0s,baz=49,slow=34						
	comp=Z,2.3nm,0.4s						
STKA	**Stephens Creek**	**35.79**	**255**	P	**P**	**19 15 03.0**	**+0.7**
STKA	**Stephens Creek**	**35.79**	**255**	P	**P**	**19 15 03.7**	**+1.4**
HTT	**Hallett**	**37.86**	**252**	P	**P**	**19 15 20.6**	**+0.7**
LCRK	**Leigh Creek**	**38.86**	**257**	P	**P**	**19 15 28.5**	**+0.2**
TAOE	**Nuku Hiva Isla**	**39.86**	**67**	eLR	LR	19 26 39.7	
	comp=Z,86nm,22.9s						
COEN	**Coen**	**39.97**	**284**	P	**P**	**19 15 36.5**	**-1.2**
COEN				IAmb	IAmb	19 16 15.0	
	comp=Z,20nm,1.3s						
COEN	**Coen**	**39.97**	**284**	P	**P**	**19 15 38.3**	**+0.6**
BBOO	**Buckleboo**	**40.32**	**253**	P	**P**	**19 15 40.6**	**+0.2**
BBOO				IAmb	IAmb	19 15 56.9	
	comp=Z,27nm,1.4s						
BBOO	**Buckleboo**	**40.32**	**253**	P	**P**	**19 15 42.0**	**+1.6**
OOD	**Oodnadatta**	**41.56**	**260**	P	**P**	**19 15 51.2**	**+0.5**
MULG	**Mulgathing**	**42.42**	**256**	P	**P**	**19 15 57.6**	**-0.1**
AS31	**Alice Springs**	**44.23**	**265**	P	**P**	**19 16 11.5**	**-1.0**
ASAR	**Alice Springs**	**44.23**	**265**	P	**P**	**19 16 11.9**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=100,slow=7.0,SNR=123						
ASAR				PcP	**PcP**	**19 17 57.8**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=119,slow=3.7,SNR=5.6						
ASAR				LR	LR	19 33 53.2	
	comp=Z,289nm,18.9s,baz=90,slow=35						
	comp=Z,3.6nm,0.5s						
ASAR	**Alice Springs**	**44.23**	**265**	P	**P**	**19 16 11.4**	**-1.1**
WR0	**Warramunga Arr**	**44.93**	**270**	P	**P**	**19 16 16.9**	**-1.2**
WB2	**Warramunga Ar**	**45.10**	**270**	P	**P**	**19 16 18.2**	**-1.2**
WB2				IAmb	IAmb	19 16 19.6	
	comp=Z,8.5nm,0.8s						
WRAB	**Tennant Creek**	**45.11**	**270**	P	**P**	**19 16 18.4**	**-1.1**
WRAB				IAmb	IAmb	19 16 19.6	
	comp=Z,6.5nm,0.8s						
WRAB	**Tennant Creek**	**45.11**	**270**	P	**P**	**19 16 19.1**	**-0.3**
WRA	**Warramunga Ar**	**45.11**	**270**	P	**P**	**19 16 18.4**	**-1.1**
	comp=Z,5.8nm,0.8s,baz=111,slow=7.5,SNR=63						
WRA				LR	LR	19 33 06.0	
	comp=Z,119nm,19.6s,baz=111,slow=33						
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**45.11**	**270**	P	**P**	**19 16 18.2**	**-1.3**
WB0	**Warramunga Arr**	**45.13**	**271**	P	**P**	**19 16 18.3**	**-1.3**
WB0				IAmb	IAmb	19 16 19.7	
	comp=Z,6.3nm,0.8s						
FORT	**Forrest**	**47.38**	**254**	P	**P**	**19 16 37.4**	**+0.2**
FORT	**Forrest**	**47.38**	**254**	P	**P**	**19 16 37.9**	**+0.7**
WRKA	**Warakurna**	**48.69**	**261**	P	**P**	**19 16 46.3**	**-1.1**
SBA	**Scott Base**	**49.34**	**185**	P	P	19 16 56.9	+5.3
SBA				IAmb	IAmb	19 17 17.0	
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**49.43**	**186**	P	**P**	**19 16 49.5**	**-2.8**
MTN	**Manton Dam**	**50.84**	**277**	P	P	19 16 55.7	-8.1
MTN				IAmb	IAmb	19 17 15.4	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**51.67**	**273**	P	**P**	**19 17 09.2**	**-0.8**
KNRA				IAmb	IAmb	19 17 15.2	
	comp=Z,6.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.42**	**268**	LR	LR	19 39 39.3	
	comp=Z,198nm,18.1s,baz=104,slow=36						
FITZ	**Fitzroy Crossi**	**53.42**	**268**	P	**P**	**19 17 19.9**	**-3.1**
NWAO	**Narrogin (SRO)**	**55.81**	**248**	LR	LR	19 41 03.1	
	comp=Z,99nm,18.0s,baz=38,slow=36						
GUMO	**Guam**	**56.36**	**314**	LR	LR	19 39 14.9	
	comp=Z,40nm,20.9s,baz=144,slow=33						
CASY	**Casey**	**56.71**	**208**	P	**P**	**19 17 47.4**	**+1.4**
SIJI	**Sorong**	**56.87**	**290**	LR	LR	19 40 03.1	
	comp=Z,65nm,21.6s,baz=114,slow=34						
MBWA	**Marble Bar**	**57.41**	**262**	P	**P**	**19 17 49.9**	**-1.8**
MORW	**Morawa**	**57.89**	**252**	P	**P**	**19 17 54.0**	**-1.0**
BATI	**Baumata**	**58.54**	**276**	LR	LR	19 43 53.0	
	comp=Z,346nm,18.1s,baz=162,slow=37						
QSPA	**South Pole Qui**	**60.94**	**180**	P	**P**	**19 18 19.3**	**+3.7**
	comp=Z,2.6nm,1.1s,baz=23,slow=3.1,SNR=3.3						
	comp=Z,2.6nm,1.1s						
QSPA	**South Pole Qui**	**60.94**	**180**	P	**P**	**19 18 18.7**	**+3.1**
KAPI	**Kappang**	**64.43**	**279**	LR	LR	19 46 51.5	
	comp=Z,81nm,18.5s,baz=140,slow=36						
DAV	**Davao City (W)**	**66.07**	**294**	LR	LR	19 44 44.5	
	comp=Z,29nm,21.3s,baz=117,slow=33						
PMSA	**Palmer Station**	**72.95**	**156**	LR	LR	19 49 31.1	
	comp=Z,35nm,18.5s,baz=239,slow=34						
MAW	**Mawson**	**73.82**	**200**	P	**P**	**19 19 39.9**	**+3.1**
	comp=Z,2.5nm,0.8s,baz=135,slow=2.9,SNR=3.8						
	comp=Z,2.5nm,0.8s						
MAW	**Mawson**	**73.82**	**200**	P	**P**	**19 19 38.9**	**+2.1**
JOW	**Kunigami**	**76.62**	**311**	LR	LR	19 48 05.0	
	comp=Z,96nm,20.5s,baz=107,slow=32						
MJAR	**Matsushiro Arr**	**77.84**	**324**	P	**P**	**19 19 58.8**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=149,slow=5.8,SNR=4.2						
	comp=Z,1.9nm,0.7s						
SNAA	**Sanae**	**79.35**	**178**	P	**P**	**19 20 10.4**	**+2.3**
H03S2	**Juan Fernandez** baz=239	**80.27**	**123**	T	T	20 50 08.9	
H03S1	**Juan Fernandez** baz=239	**80.28**	**123**	T	T	20 50 14.4	
H03S3	**Juan Fernandez** baz=239	**80.29**	**123**	T	T	20 50 14.6	
H03N3	**Juan Fernandez** baz=241,slow=74	**80.45**	**123**	T	T	20 50 26.0	
H03N2	**Juan Fernandez** baz=241,slow=74	**80.45**	**123**	T	T	20 50 24.7	
H03N1	**Juan Fernandez** baz=241	**80.47**	**123**	T	T	20 50 34.0	
PLCA	**Paso Flores**	**82.58**	**133**	LR	LR	19 50 41.6	

comp=Z,26nm,19.4s,baz=294,slow=31
LPIG La Paz 83.00 58 LR LR 19 54 56.7
comp=Z,31nm,18.0s,baz=207,slow=34
PFO Pinyon Flats O 84.60 47 LR LR 19 54 21.6
comp=Z,40nm,18.0s,baz=196,slow=33
PETK Petropavlovsk- 84.89 345 P **P** **19 20 36.9 -0.2**
comp=Z,3.8nm,0.7s,baz=126,slow=7.3,SNR=8.4
comp=Z,3.8nm,0.7s
PSI Prapat 86.35 275 LR LR 20 01 28.8
comp=Z,100nm,18.4s,baz=183,slow=37
NVAR Mina Array Bea 86.63 42 LR LR 19 56 08.5
comp=Z,70nm,18.1s,baz=262,slow=33
USRK Ussuriysk Ar. 86.72 326 P **P** **19 20 46.0 -0.4**
comp=Z,2.2nm,0.8s,baz=122,slow=4.1,SNR=5.2
comp=Z,2.2nm,0.8s
ELK Elko 89.93 42 LR LR 19 57 00.9
comp=Z,59nm,18.1s,baz=232,slow=33
TXAR Lajitas Array 90.84 57 LR LR 19 55 34.5
comp=Z,21nm,18.3s,baz=227,slow=31
ANMO Albuquerque 91.99 51 LR LR 19 53 50.7
comp=Z,26nm,20.2s,baz=239,slow=30
NNA Nana 92.75 105 LR LR 19 52 47.3
comp=Z,14nm,21.7s,baz=209,slow=29
ATAH Atahualpa 93.84 100 LR LR 19 54 02.0
comp=Z,35nm,21.5s,baz=266,slow=29
ILAR Eielson Array 96.50 12 P **P** **19 21 31.0 -0.4**
comp=Z,0.3nm,0.8s,baz=222,slow=6.1,SNR=2.1
comp=Z,0.3nm,0.8s
LPAZ La Paz 97.69 113 LR LR 19 58 04.2
comp=Z,16nm,21.5s,baz=272,slow=31
MKAR Makanchi Array 117.78 310 PKP **PKPdf** **19 26 48.4 -0.3**
comp=Z,1.4nm,0.8s,baz=121,slow=0.7,SNR=14
ZALV Zalesovo Beam 117.80 310 PKP **PKPdf** **19 26 48.0 -0.4**
comp=Z,0.4nm,0.4s,baz=95,slow=6.4,SNR=2.0
GEYT Alibeck 133.97 296 PKP **PKiKP** **19 27 21.2 0.0**
comp=Z,1.1nm,0.3s,baz=193,slow=5.9,SNR=4.5
ARCES ARCESS Array B 137.60 349 PKP **PKiKP** **19 27 27.2 -0.3**
comp=Z,3.7nm,1.0s,baz=42,slow=2.8,SNR=5.7
H10N3 ASCENSION HYDR 139.45 152 T T 22 04 39.8
baz=206
H10N1 ASCENSION HYDR 139.45 152 T T 22 04 23.6
baz=206
H10N2 ASCENSION HYDR 139.46 152 T T 22 04 22.3
baz=206
FINES FINESS Array B 144.33 341 PKP **PKPab** **19 27 35.6 -0.4**
comp=Z,2.5nm,0.7s,baz=57,slow=5.1,SNR=8.0
KBZ Khabaz 145.27 306 PKPbc **PKPbc** **19 27 39.9 0.0**
comp=Z,3.7nm,1.1s,baz=50,slow=2.9,SNR=5.4
NB2 NORSAR Subarra 147.68 353 PKP **PKPbc** **19 27 46.1 -0.4**
comp=Z,0.8nm,0.5s,baz=7.5,slow=2.8
NOA NORSAR Array B 147.68 353 PKPbc **PKPbc** **19 27 45.9 -0.6**
comp=Z,2.9nm,0.9s,baz=13,slow=4.1,SNR=6.2
AKASG Malin Array Be 150.92 325 PKPbc **PKPbc** **19 27 54.8 -0.1**
AKASG PKPab **sPKPdf** **19 28 03.8 +0.4**
comp=Z,13nm,0.6s,baz=44,slow=3.1,SNR=53
comp=Z,8.3nm,0.6s,baz=46,slow=3.3,SNR=8.9
BRTR Keskin Array B 152.90 301 PKPbc **PKPbc** **19 27 59.7 -0.3**
comp=Z,2.0nm,0.9s,baz=111,slow=2.5,SNR=8.3
KHC Kasperske Hory 158.54 341 *e*PKP **PKPab** **19 28 33.5 -1.3**
TORD Torodi Ar. Bea 164.00 175 PKPab **PKPab** **19 29 01.1 +1.7**
comp=Z,1.4nm,1.0s,baz=169,slow=6.3,SNR=5.2

MAN 12 19:09:02.1, 13°.52N×124°.15E, h10km, mb4.6, ML3.5, MS3.4, 10C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.07**	**4**	↑*iP*	Pg	19 09 05.3	+0.9
PVCP				*eS*	Sg	19 09 08.3	+2.3
CNP	**Catarman**	**1.12**	**153**	↑*eP*	Pb	19 09 20.2	-3.4
CNP				*eS*	Sb	19 09 35.1	-3.2
MMPH	**Masbate**	**1.26**	**204**	↑*iP*	Pg	19 09 26.6	+0.2
MMPH				*i* S	Sn	19 09 44.9	+2.0
JCNP	**Jose Panganiba**	**1.60**	**299**	↑*iP*	Pn	19 09 30.1	-0.4
JCNP				*i* S	Sn	19 09 51.6	+0.3
GQP	**Guinayangan**	**1.70**	**283**	↑*eP*	Pn	19 09 31.7	-0.1
GQP				*eS*	Sn	19 09 53.5	-0.2
BOAC	**Boac**	**2.24**	**269**	↑*eP*	Pn	19 09 40.2	+0.9
BOAC				*eS*	Sg	19 10 13.5	-0.7
BESP	**Borongan**	**2.29**	**146**	↑*iP*	Pn	19 09 36.9	-3.0
BESP				*eS*	Sb	19 10 11.5	-0.3
RCP	**Roxas**	**2.38**	**215**	↓*eP*	Pn	19 09 40.4	-0.8
LQP	**Lukban**	**2.60**	**283**	↑*eP*	Pb	19 09 46.8	-2.2
LQP				*eS*	Sg	19 10 31.4	+5.6
MSLP	**Maasin**	**3.44**	**168**	↑*iP*	Pn	19 09 58.7	+2.9
MSLP				*eS*	Sb	19 10 44.6	-0.4
BUTP	**Butuan**	**4.75**	**162**	↑*eP*	Pn	19 10 16.4	+2.6

MAN 12 19:11:49.0, 6°.10N×127°.48E, h12km, mb5.0, ML4.0, MS4.0, 6C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.48**	**305**	↑*eP*	Pn	19 12 15.0	-0.5
DDMP	**Don Marcelino,**	**1.76**	**270**	↑*iP*	Pn	19 12 16.8	-2.5
DDMP				*eS*	Sn	19 12 42.0	+0.4
BIPH	**Bislig**	**2.35**	**332**	↓*iP*	Pn	19 12 27.8	+0.4
BIPH				*i* S	Sn	19 12 57.1	+0.8
GSPH	**General Santos**	**2.52**	**270**	*eP*	Pn	19 12 28.1	-1.8
SKMP	**Bagumbayan, Su**	**2.95**	**278**	↑*eP*	Pn	19 12 36.3	+0.6
SKMP				*eS*	Sn	19 13 14.2	+3.2
BUKP	**Musuan**	**2.98**	**307**	↑*eP*	Pn	19 12 33.4	-2.8
BUKP				*eS*	Sg	19 13 33.5	+8.7
BUTP	**Butuan**	**3.39**	**327**	↑*iP*	Pn	19 12 44.0	+2.2
BUTP				*eS*	Sg	19 13 56.5	+18
CTBH	**Cotabato--PC H**	**3.40**	**289**	↑*iP*	Pn	19 12 44.5	+2.6
CGP	**Cagayan de Oro**	**3.62**	**310**	↓*eP*	Pn	19 12 45.9	+1.0

*NORS **12** 19:14:59.8±0.0, 43°.49N×43°.31E, h10km, MPVA4.0*
ISC 12 19:15:00.0±1.0, 43°.49N±0°.04×43°.31E±0°.03, h10km±8km, n20, σ0s85/36, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NCK	**Nalchik**	**0.21**	**89**	*i* Pg	**Pg**	**19 15 04.0**	**-0.3**
NCK				*eSg*	**Sg**	**19 15 07.4**	**+0.1**
NEY	**Neytrino**	**0.49**	**241**	*i* Pg	**Pb**	**19 15 10.7**	**-0.2**
NEY				*eSg*	**Sb**	**19 15 18.3**	**+0.1**
SHA1	**Shidzhatmaz**	**0.54**	**298**	*ePg*	**Pg**	**19 15 10.4**	**-0.1**
SHA1				*eSg*	**Sg**	**19 15 18.0**	**+0.4**
STDR	**Stavd-Durt**	**0.56**	**102**	*ePg*	**Pb**	**19 15 11.5**	**-0.4**
STDR				*eSg*	**Sb**	**19 15 20.5**	**+0.5**
DIGR	**Digorskoe uzhe**	**0.62**	**162**	*ePg*	**Pg**	**19 15 12.1**	**0.0**
DIGR				*eSg*	**Sg**	**19 15 20.7**	**+0.3**
KORR	**Kora**	**0.69**	**126**	*i* Pg	**Pg**	**19 15 13.4**	**+0.1**
KORR				*eSg*	**Sb**	**19 15 23.7**	**+0.1**
ARNR	**Ardon**	**0.78**	**113**	*ePg*	**Pb**	**19 15 15.6**	**+0.1**
ARNR				*eSg*	**Sn**	**19 15 27.4**	**-1.2**
ZEI	**Tsey**	**0.82**	**148**	*ePg*	**Pb**	**19 15 16.3**	**-0.3**
ZEI				*eSg*	**Sg**	**19 15 26.7**	**0.0**
BTKR	**Batakoyurt**	**0.90**	**97**	*ePg*	**Pn**	**19 15 18.2**	**-0.6**
BTKR				*eSg*	**Sn**	**19 15 32.2**	**+0.3**
ONI	**Oni**	**0.91**	**173**	P	**Pb**	**19 15 18.0**	**+0.2**
ONI				S	**Sn**	**19 15 30.9**	**-1.1**
LACR	**Lac**	**0.98**	**132**	*ePg*	**Pg**	**19 15 18.7**	**-0.2**
LACR				*eSg*	**Sb**	**19 15 31.7**	**-0.5**
TRKR	**Terskaya**	**1.06**	**77**	*ePg*	**Pg**	**19 15 20.2**	**-0.2**
TRKR				*eSg*	**Sb**	**19 15 34.7**	**+0.5**
VLKR	**Vladikavkaz**	**1.09**	**114**	*ePg*	**Pn**	**19 15 21.2**	**-0.2**
VLKR				*eSg*	**Sn**	**19 15 37.7**	**+1.1**
TKB	**Tkibuli**	**1.16**	**192**	P	**Pn**	**19 15 23.3**	**+0.9**
KMGR	**Komgaron**	**1.22**	**110**	*ePg*	**Pg**	**19 15 23.4**	**0.0**
KMGR				*eSg*	**Sn**	**19 15 42.1**	**+2.5**
PNSH	**Pansheti**	**1.28**	**131**	P	**Pn**	**19 15 23.4**	**-0.8**
PNSH				S	**Sb**	**19 15 39.6**	**-1.3**
ALIG	**Mtskhetisjvari**	**1.41**	**170**	P	**Pg**	**19 15 27.0**	**0.0**
BKRG	**Bakuriani**	**1.74**	**175**	P	**Pg**	**19 15 32.5**	**-0.9**
BKRG				S	**Sg**	**19 15 58.0**	**+2.2**
ABS	**Abastumani**	**1.77**	**192**	P	**Pn**	**19 15 29.4**	**-1.5**
AZMN	**Azmana**	**2.17**	**181**	P	**Pn**	**19 15 36.9**	**+0.5**

*NEIC **12** 19:17:24.5±2.0, 41°.786N±0°.005×124°.49W±0°.04, h10km±2km, Error ellipse: s-maj=4.9km s-min=3.0km az=86.0*
*ANF **12** 19:17:25.0±1.3, 41°.92N×124°.46W, h15km, ML3.3/10, Error ellipse: s-maj=12.0km s-min=6.3km az=34.0*
*NCEDC **12** 19:17:26.2±1.7, 41°.827N±0°.009×124°.38W±0°.03, h18km±3km, ML3.3/15, ML3.3/48(SEA), ML3.1/56(NEIC), Error ellipse: s-maj=3.3km s-min=0.9km az=105.0*

*SEA **12** 19:17:26.6±1.3, 41°.86N±0°.03×124°.37W±0°.06, h26km±4km, Error ellipse: s-maj=6.9km s-min=3.6km az=88.0*
ISC 12 19:17:25.6±1.2, 41°.82N±0°.02×124°.40W±0°.05, h26km±11km, n79, σ1s03/81, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSXB	**Camp Six Broad**	**0.39**	**88**	Pg	**Pb**	**19 17 33.6**	**-0.5**
KSXB	**Camp Six Broad**	**0.39**	**88**		**Sb**	**19 17 39.8**	**-0.1**
KSXB	**Camp Six Broad**	**0.39**	**88**	IAML		19 17 40.3	
	comp=N,4μm,0.7s						
KSXB				IAML		19 17 41.4	
	comp=E,6μm,0.7s						
KBO	**Bosley Butte**	**0.41**	**18**	Pg	**Pb**	**19 17 34.4**	**-0.2**
KBO	**Bosley Butte**	**0.41**	**18**		**Sb**	**19 17 40.7**	**+0.1**
KBO	**Bosley Butte**	**0.41**	**18**	IAML		19 17 41.7	
	comp=N,2μm,1.1s						
KBO				IAML		19 17 42.7	
	comp=E,3μm,0.9s						
KRMB	**Red Mountain**	**0.47**	**129**		**Pn**	**19 17 36.0**	**-0.8**
L02F	**Cave Junction**	**0.69**	**64**	P	**Pb**	**19 17 38.8**	**-0.3**
	baz=244						
L02F				S	**Sb**	**19 17 48.9**	**+0.7**
	baz=244						
KRPM	**Rodgers**	**0.72**	**157**	Pg	**Pn**	**19 17 40.1**	**-0.1**
KRPM	**Rodgers**	**0.72**	**157**		**Sn**	**19 17 51.0**	**+0.5**
KRPM	**Rodgers**	**0.72**	**157**	IAML		19 17 53.3	
	comp=N,2μm,0.8s						
KRPM				IAML		19 18 02.5	
	comp=E,2μm,0.8s						
KTRM	**Thompson Ridge**	**0.77**	**83**		**Pb**	**19 17 39.8**	**-0.7**
KOMM	**Orleans Mounta**	**0.89**	**127**		**Pn**	**19 17 42.6**	**0.0**
K02D	**Willamette Mer**	**1.03**	**32**		**Pn**	**19 17 43.8**	**-0.8**
K02D	**Willamette Mer**	**1.03**	**32**	P	**Pn**	**19 17 43.7**	**-0.8**
	baz=212,SNR=61						
K02D				S	**Sb**	**19 17 57.0**	**-1.0**
	baz=212						
JCC	**Jacoby Creek,**	**1.04**	**164**		**Pn**	**19 17 44.4**	**-0.2**
KEBM	**Edson Butte**	**1.05**	**3**	Pn	**Pb**	**19 17 46.0**	**+0.7**
KEBM				IAML		19 18 11.0	
	comp=N,550nm,0.7s						
KEBM				IAML		19 18 11.4	
	comp=E,643nm,0.8s						
KHMM	**Horse Mountain**	**1.07**	**152**		**Pb**	**19 17 45.1**	**-0.4**
KHMM				IAML		19 18 11.2	
	comp=N,609nm,0.7s						
KHMM				IAML		19 18 12.7	
	comp=E,609nm,1.0s						
YBH	**Yreka Blue Hor**	**1.27**	**93**		**Pn**	**19 17 48.1**	**+0.3**
YBH				IAML		19 18 14.7	
	comp=N,244nm,0.8s						
HUMO	**Hull Mountain**	**1.33**	**53**		**Pn**	**19 17 47.8**	**-0.8**
KCTM	**Capetown**	**1.34**	**178**		**Pn**	**19 17 49.0**	**+0.3**
J01E	**Myrtle Point**	**1.39**	**14**		**Pn**	**19 17 48.5**	**-0.9**
J01E				IAML		19 18 25.1	
	comp=E,332nm,0.8s						
J01E				IAML		19 18 26.2	
	comp=N,321nm,1.1s						
J01E	**Myrtle Point**	**1.39**	**14**	P	**Pn**	**19 17 48.6**	**-0.7**
	baz=194,SNR=12						
J01E				S	**Sn**	**19 18 04.9**	**-1.9**
	baz=194						
KMPM	**Mount Pierce**	**1.42**	**171**		**Pn**	**19 17 48.7**	**-1.1**
KMPM				IAML		19 18 10.3	
	comp=E,210nm,0.8s						
KMPM				IAML		19 18 33.9	
	comp=N,191nm,0.8s						
KCRM	**Chalk Rock**	**1.46**	**162**		**Pb**	**19 17 51.6**	**-0.6**
KHBM	**Hayfork Bally**	**1.46**	**142**		**Pn**	**19 17 50.9**	**+0.3**
LGPM	**Granite Peak**	**1.49**	**127**		**Pn**	**19 17 51.1**	**+0.3**
LBKM	**Bonanza King**	**1.49**	**119**		**Pn**	**19 17 51.4**	**+0.4**
DBO	**Dodson Butte**	**1.56**	**33**		**Pn**	**19 17 51.2**	**-0.6**
DBO				IAML		19 18 22.9	
	comp=E,161nm,0.9s						
DBO				IAML		19 18 37.0	
	comp=N,181nm,0.9s						
L04D	**Klamath Falls**	**1.61**	**75**		**Pn**	**19 17 53.1**	**+0.5**
L04D	**Klamath Falls**	**1.61**	**75**	P	**Pn**	**19 17 53.1**	**+0.5**
	baz=256,SNR=28						
KSMM	**Slide Mountain**	**1.64**	**174**		**Pn**	**19 17 53.5**	**+0.6**
LHEM	**Herd Peak**	**1.64**	**96**		**Pn**	**19 17 53.7**	**+0.6**
BBOR	**Butler Butte**	**1.66**	**49**		**Pn**	**19 17 53.6**	**+0.3**
KPPM	**Pickett Peak**	**1.67**	**152**		**Pb**	**19 17 56.1**	**+0.4**
KMRM	**Mail Ridge**	**1.68**	**162**		**Pb**	**19 17 54.3**	**-1.5**
KMRM				IAML		19 18 16.2	
	comp=E,213nm,0.8s						
KMRM				IAML		19 18 18.0	
	comp=N,143nm,1.0s						
LMPM	**Military Pass**	**1.71**	**100**		**Pb**	**19 17 55.6**	**-0.9**
M03C	**McCloud**	**1.79**	**107**		**Pn**	**19 17 56.1**	**+1.1**
LGMM	**Garner Mountai**	**1.93**	**96**		**Pn**	**19 17 58.1**	**+1.1**
I03D	**Drain, OR**	**2.03**	**22**	Pb	**Pb**	**19 18 00.3**	**-1.6**
	baz=202,SNR=12						
K04D	**Chiloquin, OR**	**2.12**	**67**	P	**Pn**	**19 17 59.5**	**-0.1**
	baz=249,SNR=8.8						
K04D				S	**Sn**	**19 18 25.2**	**0.0**
	baz=249						
KIPM	**Iron Peak**	**2.12**	**161**		**Pn**	**19 18 00.7**	**+1.1**
J04D	**Umpqua Nationa**	**2.21**	**49**		**Pn**	**19 18 02.0**	**+1.1**
J04D	**Umpqua Nationa**	**2.21**	**49**	P	**Pn**	**19 18 00.5**	**-0.4**
	baz=231,SNR=15						
KCPM	**Cahto Peak**	**2.22**	**164**		**Pn**	**19 18 01.3**	**+0.4**
KCPM				IAML		19 18 29.3	
	comp=E,164nm,0.7s						
KCPM				IAML		19 18 31.4	
	comp=N,155nm,0.4s						
KFPM	**Farley Peak**	**2.30**	**161**		**Pn**	**19 18 01.8**	**-0.1**
I02E	**Swisshome, OR**	**2.32**	**10**	Pn	**Pn**	**19 18 02.0**	**-0.2**
I02E				IAML		19 18 55.6	
	comp=N,80nm,1.4s						
I02E				IAML		19 19 04.3	
	comp=E,96nm,1.1s						
I02E	**Swisshome, OR**	**2.32**	**10**	Pb	**Pb**	**19 18 06.2**	**-0.6**
	baz=190						
GVV	**Valley View**	**2.42**	**147**		**Pn**	**19 18 05.8**	**+2.0**
I04A	**Tendick Farm,**	**2.46**	**36**	P	**Pn**	**19 18 02.8**	**-1.3**
	baz=217						
I04A				Sg	**Sb**	**19 18 44.6**	**+5.6**
	baz=217						
BUCK	**Buck Mountain**	**2.59**	**23**		**Pn**	**19 18 07.2**	**+1.2**
BUCK				IAML		19 19 00.2	
	comp=E,99nm,1.1s						
BUCK				IAML		19 19 00.4	
	comp=N,86nm,1.3s						
K05A	**Summer Lake**	**2.75**	**70**		**Pn**	**19 18 09.3**	**+0.9**
J05D	**Fort Rock, OR**	**2.76**	**57**	P	**Pn**	**19 18 08.9**	**+0.5**
	baz=239,SNR=7.1						
COR	**Corvallis**	**2.88**	**16**	Pn	**Pn**	**19 18 10.5**	**+0.7**
COR				IAML		19 19 11.2	
	comp=N,62nm,1.4s						
H04D	**Lebanon**	**2.96**	**24**		**Pn**	**19 18 12.6**	**+1.6**
H04D				IAML		19 19 23.7	
	comp=N,90nm,1.1s						
H04D				IAML		19 19 28.1	
	comp=E,70nm,1.9s						
MOD	**Modoc Plateau**	**3.06**	**87**		**Pn**	**19 18 12.2**	**-0.3**
MOD				IAML		19 19 16.0	
	comp=E,40nm,1.2s						
ORV	**Oroville**	**3.16**	**135**		**Pn**	**19 18 13.9**	**+0.2**
PINE	**Pine Mountain**	**3.22**	**51**		**Pn**	**19 18 14.9**	**+0.2**
PINE				IAML		19 19 24.2	
	comp=E,38nm,1.7s						
H04A	**Detroit Lake**	**3.29**	**29**		**Pn**	**19 18 16.4**	**+0.8**
BEKR	**Beckworth**	**3.63**	**121**		**Pn**	**19 18 20.2**	**-0.2**
PLTX	**Planet X, Gerl**	**3.88**	**105**		**Pn**	**19 18 23.2**	**-0.5**
AFDM	**Forest Hills D**	**3.88**	**136**		**Pn**	**19 18 22.6**	**-1.0**
HOOD	**Mount Hood Mea**	**4.03**	**29**		**Pn**	**19 18 26.6**	**+0.8**
HOOD				IAML		19 19 50.3	
	comp=N,36nm,1.2s						
I07A	**Izee**	**4.25**	**56**		**Pn**	**19 18 28.7**	**-0.1**
WVOR	**Wild Horse Val**	**4.33**	**80**		**Pn**	**19 18 28.9**	**-1.0**
WVOR				IAML		19 20 03.8	
	comp=N,14nm,2.2s						
PAHR	**Pah Rah Range**	**4.35**	**117**		**Pn**	**19 18 29.5**	**-0.7**
VCNR	**Virginia City**	**4.41**	**123**		**Pn**	**19 18 30.7**	**-0.4**
PNTR	**Pine Nut**	**4.56**	**125**		**Pn**	**19 18 33.4**	**+0.2**
CMB	**Columbia Colle**	**4.88**	**139**		**Pn**	**19 18 38.8**	**+1.4**
G08A	**Pilot Rock**	**5.26**	**47**		**Pn**	**19 18 43.8**	**+1.1**
RYN	**Ryan**	**5.51**	**123**	Pn	**Pn**	**19 18 46.4**	**+0.2**
KVN	**Kaiserville**	**5.54**	**118**		**Pn**	**19 18 46.9**	**+0.2**
LHV	**Little Huntoon**	**5.76**	**126**	Pn	**Pn**	**19 18 48.1**	**-1.3**
HAWA	**Hanford**	**5.76**	**36**	Pn	**Pn**	**19 18 49.9**	**+0.5**
NVAR	**Mina Array Bea**	**5.77**	**124**	Pn	**Pn**	**19 18 48.9**	**-0.9**
NV11	**Mina Array Sit**	**5.86**	**123**	Pn	**Pn**	**19 18 50.3**	**-0.6**
BMO	**Blue Mountains**	**5.99**	**57**	Pn	**Pn**	**19 18 53.1**	**+0.3**
E08A	**Dider Farm, El**	**6.05**	**38**	Pn	**Pn**	**19 18 52.5**	**-0.8**
MFID	**Camas Ranch**	**6.52**	**73**	Pn	**Pn**	**19 18 59.0**	**-1.0**

MAN 12 19:40:01.5, 9°.35N×126°.30E, h4km, mb4.2, ML3.0, MS2.7, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.77**	**241**	↑*eP*	Pb	19 40 17.8	+0.3
BUTP				*eS*	Sn	19 40 31.4	+0.2
SCPH	**Surigao**	**0.91**	**298**	↓*eP*	Pg	19 40 18.4	-0.6
SCPH				*eS*	Sg	19 40 31.1	+0.3
BIPH	**Bislig**	**1.16**	**177**	↓*eP*	Pg	19 40 22.8	-0.9
BIPH				*eS*	Sn	19 40 40.7	-0.1
CGP	**Cagayan de Oro**	**1.82**	**241**	↑*eP*	Pn	19 40 33.8	+0.2
CGP				*eS*	Sn	19 40 56.7	-0.4
BUKP	**Musuan**	**1.91**	**220**	↓*eP*	Pb	19 40 35.9	-1.0
BUKP				*i* S	Sg	19 41 03.4	+0.7

*JMA **12** 19:41:57.4±0.6, 36°.N±2°×12°9E±°, h0km, MV2.9/11, S KOREAN PENINSULA REG*
*KMA **12** 19:41:59.8±0.0, 35°.76N×129°.16E, h12km, Error ellipse: s-maj=0.5km s-min=0.4km az=293.0*
ISC 12 19:41:59.8±1.3, 35°.77N±0°.03×129°.16E±0°.04, h15km±12km, n36, σ0s35/38, South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.21**	**269**	P	**Pb**	**19 42 05.0**	**-0.3**
	SNR=525						
YOCB	**Yeongcheon**	**0.26**	**321**	P	**Pb**	**19 42 05.9**	**-0.3**
	SNR=52						
MIYA	**Miryang-si**	**0.43**	**230**	P	**Pg**	**19 42 08.6**	**+0.2**
	SNR=14						
KSDAU	**Deagu-acc**	**0.45**	**285**	P	**Pb**	**19 42 09.3**	**-0.2**
	SNR=109						
KSPHA	**Pohang**	**0.46**	**23**	P	**Pg**	**19 42 08.9**	**+0.1**
	SNR=24						
KSBUS	**Busan**	**0.52**	**184**	P	**Pg**	**19 42 09.7**	**-0.4**
	SNR=41						
KSCHR	**CHANGNYEONG**	**0.59**	**247**	P	**Pg**	**19 42 11.3**	**0.0**
	SNR=46						
KSADO	**Andong**	**0.66**	**345**	P	**Pb**	**19 42 12.7**	**-0.3**
	SNR=34						
EUSB	**Uiseong**	**0.70**	**327**	P	**Pb**	**19 42 13.3**	**-0.3**
	SNR=42						
YODB	**Yeongdeok**	**0.79**	**15**	P	**Pb**	**19 42 15.0**	**-0.2**
	SNR=17						
EURB	**Uiryeong-eup**	**0.84**	**238**	P	**Pb**	**19 42 15.6**	**-0.4**
	SNR=7.6						
KSGUM	**GUMI**	**0.84**	**304**	P	**Pg**	**19 42 16.1**	**0.0**
	SNR=12						
YEYB	**Yeongyang**	**0.85**	**356**	P	**Pb**	**19 42 16.0**	**-0.3**
	SNR=30						
ADOA	**Andong Acc Bor**	**0.88**	**335**	P	**Pg**	**19 42 17.0**	**+0.1**
	SNR=9.8						
KSGIC	**Gimchen**	**0.91**	**290**	P	**Pg**	**19 42 17.2**	**-0.1**
	SNR=50						
HACA	**Hapcheon Acc B**	**0.93**	**248**	P	**Pb**	**19 42 17.2**	**-0.4**
	SNR=14						
KSULJ	**Uljin**	**0.95**	**12**	P	**Pb**	**19 42 17.6**	**-0.4**
	SNR=84						
KUJA	**Jangpyeong**	**0.99**	**207**	P	**Pg**	**19 42 19.0**	**+0.1**
	SNR=6.6						
KSSAJ	**Sangju**	**1.03**	**308**	P	**Pn**	**19 42 19.4**	**-0.3**
	SNR=17						
DUSB	**Deogyusan**	**1.13**	**277**	P	**Pn**	**19 42 21.1**	**-0.1**
	SNR=32						
HAMB	**Hamyang**	**1.18**	**258**	P	**Pb**	**19 42 21.6**	**-0.2**
	SNR=11						
CHYB	**Chungyang**	**1.19**	**351**	P	**Pb**	**19 42 22.0**	**0.0**
	SNR=25						
YOJB	**Youngju**	**1.21**	**335**	P	**Pb**	**19 42 22.5**	**0.0**
	SNR=60						
OKCB	**Cheongsan-myeo**	**1.24**	**298**	P	**Pb**	**19 42 23.1**	**+0.2**
	SNR=34						
KSMGY	**Mungyeong**	**1.25**	**315**	P	**Pb**	**19 42 23.1**	**0.0**
	SNR=28						
JTU	**Tsushima**	**1.26**	**171**	P	**Pn**	**19 42 22.1**	**-0.8**
JTU				*eS*	**Sn**	**19 42 39.2**	**-0.3**
YKDB	**Yokjido**	**1.35**	**212**	P	**Pn**	**19 42 24.1**	**-0.1**
	SNR=37						
KSTBA	**Taebaek**	**1.36**	**353**	P	**Pb**	**19 42 25.0**	**0.0**
	SNR=35						
JTSM	**Tsushimamitsus**	**1.44**	**172**	P	**Pn**	**19 42 25.5**	**+0.2**
KSCHJ	**Chungju**	**1.46**	**319**	P	**Pb**	**19 42 26.6**	**0.0**
	SNR=16						
IMWB	**Imwonan-gil**	**1.47**	**6**	P	**Pb**	**19 42 27.0**	**+0.1**
	SNR=20						
NAWB	**Namwon**	**1.48**	**257**	P	**Pb**	**19 42 27.0**	**+0.1**
	SNR=32						
KSJEO	**Jeonju**	**1.52**	**277**	P	**Pb**	**19 42 28.0**	**+0.3**
	SNR=16						
JECH	**Jecheon**	**1.59**	**331**	P	**Pn**	**19 42 27.5**	**+0.1**
	SNR=6.6						
JHGM	**Hagimishima**	**1.90**	**121**	*eS*	**Sb**	**19 42 57.6**	**-0.1**
JII	**Iki**	**2.03**	**166**	*eP*	**Pn**	**19 42 34.5**	**+1.1**
JII				*eS*	**Sb**	**19 43 02.2**	**+0.8**

*IDC **12** 20:20:53.4±2.2, 36°.87N×140°.14E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=27.6km s-min=20.5km az=0.0*
*JMA **12** 20:20:55.9±0.1, 37°.1N±0°.1×139°.9E±0°.2, h10km, MV3.0/20, NORTHERN TOCHIGI PREF*
JMA Felt II J1 at NORTHERN TOCHIGI PREF .
ISC 12 20:20:55.8±0.9, 37°.13N±0°.03×139°.89E±0°.03, h13km±7km, n13, σ1s14/18, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

FIBU	**Brunna**	**1.15 273**	P		**Pg**	**20 37 59.8**	**-0.6**
NYNU	**Nynaeshamn**	**1.19 225**	P		**Pg**	**20 38 00.9**	**-0.4**
NYNU	**Nynaeshamn**	**1.19 225**	P		**Pg**	**20 38 00.9**	**-0.4**
BACU	**Backbrunna**	**1.27 271**	P		**Pg**	**20 38 02.1**	**-0.7**
BACU	**Backbrunna**	**1.27 271**	P		**Pg**	**20 38 02.1**	**-0.7**
OSTU	**Oestervaala**	**1.30 288**	P		**Pg**	**20 38 02.5**	**-0.9**
OSTU	**Oestervaala**	**1.30 288**	P		**Pg**	**20 38 02.5**	**-0.9**
IGGU	**Iggoen**	**1.53 313**	P		**Pn**	**20 38 06.9**	**-0.1**
IGGU	**Iggoen**	**1.53 313**	P		**Pn**	**20 38 06.9**	**-0.1**
ESKU	**Eskilstuna**	**1.76 250**	P		**Pn**	**20 38 10.9**	**+0.8**
ESKU	**Eskilstuna**	**1.76 250**	P		**Pn**	**20 38 10.9**	**+0.8**
HFS	**Hagfors**	**2.99 278**	Pn		**Pn**	**20 38 27.9**	**+0.8**
	0.1nm,0.3s,baz=96,slow=16,SNR=9.8						
HFS			Sn		**Sn**	**20 39 00.9**	**-2.7**
	0.1nm,0.3s,baz=101,slow=30,SNR=1.9						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**3.55 61**	Pn		**Pn**	**20 38 37.7**	**+3.0**
	baz=242,slow=13,SNR=6.1						
FINES			Sn		**Sn**	**20 39 15.4**	**-1.9**
	0.1nm,0.3s,baz=240,slow=22,SNR=1.4						
FINES			Lg		Lg	20 39 29.4	
	0.1nm,0.3s,baz=245,slow=35,SNR=1.6						
	1.8nm,0.9s						
NOA	**NORSAR Array B**	**4.33 289**	Pn		**Pn**	**20 38 45.3**	**-0.3**
	baz=125,slow=12,SNR=1.3						
NOA			Sn		**Sn**	**20 39 38.0**	**+1.3**
	baz=120,slow=18,SNR=1.9						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**10.03 12**	Pn		**Pn**	**20 40 03.1**	**-0.4**
	1.9nm,0.9s,baz=192,slow=13,SNR=6.9						

IDC ***12*** *20:47:02.5±11.0, 22°.24N×143°.80E, h262km±91km, mb3.0/7, mbtmp3.6/7, Error ellipse: s-maj=144.0km s-min=17.1km az=77.0*

ISC 12 20:47:01.1±3.0, 22°.2N±0°.3×143°.9E±0°.8, h250km, n7, σ0s51/7, mb3.2/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.48**	**321**	P	**P**	**20 51 20.6**	**+0.4**
	0.8nm,0.5s,baz=147,slow=8.1,SNR=5.3						
	0.8nm,0.5s						
SONM	**Songino Array**	**39.33**	**320**	P	**P**	**20 54 06.2**	**-0.2**
	0.3nm,0.5s,baz=128,slow=9.3,SNR=1.8						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**42.95**	**193**	P	**P**	**20 54 35.9**	**0.0**
	0.1nm,0.3s,baz=16,slow=9.3,SNR=17						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.80**	**312**	P	**P**	**20 56 05.7**	**+0.3**
	0.2nm,0.5s,baz=91,slow=9.0,SNR=3.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.57**	**317**	P	**P**	**20 56 24.4**	**-0.3**
	1.0nm,0.3s,baz=93,slow=7.7,SNR=5.7						
	1.0nm,0.3s						
BVAR	**Borovoye Array**	**62.68**	**319**	P	**P**	**20 56 58.6**	**-0.7**
	0.3nm,0.4s,baz=90,slow=5.8,SNR=5.2						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**82.97**	**335**	P	**P**	**20 58 58.3**	**+0.3**
	3.5nm,1.1s,baz=77,slow=7.3,SNR=4.3						
	3.5nm,1.1s						

TEH ***12*** *20:49:30.0, 27°.39N×53°.96E, h8km, ML3.1*
OMAN ***12*** *20:49:33.1±0.1, 27°.36N×54°.01E, h10km, mb4.0/1, ml2.8/17, Error ellipse: s-maj=1.3km s-min=0.9km az=1.0*
DSN ***12*** *20:49:34.1±0.7, 27°.16N×53°.72E, h14km, ML2.6/6, Error ellipse: s-maj=8.0km s-min=5.5km az=54.0*

ISC 12 20:49:30.6±1.5, 27°.42N±0°.04×53°.98E±0°.03, h2km±13km, n47, σ1s32/75, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.43**	**55**	*e*Pg	**Pg**	**20 49 38.2**	**-0.7**
LAR1				*e*Sg	**Sb**	**20 49 46.4**	**-1.5**
LAR1				*e*		20 50 00.4	
	comp=Z,45μm,0.4s						
LMD1	**Lamerd**	**0.73**	**264**	*e*Pg	**Pg**	**20 49 44.0**	**-0.6**
JHRM	**Jahrom**	**1.14**	**342**	*e*Pg	**Pn**	**20 49 52.9**	**-0.8**
JHRM				*e*		20 50 15.9	
	comp=Z,5μm,0.4s						
QIR1	**Qir**	**1.34**	**322**	*e*Pg	**Pg**	**20 49 56.3**	**0.0**
QIR1				*e*Sg	**Sg**	**20 50 15.8**	**+2.1**
QIR1				*e*		20 50 24.0	
	comp=Z,2μm,0.7s						
GENO	**Geno**	**1.95**	**90**	*e*		20 50 36.5	
	comp=N,3μm,0.4s						
GENO				*e*Pn	**Pb**	**20 50 06.1**	**-0.9**
IBND	**Bandar-abas**	**2.28**	**89**	*e*Pn	**Pn**	**20 50 10.2**	**+1.0**
IBND				*e*		20 50 58.9	
	comp=Z,1μm,0.6s						
SHME	**Shamm**	**2.37**	**125**	P	**Pn**	**20 50 10.6**	**+0.1**
SHME				S	**Sn**	**20 50 41.2**	**+1.2**
UMQ	**Umm Al-Quwin**	**2.42**	**141**	P	**Pn**	**20 50 12.7**	**+1.5**
UMQ				S	**Sn**	**20 50 43.0**	**+1.7**
BANOM	**Banah**	**2.56**	**125**	P	**Pn**	**20 50 15.0**	**+1.9**
BANOM				S	**Sn**	**20 50 45.4**	**+0.6**
JRN	**Qarnain Island**	**2.67**	**203**	P	**Pn**	**20 50 14.6**	**-0.1**
JRN				S	**Sn**	**20 50 50.8**	**+3.3**
MASF	**Masafi**	**2.83**	**136**	P	**Pn**	**20 50 18.1**	**+1.2**
MASF				S	**Sn**	**20 50 52.6**	**+1.1**
NAZ	**Nazwa, Dubai**	**2.85**	**148**	P	**Pn**	**20 50 18.8**	**+1.6**
	SNR=6.1						
NAZ				S	**Sn**	**20 50 54.1**	**+1.9**
NAZ	**Nazwa, Dubai**	**2.85**	**148**	P	**Pn**	**20 50 18.7**	**+1.5**
MDH	**Madha**	**2.97**	**135**	P	**Pn**	**20 50 20.1**	**+1.4**
MDH				S	**Sn**	**20 50 55.1**	**+0.2**
AJN	**Ajban**	**2.99**	**162**	P	**Pn**	**20 50 20.0**	**+1.0**
AJN				S	**Sn**	**20 50 55.2**	**-0.2**
FAQ	**Al Faqa, Dubai**	**3.03**	**151**	P	**Pn**	**20 50 20.9**	**+1.3**
FAQ				S	**Sn**	**20 50 57.8**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.03**	**151**	P	**Pn**	**20 50 20.5**	**+0.8**
ASUD	**Al Ashush, Dub**	**3.04**	**156**	P	**Pn**	**20 50 21.5**	**+1.8**
	SNR=7.2						
ASUD				S	**Sn**	**20 50 59.0**	**+2.3**
UOSS	**Minazif**	**3.17**	**140**	P	**Pn**	**20 50 22.8**	**+1.2**
UOSS				S	**Sn**	**20 50 59.9**	**-0.2**
HATD	**Hatta, Dubai**	**3.23**	**143**	P	**Pn**	**20 50 23.6**	**+1.2**
HATD				S	**Sn**	**20 51 02.4**	**+1.0**
HATD	**Hatta, Dubai**	**3.23**	**143**	P	**Pn**	**20 50 23.3**	**+0.9**
HATD				S	**Sn**	**20 51 02.3**	**+1.0**
NGRK	**Negar Kerman**	**3.28**	**47**	*e*Pn	**Pn**	**20 50 23.9**	**+0.5**
ASHO	**Ashiyiah**	**3.31**	**145**	P	**Pn**	**20 50 24.5**	**+1.0**
	SNR=25						
ASHO				S	**Sn**	**20 51 04.3**	**+1.0**
ASHO	**Ashiyiah**	**3.31**	**145**	P	**Pn**	**20 50 24.4**	**+1.0**
ASHO				S	**Sn**	**20 51 04.3**	**+1.0**
KHGB	**Koh Gabri**	**3.67**	**36**	*e*Pn	**Pn**	**20 50 29.8**	**+1.2**
ALNE	**Al Ain**	**3.71**	**154**	P	**Pn**	**20 50 30.3**	**+1.3**
ALNE				S	**Sn**	**20 51 14.8**	**+1.5**
ALNE	**Al Ain**	**3.71**	**154**	P	**Pn**	**20 50 30.1**	**+1.1**
JASK	**Jask - Hormozg**	**3.81**	**113**	P	**Pn**	**20 50 28.8**	**-1.5**
JASK				S	**Sn**	**20 51 16.9**	**+1.2**
SLWR	**Sila**	**3.92**	**212**	P	**Pn**	**20 50 30.4**	**-1.4**
SLWR				S	**Sn**	**20 51 20.1**	**+1.6**
CHMN	**Cheshme madani**	**3.96**	**51**	*e*Pn	**Pn**	**20 50 34.9**	**+2.1**
CHMN				*e*		20 51 28.6	
	comp=N,112nm,0.4s						
IMEH	**Mehriz**	**3.99**	**8**	*e*Pn	**Pn**	**20 50 34.0**	**+0.9**
KLNJ	**Kolanjah**	**4.14**	**330**	*e*Pn	**Pn**	**20 50 35.4**	**+0.2**
KBAM	**BAM**	**4.30**	**66**	*e*Pn	**Pn**	**20 50 38.9**	**+1.8**
KBAM				*e*		20 50 39.9	
	comp=Z,219nm,0.4s						
MZR	**Muzera**	**4.42**	**186**	P	**Pn**	**20 50 38.5**	**-0.3**
IRAM	**Rameshеh**	**4.59**	**343**	*e*Pn	**Pn**	**20 50 42.0**	**+0.8**
ARQ	**Araqi**	**4.67**	**150**	P	**Pn**	**20 50 42.8**	**+0.6**
	SNR=36						
ARQ				S	**Sn**	**20 51 37.3**	**+0.3**
UMZA	**Um Al Zommool**	**4.81**	**167**	P	**Pn**	**20 50 44.2**	**+0.1**
UMZA				S	**Sn**	**20 51 38.4**	**-1.9**
HOQ	**Hoqain**	**4.87**	**141**	*e*Pn	**Pn**	**20 50 45.6**	**+0.7**
HOQ	**Hoqain**	**4.87**	**141**	P	**Pn**	**20 50 45.6**	**+0.7**
	SNR=9.4						
HOQ				S	**Sn**	**20 51 40.6**	**-1.2**
BSY	**Bisya**	**5.50**	**147**	P	**Pn**	**20 50 54.3**	**+0.8**
BSY				S	**Sn**	**20 51 57.1**	**-0.3**
IZEF	**Zefreh**	**5.64**	**346**	*e*Pn	**Pn**	**20 50 54.7**	**-1.0**
SMDO	**Samad**	**5.70**	**139**	P	**Pn**	**20 50 57.2**	**+0.8**
SMDO				S	**Sn**	**20 52 01.8**	**-0.6**
WSAR	**Wadi Sarin**	**5.92**	**134**	P	**Pn**	**20 50 59.7**	**+0.3**
WSAR				S	**Sn**	**20 52 06.1**	**-1.7**
JMDO	**Jabal Madar**	**6.27**	**142**	P	**Pn**	**20 51 04.2**	**+0.1**
JMDO				S	**Sn**	**20 52 14.6**	**-1.8**
WBK	**Wadi Bani Khal**	**6.59**	**136**	*e*Pn	**Pn**	**20 51 08.6**	**0.0**
WBK	**Wadi Bani Khal**	**6.59**	**136**	P	**Pn**	**20 51 08.6**	**0.0**
	SNR=15						
MHTO	**MHTO**	**7.37**	**150**	P	**Pn**	**20 51 19.7**	**+0.4**
	SNR=5.3						
MHTO				S	**Sn**	**20 52 39.5**	**-4.0**

BUC 12 21:00:57.4±0.3, 45°.38N×26°.06E, h123km±2km, ml3.5/37, 69C-13D, Error ellipse: s-maj=1.8km s-min=1.4km az=163.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.14**	**325**	⇑P	Pn	21 01 15.2	+0.7
MLR				⇓S	Sn	21 01 28.7	+1.3
NEHR	**Nehoiu**	**0.17**	**73**	⇑P	Pn	21 01 15.3	+0.9
NEHR				⇓S	Sn	21 01 28.5	+1.3
ISR	**Istrita**	**0.43**	**127**	⇑P	Pn	21 01 16.1	+0.7
PLAR	**PLOIESTI**	**0.46**	**183**	⇓P	Pn	21 01 16.3	+0.9
COVR	**Voineasa-Covas**	**0.48**	**12**	⇑P	Pn	21 01 16.0	+0.4
COVR				⇑S	Sn	21 01 29.5	0.0
PLOR	**Plostina**	**0.63**	**41**	⇑P	Pn	21 01 17.1	+0.5
PLOR				⇑S	Sn	21 01 31.1	0.0
VRI	**Vrincioaia**	**0.68**	**43**	⇑P	Pn	21 01 17.6	+0.7
VRI				⇑S	Sn	21 01 33.0	+1.3
SULR		**0.71**	**169**	⇑P	Pn	21 01 17.8	+0.7
SULR				⇓S	Sn	21 01 33.5	+1.6
VOIR		**0.71**	**275**	⇑P	Pn	21 01 17.6	+0.3
VOIR				⇑S	Sn	21 01 32.0	-0.3
MTUR	**Matau**	**0.72**	**258**	⇑P	Pn	21 01 17.5	+0.2
OZUR		**0.75**	**345**	⇑P	Pn	21 01 17.8	+0.3
OZUR				⇑S	Sn	21 01 32.4	-0.3
DOPR	**Dopca**	**0.76**	**322**	⇑P	Pn	21 01 17.7	+0.2
DOPR				⇑S	Sn	21 01 32.5	-0.3
PANC	**Panciu**	**0.91**	**57**	⇑P	Pn	21 01 18.9	+0.1
PANC				⇑S	Sn	21 01 36.1	+1.0
INCR	**INCERC-Sediu C**	**0.94**	**176**	⇑P	Pn	21 01 19.2	+0.2
INCR				⇑S	Sn	21 01 36.6	+1.2
ARR	**Arges**	**1.00**	**270**	⇑P	Pn	21 01 20.5	+0.8
ARR				⇑S	Sn	21 01 36.7	0.0
BUC1	**Bucharest**	**1.03**	**181**	⇓P	Pn	21 01 20.2	+0.3
BUC1				⇑S	Sn	21 01 37.9	+0.9
LEHL	**Lehliu**	**1.05**	**149**	⇑S	Sn	21 01 38.2	+0.8
SGRR	**Singureni**	**1.15**	**183**	⇑P	Pn	21 01 21.3	+0.1
SGRR				⇓S	Sn	21 01 39.7	+0.5
TUDR		**1.15**	**78**	⇑P	Pn	21 01 21.1	0.0
TUDR				⇑S	Sn	21 01 38.8	-0.4
GHRR		**1.17**	**54**	⇑P	Pn	21 01 22.0	+0.6
GHRR				⇑S	Sn	21 01 40.1	+0.6
AMRR	**Amara**	**1.19**	**130**	⇓P	Pn	21 01 22.1	+0.6
AMRR				⇓S	Sn	21 01 40.5	+0.7
TESR	**Tescani**	**1.21**	**20**	⇑P	Pn	21 01 22.2	+0.5
TESR				⇑S	Sn	21 01 40.3	0.0
IZVR	**Izvoarele**	**1.21**	**81**	⇑P	Pn	21 01 21.4	-0.4
IZVR				⇑S	Sn	21 01 39.4	-1.0
SLCR	**Slobozia Conac**	**1.22**	**79**	⇑P	Pn	21 01 21.6	-0.3
VARL	**Varlezi**	**1.36**	**67**	⇑P	Pn	21 01 24.1	+0.7
VARL				⇑S	Sn	21 01 43.2	0.0
COPA	**Copaceanca**	**1.38**	**206**	⇑P	Pn	21 01 23.6	0.0
COPA				⇑S	Sn	21 01 43.0	-0.5
SCTR	**Scanteiesti**	**1.39**	**77**	⇑P	Pn	21 01 24.2	+0.5
SCTR				⇑S	Sn	21 01 43.7	-0.1
RASA	**Rasa**	**1.40**	**146**	⇑P	Pn	21 01 23.8	0.0
RASA				⇓S	Sn	21 01 43.5	-0.4
BIR	**Birlad**	**1.41**	**50**	⇑P	Pn	21 01 24.7	+0.7
BIR				⇑S	Sn	21 01 43.6	-0.6
TATR	**Tatarca**	**1.42**	**80**	⇑P	Pn	21 01 24.5	+0.5
TATR				⇑S	Sn	21 01 44.1	-0.2
CFR	**Carcaliu**	**1.48**	**97**	⇑P	Pn	21 01 24.4	-0.3
HARR	**Harsova**	**1.49**	**117**	⇓P	Pn	21 01 24.8	-0.1
VLDR	**Vladesti**	**1.50**	**71**	⇑P	Pn	21 01 25.5	+0.6
VLDR				⇑S	Sn	21 01 45.9	+0.1
GIUM	**Giurgiulesti**	**1.52**	**85**	⇓S	Sn	21 01 46.0	+0.5
LOT	**Lotru**	**1.61**	**273**	⇓S	Sn	21 01 48.8	+0.2
TLBR	**Topalu**	**1.64**	**120**	⇑P	Pn	21 01 26.5	-0.1
TPGR	**Topolog**	**1.75**	**106**	⇑P	Pn	21 01 27.7	-0.2
VASR	**Vaslui**	**1.75**	**43**	⇑P	Pn	21 01 28.6	+0.7
VASR				⇑S	Sn	21 01 51.6	+0.3
CVDA	**Cernavoda**	**1.75**	**126**	⇑P	Pn	21 01 28.0	+0.1
CVDA				⇑S	Sn	21 01 50.9	-0.3
ICOR	**Ion Corvin**	**1.77**	**135**	⇑P	Pn	21 01 28.4	+0.3
ICOR				⇑S	Sn	21 01 51.2	-0.3
VLAD	**Vladila**	**1.81**	**221**	⇑P	Pn	21 01 28.4	-0.3
LEOM	**Leova**	**1.88**	**53**	⇑P	Pn	21 01 29.9	+0.4
LEOM				⇑S	Sn	21 01 54.0	0.0
TIRR	**Tirgusor**	**1.91**	**118**	⇑P	Pn	21 01 29.5	-0.3
TLCR		**1.96**	**95**	⇑P	Pn	21 01 30.6	+0.2
TLCR				⇑S	Sn	21 01 55.3	-0.3
SRE	**Strehaia**	**2.15**	**252**	⇑S	Sn	21 01 59.1	-0.8
GZR	**Gura Zlata**	**2.31**	**272**	⇓P	Pn	21 01 34.0	-0.1
GZR				⇓S	Sn	21 02 03.0	-0.7
MILM	**Milestii Mici**	**2.46**	**50**	⇑P	Pn	21 01 36.7	0.0
HERR	**Herculane**	**2.62**	**260**	⇓P	Pn	21 01 38.1	-0.8
DRGR		**2.73**	**303**	⇑P	Pn	21 01 40.3	+0.1
SIRR	**Siria**	**3.20**	**288**	⇑P	Pn	21 01 46.7	+0.4

ISK ***12*** *21:10:37.8, 39°.46N×25°.88E, h16km, ML3.5/43*
DDA ***12*** *21:10:38.2±0.0, 39°.44N×25°.86E, h7km±2km, ML3.2*
THE ***12*** *21:10:38.9, 39°.46N×25°.86E, h12km±1km, ML3.2/10, Error ellipse: s-maj=1.7km s-min=0.7km az=135.0*
ATH ***12*** *21:10:38.9, 39°.46N×25°.87E, h18km±3km, ML3.4/3, Error ellipse: s-maj=4.1km s-min=1.1km az=146.0*

ISC 12 21:10:38.6±0.8, 39°.45N±0°.02×25°.87E±0°.02, h15km±6km, n103, σ0s61/130, 10C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.20**	**89**	PG	**Pg**	**21 10 43.2**	**-0.1**
GPNR				SG	**Sg**	**21 10 46.3**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.21**	**76**	P	**Pg**	**21 10 43.5**	**0.0**
KOCA				*i* AML	AML	21 10 46.0	
	comp=E,1μm,0.2s						
KOCA				S	**Sg**	**21 10 46.7**	**0.0**
KOCA				*i* AML	AML	21 10 47.0	
	comp=N,2μm,0.3s						
SIGR	**SIGRI**	**0.24**	**183**	P	**Pg**	**21 10 44.0**	**0.0**
SIGR				S	**Sg**	**21 10 47.8**	**+0.3**
	19μm,0.3s						
SIGR	**SIGRI**	**0.24**	**183**	PG	**Pg**	**21 10 43.9**	**0.0**
SIGR				SG	**Sg**	**21 10 47.9**	**+0.4**
SIGR	**SIGRI**	**0.24**	**183**	P	**Pg**	**21 10 43.9**	**0.0**
SIGR				S	**Sg**	**21 10 48.1**	**+0.7**
SIGR				AML	AML	21 10 48.4	
	comp=N,40905μm,0.3s						
SIGR				AML	AML	21 10 48.4	
	comp=E,33304μm,0.4s						
PRK	**Paraskevi**	**0.37**	**123**	P	**Pb**	**21 10 47.4**	**+0.5**
PRK				S	**Sb**	**21 10 52.7**	**+0.2**
	comp=E,10μm,0.6s						
PRK	**Paraskevi**	**0.37**	**123**	P	**Pb**	**21 10 47.1**	**+0.3**
PRK				S	**Sb**	**21 10 53.0**	**+0.5**
PRK				AML	AML	21 10 54.7	
	comp=N,15843μm,0.6s						
PRK				AML	AML	21 10 55.9	
	comp=E,20132μm,0.5s						
BOZC	**Bozcaada**	**0.41**	**19**	PG	**Pg**	**21 10 46.4**	**-0.6**
BOZC				SG	**Sg**	**21 10 52.7**	**0.0**
BOZC	**Bozcaada**	**0.41**	**19**	P	**Pg**	**21 10 46.5**	**-0.5**
BOZC				*i* AML	AML	21 10 54.0	
	comp=E,876nm,0.2s						
BOZC				*i* AML	AML	21 10 56.0	
	comp=E,1μm,0.2s						
EZN	**Ezine**	**0.51**	**43**	P	**Pg**	**21 10 48.4**	**-0.4**
EZN				S	**Sg**	**21 10 55.5**	**-0.2**
	comp=E,4μm,0.3s						
EZN	**Ezine**	**0.51**	**43**	PG	**Pg**	**21 10 48.3**	**-0.5**
EZN				SG	**Sg**	**21 10 55.4**	**-0.2**
AYVA	**Ayvalik**	**0.65**	**102**	P	**Pg**	**21 10 51.3**	**0.0**
AYVA				S	**Sg**	**21 11 00.5**	**+0.6**
AYVA				*i* AML	AML	21 11 03.0	
	comp=E,651nm,0.3s						
AYVA				*i* AML	AML	21 11 06.0	
	comp=E,1μm,0.4s						
EFSA	**Agios Efstrati**	**0.69**	**278**	P	**Pg**	**21 10 51.9**	**-0.2**
EFSA				S	**Sb**	**21 11 01.4**	**-0.2**
LIA	**Limnos Island**	**0.69**	**310**	P	**Pg**	**21 10 52.1**	**-0.1**
LIA				S	**Sb**	**21 11 01.9**	**+0.1**
	comp=E,1μm,0.4s						
LIA	**Limnos Island**	**0.69**	**310**	P	**Pg**	**21 10 51.9**	**-0.3**
LIA				S	**Sg**	**21 11 01.5**	**+0.1**
LIA				AML	AML	21 11 04.5	
	comp=E,2461μm,0.4s						
LIA				AML	AML	21 11 04.5	
	comp=N,1967μm,0.4s						
GADA	**Gvkgeada**	**0.74**	**1**	PG	**Pg**	**21 10 52.2**	**-0.9**
DKL	**Dikili**	**0.89**	**115**	PG	**Pb**	**21 10 55.7**	**0.0**
FOCM	**Foa**	**0.99**	**138**	PG	**Pb**	**21 10 57.0**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.05**	**26**	PG	**Pb**	**21 10 57.9**	**-0.6**
SMTH	**Samothraki Isl**	**1.05**	**346**	P	**Pb**	**21 10 58.2**	**-0.4**
SMTH				S	**Sn**	**21 11 13.3**	**0.0**
	comp=N,930nm,0.4s						
SMTH	**Samothraki Isl**	**1.05**	**346**	P	**Pb**	**21 10 58.0**	**-0.5**
ZEDA	**zmir-Bergama**	**1.05**	**117**	P	**Pb**	**21 10 58.5**	**0.0**
ZEDA				S	**Sg**	**21 11 13.2**	**+0.5**
ZEDA				*i* AML	AML	21 11 14.0	
	comp=N,341nm,0.4s						
ZEDA				*i* AML	AML	21 11 16.0	
	comp=N,379nm,0.2s						
CHOS	**Chios island**	**1.07**	**172**	P	**Pb**	**21 10 58.5**	**-0.4**
CHOS				S	**Sg**	**21 11 13.8**	**+0.4**
	comp=N,3μm,0.4s						
CHOS	**Chios island**	**1.07**	**172**	PN	**Pb**	**21 10 58.5**	**-0.4**
CHOS	**Chios island**	**1.07**	**172**	P	**Pb**	**21 10 58.6**	**-0.4**
URLA	**Izmir**	**1.23**	**152**	PN	**Pn**	**21 10 59.6**	**-1.7**
URLA	**Izmir**	**1.23**	**152**	P	**Pn**	**21 10 59.7**	**-1.5**
URLA				S	**Sb**	**21 11 15.6**	**-1.6**
URLA				*i* AML	AML	21 11 19.0	
	comp=N,782nm,0.5s						
URLA				*i* AML	AML	21 11 20.0	
	comp=N,768nm,0.4s						
CAVK	**Edirne/Enez-Ca**	**1.26**	**10**	P	**Pn**	**21 11 01.8**	**+0.1**
CAVK				S	**Sn**	**21 11 18.6**	**+0.3**
CAVK				*i* AML	AML	21 11 19.0	
	comp=N,695nm,1.0s						
CAVK				*i* AML	AML	21 11 27.0	
	comp=N,508nm,0.7s						
ENEZ	**Enez**	**1.30**	**9**	P	**Pn**	**21 11 02.5**	**+0.2**
ENEZ				S	**Sn**	**21 11 19.9**	**+0.5**
	comp=N,2μm,0.4s						
ENEZ	**Enez**	**1.30**	**9**	PN	**Pn**	**21 11 02.2**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**1.31**	**158**	P	**Pn**	**21 11 01.5**	**-0.8**
ZEYE				*i* AML	AML	21 11 23.0	
	comp=N,364nm,0.4s						
ZEYE				*i* AML	AML	21 11 25.0	
	comp=N,489nm,0.3s						
BALY	**Balya**	**1.38**	**77**	P	**Pn**	**21 11 03.3**	**-0.1**
BALY				*i* AML	AML	21 11 22.0	
	comp=N,2μm,0.7s						
BALY				*i* AML	AML	21 11 22.0	
	comp=N,423nm,0.4s						
BALY				S	**Sb**	**21 11 22.1**	**+0.5**
BLCB	**Balcova**	**1.40**	**139**	PN	**Pn**	**21 11 03.5**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.43**	**92**	P	**Pn**	**21 11 04.3**	**+0.2**
STEP				*i* AML	AML	21 11 26.0	
	comp=N,1μm,0.7s						
STEP				*i* AML	AML	21 11 29.0	
	comp=N,1μm,0.4s						
ALN	**Alexandroupoli**	**1.45**	**5**	P	**Pn**	**21 11 04.0**	**-0.3**
ALN				S	**Sb**	**21 11 23.3**	**-0.3**
	comp=N,658nm,0.7s						
ALN	**Alexandroupoli**	**1.45**	**5**	PN	**Pn**	**21 11 03.9**	**-0.3**
ALN	**Alexandroupoli**	**1.45**	**5**	P	**Pn**	**21 11 04.0**	**-0.3**
THAS	**Thassos island**	**1.46**	**323**	P	**Pn**	**21 11 04.8**	**+0.4**
THAS				S	**Sn**	**21 11 22.1**	**-1.1**
	comp=N,218nm,0.5s						
KESN	**Edirne-Kesan**	**1.51**	**24**	P	**Pn**	**21 11 05.2**	**-0.2**
KESN				S	**Sn**	**21 11 24.6**	**-0.3**
KESN				*i* AML	AML	21 11 26.0	
	comp=N,936nm,0.5s						
KESN				*i* AML	AML	21 11 29.0	
	comp=N,492nm,0.3s						
KNL	**Balıkesir**	**1.51**	**57**	P	**Pn**	**21 11 05.1**	**0.0**
KNL				S	**Sn**	**21 11 25.1**	**+0.5**
KNL				*i* AML	AML	21 11 29.0	
	comp=N,471nm,0.4s						
KNL				*i* AML	AML	21 11 30.0	
	comp=N,484nm,0.9s						
GONE	**Gonen-Balikesi**	**1.52**	**66**	PN	**Pn**	**21 11 04.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.59**	**39**	PN	**Pn**	**21 11 06.0**	**-0.3**
AKS	**Akhisar**	**1.61**	**110**	PN	**Pn**	**21 11 06.1**	**-0.4**
OUR	**Ouranopolis**	**1.70**	**302**	PN	**Pn**	**21 11 07.1**	**-0.6**
RDO	**Rodhopi**	**1.71**	**351**	P	**Pn**	**21 11 08.2**	**+0.3**
RDO				S	**Sn**	**21 11 28.6**	**-0.9**
	comp=N,198nm,0.8s						
RDO	**Rodh

KORR	**Kora**	**0.68**	**125**	*e*Pg		**Pb**	**21 12 46.7**	**-0.3**
KORR				*e*Sg		**Sb**	**21 12 56.9**	**+0.6**
PRTR	**Priterechnaya**	**0.76**	**68**	*i* Pg		**Pg**	**21 12 47.6**	**-0.4**
PRTR				*e*Sg		**Sb**	**21 12 58.7**	**0.0**
ARNR	**Ardon**	**0.77**	**112**	*e*Pg		**Pn**	**21 12 48.9**	**-1.0**
ARNR				*e*Sg		**Sn**	**21 13 00.8**	**-0.7**
ZEI	**Tsey**	**0.81**	**147**	*e*Pg		**Pb**	**21 12 49.2**	**-0.3**
ZEI				*e*Sg		**Sb**	**21 13 00.1**	**-0.3**
ONI	**Oni**	**0.89**	**173**	P		**Pn**	**21 12 51.5**	**-0.1**
ONI				S		**Sn**	**21 13 04.2**	**-0.3**
BTKR	**Batakoyurt**	**0.91**	**96**	*e*Pg		**Pn**	**21 12 52.0**	**+0.2**
BTKR				*e*Sg		**Sn**	**21 13 05.3**	**+0.5**
LACR	**Lac**	**0.97**	**131**	*e*Pg		**Pg**	**21 12 52.1**	**0.0**
LACR				*e*Sg		**Sg**	**21 13 05.0**	**+0.3**
KMGR	**Komgaron**	**1.21**	**110**	*e*Pg		**Pg**	**21 12 56.8**	**+0.2**
KMGR				*e*Sg		**Sg**	**21 13 15.3**	**+2.9**
PNSH	**Pansheti**	**1.27**	**131**	P		**Pb**	**21 12 57.0**	**-0.3**
PNSH				S		**Sn**	**21 13 13.6**	**-0.5**

*JMA **12** 21:15:27.6±0.4,36°N±1°×12°9E±°, h0km, MV2.8/8, S KOREAN PENINSULA REG*
*KMA **12** 21:15:29.1±0.1,35°.76N×129°.20E, h0km, Error ellipse: s-maj=1.3km s-min=0.5km az=292.0*
ISC 12 21:15:29.2±0.9,**35°.77N**±0°.03×**129°.15E**±0°.04,**h10**km,**n28,** σ0**s52**/31,**South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSGIC	**Gimchen** SNR=90	**0.90**	**290**	P	**Pn**	**21 15 47.6**	**-0.3**
HACA	**Hapcheon Acc B** SNR=32	**0.92**	**248**	P	**Pn**	**21 15 48.0**	**-0.2**
KSULJ	**Uljin** SNR=110	**0.95**	**13**	P	**Pb**	**21 15 48.0**	**+0.1**
KSSAJ	**Sangju** SNR=27	**1.02**	**309**	P	**Pn**	**21 15 49.7**	**+0.1**
DUSB	**Deogyusan** SNR=88	**1.12**	**277**	P	**Pn**	**21 15 51.5**	**+0.4**
HAMB	**Hamyang** SNR=18	**1.17**	**258**	P	**Pn**	**21 15 52.1**	**+0.5**
CHYB	**Chungyang** SNR=27	**1.19**	**351**	P	**Pg**	**21 15 52.0**	**0.0**
YOJB	**Youngju** SNR=57	**1.21**	**335**	P	**Pg**	**21 15 52.7**	**+0.2**
OKCB	**Cheongsan-myeo** SNR=24	**1.24**	**298**	P	**Pg**	**21 15 53.4**	**+0.5**
KSMGY	**Mungyeong** SNR=31	**1.25**	**316**	P	**Pg**	**21 15 53.3**	**+0.2**
JTU	**Tsushima** JTU	**1.26**	**171**	P S	**Pn** **Sb**	**21 15 52.2** **21 16 09.1**	**-0.6** **-0.1**
KSBON	**Boeun** SNR=46	**1.31**	**304**	P	**Pg**	**21 15 54.7**	**+0.4**
YKDB	**Yokjido** SNR=8.7	**1.35**	**212**	P	**Pg**	**21 15 55.0**	**-0.1**
KSTBA	**Taebaek** SNR=86	**1.36**	**353**	P	**Pg**	**21 15 55.2**	**-0.1**
JTSM	**Tsushimamitsus** JTSM	**1.44**	**172**	P S	**Pn** **Sb**	**21 15 54.9** **21 16 14.8**	**-0.4** **+0.3**
KSCHJ	**Chungju** SNR=17	**1.45**	**320**	P	**Pg**	**21 15 57.0**	**-0.1**
NAWB	**Namwon** SNR=19	**1.47**	**257**	P	**Pg**	**21 15 57.3**	**0.0**
KSJEO	**Jeonju** SNR=24	**1.52**	**277**	P	**Pg**	**21 15 58.3**	**0.0**
JECH	**Jecheon** SNR=7.3	**1.59**	**331**	P	**Pg**	**21 15 59.1**	**-0.5**
SUCA	**Sunchang** SNR=9.9	**1.68**	**257**	P	**Pg**	**21 16 01.0**	**-0.5**
KSJEU	**Jeongeup** SNR=21	**1.83**	**262**	P	**Pb**	**21 16 01.9**	**-0.8**
KSWJU	**Wonju** SNR=14	**1.85**	**332**	P	**Pg**	**21 16 04.0**	**-0.8**
KSKWJ	**Gwangju** SNR=26	**1.86**	**252**	P	**Pb**	**21 16 03.0**	**-0.3**
KSKWJ	**Gwangju** SNR=7.9	**1.86**	**252**	P	**Pb**	**21 16 04.0**	**+0.7**
BOSB	**Boseong-gun** SNR=11	**1.87**	**238**	P	**Pb**	**21 16 04.0**	**+0.5**
KOHB	**KOHEUNG** SNR=6.5	**1.92**	**234**	P	**Pb**	**21 16 03.4**	**-0.8**
JII	**Iki**	**2.03**	**166**	P	**Pn**	**21 16 04.7**	**+1.3**
JII				*e*S	**Sb**	**21 16 32.1**	**+0.8**
JTY	**Toyota**	**2.18**	**133**	*e*S	**Sb**	**21 16 35.0**	**-0.7**

*IDC **12** 21:20:01.5±2.4, 37°.48N×142°.14E, h0km, mb3.3/3, mbtmp3.2/4, ML2.1/1, Error ellipse: s-maj=47.1km s-min=34.3km az=53.0*
*JMA **12** 21:20:08.7±0.1, 37°.4N±0°.4×141°.7E±0°.8, h43km±2km, MV3.2/39, E OFF FUKUSHIMA PREF*
ISC 12 21:20:06.3±1.3,**37°.37N**±0°.05×**141°.81E**±0°.07,**h24**km,**n22,** σ0**s84**/28,**mb3.3**/3,**17D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.74**	**270**	⇓*i*P	**Pn**	**21 20 21.6**	**+0.3**
JFK				⇓S	**Sb**	**21 20 30.4**	**0.0**
JMST	**Minamisoumatoc**	**0.81**	**296**	⇓*i*P	**Pn**	**21 20 22.4**	**+0.2**
JMST				⇓S	**Sb**	**21 20 32.0**	**-0.3**
JMM	**Marumori**	**0.94**	**302**	⇓*i*P	**Pb**	**21 20 24.5**	**+0.5**
JMM				⇓S	**Sb**	**21 20 35.6**	**-0.5**
JIKH	**Ishinomakikobu**	**0.97**	**344**	⇓*i*P	**Pn**	**21 20 25.3**	**+0.8**
JIKH				⇓S	**Sn**	**21 20 36.8**	**-0.8**
JFFD	**Fukushimafurud**	**1.03**	**255**	⇓P	**Pn**	**21 20 25.8**	**+0.4**
JFFD				⇓S	**Sn**	**21 20 38.0**	**-1.0**
JIO	**Ouri**	**1.14**	**342**	⇓*i*P	**Pb**	**21 20 27.7**	**+0.4**
JIO				⇓S	**Sn**	**21 20 40.8**	**-0.8**
JFT	**Otama**	**1.18**	**277**	⇓*i*P	**Pb**	**21 20 28.5**	**+0.5**
JFT				⇓S	**Sn**	**21 20 42.5**	**-0.1**
JHO	**Hitachi**	**1.25**	**233**	⇓*i*P	**Pn**	**21 20 28.6**	**+0.3**
JHO				⇓S	**Sn**	**21 20 43.3**	**-1.1**
JOU	**Okura**	**1.34**	**318**	P	**Pb**	**21 20 30.9**	**+0.1**
JOU				S	**Sb**	**21 20 46.9**	**-0.7**
JYS	**Shirataka**	**1.62**	**302**	P	**Pb**	**21 20 35.2**	**-0.3**
JYS				*e*S	**Sn**	**21 20 53.7**	**+0.2**
JMK	**Ichinoseki**	**1.64**	**344**	⇓P	**Pb**	**21 20 35.4**	**-0.5**
JFY	**Yanaizu**	**1.68**	**272**	P	**Pn**	**21 20 35.5**	**+1.4**
JFY				*e*S	**Sn**	**21 20 55.0**	**+0.1**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=85,slow=14,SNR=8.4	**3.00**	**255**	Pn	**Pn**	**21 20 54.5**	**+2.1**
MJAR	0.2nm,0.3s,baz=2.0,slow=25,SNR=4.5 1.6nm,0.3s			Sn	**Sb**	**21 21 33.2**	**-2.1**
SONM	**Songino Array** 0.4nm,0.7s,baz=93,slow=7.8,SNR=2.8 0.4nm,0.7s	**27.86**	**303**	P	**P**	**21 25 54.5**	**+0.4**
H11N2	**WAKE ISLAND Hy** baz=315,slow=75,SNR=5.2	**28.05**	**122**	T	T	21 55 29.4	
H11N1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=6.0	**28.06**	**122**	T	T	21 55 24.9	
H11N3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=8.1	**28.07**	**122**	T	T	21 55 28.6	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=4.5	**28.78**	**124**	T	T	21 56 30.9	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=4.8	**28.78**	**124**	T	T	21 56 26.3	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=5.3	**28.80**	**124**	T	T	21 56 26.8	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=82,slow=9.5,SNR=2.3 0.2nm,0.6s	**44.21**	**302**	P	**P**	**21 28 13.2**	**-0.2**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=7.5,slow=7.4,SNR=4.7 0.2nm,0.5s	**57.44**	**188**	P	**P**	**21 29 53.0**	**-0.1**

*KRSC **12** 21:24:00.2±1.1, 53°.71N×161°.10E, h41km±22km, ML4.4*
*MOS **12** 21:24:01.6±0.8, 53°.69N×161°.12E, h42km, mb4.0/5, Error ellipse: s-maj=8.1km s-min=4.5km az=77.5*
*IDC **12** 21:24:06.1±2.2, 53°.95N×160°.65E, h74km±21km, mb3.4/13, mbtmp3.7/14, MS3.3/15, Error ellipse: s-maj=24.8km s-min=16.8km az=164.0*
ISC 12 21:24:02.0±1.0,**53°.72N**±0°.03×**161°.04E**±0°.04,**h44**km±10km, **n124,** σ1**s49**/154,**mb3.8**/19,**MS3.4**/12,**3C-3D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.87**	**225**	PN	**Pn**	**21 24 17.7**	**-0.1**
SPN				S	**Sn**	**21 24 28.8**	**-0.6**
SPN	**Mys Shipunski**	**0.87**	**225**	*e*P	**Pn**	**21 24 17.7**	**-0.1**
SPN				*e*S	**Sn**	**21 24 28.8**	**-0.6**
KII	**Karymskiy**	**0.99**	**289**	PN	**Pn**	**21 24 19.3**	**-0.2**
KII				S	**Sn**	**21 24 31.9**	**-0.5**
KII	**Karymskiy**	**0.99**	**289**	*e*P	**Pn**	**21 24 19.3**	**-0.2**
KII				*e*S	**Sn**	**21 24 31.9**	**-0.5**
NLC	**Nalytchevo**	**1.15**	**242**	PN	**Pn**	**21 24 21.8**	**+0.2**
NLC				S	**Sn**	**21 24 36.2**	**0.0**
NLC	**Nalytchevo**	**1.15**	**242**	*e*P	**Pn**	**21 24 21.8**	**+0.2**
NLC				*e*S	**Sn**	**21 24 36.2**	**0.0**
SDLR	**Sedlovina**	**1.36**	**252**	PN	**Pn**	**21 24 25.3**	**+0.7**
SDLR				S	**Sn**	**21 24 41.6**	**+0.1**
SDLR	**Sedlovina**	**1.36**	**252**	*e*P	**Pn**	**21 24 25.3**	**+0.7**
SDLR				*e*S	**Sn**	**21 24 41.6**	**+0.1**
SMAR	**Somma**	**1.41**	**252**	PN	**Pn**	**21 24 26.0**	**+0.6**
SMAR				S	**Sn**	**21 24 43.5**	**+0.6**
SMAR	**Somma**	**1.41**	**252**	*e*P	**Pn**	**21 24 26.0**	**+0.6**
SMAR				*e*S	**Sn**	**21 24 43.5**	**+0.6**
UGLR	**Uglovaya**	**1.42**	**250**	PN	**Pn**	**21 24 26.2**	**+0.8**
UGLR				S	**Sn**	**21 24 44.2**	**+1.3**
UGLR	**Uglovaya**	**1.42**	**250**	*e*P	**Pn**	**21 24 26.2**	**+0.8**
UGLR				*e*S	**Sn**	**21 24 44.2**	**+1.3**
KRER	**Koryakskii**	**1.43**	**254**	PN	**Pn**	**21 24 26.5**	**+0.9**
KRER				S	**Sn**	**21 24 44.4**	**+1.1**
KRER	**Koryakskii**	**1.43**	**254**	*e*P	**Pn**	**21 24 26.5**	**+0.9**
KRER				*e*S	**Sn**	**21 24 44.4**	**+1.1**
AVH	**Avacha**	**1.45**	**252**	PN	**Pn**	**21 24 26.7**	**+0.9**
AVH				S	**Sn**	**21 24 45.0**	**+1.4**
AVH	**Avacha**	**1.45**	**252**	*e*P	**Pn**	**21 24 26.7**	**+0.9**
AVH				*e*S	**Sn**	**21 24 45.0**	**+1.4**
KRX	**Arik**	**1.47**	**257**	PN	**Pn**	**21 24 26.7**	**+0.6**
KRX				S	**Sn**	**21 24 44.4**	**+0.1**
KRX	**Arik**	**1.47**	**257**	*e*P	**Pn**	**21 24 26.7**	**+0.6**
KRX				*e*S	**Sn**	**21 24 44.4**	**+0.1**
KOK	**Koryaka**	**1.50**	**254**	PN	**Pn**	**21 24 27.2**	**+0.7**
KOK				S	**Sn**	**21 24 46.3**	**+1.5**
KOK	**Koryaka**	**1.50**	**254**	*e*P	**Pn**	**21 24 27.2**	**+0.7**
KOK				*e*S	**Sn**	**21 24 46.3**	**+1.5**
DALK	**Dalny**	**1.53**	**244**	PN	**Pn**	**21 24 27.4**	**+0.6**
DALK				S	**Sn**	**21 24 46.0**	**+0.5**
DALK	**Dalny**	**1.53**	**244**	*e*P	**Pn**	**21 24 27.4**	**+0.6**
DALK				*e*S	**Sn**	**21 24 46.0**	**+0.5**
PET	**Petropavlovsk**	**1.59**	**245**	*d i*PN	**Pn**	**21 24 28.1**	**+0.5**
PET	**Petropavlovsk**	**1.59**	**245**	*e*P	**Pn**	**21 24 28.3**	**+0.7**
PET				*e*S	**Sn**	**21 24 47.4**	**+0.5**
TUMR	**Tumrok**	**1.65**	**342**	PN	**Pn**	**21 24 29.3**	**+0.8**
TUMR				S	**Sn**	**21 24 49.4**	**+0.8**
TUMR	**Tumrok**	**1.65**	**342**	*e*P	**Pn**	**21 24 29.3**	**+0.8**
TUMR				*e*S	**Sn**	**21 24 49.4**	**+0.8**
GNL	**Ganaly**	**1.84**	**270**	PN	**Pn**	**21 24 32.2**	**+1.0**
GNL	**Ganaly**	**1.84**	**270**	*e*P	**Pn**	**21 24 32.2**	**+1.0**
KRMR	**Karymshinskiy**	**1.96**	**244**	PN	**Pn**	**21 24 33.1**	**+0.4**
KRMR				S	**Sn**	**21 24 56.7**	**+0.6**
KRMR	**Karymshinskiy**	**1.96**	**244**	*e*P	**Pn**	**21 24 33.1**	**+0.4**
KRMR				*e*S	**Sn**	**21 24 56.7**	**+0.6**
RUS	**Russkaya**	**2.00**	**231**	PN	**Pn**	**21 24 34.4**	**+1.2**
RUS				S	**Sn**	**21 24 56.8**	**-0.1**
RUS	**Russkaya**	**2.00**	**231**	*e*P	**Pn**	**21 24 34.4**	**+1.2**
RUS				*e*S	**Sn**	**21 24 56.8**	**-0.1**
KMNR	**Kamenistaya**	**2.09**	**348**	PN	**Pn**	**21 24 36.2**	**+1.6**
KMNR				S	**Sn**	**21 25 01.2**	**+1.8**
KMNR	**Kamenistaya**	**2.09**	**348**	*e*P	**Pn**	**21 24 36.2**	**+1.6**
KMNR				*e*S	**Sn**	**21 25 01.2**	**+1.8**
PEA0B	**Petropavlovsk-**	**2.09**	**254**	*c i*PN	**Pn**	**21 24 36.2**	**+1.7**
PETK	**Petropavlovsk-** 25nm,0.3s,baz=79,slow=18,SNR=22	**2.09**	**254**	P	**Pn**	**21 24 35.5**	**+1.0**
PETK				S	**Sn**	**21 25 01.6**	**+2.3**
	143nm,0.7s,baz=56,slow=24,SNR=11						
PETK				LR	LR	21 25 31.9	
	comp=Z,268nm,20.9s,baz=75,slow=44						
MTVR	**Mutnovka**	**2.12**	**235**	PN	**Pn**	**21 24 35.9**	**+0.8**
MTVR				S	**Sn**	**21 25 00.7**	**+0.4**
MTVR	**Mutnovka**	**2.12**	**235**	*e*P	**Pn**	**21 24 35.9**	**+0.8**
MTVR				*e*S	**Sn**	**21 25 00.7**	**+0.4**
GRL	**Gorelyy**	**2.14**	**238**	PN	**Pn**	**21 24 37.7**	**+2.5**
GRL				S	**Sn**	**21 25 03.9**	**+3.3**
GRL	**Gorelyy**	**2.14**	**238**	*e*P	**Pn**	**21 24 37.7**	**+2.5**
GRL				*e*S	**Sn**	**21 25 03.9**	**+3.3**
BZGR	**Bezymyannyi-Gr**	**2.23**	**355**	PN	**Pn**	**21 24 38.4**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**2.23**	**355**	*e*P	**Pn**	**21 24 38.4**	**+1.9**
BZMR	**Bezymyannaya**	**2.24**	**352**	PN	**Pn**	**21 24 39.5**	**+2.8**
BZMR	**Bezymyannaya**	**2.24**	**352**	*e*P	**Pn**	**21 24 39.5**	**+2.8**
BZWR	**Bezymyannyi-We**	**2.27**	**352**	PN	**Pn**	**21 24 38.7**	**+1.6**
BZWR	**Bezymyannyi-We**	**2.27**	**352**	*e*P	**Pn**	**21 24 38.7**	**+1.6**
KIRR	**Kirishev**	**2.27**	**350**	PN	**Pn**	**21 24 39.1**	**+2.0**
KIRR	**Kirishev**	**2.27**	**350**	*e*P	**Pn**	**21 24 39.1**	**+2.0**
KPT	**Kopyto**	**2.30**	**348**	PN	**Pn**	**21 24 39.2**	**+1.8**
KPT	**Kopyto**	**2.30**	**348**	*e*P	**Pn**	**21 24 39.2**	**+1.8**
ASAK	**Asacha**	**2.32**	**236**	PN	**Pn**	**21 24 40.6**	**+2.9**
ASAK				S	**Sn**	**21 25 08.8**	**+3.7**
ASAK	**Asacha**	**2.32**	**236**	*e*P	**Pn**	**21 24 40.6**	**+2.9**
ASAK				*e*S	**Sn**	**21 25 08.8**	**+3.7**
KOZ	**Kozyrevsk**	**2.44**	**344**	PN	**Pn**	**21 24 40.5**	**+1.3**
KOZ	**Kozyrevsk**	**2.44**	**344**	*e*P	**Pn**	**21 24 40.5**	**+1.3**
APC	**Apacha**	**2.46**	**253**	PN	**Pn**	**21 24 42.0**	**+2.5**
APC	**Apacha**	**2.46**	**253**	*e*P	**Pn**	**21 24 42.0**	**+2.5**
ESO	**Esso**	**2.59**	**329**	PN	**Pn**	**21 24 41.9**	**+0.6**
ESO				S	**Sn**	**21 25 12.3**	**+0.7**
ESO	**Esso**	**2.59**	**329**	*e*P	**Pn**	**21 24 41.9**	**+0.6**
ESO				*e*S	**Sn**	**21 25 12.3**	**+0.7**
KLY	**Klyuchi**	**2.61**	**355**	PN	**Pn**	**21 24 43.1**	**+1.6**
KLY				S	**Sn**	**21 25 14.7**	**+2.8**
KLY	**Klyuchi**	**2.61**	**355**	*e*P	**Pn**	**21 24 43.1**	**+1.6**
KLY				*e*S	**Sn**	**21 25 14.7**	**+2.8**
KDTR	**Khodutka, Kamc**	**2.63**	**224**	PN	**Pn**	**21 24 44.0**	**+2.1**
KDTR				S	**Sn**	**21 25 14.0**	**+1.5**
KDTR	**Khodutka, Kamc**	**2.63**	**224**	*e*P	**Pn**	**21 24 44.0**	**+2.1**
KDTR				*e*S	**Sn**	**21 25 14.0**	**+1.5**
KBTR	**Krutoberegovo**	**2.69**	**22**	PN	**Pn**	**21 24 44.3**	**+1.5**
KBTR				S	**Sn**	**21 25 14.8**	**+0.7**
KBTR	**Krutoberegovo**	**2.69**	**22**	*e*P	**Pn**	**21 24 44.3**	**+1.5**
KBTR				*e*S	**Sn**	**21 25 14.8**	**+0.7**
SRDR	**Sredinnyy**	**2.71**	**344**	PN	**Pn**	**21 24 43.5**	**+0.5**
SRDR	**Sredinnyy**	**2.71**	**344**	*e*P	**Pn**	**21 24 43.5**	**+0.5**
KBG	**Krutoberegovo**	**2.71**	**20**	PN	**Pn**	**21 24 45.9**	**+2.9**
KBG	**Krutoberegovo**	**2.71**	**20**	*e*P	**Pn**	**21 24 45.9**	**+2.9**
BDR	**Baidarnaya**	**2.85**	**2**	PN	**Pn**	**21 24 47.1**	**+2.1**
BDR	**Baidarnaya**	**2.85**	**2**	*e*P	**Pn**	**21 24 47.1**	**+2.1**
SMKR	**Semkarok**	**2.88**	**5**	PN	**Pn**	**21 24 46.9**	**+1.5**
SMKR	**Semkarok**	**2.88**	**5**	*e*P	**Pn**	**21 24 46.9**	**+1.5**
SRKR	**Sorokina**	**2.94**	**1**	PN	**Pn**	**21 24 46.8**	**+0.6**
SRKR	**Sorokina**	**2.94**	**1**	*e*P	**Pn**	**21 24 46.8**	**+0.6**
BKI	**Bering**	**3.24**	**61**	PN	**Pn**	**21 24 51.2**	**+1.0**
BKI				S	**Sn**	**21 25 25.3**	**-2.2**
BKI	**Bering**	**3.24**	**61**	*e*P	**Pn**	**21 24 51.2**	**+1.0**
BKI				*e*S	**Sn**	**21 25 25.3**	**-2.2**
SHEM	**Shemya Is, Ala** comp=Z,100nm,21.4s,baz=134,slow=34	**7.91**	**92**	LR	LR	21 28 39.0	
KUR	**Kuril'sk**	**12.05**	**230**	⇓*e*PN	**Pn**	**21 26 50.1**	**-0.8**
KUR	comp=Z,55nm,1.0s			pmax	pmax		
BILL	**Bilibino**	**14.58**	**8**	*e*P	**P**	**21 27 27.8**	**-2.9**
BILL	comp=Z,11nm,0.4s			pmax	pmax		
BILL	comp=Z,95nm,19.0s			MLR	MLR		
YAK	**Yakutsk** comp=Z,58nm,20.8s,baz=90,slow=39	**18.46**	**309**	LR	LR	21 35 48.9	
KLR	**Kul'dur** comp=Z,0.5nm,0.3s,baz=72,slow=13,SNR=2.1	**18.71**	**268**	P	**Pn**	**21 28 17.8**	**+0.5**
KLR	comp=Z,40nm,18.1s,baz=71,slow=40			LR	LR	21 36 21.2	
KLR	**Kul'dur**	**18.71**	**268**	⇓*e*P	**Pn**	**21 28 16.6**	**-0.7**
KLR	comp=Z,1.0nm,1.0s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,1.7nm,0.8s,baz=48,slow=11,SNR=1.1 comp=Z,1.7nm,0.8s	**21.18**	**255**	P	**P**	**21 28 43.9**	**+0.5**
TIXI	**Tiksi** comp=Z,46nm,19.8s,baz=180,slow=37	**22.75**	**334**	LR	LR	21 37 47.7	
TIXI	**Tiksi**	**22.75**	**334**	⇓*e*P	**P**	**21 29 00.4**	**+0.5**
TIXI	comp=Z,2.0nm,1.1s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,3.9nm,1.0s,baz=39,slow=9.3,SNR=5.0 comp=Z,3.9nm,1.0s	**23.38**	**232**	P	**P**	**21 29 07.1**	**+0.5**
ILAR	**Eielson Array** comp=Z,0.5nm,0.8s,baz=257,slow=7.6,SNR=5.5	**27.97**	**46**	P	**P**	**21 29 48.7**	**+0.7**
ILAR	comp=Z,23nm,18.6s,baz=275,slow=36 comp=Z,0.5nm,0.8s			LR	LR	21 40 59.3	
H11N2	**WAKE ISLAND Hy** baz=354,slow=76	**34.23**	**170**	T	T	22 07 10.5	
H11N3	**WAKE ISLAND Hy** baz=354,slow=76	**34.24**	**170**	T	T	22 07 10.9	
H11N1	**WAKE ISLAND Hy** baz=354,slow=76	**34.25**	**170**	T	T	22 07 28.6	
SONM	**Songino Array** comp=Z,42nm,18.2s,baz=83,slow=36	**34.31**	**283**	LR	LR	21 44 21.1	
H11S1	**WAKE ISLAND Hy** baz=352,slow=76	**35.42**	**171**	T	T	22 08 31.4	
H11S3	**WAKE ISLAND Hy** baz=352,slow=76	**35.43**	**171**	T	T	22 08 34.0	
H11S2	**WAKE ISLAND Hy** baz=352,slow=76	**35.44**	**171**	T	T	22 08 32.4	
NRIK	**Noril'sk** comp=Z,95nm,18.5s,baz=216,slow=39	**35.72**	**324**	LR	LR	21 46 52.9	
ZALV	**Zalesovo Beam** comp=Z,36nm,18.1s,baz=82,slow=38	**42.91**	**303**	LR	LR	21 51 08.7	
DGZ	**Jazzator, Alta**	**43.90**	**296**	⇓*e*P	**P**	**21 32 01.6**	**-2.5**
DGZ	comp=Z,1.0nm,0.9s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,45nm,19.9s,baz=353,slow=38	**47.98**	**302**	LR	LR	21 54 00.5	
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=49,slow=6.8,SNR=4.7 comp=Z,0.2nm,0.5s	**48.39**	**296**	P	**P**	**21 32 35.9**	**-3.3**
BVAR	**Borovoye Array** comp=Z,37nm,18.4s,baz=56,slow=38	**50.44**	**308**	LR	LR	21 56 11.0	
SUMG	**Summit**	**53.27**	**7**	*i* P	**P**	**21 33 15.0**	**-1.0**
ARU	**Arti** comp=Z,34nm,19.0s,baz=93,slow=39	**53.31**	**317**	LR	LR	21 58 31.9	
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.8s,baz=291,slow=7.6,SNR=4.1 comp=Z,0.7nm,0.8s	**55.00**	**71**	P	**P**	**21 33 31.4**	**+2.5**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.8s,baz=339,slow=4.8,SNR=2.6 comp=Z,0.4nm,0.8s	**56.72**	**62**	P	**P**	**21 33 42.8**	**+1.6**
AKTO	**Aktyubinsk** comp=Z,15nm,18.2s,baz=40,slow=40	**57.81**	**313**	LR	LR	22 02 49.7	
FINES	**FINESS Array B** comp=Z,1.5nm,0.8s,baz=34,slow=10,SNR=8.6 comp=Z,1.5nm,0.8s	**59.76**	**337**	P	**P**	**21 34 01.2**	**-0.6**
FINES	**FINESS Array B**	**59.76**	**337**	*i* P	**P**	**21 34 01.6**	**-0.2**
FINES	comp=Z,3.0nm,1.0s			pmax	pmax		
BELG	**Belogornoye** comp=Z,39nm,18.7s,baz=256,slow=37	**60.60**	**320**	LR	LR	22 01 27.9	
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.4s,baz=20,slow=6.9	**63.09**	**344**	P	**P**	**21 34 23.4**	**-1.0**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.5s,baz=24,slow=6.5,SNR=6.3 comp=Z,0.4nm,0.5s	**63.09**	**344**	P	**P**	**21 34 23.4**	**-1.0**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,baz=30,slow=6.7,SNR=4.1	**68.36**	**329**	P	**P**	**21 34 56.6**	**-1.7**
AKASG	comp=Z,29nm,18.5s,baz=15,slow=39 comp=Z,0.6nm,0.4s			LR	LR	22 07 59.3	
AKASG	**Malin Array Be**	**68.36**	**329**	*i* P	**P**	**21 34 56.5**	**-1.8**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
KBZ	**Khabaz** comp=Z,16nm,18.2s,baz=45,slow=40	**69.46**	**317**	LR	LR	22 09 49.9	
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,baz=316,slow=4.8,SNR=6.8 comp=Z,0.8nm,0.8s	**69.87**	**68**	P	**P**	**21 35 10.2**	**+1.9**
KHC	**Kasperske Hory**	**73.90**	**338**	*e*P	**P**	**21 35 31.5**	**-0.4**
KHC	**Kasperske Hory**	**73.90**	**338**	*e*P	**P**	**21 35 31.5**	**-0.4**
GERES	**GERESS Array B** comp=Z,0.4nm,0.6s,baz=27,slow=6.6,SNR=6.7 comp=Z,0.4nm,0.6s	**74.14**	**338**	P	**P**	**21 35 33.1**	**-0.3**
SOKA	**Soboth** comp=Z,1.0nm,0.5s	**75.88**	**337**	*i* P	**P**	**21 35 43.7**	**+0.2**
KBA	**Koelnbreinsper** comp=Z,3.4nm,0.6s	**75.89**	**338**	*e*P	**P**	**21 35 44.4**	**+0.8**
OBKA	**Obir** comp=Z,1.2nm,0.6s	**76.15**	**337**	*i* P	**P**	**21 35 46.0**	**+1.0**
SQTA	**Sankt Quirin** comp=Z,2.9nm,0.8s	**76.22**	**339**	*e*P	**P**	**21 35 46.4**	**+1.0**
BRTR	**Keskin Array B** comp=Z,1.2nm,1.0s,baz=359,slow=5.8,SNR=4.3 comp=Z,1.2nm,1.0s	**76.49**	**321**	P	**P**	**21 35 46.7**	**-0.5**
BRTR	**Keskin Array B**	**76.49**	**321**	*i* P	**P**	**21 35 47.4**	**+0.2**
BRTR	comp=Z,1.0nm,1.0s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,0.9nm,0.9s,baz=19,slow=6.0,SNR=5.4 comp=Z,0.9nm,0.9s	**80.57**	**205**	P	**P**	**21 36 10.7**	**+1.3**

*IDC **12** 21:27:50.0±4.0, 17°.98N×146°.86E, h106km±36km, mb3.4/9, mbtmp3.8/10, MS2.8/2, Error ellipse: s-maj=44.0km s-min=17.9km az=90.0*
ISC 12 21:27:49.5±1.2,**17°.95N**±0°.10×**146°.8E**±0°.3,**h100**km,**n15,** σ1**s06**/12,**mb3.6**/9,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 45nm,0.4s,baz=29,slow=19,SNR=6.1	**4.72

PRK				S	**Sb**	**21 39 04.7**	**0.0**		
PRK				AML	AML	21 39 05.7			
	comp=N,1124µm,0.2s								
PRK				AML	AML	21 39 06.3			
	comp=E,1096µm,0.2s								
BOZC	**Bozcaada**	**0.41**	**21**	PG	**Pg**	**21 38 58.4**	**-0.3**		
EZN	**Ezine**	**0.51**	**44**	P	**Pg**	**21 39 00.2**	**-0.4**		
EZN				S	**Sg**	**21 39 07.4**	**0.0**		
	comp=E,635nm,0.3s								
EZN	**Ezine**	**0.51**	**44**	PG	**Pg**	**21 39 00.2**	**-0.4**		
EZN				SG	**Sg**	**21 39 07.5**	**0.0**		
EFSA	**Agios Efstrati**	**0.68**	**277**	P	**Pg**	**21 39 03.9**	**+0.2**		
LIA	**Limnos Island**	**0.68**	**310**	P	**Pb**	**21 39 04.1**	**+0.1**		
LIA				S	**Sb**	**21 39 13.9**	**+0.6**		
	comp=E,140nm,0.4s								
LIA	**Limnos Island**	**0.68**	**310**	P	**Pg**	**21 39 03.9**	**+0.2**		
LIA				S	**Sb**	**21 39 13.6**	**+0.2**		
LIA				AML	AML	21 39 16.3			
	comp=E,288µm,0.4s								
LIA				AML	AML	21 39 16.4			
	comp=N,267µm,0.3s								
GADA	**Gvkgeada**	**0.73**	**2**	PG	**Pg**	**21 39 04.1**	**-0.6**		
PSRA	**Psara**	**0.94**	**194**	P	**Pn**	**21 39 09.2**	**+0.1**		
PSRA				AML	AML	21 39 24.8			
	comp=N,574µm,0.2s								
PSRA				AML	AML	21 39 24.8			
	comp=E,829µm,0.3s								
SMTH	**Samothraki Isl**	**1.04**	**346**	P	**Pb**	**21 39 10.1**	**-0.1**		
SMTH				S	**Sb**	**21 39 23.9**	**+0.2**		
	comp=E,130nm,0.3s								
SMTH	**Samothraki Isl**	**1.04**	**346**	P	**Pb**	**21 39 09.9**	**-0.3**		
SMTH				S	**Sb**	**21 39 23.3**	**-0.4**		
SMTH				AML	AML	21 39 25.2			
	comp=N,349µm,0.2s								
SMTH				AML	AML	21 39 26.2			
	comp=E,174µm,0.4s								
GELI	**Tayfur-Gelibol**	**1.05**	**26**	PG	**Pb**	**21 39 10.2**	**-0.1**		
GELI				SG	**Sn**	**21 39 25.1**	**+0.1**		
CHOS	**Chios island**	**1.08**	**172**	P	**Pb**	**21 39 10.6**	**-0.3**		
CHOS				S	**Sb**	**21 39 24.4**	**-0.4**		
	comp=E,340nm,0.3s								
CHOS	**Chios island**	**1.08**	**172**	PN	**Pn**	**21 39 11.4**	**+0.3**		
CHOS	**Chios island**	**1.08**	**172**	P	**Pb**	**21 39 10.4**	**-0.5**		
CHOS				S	**Sb**	**21 39 24.1**	**-0.7**		
CHOS				AML	AML	21 39 27.1			
	comp=N,633µm,0.4s								
CHOS				AML	AML	21 39 29.9			
	comp=E,737µm,0.2s								
ENEZ	**Enez**	**1.30**	**10**	PN	**Pb**	**21 39 14.5**	**0.0**		
ALN	**Alexandroupoli**	**1.44**	**6**	P	**Pn**	**21 39 15.0**	**-1.0**		
ALN				S	**Sn**	**21 39 33.9**	**-0.8**		
	comp=E,68nm,0.3s								
ALN	**Alexandroupoli**	**1.44**	**6**	PN	**Pb**	**21 39 16.6**	**-0.4**		
ALN	**Alexandroupoli**	**1.44**	**6**	P	**Pn**	**21 39 16.1**	**+0.1**		
ALN				AML	AML	21 39 37.6			
	comp=N,148µm,0.4s								
ALN				AML	AML	21 39 38.1			
	comp=E,118µm,0.3s								
RKY	**Sarkoy-Tekirda**	**1.59**	**39**	PN	**Pn**	**21 39 18.4**	**+0.3**		
KYMI	**Kymi, Euboea I**	**1.60**	**240**	P	**Pn**	**21 39 17.3**	**-0.8**		
OUR	**Ouranopolis**	**1.69**	**302**	PN	**Pn**	**21 39 20.3**	**+0.9**		
RDO	**Rodhopi**	**1.70**	**352**	PN	**Pn**	**21 39 20.2**	**+0.6**		
RDO	**Rodhopi**	**1.70**	**352**	P	**Pn**	**21 39 19.9**	**+0.3**		
MRMT	**Marmara Adasi**	**1.75**	**49**	PN	**Pn**	**21 39 21.1**	**+0.7**		
UKOP	**Uzunkopru-Edir**	**1.77**	**19**	PN	**Pn**	**21 39 21.2**	**+0.7**		
KDZ	**Kurdzhali**	**2.22**	**351**	PN	**Pn**	**21 39 27.2**	**+0.5**		
EDRB	**Edirne**	**2.48**	**15**	PN	**Pn**	**21 39 31.2**	**+0.9**		
PHSR	**Pinarhisar**	**2.51**	**30**	PN	**Pn**	**21 39 31.7**	**+1.0**		
SLVT	**Silivri**	**2.52**	**45**	PN	**Pn**	**21 39 31.9**	**+1.1**		

NEIC ***12*** *21:40:05.9±1.1, 21°.75S±0°.08×179°.3W±0°.2, h604km±19km, mb4.2/19, Error ellipse: s-maj=27.0km s-min=11.5km az=80.0*

IDC ***12*** *21:40:08.0±2.9, 21°.50S×179°.67W, h608km±23km, mb3.2/7, mbtmp4.2/8, Error ellipse: s-maj=60.9km s-min=20.5km az=141.0*

ISC 12 21:40:06.0±0.9, 21°.8S±0°.1×179°.4W±0°.1, h600km, n34, σ0s71/34, mb4.1/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.71**	**329**	P	**P**	**21 41 36.7**	**-0.2**
	30nm,0.5s,baz=199,slow=6.5,SNR=44						
MSVF	**Nonsavu**	**4.71**	**329**	P	**P**	**21 41 36.9**	**-0.1**
RAO	**Raoul Island**	**7.53**	**170**	P	**P**	**21 41 59.7**	**-1.1**
MARNC	**Mare, Loyalty**	**11.70**	**269**	P	**P**	**21 42 42.0**	**+0.2**
DZM	**Mont Dzumac**	**13.14**	**266**	P	**P**	**21 42 58.2**	**+1.7**
EIDS	**Eidsvold**	**27.26**	**257**	P	**P**	**21 45 04.6**	**+0.4**
EIDS				IAmb	IAmb	21 45 33.0	
	comp=Z,9.8nm,1.3s						
ARMA	**Armidale**	**27.34**	**246**	P	**P**	**21 45 05.0**	**+0.1**
ARMA				IAmb	IAmb	21 45 28.1	
	comp=Z,14nm,1.4s						
CTAO	**Charters Tower**	**32.09**	**267**	P	**P**	**21 45 45.5**	**-0.2**
STKA	**Stephens Creek**	**36.06**	**245**	P	**P**	**21 46 19.2**	**+0.6**
	comp=Z,1.9nm,0.4s,baz=96,slow=12,SNR=12						
	comp=Z,1.9nm,0.4s						
STKA	**Stephens Creek**	**36.06**	**245**	P	**P**	**21 46 19.2**	**+0.6**
COEN	**Coen**	**36.39**	**276**	P	**P**	**21 46 21.6**	**0.0**
COEN				IAmb	IAmb	21 46 23.4	
	comp=Z,8.4nm,0.9s						
BBOO	**Buckleboo**	**40.81**	**245**	P	**P**	**21 46 56.8**	**-0.1**
WR0	**Warramunga Arr**	**42.96**	**264**	P	**P**	**21 47 13.0**	**-1.0**
WR0				IAmb	IAmb	21 47 14.6	
	comp=Z,2.7nm,0.6s						
AS31	**Alice Springs**	**42.96**	**258**	P	**P**	**21 47 14.2**	**+0.1**
ASAR	**Alice Springs**	**42.96**	**258**	P	**P**	**21 47 13.9**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=99,slow=7.9,SNR=48						
ASAR				PcP	**PcP**	**21 48 50.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=120,slow=3.8,SNR=4.1						
	comp=Z,5.6nm,0.8s						
ASAR	**Alice Springs**	**42.96**	**258**	P	**P**	**21 47 13.6**	**-0.4**
WB0	**Warramunga Arr**	**43.13**	**264**	P	**P**	**21 47 14.8**	**-0.6**
WB0				IAmb	IAmb	21 47 15.3	
	comp=Z,6.5nm,0.8s						
WB2	**Warramunga Arr**	**43.13**	**264**	P	**P**	**21 47 14.6**	**-0.8**
WB2				IAmb	IAmb	21 47 15.5	
	comp=Z,6.5nm,1.1s						
WRAB	**Tennant Creek**	**43.14**	**264**	P	**P**	**21 47 14.5**	**-0.9**
WRAB				IAmb	IAmb	21 47 14.9	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**43.15**	**264**	P	**P**	**21 47 14.7**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=97,slow=7.7,SNR=61						
	comp=Z,1.5nm,0.3s						
WRA	**Warramunga Arr**	**43.15**	**264**	P	**P**	**21 47 14.3**	**-1.1**
FORT	**Forrest**	**47.59**	**248**	P	**P**	**21 47 48.6**	**-0.4**
MTN	**Manton Dam**	**47.89**	**272**	P	**P**	**21 47 50.9**	**-0.6**
KNRA	**Kununurra**	**49.29**	**268**	P	**P**	**21 48 01.2**	**-0.5**
KNRA				IAmb	IAmb	21 48 03.1	
	comp=Z,5.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.58**	**264**	P	**P**	**21 48 18.2**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=102,slow=9.7,SNR=17						
	comp=Z,1.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**51.58**	**264**	P	**P**	**21 48 18.7**	**+0.3**
FITZ				IAmb	IAmb	21 48 57.0	
	comp=Z,7.5nm,1.4s						
PSA00	**Pilbara Seismi**	**56.11**	**258**	P	**P**	**21 48 49.7**	**-0.5**
PSA00				IAmb	IAmb	21 49 07.7	
	comp=Z,23nm,1.2s						
MORW	**Morawa**	**58.13**	**249**	P	**P**	**21 49 03.5**	**-0.3**
MORW				IAmb	IAmb	21 49 21.9	
	comp=Z,26nm,1.4s						
QSPA	**South Pole Qui**	**68.27**	**180**	P	**P**	**21 50 08.9**	**+0.9**
PETK	**Petropavlovsk-**	**77.21**	**346**	P	**P**	**21 50 57.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=186,slow=4.5,SNR=1.2						
	comp=Z,2.3nm,0.8s						
TXAR	**Lajitas Array**	**88.85**	**58**	P	**P**	**21 51 59.1**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=232,slow=4.4,SNR=2.4						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.33**	**290**	P	**P**	**21 52 00.6**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=134,slow=2.8,SNR=6.9						
	comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**143.49**	**329**	PKhKP	PKPpre	21 58 30.8	
	comp=Z,0.7nm,0.3s,baz=42,slow=4.4,SNR=7.8						
BRTR	**Keskin Array B**	**146.71**	**310**	PKPbc	**PKPbc**	**21 58 41.5**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=80,slow=0.6,SNR=4.9						

IDC 12 21:56:15.8±4.1, 3°.61S×152°.84E, h0km, mb3.4/2, mbtmp3.4/2, MS3.1/2, Error ellipse: s-maj=170.6km s-min=54.7km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**21.73**	**277**	LR	LR	22 09 52.0	
	comp=Z,25nm,18.6s,baz=192,slow=38						
WRA	**Warramunga Arr**	**24.27**	**227**	P	P	22 01 35.5	+0.5
	0.7nm,0.5s,baz=52,slow=9.6,SNR=19						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**27.06**	**221**	P	P	22 02 00.4	+0.2
	0.1nm,0.4s,baz=54,slow=9.5,SNR=2.5						
	0.1nm,0.4s						
JOW	**Kunigami**	**38.47**	**323**	LR	LR	22 15 59.1	
	comp=Z,52nm,20.7s,baz=164,slow=31						
TORD	**Torodi Ar. Bea**	**149.96**	**290**	PKPbc	PKPbc	22 16 08.1	-1.2
	0.6nm,1.1s,baz=50,slow=3.1,SNR=1.7						

IDC 12 22:04:59.3±59.0, 13°.93S×169°.61E, h0km, mb4.0/3, mbtmp4.0/3, MS3.2/1, Error ellipse: s-maj=999.7km s-min=122.8km az=66.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**18.07**	**92**	LR	LR	22 13 58.3	
	comp=Z,82nm,20.4s,baz=36,slow=30						
STKA	**Stephens Creek**	**31.24**	**230**	P	P	22 11 20.6	-0.2
	0.9nm,0.3s,baz=68,slow=11,SNR=4.0						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**34.22**	**255**	P	P	22 11 47.3	+0.2
	0.5nm,0.4s,baz=86,slow=8.6,SNR=21						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**35.08**	**249**	P	P	22 11 54.2	-0.3
	1.1nm,0.3s,baz=77,slow=9.5,SNR=16						
	1.1nm,0.3s						

IDC ***12*** *22:11:29.1±11.0, 5°.15N×125°.47E, h93km±107km, mb3.1/6, mbtmp3.5/6, MS3.7/1, Error ellipse: s-maj=144.1km s-min=21.8km az=66.0*

ISC 12 22:11:29.1±1.1, 5°.6N±0°.2×126°.6E±0°.2, h100km, n10, σ1s82/13, mb3.5/6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.01**	**300**	*eP*	**Pn**	**22 11 47.1**	**-2.6**
DDMP				*eS*	**Sn**	**22 12 02.1**	**-3.0**
SKMP	**Bagumbayan, Su**	**2.23**	**294**	*iP*	**Pn**	**22 12 05.9**	**+1.2**
SKMP				*eS*	**Sn**	**22 12 33.3**	**+1.3**
PMG	**Port Moresby**	**25.35**	**126**	LR	LR	22 28 41.4	
	comp=Z,153nm,18.2s,baz=156,slow=40						
WRA	**Warramunga Arr**	**26.50**	**163**	P	**P**	**22 16 57.6**	**+0.2**
	0.4nm,0.9s,baz=340,slow=10,SNR=5.6						
WRA				PcP	**PcP**	**22 20 19.6**	**-0.4**
	0.2nm,0.7s,baz=336,slow=2.7,SNR=1.1						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**29.95**	**166**	PcP	**PcP**	**22 20 28.2**	**-0.3**
	0.3nm,0.8s,baz=359,slow=2.9,SNR=2.1						
SONM	**Songino Array**	**45.50**	**341**	P	**P**	**22 19 41.1**	**+2.5**
	0.3nm,0.6s,baz=149,slow=6.7,SNR=2.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.96**	**325**	P	**P**	**22 20 55.9**	**-1.2**
	0.2nm,0.4s,baz=108,slow=7.9,SNR=9.0						
MKAR				PcP	**PcP**	**22 21 54.6**	**+0.1**
	0.2nm,0.7s,baz=132,slow=4.3,SNR=1.6						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**58.87**	**333**	P	**P**	**22 21 15.4**	**-2.0**
	0.5nm,0.6s,baz=133,slow=8.5,SNR=2.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**60.10**	**327**	P	**P**	**22 21 24.3**	**-1.5**
	0.6nm,0.7s,baz=123,slow=7.4,SNR=7.4						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**65.69**	**327**	P	**P**	**22 22 03.6**	**+0.7**
	0.3nm,0.6s,baz=108,slow=4.7,SNR=2.3						
	0.3nm,0.6s						

IDC ***12*** *22:15:51.4±3.5, 18°.14S×168°.31E, h43km±29km, mb3.8/13, mbtmp4.0/14, ML4.2/1, MS3.6/27, Error ellipse: s-maj=27.0km s-min=19.3km az=98.0*

NEIC ***12*** *22:15:51.5±2.8, 18°.14S±0°.09×168°.3E±0°.1, h32km±4km, mb4.7/23, Error ellipse: s-maj=15.8km s-min=12.7km az=66.0*

NOU ***12*** *22:15:51.4, 18°.19S×168°.43E, h25km, MLv4.9/13, Vanuatu Islands*

ISC 12 22:15:50.7±0.7, 18°.18S±0°.04×168°.35E±0°.08, h34km±2km, h77km:pP-P, n127, σ1s16/116, mb4.5/26, MS3.6/26, 9D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTV	**Rentapao**	**0.39**	**11**	P	**Pn**	**22 16 01.7**	**+1.6**
DVP	**Devils Point**	**0.47**	**341**	P	**Pn**	**22 16 02.5**	**+1.3**
LIFNC	**LIFOU**	**2.79**	**202**	Pn	**Pn**	**22 16 32.5**	**-0.6**
MARNC	**Mare, Loyalty**	**3.30**	**185**		**Pn**	**22 16 40.0**	**-0.1**
MARNC	**Mare, Loyalty**	**3.30**	**185**	P	**Pn**	**22 16 40.1**	**0.0**
YATNC	**Mamie plateau,**	**4.10**	**199**	P	**Pn**	**22 16 52.5**	**+1.4**
DZM	**Mont Dzumac**	**4.27**	**204**	*e*Pn	**Pn**	**22 16 53.6**	**+0.1**
	96nm,0.9s						
DZM				*e*Sn	**Sn**	**22 17 40.0**	**-2.2**
	532nm,1.0s						
DZM	**Mont Dzumac**	**4.27**	**204**	P	**Pn**	**22 16 54.1**	**+0.6**
	12nm,0.3s,baz=73,slow=10,SNR=104						
DZM				S	**Sn**	**22 17 41.7**	**-0.5**
	126nm,0.5s,baz=130,slow=22,SNR=11						
DZM				LR	LR	22 17 42.6	
	comp=Z,196nm,20.3s,baz=30,slow=26						
	34nm,0.5s						
DZM	**Mont Dzumac**	**4.27**	**204**		**Pn**	**22 16 54.5**	**+1.0**
DZM	**Mont Dzumac**	**4.27**	**204**	P	**Pn**	**22 16 55.8**	**+2.3**
NOUC	**Port Laguerre**	**4.35**	**206**	P	**Pn**	**22 16 56.4**	**+1.9**
OUENC	**Ouen Island, N**	**4.45**	**198**	Pn	**Pn**	**22 16 57.7**	**+1.8**
OUENC	**Ouen Island, N**	**4.45**	**198**	P	**Pn**	**22 16 57.8**	**+1.9**
ONTNC	**Ouen Toro**	**4.48**	**203**	Pn	**Pn**	**22 16 58.6**	**+2.4**
ONTNC	**Ouen Toro**	**4.48**	**203**	P	**Pn**	**22 16 58.6**	**+2.4**
PINNC	**Pines Island,**	**4.50**	**191**	Pn	**Pn**	**22 16 58.9**	**+2.4**
KOUNC	**Koumac, New Ca**	**4.50**	**238**	Pn	**Pn**	**22 16 57.0**	**+0.4**
KOUNC	**Koumac, New Ca**	**4.50**	**238**	P	**Pn**	**22 16 58.2**	**+1.6**
MSVF	**Nonsavu**	**9.24**	**89**	LR	LR	22 21 06.8	
	comp=Z,625nm,18.8s,baz=255,slow=34						
HNR	**Honiara**	**11.92**	**316**	P	**Pn**	**22 18 38.1**	**-0.3**
	1µm,0.3s,baz=151,slow=19,SNR=2.4						
HNR				LR	LR	22 22 59.0	
	comp=Z,3µm,19.1s,baz=154,slow=36						
RAO	**Raoul Island**	**16.71**	**134**	LR	LR	22 24 48.9	
	comp=Z,172nm,19.9s,baz=97,slow=32						
OUZ	**Omahuta**	**17.61**	**166**		**P**	**22 19 56.4**	**+2.2**
AFI	**Afiamalu**	**19.56**	**80**	LR	LR	22 25 48.2	
	comp=Z,59nm,21.8s,baz=42,slow=30						
CTA	**Charters Tower**	**20.96**	**261**	P	**P**	**22 20 32.8**	**+1.7**
	12nm,1.0s,baz=83,slow=12,SNR=4.3						
CTA				LR	LR	22 28 03.7	
	comp=Z,198nm,18.2s,baz=84,slow=35						
CTAO	**Charters Tower**	**20.96**	**261**	P	**P**	**22 20 32.3**	**+1.3**
CTAO				IAmb	IAmb	22 20 50.5	
	comp=Z,26nm,1.1s						
HIZ	**Hauiti**	**21.04**	**166**	P	**P**	**22 20 30.6**	**-1.2**
URZ	**Urewera**	**21.43**	**161**	LR	LR	22 28 06.0	
	comp=Z,112nm,20.0s,baz=53,slow=34						
PLWZ	**Palliser**	**24.05**	**167**	P	**P**	**22 21 04.5**	**+1.7**
RPZ	**Rata Peaks**	**25.56**	**175**	LR	LR	22 29 22.1	
	comp=Z,175nm,20.0s,baz=344,slow=32						
LBZ	**Lake Benmore**	**26.18**	**177**	P	**P**	**22 21 23.9**	**+1.8**
STKA	**Stephens Creek**	**27.72**	**235**	P	**P**	**22 21 34.1**	**-2.1**
	comp=Z,3.0nm,0.8s,baz=18,slow=9.6,SNR=2.7						
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**27.72**	**235**	P	**P**	**22 21 38.4**	**+2.3**
WR0	**Warramunga Arr**	**31.97**	**261**	P	**P**	**22 22 12.2**	**-1.8**
WB0	**Warramunga Arr**	**32.12**	**262**	P	**P**	**22 22 14.4**	**-0.8**
WB0				IAmb	IAmb	22 22 32.2	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**32.16**	**261**	P	**P**	**22 22 15.0**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=105,slow=7.7,SNR=2.0						
WRA				PcP	**PcP**	**22 25 03.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=91,slow=4.2,SNR=2.5						
WRA				LR	LR	22 34 02.4	
	comp=Z,105nm,20.5s,baz=94,slow=34						
	comp=Z,0.4nm,0.7s						
AS31	**Alice Springs**	**32.58**	**254**	P	**P**	**22 22 19.3**	**0.0**
ASAR	**Alice Springs**	**32.58**	**254**	P	**P**	**22 22 18.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=81,slow=8.8,SNR=16						
ASAR				PcP	**PcP**	**22 25 03.4**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=122,slow=3.4,SNR=2.5						
ASAR				LR	LR	22 35 07.0	
	comp=Z,192nm,19.1s,baz=90,slow=36						
	comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**32.58**	**254**	P	**P**	**22 22 19.3**	**0.0**
KNRA	**Kununurra**	**37.90**	**268**	P	**P**	**22 23 03.9**	**-1.2**
KNRA				IAmb	IAmb	22 23 19.0	
	comp=Z,11nm,0.8s						

FORT	**Forrest**	**38.55**	**243**	P	**P**	**22 23 09.2**	**-1.2**		
GUMO	**Guam**	**39.15**	**322**	LR	LR	22 36 54.8			
	comp=Z,93nm,20.6s,baz=131,slow=32								
TBI	**Tubuai**	**39.68**	**105**	*e*LR	LR	22 34 15.0			
	comp=Z,164nm,29.5s								
PPT2	**Papeete2**	**39.98**	**96**	*e*LR	LR	22 34 23.7			
	comp=Z,190nm,27.0s								
PPT	**Papeete**	**39.99**	**96**	LR	LR	22 37 53.4			
	comp=Z,74nm,18.1s,baz=168,slow=33								
SIJI	**Sorong**	**40.27**	**291**	LR	LR	22 40 21.8			
	comp=Z,72nm,19.7s,baz=342,slow=37								
FITZ	**Fitzroy Crossi**	**40.52**	**263**	LR	LR	22 39 52.0			
	comp=Z,152nm,18.3s,baz=100,slow=36								
FITZ	**Fitzroy Crossi**	**40.52**	**263**	P	**P**	**22 23 27.3**	**+0.4**		
FITZ				IAmb	IAmb	22 23 42.3			
	comp=Z,15nm,1.1s								
TAOE	**Nuku Hiva Isla**	**50.78**	**87**	*e*LR	LR	22 39 22.9			
	comp=Z,189nm,26.4s								
JOW	**Kunigami**	**59.28**	**318**	LR	LR	22 51 04.9			
	comp=Z,33nm,19.0s,baz=328,slow=36								
VNDA	**Vanda**	**59.46**	**182**	P	**P**	**22 25 49.9**	**+0.1**		
	comp=Z,0.7nm,0.6s,baz=359,slow=7.9,SNR=5.8								
VNDA				LR	LR	22 46 36.0			
	comp=Z,44nm,21.9s,baz=352,slow=31								
	comp=Z,0.7nm,0.6s								
VNDA	**Vanda**	**59.46**	**182**	P	**P**	**22 25 50.8**	**+1.0**		
SBA	**Scott Base**	**59.71**	**180**	P	**P**	**22 25 53.7**	**+2.2**		
SBA				IAmb	IAmb	22 26 09.5			
	comp=Z,10nm,1.3s								
CASY	**Casey**	**60.76**	**203**	P	**P**	**22 25 59.1**	**+0.3**		
CASY				IAmb	IAmb	22 26 41.4			
	comp=Z,8.0nm,1.3s								
USRK	**Ussuriysk Ar.**	**70.41**	**333**	P	**P**	**22 27 00.6**	**-0.8**		
	comp=Z,0.8nm,0.5s,baz=128,slow=5.7,SNR=3.4								
	comp=Z,0.8nm,0.5s								
PSI	**Prapat**	**71.42**	**279**	LR	LR	23 01 58.8			
	comp=Z,72nm,18.7s,baz=246,slow=39								
QSPA	**South Pole Qui**	**71.87**	**180**	P	**P**	**22 27 10.1**	**-0.2**		
QSPA				IAmb	IAmb	22 27 25.0			
	comp=Z,6.2nm,0.8s								
GSI	**Gunungsitoli**	**72.18**	**277**	P	**P**	**22 27 13.0**	**+0.1**		
KLR	**Kul'dur**	**74.56**	**336**	P	**P**	**22 27 26.3**	**+0.3**		
	comp=Z,1.5nm,0.9s,baz=109,slow=5.2,SNR=5.0								
KLR				LR	LR	22 57 09.6			
	comp=Z,28nm,20.7s,baz=144,slow=33								
	comp=Z,1.5nm,0.9s								
CMAR	**Chiang Mai Arr**	**77.30**	**294**	P	**P**	**22 27 40.8**	**-1.5**		
	comp=Z,0.8nm,0.7s,baz=135,slow=4.2,SNR=6.2								
	comp=Z,0.8nm,0.7s								
CMAR	**Chiang Mai Arr**	**77.30**	**294**	P	**P**	**22 27 42.2**	**-0.2**		
PZH	**PanZhiHua**	**78.42**	**303**	P	**P**	**22 27 49.8**	**+1.2**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.8s								
PZH				pmax	pmax				
	comp=Z,110nm,4.7s								
MA2	**Magadan**	**78.79**	**351**	LR	LR	22 55 54.1			
	comp=Z,24nm,19.9s,baz=139,slow=30								
HHC	**Hu-ho-hao-te**	**78.87**	**320**	*e*P	**P**	**22 27 53.2**	**+2.5**		
HHC				pmax	pmax				
	comp=Z,210nm,5.5s								
MAW	**Mawson**	**79.10**	**202**	P	**P**	**22 27 51.7**	**+0.3**		
	comp=Z,4.0nm,0.9s,baz=100,slow=11,SNR=5.1								
	comp=Z,4.0nm,0.9s								
LZH	**Lanzhou**	**81.39**	**312**	*e*P	P	22 28 13.6	+9.1		
LZH				pP	sP	22 28 18.3	-0.4		
LZH				pmax	pmax				
	comp=Z,19nm,1.6s								
SEY	**Seymchan**	**81.81**	**353**	P	**P**	**22 28 04.8**	**-1.0**		
	comp=Z,0.9nm,0.3s,baz=132,slow=9.0,SNR=2.1								
	comp=Z,0.9nm,0.3s								
SMAI	**San Martin Ant**	**85.10**	**162**	P	**P**	**22 28 23.7**	**+0.9**		
SMAI				IAmb	IAmb	22 28 24.7			
	comp=Z,5.8nm,0.9s								
YAK	**Yakutsk**	**85.61**	**343**	LR	LR	23 00 38.9			
	comp=Z,43nm,22.0s,baz=91,slow=31								
GTA	**Gaotai**	**85.79**	**314**	*i*P	**P**	**22 28 28.0**	**+1.0**		
GTA				pP	sP	22 28 40.0	-1.1		
GTA				sP	pP	22 28 47.2	+10		
GTA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
GTA				pmax	pmax				
	comp=Z,73nm,5.1s								
GTA				LR	LR				
	comp=N,89nm,14.5s

ITM	Ithomi	145.00	310			PKPab	22 35 23.9	-0.4
BCLA	Clavier	145.09	341	*d*	PKiKP	PKiKP	22 35 27.9	-0.6
WATA	Walderalm	145.24	332	*e*	P	PKPbc	22 35 24.6	-0.3
	comp=Z,3.7nm,0.5s,SNR=4.6							
WATA				*e*	P	sPKPdf	22 35 39.6	+0.1
	comp=Z,4.9nm,0.8s							
ABTA	Abfaltersbach	145.24	330	*e*	P	PKPbc	22 35 24.1	-0.7
	comp=Z,11nm,0.7s,SNR=9.8							
ABTA				*i*	P	sPKPdf	22 35 39.1	-0.3
	comp=Z,10nm,0.8s							
WTTA	Wattenberg	145.26	332	*e*	P	PKPbc	22 35 25.0	0.0
	comp=Z,5.2nm,0.7s,SNR=5.3							
SABO	M.te Sabotino	145.27	329			PKPbc	22 35 24.5	-0.4
CLUD	Cludinico	145.28	330			PKPbc	22 35 24.1	-0.7
MOTA	Moosalm	145.44	332	*i*	P	PKPbc	22 35 25.3	-0.2
	comp=Z,11nm,0.7s,SNR=7.5							
MOTA				*i*	P	sPKPab	22 35 39.5	-0.3
	comp=Z,19nm,1.1s							
WLF	Walferdange	145.47	339	*d*	PKP	PKPbc	22 35 25.4	+0.2
RETA	Reutte	145.48	333	*i*	P	PKPbc	22 35 25.2	-0.3
	comp=Z,3.2nm,0.6s							
RETA				*i*	P	sPKPdf	22 35 40.0	+0.2
	comp=Z,6.6nm,0.8s							
SQTA	Sankt Quirin	145.49	332	*i*	P	PKPdf	22 35 25.7	+0.1
	comp=Z,12nm,0.6s,SNR=9.2							
SQTA				*i*	P	sPKPab	22 35 40.1	+0.2
	comp=Z,14nm,0.9s							
DOU	Dourbes	145.59	341	*d*	PKP	PKPdf	22 35 25.5	+0.1
DOU				*dp*	PKP	pPKPdf	22 35 37.1	+1.0
DOU				*ds*	PKP		22 35 40.3	
CIMO	Cimolais	145.60	330		PKPdf	PKPdf	22 35 25.4	-0.2
FETA	Feichten	145.85	332	*e*	P	PKPdf	22 35 27.1	+0.8
	comp=Z,13nm,1.1s,SNR=5.8							
FETA				*e*	P	sPKPab	22 35 41.4	0.0
	comp=Z,15nm,1.0s							
DAVA	Damuels	146.01	333	*i*	P	PKPdf	22 35 27.4	+0.9
	comp=Z,4.8nm,0.6s							
SGRT	San Giovanni R	146.85	321		PKPbc	PKPdf	22 35 29.3	+1.4
FDMO	Fiordimonte	147.56	325		PKPbc	PKPbc	22 35 32.0	+0.3
MURB	Monte Urbino	147.71	326		PKPbc	PKPdf	22 35 31.1	+1.7
MSSA	Maissana	148.46	330		PKPbc	PKPdf	22 35 32.9	+2.3
BNI	Bardonecchia	149.14	334		PKPbc	PKPbc	22 35 36.0	+0.1
TORD	Torodi Ar. Bea	166.21	251		PKP	PKPdf	22 35 52.0	-1.3
	comp=Z,0.9nm,0.9s,baz=124,slow=1.0,SNR=3.7							
TORD					PKPab	PKPbc	22 36 53.8	-0.5
	comp=Z,1.2nm,0.8s,baz=108,slow=4.0,SNR=5.2							

WEL 12 22:19:29.7±1.2, 37°S±6°×17°9E±1°, 0 h, 10 km, M3.5/19, ML3.7/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=97.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.99	230	P	Pg	22 19 47.5	-1.2
WMGZ	Waiomatatini S	1.11	217	P	Pn	22 19 51.3	0.0
WMGZ				S	Sb	22 20 05.9	+0.4
PKGZ	Pakihiroa	1.34	224	P	Pn	22 19 54.0	-0.5
PKGZ				S	Sb	22 20 11.6	-0.6
PUZ	Puketiti	1.39	215	P	Pn	22 19 54.8	-0.3
HAZ	Te Kaha	1.44	235	P	Pn	22 19 55.2	-0.5
HAZ				S	Sn	22 20 14.7	+0.1
TWGZ	Tauwhareparae	1.60	219	P	Pn	22 19 58.2	+0.1
TWGZ				S	Sn	22 20 18.5	-0.5
RUGZ	Raukumara Rang	1.63	230	P	Pn	22 19 58.9	+0.4
CNGZ	Carnagh Statio	1.76	208	P	Pn	22 20 00.7	+0.5
TKGZ	Te Karaka	1.87	216	P	Pn	22 20 01.4	-0.4
MWZ	Matawai	1.96	224	P	Pn	22 20 03.1	0.0
WHRZ	Whale Island	2.04	243	P	Pn	22 20 04.2	+0.1
RIGZ	Rimuhau	2.13	213	P	Pn	22 20 04.7	-0.7
RAGZ	Rawiri	2.14	223	P	Pn	22 20 05.3	-0.2
URZ	Urewera	2.16	232	P	Pn	22 20 05.8	+0.1
URZ				S	Sn	22 20 32.0	-0.5
PRGZ	Paritu Road	2.26	208	P	Pn	22 20 06.3	-0.9
EDRZ	Edgecumbe	2.32	239	P	Pn	22 20 08.3	+0.3
OPRZ	Ohinepanea	2.34	246	P	Pn	22 20 08.1	-0.1
SNGZ	Shannon Statio	2.39	219	P	Pn	22 20 08.2	-0.7
KNZ	Kokohu	2.43	211	P	Pn	22 20 07.9	-1.5
MYRZ	Mayor Island	2.44	261	P	Pn	22 20 09.9	+0.3
MHGZ	Mahia Peninsul	2.46	205	P	Pn	22 20 08.8	-1.1
MUGZ	Murupara	2.50	231	P	Pn	22 20 10.5	0.0
TARZ	Mount Tarawera	2.54	239	P	Pn	22 20 11.7	+0.6
RAHZ	Arahi	2.62	220	P	Pn	22 20 11.8	-0.3
WHHZ	Waihua	2.67	216	P	Pn	22 20 12.0	-0.7
MTHZ	Maungataniwha	2.71	224	P	Pn	22 20 13.1	-0.2
KUZ	Kuaotunu	2.85	273	P	Pn	22 20 14.3	-0.9
NMHZ	Naumai	2.90	221	P	Pn	22 20 15.9	-0.1
ARHZ	Aropaoanui	2.93	217	P	Pn	22 20 15.4	-0.9
MRHZ	Matea Rd	2.94	229	P	Pn	22 20 16.4	-0.1
TOZ	Tahuroa Road	3.10	254	P	Pn	22 20 18.0	-0.6
BKZ	Black Stump Fm	3.12	224	P	Pn	22 20 18.1	-0.9
GRZ	Great Barrier	3.14	281	P	Pn	22 20 20.2	+1.1
CKHZ	Cape Kidnapper	3.22	212	P	Pn	22 20 18.3	-2.0
MCHZ	McNeill Hill	3.22	218	P	Pn	22 20 19.1	-1.2
MKAZ	Moumakai	3.29	266	P	Pn	22 20 20.5	-0.7
WIAZ	Waiheke Island	3.31	271	P	Pn	22 20 21.5	-0.1
KAHZ	Kahuranaki	3.42	213	P	Pn	22 20 21.0	-2.1
KRHZ	Kereru	3.53	219	P	Pn	22 20 23.1	-1.6
TMVZ	Te Maari	3.55	231	P	Pn	22 20 24.2	-0.8
NTVZ	North Tongariro	3.56	232	P	Pn	22 20 24.5	-0.6
ETVZ	East Tongariro	3.56	231	P	Pn	22 20 24.3	-0.8
KRVZ	Karewarewa	3.58	232	P	Pn	22 20 25.1	-0.1
BHHZ	Black Hill Sta	3.58	224	P	Pn	22 20 24.5	-0.8
NNVZ	North Ngauruho	3.62	232	P	Pn	22 20 26.1	+0.1
WTVZ	West Tongariro	3.62	232	P	Pn	22 20 27.5	+1.5
SNVZ	South Ngauruho	3.64	231	P	Pn	22 20 25.7	-0.4
NGZ	Ngauruhoe	3.65	231	P	Pn	22 20 25.6	-0.8
TUVZ	Tukino	3.68	230	P	Pn	22 20 23.8	-2.9
TWVZ	Taurewa	3.70	234	P	Pn	22 20 27.2	+0.2
MOVZ	Moawhango	3.71	227	P	Pn	22 20 26.2	-0.9
WNVZ	Wahianoa	3.75	229	P	Pn	22 20 26.7	-1.0
WTAZ	Waiatarua	3.76	269	P	Pn	22 20 29.7	+2.0
PNHZ	Pukenui	3.82	218	P	Pn	22 20 26.4	-2.3
PRHZ	Porangahau	3.91	211	P	Pn	22 20 27.2	-2.6
TSZ	Takapari Road	4.05	219	P	Pn	22 20 29.0	-2.8
WCZ	Waipu Caves	4.09	283	P	Pn	22 20 32.6	+0.4
WAZ	Wanganui	4.38	229	P	Pn	22 20 36.4	+0.1
OUZ	Omahuta	4.90	289	P	Pn	22 20 44.2	+0.9
CTZ	Chatham Island	7.48	156	P	Pn	22 21 18.8	-0.1

ISK 12 22:36:03.2, 39°.56N×25°.98E, h6 km, ML2.6/15
THE 12 22:36:03.8, 39°.55N×25°.97E, h12 km± 1 km, ML2.5/6, Error ellipse: s-maj=1.7km s-min=0.8km az=131.0
DDA 12 22:36:04.0±0.0, 39°.56N×26°.04E, h11 km, ML2.4
ATH 12 22:36:04.2, 39°.52N×25°.91E, h17 km± 6 km, ML2.5/7, Error ellipse: s-maj=6.8km s-min=1.1km az=148.0

ISC 12 22:36:03.6±0.9, 39°.55N±0°.02×25°.97E±0°.02, h11 km± 7 km, n43, σ0°54/65, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	Canakkale, Ayv	0.14	111	P	Pg	22 36 06.9	0.0
KOCA				*i* AML	AML	22 36 09.0	
	comp=N,2μm,0.2s						
KOCA				*i* AML	AML	22 36 09.0	
	comp=E,1μm,0.2s						
KOCA				S	Sg	22 36 09.1	-0.2
GPNR	Gulpinar-Canak	0.16	127	PG	Pg	22 36 06.9	-0.3
GPNR				SG	Sg	22 36 09.6	-0.1
BOZC	Bozcaada	0.30	13	PG	Pg	22 36 09.8	+0.2
BOZC				SG	Sg	22 36 14.0	+0.4
BOZC	Bozcaada	0.30	13	P	Pg	22 36 09.9	+0.2
BOZC				*i* AML	AML	22 36 14.0	
	comp=E,380nm,0.3s						
BOZC				S	Sg	22 36 14.3	+0.7
BOZC				*i* AML	AML	22 36 15.0	
	comp=N,344nm,0.3s						
SIGR	SIGRI	0.35	194	P	Pg	22 36 10.9	+0.3
SIGR				S	Sg	22 36 15.6	+0.3
	1μm,0.2s						
SIGR	SIGRI	0.35	194	PG	Pg	22 36 10.8	+0.3
SIGR				SG	Sg	22 36 15.9	+0.6
SIGR	SIGRI	0.35	194	P	Pg	22 36 10.8	+0.3
SIGR				S	Sg	22 36 14.6	-0.7
SIGR				AML	AML	22 36 16.7	
	comp=N,3003μm,0.3s						
SIGR				AML	AML	22 36 17.1	
	comp=E,1708μm,0.2s						
PRK	Paraskevi	0.39	142	P	Pb	22 36 12.2	-0.2
PRK				S	Sg	22 36 17.4	+1.1
	comp=E,2μm,0.2s						
PRK	Paraskevi	0.39	142	P	Pb	22 36 12.2	-0.2
PRK				S	Sg	22 36 17.6	+1.3
PRK				AML	AML	22 36 17.8	
	comp=E,4230μm,0.2s						
PRK				AML	AML	22 36 18.4	
	comp=N,3034μm,0.3s						
EZN	Ezine	0.39	45	P	Pg	22 36 11.2	-0.1
EZN				S	Sg	22 36 16.6	+0.1
	comp=N,592nm,0.1s						
EZN	Ezine	0.39	45	PG	Pg	22 36 11.1	-0.2
EZN				SG	Sg	22 36 16.5	+0.1
GADA	Gvkgeada	0.64	355	PG	Pg	22 36 15.8	-0.2
LIA	Limnos Island	0.70	300	P	Pg	22 36 17.6	+0.5
LIA				S	Sg	22 36 27.2	+1.0
	comp=N,310nm,0.3s						
LIA	Limnos Island	0.70	300	P	Pg	22 36 17.8	+0.7
LIA				S	Sg	22 36 26.2	0.0
LIA				AML	AML	22 36 30.8	
	comp=E,571μm,0.3s						
LIA				AML	AML	22 36 31.6	
	comp=N,671μm,0.3s						
EFSA	Agios Efstrati	0.76	269	P	Pg	22 36 18.8	+0.5
EFSA				S	Sg	22 36 27.7	-0.4
EFSA				AML	AML	22 36 31.5	
	comp=E,1568μm,0.3s						
EFSA				AML	AML	22 36 32.2	
	comp=N,1061μm,0.4s						
DKL	Dikili	0.87	123	PG	Pg	22 36 20.7	+0.3
GELI	Tayfur-Gelibol	0.93	25	PG	Pg	22 36 20.9	-0.6
SMTH	Samothraki Isl	0.98	340	P	Pg	22 36 22.3	-0.1
SMTH				S	Sg	22 36 35.5	+0.4
	comp=N,208nm,0.2s						
SMTH	Samothraki Isl	0.98	340	P	Pg	22 36 22.6	+0.2
SMTH				S	Sg	22 36 34.6	-0.5
SMTH				AML	AML	22 36 36.6	
	comp=E,458μm,0.2s						
SMTH				AML	AML	22 36 36.8	
	comp=N,366μm,0.2s						
FOCM	Foa	1.03	144	PG	Pb	22 36 23.5	+0.2
ZEDA	zmir-Bergama	1.04	124	P	Pb	22 36 23.3	-0.2
ZEDA				*i* AML	AML	22 36 37.0	
	comp=N,57nm,0.3s						
ZEDA				S	Sg	22 36 37.6	+0.5
ZEDA				*i* AML	AML	22 36 39.0	
	comp=N,50nm,0.3s						
CHOS	Chios island	1.17	177	P	Pb	22 36 24.8	-1.0
CHOS				S	Sb	22 36 40.6	-0.3
	comp=N,328nm,0.2s						
CHOS	Chios island	1.17	177	PN	Pb	22 36 25.9	+0.1
CHOS	Chios island	1.17	177	P	Pb	22 36 24.4	-1.3
CHOS				AML	AML	22 36 44.3	
	comp=N,508μm,0.3s						
CHOS				AML	AML	22 36 44.5	
	comp=E,811μm,0.2s						
ENEZ	Enez	1.19	7	P	Pn	22 36 25.9	-0.2
ENEZ				S	Sg	22 36 42.3	+0.3
ENEZ	Enez	1.19	7	PN	Pn	22 36 26.0	-0.2
URLA	Izmir	1.29	157	PN	Pn	22 36 27.9	+0.4
URLA				SN	Sb	22 36 44.2	-0.1
BALY	Balya	1.29	81	P	Pn	22 36 26.9	-0.7
BALY				S	Sb	22 36 43.1	-1.3
BALY				*i* AML	AML	22 36 44.0	
	comp=E,176nm,0.6s						
BALY				*i* AML	AML	22 36 44.0	
	comp=E,103nm,0.6s						
ALN	Alexandroupoli	1.34	2	PN	Pn	22 36 28.7	+0.4
ALN	Alexandroupoli	1.34	2	P	Pn	22 36 28.3	0.0
ALN				AML	AML	22 36 47.9	
	comp=E,219μm,0.3s						
ALN				AML	AML	22 36 54.2	
	comp=N,158μm,0.7s						
STEP	BALIKESIR_Sava	1.37	97	P	Pb	22 36 29.5	+0.4
STEP				S	Sg	22 36 48.0	+0.5
STEP				*i* AML	AML	22 36 50.0	
	comp=N,83nm,0.3s						
STEP				*i* AML	AML	22 36 52.0	
	comp=N,84nm,1.0s						
GONE	Gonen-Balikesi	1.41	69	PN	Pb	22 36 29.8	-0.1
THAS	Thassos island	1.42	318	P	Pn	22 36 29.9	+0.5
BLCB	Balcova	1.44	144	PN	Pn	22 36 30.0	+0.5
RKY	Sarkoy-Tekirda	1.47	39	PN	Pn	22 36 30.2	+0.2
RDO	Rodhopi	1.63	348	PN	Pn	22 36 32.8	+0.7
RDO	Rodhopi	1.63	348	P	Pn	22 36 32.4	+0.3
MRMT	Marmara Adasi	1.63	49	PN	Pn	22 36 32.9	+0.6
UKOP	Uzunkopru-Edir	1.65	18	PN	Pn	22 36 33.3	+0.8
EDC	Edincik	1.66	61	PN	Pn	22 36 33.3	+0.7
OUR	Ouranopolis	1.71	298	P	Pn	22 36 33.2	-0.1
KYMI	Kymi, Euboea I	1.72	238	P	Pn	22 36 32.5	-0.9
PAIG	Paliouri	1.80	283	P	Pn	22 36 34.4	-0.1

IDC 12 22:37:55.1±5.7, 14°.18S×167°.32E, h0 km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=154.8km s-min=55.2km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	29.39	229	P	P	22 43 60.0	-0.3
	1.9nm,0.6s,baz=93,slow=6.2,SNR=3.5						
	1.9nm,0.6s						
WRA	Warramunga Arr	32.01	255	P	P	22 44 23.4	-0.2
	0.4nm,1.0s,baz=85,slow=9.3,SNR=2.4						
	0.4nm,1.0s						
ASAR	Alice Springs	32.92	248	P	P	22 44 31.7	+0.2
	0.9nm,0.7s,baz=82,slow=9.1,SNR=6.8						
	0.9nm,0.7s						
MKAR	Makanchi Array	96.84	316	P	P	22 51 28.0	-0.2
	0.2nm,0.7s,baz=101,slow=4.7,SNR=2.6						
	0.2nm,0.7s						

NEIC 12 22:44:08.0±1.5, 8°.5N±0°.1×126°.2E±0°.2, h10 km± 1 km, mb4.4/9, Error ellipse: s-maj=27.6km s-min=14.7km az=65.0
MAN 12 22:44:08.9, 8°.38N×125°.97E, h11 km, mb4.6, ML3.5, MS3.3
IDC 12 22:44:14.9±1.9, 8°.08N×126°.16E, h84 km± 18 km, mb3.5/11, mbtmp3.8/12, MS3.0/5, Error ellipse: s-maj=33.3km s-min=15.1km az=73.0

ISC 12 22:44:10.1±1.2, 8°.41N±0°.03×126°.01E±0°.05, h27 km± 9 km, n56, σ1°86/61, mb4.0/15, 14C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	Butuan	0.68	325	*i*	P	22 44 22.7	-0.6
BUTP				*eS*	Sn	22 44 34.7	+1.2
BUKP	Musuan	1.08	241	*i*	P	22 44 27.8	-1.6
BUKP				*i*	Sn	22 44 47.1	+3.5
CGP	Cagayan de Oro	1.31	272	*i*	P	22 44 31.6	-0.9
CGP				*i*	Sn	22 44 49.8	+0.7
DAV	Davao City (W)	1.40	198	P	Pb	22 44 35.9	+0.2
	282nm,0.3s,baz=64,slow=3.2,SNR=31						
DAV				S	Sb	22 44 56.8	+3.7
	872nm,0.6s,baz=67,slow=13,SNR=7.6						
DAV	Davao City (W)	1.40	198	Pn	Pb	22 44 35.2	-0.4
SCPH	Surigao	1.46	339	*eP*	Pb	22 44 35.3	-1.2
SCPH				*eS*	Sb	22 44 55.0	+0.4
MATI	Mati	1.48	171	*i*	Pn	22 44 33.8	-1.1
MATI				*eS*	Sn	22 44 52.0	-1.3
KCP	Kidapawan	1.67	213	*i*	Pn	22 44 37.5	0.0
KCP				*i*	Sb	22 44 59.6	-1.2
MSLP	Maasin	2.06	326	*eP*	Pb	22 44 48.3	+1.6
MSLP				*eS*	Sb	22 45 16.3	+4.4
GHBP	Garcia Hernand	2.06	306	*eP*	Pn	22 44 43.6	+0.7
GHBP				*i*	Sb	22 45 13.1	+1.0
CTBH	Cotabato--PC H	2.12	236	*i*	Pn	22 44 44.3	+0.7
CTBH				*i*	Sb	22 45 13.2	-0.4
DDMP	Don Marcelino,	2.31	187	*i*	Pn	22 44 47.4	+1.0
DDMP				*eS*	Sn	22 45 15.4	+1.5
SKMP	Bagumbayan, Su	2.38	218	*eP*	Pn	22 44 47.0	-0.3
LSIP	Lazi, Siquijor	2.46	287	*i*	Pn	22 44 49.6	+1.2
LSIP				*i*	Sn	22 45 17.1	-0.5
TBP	Tagbilaran	2.48	301	*eP*	Pn	22 44 49.9	+1.3
TBP				*eS*	Sb	22 45 22.6	-1.4
PAGZ	Pagadian	2.67	258	*eP*	Pb	22 44 55.4	-1.7
PAGZ				*i*	Sn	22 45 20.5	-2.2
LLP	Lapu-Lapu	2.77	313	*eP*	Pn	22 44 47.6	-5.1
LLP				*eS*	Sb	22 45 29.2	-3.2
SNPH	Sibulan	2.90	289	*i*	Pn	22 44 52.9	-1.5
SNPH				*i*	Sn	22 45 31.4	+3.0
BESP	Borongan	3.22	350	*eP*	Pb	22 45 04.0	-2.5
BESP				*eS*	Sb	22 45 49.4	+4.0
CNP	Catarman	4.28	342	*i*	Pn	22 45 18.3	+4.8
CNP				*eS*	Sb	22 46 12.0	-3.9
TNTI	Ternate	7.71	170	Pn	Pn	22 46 02.0	+1.4
SIJI	Sorong	10.60	150	P	Pn	22 46 39.7	-0.6
	9.9nm,0.8s,baz=355,slow=9.0,SNR=7.8						
SIJI				LR	LR	22 51 06.6	
	comp=Z,29nm,19.4s,baz=298,slow=40						
FAKI	Fak Fak	12.86	151		Pn	22 47 12.6	+1.3
KAPI	Kappang	14.73	205	LR	LR	22 53 59.7	
	comp=Z,64nm,18.5s,baz=52,slow=40						
BATI	Baumata	18.64	187	LR	LR	22 55 36.5	
	comp=Z,114nm,19.4s,baz=54,slow=37						
KNRA	Kununurra	24.09	174		P	22 49 24.1	+0.6
KNRA				IAmb	IAmb	22 50 04.3	
	comp=Z,17nm,1.4s						
FITZ	Fitzroy Crossi	26.35	181	P	P	22 49 41.5	-2.4
	comp=Z,1.5nm,0.8s,baz=2.4,slow=10.0,SNR=2.8						
	comp=Z,1.5nm,0.8s						
FITZ	Fitzroy Crossi	26.35	181	P	P	22 49 42.5	-1.4
FITZ				IAmb	IAmb	22 50 06.5	
	comp=Z,5.6nm,1.1s						
COEN	Coen	28.00	142	P	P	22 49 57.9	-1.0
COEN				IAmb	IAmb	22 50 14.5	
	comp=Z,12nm,1.1s						
CM31	Chiang Mai Arr	28.12	294	P	P	22 49 58.4	-1.6
CM31				IAmb	IAmb	22 50 12.3	
	comp=Z,6.4nm,1.1s						
CMAR	Chiang Mai Arr	28.12	294	P	P	22 50 00.4	+0.4
	comp=Z,0.3nm,0.3s,baz=106,slow=6.7,SNR=1.9						
	comp=Z,0.3nm,0.3s						
KSRS	Korea Array	28.96	3	LR	LR	23 01 41.6	
	comp=Z,20nm,22.0s,baz=160,slow=36						
WB0	Warramunga Arr	29.19	164	P	P	22 50 11.0	+1.5
WB0				IAmb	IAmb	22 50 15.7	
	comp=Z,6.5nm,1.4s						
WRA	Warramunga Arr	29.35	164	P	P	22 50 07.7	-3.2
	comp=Z,0.3nm,0.8s,baz=342,slow=9.8,SNR=2.4						
	comp=Z,0.3nm,0.8s						
WRA	Warramunga Arr	29.35	164	P	P	22 50 09.0	-1.8
MJAR	Matsushiro Arr	30.12	20	LR	LR	23 03 32.2	
	comp=Z,31nm,18.1s,baz=180,slow=38						
ASAR	Alice Springs	32.80	167	P	P	22 50 37.7	-3.6
	comp=Z,0.2nm,0.4s,baz=344,slow=7.0,SNR=1.9						
	comp=Z,0.2nm,0.4s						
USRK	Ussuriysk Ar.	36.03	7	P	P	22 51 11.5	+2.6
	comp=Z,3.3nm,0.8s,baz=206,slow=9.6,SNR=6.0						
	comp=Z,3.3nm,0.8s						
H11S3	WAKE ISLAND Hy	40.72	71	T	T	23 34 52.1	
	baz=262						
H11S1	WAKE ISLAND Hy	40.73	71	T	T	23 34 53.2	
	baz=262						
H11S2	WAKE ISLAND Hy	40.73	71	T	T	23 34 53.7	
	baz=262						
KLR	Kul'dur	40.97	6	P	P	22 51 49.8	-0.6
	comp=Z,0.7nm,0.4s,baz=166,slow=8.3,SNR=1.7						
	comp=Z,0.7nm,0.4s						
H11N1	WAKE ISLAND Hy	41.10	70	T	T	23 35 34.2	
	baz=265						
H11N2	WAKE ISLAND Hy	41.11	70	T	T	23 35 36.9	
	baz=265						
H11N3	WAKE ISLAND Hy	41.12	70	T	T	23 35 42.5	
	baz=265						
BBOO	Buckleboo	42.10	167	P	P	22 51 59.4	-0.5
STKA	Stephens Creek	42.74	160	P	P	22 51 59.6	-5.5
	comp=Z,2.7nm,0.8s,baz=300,slow=21,SNR=2.9						
	comp=Z,2.7nm,0.8s						
MK31	Makanchi Array	53.35	324	P	P	22 53 27.2	+0.1
MKAR	Makanchi Array	53.35	324	P	P	22 53 28.4	+1.3
	comp=Z,0.7nm,0.8s,baz=124,slow=8.4,SNR=7.1						
MKAR				PcP	PcP	22 54 35.0	+0.6
	comp=Z,0.5nm,0.8s,baz=116,slow=4.7,SNR=2.4						
	comp=Z,0.7nm,0.8s						
MKAR	Makanchi Array	53.35	324	P	P	22 53 28.8	+1.7
KKAR	Karatay Array	59.38	315	P	P	22 54 10.6	+0.5
BKZ	Black Stump Fm	66.55	139	P	P	22 54 57.6	-0.2
ABKAR	Akbulak array	68.11	320	P	P	22 55 07.3	-0.2
ILAR	Eielson Array	81.21	26	P	P	22 56 22.3	-0.9
	comp=Z,0.3nm,0.8s,baz=202,slow=6.5,SNR=1.7						
	comp=Z,0.3nm,0.8s						
FINES	FINESS Array B	87.39	332	P	P	22 56 55.2	+0.6
	comp=Z,1.7nm,0.8s,baz=101,slow=9.9,SNR=4.1						
	comp=Z,1.7nm,0.8s						
VNDA	Vanda	88.13	173	P	P	22 56 52.1	-5.7
	comp=Z,0.3nm,0.3s,baz=329,slow=6.7,SNR=2.4						
	comp=Z,0.3nm,0.3s						

NOU 12 22:44:58.6, 37°.81S×176°.55E, h222 km, mb4.3/8, North Island, New Zealand
WEL 12 22:45:07.7±0.5, 38°.3S±2°×17°6E±°, h144 km± 4 km, M3.2/66, ML2.0/7, MLv3.2/66, Error ellipse: s-maj=0.0km s-min=0.0km az=124.1

ISC 12 22:45:02.9±1.6, 38°.09S±0°.05×176°.35E±0°.04, h184 km± 8 km, n148, σ1°54/178, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OMRZ	Omania	0.02	131	P	Pn	22 45 27.8	+0.6
LIRZ	Lichensteins R	0.09	16	P	Pn	22 45 27.8	+0.5
KARZ	Kaharoa	0.11	310	P	Pn	22 45 27.7	+0.5
NGRZ	Ngongotaha	0.13	266	P	Pn	22 45 28.1	+0.9
HLRZ	Highlands Stat	0.16	180	P	Pn	22 45 28.2	+1.0
TARZ	Mount Tarawera	0.19	140	P	Pn	22 45 28.3	+0.9
HSRZ	Hossack Road	0.23	201	P	Pn	22 45 28.3	+1.0
MARZ	Manawahe	0.28

HIZ	**Hauiti**	**1.25 250**	P	**Pn**	**22 45 34.9**	**+2.0**	
RIGZ	**Rimuhau**	**1.27 119**	P	**Pn**	**22 45 35.3**	**+2.2**	
RIGZ			S	**Sn**	**22 45 56.2**	**-0.4**	
ARHZ	**Aropaoanui**	**1.27 157**	P	**Pn**	**22 45 35.5**	**+2.4**	
ARHZ			S	**Sn**	**22 45 56.4**	**-0.3**	
TWGZ	**Tauwhareparae**	**1.29 94**	P	**Pn**	**22 45 35.2**	**+1.9**	
TWGZ			S	**Sn**	**22 45 57.2**	**+0.3**	
TUVZ	**Tukino**	**1.29 205**	P	**Pn**	**22 45 35.4**	**+1.9**	
WHVZ	**Whangaehu Hut**	**1.33 206**	P	**Pn**	**22 45 35.6**	**+1.7**	
KWHZ	**Kaweka Forest**	**1.33 178**	P	**Pn**	**22 45 35.8**	**+2.1**	
KWHZ			S	**Sn**	**22 45 56.8**	**-0.9**	
MKAZ	**Moumakai**	**1.37 316**	P	**Pn**	**22 45 35.3**	**+1.3**	
WNVZ	**Wahianoa**	**1.37 205**	P	**Pn**	**22 45 36.0**	**+1.8**	
MCHZ	**McNeill Hill**	**1.38 169**	P	**Pn**	**22 45 36.6**	**+2.5**	
PKGZ	**Pakihiroa**	**1.38 82**	P	**Pn**	**22 45 34.2**	**0.0**	
KNZ	**Kokohu**	**1.39 132**	P	**Pn**	**22 45 36.2**	**+2.1**	
MOVZ	**Moawhango**	**1.39 199**	P	**Pn**	**22 45 35.7**	**+1.5**	
BHHZ	**Black Hill Sta**	**1.41 189**	P	**Pn**	**22 45 36.1**	**+1.7**	
BHHZ			S	**Sn**	**22 45 57.3**	**-1.7**	
PKVZ	**Pokaka**	**1.43 213**	P	**Pn**	**22 45 36.5**	**+1.9**	
KUZ	**Kuaotunu**	**1.44 339**	P	**Pn**	**22 45 35.6**	**+1.0**	
PRGZ	**Paritu Road**	**1.46 125**	P	**Pn**	**22 45 37.0**	**+2.2**	
MTVZ	**Mangateitei**	**1.46 208**	P	**Pn**	**22 45 36.9**	**+2.0**	
PUZ	**Puketiti**	**1.50 90**	P	**Pn**	**22 45 36.6**	**+1.4**	
PUZ			S	**Sn**	**22 45 58.8**	**-1.4**	
CNGZ	**Carnagh Statio**	**1.51 106**	P	**Pn**	**22 45 37.9**	**+2.7**	
KRHZ	**Kereru**	**1.55 179**	P	**Pn**	**22 45 37.5**	**+1.9**	
KRHZ			S	**Sn**	**22 46 00.1**	**-1.1**	
ETAZ	**East Tamaki Re**	**1.60 315**	P	**Pn**	**22 45 37.7**	**+1.6**	
MHGZ	**Mahia Peninsul**	**1.61 131**	P	**Pn**	**22 45 38.8**	**+2.5**	
WIAZ	**Waiheke Island**	**1.62 323**	P	**Pn**	**22 45 37.9**	**+1.5**	
MXZ	**Matakaoa Point**	**1.64 72**	P	**Pn**	**22 45 38.5**	**+1.8**	
MXZ			S	**Sn**	**22 46 01.5**	**-0.9**	
WMGZ	**Waiomatatini S**	**1.65 81**	P	**Pn**	**22 45 38.4**	**+1.8**	
WMGZ			S	**Sn**	**22 46 02.0**	**-0.8**	
CKHZ	**Cape Kidnapper**	**1.66 160**	P	**Pn**	**22 45 39.2**	**+2.5**	
CKHZ			S	**Sn**	**22 46 02.7**	**-0.5**	
AWAZ	**Awhitu Peninsu**	**1.70 307**	P	**Pn**	**22 45 38.6**	**+1.5**	
KAHZ	**Kahuranaki**	**1.75 167**	P	**Pn**	**22 45 40.1**	**+2.4**	
MBAZ	**Motutapu North**	**1.76 318**	P	**Pn**	**22 45 39.4**	**+1.7**	
PNHZ	**Pukenui**	**1.82 184**	P	**Pn**	**22 45 40.1**	**+1.7**	
PNHZ			S	**Sn**	**22 46 05.2**	**-1.0**	
ABAZ	**Army Bay**	**1.92 320**	P	**Pn**	**22 45 41.4**	**+2.0**	
WPHZ	**Waipukurau**	**1.97 178**	P	**Pn**	**22 45 41.8**	**+1.9**	
WPHZ			S	**Sn**	**22 46 07.5**	**-1.4**	
GRZ	**Great Barrier**	**1.97 339**	P	**Pn**	**22 45 41.5**	**+1.6**	
WAZ	**Wanganui**	**1.97 212**	P	**Pn**	**22 45 42.1**	**+2.2**	
PXZ	**Pawanui**	**1.98 169**	P	**Pn**	**22 45 42.1**	**+2.2**	
PXZ			S	**Sn**	**22 46 08.0**	**-0.9**	
TSZ	**Takapari Road**	**1.99 189**	P	**Pn**	**22 45 41.8**	**+1.7**	
LREZ	**Lake Rotokare**	**2.05 228**	P	**Pn**	**22 45 43.6**	**+2.9**	
NEZ	**North Egmont**	**2.12 236**	P	**Pn**	**22 45 44.8**	**+3.2**	
PREZ	**Palmer Road**	**2.12 233**	P	**Pn**	**22 45 44.9**	**+3.3**	
PKE	**Pukeiti**	**2.15 239**	P	**Pn**	**22 45 44.8**	**+2.9**	
PRHZ	**Porangahau**	**2.18 174**	P	**Pn**	**22 45 44.2**	**+2.0**	
KHEZ	**Kahui Hut**	**2.19 236**	P	**Pn**	**22 45 45.4**	**+3.0**	
DVHZ	**Dannevirke**	**2.21 184**	P	**Pn**	**22 45 44.1**	**+1.6**	
NBEZ	**Newall Road No**	**2.27 238**	P	**Pn**	**22 45 46.5**	**+3.3**	
NMEZ	**Namu Road**	**2.34 235**	P	**Pn**	**22 45 46.9**	**+3.0**	
POWZ	**Post Office Ro**	**2.34 191**	P	**Pn**	**22 45 45.5**	**+1.5**	
ANWZ	**Angora Road**	**2.37 178**	P	**Pn**	**22 45 46.3**	**+2.1**	
PRWZ	**Pori Road**	**2.48 187**	P	**Pn**	**22 45 47.5**	**+2.0**	
BFZ	**Birch Farm**	**2.59 182**	P	**Pn**	**22 45 48.4**	**+1.6**	
BFZ	**Birch Farm**	**2.59 182**	P	**Pn**	**22 45 48.4**	**+1.6**	
MRZ	**Mangatainoka R**	**2.63 193**	P	**Pn**	**22 45 48.6**	**+1.3**	
TIWZ	**Tintock**	**2.70 188**	P	**Pn**	**22 45 49.7**	**+1.6**	
CPWZ	**Castlepoint**	**2.82 182**	P	**Pn**	**22 45 51.7**	**+2.3**	
OGWZ	**Otaki Gorge**	**2.87 198**	P	**Pn**	**22 45 51.3**	**+1.2**	
HOWZ	**Holdsworth Sta**	**2.88 193**	P	**Pn**	**22 45 51.2**	**+1.1**	
KIW	**Kapiti Island**	**2.98 202**	P	**Pn**	**22 45 52.3**	**+0.9**	
TMWZ	**Te Maipa**	**3.03 187**	P	**Pn**	**22 45 53.2**	**+1.2**	
MTW	**Mount Morrison**	**3.13 192**	P	**Pn**	**22 45 54.1**	**+0.8**	
CAW	**Cannon Point**	**3.17 198**	P	**Pn**	**22 45 54.6**	**+0.9**	
DUWZ	**D'Urville Isla**	**3.29 214**	P	**Pn**	**22 45 56.0**	**+0.7**	
TRWZ	**Traveller**	**3.34 189**	P	**Pn**	**22 45 56.8**	**+1.0**	
PAWZ	**Paruwai Farm**	**3.36 192**	P	**Pn**	**22 45 56.8**	**+0.7**	
WEL	**Wellington**	**3.41 200**	P	**Pn**	**22 45 57.5**	**+0.8**	
MSWZ	**Moikau Station**	**3.43 194**	P	**Pn**	**22 45 57.4**	**+0.6**	
SNZO	**South Karori**	**3.46 201**	P	**Pn**	**22 45 57.9**	**+0.7**	
TCW	**Tory Channel**	**3.50 207**	P	**Pn**	**22 45 58.3**	**+0.5**	
PLWZ	**Palliser**	**3.57 193**	P	**Pn**	**22 45 59.2**	**+0.4**	
OUZ	**Omahuta**	**3.62 321**	P	**Pn**	**22 46 02.4**	**+3.0**	
TUWZ	**Tuamarina**	**3.81 208**	P	**Pn**	**22 46 02.3**	**+0.6**	
NNZ	**Nelson**	**3.87 215**	P	**Pn**	**22 46 02.9**	**+0.4**	
TKNZ	**Takaka Hill**	**3.94 221**	P	**Pn**	**22 46 03.5**	**+0.3**	
CMWZ	**Cape Campbell**	**4.00 204**	P	**Pn**	**22 46 05.4**	**+1.3**	
QRZ	**Quartz Range**	**4.03 226**	P	**Pn**	**22 46 04.5**	**+0.2**	
QRZ	**Quartz Range**	**4.03 226**	P	**Pn**	**22 46 04.8**	**+0.4**	
BSWZ	**Blackbirch Sta**	**4.09 207**	P	**Pn**	**22 46 05.6**	**+0.4**	
MRNZ	**Matariki Terra**	**4.31 219**	P	**Pn**	**22 46 08.1**	**+0.1**	
THZ	**Tophouse**	**4.52 215**	P	**Pn**	**22 46 11.2**	**+0.5**	
KHZ	**Kahutara**	**4.83 206**	P	**Pn**	**22 46 14.7**	**+0.2**	
KHZ	**Kahutara**	**4.83 206**	P	**Pn**	**22 46 15.0**	**+0.4**	
DSZ	**Denniston Nort**	**5.05 222**	P	**Pn**	**22 46 17.1**	**-0.5**	
GVZ	**Greta Valley S**	**5.49 206**	P	**Pn**	**22 46 23.3**	**+0.2**	
LTZ	**Lake Taylor**	**5.62 212**	P	**Pn**	**22 46 24.7**	**-0.3**	
INZ	**Inchbonnie**	**5.95 217**	P	**Pn**	**22 46 28.2**	**-1.0**	
OKCZ	**Okains Bay**	**6.15 203**	P	**Pn**	**22 46 31.8**	**0.0**	
MQZ	**McQueen's Vall**	**6.27 205**	P	**Pn**	**22 46 32.1**	**-1.2**	
AKCZ	**Akaroa Harbour**	**6.33 203**	P	**Pn**	**22 46 33.7**	**-0.5**	
RACZ	**Rakaia**	**6.47 208**	P	**Pn**	**22 46 35.0**	**-0.9**	
RPZ	**Rata Peaks**	**6.90 214**	P	**Pn**	**22 46 41.5**	**-0.1**	
ARUZ	**Arundel**	**7.04 212**	P	**Pn**	**22 46 43.4**	**0.0**	
FOZ	**Fox Glacier**	**7.35 220**	P	**Pn**	**22 46 47.7**	**+0.1**	
TMZ	**Timaru**	**7.46 211**	P	**Pn**	**22 46 48.6**	**-0.5**	
ODZ	**Otahua Downs**	**8.15 210**	P	**Pn**	**22 46 58.0**	**0.0**	
ODZ	**Otahua Downs**	**8.15 210**	P	**Pn**	**22 46 58.3**	**+0.2**	
JCZ	**Jackson Bay**	**8.26 221**	P	**Pn**	**22 46 59.3**	**-0.3**	
MLZ	**Mavora Lakes**	**9.52 218**	P	**Pn**	**22 47 16.4**	**+0.4**	

*JMA **12**.22:47:40.6±0.6,36°.N±2°.×12°.9E±°.,h0km,MV2.9/8,S KOREAN PENINSULA REG*
*KMA **12**.22:47:43.0±0.0,35°.80N×129°.17E,h1km,Error ellipse: s-maj=0.5km s-min=0.4km az=293.0*
ISC 12 22:47:43.0±1.3,35°.78N±0°.03×129°.16E±0°.04,h18km±7km, n40,σ0ᵍ58/42,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSDAG	**Daegu**	**0.21**	**267**	P		**Pg**	**22 47 48.3**	**+0.2**
	SNR=180							
YOCB	**Yeongcheon**	**0.26**	**319**	P		**Pg**	**22 47 49.0**	**+0.1**
	SNR=54							
MIYA	**Miryang-si**	**0.44**	**230**	P		**Pb**	**22 47 52.0**	**-0.3**
	SNR=8.8							
KSPHA	**Pohang**	**0.45**	**23**	P		**Pg**	**22 47 51.8**	**-0.3**
	SNR=53							
KSDAU	**Deagu-acc**	**0.45**	**284**	P		**Pb**	**22 47 52.4**	**0.0**
	SNR=26							
KSBUS	**Busan**	**0.53**	**184**	P		**Pg**	**22 47 53.1**	**-0.6**
	SNR=57							
KSCHR	**CHANGNYEONG**	**0.59**	**247**	P		**Pb**	**22 47 54.6**	**-0.2**
	SNR=13							
KSADO	**Andong**	**0.65**	**345**	P		**Pb**	**22 47 55.6**	**-0.3**
	SNR=245							
EUSB	**Uiseong**	**0.69**	**327**	P		**Pb**	**22 47 56.3**	**-0.2**
	SNR=33							
YODB	**Yeongdeok**	**0.78**	**15**	P		**Pg**	**22 47 57.5**	**-0.7**
	SNR=31							
KSGUM	**GUMI**	**0.84**	**303**	P		**Pb**	**22 47 59.4**	**+0.3**
	SNR=6.8							
EURB	**Uiryeong-eup**	**0.84**	**237**	P		**Pg**	**22 47 59.0**	**-0.5**
	SNR=9.8							
YEYB	**Yeongyang**	**0.84**	**356**	P		**Pb**	**22 47 59.0**	**-0.2**
	SNR=61							
ADOA	**Andong Acc Bor**	**0.87**	**335**	P		**Pb**	**22 47 59.6**	**0.0**
	SNR=9.6							
KSGIC	**Gimchen**	**0.91**	**290**	P		**Pb**	**22 48 00.4**	**+0.2**
	SNR=50							
HACA	**Hapcheon Acc B**	**0.94**	**247**	P		**Pb**	**22 48 01.0**	**+0.2**
	SNR=17							
KSULJ	**Uljin**	**0.94**	**12**	P		**Pg**	**22 48 00.5**	**-0.9**
	SNR=118							
KSSAJ	**Sangju**	**1.02**	**308**	P		**Pb**	**22 48 02.5**	**+0.2**
	SNR=17							
DUSB	**Deogyusan**	**1.13**	**276**	P		**Pn**	**22 48 04.3**	**+0.3**
	SNR=49							
CHYB	**Chungyang**	**1.18**	**350**	P		**Pb**	**22 48 05.0**	**+0.1**
	SNR=20							
YOJB	**Youngju**	**1.21**	**335**	P		**Pn**	**22 48 05.5**	**+0.4**
	SNR=54							
OKCB	**Cheongsan-myeo**	**1.24**	**297**	P		**Pg**	**22 48 06.3**	**-0.7**
	SNR=13							
KSMGY	**Mungyeong**	**1.25**	**315**	P		**Pg**	**22 48 06.2**	**-0.9**
	SNR=18							
JTU	**Tsushima**	**1.27**	**171**	P		**Pn**	**22 48 05.4**	**-0.5**
JTU				*e*S		**Sb**	**22 48 22.6**	**+0.2**
KSBON	**Boeun**	**1.31**	**304**	P		**Pg**	**22 48 08.1**	**-0.3**
	SNR=33							
KSTBA	**Taebaek**	**1.35**	**353**	P		**Pb**	**22 48 08.0**	**+0.2**
	SNR=70							
KSCHJ	**Chungju**	**1.45**	**319**	P		**Pg**	**22 48 10.0**	**-1.0**
	SNR=15							
JTSM	**Tsushimamitsus**	**1.45**	**173**	P		**Pn**	**22 48 08.1**	**-0.3**
JTSM				*e*S		**Sb**	**22 48 28.5**	**+0.8**
KSJEO	**Jeonju**	**1.52**	**276**	P		**Pb**	**22 48 11.0**	**+0.3**
	SNR=33							
JECH	**Jecheon**	**1.58**	**331**	P		**Pb**	**22 48 12.0**	**+0.2**
	SNR=8.7							
KSJEU	**Jeongeup**	**1.84**	**262**	P		**Pb**	**22 48 15.6**	**-0.6**
	SNR=19							
OKEB	**Okgye-myeon**	**1.84**	**356**	P		**Pb**	**22 48 17.0**	**+0.8**
	SNR=6.1							
KSWJU	**Wonju**	**1.85**	**332**	P		**Pb**	**22 48 16.5**	**+0.2**
	SNR=19							
KSKWJ	**Gwangju**	**1.88**	**251**	P		**Pb**	**22 48 16.0**	**-0.8**
	SNR=19							
KSKWJ	**Gwangju**	**1.88**	**251**	P		**Pb**	**22 48 17.0**	**+0.2**
	SNR=7.6							
BOSB	**Boseong-gun**	**1.89**	**238**	P		**Pb**	**22 48 17.0**	**0.0**
	SNR=18							
JHGM	**Hagimishima**	**1.90**	**121**	*e*S		**Sb**	**22 48 40.9**	**+0.2**
JII	**Iki**	**2.04**	**166**	*e*P		**Pn**	**22 48 18.5**	**+2.1**
SMKB	**Mukjeong-gil**	**2.12**	**268**	P		**Pb**	**22 48 21.0**	**+0.1**
	SNR=10							
JTY	**Toyota**	**2.18**	**134**	*e*S		**Sb**	**22 48 48.1**	**-0.4**

*IDC **12**.22:52:33.5±0.5,29°.22S×61°.01E,h0km,mb4.2/22, mbtmp4.3/23,ML4.5/1,MS3.6/32,Error ellipse: s-maj=15.8km s-min=13.8km az=49.0*
*NEIC **12**.22:52:35.6±1.4,29°.22S±0°.10×60°.8E±0°.1,h10km±1km, mb4.6/30,Error ellipse: s-maj=19.5km s-min=15.3km az=245.0*
ISC 12 22:52:35.5±0.4,29°.23S±0°.08×60°.88E±0°.09,h10km,n121, σ1ᵍ01/96,mb4.5/46,MS3.7/33,6C-2D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RER	**Riviere de l'E**	**9.28**	**329**	Pn		**Pn**	**22 54 48.0**	**-1.5**
FOMA	**Nahampoana Res**	**13.08**	**286**	Pn		**Pn**	**22 55 38.7**	**-2.7**
VOI	**Vohitsoka**	**14.64**	**297**	Pn		**Pn**	**22 56 03.2**	**+0.2**
OPO	**Ambohidratompo**	**16.39**	**307**	Pn		**Pn**	**22 56 25.1**	**-0.8**
	0.2nm,0.3s,baz=115,slow=14,SNR=12							
OPO				Sn		Sn	22 59 14.4	-14
	0.4nm,0.3s,baz=99,slow=19,SNR=12							
	4.3nm,0.5s							
H08S1	**Diego Carcia H**	**24.09**	**29**	T		T	23 22 56.1	
	baz=202							
H08S2	**Diego Garcia H**	**24.09**	**29**	T		T	23 23 05.6	
	baz=202							
H08S3	**Diego Garcia H**	**24.11**	**29**	T		T	23 23 03.8	
	baz=202							
BOSA	**Boshof**	**31.12**	**262**	P		**P**	**22 58 55.9**	**+1.4**
	3.9nm,1.0s,baz=111,slow=8.6,SNR=2.3							
BOSA				LR		LR	23 09 46.4	
	comp=Z,58nm,18.7s,baz=99,slow=33							
	3.9nm,1.0s							
BOSA	**Boshof**	**31.12**	**262**			**P**	**22 58 56.1**	**+1.7**
BOSA				IAmb		IAmb	22 59 14.4	
	comp=Z,15nm,1.4s							
LBTB	**Lobatse**	**31.61**	**269**	P		**P**	**22 58 58.8**	**0.0**
	comp=Z,3.3nm,0.8s,baz=97,slow=8.1,SNR=2.7							
LBTB				LR		LR	23 10 48.6	
	comp=Z,30nm,18.8s,baz=109,slow=34							
	comp=Z,3.3nm,0.8s							
LBTB	**Lobatse**	**31.61**	**269**	P		**P**	**22 58 58.8**	**0.0**
LSZ	**Lusaka**	**33.16**	**288**	LR		LR	23 12 36.7	
	comp=Z,83nm,18.2s,baz=128,slow=36							
SUR	**Sutherland**	**34.42**	**254**	P		**P**	**22 59 23.8**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=108,slow=19,SNR=1.8							
SUR				LR		LR	23 10 39.9	
	comp=Z,39nm,19.4s,baz=122,slow=32							
	comp=Z,4.3nm,0.8s							
KMBO	**Kilima Mbogo**	**35.89**	**317**	LR		LR	23 11 34.6	
	comp=Z,132nm,19.8s,baz=111,slow=32							
MAW	**Mawson**	**38.42**	**179**	P		**P**	**22 59 57.3**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=0.1,slow=12,SNR=5.5							
MAW				LR		LR	23 12 52.8	
	comp=Z,119nm,19.1s,baz=347,slow=32							
	comp=Z,3.8nm,0.8s							
MAW	**Mawson**	**38.42**	**179**	P		**P**	**22 59 57.7**	**+0.9**
MBAR	**Mbarara**	**40.45**	**309**	LR		LR	23 15 00.9	
	comp=Z,91nm,21.7s,baz=117,slow=33							
TSUM	**Tsumeb**	**40.53**	**274**	LR		LR	23 15 33.7	
	comp=Z,66nm,20.0s,baz=164,slow=34							
PALK	**Pallekele**	**41.00**	**31**	LR		LR	23 13 22.0	
	comp=Z,119nm,18.8s,baz=304,slow=30							
ATD	**Arta Tunnel**	**44.10**	**334**	LR		LR	23 16 19.3	
	comp=Z,130nm,19.0s,baz=148,slow=32							
H01W2	**Cape Leeuwin H**	**45.05**	**111**	T		T	23 48 29.7	
	baz=261,slow=75,SNR=22							
H01W3	**Cape Leeuwin H**	**45.05**	**111**	T		T	23 48 32.5	
	baz=261,slow=75,SNR=20							
H01W1	**Cape Leeuwin H**	**45.07**	**111**	T		T	23 48 31.5	
	baz=261,slow=75,SNR=18							
PSI	**Prapat**	**48.40**	**55**	LR		LR	23 17 44.1	
	comp=Z,57nm,18.4s,baz=232,slow=31							
WSAR	**Wadi Sarin**	**52.21**	**357**	LR		LR	23 18 23.9	
	comp=Z,62nm,21.0s,baz=202,slow=30							
TROLL	**Troll, Antarti**	**52.83**	**199**	P		**P**	**23 01 50.8**	**0.0**
UOSS	**Minazif**	**54.05**	**355**	P		**P**	**23 01 59.1**	**-1.0**
SNAA	**Sanae**	**54.32**	**200**	P		**P**	**23 02 01.8**	**0.0**
SNAA	**Sanae**	**54.32**	**200**	P		**P**	**23 02 01.1**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=81,slow=8.6,SNR=21							
SNAA				LR		LR	23 20 10.5	
	comp=Z,89nm,21.3s,baz=96,slow=30							
	comp=Z,3.8nm,0.8s							
SNAA	**Sanae**	**54.32**	**200**	P		**P**	**23 02 01.6**	**-0.1**
SNAA				IAmb		IAmb	23 02 02.5	
	comp=Z,4.9nm,1.0s							
RAYN	**Ar Rayn**	**54.49**	**343**	P		**P**	**23 02 04.2**	**+0.7**
VNA2	**Neumayer--Watz**	**55.59**	**202**	P		**P**	**23 02 11.1**	**+0.2**
	baz=Z,slow=6.0							
VNA2	**Neumayer--Watz**	**55.59**	**202**	PcP		**PcP**	**23 03 10.0**	**-0.5**
VNA1	**Neumayer--Stat**	**55.83**	**202**	P		**P**	**23 02 13.0**	**+0.5**
VNA3	**Neumayer Olymp**	**56.37**	**201**	P		**P**	**23 02 16.5**	**0.0**
VNA3	**Neumayer Olymp**	**56.37**	**201**	PcP		**PcP**	**23 03 13.0**	**-0.6**
BRDH	**Bariadhala**	**59.50**	**33**	LR		LR	23 26 51.7	
	comp=Z,78nm,18.2s,baz=268,slow=35							
FITZ	**Fitzroy Crossi**	**59.70**	**95**	P		**P**	**23 02 38.4**	**-2.2**
	comp=Z,3.2nm,0.9s,baz=223,slow=4.1,SNR=5.5							
	comp=Z,3.2nm,0.9s							
FITZ	**Fitzroy Crossi**	**59.70**	**95**	P		**P**	**23 02 41.1**	**+0.5**
FITZ				IAmb		IAmb	23 02 41.4	
	comp=Z,4.6nm,1.1s							
CMAR	**Chiang Mai Arr**	**59.98**	**43**	P		**P**	**23 02 41.1**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=237,slow=6.3,SNR=4.3							
CMAR				LR		LR	23 23 47.7	
	comp=Z,20nm,21.2s,baz=230,slow=31							
	comp=Z,1.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**59.98**	**43**	P		**P**	**23 02 42.7**	**+0.3**
QSPA	**South Pole Qui**	**60.93**	**180**	P		**P**	**23 02 47.7**	**-0.7**
	comp=Z,5.8nm,1.0s,baz=264,slow=1.0,SNR=20							
QSPA				LR		LR	23 26 59.5	
	comp=Z,80nm,18.3s,baz=272,slow=34							
	comp=Z,5.8nm,1.0s							
SHL	**Shillong**	**62.08**	**32**	P		**P**	**23 02 56.6**	**-0.2**
KNRA	**Kununurra**	**63.42**	**94**	P		**P**	**23 03 05.5**	**-0.2**
VNDA	**Vanda**	**64.03**	**166**	P		**P**	**23 03 08.5**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=257,slow=8.8,SNR=14							
VNDA				LR		LR	23 29 20.2	
	comp=Z,121nm,18.3s,baz=265,slow=34							
	comp=Z,1.8nm,0.7s							
VNDA	**Vanda**	**64.03**	**166**	P		**P**	**23 03 09.2**	**+0.4**
VNDA				IAmb		IAmb	23 03 09.3	
	comp=Z,2.9nm,0.9s							
ASAR	**Alice Springs**	**64.67**	**104**	P		**P**	**23 03 13.2**	**-0.7**
	comp=Z,5.0nm,0.7s,baz=242,slow=6.3,SNR=38							
	comp=Z,5.0nm,0.7s							
ASAR	**Alice Springs**	**64.67**	**104**	P		**P**	**23 03 13.5**	**-0.4**
SBA	**Scott Base**	**64.91**	**167**	P		**P**	**23 03 15.8**	**+1.3**
SBA				IAmb		IAmb	23 03 26.0	
	comp=Z,4.1nm,1.0s							
WRA	**Warramunga Arr**	**66.50**	**100**	P		**P**	**23 03 24.9**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=247,slow=5.5,SNR=24							
WRA				LR		LR	23 28 08.7	
	comp=Z,46nm,19.4s,baz=324,slow=32							
	comp=Z,4.2nm,0.9s							
WRA	**Warramunga Arr**	**66.50**	**100**	P		**P**	**23 03 24.5**	**-1.3**
WB2	**Warramunga Arr**	**66.51**	**100**	P		**P**	**23 03 24.7**	**-1.2**
WB2				IAmb		IAmb	23 03 26.2	
	comp=Z,7.3nm,1.1s							
WB0	**Warramunga Arr**	**66.61**	**100**	P		**P**	**23 03 25.9**	**-0.6**
WB0				IAmb		IAmb	23 03 53.5	
	comp=Z,5.9nm,1.1s							
WR0	**Warramunga Arr**	**66.66**	**101**	P		**P**	**23 03 26.4**	**-0.5**
WR0				IAmb		IAmb	23 03 26.6	
	comp=Z,4.3nm,0.8s							
PZH	**PanZhiHua**	**67.87**	**39**	P		**P**	**23 03 34.0**	**-0.3**
PZH				pmax		pmax		
	comp=Z,20nm,0.8s							
PZH				pmax		pmax		
	comp=Z,100nm,6.3s							
STKA	**Stephens Creek**	**67.96**	**115**	P		**P**	**23 03 32.5**	**-2.3**
	comp=Z,1.9nm,0.7s,baz=324,slow=10,SNR=2.3							
	comp=Z,1.9nm,0.7s							
GURO	**Guroymak-BITLI**	**69.69**	**344**	P		**P**	**23 03 44.9**	**-0.5**
GURO				IAmb		IAmb	23 03 49.2	
	comp=Z,3.7nm,1.0s							
KSH	**Kashi**	**69.82**	**12**	P		**P**	**23 03 43.4**	**-2.8**
KSH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
GNI	**Garni**	**70.63**	**347**	LR		LR	23 33 21.8	
	comp=Z,73nm,19.8s,baz=166,slow=35							
TOA0	**Torodi Ar. Sit**	**70.95**	**298**	P		**P**	**23 03 53.5**	**+0.1**
TOA0				IAmb		IAmb	23 03 55.2	
	comp=Z,7.1nm,1.1s							
TORD	**Torodi Ar. Bea**	**70.95**	**298**	P		**P**	**23 03 53.0**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=123,slow=4.4,SNR=15							
	comp=Z,3.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.95**	**298**	P		**P**	**23 03 53.7**	**+0.2**
TORD				IAmb		IAmb	23 03 55.1	
	comp=Z,5.3nm,1.0s							
DBIC	**Dimbokro**	**72.50**	**288**	P		**P**	**23 04 02.2**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=52,slow=18,SNR=1.5							
DBIC				LR		LR	23 34 55.4	
	comp=Z,25nm,19.2s,baz=120,slow=35							
	comp=Z,1.6nm,0.8s							
KK31	**Karatay Array**	**72.52**	**7**	P		**P**	**23 04 02.1**	**-0.2**
KKAR	**Karatay Array**	**72.52**	**7**	P		**P**	**23 04 02.7**	**+0.4**
AAK	**Ala-Archa**	**72.60**	**10**	P		**P**	**23 04 03.4**	**+0.4**
AAK				IAmb		IAmb	23 04 08.1	
	comp=Z,6.1nm,1.3s							
BR131	**Keskin Array S**	**73.13**	**338**	P		**P**	**23 04 05.4**	**-0.8**
BRTR	**Keskin Array B**	**73.13**	**338**	P		**P**	**23 04 06.2**	**0.0**
	comp=Z,1.7nm,0.9s,baz=169,slow=8.3,SNR=11							
BRTR				LR		LR	23 33 26.5	
	comp=Z,34nm,20.4s,baz=128,slow=34							
	comp=Z,1.7nm,0.9s							
BRTR	**Keskin Array B**	**73.13**	**338**	P		**P**	**23 04 06.4**	**+0.2**
KBZ	**Khabaz**	**74.45**	**347**	P		**P**	**23 04 13.5**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=185,slow=6.

comp=Z,0.9nm,0.6s,baz=339,slow=2.8,SNR=3.1
ULM Lac du Bonnet 152.63 327 PKP **PKPdf 23 12 27.4 +2.4**
comp=Z,2.8nm,0.8s,baz=243,slow=2.3,SNR=3.0
PDAR Pinedale Array 164.45 333 PKP **PKPdf 23 12 39.9 +0.3**
comp=Z,0.7nm,0.8s,baz=17,slow=0.9,SNR=4.5

IDC ***12*** *23:01:11.9±3.0, 1˚.71N×123˚.98E, h312km±35km, mb3.3/8, mbtmp4.1/11, Error ellipse: s-maj=31.9km s-min=12.6km az=81.0*
NEIC ***12*** *23:01:12.8±1.9, 1˚.68N±0˚.06×124˚.07E±0˚.09, h312km±7km, mb4.3/20, Error ellipse: s-maj=13.1km s-min=9.0km az=84.0*
DJA ***12*** *23:01:12.9±0.4, 2˚N±3˚×12˚4E±˚, h294km±4km, M4.0/19, mb3.9/7, mB4.7/3, MLv4.1/19, Mw(mB)3.9/3*
ISC 12 23:01:11.8±0.6, 1˚.67N±0˚.05×124˚.12E±0˚.05, h313km±6km, n59, σ1ŝ32/72, mb3.9/16**, 2C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.10**	**187**	P	**Pn**	**23 01 54.6**	**+0.6**
KMSI				S	**S**	**23 02 28.5**	**+0.9**
GTOI	**Gorontalo**	**1.51**	**227**	P	**Pn**	**23 01 56.6**	**+0.3**
GTOI				S	**S**	**23 02 31.0**	**-0.7**
SGSI	**Sangihe**	**2.45**	**35**	P	**Pn**	**23 02 02.5**	**-0.9**
SGSI				S	**S**	**23 02 43.6**	**-1.0**
MRSI	**Marisa**	**2.48**	**241**	P	**Pn**	**23 02 04.7**	**+1.1**
MRSI				S	**S**	**23 02 44.5**	**-0.5**
LUWI	**Luwuk**	**3.01**	**207**		**Pn**	**23 02 08.3**	**-0.3**
LUWI	**Luwuk**	**3.01**	**207**	P	**Pn**	**23 02 08.0**	**-0.6**
LUWI				S	**S**	**23 02 50.9**	**-3.1**
TNTI	**Ternate**	**3.37**	**105**	Pn	**Pn**	**23 02 13.0**	**+0.9**
TNTI				Sn	**S**	**23 02 59.7**	**-0.7**
TNTI	**Ternate**	**3.37**	**105**	P	**Pn**	**23 02 12.6**	**+0.5**
TNTI				S	**S**	**23 02 59.8**	**-0.7**
APSI	**Ampana**	**3.56**	**224**	P	**Pn**	**23 02 14.2**	**+0.2**
APSI				S	**S**	**23 03 02.4**	**-1.5**
LBMI	**Labuha**	**4.09**	**124**	P	**Pn**	**23 02 19.5**	**-0.2**
LBMI				S	**S**	**23 03 12.4**	**-1.8**
SANI	**Sanana**	**4.14**	**153**	P	**Pn**	**23 02 19.4**	**-0.9**
SANI				S	**S**	**23 03 10.0**	**-5.3**
MPSI	**Mapaga**	**4.42**	**253**	P	**Pn**	**23 02 24.3**	**+1.0**
DDMP	**Don Marcelino,**	**4.68**	**20**	*ie*P	**Pn**	**23 02 25.8**	**-0.5**
DDMP				*e*S	**S**	**23 03 23.6**	**-2.5**
NLAI	**Namlea**	**5.72**	**149**	P	**Pn**	**23 02 38.9**	**+0.7**
	0.2nm6μm8.6nm,0.5s						
NLAI				S	**S**	**23 03 47.2**	**-0.7**
	0.2nm6μm8.6nm,0.5s						
TTSI	**Tana Toraja**	**6.36**	**223**	P	**Pn**	**23 02 46.9**	**+1.2**
	0.2nm1μm54nm,0.8s						
MYLDM	**Lahad Datu**	**6.60**	**302**	Pn	**Pn**	**23 02 49.6**	**+0.9**
BIPH	**Bislig**	**6.84**	**19**	*i*P	**Pn**	**23 02 50.6**	**-1.0**
MSAI	**Masohi**	**6.93**	**136**	P	**Pn**	**23 02 52.9**	**+0.3**
SPSI	**Sidrap Palu**	**7.09**	**218**	P	**Pn**	**23 02 55.6**	**+1.1**
	0.1nm27nm,0.9s						
BBSI	**Bau Bau**	**7.28**	**192**	P	**Pn**	**23 02 57.3**	**+0.5**
SIJI	**Sorong**	**7.58**	**109**	P	**Pn**	**23 03 02.4**	**+1.9**
	12nm,0.5s,baz=303,slow=5.2,SNR=9.7						
BKB	**Balikpapan**	**7.78**	**248**	Pn	**Pn**	**23 03 01.6**	**-1.3**
KAPI	**Kappang**	**7.95**	**213**	Pn	**Pn**	**23 03 05.9**	**+1.1**
KKM	**Kota Kinabalu**	**9.00**	**299**	Pn	**Pn**	**23 03 17.8**	**0.0**
FAKI	**Fak Fak**	**9.32**	**119**	Pn	**Pn**	**23 03 22.9**	**+1.2**
SOEI	**Soe**	**11.35**	**179**		**P**	**23 03 50.1**	**+2.0**
BATI	**Baumata**	**11.81**	**182**	P	**P**	**23 03 53.7**	**+0.6**
	26nm,0.5s,baz=2.1,slow=1.7,SNR=5.0						
MTN	**Manton Dam**	**16.02**	**154**	P	**P**	**23 04 40.0**	**+0.6**
MTN				IAmb	IAmb	23 05 09.2	
	comp=Z,12nm,1.1s						
KNRA	**Kununurra**	**17.84**	**165**	P	**P**	**23 05 00.5**	**+1.4**
KNRA				IAmb	IAmb	23 05 23.9	
	comp=Z,24nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.70**	**176**	P	**P**	**23 05 18.8**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=7.6,slow=10,SNR=13						
FITZ	**Fitzroy Crossi**	**19.70**	**176**		**P**	**23 05 19.9**	**+0.9**
TPUB	**Ta-pu**	**21.76**	**351**	P	**P**	**23 05 40.1**	**+1.4**
TPUB				IAmb	IAmb	23 05 42.2	
	comp=Z,35nm,0.8s						
YULB	**Yu-li**	**21.76**	**353**	P	**P**	**23 05 38.6**	**-0.1**
YULB				IAmb	IAmb	23 06 11.8	
	comp=Z,21nm,1.1s						
YHNB	**Yeheng**	**23.02**	**354**	P	**P**	**23 05 51.1**	**+0.9**
WB0	**Warramunga Arr**	**23.57**	**155**	P	**P**	**23 05 56.3**	**+1.1**
WB0				IAmb	IAmb	23 05 57.2	
	comp=Z,4.5nm,0.9s						
WRAB	**Tennant Creek**	**23.70**	**155**	P	**P**	**23 05 57.4**	**+0.9**
WRAB				IAmb	IAmb	23 06 36.0	
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**23.71**	**155**	P	**P**	**23 05 57.0**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=327,slow=11,SNR=35						
WRA				S	**S**	**23 09 46.0**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=333,slow=13,SNR=6.2						
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**23.71**	**155**	P	**P**	**23 05 56.5**	**+0.1**
WB2	**Warramunga Arr**	**23.71**	**155**	P	**P**	**23 05 57.6**	**+1.1**
WB2				IAmb	IAmb	23 05 58.2	
	comp=Z,5.6nm,0.8s						
WR0	**Warramunga Arr**	**23.81**	**155**	P	**P**	**23 05 58.5**	**+1.2**
ASAR	**Alice Springs**	**26.93**	**160**	P	**P**	**23 06 26.4**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=337,slow=7.0,SNR=7.4						
	comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**26.93**	**160**	P	**P**	**23 06 27.1**	**+1.8**
MORW	**Morawa**	**31.53**	**194**	P	**P**	**23 07 04.2**	**-1.5**
MORW				IAmb	IAmb	23 07 45.1	
	comp=Z,28nm,1.4s						
BBOO	**Buckleboo**	**36.11**	**163**	P	**P**	**23 07 45.3**	**+0.5**
BBOO				IAmb	IAmb	23 08 17.1	
	comp=Z,44nm,1.5s						
STKA	**Stephens Creek**	**37.26**	**155**	P	**P**	**23 07 56.5**	**+2.0**
	comp=Z,1.2nm,0.5s,baz=339,slow=9.3,SNR=3.0						
	comp=Z,1.2nm,0.5s						
USRK	**Ussuriysk Ar.**	**42.92**	**8**	P	**P**	**23 08 40.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=188,slow=7.4,SNR=6.5						
	comp=Z,0.9nm,0.3s						
SONM	**Songino Array**	**48.48**	**344**	P	**P**	**23 09 23.1**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=152,slow=6.7,SNR=5.1						
	comp=Z,0.8nm,0.6s						
MK31	**Makanchi Array**	**57.80**	**327**	P	**P**	**23 10 30.8**	**-0.3**
MKAR	**Makanchi Array**	**57.80**	**327**	P	**P**	**23 10 30.6**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=126,slow=8.0,SNR=25						
	comp=Z,0.7nm,0.3s						
MAKZ	**Makanchi**	**57.98**	**327**	P	**P**	**23 10 31.9**	**-0.4**
PEA0B	**Petropavlovsk-**	**58.32**	**23**	P	**P**	**23 10 35.2**	**+0.7**
PETK	**Petropavlovsk-**	**58.32**	**23**	P	**P**	**23 10 34.6**	**+0.1**
	comp=Z,6.3nm,1.0s,baz=222,slow=7.0,SNR=3.9						
	comp=Z,6.3nm,1.0s						
ZALV	**Zalesovo Beam**	**61.27**	**335**	P	**P**	**23 10 54.3**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=144,slow=6.9,SNR=3.0						
	comp=Z,0.5nm,0.4s						
NNZ	**Nelson**	**61.77**	**140**	P	**P**	**23 10 59.2**	**+1.2**
ODZ	**Otahua Downs**	**62.15**	**144**	P	**P**	**23 11 00.0**	**-0.5**
KHZ	**Kahutara**	**62.48**	**141**	P	**P**	**23 11 04.3**	**+1.6**
BKZ	**Black Stump Fm**	**62.86**	**136**	P	**P**	**23 11 06.7**	**+1.3**
BKZ				IAmb	IAmb	23 11 17.3	
	comp=Z,26nm,1.5s						
PHWY	**Pilot Hill**	**117.99**	**41**		**PKPdf**	**23 19 20.2**	**-2.1**
CSU	**Charleston Sou**	**138.65**	**31**		**PKPdf**	**23 19 59.2**	**-2.1**

JMA ***12*** *23:24:47.1±0.3, 35˚.8N±0˚.9×12˚9E±˚, h12km±4km, MV3.6/10, S KOREAN PENINSULA REG*
KMA ***12*** *23:24:47.9±0.0, 35˚.76N×129˚.17E, h14km, Error ellipse: s-maj=0.5km s-min=0.4km az=292.0*
KEA ***12*** *23:24:47.1, 35˚.85N×129˚.05E, h15km, ML3.3/2*
ISC 12 23:24:46.4±1.3, 35˚.77N±0˚.02×129˚.11E±0˚.03, h12km±14km, n43, σ1ŝ21/48, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.17**	**269**	P	**Pb**	**23 24 53.2**	**+1.6**
	SNR=1020						
YOCB	**Yeongcheon**	**0.24**	**328**	P	**Pb**	**23 24 54.1**	**+1.2**
	SNR=144						
MIYA	**Miryang-si**	**0.41**	**227**	P	**Pn**	**23 24 56.9**	**-1.3**
	SNR=52						
KSDAU	**Deagu-acc**	**0.41**	**286**	P	**Pn**	**23 24 57.4**	**-0.8**
	SNR=123						
KSPHA	**Pohang**	**0.47**	**27**	P	**Pg**	**23 24 57.2**	**+1.5**
	SNR=174						
KSBUS	**Busan**	**0.52**	**180**	P	**Pb**	**23 24 58.0**	**+0.5**
	SNR=124						
KSCHR	**CHANGNYEONG**	**0.55**	**246**	P	**Pn**	**23 24 59.6**	**-0.6**
	SNR=63						
KSADO	**Andong**	**0.65**	**349**	P	**Pb**	**23 25 00.8**	**+1.0**
	SNR=242						
EUSB	**Uiseong**	**0.68**	**330**	P	**Pn**	**23 25 01.6**	**-0.3**
	SNR=47						
YODB	**Yeongdeok**	**0.80**	**18**	P	**Pg**	**23 25 03.0**	**+1.1**
	SNR=70						
EURB	**Uiryeong-eup**	**0.81**	**237**	P	**Pn**	**23 25 03.7**	**+0.1**
	SNR=38						
KSGUM	**GUMI**	**0.81**	**305**	P	**Pn**	**23 25 04.3**	**+0.6**
	SNR=19						
YEYB	**Yeongyang**	**0.85**	**359**	P	**Pb**	**23 25 04.2**	**+1.0**
	SNR=104						
ADOA	**Andong Acc Bor**	**0.87**	**338**	P	**Pn**	**23 25 05.0**	**+0.5**
	SNR=17						
KSGIC	**Gimchen**	**0.87**	**291**	P	**Pn**	**23 25 05.4**	**+0.8**
	SNR=176						
HACA	**Hapcheon Acc B**	**0.90**	**247**	P	**Pn**	**23 25 05.4**	**+0.6**
	SNR=36						
KSULJ	**Uljin**	**0.96**	**14**	P	**Pb**	**23 25 06.0**	**+0.9**
	SNR=240						
KUJA	**Jangpyeong**	**0.97**	**205**	P	**Pn**	**23 25 06.2**	**+0.3**
	SNR=10						
KSSAJ	**Sangju**	**1.00**	**310**	P	**Pn**	**23 25 07.5**	**+1.2**
	SNR=58						
KSYCH	**Yecheon**	**1.02**	**327**	P	**Pn**	**23 25 07.8**	**+1.2**
	SNR=10						
DUSB	**Dangyusan**	**1.09**	**277**	P	**Pn**	**23 25 09.2**	**+1.6**
	SNR=134						
HAMB	**Hamyang**	**1.14**	**257**	P	**Pg**	**23 25 10.0**	**+1.6**
	SNR=21						
CHYB	**Chungyang**	**1.18**	**352**	P	**Pg**	**23 25 10.0**	**+0.8**
	SNR=54						
YOJB	**Youngju**	**1.20**	**337**	P	**Pg**	**23 25 10.4**	**+0.9**
	SNR=160						
OKCB	**Cheongsan-myeo**	**1.21**	**299**	P	**Pg**	**23 25 11.3**	**+1.6**
	SNR=46						
KSMGY	**Mungyeong**	**1.23**	**316**	P	**Pg**	**23 25 11.2**	**+1.2**
	SNR=180						
JTU	**Tsushima**	**1.27**	**169**	P	**Pn**	**23 25 10.3**	**+0.4**
JTU				*e*S	**Sb**	**23 25 26.6**	**+0.1**
YKDB	**Yokjido**	**1.33**	**211**	P	**Pg**	**23 25 12.2**	**+0.2**
	SNR=118						
GWYB	**Gwangyang**	**1.42**	**235**	P	**Pg**	**23 25 14.4**	**+0.6**
	SNR=15						
KSCHJ	**Chungju**	**1.43**	**321**	P	**Pg**	**23 25 14.0**	**+0.1**
	SNR=114						
NAWB	**Namwon**	**1.44**	**256**	P	**Pg**	**23 25 15.0**	**+0.9**
	SNR=56						
JTSM	**Tsushimamitsus**	**1.45**	**171**	P	**Pn**	**23 25 13.0**	**+0.5**
JTSM				*e*S	**Sb**	**23 25 32.4**	**+0.8**
IMWB	**Imwonan-gil**	**1.48**	**7**	P	**Pb**	**23 25 15.1**	**+1.3**
	SNR=40						
KSJEO	**Jeonju**	**1.49**	**277**	P	**Pg**	**23 25 16.0**	**+1.0**
	SNR=113						
JECH	**Jecheon**	**1.57**	**332**	P	**Pb**	**23 25 15.8**	**+0.4**
	SNR=29						
JHGM	**Hagimishima**	**1.93**	**120**	*e*P	**Pb**	**23 25 21.5**	**-0.1**
JHGM				*e*S	**Sb**	**23 25 45.8**	**+0.1**
JTY	**Toyota**	**2.20**	**133**	*e*S	**Sb**	**23 25 52.8**	**-0.5**
HJU	**Haeju**	**3.54**	**311**	Pg	**Pg**	**23 25 52.3**	**-1.8**
HJU				Sg	**Sg**	**23 26 37.8**	**-2.2**
HJU				AML	AML		
	comp=N,245nm,0.4s						
HJU				AML	AML		
	comp=E,149nm,0.6s						
HJU				AML	AML		
	comp=Z,160nm,0.4s						
SRW	**Sariwon**	**3.83**	**316**	Sg	**Sg**	**23 26 47.9**	**-1.4**
PYAG	**Pyongyang**	**4.22**	**322**	Sg	**Sg**	**23 27 00.1**	**-2.0**
PYS	**Pyongsong**	**4.33**	**324**	Sg	**Sg**	**23 27 03.1**	**-2.4**
HHU	**Hamhung**	**4.33**	**344**	Pg	**Pg**	**23 26 07.1**	**-2.3**
HHU				Sg	**Sg**	**23 27 04.5**	**-1.1**
HHU				AML	AML		
	comp=N,21nm,0.8s						
HHU				AML	AML		
	comp=E,40nm,0.9s						
HHU				AML	AML		
	comp=Z,41nm,0.9s						
SUJ	**Sinuiju**	**5.66**	**321**	Sg	**Sg**	**23 27 45.8**	**-2.2**

MOS ***12*** *23:30:36.8±1.0, 35˚.63N×140˚.25E, h55km, mb4.6/18, Error ellipse: s-maj=11.9km s-min=5.9km az=119.1*
BJI ***12*** *23:30:37.5±0.0, 35˚.86N×140˚.39E, h68km, mb4.4/29, mB4.8/13, Ms4.2/2, Ms7 4.0/1*
IDC ***12*** *23:30:39.8±1.3, 35˚.67N×140˚.17E, h63km±12km, mb3.8/19, mbtmp4.1/25, MS3.2/9, Error ellipse: s-maj=15.6km s-min=7.1km az=69.0*
NEIC ***12*** *23:30:40.3±1.4, 35˚.71N±0˚.05×140˚.19E±0˚.08, h60km±5km, mb4.6/38, Error ellipse: s-maj=10.1km s-min=7.1km az=100.0*
NIED ***12*** *23:30:41.3, 35˚.80N×140˚.10E, h63km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.28; Mθθ0.30; Mφφ-2.58; Mrθ0.53; Mrφ0.17; Mθφ2.23; Fault plane solution: M₀3.35000×10¹⁵ NP1: φs163.00000°, δ25.00000°, λ67.00000°. NP2:φs9.00000°, δ67.00000°, λ101.00000°*
JMA ***12*** *23:30:41.3±0.2, 35˚.8N±0˚.6×140˚.1E±0˚.8, h63km±2km, MV3.8/35, NORTHERN CHIBA PREF*
JMA Felt II J1 at NORTHERN CHIBA PREF
ISC 12 23:30:40.3±0.7, 35˚.67N±0˚.04×140˚.17E±0˚.05, h66km±6km, n156, σ1ŝ16/153, mb4.4/49, 13C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.23**	**96**	P	**Pn**	**23 30 52.8**	**+2.2**
TOK	**Tokyo**	**0.33**	**273**	⇓P	**Pn**	**23 30 53.1**	**+1.9**
JIHU	**Itakohorinouch**	**0.42**	**45**	P	**Pn**	**23 30 52.8**	**+0.9**
JIHU				*e*S	**Sn**	**23 31 01.3**	**+0.9**
JYT	**Yasato**	**0.56**	**2**	Pn	**Pn**	**23 30 52.9**	**-0.5**
JYT				Sn	**Sn**	**23 31 01.6**	**-1.3**
JYT	**Yasato**	**0.56**	**2**	P	**Pn**	**23 30 52.8**	**-0.5**
BSO3	**Boso 3**	**0.91**	**162**	P	**Pn**	**23 30 59.1**	**+1.9**
JAG	**Ashikaga**	**0.95**	**323**	⇓P	**Pn**	**23 30 57.4**	**-0.6**
JOD2	**Odawara 2**	**0.97**	**246**	⇓P	**Pn**	**23 30 58.8**	**+0.6**
JOD2				⇓*e*S	**Sn**	**23 31 12.0**	**+0.5**
JRY	**Ryogami san**	**1.08**	**289**	⇓P	**Pn**	**23 31 00.3**	**+0.6**
JIM2	**Oshima 3**	**1.12**	**213**	*e*P	**Pn**	**23 31 00.9**	**+0.7**
JKT	**Katashina**	**1.32**	**326**	P	**Pn**	**23 31 02.4**	**-0.5**
MJAR	**Matsushiro Arr**	**1.81**	**299**	P	**Pn**	**23 31 07.7**	**-1.6**
	280nm,0.7s,baz=99,slow=13,SNR=219						
MJAR				S	**Sn**	**23 31 30.8**	**-0.5**
	98nm,0.4s,baz=153,slow=14,SNR=3.3						
MJAR				LR	LR	23 31 51.1	
	comp=Z,433nm,20.4s,baz=71,slow=39						
MAJO	**Matsushiro**	**1.81**	**299**		**Pn**	**23 31 09.6**	**+0.3**
MAJO	**Matsushiro**	**1.81**	**299**	*d i*P	**Pn**	**23 31 09.7**	**+0.3**
JMM	**Marumori**	**2.25**	**13**	Pn	**Pn**	**23 31 15.4**	**+0.2**
JGF	**Kuroka**	**2.29**	**269**	Pn	**Pn**	**23 31 16.7**	**+0.9**
JHJ	**Hachijo jima 2**	**2.56**	**187**	P	**Pn**	**23 31 20.7**	**+1.1**
	228nm,0.3s,baz=340,slow=21,SNR=44						
JHJ				S	**Sn**	**23 31 49.1**	**-0.5**
	661nm,0.3s,baz=41,slow=19,SNR=14						
JHJ2	**Mitsune**	**2.57**	**187**	Pn	**Pn**	**23 31 21.2**	**+1.6**
INU	**Inuyama**	**2.59**	**264**	Pn	**Pn**	**23 31 20.3**	**+0.5**
JSD	**Sado**	**2.81**	**328**	Pn	**Pn**	**23 31 22.3**	**-0.6**
JTM	**Tenmabayashi**	**5.16**	**8**	Pn	**Pn**	**23 31 54.8**	**-0.1**
JMN	**Monobe**	**5.53**	**251**	Pn	**Pn**	**23 32 01.0**	**+0.9**
JHS	**Saijyo**	**5.80**	**265**	Pn	**Pn**	**23 32 03.5**	**-0.3**
ERM	**Erimo**	**6.75**	**19**	Pn	**Pn**	**23 32 15.2**	**-1.5**
ERM	**Erimo**	**6.75**	**19**	*ie*P	**Pn**	**23 32 15.5**	**-1.2**
JCJ	**Chichijima**	**8.72**	**168**	P	**Pn**	**23 32 42.0**	**-1.8**
	85nm,0.4s,baz=359,slow=20,SNR=15						
JCJ				S	**Sn**	**23 34 12.8**	**-7.6**
	53nm,0.6s,baz=264,slow=22,SNR=2.5						
JCJ	**Chichijima**	**8.72**	**168**	Pn	**Pn**	**23 32 42.3**	**-1.4**
KSRS	**Korea Array**	**10.01**	**284**	P	**Pn**	**23 33 02.4**	**+1.1**
	4.7nm,0.8s,baz=98,slow=14,SNR=12						
KSRS				LR	LR	23 36 46.1	
	comp=Z,120nm,20.3s,baz=100,slow=36						
USA0B	**Ussuriysk Arra**	**10.58**	**326**	Pn	**Pn**	**23 33 09.9**	**+1.0**
USA0B	**Ussuriysk Arra**	**10.58**	**326**	*ie*P	**Pn**	**23 33 08.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**10.58**	**326**	P	**Pn**	**23 33 07.5**	**-1.5**
	3.8nm,0.8s,baz=143,slow=14,SNR=4.8						
USRK	**Ussuriysk Ar.**	**10.58**	**326**	Pn	**Pn**	**23 33 09.9**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.58**	**326**	P	**Pn**	**23 33 09.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**11.44**	**9**	*ie*P	**Pn**	**23 33 19.1**	**-1.6**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
JOW	**Kunigami**	**13.45**	**232**	P	**Pn**	**23 33 49.1**	**+0.9**
	comp=Z,5.6nm,0.5s,baz=111,slow=17,SNR=1.6						
KLR	**Kul'dur**	**14.89**	**338**	P	**Pn**	**23 34 05.8**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=232,slow=5.4,SNR=4.5						
KLR				LR	LR	23 39 06.6	
	comp=Z,46nm,21.7s,baz=146,slow=34						
TYV	**Tymovskoe**	**15.29**	**6**	*e*P	Pn	23 34 01.9	-10
TYV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,100nm,3.6s						
BJT	**Baijiatuau**	**19.43**	**290**	P	**P**	**23 35 00.2**	**-1.0**
BJT	**Baijiatuau**	**19.43**	**290**	P	**P**	**23 35 00.2**	**-1.0**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZEA	**Zeya**	**20.21**	**337**	*e*P	**P**	**23 35 09.9**	**+0.3**
ZEA				*e*		23 35 25.9	
HNS	**HongShan**	**20.52**	**282**	⇓P	Pn	23 35 19.0	+3.2
HNS				pmax	pmax		
	comp=Z,12nm,0.9s						
TPUB	**Ta-pu**	**20.96**	**239**	P	**P**	**23 35 18.3**	**+0.3**
TPUB				IAmb	IAmb	23 35 52.0	
	comp=Z,60nm,1.5s						
PETK	**Petropavlovsk-**	**21.37**	**30**	P	**P**	**23 35 22.3**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=292,slow=9.4,SNR=1.6						
PETK				LR	LR	23 42 59.3	
	comp=Z,20nm,20.2s,baz=221,slow=35						
	comp=Z,3.6nm,0.9s						
PETK	**Petropavlovsk-**	**21.37**	**30**	P	**P**	**23 35 22.7**	**+0.6**
PETK	**Petropavlovsk-**	**21.37**	**30**	P	**P**	**23 35 22.7**	**+0.6**
MA2	**Magadan**	**24.90**	**13**	P	**P**	**23 35 55.4**	**-1.4**
	comp=Z,9.5nm,0.5s,baz=193,slow=9.9,SNR=5.6						
	comp=Z,9.5nm,0.5s						
XAN	**Xi'an**	**25.64**	**276**	P	**P**	**23 36 06.2**	**+2.3**
XAN				pP	sP	23 36 25.3	-2.0
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ENH	**Enshi**	**26.23**	**267**	P	**P**	**23 36 08.8**	**-0.5**
ENH				IAmb	IAmb	23 36 09.6	
	comp=Z,16nm,0.6s						
YAK	**Yakutsk**	**27.20**	**349**	*ce*P	**P**	**23 36 19.1**	**+1.6**
YAK				pmax	pmax		
	comp=Z,22nm,1.3s						
ULN	**Ulaanbaatar**	**27.32**	**307**	⇑*e*P	**P**	**23 36 18.3**	**-0.7**
ULN				pmax	pmax		
	comp=Z,10.0nm,3.3s						
SONM	**Songino Array**	**27.75**	**306**	P	**P**	**23 36 21.2**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=112,slow=9.2,SNR=6.3						
	comp=Z,0.8nm,0.7s						
SONM	**Songino Array**	**27.75**	**306**	P	**P**	**23 36 20.7**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	00 06 16.5	
	baz=308,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	00 06 24.2	
	baz=308,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**28.39**	**117**	T	T	00 06 25.0	
	baz=308,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	00 06 43.5	
	baz=312,slow=75,SNR=34						
H11S3	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	00 06 41.6	
	baz=312,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**29.04**	**119**	T	T	00 06 43.2	
	baz=312,slow=75,SNR=22						
PZH	**PanZhiHua**	**33.97**	**265**	P	**P**	**23 37 20.0**	**+2.2**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,3.5s						
BILL	**Bilibino**	**35.62**	**17**	*ce*P	**P**	**23 37 31.7**	**+0.4**
BILL				*e*		23 38 53.6	
BILL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIXI	**Tiksi**	**36.53**	**354**	P	**P**	**23 37 37.3**	**-1.8**
	comp=Z,1.2nm,0.3s,baz=90,slow=20,SNR=4.3						
	comp=Z,1.2nm,0.3s						
UBPT	**Khong Chiam**	**37.05**	**246**	P	**P**	**23 37 44.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**40.18**	**256**	P	**P**	**23 38 10.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=51,slow=8.9,SNR=5.9						
CMAR				LR	LR	23 55 14.1	
	comp=Z,20nm,19.5s,baz=60,slow=37						
	comp=Z,0.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**40.18**	**256**	*i* P	**P**	**23 38 12.6**	**+2.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DGZ	**Jazzator, Alta**	**40.39**	**307**	*ce*P	**P**	**23 38 12.6**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMQ	**Urumqi**	**40.57**	**298**	*e*P	**P**	**23 38 14.5**	**+1.1**
ZAA0	**Zalesovo Array**	**42.11**	**314**		**P**	**23 38 25.3**	**-0.4**
ZAA0				IAmb	IAmb	23 38 26.5	
	comp=Z,8.2nm,1.3s						
ZALV	**Zalesovo Beam**	**42.11**	**314**	P	**P**	**23 38 25.1**	**-0.6**
	comp=Z,3.3nm,0.6s,baz=98,slow=6.1,SNR=14						
ZALV				PcP

CHGR	**Chuyangaron**	**55.35**	**296**	P		**P**		**23 40 07.8**	**+0.2**
CHGR				pmax		pmax			
	comp=Z,16nm,1.0s								
WB0	**Warramunga Arr**	**55.40**	**187**	P		**P**		**23 40 08.5**	**+0.6**
WB0				IAmb		IAmb		23 40 40.4	
	comp=Z,5.6nm,0.8s								
WR0	**Warramunga Arr**	**55.58**	**186**	P		**P**		**23 40 09.7**	**+0.5**
WR0				IAmb		IAmb		23 40 35.7	
	comp=Z,6.5nm,0.9s								
WB2	**Warramunga Arr**	**55.58**	**187**	P		**P**		**23 40 09.3**	**+0.1**
WB2				IAmb		IAmb		23 40 46.1	
	comp=Z,5.5nm,0.9s								
WRA	**Warramunga Arr**	**55.58**	**187**	P		**P**		**23 40 08.7**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=15,slow=7.1,SNR=53								
	comp=Z,1.3nm,0.3s								
WRA	**Warramunga Arr**	**55.58**	**187**	P		**P**		**23 40 09.0**	**-0.2**
WRA	**Warramunga Arr**	**55.58**	**187**	P		**P**		**23 40 09.0**	**-0.2**
WRA				pmax		pmax			
	comp=Z,1.0nm,1.2s								
ARU	**Arti**	**56.72**	**319**	P		**P**		**23 40 16.9**	**0.0**
ARU				IAmb		IAmb		23 40 17.7	
	comp=Z,5.8nm,0.6s								
ARU	**Arti**	**56.72**	**319**	*c i* P		**P**		**23 40 16.8**	**-0.1**
ARU								23 41 05.3	
ARU								23 42 21.1	
ARU				S		**S**		**23 48 06.5**	**+2.0**
ARU				SS		**SS**		**23 51 50.0**	**-2.6**
ARU				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ABKAR	**Akbulak array**	**58.05**	**310**	P		**P**		**23 40 26.5**	**0.0**
ASAR	**Alice Springs**	**59.31**	**187**	P		**P**		**23 40 36.1**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=8.9,slow=10,SNR=10								
	comp=Z,0.7nm,0.4s								
MBWA	**Marble Bar**	**59.74**	**202**	P		**P**		**23 40 38.6**	**+0.3**
PSA00	**Pilbara Seismi**	**60.10**	**202**	P		**P**		**23 40 40.2**	**-0.6**
PSA00				IAmb		IAmb		23 40 41.7	
	comp=Z,3.0nm,0.8s								
KIRV	**Kirov**	**60.73**	**323**	‖ *e* P		**P**		**23 40 45.0**	**+0.3**
FORT	**Forrest**	**67.07**	**191**	P		**P**		**23 41 27.7**	**+1.2**
OBN	**Obninsk**	**68.58**	**323**	*e* P		**P**		**23 41 33.4**	**-2.5**
OBN				*e*				23 41 55.1	
OBN				*e*				23 44 03.8	
OBN				pmax		pmax			
	comp=Z,3.0nm,0.9s								
FIA1	**FINESS Array S**	**69.55**	**332**	P		**P**		**23 41 42.1**	**+0.4**
FINES	**FINESS Array B**	**69.55**	**332**	P		**P**		**23 41 41.1**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=79,slow=6.7,SNR=17								
	comp=Z,2.5nm,0.6s								
FINES	**FINESS Array B**	**69.55**	**332**	P		**P**		**23 41 41.6**	**-0.2**
FINES	**FINESS Array B**	**69.55**	**332**	*i* P		**P**		**23 41 42.2**	**+0.4**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KBZ	**Khabaz**	**71.02**	**310**	P		**P**		**23 41 51.1**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=22,slow=2.8,SNR=6.4								
	comp=Z,1.9nm,0.8s								
KIV	**Kislovodsk**	**71.04**	**311**	P		**P**		**23 41 51.2**	**-0.1**
KIV				IAmb		IAmb		23 41 53.5	
	comp=Z,6.1nm,0.9s								
KIV	**Kislovodsk**	**71.04**	**311**	*i* P		**P**		**23 41 51.6**	**+0.3**
KIV				pmax		pmax			
	comp=Z,4.0nm,0.8s								
SUMG	**Summit**	**72.04**	**360**	P		**P**		**23 41 59.5**	**+2.2**
SUMG				IAmb		IAmb		23 41 59.6	
	comp=Z,3.3nm,0.8s								
SUMG	**Summit**	**72.04**	**360**	P		**P**		**23 41 59.5**	**+2.2**
SUMG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
PABE	**Paberze**	**74.16**	**328**	P		**P**		**23 42 10.0**	**+0.5**
PABE				IAmb		IAmb		23 42 10.7	
	comp=Z,10nm,0.7s								
AKASG	**Malin Array Be**	**74.75**	**322**	P		**P**		**23 42 12.2**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=46,slow=6.8,SNR=12								
	comp=Z,1.7nm,0.4s								
AKASG	**Malin Array Be**	**74.75**	**322**	*c e* P		**P**		**23 42 12.8**	**-0.3**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.4s								
AKBB	**Malin Array Si**	**74.75**	**322**	‖ *e* P		**P**		**23 42 12.7**	**-0.4**
NC405	**NORSAR Array S**	**74.83**	**337**	P		**P**		**23 42 12.6**	**-0.7**
NC405				IAmb		IAmb		23 42 55.6	
	comp=Z,9.9nm,1.0s								
NC303	**NORSAR Array S**	**74.86**	**337**	P		**P**		**23 42 13.6**	**+0.1**
NC303				IAmb		IAmb		23 42 56.7	
	comp=Z,18nm,1.2s								
NC204	**NORSAR Array S**	**75.01**	**337**	P		**P**		**23 42 15.1**	**+0.6**
NB201	**NORSAR Array S**	**75.02**	**337**	P		**P**		**23 42 14.5**	**+0.1**
NB2	**NORSAR Subarra**	**75.05**	**337**	P		**P**		**23 42 14.6**	**0.0**
	comp=Z,3.3nm,0.8s,baz=42,slow=6.2								
NOA	**NORSAR Array B**	**75.05**	**337**	P		**P**		**23 42 14.0**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=41,slow=5.8,SNR=6.3								
NOA				LR		LR		00 19 24.4	
	comp=Z,7.9nm,18.3s,baz=350,slow=39								
	comp=Z,1.4nm,0.7s								
LRM	**Limekiln Ridge**	**75.83**	**43**	P		**P**		**23 42 21.1**	**+1.4**
NVAR	**Mina Array Bea**	**76.61**	**52**	P		**P**		**23 42 25.7**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=281,slow=5.7,SNR=2.2								
	comp=Z,0.2nm,0.4s								
BUR08	**Bucovina Ar. S**	**78.74**	**321**	P		**P**		**23 42 36.1**	**+0.3**
BURAR	**Bucovina Array**	**78.75**	**321**	P		**P**		**23 42 36.3**	**+0.5**
BURAR	**Bucovina Array**	**78.75**	**321**	P		**P**		**23 42 36.0**	**+0.2**
BURAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BRTR	**Keskin Array B**	**79.00**	**311**	P		**P**		**23 42 36.4**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=108,slow=3.2,SNR=6.1								
BRTR				LR		LR		00 21 41.2	
	comp=Z,14nm,18.0s,baz=358,slow=39								
	comp=Z,1.3nm,0.9s								
BRTR	**Keskin Array B**	**79.00**	**311**	P		**P**		**23 42 37.5**	**+0.2**
BRTR	**Keskin Array B**	**79.00**	**311**	*c e* P		**P**		**23 42 37.2**	**-0.1**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
PDAR	**Pinedale Array**	**79.34**	**45**	P		**P**		**23 42 39.3**	**0.0**
	comp=Z,0.5nm,0.5s,baz=292,slow=1.3,SNR=9.5								
	comp=Z,0.5nm,0.5s								
PDAR	**Pinedale Array**	**79.34**	**45**	P		**P**		**23 42 40.4**	**+1.1**
RAYN	**Ar Rayn**	**80.23**	**292**	P		**P**		**23 42 44.4**	**+0.2**
RAYN	**Ar Rayn**	**80.23**	**292**	P		**P**		**23 42 44.4**	**+0.2**
RAYN				pmax		pmax			
	comp=Z,2.0nm,0.7s								
CLL	**Collm**	**81.77**	**330**	*i* P		**P**		**23 42 51.8**	**0.0**
CLL				pmax		pmax			
	comp=Z,4.0nm,0.8s								
CLL	**Collm**	**81.77**	**330**	*i* P		**P**		**23 42 51.8**	**0.0**
	comp=Z,4.0nm,0.8s								
GERES	**GERESS Array B**	**83.33**	**328**	P		**P**		**23 42 59.5**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=32,slow=5.2,SNR=3.9								
	comp=Z,0.4nm,0.8s								
RPZ	**Rata Peaks**	**83.86**	**158**	LR		LR		00 19 56.0	
	comp=Z,40nm,20.7s,baz=36,slow=35								
PPT	**Papeete**	**84.94**	**116**	LR		LR		00 14 09.5	
	comp=Z,52nm,21.8s,baz=14,slow=31								
BMRD	**Maredsous**	**85.78**	**333**	*d* P		**P**		**23 43 10.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**117.55**	**313**	PKP		**PKPdf**		**23 49 18.6**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=30,slow=0.8,SNR=5.3								
H03N2	**Juan Fernandez**	**147.86**	**98**	T		T		02 35 28.2	
	baz=293								
H03N3	**Juan Fernandez**	**147.87**	**98**	T		T		02 35 37.7	
	baz=293								
H03N1	**Juan Fernandez**	**147.88**	**98**	T		T		02 35 35.0	
	baz=293								
LPAZ	**La Paz**	**148.25**	**60**	PKPbc		**PKPbc**		**23 50 20.7**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=349,slow=5.2,SNR=4.1								

IDC ***12*** *23:34:44.9±0.7, 19°.91S×173°.89W, h0km, mb4.3/13, mbtmp4.3/15, ML4.4/2, MS3.5/9, Error ellipse: s-maj=23.3km s-min=18.9km az=120.0*

NEIC ***12*** *23:34:46.5±1.9, 19°.7S±0°.1×173°.14W±0°.07, h35km±2km, mb5.0/44, Error ellipse: s-maj=17.3km s-min=11.5km az=352.0*

ISC 12 23:34:46.7±0.4, 19°.77S±0°.07×173°.39W±0°.06, h25km, n115, σ1s 73/105, mb4.8/33, MS3.6/8, 7C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NIUE	**Niue**	**3.33**	**79**			**Pn**	**23 35 37.0**	**-0.2**
AFI	**Afiamalu**	**6.02**	**15**	Pn		**Pn**	**23 36 16.4**	**+2.0**
	22nm,0.3s,baz=139,slow=20,SNR=13							
AFI				Sn		**Sn**	**23 37 21.6**	**-1.0**
	7.1nm,0.3s,baz=133,slow=17,SNR=1.2							
AFI				LR		LR	23 38 41.8	
	comp=Z,398nm,20.8s,baz=162,slow=38							
MSVF	**Nonsavu**	**8.36**	**283**	Pn		Pn	23 36 51.9	+5.5
	2.4nm,0.3s,baz=135,slow=20,SNR=6.0							
MSVF	**Nonsavu**	**8.36**	**283**	Pn		Pn	23 36 52.9	+6.4

RAO	**Raoul Island**	**10.30**	**203**	Pn		Pn		23 37 05.6	-7.4
	44nm,0.3s,baz=85,slow=21,SNR=2.3								
RAO				Sn		Sn		23 38 52.0	-16
	26nm,0.3s,baz=106,slow=21,SNR=1.5								
RAR	**Rarotonga**	**12.84**	**99**	Pn		**Pn**		**23 37 45.2**	**-2.4**
	5.4nm,0.3s,baz=263,slow=7.8,SNR=12								
RAR				Sn		Sn		23 39 59.5	-10
	1.7nm,0.3s,baz=276,slow=19,SNR=2.3								
RAR	**Rarotonga**	**12.84**	**99**			**Pn**		**23 37 46.2**	**-1.5**
MARNC	**Mare, Loyalty**	**17.48**	**261**			**P**		**23 38 49.6**	**-0.3**
PINNC	**Pines Island,**	**18.10**	**258**	P		**P**		**23 38 57.7**	**+1.0**
LIFNC	**LIFOU**	**18.21**	**263**	P		**Pn**		**23 38 56.9**	**-1.0**
LIFNC				IAmb		IAmb		23 39 07.1	
	comp=Z,121nm,1.3s								
OUENC	**Ouen Island, N**	**18.64**	**258**	P		**Pn**		**23 39 03.7**	**+0.6**
DZM	**Mont Dzumac**	**18.98**	**260**	P		**P**		**23 39 02.7**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=78,slow=17,SNR=5.8								
	comp=Z,6.2nm,0.8s								
DZM	**Mont Dzumac**	**18.98**	**260**	P		**Pn**		**23 39 07.2**	**-0.1**
OUZ	**Omahuta**	**19.21**	**214**	P		**P**		**23 39 08.9**	**0.0**
URZ	**Urewera**	**20.19**	**202**	P		**P**		**23 39 17.8**	**-1.7**
	comp=Z,2.8nm,0.3s,baz=32,slow=1.5,SNR=15								
URZ				S		S		23 42 41.2	-24
	comp=Z,3.2nm,0.5s,baz=31,slow=5.2,SNR=1.5								
	comp=Z,12nm,0.5s								
URZ	**Urewera**	**20.19**	**202**	P		**P**		**23 39 19.0**	**-0.5**
KOUNC	**Koumac, New Ca**	**20.98**	**264**	P		Pn		23 39 30.0	-0.8
BKZ	**Black Stump Fm**	**21.22**	**202**	P		**P**		**23 39 30.6**	**-0.1**
HIZ	**Hauiti**	**21.28**	**206**	P		**P**		**23 39 31.0**	**-0.3**
BFZ	**Birch Farm**	**22.66**	**201**	P		**P**		**23 39 44.8**	**-1.3**
BFZ				IAmb		IAmb		23 39 51.1	
	comp=Z,28nm,0.9s								
MSWZ	**Moikau Station**	**23.65**	**202**	P		**P**		**23 39 55.3**	**-0.9**
PLWZ	**Palliser**	**23.79**	**201**	P		**P**		**23 39 56.5**	**-1.0**
TUWZ	**Tuamarina**	**24.14**	**204**	P		**P**		**23 39 58.2**	**-2.5**
NNZ	**Nelson**	**24.18**	**205**	P		**P**		**23 39 58.2**	**-2.8**
NNZ				IAmb		IAmb		23 40 11.4	
	comp=Z,75nm,1.4s								
QRZ	**Quartz Range**	**24.20**	**207**	P		**P**		**23 40 00.6**	**-0.7**
QRZ				IAmb		IAmb		23 40 04.8	
	comp=Z,62nm,1.2s								
CMWZ	**Cape Campbell**	**24.31**	**203**	P		**P**		**23 40 00.9**	**-1.4**
BSWZ	**Blackbirch Sta**	**24.41**	**204**	P		**P**		**23 40 02.1**	**-1.1**
THZ	**Tophouse**	**24.83**	**205**	P		**P**		**23 40 06.8**	**-0.2**
THZ				IAmb		IAmb		23 40 28.3	
	comp=Z,36nm,1.3s								
KHZ	**Kahutara**	**25.14**	**203**	P		**P**		**23 40 09.6**	**-0.2**
KHZ				IAmb		IAmb		23 40 13.2	
	comp=Z,89nm,1.5s								
LTZ	**Lake Taylor**	**25.94**	**205**	P		**P**		**23 40 15.2**	**-1.9**
LTZ				IAmb		IAmb		23 40 40.8	
	comp=Z,109nm,1.9s								
MQZ	**McQueen's Vall**	**26.58**	**203**	P		**P**		**23 40 21.8**	**-1.1**
MQZ				IAmb		IAmb		23 40 41.2	
	comp=Z,48nm,1.4s								
RPZ	**Rata Peaks**	**27.21**	**205**	P		**P**		**23 40 28.3**	**-0.2**
	comp=Z,12nm,0.8s,baz=57,slow=4.3,SNR=3.6								
	comp=Z,12nm,0.8s								
FOZ	**Fox Glacier**	**27.57**	**207**	P		**P**		**23 40 31.2**	**-0.5**
ODZ	**Otahua Downs**	**28.48**	**204**	P		**P**		**23 40 38.3**	**-1.5**
ODZ				IAmb		IAmb		23 40 40.2	
	comp=Z,90nm,1.8s								
MLZ	**Mavora Lakes**	**29.77**	**207**	P		**P**		**23 40 50.9**	**-0.3**
MLZ				IAmb		IAmb		23 41 01.7	
	comp=Z,69nm,1.6s								
WHZ	**Wether Hill Ro**	**30.26**	**206**	P		**P**		**23 40 55.0**	**-0.6**
DCZ	**Deep Cove**	**30.26**	**208**	P		**P**		**23 40 54.7**	**-0.8**
EIDS	**Eidsvold**	**33.22**	**254**	P		**P**		**23 41 20.2**	**-1.6**
EIDS				IAmb		IAmb		23 41 26.4	
	comp=Z,20nm,1.6s								
ARMA	**Armidale**	**33.29**	**244**	P		**P**		**23 41 21.1**	**-1.5**
ARMA				IAmb		IAmb		23 41 41.9	
	comp=Z,50nm,2.0s								
TAOE	**Nuku Hiva Isla**	**33.91**	**76**	P		**P**		**23 41 24.3**	**-3.9**
CAN	**Canberra**	**36.53**	**237**	P		**P**		**23 41 48.9**	**-1.5**
CAN				IAmb		IAmb		23 42 51.0	
	comp=Z,46nm,1.5s								
CAN	**Canberra**	**36.53**	**237**	P		**P**		**23 41 48.9**	**-1.5**
CAN	**Canberra**	**36.53**	**237**	pmax		pmax			
	comp=Z,46nm,1.5s								
CTA	**Charters Tower**	**37.88**	**262**	P		**P**		**23 41 60.0**	**-2.1**
	comp=Z,3.7nm,0.4s,baz=88,slow=9.8,SNR=12								
	comp=Z,3.7nm,0.4s								
CTAO	**Charters Tower**	**37.88**	**262**	P		**P**		**23 42 00.8**	**-1.2**
CTAO				IAmb		IAmb		23 42 48.2	
	comp=Z,29nm,1.4s								
TOO	**Toolangi**	**39.84**	**235**	P		**P**		**23 42 17.2**	**-1.1**
TOO				IAmb		IAmb		23 43 24.6	
	comp=Z,47nm,1.7s								
TAU	**Tasmania Unive**	**40.22**	**226**	P		**P**		**23 42 20.7**	**-0.6**
TAU				IAmb		IAmb		23 43 41.7	
	comp=Z,62nm,1.4s								
STKA	**Stephens Creek**	**42.01**	**244**	P		**P**		**23 42 33.4**	**-2.8**
	comp=Z,1.8nm,0.3s,baz=95,slow=11,SNR=4.1								
	comp=Z,1.8nm,0.3s								
BYL	**Byron's Ledge**	**42.80**	**26**	P		**P**		**23 42 40.6**	**-2.1**
BBOO	**Buckleboo**	**46.75**	**243**	P		**P**		**23 43 12.3**	**-1.8**
AS31	**Alice Springs**	**48.90**	**255**	P		**P**		**23 43 29.6**	**-1.3**
ASAR	**Alice Springs**	**48.90**	**255**	P		**P**		**23 43 28.9**	**-2.1**
	comp=Z,3.4nm,0.6s,baz=97,slow=7.7,SNR=32								
ASAR				PcP		**PcP**		**23 44 56.6**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=108,slow=4.3,SNR=1.4								
	comp=Z,3.4nm,0.6s								
ASAR	**Alice Springs**	**48.90**	**255**	P		**P**		**23 43 29.8**	**-1.2**
WB0	**Warramunga Arr**	**48.98**	**261**	P		**P**		**23 43 30.0**	**-1.5**
WB0				IAmb		IAmb		23 43 30.9	
	comp=Z,4.8nm,0.6s								
WB2	**Warramunga Arr**	**48.99**	**260**	P		**P**		**23 43 30.2**	**-1.4**
WRA	**Warramunga Arr**	**49.00**	**260**	P		**P**		**23 43 29.0**	**-2.7**
	comp=Z,2.1nm,0.4s,baz=97,slow=7.6,SNR=70								
WRA				PcP		**PcP**		**23 44 57.2**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=94,slow=3.0,SNR=0.8								
	comp=Z,2.1nm,0.4s								
WRA	**Warramunga Arr**	**49.00**	**260**	P		**P**		**23 43 30.2**	**-1.5**
FORT	**Forrest**	**53.56**	**246**	P		**P**		**23 44 05.8**	**+0.1**
KNRA	**Kununurra**	**55.04**	**264**	P		**P**		**23 44 14.2**	**-2.5**
KNRA				IAmb		IAmb		23 44 44.7	
	comp=Z,11nm,1.0s								
DRV	**Dumont d'Urvil**	**55.52**	**201**	P		P		23 44 26.2	+6.8
SIJI	**Sorong**	**57.28**	**282**	P		**P**		**23 44 32.0**	**-0.8**
	comp=Z,7.7nm,0.5s,baz=74,slow=4.8,SNR=3.7								
	comp=Z,7.7nm,0.5s								
FITZ	**Fitzroy Crossi**	**57.42**	**261**	P		**P**		**23 44 33.5**	**-0.2**
SBA	**Scott Base**	**58.92**	**185**	P		**P**		**23 44 43.4**	**+1.0**
SBA				IAmb		IAmb		23 44 48.0	
	comp=Z,7.3nm,0.9s								
SBA	**Scott Base**	**58.92**	**185**	P		**P**		**23 44 45.9**	**+2.6**
SBA				pP		**pwP**		**23 44 56.1**	**-0.8**
SBA				sP		sP		23 44 59.6	+8.1
VNDA	**Vanda**	**59.06**	**186**	P		**P**		**23 44 44.2**	**0.0**
	comp=Z,2.4nm,0.9s,baz=3.5,slow=5.5,SNR=13								
	comp=Z,2.4nm,0.9s								
VNDA	**Vanda**	**59.06**	**186**	P		**P**		**23 44 44.2**	**0.0**
VNDA	**Vanda**	**59.06**	**186**	P		**P**		**23 44 45.6**	**+1.4**
VNDA				sP		**pwP**		**23 45 00.7**	**+2.8**
SOEI	**Soe**	**60.83**	**270**	P		**P**		**23 44 56.5**	**-1.1**
PSA00	**Pilbara Seismi**	**62.05**	**256**	P		**P**		**23 45 04.7**	**-0.9**
MBWA	**Marble Bar**	**62.24**	**256**	P		**P**		**23 45 05.1**	**-1.8**
MBWA				IAmb		IAmb		23 45 17.3	
	comp=Z,27nm,1.3s								
CCD	**Concordia, Ant**	**64.27**	**195**	P		**P**		**23 45 20.9**	**+1.0**
CCD				pP		**sP**		**23 45 28.9**	**+0.8**
QSPA	**South Pole Qui**	**70.30**	**180**	P		**P**		**23 45 59.3**	**+1.4**
QSPA				IAmb		IAmb		23 46 19.1	
	comp=Z,18nm,1.6s								
QSPA	**South Pole Qui**	**70.30**	**180**	P		**P**		**23 45 59.4**	**+1.4**
MJAR	**Matsushiro Arr**	**72.29**	**321**	P		**P**		**23 46 10.4**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=100,slow=15,SNR=2.5								
MJAR				LR		LR		00 13 15.0	
	comp=Z,20nm,20.4s,baz=153,slow=32								
	comp=Z,0.7nm,0.3s								
ESJX	**Sierra Juarez**	**75.32**	**48**	P		**P**		**23 46 25.2**	**-3.1**
ESJX				IAmb		IAmb		23 46 42.2	
	comp=Z,8.3nm,0.8s								
NVAR	**Mina Array Bea**	**77.57**	**41**	P		**P**		**23 46 44.1**	**+3.2**
	comp=Z,0.3nm,0.5s,baz=142,slow=19,SNR=2.6								
	comp=Z,0.3nm,0.5s								
KSRS	**Korea Array**	**79.29**	**316**	P		**P**		**23 46 49.8**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=66,slow=2.3,SNR=2.4								
	comp=Z,0.5nm,0.4s								
ELK	**Elko**	**80.85**	**41**	LR		LR		00 13 44.7	
	comp=Z,26nm,21.2s,baz=234,slow=29								
USRK	**Ussuriysk Ar.**	**80.88**	**324**	LR		LR		00 19 07.6	
	comp=Z,41nm,19.8s,baz=245,slow=33								
BBB	**Bella Bella**	**81.77**	**26**	LR		LR		00 16 49.3	
	comp=Z,29nm,20.7s,baz=199,slow=31								

H03S2	**Juan Fernandez**	**82.80**	**123**	T		T		01 19 59.8	
	baz=246								
H03S1	**Juan Fernandez**	**82.81**	**123**	T		T		01 19 52.2	
	baz=246								
H03S3	**Juan Fernandez**	**82.81**	**123**	T		T		01 20 02.1	
	baz=246								
H03N2	**Juan Fernandez**	**82.92**	**123**	T		T		01 20 00.1	
	baz=259								
H03N3	**Juan Fernandez**	**82.92**	**123**	T		T		01 20 03.0	
	baz=259								
H03N1	**Juan Fernandez**	**82.94**	**123**	T		T		01 19 53.2	
	baz=259								
MAW	**Mawson**	**83.68**	**199**	P		**P**		**23 47 14.2**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=106,slow=6.1,SNR=7.0								
MAW				LR		LR		00 24 09.7	
	comp=Z,43nm,18.3s,baz=199,slow=36								
	comp=Z,3.2nm,0.7s								
MA2	**Magadan**	**84.31**	**343**	LR		LR		00 20 57.8	
	comp=Z,17nm,20.0s,baz=98,slow=33								
ILAR	**Eielson Array**	**86.70**	**11**	P		**P**		**23 47 31.8**	**+3.9**
	comp=Z,0.4nm,0.7s,baz=140,slow=12,SNR=2.6								
ILAR				LR		LR		00 17 55.3	
	comp=Z,27nm,20.0s,baz=148,slow=30								
	comp=Z,0.4nm,0.7s								
TROLL	**Troll, Antarti**	**88.42**	**179**	P		**P**		**23 47 38.3**	**+1.9**
VNA3	**Neumayer Olymp**	**88.53**	**175**	P		**P**		**23 47 38.3**	**+1.5**
SNAA	**Sanae**	**88.57**	**177**	P		**P**		**23 47 38.5**	**+1.4**
VNA2	**Neumayer--Watz**	**89.02**	**175**	P		**P**		**23 47 41.1**	**+2.0**
	baz=289,slow=6.2								
VNA1	**Neumayer--Stat**	**89.22**	**175**	P		**P**		**23 47 42.2**	**+2.1**
CMAR	**Chiang Mai Arr**	**93.98**	**288**	P		**P**		**23 48 03.6**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=132,slow=2.7,SNR=1.4								
CMAR				LR		LR		00 31 51.2	
	comp=Z,6.1nm,18.7s,baz=170,slow=37								
	comp=Z,0.7nm,0.3s								
SIUC	**Southern Illin**	**97.41**	**53**	P		Pdif		23 48 18.2	-0.1
MKAR	**Makanchi Array**	**113.85**	**313**	PKiKP		**PKiKP**		**23 53 25.4**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=105,slow=1.8,SNR=5.0								
BOSA	**Boshof**	**128.64**	**201**	PKP		**PKiKP**		**23 53 55.1**	**+1.9**
	comp=Z,1.1nm,0.6s,baz=245,slow=12,SNR=1.1								
ARCES	**ARCESS Array B**	**128.91**	**352**	PKP		**PKiKP**		**23 53 54.5**	**+2.3**
	comp=Z,6.9nm,1.1s,baz=88,slow=2.8,SNR=4.4								
FINES	**FINESS Array B**	**136.18**	**347**	PKP		**PKiKP**		**23 54 07.7**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=123,slow=7.0,SNR=4.0								
AKASG	**Malin Array Be**	**144.32**	**335**	PKP		**PKPdf**		**23 54 21.4**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=41,slow=4.7,SNR=6.5								
BURAR	**Bucovina Array**	**148.37**	**336**	‖ P		**PKPab**		**23 54 36.3**	**+2.0**
BIZ	**Bicaz**	**148.56**	**334**	‖ P		**PKPab**		**23 54 36.1**	**+1.2**
BRTR	**Keskin Array B**	**149.43**	**316**	PKPbc		**PKiKP**		**23 54 36.0**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=161,slow=4.8,SNR=5.4								
MLR	**Muntele Rosu**	**149.78**	**332**	‖ P		**PKPab**		**23 54 38.6**	**-1.5**
DRGR		**150.00**	**338**	‖ P		**PKPab**		**23 54 38.5**	**-2.3**
KHC	**Kasperske Hory**	**150.17**	**351**	*e* PKPAB		**PKiKP**		**23 54 36.5**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOCB	**Yeongcheon** SNR=7.9	**0.28**	**322**	P	**Pb**	**23 48 03.6**	**-0.3**
MIYA	**Miryang-si** SNR=5.6	**0.43**	**232**	P	**Pb**	**23 48 06.3**	**-0.1**
KSDAU	**Deagu-acc** SNR=7.9	**0.46**	**286**	P	**Pb**	**23 48 07.3**	**+0.3**
KSPHA	**Pohang** SNR=6.7	**0.47**	**22**	P	**Pb**	**23 48 07.0**	**-0.2**
KSBUS	**Busan** SNR=13	**0.51**	**184**	P	**Pb**	**23 48 07.4**	**-0.4**
EUSB	**Uiseong** SNR=6.9	**0.71**	**328**	P	**Pb**	**23 48 11.1**	**-0.1**
YODB	**Yeongdeok** SNR=14	**0.80**	**15**	P	**Pg**	**23 48 12.5**	**+0.3**
YEYB	**Yeongyang** SNR=22	**0.87**	**356**	P	**Pb**	**23 48 14.0**	**0.0**
ADOA	**Andong Acc Bor** SNR=8.7	**0.89**	**336**	P	**Pb**	**23 48 14.3**	**-0.1**
KSGIC	**Gimchen** SNR=11	**0.92**	**291**	P	**Pn**	**23 48 14.9**	**-0.8**
KSULJ	**Uljin** SNR=30	**0.96**	**12**	P	**Pg**	**23 48 15.5**	**+0.1**
DUSB	**Deogyusan** SNR=12	**1.13**	**277**	P	**Pn**	**23 48 19.0**	**+0.1**
JTU	**Tsushima**	**1.25**	**171**	*e*P	**Pn**	**23 48 20.3**	**0.0**
JTU				*e*S	**Sb**	**23 48 36.5**	**0.0**
JTSM	**Tsushimamitsus**	**1.43**	**172**	P	**Pb**	**23 48 23.2**	**-0.3**
JTSM				*e*S	**Sb**	**23 48 42.0**	**+0.3**
JHGM	**Hagimishima**	**1.89**	**120**	*e*S	**Sb**	**23 48 55.3**	**+0.2**
JII	**Iki**	**2.01**	**166**	*e*S	**Sb**	**23 48 59.4**	**+0.8**
JTY	**Toyota**	**2.16**	**133**	*e*S	**Sb**	**23 49 03.0**	**+0.1**

*ATH **12** 23:47:52.0,35°.16N×21°.09E,h10$^{km}_{\pm}$31^{km}, ML2.9/9, Error ellipse: s-maj=31.6km s-min=2.7km az=0.0*
*HLW **12** 23:48:01.9,35°.46N×22°.00E,h10$^{km}_{\pm}$13^{km}, Md3.9, Ml3.9*
*THE **12** 23:48:03.8,35°.53N×21°.57E,h32$^{km}_{\pm}$43^{km}, ML2.6/7, Error ellipse: s-maj=43.3km s-min=1.6km az=31.0*

ISC 12 23:47:57.6±2.0,35°.38N±0°.06×21°.43E±0°.08,h17$^{km}_{\pm}$12^{km}, n27,σ1^{s}72/35,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**1.53**	**9**	P	**Pn**	**23 48 25.4**	**+1.2**
PYL				S	**Sn**	**23 48 43.3**	**-0.5**
	130nm,0.6s						
PYL	**PYLOS**	**1.53**	**9**	P	**Pn**	**23 48 25.3**	**+1.0**
PYL				AML	AML	23 48 57.5	
	comp=N,260μm,0.8s						
PYL				AML	AML	23 49 06.3	
	comp=E,276μm,0.7s						
KTHR	**Kythira**	**1.55**	**55**	P	**Pb**	**23 48 26.5**	**+0.6**
KTHR				S	**Sn**	**23 48 42.6**	**-1.6**
	comp=E,242nm,0.4s						
KTHR	**Kythira**	**1.55**	**55**	P	**Pb**	**23 48 26.4**	**+0.6**
KTHR				AML	AML	23 48 50.4	
	comp=N,1479μm,0.3s						
KTHR				AML	AML	23 48 53.9	
	comp=E,1375μm,0.6s						
KTHA	**Kythira Island**	**1.59**	**56**	P	**Pb**	**23 48 27.1**	**+0.6**
KTHA				S	**Sn**	**23 48 45.4**	**+0.2**
	comp=E,200nm,0.7s						
KTHA	**Kythira Island**	**1.59**	**56**	P	**Pb**	**23 48 27.1**	**+0.6**
KTHA				AML	AML	23 48 48.5	
	comp=E,476μm,0.6s						
KTHA				AML	AML	23 49 00.2	
	comp=N,384μm,0.6s						
ANKY	**Antikythira Is**	**1.60**	**72**	P	**Pg**	**23 48 27.5**	**-0.8**
ANKY				S	**Sn**	**23 48 45.5**	**+0.1**
	comp=N,308nm,0.7s						
ANKY	**Antikythira Is**	**1.60**	**72**	P	**Pg**	**23 48 27.5**	**-0.8**
ANKY				AML	AML	23 48 56.8	
	comp=E,764μm,0.7s						
ANKY				AML	AML	23 48 59.6	
	comp=N,496μm,0.7s						
VLI	**Veliai**	**1.81**	**42**	P	**Pb**	**23 48 30.4**	**+0.1**
VLI				S	**Sn**	**23 48 49.6**	**-1.0**
	comp=N,118nm,0.5s						
VLI	**Veliai**	**1.81**	**42**	P	**Pb**	**23 48 30.0**	**-0.3**
VLI				AML	AML	23 48 55.3	
	comp=N,260μm,0.4s						
VLI				AML	AML	23 49 08.1	
	comp=E,276μm,0.6s						
ITM	**Ithomi**	**1.84**	**12**	P	**Pb**	**23 48 30.4**	**-0.4**
ITM				S	**Sn**	**23 48 51.7**	**+0.3**
	comp=E,95nm,0.8s						
ITM	**Ithomi**	**1.84**	**12**	P	**Pn**	**23 48 29.9**	**+1.4**
ITM				AML	AML	23 49 06.2	
	comp=E,188μm,0.7s						
ITM				AML	AML	23 49 11.1	
	comp=N,162μm,0.7s						
MNVA	**Monemvasia**	**1.84**	**44**	P	**Pb**	**23 48 30.9**	**0.0**
IMMV	**Iera Moni Meta**	**2.08**	**87**	P	**Pb**	**23 48 34.1**	**-0.9**
IMMV				S	**Sn**	**23 48 58.2**	**+0.8**
	comp=N,185nm,0.6s						
IMMV	**Iera Moni Meta**	**2.08**	**87**	P	**Pn**	**23 48 32.9**	**+1.1**
IMMV				AML	AML	23 49 09.1	
	comp=E,395μm,0.4s						
IMMV				AML	AML	23 49 18.4	
	comp=N,415μm,0.7s						
CHAN	**Chania**	**2.14**	**86**	P	**Pb**	**23 48 34.8**	**-1.0**
EPID	**Epidavros**	**2.61**	**31**	P	**Pb**	**23 48 42.0**	**-2.0**
RLS	**Riolos of Patr**	**2.67**	**1**	P	**Pb**	**23 48 43.4**	**-1.6**
KLV	**Kalavryta, Ach**	**2.72**	**12**	P	**Pb**	**23 48 43.9**	**-2.0**
KLV				AML	AML	23 49 43.4	
	comp=E,63μm,1.0s						
KLV				AML	AML	23 50 00.5	
	comp=N,55μm,1.1s						
VLS	**Valsamata**	**2.87**	**347**	P	**Pn**	**23 48 45.3**	**+2.6**
VLS				AML	AML	23 49 20.1	
	comp=E,92μm,0.3s						
VLS				AML	AML	23 49 20.9	
	comp=N,110μm,0.3s						
LAKA	**Lakka**	**2.89**	**9**	P	**Pb**	**23 48 46.6**	**-2.1**
KEF3	**Kipouria, Keph**	**2.95**	**343**	P	**Pn**	**23 48 46.4**	**+2.7**
KEF4	**Livadi, Kephal**	**2.98**	**345**	P	**Pn**	**23 48 46.7**	**+2.5**
SWA2		**7.00**	**150**	P	**Pn**	**23 49 42.6**	**+3.1**
	baz=153						
HMYD	**Mayadein**	**9.67**	**123**	P	**Pn**	**23 50 16.9**	**+1.0**
	baz=124						
RYAN	**Fayoum**	**9.77**	**128**	P	**Pn**	**23 50 19.3**	**+1.9**
	baz=130						
HFRF	**Wahat Farafira**	**10.10**	**142**	P	**Pn**	**23 50 23.1**	**+1.2**
	baz=145						
HFRF				S	**Sn**	**23 52 09.7**	**-5.0**
	baz=145						

*NEIC **12** 23:50:33.3±2.7,6°.5S±0°.1×129°.52E±0°.09,h213$^{km}_{\pm}$10^{km}, mb4.3/8, Error ellipse: s-maj=16.1km s-min=13.1km az=164.0*
*IDC **12** 23:50:40.4±7.6,7°.10S×129°.05E,h224$^{km}_{\pm}$81^{km},mb2.9/1, mbtmp4.0/5, Error ellipse: s-maj=78.3km s-min=23.2km az=43.0*

ISC 12 23:50:31.5±1.0,6°.5S±0°.1×129°.38E±0°.10,h200^{km},n21, σ1^{s}77/21,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**6.02**	**237**		**Pn**	**23 52 01.3**	**+2.2**
BATI	**Baumata** 34nm,0.4s,baz=66,slow=4.7,SNR=2.4	**6.76**	**236**	P	**Pn**	**23 52 10.5**	**+1.8**
BATI				S	**Sn**	**23 53 21.9**	**-3.8**
	20nm,0.4s,baz=66,slow=10.0,SNR=1.9						
KNRA	**Kununurra**	**9.17**	**184**	Pn	**Pn**	**23 52 38.5**	**-1.4**
FITZ	**Fitzroy Crossi** 0.8nm,0.4s,baz=28,slow=14,SNR=8.0	**12.12**	**197**	P	**Pn**	**23 53 15.9**	**-2.0**
FITZ				S	Sn	23 55 16.1	-17
	0.8nm,0.4s,baz=48,slow=15,SNR=2.1						
FITZ	**Fitzroy Crossi**	**12.12**	**197**	Pn	**Pn**	**23 53 17.0**	**-0.9**
WB0	**Warramunga Arr**	**14.08**	**160**		**Pn**	**23 53 43.8**	**+1.2**
WRA	**Warramunga Arr** 1.2nm,0.4s,baz=342,slow=12,SNR=32	**14.23**	**161**	P	**P**	**23 53 46.6**	**+0.7**
WRA				S	S	23 56 09.6	-13
	0.6nm,0.5s,baz=328,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**14.23**	**161**		**P**	**23 53 46.1**	**+0.2**
WB2	**Warramunga Arr**	**14.23**	**161**		**P**	**23 53 47.2**	**+1.2**
WR0	**Warramunga Arr**	**14.31**	**160**	Pn	**Pn**	**23 53 43.8**	**-1.6**
PSA00	**Pilbara Seismi**	**17.61**	**211**	P	**P**	**23 54 23.9**	**+0.6**
PSA00				IAmb	IAmb	23 54 27.2	
	comp=Z,7.8nm,1.1s						
AS31	**Alice Springs**	**17.64**	**166**	P	**Pn**	**23 54 25.5**	**+0.1**
ASAR	**Alice Springs** comp=Z,4.6nm,0.5s,baz=341,slow=10.0,SNR=76	**17.64**	**166**	P	**Pn**	**23 54 25.6**	**+0.2**
ASAR	**Alice Springs**	**17.64**	**166**		**P**	**23 54 25.1**	**+1.6**
PMG	**Port Moresby**	**17.85**	**101**	P	**P**	**23 54 24.4**	**-1.4**
PMG				IAmb	IAmb	23 54 32.3	
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	**26.93**	**168**	P	**P**	**23 55 56.9**	**+2.5**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=123,slow=7.9,SNR=2.5	**67.45**	**327**	P	P	00 01 14.1	+8.4
	comp=Z,0.2nm,0.5s						
KIWB	**Kanaga Island**	**73.80**	**31**	P	**P**	**00 01 41.3**	**-2.6**
ADK	**Adak**	**74.06**	**31**	P	**P**	**00 01 46.0**	**+0.7**
SOCY	**Socotra**	**77.20**	**284**	P	**P**	**00 02 05.3**	**+1.2**
SOCY				IAmb	IAmb	00 02 19.2	
	comp=Z,15nm,1.0s						
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**00 02 35.5**	**-1.2**

*NEIC **13** 00:02:19.6±1.3, 17°.8S±0°.1×177°.9W±0°.2, h602$^{km}_{\pm}$9^{km}, mb4.0/15, Error ellipse: s-maj=22.6km s-min=17.1km az=91.0*
*IDC **13** 00:02:21.9±3.6, 17°.50S×178°.46W, h597$^{km}_{\pm}$23^{km}, mb3.1/3, mbtmp4.0/4, Error ellipse: s-maj=127.2km s-min=47.8km az=151.0*

ISC 13 00:02:19.6±0.7,17°.9S±0°.1×178°.0W±0°.2,h600^{km},n24, σ1^{s}00/25,mb4.0/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 9.4nm,0.6s,baz=143,slow=18,SNR=4.5	**3.77**	**271**	P	**P**	**00 03 42.8**	**-0.8**
MSVF	**Nonsavu**	**3.77**	**271**	P	**P**	**00 03 42.6**	**-1.0**
NNZ	**Nelson**	**24.44**	**196**	P	**P**	**00 06 52.9**	**+0.3**
ARMA	**Armidale**	**30.31**	**240**	P	**P**	**00 07 43.1**	**-1.1**
ARMA				IAmb	IAmb	00 07 45.0	
	comp=Z,6.9nm,1.0s						
STKA	**Stephens Creek** comp=Z,3.2nm,1.0s,baz=98,slow=9.4,SNR=2.3	**39.01**	**241**	P	**P**	**00 08 56.6**	**+0.5**
	comp=Z,3.2nm,1.0s						
STKA	**Stephens Creek**	**39.01**	**241**	P	**P**	**00 08 56.6**	**+0.5**
WR0	**Warramunga Arr**	**44.84**	**259**	P	**P**	**00 09 42.4**	**+0.3**
WR0				IAmb	IAmb	00 10 21.4	
	comp=Z,9.6nm,1.4s						
WB0	**Warramunga Arr**	**45.00**	**260**	P	**P**	**00 09 43.1**	**-0.1**
WB0				IAmb	IAmb	00 10 24.2	
	comp=Z,7.5nm,1.3s						
WB2	**Warramunga Arr**	**45.02**	**259**	P	**P**	**00 09 43.2**	**-0.2**
WB2				IAmb	IAmb	00 10 00.9	
	comp=Z,7.6nm,1.4s						
WRAB	**Tennant Creek**	**45.02**	**259**	P	**P**	**00 09 42.2**	**-1.3**
WRAB				IAmb	IAmb	00 09 48.2	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr** comp=Z,0.6nm,0.3s,baz=94,slow=7.3,SNR=34	**45.03**	**259**	P	**P**	**00 09 43.1**	**-0.4**
WRA				PcP	**PcP**	**00 11 12.2**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=92,slow=3.2,SNR=4.6						
	comp=Z,0.6nm,0.3s						
WRA	**Warramunga Arr**	**45.03**	**259**	P	**P**	**00 09 43.3**	**-0.2**
AS31	**Alice Springs**	**45.19**	**254**	P	**P**	**00 09 44.2**	**-0.4**
ASAR	**Alice Springs** comp=Z,3.1nm,0.6s,baz=87,slow=8.8,SNR=33	**45.19**	**254**	P	**P**	**00 09 44.7**	**0.0**
ASAR				PcP	**PcP**	**00 11 12.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=109,slow=3.4,SNR=2.1						
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**45.19**	**254**	P	**P**	**00 09 44.3**	**-0.4**
AMKA	**Amchitka**	**68.97**	**358**	P	**P**	**00 12 27.5**	**+1.8**
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**00 12 45.0**	**+0.3**
QSPA				IAmb	IAmb	00 12 55.8	
	comp=Z,5.6nm,1.5s						
CNBA	**Chernabura Isl**	**74.06**	**11**	P	**P**	**00 12 55.4**	**+0.3**
TKX	**Tecate**	**77.17**	**49**	P	**P**	**00 13 09.6**	**-3.3**
WTNK	**Soaring Height**	**80.16**	**47**	P	**P**	**00 13 28.7**	**0.0**
WTNK				IAmb	IAmb	00 13 29.8	
	comp=Z,5.3nm,0.7s						
SMAI	**San Martin Ant**	**81.07**	**159**	P	**P**	**00 13 33.3**	**+0.6**
SMAI				IAmb	IAmb	00 14 04.2	
	comp=Z,7.0nm,1.5s						
K20K	**Telida**	**83.07**	**11**	P	**P**	**00 13 42.6**	**-0.2**
K20K				IAmb	IAmb	00 14 14.4	
	comp=Z,6.4nm,1.3s						
U38A	**Gravette**	**95.43**	**54**		pP	00 16 49.9	-0.7
BRTR	**Keskin Array B** comp=Z,0.7nm,0.9s,baz=160,slow=3.0,SNR=3.6	**145.02**	**315**	PKP	**PKPbc**	**00 20 51.3**	**+0.5**

*NEIC **13** 00:07:21.9±0.6,28°.76S±0°.09×61°.4E±0°.2,h10$^{km}_{\pm}$2^{km}, mb4.3/4, Error ellipse: s-maj=35.2km s-min=14.8km az=83.0.*
*IDC **13** 00:07:23.4±1.0,29°.13S×61°.08E,h0^{km},mb3.8/6, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=35.0km s-min=26.5km az=19.0*

ISC 13 00:07:24.7±0.8,29°.0S±0°.1×61°.0E±0°.1,h10^{km},n17, σ1^{s}52/13,mb4.0/7,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.12**	**327**	Pn	**Pn**	**00 09 33.5**	**-3.0**
FOMA	**Nahampoana Res**	**13.13**	**284**	Pn	**Pn**	**00 10 30.8**	**-0.5**
VOI	**Vohitsoka**	**14.63**	**295**	Pn	**Pn**	**00 10 52.5**	**+0.5**
ABPO	**Ambohimpanom**	**16.01**	**305**	P	**Pn**	**00 11 12.4**	**+2.2**
OPO	**Ambohidratompo** 0.1nm,0.3s,baz=108,slow=18,SNR=5.6	**16.33**	**306**	Pn	**P**	**00 11 16.6**	**-0.7**
OPO				Sn	Sn	00 14 05.7	-10
	0.1nm,0.3s,baz=198,slow=20,SNR=5.6						
	1.4nm,0.4s						
H01W2	**Cape Leeuwin H** baz=261,slow=75,SNR=6.6	**45.04**	**112**	T	T	01 03 17.9	
H01W3	**Cape Leeuwin H** baz=261,slow=75,SNR=6.3	**45.04**	**112**	T	T	01 03 19.8	
H01W1	**Cape Leeuwin H** baz=261,slow=75,SNR=4.9	**45.05**	**112**	T	T	01 03 18.6	
SNAA	**Sanae** 1.2nm,1.0s,baz=98,slow=7.1,SNR=2.7	**54.60**	**200**	P	**P**	**00 16 53.1**	**+0.1**
	1.2nm,1.0s						
SNAA	**Sanae**	**54.60**	**200**	P	**P**	**00 16 52.8**	**-0.2**
SNAA				IAmb	IAmb	00 17 29.8	
	comp=Z,4.8nm,1.4s						
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.3s,baz=238,slow=8.4,SNR=1.2	**59.71**	**43**	P	**P**	**00 17 31.6**	**+1.9**
	comp=Z,0.4nm,0.3s						
QSPA	**South Pole Qui**	**61.19**	**180**	P	**P**	**00 17 37.9**	**-1.5**
ASAR	**Alice Springs** comp=Z,0.9nm,0.7s,baz=241,slow=5.6,SNR=6.0	**64.62**	**104**	P	**P**	**00 18 02.1**	**-0.7**
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr** comp=Z,2.1nm,1.0s,baz=248,slow=5.5,SNR=5.2	**66.43**	**101**	P	**P**	**00 18 14.1**	**-0.4**
	comp=Z,1.2nm,1.0s						
BTK	**Batken**	**69.28**	**8**		P	00 18 27.4	-4.6
BTK				IAmb	IAmb	00 19 03.8	
	comp=Z,1.6nm,0.6s						
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.8s,baz=120,slow=5.5,SNR=5.7	**70.93**	**298**	P	**P**	**00 18 43.3**	**+0.7**
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array** comp=Z,0.3nm,0.7s,baz=218,slow=6.8,SNR=3.0	**77.82**	**15**	P	**P**	**00 19 23.1**	**+1.1**
	comp=Z,0.3nm,0.7s						

*TAP **13** 00:11:18.6,24°.83N×122°.37E,h11^{km},ML3.2,C*
*JMA **13** 00:11:19.6±0.1,24°.7N±0°.7×122°.4E±0°.3,h45$^{km}_{\pm}$2^{km}, MV2.4/9, TAIWAN REGION*

ISC 13 00:11:17.5±1.2,24°.89N±0°.04×122°.43E±0°.02,h16$^{km}_{\pm}$9^{km}, n58,σ0^{s}70/96,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=298	**0.42**	**287**	P	**Pb**	**00 11 26.9**	**+0.4**
TWB1				*e*S	**Sb**	**00 11 32.0**	**-0.5**
	baz=298						
EGS		**0.45**	**265**	*e*P	**Pb**	**00 11 27.6**	**+0.5**
	baz=271						
EGS				S	**Sb**	**00 11 33.6**	**0.0**
	baz=271						
SXI1	**Grass Mountain** baz=295	**0.54**	**292**	P	**Pn**	**00 11 29.7**	**-0.9**
SXI1				*e*S	**Sn**	**00 11 37.4**	**-2.0**
	baz=295						
TIPB	**Shuangxi** baz=286	**0.55**	**279**	P	**Pn**	**00 11 29.4**	**-1.3**
TIPB				*e*S	**Sb**	**00 11 37.6**	**+1.0**
	baz=286						
TWC	**Suao** baz=252	**0.59**	**242**	*e*P	**Pg**	**00 11 28.4**	**-0.8**
TWC				S	**Sg**	**00 11 36.4**	**-0.7**
	baz=252						
NWF	**Wu-fen Shan** baz=294	**0.61**	**287**	P	**Pn**	**00 11 31.6**	**-0.1**
NWF				S	**Sn**	**00 11 40.1**	**-1.2**
	baz=294						
WFSB	**Wu-fen Shan** baz=294	**0.61**	**287**	*e*P	**Pn**	**00 11 31.7**	**+0.1**
WFSB				S	**Sn**	**00 11 39.9**	**-1.2**
	baz=294						
JYNG	**Yonagunijimaku**	**0.64**	**133**	P	**Pn**	**00 11 31.6**	**-0.4**
JYNG				S	**Sb**	**00 11 40.1**	**+1.1**
TNOU	**National Taiwa** baz=300	**0.65**	**294**	*e*P	**Pn**	**00 11 32.1**	**+0.1**
TNOU				*e*S	**Sn**	**00 11 41.1**	**-0.9**
	baz=300						
YOJ	**Yonaguni jima** baz=122	**0.68**	**128**	*e*P	**Pn**	**00 11 32.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.68**	**128**	P	**Pn**	**00 11 32.2**	**-0.2**
YOJ				*e*S	**Sb**	**00 11 41.1**	**+1.0**
TWE	**Neicheng** baz=259	**0.71**	**257**	P	**Pb**	**00 11 31.6**	**+0.1**
TWE				S	**Sb**	**00 11 41.2**	**+0.1**
	baz=259						
EWUT	**Wuta** baz=234	**0.74**	**233**	*e*P	**Pg**	**00 11 31.4**	**-0.4**
EWUT				*e*S	**Sg**	**00 11 40.6**	**-1.0**
	baz=234						
TWA	**Mucha** baz=282	**0.77**	**277**	P	**Pn**	**00 11 33.9**	**+0.1**
TWA				S	**Sn**	**00 11 44.1**	**-0.9**
	baz=282						
FUSB	**Fushanzhiwuyua** baz=264	**0.77**	**261**	*e*P	**Pb**	**00 11 32.9**	**+0.3**
FUSB				*e*S	**Sb**	**00 11 42.8**	**-0.2**
	baz=264						
ENA	**Nanau** baz=234	**0.77**	**234**	*e*P	**Pg**	**00 11 32.0**	**-0.6**
ENA				*e*S	**Sb**	**00 11 43.0**	**+0.2**
	baz=234						
YM08	**YM08** baz=297	**0.82**	**292**	*e*P	**Pn**	**00 11 34.5**	**+0.1**
YM08				*e*S	**Sn**	**00 11 45.4**	**-0.8**
	baz=297						
YM01	**YM01** baz=293	**0.82**	**289**	P	**Pn**	**00 11 35.0**	**+0.5**
YM01				S	**Sn**	**00 11 45.8**	**-0.5**
	baz=293						
ENTT	**Nioudou** baz=255	**0.82**	**253**	P	**Pg**	**00 11 33.5**	**0.0**
TWY	**Chenhua** baz=303	**0.84**	**297**	*e*P	**Pn**	**00 11 36.2**	**+1.5**
TWY				S	**Sn**	**00 11 47.5**	**+0.7**
	baz=303						
NDT	**Datong Townshi** baz=253	**0.88**	**251**	P	**Pg**	**00 11 34.4**	**-0.1**
NDT				*e*S	**Sg**	**00 11 46.7**	**+0.6**
	baz=253						
LATG	**Datong** baz=248	**0.89**	**247**	*e*P	**Pb**	**00 11 34.4**	**-0.2**
LATG				*e*S	**Sb**	**00 11 46.1**	**-0.2**
	baz=248						
YHNB	**Yeheng** baz=259	**0.98**	**257**	P	**Pn**	**00 11 36.4**	**-0.3**
YHNB				*e*S	**Sn**	**00 11 50.9**	**+0.6**
	baz=259						
NSK	**Sanguang** baz=272	**0.99**	**258**	*e*P	**Pb**	**00 11 35.6**	**-0.8**
ETL	**Fush Village** baz=225	**1.03**	**225**	*e*P	**Pb**	**00 11 36.5**	**-0.5**
NACB	**Ninganchiao** baz=239	**1.04**	**227**	*e*P	**Pb**	**00 11 36.7**	**-0.4**
NACB				*e*S	**Sb**	**00 11 49.7**	**-0.8**
	baz=239						
NNSB	**Datong** baz=233	**1.05**	**245**	*e*P	**Pb**	**00 11 37.4**	**-0.1**
NNSB				*e*S	**Sb**	**00 11 50.3**	**-0.8**
	baz=233						
NNSH	**Datong** baz=233	**1.05**	**245**	*e*P	**Pb**	**00 11 37.4**	**0.0**
NNSH				*e*S	**Sb**	**00 11 50.6**	**-0.4**
	baz=233						
NNS	**Nan Shan** baz=246	**1.06**	**245**	*e*P	**Pn**	**00 11 37.6**	**-0.2**
ETLH	**Xiulin Townshi** baz=231	**1.09**	**232**	*e*P	**Pb**	**00 11 38.1**	**0.0**
ETLH				*e*S	**Sb**	**00 11 51.8**	**-0.4**
	baz=231						
TWD	**Chiawan** baz=230	**1.10**	**223**	*e*P	**Pn**	**00 11 38.6**	**+0.3**
NFF	**Wufeng Townshi** baz=275	**1.22**	**258**	*e*P	**Pg**	**00 11 40.8**	**-0.2**
FUSS	**Fushou** baz=239	**1.25**	**240**	*e*P	**Pg**	**00 11 41.7**	**0.0**
FUSS				*e*S	**Sg**	**00 11 58.5**	**+0.5**
	baz=239						
ETM	**Tongmen** baz=202	**1.25**	**223**	*e*P	**Pb**	**00 11 40.6**	**-0.1**
ETM				*e*S	**Sg**	**00 11 58.4**	**+0.5**
	baz=202						
WHF	**Hehuan Shan** baz=234	**1.29**	**235**	P	**Pb**	**00 11 41.5**	**-0.2**
WHF				S	**Sn**	**00 11 58.6**	**+0.2**
	baz=234						
TWT	**Tachien** baz=241	**1.30**	**241**	*e*P	**Pg**	**00 11 44.0**	**+1.4**
TWT				S	**Sg**	**00 11 59.5**	**-0.1**
	baz=241						
LIOB	**Emei** baz=260	**1.30**	**260**	*e*P	**Pg**	**00 11 44.2**	**+1.6**
LIOB				*e*S	**Sg**	**00 12 01.3**	**+1.6**
	baz=260						
IRIF	**Iriomote-Funau**	**1.31**	**115**	*e*P	**Pb**	**00 11 41.5**	**-0.1**
TDCB	**Techi** baz=241	**1.32**	**242**	*e*P	**Pg**	**00 11 42.6**	**-0.3**
TDCB				*e*S	**Sb**	**00 11 58.6**	**-0.1**
	baz=241						
NSTT	**Nanjuang** baz=260	**1.32**	**259**	*e*P	**Pg**	**00 11 44.1**	**+1.2**
NSTT				*e*S	**Sg**	**00 12 00.8**	**+0.7**
	baz=260						
CHGB	**Renai** baz=234	**1.41**	**234**	*e*P	**Pb**	**00 11 43.8**	**+0.2**
CHGB				*e*S	**Sb**	**00 12 01.8**	**+0.4**
	baz=234						
OWD	**Renai** baz=239	**1.47**	**231**	*e*P	**Pb**	**00 11 45.0**	**+0.4**
OWD				*e*S	**Sn**	**00 12 03.0**	**+0.5**
	baz=239						
WHP	**Taichung City** baz=246	**1.48**	**246**	*e*P	**Pg**	**00 11 46.0**	**0.0**
WHP				*e*S	**Sg**	**00 12 04.9**	**-0.3**
	baz=246						
WUSB	**Renai** baz=241	**1.49**	**234**	*e*P	**Pb**	**00 11 45.4**	**+0.5**
WUSB				*e*S	**Sb**	**00 12 04.0**	**+0.4**
	baz=241						
HATJ	**Hateruma jima**	**1.50**	**123**	*e*P	**Pn**	**00 11 43.7**	**-0.1**
JKRS	**Kuro-shima**	**1.58**	**114**	*e*P	**Pn**	**00 11 45.2**	**+0.3**
JKRS				S	**Sn**	**00 12 04.3**	**-0.6**
WCS	**Beigang Elemen** baz=239	**1.61**	**239**	*e*P	**Pb**	**00 11 46.6**	**-0.3**
DPDB	**Guoxing** baz=238	**1.61**	**238**	*e*P	**Pg**	**00 11 48.8**	**+0.4**
JIJ	**Ishigaki jima**	**1.65**	**108**	*e*P	**Pb**	**00 11 47.1**	**-0.4**
JIJ				*e*S	**Sb**	**00 12 07.6**	**-0.4**
EHY	**Hungye** baz=214	**1.71**	**216**	*e*P	**Pb**	**00 11 48.1**	**-0.4**
SMLT	**Sun Moon Lake** baz=234	**1.71**	**235**	*e*P	**Pg**	**00 11 50.4**	**0.0**
SSLB	**Suanglung** baz=230	**1.73**	**231**	*e*P	**Pb**

SFS 13 00:40:50.0,35°49N×3°82W,ML2.5,ALBORAN SUR
CNRM 13 00:40:51.1,35°41N×3°84W,h29km,ml2.0
IGIL 13 00:40:51.3,35°50N×3°82W,h0km,ML1.7
INMG 13 00:40:51.0±1.6,35°55N×3°80W,h0km±6km,ML1.8,Error ellipse: s-maj=4.7km s-min=3.1km az=27.0

ISC 13 00:40:50.9±1.1,35°41N±0°02×3°81W±0°03,h25km±7km, n39,σ1s27/71,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.22**	**210**	P		**Pn**	**00 40 56.7**	**-1.9**
PALE				S		**Sn**	**00 41 01.1**	**+0.2**
PVLZ	**Peæn de**	**0.47**	**240**	P		**Pb**	**00 41 00.5**	**-0.1**
PVLZ				S		**Sb**	**00 41 06.9**	**-0.3**
EMEL	**Melilla**	**0.70**	**98**	Pg		**Pn**	**00 41 04.2**	**-1.0**
EMEL				Sg		**Sn**	**00 41 14.9**	**-0.3**
WMELI	**Melilla**	**0.70**	**97**	P		**Pn**	**00 41 05.2**	**-0.1**
WMELI				S		**Sn**	**00 41 15.5**	**+0.3**
AKLM	**AKL**	**0.90**	**183**	P		**Pn**	**00 41 08.5**	**+0.6**
AKLM				S		**Sn**	**00 41 17.8**	**-2.3**
CHAS	**Isla Isabel II**	**1.15**	**101**	P		**Pn**	**00 41 10.3**	**-1.0**
CHAS				S		**Sn**	**00 41 26.6**	**+0.4**
TAF	**Taforalt**	**1.28**	**117**	P		**Pn**	**00 41 13.7**	**+0.4**
TAF				S		**Sn**	**00 41 29.4**	**-0.3**
CHEFC	**Chefchaouen**	**1.29**	**257**	P		**Pn**	**00 41 13.7**	**+0.3**
CHEFC				S		**Sn**	**00 41 29.3**	**-0.6**
EMIJ	**Mijas**	**1.40**	**326**	Pg		**Pn**	**00 41 14.0**	**-0.8**
EMIJ				Sg		**Sn**	**00 41 31.3**	**-1.1**
EMIJ				*i* Vmb_Lg			00 41 38.6	
EMAL	**Malaga-Limoner**	**1.44**	**340**	P		**Pn**	**00 41 14.4**	**-1.0**
EMAL				S		**Sn**	**00 41 32.3**	**-1.2**
ELGU	**Los Guajares,**	**1.47**	**6**	Pg		**Pn**	**00 41 14.8**	**-1.0**
ELGU				Sg		**Sn**	**00 41 33.6**	**-0.7**
ELGU				*i* Vmb_Lg			00 41 36.1	
JBK	**JBK**	**1.48**	**136**	P		**Pn**	**00 41 16.7**	**+0.6**
JBK				S		**Sn**	**00 41 34.5**	**-0.2**
EBER	**Berja**	**1.66**	**26**	Pn		**Pn**	**00 41 17.1**	**-1.5**
EBER				Sn		**Sn**	**00 41 38.9**	**-0.3**
EBER				*i* Vmb_Lg			00 41 43.3	
EJIF	**Jimena Fronter**	**1.71**	**308**	Pn		**Pn**	**00 41 18.9**	**-0.2**
EGOR	**Sierra Gorda,**	**1.72**	**352**	Sn		**Sn**	**00 41 42.0**	**+1.5**
EGOR				*i* Vmb_Lg			00 41 49.1	
LCRM	**LCR**	**1.92**	**207**	P		**Pn**	**00 41 24.3**	**+2.1**
LCRM				S		**Sb**	**00 41 49.6**	**+0.5**
IFR	**Ifrane**	**2.18**	**210**	P		**Pb**	**00 41 28.5**	**-1.2**
IFR				S		**Sb**	**00 41 55.0**	**-1.4**
EQES	**Quesada**	**2.46**	**14**	Pn		**Pn**	**00 41 32.0**	**+2.5**
EQES				Sn		**Sn**	**00 42 01.6**	**+2.7**
EQES				*i* Vmb_Lg			00 42 04.1	
CZD	**Col de Zad**	**2.58**	**204**	P		**Pn**	**00 41 32.0**	**+0.7**
CZD				S		**Sn**	**00 42 02.0**	**0.0**
MD31	**MD31**	**2.65**	**198**	P		**Pn**	**00 41 33.0**	**+0.8**
MD31				S		**Sn**	**00 42 03.5**	**-0.1**
MDT	**Midelt**	**2.67**	**195**	P		**Pn**	**00 41 33.4**	**+1.0**
MDT				S		**Sn**	**00 42 03.9**	**-0.1**
EADA	**Adamuz**	**2.83**	**348**	Pn		**Pn**	**00 41 34.7**	**+0.3**
EADA				Sn		**Sn**	**00 42 08.2**	**+0.5**
EADA				*i* Vmb_Lg			00 42 20.4	
ECAB	**El Cabril**	**2.96**	**335**	Pn		**Pn**	**00 41 36.3**	**0.0**
ECAB				Sn		**Sn**	**00 42 10.8**	**-0.3**
ECAB				*i* Vmb_Lg			00 42 14.2	
ZHG	**ZHG**	**3.05**	**231**	P		**Pn**	**00 41 39.3**	**+1.7**
ZHG				S		**Sn**	**00 42 16.4**	**+3.0**
EMIN	**Mina Concepcio**	**3.30**	**316**	Sn		**Sn**	**00 42 18.1**	**-1.2**
EGRO	**El Granado**	**3.65**	**307**	Pn		**Pn**	**00 41 45.9**	**+0.2**
EGRO				Sn		**Sn**	**00 42 25.6**	**-2.3**
ETOB	**Tobarra**	**3.70**	**29**	Pn		**Pn**	**00 41 48.4**	**+1.8**
ETOB				Sn		**Sn**	**00 42 29.6**	**+0.2**
PVAQ	**Vaqueiros**	**3.73**	**303**	*e*Pn		**Pn**	**00 41 47.6**	**+0.7**
PVAQ				*e*Sn		**Sn**	**00 42 29.2**	**-0.8**
PVAQ				A		A	00 42 40.4	
	2.4nm,0.8s							
PVAQ	**Vaqueiros**	**3.73**	**303**	P		**Pn**	**00 41 47.0**	**+0.1**
PVAQ				S		**Sn**	**00 42 27.1**	**-2.9**
PBAR	**Barrancos**	**3.79**	**318**	*e*Pn		**Pn**	**00 41 48.1**	**+0.4**
PBAR				*e*Sn		**Sn**	**00 42 31.1**	**-0.4**
PBAR				A		A	00 42 41.4	
	1.4nm,0.4s							
PAB	**San Pablo**	**4.16**	**354**	Pn		**Pn**	**00 41 54.1**	**+1.3**
PAB				Sn		**Sn**	**00 42 40.5**	**-0.1**
MESJ	**Messejana**	**4.30**	**306**	*e*P		**Pn**	**00 41 55.1**	**+0.4**
MESJ				*e*S		**Sn**	**00 42 41.9**	**-2.2**
MESJ				IAML			00 42 46.4	
	comp=N,1.7nm,0.2s							
MESJ	**Messejana**	**4.30**	**306**	*e*Pn		**Pn**	**00 41 56.1**	**+1.4**
MESJ				*e*Sn		**Sn**	**00 42 46.4**	**+2.3**
MESJ				A		A	00 42 49.0	
	comp=N,1.6nm,0.3s							
MORF	**Marmelete**	**4.35**	**297**	*e*Pn		**Pn**	**00 41 57.0**	**+1.6**
MORF				*e*Sn		**Sn**	**00 42 45.7**	**+0.4**
PTEO	**Sao Teotonio**	**4.50**	**300**	*e*Pn		**Pn**	**00 41 59.5**	**+2.0**
PTEO				*e*Sn		**Sn**	**00 42 49.0**	**0.0**
PNCL	**Nicolau / Gran**	**4.66**	**307**	*e*Pn		**Pn**	**00 41 59.9**	**+0.3**
PMRV	**Marv??o**	**4.93**	**326**	*e*Pn		**Pn**	**00 42 04.5**	**+1.2**
PMTG	**Montargil**	**5.08**	**317**	*e*Pn		**Pn**	**00 42 06.3**	**+0.9**
PSBE	**So Bento**	**5.71**	**317**	*e*Pn		**Pn**	**00 42 16.3**	**+2.2**

TAP 13 00:45:16.0,24°78N×122°35E,h11km±1km,ML3.2,C
JMA 13 00:45:17.4±0.1,24°7N±0°9×122°4E±0°5,h33km±4km, MV2.5/8,TAIWAN REGION

ISC 13 00:45:15.3±1.1,24°76N±0°03×122°43E±0°03,h12km±10km, n72,σ0s46/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EGS		**0.46**	**281**	*e*P		**Pg**	**00 45 24.7**	**+0.4**
	baz=279							
EGS				*e*S		**Sg**	**00 45 30.4**	**0.0**
	baz=279							
TWB1	**Santiao Chiao**	**0.47**	**302**	*e*P		**Pg**	**00 45 24.2**	**-0.3**
	baz=304							
TWB1				*e*S		**Sg**	**00 45 29.3**	**-1.5**
	baz=304							
TWC	**Suao**	**0.55**	**255**	*e*P		**Pg**	**00 45 25.6**	**-0.3**
	baz=249							
TWC				*e*S		**Sg**	**00 45 33.6**	**+0.5**
	baz=249							
NTC	**Toucheng**	**0.55**	**280**	P		**Pg**	**00 45 26.4**	**+0.4**
	baz=278							
JYNG	**Yonagunijimaku**	**0.56**	**123**	P		**Pn**	**00 45 29.0**	**-0.2**
JYNG				*e*S		**Sn**	**00 45 37.5**	**-0.9**
TIPB	**Shuangxi**	**0.59**	**292**	*e*P		**Pg**	**00 45 26.6**	**-0.1**
	baz=291							
TIPB				S		**Sg**	**00 45 35.0**	**+0.5**
	baz=291							
SXI1	**Grass Mountain**	**0.60**	**304**	*e*P		**Pg**	**00 45 27.0**	**-0.1**
	baz=305							
YOJ	**Yonaguni jima**	**0.61**	**119**	*i* P		**Pn**	**00 45 29.9**	**+0.1**
	baz=117							
YOJ				*i* S		**Sn**	**00 45 38.8**	**-0.8**
	baz=117							
YOJ	**Yonaguni jima**	**0.61**	**119**	P		**Pn**	**00 45 29.9**	**+0.1**
YOJ				S		**Sn**	**00 45 38.7**	**-0.9**
ILA	**Ilan**	**0.62**	**271**	*e*P		**Pg**	**00 45 27.5**	**+0.2**
	baz=268							
NWF	**Wu-fen Shan**	**0.67**	**298**	*e*P		**Pb**	**00 45 29.0**	**+0.1**
	baz=299							
NWF				*e*S		**Sg**	**00 45 36.9**	**-0.1**
	baz=299							
WFSB	**Wu-fen Shan**	**0.67**	**298**	*e*P		**Pb**	**00 45 29.0**	**+0.1**
	baz=299							
EWUT	**Wuta**	**0.67**	**242**	*e*P		**Pg**	**00 45 28.6**	**+0.3**
	baz=237							
TWE	**Neicheng**	**0.69**	**267**	*e*P		**Pg**	**00 45 28.9**	**+0.2**
	baz=264							
TWE				*e*S		**Sb**	**00 45 38.8**	**-0.1**
	baz=264							
ENA	**Nanau**	**0.70**	**243**	*e*P		**Pg**	**00 45 29.0**	**0.0**
	baz=237							
ENA				*e*S		**Sb**	**00 45 39.2**	**-0.1**
	baz=237							
TNOU	**National Taiwa**	**0.71**	**304**	*e*P		**Pb**	**00 45 29.5**	**-0.2**
	baz=304							
FUSB	**Fushanzhiwuyua**	**0.76**	**270**	P		**Pg**	**00 45 30.2**	**+0.1**
	baz=268							
FUSB				S		**Sg**	**00 45 40.4**	**+0.3**
	baz=268							
ENTT	**Nioudou**	**0.79**	**262**	P		**Pg**	**00 45 30.6**	**0.0**
	baz=258							
TWA	**Mucha**	**0.80**	**286**	*e*P		**Pb**	**00 45 31.3**	**+0.2**
	baz=285							
TWA				*e*S		**Sg**	**00 45 41.5**	**+0.3**
	baz=285							
NDT	**Datong Townshi**	**0.84**	**260**	*e*P		**Pb**	**00 45 32.0**	**0.0**
	baz=257							
NDT				S		**Sb**	**00 45 43.2**	**-0.1**
	baz=257							
LATG	**Datong**	**0.85**	**255**	P		**Pg**	**00 45 31.7**	**0.0**
	baz=252							
LATG				*e*S		**Sg**	**00 45 42.8**	**0.0**
	baz=252							
YM01	**YM01**	**0.87**	**297**	*e*P		**Pg**	**00 45 32.2**	**+0.1**
	baz=297							
YM08	**YM08**	**0.87**	**300**	P		**Pg**	**00 45 32.2**	**+0.1**
	baz=300							
TATO	**Taipei**	**0.88**	**285**	*e*P		**Pb**	**00 45 32.5**	**-0.1**
	baz=283							
TWY	**Chenhua**	**0.91**	**305**	*e*P		**Pg**	**00 45 32.9**	**0.0**
	baz=305							
TWY				S		**Sg**	**00 45 44.7**	**-0.1**
	baz=305							
ANP	**Anpu**	**0.93**	**298**	P		**Pg**	**00 45 33.0**	**-0.2**
	baz=298							
ETL	**Fush Village**	**0.94**	**231**	P		**Pb**	**00 45 33.9**	**+0.2**
	baz=227							
NACB	**Ninganchiao**	**0.95**	**233**	P		**Pb**	**00 45 34.0**	**+0.2**
	baz=228							
YHNB	**Yeheng**	**0.96**	**265**	P		**Pg**	**00 45 33.7**	**-0.1**
	baz=262							
NSK	**Sanguang**	**0.97**	**266**	*e*P		**Pg**	**00 45 33.1**	**-1.0**
	baz=263							
NNSB	**Datong**	**1.00**	**251**	P		**Pg**	**00 45 34.5**	**-0.2**
	baz=248							
NNSH	**Datong**	**1.00**	**251**	P		**Pg**	**00 45 34.4**	**-0.2**
	baz=248							
NNS	**Nan Shan**	**1.01**	**252**	*e*P		**Pg**	**00 45 34.2**	**-0.6**
	baz=248							
TWD	**Chiawan**	**1.01**	**229**	P		**Pb**	**00 45 35.1**	**+0.3**
	baz=224							
ETLH	**Xiulin Townshi**	**1.02**	**238**	P		**Pb**	**00 45 35.1**	**+0.1**
	baz=234							
ETLH				S		**Sb**	**00 45 49.1**	**+0.7**
	baz=234							
FUSS	**Fushou**	**1.19**	**245**	*e*P		**Pn**	**00 45 38.4**	**+0.4**
	baz=242							
FUSS				S		**Sg**	**00 45 53.9**	**+0.1**
	baz=242							
NFF	**Wufeng Townshi**	**1.20**	**264**	*e*P		**Pb**	**00 45 37.3**	**-0.7**
	baz=262							
WHF	**Hehuan Shan**	**1.22**	**240**	*e*P		**Pg**	**00 45 38.8**	**-0.1**
	baz=237							
WHF				*e*S		**Sb**	**00 45 55.0**	**+0.5**
	baz=237							
TWT	**Tachien**	**1.24**	**247**	*e*P		**Pg**	**00 45 39.9**	**+0.7**
	baz=244							
IRIF	**Iriomote-Funau**	**1.26**	**109**	*e*S		**Sn**	**00 45 56.9**	**+1.3**
TDCB	**Techi**	**1.26**	**247**	*e*P		**Pg**	**00 45 39.8**	**+0.2**
	baz=244							
LIOB	**Emei**	**1.29**	**265**	*e*P		**Pg**	**00 45 40.8**	**+0.7**
	baz=263							
NSTT	**Nanjuang**	**1.30**	**265**	*e*P		**Pg**	**00 45 41.1**	**+0.8**
	baz=263							
ESL	**Shilin**	**1.30**	**224**	*e*P		**Pg**	**00 45 40.6**	**+0.3**
	baz=220							
CHGB	**Renai**	**1.33**	**239**	*e*P		**Pg**	**00 45 41.0**	**0.0**
	baz=236							
CHGB				*e*S		**Sg**	**00 45 58.5**	**+0.2**
	baz=236							
OWD	**Renai**	**1.39**	**235**	*e*P		**Pg**	**00 45 41.9**	**-0.1**
	baz=232							
OWD				*e*S		**Sg**	**00 45 60.0**	**-0.2**
	baz=232							
EGFH	**Guangfu**	**1.42**	**220**	*e*P		**Pg**	**00 45 42.9**	**+0.4**
	baz=217							
WUSB	**Renai**	**1.42**	**238**	*e*P		**Pg**	**00 45 42.3**	**-0.2**
	baz=235							
WUSB				*e*S		**Sb**	**00 46 00.3**	**+0.5**
	baz=235							
WHP	**Taichung City**	**1.43**	**251**	*e*P		**Pg**	**00 45 42.5**	**-0.3**
	baz=248							
HATJ	**Hateruma jima**	**1.44**	**119**	*e*S		**Sb**	**00 46 00.9**	**+0.6**
VWDT	**VWDT**	**1.54**	**230**	*e*P		**Pg**	**00 45 45.0**	**+0.2**
	baz=227							
DPDB	**Guoxing**	**1.54**	**243**	*e*P		**Pg**	**00 45 44.9**	**-0.1**
	baz=240							
WCS	**Beigang Elemen**	**1.55**	**244**	*e*P		**Pg**	**00 45 44.3**	**+0.4**
	baz=241							
NSY	**Sanyi**	**1.55**	**258**	*e*P		**Pb**	**00 45 44.4**	**+0.3**
	baz=255							
HGSD	**Ruisui**	**1.56**	**216**	*e*P		**Pb**	**00 45 44.0**	**-0.1**
	baz=213							
EHY	**Hungye**	**1.60**	**219**	*e*P		**Pb**	**00 45 45.0**	**+0.1**
	baz=216							
JIJ	**Ishigaki jima**	**1.61**	**104**	*e*P		**Pb**	**00 45 45.4**	**+0.4**
JIJ				*e*S		**Sb**	**00 46 05.5**	**+0.1**
SMLT	**Sun Moon Lake**	**1.64**	**238**	*e*P		**Pg**	**00 45 46.7**	**-0.1**
	baz=235							
SSLB	**Suanglung**	**1.65**	**235**	*e*P		**Pg**	**00 45 46.6**	**-0.5**
	baz=232							
TYC	**Yuchr**	**1.66**	**240**	*e*P		**Pg**	**00 45 47.4**	**+0.1**
	baz=237							
YULB	**Yu-li**	**1.71**	**217**	*e*P		**Pb**	**00 45 46.2**	**-0.4**
	baz=214							
EYUL	**Yuli**	**1.73**	**216**	*e*P		**Pg**	**00 45 48.0**	**-0.5**
	baz=213							
TWF1	**Yuli**	**1.74**	**217**	*e*P		**Pb**	**00 45 46.7**	**-0.5**
	baz=213							
WHYT	**Xinyi Township**	**1.78**	**234**	*e*P		**Pg**	**00 45 48.9**	**-0.6**
	baz=231							
YUS	**Yu-Shan**	**1.84**	**227**	*e*P		**Pb**	**00 45 49.3**	**0.0**
	baz=224							
ALS	**Alishan**	**1.93**	**230**	*e*P		**Pb**	**00 45 50.6**	**0.0**
	baz=228							
ELDTW	**Lidau**	**2.02**	**220**	*e*P		**Pb**	**00 45 51.6**	**-0.6**
	baz=217							
STYH	**Taoyuan**	**2.18**	**224**	*e*P		**Pb**	**00 45 53.9**	**-0.9**
	baz=222							
TPUB	**Ta-pu**	**2.19**	**229**	*e*P		**Pb**	**00 45 54.1**	**-0.8**
	baz=226							
STYT	**Tauyuan**	**2.20**	**224**	*e*P		**Pb**	**00 45 54.6**	**-0.5**
	baz=222							
WTP	**Ta-pu**	**2.24**	**228**	*e*P		**Pb**	**00 45 55.0**	**-0.8**
	baz=226							
TWK	**Hsinying**	**2.31**	**230**	*e*P		**Pb**	**00 45 56.0**	**-1.0**
	baz=228							

MRB 13 00:47:48.5±0.2,41°84N×2°66E,h4km±3km,ML1.9/23, Error ellipse: s-maj=1.0km s-min=0.6km az=309.0
STR 13 00:47:48.1±1.0,42°N±6°×±°,h10km,MLv2.2/7,Error ellipse: s-maj=0.0km s-min=0.0km az=171.7,preliminary
LDG 13 00:47:48.3±0.1,41°84N×2°65E,h4km,Md2.3/2,Ml2.3/13, Error ellipse: s-maj=1.4km s-min=1.0km az=149.0
MDD 13 00:47:49.2±0.5,41°86N×2°66E,h11km,mb_Lg2.6/11, Error ellipse: s-maj=3.7km s-min=2.2km az=114.0

ISC 13 00:47:47.8±0.8,41°86N±0°02×2°70E±0°02,h17km±6km, n64,σ1s17/124,1C,Spain

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CCAS	**Cassa de la Se**	**0.16**	**80**	*i*Pg		**Pg**	**00 47 52.3**	**+0.3**
CCAS				S		**Sg**	**00 47 55.2**	**+0.4**
CFON	**Fontmartina**	**0.22**	**245**	P		**Pg**	**00 47 52.2**	**-0.8**
CFON				S		**Sg**	**00 47 55.0**	**-1.5**
	314nm,0.2s							
CBEU	**Beuda**	**0.40**	**358**	P		**Pb**	**00 47 56.5**	**0.0**
CBEU				S		**Sb**	**00 48 02.5**	**+0.2**
CPAL	**Palau Saverder**	**0.57**	**37**	P		**Pb**	**00 47 59.7**	**+0.4**
CPAL				S		**Sb**	**00 48 08.1**	**+1.0**
	36nm,0.1s							
CBRU	**Bruguera**	**0.58**	**318**	P		**Pb**	**00 47 59.2**	**-0.3**
CBRU				S		**Sb**	**00 48 07.0**	**-0.4**
	21nm,0.2s							
EJON	**La Jonquera**	**0.61**	**13**	Pg		**Pb**	**00 48 00.2**	**+0.3**
EJON				Sg		**Sb**	**00 48 09.0**	**+0.7**
EJON	**La Jonquera**	**0.61**	**13**	Pg		**Pb**	**00 48 00.2**	**+0.3**
EJON				Sg		**Sb**	**00 48 09.0**	**+0.7**
EJON				*i* Vmb_Lg			00 48 11.9	
FBR	**Fabra**	**0.62**	**225**	P		**Pg**	**00 47 59.2**	**-0.8**
FBR				S		**Sg**	**00 48 07.3**	**-0.9**
SJAF	**Saint Jean de**	**0.64**	**12**	P		**Pb**	**00 48 00.9**	**+0.3**
SJAF				S		**Sb**	**00 48 10.1**	**+0.9**
	37nm,0.1s							
SJAF	**Saint Jean de**	**0.64**	**12**	Pg		**Pb**	**00 48 00.9**	**+0.3**
SJAF				Sg		**Sb**	**00 48 09.9**	**+0.7**
FILF	**Fillols**	**0.71**	**352**	P		**Pb**	**00 48 02.3**	**+0.5**
FILF				S		**Sb**	**00 48 12.9**	**+1.7**
	22nm,0.2s							
CGAR	**Garraf**	**0.82**	**227**	P		**Pg**	**00 48 02.9**	**-0.8**
CGAR				S		**Sg**	**00 48 14.0**	**-0.5**
	20nm,0.1s							
CLLI	**Llivia**	**0.82**	**319**	P		**Pg**	**00 48 03.5**	**-0.3**
CLLI				S		**Sb**	**00 48 15.0**	**+0.4**
	13nm,0.2s							
EMIR	**Miracle**	**0.88**	**274**	Pg		**Pg**	**00 48 04.3**	**-0.6**
EMIR				Sg		**Sg**	**00 48 15.7**	**-0.8**
EMIR	**Miracle**	**0.88**	**274**	Pg		**Pg**	**00 48 04.3**	**-0.6**
EMIR				Sg		**Sg**	**00 48 15.6**	**-0.8**
EMIR				*i* Vmb_Lg			00 48 18.2	
ARBS	**La Rabassa**	**1.04**	**305**	P		**Pg**	**00 48 07.5**	**-0.5**
ARBS				S		**Sn**	**00 48 22.1**	**+0.1**
	30nm,0.2s							
PAND	**Andorre**	**1.08**	**308**	P		**Pb**	**00 48 08.7**	**+0.5**
PAND				S		**Sn**	**00 48 23.6**	**+0.5**
	41nm,0.2s							
PAND	**Andorre**	**1.08**	**308**	Pg		**Pb**	**00 48 08.5**	**+0.3**
PAND				Sg		**Sb**	**00 48 23.1**	**+0.9**
CORG	**Organya**	**1.09**	**290**	P		**Pg**	**00 48 08.2**	**-0.7**
CORG				S		**Sb**	**00 48 22.8**	**+0.5**
	14nm,0.3s							
FNEB	**Nbias**	**1.14**	**337**	Pn		**Pn**	**00 48 10.4**	**+1.5**
FNEB				S		**Sn**	**00 48 25.5**	**+1.4**
	16nm,0.2s							
FNEB	**Nbias**	**1.14**	**337**	Pg		**Pn**	**00 48 09.7**	**+0.8**
FNEB				Sg		**Sn**	**00 48 25.0**	**+0.9**
CSOR	**Sort**	**1.28**	**295**	P		**Pb**	**00 48 11.6**	**+0.2**
CSOR				S		**Sn**	**00 48 28.8**	**+1.1**
	29nm,0.3s							
CEST	**Esterri de Car**	**1.30**	**305**	P		**Pb**	**00 48 12.1**	**+0.2**
CEST				S		**Sn**	**00 48 29.4**	**+1.0**
	18nm,0.3s							
EPOB	**Poblet**	**1.32**	**248**	P		**Pn**	**00 48 12.0**	**+0.6**
EPOB				S		**Sb**	**00 48 29.0**	**+0.3**
	18nm,0.3s							
EPOB	**Poblet**	**1.32**	**248**	Pg		**Pn**	**00 48 12.0**	**+0.6**
EPOB				Sg		**Sg**	**00 48 29.9**	**-0.5**
EPOB				*i* Vmb_Lg			00 48 30.0	
CAVN	**Les Avellanes**	**1.46**	**272**	P		**Pb**	**00 48 14.4**	**0.0**
CAVN				S		**Sg**	**00 48 33.6**	**-1.1**
	63nm,0.2s							
CTRE	**Tremp**	**1.51**	**289**	P		**Pb**	**00 48 15.6**	**+0.2**
CTRE				S		**Sg**	**00 48 35.8**	**-0.6**
	12nm,0.5s							
MTLF	**Montolieu**	**1.53**	**347**	*e*Pg		**Pg**	**00 48 16.9**	**-0.2**
MTLF				*e*Sg		**Sg**	**00 48 36.2**	**-0.8**
	7.0nm,0.3s							
MTLF	**Montolieu**	**1.53**	**347**	Pg		**Pg**	**00 48 16.9**	**-0.2**
MTLF	**Montolieu**	**1.53**	**347**	Sn		**Sg**	**00 48 35.9**	**-1.1**
MTLF	**Montolieu**	**1.53**	**347**	Pn		**Pn**	**00 48 15.3**	**+1.0**
MLS	**Moulis**	**1.62**	**313**	Pg		**Pg**	**00 48 18.5**	**-0.4**
MLS				Sg		**Sg**	**00 48 40.2**	**+0.2**
	15nm,0.3s							
MLS	**Moulis**	**1.62**	**313**	Pn		**Pb**	**00 48 17.0**	**-0.2**
MLS				Sn		**Sg**	**00 48 38.7**	**-1.3**
CARA	**Val d'Aran**	**1.64**	**302**	P		**Pb**	**00 48 17.9**	**+0.3**
CARA				S		**Sg**	**00 48 39.3**	**-1.3**
	31nm,0.2s							
CBUD	**Illa de Buda**	**1.82**	**231**	Sg		**Sg**	**00 48 46.0**	**-0.4**
ERTA	**Horta de San J**	**1.99**	**244**	P		**Pn**	**00 48 22.0**	**+1.3**
ERTA				S		**Sn**	**00 48 47.5**	**+2.2**
	7.7nm,0.2s							
ERTA	**Horta de San J**	**1.99**	**244**	Pn		**Pn**	**00 48 22.4**	**+1.7**
ERTA				Pg		**Pg**	**00 48 25.4**	**-0.6**
ERTA				Sg		**Sb**	**00 48 49.6**	**+1.5**
ERTA				*i* Vmb_Lg			00 48 53.6	
ECHI	**Chisagues Biel**	**2.03**	**294**	P		**Pn**	**00 48 22.7**	**+1.4**
ECHI	**Chisagues Biel**	**2.03**	**294**	Pn		**Pn**	**00 48 21.9**	**+0.7**
ECHI				Pg		**Pb**	**00 48 25.0**	**+0.8**
ECHI				Sg		**Sg**	**00 48 51.2**	**-1.8**
ECHI				*i* Vmb_Lg			00 48 53.2	
ECHI	**Chisagues Biel**	**2.03**	**294**	Pn		**Pn**	**00 48 22.4**	**+1.2**
ECHI	**Chisagues Biel**	**2.03**	**294**	Sn		**Sn**	**00 48 47.8**	**+1.6**
ETOS	**Mallorca**	**2.09**	**178**	Pn		**Pn**	**00 48 21.7**	**-0.3**
ETOS				Sn		**Sn**	**00 48 45.1**	**-2.5**
EPF	**Esparros**	**2.10**	**305**	*e*Pg		**Pb**	**00 48 26.6**	**+1.1**
EPF				*e*Sg		**Sb**	**00 48 52.5**	**+1.2**
	10nm,0.3s							
CMAS	**Mas de Barbera**	**2.12**	**239**	Pg		**Pb**	**00 48 26.9**	**+1.1**
CMAS				S		**Sn**	**00 48 50.2**	**+1.8**
	7.5nm,0.3s							
VIEF	**Viey**	**2.23**	**298**	Pn		**Pn**	**00 48 25.6**	**+1.5**
VIEF				Sn		**Sn**	**00 48 53.3**	**+2.1**
ESAC	**San Caprasio**	**2.37**	**268**	Pg		**Pg**	**00 48 32.6**	**-0.8**
ESAC				Sg		**Sg**	**00 49 02.4**	**-1.7**
ESAC				*i* Vmb_Lg			00 49 03.9	
LASF	**Ste Croix**	**2.38**	**21**	*e*Pn		**Pn**	**00 48 26.8**	**+0.9**
LASF	**Ste Croix**	**2.38**	**21**	*e*Pg		**Pg**	**00 48 33.3**	**0.0**
LASF				*e*Sn		**Sn**	**00 48 55.2**	**+0.5**
LASF				*e*Sg		**Sg**	**00 49 03.7**	**-0.4**
	1.3nm,0.3s							
ETSF	**Etsaut**	**2.63**	**294**	*e*Pn		**Pn**	**00 48 30.4**	**+0.9**
ETSF	**Etsaut**	**2.63**	**294**	*e*Pg		**Pg**	**00 48 36.8**	**-1.4**
ETSF				*e*Sn		**

EDDO				eS		Sn	01 10 11.1	+0.5	
CDM	**Cerro de Muert**	**0.43**	**80**	⫴⫰	iP	Pn	01 10 04.4	-0.2	
CDM				eS		Sn	01 10 12.3	+0.2	
CDM	**Cerro de Muert**	**0.43**	**80**	eP		Pn	01 10 04.4	-0.2	
RIMA	**Rio Macho**	**0.43**	**49**	⫴⫰	iP	Pn	01 10 03.8	-0.7	
PEZE	**Perez Zeledon,**	**0.52**	**101**	⫴⫰	iP	Pn	01 10 05.3	-0.2	
PEZE				eS		Sn	01 10 14.2	+0.5	
HDC	**Heredia**	**0.53**	**9**	⫴⫰	iP	Pn	01 10 05.5	-0.2	
HDC				eS		Sn	01 10 14.1	+0.1	
HDC3	**Heredia 3**	**0.53**	**9**	eP		Pn	01 10 05.4	-0.2	
HDC3				eS		Sn	01 10 13.8	-0.2	
LAFE	**Finca La Fe, P**	**0.78**	**295**	⫴⫰	iP	Pn	01 10 08.6	-0.4	
LAFE				eS		Sn	01 10 20.7	+0.7	
LAFE	**Finca La Fe, P**	**0.78**	**295**	eP		Pn	01 10 08.5	-0.4	
LAFE				eS		Sn	01 10 20.7	+0.7	
SRBA	**San Rafael, Bu**	**0.86**	**106**	⫴⫰	iP	Pn	01 10 10.0	-0.2	
EDPN	**Palmar Norte**	**0.89**	**125**	⫴⫰	eP	Pn	01 10 10.6	+0.1	
EDPN				eS		Sn	01 10 23.5	+0.7	
EDBA	**Buenos Aires**	**0.96**	**109**	⫴⫰	eP	Pn	01 10 11.0	-0.6	
EDBA				eS		Sn	01 10 24.2	-0.4	
CASO	**Castillo**	**1.09**	**331**	eP		Pb	01 10 13.4	-0.1	
CASO				eS		Sn	01 10 29.3	+1.5	
FORC	**Fortuna**	**1.09**	**335**	eP		Pb	01 10 13.5	+0.1	
FORC				eS		Sn	01 10 29.1	+1.4	
JTS	**Las Juntas de**	**1.10**	**317**	eP		Pn	01 10 13.0	-0.4	
JTS	**Las Juntas de**	**1.10**	**317**	eP		Pn	01 10 13.3	-0.2	
JTS				eS		Sb	01 10 27.5	0.0	
CEDE	**Laguna Cedeo**	**1.12**	**333**	eP		Pb	01 10 14.1	+0.1	
COVE	**Coope Vega, Sa**	**1.25**	**351**	⫴⫰	iP	Pn	01 10 15.5	0.0	
DUNO	**Dulce Nombre,**	**1.41**	**295**	eP		Pn	01 10 16.7	-1.0	
DUNO				eS		Sn	01 10 34.4	-1.3	
CUI	**Cuipilapa**	**1.51**	**321**	eP		Pn	01 10 19.2	+0.1	
CUI				eS		Sn	01 10 38.2	0.0	
VERA	**Finca Concepci**	**1.52**	**334**	eP		Pn	01 10 19.2	0.0	
COLC	**Colonia**	**1.54**	**320**	eP		Pn	01 10 19.6	0.0	
COLC				eS		Sn	01 10 38.9	-0.1	
HORNC	**Hornillas**	**1.56**	**322**	⫴⫰	eP	Pn	01 10 19.7	-0.2	
HORNC				eS		Sn	01 10 38.9	-0.7	
GUAB	**Guayabo de Bag**	**1.59**	**320**	eP		Pn	01 10 20.2	0.0	
LIM1	**Limonal**	**1.60**	**319**	eP		Pn	01 10 20.3	0.0	
VMAR	**Armenia, Volca**	**1.61**	**326**	eP		Pn	01 10 19.7	-0.8	
GPS3	**Bodega del ICE**	**1.71**	**318**	eP		Pn	01 10 21.9	-0.1	
GPS1	**Guardaparques**	**1.72**	**319**	eP		Pn	01 10 22.9	+0.9	
LAPC	**Finca la Perla**	**1.77**	**317**	eP		Pn	01 10 22.3	-0.4	
BUEV	**Buena Vista**	**1.77**	**318**	eP		Pn	01 10 22.5	-0.2	
GB1A	**Borinquen Arri**	**1.78**	**318**	eP		Pn	01 10 22.9	0.0	
BUAI	**Buenos Aires**	**1.79**	**321**	eP		Pn	01 10 22.7	-0.2	
GBS3	**Finca Las Img**	**1.79**	**316**	eP		Pn	01 10 23.6	+0.6	
HZTE	**Horizontes, Gu**	**1.85**	**312**	eP		Pn	01 10 24.3	+0.6	
ACON	**Acoyapa**	**2.66**	**339**	eP		Pn	01 10 34.9	+0.1	

IDC 13 01:22:50.0±2.2, 6.76S×130.51E, h0km, mb3.9/1, mbtmp3.7/3, ML3.7/2, MS2.8/1, Error ellipse: s-maj=138.5km s-min=31.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.63**	**165**	Pn	Pn	01 26 04.8	+0.1
	0.4nm,0.3s,baz=348,slow=13,SNR=22						
WRA				Sn	Sn	01 28 23.1	-14
	1.4nm,0.3s,baz=332,slow=23,SNR=13						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**17.13**	**169**	P	Pn	01 26 50.9	-0.1
	0.2nm,0.3s,baz=346,slow=12,SNR=9.7						
ASAR				S	Sn	01 29 47.1	-15
	0.9nm,0.5s,baz=354,slow=26,SNR=6.3						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.97**	**309**	LR	LR	01 48 04.4	
	comp=Z,13nm,19.1s,baz=170,slow=38						
MKAR	**Makanchi Array**	**68.30**	**327**	P	P	01 33 53.1	0.0
	0.6nm,0.4s,baz=129,slow=7.8,SNR=12						
	0.6nm,0.4s						

*TUL **13** 02:05:48.2±1.0, 36.25N±0.02×98.45W±0.02, h6km±7km, ML3.5, mb_Lg3.6/98(NEIC), Mwr3.3/10(SLM), Error ellipse: s-maj=3.1km s-min=1.7km az=45.0*

*NEIC **13** 02:05:48.1±0.9, 36.25N±0.01×98.43W±0.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=268.0*

*NEIC **13** 02:05:48.2, 36.24N×98.43W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.04; $M_{\theta\theta}$=1.18; $M_{\phi\phi}$=-1.15; $M_{r\theta}$=0.06; $M_{r\phi}$=0.19; $M_{\theta\phi}$=0.22; Fault plane solution: M_{o}=1.20000×10^{14} NP1:ϕ_s=130.00000°, δ=80.00000°, λ=-5.00000°. NP2:ϕ_s=221.00000°, δ=85.00000°, λ=-170.00000°. Principal axes: T 1.2016, Plg4.0000°, Azm355.0000°; N 0.0019, Plg79.0000°, Azm247.0000°; P -1.2035, Plg11.0000°, Azm86.0000°;*

*ANF **13** 02:05:48.7±0.8, 36.26N×98.42W, h6km±6km, ML4.3/19 Error ellipse: s-maj=4.0km s-min=3.1km az=117.0*

*IDC **13** 02:05:49.7±1.8, 36.30N×98.59W, h0km, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=28.5km s-min=10.3km az=101.0*

ISC 13 02:05:47.9±1.1, 36.29N±0.02×98.43W±0.02, h8km±8km, n166, σ1=9.07/167, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK038	**West end E0370**	**0.31**	**307**	Pg	**Pb**	**02 05 55.1**	**-0.7**
OK038				Sg	**Sb**	**02 06 00.2**	**-0.9**
CROK	**Carrier**	**0.42**	**59**	Pg	**Pb**	**02 05 57.4**	**-0.3**
CROK				Sg	**Sb**	**02 06 03.9**	**-0.3**
U32A	**Winter Ranch,**	**0.47**	**281**	Pg	**Pg**	**02 05 57.5**	**+0.5**
U32A				Sg	**Sg**	**02 06 04.1**	**+0.9**
U32A	**Winter Ranch,**	**0.47**	**281**	P	**Pg**	**02 05 57.5**	**+0.5**
	baz=107						
U32A				S	**Sb**	**02 06 04.4**	**-1.2**
	baz=107						
OK035	**E0210 Rd and N**	**0.47**	**332**	Pg	**Pb**	**02 05 58.4**	**-0.2**
OK035				Sg	**Sb**	**02 06 05.7**	**-0.1**
NOKA	**Waynoka**	**0.53**	**310**	Pg	**Pb**	**02 05 59.1**	**-0.4**
NOKA				Sg	**Sb**	**02 06 06.9**	**-0.5**
OK032	**Salt Plains WL**	**0.54**	**19**	Pg	**Pb**	**02 05 59.7**	**0.0**
OK032				Sg	**Sb**	**02 06 08.1**	**+0.5**
CSTR	**Hydro, Custer**	**0.68**	**198**	Pg	**Pg**	**02 06 00.5**	**-0.5**
CSTR				Sg	**Sg**	**02 06 09.5**	**-0.3**
GC02	**Grant County #**	**0.72**	**39**		**Pb**	**02 06 02.9**	**+0.1**
KAN14	**Manchester OK**	**0.76**	**29**	Pg	**Pb**	**02 06 03.6**	**+0.2**
ELIS	**Ellis County**	**0.83**	**255**		**Pg**	**02 06 03.6**	**-0.2**
KAN10	**Anthony SW Sta**	**0.87**	**18**	Pg	**Pb**	**02 06 05.7**	**+0.3**
OK049	**E0420 Rd and N**	**0.92**	**82**		**Pg**	**02 06 06.0**	**+0.5**
BCOK	**Bluff Creek, N**	**0.92**	**133**	Pg	**Pg**	**02 06 05.0**	**-0.5**
KAN17	**Caldwell West**	**0.92**	**35**	Pg	**Pb**	**02 06 06.4**	**+0.2**
KAN05	**Bluff City Nor**	**0.93**	**29**		**Pb**	**02 06 06.6**	**+0.3**
OK029	**Liberty Lake**	**0.93**	**122**	Pg	**Pg**	**02 06 05.6**	**-0.2**
KAN16	**Harper SW Stat**	**0.98**	**17**	Pg	**Pb**	**02 06 07.5**	**+0.4**
KAN08	**Anthony NE Sta**	**1.00**	**21**		**Pb**	**02 06 08.0**	**+0.4**
KAN01	**Argonia South**	**1.02**	**32**	Pg	**Pb**	**02 06 08.0**	**+0.2**
KAN13	**South Haven SW**	**1.05**	**46**		**Pb**	**02 06 08.7**	**+0.3**
KAN06	**Argonia West S**	**1.06**	**26**		**Pb**	**02 06 09.0**	**+0.5**
KAN12	**Harper NE Stat**	**1.06**	**19**	Pg	**Pb**	**02 06 09.1**	**+0.5**
KAN09	**Caldwell North**	**1.07**	**38**		**Pb**	**02 06 09.0**	**+0.3**
BLOK	**Blackwell**	**1.09**	**64**	Pg	**Pg**	**02 06 09.2**	**+0.5**
OK025	**Westminster Rd**	**1.14**	**128**	Pn	**Pg**	**02 06 09.1**	**-0.6**
KS21	**Milan North St**	**1.17**	**32**	Pg	**Pn**	**02 06 10.9**	**+0.3**
KS20	**Mayfield South**	**1.17**	**37**		**Pb**	**02 06 10.8**	**+0.4**
OK050	**Pawnee Station**	**1.18**	**85**	Pn	**Pg**	**02 06 10.4**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.20**	**137**		**Pg**	**02 06 09.8**	**-1.1**
OK048	**Pawnee Station**	**1.21**	**84**		**Pg**	**02 06 11.0**	**0.0**
OK045	**Pawnee Station**	**1.23**	**82**		**Pb**	**02 06 11.4**	**+0.1**
OK033	**Mehan**	**1.23**	**101**		**Pn**	**02 06 11.2**	**-0.3**
OK046	**Pawnee Station**	**1.23**	**85**		**Pn**	**02 06 11.5**	**0.0**
OK051	**E0350 and S346**	**1.30**	**80**		**Pn**	**02 06 12.7**	**+0.3**
OK044	**Pawnee Station**	**1.32**	**86**	Pn	**Pn**	**02 06 12.9**	**+0.2**
FNO	**Franklin**	**1.33**	**141**	Pn	**Pn**	**02 06 12.2**	**-0.6**
OK031	**S. Brethren Rd**	**1.33**	**104**	Pn	**Pn**	**02 06 12.8**	**-0.1**
OK030	**Cody Creek RV**	**1.38**	**105**		**Pn**	**02 06 13.6**	**+0.1**
OK047	**Pawnee, Statio**	**1.39**	**82**	Pn	**Pn**	**02 06 14.1**	**+0.5**
QUOK	**Quay**	**1.40**	**94**		**Pn**	**02 06 14.0**	**+0.2**
OK034	**N. Norfolk Rd.**	**1.42**	**101**		**Pn**	**02 06 14.2**	**+0.2**
WMOK	**Wichita Mounta**	**1.58**	**191**	Pn	**Pn**	**02 06 15.5**	**-0.7**
WMOK	**Wichita Mounta**	**1.58**	**191**	P	**Pn**	**02 06 15.5**	**-0.7**
	baz=11						
WMOK				S	**Sn**	**02 06 36.4**	**-0.4**
	baz=11						
WMOK	**Wichita Mounta**	**1.58**	**191**	P	**Pn**	**02 06 15.5**	**-0.7**
	baz=11,SNR=106						
WMOK				S	**Sn**	**02 06 36.1**	**-0.7**
	baz=11						
DEOK	**Depew**	**1.63**	**105**		**Pn**	**02 06 17.4**	**+0.5**
T35A	**Sooner Cattle**	**1.67**	**67**		**Pb**	**02 06 18.6**	**-0.3**
T35A				IAmb_Lg		02 06 43.2	
	comp=Z,290nm,0.9s						
T35B	**Sooner Cattle**	**1.67**	**67**	P	**Pb**	**02 06 18.6**	**-0.2**
	baz=247,SNR=241						
T35B				S	**Sg**	**02 06 41.9**	**+0.4**
	baz=247						
X34A	**Smith Ranch, M**	**1.76**	**164**		**Pn**	**02 06 19.0**	**+0.4**
X34A				IAmb_Lg		02 06 46.2	
	comp=Z,244nm,0.8s						
R32A	**Long Quarter,**	**2.14**	**354**	Pn	**Pb**	**02 06 25.8**	**-1.1**
R32A	**Long Quarter,**	**2.14**	**354**	P	**Pb**	**02 06 25.8**	**-1.1**
	baz=174,SNR=61						
R32A				Sb	**Sb**	**02 06 54.4**	**+0.7**
	baz=174						
TUL1	**Leonard**	**2.17**	**99**		**Pn**	**02 06 25.0**	**+0.6**
TUL1				IAmb_Lg		02 06 58.8	
	comp=Z,235nm,0.8s						
TUL1	**Leonard**	**2.17**	**99**	P	**Pn**	**02 06 25.2**	**+0.8**
	baz=280,SNR=84						
TUL1	**Leonard**	**2.17**	**99**	P	**Pn**	**02 06 25.2**	**+0.8**
	baz=280,SNR=62						
TUL1				S	**Sb**	**02 06 54.1**	**-0.4**
	baz=280						
LOOK	**Love County**	**2.51**	**156**		**Pn**	**02 06 30.1**	**+1.0**
LOOK				IAmb_Lg		02 07 11.9	
	comp=Z,204nm,0.7s						
CBKS	**Cedar Bluff**	**2.72**	**338**	Pn	**Pn**	**02 06 33.1**	**+1.1**
CBKS				IAmb_Lg		02 07 21.8	
	comp=Z,211nm,1.0s						
CBKS	**Cedar Bluff**	**2.72**	**338**	P	**Pn**	**02 06 34.0**	**+2.0**
	baz=158						
CBKS				Sb	**Sg**	**02 07 14.8**	**-0.6**
	baz=158						
CBKS	**Cedar Bluff**	**2.72**	**338**	P	**Pn**	**02 06 33.2**	**+1.2**
	baz=158						
RLO	**Rose Lookout**	**2.76**	**92**	Pn	**Pn**	**02 06 33.2**	**+0.8**
AMTX	**Amarillo**	**3.00**	**243**		**Pn**	**02 06 36.2**	**+0.4**
AMTX				IAmb_Lg		02 07 29.8	
	comp=Z,157nm,0.8s						
AMTX	**Amarillo**	**3.00**	**243**	P	**Pn**	**02 06 38.0**	**+2.1**
	baz=62,SNR=16						
AMTX				Sb	**Sb**	**02 07 20.8**	**+2.3**
	baz=62						
AMTX	**Amarillo**	**3.00**	**243**	P	**Pn**	**02 06 38.2**	**+2.3**
	baz=62						
AMTX				Sb	**Sb**	**02 07 20.4**	**+1.9**
	baz=62						
X37A	**Clayton**	**3.02**	**123**	Pn	**Pn**	**02 06 36.5**	**+0.5**
X37A				IAmb_Lg		02 07 25.0	
	comp=Z,126nm,0.8s						
X37A	**Clayton**	**3.02**	**123**	P	**Pn**	**02 06 36.9**	**+0.8**
	baz=304,SNR=13						
Z35A	**Perchaven, San**	**3.11**	**161**		**Pn**	**02 06 37.2**	**-0.1**
Z35A	**Perchaven, San**	**3.11**	**161**	P	**Pn**	**02 06 37.7**	**+0.4**
	baz=342,SNR=35						
KSU1	**Kansas State U**	**3.15**	**27**	Pn	**Pn**	**02 06 39.0**	**+1.1**
KSU1				IAmb_Lg		02 07 36.3	
	comp=Z,170nm,0.8s						
KSU1	**Kansas State U**	**3.15**	**27**	P	**Pn**	**02 06 40.1**	**+2.2**
	baz=207						
KSU1	**Kansas State U**	**3.15**	**27**	P	**Pn**	**02 06 39.6**	**+1.7**
	baz=207,SNR=20						
KSU1				Sb	**Sg**	**02 07 26.7**	**-2.6**
	baz=207						
U38A	**Gravette**	**3.27**	**86**	Pn	**Pn**	**02 06 40.1**	**+0.6**
U38A				IAmb_Lg		02 07 32.4	
	comp=Z,122nm,1.0s						
U38A	**Gravette**	**3.27**	**86**	P	**Pn**	**02 06 40.7**	**+1.2**
	baz=268,SNR=40						
U38A				S	**Sn**	**02 07 20.5**	**+1.9**
	baz=268						
HHAR	**Hobbs**	**3.63**	**89**	Pn	**Pn**	**02 06 44.9**	**+0.5**
ABTX	**Abilene, Hawle**	**3.79**	**196**	Pn	**Pn**	**02 06 46.4**	**-0.3**
ABTX	**Abilene, Hawle**	**3.79**	**196**	P	**Pn**	**02 06 47.5**	**+0.7**
	baz=15						
Z38A	**Mt. Pleasant**	**4.15**	**136**	Pn	**Pn**	**02 06 52.2**	**+0.7**
Z38A				IAmb_Lg		02 08 03.4	
	comp=Z,187nm,0.8s						
MSTX	**Muleshoe**	**4.25**	**238**	Pn	**Pn**	**02 06 52.7**	**-0.3**
MSTX				IAmb_Lg		02 08 03.5	
	comp=Z,93nm,1.1s						
MSTX	**Muleshoe**	**4.25**	**238**	P	**Pn**	**02 06 54.2**	**+1.2**
	baz=56						
MSTX	**Muleshoe**	**4.25**	**238**	P	**Pn**	**02 06 53.9**	**+0.9**
	baz=56,SNR=16						
KSCO	**Kaye Shedlock'**	**4.30**	**310**	Pg	**Pg**	**02 07 09.3**	**-0.9**
	baz=128						
S39A	**Bolivar**	**4.32**	**70**	Pn	**Pn**	**02 06 54.9**	**+1.0**
S39A	**Bolivar**	**4.32**	**70**	P	**Pn**	**02 06 55.1**	**+1.1**
	baz=252,SNR=7.5						
MIAR	**Mount Ida**	**4.33**	**112**	Pn	**Pn**	**02 06 54.5**	**+0.4**
MIAR	**Mount Ida**	**4.33**	**112**	P	**Pn**	**02 06 55.0**	**+0.9**
	baz=295,SNR=36						
MIAR	**Mount Ida**	**4.33**	**112**	P	**Pn**	**02 06 55.2**	**+1.1**
	baz=295						
MIAR				S	**Sn**	**02 07 46.4**	**+1.6**
	baz=295						
WHTX	**Lake Whitney,**	**4.37**	**169**		**Pn**	**02 06 54.4**	**-0.1**
WHTX	**Lake Whitney,**	**4.37**	**169**	P	**Pn**	**02 06 55.0**	**+0.5**
	baz=350						
WHTX	**Lake Whitney,**	**4.37**	**169**	P	**Pn**	**02 06 54.8**	**+0.3**
	baz=350						
WHTX				Sb	**Sb**	**02 08 02.1**	**+4.4**
	baz=350						
N33A	**J Bar K, Exete**	**4.51**	**10**	Pn	**Pn**	**02 06 57.0**	**+0.6**
N33A				IAmb_Lg		02 08 18.5	
	comp=Z,108nm,0.8s						
237A	**Washetta, Mont**	**4.80**	**152**		**Pn**	**02 07 00.1**	**-0.4**
237A	**Washetta, Mont**	**4.80**	**152**	S	**Sn**	**02 07 57.4**	**+1.1**
	baz=334						
T25A	**Trinidad**	**4.88**	**282**	Pn	**Pn**	**02 07 01.9**	**+0.1**
T25A	**Trinidad**	**4.88**	**282**	P	**Pn**	**02 07 02.8**	**+1.0**
	baz=99						
MGMO	**Mountain Grove**	**5.02**	**78**	Pn	**Pn**	**02 07 04.3**	**+0.7**
WLAR	**White Oak Lake**	**5.08**	**119**	Pn	**Pn**	**02 07 05.4**	**+1.0**
WLAR				IAmb_Lg		02 08 35.5	
	comp=Z,137nm,1.0s						
WHAR	**Wooly Hollow**	**5.09**	**100**	Pn	**Pn**	**02 07 04.4**	**-0.1**
WHAR				IAmb_Lg		02 08 32.6	
	comp=Z,110nm,0.9s						
P38A	**Dawn**	**5.11**	**48**	IAmb_Lg		02 08 35.7	
	comp=Z,139nm,0.7s						
P38A	**Dawn**	**5.11**	**48**	S	**Sn**	**02 08 06.1**	**+2.2**
	baz=230						
BGNE	**Belgrade**	**5.11**	**2**	Pn	**Pn**	**02 07 05.9**	**+1.0**
BGNE	**Belgrade**	**5.11**	**2**	P	**Pn**	**02 07 06.2**	**+1.3**
	baz=182,SNR=6.5						
BGNE	**Belgrade**	**5.11**	**2**	P	**Pn**	**02 07 06.0**	**+1.2**
	baz=182,SNR=9.9						
FCAR	**Ozark Folk Cen**	**5.12**	**93**		**Pn**	**02 07 05.2**	**+0.3**
FCAR				IAmb_Lg		02 08 34.1	
	comp=Z,109nm,0.8s						
UALR	**University of**	**5.19**	**105**	Pn	**Pn**	**02 07 06.3**	**+0.5**
R40A	**Maddies Statio**	**5.30**	**66**		**Pn**	**02 07 08.3**	**+0.9**
R40A				IAmb_Lg		02 08 41.4	
	comp=Z,89nm,0.7s						
R40A	**Maddies Statio**	**5.30**	**66**	P	**Pn**	**02 07 08.2**	**+0.7**
	baz=249,SNR=32						
R40A				S	**Sn**	**02 08 09.3**	**+0.5**
	baz=249						
OGNE	**Ogallala**	**5.43**	**330**	IAmb_Lg		02 08 49.9	
	comp=Z,116nm,0.7s						
OGNE	**Ogallala**	**5.43**	**330**	P	**Pn**	**02 07 11.6**	**+2.3**
	baz=148						
OGNE				S	**Sn**	**02 08 13.5**	**+1.4**
	baz=148						
NATX	**Nacogdoches**	**5.50**	**144**	Pg	**Pg**	**02 07 32.3**	**-0.8**
	baz=326						
435B	**Jarrell**	**5.54**	**172**	IAmb_Lg		02 08 44.3	
	comp=Z,75nm,0.8s						
435B	**Jarrell**	**5.54**	**172**	P	**Pn**	**02 07 11.8**	**+1.1**
	baz=353						
HTMS	**Hat Mesa**	**5.75**	**230**	Pn	**Pn**	**02 07 13.6**	**-0.1**
SDCO	**Great Sand Dun**	**5.84**	**286**	P	**Pn**	**02 07 18.1**	**+3.0**
	baz=103						
SDCO	**Great Sand Dun**	**5.84**	**286**	P	**Pn**	**02 07 17.2**	**+2.1**
	baz=103						
L34A	**Svendsen Farm,**	**5.89**	**15**		**Pn**	**02 07 16.3**	**+0.8**
LCAR	**Lake Charles**	**5.89**	**90**		**Pn**	**02 07 15.8**	**+0.3**
LCAR				IAmb_Lg		02 08 57.8	
	comp=Z,62nm,0.9s						
CLN7	**Carlsbad 7**	**5.89**	**231**	Pn	**Pn**	**02 07 16.1**	**+0.4**
JCT	**Junction City**	**5.91**	**192**	P	**Pn**	**02 07 16.1**	**+0.3**
	baz=11						
CCAR	**Cane Creek**	**5.95**	**112**	IAmb_Lg		02 09 13.0	
	comp=Z,93nm,0.7s						
Q24A	**Divide**	**5.96**	**299**	P	**Pn**	**02 07 18.1**	**+1.4**
	baz=115						
Q24A				S	**Sn**	**02 08 25.5**	**+0.1**
	baz=115						
P40A	**Paris**	**5.99**	**55**		**Pn**	**02 07 17.8**	**+0.9**
P40A				IAmb_Lg		02 09 02.2	
	comp=Z,138nm,0.9s						
CCM	**Cathedral Cave**	**6.00**	**71**	IAmb_Lg		02 08 58.2	
	comp=Z,98nm,0.8s						
CCM	**Cathedral Cave**	**6.00**	**71**	P	**Pn**	**02 07 17.9**	**+0.9**
	baz=255						
CCM				S	**Sn**	**02 08 27.9**	**+1.9**
	baz=255						
N38A	**Joes South For**	**6.07**	**41**		**Pn**	**02 07 18.6**	**+0.8**
N38A	**Joes South For**	**6.07**	**41**	P	**Pn**	**02 07 18.8**	**+1.0**
	baz=223						
PBMO	**Poplar Bluff**	**6.46**	**83**	IAmb_Lg		02 09 19.8	
	comp=Z,79nm,0.8s						
ISCO	**Idaho Springs**	**6.66**	**304**	P	**Pn**	**02 07 28.0**	**+1.6**
	baz=120						
ISCO				S	**Sn**	**02 08 42.9**	**+0.2**
	baz=120						
143A	**Socs Landing,**	**6.82**	**120**	IAmb_Lg		02 09 43.3	
	comp=Z,72nm,0.8s						
SCIA	**State Center**	**6.92**	**34**	IAmb_Lg		02 09 37.1	
	comp=Z,110nm,0.8s						
SCIA	**State Center**	**6.92**	**34**	S	**Sn**	**02 08 49.4**	**+0.9**
	baz=217						
SLM	**Saint Louis**	**6.92**	**68**	IAmb_Lg		02 09 28.0	
	comp=Z,88nm,0.8s						
PEBM	**Pemiscott Bayo**	**6.93**	**89**	IAmb_Lg		02 09 31.9	
	comp=Z,120nm,0.7s						
PARMO	**Parma**	**7.00**	**84**	IAmb_Lg		02 09 33.2	
	comp=Z,117nm,0.8s						
PVMO	**Portageville**	**7.05**	**86**	IAmb_Lg		02 09 29.4	
	comp=Z,47nm,0.9s						
CGM3	**Cape Girardeau**	**7.11**	**79**	IAmb_Lg		02 09 32.8	
	comp=Z,108nm,0.9s						
LNXT	**Lenox**	**7.23**	**89**	IAmb_Lg		02 09 47.6	
	comp=Z,110nm,0.7s						
Y22D	**IRIS PASSCAL I**	**7.29**	**255**	IAmb_Lg		02 09 58.2	
	comp=Z,108nm,0.9s						
MNTX	**Cornudas Mount**	**7.37**	**234**	P	**Pn**	**02 07 37.2**	**+1.4**
	baz=50						
MNTX				S	**Sn**	**02 08 59.5**	**-0.1**
	baz=50						
PHWY	**Pilot Hill**	**7.42**	**314**	IAmb_Lg		02 09 43.4	
	comp=Z,58nm,0.8s						
N23A	**Red Feather La**	**7.46**	**310**	IAmb_Lg		02 09 52.9	
	comp=Z,94nm,0.9s						
S44A	**Carbondale**	**7.48**	**76**		**Pn**	**02 07 37.8**	**+0.5**
S44A				IAmb_Lg		02 09 44.0	
	comp=Z,67nm,0.7s						
SIUC	**Southern Illin**	**7.51**	**76**		**Pn**	**02 07 37.8**	**+0.1**
SIUC				IAmb_Lg		02 09 50.9	
	comp=Z,81nm,0.9s						
ECSD	**EROS Data Cent**	**7.56**	**10**		**Pn**	**02 07 38.5**	**0.0**
ECSD	**EROS Data Cent**	**7.56**	**10**	P	**Pn**	**02 07 38.4**	**0.0**
	baz=191						
ECSD				S	**Sn**	**02 09 02.6**	**-1.8**
	baz=191						
OXF	**Oxford**	**7.58**	**101**		**Pn**	**02 07 37.8**	**-0.9**
OXF				IAmb_Lg		02 10 04.7	
	comp=Z,89nm,0.9s						
OXF	**Oxford**	**7.58**	**101**	P	**Pn**	**02 07 37.5**	**-1.1**
	baz=286						
OXF				S	**Sn**	**02 09 03.2**	**-1.6**
	baz=286						
W45A	**Hickory Valley**	**7.60**	**96**	IAmb_Lg		02 10 01.1	
	comp=Z,81nm,0.7s						
Y45A	**Yeager Farm, C**	**7.68**	**106**	IAmb_Lg		02 10 08.4	
	comp=Z,50nm,0.8s						
VBMS	**Vicksburg**	**7.71**	**120**	IAmb_Lg		02 10 12.9	
	comp=Z,41nm,1.1s						
L40A	**Anamosa**	**8.03**	**42**	IAmb_Lg		02 10 05.8	
	comp=Z,89nm,0.8s						
SUSD	**Miller**	**8.15**	**357**	IAmb_Lg		02 10 22.1	
	comp=Z,39nm,0.8s						
SUSD	**Miller**	**8.15**	**357**	S	**Sn**	**02 09 18.6**	**-0.3**
	baz=177						
TX31	**Lajitas Ar. Si**	**8.22**	**214**		**Pn**	**02 07 47.1**	**-0.4**
TX32	**Lajitas Array**	**8.22**	**214**		**Pn**	**02 07 47.2**	**-0.4**
TXAR	**Lajitas Array**	**8.22**	**214**	Pn	**Pn**	**02 07 47.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=35,slow=10,SN

KAN10	Anthony SW Sta	0.91	17	Pg		Pg	02 15 38.7	-0.3		
OK029	Liberty Lake	0.91	120	Pg		Pg	02 15 38.5	-0.5		
OK049	E0420 Rd and N	0.92	80	Pg		Pg	02 15 39.0	-0.3		
KAN17	Caldwell West	0.95	34	Pg		Pg	02 15 39.4	-0.4		
KAN05	Bluff City Nor	0.96	28			Pg	02 15 39.6	-0.4		
KAN16	Harper SW Stat	1.01	17	Pg		Pg	02 15 40.5	-0.4		
KAN08	Anthony NE Sta	1.04	21			Pg	02 15 41.0	-0.4		
KAN01	Argonia South	1.04	31	Pg		Pg	02 15 41.0	-0.6		
OK009	Oakdale Elemen	1.06	129			Pg	02 15 41.4	-0.4		
KAN13	South Haven SW	1.07	45			Pg	02 15 41.7	-0.5		
KAN06	Argonia West S	1.09	25			Pg	02 15 41.9	-0.6		
KAN09	Caldwell North	1.09	36	Pg		Pg	02 15 41.9	-0.7		
KAN12	Harper NE Stat	1.10	18	Pg		Pg	02 15 42.1	-0.5		
BLOK	Blackwell	1.10	62			Pg	02 15 42.2	-0.4		
OK025	Westminster Rd	1.11	127	Pn		Pg	02 15 42.0	-0.8		
OKCSW	OKLAHOMA CITY	1.17	136			Pg	02 15 43.0	-1.0		
OK050	Pawnee Station	1.18	83			Pg	02 15 43.4	-0.7		
KS20	Mayfield South	1.20	36			Pg	02 15 43.8	-0.8		
KS21	Milan North St	1.20	31			Pg	02 15 43.9	-0.7		
OK048	Pawnee Station	1.21	82			Pb	02 15 44.0	-0.6		
OK033	Mehan	1.22	99			Pb	02 15 44.2	-0.7		
OK045	Pawnee Station	1.23	81			Pb	02 15 44.4	-0.6		
OK046	Pawnee Station	1.24	83			Pb	02 15 44.5	-0.6		
FNO	Franklin	1.30	140			Pn	02 15 45.3	-0.7		
OK051	E0350 and S346	1.31	79			Pn	02 15 45.8	-0.3		
OK031	S. Brethren Rd	1.32	103			Pn	02 15 45.8	-0.5		
OK044	Pawnee Station	1.32	84	Pn		Pn	02 15 46.0	-0.3		
OK030	Cody Creek RV	1.37	103	Pn		Pn	02 15 46.5	-0.4		
OK047	Pawnee, Statio	1.39	81			Pn	02 15 47.1	-0.1		
QUOK	Quay	1.39	93			Pn	02 15 46.9	-0.3		
OK034	N. Norfolk Rd.	1.41	99	Pn		Pn	02 15 47.2	-0.3		
WMOK	Wichita Mounta	1.54	191	Pn		Pn	02 15 48.5	-0.9		
WMOK	Wichita Mounta	1.54	191	P		Pn	02 15 48.6	-0.7		
	baz=11									
WMOK				S		Sn	02 16 09.3	-0.2		
	baz=11									
WMOK	Wichita Mounta	1.54	191	P		Pn	02 15 48.4	-0.9		
	baz=11									
WMOK				S		Sn	02 16 09.1	-0.3		
	baz=11									
DEOK	Depew	1.62	104	Pn		Pn	02 15 50.4	+0.1		
T35A	Sooner Cattle	1.68	66			Pn	02 15 51.7	+0.6		
T35B	Sooner Cattle	1.68	66	P		Pn	02 15 51.7	+0.5		
	baz=247,SNR=324									
T35B				S		Sg	02 16 14.9	-0.6		
	baz=247									
X34A	Smith Ranch, M	1.72	163			Pn	02 15 52.6	+0.8		
TUL1	Leonard	2.16	98	Pn		Pn	02 15 58.1	+0.4		
TUL1				IAmb_Lg			02 16 30.9			
	comp=Z,204nm,0.8s									
TUL1	Leonard	2.16	98	P		Pn	02 15 58.2	+0.4		
	baz=280,SNR=152									
TUL1				S		Sb	02 16 27.2	-0.7		
	baz=280									
TUL1	Leonard	2.16	98	P		Pn	02 15 58.2	+0.4		
	baz=280									
TUL1				S		Sb	02 16 27.1	-0.8		
	baz=280									
R32A	Long Quarter,	2.17	354	Pn		Pn	02 15 58.9	+0.9		
R32A	Long Quarter,	2.17	354	P		Pn	02 15 59.0	+0.9		
	baz=174,SNR=69									
R32A				S		Sb	02 16 29.4	+1.1		
	baz=174									
LOOK	Love County	2.48	155			Pn	02 16 03.0	+0.8		
LOOK				IAmb_Lg			02 16 44.9			
	comp=Z,240nm,0.8s									
RLO	Rose Lookout	2.75	91	Pn		Pn	02 16 06.2	+0.2		
CBKS	Cedar Bluff	2.76	338			Pn	02 16 06.7	+0.7		
CBKS	Cedar Bluff	2.76	338	S		Sb	02 16 46.1	+1.1		
	baz=158									
CBKS	Cedar Bluff	2.76	338	Sb		Sg	02 16 47.8	-2.3		
	baz=158									
AMTX	Amarillo	2.98	244			Pn	02 16 09.3	+0.1		
AMTX				IAmb_Lg			02 16 55.7			
	comp=Z,133nm,0.8s									
AMTX	Amarillo	2.98	244	Pb		Pb	02 16 15.2	+0.2		
	baz=62									
AMTX				Sb		Sb	02 16 53.6	+2.0		
	baz=62									
X37A	Clayton	3.00	123	Pn		Pn	02 16 09.8	+0.5		
X37A				IAmb_Lg			02 16 58.0			
	comp=Z,118nm,0.8s									
X37A	Clayton	3.00	123	P		Pn	02 16 09.8	+0.5		
	baz=305,SNR=36									
Z35A	Perchaven, San	3.07	161			Pn	02 16 10.5	+0.2		
Z35A	Perchaven, San	3.07	161	P		Pn	02 16 11.2	+0.9		
	baz=342,SNR=14									
KSU1	Kansas State U	3.19	26	Pn		Pn	02 16 12.0	+0.1		
KSU1				IAmb_Lg			02 17 03.5			
	comp=Z,110nm,1.1s									
KSU1	Kansas State U	3.19	26	P		Pn	02 16 12.9	+1.0		
	baz=207,SNR=20									
KSU1	Kansas State U	3.19	26	P		Pn	02 16 12.9	+1.0		
	baz=207									
U38A	Gravette	3.27	86			Pn	02 16 13.4	+0.4		
U38A	Gravette	3.27	86	P		Pn	02 16 13.4	+0.4		
	baz=268,SNR=42									
HHAR	Hobbs	3.63	88			Pn	02 16 18.1	+0.1		
HHAR				IAmb_Lg			02 17 21.3			
	comp=Z,99nm,0.8s									
ABTX	Abilene, Hawle	3.76	196			Pn	02 16 19.5	-0.3		
ABTX				IAmb_Lg			02 17 18.7			
	comp=Z,50nm,0.7s									
ABTX	Abilene, Hawle	3.76	196	P		Pb	02 16 29.7	+1.5		
	baz=15									
Z38A	Mt. Pleasant	4.12	136			Pn	02 16 24.6	-0.1		
MSTX	Muleshoe	4.23	239			Pn	02 16 25.7	-0.6		
MSTX				IAmb_Lg			02 17 40.7			
	comp=Z,50nm,0.7s									
MSTX	Muleshoe	4.23	239	Sb		Sg	02 17 33.1	-4.3		
	baz=56									
MIAR	Mount Ida	4.32	112			Pn	02 16 27.9	+0.5		
MIAR	Mount Ida	4.32	112	P		Pn	02 16 27.9	+0.5		
	baz=295,SNR=46									
MIAR				S		Sn	02 17 19.0	+1.1		
	baz=295									
MIAR	Mount Ida	4.32	112	P		Pn	02 16 28.7	+1.3		
	baz=295									
MIAR				S		Sn	02 17 19.2	+1.3		
	baz=295									
KSCO	Kaye Shedlock'	4.32	311			Pn	02 16 27.1	-0.6		
KSCO				IAmb_Lg			02 17 37.0			
	comp=Z,84nm,1.2s									
WHTX	Lake Whitney,	4.33	169			Pn	02 16 27.5	-0.1		
WHTX	Lake Whitney,	4.33	169	P		Pn	02 16 28.0	+0.4		
	baz=350									
WHTX	Lake Whitney,	4.33	169	Sb		Sb	02 17 34.4	+4.1		
	baz=350									
S39A	Bolivar	4.33	69			Pn	02 16 27.3	-0.4		
S39A	Bolivar	4.33	69	P		Pn	02 16 28.3	+0.6		
	baz=252,SNR=11									
N33A	J Bar K, Exete	4.54	9	Pn		Pn	02 16 30.1	-0.5		
N33A				IAmb_Lg			02 17 51.4			
	comp=Z,83nm,0.8s									
237A	Washetta, Mont	4.77	152	Pn		Pn	02 16 33.5	-0.1		
237A				IAmb_Lg			02 17 56.9			
	comp=Z,37nm,0.8s									
T25A	Trinidad	4.89	282			Pn	02 16 36.2	+0.7		
T25A	Trinidad	4.89	282	Sb		Sg	02 17 52.4	-6.1		
	baz=99									
MGMO	Mountain Grove	5.03	78	Pn		Pn	02 16 37.2	-0.1		
P38A	Dawn	5.13	48	P		Pn	02 16 38.8	+0.2		
	baz=230,SNR=19									
BGNE	Belgrade	5.15	2	Pn		Pn	02 16 38.6	-0.3		
BGNE	Belgrade	5.15	2	P		Pn	02 16 38.9	0.0		
	baz=182,SNR=12									
BGNE	Belgrade	5.15	2	P		Pn	02 16 39.1	+0.2		
	baz=182									
UALR	University of	5.18	105	Pn		Pn	02 16 39.4	+0.2		
R40A	Maddies Static	5.32	66	P		Pn	02 16 41.3	+0.1		
	baz=249,SNR=28									
OGNE	Ogallala	5.47	330	Pn		Pn	02 16 43.1	-0.2		
OGNE	Ogallala	5.47	330	P		Pn	02 16 45.3	+2.0		
	baz=148									
435B	Jarrell	5.50	172	Pn		Pn	02 16 43.9	+0.1		
SDCO	Great Sand Dun	5.85	287			Pn	02 16 47.0	-1.8		
SDCO	Great Sand Dun	5.85	287	P		Pn	02 16 48.3	-0.5		
	baz=103									
CLN7	Carlsbad 7	5.87	231	Pn		Pn	02 16 49.4	+0.4		
JCT	Junction City	5.87	192	P		Pb	02 17 07.6	+3.4		
	baz=11									
L34A	Svendsen Farm,	5.92	15	Pn		Pn	02 16 49.3	-0.2		
L34A	Svendsen Farm,	5.92	15	P		Pn	02 16 49.6	+0.1		
	baz=196									
P40A	Paris	6.01	55	Pn		Pn	02 16 51.7	+1.0		
CCM	Cathedral Cave	6.01	70	Pn		Pn	02 16 51.0	+0.3		
N38A	Joes South For	6.09	40			Pn	02 16 51.5	-0.2		
K31A	O'Neill	6.36	358	Pn		Pn	02 16 56.0	+0.4		
ECSD	EROS Data Cent	7.60	10			Pn	02 17 10.8	-1.7		
TX31	Lajitas Ar. Si	8.19	214			Pn	02 17 20.2	-0.5		
TXAR	Lajitas Array	8.19	214	Pn		Pn	02 17 20.6	-0.2		
	comp=Z,0.4nm,0.3s,baz=35,slow=10,SNR=19									
TXAR				Pg		Pb	02 17 49.8	+6.1		
	comp=Z,0.5nm,0.3s,baz=23,slow=13,SNR=8.0									
TXAR				Sn		Sn	02 18 52.2	-1.3		
	comp=Z,0.6nm,0.3s,baz=30,slow=13,SNR=2.6									
TXAR				Lg	Lg		02 19 36.1			
	comp=Z,1.2nm,0.3s,baz=35,slow=29,SNR=8.6									
	comp=Z,1.3nm,0.6s									
PDAR	Pinedale Array	10.77	311	Pn		Pn	02 17 56.1	-0.1		
	comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=3.8									
PDAR				Pg			02 18 42.9			
	comp=Z,0.2nm,0.3s,baz=108,slow=14,SNR=5.3									
PDAR				Lg	Lg		02 20 55.1			
	comp=Z,0.8nm,0.3s,baz=119,slow=33,SNR=6.3									
	comp=Z,0.3nm,0.5s									
ULM	Lac du Bonnet	14.11	7	Pn		Pn	02 18 36.6	-5.0		
	comp=Z,3.7nm,0.9s,baz=188,slow=14,SNR=1.8									
ULM				Sn		Sn	02 21 05.2	-13		
	comp=Z,0.2nm,0.3s,baz=164,slow=15,SNR=1.6									
ULM				Lg	Lg		02 22 36.9			
	comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=1.3									

IDC ***13*** *02:25:41.6±1.6,8°.38S×124°.66E, h0km, mb3.7/1, mbtmp3.8/5, ML3.8/4, Error ellipse: s-maj=52.3km s-min=24.5km az=78.0*

ISC 13 02:25:43.4±1.4, **8°.6S**±0°.1×**124°.6E**±0°.1, **h10**km, **n6**, σ2**s97**/8, **Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.84	211	Pn		Pn	Pb	02 26 18.4	+1.1
	51nm,0.3s,baz=10,slow=19,SNR=30								
BATI						Sn	Sn	02 26 36.8	-1.7
	155nm,0.3s,baz=90,slow=20,SNR=13								
	126nm,0.3s								
FITZ	Fitzroy Crossi	9.47	174	Pn		Pn	Pn	02 28 01.6	+1.6
	1.3nm,0.3s,baz=359,slow=12,SNR=12								
FITZ						Sn	Sn	02 29 37.0	-10
	4.3nm,0.3s,baz=323,slow=20,SNR=14								
	3.1nm,0.3s								
WRA	Warramunga Arr	14.66	141	Pn		Pn	Pn	02 29 14.2	+3.2
	0.3nm,0.3s,baz=315,slow=13,SNR=3.1								
WRA						Sn	Sn	02 31 49.0	-4.6
	0.8nm,0.3s,baz=319,slow=24,SNR=8.6								
	0.5nm,0.4s								
ASAR	Alice Springs	17.39	150	P		P	P	02 29 48.9	+1.2
	0.3nm,0.3s,baz=322,slow=12,SNR=12								
ASAR				S			Sn	02 32 51.1	-9.1
	0.9nm,0.6s,baz=320,slow=24,SNR=5.5								
	1.8nm,0.7s								
MKAR	Makanchi Array	66.80	330	P		P	P	02 36 34.4	-0.8
	0.6nm,0.7s,baz=131,slow=8.2,SNR=5.9								
	0.6nm,0.7s								
TORD	Torodi Ar. Bea	123.88	280	PKP		PKPdf	PKPdf	02 44 40.9	-1.9
	0.5nm,0.9s,baz=106,slow=0.4,SNR=1.7								

IDC ***13*** *02:48:42.3±2.9, 19°.07N×108°.09W, h0km, mb3.4/4, mbtmp3.5/6, ML3.4/2, MS3.3/14, Error ellipse: s-maj=58.9km s-min=37.5km az=38.0*

MEX ***13*** *02:48:45.2±0.3, 19°.14N×107°.91W, h10km, MD4.2*

ISC 13 02:48:44.2±1.6, **19°.1N**±0°.2×**107°.87W**±0°.09, **h10**km, **n34**, σ1**s72**/26, **mb3.4**/4, **MS3.2**/11, **Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CJM	Chamela	2.70	80	*i* P		Pn	Pn	02 49 26.2	-1.4
CJM				*e*S		Sn	Sn	02 49 58.1	-2.3
H06E1	SOCORRO T-PHAS	2.91	265	T		T	T	02 52 06.4	
H06N1	SOCORRO T-PHAS	2.96	267	T		T	T	02 52 00.5	
	SNR=78								
CDAR	Ciudad de Arme	3.65	91	*e*P		Pn	Pn	02 49 39.5	-1.3
CDAR				*e*S		Sn	Sn	02 50 22.5	-1.3
R15V		3.67	88	*e*P		Pn	Pn	02 49 40.3	-0.8
R15V				*e*S		Sn	Sn	02 50 24.6	+0.1
ANIG	Ahuacatlan	3.71	57	*i* P		Pn	Pn	02 49 40.8	-0.9
ANIG				*e*S		Sn	Sn	02 50 23.2	-2.4
COIG	Colima	3.95	88	*e*P		Pn	Pn	02 49 44.5	-0.5
COIG				*e*S		Sn	Sn	02 50 30.6	-0.8
MNGA	Volcan de Coli	4.03	84	*e*P		Pn	Pn	02 49 47.2	+1.0
MNGA				*e*S		Sn	Sn	02 50 33.2	-0.4
EZ5V		4.05	83	*e*P		Pn	Pn	02 49 46.1	-0.3
EZ5V				*e*S		Sn	Sn	02 50 33.1	-1.0
INCO	Volcan de Coli	4.05	83	*e*P		Pn	Pn	02 49 47.1	+0.5
INCO				*e*S		Sn	Sn	02 50 36.8	+2.5
JUBC	Volcan de Coli	4.08	83	*e*P		Pn	Pn	02 49 48.1	+1.2
JUBC				*e*S		Sn	Sn	02 50 36.9	+2.0
LPIG	La Paz	5.50	336	LR		LR	LR	02 51 46.1	
	comp=Z,206nm,18.4s,baz=177,slow=34								
TXAR	Lajitas Array	10.91	20	Pn		Pn	Pn	02 51 21.4	+0.9
	0.1nm,0.3s,baz=195,slow=14,SNR=11								
	1.1nm,0.9s								
CMIG	Matias Romero	12.50	97	Pn		Pn	Pn	02 51 45.2	+2.9
	0.3nm,0.3s,baz=288,slow=13,SNR=5.9								
CMIG				LR		LR	LR	02 56 19.2	
	comp=Z,376nm,19.3s,baz=276,slow=36								
	0.9nm,0.3s								
ANMO	Albuquerque	15.87	4	Pn		Pn	Pn	02 52 32.4	+4.6
	0.1nm,0.3s,baz=194,slow=9.2,SNR=7.0								
PFO	Pinyon Flats O	16.39	334	LR		LR	LR	02 57 52.6	
	comp=Z,165nm,21.2s,baz=167,slow=34								
NVAR	Mina Array Bea	21.32	337	P		P	P	02 53 30.9	-0.6
	2.3nm,0.9s,baz=161,slow=11,SNR=12								
	2.3nm,0.9s								
ELK	Elko	22.51	345	P		P	P	02 53 44.3	0.0
	0.6nm,0.5s,baz=161,slow=12,SNR=3.9								
	0.6nm,0.5s								
PDAR	Pinedale Array	23.67	357	P		P	P	02 53 55.3	-0.8
	0.5nm,0.8s,baz=169,slow=10,SNR=3.8								
PDAR				LR		LR	LR	03 03 25.9	
	comp=Z,15nm,21.2s,baz=152,slow=37								
	0.5nm,0.8s								
YBH	Yreka Blue Hor	25.89	334	LR		LR	LR	03 04 04.4	
	comp=Z,43nm,18.5s,baz=158,slow=36								
BBB	Bella Bella	36.66	339	LR		LR	LR	03 09 49.1	
	comp=Z,45nm,18.7s,baz=156,slow=35								
SDV	Santo Domingo	37.44	100	LR		LR	LR	03 11 26.4	
	comp=Z,26nm,20.3s,baz=266,slow=36								
ATAH	Atahualpa	39.01	129	LR		LR	LR	03 08 53.1	
	comp=Z,116nm,18.6s,baz=311,slow=31								
SJG	San Juan	39.48	84	LR		LR	LR	03 12 11.8	
	comp=Z,34nm,20.8s,baz=260,slow=36								
NNA	Nana	43.44	133	LR		LR	LR	03 11 10.3	
	comp=Z,55nm,19.4s,baz=302,slow=31								
ILAR	Eielson Array	52.53	340	P		P	P	02 57 55.7	-1.7
	1.2nm,0.9s,baz=153,slow=5.9,SNR=10								
	1.2nm,0.9s								
LPAZ	La Paz	52.55	129	LR		LR	LR	03 17 16.8	
	comp=Z,43nm,21.6s,baz=287,slow=32								
MDP	Montagnes des	55.52	97	LR		LR	LR	03 23 00.6	
	comp=Z,23nm,20.3s,baz=144,slow=37								
LVC	Limon Verde	56.25	136	LR		LR	LR	03 16 04.0	
	comp=Z,20nm,19.5s,baz=286,slow=29								
SIV	San Ignacio	57.73	124	LR		LR	LR	03 20 59.7	
	comp=Z,45nm,18.5s,baz=274,slow=34								
H03N2	Juan Fernandez	59.07	152	T		T	T	04 02 52.6	
	baz=329,slow=77,SNR=17								
H03N1	Juan Fernandez	59.08	152	T		T	T	04 02 53.8	
	baz=329,slow=77,SNR=16								
H03N3	Juan Fernandez	59.08	152	T		T	T	04 02 51.7	
	baz=329,slow=77,SNR=15								
CMAR	Chiang Mai Arr	134.35	323	PKP		PKPdf	PKPdf	03 08 02.8	-0.5
	0.7nm,0.4s,baz=66,slow=2.3,SNR=1.4								

IDC ***13*** *02:50:51.6±5.7, 4°.64S×27°.81E, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=135.1km s-min=33.6km az=179.0*

ISC 13 02:50:52.2±1.2, **4°.77S**±0°.07×**28°.00E**±0°.09, **h10**km, **n8**, σ3**s23**/13, **mb3.8**/3, **Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	4.96	34	*e*P		Pn	Pn	02 52 07.4	+0.4
MBAR				*e*S		Sn	Sb	02 53 20.5	+1.3
KIL	Kilembe	5.33	22	*e*P		Pg	Pg	02 52 29.9	-4.5
KIL				*e*S		Sn	Sb	02 53 34.3	+4.5
KARM1	KARONGA	7.79	132	*i* P		Pn	Pn	02 52 49.3	+3.5
KARM1				S		Sn	Sn	02 54 10.2	-3.9
KMBO	Kilima Mbogo	9.92	69	Pn		Pn	Pn	02 53 15.9	+0.7
	0.5nm,0.3s,baz=230,slow=19,SNR=6.8								
KMBO				Sn		Sn	Sn	02 55 06.2	-0.6
	0.4nm,0.3s,baz=226,slow=23,SNR=2.1								
KMBO				Lg		Lg	Lg	02 55 56.8	
	1.2nm,0.3s,baz=202,slow=16,SNR=9.5								
	1.6nm,0.5s								
TORD	Torodi Ar. Bea	31.61	305	P		P	P	02 57 14.2	-1.5
	1.5nm,0.8s,baz=115,slow=8.1,SNR=9.7								
	1.5nm,0.8s								
BRTR	Keskin Array B	44.58	6	P		P	P	02 59 04.7	0.0
	0.9nm,0.7s,baz=185,slow=9.8,SNR=8.7								
	0.9nm,0.7s								
MKAR	Makanchi Array	70.15	36	P		P	P	03 02 07.0	+2.0
	0.3nm,0.8s,baz=252,slow=5.5,SNR=2.3								
	0.3nm,0.8s								

DJA ***13*** *03:03:28.3±0.3, 2°.5S±3°×12°.1E±°, h10km, M3.4/10, MLv3.4/10*

IDC ***13*** *03:03:28.7±1.8, 2°.55S×121°.40E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=287.1km s-min=28.7km az=59.0*

ISC 13 03:03:29.0±1.0, **2°.49S**±0°.06×**121°.16E**±0°.08, **h10**km, **n11**, σ1**s28**/14, **mb3.0**/3, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	1.45	248	P		Pn	Pn	03 03 54.0	-1.3
TTSI				S		Sn	Sn	03 04 14.1	-0.3
APSI	Ampana	1.64	17	P		Pn	Pn	03 03 56.5	-1.5
APSI				S		Sn	Sn	03 04 19.1	-0.1
SPSI	Sidrap Palu	2.02	223	P		Pn	Pn	03 04 02.5	-0.6
SPSI				S		Sn	Sn	03 04 28.6	+0.2
LUWI	Luwuk	2.16	48	P		Pn	Pn	03 04 04.8	-0.3
BKSI	Bulukumba	3.00	200	P		Pn	Pn	03 04 15.5	-1.1
MRSI	Marisa	3.05	15	P		Pn	Pn	03 04 15.5	-1.8
MPSI	Mapaga	3.08	336	P		Pn	Pn	03 04 16.8	-1.0
GTOI	Gorontalo	3.62	31	P		Pn	Pn	03 04 24.3	-0.8
WRA	Warramunga Arr	21.60	144	P		P	P	03 08 18.5	-0.8
	0.6nm,0.9s,baz=319,slow=12,SNR=5.1								
	0.6nm,0.9s								
ASAR	Alice Springs	24.40	151	P		P	P	03 08 47.3	-0.5
	0.2nm,0.5s,baz=322,slow=7.4,SNR=1.9								
	0.2nm,0.5s								
MKAR	Makanchi Array	59.80	330	P		P	P	03 13 37.1	+2.6
	0.4nm,0.7s,baz=134,slow=6.9,SNR=3.6								
	0.4nm,0.7s								

NEIC ***13*** *03:56:14.1±1.8, 14°.4S±0°.1×178°.2W±0°.2, h392km±12km, mb4.2/16, Error ellipse: s-maj=23.2km s-min=17.9km az=112.0*

NOU ***13*** *03:56:20.4, 14°.52S×178°.90W, h401km, mb4.4/11, Fiji Islands Region*

IDC ***13*** *03:56:22.3±1.8, 14°.81S×179°.09W, h411km±25km, mb3.3/6, mbtmp4.2/8, Error ellipse: s-maj=83.9km s-min=15.4km az=152.0*

ISC 13 03:56:20.6±0.6, **15°.1S**±0°.1×**178°.73W**±0°.10, **h400**km, **n39**, σ1**s51**/39, **mb4.1**/14, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGTI	Dogotuki	1.93	230	P		Pn	Pn	03 57 17.6	+1.5
TAVE	Taveuni	2.00	214	P		Pn	Pn	03 57 18.9	+2.4
MSVF	Nonsavu	4.08	229	P		Pn	Pn	03 57 36.0	+2.4
	44nm,0.5s,baz=208,slow=21,SNR=59								
MSVF				S		S	S	03 58 34.1	+1.4
	14nm,1.0s,baz=119,slow=22,SNR=1.4								
MSVF	Nonsavu	4.08	229	Pn		Pn	Pn	03 57 35.7	+2.2
MSVF	Nonsavu	4.08	229	P		Pn	Pn	03 57 36.2	+2.7
FUNA	Funafuti	6.79	342	Pn		Pn	Pn	03 57 50.7	-11
AFI	Afiamalu	6.83	81	P		P	P	03 58 03.1	0.0
	66nm,0.5s,baz=302,slow=4.3,SNR=7.5								
AFI	Afiamalu	6.83	81	P		P	P	03 58 03.1	0.0
MARNC	Mare, Loyalty	14.10	241	P		P	P	03 59 24.4	+1.0
MARNC	Mare, Loyalty	14.10	241	P		P	P	03 59 24.4	+1.0
RAO	Raoul Island	14.16	177	P		P	P	03 59 22.7	-1.1
LIFNC	LIFOU	14.51	245	P		P	P	03 59 27.2	-0.6
OUENC	Ouen Island, N	15.50	240	P		P	P	03 59 40.4	+1.9
DZM	Mont Dzumac	15.69	241	P		P	P	03

KSADO	Andong	0.68	344	P		Pg	04 09 22.0	+0.1
	SNR=53							
EUSB	Uiseong	0.71	326	P		Pg	04 09 22.7	+0.1
	SNR=9.3							
YODB	Yeongdeok	0.79	14	P		Pg	04 09 24.0	-0.1
	SNR=19							
KSGUM	GUMI	0.86	304	P		Pg	04 09 25.5	+0.1
	SNR=7.5							
YEYB	Yeongyang	0.87	355	P		Pg	04 09 25.4	-0.1
	SNR=30							
KSGIC	Gimchen	0.93	290	P		Pg	04 09 26.5	-0.2
	SNR=43							
HACA	Hapcheon Acc B	0.94	249	P		Pg	04 09 27.0	0.0
	SNR=15							
KSULJ	Uljin	0.96	11	P		Pg	04 09 27.0	-0.2
	SNR=37							
KSSAJ	Sangju	1.05	308	P		Pg	04 09 28.8	-0.1
	SNR=13							
DUSB	Deogyusan	1.15	277	P		Pb	04 09 30.4	-0.4
	SNR=39							
CHYB	Chungyang	1.20	350	P		Pb	04 09 32.0	+0.3
	SNR=7.4							
YOJB	Youngju	1.23	334	P		Pn	04 09 31.8	-0.2
	SNR=11							
JTU	Tsushima	1.25	172	P		Pn	04 09 32.1	-0.1
JTU				*e*S		Sb	04 09 48.4	-0.1
OKCB	Cheongsan-myeo	1.27	298	P		Pn	04 09 32.3	-0.2
	SNR=12							
KSMGY	Mungyeong	1.27	315	P		Pn	04 09 32.5	-0.1
	SNR=13							
KSBON	Boeun	1.34	304	P		Pg	04 09 34.8	+0.3
	SNR=11							
YKDB	Yokjido	1.36	213	P		Pn	04 09 34.0	+0.2
	SNR=18							
KSTBA	Taebaek	1.37	352	P		Pn	04 09 34.3	+0.2
	SNR=29							
JTSM	Tsushimamitsus	1.43	173	*i* P		Pn	04 09 35.0	+0.2
JTSM				*e*S		Sn	04 09 53.7	+0.2
KSCHJ	Chungju	1.48	319	P		Pn	04 09 36.1	+0.7
	SNR=8.7							
KSJEO	Jeonju	1.54	277	P		Pb	04 09 37.0	-0.5
	SNR=24							
JII	Iki	2.01	167	*e*S		Sb	04 10 10.6	0.0
JTY	Toyota	2.15	133	*e*S		Sb	04 10 14.2	-0.4

JMA ***13*** *04:16:03.8±0.3,36°N±1°×12°9E±°, h0km,MV2.8/8,S KOREAN PENINSULA REG*
KMA ***13*** *04:16:04.6±0.0,35°.80N×129°.13E,h5km,Error ellipse: s-maj=0.6km s-min=0.4km az=298.0*
ISC 13 04:16:04.3±1.3,35°.78N±0°.03×129°.16E±0°.04,h9km±11km, n37,σ0s88/39,South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSDAG	Daegu	0.21	267	P		Pg		04 16 09.3	+0.7
	SNR=227								
YOCB	Yeongcheon	0.26	320	P		Pg		04 16 10.2	+0.7
	SNR=30								
MIYA	Miryang-si	0.44	230	P		Pg		04 16 13.1	+0.2
	SNR=12								
KSPHA	Pohang	0.45	23	P		Pg		04 16 13.3	+0.2
	SNR=23								
KSDAU	Deagu-acc	0.45	284	P		Pg		04 16 13.5	+0.4
	SNR=42								
KSBUS	Busan	0.53	184	P		Pg		04 16 14.2	-0.4
	SNR=21								
KSCHR	CHANGNYEONG	0.59	247	P		Pg		04 16 15.7	0.0
	SNR=14								
KSADO	Andong	0.65	345	P		Pg		04 16 17.0	+0.1
	SNR=34								
EUSB	Uiseong	0.69	327	P		Pb		04 16 18.0	-0.5
	SNR=14								
YODB	Yeongdeok	0.78	15	P		Pb		04 16 20.0	0.0
	SNR=7.9								
KSGUM	GUMI	0.84	303	P		Pb		04 16 20.5	-0.5
	SNR=9.3								
EURB	Uiryeong-eup	0.84	238	P		Pg		04 16 20.1	-0.4
	SNR=6.2								
YEYB	Yeongyang	0.85	356	P		Pg		04 16 20.4	-0.1
	SNR=47								
KSGIC	Gimchen	0.91	290	P		Pg		04 16 21.5	-0.2
	SNR=53								
HACA	Hapcheon Acc B	0.94	247	P		Pg		04 16 22.0	-0.3
	SNR=12								
KSULJ	Uljin	0.94	12	P		Pg		04 16 22.0	-0.4
	SNR=57								
KSSAJ	Sangju	1.02	308	P		Pg		04 16 23.8	-0.2
	SNR=12								
DUSB	Deogyusan	1.13	276	P		Pb		04 16 25.4	-0.6
	SNR=54								
CHYB	Chungyang	1.18	350	P		Pb		04 16 26.2	-0.6
	SNR=9.3								
YOJB	Youngju	1.21	335	P		Pb		04 16 26.8	-0.5
	SNR=37								
OKCB	Cheongsan-myeo	1.24	297	P		Pn		04 16 27.5	-0.3
	SNR=13								
KSMGY	Mungyeong	1.25	315	P		Pn		04 16 27.4	-0.4
	SNR=23								
JTU	Tsushima	1.27	171	*e*P		Pn		04 16 27.1	-1.0
JTU				*e*S		Sb		04 16 43.4	-1.3
KSBON	Boeun	1.31	304	P		Pg		04 16 29.0	-0.5
	SNR=17								
KSTBA	Taebaek	1.35	353	P		Pn		04 16 29.3	-0.1
	SNR=34								
YKDB	Yokjido	1.36	212	P		Pb		04 16 30.0	+0.1
	SNR=6.7								
JTSM	Tsushimamitsus	1.45	173	P		Pn		04 16 30.0	-0.6
JTSM				*e*S		Sn		04 16 48.8	-0.9
KSCHJ	Chungju	1.45	319	P		Pb		04 16 31.0	-0.4
	SNR=15								
NAWB	Namwon	1.48	257	P		Pb		04 16 31.5	-0.3
	SNR=11								
KSJEO	Jeonju	1.52	276	P		Pb		04 16 32.2	-0.5
	SNR=27								
JECH	Jecheon	1.58	331	P		Pb		04 16 33.1	-0.5
	SNR=5.1								
KSJEU	Jeongeup	1.84	262	P		Pb		04 16 37.1	-0.9
	SNR=16								
KSKWJ	Gwangju	1.87	251	P		Pn		04 16 37.5	+1.1
	SNR=18								
BOSB	Boseong-gun	1.89	238	P		Pn		04 16 37.6	+1.0
	SNR=18								
JII	Iki	2.04	166	*e*S		Sn		04 17 06.2	+2.0
JTY	Toyota	2.18	134	*e*S		Sn		04 17 09.1	+1.5
JFA	Akaike	2.46	146	*e*S		Sn		04 17 17.8	+3.1

IDC ***13*** *04:16:20.3±1.0,49°.86S×122°.24E,h0km,mb4.0/6, mbtmp4.0/6,MS3.4/10,Error ellipse: s-maj=47.1km s-min=20.0km az=103.0*
ISC 13 04:16:22.0±1.1,49°.9S±0°.1×122°.2E±0°.3,h10km,n15, σ0s51/7,mb3.9/6,MS3.3/10,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	16.08	335	T		T		04 36 41.5	
	baz=159,slow=74,SNR=12								
H01W2	Cape Leeuwin H	16.08	335	T		T		04 36 40.0	
	baz=159,slow=74,SNR=12								
H01W3	Cape Leeuwin H	16.09	335	T		T		04 36 41.0	
	baz=159,slow=74,SNR=10								
STKA	Stephens Creek	23.06	46	P		P		04 21 27.2	-0.2
	3.4nm,0.8s,baz=205,slow=14,SNR=3.9								
STKA						LR	LR	04 29 05.1	
	comp=Z,61nm,18.8s,baz=205,slow=33 3.4nm,0.8s								
ASAR	Alice Springs	27.70	24	P		P		04 22 09.9	-0.3
	2.8nm,1.0s,baz=189,slow=9.5,SNR=10								
ASAR						LR	LR	04 31 59.0	
	comp=Z,110nm,21.0s,baz=112,slow=34 2.8nm,1.0s								
WRA	Warramunga Arr	31.37	22	P		P		04 22 42.6	-0.3
	0.7nm,0.7s,baz=193,slow=9.7,SNR=0.9								
WRA						LR	LR	04 34 03.1	
	comp=Z,117nm,21.0s,baz=214,slow=34 0.7nm,0.7s								
VNDA	Vanda	31.52	165	P		P		04 22 43.9	+0.2
	1.2nm,0.9s,baz=297,slow=6.9,SNR=6.4								
VNDA						LR	LR	04 34 36.2	
	comp=Z,67nm,19.2s,baz=300,slow=35 1.2nm,0.9s								
FITZ	Fitzroy Crossi	31.80	6	LR		LR	LR	04 34 13.5	
	comp=Z,60nm,20.9s,baz=180,slow=34								
CTA	Charters Tower	35.33	41	LR		LR	LR	04 35 59.6	
	comp=Z,40nm,21.9s,baz=256,slow=33								
QSPA	South Pole Qui	40.27	180	LR		LR		04 39 22.4	
	comp=Z,84nm,20.1s,baz=334,slow=34								
PMG	Port Moresby	45.34	36	LR		LR		04 42 12.6	
	comp=Z,35nm,21.7s,baz=117,slow=34								
SNAA	Sanae	52.74	199	P		P		04 25 35.8	-0.5
	4.5nm,1.0s,baz=132,slow=7.8,SNR=8.7								
SNAA						LR	LR	04 46 27.2	
	comp=Z,79nm,20.0s,baz=122,slow=34 4.5nm,1.0s								
GUMO	Guam	66.24	24	LR		LR		04 54 01.5	
	comp=Z,21nm,21.4s,baz=112,slow=34								
CMAR	Chiang Mai Arr	71.06	337	P		P		04 27 40.5	+0.4
	0.7nm,0.3s,baz=192,slow=6.2,SNR=7.1 0.7nm,0.3s								
PDAR	Pinedale Array	144.16	81	PKP		PKPab		04 35 55.9	+0.6
	0.3nm,0.8s,baz=205,slow=1.9,SNR=2.9								

IDC ***13*** *04:16:37.8±1.0,58°.92S×22°.74W,h0km,mb3.9/5, mbtmp4.1/6,MS3.0/6,Error ellipse: s-maj=37.1km s-min=27.2km az=63.0*
ISC 13 04:16:39.0±0.8,58°.9S±0°.1×22°.7W±0°.2,h10km,n18, σ0s72/14,mb4.0/5,MS2.8/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.21	159	P		P		04 19 47.4	+1.1
VNA3	Neumayer Olymp	13.47	162	P		Pn		04 19 50.2	+0.3
VNA3				S		Sn		04 22 05.9	-14
VNA2	Neumayer--Watz	13.60	158	P		Pn		04 19 51.8	+0.1
	baz=321,slow=14								
VNA2				S		Sn		04 22 09.0	-14
SNAA	Sanae	15.11	156	P		Pn		04 20 12.1	-0.2
SNAA				S		Sn		04 22 46.1	-13
SNAA	Sanae	15.11	156	Pn		Pn		04 20 11.9	-0.4
	10nm,0.3s,baz=325,slow=15								
SNAA						Sn	Sn	04 22 42.4	-17
	0.1nm,0.3s,baz=34,slow=14,SNR=2.0								
SNAA						LR	LR	04 25 28.7	
	comp=Z,57nm,18.8s,baz=351,slow=35								
TROLL	Troll, Antarti	16.57	152	P		P		04 20 32.6	-1.2
TROLL				S		Sn		04 23 23.7	-11
PMSA	Palmer Station	20.06	236	LR		LR		04 27 13.3	
	comp=Z,50nm,21.8s,baz=50,slow=32								
QSPA	South Pole Qui	31.31	180	P		P		04 22 59.4	+0.3
	0.8nm,0.7s,baz=223,slow=4.2,SNR=2.3 0.8nm,0.7s								
PLCA	Paso Flores	34.90	280	P		P		04 23 30.8	+0.2
	2.3nm,1.0s,baz=180,slow=7.1,SNR=2.2								
PLCA						LR	LR	04 35 37.9	
	comp=Z,20nm,21.8s,baz=136,slow=33 2.3nm,1.0s								
BDFB	Brasilia	47.10	326	P		P		04 25 11.7	+0.6
	1.4nm,0.7s,baz=180,slow=11,SNR=2.1 1.4nm,0.7s								
LVC	Limon Verde	48.83	298	LR		LR		04 46 17.4	
	comp=Z,7.8nm,20.6s,baz=157,slow=36								
LPAZ	La Paz	54.00	302	P		P		04 26 02.8	-1.2
	1.0nm,0.5s,baz=171,slow=5.7,SNR=2.9 1.0nm,0.5s								
NNA	Nana	61.73	296	LR		LR		04 52 03.7	
	comp=Z,18nm,21.7s,baz=158,slow=34								
TORD	Torodi Ar. Bea	74.52	25	P		P		04 28 17.8	+0.2
	0.9nm,0.7s,baz=204,slow=5.6,SNR=7.3 0.9nm,0.7s								
SDV	Santo Domingo	77.76	311	LR		LR		05 01 56.4	
	comp=Z,28nm,21.6s,baz=92,slow=35								
SONM	Songino Array	148.44	88	PKPbc		PKPbc		04 36 24.9	0.0
	0.6nm,0.3s,baz=241,slow=1.5,SNR=3.3								
INK	Inuvik	149.58	317	PKPbc		PKiKP		04 36 27.4	-0.5
	2.9nm,1.0s,baz=55,slow=4.0,SNR=4.4								
ILAR	Eielson Array	153.82	307	PKPbc		PKiKP		04 36 37.7	+0.9
	0.5nm,0.8s,baz=107,slow=0.9,SNR=2.3								

ROM 13 04:23:25.6±0.1,42°.564N±0°.003×13°.286E±0°.004, h10km,ML1.8/17,12C-4D,Error ellipse: s-maj=0.3km s-min=0.3km az=99.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RM33	Pellescritta (	0.08	224	⇑P			Pg	04 23 28.3	+0.3
RM33						AML	AML		
	comp=E,2895μm,0.6s								
RM33						AML	AML		
	comp=N,2475μm,0.3s								
RM33						AML	AML		
	comp=E,2900μm,0.6s								
RM33						AML	AML		
	comp=N,2465μm,1.0s								
RM33						AML	AML		
	comp=E,2835μm,0.6s								
RM33						AML	AML		
	comp=E,2840μm,0.6s								
RM33						AML	AML		
	comp=N,2470μm,0.3s								
RM33						AML	AML		
	comp=N,2465μm,1.0s								
RM33	Pellescritta (	0.08	224			AML	AML		
	comp=E,2840μm,0.6s								
RM33						AML	AML		
	comp=E,2900μm,0.6s								
RM33						AML	AML		
	comp=N,2465μm,1.0s								
RM33						AML	AML		
	comp=E,2835μm,0.6s								
RM33						AML	AML		
	comp=N,2475μm,0.3s								
RM33						AML	AML		
	comp=N,2470μm,0.3s								
RM33						AML	AML		
	comp=N,2465μm,1.0s								
RM33						AML	AML		
	comp=E,2840μm,0.6s								
RM33						AML	AML		
	comp=E,2900μm,0.6s								
RM33						AML	AML		
	comp=E,2900μm,0.6s								
RM33						AML	AML		
	comp=N,2470μm,0.3s								
RM33						AML	AML		
	comp=N,2465μm,1.0s								
SMA1	SAN MARTINO	0.08	29	P		Pg		04 23 28.4	+0.4
SMA1						S	Sg	04 23 30.1	+0.3
SMA1						AML	AML		
	comp=E,7275μm,0.2s								
SMA1						AML	AML		
	comp=N,5695μm,1.0s								
SMA1						AML	AML		
	comp=E,7275μm,0.2s								
SMA1						AML	AML		
	comp=N,5695μm,1.0s								
SMA1						AML	AML		
	comp=N,86μm,0.1s								
SMA1						AML	AML		
	comp=E,150μm,0.1s								
SMA1						END			
SMA1	SAN MARTINO	0.08	29	S		Sg		04 23 30.1	+0.3
SMA1						AML	AML		
	comp=E,7275μm,0.2s								
SMA1						AML	AML		
	comp=N,5695μm,1.0s								
CAMP	Campotosto	0.10	107	P		Pg		04 23 28.7	+0.4
CAMP				S		Sg		04 23 30.6	+0.4
CAMP						AML	AML		
	comp=E,932μm,0.3s								
CAMP						AML	AML		
	comp=N,1040μm,0.3s								
CAMP	Campotosto	0.10	107			AML	AML		
	comp=E,932μm,0.3s								
CAMP						AML	AML		
	comp=E,932μm,0.3s								
CAMP						AML	AML		
	comp=N,1040μm,0.3s								
CAMP						AML	AML		
	comp=N,1040μm,0.3s								
CAMP						AML	AML		
	comp=E,932μm,0.3s								
T1204	Amatrice, Fraz	0.11	11	P		Pg		04 23 28.9	+0.3
T1204				S		Sg		04 23 31.1	+0.4
T1204						END			
T1204	Amatrice, Fraz	0.11	11	⇑P			Pg	04 23 28.9	+0.4
T1204						AML	AML		
	comp=E,932μm,0.1s								
T1204						AML	AML		
	comp=N,901μm,0.6s								
T1247	Pizzolo (AQ)	0.12	176	P		Pg		04 23 29.1	+0.6
T1247						AML	AML		
	comp=E,835μm,0.5s								
T1247						AML	AML		
	comp=N,834μm,1.0s								
T1247						AML	AML		
	comp=E,834μm,0.5s								
T1247						AML	AML		
	comp=N,834μm,1.0s								
T1202	Accumoli, Fraz	0.15	342	⇑P		Pg		04 23 29.6	+0.6
T1202						S	Sg	04 23 32.4	+1.0
T1243	Rocca Santa Ma	0.18	42	⇑P		Pg		04 23 29.9	+0.4
T1243						S	Sg	04 23 33.1	+0.8
LNSS	Leonessa	0.19	282	⇑P		Pg		04 23 30.1	+0.5
LNSS						S	Sg	04 23 33.5	+1.1
LNSS						AML	AML		
	comp=E,1002μm,0.7s								
LNSS						AML	AML		
	comp=E,1004μm,0.7s								
LNSS						AML	AML		
	comp=N,990μm,0.2s								
LNSS						AML	AML		
	comp=N,990μm,0.2s								
LNSS						AML	AML		
	comp=E,1003μm,0.7s								
LNSS						AML	AML		
	comp=E,1003μm,1.3s								
LNSS	Leonessa	0.19	282			AML	AML		
	comp=E,227μm,0.3s								
LNSS						AML	AML		
	comp=N,266μm,0.1s								
LNSS						AML	AML		
	comp=E,1004μm,0.7s								
LNSS						AML	AML		
	comp=N,990μm,0.2s								
LNSS						AML	AML		
	comp=N,990μm,0.2s								
LNSS						AML	AML		
	comp=E,1003μm,0.7s								
LNSS						AML	AML		
	comp=N,990μm,0.2s								
LNSS						AML	AML		
	comp=E,1003μm,1.3s								
TERO	Teramo	0.24	76	⇑P		Pg		04 23 31.0	+0.4
TERO						AML	AML		
	comp=N,432μm,0.4s								
TERO						AML	AML		
	comp=E,562μm,0.3s								
TERO						AML	AML		
	comp=N,432μm,1.6s								
T1242	Castelluccio d	0.27	347	P		Pg		04 23 31.6	+0.4
T1242				END					
T1242	Castelluccio d	0.27	347	P		Pg		04 23 31.8	+0.7
T1242				S		Sb		04 23 36.4	-1.0
T1242						AML	AML		
	comp=E,196μm,0.4s								
T1242						AML	AML		
	comp=N,235μm,0.3s								
T1242						AML	AML		
	comp=N,236μm,0.3s								
T1242						AML	AML		
	comp=E,196μm,1.6s								
T1242						AML	AML		
	comp=N,236μm,1.7s								
NRCA	Norcia	0.30	335	P		Pg		04 23 32.0	+0.4
NRCA				S		Sb		04 23 36.9	-1.2
NRCA						AML	AML		
	comp=E,592μm,0.5s								
NRCA						AML	AML		
	comp=N,568μm,0.1s								
NRCA						AML	AML		
	comp=E,592μm,0.5s								
NRCA						AML	AML		
	comp=N,568μm,0.1s								
NRCA						AML	AML		
	comp=N,568μm,0.1s								
NRCA						AML	AML		
	comp=E,592μm,0.5s								
NRCA						AML	AML		
	comp=E,61μm,0.2s								
NRCA						AML	AML		
	comp=N,65μm,0.1s								
NRCA						AML	AML		
	comp=N,44μm,0.1s								
NRCA						AML	AML		
	comp=E,77μm,0.2s								
NRCA						END			
NRCA	Norcia	0.30	335	P		Pg		04 23 31.7	+0.1
NRCA				S		Sg		04 23 36.8	+1.1
NRCA						AML	AML		
	comp=N,368μm,0.4s								
NRCA						AML	AML		
	comp=E,365μm,0.5s								
T1217	Poggiodomo (PG	0.30	300	⇑P		Pg		04 23 31.9	+0.3
T1241	Roccafluvione,	0.31	20	P		Pg		04 23 32.5	+0.7
T1241						AML	AML		
	comp=E,91μm,0.2s								
T1241						AML	AML		
	comp=N,86μm,0.4s								
T1241						AML	AML		
	comp=E,117μm,0.4s								
T1241						AML	AML		
	comp=N,100μm,0.8s								
T1241						AML	AML		
	comp=N,100μm,0.8s								
T1241						AML	AML		
	comp=E,117μm,0.4s								
T1241				END					
T1241	Roccafluvione,	0.31	20	P		Pg		04 23 32.5	+0.6
T1241						AML	AML		
	comp=E,117μm,0.4s								
T1241						AML	AML		
	comp=N,100μm,0.8s								
T1241						AML	AML		
	comp=N,100μm,0.8s								
T1241						AML	AML		
	comp=E,117μm,0.4s								
T1241						AML	AML		
	comp=N,100μm,1.2s								
T1241						AML	AML		
	comp=E,117μm,1.6s								
FIAM	Fiamignano	0.32	203	P		Pg		04 23 32.6	+0.6
FIAM				S		Sb		04 23 37.6	-1.1
MMO1	Montemonaco	0.34	5	P		Pg		04 23 32.8	+0.5
MMO1				S		Sb		04 23 38.4	-0.8
MC2	Monte Cornacci	0.36	349	⇓P		Pb		04 23 33.5	-0.6
T1216	Preci, Frazion	0.38	329	P		Pg		04 23 33.6	+0.5
ARRO	Arrone	0.39	272	⇑P		Pg		04 23 33.5	+0.3
ARRO						AML	AML		
	comp=E,124μm,1.1s								
ARRO						AML	AML		
	comp=N,88μm,0.3s								
AM05	Amandola Campo	0.42	7	⇑P		Pb		04 23 34.4	-0.6
AM05						AML	AML		
	comp=N,202μm,0.1s								
AM05						AML	AML		
	comp=E,175μm,0.8s								
AM05						AML	AML		
	comp=E,175μm,1.2s								
VCEL	Villa Celiera	0.44	112	⇓P		Pb		04 23 35.5	0.0
VCEL						AML	AML		
	comp=N,390μm,0.6s								
VCEL						AML	AML		
	comp=E,436μm,0.4s								
VCEL						AML	AML		
	comp=N,390μm,1.4s								
OFFI	Offida	0.47	38	P		Pb		04 23 36.3	+0.3
OFFI						AML	AML		
	comp=E,275μm,0.6s								
OFFI						AML	AML		
	comp=N,236μm,0.4s								
OFFI						AML	AML		
	comp=E,275μm,1.4s								
FDMO	Fiordimonte	0.49	343	P		Pg		04 23 35.6	+0.3
FDMO				S		Sb		04 23 43.4	-0.2
FDMO						AML	AML		
	comp=E,57μm,0.1s								
FDMO						AML	AML		
	comp=N,53μm,1.3s								
FDMO						AML	AML		
	comp=E,57μm,0.1s								
FDMO						AML	AML		
	comp=N,53μm,1.3s								
FDMO						END			

FDMO	**Fiordimonte**	**0.49**	**343**	⇑P	Pg	04 23 35.5	+0.3
FDMO				AML	AML			
	comp=N,53μm,1.3s							
FDMO				AML	AML			
	comp=E,57μm,0.1s							
FDMO				AML	AML			
	comp=N,53μm,0.7s							
T0110	**Collepietro**	**0.50**	**133**	⇓P	Pb	04 23 35.9	-0.5
T0110				AML	AML			
	comp=N,214μm,0.6s							
T0110				AML	AML			
	comp=E,200μm,0.5s							
T0110				AML	AML			
	comp=E,200μm,1.5s							
GUMA	**Gualdo di Mace**	**0.50**	**4**	⇑P	Pg	04 23 35.5	+0.2
GUMA				AML	AML			
	comp=N,190μm,0.5s							
GUMA				AML	AML			
	comp=E,242μm,0.3s							
GUMA				AML	AML			
	comp=E,242μm,1.7s							
GUMA				AML	AML			
	comp=N,190μm,1.5s							
CESX	**Cesi**	**0.52**	**275**	⇑P	Pg	04 23 36.1	+0.3
CESX				AML	AML			
	comp=E,57μm,0.6s							
CESX				AML	AML			
	comp=N,78μm,0.6s							
CSP1	**Cessapalombo**	**0.53**	**354**	P	Pg	04 23 36.5	+0.5
CSP1				S	Sb	04 23 44.6	-0.2
CSP1				END				
ASSB	**Assisi San Ben**	**0.67**	**316**	⇓P	Pg	04 23 38.6	+0.1
ASSB				AML	AML			
	comp=E,50μm,0.7s							
ASSB				AML	AML			
	comp=N,55μm,0.3s							
ASSB	**Assisi San Ben**	**0.67**	**316**	AML	AML			
	comp=N,55μm,0.3s							
ASSB				AML	AML			
	comp=E,50μm,0.7s							
ASSB				AML	AML			
	comp=N,55μm,0.3s							
ASSB				AML	AML			
	comp=E,50μm,0.7s							
ASSB				AML	AML			
	comp=N,55μm,0.3s							
ASSB				AML	AML			
	comp=E,50μm,0.7s							
EL6	**Elcito**	**0.78**	**350**	P	Pb	04 23 41.3	+0.1
CING	**Cingoli**	**0.81**	**355**	P	Pb	04 23 41.8	0.0
CING				AML	AML			
	comp=N,33μm,0.2s							
CING				AML	AML			
	comp=E,32μm,0.9s							

*ATH **13** 04:29:59.9, 38.˚94N×23.˚30E, h10km±5km, ML2.2/6, Error ellipse: s-maj=5.2km s-min=0.8km az=326.0*
THE 13 04:29:59.6, 38.˚93N×23.˚30E, h8km±1km, ML2.2/8, Error ellipse: s-maj=1.0km s-min=0.3km az=143.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAL	**Atalanti**	**0.32**	**222**	P	Pg	04 30 06.2	+0.3
ATAL				S	Sg	04 30 10.4	+0.3
ATAL	**Atalanti**	**0.32**	**222**	P	Pg	04 30 06.6	+0.7
ATAL				S	Sg	04 30 10.9	+0.8
ATAL				AML	AML	04 30 12.0	
	comp=E,758μm,0.3s						
ATAL				AML	AML	04 30 12.2	
	comp=N,622μm,0.1s						
LKR	**Lokris**	**0.36**	**220**	P	Pg	04 30 06.4	-0.3
LKR				S	Sg	04 30 12.0	+0.5
	comp=N,870nm,0.1s						
NEO	**Neokhori**	**0.38**	**352**	P	Pg	04 30 07.2	+0.1
NEO				S	Sg	04 30 12.6	+0.4
	comp=N,768nm,0.2s						
NEO	**Neokhori**	**0.38**	**352**	P	Pg	04 30 07.2	+0.1
NEO				S	Sg	04 30 12.0	-0.1
NEO				AML	AML	04 30 14.2	
	comp=N,1608μm,0.2s						
NEO				AML	AML	04 30 14.4	
	comp=E,1468μm,0.2s						
XOR	**Xorichti**	**0.44**	**350**	P	Pg	04 30 08.3	0.0
XOR				S	Sg	04 30 14.6	+0.5
	comp=E,392nm,0.2s						
XOR	**Xorichti**	**0.44**	**350**	P	Pg	04 30 08.3	0.0
XOR				S	Sg	04 30 14.6	+0.5
XOR				AML	AML	04 30 15.2	
	comp=N,997μm,0.2s						
XOR				AML	AML	04 30 16.0	
	comp=E,607μm,0.2s						
ALNA	**Alonissos**	**0.50**	**64**	P	Pg	04 30 09.4	+0.1
ALNA				S	Sg	04 30 15.6	-0.1
AXAR	**Agios Charalam**	**0.52**	**252**	P	Pg	04 30 09.8	+0.1
AXAR				S	Sg	04 30 17.4	+0.8
	comp=E,628nm,0.2s						
AXAR	**Agios Charalam**	**0.52**	**252**	P	Pg	04 30 10.1	+0.4
AXAR				S	Sb	04 30 17.8	-0.9
AXAR				AML	AML	04 30 21.0	
	comp=N,1303μm,0.2s						
AXAR				AML	AML	04 30 21.4	
	comp=E,1190μm,0.3s						
KYMI	**Kymi, Euboea I**	**0.69**	**115**	P	Pg	04 30 13.0	0.0
KYMI				S	Sb	04 30 22.9	-0.7
	comp=E,218nm,0.4s						
KYMI	**Kymi, Euboea I**	**0.69**	**115**	P	Pg	04 30 13.2	+0.2
KYMI				S	Sb	04 30 22.9	-0.7
KYMI				AML	AML	04 30 25.6	
	comp=E,516μm,0.5s						
KYMI				AML	AML	04 30 26.1	
	comp=N,346μm,0.3s						
VIL2	**Platees**	**0.72**	**182**	P	Pb	04 30 14.3	0.0
VIL2				AML	AML	04 30 29.4	
	comp=E,442μm,0.4s						
VIL2				AML	AML	04 30 29.8	
	comp=N,364μm,0.3s						
VILL	**Villia**	**0.76**	**179**	P	Pg	04 30 14.1	-0.2
VILL				S	Sb	04 30 25.0	-0.7
	comp=N,205nm,0.4s						
MAKR	**Makrakomi, Fth**	**0.91**	**276**	P	Pg	04 30 16.7	-0.4
MAKR				S	Sb	04 30 30.2	+0.3
	comp=N,102nm,0.2s						
MAKR	**Makrakomi, Fth**	**0.91**	**276**	P	Pg	04 30 16.6	-0.5
LTK	**Loutraki**	**0.94**	**196**	P	Pg	04 30 17.4	-0.3
LOUT	**Loutraki**	**0.97**	**195**	P	Pg	04 30 17.9	-0.4
DION	**Dionisos Attik**	**0.99**	**149**	P	Pb	04 30 18.8	-0.1
DION				S	Sb	04 30 32.4	+0.3
ATHU	**Athens Univers**	**1.03**	**158**	P	Pg	04 30 19.6	+0.1
PAIG	**Paliouri**	**1.04**	**17**	P	Pg	04 30 19.0	-0.6
THL	**Klokotos Trika**	**1.18**	**303**	P	Pb	04 30 21.3	-0.9
THL				S	Sn	04 30 38.5	-0.1
	comp=N,48nm,0.4s						

*SKO **13** 04:30:38.2, 41.˚03N×22.˚31E, h15km*
BEO 13 04:30:40.5±0.4, 41.˚08N×22.˚31E, h6km±3km, ML2.2/6, 3C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	**Griva**	**0.14**	**150**	*i* Pg	Pg	04 30 41.7	-1.7
GRG				*i* Sg	Sg	04 30 44.3	-1.1
VAY	**Valandovo**	**0.31**	**39**	*e*Pg	Pg	04 30 46.0	-0.6
VAY				*e*Sg	Sg	04 30 51.1	+0.4
VAY	**Valandovo**	**0.31**	**39**	*i* Pg	Pg	04 30 46.0	-0.6
VAY				*i* Sg	Sg	04 30 51.2	+0.5
VAY				*e*Lg	Lg	04 30 52.3	
	comp=E,968nm,0.7s						
KNT	**Kendrikon**	**0.45**	**79**	*i* Pg	Pg	04 30 48.4	-0.9
KNT				*i* Sg	Sg	04 30 55.5	+0.3
STIP	**Stip**	**0.62**	**351**	*i* Pg	Pg	04 30 52.4	-0.1
STIP				*i* Sg	Sb	04 31 02.5	-0.3
STIP				*e*Lg	Lg	04 31 04.3	
	comp=E,36nm,0.3s						
THE	**Thessaloniki**	**0.67**	**132**	*i* Pg	Pg	04 30 51.3	-2.1
THE				*i* Sg	Sg	04 31 00.8	-1.2
SOH	**Sokhos**	**0.83**	**108**	*i* Pg	Pg	04 30 54.8	-1.7
SOH				*i* Sg	Sg	04 31 06.7	-0.6
SRS	**Serrai**	**0.97**	**87**	*e*Pg	Pg	04 30 58.2	-0.9
SRS				*e*Sg	Sg	04 31 11.8	+0.1
SRS	**Serrai**	**0.97**	**87**	*i* Pg	Pg	04 30 57.5	-1.6
SRS				*i* Sg	Sg	04 31 11.7	-0.1
SKO	**Skopje**	**1.10**	**324**	*e*Pg	Pg	04 31 00.5	-1.2
SKO				*e*Sg	Sg	04 31 16.2	+0.2
SKO	**Skopje**	**1.10**	**324**	*i* Pg	Pg	04 31 00.5	-1.2
SKO				*i* Sg	Sg	04 31 15.4	-0.6
SKO				*e*Lg	Lg	04 31 15.5	
	comp=E,15nm,1.2s						
OHR	**Ohrid**	**1.14**	**272**	*e*Pg	Pg	04 31 00.7	-1.7
OHR				*e*Sg	Sb	04 31 17.5	-0.3
OHR	**Ohrid**	**1.14**	**272**	*i* Pg	Pg	04 31 00.7	-1.7
OHR				*i* Sg	Sg	04 31 17.2	0.0
OHR				*e*Lg	Lg	04 31 22.5	
	comp=N,163nm,0.8s						
BOSS	**Bosilegrad**	**1.42**	**5**	*e*Pg	Pn	04 31 06.3	-0.6
BOSS				*e*Sg	Sb	04 31 25.2	-0.6
VTS	**Vitosha**	**1.69**	**24**	⇓P	Pn	04 31 10.3	-0.4
VTS	**Vitosha**	**1.69**	**24**	*e*Pn	Pn	04 31 10.2	-0.5
VTS				*e*Sg	Sg	04 31 34.3	-0.4
BARS	**Barje**	**1.77**	**348**	*e*Pg	Pn	04 31 11.5	-0.2
TIR	**Tirane**	**1.86**	**279**	⇑P	Pn	04 31 09.7	-3.2
ZAPS	**Zavoj**	**2.21**	**6**	*e*Pn	Pn	04 31 18.8	+1.1
SELS	**Selova**	**2.31**	**338**	*e*Pn	Pn	04 31 18.7	-0.5
BLKB	**Belogradchik**	**2.56**	**6**	⇓P	Pn	04 31 22.5	0.0
BOVS	**Bovan**	**2.59**	**350**	⇑P	Pn	04 31 21.9	-1.1
BOVS	**Bovan**	**2.59**	**350**	*e*Pn	Pn	04 31 22.3	-0.7
ZAGS	**Zajecar**	**2.73**	**359**	*e*Pn	Pn	04 31 24.4	-0.5
SJES	**Sjenica**	**2.79**	**322**	*e*Pn	Pn	04 31 26.5	+0.8
IVAS	**Ivanjica**	**2.96**	**328**	*e*Pn	Pn	04 31 27.9	-0.2
TRUS	**Trudelj**	**3.44**	**337**	*e*Pn	Pn	04 31 34.4	-0.2
DIVS	**Divibare**	**3.47**	**331**	*e*Pn	Pn	04 31 34.9	-0.2
BBLS	**Lazići**	**3.52**	**323**	*e*Pn	Pn	04 31 35.0	-0.7
MDVR	**Moldovita**	**3.73**	**353**	⇓P	Pn	04 31 38.0	-0.6
HERR	**Herculane**	**3.80**	**1**	⇑P	Pn	04 31 38.9	-0.7

*SKO **13** 04:51:39.4, 41.˚04N×22.˚27E, h15km*
*ATH **13** 04:51:40.2, 41.˚06N×22.˚26E, h8km±6km, ML2.8/1, Error ellipse: s-maj=7.2km s-min=1.5km az=139.0*
*THE **13** 04:51:40.7, 40.˚89N×22.˚40E, h11km, ML2.1/5, Error ellipse: s-maj=0.9km s-min=0.4km az=334.0*
*BEO **13** 04:51:41.8±0.5, 41.˚09N×22.˚30E, h4km±3km, ML2.1/6*
ISC 13 04:51:40.3±0.8, 41.˚03N±0.˚03×22.˚30E±0.˚03, h11km±6km, n32, σ0°74/54, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	**Griva**	**0.11**	**133**	P	**Pg**	**04 51 43.0**	**-0.1**
GRG				S	**Sg**	**04 51 45.1**	**-0.1**
GRG	**Griva**	**0.11**	**133**	*i* Pg	**Pg**	**04 51 43.0**	**-0.1**
GRG				*i* Sg	**Sg**	**04 51 45.5**	**+0.4**
GRG	**Griva**	**0.11**	**133**	P	**Pg**	**04 51 42.9**	**-0.2**
GRG				S	**Sg**	**04 51 45.5**	**+0.4**
GRG				AML	AML	04 51 45.6	
	comp=E,11655μm,0.3s						
GRG				AML	AML	04 51 46.3	
	comp=N,11822μm,0.6s						
VAY	**Valandovo**	**0.36**	**35**	*e*Pg	**Pg**	**04 51 47.4**	**0.0**
VAY				*e*Sg	**Sg**	**04 51 52.4**	**+0.2**
VAY	**Valandovo**	**0.36**	**35**	*i* Pg	**Pg**	**04 51 47.5**	**+0.1**
VAY				*i* Sg	**Sg**	**04 51 52.5**	**+0.4**
VAY				*e*Lg	Lg	04 51 52.6	
	comp=E,418nm,0.4s						
KNT	**Kendrikon**	**0.47**	**74**	P	**Pg**	**04 51 49.6**	**+0.1**
KNT				S	**Sg**	**04 51 56.6**	**+0.8**
	comp=E,225nm,0.4s						
KNT	**Kendrikon**	**0.47**	**74**	*i* Pg	**Pg**	**04 51 49.7**	**+0.1**
KNT				*i* Sg	**Sg**	**04 51 56.8**	**+1.0**
KNT	**Kendrikon**	**0.47**	**74**	P	**Pg**	**04 51 49.6**	**+0.1**
KNT				S	**Sg**	**04 51 56.7**	**+0.8**
THE	**Thessaloniki**	**0.64**	**128**	*i* Pg	**Pg**	**04 51 53.1**	**+0.4**
THE				*i* Sg	**Sg**	**04 52 02.1**	**+0.9**
STIP	**Stip**	**0.67**	**353**	*i* Pg	**Pb**	**04 51 53.6**	**-0.4**
HORT	**Hortiatis**	**0.74**	**125**	P	**Pg**	**04 51 54.8**	**+0.1**
HORT				S	**Sg**	**04 52 05.8**	**+1.4**
SOH	**Sokhos**	**0.82**	**104**	P	**Pg**	**04 51 54.7**	**-1.5**
SOH				S	**Sg**	**04 52 05.5**	**-1.5**
	comp=E,215nm,0.4s						
SOH	**Sokhos**	**0.82**	**104**	*i* Pg	**Pg**	**04 51 56.4**	**+0.1**
SOH	**Sokhos**	**0.82**	**104**	P	**Pg**	**04 51 56.4**	**+0.1**
KZN	**Kozani**	**0.83**	**209**	P	**Pg**	**04 51 54.8**	**-1.5**
KZN				S	**Sg**	**04 52 05.6**	**-1.5**
	comp=E,175nm,0.5s						
KZN	**Kozani**	**0.83**	**209**	P	**Pg**	**04 51 56.3**	**0.0**
KZN				S	**Sg**	**04 52 08.0**	**+0.9**
LIT	**Litokhoron**	**0.94**	**171**	*i* Pg	**Pg**	**04 51 58.7**	**+0.3**
LIT	**Litokhoron**	**0.94**	**171**	P	**Pg**	**04 51 58.5**	**+0.1**
SRS	**Serrai**	**0.98**	**84**	P	**Pg**	**04 51 57.8**	**-1.4**
SRS				S	**Sg**	**04 52 11.8**	**-0.2**
	comp=E,75nm,0.6s						
SRS	**Serrai**	**0.98**	**84**	*e*Pg	**Pg**	**04 51 59.5**	**+0.3**
SRS				*e*Sg	**Sb**	**04 52 13.0**	**+0.7**
SRS	**Serrai**	**0.98**	**84**	*i* Pg	**Pg**	**04 51 59.5**	**+0.3**
SRS	**Serrai**	**0.98**	**84**	P	**Pg**	**04 51 58.6**	**-0.6**
NEST	**Nestorio**	**1.13**	**238**	P	**Pb**	**04 52 01.6**	**-0.4**
NEST				S	**Sg**	**04 52 17.8**	**+1.0**
	comp=E,68nm,0.7s						
OHR	**Ohrid**	**1.14**	**275**	*e*Pg	**Pb**	**04 52 02.0**	**0.0**
OHR				*e*Sg	**Sn**	**04 52 18.0**	**+0.1**
OHR	**Ohrid**	**1.14**	**275**	*i* Pg	**Pb**	**04 52 02.1**	**+0.1**
OHR				*i* Sg	**Sn**	**04 52 18.3**	**+0.4**
OHR				*e*Lg	Lg	04 52 23.6	
	comp=N,126nm,1.1s						
SKO	**Skopje**	**1.14**	**326**	*i* Pg	**Pb**	**04 52 00.6**	**-1.5**
SKO				*i* Sg	**Sn**	**04 52 17.1**	**-0.8**
	comp=E,3.7nm,0.4s						
SKO				*e*Lg	Lg	04 52 18.6	
NVR	**Nevrokopi**	**1.22**	**74**	P	**Pn**	**04 52 02.8**	**-0.6**
NVR				S	**Sb**	**04 52 19.4**	**+0.1**
BOSS	**Bosilegrad**	**1.47**	**5**	*e*Pg	**Pb**	**04 52 07.6**	**-0.1**
BOSS				*e*Sg	**Sb**	**04 52 26.5**	**0.0**
VTS	**Vitosha**	**1.73**	**23**	*e*Pg	**Pb**	**04 52 11.5**	**-0.8**
VTS				*e*Sg	**Sb**	**04 52 34.3**	**+0.2**
ZAPS	**Zavoj**	**2.26**	**6**	*e*Pn	**Pb**	**04 52 19.9**	**-1.2**
SELS	**Selova**	**2.36**	**339**	*e*Pn	**Pn**	**04 52 19.9**	**+0.9**
ZAGS	**Zajecar**	**2.78**	**359**	*e*Pn	**Pn**	**04 52 25.8**	**+1.0**

*IDC **13** 04:55:13.1±4.7, 9.˚35S×121.˚63E, h59km±47km, mb3.7/2, mbtmp3.8/5, ML3.4/3, Error ellipse: s-maj=47.3km s-min=30.5km az=55.0*
*DJA **13** 04:55:16.2±1.1, 9.˚5±5.˚×12.˚2E±.˚, h22km±10km, M3.8/9, MLv3.8/9*
ISC 13 04:55:16.2±1.0, 9.˚43S±0.˚06×121.˚87E±0.˚05, h44km, n15, σ1°76/16, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.70**	**345**	P	**Pn**	**04 55 29.5**	**-0.4**
MMRI	**Maumere**	**0.87**	**25**	P	**Pn**	**04 55 32.3**	**+0.3**
MMRI				S	**Sn**	**04 55 44.1**	**+0.5**
BATI	**Baumata**	**1.93**	**114**	P	**Pn**	**04 55 48.7**	**+2.2**
	6.6nm,0.3s,baz=288,slow=6.4,SNR=2.3						
BATI				S	**Sn**	**04 56 13.3**	**+3.6**
	57nm,0.4s,baz=156,slow=10.0,SNR=4.2						
	34nm,0.3s						
BATI	**Baumata**	**1.93**	**114**	P	**Pn**	**04 55 47.7**	**+1.1**
SOEI	**Soe**	**2.38**	**98**	P	**Pn**	**04 55 55.2**	**+2.3**
WBSI	**Waikabubak, Su**	**2.46**	**265**	P	**Pn**	**04 55 54.8**	**+0.9**
WBSI				S	**Sn**	**04 56 23.4**	**+0.7**
BSSI	**Bau Bau, Buton**	**3.54**	**337**	P	**Pn**	**04 56 09.3**	**+0.6**
PLAI	**Plampang**	**4.09**	**278**	P	**Pn**	**04 56 17.2**	**+0.9**
BKSI	**Bulukumba**	**4.43**	**337**	P	**Pn**	**04 56 21.8**	**+0.8**
TWSI	**Taliwang, Sumb**	**4.98**	**278**	P	**Pn**	**04 56 29.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**9.36**	**157**	P	**Pn**	**04 57 26.6**	**-2.0**
	0.3nm,0.3s,baz=352,slow=14,SNR=9.6						
FITZ				S	Sn	04 59 00.3	-12
	1.4nm,0.3s,baz=32,slow=10,SNR=1.6						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**15.95**	**132**	P	Pn	04 58 51.6	-6.1
	0.2nm,0.3s,baz=308,slow=14,SNR=11						
WRA				S	Sn	05 01 38.2	-15
	0.8nm,0.5s,baz=305,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**18.24**	**142**	P	**P**	**04 59 24.5**	**-1.5**
	0.2nm,0.3s,baz=320,slow=12,SNR=12						
ASAR				S	Sn	05 02 33.7	-15
	0.9nm,0.8s,baz=313,slow=24,SNR=4.3						
	0.7nm,0.6s						
STKA	**Stephens Creek**	**28.87**	**144**	P	**P**	**05 01 08.6**	**-2.3**
	3.3nm,1.0s,baz=315,slow=5.7,SNR=2.7						
	3.3nm,1.0s						
MKAR	**Makanchi Array**	**66.16**	**331**	P	P	05 05 53.0	-6.2
	0.4nm,0.4s,baz=141,slow=8.0,SNR=6.7						
	0.4nm,0.4s						

*IDC **13** 04:55:46.9±6.4, 37.˚71N×75.˚79E, h87km±53km, mb3.3/3, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=63.3km s-min=26.9km az=158.0*
*NNC **13** 04:55:53.7±2.5, 38.˚00N×75.˚85E, h139km±31km, mb2.6, mpv3.5, Error ellipse: s-maj=23.0km s-min=13.6km az=178.0*
ISC 13 04:55:47.8±0.7, 37.˚68N±0.˚06×75.˚97E±0.˚07, h105km, n21, σ1°95/24, mb3.3/4, 3C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**4.58**	**210**	P	**Pn**	**04 56 58.0**	**+3.1**
CEP	**Cherat**	**5.07**	**222**	P	**Pn**	**04 57 04.7**	**+3.0**
TKM2	**Tokmak 2**	**5.24**	**357**	⇓P	**Pn**	**04 57 06.8**	**+2.8**
	6.2nm,0.6s						
TKM2				⇓S	**Sn**	**04 58 03.2**	**-0.2**
	4.5nm,0.5s						
PDGK	**Podgornoye**	**6.25**	**24**	⇓P	**Pn**	**04 57 19.9**	**+2.4**
	3.7nm,0.6s						
PDGK				⇓S	**Sn**	**04 58 28.1**	**+0.6**
	6.5nm,0.7s						
KK31	**Karatay Array**	**6.83**	**324**	⇑P	**Pn**	**04 57 26.2**	**+0.8**
	0.5nm,0.2s,baz=141,slow=11,SNR=7.4						
KK31				⇑S	**Sn**	**04 58 40.2**	**-1.5**
	1.4nm,0.3s,baz=145,slow=24,SNR=7.8						
MKAR	**Makanchi Array**	**10.24**	**25**	P	**Pn**	**04 58 12.2**	**+0.6**
	0.1nm,0.3s,baz=218,slow=16,SNR=3.2						
MKAR				S	**Sn**	**05 00 02.6**	**-1.8**
	0.5nm,0.6s,baz=179,slow=15,SNR=2.5						
	0.2nm,0.3s						
PYUN	**Piuthan**	**11.22**	**146**	*e*P	**Pn**	**04 58 23.3**	**-1.9**
	25nm,0.3s						
DANN	**Dangsing**	**11.36**	**143**	*e*P	**Pn**	**04 58 24.9**	**-2.3**
	35nm,0.4s						
GKN	**Gorkha**	**12.08**	**140**	*e*P	**Pn**	**04 58 34.3**	**-2.3**
	15nm,0.2s						
GUN	**Gumba**	**12.81**	**137**	*e*P	**Pn**	**04 58 44.5**	**-1.9**
	11nm,0.3s						
PKIN	**Phulchoki**	**12.82**	**139**	*e*P	**Pn**	**04 58 44.6**	**-1.8**
	5.5nm,0.2s						
PKI	**Phulchoki**	**12.83**	**139**	*e*P	**Pn**	**04 58 44.3**	**-2.3**
	9.6nm,0.4s						
JIRN	**Jiri**	**13.18**	**136**	*e*P	**Pn**	**04 58 49.6**	**-1.6**
	12nm,0.3s						
GEYT	**Alibeck**	**14.12**	**276**	P	**Pn**	**04 59 00.8**	**-2.3**
	0.2nm,0.3s,baz=58,slow=8.7,SNR=2.2						
	0.9nm,0.6s						
AB31	**Akbulak array**	**16.37**	**320**	⇑P	**P**	**04 59 31.1**	**-1.0**
	0.1nm,0.3s,baz=123,slow=14,SNR=6.5						
ZALV	**Zalesovo Beam**	**17.38**	**18**	P	**Pn**	**04 59 43.2**	**-0.3**
	0.4nm,0.3s,baz=206,slow=10,SNR=3.0						
	0.8nm,0.5s						
AKTO	**Aktyubinsk**	**18.08**	**321**	⇓P	**Pn**	**04 59 51.4**	**-0.6**
	0.6nm,0.5s						
SONM	**Songino Array**	**24.39**	**56**	P	**P**	**05 00 58.2**	**+1.9**
	0.5nm,0.5s,baz=268,slow=9.1,SNR=2.9						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**38.80**	**324**	P	**P**	**05 03 02.6**	**+0.7**
	1.4nm,0.8s,baz=108,slow=9.1,SNR=2.2						
	1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.70**	**271**	P	**P**	**05 06 46.0**	**-0.5**
	0.6nm,1.0s,baz=60,slow=6.8,SNR=2.1						
	0.6nm,1.0s						
WRA	**Warramunga Arr**	**79.33**	**125**	pP	pP	05 08 05.1	-5.2
	0.3nm,0.9s,baz=315,slow=6.3,SNR=1.5						

*KRSC **13** 04:58:26.1±0.7, 53.˚66N×160.˚85E, h41km±12km, ML3.8*
*IDC **13** 04:58:31.3±3.7, 53.˚47N×160.˚52E, h91km±37km, mb3.0/3, mbtmp3.3/3, Error ellipse: s-maj=42.7km s-min=31.2km az=43.0*
ISC 13 04:58:27.5±1.2, 53.˚67N±0.˚05×160.˚85E±0.˚06, h46km±13km, n32, σ0°96/44, mb3.1/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.75**	**221**	P	**Pn**	**04 58 41.4**	**-0.4**
SPN				S	**Sn**	**04 58 51.5**	**-0.7**
KII	**Karymskiy**	**0.91**	**295**	P	**Pn**	**04 58 43.8**	**-0.2**
KII				S	**Sn**	**04 58 55.5**	**-0.5**
NLC	**Nalytchevo**	**1.03**	**242**	P	**Pn**	**04 58 45.2**	**-0.3**
NLC				S	**Sn**	**04 58 58.4**	**-0.3**
MKZ	**Mys Kozlova**	**1.03**	**30**	P	**Pn**	**04 58 45.6**	**0.0**
MKZ				S	**Sn**	**04 58 58.7**	**-0.2**
SMAR	**Somma**	**1.29**	**253**	P	**Pn**	**04 58 49.6**	**+0.3**
SMAR				S	**Sn**	**04 59 05.5**	**+0.1**
UGLR	**Uglovaya**	**1.29**	**250**	P	**Pn**	**04 58 49.7**	**+0.4**
UGLR				S	**Sn**	**04 59 06.4**	**+1.0**
KRER	**Koryakskii**	**1.30**	**255**	P	**Pn**	**04 58 50.1**	**+0.6**
KRER				S	**Sn**	**04 59 06.5**	**+0.7**
AVH	**Avacha**	**1.32**	**253**	P	**Pn**	**04 58 50.3**	**+0.7**
AVH				S	**Sn**	**04 59 07.0**	**+0.9**
KRX	**Arik**	**1.35**	**258**	P	**Pn**	**04 58 50.3**	**+0.3**
KRX				S	**Sn**	**04 59 06.8**	**0.0**
KOK	**Koryaka**	**1.37**	**255**	P	**Pn**	**04 58 50.8**	**+0.5**
KOK				S	**Sn**	**04 59 07.6**	**+0.2**
DALK	**Dalny**	**1.41**	**244**	P	**Pn**	**04 58 50.8**	**+0.1**
DALK				S	**Sn**	**04 59 07.9**	**-0.1**
PET	**Petropavlovsk**	**1.46**	**245**	P	**Pn**	**04 58 51.9**	**+0.5**
PET				S	**Sn**	**04 59 09.5**	**+0.1**
TUMR	**Tumrok**	**1.67**	**346**	P	**Pn**	**04 58 55.5**	**+1.1**
GNL	**Ganaly**	**1.73**	**272**	P	**Pn**	**04 58 55.9**	**+0.7**
KRMR	**Karymshinskiy**	**1.83**	**244**	P	**Pn**	**04 58 56.7**	**+0.2**
KRMR				S	**Sn**	**04 59 18.1**	**-0.4**
RUS	**Russkaya**	**1.87**	**230**	S	**Sn**	**04 59 18.5**	**-1.0**
PETK	**Petropavlovsk-**	**1.97**	**255**	P	**Pn**	**04 58 58.5**	**+0.1**
	15nm,0.3s,baz=94,slow=19,SNR=123						
PETK				S	**Sn**	**04 59 22.6**	**+0.8**
	14nm,0.4s,baz=72,slow=34,SNR=4.5						
MTVR	**Mutnovka**	**2.00**	**235**	P	**Pn**	**04 58 59.7**	**+0.8**
MTVR				S	**Sn**	**04 59 23.3**	**+0

T1204	**Amatrice, Fraz**	**0.16**	**133**	P	Pg	05 08 48.9 +0.5
T1204				S	Sg	05 08 51.9 +0.7
T1204				AML	AML	
	comp=E,220μm,1.6s					
T1204				AML	AML	
	comp=E,225μm,1.6s					
T1204				AML	AML	
	comp=N,125μm,0.8s					
T1217	**Poggiodomo (PG**	**0.18**	**245**	P	Pg	05 08 49.1 +0.4
T1217				S	Sg	05 08 52.3 +0.8
T1215	**Vallo di Nera,**	**0.21**	**274**	⇑P	Pg	05 08 49.6 +0.5
T1215				S	Sg	05 08 53.2 +0.9
T1241	**Roccafluvione,**	**0.21**	**71**	P	Pg	05 08 49.7 +0.5
T1241				S	Sg	05 08 53.0 +0.7
T1241				AML	AML	
	comp=N,81μm,0.6s					
T1241				AML	AML	
	comp=E,93μm,0.4s					
T1241				AML	AML	
	comp=N,81μm,0.6s					
T1243	**Rocca Santa Ma**	**0.23**	**113**	⇓P	Pg	05 08 49.9 +0.3
TERO	**Teramo**	**0.37**	**116**	P	Pg	05 08 52.4 +0.4
TERO				AML	AML	
	comp=E,45μm,0.3s					
TERO				AML	AML	
	comp=N,62μm,0.3s					

JMA ***13*** *05:31:40.9±0.4,36°N±1°×12°9E±°, h9km,MV3.3/7,S KOREAN PENINSULA REG*
KMA ***13*** *05:31:42.5±0.0,35°.75N×129°.19E,h19km,Error ellipse: s-maj=0.7km s-min=0.4km az=301.0*
ISC 13 05:31:42.9±1.5,35°.77N±0°.03×129°.15E±0°.05,h20km±16km, n22,σ0°38/24,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.21**	**269**	P	**Pb**	**05 31 48.1**	**-0.1**
	SNR=548						
YOCB	**Yeongcheon**	**0.26**	**321**	P	**Pb**	**05 31 49.0**	**-0.1**
	SNR=110						
MIYA	**Miryang-si**	**0.43**	**230**	P	**Pb**	**05 31 51.7**	**-0.2**
	SNR=21						
KSDAU	**Deagu-acc**	**0.45**	**285**	P	**Pb**	**05 31 52.3**	**+0.1**
	SNR=76						
KSPHA	**Pohang**	**0.46**	**23**	P	**Pb**	**05 31 51.9**	**-0.4**
	SNR=41						
KSBUS	**Busan**	**0.52**	**184**	P	**Pb**	**05 31 52.7**	**-0.7**
	SNR=221						
KSCHR	**CHANGNYEONG**	**0.58**	**247**	P	**Pb**	**05 31 54.3**	**-0.2**
	SNR=14						
KSADO	**Andong**	**0.66**	**346**	P	**Pb**	**05 31 55.6**	**-0.2**
	SNR=237						
EUSB	**Uiseong**	**0.69**	**327**	P	**Pb**	**05 31 56.3**	**0.0**
	SNR=36						
YODB	**Yeongdeok**	**0.79**	**15**	P	**Pb**	**05 31 57.7**	**-0.3**
	SNR=63						
EURB	**Uiryeong-eup**	**0.84**	**238**	P	**Pb**	**05 31 58.6**	**-0.1**
	SNR=17						
KSGUM	**GUMI**	**0.84**	**304**	P	**Pn**	**05 31 59.2**	**-0.5**
	SNR=16						
YEYB	**Yeongyang**	**0.85**	**356**	P	**Pb**	**05 31 59.0**	**-0.1**
	SNR=120						
ADOA	**Andong Acc Bor**	**0.88**	**336**	P	**Pb**	**05 31 59.6**	**+0.1**
	SNR=11						
HACA	**Hapcheon Acc B**	**0.93**	**248**	P	**Pb**	**05 32 00.2**	**-0.1**
	SNR=48						
KSULJ	**Ulijin**	**0.95**	**12**	P	**Pb**	**05 32 00.5**	**-0.2**
	SNR=213						
KUJA	**Jangpyeong**	**0.99**	**207**	P	**Pn**	**05 32 02.0**	**+0.3**
	SNR=7.7						
JTU	**Tsushima**	**1.26**	**171**	P	**Pn**	**05 32 05.0**	**-0.4**
JTU				S	**Sn**	**05 32 21.8**	**0.0**
JTSM	**Tsushimamitsus**	**1.44**	**172**	P	**Pn**	**05 32 07.6**	**-0.3**
JTSM				S	**Sb**	**05 32 27.2**	**+0.3**
JHGM	**Hagimishima**	**1.90**	**121**	S	**Sb**	**05 32 40.2**	**0.0**
JII	**Iki**	**2.03**	**166**	*e*P	**Pn**	**05 32 16.5**	**+0.5**
JTY	**Toyota**	**2.17**	**133**	*e*P	**Pn**	**05 32 19.0**	**+1.0**

UUSS ***13*** *05:54:03.2±1.0,38°.61N±0°.02×112°.56W±0°.02,h4km±6km, ML2.6/18,ML2.6/72(NEIC),Error ellipse: s-maj=2.8km s-min=2.4km az=173.0*
NEIC 13 05:54:03.6±0.9,38°.62N±0°.02×112°.58W±0°.02,h2km±9km, Error ellipse: s-maj=2.6km s-min=2.4km az=223.0,Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCRU	**Three Creeks R**	**0.10**	**93**		Sg	05 54 07.4	+0.3
TCRU	**Three Creeks R**	**0.10**	**93**	Pg	Pg	05 54 05.6	0.0
TCRU	**Three Creeks R**	**0.10**	**93**	IAML		05 54 07.5	
	comp=E,22μm,0.3s						
TCRU				IAML		05 54 07.9	
	comp=N,12μm,0.4s						
NMUT	**North Mineral**	**0.24**	**245**		Pg	05 54 08.3	+0.1
MVU	**Marysvale**	**0.31**	**111**	Pg	Pg	05 54 09.3	-0.2
MSU	**Marysvale**	**0.33**	**108**		Pg	05 54 09.7	-0.2
IMU	**Iron Mountain**	**0.46**	**272**		Pg	05 54 12.7	+0.4
WCU	**Willow Creek**	**0.52**	**47**		Pg	05 54 13.2	-0.3
DWU	**Dry Willow Pea**	**0.61**	**213**		Pg	05 54 15.1	-0.2
MTPU	**Mount Pierson**	**0.65**	**152**		Pg	05 54 16.0	0.0
PSUT	**Pine Spring**	**1.01**	**266**		Pg	05 54 22.5	-0.4
BTU	**Barney Top**	**1.02**	**147**		Pg	05 54 23.1	0.0
BHU	**Blowhard Mount**	**1.04**	**192**		Pg	05 54 23.6	0.0
LEVU	**Levan**	**1.07**	**33**		Pg	05 54 24.3	+0.2
ARUT	**Antelope Range**	**1.07**	**220**		Pg	05 54 23.9	-0.2
MMU	**Miners Mountai**	**1.09**	**112**		Pg	05 54 23.5	-0.9
SZCU	**Shurtz Canyon**	**1.09**	**202**		Pg	05 54 23.9	-0.7
SZCU	**Shurtz Canyon**	**1.09**	**202**	IAML		05 54 43.6	
	comp=E,216nm,0.3s						
SZCU				IAML		05 54 44.1	
	comp=N,155nm,0.3s						
Q16A	**Castle Valley**	**1.14**	**74**		Pg	05 54 25.0	-0.4
PKCU	**Pink Cliffs**	**1.19**	**170**	Pg	Pg	05 54 26.2	-0.2
CCUT	**Cedar City**	**1.23**	**211**		Pg	05 54 26.6	-0.6
TMUT	**Trail Mountain**	**1.27**	**57**	Pn	Pg	05 54 27.7	-0.1
TMUT				IAML		05 54 51.6	
	comp=E,153nm,0.6s						
FSU	**Fish Springs**	**1.27**	**330**		Pg	05 54 27.8	-0.2
ZNPU	**Zion National**	**1.33**	**199**		Pg	05 54 28.2	-0.9
NLU	**North Lily Min**	**1.39**	**16**	Pn	Pn	05 54 29.9	-0.3
SPR3	**Spring Creek 3**	**1.42**	**286**	Pn	Pn	05 54 29.7	-1.0
SPR3				IAML		05 54 54.2	
	comp=E,64nm,0.5s						
SPR3				IAML		05 54 54.8	
	comp=N,68nm,0.2s						
EKU	**East Kanab**	**1.54**	**178**		Pn	05 54 32.3	+0.1
MPU	**Maple Canyon**	**1.58**	**27**	Pn	Pn	05 54 33.1	+0.4
DUG	**Dugway, Tooele**	**1.59**	**353**	Pn	Pn	05 54 32.2	-0.6
DUG				IAML		05 54 58.9	
	comp=N,57nm,0.8s						
DUG				IAML		05 54 59.1	
	comp=N,58nm,0.7s						
HMU	**Henry Mountain**	**1.59**	**115**		Pn	05 54 32.8	-0.2
KNB	**Kanab**	**1.61**	**187**	Pn	Pn	05 54 32.8	-0.3
KNB				IAML		05 54 54.4	
	comp=E,52nm,0.3s						
KNB				IAML		05 54 58.4	
	comp=N,61nm,0.7s						
P17A	**Butcher Ranch,**	**1.67**	**59**	Pn	Pn	05 54 34.0	+0.1
P17A				IAML		05 54 60.0	
	comp=E,62nm,0.6s						
P17A				IAML		05 55 01.4	
	comp=N,67nm,0.6s						
SRU	**San Rafael Swe**	**1.68**	**72**		Pn	05 54 34.2	+0.1
SRU				IAML		05 55 01.5	
	comp=N,60nm,0.5s						
SRU				IAML		05 55 04.2	
	comp=E,64nm,0.5s						
LCMT	**Little Creek M**	**1.69**	**198**	Pn	Pn	05 54 33.7	-0.4
LCMT				IAML		05 54 57.5	
	comp=E,98nm,0.2s						
LCMT				IAML		05 54 60.0	
	comp=N,71nm,0.2s						
JLU	**Jordanelle**	**2.17**	**23**	Pn	Pn	05 54 42.0	+1.1
CTU	**Camp Tracy**	**2.17**	**17**	Pn	Pn	05 54 41.9	+1.0
U15A	**North Rim**	**2.19**	**174**		Pn	05 54 42.2	+0.9
U15A				IAML		05 55 12.7	
	comp=N,57nm,0.5s						
U15A				IAML		05 55 13.9	
	comp=E,62nm,0.9s						
PRN	**Pahroc Range**	**2.30**	**239**	Pn	Pn	05 54 42.7	+0.2
BGU	**Big Grassy Mou**	**2.33**	**352**	Pn	Pn	05 54 42.4	-0.7
BGU				IAML		05 55 24.5	
	comp=E,30nm,0.7s						
R11A	**Troy Canyon, C**	**2.38**	**265**	Pn	Pb	05 54 45.7	-1.5
R11A				IAML		05 55 21.8	
	comp=N,31nm,0.3s						
R11A				IAML		05 55 24.0	
	comp=E,43nm,0.5s						
TCUT	**Toone Canyon**	**2.66**	**19**	Pn	Pb	05 54 50.6	-1.3
TCUT				IAML		05 55 37.5	
	comp=N,32nm,0.6s						
TCUT				IAML		05 55 53.4	
	comp=E,24nm,0.7s						
S11A	**Rachel**	**2.68**	**250**	Pn	Pn	05 54 48.8	+0.9
SHPR	**Sheep Range**	**2.94**	**225**	Pn	Pn	05 54 51.4	0.0
SHPR				IAML		05 55 47.2	
	comp=E,16nm,0.7s						
PV07	**Paradox Valley**	**3.09**	**92**	Pn	Pn	05 54 54.5	+1.0
PV07				IAML		05 55 40.7	
	comp=E,22nm,0.8s						
PV07				IAML		05 55 42.9	
	comp=N,23nm,0.6s						
PV15	**Paradox Valley**	**3.23**	**94**	Pn	Pn	05 54 57.5	+2.1
PV15				IAML		05 55 47.7	
	comp=N,26nm,0.6s						
WUAZ	**Wupatki**	**3.24**	**162**	Pn	Pb	05 55 01.2	-0.6
GMN	**Gold Mountain**	**3.93**	**252**	Pn	Pn	05 55 05.3	+0.3
GMN				IAML		05 56 11.9	
	comp=E,10nm,2.1s						
GMN				IAML		05 56 17.2	
	comp=N,13nm,0.7s						
KVN	**Kaiserville**	**4.34**	**277**	Pn	Pn	05 55 11.4	+0.8
KVN				IAML		05 56 23.5	
	comp=E,9.3nm,1.0s						
KVN				IAML		05 56 29.4	
	comp=N,9.9nm,2.8s						
DSP	**Deep Springs**	**4.44**	**255**	Pn	Pn	05 55 11.9	0.0
DSP				IAML		05 56 36.5	
	comp=N,5.7nm,1.9s						
DSP				IAML		05 57 11.5	
	comp=E,6.2nm,4.0s						

KRSC ***13*** *06:08:32.6±1.3,48°.61N×157°.77E,h8km±34km,ML4.1*
SKHL ***13*** *06:08:33.8±0.8,48°.70N×155°.20E,h137km±10km,mb4.5/3, msha5.4/3*
ISC 13 06:08:28.6±2.1,48°.3N±0°.2×156°.0E±0°.2,h150km,n18, σ2°86/31,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.39**	**2**	*e*P	**Pn**	**06 09 10.4**	**+2.2**
SKR				AMB	AMB	06 09 11.5	
	20nm,0.3s						
SKR				*e*S	**Sn**	**06 09 36.0**	**-2.8**
SKR				A	A	06 09 40.8	
	250nm,0.6s						
SKR				A	A	06 09 40.8	
	350nm,0.6s						
PAU	**Pauzhetka**	**3.21**	**9**	*e*P	**Pn**	**06 09 21.5**	**+2.9**
PAU				*e*S	**Sn**	**06 09 56.6**	**-0.7**
PAU	**Pauzhetka**	**3.21**	**9**	*e*P	**Pn**	**06 09 21.4**	**+2.9**
PAU				AMB	AMB	06 09 21.8	
	40nm,0.3s						
PAU				*e*S	**Sn**	**06 09 56.5**	**-0.7**
PAU				A	A	06 09 58.5	
	110nm,0.3s						
PAU				A	A	06 09 58.5	
	180nm,0.3s						
KDTR	**Khodutka, Kamc**	**3.76**	**20**	*e*P	**Pn**	**06 09 26.5**	**+1.0**
KDTR				*e*S	**Sn**	**06 10 05.7**	**-4.1**
MTVR	**Mutnovka**	**4.41**	**18**	*e*P	**Pn**	**06 09 36.6**	**+2.3**
MTVR				*e*S	**Sn**	**06 10 23.9**	**-1.5**
RUS	**Russkaya**	**4.44**	**20**	*e*P	**Pn**	**06 09 35.7**	**+1.3**
RUS				*e*S	**Sn**	**06 10 22.1**	**-3.6**
GRL	**Gorelyy**	**4.46**	**16**	*e*P	**Pn**	**06 09 37.5**	**+2.7**
GRL				*e*S	**Sn**	**06 10 24.4**	**-2.0**
KRMR	**Karymshinskiy**	**4.73**	**16**	*e*P	**Pn**	**06 09 41.3**	**+3.0**
PET	**Petropavlovsk**	**5.02**	**19**	*e*P	**Pn**	**06 09 44.5**	**+2.4**
DALK	**Dalny**	**5.05**	**19**	*e*P	**Pn**	**06 09 44.5**	**+2.0**
DALK				*e*S	**Sn**	**06 10 37.2**	**-3.0**
AVH	**Avacha**	**5.26**	**18**	*e*P	**Pn**	**06 09 48.8**	**+3.4**
AVH				*e*S	**Sn**	**06 10 44.7**	**-0.8**
KOK	**Koryaka**	**5.27**	**17**	*e*P	**Pn**	**06 09 48.3**	**+2.8**
KRX	**Arik**	**5.33**	**17**	*e*P	**Pn**	**06 09 50.2**	**+3.8**
KRX				*e*S	**Sn**	**06 10 46.3**	**-0.9**
SPN	**Mys Shipunski**	**5.44**	**26**	*e*P	**Pn**	**06 09 49.5**	**+1.8**
SPN				*e*S	**Sn**	**06 10 44.3**	**-5.2**
GNL	**Ganaly**	**5.54**	**12**	*e*P	**Pn**	**06 09 53.7**	**+4.6**
KUR	**Kuril'sk**	**6.38**	**244**	*e*P	**Pn**	**06 10 01.7**	**+1.4**
KUR				AMB	AMB	06 10 02.8	
	30nm,0.6s						
KUR				*e*S	**Sn**	**06 11 08.7**	**-3.3**
KUR				A	A	06 11 09.6	
	40nm,0.3s						
KUR				A	A	06 11 09.6	
	40nm,0.3s						
MKZ	**Mys Kozlova**	**7.21**	**28**	*e*P	**Pn**	**06 10 12.1**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**8.23**	**243**	*e*P	**Pn**	**06 10 27.0**	**+2.0**
YUK				*e*S	**Sn**	**06 11 52.7**	**-3.9**

ISK ***13*** *06:13:52.9,36°.05N×30°.76E,h14km,ML2.9/21*
DDA 13 06:13:52.8±0.0,36°.02N×30°.79E,h22km,ML2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMR	**Demre-Antalya**	**0.75**	**287**	PG	Pb	06 14 07.2	+0.1
DEMR				SG	Sn	06 14 17.9	-0.8
ANTB	**Antalya**	**0.89**	**353**	PG	Pn	06 14 09.9	0.0
AKAS	**Kas**	**0.98**	**283**	PG	Pn	06 14 11.7	+0.3
AKAS				SG	Sn	06 14 25.6	+0.9
AKAS	**Kas**	**0.98**	**283**	P	Pn	06 14 11.5	+0.1
AKAS				S	Sn	06 14 25.8	+1.0
AKAS				*i* AML	AML	06 14 30.0	
	comp=N,701nm,0.5s						
AKAS				*i* AML	AML	06 14 31.0	
	comp=Z,328nm,0.8s						
AKAS				*i* AML	AML	06 14 33.0	
	comp=E,449nm,0.7s						
ELL	**Elmali**	**1.02**	**316**	PG	Pn	06 14 12.2	+0.3
KORT	**Korkueli**	**1.04**	**340**	PG	Pb	06 14 12.6	+0.4
KORT				SG	Sn	06 14 26.8	+0.6
KORT	**Korkueli**	**1.04**	**340**	P	Pb	06 14 12.5	+0.2
KORT				S	Sn	06 14 27.5	+1.3
KORT				*i* AML	AML	06 14 32.0	
	comp=E,138nm,0.5s						
KEPZ	**Antalya-Kepez**	**1.10**	**36**	P	Pb	06 14 13.6	+0.5
KEPZ				S	Sb	06 14 26.9	-0.1
GAZI	**Gazipasa**	**1.25**	**80**	PN	Pb	06 14 16.8	+1.1
GAZI				SN	Sb	06 14 34.1	+2.7
GAZI	**Gazipasa**	**1.25**	**80**	P	Pb	06 14 16.5	+0.8
GAZI				S	Sb	06 14 33.6	+2.2
GAZI				*i* AML	AML	06 14 37.0	
	comp=N,158nm,0.5s						
GAZI				*i* AML	AML	06 14 38.0	
	comp=Z,110nm,0.6s						
GAZI				*i* AML	AML	06 14 39.0	
	comp=E,190nm,0.5s						
BUCA	**Burdur, Bucak-**	**1.32**	**352**	P	Pb	06 14 19.1	+2.2
BUCA				S	Sb	06 14 36.4	+2.9
BCK	**Bucak**	**1.45**	**354**	PN	Pb	06 14 18.9	-0.2
FETY	**Fethiye**	**1.51**	**295**	PN	Pb	06 14 19.6	-0.5
CAME	**Cameli-Denizli**	**1.51**	**308**	PN	Pb	06 14 19.9	-0.4
GOLH	**Golhisar**	**1.57**	**321**	P	Pb	06 14 22.4	+1.3
GOLH				S	Sb	06 14 43.6	+3.0
GOLH				*i* AML	AML	06 14 57.0	
	comp=E,74nm,1.0s						
GOLH				*i* AML	AML	06 15 05.0	
	comp=N,83nm,1.0s						
SEYD	**Seydisehir-KON**	**1.62**	**31**	PN	Pb	06 14 21.6	-0.5
SEDI	**Konya, Seydise**	**1.62**	**28**	P	Pb	06 14 21.9	-0.3
SEDI				S	Sb	06 14 42.3	+0.1
SEDI				*i* AML	AML	06 14 45.0	
	comp=E,86nm,0.6s						
BRDR	**BURDUR-Merkez**	**1.77**	**341**	P	Pb	06 14 26.0	+1.4
BRDR				S	Sb	06 14 49.4	+2.9
BRDR				*i* AML	AML	06 14 54.0	
	comp=E,59nm,0.8s						
ISP	**Isparta**	**1.81**	**353**	PN	Pn	06 14 24.0	+1.2
ERMK	**Ermenek**	**1.82**	**69**	P	Pb	06 14 29.4	+3.9
ERMK				S	Sb	06 14 53.6	+5.6
APMY	**Acipayam-Deniz**	**1.88**	**321**	PN	Pn	06 14 24.9	+1.2
DALY	**Dalyan (Mula)**	**1.90**	**295**	PN	Pn	06 14 25.2	+1.3
BAGO	**Egridir - ISPA**	**1.97**	**360**	P	Pb	06 14 28.6	+0.6
BAGO				S	Sb	06 15 00.1	+8.1
BASM	**Basmaki-Afyon**	**1.99**	**343**	PN	Pn	06 14 26.7	+1.5
TAVA	**DENIZLI_Tavas**	**2.09**	**314**	P	Pb	06 14 28.9	-1.1
TAVA				S	Sn	06 14 53.2	+1.3
TAVA				*i* AML	AML	06 15 06.0	
	comp=E,44nm,0.6s						
KKBE	**Karaman, Kazim**	**2.10**	**55**	P	Pb	06 14 30.7	+0.4
KKBE				S	Sb	06 14 56.4	+0.4
KKBE				*i* AML	AML	06 15 02.0	
	comp=E,80nm,0.4s						
KKBE				*i* AML	AML	06 15 04.0	
	comp=Z,48nm,0.6s						
KKBE				*i* AML	AML	06 15 04.0	
	comp=N,65nm,1.0s						
KMER	**Konya-Meram**	**2.15**	**35**	P	Pb	06 14 30.5	-0.7
KMER				S	Sb	06 14 55.8	-1.7
ARG	**Arkhangelos**	**2.17**	**276**	PN	Pn	06 14 28.9	+1.4
TURN	**Turunc**	**2.19**	**291**	PN	Pn	06 14 29.3	+1.5
TURN	**Turunc**	**2.19**	**291**	P	Pn	06 14 29.4	+1.6
TURN				S	Sn	06 14 54.9	+0.7
TURN				*i* AML	AML	06 15 04.0	
	comp=N,40nm,0.5s						
DOGA	**KONYA_Doganhis**	**2.20**	**18**	P	Pb	06 14 31.1	-0.8
DOGA				S	Sn	06 14 55.7	+1.0
YVAC	**Isparta, Yalva**	**2.28**	**9**	P	Pb	06 14 31.6	-1.7
YVAC				S	Sn	06 14 56.3	-0.3
KZIL	**AFYON_Kizioren**	**2.29**	**347**	P	Pb	06 14 32.5	-1.1
KZIL				S	Sb	06 15 01.9	+0.4
YER	**Yerkesik**	**2.31**	**300**	PN	Pn	06 14 31.0	+1.5
MULA	**Mugla, Merkez-**	**2.34**	**303**	P	Pb	06 14 34.3	0.0
MULA				S	Sn	06 14 59.0	+0.9
MULA				*i* AML	AML	06 15 16.0	
	comp=E,37nm,0.8s						
SHUT	**Suhut-Afyon**	**2.54**	**356**	PN	Pn	06 14 34.3	+1.5
PASA	**Karahalli, USA**	**2.55**	**336**	P	Pn	06 14 35.1	+2.2
PASA				S	Sn	06 15 05.5	+2.2
DAT	**Datca**	**2.69**	**286**	PN	Pn	06 14 36.6	+1.8
AYDN	**Tasoluk**	**2.85**	**306**	P	Pn	06 14 39.2	+2.1
AYDN				S	Sn	06 15 11.8	+1.0
BDRM	**Kayabasi**	**2.89**	**292**	P	Pn	06 14 39.7	+2.2
BDRM				S	Sn	06 15 09.6	-2.0
KARP	**Karpathos**	**2.99**	**262**	PN	Pn	06 14 40.9	+2.0
BODT	**Bodrum**	**2.99**	**291**	PN	Pn	06 14 39.9	+1.0
AYDB	**Zeytinkoy-Aydi**	**3.02**	**310**	PN	Pn	06 14 41.3	+1.9
USAK	**Uak-Merkez**	**3.04**	**333**	P	Pn	06 14 40.9	+1.3
USAK				*i* AML	AML	06 15 16.0	
	comp=N,34nm,3.3s						
USAK				*i* AML	AML	06 15 16.0	
	comp=E,36nm,1.1s						
USAK				S	Sn	06 15 16.5	+1.2
MANT	**Manisa**	**3.04**	**325**	P	Pn	06 14 42.9	+3.1
MANT				S	Sn	06 15 16.3	+0.6
GCAM	**G?zelcaml?**	**3.31**	**302**	PN	Pn	06 14 45.4	+2.1
GCAM	**G?zelcaml?**	**3.31**	**302**	P	Pn	06 14 43.9	+0.6
GCAM				S	Sn	06 15 17.0	-4.9

ROM 13 06:13:58.4±0.1,42°.798N±0°.004×13°.205E±0°.005, h10km,Md0.9/2,ML1.3/1,1C,Error ellipse: s-maj=0.5km s-min=0.3km az=26.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**359**	P	Pg	06 14 00.7	+0.2
T1242				S	Sg	06 14 01.8	-0.2
T1242				AML	AML		
	comp=E,262μm,0.6s						
T1242				AML	AML		
	comp=N,579μm,0.3s						
T1242				END			
NRCA	**Norcia**	**0.07**	**298**	⇑P	Pg	06 14 01.2	+0.4
NRCA				S	Sg	06 14 02.7	+0.1
T1202	**Accumoli, Fraz**	**0.10**	**171**	P	Pg	06 14 01.7	+0.7
T1202				S	Sg	06 14 03.6	+0.6
T1202				END			
MMO1	**Montemonaco**	**0.14**	**42**	P	Pg	06 14 02.2	+0.6
MMO1				S	Sg	06 14 04.7	+0.8
T1204	**Amatrice, Fraz**	**0.15**	**146**	P	Pg	06 14 02.5	+0.7
T1204				S	Sg	06 14 04.8	+0.6
T1241	**Roccafluvione,**	**0.18**	**71**	P	Pg	06 14 02.9	+0.7
T1241				S	Sg	06 14 06.0	+1.1
T1243	**Rocca Santa Ma**	**0.21**	**119**	P	Pg	06 14 03.3	+0.5
T1243				S	Sg	06 14 06.6	+0.8
T1215	**Vallo di Nera,**	**0.25**	**271**	P	Pg	06 14 04.1	+0.6
T1215				S	Sg	06 14 08.0	+1.1
TERO	**Teramo**	**0.34**	**121**	P	Pg	06 14 05.6	+0.4
TERO				S	Sb	06 14 11.0	-1.0

HLW ***13*** *06:14:47.5,38°.05N×21°.58E,h9km±18km,Md4.7,Ml4.7*
IDC ***13*** *06:14:48.0±0.6,37°.87N×21°.20E,h0km,mb4.1/18, mbtmp4.0/31,ML3.7/12,MS3.7/62,Error ellipse: s-maj=13.8km s-min=11.4km az=164.0*
MOS ***13*** *06:14:48.6±1.4,37°.62N×20°.99E,h16km,mb4.7/10,Error ellipse: s-maj=6.7km s-min=3.7km az=75.0*
ATH ***13*** *06:14:50.0,37°.78N×21°.20E,h15km±2km,ML4.1/14,Error ellipse: s-maj=2.8km s-min=0.8km az=309.0*
THE ***13*** *06:14:50.7,37°.77N×21°.21E,h20km,ML4.1/11,Error ellipse: s-maj=0.7km s-min=0.3km az=6.0*
MED_RC ***13*** *06:14:50.0±1.5,38°.16N×21°.19E,h20km,MW4.7/14, Moment Tensor Solution.Mantle waves: s14,c24; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.44±.10; $M_{\theta\theta}$1.01±.05; $M_{\phi\phi}$0.43±.07; $M_{r\theta}$-0.10±.05; $M_{\theta\phi}$-0.60±.05; $M_{\phi r}$-0.72±.07; Best double couple: $M_0$1.57000×10^{16} NP1:ϕ_s323.00000°,δ55.00000°, λ-66.00000°. NP2:ϕ_s104.00000°,δ42.00000°, λ-120.00000°. Principal axes: T 1.4200, Plg7.0000°, Azm35.0000°; N 0.2900, Plg20.0000°, Azm128.0000°; P -1.7100, Plg69.0000°, Azm288.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PDG ***13*** *06:14:51.3±0.7,37°.79N×21°.05E,h23km±1km,ML4.2/13 Error ellipse: s-maj=1.2km s-min=1.2km az=90.0*
NEIC ***13*** *06:14:51.1±2.6,37°.73N±0°.06×21°.10E±0°.06,h10km±1km, mb4.6/27,ML4.1(ATH),Error ellipse: s-maj=10.6km s-min=7.0km az=217.0*
ISC 13 06:14:51.1±0.8,37°.76N±0°.02×21°.15E±0°.02,h17km±5km, n390,σ2°12/373,mb4.5/45,MS3.7/54,36C-15D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.25**	**259**	P	**Pg**	**06 14 57.5**	**+0.8**
LTHK				S	**Sg**	**06 15 02.5**	**+2.0**
LTHK	**Lithakia**	**0.25**	**259**	P	**Pg**	**06 14 56.7**	**+0.1**
LTHK				S	**Sg**	**06 15 01.4**	**+0.9**
LTHK				AML	AML	06 15 03.9	
LTHK				AML	AML	06 15 08.6	
RLS	**Riolos of Patr**	**0.39**	**40**	P	**Pg**	**06 14 57.8**	**-1.3**

KEF3 S Sn 06 15 17.3 -1.2
KEF3 Kipouria, Keph 0.77 305 P Pb 06 15 04.5 -1.6
DMLN Damoulianata-K 0.78 308 P Pn 06 15 05.5 -1.8
DMLN S Sn 06 15 17.2 -1.4
LAKA Lakka 0.81 54 P Pg 06 15 05.2 -1.8
LAKA S Sg 06 15 16.1 -1.6
LAKA Lakka 0.81 54 P Pg 06 15 04.6 -2.3
LAKA S Sg 06 15 15.0 -2.7
LAKA AML AML 06 15 23.7
comp=N,22150µm,0.9s
LAKA AML AML 06 15 26.4
comp=E,19686µm,0.8s
FSK Fiskardo 0.84 327 P Pn 06 15 06.3 -1.9
FSK S Sn 06 15 18.7 -1.4
comp=E,14µm,0.6s
FSK Fiskardo 0.84 327 P Pn 06 15 06.3 -1.9
FSK AML AML 06 15 26.8
comp=N,31752µm,1.1s
FSK AML AML 06 15 27.5
comp=E,21841µm,0.5s
KLV Kalavryta, Ach 0.84 70 P Pg 06 15 05.7 -1.8
KLV S Sg 06 15 16.9 -1.8
comp=E,7µm,0.8s
KLV Kalavryta, Ach 0.84 70 P Pg 06 15 04.6 -2.9
KLV AML AML 06 15 27.5
comp=E,13339µm,0.4s
KLV AML AML 06 15 30.0
comp=N,15237µm,1.2s
ITM Ithomi 0.85 133 *e*P Pg 06 15 05.7 -1.9
ITM Ithomi 0.85 133 P Pg 06 15 06.1 -1.5
ITM S Sg 06 15 17.9 -0.9
comp=N,16µm,0.7s
ITM Ithomi 0.85 133 Pg Pg 06 15 06.3 -1.3
ITM Ithomi 0.85 133 P Pg 06 15 05.6 -2.1
ITM S Sg 06 15 17.3 -1.5
ITM AML AML 06 15 28.2
comp=E,20473µm,0.6s
ITM AML AML 06 15 31.5
comp=N,33799µm,0.7s
EFP Efpalio 0.90 42 P Pg 06 15 06.2 -2.3
EFP S Sg 06 15 18.6 -1.7
comp=N,11µm,0.5s
EFP Efpalio 0.90 42 P Pg 06 15 06.0 -2.5
EFP AML AML 06 15 25.5
comp=N,29636µm,0.6s
EFP AML AML 06 15 27.2
comp=E,14386µm,0.5s
PVO Paravola 0.91 19 P Pb 06 15 06.8 -1.6
PVO S Sb 06 15 19.5 -0.7
comp=E,11µm,0.5s
PVO Paravola 0.91 19 P Pb 06 15 06.8 -1.6
ALIK Aliki, Aigiali 0.91 56 P Pg 06 15 07.1 -1.7
ALIK S Sg 06 15 18.9 -1.9
EVGI Lefkada island 0.94 336 P Pn 06 15 07.9 -1.7
EVGI S Sn 06 15 21.8 -0.9
comp=E,10µm,0.4s
SERG Sergoula 0.97 47 P Pg 06 15 07.4 -2.6
SERG S Sg 06 15 21.0 -1.7
SERG Sergoula 0.97 47 P Pg 06 15 07.3 -2.6
SERG AML AML 06 15 28.0
comp=N,19638µm,0.5s
SERG AML AML 06 15 31.6
comp=E,24996µm,0.5s
PYL PYLOS 0.98 151 P Pg 06 15 08.2 -2.0
PYL S Sg 06 15 22.0 -1.1
comp=E,10µm,0.9s
PYL PYLOS 0.98 151 P Pg 06 15 07.9 -2.3
PYL AML AML 06 15 36.6
comp=E,12287µm,0.6s
PYL AML AML 06 15 39.2
comp=N,18238µm,1.0s
NYDR Nydri-Lefkada 1.02 340 P Pb 06 15 09.0 -1.3
NYDR S Sn 06 15 23.7 -0.8
DRAG Dragano-Lefkad 1.03 334 P Pn 06 15 09.3 -1.5
DRAG S Sn 06 15 23.8 -1.0
comp=N,70µm,0.4s
LKD2 Lefkada island 1.10 340 P Pn 06 15 10.4 -1.4
TSLK Tsoukalades, L 1.13 340 P Pn 06 15 11.0 -1.2
THAL Thalero 1.23 77 P Pg 06 15 11.6 -3.2
THAL S Sg 06 15 26.8 -4.1
THAL Thalero 1.23 77 P Pg 06 15 12.4 -2.4
THAL AML AML 06 15 37.7
comp=N,46791µm,0.8s
THAL AML AML 06 15 47.9
comp=E,40500µm,0.6s
EVR Evrytania 1.27 24 P Pg 06 15 12.6 -3.0
EVR Evrytania 1.27 24 P Pg 06 15 12.5 -3.0
EVR AML AML 06 15 42.0
comp=E,5924µm,0.5s
EVR AML AML 06 15 49.7
comp=N,10072µm,1.3s
DLFA Delphi 1.28 56 P Pg 06 15 13.6 -2.2
LOUT Loutraki 1.46 80 P Pn 06 15 17.0 +0.2
MAKR Makrakomi, Fth 1.47 31 P Pn 06 15 16.7 -0.2
MAKR AML AML 06 15 43.7
comp=E,16471µm,1.1s
MAKR AML AML 06 15 46.8
comp=N,18955µm,1.2s
AXAR Agios Charalam 1.56 49 P Pn 06 15 18.3 +0.2
EPID Epidavros 1.57 95 P Pb 06 15 19.6 -0.1
VIL2 Platees 1.74 74 P Pb 06 15 22.8 +0.2
ATAL Atalanti 1.75 57 P Pb 06 15 22.1 -0.6
ATH Athens Observa 2.04 83 P Pb 06 15 26.8 -1.0
ATH Athens Observa 2.04 83 P Pb 06 15 26.8 -1.0
KTHA Kythira Island 2.15 134 *e*P Pn 06 15 27.0 +0.8
KEK Kerkira 2.22 332 Pb 06 15 27.9 -2.8
DION Dionisos Attik 2.23 81 P Pn 06 15 29.1 +1.8
ANKY Antikythira Is 2.56 137 P Pn 06 15 33.1 +1.3
LIT Litokhoron 2.56 24 Pn Pb 06 15 34.1 -2.5
LIT Litokhoron 2.56 24 P Pb 06 15 34.1 -2.5
KBN Korca 2.87 355 Pb 06 15 39.0 -3.0
KBN Korca 2.87 355 P Pb 06 15 39.0 -3.0
PAIG Paliouri 2.93 42 *e*P Pn 06 15 35.0 -1.9
PAIG Paliouri 2.93 42 P Pb 06 15 39.9 -3.0
VLO Vlora 2.99 335 Pn Pb 06 15 39.6 -4.4
VLO Vlora 2.99 335 P Pb 06 15 39.6 -4.4
RODP Rodopos 3.04 135 *e*P Pn 06 15 41.3 +2.9
SCTE Santa Cesarea 3.11 319 Pn Pn 06 15 39.6 +0.2
THE Thessaloniki 3.20 26 P Pn 06 15 43.3 +2.7
HORT Hortiatis 3.21 28 *e*P Pn 06 15 41.4 +0.6
IMMV Iera Moni Meta 3.23 134 *e*P Pn 06 15 42.4 +1.3
GRG Griva 3.34 17 *e*P Pn 06 15 43.4 +1.7
GRG Griva 3.34 17 P Pn 06 15 44.1 +1.5
OUR Ouranopolis 3.39 40 *e*P Pn 06 15 44.8 +1.6
SOH Sokhos 3.50 29 P Pn 06 15 47.7 +2.8
APE Apeiranthos 3.56 100 ⇑P Pb 06 15 50.8 -2.8
APE Apeiranthos 3.56 100 *e*P Pn 06 15 47.7 +2.1
APE Apeiranthos 3.56 100 ⇓*e*P Pn 06 15 47.8 +2.1
KNT Kendrikon 3.66 21 *e*P Pn 06 15 49.2 +1.0
KNT Kendrikon 3.66 21 P Pn 06 15 48.8 +1.8
SANT Santorini 3.72 111 ⇑P Pb 06 15 53.8 -2.5
SANT Santorini 3.72 111 Pn Pn 06 15 50.0 +2.2
TIR Tirane 3.72 345 ⇑P Pn 06 15 50.0 +2.2
TIR Tirane 3.72 345 Pn 06 15 49.1 +1.4
TIR Tirane 3.72 345 P Pn 06 15 49.1 +1.4
TIP Timpagrande 3.72 294 Pn Pn 06 15 48.1 +0.2
GVDS Gavdos 3.76 140 *e*P Pn 06 15 49.3 +1.0
GVD Gavdhos 3.76 140 *e*P Pn 06 15 50.1 +1.8
SRS Serrai 3.85 29 P Pn 06 15 51.6 +2.0
IDI Anoyia 3.90 128 ⇓P Pn 06 15 55.4 +5.1
IDI Anoyia 3.90 128 Pn Pn 06 15 49.8 -0.5
comp=N,3.6nm,0.3s,baz=328,slow=16,SNR=10
IDI Sn Sn 06 16 32.9 -2.8
comp=N,10.0nm,0.3s,baz=322,slow=18,SNR=3.5
IDI LR LR 06 17 48.8
comp=N,1µm,20.5s,baz=286,slow=46
comp=N,8.2nm,0.4s
IDI Anoyia 3.90 128 Pn Pn 06 15 51.6 +1.3
CHOS Chios island 3.92 79 *e*P Pn 06 15 52.8 +2.1
SIGR SIGRI 3.97 67 *e*P Pn 06 15 52.6 +2.4
CEL Celeste 4.18 278 Pn 06 15 54.0 -0.2
MMB Musomiste 4.31 27 *e*P Pn 06 15 56.8 +3.5
URLA Izmir 4.34 80 *e*P Pn 06 15 58.1 +1.7
KKB Krupnik 4.36 19 *e*P Pb 06 16 01.9 -5.4
ULC Ulcinj 4.45 341 ⇑/*e*Pn Pn 06 15 57.3 -0.5
ULC *i* Sn Sn 06 16 47.9 -1.3
MATE Matera 4.50 311 ⇑P Pn 06 15 58.5 0.0
EZN Ezine 4.54 61 *e*P Pn 06 16 01.9 +2.8
DRME Dracevica, Mon 4.67 342 *e*Pn Pn 06 16 00.5 -0.4
DRME Dracevica, Mon 4.67 342 ⇓*i*Pn Pn 06 16 00.7 -0.2
DRME *i* Sn Sn 06 16 53.9 -0.8
BLCB Balcova 4.69 81 *e*P Pn 06 16 04.3 +3.1
DKL Dikili 4.71 72 *e*P Pn 06 16 04.7 +3.3

CUC Castrocucco 4.72 300 Pn 06 16 03.8 +2.2
RDO Rodhopi 4.79 44 *e*P Pn 06 16 03.8 +1.3
RDO Rodhopi 4.79 44 Pn 06 16 04.1 +1.6
GCAM G?zelcaml? 4.83 89 *e*P Pn 06 16 06.4 +3.4
BUM Brajici-Budva 4.85 340 ⇑/*i*Pn Pn 06 16 03.4 0.0
BUM *i* Sn Sn 06 16 57.9 -1.4
PDG Podgorica 4.88 343 *e*P Pn 06 16 02.1 -1.7
PDG Podgorica 4.88 343 Pn Pn 06 16 03.8 0.0
TTG Podgorica 4.88 343 ⇑/*i*Pn Pn 06 16 04.2 +0.4
TTG *i* Sn Sn 06 16 59.2 -0.7
PVY Plav 4.91 350 ⇓/*i*Pn Pn 06 16 04.3 0.0
PVY *i* Sn Sn 06 16 59.8 -1.1
ALN Alexandroupoli 4.92 49 Pn 06 16 07.1 +2.8
ALN Alexandroupoli 4.92 49 P Pn 06 16 07.1 +2.8
BODT Bodrum 4.96 96 *e*P Pn 06 16 08.2 +3.4
CEME Cevo 5.08 341 ⇑/*i*Pn Pn 06 16 05.7 -0.8
CEME *i* Sn Sn 06 17 03.9 -0.9
KDZ Kurdzhali 5.09 39 *e*P Pn 06 16 08.2 +1.9
HCY Herceg Novi 5.10 337 *e*Pn Pn 06 16 05.6 -1.3
HCY Herceg Novi 5.10 337 ⇓/*i*Pn Pn 06 16 05.5 -1.3
HCY *i* Sn Sn 06 17 03.9 -1.5
VTS Vitosha 5.11 18 ⇑P Pb 06 16 10.1 +3.4
VTS Vitosha 5.11 18 *e*P Pb 06 16 09.0 +2.3
VTS Vitosha 5.11 18 Pn Pn 06 16 08.8 +1.8
VTS Vitosha 5.11 18 P Pn 06 16 08.8 +1.8
VTS Vitosha 5.11 18 *e*P Pb 06 16 10.5 +3.8
PLD Plovdiv 5.13 31 *e*P Pb 06 16 10.2 +4.6
IVA Berane 5.20 350 ⇓/*i*Pn Pn 06 16 08.5 +0.3
IVA *i* Sn Sn 06 17 06.2 -1.5
KOME Kolasin 5.24 347 ⇓/*i*Pn Pn 06 16 09.8 +1.1
KOME *i* Sn Sn 06 17 07.5 -1.2
NKME Niksic 5.28 342 ⇑/*i*Pn Pn 06 16 09.4 +0.2
NKME *i* Sn Sn 06 17 08.6 -1.1
NKY Niksic 5.31 343 ⇑/*i*Pn Pn 06 16 09.8 +0.1
NKY *i* Sn Sn 06 17 09.7 -0.9
KARP Karpathos 5.32 113 Pn Pn 06 16 12.5 +2.7
AYDB Zeytinkoy-Aydi 5.34 86 *e*P Pn 06 16 14.1 +3.9
VAE Valguarnera 5.35 269 Pn Pn 06 16 10.2 -0.1
comp=N,1.7nm,0.3s,baz=80,slow=12,SNR=1.5
VAE Sn Sn 06 17 09.6 -2.0
comp=N,5.9nm,0.3s,baz=137,slow=7.5,SNR=3.0
comp=N,9.2nm,0.3s
RAFF Raffo Rosso 5.42 266 Pn Pn 06 16 10.2 -1.0
BRY Bratogost 5.51 340 *e*Pn Pn 06 16 11.8 -0.8
BRY Bratogost 5.51 340 ⇓/*i*Pn Pn 06 16 11.7 -0.8
BRY *i* Sn Sn 06 17 13.5 -2.0
WDD Wied Dalam 5.65 252 Pn Pn 06 16 14.3 0.0
UPM Unac-Piva 5.70 343 *e*Pn Pn 06 16 15.2 0.0
UPM Unac-Piva 5.70 343 ⇑/*i*Pn Pn 06 16 15.4 +0.2
UPM *i* Sn Sn 06 17 19.0 -1.3
STON Ston 5.75 334 *e*Pn Pn 06 16 13.2 -2.4
SGRT San Giovanni R 5.76 315 Pn Pn 06 16 15.7 -0.3
BLKB Belogradchik 5.97 11 ⇑P Pn 06 16 21.7 +2.9
RUDO Rudo 6.01 348 *e*Pn Pn 06 16 22.6 +3.4
PAOL Paolisi 6.05 305 Pn 06 16 20.9 +1.0
DIVS Divibare 6.39 353 *e*Pn Pn 06 16 23.7 -0.9
GEMT Gemlik 6.80 64 *e*P Pn 06 16 33.7 +3.6
AKAS Kas 6.94 100 *e*P Pn 06 16 35.8 +3.6
YLV Yalova 6.98 64 *e*P Pn 06 16 35.7 +3.1
MDVR Moldovita 7.03 3 ⇑P Pn 06 16 35.7 +2.4
ELL Elmali 7.06 96 *e*P Pn 06 16 38.1 +4.3
ELL Elmali 7.06 96 Pn Pn 06 16 37.0 +3.3
ELL Elmali 7.06 96 P Pn 06 16 37.1 +3.3
SLUM Salum 7.09 151 P Pn 06 16 33.0 -1.1
baz=154
SLUM S Sn 06 17 49.4 -5.0
baz=154
HERR Herculane 7.18 7 ⇑P Pn 06 16 38.1 +2.8
ADVT Abdulvahap 7.20 66 *e*P Pn 06 16 40.3 +4.8
CAVI Cavuskoy 7.20 68 *e*P Pn 06 16 39.6 +4.0
AUBOZ BOZOYUK 7.26 70 *e*P Pn 06 16 40.1 +3.6
MGRS Mrkonjic Grad 7.32 337 *e*Pn Pn 06 16 37.0 -0.3
KORT Korkueli 7.37 93 *e*P Pn 06 16 42.0 +4.0
ISP Isparta 7.42 87 *e*P Pn 06 16 42.5 +3.7
ISP Isparta 7.42 87 ⇑*e*P Pn 06 16 43.5 +4.7
SHUT Suhut-Afyon 7.45 81 *e*P Pn 06 16 43.5 +4.3
FRGS Fruska Gora 7.46 353 ⇑P Pn 06 16 39.8 +0.6
FRGS Fruska Gora 7.46 353 *e*Pn Pn 06 16 38.6 -0.6
A050A Klekovaca 7.56 334 *e*Pn Pn 06 16 41.2 +0.5
BORA Eskisehir 7.57 71 Pn 06 16 44.1 +3.3
BLY Banja Luka 7.59 338 *e*Pn Pn 06 16 40.8 -0.2
GZR Gura Zlata 7.72 9 ⇑P Pn 06 16 44.7 +1.9
GZR Gura Zlata 7.72 9 P Pn 06 16 44.7 +1.9
BZS Buzias 7.86 2 ⇑P Pn 06 16 46.4 +1.8
BZS Buzias 7.86 2 P Pn 06 16 46.4 +1.8
A051A Mrakovica 7.92 338 *e*Pn Pn 06 16 43.0 -2.5
VOIR 8.21 20 ⇑P Pg 06 16 52.5 +3.5
VOIR 8.21 20 P Pn 06 16 52.4 +2.9
SIRR Siria 8.51 2 ⇑P Pn 06 16 55.4 +1.8
MLR Muntele Rosu 8.52 23 ⇑P Pn 06 16 57.9 +4.1
MLR Muntele Rosu 8.52 23 Pn Pn 06 16 52.0 -1.7
comp=N,1.8nm,0.7s,baz=207,slow=9.0,SNR=1.7
MLR LR LR 06 19 59.8
comp=N,186nm,21.3s,baz=205,slow=37
KOVH Kovagotottos 8.62 346 P Pn 06 16 55.2 0.0
MORH Mrgy, Hungar 8.65 348 P Pn 06 16 56.4 +0.9
BOJS Bojanci 8.90 332 *e*Pn Pn 06 16 57.4 -1.6
BOJS Bojanci 8.90 332 *i* Pn Pn 06 16 58.9 -0.1
BOJS *i* Sn Sn 06 18 34.5 -4.4
PLOR Plostina 9.07 25 ⇓P Pn 06 17 05.0 +3.8
DRGR 9.10 7 ⇑P Pn 06 17 03.2 +1.5
DRGR 9.10 7 P Pn 06 17 03.2 +1.5
VRI Vrincioaia 9.11 25 ⇑P Pn 06 17 05.4 +3.7
SWA2 9.22 156 P Pn 06 17 01.2 -2.1
baz=158
SWA2 S Sn 06 18 42.8 -4.0
baz=158
CEY Cerknica 9.42 330 *e*Pn Pn 06 17 05.1 -0.9
SKDS Skadanscina 9.43 328 *e*Pn Pn 06 17 04.5 -1.7
KEST Kesra 9.69 262 Pn Pn 06 17 09.7 -0.1
comp=N,0.3nm,0.3s,baz=197,slow=4.5,SNR=9.4
KEST Sn Sn 06 18 54.2 -4.0
comp=N,0.2nm,0.3s,baz=6.4,slow=22,SNR=1.0
KEST LR LR 06 21 32.5
comp=N,231nm,21.8s,baz=348,slow=42
comp=N,4.1nm,0.8s
KEST Kesra 9.69 262 Pn 06 17 10.5 +0.7
MPLH Magyarpolny 9.77 345 P Pn 06 17 17.8 +7.0
BR131 Keskin Array S 9.96 75 Pn 06 17 16.7 +3.2
BR131 Keskin Array S 9.96 75 ⇑*e*P Pn 06 17 17.1 +3.6
BRTR Keskin Array B 9.96 75 Pn Pn 06 17 16.3 +2.8
comp=N,0.4nm,0.3s,baz=254,slow=13,SNR=8.0
BRTR LR LR 06 21 00.4
comp=N,466nm,20.4s,baz=270,slow=38
comp=N,1.2nm,0.5s
BRTR Keskin Array B 9.96 75 *i* P Pn 06 17 18.8 +5.3
BRTR pmax pmax
comp=Z,3.0nm,0.7s
SOKA Soboth 9.99 335 *i* Pn Pn 06 17 14.0 0.0
comp=Z,2.3nm,0.3s
OBKA Obir 10.02 333 *e*Pn Pn 06 17 14.0 -0.3
OBKA Obir 10.02 333 *i* Pn Pn 06 17 15.0 +0.7
comp=Z,1.4nm,0.3s
OBKA *i* Sn Sn 06 19 04.8 -1.6
comp=Z,9.9nm,0.3s
PSZ Piszkesteto 10.19 355 P Pn 06 17 18.1 +1.4
PSZ pmax pmax
comp=Z,13nm,0.9s
BURAR Bucovina Array 10.29 16 ⇓P Pn 06 17 22.5 +4.4
STAL STALIGIAL 10.55 326 Pn 06 17 21.8 +0.2
CLUD Cludinico 10.63 327 Pn 06 17 24.9 +2.3
CIMO Cimolais 10.71 326 Pn 06 17 23.2 -0.5
MILM Milestii Mici 10.76 29 *e*P Pn 06 17 25.0 +0.6
MILM *e*S Sn 06 19 28.6 +4.2
MILM MLR MLR
comp=Z,900nm,11.3s
KIS Kishinev 10.83 29 *e*P Pn 06 17 25.0 -0.3
KIS *e*S Sn 06 19 28.6 +2.5
KIS LQM 06 21 13.0
comp=Z,700nm,14.0s
KIS LRM MLR 06 22 53.5
comp=Z,900nm,11.3s
VYHS Vyhne 10.86 352 *e*P Pn 06 17 30.4 +4.6
VYHS Vyhne 10.86 352 *e*PN Pn 06 17 30.4 +4.6
UZH Uzhgorod 10.90 4 *e*P Pn 06 17 27.8 +1.6
UZH *e*S Sn 06 19 29.8 +2.1
UZH MLR MLR
comp=N,110nm,12.0s
UZH MLR MLR
comp=E,100nm,12.0s
UZH MLR MLR
comp=Z,100nm,12.0s

KBA Koelnbreinsper 10.95 331 P Pn 06 17 30.3 +3.2
KBA pmax pmax
comp=Z,9.0nm,0.8s
KBA Koelnbreinsper 10.95 331 *e*Pn Pn 06 17 27.3 +0.2
comp=Z,0.9nm,0.2s
KBA *e*Sn Sn 06 19 25.0 -4.2
comp=Z,2.8nm,0.4s
MODS Modra-Piesok 10.98 346 *e*P Pn 06 17 36.9 +10
MODS Modra-Piesok 10.98 346 *e*PN Pn 06 17 36.9 +10
KOLS Kolonicke sedl 11.20 4 *e*P Pn 06 17 40.2 +10
KOLS Kolonicke sedl 11.20 4 *e*PN Pn 06 17 40.2 +10
MOA Molln 11.27 336 *e*Pn Pn 06 17 31.9 +0.5
comp=Z,2.6nm,0.3s
HMYD Mayadein 11.29 132 P Pn 06 17 29.8 -1.9
baz=134
WTTA Wattenberg 11.80 327 *i* Pn Pn 06 17 40.3 +1.6
comp=Z,6.6nm,0.4s
WTTA *e*Sn Sn 06 19 45.2 -4.9
comp=Z,7.1nm,0.4s
FETA Feichten 12.03 324 *e*Pn Pn 06 17 46.1 +4.2
comp=Z,1.4nm,0.4s
FETA *e*Sn Sn 06 19 50.8 -4.9
comp=Z,5.3nm,0.8s
MOTA Moosalm 12.10 326 *e*Pn Pn 06 17 44.6 +1.8
comp=Z,4.1nm,0.5s
MOTA *e*Sn Sn 06 19 56.6 -0.7
comp=Z,8.0nm,0.5s
HFRF Wahat Farafira 12.18 148 P Pn 06 17 40.6 -3.3
baz=150
TREC Trest 12.23 342 AMS AMS 06 23 00.0
comp=Z,2µm,10.5s
OKC Ostrava-Krasne 12.27 351 AMS AMS 06 23 00.0
comp=Z,700nm,9.6s
DAVOX Davos/Dischmat 12.27 321 Pn Pn 06 17 42.5 -2.7
comp=Z,0.4nm,0.3s,baz=35,slow=22,SNR=1.7
DAVOX Sn Sn 06 19 59.0 -2.6
comp=Z,0.6nm,0.3s,baz=216,slow=12,SNR=5.8
DAVOX LR LR 06 23 02.3
comp=Z,482nm,20.5s,baz=116,slow=40
comp=Z,0.7nm,0.4s
GERES GERESS Array B 12.33 336 Pn Pn 06 17 45.4 -0.5
comp=Z,0.3nm,0.3s,baz=148,slow=19,SNR=7.1
GERES Sn Sn 06 19 57.1 -5.8
comp=Z,0.3nm,0.3s,baz=159,slow=25,SNR=1.7
comp=Z,0.9nm,0.5s
MMAI Mount Meron Ar 12.56 108 Pn Pn 06 17 48.5 -0.6
comp=Z,2.5nm,0.3s,baz=304,slow=10,SNR=2.3
MMAI Sn Sn 06 20 05.2 -3.4
comp=Z,2.4nm,0.3s,baz=303,slow=24,SNR=2.5
comp=Z,0.8nm,0.2s
KHC Kasperske Hory 12.62 337 *e*P Pn 06 17 53.4 +3.6
KHC MLR MLR
comp=Z,1µm,10.9s
KHC Kasperske Hory 12.62 337 *e*PN Pn 06 17 53.4 +3.6
KHC AMS AMS 06 23 10.0
comp=Z,1µm,10.9s
KRLC Kraliky 12.70 347 AMS AMS 06 23 40.0
comp=Z,1µm,11.6s
GOPC GO Pecny, Ondr 12.98 341 AMS AMS 06 23 20.0
comp=Z,1µm,11.4s
DPC Dobruska-Polom 13.05 346 AMS AMS 06 23 40.0
comp=Z,1µm,12.8s
PRU Pruhonice 13.11 341 AMS AMS 06 23 30.0
comp=Z,1µm,9.9s
UPC Upice 13.26 346 AMS AMS 06 23 40.0
comp=Z,1µm,10.6s
OSTC Ostas 13.27 346 AMS AMS 06 23 40.0
comp=Z,1µm,15.0s
SENIN Lac Senin/Sane 13.39 314 Pn 06 18 00.5 0.0
PVCC Panska Ves 13.60 342 AMS AMS 06 23 50.0
comp=Z,1µm,9.9s
NKC Novy Kostel 13.94 336 AMS AMS 06 24 10.0
comp=Z,1µm,11.4s
EIL Elat 14.03 121 Pn Pn 06 18 07.8 -1.3
comp=Z,0.5nm,0.3s,baz=326,slow=11,SNR=1.9
EIL Sn Sn 06 20 30.2 -14
comp=Z,0.4nm,0.3s,baz=56,slow=14,SNR=0.9
comp=Z,3.6nm,0.7s
HDK1 Dakhla 14.05 148 P Pn 06 18 06.9 -2.7
baz=149
ASF Jabal al Asfar 14.06 109 Pn Pn 06 18 07.9 -1.7
comp=Z,0.1nm,0.3s,baz=304,slow=17,SNR=2.2
ASF Sn Sn 06 20 35.5 -10
comp=Z,0.1nm,0.3s,baz=336,slow=23,SNR=1.1
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 14.16 21 Pn Pn 06 18 09.5 -1.3
comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=2.6
AKASG LR LR 06 23 55.6
comp=Z,392nm,20.3s,baz=202,slow=39
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 14.16 21 Pn Pn 06 18 13.6 +2.8
AKBB Malin Array Si 14.16 21 ⇓*e*P P 06 18 14.8 -3.5
ECH Echery 14.60 320 Pn Pn 06 18 17.9 +1.0
ECH Echery 14.60 320 P Pn 06 18 17.9 +1.0
CLL Collm 14.72 340 *e*PP P 06 18 30.0 +5.5
CLL *i* sPP 06 18 31.9
comp=Z,11nm,1.1s
CLL *i* (PPP) 06 18 37.1
CLL *ex* x 06 18 43.0
CLL Lmax 06 24 00.0
SOC Sochi 15.23 62 *e*P Pn 06 18 25.9 +0.5
SOC *e* 06 21 18.1
SOC MLR MLR
comp=Z,83nm,16.0s
SHA1 Shidzhatmaz 17.34 63 ⇑*e*P P 06 18 53.6 -0.2
MNK Minsk 17.37 13 *i* P P 06 18 54.1 +0.3
MNK *i* S S 06 22 11.2 -2.6
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,24nm,0.8s
MNK MLR MLR
comp=E,49nm,14.0s
MNK MLR MLR
comp=Z,452nm,15.0s
MNK Minsk 17.37 13 *i* P P 06 18 54.2 +0.3
comp=E,4.0nm,0.8s
MNK *i* P P 06 18 54.2 +0.3
MNK *i* P P 06 18 54.2 +0.3
comp=Z,24nm,0.8s,baz=199
MNK *i* PP PnPn 06 19 05.3 +2.7
MNK *i* S S 06 22 11.2 -2.6
MNK *i* SS SnSn 06 22 29.5 +11
MNK *i* LR LR 06 24 03.0
MNK *i* LRM MLR 06 25 48.7
comp=E,49nm,14.2s
MNK *i* LRM MLR 06 26 32.9
comp=Z,452nm,14.8s
KIV Kislovodsk 17.41 62 *i* P P 06 18 57.7 +3.2
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV MLR MLR
comp=Z,81nm,15.0s
KBZ Khabaz 17.51 63 P Pn 06 18 53.2 -1.1
comp=Z,0.2nm,0.3s,baz=263,slow=11,SNR=1.2
comp=Z,0.6nm,0.3s
KBZ Khabaz 17.51 63 ⇑*e*P P 06 18 59.2 +3.8
NACGM Naroch 17.57 11 ⇓*e*P P 06 19 01.7 +5.6
baz=195
PABE Paberze 17.85 5 *e*P Pn 06 18 58.3 -0.2
PABE IAmb IAmb 06 19 06.5
comp=Z,49nm,0.8s
ZEI Tsey 18.06 67 *e*P P 06 19 06.5 +4.8
ZEI pmax pmax
comp=Z,4.0nm,0.5s
PBUR Paburge 18.28 1 IAmb IAmb 06 19 08.0
comp=Z,26nm,0.6s
GNI Garni 18.50 75 LR LR 06 26 16.3
comp=Z,218nm,20.4s,baz=288,slow=37
GNI Garni 18.50 75 ⇑*e*P Pn 06 19 08.0 +1.3
VSR Storozhevoye 18.54 38 *e*P Pn 06 19 07.0 0.0
VSR pmax pmax
comp=Z,5.0nm,1.2s
LPSR Galich'ya Gora 19.34 34 *e*P Pn 06 19 18.3 +1.6
LPSR pmax pmax
comp=Z,20nm,1.2s
ESDC Sonseca Array 19.67 283 P P 06 19 19.0 -0.4
comp=Z,0.1nm,0.3s,baz=77,slow=11,SNR=16
ESDC LR LR 06 27 49.0
comp=Z,102nm,18.2s,baz=88,slow=40
comp=Z,2.5nm,0.9s
VRH Novokhopyorsk 19.81 41 *e*P Pn 06 19 22.5 +0.2
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 20.27 26 LR LR 06 28 11.6
comp=Z,70nm,19.0s,baz=242,slow=40
OBN Obninsk 20.27 26 *e*P Pn 06 19 27.0 -0.6

OBN				*e*			06 19 47.0	
OBN				*e*PPP	PPP		06 19 56.9	
OBN				pmax	pmax			
	comp=Z,13nm,0.9s							
OBN				MLR	MLR			
	comp=Z,305nm,21.0s							
VSU	**Vasula**	**21.04**	**8⇑**	*e*P	**P**		**06 19 33.5**	**-0.3**
VSU				pmax	pmax			
	comp=Z,59nm,0.7s							
VSU	**Vasula**	**21.04**	**8**	*e*P	**P**		**06 19 33.1**	**-0.7**
MTSE	**Matsula**	**21.04**	**4**	*e*P	**P**		**06 19 33.1**	**-0.8**
MOS	**Moscow**	**21.14**	**26**	*e*P	**P**		**06 19 34.6**	**-0.4**
MOS				*e*S	**S**		**06 23 31.0**	**+1.6**
MOS				pmax	pmax			
	comp=Z,30nm,0.7s							
MDT	**Midelt**	**21.57**	**265**	P	**P**		**06 19 40.6**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=86,slow=11,SNR=6.2							
MDT				LR	LR		06 30 08.8	
	comp=Z,71nm,18.4s,baz=86,slow=43							
	comp=Z,2.3nm,0.8s							
HFS	**Hagfors**	**22.89**	**350**	P	**P**		**06 19 52.5**	**-1.2**
	comp=Z,2.9nm,0.4s,baz=160,slow=10,SNR=16							
HFS				LR	LR		06 30 09.2	
	comp=Z,132nm,21.9s,baz=164,slow=40							
	comp=Z,2.9nm,0.4s							
KONO	**Kongsberg**	**23.13**	**345**	*e*P	**P**		**06 19 55.0**	**-1.1**
RAF	**Rauma**	**23.29**	**1**	*e*P	**P**		**06 19 57.2**	**-0.5**
BELG	**Belogornoye**	**23.56**	**43**	P	**P**		**06 19 58.0**	**-2.6**
	comp=Z,17nm,0.5s,baz=12,slow=3.3,SNR=2.0							
BELG				LR	LR		06 30 15.6	
	comp=Z,124nm,21.8s,baz=326,slow=40							
	comp=Z,17nm,0.5s							
BELG	**Belogornoye**	**23.56**	**43**	*ce*P	**P**		**06 20 02.5**	**+2.0**
BELG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NC602	**NORSAR Array S**	**23.79**	**348**	*e*P	**P**		**06 20 01.4**	**-1.3**
NORES	**NORESS Array B**	**23.79**	**348**	P	**P**		**06 20 02.2**	**-0.4**
FINES	**FINESS Array B**	**23.91**	**6**	P	**P**		**06 20 02.3**	**-1.5**
	comp=Z,2.9nm,0.5s,baz=178,slow=9.0,SNR=18							
FINES				LR	LR		06 30 51.5	
	comp=Z,221nm,18.4s,baz=188,slow=40							
	comp=Z,2.9nm,0.5s							
FINES	**FINESS Array B**	**23.91**	**6**	P	**P**		**06 20 02.2**	**-1.6**
FIA1	**FINESS Array S**	**23.91**	**6**	P	**P**		**06 20 02.7**	**-1.1**
FIA1				IAmb	IAmb		06 20 10.5	
	comp=Z,15nm,1.0s							
NAO01	**NORSAR Array S**	**24.00**	**348**	IAmb	IAmb		06 20 40.7	
	comp=Z,24nm,1.2s							
EKA	**Eskdalemuir Ar**	**24.05**	**325**	P	**P**		**06 20 04.6**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=126,slow=9.9,SNR=13							
EKA				LR	LR		06 30 00.6	
	comp=Z,162nm,21.5s,baz=126,slow=38							
	comp=Z,1.5nm,0.4s							
ESK	**Eskdalemuir**	**24.07**	**325**	P	**P**		**06 20 04.5**	**-0.8**
ESK				IAmb	IAmb		06 20 15.2	
	comp=Z,19nm,0.9s							
ESK	**Eskdalemuir**	**24.07**	**325**	P	**P**		**06 20 04.5**	**-0.8**
ESK				pmax	pmax			
	comp=Z,19nm,1.0s							
NC405	**NORSAR Array S**	**24.12**	**349**	P	**P**		**06 20 05.5**	**-0.2**
NB201	**NORSAR Array S**	**24.12**	**348**	P	**P**		**06 20 05.3**	**-0.6**
NB2	**NORSAR Subarra**	**24.13**	**348**	P	**P**		**06 20 04.5**	**-1.4**
	comp=Z,14nm,0.9s,baz=154,slow=9.3							
NB2	**NORSAR Subarra**	**24.13**	**348**	P	**P**		**06 20 04.5**	**-1.4**
	baz=154,slow=9.3							
NOA	**NORSAR Array B**	**24.13**	**348**	P	**P**		**06 20 04.6**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=187,slow=18,SNR=5.0							
NOA				LR	LR		06 31 23.9	
	comp=Z,150nm,18.9s,baz=165,slow=41							
	comp=Z,0.6nm,0.5s							
NC303	**NORSAR Array S**	**24.28**	**348**	IAmb	IAmb		06 20 12.9	
	comp=Z,22nm,1.1s							
SKAR	**Skarslia**	**24.34**	**345**	*e*P	**P**		**06 20 07.1**	**-0.8**
NC204	**NORSAR Array S**	**24.42**	**348**	P	**P**		**06 20 09.0**	**+0.3**
DOMB	**Dombas**	**25.44**	**347**	*e*P	**P**		**06 20 17.0**	**-0.7**
SUE	**Sulen**	**25.49**	**341**	*e*P	**P**		**06 20 16.1**	**-2.1**
KLMR	**Klimovskoe**	**25.85**	**21**	*e*P	**P**		**06 20 22.3**	**+0.8**
KLMR				pmax	pmax			
	comp=Z,23nm,1.0s							
KLMR	**Klimovskoe**	**25.85**	**21**	*e*P	**P**		**06 20 22.3**	**+0.8**
KLMR				AMP			06 20 28.2	
	comp=Z,23nm,1.0s							
KLMR				LQ	LQ		06 28 47.1	
KLMR				LQ	LQ		06 28 47.1	
KLMR				LR	LR		06 29 58.7	
KLMR				LRM	MLR		06 31 49.2	
NSS	**Namsos**	**27.36**	**351**	*e*P	**P**		**06 20 33.9**	**-1.2**
KIRV	**Kirov**	**27.74**	**32⇑**	*e*P	**P**		**06 20 42.2**	**+3.7**
PRGR	**Permogore**	**28.33**	**25**	P	**P**		**06 20 41.5**	**-2.2**
PRGR				pmax	pmax			
	comp=Z,12nm,0.4s							
AKTO	**Aktyubinsk**	**29.04**	**52**	P	**P**		**06 20 49.1**	**-1.1**
	comp=Z,3.3nm,0.7s,baz=276,slow=6.0,SNR=9.7							
AKTO				LR	LR		06 34 01.3	
	comp=Z,80nm,19.8s,baz=263,slow=40							
	comp=Z,3.3nm,0.7s							
GEYT	**Alibeck**	**29.07**	**78**	P	**P**		**06 20 52.7**	**+2.0**
	comp=Z,2.2nm,0.2s,baz=288,slow=10.0,SNR=5.0							
GEYT				LR	LR		06 34 46.7	
	comp=Z,30nm,19.4s,baz=324,slow=41							
FAUS	**Fauske**	**29.86**	**355**	*e*P	**P**		**06 20 56.1**	**-1.1**
TOA0	**Torodi Ar. Sit**	**30.02**	**220**	P	**P**		**06 20 59.5**	**+0.3**
TOA0				IAmb	IAmb		06 21 07.3	
	comp=Z,5.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**30.02**	**220**	P	**P**		**06 20 59.4**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=31,slow=9.3,SNR=23							
	comp=Z,3.5nm,0.6s							
ABKAR	**Akbulak array**	**30.07**	**55**	P	**P**		**06 20 59.5**	**+0.2**
STEI	**Steigen**	**30.40**	**356**	*e*P	**P**		**06 20 59.9**	**-2.1**
ARU	**Arti**	**31.05**	**41**	LR	LR		06 33 59.1	
	comp=Z,112nm,20.2s,baz=262,slow=37							
ARU	**Arti**	**31.05**	**41**	P	**P**		**06 21 08.2**	**+0.3**
ARU							06 22 07.3	
ARU				S	**S**		**06 26 16.6**	**+4.5**
ARU				SS	**SnSn**		**06 27 56.4**	**+3.3**
ARU				MLR	MLR			
	comp=Z,154nm,16.0s							
JETT	**Jettan, Norway**	**31.86**	**360**	*e*P	**P**		**06 21 13.4**	**-1.5**
ARA0	**ARCESS Array S**	**31.92**	**3**	*e*P	**P**		**06 21 14.0**	**-1.4**
ARCES	**ARCESS Array B**	**31.92**	**3**	P	**P**		**06 21 12.8**	**-2.7**
	comp=Z,0.9nm,0.5s,baz=187,slow=6.1,SNR=10							
ARCES				LR	LR		06 35 20.7	
	comp=Z,107nm,18.5s,baz=206,slow=39							
	comp=Z,0.9nm,0.5s							
ARCES	**ARCESS Array B**	**31.92**	**3**	P	**P**		**06 21 14.1**	**-1.3**
ARCES	**ARCESS Array B**	**31.92**	**3**	P	**P**		**06 21 14.1**	**-1.3**
ARCES				pmax	pmax			
	comp=Z,21nm,1.4s							
KOWA	**Kowa**	**32.17**	**231**	LR	LR		06 35 24.0	
	comp=Z,146nm,18.8s,baz=28,slow=38							
UOSS	**Minazif**	**32.36**	**103**	P	**P**		**06 21 19.9**	**+0.2**
WSAR	**Wadi Sarin**	**35.14**	**103**	LR	LR		06 39 38.8	
	comp=Z,52nm,18.5s,baz=317,slow=42							
BORG	**Borgarnes**	**36.72**	**331**	LR	LR		06 40 49.1	
	comp=Z,79nm,18.0s,baz=124,slow=43							
BRVK	**Borovoye**	**36.95**	**49**	P	**P**		**06 22 00.2**	**+1.0**
BRVK				IAmb	IAmb		06 22 18.6	
	comp=Z,6.6nm,0.9s							
BRVK	**Borovoye**	**36.95**	**49⇑**	*e*P	**P**		**06 21 59.6**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
BVAR	**Borovoye Array**	**37.01**	**49**	LR	LR		06 38 56.6	
	comp=Z,67nm,21.7s,baz=268,slow=39							
CHGR	**Chuyangaron**	**37.40**	**73**	IAmb	IAmb		06 22 05.4	
	comp=Z,14nm,0.7s							
KKAR	**Karatay Array**	**37.51**	**66**	P	**P**		**06 22 03.1**	**-1.0**
KKAR	**Karatay Array**	**37.51**	**66**	P	**P**		**06 22 03.1**	**-1.0**
GAR	**Garm**	**38.19**	**72**	IAmb	IAmb		06 22 17.3	
	comp=Z,8.9nm,0.6s							
DBIC	**Dimbokro**	**38.93**	**224**	P	**P**		**06 22 16.6**	**+0.5**
	comp=Z,6.8nm,0.9s,baz=54,slow=8.8,SNR=9.9							
DBIC				LR	LR		06 39 22.1	
	comp=Z,51nm,18.9s,baz=35,slow=38							
	comp=Z,6.8nm,0.9s							
DBIC	**Dimbokro**	**38.93**	**224**	P	**P**		**06 22 16.7**	**+0.5**
DBIC				IAmb	IAmb		06 22 23.7	
	comp=Z,10nm,0.8s							
DBIC	**Dimbokro**	**38.93**	**224**	P	**P**		**06 22 16.7**	**+0.5**
DBIC				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TIC	**Toumodi**	**39.04**	**224⇑**	*e*P	**P**		**06 22 19.8**	**+2.7**
	comp=Z,5.8nm,0.7s							
KIC	**Kosan Boka**	**39.12**	**223⇑**	*e*P	**P**		**06 22 18.6**	**+0.8**
	comp=Z,5.7nm,0.5s							
MBAR	**Mbarara**	**39.19**	**165**	LR	LR		06 39 59.7	
	comp=Z,53nm,18.9s,baz=345,slow=38							
LIC	**Lamto**	**39.39**	**224⇑**	*e*P	**P**		**06 22 20.9**	**+0.8**
	comp=Z,24nm,0.7s							
AAK	**Ala-Archa**	**40.48**	**66⇑**	*e*P	**P**		**06 22 30.2**	**+1.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BBTS	**Babate**	**40.49**	**246**	LR	LR		06 40 58.3	
	comp=Z,148nm,20.7s,baz=61,slow=39							
SPITS	**Spitsbergen Ar**	**40.58**	**358**	LR	LR		06 41 11.1	
	comp=Z,136nm,20.0s,baz=138,slow=39							
KMBO	**Kilima Mbogo**	**41.46**	**155**	LR	LR		06 40 28.9	
	comp=Z,58nm,19.7s,baz=359,slow=37							
KURBB	**Kurchatov Arra**	**42.08**	**53**	LR	LR		06 43 16.0	
	comp=Z,98nm,18.7s,baz=288,slow=41							
KURK	**Kurchatov**	**42.13**	**53**	P	**P**		**06 22 43.9**	**+1.6**
KURK				IAmb	IAmb		06 22 57.6	
	comp=Z,6.3nm,0.9s							
KURK	**Kurchatov**	**42.13**	**53⇓**	*e*P	**P**		**06 22 44.1**	**+1.8**
KURK				pmax	pmax			
	comp=Z,13nm,1.7s							
MAKZ	**Makanchi**	**44.89**	**58**	P	**P**		**06 23 06.1**	**+1.5**
MAKZ	**Makanchi**	**44.89**	**58**	P	**P**		**06 23 06.1**	**+1.5**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MK31	**Makanchi Array**	**45.10**	**58**	IAmb	IAmb		06 23 11.8	
	comp=Z,4.6nm,0.6s							
MK31	**Makanchi Array**	**45.10**	**58**	*de*P	**P**		**06 23 05.4**	**-1.0**
MKAR	**Makanchi Array**	**45.10**	**58**	P	**P**		**06 23 04.7**	**-1.7**
	comp=Z,1.4nm,0.4s,baz=277,slow=7.1,SNR=19							
MKAR				LR	LR		06 44 27.0	
	comp=Z,62nm,20.4s,baz=292,slow=40							
	comp=Z,1.4nm,0.4s							
MKAR	**Makanchi Array**	**45.10**	**58**	P	**P**		**06 23 05.0**	**-1.3**
MKAR	**Makanchi Array**	**45.10**	**58**	P	**P**		**06 23 05.1**	**-1.3**
ZAA0	**Zalesovo Array**	**45.60**	**48**	IAmb	IAmb		06 23 17.0	
	comp=Z,5.7nm,0.6s							
ZALV	**Zalesovo Beam**	**45.60**	**48**	P	**P**		**06 23 08.4**	**-1.7**
	comp=Z,4.8nm,0.6s,baz=278,slow=8.3,SNR=12							
ZALV				LR	LR		06 44 17.7	
	comp=Z,95nm,18.1s,baz=282,slow=39							
	comp=Z,4.8nm,0.6s							
NRIK	**Noril'sk**	**46.95**	**26**	LR	LR		06 45 05.5	
	comp=Z,130nm,19.7s,baz=262,slow=39							
DGZ	**Jazzator, Alta**	**47.88**	**53⇓**	*e*P	**P**		**06 23 30.2**	**+1.9**
DGZ				pmax	pmax			
	comp=Z,2.0nm,0.5s							
SFJD	**Kangerlussuaq**	**48.84**	**330**	LR	LR		06 45 55.9	
	comp=Z,121nm,18.9s,baz=86,slow=38							
WMQ	**Urumqi**	**49.53**	**61**	*e*P	**P**		**06 23 44.5**	**+3.6**
LSZ	**Lusaka**	**53.17**	**172**	LR	LR		06 47 14.1	
	comp=Z,131nm,19.4s,baz=50,slow=36							
TSUM	**Tsumeb**	**56.76**	**184**	LR	LR		06 51 45.6	
	comp=Z,118nm,18.2s,baz=340,slow=39							
FRB	**Frobisher Bay**	**56.77**	**328**	LR	LR		06 50 18.3	
	comp=Z,108nm,18.6s,baz=31,slow=38							
SCHQ	**Schefferville**	**59.10**	**318**	P	**P**		**06 24 49.0**	**-1.3**
	comp=Z,3.2nm,0.4s,baz=69,slow=6.2,SNR=13							
	comp=Z,3.2nm,0.4s							
SCHQ	**Schefferville**	**59.10**	**318**	P	**P**		**06 24 49.8**	**-0.6**
GTA	**Gaotai**	**59.59**	**62**	*e*P	**P**		**06 24 57.1**	**+3.0**
GTA				pP	sP		06 25 00.5	-0.9
GTA				sP	pP		06 25 03.5	+4.1
GTA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**59.87**	**20**	LR	LR		06 54 23.1	
	comp=Z,185nm,18.1s,baz=357,slow=40							
RES	**Resolute Bay**	**60.31**	**344**	LR	LR		06 53 00.1	
	comp=Z,66nm,18.5s,baz=20,slow=38							
SONM	**Songino Array**	**60.34**	**51**	P	**P**		**06 24 58.6**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=293,slow=7.7,SNR=1.6							
	comp=Z,0.4nm,0.4s							
YAK	**Yakutsk**	**65.23**	**29**	LR	LR		06 56 37.5	
	comp=Z,64nm,18.6s,baz=271,slow=38							
BOSA	**Boshof**	**66.14**	**176**	LR	LR		06 56 45.2	
	comp=Z,61nm,20.2s,baz=6.0,slow=38							
HHC	**Hu-ho-hao-te**	**66.86**	**56**	*e*P	**P**		**06 25 45.4**	**+3.1**
HHC				pmax	pmax			
	comp=Z,42nm,0.9s							
HHC				pmax	pmax			
	comp=Z,140nm,6.0s							
PZH	**PanZhiHua**	**67.25**	**73**	P	**P**		**06 25 46.8**	**+1.8**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,80nm,5.0s							
RCBR	**Riachuelo**	**68.44**	**244**	LR	LR		06 54 58.0	
	comp=Z,48nm,20.6s,baz=160,slow=35							
CMAR	**Chiang Mai Arr**	**69.46**	**82**	P	**P**		**06 25 57.8**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=301,slow=7.5,SNR=8.9							
	comp=Z,1.5nm,0.7s							
SUR	**Sutherland**	**69.78**	**180**	LR	LR		06 59 06.1	
	comp=Z,127nm,18.2s,baz=8.5,slow=38							
BJI	**Beijing**	**70.28**	**54**	P	**P**		**06 26 02.6**	**-0.9**
BJI				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SADO	**Sadowa**	**70.90**	**312**	LR	LR		06 58 14.3	
	comp=Z,62nm,18.2s,baz=29,slow=37							
BILL	**Bilibino**	**71.31**	**13**	*e*P	**P**		**06 26 07.5**	**-1.8**
BILL				*e*			06 26 23.2	
BILL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
INK	**Inuvik**	**72.56**	**350**	LR	LR		06 59 35.0	
	comp=Z,40nm,20.5s,baz=212,slow=37							
KLR	**Kul'dur**	**73.88**	**40**	P	**P**		**06 26 23.4**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=329,slow=10,SNR=3.9							
KLR				LR	LR		07 01 57.2	
	comp=Z,38nm,18.4s,baz=304,slow=38							
	comp=Z,1.1nm,0.7s							
YKA	**Yellowknife Ar**	**73.95**	**340**	LR	LR		07 00 35.6	
	comp=Z,94nm,19.1s,baz=6.5,slow=37							
MDP	**Montagnes des**	**74.08**	**264**	LR	LR		06 58 28.6	
	comp=Z,31nm,19.9s,baz=152,slow=35							
MA2	**Magadan**	**74.47**	**24**	LR	LR		07 02 14.4	
	comp=Z,62nm,19.2s,baz=343,slow=38							
SJG	**San Juan**	**77.06**	**283**	LR	LR		06 55 06.1	
	comp=Z,14nm,19.7s,baz=62,slow=31							
ILAR	**Eielson Array**	**77.37**	**355**	P	**P**		**06 26 44.0**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=360,slow=2.3,SNR=2.3							
ILAR				LR	LR		07 03 54.1	
	comp=Z,25nm,18.4s,baz=268,slow=38							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**77.37**	**355**	P	**P**		**06 26 44.0**	**-0.7**
TKL	**Tuckaleechee C**	**79.18**	**307**	LR	LR		07 03 03.2	
	comp=Z,39nm,18.2s,baz=34,slow=37							
KSRS	**Korea Array**	**79.21**	**51**	P	**P**		**06 26 55.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=305,slow=4.5,SNR=1.8							
	comp=Z,0.4nm,0.3s							
DLBC	**Dease Lake**	**81.18**	**345**	LR	LR		07 02 57.3	
	comp=Z,43nm,20.2s,baz=138,slow=36							
PETK	**Petropavlovsk-**	**81.97**	**25**	LR	LR		07 08 13.6	
	comp=Z,70nm,18.8s,baz=314,slow=39							
ILSW	**Iliamna Southw**	**82.50**	**357**	P	**P**		**06 27 13.8**	**+1.2**
ILSW				IAmb	IAmb		06 27 18.7	
	comp=Z,20nm,0.8s							
BBB	**Bella Bella**	**86.50**	**342**	LR	LR		07 10 29.7	
	comp=Z,30nm,18.5s,baz=83,slow=39							
NEW	**Newport**	**86.65**	**334**	LR	LR		07 07 58.8	
	comp=Z,69nm,18.4s,baz=36,slow=37							
PDAR	**Pinedale Array**	**88.17**	**326**	LR	LR		07 09 14.1	
	comp=Z,66nm,18.0s,baz=36,slow=37							
ROSC	**El Rosal**	**91.38**	**277**	LR	LR		07 07 17.3	
	comp=Z,21nm,20.3s,baz=60,slow=34							
ELK	**Elko**	**92.27**	**328**	LR	LR		07 10 27.5	
	comp=Z,74nm,21.1s,baz=32,slow=36							
ANMO	**Albuquerque**	**92.84**	**319**	LR	LR		07 11 35.2	
	comp=Z,58nm,18.1s,baz=42,slow=37							
YBH	**Yreka Blue Hor**	**94.28**	**334**	LR	LR		07 13 22.6	
	comp=Z,42nm,18.7s,baz=9.5,slow=37							
NVAR	**Mina Array Bea**	**95.48**	**329**	LR	LR		07 13 33.2	
	comp=Z,63nm,18.2s,baz=80,slow=37							
LPAZ	**La Paz**	**99.23**	**257**	LR	LR		07 14 59.6	
	comp=Z,17nm,19.1s,baz=214,slow=36							

IDC ***13*** *06:26:12.5±1.4, 18°.92S×177°.66W, h582km±18km, mb3.2/4, mbtmp4.3/7, Error ellipse: s-maj=35.7km s-min=19.7km az=154.0*

ISC 13 06:26:11.8±0.9, 19°.0S±0°.2×177°.6W±0°.2, h570km, n7, σ1ᵖ63/9, mb4.0/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.36**	**286**	P	**P**	**06 27 39.8**	**+1.9**
	36nm,0.5s,baz=132,slow=14,SNR=36						
AFI	**Afiamalu**	**7.52**	**48**	P	**P**	**06 28 04.9**	**-0.7**
	27nm,0.6s,baz=332,slow=1.5,SNR=6.3						
URZ	**Urewera**	**19.72**	**193**	P	**P**	**06 30 05.0**	**+0.8**
	4.6nm,0.5s,baz=31,slow=8.0,SNR=2.4						
STKA	**Stephens Creek**	**38.82**	**243**	P	**P**	**06 32 48.8**	**+0.1**
	1.8nm,0.3s,baz=84,slow=9.1,SNR=6.0						
	1.8nm,0.3s						
WRA	**Warramunga Arr**	**45.23**	**260**	P	**P**	**06 33 38.0**	**-1.2**
	1.3nm,0.4s,baz=98,slow=6.9,SNR=57						
WRA				PcP	**PcP**	**06 35 04.6**	**-2.5**
	0.2nm,0.7s,baz=103,slow=3.4,SNR=1.8						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**45.27**	**255**	P	**P**	**06 33 38.8**	**-0.8**
	9.8nm,1.1s,baz=93,slow=7.3,SNR=36						
ASAR				PcP	**PcP**	**06 35 06.0**	**-1.2**
	0.2nm,0.4s,baz=100,slow=3.9,SNR=1.6						
	9.8nm,1.1s						
TXAR	**Lajitas Array**	**85.91**	**57**	P	**P**	**06 37 53.7**	**+1.3**
	0.3nm,0.7s,baz=232,slow=7.5,SNR=4.9						
	0.3nm,0.7s						

VAO 13 06:29:03.4±0.3, 10°.09S×59°.11W, h0km, mbR3.6, Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDRB	**Porto dos Gac**	**2.79**	**123**	*e*S	Sn	06 30 23.1	-0.7
VILB	**Vilhena**	**3.04**	**200**	*e*P	Pn	06 29 53.4	+0.5
CLDB	**Colider**	**3.35**	**104**	*e*P	Pn	06 29 57.8	+0.7
NPGB	**Novo Progresso**	**4.79**	**51**	*e*P	Pn	06 30 17.5	+0.6
PTLB	**Pontes e Lacer**	**5.33**	**180**	*e*P	Pn	06 30 24.2	-0.1
ITTB	**Itaituba**	**6.60**	**31**	*e*P	Pn	06 30 41.8	+0.1
SALV	**Santo Antonio**	**6.67**	**150**	*e*P	Pn	06 30 43.0	+0.2
ETMB	**Extrema**	**7.00**	**272**	*e*P	Pn	06 30 47.0	-0.3
MACA	**Manacapuru-AM**	**7.05**	**347**	*e*P	Pn	06 30 47.3	-0.7
SNDB	**Serra Nova Dou**	**7.90**	**104**	*e*P	Pn	06 30 59.1	-0.5
MALB	**Monte Alegre**	**9.49**	**31**	*e*P	Pn	06 31 21.0	-0.5
PRPB	**Parauapebas**	**9.99**	**68**	*e*P	Pn	06 31 28.3	0.0
LPAZ	**La Paz**	**10.73**	**234**	*e*P	Pn	06 31 37.9	-1.0
SMTB	**Santa Maria do**	**11.43**	**85**	*e*P	Pn	06 31 48.1	0.0

ISC 13 06:30:00.7±1.2, 49°.18N±0°.06×18°.88E±0°.04, h10km, n4, σ0ᵖ69/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANS	**Liptovska Anna**	**0.39**	**94**	*e*PG	**Pg**	**06 30 07.7**	**-0.6**
LANS				*e*SG	**Sg**	**06 30 13.5**	**+0.1**
LANS				eLG	Lg	06 30 14.7	
VYHS	**Vyhne**	**0.69**	**182**	*e*PG	**Pb**	**06 30 15.1**	**+0.4**
VYHS				*e*SG	**Sb**	**06 30 24.9**	**+0.6**
JAVC	**Velka Javorina**	**0.86**	**248**	*e*PG	**Pg**	**06 30 17.0**	**-0.2**
JAVC				*e*SG	**Sg**	**06 30 27.4**	**-1.0**
MORC	**Moravsky Berou**	**1.06**	**305**	*e*PG	**Pb**	**06 30 21.7**	**+0.6**
MORC				*e*SG	**Sg**	**06 30 34.4**	**-0.3**

BJI ***13*** *06:39:46.1±0.0, 7°.36S×129°.96E, h109km, mb4.9/45, mB5.0/20*

DJA ***13*** *06:39:50.5±0.2, 7°.S±2°×13°.0E±°, h121km±2km, M5.0/55, mB5.4/26, mb4.9/55, MLv5.3/15, Mw(mB)4.9/26*

IDC ***13*** *06:39:51.2±1.4, 6°.99S×129°.76E, h114km±12km, mb4.4/23, mbtmp4.8/25, MS3.4/12, Error ellipse: s-maj=14.0km s-min=10.0km az=79.0*

NEIC ***13*** *06:39:52.0±2.4, 7°.04S±0°.06×129°.87E±0°.08, h124km±5km, mb4.9/48, Error ellipse: s-maj=10.8km s-min=8.6km az=86.0*

ISC 13 06:39:49.5±0.3, 7°.12S±0°.04×129°.90E±0°.04, h104km, n253, σ1ᵖ94/267, mb4.8/59, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.63**	**122**		**Pn**	**06 40 21.4**	**+3.8**
SAUI	**Saumlaki**	**1.63**	**122**	P	**Pn**	**06 40 18.5**	**+0.9**
SAUI				S	**Sn**	**06 40 40.4**	**+1.4**
SAUI	**Saumlaki**	**1.63**	**122**	P	**Pn**	**06 40 23.3**	**+3.7**
BNDI	**Bandanaira**	**2.58**	**0**	P	**Pn**	**06 40 31.8**	**+2.0**
BNDI	**Bandanaira**	**2.58**	**0**	P	**Pn**	**06 40 32.3**	**+2.5**
AAI	**Ambon**	**3.81**	**333**	P	**Pn**	**06 40 48.6**	**+2.4**
MSAI	**Masohi**	**3.87**	**346**	P	**Pn**	**06 40 50.0**	**+2.9**
NLAI	**Namlea**	**4.76**	**324**	P	**Pn**	**06 41 02.0**	**+3.0**
FAKI	**Fak Fak**	**4.79**	**29**	Pn	**Pn**	**06 40 59.3**	**-0.2**
FAKI	**Fak Fak**	**4.79**	**29**	P

54nm,0.3s,baz=347,slow=13,SNR=176
WRA S Sn 06 45 14.7 -10
96nm,0.7s,baz=338,slow=22,SNR=21
WRA LR LR 06 48 57.6
comp=Z,300nm,20.9s,baz=332,slow=40
WB2 Warramunga Arr 13.46 162 Pn **Pn 06 42 54.2 -2.2**
WR0 Warramunga Arr 13.54 161 Pn 06 42 54.4 -2.9
BKB Balikpapan 14.21 294 P **P 06 43 09.0 -1.3**
250nm,0.9s
SMKI Samarinda 14.29 297 P **P 06 43 09.3 -1.9**
6µm170nm,0.8s
COEN Coen 14.71 119 P **Pn 06 43 13.0 +0.4**
baz=15,SNR=20
COEN Coen 14.71 119 Pn **Pn 06 43 12.7 +0.2**
COEN Coen 14.71 119 P **Pn 06 43 13.2 +0.7**
DAV Davao City (W) 14.74 343 LR LR 06 50 02.5
comp=Z,101nm,19.2s,baz=146,slow=42
BBKI Banjar Baru 15.42 283 P **P 06 43 23.6 -0.2**
3µm288nm,1.1s
JAGI Jajag, Banyuwa 15.66 264 Pn **Pn 06 43 20.1 -4.3**
JAGI Jajag, Banyuwa 15.66 264 P **Pn 06 43 24.0 -0.5**
47nm,1.0s
KMMI Kalianget 15.81 269 P **P 06 43 28.0 -0.1**
63nm,0.9s
MTKI Muara Teweh, K 16.17 292 P **P 06 43 32.8 +0.7**
6µm110nm,1.0s
QIS Mount Isa 16.34 146 P **Pn 06 43 32.6 -0.2**
baz=16,SNR=18
QIS Mount Isa 16.34 146 P **Pn 06 43 33.0 +0.1**
MYLDM Lahad Datu 16.69 317 P **P 06 43 41.2 +3.4**
AS31 Alice Springs 16.90 167 Pn 06 43 39.4 -0.4
ASAR Alice Springs 16.90 167 P **Pn 06 43 39.4 -0.4**
54nm,0.5s,baz=340,slow=9.4,SNR=401
ASAR S **Sn 06 46 37.7 -10**
20nm,0.7s,baz=350,slow=26,SNR=4.1
ASAR LR LR 06 51 09.2
comp=Z,257nm,18.5s,baz=260,slow=40
ASAR ScP **ScP 06 51 45.1 -1.4**
9.2nm,0.7s,baz=0.8,slow=1.7,SNR=6.5
ASAR Alice Springs 16.90 167 Pn 06 43 39.5 -0.3
MBWA Marble Bar 17.07 214 P **Pn 06 43 40.7 -1.2**
MBWA Marble Bar 17.07 214 P **Pn 06 43 41.6 -0.3**
PMG Port Moresby 17.23 99 P **Pn 06 43 45.0 +1.1**
18nm,0.8s,baz=297,slow=9.0,SNR=2.6
PMG S **Sn 06 46 45.5 -10**
15nm,0.6s,baz=292,slow=15,SNR=2.0
PMG LR LR 06 51 42.5
comp=Z,103nm,18.4s,baz=261,slow=41
PSA00 Pilbara Seismi 17.34 213 P **P 06 43 44.6 -0.4**
PSA00 Pilbara Seismi 17.34 213 P **P 06 43 44.9 -0.1**
MTSU Mount Surprise 17.81 129 P **Pn 06 43 52.6 +1.8**
baz=18,SNR=29
WRKA Warakurna 17.88 185 P **P 06 43 51.0 0.0**
baz=18,SNR=186
WRKA Warakurna 17.88 185 P **P 06 43 51.1 +0.2**
PWJI Pagerwojo 17.96 266 P **P 06 43 50.6 -1.2**
69nm,1.0s
PCJI Pacitan 18.59 265 P **P 06 43 57.4 -1.3**
81nm,1.0s
PBKI Pangkalan Bun 18.68 283 P **Pn 06 44 01.3 0.0**
312nm,1.0s
KKM Kota Kinabalu 18.91 313 P **P 06 44 01.9 -0.3**
STKI Sintang 19.71 290 P **Pn 06 44 12.6 -0.8**
18µm20nm,0.4s
SBUM Sibu 20.04 298 P **P 06 44 15.8 +1.3**
CTA Charters Tower 20.44 131 P Pn 06 44 22.6 +0.8
2.3nm,0.4s,baz=312,slow=12,SNR=2.2
CTA LR LR 06 53 37.6
comp=Z,98nm,21.8s,baz=258,slow=40
2.3nm,0.4s
OOD Oodnadatta 21.28 166 P **P 06 44 30.1 +2.4**
GIRL Giralia 21.58 223 P **P 06 44 32.0 +1.1**
baz=22,SNR=9.7
GIRL Giralia 21.58 223 P **P 06 44 33.3 +2.3**
LEM Lembang 22.12 269 P **P 06 44 36.6 -0.3**
43nm,0.6s,baz=2.5,slow=8.3,SNR=5.2
43nm,0.6s
MEEK Meekatharra 22.18 208 P **P 06 44 38.6 +1.2**
baz=22,SNR=19
MEEK Meekatharra 22.18 208 P **P 06 44 39.0 +1.7**
MULG Mulgathing 23.37 171 P **P 06 44 50.5 +1.5**
FORT Forrest 23.60 184 P **P 06 44 52.8 +1.7**
baz=24,SNR=6.8
FORT Forrest 23.60 184 P **P 06 44 51.8 +0.8**
FORT Forrest 23.60 184 P **P 06 44 52.2 +1.2**
PPBI Pangkal Pinang 24.18 281 P **P 06 44 56.9 +0.4**
86nm,0.9s
LCRK Leigh Creek 24.48 162 P **P 06 45 00.9 +1.9**
GUMO Guam 25.38 36 P **P 06 45 07.5 +0.2**
52nm,0.8s,baz=213,slow=18,SNR=1.9
52nm,0.8s
MORW Morawa 25.45 209 P **P 06 45 08.6 +0.8**
baz=26,SNR=4.0
MORW Morawa 25.45 209 P **P 06 45 08.1 +0.3**
MORW IAmb IAmb 06 45 36.2
comp=Z,22nm,0.6s
MORW Morawa 25.45 209 P **P 06 45 08.8 +1.0**
BBOO Buckleboo 26.20 168 P **P 06 45 15.6 +1.0**
baz=26,SNR=10.0
BBOO Buckleboo 26.20 168 P **P 06 45 15.8 +1.3**
BBOO Buckleboo 26.20 168 P **P 06 45 15.6 +1.0**
BLDU Ballidu 26.44 206 P **P 06 45 17.7 +0.9**
baz=26,SNR=20
BLDU Ballidu 26.44 206 P **P 06 45 17.8 +1.0**
KLBR Kellerberrin 26.86 203 P **P 06 45 21.8 +1.2**
baz=27,SNR=20
KLBR Kellerberrin 26.86 203 P **P 06 45 22.0 +1.5**
STKA Stephens Creek 26.94 158 P **P 06 45 22.9 +1.6**
comp=Z,19nm,0.5s,baz=338,slow=8.3,SNR=42
STKA LR LR 06 57 41.5
comp=Z,147nm,19.7s,baz=12,slow=40
comp=Z,19nm,0.5s
STKA Stephens Creek 26.94 158 P **P 06 45 22.9 +1.6**
baz=27,SNR=22
STKA Stephens Creek 26.94 158 P **P 06 45 23.0 +1.7**
STKA Stephens Creek 26.94 158 P **P 06 45 23.0 +1.7**
HTT Hallett 27.48 163 P **P 06 45 28.0 +1.9**
baz=28,SNR=6.5
HTT Hallett 27.48 163 P **P 06 45 28.0 +1.9**
MUN Mundaring 27.83 206 P **P 06 45 30.3 +1.1**
baz=28,SNR=4.4
MUN Mundaring 27.83 206 P **P 06 45 30.3 +1.1**
NWAO Narrogin (SRO) 28.25 203 P **P 06 45 34.1 +1.2**
comp=Z,8.5nm,0.5s,baz=254,slow=7.3,SNR=10
comp=Z,8.5nm,0.5s
NWAO Narrogin (SRO) 28.25 203 P **P 06 45 34.2 +1.3**
baz=28,SNR=8.2
NWAO P **P 06 45 34.2 +1.3**
baz=28,SNR=8.2
NWAO Narrogin (SRO) 28.25 203 P **P 06 45 33.7 +0.9**
NWAO Narrogin (SRO) 28.25 203 P **P 06 45 34.2 +1.3**
CMSA Cobar Meteorol 28.42 151 P **P 06 45 36.6 +2.2**
baz=29,SNR=15
CMSA Cobar Meteorol 28.42 151 P **P 06 45 36.5 +2.0**
TWOA Tennyson Woods 28.91 165 P **P 06 45 40.9 +2.2**
SDSI Sungai Dareh 29.04 281 P **P 06 45 39.5 -0.7**
comp=Z,11nm,0.8s
ARPS Mount Arapiles 31.46 161 P **P 06 46 03.6 +2.4**
baz=32,SNR=43
ARPS Mount Arapiles 31.46 161 P **P 06 46 03.6 +2.4**
TPUB Ta-pu 31.56 344 P **P 06 46 00.3 -2.0**
KULM Kulim 31.68 292 P **P 06 46 02.7 -0.8**
KULM IAmb IAmb 06 46 04.3
comp=Z,27nm,1.3s
RPSI Rantau Prapat 32.41 286 P **P 06 46 09.0 -0.9**
PSI Prapat 32.45 287 P **P 06 46 07.6 -2.7**
comp=Z,40nm,0.8s,baz=118,slow=4.3,SNR=22
comp=Z,40nm,0.8s
BRAT Ballarat 32.87 159 P **P 06 46 16.8 +3.3**
UBPT Khong Chiam 32.88 313 P **P 06 46 13.9 0.0**
CAN Canberra 33.10 151 P **P 06 46 17.5 +1.8**
CAN IAmb IAmb 06 47 25.8
comp=Z,48nm,1.6s
CAN Canberra 33.10 151 P **P 06 46 18.7 +3.0**
TOO Toolangi 33.46 157 P **P 06 46 22.0 +3.3**
baz=34,SNR=7.0
TOO Toolangi 33.46 157 P **P 06 46 20.4 +1.7**
TOO IAmb IAmb 06 46 58.1
comp=Z,78nm,2.0s
TOO Toolangi 33.46 157 P **P 06 46 22.0 +3.3**
OUENC Ouen Island, N 38.68 117 P **P 06 47 04.6 +1.1**
OUENC IAmb IAmb 06 47 06.1
comp=Z,21nm,1.0s
PINNC Pines Island, 39.28 117 P **P 06 47 05.5 -2.9**
PINNC IAmb IAmb 06 48 08.9
comp=Z,40nm,1.0s

CM31 Chiang Mai Arr 39.73 310 P **P 06 47 11.5 -0.7**
CM31 IAmb IAmb 06 47 17.2
comp=Z,10nm,0.7s
CMAR Chiang Mai Arr 39.73 310 P **P 06 47 11.7 -0.5**
comp=Z,7.3nm,0.8s,baz=141,slow=7.6,SNR=34
CMAR PcP **PcP 06 49 18.1 +1.2**
comp=Z,2.9nm,0.6s,baz=161,slow=2.8,SNR=10.0
comp=Z,7.3nm,0.8s
CMAR Chiang Mai Arr 39.73 310 P **P 06 47 10.8 -1.4**
CHTO Chiang Mai 39.94 311 P **P 06 47 13.2 -0.8**
CHTO Chiang Mai 39.94 311 P **P 06 47 12.3 -1.6**
CHTO pP **pwP 06 47 38.7 -0.7**
NJ2 Nanjing 40.35 345 *eP* **P 06 47 19.3 +2.2**
NJ2 pmax pmax
comp=Z,12nm,0.5s
KMI Kunming 41.55 321 ⇑P **P 06 47 28.3 +1.0**
KMI pmax pmax
comp=Z,12nm,0.6s
ENH Enshi 42.02 333 P **P 06 47 29.6 -1.3**
ENH IAmb IAmb 06 47 30.8
comp=Z,14nm,0.6s
PZH PanZhiHua 43.16 322 P **P 06 47 39.1 -1.2**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.8s
MJAR Matsushiro Arr 44.12 10 P **P 06 47 47.9 +0.2**
comp=Z,2.8nm,0.6s,baz=177,slow=9.7,SNR=6.5
comp=Z,2.8nm,0.6s
KSRS Korea Array 44.38 358 P **P 06 47 49.4 -0.3**
comp=Z,1.1nm,0.6s,baz=189,slow=8.7,SNR=2.8
KSRS ScP **ScP 06 53 13.0 -1.6**
comp=Z,1.0nm,0.8s,baz=194,slow=3.8,SNR=4.3
comp=Z,1.1nm,0.6s
XAN Xi'an 45.50 335 P **P 06 47 56.9 -1.8**
XAN pmax pmax
comp=Z,11nm,0.8s
HNS HongShan 46.51 343 ⇑P **P 06 48 05.5 -0.9**
HNS pmax pmax
comp=Z,12nm,0.7s
BRDH Bariadhala 47.73 309 P **P 06 48 15.8 -0.4**
comp=Z,21nm,0.6s,baz=175,slow=21,SNR=3.9
comp=Z,21nm,0.6s
BJI Beijing 48.61 346 P **P 06 48 22.0 -0.6**
BJI S **S 06 55 21.8 +5.1**
BJI pmax pmax
comp=Z,11nm,0.6s
SHL Shillong 49.21 313 P **P 06 48 26.6 -1.1**
SHL IAmb IAmb 06 48 27.6
comp=Z,11nm,0.9s
LZH Lanzhou 49.46 332 *eP* **P 06 48 29.5 0.0**
LZH pP pP 06 48 54.5 +0.8
LZH sP sP 06 49 03.5 -1.7
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.5s
HHC Hu-ho-hao-te 50.62 342 *eP* **P 06 48 41.4 +3.3**
HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,120nm,5.2s
PALK Pallekele 51.11 285 P **P 06 48 41.3 -0.9**
comp=Z,8.2nm,0.8s,baz=220,slow=8.3,SNR=2.2
PALK LR LR 07 10 58.7
comp=Z,30nm,18.6s,baz=209,slow=37
comp=Z,8.2nm,0.8s
USRK Ussuriysk Ar. 51.12 2 P **P 06 48 41.4 -0.2**
comp=Z,3.8nm,0.6s,baz=182,slow=7.0,SNR=7.6
comp=Z,3.8nm,0.6s
LSA Lhasa 52.21 316 P **P 06 48 49.0 -1.6**
LSA IAmb IAmb 06 48 53.3
comp=Z,7.9nm,0.8s
XLT XiLinHaoTe 52.30 347 *eP* **P 06 48 50.3 -0.2**
XLT pmax pmax
comp=Z,10.0nm,1.0s
XLT pmax pmax
comp=Z,120nm,4.5s
TAPN Taejeung 53.29 312 *eP* **P 06 48 57.1 -1.3**
comp=Z,24nm,0.5s
RAMN Ramite 53.90 311 *eP* **P 06 49 01.8 -1.0**
comp=Z,42nm,0.5s
GTA Gaotai 54.03 331 *eP* **P 06 49 01.8 -1.5**
GTA pP pP 06 49 25.4 -2.5
GTA sP sP 06 49 37.3 -2.0
GTA pmax pmax
comp=Z,5.0nm,1.0s
JIRN Jiri 54.59 311 *eP* **P 06 49 06.6 -1.3**
comp=Z,18nm,0.5s
GUN Gumba 54.95 311 *eP* **P 06 49 09.3 -1.2**
comp=Z,29nm,0.4s
PKI Pulchoki 55.13 311 *eP* **P 06 49 10.1 -1.6**
comp=Z,18nm,0.5s
PKIN Phulchoki 55.14 311 *eP* **P 06 49 10.1 -1.7**
comp=Z,22nm,0.5s
GKN Gorkha 55.93 311 *eP* **P 06 49 16.0 -1.3**
comp=Z,29nm,0.3s
DANN Dangsing 56.77 311 *eP* **P 06 49 23.3 -0.2**
comp=Z,27nm,0.6s
PYUN Piuthan 57.23 310 *eP* **P 06 49 25.5 -1.1**
comp=Z,26nm,0.5s
ULN Ulaanbaatar 58.35 342 P **P 06 49 33.9 -0.1**
SONM Songino Array 58.52 342 P **P 06 49 35.0 -0.1**
comp=Z,4.1nm,0.5s,baz=157,slow=7.1,SNR=21
comp=Z,4.1nm,0.5s
SONM Songino Array 58.52 342 P **P 06 49 35.2 +0.1**
CASY Casey 60.57 189 P **P 06 49 49.9 +1.2**
CASY IAmb IAmb 06 49 51.2
comp=Z,21nm,1.4s
CASY Casey 60.57 189 P **P 06 49 49.0 +0.3**
CASY pP **pP 06 50 16.1 +2.2**
CASY sP **PcP 06 50 32.8 +0.7**
WMQ Urumqi 63.44 327 *eP* **P 06 50 09.3 +0.9**
WMQ sP sP 06 50 53.5 +8.7
WMQ pmax pmax
comp=Z,17nm,0.9s
PETK Petropavlovsk- 64.47 18 P **P 06 50 15.8 +0.9**
comp=Z,3.9nm,0.7s,baz=201,slow=12,SNR=2.4
comp=Z,3.9nm,0.7s
PETK Petropavlovsk- 64.47 18 P **P 06 50 16.3 +1.4**
ZSN Zaisan 67.32 329 *eP* **P 06 50 32.2 -1.1**
baz=329
SHLS Shalkode 67.75 322 *eP* **P 06 50 33.9 -2.3**
baz=323
UZB Uzynbulak 68.01 322 *eP* **P 06 50 36.4 -1.5**
baz=322
KSH Kashi 68.04 318 P **P 06 50 38.9 +0.8**
KSH pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 68.27 327 P **P 06 50 39.2 -0.1**
MK31 IAmb IAmb 06 50 40.0
comp=Z,14nm,0.6s
MKAR Makanchi Array 68.27 327 P **P 06 50 39.2 -0.1**
comp=Z,16nm,0.4s,baz=114,slow=8.7,SNR=266
comp=Z,16nm,0.4s
SATY Saty 68.34 322 *eP* **P 06 50 39.3 -0.7**
comp=Z,3.5nm,0.5s,baz=322
MAKZ Makanchi 68.45 327 P **P 06 50 40.3 -0.1**
MAKZ IAmb IAmb 06 50 41.0
comp=Z,17nm,0.6s
MAKZ Makanchi 68.45 327 P **P 06 50 39.3 -1.1**
MDOK Medeo 69.23 321 *eP* **P 06 50 44.8 -0.7**
baz=321
CHKK Chushkaly 69.64 322 *eP* **P 06 50 46.5 -1.3**
baz=322
TKM2 Tokmak 2 70.01 321 P **P 06 50 50.2 -0.1**
SNR=21
KUU Kurty 70.06 322 *eP* **P 06 50 49.6 -0.8**
comp=Z,13nm,0.4s,baz=322
UCH Uchtar 70.35 320 P **P 06 50 53.5 +0.7**
SNR=8.4
AAK Ala-Archa 70.57 320 P **P 06 50 54.4 +0.7**
SNR=7.0
AAK Ala-Archa 70.57 320 P **P 06 50 53.9 +0.2**
AAK IAmb IAmb 06 50 55.0
comp=Z,11nm,0.9s
AAK Ala-Archa 70.57 320 P **P 06 50 53.3 -0.4**
AAK pP **pP 06 51 17.6 -1.3**
USP Ospenovka 70.88 320 P **P 06 50 55.9 +0.5**
SNR=10.0
SGDS Sogindy 70.89 321 *eP* **P 06 50 54.9 -0.6**
baz=321
EKS2 Erkin-Say 71.04 320 P **P 06 50 56.8 +0.3**
SNR=13
SEM Semipalatinsk 71.55 329 *eP* **P 06 50 58.0 -1.5**
baz=329
ZAA0 Zalesovo Array 71.64 334 P **P 06 50 58.7 -1.0**
ZAA0 IAmb IAmb 06 50 59.4
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 71.64 334 P **P 06 50 58.5 -1.2**
comp=Z,11nm,0.6s,baz=122,slow=5.4,SNR=18
comp=Z,11nm,0.6s
GAR Garm 71.68 315 P **P 06 51 00.3 -0.1**
BTLS Baital 72.06 322 *eP* **P 06 51 01.6 -0.8**
baz=322
VNDA Vanda 72.34 173 P **P 06 51 04.8 +1.2**
comp=Z,1.5nm,0.5s,baz=328,slow=7.8,SNR=15
comp=Z,1.5nm,0.5s
VNDA Vanda 72.34 173 P **P 06 51 05.0 +1.4**
KURK Kurchatov 72.57 329 P **P 06 51 05.0 -0.3**
KURK IAmb IAmb 06 51 07.0
comp=Z,14nm,0.8s
SBA Scott Base 73.23 172 P **P 06 51 09.3 +0.5**
IUG Iuzhnay 73.25 318 *eP* **P 06 51 09.5 -0.2**
baz=318
KK31 Karatay Array 73.36 319 P **P 06 51 10.1 -0.1**
MAW Mawson 74.80 201 P **P 06 51 19.0 +0.9**
comp=Z,5.5nm,0.7s,baz=76,slow=5.8,SNR=14
comp=Z,5.5nm,0.7s
MAW Mawson 74.80 201 P **P 06 51 20.0 +1.9**
baz=75,SNR=8.6
MAW Mawson 74.80 201 P **P 06 51 19.3 +1.3**
BRZS Berezniki 75.36 326 *eP* **P 06 51 21.1 -0.5**
comp=Z,3.3nm,0.5s,baz=326
WSAR Wadi Sarin 75.83 296 LR LR 07 30 39.7
comp=Z,9.8nm,18.2s,baz=95,slow=40
BRVK Borovoye 78.18 328 P **P 06 51 36.8 -0.6**
BRVK IAmb IAmb 06 51 37.7
comp=Z,13nm,0.8s
UOSS Minazif 78.39 297 P **P 06 51 39.3 +0.2**
TIXI Tiksi 78.61 360 P **P 06 51 39.0 -0.3**
GEYT Alibeck 80.21 310 P **P 06 51 48.4 -0.5**
comp=Z,4.9nm,0.6s,baz=150,slow=3.3,SNR=10
GEYT LR LR 07 33 02.3
comp=Z,21nm,18.7s,baz=271,slow=40
comp=Z,4.9nm,0.6s
NRIK Noril'sk 81.65 346 P **P 06 51 55.5 -0.2**
comp=Z,4.8nm,0.6s,baz=121,slow=5.1,SNR=3.6
comp=Z,4.8nm,0.6s
ABKAR Akbulak array 82.54 322 IAmb IAmb 06 52 02.3
comp=Z,9.6nm,0.6s
QSPA South Pole Qui 82.86 180 LR LR 07 29 47.6
comp=Z,54nm,18.9s,baz=258,slow=36
QSPA South Pole Qui 82.86 180 P **P 06 52 01.5 -0.8**
QSPA IAmb IAmb 06 52 03.6
comp=Z,6.9nm,0.7s
ARU Arti 85.75 328 P **P 06 52 15.4 -1.5**
ARU IAmb IAmb 06 52 16.9
comp=Z,10nm,0.7s
RAYN Ar Rayn 87.70 294 P **P 06 52 26.7 -0.6**
RAYN IAmb IAmb 06 52 27.7
comp=Z,12nm,0.8s
GEVA Gevas 91.89 308 IAmb IAmb 06 52 48.1
comp=Z,9.4nm,1.0s
ILAR Eielson Array 93.50 25 P **P 06 52 51.7 -1.5**
comp=Z,0.9nm,0.8s,baz=269,slow=4.3,SNR=7.4
comp=Z,0.9nm,0.8s
TROLL Troll, Antarti 94.02 194 P **P 06 52 57.0 +1.2**
SNAA Sanae 95.52 194 P **P 06 53 03.5 +0.9**
VNA2 Neumayer--Watz 97.09 193 P Pdif 06 53 10.4 +0.8
baz=139,slow=1.5
VNA2 Neumayer--Watz 97.09 193 PKiKP **PKiKP 06 57 45.4 +0.7**
VNA3 Neumayer Olymp 97.35 192 P Pdif 06 53 11.2 +0.4
INK Inuvik 99.01 22 P **Pdif 06 53 16.8 -1.3**
comp=Z,3.3nm,0.8s,baz=227,slow=1.0,SNR=4.0
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 99.31 309 P **Pdif 06 53 18.6 -1.8**
comp=Z,0.7nm,0.8s,baz=135,slow=6.5,SNR=4.6
comp=Z,0.7nm,0.8s
MNK Minsk 102.74 324 *i* P **Pdif 06 53 35.0 0.0**
comp=E,2.0nm,0.8s
MNK *i* P **Pdif 06 53 35.0 0.0**
MNK *i* P **Pdif 06 53 35.0 0.0**
comp=Z,11nm,0.8s,baz=84
MNK *i* PP **PP 06 57 49.4 -0.4**
MNK *i* PPP PPP 06 59 58.8
MNK *i* SKS 07 03 35.2
MNK *i* S **SKSac 07 04 12.0 +7.0**
MNK *i* PS **PS 07 06 57.6 -2.0**
MNK *i* SS **SS 07 12 31.1 +9.4**
MNK *i* SSS SSS 07 16 01.2
MNK *i* LQ LQ 07 31 47.7
MNK *i* LR LR 07 37 07.1
MNK *i* LRM MLR 07 41 28.1
MNK comp=E,9.0nm,16.8s *i* LRM MLR 07 42 34.5
comp=Z,67nm,15.5s
FINES FINESS Array B 102.82 331 PKiKP **PKiKP 06 57 55.0 -0.2**
comp=Z,1.5nm,0.8s,baz=62,slow=4.5,SNR=5.1
GERES GERESS Array B 112.45 320 PKiKP **PKiKP 06 58 13.2 -0.5**
comp=Z,1.1nm,0.5s,baz=90,slow=1.3,SNR=9.8
PDAR Pinedale Array 117.05 45 PKP **PKiKP 06 58 23.6 +0.7**
comp=Z,0.2nm,0.6s,baz=335,slow=4.0,SNR=2.6
KEST Kesra 118.82 307 PKP **PKiKP 06 58 26.8 +0.4**
comp=Z,1.6nm,0.6s,baz=278,slow=5.5,SNR=5.1
EKA Eskdalemuir Ar 119.22 331 PKP **PKPdf 06 58 25.9 -0.5**
comp=Z,2.0nm,0.7s,baz=38,slow=4.2,SNR=4.9
FRB Frobisher Bay 121.94 10 PKP **PKPdf 06 58 29.9 -1.4**
comp=Z,4.2nm,0.8s,baz=337,slow=0.9,SNR=5.5
TXAR Lajitas Array 125.08 59 PKP **PKiKP 06 58 38.9 0.0**
comp=Z,0.2nm,0.7s,baz=277,slow=2.0,SNR=6.0
TORD Torodi Ar. Bea 128.73 281 PKP **PKPdf 06 58 45.2 -0.6**
comp=Z,2.8nm,0.7s,baz=42,slow=2.0,SNR=16
PLCA Paso Flores 128.80 160 PKP **PKiKP 06 58 46.2 +0.2**
comp=Z,2.7nm,0.9s,baz=209,slow=3.5,SNR=5.4
SCHQ Schefferville 130.56 13 SKPbc **SKPbc 07 02 00.2 -2.3**
comp=Z,13nm,0.9s,baz=334,slow=4.3,SNR=10
DBIC Dimbokro 135.09 272 PKP **PKPdf 06 58 57.7 -0.1**
comp=Z,6.7nm,0.8s,baz=61,slow=1.4,SNR=10
DBIC SKPbc **SKPbc 07 02 16.8 -2.5**
comp=Z,2.9nm,0.8s,baz=73,slow=2.0,SNR=5.9
CPUP Villa Florida 146.02 168 PKPbc **PKPab 06 59 19.2 +0.5**
comp=Z,16nm,0.6s,baz=197,slow=2.0,SNR=48
CPUP SKPbc **SKPbc 07 02 47.1 -0.8**
comp=Z,2.6nm,0.8s,baz=202,slow=3.4,SNR=4.0
LPAZ La Paz 150.69 143 PKP **PKPdf 06 59 27.1 +1.4**
comp=Z,14nm,0.4s,baz=217,slow=4.7,SNR=92
LPAZ PKPbc **PKiKP 06 59 32.9 +0.9**
comp=Z,14nm,0.4s,baz=18,slow=2.3,SNR=202
BDFB Brasilia 157.29 185 PKP **PKPdf 06 59 34.9 +0.4**
comp=Z,2.8nm,0.9s,baz=124,slow=3.6,SNR=3.6

IDC 13 06:43:51.4±2.4,13°52S×71°49W,h0km,mb3.2/2, mbtmp3.2/4,ML3.0/2,MS2.4/2,Error ellipse: s-maj=81.5km s-min=23.5km az=35.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.26**	**131**	Pn	Pn	06 44 58.5	+0.4
	0.5nm,0.3s,baz=302,slow=14,SNR=21						
LPAZ				Sn	Sn	06 45 49.9	+1.1
	0.8nm,0.3s,baz=1.9,slow=24,SNR=2.0						
	2.3nm,0.5s						
NNA	**Nana**	**5.44**	**286**	LR	LR	06 46 45.3	
	comp=Z,24nm,20.0s,baz=9.5,slow=32						
LVC	**Limon Verde**	**9.37**	**165**	LR	LR	06 50 16.2	
	comp=Z,37nm,19.8s,baz=340,slow=41						
SIV	**San Ignacio**	**10.37**	**105**	Pn	Pn	06 46 23.7	+2.2
	baz=282,slow=16,SNR=2.3						
SIV				Sn	Sn	06 48 17.1	-1.6
	baz=294,slow=15,SNR=0.9						
SIV				Lg	Lg	06 49 19.9	
	baz=206,slow=23,SNR=1.9						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**52.72**	**324**	P	P	06 53 08.6	+0.4
	0.1nm,0.5s,baz=161,slow=8.6,SNR=1.7						
	0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.20**	**73**	P	P	06 55 46.8	-1.0
	0.2nm,0.5s,baz=261,slow=6.1,SNR=0.9						
	0.2nm,0.5s						

IDC 13 06:52:48.1±0.9,29°98N×82°59E,h0km,mb3.8/14, mbtmp3.8/16,ML4.1/2,Error ellipse: s-maj=29.5km s-min=16.4km az=48.0

ISC 13 06:52:49.3±0.7,29°95N±0°07×82°53E±0°08,h10km,n19, σ1s28/21,mb3.7/13,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**2.05**	**256**	*eP*	**Pn**	**06 53 20.9**	**-2.9**
LGTI				*eS*	**Sb**	**06 53 53.4**	**+1.4**
JBP	**Jabalpur**	**7.13**	**199**	*eP*	**Pb**	**06 54 51.3**	**-1.9**

JBP eS Sn 06 55 57.1 +2.4
MKAR Makanchi Array 16.82 359 Pn Pn 06 56 43.6 -1.3
0.1nm,0.3s,baz=189,slow=12,SNR=9.1
1.3nm,0.7s
CMAR Chiang Mai Arr 18.82 124 P Pn 06 57 10.4 +0.7
0.7nm,0.3s,baz=310,slow=11,SNR=2.4
1.6nm,0.3s
KURBB Kurchatov Arra 20.87 353 P P 06 57 30.9 -0.4
1.6nm,0.3s,baz=179,slow=9.5,SNR=11
1.6nm,0.3s
GEYT Alibeck 21.72 298 P P 06 57 42.9 +2.3
1.3nm,0.5s,baz=108,slow=14,SNR=2.2
1.3nm,0.5s
ZALV Zalesovo Beam 24.04 3 P P 06 58 04.1 -0.2
1.1nm,0.6s,baz=192,slow=14,SNR=4.2
1.1nm,0.6s
BVAR Borovoye Array 24.72 342 P P 06 58 11.2 +0.7
0.7nm,0.5s,baz=142,slow=9.4,SNR=5.0
0.7nm,0.5s
SONM Songino Array 25.60 39 P P 06 58 19.1 +0.3
1.1nm,0.8s,baz=221,slow=11,SNR=5.3
1.1nm,0.8s
FINES FINESS Array B 48.23 328 P P 07 01 30.4 +0.4
1.3nm,0.4s,baz=115,slow=9.4,SNR=14
1.3nm,0.4s
ARCES ARCESS Array B 50.87 338 P P 07 01 50.0 +0.1
1.7nm,0.7s,baz=90,slow=4.9,SNR=5.3
1.7nm,0.7s
HFS Hagfors 54.06 325 P P 07 02 13.9 +0.1
1.9nm,0.4s,baz=109,slow=8.0,SNR=13
1.9nm,0.4s
GERES GERESS Array B 54.55 311 P P 07 02 17.9 +0.2
0.3nm,0.4s,baz=113,slow=3.0,SNR=3.9
0.3nm,0.4s
NB2 NORSAR Subarra 55.30 326 P P 07 02 22.4 -0.4
comp=Z,0.4nm,0.5s,baz=91,slow=7.4
NOA NORSAR Array B 55.30 326 P P 07 02 22.3 -0.4
comp=Z,0.5nm,0.6s,baz=77,slow=8.2,SNR=3.5
comp=Z,0.5nm,0.6s
EKA Eskdalemuir Ar 63.58 320 P P 07 03 19.9 -0.1
comp=Z,0.9nm,0.5s,baz=88,slow=6.9,SNR=6.3
comp=Z,0.9nm,0.5s
WRA Warramunga Arr 70.34 128 P P 07 04 03.7 +0.2
comp=Z,0.5nm,0.7s,baz=322,slow=6.2,SNR=9.1
comp=Z,0.5nm,0.7s
ASAR Alice Springs 72.64 131 P P 07 04 17.0 -0.3
comp=Z,0.6nm,0.9s,baz=312,slow=6.1,SNR=3.1
comp=Z,0.6nm,0.9s
TORD Torodi Ar. Bea 75.70 277 P P 07 04 36.7 +1.2
comp=Z,0.4nm,0.6s,baz=43,slow=5.4,SNR=2.8
comp=Z,0.4nm,0.6s

JMA ***13*** *07:02:48.0±0.6, 36°N×2°×12°9E±°, h0km, MV3.0/6, S KOREAN PENINSULA REG*
KMA ***13*** *07:02:48.5±0.1, 35°.79N×129°.18E, h0km, Error ellipse: s-maj=1.4km s-min=0.5km az=300.0*
ISC 13 07:02:48.2±1.0, 35°.75N±0°.03×129°.18E±0°.05, h10km, n25, σ0§41/27, South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSGIC	Gimchen	0.94	291	P		Pb	07 03 06.6	0.0
	SNR=43							
HACA	Hapcheon Acc B	0.94	249	P		Pb	07 03 07.0	+0.3
	SNR=27							
KSULJ	Uljin	0.96	11	P		Pg	07 03 06.6	-0.2
	SNR=77							
KSSAJ	Sangju	1.06	309	P		Pb	07 03 08.6	0.0
	SNR=18							
DUSB	Deogyusan	1.16	277	P		Pn	07 03 10.4	-0.1
	SNR=50							
HAMB	Hamyang	1.20	259	P		Pn	07 03 11.0	0.0
	SNR=9.5							
CHYB	Chungyang	1.21	350	P		Pb	07 03 11.0	-0.2
	SNR=24							
JTU	Tsushima	1.24	172	P		Pn	07 03 11.2	-0.4
JTU				S		Sb	07 03 27.9	+0.2
YOJB	Youngju	1.24	334	P		Pn	07 03 11.5	-0.1
	SNR=26							
OKCB	Cheongsan-myeo	1.27	298	P		Pb	07 03 12.2	-0.1
	SNR=16							
KSMGY	Mungyeong	1.28	315	P		Pn	07 03 12.0	-0.2
	SNR=42							
KSBON	Boeun	1.35	304	P		Pb	07 03 13.6	0.0
	SNR=43							
KSTBA	Taebaek	1.38	352	P		Pb	07 03 14.0	-0.2
	SNR=73							
JTSM	Tsushimamitsus	1.42	173	P		Pb	07 03 14.5	-0.3
JTSM				S		Sb	07 03 33.3	+0.4
KSCHJ	Chungju	1.48	319	P		Pb	07 03 16.0	+0.1
	SNR=12							
IMWB	Imwonan-gil	1.49	5	P		Pb	07 03 16.0	0.0
	SNR=12							
KSJEO	Jeonju	1.55	277	P		Pb	07 03 17.0	0.0
	SNR=20							
JECH	Jecheon	1.61	331	P		Pb	07 03 18.0	-0.2
	SNR=7.7							
YNDB	Yeoundo	1.74	221	P		Pb	07 03 20.0	-0.2
	SNR=6.4							
KSJEU	Jeongeup	1.85	263	P		Pb	07 03 21.8	-0.4
	SNR=13							
JHGM	Hagimishima	1.87	121	eS		Sb	07 03 46.5	+0.6
KSKWJ	Gwangju	1.89	252	P		Pb	07 03 22.0	-0.8
	SNR=19							
KSKWJ	Gwangju	1.89	252	P		Pb	07 03 22.7	0.0
	SNR=8.2							
BOSB	Boseong-gun	1.89	239	P		Pb	07 03 22.4	-0.4
	SNR=15							
JII	Iki	2.00	167	eS		Sb	07 03 51.2	+1.5

IDC ***13*** *07:02:53.0±0.7, 65°.57N×138°.04W, h0km, mb3.6/6, mbtmp3.6/10, ML3.4/4, MS2.9/4, Error ellipse: s-maj=12.8km s-min=11.2km az=174.0*
AEIC ***13*** *07:02:53.5±1.7, 65°.47N±0°.02×138°.01W±0°.06, h5km±6km, Error ellipse: s-maj=3.6km s-min=3.2km az=84.0*
ANF ***13*** *07:02:53.5±0.3, 65°.47N×137°.95W, h3km±3km, ML4.0/62, ML4.0/61, Error ellipse: s-maj=2.1km s-min=1.4km az=98.0*
NEIC ***13*** *07:02:53.2±1.8, 65°.50N±0°.02×137°.93W±0°.07, h3km±6km, Error ellipse: s-maj=4.1km s-min=3.3km az=66.0*
PGC ***13*** *07:02:53.6±0.0, 65°.50N×138°.13W, h1km, ML3.6, ML4.0/13, 171km northeast of Dawson, Yt Northern Yukon Territory, Canada*
ISC 13 07:02:53.5±0.5, 65°.48N±0°.02×137°.93W±0°.02, h10km, n296, σ1§44/331, mb3.6/6, MS3.0/3, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I29M	Ogilvie Camp,	0.20	233			Pg	07 02 56.0	-1.5
I29M						Sg	07 02 59.1	-1.4
I29M	Ogilvie Camp,	0.20	233	IAML			07 03 01.4	
	comp=N,22µm,0.6s							
I29M	Ogilvie Camp,	0.20	233	P		Pg	07 02 56.1	-1.5
I29M				S		Sg	07 02 59.0	-1.4
I29M	Ogilvie Camp,	0.20	233	P		Pg	07 02 56.1	-1.5
	baz=28,SNR=1000							
I29M				S		Sg	07 02 59.3	-1.1
	baz=28							
EPYK	Eagle Plains	1.02	29			Pb	07 03 12.7	-0.5
EPYK						Sn	07 03 28.3	-0.1
EPYK	Eagle Plains	1.02	29	P		Pn	07 03 13.0	-0.9
EPYK				S		Sn	07 03 27.0	-1.3
EPYK	Eagle Plains	1.02	29	P		Pb	07 03 12.8	-0.5
	baz=214,SNR=66							
EPYK				S		Sn	07 03 27.8	-0.6
	baz=214							
J29M	Klondike Camp	1.04	187			Pg	07 03 12.9	-0.5
J29M						Sb	07 03 27.1	-0.1
J29M	Klondike Camp	1.04	187	P		Pg	07 03 12.9	-0.5
J29M				S		Sg	07 03 25.2	-1.7
J29M	Klondike Camp	1.04	187	P		Pg	07 03 12.8	-0.5
	baz=2.0,SNR=30							
J29M				S		Sb	07 03 27.1	-0.1
	baz=2.0							
EGAK	Eagle	1.54	244			Pb	07 03 20.7	-1.2
EGAK						Sg	07 03 41.5	-1.2
EGAK	Eagle	1.54	244	IAML			07 03 43.3	
	comp=N,1µm,0.6s							
EGAK				IAML			07 03 43.5	
	comp=N,1µm,0.6s							
EGAK	Eagle	1.54	244	P		Pn	07 03 20.6	-0.3
	baz=59,SNR=997							
EGAK				S		Sg	07 03 41.5	-1.2
	baz=59							
I27K	Kandik River	1.54	276			Pb	07 03 21.2	-0.8
I27K						Sg	07 03 41.5	-1.3
I27K	Kandik River	1.54	276	P		Pb	07 03 21.1	-0.9
	baz=92,SNR=218							
I27K				S		Sg	07 03 42.3	-0.6
	baz=92							
DAWY	Dawson	1.55	204			Pb	07 03 21.4	-0.9
DAWY	Dawson	1.55	204	IAML			07 03 44.5	
	comp=N,1µm,0.7s							
DAWY				IAML			07 03 44.7	
	comp=E,1µm,0.8s							
DAWY	Dawson	1.55	204	Pn		Pn	07 03 21.1	-0.1
DAWY				Sg		Sb	07 03 41.6	-0.4
DAWY	Dawson	1.55	204	P		Pn	07 03 21.1	-0.1
	baz=20,SNR=416							
DAWY				S		Sg	07 03 42.8	-0.5
	baz=20							
K29M	Barlow Dome	1.65	174			Pb	07 03 23.2	-0.8
K29M						Sg	07 03 46.4	-0.1
K29M	Barlow Dome	1.65	174	Pn		Pb	07 03 23.5	-0.5
K29M				Sg		Sb	07 03 45.1	+0.2
K29M	Barlow Dome	1.65	174	P		Pb	07 03 23.2	-0.8
	baz=351,SNR=394							
K29M				S		Sb	07 03 45.2	+0.2
	baz=351							
H27K	Steamboat Moun	1.66	299			Pb	07 03 23.2	-0.9
H27K						Sg	07 03 45.4	-1.4
H27K	Steamboat Moun	1.66	299	P		Pb	07 03 23.3	-0.8
	baz=116,SNR=351							
H27K				S		Sg	07 03 45.4	-1.4
	baz=116							
G27K	Doyon Strip	2.02	313			Pb	07 03 28.1	-2.1
G27K	Doyon Strip	2.02	313	P		Pb	07 03 28.2	-2.0
	baz=131,SNR=171							
G27K				S		Sb	07 03 54.6	-0.7
	baz=131							
MAYO	Mayo, Yukon	2.09	154			Pb	07 03 30.2	-1.2
MAYO	Mayo, Yukon	2.09	154	Pn		Pb	07 03 30.7	-0.6
MAYO				Sg		Sg	07 03 59.0	-1.4
MAYO	Mayo, Yukon	2.09	154	P		Pn	07 03 29.0	+0.5
	baz=334,SNR=59							
MAYO				Sb		Sg	07 03 59.3	-1.1
	baz=334							
I26K	Coal Creek Min	2.19	268			Pn	07 03 30.1	+0.2
I26K	Coal Creek Min	2.19	268	IAML			07 04 11.8	
	comp=N,710nm,0.6s							
I26K	Coal Creek Min	2.19	268	P		Pn	07 03 29.6	-0.3
	baz=82							
I26K				S		Sb	07 03 59.5	-0.8
	baz=82							
K27K	Chicken	2.30	233			Pn	07 03 31.2	-0.1
K27K	Chicken	2.30	233	IAML			07 04 13.8	
	comp=E,467nm,0.6s							
K27K	Chicken	2.30	233	P		Pn	07 03 31.2	-0.1
	baz=47							
K27K				S		Sn	07 04 00.6	+0.9
	baz=47							
L29M	L29M	2.38	182			Pn	07 03 33.1	+0.6
L29M	L29M	2.38	182	P		Pn	07 03 32.9	+0.3
	baz=0.0							
J26L	Joseph Creek	2.59	250			Pn	07 03 35.1	-0.3
J26L	Joseph Creek	2.59	250	IAML			07 04 19.8	
	comp=N,358nm,0.6s							
J26L	Joseph Creek	2.59	250	P		Pn	07 03 35.0	-0.3
	baz=64,SNR=105							
J26L				Sb		Sb	07 04 13.0	+1.3
	baz=64							
F31M	Tsiigehtchic	2.59	39	P		Pn	07 03 35.3	0.0
	baz=224,SNR=52							
G26K	Porcupine Rive	2.79	305			Pn	07 03 38.9	+0.8
G26K	Porcupine Rive	2.79	305	P		Pn	07 03 38.1	0.0
	baz=120,SNR=25							
BC03		2.95	216			Pn	07 03 40.6	+0.4
BCAR	Beaver Creek A	2.95	216			Pn	07 03 39.9	-0.5
M30M	Minto, Yukon	2.96	170			Pn	07 03 40.7	+0.2
M30M	Minto, Yukon	2.96	170	IAML			07 04 31.2	
	comp=N,247nm,0.7s							
M30M				IAML			07 04 33.4	
	comp=E,346nm,0.8s							
M30M	Minto, Yukon	2.96	170	Pn		Pn	07 03 40.7	+0.2
M30M				Sn		Sn	07 04 17.2	+1.2
M30M	Minto, Yukon	2.96	170	P		Pn	07 03 40.7	+0.2
	baz=349,SNR=17							
M30M				Sb		Sg	07 04 25.4	-3.0
	baz=349							
L27K	Beaver Creek,	2.96	217			Pn	07 03 40.7	+0.2
L27K	Beaver Creek,	2.96	217	IAML			07 04 30.4	
	comp=E,415nm,0.7s							
L27K	Beaver Creek,	2.96	217	P		Pn	07 03 40.6	+0.1
	baz=32,SNR=60							
SCRK	Sand Creek	3.00	243			Pn	07 03 41.4	+0.2
SCRK	Sand Creek	3.00	243	IAML			07 04 34.7	
	comp=N,261nm,0.5s							
SCRK	Sand Creek	3.00	243	P		Pn	07 03 40.9	-0.3
	baz=56,SNR=36							
SCRK				Sb		Sg	07 04 26.4	-3.4
	baz=56							
M29M	Somme Creek	3.06	185			Pn	07 03 42.4	+0.4
M29M	Somme Creek	3.06	185	Pn		Pn	07 03 42.5	+0.6
M29M				Sn		Sn	07 04 20.4	+1.9
M29M	Somme Creek	3.06	185	P		Pn	07 03 42.3	+0.4
	baz=2.6,SNR=25							
E27K	Coleen River	3.08	334			Pn	07 03 42.4	+0.3
E27K	Coleen River	3.08	334	P		Pn	07 03 42.2	+0.1
	baz=152							
E27K				Sb		Sg	07 04 28.1	-4.2
	baz=152							
PRP	Porcupine Dome	3.17	274			Pn	07 03 43.0	-0.4
PRP	Porcupine Dome	3.17	274	P		Pn	07 03 43.1	-0.3
	baz=87,SNR=48							
PRP				S		Sn	07 04 21.8	+0.6
	baz=87							
FYU	Fort Yukon	3.17	293			Pn	07 03 42.1	-1.3
DOT	Dot Lake	3.22	238			Pn	07 03 44.0	0.0
DOT	Dot Lake	3.22	238	Pn		Pn	07 03 44.1	0.0
DOT				Sg		Sb	07 04 31.5	+1.5
J25K	Salcha River,	3.27	258			Pn	07 03 44.5	-0.2
J25K	Salcha River,	3.27	258	P		Pn	07 03 44.3	-0.4
	baz=71,SNR=34							
J25K				Sb		Sb	07 04 32.9	+1.5
	baz=71							
BM01	Burnt Mountain	3.30	310			Pn	07 03 45.7	+0.5
BMAR	Burnt Mountain	3.31	309			Pn	07 03 45.3	0.0
BM03	Burnt Mountain	3.31	309			Pn	07 03 45.9	+0.5
INK	Inuvik	3.33	29	Pn		Pn	07 03 44.8	-0.7
	comp=N,1.1nm,0.3s,baz=199,slow=20,SNR=40							
INK				Pg		Pb	07 03 52.5	+0.1
	comp=N,4.2nm,0.3s,baz=217,slow=18,SNR=23							
INK				Sn		Sn	07 04 24.9	-0.1
	comp=N,10nm,0.3s,baz=289,slow=32,SNR=7.3							
INK				Lg		Lg	07 04 37.5	
	comp=N,12nm,0.3s,baz=108,slow=19,SNR=5.1							
	comp=N,15nm,0.8s							
INK	Inuvik	3.33	29			Pn	07 03 46.4	+0.9
INK	Inuvik	3.33	29	IAML			07 04 42.0	
	comp=E,171nm,0.7s							
INK	Inuvik	3.33	29	Pn		Pn	07 03 45.7	+0.2
INK				Pg		Pb	07 03 53.5	+1.0
INK				Sg		Sg	07 04 38.0	-2.2
INK	Inuvik	3.33	29	P		Pn	07 03 45.7	+0.2
	baz=215,SNR=8.3							
F26K	Sheenjek River	3.33	315			Pn	07 03 46.1	+0.6
F26K	Sheenjek River	3.33	315	P		Pn	07 03 45.8	+0.2
	baz=130,SNR=5.3							
H25K	Birch Creek	3.33	287			Pn	07 03 46.3	+0.7
H25K	Birch Creek	3.33	287	P		Pn	07 03 46.1	+0.5
	baz=100							
BVCY	Beaver Creek	3.34	204			Pn	07 03 45.9	+0.2
BVCY	Beaver Creek	3.34	204	Pn		Pn	07 03 46.3	+0.6
BVCY				Sg		Sg	07 04 37.0	-3.6
BVCY	Beaver Creek	3.34	204	P		Pn	07 03 46.2	+0.6
	baz=20,SNR=24							
BVCY				Sb		Sg	07 04 36.4	-4.1
	baz=20							
L26K	Log Cabin Wild	3.41	226			Pn	07 03 47.2	+0.5
L26K	Log Cabin Wild	3.41	226	P		Pn	07 03 46.7	0.0
	baz=40,SNR=25							
RIDG	Independent Ri	3.45	243			Pn	07 03 47.9	+0.6
RIDG	Independent Ri	3.45	243	IAML			07 04 52.6	
	comp=N,284nm,0.6s							
RIDG	Independent Ri	3.45	243	P		Pn	07 03 47.3	+0.1
	baz=56,SNR=13							
M27K	Edge Creek, AK	3.59	211			Pn	07 03 49.3	+0.1
M27K	Edge Creek, AK	3.59	211	P		Pn	07 03 49.1	-0.1
	baz=26,SNR=16							
MENT	Mentasta	3.59	227			Pn	07 03 49.3	+0.1
M31M	Drury Creek, Y	3.65	153			Pn	07 03 51.5	+1.6
M31M				IAML			07 04 54.1	
	comp=E,195nm,1.1s							
M31M	Drury Creek, Y	3.65	153	Pg		Pg	07 04 00.9	-2.3
M31M				Sg		Sg	07 04 47.2	-3.2
M31M	Drury Creek, Y	3.65	153	P		Pn	07 03 50.6	+0.7
	baz=335							
F25K	Christian Rive	3.74	308			Pn	07 03 51.9	+0.6
F25K	Christian Rive	3.74	308	P		Pn	07 03 51.6	+0.3
	baz=122							
K24K	Donnelly Dome	3.77	247	Pb		Pb	07 03 59.9	-0.2
	baz=59							
M26K	Nabesna, AK	3.81	218			Pn	07 03 52.6	+0.4
M26K	Nabesna, AK	3.81	218	IAML			07 05 05.2	
	comp=N,198nm,0.6s							
M26K				IAML			07 05 05.4	
	comp=E,148nm,0.9s							
M26K	Nabesna, AK	3.81	218	P		Pn	07 03 52.5	+0.3
	baz=32,SNR=57							
FARO	Faro, Yukon	3.84	146			Pn	07 03 53.0	+0.4
FARO				IAML			07 05 00.5	
	comp=N,122nm,0.6s							
FARO	Faro, Yukon	3.84	146	Pn		Pn	07 03 53.1	+0.5
FARO				Sg		Sg	07 04 52.3	-4.4
FARO	Faro, Yukon	3.84	146	P		Pn	07 03 53.3	+0.7
	baz=329							
IL31		3.85	263			Pn	07 03 52.3	-0.3
ILAR	Eielson Array	3.85	263	Pn		Pn	07 03 52.1	-0.5
	comp=N,0.8nm,0.3s,baz=76,slow=13,SNR=34							
ILAR				Lg		Lg	07 04 50.7	
	comp=N,6.5nm,0.3s,baz=90,slow=27,SNR=7.1							
	comp=N,6.1nm,0.7s							
ILAR	Eielson Array	3.85	263			Pn	07 03 51.5	-1.2
YUK3	Moose Creek	3.89	198			Pn	07 03 53.8	+0.4
YUK3	Moose Creek	3.89	198	Pn		Pn	07 03 53.8	+0.4
YUK3				Sg		Sg	07 04 53.6	-4.5
YUK3	Moose Creek	3.89	198	P		Pn	07 03 53.8	+0.4
	baz=14,SNR=22							
YUK2	White River	3.93	201			Pn	07 03 54.2	+0.4
YUK2	White River	3.93	201	Pn		Pn	07 03 54.4	+0.5
YUK2				Sn		Sn	07 04 40.5	+0.5
YUK2				Sg		Sb	07 04 54.3	+4.0
HDA	Harding Lake	3.98	258			Pn	07 03 54.4	-0.1
HDA				IAML			07 05 03.1	
	comp=N,164nm,0.9s							
HDA				IAML			07 05 06.7	
	comp=E,170nm,0.8s							
HDA	Harding Lake	3.98	258	P		Pn	07 03 54.3	-0.1
	baz=70,SNR=20							
POKR	Poker Plat Res	4.01	269			Pn	07 03 54.6	-0.2
POKR	Poker Plat Res	4.01	269	Pn		Pn	07 03 53.9	-0.9
POKR	Poker Plat Res	4.01	269	IAML			07 05 03.6	
	comp=N,138nm,0.8s							
POKR				IAML			07 05 11.7	
	comp=E,112nm,1.1s							
POKR	Poker Plat Res	4.01	269	P		Pn	07 03 54.5	-0.2
	baz=80							
E25K	Arctic Village	4.02	315			Pn	07 03 55.7	+0.7
E25K	Arctic Village	4.02	315	P		Pn	07 03 55.4	+0.4
	baz=128							
N30M	Aishikik Lake	4.05	174			Pn	07 03 56.3	+0.8
N30M	Aishikik Lake	4.05	174	Pn		Pn	07 03 56.0	+0.4
N30M				Sn		Sn	07 04 43.5	+0.5
N30M	Aishikik Lake	4.05	174	P		Pn	07 03 55.9	+0.4
	baz=354,SNR=9.0							
G24K	Hadweenzic Riv	4.07	292	P		Pn	07 03 56.6	+0.9
	baz=103							
MMPY	Sheldon Lake,	4.10	131	Pn		Pn	07 03 57.3	+1.2
MMPY				Sn		Sn	07 04 44.3	+0.1
MMPY	Sheldon Lake,	4.10	131	P		Pn	07 03 57.1	+0.9
	baz=317,SNR=42							
N31M	Braeburn, Yuko	4.12	165			Pn	07 03 57.6	+1.2
N31M				IAML			07 05 09.4	
	comp=E,156nm,0.9s							
N31M				IAML			07 05 11.1	
	comp=N,115nm,1.1s							
N31M	Braeburn, Yuko	4.12	165	Pn		Pn	07 03 57.8	+1.4
N31M				Sn		Sn	07 04 44.0	-0.8
N31M				Sg		Sg	07 05 04.5	-1.2
N31M	Braeburn, Yuko	4.12	165	P		Pn	07 03 56.9	+0.5
	baz=346							
H24K	Noodor Dome	4.13	279			Pn	07 03 56.6	0.0
H24K	Noodor Dome	4.13	279	IAML			07 05 12.8	
	comp=E,144nm,0.7s							
H24K				IAML			07 05 17.4	
	comp=N,102nm,0.9s							
H24K	Noodor Dome	4.13	279	P		Pn	07 03 56.6	0.0
	baz=90,SNR=15							
PAX	Paxson	4.14	236			Pn	07 03 57.1	+0.3
PAX	Paxson	4.14	236	P		Pn	07 03 56.9	+0.1
	baz=48,SNR=21							
YUK4	Talbot Arm	4.16	185	Sn		Sn	07 04 43.5	-2.4
YUK4				Sg		Sg	07 05 02.1	-4.9
COLA	College	4.23	266			Pn	07 03 57.8	0.0
COLA	College	4.23	266	Pn		Pn	07 03 56.6	-1.2
COLA				IAML			07 05 12.2	
	comp=N,400nm,0.6s							
COLA				IAML			07 05 12.9	
	comp=N,624nm,0.6s							
CCB	Clear Creek Bu	4.26	263			Pn	07 03 58.1	-0.2
YUK5	Granite Creek	4.37	180	Pn		Pn	07 04 00.5	+0.6
MDM	Murphy Dome	4.37	268			Pn	07 03 59.7	-0.1
MDM	Murphy Dome	4.37	268	IAML			07 05 17.7	
	comp=E,101nm,0.7s							
MDM				IAML			07 05 22.4	
	comp=N,122nm,0.8s							
WRH	Wood River Hil	4.43	261			Pn	07 04 01.0	+0.4
WRH	Wood River Hil	4.43	261	IAML			07 05 15.3	
	comp=N,75nm,0.8s							
HARP	HAARP	4.44	229			Pn	07 04 01.1	+0.3
HARP	HAARP	4.44	229	P		Pn	07 04 01.2	+0.4
	baz=42,SNR=5.6							
F24K	Squaw Lake	4.48	302			Pn	07 04 01.9	+0.6
F24K	Squaw Lake	4.48	302	P		Pn	07 04 01.8	+0.4
	baz=113							
WASW	Wrangell South	4.52	221			Pn	07 04 02.9	+0.9
YUK6	Outpost Mounta	4.56	183	Sg		Sg	07 05 17.1	-2.6
YUK6	Outpost Mounta	4.56	183	P		Pn	07 04 03.7	+1.0
	baz=1.2							
HYT	Haines Junctio	4.68	177			Pn	07 04 05.0	+0.9
HYT	Haines Junctio	4.68	177	Pn		Pn	07 04 05.7	+1.5
HYT				Sn		Sn	07 05 00.7	+2.2
HYT	Haines Junctio	4.68	177	P		Pn	07 04 05.1	+0.9
	baz=357							
MCARA	McCarthy VSAT	4.70	211			Pn	07 04 05.4	+1.0
MCARA	McCarthy VSAT	4.70	211	IAML			07 05 29.2	
	comp=N,95nm,0.9s							
MCARA				IAML			07 05 31.8	
	comp=E,112nm,0.8s							
MCARA	McCarthy VSAT	4.70	211	P		Pn	07 04 05.3	+0.9
	baz=26,SNR=9.6							
C27K	Jago River	4.72	335			Pn	07 04 06.0	+1.4
C27K	Jago River	4.72	335	P		Pn	07 04 06.2	+1.7
	baz=150							
PTPK	Patty Peak	4.77	207			Pn	07 04 06.8	+1.3
PTPK	Patty Peak	4.77	207	Pn		Pn	07 04 06.4	+0.9
DHY	Denali Highway	4.77	244			Pn	07 04 06.5	+1.1
DHY	Denali Highway	4.77	244	IAML			07 05 27.0	
	comp=E,100nm,1.0s							
DHY				IAML			07 05 33.5	
	comp=N,85nm,0.8s							
DHY	Denali Highway	4.77	244	P

H23K			IAML		07 05 40.1	
	comp=N,66nm,1.4s					
H23K	**Yukon River**	**4.82 279**	P	**Pn**	**07 04 05.0**	**-1.0**
	baz=89					
GLB	**Gilahina Butte**	**4.83 216**		**Pn**	**07 04 07.5**	**+1.3**
O28M	**Mount Upton**	**4.84 193**		**Pn**	**07 04 07.3**	**+0.9**
O28M	**Mount Upton**	**4.84 193**	Pn	**Pn**	**07 04 07.0**	**+0.5**
O28M			Sn	**Sn**	**07 05 01.8**	**-0.8**
O28M	**Mount Upton**	**4.84 193**	P	**Pn**	**07 04 06.8**	**+0.3**
	baz=10					
N32M	**Quiet Lake**	**4.86 151**	Sg	**Sg**	**07 05 26.5**	**-2.9**
LOGN	**Logan Glacier**	**4.88 198**		**Pn**	**07 04 08.7**	**+1.8**
LOGN			IAML		07 05 35.8	
	comp=E,69nm,1.0s					
LOGN			IAML		07 05 36.9	
	comp=N,53nm,0.7s					
LOGN	**Logan Glacier**	**4.88 198**	Pn	**Pn**	**07 04 07.6**	**+0.7**
LOGN			Sn	**Sn**	**07 05 02.7**	**-0.7**
N25K	**Chitina, Valde**	**4.90 221**		**Pn**	**07 04 08.7**	**+1.6**
N25K	**Chitina, Valde**	**4.90 221**	P	**Pn**	**07 04 07.8**	**+0.7**
	baz=34					
E24K	**Your Creek**	**4.92 307**		**Pn**	**07 04 08.4**	**+1.0**
E24K	**Your Creek**	**4.92 307**	P	**Pn**	**07 04 08.0**	**+0.6**
	baz=117,SNR=9.3					
M24K	**Tolsona, Glenn**	**4.98 231**		**Pn**	**07 04 09.0**	**+0.8**
M24K	**Tolsona, Glenn**	**4.98 231**	P	**Pn**	**07 04 09.0**	**+0.8**
	baz=43					
WHY	**Whitehorse**	**5.03 163**		**Pn**	**07 04 10.2**	**+1.2**
WHY			IAML		07 05 37.0	
	comp=E,60nm,1.0s					
WHY			IAML		07 05 54.9	
	comp=N,45nm,1.6s					
WHY	**Whitehorse**	**5.03 163**	Pn	**Pn**	**07 04 09.8**	**+0.8**
WHY			Sg	**Sg**	**07 05 31.1**	**-3.8**
WHY	**Whitehorse**	**5.03 163**	P	**Pn**	**07 04 09.9**	**+0.8**
	baz=344					
D25K	**Kavik River**	**5.05 324**		**Pn**	**07 04 11.1**	**+1.9**
D25K	**Kavik River**	**5.05 324**	P	**Pn**	**07 04 10.0**	**+0.9**
	baz=136,SNR=6.6					
MCK	**McKinley**	**5.05 255**		**Pn**	**07 04 10.6**	**+1.4**
MCK	**McKinley**	**5.05 255**	IAML		07 05 37.9	
	comp=N,71nm,0.8s					
MCK			IAML		07 05 38.2	
	comp=E,63nm,0.8s					
MCK	**McKinley**	**5.05 255**	P	**Pn**	**07 04 09.6**	**+0.5**
	baz=64,SNR=11					
G23K	**Bananza Creek**	**5.07 290**	P	**Pn**	**07 04 09.9**	**+0.4**
	baz=99					
RND	**Reindeer**	**5.17 251**		**Pn**	**07 04 12.0**	**+1.2**
RND	**Reindeer**	**5.17 251**	IAML		07 05 50.7	
	comp=E,48nm,0.9s					
WAT6	**Susitna Watana**	**5.20 240**	P	**Pn**	**07 04 11.4**	**+0.1**
	baz=51,SNR=5.4					
O29M	**Mount Kennedy**	**5.21 184**		**Pn**	**07 04 13.4**	**+2.0**
O29M	**Mount Kennedy**	**5.21 184**	Pn	**Pn**	**07 04 12.6**	**+1.2**
O29M			Sn	**Sn**	**07 05 08.6**	**-2.9**
O29M	**Mount Kennedy**	**5.21 184**	P	**Pn**	**07 04 12.4**	**+1.0**
	baz=2.0,SNR=5.2					
TGL	**Tana Glacier**	**5.24 207**	Pn	**Pn**	**07 04 14.3**	**+2.5**
TGL			IAML		07 05 39.2	
	comp=N,65nm,0.8s					
TGL			IAML		07 05 44.0	
	comp=E,61nm,0.7s					
COLD	**Coldfoot**	**5.24 295**		**Pn**	**07 04 12.6**	**+0.9**
COLD	**Coldfoot**	**5.24 295**	Pn	**Pn**	**07 04 11.8**	**0.0**
COLD			Sn	**Sn**	**07 05 09.2**	**-2.9**
COLD	**Coldfoot**	**5.24 295**	P	**Pn**	**07 04 12.1**	**+0.4**
	baz=104					
TABL	**Table Mountain**	**5.27 198**	Pn	**Pn**	**07 04 14.0**	**+1.7**
TABL	**Table Mountain**	**5.27 198**	Pn	**Pn**	**07 04 12.9**	**+0.6**
WAT1	**Susitna Watana**	**5.35 245**		**Pn**	**07 04 15.3**	**+2.0**
WAT1	**Susitna Watana**	**5.35 245**	P	**Pn**	**07 04 13.7**	**+0.4**
	baz=55					
BAGL	**Bagley Icefiel**	**5.35 203**		**Pn**	**07 04 15.4**	**+2.2**
KLU	**Klutina**	**5.37 225**	P	**Pn**	**07 04 14.8**	**+1.2**
	baz=38,SNR=10					
P30M	**Million Dollar**	**5.40 175**	Sg	**Sg**	**07 05 41.0**	**-5.5**
MLY	**Manley**	**5.40 271**	Pn	**Pn**	**07 04 13.8**	**-0.2**
MLY			IAML		07 05 54.8	
	comp=E,42nm,0.8s					
MLY	**Manley**	**5.40 271**	P	**Pn**	**07 04 13.9**	**-0.1**
	baz=79					
YAH	**Yahtse**	**5.42 200**	Pn	**Pn**	**07 04 16.6**	**+2.1**
BMRM	**Bremner River**	**5.44 217**		**Pn**	**07 04 16.4**	**+1.9**
BMRM	**Bremner River**	**5.44 217**	P	**Pn**	**07 04 16.0**	**+1.5**
	baz=30					
WAT7	**Susitna Watana**	**5.46 246**		**Pn**	**07 04 16.6**	**+1.7**
PINM	**Pinnacle**	**5.51 192**	P	**Pn**	**07 04 17.7**	**+2.2**
	baz=9.2					
WAX	**Waxell Ridge**	**5.52 206**	Pn	**Pn**	**07 04 17.4**	**+1.7**
TOLK	**Toolik Lake Re**	**5.55 310**		**Pn**	**07 04 17.9**	**+1.9**
TOLK	**Toolik Lake Re**	**5.55 310**	P	**Pn**	**07 04 17.5**	**+1.5**
	baz=120					
SCM	**Sheep Creek Mo**	**5.56 233**	Pn	**Pn**	**07 04 18.4**	**+2.2**
SCM	**Sheep Creek Mo**	**5.56 233**	P	**Pn**	**07 04 18.4**	**+2.2**
	baz=44					
H22K	**Ishtalitna Cre**	**5.57 280**	P	**Pn**	**07 04 16.1**	**-0.2**
	baz=88					
D24K	**Happy Valley**	**5.60 316**	P	**Pn**	**07 04 17.9**	**+1.3**
	baz=126					
BCPM	**Bancas Point**	**5.60 189**	Pn	**Pn**	**07 04 19.7**	**+2.9**
MESA	**MESA**	**5.63 201**	P	**Pn**	**07 04 18.4**	**+1.1**
	baz=16					
G22K	**Bettles**	**5.68 291**	P	**Pn**	**07 04 19.1**	**+1.3**
	baz=99					
M23K	**Glacier View**	**5.72 234**	P	**Pn**	**07 04 18.6**	**+0.3**
	baz=45,SNR=9.3					
TRF	**Thorofare Moun**	**5.72 255**		**Pn**	**07 04 19.3**	**+0.8**
TRF	**Thorofare Moun**	**5.72 255**	P	**Pn**	**07 04 19.6**	**+1.1**
	baz=63,SNR=16					
BPAW	**Bear Paw Mtn.**	**5.75 262**		**Pn**	**07 04 17.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**5.75 262**	P	**Pn**	**07 04 18.8**	**+0.1**
	baz=70					
P33M	**Teslin, Yukon**	**5.78 154**		**Pn**	**07 04 20.8**	**+1.6**
P33M	**Teslin, Yukon**	**5.78 154**	Pn	**Pn**	**07 04 19.6**	**+0.4**
P33M	**Teslin, Yukon**	**5.78 154**	P	**Pn**	**07 04 20.7**	**+1.4**
	baz=338					
TGTN	**Hyland Airport**	**5.86 128**	P	**Pn**	**07 04 21.8**	**+1.5**
	baz=316,SNR=6.8					
P29M	**Windy Craggy**	**5.87 179**	P	**Pn**	**07 04 21.2**	**+0.8**
	baz=358					
I21K	**Tanana**	**5.89 273**		**Pn**	**07 04 19.8**	**-0.8**
I21K	**Tanana**	**5.89 273**	P	**Pn**	**07 04 20.5**	**-0.1**
	baz=81					
HMT	**Hamilton**	**5.91 212**	Pn	**Pn**	**07 04 24.4**	**+3.3**
SML	**Sawmill**	**5.92 236**		**Pn**	**07 04 22.7**	**+1.6**
SML	**Sawmill**	**5.92 236**	P	**Pn**	**07 04 23.1**	**+2.0**
	baz=46,SNR=14					
F22K	**John River**	**6.05 296**	P	**Pn**	**07 04 24.0**	**+1.2**
	baz=103					
D23K	**Nanushuk River**	**6.06 311**		**Pn**	**07 04 24.2**	**+1.3**
D23K	**Nanushuk River**	**6.06 311**	P	**Pn**	**07 04 24.7**	**+1.8**
	baz=120					
PLBC	**Pleasant Camp**	**6.09 172**	Pn	**Pn**	**07 04 23.9**	**+0.5**
PLBC			Sg	**Sg**	**07 06 02.7**	**-6.0**
EYAK	**Cordova Ski Ar**	**6.09 219**	P	**Pn**	**07 04 24.7**	**+1.3**
	baz=32					
H21K	**Melozitna Rive**	**6.17 278**	Pn	**Pn**	**07 04 23.3**	**-1.3**
H21K	**Melozitna Rive**	**6.17 278**	P	**Pn**	**07 04 24.4**	**-0.2**
	baz=85					
GLI	**Glacier Island**	**6.20 226**	P	**Pn**	**07 04 26.3**	**+1.4**
	baz=37					
KNK	**Knik Glacier**	**6.24 234**	Pn	**Pn**	**07 04 27.7**	**+2.3**
KNK	**Knik Glacier**	**6.24 234**	P	**Pn**	**07 04 27.9**	**+2.4**
	baz=44					
PMR	**Palmer**	**6.34 237**	Pn	**Pn**	**07 04 29.4**	**+2.5**
PMR	**Palmer**	**6.34 237**	P	**Pn**	**07 04 27.8**	**+1.0**
	baz=47,SNR=6.7					
G21K	**Allakaket**	**6.44 286**	P	**Pn**	**07 04 28.7**	**+0.5**
	baz=92					
F21K	**Alatna River**	**6.49 293**	P	**Pn**	**07 04 29.8**	**+0.8**
	baz=98					
C23K	**Itkillik River**	**6.51 318**	P	**Pn**	**07 04 30.5**	**+1.3**
	baz=126					
IM03		**6.54 282**		**Pn**	**07 04 30.0**	**+0.5**
IMAR	**Indian Mountai**	**6.54 282**	Pn	**Pn**	**07 04 29.6**	**0.0**
M22K	**Willow**	**6.59 241**	P	**Pn**	**07 04 32.3**	**+2.1**
	baz=50					
C36M	**Paulatuk**	**6.59 48**	Pn	**Pn**	**07 04 30.6**	**+0.4**
C36M	**Paulatuk**	**6.59 48**	Pn	**Pn**	**07 04 30.0**	**-0.2**
C36M			Sn	**Sn**	**07 05 41.8**	**-3.5**
C36M	**Paulatuk**	**6.59 48**	P	**Pn**	**07 04 31.1**	**+0.9**
	baz=241					
PWL	**Port Wells**	**6.60 230**	Pn	**Pn**	**07 04 32.4**	**+1.9**
PWL	**Port Wells**	**6.60 230**	P	**Pn**	**07 04 31.8**	**+1.4**
	baz=40					
RC01	**Rabbit Creek A**	**6.90 236**	Pn	**Pn**	**07 04 36.4**	**+1.9**
SKT	**Skwentna**	**6.98 246**		**Pn**	**07 04 35.9**	**+0.3**
SKT	**Skwentna**	**6.98 246**	P	**Pn**	**07 04 37.0**	**+1.4**
	baz=53,SNR=5.7					
SUA	**Susitna One**	**7.01 241**	P	**Pn**	**07 04 39.7**	**+3.6**
	baz=49					
J20K	**Nowinta River**	**7.04 267**		**Pn**	**07 04 35.6**	**-0.8**
J20K	**Nowinta River**	**7.04 267**	P	**Pn**	**07 04 37.3**	**+1.0**
	baz=72					
K20K	**Telida**	**7.30 260**	Pn	**Pn**	**07 04 40.5**	**+0.5**
JIS	**Juneau Island**	**7.42 165**		**Pn**	**07 04 44.0**	**+2.4**
L20K	**Farewell, AK**	**7.63 254**	P	**Pn**	**07 04 46.3**	**+1.8**
	baz=59,SNR=6.2					
M20K	**Styx River**	**7.65 249**		**Pn**	**07 04 44.9**	**0.0**
M20K	**Styx River**	**7.65 249**	P	**Pn**	**07 04 45.5**	**+0.6**
	baz=55,SNR=6.5					
DLBC	**Dease Lake**	**7.98 149**	Pn	**Pn**	**07 04 49.5**	**+0.1**
	comp=E,0.4nm,0.3s,baz=1.1,slow=12,SNR=6.2					
DLBC			Lg	Lg	07 06 59.1	
	comp=E,0.5nm,0.3s,baz=121,slow=14,SNR=5.9					
	comp=E,1.5nm,0.4s					
DLBC	**Dease Lake**	**7.98 149**	Pn	**Pn**	**07 04 50.3**	**+0.8**
L19K	**White Mountain**	**8.17 254**	Pn	**Pn**	**07 04 53.6**	**+1.6**
L19K	**White Mountain**	**8.17 254**	P	**Pn**	**07 04 52.6**	**+0.7**
	baz=58,SNR=9.0					
SVW2	**Sparrevohn**	**9.06 249**	Pn	**Pn**	**07 05 03.9**	**-0.3**
N18K	**Kilae Creek**	**9.44 248**	Pn	**Pn**	**07 05 11.1**	**+1.7**
N18K	**Kilae Creek**	**9.44 248**	P	**Pn**	**07 05 11.2**	**+1.9**
	baz=51					
FNBB	**Fort Nelson**	**9.59 127**	Pn	**Pn**	**07 05 12.1**	**+0.8**
O17K	**Koliganek Bris**	**10.48 246**	P	**Pn**	**07 05 25.5**	**+1.9**
	baz=48					
YKA	**Yellowknife Ar**	**10.64 96**	Pn	**Pn**	**07 05 24.0**	**-1.8**
	comp=E,0.8nm,0.3s,baz=299,slow=11,SNR=14					
YKA			LR	LR	07 10 25.4	
	comp=E,19nm,21.7s,baz=296,slow=42					
	comp=E,2.6nm,0.6s					
YKA	**Yellowknife Ar**	**10.64 96**	Pn	**Pn**	**07 05 24.5**	**-1.2**
NBC5	**NorthernBC 5**	**10.77 131**	Pn	**Pn**	**07 05 28.2**	**+0.5**
PDAR	**Pinedale Array**	**27.72 131**	P	**P**	**07 08 44.1**	**+2.2**
	comp=E,1.0nm,0.9s,baz=342,slow=4.2,SNR=5.9					
	comp=E,1.0nm,0.9s					
NVAR	**Mina Array Bea**	**29.40 147**	P	**P**	**07 08 59.9**	**+3.0**
	comp=E,1.0nm,0.6s,baz=334,slow=9.1,SNR=12					
	comp=E,1.0nm,0.6s					
SFJD	**Kangerlussuaq**	**32.51 47**	LR	LR	07 22 01.6	
	comp=E,32nm,18.1s,baz=4.5,slow=35					
TXAR	**Lajitas Array**	**41.92 133**	P	**P**	**07 10 46.3**	**+2.3**
	comp=E,0.3nm,0.6s,baz=355,slow=6.4,SNR=6.1					
	comp=E,0.3nm,0.6s					
NOA	**NORSAR Array B**	**51.72 19**	LR	LR	07 35 18.1	
	comp=E,14nm,18.2s,baz=45,slow=38					
KURBB	**Kurchatov Arra**	**60.87 334**	LR	LR	07 41 53.8	
	comp=E,25nm,21.7s,baz=107,slow=38					
MKAR	**Makanchi Array**	**63.81 330**	P	**P**	**07 13 25.1**	**-0.3**
	comp=E,0.3nm,0.8s,baz=32,slow=5.8,SNR=3.2					
	comp=E,0.3nm,0.8s					
ESDC	**Sonseca Array**	**69.25 36**	P	**P**	**07 14 01.0**	**+0.8**
	comp=E,0.7nm,0.7s,baz=339,slow=6.9,SNR=4.3					
	comp=E,0.7nm,0.7s					
BRTR	**Keskin Array B**	**74.92 7**	P	**P**	**07 14 35.1**	**+0.8**
	comp=E,0.5nm,0.7s,baz=327,slow=7.0,SNR=2.2					
	comp=E,0.5nm,0.7s					

NNC 13 07:35:11.7±19.0, 36.76N×70.37E, h0km, mb3.7, mpv3.2, 1C-2D, Error ellipse: s-maj=173.1km s-min=110.1km az=160.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.34**	**1**	⇓P	Pn	07 36 51.9	+5.5
	0.7nm,0.3s,baz=179,slow=14,SNR=4.1						
KK31				⇓S	Sn	07 37 59.8	+0.5
	4.3nm,0.4s,baz=180,slow=24,SNR=7.2						
AB31	**Akbulak array**	**14.61**	**332**	P	Pn	07 38 39.6	+0.1
	1.3nm,0.7s,baz=148,slow=10,SNR=9.7						
AKTO	**Aktyubinsk**	**16.30**	**331**	⇑P	Pn	07 38 58.2	-3.7
	1.1nm,0.5s						

IDC 13 07:35:57.5±1.5, 8.08N×123.04E, h0km, mb3.6/4, mbtmp3.7/5, ML4.1/1, MS2.8/2, Error ellipse: s-maj=38.7km s-min=19.5km az=31.0

MAN 13 07:36:00.8, 8.15N×123.18E, h15km, mb4.7, ML3.6, MS3.5

ISC 13 07:35:58.4±2.2, 8.14N±0.03×123.07E±0.06, h9km±14km, n23, σ1$41/36, mb3.6/4, 9C-8D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.43**	**133**	⇑*i*P	**Pb**	**07 36 08.7**	**+0.6**
PAGZ				*i* S	**Sb**	**07 36 14.8**	**+0.1**
DCPH	**Dipolog City**	**0.52**	**33**	⇓*e*P	**Pb**	**07 36 10.5**	**+0.8**
DCPH				*i* S	**Sb**	**07 36 18.0**	**+0.5**
LSIP	**Lazi, Siquijor**	**1.13**	**30**	⇓*i*P	**Pb**	**07 36 20.2**	**0.0**
LSIP				*i* S	**Sg**	**07 36 34.5**	**-0.3**
SNPH	**Sibulan**	**1.21**	**8**	⇑*i*P	**Pn**	**07 36 21.7**	**+0.2**
SNPH				*i* S	**Sn**	**07 36 37.9**	**-0.1**
CTBH	**Cotabato--PC H**	**1.48**	**128**	⇓*i*P	**Pn**	**07 36 25.0**	**-0.3**
CTBH				*i* S	**Sn**	**07 36 39.5**	**-5.2**
CGP	**Cagayan de Oro**	**1.64**	**79**	⇑*i*P	**Pn**	**07 36 26.8**	**-0.6**
CGP				*i* S	**Sn**	**07 36 47.4**	**-1.2**
CNOP	**Candoni, Negro**	**1.73**	**346**	⇑*i*P	**Pn**	**07 36 29.2**	**+0.6**
TBP	**Tagbilaran**	**1.73**	**27**	⇑*i*P	**Pn**	**07 36 29.6**	**+0.9**
TBP				*i* S	**Sb**	**07 36 52.2**	**0.0**
GHBP	**Garcia Hernand**	**1.93**	**40**	⇓*e*P	**Pn**	**07 36 31.9**	**+0.5**
GHBP				*e*S	**Sn**	**07 36 55.4**	**-0.5**
BUKP	**Musuan**	**1.99**	**97**	⇓*i*P	**Pb**	**07 36 35.4**	**+0.5**
BUKP				*i* S	**Sg**	**07 37 04.3**	**+1.8**
SKMP	**Bagumbayan, Su**	**2.18**	**138**	⇑*i*P	**Pn**	**07 36 35.1**	**+0.3**
KCP	**Kidapawan**	**2.30**	**119**	⇓*i*P	**Pn**	**07 36 37.7**	**+1.1**
KCP				*i* S	**Sb**	**07 37 09.0**	**+0.3**
TABP	**Talibon, Bohol**	**2.31**	**33**	⇑*e*P	**Pn**	**07 36 37.5**	**+0.9**
TABP				*e*S	**Sn**	**07 37 05.4**	**+0.3**
LLP	**Lapu-Lapu**	**2.34**	**22**	⇑*e*P	**Pb**	**07 36 39.9**	**-0.9**
LLP				*e*S	**Sn**	**07 37 06.7**	**+0.8**
DAV	**Davao City (W)**	**2.71**	**113**	Pn	**Pn**	**07 36 44.5**	**+2.4**
	33nm,0.3s,baz=232,slow=17,SNR=1.8						
DAV				Lg	Lg	07 37 22.5	
	45nm,0.3s,baz=323,slow=20,SNR=6.1						
DAV				LR	LR	07 38 03.7	
	comp=Z,214nm,18.1s,baz=174,slow=46						
	151nm,0.4s						
BIPH	**Bislig**	**3.26**	**89**	⇓*i*P	**Pb**	**07 36 55.6**	**-0.8**
BIPH				*i* S	**Sg**	**07 37 40.8**	**-2.5**
DDMP	**Don Marcelino,**	**3.31**	**127**	⇓*e*P	**Pn**	**07 36 52.4**	**+2.0**
RCP	**Roxas**	**3.41**	**355**	⇑*e*P	**Pb**	**07 36 56.8**	**-2.3**
SIJI	**Sorong**	**12.12**	**137**	LR	LR	07 43 28.1	
	comp=Z,40nm,19.6s,baz=50,slow=37						
FITZ	**Fitzroy Crossi**	**26.19**	**174**	P	**P**	**07 41 34.1**	**+0.6**
	3.8nm,1.1s,baz=13,slow=8.4,SNR=3.7						
	3.8nm,1.1s						
WRA	**Warramunga Arr**	**30.03**	**158**	P	**P**	**07 42 07.2**	**-0.7**
	0.8nm,1.0s,baz=333,slow=10,SNR=4.1						
WRA				PcP	**PcP**	**07 45 09.3**	**-0.8**
	0.1nm,0.4s,baz=354,slow=2.3,SNR=1.5						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**33.34**	**162**	P	**P**	**07 42 37.5**	**+0.6**
	0.5nm,0.6s,baz=344,slow=7.6,SNR=8.4						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**51.88**	**325**	P	**P**	**07 45 08.1**	**+0.8**
	0.2nm,0.5s,baz=123,slow=8.9,SNR=2.1						
	0.2nm,0.5s						

IDC 13 07:36:53.7±3.7, 16.10S×173.98W, h97km±27km, mb3.3/6, mbtmp3.7/7, MS3.5/1, Error ellipse: s-maj=105.0km s-min=18.4km az=150.0

NOU 13 07:37:25.8, 14.10S×172.15W, h81km, MLv2.7/4, Samoa Islands

ISC 13 07:36:54.8±1.6, 15.8S±0.6×174.1W±0.4, h100km, n12, σ1$09/14, mb3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.91**	**51**	P	**Pn**	**07 37 40.2**	**+0.8**
	38nm,0.3s,baz=198,slow=3.6,SNR=22						
AFI				S	**Sn**	**07 38 11.6**	**-2.1**
	204nm,0.3s,baz=29,slow=16,SNR=18						
AFI	**Afiamalu**	**2.91**	**51**	P	**Pn**	**07 37 40.4**	**+1.0**
DZM	**Mont Dzumac**	**19.43**	**248**	LR	LR	07 48 26.3	
	comp=Z,140nm,18.2s,baz=34,slow=36						
WRA	**Warramunga Arr**	**49.09**	**257**	P	**P**	**07 45 32.1**	**-0.4**
	0.3nm,0.6s,baz=98,slow=6.1,SNR=10						
WRA				PcP	**PcP**	**07 46 53.9**	**-0.8**
	0.6nm,1.1s,baz=97,slow=3.4,SNR=4.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**49.35**	**252**	P	**P**	**07 45 33.4**	**-0.9**
	0.6nm,0.4s,baz=87,slow=8.0,SNR=11						
ASAR				PcP	**PcP**	**07 46 54.7**	**-0.9**
	0.3nm,0.6s,baz=100,slow=4.2,SNR=2.0						
	0.6nm,0.4s						
NVAR	**Mina Array Bea**	**75.05**	**42**	P	**P**	**07 48 26.5**	**+0.5**
	0.6nm,0.8s,baz=217,slow=12,SNR=4.1						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**81.38**	**56**	P	**P**	**07 49 00.8**	**-0.1**
	0.9nm,1.1s,baz=212,slow=6.9,SNR=4.6						
	0.9nm,1.1s						
ILAR	**Eielson Array**	**82.92**	**11**	P	**P**	**07 49 08.5**	**+0.4**
	0.5nm,0.8s,baz=207,slow=6.5,SNR=3.4						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**82.99**	**42**	P	**P**	**07 49 09.1**	**-0.1**
	0.6nm,0.7s,baz=231,slow=2.7,SNR=7.0						
	0.6nm,0.7s						
ARCES	**ARCESS Array B**	**124.86**	**352**	PKP	**PKPdf**	**07 55 41.8**	**-0.6**
	1.9nm,0.9s,baz=51,slow=4.8,SNR=5.2						
BRTR	**Keskin Array B**	**145.99**	**320**	PKPbc	**PKPdf**	**07 56 23.2**	**+0.7**
	0.7nm,0.8s,baz=103,slow=2.6,SNR=4.9						
GERES	**GERESS Array B**	**146.38**	**351**	PKPbc	**PKPdf**	**07 56 24.5**	**+1.7**
	0.2nm,0.2s,baz=37,slow=5.0,SNR=3.6						

IDC 13 07:41:05.2±2.5, 2.05S×99.72E, h0km, mb3.9/7, mbtmp3.9/7, MS3.2/2, Error ellipse: s-maj=92.1km s-min=20.2km az=59.0

DJA 13 07:41:07.9±0.7, 2.2S±3.3×9.9E±., h23km±8km, M3.7/9, mb3.4/2, MLv3.9/9

NEIC 13 07:41:11.6±1.9, 2.1S±0.1×99.8E±0.2, h47km±6km, mb4.4/6, Error ellipse: s-maj=26.3km s-min=14.2km az=65.0

ISC 13 07:41:08.8±0.7, 2.10S±0.05×99.60E±0.06, h30km, n35, σ1$20/29, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.77**	**148**	P	**Pn**	**07 41 23.5**	**-0.2**
PPSI				S	**Sn**	**07 41 34.4**	**+0.1**
SISI	**Saibi**	**0.92**	**326**	P	**Pn**	**07 41 24.3**	**-1.5**
SISI				S	**Sb**	**07 41 39.2**	**+0.9**
PDSI	**Padang**	**1.46**	**36**	P	**Pb**	**07 41 34.4**	**-1.1**
PDSI				S	**Sb**	**07 41 55.0**	**+1.3**
KRJI	**Kerinci**	**1.86**	**90**	P	**Pb**	**07 41 40.4**	**-1.9**
KRJI				S	**Sb**	**07 42 04.5**	**-0.7**
SDSI	**Sungai Dareh**	**2.17**	**58**	P	**Pb**	**07 41 44.8**	**-2.6**
PBSI	**Pulau Batu**	**2.42**	**327**	P	**Pn**	**07 41 46.2**	**-0.2**
BKNI	**Bangkinang**	**2.81**	**31**	P	**Pn**	**07 41 53.3**	**+1.6**
GSI	**Gunungsitoli**	**3.94**	**329**	P	**Pn**	**07 42 06.6**	**-0.8**
MNAI	**Manna**	**4.03**	**124**	Pn	**Pn**	**07 42 07.6**	**-1.0**
MNAI	**Manna**	**4.03**	**124**	P	**Pn**	**07 42 10.3**	**+1.7**
PSI	**Prapat**	**4.92**	**352**	LR	LR	07 44 29.9	
	comp=Z,116nm,20.6s,baz=238,slow=43						
CMAR	**Chiang Mai Arr**	**20.44**	**358**	P	Pn	07 45 44.9	-1.3
	0.7nm,0.3s,baz=180,slow=11,SNR=2.2						
	0.7nm,0.3s						
H08S2	**Diego Garcia H**	**27.55**	**258**	T	T	08 15 20.2	
	baz=79,slow=75,SNR=45						
H08S3	**Diego Garcia H**	**27.56**	**258**	T	T	08 15 24.7	
	baz=79,slow=75,SNR=181						
H08S1	**Diego Carcia H**	**27.57**	**258**	T	T	08 15 23.4	
	baz=79,slow=75,SNR=16						
MSAI	**Masohi**	**29.32**	**93**	P	P	07 47 17.1	+7.9
H01W3	**Cape Leeuwin H**	**35.31**	**159**	T	T	08 25 06.5	
	baz=334,slow=76,SNR=6.9						
H01W2	**Cape Leeuwin H**	**35.33**	**159**	T	T	08 25 10.2	
	baz=334,slow=76,SNR=7.3						
H01W1	**Cape Leeuwin H**	**35.33**	**159**	T	T	08 25 07.6	
	baz=334,slow=76,SNR=6.3						
WB0	**Warramunga Arr**	**38.27**	**120**	P	**P**	**07 48 25.5**	**-1.3**
WB0				IAmb	IAmb	07 48 34.1	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**38.29**	**120**	P	**P**	**07 48 27.3**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=305,slow=9.1,SNR=7.9						
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**38.29**	**120**	P	**P**	**07 48 25.3**	**-1.7**
WB2	**Warramunga Arr**	**38.30**	**120**	P	**P**	**07 48 26.2**	**-0.8**
WB2				IAmb	IAmb	07 49 03.2	
	comp=Z,8.2nm,1.4s						
ASAR	**Alice Springs**	**39.52**	**126**	P	**P**	**07 48 37.5**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=300,slow=8.1,SNR=6.9						
	comp=Z,0.3nm,0.5s						
STKA	**Stephens Creek**	**49.38**	**131**	LR	LR	08

C012	Glenmawr Avenu	0.15	332		Pg	07 50 25.5	-0.2
C021	Meadowview Dri	0.16	127		Pg	07 50 25.6	-0.1
C021					Sg	07 50 28.5	+0.4
C026	Kell Court Ala	0.16	59		Pg	07 50 25.5	-0.3
RFSB	Richmond Field	0.16	324		Pg	07 50 25.5	-0.2
C055	Cottonwood Ave	0.16	146		Pg	07 50 25.7	-0.1
C055					Sg	07 50 28.9	+0.7
C047	Rutherford Dri	0.16	76		Pg	07 50 25.6	-0.2
C047					Sg	07 50 28.5	+0.1
C056	Diablo Avenue	0.17	154		Pg	07 50 26.4	+0.4
C056					Sg	07 50 30.2	+1.8
C024	33rd St Richmo	0.18	329		Pg	07 50 26.0	-0.1
JSBM	San Bruno Moun	0.18	232		Pg	07 50 26.6	+0.5
JSBM					Sg	07 50 29.9	+1.1
CSPM	San Pablo Ridg	0.18	337		Pg	07 50 26.3	+0.1
CSPM					Sg	07 50 30.1	+1.2
C073	Carlos Bee Bl	0.19	135		Pg	07 50 26.5	+0.2
C073					Sg	07 50 30.0	+1.0
C027	Lawnview Circl	0.19	89		Pg	07 50 26.3	0.0
CRHM	Round Hill Res	0.19	69		Pg	07 50 26.5	+0.2
C067	Fleetwood El S	0.19	344		Pg	07 50 26.9	+0.5
C067					Sg	07 50 30.6	+1.4
CPIM	Pinole Ridge	0.20	1		Pg	07 50 26.7	+0.2
JPRM	Presidio of Sa	0.20	272		Pg	07 50 27.1	+0.6
C018	Christie Drive	0.21	23		Pg	07 50 26.6	0.0
C045	Hawkins Drive	0.21	101		Pg	07 50 26.8	+0.2
C045					Sg	07 50 30.8	+1.2
CPMM	Point Molate	0.22	317		Pg	07 50 26.8	0.0
JCPM	Coyote Point	0.22	202		Pg	07 50 27.5	+0.7
HERB	Hercules	0.23	352		Pg	07 50 27.0	+0.1
C010	Sunflower Cour	0.23	47		Pg	07 50 27.2	+0.2
J061	Lakeshore Driv	0.23	255		Pg	07 50 27.4	+0.5
C006	Lk Pillsbury D	0.24	147		Pg	07 50 27.3	+0.2
CYD1	Coyote D'meter	0.25	156		Pg	07 50 27.5	+0.2
CCYM	Coyote Hills	0.26	157		Pg	07 50 28.0	+0.5
CNIC	Niles Canyon	0.27	132		Pg	07 50 28.1	+0.4
C002	Farnham Drive	0.27	147		Pg	07 50 28.1	+0.3
CRPB	Russellman Par	0.28	64		Pg	07 50 27.8	-0.1
C062	Calle Reynoso	0.28	116		Pg	07 50 28.5	+0.6
C048	Posada Way Fre	0.28	140		Pg	07 50 28.3	+0.4
CTAM	Taylor	0.29	34		Pb	07 50 28.7	-0.8
C015	Bright Common	0.29	142		Pg	07 50 28.6	+0.4
C069	Rotal Creek Pl	0.29	119		Pg	07 50 28.9	+0.7
C032	McCall Drive,	0.30	10		Pg	07 50 28.6	+0.4
JCHM	Cahill Ridge	0.30	204		Pg	07 50 29.0	+0.8
CDOM	Doolan Road	0.31	101		Pb	07 50 29.3	-0.6
BDM	Black Diamond	0.33	60		Pg	07 50 29.0	+0.3
NLHM	Lake Herman	0.33	10		Pg	07 50 29.3	+0.3
CVLM	Vallecito	0.35	118		Pb	07 50 30.0	-0.5
JHPM	Huddart Park	0.35	191		Pg	07 50 30.1	+0.9
C001	Firth Court Fr	0.35	140		Pg	07 50 30.0	+0.7
C050	Festivo Court	0.35	138		Pg	07 50 29.9	+0.7
C017	S Grimmer Bl F	0.37	140		Pg	07 50 30.2	+0.7
JRSC	Jasper Ridge	0.39	182		Pg	07 50 30.4	+0.6
JSFB	Stanford Teles	0.39	175		Pg	07 50 30.6	+0.8
WENL	Wente Vineyard	0.40	114		Pb	07 50 31.1	-0.4
C039	Semillon Drive	0.41	143		Pg	07 50 30.8	+0.6
SNT	Sears Point	0.43	335		Pg	07 50 31.4	+0.6
BGH	Bear Gulch	0.46	192		Pb	07 50 32.3	-0.1
CBSNC	Byron Hot Spri	0.46	86		Pb	07 50 32.0	-0.4
JSJM	St Joseph	0.47	167		Pg	07 50 32.2	+0.9
JBMM	Black Mountain	0.47	173		Pg	07 50 32.2	+0.6
CALM	Calaveras Res.	0.48	135		Pg	07 50 31.9	+0.3
C016	Longford Drive	0.48	144		Pg	07 50 32.5	+0.8
NGVM		0.49	1		Pg	07 50 32.3	+0.4
C046	N 16th Street	0.51	148		Pg	07 50 32.8	+0.6
NOLM	Olema	0.52	299		Pg	07 50 32.4	+0.1
JSGM	Saratoga Golf	0.52	165		Pb	07 50 33.4	-0.1
NBRB	Beebe Ranch Br	0.54	331		Pg	07 50 32.8	+0.1
CMLM	Mount Lewis	0.55	124		Pg	07 50 33.4	+0.5
C059	Quail Canyon R	0.57	141		Pg	07 50 34.0	+0.7
SCCB	Santa Clara Co	0.58	150		Pg	07 50 33.8	+0.3
CVS	Carmenet Viney	0.58	341		Pg	07 50 33.4	-0.2
JJOM	Saint Joseph's	0.61	162		Pg	07 50 34.5	+0.3
C072	Blauer Lane Sa	0.62	144		Pb	07 50 35.2	0.0
FARB	Farallon Islan	0.62	262		Pg	07 50 34.8	+0.4
MCCM	Marconi Confer	0.63	304		Pg	07 50 34.3	-0.2
MHC	Mount Hamilton	0.64	134		Pg	07 50 34.8	+0.1
NAPC	Atlas Peak	0.65	358		Pg	07 50 34.9	+0.1
NPRM	Point Reyes	0.66	288		Pg	07 50 35.1	0.0
CMMM	Mount Mocho	0.67	120		Pg	07 50 35.5	+0.3
JBNB	Ben Lomond Mou	0.67	176		Pg	07 50 35.6	+0.4
CCOB	Coe Ranch Numb	0.69	140		Pg	07 50 36.1	+0.6
NTYM	Taylor	0.69	330		Pg	07 50 35.7	0.0
AMC	Almaden	0.73	155		Pg	07 50 35.8	+0.1
ARN	Arnold Ranch	0.70	129		Pg	07 50 35.9	+0.1
COSM	Mount Oso	0.73	112		Pg	07 50 36.4	0.0
JLAB	Laurel Hill	0.74	148		Pg	07 50 36.7	+0.1
JHLM	Holstrom Ranch	0.75	155		Pg	07 50 36.8	+0.1
JRGM	Rodeo Gulch Ro	0.78	165		Pg	07 50 37.4	+0.2
CADM	Anderson Res.	0.78	143		Pg	07 50 37.6	+0.2
JTGM	Trout Gulch Ro	0.81	160		Pg	07 50 37.5	-0.3
CMPM	Mikes Peak	0.84	121		Pg	07 50 38.2	-0.2
MAC	Mark West Spri	0.86	333		Pg	07 50 38.5	-0.2
NBPM	Berryessa Peak	0.88	1		Pb	07 50 39.7	+0.1
HLPM	Lions Peak	0.88	148		Pg	07 50 39.7	+0.4
JELB	Ellicott, Sant	0.92	160		Pg	07 50 40.0	+0.1
NHSM	Mount Saint He	0.92	340		Pg	07 50 39.6	-0.4
GHS	Gilroy Hot Spr	0.93	138		Pg	07 50 40.0	-0.1
CDC	Canada Road	0.96	142		Pg	07 50 40.7	-0.1
CSR	Chase Ranch	0.97	148		Pg	07 50 40.1	-0.9
HCOM	Corn Cob Canyo	0.99	155		Pg	07 50 40.4	-0.9
NDHM	Dunnigan Hills	1.00	14		Pg	07 50 41.2	-0.4
GAXM	Alexander Vall	1.01	336		Pg	07 50 40.5	-1.3
NMTM	Middletown	1.03	350		Pg	07 50 41.0	-1.1
ANZ	Anzar Road	1.03	151		Pg	07 50 41.6	-0.5
HFEM	San Felipe	1.04	141		Pg	07 50 41.6	-0.6
HPCM	Pacheco Lake	1.05	134		Pg	07 50 41.8	-0.6
GCRM	Castle Rock Sp	1.06	339		Pg	07 50 41.7	-0.9
HTUM	Tustin Road	1.07	154		Pg	07 50 41.2	-1.6
SLD	San Luis Dam	1.07	132		Pg	07 50 42.1	-0.7
HERM	Elkhorn Road	1.07	158		Pg	07 50 41.9	-0.9
PACP	Pacheco Peak	1.08	136		Pg	07 50 42.7	-0.3
HBTM	San Juan Bauti	1.08	150		Pg	07 50 42.3	-0.7
GBGM	Boggs Mountain	1.08	341		Pn	07 50 45.4	+1.8
MNRC	McLaughlin Min	1.10	351		Pg	07 50 42.6	-0.8
GSSM	Skaggs Springs	1.10	326		Pg	07 50 42.5	-1.0
GDXM	Geysers	1.11	336		Pg	07 50 43.0	-0.6
HSFM	Saint Francis	1.13	149		Pg	07 50 43.2	-0.8
GCVM	Cloverdale	1.16	328		Pg	07 50 43.6	-1.0
FRP	Fremont Peak	1.19	150		Pg	07 50 43.0	-2.1
SAO	San Andreas Ge	1.20	149	Pg	Pg	07 50 43.3	-2.0
GRTM	Round Top Moun	1.20	343		Pg	07 50 43.9	-1.4
HMOM	Monterey	1.21	168		Pg	07 50 43.5	-2.0
BSLM	Silva Ranch	1.23	145		Pg	07 50 44.3	-1.5
BSRM	Salinas Radio	1.25	153		Pg	07 50 43.9	-2.4
MCUB	Copperopolis B	1.28	81		Pn	07 50 44.5	-1.7
SCZ	Santa Cruz	1.36	151		Pn	07 50 45.4	-1.8
BJOM	Mount Johnson	1.37	148		Pn	07 50 45.8	-1.6
HOPS	Hopland Field	1.38	331		Pn	07 50 46.4	-1.1
HOPS	Hopland Field	1.38	331	IAML		07 51 18.1	
	comp=E,368nm,1.4s						
HOPS				IAML		07 51 22.9	
	comp=N,377nm,1.6s						
GHLM	Highland Sprin	1.40	334		Pn	07 50 46.7	-1.2
BJCM	Johnson Can.	1.41	152		Pn	07 50 46.1	-1.8
GGUM	Gualala	1.46	317		Pn	07 50 47.4	-1.4
BVL	Bear Valley	1.47	146		Pn	07 50 47.2	-1.6
CMB	Columbia Colle	1.47	80		Pn	07 50 47.6	-1.2
SUTB	Sutter Butte	1.48	13		Pn	07 50 46.4	-2.5
BAVM	Antelope Valle	1.49	140		Pn	07 50 47.6	-1.4
MYLM	Yosemite Lake	1.49	105		Pn	07 50 47.4	-1.6
HAST	Hastings Reser	1.50	159		Pn	07 50 47.3	-1.9
OSUM	Sutter Buttes	1.51	11		Pn	07 50 47.0	-2.3
AFDM	Forest Hills D	1.52	40		Pn	07 50 47.9	-1.6
AFDM	Forest Hills D	1.52	40	IAML		07 51 11.9	
	comp=E,289nm,0.8s						
BBGB	Big Mountain B	1.53	142		Pn	07 50 49.5	-0.3
BSMM	Soledad Missio	1.54	155		Pn	07 50 48.8	-1.1
BPIM	Pinnacles	1.55	147		Pn	07 50 48.1	-1.8
GTSM	Trough Springs	1.55	349		Pn	07 50 49.1	-0.9
BCWM	Chews Ridge	1.57	160		Pn	07 50 48.6	-1.7
BSGM	Shirttail Gulc	1.58	150		Pn	07 50 48.6	-1.7
BMSM	Mercy Hot Spri	1.60	134		Pn	07 50 50.2	-0.5
GHOM	Hamilton Openi	1.63	321		Pn	07 50 50.4	-0.6
OHCM	Honcut	1.65	20		Pn	07 50 49.6	-1.7
LRV	Little Rabbit	1.67	144		Pn	07 50 50.8	-0.8
MBUM	Mount Bullion	1.72	97		Pn	07 50 51.1	-1.2
OWYM	Wyandotte	1.76	19		Pn	07 50 50.6	-2.1
GNAM	Navarro Ridge	1.79	322		Pn	07 50 51.8	-1.4
ORV	Oroville	1.85	18	Pn	Pn	07 50 53.8	-0.2
OGOM	Van Goodin Ran	1.92	14		Pn	07 50 53.0	-2.0
PMPB	Monarch Peak	1.94	144		Pn	07 50 54.8	-0.6
MHDM	Hidden Dam	1.97	109		Pn	07 50 54.6	-1.1
PAPM	Alder Peak	2.00	160		Pn	07 50 54.6	-1.5
MMIM	Miami Mountain	2.00	100		Pn	07 50 55.7	-0.5
EMB	Emerald Bay	2.04	54		Pn	07 50 57.9	+1.0
PSAM	San Ardo	2.06	148		Pn	07 50 56.8	-0.1
PPTM	Peach Tree Val	2.06	144		Pn	07 50 56.7	-0.3
PDRM	Domengine Ranc	2.07	134		Pn	07 50 57.1	0.0
TNK	Tinkers Knob	2.15	46		Pn	07 50 58.6	+0.3
PARM	Anticline Ridg	2.15	135		Pn	07 50 58.6	+0.5
PSMM	Smith Mountain	2.15	142		Pn	07 50 58.0	-0.3
KCPM	Cahto Peak	2.17	331		Pn	07 50 57.4	-1.2
KCPM					IAML	07 51 49.8	
	comp=E,102nm,1.5s						
PHSB	Hesperia Broad	2.17	154		Pn	07 50 57.2	-1.3
PHPM	Hope Ranch	2.22	144		Pn	07 50 58.6	-0.6
PHCM	Hearst Castle	2.27	157		Pn	07 50 58.6	-1.2
PKD	Bear Valley Ra	2.28	143		Pn	07 50 59.4	-0.6
MPK	Martis Peak	2.28	48		Pn	07 51 02.2	+2.0
PVCM	Vineyard Canyo	2.30	144		Pn	07 50 59.8	-0.5
PSTM	Stockdale Moun	2.31	143		Pn	07 50 59.8	-0.6
KBF	Kyburz Flat	2.33	42		Pb	07 51 05.4	+1.0
KCC	Kaiser Creek	2.35	101		Pn	07 51 01.0	0.0
CTM	Castle Mountai	2.39	140		Pn	07 51 01.9	+0.3
PWKM	Work Ranch	2.40	145		Pn	07 51 01.2	-0.4
RAMR	Ramage Ranch	2.41	153		Pn	07 51 00.6	-1.2
PNTR	Pine Nut	2.43	57		Pn	07 51 04.3	+2.1
PNTR					IAML	07 51 55.3	
	comp=E,204nm,1.1s						
PHAM	Harlan Ranch	2.44	143		Pn	07 51 01.9	-0.3
PCMM	Cholame Hills	2.46	143		Pn	07 51 02.3	-0.2
GHC	Gold Hill	2.46	142		Pn	07 51 02.1	-0.4
BLDC	Black Mountain	2.49	154		Pn	07 51 01.9	-0.9
BLDC	Black Mountain	2.49	154		Pn	07 51 01.9	-0.9
MDPB	Devils Postpil	2.50	93		Pn	07 51 03.6	+0.5
MDPB					IAML	07 51 45.9	
	comp=N,154nm,0.7s						
MDPB					IAML	07 51 55.1	
	comp=E,126nm,0.6s						
MINS	Minaret Summit	2.51	92		Pn	07 51 03.9	+0.5
VCNR	Virginia City	2.51	52		Pn	07 51 05.1	+1.7
VCNR					IAML	07 51 44.9	
	comp=E,133nm,0.7s						
VCNR					IAML	07 51 55.4	
	comp=N,170nm,0.8s						
MRDM	Red Cones	2.52	93		Pn	07 51 04.1	+0.6
PKLM	Kerr Lake	2.52	143		Pn	07 51 02.9	-0.3
MDCM	Deadman Creek	2.52	91		Pn	07 51 04.1	+0.6
PSNM	Stone Corral	2.53	142		Pn	07 51 03.1	-0.2
ARDC	Alexander Ranc	2.53	156		Pn	07 51 01.9	-1.4
BEKR	Beckworth	2.53	34		Pn	07 51 04.0	+0.4
BEKR	Beckworth	2.53	34	IAML		07 51 56.2	
	comp=E,98nm,0.7s						
MMSM	Mammoth Summit	2.53	93		Pn	07 51 04.7	+0.9
PEAR	Peavine Mounta	2.53	44		Pn	07 51 03.9	+0.3
MMPM	Mammoth Pass	2.54	93		Pn	07 51 04.4	+0.6
MDYM	Dry Creek	2.55	92		Pn	07 51 04.8	+0.9
OMMB	Old Mammoth Mi	2.56	93		Pn	07 51 04.8	+0.7
OMMB	Old Mammoth Mi	2.56	93	IAML		07 51 41.8	
	comp=N,69nm,1.1s						
OMMB					IAML	07 51 60.0	
	comp=E,70nm,1.0s						
MMLB	Mammoth Lakes	2.57	92		Pn	07 51 05.0	+0.8
LMCR	Lookout Mounta	2.59	90		Pn	07 51 05.1	+0.5
MLCM	Laurel Creek C	2.63	93		Pn	07 51 06.1	+1.1
YERR	Yerington	2.63	62		Pn	07 51 05.3	+0.4
YERR					IAML	07 51 50.9	
	comp=N,146nm,1.0s						
MGPM	Gravel Pit	2.64	93		Pn	07 51 06.4	+1.4
MCBM	Casa Benchmark	2.64	92		Pn	07 51 06.5	+1.4
PTAM	Tassajara Cree	2.69	153		Pn	07 51 04.9	-0.7
KMRM	Mail Ridge	2.69	335		Pn	07 51 06.2	+0.5
KMRM					IAML	07 52 15.3	
	comp=E,68nm,2.3s						
KMRM					IAML	07 52 35.5	
	comp=N,64nm,4.5s						
RCCR	Rock Creek Can	2.79	95		Pn	07 51 08.5	+1.2
PAHR	Pah Rah Range	2.93	48		Pn	07 51 09.7	+0.7
PAHR					IAML	07 52 00.8	
	comp=N,50nm,0.9s						
PAHR					IAML	07 52 05.8	
	comp=E,49nm,1.2s						
LHV	Little Huntoon	2.97	80		Pn	07 51 10.7	+1.3
LHV					IAML	07 52 05.4	
	comp=N,107nm,1.2s						
RYN	Ryan	3.03	73		Pn	07 51 11.7	+1.3
RYN					IAML	07 52 11.1	
	comp=E,52nm,0.8s						
NVAR	Mina Array Bea	3.15	77		Pn	07 51 12.9	+0.7
NV11	Mina Array Sit	3.27	77		Pn	07 51 14.6	+0.9
NV11					IAML	07 52 15.1	
	comp=E,41nm,1.2s						
NV11					IAML	07 52 17.3	
	comp=N,53nm,1.1s						
KVN	Kaiserville	3.47	67	Pn	Pn	07 51 17.3	+0.8
KVN					IAML	07 52 17.4	
	comp=E,30nm,1.7s						
KVN					IAML	07 52 29.6	
	comp=N,31nm,0.9s						
BCW	Bitter Crk WRg	3.64	141		Pn	07 51 18.9	+0.2
LCH	Last Change Ra	3.68	97		Pn	07 51 20.6	+1.2
LCH					IAML	07 52 27.3	
	comp=E,35nm,1.2s						
LCH					IAML	07 52 29.6	
	comp=N,29nm,1.1s						
ISA	Isabella, Lake	3.68	124	Pn	Pn	07 51 20.0	+0.7
ISA					IAML	07 52 25.4	
	comp=N,27nm,0.9s						
ISA					IAML	07 52 31.0	
	comp=E,32nm,0.7s						
MZP	Montezuma Peak	3.83	90		Pn	07 51 22.4	+0.9
GRAC	Grapevine Rang	3.95	100		Pn	07 51 22.1	-0.8
GRAC					IAML	07 52 36.8	
	comp=E,54nm,1.4s						
GRAC					IAML	07 52 40.9	
	comp=N,46nm,1.6s						
GMN	Gold Mountain	3.97	96		Pn	07 51 24.1	+0.7
GMN					IAML	07 52 51.0	
	comp=N,26nm,1.1s						
KSXB	Camp Six Broad	4.23	343	Pn	Pn	07 51 27.6	+0.7
KSXB					IAML	07 52 14.7	
	comp=E,31nm,2.7s						
KSXB					IAML	07 52 53.1	
	comp=N,29nm,3.3s						
CCAC	Calif City Air	4.29	127		Pn	07 51 29.3	+1.7
MOD	Modoc Plateau	4.37	19		Pn	07 51 29.0	+0.3
MOD					IAML	07 53 07.9	
	comp=N,24nm,1.7s						
BMN	Battle Mountai	4.70	54		Pn	07 51 33.0	-0.4
GWY	Greenwater Val	4.72	108		Pn	07 51 33.2	-0.4
GWY					IAML	07 53 14.8	
	comp=E,22nm,1.1s						
GWY					IAML	07 53 19.1	
	comp=N,20nm,1.0s						
TPNV	Topopah Spring	4.83	98		Pn	07 51 36.0	+0.8
TPNV					IAML	07 53 06.5	
	comp=N,24nm,1.1s						
TPNV					IAML	07 53 15.7	
	comp=N,25nm,1.6s						
GSC	Goldstone, Bar	5.02	118		Pn	07 51 39.1	+1.4
GSC					IAML	07 53 11.6	
	comp=N,16nm,0.9s						
GSC					IAML	07 53 14.6	
	comp=E,16nm,1.0s						

WEL 13 07:52:46.7±0.6, 40°S±3′×17°7′E±°, h22km±6km, M2.0/12, ML2.3/13, MLv2.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=111.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRHZ	Kereru	0.20	311	P	Pb	07 52 53.3	+0.9
KAHZ	Kahuranaki	0.24	94	P	Pb	07 52 53.5	+0.7
KAHZ				S	Sb	07 52 59.4	+2.5
WPHZ	Waipukurau	0.30	199	P	Pn	07 52 54.8	-1.1
WPHZ				S	Sn	07 53 01.2	-0.5
PNHZ	Pukenui	0.32	245	P	Pn	07 52 55.0	-1.1
PNHZ				S	Sn	07 53 01.6	-0.5
PXZ	Pawanui	0.34	139	P	Pb	07 52 54.9	+0.8
PXZ				S	Sn	07 53 02.4	-0.1
MCHZ	McNeill Hill	0.35	16	P	Pn	07 52 55.5	-0.9
MCHZ				S	Sn	07 53 02.5	-0.2
KWHZ	Kaweka Forest	0.37	342	P	Pb	07 52 55.7	+1.0
CKHZ	Cape Kidnapper	0.41	73	P	Pb	07 52 56.2	+0.9
BHHZ	Black Hill Sta	0.49	306	P	Pb	07 52 57.6	-0.9
BHHZ				S	Sn	07 53 05.3	-1.0
PRHZ	Porangahau	0.49	174	P	Pb	07 52 57.5	+0.7
PRHZ				S	Sn	07 53 06.0	-0.4
TSZ	Takapari Road	0.55	239	P	Pn	07 52 58.6	-0.7
TSZ				S	Sn	07 53 07.2	-0.6
DVHZ	Dannevirke	0.61	211	P	Pb	07 52 59.3	+0.6
DVHZ				S	Sn	07 53 09.2	0.0
ARHZ	Aropaoanui	0.61	33	P	Pn	07 52 59.7	-0.4
BKZ	Black Stump Fm	0.61	354	P	Pb	07 52 59.5	+0.6
ANWZ	Angora Road	0.69	186	P	Pb	07 53 00.4	+0.3
NMHZ	Naumai	0.70	15	P	Pn	07 53 01.5	+0.1
MOVZ	Moawhango	0.73	300	P	Pn	07 53 01.9	0.0
TUVZ	Tukino	0.87	305	P	Pn	07 53 04.7	+0.8
PRWZ	Pori Road	0.90	210	P	Pb	07 53 03.6	-0.1
ETVZ	East Tongariro	0.93	314	P	Pn	07 53 05.4	+0.8
OTVZ	Oturere	0.93	311	P	Pn	07 53 05.6	+1.0
SNVZ	South Ngauruho	0.93	309	P	Pn	07 53 05.5	+0.9
BFZ	Birch Farm	0.94	195	P	Pb	07 53 03.4	-0.9
BFZ	Birch Farm	0.94	195	P	Pb	07 53 03.8	-0.5
TMVZ	Te Maari	0.94	314	P	Pn	07 53 05.6	+0.9
MTHZ	Maungataniwha	0.95	13	P	Pb	07 53 04.4	-0.1
MRHZ	Matea Rd	0.95	353	P	Pn	07 53 05.2	+0.4
NGZ	Ngauruhoe	0.96	308	P	Pn	07 53 06.1	+1.1
NTVZ	North Tongarir	0.97	314	P	Pn	07 53 06.0	+0.9
NNVZ	North Ngauruho	0.98	311	P	Pn	07 53 06.4	+1.1
KRVZ	Karewarewa	0.99	313	P	Pn	07 53 06.4	+1.0
WTVZ	West Tongariro	1.01	311	P	Pn	07 53 06.8	+1.1
TWVZ	Taurewa	1.13	308	P	Pb	07 53 06.6	+1.0
SNGZ	Shannon Statio	1.16	31	P	Pn	07 53 06.8	-0.8
MRZ	Mangatainoka R	1.17	220	P	Pn	07 53 07.1	-0.6
MWZ	Matawai	1.62	28	P	Pn	07 53 12.6	-1.4

*IDC **13** 08:12:13.7±1.1, 6.80N×72.87W, h156km±10km, mb3.5/11, mbtmp4.0/14, Error ellipse: s-maj=13.4km s-min=11.3km az=101.0*

*NEIC **13** 08:12:14.6±2.5, 6.79N±0.07×72.94W±0.07, h156km±12km, mb4.2/15, Error ellipse: s-maj=12.8km s-min=4.0km az=135.0*

*VAO **13** 08:12:14.4±1.1, 6.71N×73.02W, h157km±8km, mb4.2*

*RSNC **13** 08:12:15.1±1.1, 6.80N×73.13W, h146km±4km, ML3.9, Mw4.1, Fault plane solution: NP1:φ±78.00000°, δ70.00000°, λ-179.00000°.*

ISC 13 08:12:13.3±0.5, 6.84N±0.03×73.03W±0.03, h153km±5km, n116, σ1§60/166, mb4.1/19, 11C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.28	212	⇑iP	Pn	08 12 34.8	+0.3
BARC				eS	Sn	08 12 49.6	-1.1
BARC				IAML		08 12 50.4	
	comp=Z,4μm,0.3s						
PAMC	Pamplona, Colo	0.60	33	⇑iP	Pn	08 12 37.7	+1.5
PAMC				eS	Sn	08 12 54.5	+0.9
PAMC				IAML		08 12 57.0	
	comp=Z,5μm,0.6s						
BRRC	Barranca, Sant	0.73	292	⇑iP	Pn	08 12 36.8	+0.4
BRRC				eS	Sn	08 12 53.6	-0.4
BRRC				IAML		08 12 57.9	
	comp=Z,2μm,0.1s						
RUSC	La Rusia	0.94	183	⇑iP	Pn	08 12 38.8	+0.3
RUSC				eS	Sn	08 12 57.1	-0.6
RUSC				IAML		08 12 58.1	
	comp=Z,605nm,0.3s						
TAMC	Tame, Arauca	1.29	108	⇓iP	Pn	08 12 43.2	+2.1
TAMC				eS	Sn	08 13 04.5	+2.1
TAMC				IAML		08 13 05.2	
	comp=Z,793nm,0.5s						
OCAC	Ocana	1.42	348	⇑iP	Pn	08 12 43.2	+0.7
OCAC				eS	Sn	08 13 05.2	+0.2
PTBC	PUERTO BERRIO,	1.45	258	⇑iP	Pn	08 12 41.4	-1.2
PTBC				eS	Sn	08 13 02.1	-2.9
PTBC				IAML		08 13 05.2	
	comp=Z,1μm,0.2s						
SPBC	San Pablo de B	1.57	221	eP	Pn	08 12 43.8	-0.2
SPBC				eS	Sn	08 13 05.1	-2.4
SPBC				IAML		08 13 10.1	
	comp=Z,636nm,0.3s				

PLMC eS Sn 08 13 54.5 -0.6
PLMC IAML 08 14 03.3
comp=Z,126nm,0.6s
LCBC Los crdobas, 3.87 301 eP Pn 08 13 11.4 -0.5
LCBC eS Sn 08 13 57.0 -0.5
LCBC IAML 08 14 03.3
comp=Z,272nm,0.4s
CRJC Cerrejon, Guaj 4.16 2⇑*i*P Pn 08 13 15.5 -0.3
CRJC eS Sn 08 14 01.5 -3.1
CRJC IAML 08 14 07.6
comp=Z,258nm,0.2s
GUVC San Jose del G 4.28 175 eP Pn 08 13 17.8 +0.4
GUVC eS Sn 08 14 05.8 -1.5
GUVC IAML 08 14 16.8
comp=Z,97nm,0.2s
YOTC Yotoco, Valle 4.35 230⇑*i*P Pn 08 13 18.0 -0.4
YOTC eS Sn 08 14 12.2 +3.2
SOLC Bahia Solano 4.39 262 eP Pn 08 13 19.2 +0.4
SOLC eS Sn 08 14 12.1 +2.3
SMRC Santa Marta, M 4.46 345 eP Pn 08 13 19.8 +0.1
SMRC eS Sn 08 14 08.6 -2.9
SMRC IAML 08 14 11.8
comp=Z,81nm,0.4s
DABV Dabajuro 4.70 30 eP Pn 08 13 24.3 +1.4
DABV eS Sn 08 14 15.5 -1.6
MACC Macarena, Meta 4.73 190⇑*i*P Pn 08 13 21.9 -1.5
MACC eS Sn 08 14 13.9 -4.0
MACC IAML 08 14 20.9
comp=Z,80nm,0.7s
BETC Betania 4.78 210 eP Pn 08 13 23.4 -0.6
BETC eS Sn 08 14 14.6 -4.4
BETC IAML 08 14 28.8
comp=Z,69nm,0.5s
URIC Uribia, Colomb 4.94 12⇑*i*P Pn 08 13 25.6 -0.5
URIC eS Sn 08 14 18.9 -4.0
URIC IAML 08 14 24.5
comp=Z,49nm,0.4s
MALC Bahia Malaga 5.12 237 eP Pn 08 13 29.4 +1.0
MALC eS Sn 08 14 28.3 +1.3
MALC IAML 08 14 45.0
comp=Z,30nm,0.6s
UPD2 Meteti 5.22 289 eP Pn 08 13 28.4 -1.4
UPD2 eS Sn 08 14 26.9 -2.6
UPD2 IAML 08 14 31.7
comp=Z,221nm,0.4s
GARC Garzon, Huila 5.23 208 eP Pn 08 13 29.0 -1.1
GARC eS Sn 08 14 25.4 -4.6
GARC IAML 08 14 32.9
comp=Z,80nm,0.3s
BAUV El Baul 5.37 67 Pn Pn 08 13 31.1 -0.6
FLOC Florencia 5.84 207 eP Pn 08 13 37.4 -0.6
FLOC eS Sn 08 14 41.3 -2.9
BBAC Balboa, Cauca 6.37 221 eP Pn 08 13 45.0 -0.2
BBAC eS Sn 08 14 51.2 -6.0
BBAC IAML 08 15 01.0
comp=Z,24nm,0.5s
CRUC La Cruz 6.53 217 eP Pn 08 13 49.7 +2.1
CRUC eS Sn 08 15 01.5 +0.2
PTLC Puerto Leguiza 6.85 195 eP Pn 08 13 54.9 +3.4
PTLC eS Sn 08 15 27.1 +19
GCUF Volcan Galeras 7.04 218 eP Pn 08 13 55.5 +1.0
GCUF eS Sn 08 15 12.2 -1.5
GCUF IAML 08 15 16.8
comp=Z,14nm,0.4s
BCIP Isla Barro Col 7.13 289 Pn Pn 08 13 53.2 -1.9
BIRV Birongo 7.60 61 Pn Pn 08 14 00.7 -0.7
OTAV Otavalo 8.50 220 Pn Pn 08 14 14.1 +0.3
PCRV Puerto La Cruz 8.94 68 P Sn 08 14 19.2 -0.1
comp=Z,7.2nm,0.3s,baz=246,slow=8.0,SNR=33
PCRV S Sn 08 15 57.3 -1.4
comp=Z,6.2nm,0.4s,baz=155,slow=19,SNR=1.7
SRBA San Rafael, Bu 10.50 284 Pn Pn 08 14 40.7 +0.6
BOSC San Juan Bosco 11.32 209 Pn Pn 08 14 53.0 +2.1
TBTG Tabatinga, AM 11.38 164 Pn 08 14 49.6 -1.9
TBTG Tabatinga, AM 11.38 164 eP Pn 08 14 50.5 -1.0
COVE Coope Vega, Sa 11.88 290 Pn Pn 08 14 59.5 +1.4
MTDJ Mount Denham 12.14 339 Pn Pn 08 15 04.6 +3.1
DR12 Loma Pena Alta 12.40 16 Pn Pn 08 15 02.3 -2.5
BOAV Boa Vista 13.22 109 Pn 08 15 14.9 -0.4
BOAV Boa Vista 13.22 109 eP Pn 08 15 15.6 +0.2
CZSB Cruzeiro do Su 14.47 179 eP Pn 08 15 29.9 -1.2
ATAH Atahualpa 14.87 201 P P 08 15 40.4 +2.0
comp=Z,3.5nm,0.6s,baz=14,slow=13,SNR=2.8
MACA Manacapuru-AM 15.83 128 P P 08 15 49.6 +1.0
MACA IAmb IAmb 08 16 04.2
comp=Z,8.4nm,0.7s
MACA Manacapuru-AM 15.83 128 eP P 08 15 49.1 +0.5
ETMB Extrema 17.88 158 P Pn 08 16 11.5 -1.1
ETMB IAmb IAmb 08 16 12.5
comp=Z,9.4nm,0.7s
ETMB Extrema 17.88 158 eP P 08 16 10.4 -0.8
ITTB Itaituba 20.54 122 eP Pn 08 16 41.2 -2.8
MALB Monte Alegre 20.62 114 eP P 08 16 39.7 -1.2
NPGB Novo Progresso 22.38 128 eP P 08 16 58.8 -0.4
VILB Vilhena 23.43 147 P P 08 17 09.9 +1.0
VILB IAmb IAmb 08 17 11.5
comp=Z,17nm,0.8s
VILB Vilhena 23.43 147 eP P 08 17 07.9 -1.0
LPAZ La Paz 23.48 168 P P 08 17 09.2 -0.8
comp=Z,2.4nm,0.6s,baz=344,slow=13,SNR=12
comp=Z,2.4nm,0.6s
LPAZ La Paz 23.48 168 P P 08 17 09.7 -0.3
LPAZ La Paz 23.48 168 eP P 08 17 10.4 +0.4
PDRB Porto dos Gac 24.47 138 eP P 08 17 18.1 -0.2
CLDB Colider 24.57 136 eP P 08 17 19.4 +0.2
PB16 IPOC Station P 25.25 172 P P 08 17 24.1 -1.9
SIV San Ignacio 25.59 153 P P 08 17 26.8 -1.7
comp=Z,2.4nm,0.9s,baz=326,slow=14,SNR=11
comp=Z,2.4nm,0.9s
GO01 Chusmiza 26.61 172 P P 08 17 36.3 -1.8
GO01 IAmb IAmb 08 17 37.8
comp=Z,6.4nm,1.2s
SMTB Santa Maria do 29.77 121 eP P 08 18 06.0 +0.2
AQDB Aquidauana 32.05 148 eP P 08 18 25.5 -0.2
BDFB Brasilia 33.36 132 P P 08 18 37.9 +0.6
comp=Z,4.7nm,0.6s,baz=274,slow=9.8,SNR=7.0
comp=Z,4.7nm,0.6s
BDFB Brasilia 33.36 132 P P 08 18 37.2 -0.1
BDFB Brasilia 33.36 132 eP P 08 18 37.4 +0.1
WHAR Wooly Hollow 33.40 331 P P 08 18 38.4 +1.1
WHAR IAmb IAmb 08 18 50.6
comp=Z,10nm,1.4s
FCAR Ozark Folk Cen 33.80 331 P P 08 18 41.2 +0.4
SDBA SAO DESIDERO 33.87 124 eP P 08 18 40.1 -1.6
CCM Cathedral Cave 35.20 335 P P 08 18 53.8 +1.1
CCM IAmb IAmb 08 19 29.7
comp=Z,4.3nm,0.9s
TXAR Lajitas Array 36.52 312 P P 08 19 05.5 +1.3
comp=Z,0.9nm,0.6s,baz=128,slow=9.2,SNR=20
TXAR pP pP 08 19 38.8 +1.4
comp=Z,0.4nm,0.6s,baz=128,slow=8.8,SNR=4.4
TXAR PcP PcP 08 21 26.4 +1.7
comp=Z,0.2nm,0.6s,baz=124,slow=6.0,SNR=3.8
comp=Z,0.9nm,0.6s
TXAR Lajitas Array 36.52 312 P P 08 19 05.7 +1.4
TX31 Lajitas Ar. Si 36.52 312 P P 08 19 05.8 +1.5
TX31 IAmb IAmb 08 19 06.1
comp=Z,2.8nm,0.7s
TX32 Lajitas Array 36.52 312 P P 08 19 05.8 +1.5
P38A Dawn 37.49 334 P P 08 19 13.0 +0.8
P38A IAmb IAmb 08 19 34.6
comp=Z,6.9nm,1.4s
MNTX Cornudas Mount 39.03 314 P P 08 19 27.0 +1.9
MNTX IAmb IAmb 08 19 27.7
comp=Z,6.0nm,1.4s
ULM Lac du Bonnet 47.30 340 P P 08 20 30.6 -0.6
comp=Z,2.0nm,0.6s,baz=141,slow=11,SNR=1.9
comp=Z,2.0nm,0.6s
PLCA Paso Flores 47.39 177 P P 08 20 30.9 -1.2
comp=Z,2.2nm,1.1s,baz=354,slow=9.2,SNR=1.8
comp=Z,2.2nm,1.1s
PDAR Pinedale Array 48.12 324 P P 08 20 39.1 +1.1
comp=Z,0.2nm,0.4s,baz=118,slow=7.6,SNR=3.6
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 51.54 315 P P 08 21 05.4 +1.5
comp=Z,0.1nm,0.3s,baz=122,slow=9.7,SNR=2.3
NVAR PcP PcP 08 22 16.9 +1.0
comp=Z,0.1nm,0.4s,baz=101,slow=4.8,SNR=1.6
comp=Z,0.1nm,0.3s
DBIC Dimbokro 67.64 86 P P 08 22 53.3 -1.1
comp=Z,2.4nm,0.7s,baz=297,slow=6.7,SNR=2.4
comp=Z,2.4nm,0.7s
TORD Torodi Ar. Bea 73.65 78 P P 08 23 29.5 -1.2
comp=Z,0.2nm,0.5s,baz=294,slow=6.6,SNR=1.1
comp=Z,0.2nm,0.5s
ILAR Eielson Array 76.99 335 pP pP 08 24 27.1 +0.4
comp=Z,0.4nm,0.7s,baz=105,slow=5.0,SNR=2.9
ARCES ARCESS Array B 86.63 20 P P 08 24 40.1 +0.9
comp=Z,2.7nm,0.9s,baz=269,slow=3.6,SNR=2.6
comp=Z,2.7nm,0.9s
VNA3 Neumayer Olymp 88.16 163 P P 08 24 45.6 -0.7
VNA1 Neumayer--Stat 88.30 162 P P 08 24 46.7 -0.3
VNA2 Neumayer--Watz 88.68 163 P P 08 24 48.1 -0.7
baz=303,slow=4.9
SNAA Sanae 90.33 163 P P 08 24 55.9 -0.7
SNAA Sanae 90.33 163 P P 08 24 56.3 -0.3
SNAA IAmb IAmb 08 25 28.7
comp=Z,4.1nm,1.5s
TROLL Troll, Antarti 92.03 162 P P 08 25 04.1 -0.4
MKAR Makanchi Array 122.28 20 PKP PKPdf 08 30 49.6 -0.8
comp=Z,0.4nm,0.4s,baz=339,slow=0.9,SNR=5.8
SONM Songino Array 125.56 0 PKP PKiKP 08 30 57.3 +0.2
comp=Z,0.3nm,0.4s,baz=329,slow=1.7,SNR=2.2
ASAR Alice Springs 149.19 234 PKP PKPdf 08 31 40.5 +0.3
comp=Z,2.6nm,0.6s,baz=133,slow=2.9,SNR=18
ASAR PKPbc PKPbc 08 31 44.2 -0.4
comp=Z,2.8nm,0.6s,baz=121,slow=3.2,SNR=46
WRA Warramunga Arr 150.42 241 PKP PKPdf 08 31 42.4 +0.1
comp=Z,1.2nm,0.4s,baz=106,slow=2.7,SNR=3.2
WRA PKPbc PKPbc 08 31 47.3 -0.3
comp=Z,2.0nm,0.4s,baz=106,slow=2.8,SNR=46
CMAR Chiang Mai Arr 153.65 17 PKPbc PKiKP 08 31 55.3 +0.3
comp=Z,0.9nm,0.3s,baz=328,slow=3.2,SNR=1.8

IDC 13 08:24:10.0±2.5, 53.93N×86.54E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=20.6km s-min=12.0km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**272**	*i*		08 31 20.0	
	baz=87,slow=314,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.02**	**272**	Pg	Pg	08 24 29.0	-0.5
	1.0nm,0.3s,baz=85,slow=15,SNR=4.8						
ZALV				Lg	Lg	08 24 43.7	
	2.8nm,0.3s,baz=89,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**5.93**	**239**	Pn	Pn	08 25 40.4	+1.5
	0.2nm,0.3s,baz=56,slow=14,SNR=6.5						
KURBB				Lg	Lg	08 27 16.4	
	baz=58,slow=35						
	1.2nm,0.2s						
MKAR	**Makanchi Array**	**7.64**	**202**	Pn	Pn	08 26 03.5	+1.0
	0.2nm,0.3s,baz=19,slow=8.8,SNR=6.6						
MKAR				Sn	Sn	08 27 27.8	-2.0
	0.1nm,0.3s,baz=18,slow=27,SNR=2.2						
MKAR				Lg	Lg	08 28 11.5	
	baz=13,slow=27,SNR=2.5						
	0.3nm,0.3s						

*SJA **13** 08:28:50.0±0.7, 30.38S×72.54W, h11km, ML4.3, MW4.3*
*IDC **13** 08:28:54.5±1.1, 30.48S×71.83W, h0km, mb4.0/3, mbtmp3.9/7, ML3.6/4, MS3.6/10, Error ellipse: s-maj=39.5km s-min=27.7km az=108.0*
*NEIC **13** 08:28:56.0±1.2, 30.39S±0.04×72.10W±0.03, h14km±6km, mb4.4/4, Mwr4.2/47, ML4.1(GUC), Error ellipse: s-maj=6.4km s-min=3.3km az=167.0*
*GUC **13** 08:28:55.5±0.8, 30.49S×72.06W, h34km±3km, ML4.1*
*NEIC **13** 08:28:56, 30.39S×72.10W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.73; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-1.99; $M_{r\theta}$-0.04; $M_{\theta\phi}$-0.22; $M_{\phi r}$-1.63; Fault plane solution: $M_0$2.49000×10^{15} NP1:ϕ_s9.21000°, δ24.55000°, λ96.01000°. NP2:ϕ_s182.61000°, δ65.60000°, λ87.26000°. Principal axes: T 2.3469, Plg69.0000°, Azm87.0000°; N 0.2723, Plg2.0000°, Azm184.0000°; P -2.6192, Plg21.0000°, Azm275.0000°;*

ISC 13 08:28:54.1±1.0, 30.43S±0.02×72.06W±0.04, h3km±6km, n86, σ2s00/119, mb4.3/5, MS3.8/6, 5C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.44**	**124**		**Pb**	**08 29 05.4**	**+0.8**
CO06				Sg	Sb	08 29 12.4	+0.9
CO06	**Fray Jorge**	**0.44**	**124**	⇓*i*P	Pb	08 29 05.3	+0.8
CO06				eS	Sb	08 29 12.1	+0.6
CO05	**La Serena**	**0.87**	**55**		**Pn**	**08 29 12.9**	**-0.3**
CO05	**La Serena**	**0.87**	**55**	⇓*i*P	Pn	08 29 13.0	-0.3
CO05				eS	Sn	08 29 26.2	-0.2
GO04	**Tololo Observa**	**1.12**	**77**	Pn	Pn	08 29 17.0	+0.1
GO04	**Tololo Observa**	**1.12**	**77**	⇓*i*P	Pn	08 29 16.9	+0.1
GO04				eS	Sn	08 29 34.1	+1.2
GO04				IAML		08 29 39.1	
	comp=N,15μm,0.6s						
GO04	**Tololo Observa**	**1.12**	**77**	eP	**Pg**	**08 29 11.2**	**-4.4**
GO04				eP	Pn	08 29 17.0	+0.1
GO04				eS	Sn	08 29 35.9	+3.1
CO02	**Combarbal**	**1.19**	**131**	⇓*i*P	**Pg**	**08 29 17.5**	**+0.4**
CO02				eS	**Sb**	**08 29 33.6**	**+0.3**
CO02				IAML		08 29 36.2	
	comp=N,9μm,0.2s						
CO02	**Combarbal**	**1.19**	**131**	eP	**Pb**	**08 29 17.8**	**+0.3**
CO02				eS	Sn	08 29 35.6	+1.0
CO02				IAML		08 29 36.6	
	comp=Z,4μm,0.6s						
CO01	**Juntas del Tor**	**1.76**	**76**⇑*i*P		**Pg**	**08 29 27.6**	**-0.2**
CO01				eS	**Sg**	**08 29 51.0**	**+0.4**
CO01	**Juntas del Tor**	**1.76**	**76**	eP	**Pg**	**08 29 27.7**	**-0.2**
CO01				eP	**Pg**	**08 29 27.8**	**-0.2**
CO01				eS	**Sn**	**08 29 47.2**	**-1.5**
CO01				IAML		08 29 55.3	
	comp=Z,1μm,0.6s						
LCO	**Las Campanas**	**1.84**	**40**		**Pb**	**08 29 27.6**	**-0.9**
LCO	**Las Campanas**	**1.84**	**40**⇑*i*P		**Pn**	**08 29 27.4**	**+0.5**
LCO				eS	**Sb**	**08 29 51.2**	**-0.8**
LCO	**Las Campanas**	**1.84**	**40**	eP	**Pb**	**08 29 27.6**	**-0.9**
AC05	**El Transito**	**2.22**	**45**	Pn	**Pb**	**08 29 33.5**	**-1.5**
AC05	**El Transito**	**2.22**	**45**⇑*i*P		**Pb**	**08 29 33.4**	**-1.5**
AC05				eS	**Sb**	**08 30 02.8**	**-0.1**
AC05				IAML		08 30 10.8	
	comp=N,764nm,0.6s						
AC05	**El Transito**	**2.22**	**45**	eP	**Pb**	**08 29 33.4**	**-1.5**
AC05				eS	**Sg**	**08 30 06.9**	**+1.4**
AC05				IAML		08 30 15.1	
	comp=Z,962nm,0.8s						
VA06	**Catapilco**	**2.22**	**163**	Pn	**Pn**	**08 29 31.5**	**-0.4**
VA06	**Catapilco**	**2.22**	**163**	eP	**Pn**	**08 29 31.5**	**-0.4**
VA06				eS	**Sn**	**08 29 57.1**	**-2.7**
VA06				IAML		08 30 12.1	
	comp=E,1μm,0.5s						
AC04	**Llanos de Chal**	**2.38**	**21**	eP	**Pn**	**08 29 33.5**	**-0.5**
AC04	**Llanos de Chal**	**2.38**	**21**	eP	**Pn**	**08 29 33.5**	**-0.5**
AC04				eS	**Sg**	**08 30 11.2**	**+0.7**
AC04				IAML		08 30 22.5	
	comp=Z,640nm,0.9s						
VA03	**San Esteban**	**2.66**	**151**		**Pn**	**08 29 39.0**	**+1.0**
VA03	**San Esteban**	**2.66**	**151**⇑*i*P		**Pn**	**08 29 38.9**	**+1.0**
VA03				eS	**Sn**	**08 30 10.7**	**-0.1**
VA03				IAML		08 30 22.0	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**2.66**	**151**	eP	**Pn**	**08 29 39.0**	**+1.0**
VA03				eS	**Sn**	**08 30 08.7**	**-2.1**
VA03				eS	**Sb**	**08 30 15.4**	**-0.2**
VA03				IAML		08 30 30.0	
	comp=Z,1μm,0.7s						
ROCH	**El Roble**	**2.69**	**161**	eP	**Pn**	**08 29 38.7**	**+0.2**
ROCH				eS	**Sn**	**08 30 09.5**	**-2.2**
ROCH				IAML		08 30 26.0	
	comp=N,1μm,0.5s						
ROC1	**El Roble**	**2.69**	**161**		**Pn**	**08 29 38.7**	**+0.1**
ROC1	**El Roble**	**2.69**	**161**	eP	**Pn**	**08 29 38.7**	**+0.1**
ROC1				eS	**Sn**	**08 30 14.6**	**+2.9**
RTLS	**Leoncito**	**2.73**	**121**	eP	**Pb**	**08 29 43.1**	**-0.7**
RTLS				eS	**Sb**	**08 30 19.2**	**+1.3**
RTLS				IAML		08 30 29.2	
	comp=Z,1μm,0.9s						
MT02	**Curacav**	**2.93**	**165**		**Pn**	**08 29 44.4**	**+2.8**
MT02	**Curacav**	**2.93**	**165**	eP	**Pn**	**08 29 41.6**	**0.0**
MT02				eS	**Sn**	**08 30 14.2**	**-3.1**
MT02				IAML		08 30 30.5	
	comp=E,360nm,0.6s						
MT02	**Curacav**	**2.93**	**165**	eP	**Pn**	**08 29 41.6**	**0.0**
MT02				eS	**Sb**	**08 30 22.2**	**-1.0**
PEL	**Peldehue**	**2.95**	**157**		**Pn**	**08 29 42.9**	**+1.0**
PEL	**Peldehue**	**2.95**	**157**	eP	**Pn**	**08 29 42.5**	**+0.6**
PEL				eS	**Sn**	**08 30 17.1**	**-0.8**
PEL				IAML		08 30 37.4	
	comp=E,627nm,0.6s						
PEL	**Peldehue**	**2.95**	**157**	eP	**Pn**	**08 29 42.5**	**+0.6**
PEL				eS	**Sb**	**08 30 22.2**	**-1.6**
ZON	**Zonda**	**3.11**	**112**	eP	**Pb**	**08 29 48.4**	**-1.6**
ZON				eS	**Sb**	**08 30 29.7**	**+1.3**
ZON				IAML		08 30 45.9	
	comp=Z,591nm,2.1s						
MT05	**Renca**	**3.16**	**160**	eP	**Pn**	**08 29 45.7**	**+0.9**
MT05				*i* S	**Sn**	**08 30 22.7**	**-0.4**
MT05				IAML		08 30 40.4	
	comp=E,652nm,0.5s						
MT05	**Renca**	**3.16**	**160**	eP	**Pn**	**08 29 46.0**	**+1.2**
MT05				eS	**Sb**	**08 30 27.7**	**-2.2**
MT05				IAML		08 30 39.3	
	comp=Z,716nm,1.1s						
RTLL	**Cerro Villicun**	**3.21**	**107**	eP	**Pb**	**08 29 49.1**	**-2.7**
RTLL				eS	**Sb**	**08 30 33.7**	**+2.4**
MT03	**Universidad Ad**	**3.33**	**157**	Pn	**Pn**	**08 29 48.5**	**+1.3**
MT03	**Universidad Ad**	**3.33**	**157**	eP	**Pn**	**08 29 48.1**	**+0.9**
MT03				eS	**Sb**	**08 30 33.7**	**-1.1**
MT03				IAML		08 30 50.5	
	comp=Z,581nm,1.1s						
AC06	**Mina Casimiro**	**3.40**	**26**	Pn	**Pn**	**08 29 48.7**	**+0.5**
MT09	**Talagante**	**3.46**	**165**	eP	**Pn**	**08 29 49.5**	**+0.5**
MT09				⇑eS	**Sn**	**08 30 27.6**	**-3.0**
MT09				IAML		08 30 46.9	
	comp=N,357nm,0.5s						
MT01	**Popeta**	**3.49**	**169**	eP	**Pn**	**08 29 49.1**	**-0.3**
MT01				eS	**Sn**	**08 30 23.2**	**-8.0**
ASAL	**Salagasta**	**3.50**	**129**	eP	**Pb**	**08 29 53.9**	**-2.8**
ASAL				eS	**Sb**	**08 30 41.2**	**+1.6**
ARCO	**CERRO ARCO**	**3.59**	**133**	eP	**Pb**	**08 29 55.3**	**-3.1**
ARCO				eS	**Sb**	**08 30 45.2**	**+2.8**
ARCO				IAML		08 30 55.1	
	comp=Z,395nm,0.9s						
VCA	**Vinchina**	**3.75**	**64**	eP	**Pb**	**08 29 58.0**	**-3.2**
VCA				eS	**Sb**	**08 30 45.2**	**-1.9**
VCA				IAML		08 30 59.1	
	comp=Z,556nm,1.3s						
LMEL	**Las Melosas**	**3.75**	**156**		**Pn**	**08 29 54.6**	**+1.5**
AAGR	**Agrelo**	**3.82**	**135**	eP	**Pb**	**08 29 58.5**	**-3.7**
AAGR				eS	**Sg**	**08 30 55.2**	**-1.7**
AVFE	**Valle Fertil**	**3.98**	**94**	eP	**Pn**	**08 29 59.7**	**+3.6**
AVFE				eS	**Sb**	**08 30 55.2**	**+1.8**
AVFE				IAML		08 31 03.0	
	comp=Z,582nm,0.8s						
AC02	**Maricunga**	**4.41**	**36**	eP	**Pn**	**08 30 03.8**	**+1.4**
AC02				eS	**Sb**	**08 31 06.2**	**-0.1**
AC02				IAML		08 31 29.6	
	comp=Z,190nm,0.9s						
AC01	**Pan de Azucar**	**4.45**	**17**	eP	**Pn**	**08 30 01.3**	**-1.3**
AC01				eS	**Sb**	**08 31 11.7**	**+4.6**
BO02	**Sierra Bellavi**	**4.48**	**166**		**Pn**	**08 30 04.0**	**+1.0**
ACLC	**CERRO LA CRUZ**	**4.54**	**79**	eP	**Pn**	**08 30 07.4**	**+3.5**
ACLC				eS	**Sb**	**08 31 05.5**	**-4.3**
ACLC				IAML		08 31 19.0	
	comp=Z,359nm,1.2s						
ACHE	**Chepes**	**4.70**	**100**	eP	**Pn**	**08 30 08.7**	**+2.6**
ACHE				eS	**Sn**	**08 30 55.2**	**-5.9**
ACHE				eS	**Sb**	**08 31 10.2**	**-4.1**
APLL	**PUNTA DE LOS L**	**4.78**	**91**	eP	**Pn**	**08 30 09.9**	**+2.9**
APLL				eS	**Sb**	**08 31 19.2**	**+2.8**
GO02	**Mina Guanaco**	**5.68**	**23**	Pn	**Pn**	**08 30 18.0**	**-0.9**
H03N1	**Juan Fernandez**	**6.55**	**241**	T	T	08 37 32.4	
	baz=71,slow=72,SNR=732						
H03N2	**Juan Fernandez**	**6.57**	**241**	T	T	08 37 32.7	
	baz=71,slow=72,SNR=876						
H03N3	**Juan Fernandez**	**6.57**	**241**	T	T	08 37 32.4	
	baz=71,slow=72,SNR=703						
LVC	**Limon Verde**	**8.28**	**21**	Pn	**Pn**	**08 30 54.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=200,slow=12,SNR=2.2						
LVC				Sn	**Sn**	**08 32 25.9**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=138,slow=19,SNR=4.0						
LVC				LR	LR	08 34 44.2	
	comp=Z,112nm,18.3s,baz=208,slow=42						
	comp=Z,2.0nm,0.7s						
PLCA	**Paso Flores**	**10.36**	**174**	Pn	**Pn**	**08 31 23.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=338,slow=12,SNR=1.8						
PLCA				LR	LR	08 36 01.9	
	comp=Z,155nm,18.2s,baz=350,slow=42						
	comp=Z,1.4nm,0.5s						
CPUP	**Villa Florida**	**13.59**	**76**	LR	LR	08 37 44.2	
	comp=Z,258nm,18.2s,baz=229,slow=40						
LPAZ	**La Paz**	**14.53**	**15**	Pn	**Pn**	**08 32 23.9**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=189,slow=7.7,SNR=6.5						
	comp=Z,1.4nm,0.7s						
LPAZ	**La Paz**	**14.53**	**15**		**Pn**	**08 32 24.4**	**+3.2**
SIV	**San Ignacio**	**17.54**	**37**	P	**P**	**08 33 01.4**	**+0.4**
	baz=220,slow=10,SNR=39						
SIV				LR	LR	08 40 51.8	
	comp=Z,117nm,18.5s,baz=272,slow=41						
	comp=Z,10nm,0.9s						
ETMB	**Extrema**	**21.22**	**16**	P	**P**	**08 33 42.5**	**+1.3**
ETMB				IAmb	IAmb	08 33 46.4	
	comp=Z,11nm,1.1s						
BDFB	**Brasilia**	**26.49**	**62**	P	**P**	**08 34 32.1**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=241,slow=10,SNR=6.5						
	comp=Z,4.4nm,0.8s						
BDFB	**Brasilia**	**26.49**	**62**	P	**P**	**08 34 31.6**	**-1.3**
MDP	**Montagnes des**	**39.92**	**31**	LR	LR	08 55 00.4	
	comp=Z,82nm,18.4s,baz=206,slow=39						
RCBR	**Riachuelo**	**41.87**	**62**	LR	LR	08 53 26.0	
	comp=Z,59nm,18.0s,baz=324,slow=35						
VNA2	**Neumayer--Watz**	**53.31**	**158**	P	**P**	**08 38 14.4**	**+0.3**
	baz=287,slow=7.6						
SNAA	**Sanae**	**54.90**	**159**	P	**P**	**08 38 26.0**	**+0.4**
SNAA	**Sanae**	**54.90**	**159**	P	**P**	**08 38 25.8**	**+0.1**
SNAA				IAmb	IAmb	08 38 26.4	
	comp=Z,2.5nm,0.7s						
QSPA	**South Pole Qui**	**59.80**	**180**	P	**P**	**08 39 00.9**	**+0.5**
QSPA				IAmb	IAmb	08 39 04.7	
	comp=Z,5.4nm,1.4s						
TXAR	**Lajitas Array**	**66.63**	**330**	P	**P**	**08 39 47.6**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=146,slow=9.7,SNR=3.4						
	comp=Z,0.3nm,0.9s						
DBIC	**Dimbokro**	**74.08**	**72**	LR	LR	09 10 43.8	
	comp=Z,67nm,19.8s,baz=184,slow=34						
KOWA	**Kowa**	**79.19**	**66**	LR	LR	09 15 46.2	
	comp=Z,57nm,18.3s,baz=204,slow=36						
BOSA	**Boshof**	**81.75**	**118**	LR	LR	09 14 07.3	
	comp=Z,35nm,18.2s,baz=188,slow=33						
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P	**P**	**08 41 21.4**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=251,slow=4.2,SNR=10						
	comp=Z,2.5nm,0.8s						
LBTB	**Lobatse**	**83.83**	**115**	LR	LR	09 16 05.2	
	comp=Z,46nm,18.0s,baz=176,slow=34						
WRA	**Warramunga Arr**	**123.85**	**210**	PKP	**PKiKP**	**08 47 55.9**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=160,slow=1.2,SNR=1.8						
H11S2	**WAKE ISLAND Hyl**	**25.73**	**272**	T	T	11 06 43.2	
	baz=115,slow=74,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**25.74**	**272**	T	T	11 06 44.1	
	baz=115,slow=74,SNR=8.4						
H11S3	**WAKE ISLAND Hyl**	**25.75**	**272**	T	T	11 06 44.3	
	baz=115,slow=74,SNR=12						
ZALV	**Zalesovo Beam**	**151.16**	**29**	PKPbc	**PKPbc**	**08 48 48.6**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=303,slow=3.1,SNR=12						
ZALV				PKPab	**sPKPab**	**08 48 57.6**	**+1.3**
	comp=Z,4.8nm,0.6s,baz=302,slow=3.1,SNR=8.5						
MKAR	**Makanchi Array**	**154.30**	**43**	PKPbc	**PKPbc**	**08 48 55.1**

	comp=E,36nm,1.0s,comp=E,64nm,1.0s								
JIU3	**Izumi3**	**0.36**	**207**	*i* P	**Pn**	08 29 25.4	**-0.4**		
JIU3	**Izumi3**	**0.36**	**207**	A	A	08 29 25.4			
	comp=E,10.0nm,6.3s,comp=E,8.0nm,6.1s								
JTA	**Tamana**	**0.41**	**284**	ǁ *i* P	**Pb**	**08 29 24.3**	**+0.3**		
JTA	**Tamana**	**0.41**	**284**	A	A	08 29 24.3			
	comp=E,6.0nm,3.4s,comp=E,8.0nm,3.2s								
JKIT	**Kitakata**	**0.45**	**123**	A	A	08 29 24.5			
	comp=E,9.0nm,3.4s,comp=E,15nm,0.2s								
JBEP	**Beppuamama**	**0.58**	**36**	A	A	08 29 22.1			
	comp=E,34nm,0.9s,comp=E,39nm,0.8s								
JUS	**Usuki**	**0.66**	**72**	ǁ *i* P	**Pg**	**08 29 24.6**	**-2.9**		
JUS	**Usuki**	**0.66**	**72**	A	A	08 29 24.6			
	comp=E,7.0nm,0.8s,comp=E,7.0nm,2.8s								
JHHC	**Hyugahichiya**	**0.68**	**128**	A	A	08 29 28.9			
	comp=E,9.0nm,0.7s,comp=E,5.0nm,1.2s								
JTSN	**Tsuno**	**0.75**	**146**	A	A	08 29 31.0			
	comp=E,5.0nm,3.9s,comp=E,3.0nm,1.1s								
JSKE	**Saikikamae**	**0.76**	**95**	A	A	08 29 28.1			
	comp=E,7.0nm,5.3s,comp=E,5.0nm,6.0s								
JFI	**Itaya**	**0.76**	**317**	A	A	08 29 28.4			
	comp=E,9.0nm,0.3s,comp=E,9.0nm,0.3s								
JZO	**Okuchi**	**0.80**	**205**	A	A	08 29 33.5			
	comp=E,4.0nm,1.3s,comp=E,6.0nm,1.9s								
JHD	**Hondo**	**0.84**	**242**	A	A	08 29 33.6			
	comp=E,6.0nm,2.8s,comp=E,6.0nm,1.1s								
JKI	**Kunimi**	**0.90**	**32**	A	A	08 29 27.9			
	comp=E,7.0nm,3.2s,comp=E,8.0nm,5.0s								
JUR	**Ureshino**	**0.92**	**284**	A	A	08 29 33.1			
	comp=E,6.0nm,0.8s,comp=E,7.0nm,2.3s								
JNKG	**Nichinankitago**	**1.24**	**165**	A	A	08 29 40.0			
	comp=E,3.0nm,2.9s,comp=E,3.0nm,1.9s								
JII	**Iki**	**1.41**	**311**	A	A	08 29 39.6			
	comp=E,8.0nm,2.2s,comp=E,10.0nm,2.5s								
JTO	**Tosashimizu**	**1.51**	**90**	A	A	08 29 40.4			
	comp=E,5.0nm,0.8s,comp=E,9.0nm,0.9s								
KSRS	**Korea Array**	**5.23**	**332**	Pn	**Pn**	**08 30 31.8**	**-1.0**		
	0.6nm,0.3s,baz=151,slow=15,SNR=6.6								
KSRS				Pg	**Pb**	**08 30 49.3**	**+3.2**		
	1.7nm,0.3s,baz=146,slow=18,SNR=12								
KSRS				Sn	**Sn**	**08 31 29.2**	**-3.7**		
	2.6nm,0.3s,baz=153,slow=25,SNR=6.4								
KSRS				Lg	Lg	08 31 53.5			
	3.0nm,0.3s,baz=151,slow=31,SNR=6.6								
KSRS				LR	LR	08 32 35.5			
	comp=Z,161nm,19.3s,baz=175,slow=38 1.2nm,0.3s								
MJAR	**Matsushiro Arr**	**6.97**	**56**	Pn	**Pn**	**08 30 58.0**	**+1.2**		
	0.1nm,0.3s,baz=239,slow=13,SNR=8.9								
MJAR				Lg	Lg	08 32 49.4			
	0.1nm,0.3s,baz=235,slow=28,SNR=1.0								
MJAR				LR	LR	08 34 03.9			
	comp=Z,66nm,19.1s,baz=230,slow=42 2.3nm,0.6s								
JHJ	**Hachijo jima 2**	**7.38**	**86**	LR	LR	08 33 26.5			
	comp=Z,75nm,20.9s,baz=66,slow=34								
KLR	**Kul'dur**	**16.36**	**2**	Pn	**P**	**08 33 09.3**	**+2.3**		
	0.1nm,0.3s,baz=172,slow=10,SNR=12								
KLR				LR	LR	08 38 18.8			
	comp=Z,69nm,19.6s,baz=176,slow=33								
SONM	**Songino Array**	**23.84**	**316**	P	**P**	**08 34 28.5**	**+0.5**		
	1.2nm,0.7s,baz=120,slow=8.5,SNR=4.3 1.2nm,0.7s								
YAK	**Yakutsk**	**29.19**	**359**	LR	LR	08 46 57.7			
	comp=Z,28nm,18.1s,baz=90,slow=36								
CMAR	**Chiang Mai Arr**	**32.12**	**251**	LR	LR	08 49 29.0			
	comp=Z,25nm,18.0s,baz=50,slow=38								
MKAR	**Makanchi Array**	**39.29**	**305**	P	**P**	**08 36 45.0**	**+1.6**		
	0.2nm,0.6s,baz=94,slow=12,SNR=2.2 0.2nm,0.6s								
BATI	**Baumata**	**43.40**	**191**	LR	LR	08 57 11.8			
	comp=Z,98nm,18.1s,baz=152,slow=39								
WRA	**Warramunga Arr**	**52.61**	**176**	P	**P**	**08 38 29.0**	**+0.4**		
	0.6nm,0.9s,baz=357,slow=7.8,SNR=4.0 0.6nm,0.9s								
ASAR	**Alice Springs**	**56.29**	**177**	P	**P**	**08 38 54.9**	**-0.4**		
	0.8nm,0.9s,baz=8.0,slow=9.4,SNR=6.5 0.8nm,0.9s								
BRTR	**Keskin Array B**	**74.89**	**308**	P	**P**	**08 40 55.9**	**+0.1**		
	0.7nm,0.8s,baz=71,slow=6.2,SNR=3.2 0.7nm,0.8s								

ISN ***13*** *08:51:46.4±0.9,30.˙88N×48.˙15E, h2km, 999km, ML2.9*
TEH ***13*** *08:51:46.2,30.˙80N×48.˙24E, h16km, ML3.3*

ISC 13 08:51:50.3±1.3, 30.˙90N±0.˙07×48.˙42E±0.˙05, h10km, n27, σ1.9s51/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.47**	**24**	*e*Pg	**Pg**	**08 51 58.2**	**-1.3**
AHWZ				*e*		08 52 17.2	
	comp=Z,23μm,0.3s						
AMIS	**Naft Sefid**	**1.07**	**44**	*e*Sg	**Sn**	**08 52 27.9**	**+1.7**
AMIS				*e*Pg	**Pg**	**08 52 09.7**	**-1.1**
RAFI	**Al-Rafai**	**2.13**	**293**	*e*Pg	**Pn**	**08 52 26.0**	**0.0**
	baz=115						
RAFI				*e*Sg	**Sb**	**08 52 55.0**	**-0.6**
RAFI				AML	AML	08 53 20.5	
	comp=E,231nm,0.8s						
SHK1	**Shahrekord**	**2.54**	**55**	*e*Pn	**Pn**	**08 52 31.0**	**-0.8**
IBRJ	**Brojen**	**2.63**	**67**	*e*Pn	**Pn**	**08 52 32.3**	**-0.8**
IKFM	**Kafar-mosalman**	**2.66**	**350**	*e*Pn	**Pn**	**08 52 30.4**	**-2.8**
IKFM				*e*		08 53 29.8	
	comp=Z,2μm,0.5s						
KLNJ	**Kolanjah**	**2.73**	**87**	*e*Pn	**Pn**	**08 52 33.0**	**-1.5**
KLNJ				*e*		08 53 36.5	
	comp=Z,641nm,0.9s						
IPIR	**Pirpir**	**2.76**	**49**	*e*Pn	**Pn**	**08 52 34.5**	**-0.4**
IPIR				*e*		08 53 26.4	
	comp=Z,850nm,0.8s						
IDOB	**Doab**	**2.88**	**356**	*e*Pn	**Pn**	**08 52 35.7**	**-0.8**
IBDR	**Badra**	**3.05**	**317**	*e*Pg	**Pb**	**08 52 47.0**	**+2.3**
IBDR				*e*Sg	**Sg**	**08 53 30.0**	**+1.7**
IBDR				AML	AML	08 53 41.4	
	comp=E,58nm,0.6s						
IBDR				AML	AML	08 53 41.5	
	comp=N,57nm,0.6s						
KHMZ	**Khomeyn**	**3.12**	**24**	*e*Pn	**Pn**	**08 52 38.5**	**-1.2**
AHBU	**AHRAM**	**3.22**	**128**	*e*Pn	**Pn**	**08 52 39.4**	**-1.5**
HSAM	**Samen**	**3.31**	**3**	*e*Pn	**Pn**	**08 52 40.7**	**-1.7**
HSAM				*e*		08 53 55.1	
	comp=Z,319nm,0.9s						
IKOM	**Komasi**	**3.35**	**347**	*e*Pn	**Pn**	**08 52 41.1**	**-1.8**
IKOM				*e*		08 53 56.5	
	comp=Z,588nm,0.6s						
IRAM	**Rameshеh**	**3.51**	**74**	*e*Pn	**Pn**	**08 52 44.2**	**-0.9**
IKLH	**Kolahrood**	**3.61**	**47**	*e*Pn	**Pn**	**08 52 46.1**	**-0.4**
IKLH				*e*		08 54 08.7	
	comp=Z,358nm,0.3s						
IGHG	**Ghaleghazi**	**3.76**	**336**	*e*Pn	**Pn**	**08 52 46.0**	**-2.5**
IGHG				*e*		08 54 11.4	
	comp=Z,626nm,0.9s						
IZEF	**Zefreh**	**3.88**	**58**	*e*Pn	**Pn**	**08 52 49.5**	**-0.7**
IZEF				*e*		08 53 39.0	
	comp=Z,166nm,0.5s						
ASAO	**Ashtian**	**3.88**	**20**	*e*Pn	**Pn**	**08 52 49.1**	**-1.2**
HAGD	**Aghdareh**	**3.96**	**9**	*e*Pn	**Pn**	**08 52 50.4**	**-0.9**
HAGD				*e*		08 54 13.7	
	comp=Z,740nm,0.2s						
IDHR	**Dehrash**	**4.16**	**336**	*e*Pn	**Pn**	**08 52 51.0**	**-3.0**
IDHR				*e*		08 53 46.0	
	comp=Z,359nm,0.3s						
NASN	**Na'in**	**4.19**	**62**	*e*Pn	**Pn**	**08 52 53.7**	**-0.9**
SNGE	**Sanandaj**	**4.28**	**348**	*e*Pn	**Pn**	**08 52 53.7**	**-1.9**
KRSH	**Karshahi**	**4.39**	**45**	*e*Pn	**Pn**	**08 52 56.9**	**-0.2**
KRSH				*e*		08 53 54.1	
	comp=Z,239nm,0.4s						
IRAZ	**Razeghan**	**4.67**	**15**	*e*Pn	**Pn**	**08 53 00.4**	**-0.6**
IRAZ				*e*		08 54 44.4	
	comp=Z,265nm,0.9s						
ISFB	**Sefidab**	**4.72**	**42**	*e*Pn	**Pn**	**08 53 00.8**	**-0.8**
YZKH	**Yazd**	**5.47**	**73**	*e*Pn	**Pn**	**08 53 11.7**	**-0.3**

ROM 13 09:17:08.8±0.1, 43.˙954N±0.˙006×10.˙575E±0.˙009, h0km, ML1.3/2, Error ellipse: s-maj=0.8km s-min=0.6km az=318.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIM	**Mastiano**	**0.07**	**237**	P	Pg	09 17 10.6	+0.4
MAIM				AML	AML		
	comp=E,448μm,1.2s						
MAIM				AML	AML		
	comp=N,398μm,0.4s						
MAIM				END			

CARD	**Cardoso**	**0.10**	**317**	P	Pg	09 17 10.7	0.0		
CARD				AML	AML				
	comp=E,305μm,1.5s								
CARD				AML	AML				
	comp=N,282μm,0.4s								
CARD				END					
BDI	**Bagni Di Lucca**	**0.11**	**8**	P	Pg	09 17 11.5	+0.6		
POPM	**Popiglio**	**0.16**	**55**	P	Pg	09 17 12.3	+0.4		
POPM				AML	AML				
	comp=N,201μm,0.3s								
POPM				AML	AML				
	comp=E,166μm,0.9s								
POPM				END					
PII	**Pisa**	**0.23**	**189**	P	Pg	09 17 13.9	+0.6		
MTCR	**Monte La Croce**	**0.31**	**76**	P	Pg	09 17 15.7	+0.9		
MPPT	**Montemurlo**	**0.37**	**89**	P	Pb	09 17 17.1	-1.1		
SEI	**Scarperia**	**0.57**	**80**	AML	AML				
	comp=E,127μm,0.4s								
SEI				AML	AML				
	comp=E,127μm,0.4s								
SEI				AML	AML				
	comp=N,132μm,0.5s								
SEI				AML	AML				
	comp=E,127μm,1.6s								

ROM 13 09:18:49.1±0.0, 42.˙956N±0.˙003×13.˙159E±0.˙004, h9km, ML1.6/7, Error ellipse: s-maj=0.3km s-min=0.1km az=223.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.05**	**152**	P	Pg	09 18 51.1	-0.1
FEMA	**Monte Fema**	**0.08**	**274**	P	Pg	09 18 51.6	+0.2
FEMA				S	Sg	09 18 53.5	+0.3
FDMO	**Fiordimonte**	**0.10**	**327**	P	Pg	09 18 51.7	+0.1
FDMO				S	Sg	09 18 53.9	+0.6
FDMO				AML	AML		
	comp=E,1014μm,1.5s						
FDMO				AML	AML		
	comp=N,1480μm,0.3s						
FDMO				AML	AML		
	comp=E,1014μm,0.5s						
T1216	**Preci, Frazion**	**0.12**	**237**	P	Pg	09 18 52.5	+0.5
T1216				S	Sg	09 18 55.0	+1.0
T1216				AML	AML		
	comp=E,7345μm,0.2s						
T1216				AML	AML		
	comp=N,9795μm,0.3s						
T1216				AML	AML		
	comp=N,9819μm,0.3s						
T1216				AML	AML		
	comp=E,7344μm,0.2s						
NRCA	**Norcia**	**0.13**	**195**	P	Pg	09 18 52.7	+0.6
NRCA				AML	AML		
	comp=N,1110μm,0.1s						
NRCA				AML	AML		
	comp=E,1440μm,0.2s						
T1242	**Castelluccio d**	**0.13**	**165**	P	Pg	09 18 52.6	+0.4
T1242				S	Sg	09 18 55.1	+0.8
T1242				AML	AML		
	comp=E,488μm,1.5s						
T1242				AML	AML		
	comp=N,746μm,1.6s						
T1242				AML	AML		
	comp=N,746μm,0.4s						
T1242				AML	AML		
	comp=E,488μm,0.5s						
MMO1	**Montemonaco**	**0.14**	**115**	P	Pg	09 18 52.8	+0.6
MMO1				S	Sg	09 18 55.2	+0.8
CSP1	**Cessapalombo**	**0.14**	**14**	P	Pg	09 18 52.7	+0.4
GUMA	**Gualdo di Mace**	**0.17**	**51**	P	Pg	09 18 53.0	+0.3
GUMA				S	Sg	09 18 56.3	+1.1
CESI	**CESI - Serrava**	**0.19**	**285**	P	Pg	09 18 53.8	+0.6
CESI				S	Sg	09 18 57.4	+1.4
T1241	**Roccafluvione,**	**0.22**	**116**	P	Pg	09 18 54.4	+0.7
T1241				S	Sg	09 18 58.4	+1.6
T1241				AML	AML		
	comp=E,172μm,0.7s						
T1241				AML	AML		
	comp=N,178μm,1.4s						
T1202	**Accumoli, Fraz**	**0.26**	**169**	P	Pg	09 18 55.2	+0.8
T1202				S	Sb	09 19 00.0	-0.6
T1215	**Vallo di Nera,**	**0.26**	**234**	P	Pg	09 18 55.1	+0.7
T1215				S	Sb	09 18 59.7	-1.0
T1215				AML	AML		
	comp=E,104μm,0.4s						
T1215				AML	AML		
	comp=N,134μm,0.7s						
T1215				AML	AML		
	comp=N,134μm,1.3s						
T1215				AML	AML		
	comp=E,104μm,1.6s						
T1217	**Poggiodomo (PG**	**0.30**	**214**	P	Pg	09 18 55.7	+0.6
T1217				S	Sb	09 19 01.1	-0.6
T1204	**Amatrice, Fraz**	**0.30**	**157**	P	Pg	09 18 55.9	+0.6
T1243	**Rocca Santa Ma**	**0.34**	**141**	P	Pg	09 18 56.2	+0.4
T1243				S	Sb	09 19 02.2	-0.7
SNTG	**Esanatoglia**	**0.34**	**332**	P	Pg	09 18 56.4	+0.5
SNTG				S	Sb	09 19 02.5	-0.5
SMA1	**SAN MARTINO**	**0.35**	**158**	P	Pg	09 18 56.5	+0.4
LNSS	**Leonessa**	**0.36**	**194**	P	Pg	09 18 57.0	+0.6
LNSS				AML	AML		
	comp=E,134μm,0.4s						
LNSS				AML	AML		
	comp=N,110μm,0.5s						
LNSS				AML	AML		
	comp=E,134μm,0.4s						
LNSS				AML	AML		
	comp=N,110μm,0.5s						
LNSS				AML	AML		
	comp=E,134μm,1.6s						
ASSB	**Assisi San Ben**	**0.38**	**283**	P	Pg	09 18 57.0	+0.4
ASSB				S	Sb	09 19 03.3	-0.7
CING	**Cingoli**	**0.42**	**4**	P	Pb	09 18 58.4	-0.3
CING				S	Sb	09 19 05.2	-0.1
CAMP	**Campotosto**	**0.46**	**156**	P	Pg	09 18 58.4	+0.2
CAMP				S	Sb	09 19 05.9	-0.5
TERO	**Teramo**	**0.47**	**135**	P	Pg	09 18 58.6	+0.3
TERO				S	Sb	09 19 06.4	-0.2
TERO				AML	AML		
	comp=N,81μm,0.3s						
TERO				AML	AML		
	comp=E,71μm,0.3s						
TERO				AML	AML		
	comp=N,81μm,0.3s						

AEIC ***13*** *09:20:11.3±1.4,53.˙53N±0.˙05×164.˙87W±0.˙07, h32km±6km, ML3.5/45, mb3.7/6(NEIC), ML3.5/8(NEIC), Error ellipse: s-maj=7.9km s-min=4.6km az=138.0*

NEIC 13 09:20:11.1±1.8, 53.˙59N±0.˙06×164.˙91W±0.˙07, h18km±7km, Error ellipse: s-maj=9.5km s-min=5.4km az=161.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.72**	**320**		Pn	09 20 25.9	-0.4
AKSA	**Akutan Strait**	**0.72**	**320**		Pg	09 20 25.8	+0.5
AKSA					Sn	09 20 36.9	0.0
AKUT	**Akutan**	**0.75**	**317**		Pn	09 20 26.5	-0.2
AKUT					Sn	09 20 37.9	+0.3
AKUT	**Akutan**	**0.75**	**317**	IAML		09 20 38.4	
	comp=N,2μm,0.3s						
AKBBA	**Akutan Broad B**	**0.80**	**311**		Pn	09 20 27.1	-0.3
AKBBA					Sn	09 20 39.1	+0.4
AKMO	**Akutan Morgan**	**0.83**	**308**		Pn	09 20 27.5	-0.3
AKMO					Sn	09 20 39.5	0.0
HSB	**Akutan Spr's B**	**0.85**	**316**		Pn	09 20 28.0	-0.1
AKLV	**Akutan Long Va**	**0.85**	**313**		Pg	09 20 27.7	0.0
AKLV					Sn	09 20 39.5	-0.6
AKRB	**Akutan Reef Bi**	**0.88**	**309**		Pg	09 20 28.3	+0.1
AKGG	**Akutan Green G**	**0.89**	**314**		Pb	09 20 27.5	-0.4
WESP	**Westdahl Peak**	**0.92**	**7**		Pb	09 20 28.7	+0.2
WECS	**Westdahl Cape**	**0.95**	**5**		Pn	09 20 29.4	-0.1
UNV	**Unalaska Valle**	**0.98**	**286**		Pb	09 20 29.2	-0.3
UNV					Sg	09 20 42.9	-0.3
WESN	**West Dahl Nort**	**1.00**	**11**		Pn	09 20 30.3	+0.1
MNAT	**Makushin Natee**	**1.10**	**286**		Pb	09 20 31.0	-0.5
MREP	**Makushin Rep't**	**1.11**	**282**		Pn	09 20 31.3	-0.5
MSW	**Makushin Switc**	**1.16**	**287**		Sn	09 20 47.9	+0.2
MGOD	**Makushin Gods**	**1.19**	**281**		Pn	09 20 32.4	-0.4
MAPS	**Pakushin South**	**1.23**	**281**		Pn	09 20 33.0	-0.3
MAPS					Sb	09 20 49.0	-0.2

SSLS	**Shishaldin Sou**	**1.25**	**25**		Pn	09 20 33.1	-0.5		
BRPK	**Brown Peak**	**1.26**	**32**		Pn	09 20 33.0	-0.9		
SSBA	**Shishaldin**	**1.27**	**21**		Pn	09 20 33.7	-0.3		
SSLN	**Shishaldin Nor**	**1.34**	**23**		Pn	09 20 34.9	0.0		
ISLZ	**Isanotski Laza**	**1.34**	**31**		Pn	09 20 34.1	-0.8		
ISNN	**Isanotski Nort**	**1.41**	**28**		Pn	09 20 36.0	+0.1		
OKFG	**Magazine Ridge**	**1.80**	**266**		Pn	09 20 40.8	-0.4		
OKNC	**Okmok New Cone**	**1.92**	**267**		Pn	09 20 43.5	+0.6		
OKCE	**Okmok Cone E**	**1.95**	**267**		Pn	09 20 43.3	0.0		
OKSO	**Okmok South**	**1.96**	**265**		Pn	09 20 42.9	-0.5		
NIKH	**Nikolski High**	**2.45**	**257**		Pn	09 20 49.9	-0.2		
CLCO	**Concord Point,**	**3.01**	**256**		Pn	09 20 58.5	+0.8		
SDPT	**Sand Point**	**3.13**	**54**		Pn	09 20 59.8	+0.4		
SDPT	**Sand Point**	**3.13**	**54**	IAML		09 21 45.7			
	comp=N,141nm,1.2s								
CNBA	**Chernabura Isl**	**3.36**	**66**		Pn	09 21 02.1	-0.5		
VNFG	**Fog Glacier, M**	**4.11**	**47**		Pn	09 21 12.7	-0.2		
CHGN	**Chignik**	**4.63**	**51**	Pn	Pn	09 21 20.8	+0.8		
CHGN				IAML		09 22 34.1			
	comp=E,49nm,0.3s								
CHGN				IAML		09 22 35.3			
	comp=N,35nm,0.5s								
SPIA	**Saint Paul Isl**	**4.71**	**322**	Pn	Pn	09 21 22.5	+1.4		
ADK	**Adak**	**7.35**	**261**	Pn	Pn	09 21 59.0	+1.7		
OHAK	**Old Harbor**	**7.55**	**56**	Pn	Pn	09 21 59.9	-0.1		
KIWB	**Kanaga Island**	**7.64**	**262**	Pn	Pn	09 22 01.0	-0.2		
KDAK	**Kodiak Island**	**8.13**	**54**	Pn	Pn	09 22 08.0	-0.1		
N18K	**Kilae Creek**	**8.63**	**31**	Pn	Pn	09 22 14.5	-0.4		
SVW2	**Sparrevohn**	**9.05**	**30**	Pn	Pn	09 22 19.1	-1.6		
L19K	**White Mountain**	**10.13**	**28**	Pn	Pn	09 22 36.9	+1.5		
M20K	**Styx River**	**10.41**	**32**	Pn	Pn	09 22 38.8	-0.6		
SEW	**Seward**	**10.67**	**46**	Pn	Pn	09 22 42.0	-0.8		
SUA	**Susitna One**	**10.95**	**38**	Pn	Pn	09 22 47.7	+1.0		
SKT	**Skwentna**	**11.01**	**35**	Pn	Pn	09 22 49.3	+1.8		
RC01	**Rabbit Creek A**	**11.10**	**41**	Pn	Pn	09 22 50.8	+2.1		
K20K	**Telida**	**11.30**	**26**	Pn	Pn	09 22 49.1	-2.3		
PWL	**Port Wells**	**11.54**	**44**	Pn	Pn	09 22 54.3	-0.4		
PMR	**Palmer**	**11.63**	**40**	Pn	Pn	09 22 57.3	+1.4		
J20K	**Nowinta River**	**11.97**	**23**	Pn	Pn	09 23 01.3	+0.8		
SML	**Sawmill**	**12.07**	**40**	Pn	Pn	09 23 03.3	+1.4		
TRF	**Thorofare Moun**	**12.46**	**32**	Pn	Pn	09 23 07.0	-0.3		
SCM	**Sheep Creek Mo**	**12.48**	**42**	Pn	Pn	09 23 07.0	-0.5		
EYAK	**Cordova Ski Ar**	**12.51**	**48**	Pn	Pn	09 23 06.1	-1.8		
KLU	**Klutina**	**12.87**	**44**	Pn	Pn	09 23 11.4	-1.5		
M24K	**Tolsona, Glenn**	**13.08**	**42**	Pn	Pn	09 23 15.9	+0.1		
HMT	**Hamilton**	**13.10**	**51**	Pn	Pn	09 23 16.5	+0.5		
DHY	**Denali Highway**	**13.19**	**37**	Pn	Pn	09 23 18.3	+0.9		
I21K	**Tanana**	**13.32**	**24**	Pn	Pn	09 23 19.1	+0.1		
N25K	**Chitina, Valde**	**13.48**	**45**	Pn	Pn	09 23 19.3	-1.9		
H21K	**Melozitna Rive**	**13.53**	**22**	Pn	Pn	09 23 21.9	+0.1		
IMAR	**Indian Mountai**	**13.61**	**20**	Pn	Pn	09 23 23.2	+0.3		
GLB	**Gilahina Butte**	**13.75**	**47**	Pn	Pn	09 23 24.2	-0.6		
PAX	**Paxson**	**13.83**	**40**	Pn	Pn	09 23 24.8	-1.2		
RIDG	**Independent Ri**	**14.50**	**38**	Pn	Pn	09 23 34.9	-0.2		
M26K	**Nabesna, AK**	**14.52**	**44**	Pn	Pn	09 23 34.4	-1.0		
DOT	**Dot Lake**	**14.74**	**39**	Pn	Pn	09 23 37.4	-1.0		
J25K	**Salcha River,**	**14.85**	**34**	Pn	Pn	09 23 36.3	-3.5		
SCRK	**Sand Creek**	**14.95**	**38**	Pn	Pn	09 23 38.2	-3.1		
L27K	**Beaver Creek,**	**15.30**	**43**	Pn	Pn	09 23 43.3	-2.6		
L27K				IAmb	IAmb	09 24 13.2			
	comp=Z,5.9nm,1.4s								
BCAR	**Beaver Creek A**	**15.32**	**43**	Pn	Pn	09 23 45.7	-0.5		
J26L	**Joseph Creek**	**15.40**	**36**	Pn	Pn	09 23 45.8	-1.4		
J26L				IAmb	IAmb	09 23 56.4			
	comp=Z,6.4nm,1.5s								
K27K	**Chicken**	**15.68**	**39**	Pn	Pn	09 23 49.7	-1.1		
K27K				IAmb	IAmb	09 23 54.8			
	comp=Z,7.8nm,1.4s								
I26K	**Coal Creek Min**	**16.02**	**34**	Pn	Pn	09 23 51.6	-3.4		
I26K				IAmb	IAmb	09 24 14.4			
	comp=Z,9.3nm,1.5s								
DAWY	**Dawson**	**16.73**	**41**	Pn	Pn	09 24 02.9	-1.4		
EPYK	**Eagle Plains**	**18.82**	**36**	P	P	09 24 29.0	-0.4		
TXAR	**Lajitas Array**	**50.08**	**93**	P	P	09 29 05.1	+0.3		

IDC 13 09:49:28.4±3.0, 54.˙08N×86.˙52E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=23.7km s-min=14.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**263**	*i*		09 56 30.0	
	baz=81,slow=315,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.01**	**263**	Pg	Pg	09 49 46.9	-0.9
	1.2nm,0.3s,baz=83,slow=17,SNR=9.4						
ZALV				Lg	Lg	09 50 02.0	
	2.5nm,0.3s,baz=84,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	09 50 59.6	+1.3
	0.1nm,0.3s,baz=55,slow=13,SNR=5.1 0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.78**	**202**	Pn	Pn	09 51 23.4	+0.6
	baz=24,slow=13,SNR=1.5 0.2nm,0.3s						

IDC 13 09:50:38.0±3.1, 53.˙53N×87.˙62E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=26.3km s-min=14.8km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**285**

PSDA				S	Sb	10 00 15.8	+2.1	
VLS	**Valsamata**	**0.58**	**309**	P	Pb	**10 00 07.7**	**+1.2**	
VLS				S	Sb	**10 00 16.9**	**+2.2**	
	comp=E,5μm,0.1s							
VLS	**Valsamata**	**0.58**	**309**	P	Pb	**10 00 07.7**	**+1.2**	
VLS				S	Sb	**10 00 16.6**	**+1.9**	
VLS				AML	AML	10 00 18.5		
	comp=N,9124μm,0.3s							
VLS				AML	AML	10 00 19.0		
	comp=E,10965μm,0.2s							
UPR	**University Cam**	**0.69**	**46**	P	Pb	**10 00 09.6**	**+1.3**	
KEF4	**Livadi, Kephal**	**0.73**	**308**	P	Pb	**10 00 10.1**	**+1.0**	
KEF4	**Livadi, Kephal**	**0.73**	**308**	P	Pb	**10 00 10.1**	**+1.0**	
KEF3	**Kipouria, Keph**	**0.75**	**302**	P	Pb	**10 00 10.5**	**+1.1**	
KEF3				S	Sb	**10 00 21.3**	**+1.7**	
KEF3	**Kipouria, Keph**	**0.75**	**302**	P	Pb	**10 00 10.2**	**+0.8**	
KEF3				S	Sb	**10 00 21.2**	**+1.6**	
DMLN	**Damoulianata-K**	**0.75**	**305**	P	Pb	**10 00 10.6**	**+1.1**	
LAKA	**Lakka**	**0.78**	**56**	P	Pb	**10 00 10.6**	**+0.7**	
LAKA				AML	AML	10 00 29.0		
	comp=E,5722μm,1.2s							
LAKA				AML	AML	10 00 30.2		
	comp=N,5870μm,0.9s							
FSK	**Fiskardo**	**0.80**	**324**	P	Pn	**10 00 12.0**	**+0.5**	
FSK				AML	AML	10 00 32.0		
	comp=N,6175μm,0.8s							
FSK				AML	AML	10 00 34.8		
	comp=E,4372μm,0.5s							
KLV	**Kalavryta, Ach**	**0.82**	**73**	P	Pb	**10 00 11.2**	**+0.6**	
KLV	**Kalavryta, Ach**	**0.82**	**73**	P	Pb	**10 00 11.1**	**+0.4**	
KLV				S	Sn	**10 00 23.9**	**0.0**	
KLV				AML	AML	10 00 29.4		
	comp=E,5454μm,0.9s							
KLV				AML	AML	10 00 33.0		
	comp=N,3579μm,0.5s							
EFP	**Efpalio**	**0.85**	**44**	P	Pb	**10 00 11.9**	**+0.8**	
EFP	**Efpalio**	**0.85**	**44**	P	Pb	**10 00 12.0**	**+0.8**	
EFP				AML	AML	10 00 31.7		
	comp=N,4437μm,0.4s							
EFP				AML	AML	10 00 32.7		
	comp=E,5743μm,0.5s							
PVO	**Paravola**	**0.86**	**20**	P	Pn	**10 00 12.8**	**+0.5**	
PVO	**Paravola**	**0.86**	**20**	P	Pn	**10 00 12.7**	**+0.5**	
ALIK	**Aliki, Aigiali**	**0.88**	**59**	P	Pb	**10 00 12.6**	**+1.0**	
ALIK				S	Sn	**10 00 25.4**	**+0.2**	
ITM	**Ithomi**	**0.88**	**136**	P	Pb	**10 00 11.5**	**-0.1**	
ITM	**Ithomi**	**0.88**	**136**	P	Pb	**10 00 11.5**	**-0.1**	
ITM				AML	AML	10 00 30.1		
	comp=N,6536μm,0.7s							
ITM				AML	AML	10 00 32.5		
	comp=E,5917μm,0.6s							
EVGI	**Lefkada island**	**0.90**	**334**	P	Pb	**10 00 13.2**	**+1.2**	
EVGI	**Lefkada island**	**0.90**	**334**	P	Pb	**10 00 13.0**	**+1.0**	
SERG	**Sergoula**	**0.93**	**49**	P	Pb	**10 00 13.1**	**+0.6**	
SERG				AML	AML	10 00 33.0		
	comp=N,7676μm,0.4s							
SERG				AML	AML	10 00 33.4		
	comp=E,5298μm,0.3s							
PYL	**PYLOS**	**1.02**	**153**	P	Pg	**10 00 13.6**	**-0.6**	
PYL				S	Sb	**10 00 28.3**	**+0.8**	
	comp=E,2μm,0.6s							
PYL	**PYLOS**	**1.02**	**153**	P	Pg	**10 00 13.4**	**-0.7**	
PYL				AML	AML	10 00 43.9		
	comp=N,3401μm,0.7s							
PYL				AML	AML	10 00 44.3		
	comp=E,4923μm,0.6s							
LKD2	**Lefkada island**	**1.05**	**338**	P	Pb	**10 00 15.7**	**+1.1**	
LKD2				AML	AML	10 00 37.5		
	comp=E,8284μm,0.7s							
LKD2				AML	AML	10 00 49.4		
	comp=N,4589μm,0.9s							
TSLK	**Tsoukalades, L**	**1.09**	**339**	P	Pn	**10 00 16.4**	**+0.9**	
THAL	**Thalero**	**1.21**	**79**	P	Pn	**10 00 18.7**	**+1.5**	
THAL				AML	AML	10 00 42.3		
	comp=N,18478μm,1.0s							
THAL				AML	AML	10 00 43.5		
	comp=E,14428μm,0.6s							
EVR	**Evrytania**	**1.22**	**25**	P	Pn	**10 00 18.5**	**+1.1**	
MAKR	**Makrakomi, Fth**	**1.42**	**32**	P	Pg	**10 00 22.6**	**+0.8**	
MAKR				AML	AML	10 00 48.7		
	comp=E,3886μm,0.6s							
MAKR				AML	AML	10 00 49.6		
	comp=N,5742μm,1.0s							
LTK	**Loutraki**	**1.45**	**81**	P	Pg	**10 00 22.2**	**0.0**	
LTK				AML	AML	10 00 49.9		
	comp=E,5269μm,1.0s							
LTK				AML	AML	10 00 53.3		
	comp=N,3290μm,0.9s							
LOUT	**Loutraki**	**1.45**	**82**	P	Pg	**10 00 23.2**	**+0.9**	
AXAR	**Agios Charalam**	**1.52**	**51**	P	Pg	**10 00 24.1**	**+0.5**	
AXAR				AML	AML	10 00 54.5		
	comp=N,9192μm,1.0s							
AXAR				AML	AML	10 00 55.3		
	comp=E,10674μm,1.3s							
EPID	**Epidavros**	**1.57**	**97**	P	Pg	**10 00 25.3**	**+0.8**	
KRND	**KRANIDI**	**1.64**	**104**	P	Pg	**10 00 26.5**	**+0.6**	
KRND				AML	AML	10 00 56.5		
	comp=N,2515μm,0.8s							
KRND				AML	AML	10 01 05.5		
	comp=E,2317μm,0.7s							
LKR	**Lokris**	**1.68**	**59**	P	Pg	**10 00 26.2**	**-0.4**	
LKR				AML	AML	10 00 55.8		
	comp=E,2057μm,0.6s							
LKR				AML	AML	10 01 01.0		
	comp=N,1593μm,0.8s							
ATAL	**Atalanti**	**1.71**	**58**	P	Pn	**10 00 24.8**	**+0.8**	
ATAL	**Atalanti**	**1.71**	**58**	P	Pg	**10 00 27.5**	**+0.2**	
ATAL				AML	AML	10 00 57.4		
	comp=N,1770μm,1.2s							
ATAL				AML	AML	10 00 57.9		
	comp=E,1486μm,0.8s							
VIL2	**Platees**	**1.71**	**76**	P	Pg	**10 00 28.1**	**+0.7**	
VIL2				AML	AML	10 00 59.7		
	comp=N,1323μm,0.7s							
VIL2				AML	AML	10 01 02.1		
	comp=E,3291μm,0.9s							
VLI	**Veliai**	**1.79**	**127**	P	Pg	**10 00 28.4**	**-0.4**	
THL	**Klokotos Trika**	**1.88**	**21**	P	Pg	**10 00 30.5**	**+0.1**	
ATH	**Athens Observa**	**2.03**	**85**	P	Pb	**10 00 31.4**	**+0.2**	
ATH				AML	AML	10 01 04.8		
	comp=E,2735μm,1.2s							
ATH				AML	AML	10 01 08.6		
	comp=N,1996μm,0.8s							
ATHU	**Athens Univers**	**2.08**	**85**	P	Pb	**10 00 32.8**	**+0.6**	
VLY	**Voula,Athens**	**2.09**	**88**	P	Pb	**10 00 32.8**	**+0.6**	
VLY				AML	AML	10 01 10.9		
	comp=N,1605μm,0.8s							
VLY				AML	AML	10 01 13.7		
	comp=E,1121μm,0.9s							
KTHR	**Kythira**	**2.14**	**136**	P	Pb	**10 00 33.6**	**+0.5**	
KTHR				AML	AML	10 01 18.0		
	comp=N,3296μm,0.6s							
KTHR				AML	AML	10 01 20.8		
	comp=E,2850μm,0.9s							
PTL	**Penteli**	**2.15**	**83**	P	Pb	**10 00 33.9**	**+0.6**	
PTL				AML	AML	10 01 15.0		
	comp=E,1334μm,0.7s							
PTL				AML	AML	10 01 18.1		
	comp=N,1326μm,0.8s							
KTHA	**Kythira Island**	**2.17**	**135**	P	Pb	**10 00 34.0**	**+0.3**	
KTHA				AML	AML	10 01 20.8		
	comp=N,1072μm,0.8s							
KTHA				AML	AML	10 01 26.2		
	comp=E,2173μm,1.3s							
KEK	**Kerkira**	**2.18**	**331**	P	Pb	**10 00 33.4**	**-0.3**	
KEK				AML	AML	10 01 25.8		
	comp=E,690μm,0.7s							
KEK				AML	AML	10 01 30.4		
	comp=N,368μm,0.8s							
NEO	**Neokhori**	**2.20**	**47**	P	Pb	**10 00 34.8**	**+0.6**	
DION	**Dionisos Attik**	**2.21**	**82**	P	Pb	**10 00 34.6**	**+0.2**	
DION				AML	AML	10 01 17.1		
	comp=N,2108μm,1.1s							
DION				AML	AML	10 01 24.4		
	comp=E,2354μm,0.7s							
XOR	**Xorichti**	**2.23**	**45**	P	Pb	**10 00 34.9**	**+0.3**	
KYMI	**Kymi, Euboea I**	**2.46**	**70**	P	Pb	**10 00 39.3**	**+0.7**	
KYMI				AML	AML	10 01 21.5		
	comp=N,1243μm,0.9s							
KYMI				AML	AML	10 01 24.7		
	comp=E,677μm,1.0s							
LIT	**Litokhoron**	**2.51**	**24**	P	Pb	**10 00 40.5**	**+1.0**	
ANKY	**Antikythira Is**	**2.59**	**138**	P	Pb	**10 00 39.8**	**-1.0**	
OHR	**Ohrid**	**3.31**	**355**	*i* Pn	Pg	**10 00 56.5**	**-1.3**	
VAY	**Valandovo**	**3.67**	**17**	*i* Pn	Pb	**10 01 00.6**	**+1.4**	
IDI	**Anoyia**	**3.92**	**129**	Pn	Pn	**10 00 58.5**	**+4.1**	
	comp=E,0.8nm,0.3s,baz=300,slow=11,SNR=6.1							
IDI				Sn	Sn	**10 01 40.5**	**+0.1**	
	comp=E,2.8nm,0.3s,baz=355,slow=9.9,SNR=5.7							
IDI				LR	LR	10 03 02.5		
	comp=E,445nm,21.4s,baz=302,slow=44 comp=E,5.7nm,0.5s							
STIP	**Stip**	**3.96**	**11**	*i* Pn	Pb	**10 01 02.7**	**-1.4**	
SKO	**Skopje**	**4.16**	**3**	*i* Pn	Pb	**10 01 04.1**	**-3.5**	
MMB	**Musomiste**	**4.26**	**27**	*e*P	Pn	**10 01 03.3**	**+4.1**	
KKB	**Krupnik**	**4.31**	**19**	*e*P	Pb	**10 01 08.6**	**-1.6**	
VTS	**Vitosha**	**5.06**	**18**	*e*P	Pb	10 01 18.1	-4.8	
VAE	**Valguarnera**	**5.36**	**269**	Pn	Pn	10 01 09.3	-5.0	
	comp=E,4.8nm,0.3s,baz=311,slow=13,SNR=2.5							
VAE				Sn	Sn	**10 02 18.7**	**+2.7**	
	comp=E,1.9nm,0.3s,baz=192,slow=5.9,SNR=3.7 comp=E,4.3nm,0.3s							
MLR	**Muntele Rosu**	**8.47**	**23**	Pn	Pn	10 02 02.2	+5.2	
	comp=E,0.1nm,0.3s,baz=331,slow=20,SNR=1.1							
KEST	**Kesra**	**9.70**	**261**	Pn	Pn	**10 02 12.3**	**-1.6**	
	comp=E,0.1nm,0.3s,baz=344,slow=12,SNR=2.0 comp=E,1.7nm,0.9s							
BRTR	**Keskin Array B**	**9.93**	**75**	Pn	Pn	10 02 22.4	+5.3	
	comp=E,0.1nm,0.3s,baz=259,slow=12,SNR=4.7							
BRTR				LR	LR	10 06 13.9		
	comp=E,35nm,19.6s,baz=298,slow=38 comp=E,0.5nm,0.5s							
VRAC	**Vranov**	**11.96**	**345**	LR	LR	10 08 13.0		
	comp=E,56nm,18.1s,baz=207,slow=43							
DAVOX	**Davos/Dischmat**	**12.24**	**321**	LR	LR	10 08 18.6		
	comp=E,68nm,19.7s,baz=83,slow=43							
EIL	**Elat**	**14.05**	**121**	Pn	**P**	**10 03 19.9**	**-1.1**	
	comp=E,0.2nm,0.3s,baz=288,slow=19,SNR=2.9 comp=E,9.1nm,1.0s							
AKASG	**Malin Array Be**	**14.11**	**21**	LR	LR	10 09 01.0		
	comp=E,52nm,19.1s,baz=244,slow=40							
GNI	**Garni**	**18.48**	**75**	LR	LR	10 13 01.8		
	comp=E,36nm,18.5s,baz=284,slow=42							
HFS	**Hagfors**	**22.84**	**350**	P	**P**	**10 04 53.8**	**-3.3**	
	comp=E,0.7nm,0.5s,baz=172,slow=12,SNR=3.0 comp=E,0.7nm,0.5s							
FINES	**FINESS Array B**	**23.86**	**6**	P	**P**	**10 05 04.8**	**-2.5**	
	comp=E,1.2nm,0.6s,baz=189,slow=7.9,SNR=1.7 comp=E,1.2nm,0.6s							
EKA	**Eskdalemuir Ar**	**24.02**	**325**	P	**P**	**10 05 04.4**	**-4.5**	
	comp=E,0.3nm,0.4s,baz=129,slow=9.6,SNR=1.7 comp=E,0.3nm,0.4s							
NB2	**NORSAR Subarra**	**24.08**	**348**	P	**P**	**10 05 16.0**	**+6.5**	
	comp=Z,3.9nm,0.9s,baz=154,slow=10							
NOA	**NORSAR Array B**	**24.08**	**348**	P	**P**	**10 05 05.7**	**-3.7**	
	comp=Z,0.8nm,1.0s,baz=170,slow=7.5,SNR=2.6							
NOA				LR	LR	10 14 38.9		
	comp=Z,28nm,18.3s,baz=355,slow=37 comp=Z,0.8nm,1.0s							
AKTO	**Aktyubinsk**	**29.00**	**52**	P	**P**	**10 05 53.0**	**-0.9**	
	comp=Z,0.3nm,0.3s,baz=256,slow=4.8,SNR=1.3 comp=Z,0.3nm,0.3s							
GEYT	**Alibeck**	**29.05**	**78**	P	**P**	**10 05 56.2**	**+1.7**	
	comp=Z,0.9nm,0.5s,baz=283,slow=13,SNR=1.9 comp=Z,0.9nm,0.5s							
TORD	**Torodi Ar. Bea**	**30.07**	**220**	P	**P**	**10 06 04.1**	**+0.5**	
	comp=Z,0.7nm,0.5s,baz=34,slow=9.4,SNR=7.7 comp=Z,0.7nm,0.5s							
ARCES	**ARCESS Array B**	**31.87**	**3**	P	P	10 06 15.2	-3.8	
	comp=Z,2.0nm,0.9s,baz=163,slow=0.9,SNR=2.4 comp=Z,2.0nm,0.9s							
KOWA	**Kowa**	**32.21**	**231**	LR	LR	10 20 20.7		
	comp=Z,51nm,18.4s,baz=96,slow=38							
MKAR	**Manchi Array**	**45.07**	**58**	P	**P**	**10 08 10.1**	**0.0**	
	comp=Z,0.7nm,0.5s,baz=282,slow=6.5,SNR=9.0 comp=Z,0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**45.56**	**48**	P	**P**	**10 08 13.2**	**-0.7**	
	comp=Z,1.0nm,0.5s,baz=287,slow=11,SNR=2.9 comp=Z,1.0nm,0.5s							

*LVSN **13** 10:00:28.3±0.8, 59°.21N×27°.66E, h0km±10km, ML1.8*
*EST **13** 10:00:28.7±0.1, 59°.22N×27°.79E, h0km, ML1.6(HEL), Explosion*

HEL 13 10:00:31.0±0.7, 59°.34N×27°.71E, h0km, ML1.9, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE05	**Udria, Vaivara**	**0.12**	**62**	*e*P	Pg	10 00 31.7	-1.6
EE05				*e*S	Sg	10 00 34.4	-0.4
EE03	**Tooma soojaam,**	**0.88**	**239**	*e*P	Pg	10 00 43.9	-3.9
EE03				*e*S	Sg	10 00 55.3	-3.8
VSU	**Vasula**	**1.01**	**211**	*e*P	Pg	10 00 44.2	-6.2
VSU	**Vasula**	**1.01**	**211**	*e*P	Pg	10 00 45.5	-4.9
VSU				*e*S	Sg	10 00 57.3	-6.2
VJF	**Virojoki**	**1.21**	**356**	*e*P	Pg	10 00 52.2	-2.0
VJF				MSG		10 01 07.8	
	comp=Z,5.2nm,0.2s						
VJF				*e*SB	Sg	10 01 10.0	+0.1
EE07	**Piusa Caves, O**	**1.50**	**185**	*e*P	Pn	10 00 54.0	-5.1
EE07				*e*SB	Sg	10 01 12.0	-7.2
PVF	**Pernaja**	**1.53**	**323**	*e*PG	Pn	10 00 58.4	-1.1
PVF				MSG		10 01 16.9	
	comp=Z,5.2nm,0.2s						
PVF				*e*SG	Sn	10 01 19.3	-0.8
EE02	**Kiisa, Saku**	**1.56**	**266**	*e*PG	Pn	10 00 57.4	-2.5
EE02				*e*S	Sn	10 01 17.1	-3.6
MEF	**Metsahovi**	**1.90**	**299**	*e*P	Pn	10 01 04.3	-0.3
MEF	**Metsahovi**	**1.90**	**299**	*e*P	Pn	10 01 04.4	-0.2
MEF				*e*S	Sb	10 01 30.2	-0.5
MEF				AML	AML	10 01 30.8	
	comp=Z,12nm,0.3s						
MEF				AML	AML	10 01 30.8	
	comp=E,16nm,0.4s						
MEF				AML	AML	10 01 30.8	
	comp=N,38nm,0.3s						
MEF	**Metsahovi**	**1.90**	**299**	*e*PG	Pn	10 01 04.3	-0.3
MEF				*e*SG	Sn	10 01 29.9	+0.7
MEF				MSG		10 01 30.9	
	comp=Z,3.5nm,0.1s						
NUR	**Nurmijrvi**	**1.94**	**309**	*e*PG	Pn	10 01 05.1	0.0
NUR				*e*SG	Sb	10 01 31.3	-0.6
NUR				MSG		10 01 32.3	
	comp=Z,2.9nm,0.1s						
MTSE	**Matsula**	**2.11**	**255**	*e*P	Pn	10 01 05.8	-1.7
MTSE				*e*S	Sn	10 01 33.8	-0.6
MTSE	**Matsula**	**2.11**	**255**	*e*PB	Pn	10 01 05.7	-1.8
MTSE				*e*SG	Sn	10 01 33.8	-0.6
RUFX	**Ruokolahti**	**2.19**	**16**	*e*PB	Pn	10 01 08.5	-0.1
RUFX				*e*SG	Sb	10 01 38.6	-0.4
RUFX				MSG		10 01 41.3	
	comp=Z,1.9nm,0.1s						
FIA0	**FINESS Array S**	**2.27**	**340**	*e*PB	Pn	10 01 10.2	+0.5
FIA0				*e*SG	Sb	10 01 42.3	+1.0
FIA0				MSG		10 01 43.2	
	comp=Z,2.3nm,0.1s						
FIA1	**FINESS Array S**	**2.27**	**340**	*e*PB	Pn	10 01 10.1	+0.5
FIA1				*e*SG	Sb	10 01 42.3	+1.0
FIA1				MSG		10 01 43.2	
	comp=Z,3.8nm,0.1s						
EE06	**Soera, Palade,**	**2.53**	**264**	*e*P	Pn	10 01 12.0	-1.3
EE06				*e*PG	Pb	10 01 15.3	-2.0
EE06				*e*SB	Sn	10 01 44.8	0.0
KAF	**Kangasniemi**	**2.87**	**347**	*e*PB	Pn	10 01 20.1	+2.1
JOF	**Joensuu**	**4.00**	**24**	*e*P	Pn	10 01 32.5	-0.9

HEL 13 10:00:44.3±0.3, 63°.51N×22°.51E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**0.47**	**171**	PG	Pg	10 00 52.3	-1.0
VAF				SG	Sg	10 00 59.5	+0.2
BURU	**Burvik**	**1.19**	**336**	PG	Pg	10 01 04.9	-2.3
	baz=150						
BURU				SG	Sg	10 01 22.1	-0.4
OBF0	**Syolatti, Pyha**	**1.25**	**37**	SG	Sg	10 01 23.2	-1.3
OUF	**Merijarvi**	**1.31**	**48**	MSG		10 01 23.7	
	comp=Z,1.3nm,0.2s						
OUF				SG	Sg	10 01 24.5	-1.7
HUSU	**Husum**	**1.49**	**265**	PN	Pb	10 01 12.6	-0.2
KEF	**Keuruu**	**1.73**	**140**	PG	Pn	10 01 14.9	-0.6
KEF				MSG		10 01 35.9	
	comp=Z,1.5nm,0.2s						
OBF4	**Vikkela, Lumij**	**1.74**	**40**	SG	Sn	10 01 34.9	-3.6
HEMU	**Hemsoen**	**2.20**	**250**	PG	Pn	10 01 23.1	+1.1
RAF	**Rauma**	**2.52**	**188**	*e*P	Pn	10 01 25.1	-1.3
RAF	**Rauma**	**2.52**	**188**	*e*P	Pn	10 01 26.2	-0.1
RAF				AML	AML	10 02 03.4	
	comp=E,4.7nm,0.6s						
RAF				AML	AML	10 02 04.4	
	comp=Z,3.3nm,0.5s						
RAF				AML	AML	10 02 25.0	
	comp=N,3.3nm,0.2s						
RAF	**Rauma**	**2.52**	**188**	PN	Pn	10 01 26.3	-0.1
RAF				MSG		10 01 58.7	
	comp=Z,0.9nm,0.2s						
FIA0	**FINESS Array S**	**2.65**	**140**	PN	Pn	10 01 28.2	0.0
FIA0				SB	Sn	10 02 02.0	+1.0
AAL	**Aland**	**3.55**	**201**	SG	Sg	10 02 35.0	-3.1
LANU	**Lannavaara**	**4.57**	**358**	SN	Sn	10 02 46.5	-1.8

*GUC **13** 10:00:54.5±0.8, 31°.59S×71°.83W, h40km±2km, ML3.8*
*NEIC **13** 10:00:54.5±2.3, 31°.57S±0°.01×72°.0W±0°.1, h35km±2km, mb4.3/2, Mwr3.8/24, ML3.8(GUC), Error ellipse: s-maj=21.1km s-min=3.1km az=91.0*
*NEIC **13** 10:00:54.5, 31°.57S×72°.00W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=5.32; $M_{\theta\theta}$=1.60; $M_{\phi\phi}$=6.92; $M_{r\theta}$=0.64; $M_{\theta\phi}$=0.19; $M_{\phi r}$=-0.69; Fault plane solution: $M_0$6.35000×10^{14} NP1:ϕ_s169.96000°, δ48.97000°, λ77.90000°. NP2:ϕ_{s8}8.04000°, δ42.47000°, λ103.54000°. Principal axes: T 5.4617, Plg80.0000°, Azm128.0000°; N 1.5028, Plg9.0000°, Azm178.0000°; P -6.9644, Plg3.0000°, Azm268.0000°;*

ISC 13 10:00:54.8±3.0, 31°.58S±0°.03×72°.00W±0°.09, h34km±7km, n39, σ1°.13/55, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.93**	**67**		Pn	**10 01 09.7**	**-1.9**
CO02	**Combarbal**	**0.93**	**67**	↓ *i*P	Pn	**10 01 09.7**	**-1.9**
CO02				*e*S	Sn	**10 01 20.8**	**-3.0**
CO02				IAML		10 01 23.8	
	comp=E,11μm,0.3s						
CO06	**Fray Jorge**	**0.95**	**19**		Pn	**10 01 11.1**	**-0.7**
CO06	**Fray Jorge**	**0.95**	**19**	*e*P	Pn	**10 01 11.1**	**-0.7**
CO06				*e*S	Sn	**10 01 24.4**	**+0.2**
CO06				IAML		10 01 27.3	
	comp=E,4μm,0.2s						
VA06	**Catapilco**	**1.15**	**149**		Pn	**10 01 14.0**	**-0.5**
VA06	**Catapilco**	**1.15**	**149**	↓ *i*P	Pn	**10 01 14.0**	**-0.5**
VA06				*i* S	Sn	**10 01 27.7**	**-1.3**
VA06				IAML		10 01 29.9	
	comp=N,6μm,0.2s						
VA01	**Torpederas**	**1.47**	**169**		Pn	**10 01 17.7**	**-1.3**
ROCH	**El Roble**	**1.62**	**149**	*e*P	Pn	**10 01 21.3**	**+0.1**
ROCH				*e*S	Sn	**10 01 41.4**	**+0.3**
ROCH				IAML		10 01 47.3	
	comp=N,2μm,0.5s						
ROC1	**El Roble**	**1.62**	**150**		Pn	**10 01 21.4**	**+0.1**
VA03	**San Esteban**	**1.70**	**134**		Pn	**10 01 22.3**	**+0.1**
VA03	**San Esteban**	**1.70**	**134**	↑ *i*P	Pn	**10 01 22.6**	**+0.3**
VA03				*e*S	Sn	**10 01 42.9**	**0.0**
VA03				IAML		10 01 46.1	
	comp=E,4μm,0.2s						
GO04	**Tololo Observa**	**1.74**	**37**		Pn	**10 01 22.7**	**-0.2**
GO04	**Tololo Observa**	**1.74**	**37**	↑ *i*P	Pn	**10 01 22.5**	**-0.4**
GO04				*e*S	Sn	**10 01 45.0**	**+1.1**
GO04				IAML		10 01 51.1	
	comp=E,4μm,0.3s						
CO05	**La Serena**	**1.78**	**22**		Pn	**10 01 23.3**	**+0.2**
CO05	**La Serena**	**1.78**	**22**	*e*P	Pn	**10 01 23.5**	**+0.4**
CO05				*e*S	Sn	**10 01 46.0**	**+1.5**
CO05				IAML		10 01 56.1	
	comp=E,840nm,0.4s						
MT02	**Curacav**	**1.83**	**157**		Pn	**10 01 24.0**	**+0.1**
MT02	**Curacav**	**1.83**	**157**	*e*P	Pn	**10 01 23.7**	**-0.2**
MT02				*e*S	Sn	**10 01 46.5**	**+0.6**
PEL	**Peldehue**	**1.92**	**145**		Pn	**10 01 25.3**	**+0.1**
PEL	**Peldehue**	**1.92**	**145**	*e*P	Pn	**10 01 25.6**	**+0.5**
PEL				*e*S	Sn	**10 01 48.6**	**+0.5**
PEL				IAML		10 01 56.7	
	comp=E,653nm,0.5s						
MT05	**Renca**	**2.10**	**150**		Pn	**10 01 27.6**	**-0.1**
MT05	**Renca**	**2.10**	**150**	*e*P	Pn	**10 01 28.1**	**+0.4**
MT05				*e*S	Sn	**10 01 55.4**	**+2.7**
MT05				IAML		10 02 02.6	
	comp=E,2μm,0.3s						
VA05	**Santo Domingo**	**2.10**	**171**		Pn	**10 01 26.2**	**-1.4**
VA05	**Santo Domingo**	**2.10**	**171**	*e*P	Pn	**10 01 27.6**	**0.0**
VA05				*e*S	Sn	**10 01 51.8**	**-0.8**
VA05				IAML		10 02 03.5	
	comp=E,791nm,0.3s						
FCH	**Farellones**	**2.27**	**141**	*e*P	Pn	**10 01 30.8**	**+0.6**
FCH				*e*S	Sn	**10 01 57.8**	**+0.7**
FCH				IAML		10 02 02.0	
	comp=E,450nm,0.3s						
CO01	**Juntas del Tor**	**2.28**	**46**		Pn	**10 01 31.2**	**+0.9**
CO01	**Juntas del Tor**	**2.28**	**46**	*e*P	Pn	**10 01 31.3**	**+0.9**
CO01				*e*S	Sn	**10 01 58.6**	**+1.2**
CO01				IAML		10 02 03.0	
	comp=E,588nm,0.3s						
MT03	**Universidad Ad**	**2.29**	**147**		Pn	**10 01 28.0**	**-2.3**
MT03	**Universidad Ad**	**2.29**	**147**	*e*P	Pn	**10 01 30.9**	**+0.6**
MT03				*e*S	Sn	**10 01 57.8**	**+0.4**
MT03				IAML		10 02 07.1	
	comp=E,1μm,0.3s						
MT09	**Talagante**	**2.35**	**159**		Pn	**10 01 30.9**	**-0.3**
MT09	**Talagante**	**2.35**	**159**	*e*P	Pn	**10 01 32.3**	**+1.1**
MT09				*e*S	Sn	**10 01 59.7**	**+0.7**
MT09				IAML		10 02 13.8	
	comp=N,479nm,0.3s						
MT01	**Popeta**	**2.37**	**165**		Pn	**10 01 31.7**	**+0.4**
MT01	**Popeta**	**2.37**	**165**	*e*P	Pn	**10 01 31.6**	**+0.3**
MT01				*e*S	Sn	**10 01 57.7**	**-1.5**
MT01				IAML		10 02 11.9	
	comp=E

Plg38.0000°, Azm225.0000°; P -3.3638, Plg51.0000°, Azm33.0000°;
GCMT ***13*** *10:12:29.5±0.2,36.01N±0.01×139.77E±0.02,h74km±1km, MW5.0/124,Moment Tensor Solution. s57,c68; s124,c194; Duration:0 Moment tensor: Scale 10^{16}Nm; Mrr-2.57±.11; Mθθ0.83±.12; Mφφ 1.74±.11; Mrθ-2.33±.07; Mθφ2.67±.08; Mφr0.45±.06; Best double couple: M=4.23300×10^{16} NP1:φs71.00000°,δ64.00000°, λ-51.00000°. NP2:φs189.00000°,δ46.00000°, λ-143.00000°. Principal axes: T 4.2190, Plg11.0000°, Azm134.0000°; N 0.0330, Plg35.0000°, Azm232.0000°; P -4.2480, Plg53.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 10:12:27.0±0.3,35.93N±0.03×139.78E±0.03, h81km±2km, h81km:pP-P,n1297,σ1ϕ23/1163,mb5.2/371,15C-26D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TOK	**Tokyo**	**0.24**	**184**	⇓*i*P	**Pn**	**10 12 40.1**	**+1.0**
TOK				⇓S	**Sn**	**10 12 50.1**	**+2.1**
TOK	**Tokyo**	**0.24**	**184**	A	A	10 12 40.1	
	comp=E,331nm,0.6s,comp=E,325nm,0.7s						
JHU	**Hanno**	**0.41**	**260**	A	A	10 12 40.2	
	comp=E,353nm,0.9s,comp=E,358nm,0.9s						
JYT	**Yasato**	**0.45**	**48**		**Pn**	**10 12 40.1**	**-0.3**
JYT	**Yasato**	**0.45**	**48**	*i* P	**Pn**	**10 12 40.2**	**-0.3**
JYT				S	**Sn**	**10 12 49.6**	**-0.8**
JYT	**Yasato**	**0.45**	**48**	A	A	10 12 40.2	
	comp=E,258nm,0.5s,comp=E,344nm,0.6s						
JAG	**Ashikaga**	**0.56**	**332**	*i* P	**Pn**	**10 12 41.5**	**0.0**
JAG				S	**Sn**	**10 12 52.2**	**0.0**
JAG	**Ashikaga**	**0.56**	**332**	A	A	10 12 41.5	
	comp=E,120nm,2.4s,comp=E,167nm,2.1s						
JSGW	**Sagamiharawaka**	**0.57**	**235**	A	A	10 12 41.6	
	comp=E,90nm,1.3s,comp=E,88nm,1.1s						
JIHU	**Itakohorinouch**	**0.61**	**86**	A	A	10 12 41.5	
	comp=E,167nm,2.2s,comp=E,201nm,1.5s						
JCN	**Nagara**	**0.61**	**146**	A	A	10 12 41.7	
	comp=E,219nm,4.3s,comp=E,98nm,1.3s						
JSMT	**Sammumatsuo**	**0.61**	**117**	A	A	10 12 41.7	
	comp=E,221nm,4.4s,comp=E,141nm,2.3s						
JYO	**Yokosk**	**0.71**	**188**	A	A	10 12 43.0	
	comp=E,167nm,3.3s,comp=E,150nm,2.5s						
JRY	**Ryogami san**	**0.72**	**278**	⇓*i*P	**Pn**	**10 12 43.5**	**+0.5**
JRY				⇓S	**Sn**	**10 12 56.2**	**+1.3**
JRY	**Ryogami san**	**0.72**	**278**	A	A	10 12 43.5	
	comp=E,79nm,2.0s,comp=E,146nm,2.5s						
JHYU	**Hitachinakayam**	**0.77**	**57**	A	A	10 12 43.3	
	comp=E,39nm,0.9s,comp=E,62nm,0.7s						
JKUC	**kamogawauchiur**	**0.84**	**156**	A	A	10 12 44.3	
	comp=E,102nm,3.6s,comp=E,99nm,2.0s						
JOD2	**Odawara 2**	**0.87**	**221**	⇓*i*P	**Pn**	**10 12 44.1**	**-0.6**
JOD2				⇓S	**Sn**	**10 12 56.7**	**-1.0**
JOD2	**Odawara 2**	**0.87**	**221**	A	A	10 12 44.1	
	comp=E,41nm,1.2s,comp=E,56nm,1.0s						
CHOJ	**Chosi**	**0.91**	**104**	A	A	10 12 44.8	
	comp=E,88nm,2.9s,comp=E,43nm,2.2s						
JHO	**Hitachi**	**0.94**	**43**	A	A	10 12 45.2	
	comp=E,19nm,0.2s,comp=E,38nm,3.0s						
JKT	**Katashina**	**0.94**	**333**	*i* P	**Pn**	**10 12 45.5**	**-0.1**
JKT				S	**Sn**	**10 12 59.4**	**0.0**
JKT	**Katashina**	**0.94**	**333**	A	A	10 12 45.5	
	comp=E,81nm,0.2s,comp=E,78nm,3.2s						
JSB	**Shiboa**	**1.05**	**6**	A	A	10 12 46.7	
	comp=E,80nm,3.8s,comp=E,96nm,2.4s						
JYN	**Shimob**	**1.09**	**247**	⇓*i*P	**Pn**	**10 12 47.3**	**0.0**
JYN				⇓S	**Sn**	**10 13 02.5**	**0.0**
JYN	**Shimob**	**1.09**	**247**	A	A	10 12 47.3	
	comp=E,101nm,0.3s,comp=E,48nm,0.2s						
JGK	**Kuni**	**1.12**	**305**	A	A	10 12 48.0	
	comp=E,31nm,1.2s,comp=E,40nm,2.8s						
JHTM	**Izuhatsuma**	**1.15**	**213**	A	A	10 12 48.5	
	comp=E,76nm,0.4s,comp=E,68nm,1.8s						
JFNN	**Fujinakano**	**1.15**	**231**	P	**Pn**	**10 12 47.8**	**-0.1**
JFNN				S	**Sn**	**10 13 03.5**	**-0.2**
JFNN	**Fujinakano**	**1.15**	**231**	A	A	10 12 47.8	
	comp=E,44nm,4.2s,comp=E,33nm,2.7s						
JIM2	**Oshima 3**	**1.24**	**193**	⇓*i*P	**Pn**	**10 12 48.2**	**-0.9**
JIM2				⇓S	**Sn**	**10 13 04.4**	**-1.2**
JIM2	**Oshima 3**	**1.24**	**193**	A	A	10 12 48.2	
	comp=E,103nm,1.6s,comp=E,72nm,0.5s						
BSO3	**Boso 3**	**1.27**	**152**	*i* P	**Pn**	**10 12 49.0**	**-0.2**
JFFD	**Fukushimafurud**	**1.32**	**28**	A	A	10 12 50.1	
	comp=E,27nm,3.2s,comp=E,39nm,1.7s						
JNT	**Takato**	**1.33**	**268**	A	A	10 12 51.0	
	comp=E,63nm,2.9s,comp=E,40nm,3.9s						
JUON	**Uonuma**	**1.41**	**336**	A	A	10 12 51.5	
	comp=E,22nm,1.9s,comp=E,39nm,3.6s						
MJAR	**Matsushiro Arr**	**1.41**	**296**	P	**Pn**	**10 12 49.2**	**-2.0**
	140nm,0.3s,baz=105,slow=14,SNR=203						
MJAR				S	**Sn**	**10 13 09.0**	**-0.5**
	662nm,0.6s,baz=142,slow=20,SNR=5.2						
MJAR				LR	LR	10 13 29.8	
	comp=Z,2μm,20.8s,baz=14,slow=45						
MJAR	**Matsushiro Arr**	**1.41**	**296**	P	**Pn**	**10 12 49.2**	**-2.0**
MJAR				S	**Sn**	**10 13 09.0**	**-0.5**
JIZS	**Izushimoda**	**1.41**	**212**	A	A	10 12 51.9	
	comp=E,83nm,1.6s,comp=E,70nm,1.1s						
MAJO	**Matsushiro**	**1.41**	**296**		**Pn**	**10 12 51.7**	**+0.5**
MAJO	**Matsushiro**	**1.41**	**296**	*i* P	**Pn**	**10 12 51.6**	**+0.3**
MAT	**Matsushiro**	**1.41**	**296**	P	**Pn**	**10 12 51.6**	**+0.4**
JNG	**Nsakai**	**1.44**	**290**	A	A	10 12 52.3	
	comp=E,21nm,2.3s,comp=E,23nm,1.2s						
JTHY	**Toshimahigashi**	**1.46**	**196**	A	A	10 12 52.4	
	comp=E,39nm,3.3s,comp=E,60nm,2.0s						
JFY	**Yanaizu**	**1.48**	**358**	A	A	10 12 52.4	
	comp=E,31nm,1.8s,comp=E,17nm,1.4s						
SHZ3	**Shizuoka 3**	**1.54**	**237**	A	A	10 12 53.7	
	comp=E,60nm,2.3s,comp=E,44nm,2.0s						
BSO1	**Boso 1**	**1.60**	**142**	*i* P	**Pn**	**10 12 52.8**	**-0.4**
JNIO	**Niijimaoohara**	**1.62**	**195**	A	A	10 12 54.6	
	comp=E,56nm,4.1s,comp=E,79nm,2.0s						
JFT	**Otama**	**1.65**	**16**	*i* P	**Pn**	**10 12 55.0**	**+0.6**
JFT	**Otama**	**1.65**	**16**	A	A	10 12 55.0	
	comp=E,52nm,4.0s,comp=E,72nm,1.0s						
JSKK	**Shikinejimakit**	**1.65**	**197**	A	A	10 12 55.1	
	comp=E,48nm,2.0s,comp=E,26nm,2.6s						
JNY	**Yasuok**	**1.66**	**251**	A	A	10 12 55.3	
	comp=E,22nm,2.3s,comp=E,36nm,2.3s						
JFK	**Kawauchi**	**1.69**	**31**	A	A	10 12 55.0	
	comp=E,33nm,1.5s,comp=E,52nm,1.4s						
JJN	**Nakama**	**1.75**	**313**	A	A	10 12 56.4	
	comp=E,33nm,0.8s,comp=E,33nm,1.2s						
JSG	**Sagara**	**1.81**	**227**	A	A	10 12 57.2	
	comp=E,35nm,4.6s,comp=E,32nm,1.9s						
JIZZ	**Izumozaki**	**1.82**	**332**	A	A	10 12 57.2	
	comp=E,48nm,5.7s,comp=E,58nm,2.8s						
JKKS	**Kakegawashinom**	**1.88**	**232**	A	A	10 12 58.3	
	comp=E,37nm,4.1s,comp=E,25nm,2.9s						
JNS	**Sasagawa**	**1.93**	**349**	A	A	10 12 58.5	
	comp=E,19nm,1.9s,comp=E,20nm,3.9s						
HMMJ	**Hamamatsu 2**	**1.99**	**238**	A	A	10 12 59.8	
	comp=E,14nm,1.8s,comp=E,19nm,2.0s						
JGF	**Kuroka**	**2.00**	**261**	Pn	**Pn**	**10 12 59.8**	**+0.9**
JGF	**Kuroka**	**2.00**	**261**	A	A	10 12 59.9	
	comp=E,12nm,4.4s,comp=E,18nm,3.7s						
JMST	**Minamisoumatoc**	**2.00**	**26**	A	A	10 12 59.3	
	comp=E,34nm,1.4s,comp=E,27nm,2.3s						
JYAR	**Yonezawaarcadi**	**2.00**	**8**	A	A	10 12 59.4	
	comp=E,31nm,1.3s,comp=E,23nm,1.2s						
JGN	**Niukaw**	**2.02**	**279**	A	A	10 13 00.2	
	comp=E,10.0nm,3.0s,comp=E,13nm,3.3s						
JMKN	**Mikurajimanish**	**2.03**	**184**	A	A	10 13 00.2	
	comp=E,17nm,3.3s,comp=E,13nm,5.0s						
JTT	**Ttatey**	**2.09**	**290**	A	A	10 13 01.1	
	comp=E,22nm,2.9s,comp=E,18nm,3.6s						
JMM	**Marumori**	**2.10**	**22**	Pn	**Pn**	**10 13 00.8**	**+0.5**
JMM	**Marumori**	**2.10**	**22**	A	A	10 13 00.7	
	comp=E,25nm,3.4s,comp=E,26nm,0.8s						
JSSY	**Shinshiroyabe**	**2.11**	**242**	A	A	10 13 01.5	
	comp=E,7.0nm,3.2s,comp=E,10.0nm,4.2s						
JAO	**Obara**	**2.16**	**253**	A	A	10 13 02.2	
	comp=E,14nm,1.8s,comp=E,15nm,2.8s						
JYS	**Shirataka**	**2.30**	**6**	A	A	10 13 03.6	
	comp=E,33nm,3.4s,comp=E,30nm,1.7s						
INU	**Inuyama**	**2.32**	**256**	Pn	**Pn**	**10 13 03.6**	**+0.4**
JSD	**Sado**	**2.43**	**330**	Pn	**Pn**	**10 13 04.7**	**0.0**
JSD	**Sado**	**2.43**	**330**	A	A	10 13 05.6	
	comp=E,8.0nm,1.8s,comp=E,9.0nm,2.1s						
JSZ	**Suzu**	**2.47**	**309**	A	A	10 13 06.2	
	comp=E,5.0nm,4.4s,comp=E,8.0nm,4.2s						
JICN	**Ichinomiyachia**	**2.47**	**256**	A	A	10 13 06.5	
	comp=E,23nm,2.3s,comp=E,29nm,2.4s						
JYTA	**Yamagatataniai**	**2.50**	**263**	A	A	10 13 06.8	
	comp=E,9.0nm,4.2s,comp=E,11nm,4.5s						
JAA	**Atsumi**	**2.51**	**240**	A	A	10 13 07.1	
	comp=E,8.0nm,2.9s,comp=E,9.0nm,2.5s						
JOU	**Okura**	**2.54**	**16**	A	A	10 13 06.8	
	comp=E,32nm,2.9s,comp=E,30nm,1.6s						
JAW	**Awa shima**	**2.56**	**351**	A	A	10 13 07.3	
	comp=E,9.0nm,5.9s,comp=E,10.0nm,2.8s						
JJH	**Hakui**	**2.62**	**293**	A	A	10 13 08.4	
	comp=E,7.0nm,2.3s,comp=E,9.0nm,5.5s						
JYA	**Atsumi**	**2.66**	**359**	A	A	10 13 08.6	
	comp=E,16nm,1.7s,comp=E,13nm,1.5s						
JIKH	**Ishinomakikobu**	**2.74**	**29**	A	A	10 13 09.4	
	comp=E,11nm,2.4s,comp=E,16nm,2.4s						
JHJ	**Hachijo jima 2**	**2.80**	**180**	P	**Pn**	**10 13 09.7**	**0.0**
	3μm,0.3s,baz=332,slow=14,SNR=814						
JHJ				S	**Sn**	**10 13 40.6**	**-1.9**
	2μm,0.4s,baz=94,slow=23,SNR=10						
JHJ2	**Mitsune**	**2.81**	**179**	Pn	**Pn**	**10 13 09.6**	**-0.1**
JHJ2	**Mitsune**	**2.81**	**179**	A	A	10 13 10.9	
	comp=E,17nm,2.3s,comp=E,17nm,1.2s						
JKG	**Kaga**	**2.81**	**278**	A	A	10 13 11.2	
	comp=E,8.0nm,4.0s,comp=E,8.0nm,9.0s						
JIO	**Ouri**	**2.82**	**26**	A	A	10 13 10.6	
	comp=E,10.0nm,0.7s,comp=E,12nm,3.3s						
JOFO	**Osakifurukawao**	**2.82**	**18**	A	A	10 13 10.7	
	comp=E,63nm,2.2s,comp=E,60nm,3.2s						
JHCJ	**Hachijojimakas**	**2.85**	**180**	A	A	10 13 11.5	
	comp=E,9.0nm,2.3s,comp=E,10.0nm,2.0s						
JEG	**Eigenji**	**2.87**	**255**	A	A	10 13 12.1	
	comp=E,6.0nm,4.3s,comp=E,10.0nm,2.1s						
JIE	**Ise**	**2.95**	**240**	A	A	10 13 13.1	
	comp=E,6.0nm,4.3s,comp=E,7.0nm,4.3s						
JHG	**Hegura jima**	**2.99**	**311**	A	A	10 13 13.5	
	comp=E,5.0nm,3.4s,comp=E,5.0nm,2.1s						
TSUJ	**Tsu 2**	**3.00**	**247**	A	A	10 13 13.9	
	comp=E,5.0nm,9.7s,comp=E,7.0nm,4.8s						
JYK	**Kaneyama**	**3.02**	**9**	A	A	10 13 13.6	
	comp=E,11nm,2.5s,comp=E,11nm,3.0s						
JYYZ	**Yamagatayuza**	**3.09**	**2**	A	A	10 13 14.5	
	comp=E,40nm,3.2s,comp=E,39nm,2.9s						
JFM	**Mihama**	**3.11**	**264**	A	A	10 13 15.4	
	comp=E,10.0nm,1.8s,comp=E,12nm,3.0s						
JKMT	**Kesennumamotoy**	**3.18**	**25**	A	A	10 13 15.7	
	comp=E,14nm,1.6s,comp=E,7.0nm,0.7s						
JMK	**Ichinoseki**	**3.22**	**20**	A	A	10 13 16.4	
	comp=E,10.0nm,2.6s,comp=E,7.0nm,8.6s						
JAOM	**Aogashimamukai**	**3.45**	**180**	A	A	10 13 19.9	
	comp=E,21nm,5.3s,comp=E,18nm,2.4s						
OFUJ	**Ofunato**	**3.49**	**25**	A	A	10 13 20.0	
	comp=E,9.0nm,1.8s,comp=E,6.0nm,0.8s						
JRG	**Rokugo**	**3.53**	**11**	A	A	10 13 20.6	
	comp=E,12nm,2.7s,comp=E,11nm,3.3s						
JHE	**Heguri**	**3.58**	**250**	A	A	10 13 21.9	
	comp=E,5.0nm,4.1s,comp=E,6.0nm,2.2s						
JWT	**Wachi**	**3.62**	**261**	A	A	10 13 22.5	
	comp=E,4.0nm,3.2s,comp=E,4.0nm,4.4s						
JYW	**Yuwa**	**3.62**	**5**	A	A	10 13 22.0	
	comp=E,20nm,3.5s,comp=E,19nm,2.8s						
JOM	**Ohasama**	**3.74**	**18**	A	A	10 13 23.5	
	comp=E,11nm,3.0s,comp=E,6.0nm,1.9s						
JKY	**Yasaka**	**3.81**	**267**	A	A	10 13 25.1	
	comp=E,6.0nm,2.8s,comp=E,5.0nm,4.7s						
JSZI	**Iwashizukuis**	**3.92**	**13**	A	A	10 13 26.0	
	comp=E,31nm,2.1s,comp=E,34nm,2.0s						
JMIK	**Miki**	**4.02**	**255**	A	A	10 13 28.0	
	comp=E,7.0nm,5.1s,comp=E,9.0nm,1.7s						
JOG3	**Oga3**	**4.03**	**352**	A	A	10 13 27.0	
	comp=E,8.0nm,2.4s,comp=E,7.0nm,3.7s						
JKSM	**Kasumi**	**4.17**	**267**	A	A	10 13 30.2	
	comp=E,2.0nm,5.3s,comp=E,4.0nm,3.1s						
JWM	**Minabe**	**4.18**	**242**	A	A	10 13 30.3	
	comp=E,3.0nm,5.5s,comp=E,4.0nm,3.3s						
JAWN	**Awajishima-nag**	**4.24**	**252**	A	A	10 13 31.2	
	comp=E,4.0nm,5.4s,comp=E,5.0nm,3.7s						
JAH	**Hinai**	**4.31**	**9**	A	A	10 13 31.5	
	comp=E,10.0nm,3.6s,comp=E,5.0nm,4.4s						
JTH	**Tanohata**	**4.33**	**22**	A	A	10 13 31.7	
	comp=E,8.0nm,2.2s,comp=E,6.0nm,1.9s						
JNTW	**Noshirotokiwa**	**4.35**	**4**	A	A	10 13 32.1	
	comp=E,21nm,2.9s,comp=E,28nm,3.9s						
JKEN	**Kujiedanarisaw**	**4.54**	**19**	A	A	10 13 34.6	
	comp=E,9.0nm,4.3s,comp=E,9.0nm,1.7s						
JANG	**Nango**	**4.65**	**17**	A	A	10 13 36.1	
	comp=E,6.0nm,2.5s,comp=E,5.0nm,3.4s						
JKR	**Kurayoshi**	**4.88**	**265**	A	A	10 13 40.1	
	comp=E,3.0nm,5.8s,comp=E,5.0nm,2.0s						
JTM	**Tenmabayashi**	**4.96**	**11**		**Pn**	**10 13 40.2**	**+1.3**
JTM	**Tenmabayashi**	**4.96**	**11**	A	A	10 13 40.5	
	comp=E,4.0nm,4.8s,comp=E,4.0nm,5.2s						
JSI2	**Shiura 2**	**5.15**	**5**	A	A	10 13 43.2	
	comp=E,4.0nm,4.5s,comp=E,3.0nm,4.0s						
JMN	**Monobe**	**5.33**	**247**	Pn	**Pn**	**10 13 44.5**	**+0.4**
JMN	**Monobe**	**5.33**	**247**	A	A	10 13 46.2	
	comp=E,2.0nm,7.7s,comp=E,4.0nm,2.0s						
JHS	**Saijyo**	**5.52**	**262**	Pn	**Pn**	**10 13 47.6**	**+1.0**
JOT	**Ohata**	**5.54**	**10**	A	A	10 13 48.6	
	comp=E,4.0nm,2.5s,comp=E,3.0nm,6.6s						
JKB	**Kayabe**	**6.03**	**9**	A	A	10 13 55.4	
	comp=E,4.0nm,2.8s,comp=E,3.0nm,7.2s						
ERM	**Erimo**	**6.62**	**22**	Pn	**Pn**	**10 14 00.1**	**-1.5**
ERM	**Erimo**	**6.62**	**22**	P	**Pn**	**10 14 00.1**	**-1.5**
JNBK	**Urakawa-nobuka**	**6.75**	**19**	A	A	10 14 05.3	
	comp=E,4.0nm,2.3s,comp=E,5.0nm,4.5s						
JEW	**Eniwo**	**7.03**	**10**		**Pn**	**10 14 06.8**	**-0.4**
NMR	**Nemuro--Hokkai**	**8.73**	**30**	*e*P	**Pn**	**10 14 27.1**	**-3.3**
NMR				*e*S	**Sn**	**10 15 58.9**	**-8.2**
JSU	**Suzuyama**	**8.93**	**243**	Pn	**Pn**	**10 14 31.4**	**-1.8**
JCJ	**Chichijima**	**9.04**	**166**	P	**Pn**	**10 14 30.4**	**-4.3**
	136nm,0.4s,baz=72,slow=13,SNR=37						
JCJ				S	Sn	10 16 04.0	-11
	72nm,0.4s,baz=285,slow=20,SNR=2.1						
JCJ				LR	LR	10 17 56.0	
	comp=Z,618nm,21.8s,baz=335,slow=37						
JCJ	**Chichijima**	**9.04**	**166**		**Pn**	**10 14 31.1**	**-3.6**
RUSJ	**Misakicho**	**9.18**	**25**	*e*P	**Pn**	**10 14 34.8**	**-1.7**
RUSJ				*e*S	**Sn**	**10 16 12.1**	**-5.9**
YUK	**Yuzh-Kuril'sk**	**9.35**	**28**	*i* P	**Pn**	**10 14 36.2**	**-2.5**
TEY	**Ternei**	**9.42**	**346**	⇑*e*P	**Pn**	**10 14 41.0**	**+1.3**
TEY				*e*		10 16 27.8	
TEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
TEY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SEHB	**SEOHWA**	**9.50**	**288**		**Pn**	**10 14 39.8**	**-1.1**
KSCHJ	**Chungju**	**9.56**	**279**		**Pn**	**10 14 41.3**	**-0.5**
KSRS	**Korea Array**	**9.64**	**283**	P	**Pn**	**10 14 46.1**	**+3.3**
	comp=Z,42nm,1.0s,baz=97,slow=14,SNR=65						
KSRS				LR	LR	10 18 32.8	
	comp=Z,803nm,18.5s,baz=95,slow=38						
KSAR	**Wonju Array Be**	**9.67**	**283**		**Pn**	**10 14 44.9**	**+1.6**
KSAR	**Wonju Array Be**	**9.67**	**283**	P	**Pn**	**10 14 44.9**	**+1.6**
KS19	**Wonju Array Si**	**9.69**	**283**		**Pn**	**10 14 44.5**	**+1.0**
TJN	**Taejon**	**10.05**	**276**	Pn	**Pn**	**10 14 46.3**	**-2.1**
TJN	**Taejon**	**10.05**	**276**	*i* P	**Pn**	**10 14 50.5**	**+2.1**
NAWB	**Namwon**	**10.09**	**271**		**Pn**	**10 14 48.5**	**-0.5**
USA0B	**Ussuriysk Arra**	**10.19**	**327**	Pn	**Pn**	**10 14 52.6**	**+2.4**
USA0B	**Ussuriysk Arra**	**10.19**	**327**	*i* P	**Pn**	**10 14 53.1**	**+2.8**
USRK	**Ussuriysk Ar.**	**10.19**	**327**	P	**Pn**	**10 14 52.8**	**+2.5**
	comp=Z,55nm,0.9s,baz=134,slow=11,SNR=73						
USRK				LR	LR	10 18 26.2	
	comp=Z,525nm,20.2s,baz=223,slow=35						
USRK	**Ussuriysk Ar.**	**10.19**	**327**	Pn	**Pn**	**10 14 51.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.19**	**327**	P	**Pn**	**10 14 51.1**	**+0.8**
KUR	**Kuril'sk**	**11.14**	**31**	*e*P	**Pn**	**10 15 01.4**	**-1.8**
KUR				*e*S	**Sn**	**10 16 58.9**	**-6.9**
KUR				pmax	pmax		
	comp=N,36nm,0.6s						
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
KUR				smax	smax		
	comp=N,275nm,0.4s						
KUR				smax	smax		
	comp=N,919nm,2.5s						
YSS	**Yuzh-Sakhalins**	**11.24**	**11**		**Pn**	**10 15 02.2**	**-2.3**
YSS	**Yuzh-Sakhalins**	**11.24**	**11**	*ce*P	**Pn**	**10 15 02.0**	**-2.6**
YSS				pmax	pmax		
	comp=Z,88nm,1.0s						
MDJ	**Mudanjiang**	**11.65**	**321**	Pn	**Pn**	**10 15 11.1**	**+0.9**
MDJ	**Mudanjiang**	**11.65**	**321**	P	**Pn**	**10 15 10.5**	**+0.4**
MDJ				S	**Sn**	**10 17 22.1**	**+3.9**
MDJ				LR	LR		
	comp=Z,810nm,16.3s						
MDJ				LR	LR		
	comp=Z,430nm,10.8s						
MDJ				LR	LR		
	comp=Z,1μm,16.7s						
UGL	**Uglegorsk**	**13.25**	**7**	*e*P	**P**	**10 15 39.1**	**+0.7**
UGL				pmax	pmax		
	comp=Z,90nm,1.3s						
JOW	**Kunigami**	**13.36**	**230**	P	**Pn**	**10 15 35.6**	**+2.4**
	comp=Z,18nm,0.7s,baz=54,slow=8.5,SNR=3.9						
CN2	**Changchun**	**13.52**	**310**	*e*P	**Pn**	**10 15 37.1**	**+1.9**
CN2				S	**Sn**	**10 18 05.4**	**+1.8**
CN2				pmax	pmax		
	comp=Z,20nm,1.5s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
BNX	**BinXian**	**13.54**	**320**	⇓P	**Pn**	**10 15 36.3**	**+0.8**
BNX				S	**Sn**	**10 18 03.8**	**-0.5**
BNX				pmax	pmax		
	comp=Z,75nm,1.9s						
BNX				pmax	pmax		
	comp=Z,310nm,3.6s						
BNX				LR	LR		
	comp=Z,34nm,3.8s						
BNX				LR	LR		
	comp=Z,110nm,6.1s						
KLR	**Kul'dur**	**14.54**	**339**	P	**Pn**	**10 15 47.2**	**-1.3**
	comp=Z,5.4nm,0.5s,baz=145,slow=12,SNR=12						
KLR				LR	LR	10 21 44.5	
	comp=Z,414nm,18.4s,baz=145,slow=38						
KLR	**Kul'dur**	**14.54**	**339**	*ce*P	**Pn**	**10 15 47.4**	**-1.1**
KLR				pmax	pmax		
	comp=Z,13nm,1.0s						
DL2	**Dalian**	**14.73**	**287**	P	**P**	**10 15 55.8**	**+0.8**
DL2				pP	Pn	10 16 05.3	+14
DL2				pmax	pmax		
	comp=Z,150nm,4.3s						
DL2				LR	LR		
	comp=Z,320nm,13.3s						
DL2				LR	LR		
	comp=Z,420nm,12.8s						
DL2				LR	LR		
	comp=Z,380nm,11.1s						
GRNR	**Gornyy**	**15.03**	**352**	⇓*i*P	**Pn**	**10 15 51.9**	**-2.9**
GRNR				*e*S	**Sn**	**10 18 35.2**	**-5.1**
GRNR				pmax	pmax		
	comp=N,6.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GRNR				smax	smax		
	comp=N,4.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,200nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,290nm,16.0s						
TYV	**Tymovskoe**	**15.07**	**7**	*e*P	**P**	**10 15 59.1**	**+0.4**
TYV				pmax	pmax		
	comp=Z,82nm,1.3s						
TYV				pmax	pmax		
	comp=Z,200nm,4.2s						
NJ2	**Nanjing**	**17.77**	**263**	*e*P	**Pn**	**10 16 29.3**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
TIA	**Tai'an**	**18.32**	**278**	P	**Pn**	**10 16 36.0**	**+0.5**
TIA				S	**Sn**	**10 20 03.8**	**+4.0**
TIA				pmax	pmax		
	comp=Z,13nm,1.8s						
TIA				pmax	pmax		
	comp=Z,200nm,3.8s						
TIA				LR	LR		
	comp=Z,400nm,16.4s						
TIA				LR	LR		
	comp=Z,350nm,14.7s						
TIA				LR	LR		
	comp=Z,430nm,16.4s						
BJI	**Beijing**	**19.04**	**290**	P	**Pn**	**10 16 43.3**	**-0.8**
BJI				pP	**pP**	**10 16 58.6**	**-0.1**
BJI				S	**S**	**10 20 13.3**	**-0.9**
BJI				sS	**sS**	**10 20 40.8**	**+0.3**
BJI				pmax	pmax		
	comp=Z,15nm,1.3s						
BJI				LR	LR		
	comp=Z,46nm,12.1s						
BJI				LR	LR		
	comp=Z,250nm,12.4s						
BJI				LR	LR		
	comp=Z,250nm,10.7s						
BJT	**Baijiatuau**	**19.04**	**289**		**Pn**	**10 16 43.7**	**-0.5**
BJT	**Baijiatuau**	**19.04**	**289**	P	**Pn**	**10 16 43.7**	**-0.5**
**

MA2 Magadan 24.72 13 *ce*P **P 10 17 41.5 +1.1**
MA2 pmax pmax
comp=Z,209nm,1.7s
XAN Xi'an 25.30 275 P **P 10 17 46.3 +0.3**
XAN pmax pmax
comp=Z,11nm,1.6s
ENH Enshi 25.93 266 P **P 10 17 50.2 -1.6**
YAK Yakutsk 26.89 349 P **P 10 17 59.7 -0.2**
comp=Z,21nm,0.6s,baz=123,slow=1.7,SNR=15
YAK LR LR 10 28 27.7
comp=Z,339nm,19.7s,baz=86,slow=36
comp=Z,21nm,0.6s
YAK Yakutsk 26.89 349 P **P 10 17 59.6 -0.3**
YAK IAmb IAmb 10 18 02.8
comp=Z,72nm,0.9s
YAK Yakutsk 26.89 349 *e*P **P 10 17 59.0 -0.9**
YAK *e**PP **pP 10 18 16.8 -1.9**
YAK *e*S **S 10 22 29.5 -1.0**
YAK *e**SS **sS 10 23 05.6 +2.7**
YAK pmax pmax
comp=Z,79nm,1.0s
YAK pmax pmax
comp=N,51nm,1.1s
YAK pmax pmax
comp=E,13nm,1.4s
YAK smax smax
comp=N,135nm,2.5s
YAK smax smax
comp=E,313nm,4.6s
ULN Ulaanbaatar 26.92 306 P **P 10 17 58.9 -1.7**
ULN Ulaanbaatar 26.92 306 *ce*P **P 10 18 00.1 -0.5**
ULN pmax pmax
comp=Z,16nm,1.2s
SONM Songino Array 27.34 306 P **P 10 18 03.9 -0.4**
comp=Z,2.5nm,0.5s,baz=106,slow=8.5,SNR=11
SONM ScP **ScP 10 24 54.8 0.0**
comp=Z,0.8nm,0.7s,baz=90,slow=3.1,SNR=4.5
SONM LR LR 10 28 57.3
comp=Z,370nm,21.3s,baz=89,slow=36
comp=Z,2.5nm,0.5s
SONM Songino Array 27.34 306 P **P 10 18 04.2 -0.1**
SONM Songino Array 27.34 306 P **P 10 18 04.2 -0.1**
SONM pmax pmax
comp=Z,6.0nm,1.2s
BOD Bodaibo 27.80 330 *e*P **P 10 18 07.0 -1.1**
BOD pmax pmax
comp=Z,40nm,1.3s
SEY Seymchan 28.14 12 P **P 10 18 12.4 +1.3**
comp=Z,11nm,0.8s,baz=0.4,slow=23,SNR=11
comp=Z,11nm,0.8s
SEY Seymchan 28.14 12 *ce*P **P 10 18 12.9 +1.8**
SEY pmax pmax
comp=Z,52nm,2.5s
H11N2 WAKE ISLAND Hy 28.77 117 T T 10 48 10.6
baz=308,slow=75,SNR=168
H11N1 WAKE ISLAND Hy 28.78 117 T T 10 48 10.2
baz=308,slow=75,SNR=196
H11N3 WAKE ISLAND Hy 28.79 117 T T 10 48 11.0
baz=308,slow=75,SNR=170
LZH Lanzhou 28.97 281 *e*P **P 10 18 21.5 +2.5**
LZH pP pP 10 18 37.3 -0.6
LZH sP sP 10 18 48.4 +0.9
LZH pmax pmax
comp=Z,16nm,1.0s
LZH LR LR
comp=Z,440nm,17.5s
LZH LR LR
comp=Z,410nm,16.1s
LZH LR LR
comp=Z,520nm,18.9s
SHEM Shemya Is, Ala 29.38 44 LR LR 10 29 18.0
comp=Z,29nm,20.1s,baz=260,slow=34
H11S1 WAKE ISLAND Hy 29.42 119 T T 10 49 29.3
baz=314,slow=76,SNR=77
H11S3 WAKE ISLAND Hy 29.42 119 T T 10 49 30.9
baz=314,slow=76,SNR=67
H11S2 WAKE ISLAND Hy 29.44 119 T T 10 49 32.1
baz=314,slow=76,SNR=72
ZAK Zakamensk 29.95 310 *e*P **P 10 18 27.4 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
CD2 Chengdu 30.37 271 *e*P **P 10 18 31.0 -0.3**
DAV Davao City (W) 31.53 208 LR LR 10 33 11.2
comp=Z,113nm,18.4s,baz=56,slow=40
GTA Gaotai 31.65 288 *e*P **P 10 18 43.9 +1.4**
GTA pP sP 10 19 06.8 -4.2
GTA sP pP 10 19 15.4 +14
GTA PcP **PcP 10 21 33.8 +1.0**
GTA SS SS 10 25 35.8 -29
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,4.8s
GTA LR LR
comp=Z,270nm,20.7s
GTA LR LR
comp=Z,220nm,17.4s
GTA LR LR
comp=Z,240nm,17.1s
KMI Kunming 33.49 262 ⇓P P 10 19 06.8 +7.9
KMI pmax pmax
comp=Z,13nm,1.6s
KNGR Kungurtug, Tuv 33.60 309 ⇓ *i*P **P 10 19 01.3 +1.9**
KNGR pmax pmax
comp=Z,7.0nm,0.8s
PZH PanZhiHua 33.68 265 P **P 10 19 00.6 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,210nm,6.1s
BILL Bilibino 35.46 17 P **P 10 19 15.3 +0.2**
BILL IAmb IAmb 10 19 17.2
comp=Z,53nm,1.1s
BILL Bilibino 35.46 17 *e*P **P 10 19 15.3 +0.2**
BILL *e**PP **pP 10 19 31.4 -2.9**
BILL *e**SP **sP 10 19 44.1 +0.4**
BILL *e* 10 20 35.5
BILL *e* 10 21 42.9
BILL pmax pmax
comp=Z,56nm,1.2s
BILL MLR MLR
comp=Z,232nm,19.0s
GOMU GeErMu 36.10 284 P **P 10 19 23.5 +2.1**
GOMU S **S 10 24 50.3 -4.9**
GOMU pmax pmax
comp=Z,11nm,1.1s
GOMU pmax pmax
comp=Z,130nm,5.3s
GOMU LR LR
comp=Z,170nm,19.6s
GOMU LR LR
comp=Z,120nm,15.9s
GOMU LR LR
comp=Z,120nm,19.0s
TIXI Tiksi 36.24 354 P **P 10 19 21.6 -0.1**
comp=Z,7.4nm,0.5s,baz=268,slow=23,SNR=3.6
comp=Z,7.4nm,0.5s
TIXI Tiksi 36.24 354 P **P 10 19 21.3 -0.5**
TIXI Tiksi 36.24 354 P **P 10 19 21.6 -0.1**
SIJI Sorong 37.46 194 P **P 10 19 32.6 -0.1**
comp=Z,18nm,0.7s,baz=23,slow=7.0,SNR=14
SIJI LR LR 10 31 39.0
comp=Z,122nm,20.0s,baz=42,slow=31
comp=Z,18nm,0.7s
SMPI Sarmi 37.73 182 P **P 10 19 33.5 -1.4**
comp=Z,1µmcomp=Z,18nm,1.3s
CRAI Chiangrai 37.84 256 P **P 10 19 35.4 -0.5**
FAKI Fak Fak 39.28 192 P **P 10 19 46.4 -1.5**
FAKI Fak Fak 39.28 192 P **P 10 19 46.4 -1.5**
comp=Z,14nm,0.7s
SANI Sanana 39.91 202 P **P 10 19 50.6 -2.6**
comp=Z,20nm,0.9s
CMAR Chiang Mai Arr 39.94 255 P **P 10 19 53.5 +0.1**
comp=Z,1.0nm,0.4s,baz=24,slow=6.9,SNR=2.3
CMAR PcP **PcP 10 21 58.8 +1.3**
comp=Z,1.3nm,0.3s,baz=36,slow=1.8,SNR=8.6
CMAR LR LR 10 37 07.6
comp=Z,113nm,18.4s,baz=55,slow=37
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 39.94 255 *i*P P 10 19 58.7 +5.2
CMAR pmax pmax
comp=Z,1.0nm,0.3s
DGZ Jazzator, Alta 39.99 307 *i*P **P 10 19 54.0 +0.3**
DGZ pmax pmax
comp=Z,23nm,0.7s
WMQ Urumqi 40.18 298 *e*P **P 10 19 59.8 +4.6**
WMQ pmax pmax
comp=Z,39nm,1.1s
WMQ LR LR
comp=Z,240nm,19.3s
WMQ LR LR
comp=Z,200nm,21.9s
UNV Unalaska Valle 40.96 47 P **P 10 20 02.6 +1.2**
baz=266
LSA Lhasa 41.00 276 P **P 10 20 03.0 +0.3**
LSA Lhasa 41.00 276 P **P 10 20 03.0 +0.3**
LSA pmax pmax
comp=Z,10.0nm,0.5s
ZAA0 Zalesovo Array 41.70 313 P **P 10 20 07.7 +0.2**
ZAA0 IAmb IAmb 10 20 08.9
comp=Z,27nm,0.7s
ZALV Zalesovo Beam 41.70 313 P **P 10 20 07.6 +0.1**
comp=Z,26nm,0.6s,baz=91,slow=6.5,SNR=78
ZALV PcP **PcP 10 22 02.3 -0.3**
comp=Z,4.6nm,0.6s,baz=107,slow=3.2,SNR=5.5
ZALV ScP **ScP 10 25 45.4 -0.1**
comp=Z,0.9nm,0.4s,baz=106,slow=4.8,SNR=3.9
ZALV LR LR 10 36 40.4
comp=Z,90nm,19.1s,baz=113,slow=35
comp=Z,26nm,0.6s
ZALV Zalesovo Beam 41.70 313 P **P 10 20 07.3 -0.2**
ZALV Zalesovo Beam 41.70 313 P **P 10 20 07.6 +0.1**
ZALV 10 22 02.3
ZSN Zaisan 41.78 304 *e*P **P 10 20 08.3 0.0**
ZSN Zaisan 41.78 304 *e*P **P 10 20 08.3 0.0**
baz=304
TNA Tin City 42.46 29 P **P 10 20 15.0 +1.5**
baz=252
ANM Nome 43.22 31 P **P 10 20 20.9 +1.2**
baz=256
MK31 Makanchi Array 43.60 303 P **P 10 20 23.1 +0.1**
MK31 Makanchi Array 43.60 303 *i*P **P 10 20 22.6 -0.5**
MKAR Makanchi Array 43.60 303 P **P 10 20 23.1 +0.1**
comp=Z,19nm,1.0s,baz=87,slow=8.5,SNR=80
MKAR ScP **ScP 10 25 53.8 +0.5**
comp=Z,0.6nm,0.7s,baz=91,slow=5.8,SNR=3.6
MKAR LR LR 10 38 50.6
comp=Z,247nm,20.2s,baz=100,slow=36
comp=Z,19nm,1.0s
MKAR Makanchi Array 43.60 303 *i*P **P 10 20 23.1 +0.1**
MKAR pmax pmax
comp=Z,19nm,1.0s
NRIK Noril'sk 43.73 336 P **P 10 20 23.8 0.0**
comp=Z,9.0nm,0.7s,baz=112,slow=9.3,SNR=13
NRIK PcP **PcP 10 22 09.8 +0.7**
comp=Z,3.9nm,0.5s,baz=135,slow=2.9,SNR=3.9
NRIK LR LR 10 38 14.3
comp=Z,151nm,21.4s,baz=83,slow=35
comp=Z,9.0nm,0.7s
NRIK Noril'sk 43.73 336 P **P 10 20 23.6 -0.1**
NRIK Noril'sk 43.73 336 *ce*P **P 10 20 23.4 -0.3**
NRIK pmax pmax
comp=Z,28nm,1.2s
MAKZ Makanchi 43.81 303 P **P 10 20 24.5 -0.3**
MAKZ Makanchi 43.81 303 P **P 10 20 24.6 -0.1**
MAKZ Makanchi 43.81 303 P **P 10 20 24.0 -0.8**
MAKZ pP **pP 10 20 46.1 +1.7**
SEM Semipalatinsk 44.58 308 *e*P **P 10 20 30.1 -0.9**
SEM pmax pmax
comp=Z,29nm,1.1s
SEM Semipalatinsk 44.58 308 *e*P **P 10 20 30.1 -0.9**
comp=Z,29nm,1.1s,baz=308
KAPI Kappang 44.85 209 LR LR 10 40 05.0
comp=Z,33nm,18.3s,baz=38,slow=37
CHNA Chernabura Isl 45.03 45 P **P 10 20 34.1 -0.1**
baz=271
KURK Kurchatov 45.59 309 P **P 10 20 38.9 +0.1**
KURK Kurchatov 45.59 309 P **P 10 20 39.3 +0.6**
KURK Kurchatov 45.59 309 P **P 10 20 35.8 -3.0**
KURK pP **pP 10 20 59.2 +0.7**
KURK sP **sP 10 21 12.0 +4.2**
N16K Nishlik Lake 45.61 38 P **P 10 20 40.3 +1.6**
baz=266,SNR=11
PMG Port Moresby 45.62 170 LR LR 10 39 40.9
comp=Z,55nm,18.4s,baz=332,slow=36
KURBB Kurchatov Arra 45.65 309 P **P 10 20 39.3 0.0**
comp=Z,59nm,1.0s,baz=85,slow=8.2,SNR=281
KURBB LR LR 10 40 33.4
comp=Z,274nm,18.2s,baz=72,slow=37
comp=Z,59nm,1.0s
RAMN Ramite 45.77 274 *e*P **P 10 20 40.4 -0.4**
comp=Z,47nm,1.0s
JIRN Jiri 45.81 275 *e*P **P 10 20 41.4 +0.2**
O16K Kokwok River B 45.90 39 P **P 10 20 42.3 +1.3**
baz=268,SNR=6.1
P16K Nushagak River 45.93 40 P **P 10 20 43.5 +2.2**
baz=268
PDGK Podgornoye 46.14 298 P **P 10 20 42.8 -0.5**
SHLS Shalkode 46.19 298 *e*P **P 10 20 41.3 -2.4**
SHLS Shalkode 46.19 298 *e*P **P 10 20 41.4 -2.4**
baz=298
O17K Koliganek Bris 46.41 39 P **P 10 20 46.4 +1.4**
baz=268
PKI Pulchoki 46.48 276 *e*P **P 10 20 45.9 -0.5**
UZB Uzynbulak 46.51 298 *e*P **P 10 20 46.0 -0.3**
UZB Uzynbulak 46.51 298 *e*P **P 10 20 46.0 -0.3**
baz=298
Q16K King Salmon 46.62 40 P **P 10 20 48.4 +1.7**
baz=270,SNR=5.7
P17K Kvichak River 46.73 39 P **P 10 20 48.9 +1.4**
baz=270
R17K Ugashik Creek 46.77 41 P **P 10 20 48.7 +0.9**
baz=271
GCSA Galena City Sc 46.85 32 P **P 10 20 49.4 +1.0**
baz=264
GKN Gorkha 46.92 277 *e*P **P 10 20 49.6 -0.1**
comp=Z,242nm,1.4s
SATY Saty 46.97 298 *e*P **P 10 20 49.4 -0.4**
SATY pmax pmax
comp=Z,23nm,1.4s
SATY Saty 46.97 298 *e*P **P 10 20 49.5 -0.4**
comp=Z,23nm,1.4s,baz=298
N18K Kilae Creek 47.04 37 P **P 10 20 52.5 +2.5**
N18K IAmb IAmb 10 20 53.6
comp=Z,50nm,1.2s
N18K Kilae Creek 47.04 37 P **P 10 20 51.8 +1.9**
baz=268,SNR=8.1
SVW2 Sparrevohn 47.20 37 P **P 10 20 51.9 +0.7**
SVW2 IAmb IAmb 10 20 54.7
comp=Z,33nm,1.1s
CHIR Chirikof Islan 47.26 44 P **P 10 20 54.0 +2.3**
baz=273
P18K Big Mountain, 47.35 39 P **P 10 20 53.6 +1.1**
P18K Big Mountain, 47.35 39 P **P 10 20 54.1 +1.6**
baz=270,SNR=5.2
O18K Koktuh Hills 47.37 38 P **P 10 20 54.1 +1.6**
O18K IAmb IAmb 10 20 56.5
comp=Z,58nm,1.3s
O18K Koktuh Hills 47.37 38 P **P 10 20 54.5 +2.0**
baz=270
DANN Dangsing 47.49 277 *e*P **P 10 20 54.4 +0.1**
comp=Z,165nm,1.0s
L19K White Mountain 47.58 35 P **P 10 20 56.5 +2.3**
L19K White Mountain 47.58 35 P **P 10 20 56.2 +2.0**
baz=268,SNR=5.5
TARG Taragay, Kyrgy 47.72 297 P **P 10 20 57.0 +1.0**
TARG IAmb IAmb 10 20 58.1
comp=Z,38nm,0.9s
TARG Taragay, Kyrgy 47.72 297 P **P 10 20 57.0 +1.0**
TARG pmax pmax
comp=Z,38nm,0.9s
N19K Bonanza Creek 47.73 37 P **P 10 20 57.3 +1.9**
baz=270
M19K Big River Lodg 47.79 36 P **P 10 20 57.3 +1.5**
baz=269
CHKK Chushkaly 47.80 300 *e*P **P 10 20 56.2 +0.1**
CHKK Chushkaly 47.80 300 *e*P **P 10 20 56.3 +0.1**
baz=300
O19K Port Alsworth 47.81 38 P **P 10 20 56.6 +0.7**
O19K IAmb IAmb 10 20 59.2
comp=Z,41nm,1.1s
O19K Port Alsworth 47.81 38 P **P 10 20 57.8 +1.9**
baz=270
MDOK Medeo 47.91 299 *e*P **P 10 20 56.9 -0.3**
MDOK Medeo 47.91 299 *e*P **P 10 20 56.9 -0.3**
baz=299
K20K Telida 47.98 34 P **P 10 20 58.1 +0.8**
K20K IAmb IAmb 10 21 00.6
comp=Z,40nm,1.1s
K20K Telida 47.98 34 P **P 10 20 58.9 +1.7**
baz=268,SNR=13
J20K Nowinta River 47.99 33 P **P 10 20 59.1 +1.8**
baz=267,SNR=15
J20K Nowinta River 47.99 33 P **P 10 20 58.6 +1.4**
baz=267,SNR=15
AAA Alma-Ata 48.00 299 *e*P **P 10 20 58.1 +0.4**
AAA Alma-Ata 48.00 299 *e*P **P 10 20 58.2 +0.4**
baz=299
SII Sitkinak Islan 48.01 43 P **P 10 20 57.6 0.0**
baz=274
L20K Farewell, AK 48.04 35 P **P 10 20 59.7 +2.0**
baz=269,SNR=10
Q19K Cape Douglas, 48.18 40 P **P 10 20 59.2 +0.3**
baz=272
PYUN Piuthan 48.21 278 *e*P **P 10 20 59.7 0.0**
comp=Z,264nm,1.3s
KUU Kurty 48.24 300 *e*P **P 10 20 59.4 -0.2**
KUU pmax pmax
comp=Z,32nm,0.8s
KUU Kurty 48.24 300 *e*P **P 10 20 59.5 -0.2**
comp=Z,32nm,0.8s,baz=300
IMAR Indian Mountai 48.27 30 P **P 10 21 00.3 +0.9**
P19K Oil Pt 48.37 39 P **P 10 21 01.0 +0.7**
baz=272
M20K Styx River 48.38 36 P **P 10 21 01.4 +1.0**
baz=270
G21K Allakaket 48.41 29 P **P 10 21 02.3 +1.8**
baz=265
OHAK Old Harbor 48.46 42 P **P 10 21 01.1 +0.2**
baz=274
F21K Alatna River 48.48 29 P **P 10 21 02.1 +1.0**
baz=265,SNR=6.4
RSO Redoubt South 48.58 38 P **P 10 21 02.4 +0.3**
H21K Melozitna Rive 48.64 31 P **P 10 21 03.1 +0.9**
H21K IAmb IAmb 10 21 05.4
comp=Z,36nm,1.2s
H21K Melozitna Rive 48.64 31 P **P 10 21 03.7 +1.5**
baz=267,SNR=18
KDAK Kodiak Island 48.80 41 P **P 10 21 04.2 +0.6**
KDAK Kodiak Island 48.80 41 P **P 10 21 04.2 +0.6**
KDAK pmax pmax
comp=Z,75nm,1.2s
KDAK Kodiak Island 48.80 41 P **P 10 21 04.2 +0.6**
baz=274
N20K Mount Spurr 48.83 37 P **P 10 21 05.9 +2.0**
baz=271,SNR=7.1
SPCR Spurr Chakacha 48.83 37 P **P 10 21 05.7 +1.8**
baz=271
Q20K Shuyak Island 48.85 40 P **P 10 21 04.6 +0.7**
baz=273
BOOM Boomskoye usch 48.87 298 P **P 10 21 05.4 +0.8**
BOOM IAmb IAmb 10 21 06.4
comp=Z,28nm,1.0s
BOOM Boomskoye usch 48.87 298 P **P 10 21 05.4 +0.8**
BOOM pmax pmax
comp=Z,28nm,1.0s
SPU Mount Spurr 48.91 37 P **P 10 21 04.6 +0.2**
HNR Honiara 48.96 153 LR LR 10 40 18.7
comp=Z,1µm,21.6s,baz=326,slow=34
I21K Tanana 48.96 31 P **P 10 21 06.0 +1.3**
I21K IAmb IAmb 10 21 08.1
comp=Z,46nm,1.2s
I21K Tanana 48.96 31 P **P 10 21 06.4 +1.7**
baz=268,SNR=13
TKM2 Tokmak 2 49.00 299 P **P 10 21 06.8 +1.2**
SNR=41
TKM2 Tokmak 2 49.00 299 *i*P **P 10 21 06.0 +0.3**
TKM2 pmax pmax
comp=Z,39nm,1.0s
F22K John River 49.01 28 P **P 10 21 06.9 +1.8**
baz=266,SNR=12
SKT Skwentna 49.14 36 P **P 10 21 07.5 +1.4**
SKT IAmb IAmb 10 21 08.6
comp=Z,24nm,1.2s
SKT Skwentna 49.14 36 P **P 10 21 07.2 +1.0**
baz=271
MTN Manton Dam 49.19 191 P **P 10 21 05.5 -1.4**
G22K Bettles 49.23 29 P **P 10 21 08.4 +1.6**
baz=267
H22K Ishtalitna Cre 49.24 30 P **P 10 21 08.9 +2.0**
baz=268,SNR=17
BPAW Bear Paw Mtn. 49.37 33 P **P 10 21 08.2 +0.3**
BPAW IAmb IAmb 10 21 11.0
comp=Z,62nm,1.6s
BPAW Bear Paw Mtn. 49.37 33 P **P 10 21 09.2 +1.3**
baz=270,SNR=5.4
BRZS Berezniki 49.46 309 *e*P **P 10 21 08.3 -0.5**
BRZS pmax pmax
comp=Z,32nm,1.9s
BRZS Berezniki 49.46 309 *e*P **P 10 21 08.3 -0.5**
comp=Z,32nm,1.9s,baz=308
MLY Manley 49.48 32 P **P 10 21 09.0 +0.2**
MLY IAmb IAmb 10 21 12.0
comp=Z,40nm,1.1s
MLY Manley 49.48 32 P **P 10 21 10.5 +1.7**
baz=269,SNR=24
SUA Susitna One 49.53 36 P **P 10 21 10.8 +1.6**
baz=272
KBK Karagaybulak 49.53 299 P **P 10 21 10.5 +0.8**
SNR=29
SGDS Sogindy 49.55 300 *e*P **P 10 21 09.6 -0.1**
SGDS pmax pmax
comp=Z,10.0nm,1.0s
SGDS Sogindy 49.55 300 *e*P **P 10 21 09.6 -0.1**
comp=Z,10nm,1.0s,baz=300
BTLS Baital 49.58 302 *e*P **P 10 21 09.4 -0.3**
BTLS pmax pmax
comp=Z,11nm,0.8s
BTLS Baital 49.58 302 *e*P **P 10 21 09.5 -0.3**
comp=Z,12nm,0.8s,baz=302
CHMS Chumysh 49.58 299 P **P 10 21 10.4 +0.6**
SNR=6.4
CHMS Chumysh 49.58 299 *i*P **P 10 21 09.9 0.0**
CHMS pmax pmax
comp=Z,31nm,1.2s
BRSE Bradley Lake S 49.62 39 P **P 10 21 11.6 +1.7**
baz=274
KSH Kashi 49.66 294 P **P 10 21 14.8 +4.2**
KSH pP sP 10 21 36.6 -3.3
KSH pmax pmax
comp=Z,17nm,1.2s
D23K Nanushk River 49.67 26 P **P 10 21 12.1 +2.1**
baz=266,SNR=5.9
TRF Thorofare Moun 49.68 34 P **P 10 21 11.8 +1.3**
baz=271
USP Ospenovka 49.69 300 P **P 10 21 11.6 +0.9**
SNR=9.8
COEN Coen 49.71 176 P **P 10 21 10.5 -0.5**
COEN IAmb IAmb 10 21 12.5
comp=Z,18nm,1.0s
COLD Coldfoot 49.76 29 P **P 10 21 12.0 +1.2**
COLD IAmb IAmb 10 21 13.8
comp=Z,68nm,1.9s
COLD Coldfoot 49.76 29 P **P 10 21 11.5 +0.8**
baz=268
C23K Itkillik River 49.76 25 P **P 10 21 12.3 +1.5**
baz=265,SNR=5.4
G23K Bananza Creek 49.81 29 P **P 10 21 12.3 +1.1**
baz=268,SNR=7.3
M22K Willow 49.82 36 P **P 10 21 11.0 -0.3**
baz=273
AAK Ala-Archa 49.86 299 P **P 10 21 12.7 +0.6**
SNR=11
AAK Ala-Archa 49.86 299 P **P 10 21 12.7 +0.6**
AAK IAmb IAmb 10 21 13.6
comp=Z,19nm,0.8s
AAK Ala-Archa 49.86 299 *ce*P **P 10 21 12.8 +0.6**
AAK pmax pmax
comp=Z,22nm,0.8s
AAK Ala-Archa 49.86 299 *i*P **P 10 21 12.7 +0.6**
SNR=13
AAK Ala-Archa 49.86 299 P **P 10 21 11.3 -0.8**
AAK pP **pP 10 21 35.4 +3.2**
UCH Uchtor 49.96 298 P **P 10 21 14.2 +1.0**
SNR=16
H23K Yukon River 49.99 30 P **P 10 21 15.4 +2.8**
H23K Yukon River 49.99 30 P **P 10 21 14.7 +2.1**
baz=270,SNR=27
E23K Chandalar 50.01 28 P **P 10 21 14.5 +1.7**
baz=268
OTUK Ortayu 50.01 306 P **P 10 21 12.4 -0.6**
BWN Browne 50.04 33 P **P 10 21 15.5 +2.6**
RC01 Rabbit Creek A 50.04 37 P **P 10 21 13.6 +0.7**
baz=274
TOLK Toolik Lake Re 50.05 27 P **P 10 21 14.2 +1.1**
TOLK IAmb IAmb 10 21 15.9
comp=Z,32nm,1.1s
TOLK Toolik Lake Re 50.05 27 P **P 10 21 14.1 +1.1**
baz=267
O22K Cooper Landing 50.08 37 P **P 10 21 13.3 0.0**

baz=274
PSI Prapat 50.09 238 LR LR 10 42 55.5
comp=Z,117nm,18.9s,baz=38,slow=36
NEA2 Nenana 50.20 32 P **P** **10 21 15.3 +1.2**
baz=271,SNR=8.6
SEW Seward 50.25 38 P **P** **10 21 14.0 -0.5**
baz=275
MCK McKinley 50.28 33 P **P** **10 21 16.0 +1.2**
MCK McKinley 50.28 33 P **P** **10 21 16.0 +1.2**
MCK pmax pmax
comp=Z,60nm,1.4s
MCK McKinley 50.28 33 P **P** **10 21 15.7 +0.9**
baz=272,SNR=9.0
PMR Palmer 50.30 36 P **P** **10 21 15.8 +1.0**
PMR IAmb IAmb 10 21 16.8
comp=Z,36nm,1.2s
PMR Palmer 50.30 36 P **P** **10 21 15.8 +1.0**
PMR pmax pmax
comp=Z,36nm,1.2s
PMR Palmer 50.30 36 P **P** **10 21 15.2 +0.3**
baz=274,SNR=5.1
RND Reindeer 50.33 34 P **P** **10 21 16.5 +1.2**
RND Reindeer 50.33 34 P **P** **10 21 16.5 +1.2**
RND pmax pmax
comp=Z,57nm,1.2s
D24K Happy Valley 50.35 26 P **P** **10 21 16.4 +1.3**
baz=268
BVAR Borovoye Array 50.35 313 LR LR 10 43 49.6
comp=Z,136nm,18.2s,baz=84,slow=37
EKS2 Erkin-Say 50.36 299 P **P** **10 21 16.3 +0.4**
SNR=13
BRVK Borovoye 50.41 313 P **P** **10 21 15.7 -0.2**
BRVK Borovoye 50.41 313 P **P** **10 21 15.7 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
C24K Franklin Bluff 50.42 25 P **P** **10 21 16.9 +1.2**
baz=267
E24K Your Creek 50.44 28 P **P** **10 21 16.5 +0.6**
baz=269,SNR=9.7
WAT1 Susitna Watana 50.49 34 P **P** **10 21 16.8 +0.3**
baz=273
MDM Murphy Dome 50.55 32 P **P** **10 21 17.7 +0.9**
AML Almayashu 50.57 298 P **P** **10 21 19.2 +1.4**
SNR=13
WRH Wood River Hil 50.63 32 P **P** **10 21 18.7 +1.3**
WRH IAmb IAmb 10 22 35.8
comp=Z,36nm,1.3s
KNK Knik Glacier 50.63 36 P **P** **10 21 18.5 +1.0**
baz=274
F24K Squaw Lake 50.66 28 P **P** **10 21 17.3 -0.3**
baz=270
SML Sawmill 50.66 36 IAmb IAmb 10 21 20.1
comp=Z,39nm,1.1s
SML Sawmill 50.66 36 P **P** **10 21 18.2 +0.5**
baz=274,SNR=5.1
H24K Noodor Dome 50.68 30 IAmb IAmb 10 21 21.2
comp=Z,43nm,1.2s
H24K Noodor Dome 50.68 30 P **P** **10 21 19.7 +1.9**
baz=271,SNR=21
TCOL CIGO, UAF Yank 50.71 32 P **P** **10 21 19.7 +1.8**
TCOL CIGO, UAF Yank 50.71 32 P **P** **10 21 19.4 +1.4**
baz=272
COLA College 50.71 32 P **P** **10 21 19.7 +1.7**
COLA College 50.71 32 *i* P **P** **10 21 19.9 +1.9**
COLA pmax pmax
comp=Z,26nm,1.2s
COLA College 50.71 32 P **P** **10 21 19.3 +1.3**
baz=272
COLA College 50.71 32 P **P** **10 21 18.0 0.0**
COLA pP **pP** **10 21 37.8 -0.3**
PWL Port Wells 50.73 37 P **P** **10 21 19.1 +0.8**
PWL Port Wells 50.73 37 P **P** **10 21 18.6 +0.3**
baz=275
CCB Clear Creek Bu 50.74 32 P **P** **10 21 19.4 +1.2**
G24K Hadweenzic Riv 50.82 29 P **P** **10 21 20.7 +1.9**
baz=271,SNR=13
POKR Poker Plat Res 50.88 31 P **P** **10 21 20.9 +1.6**
baz=272,SNR=15
WAT6 Susitna Watana 50.88 35 P **P** **10 21 19.8 +0.3**
baz=274,SNR=6.1
M23K Glacier View 50.95 36 P **P** **10 21 21.8 +1.9**
baz=275
DHY Denali Highway 51.02 34 IAmb IAmb 10 21 22.7
comp=Z,39nm,1.4s
DHY Denali Highway 51.02 34 P **P** **10 21 21.3 +0.8**
baz=274,SNR=7.5
HDA Harding Lake 51.12 32 P **P** **10 21 21.5 +0.4**
baz=273,SNR=24
IL31 51.13 32 P **P** **10 21 21.4 +0.3**
IL31 IAmb IAmb 10 21 23.0
comp=Z,42nm,1.2s
ILAR Eielson Array 51.13 32 P **P** **10 21 22.0 +0.9**
comp=Z,12nm,0.9s,baz=272,slow=6.1,SNR=69
ILAR LR LR 10 43 06.3
comp=Z,48nm,21.7s,baz=291,slow=36
comp=Z,12nm,0.9s
ILAR Eielson Array 51.13 32 P **P** **10 21 21.8 +0.7**
ILAR Eielson Array 51.13 32 P **P** **10 21 22.0 +0.9**
SCM Sheep Creek Mo 51.13 36 P **P** **10 21 23.0 +1.7**
SCM IAmb IAmb 10 21 23.9
comp=Z,42nm,1.1s
SCM Sheep Creek Mo 51.13 36 P **P** **10 21 23.0 +1.7**
SCM pmax pmax
comp=Z,42nm,1.1s
SCM Sheep Creek Mo 51.13 36 P **P** **10 21 22.5 +1.1**
baz=275,SNR=5.0
SDSI Sungai Dareh 51.17 233 P **P** **10 21 20.9 -1.1**
comp=Z,1µmcomp=Z,6.6nm,1.0s
D25K Kavik River 51.23 26 P **P** **10 21 23.3 +1.5**
baz=270,SNR=7.4
P23K Montague Islan 51.28 38 P **P** **10 21 24.3 +2.0**
baz=276
GLI Glacier Island 51.34 37 P **P** **10 21 24.1 +1.3**
baz=276
H25K Birch Creek 51.50 30 P **P** **10 21 25.5 +1.7**
baz=273,SNR=11
F25K Christian Rive 51.52 28 P **P** **10 21 26.2 +2.1**
baz=272,SNR=10
E25K Arctic Village 51.53 27 P **P** **10 21 26.0 +1.8**
baz=271,SNR=8.8
M24K Tolsona, Glenn 51.65 35 IAmb IAmb 10 21 29.0
comp=Z,32nm,1.0s
M24K Tolsona, Glenn 51.65 35 P **P** **10 21 26.1 +0.9**
baz=276
PRP Porcupine Dome 51.66 31 IAmb IAmb 10 21 28.0
comp=Z,27nm,1.2s
PRP Porcupine Dome 51.66 31 P **P** **10 21 26.4 +1.1**
baz=274,SNR=13
K24K Donnelly Dome 51.68 33 P **P** **10 21 26.6 +1.3**
baz=275,SNR=8.4
OHH Osh 51.69 297 P **P** **10 21 26.5 +0.7**
OHH pmax pmax
comp=Z,24nm,1.4s
C26K Camden Bay 51.73 25 P **P** **10 21 27.0 +1.5**
baz=271
J25K Salcha River, 51.79 32 P **P** **10 21 27.2 +1.1**
baz=274
KLU Klutina 51.84 36 IAmb IAmb 10 21 29.3
comp=Z,37nm,1.2s
KLU Klutina 51.84 36 P **P** **10 21 27.6 +1.0**
baz=276,SNR=7.2
Q23K Middleton Isla 51.88 39 P **P** **10 21 28.1 +1.4**
baz=278
PAX Paxson 51.89 34 IAmb IAmb 10 21 29.6
comp=Z,48nm,1.6s
PAX Paxson 51.89 34 P **P** **10 21 27.5 +0.6**
baz=276,SNR=6.8
BMAR Burnt Mountain 51.93 28 P **P** **10 21 29.1 +2.0**
DIV Divide 51.95 36 P **P** **10 21 29.2 +1.8**
EYAK Cordova Ski Ar 52.03 37 P **P** **10 21 29.8 +1.9**
baz=277
F26K Sheenjek River 52.09 28 P **P** **10 21 30.4 +2.2**
baz=273,SNR=13
HARP HAARP 52.09 35 P **P** **10 21 29.7 +1.3**
baz=276
RIDG Independent Ri 52.10 33 P **P** **10 21 29.4 +1.0**
RIDG IAmb IAmb 10 21 34.2
comp=Z,32nm,1.3s
RIDG Independent Ri 52.10 33 P **P** **10 21 29.3 +0.8**
baz=276,SNR=5.9
C27K Jago River 52.16 26 P **P** **10 21 30.3 +1.5**
baz=272
LEM Lembang 52.17 222 LR LR 10 43 34.9
comp=Z,42nm,18.6s,baz=350,slow=36
G26K Porcupine Rive 52.27 29 P **P** **10 21 31.9 +2.3**
baz=274,SNR=8.8
KNRA Kununurra 52.37 193 P **P** **10 21 29.7 -1.1**

SCRK Sand Creek 52.45 33 P **P** **10 21 31.3 +0.2**
SCRK Sand Creek 52.45 33 P **P** **10 21 31.6 +0.5**
baz=276,SNR=25
N25K Chitina, Valde 52.45 36 P **P** **10 21 32.2 +1.1**
baz=277
DOT Dot Lake 52.45 33 P **P** **10 21 32.3 +1.2**
DOT IAmb IAmb 10 21 33.8
comp=Z,62nm,1.6s
BMRM Bremner River 52.53 37 P **P** **10 21 32.7 +1.0**
baz=278
KK31 Karatay Array 52.54 300 P **P** **10 21 31.9 -0.1**
KK31 IAmb IAmb 10 21 33.4
comp=Z,36nm,1.1s
KK31 Karatay Array 52.54 300 *i* P **P** **10 21 31.9 -0.1**
KKAR Karatay Array 52.54 300 P **P** **10 21 32.2 +0.2**
KKAR IAmb IAmb 10 21 33.4
comp=Z,36nm,1.1s
KKAR Karatay Array 52.54 300 P **P** **10 21 32.3 +0.3**
KKAR Karatay Array 52.54 300 P **P** **10 21 32.2 +0.2**
KKAR pmax pmax
comp=Z,36nm,1.1s
TRKS Terek-Say 52.57 298 P **P** **10 21 32.8 +0.4**
TRKS pmax pmax
comp=Z,47nm,1.1s
J26L Joseph Creek 52.58 32 IAmb IAmb 10 21 33.7
comp=Z,24nm,1.4s
J26L Joseph Creek 52.58 32 P **P** **10 21 31.6 -0.5**
baz=276,SNR=10
I26K Coal Creek Min 52.67 31 P **P** **10 21 33.9 +1.4**
baz=276
MENT Mentasta 52.69 34 P **P** **10 21 33.8 +1.0**
MENT IAmb IAmb 10 21 36.0
comp=Z,51nm,1.4s
DRK Karamyk 52.74 296 P **P** **10 21 34.4 +0.6**
DRK IAmb IAmb 10 21 35.4
comp=Z,22nm,0.9s
KAIM Kayak Island 52.78 38 P **P** **10 21 35.2 +1.8**
baz=279
L26K Log Cabin Wild 52.85 34 P **P** **10 21 35.7 +1.8**
baz=277,SNR=21
E27K Colden River 53.01 27 P **P** **10 21 37.1 +2.0**
baz=275,SNR=8.1
M26K Nabesna, AK 53.09 35 IAmb IAmb 10 21 39.0
comp=Z,42nm,1.4s
M26K Nabesna, AK 53.09 35 P **P** **10 21 37.4 +1.6**
baz=278,SNR=7.3
G27K Doyon Strip 53.12 29 P **P** **10 21 37.7 +1.8**
baz=276,SNR=7.0
IUG luzhnay 53.17 299 *e*P **P** **10 21 36.8 +0.1**
IUG luzhnay 53.17 299 *e*P **P** **10 21 36.9 +0.1**
baz=299
MCARA McCarthy VSAT 53.23 36 P **P** **10 21 37.2 +0.4**
MCARA McCarthy VSAT 53.23 36 P **P** **10 21 38.3 +1.5**
baz=279,SNR=5.6
H27K Steamboat Moun 53.24 30 P **P** **10 21 39.2 +2.4**
baz=277,SNR=15
BTK Batken 53.27 297 P **P** **10 21 37.5 0.0**
BTK pmax pmax
comp=Z,13nm,1.0s
I27K Kandik River 53.27 31 P **P** **10 21 38.1 +1.1**
baz=277
K27K Chicken 53.28 33 IAmb IAmb 10 21 40.1
comp=Z,55nm,1.4s
K27K Chicken 53.28 33 P **P** **10 21 38.5 +1.5**
baz=278
L27K Beaver Creek, 53.53 34 P **P** **10 21 40.0 +1.0**
baz=279,SNR=15
BCAR Beaver Creek A 53.55 34 P **P** **10 21 39.4 +0.3**
EGAK Eagle 53.57 32 P **P** **10 21 38.9 -0.2**
EGAK IAmb IAmb 10 21 42.4
comp=Z,20nm,1.0s
EGAK Eagle 53.57 32 P **P** **10 21 40.5 +1.3**
baz=278,SNR=9.5
M27K Edge Creek, AK 53.62 35 P **P** **10 21 40.1 +0.4**
M27K IAmb IAmb 10 21 42.8
comp=Z,27nm,1.1s
M27K Edge Creek, AK 53.62 35 P **P** **10 21 41.4 +1.7**
baz=279,SNR=11
BVCY Beaver Creek 54.07 34 P **P** **10 21 43.7 +0.8**
baz=280
CTG Chitna Glacier 54.11 36 P **P** **10 21 44.1 +0.8**
baz=281
YUK3 Moose Creek 54.37 35 P **P** **10 21 46.4 +1.0**
baz=281
DAWY Dawson 54.44 32 P **P** **10 21 46.9 +1.3**
baz=280
I29M Ogilvie Camp, 54.68 31 IAmb IAmb 10 21 50.1
comp=Z,44nm,1.1s
I29M Ogilvie Camp, 54.68 31 P **P** **10 21 48.8 +1.5**
baz=280,SNR=20
O28M Mount Upton 54.70 36 P **P** **10 21 49.3 +1.5**
baz=282
PINM Pinnacle 54.80 37 P **P** **10 21 49.7 +1.4**
baz=282
CHGR Chuyangaron 54.95 296 P **P** **10 21 49.5 -0.2**
CHGR Chuyangaron 54.95 296 P **P** **10 21 49.5 -0.2**
CHGR pmax pmax
comp=Z,137nm,1.0s
EPYK Eagle Plains 55.14 29 P **P** **10 21 51.9 +1.3**
EPYK Eagle Plains 55.14 29 P **P** **10 21 52.2 +1.6**
baz=281,SNR=20
M29M Somme Creek 55.16 34 P **P** **10 21 53.2 +2.3**
baz=282,SNR=8.5
L29M L29M 55.18 33 P **P** **10 21 53.4 +2.5**
baz=282
K29M Barlow Dome 55.30 32 P **P** **10 21 54.0 +2.2**
baz=282,SNR=11
YUK4 Talbot Arm 55.31 35 P **P** **10 21 53.6 +1.6**
baz=282
PNL Peninsula 55.32 38 P **P** **10 21 53.5 +1.5**
baz=283
FITZ Fitzroy Crossi 55.37 196 P **P** **10 21 52.2 -0.5**
FITZ IAmb IAmb 10 21 53.5
comp=Z,17nm,0.8s
YUK6 Outpost Mounta 55.53 36 P **P** **10 21 55.7 +2.0**
baz=283
O29M Mount Kennedy 55.58 37 P **P** **10 21 56.0 +2.1**
baz=283,SNR=7.5
WB0 Warramunga Arr 55.62 186 P **P** **10 21 53.8 -0.7**
WRAB Tennant Creek 55.79 186 P **P** **10 21 55.0 -0.7**
WRAB Tennant Creek 55.79 186 P **P** **10 21 55.0 -0.7**
WRAB pmax pmax
comp=Z,69nm,1.4s
WRAB Tennant Creek 55.79 186 P **P** **10 21 54.0 -1.7**
WRAB pP **pP** **10 22 17.8 +1.7**
WB2 Warramunga Arr 55.80 186 P **P** **10 21 54.9 -0.9**
WR0 Warramunga Arr 55.80 186 P **P** **10 21 55.2 -0.5**
WRA Warramunga Arr 55.80 186 P **P** **10 21 54.6 -1.2**
comp=Z,11nm,0.6s,baz=0.5,slow=7.5,SNR=201
WRA LR LR 10 45 33.6
comp=Z,69nm,19.1s,baz=0.5,slow=36
comp=Z,11nm,0.6s
WRA Warramunga Arr 55.80 186 P **P** **10 21 54.3 -1.4**
WRA Warramunga Arr 55.80 186 P **P** **10 21 54.6 -1.2**
M30M Minto, Yukon 55.89 34 P **P** **10 21 56.8 +0.8**
M30M Minto, Yukon 55.89 34 P **P** **10 21 57.8 +1.8**
baz=283,SNR=5.5
INK Inuvik 55.97 27 P **P** **10 21 57.7 +1.3**
comp=Z,28nm,1.0s,baz=291,slow=5.7,SNR=20
INK LR LR 10 47 49.0
comp=Z,64nm,18.1s,baz=314,slow=38
comp=Z,28nm,1.0s
INK Inuvik 55.97 27 P **P** **10 21 57.9 +1.5**
INK IAmb IAmb 10 21 58.8
comp=Z,34nm,1.0s
INK Inuvik 55.97 27 P **P** **10 21 57.9 +1.5**
INK pmax pmax
comp=Z,34nm,1.0s
INK Inuvik 55.97 27 P **P** **10 21 57.5 +1.2**
baz=282,SNR=12
HYT Haines Junctio 55.97 36 P **P** **10 21 58.5 +1.8**
baz=284,SNR=6.5
N30M Aishikik Lake 56.01 35 P **P** **10 21 58.6 +1.6**
baz=284
CTA Charters Tower 56.04 173 LR LR 10 45 44.1
comp=Z,34nm,19.2s,baz=33,slow=36
MAYO Mayo, Yukon 56.06 32 IAmb IAmb 10 22 00.4
comp=Z,43nm,1.3s
MAYO Mayo, Yukon 56.06 32 P **P** **10 21 58.8 +1.6**
baz=283
F31M Tsiigehtchic 56.07 28 P **P** **10 21 57.9 +0.8**
baz=282,SNR=9.3
P29M Windy Craggy 56.15 37 IAmb IAmb 10 22 01.7
comp=Z,36nm,1.1s
P29M Windy Craggy 56.15 37 P **P** **10 21 59.9 +2.0**
baz=284
ARU Arti 56.32 319 LR LR 10 49 14.4

comp=Z,123nm,18.6s,baz=96,slow=39
ARU Arti 56.32 319 P **P** **10 21 59.5 +0.4**
ARU Arti 56.32 319 *d* P **P** **10 21 59.1 0.0**
ARU *PP **pP** **10 22 20.7 +1.2**
ARU S **S** **10 29 44.3 +1.4**
ARU pmax pmax
comp=Z,74nm,1.6s
ARU MLR MLR
comp=Z,170nm,17.0s
ARU Arti 56.32 319 P **P** **10 21 58.0 -1.1**
ARU sP **sP** **10 22 27.5 -1.2**
P30M Million Dollar 56.40 37 P **P** **10 22 01.9 +2.2**
baz=285
KBL Kabul 56.58 291 P **P** **10 22 01.4 -0.2**
KBL IAmb IAmb 10 22 02.6
comp=Z,24nm,1.1s
KBL Kabul 56.58 291 P **P** **10 22 01.4 -0.2**
KBL pmax pmax
comp=Z,25nm,1.2s
N31M Braeburn, Yuko 56.62 35 P **P** **10 22 03.4 +2.2**
baz=285,SNR=5.0
O30N Mendenhall 56.65 36 P **P** **10 22 02.8 +1.3**
baz=285
PLBC Pleasant Camp 56.87 37 P **P** **10 22 04.9 +1.9**
baz=286
M31M Drury Creek, Y 57.07 34 P **P** **10 22 05.7 +1.3**
baz=285
WHY Whitehorse 57.26 36 P **P** **10 22 07.6 +1.8**
baz=286
SKAG Skagway 57.38 37 P **P** **10 22 08.3 +1.8**
baz=286
FARO Faro, Yukon 57.53 34 IAmb IAmb 10 22 10.6
comp=Z,41nm,1.6s
FARO Faro, Yukon 57.53 34 P **P** **10 22 09.4 +1.8**
baz=286,SNR=8.3
AB31 Akbulak array 57.65 310 *i* P **P** **10 22 08.0 -0.6**
ABKAR Akbulak array 57.65 310 P **P** **10 22 08.3 -0.3**
ABKAR Akbulak array 57.65 310 IAmb IAmb 10 22 09.7
comp=Z,24nm,0.9s
A36M Sachs Harbour 57.77 21 P **P** **10 22 10.5 +1.4**
A36M Sachs Harbour 57.77 21 P **P** **10 22 10.7 +1.6**
baz=287,SNR=5.1
SIT Sitka 58.08 40 P **P** **10 22 12.8 +1.4**
baz=288
P32M Atlin 58.12 37 P **P** **10 22 13.2 +1.4**
baz=288
MMPY Sheldon Lake, 58.35 33 P **P** **10 22 14.9 +1.5**
baz=288,SNR=5.6
P33M Teslin, Yukon 58.37 36 P **P** **10 22 14.8 +1.3**
P33M Teslin, Yukon 58.37 36 P **P** **10 22 15.5 +1.9**
baz=288,SNR=12
AKTO Aktyubinsk 58.44 312 LR LR 10 48 29.6
comp=Z,123nm,19.7s,baz=74,slow=37
C36M Paulatuk 58.98 24 P **P** **10 22 18.1 +0.6**
baz=290
Q32M Nakina River 59.03 37 P **P** **10 22 19.1 +0.8**
baz=289
R33M Jennings River 59.52 36 P **P** **10 22 23.6 +2.0**
baz=290,SNR=5.9
AS31 Alice Springs 59.53 186 P **P** **10 22 21.3 -0.6**
ASAR Alice Springs 59.53 186 P **P** **10 22 21.1 -0.8**
comp=Z,3.9nm,0.7s,baz=6.8,slow=6.8,SNR=54
ASAR LR LR 10 48 48.7
comp=Z,68nm,18.3s,baz=251,slow=37
comp=Z,3.9nm,0.7s
ASAR Alice Springs 59.53 186 P **P** **10 22 21.2 -0.7**
ASAR Alice Springs 59.53 186 P **P** **10 22 21.2 -0.7**
WRAK Wrangell Islan 59.84 40 P **P** **10 22 24.9 +1.2**
baz=290
MBWA Marble Bar 59.86 202 P **P** **10 22 24.0 -0.2**
MBWA IAmb IAmb 10 22 25.4
comp=Z,15nm,1.0s
S34M Telegraph Cree 59.94 38 P **P** **10 22 25.8 +1.4**
baz=290
TGTN Hyland Airport 60.03 34 P **P** **10 22 26.5 +1.5**
baz=291,SNR=11
PSA00 Pilbara Seismi 60.22 201 P **P** **10 22 25.9 -0.7**
PSA00 Pilbara Seismi 60.22 201 P **P** **10 22 25.6 -1.0**
PSA00 IAmb IAmb 10 22 27.5
comp=Z,24nm,1.2s
WTLY Watson Lake, Y 60.30 35 P **P** **10 22 27.9 +1.1**
baz=291
DLBC Dease Lake 60.31 37 P **P** **10 22 27.2 +0.3**
DLBC IAmb IAmb 10 22 30.6
comp=Z,33nm,1.3s
DLBC Dease Lake 60.31 37 P **P** **10 22 28.9 +2.0**
baz=291,SNR=5.6
KIRV Kirov 60.34 323 LR LR 10 50 28.7
comp=Z,173nm,18.4s,baz=69,slow=38
KIRV Kirov 60.34 323 *ce* P **P** **10 22 27.4 +0.4**
V35K Ketchikan 60.62 41 P **P** **10 22 30.2 +1.2**
baz=291
T35M Bob Quinn 60.72 39 P **P** **10 22 31.7 +1.9**
baz=292,SNR=7.2
PALK Pallekele 60.84 257 LR LR 10 52 54.0
comp=Z,37nm,18.1s,baz=166,slow=40
DIB Dawson Inlet, 60.93 43 P **P** **10 22 32.6 +1.4**
DIB IAmb IAmb 10 22 33.4
comp=Z,19nm,1.0s
PRGR Permogore 60.98 327 *e*P **P** **10 22 30.2 -1.1**
ALE Alert 61.29 3 P **P** **10 22 33.3 +0.1**
ALE sP **sP** **10 23 04.3 +1.3**
SPITS Spitsbergen Ar 61.35 349 LR LR 10 50 41.7
comp=Z,81nm,18.8s,baz=12,slow=37
EUNU Eureka 61.47 8 IAmb IAmb 10 22 36.2
comp=Z,23nm,0.8s
WRGLY Wrigley 61.48 31 P **P** **10 22 36.2 +1.6**
baz=294
KBS Kingsbay 61.52 350 *ce*P **P** **10 22 36.6 +1.9**
KBS pmax pmax
comp=Z,43nm,1.3s
KBS Kingsbay 61.52 350 P **P** **10 22 35.5 +0.8**
KBS pP **pP** **10 22 52.9 -2.6**
KBS sP **sP** **10 23 02.8 -1.8**
DZM Mont Dzumac 62.96 152 *e* LR LR 10 41 36.3
comp=Z,347nm,34.4s
DZM Mont Dzumac 62.96 152 LR LR 10 48 53.3
comp=Z,68nm,20.7s,baz=32,slow=35
APA Apatity 63.15 336 *i* P **P** **10 22 44.1 -1.7**
APA pmax pmax
comp=Z,12nm,0.9s
GEYT Alibeck 63.22 299 P **P** **10 22 47.4 +0.6**
comp=Z,11nm,0.9s,baz=53,slow=3.0,SNR=22
GEYT LR LR 10 51 51.6
comp=Z,93nm,20.7s,baz=56,slow=37
comp=Z,11nm,0.9s
GEYT Alibeck 63.22 299 P **P** **10 22 46.6 -0.2**
GYA0B ALIBECK ARRAY 63.22 299 P **P** **10 22 47.6 +0.8**
BELG Belogornoye 63.71 317 LR LR 10 53 39.1
comp=Z,121nm,18.2s,baz=121,slow=39
BELG Belogornoye 63.71 317 *i* P **P** **10 22 49.3 -0.4**
BELG pmax pmax
comp=Z,5.0nm,0.9s
BBB Bella Bella 63.77 43 LR LR 10 53 21.9
comp=Z,12nm,18.1s,baz=282,slow=38
KLMR Klimovskoe 63.99 328 *e*P **P** **10 22 49.5 -1.9**
KLMR *e* 10 25 08.3
KLMR pmax pmax
comp=Z,48nm,1.4s
KLMR Klimovskoe 63.99 328 *e*P **P** **10 22 49.5 -1.9**
KLMR AMP 10 22 52.2
comp=Z,48nm,1.4s
KLMR *e*PP **PP** **10 25 08.3 -4.2**
RES Resolute Bay 64.00 14 LR LR 10 52 54.9
comp=Z,54nm,19.5s,baz=336,slow=38
RES Resolute Bay 64.00 14 P **P** **10 22 51.4 +0.2**
RES Resolute Bay 64.00 14 P **P** **10 22 51.4 +0.2**
RES pmax pmax
comp=Z,102nm,1.5s
MSVF Nonsavu 64.50 139 LR LR 10 44 31.8
comp=Z,122nm,20.9s,baz=313,slow=30
ARCES ARCESS Array B 64.57 339 P **P** **10 22 55.4 +0.3**
comp=Z,7.9nm,0.8s,baz=54,slow=7.0,SNR=20
ARCES LR LR 10 54 25.0
comp=Z,132nm,18.9s,baz=60,slow=39
comp=Z,7.9nm,0.8s
ARCES ARCESS Array B 64.57 339 P **P** **10 22 55.3 +0.3**
ARCES ARCESS Array B 64.57 339 P **P** **10 22 55.4 +0.3**
YKA Yellowknife Ar 65.42 29 P **P** **10 23 01.5 +0.8**
comp=Z,5.4nm,0.8s,baz=298,slow=6.7,SNR=12
YKA LR LR 10 53 13.5
comp=Z,32nm,18.8s,baz=292,slow=37
comp=Z,5.4nm,0.8s
YKA Yellowknife Ar 65.42 29 P **P** **10 23 01.0 +0.3**
YKA Yellowknife Ar 65.42 29 *i* P **P** **10 23 01.5 +0.8**
YKA pmax pmax

comp=Z,6.0nm,0.8s
OUL Oulu 67.05 335 P **P** **10 23 11.5 +0.5**
OUL pmax pmax
comp=Z,31nm,1.3s
FORT Forrest 67.26 191 P **P** **10 23 11.6 -1.1**
MOS Moscow 67.35 323 *eP* **P** **10 23 12.3 -0.8**
MOS pmax pmax
comp=Z,39nm,1.1s
AFI Afiamalu 67.46 128 LR LR 10 51 00.1
comp=Z,55nm,19.1s,baz=345,slow=34
STKA Stephens Creek 67.47 178 P **P** **10 23 13.6 -0.4**
comp=Z,4.8nm,0.7s,baz=339,slow=7.8,SNR=7.7
STKA LR LR 10 51 47.7
comp=Z,44nm,19.3s,baz=23,slow=35
comp=Z,4.8nm,0.7s
STKA Stephens Creek 67.47 178 P **P** **10 23 13.4 -0.6**
STKA Stephens Creek 67.47 178 P **P** **10 23 13.6 -0.4**
VRH Novokhopyorsk 67.51 318 *eP* **P** **10 23 11.3 -2.9**
VRH pmax pmax
comp=Z,20nm,0.7s
LLLB Lillooet 67.96 43 P **P** **10 23 17.3 +0.1**
LLLB IAmb IAmb 10 23 19.4
comp=Z,41nm,1.5s
PGC Sidney 68.05 45 P **P** **10 23 18.6 +1.0**
MAK Makhachkala 68.10 308 *eP* **P** **10 23 16.1 -1.9**
MAK *e**PP **pP** **10 23 36.4 -2.7**
MAK *e**SP **PcP** **10 23 45.1 +1.5**
MAK *e* 10 25 49.5
MAK *eS* **S** **10 32 10.1 -1.2**
MAK *e**SS **sS** **10 32 47.1 -0.5**
MAK pmax pmax
comp=Z,137nm,1.0s
MAK MLR MLR
comp=Z,300nm,13.0s
OBN Obninsk 68.19 323 LR LR 10 55 55.6
comp=Z,37nm,19.0s,baz=12,slow=38
OBN Obninsk 68.19 323 *eP* **P** **10 23 18.0 -0.4**
OBN *e**PP **pP** **10 23 39.3 -0.1**
OBN *e* 10 23 45.8
OBN *e* 10 25 51.4
OBN pmax pmax
comp=Z,60nm,1.7s
OBN MLR MLR
comp=Z,144nm,19.0s
LPSR Galich'ya Gora 68.30 320 *eP* **P** **10 23 17.5 -1.6**
LPSR pmax pmax
comp=Z,30nm,1.1s
B04A Port Angeles 68.31 46 P **P** **10 23 18.8 -0.5**
NLWA Neilton Lookou 68.43 47 P **P** **10 23 19.0 -1.1**
NLWA IAmb IAmb 10 23 23.5
comp=Z,48nm,1.1s
WISH Wishkah 68.63 47 IAmb IAmb 10 23 25.0
comp=Z,41nm,1.0s
VORR Voronezh 68.63 319 *eP* **P** **10 23 21.9 +0.7**
VORR pmax pmax
comp=Z,50nm,0.4s
VSR Storozhevoye 68.89 318 *eP* **P** **10 23 20.6 -2.2**
VSR pmax pmax
comp=Z,20nm,1.0s
E03A Lebam 69.04 47 IAmb IAmb 10 23 27.0
comp=Z,28nm,1.0s
FIA1 FINESS Array S 69.17 332 P **P** **10 23 24.3 -0.1**
FIA1 IAmb IAmb 10 23 25.3
comp=Z,44nm,1.4s
FINES FINESS Array B 69.17 332 P **P** **10 23 24.3 -0.2**
comp=Z,8.0nm,0.7s,baz=85,slow=6.5,SNR=24
FINES PP **PP** **10 25 55.7 -1.9**
comp=Z,3.2nm,0.9s,baz=79,slow=10,SNR=2.9
FINES LR LR 10 54 52.8
comp=Z,79nm,19.1s,baz=42,slow=37
comp=Z,8.0nm,0.7s
FINES FINESS Array B 69.17 332 *i* P **P** **10 23 24.2 -0.2**
FINES pmax pmax
comp=Z,8.0nm,0.7s
B06A Marblemount 69.25 45 IAmb IAmb 10 23 27.4
comp=Z,38nm,1.4s
D05A Enumclaw 69.64 46 IAmb IAmb 10 23 30.9
comp=Z,60nm,1.4s
WSAR Wadi Sarin 69.88 285 LR LR 10 56 48.3
comp=Z,70nm,20.0s,baz=90,slow=38
G03D McMinnville, O 69.90 48 P **P** **10 23 30.4 +1.3**
baz=301
I02E Swisshome, OR 70.11 50 P **P** **10 23 31.0 +0.5**
baz=301
COR Corvallis 70.20 49 P **P** **10 23 32.6 +1.6**
COR Corvallis 70.20 49 P **P** **10 23 32.6 +1.6**
COR pmax pmax
comp=Z,77nm,1.2s
COR Corvallis 70.20 49 P **P** **10 23 32.5 +1.5**
COR sP **sP** **10 24 02.0 +1.0**
SHME Shamm 70.36 288 P **P** **10 23 32.7 +0.3**
LTY Liberty 70.37 45 P **P** **10 23 31.1 -1.0**
LTY IAmb IAmb 10 23 34.4
comp=Z,53nm,1.6s
ZEI Tsey 70.48 309 *eP* **P** **10 23 32.1 -0.9**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
J01E Myrtle Point 70.54 50 P **P** **10 23 34.7 +1.5**
baz=301
B08A Colville Reser 70.55 44 P **P** **10 23 33.0 -0.1**
B08A IAmb IAmb 10 23 35.5
comp=Z,37nm,1.4s
MEF Metsahovi 70.58 331 *eP* **P** **10 23 33.0 0.0**
KBZ Khabaz 70.62 310 P **P** **10 23 34.4 +0.8**
comp=Z,18nm,0.9s,baz=76,slow=2.4,SNR=27
KBZ LR LR 10 56 29.6
comp=Z,72nm,19.4s,baz=56,slow=37
comp=Z,18nm,0.9s
KBZ Khabaz 70.62 310 *i* P **P** **10 23 33.3 -0.2**
KBZ pmax pmax
comp=Z,24nm,0.9s
I03D Drain, OR 70.63 50 P **P** **10 23 35.3 +1.6**
baz=301,SNR=6.4
KIV Kislovodsk 70.63 311 P **P** **10 23 33.1 -0.7**
KIV IAmb IAmb 10 23 35.9
comp=Z,34nm,0.9s
KIV Kislovodsk 70.63 311 *d* P **P** **10 23 33.6 -0.2**
KIV *i* 10 23 51.1
KIV *i* *PP **pP** **10 23 55.7 +0.7**
KIV *i* S **S** **10 32 43.0 +1.6**
KIV *i* SS **SS** **10 37 10.8 -2.9**
KIV pmax pmax
comp=Z,33nm,0.9s
KIV Kislovodsk 70.63 311 *i* P **P** **10 23 35.1 +1.3**
SNR=6.0
KIV Kislovodsk 70.63 311 P **P** **10 23 34.0 +0.2**
KIV pP **pP** **10 23 59.0 +4.0**
VSU Vasula 70.73 329 *eP* **P** **10 23 34.3 +0.3**
H04A Detroit Lake 70.83 48 P **P** **10 23 34.9 0.0**
H04A IAmb IAmb 10 23 37.5
comp=Z,40nm,1.1s
UOSS Minazif 70.89 287 P **P** **10 23 35.5 0.0**
K02D Willamette Mer 70.95 51 P **P** **10 23 37.1 +1.4**
baz=302,SNR=5.1
DBO Dodson Butte 71.00 50 P **P** **10 23 35.8 -0.2**
DBO IAmb IAmb 10 23 39.1
comp=Z,56nm,1.6s
HATD Hatta, Dubai 71.00 287 P **P** **10 23 36.9 +0.7**
EDM Edmonton 71.03 37 IAmb IAmb 10 23 37.9
comp=Z,52nm,1.3s
G05D Wamic, OR 71.06 48 P **P** **10 23 37.3 +1.0**
baz=302
RAF Rauma 71.06 333 *eP* **P** **10 23 36.5 +0.6**
ASHO Ashiyiah 71.14 287 P **P** **10 23 37.1 0.0**
I04A Tendick Farm, 71.16 49 P **P** **10 23 38.0 +1.1**
baz=302,SNR=9.5
GNI Garni 71.31 306 LR LR 10 57 26.3
comp=Z,138nm,20.7s,baz=70,slow=38
L02F Cave Junction 71.31 51 P **P** **10 23 38.5 +0.7**
baz=302
HUMO Hull Mountain 71.44 51 P **P** **10 23 38.0 -0.7**
HUMO IAmb IAmb 10 23 41.7
comp=Z,45nm,1.9s
C09A Chrisman Ranch 71.45 44 P **P** **10 23 37.9 -0.7**
C09A IAmb IAmb 10 23 40.9
comp=Z,34nm,1.1s
FAQ Al Faqa, Dubai 71.46 287 P **P** **10 23 39.2 +0.2**
D08A Wollman Farm, 71.48 45 P **P** **10 23 38.5 -0.3**
HAWA Hanford 71.49 46 P **P** **10 23 39.4 +0.6**
HAWA IAmb IAmb 10 23 41.5
comp=Z,25nm,1.1s
I05D Terrebonne, OR 71.52 48 P **P** **10 23 40.3 +1.2**
baz=302,SNR=11
F07A Phinny Hill Vi 71.53 46 IAmb IAmb 10 23 41.9
comp=Z,36nm,0.9s
J04D Umpqua Nationa 71.64 50 P **P** **10 23 41.3 +1.2**
baz=302
NWAO Narrogin (SRO) 71.67 200 LR LR 10 59 15.9
comp=Z,32nm,18.2s,baz=196,slow=39
ASUD Al Ashush, Dub 71.73 287 P **P** **10 23 41.2 +0.6**
MTSE Matsula 71.77 330 *eP* **P** **10 23 39.8 -0.4**
SUMG Summit 71.78 359 IAmb IAmb 10 23 43.0
comp=Z,50nm,1.0s
SUMG Summit 71.78 359 *i* P **P** **10 23 40.0 -0.6**
NEW Newport 71.84 43 LR LR 10 51 33.5
comp=Z,22nm,21.8s,baz=301,slow=33
NEW Newport 71.84 43 P **P** **10 23 40.6 -0.3**
NEW Newport 71.84 43 P **P** **10 23 40.6 -0.3**
NEW pmax pmax
comp=Z,22nm,1.2s
NEW Newport 71.84 43 P **P** **10 23 42.0 +1.1**
baz=304,SNR=16
KHMM Horse Mountain 71.87 52 IAmb IAmb 10 23 45.9
comp=Z,29nm,1.0s
PINE Pine Mountain 72.06 49 P **P** **10 23 43.9 +1.3**
L04D Klamath Falls 72.06 51 P **P** **10 23 44.0 +1.5**
baz=302,SNR=7.3
YBH Yreka Blue Hor 72.06 51 LR LR 10 48 39.3
comp=Z,38nm,21.6s,baz=284,slow=30
J05D Fort Rock, OR 72.15 49 P **P** **10 23 44.9 +1.9**
baz=303,SNR=20
K04D Chiloquin, OR 72.19 50 P **P** **10 23 44.8 +1.6**
baz=303
E09A Wood Farm, Sta 72.23 45 P **P** **10 23 44.8 +1.6**
E09A IAmb IAmb 10 23 45.8
comp=Z,49nm,1.2s
G08A Pilot Rock 72.43 47 P **P** **10 23 46.4 +1.8**
SOC Sochi 72.65 311 *eP* **P** **10 23 44.2 -1.6**
SOC *e* 10 26 26.3
SOC *e* PPP PPP 10 28 12.3
SOC *eS* **S** **10 33 03.2 -1.1**
SOC *e* SS **SS** **10 37 43.8 -0.5**
SOC pmax pmax
comp=Z,12nm,0.8s
SOC MLR MLR
comp=Z,87nm,19.0s
K05A Summer Lake 72.66 50 P **P** **10 23 48.3 +2.1**
MNK Minsk 72.67 325 *i* P **P** **10 23 45.1 -0.6**
MNK *i* 10 24 02.9
MNK *i* *PP **pP** **10 24 07.1 +0.2**
MNK *i* *SP **sP** **10 24 15.2 -0.6**
MNK *i* 10 26 27.7
MNK *i* PPP PPP 10 28 12.5
MNK *i* S **S** **10 33 03.8 -0.3**
MNK *i* *SS **sS** **10 33 37.1 -3.8**
MNK *i* SS **SS** **10 37 43.9 -0.1**
MNK pmax pmax
comp=E,1.0nm,1.1s
MNK pmax pmax
comp=Z,31nm,1.1s
MNK MLR MLR
comp=E,17nm,13.0s
MNK MLR MLR
comp=Z,81nm,13.0s
MNK Minsk 72.67 325 *i* P **P** **10 23 45.1 -0.6**
comp=E,1.0nm,1.1s
MNK *i* P **P** **10 23 45.1 -0.6**
MNK *i* P **P** **10 23 45.1 -0.6**
comp=Z,31nm,1.1s,baz=52
MNK *i* pP **pP** **10 24 07.2 +0.2**
MNK *i* sP **sP** **10 24 15.3 -0.6**
MNK *i* PP **PP** **10 26 27.7 +0.1**
MNK *i* PPP PPP 10 28 12.6
MNK *i* S **S** **10 33 03.8 -0.3**
MNK *i* sS **sS** **10 33 37.1 -3.8**
MNK *i* SS **SS** **10 37 44.0 -0.1**
MNK *i* SSS SSS 10 41 14.7
MNK *i* LQ LQ 10 51 53.4
MNK *i* LR LR 10 55 00.0
MNK *i* LRM MLR 10 59 31.4
comp=E,17nm,12.9s
MNK *i* LRM MLR 10 59 36.5
comp=Z,81nm,12.9s
NACGM Naroch 72.92 326 *eP* **P** **10 23 47.9 +0.7**
baz=52
F10A Beach Ranch, E 73.06 45 P **P** **10 23 49.5 +1.2**
SLIT Slitere, Latvi 73.09 330 *eP* **P** **10 23 48.0 -0.1**
WALA Waterton Lakes 73.14 41 P **P** **10 23 50.0 +1.2**
BMO Blue Mountains 73.65 46 IAmb IAmb 10 23 54.4
comp=Z,39nm,1.2s
JTMT Jette 73.70 43 P **P** **10 23 51.6 -0.5**
JTMT IAmb IAmb 10 23 54.6
comp=Z,23nm,0.8s
PABE Paberze 73.78 328 P **P** **10 23 52.8 +0.7**
PABE IAmb IAmb 10 23 53.4
comp=Z,67nm,1.3s
PABE Paberze 73.78 328 *eP* **P** **10 23 52.7 +0.5**
J08A Circle Bar Ran 73.79 48 P **P** **10 23 52.8 +0.1**
J08A IAmb IAmb 10 23 55.6
comp=Z,54nm,1.3s
ORV Oroville 74.02 53 P **P** **10 23 55.3 +1.4**
ORV IAmb IAmb 10 23 55.9
comp=Z,24nm,0.9s
ORV Oroville 74.02 53 P **P** **10 23 55.3 +1.4**
ORV pmax pmax
comp=Z,24nm,1.0s
MZR Muzera 74.02 287 *i* P **P** **10 23 54.0 -0.2**
SNR=6.6
WVOR Wild Horse Val 74.21 49 P **P** **10 23 56.2 +1.0**
WVOR IAmb IAmb 10 23 57.9
comp=Z,36nm,1.2s
WVOR Wild Horse Val 74.21 49 P **P** **10 23 56.2 +1.0**
WVOR pmax pmax
comp=Z,36nm,1.2s
AKASG Malin Array Be 74.36 322 P **P** **10 23 55.3 -0.4**
comp=Z,5.7nm,0.6s,baz=45,slow=6.3,SNR=46
AKASG LR LR 10 59 18.8
comp=Z,277nm,18.8s,baz=62,slow=38
comp=Z,5.7nm,0.6s
AKASG Malin Array Be 74.36 322 P **P** **10 23 55.5 -0.1**
AKASG Malin Array Be 74.36 322 *i* P **P** **10 23 55.2 -0.4**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKBB Malin Array Si 74.36 322 IAmb IAmb 10 23 56.3
comp=Z,33nm,1.2s
MSO Missoula 74.43 43 P **P** **10 23 56.9 +0.6**
baz=306,SNR=15
NC405 NORSAR Array S 74.47 337 P **P** **10 23 55.4 -0.8**
NC303 NORSAR Array S 74.50 337 P **P** **10 23 56.6 +0.3**
HFS Hagfors 74.55 335 P **P** **10 23 56.6 0.0**
comp=Z,7.4nm,0.9s,baz=82,slow=3.1,SNR=14
HFS LR LR 10 59 11.9
comp=Z,125nm,19.0s,baz=42,slow=38
comp=Z,7.4nm,0.9s
HFS Hagfors 74.55 335 P **P** **10 23 56.6 0.0**
BEKR Beckworth 74.58 52 IAmb IAmb 10 23 59.8
comp=Z,38nm,0.9s
NC204 NORSAR Array S 74.66 337 P **P** **10 23 57.7 +0.4**
NB201 NORSAR Array S 74.66 337 P **P** **10 23 56.7 -0.6**
NB2 NORSAR Subarra 74.69 337 P **P** **10 23 57.1 -0.4**
comp=Z,59nm,1.4s,baz=41,slow=5.9
NB2 NORSAR Subarra 74.69 337 P **P** **10 23 57.1 -0.4**
baz=41,slow=5.9
NOA NORSAR Array B 74.69 337 P **P** **10 23 57.5 0.0**
comp=Z,11nm,0.9s,baz=40,slow=5.7,SNR=24
NOA LR LR 10 59 49.4
comp=Z,128nm,19.4s,baz=45,slow=38
comp=Z,11nm,0.9s
NOA NORSAR Array B 74.69 337 P **P** **10 23 57.5 0.0**
AFDM Forest Hills D 74.69 53 P **P** **10 23 58.0 +0.1**
NC602 NORSAR Array S 74.81 336 P **P** **10 23 58.0 -0.1**
NC602 IAmb IAmb 10 23 59.1
comp=Z,46nm,1.4s
NORES NORESS Array B 74.81 336 P **P** **10 23 58.0 -0.1**
NORES pmax pmax
comp=Z,6.0nm,1.3s
NBO00 NORSAR Array S 74.84 337 P **P** **10 23 57.6 -0.7**
NBO00 IAmb IAmb 10 23 59.5
comp=Z,45nm,1.2s
NAO01 NORSAR Array S 74.94 337 P **P** **10 23 58.4 -0.5**
NAO01 IAmb IAmb 10 24 00.0
comp=Z,60nm,1.2s
MPK Martis Peak 75.11 52 P **P** **10 24 01.1 +0.6**
SIM Simferopol' 75.19 315 *eP* **P** **10 24 00.3 -0.3**
SIM pmax pmax
comp=Z,30nm,0.9s
PAHR Pah Rah Range 75.29 52 IAmb IAmb 10 24 04.0
comp=Z,30nm,0.9s
FFC Flin Flon 75.34 32 P **P** **10 24 01.3 0.0**
FFC IAmb IAmb 10 24 03.0
comp=Z,29nm,1.0s
FFC Flin Flon 75.34 32 P **P** **10 24 01.3 0.0**
FFC pmax pmax
comp=Z,29nm,1.0s
MFID Camas Ranch 75.34 47 P **P** **10 24 01.9 +0.3**
MFID IAmb IAmb 10 24 04.4
comp=Z,37nm,1.2s
MARD Mardin 75.44 306 P **P** **10 24 02.5 +0.2**
MARD IAmb IAmb 10 24 04.0
comp=Z,22nm,0.9s
PNTR Pine Nut 75.50 52 P **P** **10 24 02.6 -0.1**
PNTR IAmb IAmb 10 24 05.6
comp=Z,19nm,0.8s
CMB Columbia Colle 75.58 53 IAmb IAmb 10 24 05.6
comp=Z,60nm,1.4s
YERR Yerington 75.79 52 P **P** **10 24 06.0 +1.7**
YERR IAmb IAmb 10 24 07.1
comp=Z,37nm,0.9s
LRM Limekiln Ridge 75.86 43 P **P** **10 24 05.8 +1.0**
EGMT Eagleton 75.97 40 P **P** **10 24 05.8 +0.8**
EGMT IAmb IAmb 10 24 07.4
comp=Z,58nm,1.1s
EGMT Eagleton 75.97 40 P **P** **10 24 06.0 +0.9**
baz=308,SNR=15
BBGB Big Mountain B 75.97 55 P **P** **10 24 05.9 +0.5**
BBGB IAmb IAmb 10 24 08.2
comp=Z,34nm,0.9s
HLID Hailey 76.09 46 P **P** **10 24 06.0 0.0**
HLID Hailey 76.09 46 P **P** **10 24 07.0 +1.0**
baz=306,SNR=19
BCYI Bear Canyon 76.23 45 P **P** **10 24 05.7 -1.1**
BMN Battle Mountai 76.23 50 P **P** **10 24 08.2 +1.3**
BMN IAmb IAmb 10 24 09.8
comp=Z,37nm,0.9s
BMN Battle Mountai 76.23 50 P **P** **10 24 08.2 +1.3**
BMN pmax pmax
comp=Z,37nm,0.9s
BOZ Bozeman (W) 76.45 43 P **P** **10 24 07.8 -0.2**
BOZ IAmb IAmb 10 24 10.4
comp=Z,32nm,1.1s
BOZ Bozeman (W) 76.45 43 P **P** **10 24 07.8 -0.2**
BOZ pmax pmax
comp=Z,32nm,1.2s
BOZ Bozeman (W) 76.45 43 P **P** **10 24 08.7 +0.7**
baz=308,SNR=28
RYN Ryan 76.45 52 IAmb IAmb 10 24 10.9
comp=Z,28nm,1.1s
KVN Kaiserville 76.48 52 IAmb IAmb 10 24 11.1
comp=Z,46nm,1.0s
NVAR Mina Array Bea 76.71 52 P **P** **10 24 11.3 +1.7**
comp=Z,16nm,0.7s,baz=287,slow=5.7,SNR=114
comp=Z,16nm,0.7s
NVAR Mina Array Bea 76.71 52 P **P** **10 24 10.8 +1.2**
OMMB Old Mammoth Mi 76.73 53 P **P** **10 24 11.3 +1.5**
NV11 Mina Array Sit 76.80 52 P **P** **10 24 11.0 +1.0**
NV11 IAmb IAmb 10 24 12.9
comp=Z,44nm,1.4s
MLAC Mammoth, Mammo 76.82 53 P **P** **10 24 11.8 +1.5**
baz=305,SNR=11
PAGB Antelope Grade 76.98 55 IAmb IAmb 10 24 13.9
comp=Z,43nm,1.0s
QLMT Earthquake Lak 77.03 44 P **P** **10 24 11.8 +0.5**
SFJD Kangerlussuaq 77.09 4 P **P** **10 24 11.4 +0.5**
SFJD Kangerlussuaq 77.09 4 P **P** **10 24 11.4 +0.5**
SFJD pmax pmax
comp=Z,129nm,2.0s
YHL Hebgen Lake 77.16 44 P **P** **10 24 13.1 +1.0**
YHL IAmb IAmb 10 24 14.9
comp=Z,28nm,1.2s
Q09A Carvers 77.19 51 P **P** **10 24 13.4 +1.1**
ELK Elko 77.27 49 P **P** **10 24 13.2 +0.4**
ELK Elko 77.27 49 P **P** **10 24 13.2 +0.4**
ELK pmax pmax
comp=Z,22nm,1.1s
SMMC Simmler 77.39 56 P **P** **10 24 15.0 +1.7**
baz=305
YMR Madison River 77.39 44 IAmb IAmb 10 24 16.4
comp=Z,41nm,1.4s
GCMT Greycliff 77.41 42 P **P** **10 24 13.4 +0.1**
LVV L'vov 77.49 323 *eP* **P** **10 24 13.9 +0.4**
YNR Norris Junctio 77.52 43 IAmb IAmb 10 24 18.3
comp=Z,50nm,1.5s
DSP Deep Springs 77.53 53 P **P** **10 24 14.5 +0.6**
DSP IAmb IAmb 10 24 17.1
comp=Z,29nm,1.1s
YFT Old Faithful 77.60 44 IAmb IAmb 10 24 20.8
comp=Z,76nm,1.8s
VES Vestal, Richgr 77.69 55 P **P** **10 24 15.5 +0.6**
baz=306,SNR=13
MZP Montezuma Peak 77.72 52 P **P** **10 24 15.6 +0.2**
PKM Mcpherson Peak 77.75 56 P **P** **10 24 17.1 +1.6**
baz=305,SNR=7.6
H17A Grant Village 77.78 44 P **P** **10 24 18.4 +2.8**
baz=308,SNR=14
BSD Bornholm Skovb 77.79 331 *eP* **P** **10 24 14.7 -0.3**
YMP Mirror Lake Pl 77.80 43 P **P** **10 24 16.4 +0.7**
YMP IAmb IAmb 10 24 18.9
comp=Z,34nm,1.3s
BCW Bitter Crk WRg 77.99 56 IAmb IAmb 10 24 19.8
comp=Z,37nm,1.1s
FXWY Fox Creek 78.00 45 P **P** **10 24 16.4 -0.3**
CWC Cottonwood Cre 78.00 54 P **P** **10 24 18.0 +1.2**
baz=306
RLMT Red Lodge 78.05 43 P **P** **10 24 18.2 +1.2**
RLMT IAmb IAmb 10 24 19.8
comp=Z,51nm,1.4s
RLMT Red Lodge 78.05 43 P **P** **10 24 18.3 +1.2**
baz=309,SNR=17
SBC Santa Barbara 78.08 56 P **P** **10 24 18.4 +1.3**
baz=306
HVU Hansel Valley 78.13 47 P **P** **10 24 18.2 +0.8**
HVU IAmb IAmb 10 24 20.2
comp=Z,20nm,0.8s
HVU Hansel Valley 78.13 47 P **P** **10 24 18.2 +0.8**
HVU pmax pmax
comp=Z,20nm,0.8s
FRB Frobisher Bay 78.14 12 LR LR 11 02 55.8
comp=Z,39nm,18.6s,baz=14,slow=39
GRAC Grapevine Rang 78.14 53 P **P** **10 24 18.7 +1.2**
baz=306,SNR=6.1
ISA Isabella, Lake 78.20 55 P **P** **10 24 17.7 -0.1**
ISA Isabella, Lake 78.20 55 P **P** **10 24 17.7 -0.1**
ISA pmax pmax
comp=Z,15nm,1.2s
ISA Isabella, Lake 78.20 55 P **P** **10 24 18.3 +0.5**
baz=306,SNR=7.0
SNOW Snow King Moun 78.26 45 P **P** **10 24 19.4 +1.1**
REDW Red Top Meadow 78.27 45 P **P** **10 24 19.1 +0.9**
ARVC Arvin 78.28 55 P **P** **10 24 19.0 +0.8**
baz=306
BUR08 Bucovina Ar. S 78.34 321 P **P** **10 24 18.2 -0.2**
BURAR Bucovina Array 78.35 321 P **P** **10 24 18.8 +0.4**
SCZ2 Santa Cruz Isl 78.39 56 P **P** **10 24 20.0 +1.1**
baz=306
R11A Troy Canyon, C 78.48 51 P **P** **10 24 18.4 -1.1**
R11A IAmb IAmb 10 24 22.2
comp=Z,38nm,1.2s
R11A Troy Canyon, C 78.48 51 P **P** **10 24 20.8 +1.3**
baz=307,SNR=54
AHID Auburn Hatcher 78.50 45 P **P** **10 24 19.3 -0.2**
BGU Big Grassy Mou 78.50 48 P **P** **10 24 19.7 +0.2**
DGMT Dagmar 78.52 38 P **P** **10 24 19.2 -0.1**
DGMT IAmb IAmb 10 24 21.9
comp=Z,42nm,1.2s
DGMT Dagmar 78.52 38 P **P** **10 24 20.3 +1.1**
baz=312
DGMT Dagmar 78.52 38 P **P** **10 24 20.2 +0.9**
baz=312,SNR=6.1
BORG Borgarnes 78.56 352 LR LR 11 00 11.1
comp=Z,19nm,20.6s,baz=354,slow=36
BR131 Keskin Array S 78.59 311 P **P** **10 24 19.8 -0.2**
BR131 IAmb IAmb 10 24 51.2
comp=Z,28nm,1.1s
BR131 Keskin Array S 78.59 311 P **P** **10 24 19.8 -0.2**
BR131 pmax pmax
comp=Z,28nm,1.1s
BRTR Keskin Array B 78.59 311 P **P** **10 24 20.4 +0.3**
comp=Z,6.0nm,0.9s,baz=108,slow=4.0,SNR=30
BRTR PP **PP** **10 27 16.4 -1.8**
comp=Z,0.8nm,0.7s,baz=81,slow=7.8,SNR=3.7
BRTR LR LR 11 04 14.9
comp=Z,63nm,19.1s,baz=40,slow=40
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 78.59 311 P **P** **10 24 19.7 -0.3**
BRTR Keskin Array B 78.59 311 *i* P **P** **10 24 20.3 +0.3**
BRTR pmax pmax

comp=Z,7.0nm,0.9s
MPMC Manual Prospec 78.62 54 P P 10 24 21.6 +1.4
baz=306,SNR=24
OSI Osito Audit: C 78.64 56 P P 10 24 21.2 +1.0
baz=306
LAO LASA Array 78.67 40 IAmb IAmb 10 24 22.7
comp=Z,39nm,1.1s
LAO LASA Array 78.67 40 P P 10 24 21.9 +1.7
baz=311
LAO LASA Array 78.67 40 P P 10 24 21.1 +0.9
baz=311,SNR=12
VRI Vrincioaia 78.71 319 P P 10 24 19.4 -1.0
VRI pmax pmax
comp=Z,22nm,1.8s
FURC Furnace Creek, 78.78 53 P P 10 24 22.4 +1.5
baz=306,SNR=9.0
CCAC Calif City Air 78.80 55 IAmb IAmb 10 24 23.7
comp=Z,41nm,1.1s
LRMC Laurel Mtn Rad 78.83 54 P P 10 24 22.5 +1.1
baz=306
SPR3 Spring Creek 3 78.87 50 IAmb IAmb 10 24 25.1
comp=Z,25nm,1.2s
TPNV Topopah Spring 78.89 52 P P 10 24 21.5 -0.2
TPNV IAmb IAmb 10 24 24.3
comp=Z,40nm,1.0s
TPNV Topopah Spring 78.89 52 P P 10 24 21.5 -0.2
TPNV pmax pmax
comp=Z,40nm,1.0s
TPNV Topopah Spring 78.89 52 P P 10 24 23.1 +1.4
baz=307,SNR=24
SNCC San Nicolas Is 78.90 57 P P 10 24 22.8 +1.2
baz=306
KOLS Kolonicke sedl 78.93 323 *e*P P 10 24 22.1 +0.6
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 78.93 323 *e*P P 10 24 22.1 +0.6
HWUT Hardware Ranch 78.95 46 P P 10 24 21.6 -0.3
HWUT IAmb IAmb 10 24 24.8
comp=Z,37nm,1.1s
EDW2 Edwards Air Fo 78.97 55 P P 10 24 23.2 +1.1
baz=306,SNR=19
ANTO Ankara 79.02 311 P P 10 24 22.0 -0.2
ANTO Ankara 79.02 311 P P 10 24 22.0 -0.2
ANTO pmax pmax
comp=Z,20nm,1.2s
DUG Dugway, Tooele 79.07 48 IAmb IAmb 10 24 25.5
comp=Z,36nm,1.1s
DUG Dugway, Tooele 79.07 48 P P 10 24 24.1 +1.5
DUG pmax pmax
comp=Z,32nm,1.2s
DUG Dugway, Tooele 79.07 48 P P 10 24 24.2 +1.6
baz=308,SNR=27
GWY Greenwater Val 79.08 53 IAmb IAmb 10 24 25.2
comp=Z,53nm,1.2s
DECC Green Verdugo 79.12 56 P P 10 24 23.6 +0.8
baz=306
UZH Uzhgorod 79.13 323 *e*P P 10 24 23.4 +0.8
UZH *e* 10 24 30.6
OJC Ojcow 79.21 325 *e*P P 10 24 22.0 -1.1
OJC Ojcow 79.21 325 IAmb IAmb 10 24 23.4
comp=Z,33nm,1.1s
PASC Pasadena Art C 79.27 56 P P 10 24 23.2 -0.4
PASC IAmb IAmb 10 24 25.8
comp=Z,38nm,1.2s
TCUT Toone Canyon 79.34 47 P P 10 24 24.5 +0.3
TCUT IAmb IAmb 10 24 26.9
comp=Z,27nm,0.9s
CRVS Cervenica-Dubn 79.35 324 *e*P P 10 24 24.6 +0.8
CRVS pmax pmax
comp=Z,14nm,0.9s
CRVS Cervenica-Dubn 79.35 324 *e*P P 10 24 24.6 +0.8
MLR Muntele Rosu 79.37 319 P P 10 24 24.4 +0.3
comp=Z,1.6nm,0.4s,baz=22,slow=14,SNR=4.1
MLR LR LR 11 02 30.6
comp=Z,159nm,18.9s,baz=46,slow=38
comp=Z,1.6nm,0.4s
MLR Muntele Rosu 79.37 319 P P 10 24 24.4 +0.3
BW06 Boulder Array 79.38 45 P P 10 24 24.8 +0.4
baz=310,SNR=12
PD31 Pinedale Array 79.38 45 P P 10 24 24.3 -0.1
PDAR Pinedale Array 79.38 45 P P 10 24 25.2 +0.8
comp=Z,6.5nm,0.9s,baz=279,slow=2.0,SNR=40
comp=Z,6.5nm,0.9s
PDAR Pinedale Array 79.38 45 P P 10 24 23.8 -0.5
PRN Pahroc Range 79.38 51 P P 10 24 25.1 +0.7
PRN IAmb IAmb 10 24 27.3
comp=Z,27nm,1.0s
CTU Camp Tracy 79.41 47 P P 10 24 24.1 -0.3
FMP Fort Macarthur 79.46 56 P P 10 24 25.3 +0.6
baz=306
SHOC Shoshone, Teco 79.50 53 P P 10 24 25.9 +1.0
baz=307,SNR=5.8
GSC Goldstone, Bar 79.51 54 IAmb IAmb 10 24 27.5
comp=Z,30nm,1.1s
GSC Goldstone, Bar 79.51 54 P P 10 24 26.4 +1.4
baz=307,SNR=21
NIE Niedzica 79.54 325 P P 10 24 25.6 +0.8
NIE pmax pmax
comp=Z,11nm,1.2s
CIS Catalina Islan 79.56 56 P P 10 24 25.8 +0.6
baz=306,SNR=7.7
BFSC Mount Baldy Ra 79.58 55 P P 10 24 26.2 +0.8
baz=306,SNR=14
MDUB Mudurnu 79.61 313 P P 10 24 24.4 -1.0
JLU Jordanelle 79.64 47 P P 10 24 25.7 -0.2
JLU IAmb IAmb 10 24 28.6
comp=Z,31nm,1.3s
NLU North Lily Min 79.67 48 P P 10 24 26.0 0.0
SCI2 San Clemente I 79.72 57 P P 10 24 27.1 +1.1
baz=306
RAYN Ar Rayn 79.85 292 P P 10 24 26.0 -1.0
RAYN Ar Rayn 79.85 292 P P 10 24 26.0 -1.0
RAYN pmax pmax
comp=Z,12nm,0.8s
RAYN Ar Rayn 79.85 292 *i* P P 10 24 27.3 +0.3
SNR=11
SHPR Sheep Range 79.86 52 P P 10 24 27.4 +0.4
SHPR IAmb IAmb 10 24 29.9
comp=Z,33nm,1.0s
MPU Maple Canyon 79.90 48 IAmb IAmb 10 24 29.9
comp=Z,28nm,1.0s
TUQ Turquoise Moun 80.01 53 P P 10 24 29.2 +1.4
baz=307,SNR=9.1
BBRC Big Bear Solar 80.05 55 P P 10 24 29.2 +1.1
baz=307
ELS Elsinore Mount 80.08 56 IAmb IAmb 10 24 30.4
comp=Z,55nm,1.5s
HEC Hector,Ludlow 80.10 54 P P 10 24 28.8 +0.6
baz=307,SNR=15
LANS Liptovska Anna 80.12 325 *e*P P 10 24 29.3 +1.3
LANS pmax pmax
comp=Z,7.0nm,1.1s
LANS Liptovska Anna 80.12 325 *e*P P 10 24 29.3 +1.3
WTNK Soaring Height 80.14 52 IAmb IAmb 10 24 31.2
comp=Z,9.8nm,0.9s
DRGR 80.17 322 P P 10 24 28.8 +0.4
DRGR pmax pmax
comp=Z,7.0nm,1.8s
MURC Murrieta 80.27 56 P P 10 24 29.8 +0.8
baz=307,SNR=14
TCRU Three Creeks R 80.28 49 P P 10 24 29.1 -0.2
KSP Ksiaz 80.34 328 *e*P P 10 24 29.7 +0.6
CCUT Cedar City 80.36 50 P P 10 24 28.6 -1.2
CCUT IAmb IAmb 10 24 32.7
comp=Z,35nm,1.3s
BSEG Bad Segeberg 80.44 332 P P 10 24 28.0 -1.5
BSEG pmax pmax
comp=Z,20nm,1.0s
V12A Nelson 80.53 53 IAmb IAmb 10 24 33.3
comp=Z,38nm,1.2s
MORC Moravsky Berou 80.56 326 P P 10 24 29.6 -0.7
MORC Moravsky Berou 80.56 326 *e*P P 10 24 30.8 +0.5
MORC Moravsky Berou 80.56 326 P P 10 24 29.6 -0.7
MORC pmax pmax
comp=Z,19nm,1.2s
GMRC Granite Mounta 80.57 54 P P 10 24 31.9 +1.1
baz=307,SNR=44
OSTC Ostas 80.58 327 *e*P P 10 24 31.3 +0.9
TMUT Trail Mountain 80.60 48 P P 10 24 31.7 +0.6
KRLC Kraliky 80.68 327 *e*P P 10 24 31.5 +0.5
KRLC Kraliky 80.68 327 *e*P P 10 24 31.5 +0.5
DPC Dobruska-Polom 80.69 327 *e*P P 10 24 31.7 +0.7
DPC Dobruska-Polom 80.69 327 *e*P P 10 24 31.7 +0.7
UPC Upice 80.71 327 P P 10 24 31.6 +0.5
UPC pmax pmax
comp=Z,16nm,1.4s

109C Camp Elliot, M 80.75 56 IAmb IAmb 10 24 33.9
comp=Z,39nm,0.8s
109C Camp Elliot, M 80.75 56 P P 10 24 32.8 +1.2
baz=307,SNR=7.3
PFO Pinyon Flats O 80.75 55 P P 10 24 31.9 +0.1
PFO IAmb IAmb 10 24 34.1
comp=Z,45nm,1.0s
PFO Pinyon Flats O 80.75 55 P P 10 24 31.9 +0.1
PFO pmax pmax
comp=Z,45nm,1.0s
PFO Pinyon Flats O 80.75 55 P P 10 24 32.4 +0.6
baz=307,SNR=29
TPFO Pinon Flats 80.76 55 P P 10 24 32.4 +0.6
baz=307,SNR=36
LCMT Little Creek M 80.77 51 IAmb IAmb 10 24 34.8
comp=Z,37nm,1.1s
RDMU Red Mountain 80.77 46 P P 10 24 32.6 +0.7
P17A Butcher Ranch, 80.77 48 IAmb IAmb 10 24 34.6
comp=Z,46nm,1.1s
PSZ Piszkesteto 80.78 324 P P 10 24 30.6 -1.0
PSZ Piszkesteto 80.78 324 P P 10 24 30.6 -1.0
PSZ pmax pmax
comp=Z,17nm,1.0s
PSZ Piszkesteto 80.78 324 P P 10 24 31.8 +0.2
PMD Palm Desert 80.78 55 IAmb IAmb 10 24 34.0
comp=Z,35nm,0.9s
MTPU Mount Pierson 80.79 50 IAmb IAmb 10 24 35.5
comp=Z,24nm,1.0s
BELC Belle Mtn. Jos 80.82 55 P P 10 24 33.1 +1.0
baz=307,SNR=25
Q16A Castle Valley 80.86 48 IAmb IAmb 10 24 35.4
comp=Z,61nm,1.5s
VYHS Vyhne 80.88 325 *e*P P 10 24 33.0 +1.0
VYHS pmax pmax
comp=Z,28nm,1.6s
VYHS Vyhne 80.88 325 *e*P P 10 24 33.0 +1.0
ASF Jabal al Asfar 81.02 303 P P 10 24 33.8 +0.6
comp=Z,10nm,0.9s,baz=55,slow=4.2,SNR=5.6
comp=Z,10nm,0.9s
ASF Jabal al Asfar 81.02 303 P P 10 24 33.8 +0.6
PKCU Pink Cliffs 81.08 50 IAmb IAmb 10 24 37.2
comp=Z,36nm,1.3s
SRU San Rafael Swe 81.13 48 P P 10 24 34.1 +0.3
SRU IAmb IAmb 10 24 36.2
comp=Z,36nm,1.1s
SRU San Rafael Swe 81.13 48 P P 10 24 34.1 +0.3
SRU pmax pmax
comp=Z,36nm,1.1s
ULM Lac du Bonnet 81.15 32 P P 10 24 33.7 +0.3
comp=Z,10nm,0.9s,baz=288,slow=5.8,SNR=7.7
comp=Z,10nm,0.9s
ULM Lac du Bonnet 81.15 32 P P 10 24 33.5 +0.2
ULM Lac du Bonnet 81.15 32 P P 10 24 33.7 +0.3
JAVC Velka Javorina 81.16 326 *e*P P 10 24 35.2 +1.6
K22A Casper 81.16 43 P P 10 24 34.9 +1.1
baz=311
K22A Casper 81.16 43 P P 10 24 34.0 +0.2
baz=311,SNR=6.5
BAR Barrett 81.17 56 P P 10 24 33.8 0.0
BAR IAmb IAmb 10 24 36.1
comp=Z,36nm,0.9s
MDND Maddock 81.18 36 P P 10 24 34.0 +0.3
MDND IAmb IAmb 10 24 35.6
comp=Z,45nm,1.1s
MDND Maddock 81.18 36 P P 10 24 34.8 +1.2
baz=315
MDND Maddock 81.18 36 P P 10 24 34.0 +0.3
baz=315
MONP2 Monument Peak 81.21 56 P P 10 24 34.6 +0.3
baz=307,SNR=13
NEE2 Needles Airpor 81.26 53 P P 10 24 34.8 +0.4
baz=308
TKX Tecate 81.28 56 IAmb IAmb 10 24 36.6
comp=Z,32nm,1.0s
IRM Iron Mountain 81.29 54 P P 10 24 35.3 +0.7
baz=308,SNR=28
VRAC Vranov 81.32 326 P P 10 24 34.7 +0.3
comp=Z,7.6nm,0.7s,baz=50,slow=6.1,SNR=13
VRAC LR LR 11 04 08.7
comp=Z,62nm,19.6s,baz=40,slow=38
comp=Z,7.6nm,0.7s
VRAC Vranov 81.32 326 *e*P P 10 24 35.0 +0.6
VRAC Vranov 81.32 326 P P 10 24 34.7 +0.3
BRG Berggiesshubel 81.32 329 *e*P P 10 24 33.9 -0.5
BRG Amp 10 24 35.7
comp=Z,11nm,1.0s
BRG pP **pP** 10 24 58.2 +2.2
BRG Amp 10 24 59.8
comp=Z,3.5nm,0.7s
BRG Berggiesshubel 81.32 329 *e*P P 10 24 33.8 -0.5
BRG 10 24 58.1
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 81.39 329 IAmb IAmb 10 24 35.6
comp=Z,22nm,0.9s
CLL Collm 81.39 329 ⇑ *i*P P 10 24 34.9 +0.3
CLL *e**PP **pP** 10 24 58.0 +1.7
CLL pmax pmax
comp=Z,28nm,1.0s
CLL Collm 81.39 329 ⇑ *i*P P 10 24 34.9 +0.3
comp=Z,28nm,1.0s
CLL *e*(pP) **pP** 10 24 58.0 +1.7
CLL *i* PP **PP** 10 27 41.5 +0.7
BC3 Big Chuckawall 81.39 55 P P 10 24 36.1 +1.0
baz=308,SNR=20
RWWY Rawlins 81.41 44 IAmb IAmb 10 24 36.3
comp=Z,31nm,1.1s
SMOL Smolenice 81.52 325 *e*P P 10 24 36.8 +1.4
SMOL pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 81.53 41 P P 10 24 35.3 -0.5
RSSD Black Hills 81.53 41 P P 10 24 35.3 -0.5
RSSD pmax pmax
comp=Z,29nm,1.6s
RSSD Black Hills 81.53 41 P P 10 24 36.5 +0.7
baz=313
RSSD Black Hills 81.53 41 P P 10 24 36.1 +0.3
baz=313
BZS Buzias 81.53 321 P P 10 24 34.3 -1.2
BZS pmax pmax
comp=Z,10.0nm,1.9s
E28A Huff 81.55 37 P P 10 24 35.2 -0.4
E28A Huff 81.55 37 P P 10 24 36.4 +0.8
baz=314
IKP In-Ko-Pah, Jac 81.56 56 P P 10 24 37.3 +1.3
baz=307,SNR=15
KRUC Moravsky 81.59 326 *e*P P 10 24 36.4 +0.6
KRUC Moravsky 81.59 326 P P 10 24 36.7 +0.9
KRUC pmax pmax
comp=Z,18nm,1.3s
SWSC Sam W. Stewart 81.59 55 P P 10 24 36.4 +0.4
baz=308,SNR=5.6
CCX Cicese 81.66 57 P P 10 24 35.9 -0.5
CCX IAmb IAmb 10 24 38.6
comp=Z,26nm,0.9s
GOPC GO Pecny, Ondr 81.68 328 *e*P P 10 24 37.0 +0.8
GOPC GO Pecny, Ondr 81.68 328 *e*P P 10 24 37.0 +0.8
MODS Modra-Piesok 81.69 325 *e*P P 10 24 37.5 +1.2
MODS pmax pmax
comp=Z,21nm,1.0s
MODS Modra-Piesok 81.69 325 *e*P P 10 24 37.5 +1.2
YUH Yuha Desert 81.69 56 IAmb IAmb 10 24 38.9
comp=Z,30nm,0.9s
PRU Pruhonice 81.73 328 *e*P P 10 24 36.6 +0.1
PRU Pruhonice 81.73 328 *e*P P 10 24 36.6 +0.1
U15A North Rim 81.73 51 IAmb IAmb 10 24 40.1
comp=Z,27nm,0.9s
TREC Trest 81.83 327 P P 10 24 37.9 +0.9
TREC pmax pmax
comp=Z,15nm,1.4s
O20A White River Ci 81.83 46 P P 10 24 37.3 -0.1
O20A IAmb IAmb 10 24 39.6
comp=Z,24nm,1.0s
O20A White River Ci 81.83 46 P P 10 24 38.5 +1.0
baz=311,SNR=17
PDMCI Parker Dam,Lak 81.86 53 P P 10 24 38.7 +1.3
baz=308,SNR=22
BLYC Blythe 81.95 54 P P 10 24 39.5 +1.5
BLYC IAmb IAmb 10 24 40.5
comp=Z,34nm,0.9s
ESJX Sierra Juarez 82.06 56 IAmb IAmb 10 24 41.4
comp=Z,35nm,1.0s
GLA Glamis 82.17 55 IAmb IAmb 10 24 41.8
comp=Z,37nm,0.9s

GLA Glamis 82.17 55 P P 10 24 40.0 +0.8
baz=308,SNR=11
NKC Novy Kostel 82.43 329 *e*P P 10 24 40.5 +0.3
NKC Novy Kostel 82.43 329 *e*P P 10 24 40.5 +0.3
MPLH Magyarpolny 82.44 324 P P 10 24 40.6 +0.4
GHAJ Ghor Haditha 82.45 303 IAmb IAmb 10 24 42.3
comp=Z,26nm,1.1s
RDO Rodhopi 82.46 316 P P 10 24 39.6 -0.8
MOX Moxa 82.46 330 P P 10 24 40.0 -0.3
MOX pmax pmax
comp=Z,11nm,1.4s
AGMN Agassiz Nation 82.59 34 P P 10 24 41.2 +0.2
baz=318
AGMN Agassiz Nation 82.59 34 P P 10 24 40.7 -0.3
baz=318,SNR=5.9
MORH Mrgy, Hungar 82.59 323 P P 10 24 40.9 -0.1
RONA Rosalia, Austr 82.63 325 *i* P P 10 24 42.1 +0.8
comp=Z,27nm,1.8s,SNR=10
N23A Red Feather La 82.65 44 IAmb IAmb 10 24 44.6
comp=Z,35nm,1.1s
N23A Red Feather La 82.65 44 P P 10 24 43.1 +1.3
baz=312,SNR=16
PHWY Pilot Hill 82.65 44 P P 10 24 39.6 -2.2
PHWY IAmb IAmb 10 24 44.0
comp=Z,38nm,1.5s
CONA Conrad Observa 82.66 326 *i* P P 10 24 42.3 +0.8
comp=Z,10nm,0.9s,SNR=12
PV07 Paradox Valley 82.69 47 P P 10 24 40.6 -1.4
PV07 IAmb IAmb 10 24 44.6
comp=Z,37nm,1.3s
CKRC Cesky Krumlov 82.70 327 *e*P P 10 24 42.2 +0.6
ELL Elmali 82.74 310 P P 10 24 41.3 -0.8
ELL Elmali 82.74 310 P P 10 24 41.3 -0.8
ELL pmax pmax
comp=Z,178nm,1.8s
VTS Vitosha 82.74 318 P P 10 24 41.6 -0.5
VTS Vitosha 82.74 318 P P 10 24 41.6 -0.5
VTS pmax pmax
comp=Z,26nm,1.6s
PV13 Radium Mtn., P 82.76 48 P P 10 24 42.8 +0.4
KHC Kasperske Hory 82.79 328 *e*P P 10 24 42.4 +0.3
KHC *e* 10 25 12.5
KHC Kasperske Hory 82.79 328 *e*P P 10 24 42.4 +0.3
KHC *es*P **sP** 10 25 12.5 -0.1
PV15 Paradox Valley 82.85 47 IAmb IAmb 10 24 45.5
comp=Z,66nm,1.6s
WUAZ Wupatki 82.88 51 P P 10 24 43.4 +0.4
WUAZ IAmb IAmb 10 24 45.8
comp=Z,47nm,1.1s
WUAZ Wupatki 82.88 51 P P 10 24 44.4 +1.4
baz=309,SNR=15
KOVH Kovagotottos 82.95 323 P P 10 24 42.8 -0.1
GEC2 GERESS Array S 82.95 327 P P 10 24 42.6 -0.4
GERES GERESS Array B 82.95 327 P P 10 24 43.1 +0.1
comp=Z,2.8nm,0.8s,baz=42,slow=4.2,SNR=20
comp=Z,2.8nm,0.8s
GERES GERESS Array B 82.95 327 P P 10 24 42.5 -0.5
GERES GERESS Array B 82.95 327 P P 10 24 43.1 +0.1
113A Mohawk Valley, 83.05 54 IAmb IAmb 10 24 46.0
comp=Z,31nm,1.2s
WET Wettzell 83.08 328 P P 10 24 44.3 +0.7
WET pmax pmax
comp=Z,10.0nm,1.9s
SMCO Snowmass 83.19 46 P P 10 24 43.9 -0.9
ARSA Arzberg 83.32 325 *i* P P 10 24 45.3 +0.4
comp=Z,18nm,1.9s
GRA1 Grafenberg Arr 83.36 329 P P 10 24 44.6 -0.4
GRA1 IAmb IAmb 10 24 46.6
comp=Z,31nm,1.0s
GRF Grafenberg Arr 83.36 329 P P 10 24 44.6 -0.4
GRF pmax pmax
comp=Z,31nm,1.0s
GRFO Grafenberg 83.36 329 P P 10 24 44.4 -0.5
GRFO IAmb IAmb 10 24 46.5
comp=Z,32nm,1.0s
GRFO Grafenberg 83.36 329 P P 10 24 44.4 -0.5
GRFO pmax pmax
comp=Z,32nm,1.0s
DIVS Divibare 83.42 321 P P 10 24 44.7 -0.8
MOA Molln 83.44 327 *i* P P 10 24 45.7 +0.3
comp=Z,13nm,1.1s,SNR=6.6
B35A Bob, Littlefor 83.49 33 P P 10 24 46.0 +0.4
baz=319
X16A Lo Mia Camp, P 83.53 52 P P 10 24 46.6 +0.2
X16A IAmb IAmb 10 24 49.9
comp=Z,43nm,1.1s
ISCO Idaho Springs 83.56 45 IAmb IAmb 10 24 50.4
comp=Z,52nm,2.0s
ISCO Idaho Springs 83.56 45 P P 10 24 48.2 +1.6
ISCO pmax pmax
comp=Z,11nm,1.4s
ISCO Idaho Springs 83.56 45 P P 10 24 48.1 +1.4
baz=312
ISCO Idaho Springs 83.56 45 P P 10 24 47.9 +1.3
baz=312,SNR=11
SRS Serrai 83.57 317 P P 10 24 46.5 +0.3
SRS pmax pmax
comp=Z,18nm,1.8s
MVCO Mesa Verde 83.57 48 P P 10 24 47.4 +0.8
MVCO IAmb IAmb 10 24 49.2
comp=Z,36nm,1.1s
MVCO Mesa Verde 83.57 48 P P 10 24 47.5 +0.9
baz=311,SNR=22
EKA Eskdalemuir Ar 83.72 340 P P 10 24 47.0 +0.3
comp=Z,2.4nm,0.8s,baz=17,slow=6.1,SNR=6.7
EKA LR LR 11 06 08.8
comp=Z,66nm,18.2s,baz=33,slow=38
comp=Z,2.4nm,0.8s
EKA Eskdalemuir Ar 83.72 340 P P 10 24 47.0 +0.3
BIOA Bad Ischl, Aus 83.84 327 *i* P P 10 24 47.7 +0.2
comp=Z,25nm,1.6s,SNR=7.1
EIL Elat 83.86 302 P P 10 24 47.3 -0.6
comp=Z,27nm,1.0s,baz=118,slow=1.9,SNR=8.6
EIL LR LR 11 05 58.6
comp=Z,53nm,20.0s,baz=86,slow=38
comp=Z,27nm,1.0s
KNT Kendrikon 83.92 317 P P 10 24 48.5 +0.5
KNT pmax pmax
comp=Z,16nm,1.3s
SUSD Miller 83.92 38 IAmb IAmb 10 24 49.4
comp=Z,40nm,0.9s
SUSD Miller 83.92 38 P P 10 24 48.6 +0.7
baz=316
SUSD Miller 83.92 38 P P 10 24 47.9 0.0
baz=316,SNR=5.6
STIP Stip 83.94 318 *i* P P 10 24 47.7 -0.4
PERS Pernice 83.96 325 *i* P P 10 24 48.1 -0.1
SOKA Soboth 83.97 325 *e*P P 10 24 48.2 0.0
comp=Z,21nm,0.9s,SNR=24
VAY Valandovo 83.99 318 *i* P P 10 24 48.4 +0.1
SKO Skopje 84.15 319 *i* P P 10 24 50.3 +1.2
W18A Petrified Fore 84.16 51 P P 10 24 50.4 +0.8
baz=310
214A Organ Pipe Nat 84.19 55 P P 10 24 48.8 -0.8
214A IAmb IAmb 10 24 52.0
comp=Z,38nm,1.1s
214A Organ Pipe Nat 84.19 55 P P 10 24 50.6 +1.1
baz=309,SNR=8.5
F33A 5 Mile Ranch, 84.20 36 P P 10 24 48.8 -0.5
F33A IAmb IAmb 10 24 50.9
comp=Z,34nm,1.0s
F33A 5 Mile Ranch, 84.20 36 P P 10 24 49.8 +0.5
baz=318
S22A 4UR Ranch, Cre 84.22 47 P P 10 24 49.3 -0.7
S22A IAmb IAmb 10 24 53.0
comp=Z,33nm,1.1s
S22A 4UR Ranch, Cre 84.22 47 P P 10 24 51.1 +1.1
baz=312
OBKA Obir 84.31 325 *i* P P 10 24 49.8 -0.2
comp=Z,7.9nm,0.9s
GRG Griva 84.33 317 P P 10 24 50.3 +0.2
GRG pmax pmax
comp=Z,14nm,1.2s
Q24A Divide 84.39 45 P P 10 24 50.6 -0.3
Q24A Divide 84.39 45 P P 10 24 51.6 +0.7
baz=312,SNR=7.3
X18A Snowflake 84.41 51 P P 10 24 51.9 +1.0
X18A IAmb IAmb 10 24 53.4
comp=Z,25nm,1.1s
KBA Koelnbreinsper 84.44 326 P P 10 24 50.9 +0.2
KBA pmax pmax
comp=Z,14nm,1.3s
KBA Koelnbreinsper 84.44 326 *i* P P 10 24 50.3 -0.4
comp=Z,8.5nm,0.8s,SNR=6.6
MYKA Terra Mystica 84.64 326 *i* P P 10 24 50.9 -0.7
comp=Z,11nm,0.8s

EYMN Ely 84.78 32 P P 10 24 51.9 -0.3
EYMN IAmb IAmb 10 24 53.5
comp=Z,31nm,1.0s
EYMN Ely 84.78 32 P P 10 24 52.7 +0.5
baz=321
EYMN Ely 84.78 32 P P 10 24 52.8 +0.5
baz=321,SNR=6.3
OGNE Ogallala 84.78 42 P P 10 24 52.6 +0.1
baz=314
PRED Cave del Predi 84.81 326 P P 10 24 52.0 -0.5
LIT Litokhoron 84.87 317 P P 10 24 52.8 -0.1
LIT IAmb IAmb 10 24 53.9
comp=Z,33nm,0.8s
LIT Litokhoron 84.87 317 P P 10 24 52.8 -0.1
LIT pmax pmax
comp=Z,33nm,0.8s
PHP Peshkopia 84.89 319 P P 10 24 53.1 +0.2
PHP pmax pmax
comp=Z,15nm,1.0s
BHOU Houvegnez 84.90 332 dP P 10 24 52.6 -0.2
PMOR Pomariorio Ree 84.96 112 eT T 11 58 19.8
comp=Z,8.7nm,0.2s
JAVS Javornik 85.00 325 i P P 10 24 52.2 -1.3
SDCO Great Sand Dun 85.01 46 P P 10 24 53.7 -0.3
SDCO Great Sand Dun 85.01 46 P P 10 24 55.4 +1.5
baz=312
SDCO Great Sand Dun 85.01 46 P P 10 24 54.9 +1.0
baz=312,SNR=31
WATA Walderalm 85.02 328 i P P 10 24 53.2 -0.4
comp=Z,5.5nm,1.1s
WTTA Wattenberg 85.05 327 i P P 10 24 53.5 -0.3
comp=Z,4.6nm,0.9s
ABTA Abfaltersbach 85.06 327 i P P 10 24 52.6 -1.1
comp=Z,9.0nm,0.9s
OHR Ohrid 85.10 318 i P P 10 24 54.5 +0.5
BCLA Clavier 85.11 333 dP P 10 24 53.7 -0.1
CLUD Cludinico 85.11 326 P P 10 24 53.0 -1.0
CLUD IAmb IAmb 10 24 54.0
comp=Z,20nm,0.8s
MOTA Moosalm 85.22 328 i P P 10 24 54.3 -0.3
comp=Z,11nm,1.4s
RETA Reute 85.26 328 i P P 10 24 54.6 -0.1
comp=Z,12nm,0.8s
SQTA Sankt Quirin 85.27 328 eP P 10 24 54.7 -0.1
comp=Z,5.1nm,0.7s
TUC Tucson 85.30 53 P P 10 24 54.5 -0.7
TUC IAmb IAmb 10 24 57.6
comp=Z,20nm,1.1s
TUC Tucson 85.30 53 P P 10 24 54.5 -0.7
TUC pmax pmax
comp=Z,20nm,1.1s
TUC Tucson 85.30 53 P P 10 24 55.8 +0.6
baz=310
STAL STALIGIAL 85.34 326 P P 10 24 54.2 -0.9
STAL IAmb IAmb 10 24 54.6
comp=Z,15nm,0.7s
PPT2 Papeete2 85.35 115 eLR LR 10 51 59.4
comp=Z,242nm,24.8s
RCHB Rochefort 85.35 333 dP P 10 24 54.9 -0.1
comp=Z,9.4nm,1.0s
WLF Walferdange 85.40 332 dP P 10 24 55.8 +0.5
BMRD Maredsous 85.41 333 dP P 10 24 55.2 -0.1
comp=Z,8.1nm,0.9s
BMRD dPcP PcP 10 24 57.7 -0.4
CIMO Cimolais 85.42 326 P P 10 24 54.5 -1.0
CIMO IAmb IAmb 10 24 55.0
comp=Z,7.1nm,0.9s
F36A Milaca 85.47 34 P P 10 24 55.9 +0.2
baz=319
GIVF Givet 85.55 333 eP P 10 24 55.2 -0.8
GIVF pmax pmax
comp=Z,7.0nm,0.8s
ECSD EROS Data Cent 85.60 37 P P 10 24 56.1 -0.3
ECSD IAmb IAmb 10 24 57.8
comp=Z,22nm,1.1s
ECSD EROS Data Cent 85.60 37 P P 10 24 56.8 +0.4
baz=317
ECSD EROS Data Cent 85.60 37 P P 10 24 56.3 -0.1
baz=317,SNR=11
BFO Black Forest 85.61 330 P P 10 24 55.1 -1.3
BFO Black Forest 85.61 330 P P 10 24 55.1 -1.3
BFO pmax pmax
comp=Z,18nm,1.1s
FETA Feichten 85.63 328 i P P 10 24 56.5 -0.2
comp=Z,5.2nm,0.8s
DOU Dourbes 85.64 333 dP P 10 24 56.2 -0.2
E38A The Farm, Brul 85.78 33 IAmb IAmb 10 24 58.4
comp=Z,34nm,1.0s
DAVA Damuels 85.79 328 i P P 10 24 57.3 -0.1
comp=Z,11nm,0.9s
KSCO Kaye Shedlock' 85.80 44 IAmb IAmb 10 24 59.5
comp=Z,57nm,1.4s
KSCO Kaye Shedlock' 85.80 44 P P 10 24 58.9 +1.3
baz=314
KSCO Kaye Shedlock' 85.80 44 P P 10 24 58.2 +0.6
baz=314,SNR=5.9
BAIF Baives 85.81 333 eP P 10 24 56.6 -0.7
BAIF pmax pmax
comp=Z,6.0nm,1.0s
CDF Champ du Feu 85.97 331 eP P 10 24 57.6 -0.6
CDF pmax pmax
comp=Z,16nm,0.9s
CTI Castel Tesino 85.98 327 P P 10 24 57.4 -1.0
CTI Castel Tesino 85.98 327 P P 10 24 57.4 -1.0
CTI pmax pmax
comp=Z,8.0nm,0.9s
T25A Trinidad 86.06 46 P P 10 24 58.3 -0.7
T25A IAmb IAmb 10 25 01.4
comp=Z,27nm,0.9s
T25A Trinidad 86.06 46 P P 10 24 59.6 +0.5
baz=313,SNR=18
ECH Echery 86.18 330 P P 10 24 58.7 -0.5
DAVOX Davos/Dischmat 86.18 328 P P 10 24 59.6 +0.1
comp=Z,3.4nm,0.8s,baz=34,slow=5.5,SNR=6.3
DAVOX LR LR 11 07 18.2
comp=Z,120nm,18.5s,baz=83,slow=38
comp=Z,3.4nm,0.8s
DAVOX Davos/Dischmat 86.18 328 P P 10 24 59.6 +0.1
SPMN Marine on St. 86.29 34 IAmb IAmb 10 25 01.2
comp=Z,24nm,1.2s
SPMN Marine on St. 86.29 34 P P 10 24 59.7 0.0
baz=320
ANMO Albuquerque 86.31 49 P P 10 25 00.3 0.0
ANMO Albuquerque 86.31 49 P P 10 25 00.3 0.0
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO Albuquerque 86.31 49 P P 10 25 02.3 +2.0
baz=312
ANMO Albuquerque 86.31 49 P P 10 25 01.4 +1.1
baz=312
BGNE Belgrade 86.52 40 P P 10 25 00.8 -0.2
BGNE Belgrade 86.52 40 P P 10 25 01.5 +0.5
baz=317
BGNE Belgrade 86.52 40 P P 10 25 00.8 -0.2
baz=317,SNR=5.4
Y22D IRIS PASSCAL I 86.60 50 P P 10 25 03.1 +1.4
baz=312
Y22A Socorro 86.66 50 P P 10 25 03.6 +1.5
baz=312
HAU Haudompre 86.67 331 eP P 10 25 00.6 -1.0
HAU pmax pmax
comp=Z,6.0nm,0.8s
BNM Barren Site 86.73 50 P P 10 25 02.7 +0.3
SCHQ Schefferville 86.75 15 P P 10 25 02.5 +0.7
comp=Z,14nm,0.8s,baz=5.8,slow=3.8,SNR=7.6
SCHQ LR LR 11 07 33.0
comp=Z,56nm,18.7s,baz=100,slow=38
comp=Z,14nm,0.8s
SCHQ Schefferville 86.75 15 P P 10 25 02.4 +0.5
319A Douglas 86.87 53 P P 10 25 03.3 +0.2
I37A Lemond, Waseca 86.93 35 P P 10 25 02.8 -0.1
I37B Waseca 86.93 35 P P 10 25 04.2 +1.2
baz=320
L34A Svendsen Farm, 87.02 38 P P 10 25 03.6 +0.2
L34A Svendsen Farm, 87.02 38 P P 10 25 04.1 +0.7
baz=318
121A Cookes Peak, D 87.08 51 P P 10 25 03.3 -0.8
121A Cookes Peak, D 87.08 51 P P 10 25 06.0 +1.9
baz=311
121A Cookes Peak, D 87.08 51 P P 10 25 05.4 +1.3
baz=311,SNR=6.2
TAOE Nuku Hiva Isla 87.19 103 eLR LR 10 52 51.5
comp=Z,245nm,25.1s
SGRT San Giovanni R 87.27 322 P P 10 25 04.2 -0.5
G40A Rib Lake 87.42 33 P P 10 25 06.2 +0.9
baz=322

CBKS Cedar Bluff 87.54 42 P P 10 25 06.8 +0.8
baz=316
CBKS Cedar Bluff 87.54 42 P P 10 25 05.7 -0.3
baz=316
ZCCA Zocca 87.59 326 IAmb IAmb 10 25 15.5
comp=Z,13nm,0.8s
FDMO Fiordimonte 87.61 324 P P 10 25 05.7 -0.5
FDMO IAmb IAmb 10 25 07.4
comp=Z,25nm,0.8s
MURB Monte Urbino 87.71 324 P P 10 25 06.3 -0.5
MURB IAmb IAmb 10 25 08.5
comp=Z,18nm,0.8s
NRCA Norcia 87.75 324 P P 10 25 07.3 +0.3
CAMP Campotosto 87.84 323 P P 10 25 07.8 +0.4
CAMP IAmb IAmb 10 25 08.3
comp=Z,15nm,0.8s
N35A Tabor 88.20 39 P P 10 25 10.4 +1.3
baz=318
LOR Lormes 88.24 332 eP P 10 25 06.6 -2.5
LOR pmax pmax
comp=Z,29nm,1.7s
I40A Norwalk 88.31 34 IAmb IAmb 10 25 11.0
comp=Z,34nm,1.2s
LPL La Plagne 88.52 329 eP P 10 25 10.0 -0.7
LPL pmax pmax
comp=Z,3.0nm,0.4s
SSF Saint Saulge 88.55 332 eP P 10 25 11.0 +0.4
SSF pmax pmax
comp=Z,9.0nm,1.2s
FLN La Foliniere 88.57 335 eP P 10 25 13.6 +3.0
FLN pmax pmax
comp=Z,46nm,1.7s
LDF La Druitiere 88.59 335 eP P 10 25 10.6 -0.1
LDF pmax pmax
comp=Z,25nm,1.6s
SCIA State Center 88.62 37 P P 10 25 11.7 +0.7
SCIA State Center 88.62 37 P P 10 25 12.4 +1.3
baz=320
SCIA State Center 88.62 37 P P 10 25 11.4 +0.4
baz=320
AVF Avril sur Loir 88.83 332 eP P 10 25 11.1 -0.8
AVF pmax pmax
comp=Z,26nm,1.4s
KSU1 Kansas State U 89.01 40 P P 10 25 12.7 -0.2
baz=318
GRR Gorron 89.02 335 eP P 10 25 12.3 -0.4
GRR pmax pmax
comp=Z,48nm,1.8s
TBI Tubuai 89.11 120 eLR LR 10 53 43.3
comp=Z,158nm,26.5s
TBI Tubuai 89.11 120 eT T 12 03 43.3
comp=Z,14nm,0.3s
MBDF Montbardon 89.14 329 eP P 10 25 12.2 -1.4
MBDF pmax pmax
comp=Z,23nm,1.7s
MNTX Cornudas Mount 89.15 51 P P 10 25 13.5 -0.2
MNTX Cornudas Mount 89.15 51 P P 10 25 14.9 +1.2
baz=313
MNTX Cornudas Mount 89.15 51 P P 10 25 13.9 +0.2
baz=313,SNR=7.5
MSTX Muleshoe 89.20 48 P P 10 25 11.8 -2.3
MSTX Muleshoe 89.20 48 P P 10 25 14.9 +0.9
baz=314
MSTX Muleshoe 89.20 48 P P 10 25 14.4 +0.4
baz=314
AMTX Amarillo 89.21 46 P P 10 25 13.6 -0.5
AMTX IAmb IAmb 10 25 16.2
comp=Z,19nm,1.0s
AMTX Amarillo 89.21 46 P P 10 25 15.3 +1.3
baz=315
AMTX Amarillo 89.21 46 P P 10 25 14.7 +0.6
baz=315
JFWS Jewell Farm 89.24 34 P P 10 25 14.5 +0.6
baz=322
ORIF Oris-en-Rattie 89.36 329 eP P 10 25 13.6 -0.9
ORIF pmax pmax
comp=Z,2.0nm,0.6s
GDL2 Guadalupe Moun 89.44 50 P P 10 25 13.8 -1.5
L40A Anamosa 89.45 35 P P 10 25 13.6 -1.3
L40A Anamosa 89.45 35 P P 10 25 15.6 +0.7
baz=321
N38A Joes South For 89.46 37 P P 10 25 13.6 -1.4
N38A Joes South For 89.46 37 P P 10 25 15.9 +0.9
baz=320
KAN08 Anthony NE Sta 89.65 42 P P 10 25 16.2 +0.3
ELIS Ellis County 89.68 44 P P 10 25 16.3 +0.2
ELIS IAmb IAmb 10 25 18.5
comp=Z,20nm,0.7s
TCF Toulx Ste Croi 89.69 332 eP P 10 25 16.6 +0.6
TCF pmax pmax
comp=Z,14nm,1.4s
HTMS Hat Mesa 89.71 49 P P 10 25 16.0 -0.4
OK038 West end E0370 89.76 43 P P 10 25 16.0 -0.5
KAN01 Argonia South 89.81 42 P 10 25 15.0 -1.7
KAN01 IAmb IAmb 10 25 18.5
comp=Z,15nm,0.9s
OK032 Salt Plains WL 89.82 43 P 10 25 15.9 -0.9
PGF Pioggiola 89.90 326 eP P 10 25 15.9 -1.2
PGF pmax pmax
comp=Z,11nm,1.1s
VIVF Saint-Julien-l 89.91 330 eP P 10 25 16.4 -0.6
VIVF pmax pmax
comp=Z,23nm,1.6s
VLDQ Val d'Or 89.97 24 P P 10 25 17.3 +0.2
GLMI Grayling 90.13 30 P P 10 25 18.9 +0.9
baz=326
CROK Carrier 90.16 43 P 10 25 16.3 -2.1
CROK IAmb IAmb 10 25 20.1
comp=Z,15nm,0.7s
P38A Dawn 90.20 38 P P 10 25 16.8 -1.6
P38A Dawn 90.20 38 P P 10 25 19.1 +0.7
baz=320
LMR La Mourre 90.37 328 eP P 10 25 18.1 -1.1
LMR pmax pmax
comp=Z,23nm,1.1s
N41A Harden Midland 90.68 36 IAmb IAmb 10 25 22.2
comp=Z,19nm,1.0s
N41A Harden Midland 90.68 36 P P 10 25 21.3 +0.6
baz=321
RJF Les Rejaudoux 90.78 332 eP P 10 25 20.9 -0.1
RJF pmax pmax
comp=Z,14nm,1.0s
CAF Calviac 90.88 331 eP P 10 25 21.7 +0.1
CAF pmax pmax
comp=Z,8.0nm,0.9s
WMOK Wichita Mounta 90.99 45 P P 10 25 23.4 +1.1
WMOK pmax pmax
comp=Z,15nm,1.6s
WMOK Wichita Mounta 90.99 45 P P 10 25 23.2 +1.0
baz=316
WMOK Wichita Mounta 90.99 45 P P 10 25 22.4 +0.1
baz=316,SNR=6.4
P40A Paris 91.01 37 P P 10 25 23.3 +1.1
baz=320,SNR=11
OK033 Mehan 91.08 43 P 10 25 21.4 -1.1
QUOK Quay 91.11 42 P 10 25 21.1 -1.7
QUOK IAmb IAmb 10 25 25.1
comp=Z,41nm,1.2s
VAE Valguarnera 91.14 320 LR LR 11 09 03.7
comp=Z,47nm,18.3s,baz=160,slow=37
OK034 N. Norfolk Rd. 91.22 43 P 10 25 21.1 -2.2
OK030 Cody Creek RV 91.25 43 P 10 25 21.3 -2.1
OK030 IAmb IAmb 10 25 25.1
comp=Z,19nm,1.1s
DEOK Depew 91.47 43 IAmb IAmb 10 25 26.7
comp=Z,47nm,1.3s
HDIL Hopedale 91.53 35 P P 10 25 25.4 +0.8
baz=322
HDIL Hopedale 91.53 35 P P 10 25 25.3 +0.7
baz=322
X34A Smith Ranch, M 91.63 44 P P 10 25 24.8 -0.3
S39A Bolivar 91.77 39 IAmb IAmb 10 25 27.1
comp=Z,14nm,1.4s
TUL1 Leonard 91.80 42 P P 10 25 24.4 -1.5
TUL1 Leonard 91.80 42 P P 10 25 26.4 +0.5
baz=318
TX31 Lajitas Ar. Si 91.84 51 P P 10 25 27.4 +1.1
baz=314
TX32 Lajitas Array 91.84 51 IAmb IAmb 10 25 28.5
comp=Z,21nm,1.3s
TXAR Lajitas Array 91.84 51 P P 10 25 27.3 +0.9
comp=Z,4.4nm,0.7s,baz=299,slow=2.8,SNR=54
TXAR PP PP 10 29 06.7 +0.9
comp=Z,0.1nm,0.3s,baz=308,slow=4.4,SNR=3.3
comp=Z,4.4nm,0.7s
TXAR Lajitas Array 91.84 51 P P 10 25 27.3 +0.9

R40A Maddies Statio 91.85 38 IAmb IAmb 10 25 27.4
comp=Z,12nm,0.9s
R40A Maddies Statio 91.85 38 P P 10 25 26.4 +0.3
baz=320,SNR=7.2
ABTX Abilene, Hawle 92.00 47 P P 10 25 27.0 0.0
baz=316
RLO Rose Lookout 92.03 41 IAmb IAmb 10 25 28.5
comp=Z,14nm,0.9s
MTLF Montolieu 92.15 330 eP P 10 25 27.3 -0.1
MTLF pmax pmax
comp=Z,20nm,1.2s
U38A Gravette 92.16 41 IAmb IAmb 10 25 28.9
comp=Z,12nm,0.9s
U38A Gravette 92.16 41 P P 10 25 28.2 +0.6
baz=319
HPIG 92.17 54 IAmb IAmb 10 25 30.5
comp=Z,17nm,1.1s
HHAR Hobbs 92.52 41 P P 10 25 27.1 -2.2
HHAR IAmb IAmb 10 25 30.4
comp=Z,10nm,1.0s
HHAR Hobbs 92.52 41 P P 10 25 29.7 +0.4
baz=319
CCM Cathedral Cave 92.55 38 P P 10 25 30.0 +0.6
CCM IAmb IAmb 10 25 30.7
comp=Z,17nm,1.1s
CCM Cathedral Cave 92.55 38 P P 10 25 30.0 +0.6
CCM pmax pmax
comp=Z,17nm,1.1s
CCM Cathedral Cave 92.55 38 P P 10 25 29.9 +0.6
baz=321,SNR=8.4
CCM Cathedral Cave 92.55 38 P P 10 25 29.8 +0.4
baz=321
SFIN Lafayette 92.69 34 P P 10 25 29.8 -0.1
baz=324
MGMO Mountain Grove 92.72 39 P P 10 25 28.0 -2.2
MGMO IAmb IAmb 10 25 31.2
comp=Z,10nm,0.9s
Z35A Perchaven, San 92.88 45 P P 10 25 31.8 +0.8
Z35A Perchaven, San 92.88 45 P P 10 25 31.7 +0.8
baz=317
N47A Urbana 92.91 33 P P 10 25 30.1 -0.9
P46A Rosedale 93.25 34 P P 10 25 33.1 +0.5
baz=324
JCT Junction City 93.44 48 P P 10 25 32.8 -0.8
JCT Junction City 93.44 48 P P 10 25 32.8 -0.8
JCT pmax pmax
comp=Z,36nm,1.7s
JCT Junction City 93.44 48 P P 10 25 34.6 +0.9
baz=316
JCT Junction City 93.44 48 P P 10 25 34.0 +0.3
baz=316
N49A Columbus Grove 93.53 32 P P 10 25 32.8 -1.0
N49A IAmb IAmb 10 25 35.4
comp=Z,14nm,1.0s
N49A Columbus Grove 93.53 32 P P 10 25 34.5 +0.7
baz=326
N49A P P 10 25 34.5 +0.7
baz=326
OLIL Olney 93.54 36 P P 10 25 33.3 -0.6
OLIL Olney 93.54 36 P P 10 25 34.9 +1.0
baz=323
ETSF Etsaut 93.61 332 eP P 10 25 34.3 +0.1
ETSF pmax pmax
comp=Z,3.0nm,0.7s
O48B Farmland 93.65 33 P P 10 25 34.8 +0.4
baz=325
WHTX Lake Whitney, 93.74 46 P P 10 25 36.3 +1.3
baz=317
WHTX Lake Whitney, 93.74 46 P P 10 25 35.3 +0.4
baz=317
FCAR Ozark Folk Cen 93.77 40 P P 10 25 34.1 -0.8
FCAR IAmb IAmb 10 25 36.0
comp=Z,16nm,1.3s
S44A Carbondale 93.81 37 P P 10 25 34.5 -0.7
S44A IAmb IAmb 10 25 36.6
comp=Z,16nm,1.0s
S44A Carbondale 93.81 37 P P 10 25 35.9 +0.7
baz=322
MIAR Mount Ida 94.02 42 P P 10 25 35.3 -0.9
MIAR IAmb IAmb 10 25 38.7
comp=Z,15nm,1.1s
MIAR Mount Ida 94.02 42 P P 10 25 35.3 -0.9
MIAR pmax pmax
comp=Z,15nm,1.1s
MIAR Mount Ida 94.02 42 P P 10 25 37.2 +1.0
baz=319,SNR=6.8
MIAR Mount Ida 94.02 42 P P 10 25 36.5 +0.3
baz=319,SNR=6.8
WHAR Wooly Hollow 94.14 40 P P 10 25 35.8 -0.9
P49A Miami Univ. Ec 94.44 33 P P 10 25 38.2 +0.2
baz=325
M53A WI Miller and 94.54 29 P P 10 25 39.1 +0.7
baz=328
ACSO Alum Creek Sta 94.61 31 P P 10 25 39.1 +0.3
baz=326
WCI Wyandotte Cave 94.79 35 P P 10 25 40.3 +0.7
baz=324
PKME Peaks-Kenny Pk 95.02 20 P P 10 25 41.1 +0.7
baz=337
KEST Kesra 95.09 322 LR LR 11 12 25.7
comp=Z,58nm,18.7s,baz=201,slow=38
H62A Milan 95.11 22 P P 10 25 41.8 +0.8
H62A IAmb IAmb 10 25 43.2
comp=Z,18nm,1.1s
O53A New Philadelph 95.33 30 P P 10 25 42.3 +0.2
baz=328
Q51A Peebles 95.46 32 P P 10 25 43.6 +0.9
Q51A IAmb IAmb 10 25 44.1
comp=Z,12nm,0.9s
WVT Waverly 95.74 37 P P 10 25 44.1 +0.1
baz=323
OXF Oxford 96.23 39 P P 10 25 47.0 +0.7
baz=322
U49A Red Boiling Sp 96.42 35 P P 10 25 46.1 -1.0
U49A IAmb IAmb 10 25 48.4
comp=Z,7.5nm,0.8s
U49A Red Boiling Sp 96.42 35 P P 10 25 47.6 +0.5
baz=324
TZTN Tazewell 97.42 34 P P 10 25 51.4 -0.2
baz=326
ESDC Sonseca Array 97.68 333 LR LR 11 15 53.4
comp=Z,48nm,18.2s,baz=346,slow=39
GOGA Godfrey 100.04 36 P Pdif 10 26 03.3 0.0
baz=326
NHSC New Hope 101.81 33 P Pdif 10 26 10.6 -0.6
baz=328
DWPF Disney Wildern 105.40 37 P PKiKP 10 30 40.8 +0.1
baz=326
TORD Torodi Ar. Bea 117.15 313 PKP PKPdf 10 31 02.6 -0.7
comp=Z,1.4nm,0.9s,baz=28,slow=2.8,SNR=6.1
TORD PP PP 10 32 11.7 -1.9
comp=Z,0.8nm,0.8s,baz=23,slow=6.5,SNR=3.6
KOWA Kowa 119.28 319 PKP PKPdf 10 31 07.1 -0.3
comp=Z,2.3nm,0.8s,baz=93,slow=1.8,SNR=6.5
SMAI San Martin Ant 144.37 163 PKPdf 10 31 52.4 -0.2
ETMB Extrema 144.88 49 PKPab 10 31 53.8 -0.6
ETMB Extrema 144.88 49 eP PKPbc 10 31 54.5 +0.1
ITTB Itaituba 145.49 28 eP PKPab 10 31 57.7 +1.1
LPAZ La Paz 148.39 59 PKPbc PKPbc 10 32 03.6 -1.6
comp=Z,12nm,0.8s,baz=355,slow=3.7,SNR=35
LPAZ La Paz 148.39 59 PKIKP PKPbc 10 32 03.7 -1.6
PRPB Parauapebas 149.10 19 eP PKPdf 10 32 03.6 +1.3
RCBR Riachuelo 149.78 351 eP PKPdf 10 32 04.2 +0.8
PB02 IPOC Station P 150.30 69 PKPbc 10 32 09.2 -0.1
LVC Limon Verde 151.79 70 PKPbc PKiKP 10 32 13.9 +0.5
comp=Z,11nm,0.9s,baz=218,slow=2.3,SNR=4.4
LVC PKPab PKPab 10 32 24.1 +1.8
comp=Z,11nm,0.8s,baz=304,slow=3.3,SNR=5.2
LVC Limon Verde 151.79 70 PKIKP PKiKP 10 32 13.9 +0.5
LVC Limon Verde 151.79 70 eP PKPdf 10 32 08.5 +1.8
SMTB Santa Maria do 152.24 16 eP PKPdf 10 32 08.8 +1.7
SIV San Ignacio 152.80 49 PKP PKPdf 10 32 07.9 +0.1
comp=Z,0.7nm,0.4s,baz=183,slow=1.6,SNR=6.1
SIV PKPbc PKiKP 10 32 15.7 +0.5
comp=Z,7.7nm,0.7s,baz=277,slow=1.6,SNR=31
SIV PKPab PKPab 10 32 26.4 +0.2
comp=Z,9.6nm,0.9s,baz=172,slow=4.8,SNR=12
PTLB Pontes e Lacer 153.52 45 PKPdf PKPdf 10 32 08.3 -0.6
PTLB PKiKP 10 32 17.2 +0.5
PTLB PKPab PKPab 10 32 29.7 +0.5
SALV Santo Antonio 155.75 39 eP PKPdf 10 32 11.6 -0.4
GDU01 Guandu, BA 157.88 358 eP PKPdf 10 32 14.5 -0.2
BDFB Brasilia 158.63 21 PKPab PKPab 10 32 52.3 +1.2
comp=Z,1.4nm,0.4s,baz=342,slow=6.4,SNR=4.1
BDFB Brasilia 158.63 21 PKP2 PKPab 10 32 52.3 +1.2
JANB Januaria 158.90 11 eP PKPdf 10 32 17.0 +1.0

CPUP	**Villa Florida**	**162.53**	**62**	*eP*		**PKPdf**	**10 32 22.2**	**+2.6**

*GUC **13** 10:14:16.0±0.7, 30.°69S×71.°25W, h47km±2km, ML3.9*
*NEIC **13** 10:14:16.6±2.2, 30.°65S±0.°03×71.°49W±0.°04, h51km±8km, Error ellipse: s-maj=4.9km s-min=4.2km az=148.0*
ISC 13 10:14:17.1±1.0, 30.°66S±0.°03×71.°39W±0.°05, h50km±7km, n46, σ1°27/70, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.22**	**267**			**Pn**	**10 14 25.8**	**+0.2**
CO06					Sn	**Sn**	**10 14 34.1**	**+2.6**
CO06	**Fray Jorge**	**0.22**	**267**	⇑*iP*		**Pn**	**10 14 25.7**	**+0.2**
CO06				*eS*		**Sn**	**10 14 32.9**	**+1.3**
CO06				IAML			10 14 35.1	
	comp=N,17μm,0.1s							
CO02	**Combarbal**	**0.63**	**149**			**Pn**	**10 14 29.7**	**-0.5**
CO02					Sn	**Sn**	**10 14 39.0**	**-0.5**
CO02	**Combarbal**	**0.63**	**149**	*eP*		**Pn**	**10 14 29.6**	**-0.5**
CO02				*eS*		**Sn**	**10 14 38.8**	**-0.7**
CO02				IAML			10 14 39.2	
	comp=N,57μm,0.2s							
GO04	**Tololo Observa**	**0.70**	**46**			**Pn**	**10 14 30.9**	**-0.2**
GO04					Sn	**Sn**	**10 14 41.3**	**0.0**
GO04	**Tololo Observa**	**0.70**	**46**	*eP*		**Pn**	**10 14 30.7**	**-0.5**
GO04				*eS*		**Sn**	**10 14 41.1**	**-0.2**
CO05	**La Serena**	**0.75**	**10**			**Pn**	**10 14 31.7**	**+0.2**
CO05					Sn	**Sn**	**10 14 40.8**	**-1.2**
CO05	**La Serena**	**0.75**	**10**	⇓*eP*		**Pn**	**10 14 31.8**	**+0.2**
CO05				*eS*		**Sn**	**10 14 42.4**	**+0.4**
CO01	**Juntas del Tor**	**1.31**	**59**			**Pn**	**10 14 39.8**	**+0.6**
CO01					Sn	**Sn**	**10 14 56.7**	**+1.0**
CO01	**Juntas del Tor**	**1.31**	**59**	⇓*iP*		**Pn**	**10 14 39.8**	**+0.6**
CO01				*eS*		**Sn**	**10 14 56.5**	**+0.7**
LCO	**Las Campanas**	**1.75**	**20**			**Pn**	**10 14 45.8**	**+0.5**
LCO	**Las Campanas**	**1.75**	**20**	*eP*		**Pn**	**10 14 45.5**	**+0.2**
LCO				*eS*		**Sn**	**10 15 07.8**	**+1.2**
VA06	**Catapilco**	**1.89**	**178**			**Pn**	**10 14 46.8**	**-0.2**
VA06	**Catapilco**	**1.89**	**178**	*eP*		**Pn**	**10 14 47.4**	**+0.4**
VA06				*eS*		**Sn**	**10 15 11.2**	**+1.6**
VA06				IAML			10 15 15.9	
	comp=E,2μm,0.4s							
AC05	**El Transito**	**2.06**	**28**	Pn		**Pn**	**10 14 50.4**	**+1.0**
AC05	**El Transito**	**2.06**	**28**	*eP*		**Pn**	**10 14 50.5**	**+1.0**
AC05				*eS*		**Sn**	**10 15 15.4**	**+1.4**
AC05				IAML			10 15 21.5	
	comp=N,826nm,0.2s							
VA03	**San Esteban**	**2.21**	**161**			**Pn**	**10 14 51.8**	**+0.4**
VA03	**San Esteban**	**2.21**	**161**	*eP*		**Pn**	**10 14 52.1**	**+0.7**
VA03				*eS*		**Sn**	**10 15 19.1**	**+1.5**
VA03				IAML			10 15 22.9	
	comp=E,1μm,0.1s							
ROCH	**El Roble**	**2.32**	**172**	*eP*		**Pn**	**10 14 53.7**	**+0.6**
ROCH				*eS*		**Sn**	**10 15 23.1**	**+2.5**
ROCH				IAML			10 15 28.4	
	comp=N,761nm,0.2s							
ROC1	**El Roble**	**2.33**	**172**			**Pn**	**10 14 53.5**	**+0.3**
VA01	**Torpederas**	**2.36**	**185**	Pn		**Pn**	**10 14 51.8**	**-1.6**
AC04	**Llanos de Chal**	**2.46**	**6**	Pn		**Pn**	**10 14 54.9**	**+0.1**
AC04	**Llanos de Chal**	**2.46**	**6**	*eP*		**Pn**	**10 14 55.5**	**+0.7**
AC04				*eS*		**Sn**	**10 15 25.6**	**+1.9**
AC04				IAML			10 15 37.9	
	comp=N,434nm,0.3s							
PEL	**Peldehue**	**2.54**	**167**			**Pn**	**10 14 56.5**	**+0.6**
PEL	**Peldehue**	**2.54**	**167**	*eP*		**Pn**	**10 14 56.5**	**+0.6**
PEL				*eS*		**Sn**	**10 15 26.8**	**+1.1**
PEL				IAML			10 15 35.5	
	comp=N,408nm,0.4s							
MT02	**Curacav**	**2.60**	**175**			**Pn**	**10 14 56.7**	**+0.1**
MT02	**Curacav**	**2.60**	**175**	*eP*		**Pn**	**10 14 57.0**	**+0.4**
MT02				*eS*		**Sn**	**10 15 28.7**	**+1.8**
MT02				IAML			10 15 39.5	
	comp=E,298nm,0.3s							
MT05	**Renca**	**2.77**	**169**			**Pn**	**10 14 57.5**	**-1.7**
MT05	**Renca**	**2.77**	**169**	*eP*		**Pn**	**10 14 59.7**	**+0.6**
MT05				*eS*		**Sn**	**10 15 33.1**	**+1.7**
MT05				IAML			10 15 42.8	
	comp=E,904nm,0.3s							
FCH	**Farellones**	**2.81**	**161**	*eP*		**Pn**	**10 15 01.7**	**+1.8**
FCH				*eS*		**Sn**	**10 15 34.8**	**+2.1**
FCH				IAML			10 15 50.2	
	comp=N,216nm,0.3s							
MT03	**Universidad Ad**	**2.92**	**165**	*eP*		**Pn**	**10 15 02.3**	**+1.2**
MT03				*eS*		**Sn**	**10 15 37.0**	**+2.0**
MT03				IAML			10 15 53.5	
	comp=E,763nm,0.3s							
VA05	**Santo Domingo**	**2.99**	**184**			**Pn**	**10 15 01.0**	**-1.0**
VA05	**Santo Domingo**	**2.99**	**184**	*eP*		**Pn**	**10 15 01.4**	**-0.6**
VA05				*eS*		**Sn**	**10 15 36.1**	**-0.5**
VA05				IAML			10 15 55.0	
	comp=E,548nm,0.3s							
MT09	**Talagante**	**3.12**	**174**			**Pn**	**10 15 00.7**	**-3.3**
MT09	**Talagante**	**3.12**	**174**	*eP*		**Pn**	**10 15 04.8**	**+0.8**
MT09				*eS*		**Sn**	**10 15 40.7**	**+0.7**
MT09				IAML			10 15 57.2	
	comp=N,418nm,0.3s							
MT01	**Popeta**	**3.19**	**178**			**Pn**	**10 15 05.1**	**+0.3**
MT01	**Popeta**	**3.19**	**178**	*eP*		**Pn**	**10 15 05.0**	**+0.3**
MT01				*eS*		**Sn**	**10 15 40.9**	**-0.7**
MT01				IAML			10 15 54.8	
	comp=E,262nm,0.2s							
LMEL	**Las Melosas**	**3.33**	**163**			**Pn**	**10 15 06.8**	**0.0**
AC06	**Mina Casimiro**	**3.42**	**16**	Pn		**Pn**	**10 15 08.9**	**+1.0**
BO02	**Sierra Bellavi**	**4.15**	**173**			**Pn**	**10 15 18.9**	**+1.0**
AC02	**Maricunga**	**4.30**	**28**	Pn		**Pn**	**10 15 21.5**	**+1.1**
ML02	**Panimavida**	**5.08**	**180**	Pn		**Pn**	**10 15 29.1**	**-1.6**
GO02	**Mina Guanaco**	**5.71**	**17**	Pn		**Pn**	**10 15 35.6**	**-4.0**
PB06	**IPOC Station P**	**8.09**	**12**	Pn		**Pn**	**10 16 09.5**	**-2.7**
SNAA	**Sanae**	**54.47**	**159**	P		**P**	**10 23 38.8**	**-0.4**
SNAA				IAmb		IAmb	10 24 00.3	
	comp=Z,2.2nm,1.1s							
QSPA	**South Pole Qui**	**59.56**	**180**	P		**P**	**10 24 14.5**	**-0.9**
QSPA				IAmb		IAmb	10 24 42.9	
	comp=Z,4.6nm,1.5s							

*IDC **13** 10:19:42.4±1.5, 35.°87N×139.°84E, h79km±15km, mb3.3/7, mbtmp3.7/10, Error ellipse: s-maj=24.2km s-min=7.6km az=66.0*
*JMA **13** 10:19:43.2±0.2, 35.°9N±0.°6×139.°8E±0.°7, h75km±1km, MV3.5/35, EASTERN SAITAMA PREF*
JMA Felt I J1 at EASTERN SAITAMA PREF .
ISC 13 10:19:43.0±0.9, 35.°89N±0.°04×139.°78E±0.°08, h84km±8km, n27, σ0°97/27, mb3.6/7, 7D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.20**	**184**	P		**Pn**	**10 19 55.9**	**+0.6**
JHU	**Hanno**	**0.40**	**265**	P		**Pn**	**10 19 56.2**	**-0.2**
JAG	**Ashikaga**	**0.60**	**334**	⇓P		**Pn**	**10 19 57.4**	**-0.7**
JRY	**Ryogami san**	**0.72**	**281**	⇓P		**Pn**	**10 19 59.4**	**+0.1**
JOD2	**Odawara 2**	**0.84**	**222**	⇓P		**Pn**	**10 19 59.9**	**-0.6**
JOD2				⇓S		**Sn**	**10 20 12.3**	**-1.2**
JKT	**Katashina**	**0.98**	**334**	P		**Pn**	**10 20 01.4**	**-0.7**
JKT				S		**Sn**	**10 20 15.0**	**-1.4**
JYN	**Shimob**	**1.07**	**249**	⇓P		**Pn**	**10 20 03.2**	**-0.1**
JYN				⇓S		**Sn**	**10 20 18.0**	**-0.5**
JFNN	**Fujinakano**	**1.13**	**232**	P		**Pn**	**10 20 03.7**	**-0.2**
JFNN				*eS*		**Sn**	**10 20 18.9**	**-0.5**
JIM2	**Oshima 3**	**1.20**	**194**	⇓P		**Pn**	**10 20 04.0**	**-0.8**
BSO3	**Boso 3**	**1.24**	**151**	P		**Pn**	**10 20 04.8**	**-0.1**
MJAR	**Matsushiro Arr**	**1.43**	**298**	P		**Pn**	**10 20 06.0**	**-1.6**
	36nm,0.3s,baz=117,slow=7.5,SNR=66							
MJAR				S		**Sn**	**10 20 25.5**	**-0.6**
	30nm,0.3s,baz=108,slow=32,SNR=6.5							
JHJ	**Hachijo jima 2**	**2.76**	**180**	P		**Pn**	**10 20 24.4**	**-0.8**
	242nm,0.3s,baz=334,slow=13,SNR=66							
JHJ				S		**Sn**	**10 20 57.4**	**-0.3**
	201nm,0.3s,baz=129,slow=23,SNR=10							
KSRS	**Korea Array**	**9.65**	**283**	P		**Pn**	**10 22 00.4**	**+1.4**
	1.1nm,0.6s,baz=97,slow=13,SNR=5.4							
USRK	**Ussuriysk Ar.**	**10.22**	**327**	P		**Pn**	**10 22 08.6**	**+1.8**
	1.9nm,0.8s,baz=143,slow=13,SNR=5.0							
PETK	**Petropavlovsk-**	**21.34**	**31**	P		**P**	**10 24 21.4**	**-1.7**
	6.1nm,1.0s,baz=243,slow=8.2,SNR=2.6							
	6.1nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**28.75**	**117**	T		T	10 55 24.9	
	baz=309							
H11N1	**WAKE ISLAND Hy**	**28.76**	**117**	T		T	10 55 15.3	
	baz=309							
H11N3	**WAKE ISLAND Hy**	**28.77**	**117**	T		T	10 55 29.5	
	baz=309							
H11S1	**WAKE ISLAND Hy**	**29.40**	**119**	T		T	10 56 19.8	
	baz=311							
H11S3	**WAKE ISLAND Hy**	**29.40**	**119**	T		T	10 56 22.0	
	baz=311							
H11S2	**WAKE ISLAND Hy**	**29.42**	**119**	T		T	10 56 20.5	
	baz=311							
MKAR	**Makanchi Array**	**43.62**	**303**	P		**P**	**10 27 39.6**	**+0.6**
	0.4nm,0.5s,baz=73,slow=8.4,SNR=3.4							
	0.4nm,0.5s							
BVAR	**Borovoye Array**	**50.37**	**313**	P		**P**	**10 28 32.5**	**+1.0**
	0.3nm,0.4s,baz=101,slow=8.5,SNR=2.1							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**55.76**	**186**	P		**P**	**10 29 10.5**	**-0.8**
	0.5nm,0.5s,baz=2.0,slow=7.5,SNR=15							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**59.49**	**186**	P		**P**	**10 29 36.4**	**-1.0**
	0.3nm,0.7s,baz=9.5,slow=6.8,SNR=5.5							
	0.3nm,0.7s							
NVAR	**Mina Array Bea**	**76.73**	**52**	P		**P**	**10 31 25.6**	**0.0**
	0.5nm,0.7s,baz=290,slow=5.5,SNR=4.3							
	0.5nm,0.7s							
TXAR	**Lajitas Array**	**91.87**	**51**	P		**P**	**10 32 42.7**	**+0.4**
	0.2nm,0.6s,baz=321,slow=3.2,SNR=3.8							
	0.2nm,0.6s							

*KRNET **13** 10:24:20.9±0.1, 41.°52N×78.°26E, h23km, mb2.5*
*NNC **13** 10:24:22.6±1.4, 41.°88N×78.°36E, h0km, mb3.0, mpv3.0, Error ellipse: s-maj=9.6km s-min=4.8km az=167.0, Suspected Mining explosion.*
ISC 13 10:24:22.0±1.4, 41.°87N±0.°06×78.°24E±0.°04, h0km, n18, σ1°20/28, 7C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.36**	**247**	⇑*iP*		**Pg**	**10 24 28.8**	**0.0**
	baz=1.0							
TARG				⇑*iS*		**Sg**	**10 24 34.9**	**+1.5**
	baz=1.0							
SATY	**Saty**	**1.19**	**6**	P		**Pb**	**10 24 44.6**	**-1.0**
	2.1nm,0.1s							
SATY				S		**Sb**	**10 25 01.4**	**-0.2**
	13nm,0.1s							
UZB	**Uzynbulak**	**1.40**	**24**	P		**Pn**	**10 24 47.3**	**-1.7**
	0.9nm,0.2s							
UZB				S		**Sg**	**10 25 05.9**	**-1.1**
	2.9nm,0.1s							
ULHL	**Ulahol**	**1.54**	**285**	⇑*iP*		**Pg**	**10 24 51.3**	**-0.2**
	baz=96							
ULHL				⇑*iS*		**Sg**	**10 25 13.2**	**+1.8**
	baz=96							
MDOK	**Medeo**	**1.57**	**326**	Pg		**Pb**	**10 24 51.7**	**-0.3**
	1.6nm,0.4s							
MDOK				Pg		**Pg**	**10 24 52.0**	**0.0**
	5.3nm,0.2s							
MDOK				⇓Lg		Lg	10 25 14.4	
	2.4nm,0.3s							
MDOK				Lg		Lg	10 25 14.5	
	8.9nm,0.4s							
SHLS	**Shalkode**	**1.57**	**35**	P		**Pg**	**10 24 53.3**	**+1.2**
	2.7nm,0.3s							
SHLS				S		**Sg**	**10 25 16.0**	**+3.6**
	5.4nm,0.2s							
KPKS	**Kokpek**	**1.63**	**11**	P		**Pb**	**10 24 51.9**	**-1.1**
	5.5nm,0.2s							
KPKS				S		**Sb**	**10 25 13.8**	**-0.2**
	6.9nm,0.2s							
PDGK	**Podgornoye**	**1.72**	**32**	⇑Pg		**Pg**	**10 24 56.4**	**+1.4**
	0.7nm,0.2s							
PDGK				⇓Lg		Lg	10 25 15.3	
	4.4nm,0.4s							
BOOM	**Boomskoye usch**	**1.82**	**291**	⇓*iP*		**Pb**	**10 24 55.7**	**-0.6**
	baz=0.0							
BOOM				⇓*iS*		**Sb**	**10 25 21.0**	**+1.3**
	baz=0.0							
MTBS	**Maitube**	**1.84**	**314**	P		**Pg**	**10 24 57.1**	**-0.1**
	5.7nm,0.2s							
MTBS				S		**Sg**	**10 25 22.8**	**+1.7**
	15nm,0.2s							
CHKK	**Chushkaly**	**2.19**	**335**	Pg		**Pg**	**10 25 03.4**	**-0.5**
	2.7nm,0.1s							
CHKK				Lg		Lg	10 25 33.4	
	29nm,0.3s							
TKM2	**Tokmak 2**	**2.22**	**299**	⇑Pg		**Pb**	**10 25 03.0**	**-0.2**
	2.1nm,0.6s							
TKM2				⇑Lg		Lg	10 25 34.5	
	4.3nm,0.3s							
TKM2	**Tokmak 2**	**2.22**	**299**	⇓*iP*		**Pb**	**10 25 02.1**	**-1.1**
	baz=6.0							
TKM2				⇓*iS*		**Sb**	**10 25 31.9**	**+0.5**
	baz=6.0							
DGS	**Degeres**	**2.28**	**308**	Pg		**Pg**	**10 25 05.1**	**-0.7**
	2.6nm,0.2s							
DGS				Lg		Lg	10 25 36.9	
	10.0nm,0.3s							
ARXS	**Arharly**	**2.36**	**353**	Pg		**Pb**	**10 25 05.2**	**-0.2**
	9.5nm,0.5s							
ARXS				Lg		Lg	10 25 37.2	
	18nm,0.4s							
KUU	**Kurty**	**2.46**	**326**	Pg		**Pb**	**10 25 07.3**	**+0.2**
	2.4nm,0.3s							
KUU				Lg		Lg	10 25 39.9	
	20nm,0.6s							
KRBS	**Karabastau**	**2.63**	**315**	Pg		**Pb**	**10 25 10.4**	**+0.4**
	1.9nm,0.2s							
KRBS				Lg		Lg	10 25 46.1	
	5.1nm,0.2s							
DJR	**Jarkent**	**2.71**	**24**	Pg		**Pb**	**10 25 10.4**	**-1.0**
	2.7nm,0.2s							
DJR				Lg		Lg	10 25 45.5	
	8.0nm,0.2s							

*UPP **13** 10:25:08.5±0.2, 58.°77N×18.°57E, h0km, ML2.3, Explosion*
*DNK **13** 10:25:09.0±1.1, 58.°77N×18.°57E, h0km, ML3.0, Explosion*
*IDC **13** 10:25:11.0±1.9, 58.°80N×18.°47E, h0km, mbtmp3.4/5, ML2.7/4, Error ellipse: s-maj=23.9km s-min=9.9km az=177.0*
ISC 13 10:25:07.5±0.8, 58.°79N±0.°03×18.°69E±0.°04, h0km, n37, σ1°43/43, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.42**	**302**	P		**Pg**	**10 25 15.8**	**+0.4**
NYNU				S		**Sg**	**10 25 20.4**	**-0.4**
NYNU	**Nynaeshamn**	**0.42**	**302**	P		**Pg**	**10 25 15.8**	**+0.4**
NYNU				S		**Sg**	**10 25 20.4**	**-0.4**
NRTU	**Norrtaelje**	**0.89**	**358**	P		**Pb**	**10 25 25.5**	**-0.3**
NRTU	**Norrtaelje**	**0.89**	**358**	P		**Pb**	**10 25 25.5**	**-0.3**
VIKU	**Vikbolandet**	**1.08**	**256**	P		**Pg**	**10 25 27.5**	**-0.6**
VIKU	**Vikbolandet**	**1.08**	**256**	P		**Pg**	**10 25 27.5**	**-0.6**
GOTU	**Gotland**	**1.10**	**183**	P		**Pg**	**10 25 28.7**	**+0.1**
GOTU	**Gotland**	**1.10**	**183**	P		**Pg**	**10 25 28.7**	**+0.1**
ESKU	**Eskilstuna**	**1.27**	**292**	P		**Pg**	**10 25 30.8**	**-0.9**
ESKU	**Eskilstuna**	**1.27**	**292**	P		**Pg**	**10 25 30.8**	**-0.9**
FIBU	**Brunna**	**1.31**	**329**	P		**Pg**	**10 25 32.6**	**+0.1**
FIBU	**Brunna**	**1.31**	**329**	P		**Pg**	**10 25 32.6**	**+0.1**
FLYU	**Flymyra**	**1.41**	**343**	P		**Pg**	**10 25 34.5**	**+0.1**
FLYU	**Flymyra**	**1.41**	**343**	P		**Pg**	**10 25 34.5**	**+0.1**
AAL	**Aland**	**1.55**	**25**	P		**Pg**	**10 25 37.6**	**+0.5**
GRAU	**Graesoe**	**1.56**	**357**	P		**Pg**	**10 25 37.4**	**+0.1**
GRAU	**Graesoe**	**1.56**	**357**	P		**Pg**	**10 25 37.4**	**+0.1**
VSTU	**Vaestervik**	**1.60**	**226**	P		**Pn**	**10 25 36.7**	**-0.3**
VSTU	**Vaestervik**	**1.60**	**226**	P		**Pn**	**10 25 36.7**	**-0.3**
FORU	**Forsmark**	**1.63**	**351**	P		**Pg**	**10 25 38.8**	**+0.1**
FORU	**Forsmark**	**1.63**	**351**	P		**Pg**	**10 25 38.8**	**+0.1**
OSTU	**Oestervaala**	**1.65**	**332**	P		**Pb**	**10 25 38.6**	**-0.1**
OSTU	**Oestervaala**	**1.65**	**332**	P		**Pb**	**10 25 38.6**	**-0.1**
LNKU	**Linkoeping**	**1.76**	**253**	P		**Pn**	**10 25 39.3**	**+0.1**
LNKU	**Linkoeping**	**1.76**	**253**	P		**Pn**	**10 25 39.3**	**+0.1**
HFS	**Hagfors**	**2.88**	**300**	Pn		**Pn**	**10 25 56.0**	**+1.4**
	2.8nm,0.3s,baz=119,slow=15,SNR=30							
HFS				Sn		**Sn**	**10 26 30.7**	**+0.7**
	12nm,0.3s,baz=116,slow=26,SNR=30							
	6.8nm,0.3s							
BLEU	**Blekinge**	**2.93**	**213**	*eP*		**Pn**	**10 25 56.3**	**+1.1**
BLEU				*eS*		**Sb**	**10 26 37.7**	**+0.9**
DEL	**Delary**	**3.48**	**230**	*eS*		**Sn**	**10 26 44.3**	**-0.3**
FABU	**Falkenberg**	**3.65**	**243**	*eS*		**Sb**	**10 26 59.9**	**+2.2**
TJOU	**Tjoern**	**3.79**	**262**	*iP*		**Pn**	**10 26 08.5**	**+1.5**
ONAU	**Onsala**	**3.85**	**252**	*eP*		**Pn**	**10 26 10.0**	**+2.1**
BJUU	**Bjuv**	**4.09**	**231**	*eP*		**Pn**	**10 26 11.6**	**+0.3**
BSD	**Bornholm Skovb**	**4.22**	**211**	*iP*		**Pn**	**10 26 13.0**	**0.0**
BSD				*iS*		**Sn**	**10 27 02.4**	**-0.4**
BSD				IAML			10 27 21.8	
	comp=Z,15nm,0.4s							
NOA	**NORSAR Array B**	**4.39**	**304**	Pn		**Pn**	**10 26 16.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=122,slow=14,SNR=18							
NOA				Lg		Lg	10 27 23.4	
	comp=Z,0.4nm,0.3s,baz=117,slow=20,SNR=5.2							
	comp=Z,0.3nm,0.4s							
FINES	**FINESS Array B**	**4.56**	**51**	Pn		**Pn**	**10 26 21.4**	**+3.8**
	comp=Z,1.3nm,0.3s,baz=243,slow=11,SNR=26							
FINES				Lg		Lg	10 27 31.0	
	comp=Z,4.2nm,0.3s,baz=244,slow=26,SNR=16							
	comp=Z,2.3nm,0.3s							
ARCES	**ARCESS Array B**	**11.18**	**12**	Pn		**Pn**	**10 27 48.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=199,slow=12,SNR=21							
ARCES				Sn		**Sn**	**10 29 47.1**	**-6.8**
	comp=Z,0.1nm,0.3s,baz=195,slow=21,SNR=1.9							
	comp=Z,0.8nm,0.3s							
SPITS	**Spitsbergen Ar**	**19.50**	**359**	P		**Pn**	**10 29 37.3**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=167,slow=13,SNR=1.6							

*IDC **13** 10:46:39.0±2.0, 7.°70S×155.°21E, h0km, mb3.4/5, mbtmp3.4/5, ML4.7/1, Error ellipse: s-maj=55.2km s-min=29.8km az=118.0*
ISC 13 10:46:45.0±1.4, 7.°6S±0.°2×154.°9E±0.°2, h31km, n6, σ0°8/7, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.33**	**318**	Pn		**Pn**	**10 47 48.8**	**0.0**
	33nm,0.3s,baz=169,slow=5.2,SNR=52							
KRVT				Sn		**Sn**	**10 48 37.8**	**-0.4**
	3.5nm,0.3s,baz=251,slow=22,SNR=1.5							
WRA	**Warramunga Arr**	**23.46**	**236**	P		**P**	**10 51 51.7**	**-0.3**
	0.2nm,0.7s,baz=62,slow=10,SNR=1.4							
	0.2nm,0.7s							
ASAR	**Alice Springs**	**25.77**	**229**	P		**P**	**10 52 13.1**	**-0.2**
	0.2nm,0.5s,baz=64,slow=10,SNR=2.3							
	0.2nm,0.5s							
SONM	**Songino Array**	**69.77**	**327**	P		**P**	**10 57 53.6**	**+1.2**
	0.3nm,0.4s,baz=142,slow=4.9,SNR=1.7							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**83.78**	**319**	P		**P**	**10 59 11.4**	**+0.1**
	0.5nm,0.7s,baz=121,slow=4.5,SNR=4.6							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**83.91**	**21**	P		**P**	**10 59 10.8**	**-0.8**
	0.4nm,0.6s,baz=245,slow=5.2,SNR=4.2							
	0.4nm,0.6s							

*KRNET **13** 10:47:59.6±0.1, 40.°95N×69.°41E, h10km, mb2.9*
*ISU **13** 10:48:04, 40.°76N×69.°38E, h24km*
ISC 13 10:48:00.0±1.5, 40.°86N±0.°04×69.°26E±0.°09, h11km±12km, n8, σ1°87/16, 9C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.46**	**4**	⇓*iP*		**Pg**	**10 48 07.5**	**-1.6**
	baz=48							
TAS				⇓*iS*		**Sg**	**10 48 13.1**	**-2.2**
	baz=48							
BTK	**Batken**	**1.44**	**124**	⇑*iP*		**Pn**	**10 48 26.1**	**0.0**
	baz=29							
BTK				⇑*iS*		**Sb**	**10 48 45.1**	**-0.1**
	baz=29							
TRKS	**Terek-Say**	**1.57**	**64**	⇑*iP*		**Pn**	**10 48 26.7**	**-1.3**
	baz=68							
TRKS				⇑*iS*		**Sn**	**10 48 46.5**	**-1.9**
	baz=68							
CHMI	**Chimion**	**1.82**	**108**	P		**Pg**	**10 48 35.5**	**+0.5**
CHMI				S		**Sg**	**10 48 57.5**	**-1.2**
FRG	**Fergana**	**1.98**	**103**	P		**Pg**	**10 48 38.2**	**+0.1**
FRG				S		**Sb**	**10 49 01.6**	**+0.7**
GAR	**Garm**	**2.03**	**156**	⇑*iP*		**Pb**	**10 48 37.7**	**+0.7**
	baz=60							
GAR				⇑*iS*		**Sg**	**10 49 05.4**	**0.0**
	baz=60							
ARK	**Arkit**	**2.24**	**65**	⇑*eP*		**Pn**	**10 48 38.2**	**+1.0**
	baz=65							
ARK				⇑*iS*		**Sb**	**10 49 06.3**	**-2.1**
	baz=65							
KK31	**Karatay Array**	**2.42**	**22**	⇑Pn		**Pg**	**10 48 49.5**	**+3.0**
	0.6nm,0.2s,baz=196,slow=17,SNR=5.1							
KK31				Sn		**Sg**	**10 49 21.5**	**+3.6**
	2.0nm,0.3s,baz=193,slow=24,SNR=13							

*UPP **13** 10:48:12.9±0.2, 58.°72N×18.°57E, h1km, ML2.4, Explosion*
*DNK **13** 10:48:13.3±0.5, 58.°72N×18.°55E, h0km, ML2.4(UPP), Explosion*
*HEL **13** 10:48:13.8±0.1, 58.°73N×18.°54E, h0km, ML1.9, ML2.4(UPP), Explosion*
*BER **13** 10:48:14.4±1.7, 58.°73N×18.°50E, h0km, ML1.7, ML2.4(UPP), Suspected explosion*
*IDC **13** 10:48:17.2±2.2, 59.°05N×18.°55E, h0km, mbtmp2.7/4, ML2.0/4, Error ellipse: s-maj=29.4km s-min=9.4km az=175.0*
**ISC 13 10:48:12.0±0.7, 58.°72

SLIT					*e*SG		**Sb**	**10 49 23.3 +0.4**
MTSE	**Matsula**	**2.77**	**88**	*e*P			**Pn**	**10 48 59.0 +1.3**
MTSE				*e*S			**Sn**	**10 49 32.7 +0.9**
HFC2	**Hagfors New Ar**	**2.83**	**302**	*e*P			**Pn**	**10 49 00.3 +1.8**
HFC2				*e*SB			**Sb**	**10 49 38.1 -0.5**
HFS	**Hagfors**	**2.83**	**302**	Pn			**Pn**	**10 49 00.4 +1.9**
	0.7nm,0.3s,baz=112,slow=17,SNR=11							
HFS				Sn			**Sn**	**10 49 35.4 +2.1**
	1.0nm,0.3s,baz=107,slow=23,SNR=6.0							
	1.6nm,0.4s							
RAF	**Rauma**	**2.84**	**34**	*e*PB			**Pb**	**10 49 02.8 -0.8**
RAF				*e*S			**Sn**	**10 49 33.3 -0.1**
RAF				*e*SG			**Sb**	**10 49 39.9 +1.1**
RAF				MSG				10 49 42.0
	comp=Z,3.2nm,0.1s							
MEF	**Metsahovi**	**3.37**	**61**	*e*SB			**Sb**	**10 49 54.3 +0.4**
MEF				MSG				10 49 57.8
	comp=Z,3.4nm,0.1s							
NUR	**Nurmijrvi**	**3.60**	**58**	MSG				10 50 05.0
	comp=Z,1.8nm,0.1s							
STRU	**Stroemstad**	**3.81**	**278**	*e*P			**Pn**	**10 49 13.2 +1.3**
NB201	**NORSAR Array S**	**4.32**	**306**	*e*P			**Pn**	**10 49 20.0 +1.1**
NB201				IAML				10 50 29.4
	comp=Z,4.0nm,0.4s							
NOA	**NORSAR Array B**	**4.34**	**305**	Pn			**Pn**	**10 49 21.5 +2.2**
	baz=119,slow=16,SNR=1.3							
NOA				Lg		Lg		10 50 27.2
	comp=Z,0.1nm,0.3s,baz=141,slow=25,SNR=8.8							
	comp=Z,0.1nm,0.4s							
FINES	**FINESS Array B**	**4.68**	**51**	Pn			**Pn**	**10 49 25.9 +2.1**
	comp=Z,0.2nm,0.3s,baz=246,slow=10,SNR=5.6							
FINES				Lg		Lg		10 50 35.5
	comp=Z,2.1nm,0.3s,baz=240,slow=26,SNR=24							
	comp=Z,0.8nm,0.7s							
HOMB	**Homborsund**	**5.26**	**269**	*e*P			**Pn**	**10 49 31.0 -0.8**
HOMB				IAML				10 51 03.3
	comp=Z,2.4nm,0.5s							
SKAR	**Skarslia**	**5.52**	**295**	*e*S			**Sn**	**10 50 34.7 -5.0**
SKAR				IAML				10 51 07.7
	comp=Z,2.1nm,0.4s							
ARCES	**ARCESS Array B**	**11.27**	**13**	Pn			**Pn**	**10 50 51.5 -2.7**
	comp=Z,0.1nm,0.3s,baz=199,slow=13,SNR=4.4							
	comp=Z,1.2nm,0.8s							

IDC ***13*** *10:51:13.2±1.3,28.°68S×112.°29W,h0km,mb4.1/7, mbtmp4.0/8,ML3.8/1,MS4.2/40,Error ellipse: s-maj=40.8km s-min=28.3km az=165.0*

NEIC ***13*** *10:51:15.5±1.1,28.°65S±0.°05×111.°6W±0.°1,h10km±1km, mb4.7/91,Error ellipse: s-maj=21.7km s-min=8.9km az=269.0*

GCMT ***13*** *10:51:17.5±0.2,28.°89S±0.°01×112.°61W±0.°01,h15km±1km, MW5.0/112,Moment Tensor Solution. s29,c35; s112,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.04±.10; $M_{\theta\theta}$-2.01±.09; $M_{\phi\phi}$1.96±.10; $M_{r\theta}$-0.48±.29; $M_{\theta\phi}$-2.71±.09; $M_{r\phi}$0.65±.31; Best double couple: M_o3.45300×10^{16} NP1:ϕ_s287.00000°,δ83.00000°, λ169.00000°. NP2:ϕ_s19.00000°,δ79.00000°,λ8.00000°. Principal axes: T 3.5170, Plg13.0000°, Azm243.0000°; N -0.1340, Plg77.0000°, Azm73.0000°; P -3.3890, Plg2.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 10:51:14.3±0.6,28.°7S±0.°1×111.°70W±0.°10,h10km,n158, σ**0s84/111,mb4.7/49,MS4.3/44,Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**2.52**	**53**	Pn	**Pn**	**10 51 55.0**	**-0.4**
RPN	**Rapa Nui**	**2.62**	**54**	Pn	**Pb**	**10 52 01.5**	**+0.1**
	14nm,0.3s,baz=243,slow=10,SNR=8.2						
RPN				Sn	**Sg**	**10 52 39.3**	**+0.9**
	3.6nm,0.3s,baz=359,slow=4.5,SNR=1.9						
	108nm,0.8s						
RPN	**Rapa Nui**	**2.62**	**54**	Pn	**Pn**	**10 51 55.0**	**-1.7**
H03N2	**Juan Fernandez**	**28.39**	**108**	T	T	11 27 48.2	
	baz=274,slow=74,SNR=387						
H03N3	**Juan Fernandez**	**28.40**	**108**	T	T	11 27 45.4	
	baz=274,slow=74,SNR=451						
H03N1	**Juan Fernandez**	**28.41**	**108**	T	T	11 27 45.2	
	baz=274,slow=74,SNR=571						
TAOE	**Nuku Hiva Isla**	**33.24**	**301**	*e*LR	LR	11 06 39.5	
	comp=Z,268nm,27.5s						
TBI	**Tubuai**	**34.25**	**270**	*e*LR	LR	11 06 22.3	
	comp=Z,808nm,27.5s						
TBI	**Tubuai**	**34.25**	**270**	*e*T	T	11 33 02.8	
	1.7nm,0.2s						
PLCA	**Paso Flores**	**35.58**	**121**	LR	LR	11 09 19.2	
	comp=Z,195nm,19.9s,baz=274,slow=30						
PPT2	**Papeete2**	**36.40**	**279**	*e*LR	LR	11 07 15.8	
	comp=Z,700nm,27.2s						
PPT	**Papeete**	**36.41**	**279**	LR	LR	11 08 12.7	
	comp=Z,323nm,20.9s,baz=113,slow=28						
NNA	**Nana**	**36.49**	**70**	LR	LR	11 09 35.4	
	comp=Z,640nm,20.7s,baz=238,slow=30						
ATAH	**Atahualpa**	**38.04**	**62**	LR	LR	11 10 35.8	
	comp=Z,672nm,19.0s,baz=241,slow=30						
PB07	**IPOC Station P**	**38.31**	**89**	P	**P**	**10 58 35.2**	**-0.4**
TA01	**Diego Aracena**	**38.45**	**87**	P	**P**	**10 58 36.6**	**+0.1**
TA02	**Huaiquique**	**38.59**	**87**	P	**P**	**10 58 38.6**	**+0.9**
PB09	**IPOC Station P**	**38.86**	**90**	P	**P**	**10 58 39.5**	**-0.7**
PB09				IAmb	IAmb	10 58 48.3	
	comp=Z,13nm,0.7s						
LVC	**Limon Verde**	**38.89**	**91**	LR	LR	11 11 08.3	
	comp=Z,346nm,19.7s,baz=255,slow=30						
LVC	**Limon Verde**	**38.89**	**91**	P	**P**	**10 58 41.0**	**+0.3**
BOSC	**San Juan Bosco**	**40.53**	**57**	P	**P**	**10 58 53.8**	**-0.3**
LPAZ	**La Paz**	**41.89**	**82**	P	P	10 59 10.9	+5.1
	comp=Z,1.5nm,1.1s,baz=246,slow=6.9,SNR=2.5						
LPAZ				LR	LR	11 12 55.7	
	comp=Z,251nm,20.6s,baz=254,slow=31						
	comp=Z,1.5nm,1.1s						
TULM	**Tulcn-Chalpat**	**43.69**	**54**	P	**P**	**10 59 18.5**	**-1.8**
RAR	**Rarotonga**	**43.98**	**269**	LR	LR	11 12 16.9	
	comp=Z,154nm,20.3s,baz=110,slow=29						
PMSA	**Palmer Station**	**46.74**	**154**	LR	LR	11 14 27.8	
	comp=Z,296nm,20.0s,baz=257,slow=30						
CPUP	**Villa Florida**	**47.93**	**101**	LR	LR	11 16 15.3	
	comp=Z,72nm,19.8s,baz=248,slow=31						
SIV	**San Ignacio**	**48.18**	**86**	LR	LR	11 18 03.9	
	comp=Z,174nm,18.4s,baz=273,slow=33						
CMIG	**Matias Romero**	**48.34**	**22**	LR	LR	11 15 59.9	
	comp=Z,89nm,18.4s,baz=192,slow=31						
LPIG	**La Paz**	**52.52**	**2**	LR	LR	11 18 31.7	
	comp=Z,48nm,18.3s,baz=198,slow=31						
SDV	**Santo Domingo**	**54.47**	**53**	LR	LR	11 22 31.5	
	comp=Z,167nm,18.9s,baz=250,slow=34						
RAO	**Raoul Island**	**57.19**	**252**	LR	LR	11 18 45.1	
	comp=Z,237nm,21.0s,baz=110,slow=29						
AFI	**Afiamalu**	**57.34**	**271**	LR	LR	11 21 26.4	
	comp=Z,99nm,18.0s,baz=129,slow=32						
833A	**Chaparral WMA,**	**57.92**	**13**	P	**P**	**11 01 07.7**	**+1.0**
833A				IAmb	IAmb	11 01 10.3	
	comp=Z,7.1nm,1.0s						
TX31	**Lajitas Ar. Si**	**58.22**	**8**	P	**P**	**11 01 08.5**	**-0.4**
TX31				IAmb	IAmb	11 01 15.5	
	comp=Z,14nm,1.4s						
TX32	**Lajitas Array**	**58.22**	**8**	P	**P**	**11 01 08.2**	**-0.7**
TXAR	**Lajitas Array**	**58.22**	**8**	P	**P**	**11 01 10.4**	**+1.5**
	comp=Z,1.0nm,1.1s,baz=195,slow=6.5,SNR=6.0						
	comp=Z,1.0nm,1.1s						
TXAR	**Lajitas Array**	**58.22**	**8**	P	**P**	**11 01 08.1**	**-0.8**
URZ	**Urewera**	**58.83**	**241**	LR	LR	11 20 10.5	
	comp=Z,518nm,19.5s,baz=114,slow=30						
BELA	**Belgrano 2**	**59.43**	**166**	P	**P**	**11 01 17.7**	**+1.0**
BELA				IAmb	IAmb	11 01 21.6	
	comp=Z,8.0nm,1.4s						
PCRV	**Puerto La Cruz**	**59.65**	**57**	LR	LR	11 23 49.6	
	comp=Z,358nm,21.6s,slow=33						
319A	**Douglas**	**59.79**	**2**	P	**P**	**11 01 19.9**	**+0.1**
319A				IAmb	IAmb	11 01 25.1	
	comp=Z,11nm,1.4s						
JCT	**Junction City**	**59.94**	**12**	P	**P**	**11 01 21.7**	**+0.9**
JCT				IAmb	IAmb	11 01 24.0	
	comp=Z,7.5nm,0.8s						
214A	**Organ Pipe Nat**	**60.33**	**359**	P	**P**	**11 01 24.2**	**+0.8**
214A				IAmb	IAmb	11 01 30.3	
	comp=Z,9.3nm,1.1s						
MNTX	**Cornudas Mount**	**60.37**	**6**	P	**P**	**11 01 24.2**	**+0.5**
TUC	**Tucson**	**60.68**	**1**	P	**P**	**11 01 26.3**	**+0.4**
BAR	**Barrett**	**61.23**	**355**	P	**P**	**11 01 29.7**	**+0.1**
BAR				IAmb	IAmb	11 01 34.0	
	comp=Z,14nm,1.5s						
HTMS	**Hat Mesa**	**61.32**	**8**	P	**P**	**11 01 30.9**	**+0.7**
VNDA	**Vanda**	**61.43**	**194**	LR	LR	11 21 31.9	
	comp=Z,145nm,19.7s,baz=87,slow=30						
RPZ	**Rata Peaks**	**61.99**	**233**	LR	LR	11 22 59.5	
	comp=Z,275nm,18.6s,baz=113,slow=31						
PMD	**Palm Desert**	**62.17**	**356**	P	**P**	**11 01 36.1**	**+0.3**
PMD				IAmb	IAmb	11 01 45.2	
	comp=Z,5.4nm,1.2s						
MSTX	**Muleshoe**	**62.90**	**8**	P	**P**	**11 01 41.8**	**+1.0**
MSTX				IAmb	IAmb	11 01 43.1	
	comp=Z,6.4nm,1.1s						
X18A	**Snowflake**	**62.91**	**2**	P	**P**	**11 01 41.6**	**+0.6**
ANMO	**Albuquerque**	**63.50**	**5**	LR	LR	11 24 48.4	
	comp=Z,80nm,18.3s,baz=188,slow=32						
ANMO	**Albuquerque**	**63.50**	**5**	P	**P**	**11 01 45.2**	**+0.3**
BCW	**Bitter Crk WRg**	**63.72**	**353**	P	**P**	**11 01 46.6**	**+0.4**
GSC	**Goldstone, Bar**	**63.84**	**355**	P	**P**	**11 01 47.5**	**+0.5**
GSC				IAmb	IAmb	11 01 56.5	
	comp=Z,9.7nm,1.1s						
V12A	**Nelson**	**64.16**	**357**	P	**P**	**11 01 49.9**	**+0.8**
MSVF	**Nonsavu**	**64.69**	**263**	LR	LR	11 22 35.9	
	comp=Z,166nm,21.7s,baz=156,slow=29						
GWY	**Greenwater Val**	**64.71**	**356**	P	**P**	**11 01 53.9**	**+1.1**
U15A	**North Rim**	**64.79**	**359**	P	**P**	**11 01 54.5**	**+1.0**
U15A				IAmb	IAmb	11 02 03.3	
	comp=Z,10nm,1.3s						
SHPR	**Sheep Range**	**64.94**	**357**	P	**P**	**11 01 54.4**	**+0.1**
SHPR				IAmb	IAmb	11 01 57.1	
	comp=Z,6.3nm,1.1s						
MIAR	**Mount Ida**	**65.20**	**16**	P	**P**	**11 01 56.0**	**+0.3**
MIAR				IAmb	IAmb	11 01 58.5	
	comp=Z,4.6nm,0.9s						
WCT	**Wildcat Mounta**	**65.31**	**356**	P	**P**	**11 01 57.8**	**+1.2**
WCT				IAmb	IAmb	11 02 06.5	
	comp=Z,8.5nm,1.0s						
TPNV	**Topopah Spring**	**65.45**	**356**	P	**P**	**11 01 57.0**	**-0.5**
TPNV				IAmb	IAmb	11 02 00.5	
	comp=Z,12nm,1.5s						
MVCO	**Mesa Verde**	**65.64**	**3**	P	**P**	**11 01 60.0**	**+1.1**
MVCO				IAmb	IAmb	11 02 08.5	
	comp=Z,11nm,1.4s						
PKCU	**Pink Cliffs**	**65.80**	**359**	P	**P**	**11 02 02.5**	**+2.5**
LCH	**Last Change Ra**	**65.83**	**355**	P	**P**	**11 02 00.5**	**+0.6**
PRN	**Pahroc Range**	**65.84**	**357**	P	**P**	**11 02 01.4**	**+1.4**
PRN				IAmb	IAmb	11 02 10.1	
	comp=Z,5.2nm,1.0s						
GMN	**Gold Mountain**	**65.86**	**355**	P	**P**	**11 02 00.0**	**-0.3**
CCUT	**Cedar City**	**65.92**	**359**	P	**P**	**11 02 01.1**	**+0.4**
CCUT				IAmb	IAmb	11 02 03.6	
	comp=Z,7.0nm,1.2s						
MDP	**Montagnes des**	**65.94**	**69**	LR	LR	11 27 47.7	
	comp=Z,214nm,18.9s,baz=230,slow=33						
DSP	**Deep Springs**	**65.99**	**355**	P	**P**	**11 02 01.8**	**+1.0**
DSP				IAmb	IAmb	11 02 06.8	
	comp=Z,5.9nm,1.1s						
S11A	**Rachel**	**66.11**	**356**	P	**P**	**11 02 02.2**	**+0.4**
S22A	**4UR Ranch, Cre**	**66.26**	**4**	P	**P**	**11 02 03.9**	**+1.0**
MZP	**Montezuma Peak**	**66.27**	**355**	P	**P**	**11 02 03.3**	**+0.3**
MZP				IAmb	IAmb	11 02 12.5	
	comp=Z,6.4nm,0.9s						
TPH	**Tonopah**	**66.63**	**355**	P	**P**	**11 02 06.2**	**+1.0**
PV15	**Paradox Valley**	**66.76**	**3**	P	**P**	**11 02 06.5**	**+0.4**
PV15				IAmb	IAmb	11 02 11.6	
	comp=Z,3.5nm,0.9s						
HHAR	**Hobbs**	**66.77**	**16**	P	**P**	**11 02 07.0**	**+1.1**
R11A	**Troy Canyon, C**	**66.80**	**357**	P	**P**	**11 02 06.4**	**+0.2**
R11A				IAmb	IAmb	11 02 09.1	
	comp=Z,5.8nm,1.4s						
MVU	**Marysvale**	**66.86**	**360**	P	**P**	**11 02 07.5**	**+0.8**
VNA3	**Neumayer Olymp**	**66.87**	**160**	P	**P**	**11 02 04.5**	**-1.6**
LHV	**Little Huntoon**	**66.91**	**354**	P	**P**	**11 02 07.4**	**+0.7**
LHV				IAmb	IAmb	11 02 09.5	
	comp=Z,5.4nm,0.8s						
PSUT	**Pine Spring**	**66.92**	**358**	P	**P**	**11 02 08.2**	**+1.2**
NV11	**Mina Array Sit**	**67.06**	**354**	P	**P**	**11 02 08.6**	**+0.8**
NVAR	**Mina Array Bea**	**67.07**	**354**	P	**P**	**11 02 08.5**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=185,slow=9.1,SNR=29						
	comp=Z,4.3nm,0.9s						
NVAR	**Mina Array Bea**	**67.07**	**354**	P	**P**	**11 02 08.1**	**+0.1**
Q09A	**Carvers**	**67.38**	**355**	P	**P**	**11 02 11.2**	**+1.3**
SPR3	**Spring Creek 3**	**67.40**	**358**	P	**P**	**11 02 10.2**	**0.0**
SPR3				IAmb	IAmb	11 02 19.1	
	comp=Z,6.5nm,1.1s						
SRU	**San Rafael Swe**	**67.47**	**1**	P	**P**	**11 02 11.5**	**+1.0**
SRU				IAmb	IAmb	11 02 20.1	
	comp=Z,8.4nm,1.0s						
TMUT	**Trail Mountain**	**67.65**	**0**	P	**P**	**11 02 12.1**	**+0.3**
TMUT				IAmb	IAmb	11 02 21.2	
	comp=Z,3.9nm,0.9s						
KVN	**Kaiserville**	**67.67**	**355**	P	**P**	**11 02 12.2**	**+0.4**
VNA2	**Neumayer--Watz**	**67.67**	**160**	P	**P**	**11 02 10.7**	**-0.6**
	baz=259,slow=5.3						
YERR	**Yerington**	**67.71**	**354**	P	**P**	**11 02 12.3**	**+0.3**
YERR				IAmb	IAmb	11 02 21.4	
	comp=Z,6.6nm,1.0s						
P17A	**Butcher Ranch,**	**67.83**	**1**	P	**P**	**11 02 12.9**	**+0.2**
PNTR	**Pine Nut**	**67.84**	**353**	P	**P**	**11 02 12.5**	**-0.4**
PNTR				IAmb	IAmb	11 02 21.7	
	comp=Z,6.0nm,1.0s						
AFDM	**Forest Hills D**	**67.86**	**352**		**P**	**11 02 13.4**	**+0.7**
AFDM				IAmb	IAmb	11 02 21.5	
	comp=Z,7.2nm,1.3s						
DUG	**Dugway, Tooele**	**68.56**	**359**	P	**P**	**11 02 17.2**	**0.0**
SNAA	**Sanae**	**68.69**	**161**	P	**P**	**11 02 20.2**	**+2.5**
SNAA	**Sanae**	**68.69**	**161**	LR	LR	11 26 38.5	
	comp=Z,86nm,20.8s,baz=254,slow=31						
RDMU	**Red Mountain**	**68.95**	**2**	P	**P**	**11 02 20.6**	**+0.8**
JLU	**Jordanelle**	**68.95**	**0**	P	**P**	**11 02 20.2**	**+0.4**
JLU				IAmb	IAmb	11 02 29.3	
	comp=Z,6.4nm,1.0s						
BMN	**Battle Mountain**	**68.97**	**355**	P	**P**	**11 02 20.4**	**+0.5**
ELK	**Elko**	**69.17**	**357**	P	**P**	**11 02 22.2**	**+1.0**
T47A	**Sharon Grove**	**69.31**	**21**	P	**P**	**11 02 21.4**	**-0.4**
T47A				IAmb	IAmb	11 02 25.3	
	comp=Z,7.2nm,0.9s						
TROLL	**Troll, Antarti**	**69.99**	**162**	P	**P**	**11 02 26.4**	**+0.5**
MOD	**Modoc Plateau**	**70.70**	**353**	P	**P**	**11 02 31.3**	**+0.8**
MOD				IAmb	IAmb	11 02 40.2	
	comp=Z,11nm,1.1s						
YBH	**Yreka Blue Hor**	**70.82**	**351**	LR	LR	11 26 21.7	
	comp=Z,337nm,21.9s,baz=172,slow=30						
WVOR	**Wild Horse Val**	**71.07**	**355**	P	**P**	**11 02 33.7**	**+1.0**
WVOR				IAmb	IAmb	11 02 42.2	
	comp=Z,10nm,1.1s						
BW06	**Boulder Array**	**71.14**	**2**	P	**P**	**11 02 33.1**	**-0.1**
BW06				IAmb	IAmb	11 02 42.3	
	comp=Z,5.3nm,1.2s						
PD31	**Pinedale Array**	**71.14**	**2**	P	**P**	**11 02 33.0**	**-0.3**
PDAR	**Pinedale Array**	**71.14**	**2**	P	**P**	**11 02 33.0**	**-0.3**
	comp=Z,1.8nm,1.1s,baz=174,slow=6.0,SNR=7.9						
	comp=Z,1.8nm,1.1s						
PDAR	**Pinedale Array**	**71.14**	**2**	P	**P**	**11 02 32.6**	**-0.7**
K05A	**Summer Lake**	**71.58**	**353**	P	**P**	**11 02 35.9**	**+0.1**
TPAW	**Teton Pass**	**71.84**	**1**	P	**P**	**11 02 37.0**	**-0.4**
TPAW				IAmb	IAmb	11 02 45.8	
	comp=Z,8.6nm,1.2s						
MFID	**Camas Ranch**	**71.86**	**357**	P	**P**	**11 02 36.1**	**-1.3**
HLID	**Hailey**	**71.95**	**358**	P	**P**	**11 02 38.9**	**+0.8**
HLID				IAmb	IAmb	11 02 47.6	
	comp=Z,11nm,1.1s						
LOHW	**Long Hollow**	**71.97**	**1**	P	**P**	**11 02 38.2**	**+0.1**
J08A	**Circle Bar Ran**	**71.98**	**355**	P	**P**	**11 02 38.7**	**+0.6**
J08A				IAmb	IAmb	11 02 47.7	
	comp=Z,8.9nm,1.1s						
FXWY	**Fox Creek**	**71.99**	**1**	P	**P**	**11 02 39.2**	**+0.9**
FXWY				IAmb	IAmb	11 02 47.1	
	comp=Z,5.8nm,1.1s						
MOOW	**Moose Ponds**	**72.10**	**1**	P	**P**	**11 02 39.6**	**+0.6**
IMW	**Indian Meadow**	**72.25**	**1**	P	**P**	**11 02 39.4**	**-0.6**
PINE	**Pine Mountain**	**72.64**	**353**	P	**P**	**11 02 42.8**	**+0.7**
I07A	**Izee**	**72.78**	**354**	P	**P**	**11 02 42.3**	**-0.6**
I07A				IAmb	IAmb	11 02 45.2	
	comp=Z,10.0nm,1.2s						
DZM	**Mont Dzumac**	**72.91**	**254**	*e*LR	LR	11 25 02.7	
	comp=Z,378nm,23.8s						
DZM	**Mont Dzumac**	**72.91**	**254**	LR	LR	11 25 54.1	
	comp=Z,223nm,20.4s,baz=43,slow=29						
YHH	**Holmes Hill**	**73.14**	**1**	P	**P**	**11 02 45.5**	**+0.3**
QLMT	**Earthquake Lak**	**73.18**	**0**	P	**P**	**11 02 45.6**	**+0.3**
BMO	**Blue Mountains**	**73.38**	**356**	P	**P**	**11 02 46.6**	**+0.3**
G08A	**Pilot Rock**	**73.94**	**355**	P	**P**	**11 02 50.6**	**+0.9**
G08A				IAmb	IAmb	11 02 59.2	
	comp=Z,11nm,1.0s						
RCBR	**Riachuelo**	**74.77**	**88**	LR	LR	11 33 59.2	
	comp=Z,147nm,18.7s,baz=16,slow=34						
NLWA	**Neilton Lookou**	**76.53**	**352**	P	**P**	**11 03 05.0**	**+0.6**
NEW	**Newport**	**76.77**	**356**	LR	LR	11 31 49.6	
	comp=Z,402nm,18.2s,baz=184,slow=32						
NEW	**Newport**	**76.77**	**356**	P	**P**	**11 03 05.8**	**0.0**
NEW				IAmb	IAmb	11 03 14.9	
	comp=Z,9.6nm,1.1s						
PGC	**Sidney**	**77.72**	**352**	P	**P**	**11 03 11.5**	**+0.5**
LLLB	**Lillooet**	**79.48**	**353**	P	**P**	**11 03 21.1**	**+0.3**
LLLB				IAmb	IAmb	11 03 29.7	
	comp=Z,11nm,1.5s						
ULM	**Lac du Bonnet**	**79.85**	**10**	P	**P**	**11 03 23.7**	**+1.0**
	comp=Z,3.5nm,0.8s,baz=227,slow=9.8,SNR=3.6						
ULM				LR	LR	11 35 54.5	
	comp=Z,84nm,18.2s,baz=330,slow=34						
	comp=Z,3.5nm,0.8s						
BBB	**Bella Bella**	**81.82**	**350**	LR	LR	11 32 00.3	
	comp=Z,113nm,20.1s,baz=192,slow=30						
MAW	**Mawson**	**83.90**	**178**	LR	LR	11 37 11.9	
	comp=Z,161nm,19.6s,baz=30,slow=33						
HNR	**Honiara**	**84.11**	**263**	LR	LR	11 32 29.9	
	comp=Z,1μm,21.3s,baz=112,slow=30						
STKA	**Stephens Creek**	**87.92**	**235**	LR	LR	11 34 13.7	
	comp=Z,166nm,21.5s,baz=187,slow=30						
DLBC	**Dease Lake**	**88.15**	**350**	LR	LR	11 36 15.9	
	comp=Z,144nm,21.3s,baz=117,slow=31						
CTA	**Charters Tower**	**90.53**	**247**	LR	LR	11 42 32.4	
	comp=Z,99nm,18.1s,baz=92,slow=34						
YKA	**Yellowknife Ar**	**90.91**	**359**	P	**P**	**11 04 18.7**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=190,slow=3.4,SNR=2.1						
YKA				LR	LR	11 40 27.0	
	comp=Z,285nm,18.9s,baz=194,slow=32						
	comp=Z,0.6nm,0.7s						
SCHQ	**Schefferville**	**91.69**	**24**	LR	LR	11 44 46.0	
	comp=Z,45nm,19.0s,baz=138,slow=35						
PMG	**Port Moresby**	**95.16**	**256**	LR	LR	11 40 27.2	
	comp=Z,133nm,18.8s,baz=112,slow=31						
ILAR	**Eielson Array**	**97.12**	**346**	P	Pdif	11 04 46.5	+0.2
	comp=Z,0.3nm,0.9s,baz=183,slow=4.5,SNR=2.9						
ILAR				LR	LR	11 39 24.2	
	comp=Z,95nm,19.9s,baz=149,slow=30						
	comp=Z,0.3nm,0.9s						
INK	**Inuvik**	**98.07**	**352**	LR	LR	11 41 44.5	
	comp=Z,136nm,22.0s,baz=126,slow=31						
ASAR	**Alice Springs**	**98.16**	**238**	LR	LR	11 41 40.3	
	comp=Z,143nm,21.9s,baz=89,slow=31						
WRA	**Warramunga Arr**	**100.00**	**241**	LR	LR	11 43 59.3	
	comp=Z,352nm,20.6s,baz=98,slow=32						
AKASG	**Malin Array Be**	**143.36**	**42**	PKhKP	PKPpre	11 10 46.5	
	comp=Z,0.2nm,0.3s,baz=310,slow=4.0,SNR=4.1						
SONM	**Songino Array**	**144.97**	**314**	PKP	**PKPab**	**11 10 49.2**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=95,slow=2.4,SNR=6.9						
CD2	**Chengdu**	**149.23**	**283**	PKPbc	**PKPdf**	**11 10 59.0**	**-0.3**
BRTR	**Keskin Array B**	**149.47**	**60**	PKPbc	**PKiKP**	**11 11 06.1**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=254,slow=1.0,SNR=5.7						
CMAR	**Chiang Mai Arr**	**150.20**	**257**	PKPbc	**PKPbc**	**11 11 05.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=162,slow=1.5,SNR=6.6						
PZH	**PanZhiHua**	**150.34**	**274**	PKPbc	**PKPdf**	**11 11 01.4**	**+0.1**
GTA	**Gaotai**	**151.92**	**301**	*e*PKPbc	**PKiKP**	**11 11 09.8**	**-0.4**
GTA				sPKP		11 11 20.8	
ZALV	**Zalesovo Beam**	**152.03**	**339**	PKPbc	**PKPbc**	**11 11 08.1**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=56,slow=2.6,SNR=1.9						
BVAR	**Borovoye Array**	**155.65**	**357**	PKPab	**PKPab**	**11 11 33.4**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=29,slow=3.4,SNR=4.9						

GUC 13 10:58:18.4±0.8,20.°94S×69.°13W,h112km±4km,ML2.8,1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.35**	**252**	*e*P	Pn	10 58 33.8	-0.9
PB01				*e*S	Sn	10 58 45.9	-1.1
PB01				IAML		10 58 47.3	
	comp=E,823nm,0.1s						
PB02	**IPOC Station P**	**0.81**	**242**	*e*P	Pn	10 58 37.7	-0.3
PB02				*e*S	Sn	10 58 52.0	-0.8
PB02				IAML		10 58 53.6	
	comp=E,728nm,0.2s						
PB02	**IPOC Station P**	**0.81**	**242**	P	Pn	10 58 37.5	-0.5
PB09	**IPOC Station P**

FIBU S **Sb** **10 59 08.4 -0.7**
FIBU Brunna 1.31 332 *e*P **Pb** **10 58 51.3 -0.3**
FIBU *e*S **Sb** **10 59 08.4 -0.7**
FLYU Flymyra 1.43 346 P **Pn** **10 58 53.0 -0.2**
FLYU Flymyra 1.43 346 P **Pn** **10 58 53.0 -0.2**
FLYU Flymyra 1.43 346 *e*P **Pn** **10 58 53.0 -0.2**
GRAU Graesoe 1.59 359 P **Pn** **10 58 55.7 +0.2**
GRAU Graesoe 1.59 359 P **Pn** **10 58 55.7 +0.2**
GRAU Graesoe 1.59 359 *e*P **Pn** **10 58 55.7 +0.2**
AAL Aland 1.60 26 P **Pn** **10 58 55.5 0.0**
AAL S **Sn** **10 59 17.0 +0.1**
AAL Aland 1.60 26 *e*P **Pn** **10 58 55.7 +0.2**
FORU Forsmark 1.65 353 P **Pb** **10 58 57.4 0.0**
FORU Forsmark 1.65 353 P **Pb** **10 58 57.4 0.0**
FORU Forsmark 1.65 353 *e*P **Pb** **10 58 57.4 0.0**
OSTU Oestervaala 1.66 334 P **Pb** **10 58 57.2 -0.3**
OSTU Oestervaala 1.66 334 P **Pb** **10 58 57.2 -0.3**
OSTU Oestervaala 1.66 334 *e*P **Pb** **10 58 57.2 -0.3**
LNKU Linkoeping 1.71 253 P **Pb** **10 58 57.9 -0.4**
LNKU Linkoeping 1.71 253 P **Pb** **10 58 57.9 -0.4**
LNKU Linkoeping 1.71 253 *e*P **Pb** **10 58 57.9 -0.4**
ASKU Askersund 1.96 276 P **Pb** **10 59 02.3 -0.4**
ASKU Askersund 1.96 276 P **Pb** **10 59 02.3 -0.4**
ASKU Askersund 1.96 276 *e*P **Pb** **10 59 02.3 -0.4**
MTSE Matsula 2.72 89 *e*P **Pn** **10 59 11.7 +0.7**
MTSE *e*S **Sn** **10 59 46.3 +1.7**
RAF Rauma 2.78 34 *e*PB **Pb** **10 59 15.4 -1.2**
RAF *e*SB **Sb** **10 59 51.5 +0.3**
RAF MSG 10 59 58.0
comp=Z,5.3nm,0.1s
HFS Hagfors 2.86 301 Pn **Pn** **10 59 14.6 +1.7**
comp=Z,2.5nm,0.3s,baz=115,slow=16,SNR=38
HFS Lg Lg 10 59 52.1
comp=Z,5.6nm,0.3s,baz=114,slow=32,SNR=14
comp=Z,4.5nm,0.4s
BLEU Blekinge 2.88 213 *e*P **Pn** **10 59 14.6 +1.5**
BLEU *e*S **Sn** **10 59 50.5 +2.1**
ARNU Arnoeviken 3.01 349 *e*P **Pn** **10 59 15.1 +0.1**
ARNU *e*S **Sn** **10 59 52.5 +0.8**
BORU Boraas 3.28 252 *e*S **Sb** **11 00 02.5 -3.1**
MEF Metsahovi 3.30 61 *e*P **Pn** **10 59 20.6 +1.6**
DEL Delary 3.42 230 *i*P **Pn** **10 59 21.0 +0.4**
NUR Nurmijrvi 3.54 58 MSG 11 00 22.2
comp=Z,3.5nm,0.1s
FABU Falkenberg 3.60 243 *e*S **Sn** **11 00 06.1 -0.1**
BJUU Bjuv 4.04 231 *e*S **Sn** **11 00 18.0 +1.1**
BSD Bornholm Skovb 4.17 210 *e*P **Pn** **10 59 31.2 +0.3**
BSD *e*S **Sn** **11 00 22.2 +2.0**
BSD IAML 11 00 41.3
comp=Z,11nm,0.4s
NOA NORSAR Array B 4.37 305 Pn **Pn** **10 59 34.8 +1.1**
comp=Z,0.1nm,0.3s,baz=123,slow=12,SNR=12
NOA Lg Lg 11 00 40.7
comp=Z,0.4nm,0.3s,baz=227,slow=26,SNR=4.4
comp=Z,0.3nm,0.3s
FINES FINESS Array B 4.62 51 Pn **Pn** **10 59 38.6 +1.6**
comp=Z,0.6nm,0.3s,baz=234,slow=12,SNR=14
FINES Sn **Sn** **11 00 32.4 +1.2**
comp=Z,0.9nm,0.3s,baz=245,slow=20,SNR=5.5
FINES Lg Lg 11 00 49.2
comp=Z,3.5nm,0.3s,baz=242,slow=26,SNR=6.7
comp=Z,1.1nm,0.4s
SNART Snartemo 5.98 271 *e*P **Pn** **10 59 56.9 +1.2**
SNART IAML 11 01 35.0
comp=Z,10.0nm,0.4s
ODD1 Odda 6.23 286 *e*P **Pn** **10 59 59.9 +0.6**
ODD1 IAML 11 01 43.9
comp=Z,5.9nm,0.4s
AKN Aaknes 6.68 306 *e*P **Pn** **11 00 04.7 -0.7**
AKN IAML 11 01 45.6
comp=Z,2.2nm,0.4s
KONS Konsvik 8.17 344 *e*P **Pn** **11 00 26.2 +0.5**
KONS IAML 11 02 00.6
comp=Z,2.7nm,0.9s
KTK1 Kautokeino 10.50 9 *e*P **Pn** **11 00 55.3 -2.3**
ARA0 ARCESS Array S 11.22 13 *e*P **Pn** **11 01 05.0 -2.6**
ARCES ARCESS Array B 11.22 13 Pn **Pn** **11 01 04.6 -3.0**
comp=Z,1.2nm,0.4s,baz=197,slow=12,SNR=32
ARCES Sn Sn 11 03 01.5 -12
comp=Z,0.1nm,0.3s,baz=194,slow=21,SNR=1.4
ARCES Lg Lg 11 04 15.6
comp=Z,0.1nm,0.3s,baz=202,slow=35,SNR=1.9
SPITS Spitsbergen Ar 19.53 359 P **Pn** **11 02 57.4 +1.5**
comp=Z,4.4nm,0.9s,baz=174,slow=15,SNR=1.7

PRU ***13*** *11:04:20.9±0.0,42.˚63N×13.˚73E,h0km*
LDG ***13*** *11:04:20.4±0.1,42.˚58N×13.˚16E,h10km,Md3.4/2,*
Ml2.8/15,Error ellipse: s-maj=3.0km s-min=1.9km az=42.0
GEN ***13*** *11:05:12.2,45.˚72N×11.˚00E,h-3km±22km,Ml0.0*
ROM 13 11:04:21.0±0.1,42.˚584N±0.˚003×13.˚205E±0.˚004,
h16km,ML3.4/31,41C-32D,Error ellipse: s-maj=0.3km
s-min=0.1km az=219.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.07**	**174**	P	Pg	11 04 24.5	+0.2
RM33				S	Sg	11 04 26.7	+0.3
RM33				AML	AML		
	comp=E,93750μm,0.8s						
RM33				AML	AML		
RM33				AML	AML		
	comp=E,94750μm,0.8s						
RM33				AML	AML		
	comp=E,93800μm,0.8s						
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
	comp=E,93800μm,1.2s						
RM33				AML	AML		
	comp=E,94750μm,1.2s						
SMA1	**SAN MARTINO**	**0.11**	**64**	P	Pb	11 04 24.8	0.0
SMA1				S	Sb	11 04 27.4	+0.1
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
T1202	**Accumoli, Fraz**	**0.12**	**7**	P	Pb	11 04 25.1	0.0
T1202				S	Sb	11 04 27.9	+0.2
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
LNSS	**Leonessa**	**0.12**	**279**	P	Pb	11 04 24.9	-0.1
LNSS				S	Sb	11 04 27.8	0.0
LNSS				AML	AML		
	comp=N,66700μm,0.2s						
LNSS				AML	AML		
	comp=E,38350μm,0.2s						
LNSS				AML	AML		
	comp=N,66700μm,1.8s						
T1204	**Amatrice, Fraz**	**0.12**	**42**	P	Pg	11 04 25.0	+0.1
T1204				S	Sb	11 04 27.6	-0.2
T1204				AML	AML		
	comp=E,60950μm,0.3s						
T1204				AML	AML		
	comp=N,26250μm,0.5s						
T1204				AML	AML		
	comp=N,26250μm,1.5s						
T1247	**Pizzolo (AQ)**	**0.16**	**154**	P	Pb	11 04 25.5	-0.1
T1247				S	Sb	11 04 28.7	0.0
T1247				AML	AML		
	comp=N,58350μm,1.1s						
T1247				AML	AML		
	comp=E,30750μm,0.8s						
T1247				AML	AML		
	comp=N,58400μm,1.1s						
T1247				AML	AML		
	comp=N,58400μm,0.9s						
CAMP	**Campotosto**	**0.16**	**108**	P	Pb	11 04 25.5	-0.2
CAMP				S	Sb	11 04 28.4	-0.3
CAMP				AML	AML		
	comp=N,7325μm,0.5s						
CAMP				AML	AML		
	comp=E,8055μm,0.3s						
CAMP				AML	AML		
	comp=N,7325μm,1.5s						
T1243	**Rocca Santa Ma**	**0.21**	**58**	P	Pg	11 04 26.1	+0.1
T1243				S	Sg	11 04 29.8	+0.4
T1217	**Poggiodomo (PG**	**0.24**	**303**	P	Pg	11 04 26.5	+0.1
T1217				S	Sg	11 04 30.6	+0.5
T1217				AML	AML		
	comp=E,18550μm,0.4s						
T1217				AML	AML		
	comp=N,20500μm,0.5s						
T1217				AML	AML		
	comp=N,20450μm,0.5s						
T1217				AML	AML		
	comp=N,19650μm,0.5s						
T1217				AML	AML		
	comp=E,18600μm,0.4s						
T1217				AML	AML		
	comp=E,18200μm,0.4s						
T1217				AML	AML		
	comp=N,20450μm,1.5s						
T1217				AML	AML		
	comp=N,19650μm,1.5s						
T1217				AML	AML		
	comp=E,18600μm,1.6s						
T1217				AML	AML		
	comp=E,18200μm,1.6s						
T1242	**Castelluccio d**	**0.24**	**360**	P	Pg	11 04 26.7	+0.2
T1242				S	Sb	11 04 31.0	-0.3
T1242				AML	AML		
	comp=N,56400μm,0.4s						
T1242				AML	AML		
	comp=N,56150μm,0.4s						
T1242				AML	AML		
	comp=N,56350μm,0.4s						
T1242				AML	AML		
	comp=E,30700μm,0.4s						
T1242				AML	AML		
	comp=E,30050μm,0.4s						
NRCA	**Norcia**	**0.26**	**345**	P	Pg	11 04 26.8	+0.1
NRCA				S	Sg	11 04 31.0	+0.4
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,95100μm,0.1s						
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,95050μm,0.1s						
AQU	**L'Aquila**	**0.27**	**147**	P	Pg	11 04 27.2	+0.3
AQU				S	Sb	11 04 32.1	+0.1
AQU				AML	AML		
	comp=E,8050μm,0.9s						
AQU				AML	AML		
	comp=N,11605μm,0.6s						
AQU				AML	AML		
	comp=E,7995μm,0.8s						
AQU				AML	AML		
	comp=N,11725μm,1.4s						
AQU				AML	AML		
	comp=N,11725μm,0.6s						
TERO	**Teramo**	**0.30**	**82**	P	Pg	11 04 27.4	0.0
TERO				S	Sg	11 04 31.9	+0.3
TERO				AML	AML		
	comp=E,13000μm,0.4s						
TERO				AML	AML		
	comp=N,14800μm,0.8s						
TERO				AML	AML		
	comp=E,14500μm,0.4s						
TERO				AML	AML		
	comp=N,13850μm,0.8s						
TERO				AML	AML		
	comp=E,12950μm,0.4s						
GIGS	**Gran Sasso**	**0.30**	**116**	P	Pg	11 04 27.4	0.0
GIGS				S	Sg	11 04 32.1	+0.3
GIGS				AML	AML		
	comp=N,1635μm,0.2s						
GIGS				AML	AML		
	comp=E,1720μm,0.6s						
T1241	**Roccafluvione,**	**0.32**	**31**	P	Pg	11 04 27.7	0.0
T1241				S	Sb	11 04 33.1	-0.2
T1241				AML	AML		
	comp=N,5995μm,0.4s						
T1241				AML	AML		
	comp=E,6905μm,1.0s						
T1241				AML	AML		
	comp=E,7115μm,1.0s						
T1241				AML	AML		
	comp=N,5915μm,0.4s						
FIAM	**Fiamignano**	**0.32**	**192**	P	Pg	11 04 28.0	+0.2
FIAM				S	Sb	11 04 33.4	-0.1
FIAM				AML	AML		
	comp=N,7615μm,0.8s						
FIAM				AML	AML		
	comp=E,11950μm,0.3s						
ARRO	**Arrone**	**0.32**	**269**	P	Pg	11 04 28.0	+0.2
ARRO				S	Sb	11 04 33.1	-0.3
ARRO				AML	AML		
	comp=E,8645μm,0.6s						
ARRO				AML	AML		
	comp=N,15650μm,0.2s						
ARRO				AML	AML		
	comp=E,8640μm,0.6s						
MMO1	**Montemonaco**	**0.33**	**16**	P	Pg	11 04 28.0	+0.1
MMO1				S	Sb	11 04 33.2	-0.4
MC2	**Monte Cornacci**	**0.33**	**358**	P	Pg	11 04 28.1	+0.1
MC2				S	Sb	11 04 33.9	+0.1
T1215	**Vallo di Nera,**	**0.33**	**311**	P	Pg	11 04 27.9	0.0
T1215				S	Sb	11 04 33.3	-0.4
T1215				AML	AML		
	comp=E,12500μm,0.2s						
T1215				AML	AML		
	comp=N,10540μm,0.2s						
T1215				AML	AML		
	comp=E,13450μm,0.2s						
T1215				AML	AML		
	comp=N,9575μm,0.2s						
T1215				AML	AML		
	comp=N,9575μm,0.2s						
T1215				AML	AML		
	comp=E,12500μm,0.2s						
T1215				AML	AML		
	comp=N,10495μm,0.2s						
T1216	**Preci, Frazion**	**0.34**	**336**	P	Pg	11 04 28.0	0.0
T1216				S	Sb	11 04 33.5	-0.3
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=N,30100μm,0.2s						
T1216				AML	AML		
	comp=E,17950μm,0.2s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,17950μm,1.8s						
AM05	**Amandola Campo**	**0.41**	**15**	⇑P	Pg	11 04 29.4	+0.1
AM05				AML	AML		
	comp=E,1480μm,0.6s						
AM05				AML	AML		
	comp=N,1980μm,1.3s						
AM05				AML	AML		
	comp=E,6085μm,0.4s						
AM05				AML	AML		
	comp=N,7970μm,1.3s						
AM05				AML	AML		
	comp=E,1475μm,0.6s						
AM05				AML	AML		
	comp=N,1980μm,0.7s						
AM05				AML	AML		
	comp=N,7970μm,0.7s						
AM05				AML	AML		
	comp=E,6080μm,0.4s						
FDMO	**Fiordimonte**	**0.46**	**349**	⇑P	Pg	11 04 30.1	-0.2
FDMO				AML	AML		
	comp=E,5595μm,0.7s						
FDMO				AML	AML		
	comp=N,10485μm,0.4s						
FDMO				AML	AML		
	comp=N,10485μm,1.6s						
CESX	**Cesi**	**0.46**	**273**	⇓P	Pg	11 04 30.1	-0.2
CESX				AML	AML		
	comp=E,3630μm,0.4s						
CESX				AML	AML		
	comp=N,4845μm,0.8s						
CESI	**CESI - Serrava**	**0.47**	**332**	⇓P	Pg	11 04 30.5	0.0
CESI				AML	AML		
	comp=E,10555μm,0.6s						
CESI				AML	AML		
	comp=N,11950μm,0.4s						
GUMA	**Gualdo di Mace**	**0.49**	**11**	⇑P	Pg	11 04 30.1	-0.6
GUMA				AML	AML		
	comp=E,47400μm,0.3s						
GUMA				AML	AML		
	comp=N,20500μm,0.4s						
GUMA				AML	AML		
	comp=N,20500μm,1.6s						
OFFI	**Offida**	**0.50**	**45**	⇑P	Pb	11 04 31.7	+0.3
OFFI				AML	AML		
	comp=E,16900μm,0.4s						
OFFI				AML	AML		
	comp=N,19900μm,0.6s						
VCEL	**Villa Celiera**	**0.51**	**112**	P	Pg	11 04 31.1	0.0
VCEL				S	Sb	11 04 39.8	+1.0
VCEL				AML	AML		
	comp=N,4605μm,0.2s						
VCEL				AML	AML		
	comp=E,5485μm,0.5s						
VCEL				AML	AML		
	comp=N,4610μm,0.2s						
CSP1	**Cessapalombo**	**0.51**	**0**	⇑P	Pg	11 04 31.0	-0.2
CSP1				S	Sb	11 04 40.0	+1.1
CSP1				AML	AML		
	comp=E,9940μm,1.0s						
CSP1				AML	AML		
	comp=N,8475μm,1.2s						
CSP1				AML	AML		
	comp=E,9935μm,1.0s						
CSP1				AML	AML		
	comp=N,8465μm,1.2s						
CSP1				AML	AML		
	comp=N,8465μm,0.8s						
CSP1				AML	AML		
	comp=E,9935μm,1.0s						
T0110	**Collepietro**	**0.56**	**130**	⇓P	Pg	11 04 31.7	-0.3
T0110				AML	AML		
	comp=E,3390μm,1.3s						
T0110				AML	AML		
	comp=N,3305μm,0.4s						
T0110				AML	AML		
	comp=N,3305μm,1.6s						
T0110				AML	AML		
	comp=E,3390μm,0.7s						
TRTR	**Tortoreto Alta**	**0.57**	**67**	P	Pb	11 04 33.1	+0.5
TRTR				AML	AML		
	comp=E,12250μm,0.6s						
TRTR				AML	AML		
	comp=N,15100μm,0.4s						
PTQR	**Pietraquaria**	**0.58**	**165**	⇑P	Pg	11 04 32.1	-0.4
PTQR				AML	AML		
	comp=E,1285μm,0.3s						
PTQR				AML	AML		
	comp=N,1490μm,0.7s						
PTQR				AML	AML		
	comp=E,1285μm,1.7s						
SEF1	**Sefro**	**0.59**	**342**	S	Sb	11 04 42.0	+0.8
ASSB	**Assisi San Ben**	**0.61**	**319**	⇓P	Pg	11 04 32.8	-0.3
ASSB				S	Sb	11 04 43.0	+1.3
ASSB				AML	AML		
	comp=E,4820μm,0.9s						
ASSB				AML	AML		
	comp=N,6485μm,0.6s						
ASSB				AML	AML		
	comp=N,6485μm,1.4s						
ASSB				AML	AML		
	comp=E,4820μm,1.1s						
SRES	**S.Oreste - Sor**	**0.62**	**236**	⇑P	Pb	11 04 33.5	0.0
SRES				AML	AML		
	comp=E,1260μm,0.7s						
SRES				AML	AML		
	comp=N,1940μm,0.4s						
CERT	**Cerreto**	**0.66**	**195**	⇑P	Pg	11 04 33.4	-0.5
CERT				AML	AML		
	comp=E,3180μm,0.4s						
CERT				AML	AML		
	comp=N,2130μm,0.4s						
CERT				AML	AML		
	comp=N,2130μm,1.6s						
MTCE	**Montecelio**	**0.66**	**212**	⇑P	Pg	11 04 33.4	-0.5
MTCE				AML	AML		
	comp=E,2050μm,0.6s						
MTCE				AML	AML		
	comp=N,1255μm,0.5s						
GAG1	**Gagliole**	**0.66**	**351**	⇑P	Pb	11 04 34.2	0.0
GAG1				S	Sn	11 04 45.0	-0.9
GAG1				AML	AML		
	comp=E,8385μm,0.5s						
GAG1				AML	AML		
	comp=N,10190μm,0.5s						
GAG1				AML	AML		
	comp=N,10200μm,0.5s						
GAG1				AML	AML		
	comp=E,8420μm,0.5s						
GAG1				AML	AML		
	comp=E,8420μm,1.5s						
SNTG	**Esanatoglia**	**0.70**	**344**	⇑P	Pg	11 04 34.2	-0.5
SNTG				AML	AML		
	comp=E,344μm,1.2s						
SNTG				AML	AML		
	comp=N,403μm,0.5s						
SNTG				AML	AML		
	comp=E,2675μm,0.6s						
SNTG				AML	AML		
	comp=N,3290μm,0.5s						
SNTG				AML	AML		
	comp=E,344μm,1.2s						
SNTG				AML	AML		
	comp=N,404μm,0.5s						
ATCC	**AVT- Casa Cast**	**0.73**	**326**	⇓P	Pg	11 04 35.0	-0.2
ATCC				S	Sn	11 04 47.0	-0.6
ATCC				AML	AML		
	comp=E,4690μm,0.8s						
ATCC				AML	AML		
	comp=N,4720μm,0.6s						
ATCC				AML	AML		
	comp=E,4685μm,0.8s						
EL6	**Elcito**	**0.75**	**354**	⇑P	Pg	11 04 35.2	-0.5
EL6				S	Sn	11 04 48.0	-0.1
EL6				AML	AML		
	comp=N,4730μm,1.4s						
EL6				AML	AML		
	comp=E,4150μm,0.4s						
EL6				AML	AML		
	comp=N,4735μm,1.4s						
EL6				AML	AML		
	comp=N,4735μm,0.6s						
RCAV	**Rocca di Cave**	**0.76**	**195**	P	Pg	11 04 35.1	-0.7
RCAV				AML	AML		
	comp=E,3205μm,0.4s						
RCAV				AML	AML		
	comp=N,2650μm,0.4s						
RCAV				AML	AML		
	comp=N,2645μm,0.4s						
INTR	**Introdacqua**	**0.77**	**138**	⇑P	Pg	11 04 34.9	-1.1
INTR				AML	AML		
	comp=E,1835μm,0.3s						
INTR				AML	AML		
	comp=N,4640μm,0.6s						
VVLD	**Villa Vallelon**	**0.78**	**156**	AML	AML		
	comp=E,1375μm,1.2s						
VVLD				AML	AML		
	comp=N,2175μm,0.4s						
FOSV	**Fossato di Vic**	**0.78**	**336**	⇓P	Pg	11 04 35.9	-0.3
FOSV				S	Sn	11 04 48.0	-0.8
FOSV				AML	AML		
	comp=N,4330μm,0.6s						
FOSV				AML	AML		
	comp=N,4325μm,0.6s						
FOSV				AML	AML		
	comp=E,2145μm,1.1s						
CING	**Cingoli**	**0.79**	**360**	⇑P	Pb	11 04 35.9	-0.5
CING				AML	AML		
	comp=N,1435μm,1.4s						
CING				AML	AML		
	comp=E,2620μm,1.3s						
CING				AML	AML		
	comp=E,2620μm,0.7s						
CING				AML	AML		
	comp=N,1435μm,0.6s						
PP3	**Marolino**	**0.85**	**20**	⇑P	Pg	11 04 37.8	+0.3
PP3				AML	AML		
	comp=E,5560μm,0.6s						
PP3				AML	AML		
	comp=N,3175μm,0.3s						
PP3				AML	AML		
	comp=N,2955μm,1.4s						
PP3				AML	AML		
	comp=N,3175μm,0.3s						
PP3				AML	AML		
	comp=E,5685μm,0.6s						
PP3				AML	AML		
	comp=N,2950μm,1.4s						
PP3				AML	AML		
	comp=N,2950μm,0.6s						
MGAB	**Montegabbione**	**0.87**	**293**	⇓P	Pb	11 04 37.6	-0.2

MGAB				AML	AML		
	comp=E,2855µm,0.4s						
MGAB				AML	AML		
	comp=N,1875µm,0.6s						
MGAB				AML	AML		
	comp=N,1760µm,0.4s						
MGAB				AML	AML		
	comp=E,2320µm,0.4s						
MGAB				AML	AML		
	comp=N,1875µm,1.4s						
ATTE	**AVT- Monte Tez**	**0.88 315**	⇓P		Pn	11 04 40.5	+1.8
ATTE			AML		AML		
	comp=N,1103µm,0.4s						
ATTE			AML		AML		
	comp=E,938µm,0.9s						
LPEL	**Lama dei Pelig**	**0.90 126**	P		Pb	11 04 37.6	-0.7
LPEL			S		Sg	11 04 51.0	+0.6
LPEL			AML		AML		
	comp=N,938µm,0.6s						
LPEL			AML		AML		
	comp=E,2290µm,0.7s						
LPEL			AML		AML		
	comp=E,2290µm,1.3s						
SSFR	**Montelago di S**	**0.91 340**	⇓P		Pb	11 04 38.3	-0.1
SSFR			AML		AML		
	comp=E,2450µm,0.2s						
SSFR			AML		AML		
	comp=N,2910µm,0.2s						
SSFR			AML		AML		
	comp=E,2405µm,0.2s						
SSFR			AML		AML		
	comp=N,2885µm,0.2s						
ATFO	**Monte Foce - G**	**0.91 330**	⇑P		Pb	11 04 38.5	0.0
ATFO			S		Sn	11 04 53.0	+0.9
ATFO			AML		AML		
	comp=E,1850µm,1.3s						
ATFO			AML		AML		
	comp=N,1565µm,1.1s						
ATFO			AML		AML		
	comp=N,1565µm,0.9s						
ARVD	**Arcevia**	**0.93 348**	⇓P		Pb	11 04 38.7	-0.1
ARVD			S		Sn	11 04 53.0	+0.4
ARVD			AML		AML		
	comp=E,1460µm,0.5s						
ARVD			AML		AML		
	comp=N,1620µm,0.5s						
ARVD			AML		AML		
	comp=E,1460µm,1.5s						
POFI	**Posta Fibreno**	**0.94 156**	⇑P		Pn	11 04 39.9	+0.2
POFI			AML		AML		
	comp=N,682µm,0.4s						
POFI			AML		AML		
	comp=E,1575µm,0.6s						
LRP	**Arpino**	**0.98 163**	⇑P		Pn	11 04 41.8	+1.7
LRP			AML		AML		
	comp=N,855µm,0.7s						
LRP			AML		AML		
	comp=N,855µm,1.3s						
LRP			AML		AML		
	comp=E,758µm,0.9s						
ATVO	**AVT- Monte Val**	**0.99 324**	⇑P		Pb	11 04 39.6	-0.2
ATVO			AML		AML		
	comp=E,1315µm,0.9s						
ATVO			AML		AML		
	comp=N,998µm,1.6s						
ATVO			AML		AML		
	comp=N,998µm,0.4s						
SACS	**San Casciano d**	**0.99 286**	⇓P		Pb	11 04 39.8	0.0
SACS			AML		AML		
	comp=E,824µm,0.5s						
SACS			AML		AML		
	comp=N,728µm,0.3s						
SACS			AML		AML		
	comp=E,794µm,0.4s						
SACS			AML		AML		
	comp=N,680µm,1.1s						
SACS			AML		AML		
	comp=N,680µm,0.9s						
SACS			AML		AML		
	comp=E,794µm,1.6s						
FRON	**Frontone**	**1.00 340**	⇓P		Pb	11 04 39.6	-0.4
FRON			S		Sn	11 04 55.0	+0.8
FRON			AML		AML		
	comp=E,1105µm,0.6s						
FRON			AML		AML		
	comp=N,1610µm,0.6s						
FRON			AML		AML		
	comp=E,1105µm,1.4s						
FRON			AML		AML		
	comp=N,1610µm,1.4s						
GIUL	**Giuliano Di Ro**	**1.02 178**	⇑P		Pg	11 04 41.7	+0.9
GIUL			AML		AML		
	comp=E,972µm,0.9s						
GIUL			AML		AML		
	comp=N,1245µm,0.5s						
GIUL			AML		AML		
	comp=E,972µm,1.1s						
GIUL			AML		AML		
	comp=N,1245µm,1.5s						
TOLF	**Tolfa**	**1.03 240**	P		Pb	11 04 38.5	-2.0
TOLF			AML		AML		
	comp=E,1345µm,0.6s						
TOLF			AML		AML		
	comp=N,994µm,1.1s						
ATPI	**Pietralunga -**	**1.05 326**	⇑P		Pg	11 04 41.3	0.0
ATPI			AML		AML		
	comp=E,1955µm,0.7s						
ATPI			AML		AML		
	comp=N,1160µm,1.1s						
PIEI	**Pieia**	**1.07 333**	⇓P		Pb	11 04 41.0	-0.2
PIEI			S		Sn	11 04 58.0	+2.0
PIEI			AML		AML		
	comp=E,898µm,1.6s						
PIEI			AML		AML		
	comp=N,784µm,0.3s						
PIEI			AML		AML		
	comp=E,898µm,0.4s						
MPAG	**Monte Paganucc**	**1.09 343**	⇑P		Pb	11 04 41.3	-0.3
MPAG			AML		AML		
	comp=E,1206µm,0.7s						
MPAG			AML		AML		
	comp=N,966µm,1.3s						
MPAG			AML		AML		
	comp=N,966µm,0.7s						
NARO	**Abbazia di Nar**	**1.12 336**	⇓P		Pb	11 04 41.7	-0.4
RNI2	**Rionero Sannit**	**1.13 141**	⇑P		Pg	11 04 45.0	+2.3
RNI2			AML		AML		
	comp=E,960µm,1.2s						
RNI2			AML		AML		
	comp=E,986µm,1.2s						
RNI2			AML		AML		
	comp=N,1056µm,0.7s						
RNI2			AML		AML		
	comp=N,1008µm,0.7s						
RNI2			AML		AML		
	comp=E,960µm,0.8s						
RNI2			AML		AML		
	comp=E,986µm,0.8s						
FSSB	**Fossombrone**	**1.15 344**	P		Pn	11 04 42.4	-0.1
FSSB			AML		AML		
	comp=E,2455µm,0.4s						
FSSB			AML		AML		
	comp=N,4180µm,0.4s						
CERA	**Filignano**	**1.16 148**	⇓P		Pb	11 04 42.9	+0.3
CERA			AML		AML		
	comp=E,1150µm,0.6s						
CERA			AML		AML		
	comp=N,1050µm,1.0s						
BADI	**Badiali**	**1.16 323**	⇓P		Pg	11 04 43.7	+0.3
CAFI	**Castiglion Fio**	**1.18 310**	⇓P		Pb	11 04 43.0	+0.1
CAFI			AML		AML		
	comp=N,881µm,0.5s						
CAFI			AML		AML		
	comp=E,848µm,0.5s						
PE3	**Peglio**	**1.23 335**	⇑P		Pn	11 04 43.5	0.0
SF01	**Poggio Pratacc**	**1.23 281**	⇑P		Pg	11 04 44.8	+0.1
ARCI	**Arcidosso**	**1.30 282**	⇑P		Pg	11 04 45.8	-0.3
ARCI			AML		AML		
	comp=E,133µm,0.6s						
ARCI			AML		AML		
	comp=N,170µm,1.0s						
ARCI			AML		AML		
	comp=N,170µm,1.0s						
PESA	**Pesaro**	**1.38 349**	P		Pn	11 04 45.5	-0.1
PESA			AML		AML		
	comp=E,1680µm,0.4s						
PESA			AML		AML		
	comp=N,1405µm,0.8s						
PESA			AML		AML		
	comp=N,1405µm,1.2s						
CRE	**Caprese Michel**	**1.38 319**	⇑P		Pn	11 04 45.9	+0.2
BSSO	**Busso**	**1.47 135**	⇑P		Pg	11 04 50.4	+1.2
MODR	**Mondragone**	**1.52 160**	⇑P		Pb	11 04 48.9	+0.1
MODR			AML		AML		
	comp=N,292µm,0.8s						
MODR			AML		AML		
	comp=E,331µm,0.9s						
MODR			AML		AML		
	comp=E,331µm,1.1s						
CIGN	**Sant'Elia a Pi**	**1.57 126**	P		Pg	11 04 51.2	0.0
CIGN			AML		AML		
	comp=N,220µm,1.5s						
CIGN			AML		AML		
	comp=E,201µm,1.2s						
CIGN			AML		AML		
	comp=N,220µm,0.5s						
CIGN			AML		AML		
	comp=E,201µm,0.8s						
ASQU	**Asqua**	**1.59 320**	⇓P		Pb	11 04 50.6	+0.5
ASQU			AML		AML		
	comp=E,322µm,1.1s						
ASQU			AML		AML		
	comp=N,290µm,0.9s						
ASQU			AML		AML		
	comp=E,322µm,0.9s						
MELA	**Melanico ??? S**	**1.68 121**	⇑P		Pb	11 04 52.0	+0.6
MELA			AML		AML		
	comp=E,506µm,1.0s						
MELA			AML		AML		
	comp=E,502µm,0.7s						
MELA			AML		AML		
	comp=N,589µm,0.5s						
MELA			AML		AML		
	comp=N,589µm,1.3s						
MELA			AML		AML		
	comp=N,589µm,0.7s						
MELA			AML		AML		
	comp=E,502µm,1.3s						
CASP	**Castiglione de**	**1.74 278**	⇓P		Pn	11 04 51.3	+0.8
CASP			AML		AML		
	comp=E,68µm,0.9s						
CASP			AML		AML		
	comp=N,81µm,1.0s						
RUFI	**Rufina**	**1.76 316**	⇑P		Pb	11 04 52.4	-0.5
TREM	**Isole Tremiti**	**1.77 104**	⇑P		Pb	11 04 53.1	+0.1
TREM			AML		AML		
	comp=E,632µm,0.6s						
TREM			AML		AML		
	comp=N,602µm,0.7s						
TREM			AML		AML		
	comp=E,632µm,1.4s						
LMD	**Lutirano**	**1.85 324**	⇓P		Pg	11 04 58.0	+1.5
APRC	**Apricena**	**1.93 115**	⇑P		Pb	11 04 55.2	-0.6
APRC			AML		AML		
	comp=E,250µm,0.6s						
APRC			AML		AML		
	comp=N,386µm,0.8s						
APRC			AML		AML		
	comp=N,386µm,1.2s						
SGRT	**San Giovanni R**	**2.06 113**	⇑P		Pb	11 04 57.0	-1.1
SGRT			S		Sb	11 05 24.0	+0.5
SGRT			AML		AML		
	comp=N,290µm,1.0s						
SGRT			AML		AML		
	comp=E,294µm,0.5s						
MAIM	**Mastiano**	**2.39 305**	⇓P		Pn	11 05 01.2	+1.8
MAIM			AML		AML		
	comp=E,79µm,0.5s						
MAIM			AML		AML		
	comp=N,74µm,0.5s						
MAIM			AML		AML		
	comp=E,79µm,1.5s						
HVAR	**Hvar**	**2.46 75**	⇓P		Pn	11 05 02.0	+1.6
CMPR	**Campora**	**2.76 144**	P		Pg	11 05 13.6	-0.2
MTSN	**Montesano sull**	**3.00 140**	P		Pg	11 05 17.4	-1.2
AMUR	**Altamura**	**3.05 122**	⇑P		Pn	11 05 10.5	+2.0
AMUR			AML		AML		
	comp=N,78µm,0.4s						
AMUR			AML		AML		
	comp=E,71µm,0.6s						
AMUR			AML		AML		
	comp=E,71µm,1.4s						
PGF	**Pioggiola**	**3.11 271**	*e*P		Pn	11 05 10.6	+1.2
PGF			*e*Sn		Sn	11 05 41.5	-4.8
	comp=E,6.7nm,0.5s						
BOJS	**Bojanci**	**3.27 26**	P		Pg	11 05 23.3	-0.3
ROVR	**Rover Verones**	**3.43 334**	⇓P		Pn	11 05 15.7	+1.8
ROVR			AML		AML		
	comp=N,48µm,0.4s						
ROVR			AML		AML		
	comp=E,34µm,0.4s						
ROVR			AML		AML		
	comp=E,34µm,1.6s						
CGRP	**Cima Grappa**	**3.45 343**	⇓P		Pn	11 05 16.0	+1.8
CGRP			AML		AML		
	comp=E,188µm,0.7s						
CGRP			AML		AML		
	comp=N,176µm,0.6s						
CGRP			AML		AML		
	comp=E,188µm,1.3s						
CGRP			AML		AML		
	comp=N,176µm,1.4s						
VARN	**Col Varnada, M**	**3.50 347**	P		Pn	11 05 16.0	+1.2
VARN			AML		AML		
	comp=N,134µm,0.9s						
VARN			AML		AML		
	comp=E,195µm,0.5s						
VARN			AML		AML		
	comp=N,134µm,1.1s						
SALO	**Salr**	**3.60 328**	P		Pn	11 05 18.4	+2.3
SALO	**Salr**	**3.60 328**	P		Pn	11 05 18.7	+2.6
SALO			AML		AML		
	comp=N,112µm,1.5s						
SALO			AML		AML		
	comp=E,109µm,0.5s						
DOSS	**Dosso del Somm**	**3.60 337**	P		Pn	11 05 17.9	+1.7
DOSS	**Dosso del Somm**	**3.60 337**	⇓P		Pn	11 05 18.4	+2.1
DOSS			AML		AML		
	comp=E,112µm,0.7s						
DOSS			AML		AML		
	comp=N,77µm,0.9s						
CTI	**Castel Tesino**	**3.64 343**	P		Pn	11 05 16.8	+0.1
CTI			AML		AML		
	comp=E,140µm,0.6s						
CTI			AML		AML		
	comp=N,122µm,0.6s						
MPRI	**Monte Prat**	**3.66 358**	⇑P		Pn	11 05 17.3	+0.3
MPRI			AML		AML		
	comp=E,110µm,0.7s						
MPRI			AML		AML		
	comp=N,236µm,0.4s						
MAGA	**Magasa**	**3.69 331**	⇑P		Pn	11 05 19.1	+1.7
MAGA			AML		AML		
	comp=E,288µm,1.1s						
MAGA			AML		AML		
	comp=N,160µm,0.4s						
MAGA			AML		AML		
	comp=N,160µm,1.6s						
STAL	**STALIGIAL**	**3.69 355**	⇓P		Pn	11 05 18.3	+0.9
STAL			AML		AML		
	comp=N,105µm,0.5s						
STAL			AML		AML		
	comp=E,144µm,0.3s						
LUSI	**Trento, Gardas**	**3.75 335**	⇓P		Pn	11 05 20.2	+2.1
LUSI			AML		AML		
	comp=N,104µm,0.5s						
LUSI			AML		AML		
	comp=E,72µm,0.9s						
CIMO	**Cimolais**	**3.77 352**	⇓P		Pn	11 05 19.3	+0.9
CIMO			AML		AML		
	comp=N,32µm,0.9s						
CIMO			AML		AML		
	comp=E,36µm,1.5s						
CIMO			AML		AML		
	comp=E,30µm,0.7s						
CIMO			AML		AML		
	comp=N,43µm,0.7s						
CIMO			AML		AML		
	comp=E,36µm,0.5s						
CIMO			AML		AML		
	comp=N,32µm,1.1s						
PTCC	**Patocco-Chiusa**	**3.82 2**	P		Pn	11 05 19.6	+0.3
PTCC			AML		AML		
	comp=N,47µm,1.2s						
PTCC			AML		AML		
	comp=E,44µm,0.3s						
GAGG	**Gaggia**	**3.85 336**	P		Pn	11 05 21.4	+1.7
GAGG	**Gaggia**	**3.85 336**	P		Pn	11 05 21.4	+1.7
GAGG			AML		AML		
	comp=E,97µm,0.9s						
GAGG			AML		AML		
	comp=N,68µm,1.1s						
SARZ	**Sarezzano**	**3.86 308**	S		Sn	11 06 07.0	+2.3
CLUD	**Cludinico**	**3.88 357**	⇓P		Pn	11 05 20.9	+0.9
CLUD			AML		AML		
	comp=N,90µm,0.9s						
CLUD			AML		AML		
	comp=E,104µm,0.9s						
EUCT	**Pavia**	**3.94 313**	S		Sg	11 06 28.0	+0.6
ACOM	**Acomizza, Ital**	**3.97 3**	⇓P		Pn	11 05 23.0	+1.6
ACOM			AML		AML		
	comp=E,122µm,1.3s						
ACOM			AML		AML		
	comp=N,124µm,0.8s						
ACOM			AML		AML		
	comp=N,106µm,0.8s						
ACOM			AML		AML		
	comp=E,93µm,0.9s						
MABI	**Malga Bissina**	**3.97 332**	S		Pn	11 05 18.3	-3.1
ZOU	**Zoufplan**	**3.98 358**	⇓P		Pn	11 05 22.4	+1.0
ZOU			AML		AML		
	comp=E,78µm,0.9s						
ZOU			AML		AML		
	comp=N,98µm,1.3s						
MYKA	**Terra Mystica**	**4.06 4**	*e*Pn		Pn	11 05 25.7	+3.2
	comp=N,4.2nm,0.3s						
KOSI	**Kohlern**	**4.09 342**	⇑P		Pn	11 05 25.0	+2.0
KOSI			AML		AML		
	comp=E,96µm,1.0s						
KOSI			AML		AML		
	comp=N,80µm,0.8s						
ABTA	**Abfaltersbach**	**4.19 353**	*e*Pn		Pn	11 05 26.1	+1.8
	comp=N,5.4nm,0.3s,SNR=9.6						
ABTA			*i* Sn		Sn	11 06 14.3	+1.3
	comp=N,13nm,0.4s						
LLI	**Lipari**	**4.34 162**	S		Sb	11 06 29.0	-0.1
SBF	**Sospel**	**4.41 289**	*e*P		Pn	11 05 28.4	+1.1
SBF			*e*Sn		Sn	11 06 12.5	-5.8
	comp=N,3.6nm,0.3s						
SBF			*e*Sg		Sg	11 06 37.2	-5.2
	comp=N,4.2nm,0.3s						
KOGS	**Kog**	**4.43 28**	S		Sn	11 06 18.0	-0.9
KBA	**Koelnbreinsper**	**4.50 1**	*e*Pn		Pn	11 05 30.4	+1.8
	comp=N,2.7nm,0.3s,SNR=5.4						
KBA			*i* Sn		Sn	11 06 20.2	-0.4
	comp=N,8.9nm,0.4s						
ROSI	**Rosskopf**	**4.53 344**	⇑P		Pn	11 05 31.3	+2.3
FETA	**Feichten**	**4.77 339**	*e*Pn		Pn	11 05 34.8	+2.4
	comp=N,3.4nm,0.3s,SNR=9.2						
FETA			*e*Sn		Sn	11 06 29.8	+2.4
	comp=N,4.2nm,0.5s						
WTTA	**Wattenberg**	**4.81 347**	*i* Pn		Pn	11 05 35.8	+2.9
	comp=N,2.1nm,0.2s						
WTTA			*e*Sn		Sn	11 06 30.0	+1.6
	comp=N,12nm,0.4s						
WTTA	**Wattenberg**	**4.81 347**	⇓P		Pn	11 05 35.7	+2.8
DAVOX	**Davos/Dischmat**	**4.82 332**	⇑P		Pn	11 05 36.9	+3.8
SQTA	**Sankt Quirin**	**4.85 344**	*e*Pn		Pn	11 05 36.5	+3.2
	comp=N,2.9nm,0.2s						
SQTA			*i* Sn		Sn	11 06 31.7	+2.4
	comp=N,6.7nm,0.3s						
WATA	**Walderalm**	**4.89 347**	*i* Pn		Pn	11 05 37.5	+3.5
	comp=N,2.8nm,0.2s						
WATA			*i* Sn		Sn	11 06 32.4	+2.1
	comp=N,9.0nm,0.2s						
LMR	**La Mourre**	**4.97 281**	*e*P		Pn	11 05 35.9	+1.0
LMR			*e*Sn		Sn	11 06 25.6	-6.5
	comp=N,4.5nm,0.5s						
MOTA	**Moosalm**	**4.99 343**	*i* Pn		Pn	11 05 38.1	+2.7
	comp=N,1.9nm,0.3s						
MOTA			*e*Sn		Sn	11 06 34.4	+1.7
	comp=N,11nm,0.5s						
MBDF	**Montbardon**	**5.13 297**	*e*P		Pn	11 05 39.1	+1.7
MBDF			*e*Sn		Sn	11 06 30.2	-6.2
	comp=N,4.3nm,0.7s						
DAVA	**Damuels**	**5.26 334**	*e*Pn		Pn	11 05 42.2	+3.1
	comp=N,14nm,0.5s,SNR=6.4						
REMY	**Saint-Rhmy-en**	**5.43 309**	P		Pn	11 05 45.2	+3.7
MRGE	**Morge**	**5.45 308**	⇑P		Pn	11 05 45.9	+4.3
LPG	**La Plagne**	**5.49 304**	*e*P		Pn	11 05 43.9	+1.6
LPG			*e*Sn		Sn	11 06 38.7	-6.5
	comp=N,2.5nm,0.5s						
RONA	**Rosalia, Austr**	**5.56 22**	*e*Pn		Pn	11 05 44.3	+1.2
	comp=N,1.0nm,0.2s						
CONA	**Conrad Observa**	**5.66 18**	*i* Pn		Pn	11 05 45.6	+1.0
	comp=N,0.7nm,0.2s						
CONA			*i* Sn		Sn	11 06 49.4	+0.1
	comp=N,2.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.79 296**	*e*P		Pn	11 05 47.8	+1.4
ORIF			*e*Sn		Sn	11 06 45.4	-7.1
	comp=N,1.8nm,0.3s						
CKRC	**Cesky Krumlov**	**6.29 7**	*e*SN		Sn	11 07 02.5	-2.0
CABF	**La Chapelle**	**6.48 311**	*e*P		Pn	11 05 57.8	+2.0
CABF			*e*Sn		Sn	11 07 02.5	-6.9
	comp=N,1.1nm,0.3s						
KHC	**Kasperske Hory**	**6.55 2**	*e*PN		Pn	11 05 57.7	+1.0
KHC			*e*SN		Sn	11 07 08.8	-2.3
VIVF	**Saint-Julien-l**	**6.59 293**	*e*P		Pn	11 05 59.3	+2.1
VIVF			*e*Sn		Sn	11 07 04.6	-7.3
	comp=N,1.8nm,0.4s						
HINF	**Hinteralfeld**	**6.89 322**	*e*P		Pn	11 06 03.0	+1.7
HINF			*e*Sn		Sn	11 07 12.3	-7.1
	comp=N,3.1nm,0.4s						
LASF	**Ste Croix**	**6.98 286**	*e*P		Pn	11 06 04.8	+2.3
LASF			*e*Sn		Sn	11 07 13.6	-8.0
	comp=N,1.1nm,0.3s						
CDF	**Champ du Feu**	**7.16 326**	*e*P		Pn	11 06 06.7	+1.6
CDF			*e*Sn		Sn	11 07 19.0	-7.1
	comp=N,3.0nm,0.3s						
HAU	**Haudompre**	**7.26 321**	*e*P		Pn	11 06 08.0	+1.6
HAU			*e*Sn		Sn	11 07 21.3	-7.2
	comp=N,6.3nm,0.4s						
SMF	**Signal de Mont**	**7.82 304**	*e*P		Pn	11 06 16.3	+2.3
AVF	**Avril sur Loir**	**8.18 304**	*e*P		Pn	11 06 21.7	+2.7
SSF	**Saint Saulge**	**8.22 306**	*e*P		Pn	11 06 22.0	+2.5

DNK ***13*** *11:09:38.7±1.3,58°74N×18°57E,h0km,ML2.7,Explosion*
UPP ***13*** *11:09:38.3±0.2,58°73N×18°57E,h1km,ML2.4,Explosion*
HEL ***13*** *11:09:39.1±0.1,58°73N×18°54E,h0km,ML1.9, ML2.4(UPP),Explosion*
BER ***13*** *11:09:39.0±1.6,58°73N×18°60E,h0km,ML1.9, ML2.4(UPP),Suspected explosion*
IDC ***13*** *11:09:41.4±3.2,58°90N×18°58E,h0km,mbtmp2.8/3, ML2.1/3,Error ellipse: s-maj=36.2km s-min=9.7km az=179.0*

ISC 13 11:09:37.3±0.7,**58°77N**±0°02×**18°44E**±0°02,**h0km**,**n57**, **o0996/73**,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.33**	**316**	P		**Pb**	**11 09 46.0**	**0.0**
NYNU				S		**Sb**	**11 09 51.1**	**-0.7**
NYNU	**Nynaeshamn**	**0.33**	**316**	P		**Pb**	**11 09 46.0**	**0.0**
NYNU				S		**Sb**	**11 09 51.1**	**-0.7**
NYNU	**Nynaeshamn**	**0.33**	**316**	P		**Pb**	**11 09 46.0**	**0.0**
NYNU				S		**Sb**	**11 09 51.1**	**-0.7**
NYNU	**Nynaeshamn**	**0.33**	**316**	*i* P		**Pb**	**11 09 46.0**	**0.0**
NYNU				*i* S		**Sb**	**11 09 51.1**	**-0.7**
NRTU	**Norrtaelje**	**0.92**	**6**	P		**Pb**	**11 09 55.9**	**-0.1**
NRTU	**Norrtaelje**	**0.92**	**6**	P		**Pb**	**11 09 55.9**	**-0.1**
NRTU	**Norrtaelje**	**0.92**	**6**	P		**Pb**	**11 09 55.9**	**-0.1**
NRTU	**Norrtaelje**	**0.92**	**6**	*e*P		**Pb**	**11 09 55.9**	**-0.1**
NRTU				*e*S		**Sb**	**11 10 08.6**	**-0.1**
VIKU	**Vikbolandet**	**0.95**	**254**	P		**Pb**	**11 09 56.9**	**+0.4**
VIKU	**Vikbolandet**	**0.95**	**254**	P		**Pb**	**11 09 56.9**	**+0.4**
VIKU	**Vikbolandet**	**0.95**	**254**	P		**Pb**	**11 09 56.9**	**+0.4**
VIKU	**Vikbolandet**	**0.95**	**254**	*e*P		**Pb**	**11 09 56.9**	**+0.4**
GOTU	**Gotland**	**1.09**	**176**	P		**Pg**	**11 09 57.7**	**-0.4**
GOTU	**Gotland**	**1.09**	**176**	P		**Pg**	**11 09 57.7**	**-0.4**
GOTU	**Gotland**	**1.09**	**176**	P		**Pg**	**11 09 57.7**	**-0.4**
GOTU	**Gotland**	**1.09**	**176**	*e*P		**Pg**	**11 09 57.6**	**-0.5**
GOTU				*e*S		**Sg**	**11 10 11.3**	**-0.9**
UPP	**Uppsala**	**1.17**	**339**	P		**Pn**	**11 10 01.2**	**+0.4**
UPP	**Uppsala**	**1.17**	**339**	*e*P		**Pn**	**11 10 01.2**	**+0.4**
VSTU	**Vaestervik**	**1.50**	**223**	P		**Pb**	**11 10 05.7**	**-0.3**
VSTU	**Vaestervik**	**1.50**	**223**	P		**Pb**	**11 10 05.7**	**-0.3**
VSTU	**Vaestervik**	**1.50**	**223**	P		**Pb**	**11 10 05.7**	**-0.3**

VSTU	**Vaestervik**	**1.50**	**223**	*eP*		**Pb**	**11 10 05.7**	**-0.3**
OSTU	**Oestervaala**	**1.61**	**336**	P		**Pg**	**11 10 08.8**	**+0.8**
OSTU	**Oestervaala**	**1.61**	**336**	P		**Pg**	**11 10 08.8**	**+0.8**
OSTU	**Oestervaala**	**1.61**	**336**	P		**Pg**	**11 10 08.8**	**+0.8**
OSTU	**Oestervaala**	**1.61**	**336**	*eP*		**Pg**	**11 10 08.8**	**+0.8**
AAL	**Aland**	**1.62**	**29**	*eP*		**Pn**	**11 10 07.6**	**+0.5**
AAL				*eS*		**Sn**	**11 10 28.7**	**+0.1**
FORU	**Forsmark**	**1.63**	**355**	P		**Pg**	**11 10 09.2**	**+0.7**
FORU	**Forsmark**	**1.63**	**355**	P		**Pg**	**11 10 09.2**	**+0.7**
FORU	**Forsmark**	**1.63**	**355**	*eP*		**Pg**	**11 10 09.2**	**+0.7**
LNKU	**Linkoeping**	**1.64**	**252**	P		**Pg**	**11 10 08.8**	**+0.2**
LNKU	**Linkoeping**	**1.64**	**252**	P		**Pg**	**11 10 08.8**	**+0.2**
LNKU	**Linkoeping**	**1.64**	**252**	*eP*		**Pg**	**11 10 08.8**	**+0.2**
ASKU	**Askersund**	**1.88**	**275**	P		**Pg**	**11 10 13.2**	**-0.1**
ASKU	**Askersund**	**1.88**	**275**	P		**Pg**	**11 10 13.2**	**-0.1**
ASKU	**Askersund**	**1.88**	**275**	*eP*		**Pg**	**11 10 13.2**	**-0.1**
EKSU	**Eksjoe**	**2.05**	**235**	P		**Pb**	**11 10 14.9**	**-0.4**
EKSU	**Eksjoe**	**2.05**	**235**	P		**Pb**	**11 10 14.9**	**-0.4**
EKSU	**Eksjoe**	**2.05**	**235**	*eP*		**Pb**	**11 10 14.9**	**-0.4**
SLIT	**Slitere, Latvi**	**2.34**	**118**	*eP*		**Pn**	**11 10 17.0**	**+0.1**
SLIT	**Slitere, Latvi**	**2.34**	**118**	*eP*		**Pn**	**11 10 17.7**	**+0.8**
SLIT				*eSG*		**Sb**	**11 10 48.5**	**-1.1**
HFC2	**Hagfors New Ar**	**2.78**	**301**	*eP*		**Pb**	**11 10 25.8**	**-2.0**
MTSE	**Matsula**	**2.80**	**89**	*eP*		**Pn**	**11 10 23.6**	**+0.3**
MTSE	**Matsula**	**2.80**	**89**	*eP*		**Pn**	**11 10 24.0**	**+0.7**
MTSE				*eS*		**Sn**	**11 10 57.9**	**+0.1**
RAF	**Rauma**	**2.81**	**35**	*eP*		**Pb**	**11 10 27.5**	**-0.9**
RAF	**Rauma**	**2.81**	**35**	*ePB*		**Pb**	**11 10 27.9**	**-0.4**
RAF				*eS*		**Sn**	**11 10 59.8**	**+1.8**
RAF				MSG			11 11 12.6	
	comp=Z,3.8nm,0.1s							
BLEU	**Blekinge**	**2.85**	**211**	*i* P		**Pn**	**11 10 25.1**	**+1.2**
BLEU				*eS*		**Sn**	**11 11 01.0**	**+2.1**
MEF	**Metsahovi**	**3.37**	**62**	MSG			11 11 28.2	
	comp=Z,2.9nm,0.1s							
DEL	**Delary**	**3.37**	**229**	*i* P		**Pn**	**11 10 33.0**	**+1.9**
NC602	**NORSAR Array S**	**4.01**	**302**	*eP*		**Pn**	**11 10 40.3**	**+0.4**
NC602				*eS*		**Sn**	**11 11 26.8**	**-0.6**
NC602				*e*			11 11 46.2	
NC602				IAML			11 11 51.3	
	comp=Z,3.9nm,0.6s							
BSD	**Bornholm Skovb**	**4.14**	**209**	*eP*		**Pn**	**11 10 42.5**	**+0.9**
BSD	**Bornholm Skovb**	**4.14**	**209**	*eP*		**Pn**	**11 10 42.6**	**+0.9**
BSD				*eS*		**Sn**	**11 11 32.6**	**+1.8**
BSD				IAML			11 12 00.1	
	comp=N,6.8nm,0.6s							
NOA	**NORSAR Array B**	**4.29**	**305**	Pn		**Pn**	**11 10 45.3**	**+1.5**
	baz=132,slow=13,SNR=1.6							
NOA				Sn		**Sn**	**11 11 36.9**	**+2.4**
	baz=53,slow=20,SNR=1.4							
NOA				Lg		Lg	11 11 54.3	
	comp=N,0.1nm,0.3s,baz=135,slow=26,SNR=6.1							
	comp=N,0.2nm,0.4s							
NAO01	**NORSAR Array S**	**4.34**	**302**	*e*		**Pb**	**11 10 50.7**	**-3.7**
NAO01				*eS*		**Sn**	**11 11 34.8**	**-1.0**
NAO01				IAML			11 12 01.2	
	comp=Z,6.8nm,0.5s							
FINES	**FINESS Array B**	**4.67**	**52**	Pn		**Pn**	**11 10 50.7**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=243,slow=12,SNR=5.2							
FINES				Sn		**Sn**	**11 11 44.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=240,slow=19,SNR=3.3							
FINES				Lg		Lg	11 12 01.9	
	comp=Z,2.2nm,0.3s,baz=238,slow=26,SNR=25							
	comp=Z,0.3nm,0.3s							
SKAR	**Skarslia**	**5.47**	**295**	*eP*		**Pn**	**11 11 00.6**	**+0.5**
SKAR				*eS*		**Sn**	**11 12 03.1**	**-0.6**
SKAR				IAML			11 12 30.5	
	comp=Z,3.2nm,0.5s							
ARCES	**ARCESS Array B**	**11.23**	**13**	Pn		**Pn**	**11 12 17.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=200,slow=13,SNR=4.9							
	comp=Z,1.0nm,0.8s							

*IDC **13** 11:13:32.6±2.5, 11°.57N×84°.88W, h0km, mb3.4/3, mbtmp3.4/3, MS3.5/2, Error ellipse: s-maj=205.2km s-min=51.5km az=47.0*
*INET **13** 11:13:32.8±1.8, 10°.27N×86°.16W, h11km±7km, MW3.5*
*UCR **13** 11:13:33.6±1.4, 10°.38N×86°.20W, h18km±4km, MW4.0*
ISC 13 11:13:32.5±1.5, 10°.39N±0°.04×86°.16W±0°.04, h9km±10km, n51, σ0°83/66, mb3.3/3, 2C-7D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAJU	**San Juanillo,**	**0.55**	**126**	*eP*		**Pb**	**Pb**	**11 13 44.9**	**+0.6**
SAJU				*eS*		**Sb**	**Sb**	**11 13 53.4**	**+1.2**
HZTE	**Horizontes, Gu**	**0.65**	**60**	*eP*		**Pb**	**Pb**	**11 13 46.6**	**+0.7**
HZTE				*eS*		**Sn**	**Sn**	**11 13 57.4**	**-0.8**
HZTE	**Horizontes, Gu**	**0.65**	**60**	*eP*		**Pb**	**Pb**	**11 13 46.6**	**+0.7**
HZTE				*eS*		**Sn**	**Sn**	**11 13 56.9**	**-1.3**
ORG	**Ortega, Santa**	**0.69**	**92**	*eP*		**Pb**	**Pb**	**11 13 47.1**	**+0.3**
GRZA	**Playa Garza**	**0.70**	**132**	*eP*		**Pb**	**Pb**	**11 13 46.9**	**+0.1**
DUNO	**Dulce Nombre,**	**0.72**	**115**	*eP*		**Pb**	**Pb**	**11 13 47.5**	**+0.2**
DUNO	**Dulce Nombre,**	**0.72**	**115**	*eP*		**Pb**	**Pb**	**11 13 47.5**	**+0.2**
DUNO				*eS*		**Sg**	**Sg**	**11 13 55.4**	**-0.6**
NICO	**Nicoya**	**0.75**	**110**	*eP*		**Pb**	**Pb**	**11 13 47.8**	**+0.2**
GBS3	**Finca Las Img**	**0.80**	**60**	*ǁiP*		**Pb**	**Pb**	**11 13 48.7**	**+0.2**
LAPC	**Finca la Perla**	**0.81**	**62**	*ǁiP*		**Pb**	**Pb**	**11 13 48.9**	**+0.1**
LAPC				*eS*		**Sb**	**Sb**	**11 14 00.7**	**+0.8**
INDI	**Punta indio, G**	**0.83**	**128**	*eP*		**Pb**	**Pb**	**11 13 48.9**	**-0.1**
BUEV	**Buena Vista**	**0.85**	**61**	*ǁiP*		**Pb**	**Pb**	**11 13 49.6**	**+0.1**
BUEV				*eS*		**Sb**	**Sb**	**11 14 01.9**	**+0.9**
GPS3	**Bodega del ICE**	**0.86**	**65**	*ǁeP*		**Pb**	**Pb**	**11 13 50.0**	**+0.3**
GPS3				*eS*		**Sn**	**Sn**	**11 14 02.9**	**-0.8**
GB1A	**Borinquen Arri**	**0.86**	**60**	*ǁeP*		**Pb**	**Pb**	**11 13 49.9**	**+0.1**
VRLE	**La Escondida,**	**0.88**	**63**	*eP*		**Pb**	**Pb**	**11 13 50.0**	**+0.1**
GPS1	**Guardaparques**	**0.89**	**64**	*ǁeP*		**Pb**	**Pb**	**11 13 50.2**	**+0.1**
LIM1	**Limonal**	**0.95**	**71**	*ǁiP*		**Pb**	**Pb**	**11 13 51.3**	**+0.2**
LIM1				*eS*		**Sn**	**Sn**	**11 14 05.1**	**-0.6**
BUAI	**Buenos Aires**	**0.95**	**59**	*ǁeP*		**Pb**	**Pb**	**11 13 51.4**	**+0.2**
BUAI				*eS*		**Sn**	**Sn**	**11 14 05.0**	**-0.7**
GUAB	**Guayabo de Bag**	**0.97**	**71**	*ǁiP*		**Pg**	**Pg**	**11 13 51.5**	**+0.4**
GUAB				*eS*		**Sn**	**Sn**	**11 14 05.9**	**-0.4**
COLC	**Colonia**	**0.98**	**74**	*eP*		**Pg**	**Pg**	**11 13 51.7**	**+0.3**
COLC				*eS*		**Sn**	**Sn**	**11 14 06.5**	**-0.1**
CUI	**Cuipilapa**	**1.02**	**75**	*eP*		**Pb**	**Pb**	**11 13 52.5**	**+0.2**
CUI				*eS*		**Sn**	**Sn**	**11 14 06.9**	**-0.6**
HORNC	**Hornillas**	**1.02**	**71**	*eP*		**Pg**	**Pg**	**11 13 52.3**	**+0.2**
VMAR	**Armenia, Volca**	**1.11**	**67**	*eP*		**Pb**	**Pb**	**11 13 54.0**	**+0.1**
JTS	**Las Juntas de**	**1.19**	**94**	*eP*		**Pb**	**Pb**	**11 13 54.7**	**-0.6**
JTS	**Las Juntas de**	**1.19**	**94**	*eP*		**Pb**	**Pb**	**11 13 54.7**	**-0.6**
VERA	**Finca Concepci**	**1.35**	**70**	*eP*		**Pn**	**Pn**	**11 13 57.7**	**+0.2**
LAFE	**Finca La Fe, P**	**1.36**	**115**	*eP*		**Pn**	**Pn**	**11 13 56.2**	**-1.5**
LAFE				*eS*		**Sb**	**Sb**	**11 14 12.4**	**-3.3**
CASO	**Castillo**	**1.41**	**88**	*eP*		**Pb**	**Pb**	**11 13 58.8**	**-0.2**
CEDE	**Laguna Cedeo**	**1.44**	**86**	*eP*		**Pb**	**Pb**	**11 13 59.3**	**-0.2**
FORC	**Fortuna**	**1.47**	**87**	*eP*		**Pn**	**Pn**	**11 13 59.6**	**+0.4**
COPE	**Coope Vega, Sa**	**1.76**	**79**	*eP*		**Pb**	**Pb**	**11 14 04.0**	**+0.8**
COPN	**Copaltepe**	**1.83**	**347**	*eP*		**Pb**	**Pb**	**11 14 05.5**	**-0.6**
APYN	**Apoyeque**	**1.84**	**354**	*eP*		**Pn**	**Pn**	**11 14 03.2**	**-1.2**
ACON	**Acoyapa**	**1.85**	**32**	*eP*		**Pn**	**Pn**	**11 14 04.0**	**-0.4**
ACON	**Acoyapa**	**1.85**	**32**	*eP*		**Pn**	**Pn**	**11 14 04.0**	**-0.4**
ACON				*eS*		**Sb**	**Sb**	**11 14 29.0**	**-0.7**
HUEN		**1.94**	**360**	*eP*		**Pn**	**Pn**	**11 14 05.4**	**-0.2**
HUEN				*eS*		**Sb**	**Sb**	**11 14 31.9**	**-0.4**
BOAB	**BOACO BROADBAN**	**2.11**	**13**	*eP*		**Pn**	**Pn**	**11 14 07.7**	**-0.3**
RIFO	**Rio Frio, Sara**	**2.20**	**92**	*eP*		**Pn**	**Pn**	**11 14 10.2**	**+0.9**
LCR2	**La Lucha 2**	**2.22**	**107**	*eP*		**Pn**	**Pn**	**11 14 09.7**	**+0.1**
RIMA	**Rio Macho**	**2.35**	**105**	*eP*		**Pn**	**Pn**	**11 14 12.4**	**+1.0**
CRIN	**San Cristobal**	**2.46**	**339**	*eP*		**Pn**	**Pn**	**11 14 12.5**	**-0.3**
CRIN	**San Cristobal**	**2.46**	**339**	*eP*		**Pn**	**Pn**	**11 14 12.8**	**0.0**
CRIN				*eS*		**Sn**	**Sn**	**11 14 44.7**	**+1.6**
MRVA	**Moravia de Chi**	**2.73**	**102**	*eP*		**Pn**	**Pn**	**11 14 17.5**	**+0.8**
CSGN	**Cosiguina Volc**	**2.92**	**332**	*eP*		**Pn**	**Pn**	**11 14 18.9**	**-0.2**
TXAR	**Lajitas Array**	**24.96**	**322**	P		**P**	**P**	**11 18 56.8**	**+0.2**
	0.5nm,0.5s,baz=138,slow=9.3,SNR=12								
TXAR				PcP		**PcP**	**PcP**	**11 22 33.3**	**+1.3**
	0.2nm,0.8s,baz=142,slow=4.6,SNR=2.2								
	0.5nm,0.5s								
PDAR	**Pinedale Array**	**38.18**	**332**	P		**P**	**P**	**11 20 50.9**	**-1.8**
	0.2nm,0.6s,baz=138,slow=9.6,SNR=2.5								
	0.2nm,0.6s								
NVAR	**Mina Array Bea**	**40.08**	**320**	P		**P**	**P**	**11 21 10.2**	**+1.5**
	0.5nm,0.6s,baz=125,slow=7.8,SNR=5.9								
NVAR				PcP		**PcP**	**PcP**	**11 23 14.6**	**+1.1**
	0.4nm,0.6s,baz=138,slow=4.2,SNR=4.4								
	0.5nm,0.6s								
SFJD	**Kangerlussuaq**	**61.36**	**15**	LR		LR	LR	11 49 33.5	
	comp=Z,62nm,20.8s,baz=224,slow=36								
NOA	**NORSAR Array B**	**84.55**	**29**	LR		LR	LR	12 02 22.4	
	comp=Z,17nm,19.2s,baz=65,slow=35								
WRA	**Warramunga Arr**	**139.86**	**251**	PKhKP		PKPpre		11 33 01.7	
	0.3nm,1.0s,baz=92,slow=3.2,SNR=1.4								
CMAR	**Chiang Mai Arr**	**150.90**	**350**	PKPbc		**PKPbc**		**11 33 25.4**	**-1.2**
	0.3nm,0.3s,baz=354,slow=3.6,SNR=1.5								

*IDC **13** 11:16:38.8±1.1, 39°.03N×106°.06E, h0km, mb3.7/6, mbtmp3.7/8, ML3.0/1, MS2.9/1, Error ellipse: s-maj=39.5km s-min=16.7km az=65.0*
ISC 13 11:16:43.5±1.2, 39°.1N±0°.1×106°.1E±0°.2, h35km, n8, σ1°09/8, mb3.7/5, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.75**	**1**	Pn		**Pn**	**Pn**	**11 18 47.2**	**-0.3**
	0.9nm,0.6s,baz=186,slow=15,SNR=4.2								
SONM				Lg		Lg	Lg	11 21 18.5	
	0.3nm,0.3s,baz=194,slow=28,SNR=5.3								
SONM				LR		LR	LR	11 22 12.1	
	comp=Z,66nm,19.1s,baz=241,slow=38								
MKAR	**Makanchi Array**	**19.02**	**302**	P		**P**	**P**	**11 21 02.0**	**-0.2**
	baz=95,slow=9.9,SNR=2.7								
	0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**20.76**	**323**	P		**P**	**P**	**11 21 19.6**	**-1.4**
	1.3nm,0.5s,baz=125,slow=12,SNR=3.1								
	1.3nm,0.5s								
CMAR	**Chiang Mai Arr**	**21.48**	**199**	P		**P**	**P**	**11 21 27.7**	**-1.4**
	0.9nm,0.3s,baz=359,slow=8.2,SNR=2.1								
	0.9nm,0.3s								
KURBB	**Kurchatov Arra**	**22.57**	**310**	P		**P**	**P**	**11 21 40.6**	**+0.2**
	0.7nm,0.2s,baz=109,slow=12,SNR=3.1								
	0.7nm,0.2s								
BVAR	**Borovoye Array**	**28.11**	**312**	P		**P**	**P**	**11 22 33.0**	**+1.2**
	1.1nm,0.6s,baz=103,slow=8.8,SNR=8.8								
	1.1nm,0.6s								
WRA	**Warramunga Arr**	**64.39**	**150**	P		**P**	**P**	**11 27 16.4**	**+0.4**
	0.5nm,0.8s,baz=338,slow=6.1,SNR=3.1								
	0.5nm,0.8s								
ASAR	**Alice Springs**	**67.62**	**152**	P		**P**	**P**	**11 27 37.4**	**+0.6**
	1.0nm,0.6s,baz=334,slow=6.5,SNR=23								
	1.0nm,0.6s								

*IDC **13** 11:39:09.0±4.5, 4°.68S×143°.87E, h197km±65km, mb3.2/4, mbtmp3.8/6, Error ellipse: s-maj=64.1km s-min=16.8km az=107.0*
ISC 13 11:39:05.6±1.1, 4°.6S±0°.1×143°.6E±0°.1, h150km, n6, σ1°32/8, mb3.5/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.97**	**144**	P		**Pn**	**Pn**	**11 40 31.9**	**0.0**
	10nm,0.7s,baz=316,slow=15,SNR=2.1								
PMG				S		**Sn**	**Sn**	**11 41 39.4**	**-0.1**
	16nm,0.9s,baz=312,slow=18,SNR=1.8								
WRA	**Warramunga Arr**	**17.72**	**210**	P		**Pn**	**Pn**	**11 43 02.8**	**-0.4**
	1.6nm,0.4s,baz=33,slow=13,SNR=57								
WRA				S		**S**	**S**	**11 46 16.4**	**-2.1**
	0.4nm,1.0s,baz=36,slow=24,SNR=1.7								
ASAR	**Alice Springs**	**21.15**	**205**	P		**P**	**P**	**11 43 40.5**	**+1.5**
	1.3nm,0.8s,baz=37,slow=11,SNR=13								
	1.3nm,0.8s								
FITZ	**Fitzroy Crossi**	**22.10**	**231**	P		**P**	**P**	**11 43 50.0**	**+1.0**
	2.3nm,0.7s,baz=48,slow=11,SNR=8.0								
	2.3nm,0.7s								
KSRS	**Korea Array**	**44.29**	**342**	P		**P**	**P**	**11 46 59.6**	**-0.8**
	0.9nm,0.8s,baz=170,slow=7.5,SNR=3.1								
	0.9nm,0.8s								
MKAR	**Makanchi Array**	**74.25**	**321**	P		**P**	**P**	**11 50 26.5**	**+0.3**
	0.7nm,0.6s,baz=100,slow=7.1,SNR=5.8								
	0.7nm,0.6s								

*NEIC **13** 11:50:51.3±0.9, 13°.3S±0°.1×167°.2E±0°.2, h46km±7km, mb4.4/10, Error ellipse: s-maj=22.2km s-min=14.1km az=70.0*
*IDC **13** 11:50:58.9±6.3, 13°.86S×167°.05E, h100km±59km, mb3.7/5, mbtmp4.1/6, Error ellipse: s-maj=48.4km s-min=28.1km az=159.0*
*NOU **13** 11:51:05.9, 14°.16S×167°.08E, h74km, mb4.0/11, Vanuatu Islands*
ISC 13 11:50:58.3±1.0, 13°.75S±0°.09×167°.0E±0°.1, h100km, n32, σ1°70/32, mb4.3/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**4.12**	**164**	P		**Pn**	**Pn**	**11 52 00.8**	**+1.7**
LIFNC	**LIFOU**	**7.00**	**178**	Pn		**Pn**	**Pn**	**11 52 36.2**	**-2.0**
KOUNC	**Koumac, New Ca**	**7.25**	**201**	Pn		**Pn**	**Pn**	**11 52 41.3**	**-0.3**
KOUNC	**Koumac, New Ca**	**7.25**	**201**	P		**Pn**	**Pn**	**11 52 44.6**	**+3.0**
MARNC	**Mare, Loyalty**	**7.75**	**173**	Pn		**Pn**	**Pn**	**11 52 47.7**	**-0.8**
MARNC	**Mare, Loyalty**	**7.75**	**173**	P		**Pn**	**Pn**	**11 52 50.8**	**+2.3**
	0.4nm,1.2s								
DZM	**Mont Dzumac**	**8.29**	**184**	P		**Pn**	**Pn**	**11 52 56.0**	**0.0**
	6.9nm,0.3s,baz=38,slow=19,SNR=28								
DZM				S		**Sn**	**Sn**	**11 54 24.4**	**-3.7**
	9.2nm,0.5s,baz=350,slow=19,SNR=2.2								
DZM	**Mont Dzumac**	**8.29**	**184**			**Pn**	**Pn**	**11 52 55.9**	**0.0**
DZM	**Mont Dzumac**	**8.29**	**184**	P		**Pn**	**Pn**	**11 52 56.4**	**+0.4**
NOUC	**Port Laguerre**	**8.34**	**184**	P		**Pn**	**Pn**	**11 52 59.0**	**+2.6**
ONTNC	**Ouen Toro**	**8.53**	**183**	Pn		**Pn**	**Pn**	**11 52 59.4**	**+0.4**
ONTNC	**Ouen Toro**	**8.53**	**183**	P		**Pn**	**Pn**	**11 52 59.9**	**+0.9**
OUENC	**Ouen Island, N**	**8.63**	**181**	Pn		**Pn**	**Pn**	**11 52 58.0**	**-2.4**
OUENC	**Ouen Island, N**	**8.63**	**181**	P		**Pn**	**Pn**	**11 53 03.9**	**+3.5**
PINNC	**Pines Island,**	**8.83**	**177**	Pn		**Pn**	**Pn**	**11 53 02.7**	**-0.4**
PINNC	**Pines Island,**	**8.83**	**177**	P		**Pn**	**Pn**	**11 53 04.3**	**+1.2**
EIDS	**Eidsvold**	**18.92**	**230**	P		**Pn**	**Pn**	**11 55 14.0**	**+0.9**
EIDS				IAmb		IAmb	IAmb	11 55 14.1	
	comp=Z,5.8nm,0.6s								
CTA	**Charters Tower**	**20.82**	**250**	P		Pn	Pn	11 55 34.2	-1.1
	comp=Z,2.4nm,0.6s,baz=74,slow=14,SNR=2.1								
	comp=Z,2.4nm,0.6s								
STKA	**Stephens Creek**	**29.44**	**228**	P		**P**	**P**	**11 56 53.4**	**+0.7**
	comp=Z,3.9nm,0.5s,baz=52,slow=10.0,SNR=15								
	comp=Z,3.9nm,0.5s								
STKA	**Stephens Creek**	**29.44**	**228**	P		**P**	**P**	**11 56 53.6**	**+0.9**
WR0	**Warramunga Arr**	**31.64**	**254**	P		**P**	**P**	**11 57 12.8**	**+0.5**
WR0				IAmb		IAmb	IAmb	11 57 51.6	
	comp=Z,11nm,1.5s								
WB0	**Warramunga Arr**	**31.76**	**255**	P		**P**	**P**	**11 57 12.8**	**-0.5**
WB0				IAmb		IAmb	IAmb	11 57 50.1	
	comp=Z,9.0nm,1.4s								
WB2	**Warramunga Arr**	**31.81**	**254**	P		**P**	**P**	**11 57 13.7**	**-0.1**
WB2				IAmb		IAmb	IAmb	11 57 51.1	
	comp=Z,9.5nm,1.4s								
WRAB	**Tennant Creek**	**31.81**	**254**	P		**P**	**P**	**11 57 12.7**	**-1.0**
WRAB				IAmb		IAmb	IAmb	11 57 40.3	
	comp=Z,9.7nm,1.4s								
WRA	**Warramunga Arr**	**31.82**	**254**	P		**P**	**P**	**11 57 14.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=83,slow=7.7,SNR=19								
WRA				PcP		**PcP**	**PcP**	**12 00 03.9**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=76,slow=3.5,SNR=1.1								
	comp=Z,0.8nm,0.5s								
WRA	**Warramunga Arr**	**31.82**	**254**	P		**P**	**P**	**11 57 13.6**	**-0.3**
ASAR	**Alice Springs**	**32.79**	**248**	P		**P**	**P**	**11 57 22.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=72,slow=9.8,SNR=14								
	comp=Z,0.8nm,0.4s								
KS19	**Wonju Array Si**	**62.85**	**326**	P		P	P	12 01 09.0	-4.7
SEHB	**SEOHWA**	**63.20**	**326**	P		**P**	**P**	**12 01 12.4**	**-3.6**
SBA	**Scott Base**	**64.11**	**180**	P		**P**	**P**	**12 01 22.5**	**+1.1**
SBA				IAmb		IAmb	IAmb	12 01 35.0	
	comp=Z,8.7nm,0.8s								
ILAR	**Eielson Array**	**85.68**	**18**	P		**P**	**P**	**12 03 26.6**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=230,slow=5.5,SNR=6.7								
	comp=Z,0.8nm,0.7s								
ARCES	**ARCESS Array B**	**119.24**	**345**	PKP		**PKPdf**		**12 09 35.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=46,slow=2.6,SNR=10								

*IDC **13** 11:59:44.1±0.9, 10°.03N×91°.46E, h0km, mb3.8/7, mbtmp3.8/9, ML3.9/2, MS3.7/5, Error ellipse: s-maj=29.3km s-min=20.1km az=56.0*
*NEIC **13** 11:59:49.0±0.9, 10°.3N±0°.1×91°.6E±0°.1, h28km±4km, mb4.7/11, Error ellipse: s-maj=20.9km s-min=13.1km az=67.0*
*NDI **13** 11:59:51.6±4.5, 10°.89N×91°.51E, h35km, ML4.7, mb4.7(NEIC)*
ISC 13 11:59:47.1±0.7, 10°.05N±0°.08×91°.42E±0°.06, h24km, n37, σ1°41/30, mb4.1/14, MS3.7/4, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.05**	**39**	Pn		**Pn**	**Pn**	**12 00 17.8**	**-2.3**
PBA	**Port Blair**	**2.05**	**39**	*eP*		**Pn**	**Pn**	**12 00 17.6**	**-2.5**
PBA				*eS*		Sn	Sn	12 00 31.6	-13
PBA				*eS*		**Sb**	**Sb**	**12 00 50.3**	**+1.4**
DGPR	**DIGLIPUR**	**3.44**	**25**	*eP*		**Pn**	**Pn**	**12 00 38.1**	**-1.1**
DGPR				*eS*		Sn	Sn	12 01 01.5	-18
DGPR				IAML				12 01 23.7	
	comp=E,327nm,0.5s								
KULM	**Kulim**	**10.30**	**117**	Pn		**Pn**	**Pn**	**12 02 13.1**	**-0.4**
PSI	**Prapat**	**10.37**	**134**	LR		LR	LR	12 06 49.3	
	comp=E,314nm,20.7s,baz=298,slow=41								
PALK	**Pallekele**	**10.95**	**256**	Pn		**Pn**	**Pn**	**12 02 21.0**	**-1.4**
	comp=E,0.7nm,0.3s,baz=76,slow=19,SNR=2.4								
PALK				Sn		Sn	Sn	12 04 16.6	-7.7
	comp=E,1.9nm,0.3s,baz=101,slow=24,SNR=8.3								
	comp=E,3.5nm,0.7s								
CMAR	**Chiang Mai Arr**	**11.09**	**40**	Pn		**Pn**	**Pn**	**12 02 24.2**	**0.0**
	comp=E,0.3nm,0.3s,baz=238,slow=15,SNR=7.4								
	comp=E,1.2nm,0.7s								
MDRS	**Chennai**	**11.35**	**286**	*eP*		**Pn**	**Pn**	**12 02 28.2**	**+0.4**
MDRS				*ǁeS*		Sn	Sn	12 04 25.4	-8.6
MDRS				IAML				12 04 32.0	
	comp=N,893nm,0.8s								
MDRS				IAML				12 04 32.6	
	comp=E,498nm,0.6s								
HYB	**Hyderabad**	**14.48**	**302**	*eS*		**Sn**	**Sn**	**12 05 46.8**	**-3.8**
HYB				*eS*		S	S	12 05 47.6	-22
BOK	**Bokaro**	**14.65**	**340**	*eS*		Sn	Sn	12 05 42.6	-12
BHPL	**Bhopal**	**18.73**	**316**	*eS*		Sn	Sn	12 07 21.2	-13
H08S3	**Diego Garcia H**	**25.77**	**228**	T		T	T	12 32 14.5	
	baz=46,slow=75,SNR=526								
H08S2	**Diego Garcia H**	**25.78**	**228**	T		T	T	12 32 14.7	
	baz=46,slow=75,SNR=137								
H08S1	**Diego Garcia H**	**25.79**	**228**	T		T	T	12 32 21.6	
	baz=46,slow=75,SNR=38								
ENH	**Enshi**	**26.23**	**37**	P		**P**	**P**	**12 05 18.1**	**-2.4**
ENH				IAmb		IAmb	IAmb	12 05 28.1	
	comp=Z,33nm,1.4s								
MYLDM	**Lahad Datu**	**27.26**	**98**	P		**P**	**P**	**12 05 29.0**	**-0.8**
MYLDM				IAmb		IAmb	IAmb	12 05 51.3	
	comp=Z,14nm,1.0s								
BTK	**Batken**	**35.04**	**332**	P		**P**	**P**	**12 06 39.9**	**+1.7**
BTK	

TUL1	**Leonard**	**1.92**	**62**	P		**Pn**	**12 16 59.2**	**+0.4**
	baz=243,SNR=29							
TUL1				S		**Sb**	**12 17 24.9**	**-0.4**
	baz=243							
KAN14	**Manchester OK**	**1.93**	**358**	Pn		**Pn**	**12 16 59.2**	**+0.1**
KAN14				IAmb_Lg			12 17 28.3	
	comp=Z,52nm,0.8s							
KAN13	**South Haven SW**	**2.01**	**9**	Pn		**Pn**	**12 17 00.2**	**0.0**
KAN17	**Caldwell West**	**2.02**	**3**	Pn		**Pn**	**12 17 00.4**	**+0.2**
KAN05	**Bluff City Nor**	**2.08**	**0**	Pn		**Pn**	**12 17 00.9**	**-0.3**
KAN10	**Anthony SW Sta**	**2.10**	**355**	Pn		**Pn**	**12 17 01.4**	**-0.1**
X37A	**Clayton**	**2.11**	**101**	Pn		**Pn**	**12 17 01.7**	**+0.3**
X37A	**Clayton**	**2.11**	**101**	P		**Pn**	**12 17 02.2**	**+0.8**
	baz=283,SNR=48							
X37A				S		**Sb**	**12 17 31.7**	**+1.0**
	baz=283							
KAN09	**Caldwell North**	**2.12**	**6**	Pn		**Pn**	**12 17 01.8**	**+0.2**
KAN01	**Argonia South**	**2.13**	**3**	Pn		**Pn**	**12 17 01.4**	**-0.4**
KAN01				IAmb_Lg			12 17 36.9	
	comp=Z,55nm,1.0s							
T35A	**Sooner Cattle**	**2.19**	**30**	Pn		**Pn**	**12 17 02.6**	**-0.1**
T35B	**Sooner Cattle**	**2.19**	**30**	P		**Pn**	**12 17 03.2**	**+0.6**
	baz=211,SNR=30							
T35B				S		**Sn**	**12 17 31.0**	**+0.7**
	baz=211							
KAN08	**Anthony NE Sta**	**2.20**	**358**	Pn		**Pn**	**12 17 02.8**	**0.0**
KAN16	**Harper SW Stat**	**2.20**	**356**	Pn		**Pn**	**12 17 03.6**	**+0.8**
KAN16				IAmb_Lg			12 17 35.0	
	comp=Z,49nm,0.7s							
KS20	**Mayfield South**	**2.22**	**7**	Pn		**Pn**	**12 17 02.8**	**-0.2**
KS20				IAmb_Lg			12 17 38.6	
	comp=Z,65nm,0.8s							
KAN06	**Argonia West S**	**2.22**	**0**	Pn		**Pn**	**12 17 03.5**	**+0.4**
RLO	**Rose Lookout**	**2.59**	**63**	Pn		**Pn**	**12 17 07.0**	**-1.1**
ABTX	**Abilene, Hawle**	**2.81**	**212**	IAmb_Lg			12 17 59.0	
	comp=Z,65nm,0.9s							
WHTX	**Lake Whitney,**	**3.04**	**173**	Pn		**Pn**	**12 17 13.9**	**-0.4**
WHTX				IAmb_Lg			12 18 05.4	
	comp=Z,40nm,1.0s							
WHTX	**Lake Whitney,**	**3.04**	**173**	P		**Pn**	**12 17 14.6**	**+0.3**
	baz=354,SNR=11							
WHTX				S		**Sn**	**12 17 52.0**	**+0.7**
	baz=354							
AMTX	**Amarillo**	**3.13**	**269**	Pn		**Pn**	**12 17 15.3**	**-0.3**
AMTX				IAmb_Lg			12 18 12.4	
	comp=Z,31nm,0.8s							
AMTX	**Amarillo**	**3.13**	**269**	P		**Pn**	**12 17 16.5**	**+0.9**
	baz=86							
U38A	**Gravette**	**3.17**	**63**	Pn		**Pn**	**12 17 16.0**	**-0.1**
HHAR	**Hobbs**	**3.44**	**67**	Pn		**Pn**	**12 17 19.1**	**-0.8**
HHAR	**Hobbs**	**3.44**	**67**	P		**Pn**	**12 17 19.9**	**0.0**
	baz=250							
R32A	**Long Quarter,**	**3.46**	**349**	Pn		**Pn**	**12 17 19.2**	**-0.9**
R32A				IAmb_Lg			12 18 19.5	
	comp=Z,38nm,0.8s							
237A	**Washetta, Mont**	**3.47**	**150**	Pn		**Pn**	**12 17 18.6**	**-1.6**
237A				IAmb_Lg			12 18 23.4	
	comp=Z,33nm,0.8s							
MIAR	**Mount Ida**	**3.57**	**96**	Pn		**Pn**	**12 17 20.7**	**-0.9**
MIAR				IAmb_Lg			12 18 20.1	
	comp=Z,44nm,0.7s							
MIAR	**Mount Ida**	**3.57**	**96**	P		**Pn**	**12 17 22.4**	**+0.8**
	baz=279,SNR=30							
CBKS	**Cedar Bluff**	**4.07**	**339**	Pn		**Pn**	**12 17 28.7**	**+0.2**
CBKS				IAmb_Lg			12 18 38.0	
	comp=Z,45nm,0.8s							
CBKS	**Cedar Bluff**	**4.07**	**339**	S		**Sn**	**12 18 16.5**	**-0.1**
	baz=158							
WLAR	**White Oak Lake**	**4.16**	**107**	Pn		**Pn**	**12 17 29.7**	**+0.1**
WLAR				IAmb_Lg			12 18 45.5	
	comp=Z,39nm,0.8s							
MSTX	**Muleshoe**	**4.18**	**257**	Pn		**Pn**	**12 17 29.4**	**-0.6**
MSTX	**Muleshoe**	**4.18**	**257**	S		**Sn**	**12 18 19.7**	**+0.3**
	baz=74							
KSU1	**Kansas State U**	**4.20**	**14**	Pn		**Pn**	**12 17 29.0**	**-1.2**
KSU1	**Kansas State U**	**4.20**	**14**	P		**Pn**	**12 17 29.8**	**-0.4**
	baz=194							
NATX	**Nacogdoches**	**4.22**	**140**	IAmb_Lg			12 18 47.7	
	comp=Z,23nm,1.0s							
435B	**Jarrell**	**4.24**	**177**	S		**Sn**	**12 18 20.9**	**+0.3**
	baz=357							
S39A	**Bolivar**	**4.54**	**53**	Pn		**Pn**	**12 17 34.2**	**-0.7**
S39A				IAmb_Lg			12 18 50.7	
	comp=Z,42nm,0.8s							
UALR	**University of**	**4.56**	**92**	IAmb_Lg			12 18 59.9	
	comp=Z,40nm,0.7s							
WHAR	**Wooly Hollow**	**4.59**	**85**	Pn		**Pn**	**12 17 34.9**	**-0.6**
WHAR				IAmb_Lg			12 19 01.4	
	comp=Z,24nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.78**	**78**	Pn		**Pn**	**12 17 37.7**	**-0.5**
JCT	**Junction City**	**4.81**	**200**	Pn		**Pn**	**12 17 38.0**	**-0.7**
MGMO	**Mountain Grove**	**5.02**	**63**	Pn		**Pn**	**12 17 40.5**	**-0.9**
MGMO				IAmb_Lg			12 19 02.1	
	comp=Z,30nm,0.8s							
CPRX	**Cap Rock**	**5.36**	**250**	Pn		**Pn**	**12 17 45.9**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.50**	**318**	Pn		**Pn**	**12 17 47.6**	**-0.7**
KSCO				IAmb_Lg			12 19 31.0	
	comp=Z,29nm,0.8s							
R40A	**Maddies Statio**	**5.56**	**52**	Pn		**Pn**	**12 17 48.0**	**-1.0**
R40A				IAmb_Lg			12 19 28.5	
	comp=Z,30nm,0.8s							
LCAR	**Lake Charles**	**5.58**	**77**	Pn		**Pn**	**12 17 48.6**	**-0.6**
LCAR				IAmb_Lg			12 19 33.0	
	comp=Z,18nm,0.9s							
CLN7	**Carlsbad 7**	**5.58**	**244**	Pn		**Pn**	**12 17 48.8**	**-0.6**
T25A	**Trinidad**	**5.70**	**294**	Pn		**Pn**	**12 17 50.5**	**-0.5**
P38A	**Dawn**	**5.75**	**36**	Pn		**Pn**	**12 17 50.8**	**-0.8**
CCM	**Cathedral Cave**	**6.14**	**59**	IAmb_Lg			12 19 54.6	
	comp=Z,28nm,0.8s							
CCM	**Cathedral Cave**	**6.14**	**59**	P		**Pn**	**12 17 56.6**	**-0.3**
	baz=242							
SDCO	**Great Sand Dun**	**6.72**	**296**			**Pn**	**12 18 05.0**	**-0.1**
OGNE	**Ogallala**	**6.76**	**332**	Pn		**Pn**	**12 18 05.3**	**-0.2**
OGNE				IAmb_Lg			12 20 09.2	
	comp=Z,19nm,0.7s							
833A	**Chaparral WMA,**	**6.80**	**191**	IAmb_Lg			12 20 13.1	
	comp=Z,20nm,0.8s							
MNTX	**Cornudas Mount**	**7.10**	**244**	Pn		**Pn**	**12 18 09.7**	**-0.4**

*NOU **13** 12:16:57.1, 36˚.60S×178˚.67W, h0km, mb4.5/6, East of North Island, N.Z.*
*WEL **13** 12:17:25.3±1.6, 37˚S±5˚×17˚9E±˚, h14km±6km, M3.5/33, ML3.7/35, MLv3.5/33, Error ellipse: s-maj=0.0km s-min=0.0km az=77.0*

ISC 13 12:17:23.8±3.0, 37˚.37S±0˚.08×179˚.1E±0˚.1, h13km±12km, n98, σ1°02/103, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.68**	**253**	P	**Pg**	**12 17 37.1**	**0.0**
MXZ				S	**Sg**	**12 17 44.2**	**-1.9**
WMGZ	**Waiomatatini S**	**0.72**	**231**	P	**Pn**	**12 17 40.2**	**+0.4**
WMGZ				S	**Sn**	**12 17 50.8**	**+0.1**
PKGZ	**Pakihiroa**	**0.98**	**238**	P	**Pg**	**12 17 43.3**	**+0.5**
PKGZ				S	**Sg**	**12 17 55.6**	**0.0**
PUZ	**Puketiti**	**0.98**	**224**	P	**Pg**	**12 17 43.9**	**+1.1**
PUZ				S	**Sg**	**12 17 56.5**	**+0.8**
HAZ	**Te Kaha**	**1.14**	**250**	P	**Pb**	**12 17 44.7**	**-0.6**
TWGZ	**Tauwhareparae**	**1.22**	**228**	P	**Pn**	**12 17 47.3**	**+0.7**
TWGZ				S	**Sn**	**12 18 03.0**	**+0.1**
RUGZ	**Raukumara Rang**	**1.29**	**242**	P	**Pn**	**12 17 48.2**	**+0.5**
CNGZ	**Carnagh Statio**	**1.33**	**213**	P	**Pb**	**12 17 49.8**	**+1.1**
TKGZ	**Te Karaka**	**1.47**	**223**	P	**Pn**	**12 17 50.4**	**+0.4**
WIZ	**White Island**	**1.55**	**264**	P	**Pn**	**12 17 51.4**	**+0.2**
MWZ	**Matawai**	**1.59**	**232**	P	**Pn**	**12 17 51.9**	**+0.2**
RIGZ	**Rimuhau**	**1.72**	**219**	P	**Pn**	**12 17 53.8**	**+0.3**
RAGZ	**Rawiri**	**1.76**	**230**	P	**Pn**	**12 17 54.4**	**+0.3**
WHRZ	**Whale Island**	**1.78**	**253**	P	**Pb**	**12 17 55.7**	**-0.6**
URZ	**Urewera**	**1.83**	**240**	P	**Pn**	**12 17 55.6**	**+0.6**
URZ	**Urewera**	**1.83**	**240**	P	**Pn**	**12 17 55.9**	**+1.0**
PRGZ	**Paritu Road**	**1.83**	**212**	P	**Pn**	**12 17 55.9**	**+0.8**
SNGZ	**Shannon Statio**	**2.00**	**224**	P	**Pn**	**12 17 57.4**	**+0.1**
KNZ	**Kokohu**	**2.01**	**214**	P	**Pn**	**12 17 57.3**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.02**	**208**	P	**Pn**	**12 17 58.4**	**+0.7**
EDRZ	**Edgecumbe**	**2.03**	**248**	P	**Pn**	**12 17 58.6**	**+0.8**
OPRZ	**Ohinepanea**	**2.10**	**256**	P	**Pn**	**12 17 58.6**	**-0.1**
MUGZ	**Murupara**	**2.17**	**239**	P	**Pn**	**12 17 59.8**	**+0.2**
RAHZ	**Arahi**	**2.23**	**226**	P	**Pn**	**12 18 00.9**	**+0.4**
TARZ	**Mount Tarawera**	**2.25**	**247**	P	**Pn**	**12 18 02.0**	**+1.2**
WHHZ	**Waihua**	**2.27**	**221**	P	**Pn**	**12 18 01.3**	**+0.3**
RRRZ	**Republican Roa**	**2.28**	**244**	P	**Pn**	**12 18 02.0**	**+0.8**
TGRZ	**Tauranga**	**2.31**	**260**	P	**Pn**	**12 18 01.4**	**-0.2**
MTHZ	**Maungataniwha**	**2.33**	**230**	P	**Pn**	**12 18 02.6**	**+0.6**
KARZ	**Kaharoa**	**2.38**	**253**	P	**Pn**	**12 18 02.9**	**+0.3**
PRRZ	**Plateau Road**	**2.44**	**242**	P	**Pn**	**12 18 03.6**	**+0.3**
HSRZ	**Hossack Road**	**2.47**	**247**	P	**Pb**	**12 18 06.9**	**-1.2**
HRRZ	**Handcock Road**	**2.47**	**245**	P	**Pn**	**12 18 05.7**	**+1.9**
ALRZ	**Allen Road**	**2.50**	**241**	P	**Pn**	**12 18 04.6**	**+0.4**
NMHZ	**Naumai**	**2.51**	**226**	P	**Pn**	**12 18 05.1**	**+0.6**
ARHZ	**Aropaoanui**	**2.53**	**221**	P	**Pn**	**12 18 04.9**	**+0.4**
MRHZ	**Matea Rd**	**2.59**	**235**	P	**Pn**	**12 18 05.7**	**+0.2**
BKZ	**Black Stump Fm**	**2.74**	**228**	P	**Pn**	**12 18 07.7**	**+0.1**
BKZ	**Black Stump Fm**	**2.74**	**228**	P	**Pn**	**12 18 07.9**	**+0.3**
CKHZ	**Cape Kidnapper**	**2.79**	**214**	P	**Pn**	**12 18 07.7**	**-0.6**
KUZ	**Kuaotunu**	**2.79**	**282**	P	**Pn**	**12 18 06.3**	**-2.0**
MCHZ	**McNeill Hill**	**2.82**	**222**	P	**Pn**	**12 18 08.4**	**-0.2**
KUTZ	**Kaahu Road**	**2.84**	**246**	P	**Pn**	**12 18 09.6**	**+0.7**
TOZ	**Tahuroa Road**	**2.90**	**262**	P	**Pn**	**12 18 09.6**	**-0.1**
KWHZ	**Kaweka Forest**	**2.95**	**225**	P	**Pn**	**12 18 10.1**	**-0.4**
KAHZ	**Kahuranaki**	**3.00**	**215**	P	**Pn**	**12 18 10.4**	**-0.6**
TLZ	**Tolley Road**	**3.00**	**250**	P	**Pn**	**12 18 11.5**	**+0.4**
RATZ	**Rangitukua**	**3.04**	**240**	P	**Pn**	**12 18 12.2**	**+0.5**
KRHZ	**Kereru**	**3.14**	**223**	P	**Pn**	**12 18 12.6**	**-0.4**
GRZ	**Great Barrier**	**3.15**	**290**	P	**Pn**	**12 18 12.2**	**-0.9**
MKAZ	**Moumakai**	**3.18**	**274**	P	**Pn**	**12 18 12.5**	**-0.9**
PXZ	**Pawanui**	**3.19**	**213**	P	**Pn**	**12 18 12.4**	**-1.3**
BHHZ	**Black Hill Sta**	**3.21**	**228**	P	**Pn**	**12 18 13.6**	**-0.3**
TMVZ	**Te Maari**	**3.21**	**236**	P	**Pn**	**12 18 13.9**	**-0.2**
ETVZ	**East Tongariro**	**3.22**	**236**	P	**Pn**	**12 18 13.9**	**-0.3**
NTVZ	**North Tongarir**	**3.22**	**237**	P	**Pn**	**12 18 14.1**	**-0.1**
KRVZ	**Karewarewa**	**3.24**	**237**	P	**Pn**	**12 18 14.5**	**0.0**
WIAZ	**Waiheke Island**	**3.25**	**279**	P	**Pn**	**12 18 13.8**	**-0.6**
OTVZ	**Oturere**	**3.26**	**236**	P	**Pn**	**12 18 15.0**	**+0.2**
NNVZ	**North Ngauruho**	**3.26**	**236**	P	**Pn**	**12 18 15.3**	**+0.3**
WTVZ	**West Tongariro**	**3.29**	**237**	P	**Pn**	**12 18 15.4**	**+0.3**
SNVZ	**South Ngauruho**	**3.29**	**235**	P	**Pn**	**12 18 15.2**	**0.0**
NGZ	**Ngauruhoe**	**3.31**	**236**	P	**Pn**	**12 18 15.3**	**-0.2**
TUVZ	**Tukino**	**3.33**	**234**	P	**Pn**	**12 18 15.7**	**0.0**
MOVZ	**Moawhango**	**3.34**	**231**	P	**Pn**	**12 18 15.6**	**-0.2**
TWVZ	**Taurewa**	**3.37**	**239**	P	**Pn**	**12 18 16.8**	**+0.6**
ETAZ	**East Tamaki Re**	**3.38**	**276**	P	**Pn**	**12 18 16.5**	**+0.2**
WNVZ	**Wahianoa**	**3.39**	**234**	P	**Pn**	**12 18 16.6**	**0.0**
WPHZ	**Waipukurau**	**3.42**	**217**	P	**Pn**	**12 18 15.8**	**-0.9**
PNHZ	**Pukenui**	**3.42**	**221**	P	**Pn**	**12 18 15.9**	**-1.0**
MBAZ	**Motutapu North**	**3.44**	**279**	P	**Pn**	**12 18 17.9**	**+0.8**
PRHZ	**Porangahau**	**3.49**	**213**	P	**Pn**	**12 18 16.7**	**-1.1**
MTVZ	**Mangateitei**	**3.51**	**234**	P	**Pn**	**12 18 18.5**	**+0.3**
ABAZ	**Army Bay**	**3.52**	**281**	P	**Pn**	**12 18 18.3**	**+0.1**
PKVZ	**Pokaka**	**3.54**	**236**	P	**Pn**	**12 18 18.9**	**+0.4**
HIZ	**Hauiti**	**3.56**	**250**	P	**Pn**	**12 18 20.0**	**+1.1**
HIZ	**Hauiti**	**3.56**	**250**	P	**Pn**	**12 18 20.1**	**+1.3**
AWAZ	**Awhitu Peninsu**	**3.59**	**274**	P	**Pn**	**12 18 20.2**	**+0.9**
TSZ	**Takapari Road**	**3.65**	**222**	P	**Pn**	**12 18 18.4**	**-1.7**
WTAZ	**Waiatarua**	**3.66**	**275**	P	**Pn**	**12 18 21.1**	**+0.9**
RVAZ	**Riverhead Bore**	**3.69**	**278**	P	**Pn**	**12 18 20.0**	**-0.5**
DVHZ	**Dannevirke**	**3.73**	**217**	P	**Pn**	**12 18 19.7**	**-1.4**
BFZ	**Birch Farm**	**4.00**	**213**	P	**Pn**	**12 18 22.5**	**-2.3**
BFZ	**Birch Farm**	**4.00**	**213**	P	**Pn**	**12 18 22.5**	**-2.3**
POWZ	**Post Office Ro**	**4.00**	**220**	P	**Pn**	**12 18 24.3**	**-0.5**
PRWZ	**Pori Road**	**4.02**	**217**	P	**Pn**	**12 18 24.6**	**-0.5**
WAZ	**Wanganui**	**4.03**	**232**	P	**Pn**	**12 18 25.8**	**+0.6**
WCZ	**Waipu Caves**	**4.10**	**289**	P	**Pn**	**12 18 25.7**	**-0.5**
PREZ	**Palmer Road**	**4.37**	**242**	P	**Pn**	**12 18 32.2**	**+2.2**
NEZ	**North Egmont**	**4.39**	**243**	P	**Pn**	**12 18 33.0**	**+2.8**
PKE	**Pukeiti**	**4.44**	**244**	P	**Pn**	**12 18 33.9**	**+3.0**
OGWZ	**Otaki Gorge**	**4.62**	**221**	P	**Pn**	**12 18 31.9**	**-1.4**
KIW	**Kapiti Island**	**4.79**	**222**	P	**Pn**	**12 18 34.1**	**-1.6**
OUZ	**Omahuta**	**4.96**	**294**	P	**Pn**	**12 18 38.2**	**+0.2**
KHZ	**Kahutara**	**6.62**	**219**	P	**Pn**	**12 19 58.7**	**-2.1**
KHZ	**Kahutara**	**6.62**	**219**	P	**Pn**	**12 19 59.8**	**-1.0**
CTZ	**Chatham Island**	**7.14**	**154**	P	**Pn**	**12 19 11.3**	**+3.4**
ODZ	**Otahua Downs**	**9.98**	**217**	P	**Pn**	**12 19 44.9**	**-1.9**
	43nm,2.6s						

HEL 13 12:19:01.3±0.2, 67˚.66N×33˚.66E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.45**	**57**	PG	Pg	12 19 09.4	-0.4
LVZ				SG	Sg	12 19 14.6	-1.0
VRF	**Varrio**	**1.55**	**275**	PG	Pn	12 19 28.8	-1.3
VRF				MSG		12 19 47.7	
	comp=Z,2.2nm,0.2s						
VRF				SG	Sn	12 19 49.1	-1.8
OLKF	**Oulanka, Finla**	**2.15**	**233**	PG	Pb	12 19 39.8	-1.2
OLKF				SG	Sb	12 20 08.3	+0.2
KU6	**Riekki**	**2.22**	**224**	PG	Pn	12 19 40.5	+1.3
KU6				MSG		12 20 06.9	
	comp=Z,3.3nm,0.2s						
KU6				SG	Sb	12 20 11.0	+0.9
MSF	**Maaselka**	**2.54**	**228**	SG	Sg	12 20 21.1	-1.5
ARA0	**ARCESS Array S**	**3.54**	**306**	PN	Pn	12 19 56.5	-0.9
	baz=114						
ARA0				SN	Sn	12 20 38.6	-1.2

HEL 13 12:19:21.7±0.3, 65˚.86N×21˚.35E, h0km, ML1.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.78**	**25**	PG	Pg	12 19 35.7	-0.9
ERTU				SG	Sg	12 19 45.8	-0.9
TOF	**Tornio**	**1.24**	**78**	PG	Pg	12 19 44.3	-1.1
TOF				MSG		12 19 59.3	
	comp=Z,2.7nm,0.2s						
TOF				SB	Sg	12 20 00.1	-1.3
BURU	**Burvik**	**1.28**	**180**	PN	Pg	12 19 46.1	0.0
BURU				SN	Sb	12 20 03.1	-0.4
KLF	**Kolari**	**1.73**	**36**	PG	Pn	12 19 52.0	-0.4
KLF				SN	Sn	12 20 15.3	-0.5
OBF8	**Ulkokalla**	**1.77**	**149**	PG	Pn	12 19 53.8	+0.3
OBF8				SN	Sb	12 20 18.0	+0.3
OBF0	**Syolatti, Pyha**	**1.83**	**137**	PG	Pn	12 19 54.9	+0.6
OBF4	**Vikkela, Lumij**	**1.89**	**122**	PG	Pn	12 19 55.7	+0.5
RNF	**Rovaniemi**	**2.03**	**66**	PG	Pn	12 19 57.7	+0.6
RNF				SN	Sg	12 20 26.7	-0.3
RNF	**Rovaniemi**	**2.03**	**66**	PG	Pn	12 19 57.7	+0.6
	baz=251						
RNF				SG	Sb	12 20 25.0	-0.3
OUL	**Oulu**	**2.05**	**110**	PG	Pn	12 19 58.1	+0.8
OUF	**Merijarvi**	**2.07**	**135**	PG	Pn	12 19 58.3	+0.7
	baz=317						
OUF				MSG		12 20 23.1	
	comp=Z,1.2nm,0.2s						
OUF				SG	Sb	12 20 26.6	+0.4
LANU	**Lannavaara**	**2.22**	**6**	PG	Pb	12 20 01.5	-1.1
LANU				SG	Sb	12 20 31.5	+0.9
SGF	**Sodankyl**	**2.60**	**50**	SG	Sb	12 20 41.8	+0.1
HEF	**Hetta**	**2.72**	**18**	SN	Sb	12 20 46.0	+1.0
HEF	**Hetta**	**2.72**	**18**	MSG		12 20 41.8	
	comp=Z,0.5nm,0.2s						
HEF				SG	Sb	12 20 46.0	+1.0

WEL 13 12:24:57.6±0.9, 32˚S±14˚×18˚0W±3˚6, h404km±16km, M3.9/13, mB4.3/9, ML4.5/15, MLv4.5/13, Mw(mB)3.5/9, Error ellipse: s-maj=0.1km s-min=0.0km az=109.4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.86**	**36**	P	P	12 25 57.0	-3.0
GLKZ				S	S	12 26 52.5	+1.9
MXZ	**Matakaoa Point**	**6.13**	**194**	P	P	12 26 30.9	-0.4
MXZ				S	S	12 27 48.7	+0.3
KUZ	**Kuaotunu**	**6.31**	**214**	P	P	12 26 35.0	+1.7
HAZ	**Te Kaha**	**6.44**	**197**	P	P	12 26 35.2	+0.6
HAZ				S	S	12 27 55.7	+1.2
PKGZ	**Pakihiroa**	**6.50**	**195**	P	P	12 26 35.7	+0.4
PUZ	**Puketiti**	**6.64**	**193**	P	P	12 26 37.6	-0.1
PUZ				S	S	12 27 57.5	-1.1
RUGZ	**Raukumara Rang**	**6.66**	**197**	P	P	12 26 37.4	-0.7
RUGZ				S	S	12 27 58.3	-1.0
TWGZ	**Tauwhareparae**	**6.79**	**195**	P	P	12 26 40.4	+0.9
TWGZ				S	S	12 28 03.8	+2.0
CNGZ	**Carnagh Statio**	**7.05**	**193**	P	P	12 26 42.7	+0.6
MWZ	**Matawai**	**7.05**	**197**	P	P	12 26 42.0	-0.3
MWZ				S	S	12 28 05.8	-1.2
TKGZ	**Te Karaka**	**7.08**	**195**	P	P	12 26 43.0	+0.5
URZ	**Urewera**	**7.09**	**200**	P	P	12 26 41.3	-1.4
RAGZ	**Rawiri**	**7.23**	**197**	P	P	12 26 43.6	-0.7
RIGZ	**Rimuhau**	**7.35**	**195**	P	P	12 26 43.7	-1.9
RIGZ				S	S	12 28 12.8	-0.4
MUGZ	**Murupara**	**7.40**	**201**	P	P	12 26 44.7	-1.4
SNGZ	**Shannon Statio**	**7.52**	**197**	P	P	12 26 47.8	+0.3
SNGZ				S	S	12 28 17.3	+0.6
PRGZ	**Paritu Road**	**7.53**	**194**	P	P	12 26 48.8	+1.2
RAHZ	**Arahi**	**7.71**	**198**	P	P	12 26 48.5	-1.1
MHGZ	**Mahia Peninsul**	**7.75**	**193**	P	P	12 26 50.5	+0.5
MRHZ	**Matea Rd**	**7.83**	**202**	P	P	12 26 49.1	-1.9
ARHZ	**Aropaoanui**	**8.06**	**198**	P	P	12 26 53.0	-0.4

NNC 13 12:44:43.5±3.4, 37˚.62N×71˚.36E, h124km±55km, mb3.0, mpv3.6,3C-2D, Error ellipse: s-maj=31.2km s-min=21.2km az=0.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.51**	**354**	P	Pn	12 46 03.6	+0.3
	3.8nm,0.3s,baz=175,slow=12,SNR=146						
KK31				⇓S	Sn	12 47 06.0	+0.4
	5.1nm,0.4s,baz=174,slow=22,SNR=10						
TKM2	**Tokmak 2**	**6.20**	**30**	⇑P	Pn	12 46 12.5	-0.3
	1.4nm,0.5s						
TKM2				⇑S	Sn	12 47 23.2	+0.7
	0.5nm,0.1s						
AB31	**Akbulak array**	**14.26**	**328**	⇑P	Pn	12 47 58.1	-1.5
	0.2nm,0.3s,baz=40,slow=23,SNR=14						
AKTO	**Aktyubinsk**	**15.97**	**328**	⇓P	P	12 48 22.4	+0.4
	4.1nm,0.9s						

*DJA **13** 12:49:11.7±1.6, 6˚S±11˚×10˚4E±˚, h23km±21km, M3.8/3, MLv3.8/3*
*IDC **13** 12:49:16.5±4.7, 5˚.33S×103˚.58E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=228.3km s-min=23.6km az=53.0*

ISC 13 12:49:12.0±1.6, 6˚.1S±0˚.1×103˚.59E±0˚.08, h10km, n10, σ1°24/11, mb3.5/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.06**	**58**	P	**Pb**	**12 49 31.9**	**-0.6**
KASI				S	**Sg**	**12 49 44.7**	**-1.6**
LWLI	**Liwa**	**1.16**	**24**	P	**Pg**	**12 49 35.2**	**+0.9**
LWLI				S	**Sg**	**12 49 50.7**	**+1.3**
KLI	**Kotabumi**	**1.75**	**46**	P	**Pn**	**12 49 42.7**	**+0.2**
KLI				S	**Sb**	**12 50 05.7**	**-0.6**
MNAI	**Manna**	**1.82**	**340**	P	**Pn**	**12 49 41.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**24.81**	**349**	P	**P**	**12 54 33.9**	**-0.7**
	0.4nm,0.4s,baz=181,slow=10,SNR=4.4 0.4nm,0.4s						
WRA	**Warramunga Arr**	**32.89**	**118**	P	P	12 55 55.8	+9.2
	0.3nm,0.9s,baz=292,slow=7.1,SNR=1.3 0.3nm,0.9s						
ASAR	**Alice Springs**	**33.99**	**124**	P	P	12 56 06.1	+10
	0.2nm,0.8s,baz=306,slow=8.4,SNR=5.0 0.2nm,0.8s						
MKAR	**Makanchi Array**	**55.94**	**342**	P	**P**	**12 58 51.7**	**+1.3**
	0.7nm,0.8s,baz=133,slow=9.3,SNR=2.2 0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**61.86**	**348**	P	**P**	**12 59 32.1**	**+0.8**
	0.5nm,0.4s,baz=177,slow=8.7,SNR=2.6 0.5nm,0.4s						
TXAR	**Lajitas Array**	**145.41**	**45**	PKP	**PKiKP**	**13 08 55.6**	**+0.5**
	0.1nm,0.5s,baz=164,slow=1.7,SNR=2.0						

*JMA **13** 13:27:58.7±0.2, 35˚.9N±0˚.6×139˚.8E±0˚.7

	SNR=31						
YODB				P	Pg	14 08 43.9	-0.2
	SNR=31						
YODB				mb		14 08 45.0	
	SNR=7.1						
YODB				mb		14 08 45.0	
	SNR=7.1						
EUSB	**Uiseong**	**0.83**	**319**	P	Pg	**14 08 44.4**	**-0.2**
	SNR=42						
EUSB				P	Pg	14 08 44.4	-0.2
	SNR=42						
JTU	**Tsushima**	**1.21**	**179**	P	Pb	**14 08 50.8**	**-0.8**
JTU				*eS*	Sb	**14 09 07.0**	**-0.2**
JTSM	**Tsushimamitsus**	**1.39**	**179**	P	Pn	**14 08 54.0**	**-0.1**
JTSM				*eS*	Sb	**14 09 12.2**	**-0.3**
JHGM	**Hagimishima**	**1.73**	**123**	*eS*	Sb	**14 09 22.4**	**+0.1**
JII	**Iki**	**1.96**	**171**	*eP*	Pn	**14 09 02.9**	**+1.0**
JII				*eS*	Sb	**14 09 29.6**	**+0.8**

SOME ***13*** *14:18:04.7, 43˚.03N×86˚.40E, h15km*
IDC ***13*** *14:18:09.5±1.9, 42˚.88N×87˚.81E, h0km, mb3.8/1, mbtmp3.8/3, ML3.3/2, MS2.7/4, Error ellipse: s-maj=59.6km s-min=18.5km az=57.0*
NNC ***13*** *14:18:09.5±3.4, 42˚.64N×87˚.26E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=25.3km s-min=19.0km az=120.0*

ISC 13 14:18:11.5±1.7, 42˚.63N±0˚.08×87˚.23E±0˚.10, h10km, n16, σ2§17/21, MS3.4/3, 9C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**5.11**	**342**	*eP*	**Pn**	**14 19 29.1**	**+1.0**
	2.1nm,0.1s						
ZSN				*eS*	**Sn**	**14 20 29.7**	**+2.6**
	10.0nm,0.3s						
MK31	**Makanchi Array**	**5.46**	**321**	⇓Pn	**Pn**	**14 19 34.3**	**+1.4**
	4.3nm,0.3s,baz=138,slow=14,SNR=302						
MK31				⇑Sn	**Sn**	**14 20 38.7**	**+3.0**
	2.7nm,0.5s,baz=130,slow=26,SNR=4.4						
MK31				Lg	Lg	14 21 06.0	
	3.2nm,0.3s,baz=130,slow=31,SNR=3.8						
MKAR	**Makanchi Array**	**5.46**	**321**	Pn	**Pn**	**14 19 33.4**	**+0.5**
	6.6nm,0.3s,baz=136,slow=14,SNR=225						
MKAR				Sn	**Sn**	**14 20 37.7**	**+2.0**
	1.9nm,0.3s,baz=130,slow=27,SNR=5.2						
MKAR				Lg	Lg	14 21 05.4	
	1.6nm,0.3s,baz=138,slow=30,SNR=2.7						
MKAR				LR	LR	14 21 57.9	
	comp=Z,25nm,20.7s,baz=76,slow=41 13nm,0.3s						
MAKZ	**Makanchi**	**5.61**	**320**	⇓Pn	**Pn**	**14 19 35.6**	**+0.6**
	2.8nm,0.3s						
MAKZ				⇑Sn	**Sn**	**14 20 41.5**	**+2.0**
	7.8nm,0.7s						
MAKZ				⇑Lg	Lg	14 21 13.7	
	4.7nm,0.5s						
DJR	**Jarkent**	**5.68**	**290**	*eP*	**Pn**	**14 19 35.9**	**-0.1**
	0.9nm,0.1s						
DJR				*eS*	**Sn**	**14 20 41.4**	**+0.1**
	4.5nm,0.2s						
PDGK	**Podgornoye**	**5.72**	**280**	⇓Pn	**Pn**	**14 19 36.4**	**-0.3**
	5.8nm,0.3s						
PDGK				⇑Sn	**Sn**	**14 20 42.6**	**+0.1**
	9.9nm,0.5s						
PDGK				⇓Lg	Lg	14 21 14.8	
	31nm,0.6s						
SHLS	**Shalkode**	**5.73**	**278**	*eP*	Pn	14 19 34.5	-2.2
	5.7nm,0.2s						
SHLS				*eS*	**Sn**	**14 20 39.4**	**-3.3**
	8.9nm,0.3s						
UZB	**Uzynbulak**	**6.06**	**278**	*eP*	**Pn**	**14 19 41.5**	**+0.3**
	0.6nm,0.1s						
UZB				*eS*	**Sn**	**14 20 51.3**	**+0.7**
TKM2	**Tokmak 2**	**8.57**	**276**	⇓Pn	**Pn**	**14 20 14.9**	**-0.8**
	4.0nm,0.8s						
TKM2				⇑Sn	**Sn**	**14 21 53.7**	**+1.2**
	3.8nm,0.8s						
TKM2				⇑Lg	Lg	14 22 44.4	
	5.3nm,0.7s						
KURBB	**Kurchatov Arra**	**9.98**	**326**	⇓Pn	Pn	14 20 32.4	-2.5
	1.5nm,0.5s						
KURBB				⇑Sn	**Sn**	**14 22 24.4**	**-2.5**
	3.5nm,0.6s						
KURBB				⇑Lg	Lg	14 23 26.8	
	9.0nm,0.8s						
KURK	**Kurchatov**	**10.02**	**327**	⇓Pn	Pn	14 20 32.8	-2.6
	0.3nm,0.2s						
KURK				⇓Sn	**Sn**	**14 22 24.4**	**-3.3**
	2.4nm,0.7s						
KURK				⇑Lg	Lg	14 23 27.5	
	5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**11.44**	**353**	Pn	Pn	14 20 51.6	-3.2
	0.1nm,0.3s,baz=174,slow=14,SNR=2.4						
ZALV				Sn	**Sn**	**14 22 57.5**	**-5.1**
	0.3nm,0.3s,baz=165,slow=23,SNR=2.2						
ZALV				LR	LR	14 25 56.7	
	comp=Z,29nm,19.6s,baz=201,slow=42 0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**26.06**	**154**	P	**P**	**14 23 45.1**	**0.0**
	0.6nm,0.3s,baz=339,slow=8.9,SNR=5.4 0.6nm,0.3s						
KSRS	**Korea Array**	**31.36**	**86**	LR	LR	14 36 54.5	
	comp=Z,19nm,19.2s,baz=220,slow=36						
KVAR	**Kislovodsk Arr**	**32.15**	**288**	LR	LR	14 38 39.3	
	comp=Z,273nm,21.0s,slow=38						
SIJI	**Sorong**	**58.64**	**126**	LR	LR	14 54 34.1	
	comp=Z,27nm,20.3s,baz=113,slow=37						

MEX ***13*** *14:22:47.9±0.7, 14˚.54N×93˚.18W, h18km±21km, MD3.9*
GCG ***13*** *14:22:49.6±0.3, 14˚.68N×92˚.96W, h35km±999km, MD3.9*

ISC 13 14:22:43.6±2.0, 14˚.59N±0˚.09×93˚.13W±0˚.05, h10km±15km, n15, σ1§16/28, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.90**	**69**	*eP*	**Pn**	**14 23 03.2**	**+1.0**
THIG				*eS*	**Sn**	**14 23 14.8**	**-0.5**
PATR	**El Naranjo**	**1.01**	**59**	*eP*	**Pn**	**14 23 04.5**	**+0.4**
PATR				*i S*	**Sn**	**14 23 17.8**	**-0.7**
PAVE	**Pavencul**	**1.10**	**57**	*eP*	**Pn**	**14 23 06.1**	**+0.8**
PAVE				*i S*	**Sn**	**14 23 20.6**	**-0.1**
CHUJ	**Union Juarez**	**1.11**	**63**	*eP*	**Pn**	**14 23 05.9**	**+0.5**
CHUJ				*eS*	**Sn**	**14 23 19.5**	**-1.4**
PCIG		**1.11**	**356**	*eP*	**Pn**	**14 23 06.0**	**+0.8**
PCIG				*eS*	**Sn**	**14 23 19.9**	**-0.7**
STG3	**Santiaguito 3,**	**1.52**	**85**	*eP*	**Pg**	**14 23 12.5**	**-0.2**
CARR	**Arriaga**	**1.81**	**336**	*eP*	**Pn**	**14 23 15.4**	**+0.5**
CARR				*eS*	**Sn**	**14 23 38.8**	**+0.9**
CCIG	**Comitan**	**1.94**	**30**	*eP*	**Pb**	**14 23 18.8**	**-0.3**
CCIG				*eS*	**Sn**	**14 23 41.1**	**-0.1**
TGIG		**2.18**	**0**	*eP*	**Pb**	**14 23 22.6**	**-0.5**
TGIG				*eS*	**Sn**	**14 23 46.9**	**0.0**
FUG	**Fuego 3**	**2.22**	**93**	*eP*	**Pn**	**14 23 22.5**	**+1.8**
FUG				*eS*	**Sn**	**14 23 48.1**	**-0.2**
NILT	**Santiago Nilte**	**2.43**	**324**	*eP*	**Pn**	**14 23 24.5**	**+1.2**
NILT				*i S*	**Sn**	**14 23 51.9**	**-1.2**
PCG	**Pacaya**	**2.45**	**94**	*eP*	**Pb**	**14 23 27.3**	**-0.7**
UXUV	**UXUV**	**2.88**	**340**	*eP*	**Pn**	**14 23 32.8**	**+3.2**
UXUV				*eS*	**Sn**	**14 24 03.7**	**-0.6**
CMIG	**Matias Romero**	**3.00**	**326**	*eP*	**Pn**	**14 23 32.8**	**+1.5**
CMIG				*eS*	**Sn**	**14 24 07.1**	**-0.2**
NEUV	**Arroyo Zacate**	**4.03**	**321**	*eP*	**Pn**	**14 23 45.0**	**-0.3**
NEUV				*i S*	**Sn**	**14 24 30.3**	**-2.3**

ASRS ***13*** *14:43:30.6±0.2, 51˚.N±1˚×90˚.7E±0˚.8, h5km, MLh4.4/25, Error ellipse: s-maj=2.4km s-min=1.5km az=150.8, confirmed*
IDC ***13*** *14:43:31.3±0.9, 50˚.41N×90˚.83E, h0km, mb3.5/7, mbtmp3.5/12, ML2.9/5, MS2.3/1, Error ellipse: s-maj=16.7km s-min=10.1km az=2.0*
NNC ***13*** *14:43:37.0±3.0, 50˚.45N×90˚.35E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=28.3km s-min=14.3km az=89.0*

ISC 13 14:43:32.8±0.6, 50˚.48N±0˚.03×90˚.66E±0˚.02, h10km, n43, σ1§75/74, mb3.6/6, 4C-6D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**1.53**	**257**	⇓Pg	**Pb**	**14 44 00.3**	**-1.0**
CUR				Sg	**Sg**	**14 44 22.1**	**+0.2**
SLNR	**Muhor-Tarhata,**	**1.58**	**245**	Pg	**Pg**	**14 44 02.3**	**-0.7**
SLNR				Sg	**Sg**	**14 44 23.3**	**-0.2**
ULGR	**Ulagan, Altay**	**1.73**	**276**	Pg	**Pg**	**14 44 05.7**	**-0.2**
ULGR				Sg	**Sg**	**14 44 28.6**	**+0.3**
AKAR	**Aktash**	**1.95**	**267**	Pg	**Pb**	**14 44 08.2**	**-0.3**
AKAR				Sg	**Sg**	**14 44 34.7**	**-0.8**
CHBI	**Chibit, Altay**	**2.03**	**267**	Pg	**Pg**	**14 44 10.6**	**-1.0**
CHBI				Sg	**Sg**	**14 44 38.2**	**+0.3**
DGZ	**Jazzator, Alta**	**2.22**	**251**	Pg	**Pg**	**14 44 13.1**	**-2.2**
DGZ				Sg	**Sg**	**14 44 43.8**	**-0.2**
DJO	**Djoy, Khakassi**	**2.33**	**8**	Pg	**Pg**	**14 44 16.4**	**-1.1**
DJO				Sg	**Sg**	**14 44 46.3**	**-1.5**
DJOS	**Djoyskaya Sosn**	**2.37**	**11**	Sg	**Sg**	**14 44 48.7**	**0.0**
CERR	**Cheremushki**	**2.43**	**11**	Pg	**Pg**	**14 44 18.4**	**-0.9**
CERR				Sg	**Sg**	**14 44 49.6**	**-1.1**
ARTR	**Artybash**	**2.51**	**303**	Pg	**Pg**	**14 44 19.7**	**-1.1**
ARTR				Sg	**Sg**	**14 44 52.7**	**-0.6**
KZLR	**Kyzyl**	**2.69**	**61**	Pg	**Pg**	**14 44 21.7**	**-2.6**
KZLR				Sg	**Sg**	**14 44 57.5**	**-1.6**
ARDR	**Aradan**	**2.73**	**38**	Pg	**Pb**	**14 44 21.7**	**0.0**
ARDR				Sg	**Sb**	**14 44 56.5**	**+1.4**
TASR	**Tashtagol**	**2.87**	**324**	Pg	**Pg**	**14 44 26.4**	**-1.3**
TASR				Sg	**Sg**	**14 45 04.6**	**-0.3**
ERNS	**Erzin**	**2.88**	**93**	Pg	**Pb**	**14 44 22.1**	**-2.3**
ERNS				Sg	**Sb**	**14 45 00.0**	**+0.4**
GALT	**Gorno-Altaysk,**	**3.32**	**298**	Pg	**Pg**	**14 44 35.0**	**-1.2**
GALT				Sg	**Sg**	**14 45 19.1**	**-0.1**
LUZB	**Luzhba, Kemero**	**3.37**	**342**	Pn	**Pn**	**14 44 24.8**	**-0.6**
LUZB				Pg	**Pg**	**14 44 35.1**	**-2.2**
LUZB				Sg	**Sg**	**14 45 19.6**	**-1.4**
UKR	**Ust'-Kan**	**3.77**	**279**	Pg	**Pg**	**14 44 42.8**	**-2.2**
UKR				Sg	**Sg**	**14 45 31.1**	**-2.7**
ELT	**Eltsovka**	**3.91**	**317**	Pn	**Pn**	**14 44 35.4**	**+2.5**
ELT				Pg	**Pg**	**14 44 46.4**	**-1.2**
ELT				Sg	**Sg**	**14 45 35.3**	**-3.0**
ERU	**Erunakovo, Kuz**	**4.18**	**333**	Sg	**Sg**	**14 45 45.8**	**-1.2**
VCHU	**Verkh-Chumysh,**	**4.34**	**325**	Pg	**Pg**	**14 44 53.3**	**-2.6**
VCHU				Sg	**Sg**	**14 45 53.1**	**+0.9**
KNGR	**Kungurtug, Tuv**	**4.37**	**86**	Pn	**Pn**	**14 44 22.1**	**+2.7**
KNGR				Pg	**Pg**	**14 44 53.3**	**-3.2**
KNGR				Sg	**Sg**	**14 45 56.3**	**+3.1**
POMOR	**Pomortsevo, Ku**	**4.68**	**329**	Pg	**Pg**	**14 44 59.0**	**-3.3**
POMOR				Sg	**Sg**	**14 46 03.4**	**+0.5**
MINR	**Mina**	**4.93**	**25**	Pg	**Pg**	**14 45 05.0**	**-2.1**
MINR				Sg	**Sg**	**14 46 11.6**	**+0.8**
SALR	**Pechorkino, Sa**	**4.98**	**324**	Pg	**Pg**	**14 45 04.7**	**-3.3**
SALR				Sg	**Sg**	**14 46 09.3**	**-3.1**
ZAA0	**Zalesovo Array**	**5.00**	**316**	⇑Pg	**Pg**	**14 45 06.4**	**-2.0**
	1.3nm,0.6s						
ZAA0				⇑Lg	Lg	14 46 10.0	
	9.4nm,0.8s						
ZALV	**Zalesovo Beam**	**5.00**	**316**	Pn	**Pn**	**14 44 48.6**	**+0.8**
	0.5nm,0.3s,baz=135,slow=12,SNR=6.0						
ZALV				Pg	**Pg**	**14 45 03.9**	**-4.6**
	1.7nm,0.3s,baz=132,slow=14,SNR=12						
ZALV				Sn	**Sn**	**14 45 47.2**	**+1.7**
	2.6nm,0.3s,baz=122,slow=19,SNR=6.3						
ZALV				Lg	Lg	14 46 09.2	
	4.8nm,0.3s,baz=132,slow=26,SNR=11 1.3nm,0.3s						
GZL	**Zheleznogorsk**	**6.05**	**15**	Sg	**Sg**	**14 46 48.0**	**+1.1**
NVS	**Novosibirsk**	**6.29**	**317**	Pg	**Pg**	**14 45 33.3**	**+0.3**
NVS				Sg	**Sg**	**14 46 55.5**	**+1.2**
MK31	**Makanchi Array**	**6.66**	**240**	Pn	**Pn**	**14 45 12.7**	**+2.1**
	0.7nm,0.2s,baz=52,slow=13,SNR=62						
MK31				Pg	**Pg**	**14 45 37.2**	**-3.0**
	20nm,0.7s,baz=65,slow=15,SNR=8.1						
MK31				Lg	Lg	14 47 04.7	
	24nm,0.6s,baz=59,slow=30,SNR=3.9						
MKAR	**Makanchi Array**	**6.66**	**240**	Pn	**Pn**	**14 45 12.7**	**+2.1**
	1.0nm,0.3s,baz=51,slow=17,SNR=42						
MKAR				Pg	**Pb**	**14 45 27.0**	**-1.6**
	1.6nm,0.3s,baz=59,slow=16,SNR=6.8						
MKAR				Sn	**Sn**	**14 46 27.8**	**+1.3**
	2.3nm,0.3s,baz=213,slow=31,SNR=2.7						
MKAR				Lg	Lg	14 47 02.1	
	2.8nm,0.3s,baz=54,slow=33,SNR=5.5						
MKAR				LR	LR	14 47 12.2	
	comp=Z,25nm,18.4s,baz=84,slow=33 2.0nm,0.3s						
MAKZ	**Makanchi**	**6.82**	**241**	⇓Pn	**Pn**	**14 45 14.2**	**+1.3**
	4.0nm,0.5s						
MAKZ				⇓Pg	Pg	14 45 38.0	-5.4
	9.3nm,0.7s						
MAKZ				⇓Lg	Lg	14 47 10.0	
	88nm,1.1s						
KURK	**Kurchatov**	**7.67**	**276**	⇑Pn	Pn	14 45 28.9	+4.5
	2.3nm,0.6s						
KURK				⇓Lg	Lg	14 47 31.8	
	54nm,0.7s						
KURBB	**Kurchatov Arra**	**7.73**	**276**	Pn	**Pn**	**14 45 26.0**	**+0.7**
	0.1nm,0.3s,baz=91,slow=14,SNR=6.7						
KURBB				Sn	**Sn**	**14 46 53.0**	**+0.1**
	0.3nm,0.3s,baz=317,slow=18,SNR=4.4						
KURBB				Lg	Lg	14 47 35.4	
	0.6nm,0.3s,baz=95,slow=10.0,SNR=2.8 1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**7.73**	**276**	⇑Pn	**Pn**	**14 45 28.5**	**+3.2**
	5.3nm,0.5s						
KURBB				⇓Lg	Lg	14 47 34.6	
	76nm,0.6s						
SONM	**Songino Array**	**10.64**	**98**	Pn	**Pn**	**14 46 04.2**	**-1.0**
	0.2nm,0.3s,baz=288,slow=14,SNR=1.8						
SONM				Pg		14 46 43.4	
	0.1nm,0.3s,baz=282,slow=22,SNR=5.5						
SONM				Lg	Lg	14 49 04.0	
	0.7nm,0.3s,baz=292,slow=25,SNR=7.8 0.2nm,0.3s						
BVAR	**Borovoye Array**	**12.81**	**289**	Pn	**Pn**	**14 46 34.4**	**-0.4**
	0.1nm,0.3s,baz=96,slow=13,SNR=1.8						
BVAR				Sn	**Sn**	**14 48 56.2**	**-1.1**
	0.2nm,0.3s,baz=97,slow=22,SNR=2.4						
BVAR				Lg	Lg	14 50 21.4	
	baz=100,slow=26 0.5nm,0.6s						
AKTO	**Aktyubinsk**	**20.70**	**283**	P	Pn	14 48 13.8	-1.4
	1.2nm,0.6s,baz=78,slow=8.5,SNR=4.7 1.2nm,0.6s						
AKASG	**Malin Array Be**	**38.01**	**295**	P	**P**	**14 50 51.6**	**+1.0**
	0.3nm,0.3s,baz=61,slow=9.6,SNR=2.1 0.3nm,0.3s						
BRTR	**Keskin Array B**	**40.72**	**277**	P	**P**	**14 51 15.4**	**+1.8**
	1.0nm,0.8s,baz=78,slow=6.9,SNR=7.1 1.0nm,0.8s						
ILAR	**Eielson Array**	**56.76**	**26**	P	**P**	**14 53 16.9**	**+0.6**
	0.2nm,0.7s,baz=325,slow=6.1,SNR=1.9 0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**79.33**	**278**	P	**P**	**14 55 39.1**	**+0.3**
	0.5nm,0.9s,baz=57,slow=5.5,SNR=2.6 0.5nm,0.9s						
WRA	**Warramunga Arr**	**79.98**	**139**	P	**P**	**14 55 41.1**	**-1.0**
	0.5nm,0.7s,baz=342,slow=5.8,SNR=6.4 0.5nm,0.7s						
ASAR	**Alice Springs**	**83.12**	**141**	P	**P**	**14 55 58.0**	**-0.6**
	0.3nm,0.6s,baz=335,slow=5.3,SNR=7.1 0.3nm,0.6s						

IDC ***13*** *14:49:12.8±2.8, 18˚.51N×145˚.54E, h201km±28km, mb3.2/6, mbtmp3.8/7, Error ellipse: s-maj=39.1km s-min=20.4km az=106.0*
NEIC ***13*** *14:49:12.1±0.8, 18˚.5N±0˚.1×145˚.6E±0˚.2, h185km±9km, mb4.1/5, Error ellipse: s-maj=28.5km s-min=12.9km az=126.0*

ISC 13 14:49:12.9±0.8, 18˚.55N±0˚.09×145˚.4E±0˚.3, h200km, n17, σ0§90/18, mb3.7/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.96**	**186**	P	**Pn**	**14 50 28.3**	**+1.4**
	41nm,0.9s,baz=12,slow=20,SNR=1.7						
GUMO				S	**Sn**	**14 51 23.7**	**-1.4**
	45nm,0.9s,baz=48,slow=16,SNR=1.7						
KNRA	**Kununurra**	**37.76**	**207**	P	**P**	**14 56 09.9**	**+0.1**
WB0	**Warramunga Arr**	**39.58**	**196**	P	**P**	**14 56 25.2**	**+0.2**
WB0				IAmb	IAmb	14 57 07.8	
	comp=Z,8.8nm,1.4s						
WRAB	**Tennant Creek**	**39.75**	**196**	P	**P**	**14 56 26.1**	**-0.3**
WRAB				IAmb	IAmb	14 56 45.0	
	comp=Z,9.7nm,1.5s						
WB2	**Warramunga Arr**	**39.76**	**196**	P	**P**	**14 56 26.2**	**-0.3**
WB2				IAmb	IAmb	14 56 36.2	
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**39.76**	**196**	P	**P**	**14 56 26.4**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=17,slow=8.7,SNR=6.4 comp=Z,0.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.28**	**209**	P	**P**	**14 56 39.2**	**+0.4**
ASAR	**Alice Springs**	**43.43**	**195**	P	**P**	**14 56 55.6**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=14,slow=6.7,SNR=4.3 comp=Z,0.4nm,0.9s						
ILAR	**Eielson Array**	**63.90**	**26**	P	**P**	**14 59 23.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=247,slow=6.6,SNR=7.5 comp=Z,0.4nm,0.5s						
BMAR	**Burnt Mountain**	**65.36**	**24**	P	**P**	**14 59 34.9**	**+1.3**
BCAR	**Beaver Creek A**	**65.84**	**28**	P	**P**	**14 59 37.5**	**+0.7**
BVAR	**Borovoye Array**	**66.42**	**320**	P	**P**	**14 59 41.8**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=76,slow=7.6,SNR=6.1 comp=Z,0.8nm,0.5s						
ABKAR	**Akbulak array**	**73.27**	**317**	P	**P**	**15 00 22.1**	**-0.2**
KVN	**Kaiserville**	**83.40**	**51**	P	**P**	**15 01 17.9**	**-0.4**
NVAR	**Mina Array Bea**	**83.44**	**52**	P	**P**	**15 01 18.8**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=280,slow=5.4,SNR=8.4 comp=Z,1.0nm,0.6s						
LRM	**Limekiln Ridge**	**85.04**	**43**	P	**P**	**15 01 26.2**	**-0.3**
FINES	**FINESS Array B**	**86.91**	**335**	P	**P**	**15 01 33.3**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=70,slow=4.6,SNR=1.5 comp=Z,1.0nm,0.8s						

ASRS ***13*** *14:53:32.3±0.2, 51˚.N±1˚×90˚.7E±0˚.9, h5km, MLh3.8/23, Error ellipse: s-maj=2.5km s-min=1.5km az=143.3, confirmed*
IDC ***13*** *14:53:34.4±1.9, 50˚.20N×90˚.82E, h0km, mbtmp3.3/4, ML2.7/4, Error ellipse: s-maj=26.2km s-min=16.2km az=177.0*
NNC ***13*** *14:53:36.4±4.1, 50˚.52N×90˚.50E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=33.4km s-min=27.0km az=43.0*

ISC 13 14:53:34.2±0.7, 50˚.48N±0˚.03×90˚.69E±0˚.02, h10km, n40, σ1§89/63, 4C-3D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**1.55**	**257**	Pg	**Pn**	**14 54 01.6**	**-0.2**
CUR				Sg	**Sg**	**14 54 23.0**	**-0.9**
SLNR	**Muhor-Tarhata,**	**1.59**	**245**	Pg	**Pg**	**14 54 03.7**	**-1.0**
SLNR				Sg	**Sg**	**14 54 24.8**	**-0.5**
ULGR	**Ulagan, Altay**	**1.75**	**276**	Pg	**Pg**	**14 54 07.0**	**-0.6**
ULGR				Sg	**Sg**	**14 54 32.1**	**+1.8**
AKAR	**Aktash**	**1.97**	**267**	Pg	**Pb**	**14 54 09.9**	**-0.2**
AKAR				Sg	**Sg**	**14 54 37.1**	**-0.3**
CHBI	**Chibit, Altay**	**2.04**	**267**	Pg	**Pg**	**14 54 12.1**	**-1.2**
CHBI				Sg	**Sg**	**14 54 41.1**	**+1.2**
DGZ	**Jazzator, Alta**	**2.24**	**251**	Pg	**Pb**	**14 54 14.3**	**-0.4**
DGZ				Sg	**Sg**	**14 54 45.5**	**-0.5**
DJO	**Djoy, Khakassi**	**2.33**	**8**	Pg	**Pg**	**14 54 17.7**	**-1.1**
DJO				Sg	**Sg**	**14 54 47.4**	**-1.7**
DJOS	**Djoyskaya Sosn**	**2.37**	**11**	Pg	**Pg**	**14 54 18.9**	**-0.5**
DJOS				Sg	**Sg**	**14 54 49.6**	**-0.5**
CERR	**Cheremushki**	**2.42**	**10**	Pg	**Pg**	**14 54 19.5**	**-1.1**
CERR				Sg	**Sg**	**14 54 51.9**	**-0.1**
ARTR	**Artybash**	**2.52**	**303**	Pg	**Pb**	**14 54 20.4**	**+0.9**
ARTR				Sg	**Sg**	**14 54 54.0**	**-1.2**
KZLR	**Kyzyl**	**2.67**	**61**	Pg	**Pg**	**14 54 24.2**	**-1.2**
KZLR				Sg	**Sg**	**14 54 58.3**	**-1.8**
ARDR	**Aradan**	**2.72**	**38**	Pg	**Pb**	**14 54 23.1**	**+0.3**
ARDR				Sg	**Sb**	**14 54 58.1**	**+1.9**
ERNS	**Erzin**	**2.87**	**93**	Pg	**Pn**	**14 54 21.5**	**+1.5**
ERNS				Sg	**Sb**	**14 54 59.7**	**-0.9**
TASR	**Tashtagol**	**2.88**	**324**	Pg	**Pb**	**14 54 26.4**	**+0.8**
TASR				Sg	**Sg**	**14 55 04.7**	**-2.0**
GALT	**Gorno-Altaysk,**	**3.33**	**298**	Pg	**Pb**	**14 54 34.6**	**+1.3**
GALT				Sg	**Sg**	**14 55 19.5**	**-1.5**
LUZB	**Luzhba, Kemero**	**3.38**	**342**	Pg	**Pg**	**14 54 37.3**	**-1.6**
LUZB				Sg	**Sg**	**14 55 20.4**	**-2.1**
MALIN	**Malinovka, Kuz**	**3.63**	**326**	Sg	**Sg**	**14 55 28.8**	**-1.8**
UKR	**Ust'-Kan**	**3.79**	**279**	Pg	**Pb**	**14 54 42.8**	**+1.7**
UKR				Sg	**Sg**	**14 55 34.6**	**-1.1**
ELT	**Eltsovka**	**3.92**	**317**	Pn	**Pn**	**14 54 36.6**	**+2.3**
ELT				Pg	**Pb**	**14 54 45.4**	**+2.0**
ELT				Sg	**Sg**	**14 55 35.7**	**-4.3**
ERU	**Erunakovo, Kuz**	**4.19**	**332**	Sg	**Sg**	**14 55 47.9**	**-0.8**
VCHU	**Verkh-Chumysh,**	**4.36**	**325**	Sg	**Sg**	**14 55 50.3**	**-3.6**
KNGR	**Kungurtug, Tuv**	**4.36**	**86**	Pn	**Pn**	**14 54 43.2**	**+2.7**
KNGR				Pg	**Pb**	**14 54 51.6**	**+0.8**
KNGR				Sg	**Sg**	**14 55 54.2**	**+0.2**
KOTO	**Kotino, Kuzbas**	**4.38**	**330**	Sg	**Sg**	**14 55 54.2**	**-0.3**
POMOR	**Pomortsevo, Ku**	**4.69**	**329**	Sg	**Sg**	**14 56 04.0**	**-0.6**
BJR1	**Bachatsky 1, K**	**4.72**	**325**	Sg	**Sg**	**14 56 03.8**	**-1.9**
BJR2	**Bachatsky-2, K**	**4.73**	**326**	Sg	**Sg**	**14 56 05.5**	**-0.3**
MINR	**Mina**	**4.92**	**24**	Pg	**Pg**	**14 55 07.1**	**-1.2**
MINR				Sg	**Sg**	**14 56 13.1**	**+1.1**
SALR	**Pechorkino, Sa**	**4.99**	**324**	Sg	**Sb**	**14 56 07.0**	**+5.6**
ZALV	**Zalesovo Beam**	**5.01**	**316**	Pn	**Pn**	**14 54 52.8**	**+3.4**
	0.3nm,0.3s,baz=137,slow=14,SNR=4.1						
ZALV				Pg	**Pg**	**14 55 07.4**	**-2.7**
	1.0nm,0.3s,baz=140,slow=14,SNR=8.0						
ZALV				Sn	**Sn**	**14 55 50.3**	**+3.0**
	1.2nm,

KAN01	Argonia South	0.39	7	Pg		Pg	15 09 22.2	0.0
KAN09	Caldwell North	0.40	23	Pg		Pg	15 09 22.4	+0.1
KAN10	Anthony SW Sta	0.42	328	Pg		Pg	15 09 22.8	0.0
KAN08	Anthony NE Sta	0.47	345			Pg	15 09 23.8	+0.1
KAN06	Argonia West S	0.48	356			Pg	15 09 24.0	+0.1
BLOK	Blackwell	0.48	91	Pg		Pg	15 09 24.0	0.0
KAN16	Harper SW Stat	0.50	336	Pg		Pg	15 09 24.2	0.0
KS20	Mayfield South	0.51	25	Pg		Pg	15 09 24.4	0.0
KS21	Milan North St	0.53	13	Pg		Pg	15 09 24.9	+0.1
KAN12	Harper NE Stat	0.55	345	Pg		Pg	15 09 25.1	-0.1
OK049	E0420 Rd and N	0.55	131	Pg		Pg	15 09 25.4	+0.1
OK035	E0210 Rd and N	0.72	265	Pg		Pg	15 09 28.2	-0.2
OK050	Pawnee Station	0.77	119			Pg	15 09 29.6	+0.1
OK045	Pawnee Station	0.79	114			Pg	15 09 29.7	-0.1
OK048	Pawnee Station	0.79	116	Pg		Pg	15 09 29.6	-0.1
OK038	West end E0370	0.80	249	Pg		Pg	15 09 29.6	-0.3
OK046	Pawnee Station	0.82	117			Pg	15 09 30.3	-0.1
OK051	E0350 and S346	0.83	108	Pg		Pg	15 09 30.4	-0.2
NOKA	Waynoka	0.91	262	Pg		Pg	15 09 31.6	-0.5
OK044	Pawnee Station	0.91	115	Pg		Pg	15 09 31.9	-0.2
OK047	Pawnee, Statio	0.93	109			Pg	15 09 32.2	-0.2
OK033	Mehan	1.01	135			Pg	15 09 33.8	-0.3
OK029	Liberty Lake	1.01	163			Pg	15 09 33.9	-0.2
U32A	Winter Ranch,	1.03	248			Pg	15 09 33.9	-0.5
U32A	Winter Ranch, baz=67,SNR=15	1.03	248	P		Pg	15 09 33.9	-0.5
U32A				S		Sb	15 09 48.3	-0.3
	baz=67							
T35A	Sooner Cattle	1.06	82			Pg	15 09 34.3	-0.6
T35B	Sooner Cattle baz=263,SNR=168	1.06	82	P		Pg	15 09 34.3	-0.6
QUOK	Quay	1.07	123			Pg	15 09 35.1	-0.1
BCOK	Bluff Creek, N	1.12	171			Pg	15 09 35.7	-0.5
OK031	S. Brethren Rd	1.13	136			Pg	15 09 36.0	-0.4
OK034	N. Norfolk Rd.	1.17	130			Pg	15 09 36.6	-0.4
OK030	Cody Creek RV	1.18	135			Pg	15 09 36.9	-0.5
OK025	Westminster Rd	1.25	162			Pg	15 09 38.1	-0.5
CSTR	Hydro, Custer	1.32	212			Pn	15 09 39.6	0.0
OKCSW	OKLAHOMA CITY	1.40	167			Pn	15 09 40.8	+0.2
DEOK	Depew	1.41	131			Pn	15 09 40.8	0.0
ELIS	Ellis County	1.47	242			Pn	15 09 41.7	0.0
FNO	Franklin	1.55	167			Pn	15 09 42.9	+0.2
FNO	comp=Z,120nm,0.9s			IAmb_Lg			15 10 06.4	
R32A	Long Quarter,	1.80	337	Pn		Pn	15 09 46.5	+0.3
R32A	comp=Z,115nm,0.8s			IAmb_Lg			15 10 14.8	
R32A	Long Quarter, baz=156,SNR=32	1.80	337	P		Pb	15 09 47.0	-0.9
R32A	baz=156			S		Sb	15 10 11.0	+0.3
TUL1	Leonard	1.85	117			Pn	15 09 46.5	-0.3
TUL1	Leonard baz=299,SNR=16	1.85	117	P		Pb	15 09 47.9	-0.9
TUL1	baz=299			S		Sb	15 10 12.9	+0.9
X34A	Smith Ranch, M	2.16	180			Pn	15 09 50.7	-0.4
WMOK	Wichita Mounta	2.17	201	Pn		Pn	15 09 51.5	+0.2
WMOK	Wichita Mounta baz=21,SNR=85	2.17	201	P		Pn	15 09 51.9	+0.6
WMOK	baz=21			S		Sb	15 10 21.4	-0.1
RLO	Rose Lookout	2.33	104			Pn	15 09 52.9	-0.6
RLO	comp=Z,120nm,0.8s			IAmb_Lg			15 10 28.9	
KSU1	Kansas State U	2.52	22			Pn	15 09 55.7	-0.3
KSU1	comp=Z,108nm,0.8s			IAmb_Lg			15 10 39.2	
KSU1	Kansas State U baz=203	2.52	22	S		Sn	15 10 28.2	+1.3
CBKS	Cedar Bluff	2.55	324			Pn	15 09 56.6	+0.2
CBKS	Cedar Bluff baz=143	2.55	324	S		Sb	15 10 32.9	+0.6
U38A	Gravette	2.78	96			Pn	15 09 60.0	+0.3
U38A	Gravette baz=278,SNR=17	2.78	96	P		Pn	15 10 00.5	+0.8
LOOK	Love County	2.82	169			Pn	15 10 00.5	+0.4
LOOK	comp=Z,24nm,0.8s			IAmb_Lg			15 10 50.6	
X37A	Clayton	2.95	137			Pn	15 10 03.1	+1.3
X37A	comp=Z,86nm,0.8s			IAmb_Lg			15 10 49.6	
X37A	Clayton baz=318,SNR=9.8	2.95	137	P		Pn	15 10 03.2	+1.3
HHAR	Hobbs	3.16	98			Pn	15 10 03.4	-1.4
HHAR	comp=Z,58nm,0.8s			IAmb_Lg			15 11 03.3	
Z35A	Perchaven, San baz=352	3.46	172	P		Pn	15 10 10.0	+1.0
Z35A	baz=352			S		Sn	15 10 51.7	+1.5
AMTX	Amarillo	3.66	240	Pn		Pn	15 10 11.7	-0.1
AMTX	comp=Z,87nm,0.8s			IAmb_Lg			15 11 16.8	
S39A	Bolivar	3.70	74			Pn	15 10 12.9	+0.6
S39A	Bolivar baz=257	3.70	74	P		Pn	15 10 12.9	+0.6
S39A	baz=257			S		Sn	15 10 56.1	-0.1
N33A	J Bar K, Exete	3.97	4	IAmb_Lg			15 11 24.1	
MIAR	comp=Z,55nm,0.7s Mount Ida	4.10	121			Pn	15 10 18.4	+0.6
MIAR	comp=Z,58nm,0.8s			IAmb_Lg			15 11 31.1	
Z38A	Mt. Pleasant	4.20	146			Pn	15 10 18.8	-0.4
Z38A	comp=Z,74nm,0.8s			IAmb_Lg			15 11 33.7	
ABTX	Abilene, Hawle comp=Z,38nm,0.7s	4.40	201	IAmb_Lg			15 11 32.2	
KSCO	Kaye Shedlock' comp=Z,76nm,0.8s	4.41	302	IAmb_Lg			15 11 44.9	
P38A	Dawn	4.42	49			Pn	15 10 22.0	-0.1
P38A	comp=Z,83nm,0.7s			IAmb_Lg			15 11 35.5	
N35A	Tabor	4.42	22			Pn	15 10 21.9	-0.3
MGMO	Mountain Grove	4.46	83	Pn		Pn	15 10 22.6	-0.1
MGMO	comp=Z,45nm,0.8s			IAmb_Lg			15 11 42.4	
BGNE	Belgrade	4.64	357			Pn	15 10 24.8	-0.4
BGNE	comp=Z,76nm,0.8s			IAmb_Lg			15 11 53.6	
R40A	Maddies Statio	4.66	69	Pn		Pn	15 10 24.2	-1.2
R40A	comp=Z,36nm,0.8s			IAmb_Lg			15 11 49.6	
R40A	Maddies Statio baz=253	4.66	69	P		Pn	15 10 25.7	+0.2
FCAR	Ozark Folk Cen	4.68	99			Pn	15 10 25.7	0.0
FCAR	comp=Z,40nm,0.8s			IAmb_Lg			15 11 52.4	
WHAR	Wooly Hollow	4.72	107			Pn	15 10 26.5	+0.2
WHAR	comp=Z,47nm,0.7s			IAmb_Lg			15 11 43.5	
WHTX	Lake Whitney,	4.78	176			Pn	15 10 27.4	+0.4
UALR	University of comp=Z,40nm,0.7s	4.88	112	IAmb_Lg			15 11 59.0	
WLAR	White Oak Lake comp=Z,36nm,0.7s	4.93	127	IAmb_Lg			15 12 01.8	
237A	Washetta, Mont comp=Z,38nm,1.0s	5.04	160	IAmb_Lg			15 12 08.9	
T25A	Trinidad	5.29	276	Pn		Pn	15 10 33.6	-0.8
T25A	comp=Z,49nm,1.0s			IAmb_Lg			15 12 09.8	
OGNE	Ogallala	5.31	323			Pn	15 10 33.9	-0.6
OGNE	comp=Z,48nm,0.8s			IAmb_Lg			15 12 08.7	
P40A	Paris	5.32	57	IAmb_Lg			15 12 05.4	
N38A	comp=Z,55nm,1.1s Joes South For	5.38	40	Pn		Pn	15 10 34.5	-0.9
CCM	Cathedral Cave	5.39	74			Pn	15 10 33.5	-1.9
CCM	comp=Z,30nm,0.9s			IAmb_Lg			15 12 08.9	
CCAR	Cane Creek comp=Z,56nm,0.9s	5.70	118	IAmb_Lg			15 12 28.0	
K31A	O'Neill comp=Z,53nm,0.8s	5.89	353	IAmb_Lg			15 12 27.7	
PBMO	Poplar Bluff comp=Z,34nm,0.7s	5.93	88	IAmb_Lg			15 12 28.2	
435B	Jarrell comp=Z,61nm,1.1s	5.97	178	IAmb_Lg			15 12 32.1	
Q24A	Divide comp=Z,30nm,0.8s	6.20	293	IAmb_Lg			15 12 32.9	
SDCO	Great Sand Dun comp=Z,27nm,1.2s	6.21	281	IAmb_Lg			15 12 39.8	
SLM	Saint Louis comp=Z,41nm,0.8s	6.29	70	IAmb_Lg			15 12 33.3	
JCT	Junction City comp=Z,34nm,0.8s	6.49	195	IAmb_Lg			15 12 50.0	
CGM3	Cape Girardeau comp=Z,28nm,0.8s	6.55	83	IAmb_Lg			15 12 42.6	
ISCO	Idaho Springs comp=Z,23nm,0.8s	6.84	299	IAmb_Lg			15 13 02.0	
S44A	Carbondale comp=Z,31nm,0.9s	6.89	80	IAmb_Lg			15 12 57.7	
SIUC	Southern Illin comp=Z,32nm,0.8s	6.92	80	IAmb_Lg			15 13 00.9	
OXF	Oxford comp=Z,32nm,0.8s	7.21	106	IAmb_Lg			15 13 20.5	
Q44A	Meyer Farm, Va comp=Z,41nm,0.9s	7.28	70	IAmb_Lg			15 13 15.9	
PHWY	Pilot Hill comp=Z,29nm,1.1s	7.47	310	IAmb_Lg			15 13 17.0	
OLIL	Olney comp=Z,32nm,0.9s	7.94	73	IAmb_Lg			15 13 32.2	
I37A	Lemond, Waseca comp=Z,36nm,0.9s	7.98	24	IAmb_Lg			15 13 43.6	
L42A	Oliver, Polo comp=Z,39nm,0.7s	8.19	48	IAmb_Lg			15 13 34.5	
RWWY	Rawlins comp=Z,29nm,1.3s	8.79	307	IAmb_Lg			15 13 55.7	
K22A	Casper comp=Z,20nm,0.8s	8.91	314	IAmb_Lg			15 14 13.6	
I40A	Norwalk comp=Z,22nm,1.1s	8.99	35	IAmb_Lg			15 14 06.4	

IDC ***13*** *15:22:58.6±1.1, 65°.60N×137°.97W, h0km, mb3.5/1, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=20.2km s-min=9.8km az=166.0*

ANF ***13*** *15:22:58.6±0.2, 65°.46N×137°.98W, h3km±1km, ML3.4/53, ML3.4/54, Error ellipse: s-maj=1.4km s-min=1.2km az=83.0*

PGC ***13*** *15:22:59.4±0.0, 65°.47N×138°.06W, h1km, ML3.0, ML3.4/11, 169km northeast of Dawson, Yt Northern Yukon Territory, Canada*

ISC 13 15:22:58.5±0.7, 65°.49N±0°.02×137°.96W±0°.02, h10km, n112, σ1§73/162, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I29M	Ogilvie Camp,	0.19	229	P	Pg	15 23 01.5	-1.1
I29M				S	Sg	15 23 04.5	-0.8
I29M	Ogilvie Camp, baz=43,SNR=894	0.19	229	P	Pg	15 23 01.6	-1.0
I29M	baz=43			S	Sg	15 23 04.3	-1.0
EPYK	Eagle Plains	1.02	29	P	Pb	15 23 18.4	0.0
EPYK				S	Sb	15 23 32.2	+0.3
EPYK	Eagle Plains baz=212,SNR=37	1.02	29	P	Pb	15 23 18.4	0.0
EPYK	baz=212			S	Sb	15 23 32.2	+0.3
J29M	Klondike Camp	1.04	186	P	Pb	15 23 18.0	-0.6
J29M				S	Sg	15 23 30.3	-1.7
J29M	Klondike Camp baz=3.6,SNR=8.5	1.04	186	P	Pb	15 23 18.0	-0.6
J29M	baz=3.6			Sb	Sn	15 23 33.3	-0.5
I27K	Kandik River	1.52	276	Pn	Pb	15 23 26.6	-0.3
I27K				Sg	Sn	15 23 45.2	-0.6
I27K	Kandik River baz=94,SNR=58	1.52	276	P	Pb	15 23 26.7	-0.2
I27K	baz=94			S	Sg	15 23 47.6	+0.1
EGAK	Eagle baz=60,SNR=156	1.53	244	P	Pb	15 23 26.1	-0.7
EGAK	baz=60			S	Sg	15 23 47.0	-0.5
DAWY	Dawson	1.55	204	Pn	Pb	15 23 26.6	-0.7
DAWY				Sg	Sg	15 23 47.0	-1.4
DAWY	Dawson baz=21,SNR=88	1.55	204	P	Pb	15 23 26.6	-0.7
DAWY	baz=21			S	Sg	15 23 47.5	-0.8
H27K	Steamboat Moun	1.65	299	Pn	Pb	15 23 28.6	-0.3
H27K				Sg	Sb	15 23 50.4	+0.6
H27K	Steamboat Moun baz=116,SNR=100	1.65	299	P	Pb	15 23 28.5	-0.4
H27K	baz=116			S	Sg	15 23 50.7	-0.7
K29M	Barlow Dome	1.66	173	Pn	Pb	15 23 28.8	-0.4
K29M				Sg	Sg	15 23 50.8	-1.0
K29M	Barlow Dome baz=352,SNR=126	1.66	173	P	Pb	15 23 28.7	-0.5
K29M	baz=352			S	Sg	15 23 51.0	-0.8
G27K	Doyon Strip	2.01	313	Pn	Pb	15 23 33.6	-1.4
G27K				Sg	Sb	15 24 00.1	0.0
G27K	Doyon Strip baz=131,SNR=68	2.01	313	P	Pb	15 23 33.7	-1.4
G27K	baz=131			S	Sb	15 23 59.3	-0.8
MAYO	Mayo, Yukon	2.10	154	Sg	Sg	15 24 04.5	-1.3
MAYO	Mayo, Yukon baz=335	2.10	154	Sb	Sg	15 24 04.6	-1.3
I26K	Coal Creek Min baz=83	2.18	268	P	Pn	15 23 35.1	+0.3
I26K	baz=83			S	Sb	15 24 03.9	-1.2
K27K	Chicken baz=48	2.29	232	P	Pn	15 23 36.8	+0.5
L29M	L29M baz=0.7	2.39	182	P	Pn	15 23 38.2	+0.6
J26L	Joseph Creek baz=65,SNR=24	2.58	250	P	Pn	15 23 40.5	+0.1
J26L	baz=65			Sb	Sg	15 24 18.3	-2.9
F31M	Tsiigehtchic baz=223,SNR=17	2.59	39	P	Pn	15 23 40.9	+0.5
F31M	baz=223			S	Sn	15 24 13.2	+1.2
G26K	Porcupine Rive baz=120,SNR=8.1	2.78	305	P	Pn	15 23 43.8	+0.8
G26K	baz=120			S	Sn	15 24 18.4	+1.8
L27K	Beaver Creek,	2.96	216	Pn	Pn	15 23 46.3	+0.8
L27K				Sn	Sn	15 24 21.2	+0.1
L27K				Sg	Sb	15 24 29.5	+2.0
L27K	Beaver Creek, baz=32,SNR=18	2.96	216	P	Pn	15 23 46.1	+0.5
L27K	baz=32			Sb	Sb	15 24 29.3	+1.8
M30M	Minto, Yukon	2.96	169	Pn	Pn	15 23 46.1	+0.5
M30M				Sg	Sg	15 24 31.1	-2.6
M30M	Minto, Yukon baz=350,SNR=7.7	2.96	169	P	Pn	15 23 46.1	+0.5
M30M	baz=350			Sb	Sg	15 24 30.5	-3.2
SCRK	Sand Creek baz=57	3.00	242	P	Pn	15 23 46.6	+0.5
SCRK	baz=57			S	Sn	15 24 23.1	+1.0
M29M	Somme Creek	3.06	184	Pn	Pn	15 23 48.2	+1.1
M29M				Sn	Sn	15 24 25.1	+1.4
M29M	Somme Creek baz=3.2,SNR=7.4	3.06	184	P	Pn	15 23 47.8	+0.8
M29M	baz=3.2			S	Sn	15 24 25.8	+2.1
E27K	Coleen River baz=151	3.07	334	P	Pn	15 23 47.7	+0.7
E27K	baz=151			Sb	Sb	15 24 33.8	+3.2
PRP	Porcupine Dome baz=87	3.15	274	P	Pn	15 23 48.8	+0.5
PRP	baz=87			S	Sn	15 24 26.2	+0.3
DOT	Dot Lake	3.21	238	Pn	Pn	15 23 49.9	+0.8
DOT				Sg	Sb	15 24 37.1	+2.3
J25K	Salcha River, baz=71,SNR=5.5	3.26	258	P	Pn	15 23 50.1	+0.4
J25K	baz=71			Sb	Sb	15 24 38.5	+2.4
F26K	Sheenjek River baz=130	3.32	315	Sb	Sb	15 24 41.0	+3.2
H25K	Birch Creek baz=100	3.32	287	P	Pn	15 23 52.0	+1.5
INK	Inuvik 0.8nm,0.3s,baz=213,slow=15,SNR=4.9	3.33	30	Pn	Pn	15 23 51.5	+1.0
INK	3.4nm,0.3s,baz=246,slow=18,SNR=4.6			Sn	Sn	15 24 30.5	+0.4
INK	5.4nm,0.3s,baz=121,slow=22,SNR=4.1			Lg	Lg	15 24 40.7	
	2.4nm,0.3s						
INK	Inuvik	3.33	30	Pn	Pn	15 23 52.3	+1.8
INK				Sn	Sn	15 24 29.6	-0.5
INK	Inuvik baz=214	3.33	30	P	Pn	15 23 51.6	+1.1
BVCY	Beaver Creek	3.34	204	Pn	Pn	15 23 51.0	+0.3
BVCY				Sg	Sg	15 24 42.3	-3.3
BVCY	Beaver Creek baz=21,SNR=11	3.34	204	P	Pn	15 23 51.3	+0.6
L26K	Log Cabin Wild baz=41	3.41	226	P	Pn	15 23 53.0	+1.3
L26K	baz=41			Sb	Sg	15 24 43.6	-4.2
RIDG	Independent Ri baz=56	3.44	243	P	Pn	15 23 53.0	+0.8
RIDG	baz=56			Sb	Sg	15 24 45.6	-3.4
M27K	Edge Creek, AK	3.58	211	Pn	Pn	15 23 54.3	+0.1
M27K				Sg	Sg	15 24 50.3	-3.1
M27K	Edge Creek, AK baz=27	3.58	211	P	Pn	15 23 54.6	+0.4
M27K	baz=27			Sb	Sg	15 24 49.5	-4.0
M31M	Drury Creek, Y	3.66	153	Sg	Sg	15 24 51.9	-3.9
M31M	Drury Creek, Y baz=335	3.66	153	P	Pn	15 23 56.3	+1.2
M31M	baz=335			Sb	Sb	15 24 50.4	+3.0
F25K	Christian Rive baz=122	3.73	308	P	Pn	15 23 56.3	+0.1
K24K	Donnelly Dome baz=60	3.76	247	P	Pn	15 23 56.3	-0.2
M26K	Nabesna, AK baz=33,SNR=14	3.81	218	P	Pn	15 23 58.2	+1.0
ILAR	Eielson Array 0.4nm,0.3s,baz=78,slow=12,SNR=12	3.84	263	Pn	Pn	15 23 57.9	+0.3
ILAR	1.2nm,0.3s,baz=69,slow=18,SNR=6.3			Sn	Sn	15 24 43.9	+1.2
ILAR	3.1nm,0.3s,baz=64,slow=31,SNR=8.7 1.3nm,0.6s			Lg	Lg	15 24 58.8	
FARO	Faro, Yukon baz=330	3.85	146	P	Pn	15 23 58.7	+0.9
YUK3	Moose Creek	3.89	198	Pn	Pn	15 23 59.4	+0.9
YUK3				Sg	Sg	15 24 58.6	-4.6
YUK3	Moose Creek baz=15	3.89	198	P	Pn	15 23 58.4	-0.1
YUK2	White River	3.93	200	Pn	Pn	15 23 59.6	+0.7
YUK2				Sn	Sn	15 24 46.3	+1.2
YUK2				Sg	Sg	15 25 00.2	-4.3
HDA	Harding Lake baz=70	3.97	258	P	Pn	15 23 59.5	+0.1
E25K	Arctic Village baz=128	4.01	315	P	Pn	15 24 01.3	+1.4
G24K	Hadweenzic Riv baz=104	4.06	292	Pb	Pb	15 24 09.7	-0.3
N30M	Aishikik Lake	4.06	174	Pn	Pn	15 24 01.4	+0.7
N30M				Sn	Sn	15 24 48.8	+0.5
N30M	Aishikik Lake baz=354,SNR=6.3	4.06	174	P	Pn	15 24 01.5	+0.7
MMPY	Sheldon Lake,	4.12	131	Pn	Pn	15 24 02.6	+1.2
MMPY	Sheldon Lake, baz=317,SNR=16	4.12	131	P	Pn	15 24 02.6	+1.2
H24K	Noodor Dome baz=91	4.12	279	P	Pn	15 24 01.8	+0.3
N31M	Braeburn, Yuko	4.13	165	Pn	Pn	15 24 03.4	+1.8
N31M				Sn	Sn	15 24 52.6	+2.6
PAX	Paxson baz=49,SNR=5.4	4.14	236	P	Pn	15 24 03.3	+1.5
YUK4	Talbot Arm	4.17	185	Sg	Sb	15 25 05.8	+3.4
COLA	College baz=77	4.21	266	P	Pn	15 24 01.3	-1.4
TCOL	CIGO, UAF Yank baz=77	4.22	266	P	Pn	15 24 01.3	-1.5
YUK5	Granite Creek	4.37	179	Pn	Pn	15 24 06.4	+1.4
HARP	HAARP baz=42	4.43	229	P	Pn	15 24 05.8	0.0
F24K	Squaw Lake baz=113	4.47	302	P	Pn	15 24 05.8	-0.5
HYT	Haines Junctio	4.68	177	Pn	Pn	15 24 10.5	+1.2
HYT				Sn	Sn	15 25 04.4	+0.7
HYT	Haines Junctio baz=357	4.68	177	P	Pn	15 24 10.5	+1.2
MCARA	McCarthy VSAT baz=26	4.70	211	P	Pn	15 24 10.1	+0.7
DHY	Denali Highway baz=55	4.76	244	P	Pn	15 24 11.2	+0.8
NEA2	Nenana baz=74	4.79	264	P	Pn	15 24 10.7	+0.1
H23K	Yukon River baz=89	4.81	279	P	Pn	15 24 10.4	-0.5
O30N	Mendenhall baz=350	4.81	169	P	Pn	15 24 11.9	+1.0
O28M	Mount Upton	4.84	193	Pn	Pn	15 24 12.2	+0.6
O28M				Sn	Sn	15 25 08.4	+0.7
O28M	Mount Upton baz=11	4.84	193	P	Pn	15 24 11.7	+0.1
N32M	Quiet Lake	4.87	151	Sg	Sg	15 25 29.7	-5.1
LOGN	Logan Glacier	4.88	198	Pn	Pn	15 24 13.4	+1.4
N25K	Chitina, Valde baz=34	4.89	220	P	Pn	15 24 12.9	+0.7
E24K	Your Creek baz=118	4.91	307	P	Pn	15 24 12.7	+0.4
D25K	Kavik River baz=136	5.04	324	P	Pn	15 24 15.7	+1.7
MCK	McKinley baz=65	5.04	255	P	Pn	15 24 13.7	-0.4
WHY	Whitehorse	5.04	162	Sg	Sg	15 25 36.0	-4.2
COLD	Coldfoot	5.23	295	Pn	Pn	15 24 17.4	+0.7
COLD				Sn	Sn	15 25 14.2	-2.7
COLD	Coldfoot baz=104	5.23	295	P	Pn	15 24 17.7	+1.1
E23K	Chandalar baz=114	5.29	304	P	Pn	15 24 19.0	+1.5
WAT1	Susitna Watana baz=55	5.34	245	P	Pn	15 24 19.8	+1.5
KLU	Klutina baz=38	5.36	225	P	Pn	15 24 20.5	+2.0
MLY	Manley baz=80	5.39	271	P	Pn	15 24 18.5	-0.4
TOLK	Toolik Lake Re baz=120	5.53	310	P	Pn	15 24 22.4	+1.6
TRF	Thorofare Moun baz=64	5.71	255	P	Pn	15 24 24.4	+1.0
M23K	Glacier View baz=45	5.71	234	P	Pn	15 24 25.5	+2.2
P33M	Teslin, Yukon	5.79	154	Pn	Pn	15 24 25.3	+0.8
SML	Sawmill baz=47	5.91	236	P	Pn	15 24 28.7	+2.7
F22K	John River baz=103	6.04	296	P	Pn	15 24 29.3	+1.5
GLI	Glacier Island baz=38	6.20	226	P	Pn	15 24 32.2	+2.3
KNK	Knik Glacier baz=44	6.23	234	P	Pn	15 24 33.3	+2.9
G21K	Allakaket baz=92	6.42	286	P	Pn	15 24 34.5	+1.5
F21K	Alatna River baz=99	6.48	293	P	Pn	15 24 35.3	+1.5
C36M	Paulatuk	6.60	48	Pn	Pn	15 24 35.5	+0.2
R33M	Jennings River	6.92	149	Sg	Sg	15 26 33.9	-6.3
BESE	Bessie Mountai	7.08	167	Pn	Pn	15 24 42.1	0.0
A36M	Sachs Harbour	7.98	30	Pn	Pn	15 24 54.8	+0.5
DLBC	Dease Lake	7.99	149	Sg	Sg	15 27 10.2	-4.5
YKA	Yellowknife Ar 0.5nm,0.3s,baz=296,slow=13,SNR=5.2 1.2nm,0.4s	10.66	96	Pn	Pn	15 25 29.1	-1.9
NVAR	Mina Array Bea 0.4nm,0.6s,baz=329,slow=8.6,SNR=4.1 0.4nm,0.6s	29.41	147	P	P	15 29 04.8	+2.8

KEA ***13*** *15:48:36.2, 35°.80N×129°.12E, h13km, ML3.3/1*

JMA ***13*** *15:48:39.0±0.3, 35°.8N±0°.9×12°9E±°, h0km, MV3.2/17, S KOREAN PENINSULA REG*

KMA ***13*** *15:48:41.2±0.0, 35°.76N×129°.17E, h13km, Error ellipse: s-maj=0.5km s-min=0.3km az=293.0*

ISC 13 15:48:39.2±0.8, 35°.78N±0°.02×129°.27E±0°.03, h10km, n46, σ1§11/51, South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSDAG	Daegu SNR=1770	0.30	267	P	Pb	15 48 46.5	-0.2
YOCB	Yeongcheon SNR=122	0.32	307	P	Pb	15 48 47.4	+0.4

KSPHA	Pohang	0.42	12	P		Pn	15 48 50.4	-0.9
	SNR=191							
MIYA	Miryang-si	0.52	236	P		Pg	15 48 50.2	+0.9
	SNR=36							
KSDAU	Deagu-acc	0.54	281	P		Pb	15 48 50.7	0.0
	SNR=149							
KSBUS	Busan	0.55	193	P		Pb	15 48 51.2	+0.3
	SNR=239							
KSCHR	CHANGNYEONG	0.68	249	P		Pg	15 48 52.8	+0.5
	SNR=102							
KSADO	Andong	0.68	338	P		Pn	15 48 54.1	-0.8
	SNR=267							
EUSB	Uiseong	0.74	321	P		Pb	15 48 54.7	+0.6
	SNR=182							
YODB	Yeongdeok	0.76	9	P		Pn	15 48 56.2	+0.2
	SNR=94							
YEYB	Yeongyang	0.85	350	P		Pn	15 48 57.6	+0.3
	SNR=91							
ADOA	Andong Acc Bor	0.91	330	P		Pn	15 48 58.0	-0.1
	SNR=27							
KSGUM	GUMI	0.91	300	P		Pn	15 48 57.7	-0.4
	SNR=23							
EURB	Uiryeong-eup	0.92	240	P		Pg	15 48 57.1	+0.2
	SNR=17							
KSULJ	Uljin	0.92	7	P		Pn	15 48 59.0	+0.8
	SNR=399							
KSGIC	Gimchen	0.99	288	P		Pb	15 48 58.7	+0.2
	SNR=131							
HACA	Hapcheon Acc B	1.02	249	P		Pg	15 48 58.7	-0.1
	SNR=36							
KUJA	Jangpyeong	1.04	211	P		Pn	15 48 60.0	+0.1
	SNR=11							
KSSAJ	Sangju	1.09	305	P		Pn	15 49 00.8	+0.2
	SNR=59							
KSTOY	TONGYEONG	1.16	216	P		Pb	15 49 01.2	-0.1
	SNR=43							
CHYB	Chungyang	1.19	346	P		Pg	15 49 03.2	+1.1
	SNR=76							
DUSB	Deogyusan	1.22	276	P		Pn	15 49 02.5	+0.2
	SNR=239							
YOJB	Youngju	1.24	331	P		Pg	15 49 03.6	+0.5
	SNR=287							
JTU	Tsushima	1.26	175	eP		Pg	15 49 03.6	+0.1
JTU				eS		Sn	15 49 20.2	+0.3
HAMB	Hamyang	1.27	258	P		Pn	15 49 03.0	+0.1
	SNR=31							
KSMGY	Mungyeong	1.31	312	P		Pg	15 49 04.5	+0.2
	SNR=103							
OKCB	Cheongsan-myeo	1.32	296	P		Pg	15 49 04.5	0.0
	SNR=96							
KSTBA	Taebaek	1.36	349	P		Pg	15 49 06.4	+1.1
	SNR=163							
KSBON	Boeun	1.39	301	P		Pg	15 49 06.1	+0.2
	SNR=82							
YKDB	Yokjido	1.42	215	P		Pb	15 49 05.5	-0.2
	SNR=102							
JTSM	Tsushimamitsus	1.45	176	eP		Pg	15 49 06.3	-0.7
JTSM				eS		Sg	15 49 25.7	0.0
IMWB	Imwonan-gil	1.45	2	P		Pg	15 49 08.0	+0.9
	SNR=74							
KSCHJ	Chungju	1.51	317	P		Pg	15 49 08.0	-0.2
	SNR=60							
GWYB	Gwangyang	1.54	237	P		Pb	15 49 08.0	+0.2
	SNR=12							
NAWB	Namwon	1.57	257	P		Pb	15 49 08.1	-0.2
	SNR=130							
KSJEO	Jeonju	1.61	276	P		Pb	15 49 09.0	0.0
	SNR=134							
JECH	Jecheon	1.62	328	P		Pb	15 49 09.0	-0.2
	SNR=42							
YNDB	Yeoundo	1.81	222	P		Pb	15 49 12.0	-0.4
	SNR=20							
JHGM	Hagimishima	1.83	123	eS		Sg	15 49 38.8	+0.8
BURB	Buron	1.89	320	P		Pb	15 49 12.8	-1.0
	SNR=23							
JII	Iki	2.02	169	eP		Pb	15 49 15.3	-0.7
JII				eS		Sb	15 49 42.2	+1.0
JTY	Toyota	2.12	135	eP		Pb	15 49 17.5	-0.2
JTY				eS		Sg	15 49 46.1	-1.1
JGT2	ShimaneMisato	2.74	104	eS		Sg	15 50 04.3	-3.0
HJU	Haeju	3.62	310	Pg		Pb	15 49 43.8	+0.4
HJU				Sg		Sb	15 50 30.9	+3.5
HJU				AML	AML			
	comp=N,119nm,0.7s							
HJU				AML	AML			
	comp=E,59nm,0.6s							
HJU				AML	AML			
	comp=Z,69nm,0.4s							
PYS	Pyongsong	4.40	323	Sg		Sg	15 50 56.3	-4.0
SUJ	Sinuiju	5.73	320	Sg		Sg	15 51 40.1	-2.9

IDC ***13*** *16:17:58.6±1.7,37°.52N×98°.04W,h0km,mbtmp3.4/4, ML4.3/2,Error ellipse: s-maj=26.2km s-min=10.5km az=100.0*

NEIC ***13*** *16:18:00.6±1.4,37°.36N±0°.01×98°.09W±0°.02,h8km±6km, mb_Lg3.2/78,ML3.3/18,Error ellipse: s-maj=2.2km s-min=1.9km az=207.0*

ANF ***13*** *16:18:01.1±0.3,37°.36N×98°.12W,h9km,ML4.1/20,Error ellipse: s-maj=3.1km s-min=2.7km az=62.0*

ISC 13 16:18:00.5±0.8,37°.37N±0°.02×98°.12W±0°.02,h10km±6km, n146,σ0ş97/159,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	Harper NE Stat	0.12	125	Pg	Pg	16 18 03.4	0.0
KAN12				Sg	Sg	16 18 05.4	-0.1
KAN16	Harper SW Stat	0.15	162	Pg	Pg	16 18 03.9	0.0
KAN16				Sg	Sg	16 18 05.9	-0.3
KAN08	Anthony NE Sta	0.19	139	Pg	Pg	16 18 04.6	+0.2
KAN08				Sg	Sg	16 18 07.5	+0.3
KAN06	Argonia West S	0.24	119	Pg	Pg	16 18 05.6	+0.1
KAN06				Sg	Sg	16 18 08.8	+0.1
KAN10	Anthony SW Sta	0.24	175	Pg	Pg	16 18 05.6	+0.2
KAN10				Sg	Sg	16 18 09.4	+0.6
KAN05	Bluff City Nor	0.33	142	Pg	Pg	16 18 07.3	+0.3
KAN05				Sg	Sg	16 18 11.9	+0.6
KAN01	Argonia South	0.36	126	Pg	Pg	16 18 07.9	+0.2
KAN01				Sg	Sg	16 18 11.2	-1.3
KS21	Milan North St	0.38	102	Pg	Pg	16 18 08.2	+0.3
KAN14	Manchester OK	0.43	163	Pg	Pg	16 18 09.1	+0.2
KAN14				Sg	Sg	16 18 15.3	+0.7
KAN17	Caldwell West	0.43	138	Pg	Pg	16 18 09.2	+0.2
KAN17				Sg	Sg	16 18 15.2	+0.6
KAN09	Caldwell North	0.46	120	Pg	Pg	16 18 09.4	-0.2
KAN09				Sg	Sg	16 18 15.6	0.0
KS20	Mayfield South	0.47	107	Pg	Pg	16 18 09.8	0.0
KS20				Sg	Sg	16 18 16.0	0.0
GC02	Grant County #	0.56	158		Pg	16 18 11.4	+0.1
GC02	Grant County #	0.56	158		Sg	16 18 19.1	+0.5
OK032	Salt Plains WL	0.57	187		Pg	16 18 11.5	0.0
OK032				Sg	Sg	16 18 19.5	+0.5
KAN13	South Haven SW	0.62	124	Pg	Pg	16 18 12.7	+0.1
KAN13				Sg	Sb	16 18 21.2	-1.1
OK035	E0210 Rd and N	0.81	216		Pg	16 18 15.7	-0.4
OK035				Sg	Sg	16 18 27.0	+0.4
CROK	Carrier	0.87	173		Pg	16 18 17.1	-0.1
CROK					Sg	16 18 28.8	+0.3
BLOK	Blackwell	0.95	130		Pg	16 18 18.4	-0.3
BLOK				Sg	Sg	16 18 30.6	-0.4
NOKA	Waynoka	0.98	222		Pg	16 18 18.8	-0.4
NOKA				Sg	Sg	16 18 31.9	-0.1
OK038	West end E0370	1.02	209		Pg	16 18 19.6	-0.4
OK038				Sg	Sg	16 18 33.4	+0.2
R32A	Long Quarter,	1.15	336	Pg	Pg	16 18 22.1	-0.6
R32A				Sg	Sg	16 18 38.0	+0.4
R32A	Long Quarter, baz=155,SNR=92	1.15	336	P	Pg	16 18 22.0	-0.6
OK049	E0420 Rd and N	1.16	145		Pb	16 18 22.6	0.0
OK049				Sg	Sb	16 18 37.8	0.0
U32A	Winter Ranch,	1.21	216		Pb	16 18 23.2	-0.4
U32A				Sg	Sb	16 18 38.8	-0.4
U32A	Winter Ranch, baz=36,SNR=52	1.21	216	P	Pb	16 18 23.1	-0.4
U32A				S	Sb	16 18 39.7	+0.5
	baz=36						
OK045	Pawnee Station	1.33	133		Pb	16 18 25.4	-0.1
OK050	Pawnee Station	1.33	136		Pb	16 18 25.5	-0.1
OK048	Pawnee Station	1.34	135	Pn	Pb	16 18 25.6	-0.1
OK051	E0350 and S346	1.34	129	Pn	Pb	16 18 25.7	0.0
T35A	Sooner Cattle	1.36	109	Pn	Pb	16 18 25.8	-0.3
T35B	Sooner Cattle baz=290,SNR=164	1.36	109	P	Pb	16 18 26.0	-0.1
T35B				S	Sg	16 18 44.0	-0.3
	baz=290						
OK046	Pawnee Station	1.37	134		Pb	16 18 26.3	0.0
OK047	Pawnee, Statio	1.44	128		Pb	16 18 27.4	0.0
OK044	Pawnee Station	1.46	133		Pb	16 18 27.6	0.0
OK033	Mehan	1.63	144	Pn	Pn	16 18 29.3	+0.1
QUOK	Quay	1.65	136	Pg	Pb	16 18 30.9	-0.1
OK029	Liberty Lake	1.66	161		Pn	16 18 29.1	-0.5
OK031	S. Brethren Rd	1.75	143		Pn	16 18 31.0	+0.1
BCOK	Bluff Creek, N	1.76	166		Pn	16 18 30.8	-0.2
OK034	N. Norfolk Rd.	1.77	140		Pn	16 18 31.8	+0.6
CSTR	Hydro, Custer	1.78	195		Pn	16 18 32.4	+1.1
OK030	Cody Creek RV	1.80	143		Pn	16 18 31.2	-0.4
OK025	Westminster Rd	1.89	160		Pn	16 18 32.6	-0.3
CBKS	Cedar Bluff	1.93	319		Pn	16 18 34.4	+1.0
CBKS	Cedar Bluff baz=138,SNR=22	1.93	319	P	Pn	16 18 34.8	+1.4
CBKS				S	Sb	16 19 00.8	+0.9
	baz=138						
CBKS	Cedar Bluff baz=138	1.93	319	P	Pn	16 18 34.8	+1.4
CBKS				S	Sb	16 19 00.7	+0.9
	baz=138						
DEOK	Depew	2.01	139		Pn	16 18 34.3	-0.1
KSU1	Kansas State U	2.10	34		Pn	16 18 36.4	+0.7
KSU1				IAmb_Lg		16 19 08.7	
	comp=Z,144nm,0.7s						
KSU1	Kansas State U baz=214,SNR=21	2.10	34	P	Pb	16 18 37.6	-1.1
KSU1				Sb	Sb	16 19 06.2	+1.3
	baz=214						
KSU1	Kansas State U baz=214	2.10	34	P	Pb	16 18 37.6	-1.1
KSU1				S	Sb	16 19 05.4	+0.6
	baz=214						
FNO	Franklin	2.19	164		Pn	16 18 36.5	-0.4
TUL1	Leonard	2.37	127		Pn	16 18 39.0	-0.4
TUL1	Leonard baz=309	2.37	127	P	Pn	16 18 40.7	+1.3
TUL1				Sb	Sb	16 19 14.0	+1.4
	baz=309						
TUL1	Leonard baz=309	2.37	127	P	Pb	16 18 41.4	-1.9
TUL1				S	Sb	16 19 13.8	+1.1
	baz=309						
WMOK	Wichita Mounta	2.68	192		Pn	16 18 43.3	-0.4
WMOK	Wichita Mounta baz=12,SNR=23	2.68	192	P	Pn	16 18 44.9	+1.2
WMOK	Wichita Mounta baz=12	2.68	192	P	Pn	16 18 44.8	+1.2
WMOK				S	Sb	16 19 19.3	-2.2
	baz=12						
RLO	Rose Lookout	2.76	115	Pn	Pn	16 18 44.9	0.0
X34A	Smith Ranch, M	2.77	175		Pn	16 18 45.0	0.0
U38A	Gravette	3.13	106	Pn	Pn	16 18 50.8	+0.9
U38A				IAmb_Lg		16 19 45.3	
	comp=Z,103nm,0.7s						
U38A	Gravette baz=288	3.13	106	P	Pn	16 18 51.7	+1.7
N33B	J Bar K, Exete baz=189,SNR=13	3.41	9	P	Pn	16 18 54.2	+0.5
N33B				S	Sn	16 19 35.0	+0.8
	baz=189						
N33A	J Bar K, Exete	3.41	9		Pn	16 18 54.2	+0.5
N33A				IAmb_Lg		16 19 54.8	
	comp=Z,69nm,0.8s						
LOOK	Love County	3.45	167		Pn	16 18 54.5	+0.2
LOOK				IAmb_Lg		16 19 58.5	
	comp=Z,50nm,1.1s						
HHAR	Hobbs	3.53	107		Pn	16 18 56.0	+0.7
X37A	Clayton	3.56	140	P	Pn	16 18 57.2	+1.4
	baz=322						
AMTX	Amarillo	3.80	230		Pn	16 18 59.5	+0.3
AMTX				IAmb_Lg		16 20 05.5	
	comp=Z,37nm,0.8s						
AMTX	Amarillo baz=48,SNR=9.5	3.80	230	P	Pn	16 19 01.0	+1.8
AMTX				S	Sn	16 19 46.7	+2.7
	baz=48						
AMTX	Amarillo baz=48	3.80	230	P	Pn	16 19 01.0	+1.8
S39A	Bolivar	3.83	84		Pn	16 18 59.7	+0.2
S39A	Bolivar baz=266	3.83	84	P	Pn	16 19 00.4	+0.9
KSCO	Kaye Shedlock'	3.91	296		Pn	16 19 00.9	+0.2
KSCO				IAmb_Lg		16 20 15.3	
	comp=Z,41nm,0.9s						
KSCO	Kaye Shedlock' baz=113	3.91	296	S	Sn	16 19 47.8	+1.1
N35A	Tabor	3.99	28		Pn	16 19 00.8	-0.8
N35A	Tabor baz=209	3.99	28	P	Pn	16 19 03.3	+1.7
N35A				S	Sn	16 19 51.6	+3.2
	baz=209						
BGNE	Belgrade	4.04	360		Pn	16 19 03.2	+0.8
BGNE	Belgrade baz=179,SNR=13	4.04	360	P	Pn	16 19 03.7	+1.3
BGNE	Belgrade baz=179	4.04	360	P	Pn	16 19 03.6	+1.3
P38A	Dawn	4.25	57		Pn	16 19 06.3	+1.1
P38A				IAmb_Lg		16 20 19.6	
	comp=Z,38nm,0.8s						
MIAR	Mount Ida	4.64	126		Pn	16 19 10.1	-0.5
MIAR				IAmb_Lg		16 20 25.9	
	comp=Z,52nm,0.8s						
MIAR	Mount Ida baz=309,SNR=21	4.64	126	P	Pn	16 19 11.6	+1.0
MIAR				S	Sn	16 20 05.2	+0.6
	baz=309						
MIAR	Mount Ida baz=309	4.64	126	P	Pn	16 19 12.0	+1.4
MIAR				S	Sn	16 20 05.9	+1.4
	baz=309						
MGMO	Mountain Grove	4.67	91		Pn	16 19 11.2	0.0
MGMO				IAmb_Lg		16 20 32.3	
	comp=Z,56nm,0.8s						
OGNE	Ogallala	4.69	321		Pn	16 19 12.8	+1.4
OGNE	Ogallala baz=138,SNR=11	4.69	321	P	Pn	16 19 13.7	+2.3
OGNE	Ogallala baz=138	4.69	321	P	Pn	16 19 13.7	+2.3
R40A	Maddies Statio	4.73	77		Pn	16 19 11.0	-0.8
R40A				IAmb_Lg		16 20 30.2	
	comp=Z,49nm,0.8s						
L34A	Svendsen Farm,	4.79	16		Pn	16 19 13.2	+0.5
Z38A	Mt. Pleasant	4.83	147		Pn	16 19 13.8	+0.5
Z38A	Mt. Pleasant baz=329	4.83	147	P	Pn	16 19 14.4	+1.1
Z38A				S	Sn	16 20 10.7	+1.3
	baz=329						
ABTX	Abilene, Hawle comp=Z,32nm,0.8s	4.89	195	IAmb_Lg		16 20 45.3	
T25A	Trinidad	5.02	269		Pn	16 19 15.9	-0.2
FCAR	Ozark Folk Cen	5.04	105		Pn	16 19 16.2	0.0
FCAR				IAmb_Lg		16 20 43.4	
	comp=Z,31nm,0.8s						
N38A	Joes South For	5.12	47		Pn	16 19 17.1	0.0
N38A	Joes South For baz=229	5.12	47	P	Pn	16 19 18.3	+1.2
N38A				S	Sn	16 20 16.7	+0.5
	baz=229						
WHAR	Wooly Hollow	5.15	112		Pn	16 19 17.4	-0.2
K31A	O'Neill	5.27	355		Pn	16 19 19.1	-0.2
UALR	University of	5.35	117	Pn	Pn	16 19 20.8	+0.5
UALR				IAmb_Lg		16 20 54.6	
	comp=Z,30nm,0.9s						
WHTX	Lake Whitney,	5.39	174	Pn	Pn	16 19 21.6	+0.6
WHTX	Lake Whitney, baz=355	5.39	174	P	Pn	16 19 21.4	+0.4
WLAR	White Oak Lake	5.49	130	IAmb_Lg		16 20 56.0	
	comp=Z,31nm,0.7s						
CCM	Cathedral Cave	5.50	81		Pn	16 19 21.8	-0.6
LCAR	Lake Charles	5.75	101	Pn	Pn	16 19 24.6	-1.2
Q24A	Divide	5.76	288	IAmb_Lg		16 21 07.7	
	comp=Z,36nm,0.8s						
Q24A	Divide baz=104	5.76	288	P	Pn	16 19 27.7	+1.3
SCIA	State Center	5.91	38	Pn	Pn	16 19 26.7	-1.4
SCIA				IAmb_Lg		16 21 10.0	
	comp=Z,46nm,0.8s						
NATX	Nacogdoches comp=Z,24nm,0.8s	6.28	152	IAmb_Lg		16 21 29.7	
ISCO	Idaho Springs	6.35	295	Pn	Pn	16 19 35.6	+1.2
ISCO				IAmb_Lg		16 21 30.8	
	comp=Z,24nm,1.0s						
ISCO	Idaho Springs	6.35	295	S	Sn	16 20 47.4	+0.3
	baz=110						
SLM	Saint Louis comp=Z,38nm,0.8s	6.36	76	IAmb_Lg		16 21 20.6	
CPRX	Cap Rock	6.39	229		Pn	16 19 35.5	+0.7
N41A	Harden Midland	6.57	57	Pn	Pn	16 19 37.0	-0.1
N41A				IAmb_Lg		16 21 33.0	
	comp=Z,39nm,0.9s						
435B	Jarrell comp=Z,23nm,0.7s	6.58	176	IAmb_Lg		16 21 34.0	
K38A	Parkersburg comp=Z,38nm,0.9s	6.68	36	IAmb_Lg		16 21 43.8	
CGM3	Cape Girardeau comp=Z,26nm,0.9s	6.75	88	IAmb_Lg		16 21 41.6	
PHWY	Pilot Hill comp=Z,18nm,0.8s	6.91	307	IAmb_Lg		16 21 37.5	
JCT	Junction City	7.01	192		Pn	16 19 43.7	+0.5
JCT				IAmb_Lg		16 21 55.9	
	comp=Z,41nm,0.9s						
SIUC	Southern Illin comp=Z,43nm,0.9s	7.08	84	IAmb_Lg		16 21 48.4	
L40A	Anamosa comp=Z,43nm,0.8s	7.09	46	IAmb_Lg		16 22 01.8	
SUSD	Miller comp=Z,37nm,0.8s	7.10	355	IAmb_Lg		16 22 05.5	
P43A	Skaggs, Pawnee comp=Z,30nm,0.7s	7.12	69	IAmb_Lg		16 22 00.0	
ANMO	Albuquerque	7.16	253	Pn	Pn	16 19 47.2	+1.7
	comp=Z,0.4nm,0.5s,baz=71,slow=18,SNR=1.3						
ANMO				Pg	Pb	16 20 06.0	+1.0
	comp=Z,0.3nm,0.3s,baz=148,slow=7.8,SNR=3.2						
ANMO				Lg	Lg	16 21 41.5	
	comp=Z,1.4nm,0.3s,baz=339,slow=13,SNR=6.3						
ANMO	Albuquerque	7.16	253	Pn	Pn	16 19 44.1	-1.4
GDL2	Guadalupe Moun	7.27	227	Pn	Pn	16 19 44.9	-2.1
Q44A	Meyer Farm, Va comp=Z,40nm,0.9s	7.34	75	IAmb_Lg		16 22 00.9	
I37A	Lemond, Waseca comp=Z,30nm,0.9s	7.55	27	IAmb_Lg		16 22 10.2	
HDIL	Hopedale comp=Z,35nm,0.7s	7.58	62	IAmb_Lg		16 22 13.3	
BNM	Barren Site	7.62	248	Pn	Pn	16 19 50.7	-1.1
L42A	Oliver, Polo	8.00	52	Pn	Pn	16 19 54.9	-1.8
OLIL	Olney comp=Z,29nm,1.0s	8.03	77	IAmb_Lg		16 22 17.7	
O44A	Mansfield comp=Z,32nm,0.8s	8.04	67	IAmb_Lg		16 22 19.1	
RSSD	Black Hills	8.10	328	Pn	Pn	16 19 56.3	-2.0
JFWS	Jewell Farm comp=Z,24nm,0.7s	8.19	45	IAmb_Lg		16 22 30.6	
MNTX	Cornudas Mount	8.23	229	Pn	Pn	16 19 58.3	-1.8
RWWY	Rawlins comp=Z,16nm,0.8s	8.24	304	IAmb_Lg		16 22 32.5	
MVCO	Mesa Verde	8.27	272	Pn	Pn	16 19 58.9	-1.9
F33A	5 Mile Ranch, comp=Z,15nm,0.8s	8.57	9	IAmb_Lg		16 22 35.3	
I40A	Norwalk comp=Z,27nm,1.2s	8.66	39	IAmb_Lg		16 22 45.1	
833A	Chaparral WMA, comp=Z,20nm,1.0s	9.08	187	IAmb_Lg		16 22 58.2	
TX31	Lajitas Ar. Si baz=29,SNR=18	9.25	212	P	Pn	16 20 14.1	0.0
TXAR	Lajitas Array	9.25	212	Pn	Pn	16 20 14.1	0.0
	comp=Z,0.8nm,0.3s,baz=31,slow=11,SNR=57						
TXAR				Sn	Sn	16 21 55.7	-2.6
	comp=Z,0.3nm,0.3s,baz=39,slow=16,SNR=2.5						
TXAR				Lg	Lg	16 22 49.8	
	comp=Z,0.9nm,0.3s,baz=37,slow=27,SNR=6.2						
	comp=Z,1.0nm,0.3s						
E28A	Huff comp=Z,26nm,0.8s	9.40	349	IAmb_Lg		16 23 14.8	
PDAR	Pinedale Array	10.29	305	Pn	Pn	16 20 27.9	-0.5
	comp=Z,0.3nm,0.3s,baz=119,slow=15,SNR=7.0						
PDAR				Lg	Lg	16 23 21.0	
	comp=Z,0.6nm,0.3s,baz=121,slow=33,SNR=8.0						
	comp=Z,0.3nm,0.3s						
TKL	Tuckaleechee C	11.67	94	Lg	Lg	16 24 00.0	
	comp=Z,0.2nm,0.3s,baz=354,slow=21,SNR=2.2						
ULM	Lac du Bonnet	12.98	6	Pn	Pn	16 20 57.2	-7.6
	comp=Z,1.8nm,0.6s,baz=185,slow=11,SNR=3.4						
ULM				Sn	Sn	16 23 14.5	-15
	comp=Z,0.2nm,0.3s,baz=192,slow=14,SNR=1.4						

JMA ***13*** *16:27:38.0±0.4,43°.1N×13°.8E,h303km,MV3.1/20, EASTERN SEA OF JAPAN*

SKHL ***13*** *16:27:39.5±0.1,43°.30N×137°.80E,h225km±13km,mb4.1/4, msha4.7/3*

ISC 13 16:27:36.9±1.7,43°.16N±0°.06×137°.98E±0°.10,h299km,n17, σ1ş87/26,1D,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	Shosan	3.07	65	eP	Pn	16 28 34.5	+1.4
JRBN	Rebuntou	3.17	43	eP	Pn	16 28 34.1	0.0
JKK2	Kamakawa 2	3.54	77	eP	Pn	16 28 39.7	+1.7
JKK2				eS	S	16 29 27.8	+0.8
JWK2	Keihoku	3.54	51	eP	Pn	16 28 39.7	+1.7
JNBK	Urakawa-nobuka	3.63	102	eP	Pn	16 28 40.3	+1.3
JNBK				eS	S	16 29 29.3	+0.7
JANG	Nango	3.84	135	eS	S	16 29 31.4	-1.6
JCH	Churui	3.99	96	eP	Pn	16 28 42.8	-0.2
JCH				eS	S	16 29 33.0	-2.9
JAR	Ashorobuto	4.23	86	eP	Pn	16 28 46.7	+1.1
JAR				eS	S	16 29 39.7	-1.0
GRTR	Gornotajezhnoj	4.28	279	⇓ iP	Pn	16 28 43.9	-2.2
GRTR				AMB	AMB	16 28 44.4	
	30nm,0.7s						
JTKR	Abashiri--Toko	4.38	77	eP	Pn	16 28 48.7	+1.4
JOM	Ohasama	4.45	145	eP	Pn	16 28 49.6	+1.5
JOM				eS	S	16 29 44.8	-0.4
JYK	Kaneyama	4.61	156	eP	Pn	16 28 51.6	+1.7
JMK	Ichinoseki	4.87	149	eP	Pn	16 28 53.8	+0.9
JAK	Akkeshi	4.92	90	eP	Pn	16 28 53.5	+0.1
JAK				eS	S	16 29 51.8	-3.0
YSS	Yuzh-Sakhalins	5.08	40	eP	Pn	16 28 55.8	+0.6
YSS				AMB	AMB	16 28 56.9	
	20nm,0.6s						
YSS				eS	S	16 29 57.5	-0.6
YSS				A	A	16 29 57.8	
	10.0nm,0.5s						
NEM2	Nemuro 2	5.67	85	eP	Pn	16 29 01.8	-0.4
NEM2				eS	S	16 30 06.3	-4.6
YUK	Yuzh-Kuril'sk	5.79	79	eP	Pn	16 29 06.7	+3.1
YUK				AMB	AMB	16 29 09.4	
	50nm,0.5s						
YUK				A	A	16 29 18.4	
	70nm,0.7s						
YUK				A	A	16 29 18.4	
	100nm,0.7s						
YUK				eS	S	16 30 15.4	+2.0

WEL ***13*** *16:51:03.8±1.1,37°.5±4°×17°.9E±1°,h16km±7km,M3.4/54, mB4.3/1,ML3.7/57,MLv3.4/54,Mw(mB)3.4/1,Error ellipse: s-maj=0.0km s-min=0.0km az=81.4*

NOU ***13*** *16:51:06.2,37°.40S×179°.18E,h114km,MLv4.3/6,Off E. Coast of N. Island, N.Z.*

ISC 13 16:51:02.6±2.6,37°.04S±0°.08×179°.2E±0°.1,h20km±6km, n83,σ0ş85/91,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.90	235	P	Pb	16 51 18.6	-0.9
MXZ				S	Sb	16 51 27.8	-3.3
WMGZ	Waiomatatini S	1.01	220	P	Pg	16 51 22.9	+0.7
WMGZ				S	Sg	16 51 36.0	+0.5
PKGZ

PRGZ	**Paritu Road**	**2.15**	**209**	P	**Pn**	**16 51 38.2**	**+0.8**
PRGZ				S	**Sn**	**16 52 03.6**	**0.0**
MARZ	**Manawahe**	**2.24**	**244**	P	**Pn**	**16 51 39.3**	**+0.7**
OPRZ	**Ohinepanea**	**2.27**	**249**	P	**Pn**	**16 51 38.7**	**-0.3**
SNGZ	**Shannon Statio**	**2.29**	**220**	P	**Pn**	**16 51 40.0**	**+0.7**
SNGZ				S	**Sn**	**16 52 06.1**	**-0.8**
KNZ	**Kokohu**	**2.32**	**211**	P	**Pn**	**16 51 39.8**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.35**	**206**	P	**Pn**	**16 51 40.7**	**+0.6**
MYRZ	**Mayor Island**	**2.40**	**263**	P	**Pn**	**16 51 40.8**	**0.0**
MUGZ	**Murupara**	**2.42**	**233**	P	**Pn**	**16 51 41.5**	**+0.5**
TGRZ	**Tauranga**	**2.46**	**253**	P	**Pn**	**16 51 41.2**	**-0.4**
TARZ	**Mount Tarawera**	**2.47**	**240**	P	**Pn**	**16 51 42.7**	**+0.9**
RRRZ	**Republican Roa**	**2.51**	**238**	P	**Pn**	**16 51 43.0**	**+0.7**
RAHZ	**Arahi**	**2.52**	**222**	P	**Pn**	**16 51 43.3**	**+0.9**
KARZ	**Kaharoa**	**2.56**	**247**	P	**Pn**	**16 51 43.2**	**+0.2**
WHHZ	**Waihua**	**2.57**	**217**	P	**Pn**	**16 51 43.7**	**+0.7**
MTHZ	**Maungataniwha**	**2.61**	**226**	P	**Pn**	**16 51 44.4**	**+0.7**
ALRZ	**Allen Road**	**2.74**	**236**	P	**Pn**	**16 51 46.1**	**+0.7**
NMHZ	**Naumai**	**2.80**	**222**	P	**Pn**	**16 51 47.3**	**+0.9**
KUZ	**Kuaotunu**	**2.83**	**275**	P	**Pn**	**16 51 45.2**	**-1.4**
ARHZ	**Aropaoanui**	**2.83**	**218**	P	**Pn**	**16 51 47.0**	**+0.4**
MRHZ	**Matea Rd**	**2.85**	**230**	P	**Pn**	**16 51 47.2**	**+0.2**
BKZ	**Black Stump Fm**	**3.02**	**225**	P	**Pn**	**16 51 49.5**	**+0.2**
BKZ	**Black Stump Fm**	**3.02**	**225**	P	**Pn**	**16 51 49.6**	**+0.2**
TOZ	**Tahuroa Road**	**3.04**	**256**	P	**Pn**	**16 51 48.6**	**-1.0**
CKHZ	**Cape Kidnapper**	**3.11**	**212**	P	**Pn**	**16 51 49.9**	**-0.6**
MCHZ	**McNeill Hill**	**3.12**	**219**	P	**Pn**	**16 51 50.9**	**+0.3**
GRZ	**Great Barrier**	**3.13**	**284**	P	**Pn**	**16 51 51.2**	**+0.3**
KWHZ	**Kaweka Forest**	**3.24**	**222**	P	**Pn**	**16 51 52.5**	**0.0**
MKAZ	**Moumakai**	**3.25**	**268**	P	**Pn**	**16 51 51.7**	**-0.7**
RATZ	**Rangitukua**	**3.28**	**235**	P	**Pn**	**16 51 53.5**	**+0.6**
WIAZ	**Waiheke Island**	**3.29**	**273**	P	**Pn**	**16 51 52.4**	**-0.6**
KAHZ	**Kahuranaki**	**3.31**	**213**	P	**Pn**	**16 51 52.6**	**-0.7**
KRHZ	**Kereru**	**3.43**	**220**	P	**Pn**	**16 51 54.2**	**-0.7**
ETAZ	**East Tamaki Re**	**3.44**	**270**	P	**Pn**	**16 51 55.2**	**+0.2**
TMVZ	**Te Maari**	**3.46**	**232**	P	**Pn**	**16 51 55.6**	**+0.1**
ETVZ	**East Tongariro**	**3.47**	**232**	P	**Pn**	**16 51 55.5**	**-0.1**
NTVZ	**North Tongarir**	**3.47**	**233**	P	**Pn**	**16 51 55.8**	**+0.1**
MBAZ	**Motutapu North**	**3.48**	**273**	P	**Pn**	**16 51 56.2**	**+0.6**
BHHZ	**Black Hill Sta**	**3.49**	**225**	P	**Pn**	**16 51 55.6**	**-0.1**
KRVZ	**Karewarewa**	**3.49**	**233**	P	**Pn**	**16 51 56.0**	**+0.1**
PXZ	**Pawanui**	**3.51**	**211**	P	**Pn**	**16 51 54.7**	**-1.3**
NNVZ	**North Ngauruho**	**3.53**	**233**	P	**Pn**	**16 51 57.0**	**+0.6**
SNVZ	**South Ngauruho**	**3.55**	**232**	P	**Pn**	**16 51 56.1**	**-0.5**
ABAZ	**Army Bay**	**3.55**	**276**	P	**Pn**	**16 51 56.8**	**+0.2**
NGZ	**Ngauruhoe**	**3.56**	**232**	P	**Pn**	**16 51 56.9**	**0.0**
TUVZ	**Tukino**	**3.59**	**231**	P	**Pn**	**16 51 57.4**	**+0.2**
EPAZ	**Eden Park BICE**	**3.59**	**271**	P	**Pn**	**16 51 56.9**	**-0.3**
HBAZ	**Herne Bay Bore**	**3.61**	**272**	P	**Pn**	**16 51 58.4**	**+1.1**
TWVZ	**Taurewa**	**3.61**	**235**	P	**Pn**	**16 51 58.4**	**+0.9**
MOVZ	**Moawhango**	**3.61**	**228**	P	**Pn**	**16 51 57.3**	**-0.2**
WNVZ	**Wahianoa**	**3.66**	**230**	P	**Pn**	**16 51 58.2**	**0.0**
AWAZ	**Awhitu Peninsu**	**3.67**	**268**	P	**Pn**	**16 51 58.2**	**0.0**
PNHZ	**Pukenui**	**3.72**	**219**	P	**Pn**	**16 51 58.3**	**-0.6**
WPHZ	**Waipukurau**	**3.72**	**215**	P	**Pn**	**16 51 57.8**	**-1.2**
WTAZ	**Waiatarua**	**3.73**	**270**	P	**Pn**	**16 51 59.2**	**+0.2**
RVAZ	**Riverhead Bore**	**3.73**	**273**	P	**Pn**	**16 51 59.3**	**+0.2**
HIZ	**Hauiti**	**3.76**	**246**	P	**Pn**	**16 52 00.6**	**+1.2**
HIZ	**Hauiti**	**3.76**	**246**	P	**Pn**	**16 52 00.4**	**+0.9**
MTVZ	**Mangateitei**	**3.77**	**231**	P	**Pn**	**16 51 59.4**	**-0.3**
TSZ	**Takapari Road**	**3.95**	**219**	P	**Pn**	**16 52 00.6**	**-1.5**
DVHZ	**Dannevirke**	**4.04**	**215**	P	**Pn**	**16 52 01.9**	**-1.4**
WCZ	**Waipu Caves**	**4.08**	**284**	P	**Pn**	**16 52 04.1**	**+0.2**
WAZ	**Wanganui**	**4.29**	**230**	P	**Pn**	**16 52 07.1**	**+0.3**
BFZ	**Birch Farm**	**4.31**	**212**	P	**Pn**	**16 52 04.6**	**-2.5**
OUZ	**Omahuta**	**4.91**	**290**	P	**Pn**	**16 52 16.0**	**+0.7**
TKNZ	**Takaka Hill**	**6.39**	**229**	P	**Pn**	**16 52 32.5**	**-1.9**
QRZ	**Quartz Range**	**6.44**	**232**	P	**Pn**	**16 52 34.2**	**-2.1**
KHZ	**Kahutara**	**6.93**	**217**	P	**Pn**	**16 52 42.1**	**-0.8**

IDC ***13*** *16:51:50.7±0.7,52°.27N×169°.37W, h0km, mb4.1/31, mbtmp4.1/33, ML3.6/2, MS3.4/22, Error ellipse: s-maj=20.7km s-min=13.0km az=173.0*
AEIC ***13*** *16:51:55.1±2.5,52°.19N±0°.07×169°.24W±0°.09, h27km±3km, Error ellipse: s-maj=11.1km s-min=6.8km az=157.0*
NEIC ***13*** *16:51:55.2±2.0,52°.26N±0°.05×169°.17W±0°.09, h30km±6km, mb4.3/61, ML3.9/41(AEIC), Error ellipse: s-maj=10.1km s-min=4.6km az=134.0*

ISC 13 16:51:54.7±0.5,**52°.18N**±0°.07×**169°.18W**±0°.05,**h29**km, **n192**,σ1§**24**/179,**mb4.3**/67,**MS3.4**/21,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.69**	**331**		**Pb**	**16 52 07.9**	**-0.4**
CLCO					**Sb**	**16 52 17.8**	**+0.2**
CLES	**Cleveland East**	**0.78**	**326**		**Pn**	**16 52 09.5**	**-0.3**
NIKH	**Nikolski High**	**0.82**	**14**		**Pn**	**16 52 09.0**	**-1.2**
NIKH	**Nikolski High**	**0.82**	**14**		**Sn**	**16 52 23.2**	**+1.8**
OKSO	**Okmok South**	**1.33**	**27**		**Pn**	**16 52 17.1**	**-0.2**
OKSO					**Sn**	**16 52 35.4**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**1.39**	**29**		**Pn**	**16 52 18.3**	**+0.1**
OKNC	**Okmok New Cone**	**1.43**	**26**		**Pn**	**16 52 19.7**	**+1.0**
OKFG	**Magazine Ridge**	**1.45**	**31**		**Pn**	**16 52 18.7**	**-0.3**
OKFG					**Sn**	**16 52 38.3**	**+1.2**
MAPS	**Pakushin South**	**2.12**	**39**		**Pn**	**16 52 28.7**	**+0.5**
MGOD	**Makushin Gods**	**2.13**	**40**		**Pn**	**16 52 29.3**	**+0.9**
MGOD					**Sn**	**16 52 56.1**	**+2.1**
MNAT	**Makushin Natee**	**2.27**	**40**		**Pn**	**16 52 32.5**	**+2.2**
UNV	**Unalaska Valle**	**2.32**	**43**	Pn	**Pn**	**16 52 31.0**	**+0.1**
UNV	**Unalaska Valle**	**2.32**	**43**		**Sn**	**16 53 00.6**	**+2.2**
AKMO	**Akutan Morgan**	**2.70**	**44**		**Pn**	**16 52 37.7**	**+1.5**
ZRO	**Akutan Zero**	**2.72**	**44**		**Pn**	**16 52 39.0**	**+2.6**
AKBBA	**Akutan Broad B**	**2.74**	**44**		**Pn**	**16 52 38.7**	**+2.0**
AKUT	**Akutan**	**2.83**	**45**	Pn	**Pn**	**16 52 36.7**	**-1.3**
AKSA	**Akutan Strait**	**2.87**	**46**		**Pn**	**16 52 39.8**	**+1.4**
KOSE	**Korovin Southe**	**3.00**	**275**		**Pn**	**16 52 41.2**	**+0.9**
KOFP	**Korovin Flat P**	**3.00**	**274**		**Pn**	**16 52 41.6**	**+0.9**
ATKA	**Atka Island**	**3.09**	**272**		**Pn**	**16 52 40.7**	**+0.2**
WECS	**Westdahl Cape**	**3.53**	**46**		**Pn**	**16 52 49.0**	**+1.4**
GSTR	**Great Sitkin T**	**4.24**	**272**		**Pn**	**16 52 58.5**	**+1.2**
GSTD	**Great Sitkin T**	**4.30**	**271**		**Pn**	**16 52 59.2**	**+1.0**
GSCK	**Great Sitkin C**	**4.31**	**271**		**Pn**	**16 52 59.1**	**+0.8**
ADK	**Adak**	**4.65**	**269**	Pn	**Pn**	**16 53 03.1**	**+0.2**
KIMD	**Kanaga Island**	**5.00**	**268**		**Pn**	**16 53 08.5**	**+0.8**
SPIA	**Saint Paul Isl**	**5.05**	**353**	Pn	**Pn**	**16 53 08.4**	**+0.1**
TAFP	**Tanaga Falls P**	**5.44**	**271**		**Pn**	**16 53 15.4**	**+1.6**
TASE	**Tanaga Southea**	**5.49**	**270**		**Pn**	**16 53 15.7**	**+1.2**
GANO	**Gareloi North**	**5.96**	**270**		**Pn**	**16 53 22.6**	**+1.7**
SDPT	**Sand Point**	**6.06**	**55**	Pn	**Pn**	**16 53 23.8**	**+1.6**
CNBA	**Chernabura Isl**	**6.30**	**61**	Pn	**Pn**	**16 53 26.1**	**+0.5**
CEPE	**Semis' Perret**	**6.89**	**273**		**Pn**	**16 53 36.0**	**+2.2**
AMKA	**Amchitka**	**7.20**	**268**	Pn	**Pn**	**16 53 37.7**	**-0.2**
CHIR	**Chirikof Islan**	**8.78**	**60**	Pn	**Pn**	**16 54 00.7**	**+1.2**
SII	**Sitkinak Islan**	**9.78**	**57**	Pn	**Pn**	**16 54 11.1**	**-2.2**
SHEM	**Shemya Is, Ala** comp=Z,196nm,19.3s,baz=96,slow=38	**10.23**	**280**	LR	LR	16 58 10.0	
OHAK	**Old Harbor**	**10.48**	**55**	Pn	**Pn**	**16 54 22.3**	**-0.5**
P18K	**Big Mountain,**	**10.65**	**42**	Pn	**Pn**	**16 54 25.1**	**-0.2**
KDAK	**Kodiak Island**	**11.05**	**53**	Pn	**Pn**	**16 54 28.6**	**-2.0**
Q19K	**Cape Douglas,**	**11.07**	**46**	Pn	**Pn**	**16 54 31.1**	**+0.1**
N18K	**Kilae Creek**	**11.23**	**36**	Pn	**Pn**	**16 54 33.9**	**+0.7**
SVW2	**Sparrevohn**	**11.63**	**35**	Pn	**Pn**	**16 54 38.0**	**-0.6**
P19K	**Oil Pt**	**11.64**	**44**	Pn	**Pn**	**16 54 40.3**	**+1.6**
N19K	**Bonanza Creek**	**11.84**	**37**	Pn	**Pn**	**16 54 39.8**	**-1.6**
CNPM	**China Poot**	**12.45**	**47**	Pn	**Pn**	**16 54 49.4**	**-0.4**
M19K	**Big River Lodg**	**12.60**	**34**	Pn	**Pn**	**16 54 50.4**	**-1.5**
L19K	**White Mountain**	**12.64**	**32**	Pn	**Pn**	**16 54 50.9**	**-1.6**
SEW	**Seward**	**13.52**	**46**	Pn	**Pn**	**16 55 02.6**	**-1.6**
SUA	**Susitna One**	**13.67**	**40**	Pn	**Pn**	**16 55 05.8**	**-0.7**
PWL	**Port Wells**	**14.36**	**45**	Pn	**Pn**	**16 55 14.7**	**-1.0**
SML	**Sawmill**	**14.83**	**41**	Pn	**Pn**	**16 55 21.8**	**-0.4**
HIN	**Hinchinbrook I**	**14.97**	**48**	Pn	**Pn**	**16 55 23.4**	**-0.6**
FID	**Port Fidalgo** comp=Z,29nm,1.2s	**15.12**	**47**	Pn	**Pn**	**16 55 23.8**	**-2.3**
FID				IAmb	IAmb	16 55 24.2	
SCM	**Sheep Creek Mo** comp=Z,17nm,1.0s	**15.25**	**42**	Pn	**Pn**	**16 55 25.6**	**-2.2**
SCM				IAmb	IAmb	16 55 41.9	
KLU	**Klutina**	**15.69**	**44**		**Pn**	**16 55 32.3**	**-1.1**
KLU	comp=Z,9.8nm,0.6s			IAmb	IAmb	16 55 44.6	
H21K	**Melozitna Rive**	**15.86**	**25**	Pn	**Pn**	**16 55 35.5**	**-0.1**
DHY	**Denali Highway**	**15.88**	**38**	Pn	**Pn**	**16 55 35.9**	**-0.1**
MLY	**Manley**	**15.97**	**29**		**Pn**	**16 55 37.6**	**+0.5**
N25K	**Chitina, Valde**	**16.31**	**45**	Pn	**Pn**	**16 55 38.4**	**-3.1**
GLB	**Gilahina Butte**	**16.59**	**46**	Pn	**Pn**	**16 55 43.1**	**-1.9**
SNH	**Sunshine Point**	**16.61**	**51**	Pn	**Pn**	**16 55 43.9**	**-1.4**
WAX	**Waxell Ridge**	**16.68**	**50**	Pn	**Pn**	**16 55 45.7**	**-0.5**
WAX					IAmb	IAmb	16 56 01.6
H23K	**Yukon River**	**16.89**	**28**	Pn	**Pn**	**16 55 48.2**	**-0.5**
MESA	**MESA**	**17.04**	**51**	Pn	**Pn**	**16 55 49.4**	**-1.3**
MESA	comp=Z,55nm,1.2s				IAmb	IAmb	16 55 59.0
ILAR	**Eielson Array** comp=Z,0.1nm,0.3s,baz=221,slow=11,SNR=4.6	**17.04**	**34**	Pn	**Pn**	**16 55 48.4**	**-2.2**
M26K	**Nabesna, AK**	**17.33**	**44**	P	**Pn**	**16 55 54.8**	**+0.6**
H24K	**Noodor Dome**	**17.40**	**30**	P	**Pn**	**16 55 55.0**	**-0.1**
J25K	**Salcha River,**	**17.48**	**35**	P	**Pn**	**16 55 55.3**	**-0.8**
LOGN	**Logan Glacier**	**17.67**	**50**	P	**Pn**	**16 55 56.6**	**-1.9**
M27K	**Edge Creek, AK**	**17.79**	**44**	P	**Pn**	**16 55 59.2**	**-0.8**
TOLK	**Toolik Lake Re**	**18.97**	**22**	P	**P**	**16 56 13.0**	**-0.5**
TOLK	comp=Z,19nm,1.5s				IAmb	IAmb	16 56 20.2
EGAK	**Eagle**	**19.11**	**38**	P	**P**	**16 56 13.6**	**-1.4**
HYT	**Haines Junctio**	**19.33**	**51**	P	**P**	**16 56 17.1**	**-0.3**
HYT	comp=Z,9.8nm,0.8s				IAmb	IAmb	16 56 46.0
PEA0B	**Petropavlovsk-**	**20.03**	**286**	P	**P**	**16 56 25.3**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,2.3nm,0.3s,baz=88,slow=13,SNR=50	**20.03**	**286**	P	**P**	**16 56 23.8**	**-1.2**
PETK	comp=Z,70nm,21.8s,baz=97,slow=34				LR	LR	17 02 59.2
PETK	**Petropavlovsk-**	**20.03**	**286**	P	**P**	**16 56 24.4**	**-0.6**
M30M	**Minto, Yukon**	**20.09**	**46**	P	**P**	**16 56 24.7**	**-1.0**
WHY	**Whitehorse**	**20.56**	**52**	P	**P**	**16 56 29.4**	**-1.4**
WHY	comp=Z,11nm,0.7s				IAmb	IAmb	16 56 47.4
M31M	**Drury Creek, Y**	**21.08**	**48**	P	**P**	**16 56 36.0**	**-0.4**
M31M	comp=Z,7.6nm,0.8s				IAmb	IAmb	16 56 52.3
EPYK	**Eagle Plains**	**21.48**	**36**	P	**P**	**16 56 39.8**	**-0.9**
EPYK	comp=Z,11nm,0.8s				IAmb	IAmb	16 56 48.3
P33M	**Teslin, Yukon**	**21.52**	**54**	P	**P**	**16 56 43.1**	**+2.0**
P33M	comp=Z,9.2nm,1.0s				IAmb	IAmb	16 56 53.3
FARO	**Faro, Yukon**	**21.57**	**48**	P	**P**	**16 56 42.9**	**+1.4**
FARO	comp=Z,6.6nm,0.8s				IAmb	IAmb	16 56 59.4
SEY	**Seymchan** comp=Z,2.0nm,0.8s,baz=105,slow=16,SNR=2.2	**22.89**	**313**	P	**P**	**16 56 55.0**	**-0.6**
MA2	comp=Z,2.0nm,0.8s **Magadan** comp=Z,6.8nm,0.7s,baz=94,slow=15,SNR=4.4	**23.35**	**304**	P	**P**	**16 56 59.3**	**-0.9**
MA2	comp=Z,49nm,20.7s,baz=110,slow=34				LR	LR	17 05 11.4
MA2	comp=Z,6.8nm,0.7s **Magadan**	**23.35**	**304**	P	**P**	**16 57 01.4**	**+1.1**
MA2	comp=Z,17nm,1.0s				IAmb	IAmb	16 57 17.8
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.6s,baz=269,slow=7.4,SNR=2.7	**30.28**	**49**	P	**P**	**16 58 03.4**	**+0.6**
YKA	comp=Z,60nm,18.4s,baz=1.0,slow=42 comp=Z,0.7nm,0.6s				LR	LR	17 13 01.3
YBH	**Yreka Blue Hor** comp=Z,85nm,20.6s,baz=291,slow=32	**32.86**	**90**	LR	LR	17 09 11.2	
NEW	**Newport** comp=Z,34nm,19.2s,baz=297,slow=35	**32.94**	**76**	LR	LR	17 10 58.4	
TIXI	**Tiksi** comp=Z,62nm,19.7s,baz=178,slow=37	**32.96**	**329**	LR	LR	17 12 05.4	
YAK	**Yakutsk** comp=Z,61nm,19.0s,baz=88,slow=37	**33.39**	**311**	LR	LR	17 12 11.8	
KLR	**Kul'dur** comp=Z,64nm,20.4s,baz=76,slow=36	**36.63**	**290**	LR	LR	17 13 55.2	
H11N2	**WAKE ISLAND Hy** baz=23,slow=75	**37.38**	**219**	T	T	17 39 20.9	
H11N3	**WAKE ISLAND Hy** baz=23	**37.39**	**219**	T	T	17 40 34.2	
H11N1	**WAKE ISLAND Hy** baz=23,slow=75	**37.40**	**219**	T	T	17 39 01.5	
NVAR	**Mina Array Bea** comp=Z,0.1nm,0.3s,baz=292,slow=7.4,SNR=1.6	**37.54**	**91**	P	**P**	**16 59 09.2**	**+2.9**
ELK	**Elko** comp=Z,68nm,19.6s,baz=304,slow=34	**38.03**	**86**	LR	LR	17 13 13.5	
YHH	**Holmes Hill** comp=Z,2.8nm,0.9s	**38.42**	**77**	P	**P**	**16 59 14.3**	**+0.5**
YHH					IAmb	IAmb	16 59 30.0
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=54	**38.57**	**218**	T	T	17 40 53.1	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=32	**38.58**	**218**	T	T	17 40 21.9	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=26	**38.58**	**218**	T	T	17 40 28.4	
USRK	**Ussuriysk Ar.** comp=Z,1.0nm,0.7s,baz=64,slow=11,SNR=2.8	**39.05**	**282**	P	**P**	**16 59 18.1**	**-0.6**
MJAR	comp=Z,1.0nm,0.7s **Matsushiro Arr** comp=Z,1.5nm,0.8s,baz=53,slow=6.4,SNR=1.6	**39.81**	**268**	P	**P**	**16 59 25.1**	**0.0**
MAJO	comp=Z,1.5nm,0.8s **Matsushiro**	**39.81**	**268**	P	**P**	**16 59 24.9**	**-0.2**
MAJO	comp=Z,5.5nm,0.9s				IAmb	IAmb	16 59 41.6
BW06	**Boulder Array**	**40.32**	**79**	P	**P**	**16 59 29.1**	**-0.5**
BW06	comp=Z,4.6nm,1.2s				IAmb	IAmb	16 59 45.2
PD31	**Pinedale Array**	**40.32**	**79**	P	**P**	**16 59 28.7**	**-0.9**
PDAR	**Pinedale Array** comp=Z,1.3nm,0.8s,baz=304,slow=3.7,SNR=11	**40.32**	**79**	P	**P**	**16 59 31.5**	**+1.9**
PDAR	comp=Z,1.3nm,0.8s **Pinedale Array**	**40.32**	**79**	P	**P**	**16 59 29.8**	**+0.2**
PFO	**Pinyon Flats O** comp=Z,64nm,18.6s,baz=200,slow=31	**41.80**	**95**	LR	LR	17 13 34.2	
KSRS	**Korea Array** comp=Z,3.6nm,0.9s,baz=54,slow=7.7,SNR=16	**45.55**	**277**	P	**P**	**17 00 12.2**	**+0.7**
KSRS	comp=Z,21nm,21.1s,baz=70,slow=33 comp=Z,3.6nm,0.9s				LR	LR	17 16 58.0
NRIK	**Noril'sk** comp=Z,1.0nm,0.4s,baz=59,slow=7.9,SNR=4.2 comp=Z,1.0nm,0.4s	**46.65**	**332**	P	**P**	**17 00 19.3**	**-0.5**
ANMO	**Albuquerque** comp=Z,39nm,21.4s,baz=291,slow=32	**47.07**	**86**	LR	LR	17 17 03.6	
XLT	**XiLinHaoTe**	**48.58**	**292**	*eP*	**P**	**17 00 36.4**	**+1.1**
XLT					pP	pP	17 00 44.3	+1.1
XLT					sP	sP	17 00 46.8	+0.5
XLT					PP	**PP**	**17 02 30.0**	**+2.0**
XLT					PcP	**PcS**	**17 05 58.1**	**+1.4**
XLT	comp=Z,8.0nm,0.8s				pmax	pmax		
SPITS	**Spitsbergen Ar** comp=Z,7.5nm,0.9s,baz=12,slow=7.4,SNR=2.1 comp=Z,7.5nm,0.9s	**49.86**	**359**	P	**P**	**17 00 44.6**	**0.0**
ULN	**Ulaanbaatar**	**51.13**	**301**	P	**P**	**17 00 54.5**	**-0.3**
ULN	comp=Z,7.9nm,1.3s				IAmb	IAmb	17 00 55.9
SONM	**Songino Array** comp=Z,1.5nm,0.6s,baz=57,slow=6.6,SNR=11 comp=Z,1.5nm,0.6s	**51.50**	**301**	P	**P**	**17 00 57.6**	**+0.1**
SONM	**Songino Array**	**51.50**	**301**	P	**P**	**17 00 57.0**	**-0.5**
SONM	comp=Z,3.4nm,1.1s				IAmb	IAmb	17 00 59.0
LPIG	**La Paz** comp=Z,33nm,19.6s,baz=254,slow=30	**52.35**	**99**	LR	LR	17 18 26.2	
TX31	**Lajitas Ar. Si**	**52.63**	**89**	P	**P**	**17 01 05.0**	**-1.1**
TX32	**Lajitas Array**	**52.63**	**89**	P	**P**	**17 01 05.2**	**-0.9**
TX32	comp=Z,3.2nm,1.0s				IAmb	IAmb	17 01 24.3
TXAR	**Lajitas Array** comp=Z,0.9nm,0.9s,baz=301,slow=5.6,SNR=8.6 comp=Z,0.9nm,0.9s	**52.63**	**89**	P	**P**	**17 01 06.9**	**+0.8**
TXAR	**Lajitas Array**	**52.63**	**89**	P	**P**	**17 01 04.7**	**-1.4**
HHC	**Hu-ho-hao-te**	**53.10**	**291**	*eP*	**P**	**17 01 07.4**	**-2.0**
HHC	comp=Z,31nm,0.8s				pmax	pmax		
HHC	comp=Z,340nm,5.9s				pmax	pmax		
SCHQ	**Schefferville** comp=Z,52nm,18.4s,baz=318,slow=39	**55.49**	**43**	LR	LR	17 27 38.1	
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=57,slow=6.7,SNR=3.5	**57.64**	**318**	P	**P**	**17 01 41.0**	**-0.8**
ZALV	comp=Z,0.7nm,0.5s,baz=32,slow=6.8,SNR=2.6 comp=Z,0.5nm,0.3s				PcP	**PcP**	**17 02 35.4**	**+0.8**
ARCES	**ARCESS Array B** comp=Z,22nm,18.1s,baz=33,slow=38	**58.12**	**354**	LR	LR	17 28 37.4	
GTA	**Gaotai**	**60.67**	**297**	*eP*	**P**	**17 02 02.9**	**-0.2**
GTA					pP	pP	17 02 08.4	-2.7
GTA					sP	sP	17 02 11.0	-3.2
GTA	comp=Z,4.0nm,0.8s				pmax	pmax		
KURK	**Kurchatov**	**62.59**	**318**	P	**P**	**17 02 15.2**	**-0.5**
KURK	comp=Z,2.3nm,0.8s				IAmb	IAmb	17 02 16.4	
WMQ	**Urumqi**	**63.74**	**308**	*eP*	**P**	**17 02 25.8**	**+2.2**
WMQ					sP	pwP	17 02 36.5	+0.9
WMQ	comp=Z,21nm,0.8s				pmax	pmax		
BVAR	**Borovoye Array** comp=Z,1.1nm,0.5s,baz=58,slow=6.1,SNR=11	**63.93**	**325**	P	**P**	**17 02 24.0**	**-0.5**
BVAR	comp=Z,32nm,18.2s,baz=61,slow=39 comp=Z,1.1nm,0.5s				LR	LR	17 33 04.7	
BRVK	**Borovoye**	**63.94**	**325**	P	**P**	**17 02 24.7**	**+0.1**
BRVK	comp=Z,4.0nm,1.2s				IAmb	IAmb	17 02 26.2	
MK31	**Makanchi Array**	**64.02**	**314**	P	**P**	**17 02 24.0**	**-1.3**
MK31	comp=Z,2.4nm,1.0s				IAmb	IAmb	17 02 25.4	
MKAR	**Makanchi Array** comp=Z,1.2nm,0.8s,baz=48,slow=6.8,SNR=6.5	**64.02**	**314**	P	**P**	**17 02 24.6**	**-0.7**
MKAR	comp=Z,39nm,20.4s,baz=76,slow=37 comp=Z,1.2nm,0.8s				LR	LR	17 31 06.2	
MKAR	**Makanchi Array**	**64.02**	**314**	P	**P**	**17 02 23.4**	**-1.9**
ARU	**Arti** comp=Z,1.6nm,0.4s,baz=66,slow=12,SNR=3.8 comp=Z,1.6nm,0.4s	**64.84**	**333**	P	**P**	**17 02 28.4**	**-2.1**
FINES	**FINESS Array B** comp=Z,2.5nm,0.6s,baz=19,slow=8.8,SNR=9.2 comp=Z,2.5nm,0.6s	**66.07**	**352**	P	**P**	**17 02 37.8**	**-0.5**
NC405	**NORSAR Array S**	**67.05**	**360**	P	**P**	**17 02 43.7**	**-0.9**
NB201	**NORSAR Array S**	**67.12**	**360**	P	**P**	**17 02 45.0**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,baz=359,slow=6.2	**67.13**	**360**	P	**P**	**17 02 45.0**	**-0.1**
NOA	**NORSAR Array B** comp=Z,1.6nm,0.7s,baz=360,slow=6.2,SNR=7.9 comp=Z,1.6nm,0.7s	**67.13**	**360**	P	**P**	**17 02 44.5**	**-0.6**
HFS	**Hagfors** comp=Z,3.1nm,0.5s,baz=35,slow=5.3,SNR=17 comp=Z,3.1nm,0.5s	**68.02**	**358**	P	**P**	**17 02 50.1**	**-0.6**
PZH	**PanZhiHua**	**68.99**	**286**	P	**P**	**17 02 58.4**	**+1.0**
PZH	comp=Z,20nm,1.2s				pmax	pmax		
PZH	comp=Z,270nm,5.0s				pmax	pmax		
TARG	**Taragay, Kyrgy**	**69.98**	**313**	P	**P**	**17 03 05.2**	**+1.4**
BOOM	**Boomskoye usch**	**70.21**	**315**	P	**P**	**17 03 05.7**	**+0.9**
AKTO	**Aktyubinsk** comp=Z,2.9nm,0.9s,baz=34,slow=3.9,SNR=6.9 comp=Z,2.9nm,0.9s	**70.23**	**330**	P	**P**	**17 03 04.0**	**-0.6**
ABKAR	**Akbulak array**	**70.66**	**328**	P	**P**	**17 03 06.9**	**-0.3**
ABKAR	**Akbulak array**	**70.66**	**328**	P	**P**	**17 03 06.2**	**-1.0**
ABKAR	comp=Z,4.0nm,1.0s				IAmb	IAmb	17 03 08.1	
AAK	**Ala-Archa** comp=Z,37nm,18.1s,baz=77,slow=39	**70.72**	**316**	LR	LR	17 37 27.3	
AAK	**Ala-Archa**	**70.72**	**316**	P	**P**	**17 03 08.0**	**+0.1**
BELG	**Belogornoye** comp=Z,18nm,18.4s,baz=175,slow=38	**71.31**	**337**	LR	LR	17 37 29.4	
KK31	**Karatay Array**	**72.01**	**318**	P	**P**	**17 03 14.7**	**-0.9**
KK31	comp=Z,3.2nm,0.9s				IAmb	IAmb	17 03 16.2	
KKAR	**Karatay Array**	**72.01**	**318**	P	**P**	**17 03 14.9**	**-0.6**
KKAR	**Karatay Array**	**72.01**	**318**	P	**P**	**17 03 14.8**	**-0.7**
KKAR	comp=Z,3.2nm,0.9s				IAmb	IAmb	17 03 16.2	
EKA	**Eskdalemuir Ar** comp=Z,1.3nm,0.6s,baz=359,slow=4.5,SNR=6.7 comp=Z,1.3nm,0.6s	**72.23**	**8**	P	**P**	**17 03

DUNU	**Dundret**	**0.15**	**279**	P		**Pg**	**17 00 34.9**	**+0.2**
DUNU				S		**Sg**	**17 00 37.1**	**+0.4**
DUNU	**Dundret**	**0.15**	**279**	*i* P		**Pg**	**17 00 34.9**	**+0.2**
DUNU				*i* S		**Sg**	**17 00 37.1**	**+0.4**
MASU	**Masugnsbyn**	**0.55**	**48**	P		**Pg**	**17 00 42.6**	**+0.2**
MASU				S		**Sg**	**17 00 49.7**	**+0.2**
MASU	**Masugnsbyn**	**0.55**	**48**	*i* P		**Pg**	**17 00 42.6**	**+0.2**
MASU				*i* S		**Sg**	**17 00 49.7**	**+0.2**
ERTU	**Ertsjaerv**	**0.74**	**137**	P		**Pg**	**17 00 45.3**	**-0.8**
ERTU	**Ertsjaerv**	**0.74**	**137**	*e*P		**Pg**	**17 00 45.1**	**-0.9**
ERTU				*e*S		**Sg**	**17 00 55.2**	**-0.4**
PAJU	**Pajala**	**0.85**	**94**	P		**Pg**	**17 00 47.6**	**-0.7**
PAJU	**Pajala**	**0.85**	**94**	*e*P		**Pg**	**17 00 47.5**	**-0.8**
	baz=280							
PAJU				*e*S		**Sg**	**17 00 57.5**	**-1.8**
KUA	**Kurravaara**	**0.89**	**345**	P		**Pg**	**17 00 48.7**	**-0.3**
KUA	**Kurravaara**	**0.89**	**345**	*e*P		**Pg**	**17 00 48.7**	**-0.3**
RATU	**Laukkuluspa**	**0.89**	**325**	P		**Pg**	**17 00 48.7**	**-0.4**
RATU	**Laukkuluspa**	**0.89**	**325**	*e*P		**Pg**	**17 00 48.7**	**-0.4**
HARU	**Harads**	**0.94**	**179**	P		**Pg**	**17 00 48.8**	**-1.2**
HARU	**Harads**	**0.94**	**179**	*e*P		**Pg**	**17 00 48.8**	**-1.2**
SALU	**Saltoluokta**	**0.99**	**288**	P		**Pg**	**17 00 50.2**	**-0.6**
SALU	**Saltoluokta**	**0.99**	**288**	*e*P		**Pg**	**17 00 50.2**	**-0.6**
LANU	**Lannavaara**	**1.03**	**22**	P		**Pg**	**17 00 51.6**	**-0.2**
LANU	**Lannavaara**	**1.03**	**22**	*e*P		**Pg**	**17 00 51.1**	**-0.7**
LANU				*e*S		**Sg**	**17 01 02.0**	**-3.1**
NIKU	**Nikkaluokta**	**1.06**	**317**	P		**Pg**	**17 00 51.7**	**-0.6**
NIKU	**Nikkaluokta**	**1.06**	**317**	*e*P		**Pg**	**17 00 51.7**	**-0.6**
KLF	**Kolari**	**1.19**	**82**	*e*P		**Pg**	**17 00 53.8**	**-0.8**
KLF				*e*SN		**Sn**	**17 01 13.5**	**+0.9**
SJUU	**Sjulsmark**	**1.62**	**170**	P		**Pn**	**17 01 01.0**	**-0.7**
SJUU	**Sjulsmark**	**1.62**	**170**	*e*P		**Pn**	**17 01 01.0**	**-0.7**
HEF	**Hetta**	**1.67**	**37**	*e*P		**Pn**	**17 01 02.4**	**0.0**
HEF	**Hetta**	**1.67**	**37**	*e*P		**Pn**	**17 01 02.1**	**-0.4**
	baz=223							
HEF				MSG			17 01 22.1	
	comp=Z,13nm,0.2s							
HEF				*e*SN		**Sg**	**17 01 27.9**	**+2.2**
TOF	**Tornio**	**1.70**	**126**	*e*P		**Pn**	**17 01 02.6**	**-0.1**
TOF				MSG			17 01 23.2	
	comp=Z,23nm,0.2s							
TOF				*e*SN		**Sn**	**17 01 25.8**	**+0.7**
LILU	**Lilltraesk**	**1.88**	**194**	P		**Pn**	**17 01 05.0**	**-0.2**
LILU	**Lilltraesk**	**1.88**	**194**	*e*P		**Pn**	**17 01 05.0**	**-0.2**
KIF	**Kilpisjarvi**	**1.92**	**359**	*e*P		**Pn**	**17 01 07.5**	**-0.2**
KIF	**Kilpisjarvi**	**1.92**	**359**	*e*PB		**Pb**	**17 01 07.2**	**-0.5**
	baz=174							
KIF				MSG			17 01 30.7	
	comp=Z,18nm,0.2s							
KIF				*e*SG		**Sg**	**17 01 34.3**	**+0.9**
RNF	**Rovaniemi**	**2.06**	**101**	*e*PB		**Pn**	**17 01 08.5**	**+0.7**
RNF				*e*SG		**Sb**	**17 01 37.8**	**+1.4**
KTK1	**Kautokeino**	**2.11**	**23**	*e*PG		**Pb**	**17 01 10.0**	**-1.0**
SGF	**Sodankyl**	**2.20**	**78**	*e*PB		**Pn**	**17 01 10.8**	**+1.2**
BURU	**Burvik**	**2.53**	**176**	*e*P		**Pn**	**17 01 14.7**	**+0.4**
OUL	**Oulu**	**2.86**	**133**	*e*P		**Pn**	**17 01 20.4**	**+1.7**
OUL				*e*SG		**Sb**	**17 02 00.6**	**+1.4**
OBF4	**Vikkela, Lumij**	**2.86**	**141**	*e*P		**Pn**	**17 01 19.4**	**+0.7**
OBF0	**Syolatti, Pyha**	**2.94**	**151**	*e*P		**Pn**	**17 01 20.8**	**+0.9**
OBF8	**Ulkokalla**	**2.97**	**158**	*e*P		**Pn**	**17 01 20.8**	**+0.6**
ARA0	**ARCESS Array S**	**2.98**	**33**	*e*SB		**Sb**	**17 02 02.1**	**-0.5**
ARCES	**ARCESS Array B**	**2.98**	**33**	Pn		**Pn**	**17 01 20.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=212,slow=13,SNR=31							
ARCES				Sn		**Sn**	**17 01 57.6**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=220,slow=22,SNR=7.6 comp=Z,0.9nm,0.2s							
OUF	**Merijarvi**	**3.16**	**149**	*e*P		**Pn**	**17 01 23.7**	**+0.8**
OUF				MSG			17 02 05.4	
	comp=Z,4.2nm,0.2s							
VRF	**Varrio**	**3.41**	**75**	*e*P		**Pn**	**17 01 27.0**	**+0.7**
VRF				*e*SG		**Sg**	**17 02 19.2**	**-2.1**
OLKF	**Oulanka, Finla**	**3.45**	**99**	*e*P		**Pn**	**17 01 27.7**	**+0.8**
OLKF				*e*SG		**Sb**	**17 02 18.6**	**+2.3**
MSF	**Maaselka**	**3.46**	**106**	*e*P		**Pn**	**17 01 27.8**	**+0.8**
MSF				*e*SG		**Sb**	**17 02 20.4**	**+4.0**
KEV	**Kevo**	**3.48**	**37**	*e*P		**Pn**	**17 01 28.3**	**+1.1**
KEV				*e*SB		**Sb**	**17 02 13.2**	**-3.9**
KU6	**Riekki**	**3.73**	**103**	*e*P		**Pn**	**17 01 31.3**	**+0.5**
	baz=288							
HUSU	**Husum**	**3.84**	**192**	*e*P		**Pn**	**17 01 32.7**	**+0.5**
	baz=8.0							
HUSU				*e*S		**Sn**	**17 02 18.3**	**+0.3**
VAF	**Ylistaro**	**4.14**	**169**	*e*P		**Pn**	**17 01 37.2**	**+0.9**
	baz=351							
HEMU	**Hemsoen**	**4.61**	**197**	*e*P		**Pn**	**17 01 43.9**	**+1.1**
RMF	**Romuvaara**	**4.71**	**124**	*e*P		**Pn**	**17 01 45.4**	**+1.2**
	baz=317							
FINES	**FINESS Array B**	**6.10**	**156**	Pn		**Pn**	**17 02 04.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=343,slow=11,SNR=9.0							
FINES				Sn		**Sn**	**17 03 13.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=343,slow=23,SNR=7.9							
FINES				Lg		Lg	17 03 41.3	
	comp=Z,0.4nm,0.3s,baz=341,slow=28,SNR=2.4 comp=Z,0.5nm,0.3s							
NOA	**NORSAR Array B**	**7.42**	**220**	Pn		**Pn**	**17 02 20.0**	**-1.4**
	baz=25,slow=11,SNR=3.8							
NOA				Lg		Lg	17 04 25.5	
	baz=44,slow=26,SNR=4.3 comp=Z,0.2nm,0.6s							
HFS	**Hagfors**	**7.70**	**208**	Pn		**Pn**	**17 02 23.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=6.6							
HFS				Lg		Lg	17 04 30.7	
	comp=Z,0.2nm,0.3s,baz=22,slow=27,SNR=2.4 comp=Z,0.4nm,0.3s							

IDC ***13*** *17:08:01.2±1.6, 14°.64N×44°.05E, h0km, mb3.8/12, mbtmp3.9/13, ML3.4/1, MS3.3/4, Error ellipse: s-maj=36.9km s-min=21.1km az=178.0*

NEIC ***13*** *17:08:03.9±2.2, 14°.82N±0°.08×44°.3E±0°.1, h7km±3km, mb4.0/11, Error ellipse: s-maj=21.8km s-min=9.6km az=112.0*

SGS ***13*** *17:08:06.2, 15°.04N×43°.58E, h5km, Ml3.4*

ISC 13 17:08:04.0±0.6, 14°.99N±0°.05×43°.90E±0°.08, h10km, n44, σ2s08/43, mb4.0/17, MS3.2/3, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRSS	**Farasan al Kab**	**2.44**	**316**	S	**Sn**	**17 09 12.1**	**-1.7**
FRSS				P	**Pn**	**17 08 41.9**	**-2.0**
AKWA	**Algayed**	**2.53**	**333**	P	**Pn**	**17 08 44.2**	**-0.9**
AKWA	**Algayed**	**2.53**	**333**	S	**Sn**	**17 09 12.7**	**-3.4**
MKHL	**Mahalah**	**2.63**	**334**	P	**Pn**	**17 08 45.7**	**-0.8**
DJNS	**Zahran al Janu**	**2.72**	**353**	S	**Sn**	**17 09 21.9**	**+0.8**
DJNS	**Zahran al Janu**	**2.72**	**353**	P	**Pn**	**17 08 48.0**	**+0.1**
FRSS2	**Sair Farasan I**	**2.74**	**313**	P	**Pn**	**17 08 45.9**	**-2.2**
FRSS2	**Sair Farasan I**	**2.74**	**313**	S	**Sn**	**17 09 18.1**	**-3.1**
DRBS	**Ad Darb**	**3.21**	**332**	P	**Pn**	**17 08 53.5**	**-1.0**
ATD	**Arta Tunnel**	**3.59**	**197**		**Pn**	**17 08 57.1**	**-2.6**
ATD				Sn	**Sn**	**17 09 41.5**	**-0.7**
ATD	**Arta Tunnel**	**3.59**	**197**	*e*P	**Pn**	**17 08 57.6**	**-2.2**
ATD				*e*S	**Sn**	**17 09 42.8**	**+0.5**
AMGES	**AMGES**	**4.13**	**327**	P	**Pn**	**17 09 06.3**	**-0.8**
ENMS	**ENMS**	**4.25**	**343**	P	**Pn**	**17 09 09.5**	**+0.5**
RAYN	**Ar Rayn**	**8.62**	**10**		**Pn**	**17 10 07.9**	**-1.0**
UOSS	**Minazif**	**15.22**	**47**	Pn	**Pn**	**17 11 32.1**	**-6.9**
WSAR	**Wadi Sarin**	**16.15**	**57**	Pn	**Pn**	**17 11 49.0**	**-2.2**
	0.1nm,0.3s,baz=280,slow=12,SNR=1.7						
WSAR				Sn	Sn	17 14 34.0	-17
	0.1nm,0.3s,baz=160,slow=21,SNR=1.4						
WSAR				LR	LR	17 18 45.3	
	comp=Z,67nm,19.5s,baz=246,slow=40 2.7nm,0.7s						
MBAR	**Mbarara**	**20.23**	**221**	LR	LR	17 20 35.2	
	comp=Z,85nm,18.3s,baz=22,slow=38						
HRA	**Herat**	**25.43**	**37**	P	**P**	**17 13 31.7**	**-0.5**
HRA				IAmb	IAmb	17 13 41.7	
	comp=Z,3.9nm,1.0s						
BR131	**Keskin Array S**	**26.23**	**342**	P	**P**	**17 13 42.0**	**+2.7**
BR131				IAmb	IAmb	17 13 44.0	
	comp=Z,2.6nm,0.9s						
BRTR	**Keskin Array B**	**26.23**	**342**	P	**P**	**17 13 42.5**	**+3.2**
	comp=Z,1.2nm,0.8s,baz=159,slow=10,SNR=9.6 comp=Z,1.2nm,0.8s						
BRTR	**Keskin Array B**	**26.23**	**342**	P	**P**	**17 13 42.0**	**+2.7**
ANTO	**Ankara**	**26.62**	**341**	P	**P**	**17 13 46.6**	**+3.9**
ANTO				IAmb	IAmb	17 14 25.4	
	comp=Z,3.2nm,0.8s						
MLR	**Muntele Rosu**	**33.96**	**337**	P	P	17 14 51.7	+3.9
	comp=Z,2.5nm,0.8s,baz=169,slow=16,SNR=4.7 comp=Z,2.5nm,0.8s						
BURAR	**Bucovina Array**	**36.03**	**338**	P	**P**	**17 15 08.4**	**+2.9**
KK31	**Karatay Array**	**36.12**	**34**	P	**P**	**17 15 05.6**	**-0.7**
KK31				IAmb	IAmb	17 15 14.7	
	comp=Z,3.5nm,1.5s						
KKAR	**Karatay Array**	**36.12**	**34**	P	**P**	**17 15 05.2**	**-1.0**
KKAR	**Karatay Array**	**36.12**	**34**	P	**P**	**17 15 05.9**	**-0.3**
KKAR				IAmb	IAmb	17 15 14.7	
	comp=Z,3.5nm,1.5s						
AKTO	**Aktyubinsk**	**37.16**	**15**	P	**P**	**17 15 16.8**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=211,slow=15,SNR=2.1 comp=Z,0.4nm,0.3s						
AKASG	**Malin Array Be**	**37.54**	**345**	P	**P**	**17 15 19.0**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=156,slow=7.5,SNR=4.5 comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**40.93**	**273**	P	**P**	**17 15 47.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=79,slow=7.8,SNR=5.4 comp=Z,0.6nm,0.6s						
GEC2	**GERESS Array S**	**41.86**	**330**	P	**P**	**17 15 56.3**	**+1.9**
GEC2				IAmb	IAmb	17 16 04.2	
	comp=Z,3.2nm,1.2s						
GERES	**GERESS Array B**	**41.86**	**330**	P	**P**	**17 15 54.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=128,slow=8.8,SNR=8.3 comp=Z,0.8nm,0.7s						
TSUM	**Tsumeb**	**42.73**	**218**	LR	LR	17 35 02.5	
	comp=Z,36nm,20.5s,baz=144,slow=38						
BVAR	**Borovoye Array**	**43.34**	**23**	P	**P**	**17 16 07.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=218,slow=9.1,SNR=4.2 comp=Z,0.7nm,0.7s						
MK31	**Makanchi Array**	**44.99**	**37**	P	**P**	**17 16 18.3**	**-1.3**
MK31				IAmb	IAmb	17 16 21.5	
	comp=Z,5.8nm,1.3s						
MKAR	**Makanchi Array**	**44.99**	**37**	P	**P**	**17 16 19.6**	**0.0**
	comp=Z,2.2nm,1.0s,baz=223,slow=7.6,SNR=6.4 comp=Z,2.2nm,1.0s						
MKAR	**Makanchi Array**	**44.99**	**37**	P	**P**	**17 16 19.4**	**-0.2**
KOWA	**Kowa**	**46.27**	**276**	LR	LR	17 36 41.4	
	comp=Z,63nm,18.4s,baz=170,slow=37						
FINES	**FINESS Array B**	**48.12**	**349**	P	**P**	**17 16 45.8**	**+2.0**
	comp=Z,1.8nm,0.9s,baz=139,slow=13,SNR=2.0 comp=Z,1.8nm,0.9s						
ESDC	**Sonseca Array**	**48.40**	**310**	P	**P**	**17 16 47.6**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=101,slow=6.8,SNR=6.3 comp=Z,1.5nm,0.9s						
ZAA0	**Zalesovo Array**	**50.28**	**30**	P	**P**	**17 16 59.9**	**-0.7**
ZALV	**Zalesovo Beam**	**50.28**	**30**	P	**P**	**17 17 00.5**	**0.0**
	comp=Z,5.7nm,0.6s,baz=234,slow=7.1,SNR=24 comp=Z,5.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.67**	**78**	P	**P**	**17 17 17.8**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=279,slow=7.7,SNR=7.3 comp=Z,1.1nm,0.8s						
TXAR	**Lajitas Array**	**125.94**	**325**	PKP	**PKiKP**	**17 27 06.0**	**-1.5**
	comp=Z,0.1nm,0.6s,baz=67,slow=3.0,SNR=1.8						

NEIC 13 17:17:23.2±0.6, 36°.412N±0°.009×96°.89W±0°.01, h4km±1km, ML2.0/47, Error ellipse: s-maj=1.4km s-min=1.1km az=198.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK046	**Pawnee Station**	**0.02**	**224**	Pg	Pg	17 17 24.5	+0.4
OK046				Sg	Sg	17 17 25.2	+0.5
OK048	**Pawnee Station**	**0.04**	**276**	Pg	Pg	17 17 24.8	+0.5
OK048				Sg	Sg	17 17 25.7	+0.6
OK045	**Pawnee Station**	**0.04**	**322**	Pg	Pg	17 17 24.9	+0.5
OK045				Sg	Sg	17 17 25.8	+0.6
OK050	**Pawnee Station**	**0.08**	**257**	Pg	Pg	17 17 25.4	+0.6
OK050				Sg	Sg	17 17 26.8	+0.8
OK050				IAML		17 17 26.9	
	1μm,0.2s						
OK044	**Pawnee Station**	**0.09**	**117**	Pg	Pg	17 17 25.5	+0.5
OK044				Sg	Sg	17 17 26.9	+0.7
OK044				IAML		17 17 27.4	
	618nm,0.2s						
OK051	**E0350 and S346**	**0.10**	**25**	Pg	Pg	17 17 25.8	+0.5
OK051				IAML		17 17 27.8	
	582nm,0.2s						
OK047	**Pawnee, Statio**	**0.15**	**67**	Pg	Pg	17 17 26.5	+0.4
OK047				Sg	Sg	17 17 28.8	+0.7
OK047				IAML		17 17 30.9	
	733nm,0.2s						
QUOK	**Quay**	**0.28**	**148**	Pg	Pg	17 17 29.2	+0.5
QUOK				Sg	Sg	17 17 33.1	+0.8
QUOK				IAML		17 17 33.3	
	comp=N,212nm,0.3s						
QUOK				IAML		17 17 33.3	
	comp=E,235nm,0.4s						
OK049	**E0420 Rd and N**	**0.33**	**269**	Pg	Pg	17 17 30.2	+0.5
OK049				Sg	Sg	17 17 34.4	+0.3
OK033	**Mehan**	**0.37**	**186**	Pg	Pg	17 17 30.9	+0.6
OK033				IAML		17 17 34.2	
	comp=E,165nm,0.1s						
OK033				IAML		17 17 39.5	
	comp=E,222nm,0.1s						
OK034	**N. Norfolk Rd.**	**0.43**	**160**	Pg	Pg	17 17 31.9	+0.5
BLOK	**Blackwell**	**0.43**	**323**	Pg	Pg	17 17 31.9	+0.3
BLOK				Sg	Sg	17 17 37.8	+0.5
BLOK				IAML		17 17 38.0	
	comp=N,132nm,0.3s						
BLOK				IAML		17 17 38.1	
	comp=E,190nm,0.1s						
OK031	**S. Brethren Rd**	**0.46**	**175**	Pg	Pg	17 17 32.5	+0.5
OK030	**Cody Creek RV**	**0.49**	**170**	Pg	Pg	17 17 33.1	+0.5
OK030				Sg	Sg	17 17 39.1	+0.1
OK030				IAML		17 17 43.1	
	comp=E,89nm,0.1s						
OK030				IAML		17 17 44.4	
	comp=E,98nm,0.2s						
T35A	**Sooner Cattle**	**0.59**	**31**	Pg	Pg	17 17 34.7	+0.2
T35A				Sg	Sg	17 17 42.2	+0.1
T35A				IAML		17 17 44.2	
	comp=E,65nm,0.6s						
DEOK	**Depew**	**0.65**	**151**	Pg	Pg	17 17 36.0	+0.3
DEOK				Sg	Sg	17 17 44.0	-0.1
DEOK				IAML		17 17 46.6	
	comp=E,69nm,0.4s						
DEOK				IAML		17 17 48.1	
	comp=N,68nm,0.5s						
OK029	**Liberty Lake**	**0.77**	**217**	Pg	Pg	17 17 38.1	+0.2
OK029				Sg	Sg	17 17 48.4	+0.6
OK029				IAML		17 17 52.5	
	comp=N,49nm,0.5s						
CROK	**Carrier**	**0.89**	**276**	Pg	Pg	17 17 40.2	0.0
CROK				IAML		17 17 55.9	
	comp=N,64nm,0.3s						
GC02	**Grant County #**	**0.90**	**300**	Pg	Pg	17 17 40.4	0.0
GC02				Sg	Sg	17 17 51.0	-1.0
KAN09	**Caldwell North**	**0.93**	**321**	Pg	Pb	17 17 41.6	-0.3
KAN09					Sg	17 17 52.7	-0.4
KS20	**Mayfield South**	**0.97**	**327**	Pg	Pg	17 17 41.6	-0.3
KS20				Sg	Sg	17 17 54.4	-0.2
KS20				IAML		17 17 56.3	
	comp=N,70nm,0.2s						
KAN01	**Argonia South**	**1.02**	**317**	Pg	Pg	17 17 42.3	-0.4
KAN01				Sg	Sg	17 17 55.6	-0.3
KAN01				IAML		17 17 59.0	
	comp=E,54nm,0.1s						
KAN14	**Manchester OK**	**1.02**	**303**	Pg	Pg	17 17 42.5	-0.3
KAN14				Sg	Sg	17 17 56.4	+0.4
TUL1	**Leonard**	**1.02**	**119**	Pg	Pg	17 17 42.4	-0.3
TUL1				Sg	Sg	17 17 55.5	-0.5
TUL1				IAML		17 18 02.4	
	comp=N,24nm,0.1s						
TUL1				IAML		17 18 04.0	
	comp=E,22nm,0.1s						
KAN05	**Bluff City Nor**	**1.05**	**312**	Pg	Pg	17 17 41.9	-1.5
KAN05				Sg	Sg	17 17 56.2	-0.8
OK032	**Salt Plains WL**	**1.13**	**291**	Pg	Pg	17 17 44.7	-0.2
OK032				Sg	Sg	17 17 59.6	0.0
KAN06	**Argonia West S**	**1.14**	**317**	Pg	Pg	17 17 45.1	+0.1
KAN06				Sg	Sg	17 17 59.8	-0.1
KAN08	**Anthony NE Sta**	**1.19**	**313**	Pg	Pg	17 17 45.7	-0.3
KAN08				Sg	Sg	17 18 01.1	-0.3
KAN10	**Anthony SW Sta**	**1.20**	**307**	Pg	Pg	17 17 45.0	-1.2
KAN16	**Harper SW Stat**	**1.24**	**311**	Pg	Pg	17 17 46.3	-0.8
KAN16				Sg	Sg	17 18 03.1	-0.1
OK038	**West end E0370**	**1.50**	**273**		Pn	17 17 51.0	+0.2
RLO	**Rose Lookout**	**1.53**	**99**		Pn	17 17 51.4	+0.2
RLO					Sn	17 18 11.5	-0.1
NOKA	**Waynoka**	**1.66**	**278**		Pn	17 17 52.5	-0.5
X37A	**Clayton**	**2.20**	**145**	Pn	Pn	17 17 58.8	-1.7
HHAR	**Hobbs**	**2.38**	**92**	Pn	Pn	17 18 02.1	-0.9
S39A	**Bolivar**	**3.13**	**65**	Pn	Pn	17 18 12.6	-0.7

IDC 13 17:25:26.5±3.1, 9°.93S×119°.46E, h0km, mb3.7/1,

mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=262.1km s-min=29.0km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.47**	**126**	P	Pn	17 29 30.5	-1.3
	0.1nm,0.3s,baz=296,slow=14,SNR=6.8						
WRA				S	Sn	17 32 32.4	-15
	0.4nm,0.7s,baz=302,slow=23,SNR=3.1 0.3nm,0.6s						
ASAR	**Alice Springs**	**19.41**	**137**	P	Pn	17 29 55.5	-0.1
	0.1nm,0.3s,baz=315,slow=12,SNR=10						
ASAR				S	Sn	17 33 18.4	-16
	0.6nm,0.8s,baz=306,slow=22,SNR=3.1 0.4nm,0.5s						
MKAR	**Makanchi Array**	**65.49**	**333**	P	P	17 36 11.5	-0.1
	0.5nm,0.6s,baz=144,slow=5.6,SNR=5.3 0.5nm,0.6s						

ROM 13 17:29:56.1±0.1, 42°.589N±0°.004×13°.333E±0°.005, h11km, ML1.0/5, 1C, Error ellipse: s-maj=0.4km s-min=0.4km az=188.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.08**	**133**	P	Pg	17 29 59.1	+0.4
T1204	**Amatrice, Fraz**	**0.09**	**352**	P	Pg	17 29 59.0	+0.1
T1204				S	Sg	17 30 00.7	-0.2
RM33	**Pellescritta (**	**0.12**	**228**	P	Pg	17 29 59.6	+0.4
RM33				S	Sg	17 30 01.8	+0.4
RM33				AML	AML		
	comp=E,112μm,0.2s						
RM33				AML	AML		
	comp=N,136μm,0.3s						
RM33				AML	AML		
	comp=E,113μm,0.2s						
RM33				AML	AML		
	comp=N,136μm,0.3s						
RM33				AML	AML		
	comp=N,136μm,1.7s						
RM33				AML	AML		
	comp=E,113μm,1.8s						
T1246	**Crognaleto (TE**	**0.12**	**92**	P	Pg	17 29 59.7	+0.5
T1243	**Rocca Santa Ma**	**0.14**	**38**	P	Pg	17 29 59.9	+0.4
T1243				S	Sg	17 30 02.4	+0.6
T1202	**Accumoli, Fraz**	**0.14**	**325**	P	Pg	17 30 00.0	+0.5
T1202				S	Sg	17 30 03.7	+1.7
T1247	**Pizzolo (AQ)**	**0.15**	**190**	P	Pb	17 30 00.3	-0.6
TERO	**Teramo**	**0.20**	**80**	P	Pg	17 30 01.0	+0.5
TERO				S	Sg	17 30 04.4	+0.9
TERO				AML	AML		
	comp=E,95μm,0.1s						
TERO				AML	AML		
	comp=N,114μm,0.3s						
TERO				AML	AML		
	comp=E,95μm,0.1s						
LNSS	**Leonessa**	**0.22**	**274**	P	Pg	17 30 01.1	+0.4
LNSS				S	Sg	17 30 04.8	+0.9
LNSS				AML	AML		
	comp=N,70μm,1.4s						
LNSS				AML	AML		
	comp=E,93μm,0.5s						
LNSS				AML	AML		
	comp=N,70μm,1.4s						
LNSS				AML	AML		
	comp=N,70μm,0.6s						
GIGS	**Gran Sasso**	**0.22**	**128**	P	Pb	17 30 01.6	-0.7
GIGS				S	Sg	17 30 05.1	+1.0
GIGS				AML	AML		
	comp=N,12μm,0.1s						
GIGS				AML	AML		
	comp=E,12μm,1.3s						
GIGS				AML	AML		
	comp=N,12μm,0.1s						
GIGS				AML	AML		
	comp=E,12μm,0.7s						
T1242	**Castelluccio d**	**0.26**	**339**	P	Pg	17 30 02.2	+0.6
T1242				S	Sb	17 30 06.3	-1.1
T1242				AML	AML		
	comp=N,30μm,0.7s						
T1242				AML	AML		
	comp=E,20μm,0.4s						
T1242				AML	AML		
	comp=N,30μm,1.3s						
T1241	**Roccafluvione,**	**0.28**	**15**	P	Pg	17 30 02.2	+0.4
T1241				S	Sg	17 30 06.6	+1.0
T1217	**Poggiodomo (PG**	**0.32**	**293**	P	Pg	17 30 02.9	+0.3
T1217				S	Sg	17 30 07.8	+0.8
MC2	**Monte Cornacci**	**0.34**	**342**	P	Pg	17 30 03.3	+0.3
MC2				S	Sb	17 30 08.9	-0.9
FIAM	**Fiamignano**	**0.36**	**207**	S	Sg	17 30 09.0	+0.9
T1215	**Vallo di Nera,**	**0.40**	**302**	P	Pg	17 30 04.4	+0.3
T1215				S	Sg	17 30 10.2	+0.8
ARRO	**Arrone**	**0.42**	**269**	P	Pg	17 30 04.6	+0.3
VCEL	**Villa Celiera**	**0.42**	**117**	⇑P	Pb	17 30 05.7	+0.1

ROM 13 17:30:17.2±0.1, 41°.601N±0°.004×15°.796E±0°.005, h12km, ML2.5/16, 4C-12D, Error ellipse: s-maj=0.4km s-min=0.4km az=54.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAG	**Monte S. Angel**	**0.14**	**37**	⇓*i*P	Pb	17 30 21.4	-0.4
MSAG				S	Sg	17 30 24.2	+1.1
SGRT

MELA				S	Sb	17 30 34.9	-0.7	
MOCO	**Biccari - m.te**	**0.53 245**	⇑	P	Pg	17 30 27.8	+0.2	
MOCO				AML	AML			
	comp=E,161µm,0.3s							
MOCO				AML	AML			
	comp=N,89µm,0.3s							
MOCO				AML	AML			
	comp=N,89µm,0.3s							
MOCO				AML	AML			
	comp=E,161µm,0.3s							
MOCO				AML	AML			
	comp=N,89µm,0.3s							
MOCO				AML	AML			
	comp=E,161µm,0.3s							
MOCO	**Biccari - m.te**	**0.53 245**	*e*	P	Pg	17 30 27.8	+0.1	
TREM	**Isole Tremiti**	**0.56 338**	⇓	P	Pg	17 30 28.0	-0.2	
TREM				AML	AML			
	comp=E,524µm,0.2s							
TREM				AML	AML			
	comp=N,552µm,0.3s							
TREM				AML	AML			
	comp=E,524µm,0.2s							
TREM				AML	AML			
	comp=N,552µm,0.3s							
TREM				AML	AML			
	comp=N,552µm,0.3s							
TREM				AML	AML			
	comp=E,524µm,0.2s							
TREM				AML	AML			
	comp=N,552µm,0.3s							
TREM				AML	AML			
	comp=E,524µm,0.2s							
TREM	**Isole Tremiti**	**0.56 338**	⇓	*e*P	Pg	17 30 27.9	-0.3	
TREM				S	Sb	17 30 37.2	+0.1	
TREM				AML	AML			
	comp=N,552µm,0.3s							
TREM				AML	AML			
	comp=E,524µm,0.2s							
SGTA	**Sant Agata di**	**0.57 215**	*e*	P	Pg	17 30 28.6	+0.4	
MRVN	**Minervino Murg**	**0.62 151**		P	Pg	17 30 28.1	-1.2	
MRVN				S	Sb	17 30 38.0	-0.6	
MRVN				AML	AML			
	comp=E,378µm,1.1s							
MRVN				AML	AML			
	comp=N,418µm,0.4s							
MRVN				AML	AML			
	comp=E,378µm,0.9s							
VULT	**Monte Vulture**	**0.66 192**	*e*	P	Pg	17 30 30.1	+0.1	
VULT				S	Sg	17 30 38.9	+0.2	
PALZ	**Palazzo San Ge**	**0.67 169**	*e*	P	Pg	17 30 29.8	-0.4	
PALZ				S	Sb	17 30 40.0	0.0	
PALZ				AML	AML			
	comp=E,514µm,0.4s							
PALZ				AML	AML			
	comp=N,669µm,0.3s							
CIGN	**Sant'Elia a Pi**	**0.67 275**	*e*	P	Pg	17 30 30.4	+0.2	
CIGN				S	Sg	17 30 38.8	-0.3	
CIGN				AML	AML			
	comp=N,116µm,0.6s							
CIGN				AML	AML			
	comp=E,129µm,0.4s							
GATE	**Gambatesa**	**0.67 263**	*e*	P	Pb	17 30 31.1	+0.2	
CAFE	**Carife**	**0.71 217**	⇓	P	Pb	17 30 32.2	+0.6	
CAFE				AML	AML			
	comp=E,279µm,0.6s							
CAFE				AML	AML			
	comp=N,236µm,0.3s							
CAFE				AML	AML			
	comp=E,279µm,0.6s							
CAFE				AML	AML			
	comp=N,236µm,0.3s							
CAFE				AML	AML			
	comp=E,279µm,1.4s							
CAFE				AML	AML			
	comp=N,236µm,0.3s							
CAFE	**Carife**	**0.71 217**	*e*	P	Pg	17 30 30.9	-0.1	
CAFE				S	Sb	17 30 40.9	-0.4	
MRB1	**Monte Rocchett**	**0.78 233**	⇑	P	Pn	17 30 33.7	-0.4	
MRB1				AML	AML			
	comp=E,164µm,0.4s							
MRB1				AML	AML			
	comp=N,192µm,0.3s							
MRB1				AML	AML			
	comp=N,192µm,0.3s							
MRB1				AML	AML			
	comp=E,164µm,0.4s							
MRB1				AML	AML			
	comp=N,192µm,0.3s							
MRB1				AML	AML			
	comp=E,164µm,0.4s							
MRB1	**Monte Rocchett**	**0.78 233**	*e*	P	Pb	17 30 32.9	+0.1	
SNAL	**S. Angelo Dei**	**0.81 213**	⇓	P	Pg	17 30 32.0	-0.8	
SNAL				AML	AML			
	comp=E,237µm,0.5s							
SNAL				AML	AML			
	comp=N,180µm,1.1s							
SNAL				AML	AML			
	comp=E,237µm,0.5s							
SNAL				AML	AML			
	comp=N,180µm,1.1s							
SNAL				AML	AML			
	comp=E,237µm,0.5s							
SNAL	**S. Angelo Dei**	**0.81 213**	*e*	P	Pg	17 30 31.9	-0.9	
SNAL				S	Sb	17 30 43.9	-0.2	
MRLC	**Muro Lucano**	**0.88 195**		P	Pg	17 30 33.6	-0.5	
MRLC				AML	AML			
	comp=E,500µm,0.4s							
MRLC				AML	AML			
	comp=N,260µm,0.3s							
MRLC				AML	AML			
	comp=E,500µm,0.4s							
MRLC				AML	AML			
	comp=N,260µm,0.3s							
MRLC				AML	AML			
	comp=E,500µm,1.6s							
MRLC				AML	AML			
	comp=N,260µm,1.7s							
MRLC	**Muro Lucano**	**0.88 195**	*e*	P	Pg	17 30 33.5	-0.6	
MRLC				S	Sb	17 30 46.1	+0.1	
BSSO	**Busso**	**0.90 267**	*e*	P	Pb	17 30 34.9	0.0	
BSSO				S	Sb	17 30 47.4	+0.5	
BSSO				AML	AML			
	comp=N,47µm,0.9s							
BSSO				AML	AML			
	comp=E,74µm,0.3s							
AMUR	**Altamura**	**0.92 138**	*e*	P	Pg	17 30 34.2	-0.8	
AMUR				S	Sg	17 30 46.8	-0.2	
AMUR				AML	AML			
	comp=E,354µm,1.2s							
AMUR				AML	AML			
	comp=N,332µm,0.1s							
FRES	**Fresagrandinar**	**0.92 294**		S	Pn	17 30 36.0	0.0	
MCRV	**Calabrutti - M**	**0.94 210**	*e*	P	Pg	17 30 34.3	-1.1	
PZUN	**Potenza**	**0.95 180**	⇑	P	Pn	17 30 45.0	+8.6	
PZUN				AML	AML			
	comp=E,177µm,1.4s							
PZUN				AML	AML			
	comp=N,300µm,0.4s							
PZUN				AML	AML			
	comp=N,300µm,0.4s							
PZUN				AML	AML			
	comp=E,177µm,1.4s							
PZUN				AML	AML			
	comp=N,300µm,0.4s							
PZUN				AML	AML			
	comp=E,177µm,1.4s							
PTRJ	**Pietraroja**	**0.98 256**		AML	AML			
	comp=N,142µm,0.3s							
PTRJ				AML	AML			
	comp=E,111µm,0.6s							
PTRJ				AML	AML			
	comp=E,112µm,0.6s							
PTRJ				AML	AML			
	comp=E,112µm,0.6s							
PTRP	**Pietrapertosa**	**1.10 169**		P	Pn	17 30 38.6	+0.1	
PTRP	**Pietrapertosa**	**1.10 169**		AML	AML			
	comp=N,207µm,0.6s							
PTRP				AML	AML			
	comp=E,247µm,0.8s							
MIGL	**Miglionico**	**1.11 154**	⇓	*i*P	Pb	17 30 37.8	-0.6	
MIGL				S	Sg	17 30 53.0	0.0	
MIGL				AML	AML			
	comp=N,620µm,0.5s							
MIGL				AML	AML			
	comp=E,506µm,0.2s							
MIGL				AML	AML			
	comp=E,506µm,1.8s							
CDRU	**Civita di Ruta**	**1.17 199**		P	Pb	17 30 38.3	-1.1	
CDRU				AML	AML			
	comp=E,105µm,0.2s							
CDRU				AML	AML			
	comp=N,67µm,1.0s							
CDRU				AML	AML			
	comp=E,105µm,0.2s							
CDRU				AML	AML			
	comp=N,67µm,1.0s							
CDRU				AML	AML			
	comp=E,105µm,0.2s							
CDRU				AML	AML			
	comp=N,67µm,1.0s							
MATE	**Matera**	**1.17 144**	*e*	P	Pb	17 30 38.5	-0.9	
MATE				S	Sg	17 30 54.8	-0.1	
MATE				AML	AML			
	comp=E,240µm,1.1s							
MATE				AML	AML			
	comp=N,298µm,0.3s							
MATE				AML	AML			
	comp=E,240µm,0.9s							
RNI2	**Rionero Sannit**	**1.24 275**	*e*	P	Pn	17 30 39.5	-0.9	
RNI2				S	Sg	17 30 56.9	-0.1	
RNI2				AML	AML			
	comp=N,116µm,0.2s							
RNI2				AML	AML			
	comp=E,118µm,1.6s							
RNI2				AML	AML			
	comp=E,118µm,0.4s							
NOCI	**Noci**	**1.25 130**		P	Pn	17 30 40.1	-0.5	
NOCI				AML	AML			
	comp=N,260µm,1.5s							
NOCI				AML	AML			
	comp=E,264µm,0.3s							
LTRZ	**Laterza**	**1.26 142**		P	Pn	17 30 40.2	-0.4	
MCEL	**Monticello**	**1.27 180**	⇓	P	Pn	17 30 39.4	-1.5	
MCEL				AML	AML			
	comp=E,65µm,0.7s							
MCEL				AML	AML			
	comp=N,83µm,1.2s							
MCEL				AML	AML			
	comp=N,83µm,1.2s							
MCEL				AML	AML			
	comp=E,65µm,0.7s							
MCEL				AML	AML			
	comp=N,83µm,1.2s							
MCEL				AML	AML			
	comp=E,65µm,1.3s							
LPEL	**Lama dei Pelig**	**1.28 291**		P	Pn	17 30 41.2	+0.1	
LPEL				AML	AML			
	comp=N,342µm,0.8s							
LPEL				AML	AML			
	comp=E,205µm,0.2s							
LPEL				AML	AML			
	comp=N,342µm,1.2s							
CRAC	**Craco**	**1.33 158**		P	Pn	17 30 41.5	-0.1	
CRAC				AML	AML			
	comp=E,394µm,0.2s							
CRAC				AML	AML			
	comp=N,290µm,0.3s							
CMPR	**Campora**	**1.33 196**		AML	AML			
	comp=N,49µm,1.4s							
CMPR				AML	AML			
	comp=E,77µm,0.3s							
CMPR				AML	AML			
	comp=N,49µm,1.4s							
INTR	**Introdacqua**	**1.47 287**		P	Pn	17 30 43.1	-0.6	
INTR				AML	AML			
	comp=E,57µm,0.2s							
INTR				AML	AML			
	comp=N,107µm,0.2s							
ORI	**Oriolo Calabro**	**1.61 162**		AML	AML			
	comp=N,159µm,0.1s							
ORI				AML	AML			
	comp=N,138µm,0.5s							
ORI				AML	AML			
	comp=E,282µm,0.1s							
T0110	**Collepietro**	**1.63 293**		P	Pn	17 30 46.4	+0.5	
T0110				AML	AML			
	comp=E,117µm,0.4s							
T0110				AML	AML			
	comp=N,106µm,0.4s							
T0110				AML	AML			
	comp=E,118µm,0.4s							
T0110				AML	AML			
	comp=N,106µm,0.4s							
LRP	**Arpino**	**1.66 272**		AML	AML			
	comp=N,37µm,0.5s							
LRP				AML	AML			
	comp=E,43µm,1.0s							
VCEL	**Villa Celiera**	**1.66 299**		P	Pb	17 30 47.8	0.0	
VCEL				AML	AML			
	comp=E,125µm,0.3s							
VCEL				AML	AML			
	comp=N,91µm,0.3s							
VCEL				AML	AML			
	comp=E,124µm,0.3s							
VCEL				AML	AML			
	comp=N,91µm,0.3s							
SALB	**San Lorenzo Be**	**1.77 166**	⇓	P	Pb	17 30 49.9	+0.2	
SALB				AML	AML			
	comp=E,37µm,0.5s							
SALB				AML	AML			
	comp=N,32µm,0.3s							
SALB				AML	AML			
	comp=E,37µm,0.5s							
SALB				AML	AML			
	comp=N,32µm,0.3s							
SALB				AML	AML			
	comp=E,37µm,0.5s							
SALB				AML	AML			
	comp=N,32µm,0.3s							
STON	**Ston**	**1.90 47**		P	Pn	17 30 46.7	-2.7	
CET2	**Cetraro**	**2.07 177**		P	Pn	17 30 51.4	-0.5	
CET2	**Cetraro**	**2.07 177**		AML	AML			
	comp=E,54µm,0.8s							
CET2				AML	AML			
	comp=N,50µm,0.4s							
T1241	**Roccafluvione,**	**2.16 306**		AML	AML			
	comp=E,32µm,1.6s							
T1241				AML	AML			
	comp=N,49µm,0.8s							
SPS2	**Spezzano della**	**2.34 170**	⇓	P	Pn	17 30 54.8	-0.7	
SPS2				AML	AML			
	comp=E,25µm,0.4s							
SPS2				AML	AML			
	comp=N,21µm,0.3s							
SPS2				AML	AML			
	comp=E,25µm,0.4s							
SPS2				AML	AML			
	comp=N,21µm,0.3s							
SPS2				AML	AML			
	comp=E,25µm,1.6s							
SPS2				AML	AML			
	comp=N,21µm,0.3s							
FDMO	**Fiordimonte**	**2.47 306**		AML	AML			
	comp=N,29µm,0.3s							
FDMO				AML	AML			
	comp=E,22µm,0.5s							
T1215	**Vallo di Nera,**	**2.48 300**		AML	AML			
	comp=E,74µm,0.4s							
T1215				AML	AML			
	comp=E,74µm,1.6s							
T1215				AML	AML			
	comp=N,55µm,1.6s							
T1215				AML	AML			
	comp=N,55µm,0.4s							

IDC ***13*** *17:35:41.3±3.7, 38.˚78N×123.˚07W, h0km, mbtmp3.0/3, ML3.2/3, Error ellipse: s-maj=49.2km s-min=29.7km az=19.0*

NEIC ***13*** *17:35:42.8±1.5, 38.˚83N±0.˚01×122.˚78W±0.˚05, h6km±7km, Error ellipse: s-maj=5.3km s-min=1.8km az=78.0*

NCEDC ***13*** *17:35:42.6±2.0, 38.˚81N±0.˚01×122.˚82W±0.˚05, h3km±6km, ML2.9/38, ML2.8/88(NEIC), Error ellipse: s-maj=5.3km s-min=1.8km az=78.0*

ISC 13 17:35:42.3±0.9, 38.˚81N±0.˚02×122.˚82W±0.˚02, h4km±6km, n108, σ0°85/110, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.02**	**89**		**Pg**	**17 35 43.3**	**+0.1**
GDXM				Sg	**Sg**	**17 35 44.0**	**+0.2**
GCRM	**Castle Rock Sp**	**0.09**	**112**		**Pg**	**17 35 44.5**	**+0.2**
GPMM	**Pine Mountain**	**0.10**	**293**		**Pg**	**17 35 45.1**	**+0.7**
GSGM	**Seigler Mounta**	**0.11**	**57**		**Pg**	**17 35 45.2**	**+0.7**
GAXM	**Alexander Vall**	**0.11**	**151**		**Pg**	**17 35 44.8**	**+0.3**
GBGM	**Boggs Mountain**	**0.11**	**87**		**Pg**	**17 35 45.2**	**+0.5**
GCVM	**Cloverdale**	**0.15**	**256**		**Pg**	**17 35 46.2**	**+0.9**
GRTM	**Round Top Moun**	**0.18**	**43**		**Pg**	**17 35 46.3**	**+0.4**
GSSM	**Skaggs Springs**	**0.18**	**234**		**Pg**	**17 35 46.7**	**+0.9**
NHSM	**Mount Saint He**	**0.22**	**132**		**Pg**	**17 35 47.0**	**+0.3**
HOPS	**Hopland Field**	**0.27**	**314**	Pg	**Pg**	**17 35 47.9**	**+0.4**
HOPS				Sg	**Sg**	**17 35 49.5**	**-1.5**
HOPS				IAML		17 35 53.3	
	comp=E,2µm,0.8s						
MAC	**Mark West Spri**	**0.27**	**163**		**Pg**	**17 35 48.3**	**+0.8**
GHLM	**Highland Sprin**	**0.28**	**327**		**Pg**	**17 35 48.4**	**+0.6**
NMTM	**Middletown**	**0.30**	**90**		**Pg**	**17 35 48.7**	**+0.6**
MNRC	**McLaughlin Min**	**0.31**	**76**		**Pg**	**17 35 49.3**	**+1.0**
GHCM	**House Creek**	**0.35**	**235**		**Pb**	**17 35 50.2**	**-1.1**
GBMM	**Baldy Mountain**	**0.42**	**38**		**Pb**	**17 35 51.8**	**-0.7**
NTYM	**Taylor**	**0.44**	**163**		**Pb**	**17 35 51.5**	**-1.1**
NBPM	**Berryessa Peak**	**0.51**	**106**		**Pb**	**17 35 53.5**	**-0.4**
GGUM	**Gualala**	**0.53**	**276**		**Pb**	**17 35 53.5**	**-0.7**
GTSM	**Trough Springs**	**0.53**	**19**		**Pb**	**17 35 53.8**	**-0.6**
CVS	**Carmenet Viney**	**0.54**	**148**		**Pg**	**17 35 53.3**	**+0.5**
GWRM	**Wonder Ranch**	**0.55**	**317**		**Pb**	**17 35 53.6**	**-1.0**
NAPC	**Atlas Peak**	**0.58**	**129**		**Pg**	**17 35 54.0**	**+0.5**
NBRB	**Beebe Ranch Br**	**0.59**	**159**		**Pb**	**17 35 54.4**	**-0.8**
GHOM	**Hamilton Openi**	**0.61**	**293**		**Pb**	**17 35 55.1**	**-0.5**
MCCM	**Marconi Confer**	**0.66**	**184**	Pg	**Pb**	**17 35 56.2**	**-0.2**
MCCM				IAML		17 36 13.1	
	comp=E,651nm,1.1s						
MCCM				IAML		17 36 15.0	
	comp=N,611nm,1.0s						
SNT	**Sears Point**	**0.69**	**155**		**Pb**	**17 35 56.0**	**-0.9**
NADM	**Allendale**	**0.75**	**117**		**Pb**	**17 35 57.9**	**-0.1**
NOLM	**Olema**	**0.77**	**178**		**Pb**	**17 35 58.1**	**-0.1**
GTC	**Three Chop Rid**	**0.82**	**316**		**Pb**	**17 35 59.0**	**-0.2**
NPRM	**Point Reyes**	**0.82**	**191**		**Pb**	**17 35 59.1**	**-0.2**
OSUM	**Sutter Buttes**	**0.89**	**58**		**Pg**	**17 35 59.8**	**+0.5**
SUTE	**Sutter Butte**	**0.91**	**62**		**Pg**	**17 36 00.2**	**+0.4**
CPMM	**Point Molate**	**0.92**	**159**		**Pb**	**17 36 00.4**	**-0.4**
CSPM	**San Pablo Ridg**	**0.94**	**154**		**Pn**	**17 36 02.8**	**+0.4**
CPIM	**Pinole Ridge**	**0.95**	**149**		**Pb**	**17 36 01.1**	**-0.2**
KFPM	**Farley Peak**	**0.95**	**331**		**Pb**	**17 36 01.8**	**+0.3**
GVV	**Valley View**	**0.97**	**7**		**Pn**	**17 36 03.6**	**+0.6**
CTAM	**Taylor**	**1.00**	**141**		**Pn**	**17 36 03.0**	**-0.3**
BRK	**Berkeley--Havi**	**1.03**	**154**		**Pg**	**17 36 02.1**	**0.0**
HMR	**Hamilton Ranch**	**1.03**	**129**		**Pn**	**17 36 03.2**	**-0.4**
CVPM	**Vollmer Peak**	**1.04**	**153**		**Pb**	**17 36 02.6**	**-0.3**
BKS	**Berkeley--Byer**	**1.04**	**153**		**Pb**	**17 36 02.7**	**-0.2**
JPRM	**Presidio of Sa**	**1.05**	**165**		**Pb**	**17 36 02.9**	**-0.2**
KCPM	**Cahto Peak**	**1.06**	**326**		**Pn**	**17 36 03.5**	**-0.6**
GROM	**Round Mountain**	**1.11**	**6**		**Pn**	**17 36 06.5**	**+1.6**
FARB	**Farallon Islan**	**1.12**	**187**		**Pb**	**17 36 03.8**	**-0.4**
KBNM	**Bluenose Ridge**	**1.12**	**345**		**Pn**	**17 36 06.1**	**+1.1**
KIPM	**Iron Peak**	**1.12**	**333**		**Pb**	**17 36 04.1**	**-0.3**
BDM	**Black Diamond**	**1.14**	**138**		**Pb**	**17 36 04.3**	**-0.2**
CRPB	**Russellman Par**	**1.15**	**141**		**Pg**	**17 36 03.9**	**-0.5**
CRHM	**Round Hill Res**	**1.15**	**145**		**Pb**	**17 36 04.8**	**0.0**
BGC	**Bolinger Road**	**1.16**	**149**		**Pb**	**17 36 04.7**	**-0.3**
PAM	**Palermo**	**1.20**	**57**		**Pg**	**17 36 04.6**	**-0.7**
CLCB	**Lake Chabot**	**1.22**	**151**		**Pg**	**17 36 05.5**	**-0.3**
OWYM	**Wyandotte**	**1.22**	**58**		**Pg**	**17 36 04.2**	**-1.5**
ORV	**Oroville**	**1.27**	**54**		**Pg**	**17 36 05.6**	**-1.1**
CNIC	**Niles Canyon**	**1.38**	**150**		**Pn**	**17 36 07.8**	**-0.6**
KPK	**Kanaka Peak**	**1.41**	**56**		**Pn**	**17 36 08.4**	**-0.5**
CVLM	**Vallecito**	**1.41**	**146**		**Pn**	**17 36 08.2**	**-0.7**
JHPM	**Huddart Park**	**1.42**	**163**		**Pn**	**17 36 07.5**	**-1.5**
AFDM	**Forest Hills D**	**1.45**	**84**		**Pn**	**17 36 07.3**	**-2.1**
JRSC	**Jasper Ridge**	**1.48**	**162**		**Pn**	**17 36 09.0**	**-0.7**
BGH	**Bear Gulch**	**1.51**	**165**		**Pg**	**17 36 12.1**	**+0.8**
KMRM	**Mail Ridge**	**1.57**	**334**	Pn	**Pn**	**17 36 09.5**	**-1.6**
KMRM				IAML		17 36 49.3	
	comp=E,173nm,1.2s						
KMRM				IAML		17 36 50.2	
	comp=N,175nm,2.0s						
CMLM	**Mount Lewis**	**1.62**	**145**		**Pn**	**17 36 11.1**	**-0.7**
CMMM	**Mount Mocho**	**1.71**	**142**		**Pn**	**17 36 12.4**	**-0.6**
MHC	**Mount Hamilton**	**1.73**	**147**		**Pn**	**17 36 12.9**	**-0.5**
CCOB	**Coe Ranch Numb**	**1.79**	**149**		**Pn**	**17 36 13.6**	**-0.5**
KMPM	**Mount Pierce**	**1.89**	**329**		**Pn**	**17 36 15.3**	**-0.3**
KMPM				IAML		17 36 56.4	
	comp=N,113nm,2.2s						
CMB	**Columbia Colle**	**2.06**	**111**		**Pn**	**17 36 17.2**	**-0.7**
EMB	**Emerald Bay**	**2.13**	**85**		**Pn**	**17 36 19.4**	**+0.4**
EMB				IAML		17 36 53.5	
	comp=E,77nm,0.6s						
KHMM	**Horse Mountain**	**2.18**	**342**		**Pn**	**17 36 18.8**	**-0.8**
KHMM				IAML		17 37 14.7	
	comp=N,51nm,1.5s						
KHMM				IAML		17 37 23.4	
	comp=E,44nm,2.0s						
BEKR	**Beckworth**	**2.18**	**60**	Pn	**Pn**	**17 36 20.1**	**+0.4**
JCC	**Jacoby Creek,**	**2.21**	**336**	Pn	**Pn**	**17 36 17.7**	**-2.1**
JCC				IAML		17 37 20.6	
	comp=E,91nm,1.9s						
JCC				IAML		17 37 24.9	
	comp=N,66nm,2.2s						
MPK	**Martis Peak**	**2.23**	**76**		**Pn**	**17 36 20.7**	**+0.3**
MPK				IAML		17 36 60.0	
	comp=E,92nm,0.7s						
SAO	**San Andreas Ge**	**2.31**	**151**	Pn	**Pn**	**17 36 20.6**	**-0.7**
VCNR	**Virginia City**	**2.52**	**78**		**Pn**	**17 36 23.1**	**-1.2**
VCNR				IAML		17 37 10.0	
	comp=E,58nm,0.9s						
VCNR				IAML		17 37 12.1	
	comp=N,52nm,0.9s						
KRPM	**Rodgers**	**2.52**	**339**	Pn	**Pn**	**17 36 23.3**	**-0.9**
PNTR	**Pine Nut**	**2.53**	**83**		**Pn**	**17 36 23.8**	**-0.7**
BBGB	**Big Mountain B**	**2.64**	**147**		**Pn**	**17 36 25.1**	**-0.7**
YERR	**Yerington**	**2.80**	**85**		**Pn**	**17 36 27.7**	**-0.4**
YERR				IAML		17 37 26.4	
	comp=N,57nm,1.0s						
YERR				IAML		17 37 30.2	
	comp=E,58nm,0.8s						
PAHR	**Pah Rah Range**	**2.82**	**70**		**Pn**	**17 36 27.6**	**-0.7**
PAHR				IAML		17 37 28.5	
	comp=N,26nm,1.6s						
KRMB	**Red Mountain**	**2.84**	**343**	Pn	**Pn**	**17 36 29.1**	**+0.5**
KRMB				IAML		17 37 32.0	
	comp=E,38nm,1.7s						
KRMB				IAML		17 38 14.0	
	comp=N,33nm,1.9s						
YBH	**Yreka Blue Hor**	**2.92**	**2**		**Pn**	**17 36 28.9**	**-0.8**
PMPB	**Monarch Peak**	**3.05**	**148**	Pn	**Pn**	**17 36 30.6**	**-0.8**
PMPB				IAML		17 37 43.5	
	comp=E,44nm,2.4s						
PMPB				IAML		17 38 11.9	
	comp=N,40nm,2.7s						
KSXB	**Camp Six Broad**	**3.12**	**345**	Pn	**Pn**	**17 36 31.3**	**-1.2**
KSXB				IAML		17 36 56.7	
	comp=N,30nm,1.9s						
KSXB				IAML		17 37 33.8	
	comp=E,35nm,2.0s						
MDPB	**Devils Postpil**	**3.17**	**111**		**Pn**	**17 36 33.5**	**+0.2**
PLTX	**Planet X, Gerl**	**3.21**	**53**	Pn	**Pn**	**17 36 33.4**	**-0.3**
PLTX				IAML		17 37 51.5	
	comp=N,74nm,1.0s						
PLTX				IAML		17 38 10.2	
	comp=E,116nm,1.1s						
OMMB	**Old Mammoth Mi**	**3.24**	**110**		**Pn**	**17 36 33.3**	**-1.0**
RYN	**Ryan**	**3.37**	**92**		**Pn**	**17 36 35.9**	**-0.1**
RYN				IAML		17 37 31.8	
	comp=E,21nm,1.1s						
RYN				IAML		17 37 32.7	
	comp=N,21nm,1.6s						
LHV	**Little Huntoon**	**3.43**	**98**		**Pn**	**17 36 36.9**	**+0.3**
NVAR	**Mina Array Bea**	**3.56**	**95**	Pn	**Pn**	**17 36 39.2**	**+0.6**
	comp=N,0.4nm,0.3s,baz=268,slow=15,SNR=9.3						
NVAR				Pg	**Pb**	**17 36 46.5**	**+0.4**
	comp=N,1.6nm,0.3s,baz=271,slow=19,SNR=35						
NVAR				Lg	Lg	17 37 38.3	
	comp=N,1.1nm,0.3s,baz=261,slow=30,SNR=4.2 comp=N,0.5nm,0.3s						
NVAR	**Mina Array Bea**	**3.56**	**95**		**Pn**	**17 36 38.9**	**+0.2**
KBO	**Bosley Butte**	**3.56**	**343**	Pn	**Pn**	**17 36 37.4**	**-1.1**
MOD	**Modoc Plateau**	**3.64**	**31**		**Pn**	**17 36 39.2**	**-0.5**
NV11	**Mina Array Sit**	**3.68**	**94**		**Pn**	**17 36 38.9**	**-1.2**
NV11				IAML		17 37 44.7	

	comp=N,22nm,1.9s							
NV11					IAML		17 37 51.2	
	comp=E,16nm,2.0s							
KVN	**Kaiserville**	**3.69**	**85**	Pn	**Pn**	**17 36 39.4**	**-1.0**	
KVN				IAML		17 37 47.9		
	comp=E,12nm,1.0s							
KVN				IAML		17 37 48.1		
	comp=N,13nm,1.5s							
DSP	**Deep Springs**	**4.09**	**109**		**Pn**	**17 36 43.3**	**-2.3**	
DSP				IAML		17 38 02.9		
	comp=N,8.4nm,1.9s							
LCH	**Last Change Ra**	**4.38**	**109**		**Pn**	**17 36 48.4**	**-1.4**	
LCH				IAML		17 38 02.9		
	comp=N,7.0nm,1.9s							
LCH				IAML		17 38 07.4		
	comp=E,9.3nm,2.2s							
MZP	**Montezuma Peak**	**4.42**	**103**		**Pn**	**17 36 48.5**	**-2.1**	
TPH	**Tonopah**	**4.46**	**98**		**Pn**	**17 36 50.5**	**-0.4**	
GMN	**Gold Mountain**	**4.64**	**107**		**Pn**	**17 36 53.6**	**+0.1**	
GMN				IAML		17 37 33.8		
	comp=N,7.9nm,2.4s							
GMN				IAML		17 38 24.0		
	comp=E,6.8nm,1.6s							
ISA	**Isabella, Lake**	**4.68**	**131**		**Pn**	**17 36 53.9**	**+0.1**	
ISA				IAML		17 37 28.4		
	comp=N,7.0nm,3.0s							
ISA				IAML		17 38 07.9		
	comp=E,9.7nm,1.7s							
WVOR	**Wild Horse Val**	**4.82**	**40**		**Pn**	**17 36 56.0**	**+0.2**	
WVOR				IAML		17 38 26.0		
	comp=E,7.2nm,4.8s							
WVOR				IAML		17 39 22.8		
	comp=E,7.3nm,3.7s							
PDAR	**Pinedale Array**	**10.81**	**64**	Pn	Pn	17 38 23.5	+5.4	
	baz=247,slow=11,SNR=4.2							
	comp=E,1.2nm,1.1s							
TXAR	**Lajitas Array**	**18.44**	**115**	P	**P**	**17 40 01.7**	**+2.7**	
	baz=297,slow=10.0,SNR=4.0							
	comp=E,0.4nm,0.9s							

*NEIC **13** 17:45:18.0±0.4,36°.775N×0°.006×97°.832W±0°.008, h6km±2km, Error ellipse: s-maj=1.3km s-min=0.4km az=221.0*

*TUL **13** 17:45:18.2±0.6,36°.782N×0°.008×97°.82W±0°.01, h7km±2km, ML3.3, mb_Lg2.9/57(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=92.0*

*ANF **13** 17:45:18.5±0.3,36°.79N×97°.85W, h7km, ML3.6/8, Error ellipse: s-maj=3.2km s-min=2.7km az=178.0*

ISC 13 17:45:18.0±0.9,36°.76N±0°.02×97°.83W±0°.02, h10km±6km, n98, σ0s82/119, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.10**	**347**	Pg	**Pg**	**17 45 20.4**	**-0.2**
GC02				Sg	**Sg**	**17 45 22.0**	**-0.4**
KAN14	**Manchester OK**	**0.22**	**332**	Pg	**Pg**	**17 45 22.9**	**+0.2**
KAN14				Sg	**Sg**	**17 45 26.1**	**+0.2**
CROK	**Carrier**	**0.28**	**205**	Pg	**Pg**	**17 45 24.4**	**+0.8**
CROK				Sg	**Sg**	**17 45 28.8**	**+1.3**
KAN17	**Caldwell West**	**0.29**	**11**	Pg	**Pg**	**17 45 24.0**	**+0.1**
KAN17				Sg	**Sg**	**17 45 27.8**	**0.0**
OK032	**Salt Plains WL**	**0.31**	**279**	Pg	**Pg**	**17 45 24.7**	**+0.5**
OK032				Sg	**Sg**	**17 45 29.2**	**+0.9**
KAN05	**Bluff City Nor**	**0.35**	**355**		**Pg**	**17 45 25.1**	**+0.1**
KAN13	**South Haven SW**	**0.38**	**48**	Pg	**Pg**	**17 45 25.6**	**0.0**
KAN13				Sg	**Sg**	**17 45 30.6**	**0.0**
KAN01	**Argonia South**	**0.40**	**9**	Pg	**Pg**	**17 45 26.0**	**+0.1**
KAN01				Sg	**Sg**	**17 45 31.2**	**0.0**
KAN09	**Caldwell North**	**0.41**	**25**	Pg	**Pg**	**17 45 26.2**	**0.0**
KAN09				Sg	**Sg**	**17 45 31.2**	**-0.5**
KAN10	**Anthony SW Sta**	**0.42**	**330**	Pg	**Pg**	**17 45 26.5**	**+0.2**
KAN10				Sg	**Sg**	**17 45 32.2**	**+0.4**
KAN08	**Anthony NE Sta**	**0.48**	**347**		**Pg**	**17 45 27.5**	**+0.1**
KAN08				Sg	**Sg**	**17 45 34.1**	**+0.3**
KAN06	**Argonia West S**	**0.49**	**358**		**Pg**	**17 45 27.7**	**+0.1**
BLOK	**Blackwell**	**0.50**	**90**	Pg	**Pg**	**17 45 27.8**	**0.0**
KAN16	**Harper SW Stat**	**0.50**	**338**	Pg	**Pg**	**17 45 28.0**	**+0.1**
KAN16				Sg	**Sg**	**17 45 34.6**	**+0.1**
KS20	**Mayfield South**	**0.52**	**25**	Pg	**Pg**	**17 45 28.1**	**-0.1**
KS20				Sg	**Sg**	**17 45 34.8**	**-0.3**
KS21	**Milan North St**	**0.55**	**14**	Pg	**Pg**	**17 45 28.5**	**-0.1**
KS21				Sg	**Sg**	**17 45 35.8**	**-0.1**
OK049	**E0420 Rd and N**	**0.55**	**129**	Pg	**Pg**	**17 45 28.9**	**+0.1**
OK049				Sg	**Sg**	**17 45 36.6**	**+0.6**
KAN12	**Harper NE Stat**	**0.55**	**346**	Pg	**Pg**	**17 45 28.9**	**+0.1**
KAN12				Sg	**Sg**	**17 45 36.3**	**+0.2**
OK035	**E0210 Rd and N**	**0.70**	**266**	Pg	**Pg**	**17 45 31.4**	**-0.2**
OK050	**Pawnee Station**	**0.78**	**118**		**Pg**	**17 45 33.0**	**0.0**
OK050				Sg	**Sg**	**17 45 43.3**	**+0.1**
OK038	**West end E0370**	**0.78**	**249**	Pg	**Pg**	**17 45 33.1**	**0.0**
OK045	**Pawnee Station**	**0.79**	**113**		**Pg**	**17 45 33.3**	**0.0**
OK045				Sg	**Sg**	**17 45 43.8**	**+0.1**
OK048	**Pawnee Station**	**0.79**	**115**	Pg	**Pg**	**17 45 34.4**	**0.0**
OK048				Sg	**Sg**	**17 45 43.8**	**+0.1**
OK046	**Pawnee Station**	**0.83**	**116**		**Pg**	**17 45 33.9**	**-0.1**
OK046				Sg	**Sg**	**17 45 44.6**	**-0.2**
OK051	**E0350 and S346**	**0.84**	**107**	Pg	**Pg**	**17 45 34.0**	**-0.3**
OK051				Sg	**Sg**	**17 45 45.2**	**0.0**
NOKA	**Waynoka**	**0.89**	**262**		**Pg**	**17 45 35.0**	**-0.2**
OK044	**Pawnee Station**	**0.92**	**114**	Pg	**Pg**	**17 45 35.6**	**-0.1**
OK044				Sg	**Sg**	**17 45 47.7**	**-0.1**
OK047	**Pawnee, Statio**	**0.94**	**108**	Pg	**Pg**	**17 45 35.9**	**-0.2**
OK047				Sg	**Sg**	**17 45 48.2**	**-0.1**
OK029	**Liberty Lake**	**1.01**	**162**	Pg	**Pg**	**17 45 37.5**	**0.0**
U32A	**Winter Ranch,**	**1.01**	**248**	Pg	**Pg**	**17 45 37.3**	**-0.3**
U32A				Sg	**Sg**	**17 45 51.6**	**+0.9**
U32A	**Winter Ranch,**	**1.01**	**248**	P	**Pg**	**17 45 37.6**	**+0.1**
	baz=67						
U32A				S	**Sb**	**17 45 51.7**	**+0.6**
	baz=67						
OK033	**Mehan**	**1.01**	**134**	Pg	**Pg**	**17 45 36.9**	**-0.6**
OK033				Sg	**Sb**	**17 45 52.0**	**+0.9**
T35A	**Sooner Cattle**	**1.07**	**81**	Pg	**Pg**	**17 45 38.2**	**-0.4**
T35B	**Sooner Cattle**	**1.07**	**81**	P	**Pg**	**17 45 38.2**	**-0.4**
	baz=263						
QUOK	**Quay**	**1.08**	**123**		**Pg**	**17 45 38.6**	**-0.2**
QUOK				Sg	**Sg**	**17 45 52.6**	**-0.2**
BCOK	**Bluff Creek, N**	**1.11**	**171**	Pg	**Pg**	**17 45 39.3**	**-0.1**
BCOK				Sg	**Sb**	**17 45 55.2**	**+1.2**
OK031	**S. Brethren Rd**	**1.14**	**135**	Pg	**Pg**	**17 45 39.6**	**-0.2**
OK031				Sg	**Sg**	**17 45 54.8**	**+0.1**
OK034	**N. Norfolk Rd.**	**1.17**	**129**	Pg	**Pg**	**17 45 40.4**	**-0.2**
OK034				Sg	**Sg**	**17 45 55.7**	**-0.1**
OK030	**Cody Creek RV**	**1.19**	**134**	Pg	**Pg**	**17 45 40.0**	**-0.8**
OK030				Sg	**Sg**	**17 45 56.2**	**0.0**
OK025	**Westminster Rd**	**1.24**	**161**		**Pg**	**17 45 41.5**	**-0.3**
OK025				Sg	**Sg**	**17 45 56.7**	**-1.3**
CSTR	**Hydro, Custer**	**1.31**	**212**		**Pn**	**17 45 40.8**	**-1.6**
OKCSW	**OKLAHOMA CITY**	**1.39**	**167**		**Pn**	**17 45 43.5**	**0.0**
DEOK	**Depew**	**1.41**	**130**	Pg	**Pn**	**17 45 44.4**	**+0.6**
ELIS	**Ellis County**	**1.45**	**242**		**Pn**	**17 45 44.6**	**+0.2**
FNO	**Franklin**	**1.54**	**167**		**Pn**	**17 45 46.7**	**+1.1**
FNO				IAmb_Lg		17 46 10.1	
	comp=Z,62nm,0.9s						
R32A	**Long Quarter,**	**1.80**	**338**		**Pn**	**17 45 50.7**	**+1.4**
R32A	**Long Quarter,**	**1.80**	**338**	P	**Pn**	**17 45 50.4**	**+1.1**
	baz=156						
R32A				S	**Sb**	**17 46 14.5**	**+0.7**
	baz=156						
TUL1	**Leonard**	**1.85**	**117**		**Pn**	**17 45 51.1**	**+1.2**
TUL1	**Leonard**	**1.85**	**117**	P	**Pn**	**17 45 51.4**	**+1.5**
	baz=299						
TUL1				S	**Sb**	**17 46 16.4**	**+1.1**
	baz=299						
X34A	**Smith Ranch, M**	**2.15**	**180**	Pn	**Pn**	**17 45 55.8**	**+1.8**
WMOK	**Wichita Mounta**	**2.16**	**201**	Pn	**Pn**	**17 45 55.4**	**+1.3**
WMOK	**Wichita Mounta**	**2.16**	**201**	P	**Pn**	**17 45 55.4**	**+1.3**
	baz=21						
RLO	**Rose Lookout**	**2.34**	**104**		**Pn**	**17 45 57.4**	**+0.8**
KSU1	**Kansas State U**	**2.53**	**22**	Pn	**Pn**	**17 46 00.2**	**+1.0**
KSU1				IAmb_Lg		17 46 42.3	
	comp=Z,47nm,0.7s						
KSU1	**Kansas State U**	**2.53**	**22**	S	**Sn**	**17 46 30.7**	**+0.6**
	baz=203						
CBKS	**Cedar Bluff**	**2.55**	**324**		**Pb**	**17 46 02.4**	**-1.5**
CBKS	**Cedar Bluff**	**2.55**	**324**	P	**Pn**	**17 46 00.7**	**+1.2**
	baz=143						
CBKS				Sb	**Sb**	**17 46 36.6**	**+1.4**
	baz=143						
U38A	**Gravette**	**2.79**	**96**	Pn	**Pn**	**17 46 04.2**	**+1.3**
LOOK	**Love County**	**2.81**	**169**		**Pn**	**17 46 03.1**	**0.0**
LOOK				IAmb_Lg		17 46 49.3	
	comp=Z,14nm,0.7s						
X37A	**Clayton**	**2.95**	**136**		**Pn**	**17 46 04.4**	**-0.6**
X37A				IAmb_Lg		17 46 56.1	
	comp=Z,43nm,0.7s						
HHAR	**Hobbs**	**3.17**	**97**		**Pn**	**17 46 09.0**	**+0.9**
HHAR	**Hobbs**	**3.17**	**97**	P	**Pn**	**17 46 09.4**	**+1.3**
	baz=280						
Z35A	**Perchaven, San**	**3.45**	**172**	Pn	**Pn**	**17 46 11.0**	**-0.9**
AMTX	**Amarillo**	**3.64**	**240**		**Pn**	**17 46 12.7**	**-1.9**
AMTX				IAmb_Lg		17 47 19.3	
	comp=Z,30nm,0.7s						
S39A	**Bolivar**	**3.72**	**74**		**Pn**	**17 46 16.1**	**+0.5**
N33B	**J Bar K, Exete**	**3.98**	**4**	P	**Pn**	**17 46 19.4**	**+0.2**
	baz=184						
N33A	**J Bar K, Exete**	**3.98**	**4**	IAmb_Lg		17 47 25.6	
	comp=Z,22nm,0.8s						
MIAR	**Mount Ida**	**4.11**	**121**		**Pn**	**17 46 19.7**	**-1.2**
MIAR				IAmb_Lg		17 47 35.5	
	comp=Z,26nm,0.8s						
Z38A	**Mt. Pleasant**	**4.20**	**145**		**Pn**	**17 46 21.8**	**-0.3**
Z38A				IAmb_Lg		17 47 37.3	
	comp=Z,38nm,0.8s						
ABTX	**Abilene, Hawle**	**4.39**	**200**	Pn	**Pn**	**17 46 22.7**	**-2.0**
KSCO	**Kaye Shedlock'**	**4.41**	**302**	Pn	**Pn**	**17 46 22.7**	**-2.5**
KSCO				IAmb_Lg		17 47 48.6	
	comp=Z,38nm,0.8s						
P38A	**Dawn**	**4.43**	**49**		**Pn**	**17 46 23.8**	**-1.6**
P38A				IAmb_Lg		17 47 49.3	
	comp=Z,25nm,0.7s						
N35A	**Tabor**	**4.44**	**22**		**Pn**	**17 46 26.5**	**+1.0**
MGMO	**Mountain Grove**	**4.47**	**83**	Pn	**Pn**	**17 46 25.9**	**-0.1**
MGMO				IAmb_Lg		17 47 46.1	
	comp=Z,23nm,0.8s						
BGNE	**Belgrade**	**4.65**	**357**		**Pn**	**17 46 29.4**	**+1.0**
BGNE				IAmb_Lg		17 47 57.3	
	comp=Z,32nm,0.7s						
R40A	**Maddies Statio**	**4.68**	**69**	Pn	**Pn**	**17 46 29.1**	**+0.4**
R40A				IAmb_Lg		17 47 53.2	
	comp=Z,20nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.69**	**99**		**Pn**	**17 46 29.9**	**+1.0**
FCAR				IAmb_Lg		17 47 45.6	
	comp=Z,20nm,0.9s						
WHAR	**Wooly Hollow**	**4.73**	**106**		**Pn**	**17 46 30.7**	**+1.3**
WHTX	**Lake Whitney,**	**4.77**	**176**		**Pn**	**17 46 31.1**	**+1.1**
UALR	**University of**	**4.88**	**112**	IAmb_Lg		17 48 03.0	
	comp=Z,17nm,0.8s						
WLAR	**White Oak Lake**	**4.93**	**127**	IAmb_Lg		17 48 08.4	
	comp=Z,17nm,0.8s						
T25A	**Trinidad**	**5.28**	**276**		**Pn**	**17 46 36.1**	**-1.1**
T25A				IAmb_Lg		17 48 10.3	
	comp=Z,20nm,0.9s						
OGNE	**Ogallala**	**5.31**	**323**	IAmb_Lg		17 48 11.3	
	comp=Z,22nm,0.7s						
L34A	**Svendsen Farm,**	**5.32**	**12**		**Pn**	**17 46 36.7**	**-0.9**
P40A	**Paris**	**5.33**	**57**		**Pn**	**17 46 37.6**	**-0.2**
P40A				IAmb_Lg		17 48 12.3	
	comp=Z,18nm,0.8s						
N38A	**Joes South For**	**5.40**	**40**	Pn	**Pn**	**17 46 38.9**	**+0.3**
CCM	**Cathedral Cave**	**5.40**	**74**		**Pn**	**17 46 39.1**	**+0.4**
CCM				IAmb_Lg		17 48 12.5	
	comp=Z,17nm,0.9s						
K31A	**O'Neill**	**5.90**	**353**	Pn	**Pn**	**17 46 44.7**	**-0.8**
435B	**Jarrell**	**5.96**	**178**	IAmb_Lg		17 48 36.2	
	comp=Z,20nm,0.8s						
Q24A	**Divide**	**6.19**	**293**	Pn	**Pn**	**17 46 47.6**	**-2.2**
Q24A				IAmb_Lg		17 48 43.6	
	comp=Z,13nm,0.9s						
JCT	**Junction City**	**6.47**	**195**	IAmb_Lg		17 48 53.7	
	comp=Z,14nm,0.8s						
S44A	**Carbondale**	**6.91**	**80**	IAmb_Lg		17 49 01.4	
	comp=Z,12nm,0.9s						
SIUC	**Southern Illin**	**6.94**	**80**	IAmb_Lg		17 48 54.5	
	comp=Z,16nm,0.7s						
Q44A	**Meyer Farm, Va**	**7.30**	**70**	IAmb_Lg		17 49 30.3	
	comp=Z,20nm,0.8s						
SUSD	**Miller**	**7.72**	**354**	IAmb_Lg		17 49 39.4	
	comp=Z,12nm,0.8s						
PLAL	**Pickwick Lake**	**8.12**	**100**	IAmb_Lg		17 49 39.5	
	comp=Z,11nm,1.1s						
JFWS	**Jewell Farm**	**8.47**	**41**	IAmb_Lg		17 49 51.4	
	comp=Z,17nm,0.7s						
K22A	**Casper**	**8.91**	**314**	IAmb_Lg		17 50 17.2	
	comp=Z,10nm,0.8s						

*NOU **13** 17:56:24.5,37°.30S×179°.78E, h120km, MLv4.3/9, Off E. Coast of N. Island, N.Z.*

*WEL **13** 17:56:30.4±1.4,37°.5±5°×17°.9E±°, h13km±5km, M3.3/24, ML3.5/29, MLv3.3/24, Error ellipse: s-maj=0.0km s-min=0.0km az=81.5*

ISC 13 17:56:26.8±2.8,37°.26S±0°.08×179°.1E±0°.1, h4km±14km, n70, σ1s28/77, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.71**	**245**	P	**Pb**	**17 56 42.5**	**+0.7**
MXZ				S	**Sb**	**17 56 49.4**	**-2.5**
WMGZ	**Waiomatatini S**	**0.79**	**225**	P	**Pn**	**17 56 46.2**	**+1.5**
WMGZ				S	**Sb**	**17 56 54.4**	**+2.2**
PKGZ	**Pakihiroa**	**1.04**	**233**	P	**Pn**	**17 56 49.0**	**+0.8**
PKGZ				S	**Sn**	**17 57 01.5**	**-1.7**
PUZ	**Puketiti**	**1.06**	**220**	P	**Pn**	**17 56 50.0**	**+1.5**
PUZ				S	**Sn**	**17 57 03.3**	**-0.4**
HAZ	**Te Kaha**	**1.17**	**245**	P	**Pb**	**17 56 49.6**	**0.0**
TWGZ	**Tauwhareparae**	**1.28**	**224**	P	**Pn**	**17 56 53.4**	**+1.8**
TWGZ				S	**Sn**	**17 57 09.3**	**0.0**
RUGZ	**Raukumara Rang**	**1.34**	**238**	P	**Pn**	**17 56 53.6**	**+1.2**
RUGZ				S	**Sn**	**17 57 10.2**	**-0.6**
CNGZ	**Carnagh Statio**	**1.42**	**210**	P	**Pn**	**17 56 55.8**	**+2.5**
CNGZ				S	**Sn**	**17 57 14.3**	**+1.8**
TKGZ	**Te Karaka**	**1.55**	**220**	P	**Pg**	**17 56 56.5**	**+0.1**
MWZ	**Matawai**	**1.65**	**229**	P	**Pn**	**17 56 58.0**	**+1.3**
RIGZ	**Rimuhau**	**1.80**	**216**	P	**Pn**	**17 56 59.9**	**+1.2**
WHRZ	**Whale Island**	**1.80**	**250**	P	**Pg**	**17 57 00.9**	**-0.4**
RAGZ	**Rawiri**	**1.82**	**227**	P	**Pn**	**17 57 00.6**	**+1.5**
URZ	**Urewera**	**1.88**	**237**	P	**Pn**	**17 57 01.2**	**+1.5**
URZ	**Urewera**	**1.88**	**237**	P	**Pb**	**17 57 01.4**	**-0.2**
PRGZ	**Paritu Road**	**1.92**	**210**	P	**Pn**	**17 57 01.7**	**+1.3**
EDRZ	**Edgecumbe**	**2.07**	**245**	P	**Pn**	**17 57 03.9**	**+1.5**
SNGZ	**Shannon Statio**	**2.07**	**222**	P	**Pn**	**17 57 03.4**	**+1.1**
KNZ	**Kokohu**	**2.09**	**213**	P	**Pn**	**17 57 03.2**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.12**	**206**	P	**Pn**	**17 57 04.4**	**+1.5**
OPRZ	**Ohinepanea**	**2.12**	**253**	P	**Pn**	**17 57 03.7**	**+0.7**
MUGZ	**Murupara**	**2.22**	**236**	P	**Pn**	**17 57 05.5**	**+1.1**
TARZ	**Mount Tarawera**	**2.29**	**244**	P	**Pn**	**17 57 07.2**	**+1.8**
RAHZ	**Arahi**	**2.30**	**224**	P	**Pn**	**17 57 07.0**	**+1.5**
TGRZ	**Tauranga**	**2.32**	**258**	P	**Pn**	**17 57 06.7**	**+0.9**
MTHZ	**Maungataniwha**	**2.40**	**228**	P	**Pn**	**17 57 08.4**	**+1.5**
KARZ	**Kaharoa**	**2.40**	**251**	P	**Pn**	**17 57 08.2**	**+1.3**
NMHZ	**Naumai**	**2.58**	**224**	P	**Pn**	**17 57 11.2**	**+1.7**
ARHZ	**Aropaoanui**	**2.60**	**219**	P	**Pn**	**17 57 11.0**	**+1.3**
MRHZ	**Matea Rd**	**2.65**	**233**	P	**Pn**	**17 57 11.7**	**+1.4**
KUZ	**Kuaotunu**	**2.77**	**280**	P	**Pn**	**17 57 11.0**	**-0.9**
BKZ	**Black Stump Fm**	**2.81**	**227**	P	**Pn**	**17 57 13.5**	**+0.9**
BKZ	**Black Stump Fm**	**2.81**	**227**	P	**Pn**	**17 57 13.7**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.88**	**213**	P	**Pn**	**17 57 13.9**	**+0.4**
MCHZ	**McNeill Hill**	**2.89**	**220**	P	**Pn**	**17 57 14.7**	**+1.0**
TOZ	**Tahuroa Road**	**2.91**	**260**	P	**Pn**	**17 57 14.2**	**+0.3**
KWHZ	**Kaweka Forest**	**3.02**	**224**	P	**Pn**	**17 57 16.0**	**+0.5**
KAHZ	**Kahuranaki**	**3.08**	**214**	P	**Pn**	**17 57 16.4**	**+0.1**
RATZ	**Rangitukua**	**3.09**	**238**	P	**Pn**	**17 57 17.9**	**+1.5**
GRZ	**Great Barrier**	**3.11**	**288**	P	**Pn**	**17 57 16.7**	**+0.1**
MKAZ	**Moumakai**	**3.16**	**272**	P	**Pn**	**17 57 17.1**	**-0.2**
KRHZ	**Kereru**	**3.21**	**221**	P	**Pn**	**17 57 18.3**	**+0.2**
TMVZ	**Te Maari**	**3.27**	**234**	P	**Pn**	**17 57 19.7**	**+0.8**
BHHZ	**Black Hill Sta**	**3.27**	**226**	P	**Pn**	**17 57 19.6**	**+0.7**
ETVZ	**East Tongariro**	**3.27**	**234**	P	**Pn**	**17 57 19.8**	**+0.8**
NTVZ	**North Tongarir**	**3.27**	**235**	P	**Pn**	**17 57 19.9**	**+0.9**
PXZ	**Pawanui**	**3.28**	**212**	P	**Pn**	**17 57 18.5**	**-0.5**
KRVZ	**Karewarewa**	**3.29**	**235**	P	**Pn**	**17 57 20.4**	**+1.1**
OTVZ	**Oturere**	**3.32**	**234**	P	**Pn**	**17 57 20.6**	**+1.0**
NNVZ	**North Ngauruho**	**3.33**	**235**	P	**Pn**	**17 57 20.9**	**+1.1**
WTVZ	**West Tongariro**	**3.34**	**235**	P	**Pn**	**17 57 21.0**	**+1.1**
ETAZ	**East Tamaki Re**	**3.36**	**274**	P	**Pn**	**17 57 21.9**	**+1.7**
NGZ	**Ngauruhoe**	**3.37**	**234**	P	**Pn**	**17 57 21.3**	**+1.0**
TUVZ	**Tukino**	**3.38**	**233**	P	**Pn**	**17 57 21.4**	**+0.9**
MOVZ	**Moawhango**	**3.40**	**230**	P	**Pn**	**17 57 21.5**	**+0.7**
TWVZ	**Taurewa**	**3.42**	**237**	P	**Pn**	**17 57 22.4**	**+1.4**
WNVZ	**Wahianoa**	**3.45**	**232**	P	**Pn**	**17 57 22.1**	**+0.6**
WPHZ	**Waipukurau**	**3.50**	**216**	P	**Pn**	**17 57 21.9**	**-0.1**
PNHZ	**Pukenui**	**3.50**	**220**	P	**Pn**	**17 57 21.7**	**-0.3**
PRHZ	**Porangahau**	**3.57**	**212**	P	**Pn**	**17 57 22.2**	**-0.8**
HIZ	**Hauiti**	**3.60**	**248**	P	**Pn**	**17 57 25.4**	**+2.0**
HIZ	**Hauiti**	**3.60**	**248**	P	**Pn**	**17 57 25.8**	**+2.5**
TSZ	**Takapari Road**	**3.73**	**221**	P	**Pn**	**17 57 24.4**	**-0.8**
BFZ	**Birch Farm**	**4.08**	**212**	P	**Pn**	**17 57 29.1**	**-0.9**
WAZ	**Wanganui**	**4.09**	**231**	P	**Pn**	**17 57 31.5**	**+1.4**
OUZ	**Omahuta**	**4.91**	**293**	P	**Pn**	**17 57 42.9**	**+1.6**
QRZ	**Quartz Range**	**6.24**	**233**	P	**Pn**	**17 57 59.3**	**-0.4**
KHZ	**Kahutara**	**6.70**	**218**	P	**Pn**	**17 58 04.4**	**-1.6**
RPZ	**Rata Peaks**	**8.90**	**221**	P	**Pn**	**17 58 33.6**	**-2.6**
ODZ	**Otahua Downs**	**10.06**	**217**	P	**Pn**	**17 58 50.1**	**-1.9**

WEL 13 17:57:46.6±1.0,35°S±15'×17°8E±2'.7, h242km±18km, M3.7/6,mB4.4/1,ML3.9/6,MLv3.7/6,Mw(mB)3.6/1, Error ellipse: s-maj=0.0km s-min=0.0km az=117.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.12**	**177**	P	Pn	17 58 27.8	-1.8
MXZ				S	S	17 59 02.2	-1.3
HAZ	**Te Kaha**	**2.33**	**187**	P	Pn	17 58 32.0	+0.5
HAZ				S	S	17 59 07.4	+0.3
WMGZ	**Waiomatatini S**	**2.39**	**175**	P	Pn	17 58 31.0	-1.1
WMGZ				S	S	17 59 07.8	-0.2
PKGZ	**Pakihiroa**	**2.45**	**182**	P	Pn	17 58 33.0	+0.2
TWGZ	**Tauwhareparae**	**2.74**	**183**	P	Pn	17 58 36.8	+0.9
TWGZ				S	S	17 59 16.2	+1.5
MWZ	**Matawai**	**2.94**	**190**	P	Pn	17 58 37.8	-0.1
MWZ				S	S	17 59 19.7	+1.2
URZ	**Urewera**	**2.94**	**196**	P	Pn	17 58 38.6	+0.7
TKGZ	**Te Karaka**	**3.01**	**185**	P	Pn	17 58 38.6	0.0
TKGZ				S	S	17 59 19.5	-0.3
CNGZ	**Carnagh Statio**	**3.04**	**179**	P	Pn	17 58 38.9	-0.2
CNGZ				S	S	17 59 22.9	+2.4
NMHZ	**Naumai**	**3.81**	**196**	P	Pn	17 58 49.2	+1.3
ARHZ	**Aropaoanui**	**3.93**	**193**	P	Pn	17 58 50.0	+0.8
ARHZ				S	S	17 59 40.8	+2.0
CKHZ	**Cape Kidnapper**	**4.30**	**191**	P	Pn	17 58 54.1	+0.5
CKHZ				S	S	17 59 47.9	+1.2
KRHZ	**Kereru**	**4.43**	**198**	P	Pn	17 58 55.5	+0.3
KRHZ				S	S	17 59 50.0	+0.3
KAHZ	**Kahuranaki**	**4.47**	**193**	P	Pn	17 58 56.6	+1.0
PXZ	**Pawanui**	**4.70**	**192**	P	Pn	17 58 58.3	0.0
PXZ				S	S	17 59 55.3	-0.2
PNHZ	**Pukenui**	**4.73**	**199**	P	Pn	17 58 59.2	+0.4
PNHZ				S	S	17 59 56.8	+0.5
PRHZ	**Porangahau**	**4.97**	**194**	P	Pn	17 59 01.0	-0.7
PRHZ				S	S	18 00 01.7	+0.2
MRZ	**Mangatainoka R**	**5.60**	**201**	P	Pn	17 59 08.8	-0.7
MRZ				S	S	18 00 13.8	-1.8
TIWZ	**Tintock**	**5.62**	**198**	P	Pn	17 59 08.6	-1.2
TIWZ				S	S	18 00 16.1	-0.2

*IPEC **13** 18:05:29.4±0.2,51°.58N×16°.27E, h1km, ML2.1/3, Error ellipse: s-maj=1.7km s-min=1.1km az=32.0*

*VIE **13** 18:05:32.0±0.5,51°.44N×16°.18E, h0km, mb2.1/3, ml2.5/3, Error ellipse: s-maj=5.9km s-min=3.2km az=64.0 69 km NW of Wroclaw Suspected Mining induced.*

ISC 13 18:05:28.8±1.3,51°.62N±0°.06×16°.25E±0°.03, h0km, n23, σ0s92/43, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**178**	*e*Pg	**Pg**	**18 05 43.7**	**+0.1**
KSP				*e*Sg	**Sg**	**18 05 53.0**	**-0.7**
OSTC	**Ostas**	**1.06**	**181**	*e*PG	**Pg**	**18 05 49.4**	**+0.3

comp=Z,27nm,0.4s
GOPC GO Pecny, Ondr 1.84 210 *e*SG **Sb 18 11 08.1 +0.6**
comp=Z,7.1nm,0.2s
PRU Pruhonice 1.86 216 *e*PG **Pb 18 10 44.3 0.0**
PRU *e*SG **Sg 18 11 09.2 +0.1**
comp=Z,22nm,0.3s
MORC Moravsky Berou 1.93 154 *e*Pn **Pn 18 10 43.7 +0.1**
baz=336
MORC *e*Sg **Sg 18 11 11.3 -0.1**
comp=Z,9.2nm,0.2s,baz=336
CLL Collm 2.02 266 *e*Pn **Pn 18 10 44.0 -0.8**
CLL *e*Pg **Pb 18 10 47.0 -0.1**
CLL *i* x x 18 10 50.0
CLL *i* x x 18 10 51.0
CLL *e*x x 18 10 56.0
CLL *e*Sg **Sb 18 11 13.0 +0.2**
comp=Z,9.0nm,0.4s
OKC Ostrava-Krasne 2.08 143 *e*SG **Sg 18 11 16.2 +0.1**
VRAC Vranov 2.22 174 *e*Pn **Pn 18 10 48.1 +0.6**
baz=355
VRAC *e*Sg **Sg 18 11 20.7 +0.1**
comp=Z,9.1nm,0.2s,baz=355
KRUC Moravsky 2.45 177 *e*Pn **Pn 18 10 51.4 +0.7**
baz=358
KRUC *e*Sg **Sg 18 11 27.9 -0.3**
comp=Z,4.7nm,0.3s,baz=358
OJC Ojcow 2.61 118 *e*Pg **Pg 18 10 58.6 -0.8**
OJC *e*Sg **Sg 18 11 33.6 +0.3**
NKC Novy Kostel 2.71 243 *e*PG **Pg 18 11 00.5 -0.9**
NKC *e*SG **Sg 18 11 37.1 +0.7**
comp=Z,26nm,0.3s
KHC Kasperske Hory 2.92 216 *e*PN **Pn 18 10 59.3 +2.1**
KHC *e*PG **Pb 18 11 03.5 +1.1**
KHC *e*SN **Sn 18 11 32.6 -0.4**
KHC *e*SG **Sg 18 11 42.6 -0.7**
comp=Z,6.4nm,0.4s
CKRC Cesky Krumlov 2.96 205 *e*SG **Sg 18 11 42.6 -1.9**
comp=Z,7.3nm,0.3s
LANS Liptovska Anna 3.15 137 *e*PG **Pg 18 11 10.6 +0.8**
LANS *e*SG **Sg 18 11 50.3 -0.2**
MODS Modra-Piesok 3.21 167 *e*SG **Sg 18 11 51.1 -1.5**
CONA Conrad Observa 3.59 184 *i* Pn **Pn 18 11 07.0 +0.5**
comp=Z,0.2nm,0.1s
MOA Molin 3.88 200 *e*Pn **Pn 18 11 10.8 +0.5**
comp=Z,0.3nm,0.1s

UPA **13** *18:38:12.5±1.4, 9.°35N×83.°71W, h14km±4km, MW3.4*
INET **13** *18:38:13.6±0.5, 9.°51N×83.°64W, h16km±2km, ML3.2*
UCR **13** *18:38:13.0±1.6, 9.°43N×83.°65W, h19km±2km, MW3.6*
ISC 13 18:38:12.8±0.9, **9.°42N**±0.°03×**83.°66W**±0.°03, **h27**km±5km, **n46, σ0⁰70/76, 10C-1D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEZE	**Perez Zeledon,**	**0.04**	**209**	*i* P	**Pb**	**18 38 17.2**	**-0.4**
PEZE				*e*S	**Sb**	**18 38 20.6**	**-0.1**
PEZE	**Perez Zeledon,**	**0.04**	**209**	*e*P	**Pb**	**18 38 17.2**	**-0.4**
PEZE				*e*S	**Sb**	**18 38 20.6**	**-0.1**
CDM	**Cerro de Muert**	**0.17**	**321** ⇑	*i*P	**Pb**	**18 38 18.6**	**-0.3**
CDM				*e*S	**Sb**	**18 38 23.1**	**+0.2**
CDM	**Cerro de Muert**	**0.17**	**321**	*e*P	**Pb**	**18 38 18.6**	**-0.3**
CDM				*e*S	**Sb**	**18 38 23.0**	**0.0**
CDM				IAML		18 38 23.2	
comp=E,20μm,0.3s							
EDDO	**Dominical**	**0.27**	**231** ⇑	*i*P	**Pb**	**18 38 19.1**	**-0.4**
EDDO				*e*S	**Sb**	**18 38 24.0**	**-0.1**
SRBA	**San Rafael, Bu**	**0.35**	**123**	*i* P	**Pb**	**18 38 20.1**	**-0.7**
SRBA				*e*S	**Sb**	**18 38 25.6**	**-0.7**
RIMA	**Rio Macho**	**0.40**	**329** ⇑	*i*P	**Pb**	**18 38 21.2**	**-0.5**
RIMA				*e*S	**Sb**	**18 38 27.8**	**+0.1**
RIMA	**Rio Macho**	**0.40**	**329**	*e*P	**Pb**	**18 38 21.2**	**-0.5**
RIMA				*e*S	**Sb**	**18 38 27.5**	**-0.2**
RIMA				IAML		18 38 28.6	
comp=N,2μm,0.1s							
DRK0	**Durika**	**0.43**	**111**	*e*P	**Pb**	**18 38 22.5**	**+0.3**
DRK0				*e*S	**Sb**	**18 38 29.1**	**+0.5**
DRK0	**Durika**	**0.43**	**111**	*e*P	**Pb**	**18 38 22.5**	**+0.3**
DRK0				*i* S	**Sb**	**18 38 29.2**	**+0.6**
DRK0	**Durika**	**0.43**	**111**	*e*P	**Pb**	**18 38 22.5**	**+0.3**
MRVA	**Moravia de Chi**	**0.45**	**28**	*i* P	**Pb**	**18 38 22.4**	**0.0**
MRVA				*e*S	**Sn**	**18 38 29.7**	**-1.3**
EDBA	**Buenos Aires**	**0.46**	**124** ⇓	*e*P	**Pb**	**18 38 21.3**	**-1.1**
EDBA				*e*S	**Sb**	**18 38 28.0**	**-1.0**
LCR2	**La Lucha 2**	**0.47**	**313** ⇑	*i*P	**Pb**	**18 38 22.1**	**-0.6**
LCR2				*e*S	**Sb**	**18 38 29.2**	**-0.3**
EDPN	**Palmar Norte**	**0.50**	**157**	*e*P	**Pb**	**18 38 22.8**	**-0.3**
RAFA	**San Farael, Vo**	**0.56**	**344** ⇑	*i*P	**Pb**	**18 38 24.2**	**0.0**
RAFA				*e*S	**Sn**	**18 38 32.7**	**-1.1**
OCM	**Ochomogo**	**0.56**	**327** ⇑	*e*P	**Pb**	**18 38 23.7**	**-0.5**
OCM				*e*S	**Sb**	**18 38 31.9**	**-0.1**
POTG	**Potrero Grande**	**0.64**	**125**	*e*P	**Pb**	**18 38 24.7**	**-0.8**
POTG				*e*S	**Sb**	**18 38 34.1**	**-0.1**
BATAN	**Batan**	**0.73**	**22**	*e*P	**Pn**	**18 38 27.2**	**-0.1**
BATAN				*e*S	**Sn**	**18 38 38.6**	**+1.0**
HDC3	**Heredia 3**	**0.73**	**322** ⇑	*i*P	**Pb**	**18 38 26.9**	**-0.1**
HDC3				*e*S	**Sn**	**18 38 37.5**	**-0.3**
HDC3	**Heredia 3**	**0.73**	**322**	*e*P	**Pb**	**18 38 26.9**	**-0.1**
HDC3				IAML		18 38 38.2	
comp=E,739nm,0.1s							
HDC	**Heredia**	**0.73**	**322** ⇑	*e*P	**Pb**	**18 38 26.9**	**-0.2**
HDC				*e*S	**Sn**	**18 38 37.3**	**-0.6**
HDC	**Heredia**	**0.73**	**322** ⇑	*i*P	**Pb**	**18 38 27.0**	**-0.1**
HDC				*i* S	**Sn**	**18 38 37.6**	**-0.3**
EDSV	**San Vito**	**0.90**	**131**	*e*P	**Pn**	**18 38 29.5**	**-0.3**
CRPO	**Crater poas**	**0.95**	**324**	*e*P	**Pn**	**18 38 30.4**	**-0.3**
BRU2	**Volcan**	**1.14**	**123** ⇑	*e*P	**Pn**	**18 38 32.6**	**-0.6**
BRU2				*e*S	**Sn**	**18 38 48.2**	**+0.2**
BRU2	**Volcan**	**1.14**	**123**	*e*P	**Pn**	**18 38 32.7**	**-0.4**
BRU2				*i* S	**Sb**	**18 38 48.4**	**0.0**
CNI2	**El Empalme, Bo**	**1.17**	**90**	*e*P	**Pb**	**18 38 33.7**	**-0.7**
CNI2				*e*S	**Sb**	**18 38 49.2**	**+0.1**
BC3P	**Paso Ancho**	**1.20**	**120**	*e*P	**Pn**	**18 38 33.7**	**-0.2**
BC3P				*e*S	**Sb**	**18 38 50.2**	**+0.2**
LAFE	**Finca La Fe, P**	**1.29**	**287**	*e*P	**Pn**	**18 38 36.0**	**+0.9**
BCO2	**Palmira**	**1.31**	**122**	*e*P	**Pn**	**18 38 35.8**	**+0.2**
BCO2				*e*S	**Sb**	**18 38 53.8**	**+0.3**
LNBQ3	**Los Naranjos,**	**1.35**	**117**	*e*P	**Pn**	**18 38 35.5**	**+0.4**
LNBQ3				*e*S	**Sn**	**18 38 53.5**	**+0.3**
PTAR3	**Potrerillos Ar**	**1.35**	**122**	*e*P	**Pn**	**18 38 36.8**	**+0.7**
PTAR3				*e*S	**Sb**	**18 38 55.0**	**+0.4**
FORC	**Fortuna**	**1.44**	**316**	*e*P	**Pb**	**18 38 38.7**	**-0.4**
FORC				*e*S	**Sb**	**18 38 57.4**	**+0.4**
CASO	**Castillo**	**1.46**	**314**	*e*P	**Pb**	**18 38 38.8**	**-0.6**
CEDE	**Laguna Cedeo**	**1.48**	**316**	*e*P	**Pb**	**18 38 38.9**	**-0.8**
DVD	**David**	**1.54**	**129**	*e*S	**Sn**	**18 38 58.6**	**+0.9**
JTS	**Las Juntas de**	**1.54**	**304**	*e*P	**Pb**	**18 38 40.0**	**-0.8**
JTS	**Las Juntas de**	**1.54**	**304**	*e*P	**Pn**	**18 38 39.5**	**+0.9**
JTS				*e*S	**Sn**	**18 38 58.9**	**+1.1**
CHGR2	**Aguacate**	**1.57**	**108**	*e*P	**Pn**	**18 38 39.5**	**+0.6**
CHGR2				*e*S	**Sb**	**18 39 00.4**	**-0.2**
GUAL3	**Gualaca, Chiri**	**1.61**	**123**	*e*P	**Pn**	**18 38 40.0**	**+0.6**
CUI	**Cuipilapa**	**1.93**	**310**	*e*P	**Pn**	**18 38 45.7**	**+1.8**
COLC	**Colonia**	**1.96**	**309**	*e*P	**Pb**	**18 38 46.4**	**-1.6**
ORTG	**Ortega, Santa**	**2.01**	**298**	*e*P	**Pn**	**18 38 46.2**	**+1.1**
LAPC	**Finca la Perla**	**2.20**	**308**	*e*P	**Pn**	**18 38 49.6**	**+2.0**
HZTE	**Horizontes, Gu**	**2.30**	**304**	*e*P	**Pb**	**18 38 51.5**	**-2.1**

GUC 13 18:38:18.0±0.8, **21.°91S**×**70.°23W, h64**km±5km, **ML3.5, 5C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.37**	**60**	*e*	Pn	18 38 32.7	+3.4
PB07				*e*S	Sn	18 38 37.3	-0.3
PB07				IAML		18 38 37.8	
comp=N,6μm,0.1s							
PB04	**IPOC Station P**	**0.43**	**170**	*i* P	Pn	18 38 29.4	-0.5
PB04				*e*S	Sn	18 38 38.0	-0.5
PB04				IAML		18 38 38.6	
comp=N,13μm,0.1s							
PB02	**IPOC Station P**	**0.67**	**28** ⇑	*i*P	Pn	18 38 32.1	-0.2
PB02				*e*S	Sn	18 38 42.6	-0.2
PB02				IAML		18 38 43.6	
comp=E,7μm,0.1s							
PB09	**IPOC Station P**	**0.93**	**83**	*i* P	Pn	18 38 35.4	-0.1
PB09				*e*S	Sn	18 38 48.3	-0.1
PB09				IAML		18 38 50.9	
comp=N,2μm,0.2s							
PB06	**IPOC Station P**	**1.00**	**142** ⇓	*i*P	Pn	18 38 35.0	-1.4
PB06				*e*P		18 38 35.1	
PB06				*e*S	Sn	18 38 48.0	-2.0
PB06				IAML		18 38 48.8	
comp=E,1μm,0.1s							
PB01	**IPOC Station P**	**1.11**	**39** ⇑	*i*P	Pn	18 38 37.5	-0.2
PB01				*e*S	Sn	18 38 52.3	-0.1
PB01				IAML		18 38 53.3	
comp=E,5μm,0.4s							
TA01	**Diego Aracena**	**1.34**	**2** ⇑	*i*P	Pn	18 38 39.6	-1.1
TA01				*e*S	Sn	18 38 56.6	-1.1
TA01				IAML		18 38 57.8	
comp=N,969nm,0.4s							
PB15	**IPOC Station P**	**1.47**	**152** ⇑	*i*P	Pn	18 38 41.2	-1.4
PB15				*e*S	Sn	18 38 58.5	-2.5
PB10	**IPOC Station P**	**1.62**	**191**	*e*P	Pn	18 38 42.5	-1.9
PB10				*e*S	Sn	18 39 02.5	-1.9
PB10				IAML		18 39 03.5	
comp=E,256nm,0.2s							
TA02	**Huaiquique**	**1.64**	**3**	*e*P	Pn	18 38 44.0	-0.7
TA02				*e*S	Sn	18 39 03.6	-1.2
GO01	**Chusmiza**	**2.44**	**24**	*e*P	Pn	18 38 55.9	0.0
GO01				*e*S	Sn	18 39 23.7	-1.2
GO01				IAML		18 39 30.0	
comp=N,490nm,0.1s							
PB14	**IPOC Station P**	**2.71**	**183**	*e*P	Pn	18 38 56.7	-2.7
PB14				*e*S	Sn	18 39 27.5	-3.7
PB14				IAML		18 39 28.4	
comp=E,48nm,0.3s							
PB12	**IPOC Station P**	**3.28**	**358**	*e*P	Pn	18 39 05.8	-1.4
PB12				*e*S	Sn	18 39 42.0	-3.0
PB12				IAML		18 39 46.1	
comp=N,124nm,0.4s							
GO02	**Mina Guanaco**	**3.29**	**170** ⇑	*i*P	Pn	18 39 05.8	-1.6
AC02	**Maricunga**	**5.00**	**169**	*e*P	Pn	18 39 29.9	-1.1

KMA **13** *18:55:18.0±0.0, 35.°77N×129.°16E, h10km, Error ellipse: s-maj=0.5km s-min=0.3km az=294.0*
JMA **13** *18:55:17.4±0.6, 36.°N±2.°×12.°9E±.°, h0km, MV2.9/7, S KOREAN PENINSULA REG*
ISC 13 18:55:17.6±0.9, **35.°77N**±0.°03×**129.°19E**±0.°04, **h10**km, **n43, σ0⁰56/46, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.24**	**270**	P	**Pg**	**18 55 23.5**	**+1.0**
	SNR=1137						
YOCB	**Yeongcheon**	**0.28**	**317**	P	**Pg**	**18 55 24.3**	**+1.0**
	SNR=176						
KSPHA	**Pohang**	**0.45**	**19**	P	**Pg**	**18 55 27.1**	**+0.7**
	SNR=183						
MIYA	**Miryang-si**	**0.45**	**233**	P	**Pg**	**18 55 27.1**	**+0.6**
	SNR=38						
KSDAU	**Deagu-acc**	**0.48**	**284**	P	**Pg**	**18 55 27.6**	**+0.7**
	SNR=222						
KSBUS	**Busan**	**0.52**	**187**	P	**Pg**	**18 55 28.0**	**+0.2**
	SNR=279						
KSCHR	**CHANGNYEONG**	**0.61**	**249**	P	**Pg**	**18 55 29.6**	**+0.2**
	SNR=160						
KSADO	**Andong**	**0.67**	**343**	P	**Pg**	**18 55 30.8**	**+0.2**
	SNR=218						
EUSB	**Uiseong**	**0.71**	**326**	P	**Pg**	**18 55 31.5**	**+0.1**
	SNR=182						
YODB	**Yeongdeok**	**0.78**	**13**	P	**Pg**	**18 55 33.0**	**+0.2**
	SNR=50						
EURB	**Uiryeong-eup**	**0.86**	**239**	P	**Pg**	**18 55 34.0**	**-0.1**
	SNR=17						
YEYB	**Yeongyang**	**0.86**	**355**	P	**Pg**	**18 55 34.3**	**+0.1**
	SNR=46						
KSGUM	**GUMI**	**0.86**	**303**	P	**Pg**	**18 55 34.5**	**+0.2**
	SNR=20						
ADOA	**Andong Acc Bor**	**0.89**	**334**	P	**Pg**	**18 55 34.8**	**-0.1**
	SNR=29						
KSGIC	**Gimchen**	**0.93**	**290**	P	**Pg**	**18 55 35.5**	**-0.1**
	SNR=143						
KSULJ	**Uljin**	**0.95**	**11**	P	**Pg**	**18 55 35.7**	**-0.2**
	SNR=381						
HACA	**Hapcheon Acc B**	**0.95**	**249**	P	**Pg**	**18 55 36.0**	**0.0**
	SNR=44						
KUJA	**Jangpyeong**	**1.00**	**209**	P	**Pb**	**18 55 37.0**	**0.0**
	SNR=8.5						
KSSAJ	**Sangju**	**1.05**	**308**	P	**Pg**	**18 55 37.6**	**-0.2**
	SNR=38						
DUSB	**Deogyusan**	**1.16**	**277**	P	**Pb**	**18 55 39.3**	**-0.4**
	SNR=108						
CHYB	**Chungyang**	**1.19**	**349**	P	**Pn**	**18 55 40.0**	**-0.4**
	SNR=156						
HAMB	**Hamyang**	**1.20**	**258**	P	**Pb**	**18 55 40.0**	**-0.5**
	SNR=30						
YOJB	**Youngju**	**1.23**	**334**	P	**Pn**	**18 55 40.2**	**-0.7**
	SNR=89						
JTU	**Tsushima**	**1.25**	**172**	P	**Pn**	**18 55 40.2**	**-1.0**
JTU				*e*S	**Sb**	**18 55 56.6**	**-0.9**
OKCB	**Cheongsan-myeo**	**1.27**	**297**	P	**Pn**	**18 55 41.0**	**-0.3**
	SNR=74						
KSMGY	**Mungyeong**	**1.27**	**314**	P	**Pn**	**18 55 41.2**	**-0.3**
	SNR=59						
KSBON	**Boeun**	**1.34**	**303**	P	**Pn**	**18 55 42.4**	**0.0**
	SNR=71						
KSTBA	**Taebaek**	**1.36**	**352**	P	**Pn**	**18 55 43.0**	**+0.2**
	SNR=131						
YKDB	**Yokjido**	**1.37**	**213**	P	**Pn**	**18 55 42.4**	**-0.3**
	SNR=37						
JTSM	**Tsushimamitsus**	**1.44**	**173**	P	**Pn**	**18 55 43.6**	**-0.1**
JTSM				*e*S	**Sn**	**18 56 02.3**	**-0.3**
IMWB	**Imwonan-gil**	**1.47**	**5**	P	**Pn**	**18 55 45.0**	**+0.8**
	SNR=77						
GWYB	**Gwangyang**	**1.47**	**237**	P	**Pn**	**18 55 44.4**	**+0.2**
	SNR=8.4						
KSCHJ	**Chungju**	**1.48**	**319**	P	**Pn**	**18 55 45.0**	**+0.7**
	SNR=23						
NAWB	**Namwon**	**1.50**	**257**	P	**Pn**	**18 55 45.1**	**+0.5**
	SNR=85						
KSJEO	**Jeonju**	**1.55**	**277**	P	**Pn**	**18 55 45.1**	**-0.2**
	SNR=106						
KSTEJ	**Daejeon**	**1.59**	**293**	P	**Pn**	**18 55 46.8**	**+1.0**
	SNR=8.1						
JECH	**Jecheon**	**1.60**	**330**	P	**Pn**	**18 55 47.0**	**+1.0**
	SNR=8.4						
SUCA	**Sunchang**	**1.72**	**257**	P	**Pb**	**18 55 49.0**	**-0.3**
	SNR=18						
KSWJU	**Wonju**	**1.87**	**331**	P	**Pn**	**18 55 49.4**	**-0.3**
	SNR=27						
JHGM	**Hagimishima**	**1.88**	**121**	*e*S	**Sb**	**18 56 15.5**	**0.0**
KSKWJ	**Gwangju**	**1.89**	**252**	P	**Pn**	**18 55 50.1**	**+0.1**
	SNR=74						
BOSB	**Boseong-gun**	**1.90**	**239**	P	**Pn**	**18 55 51.0**	**+0.9**
	SNR=27						
JII	**Iki**	**2.02**	**167**	*e*P	**Pn**	**18 55 53.2**	**+1.5**
JII				*e*S	**Sb**	**18 56 19.7**	**+0.2**

IDC 13 19:01:25.3±8.8, **30.°80S**×**179.°71W, h425**km±104km, **mb2.8/2, mbtmp3.7/3, Error ellipse: s-maj=96.9km s-min=39.8km az=10.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.89**	**199**	P	P	19 03 19.3	+0.1
	1.7nm,0.3s,baz=209,slow=2.8,SNR=7.9						
URZ				S	S	19 04 52.6	+0.2
	23nm,0.6s,baz=31,slow=22,SNR=16						
ASAR	**Alice Springs**	**41.62**	**268**	P	P	19 08 34.7	0.0
	0.2nm,0.4s,baz=106,slow=7.6,SNR=2.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.65**	**274**	P	P	19 08 42.6	-0.2
	1.3nm,0.7s,baz=112,slow=7.4,SNR=16						
	1.3nm,0.7s						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPdf	19 20 11.8	-0.5
	1.5nm,0.5s,baz=62,slow=3.9,SNR=22						

JMA **13** *19:14:45.9±0.5, 44.°N±3.°×14.°7E±.°, h56km, MV2.2/9, E OFF HOKKAIDO*
SKHL **13** *19:14:48.4±0.4, 44.°20N×144.°60E, h38km±6km, mb3.2/2*
ISC 13 19:14:47.7±5.2, **43.°7N**±0.°2×**147.°2E**±0.°3, **h50**km, **n5, σ0⁰67/7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.03**	**287**	*e*P	**Pn**	**19 15 05.7**	**-0.2**
YUK				AMB	AMB	19 15 06.7	
60nm,0.8s							
YUK				*e*S	**Sn**	**19 15 19.0**	**-0.3**
YUK				A	A	19 15 21.1	
80nm,0.6s							
YUK				A	A	19 15 21.1	
80nm,0.6s							
NEM2	**Nemuro 2**	**1.14**	**252**	*e*P	**Pn**	**19 15 07.2**	**-0.1**
NEM2				*e*S	**Sn**	**19 15 22.7**	**+0.8**
NMR	**Nemuro--Hokkai**	**1.15**	**252**	*e*P	**Pn**	**19 15 07.3**	**-0.1**
NMR				*e*S	**Sn**	**19 15 21.3**	**-0.8**
NMR				A	A	19 15 23.1	
10.0nm,0.4s							
NMR				A	A	19 15 23.1	
20nm,0.4s							
KUR	**Kuril'sk**	**1.57**	**17**	*e*P	Pn	19 15 27.1	+14
KUR				*e*S	Sn	19 15 57.9	+26
KUR				A	A	19 15 59.4	
20nm,0.5s							
KUR				A	A	19 15 59.4	
20nm,0.5s							
JNSB	**Nemuroshibetsu**	**1.61**	**272**	*e*P	**Pn**	**19 15 14.4**	**+0.6**

IDC **13** *19:15:43.8±2.1, 55.°22N×167.°40E, h0km, mb3.2/3, mbtmp3.2/4, ML2.3/1, Error ellipse: s-maj=85.8km s-min=24.4km az=165.0*
KRSC **13** *19:15:43.1±2.0, 54.°82N×167.°35E, h30km±22km, ML3.9*
ISC 13 19:15:44.5±1.2, **55.°0N**±0.°1×**167.°39E**±0.°07, **h10**km, **n17, σ1⁰47/17, mb3.2/3, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.84**	**284**	*e*P	**Pg**	**19 15 59.2**	**-1.4**
BKI				*e*S	**Sg**	**19 16 13.2**	**+1.7**
KBTR	**Krutoberegovo**	**2.85**	**297**	*e*P	**Pn**	**19 16 30.6**	**+0.6**
MKZ	**Mys Kozlova**	**3.31**	**264**	*e*P	**Pn**	**19 16 36.0**	**-0.3**
MKZ				*e*S	**Sn**	**19 17 12.2**	**-3.4**
TUMR	**Tumrok**	**4.17**	**277**	*e*P	**Pn**	**19 16 49.5**	**+1.4**
SMAR	**Somma**	**5.35**	**254**	*e*P	**Pn**	**19 17 04.9**	**+0.4**
UGLR	**Uglovaya**	**5.36**	**254**	*e*P	**Pn**	**19 17 04.6**	**+0.1**
AVH	**Avacha**	**5.38**	**255**	*e*P	**Pn**	**19 17 04.6**	**-0.2**
KRK	**Arik**	**5.39**	**256**	*e*P	**Pn**	**19 17 05.5**	**+0.4**
KOK	**Koryaka**	**5.43**	**255**	*e*P	**Pn**	**19 17 05.5**	**0.0**
KRMR	**Karymshinskiy**	**5.89**	**252**	*e*S	**Sn**	**19 18 18.6**	**-0.7**
PETK	**Petropavlovsk-**	**6.02**	**255**	Pn	**Pn**	**19 17 15.8**	**+2.3**
	0.4nm,0.3s,baz=67,slow=16,SNR=6.9						
PETK				Sn	**Sn**	**19 18 24.7**	**+2.3**
	0.1nm,0.3s,baz=111,slow=23,SNR=1.6						
	0.9nm,0.4s						
ILAR	**Eielson Array**	**24.36**	**48**	P	**P**	**19 21 02.1**	**-0.2**
	0.4nm,0.8s,baz=267,slow=7.9,SNR=2.8						
	0.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.23**	**181**	T	T	19 59 38.7	
	baz=0.7,slow=76,SNR=66						
H11N3	**WAKE ISLAND Hy**	**35.24**	**181**	T	T	19 59 35.7	
	baz=0.7,slow=76,SNR=64						
H11N1	**WAKE ISLAND Hy**	**35.24**	**181**	T	T	19 59 39.6	
	baz=0.7,slow=76,SNR=53						
MKAR	**Makanchi Array**	**51.11**	**298**	P	**P**	**19 24 46.9**	**-0.1**
	0.3nm,0.6s,baz=56,slow=6.7,SNR=1.9						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**65.94**	**73**	P	**P**	**19 26 30.9**	**+0.2**
	0.1nm,0.6s,baz=311,slow=3.5,SNR=2.2						
	0.1nm,0.6s						

JMA **13** *19:22:17.5±0.1, 29.°0N±0.°4×13.°0E±.°, h48km, MV3.4/22, NEAR AMAMI-OSHIMA ISLAND*
IDC **13** *19:22:19.3±4.1, 28.°98N×130.°00E, h50km±36km, mb3.2/4, mbtmp3.4/6, ML3.1/2, MS2.7/2, Error ellipse: s-maj=46.4km s-min=16.8km az=93.0*
ISC 13 19:22:17.4±1.6, **28.°95N**±0.°04×**130.°22E**±0.°08, **h36**km±2km, **n22, σ0⁰98/27, mb3.4/4, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.67**	**199**	*e*P	**Pn**	**19 22 31.6**	**+1.1**
JAM	**Amami Oshima**	**0.76**	**225**	P	**Pn**	**19 22 31.2**	**-0.4**
JAM				S	**Sn**	**19 22 41.3**	**-0.6**
JTAJ	**Takarajima**	**0.92**	**283**	P	**Pn**	**19 22 32.6**	**-1.1**
JNN	**Nakanoshima**	**0.94**	**341**	P	**Pn**	**19 22 33.2**	**-0.9**
JNN				S	**Sn**	**19 22 45.8**	**-0.5**
JAMN	**Amaminishikomi**	**1.16**	**233**	P	**Pn**	**19 22 37.4**	**+0.4**
JYAK	**Yakushimahirau**	**1.31**	**11**	*e*P	**Pn**	**19 22 39.1**	**0.0**
JKC	**Kuchinoerabu**	**1.51**	**359**	P	**Pn**	**19 22 41.6**	**-0.2**
JKC				*e*S	**Sn**	**19 23 00.6**	**+0.4**
JMTN	**Minamitane**	**1.56**	**22**	P	**Pn**	**19 22 42.7**	**+0.1**
JTK	**Tokunoshima**	**1.61**	**224**	*e*P	**Pn**	**19 22 44.1**	**+0.8**
JYRO	**Yoronjima**	**2.48**	**220**	*e*P	**Pn**	**19 22 56.1**	**+1.0**
JYRO				*e*S	**Sn**	**19 23 24.5**	**+0.4**
JOW	**Kunigami**	**2.72**	**220**	P	**Pn**	**19 22 58.7**	**+0.1**
	8.1nm,0.3s,baz=126,slow=26,SNR=26						
JOW				S	**Sn**	**19 23 30.6**	**+0.4**
	35nm,0.3s,baz=142,slow=27,SNR=6.3						
	27nm,0.4s						
JOW	**Kunigami**	**2.72**	**220**	*e*P	**Pn**	**19 22 59.3**	**+0.7**
JOW				*e*S	**Sn**	**19 23 30.6**	**+0.4**
JIH	**Iheya**	**2.76**	**227**	*e*P	**Pn**	**19 23 00.0**	**+1.0**
JNTH	**Nagotoyohara**	**3.11**	**219**	*e*P	**Pn**	**19 23 04.6**	**+0.8**
JKDJ	**Kitadaitoujima**	**3.14**	**162**	*e*S	**Sn**	**19 23 38.2**	**-2.3**
JKE	**Kume jima 2**	**4.01**	**230**	*e*P	**Pn**	**19 23 16.9**	**+0.6**
KSRS	**Korea Array**	**8.70**	**348**	P	**Pn**	**19 24 21.5**	**+0.9**
	0.1nm,0.3s,baz=161,slow=13,SNR=2.2						
KSRS				LR	LR	19 28 02.4	
	comp=Z,54nm,19.1s,baz=200,slow=40						
	0.3nm,0.6s						
SONM	**Songino Array**	**26.36**	**322**	P	**P**	**19 27 50.9**	**+0.8**
	0.6nm,0.7s,baz=140,slow=9.2,SNR=4.9						
	0.6nm,0.7s						
SIJI	**Sorong**	**29.67**	**178**	LR

	0.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**28.27**	**242**	P		**P**		**19 48 09.3**	**-1.9**
	1.8nm,0.7s,baz=60,slow=13,SNR=11								
	1.8nm,0.7s								
TORD	**Torodi Ar. Bea**	**149.58**	**286**	PKPbc		**PKPdf**		**20 02 05.7**	**+1.8**
	0.2nm,0.3s,baz=80,slow=2.5,SNR=11								

IDC ***13*** *19:45:24.2±5.6,6°.12S×152°.62E,h45km±39km,mb3.4/3, mbtmp3.7/4,ML1.9/1,MS3.4/1,Error ellipse: s-maj=75.3km s-min=17.8km az=99.0*

ISC 13 19:45:22.9±2.6,6°.15S±0°.09×152°.8E±0°.3,h38km,n7, σ0s60/7,mb3.4/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.96**	**339**	P	**Pn**	**19 45 53.8**	**+0.1**
	94nm,0.3s,baz=276,slow=1.4,SNR=16						
KRVT				S	**Sn**	**19 46 17.2**	**+0.1**
	278nm,0.3s,baz=233,slow=23,SNR=30						
PMG	**Port Moresby**	**6.41**	**239**	P	**Pn**	**19 46 55.0**	**+0.2**
	1.5nm,0.3s,baz=61,slow=13,SNR=2.0						
	5.8nm,0.4s						
WRA	**Warramunga Arr**	**22.54**	**231**	P	**P**	**19 50 20.5**	**+0.7**
	0.6nm,0.7s,baz=56,slow=10,SNR=5.8						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**25.14**	**224**	P	**P**	**19 50 44.5**	**-0.2**
	0.6nm,0.6s,baz=59,slow=9.2,SNR=11						
	0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.99**	**243**	P	**P**	**19 51 18.4**	**-0.8**
	2.4nm,0.5s,baz=57,slow=8.0,SNR=21						
	2.4nm,0.5s						
JHJ	**Hachijo jima 2**	**40.95**	**343**	LR	LR	20 08 41.3	
	comp=Z,54nm,20.4s,baz=112,slow=34						
TORD	**Torodi Ar. Bea**	**150.65**	**286**	PKPbc	**PKPbc**	**20 05 12.3**	**+0.3**
	0.5nm,1.1s,baz=92,slow=2.1,SNR=2.2						

IDC ***13*** *19:49:36.7±2.9,6°.07S×130°.32E,h67km±38km,mb3.2/1, mbtmp3.5/5,ML3.3/4,Error ellipse: s-maj=71.7km s-min=22.9km az=89.0*

ISC 13 19:49:38.2±0.9,5°.90S±0°.06×130°.6E±0°.1,h150km,n16, σ2s64/17,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.53**	**333**	P	**Pn**	**19 50 08.1**	**0.0**
SAUI	**Saumlaki**	**2.19**	**161**	P	**Pn**	**19 50 16.6**	**+1.0**
FAKI	**Fak Fak**	**3.39**	**29**	P	**Pn**	**19 50 31.2**	**+0.6**
SIJI	**Sorong**	**5.04**	**8**	P	**Pn**	**19 50 52.9**	**+0.7**
	1.4nm,0.3s,baz=288,slow=23,SNR=13						
SIJI				S	**Sn**	**19 51 47.2**	**-2.8**
	7.0nm,0.3s,baz=203,slow=23,SNR=13						
	2.8nm,0.3s						
MTN	**Manton Dam**	**6.92**	**176**	P	**Pn**	**19 51 17.6**	**+0.3**
KDU	**Kakadu**	**7.00**	**165**	P	**Pn**	**19 51 18.1**	**-0.2**
KNRA	**Kununurra**	**9.88**	**190**	P	**Pn**	**19 51 57.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**13.05**	**201**	P	**Pn**	**19 52 36.3**	**-1.8**
	0.1nm,0.3s,baz=14,slow=12,SNR=13						
FITZ				S	Sn	19 54 51.4	-11
	1.1nm,0.4s,baz=187,slow=18,SNR=8.2						
	1.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**13.05**	**201**	P	**Pn**	**19 52 38.3**	**+0.2**
WRAB	**Tennant Creek**	**14.42**	**166**	P	**P**	**19 52 59.2**	**+1.1**
WRA	**Warramunga Arr**	**14.43**	**166**	P	**Pn**	**19 52 55.0**	**-0.6**
	0.2nm,0.3s,baz=347,slow=14,SNR=8.2						
WRA				S	**Sn**	**19 55 27.7**	**-8.1**
	0.3nm,0.3s,baz=60,slow=13,SNR=7.1						
	0.4nm,0.5s						
COEN	**Coen**	**14.75**	**124**	P	**P**	**19 53 04.4**	**+2.6**
ASAR	**Alice Springs**	**17.95**	**170**	P	**Pn**	**19 53 41.0**	**+2.5**
	0.2nm,0.3s,baz=353,slow=11,SNR=14						
	0.6nm,0.5s						
WRKA	**Warakurna**	**19.16**	**186**	P	**Pn**	**19 53 54.8**	**+2.1**
SMRI	**Semarang**	**20.05**	**266**	P	**Pn**	**19 54 03.2**	**-0.1**
MKAR	**Makanchi Array**	**67.63**	**326**	P	P	20 00 26.4	+7.5
	0.2nm,0.5s,baz=108,slow=7.2,SNR=4.3						
	0.2nm,0.5s						

ATH ***13*** *19:59:42.0,35°.65N×22°.02E,h8km±5km,ML2.9/6,Error ellipse: s-maj=6.5km s-min=3.0km az=81.0*

IDC ***13*** *19:59:42.6±4.4,36°.22N×22°.45E,h0km,mb3.7/4, mbtmp3.7/4,ML2.3/1,Error ellipse: s-maj=94.4km s-min=23.0km az=44.0*

THE ***13*** *19:59:44.3,35°.73N×22°.14E,h7km±1km,ML2.7/6,Error ellipse: s-maj=2.5km s-min=1.1km az=46.0*

ISC 13 19:59:40.6±2.2,35°.59N±0°.08×21°.99E±0°.07,h12km±10km, n20,σ1s26/31,mb3.7/4,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHR	**Kythira**	**1.06**	**51**	P	**Pg**	**20 00 00.6**	**-0.4**
KTHR	**Kythira**	**1.06**	**51**	P	**Pg**	**20 00 00.6**	**-0.4**
KTHR				S	**Sg**	**20 00 13.6**	**-1.2**
KTHR				AML	AML	20 00 15.4	
	comp=N,2988μm,0.4s						
KTHR				AML	AML	20 00 17.0	
	comp=E,3383μm,0.4s						
KTHA	**Kythira Island**	**1.09**	**52**	P	**Pg**	**20 00 01.5**	**-0.1**
KTHA				S	**Sg**	**20 00 14.0**	**-1.9**
	comp=E,512nm,0.6s						
KTHA	**Kythira Island**	**1.09**	**52**	P	**Pg**	**20 00 01.5**	**-0.1**
KTHA				S	**Sg**	**20 00 15.7**	**-0.2**
KTHA				AML	AML	20 00 19.1	
	comp=N,756μm,0.7s						
KTHA				AML	AML	20 00 20.7	
	comp=E,1343μm,0.5s						
ANKY	**Antikythira Is**	**1.10**	**75**	P	**Pb**	**20 00 02.6**	**+1.0**
ANKY				S	**Sg**	**20 00 16.2**	**+0.1**
	comp=E,610nm,0.8s						
ANKY	**Antikythira Is**	**1.10**	**75**	P	**Pb**	**20 00 02.7**	**+1.1**
ANKY				S	**Sb**	**20 00 17.3**	**+1.4**
ANKY				AML	AML	20 00 18.1	
	comp=E,1203μm,0.7s						
ANKY				AML	AML	20 00 20.5	
	comp=N,1237μm,0.9s						
PYL	**PYLOS**	**1.32**	**351**	P	**Pg**	**20 00 06.5**	**+0.6**
PYL				S	**Sn**	**20 00 24.5**	**+2.2**
	comp=N,202nm,0.5s						
PYL	**PYLOS**	**1.32**	**351**	P	**Pn**	**20 00 05.1**	**+0.3**
VLI	**Velíai**	**1.36**	**34**	P	**Pb**	**20 00 06.7**	**+0.7**
VLI				S	**Sn**	**20 00 23.9**	**+0.5**
	comp=N,318nm,0.9s						
VLI	**Velíai**	**1.36**	**34**	P	**Pn**	**20 00 06.4**	**+1.0**
VLI				S	**Sb**	**20 00 23.5**	**+0.1**
VLI				AML	AML	20 00 34.7	
	comp=N,467μm,0.9s						
VLI				AML	AML	20 00 36.7	
	comp=E,800μm,0.9s						
ITM	**Ithomi**	**1.59**	**358**	P	**Pn**	**20 00 09.6**	**+1.1**
ITM				S	**Sn**	**20 00 29.5**	**+0.5**
	comp=E,145nm,0.4s						
ITM	**Ithomi**	**1.59**	**358**	P	**Pn**	**20 00 09.4**	**+0.9**
ITM				AML	AML	20 00 38.1	
	comp=E,310μm,0.5s						
ITM				AML	AML	20 00 41.2	
	comp=N,276μm,0.4s						
IMMV	**Iera Moni Meta**	**1.63**	**94**	P	**Pn**	**20 00 10.2**	**+1.1**
IMMV				S	**Sb**	**20 00 32.0**	**+0.9**
	comp=N,312nm,0.7s						
IMMV	**Iera Moni Meta**	**1.63**	**94**	P	**Pn**	**20 00 10.4**	**+1.3**
IMMV				AML	AML	20 00 38.7	
	comp=N,656μm,0.6s						
IMMV				AML	AML	20 00 40.7	
	comp=E,586μm,0.8s						
DRO	**Drossia**	**2.37**	**355**	P	**Pn**	**20 00 21.9**	**+2.6**
IDI	**Anoyia**	**2.39**	**96**	Pn	**Pn**	**20 00 20.7**	**+1.1**
	comp=E,0.9nm,0.3s,baz=298,slow=15,SNR=12						
IDI				Sn	**Sn**	**20 00 49.6**	**+0.7**
	comp=E,3.4nm,0.3s,baz=291,slow=16,SNR=4.3						
HFS	**Hagfors**	**25.14**	**350**	P	**P**	**20 05 04.5**	**-0.7**
	comp=E,0.4nm,0.3s,baz=157,slow=12,SNR=6.5						
	comp=E,0.4nm,0.3s						
FINES	**FINESS Array B**	**26.00**	**4**	P	**P**	**20 05 11.0**	**-2.1**
	comp=E,1.3nm,1.0s,baz=159,slow=16,SNR=1.4						
	comp=E,1.3nm,1.0s						
ARCES	**ARCESS Array B**	**34.05**	**2**	P	**P**	**20 06 22.4**	**-1.9**
	comp=E,1.4nm,0.9s,baz=183,slow=9.8,SNR=1.6						
	comp=E,1.4nm,0.9s						
MKAR	**Makanchi Array**	**45.70**	**57**	P	**P**	**20 07 59.5**	**-1.8**
	comp=E,0.5nm,0.3s,baz=272,slow=7.7,SNR=19						
	comp=E,0.5nm,0.3s						

REN ***13*** *20:00:03.0±1.9,40°.12N±0°.01×119°.65W±0°.02,h10km±7km, ML3.0/13,ML2.8/56(NEIC),Error ellipse: s-maj=2.5km s-min=1.5km az=119.0*

NEIC 13 20:00:03.1±1.2,40°.19N±0°.09×119°.66W±0°.02, h18km±6km,Error ellipse: s-maj=2.8km s-min=0.9km az=108.0,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVA	**Winnemucca Val**	**0.21**	**216**	P	**Pg**	20 00 08.2	-0.1
WVA				S	**Sg**	20 00 11.9	-0.1
PAHR	**Pah Rah Range**	**0.46**	**153**	P	**Pg**	20 00 12.1	-0.4
PAHR				S	**Sg**	20 00 18.6	-0.3
PAHR	**Pah Rah Range**	**0.46**	**153**	IAML		20 00 18.8	
	comp=N,942nm,0.2s						
PAHR				IAML		20 00 19.1	
	comp=E,646nm,0.5s						
BMRR	**Black Mountain**	**0.48**	**269**		**Pg**	20 00 13.0	0.0
BMRR					**Sb**	20 00 20.2	+0.1
PEAR	**Peavine Mounta**	**0.56**	**205**		**Pg**	20 00 14.3	0.0
PEAR					**Sb**	20 00 22.7	+0.4
BEKR	**Beckworth**	**0.59**	**245**		**Pg**	20 00 14.8	-0.1
BEKR					**Sg**	20 00 23.0	+0.1
BEKR	**Beckworth**	**0.59**	**245**	IAML		20 00 23.3	
	comp=E,512nm,0.3s						
BEKR				IAML		20 00 23.6	
	comp=N,525nm,0.3s						
PLTX	**Planet X, Gerl**	**0.60**	**14**		**Pg**	20 00 14.8	-0.4
PLTX					**Sb**	20 00 23.6	0.0
PLTX	**Planet X, Gerl**	**0.60**	**14**	IAML		20 00 25.0	
	comp=E,1μm,0.9s						
PLTX				IAML		20 00 25.6	
	comp=N,838nm,0.2s						
BABR	**Babbit Peak**	**0.62**	**214**		**Pb**	20 00 15.6	0.0
LOY	**Loyalton**	**0.64**	**224**		**Pg**	20 00 15.8	0.0
VPK	**Verdi Peak**	**0.71**	**204**		**Pb**	20 00 17.1	+0.1
VCNR	**Virginia City**	**0.82**	**179**		**Pb**	20 00 19.0	0.0
MPK	**Martis Peak**	**0.87**	**199**		**Pg**	20 00 20.0	-0.1
MPK	**Martis Peak**	**0.87**	**199**	IAML		20 00 33.0	
	comp=N,242nm,0.1s						
MPK				IAML		20 00 33.1	
	comp=E,262nm,0.2s						
DONR	**Donner Summit**	**0.92**	**214**		**Pb**	20 00 20.8	+0.1
TNK	**Tinkers Knob**	**0.96**	**208**		**Pg**	20 00 21.9	+0.1
PNTR	**Pine Nut**	**1.03**	**177**		**Pb**	20 00 22.7	+0.1
PNTR	**Pine Nut**	**1.03**	**177**	IAML		20 00 40.5	
	comp=E,204nm,1.0s						
PNTR				IAML		20 00 40.7	
	comp=N,173nm,0.8s						
YERR	**Yerington**	**1.18**	**164**		**Pb**	20 00 25.2	+0.2
EMB	**Emerald Bay**	**1.19**	**197**		**Pb**	20 00 25.7	+0.4
EMB	**Emerald Bay**	**1.19**	**197**	IAML		20 00 44.7	
	comp=N,194nm,0.3s						
EMB				IAML		20 00 45.8	
	comp=E,166nm,0.4s						
KPK	**Kanaka Peak**	**1.38**	**248**		**Pb**	20 00 28.8	+0.5
ORV	**Oroville**	**1.52**	**249**		**Pg**	20 00 30.7	-0.1
ORV	**Oroville**	**1.52**	**249**	Pn	**Pb**	20 00 31.1	+0.2
ORV				IAML		20 00 53.0	
	comp=N,55nm,0.3s						
ORV				IAML		20 00 55.4	
	comp=E,45nm,0.4s						
AFDM	**Forest Hills D**	**1.55**	**221**		**Pb**	20 00 31.1	-0.2
AFDM	**Forest Hills D**	**1.55**	**221**	IAML		20 00 53.3	
	comp=N,92nm,0.4s						
AFDM				IAML		20 00 55.9	
	comp=E,149nm,0.4s						
KVN	**Kaiserville**	**1.61**	**131**		**Pb**	20 00 32.3	-0.1
KVN	**Kaiserville**	**1.61**	**131**	IAML		20 00 55.4	
	comp=N,109nm,0.3s						
RYN	**Ryan**	**1.73**	**149**		**Pb**	20 00 34.7	+0.2
LTIM	**Timbered Crate**	**1.75**	**308**		**Pb**	20 00 35.0	+0.3
MOD	**Modoc Plateau**	**1.85**	**345**		**Pb**	20 00 36.5	+0.1
MOD	**Modoc Plateau**	**1.85**	**345**		**Pb**	20 00 36.7	+0.3
MOD				IAML		20 01 08.2	
	comp=N,47nm,0.7s						
MOD				IAML		20 01 08.5	
	comp=E,74nm,0.6s						
NV09	**Mina Array Sit**	**1.97**	**148**		**Pb**	20 00 38.9	+0.3
NVAR	**Mina Array Bea**	**1.99**	**148**	Pn	**Pb**	20 00 39.3	+0.4
NV08	**Mina Array Sit**	**2.00**	**148**		**Pb**	20 00 39.3	+0.2
NV11	**Mina Array Sit**	**2.05**	**145**		**Pb**	20 00 39.6	-0.3
LUL	**Lundy Lake**	**2.10**	**170**		**Pb**	20 00 41.6	+0.8
CMB	**Columbia Colle**	**2.16**	**195**		**Pb**	20 00 42.3	+0.6
CMB	**Columbia Colle**	**2.16**	**195**	Pn	**Pn**	20 00 37.1	-1.1
CMB	**Columbia Colle**	**2.16**	**195**	IAML		20 01 11.7	
	comp=E,45nm,0.6s						
Q09A	**Carvers**	**2.31**	**123**		**Pn**	20 00 40.0	-0.4
WVOR	**Wild Horse Val**	**2.44**	**18**		**Pn**	20 00 42.7	+0.5
MDPB	**Devils Postpil**	**2.52**	**169**		**Pn**	20 00 44.9	+1.4
OMMB	**Old Mammoth Mi**	**2.56**	**168**		**Pn**	20 00 43.3	-0.7
K05A	**Summer Lake**	**2.77**	**341**		**Pn**	20 00 47.2	+0.4
TPH	**Tonopah**	**2.79**	**136**		**Pn**	20 00 47.0	0.0
HOPS	**Hopland Field**	**2.87**	**248**	Pn	**Pn**	20 00 48.4	+0.5
HOPS				IAML		20 01 44.9	
	comp=E,38nm,3.6s						
HOPS				IAML		20 02 30.6	
	comp=N,38nm,3.4s						
DSP	**Deep Springs**	**3.05**	**154**		**Pn**	20 00 51.2	+0.9
LCH	**Last Change Ra**	**3.29**	**151**		**Pn**	20 00 55.6	+1.8
J08A	**Circle Bar Ran**	**3.36**	**15**		**Pn**	20 00 56.1	+1.4
GMN	**Gold Mountain**	**3.38**	**146**		**Pn**	20 00 56.2	+0.9
ELK	**Elko**	**3.43**	**78**	Pn	**Pn**	20 00 56.2	+0.2
ELK				IAML		20 01 53.3	
	comp=N,18nm,0.4s						
R11A	**Troy Canyon, C**	**3.62**	**118**		**Pn**	20 00 56.8	-1.7
R11A				IAML		20 01 59.1	
	comp=N,14nm,0.5s						
PINE	**Pine Mountain**	**3.79**	**346**		**Pn**	20 00 58.9	-1.9
PINE				IAML		20 01 55.5	
	comp=N,14nm,4.2s						
PINE				IAML		20 02 05.7	
	comp=E,13nm,3.9s						
I07A	**Izee**	**3.96**	**2**		**Pn**	20 01 03.2	+0.1
WCT	**Wildcat Mounta**	**4.09**	**143**		**Pn**	20 01 03.4	-1.4
BMO	**Blue Mountains**	**5.04**	**19**		**Pn**	20 01 14.6	-3.3
BMO				IAML		20 02 50.5	
	comp=E,5.3nm,4.9s						
SHPR	**Sheep Range**	**5.05**	**134**		**Pn**	20 01 14.8	-3.4
MSU	**Marysvale**	**6.02**	**103**		**Pn**	20 01 30.4	-1.1

IDC ***13*** *20:21:49.3±1.1,54°.42N×168°.64E,h0km,mb3.5/5, mbtmp3.5/7,ML3.4/2,MS3.2/11,Error ellipse: s-maj=41.0km s-min=21.4km az=178.0*

KRSC ***13*** *20:21:50.3±2.0,54°.37N×168°.10E,h26km±35km,ML4.3*

MOS ***13*** *20:21:51.4±0.8,54°.50N×168°.34E,h27km,mb3.9/1,Error ellipse: s-maj=18.4km s-min=9.5km az=178.5*

ISC 13 20:21:50.4±0.9,54°.43N±0°.07×168°.40E±0°.06,h10km,n59, σ1s74/63,mb3.5/5,MS3.2/9,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.60**	**300**	PN	**Pn**	**20 22 16.1**	**-2.6**
BKI				S	**Sn**	**20 22 37.0**	**-2.5**
BKI	**Bering**	**1.60**	**300**	*eP*	**Pn**	**20 22 16.1**	**-2.6**
BKI				*eS*	**Sn**	**20 22 37.0**	**-2.5**
KBTR	**Krutoberegovo**	**3.65**	**301**	PN	**Pn**	**20 22 45.5**	**-1.4**
KBTR				S	**Sn**	**20 23 28.2**	**-1.8**
KBTR	**Krutoberegovo**	**3.65**	**301**	*eP*	**Pn**	**20 22 45.5**	**-1.4**
KBTR				*eS*	**Sn**	**20 23 28.2**	**-1.8**
KBG	**Krutoberegovo**	**3.73**	**302**	*eS*	**Sn**	**20 23 31.1**	**-0.8**
SHEM	**Shemya Is, Ala**	**3.80**	**114**	Pn	**Pn**	**20 22 47.4**	**-1.6**
	12nm,0.3s,baz=42,slow=2.6,SNR=6.9						
SHEM				Sn	**Sn**	**20 23 30.0**	**-3.6**
	7.8nm,0.3s,baz=85,slow=21,SNR=1.8						
	24nm,0.3s						
MKZ	**Mys Kozlova**	**3.89**	**275**	PN	**Pn**	**20 22 50.3**	**+0.1**
MKZ	**Mys Kozlova**	**3.89**	**275**	*eP*	**Pn**	**20 22 50.3**	**+0.1**
MKZ				*eS*	**Sn**	**20 23 32.6**	**-3.3**
SMKR	**Semkarok**	**4.49**	**301**	PN	**Pn**	**20 22 59.9**	**+1.4**
SMKR				S	**Sn**	**20 23 51.2**	**+0.4**
SMKR	**Semkarok**	**4.49**	**301**	*eP*	**Pn**	**20 22 59.9**	**+1.4**
SMKR				*eS*	**Sn**	**20 23 51.2**	**+0.4**
TUMR	**Tumrok**	**4.84**	**283**	PN	**Pn**	**20 23 05.5**	**+2.1**
TUMR	**Tumrok**	**4.84**	**283**	*eP*	**Pn**	**20 23 05.5**	**+2.1**
SPN	**Mys Shipunski**	**5.15**	**258**	PN	**Pn**	**20 23 07.4**	**0.0**
SPN	**Mys Shipunski**	**5.15**	**258**	*eP*	**Pn**	**20 23 07.4**	**0.0**
SPN				*eS*	**Sn**	**20 24 03.1**	**-3.7**
KII	**Karymskiy**	**5.27**	**269**	PN	**Pn**	**20 23 10.0**	**+0.8**
KII	**Karymskiy**	**5.27**	**269**	*eP*	**Pn**	**20 23 10.0**	**+0.8**
KII				*eS*	**Sn**	**20 24 08.9**	**-1.0**

NLC	**Nalytchevo**	**5.51**	**260**	PN		**Pn**		**20 23 13.6**	**+1.1**
NLC	**Nalytchevo**	**5.51**	**260**	*eP*		**Pn**		**20 23 13.6**	**+1.1**
NLC				*eS*		**Sn**		**20 24 13.8**	**-2.0**
SMAR	**Somma**	**5.80**	**262**	PN		**Pn**		**20 23 17.4**	**+0.8**
SMAR	**Somma**	**5.80**	**262**	*eP*		**Pn**		**20 23 17.4**	**+0.8**
SMAR				*eS*		**Sn**		**20 24 21.3**	**-2.0**
UGLR	**Uglovaya**	**5.80**	**262**	PN		**Pn**		**20 23 17.6**	**+1.0**
UGLR	**Uglovaya**	**5.80**	**262**	*eP*		**Pn**		**20 23 17.6**	**+1.0**
UGLR				*eS*		**Sn**		**20 24 21.7**	**-1.5**
KRER	**Koryakskii**	**5.82**	**263**	PN		**Pn**		**20 23 18.0**	**+1.1**
KRER	**Koryakskii**	**5.82**	**263**	*eP*		**Pn**		**20 23 18.0**	**+1.1**
KRER				*eS*		**Sn**		**20 24 22.1**	**-1.7**
AVH	**Avacha**	**5.84**	**262**	PN		**Pn**		**20 23 18.3**	**+1.3**
AVH	**Avacha**	**5.84**	**262**	*eP*		**Pn**		**20 23 18.3**	**+1.3**
AVH				*eS*		**Sn**		**20 24 23.2**	**-0.8**
KRX	**Arik**	**5.87**	**263**	PN		**Pn**		**20 23 18.0**	**+0.6**
KRX	**Arik**	**5.87**	**263**	*eP*		**Pn**		**20 23 18.0**	**+0.6**
KRX				*eS*		**Sn**		**20 24 22.5**	**-2.3**
KOK	**Koryaka**	**5.89**	**263**	PN		**Pn**		**20 23 18.7**	**+1.0**
KOK	**Koryaka**	**5.89**	**263**	*eP*		**Pn**		**20 23 18.7**	**+1.0**
KOK				*eS*		**Sn**		**20 24 23.1**	**-2.2**
DALK	**Dalny**	**5.90**	**260**	*eS*		**Sn**		**20 24 21.7**	**-3.6**
GNL	**Ganaly**	**6.20**	**267**	PN		**Pn**		**20 23 22.5**	**+0.4**
GNL	**Ganaly**	**6.20**	**267**	*eP*		**Pn**		**20 23 22.5**	**+0.4**
KRMR	**Karymshinskiy**	**6.32**	**259**	*eS*		**Sn**		**20 24 33.4**	**-2.2**
MTVR	**Mutnovka**	**6.41**	**256**	*eS*		**Sn**		**20 24 35.5**	**-2.6**
GRL	**Gorelyy**	**6.45**	**257**	PN		**Pn**		**20 23 26.5**	**+1.1**
GRL	**Gorelyy**	**6.45**	**257**	*eP*		**Pn**		**20 23 26.5**	**+1.1**
GRL				*eS*		**Sn**		**20 24 37.9**	**-1.1**
PETK	**Petropavlovsk-**	**6.48**	**263**	Pn		**Pn**		**20 23 27.5**	**+1.7**
	0.8nm,0.3s,baz=97,slow=20,SNR=9.3								
PETK				Sn		**Sn**		**20 24 40.3**	**+0.6**
	1.3nm,0.3s,baz=253,slow=20,SNR=5.0								
PETK				LR		LR		20 26 05.8	
	comp=Z,118nm,20.1s,baz=82,slow=39								
	3.7nm,0.7s								
KDTR	**Khodutka, Kamc**	**6.75**	**251**	*eS*		**Sn**		**20 24 42.6**	**-3.6**
MA2	**Magadan**	**10.89**	**305**	LR		LR		20 28 25.0	
	comp=Z,77nm,18.8s,baz=23,slow=36								
KLR	**Kul'dur**	**23.05**	**272**	LR		LR		20 35 53.8	
	comp=Z,45nm,19.7s,baz=95,slow=36								
ILAR	**Eielson Array**	**24.33**	**47**	P		**P**		**20 27 07.0**	**-0.8**
	0.9nm,0.8s,baz=251,slow=9.7,SNR=4.4								
	0.9nm,0.8s								
USRK	**Ussuriysk Ar.**	**25.57**	**261**	LR		LR		20 36 42.0	
	comp=Z,68nm,19.0s,baz=225,slow=35								
KSRS	**Korea Array**	**32.32**	**255**	LR		LR		20 40 09.7	
	comp=Z,18nm,21.4s,baz=200,slow=34								
H11N2	**WAKE ISLAND Hy**	**34.66**	**182**	T		T		21 05 25.9	
	baz=1.3,slow=76,SNR=422								
H11N3	**WAKE ISLAND Hy**	**34.67**	**182**	T		T		21 05 26.9	
	baz=1.3,slow=76,SNR=432								
H11N1	**WAKE ISLAND Hy**	**34.88**	**182**	T		T		21 05 27.2	
	baz=1.3,slow=76,SNR=375								
H11S1	**WAKE ISLAND Hy**	**35.88**	**183**	T		T		21 06 51.9	
	baz=1.4,slow=76,SNR=53								
H11S3	**WAKE ISLAND Hy**	**35.90**	**183**	T		T		21 06 52.6	
	baz=1.4,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**35.90**	**183**	T		T		21 06 59.0	
	baz=1.4,slow=76,SNR=95								
SONM	**Songino Array**	**38.33**	**286**	P		**P**		**20 29 12.1**	**+1.0**
	0.4nm,0.7s,baz=47,slow=10,SNR=3.5								
SONM				LR		LR		20 46 40.5	
	comp=Z,36nm,18.6s,baz=108,slow=39								
	0.4nm,0.7s								
NEW	**Newport**	**44.90**	**66**	LR		LR		20 47 22.4	
	comp=Z,28nm,18.4s,baz=320,slow=34								
ELK	**Elko**	**50.78**	**72**	LR		LR		20 49 20.2	
	comp=Z,25nm,21.5s,baz=266,slow=33								
MKAR	**Makanchi Array**	**51.91**	**299**	P		**P**		**20 31 01.1**	**+2.2**
	0.4nm,0.6s,baz=61,slow=10,SNR=2.8								
	0.4nm,0.6s								
FRB	**Frobisher Bay**	**54.18**	**27**	LR		LR		20 58 06.6	
	comp=Z,24nm,18.0s,baz=237,slow=40								
ANMO	**Albuquerque**	**59.77**	**71**	LR		LR		20 57 35.1	
	comp=Z,34nm,18.1s,baz=254,slow=36								
TXAR	**Lajitas Array**	**65.55**	**73**	P		**P**		**20 32 34.0**	**-0.1**
	0.2nm,0.6s,baz=299,slow=5.2,SNR=3.8								
	0.2nm,0.6s								
GNI	**Garni**	**74.16**	**318**	LR		LR		21 09 24.2	
	comp=Z,20nm,19.5s,baz=25,slow=38								
WRA	**Warramunga Arr**	**79.62**	**212**	P		**P**		**20 33 58.5**	**+0.9**
	0.7nm,1.1s,baz=22,slow=6.0,SNR=3.0								
	0.7nm,1.1s								

IDC ***13*** *20:35:25.5±1.1,12°.29N×141°.87E,h0km,mb3.5/6, mbtmp3.5/7,ML4.0/1,MS3.4/5,Error ellipse: s-maj=27.4km s-min=23.9km az=100.0*

**ISC 13 20:35:30.3±

NIKU	**Nikkaluokta**	**0.94**	**317**	P		**Pg**	**20 45 27.6**	**+0.1**
NIKU	**Nikkaluokta**	**0.94**	**317**	*e*P		**Pg**	**20 45 27.6**	**+0.1**
PAJU	**Pajala**	**0.95**	**99**	P		**Pb**	**20 45 28.4**	**-0.3**
PAJU				S		**Sb**	**20 45 41.5**	**-0.3**
PAJU	**Pajala**	**0.95**	**99**	*e*P		**Pb**	**20 45 28.4**	**-0.3**
PAJU				*e*S		**Sb**	**20 45 41.5**	**-0.3**
LANU	**Lannavaara**	**0.99**	**29**	P		**Pb**	**20 45 28.9**	**-0.6**
LANU	**Lannavaara**	**0.99**	**29**	*e*P		**Pb**	**20 45 28.9**	**-0.6**
LANU				*e*S		**Sg**	**20 45 41.9**	**+0.7**
HARU	**Harads**	**1.03**	**174**	P		**Pg**	**20 45 29.4**	**+0.2**
HARU	**Harads**	**1.03**	**174**	*e*P		**Pg**	**20 45 29.4**	**+0.2**
KOVU	**Salmi**	**1.06**	**349**	P		**Pg**	**20 45 29.8**	**0.0**
KOVU	**Salmi**	**1.06**	**349**	*e*P		**Pg**	**20 45 29.8**	**0.0**
KLF	**Kolari**	**1.26**	**86**	*e*P		**Pb**	**20 45 34.1**	**0.0**
KLF				*e*S		**Sn**	**20 45 51.4**	**-0.5**
HEF	**Hetta**	**1.66**	**41**	Pn		**Pb**	**20 45 40.7**	**-0.2**
HEF				Sn		**Sg**	**20 46 02.4**	**-0.3**
HEF	**Hetta**	**1.66**	**41**	*e*P		**Pb**	**20 45 40.7**	**-0.2**
HEF				*e*S		**Sg**	**20 46 02.5**	**-0.1**
HEF	**Hetta**	**1.66**	**41**	*e*P		**Pb**	**20 45 40.6**	**-0.2**
HEF				*e*S		**Sg**	**20 46 02.2**	**-0.4**
TOF	**Tornio**	**1.82**	**126**	*e*P		**Pb**	**20 45 43.6**	**+0.1**
TOF				*e*S		**Sg**	**20 46 07.7**	**0.0**
TOF				MSG			20 46 10.0	
	comp=Z,80nm,0.2s							
KIF	**Kilpisjarvi**	**1.82**	**1**	Pn		**Pb**	**20 45 43.9**	**+0.2**
KIF				Sn		**Sg**	**20 46 09.4**	**+1.4**
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*P		**Pb**	**20 45 44.0**	**+0.2**
KIF				*e*Sg		**Sg**	**20 46 09.8**	**+1.8**
KIF	**Kilpisjarvi**	**1.82**	**1**	*e*P		**Pb**	**20 45 43.8**	**+0.2**
KIF				MSG			20 46 12.4	
	comp=Z,66nm,0.3s							
KTK1	**Kautokeino**	**2.06**	**26**	Pn		**Pb**	**20 45 47.8**	**+0.1**
KTK1				Sn		**Sg**	**20 46 14.6**	**-1.0**
KTK1	**Kautokeino**	**2.06**	**26**	*e*P		**Pb**	**20 45 47.7**	**0.0**
KTK1				IAML			20 46 17.0	
	comp=Z,96nm,0.4s							
KTK1	**Kautokeino**	**2.06**	**26**	*e*PG		**Pb**	**20 45 47.8**	**+0.1**
KTK1				*e*SG		**Sg**	**20 46 14.6**	**-1.0**
FAUS	**Fauske**	**2.12**	**278**	*e*P		**Pb**	**20 45 48.1**	**-0.6**
FAUS				IAML			20 46 20.3	
	comp=Z,141nm,0.4s							
RNF	**Rovaniemi**	**2.17**	**103**	*e*PB		**Pb**	**20 45 49.3**	**-0.2**
RNF				*e*SG		**Sg**	**20 46 18.9**	**0.0**
RNF				MSG			20 46 20.6	
	comp=Z,32nm,0.2s							
STEI	**Steigen**	**2.23**	**292**	*e*P		**Pn**	**20 45 49.3**	**+1.7**
STEI				IAML			20 46 23.4	
	comp=Z,44nm,0.4s							
SGF	**Sodankyl**	**2.26**	**81**	*e*PB		**Pb**	**20 45 51.0**	**-0.1**
SGF				*e*SG		**Sg**	**20 46 21.4**	**-0.7**
SGF				MSG			20 46 22.9	
	comp=Z,39nm,0.3s							
JETT	**Jettan, Norway**	**2.38**	**357**	Pn		**Pb**	**20 45 52.9**	**-0.3**
JETT				Sn		**Sb**	**20 46 24.1**	**+1.0**
JETT	**Jettan, Norway**	**2.38**	**357**	*e*P		**Pb**	**20 45 52.5**	**-0.7**
JETT				*e*Sg		**Sg**	**20 46 24.6**	**-1.3**
JETT				IAML			20 46 26.8	
	comp=Z,93nm,0.3s							
TRO	**Tromso**	**2.54**	**346**	*e*PB		**Pb**	**20 45 55.5**	**-0.4**
TRO				*e*SG		**Sb**	**20 46 28.6**	**+1.0**
LOF	**Lofoten**	**2.90**	**292**	*e*P		**Pn**	**20 45 57.1**	**+0.3**
LOF				IAML			20 46 50.5	
	comp=Z,30nm,0.5s							
ARA0	**ARCESS Array S**	**2.95**	**35**	Pn		**Pn**	**20 45 58.8**	**+1.3**
	baz=210,slow=16							
ARA0				Sn		**Sn**	**20 46 35.5**	**+1.9**
	baz=216,slow=28							
ARA0	**ARCESS Array S**	**2.95**	**35**	*e*P		**Pn**	**20 45 59.3**	**+1.8**
ARA0				IAML			20 46 43.5	
	comp=Z,13nm,0.6s							
ARCES	**ARCESS Array B**	**2.95**	**35**	Pn		**Pn**	**20 45 59.0**	**+1.4**
	comp=Z,1.6nm,0.3s,baz=215,slow=13,SNR=258							
ARCES				Sn		**Sn**	**20 46 35.5**	**+2.0**
	comp=Z,2.2nm,0.3s,baz=218,slow=23,SNR=15							
	comp=Z,4.0nm,0.3s							
KONS	**Konsvik**	**3.08**	**261**	*e*P		**Pn**	**20 46 00.4**	**+1.1**
KONS				IAML			20 46 49.9	
	comp=Z,39nm,0.3s							
KEV	**Kevo**	**3.47**	**39**	*e*		**Pn**	**20 46 06.1**	**+1.6**
KEV				*e*			20 46 47.3	
NSS	**Namsos**	**4.48**	**238**	*e*		**Pn**	**20 46 20.2**	**+1.8**
FIA0	**FINESS Array S**	**6.22**	**156**	Pn		**Pn**	**20 46 44.4**	**+2.0**
	baz=346,slow=16							
FIA0				Sn		**Sn**	**20 47 52.8**	**-1.2**
	baz=342,slow=28							
FIA0				Lg		Lg	20 48 22.4	
	baz=345,slow=28							
FIA0	**FINESS Array S**	**6.22**	**156**	Pn		**Pn**	**20 46 44.4**	**+2.0**
	slow=16							
FIA0				Sn		**Sn**	**20 47 52.8**	**-1.2**
	slow=28							
FINES	**FINESS Array B**	**6.22**	**156**	Pn		**Pn**	**20 46 43.9**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=342,slow=12,SNR=37							
FINES				Sn		**Sn**	**20 47 52.6**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=342,slow=24,SNR=12							
FINES				Lg		Lg	20 48 22.9	
	comp=Z,1.4nm,0.3s,baz=344,slow=34,SNR=8.9							
	comp=Z,1.9nm,0.4s							
NB2	**NORSAR Subarra**	**7.43**	**218**	Pn		**Pn**	**20 47 00.1**	**+1.0**
	baz=29,slow=14							
NB2				Sn		**Sn**	**20 48 20.1**	**-3.9**
	baz=33,slow=22							
NB2				Lg		Lg	20 49 00.4	
	baz=32,slow=37							
NB2	**NORSAR Subarra**	**7.43**	**218**	Pn		**Pn**	**20 47 00.1**	**+1.0**
	slow=14							
NB2				Sn		**Sn**	**20 48 20.1**	**-3.9**
	slow=22							
NOA	**NORSAR Array B**	**7.43**	**218**	Pn		**Pn**	**20 46 58.5**	**-0.5**
	baz=27,slow=11,SNR=6.7							
NOA				Sn		**Sn**	**20 48 22.3**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=31,slow=20,SNR=7.0							
NOA				Lg		Lg	20 48 59.5	
	comp=Z,0.1nm,0.3s,baz=318,slow=19,SNR=7.2							
	comp=Z,0.2nm,0.5s							
NRA0	**NORESS Array S**	**7.62**	**216**	Pn		**Pn**	**20 47 03.0**	**+1.3**
	baz=19,slow=12							
NRA0				Sn		**Sn**	**20 48 25.8**	**-2.8**
	baz=23,slow=28							
NRA0				Lg		Lg	20 49 05.5	
	baz=16,slow=37							
NRA0	**NORESS Array S**	**7.62**	**216**	Pn		**Pn**	**20 47 03.0**	**+1.3**
	slow=12							
NRA0				Sn		**Sn**	**20 48 25.8**	**-2.8**
	slow=28							
HFS	**Hagfors**	**7.74**	**207**	Pn		**Pn**	**20 47 02.5**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=26,slow=13,SNR=23							
HFS				Sn		**Sn**	**20 48 26.5**	**-4.8**
	comp=Z,1.1nm,0.3s,baz=22,slow=21,SNR=9.8							
HFS				Lg		Lg	20 49 09.7	
	comp=Z,0.3nm,0.3s,baz=27,slow=19,SNR=2.0							
	comp=Z,1.3nm,0.3s							
HFS	**Hagfors**	**7.74**	**207**	Pn		**Pn**	**20 47 03.1**	**0.0**
	baz=18,slow=12							
HFS				Sn		**Sn**	**20 48 26.8**	**-4.5**
	baz=22,slow=22							
HFS				Lg		Lg	20 49 07.8	
	baz=30,slow=28							
HFS	**Hagfors**	**7.74**	**207**	Pn		**Pn**	**20 47 03.1**	**0.0**
	slow=12							
HFS				Sn		**Sn**	**20 48 26.8**	**-4.5**
	slow=22							
SPA0	**Spitsbergen Ar**	**11.12**	**355**	Pn		**Pn**	**20 47 49.4**	**-0.1**
	baz=174,slow=12							

*IDC **13** 21:16:49.6±0.6, 4.°95×153.°34E, h59km±4km, mb4.0/21, mbtmp4.4/23, MS3.5/23, Error ellipse: s-maj=15.3km s-min=10.5km az=90.0*

*NEIC **13** 21:16:49.9±2.1, 4.°91S±0.°07×153.°44E±0.°08, h54km±6km, mb4.8/55, Error ellipse: s-maj=12.4km s-min=9.3km az=63.0*

ISC 13 21:16:49.4±0.4, 4.°99S±0.°05×153.°42E±0.°07, h56km, n120, σ1$09/115, mb4.7/51, MS3.5/21, 2C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**1.48**	**302**			**Pn**	**21 17 12.6**	**-1.3**
RABL				Sn		**Sn**	**21 17 32.6**	**+0.4**
KRVT	**Keravat (AS076**	**1.55**	**296**	P		**Pn**	**21 17 13.9**	**-0.9**
	3μm,0.5s,baz=150,slow=2.3,SNR=202							
KRVT				S		**Sn**	**21 17 34.4**	**+0.6**
	11μm,0.7s,baz=213,slow=23,SNR=16							
MANU	**Manus Island**	**6.72**	**296**	Pn		**Pn**	**21 18 25.4**	**-0.2**
	comp=Z,330nm,5.6s							
SHEM	**Shemya Is, Ala**	**60.11**	**14**	LR		LR	21 48 21.5	
	comp=Z,72nm,20.5s,baz=266,slow=32							
LZH	**Lanzhou**	**61.80**	**316**	*e*P		**P**	**21 27 01.0**	**-1.9**
LZH				pP		pP	21 27 09.9	-6.8
LZH				sP		sP	21 27 17.1	-5.4
LZH				pmax		pmax		
	comp=Z,24nm,1.2s							
DRV	**Dumont d'Urvil**	**62.27**	**186**	P		**P**	**21 27 04.3**	**-1.0**
MA2	**Magadan**	**64.40**	**359**	LR		LR	21 56 45.7	
	comp=Z,9.6nm,18.2s,baz=152,slow=37							
GTA	**Gaotai**	**66.22**	**317**	*e*P		**P**	**21 27 32.0**	**+0.2**
GTA				pP		pP	21 27 43.9	-1.9
GTA				sP		sP	21 27 48.8	-2.7
GTA				pmax		pmax		
	comp=Z,4.0nm,1.3s							
ULN	**Ulaanbaatar**	**66.48**	**328**	P		**P**	**21 27 32.1**	**-1.3**
SONM	**Songino Array**	**66.81**	**328**	P		**P**	**21 27 34.8**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=141,slow=6.5,SNR=5.2							
	comp=Z,0.8nm,0.5s							
SONM	**Songino Array**	**66.81**	**328**	P		**P**	**21 27 34.9**	**-0.6**
VNDA	**Vanda**	**72.62**	**178**	P		**P**	**21 28 10.8**	**+0.3**
	comp=Z,5.6nm,0.9s,baz=334,slow=6.6,SNR=13							
	comp=Z,5.6nm,0.9s							
VNDA	**Vanda**	**72.62**	**178**	P		**P**	**21 28 11.0**	**+0.4**
VNDA				IAmb		IAmb	21 28 12.0	
	comp=Z,12nm,1.2s							
SBA	**Scott Base**	**73.16**	**177**	P		**P**	**21 28 14.4**	**+0.7**
SBA				IAmb		IAmb	21 28 30.7	
	comp=Z,11nm,1.6s							
KDAK	**Kodiak Island**	**76.06**	**27**	P		**P**	**21 28 31.8**	**+1.0**
O18K	**Koktuh Hills**	**76.15**	**24**	P		**P**	**21 28 31.9**	**+0.6**
WMQ	**Urumqi**	**76.30**	**317⇑**	*i*P		**P**	**21 28 30.6**	**-2.0**
WMQ				pmax		pmax		
	comp=Z,47nm,0.7s							
RC01	**Rabbit Creek A**	**79.09**	**24**	P		**P**	**21 28 48.6**	**+0.9**
RC01				IAmb		IAmb	21 29 18.1	
	comp=Z,21nm,1.2s							
J20K	**Nowinta River**	**79.14**	**21**	P		**P**	**21 28 50.0**	**+2.1**
J20K				IAmb		IAmb	21 28 50.6	
	comp=Z,6.6nm,0.6s							
PWL	**Port Wells**	**79.55**	**25**	P		**P**	**21 28 51.0**	**+0.8**
PWL				IAmb		IAmb	21 28 52.5	
	comp=Z,31nm,1.3s							
SML	**Sawmill**	**80.04**	**24**	P		**P**	**21 28 53.6**	**+0.8**
SML				IAmb		IAmb	21 28 54.7	
	comp=Z,9.8nm,0.7s							
IMAR	**Indian Mountai**	**80.35**	**19**	P		**P**	**21 28 54.4**	**0.0**
MLY	**Manley**	**80.83**	**21**	P		**P**	**21 28 58.6**	**+1.5**
MLY				IAmb		IAmb	21 28 59.1	
	comp=Z,5.8nm,0.5s							
MK31	**Makanchi Array**	**80.88**	**319**	P		**P**	**21 28 56.1**	**-1.6**
MKAR	**Makanchi Array**	**80.88**	**319**	P		**P**	**21 28 57.0**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=100,slow=6.3,SNR=19							
MKAR				pP		**pP**	**21 29 13.8**	**+1.5**
	comp=Z,3.3nm,0.6s,baz=97,slow=7.2,SNR=11							
	comp=Z,2.2nm,0.8s							
MKAR	**Makanchi Array**	**80.88**	**319**	P		**P**	**21 28 56.5**	**-1.1**
MAKZ	**Makanchi**	**81.08**	**319**	P		**P**	**21 28 57.8**	**-1.0**
MAKZ				IAmb		IAmb	21 29 15.9	
	comp=Z,8.9nm,0.8s							
ZALV	**Zalesovo Beam**	**81.65**	**326**	P		**P**	**21 28 59.9**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=110,slow=6.0,SNR=6.5							
	comp=Z,1.1nm,0.4s							
GLB	**Gilahina Butte**	**81.76**	**26**	P		**P**	**21 29 02.9**	**+0.9**
GLB				IAmb		IAmb	21 29 04.2	
	comp=Z,6.0nm,0.9s							
HDA	**Harding Lake**	**81.89**	**22**	P		**P**	**21 29 03.1**	**+0.5**
HDA				IAmb		IAmb	21 29 37.0	
	comp=Z,12nm,1.6s							
ILAR	**Eielson Array**	**82.10**	**22**	P		**P**	**21 29 03.6**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=243,slow=5.5,SNR=14							
	comp=Z,1.7nm,0.6s							
H24K	**Noodor Dome**	**82.28**	**21**	P		**P**	**21 29 05.3**	**+0.6**
H24K				IAmb		IAmb	21 29 24.5	
	comp=Z,12nm,1.6s							
J25K	**Salcha River,**	**82.59**	**22**	P		**P**	**21 29 07.2**	**+0.8**
J25K				IAmb		IAmb	21 29 07.8	
	comp=Z,5.4nm,0.7s							
DOT	**Dot Lake**	**82.65**	**24**	P		**P**	**21 29 06.9**	**+0.3**
M27K	**Edge Creek, AK**	**82.98**	**25**	P		**P**	**21 29 10.1**	**+1.6**
M27K				IAmb		IAmb	21 29 48.6	
	comp=Z,23nm,1.5s							
BCAR	**Beaver Creek A**	**83.32**	**25**	P		**P**	**21 29 11.2**	**+1.1**
BOOM	**Boomskoye usch**	**84.17**	**313**	P		**P**	**21 29 15.2**	**+0.1**
BMAR	**Burnt Mountain**	**84.21**	**20**			**P**	**21 29 15.9**	**+1.3**
KURBB	**Kurchatov Array**	**84.33**	**322**	P		**P**	**21 29 14.3**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=97,slow=5.5,SNR=6.1							
KURBB				pP		**pP**	**21 29 31.5**	**+1.3**
	comp=Z,4.4nm,0.8s,baz=109,slow=4.0,SNR=16							
	comp=Z,1.1nm,0.8s							
QSPA	**South Pole Qui**	**84.97**	**180**	P		**P**	**21 29 18.5**	**-0.1**
AAK	**Ala-Archa**	**85.25**	**313**	P		**P**	**21 29 20.2**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=131,slow=1.2,SNR=4.4							
AAK				pP		**pP**	**21 29 37.5**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=146,slow=5.7,SNR=9.5							
	comp=Z,1.9nm,0.5s							
MAW	**Mawson**	**85.64**	**203**	P		**P**	**21 29 21.6**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=89,slow=5.5,SNR=10							
	comp=Z,3.4nm,0.7s							
MAW	**Mawson**	**85.64**	**203**	P		**P**	**21 29 21.8**	**+0.1**
NRIK	**Noril'sk**	**86.34**	**341**	P		**P**	**21 29 26.2**	**+1.2**
NRIK				IAmb		IAmb	21 29 28.1	
	comp=Z,11nm,1.6s							
KKAR	**Karatay Array**	**88.21**	**313**	P		**P**	**21 29 34.1**	**-0.6**
INK	**Inuvik**	**88.41**	**21**	LR		LR	22 04 17.8	
	comp=Z,46nm,20.9s,baz=184,slow=32							
YBH	**Yreka Blue Hor**	**88.72**	**48**	LR		LR	22 00 59.1	
	comp=Z,54nm,21.6s,baz=280,slow=30							
BVAR	**Borovoye Array**	**89.76**	**323**	P		**P**	**21 29 39.7**	**-2.1**
	comp=Z,2.3nm,0.7s,baz=108,slow=7.7,SNR=5.7							
BVAR				pP		**pP**	**21 29 57.2**	**+0.5**
	comp=Z,10.0nm,0.7s,baz=101,slow=6.2,SNR=23							
BVAR				LR		LR	22 08 01.2	
	comp=Z,21nm,21.6s,baz=86,slow=34							
	comp=Z,2.3nm,0.7s							
BRVK	**Borovoye**	**89.83**	**323**	P		**P**	**21 29 42.0**	**0.0**
YKA	**Yellowknife Ar**	**95.30**	**28**	LR		LR	22 07 02.8	
	comp=Z,36nm,19.7s,baz=306,slow=32							
ABKAR	**Akbulak array**	**96.02**	**319**	P		**P**	**21 30 12.8**	**+2.1**
ABKAR				IAmb		IAmb	21 30 26.3	
	comp=Z,2.7nm,0.9s							
AKTO	**Aktyubinsk**	**97.26**	**320**	LR		LR	22 17 24.0	
	comp=Z,9.7nm,18.2s,baz=59,slow=37							
LPIG	**La Paz**	**97.73**	**66**	LR		LR	22 04 54.8	
	comp=Z,21nm,20.9s,baz=220,slow=30							
PDAR	**Pinedale Array**	**98.52**	**48**	LR		LR	22 11 29.0	
	comp=Z,32nm,18.0s,baz=272,slow=33							
CRVS	**Cervenica-Dubn**	**120.30**	**325**	*e*PKP		**PKiKP**	**21 35 36.5**	**+1.9**
GERES	**GERESS Array B**	**124.54**	**329**	PKP		**PKPdf**	**21 35 41.6**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=73,slow=1.8,SNR=6.5							
TORD	**Torodi Ar. Bea**	**150.96**	**288**	PKPbc		**PKPbc**	**21 36 35.8**	**-1.3**
	comp=Z,4.8nm,0.5s,baz=37,slow=2.3,SNR=92							

*EAF **13** 21:28:01.1±1.9, 11.°24N×39.°89E, h0km±34km, ML3.8*

*AAE **13** 21:28:03.3±2.9, 11.°31N×39.°80E, h15km±47km, ML4.1*

ISC 13 21:27:59.1±3.7, 11.°3N±0.°2×40.°0E±0.°1, h1km±20km, n21, σ1$23/37, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANKE	**Ethiopia-Afar**	**1.67**	**190**	*e*P		**Pn**	**21 28 29.9**	**+0.1**
ANKE				*e*S		**Sg**	**21 28 53.9**	**+1.1**
AAE	**Adis Abeba**	**2.53**	**209**	*e*P		**Pn**	**21 28 42.3**	**+0.7**
AAE				*e*S		**Sn**	**21 29 13.8**	**+0.6**
AAE	**Adis Abeba**	**2.53**	**209**	*e*P		**Pb**	**21 28 44.4**	**-1.0**
AAE				*e*S		**Sn**	**21 29 12.7**	**-0.5**
AAE	**Adis Abeba**	**2.53**	**209**	*e*P		**Pn**	**21 28 42.6**	**+1.0**
AAE				*i* Sg		**Sb**	**21 29 16.6**	**-0.7**
AAE				IAML			21 29 17.5	
	comp=E,578nm,0.4s							
AAE	**Adis Abeba**	**2.53**	**209**	*e*P		**Pn**	**21 28 43.2**	**+1.6**
AAE				*e*S		**Sb**	**21 29 16.2**	**-1.0**
AAE	**Adis Abeba**	**2.53**	**209**	IAML			21 29 17.4	
	comp=N,4μm,0.4s							
AAE				IAML			21 29 17.5	
	comp=E,578nm,0.4s							
AAE	**Adis Abeba**	**2.53**	**209**	*e*P		**Pn**	**21 28 42.6**	**+1.0**
AAE				*i* Sg		**Sb**	**21 29 16.6**	**-0.7**
AAE				IAML			21 29 17.5	
	comp=E,578nm,0.4s							
AAE	**Adis Abeba**	**2.53**	**209**	*e*P		**Pn**	**21 28 42.3**	**+0.7**
AAE				*e*S		**Sn**	**21 29 13.8**	**+0.6**
AAE	**Adis Abeba**	**2.53**	**209**	*e*P		**Pb**	**21 28 44.4**	**-1.0**
AAE				*e*S		**Sn**	**21 29 12.7**	**-0.5**
PMG	**Port Moresby**	**7.61**	**234**	P		**Pn**	**21 18 39.2**	**+1.5**
	24nm,0.5s,baz=70,slow=4.3,SNR=9.0							
PMG				S		**Sn**	**21 20 02.3**	**-0.4**
	206nm,0.6s,baz=132,slow=17,SNR=12							
PMG	**Port Moresby**	**7.61**	**234**	Pn		**Pn**	**21 18 38.5**	**+0.8**
HNR	**Honiara**	**7.83**	**125**	LR		LR	21 22 06.8	
	comp=Z,3μm,21.5s,baz=54,slow=40							
PATS	**Pohnpei**	**12.72**	**23**	Pn		**Pn**	**21 19 44.0**	**-3.6**
COEN	**Coen**	**13.47**	**228**	Pn		**Pn**	**21 19 57.3**	**-0.7**
CTA	**Charters Tower**	**16.55**	**204**	P		**P**	**21 20 39.6**	**-0.1**
	3.8nm,0.7s,baz=27,slow=13,SNR=2.6							
CTA				LR		LR	21 26 06.9	
	comp=Z,189nm,20.3s,baz=56,slow=34							
CTAO	**Charters Tower**	**16.55**	**204**	Pn		**P**	**21 20 39.1**	**-0.7**
KOUNC	**Koumac, New Ca**	**18.73**	**147**	P		**Pn**	**21 21 04.7**	**+0.1**
KOUNC				IAmb		IAmb	21 21 08.8	
	comp=Z,26nm,0.9s							
GUMO	**Guam**	**20.32**	**335**	P		Pn	21 21 23.2	-0.3
	comp=Z,57nm,0.6s,baz=124,slow=5.4,SNR=3.5							
GUMO				LR		LR	21 29 43.5	
	comp=Z,59nm,19.0s,baz=152,slow=38							
EIDS	**Eidsvold**	**20.39**	**186**	Pn		Pn	21 21 25.0	+0.7
DZM	**Mont Dzumac**	**21.15**	**145**	P		**P**	**21 21 30.4**	**+0.3**
	comp=Z,23nm,0.5s,baz=304,slow=8.5,SNR=40							
DZM				LR		LR	21 28 11.4	
	comp=Z,208nm,19.3s,baz=230,slow=32							
	comp=Z,23nm,0.5s							
DZM	**Mont Dzumac**	**21.15**	**145**	P		**P**	**21 21 30.3**	**+0.3**
DZM				IAmb		IAmb	21 21 31.0	
	comp=Z,20nm,0.6s							
FAKI	**Fak Fak**	**21.22**	**275**	P		**P**	**21 21 29.4**	**-1.5**
OUENC	**Ouen Island, N**	**21.65**	**144**	P		**P**	**21 21 35.8**	**+0.4**
OUENC				IAmb		IAmb	21 21 37.5	
	comp=Z,57nm,1.4s							
MARNC	**Mare, Loyalty**	**21.67**	**140**	P		**P**	**21 21 35.7**	**+0.2**
SIJI	**Sorong**	**22.50**	**280**	P		**P**	**21 21 43.6**	**-1.0**
	comp=Z,3.1nm,0.4s,baz=122,slow=13,SNR=2.5							
	comp=Z,3.1nm,0.4s							
MTN	**Manton Dam**	**23.35**	**249**	P		**P**	**21 21 54.1**	**+1.0**
MTN				IAmb		IAmb	21 22 16.1	
	comp=Z,17nm,1.0s							
WB0	**Warramunga Arr**	**23.65**	**230**	P		**P**	**21 21 55.7**	**-0.3**
WR0	**Warramunga Arr**	**23.65**	**229**	P		**P**	**21 21 55.8**	**-0.1**
WB2	**Warramunga Arr**	**23.78**	**230**	P		**P**	**21 21 56.6**	**-0.6**
WB2				IAmb		IAmb	21 22 34.8	
	comp=Z,10nm,0.7s							
WRA	**Warramunga Arr**	**23.79**	**230**	P		**P**	**21 21 57.4**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=53,slow=9.6,SNR=52							
WRA				PcP		**PcP**	**21 25 38.9**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=51,slow=2.1,SNR=4.6							
WRA				ScP		**ScP**	**21 29 13.7**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=58,slow=3.1,SNR=2.9							
WRA				LR		LR	21 31 32.3	
	comp=Z,104nm,19.2s,baz=90,slow=37							
	comp=Z,4.2nm,0.6s							
WRA	**Warramunga Arr**	**23.79**	**230**	P		**P**	**21 21 56.2**	**-1.1**
ARMA	**Armidale**	**25.35**	**184**	P		**P**	**21 22 13.0**	**+1.5**
ARMA				IAmb		IAmb	21 22 13.5	
	comp=Z,17nm,1.1s							
AS31	**Alice Springs**	**26.43**	**223**	P		**P**	**21 22 21.9**	**+0.6**
ASAR	**Alice Springs**	**26.44**	**223**	P		**P**	**21 22 20.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=58,slow=8.8,SNR=20							
ASAR				PcP		**PcP**	**21 25 45.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=60,slow=2.9,SNR=4.7							
ASAR				ScP		**ScP**	**21 29 22.6**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=39,slow=2.9,SNR=4.7							
ASAR				LR		LR	21 32 00.5	
	comp=Z,141nm,21.9s,baz=86,slow=34							
	comp=Z,1.2nm,0.6s							
ASAR	**Alice Springs**	**26.44**	**223**	P		**P**	**21 22 22.1**	**+0.8**
KNRA	**Kununurra**	**26.45**	**244**	P		**P**	**21 22 22.3**	**+0.9**
KNRA				IAmb		IAmb	21 22 49.2	
	comp=Z,19nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**26.75**	**29**	T		T	21 50 10.0	
	baz

FURI	**Furi**	**2.69**	**210**	*e*P	**Pn**	**21 28 44.9**	**+1.1**
FURI				*i* Sg	**Sb**	**21 29 22.1**	**+0.3**
FURI				IAML		21 29 26.6	
	comp=E,1μm,0.4s						
FURI	**Furi**	**2.69**	**210**	*e*P	**Pb**	**21 28 46.5**	**-1.7**
FURI				*e*S	**Sb**	**21 29 22.1**	**+0.3**
FURI	**Furi**	**2.69**	**210**	IAML		21 29 26.6	
	comp=E,1μm,0.4s						
FURI				IAML		21 29 30.2	
	comp=E,831nm,0.7s						
FURI	**Furi**	**2.69**	**210**	*e*P	**Pn**	**21 28 44.9**	**+1.1**
FURI				*i* Sg	**Sb**	**21 29 22.1**	**+0.3**
FURI				IAML		21 29 26.6	
	comp=E,1μm,0.4s						
ATD	**Arta Tunnel**	**2.78**	**84**	*e*P	**Pn**	**21 28 43.8**	**-1.1**
ATD				*e*S	**Sb**	**21 29 24.1**	**-0.2**
ATD	**Arta Tunnel**	**2.78**	**84**	*e*P	**Pn**	**21 28 47.1**	**+2.3**
ATD				*e*S	**Sb**	**21 29 24.9**	**+0.6**
ATD	**Arta Tunnel**	**2.78**	**84**	*e*P	**Pn**	**21 28 46.7**	**+1.9**
ATD				*e*S	**Sb**	**21 29 23.7**	**-0.6**
ATD	**Arta Tunnel**	**2.78**	**84**	*e*P	**Pn**	**21 28 46.9**	**+2.1**
ATD	**Arta Tunnel**	**2.78**	**84**	*e*P	**Pn**	**21 28 43.0**	**-1.9**
ATD				*e*S	**Sb**	**21 29 22.7**	**-1.6**
ATD				IAML		21 29 28.2	
	comp=E,8μm,0.9s						
ATD	**Arta Tunnel**	**2.78**	**84**	*e*P	**Pn**	**21 28 46.7**	**+1.9**
ATD				*e*S	**Sb**	**21 29 23.7**	**-0.6**
ATD	**Arta Tunnel**	**2.78**	**84**	*e*P	**Pn**	**21 28 43.8**	**-1.1**
ATD				*e*S	**Sb**	**21 29 24.1**	**-0.2**
ATD	**Arta Tunnel**	**2.78**	**84**	*e*P	**Pn**	**21 28 47.1**	**+2.3**
ATD				*e*S	**Sb**	**21 29 24.9**	**+0.6**

NNC 13 21:43:34.7±17.0, 37.66N×71.61E, h231km±198km, mb2.8, mpv3.9, 1C-4D, Error ellipse: s-maj=199.0km s-min=93.8km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.50**	**352**	⇓P	Pn	21 44 57.8	+1.6
	2.2nm,0.3s,baz=170,slow=12,SNR=63						
KK31				⇑S	S	21 46 04.4	+3.5
	7.9nm,0.5s,baz=179,slow=23,SNR=5.7						
TKM2	**Tokmak 2**	**6.08**	**29**	⇓P	Pn	21 45 03.1	-0.5
	19nm,0.7s						
TKM2				⇓S	S	21 46 12.9	-1.4
	10nm,0.8s						
AB31	**Akbulak array**	**14.34**	**328**	P	Pn	21 46 47.4	0.0
	1.0nm,0.6s,baz=147,slow=12,SNR=18						
AKTO	**Aktyubinsk**	**16.05**	**327**	⇓P	P	21 47 06.6	-0.4
	2.9nm,0.8s						

IDC 13 21:46:56.7±3.8, 23.53N×126.61E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=245.3km s-min=23.5km az=64.0
JMA 13 21:47:00.4±0.1, 24.1N±1.1°×126.7E±0.8, h126km±2km, MV3.2/27, NEAR MIYAKOJIMA ISLAND
ISC 13 21:46:57.2±2.3, 23.86N±0.08×126.78E±0.05, h7km±12km, n26, σ1s05/47, mb3.6/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.54**	**306**	P	**Pg**	**21 47 27.1**	**+0.4**
JOGS				S	**Sg**	**21 47 47.4**	**+0.7**
JMJ2	**Miyako jima3**	**1.59**	**304**	P	**Pb**	**21 47 27.8**	**+0.9**
JMJ2				S	**Sg**	**21 47 48.4**	**+0.1**
JIKM	**Ikemajima**	**1.75**	**308**	P	**Pb**	**21 47 29.6**	**-0.1**
JIKM				S	**Sg**	**21 47 51.6**	**-2.0**
JIRB	**Irabujima**	**1.75**	**304**	P	**Pb**	**21 47 29.8**	**0.0**
JIRB				S	**Sg**	**21 47 51.5**	**-2.1**
JTJ	**Tarama**	**2.05**	**293**	P	**Pn**	**21 47 33.2**	**+1.1**
JTJ				S	**Sb**	**21 47 58.1**	**-2.3**
JISG	**Ishigakijimahi**	**2.36**	**288**	P	**Pn**	**21 47 37.6**	**+1.2**
JISG				S	**Sn**	**21 48 05.2**	**-0.5**
JJT3	**Tamagusuku3**	**2.45**	**22**	P	**Pn**	**21 47 38.9**	**+1.2**
JJT3				S	**Sn**	**21 48 08.7**	**+0.8**
JIJ	**Ishigaki jima**	**2.46**	**282**	P	**Pn**	**21 47 38.9**	**+1.2**
JIJ				S	**Sn**	**21 48 08.2**	**+0.2**
JKE	**Kume jima 2**	**2.46**	**0**	P	**Pn**	**21 47 38.8**	**+1.0**
JKE				S	**Sn**	**21 48 07.9**	**-0.2**
JKRS	**Kuro-shima**	**2.56**	**279**	P	**Pn**	**21 47 39.6**	**+0.5**
JKRS				S	**Sn**	**21 48 10.3**	**-0.1**
JAGN	**Aguni-jima**	**2.75**	**9**	P	**Pn**	**21 47 43.2**	**+1.4**
JAGN				S	**Sn**	**21 48 15.3**	**0.0**
IRIF	**Iriomote-Funau**	**2.82**	**280**	P	**Pn**	**21 47 43.8**	**+1.1**
IRIF				S	**Sn**	**21 48 16.7**	**-0.3**
JNTH	**Nagotoyohara**	**2.88**	**23**	P	**Pn**	**21 47 44.4**	**+0.8**
JNTH				S	**Sn**	**21 48 18.2**	**-0.3**
JOW	**Kunigami**	**3.26**	**24**	P	**Pn**	**21 47 49.7**	**+1.0**
JOW				S	**Sn**	**21 48 27.5**	**-0.3**
JIH	**Iheya**	**3.34**	**19**	P	**Pn**	**21 47 50.8**	**+0.9**
JIH				S	**Sn**	**21 48 28.6**	**-1.2**
YOJ	**Yonaguni jima**	**3.49**	**281**	P	**Pn**	**21 47 52.8**	**+0.9**
YOJ				S	**Sn**	**21 48 32.5**	**-1.0**
JYRO	**Yoronjima**	**3.50**	**25**	P	**Pn**	**21 47 52.8**	**+0.7**
JYRO				S	**Sn**	**21 48 33.4**	**-0.3**
JOKE	**Okinoerabujima**	**3.85**	**25**	P	**Pn**	**21 47 57.6**	**+0.8**
JOKE				S	**Sn**	**21 48 41.6**	**-0.8**
JTK	**Tokunoshima**	**4.38**	**26**	P	**Pn**	**21 48 04.7**	**+0.6**
JTK				S	**Sn**	**21 48 54.4**	**-1.0**
JAMN	**Amaminishikomi**	**4.87**	**26**	P	**Pn**	**21 48 11.3**	**+0.4**
JAMN				S	**Sn**	**21 49 06.4**	**-1.1**
JAM	**Amami Oshima**	**5.20**	**29**	P	**Pn**	**21 48 15.9**	**+0.5**
JAM				S	**Sn**	**21 49 14.6**	**-1.1**
JTAJ	**Takarajima**	**5.71**	**22**	P	**Pn**	**21 48 23.0**	**+0.6**
JTAJ				S	**Sn**	**21 49 27.3**	**-0.8**
MKAR	**Makanchi Array**	**42.18**	**314**	P	**P**	**21 54 52.6**	**+2.0**
	0.5nm,0.6s,baz=98,slow=9.7,SNR=9.0 0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**43.38**	**325**	P	**P**	**21 55 01.4**	**+1.3**
	0.7nm,0.4s,baz=116,slow=6.6,SNR=3.8 0.7nm,0.4s						
WRA	**Warramunga Arr**	**44.16**	**170**	P	P	21 55 04.8	-1.9
	1.0nm,0.8s,baz=350,slow=9.1,SNR=6.5 1.0nm,0.8s						
ASAR	**Alice Springs**	**47.74**	**171**	P	**P**	**21 55 33.3**	**-1.7**
	0.4nm,0.8s,baz=354,slow=11,SNR=1.7 0.4nm,0.8s						

IDC 13 21:47:54.2±2.1, 5.65S×153.57E, h0km, mb3.6/3, mbtmp3.6/4, ML3.3/1, MS3.8/1, Error ellipse: s-maj=55.4km s-min=36.8km az=62.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.04**	**311**	Pn	Pn	21 48 30.6	+0.8
	9.6nm,0.3s,baz=90,slow=2.0,SNR=1.4						
KRVT				Sn	Sn	21 48 55.5	-0.4
	11nm,0.3s,baz=324,slow=15,SNR=3.8 35nm,0.3s						
FITZ	**Fitzroy Crossi**	**29.94**	**243**	P	P	21 54 04.4	+0.1
	0.5nm,0.5s,baz=45,slow=7.6,SNR=1.4 0.5nm,0.5s						
JOW	**Kunigami**	**40.53**	**324**	LR	LR	22 08 34.8	
	comp=Z,119nm,20.6s,baz=120,slow=31						
SONM	**Songino Array**	**67.45**	**328**	P	P	21 58 52.2	+0.2
	0.2nm,0.5s,baz=145,slow=6.8,SNR=2.4 0.2nm,0.5s						
MKAR	**Makanchi Array**	**81.47**	**319**	P	P	22 00 13.2	-0.3
	0.4nm,0.7s,baz=103,slow=4.6,SNR=4.0 0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.29**	**287**	PKPbc	PKPbc	22 07 50.6	-0.4
	0.4nm,1.0s,baz=87,slow=2.5,SNR=5.9						

IDC 13 21:58:39.2±6.4, 30.93S×179.09W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=258.3km s-min=56.6km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.15**	**268**	P	P	22 06 33.4	-0.3
	0.5nm,0.5s,baz=106,slow=7.6,SNR=9.2 0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.19**	**273**	P	P	22 06 42.1	0.0
	0.7nm,0.3s,baz=114,slow=7.6,SNR=15 0.7nm,0.3s						
FINES	**FINESS Array B**	**145.31**	**339**	PKPbc	PKPbc	22 18 17.2	-0.8
	1.7nm,0.9s,baz=45,slow=5.7,SNR=6.7						

ROM 13 22:06:09.0±0.1, 42.867N±0.004×13.000E±0.004, h5km, ML1.4/2, 6C-2D, Error ellipse: s-maj=0.3km s-min=0.3km az=325.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1216	**Preci, Frazion**	**0.03**	**30**	P	Pg	22 06 10.2	0.0
T1216				S	Sg	22 06 11.0	+0.1
T1216				AML	AML		
	comp=E,9385μm,0.5s						
T1216				AML	AML		
	comp=N,10575μm,0.7s						
T1216				AML	AML		
	comp=E,1140μm,0.5s						
T1216				AML	AML		
	comp=N,1208μm,0.5s						
T1216	**Preci, Frazion**	**0.03**	**30**	P	Pg	22 06 10.2	0.0
T1216				AML	AML		
	comp=E,9385μm,0.5s						
T1216				AML	AML		
	comp=N,10575μm,0.7s						
T1216				AML	AML		
	comp=E,1140μm,0.5s						
T1216				AML	AML		
	comp=N,1208μm,0.5s						
T1215	**Vallo di Nera,**	**0.12**	**236**	P	Pg	22 06 11.7	+0.3
T1215				S	Sg	22 06 13.9	+0.8
T1215	**Vallo di Nera,**	**0.12**	**236**	S	Sg	22 06 12.0	-1.1
T1242	**Castelluccio d**	**0.15**	**104**	⇑P	Pg	22 06 12.3	+0.2
T1242				AML	AML		
	comp=E,3835μm,0.2s						
T1242				AML	AML		
	comp=N,4215μm,0.5s						
T1242				AML	AML		
	comp=E,3815μm,0.2s						
T1242				AML	AML		
	comp=N,4125μm,0.4s						
T1242				AML	AML		
	comp=E,3830μm,0.2s						
T1242				AML	AML		
	comp=N,4210μm,0.4s						
T1242	**Castelluccio d**	**0.15**	**104**	⇑P	Pg	22 06 12.3	+0.2
T1242				AML	AML		
	comp=E,3835μm,0.2s						
T1242				AML	AML		
	comp=N,4215μm,0.5s						
T1242				AML	AML		
	comp=E,3815μm,0.2s						
T1242				AML	AML		
	comp=N,4125μm,0.4s						
T1242				AML	AML		
	comp=E,3830μm,0.2s						
T1242				AML	AML		
	comp=N,4210μm,0.4s						
T1242				AML	AML		
	comp=E,3815μm,0.2s						
T1242				AML	AML		
	comp=N,4125μm,0.4s						
T1242				AML	AML		
	comp=E,3815μm,0.2s						
T1242				AML	AML		
	comp=E,3830μm,0.2s						
T1242				AML	AML		
	comp=N,4125μm,0.4s						
T1242				AML	AML		
	comp=N,4210μm,0.4s						
FDMO	**Fiordimonte**	**0.18**	**21**	⇑P	Pg	22 06 13.0	+0.4
FDMO				S	Sg	22 06 16.3	+1.2
FDMO				AML	AML		
	comp=E,287μm,0.6s						
FDMO				AML	AML		
	comp=E,288μm,0.6s						
FDMO				AML	AML		
	comp=N,282μm,0.2s						
FDMO	**Fiordimonte**	**0.18**	**21**	⇑P	Pg	22 06 13.0	+0.4
FDMO				AML	AML		
	comp=E,287μm,0.6s						
FDMO				AML	AML		
	comp=N,282μm,0.2s						
FDMO				AML	AML		
	comp=E,288μm,0.6s						
FDMO				AML	AML		
	comp=N,282μm,0.2s						
FDMO				AML	AML		
	comp=N,282μm,0.2s						
FDMO				AML	AML		
	comp=E,288μm,1.4s						
T1202	**Accumoli, Fraz**	**0.23**	**135**	⇑P	Pg	22 06 12.2	-1.3
T1202				AML	AML		
	comp=E,2505μm,1.3s						
T1202				AML	AML		
	comp=N,2980μm,0.7s						
T1202				AML	AML		
	comp=E,2520μm,1.3s						
T1202				AML	AML		
	comp=N,2970μm,0.7s						
T1202	**Accumoli, Fraz**	**0.23**	**135**	⇑P	Pg	22 06 12.2	-1.3
T1202				AML	AML		
	comp=E,2505μm,1.3s						
T1202				AML	AML		
	comp=N,2980μm,0.7s						
T1202				AML	AML		
	comp=E,2520μm,1.3s						
T1202				AML	AML		
	comp=N,2970μm,0.7s						
T1202				AML	AML		
	comp=E,2520μm,0.7s						
T1202				AML	AML		
	comp=N,2970μm,0.7s						
MMO1	**Montemonaco**	**0.24**	**82**	P	Pg	22 06 14.3	+0.6
MMO1				S	Sg	22 06 18.6	+1.6
MMO1	**Montemonaco**	**0.24**	**82**	P	Pg	22 06 15.7	+1.9
SMA1	**SAN MARTINO**	**0.34**	**134**	S	Sb	22 06 28.0	+4.6
SMA1	**SAN MARTINO**	**0.34**	**134**	S	Sb	22 06 28.0	+4.6
T1243	**Rocca Santa Ma**	**0.37**	**117**	⇓P	Pg	22 06 15.5	-0.7
T1243	**Rocca Santa Ma**	**0.37**	**117**	⇓P	Pg	22 06 15.5	-0.7

ROM 13 22:07:05.9±0.2, 38.38N±0.02×14.79E±0.01, h8km±1km, ML2.0/2, 1C-2D, Error ellipse: s-maj=2.2km s-min=0.6km az=27.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLI	**Lipari**	**0.14**	**60**	⇓P	Pg	22 07 11.6	+2.7
LLI				AML	AML		
	comp=E,1300μm,1.5s						
LLI				AML	AML		
	comp=N,1865μm,0.3s						
LLI				AML	AML		
	comp=N,1865μm,0.3s						
LLI				AML	AML		
	comp=E,1300μm,1.5s						
LLI	**Lipari**	**0.14**	**60**	P	Pg	22 07 09.7	+0.8
LLI				S	Sg	22 07 11.9	+0.9
LLI				AML	AML		
	comp=E,1300μm,1.5s						
LLI				AML	AML		
	comp=N,1865μm,0.3s						
VPL	**Vulcano Piano**	**0.15**	**89**	⇓P	Pg	22 07 09.6	+0.5
VPL	**Vulcano Piano**	**0.15**	**89**	P	Pg	22 07 09.6	+0.5
VPL				S	Sg	22 07 11.8	+0.5
IFIL	**Filicudi I Eol**	**0.26**	**317**	⇑P	Pg	22 07 11.8	+0.7
IFIL				AML	AML		
	comp=E,332μm,1.2s						
IFIL				AML	AML		
	comp=N,122μm,0.2s						
IFIL				AML	AML		
	comp=E,332μm,1.2s						
IFIL				AML	AML		
	comp=N,122μm,0.2s						
IFIL	**Filicudi I Eol**	**0.26**	**317**	P	Pg	22 07 11.8	+0.7
IFIL				S	Sb	22 07 16.1	-1.4
IFIL				AML	AML		
	comp=N,122μm,0.2s						
IFIL				AML	AML		
	comp=E,332μm,1.2s						
IACL	**Alicudi**	**0.38**	**295**	P	Pn	22 07 20.1	+2.5
IACL	**Alicudi**	**0.38**	**295**	P	Pb	22 07 14.2	-0.6
IACL				S	Sb	22 07 20.0	-0.8
MSRU	**Castanea**	**0.57**	**101**	P	Pg	22 07 16.8	-0.2

IDC 13 22:24:00.2±5.3, 36.80N×144.75E, h0km, mb3.6/2, mbtmp3.7/5, ML3.1/3, MS3.3/2, Error ellipse: s-maj=103.0km s-min=37.6km az=27.0
JMA 13 22:24:04.9±0.3, 37.1N±1.1°×144.4E±1°, h53km, MV3.6/18, FAR E OFF NORTH HONSHU
ISC 13 22:24:02.2±1.8, 37.09N±0.06×144.5E±0.1, h26km, n22, σ1s50/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.71**	**298**	P	**Pn**	**22 24 44.7**	**+0.7**
JIKH				*e*S	**Sn**	**22 25 14.5**	**-1.4**
JIO	**Ouri**	**2.85**	**299**	P	**Pn**	**22 24 46.9**	**+0.9**
JIO				*e*S	**Sn**	**22 25 18.4**	**-1.1**
JFK	**Kawauchi**	**2.92**	**276**	P	**Pn**	**22 24 47.8**	**+0.8**
JFK				S	**Sn**	**22 25 19.8**	**-1.4**
JKMT	**Kesennumamotoy**	**2.95**	**306**	*e*P	**Pn**	**22 24 48.0**	**+0.5**
JKMT				S	**Sn**	**22 25 20.4**	**-1.7**
JMST	**Minamisoumatoc**	**2.96**	**283**	P	**Pn**	**22 24 48.1**	**+0.6**
OFUJ	**Ofunato**	**3.00**	**312**	P	**Pn**	**22 24 48.4**	**+0.4**
OFUJ				S	**Sn**	**22 25 21.2**	**-1.9**
JMK	**Ichinoseki**	**3.20**	**307**	P	**Pn**	**22 24 51.5**	**+0.8**
JFT	**Otama**	**3.36**	**279**	P	**Pn**	**22 24 55.2**	**+2.2**
JFT				*e*S	**Sn**	**22 25 31.9**	**-0.1**
JRY	**Ryogami san**	**4.64**	**258**	P	**Pn**	**22 25 11.6**	**+0.9**
JRY				S	**Sn**	**22 26 01.1**	**-2.7**
MJAR	**Matsushiro Arr**	**5.09**	**266**	Pn	**Pn**	**22 25 19.0**	**+2.2**
	0.3nm,0.3s,baz=81,slow=10,SNR=13						
MJAR				Sn	**Sn**	**22 26 16.4**	**+1.6**
	0.1nm,0.3s,baz=91,slow=28,SNR=1.6 1.5nm,0.3s						
JHJ	**Hachijo jima 2**	**5.54**	**226**	Pn	**Pn**	**22 25 23.4**	**+0.3**
	2.7nm,0.3s,baz=50,slow=16,SNR=1.6						
JHJ				Sn	**Sn**	**22 26 23.2**	**-2.8**
	17nm,0.3s,baz=69,slow=22,SNR=6.9 90nm,0.8s						
KSRS	**Korea Array**	**13.22**	**277**	Pn	Pn	22 27 13.6	+5.3
	0.1nm,0.3s,baz=94,slow=14,SNR=4.2 0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**26.10**	**125**	T	T	22 56 21.7	
	baz=317,slow=76						
H11N1	**WAKE ISLAND Hy**	**26.11**	**125**	T	T	22 56 25.8	
	baz=317,slow=76						
H11N3	**WAKE ISLAND Hy**	**26.12**	**125**	T	T	22 56 30.3	
	baz=317,slow=76						
H11S1	**WAKE ISLAND Hy**	**26.86**	**128**	T	T	22 57 23.9	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**26.87**	**128**	T	T	22 57 24.5	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**26.88**	**128**	T	T	22 57 26.1	
	baz=319						
SIJI	**Sorong**	**39.72**	**201**	LR	LR	22 44 47.7	
	comp=Z,25nm,21.1s,baz=70,slow=32						
WRA	**Warramunga Arr**	**57.53**	**191**	P	**P**	**22 33 49.5**	**0.0**
	0.5nm,0.5s,baz=8.6,slow=7.2,SNR=6.1 0.5nm,0.5s						
ASAR	**Alice Springs**	**61.25**	**191**	P	**P**	**22 34 15.6**	**+0.5**
	0.2nm,0.4s,baz=12,slow=9.5,SNR=2.1 0.2nm,0.4s						
AFI	**Afiamalu**	**65.30**	**132**	LR	LR	22 56 45.1	
	comp=Z,51nm,21.2s,baz=42,slow=30						

GCG 13 22:33:18.7±0.6, 13.1N×90.41W, h0km±15km, MD3.4
SNET 13 22:33:18.9±0.8, 13.10N×89.99W, h23km±6km, ML2.4
ISC 13 22:33:17.6±2.6, 13.1N±0.2×90.05W±0.06, h22km±9km, n8, σ0s38/13, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.88**	**28**	*e*S	**Sn**	**22 33 47.4**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.01**	**15**	*e*P	**Pb**	**22 33 36.3**	**-0.1**
SLOZ				*e*S	**Sb**	**22 33 49.3**	**-0.1**
SJTE	**Alcalda de S**	**1.16**	**61**	*e*P	**Pn**	**22 33 38.5**	**-0.2**
SJTE				*e*S	**Sn**	**22 33 53.5**	**-0.5**
PCG	**Pacaya**	**1.44**	**338**	*e*P	**Pb**	**22 33 43.8**	**-0.2**
PCG				*e*S	**Sb**	**22 34 02.4**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.44**	**63**	*e*P	**Pn**	**22 33 43.2**	**+0.7**
SCLA				*e*S	**Sb**	**22 34 01.6**	**-0.2**
SCLA				IAML		22 34 06.0	
	comp=Z,55nm,0.3s						
NBG	**Las Nubes**	**1.56**	**349**	*e*P	**Pb**	**22 33 46.2**	**+0.2**
FUG	**Fuego 3**	**1.59**	**331**	*e*P	**Pn**	**22 33 44.3**	**-0.4**
STG3	**Santiaguito 3,**	**2.22**	**318**	*e*P	**Pn**	**22 33 53.3**	**0.0**
STG3				*e*S	**Sn**	**22 34 20.4**	**+0.2**

IDC 13 22:45:06.9±3.4, 7.97S×151.40E, h0km, mb3.5/3, mbtmp3.8/4, ML2.1/1, MS3.1/1, Error ellipse: s-maj=60.7km s-min=46.5km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.43**	**251**	Pn	Pn	22 46 17.7	+2.3
	6.8nm,0.3s,baz=72,slow=9.6,SNR=9.0						
PMG				Sn	Sn	22 47 05.7	-2.1
	11nm,0.3s,baz=54,slow=18,SNR=5.6						
PMG				LR	LR	22 47 55.4	
	comp=Z,244nm,20.5s,baz=61,slow=38 33nm,0.5s						
WRA	**Warramunga Arr**	**20.37**	**232**	P	P	22 49 44.1	-1.2
	0.9nm,0.8s,baz=56,slow=11,SNR=5.9 0.9nm,0.8s						
SIJI	**Sorong**	**21.27**	**288**	P	P	22 49 55.1	0.0
	7.1nm,0.5s,baz=94,slow=9.7,SNR=6.7 7.1nm,0.5s						
ASAR	**Alice Springs**	**22.91**	**225**	P	P	22 50 11.9	-0.8
	0.2nm,0.3s,baz=54,slow=8.9,SNR=4.1 0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**149.79**	**282**	PKPbc	PKPbc	23 05 00.1	+0.1
	2.0nm,1.4s,baz=96,slow=3.7,SNR=1.9						

NORS 13 22:47:08.0±0.0, 42.07N×45.78E, h13km, MPVA3.3
TIF 13 22:47:08.3, 42.16N×45.67E, h26km±1km
DRS 13 22:47:10.6±0.0, 42.19N×45.72E, h15km
ISC 13 22:47:08.4±1.0, 42.13N±0.03×45.70E±0.02, h13km±9km, n27, σ1s34/52, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.50**	**125**	P	**Pb**	**22 47 19.6**	**+0.5**
LGD				S	**Sb**	**22 47 27.7**	**+1.4**
DGRG	**David-gareji**	**0.72**	**200**	P	**Pb**	**22 47 23.5**	**+0.7**
DGRG				S	**Sb**	**22 47 34.1**	**+1.6**
BTNK	**Botanikuri**	**0.80**	**237**	P	Pg	22 47 16.4	-7.5
BTNK				S	**Sg**	**22 47 27.9**	**-6.5**
XNZR	**Khunzakh**	**0.86**	**61**	*e*Pg	**Pn**	**22 47 25.4**	**-0.9**
	7.0nm,0.1s						
XNZR				*e*Sg	**Sn**	**22 47 37.0**	**-1.8**
	28nm,0.4s						
DVE	**Vedeno**	**0.89**	**21**	*e*Pg	**Pn**	**22 47 25.8**	**-0.8**
DVE				*e*Sg	**Sn**	**22 47 37.7**	**-1.8**
PNSH	**Pansheti**	**0.95**	**303**	P	**Pb**	**22 47 26.0**	**-0.8**
GNBR	**Gunib**	**0.98**	**74**	*e*Pg	**Pn**	**22 47 27.5**	**-0.4**
	10.0nm,0.1s						
GNBR				*e*Sg	**Sn**	**22 47 40.0**	**-1.7**
	6.0nm,0.4s						
UNCR	**Uncukul**	**1.00**	**54**	*e*Pg	**Pn**	**22 47 28.3**	**0.0**
	7.0nm,0.2s						
UNCR				*e*Sg	**Sn**	**22 47 41.3**	**-0.9**
	39nm,0.2s						
KMKR	**Kumukh**	**1.04**	**89**	*e*Pg	**Pn**	**22 47 28.9**	**0.0**
	14nm,0.1s						
KMKR				*e*Sg	**Sn**	**22 47 43.1**	**-0.4**
	43nm,0.6s						
ARKR	**Arakani**	**1.07**	**63**	*e*Pg	**Pg**	**22 47 29.4**	**+0.3**
	4.0nm,0.2s						
ARKR				*e*Sg	**Sn**	**22 47 43.5**	**-0.6**
	14nm,0.3s						
GROC	**Groznyy**	**1.08**	**4**	*e*Pg	**Pg**	**22 47 29.3**	**+0.1**
	24nm,0.5s						
GROC				*e*Sg	**Sn**	**22 47 43.2**	**-0.8**
	28nm,0.4s						
KMGR	**Komgaron**	**1.11**	**327**	*e*Pg	**Pg**	**22 47 30.3**	**+0.4**
KMGR				*e*Sg	**Sn**	**22 47 47.8**	**+2.8**
KRNR	**Karanay**	**1.14**	**52**	*e*Pg	**Pg**	**22 47 29.9**	**-0.4**
	4.0nm,0.3s						
KRNR				*e*Sg	**Sn**	**22 47 44.3**	**-1.4**
	45nm,0.4s						
DLMR	**Dylym**	**1.17**	**36**	*e*Pg	**Pg**	**22 47 30.7**	**-0.2**
	10.0nm,0.3s						
DLMR				*e*Sg	**Sg**	**22 47 46.2**	**+0.1**
	28nm,0.7s						
KZRT	**Kazreti**	**1.22**	**233**	P	**Pn**	**22 47 31.0**	**-0.2**
KZRT				S	**

7.0nm,0.2s
DBC eSg Sg 22 47 48.5 +0.6
45nm,0.4s
LACR Lac 1.25 305 ePg Pb 22 47 31.7 -0.2
LACR eSg Sb 22 47 47.1 -0.9
BUJR Buynaksk 1.26 56 ePg Pg 22 47 32.4 -0.2
6.0nm,0.2s
BUJR eSg Sg 22 47 48.7 -0.3
10.0nm,0.5s
DMNI Dmanisi 1.38 235 P Pn 22 47 33.6 +0.2
DMNI S Sb 22 47 52.3 +0.6
URKR Urkarakh 1.44 88 ePg Pg 22 47 36.6 +0.5
4.0nm,0.4s
URKR eSg Sg 22 47 55.8 +0.9
23nm,1.0s
ARNR Ardon 1.48 316 ePg Pg 22 47 37.5 +0.7
ARNR eSg Sg 22 47 58.3 +2.3
ZEI Tsey 1.48 297 ePg Pb 22 47 35.9 0.0
ZEI eSg Sg 22 47 57.7 +1.5
SGKR Sergokala 1.49 76 ePg Pg 22 47 36.9 -0.1
2.0nm,0.6s
SGKR eSg Sg 22 47 56.6 +0.2
17nm,0.3s
ALIG Mtskhetisjvari 1.52 270 P Pn 22 47 35.7 +0.3
ALIG S Sb 22 47 55.5 -0.3
KORR Kora 1.54 309 ePg Pg 22 47 38.0 0.0
KORR eSg Sg 22 47 59.5 +1.6
AKT Akhty 1.65 112 ePg Pg 22 47 40.1 0.0
6.0nm,0.4s
AKT eSg Sg 22 48 02.9 +1.3
17nm,0.3s
BKRG Bakuriani 1.66 258 P Pb 22 47 38.5 -0.4
BKRG S Sb 22 48 00.6 +0.7

*IDC **13** 23:02:35.8±6.8, 37°.11N×71°.05E, h110km±63km, mbtmp3.4/4, Error ellipse: s-maj=87.3km s-min=20.1km az=152.0*
*NNC **13** 23:02:35.5±10.0, 37°.40N×71°.07E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=93.4km s-min=56.4km az=166.0*
ISC 13 23:02:34.4±2.3, 37°.0N±0°.2×71°.1E±0°.1, h100km, n7, σ0.97/11, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.12	356	⇓P	Pn		23 04 04.0	+1.8
	0.3nm,0.2s,baz=181,slow=14,SNR=21							
KK31				⇓S	Sn		23 05 09.5	-1.3
	1.4nm,0.5s,baz=177,slow=23,SNR=8.1							
AAK	Ala-Archa	6.20	24	P	Pn		23 04 04.6	+1.2
	2.3nm,0.4s,baz=201,slow=8.6,SNR=6.7							
AAK				S	Sn		23 05 12.9	0.0
	1.1nm,0.3s,baz=180,slow=20,SNR=1.3							
TKM2	Tokmak 2	6.83	29	⇓P	Pn		23 04 11.6	-0.6
	1.7nm,0.6s							
TKM2				⇑S	Sn		23 05 28.2	-0.4
	1.4nm,0.7s							
GEYT	Alibeck	10.39	279	P	Pn		23 05 00.5	0.0
	0.8nm,0.5s,baz=129,slow=11,SNR=5.9							
GEYT				S	Sn		23 06 54.3	-0.7
	0.4nm,0.3s,baz=80,slow=16,SNR=2.0							
MKAR	Makanchi Array	12.82	37	P	Pn		23 05 32.2	-0.7
	0.8nm,0.8s,baz=220,slow=13,SNR=5.3							
AB31	Akbulak array	14.71	330	P	Pn		23 05 57.0	-0.2
	0.2nm,0.5s,baz=182,slow=20,SNR=7.6							
ZALV	Zalesovo Beam	19.42	25	P	P		23 06 52.5	0.0
	0.5nm,0.4s,baz=226,slow=10,SNR=3.8							

*IDC **13** 23:27:04.2±1.0, 28°.13N×139°.99E, h450km±11km, mb3.2/16, mbtmp4.0/21, Error ellipse: s-maj=18.4km s-min=11.4km az=77.0*
*NEIC **13** 23:27:04.3±1.7, 28°.2N±0°.1×140°.1E±0°.1, h449km±8km, mb4.0/24, Error ellipse: s-maj=19.3km s-min=15.2km az=79.0*
*JMA **13** 23:27:04.2±0.3, 28°N±1°×14°0E±°, h456km±3km, MV4.2/49, W OFF OGASAWARA*
ISC 13 23:27:04.3±0.5, 28°.23N±0°.06×140°.11E±0°.08, h450km, n88, σ1.93/102, mb3.8/28, 1C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.15	121	P	P		23 28 05.4	-0.3
CBIJ				S	S		23 28 53.5	-2.0
JCJ	Chichijima	2.15	121	P	P		23 28 05.0	-0.8
	79nm,0.3s,baz=280,slow=18,SNR=27							
JCJ				S	S		23 28 53.0	-2.5
	201nm,0.3s,baz=271,slow=20,SNR=16							
JCJ	Chichijima	2.15	121	P	P		23 28 05.0	-0.8
JHH2	Haha-jima-NKT2	2.42	130	eP	P		23 28 07.5	0.0
JHH2				S	S		23 28 57.7	-0.9
JHJ2	Mitsune	4.88	357	P	P		23 28 27.9	+0.6
JHJ2	Mitsune	4.88	357	P	P		23 28 28.3	+1.0
JHJ	Hachijo jima 2	4.88	357	P	P		23 28 28.0	+0.5
	45nm,0.3s,baz=124,slow=22,SNR=16							
JHJ				S	S		23 29 33.5	-1.8
	38nm,0.3s,baz=296,slow=23,SNR=1.4							
BSO1	Boso 1	6.45	6	P	P		23 28 43.9	+1.4
BSO1				S	S		23 30 05.0	+1.9
BSO3	Boso 3	6.56	3	P	P		23 28 44.8	+0.8
BSO3				S	S		23 30 04.8	-0.9
BSO4	Boso 4	6.75	2	P	P		23 28 46.6	+0.5
BSO4				eS	S		23 30 09.0	-0.4
JTNC	Tanabenakahech	6.78	326	P	P		23 28 48.5	+1.9
JIE	Ise	6.80	335	P	P		23 28 49.2	+2.4
JOD2	Odawara 2	7.07	353	P	P		23 28 51.1	+1.5
JNY	Yasuok	7.36	345	P	P		23 28 53.8	+1.0
INU	Inuyama	7.57	340	P	P		23 28 54.2	-0.8
JHU	Hanno	7.63	355	eP	P		23 28 55.2	-0.5
JHU				S	S		23 30 24.2	-2.9
JMN	Monobe	7.66	317	P	P		23 28 58.5	+2.4
JTO	Tosashimizu	7.81	308	P	P		23 29 00.1	+2.4
JRY	Ryogami san	7.83	353	P	P		23 28 58.2	+0.4
JYT	Yasato	7.98	0	P	P		23 28 59.1	-0.2
JYT	Yasato	7.98	0	P	P		23 29 59.2	-0.1
JYT				S	S		23 30 30.1	-3.6
JAG	Ashikaga	8.19	356	P	P		23 29 01.3	-0.4
JAG				S	S		23 30 34.0	-4.1
JHO	Hitachi	8.37	3	P	P		23 29 04.4	+0.9
MJAR	Matsushiro Arr	8.45	350	P	P		23 29 04.1	-0.3
	2.9nm,0.3s,baz=127,slow=16,SNR=9.8							
MJAR				S	S		23 30 41.5	-1.6
	2.4nm,0.4s,baz=157,slow=16,SNR=2.1							
MAJO	Matsushiro	8.45	349	P	P		23 29 03.5	-1.0
JHS	Saijyo	9.01	320	P	P		23 29 13.3	+2.8
JHS	Saijyo	9.01	320	P	P		23 29 12.9	+2.4
JFK	Kawauchi	9.14	4	P	P		23 29 13.2	+1.3
JFK				S	S		23 30 55.4	-1.5
JMM	Marumori	9.63	3	P	P		23 29 19.1	+1.9
JSD	Sado	9.91	351		P		23 29 20.5	+0.3
JOW	Kunigami	10.60	265	P	P		23 29 29.5	+1.5
	22nm,0.4s,baz=112,slow=13,SNR=6.5							
JMK	Ichinoseki	10.74	5	P	P		23 29 31.1	+1.9
KSRS	Korea Array	13.76	315	P	P		23 30 02.5	+0.4
	4.6nm,0.8s,baz=130,slow=10,SNR=29							
JOSM	Okushiri--Mats	13.83	358	P	P		23 30 04.8	+2.1
SEHB	SEOHWA	14.09	318	P	P		23 30 05.5	-0.1
USRK	Ussuriysk Ar.	17.22	340	P	P		23 30 40.8	+2.1
	5.6nm,0.6s,baz=162,slow=11,SNR=10							
BNX	BinXian	20.17	333	⇑P	P		23 31 09.3	+2.3
BNX				pmax	pmax			
	comp=Z,8.0nm,0.8s							
BNX				pmax	pmax			
	comp=Z,180nm,5.9s							
KLR	Kul'dur	21.94	345	P	P		23 31 24.3	+1.3
	comp=Z,2.9nm,0.9s,baz=151,slow=8.5,SNR=8.2							
	comp=Z,2.9nm,0.9s							
HHC	Hu-ho-hao-te	26.55	306	eP	P		23 32 05.3	+0.8
HHC				pmax	pmax			
	comp=Z,13nm,0.7s							
HHC				pmax	pmax			
	comp=Z,380nm,4.7s							
SONM	Songino Array	32.63	316	P	P		23 32 57.6	+0.3
	comp=Z,0.7nm,0.4s,baz=120,slow=8.5,SNR=3.7							
	comp=Z,0.7nm,0.4s							
PZH	PanZhiHua	34.03	276	P	P		23 33 08.4	-1.1
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,300nm,4.8s							
WMQ	Urumqi	44.42	305	eP	P		23 34 34.8	+1.1
WB0	Warramunga Arr	48.03	187	P	P		23 35 00.5	-0.9
WB0				IAmb	IAmb		23 35 07.4	
	comp=Z,12nm,1.5s							
FITZ	Fitzroy Crossi	48.13	199	P	P		23 35 01.0	-1.1
WR0	Warramunga Arr	48.21	187	P	P		23 35 01.6	-1.0
WB2	Warramunga Arr	48.21	187	P	P		23 35 01.5	-1.2
WB2				IAmb	IAmb		23 35 13.4	
	comp=Z,7.4nm,1.2s							
WRA	Warramunga Arr	48.21	187	P	P		23 35 01.8	-1.0
	comp=Z,0.7nm,0.3s,baz=4.4,slow=7.6,SNR=29							
WRA				PcP	PcP		23 36 21.4	-0.3
	comp=Z,0.2nm,0.7s,baz=4.9,slow=4.4,SNR=4.7							
WRA				S	S		23 41 22.1	-5.9
	comp=Z,0.3nm,0.7s,baz=15,slow=15,SNR=2.0							
	comp=Z,0.7nm,0.3s							
WRA	Warramunga Arr	48.21	187	P	P		23 35 01.4	-1.3
MK31	Makanchi Array	48.34	309	P	P		23 35 03.2	-0.3
MK31				IAmb	IAmb		23 35 37.2	
	comp=Z,5.1nm,1.5s							
MKAR	Makanchi Array	48.34	309	P	P		23 35 03.4	-0.1
	comp=Z,0.9nm,0.5s,baz=91,slow=9.3,SNR=22							
MKAR				PcP	PcP		23 36 21.6	-0.3
	comp=Z,0.6nm,0.7s,baz=90,slow=5.8,SNR=4.9							
	comp=Z,0.9nm,0.5s							
MKAR	Makanchi Array	48.34	309	P	P		23 35 02.9	-0.5
MAKZ	Makanchi	48.55	309	P	P		23 35 05.2	+0.1
MAKZ				IAmb	IAmb		23 35 27.0	
	comp=Z,4.0nm,1.2s							
KURK	Kurchatov	50.88	314	P	P		23 35 21.4	-0.7
ASAR	Alice Springs	51.94	187	P	P		23 35 29.4	-0.8
	comp=Z,0.3nm,0.4s,baz=3.5,slow=6.5,SNR=5.7							
	comp=Z,0.3nm,0.4s							
BOOM	Boomskoye usch	53.06	304	P	P		23 35 39.0	+0.6
KK31	Karatay Array	56.93	305	P	P		23 36 05.6	+0.2
KK31				IAmb	IAmb		23 36 05.9	
	comp=Z,2.8nm,0.6s							
KKAR	Karatay Array	56.93	305	P	P		23 36 05.6	+0.2
BTK	Batken	57.24	301	P	P		23 36 07.6	-0.1
ILAR	Eielson Array	57.61	29	P	P		23 36 09.7	+0.1
	comp=Z,0.3nm,0.7s,baz=289,slow=6.2,SNR=4.6							
	comp=Z,0.3nm,0.7s							
ILAR	Eielson Array	57.61	29	P	P		23 36 10.4	+0.7
BMAR	Burnt Mountain	58.64	26	P	P		23 36 18.4	+1.8
CHGR	Chuyangaron	58.79	300	P	P		23 36 18.1	-0.2
CHGR				IAmb	IAmb		23 36 18.9	
	comp=Z,8.4nm,0.7s							
KBL	Kabul	59.88	295	P	P		23 36 25.2	-0.6
EGAK	Eagle	60.06	29	P	P		23 36 27.8	+1.6
EGAK				IAmb	IAmb		23 37 06.7	
	comp=Z,4.8nm,1.2s							
ARU	Arti	62.40	322	P	P		23 36 41.2	-0.6
ARU				IAmb	IAmb		23 36 42.0	
	comp=Z,2.0nm,0.6s							
ABKAR	Akbulak array	62.99	314	P	P		23 36 45.1	-0.6
ARCES	ARCESS Array B	71.87	340	P	P		23 37 40.3	+0.2
	comp=Z,1.7nm,0.6s,baz=72,slow=8.0,SNR=10							
	comp=Z,1.7nm,0.6s							
ARCES	ARCESS Array B	71.87	340	P	P		23 37 40.0	-0.1
ARCES				IAmb	IAmb		23 38 22.0	
	comp=Z,11nm,1.3s							
YKA	Yellowknife Ar	72.02	28	P	P		23 37 41.5	+0.5
	comp=Z,0.9nm,0.6s,baz=294,slow=6.4,SNR=4.3							
	comp=Z,0.9nm,0.6s							
UOSS	Minazif	73.60	290	P	P		23 37 50.0	-1.0
NNZ	Nelson	75.66	155	P	P		23 38 01.6	-0.4
KBZ	Khabaz	75.89	312	P	P		23 38 03.6	+0.1
	comp=Z,2.0nm,0.7s,baz=41,slow=1.2,SNR=5.1							
	comp=Z,2.0nm,0.7s							
FIA1	FINESS Array S	76.12	333	P	P		23 38 04.0	-0.4
FINES	FINESS Array B	76.12	333	P	P		23 38 04.0	-0.4
	comp=Z,2.1nm,0.4s,baz=73,slow=5.3,SNR=38							
	comp=Z,2.1nm,0.4s							
BEKR	Beckworth	79.17	51	P	P		23 38 22.4	+0.7
BEKR				IAmb	IAmb		23 38 23.4	
	comp=Z,3.4nm,0.7s							
AKASG	Malin Array Be	80.62	323	P	P		23 38 28.2	-0.7
	comp=Z,0.3nm,0.3s,baz=64,slow=2.2,SNR=1.7							
	comp=Z,0.3nm,0.3s							
NVAR	Mina Array Bea	81.25	51	P	P		23 38 34.1	+1.4
	comp=Z,1.1nm,0.7s,baz=292,slow=5.6,SNR=8.7							
	comp=Z,1.1nm,0.7s							
NC405	NORSAR Array S	81.65	337	P	P		23 38 33.3	-0.7
NB2	NORSAR Subarra	81.88	338	P	P		23 38 34.5	-0.7
	comp=Z,0.6nm,0.5s,baz=45,slow=4.8							
NOA	NORSAR Array B	81.88	338	P	P		23 38 34.5	-0.7
	comp=Z,1.4nm,0.7s,baz=45,slow=5.2,SNR=8.3							
	comp=Z,1.4nm,0.7s							
RLMT	Red Lodge	83.55	42	P	P		23 38 45.5	+1.2
RLMT				IAmb	IAmb		23 38 46.6	
	comp=Z,1.7nm,0.7s							
BRTR	Keskin Array B	83.89	312	P	P		23 38 45.0	-1.0
	comp=Z,0.5nm,0.7s,baz=106,slow=4.1,SNR=5.4							
	comp=Z,0.5nm,0.7s							
BRTR	Keskin Array B	83.89	312	P	P		23 38 44.3	-1.7
PSUT	Pine Spring	84.22	49	P	P		23 38 49.6	+1.9
PDAR	Pinedale Array	84.69	44	P	P		23 38 51.1	+1.1
	comp=Z,0.3nm,0.7s,baz=285,slow=3.5,SNR=3.8							
	comp=Z,0.3nm,0.7s							
TXAR	Lajitas Array	96.38	52	P	P		23 39 45.4	+1.0
	comp=Z,0.3nm,0.7s,baz=318,slow=2.6,SNR=3.9							
	comp=Z,0.3nm,0.7s							
TORD	Torodi Ar. Bea	122.45	310	PKP	PKPdf		23 45 06.9	-1.4
	comp=Z,0.3nm,0.5s,baz=12,slow=2.4,SNR=7.0							
LPAZ	La Paz	151.36	71	PKPbc	PKPbc		23 46 08.2	+0.5
	comp=Z,0.7nm,0.5s,baz=323,slow=5.1,SNR=3.9							

WEL 14 00:19:56.1±0.8, 34°S±13°×177°E±2°.1, h332km±12km, M3.6/9, mB4.1/4, ML3.9/9, MLv3.7/9, Mw(mB)3.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.27	195	P	Pn		00 20 54.5	-2.1
MXZ				S	S		00 21 44.1	-1.1
WMGZ	Waiomatatini S	3.50	193	P	Pn		00 20 55.6	-3.2
WMGZ				S	S		00 21 50.1	+0.9
HAZ	Te Kaha	3.59	201	P	Pn		00 20 57.6	-2.1
HAZ				S	S		00 21 53.4	+2.6
PKGZ	Pakihiroa	3.63	197	P	Pn		00 20 59.4	-0.9
RUGZ	Raukumara Rang	3.81	201	P	Pn		00 20 59.3	-2.8
RUGZ				S	S		00 21 54.5	-0.8
CNGZ	Carnagh Statio	4.18	193	P	Pn		00 21 06.5	+0.7
MWZ	Matawai	4.20	200	P	Pn		00 21 04.2	-1.9
MWZ				S	S		00 22 02.6	+0.2
SNGZ	Shannon Statio	4.67	200	P	Pn		00 21 08.7	-2.4
SNGZ				S	S		00 22 15.7	+4.0
MTHZ	Maungataniwha	4.89	204	P	Pn		00 21 14.0	+0.4
ARHZ	Aropaoanui	5.21	201	P	Pn		00 21 17.7	+0.5
ARHZ				S	S		00 22 26.9	+4.1
HIZ	Hauiti	5.49	220	S	S		00 22 27.9	-0.5
GLKZ	Green Lake	5.62	25	P	Pn		00 21 26.4	+4.4
KAHZ	Kahuranaki	5.74	200	P	Pn		00 21 24.2	+1.0
KRHZ	Kereru	5.76	204	P	Pn		00 21 23.5	0.0
KRHZ				S	S		00 22 38.0	+3.9
PXZ	Pawanui	5.96	199	P	Pn		00 21 26.7	+0.9
BFZ	Birch Farm	6.74	201	P	Pn		00 21 35.6	+0.7
MRZ	Mangatainoka R	6.94	205	P	Pn		00 21 36.1	-1.1
OGWZ	Otaki Gorge	7.22	206	P	Pn		00 21 40.8	+0.2
KIW	Kapiti Island	7.36	208	P	Pn		00 21 42.5	+0.3

*ATH **14** 00:25:13.9, 37°.56N×23°.59E, h16km±2km, ML2.4/6, Error ellipse: s-maj=2.4km s-min=0.8km az=128.0*
*THE **14** 00:25:14.3, 37°.57N×23°.56E, h10km, ML2.5/18, Error ellipse: s-maj=0.8km s-min=0.4km az=311.0*
ISC 14 00:25:14.0±0.9, 37°.57N±0°.02×23°.58E±0°.03, h15km±7km, n37, σ0.48/63, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YDRA	Hydra	0.23	202	P	Pg		00 25 19.1	-0.1
YDRA				S	Sg		00 25 23.1	+0.5
YDRA				AML	AML		00 25 24.1	
	comp=N,6465μm,0.2s							
YDRA				AML	AML		00 25 24.4	
	comp=E,8608μm,0.3s							
VLY	Voula,Athens	0.33	31	P	Pg		00 25 20.7	-0.2
VLY				S	Sb		00 25 26.7	-0.2
	comp=E,662nm,0.4s							
VLY	Voula,Athens	0.33	31	P	Pg		00 25 20.6	-0.2
VLY				S	Sg		00 25 25.5	0.0
VLY				AML	AML		00 25 27.8	
	comp=N,1182μm,0.3s							
VLY				AML	AML		00 25 28.9	
	comp=E,1403μm,0.4s							
EPID	Epidavros	0.37	278	P	Pg		00 25 21.2	-0.3
EPID				S	Sg		00 25 27.0	+0.4
	comp=E,3μm,0.3s							
EPID	Epidavros	0.37	278	P	Pg		00 25 21.2	-0.3
EPID				S	Sg		00 25 27.2	+0.5
KRND	KRANIDI	0.39	242	P	Pg		00 25 21.4	-0.4
KRND				S	Sg		00 25 26.5	-0.7
	comp=E,1μm,0.3s							
KRND	KRANIDI	0.39	242	P	Pg		00 25 21.5	-0.4
KRND				S	Sg		00 25 27.4	+0.2
KRND				AML	AML		00 25 28.1	
	comp=E,2801μm,0.3s							
KRND				AML	AML		00 25 29.1	
	comp=N,2248μm,0.3s							
ATH	Athens Observa	0.42	15	P	Pg		00 25 22.3	-0.1
ATH				S	Sg		00 25 28.9	+0.7
	comp=N,905nm,0.3s							
ATH	Athens Observa	0.42	15	P	Pg		00 25 22.3	-0.1
ATH				S	Sb		00 25 29.1	-0.2
ATH				AML	AML		00 25 29.9	
	comp=N,1834μm,0.3s							
ATH				AML	AML		00 25 30.3	
	comp=E,1774μm,0.3s							
ATHU	Athens Univers	0.43	22	P	Pg		00 25 22.4	-0.3
ATHU				S	Sg		00 25 28.7	+0.1
	comp=E,145nm,0.2s							
ATHU	Athens Univers	0.43	22	P	Pg		00 25 22.3	-0.3
ATHU				S	Sg		00 25 29.0	+0.4
ATHU				AML	AML		00 25 29.7	
	comp=E,195μm,0.2s							
ATHU				AML	AML		00 25 29.9	
	comp=N,394μm,0.2s							
PTL	Penteli	0.53	25	P	Pg		00 25 24.2	-0.4
PTL				S	Sg		00 25 32.4	+0.7
	comp=N,412nm,0.1s							
PTL	Penteli	0.53	25	P	Pg		00 25 24.2	-0.4
PTL				S	Sg		00 25 32.1	+0.4
PTL				AML	AML		00 25 32.8	
	comp=E,755μm,0.2s							
PTL				AML	AML		00 25 32.9	
	comp=N,883μm,0.1s							
DION	Dionisos Attik	0.58	29	P	Pg		00 25 25.2	-0.3
DION	Dionisos Attik	0.58	29	P	Pg		00 25 25.2	-0.3
VILL	Villia	0.63	341	P	Pg		00 25 26.1	-0.3
VILL				S	Sg		00 25 35.4	+0.5
	comp=N,820nm,0.5s							
LOUT	Loutraki	0.64	311	P	Pg		00 25 26.3	-0.2
LOUT				S	Sg		00 25 34.9	-0.1
	comp=N,378nm,0.2s							
LOUT	Loutraki	0.64	311	P	Pg		00 25 26.3	-0.2
LTK	Loutraki	0.66	313	P	Pg		00 25 26.7	-0.3
LTK				S	Sg		00 25 36.2	+0.4
	comp=N,488nm,0.3s							
VIL2	Platees	0.69	339	P	Pg		00 25 26.1	-1.4
VIL2				S	Sg		00 25 35.3	-1.4
THAL	Thalero	0.86	303	P	Pg		00 25 30.9	+0.1
VLI	Veliai	0.99	211	P	Pn		00 25 32.2	-0.7
VLI				S	Sn		00 25 47.2	+0.1
	comp=N,228nm,0.5s							
KYMI	Kymi, Euboea I	1.14	21	P	Pb		00 25 35.5	0.0
KYMI				S	Sg		00 25 51.1	+0.2
	comp=N,338nm,0.6s							
LKR	Lokris	1.17	337	P	Pn		00 25 34.8	-1.1
ATAL	Atalanti	1.21	339	P	Pn		00 25 36.3	-0.1
ATAL				S	Sg		00 25 53.5	+0.5
	comp=N,145nm,0.5s							
ATAL	Atalanti	1.21	339	P	Pn		00 25 35.7	-0.7
KLV	Kalavryta, Ach	1.23	293	P	Pn		00 25 36.6	-0.1
KLV				S	Sn		00 25 53.4	+0.3
	comp=N,42nm,0.6s							
KLV	Kalavryta, Ach	1.23	293	P	Pn		00 25 36.4	-0.3
ITM	Ithomi	1.37	254	P	Pb		00 25 39.4	0.0
KTHA	Kythira Island	1.37	198	P	Pn		00 25 38.7	0.0
KTHA				S	Sb		00 25 57.1	+0.3
	comp=N,172nm,0.6s							
KTHR	Kythira	1.38	200	P	Pb		00 25 39.5	-0.1
KTHR				S	Sg		00 25 58.3	-0.3
	comp=N,190nm,0.5s							
AXAR	Agios Charalam	1.40	329	P	Pn		00 25 39.4	+0.3
AXAR				S	Sb		00 25 58.6	+1.0
	comp=N,352nm,0.3s							
DRO	Drossia	1.53	285	P	Pn		00 25 41.5	+0.7
DRO	Drossia	1.53	285	P	Pn		00 25 41.6	+0.7
ANKY	Antikythira Is	1.71	188	P	Pn		00 25 43.6	+0.3
NEO	Neokhori	1.76	351	P	Pn		00 25 44.3	+0.3
NEO				S	Sn		00 26 06.4	+0.2
	comp=N,88nm,0.3s							
XOR	Xorichti	1.82	351	P	Pn		00 25 44.9	0.0
XOR				S	Sn		00 26 07.7	0.0
	comp=N,70nm,0.4s							

*IDC **14** 00:25:53.9±1.4, 6°.47N×126°.34E, h141km±14km, mb3.1/4, mbtmp3.6/4, MS2.8/1, Error ellipse: s-maj=56.0km s-min=21.0km az=76.0*
*MAN **14** 00:25:59.1, 6°.63N×126°.04E, h74km, mb4.5, ML3.4, MS3.2*
ISC 14 00:25:54.0±1.0, 6°.37N±0°.07×126°.15E±0°.08, h144km±7km, n15, σ2.931/24, mb3.3/4, 7C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.51	238	⇓eP	Pn		00 26 15.1	+0.4
DDMP				eS	Sn		00 26 30.5	+0.1
MATI	Mati	0.58	11	↑iP	Pn		00 26 14.4	-0.7
MATI				eS	Sn		00 26 30.2	-1.0
DAV	Davao City (W)	0.89	321	P	Pn		00 26 17.7	+0.4
	426nm,0.5s,baz=128,slow=18,SNR=7.3							
DAV				S	Sn		00 26 35.9	+0.8
	878nm,0.3s,baz=128,slow=19,SNR=7.5							
KCP	Kidapawan	1.22	301	⇑iP	Pn		00 26 20.7	+0.3
KCP				iS	Sn		00 26 40.8	+0.4
CDOP	Cateel, Davao	1.43	12	⇑iP	Pn		00 26 20.8	-1.6
CDOP				iS	Sn		00 26 50.9	+6.8
SKMP	Bagumbayan, Su	1.60	275	⇑iP	Pn		00 26 24.4	+0.2
SKMP				eS	Sn		00 26 43.9	-3.4
BIPH	Bislig	1.81	7	⇑iP	Pn		00 26 24.6	-2.1
BIPH				eS	Sn		00 26 47.4	-4.2
BUKP	Musuan	1.84	324	⇑iP	Pn		00 26 27.1	+0.1
BUKP				eS	Sn		00 26 49.4	-2.9
CTBH	Cotabato--PC H	2.07	294	⇓iP	Pn		00 26 30.3	+0.7
TASP	Talacogon, Agu	2.09	351	⇓iP	Pn		00 26 30.2	+0.3

RUGZ			S	Sb	00 41 56.6	-0.1
CNGZ	**Carnagh Statio**	**1.49 212**	P	Pb	00 41 39.9	+0.2
MWZ	**Matawai**	**1.74 230**	P	Pn	00 41 42.2	+0.7
RIGZ	**Rimuhau**	**1.88 218**	P	Pn	00 41 44.0	+0.8
RAGZ	**Rawiri**	**1.91 228**	P	Pn	00 41 44.9	+1.0
PRGZ	**Paritu Road**	**2.00 212**	P	Pn	00 41 45.8	+0.9
SNGZ	**Shannon Statio**	**2.15 223**	P	Pn	00 41 47.7	+0.7
KNZ	**Kokohu**	**2.17 214**	P	Pn	00 41 47.5	+0.2
MHGZ	**Mahia Peninsul**	**2.19 208**	P	Pn	00 41 48.4	+0.9
OPRZ	**Ohinepanea**	**2.21 253**	P	Pn	00 41 48.1	+0.3
MUGZ	**Murupara**	**2.31 237**	P	Pn	00 41 49.8	+0.6
MUGZ			S	Sn	00 42 16.4	-0.5
TARZ	**Mount Tarawera**	**2.38 244**	P	Pn	00 41 51.3	+1.1
MYZ	**Mayor Island**	**2.38 268**	P	Pn	00 41 51.0	+0.8
RAHZ	**Arahi**	**2.39 224**	P	Pn	00 41 51.9	+1.7
WHHZ	**Waihua**	**2.42 220**	P	Pn	00 41 51.5	+0.8
MTHZ	**Maungataniwha**	**2.49 228**	P	Pn	00 41 52.8	+1.1
NMHZ	**Naumai**	**2.67 225**	P	Pn	00 41 55.2	+1.0
ARHZ	**Aropaoanui**	**2.69 220**	P	Pn	00 41 54.9	+0.5
KUZ	**Kuaotunu**	**2.85 279**	P	Pn	00 41 55.5	-1.0
BKZ	**Black Stump Fm**	**2.90 227**	P	Pn	00 41 57.7	+0.4
CKHZ	**Cape Kidnapper**	**2.96 214**	P	Pn	00 41 57.8	-0.2
MCHZ	**McNeill Hill**	**2.98 221**	P	Pn	00 41 58.5	+0.1
KWHZ	**Kaweka Forest**	**3.11 224**	P	Pn	00 42 00.0	-0.3
KAHZ	**Kahuranaki**	**3.16 215**	P	Pn	00 42 00.5	-0.4
GRZ	**Great Barrier**	**3.18 287**	P	Pn	00 42 01.9	+0.8
MKAZ	**Moumakai**	**3.25 271**	P	Pn	00 42 01.8	-0.3
KRHZ	**Kereru**	**3.29 222**	P	Pn	00 42 02.3	-0.4
WIAZ	**Waiheke Island**	**3.30 276**	P	Pn	00 42 03.7	+0.9
TMVZ	**Te Maari**	**3.36 235**	P	Pn	00 42 03.8	+0.1
BHHZ	**Black Hill Sta**	**3.36 227**	P	Pn	00 42 03.4	-0.3
ETVZ	**East Tongariro**	**3.36 234**	P	Pn	00 42 04.2	+0.4
NTVZ	**North Tongarir**	**3.37 235**	P	Pn	00 42 04.4	+0.6
KRVZ	**Karewarewa**	**3.39 235**	P	Pn	00 42 04.6	+0.5
OTVZ	**Oturere**	**3.41 234**	P	Pn	00 42 02.8	-1.6
NNVZ	**North Ngauruho**	**3.42 235**	P	Pn	00 42 05.2	+0.6
WTVZ	**West Tongariro**	**3.43 236**	P	Pn	00 42 05.5	+0.8
SNVZ	**South Ngauruho**	**3.44 234**	P	Pn	00 42 02.7	-2.1
NGZ	**Ngauruhoe**	**3.46 235**	P	Pn	00 42 05.2	+0.1
MOVZ	**Moawhango**	**3.49 230**	P	Pn	00 42 05.7	+0.2
MBAZ	**Motutapu North**	**3.50 276**	P	Pn	00 42 06.7	+1.3
FWVZ	**Far West T-bar**	**3.53 234**	P	Pn	00 42 06.6	+0.4
WNVZ	**Wahianoa**	**3.54 233**	P	Pn	00 42 06.2	-0.1
ABAZ	**Army Bay**	**3.58 279**	P	Pn	00 42 07.9	+1.3
WPHZ	**Waipukurau**	**3.58 217**	P	Pn	00 42 05.9	-0.7
PNHZ	**Pukenui**	**3.58 221**	P	Pn	00 42 05.7	-1.0
HIZ	**Hauiti**	**3.69 248**	P	Pn	00 42 09.8	+1.7
DVHZ	**Dannevirke**	**3.89 217**	P	Pn	00 42 10.0	-0.9
WCZ	**Waipu Caves**	**4.13 287**	P	Pn	00 42 15.4	+1.2
BFZ	**Birch Farm**	**4.16 213**	P	Pn	00 42 15.4	-2.2
WAZ	**Wanganui**	**4.18 232**	P	Pn	00 42 15.7	+0.8
PRWZ	**Pori Road**	**4.18 216**	P	Pn	00 42 13.8	-1.1
MRZ	**Mangatainoka R**	**4.46 219**	P	Pn	00 42 16.7	-2.0
PKE	**Pukeiti**	**4.57 243**	P	Pn	00 42 23.0	+2.8
OGWZ	**Otaki Gorge**	**4.78 220**	P	Pn	00 42 21.0	-2.1
OUZ	**Omahuta**	**4.97 292**	P	Pn	00 42 26.3	+0.5
BSWZ	**Blackbirch Sta**	**6.10 221**	P	Pn	00 42 45.2	+3.9
QRZ	**Quartz Range**	**6.33 233**	P	Pn	00 42 42.7	-1.8
KHZ	**Kahutara**	**6.78 218**	P	Pn	00 42 49.4	-1.2
CTZ	**Chatham Island**	**7.23 155**	P	Pn	00 42 59.4	+2.6
ASAR	**Alice Springs**	**40.97 276**	P	**P**	**00 48 53.2**	**-0.5**
	1.4nm,0.7s,baz=122,slow=8.1,SNR=19 1.4nm,0.7s					
WRA	**Warramunga Arr**	**42.59 281**	P	**P**	**00 49 06.0**	**-0.9**
	1.1nm,0.6s,baz=123,slow=7.5,SNR=18 1.1nm,0.6s					
FITZ	**Fitzroy Crossi**	**50.46 277**	P	**P**	**00 50 08.4**	**-0.2**
	1.1nm,0.6s,baz=134,slow=6.3,SNR=5.4 1.1nm,0.6s					
H03N3	**Juan Fernandez** baz=228	**78.84 123**	T	T	02 19 59.5	
H03N2	**Juan Fernandez** baz=228	**78.85 123**	T	T	02 20 02.1	
H03N1	**Juan Fernandez** baz=228	**78.86 123**	T	T	02 20 00.4	
FINES	**FINESS Array B**	**150.51 334**	PKPbc	**PKPbc**	**01 01 01.3**	**0.0**
	0.9nm,0.7s,baz=66,slow=3.5,SNR=1.3					

BGR ***14*** *00:57:39.8±1.4, 44°01N×17°48E, h10km, ML3.4/2, Error ellipse: s-maj=22.2km s-min=10.0km az=166.0*
BEO ***14*** *00:57:39.8±0.5, 44°30N×17°02E, h10km±2km, ML3.3/11*
IDC ***14*** *00:57:41.0±1.0, 44°44N×17°38E, h0km, mb3.3/2, mbtmp3.5/11, ML3.5/8, Error ellipse: s-maj=13.8km s-min=10.5km az=49.0*
RHSSO ***14*** *00:57:41.0±0.2, 44°28N×17°18E, h4km±1km, ML3.5/17*
PDG ***14*** *00:57:41.0±0.5, 44°36N×17°29E, h8km±1km, ML3.4/14, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
PRU ***14*** *00:57:42.6±0.0, 44°37N×17°16E, h0km*
LDG ***14*** *00:57:42.9±0.1, 44°39N×17°31E, h10km, Ml3.3/22, Error ellipse: s-maj=5.3km s-min=2.9km az=25.0*

ISC 14 00:57:40.8±0.8, 44°30N±0°01×17°18E±0°01, h13km±5km, n203, σ1=96/335, 22C-27D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MGRS	**Mrkonjic Grad**	**0.13**	**329**	⇓*i* Pg		**Pg**	**00 57 44.2**	**-0.2**
MGRS				*e*Sg		**Sg**	**00 57 45.0**	**-0.7**
SRKY	**Kupres RS**	**0.23**	**183**	⇓*i* Pg		**Pg**	**00 57 45.2**	**-0.8**
SRKY				*e*Sg		**Sg**	**00 57 49.1**	**-0.3**
BLY	**Banja Luka**	**0.45**	**0**	⇓*i* Pg		**Pg**	**00 57 49.5**	**-0.2**
BLY				*e*Sg		**Sg**	**00 57 55.9**	**+0.2**
BLY	**Banja Luka**	**0.45**	**0**	*e*Pg		**Pg**	**00 57 50.0**	**+0.3**
BLY				*e*Sg		**Sb**	**00 57 57.2**	**+0.1**
A050A	**Klekovaca**	**0.50**	**291**	⇓*i* Pg		**Pg**	**00 57 50.4**	**-0.3**
A050A				*e*Sg		**Sg**	**00 57 57.1**	**-0.3**
KIJV	**Kijevo**	**0.63**	**242**	*i* Pg		**Pg**	**00 57 53.2**	**+0.1**
KIJV				Sg		**Sg**	**00 58 01.2**	**-0.4**
A051A	**Mrakovica**	**0.74**	**345**	⇓*i* Pg		**Pg**	**00 57 55.2**	**0.0**
A051A				*e*Sg		**Sb**	**00 58 05.6**	**+0.1**
PRIJ	**Prijedor**	**0.75**	**334**	⇓*i* Pg		**Pg**	**00 57 55.6**	**+0.2**
PRIJ				*e*Sg		**Sg**	**00 58 05.7**	**+0.4**
DOB	**Doboj**	**0.79**	**56**	⇑*i* Pg		**Pg**	**00 57 54.4**	**-1.7**
DOB				*e*Sg		**Sg**	**00 58 06.2**	**-0.2**
RICI	**Ricice**	**0.81**	**182**	*i* Pg		**Pg**	**00 57 55.2**	**-1.3**
RICI				Sg		**Sb**	**00 58 07.7**	**+0.2**
MAKA	**Makarska**	**1.02**	**187**	*i* Pg		**Pb**	**00 57 59.5**	**-0.8**
MAKA				Sg		**Sn**	**00 58 14.3**	**-0.6**
UDBI	**Udbina**	**1.04**	**283**	*e*Pg		**Pb**	**00 57 59.8**	**-0.9**
UDBI				Sg		**Sg**	**00 58 14.9**	**+0.4**
A251A	**Rujevac**	**1.05**	**322**	*e*Pg		**Pb**	**00 58 00.7**	**-0.2**
A251A				Sg		**Sb**	**00 58 14.3**	**-0.3**
MORI	**Morici**	**1.15**	**248**	*e*Pg		**Pb**	**00 58 02.0**	**-0.4**
MORI				Sg		**Sn**	**00 58 18.3**	**+0.2**
A252A	**Venje**	**1.23**	**23**	*i* Pg		**Pn**	**00 58 04.0**	**+0.3**
A252A				Sg		**Sn**	**00 58 20.5**	**+0.4**
HVAR	**Hvar**	**1.24**	**205**	*e*Pg		**Pb**	**00 58 04.2**	**0.0**
HVAR				Sg		**Sg**	**00 58 21.8**	**+0.9**
PLIT	**Plitvice**	**1.25**	**298**	*e*Pg		**Pn**	**00 58 03.6**	**-0.4**
PLIT				Sg		**Sg**	**00 58 22.1**	**+0.8**
ZIRJ	**Zirje**	**1.28**	**240**	*e*Pg		**Pb**	**00 58 04.6**	**-0.2**
ZIRJ				Sg		**Sg**	**00 58 23.4**	**+1.2**
MOSL	**Moslavina**	**1.35**	**347**	*e*Pg		**Sg**	**00 58 06.1**	**+0.2**
MOSL				Sg		**Sg**	**00 58 24.0**	**+1.3**
A255A	**Hotnja, Vukome**	**1.45**	**327**	*i* Pn		**Pb**	**00 58 08.1**	**+0.4**
A255A				Sg		**Sg**	**00 58 28.1**	**+0.5**
STON	**Ston**	**1.48**	**165**	*e*Pg		**Pn**	**00 58 06.3**	**-0.8**
STON				*e*Sg		**Sb**	**00 58 27.1**	**+0.3**
STON	**Ston**	**1.48**	**165**	*i* Pn		**Pn**	**00 58 07.0**	**0.0**
STON				Sn		**Sg**	**00 58 29.2**	**+0.8**
STON	**Ston**	**1.48**	**165**	*e*Pg		**Pn**	**00 58 07.0**	**0.0**
STON				*e*Sg		**Sg**	**00 58 29.8**	**+1.3**
VIRC	**Vir**	**1.53**	**270**	*e*Pn		**Pg**	**00 58 09.9**	**-0.3**
VIRC				Sn		**Sg**	**00 58 32.1**	**+2.1**
LSTV	**Lastovo**	**1.55**	**188**	*e*Pn		**Pb**	**00 58 09.1**	**-0.2**
LSTV				Sn		**Sg**	**00 58 30.9**	**+0.2**
DUGI	**Dugi Otok**	**1.56**	**259**	*e*Pn		**Pg**	**00 58 10.6**	**-0.2**
DUGI				Sn		**Sg**	**00 58 32.4**	**+1.4**
BLJ	**Bijeljina**	**1.57**	**71**	⇓*i* Pn		**Sn**	**00 58 07.9**	**-0.4**
BLJ				*e*Sn		**Sb**	**00 58 29.5**	**+0.2**
BBLS	**Lazići**	**1.66**	**104**	*e*Pn		**Pb**	**00 58 11.1**	**-0.2**
BBLS				*e*Sg		**Sg**	**00 58 36.2**	**+1.9**
UPM	**Unac-Piva**	**1.66**	**131**	⇑*i* Pn		**Pb**	**00 58 10.9**	**-0.5**
UPM				*e*Sn		**Sb**	**00 58 32.4**	**+0.1**
UPM	**Unac-Piva**	**1.66**	**131**	⇓*i* Pn		**Pb**	**00 58 11.0**	**-0.5**
UPM				*i* Sn		**Sg**	**00 58 34.8**	**+0.4**
NVLJ	**Novalja**	**1.68**	**280**	*e*Pn		**Pb**	**00 58 12.0**	**+0.5**
NVLJ				Sn		**Sg**	**00 58 35.1**	**+0.4**
TEKS	**Tekeris**	**1.70**	**81**	*e*Pn		**Pn**	**00 58 10.0**	**-0.2**
BRY	**Bratogost**	**1.71**	**144**	⇑*i* Pn		**Pn**	**00 58 11.1**	**+0.6**
BRY				*e*Sn		**Sb**	**00 58 33.6**	**-0.1**
BRY	**Bratogost**	**1.71**	**144**	⇑*i* Pn		**Pb**	**00 58 11.9**	**-0.3**
BRY				*i* Sn		**Sg**	**00 58 37.0**	**+1.0**
RUDO	**Rudo**	**1.72**	**113**	⇑*i* Pn		**Pn**	**00 58 11.1**	**+0.6**
RUDO				*e*Sn		**Sb**	**00 58 34.2**	**+0.4**
RUDO	**Rudo**	**1.72**	**113**	*e*Pn		**Pn**	**00 58 10.7**	**+0.2**
RUDO				*e*Sn		**Sb**	**00 58 34.5**	**+0.7**
ZAG	**Zagreb**	**1.74**	**331**	*e*Pn		**Pb**	**00 58 12.0**	**-0.6**
ZAG				Sn		**Sb**	**00 58 34.8**	**+0.4**
DBRK	**Dubrovnik**	**1.78**	**156**	*e*Pn		**Pn**	**00 58 12.0**	**+0.8**
DBRK				Sn		**Sb**	**00 58 35.9**	**+0.5**
OZLJ	**Ozalj**	**1.79**	**318**	*e*Pn		**Pb**	**00 58 13.0**	**-0.4**
OZLJ				Sn		**Sb**	**00 58 36.7**	**+1.0**
PTJ	**Puntijarka**	**1.82**	**332**	*e*Pn		**Pn**	**00 58 12.9**	**+1.0**
PTJ				Sn		**Sb**	**00 58 36.8**	**+0.1**
BOJS	**Bojanci**	**1.82**	**312**	*e*Pn		**Pb**	**00 58 13.3**	**-0.7**
BOJS				*e*Sn		**Sb**	**00 58 36.7**	**0.0**
BOJS	**Bojanci**	**1.82**	**312**	*e*Pn		**Pb**	**00 58 13.9**	**-0.1**
BOJS				*i* Sn		**Sb**	**00 58 37.3**	**+0.6**
BOJS				IAML			00 58 44.8	
	comp=Z,142nm,0.3s							
PLE	**Pljevlja**	**1.87**	**121**	⇓*i* Pn		**Pb**	**00 58 14.1**	**-0.8**
PLE				*e*Sn		**Sb**	**00 58 39.7**	**+1.5**
KALN	**Kalnik**	**1.90**	**345**	*e*Pn		**Pn**	**00 58 13.8**	**+0.9**
KALN				Sn		**Sb**	**00 58 39.1**	**+0.2**
KOVH	**Kovagototos**	**1.90**	**20**	P		**Pn**	**00 58 13.5**	**+0.6**
KOVH				S		**Sn**	**00 58 36.8**	**+0.1**
CRES	**Cresnjev**	**1.95**	**322**	*i* Pn		**Pb**	**00 58 15.2**	**-1.0**
NKY	**Niksic**	**1.99**	**138**	⇑*i* Pn		**Pb**	**00 58 16.3**	**-0.6**
NKY				*i* Sn		**Sb**	**00 58 43.2**	**+1.6**
NKME	**Niksic**	**2.00**	**139**	⇑*i* Pn		**Pb**	**00 58 16.5**	**-0.6**
NKME				*i* Sn		**Sb**	**00 58 43.5**	**+1.5**
LOBO	**Lobor**	**2.01**	**337**	*e*Pn		**Pb**	**00 58 15.6**	**+1.1**
LOBO				Sn		**Sb**	**00 58 42.6**	**+0.4**
DIVS	**Divibare**	**2.03**	**95**	*e*Pn		**Pn**	**00 58 15.9**	**+1.1**
DIVS				*e*Sn		**Sb**	**00 58 42.3**	**-0.5**
DIVS	**Divibare**	**2.03**	**95**	*e*Pn		**Pn**	**00 58 15.6**	**+0.8**
DIVS				*e*Sn		**Sb**	**00 58 43.2**	**+0.4**
GOLS	**Golise**	**2.03**	**328**	*i* Pn		**Pn**	**00 58 16.1**	**+1.4**
FRGS	**Fruska Gora**	**2.06**	**65**	⇑P		**Pn**	**00 58 15.8**	**+0.6**
FRGS	**Fruska Gora**	**2.06**	**65**	*e*Pn		**Pb**	**00 58 16.9**	**-1.2**
FRGS				*e*Sn		**Sb**	**00 58 43.1**	**-0.5**
FRGS	**Fruska Gora**	**2.06**	**65**	*e*Pn		**Pn**	**00 58 15.7**	**+0.6**
FRGS				*e*Sg		**Sg**	**00 58 49.5**	**+2.4**
HCY	**Herceg Novi**	**2.09**	**152**	*e*Pn		**Pn**	**00 58 17.4**	**-1.1**
HCY				*e*Sn		**Sn**	**00 58 42.3**	**+1.0**
HCY	**Herceg Novi**	**2.09**	**152**	⇓*i* Pn		**Pb**	**00 58 18.1**	**-0.4**
HCY				*i* Sn		**Sg**	**00 58 46.4**	**-1.5**
CEME	**Cevo**	**2.16**	**144**	⇓*i* Pn		**Pb**	**00 58 18.9**	**-1.0**
CEME				*i* Sn		**Sb**	**00 58 47.5**	**+0.9**
MORH	**Mrgy, Hungar**	**2.17**	**28**	⇓P		**Pn**	**00 58 17.1**	**+0.5**
MORH	**Mrgy, Hungar**	**2.17**	**28**	*e*Pn		**Pb**	**00 58 18.8**	**-1.2**
MORH				*e*Sn		**Sb**	**00 58 45.5**	**-1.3**
MORH	**Mrgy, Hungar**	**2.17**	**28**	P		**Pn**	**00 58 17.2**	**+0.5**
MORH				S		**Sn**	**00 58 43.6**	**+0.2**
RIY	**Rijeka**	**2.17**	**299**	*e*Pn		**Pb**	**00 58 18.6**	**-1.4**
RIY				Sn		**Sb**	**00 58 47.4**	**+0.5**
KOME	**Kolasin**	**2.23**	**130**	⇓*i* Pn		**Pn**	**00 58 19.4**	**+1.8**
KOME				*i* Sn		**Sb**	**00 58 49.1**	**+0.5**
IVAS	**Ivanjica**	**2.27**	**108**	*e*Pn		**Pn**	**00 58 19.0**	**+1.0**
IVAS				*e*Sn		**Sb**	**00 58 48.7**	**-0.8**
SJES	**Sjenica**	**2.27**	**116**	*e*Pn		**Pn**	**00 58 19.7**	**+1.6**
SJES				*e*Sn		**Sn**	**00 58 47.9**	**+1.8**
SJES	**Sjenica**	**2.27**	**116**	*e*Pn		**Pn**	**00 58 19.8**	**+1.6**
SMRN	**Sveta Marina**	**2.28**	**290**	*e*Pn		**Pb**	**00 58 20.3**	**-1.5**
SMRN				Sn		**Sb**	**00 58 49.8**	**0.0**
TRUS	**Trudelj**	**2.32**	**91**	*e*Pn		**Pn**	**00 58 20.0**	**+1.3**
BUM	**Brajici-Budva**	**2.36**	**147**	⇑*i* Pn		**Pb**	**00 58 21.5**	**-1.7**
BUM				*i* Sn		**Sb**	**00 58 52.3**	**+0.1**
BEO	**Beograd**	**2.41**	**77**	*e*Pg		**Pb**	**00 58 24.3**	**+0.4**
PDG	**Podgorica**	**2.41**	**140**	⇓P		**Pb**	**00 58 22.5**	**-1.5**
PDG	**Podgorica**	**2.41**	**140**	*e*Pg		**Pb**	**00 58 23.0**	**-0.9**
PDG				*e*Sg		**Sg**	**00 58 57.5**	**-0.7**
TTG	**Podgorica**	**2.41**	**140**	⇑*i* Pn		**Pb**	**00 58 22.3**	**-1.6**
TTG				*e*Sn		**Sb**	**00 58 53.1**	**-0.4**
CEY	**Cerknica**	**2.42**	**307**	*e*Pn		**Pn**	**00 58 22.3**	**+2.2**
CEY				*e*Sn		**Sn**	**00 58 51.4**	**+1.8**
IVA	**Berane**	**2.44**	**125**	⇓*i* Pn		**Pn**	**00 58 21.7**	**+1.4**
IVA				*i* Sn		**Sb**	**00 58 53.9**	**-0.5**
GROS	**Grobnik**	**2.46**	**332**	*i* Pn		**Pn**	**00 58 21.9**	**+1.3**
GROS				*e*Sn		**Sn**	**00 58 50.5**	**-0.2**
GROS				IAML			00 59 00.2	
	comp=Z,31nm,0.3s							
VNDS	**Vrh nad Dolski**	**2.51**	**317**	*e*Pn		**Pn**	**00 58 23.1**	**+1.8**
VNDS				*e*Sn		**Sb**	**00 58 55.9**	**-0.7**
SUBS	**Subotica**	**2.52**	**43**	*e*Pn		**Pn**	**00 58 21.3**	**0.0**
BRJN	**Brijuni**	**2.52**	**285**	*e*Pn		**Pn**	**00 58 23.1**	**+1.7**
BRJN				Sn		**Sb**	**00 58 55.0**	**-1.9**
SKDS	**Skadanscina**	**2.57**	**300**	*e*Pn		**Pn**	**00 58 23.8**	**+1.7**
SKDS				*e*Sn		**Sn**	**00 58 55.0**	**+1.8**
SKDS	**Skadanscina**	**2.57**	**300**	*i* Pn		**Pb**	**00 58 25.0**	**-1.8**
SKDS				*i* Sn		**Sb**	**00 58 59.3**	**+1.1**
SKDS				IAML			00 59 10.8	
	comp=Z,51nm,0.3s							
DRME	**Dracevica, Mon**	**2.57**	**145**	*e*Pn		**Pn**	**00 58 24.0**	**+1.9**
DRME				*e*Sn		**Sn**	**00 58 55.2**	**+2.0**
DRME	**Dracevica, Mon**	**2.57**	**145**	⇓*i* Pn		**Pn**	**00 58 24.5**	**+2.4**
DRME				*i* Sn		**Sb**	**00 58 57.9**	**-0.4**
GRUS	**Gruza**	**2.58**	**98**	*e*Pn		**Pn**	**00 58 23.5**	**+1.3**
A253A	**Karojba, Istri**	**2.59**	**294**	*e*Pn		**Pb**	**00 58 25.1**	**-2.0**
A253A				Sn		**Sb**	**00 58 57.8**	**-1.0**
TIH	**Tihany**	**2.65**	**11**	P		**Pn**	**00 58 24.2**	**+1.0**
TIH				S		**Sn**	**00 58 55.1**	**+0.1**
PVY	**Plav**	**2.65**	**129**	⇑*i* Pn		**Pn**	**00 58 25.0**	**+1.7**
PVY				*i* Sn		**Sb**	**00 58 58.9**	**-1.7**
ULC	**Ulcinj**	**2.78**	**146**	⇑*i* Pn		**Pn**	**00 58 27.2**	**+2.1**
ULC				*i* Sn		**Sb**	**00 59 02.8**	**-1.6**
SOKA	**Soboth**	**2.81**	**328**	*e*Pn		**Pn**	**00 58 27.1**	**+1.6**
	comp=Z,4.4nm,0.2s,SNR=35							
SOKA				Sn		**Sn**	**00 58 59.4**	**0.0**
	comp=Z,18nm,0.4s							
MPLH	**Magyarpolny**	**2.88**	**5**	P		**Pn**	**00 58 27.8**	**+1.4**
MPLH				S		**Sn**	**00 59 01.9**	**+1.0**
OBKA	**Obir**	**2.88**	**321**	⇓*i* Pn		**Pn**	**00 58 28.0**	**+1.5**
OBKA				*e*Sn		**Sn**	**00 59 02.7**	**+1.7**
OBKA	**Obir**	**2.88**	**321**	*e*Pn		**Pn**	**00 58 28.7**	**+2.2**
	comp=Z,11nm,0.2s,SNR=19							
SVIS	**Svilajnac**	**2.90**	**89**	*e*Pn		**Pn**	**00 58 27.2**	**+0.6**
GORS	**Gorjuse**	**3.02**	**313**	*i* Pn		**Pn**	**00 58 30.3**	**+1.9**
GORS				*e*Sn		**Sn**	**00 59 05.5**	**+1.1**
GORS				IAML			00 59 23.2	
	comp=Z,60nm,0.6s							
SELS	**Selova**	**3.05**	**109**	*e*Pn		**Pn**	**00 58 29.7**	**+0.9**
EGYH	**Egyhazaskeszo**	**3.12**	**2**	P		**Pn**	**00 58 31.7**	**+2.1**
EGYH				S		**Sn**	**00 59 07.4**	**+0.7**
CSKK	**Cskako**	**3.15**	**13**	P		**Pn**	**00 58 31.3**	**+1.2**
CSKK				S		**Sn**	**00 59 09.1**	**+1.5**
ARSA	**Arzberg**	**3.17**	**339**	⇓*i* Pn		**Pn**	**00 58 31.9**	**+1.5**
ARSA	**Arzberg**	**3.17**	**339**	*i* Pn		**Pn**	**00 58 32.1**	**+1.7**
	comp=Z,36nm,0.3s,SNR=51							
ARSA				*i* Sn		**Sn**	**00 59 07.4**	**-0.6**
	comp=Z,13nm,0.4s							
KUBS	**Kucevo**	**3.23**	**86**	*e*Pn		**Pn**	**00 58 31.2**	**+0.1**
MDVR	**Moldovita**	**3.28**	**80**	⇑P		**Pn**	**00 58 32.7**	**+0.9**
BOVS	**Bovan**	**3.33**	**100**	⇑P		**Pn**	**00 58 33.0**	**+0.4**
BOVS				⇑S		**Sn**	**00 59 14.1**	**+2.1**
BOVS	**Bovan**	**3.33**	**100**	*e*Pn		**Pn**	**00 58 33.2**	**+0.6**
MYKA	**Terra Mystica**	**3.41**	**314**	*e*Pn		**Pn**	**00 58 37.1**	**+3.4**
	comp=Z,2.8nm,0.3s							
SOP	**Sopron**	**3.41**	**353**	P		**Pn**	**00 58 35.1**	**+1.4**
SOP				S		**Sn**	**00 59 15.4**	**+1.5**
SOP	**Sopron**	**3.41**	**353**	*e*Pn		**Pn**	**00 58 35.1**	**+1.4**
BZS	**Buzias**	**3.41**	**66**	⇑P		**Pn**	**00 58 33.7**	**0.0**
BZS				⇓S		**Sn**	**00 59 14.8**	**+0.9**
BUD	**Budapest**	**3.43**	**21**	P		**Pn**	**00 58 34.7**	**+0.7**
RONA	**Rosalia, Austr**	**3.45**	**350**	*i* Pn		**Pn**	**00 58 36.0**	**+1.7**
	comp=Z,57nm,0.1s,SNR=154							
RONA				*e*Sn		**Sn**	**00 59 13.7**	**-1.3**
	comp=Z,18nm,0.4s							
SRO	**Srobarova**	**3.60**	**12**	*e*PN		**Pn**	**00 58 38.0**	**+1.8**
SRO				*e*SN		**Sn**	**00 59 19.5**	**+1.0**
ZAGS	**Zajecar**	**3.67**	**96**	*e*Pn		**Pn**	**00 58 38.5**	**+1.2**
BARS	**Barje**	**3.68**	**112**	*e*Pn		**Pn**	**00 58 38.9**	**+1.5**
BSZH	**Besenyszg**	**3.69**	**35**	P		**Pn**	**00 58 38.6**	**+1.1**
SIRR	**Siria**	**3.72**	**57**	⇓P		**Pn**	**00 58 38.9**	**+1.0**
CONA	**Conrad Observa**	**3.74**	**346**	*i* Pn		**Pn**	**00 58 40.0**	**+1.7**
	comp=Z,23nm,0.4s,SNR=75							
CONA				*e*Sn		**Sn**	**00 59 21.9**	**-0.3**
	comp=Z,15nm,0.5s							
HERR	**Herculane**	**3.79**	**79**	⇓P		**Pn**	**00 58 39.9**	**+1.2**
KBA	**Koelnbreinsper**	**3.86**	**317**	*e*Pn		**Pn**	**00 58 42.1**	**+2.1**
	comp=Z,1.3nm,0.2s							
KBA				*e*Sn		**Sn**	**00 59 26.4**	**+1.1**
	comp=Z,9.6nm,0.3s							
ZST	**Bratislava**	**3.90**	**359**	*e*PN		**Pn**	**00 58 41.6**	**+1.3**
ZST				*e*SN		**Sn**	**00 59 25.2**	**-0.6**
BLKB	**Belogradchik**	**4.03**	**98**	⇑P		**Pn**	**00 58 43.5**	**+1.4**
MODS	**Modra-Piesok**	**4.07**	**1**	*e*PN		**Pn**	**00 58 43.9**	**+1.1**
MODS				*e*SN		**Sn**	**00 59 29.1**	**-1.2**
PSZ	**Piszkesteto**	**4.08**	**27**	⇓P		**Pn**	**00 58 43.1**	**+0.2**
PSZ	**Piszkesteto**	**4.08**	**27**	*e*Pn		**Pn**	**00 58 43.1**	**+0.2**
PSZ				*e*Sn		**Sn**	**00 59 29.2**	**-1.3**
ZAPS	**Zavoj**	**4.08**	**103**	*e*Pn		**Pn**	**00 58 44.2**	**+1.3**
MOA	**Molln**	**4.09**	**331**	*i* Pn		**Pn**	**00 58 45.5**	**+2.5**
	comp=Z,7.7nm,0.2s,SNR=31							
MOA				*e*Sn		**Sn**	**00 59 31.6**	**+1.0**
	comp=Z,22nm,0.5s							
ABTA	**Abfaltersbach**	**4.09**	**308**	*e*Pn		**Pn**	**00 58 45.6**	**+2.5**
	comp=Z,2.3nm,0.2s,SNR=6.8							
GZR	**Gura Zlata**	**4.13**	**73**	⇓P		**Pn**	**00 58 44.4**	**+0.9**
OHR	**Ohrid**	**4.16**	**139**	*i* Pn		**Pn**	**00 58 48.4**	**+4.4**
BIOA	**Bad Ischl, Aus**	**4.19**	**325**	*i* Pn		**Pn**	**00 58 47.7**	**+3.3**
	comp=Z,4.0nm,0.2s,SNR=8.8							

LOR				*e*Sn		**Sn**	**01 01 46.9**	**-3.5**
	comp=Z,1.7nm,0.3s								
SSF	**Saint Saulge**	**9.96**	**291**	*e*Pn		**Pn**	**01 00 04.5**	**+1.0**
SSF				*e*Sn		**Sn**	**01 01 48.8**	**-6.3**
	comp=Z,0.5nm,0.3s								
AVF	**Avril sur Loir**	**10.02**	**289**	*e*Pn		**Pn**	**01 00 04.8**	**+0.5**
AVF				*e*Sn		**Sn**	**01 01 50.3**	**-6.1**
	comp=Z,0.7nm,0.4s								
KEST	**Kesra**	**10.45**	**218**	Pn		Pn	01 00 15.2	+4.8	
	comp=Z,0.3nm,0.3s,baz=27,slow=4.5,SNR=8.0 comp=Z,2.5nm,0.9s								
TCF	**Toulx Ste Croi**	**10.73**	**286**	*e*Pn		**Pn**	**01 00 15.3**	**+1.1**
TCF				*e*Sn		**Sn**	**01 02 07.5**	**-6.6**
	comp=Z,1.0nm,0.3s								
IDI	**Anoyia**	**10.78**	**144**	Pn		**Pn**	**01 00 14.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=326,slow=15,SNR=1.9								
IDI				Sn		**Sn**	**01 02 11.5**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=331,slow=19,SNR=2.0 comp=Z,7.0nm,1.0s								
CAF	**Calviac**	**10.80**	**279**	*e*Pn		**Pn**	**01 00 16.7**	**+1.7**
MTLF	**Montolieu**	**10.86**	**270**	*e*Pn		**Pn**	**01 00 17.3**	**+1.5**
MTLF				*e*Sn		**Sn**	**01 02 10.9**	**-6.2**
	comp=Z,0.2nm,0.3s								
EKA	**Eskdalemuir Ar**	**17.08**	**317**	P		**P**	**01 01 42.4**	**+1.6**
	baz=121,slow=14 comp=Z,0.8nm,0.8s								
FINES	**FINESS Array B**	**17.96**	**14**	P		**P**	**01 01 50.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=189,slow=14,SNR=6.0 comp=Z,1.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**33.76**	**208**	P		**P**	**01 04 24.9**	**+2.7**
	comp=Z,0.2nm,0.5s,baz=15,slow=9.6,SNR=1.7 comp=Z,0.2nm,0.5s								
MKAR	**Makanchi Array**	**44.49**	**63**	P		**P**	**01 05 51.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=294,slow=8.6,SNR=2.3 comp=Z,0.2nm,0.5s								

IDC 14 01:31:16.1±2.3, 54°99S×29°84W, h0km, mb3.9/1, mbtmp3.9/1, Error ellipse: s-maj=121.4km s-min=80.5km az=146.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**47.48**	**21**	T	T	02 31 21.8	
	baz=193						
H10S3	**ASCENSION HYDR**	**47.48**	**21**	T	T	02 31 22.9	
	baz=27						
H10N1	**ASCENSION HYDR**	**48.59**	**20**	T	T	02 32 56.5	
	baz=197						
H10N3	**ASCENSION HYDR**	**48.59**	**20**	T	T	02 32 57.3	
	baz=197						
H10N2	**ASCENSION HYDR**	**48.61**	**20**	T	T	02 32 59.0	
	baz=197						
TORD	**Torodi Ar. Bea**	**72.91**	**32**	P	P	01 42 46.9	0.0
	0.9nm,0.8s,baz=197,slow=6.0,SNR=3.9 0.9nm,0.8s						
ILAR	**Eielson Array**	**148.29**	**313**	PKPbc	PKPbc	01 51 01.9	-0.7
	0.7nm,0.6s,baz=127,slow=2.2,SNR=7.1						
SONM	**Songino Array**	**152.17**	**87**	PKPbc	PKPbc	01 51 12.5	-0.1
	0.3nm,0.4s,baz=263,slow=1.9,SNR=1.5						

*IDC **14** 01:58:27.1±0.4, 7°.18N×76°.25W, h0km, mb5.2/26, mbtmp5.2/29, ML4.5/3, MS5.7/60, Error ellipse: s-maj=12.0km s-min=9.6km az=48.0*

*MOS **14** 01:58:29.8±1.0, 7°.32N×76°.32W, h21km, mb5.8/77, MS5.7/32, Error ellipse: s-maj=6.3km s-min=4.4km az=76.6*

*VAO **14** 01:58:29.4±0.2, 7°.14N×76°.02W, h10km, mb5.8*

*RSNC **14** 01:58:30.2±1.6, 7°.24N×76°.23W, h0km±6km, ML5.2, Mw6.2, Fault plane solution: NP1:φs118.00000°, δ54.00000°, λ-165.00000°.*

*NEIC **14** 01:58:30.4, 7°.33N×76°.10W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.78; Mθθ-3.76; Mφφ2.99; Mrθ-2.58; Mθφ-0.68; Mφr-3.81; Fault plane solution: M0 5.79000×10^17 NP1:φs221.15000°, δ85.08000°, λ53.06000°. NP2:φs124.65000°, δ37.22000°, λ171.85000°. Principal axes: T 5.9631, Plg39.0000°, Azm98.0000°; N -0.3706, Plg37.0000°, Azm225.0000°; P -5.5925, Plg30.0000°, Azm341.0000°;*

*NEIC **14** 01:58:31.6±2.4, 7°.37N±0°.06×76°.17W±0°.06, h18km±1km, mb5.7/736, Ms_20 5.7/363, Mwb5.8/88, Mww6.0 Error ellipse: s-maj=10.8km s-min=9.2km az=229.0*

*GCMT **14** 01:58:35.6±0.1, 7°.34N×76°.29W, h24km, MW6.0/155, Moment Tensor Solution. s147,c321; s155,c538; Duration: 2s3 Moment tensor: Scale 10^18 Nm; Mrr0.30±.01; Mθθ-0.84±.01; Mφφ0.54±.01; Mrθ-0.48±.01; Mθφ-0.25±.00; Mφr-0.53±.01; Best double couple: M0 1.05000×10^18 NP1:φs223.00000°, δ80.00000°, λ48.00000°. NP2:φs122.00000°, δ43.00000°, λ165.00000°. Principal axes: T 0.9730, Plg40.0000°, Azm95.0000°; N 0.1540, Plg41.0000°, Azm232.0000°; P -1.1270, Plg23.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **14** 01:58:36, 7°.33N×76°.10W, h18km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^18 Nm; Mrr0.31; Mθθ-0.82; Mφφ0.51; Mrθ-0.68; Mθφ-0.29; Mφr-0.54; Fault plane solution: M0 1.16000×10^18 NP1: φs121.00000°, δ35.00000°, λ162.00000°. NP2: φs226.00000°, δ80.00000°, λ56.00000°. Principal axes: T 0.9874, Plg45.0000°, Azm102.0000°; N 0.2904, Plg33.0000°, Azm232.0000°; P -1.2778, Plg27.0000°, Azm342.0000°;*

ISC 14 01:58:29.5±0.4, 7°.20N±0°.02×76°.20W±0°.02, h15km±2km, h15km:pP-P, n2093, σ1°.977/2361, mb5.7/522, MS5.8/284, 102C-86D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.18**	**184**	⇓*i*Pg	**Pg**	**01 58 34.0**	**+0.1**
UREC	**San Jos de Ur**	**0.86**	**50**	⇑*e*P	**Pg**	**01 58 46.5**	**+0.3**
HELC	**Santa Helena**	**1.20**	**146**	⇓*i*P	**Pn**	**01 58 51.5**	**-0.7**
HELC				*e*S	**Sg**	**01 59 09.8**	**+1.3**
HELC				IAML		01 59 19.7	
	comp=Z,22μm,0.5s						
CBOC	**Ciudad Bolivar**	**1.34**	**172**	⇓*e*P	**Pb**	**01 58 54.5**	**0.0**
CBOC				*e*S	**Sg**	**01 59 15.6**	**+2.9**
CBOC				IAML		01 59 30.1	
	comp=Z,49μm,0.7s						
ZARC	**Zaragoza, Cauc**	**1.36**	**77**	⇑*i*P	**Pb**	**01 58 55.2**	**+0.4**
ZARC				*e*S	**Sg**	**01 59 13.8**	**+0.3**
ZARC				IAML		01 59 20.5	
	comp=Z,68μm,0.5s						
SOLC	**Bahia Solano**	**1.54**	**231**	⇑*e*P	**Pn**	**01 58 56.5**	**0.0**
SOLC				*e*S	**Sg**	**01 59 19.8**	**+0.5**
SOLC				IAML		01 59 24.1	
	comp=Z,18μm,0.4s						
LCBC	**Los crdobas,**	**1.66**	**354**	⇓*e*P	**Pn**	**01 58 58.5**	**+0.4**
LCBC				*e*S	**Sb**	**01 59 20.1**	**-0.5**
LCBC				IAML		01 59 42.2	
	comp=Z,19μm,0.7s						
PTBC	**PUERTO BERRIO,**	**1.85**	**111**	⇑*e*P	**Pb**	**01 59 02.7**	**-0.4**
PTBC				*e*S	**Sb**	**01 59 26.5**	**+0.4**
PTBC				IAML		01 59 33.7	
	comp=Z,51μm,0.5s						
NORC	**Norcasia**	**2.09**	**141**	⇑*e*P	**Pb**	**01 59 06.9**	**-0.4**
NORC				*e*S	**Sb**	**01 59 31.6**	**-1.5**
NORC				IAML		01 59 44.3	
	comp=Z,18μm,0.5s						
GUY2C	**Guyana, Caldas**	**2.13**	**157**	⇑*e*P	**Pb**	**01 59 07.8**	**-0.3**
GUY2C				*e*S	**Sb**	**01 59 33.1**	**-1.5**
GUY2C				IAML		01 59 48.9	
	comp=Z,20μm,0.7s						
NIZA	**Niza - Manizal**	**2.24**	**161**	*e*P	**Pb**	**01 59 10.7**	**+0.7**
NIZA				*e*S	**Sg**	**01 59 44.6**	**+2.8**
UPD2	**Meteti**	**2.25**	**307**	*e*P	**Pn**	**01 59 06.8**	**+0.6**
UPD2				*e*S	**Sb**	**01 59 37.3**	**-0.2**
PLMC	**San Jos del P**	**2.28**	**182**	*e*P	**Pb**	**01 59 08.9**	**-1.6**
PLMC				*e*S	**Sg**	**01 59 44.1**	**+1.2**
PLMC				IAML		01 59 52.0	
	comp=Z,20μm,0.5s						
BRRC	**Barranca, Sant**	**2.47**	**92**	⇑*i*P	**Pb**	**01 59 12.1**	**-1.6**
BRRC				*e*S	**Sb**	**01 59 45.5**	**+1.6**
BRRC				IAML		01 59 55.9	
	comp=Z,13μm,0.4s						
SPBC	**San Pablo de B**	**2.61**	**126**	⇑*i*P	**Pb**	**01 59 14.3**	**-1.8**
SPBC				*e*S	**Sg**	**01 59 52.9**	**-0.6**
SPBC				IAML		02 00 11.4	
	comp=Z,7μm,0.6s						
ANIL	**Santa Ana**	**2.80**	**164**	*e*P	**Pb**	**01 59 17.4**	**-2.1**
	comp=Z,13μm,0.5s						
ANIL				IAML		02 00 02.9	
	comp=Z,13μm,0.5s						
SJCC	**San Jacinto, C**	**2.87**	**21**	⇓*i*P	**Pn**	**01 59 14.1**	**-0.8**
SJCC				IAML		02 00 19.1	
	comp=Z,7μm,0.6s						
ROSC	**El Rosal**	**3.00**	**141**	Pn	**Pb**	**01 59 22.1**	**-0.8**
	comp=Z,673nm,0.3s,baz=354,slow=6.1,SNR=213						
ROSC				Lg	Lg	02 00 04.5	
	comp=Z,2μm,0.3s,baz=23,slow=21,SNR=6.0						
ROSC				LR	LR	02 00 05.8	
	comp=Z,89μm,20.3s,baz=357,slow=33						
ROSC	**El Rosal**	**3.00**	**141**	Pn	**Pb**	**01 59 21.7**	**-1.2**
ROSC	**El Rosal**	**3.00**	**141**	⇑*e*P	**Pn**	**01 59 21.9**	**-1.0**
ROSC				IAML		02 00 11.7	
	comp=Z,8μm,0.5s						
ROSC	**El Rosal**	**3.00**	**141**	P	**Pb**	**01 59 21.7**	**-1.2**
OCAC	**Ocana**	**3.04**	**70**	⇑*i*P	**Pn**	**01 59 18.7**	**+1.4**
OCAC				*e*S	**Sb**	**02 00 00.6**	**+0.2**
BARC	**Barichara**	**3.05**	**101**	*e*P	**Pb**	**01 59 20.8**	**-3.0**
BARC				*e*S	**Sb**	**02 00 01.1**	**+0.1**
YOTC	**Yotoco, Valle**	**3.19**	**183**	*e*P	**Pn**	**01 59 20.3**	**+0.9**
YOTC				*e*S	**Sb**	**02 00 03.2**	**-1.8**
YOTC				IAML		02 00 17.3	
	comp=Z,3μm,0.5s						
ARGC	**Ariguani, Magd**	**3.27**	**36**	⇓*e*P	**Pn**	**01 59 21.7**	**+1.3**
ARGC				IAML		02 00 37.3	
	comp=Z,4μm,0.7s						
RUSC	**La Rusia**	**3.35**	**113**	⇑*i*P	**Pn**	**01 59 24.5**	**+2.5**
RUSC				*e*S	**Sb**	**02 00 12.3**	**+2.4**
RUSC				IAML		02 00 28.8	
	comp=Z,10μm,0.7s						
MALC	**Bahia Malaga**	**3.36**	**200**	*e*P	**Pn**	**01 59 24.1**	**+2.5**
MALC				IAML		02 00 28.4	
	comp=Z,2μm,0.7s						
PAMC	**Pamplona, Colo**	**3.47**	**87**	*e*P	**Pn**	**01 59 26.1**	**+2.5**
PAMC				*e*S	**Sb**	**02 00 10.5**	**-2.9**
PAMC				IAML		02 00 26.7	
	comp=Z,18μm,0.7s						
LL1C	**La Loma 1 Cana**	**3.50**	**48**	*e*P	**Pn**	**01 59 25.9**	**+2.4**
LL5C	**La Loma 5 El P**	**3.53**	**44**	*e*P	**Pb**	**01 59 29.5**	**-2.3**
CHIC	**Chingaza**	**3.54**	**136**	⇑*i*P	**Pb**	**01 59 28.7**	**-3.5**
	comp=Z,6μm,0.6s						
CHIC				*e*S	**Sb**	**02 00 17.9**	**+2.8**
CHIC				IAML		02 00 34.0	
	comp=Z,6μm,0.6s						
UPA	**Univ. de Panam**	**3.75**	**298**	⇓*e*P	**Pn**	**01 59 27.1**	**+0.2**
UPA				*e*S	**Sn**	**02 00 11.5**	**+0.7**
UPA				IAML		02 00 22.7	
	comp=Z,1μm,0.5s						
LL6C	**La Loma 6 Bece**	**3.84**	**49**	*e*P	**Pn**	**01 59 28.7**	**+0.5**
LL6C				IAML		02 00 40.8	
	comp=Z,5μm,0.7s						
VILC	**Villavicencio,**	**3.95**	**141**	*e*P	**Pb**	**01 59 35.0**	**-4.0**
VILC				IAML		02 00 48.0	
	comp=Z,6μm,0.6s						
BCIP	**Isla Barro Col**	**4.10**	**299**	Pn	**Pn**	**01 59 31.5**	**-0.3**
BCIP	**Isla Barro Col**	**4.10**	**299**	⇓*i*P	**Pn**	**01 59 31.6**	**-0.1**
	comp=Z,2μm,0.5s						
BCIP				*e*S	**Sn**	**02 00 21.9**	**+2.4**
BCIP				IAML		02 00 23.8	
	comp=Z,2μm,0.5s						
BCIP	**Isla Barro Col**	**4.10**	**299**	P	**Pn**	**01 59 31.5**	**-0.3**
BCIP	**Isla Barro Col**	**4.10**	**299**	⇑P	**Pn**	**01 59 31.5**	**-0.3**
PNME	**Penonome**	**4.29**	**288**	⇓*e*P	**Pn**	**01 59 34.6**	**+0.2**
PNME				*e*S	**Sn**	**02 00 25.1**	**+1.0**
PNME				IAML		02 00 35.9	
	comp=Z,3μm,0.6s						
SMRC	**Santa Marta, M**	**4.40**	**26**	*e*P	**Pn**	**01 59 36.4**	**+0.5**
TAMC	**Tame, Arauca**	**4.44**	**100**	⇑*e*P	**Pn**	**01 59 39.3**	**+2.8**
TAMC				IAML		02 01 03.0	
	comp=Z,5μm,0.7s						
BETC	**Betania**	**4.55**	**170**	*e*P	**Pn**	**01 59 42.1**	**+4.1**
BETC				IAML		02 01 08.3	
	comp=Z,2μm,0.7s						
GR1C	**Gorgona, Isla**	**4.60**	**205**	*e*P	**Pn**	**01 59 42.2**	**+3.5**
GR1C				*e*S	**Sb**	**02 00 40.9**	**-4.6**
GR1C				IAML		02 01 03.7	
	comp=Z,5μm,0.6s						
CACAO	**El Cacao, Vera**	**4.63**	**272**	*e*P	**Pn**	**01 59 38.7**	**-0.4**
CACAO				*e*S	**Sn**	**02 00 31.4**	**-1.2**
CACAO				IAML		02 00 55.2	
	comp=Z,1μm,0.6s						
CRJC	**Cerrejon, Guaj**	**5.02**	**41**	*e*P	**Pn**	**01 59 44.1**	**-0.4**
CRJC				*e*S	**Sn**	**02 00 38.9**	**-3.4**
CRJC				IAML		02 01 21.9	
	comp=Z,4μm,0.6s						
PTGC	**Puerto Gaitan,**	**5.02**	**126**	⇑*i*P	**Pn**	**01 59 47.0**	**+2.5**
PTGC				*e*S	**Sn**	**02 00 49.7**	**+7.4**
PTGC				IAML		02 01 12.8	
	comp=Z,2μm,0.7s						
GARC	**Garzon, Huila**	**5.03**	**172**	⇑*i*P	**Pn**	**01 59 47.9**	**+3.2**
GARC				IAML		02 01 28.4	
	comp=Z,922nm,0.6s						
BBAC	**Balboa, Cauca**	**5.25**	**192**	*e*P	**Pn**	**01 59 50.3**	**+2.6**
BBAC				*e*S	**Sb**	**02 00 56.5**	**-7.6**
BBAC				IAML		02 01 17.8	
	comp=Z,487nm,0.7s						
SOCV	**Socops**	**5.40**	**78**	*e*P	**Pn**	**01 59 52.0**	**+2.3**
MACC	**Macarena, Meta**	**5.54**	**155**	*e*P	**Pn**	**01 59 54.9**	**+3.3**
FLOC	**Florencia**	**5.60**	**174**	⇑*i*P	**Pn**	**01 59 55.4**	**+2.9**
CRUC	**La Cruz**	**5.64**	**188**	*e*P	**Pn**	01 59 58.1	+4.8
SDV	**Santo Domingo**	**5.76**	**73**	Pn	**Pn**	**01 59 56.5**	**+1.7**
	comp=Z,31nm,0.3s,baz=248,slow=9.9,SNR=88						
SDV				Sn	**Sn**	**02 01 03.7**	**+2.9**
	comp=Z,220nm,0.3s,baz=210,slow=20,SNR=1.8						
SDV				Lg	Lg	02 01 31.8	
	comp=Z,452nm,0.3s,baz=337,slow=12,SNR=3.9						
SDV				LR	LR	02 02 34.0	
	comp=Z,97μm,18.5s,baz=244,slow=42 comp=Z,250nm,0.8s						
SDV	**Santo Domingo**	**5.76**	**73**	Pn	**Pn**	**01 59 56.3**	**+1.5**
SDV	**Santo Domingo**	**5.76**	**73**	*e*P	**Pn**	**01 59 57.3**	**+2.5**
GUVC	**San Jose del G**	**5.83**	**142**	*e*P	**Pn**	**01 59 59.1**	**+3.5**
GUVC				IAML		02 01 38.8	
	comp=Z,1μm,0.8s						
TUMC	**Tumaco**	**5.90**	**205**	*e*P	**Pn**	**02 00 00.2**	**+3.7**
GCUF	**Volcan Galeras**	**6.04**	**191**	*e*P	**Pn**	**02 00 02.2**	**+3.2**
GCUF				IAML		02 01 45.0	
	comp=Z,311nm,0.7s						
URIC	**Uribia, Colomb**	**6.10**	**43**	*e*P	**Pn**	**01 59 59.7**	**+0.4**
MAPC	**Malpelo**	**6.25**	**240**	*e*P	**Pn**	**02 00 03.7**	**+2.3**
CMBC	**Cumbal**	**6.42**	**195**	*e*P	Pn	02 00 09.2	+5.1
BRU2	**Volcan**	**6.62**	**284**	Pn	**Pn**	**02 00 07.3**	**+0.6**
BRU2	**Volcan**	**6.62**	**284**	⇓*i*P	**Pn**	**02 00 07.5**	**+0.9**
DABV	**Dabajuro**	**6.62**	**56**	*e*P	**Pn**	**02 00 07.0**	**+0.5**
TULM	**Tulcn-Chalpat**	**6.63**	**194**		**Pn**	**02 00 10.5**	**+3.5**
CDITO	**Canoas**	**6.75**	**282**	Pn	**Pn**	**02 00 09.1**	**+0.8**
RGM0	**Gandoca**	**6.77**	**291**		**Pn**	**02 00 09.7**	**+1.2**
PTLC	**Puerto Leguiza**	**7.12**	**169**	⇑*e*P	Pn	02 00 20.3	+7.0
PTLC				IAML		02 03 17.6	
	comp=Z,346nm,0.7s						
IMBA	**Imbabura, San**	**7.16**	**196**		Pn	02 00 20.0	+5.8
OTAV	**Otavalo**	**7.27**	**198**	Pn	**Pn**	**02 00 17.8**	**+2.0**
OTAV	**Otavalo**	**7.27**	**198**	*e*P	**Pn**	**02 00 20.1**	**+4.3**
OTAV	**Otavalo**	**7.27**	**198**	P	**Pn**	**02 00 17.8**	**+2.0**
OTAV	**Otavalo**	**7.27**	**198**	⇑P	**Pn**	**02 00 18.2**	**+2.5**
OTAV	**Otavalo**	**7.27**	**198**	*e*P	**Pn**	**02 00 18.1**	**+2.4**
DRK0	**Durika**	**7.27**	**287**		**Pn**	**02 00 17.2**	**+1.7**
SRBA	**San Rafael, Bu**	**7.37**	**286**	Pn	**Pn**	**02 00 18.3**	**+1.4**
BATAN	**Batan**	**7.66**	**293**	Pn	**Pn**	**02 00 21.5**	**+0.8**
PEZE	**Perez Zeledon,**	**7.71**	**287**	Pn	**Pn**	**02 00 23.2**	**+1.7**
PRVC	**Isla de Provid**	**7.97**	**321**	*e*P	**Pn**	**02 00 24.1**	**-0.9**
CVTR	**Volcan Turrial**	**7.99**	**291**	Pn	**Pn**	**02 00 26.5**	**+0.9**
RIMA	**Rio Macho**	**8.00**	**289**	Pn	**Pn**	**02 00 26.6**	**+1.0**
SLOR	**San Lorenzo -**	**8.20**	**196**	Pn	Pn	02 00 34.4	+5.8
BAUV	**El Baul**	**8.26**	**77**	Pn	**Pn**	**02 00 28.4**	**-0.6**
HDC	**Heredia**	**8.31**	**290**	Pn	**Pn**	**02 00 31.6**	**+1.8**
HDC	**Heredia**	**8.31**	**290**	⇓P	**Pn**	**02 00 30.9**	**+1.1**
HATO	**Hato, Curacao**	**8.69**	**55**	Pn	**Pn**	**02 00 32.6**	**-2.2**
CHSH	**Refugio Sur-Vo**	**9.04**	**197**	Pn	Pn	02 00 45.7	+5.5
JTS	**Las Juntas de**	**9.18**	**290**	Pn	**Pn**	**02 00 43.6**	**+1.9**
JTS	**Las Juntas de**	**9.18**	**290**	⇓*i*P	**Pn**	**02 00 44.0**	**+2.3**
JTS	**Las Juntas de**	**9.18**	**290**	⇑P	**Pn**	**02 00 43.1**	**+1.4**
HZTE	**Horizontes, Gu**	**9.92**	**291**	Pn	**Pn**	**02 00 53.3**	**+1.5**
BIRV	**Birongo**	**10.34**	**71**	Pn	**Pn**	**02 00 56.0**	**-1.4**
BOSC	**San Juan Bosco**	**10.53**	**193**	Pn	Pn	02 01 05.4	+5.1
BOAB	**BOACO BROADBAN**	**10.69**	**300**	Pn	**Pn**	**02 01 01.9**	**-0.4**
HOJ	**Hope**	**10.76**	**357**	*i* P	**Pn**	**02 01 04.8**	**+1.6**
MCJ	**Malvern**	**10.76**	**352**	*i* P	**Pn**	**02 01 03.4**	**+0.1**
GWJ	**Greenwich**	**10.82**	**357**	*i* P	**Pn**	**02 01 05.2**	**+0.9**
STH	**Stony Hill**	**10.83**	**357**	*i* P	**Pn**	**02 01 05.0**	**+0.7**
MTDJ	**Mount Denham**	**11.04**	**353**	Pn	**Pn**	**02 01 05.7**	**-1.4**
MTDJ	**Mount Denham**	**11.04**	**353**	*e*P	Pn	02 01 01.2	-6.0
MTDJ	**Mount Denham**	**11.04**	**353**	*e*P	Pn	02 01 01.2	-6.0
MTDJ	**Mount Denham**	**11.04**	**353**	⇓P	**Pn**	**02 01 04.8**	**-2.3**
MATN	**Matagalpa**	**11.14**	**302**	Pn	**Pn**	**02 01 08.4**	**-0.2**
PCRV	**Puerto La Cruz**	**11.81**	**75**	Pn	**Pn**	**02 01 17.6**	**0.0**
	comp=Z,12nm,0.3s,baz=214,slow=4.0,SNR=31						
PCRV				Sn	**Sn**	**02 03 27.8**	**-1.5**
	comp=Z,10.0nm,0.3s,baz=299,slow=19,SNR=2.7						
PCRV				Lg	Lg	02 04 46.7	
	comp=Z,4.7nm,0.3s,baz=338,slow=19,SNR=1.6						
PCRV				LR	LR	02 07 27.1	
	comp=Z,34μm,19.6s,slow=45 comp=Z,65nm,0.6s						
MCRA	**Macar, Loja**	**12.09**	**198**	Pn	**Pn**	**02 01 24.3**	**+2.8**
SDDR	**Presa de Saban**	**12.65**	**22**	Pn	**Pn**	**02 01 29.5**	**+0.3**
SDDR	**Presa de Saban**	**12.65**	**22**	*e*P	**Pn**	**02 01 30.3**	**+1.1**
SDDR	**Presa de Saban**	**12.65**	**22**	*e*P	**Pn**	**02 01 28.2**	**-0.9**
SDDR	**Presa de Saban**	**12.65**	**22**	⇓P	**Pn**	**02 01 28.4**	**-0.7**
RCC	**Rio Carpintero**	**12.73**	**2**	*e*P	**Pn**	**02 01 27.4**	**-2.9**
SDD	**Santo Domingo**	**12.76**	**28**	Pn	**Pn**	**02 01 27.8**	**-2.8**
LMGC	**Las Mercedes**	**12.82**	**357**	*e*P	**Pn**	**02 01 28.6**	**-2.8**
TGUH	**Tegucigalpa,Un**	**12.84**	**303**	Pn	**Pn**	**02 01 32.1**	**+0.3**
TGUH	**Tegucigalpa,Un**	**12.84**	**303**	*e*P	**Pn**	**02 01 31.3**	**-0.6**
TGUH	**Tegucigalpa,Un**	**12.84**	**303**	⇓P	**Pn**	**02 01 31.4**	**-0.5**
TBTG	**Tabatinga, AM**	**12.93**	**151**	Pn	**Pn**	**02 01 31.9**	**-1.1**
TBTG	**Tabatinga, AM**	**12.93**	**151**	*e*P	**Pn**	**02 01 32.3**	**-0.8**
LCCY	**Blossom Villag**	**12.96**	**343**	Pn	**Pn**	**02 01 31.9**	**-1.5**
MASC	**Masc**	**13.04**	**8**	*e*P	**Pn**	**02 01 32.5**	**-2.0**
MASC				IAMs_20	IAMs_20	02 07 18.0	
	comp=E,26μm,13.1s						
MASC				IAMs_20	IAMs_20	02 07 18.0	
	comp=N,53μm,20.4s						
HLGC	**Holguin**	**13.61**	**1**	*e*P	**Pn**	**02 01 40.2**	**-2.0**
CRPR	**Cabo Rojo, PR**	**13.93**	**39**	Pn	**Pn**	**02 01 43.2**	**-3.3**
MLPR	**Magueyes Islan**	**13.94**	**39**	Pn	**Pn**	**02 01 43.3**	**-3.4**
CCCC	**Cccc**	**14.00**	**354**	*e*P	**Pn**	**02 01 45.9**	**-1.7**
AOPR	**Arecibo Observ**	**14.40**	**39**	Pn	**Pn**	**02 01 49.6**	**-3.5**
ATAH	**Atahualpa**	**14.40**	**189**	Pn	**Pn**	**02 01 56.3**	**+2.8**
	comp=N,1.9nm,0.3s,baz=5.0,slow=8.0,SNR=21						
ATAH				Lg	Lg	02 06 17.8	
	comp=N,0.5nm,0.3s,baz=0.6,slow=21,SNR=2.3						
ATAH				LR	LR	02 08 55.6	
	comp=N,77μm,19.1s,baz=7.1,slow=44						
SJG	**San Juan**	**14.61**	**41**	Pn	**Pn**	**02 01 52.8**	**-3.1**
	comp=N,11nm,0.3s,baz=189,slow=15,SNR=16						
SJG				Sn	Sn	02 04 27.0	-11
	comp=N,6.7nm,0.3s,baz=221,slow=23,SNR=1.7						
SJG	**San Juan**	**14.61**	**41**	Pn	**Pn**	**02 01 52.2**	**-3.8**
SJG	**San Juan**	**14.61**	**41**	P	**Pn**	**02 01 52.2**	**-3.8**
SJG	**San Juan**	**14.61**	**41**	⇑P	**Pn**	**02 01 52.9**	**-3.1**
GCPR	**Guaynabo City**	**14.80**	**41**	Pn	**Pn**	**02 01 55.1**	**-3.4**
MTP	**Monte Pirata**	**15.00**	**43**		**Pn**	**02 01 57.0**	**-4.2**
TRN	**Trinidad (W)**	**15.01**	**76**	*e*P	**Pn**	**02 02 03.2**	**+1.8**
GRFF	**Grenada Fort F**	**15.05**	**70**	*e*P	**Pn**	**02 02 03.2**	**+1.3**
GRTK	**Grand Turk**	**15.05**	**18**	⇓*e*P	**Pn**	**02 02 03.2**	**+1.3**
GRTK	**Grand Turk**	**15.05**	**18**	⇓P	**Pn**	**02 02 02.2**	**+0.4**
GRGR	**Grenville**	**15.15**	**70**	*e*P	**Pn**	**02 01 58.7**	**-4.6**
GRGR	**Grenville**	**15.15**	**70**	⇑P	**Pn**	**02 02 01.4**	**-1.9**
CZSB	**Cruzeiro do Su**	**15.23**	**167**	Pn	**Pn**	**02 02 04.6**	**+0.2**
CZSB				IAmb	IAmb	02 02 15.0	
	comp=E,274nm,1.1s						
CZSB	**Cruzeiro do Su**	**15.23**	**167**	*e*P	**Pn**	**02 02 04.7**	**+0.4**
MGV	**Manicaragua**	**15.27**	**347**	*e*P	**Pn**	**02 02 03.5**	**-1.3**
MGV				IAMs_20	IAMs_20	02 07 34.8	
	comp=E,19μm,22.3s						
MGV				IAMs_20	IAMs_20	02 07 56.9	
	comp=N,28μm,22.3s						
CDVI	**St. Croix**	**15.31**	**46**	IAmb	IAmb	02 02 11.1	
	comp

CMIG LR LR 02 12 12.0
comp=Z,50µm,21.0s,baz=126,slow=40
comp=Z,28nm,0.9s
DWPF Disney Wildern 21.38 347 P **P** **02 03 17.1 +0.4**
DWPF Disney Wildern 21.38 347 P **P** **02 03 17.3 +0.6**
baz=166,SNR=23
DWPF S **S** **02 07 16.6 +2.8**
baz=166
DWPF Disney Wildern 21.38 347 P **P** **02 03 17.3 +0.6**
baz=166
DWPF S **S** **02 07 13.0 -0.8**
baz=166
DWPF Disney Wildern 21.38 347 *e*P **P** **02 03 16.4 -0.3**
DWPF Disney Wildern 21.38 347 ⇓P **P** **02 03 17.6 +0.8**
656A Willston 22.85 346 P **P** **02 03 32.1 -0.3**
656A IAmb IAmb 02 03 51.4
comp=Z,282nm,1.1s
656A Willston 22.85 346 S **S** **02 07 45.0 +3.4**
baz=164
ITTB Itaituba 23.43 119 *e*P **P** **02 03 35.9 -2.6**
MPGF Montagnes des 23.51 94 ⇑P **P** **02 03 38.8 -0.6**
MDP Montagnes des 23.51 94 P **P** **02 03 39.2 -0.1**
comp=Z,283nm,1.0s,baz=291,slow=9.5,SNR=67
MDP S **S** **02 07 56.1 +3.1**
comp=Z,22nm,0.9s,baz=281,slow=16,SNR=1.8
MDP LR LR 02 13 20.5
comp=Z,70µm,18.8s,baz=278,slow=38
comp=Z,283nm,1.0s
MALB Monte Alegre 23.66 112 *e*P **P** **02 03 39.3 -1.5**
456A Hilliard 24.04 348 IAmb IAmb 02 03 48.3
comp=Z,256nm,0.9s
456A Hilliard 24.04 348 S **S** **02 08 06.0 +5.0**
baz=166
TLIG Tlapa 24.12 297 P **P** **02 03 46.6 +1.4**
TLIG Tlapa 24.12 297 ⇑P **P** **02 03 46.7 +1.4**
LPAZ La Paz 24.66 161 P **P** **02 03 50.1 -0.6**
comp=Z,75nm,1.1s,baz=336,slow=9.2,SNR=45
LPAZ S **S** **02 08 15.1 +2.7**
comp=Z,21nm,1.1s,baz=270,slow=25,SNR=6.8
LPAZ LR LR 02 14 13.2
comp=Z,67µm,19.0s,baz=321,slow=38
comp=Z,75nm,1.1s
LPAZ La Paz 24.66 161 P **P** **02 03 50.7 0.0**
LPAZ La Paz 24.66 161 *e*P **P** **02 03 50.2 -0.5**
LPAZ La Paz 24.66 161 *i* P **P** **02 03 50.3 -0.5**
LPAZ La Paz 24.66 161 ⇑P **P** **02 03 50.0 -0.6**
LPAZ La Paz 24.66 161 *e*P **P** **02 03 50.3 -0.4**
451A Vernon 24.96 340 IAmb IAmb 02 04 07.2
comp=Z,366nm,1.1s
451A Vernon 24.96 340 P **P** **02 03 54.3 +1.8**
baz=157,SNR=5.4
451A S **S** **02 08 19.4 +3.5**
baz=157
TIGA Tifton 25.09 345 P **P** **02 03 53.9 +0.2**
TIGA Tifton 25.09 345 P **P** **02 03 54.8 +1.1**
baz=162,SNR=17
TIGA Tifton 25.09 345 P **P** **02 03 54.9 +1.1**
baz=162,SNR=17
TIGA S **S** **02 08 18.2 +0.3**
baz=162
NPGB Novo Progresso 25.14 124 *e*P **P** **02 03 52.9 -1.6**
255A Hazlehurst 25.29 347 S **S** **02 08 24.7 +3.5**
baz=165
UNM Universidad Na 25.37 301 IAMs_20 IAMs_20 02 14 43.1
comp=Z,30µm,22.0s
352A Blakely 25.50 342 P **P** **02 03 58.6 +1.1**
baz=159,SNR=49
352A S **S** **02 08 26.1 +1.6**
baz=159
VILB Vilhena 25.56 141 P **P** **02 03 57.7 -0.6**
VILB IAmb IAmb 02 04 18.8
comp=Z,569nm,0.8s
VILB Vilhena 25.56 141 *e*P **P** **02 03 57.8 -0.5**
BRAL Brewton 25.92 338 P **P** **02 04 02.5 +1.2**
baz=155,SNR=23
BRAL S **S** **02 08 35.8 +4.7**
baz=155
BRAL Brewton 25.92 338 P **P** **02 04 02.8 +1.5**
baz=155,SNR=23
BRAL Brewton 25.92 338 ⇓P **P** **02 04 02.9 +1.6**
NHSC New Hope 26.05 352 IAMs_20 IAMs_20 02 14 57.9
comp=Z,30µm,20.0s
NHSC New Hope 26.05 352 P **P** **02 04 04.1 +1.7**
baz=171,SNR=13
NHSC S **S** **02 08 40.2 +7.2**
baz=171
NHSC New Hope 26.05 352 P **P** **02 04 04.0 +1.6**
baz=171,SNR=13
154A Montrose 26.09 347 P **P** **02 04 03.8 +1.0**
154A Montrose 26.09 347 P **P** **02 04 03.9 +1.0**
baz=164,SNR=21
154A S **S** **02 08 43.7 +10**
baz=164
PB16 IPOC Station P 26.21 165 P **P** **02 04 03.8 -0.9**
PB16 IPOC Station P 26.21 165 *e*P **P** **02 04 03.9 -0.9**
PB12 IPOC Station P 26.29 167 *e*P **P** **02 04 03.1 -1.8**
250A Grady 26.38 340 P **P** **02 04 06.4 +0.9**
baz=157,SNR=23
HAW Hawthorne Fire 26.51 350 P **P** **02 04 07.5 +0.8**
baz=168,SNR=31
HAW S **S** **02 08 41.7 +1.2**
baz=168
152A Waverly Hall 26.55 344 IAmb IAmb 02 04 12.6
comp=Z,151nm,1.0s
152A Waverly Hall 26.55 344 P **P** **02 04 08.0 +0.9**
baz=161,SNR=39
152A S **S** **02 08 43.8 +2.7**
baz=161
Y60A Bolivia 26.74 356 P **P** **02 04 09.7 +1.1**
Y60A Bolivia 26.74 356 S **S** **02 08 48.4 +4.4**
baz=175
Y60A S **S** **02 08 48.4 +4.4**
baz=175
Y58A Scranton 26.77 354 IAmb IAmb 02 04 24.2
comp=Z,286nm,1.3s
Y58A Scranton 26.77 354 P **P** **02 04 09.6 +0.6**
baz=172,SNR=6.9
Y58A P **P** **02 04 09.6 +0.6**
baz=172,SNR=6.9
Y58A S **S** **02 08 46.7 +2.3**
baz=172
Y58A S **S** **02 08 46.7 +2.3**
baz=172
Y59A Loris 26.78 355 IAmb IAmb 02 04 12.3
comp=Z,154nm,0.9s
Y59A Loris 26.78 355 P **P** **02 04 11.0 +2.0**
baz=174,SNR=7.3
Y59A P **P** **02 04 11.0 +2.0**
baz=174,SNR=7.3
Y59A S **S** **02 08 46.8 +2.2**
baz=174
Y59A S **S** **02 08 46.8 +2.2**
baz=174
PDRB Porto dos Gac 26.91 134 *e*P **P** **02 04 09.2 -1.2**
GOGA Godfrey 26.94 346 IAmb IAmb 02 04 16.6
comp=Z,143nm,1.1s
GOGA Godfrey 26.94 346 IAMs_20 IAMs_20 02 14 57.8
comp=Z,20µm,21.0s
GOGA Godfrey 26.94 346 P **P** **02 04 11.2 +0.6**
baz=164,SNR=41
GOGA S **S** **02 08 47.5 +0.3**
baz=164
GOGA Godfrey 26.94 346 P **P** **02 04 11.1 +0.6**
baz=164,SNR=41
GOGA S **S** **02 08 43.7 -3.5**
baz=164
Y57A Sumter 26.97 352 IAmb IAmb 02 04 26.2
comp=Z,236nm,1.2s
Y57A Sumter 26.97 352 P **P** **02 04 12.3 +1.5**
baz=171
Y57A P **P** **02 04 12.3 +1.5**
baz=171
Y57A S **S** **02 08 50.7 +3.1**
baz=171
Y57A S **S** **02 08 50.7 +3.1**
baz=171
346A Big Creek Wild 27.07 334 P **P** **02 04 12.7 +1.0**
346A IAmb IAmb 02 04 24.8
comp=Z,284nm,1.1s
346A Big Creek Wild 27.07 334 S **S** **02 08 50.8 +1.5**
baz=150
CLDB Colider 27.10 131 *e*P **P** **02 04 10.9 -1.3**
BBSR BB Station 27.24 22 P **P** **02 04 14.6 +1.4**
BBSR BB Station 27.24 22 P **P** **02 04 13.3 +0.1**
baz=206
BBSR BB Station 27.24 22 ⇓P **P** **02 04 15.0 +1.8**
Z51A Franklin 27.29 343 IAmb IAmb 02 04 20.2
comp=Z,126nm,0.9s
Z51A Franklin 27.29 343 P **P** **02 04 14.5 +0.8**
baz=160,SNR=26
Z51A S **S** **02 08 54.9 +2.2**
baz=160
JSC Jenkinsville 27.36 351 IAmb IAmb 02 04 25.2
comp=Z,434nm,1.7s
JSC Jenkinsville 27.36 351 P **P** **02 04 15.2 +1.0**
baz=169,SNR=18
X58A Rowland 27.38 354 IAmb IAmb 02 04 30.4
comp=Z,240nm,1.3s
X58A Rowland 27.38 354 P **P** **02 04 15.5 +1.0**
baz=173,SNR=13
X58A P **P** **02 04 15.5 +1.0**
baz=173,SNR=13
X58A S **S** **02 08 56.6 +2.6**
baz=173
X58A S **S** **02 08 56.6 +2.6**
baz=173
SIV San Ignacio 27.48 147 P **P** **02 04 15.3 -0.2**
comp=Z,63nm,0.9s,baz=326,slow=8.4,SNR=57
SIV S **S** **02 08 57.4 +1.3**
comp=Z,28nm,0.9s,baz=20,slow=16,SNR=2.2
SIV LR LR 02 15 28.2
comp=Z,69µm,18.5s,baz=335,slow=37
comp=Z,63nm,0.9s
HODGE Hodges 27.48 349 P **P** **02 04 16.4 +1.0**
baz=167,SNR=28
HODGE S **S** **02 08 56.4 +0.7**
baz=167
Y52A Lilburn 27.52 346 P **P** **02 04 15.2 -0.5**
Y52A Lilburn 27.52 346 P **P** **02 04 16.8 +1.1**
baz=163,SNR=30
Y52A P **P** **02 04 16.8 +1.1**
baz=163,SNR=30
Y52A S **S** **02 08 58.7 +2.4**
baz=163
Y52A S **S** **02 08 58.7 +2.4**
baz=163
GO01 Chusmiza 27.57 166 IAmb IAmb 02 04 31.4
comp=Z,217nm,1.2s
GO01 Chusmiza 27.57 166 *e*P **P** **02 04 15.6 -1.2**
LRAL Lakeview Retre 27.60 340 IAmb IAmb 02 04 31.0
comp=Z,237nm,1.6s
LRAL Lakeview Retre 27.60 340 P **P** **02 04 17.7 +1.3**
baz=156,SNR=15
LRAL S **S** **02 08 55.1 -2.5**
baz=156
LRAL Lakeview Retre 27.60 340 P **P** **02 04 17.3 +0.9**
baz=156,SNR=15
LRAL S **S** **02 08 58.0 +0.5**
baz=156
BIRD Birdtown, Kers 27.60 352 IAmb IAmb 02 04 28.5
comp=Z,199nm,1.2s
BIRD Birdtown, Kers 27.60 352 P **P** **02 04 17.0 +0.6**
baz=171,SNR=22
BIRD S **S** **02 08 58.3 +0.8**
baz=171
344A Westbrook Farm 27.69 333 P **P** **02 04 18.8 +1.5**
baz=148,SNR=29
344A S **S** **02 09 04.4 +5.3**
baz=148
TA02 Huquique 27.94 168 *e*P **P** **02 04 20.6 +1.1**
CNNC Cliffs of the 27.95 357 P **P** **02 04 19.8 +0.2**
CNNC Cliffs of the 27.95 357 S **S** **02 09 05.4 +2.3**
baz=176
CNNC Cliffs of the 27.95 357 P **P** **02 04 20.0 +0.5**
baz=176
CNNC S **S** **02 09 04.5 +1.4**
baz=176
PAULI Pauline 27.98 350 P **P** **02 04 20.7 +0.9**
baz=168,SNR=14
PAULI S **S** **02 09 06.9 +3.5**
baz=168
146A Union 28.00 336 IAmb IAmb 02 04 28.8
comp=Z,149nm,1.0s
146A Union 28.00 336 P **P** **02 04 21.3 +1.3**
baz=152
146A S **S** **02 09 07.0 +3.1**
baz=152
W57A Gilead 28.04 353 P **P** **02 04 21.5 +1.1**
baz=172
W57A P **P** **02 04 21.5 +1.1**
baz=172
W57A S **S** **02 09 07.2 +2.7**
baz=172
W57A S **S** **02 09 07.2 +2.7**
baz=172
Z47A Carrollton 28.12 339 IAmb IAmb 02 04 32.7
comp=Z,183nm,0.8s
Z47A Carrollton 28.12 339 P **P** **02 04 21.9 +0.8**
baz=154,SNR=54
Z47A S **S** **02 09 06.3 +0.5**
baz=154
PTLB Pontes e Lacer 28.14 143 P **P** **02 04 20.8 -0.7**
PTLB IAmb IAmb 02 04 30.2
comp=Z,278nm,1.5s
PTLB Pontes e Lacer 28.14 143 *e*P **P** **02 04 20.2 -1.2**
Y49A Blount Mountai 28.16 342 P **P** **02 04 22.4 +0.9**
baz=158,SNR=14
Y49A S **S** **02 09 08.3 +1.8**
baz=158
KMSC Kings Mountain 28.21 351 P **P** **02 04 21.7 -0.2**
KMSC Kings Mountain 28.21 351 P **P** **02 04 23.2 +1.4**
baz=169,SNR=10
KMSC S **S** **02 09 09.5 +2.3**
baz=169
KMSC Kings Mountain 28.21 351 P **P** **02 04 22.8 +1.0**
baz=169,SNR=10
KMSC S **S** **02 09 09.8 +2.6**
baz=169
TA01 Diego Aracena 28.21 168 P **P** **02 04 22.6 +0.6**
TA01 Diego Aracena 28.21 168 ⇑*i*P **P** **02 04 21.9 -0.1**
VBMS Vicksburg 28.24 334 IAmb IAmb 02 04 31.4
comp=Z,262nm,1.1s
VBMS Vicksburg 28.24 334 P **P** **02 04 23.5 +1.3**
baz=149,SNR=16
VBMS S **S** **02 09 10.3 +2.6**
baz=149
VBMS Vicksburg 28.24 334 P **P** **02 04 23.0 +0.9**
baz=149,SNR=16
VBMS S **S** **02 09 07.1 -0.6**
baz=149
441A DeRidder 28.33 328 IAmb IAmb 02 04 34.5
comp=Z,188nm,1.1s
CASEE Lake Jocassee 28.35 348 P **P** **02 04 25.0 +1.8**
baz=166,SNR=31
CASEE S **S** **02 09 12.1 +2.7**
baz=166
X51A Calhoun 28.38 345 P **P** **02 04 24.7 +1.3**
baz=162,SNR=5.4
X51A P **P** **02 04 24.7 +1.3**
baz=162,SNR=5.4
X51A S **S** **02 09 12.6 +2.6**
baz=162
X51A S **S** **02 09 12.6 +2.6**
baz=162
342B Flagon Creek P 28.39 330 P **P** **02 04 24.6 +1.1**
baz=144,SNR=11
342B S **S** **02 09 13.7 +3.7**
baz=144
FPAL Fort Paine 28.56 344 IAmb IAmb 02 04 42.1
comp=Z,127nm,1.3s
V58A Windy Hill, Pi 28.59 355 P **P** **02 04 26.5 +1.3**
baz=174,SNR=10
V58A P **P** **02 04 26.5 +1.3**
baz=174,SNR=10
V58A S **S** **02 09 14.0 +0.9**
baz=174
V58A S **S** **02 09 14.0 +0.9**
baz=174
W52A Murphy 28.66 347 P **P** **02 04 26.9 +0.9**
W52A Murphy 28.66 347 P **P** **02 04 27.0 +1.1**
baz=164,SNR=16
W52A S **S** **02 09 15.7 +1.3**
baz=164
PB01 IPOC Station P 28.83 167 *e*P **P** **02 04 27.8 +0.2**
V55A Taylorsville 28.89 352 P **P** **02 04 29.6 +1.6**
baz=170,SNR=8.4
V55A P **P** **02 04 29.6 +1.6**
baz=170,SNR=8.4
V55A S **S** **02 09 17.7 -0.2**
baz=170
V55A S **S** **02 09 17.7 -0.2**
baz=170
X48A Hartselle 28.91 341 P **P** **02 04 28.9 +0.8**
baz=157,SNR=18
X48A S **S** **02 09 20.9 +2.6**
baz=157
V53A Saluda 28.98 349 P **P** **02 04 30.1 +1.3**
baz=166,SNR=18
V53A P **P** **02 04 30.1 +1.3**
baz=166,SNR=18
V53A S **S** **02 09 22.1 +2.7**
baz=166
V53A S **S** **02 09 22.1 +2.7**
baz=166
PB02 IPOC Station P 29.01 168 IAmb IAmb 02 04 47.1
comp=Z,183nm,0.9s
PB02 IPOC Station P 29.01 168 *e*P **P** **02 04 31.1 +1.9**
143A Socs Landing, 29.05 333 IAmb IAmb 02 04 40.9
comp=Z,276nm,1.4s
143A Socs Landing, 29.05 333 S **S** **02 09 21.1 +0.7**
baz=148
U59A Littleton 29.06 357 P **P** **02 04 30.1 +0.8**
baz=177,SNR=6.7
U59A P **P** **02 04 30.1 +0.8**
baz=177,SNR=6.7
U59A S **S** **02 09 22.1 +1.7**
baz=177
U59A S **S** **02 09 22.1 +1.7**
baz=177
W50A Signal Mountai 29.10 345 IAmb IAmb 02 04 46.5
comp=Z,196nm,1.5s
W50A Signal Mountai 29.10 345 P **P** **02 04 30.8 +1.0**
baz=161,SNR=21
W50A S **S** **02 09 22.4 +1.1**
baz=161
TKL Tuckaleechee C 29.17 347 P **P** **02 04 30.4 0.0**
comp=Z,16nm,1.0s,baz=168,slow=14,SNR=11
TKL S **S** **02 09 18.1 -4.1**
comp=Z,3.0nm,0.8s,baz=259,slow=16,SNR=0.9
TKL LR LR 02 16 38.6
comp=Z,18µm,21.4s,baz=153,slow=37
comp=Z,16nm,1.0s
TKL Tuckaleechee C 29.17 347 IAmb IAmb 02 04 40.9
comp=Z,200nm,1.7s
TKL Tuckaleechee C 29.17 347 P **P** **02 04 31.5 +1.1**
baz=164,SNR=8.0
TKL S **S** **02 09 23.8 +1.5**
baz=164
HKT Hockley 29.20 323 P **P** **02 04 30.0 -0.7**
HKT IAmb IAmb 02 05 30.3
comp=Z,328nm,1.9s
HKT Hockley 29.20 323 ⇑*i*P **P** **02 04 30.7 0.0**
HKT pmax pmax
comp=Z,52nm,1.5s
HKT MLR MLR
comp=Z,12µm,23.0s
HKT Hockley 29.20 323 P **P** **02 04 31.0 +0.3**
baz=137
HKT Hockley 29.20 323 ⇓P **P** **02 04 30.4 -0.3**
U56A King 29.27 353 IAmb IAmb 02 04 49.7
comp=Z,202nm,1.1s
U56A King 29.27 353 P **P** **02 04 33.1 +1.9**
baz=171,SNR=13
U56A P **P** **02 04 33.1 +1.9**
baz=171,SNR=13
U56A S **S** **02 09 26.4 +2.6**
baz=171
U56A S **S** **02 09 26.4 +2.6**
baz=171
Y45A Yeager Farm, C 29.27 337 P **P** **02 04 32.4 +1.2**
baz=152,SNR=43
SWET Sewanee 29.29 344 IAmb IAmb 02 04 47.8
comp=Z,174nm,1.6s
V52A Sevierville 29.31 348 P **P** **02 04 32.5 +0.9**
baz=165,SNR=14
V52A S **S** **02 09 25.8 +1.4**
baz=165
PB07 IPOC Station P 29.40 168 IAmb IAmb 02 04 50.6
comp=Z,135nm,1.1s
PB07 IPOC Station P 29.40 168 *e*P **P** **02 04 33.2 +0.5**
V51A Loudon 29.44 346 IAmb IAmb 02 04 43.7
comp=Z,187nm,1.4s
V51A Loudon 29.44 346 P **P** **02 04 34.1 +1.3**
baz=163,SNR=14
V51A S **S** **02 09 29.1 +2.7**
baz=163
PRPB Parauapebas 29.48 116 *e*P **P** **02 04 32.0 -1.4**
PB09 IPOC Station P 29.61 167 IAmb IAmb 02 04 51.1
comp=Z,225nm,1.3s
PB09 IPOC Station P 29.61 167 *e*P **P** **02 04 30.7 -3.9**
TMAB Tom-Au,PA,Br 29.61 108 *e*P **P** **02 04 34.0 -0.6**
U54A Nelsons Funny 29.64 351 IAmb IAmb 02 04 49.6
comp=Z,139nm,1.1s
U54A Nelsons Funny 29.64 351 P **P** **02 04 36.2 +1.5**
baz=169,SNR=19
U54A P **P** **02 04 36.2 +1.5**
baz=169,SNR=19
U54A S **S** **02 09 33.2 +3.4**
baz=169
U54A S **S** **02 09 33.2 +3.4**
baz=169
735A Kenedy 29.66 319 P **P** **02 04 35.8 +0.9**
baz=132
T59A Double "B" Far 29.66 358 P **P** **02 04 35.3 +0.6**
baz=177,SNR=22
T59A P **P** **02 04 35.3 +0.6**
baz=177,SNR=22
T59A S **S** **02 09 31.6 +1.6**
baz=177
T59A S **S** **02 09 31.6 +1.6**
baz=177
ZAIG Zacatecas 29.72 304 P **P** **02 04 36.8 +1.0**
ZAIG Zacatecas 29.72 304 ⇓P **P** **02 04 36.9 +1.0**
OXF Oxford 29.79 338 P **P** **02 04 36.3 +0.4**
baz=153
OXF S **S** **02 09 32.6 +0.6**
baz=153
OXF Oxford 29.79 338 P **P** **02 04 35.4 -0.5**
baz=153
OXF S **S** **02 09 32.8 +0.8**
baz=153
T57A Hurt 29.80 355 P **P** **02 04 36.7 +0.7**
baz=174,SNR=17
T57A P **P** **02 04 36.7 +0.7**
baz=174,SNR=17
T57A S **S** **02 09 34.4 +2.3**
baz=174
T57A S **S** **02 09 34.4 +2.3**
baz=174
NATX Nacogdoches 29.90 327 IAmb IAmb 02 04 48.4
comp=Z,206nm,1.2s
NATX Nacogdoches 29.90 327 P **P** **02 04 37.8 +0.8**
baz=141,SNR=13
NATX S **S** **02 09 35.2 +1.4**
baz=141
NATX Nacogdoches 29.90 327 P **P** **02 04 37.2 +0.3**
baz=141,SNR=13
NATX S **S** **02 09 35.6 +1.8**
baz=141
PB04 IPOC Station P 29.94 169 *e*P **P** **02 04 35.8 -1.8**
TZTN Tazewell 29.97 348 IAMs_20 IAMs_20 02 16 52.0
comp=Z,18µm,21.0s
TZTN Tazewell 29.97 348 P **P** **02 04 38.3 +0.8**
baz=165,SNR=8.0
TZTN S **S** **02 09 36.0 +1.1**
baz=165
TZTN Tazewell 29.97 348 P **P** **02 04 38.5 +1.0**
baz=165,SNR=8.0
TZTN S **S** **02 09 36.3 +1.4**
baz=165
V48A Smith Brothers 30.03 343 IAmb IAmb 02 04 41.2
comp=Z,125nm,0.8s
V48A Smith Brothers 30.03 343 P **P** **02 04 39.0 +0.9**
baz=158,SNR=75
V48A S **S** **02 09 36.7 +0.9**
baz=158
BLA Blacksburg 30.12 353 IAmb IAmb 02 04 57.9
comp=Z,206nm,1.2s
BLA Blacksburg 30.12 353 P **P** **02 04 40.8 +1.9**
baz=172,SNR=16
BLA S **S** **02 09 40.4 +3.1**
baz=172
BLA Blacksburg 30.12 353 P **P** **02 04 38.5 -0.4**
baz=172,SNR=16
BLA S **S** **02 09 40.0 +2.7**
baz=172
CLTN Cedars of Leba 30.22 344 IAmb IAmb 02 04 56.0
comp=Z,121nm,1.3s
CCAR Cane Creek 30.24 334 P **P** **02 04 40.3 +0.4**
baz=148
W45A Hickory Valley 30.28 339 P **P** **02 04 40.8 +0.5**
baz=154,SNR=26
W45A S **S** **02 09 40.1 +0.3**

baz=154
S61A Accomac 30.35 1 S S 02 09 45.2 +4.5
baz=181
S61A S S **02 09 45.2 +4.5**
baz=181
833A Chaparral WMA, 30.37 317 IAmb IAmb 02 04 49.3
comp=Z,182nm,1.0s
833A Chaparral WMA, 30.37 317 P P **02 04 40.6 -0.5**
baz=129,SNR=39
833A S S **02 09 40.4 -1.0**
baz=129
833A Chaparral WMA, 30.37 317 P P **02 04 40.4 -0.7**
baz=129,SNR=39
833A S S **02 09 40.1 -1.2**
baz=129
PB06 IPOC Station P 30.42 168 IAmb IAmb 02 04 49.7
comp=Z,188nm,1.4s
PB06 IPOC Station P 30.42 168 ⇑*i*P P **02 04 41.8 +0.1**
U49A Red Boiling Sp 30.46 345 P P **02 04 41.5 -0.4**
baz=161,SNR=26
U49A S S **02 09 44.6 +2.0**
baz=161
LVC Limon Verde 30.47 167 P P **02 04 42.7 +0.3**
comp=Z,67nm,1.0s,baz=356,slow=7.5,SNR=23
LVC LR LR 02 18 08.6
comp=Z,25µm,18.6s,baz=312,slow=39
comp=Z,67nm,1.0s
LVC Limon Verde 30.47 167 P P **02 04 43.0 +0.6**
LVC Limon Verde 30.47 167 *e*P P **02 04 43.1 +0.6**
LVC Limon Verde 30.47 167 *e*P P **02 04 41.8 -0.6**
S57A Dark Hollow, R 30.53 356 P P **02 04 42.1 -0.4**
S57A Dark Hollow, R 30.53 356 P P **02 04 42.0 -0.4**
baz=174,SNR=13
S57A P P **02 04 42.0 -0.4**
baz=174,SNR=13
S57A S S **02 09 46.6 +3.1**
baz=174
S57A S S **02 09 46.6 +3.1**
baz=174
SALV Santo Antonio 30.64 139 *e*P P **02 04 43.0 -0.6**
R58B Mineral 30.67 357 P P **02 04 44.5 +0.9**
baz=177,SNR=7.6
R58B P P **02 04 44.5 +0.9**
baz=177,SNR=7.6
R58B S S **02 09 47.0 +1.3**
baz=177
R58B S S **02 09 47.0 +1.3**
baz=177
WVT Waverly 30.70 341 P P **02 04 43.5 -0.4**
WVT Waverly 30.70 341 IAMs_20 IAMs_20 02 17 01.5
comp=Z,16µm,21.0s
WVT Waverly 30.70 341 P P **02 04 43.5 -0.4**
WVT pmax pmax
comp=Z,66nm,1.1s
WVT MLR MLR
comp=Z,16µm,21.0s
WVT Waverly 30.70 341 P P **02 04 44.2 +0.3**
baz=157,SNR=35
WVT S S **02 09 46.2 -0.1**
baz=157
WVT Waverly 30.70 341 P P **02 04 43.8 -0.1**
baz=157
WVT S S **02 09 46.9 +0.6**
baz=157
WVT Waverly 30.70 341 ⇑P P **02 04 43.9 -0.1**
237A Washetta, Mont 30.71 326 IAmb IAmb 02 04 53.4
comp=Z,195nm,1.2s
237A Washetta, Mont 30.71 326 P P **02 04 44.7 +0.6**
baz=139,SNR=12
237A S S **02 09 47.6 +1.1**
baz=139
S54A Dingess, Beckl 30.82 352 IAmb IAmb 02 05 03.1
comp=Z,89nm,1.1s
S54A Dingess, Beckl 30.82 352 P P **02 04 46.4 +1.4**
baz=170,SNR=11
S54A P P **02 04 46.4 +1.4**
baz=170,SNR=11
S54A S S **02 09 49.2 +1.0**
baz=170
S54A S S **02 09 49.2 +1.0**
baz=170
435B Jarrell 30.85 322 P P **02 04 46.3 +0.9**
baz=135
435B S S **02 09 47.4 -1.4**
baz=135
435B Jarrell 30.85 322 P P **02 04 45.0 -0.3**
baz=135
435B S S **02 09 47.6 -1.2**
baz=135
CBN Corbin Frederi 30.89 358 P P **02 04 48.0 +2.5**
baz=178
CBN S S **02 09 52.1 +3.0**
baz=178
CBN Corbin Frederi 30.89 358 P P **02 04 45.7 +0.1**
baz=178
CBN S S **02 09 51.2 +2.1**
baz=178
PB15 IPOC Station P 30.93 168 IAmb IAmb 02 05 04.8
comp=Z,77nm,1.0s
HALT Halls 31.01 339 P P **02 04 46.7 0.0**
S51A Beattyville 31.04 349 P P **02 04 47.9 +1.0**
baz=166,SNR=12
S51A P P **02 04 47.9 +1.0**
baz=166,SNR=12
S51A S S **02 09 52.7 +1.1**
baz=166
S51A S S **02 09 52.7 +1.1**
baz=166
R55A Marlinton 31.15 354 IAmb IAmb 02 05 06.9
comp=Z,79nm,0.9s
R55A Marlinton 31.15 354 P P **02 04 49.8 +1.8**
baz=172,SNR=18
R55A P P **02 04 49.8 +1.8**
baz=172,SNR=18
R55A S S **02 09 58.2 +4.8**
baz=172
R55A S S **02 09 58.2 +4.8**
baz=172
HBAR Harrisburg 31.19 337 P P **02 04 48.4 +0.1**
baz=151,SNR=14
HBAR S S **02 09 55.6 +1.7**
baz=151
LNXT Lenox 31.24 339 P P **02 04 48.6 -0.1**
baz=154,SNR=7.8
Z38A Mt. Pleasant 31.24 329 P P **02 04 48.8 0.0**
Z38A Mt. Pleasant 31.24 329 P P **02 04 49.1 +0.4**
baz=142,SNR=35
Z38A S S **02 09 54.3 -0.6**
baz=142
SNDB Serra Nova Dou 31.24 127 *e*P P **02 04 47.8 -1.2**
T47A Sharon Grove 31.28 343 IAmb IAmb 02 04 51.6
comp=Z,120nm,0.8s
T47A Sharon Grove 31.28 343 P P **02 04 49.5 +0.5**
baz=159,SNR=56
T47A S S **02 09 56.4 +1.1**
baz=159
R53A Hurricane 31.43 351 IAmb IAmb 02 05 14.7
comp=Z,118nm,1.5s
R53A Hurricane 31.43 351 P P **02 04 51.3 +0.9**
baz=169
R53A P P **02 04 51.3 +0.9**
baz=169
R53A S S **02 10 00.7 +3.0**
baz=169
R53A S S **02 10 00.7 +3.0**
baz=169
MIAR Mount Ida 31.58 332 P P **02 04 50.7 -1.0**
MIAR Mount Ida 31.58 332 P P **02 04 50.7 -1.0**
MIAR pmax pmax
comp=Z,51nm,0.9s
MIAR MLR MLR
comp=Z,5µm,22.0s
MIAR Mount Ida 31.58 332 P P **02 04 51.1 -0.6**
baz=145,SNR=31
MIAR S S **02 10 01.2 +1.1**
baz=145
MIAR Mount Ida 31.58 332 P P **02 04 51.1 -0.6**
baz=145,SNR=31
MIAR S S **02 09 58.0 -2.2**
baz=145
MIAR Mount Ida 31.58 332 ⇑P P **02 04 51.3 -0.5**
WHAR Wooly Hollow 31.63 334 IAmb IAmb 02 05 03.4
comp=Z,130nm,1.1s
WHTX Lake Whitney, 31.64 324 IAmb IAmb 02 05 01.9
comp=Z,124nm,1.1s
WHTX Lake Whitney, 31.64 324 P P **02 04 52.0 -0.3**
baz=137,SNR=12
WHTX S S **02 10 00.1 -1.1**
baz=137
WHTX Lake Whitney, 31.64 324 P P **02 04 51.9 -0.4**
baz=137,SNR=12
WHTX S S **02 10 00.9 -0.2**
baz=137
T45B Paducah 31.78 341 P P **02 04 53.3 -0.1**
baz=156,SNR=7.9
T45B S S **02 10 02.9 -0.2**
baz=156
R50A Paris 31.81 348 IAmb IAmb 02 04 56.6
comp=Z,62nm,0.8s
R50A Paris 31.81 348 P P **02 04 54.7 +1.0**
baz=164,SNR=27
R50A P P **02 04 54.7 +1.0**
baz=164,SNR=27
R50A S S **02 10 06.3 +2.7**
baz=164
R50A S S **02 10 06.3 +2.7**
baz=164
Q56A Snyder Ridge, 31.82 356 IAmb IAmb 02 04 59.4
comp=Z,80nm,1.1s
Q56A Snyder Ridge, 31.82 356 P P **02 04 55.3 +1.5**
baz=174,SNR=16
Q56A P P **02 04 55.3 +1.5**
baz=174,SNR=16
Q56A S S **02 10 04.1 +0.3**
baz=174
Q56A S S **02 10 04.1 +0.3**
baz=174
LCAR Lake Charles 31.83 337 P P **02 04 53.3 -0.6**
baz=151,SNR=67
LCAR S S **02 10 06.2 +2.2**
baz=151
Q54A Coxs Mills 31.92 353 S S **02 10 07.1 +1.8**
baz=171
Q54A S S **02 10 07.1 +1.8**
baz=171
R49A Shelbyville 32.00 347 P P **02 04 55.6 +0.2**
R49A IAmb IAmb 02 05 12.6
comp=Z,235nm,1.9s
R49A Shelbyville 32.00 347 P P **02 04 56.5 +1.1**
baz=163,SNR=7.1
R49A P P **02 04 56.5 +1.1**
baz=163,SNR=7.1
R49A S S **02 10 08.5 +1.9**
baz=163
R49A S S **02 10 08.5 +1.9**
baz=163
JCT Junction City 32.03 319 P P **02 04 56.0 +0.1**
baz=131
JCT S S **02 10 05.8 -1.6**
baz=131
JCT Junction City 32.03 319 P P **02 04 54.9 -0.9**
baz=131
JCT S S **02 10 06.4 -1.0**
baz=131
JCT Junction City 32.03 319 ⇓P P **02 04 55.0 -0.9**
FCAR Ozark Folk Cen 32.07 335 IAmb IAmb 02 05 07.0
comp=Z,68nm,0.9s
SDMD Soldier's Deli 32.08 359 P P **02 04 57.7 +1.7**
baz=179,SNR=6.8
SDMD S S **02 10 09.6 +1.8**
baz=179
Q52A Bidwell 32.10 351 IAmb IAmb 02 05 11.1
comp=Z,113nm,1.1s
Q52A Bidwell 32.10 351 P P **02 04 57.4 +1.2**
baz=168,SNR=16
Q52A P P **02 04 57.4 +1.2**
baz=168,SNR=16
Q52A S S **02 10 10.9 +2.9**
baz=168
Q52A S S **02 10 10.9 +2.9**
baz=168
PBMO Poplar Bluff 32.18 338 IAmb IAmb 02 05 07.3
comp=Z,122nm,0.8s
PBMO Poplar Bluff 32.18 338 S S **02 10 08.7 -0.7**
baz=153
P57A Homestead Farm 32.19 357 IAmb IAmb 02 05 00.8
comp=Z,98nm,1.0s
P57A Homestead Farm 32.19 357 P P **02 04 58.0 +1.0**
baz=176,SNR=25
P57A P P **02 04 58.0 +1.0**
baz=176,SNR=25
P57A S S **02 10 13.0 +3.6**
baz=176
P57A S S **02 10 13.0 +3.6**
baz=176
WCI Wyandotte Cave 32.22 345 P P **02 04 57.5 +0.2**
WCI IAmb IAmb 02 04 60.0
comp=Z,78nm,0.8s
WCI Wyandotte Cave 32.22 345 IAMs_20 IAMs_20 02 18 13.5
comp=Z,19µm,20.0s
WCI Wyandotte Cave 32.22 345 P P **02 04 57.5 +0.2**
WCI pmax pmax
comp=Z,78nm,0.8s
WCI MLR MLR
comp=Z,19µm,20.0s
WCI Wyandotte Cave 32.22 345 P P **02 04 57.7 +0.5**
baz=161,SNR=40
WCI S S **02 10 10.9 +0.9**
baz=161
WCI Wyandotte Cave 32.22 345 P P **02 04 57.3 0.0**
baz=161
WCI S S **02 10 10.8 +0.8**
baz=161
WCI Wyandotte Cave 32.22 345 ⇓P P **02 04 57.6 +0.3**
Q51A Peebles 32.34 350 IAmb IAmb 02 05 16.6
comp=Z,224nm,1.5s
Q51A Peebles 32.34 350 P P **02 04 59.5 +1.1**
baz=167,SNR=18
Q51A P P **02 04 59.5 +1.1**
baz=167,SNR=18
Q51A S S **02 10 14.9 +3.0**
baz=167
Q51A S S **02 10 14.9 +3.0**
baz=167
P61A Hammonton 32.36 2 P P **02 05 01.0 +2.5**
baz=182
P61A P P **02 05 01.0 +2.5**
baz=182
CGM3 Cape Girardeau 32.37 340 IAmb IAmb 02 05 09.3
comp=Z,86nm,0.8s
GEDE Greenville 32.48 1 P P **02 05 00.9 +1.4**
baz=181,SNR=5.7
GEDE S S **02 10 15.7 +1.8**
baz=181
MCWV Mont Chateau 32.49 355 IAmb IAmb 02 05 18.2
comp=Z,84nm,1.1s
MCWV Mont Chateau 32.49 355 P P **02 05 01.9 +2.2**
baz=173,SNR=5.3
MCWV S S **02 10 16.1 +2.0**
baz=173
MCWV Mont Chateau 32.49 355 P P **02 05 00.1 +0.4**
baz=173,SNR=5.3
MCWV S S **02 10 17.6 +3.5**
baz=173
X37A Clayton 32.49 330 P P **02 04 59.1 -0.6**
X37A Clayton 32.49 330 P P **02 05 00.0 +0.3**
baz=142,SNR=48
X37A S S **02 10 14.2 -0.1**
baz=142
P53A Whipple 32.49 353 IAmb IAmb 02 05 18.4
comp=Z,163nm,1.0s
P53A Whipple 32.49 353 P P **02 05 01.0 +1.4**
baz=170,SNR=19
P53A P P **02 05 01.0 +1.4**
baz=170,SNR=19
P53A S S **02 10 17.3 +3.2**
baz=170
P53A S S **02 10 17.3 +3.2**
baz=170
Z35A Perchaven, San 32.51 326 IAmb IAmb 02 05 08.8
comp=Z,130nm,1.1s
Z35A Perchaven, San 32.51 326 P P **02 05 00.4 +0.4**
baz=138,SNR=11
Z35A S S **02 10 14.6 -0.1**
baz=138
S44A Carbondale 32.59 341 P P **02 05 00.5 -0.1**
baz=155,SNR=40
S44A S S **02 10 13.7 -2.1**
baz=155
PSUB Penn St. - Bra 32.60 1 P P **02 05 01.7 +1.1**
baz=181
SIUC Southern Illin 32.60 341 IAmb IAmb 02 05 02.5
comp=Z,118nm,0.8s
SMTB Santa Maria do 32.67 119 *e*P P **02 05 00.8 -0.8**
P51A Williamsport 32.73 350 IAmb IAmb 02 05 20.0
comp=Z,122nm,1.1s
P51A Williamsport 32.73 350 P P **02 05 02.8 +1.1**
baz=167,SNR=15
P51A P P **02 05 02.8 +1.1**
baz=167,SNR=15
P51A S S **02 10 20.4 +2.5**
baz=167
P51A S S **02 10 20.4 +2.5**
baz=167
P52A Corning 32.73 352 IAmb IAmb 02 05 20.2
comp=Z,164nm,1.3s
P52A IAMs_20 IAMs_20 02 19 04.0
comp=Z,19µm,20.0s
P52A Corning 32.73 352 P P **02 05 02.4 +0.6**
baz=169
P52A S S **02 10 19.8 +1.8**
baz=169
GO02 Mina Guanaco 32.80 169 P P **02 05 03.8 +0.9**
TUPA Temple Univers 32.84 1 P P **02 05 04.2 +1.5**
baz=182,SNR=7.7
TUPA S S **02 10 22.6 +3.1**
baz=182
LOOK Love County 32.97 327 IAmb IAmb 02 05 13.0
comp=Z,183nm,1.0s
O54A Avella 33.06 354 IAmb IAmb 02 05 23.3
comp=Z,152nm,1.2s
O54A Avella 33.06 354 P P **02 05 06.3 +1.6**
baz=172,SNR=16
O54A P P **02 05 06.3 +1.6**
baz=172,SNR=16
O54A S S **02 10 26.4 +3.4**
baz=172
O54A S S **02 10 26.4 +3.4**
baz=172
PANJ Princeton 33.07 2 P P **02 05 06.2 +1.6**
baz=183,SNR=11
PANJ S S **02 10 25.9 +2.8**
baz=183
P49A Miami Univ. Ec 33.10 348 IAmb IAmb 02 05 21.5
comp=Z,195nm,1.6s
P49A IAMs_20 IAMs_20 02 18 49.6
comp=Z,15µm,22.0s
P49A Miami Univ. Ec 33.10 348 P P **02 05 05.8 +0.9**
baz=164,SNR=8.3
P49A S S **02 10 23.0 -0.6**
baz=164
P49A Miami Univ. Ec 33.10 348 P P **02 05 04.7 -0.2**
baz=164,SNR=8.3
P49A S S **02 10 23.8 +0.2**
baz=164
O52A Adamsville 33.16 352 IAmb IAmb 02 05 23.4
comp=Z,184nm,1.4s
O52A Adamsville 33.16 352 P P **02 05 07.0 +1.5**
baz=170,SNR=13
O52A P P **02 05 07.0 +1.5**
baz=170,SNR=13
O52A S S **02 10 25.7 +1.0**
baz=170
O52A S S **02 10 25.7 +1.0**
baz=170
P48A Milroy 33.18 347 P P **02 05 05.8 +0.1**
baz=163,SNR=32
P48A P P **02 05 05.8 +0.1**
baz=163,SNR=32
P48A S S **02 10 26.0 +1.1**
baz=163
P48A S S **02 10 26.0 +1.1**
baz=163
HHAR Hobbs 33.18 333 P P **02 05 05.3 -0.5**
baz=146
HHAR S S **02 10 22.9 -2.2**
baz=146
OLIL Olney 33.19 343 IAmb IAmb 02 05 07.5
comp=Z,100nm,0.8s
OLIL Olney 33.19 343 P P **02 05 06.0 +0.2**
baz=158,SNR=25
OLIL S S **02 10 24.1 -0.9**
baz=158
O53A New Philadelph 33.22 353 IAmb IAmb 02 05 24.6
comp=Z,135nm,0.9s
O53A New Philadelph 33.22 353 P P **02 05 07.0 +1.0**
baz=171,SNR=24
O53A S S **02 10 27.6 +2.1**
baz=171
FVM French Village 33.25 339 P P **02 05 06.7 +0.3**
baz=154,SNR=85
FVM S S **02 10 25.8 -0.3**
baz=154
LUPA Lehigh Univers 33.27 1 IAmb IAmb 02 05 09.9
comp=Z,109nm,1.1s
UPAO U. Pittsburgh 33.32 355 P P **02 05 08.6 +1.7**
baz=173
UPAO S S **02 10 29.8 +2.7**
baz=173
BRNJ Basking Ridge 33.38 2 IAmb IAmb 02 05 30.6
comp=Z,152nm,1.3s
BRNJ Basking Ridge 33.38 2 P P **02 05 09.5 +2.2**
baz=183,SNR=10.0
BRNJ S S **02 10 30.4 +2.5**
baz=183
ABTX Abilene, Hawle 33.39 322 P P **02 05 07.7 0.0**
baz=134,SNR=22
ABTX Abilene, Hawle 33.39 322 P P **02 05 07.3 -0.4**
baz=134,SNR=22
ACSO Alum Creek Sta 33.45 351 IAmb IAmb 02 05 26.4
comp=Z,204nm,1.4s
ACSO IAMs_20 IAMs_20 02 19 05.9
comp=Z,13µm,21.0s
ACSO Alum Creek Sta 33.45 351 P P **02 05 08.4 +0.4**
baz=168,SNR=17
ACSO S S **02 10 30.5 +1.4**
baz=168
ACSO Alum Creek Sta 33.45 351 P P **02 05 08.6 +0.6**
baz=168,SNR=17
ACSO S S **02 10 30.8 +1.7**
baz=168
N58A Sunbury 33.50 359 IAmb IAmb 02 05 31.5
comp=Z,109nm,1.4s
N58A Sunbury 33.50 359 P P **02 05 09.6 +1.1**
baz=179,SNR=12
N58A P P **02 05 09.6 +1.1**
baz=179,SNR=12
N58A S S **02 10 32.9 +3.0**
baz=179
N58A S S **02 10 32.9 +3.0**
baz=179
U38A Gravette 33.52 333 P P **02 05 07.4 -1.3**
U38A IAmb IAmb 02 05 19.2
comp=Z,124nm,0.8s
U38A Gravette 33.52 333 P P **02 05 08.1 -0.6**
baz=146,SNR=56
U38A S S **02 10 27.4 -2.8**
baz=146
ROSB Rosrio 33.54 106 *e*P P **02 05 08.2 -1.0**
RLO Rose Lookout 33.58 332 IAmb IAmb 02 05 19.9
comp=Z,96nm,1.2s
AC01 Pan de Azucar 33.59 171 ⇓*i*P P **02 05 11.3 +1.9**
FOR Fordham 33.59 3 P P **02 05 11.5 +2.3**
baz=184
CCM Cathedral Cave 33.61 338 P P **02 05 08.8 -0.7**
CCM Cathedral Cave 33.61 338 P P **02 05 08.8 -0.7**
CCM pmax pmax
comp=Z,172nm,0.8s
CCM MLR MLR
comp=Z,5µm,20.0s
CCM Cathedral Cave 33.61 338 P P **02 05 09.3 -0.1**
baz=152,SNR=112
CCM S S **02 10 29.4 -2.2**
baz=152
CCM Cathedral Cave 33.61 338 P P **02 05 09.1 -0.4**
baz=152
CCM S S **02 10 30.1 -1.5**
baz=152
CCM Cathedral Cave 33.61 338 ⇓P P **02 05 08.7 -0.8**
Q44A Meyer Farm, Va 33.62 342 IAmb IAmb 02 05 11.0
comp=Z,110nm,0.8s
Q44A Meyer Farm, Va 33.62 342 P P **02 05 09.8 +0.2**
baz=156,SNR=15
Q44A S S **02 10 29.8 -1.9**
baz=156
O49A Covington 33.65 349 IAmb IAmb 02 05 27.3
comp=Z,88nm,1.2s
O49A Covington 33.65 349 P P **02 05 10.5 +0.7**
baz=165,SNR=7.2
O49A P P **02 05 10.5 +0.7**
baz=165,SNR=7.2
O49A S S **02 10 32.2 0.0**
baz=165
O49A S S **02 10 32.2 0.0**

baz=165
N53A Lisbon 33.72 354 IAmb IAmb 02 05 29.0
comp=Z,83nm,1.1s
N53A Lisbon 33.72 354 P **P** **02 05 11.7 +1.2**
baz=172,SNR=10
N53A P **P** **02 05 11.7 +1.2**
baz=172,SNR=10
N53A S **S** **02 10 35.8 +2.4**
baz=172
N53A S **S** **02 10 35.8 +2.4**
baz=172
PAL Palisades 33.73 3 P **P** **02 05 11.3 +0.8**
baz=184
PAL S **S** **02 10 34.8 +1.5**
baz=184
PAL Palisades 33.73 3 P **P** **02 05 11.0 +0.5**
baz=184,SNR=6.8
PAL S **S** **02 10 34.7 +1.3**
baz=184
TUL1 Leonard 33.74 331 P **P** **02 05 10.3 -0.4**
baz=143,SNR=64
TUL1 S **S** **02 10 31.4 -2.4**
baz=143
TUL1 Leonard 33.74 331 P **P** **02 05 09.9 -0.8**
baz=143,SNR=64
TUL1 S **S** **02 10 31.9 -1.9**
baz=143
P46A Rosedale 33.76 345 P **P** **02 05 11.3 +0.5**
baz=160,SNR=16
SLM Saint Louis 33.77 340 P **P** **02 05 12.0 +1.1**
baz=154,SNR=6.4
SLM S **S** **02 10 34.1 0.0**
baz=154
ODNJ Ogdensburg 33.77 2 P **P** **02 05 12.4 +1.5**
baz=183,SNR=7.0
ODNJ S **S** **02 10 33.7 -0.3**
baz=183
X34A Smith Ranch, M 33.78 327 IAmb IAmb 02 05 19.8
comp=Z,149nm,1.0s
TRNY Table Rock, Ra 33.85 3 IAmb IAmb 02 05 15.0
comp=Z,91nm,0.8s
PSDB Penn State Uni 33.87 357 P **P** **02 05 13.3 +1.6**
baz=175
O48B Farmland 33.88 348 P **P** **02 05 12.3 +0.5**
baz=164,SNR=37
O48B S **S** **02 10 34.7 -1.1**
baz=164
O48B Farmland 33.88 348 P **P** **02 05 11.6 -0.2**
baz=164,SNR=37
O48B S **S** **02 10 36.1 +0.3**
baz=164
TX32 Lajitas Array 33.97 314 IAmb IAmb 02 05 23.9
comp=Z,136nm,1.3s
TXAR Lajitas Array 33.97 314 P **P** **02 05 13.0 +0.2**
comp=Z,12nm,0.9s,baz=125,slow=7.5,SNR=63
TXAR S **S** **02 10 36.0 -1.5**
comp=Z,0.4nm,0.7s,baz=126,slow=6.4,SNR=0.7
TXAR LR LR 02 21 29.8
comp=Z,4μm,20.6s,baz=113,slow=41
comp=Z,12nm,0.9s
TXAR Lajitas Array 33.97 314 P **P** **02 05 13.0 +0.2**
TX31 Lajitas Ar. Si 33.97 314 P **P** **02 05 13.0 +0.1**
baz=125,SNR=46
M57A Sunshine Farm, 34.01 359 P **P** **02 05 14.1 +1.2**
M57A IAmb IAmb 02 05 16.5
comp=Z,126nm,0.8s
M57A Sunshine Farm, 34.01 359 P **P** **02 05 14.8 +1.9**
baz=178,SNR=41
M57A P **P** **02 05 14.8 +1.9**
baz=178,SNR=41
M57A S **S** **02 10 40.9 +3.1**
baz=178
M57A S **S** **02 10 40.9 +3.1**
baz=178
N51A Ashland 34.03 352 P **P** **02 05 14.0 +0.9**
baz=169,SNR=18
N51A P **P** **02 05 14.0 +0.9**
baz=169,SNR=18
N51A S **S** **02 10 38.8 +0.7**
baz=169
N51A S **S** **02 10 38.8 +0.7**
baz=169
DEOK Depew 34.04 330 IAmb IAmb 02 05 22.2
comp=Z,341nm,1.2s
AQDB Aquidauana 34.09 144 P **P** **02 05 13.4 -0.4**
AQDB Aquidauana 34.09 144 *e*P **P** **02 05 13.6 -0.4**
YLE Yale 34.10 4 IAMs_20 IAMs_20 02 18 35.3
comp=Z,14μm,21.0s
S39A Bolivar 34.11 335 IAmb IAmb 02 05 22.1
comp=Z,103nm,1.0s
S39A Bolivar 34.11 335 P **P** **02 05 13.4 -0.5**
baz=148,SNR=43
BRNY Black Rk. Fore 34.13 3 P **P** **02 05 15.7 +1.7**
baz=184
BRNY S **S** **02 10 42.7 +3.1**
baz=184
HPIG 34.18 309 IAmb IAmb 02 05 25.0
comp=Z,183nm,1.4s
HPIG 34.18 309 ⇓P **P** **02 05 15.0 +0.2**
OKCSW OKLAHOMA CITY 34.18 328 P **P** **02 05 13.7 -0.8**
R40A Maddies Statio 34.20 337 IAmb IAmb 02 05 27.5
comp=Z,103nm,0.8s
R40A Maddies Statio 34.20 337 P **P** **02 05 13.9 -0.7**
baz=151,SNR=54
R40A S **S** **02 10 41.8 +1.0**
baz=151
M55A Ridgway 34.20 357 IAmb IAmb 02 05 37.4
comp=Z,107nm,1.2s
M55A Ridgway 34.20 357 P **P** **02 05 15.5 +0.9**
baz=175,SNR=12
M55A P **P** **02 05 15.5 +0.9**
baz=175,SNR=12
M55A S **S** **02 10 44.1 +3.2**
baz=175
M55A S **S** **02 10 44.1 +3.2**
baz=175
KSPA Keystone Colle 34.22 1 IAmb IAmb 02 05 18.0
comp=Z,72nm,0.9s
KSPA Keystone Colle 34.22 1 P **P** **02 05 16.5 +1.8**
baz=181,SNR=20
KSPA S **S** **02 10 44.0 +3.0**
baz=181
OK030 Cody Creek RV 34.25 330 IAmb IAmb 02 05 25.0
comp=Z,124nm,0.9s
M63A Gales Ferry 34.26 6 IAmb IAmb 02 05 18.9
comp=Z,90nm,1.0s
M63A Gales Ferry 34.26 6 P **P** **02 05 17.8 +2.8**
baz=187,SNR=9.3
M63A P **P** **02 05 17.8 +2.8**
baz=187,SNR=9.3
M63A S **S** **02 10 43.7 +2.1**
baz=187
M63A S **S** **02 10 43.7 +2.1**
baz=187
OK031 S. Brethren Rd 34.30 329 IAmb IAmb 02 05 25.4
comp=Z,151nm,0.9s
N49A Columbus Grove 34.33 349 P **P** **02 05 16.1 +0.4**
baz=166,SNR=14
N49A P **P** **02 05 16.1 +0.4**
baz=166,SNR=14
N49A S **S** **02 10 41.9 -0.8**
baz=166
N49A S **S** **02 10 41.9 -0.8**
baz=166
M53A WI Miller and 34.33 354 IAmb IAmb 02 05 34.5
comp=Z,135nm,1.1s
M53A WI Miller and 34.33 354 P **P** **02 05 15.3 -0.4**
baz=172,SNR=10.0
M53A S **S** **02 10 43.6 +0.8**
baz=172
QUOK Quay 34.40 330 IAmb IAmb 02 05 27.0
comp=Z,423nm,1.3s
WMOK Wichita Mounta 34.40 326 IAmb IAmb 02 05 25.0
comp=Z,105nm,1.2s
WMOK Wichita Mounta 34.40 326 ⇓P **P** **02 05 15.3 -1.1**
WMOK Wichita Mounta 34.40 326 P **P** **02 05 15.9 -0.6**
baz=138,SNR=53
WMOK S **S** **02 10 41.5 -2.6**
baz=138
WMOK Wichita Mounta 34.40 326 P **P** **02 05 15.3 -1.1**
baz=138,SNR=53
WMOK S **S** **02 10 41.8 -2.3**
baz=138
WMOK Wichita Mounta 34.40 326 ⇓P **P** **02 05 15.3 -1.1**
P43A Skaggs, Pawnee 34.45 342 IAmb IAmb 02 05 19.6
comp=Z,105nm,0.8s
P43A Skaggs, Pawnee 34.45 342 P **P** **02 05 16.7 -0.1**
baz=156,SNR=26
P43A S **S** **02 10 42.9 -1.7**
baz=156
SFIN Lafayette 34.45 345 IAmb IAmb 02 05 18.2
comp=Z,65nm,0.7s
SFIN Lafayette 34.45 345 P **P** **02 05 16.4 -0.3**
baz=161,SNR=20
SFIN S **S** **02 10 41.8 -2.8**
baz=161
SFIN Lafayette 34.45 345 P **P** **02 05 16.4 -0.3**
baz=161,SNR=20
SFIN S **S** **02 10 42.2 -2.4**
baz=161
BCOK Bluff Creek, N 34.46 328 P **P** **02 05 15.3 -1.6**
BCOK IAmb IAmb 02 05 24.3
comp=Z,276nm,1.0s
NPNY Mohonk Preserv 34.46 3 P **P** **02 05 18.2 +1.4**
baz=184
NPNY S **S** **02 10 47.6 +2.8**
baz=184
ALLY Alegheny Colle 34.49 355 IAmb IAmb 02 05 35.8
comp=Z,110nm,1.0s
ALLY Alegheny Colle 34.49 355 P **P** **02 05 18.9 +1.8**
baz=173
M52A Chesterland 34.51 353 IAmb IAmb 02 05 35.6
comp=Z,72nm,0.9s
M52A Chesterland 34.51 353 P **P** **02 05 18.8 +1.5**
baz=171
M52A P **P** **02 05 18.8 +1.5**
baz=171
M52A S **S** **02 10 47.3 +1.9**
baz=171
M52A S **S** **02 10 47.3 +1.9**
baz=171
AC02 Maricunga 34.52 169 *e*P **P** **02 05 19.7 +1.7**
C2SB Chapadao do Su 34.59 139 *e*P **P** **02 05 18.5 +0.3**
N47A Urbana 34.60 347 IAmb IAmb 02 05 34.4
comp=Z,98nm,0.9s
N47A Urbana 34.60 347 P **P** **02 05 18.3 +0.3**
baz=163,SNR=13
N47A P **P** **02 05 18.3 +0.3**
baz=163,SNR=13
N47A S **S** **02 10 46.5 -0.3**
baz=163
N47A S **S** **02 10 46.5 -0.3**
baz=163
M50A Fremont 34.60 351 IAmb IAmb 02 05 35.9
comp=Z,130nm,1.2s
M50A Fremont 34.60 351 P **P** **02 05 19.3 +1.3**
baz=168
M50A P **P** **02 05 19.3 +1.3**
baz=168
O44A Mansfield 34.61 343 P **P** **02 05 18.0 -0.1**
baz=158,SNR=12
O44A S **S** **02 10 48.6 +1.5**
baz=158
OK045 Pawnee Station 34.73 330 P **P** **02 05 18.8 -0.4**
AC06 Mina Casimiro 34.81 171 IAmb IAmb 02 05 24.1
comp=Z,114nm,0.8s
AC06 Mina Casimiro 34.81 171 ⇑*i*P **P** **02 05 20.4 +0.4**
L56A Greenwood 34.82 358 P **P** **02 05 21.0 +1.0**
baz=178,SNR=13
L56A P **P** **02 05 21.0 +1.0**
baz=178,SNR=13
BRYW Bryant College 34.82 6 IAMs_20 IAMs_20 02 18 31.2
comp=Z,14μm,22.0s
BINY Binghamton 34.86 0 IAmb IAmb 02 05 23.6
comp=Z,88nm,0.9s
BINY Binghamton 34.86 0 P **P** **02 05 21.9 +1.6**
baz=180,SNR=27
BINY S **S** **02 10 54.1 +3.2**
baz=180
BINY Binghamton 34.86 0 P **P** **02 05 21.2 +1.0**
baz=180,SNR=27
BINY S **S** **02 10 53.8 +2.9**
baz=180
L59A Walton 34.87 2 P **P** **02 05 21.6 +1.2**
baz=182,SNR=16
L59A P **P** **02 05 21.6 +1.2**
baz=182,SNR=16
T35A Sooner Cattle 34.90 331 P **P** **02 05 19.3 -1.4**
T35B Sooner Cattle 34.90 331 P **P** **02 05 20.1 -0.5**
baz=143,SNR=30
T35B S **S** **02 10 49.4 -2.2**
baz=143
L64A Middleborough 34.92 7 P **P** **02 05 21.5 +0.7**
baz=189
L64A P **P** **02 05 21.5 +0.7**
baz=189
L64A S **S** **02 10 54.3 +2.5**
baz=189
L64A S **S** **02 10 54.3 +2.5**
baz=189
ERPA Erie 34.94 355 IAmb IAmb 02 05 40.2
comp=Z,66nm,0.9s
ERPA Erie 34.94 355 P **P** **02 05 23.3 +2.3**
baz=173
ERPA S **S** **02 10 54.2 +2.1**
baz=173
ERPA Erie 34.94 355 P **P** **02 05 21.2 +0.2**
baz=173
ERPA S **S** **02 10 54.2 +2.1**
baz=173
CSTR Hydro, Custer 35.03 327 IAmb IAmb 02 05 32.1
comp=Z,8.2nm,0.9s
QUA2 Belchertown 35.10 5 IAMs_20 IAMs_20 02 19 03.7
comp=Z,17μm,22.0s
BLOK Blackwell 35.12 330 IAmb IAmb 02 05 33.4
comp=Z,394nm,1.3s
P40A Paris 35.21 339 IAmb IAmb 02 05 24.8
comp=Z,106nm,0.8s
P40A Paris 35.21 339 P **P** **02 05 22.9 -0.4**
baz=152,SNR=36
HDIL Hopedale 35.22 343 IAMs_20 IAMs_20 02 19 42.7
comp=Z,14μm,21.0s
HDIL Hopedale 35.22 343 P **P** **02 05 22.6 -0.8**
baz=157,SNR=34
HDIL Hopedale 35.22 343 P **P** **02 05 22.4 -1.0**
baz=157,SNR=34
HDIL S **S** **02 10 52.5 -4.0**
baz=157
L61B Northampton 35.25 5 IAMs_20 IAMs_20 02 18 46.5
comp=Z,15μm,22.0s
L61B Northampton 35.25 5 P **P** **02 05 24.7 +1.1**
baz=186,SNR=9.1
L61B Northampton 35.25 5 P **P** **02 05 24.4 +0.9**
baz=186,SNR=9.1
L61B S **S** **02 10 58.0 +1.2**
baz=186
BCX Boston College 35.28 6 IAmb IAmb 02 05 27.6
comp=Z,104nm,0.8s
BCX IAMs_20 IAMs_20 02 18 53.2
comp=Z,13μm,22.0s
CROK Carrier 35.31 329 P **P** **02 05 22.9 -1.4**
CROK IAmb IAmb 02 05 34.6
comp=Z,358nm,0.9s
WES Weston 35.31 6 IAmb IAmb 02 05 27.4
comp=Z,72nm,0.9s
WES IAMs_20 IAMs_20 02 18 56.1
comp=Z,13μm,21.0s
WES Weston 35.31 6 P **P** **02 05 25.3 +1.2**
baz=188,SNR=13
L48A N Adams 35.37 349 IAmb IAmb 02 05 41.4
comp=Z,171nm,1.4s
L48A N Adams 35.37 349 P **P** **02 05 24.5 -0.1**
baz=166,SNR=13
L48A P **P** **02 05 24.5 -0.1**
baz=166,SNR=13
L48A S **S** **02 10 59.7 +1.0**
baz=166
L48A S **S** **02 10 59.7 +1.0**
baz=166
HCNY Howe Caverns 35.39 2 P **P** **02 05 26.1 +1.3**
baz=183,SNR=10
HCNY S **S** **02 11 02.0 +2.9**
baz=183
K57A Scipio Center 35.39 360 IAmb IAmb 02 05 27.8
comp=Z,115nm,0.8s
K57A Scipio Center 35.39 360 P **P** **02 05 26.1 +1.3**
baz=179,SNR=32
K57A S **S** **02 11 01.2 +2.1**
baz=179
HRV Adam Dziewonsk 35.41 6 P **P** **02 05 25.1 +0.1**
HRV Adam Dziewonsk 35.41 6 IAMs_20 IAMs_20 02 18 48.4
comp=Z,14μm,22.0s
HRV Adam Dziewonsk 35.41 6 P **P** **02 05 25.1 +0.1**
HRV pmax pmax
comp=Z,50nm,1.0s
HRV MLR MLR
comp=Z,14μm,22.0s
HRV Adam Dziewonsk 35.41 6 P **P** **02 05 26.7 +1.8**
baz=188,SNR=8.7
HRV S **S** **02 11 01.9 +2.7**
baz=188
HRV Adam Dziewonsk 35.41 6 P **P** **02 05 25.6 +0.6**
baz=188
HRV S **S** **02 11 01.7 +2.5**
baz=188
HRV Adam Dziewonsk 35.41 6 ⇑P **P** **02 05 27.4 +2.5**
TRY Troy 35.46 3 IAMs_20 IAMs_20 02 19 07.2
comp=Z,13μm,22.0s
K62A Royalston 35.50 5 IAmb IAmb 02 05 28.9
comp=Z,78nm,0.8s
K62A Royalston 35.50 5 P **P** **02 05 27.2 +1.5**
baz=187,SNR=19
K62A P **P** **02 05 27.2 +1.5**
baz=187,SNR=19
K62A S **S** **02 11 01.4 +0.7**
baz=187
K62A S **S** **02 11 01.4 +0.7**
baz=187
AC04 Llanos de Chal 35.54 172 IAmb IAmb 02 05 35.4
comp=Z,176nm,1.3s
AC04 Llanos de Chal 35.54 172 *e*P **P** **02 05 28.4 +2.1**
AAM Ann Arbor 35.58 350 IAmb IAmb 02 05 35.1
comp=Z,208nm,1.8s
AAM IAMs_20 IAMs_20 02 20 21.3
comp=Z,18μm,22.0s
AAM Ann Arbor 35.58 350 S **S** **02 11 03.5 +1.6**
baz=167
AAM Ann Arbor 35.58 350 P **P** **02 05 26.7 +0.2**
baz=167
AAM S **S** **02 11 02.4 +0.5**
baz=167
M44A Midewin, Midew 35.64 345 P **P** **02 05 26.3 -0.7**
baz=160,SNR=9.8
M44A S **S** **02 10 59.3 -3.6**
baz=160
KS20 Mayfield South 35.65 330 P **P** **02 05 26.6 -0.5**
KS20 IAmb IAmb 02 05 37.3
comp=Z,185nm,1.1s
OK038 West end E0370 35.68 328 IAmb IAmb 02 05 29.7
comp=Z,85nm,0.8s
ELIS Ellis County 35.73 327 IAmb IAmb 02 05 37.1
comp=Z,337nm,1.1s
U32A Winter Ranch, 35.74 328 P **P** **02 05 27.6 -0.5**
baz=139,SNR=74
U32A S **S** **02 11 02.6 -2.1**
baz=139
L46A Eue Claire 35.81 347 P **P** **02 05 27.3 -1.1**
L46A IAmb IAmb 02 05 31.0
comp=Z,112nm,0.9s
L46A Eue Claire 35.81 347 P **P** **02 05 28.1 -0.3**
baz=163,SNR=11
L46A P **P** **02 05 28.1 -0.3**
baz=163,SNR=11
L46A S **S** **02 11 03.3 -2.1**
baz=163
L46A S **S** **02 11 03.3 -2.1**
baz=163
N41A Harden Midland 35.84 341 P **P** **02 05 28.0 -0.8**
baz=154,SNR=15
N41A S **S** **02 11 02.5 -3.6**
baz=154
P38A Dawn 35.85 337 IAmb IAmb 02 05 30.1
comp=Z,87nm,0.8s
P38A Dawn 35.85 337 P **P** **02 05 28.2 -0.6**
baz=150,SNR=28
P38A S **S** **02 11 02.3 -3.8**
baz=150
MEDO Medina 35.88 357 IAmb IAmb 02 05 31.9
comp=Z,112nm,0.9s
K50A Casco 35.88 352 IAmb IAmb 02 05 47.5
comp=Z,231nm,1.5s
K50A Casco 35.88 352 P **P** **02 05 30.2 +1.1**
baz=169
K50A P **P** **02 05 30.2 +1.1**
baz=169
K50A S **S** **02 11 08.4 +1.8**
baz=169
K50A S **S** **02 11 08.4 +1.8**
baz=169
NOKA Waynoka 35.90 328 P **P** **02 05 28.4 -0.9**
NOKA IAmb IAmb 02 05 37.6
comp=Z,371nm,0.9s
J56A Wolcott 35.94 359 IAmb IAmb 02 05 32.3
comp=Z,115nm,0.8s
J56A Wolcott 35.94 359 P **P** **02 05 30.6 +1.1**
baz=179,SNR=22
J56A P **P** **02 05 30.6 +1.1**
baz=179,SNR=22
J56A S **S** **02 11 09.6 +2.3**
baz=179
J56A S **S** **02 11 09.6 +2.3**
baz=179
J55A Hilton 35.95 358 IAmb IAmb 02 05 32.4
comp=Z,71nm,1.0s
J55A Hilton 35.95 358 P **P** **02 05 31.2 +1.6**
baz=177,SNR=8.4
J55A P **P** **02 05 31.2 +1.6**
baz=177,SNR=8.4
J55A S **S** **02 11 09.4 +1.8**
baz=177
J55A S **S** **02 11 09.4 +1.8**
baz=177
BDFB Brasilia 35.98 129 P **P** **02 05 29.5 -0.8**
comp=Z,36nm,0.7s,baz=298,slow=6.2,SNR=32
BDFB S **S** **02 11 07.2 -1.5**
comp=Z,8.5nm,0.8s,baz=244,slow=26,SNR=1.4
BDFB LR LR 02 21 32.2
comp=Z,71μm,18.2s,baz=303,slow=38
comp=Z,36nm,0.7s
BDFB Brasilia 35.98 129 P **P** **02 05 29.5 -0.8**
BDFB Brasilia 35.98 129 *e*P **P** **02 05 29.9 -0.4**
HQIL Hanson Quary C 35.98 345 IAmb IAmb 02 05 31.0
comp=Z,77nm,0.8s
J54A Appleton 36.00 357 S **S** **02 11 10.3 +2.0**
baz=176
J54A S **S** **02 11 10.3 +2.0**
baz=176
J58A Remsen 36.03 1 IAmb IAmb 02 05 33.3
comp=Z,74nm,0.9s
J58A Remsen 36.03 1 P **P** **02 05 31.7 +1.3**
baz=182,SNR=22
J58A P **P** **02 05 31.7 +1.3**
baz=182,SNR=22
J58A S **S** **02 11 11.4 +2.5**
baz=182
J58A S **S** **02 11 11.4 +2.5**
baz=182
UNH University of 36.06 7 P **P** **02 05 31.4 +0.9**
baz=189,SNR=8.9
UNH S **S** **02 11 10.8 +1.6**
baz=189
J57A Williamstown 36.07 0 IAmb IAmb 02 05 34.0
comp=Z,123nm,1.0s
J57A Williamstown 36.07 0 P **P** **02 05 31.7 +1.1**
baz=180,SNR=33
J57A P **P** **02 05 31.7 +1.1**
baz=180,SNR=33
J57A S **S** **02 11 11.6 +2.2**
baz=180
J57A S **S** **02 11 11.6 +2.2**
baz=180
ACCN Adirondack Com 36.11 3 P **P** **02 05 32.7 +1.7**
baz=184,SNR=10
ACCN S **S** **02 11 11.7 +1.7**
baz=184
GDL2 Guadalupe Moun 36.14 317 P **P** **02 05 30.9 -0.7**
J61A Chester 36.15 5 P **P** **02 05 32.9 +1.6**
baz=186,SNR=16
J61A P **P** **02 05 32.9 +1.6**
baz=186,SNR=16
J61A S **S** **02 11 14.5 +3.9**
baz=186
J61A S **S** **02 11 14.5 +3.9**
baz=186
J59A Piesco 36.16 2 P **P** **02 05 31.7 +0.3**
J59A Piesco 36.16 2 P **P** **02 05 32.0 +0.6**
baz=183,SNR=22
J59A P **P** **02 05 32.0 +0.6**
baz=183,SNR=22
J59A S **S** **02 11 13.6 +2.8**
baz=183
J59A S **S** **02 11 13.6 +2.8**
baz=183
AMTX Amarillo 36.17 323 IAmb IAmb 02 05 44.7

comp=Z,107nm,0.9s
AMTX Amarillo 36.17 323 P P 02 05 31.6 -0.3
baz=134,SNR=32
AMTX S S 02 11 09.7 -1.8
baz=134
AMTX Amarillo 36.17 323 P P 02 05 30.5 -1.3
baz=134
AMTX S S 02 11 09.3 -2.2
baz=134
MSTX Muleshoe 36.23 321 P P 02 05 31.7 -0.6
baz=131,SNR=58
MSTX Muleshoe 36.23 321 P P 02 05 31.4 -0.8
baz=131,SNR=58
MSTX S S 02 11 10.9 -1.4
baz=131
AC05 El Transito 36.27 171 *eP* **P 02 05 34.4 +1.7**
SLBS Sierra La Lagu 36.29 301 IAMs_20 IAMs_20 02 21 07.4
comp=Z,9µm,19.0s
FFD Franklin Falls 36.35 6 IAMs_20 IAMs_20 02 19 38.6
comp=Z,16µm,22.0s
L44A Lake County Fo 36.35 345 P P 02 05 33.0 -0.1
baz=160
L44A Lake County Fo 36.35 345 P P 02 05 30.9 -2.2
baz=160
L44A S S 02 11 10.5 -3.2
baz=160
LCO Las Campanas 36.38 172 IAMs_20 IAMs_20 02 21 20.7
comp=Z,12µm,20.0s
LCO Las Campanas 36.38 172 *eP* **P 02 05 36.1 +2.3**
LCO Las Campanas 36.38 172 ⇑P **P 02 05 35.6 +1.8**
HNH Hanover 36.53 5 IAMs_20 IAMs_20 02 19 45.3
comp=Z,13µm,22.0s
HNH Hanover 36.53 5 P P 02 05 36.4 +1.9
baz=186,SNR=9.1
HNH S S 02 11 19.2 +2.8
baz=186
MNTX Cornudas Mount 36.54 316 P P 02 05 34.1 -0.7
MNTX IAmb IAmb 02 05 45.6
comp=Z,292nm,1.8s
MNTX Cornudas Mount 36.54 316 P P 02 05 34.7 -0.1
baz=126,SNR=73
MNTX S S 02 11 15.2 -1.7
baz=126
MNTX Cornudas Mount 36.54 316 P P 02 05 34.1 -0.7
baz=126,SNR=73
MNTX S S 02 11 14.8 -2.2
baz=126
VCA Vinchina 36.55 168 *eP* **P 02 05 37.3 +2.2**
WCNY West Carthage 36.64 1 P P 02 05 36.4 +0.9
baz=181,SNR=19
WCNY S S 02 11 19.9 +1.7
baz=181
L42A Oliver, Polo 36.66 343 P P 02 05 34.9 -0.9
baz=157,SNR=16
NCB Newcomb 36.67 2 IAmb IAmb 02 05 38.8
comp=Z,71nm,0.9s
NCB Newcomb 36.67 2 P P 02 05 36.8 +1.0
baz=183,SNR=31
NCB S S 02 11 21.8 +3.1
baz=183
J47A Sunmer 36.69 349 IAmb IAmb 02 05 53.3
comp=Z,182nm,1.1s
J47A Sunmer 36.69 349 P P 02 05 36.4 +0.4
baz=166,SNR=16
J47A P P 02 05 36.4 +0.4
baz=166,SNR=16
J47A S S 02 11 21.5 +2.6
baz=166
J47A S S 02 11 21.5 +2.6
baz=166
KSU1 Kansas State U 36.70 333 P P 02 05 34.5 -1.6
KSU1 Kansas State U 36.70 333 P P 02 05 35.2 -0.9
baz=144,SNR=39
KSU1 S S 02 11 11.6 -7.6
baz=144
KSU1 Kansas State U 36.70 333 P P 02 05 35.0 -1.1
baz=144,SNR=39
KSU1 S S 02 11 12.9 -6.3
baz=144
KSU1 Kansas State U 36.70 333 ⇓P **P 02 05 34.9 -1.3**
SDBA SAO DESIDERIO 36.70 122 *eP* **P 02 05 35.1 -1.4**
MCVT Middlebury Col 36.72 4 P P 02 05 37.1 +0.9
baz=185,SNR=6.3
MCVT S S 02 11 22.3 +2.9
baz=185
LPIG La Paz 36.75 301 LR LR 02 21 42.8
comp=Z,10µm,19.4s,baz=115,slow=38
N38A Joes South For 36.75 338 IAmb IAmb 02 05 37.4
comp=Z,106nm,0.9s
N38A Joes South For 36.75 338 P P 02 05 35.8 -0.7
baz=151,SNR=24
N38A S S 02 11 14.0 -5.9
baz=151
I62A Tamworth 36.78 6 P P 02 05 39.1 +2.4
baz=188,SNR=5.2
I62A P P 02 05 39.1 +2.4
baz=188,SNR=5.2
I62A S S 02 11 21.7 +1.4
baz=188
I62A S S 02 11 21.7 +1.4
baz=188
ITRB Iturama 36.90 137 *eP* **P 02 05 37.2 -0.8**
K43A Burlington 36.95 345 IAmb IAmb 02 05 39.4
comp=Z,70nm,0.8s
K43A Burlington 36.95 345 S S 02 11 19.6 -3.3
baz=160
I63A Otisfield 37.04 7 P P 02 05 40.7 +1.8
baz=189,SNR=14
I63A P P 02 05 40.7 +1.8
baz=189,SNR=14
I63A S S 02 11 27.6 +3.5
baz=189
I63A S S 02 11 27.6 +3.5
baz=189
I49A Point Hope 37.06 352 S S 02 11 25.2 +0.8
baz=169
I49A S S 02 11 25.2 +0.8
baz=169
LBNH Lisbon 37.09 5 IAMs_20 IAMs_20 02 20 01.2
comp=Z,14µm,22.0s
LBNH Lisbon 37.09 5 P P 02 05 40.8 +1.5
baz=187,SNR=18
LBNH S S 02 11 28.2 +3.3
baz=187
LBNH Lisbon 37.09 5 P P 02 05 40.3 +1.0
baz=187,SNR=18
LBNH S S 02 11 25.1 +0.2
baz=187
VT1 Waterbury 37.11 4 P P 02 05 39.9 +0.3
VT1 IAMs_20 IAMs_20 02 19 53.6
comp=Z,14µm,22.0s
VT1 Waterbury 37.11 4 P P 02 05 41.6 +2.0
baz=186,SNR=7.3
R32A Long Quarter, 37.16 330 IAmb IAmb 02 05 50.6
comp=Z,95nm,0.8s
R32A Long Quarter, 37.16 330 P P 02 05 39.4 -0.7
baz=141,SNR=14
R32A S S 02 11 24.6 -1.6
baz=141
L40A Anamosa 37.19 341 IAmb IAmb 02 05 42.5
comp=Z,81nm,0.9s
L40A Anamosa 37.19 341 P P 02 05 39.1 -1.1
baz=155,SNR=23
L40A S S 02 11 22.8 -3.7
baz=155
CO05 La Serena 37.21 173 IAmb IAmb 02 05 57.3
comp=Z,180nm,1.0s
IPMB Ipameri, GO 37.27 132 *eP* **P 02 05 40.2 -1.1**
LONY Lake Ozonia 37.30 2 IAMs_20 IAMs_20 02 20 17.0
comp=Z,11µm,22.0s
LONY Lake Ozonia 37.30 2 P P 02 05 42.0 +0.9
baz=183,SNR=32
LONY S S 02 11 30.0 +1.7
baz=183
CO01 Juntas del Tor 37.42 171 IAmb IAmb 02 06 10.4
comp=Z,212nm,1.3s
H62A Milan 37.49 6 P P 02 05 44.4 +1.7
baz=188,SNR=7.2
H62A P P 02 05 44.4 +1.7
baz=188,SNR=7.2
GO04 Tololo Observa 37.51 172 IAmb IAmb 02 05 58.6
comp=Z,166nm,1.0s
SADO Sadowa 37.52 357 LR LR 02 21 34.9
comp=Z,13µm,21.5s,baz=182,slow=37
SADO Sadowa 37.52 357 IAmb IAmb 02 05 45.5
comp=Z,118nm,1.1s
SADO Sadowa 37.52 357 ⇑P **P 02 05 43.9 +1.0**
BMNY Brushton-Moira 37.53 2 P P 02 05 44.0 +1.0
baz=183,SNR=40
BMNY S S 02 11 33.1 +1.6
baz=183
PCMB Pacaembu 37.66 140 *eP* **P 02 05 43.3 -1.1**
WVL Waterville 37.66 8 IAMs_20 IAMs_20 02 20 24.2
comp=Z,11µm,21.0s
WVL Waterville 37.66 8 P P 02 05 47.0 +2.8
baz=191,SNR=6.7
JFWS Jewell Farm 37.67 343 IAmb IAmb 02 05 45.4
comp=Z,115nm,0.7s
JFWS Jewell Farm 37.67 343 IAMs_20 IAMs_20 02 21 20.5
comp=Z,14µm,20.0s
JFWS Jewell Farm 37.67 343 P P 02 05 43.6 -0.7
baz=157,SNR=36
JFWS S S 02 11 30.9 -2.8
baz=157
JFWS Jewell Farm 37.67 343 P P 02 05 42.9 -1.4
baz=157,SNR=36
JFWS S S 02 11 31.0 -2.8
baz=157
TRCB Terra Rica 37.69 143 *eP* **P 02 05 43.5 -1.2**
SCIA State Center 37.72 339 P P 02 05 43.4 -1.3
SCIA IAmb IAmb 02 05 46.1
comp=Z,131nm,0.8s
SCIA State Center 37.72 339 P P 02 05 44.4 -0.3
baz=152,SNR=16
SCIA S S 02 11 31.0 -3.6
baz=152
SCIA State Center 37.72 339 P P 02 05 43.5 -1.2
baz=152,SNR=16
SCIA S S 02 11 31.7 -2.9
baz=152
I45A Fountain 37.73 348 IAmb IAmb 02 05 47.7
comp=Z,144nm,1.1s
I45A Fountain 37.73 348 S S 02 11 32.3 -2.4
baz=164
I45A S S 02 11 32.3 -2.4
baz=164
N35A Tabor 37.74 336 IAmb IAmb 02 05 45.8
comp=Z,100nm,0.8s
N35A Tabor 37.74 336 P P 02 05 43.9 -1.0
baz=147,SNR=18
N35A S S 02 11 29.4 -5.6
baz=147
CBKS Cedar Bluff 37.97 330 P P 02 05 46.9 -0.1
baz=140,SNR=25
CBKS S S 02 11 35.7 -2.9
baz=140
CBKS Cedar Bluff 37.97 330 P P 02 05 46.4 -0.5
baz=140,SNR=25
CBKS S S 02 11 34.1 -4.5
baz=140
CBKS Cedar Bluff 37.97 330 ⇓P **P 02 05 46.3 -0.6**
CPUP Villa Florida 38.03 152 P **P 02 05 46.5 -0.9**
comp=Z,9.8nm,0.8s,baz=336,slow=9.1,SNR=11
CPUP PP **PP 02 07 15.9 +1.3**
comp=Z,14nm,1.0s,baz=307,slow=8.7,SNR=2.0
CPUP LR LR 02 22 44.0
comp=Z,27µm,18.9s,baz=328,slow=38
comp=Z,9.8nm,0.8s
CPUP Villa Florida 38.03 152 ⇓P **P 02 05 46.6 -0.9**
CPUP Villa Florida 38.03 152 *eP* **P 02 05 47.6 +0.2**
EMMW East Machias 38.14 10 P P 02 05 49.1 +1.0
baz=194,SNR=9.2
GLMI Grayling 38.19 350 IAmb IAmb 02 06 56.7
comp=Z,103nm,0.8s
GLMI IAMs_20 IAMs_20 02 22 13.5
comp=Z,17µm,21.0s
GLMI Grayling 38.19 350 P P 02 05 50.0 +1.3
baz=166
GLMI Grayling 38.19 350 P P 02 05 47.4 -1.3
baz=166
GLMI S S 02 11 39.7 -2.1
baz=166
G62A West of Eustis 38.20 6 P P 02 05 50.6 +1.9
baz=189,SNR=17
G62A P P 02 05 50.6 +1.9
baz=189,SNR=17
G62A S S 02 11 44.1 +2.4
baz=189
G62A S S 02 11 44.1 +2.4
baz=189
I42A Draeger Farm, 38.21 345 IAmb IAmb 02 05 51.1
comp=Z,114nm,0.9s
I42A Draeger Farm, 38.21 345 P P 02 05 48.3 -0.5
baz=159,SNR=27
I42A S S 02 11 38.9 -3.1
baz=159
K38A Parkersburg 38.22 340 P P 02 05 47.5 -1.4
K38A Parkersburg 38.22 340 P P 02 05 48.2 -0.7
baz=153,SNR=35
MNTQ Montreal, Queb 38.23 3 ⇑P **P 02 05 50.2 +1.3**
GAC Glen Almond 38.37 1 P P 02 05 50.7 +0.6
GAC Glen Almond 38.37 1 ⇑P **P 02 05 51.2 +1.1**
PKME Peaks-Kenny Pk 38.40 8 IAMs_20 IAMs_20 02 20 57.7
comp=Z,12µm,21.0s
PKME Peaks-Kenny Pk 38.40 8 P P 02 05 51.8 +1.5
baz=191,SNR=9.2
PKME Peaks-Kenny Pk 38.40 8 P P 02 05 49.9 -0.4
baz=191,SNR=9.2
PKME S S 02 11 44.8 +0.2
baz=191
N33B J Bar K, Exete 38.41 334 S S 02 11 41.3 -3.9
baz=144
H43A Windswept, Lux 38.48 347 IAmb IAmb 02 05 53.3
comp=Z,138nm,0.9s
H43A Windswept, Lux 38.48 347 P P 02 05 50.8 -0.3
baz=161,SNR=19
H43A S S 02 11 42.3 -3.7
baz=161
JANB Januaria 38.57 125 *eP* **P 02 05 50.9 -1.4**
G45A Suttons Bay 38.59 349 IAmb IAmb 02 05 58.0
comp=Z,165nm,0.9s
G45A Suttons Bay 38.59 349 P P 02 05 51.2 -0.8
baz=165
G45A P P 02 05 51.2 -0.8
baz=165
G45A S S 02 11 46.9 -0.8
baz=165
G45A S S 02 11 46.9 -0.8
baz=165
G65A Princeton 38.59 10 P P 02 05 52.8 +0.8
baz=194,SNR=6.4
G65A P P 02 05 52.8 +0.8
baz=194,SNR=6.4
G65A S S 02 11 49.6 +1.9
baz=194
G65A S S 02 11 49.6 +1.9
baz=194
I40A Norwalk 38.67 343 P P 02 05 52.0 -0.8
baz=157,SNR=14
I40A S S 02 11 45.8 -3.2
baz=157
121A Cookes Peak, D 38.69 315 IAmb IAmb 02 06 05.5
comp=Z,359nm,1.4s
121A Cookes Peak, D 38.69 315 P P 02 05 54.7 +1.5
baz=124,SNR=23
121A S S 02 11 52.9 +3.0
baz=124
121A Cookes Peak, D 38.69 315 P P 02 05 54.1 +0.9
baz=124,SNR=23
121A S S 02 11 52.7 +2.9
baz=124
TRQ Mont Tremblant 38.91 2 P P 02 05 54.7 0.0
Y22A Socorro 38.92 317 P P 02 05 55.6 +0.4
baz=126,SNR=35
PMNB Patos De Minas 38.93 131 ⇑P **P 02 05 53.9 -1.5**
PMNB Patos De Minas 38.93 131 *eP* **P 02 05 54.5 -0.8**
L34A Svendsen Farm, 38.97 336 P P 02 05 54.1 -1.1
baz=147,SNR=10
Y22D IRIS PASSCAL I 38.98 318 IAmb IAmb 02 06 07.3
comp=Z,146nm,0.9s
Y22D IRIS PASSCAL I 38.98 318 P P 02 05 56.2 +0.6
baz=126
BB19B Bebedouro 39.08 137 *eP* **P 02 05 56.0 -0.5**
ANMO Albuquerque 39.19 319 LR LR 02 25 17.5
comp=Z,3µm,20.3s,baz=130,slow=41
ANMO Albuquerque 39.19 319 P P 02 05 57.1 -0.3
ANMO IAmb IAmb 02 06 09.3
comp=Z,179nm,1.4s
ANMO Albuquerque 39.19 319 *ce*P **P 02 05 57.9 +0.4**
ANMO pmax pmax
comp=Z,76nm,1.0s
ANMO Albuquerque 39.19 319 P P 02 05 58.3 +0.8
baz=128,SNR=90
ANMO S S 02 11 56.3 -1.2
baz=128
ANMO Albuquerque 39.19 319 P P 02 05 57.7 +0.3
baz=128
ANMO S S 02 11 57.3 -0.2
baz=128
ANMO Albuquerque 39.19 319 ⇓P **P 02 05 57.8 +0.3**
BGNE Belgrade 39.26 334 IAmb IAmb 02 06 07.8
comp=Z,236nm,1.1s
BGNE Belgrade 39.26 334 P P 02 05 57.0 -0.8
baz=144,SNR=8.5
BGNE Belgrade 39.26 334 P P 02 05 56.3 -1.5
baz=144,SNR=8.5
BGNE S S 02 11 52.2 -5.8
baz=144
T25A Trinidad 39.33 323 P P 02 05 59.4 +0.8
baz=132,SNR=30
T25A S S 02 12 02.0 +2.5
baz=132
PTGB Pitanga 39.49 144 *eP* **P 02 05 58.1 -1.8**
SRIG Santa Rosalia 39.59 305 ⇓P **P 02 06 01.7 +1.1**
KSCO Kaye Shedlock' 39.62 327 P P 02 06 01.5 +0.6
baz=136,SNR=16
KSCO S S 02 12 04.8 +1.1
baz=136
KSCO Kaye Shedlock' 39.62 327 P P 02 06 01.0 0.0
baz=136,SNR=16
KSCO S S 02 12 03.9 +0.2
baz=136
I37A Lemond, Waseca 39.64 340 IAmb IAmb 02 06 01.6
comp=Z,114nm,0.8s
I37B Waseca 39.64 340 P P 02 05 59.8 -1.0
baz=152,SNR=40
I37B S S 02 11 59.3 -4.3
baz=152
E46A Sault Ste Mari 39.65 351 P P 02 06 02.0 +1.2
baz=167,SNR=9.1
E46A S S 02 12 01.8 -1.8
baz=167
E63A Oxbow 39.65 8 P P 02 06 02.3 +1.5
baz=192
E63A P P 02 06 02.3 +1.5
baz=192
E62A Clayton Lake 39.70 7 P P 02 06 01.4 +0.2
E62A IAmb IAmb 02 06 05.1
comp=Z,96nm,0.8s
E62A Clayton Lake 39.70 7 P P 02 06 02.8 +1.5
baz=190,SNR=36
E62A P P 02 06 02.8 +1.5
baz=190,SNR=36
LMN Caledonia Moun 39.75 12 P P 02 06 02.3 +0.6
MC01 Montes Claros 39.77 127 *eP* **P 02 06 01.6 -0.7**
F42A Maple Grove Fa 39.78 347 P P 02 06 01.6 -0.3
baz=161,SNR=5.8
F42A S S 02 12 03.9 -1.8
baz=161
VA06 Catapilco 39.81 174 IAmb IAmb 02 06 15.2
comp=Z,190nm,1.1s
G40A Rib Lake 39.83 345 P P 02 06 02.3 -0.1
baz=158,SNR=19
G40A S S 02 12 03.3 -3.1
baz=158
PQI Presque Isle 39.95 9 IAMs_20 IAMs_20 02 21 55.0
comp=Z,14µm,21.0s
VA03 San Esteban 40.10 173 IAmb IAmb 02 06 20.3
comp=Z,225nm,1.0s
E43A Lone Tree Farm 40.13 348 P P 02 06 04.4 -0.5
baz=163,SNR=8.6
E43A S S 02 12 06.8 -4.0
baz=163
LATQ La Tuque 40.15 4 P P 02 06 05.6 +0.7
D62A Allapoint, All 40.21 8 P P 02 06 06.5 +1.0
D62A Allapoint, All 40.21 8 P P 02 06 07.2 +1.7
baz=191,SNR=20
D62A P P 02 06 07.2 +1.7
baz=191,SNR=20
ROC1 El Roble 40.25 173 IAmb IAmb 02 06 23.8
comp=Z,213nm,0.9s
COWI Conover 40.34 346 P P 02 06 06.3 -0.3
baz=160
COWI S S 02 12 11.3 -2.7
baz=160
SDCO Great Sand Dun 40.38 323 P P 02 06 08.7 +1.3
baz=131,SNR=168
SDCO S S 02 12 18.0 +2.6
baz=131
SDCO Great Sand Dun 40.38 323 P P 02 06 08.2 +0.8
baz=131,SNR=168
SDCO S S 02 12 17.9 +2.6
baz=131
PEL Peldehue 40.46 173 IAmb IAmb 02 06 20.3
comp=Z,115nm,0.9s
PEL IAMs_20 IAMs_20 02 23 32.6
comp=Z,13µm,20.0s
PEL Peldehue 40.46 173 ⇓P **P 02 06 09.7 +1.9**
K31A O'Neill 40.51 334 IAmb IAmb 02 06 15.8
comp=Z,297nm,1.2s
K31A O'Neill 40.51 334 P P 02 06 07.2 -0.9
baz=144,SNR=16
K31A S S 02 12 12.2 -4.5
baz=144
MT02 Curacav 40.52 173 IAmb IAmb 02 06 22.9
comp=Z,159nm,1.1s
LMQ La Malbaie 40.52 6 P P 02 06 07.3 -0.8
SPMN Marine on St. 40.53 342 IAmb IAmb 02 06 19.1
comp=Z,319nm,1.8s
SPMN Marine on St. 40.53 342 P P 02 06 07.1 -1.1
baz=154,SNR=17
SPMN S S 02 12 16.5 -0.4
baz=154
SPMN Marine on St. 40.53 342 P P 02 06 06.7 -1.5
baz=154,SNR=17
SPMN S S 02 12 13.3 -3.6
baz=154
ECSD EROS Data Cent 40.55 337 P P 02 06 06.7 -1.7
baz=148,SNR=39
ECSD S S 02 12 10.4 -6.8
baz=148
ECSD EROS Data Cent 40.55 337 P P 02 06 06.6 -1.9
baz=148,SNR=39
ECSD S S 02 12 11.3 -6.0
baz=148
MT05 Renca 40.70 173 P P 02 06 11.7 +1.9
MT05 IAmb IAmb 02 06 21.4
comp=Z,209nm,0.9s
TUC Tucson 40.72 313 P P 02 06 10.4 +0.3
TUC Tucson 40.72 313 IAMs_20 IAMs_20 02 23 40.7
comp=Z,14µm,21.0s
TUC Tucson 40.72 313 P P 02 06 10.4 +0.3
TUC pmax pmax
comp=Z,96nm,1.2s
TUC MLR MLR
comp=Z,14µm,21.0s
TUC Tucson 40.72 313 P P 02 06 10.3 +0.2
baz=120
TUC S S 02 12 15.6 -4.6
baz=120
TUC Tucson 40.72 313 ⇑P **P 02 06 10.5 +0.4**
OGNE Ogallala 40.73 330 P P 02 06 09.1 -1.0
OGNE Ogallala 40.73 330 P P 02 06 10.3 +0.2
baz=138,SNR=18
OGNE S S 02 12 19.9 -0.3
baz=138
OGNE Ogallala 40.73 330 P P 02 06 09.6 -0.5
baz=138,SNR=18
OGNE S S 02 12 17.9 -2.3
baz=138
VA05 Santo Domingo 40.86 174 IAmb IAmb 02 06 26.1
comp=Z,160nm,1.1s
BATG Bathurst New B 40.87 11 P P 02 06 11.3 +0.3
DIAM Diamantina, MG 40.89 129 *eP* **P 02 06 11.0 -0.6**
Q24A Divide 40.99 325 P P 02 06 12.7 +0.2
baz=133,SNR=12
Q24A S S 02 12 26.0 +1.5
baz=133
MT09 Talagante 41.05 173 P P 02 06 13.9 +1.1
MT09 IAmb IAmb 02 06 24.8
comp=Z,194nm,0.8s
MT01 Popeta 41.10 174 IAmb IAmb 02 06 20.7
comp=Z,123nm,1.1s
D41A Chassel 41.11 347 IAmb IAmb 02 06 16.4
comp=Z,158nm,1.2s
D41A Chassel 41.11 347 S S 02 12 26.8 +1.4
baz=161
S22A 4UR Ranch, Cre 41.18 322 P P 02 06 14.8 +0.8
baz=130,SNR=60
S22A S S 02 12 29.9 +2.6
baz=130
ITQB Itaqui 41.21 154 *eP* **P 02 06 11.2 -2.7**
LMEL Las Melosas 41.21 172 P P 02 06 15.6 +1.5

LMEL IAmb IAmb 02 06 21.7
comp=Z,136nm,1.1s
F36A Milaca 41.33 342 IAmb IAmb 02 06 16.7
comp=Z,136nm,0.9s
F36A Milaca 41.33 342 P **P** **02 06 13.8 -1.0**
baz=153,SNR=92
F36A S **S** **02 12 28.1 -0.6**
baz=153
ITAB Concordia 41.41 147 *e*P **P** **02 06 13.6 -2.1**
E38A The Farm, Brul 41.43 344 P **P** **02 06 14.8 -0.7**
baz=156,SNR=12
VAO Valinhos 41.45 137 *e*P **P** **02 06 15.2 -1.0**
W18A Petrified Fore 41.47 317 IAmb IAmb 02 06 28.6
comp=Z,326nm,1.4s
W18A Petrified Fore 41.47 317 P **P** **02 06 17.3 +0.9**
baz=124,SNR=39
W18A S **S** **02 12 31.4 -0.1**
baz=124
TIJ01 Guaruva-PR 41.77 142 *e*P **P** **02 06 18.3 -0.5**
ISCO Idaho Springs 41.82 325 P **P** **02 06 19.9 +0.6**
baz=133,SNR=53
ISCO S **S** **02 12 37.1 +0.2**
baz=133
ISCO Idaho Springs 41.82 325 P **P** **02 06 19.3 0.0**
baz=133,SNR=53
ISCO S **S** **02 12 38.5 +1.7**
baz=133
GDU01 Guandu, BA 41.88 120 *e*P **P** **02 06 18.8 -0.9**
MVCO Mesa Verde 41.88 320 IAmb IAmb 02 06 37.2
comp=Z,198nm,1.6s
MVCO Mesa Verde 41.88 320 P **P** **02 06 19.7 0.0**
baz=127,SNR=36
MVCO S **S** **02 12 38.9 +1.2**
baz=127
214A Organ Pipe Nat 42.05 311 IAmb IAmb 02 06 32.9
comp=Z,216nm,1.3s
214A Organ Pipe Nat 42.05 311 P **P** **02 06 21.6 +0.7**
baz=118,SNR=9.5
214A S **S** **02 12 41.0 +1.1**
baz=118
BO02 Sierra Bellavi 42.07 173 P **P** **02 06 22.8 +1.8**
SUSD Miller 42.08 336 IAmb IAmb 02 06 29.0
comp=Z,272nm,1.2s
SUSD Miller 42.08 336 P **P** **02 06 19.5 -1.5**
baz=145,SNR=30
SUSD S **S** **02 12 34.9 -5.0**
baz=145
SUSD Miller 42.08 336 P **P** **02 06 18.9 -2.0**
baz=145,SNR=30
SUSD S **S** **02 12 37.9 -2.0**
baz=145
PET01 Itanhaem-SP 42.13 139 *e*P **P** **02 06 20.1 -1.5**
SMCO Snowmass 42.19 324 ⇓P **P** **02 06 22.8 +0.4**
F33A 5 Mile Ranch, 42.23 339 P **P** **02 06 20.4 -1.8**
baz=149,SNR=34
RCBR Riachuelo 42.24 107 LR LR 02 25 30.8
comp=Z,48µm,18.1s,baz=82,slow=38
RCBR Riachuelo 42.24 107 P **P** **02 06 21.1 -1.6**
RCBR Riachuelo 42.24 107 P **P** **02 06 21.1 -1.6**
RCBR pmax pmax
comp=Z,87nm,1.0s
RCBR MLR MLR
comp=Z,42µm,18.0s
RCBR Riachuelo 42.24 107 *e*P **P** **02 06 21.6 -1.1**
NBLA Lagarto - SE 42.28 115 *e*P **P** **02 06 21.3 -1.7**
KAPO Kapuskasing 42.45 354 ⇑P **P** **02 06 23.7 -0.1**
PV15 Paradox Valley 42.56 322 IAmb IAmb 02 06 37.7
comp=Z,214nm,0.9s
PARB Paraibuna 42.59 136 *e*P **P** **02 06 24.4 -1.1**
EYMN Ely 42.65 345 P **P** **02 06 24.4 -1.1**
EYMN Ely 42.65 345 P **P** **02 06 24.8 -0.7**
baz=157,SNR=15
EYMN S **S** **02 12 45.4 -2.7**
baz=157
EYMN Ely 42.65 345 P **P** **02 06 24.7 -0.8**
baz=157,SNR=15
EYMN S **S** **02 12 45.2 -2.9**
baz=157
PV13 Radium Mtn., P 42.66 321 IAmb IAmb 02 06 38.1
comp=Z,194nm,1.0s
CMC01 Camacan, BA 42.70 122 *e*P **P** **02 06 25.0 -1.3**
PV07 Paradox Valley 42.73 322 IAmb IAmb 02 06 46.2
comp=Z,138nm,1.2s
N23A Red Feather La 42.76 326 P **P** **02 06 26.5 -0.4**
baz=133,SNR=22
N23A S **S** **02 12 51.2 +0.7**
baz=133
PHWY Pilot Hill 42.77 327 IAmb IAmb 02 06 38.6
comp=Z,318nm,1.9s
WUAZ Wupatki 42.81 316 P **P** **02 06 27.6 +0.3**
WUAZ IAMs_20 IAMs_20 02 26 51.1
comp=Z,9µm,20.0s
WUAZ Wupatki 42.81 316 P **P** **02 06 27.5 +0.3**
baz=123,SNR=31
WUAZ S **S** **02 12 53.7 +2.5**
baz=123
WUAZ Wupatki 42.81 316 ⇓P **P** **02 06 28.2 +0.9**
ML02 Panimavida 42.97 174 IAmb IAmb 02 06 46.9
comp=Z,149nm,1.0s
GUA01 Guaratinga, BA 43.06 124 *e*P **P** **02 06 28.0 -1.3**
SJMB Sao Joao De Ma 43.06 127 *e*P **P** **02 06 28.4 -0.8**
NBAN Anadia - AL 43.16 112 *e*P **P** **02 06 28.7 -1.4**
CPSB Cacapava Do Su 43.30 151 *e*P **P** **02 06 28.3 -2.7**
NAN01 Guarapari, ES 43.45 125 *e*P **P** **02 06 31.4 -1.0**
VAS01 Vassouras-RJ 43.45 133 *e*P **P** **02 06 31.6 -0.8**
O20A White River Ci 43.56 324 P **P** **02 06 33.5 +0.2**
baz=130,SNR=21
O20A S **S** **02 12 59.5 -2.7**
baz=130
D32B Dogwood Acres, 43.60 339 P **P** **02 06 32.7 -0.5**
baz=149
D32B S **S** **02 12 58.2 -4.0**
baz=149
B35A Bob, Littlefor 43.63 343 IAmb IAmb 02 06 34.7
comp=Z,124nm,0.7s
B35A Bob, Littlefor 43.63 343 P **P** **02 06 32.6 -0.9**
baz=154
B35A S **S** **02 12 59.5 -3.2**
baz=154
CNLB Canela 43.74 147 *e*P **P** **02 06 34.2 -0.4**
BI05 Punta Hualpn 43.80 177 IAmb IAmb 02 06 37.8
comp=Z,197nm,1.1s
NBRF Rio Formoso - 43.87 110 *e*P **P** **02 06 34.7 -1.2**
RWWY Rawlins 44.00 326 P **P** **02 06 35.6 -1.3**
RIB01 Linhares ES 44.02 127 *e*P **P** **02 06 35.3 -1.7**
GLA Glamis 44.06 311 P **P** **02 06 37.6 +0.3**
baz=117
GLA S **S** **02 13 08.7 -0.8**
baz=117
TER01 Tubaro-SC 44.09 145 *e*P **P** **02 06 35.1 -2.3**
RSSD Black Hills 44.09 331 P **P** **02 06 36.4 -1.1**
RSSD Black Hills 44.09 331 P **P** **02 06 36.4 -1.1**
RSSD pmax pmax
comp=Z,508nm,2.0s
RSSD Black Hills 44.09 331 P **P** **02 06 37.4 -0.1**
baz=138,SNR=20
RSSD S **S** **02 13 09.2 -0.7**
baz=138
RSSD Black Hills 44.09 331 P **P** **02 06 37.1 -0.4**
baz=138
RSSD S **S** **02 13 08.6 -1.3**
baz=138
RSSD Black Hills 44.09 331 ⇓P **P** **02 06 36.9 -0.6**
DUB01 Friburgo-RJ 44.11 132 *e*P **P** **02 06 37.1 -0.6**
PDMCI Parker Dam,Lak 44.15 313 P **P** **02 06 38.6 +0.7**
baz=119,SNR=12
PDMCI S **S** **02 13 10.8 +0.3**
baz=119
BLYC Blythe 44.16 312 IAmb IAmb 02 06 49.9
comp=Z,195nm,1.3s
AGMN Agassiz Nation 44.23 341 IAmb IAmb 02 06 47.3
comp=Z,124nm,1.1s
AGMN IAMs_20 IAMs_20 02 26 54.7
comp=Z,7µm,19.0s
AGMN Agassiz Nation 44.23 341 P **P** **02 06 37.4 -0.9**
baz=151,SNR=44
AGMN S **S** **02 13 08.5 -2.8**
baz=151
AGMN Agassiz Nation 44.23 341 P **P** **02 06 36.7 -1.6**
baz=151,SNR=44
AGMN S **S** **02 13 07.3 -4.0**
baz=151
K22A Casper 44.29 328 IAmb IAmb 02 06 54.7
comp=Z,212nm,1.6s
K22A Casper 44.29 328 P **P** **02 06 39.3 +0.3**
baz=134,SNR=23
K22A S **S** **02 13 13.8 +1.2**
baz=134
K22A Casper 44.29 328 P **P** **02 06 38.8 -0.2**
baz=134,SNR=23
K22A S **S** **02 13 13.4 +0.8**
baz=134
SRU San Rafael Swe 44.30 321 IAmb IAmb 02 06 50.8
comp=Z,89nm,1.0s
PLTB Pedras Altas 44.35 152 *e*P **P** **02 06 37.5 -1.9**
ESJX Sierra Juarez 44.46 309 IAmb IAmb 02 06 51.9
comp=Z,96nm,1.1s
CAM01 Campos-RJ 44.48 131 *e*P **P** **02 06 39.8 -0.9**
ALF01 Guarapari-ES 44.49 129 *e*P **P** **02 06 39.9 -0.8**
PKCU Pink Cliffs 44.49 318 IAmb IAmb 02 06 53.2
comp=Z,126nm,1.2s
E28A Huff 44.52 336 P **P** **02 06 40.0 -0.6**
baz=144,SNR=32
KNB Kanab 44.60 317 IAmb IAmb 02 06 53.0
comp=Z,223nm,1.6s
RDMU Red Mountain 44.62 323 P **P** **02 06 41.5 -0.2**
YUH Yuha Desert 44.71 310 IAmb IAmb 02 06 53.7
comp=Z,124nm,1.2s
NEE2 Needles Airpor 44.71 313 P **P** **02 06 42.7 +0.3**
baz=119
NEE2 S **S** **02 13 19.8 +1.1**
baz=119
SWSC Sam W. Stewart 44.75 310 P **P** **02 06 43.4 +0.7**
baz=116,SNR=11
SWSC S **S** **02 13 21.3 +2.0**
baz=116
DRLN Deer Lake 44.78 17 ⇓P **P** **02 06 43.5 +0.9**
BC3 Big Chuckawall 44.81 312 P **P** **02 06 43.6 +0.3**
baz=117,SNR=11
BC3 S **S** **02 13 21.2 +0.8**
baz=117
IRM Iron Mountain 44.81 312 P **P** **02 06 43.9 +0.7**
baz=118,SNR=12
IRM S **S** **02 13 21.8 +1.5**
baz=118
RMX La Rumorosa 44.81 310 IAmb IAmb 02 06 56.8
comp=Z,163nm,1.1s
IKP In-Ko-Pah, Jac 44.86 310 P **P** **02 06 44.7 +1.0**
baz=115,SNR=9.7
IKP S **S** **02 13 21.6 +0.5**
baz=115
LCMT Little Creek M 44.89 317 P **P** **02 06 44.2 +0.3**
LCMT IAmb IAmb 02 06 55.1
comp=Z,182nm,1.7s
MDND Maddock 45.14 338 P **P** **02 06 45.0 -0.7**
baz=146,SNR=33
MDND Maddock 45.14 338 P **P** **02 06 44.2 -1.4**
baz=146,SNR=33
MDND S **S** **02 13 24.8 +0.2**
baz=146
MONP2 Monument Peak 45.20 310 P **P** **02 06 47.2 +0.7**
baz=115,SNR=19
MONP2 S **S** **02 13 27.0 +0.7**
baz=115
CCUT Cedar City 45.25 317 P **P** **02 06 47.4 +0.5**
LPA La Plata 45.29 159 *de*P **P** **02 06 44.5 -2.4**
LPA PPP PPP 02 09 25.3
LPA SSS SSS 02 17 40.6
BAR Barrett 45.30 310 P **P** **02 06 47.6 +0.5**
BAR IAmb IAmb 02 06 58.0
comp=Z,100nm,1.2s
V12A Nelson 45.34 314 IAmb IAmb 02 07 01.2
comp=Z,59nm,0.9s
BELC Belle Mtn. Jos 45.37 312 P **P** **02 06 48.3 +0.5**
baz=117,SNR=12
BELC S **S** **02 13 29.5 +1.0**
baz=117
GMRC Granite Mounta 45.48 313 P **P** **02 06 48.9 +0.3**
baz=118,SNR=7.7
GMRC S **S** **02 13 30.4 +0.3**
baz=118
PMD Palm Desert 45.49 311 IAmb IAmb 02 07 00.3
comp=Z,175nm,1.2s
TPFO Pinon Flats 45.53 311 P **P** **02 06 49.4 +0.3**
baz=116,SNR=29
TPFO S **S** **02 13 30.5 -0.4**
baz=116
PFO Pinyon Flats O 45.54 311 LR LR 02 28 21.9
comp=Z,6µm,18.4s,baz=124,slow=39
PFO Pinyon Flats O 45.54 311 P **P** **02 06 49.5 +0.4**
PFO IAmb IAmb 02 07 00.9
comp=Z,199nm,1.3s
PFO Pinyon Flats O 45.54 311 ⇑ *e*P **P** **02 06 49.6 +0.4**
PFO pmax pmax
comp=Z,271nm,1.3s
PFO MLR MLR
comp=Z,16µm,23.0s
PFO Pinyon Flats O 45.54 311 P **P** **02 06 49.8 +0.7**
baz=116,SNR=11
PFO S **S** **02 13 31.8 +0.8**
baz=116
109C Camp Elliot, M 45.72 310 IAmb IAmb 02 07 01.2
comp=Z,139nm,1.1s
109C IAMs_20 IAMs_20 02 26 15.5
comp=Z,7µm,19.0s
109C Camp Elliot, M 45.72 310 P **P** **02 06 50.8 +0.5**
baz=115,SNR=7.2
109C S **S** **02 13 34.4 +1.1**
baz=115
NLU North Lily Min 45.77 321 IAmb IAmb 02 07 10.4
comp=Z,112nm,1.7s
SHPR Sheep Range 45.95 315 IAmb IAmb 02 07 04.3
comp=Z,121nm,1.3s
ULM Lac du Bonnet 45.96 342 P **P** **02 06 51.2 -0.8**
comp=Z,86nm,0.7s,baz=151,slow=8.4,SNR=88
ULM S **S** **02 13 28.4 -7.8**
comp=Z,3.1nm,0.8s,baz=206,slow=17,SNR=1.7
ULM LR LR 02 26 38.3
comp=Z,10µm,21.9s,baz=156,slow=37
comp=Z,86nm,0.7s
ULM Lac du Bonnet 45.96 342 IAmb IAmb 02 06 53.3
comp=Z,86nm,0.7s
ULM Lac du Bonnet 45.96 342 ⇑ *e*P **P** **02 06 50.5 -1.5**
ULM Lac du Bonnet 45.96 342 ⇓P **P** **02 06 50.6 -1.3**
TUQ Turquoise Moun 45.97 313 P **P** **02 06 53.0 +0.4**
baz=118,SNR=5.2
TUQ S **S** **02 13 38.2 +1.0**
baz=118
HEC Hector,Ludlow 45.99 312 P **P** **02 06 52.6 0.0**
baz=117,SNR=6.4
HEC S **S** **02 13 37.4 +0.1**
baz=117
CTU Camp Tracy 46.00 322 P **P** **02 06 52.1 -0.6**
BW06 Boulder Array 46.02 326 IAmb IAmb 02 07 11.6
comp=Z,85nm,1.1s
BW06 Boulder Array 46.02 326 P **P** **02 06 52.7 -0.1**
baz=131
BW06 S **S** **02 13 37.1 -0.8**
baz=131
PD31 Pinedale Array 46.02 326 IAmb IAmb 02 07 11.6
comp=Z,83nm,1.2s
PD31 Pinedale Array 46.02 326 ⇑P **P** **02 06 51.5 -1.4**
PD31 ⇑P **P** **02 06 52.8 -0.1**
PD31 ⇑p **sP** **02 07 00.1 -0.1**
PDAR Pinedale Array 46.02 326 P **P** **02 06 52.7 -0.1**
comp=Z,10.0nm,0.6s,baz=124,slow=7.9,SNR=63
PDAR S **S** **02 13 33.6 -4.2**
comp=Z,0.1nm,0.4s,baz=126,slow=4.6,SNR=1.2
PDAR LR LR 02 29 51.6
comp=Z,4µm,19.2s,baz=110,slow=41
comp=Z,10.0nm,0.6s
MURC Murrieta 46.09 311 P **P** **02 06 54.2 +0.9**
baz=115,SNR=35
MURC S **S** **02 13 37.9 -0.8**
baz=115
PSUT Pine Spring 46.11 318 IAmb IAmb 02 07 11.2
comp=Z,64nm,0.9s
BBRC Big Bear Solar 46.17 311 P **P** **02 06 55.0 +0.8**
baz=116
BBRC S **S** **02 13 39.7 -0.5**
baz=116
ELS Elsinore Mount 46.28 310 IAmb IAmb 02 07 05.9
comp=Z,118nm,1.1s
PRN Pahroc Range 46.32 316 P **P** **02 06 55.8 +0.5**
PRN Pahroc Range 46.32 316 ⇓P **P** **02 06 56.2 +0.9**
DUG Dugway, Tooele 46.37 321 IAmb IAmb 02 07 07.4
comp=Z,90nm,1.1s
DUG Dugway, Tooele 46.37 321 P **P** **02 06 55.7 +0.2**
baz=125,SNR=30
DUG S **S** **02 13 43.1 +0.3**
baz=125
HWUT Hardware Ranch 46.44 323 IAmb IAmb 02 07 07.3
comp=Z,58nm,0.8s
SHOC Shoshone, Teco 46.44 314 P **P** **02 06 55.8 -0.3**
baz=118
SHOC S **S** **02 13 43.4 -0.3**
baz=118
RRX Edison Barstow 46.50 312 P **P** **02 06 58.1 +1.6**
baz=116
RRX S **S** **02 13 44.7 +0.2**
baz=116
GSC Goldstone, Bar 46.55 313 IAmb IAmb 02 07 08.8
comp=Z,160nm,1.4s
GSC Goldstone, Bar 46.55 313 P **P** **02 06 57.3 +0.3**
baz=117,SNR=9.9
GSC S **S** **02 13 45.1 -0.3**
baz=117
SPR3 Spring Creek 3 46.67 319 IAmb IAmb 02 07 09.7
comp=Z,85nm,1.2s
BFSC Mount Baldy Ra 46.71 311 P **P** **02 06 58.9 +0.5**
baz=115,SNR=6.8
BFSC S **S** **02 13 47.9 +0.1**
baz=115
LR03 Panguipulli 46.73 176 P **P** **02 06 58.5 +0.4**
GO06 Curarrehue 46.75 175 IAmb IAmb 02 07 13.5
comp=Z,135nm,1.1s
RPN Rapa Nui 46.84 222 P **P** **02 06 59.2 0.0**
comp=Z,20nm,0.4s,baz=126,slow=2.7,SNR=1.5
RPN LR LR 02 22 35.5
comp=Z,6µm,18.5s,baz=50,slow=31
comp=Z,20nm,0.4s
GWY Greenwater Val 46.86 314 IAmb IAmb 02 07 10.2
comp=Z,83nm,1.3s
SCI2 San Clemente I 46.86 309 P **P** **02 07 00.1 +0.7**
baz=114,SNR=8.0
SCI2 S **S** **02 13 50.9 +1.1**
baz=114
AHID Auburn Hatcher 46.89 325 IAmb IAmb 02 07 10.6
comp=Z,55nm,0.8s
QSM Queen of Sheba 46.90 314 IAmb IAmb 02 07 10.4
comp=Z,114nm,1.5s
LR04 Corral 46.91 177 P **P** **02 07 00.9 +1.4**
S11A Rachel 46.92 316 IAmb IAmb 02 07 12.3
comp=Z,141nm,1.2s
BGU Big Grassy Mou 46.92 322 IAmb IAmb 02 07 11.5
comp=Z,54nm,1.0s
TPNV Topopah Spring 46.93 315 IAmb IAmb 02 07 33.0
comp=Z,64nm,1.1s
TPNV IAMs_20 IAMs_20 02 29 39.2
comp=Z,9µm,19.0s
TPNV Topopah Spring 46.93 315 P **P** **02 07 00.9 +0.9**
baz=119,SNR=53
TPNV S **S** **02 13 50.5 -0.4**
baz=119
TPNV Topopah Spring 46.93 315 ⇓P **P** **02 07 00.9 +0.9**
CIS Catalina Islan 46.93 310 P **P** **02 07 00.5 +0.5**
baz=114,SNR=9.6
CIS S **S** **02 13 52.0 +1.2**
baz=114
TRQA Tornquist 46.93 165 P **P** **02 07 00.0 +0.2**
TRQA Tornquist 46.93 165 P **P** **02 07 00.0 +0.2**
TRQA pmax pmax
comp=Z,165nm,1.4s
TRQA MLR MLR
comp=Z,26µm,21.0s
TRQA Tornquist 46.93 165 *e*P **P** **02 06 59.9 +0.1**
FMP Fort Macarthur 46.96 310 P **P** **02 07 00.9 +0.7**
baz=114
FMP S **S** **02 13 51.7 +0.5**
baz=114
LAO LASA Array 47.03 332 P **P** **02 07 00.2 -0.4**
baz=137,SNR=7.4
LAO LASA Array 47.03 332 P **P** **02 06 59.9 -0.6**
baz=137,SNR=7.4
LAO S **S** **02 13 49.5 -2.4**
baz=137
WCT Wildcat Mounta 47.12 315 IAmb IAmb 02 07 12.7
comp=Z,80nm,1.4s
FURC Furnace Creek, 47.13 314 P **P** **02 07 01.8 +0.4**
baz=118,SNR=12
FURC S **S** **02 13 54.5 +1.0**
baz=118
SNOW Snow King Moun 47.13 326 IAmb IAmb 02 07 20.7
comp=Z,110nm,1.1s
LOHW Long Hollow 47.15 326 IAmb IAmb 02 07 27.5
comp=Z,100nm,1.1s
R11A Troy Canyon, C 47.17 317 IAmb IAmb 02 07 13.8
comp=Z,60nm,1.0s
R11A Troy Canyon, C 47.17 317 P **P** **02 07 02.1 +0.2**
baz=121,SNR=20
R11A S **S** **02 13 55.7 +1.3**
baz=121
DECC Green Verdugo 47.22 311 P **P** **02 07 02.7 +0.5**
baz=115,SNR=5.5
DECC S **S** **02 13 54.0 -0.9**
baz=115
EDW2 Edwards Air Fo 47.23 312 P **P** **02 07 02.3 -0.1**
baz=116,SNR=9.6
EDW2 S **S** **02 13 53.5 -1.7**
baz=116
TPAW Teton Pass 47.26 326 IAmb IAmb 02 07 39.2
comp=Z,79nm,1.1s
HVU Hansel Valley 47.27 323 IAmb IAmb 02 07 15.3
comp=Z,50nm,0.9s
LRMC Laurel Mtn Rad 47.27 313 P **P** **02 07 02.3 -0.4**
baz=116
LRMC S **S** **02 13 55.3 -0.5**
baz=116
MOOW Moose Ponds 47.31 326 IAmb IAmb 02 07 21.1
comp=Z,50nm,1.0s
MPMC Manual Prospec 47.39 313 P **P** **02 07 03.7 0.0**
baz=117,SNR=64
MPMC S **S** **02 13 56.8 -0.8**
baz=117
FXWY Fox Creek 47.40 326 IAmb IAmb 02 07 28.5
comp=Z,111nm,1.4s
RLMT Red Lodge 47.42 328 IAmb IAmb 02 07 15.2
comp=Z,87nm,1.1s
RLMT Red Lodge 47.42 328 P **P** **02 07 03.5 -0.3**
baz=133,SNR=40
RLMT S **S** **02 13 56.8 -1.1**
baz=133
DGMT Dagmar 47.47 335 IAmb IAmb 02 07 13.4
comp=Z,80nm,0.9s
DGMT Dagmar 47.47 335 P **P** **02 07 03.5 -0.4**
baz=141,SNR=15
DGMT Dagmar 47.47 335 P **P** **02 07 03.3 -0.7**
baz=141,SNR=15
DGMT S **S** **02 13 56.3 -1.8**
baz=141
IMW Indian Meadow 47.51 326 IAmb IAmb 02 07 22.8
comp=Z,62nm,1.0s
H17A Grant Village 47.64 327 P **P** **02 07 06.1 +0.6**
H17A IAmb IAmb 02 07 33.0
comp=Z,94nm,1.6s
H17A Grant Village 47.64 327 P **P** **02 07 06.0 +0.4**
baz=131,SNR=6.8
H17A S **S** **02 13 58.7 -2.3**
baz=131
YMP Mirror Lake Pl 47.64 327 IAmb IAmb 02 07 23.9
comp=Z,68nm,1.1s
OSI Osito Audit: C 47.66 311 P **P** **02 07 05.9 +0.2**
baz=115
OSI S **S** **02 14 01.0 -0.3**
baz=115
SNCC San Nicolas Is 47.72 309 P **P** **02 07 06.6 +0.6**
baz=113,SNR=8.2
SNCC S **S** **02 14 04.2 +2.2**
baz=113
GRAC Grapevine Rang 47.73 315 IAmb IAmb 02 07 18.3
comp=Z,158nm,1.4s
GRAC Grapevine Rang 47.73 315 P **P** **02 07 06.6 +0.4**
baz=118,SNR=5.9
GRAC S **S** **02 14 04.3 +2.1**
baz=118
GMN Gold Mountain 47.80 315 IAmb IAmb 02 07 18.4
comp=Z,83nm,1.3s
ISA Isabella, Lake 47.93 312 IAmb IAmb 02 07 18.7
comp=Z,63nm,1.2s
ISA Isabella, Lake 47.93 312 P **P** **02 07 08.2 +0.5**
baz=116,SNR=7.6
ISA S **S** **02 14 06.1 +1.0**
baz=116
ARVC Arvin 47.96 312 P **P** **02 07 08.3 +0.4**
baz=115,SNR=8.8
ARVC S **S** **02 14 04.2 -1.1**
baz=115
PLCA Paso Flores 47.97 174 P **P** **02 07 08.8 +0.9**
comp=Z,86nm,1.1s,baz=353,slow=8.6,SNR=48
PLCA S **S** **02 14 07.5 +2.1**
comp=Z,2.5nm,1.1s,baz=54,slow=4.3,SNR=1.7
comp=Z,86nm,1.1s

PLCA **Paso Flores** 47.97 174 P P 02 07 08.3 +0.4
PLCA **Paso Flores** 47.97 174 ⇑P P 02 07 08.9 +0.9
PLCA ⇓P pP 02 07 09.2 -3.9
PLCA **Paso Flores** 47.97 174 eP P 02 07 08.6 +0.7
CWC **Cottonwood Cre** 47.99 314 P P 02 07 08.4 +0.1
baz=117
CWC S S 02 14 07.1 +1.1
baz=117
YMR **Madison River** 48.03 327 IAmb IAmb 02 07 23.1
comp=Z,64nm,1.0s
LCH **Last Change Ra** 48.04 315 IAmb IAmb 02 07 20.3
comp=Z,140nm,1.4s
SCHQ **Schefferville** 48.09 7 P P 02 07 09.1 +0.5
comp=Z,69nm,0.7s,baz=198,slow=6.9,SNR=73
SCHQ S S 02 14 07.0 +0.3
comp=Z,3.2nm,0.9s,baz=217,slow=20,SNR=1.3
SCHQ LR LR 02 27 10.4
comp=Z,9μm,21.7s,baz=200,slow=36
comp=Z,69nm,0.7s
SCHQ **Schefferville** 48.09 7 P P 02 07 09.2 +0.6
SCHQ **Schefferville** 48.09 7 ⇑P P 02 07 09.2 +0.6
SCZ2 **Santa Cruz Isl** 48.10 310 P P 02 07 08.8 -0.3
baz=113,SNR=9.2
SCZ2 S S 02 14 09.5 +2.1
baz=113
ELK **Elko** 48.21 320 LR LR 02 32 58.2
comp=Z,5μm,18.7s,baz=140,slow=43
LL03 **Petrohue** 48.22 176 P P 02 07 10.3 +0.5
YHL **Hebgen Lake** 48.26 327 IAmb IAmb 02 07 29.8
comp=Z,127nm,1.1s
BCW **Bitter Crk WRg** 48.31 311 IAmb IAmb 02 07 21.6
comp=Z,76nm,1.1s
SBC **Santa Barbara** 48.34 310 P P 02 07 09.7 -1.1
baz=114
TIN **Tinemaha, Big** 48.37 314 P P 02 07 11.5 +0.2
baz=117,SNR=8.2
VES **Vestal, Richgr** 48.45 312 P P 02 07 11.7 0.0
baz=115,SNR=10
PKM **Mcpherson Peak** 48.59 311 P P 02 07 13.5 +0.5
baz=114,SNR=8.7
PKM S S 02 14 13.0 -1.7
baz=114
VOG **Valley Oaks Go** 48.88 313 P P 02 07 14.4 -0.5
baz=116
SMMC **Simmler** 48.90 311 P P 02 07 15.4 +0.2
baz=114,SNR=9.4
NV11 **Mina Array Sit** 48.96 316 IAmb IAmb 02 07 27.6
comp=Z,124nm,1.2s
BOZ **Bozeman (W)** 48.99 327 P P 02 07 15.8 0.0
baz=130,SNR=50
BOZ S S 02 14 20.8 +1.0
baz=130
NVAR **Mina Array Bea** 49.06 316 P P 02 07 16.2 -0.5
comp=Z,8.1nm,0.9s,baz=119,slow=5.4,SNR=39
NVAR S S 02 14 23.1 +1.8
comp=Z,0.1nm,0.4s,baz=122,slow=6.5,SNR=1.5
NVAR LR LR 02 31 06.2
comp=Z,10μm,20.0s,baz=138,slow=40
NVAR PKPPKP P'P'df 02 38 09.2 -11
comp=Z,0.3nm,0.8s,baz=212,slow=3.2,SNR=2.1
comp=Z,8.1nm,0.9s
MLAC **Mammoth, Mammo** 49.07 315 P P 02 07 16.5 -0.1
baz=117
LHV **Little Huntoon** 49.12 316 IAmb IAmb 02 07 49.2
comp=Z,108nm,1.2s
OMMB **Old Mammoth Mi** 49.17 315 IAmb IAmb 02 07 28.6
comp=Z,103nm,1.5s
KVN **Kaiserville** 49.22 317 IAmb IAmb 02 07 29.1
comp=Z,59nm,1.1s
MDPB **Devils Postpil** 49.24 314 P P 02 07 18.0 0.0
MDPB IAmb IAmb 02 07 29.7
comp=Z,58nm,1.0s
PAGB **Antelope Grade** 49.27 312 IAmb IAmb 02 07 29.4
comp=Z,126nm,1.1s
HLID **Hailey** 49.30 324 IAmb IAmb 02 07 30.0
comp=Z,46nm,0.8s
HLID IAMs_20 IAMs_20 02 31 59.3
comp=Z,8μm,20.0s
HLID **Hailey** 49.30 324 P P 02 07 18.1 -0.2
baz=126,SNR=55
HLID S S 02 14 27.4 +3.1
baz=126
RYN **Ryan** 49.31 316 IAmb IAmb 02 07 29.9
comp=Z,60nm,1.1s
EGMT **Eagleton** 49.66 331 IAmb IAmb 02 07 31.5
comp=Z,79nm,1.1s
EGMT **Eagleton** 49.66 331 P P 02 07 20.5 -0.3
baz=134,SNR=18
EGMT S S 02 14 28.4 -0.7
baz=134
PMPB **Monarch Peak** 49.87 312 P P 02 07 23.2 +0.5
YERR **Yerington** 49.97 316 IAmb IAmb 02 07 35.2
comp=Z,116nm,1.1s
MFID **Camas Ranch** 50.05 323 IAmb IAmb 02 07 35.5
comp=Z,102nm,0.9s
MFID IAMs_20 IAMs_20 02 30 39.4
comp=Z,8μm,22.0s
PNTR **Pine Nut** 50.27 316 IAmb IAmb 02 07 40.0
comp=Z,68nm,0.8s
LL02 **Futaleuf** 50.30 176 P P 02 07 26.4 +0.8
CMB **Columbia Colle** 50.34 314 IAMs_20 IAMs_20 02 32 39.7
comp=Z,8μm,18.0s
CMB **Columbia Colle** 50.34 314 P P 02 07 26.6 +0.4
SAO **San Andreas Ge** 50.57 312 P P 02 07 28.3 +0.4
SAO IAMs_20 IAMs_20 02 28 29.8
comp=Z,10μm,21.0s
SAO **San Andreas Ge** 50.57 312 P P 02 07 28.3 +0.4
SAO pmax pmax
comp=Z,78nm,1.3s
SAO MLR MLR
comp=Z,10μm,21.0s
SAO **San Andreas Ge** 50.57 312 ⇑sP sP 02 07 35.8 +0.6
MSO **Missoula** 51.01 327 P P 02 07 30.7 -0.4
baz=128,SNR=27
MSO S S 02 14 47.0 -1.0
baz=128
WVOR **Wild Horse Val** 51.26 320 IAmb IAmb 02 07 44.5
comp=Z,156nm,1.0s
WVOR **Wild Horse Val** 51.26 320 ⇑P P 02 07 32.8 -0.3
WVOR **Wild Horse Val** 51.26 320 ⇓P P 02 07 32.5 -0.7
WVOR ⇑P P 02 07 32.8 -0.3
AY01 **Puyuhuapi** 51.48 177 IAmb IAmb 02 07 49.0
comp=Z,146nm,1.1s
FFC **Flin Flon** 51.71 341 IAMs_20 IAMs_20 02 31 26.3
comp=Z,7μm,18.0s
BMO **Blue Mountains** 51.74 323 P P 02 07 34.8 -1.8
BMO IAMs_20 IAMs_20 02 31 33.0
comp=Z,7μm,21.0s
BMO **Blue Mountains** 51.74 323 P P 02 07 34.8 -1.8
BMO pmax pmax
comp=Z,34nm,1.3s
BMO MLR MLR
comp=Z,7μm,21.0s
ORV **Oroville** 51.79 316 IAmb IAmb 02 07 51.6
comp=Z,92nm,1.3s
ORV IAMs_20 IAMs_20 02 31 59.0
comp=Z,7μm,21.0s
MOD **Modoc Plateau** 52.07 319 IAMs_20 IAMs_20 02 31 44.1
comp=Z,10μm,21.0s
MCCM **Marconi Confer** 52.17 313 IAMs_20 IAMs_20 02 33 30.2
comp=Z,8μm,19.0s
F10A **Beach Ranch, E** 52.32 325 ⇓P P 02 07 40.5 -0.5
WALA **Waterton Lakes** 52.41 329 ⇑P P 02 07 41.2 -0.4
COYC **Coyhaique** 52.66 176 IAmb IAmb 02 07 54.3
comp=Z,111nm,0.9s
COYC **Coyhaique** 52.66 176 ⇑P P 02 07 44.3 +1.1
HOPS **Hopland Field** 52.66 314 IAMs_20 IAMs_20 02 30 08.9
comp=Z,11μm,22.0s
CALA **Caldeira** 52.94 46 eP P 02 07 56.3 +11
comp=Z,225nm,0.9s
PICO **Pico** 53.10 47 eP P 02 07 56.7 +10
comp=Z,324nm,1.5s
FCC **Fort Churchill** 53.25 348 IAmb IAmb 02 07 49.4
comp=Z,77nm,1.1s
KCPM **Cahto Peak** 53.30 315 IAmb IAmb 02 08 00.5
comp=Z,159nm,1.2s
ROSA **Rosais** 53.32 46 eP P 02 07 57.4 +9.1
comp=Z,236nm,1.0s
J05D **Fort Rock, OR** 53.34 320 P P 02 07 48.5 -0.1
baz=119,SNR=7.2
J05D S S 02 15 15.4 -4.8
baz=119
K04D **Chiloquin, OR** 53.36 319 P P 02 07 48.5 -0.2
baz=118
K04D S S 02 15 18.5 -1.9
baz=118
L04D **Klamath Falls** 53.53 318 IAMs_20 IAMs_20 02 33 52.2
comp=Z,7μm,20.0s
L04D **Klamath Falls** 53.53 318 P P 02 07 49.5 -0.6
baz=117
L04D S S 02 15 19.5 -3.3
baz=117
YBH **Yreka Blue Hor** 53.59 318 LR LR 02 34 03.7
comp=Z,7μm,20.2s,baz=144,slow=40
YBH **Yreka Blue Hor** 53.59 318 IAMs_20 IAMs_20 02 33 32.2
comp=Z,9μm,20.0s
NEW **Newport** 53.59 327 IAmb IAmb 02 08 01.1
comp=Z,156nm,1.9s
NEW **Newport** 53.59 327 P P 02 07 49.1 -1.1
baz=126,SNR=16
NEW S S 02 15 18.4 -4.8
baz=126
KMRM **Mail Ridge** 53.62 315 P P 02 07 52.1 +1.5
KMRM IAmb IAmb 02 08 02.3
comp=Z,84nm,1.0s
PGRA **Graciosa** 53.63 46 eP P 02 07 54.8 +4.2
comp=Z,142nm,1.2s
J04D **Umppua Nationa** 53.88 319 IAMs_20 IAMs_20 02 33 03.4
comp=Z,6μm,20.0s
J04D **Umppua Nationa** 53.88 319 P P 02 07 52.7 0.0
baz=118,SNR=17
KHMM **Horse Mountain** 53.90 316 P P 02 07 52.0 -0.8
KHMM IAmb IAmb 02 08 04.1
comp=Z,82nm,0.9s
I05D **Terrebonne, OR** 53.92 321 P P 02 07 52.7 0.0
baz=119
I05D S S 02 15 28.6 +0.8
baz=119
JCC **Jacoby Creek,** 54.09 316 IAMs_20 IAMs_20 02 31 42.6
comp=Z,9μm,21.0s
PAGU **Agualva, Azore** 54.10 47 eP P 02 08 03.1 +9.0
comp=Z,146nm,1.1s
HUMO **Hull Mountain** 54.14 318 IAMs_20 IAMs_20 02 34 20.9
comp=Z,7μm,20.0s
HUMO **Hull Mountain** 54.14 318 ⇓P P 02 07 53.7 -0.7
KRMB **Red Mountain** 54.30 317 IAmb IAmb 02 08 06.9
comp=Z,74nm,1.0s
L02F **Cave Junction** 54.33 318 P P 02 07 54.3 -1.4
baz=116
L02F S S 02 15 31.3 -2.0
baz=116
I04A **Tendick Farm,** 54.34 320 P P 02 07 54.3 -1.5
baz=118,SNR=11
I04A S S 02 15 35.0 +1.5
baz=118
G05D **Wamic, OR** 54.36 322 P P 02 07 56.5 +0.7
baz=120,SNR=8.4
G05D S S 02 15 36.3 +2.7
baz=120
KSXB **Camp Six Broad** 54.41 317 IAmb IAmb 02 08 07.5
comp=Z,104nm,1.3s
K02D **Willamette Mer** 54.65 318 P P 02 07 57.5 -0.6
baz=116
PSET **Sete Cidades** 54.83 48 eP P 02 08 01.6 +2.2
comp=Z,154nm,1.3s
H04D **Lebanon** 54.89 321 IAMs_20 IAMs_20 02 35 19.5
comp=Z,7μm,20.0s
H04D **Lebanon** 54.89 321 P P 02 07 59.0 -0.7
baz=118
I03D **Drain, OR** 54.89 319 P P 02 07 59.5 -0.2
baz=117
I03D S S 02 15 39.9 -0.9
baz=117
EDM **Edmonton** 54.90 334 IAmb IAmb 02 08 08.4
comp=Z,148nm,1.2s
J01E **Myrtle Point** 55.03 319 IAMs_20 IAMs_20 02 33 34.9
comp=Z,7μm,20.0s
J01E **Myrtle Point** 55.03 319 P P 02 08 00.7 0.0
baz=116
BART **Piartolome** 55.22 49 eP P 02 08 08.3 +6.0
comp=Z,188nm,1.6s
COR **Corvallis** 55.27 320 IAMs_20 IAMs_20 02 36 11.8
comp=Z,5μm,18.0s
I02E **Swisshome, OR** 55.40 320 IAMs_20 IAMs_20 02 35 32.6
comp=Z,6μm,20.0s
I02E **Swisshome, OR** 55.40 320 P P 02 08 03.1 -0.2
baz=117
I02E S S 02 15 51.4 +3.8
baz=117
G03D **McMinnville, O** 55.54 321 P P 02 08 04.8 +0.5
G03D IAmb IAmb 02 08 21.8
comp=Z,63nm,0.9s
G03D IAMs_20 IAMs_20 02 34 11.3
comp=Z,6μm,20.0s
G03D **McMinnville, O** 55.54 321 P P 02 08 03.7 -0.7
baz=118
G03D S S 02 15 52.7 +3.2
baz=118
PNT **Penticton** 55.55 327 ⇑P P 02 08 04.3 -0.1
PNT **Penticton** 55.55 327 ⇑P P 02 08 04.3 -0.1
F04D **Rainier, OR** 55.80 322 P P 02 08 05.1 -1.1
baz=119
F04D S S 02 15 56.0 +3.1
baz=119
FRB **Frobisher Bay** 56.72 4 LR LR 02 32 14.4
comp=Z,9μm,21.7s,baz=195,slow=36
FRB **Frobisher Bay** 56.72 4 ⇓P P 02 08 12.2 -0.1
FRB **Frobisher Bay** 56.72 4 ⇓P P 02 08 12.2 -0.1
NLWA **Neilton Lookou** 56.96 323 IAmb IAmb 02 08 23.9
comp=Z,76nm,1.1s
PGC **Sidney** 57.33 325 IAmb IAmb 02 08 27.8
comp=Z,194nm,1.6s
IVI **Ivigtut** 57.80 16 iP P 02 08 16.6 -3.5
MBO **M'Bour** 58.51 78 IAMs_20 IAMs_20 02 34 35.2
comp=Z,6μm,18.0s
NRS **Narsarsuaq** 58.52 17 IAMs_20 IAMs_20 02 33 00.9
comp=Z,7μm,19.0s
NRS **Narsarsuaq** 58.52 17 P P 02 08 26.0 +0.9
NRS **Narsarsuaq** 58.52 17 ⇑P P 02 08 26.9 +1.7
OZB **Mount Ozzard** 58.66 324 IAmb IAmb 02 08 37.8
comp=Z,68nm,0.8s
BBTS **Babate** 58.91 77 LR LR 02 31 59.1
comp=Z,6μm,21.5s,baz=247,slow=34
NUUK **Nuuk** 59.51 12 iP P 02 08 32.5 +0.6
NUUK IAmb IAmb 02 08 34.6
comp=Z,48nm,0.9s
NUUK **Nuuk** 59.51 12 ⇑P P 02 08 33.4 +1.5
MACI **Morro de la Ar** 59.98 62 P P 02 08 37.0 +0.9
PMOZ **Porto Moniz, M** 60.17 56 eS S 02 16 55.0 +4.3
PMOZ **Porto Moniz, M** 60.17 56 eLR LR 02 27 32.9
comp=Z,2μm,22.0s
FUL **Fuhl** 60.39 57 eP P 02 08 39.5 +0.9
comp=Z,121nm,1.6s
EFI **East Falkland** 60.67 167 iP P 02 08 45.4 +5.3
EFI MLR MLR
comp=Z,21μm,19.0s
BBB **Bella Bella** 61.65 327 LR LR 02 39 26.1
comp=Z,3μm,19.7s,baz=143,slow=40
BBB **Bella Bella** 61.65 327 IAmb IAmb 02 08 56.5
comp=Z,68nm,1.1s
BBB **Bella Bella** 61.65 327 ⇓P P 02 08 48.4 +1.7
YKA **Yellowknife Ar** 61.89 341 P P 02 08 47.7 -0.5
comp=Z,33nm,0.7s,baz=132,slow=7.0,SNR=92
YKA LR LR 02 38 47.7
comp=Z,4μm,18.2s,baz=140,slow=39
comp=Z,33nm,0.7s
YKA **Yellowknife Ar** 61.89 341 P P 02 08 46.7 -1.5
USHA **Ushuaia** 62.14 175 LR LR 02 35 34.7
comp=Z,6μm,19.9s,baz=360,slow=36
SFJD **Kangerlussuaq** 62.21 11 LR LR 02 34 31.0
comp=Z,10μm,21.7s,baz=214,slow=35
SFJD **Kangerlussuaq** 62.21 11 P P 02 08 49.6 -0.7
SFJD **Kangerlussuaq** 62.21 11 P P 02 08 49.6 -0.7
SFJD pmax pmax
comp=Z,43nm,1.3s
SFJD **Kangerlussuaq** 62.21 11 iP P 02 08 47.5 -2.8
DY2G **Dye2** 62.67 13 iP P 02 08 53.4 -0.2
DY2G IAmb IAmb 02 08 55.2
comp=Z,57nm,1.0s
ASCN **Ascension** 63.46 103 IAMs_20 IAMs_20 02 33 00.2
comp=Z,7μm,22.0s
FLDN **Fort Liard** 63.66 336 P P 02 08 59.8 -0.3
baz=126
ILULI **Ilulissat** 64.08 10 IAmb IAmb 02 09 14.3
comp=Z,88nm,1.1s
ILULI IAMs_20 IAMs_20 02 34 59.0
comp=Z,7μm,22.0s
ANGG **Ammassalik, Gr** 64.19 17 IAMs_20 IAMs_20 02 35 24.9
comp=Z,6μm,22.0s
ANGG **Ammassalik, Gr** 64.19 17 iP P 02 09 03.0 -0.4
ANGG IAmb IAmb 02 09 05.0
comp=Z,39nm,0.7s
ANGG **Ammassalik, Gr** 64.19 17 ⇓P P 02 09 03.5 +0.1
V35K **Ketchikan** 64.92 329 P P 02 09 08.7 +0.4
baz=116
V35K S S 02 17 48.0 -1.3
baz=116
T35M **Bob Quinn** 64.97 331 P P 02 09 09.3 +0.5
baz=118,SNR=8.1
T35M S S 02 17 48.7 -1.4
baz=118
WRGLY **Wrigley** 65.42 339 P P 02 09 12.5 +0.9
baz=127,SNR=7.5
DLBC **Dease Lake** 65.55 332 LR LR 02 42 02.7
comp=Z,8μm,18.9s,baz=114,slow=40
DLBC **Dease Lake** 65.55 332 P P 02 09 12.0 -0.6
DLBC IAmb IAmb 02 09 22.2
comp=Z,73nm,1.3s
DLBC **Dease Lake** 65.55 332 P P 02 09 10.2 -2.3
baz=118,SNR=16
DLBC S S 02 17 57.2 0.0
baz=118
TAOE **Nuku Hiva Isla** 65.69 257 eS S 02 18 01.4 +0.9
comp=Z,484nm,23.6s
TAOE **Nuku Hiva Isla** 65.69 257 eLR LR 02 28 59.2
comp=Z,6μm,23.1s
CRAG **Craig** 65.75 328 P P 02 09 13.7 -0.1
baz=114
WRAK **Wrangell Islan** 65.76 330 IAMs_20 IAMs_20 02 40 27.6
comp=Z,5μm,22.0s
WRAK **Wrangell Islan** 65.76 330 P P 02 09 12.5 -1.3
baz=115
WRAK S S 02 18 02.2 +2.5
baz=115
WTLY **Watson Lake, Y** 65.82 334 P P 02 09 13.6 -0.6
baz=120
S34M **Telegraph Cree** 65.83 331 P P 02 09 14.8 +0.6
baz=117,SNR=13
T33K **Petersburg** 66.23 330 P P 02 09 16.3 -0.6
baz=115
ICESG **Greenland Ices** 66.28 14 iP P 02 09 16.4 -1.0
ICESG IAmb IAmb 02 09 20.9
comp=Z,176nm,1.2s
TGTN **Hyland Airport** 66.33 336 P P 02 09 17.4 -0.1
baz=121,SNR=12
TGTN S S 02 18 07.3 +0.7
baz=121
R33M **Jennings River** 66.44 333 P P 02 09 18.6 +0.3
baz=118,SNR=12
R33M S S 02 18 08.6 +0.5
baz=118
Q32M **Nakina River** 66.83 332 P P 02 09 19.5 -1.4
baz=116,SNR=8.4
Q32M S S 02 18 13.5 +0.4
baz=116
TTIG **Tnine Tigouga,** 67.23 60 P P 02 09 28.0 +4.0
S32K **Killisnoo** 67.31 330 P P 02 09 22.8 -0.9
baz=114
S32K S S 02 18 20.1 +1.8
baz=114
SIT **Sitka** 67.52 330 P P 02 09 23.7 -1.4
baz=113
JIS **Juneau Island** 67.54 331 IAmb IAmb 02 09 35.3
comp=Z,150nm,1.9s
JIS IAMs_20 IAMs_20 02 43 31.0
comp=Z,6μm,20.0s
R32K **Eaglecrest** 67.60 331 P P 02 09 25.7 +0.1
baz=114
P33M **Teslin, Yukon** 67.64 333 IAmb IAmb 02 09 36.1
comp=Z,72nm,1.2s
P33M IAMs_20 IAMs_20 02 42 34.5
comp=Z,5μm,21.0s
P33M **Teslin, Yukon** 67.64 333 P P 02 09 24.4 -1.5
baz=116,SNR=9.9
P33M S S 02 18 22.5 0.0
baz=116
LIS **Lisbon** 67.65 51 eP P 02 09 26.6 +0.3
LIS IAmb IAmb 02 09 29.9
comp=Z,41nm,0.6s
LIS eS S 02 18 23.0 -0.3
LIS **Lisbon** 67.65 51 eP P 02 09 26.6 +0.3
LIS eS S 02 18 23.0 -0.3
P32M **Atlin** 67.78 332 P P 02 09 25.6 -1.1
baz=115
P32M S S 02 18 23.4 -0.7
baz=115
OUK **Oukaimeden** 67.79 59 P P 02 09 30.0 +2.3
PTEO **Sao Teotonio** 67.81 52 eP P 02 09 29.1 +1.8
comp=Z,152nm,2.1s
MORF **Marmelete** 67.83 53 eP P 02 09 27.8 +0.3
MORF IAmb IAmb 02 09 35.9
comp=Z,397nm,1.9s
MORF eS S 02 18 25.6 0.0
MORF **Marmelete** 67.83 53 eP P 02 09 28.9 +1.4
comp=Z,200nm,1.4s
MORF **Marmelete** 67.83 53 eP P 02 09 27.8 +0.3
MORF eS S 02 18 25.6 0.0
SRHM **Skhour des Reh** 67.88 58 P P 02 09 30.0 +2.0
BESE **Bessie Mountai** 67.89 331 IAmb IAmb 02 09 37.8
comp=Z,83nm,1.6s
PNCL **Nicolau / Gran** 68.05 52 eP P 02 09 29.9 +1.1
comp=Z,128nm,1.5s
PSBE **So Bento** 68.05 50 eP P 02 09 30.4 +1.6
comp=Z,124nm,1.6s
MMPY **Sheldon Lake,** 68.10 336 P P 02 09 27.6 -1.1
baz=119,SNR=16
MMPY S S 02 18 27.8 -0.1
baz=119
N32M **Quiet Lake** 68.18 334 P P 02 09 28.3 -0.9
baz=116
N32M S S 02 18 29.8 +0.9
baz=116
MESJ **Messejana** 68.25 52 eP P 02 09 30.3 +0.2
MESJ IAmb IAmb 02 09 33.8
comp=Z,87nm,1.5s
MESJ eS S 02 18 30.4 -0.1
MESJ **Messejana** 68.25 52 eP P 02 09 31.6 +1.5
comp=Z,92nm,1.5s
MESJ **Messejana** 68.25 52 ePcP PcP 02 09 55.5 -0.3
MESJ **Messejana** 68.25 52 eP P 02 09 30.3 +0.2
MESJ eS S 02 18 30.4 -0.1
RES **Resolute Bay** 68.30 355 LR LR 02 40 16.6
comp=Z,10μm,20.9s,baz=165,slow=37
PCAS **Casmilo, Conde** 68.36 50 eP P 02 09 31.6 +0.9
comp=Z,167nm,1.6s
PCVE **Castro Verde** 68.36 52 eP P 02 09 32.5 +1.7
comp=Z,111nm,1.6s
AVE **Averroes** 68.36 57 P P 02 09 31.1 +0.3
AVE S S 02 18 34.7 +2.7
AVE **Averroes** 68.36 57 P P 02 09 30.6 -0.3
AVE **Averroes** 68.36 57 P P 02 09 33.0 +2.2
PMTG **Montargil** 68.42 51 eP P 02 09 30.9 -0.2
comp=Z,83nm,1.5s
COI **Coimbra** 68.45 50 eP P 02 09 33.0 +1.7
comp=Z,292nm,1.5s
COI **Coimbra** 68.45 50 IAMs_20 IAMs_20 02 36 59.0
comp=Z,5μm,21.0s
PTO **Porto** 68.46 49 eP P 02 09 31.5 +0.2
comp=Z,161nm,1.9s
SKAG **Skagway** 68.47 332 P P 02 09 30.8 -0.1
baz=114
SKAG S S 02 18 31.4 -0.9
baz=114
EVO **Evora** 68.51 51 P P 02 09 33.6 +2.0
EVO S S 02 18 36.8 +3.2
PBEJ **Beja** 68.55 52 eP P 02 09 33.1 +1.1
comp=Z,73nm,1.6s
PBEJ **Beja** 68.55 52 ePcP PcP 02 09 57.2 +0.1
PVAQ **Vaqueiros** 68.59 53 eP P 02 09 35.5 +3.3
comp=Z,81nm,1.7s
PVAQ eS S 02 18 35.7 +1.2
PVAQ **Vaqueiros** 68.59 53 eLR LR 02 29 40.6
comp=Z,3μm,20.0s
WHY **Whitehorse** 68.76 333 P P 02 09 33.1 +0.1
baz=114
WHY S S 02 18 35.8 -0.1
baz=114
PGAV **Gavieira, Arco** 68.84 48 eP P 02 09 34.9 +1.1
comp=Z,112nm,1.7s
PGAV eS S 02 18 40.6 +3.0
PGAV **Gavieira, Arco** 68.84 48 eLR LR 02 31 29.0
comp=Z,2μm,18.0s
PESTR **Estremoz** 68.88 51 eP P 02 09 34.1 +0.1
comp=Z,131nm,1.7s
PESTR **Estremoz** 68.88 51 IAmb IAmb 02 09 42.3
comp=Z,97nm,1.5s
PESTR **Estremoz** 68.88 51 P P 02 09 35.0 +1.0
PVIS **Viseu** 68.92 49 eP P 02 09 34.0 -0.3
comp=Z,95nm,1.9s
PLBC **Pleasant Camp** 68.96 332 P P 02 09 33.0 -1.1
baz=113

PLBC S **S** **02 18 40.1 +2.0**
baz=113
PCAB Cabril 68.98 48 *e*P **P** **02 09 35.9 +1.3**
comp=Z,74nm,2.0s
ZHG ZHG 69.02 57 P **P** **02 09 37.0 +1.9**
BORG Borgarnes 69.06 22 LR LR 02 36 43.6
comp=Z,7µm,21.8s,baz=242,slow=33
POLO Lamas de Olo 69.10 49 *e*P **P** **02 09 35.3 -0.1**
comp=Z,66nm,1.7s
PCBR Castelo Branco 69.11 50 *e*P **P** **02 09 35.8 +0.4**
comp=Z,113nm,1.6s
PMRV Marv??o 69.11 51 *e*P **P** **02 09 35.3 -0.2**
comp=Z,76nm,1.6s
PMRV *e*S **S** **02 18 44.8 +4.1**
PMRV Marv??o 69.11 51 *e*LR LR 02 31 20.1
comp=Z,3µm,20.0s
MTE Manteigas 69.14 50 *e*P **P** **02 09 36.8 +1.2**
comp=Z,82nm,1.7s
MTE *e*S **S** **02 18 44.0 +2.9**
MTE Manteigas 69.14 50 *e*LR LR 02 30 59.4
comp=Z,4µm,20.0s
MTE Manteigas 69.14 50 IAMs_20 IAMs_20 02 37 30.1
comp=Z,5µm,21.0s
PVRL Vila Real 69.14 49 *e*P **P** **02 09 36.5 +0.9**
comp=Z,123nm,1.7s
M31M Drury Creek, Y 69.20 335 IAmb IAmb 02 09 54.2
comp=Z,51nm,1.1s
M31M Drury Creek, Y 69.20 335 P **P** **02 09 35.4 -0.2**
baz=116,SNR=11
M31M S **S** **02 18 41.9 +0.9**
baz=116
SUMG Summit 69.20 11 P **P** **02 09 34.9 -0.9**
SUMG Summit 69.20 11 P **P** **02 09 34.9 -0.9**
SUMG pmax pmax
comp=Z,178nm,1.1s
SUMG MLR MLR
comp=Z,13µm,21.0s
SUMG Summit 69.20 11 *i*P **P** **02 09 36.0 +0.1**
PBAR Barrancos 69.22 52 *e*P **P** **02 09 36.9 +0.8**
comp=Z,87nm,1.5s
O30N Mendenhall 69.35 333 P **P** **02 09 36.4 -0.1**
baz=113,SNR=12
O30N S **S** **02 18 45.5 +2.7**
baz=113
C36M Paulatuk 69.36 344 P **P** **02 09 35.8 -0.6**
baz=128
C36M S **S** **02 18 37.1 -5.3**
baz=128
TULEG Thule 69.42 2 IAMs_20 IAMs_20 02 39 26.1
comp=Z,7µm,21.0s
P30M Million Dollar 69.49 332 P **P** **02 09 36.5 -0.9**
baz=112
P30M S **S** **02 18 45.2 +0.7**
baz=112
N31M Braeburn, Yuko 69.50 334 IAMs_20 IAMs_20 02 42 44.5
comp=Z,6µm,21.0s
N31M Braeburn, Yuko 69.50 334 P **P** **02 09 37.0 -0.4**
baz=114,SNR=8.3
N31M S **S** **02 18 41.3 -3.2**
baz=114
MVO Moncorvo 69.64 49 *e*P **P** **02 09 39.4 +0.7**
comp=Z,112nm,1.7s
MVO *e*S **S** **02 18 49.8 +2.9**
MVO Moncorvo 69.64 49 *e*LR LR 02 31 40.8
comp=Z,3µm,20.0s
P29M Windy Craggy 69.67 332 IAmb IAmb 02 09 49.8
comp=Z,43nm,0.9s
P29M Windy Craggy 69.67 332 P **P** **02 09 38.1 -0.4**
baz=111
P29M S **S** **02 18 44.2 -2.4**
baz=111
SFS San Fernando 69.68 54 P **P** **02 09 40.4 +1.4**
SFS S **S** **02 18 50.8 +3.4**
PBRG Braganca 69.94 48 *e*P **P** **02 09 41.5 +0.9**
comp=Z,49nm,1.4s
HYT Haines Junctio 70.01 333 IAmb IAmb 02 09 53.4
comp=Z,92nm,1.5s
HYT Haines Junctio 70.01 333 P **P** **02 09 40.8 +0.1**
baz=112,SNR=7.1
HYT S **S** **02 18 50.4 -0.3**
baz=112
N30M Aishikik Lake 70.06 333 P **P** **02 09 41.5 +0.5**
baz=113
N30M S **S** **02 18 48.7 -2.5**
baz=113
IFR Ifrane 70.29 57 P **P** **02 09 43.7 +0.7**
IFR S **S** **02 18 56.2 +1.2**
CEU Ceuta 70.29 55 P **P** **02 09 45.8 +3.0**
CEU S **S** **02 18 54.3 -0.3**
O29M Mount Kennedy 70.31 332 P **P** **02 09 42.0 -0.6**
baz=111
O29M S **S** **02 18 54.4 +0.1**
baz=111
CZD Col de Zad 70.32 58 P **P** **02 09 46.0 +2.6**
M30M Minto, Yukon 70.38 335 P **P** **02 09 42.9 +0.1**
M30M IAMs_20 IAMs_20 02 43 43.6
comp=Z,5µm,18.0s
M30M Minto, Yukon 70.38 335 P **P** **02 09 42.8 0.0**
baz=113,SNR=51
M30M S **S** **02 18 51.5 -3.3**
baz=113
MAYO Mayo, Yukon 70.42 336 P **P** **02 09 43.3 +0.3**
baz=114
YUK6 Outpost Mounta 70.44 333 P **P** **02 09 43.8 +0.3**
baz=111
YUK6 S **S** **02 18 57.9 +1.9**
baz=111
PNL Peninsula 70.47 331 P **P** **02 09 43.3 -0.1**
baz=110
LCRM LCR 70.53 57 P **P** **02 09 46.2 +1.8**
TIC Toumodi 70.59 85⇑ *i*P **P** **02 09 44.7 -0.3**
comp=Z,235nm,1.0s
LIC Lamto 70.62 86⇑ *i*P **P** **02 09 45.0 -0.2**
comp=Z,501nm,0.9s
MDT Midelt 70.67 58 LR LR 02 38 34.3
comp=Z,2µm,20.4s,baz=283,slow=34
MDT Midelt 70.67 58 P **P** **02 09 47.2 +2.0**
BCPM Bancas Point 70.68 332 IAmb IAmb 02 09 55.4
comp=Z,122nm,1.4s
YUK4 Talbot Arm 70.72 333 P **P** **02 09 45.2 0.0**
baz=111,SNR=9.4
YUK4 S **S** **02 19 00.4 +1.3**
baz=111
DBIC Dimbokro 70.75 85 P **P** **02 09 45.8 -0.2**
comp=Z,173nm,0.9s,baz=287,slow=6.6,SNR=110
DBIC S **S** **02 18 52.0 -8.7**
comp=Z,5.3nm,1.1s,baz=188,slow=14,SNR=1.9
DBIC LR LR 02 38 35.2
comp=Z,4µm,20.1s,baz=270,slow=34
comp=Z,173nm,0.9s
DBIC Dimbokro 70.75 85 P **P** **02 09 45.5 -0.5**
KIC Kosan Boka 70.89 86⇑ *i*P **P** **02 09 46.7 -0.1**
comp=Z,214nm,0.9s
PINM Pinnacle 71.02 332 P **P** **02 09 47.1 +0.3**
baz=109
PINM S **S** **02 19 02.6 +0.2**
baz=109
KOWA Kowa 71.03 77 LR LR 02 41 26.2
comp=Z,4µm,19.2s,baz=256,slow=36
KOWA Kowa 71.03 77 P **P** **02 09 47.4 -0.3**
KOWA IAMs_20 IAMs_20 02 42 51.2
comp=Z,5µm,20.0s
M29M Somme Creek 71.04 334 P **P** **02 09 46.4 -0.5**
baz=112,SNR=17
M29M S **S** **02 19 00.3 -2.3**
baz=112
PVLZ Peæn de 71.10 55 P **P** **02 09 47.6 -0.1**
PVLZ S **S** **02 19 05.7 +1.7**
EMAL Malaga-Limoner 71.13 54 P **P** **02 09 48.0 +0.2**
EMAL S **S** **02 19 04.7 +0.3**
L29M L29M 71.15 335 P **P** **02 09 46.9 -0.6**
baz=112
K29M Barlow Dome 71.18 336 P **P** **02 09 48.3 +0.5**
baz=113,SNR=22
K29M S **S** **02 19 02.1 -2.2**
baz=113
O28M Mount Upton 71.22 332 P **P** **02 09 48.2 -0.1**
baz=110
O28M S **S** **02 19 02.9 -2.2**
baz=110
A36M Sachs Harbour 71.30 346 P **P** **02 09 47.6 -0.6**
baz=128,SNR=10.0
A36M S **S** **02 19 00.9 -4.2**
baz=128
F31M Tsiigehtchic 71.32 340 P **P** **02 09 47.6 -0.7**
baz=118,SNR=8.7
F31M S **S** **02 19 00.2 -5.3**
baz=118
NEEM North Greenlan 71.46 6 *i*P **P** **02 09 51.2 +1.8**
NEEM IAmb IAmb 02 09 53.7
comp=Z,84nm,0.9s
PAB San Pablo 71.46 51 P **P** **02 09 50.1 +0.2**
PAB IAmb IAmb 02 09 58.3
comp=Z,80nm,1.3s
PAB San Pablo 71.46 51 P **P** **02 09 50.2 +0.2**
PAB pmax pmax
comp=Z,80nm,1.3s
PAB San Pablo 71.46 51 P **P** **02 09 51.2 +1.2**
TABL Table Mountain 71.55 332 IAmb IAmb 02 10 26.5
comp=Z,102nm,1.2s
LOGN Logan Glacier 71.61 332 IAMs_20 IAMs_20 02 44 14.3
comp=Z,5µm,21.0s
INK Inuvik 71.66 341 LR LR 02 43 15.7
comp=Z,4µm,21.7s,baz=114,slow=38
INK Inuvik 71.66 341 IAmb IAmb 02 10 03.3
comp=Z,107nm,1.4s
INK Inuvik 71.66 341 P **P** **02 09 49.7 -0.7**
INK Inuvik 71.66 341 P **P** **02 09 49.5 -0.9**
baz=118,SNR=14
INK S **S** **02 19 06.7 -2.6**
baz=118
YUK3 Moose Creek 71.68 333 P **P** **02 09 50.9 0.0**
baz=110,SNR=11
YUK3 S **S** **02 19 08.7 -1.6**
baz=110
J29M Klondike Camp 71.70 336 IAMs_20 IAMs_20 02 43 10.5
comp=Z,7µm,22.0s
J29M Klondike Camp 71.70 336 P **P** **02 09 51.3 +0.4**
baz=112
J29M S **S** **02 19 09.7 -0.5**
baz=112
ESDC Sonseca Array 71.77 51 P **P** **02 09 52.7 +0.9**
comp=Z,28nm,0.9s,baz=269,slow=5.9,SNR=76
ESDC S **S** **02 19 10.1 -1.7**
comp=Z,1.2nm,1.1s,baz=241,slow=5.3,SNR=1.5
comp=Z,28nm,0.9s
ESDC Sonseca Array 71.77 51 IAmb IAmb 02 09 56.5
comp=Z,74nm,1.2s
ESBB Sonseca Array 71.77 51 P **P** **02 09 52.4 +0.7**
ESBB IAmb IAmb 02 09 56.4
comp=Z,74nm,1.1s
CTGM Chitina Glacie 71.81 332 IAMs_20 IAMs_20 02 44 08.6
comp=Z,5µm,22.0s
CTG Chitina Glacier 71.81 332 P **P** **02 09 50.8 -0.9**
baz=108
YAH Yahtse 71.81 332 IAmb IAmb 02 10 21.9
comp=Z,96nm,1.1s
YAH IAMs_20 IAMs_20 02 43 36.0
comp=Z,7µm,21.0s
MESA MESA 71.85 331 IAMs_20 IAMs_20 02 45 29.0
comp=Z,5µm,20.0s
MESA MESA 71.85 331 P **P** **02 09 51.5 -0.5**
baz=108
EPYK Eagle Plains 71.90 338 IAMs_20 IAMs_20 02 46 49.5
comp=Z,3µm,18.0s
EPYK Eagle Plains 71.90 338 P **P** **02 09 51.7 -0.3**
baz=115,SNR=7.9
EPYK S **S** **02 19 11.8 -0.6**
baz=115
DAWY Dawson 72.03 336 P **P** **02 09 52.3 -0.5**
baz=111,SNR=9.1
DAWY S **S** **02 19 13.8 -0.2**
baz=111
BVCY Beaver Creek 72.07 334 P **P** **02 09 53.3 +0.2**
baz=109
BVCY S **S** **02 19 14.9 +0.5**
baz=109
I29M Ogilvie Camp, 72.09 337 IAmb IAmb 02 10 26.3
comp=Z,78nm,1.6s
I29M IAMs_20 IAMs_20 02 47 40.7
comp=Z,6µm,22.0s
I29M Ogilvie Camp, 72.09 337 P **P** **02 09 52.8 -0.3**
baz=113,SNR=8.0
I29M S **S** **02 19 14.1 -0.4**
baz=113
ISLE Juniper Island 72.17 332 P **P** **02 09 54.5 +0.7**
ISLE IAMs_20 IAMs_20 02 43 47.3
comp=Z,6µm,21.0s
WMELI Melilla 72.21 55 P **P** **02 09 52.4 -2.0**
WMELI S **S** **02 19 17.3 +0.4**
PMSA Palmer Station 72.35 175 *e*P **P** **02 09 55.0 +0.5**
WAX Waxell Ridge 72.36 331 IAmb IAmb 02 10 05.8
comp=Z,186nm,1.6s
WAX IAMs_20 IAMs_20 02 45 44.5
comp=Z,5µm,20.0s
UCM Universidad Co 72.39 50 P **P** **02 09 54.7 -0.7**
UCM S **S** **02 19 18.7 -0.1**
JBK JBK 72.47 56 P **P** **02 09 58.0 +1.8**
M27K Edge Creek, AK 72.50 334 P **P** **02 09 56.3 +0.5**
baz=108,SNR=17
M27K S **S** **02 19 18.4 -1.2**
baz=108
CHAS Isla Isabel II 72.63 55 P **P** **02 09 54.1 -2.7**
CHAS S **SKiKP** **02 19 27.5 -3.9**
L27K Beaver Creek, 72.71 334 IAmb IAmb 02 10 08.3
comp=Z,63nm,0.9s
L27K IAMs_20 IAMs_20 02 46 56.3
comp=Z,6µm,20.0s
L27K Beaver Creek, 72.71 334 P **P** **02 09 57.1 +0.2**
baz=109,SNR=43
L27K S **S** **02 19 19.6 -2.1**
baz=109
MCARA McCarthy VSAT 72.72 332 P **P** **02 09 57.2 +0.3**
MCARA IAmb IAmb 02 10 13.2
comp=Z,101nm,1.1s
MCARA IAMs_20 IAMs_20 02 43 46.8
comp=Z,6µm,22.0s
MCARA McCarthy VSAT 72.72 332 P **P** **02 09 57.9 +1.0**
baz=107,SNR=8.2
MCARA S **S** **02 19 20.6 -1.2**
baz=107
BERG Berg Lake 72.75 331 IAmb IAmb 02 10 25.1
comp=Z,105nm,1.1s
KAIM Kayak Island 72.97 331 IAMs_20 IAMs_20 02 46 41.5
comp=Z,6µm,20.0s
KAIM Kayak Island 72.97 331 P **P** **02 09 57.8 -0.6**
baz=105
EGAK Eagle 73.00 336 IAmb IAmb 02 10 11.5
comp=Z,126nm,1.5s
EGAK IAMs_20 IAMs_20 02 45 13.8
comp=Z,4µm,19.0s
EGAK Eagle 73.00 336 P **P** **02 09 58.3 -0.2**
baz=110,SNR=14
EGAK S **S** **02 19 24.0 -0.8**
baz=110
HMT Hamilton 73.00 331 IAmb IAmb 02 10 20.3
comp=Z,80nm,1.0s
EUNU Eureka 73.00 358 IAmb IAmb 02 10 09.7
comp=Z,84nm,1.4s
M26K Nabesna, AK 73.01 333 IAmb IAmb 02 10 12.0
comp=Z,95nm,1.6s
M26K Nabesna, AK 73.01 333 P **P** **02 09 58.5 -0.2**
baz=107,SNR=8.7
M26K S **S** **02 19 24.4 -0.8**
baz=107
LEWI Lewis, Hebride 73.07 31 *e*P **P** **02 09 58.1 -0.9**
LEWI IAmb IAmb 02 10 01.4
comp=Z,101nm,1.5s
GLB Gilahina Butte 73.10 332 IAmb IAmb 02 10 10.7
comp=Z,109nm,1.3s
K27K Chicken 73.12 335 IAMs_20 IAMs_20 02 44 39.1
comp=Z,5µm,22.0s
K27K Chicken 73.12 335 P **P** **02 09 59.6 +0.4**
baz=109
K27K S **S** **02 19 23.9 -2.5**
baz=109
RAGM Ragged Mountai 73.21 331 P **P** **02 10 01.0 +1.1**
RAGM IAmb IAmb 02 10 23.2
comp=Z,68nm,1.0s
ROSF Rostrenen 73.32 42 *e*P **P** **02 10 01.5 +0.8**
ROSF pmax pmax
comp=Z,191nm,2.0s
BMRM Bremner River 73.34 332 P **P** **02 10 00.2 -0.4**
baz=106,SNR=9.6
BMRM S **S** **02 19 27.5 -1.4**
baz=106
L26K Log Cabin Wild 73.35 334 IAmb IAmb 02 10 20.7
comp=Z,79nm,1.1s
L26K IAMs_20 IAMs_20 02 47 34.4
comp=Z,6µm,20.0s
L26K Log Cabin Wild 73.35 334 P **P** **02 10 00.8 +0.1**
baz=107,SNR=19
L26K S **S** **02 19 28.2 -0.8**
baz=107
WIM Isle of Man 73.41 36 *e*P **P** **02 10 01.9 +0.7**
FIGM Figuig 73.46 59 P **P** **02 10 05.0 +2.9**
I27K Kandik River 73.46 337 P **P** **02 10 00.8 -0.5**
baz=110,SNR=20
I27K S **S** **02 19 28.2 -2.0**
baz=110
N25K Chitina, Valde 73.51 332 IAmb IAmb 02 10 15.1
comp=Z,171nm,1.8s
N25K IAMs_20 IAMs_20 02 43 45.6
comp=Z,5µm,22.0s
N25K Chitina, Valde 73.51 332 P **P** **02 10 01.7 0.0**
baz=106,SNR=7.8
N25K S **S** **02 19 29.7 -1.2**
baz=106
YLL Llanberis 73.52 37 *e*P **P** **02 10 03.7 +2.0**
KPL Plockton 73.52 32 *e*P **P** **02 09 60.0 -1.7**
H27K Steamboat Moun 73.64 337 P **P** **02 10 01.5 -0.8**
baz=110,SNR=9.3
H27K S **SKiKP** **02 19 29.3 -2.8**
baz=110
KAC Achnashellach 73.74 32 *e*P **P** **02 10 03.2 +0.3**
EYAK Cordova Ski Ar 73.77 331 IAmb IAmb 02 10 26.1
comp=Z,57nm,1.1s
EYAK Cordova Ski Ar 73.77 331 P **P** **02 10 03.1 0.0**
baz=104
EYAK S **SKiKP** **02 19 32.8 +0.5**
baz=104
SGMF Saint Gilles 73.78 42 *e*P **P** **02 10 04.2 +0.8**
SGMF pmax pmax
comp=Z,129nm,1.5s
Q23K Middleton Isla 73.79 330 IAMs_20 IAMs_20 02 46 40.8
comp=Z,4µm,19.0s
PGBU Glenifferbraes 73.83 34 *e*P **P** **02 10 04.1 +0.5**
PGBU IAmb IAmb 02 10 07.3
comp=Z,63nm,0.9s
NEWG New Galloway 73.84 35 *e*P **P** **02 10 04.0 +0.4**
NEWG IAmb IAmb 02 10 05.8
comp=Z,40nm,0.8s
DOT Dot Lake 73.85 335 IAmb IAmb 02 10 18.3
comp=Z,95nm,0.8s
G27K Doyon Strip 73.89 338 P **P** **02 10 03.0 -0.8**
baz=110,SNR=7.4
G27K S **SKiKP** **02 19 31.3 -1.1**
baz=110
J26L Joseph Creek 73.89 335 IAmb IAmb 02 10 17.4
comp=Z,203nm,1.8s
J26L IAMs_20 IAMs_20 02 44 51.5
comp=Z,5µm,22.0s
J26L Joseph Creek 73.89 335 P **P** **02 10 03.5 -0.4**
baz=108,SNR=25
J26L S **SKiKP** **02 19 33.1 +0.6**
baz=108
SCRK Sand Creek 73.91 335 P **P** **02 10 03.9 -0.2**
SCRK IAMs_20 IAMs_20 02 47 48.1
comp=Z,4µm,21.0s
SCRK Sand Creek 73.91 335 P **P** **02 10 04.0 0.0**
baz=107,SNR=18
SCRK S **S** **02 19 34.5 -1.0**
baz=107
CART Cartagena 73.92 53 P **P** **02 10 04.0 -0.4**
CART S **SKiKP** **02 19 33.8 +0.6**
DIV Divide 73.93 332 IAmb IAmb 02 10 33.9
comp=Z,85nm,1.3s
I26K Coal Creek Min 73.97 336 IAMs_20 IAMs_20 02 47 20.4
comp=Z,5µm,20.0s
I26K Coal Creek Min 73.97 336 P **P** **02 10 04.4 +0.2**
baz=108
I26K S **SKiKP** **02 19 32.7 +0.2**
baz=108
HARP HAARP 73.97 333 P **P** **02 10 04.0 -0.4**
baz=105
HARP S **SKiKP** **02 19 34.0 +1.3**
baz=105
MCH1 Michaelchurch 74.03 38 *e*P **P** **02 10 04.9 +0.1**
FOEL Foel Wylfa 74.05 37 *e*P **P** **02 10 04.0 -1.0**
KLU Klutina 74.09 332 IAMs_20 IAMs_20 02 46 26.0
comp=Z,5µm,20.0s
KLU Klutina 74.09 332 P **P** **02 10 05.0 -0.1**
baz=104,SNR=5.5
KLU S **S** **02 19 36.7 -0.7**
baz=104
MONM Monmouth 74.12 38 *e*P **P** **02 10 06.6 +1.3**
MONM IAmb IAmb 02 10 08.8
comp=Z,52nm,0.9s
HLM1 Long Mynd 74.18 37 *e*P **P** **02 10 06.0 +0.3**
INVG Invergeldie, C 74.19 33 *e*P **P** **02 10 05.1 -0.5**
RIDG Independent Ri 74.21 334 IAmb IAmb 02 10 18.2
comp=Z,86nm,0.9s
RIDG Independent Ri 74.21 334 P **P** **02 10 05.8 0.0**
baz=106,SNR=39
RIDG S **S** **02 19 37.1 -1.6**
baz=106
PAX Paxson 74.27 334 IAmb IAmb 02 10 19.0
comp=Z,133nm,1.6s
PAX Paxson 74.27 334 P **P** **02 10 05.4 -0.7**
baz=105,SNR=15
PAX S **S** **02 19 37.5 -2.0**
baz=105
E27K Coleen River 74.35 339 P **P** **02 10 05.3 -1.1**
baz=110,SNR=11
E27K S **SKiKP** **02 19 36.1 +3.0**
baz=110
M24K Tolsona, Glenn 74.36 333 IAmb IAmb 02 10 27.1
comp=Z,164nm,1.3s
M24K IAMs_20 IAMs_20 02 47 41.1
comp=Z,5µm,18.0s
M24K Tolsona, Glenn 74.36 333 P **P** **02 10 06.1 -0.5**
baz=104,SNR=6.7
M24K S **S** **02 19 39.2 -1.3**
baz=104
P23K Montague Islan 74.44 330 P **P** **02 10 06.6 -0.5**
baz=103
ESK Eskdalemuir 74.45 35 *e*P **P** **02 10 07.3 +0.1**
ESK Eskdalemuir 74.45 35 P **P** **02 10 07.0 -0.2**
ESK IAmb IAmb 02 10 25.0
comp=Z,94nm,1.4s
ESK Eskdalemuir 74.45 35 P **P** **02 10 07.0 -0.2**
ESK pmax pmax
comp=Z,94nm,1.4s
EKA Eskdalemuir Ar 74.48 35 LR LR 02 39 20.4
comp=Z,3µm,21.4s,baz=264,slow=33
GLI Glacier Island 74.49 331 IAMs_20 IAMs_20 02 44 38.8
comp=Z,5µm,21.0s
GLI Glacier Island 74.49 331 P **P** **02 10 05.6 -1.7**
baz=103
GLI S **S** **02 19 39.7 -2.2**
baz=103
ETSF Etsaut 74.62 48 *e*P **P** **02 10 09.8 +1.2**
ETSF pmax pmax
comp=Z,99nm,2.0s
K24K Donnelly Dome 74.62 334 P **P** **02 10 07.9 -0.2**
baz=105,SNR=19
K24K S **S** **02 19 41.9 -1.4**
baz=105
J25K Salcha River, 74.67 335 IAmb IAmb 02 10 22.3
comp=Z,51nm,0.8s
J25K IAMs_20 IAMs_20 02 48 36.1
comp=Z,6µm,20.0s
J25K Salcha River, 74.67 335 P **P** **02 10 08.2 -0.2**
baz=106,SNR=34
J25K S **S** **02 19 40.7 -3.2**
baz=106
STNC Stoke 74.67 37 *e*P **P** **02 10 09.0 +0.4**
G26K Porcupine Rive 74.73 338 P **P** **02 10 07.3 -1.3**
baz=108,SNR=7.6
G26K S **S** **02 19 41.9 -2.3**
baz=108
SCM Sheep Creek Mo 74.82 332 P **P** **02 10 09.3 0.0**
SCM IAmb IAmb 02 10 29.4
comp=Z,118nm,1.1s
SCM IAMs_20 IAMs_20 02 45 14.4
comp=Z,6µm,22.0s
SCM Sheep Creek Mo 74.82 332 P **P** **02 10 09.3 0.0**
SCM pmax pmax
comp=Z,118nm,1.1s
SCM MLR MLR
comp=Z,6µm,22.0s
SCM Sheep Creek Mo 74.82 332 P **P** **02 10 09.2 -0.1**
baz=103,SNR=14
SCM S **S** **02 19 43.4 -2.3**
baz=103
MCD Coleburn Disti 74.83 32 *e*P **P** **02 10 09.9 +0.5**
ESY Stoneypath 74.89 34 *e*P **P** **02 10 10.5 +0.8**
GRR Gorron 74.92 42 *e*P **P** **02 10 10.8 +0.7**
GRR pmax pmax
comp=Z,115nm,1.3s
PRP Porcupine Dome 74.98 336 IAMs_20 IAMs_20 02 48 02.3

comp=Z,5µm,20.0s
PRP Porcupine Dome 74.98 336 P **P** 02 10 09.6 -0.7
baz=106,SNR=8.5
PRP S **S** 02 19 44.3 -3.2
baz=106
M23K Glacier View 75.00 332 P **P** 02 10 09.8 -0.5
baz=103,SNR=14
M23K S **S** 02 19 46.8 -0.7
baz=103
PWL Port Wells 75.08 331 IAmb IAmb 02 10 33.4
comp=Z,104nm,1.2s
PWL IAMs_20 IAMs_20 02 44 56.3
comp=Z,4µm,21.0s
PWL Port Wells 75.08 331 P **P** 02 10 10.3 -0.5
baz=102,SNR=6.1
PWL S **S** 02 19 46.7 -1.8
baz=102
F26K Sheenjek River 75.09 339 P **P** 02 10 10.2 -0.6
baz=108,SNR=6.6
F26K S **S** 02 19 47.0 -1.4
baz=108
DHY Denali Highway 75.14 334 IAMs_20 IAMs_20 02 46 44.6
comp=Z,5µm,19.0s
DHY Denali Highway 75.14 334 P **P** 02 10 10.6 -0.7
baz=104,SNR=7.5
DHY S **S** 02 19 47.9 -1.4
baz=104
HPK Haverah Park 75.15 36 *e*P **P** 02 10 12.5 +1.2
CWF Charnwood Fore 75.16 37 *e*P **P** 02 10 10.4 -0.9
FYU Fort Yukon 75.16 337 IAmb IAmb 02 10 25.0
comp=Z,93nm,1.2s
FYU IAMs_20 IAMs_20 02 49 13.0
comp=Z,4µm,20.0s
WAT6 Susitna Watana 75.18 333 P **P** 02 10 11.0 -0.6
baz=103,SNR=15
WAT6 S **S** 02 19 49.0 -0.8
baz=103
FLN La Foliniere 75.21 42 *e*P **P** 02 10 12.7 +1.0
FLN pmax pmax
comp=Z,87nm,1.3s
MFF Saint Martin d 75.22 44 *e*P **P** 02 10 12.8 +0.9
MFF pmax pmax
comp=Z,124nm,1.4s
KNK Knik Glacier 75.25 332 IAmb IAmb 02 10 34.8
comp=Z,135nm,1.2s
KNK IAMs_20 IAMs_20 02 49 28.7
comp=Z,5µm,20.0s
KNK Knik Glacier 75.25 332 P **P** 02 10 11.4 -0.4
baz=102
KNK S **S** 02 19 48.6 -1.8
baz=102
HDA Harding Lake 75.28 335 IAmb IAmb 02 10 25.3
comp=Z,76nm,0.8s
HDA IAMs_20 IAMs_20 02 48 26.1
comp=Z,5µm,20.0s
HDA Harding Lake 75.28 335 P **P** 02 10 11.0 -0.8
baz=104,SNR=39
HDA S **S** 02 19 49.0 -1.5
baz=104
HDA S **S** 02 19 49.0 -1.5
baz=104
SML Sawmill 75.28 332 IAMs_20 IAMs_20 02 47 44.5
comp=Z,5µm,20.0s
SML Sawmill 75.28 332 P **P** 02 10 11.4 -0.5
baz=102,SNR=9.0
SML S **S** 02 19 50.5 -0.2
baz=102
EPF Esparros 75.29 48 *e*P **P** 02 10 13.7 +1.3
EPF pmax pmax
comp=Z,90nm,1.4s
H25K Birch Creek 75.31 337 P **P** 02 10 11.4 -0.5
baz=106,SNR=10
H25K S **S** 02 19 50.3 -0.3
baz=106
ILAR Eielson Array 75.34 335 P **P** 02 10 11.9 -0.3
comp=Z,10nm,0.7s,baz=111,slow=4.3,SNR=81
ILAR PP **PP** 02 12 58.8 -2.0
comp=Z,3.1nm,0.9s,baz=115,slow=8.7,SNR=2.3
ILAR S **S** 02 19 45.1 -6.1
comp=Z,0.3nm,0.7s,baz=157,slow=9.8,SNR=1.6
ILAR LR LR 02 46 52.9
comp=Z,4µm,20.4s,baz=97,slow=39
comp=Z,10nm,0.7s
SMAI San Martin Ant 75.42 176 P **P** 02 10 13.9 +1.5
SMAI IAmb IAmb 02 10 24.3
comp=Z,82nm,1.0s
LDF La Druitiere 75.43 42 *e*P **P** 02 10 13.9 +0.9
LDF pmax pmax
comp=Z,152nm,1.7s
SEW Seward 75.47 330 IAmb IAmb 02 10 27.6
comp=Z,61nm,1.0s
SEW Seward 75.47 330 P **P** 02 10 12.3 -0.7
baz=101
SEW S **S** 02 19 50.7 -1.9
baz=101
GHO Glory Hole Cre 75.55 332 IAMs_20 IAMs_20 02 47 52.4
comp=Z,5µm,19.0s
C27K Jago River 75.55 340 P **P** 02 10 13.6 +0.3
baz=109
C27K S **S** 02 19 50.8 -2.6
baz=109
WAT1 Susitna Watana 75.60 333 P **P** 02 10 12.1 -1.6
baz=102
WAT1 S **S** 02 19 54.5 +0.2
baz=102
PMR Palmer 75.61 332 P **P** 02 10 13.2 -0.5
PMR Palmer 75.61 332 P **P** 02 10 13.2 -0.5
PMR pmax pmax
comp=Z,36nm,1.0s
PMR Palmer 75.61 332 P **P** 02 10 13.0 -0.8
baz=102
PMR S **S** 02 19 53.3 -0.9
baz=102
F25K Christian Rive 75.61 338 P **P** 02 10 13.5 -0.3
baz=106,SNR=13
F25K S **S** 02 19 53.3 -0.9
baz=106
POKR Poker Plat Res 75.65 336 P **P** 02 10 13.3 -0.7
baz=104
POKR S **S** 02 19 52.3 -2.3
baz=104
O22K Cooper Landing 75.67 331 P **P** 02 10 14.0 -0.1
baz=101
O22K S **S** 02 19 52.5 -2.5
baz=101
CCB Clear Creek Bu 75.69 335 IAMs_20 IAMs_20 02 47 01.1
comp=Z,6µm,20.0s
LFF La Frestale 75.71 46 *e*P **P** 02 10 15.4 +0.7
LFF pmax pmax
comp=Z,175nm,2.0s
E25K Arctic Village 75.73 339 P **P** 02 10 14.1 -0.4
baz=106,SNR=9.1
E25K S **S** 02 19 54.0 -1.5
baz=106
COLA College 75.77 335 P **P** 02 10 14.1 -0.5
COLA IAmb IAmb 02 10 44.0
comp=Z,60nm,1.2s
COLA College 75.77 335 IAMs_20 IAMs_20 02 46 54.2
comp=Z,6µm,21.0s
COLA College 75.77 335 *i*P **P** 02 10 14.1 -0.5
COLA pmax pmax
comp=Z,39nm,1.6s
COLA MLR MLR
comp=Z,5µm,19.0s
COLA College 75.77 335 P **P** 02 10 13.7 -0.8
baz=104
COLA S **S** 02 19 53.0 -2.8
baz=104
TCOL CIGO, UAF Yank 75.77 335 P **P** 02 10 13.7 -0.9
baz=104
TCOL S **S** 02 19 52.7 -3.2
baz=104
WRH Wood River Hil 75.77 335 IAMs_20 IAMs_20 02 48 49.3
comp=Z,5µm,20.0s
RC01 Rabbit Creek A 75.80 331 IAmb IAmb 02 10 41.4
comp=Z,115nm,1.4s
RC01 IAMs_20 IAMs_20 02 47 54.3
comp=Z,4µm,20.0s
RC01 Rabbit Creek A 75.80 331 P **P** 02 10 14.3 -0.6
baz=101
RC01 S **S** 02 19 53.5 -2.8
baz=101
RND Reindeer 75.86 334 IAMs_20 IAMs_20 02 47 14.8
comp=Z,6µm,19.0s
MDM Murphy Dome 75.94 335 IAmb IAmb 02 10 35.5
comp=Z,58nm,1.1s
MCK McKinley 75.97 334 IAmb IAmb 02 10 29.6
comp=Z,61nm,0.9s
MCK IAMs_20 IAMs_20 02 47 20.5
comp=Z,4µm,20.0s
MCK McKinley 75.97 334 P **P** 02 10 15.2 -0.6
baz=102,SNR=7.1
MCK S **S** 02 19 55.9 -2.3
baz=102
H24K Noodor Dome 76.01 336 IAmb IAmb 02 10 29.3
comp=Z,223nm,2.0s
H24K IAMs_20 IAMs_20 02 48 34.4
comp=Z,5µm,20.0s
H24K Noodor Dome 76.01 336 P **P** 02 10 15.9 -0.2
baz=104,SNR=16
H24K S **S** 02 19 56.1 -2.5
baz=104
FIS Fire Island 76.03 331 IAMs_20 IAMs_20 02 48 01.5
comp=Z,4µm,19.0s
BRSE Bradley Lake S 76.04 330 P **P** 02 10 15.1 -1.2
baz=100
BRSE S **S** 02 19 57.3 -1.8
baz=100
C26K Camden Bay 76.04 341 P **P** 02 10 16.4 +0.3
baz=108
C26K S **S** 02 19 57.8 -0.9
baz=108
JMIC Jan Mayen 76.05 18 LR LR 02 42 37.5
comp=Z,895nm,20.0s,baz=250,slow=35
G24K Hadweenzic Riv 76.06 337 P **P** 02 10 16.2 -0.1
baz=104,SNR=15
G24K S **S** 02 19 59.4 +0.3
baz=104
M22K Willow 76.10 332 P **P** 02 10 15.9 -0.7
baz=101
M22K S **S** 02 19 58.2 -1.4
baz=101
BRLK Bradley Lake 76.12 330 IAmb IAmb 02 10 39.6
comp=Z,148nm,1.4s
BRLK IAMs_20 IAMs_20 02 45 32.7
comp=Z,4µm,21.0s
NEA2 Nenana 76.21 335 P **P** 02 10 16.7 -0.4
NEA2 IAmb IAmb 02 10 40.0
comp=Z,153nm,1.6s
NEA2 IAMs_20 IAMs_20 02 49 10.9
comp=Z,3µm,18.0s
NEA2 Nenana 76.21 335 P **P** 02 10 16.7 -0.4
baz=102,SNR=11
NEA2 S **S** 02 19 59.1 -1.7
baz=102
CNPM China Poot 76.25 330 IAmb IAmb 02 10 27.3
comp=Z,164nm,1.6s
CNPM IAMs_20 IAMs_20 02 49 15.1
comp=Z,4µm,19.0s
RJF Les Rejaudoux 76.28 45 *e*P **P** 02 10 18.6 +0.6
RJF pmax pmax
comp=Z,61nm,1.3s
BWN Browne 76.29 334 IAMs_20 IAMs_20 02 46 16.1
comp=Z,5µm,21.0s
CUT Chulitna 76.29 333 IAMs_20 IAMs_20 02 48 50.2
comp=Z,5µm,20.0s
CUT Chulitna 76.29 333 P **P** 02 10 16.9 -0.7
baz=101
CUT S **S** 02 19 59.6 -2.1
baz=101
WACR West Acre 76.33 38 *e*P **P** 02 10 19.0 +1.0
WACR IAmb IAmb 02 10 21.8
comp=Z,112nm,0.9s
SUA Susitna One 76.34 332 IAmb IAmb 02 10 40.7
comp=Z,58nm,0.9s
SUA IAMs_20 IAMs_20 02 49 02.7
comp=Z,5µm,19.0s
SUA Susitna One 76.34 332 P **P** 02 10 17.7 -0.4
baz=100,SNR=13
SUA S **S** 02 19 59.6 -3.0
baz=100
D25K Kavik River 76.36 340 P **P** 02 10 17.4 -0.6
baz=106
D25K S **S** 02 19 57.2 -5.2
baz=106
CAPN Captain Cook N 76.42 331 P **P** 02 10 16.7 -1.7
baz=100
CAPN S **S** 02 20 04.8 +1.7
baz=100
F24K Squaw Lake 76.42 338 P **P** 02 10 18.2 -0.2
baz=104,SNR=13
F24K S **S** 02 20 01.8 -1.3
baz=104
HOM Homer 76.48 330 IAMs_20 IAMs_20 02 45 43.2
comp=Z,3µm,20.0s
HOM Homer 76.48 330 P **P** 02 10 18.2 -0.6
baz=99
ELMS Elmsett, Ipswi 76.49 38 *e*P **P** 02 10 19.4 +0.5
PPTF Pamatai, Papee 76.50 250 IAMs_20 IAMs_20 02 36 19.5
comp=Z,5µm,19.0s
PPT Papeete 76.50 250 LR LR 02 36 39.5
comp=Z,4µm,19.2s,baz=78,slow=30
TRF Thorofare Moun 76.50 334 IAMs_20 IAMs_20 02 48 16.5
comp=Z,4µm,21.0s
TRF Thorofare Moun 76.50 334 P **P** 02 10 18.0 -1.1
baz=101
PPT2 Papeete2 76.51 250 *e*S **S** 02 20 06.9 +1.2
comp=Z,1µm,29.2s
PPT2 *e*SS **SS** 02 25 03.3 +2.3
comp=Z,2µm,25.0s
PPT2 *e*LQ LQ 02 30 46.8
comp=Z,10µm,33.2s
PPT2 *e*LR LR 02 34 00.4
comp=Z,14µm,25.8s
CAF Calviac 76.65 46 *e*P **P** 02 10 20.9 +0.8
CAF pmax pmax
comp=Z,76nm,1.4s
TOA0 Torodi Ar. Sit 76.65 78 P **P** 02 10 20.0 -0.6
TOA0 IAmb IAmb 02 10 29.7
comp=Z,191nm,1.8s
TORD Torodi Ar. Bea 76.65 78 P **P** 02 10 20.6 0.0
comp=Z,15nm,0.9s,baz=282,slow=6.2,SNR=68
TORD S **S** 02 20 06.1 -1.3
comp=Z,3.4nm,1.3s,baz=292,slow=7.8,SNR=4.1
TORD LR LR 02 42 46.7
comp=Z,4µm,21.8s,baz=256,slow=35
comp=Z,15nm,0.9s
H23K Yukon River 76.67 336 P **P** 02 10 19.2 -0.6
H23K Yukon River 76.67 336 P **P** 02 10 19.5 -0.3
baz=102,SNR=15
H23K S **S** 02 20 04.7 -1.2
baz=102
MTLF Montolieu 76.67 47 *e*P **P** 02 10 21.0 +0.8
MTLF pmax pmax
comp=Z,171nm,1.6s
KDAK Kodiak Island 76.69 328 LR LR 02 47 25.2
comp=Z,6µm,19.9s,baz=100,slow=38
KDAK Kodiak Island 76.69 328 P **P** 02 10 19.8 -0.2
KDAK Kodiak Island 76.69 328 *e*P **P** 02 10 20.5 +0.5
KDAK Kodiak Island 76.69 328 P **P** 02 10 19.6 -0.4
baz=98
Q20K Shuyak Island 76.71 329 P **P** 02 10 19.0 -1.1
baz=98
Q20K S **S** 02 20 04.0 -2.3
baz=98
E24K Your Creek 76.78 338 P **P** 02 10 19.3 -1.1
baz=104
E24K S **S** 02 20 05.3 -1.8
baz=104
SKT Skwentna 76.80 332 IAmb IAmb 02 10 42.9
comp=Z,92nm,1.2s
SKT IAMs_20 IAMs_20 02 48 48.8
comp=Z,3µm,21.0s
SKT Skwentna 76.80 332 P **P** 02 10 19.7 -0.9
baz=100,SNR=11
SKT S **S** 02 20 04.6 -2.8
baz=100
TCF Toulx Ste Croi 76.83 44 *e*P **P** 02 10 21.5 +0.4
TCF pmax pmax
comp=Z,53nm,1.4s
BPAW Bear Paw Mtn. 76.93 334 IAmb IAmb 02 10 43.6
comp=Z,91nm,1.0s
BPAW IAMs_20 IAMs_20 02 47 47.9
comp=Z,5µm,19.0s
BPAW Bear Paw Mtn. 76.93 334 P **P** 02 10 20.8 -0.5
baz=100,SNR=33
BPAW S **S** 02 20 06.8 -2.0
baz=100
N20K Mount Spurr 77.00 331 P **P** 02 10 21.1 -0.6
baz=99
N20K S **S** 02 20 06.6 -3.1
baz=99
SPCR Spurr Chakacha 77.00 331 P **P** 02 10 21.5 -0.3
baz=99
SPCR S **S** 02 20 07.8 -1.9
baz=99
OHAK Old Harbor 77.00 327 P **P** 02 10 21.5 -0.2
baz=97
MLY Manley 77.00 335 IAMs_20 IAMs_20 02 45 51.8
comp=Z,4µm,22.0s
MLY Manley 77.00 335 P **P** 02 10 21.0 -0.6
baz=101,SNR=23
MLY S **S** 02 20 07.2 -2.4
baz=101
O20K Slope Mountain 77.03 330 P **P** 02 10 21.6 -0.4
baz=98
O20K S **S** 02 20 08.3 -1.8
baz=98
G23K Bananza Creek 77.05 337 P **P** 02 10 22.0 0.0
baz=102,SNR=29
G23K S **S** 02 20 09.2 -0.8
baz=102
D24K Happy Valley 77.16 339 P **P** 02 10 21.8 -0.7
baz=104
D24K S **S** 02 20 07.4 -3.6
baz=104
E23K Chandalar 77.19 338 P **P** 02 10 22.4 -0.4
baz=103
COLD Coldfoot 77.23 337 IAmb IAmb 02 10 38.7
comp=Z,64nm,1.1s
COLD Coldfoot 77.23 337 P **P** 02 10 23.1 +0.2
baz=102,SNR=18
COLD S **S** 02 20 11.1 -0.7
baz=102
C24K Franklin Bluff 77.25 340 P **P** 02 10 23.0 +0.1
baz=104
C24K S **S** 02 20 10.9 -1.0
baz=104
ILSW Iliamna Southw 77.28 330 P **P** 02 10 22.7 -0.7
ILSW IAmb IAmb 02 10 45.1
comp=Z,77nm,1.2s
P19K Oil Pt 77.28 330 IAMs_20 IAMs_20 02 48 42.2
comp=Z,3µm,19.0s
P19K Oil Pt 77.28 330 P **P** 02 10 22.3 -1.0
baz=98
P19K S **S** 02 20 10.5 -2.1
baz=98
BGF Bois d'Agland 77.28 44 *e*P **P** 02 10 24.1 +0.5
BGF pmax pmax
comp=Z,123nm,1.8s
TOLK Toolik Lake Re 77.30 339 IAMs_20 IAMs_20 02 48 38.3
comp=Z,5µm,19.0s
TOLK Toolik Lake Re 77.30 339 P **P** 02 10 22.5 -0.8
baz=103
TOLK S **S** 02 20 11.5 -1.2
baz=103
Q19K Cape Douglas, 77.39 329 IAmb IAmb 02 10 41.7
comp=Z,114nm,1.2s
Q19K IAMs_20 IAMs_20 02 45 40.4
comp=Z,4µm,22.0s
Q19K Cape Douglas, 77.39 329 P **P** 02 10 22.6 -1.4
baz=97
SII Sitkinak Islan 77.41 326 IAMs_20 IAMs_20 02 46 55.0
comp=Z,4µm,20.0s
SII Sitkinak Islan 77.41 326 P **P** 02 10 23.5 -0.6
baz=96
H22K Ishtalitna Cre 77.43 336 P **P** 02 10 23.6 -0.4
baz=100,SNR=6.8
H22K S **S** 02 20 12.2 -1.8
baz=100
M20K Styx River 77.53 332 IAMs_20 IAMs_20 02 44 41.9
comp=Z,5µm,22.0s
M20K Styx River 77.53 332 P **P** 02 10 24.3 -0.5
baz=98
M20K S **S** 02 20 12.0 -3.6
baz=98
I21K Tanana 77.55 335 IAmb IAmb 02 10 38.0
comp=Z,168nm,1.8s
I21K IAMs_20 IAMs_20 02 51 11.1
comp=Z,4µm,19.0s
I21K Tanana 77.55 335 P **P** 02 10 24.0 -0.7
baz=100
I21K S **S** 02 20 14.1 -1.2
baz=100
AVF Avril sur Loir 77.64 44 *e*P **P** 02 10 25.9 +0.3
AVF pmax pmax
comp=Z,59nm,1.5s
TBI Tubuai 77.67 244 *e*S **S** 02 20 19.4 +1.3
comp=Z,686nm,32.2s
TBI *e*SS **SS** 02 25 20.8 +2.6
comp=Z,1µm,26.8s
TBI *e*LQ LQ 02 31 16.5
comp=Z,6µm,35.8s
TBI *e*LR LR 02 34 33.0
comp=Z,6µm,27.5s
G22K Bettles 77.67 337 P **P** 02 10 25.4 +0.1
baz=101,SNR=9.2
G22K S **S** 02 20 17.2 +0.6
baz=101
SSF Saint Saulge 77.76 43 *e*P **P** 02 10 26.5 +0.3
SSF pmax pmax
comp=Z,72nm,1.5s
D23K Nanushuk River 77.77 339 P **P** 02 10 25.3 -0.6
baz=102,SNR=9.5
D23K S **S** 02 20 15.6 -2.0
baz=102
C23K Itkillik River 77.93 340 P **P** 02 10 25.7 -1.0
baz=102
C23K S **S** 02 20 16.8 -2.5
baz=102
L20K Farewell, AK 77.96 332 P **P** 02 10 26.1 -1.0
baz=98,SNR=9.1
L20K S **S** 02 20 17.3 -2.7
baz=98
H21K Melozitna Rive 77.97 336 IAMs_20 IAMs_20 02 50 04.1
comp=Z,5µm,19.0s
H21K Melozitna Rive 77.97 336 P **P** 02 10 26.0 -1.1
baz=99
H21K S **S** 02 20 17.3 -2.6
baz=99
SMF Signal de Mont 77.97 44 *e*P **P** 02 10 27.9 +0.5
SMF pmax pmax
comp=Z,67nm,1.2s
LOR Lormes 78.01 43 *e*P **P** 02 10 28.0 +0.4
LOR pmax pmax
comp=Z,62nm,1.4s
E22K Anaktuvuk Pass 78.01 338 P **P** 02 10 26.6 -0.6
baz=101
E22K S **S** 02 20 16.4 -4.0
baz=101
F22K John River 78.03 338 P **P** 02 10 27.1 -0.3
baz=100
F22K S **S** 02 20 19.2 -1.4
baz=100
N19K Bonanza Creek 78.04 331 IAmb IAmb 02 10 45.9
comp=Z,66nm,1.4s
N19K Bonanza Creek 78.04 331 P **P** 02 10 26.8 -0.9
baz=97
N19K S **S** 02 20 16.3 -4.8
baz=97
MAHO Mahon 78.11 51 P **P** 02 10 26.7 -1.6
MAHO S **S** 02 20 22.4 +0.1
M19K Big River Lodg 78.13 332 IAmb IAmb 02 10 49.5
comp=Z,65nm,1.3s
M19K IAMs_20 IAMs_20 02 44 58.9
comp=Z,5µm,22.0s
M19K Big River Lodg 78.13 332 P **P** 02 10 27.7 -0.3
baz=97
M19K S **S** 02 20 18.0 -3.8
baz=97
CHIR Chirikof Islan 78.14 325 IAMs_20 IAMs_20 02 43 45.4
comp=Z,5µm,22.0s
K20K Telida 78.17 333 IAmb IAmb 02 10 40.4
comp=Z,188nm,1.8s
K20K IAMs_20 IAMs_20 02 50 57.7
comp=Z,5µm,19.0s
K20K Telida 78.17 333 P **P** 02 10 27.4 -0.8
baz=98,SNR=13
K20K S **S** 02 20 17.6 -4.6
baz=98
P18K Big Mountain, 78.26 329 IAMs_20 IAMs_20 02 46 40.3
comp=Z,5µm,20.0s
P18K Big Mountain, 78.26 329 P **P** 02 10 28.4 -0.4
baz=96
P18K S **S** 02 20 17.8 -5.5
baz=96
O18K Koktuh Hills 78.29 330 IAMs_20 IAMs_20 02 50 29.3
comp=Z,3µm,19.0s
O18K Koktuh Hills 78.29 330 P **P** 02 10 28.0 -0.9
baz=96
O18K S **S** 02 20 20.1 -3.5
baz=96
J20K Nowinta River 78.31 334 IAmb IAmb 02 10 51.0
comp=Z,124nm,1.1s

J20K IAMs_20 IAMs_20 02 51 04.4
comp=Z,4µm,19.0s
J20K Nowinta River 78.31 334 P **P** **02 10 28.1 -0.8**
J20K baz=98,SNR=36 S **S** **02 20 18.0 -5.6**
baz=98
BAIF Baives 78.36 40 *e*P **P** **02 10 30.0 +0.5**
BAIF pmax pmax
comp=Z,42nm,1.4s
L19K White Mountain 78.38 332 IAMs_20 IAMs_20 02 49 47.4
comp=Z,4µm,19.0s
L19K White Mountain 78.38 332 P **P** **02 10 28.2 -1.2**
L19K baz=97 S **S** **02 20 22.6 -1.9**
baz=97
G21K Allakaket 78.38 336 P **P** **02 10 29.3 0.0**
G21K baz=99,SNR=15 S **S** **02 20 20.8 -3.5**
baz=99
IMAR Indian Mountai 78.40 336 P **P** **02 10 28.3 -1.1**
F21K Alatna River 78.48 337 P **P** **02 10 29.5 -0.4**
F21K baz=99,SNR=16 S **S** **02 20 21.7 -3.8**
baz=99
VIVF Saint-Julien-l 78.50 46 *e*P **P** **02 10 31.5 +1.1**
VIVF pmax pmax
comp=Z,142nm,1.7s
DOU Dourbes 78.61 40 *d*P **P** **02 10 31.1 +0.2**
comp=Z,20nm,1.2s
R17K Ugashik Creek 78.71 327 P **P** **02 10 31.0 -0.2**
baz=94,SNR=7.3
N18K Kilae Creek 78.71 330 IAmb IAmb 02 10 44.0
comp=Z,120nm,1.6s
N18K Kilae Creek 78.71 330 P **P** **02 10 31.4 +0.1**
N18K baz=95 S **S** **02 20 23.3 -4.8**
baz=95
BMRD Maredsous 78.73 40 *d*P **P** **02 10 32.4 +0.9**
comp=Z,19nm,1.2s
GIVF Givet 78.76 40 *e*P **P** **02 10 32.4 +0.7**
GIVF pmax pmax
comp=Z,99nm,1.4s
P17K Kvichak River 78.86 329 P **P** **02 10 30.8 -1.2**
P17K baz=95 S **S** **02 20 27.1 -2.5**
baz=95
Q16K King Salmon 78.93 328 P **P** **02 10 31.2 -1.2**
baz=94,SNR=7.0
RCHB Rochefort 79.02 40 *d*P **P** **02 10 33.6 +0.5**
comp=Z,27nm,0.9s
BCLA Clavier 79.08 40 *d*P **P** **02 10 34.1 +0.7**
O17K Koliganek Bris 79.24 329 P **P** **02 10 32.5 -1.5**
baz=94
O17K S **S** **02 20 29.8 -3.8**
baz=94
BSTI Sart Tilman 79.25 40 *d*P **P** **02 10 35.5 +1.2**
comp=Z,7.4nm,1.2s
BEBN Eben Emael 79.33 40 *d*P **P** **02 10 35.6 +0.9**
R16K Pilot Point 79.34 327 P **P** **02 10 34.1 -0.5**
baz=93
ORIF Oris-en-Rattie 79.36 46 *e*P **P** **02 10 36.7 +1.5**
ORIF pmax pmax
comp=Z,49nm,1.0s
SUE Sulen 79.36 29 *e*P **P** **02 10 34.7 0.0**
KMY Karmoy 79.48 31 *e*P **P** **02 10 35.9 +0.5**
KMY IAmb IAmb 02 10 54.6
comp=Z,40nm,1.0s
CABF La Chapelle 79.52 44 *e*P **P** **02 10 36.7 +0.7**
CABF pmax pmax
comp=Z,182nm,2.0s
BHOU Houvegnez 79.53 40 *d*P **P** **02 10 37.4 +1.5**
comp=Z,33nm,1.1s
ASK Askoy 79.53 30 *e*P **P** **02 10 36.3 +0.6**
ASK IAmb IAmb 02 10 38.2
comp=Z,747nm,2.5s
MEM Membach 79.53 40 *d*P **P** **02 10 36.7 +0.7**
comp=Z,22nm,1.0s
GCSA Galena City Sc 79.55 335 P **P** **02 10 35.1 -0.6**
GCSA baz=95 S **S** **02 20 35.0 -1.7**
baz=95
BER Bergen 79.60 30 *e*P **P** **02 10 36.7 +0.7**
WLF Walferdange 79.61 41 IAmb IAmb 02 10 52.2
comp=Z,131nm,1.3s
WLF IAMs_20 IAMs_20 02 50 25.3
comp=Z,4µm,19.0s
WLF Walferdange 79.61 41 *d*P **P** **02 10 37.5 +1.2**
comp=Z,38nm,1.0s
BTNL Ternell 79.61 40 *d*P **P** **02 10 39.0 +2.6**
comp=Z,17nm,1.4s
P16K Nushagak River 79.64 329 P **P** **02 10 35.4 -0.9**
baz=93,SNR=5.2
HAU Haudompre 79.71 43 *e*P **P** **02 10 37.1 +0.1**
HAU pmax pmax
comp=Z,108nm,1.8s
O16K Kokwok River B 79.73 329 P **P** **02 10 35.9 -0.9**
baz=93
O16K S **S** **02 20 34.5 -4.3**
baz=93
CHGN Chignik 79.73 326 P **P** **02 10 35.1 -1.8**
baz=92
BNI Bardonecchia 79.92 46 P **P** **02 10 38.3 0.0**
BNI IAMs_20 IAMs_20 02 46 23.9
comp=Z,3µm,20.0s
BNI Bardonecchia 79.92 46 P **P** **02 10 38.3 0.0**
BNI pmax pmax
comp=Z,46nm,1.1s
BNI MLR MLR
comp=Z,3µm,20.0s
LPL La Plagne 79.96 45 *e*P **P** **02 10 40.0 +1.4**
LPL pmax pmax
comp=Z,30nm,1.2s
LPG La Plagne 79.97 45 *e*P **P** **02 10 40.2 +1.4**
LPG pmax pmax
comp=Z,89nm,1.7s
MBDF Montbardon 79.99 46 *e*P **P** **02 10 39.6 +0.9**
MBDF pmax pmax
comp=Z,119nm,1.9s
HINF Hinteralfeld 80.05 43 *e*P **P** **02 10 39.0 +0.2**
HINF pmax pmax
comp=Z,48nm,1.4s
HYA Hoyanger 80.06 29 *e*P **P** **02 10 39.3 +0.8**
HYA IAmb IAmb 02 11 07.1
comp=Z,79nm,1.4s
BLS5 Blasjo 80.11 31 *e*P **P** **02 10 39.9 +1.0**
BLS5 IAmb IAmb 02 10 48.2
comp=Z,48nm,1.0s
N16K Nishlik Lake 80.12 330 P **P** **02 10 37.0 -2.0**
N16K baz=93 S **S** **02 20 40.8 -2.2**
baz=93
A21K Barrow 80.15 341 IAMs_20 IAMs_20 02 47 36.5
comp=Z,4µm,22.0s
ODD1 Odda 80.22 30 *e*P **P** **02 10 41.0 +1.6**
ECH Echery 80.25 42 P **P** **02 10 40.1 +0.2**
ECH IAmb IAmb 02 11 01.0
comp=Z,57nm,1.0s
ECH Echery 80.25 42 P **P** **02 10 40.1 +0.2**
ECH pmax pmax
comp=Z,57nm,1.0s
CDF Champ du Feu 80.33 42 *e*P **P** **02 10 40.9 +0.5**
CDF pmax pmax
comp=Z,80nm,1.6s
CHNA Chernabura Isl 80.35 324 P **P** **02 10 38.8 -1.4**
baz=91
S14K Fog Glacier 80.37 326 P **P** **02 10 38.7 -1.8**
baz=91
SNART Snartemo 80.46 32 *e*P **P** **02 10 41.0 +0.2**
SBF Sospel 80.47 47 *e*P **P** **02 10 41.8 +0.5**
SBF pmax pmax
comp=Z,22nm,0.9s
AKN Aaknes 80.50 28 *e*P **P** **02 10 41.4 +0.5**
MOL Molde 80.77 28 *e*P **P** **02 10 43.1 +0.7**
SDPT Sand Point 80.87 325 P **P** **02 10 40.6 -2.4**
baz=90
BFO Black Forest 81.03 42 P **P** **02 10 43.5 -0.5**
BFO IAmb IAmb 02 10 57.4
comp=Z,135nm,2.0s
BFO Black Forest 81.03 42 P **P** **02 10 43.6 -0.5**
BFO pmax pmax
comp=Z,135nm,2.0s
SKAR Skarslia 81.08 30 *e*P **P** **02 10 45.1 +1.0**
SKAR IAmb IAmb 02 10 53.4
comp=Z,38nm,1.3s
SLE Schleitheim 81.15 43 P **P** **02 10 45.3 +0.5**
DOMB Dombas 81.47 28 *e*P **P** **02 10 45.6 -0.5**

DOMB IAmb IAmb 02 10 49.5
comp=Z,96nm,1.9s
MUD Monsted U'grnd 81.49 34 P **P** **02 10 47.7 +1.4**
MUD Monsted U'grnd 81.49 34 *i* P **P** **02 10 47.1 +0.8**
MUD IAmb IAmb 02 10 51.5
comp=Z,55nm,1.1s
STU Stuttgart 81.60 42 P **P** **02 10 46.5 -0.6**
STU IAMs_20 IAMs_20 02 47 27.1
comp=Z,3µm,20.0s
STU Stuttgart 81.60 42 P **P** **02 10 46.5 -0.6**
STU pmax pmax
comp=Z,36nm,0.8s
STU MLR MLR
comp=Z,3µm,20.0s
PGF Pioggiola 81.65 48 *e*P **P** **02 10 48.2 +0.6**
PGF pmax pmax
comp=Z,204nm,1.9s
KONO Kongsberg 81.71 31 P **P** **02 10 47.9 +0.5**
KONO IAmb IAmb 02 11 17.2
comp=Z,78nm,1.6s
KONO Kongsberg 81.71 31 IAMs_20 IAMs_20 02 43 28.5
comp=Z,4µm,20.0s
KONO Kongsberg 81.71 31 *i* P **P** **02 10 47.8 +0.4**
KONO pmax pmax
comp=Z,38nm,1.6s
KONO Kongsberg 81.71 31 *e*P **P** **02 10 48.1 +0.7**
TBLU Trondheim 82.03 27 *e*P **P** **02 10 49.7 +0.7**
TBLU IAmb IAmb 02 11 01.0
comp=Z,46nm,1.0s
DAVA Damuels 82.11 43 *e*P **P** **02 10 51.0 +1.0**
comp=Z,51nm,1.2s,SNR=21
DAVOX Davos/Dischmat 82.12 44 S **S** **02 21 01.9 -2.9**
comp=Z,1.5nm,0.6s,baz=258,slow=19,SNR=1.9
DAVOX LR LR 02 48 32.8
comp=Z,1µm,18.0s,baz=276,slow=37
RDOG Red Dog Mine 82.14 338 P **P** **02 10 47.5 -2.1**
baz=90
KEST Kesra 82.24 55 P **P** **02 10 51.3 +0.5**
comp=Z,13nm,0.9s,baz=9.3,slow=1.2,SNR=12
KEST S **S** **02 21 04.4 -1.8**
comp=Z,2.9nm,1.1s,baz=8.6,slow=8.9,SNR=1.8
comp=Z,13nm,0.9s
KEST Kesra 82.24 55 P **P** **02 10 50.5 -0.3**
KEST IAmb IAmb 02 11 07.0
comp=Z,46nm,0.9s
NC204 NORSAR Array S 82.28 29 IAmb IAmb 02 11 11.9
comp=Z,61nm,1.0s
NC204 NORSAR Array S 82.28 29 *e*P **P** **02 10 51.5 +1.0**
NC204 IAmb IAmb 02 10 55.2
comp=Z,29nm,1.1s
OSL Oslo 82.28 30 *e*P **P** **02 10 51.2 +0.8**
OSL IAmb IAmb 02 10 60.0
comp=Z,43nm,1.0s
NB2 NORSAR Subarra 82.50 29 P **P** **02 10 52.5 +0.9**
comp=Z,113nm,1.7s,baz=272,slow=5.1
NB2 NORSAR Subarra 82.50 29 P **P** **02 10 52.6 +0.9**
NB2 pmax pmax
comp=Z,723nm,2.7s
NB2 NORSAR Subarra 82.50 29 P **P** **02 10 52.5 +0.9**
baz=272,slow=5.1
NOA NORSAR Array B 82.50 29 P **P** **02 10 52.1 +0.5**
comp=Z,13nm,0.9s,baz=276,slow=5.1,SNR=40
comp=Z,13nm,0.9s
VLC Villacollemand 82.59 46 IAmb IAmb 02 11 09.4
comp=Z,60nm,1.2s
SALO Salr 82.62 45 IAmb IAmb 02 11 06.0
comp=Z,66nm,0.9s
NC602 NORSAR Array S 82.67 30 IAmb IAmb 02 11 14.0
comp=Z,11nm,1.1s
NORES NORESS Array B 82.67 30 P **P** **02 10 53.3 +0.9**
FETA Feichten 82.69 44 *e*P **P** **02 10 54.1 +1.0**
comp=Z,22nm,1.2s,SNR=20
RETA Reutte 82.70 43 *e*P **P** **02 10 53.7 +0.7**
comp=Z,14nm,1.3s
NSS Namsos 82.77 26 *e*P **P** **02 10 53.4 +0.6**
NSS IAmb IAmb 02 11 14.8
comp=Z,49nm,1.1s
GRFO Grafenberg 82.90 41 P **P** **02 10 53.6 -0.2**
GRFO IAmb IAmb 02 11 10.5
comp=Z,44nm,1.0s
GRFO IAMs_20 IAMs_20 02 48 08.3
comp=Z,3µm,20.0s
GRFO Grafenberg 82.90 41 P **P** **02 10 53.6 -0.2**
GRFO pmax pmax
comp=Z,44nm,1.0s
GRFO MLR MLR
comp=Z,4µm,20.0s
GRA1 Grafenberg Arr 82.90 41 IAmb IAmb 02 11 10.5
comp=Z,43nm,1.0s
GRA1 IAMs_20 IAMs_20 02 48 17.4
comp=Z,3µm,20.0s
MOTA Moosalm 82.94 43 *e*P **P** **02 10 54.6 +0.3**
comp=Z,20nm,1.4s,SNR=9.3
CASP Castiglione de 83.01 48 IAmb IAmb 02 11 12.3
comp=Z,53nm,0.9s
SQTA Sankt Quirin 83.01 43 *i* P **P** **02 10 55.3 +0.6**
comp=Z,26nm,1.1s,SNR=9.3
KONS Konsvik 83.18 24 *e*P **P** **02 10 55.9 +1.0**
ANM Nome 83.20 334 IAMs_20 IAMs_20 02 52 44.6
comp=Z,3µm,20.0s
OSSC Osservatorio P 83.25 47 IAmb IAmb 02 11 15.6
comp=Z,41nm,1.0s
WATA Walderalm 83.26 43 *i* P **P** **02 10 56.4 +0.5**
comp=Z,12nm,1.1s
LOF Lofoten 83.28 22 *e*P **P** **02 10 56.6 +1.2**
WTTA Wattenberg 83.30 43 *i* P **P** **02 10 56.5 +0.3**
comp=Z,14nm,1.5s,SNR=8.7
COP Copenhagen 83.34 35 *i* P **P** **02 10 59.0 +3.1**
COP IAmb IAmb 02 11 06.1
comp=Z,106nm,1.1s
CTI Castel Tesino 83.38 44 IAmb IAmb 02 11 17.4
comp=Z,73nm,1.4s
TEOL Teolo 83.44 45 P **P** **02 10 57.1 +0.3**
TEOL IAmb IAmb 02 11 10.2
comp=Z,73nm,0.9s
SPITS Spitsbergen Ar 83.53 12 LR LR 02 48 14.0
comp=Z,4µm,20.8s,baz=241,slow=36
NKC Novy Kostel 83.66 40 P **P** **02 10 59.0 +1.2**
NKC Novy Kostel 83.66 40 *e*S **S** **02 21 20.7 +0.8**
NKC AMS AMS 02 46 30.0
comp=Z,3µm,21.1s
MOR8 Moi Rana 83.73 24 *e*P **P** **02 10 58.9 +1.0**
MOR8 IAmb IAmb 02 11 01.8
comp=Z,104nm,1.8s
STEI Steigen 83.93 22 *e*P **P** **02 10 58.5 -0.2**
STEI IAmb IAmb 02 11 08.0
comp=Z,45nm,1.0s
ABTA Abfaltersbach 83.93 44 *i* P **P** **02 10 59.9 +0.6**
comp=Z,11nm,0.9s,SNR=17
CLL Collm 83.94 39 IAMs_20 IAMs_20 02 45 18.8
comp=Z,4µm,22.0s
CLL Collm 83.94 39 *e*P **P** **02 11 00.0 +0.8**
CLL *i* *PP **sP** **02 11 06.2 -0.4**
CLL *e*S **S** **02 21 24.0 +1.4**
CLL pmax pmax
comp=Z,45nm,1.4s
CLL MLR MLR
comp=Z,3µm,20.5s
CLL Collm 83.94 39 *e*P **P** **02 11 00.0 +0.8**
comp=Z,45nm,1.4s
CLL *i* pP **sP** **02 11 06.2 -0.4**
CLL *e*PP **PP** **02 14 13.0 +0.4**
CLL *e*S **S** **02 21 24.0 +1.4**
CLL *e*PS **PnS** **02 22 18.0 +2.2**
CLL *ex* x 02 26 12.0
CLL *e*SS **SS** **02 26 48.0 -2.4**
CLL *ex* x 02 29 06.0
CLL *e*SSSS 02 33 03.0
CLL Lmax 02 46 00.0
CLL LmV 02 47 00.0
comp=Z,3µm,20.5s
FAUS Fauske 83.98 23 *e*P **P** **02 10 59.7 +0.6**
FAUS IAmb IAmb 02 11 08.5
comp=Z,47nm,0.9s
STAL STALIGIAL 84.10 44 IAmb IAmb 02 11 14.8
comp=Z,62nm,1.2s
MURB Monte Urbino 84.19 47 IAmb IAmb 02 11 48.5
comp=Z,44nm,0.9s
TNA Tin City 84.22 335 P **P** **02 10 58.6 -1.6**
baz=85
TNA S **S** **02 21 22.3 -2.6**
baz=85
CESX Cesi 84.29 48 IAmb IAmb 02 11 14.6
comp=Z,49nm,1.1s
RUE Ruedersdorf 84.34 38 *e*P **P** **02 11 02.9 +1.8**
UNV Unalaska Valle 84.43 323 P **P** **02 10 59.3 -2.3**
baz=85
UNV S **S** **02 21 24.7 -2.7**
baz=85
KHC Kasperske Hory 84.47 41 *e*P **P** **02 11 02.6 +0.6**
KHC *e* 02 21 23.2
KHC MLR MLR
comp=Z,2µm,18.0s
KHC Kasperske Hory 84.47 41 *e*P **P** **02 11 02.6 +0.6**
KHC *ex* x 02 11 28.4
KHC *e*SKS **S** **02 21 23.2 -4.9**
KHC AMS AMS 02 49 50.0
comp=Z,2µm,18.0s
KBA Koelnbreinsper 84.48 43 *e*P **P** **02 11 02.7 +0.5**
comp=Z,25nm,1.6s,SNR=16
BRG Berggiesshubel 84.56 40 *i* P **P** **02 11 03.8 +1.5**
BRG Amp 02 11 04.8
comp=Z,25nm,1.3s
BRG *i* x x 02 11 06.2
BRG Amp 02 11 07.8
comp=Z,36nm,1.3s
BRG *ex* x 02 11 10.1
BRG Amp 02 11 12.4
comp=Z,47nm,1.2s
BRG Berggiesshubel 84.56 40 *i* P **P** **02 11 03.8 +1.5**
BRG *e* 02 11 10.0
BRG S **S** **02 21 33.0 +4.1**
BRG SS **SS** **02 27 02.0 +2.4**
BRG pmax pmax
comp=Z,25nm,1.3s
BRG pmax pmax
comp=Z,47nm,1.2s
GEC2 GERESS Array S 84.57 42 P **P** **02 11 02.7 +0.1**
GEC2 IAmb IAmb 02 11 12.1
comp=Z,48nm,1.1s
GERES GERESS Array B 84.57 42 P **P** **02 11 03.0 +0.4**
comp=Z,6.6nm,0.9s,baz=256,slow=4.0,SNR=44
GERES S **SKSac** **02 21 22.2 -4.1**
comp=Z,0.2nm,0.4s,baz=322,slow=7.4,SNR=1.5
GERES LR LR 02 48 59.8
comp=Z,2µm,18.6s,baz=273,slow=36
comp=Z,6.6nm,0.9s
GERES GERESS Array B 84.57 42 P **P** **02 11 03.0 +0.4**
BIOA Bad Ischl, Aus 84.63 43 *e*P **P** **02 11 03.5 +0.7**
comp=Z,54nm,1.7s,SNR=34
ROBS Robic 84.66 44 *i* P **P** **02 11 03.4 +0.5**
ROBS *e*S **S** **02 21 27.5 -2.5**
MYKA Terra Mystica 84.72 44 *e*P **P** **02 11 03.7 +0.4**
comp=Z,10nm,0.9s,SNR=7.2
BSD Bornholm Skovb 84.79 35 *e*P **P** **02 11 05.3 +1.9**
BSD Bornholm Skovb 84.79 35 *i* P **P** **02 11 04.0 +0.6**
BSD IAmb IAmb 02 11 08.0
comp=Z,33nm,1.1s
TRI Trieste 84.88 45 IAmb IAmb 02 11 36.7
comp=Z,45nm,1.1s
TRI Trieste 84.88 45 P **P** **02 11 03.9 -0.1**
AQU L'Aquila 84.91 48 IAmb IAmb 02 12 09.5
comp=Z,51nm,1.0s
AQU IAMs_20 IAMs_20 02 46 46.2
comp=Z,3µm,21.0s
AQU L'Aquila 84.91 48 P **P** **02 11 02.8 -1.6**
CKRC Cesky Krumlov 84.98 42 *e*P **P** **02 11 04.8 +0.3**
CKRC *e*SKS **S** **02 21 34.1 +0.9**
CKRC AMS AMS 02 49 00.0
comp=Z,2µm,19.7s
PVCC Panska Ves 84.99 40 P **P** **02 11 05.8 +1.3**
PVCC Panska Ves 84.99 40 *e*S **S** **02 21 31.5 -1.7**
PVCC AMS AMS 02 47 20.0
comp=Z,3µm,20.8s
PRU Pruhonice 85.02 40 *e*P **P** **02 11 05.6 +0.9**
PRU *e* 02 21 34.5
PRU MLR MLR
comp=Z,3µm,18.0s
PRU Pruhonice 85.02 40 *e*P **P** **02 11 05.6 +0.9**
PRU *e*S **S** **02 21 34.5 +1.0**
PRU AMS AMS 02 49 50.0
comp=Z,3µm,18.0s
MOA Molln 85.03 43 *e*P **P** **02 11 05.3 +0.5**
comp=Z,13nm,0.9s,SNR=21
SKDS Skadanscina 85.07 45⇑ *i*P **P** **02 11 05.5 +0.4**
JAVS Javornik 85.07 45 *e*S **S** **02 21 34.1 -0.3**
TRO Tromso 85.09 20 *e*P **P** **02 11 05.0 +0.4**
TRO IAmb IAmb 02 11 22.5
comp=Z,121nm,1.4s
GOPC GO Pecny, Ondr 85.19 40 *e*P **P** **02 11 08.4 +2.9**
GOPC *e* 02 21 34.3
GOPC MLR MLR
comp=Z,3µm,18.7s
GOPC GO Pecny, Ondr 85.19 40 *e*P **P** **02 11 08.4 +2.9**
GOPC *e*S **S** **02 21 34.3 -0.9**
GOPC AMS AMS 02 49 40.0
comp=Z,3µm,18.7s
CRNS Crni Vrh 85.19 44 *i* P **P** **02 11 06.2 +0.5**
CEY Cerknica 85.34 45⇑ *i*P **P** **02 11 07.3 +0.9**
OBKA Obir 85.35 44⇑ *i*P **P** **02 11 06.7 +0.2**
OBKA Obir 85.35 44 *i* P **P** **02 11 06.9 +0.4**
comp=Z,25nm,1.4s,SNR=15
LJU Ljubljana 85.38 44 *i* P **P** **02 11 07.6 +1.0**
LJU *e*S **S** **02 21 33.8 -3.4**
JETT Jettan, Norway 85.62 20 *e*P **P** **02 11 08.6 +1.3**
JETT IAmb IAmb 02 11 16.7
comp=Z,119nm,1.0s
SOKA Soboth 85.67 44 *e*P **P** **02 11 08.3 +0.2**
comp=Z,20nm,1.3s,SNR=21
TREC Trest 85.70 41 *e*P **P** **02 11 09.3 +1.2**
TREC *e* 02 21 39.4
TREC MLR MLR
comp=Z,3µm,19.2s
TREC Trest 85.70 41 *e*P **P** **02 11 09.3 +1.2**
TREC *e*S **S** **02 21 39.4 -0.9**
TREC AMS AMS 02 49 30.0
comp=Z,3µm,19.2s
PAOL Paolisi 85.91 49 IAmb IAmb 02 11 23.6
comp=Z,69nm,1.6s
UPC Upice 85.91 40 *e*S **S** **02 21 42.2 -0.1**
UPC AMS AMS 02 46 10.0
comp=Z,4µm,20.4s
NIKH Nikolski High 85.91 323 P **P** **02 11 07.0 -2.0**
baz=83
BOJS Bojanci 85.94 45⇑ *i*P **P** **02 11 10.0 +0.7**
ARSA Arzberg 85.94 43 *e*P **P** **02 11 09.8 +0.5**
comp=Z,12nm,0.8s,SNR=14
OSTC Ostas 86.03 40 *e*P **P** **02 11 11.2 +1.5**
OSTC *e*SKS **S** **02 21 43.9 +0.4**
OSTC AMS AMS 02 46 20.0
comp=Z,4µm,21.6s
KSP Ksiaz 86.05 39 *e*P **P** **02 11 11.2 +1.5**
KSP *e*S **S** **02 21 44.5 +0.9**
KSP *e*L L 02 48 29.3
comp=Z,4µm,20.5s
CONA Conrad Observa 86.09 42 *i* P **P** **02 11 11.1 +0.9**
comp=Z,15nm,0.9s,SNR=23
DPC Dobruska-Polom 86.12 40 *e*P **P** **02 11 11.2 +1.0**
DPC *e* 02 21 44.0
DPC MLR MLR
comp=Z,3µm,20.6s
DPC Dobruska-Polom 86.12 40 *e*P **P** **02 11 11.2 +1.0**
DPC *e*S **S** **02 21 44.0 -0.5**
DPC AMS AMS 02 46 10.0
comp=Z,3µm,20.6s
RAFF Raffo Rosso 86.15 53 IAmb IAmb 02 11 30.5
comp=Z,82nm,1.1s
SPIA Saint Paul Isl 86.20 327 P **P** **02 11 08.2 -2.2**
baz=83
KRUC Moravsky 86.32 41 *e*P **P** **02 11 12.3 +1.1**
GKP Gorka Klasztor 86.34 37 *e*P **P** **02 11 13.0 +1.9**
GKP *e*S **S** **02 21 47.4 +1.1**
GKP *e*L L 02 46 15.5
comp=Z,3µm,21.8s
GKP Gorka Klasztor 86.34 37 *e*P **P** **02 11 13.6 +2.5**
RONA Rosalia, Austr 86.41 43 *i* P **P** **02 11 12.4 +0.7**
comp=Z,14nm,1.0s,SNR=19
VRAC Vranov 86.42 41⇑ P **P** **02 11 13.0 +1.3**
VRAC Vranov 86.42 41 S **S** **02 21 41.9 -5.4**
comp=Z,0.7nm,0.4s,baz=306,slow=19,SNR=1.4
VRAC LR LR 02 50 45.0
comp=Z,2µm,18.4s,baz=276,slow=36
VRAC Vranov 86.42 41 *e*P **P** **02 11 12.7 +1.0**
VRAC Vranov 86.42 41 P **P** **02 11 12.9 +1.3**
KRLC Kraliky 86.45 40 *e*P **P** **02 11 13.2 +1.4**
KRLC *e* 02 21 44.6
KRLC MLR MLR
comp=Z,3µm,21.5s
KRLC Kraliky 86.45 40 *e*P **P** **02 11 13.2 +1.4**
KRLC *e*S **S** **02 21 44.6 -3.1**
KRLC AMS AMS 02 46 10.0

comp=Z,3µm,21.5s
HAMF Hammerfest 86.53 19 *e*P **P 02 11 12.5 +0.8**
HAMF IAmb IAmb 02 11 20.8
comp=Z,72nm,1.3s
SOP Sopron 86.59 43 P **P 02 11 13.8 +1.3**
SOP Sopron 86.59 43 P **P 02 11 13.0 +0.5**
RAR Rarotonga 86.63 248 LR LR 02 41 20.4
comp=Z,5µm,19.4s,baz=92,slow=30
KTK1 Kautokeino 86.70 21 *e*P **P 02 11 13.6 +1.0**
KTK1 IAmb IAmb 02 11 21.7
comp=Z,65nm,1.0s
SGRT San Giovanni R 86.71 49 IAmb IAmb 02 11 25.7
comp=Z,96nm,1.7s
ZST Bratislava 86.89 42 *e*P **P 02 11 15.2 +1.2**
ZST Bratislava 86.89 42 *e*P **P 02 11 15.2 +1.2**
ZST Bratislava 86.89 42 *e*S **S 02 21 46.6 -5.3**
A050A Klekovaca 86.96 46⇑ *i*P **P 02 11 15.1 +0.6**
MORC Moravsky Berou 86.97 40⇓P **P 02 11 16.2 +1.8**
MORC Moravsky Berou 86.97 40 P **P 02 11 14.7 +0.3**
MORC IAmb IAmb 02 11 24.8
comp=Z,64nm,1.3s
MORC Moravsky Berou 86.97 40 *e*P **P 02 11 15.7 +1.3**
MORC Moravsky Berou 86.97 40 P **P 02 11 14.7 +0.3**
MORC pmax pmax
comp=Z,64nm,1.3s
MODS Modra-Piesok 86.98 42 *e*P **P 02 11 15.6 +1.1**
MODS pmax pmax
comp=Z,106nm,1.3s
MODS Modra-Piesok 86.98 42 *e*P **P 02 11 15.6 +1.1**
MODS Modra-Piesok 86.98 42 *e*S **S 02 21 47.7 -5.1**
MODS *e*SS **SS 02 27 34.0 -1.3**
MODS *e*L L 02 50 20.9
SMOL Smolenice 87.06 42 *e*P **P 02 11 16.4 +1.6**
SMOL pmax pmax
comp=Z,33nm,1.9s
EGYH Egyhazaskeszo 87.14 43 P **P 02 11 16.7 +1.5**
A051A Mrakovica 87.16 45⇑ *i*P **P 02 11 15.6 +0.2**
JAVC Velka Javorina 87.18 41 *e*P **P 02 11 17.8 +2.4**
MAUC Maruska 87.21 41 *e*P **P 02 11 17.7 +2.1**
MAUC *e*S **S 02 21 58.0 +2.9**
MAUC AMS AMS 02 51 00.0
comp=Z,5µm,17.9s
MPLH Magyarpolny 87.31 43 P **P 02 11 16.7 +0.7**
OKC Ostrava-Krasne 87.36 40 P **P 02 11 18.0 +1.8**
OKC Ostrava-Krasne 87.36 40 *e*S **S 02 21 58.2 +1.9**
OKC AMS AMS 02 51 40.0
comp=Z,3µm,18.6s
MGRS Mrkonjic Grad 87.36 46 *e*P **P 02 11 16.1 -0.3**
ARA0 ARCESS Array S 87.38 20 *e*P **P 02 11 16.3 +0.4**
ARA0 IAmb IAmb 02 11 24.6
comp=Z,39nm,1.1s
ARCES ARCESS Array B 87.38 20 P **P 02 11 15.9 0.0**
comp=Z,13nm,0.6s,baz=281,slow=4.2,SNR=101
ARCES S **SKSac 02 21 41.1 -1.9**
comp=Z,1.5nm,0.9s,baz=293,slow=7.8,SNR=1.5
ARCES LR LR 02 46 05.0
comp=Z,2µm,22.0s,baz=278,slow=33
comp=Z,13nm,0.6s
ARCES ARCESS Array B 87.38 20 IAmb IAmb 02 11 32.7
comp=Z,44nm,1.1s
BLY Banja Luka 87.39 45⇑ *i*P **P 02 11 17.2 +0.7**
SRKY Kupres RS 87.46 46⇑ *i*P **P 02 11 17.6 +0.6**
MATE Matera 87.56 50⇑P **P 02 11 17.9 +0.5**
A052A Srbac 87.57 45⇑ *i*P **P 02 11 17.7 +0.4**
RAF Rauma 87.61 29 *e*P **P 02 11 16.9 -0.2**
SRO Srobarova 87.75 42 *e*P **P 02 11 19.4 +1.3**
SRO pmax pmax
comp=Z,75nm,1.7s
SRO Srobarova 87.75 42 *e*P **P 02 11 19.4 +1.3**
CSKK Cskako 87.78 43 P **P 02 11 19.2 +0.9**
TIP Timpagrande 87.79 51⇑P **P 02 11 20.2 +1.6**
TIP Timpagrande 87.79 51 IAmb IAmb 02 11 38.9
comp=Z,45nm,1.3s
KEV Kevo 87.84 20 P **P 02 11 16.9 -1.2**
KEV IAmb IAmb 02 11 50.5
comp=Z,42nm,1.0s
KEV Kevo 87.84 20 P **P 02 11 16.9 -1.2**
KEV pmax pmax
comp=Z,42nm,1.0s
KEV MLR MLR
comp=Z,2µm,21.0s
KOVH Kovagotottos 87.84 44 P **P 02 11 20.0 +1.4**
KLNR Kaliningrad 87.89 35 *i*P **P 02 11 18.9 +0.3**
KLNR pmax pmax
comp=Z,168nm,1.7s
KLNR MLR MLR
comp=Z,2µm,19.0s
BELA Belgrano 2 87.98 172 P **P 02 11 17.8 -0.8**
VYHS Vyhne 87.99 42 *e*P **P 02 11 20.6 +1.3**
VYHS pmax pmax
comp=Z,92nm,1.8s
VYHS Vyhne 87.99 42 *e*P **P 02 11 20.6 +1.3**
VYHS Vyhne 87.99 42 *e*L L 02 51 28.8
VYHS Vyhne 87.99 42 *e*S **SKSac 02 21 50.0 +2.5**
VYHS Vyhne 87.99 42 *e*SS SS 02 27 49.9 -0.2
STON Ston 88.01 47⇑ *i*P **P 02 11 18.8 -0.6**
MORH Mrgy, Hungar 88.20 44⇑P **P 02 11 21.4 +1.1**
MORH Mrgy, Hungar 88.20 44 P **P 02 11 21.4 +1.1**
BUD Budapest 88.27 43 P **P 02 11 24.9 +4.3**
BUD Budapest 88.27 43 P **P 02 11 22.5 +1.9**
LANS Liptovska Anna 88.31 41 *e*P **P 02 11 23.0 +2.2**
LANS pmax pmax
comp=Z,28nm,1.7s
LANS Liptovska Anna 88.31 41 *e*P **P 02 11 23.0 +2.2**
OJC Ojcow 88.35 40 *e*P **P 02 11 21.3 +0.3**
OJC *e*S **S 02 22 05.8 -0.1**
OJC *e*SS **SS 02 27 54.6 -0.6**
OJC *e*L L 02 49 58.3
comp=Z,4µm,21.7s
OJC Ojcow 88.35 40 IAmb IAmb 02 11 30.3
comp=Z,56nm,1.2s
OJC Ojcow 88.35 40 P **P 02 11 21.7 +0.7**
SLIT Slitere, Latvi 88.50 32 *e*P **P 02 11 22.2 +0.8**
PBUR Paburge 88.61 34 *e*P **P 02 11 23.4 +1.4**
BRY Bratogost 88.61 47 *e*P **P 02 11 23.6 +1.1**
HCY Herceg Novi 88.65 48 *e*P **P 02 11 22.9 +0.4**
BEL Belsk 88.70 38 *e*P **P 02 11 24.5 +1.9**
BEL *e*L L 02 48 18.0
comp=Z,4µm,22.1s
PSZ Piszkesteto 88.78 42⇓P **P 02 11 24.6 +1.4**
PSZ Piszkesteto 88.78 42 P **P 02 11 24.5 +1.4**
PSZ Piszkesteto 88.78 42 P **P 02 11 25.1 +2.0**
NIE Niedzica 88.80 40 *e*P **P 02 11 25.6 +2.5**
NIE *e*S **S 02 22 14.3 +4.2**
NIE *e*SS **SS 02 28 06.8 +5.0**
NIE *e*L L 02 48 23.6
comp=Z,2µm,22.6s
NIE Niedzica 88.80 40 P **P 02 11 25.7 +2.5**
UPM Unac-Piva 88.83 47 *e*P **P 02 11 25.4 +1.8**
MEF Metsahovi 89.04 29 *e*P **P 02 11 23.2 -0.7**
MTSE Matsula 89.08 31 *e*P P 02 11 29.1 +5.0
RUDO Rudo 89.11 46⇑ *i*P **P 02 11 25.2 +0.5**
FRGS Fruska Gora 89.17 45⇓P **P 02 11 25.7 +0.7**
FRGS Fruska Gora 89.17 45⇑ *i*P **P 02 11 25.7 +0.7**
DRME Dracevica, Mon 89.19 48⇑ *i*P **P 02 11 26.3 +1.2**
PDG Podgorica 89.21 47⇓P **P 02 11 25.8 +0.7**
PDG Podgorica 89.21 47 IAmb IAmb 02 11 43.6
comp=Z,91nm,1.5s
PDG IAMs_20 IAMs_20 02 50 08.8
comp=Z,2µm,20.0s
VNA3 Neumayer Olymp 89.42 163 P **P 02 11 25.7 +0.2**
DIVS Divibare 89.47 46 IAmb IAmb 02 11 47.6
comp=Z,61nm,1.3s
DIVS Divibare 89.47 46⇑ *i*P **P 02 11 27.5 +1.0**
FINES FINESS Array B 89.56 28 P **P 02 11 26.4 +0.1**
comp=Z,6.4nm,0.7s,baz=299,slow=3.9,SNR=23
FINES S **SKSac 02 21 51.8 -4.3**
comp=Z,2.7nm,1.1s,baz=343,slow=2.9,SNR=2.2
FINES PKKPbc **PKKPbc 02 29 02.5 -0.5**
comp=Z,2.3nm,1.0s,baz=132,slow=2.1,SNR=2.2
FINES LR LR 02 47 58.6
comp=Z,2µm,21.7s,baz=292,slow=33
comp=Z,6.4nm,0.7s
FINES FINESS Array B 89.56 28 P **P 02 11 26.1 -0.2**
FINES FINESS Array B 89.56 28 P **P 02 11 26.1 -0.2**
FIA1 FINESS Array S 89.56 28 IAmb IAmb 02 11 35.3
comp=Z,46nm,1.2s
VNA1 Neumayer--Stat 89.60 162 P **P 02 11 26.9 +0.7**
CRVS Cervenica-Dubn 89.64 41 *e*P **P 02 11 29.2 +2.1**
CRVS pmax pmax
comp=Z,150nm,1.7s
CRVS Cervenica-Dubn 89.64 41 *e*P **P 02 11 29.2 +2.1**
CRVS Cervenica-Dubn 89.64 41 *e*L L 02 48 42.6
CRVS Cervenica-Dubn 89.64 41 *e*S **S 02 22 24.3 +6.3**

VLO Vlora 89.69 49 P **P 02 11 29.3 +1.9**
VSVD Vaisvydziai 89.72 34 *e*P **P 02 11 26.9 -0.3**
TIR Tirane 89.83 48 P **P 02 11 29.6 +1.5**
PABE Paberze 89.84 34 *e*P **P 02 11 27.1 -0.7**
VNA2 Neumayer--Watz 89.98 162 P **P 02 11 28.0 0.0**
baz=308,slow=5.4
VNA2 Neumayer--Watz 89.98 162 PP PP 02 15 04.1 +3.0
KEK Kerkira 90.04 50 P **P 02 11 30.1 +1.0**
KOLS Kolonicke sedl 90.16 41 *e*P **P 02 11 31.9 +2.4**
KOLS Kolonicke sedl 90.16 41 *e*P **P 02 11 31.9 +2.4**
SRN Sarande 90.17 50 P **P 02 11 30.8 +1.1**
PHP Peshkopia 90.20 48 P **P 02 11 31.4 +1.5**
LTVH Ltavrtes, Hu 90.21 42 P P 02 11 35.5 +5.8
UZH Uzhgorod 90.23 41⇑ *i*P **P 02 11 30.0 +0.2**
UZH *i* 02 11 32.9
UZH *i* 02 11 38.6
UZH *e* 02 15 10.8
UZH *e*PPP PPP 02 17 10.4
UZH *e* 02 22 00.0
UZH *e*S **S 02 22 20.4 -3.1**
UZH *e*PS **PnS 02 23 29.8 -1.5**
UZH *e*SS **SS 02 28 24.4 +1.9**
SIRR Siria 90.26 43⇓P **P 02 11 31.6 +1.6**
BZS Buzias 90.35 44⇓P **P 02 11 32.4 +2.0**
BZS Buzias 90.35 44 P **P 02 11 32.4 +2.0**
IGT Igoumenitsa 90.48 50 P **P 02 11 31.6 +0.4**
TRPA Tarpa 90.49 41⇑P **P 02 11 32.1 +1.1**
TRPA Tarpa 90.49 41 P **P 02 11 32.6 +1.7**
OHR Ohrid 90.56 49 *i*P **P 02 11 33.9 +2.3**
MDVR Moldovita 90.57 45⇓P **P 02 11 33.0 +1.5**
LSK Leskovik 90.58 50 P **P 02 11 32.6 +0.9**
VSU Vasula 90.62 31 *i*P **P 02 11 32.3 +0.9**
VSU pmax pmax
comp=Z,144nm,2.2s
VSU MLR MLR
comp=Z,5µm,19.0s
VSU Vasula 90.62 31 *e*P **P 02 11 31.9 +0.5**
KBN Korca 90.64 49 P **P 02 11 33.5 +1.5**
KEF3 Kipouria, Keph 90.72 52 P **P 02 11 32.7 +0.4**
BOVS Bovan 90.77 46⇑P **P 02 11 33.6 +1.1**
FSK Fiskardo 90.84 51 P **P 02 11 35.8 +3.0**
JAN Janina 90.85 50 P **P 02 11 33.0 0.0**
DRGR 90.87 43⇑P **P 02 11 33.9 +1.0**
DRGR 90.87 43 P **P 02 11 33.9 +1.0**
NEST Nestorio 90.87 49 P **P 02 11 34.1 +1.0**
EVGI Lefkada island 90.88 51 P **P 02 11 33.8 +0.7**
SKO Skopje 90.88 48 *i*P **P 02 11 34.7 +1.7**
HERR Herculane 91.04 45⇑P **P 02 11 34.4 +0.7**
LVZ Lovozero 91.06 21 *i*P **P 02 11 35.6 +2.3**
LVZ pmax pmax
comp=Z,55nm,1.5s
LVV L'vov 91.11 40 *e*P **P 02 11 34.6 +0.8**
LVV *i*S **S 02 22 27.8 -3.7**
LVV MLR MLR
comp=Z,2µm,21.0s
GZR Gura Zlata 91.19 44⇓P **P 02 11 36.5 +2.0**
BMR Baia Mare 91.22 42 P P 02 11 39.4 +5.0
KZN Kozani 91.43 49 P **P 02 11 34.8 +1.1**
BLKB Belogradchik 91.47 46⇓P **P 02 11 37.2 +1.5**
STIP Stip 91.48 48 *i*P **P 02 11 35.4 -0.4**
PVO Paravola 91.55 51 P **P 02 11 37.9 +1.7**
NACGM Naroch 91.56 34⇑ *e*P **P 02 11 37.4 +1.6**
baz=285
SNAA Sanae 91.61 162 P **P 02 11 35.8 +0.1**
SNAA Sanae 91.61 162 LR LR 02 52 45.6
comp=Z,2µm,21.9s,baz=297,slow=36
SNAA Sanae 91.61 162 P **P 02 11 35.0 -0.7**
SNAA IAmb IAmb 02 11 45.3
comp=Z,49nm,1.3s
SNAA IAMs_20 IAMs_20 02 51 38.1
comp=Z,4µm,21.0s
SNAA Sanae 91.61 162*c* *e*P **P 02 11 36.0 +0.3**
SNAA pmax pmax
comp=Z,32nm,1.7s
SNAA MLR MLR
comp=Z,3µm,21.0s
EVR Evrytania 91.72 51 P **P 02 11 38.5 +1.4**
THL Klokotos Trika 91.75 50 P **P 02 11 37.4 +0.3**
GRG Griva 91.78 49 P **P 02 11 38.5 +1.3**
DRO Drossia 91.82 52 P **P 02 11 38.0 +0.6**
VAY Valandovo 91.84 48 *i*P **P 02 11 38.6 +1.2**
LOT Lotru 91.86 44⇓P **P 02 11 38.7 +1.0**
EFP Efpalio 91.88 51 P **P 02 11 38.7 +1.0**
ARCR ARCALIA 91.91 42⇓P **P 02 11 38.9 +1.2**
MAKR Makrakomi, Fth 91.95 50 P **P 02 11 39.2 +1.2**
SERG Sergoula 92.00 51 P **P 02 11 39.0 +0.7**
PYL PYLOS 92.03 53 P **P 02 11 38.6 +0.2**
VTS Vitosha 92.07 47⇓P **P 02 11 40.4 +1.7**
VTS Vitosha 92.07 47 IAmb IAmb 02 11 57.3
comp=Z,46nm,1.3s
VTS Vitosha 92.07 47 P **P 02 11 40.0 +1.3**
VTS Vitosha 92.07 47 *i*P **P 02 11 40.9 +2.2**
KKB Krupnik 92.11 48 *i*P **P 02 11 40.6 +1.9**
KNT Kendrikon 92.11 48 P **P 02 11 39.9 +1.2**
ITM Ithomi 92.13 52 P **P 02 11 39.3 +0.4**
KLV Kalavryta, Ach 92.14 51 P **P 02 11 40.0 +1.0**
MPEP Malo Peshtene 92.28 46 *i*P **P 02 11 40.9 +1.5**
BURAR Bucovina Array 92.36 42⇓P **P 02 11 41.8 +2.0**
BURAR Bucovina Array 92.36 42 P **P 02 11 41.8 +2.0**
HORT Hortiatis 92.37 49 P **P 02 11 41.0 +1.0**
AXAR Agios Charalam 92.40 51 P **P 02 11 40.4 +0.3**
ARR Arges 92.47 44⇓P **P 02 11 42.2 +1.8**
SOH Sokhos 92.52 49 P **P 02 11 41.7 +1.0**
VLAD Vladila 92.61 45⇓P **P 02 11 42.6 +1.6**
SRS Serrai 92.63 48 P **P 02 11 41.7 +0.6**
MMB Musomiste 92.64 48 *i*P **P 02 11 42.4 +1.2**
LKR Lokris 92.68 51 P **P 02 11 40.4 -1.0**
ATAL Atalanti 92.69 51 P **P 02 11 41.3 -0.1**
VOIR 92.75 44⇑P **P 02 11 42.6 +0.9**
VOIR 92.75 44 P **P 02 11 42.5 +0.9**
NVR Nevrokopi 92.78 48 P **P 02 11 42.7 +0.8**
HUMR Humele 92.90 45⇓P **P 02 11 44.1 +1.8**
PAIG Paliouri 92.94 49 P **P 02 11 43.3 +0.8**
KOKK Kokkinochori, 93.00 48 P **P 02 11 43.2 +0.4**
OZUR 93.10 43⇓P **P 02 11 44.8 +1.6**
BIZ Bicaz 93.11 42⇑P **P 02 11 45.6 +2.4**
PLD Plovdiv 93.24 47 *i*P **P 02 11 45.8 +1.9**
BILL Bilibino 93.28 340⇑ *e*P **P 02 11 44.0 +0.5**
BILL *e* 02 15 25.1
BILL *e*PPP PPP 02 17 26.0
BILL pmax pmax
comp=Z,32nm,1.2s
TROLL Troll, Antarti 93.33 162 P **P 02 11 44.2 +0.4**
RZN Rozhen 93.34 47 *i*P **P 02 11 46.6 +2.0**
MLR Muntele Rosu 93.35 44⇓P **P 02 11 46.3 +1.8**
MLR Muntele Rosu 93.35 44 P **P 02 11 46.5 +2.0**
ATH Athens Observa 93.37 51 P **P 02 11 47.6 +3.0**
COVR Voineasa-Covas 93.44 43⇑P **P 02 11 46.7 +1.9**
PLOR Plostina 93.74 43⇓P **P 02 11 48.1 +2.0**
VRI Vrincioaia 93.79 43⇑P **P 02 11 48.8 +2.5**
VRI Vrincioaia 93.79 43 P **P 02 11 48.8 +2.5**
KDZ Kurdzhali 93.86 47 *i*P **P 02 11 46.8 +0.8**
SZH Strazhica 93.86 46 *i*P **P 02 11 50.2 +3.5**
RDO Rodhopi 94.06 48 P **P 02 11 48.4 +0.7**
AKASG Malin Array Be 94.11 38 P **P 02 11 47.6 0.0**
comp=Z,1.1nm,0.7s,baz=278,slow=3.4,SNR=8.2
AKASG PP **PP 02 15 31.4 -2.4**
comp=Z,0.3nm,0.3s,baz=293,slow=11,SNR=4.4
AKASG S **SKSac 02 22 19.4 -3.0**
comp=Z,0.2nm,0.4s,baz=277,slow=9.0,SNR=2.0
AKASG LR LR 02 52 38.3
comp=Z,3µm,20.2s,baz=282,slow=34
AKASG Malin Array Be 94.11 38 *i*P **P 02 11 47.0 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 94.11 38 *i*P **P 02 11 49.9 +2.2**
IDI Anoyia 94.85 54⇓P **P 02 11 52.4 +0.8**
KIS Kishinev 94.89 42 *e*P **P 02 11 54.0 +2.7**
KIS *e*SKS SKSac 02 22 05.5 -21
KIS LM 02 55 30.0
comp=Z,500nm,17.5s
KIS LRM MLR 02 56 13.0
comp=Z,700nm,19.0s
KIS Kishinev 94.89 42 *e*P **P 02 11 54.0 +2.7**
PRD Provadia 94.92 46 *i*P **P 02 11 54.6 +3.1**
KLMR Klimovskoe 95.87 26 *e*P **P 02 11 54.8 -0.7**
KLMR 02 15 56.0
KLMR S **SKSac 02 22 32.1 +0.8**
KLMR pmax pmax
comp=Z,43nm,1.4s
KLMR Klimovskoe 95.87 26 *e*P **P 02 11 54.9 -0.6**

KLMR *e*P **P 02 11 54.9 -0.6**
KLMR *e*P **P 02 11 54.9 -0.6**
KLMR AMP 02 12 12.8
comp=Z,43nm,1.4s
KLMR PP PP 02 15 56.1 +9.0
KLMR S **SKSac 02 22 32.1 +0.8**
KLMR S **SKSac 02 22 32.1 +0.8**
KLMR SSS SSS 02 33 55.6
KLMR SSS SSS 02 33 55.6
KLMR LR LR 02 46 57.3
KLMR AMP 02 51 31.7
comp=Z,3µm,20.8s
TSUM Tsumeb 95.89 109 LR LR 02 55 14.2
comp=Z,4µm,18.4s,baz=272,slow=36
TSUM Tsumeb 95.89 109 P **P 02 11 57.1 +0.5**
TSUM IAmb IAmb 02 12 00.3
comp=Z,60nm,1.4s
SHEM Shemya Is, Ala 96.01 325 LR LR 03 00 00.1
comp=Z,1µm,18.4s,baz=73,slow=38
OBN Obninsk 96.82 32 LR LR 02 52 39.0
comp=Z,598nm,21.5s,baz=290,slow=34
OBN Obninsk 96.82 32 IAMs_20 IAMs_20 02 52 15.0
comp=Z,3µm,22.0s
OBN Obninsk 96.82 32*c* *e*P **P 02 12 01.0 +1.1**
OBN *e* 02 16 01.4
OBN *i*SSS SSS 02 33 34.3
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,2µm,19.0s
AFI Afiamalu 97.09 257 LR LR 02 46 37.4
comp=Z,3µm,20.0s,baz=72,slow=30
AFI Afiamalu 97.09 257 IAMs_20 IAMs_20 02 46 34.8
comp=Z,3µm,19.0s
MOS Moscow 97.12 31 *e*P **P 02 12 00.3 -1.0**
MOS *e* 02 15 59.0
MOS *e*S **SKSac 02 22 34.9 -3.1**
MOS *e*SS **SS 02 30 02.1 +1.8**
MOS pmax pmax
comp=Z,36nm,1.4s
QSPA South Pole Qui 97.20 180 P Pdif 02 12 01.9 +0.3
comp=Z,11nm,1.0s,baz=155,slow=2.6,SNR=23
QSPA PP **PP 02 15 57.6 -0.1**
comp=Z,3.8nm,1.0s,baz=173,slow=10,SNR=2.8
comp=Z,11nm,1.0s
PRGR Permogore 98.08 24 *e*P Pdif 02 12 11.2 +5.7
LPSR Galich'ya Gora 99.11 34 *e*P **Pdif 02 12 10.1 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 99.59 352 LR LR 02 59 36.8
comp=Z,5µm,20.6s,baz=1.0,slow=37
VORR Voronezh 99.66 35 *e*P **Pdif 02 12 14.1 +1.4**
VORR pmax pmax
comp=Z,20nm,0.5s
SUR Sutherland 99.72 122 LR LR 02 56 14.9
comp=Z,8µm,18.2s,baz=272,slow=35
VSR Storozhevoye 99.82 35 *e*P **Pdif 02 12 10.9 -2.6**
VSR pmax pmax
comp=Z,9.0nm,1.3s
BRTR Keskin Array B 100.40 48 P **Pdif 02 12 16.5 -0.1**
comp=Z,0.1nm,0.3s,baz=202,slow=0.9,SNR=4.0
BRTR PKKPbc **PKKPbc 02 28 33.1 -0.5**
comp=Z,0.5nm,0.7s,baz=131,slow=5.3,SNR=4.1
NRIK Noril'sk 102.81 6 PP **PP 02 16 39.9 +0.3**
comp=Z,2.0nm,0.4s,baz=341,slow=9.6,SNR=5.3
MA2 Magadan 103.74 337 IAMs_20 IAMs_20 03 02 26.7
comp=Z,4µm,22.0s
PET Petropavlovsk 104.23 329 IAMs_20 IAMs_20 03 05 38.8
comp=Z,2µm,22.0s
PET Petropavlovsk 104.23 329*c* *i*P **Pdif 02 12 42.2 +9.1**
PET *e* 02 23 10.7
PET *e*S **Sdif 02 24 25.9 +2.1**
PET *e*PPS PPS 02 26 50.9
PET *e*SS **SS 02 31 48.6 +9.4**
PET pmax pmax
comp=Z,200nm,14.9s
PET pmax pmax
comp=Z,800nm,15.1s
PET pmax pmax
comp=Z,600nm,14.8s
KBZ Khabaz 105.31 41 PP **PP 02 17 00.0 +0.9**
comp=Z,1.2nm,0.7s,baz=301,slow=7.8,SNR=2.2
KBZ PKKPbc **PKKPbc 02 28 22.7 +3.7**
comp=Z,1.1nm,0.7s,baz=95,slow=2.3,SNR=1.6
ARU Arti 106.54 24 IAMs_20 IAMs_20 03 00 48.4
comp=Z,2µm,20.0s
MXZ Matakaoa Point 106.63 233 IAMs_20 IAMs_20 02 53 12.8
comp=Z,3µm,20.0s
URZ Urewera 107.52 232 IAMs_20 IAMs_20 02 52 15.4
comp=Z,3µm,21.0s
BKZ Black Stump Fm 107.92 231 IAMs_20 IAMs_20 02 55 22.1
comp=Z,2µm,20.0s
BFZ Birch Farm 107.96 230 IAMs_20 IAMs_20 02 53 15.0
comp=Z,3µm,20.0s
MAK Makhachkala 108.64 40 *e*P **Pdif 02 12 51.4 -1.5**
MAK *e* 02 23 24.8
MAK *e*PS **PS 02 26 49.4 +0.4**
MAK *e*SS SS 02 32 37.6 -2.2
MAK pmax pmax
comp=Z,75nm,1.1s
SNZO South Karori 109.05 229 IAMs_20 IAMs_20 02 53 59.7
comp=Z,3µm,20.0s
HIZ Hauiti 109.26 232 IAMs_20 IAMs_20 02 59 26.5
comp=Z,2µm,18.0s
NNZ Nelson 110.05 229 IAMs_20 IAMs_20 03 09 16.2
comp=Z,2µm,18.0s
MQZ McQueen's Vall 110.20 226 IAMs_20 IAMs_20 03 02 49.1
comp=Z,2µm,19.0s
TARA Tarawa 110.52 274 IAMs_20 IAMs_20 02 51 43.6
comp=Z,3µm,22.0s
OUZ Omahuta 110.61 235 IAMs_20 IAMs_20 02 54 08.4
comp=Z,2µm,20.0s
LODK Lodwar 110.89 84 IAMs_20 IAMs_20 03 07 54.6
comp=Z,2µm,19.0s
RAYN Ar Rayn 115.42 60 IAMs_20 IAMs_20 03 10 10.2
comp=Z,2µm,20.0s
YSS Yuzh-Sakhalins 115.97 331 IAMs_20 IAMs_20 03 15 05.9
comp=Z,3µm,20.0s
YSS Yuzh-Sakhalins 115.97 331 *e*PKIKP **PKiKP 02 17 09.3 -2.8**
YSS *e*PP **PP 02 18 18.1 +2.6**
YSS *e*SKS **SKSac 02 23 59.7 -2.2**
YSS *e*SS **SS 02 34 20.5 +4.1**
YSS MLR MLR
comp=Z,1µm,16.0s
ATD Arta Tunnel 116.58 73 IAMs_20 IAMs_20 03 13 30.1
comp=Z,2µm,20.0s
ZALV Zalesovo Beam 117.02 12 PKP **PKPdf 02 17 13.9 -0.1**
comp=Z,4.1nm,0.8s,baz=276,slow=2.8,SNR=12
ZALV PKKPbc **PKKPbc 02 27 37.7 -3.4**
comp=Z,0.6nm,0.4s,baz=139,slow=2.9,SNR=2.4
DZM Mont Dzumac 118.00 249 *e*LR LR 02 53 14.2
comp=Z,3µm,28.4s
GEYT Alibeck 118.16 40 PKP **PKiKP 02 17 17.0 +0.2**
comp=Z,3.3nm,0.7s,baz=249,slow=7.8,SNR=6.8
GEYT Alibeck 118.16 40 **PKiKP 02 17 16.8 0.0**
KURK Kurchatov 118.34 18 PKPdf **PKiKP 02 17 16.8 +0.2**
KURK Kurchatov 118.34 18*c* *i*PKIKP **PKiKP 02 17 17.6 +1.0**
KURK pmax pmax
comp=Z,17nm,2.5s
KURK MLR MLR
comp=Z,2µm,21.0s
ERM Erimo 119.26 327 IAMs_20 IAMs_20 03 15 04.8
comp=Z,2µm,21.0s
KOUNC Koumac, New Ca 120.10 250 IAMs_20 IAMs_20 02 59 27.8
comp=Z,2µm,20.0s
BTLS Baital 121.53 24 *e*PKIKP **PKPdf 02 17 22.0 -0.9**
BTLS Baital 121.53 24 *e*PKP **PKPdf 02 17 22.1 -0.9**
baz=24
DGZ Jazzator, Alta 121.57 12 *i*PKIKP **PKiKP 02 17 23.4 +0.2**
ZAK Zakamensk 122.66 0 *e*PKIKP **PKiKP 02 17 25.6 +0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
MAKZ Makanchi 122.84 18 PKPdf **PKPdf 02 17 24.6 -0.8**
MAKZ Makanchi 122.84 18 PKIKP **PKPdf 02 17 24.6 -0.8**
USRK Ussuriysk Ar. 122.86 336 PKP **PKPdf 02 17 23.9 -1.6**
comp=Z,1.8nm,0.8s,baz=29,slow=3.3,SNR=2.1
MK31 Makanchi Array 122.94 17 *i*PKIKP **PKPdf 02 17 25.6 0.0**
MKAR Makanchi Array 122.94 17 PKP **PKPdf 02 17 25.3 -0.4**
comp=Z,3.2nm,0.7s,baz=341,slow=2.1,SNR=18
MKAR PKKPbc **PKKPab 02 27 17.6 -1.2**
comp=Z,1.0nm,1.0s,baz=123,slow=5.3,SNR=3.5
HRA Herat 122.96 41 PKPdf **PKPdf 02 17 25.7 -0.5**
ZSN Zaisan 123.06 15 *e*PKIKP **PKPdf 02 17 25.8 0.0**
ZSN Zaisan 123.06 15 *e*PKP **PKPdf 02 17 25.9 0.0**
baz=15
SGDS Sogindy 123.07 25 *e*PKIKP **PKPdf 02 17 25.8 -0.2**

SGDS				*e*			02 19 05.3	
SGDS	**Sogindy**	**123.07**	**25**	*e*PKP	**PKPdf**	**02 17 25.9**	**-0.2**	
	baz=25							
SGDS				*e*PP	**PP**	**02 19 05.3**	**+0.9**	
	baz=25							
TDK	**Taldyqorghan**	**123.25**	**21**	*e*PKIKP	**PKPdf**	**02 17 26.1**	**-0.2**	
TDK	**Taldyqorghan**	**123.25**	**21**	*e*PKP	**PKPdf**	**02 17 26.2**	**-0.1**	
	baz=21							
TDK				LR	LR	03 11 41.2		
	comp=Z,1μm,20.3s,baz=21							
KUU	**Kurty**	**123.40**	**24**	*e*PKIKP	**PKPdf**	**02 17 26.4**	**-0.2**	
KUU				MLR	MLR			
	comp=Z,1μm,20.0s							
KUU	**Kurty**	**123.40**	**24**	*e*PKP	**PKPdf**	**02 17 26.4**	**-0.2**	
	baz=24							
KUU				LR	LR	03 08 50.2		
	comp=Z,1μm,20.2s,baz=24							
AAK	**Ala-Archa**	**123.67**	**26**	PKPdf	**PKiKP**	**02 17 27.8**	**+0.1**	
AAK	**Ala-Archa**	**123.67**	**26**	IAMs_20	IAMs_20	03 20 45.5		
	comp=Z,2μm,21.0s							
AAK	**Ala-Archa**	**123.67**	**26**	*c i*PKIKP	**PKiKP**	**02 17 29.1**	**+1.5**	
AAK				pmax	pmax			
	comp=Z,19nm,2.5s							
CHKK	**Chushkaly**	**123.69**	**23**	*e*PKIKP	**PKPdf**	**02 17 27.2**	**0.0**	
CHKK	**Chushkaly**	**123.69**	**23**	*e*PKP	**PKPdf**	**02 17 27.2**	**0.0**	
	baz=23							
UOSS	**Minazif**	**123.72**	**54**	IAMs_20	IAMs_20	03 15 58.2		
	comp=Z,2μm,20.0s							
PATS	**Pohnpei**	**123.87**	**283**	PKPdf	**PKPdf**	**02 17 28.2**	**0.0**	
AAA	**Alma-Ata**	**124.20**	**24**	*e*PKIKP	**PKiKP**	**02 17 28.4**	**-0.1**	
AAA	**Alma-Ata**	**124.20**	**24**	*e*PKP	**PKiKP**	**02 17 28.5**	**-0.1**	
	baz=24							
MDOK	**Medeo**	**124.30**	**23**	*e*PKIKP	**PKPdf**	**02 17 27.8**	**-0.7**	
MDOK	**Medeo**	**124.30**	**23**	*e*PKP	**PKPdf**	**02 17 27.9**	**-0.7**	
	baz=23							
MDOK				LR	LR	03 13 02.2		
	comp=Z,1μm,21.1s,baz=23							
HNR	**Honiara**	**124.45**	**264**	IAMs_20	IAMs_20	03 03 22.3		
	comp=Z,2μm,20.0s							
KPKS	**Kokpek**	**124.67**	**22**	*e*PKIKP	**PKPdf**	**02 17 29.1**	**0.0**	
KPKS				*e*		02 19 16.5		
KPKS	**Kokpek**	**124.67**	**22**	*e*PKP	**PKPdf**	**02 17 29.2**	**0.0**	
	baz=22							
KPKS				*e*PP	**PP**	**02 19 16.6**	**+1.5**	
	baz=22							
ULN	**Ulaanbaatar**	**125.10**	**357**	PKPdf	**PKPdf**	**02 17 29.5**	**-0.4**	
ULN	**Ulaanbaatar**	**125.10**	**357**	*c i*PKIKP	**PKiKP**	**02 17 30.9**	**+0.6**	
ULN				pmax	pmax			
	comp=Z,8.0nm,0.8s							
SONM	**Songino Array**	**125.16**	**358**	PKP	**PKiKP**	**02 17 30.3**	**0.0**	
	comp=Z,4.8nm,0.9s,baz=323,slow=1.5,SNR=12							
SONM				PP	**PP**	**02 19 17.1**	**-1.0**	
	comp=Z,0.5nm,0.4s,baz=335,slow=6.4,SNR=2.0							
SONM	**Songino Array**	**125.16**	**358**	PKPdf	**PKPdf**	**02 17 29.2**	**-0.8**	
SONM	**Songino Array**	**125.16**	**358**	PKIKP	**PKPdf**	**02 17 29.2**	**-0.8**	
SHLS	**Shalkode**	**125.22**	**22**	*e*PKIKP	**PKPdf**	**02 17 29.8**	**-0.4**	
SHLS	**Shalkode**	**125.22**	**22**	*e*PKP	**PKPdf**	**02 17 29.9**	**-0.4**	
	baz=21							
CN2	**Changchun**	**125.59**	**341**	PKP	**PKPdf**	**02 17 29.8**	**-0.9**	
CN2				PP	**PP**	**02 19 26.8**	**+5.8**	
CN2				SS	SS	02 36 22.0	+2.8	
CN2				LR	LR			
	comp=Z,3μm,22.0s							
CN2				LR	LR			
	comp=Z,2μm,22.0s							
CN2				LR	LR			
	comp=Z,3μm,25.0s							
MJAR	**Matsushiro Arr**	**125.84**	**326**	PKP	**PKiKP**	**02 17 32.3**	**+0.4**	
	comp=Z,1.1nm,0.3s,baz=84,slow=11,SNR=1.6							
KSH	**Kashi**	**126.86**	**27**	PKP	**PKiKP**	**02 17 34.8**	**+0.8**	
KSH				sPKP		02 17 43.1		
KSH				SS	SS	02 36 39.0	+3.1	
KSH				LR	LR			
	comp=Z,1μm,19.7s							
KSH				LR	LR			
	comp=Z,2μm,20.3s							
KSH				LR	LR			
	comp=Z,2μm,21.3s							
SOCY	**Socotra**	**126.86**	**69**	IAMs_20	IAMs_20	03 18 21.2		
	comp=Z,2μm,20.0s							
KBL	**Kabul**	**127.06**	**36**	PKPdf	**PKPdf**	**02 17 34.3**	**+0.1**	
KBL	**Kabul**	**127.06**	**36**	PKIKP	**PKPdf**	**02 17 34.3**	**+0.1**	
WMQ	**Urumqi**	**127.17**	**15**	*e*PKP	**PKPdf**	**02 17 33.8**	**-0.1**	
WMQ				sPKP		02 17 42.8		
WMQ				PP	**PP**	**02 19 33.5**	**+2.0**	
WMQ				SS	SS	02 36 38.8	-0.1	
WMQ				AMB	AMB			
	comp=Z,380nm,5.9s							
WMQ				LR	LR			
	comp=Z,3μm,21.1s							
WMQ				LR	LR			
	comp=Z,2μm,22.9s							
WMQ				LR	LR			
	comp=Z,3μm,22.9s							
INU	**Inuyama**	**127.37**	**326**	IAMs_20	IAMs_20	03 23 07.4		
	comp=Z,1μm,19.0s							
XLT	**XiLinHaoTe**	**127.94**	**349**	*e*PKP	**PKPdf**	**02 17 35.3**	**-0.1**	
XLT				PP	**PP**	**02 19 41.3**	**+4.8**	
XLT				PKS	**PKSdf**	**02 21 10.6**	**-1.4**	
XLT				SKS	**SKSdf**	**02 24 42.4**	**-4.6**	
XLT				SKKS	**SKKSac**	**02 26 30.1**	**-5.0**	
XLT				SS	**SS**	**02 36 46.8**	**-1.7**	
XLT				AMB	AMB			
	comp=Z,520nm,12.7s							
XLT				LR	LR			
	comp=Z,2μm,21.2s							
XLT				LR	LR			
	comp=Z,3μm,22.6s							
CAN	**Canberra**	**130.04**	**229**	IAMs_20	IAMs_20	03 04 29.6		
	comp=Z,2μm,20.0s							
KSRS	**Korea Array**	**130.19**	**335**	PKP	**PKPdf**	**02 17 38.9**	**-0.8**	
	comp=Z,4.9nm,1.0s,baz=7.4,slow=1.0,SNR=11							
KSAR	**Wonju Array Be**	**130.22**	**335**	PKPdf	**PKPdf**	**02 17 38.8**	**-1.0**	
KSAR	**Wonju Array Be**	**130.22**	**335**	PKIKP	**PKPdf**	**02 17 38.8**	**-1.0**	
DL2	**Dalian**	**131.24**	**341**	PKP	**PKPdf**	**02 17 34.0**	**-7.6**	
DL2				PP	**PP**	**02 19 56.0**	**-2.0**	
DL2	**Dalian**	**131.24**	**341**	SS	SS	02 37 25.6	-3.5	
DL2				AMB	AMB			
	comp=Z,420nm,9.0s							
DL2				LR	LR			
	comp=N,1μm,20.4s							
DL2				LR	LR			
	comp=E,2μm,22.6s							
DL2				LR	LR			
	comp=Z,3μm,25.5s							
BJI	**Beijing**	**131.63**	**347**	PKP	**PKPdf**	**02 17 42.0**	**-0.3**	
BJI				PP	**PP**	**02 20 03.9**	**+3.5**	
BJI				SKS	**SKSdf**	**02 24 52.4**	**-1.2**	
BJI				AMB	AMB			
	comp=Z,430nm,8.9s							
BJI				LR	LR			
	comp=Z,490nm,22.1s							
BJI				LR	LR			
	comp=Z,2μm,18.8s							
BJI				LR	LR			
	comp=Z,4μm,21.6s							
HHC	**Hu-ho-hao-te**	**131.66**	**352**	*e*PKP	**PKPdf**	**02 17 40.4**	**-2.2**	
HHC				SKS	**SKSdf**	**02 24 51.0**	**-2.9**	
HHC				SKKS	**SKKSac**	**02 26 53.5**	**-4.8**	
HHC				LR	LR			
	comp=Z,4μm,21.6s							
HHC				LR	LR			
	comp=Z,3μm,20.9s							
HHC				LR	LR			
	comp=Z,6μm,20.9s							
GTA	**Gaotai**	**133.48**	**4**	*e*PKP	**PKiKP**	**02 17 46.8**	**-0.5**	
GTA				sPKP		02 17 54.5		
GTA				PP	PP	02 20 21.5	+9.1	
GTA				SKKS		02 27 09.0		
GTA				AMB	AMB			
	comp=Z,500nm,9.7s							
GTA				LR	LR			
	comp=Z,3μm,21.1s							
GTA				LR	LR			
	comp=Z,960nm,17.4s							
GTA				LR	LR			
	comp=Z,4μm,21.1s							
HNS	**HongShan**	**134.48**	**348**	⇓PKP	**PKiKP**	**02 17 50.9**	**+1.7**	
HNS				PP	**PP**	**02 20 22.3**	**+3.6**	
HNS				SKKS		02 27 14.4		
HNS				SS	**SS**	**02 38 14.0**	**+5.8**	
HNS				LR	LR			
	comp=Z,2μm,20.1s							
HNS				LR	LR			
	comp=Z,1μm,19.1s							
HNS				LR	LR			
	comp=Z,4μm,20.0s							
GOMU	**GeErMu**	**136.02**	**10**	PKP	**PKiKP**	**02 17 53.3**	**+0.4**	
GOMU				sPKP		02 18 00.9		
GOMU				AMB	AMB			
	comp=Z,140nm,4.6s							
GOMU				LR	LR			
	comp=Z,890nm,15.7s							
GOMU				LR	LR			
	comp=Z,810nm,18.5s							
GOMU				LR	LR			
	comp=Z,1μm,17.8s							
LZH	**Lanzhou**	**136.95**	**360**	⇓PKP	**PKiKP**	**02 17 56.6**	**+2.1**	
LZH				PP	PP	02 20 44.5	+10	
LZH				SKKS		02 27 29.5		
LZH				SS	**SS**	**02 38 42.4**	**+4.4**	
LZH				AMB	AMB			
	comp=Z,250nm,4.1s							
LZH				LR	LR			
	comp=Z,3μm,17.5s							
LZH				LR	LR			
	comp=Z,2μm,17.5s							
LZH				LR	LR			
	comp=Z,3μm,16.8s							
PMG	**Port Moresby**	**137.06**	**264**	IAMs_20	IAMs_20	03 12 12.7		
	comp=Z,2μm,20.0s							
STKA	**Stephens Creek**	**137.09**	**230**	PKP	**PKPdf**	**02 17 52.2**	**-0.6**	
	comp=Z,5.7nm,0.7s,baz=115,slow=7.0,SNR=5.9							
STKA	**Stephens Creek**	**137.09**	**230**	PKPdf	**PKPdf**	**02 17 52.6**	**-0.2**	
STKA	**Stephens Creek**	**137.09**	**230**	PKIKP	**PKPdf**	**02 17 52.6**	**-0.2**	
LYN	**LuoYang**	**137.68**	**349**	*e*PKP	**PKiKP**	**02 17 55.5**	**-0.3**	
LYN				LR	LR			
	comp=Z,2μm,23.0s							
LYN				LR	LR			
	comp=Z,2μm,21.6s							
LYN				LR	LR			
	comp=Z,4μm,22.7s							
NJ2	**Nanjing**	**138.41**	**341**	*e*PKP	**PKPdf**	**02 17 54.5**	**-0.7**	
NJ2				LR	LR			
	comp=Z,2μm,23.2s							
NJ2				LR	LR			
	comp=Z,2μm,23.2s							
NJ2				LR	LR			
	comp=Z,3μm,24.0s							
SSE	**Sheshan**	**138.45**	**337**	PKP	**PKPdf**	**02 17 52.3**	**-3.0**	
SSE				PP	**PP**	**02 20 44.8**	**+1.0**	
SSE				AMB	AMB			
	comp=Z,380nm,4.7s							
SSE				LR	LR			
	comp=Z,1μm,23.0s							
SSE				LR	LR			
	comp=Z,620nm,21.3s							
XAN	**Xi'an**	**138.70**	**354**	PKP	**PKiKP**	**02 17 57.1**	**-0.9**	
XAN				LR	LR			
	comp=Z,3μm,22.1s							
XAN				LR	LR			
	comp=Z,2μm,19.6s							
XAN				LR	LR			
	comp=Z,4μm,24.5s							
COEN	**Coen**	**140.76**	**257**	PKPdf	**PKPdf**	**02 17 58.7**	**-1.3**	
WHN	**Wuhan**	**141.13**	**345**	⇑PKP	**PKPdf**	**02 17 58.3**	**-1.9**	
WHN				AMB	AMB			
	comp=Z,2μm,8.6s							
WHN				LR	LR			
	comp=Z,7μm,20.0s							
WHN				LR	LR			
	comp=Z,8μm,17.7s							
LSA	**Lhasa**	**141.35**	**18**	IAMs_20	IAMs_20	03 30 28.8		
	comp=Z,2μm,21.0s							
LSA	**Lhasa**	**141.35**	**18**	PKP	**PKPdf**	**02 18 02.1**	**+0.8**	
LSA				LR	LR			
	comp=Z,1μm,22.1s							
LSA				LR	LR			
	comp=Z,710nm,25.6s							
LSA				LR	LR			
	comp=Z,2μm,21.4s							
CD2	**Chengdu**	**142.11**	**0**	PKP	**PKiKP**	**02 18 06.8**	**+1.8**	
CD2				SKS	**SKSdf**	**02 25 12.0**	**0.0**	
CD2				SKKS	**SKKSac**	**02 28 01.0**	**+0.2**	
CD2				SS	**SS**	**02 39 39.8**	**+1.3**	
CD2				LR	LR			
	comp=Z,3μm,19.9s							
CD2				LR	LR			
	comp=Z,2μm,21.8s							
CD2				LR	LR			
	comp=Z,3μm,18.0s							
ENH	**Enshi**	**142.35**	**352**	PKPdf	**PKPdf**	**02 18 01.9**	**-0.6**	
QZH	**Quanzhou**	**144.96**	**336**	PKP	**PKiKP**	**02 18 09.1**	**-1.8**	
QZH				LR	LR			
	comp=Z,2μm,18.5s							
HYBB	**Hyderabad (bro**	**145.06**	**45**	*e*PKPdf	**PKPbc**	**02 18 06.6**	**-0.3**	
HYBB				IVMs_BB	IVMs_BB	03 35 19.0		
	comp=Z,399nm,16.3s							
GYA	**Guiyang**	**146.43**	**355**	⇑PKPbc	**PKPbc**	**02 18 11.0**	**-0.1**	
GYA				PKPab	**PKiKP**	**02 18 13.1**	**-1.0**	
GYA				PP	PP	02 21 41.5	+9.5	
GYA				SKKS		02 28 27.1		
GYA				AMB	AMB			
	comp=Z,930nm,12.9s							
GYA				LR	LR			
	comp=Z,2μm,25.8s							
GYA				LR	LR			
	comp=Z,2μm,17.0s							
GYA				LR	LR			
	comp=Z,4μm,22.1s							
PZH	**PanZhiHua**	**146.44**	**3**	PKPbc	**PKPbc**	**02 18 11.1**	**0.0**	
PZH				sPKP		02 18 18.9		
PZH				PP	**PP**	**02 21 32.5**	**+0.4**	
PZH				PKS	**PKSdf**	**02 21 42.4**	**-3.1**	
PZH				SKKS		02 28 26.3		
PZH				SS	**SS**	**02 40 27.3**	**-1.1**	
PZH				AMB	AMB			
	comp=Z,400nm,5.1s							
PZH				LR	LR			
	comp=Z,1μm,19.0s							
PZH				LR	LR			
	comp=Z,1μm,21.4s							
PZH				LR	LR			
	comp=Z,2μm,20.4s							
AS31	**Alice Springs**	**146.80**	**237**	PKPdf	**PKPdf**	**02 18 09.8**	**-0.5**	
ASAR	**Alice Springs**	**146.80**	**237**	PKPbc	**PKPdf**	**02 18 10.6**	**+0.2**	
	comp=Z,11nm,0.6s,baz=120,slow=3.1,SNR=62							
ASAR	**Alice Springs**	**146.80**	**237**	PKPdf	**PKPdf**	**02 18 10.3**	**-0.1**	
ASAR	**Alice Springs**	**146.80**	**237**	PKIKP	**PKPdf**	**02 18 10.3**	**-0.1**	
PCHI	**Peechi**	**147.48**	**58**	⇑*eP*	**PKPbc**	**02 18 14.4**	**+0.2**	
	baz=349,slow=2.6							
PCHI				*ex*	x	02 40 38.1		
WRA	**Warramunga Arr**	**147.80**	**244**	PKPbc	**PKPdf**	**02 18 12.7**	**+0.6**	
	comp=Z,14nm,1.0s,baz=105,slow=2.3,SNR=33							
WB0	**Warramunga Arr**	**147.81**	**244**	PKPdf	**PKPdf**	**02 18 11.5**	**-0.6**	
KMI	**Kunming**	**147.86**	**2**	⇑PKPbc	**PKPbc**	**02 18 14.0**	**-1.2**	
KMI				sPKP		02 18 26.6		
KMI				PP	**PP**	**02 21 47.8**	**+7.3**	
KMI				SKKS		02 28 29.0		
KMI				SS	**SS**	**02 40 42.9**	**-1.7**	
KMI				AMB	AMB			
	comp=Z,660nm,12.1s							
KMI				LR	LR			
	comp=Z,2μm,19.2s							
KMI				LR	LR			
	comp=Z,2μm,23.2s							
KMI				LR	LR			
	comp=Z,3μm,22.0s							
PALK	**Pallekele**	**152.84**	**59**	PKPbc	**PKPbc**	**02 18 26.4**	**-1.0**	
PALK	**Pallekele**	**152.84**	**59**	PKIKP	**PKPbc**	**02 18 26.4**	**-1.0**	
QIZ	**Qiongzhong**	**153.27**	**347**	PKPbc	**PKPbc**	**02 18 27.8**	**-0.3**	
QIZ				PP	**PP**	**02 22 12.3**	**+0.8**	
QIZ				SKS	**SKSdf**	**02 25 29.6**	**+1.9**	
CM31	**Chiang Mai Arr**	**154.06**	**11**	PKPdf	**PKPdf**	**02 18 21.8**	**0.0**	
CM31				PKPbc	**sPKPdf**	**02 18 29.3**	**0.0**	
CMAR	**Chiang Mai Arr**	**154.06**	**11**	PKP	**PKPdf**	**02 18 21.4**	**-0.4**	
	comp=Z,2.4nm,0.9s,baz=294,slow=1.5,SNR=12							
CMAR				PKPbc	**PKiKP**	**02 18 30.4**	**+0.5**	
	comp=Z,14nm,0.8s,baz=333,slow=3.6,SNR=12							
CMAR				PP	**PP**	**02 22 23.0**	**+7.0**	
	comp=Z,1.0nm,0.3s,baz=328,slow=4.5,SNR=1.4							
PHRA	**Phrae**	**154.23**	**8**	PKPdf	**PKPdf**	**02 18 21.3**	**-0.7**	
PHRA				PKPbc	**sPKPdf**	**02 18 29.8**	**+0.3**	
TNTI	**Ternate**	**155.19**	**288**	IAMs_20	IAMs_20	03 16 37.8		
	comp=Z,982nm,20.0s							
FITZ	**Fitzroy Crossi**	**156.13**	**241**	PKPdf	**PKPdf**	**02 18 24.2**	**-0.3**	
PSI	**Prapat**	**168.94**	**26**	PKP2	**PKPab**	**02 19 48.0**	**-0.2**	
RPSI	**Rantau Prapat**	**169.03**	**27**	PKPab	**PKPab**	**02 19 48.0**	**-0.4**	

*ROM **14** 02:18:49.0±0.1, 42.˚722N±0.˚002×13.˚241E±0.˚004, h10km, ML2.7/57, Error ellipse: s-maj=0.3km s-min=0.2km az=238.0*

ISC 14 02:18:49.5±0.8, **42.˚71N**±0.˚02×**13.˚23E**±0.˚02, **h11**km±4km, **n84**, σ0.**99**/102, **34C-22D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
T1202	**Accumoli, Fraz**	**0.00**	**191**	P	**Pg**	**02**	**18**	**51.3**	**-0.3**
T1202				S	**Sg**	**02**	**18**	**52.5**	**-0.5**
T1204	**Amatrice, Fraz**	**0.07**	**114**	P	**Pg**	**02**	**18**	**51.8**	**-0.2**
T1204				S	**Sg**	**02**	**18**	**53.5**	**-0.4**
T1204				AML	AML				
	comp=E,38650μm,0.8s								
T1204				AML	AML				
	comp=N,14050μm,0.6s								
T1204				AML	AML				
	comp=N,14000μm,0.6s								
T1204				AML	AML				
	comp=E,38700μm,0.8s								
SMA1	**SAN MARTINO**	**0.11**	**133**	⇑P	**Pg**	**02**	**18**	**52.4**	**0.0**
SMA1				S	**Sg**	**02**	**18**	**54.6**	**0.0**
SMA1				AML	AML				
	comp=N,9800μm,0.9s								
SMA1				AML	AML				
	comp=E,10450μm,0.2s								
T1242	**Castelluccio d**	**0.12**	**353**	P	**Pg**	**02**	**18**	**52.5**	**-0.2**
T1242				S	**Sg**	**02**	**18**	**54.7**	**-0.3**
T1242				AML	AML				
	comp=E,13000μm,0.6s								
T1242				AML	AML				
	comp=N,11600μm,0.3s								
T1242				AML	AML				
	comp=E,13050μm,0.6s								
T1242				AML	AML				
	comp=N,11650μm,0.3s								
T1242				AML	AML				
	comp=E,12850μm,0.6s								
T1242				AML	AML				
	comp=N,11700μm,0.3s								
NRCA	**Norcia**	**0.15**	**327**	P	**Pg**	**02**	**18**	**52.9**	**-0.1**
NRCA				S	**Sg**	**02**	**18**	**55.4**	**-0.2**
NRCA				AML	AML				
	comp=N,14250μm,1.3s								
NRCA				AML	AML				
	comp=E,23100μm,0.7s								
NRCA				AML	AML				
	comp=N,14250μm,1.3s								
NRCA				AML	AML				
	comp=E,25050μm,0.7s								
NRCA				AML	AML				
	comp=N,14200μm,1.3s								
NRCA				AML	AML				
	comp=N,15650μm,1.3s								
NRCA				AML	AML				
	comp=E,23050μm,0.7s								
T1243	**Rocca Santa Ma**	**0.16**	**93**	⇑P	**Pg**	**02**	**18**	**53.0**	**-0.2**
T1243				S	**Sg**	**02**	**18**	**55.7**	**-0.2**
LNSS	**Leonessa**	**0.17**	**233**	⇑P	**Pg**	**02**	**18**	**53.6**	**+0.3**
LNSS				S	**Sg**	**02**	**18**	**56.9**	**+0.8**
LNSS				AML	AML				
	comp=N,12900μm,0.4s								
LNSS				AML	AML				
	comp=E,13100μm,0.1s								
RM33	**Pellescritta (**	**0.20**	**182**	⇑P	**Pg**	**02**	**18**	**54.0**	**+0.3**
RM33				AML	AML				
	comp=E,5195μm,1.6s								
RM33				AML	AML				
	comp=N,3495μm,0.6s								
RM33				AML	AML				
	comp=N,3510μm,0.6s								
RM33				AML	AML				
	comp=E,5190μm,1.6s								
RM33				AML	AML				
	comp=N,3495μm,0.6s								
RM33				AML	AML				
	comp=E,4975μm,1.6s								
RM33				AML	AML				
	comp=N,3505μm,0.6s								
RM33				AML	AML				
	comp=E,5195μm,1.6s								
MMO1	**Montemonaco**	**0.21**	**21**	⇑P	**Pg**	**02**	**18**	**53.7**	**-0.2**
MMO1				S	**Sg**	**02**	**18**	**57.0**	**+0.1**
MC2	**Monte Cornacci**	**0.21**	**353**	⇓P	**Pg**	**02**	**18**	**53.9**	**-0.1**
T1241	**Roccafluvione,**	**0.21**	**45**	P	**Pg**	**02**	**18**	**53.8**	**-0.2**
T1241				S	**Sg**	**02**	**18**	**57.1**	**0.0**
T1241				AML	AML				
	comp=E,4530μm,0.3s								
T1241				AML	AML				
	comp=E,4530μm,0.2s								
T1241				AML	AML				
	comp=E,4470μm,0.2s								
T1241				AML	AML				
	comp=N,4395μm,1.6s								
T1241				AML	AML				
	comp=N,4695μm,1.6s								
T1241				AML	AML				
	comp=E,4525μm,0.2s								
T1217	**Poggiodomo (PG**	**0.22**	**272**	⇑P	**Pg**	**02**	**18**	**54.3**	**+0.2**
T1217				AML	AML				
	comp=E,4430μm,1.3s								
T1217				AML	AML				
	comp=N,4325μm,0.4s								
T1217				AML	AML				
	comp=N,4115μm,0.4s								
T1217				AML	AML				
	comp=N,4325μm,0.4s								
T1217				AML	AML				
	comp=E,4300μm,0.3s								
T1217				AML	AML				
	comp=N,4110μm,0.4s								
T1217				AML	AML				
	comp=E,4300μm,0.3s								
T1217				AML	AML				
	comp=E,4430μm,1.3s								
T1217				AML	AML				
	comp=N,4320μm,0.4s								
T1217				AML	AML				
	comp=N,4120μm,0.5s								
CAMP	**Campotosto**	**0.22**	**142**	P	**Pg**	**02**	**18**	**54.1**	**0.0**
CAMP				AML	AML				
	comp=N,1840μm,0.6s								
CAMP				AML	AML				
	comp=E,2845μm,0.2s								
T1216	**Preci, Frazion**	**0.24**	**321**	⇑P	**Pg**	**02**	**18**	**54.4**	**-0.1**
T1216				S	**Sg**	**02**	**18**	**58.6**	**+0.8**
T1216				AML	AML				
	comp=E,5990μm,0.4s								
T1216				AML	AML				
	comp=N,7415μm,1.4s								
T1216				AML	AML				
	comp=E,51750μm,0.4s								
T1216				AML	AML				
	comp=N,55250μm,1.4s								
T1216				AML	AML				
	comp=E,5985μm,0.4s								
T1216				AML	AML				
	comp=E,51750μm,0.4s								
T1216				AML	AML				
	comp=N,55300μm,1.4s								
T1216				AML	AML				
	comp=N,7415μm,1.4s								
T1247	**Pizzolo (AQ)**	**0.27**	**169**	⇑P	**Pg**	**02**	**18**	**55.3**	**+0.3**
T1247				AML	AML				
	comp=E,3650μm,0.1s								
T1247				AML	AML				
	comp=N,3450μm,0.8s								
T1247				AML	AML				
	comp=N,3455μm,0.8s								
T1215	**Vallo di Nera,**	**0.28**	**290**	⇑P	**Pg**	**02**	**18**	**55.2**	**0.0**
T1215				AML	AML				
	comp=N,2850μm,0.2s								
T1215				AML	AML				
	comp=N,2840μm,0.7s								
T1215				AML	AML				
	comp=E,1790μm,1.3s								
T1215				AML	AML				
	comp=E,1794μm,1.3s								
T1215				AML	AML				
	comp=N,2845μm,0.7s								
T1215				AML	AML				
	comp=N,2855μm,0.2s								
T1215				AML	AML				
	comp=N,2840μm,0.7s								
T1215				AML	AML				
	comp=E,1800μm,1.3s								
AM05	**Amandola Campo**	**0.29**	**19**	⇑P	**Pb**	**02**	**18**	**55.3**	**-1.4**

AM05				S	**Sb**	**02 19 01.0**	**-0.5**	
AM05				AML	AML			
	comp=E,1395µm,0.8s							
AM05				AML	AML			
	comp=N,1330µm,0.6s							
AM05				AML	AML			
	comp=E,5500µm,0.8s							
AM05				AML	AML			
	comp=N,5310µm,0.6s							
AM05				AML	AML			
	comp=N,1335µm,0.6s							
AM05				AML	AML			
	comp=E,5495µm,0.8s							
AM05				AML	AML			
	comp=E,1390µm,0.8s							
AM05				AML	AML			
	comp=N,5305µm,0.6s							
TERO	**Teramo**	**0.29**	**107**	⇑P	**Pg**	**02 18 55.2**	**-0.2**	
TERO				AML	AML			
	comp=N,6360µm,0.3s							
TERO				AML	AML			
	comp=N,7040µm,0.3s							
TERO				AML	AML			
	comp=E,4130µm,0.4s							
TERO				AML	AML			
	comp=E,4125µm,0.4s							
TERO				AML	AML			
	comp=E,4920µm,0.4s							
FDMO	**Fiordimonte**	**0.34**	**343**	⇓P	**Pg**	**02 18 56.1**	**-0.3**	
FDMO				AML	AML			
	comp=E,1680µm,0.2s							
FDMO				AML	AML			
	comp=N,1540µm,0.2s							
GIGS	**Gran Sasso**	**0.36**	**135**	P	**Pg**	**02 18 55.9**	**-0.8**	
GIGS				AML	AML			
	comp=E,558µm,1.2s							
GIGS				AML	AML			
	comp=N,619µm,0.4s							
ARRO	**Arrone**	**0.36**	**250**	⇑P	**Pg**	**02 18 56.8**	**+0.1**	
ARRO				AML	AML			
	comp=E,1430µm,0.7s							
ARRO				AML	AML			
	comp=N,1640µm,1.0s							
ARRO				AML	AML			
	comp=E,1425µm,0.7s							
ARRO				AML	AML			
	comp=N,1635µm,1.0s							
GUMA	**Gualdo di Mace**	**0.36**	**13**	⇑P	**Pg**	**02 18 56.4**	**-0.4**	
GUMA				AML	AML			
	comp=E,12250µm,0.6s							
GUMA				AML	AML			
	comp=N,8000µm,0.3s							
GUMA				AML	AML			
	comp=E,11400µm,0.7s							
GUMA				AML	AML			
	comp=N,9795µm,0.5s							
AQU	**L'Aquila**	**0.38**	**160**	P	**Pg**	**02 18 57.0**	**+0.1**	
AQU				AML	AML			
	comp=N,864µm,0.2s							
AQU				AML	AML			
	comp=E,686µm,1.2s							
AQU				AML	AML			
	comp=N,852µm,0.3s							
AQU				AML	AML			
	comp=E,679µm,0.8s							
CESI	**CESI - Serrava**	**0.38**	**322**	⇑P	**Pg**	**02 18 57.0**	**-0.1**	
CESI				AML	AML			
	comp=E,2450µm,0.3s							
CESI				AML	AML			
	comp=N,2895µm,0.4s							
CSP1	**Cessapalombo**	**0.39**	**358**	⇓P	**Pg**	**02 18 56.9**	**-0.2**	
CSP1				AML	AML			
	comp=E,1762µm,0.4s							
CSP1				AML	AML			
	comp=N,2275µm,0.4s							
CSP1				AML	AML			
	comp=E,1770µm,0.4s							
CSP1				AML	AML			
	comp=N,2280µm,0.4s							
CSP1				AML	AML			
	comp=E,1764µm,0.4s							
OFFI	**Offida**	**0.41**	**56**	⇑P	**Pb**	**02 18 58.1**	**-0.6**	
OFFI				AML	AML			
	comp=E,3790µm,0.6s							
OFFI				AML	AML			
	comp=N,4580µm,0.8s							
FIAM	**Fiamignano**	**0.45**	**190**	⇑P	**Pg**	**02 18 58.2**	**0.0**	
FIAM				AML	AML			
	comp=E,1990µm,0.2s							
FIAM				AML	AML			
	comp=N,880µm,0.3s							
CESX	**Cesi**	**0.49**	**259**	⇑P	**Pg**	**02 18 58.7**	**-0.3**	
CESX				AML	AML			
	comp=N,1032µm,0.5s							
CESX				AML	AML			
	comp=E,848µm,0.5s							
TRTR	**Tortoreto Alta**	**0.52**	**78**	⇑P	**Pb**	**02 19 00.5**	**0.0**	
TRTR				AML	AML			
	comp=N,2810µm,0.3s							
TRTR				AML	AML			
	comp=E,3090µm,0.3s							
VCEL	**Villa Celiera**	**0.55**	**124**	⇑P	**Pg**	**02 19 00.2**	**-0.1**	
VCEL				AML	AML			
	comp=E,1370µm,1.2s							
VCEL				AML	AML			
	comp=N,1345µm,0.8s							
SNTG	**Esanatoglia**	**0.59**	**339**	⇓P	**Pg**	**02 19 00.4**	**-0.5**	
SNTG				AML	AML			
	comp=E,430µm,0.2s							
SNTG				AML	AML			
	comp=N,444µm,0.6s							
EL6	**Elcito**	**0.63**	**352**	⇓P	**Pg**	**02 19 01.2**	**-0.5**	
EL6				S	**Sn**	**02 19 13.0**	**-1.5**	
T0110	**Collepietro**	**0.63**	**139**	⇓P	**Pg**	**02 19 01.3**	**-0.4**	
T0110				AML	AML			
	comp=E,948µm,0.4s							
T0110				AML	AML			
	comp=E,947µm,0.4s							
T0110				AML	AML			
	comp=N,1380µm,0.5s							
ATCC	**AVT- Casa Cast**	**0.64**	**318**	⇑P	**Pg**	**02 19 01.6**	**-0.4**	
ATCC				S	**Sn**	**02 19 13.0**	**-1.8**	
ATCC				AML	AML			
	comp=E,1080µm,1.5s							
ATCC				AML	AML			
	comp=N,842µm,0.3s							
ATCC				AML	AML			
	comp=E,1075µm,1.5s							
CING	**Cingoli**	**0.67**	**358**	⇑P	**Pg**	**02 19 01.9**	**-0.6**	
CING				AML	AML			
	comp=E,706µm,0.3s							
CING				AML	AML			
	comp=N,735µm,0.2s							
FOSV	**Fossato di Vic**	**0.68**	**330**	⇑P	**Pg**	**02 19 02.2**	**-0.5**	
FOSV				AML	AML			
	comp=E,436µm,0.5s							
FOSV				AML	AML			
	comp=E,436µm,0.5s							
FOSV				AML	AML			
	comp=N,416µm,0.9s							
PTQR	**Pietraquaria**	**0.70**	**169**	⇓P	**Pn**	**02 19 05.0**	**-0.3**	
SRES	**S.Oreste - Sor**	**0.71**	**229**	⇑P	**Pg**	**02 19 02.8**	**-0.4**	
SRES				AML	AML			
	comp=N,232µm,0.4s							
SRES				AML	AML			
	comp=E,278µm,0.4s							
PP3	**Marolino**	**0.73**	**23**	⇓P	**Pb**	**02 19 04.1**	**0.0**	
PP3				AML	AML			
	comp=E,2710µm,0.5s							
PP3				AML	AML			
	comp=E,2605µm,0.5s							
PP3				AML	AML			
	comp=N,2180µm,0.4s							
PP3				AML	AML			
	comp=N,2040µm,0.4s							
MTCE	**Montecelio**	**0.77**	**208**	⇑P	**Pg**	**02 19 03.5**	**-0.8**	
MTCE				AML	AML			
	comp=N,192µm,0.5s							
MTCE				AML	AML			
	comp=N,192µm,0.5s							
MTCE				AML	AML			
	comp=E,429µm,0.5s							
CERT	**Cerreto**	**0.78**	**194**	⇑P	**Pg**	**02 19 03.6**	**-0.9**	
CERT				AML	AML			
	comp=N,386µm,0.4s							
CERT				AML	AML			
	comp=E,638µm,0.4s							

SSFR	**Montelago di S**	**0.80**	**336**	⇓P	**Pg**	**02 19 04.4**	**-0.5**	
SSFR				AML	AML			
	comp=E,996µm,0.2s							
SSFR				AML	AML			
	comp=E,1005µm,0.2s							
SSFR				AML	AML			
	comp=N,782µm,0.2s							
SSFR				AML	AML			
	comp=N,906µm,0.2s							
ATTE	**AVT- Monte Tez**	**0.81**	**308**	⇓P	**Pb**	**02 19 04.9**	**-0.6**	
ATTE				AML	AML			
	comp=E,233µm,0.4s							
ATTE				AML	AML			
	comp=N,238µm,0.4s							
ATFO	**Monte Foce - G**	**0.82**	**324**	⇓P	**Pg**	**02 19 04.7**	**-0.5**	
ATFO				S	**Sn**	**02 19 19.0**	**-0.1**	
ATFO				AML	AML			
	comp=N,438µm,0.2s							
ATFO				AML	AML			
	comp=E,334µm,0.5s							
ARVD	**Arcevia**	**0.82**	**345**	P	**Pg**	**02 19 04.7**	**-0.6**	
ARVD				S	**Sn**	**02 19 19.0**	**-0.1**	
ARVD				AML	AML			
	comp=N,244µm,0.4s							
ARVD				AML	AML			
	comp=E,280µm,0.6s							
MGAB	**Montegabbione**	**0.84**	**284**	⇑P	**Pg**	**02 19 05.5**	**-0.3**	
MGAB				AML	AML			
	comp=N,660µm,0.4s							
MGAB				AML	AML			
	comp=E,658µm,1.1s							
MGAB				AML	AML			
	comp=E,568µm,1.1s							
MGAB				AML	AML			
	comp=N,660µm,0.4s							
MGAB				AML	AML			
	comp=N,660µm,0.4s							
INTR	**Introdacqua**	**0.86**	**144**	P	**Pg**	**02 19 04.8**	**-1.2**	
INTR				AML	AML			
	comp=E,269µm,0.6s							
INTR				AML	AML			
	comp=N,446µm,0.5s							
FRON	**Frontone**	**0.89**	**336**	⇓P	**Pg**	**02 19 06.2**	**-0.5**	
FRON				AML	AML			
	comp=N,304µm,0.3s							
FRON				AML	AML			
	comp=E,236µm,0.6s							
ATVO	**AVT- Monte Val**	**0.90**	**319**	⇑P	**Pg**	**02 19 06.3**	**-0.6**	
ATVO				S	**Sn**	**02 19 21.0**	**-0.2**	
ATVO				AML	AML			
	comp=E,254µm,0.3s							
ATVO				AML	AML			
	comp=N,250µm,0.7s							
COR1	**Corinaldo**	**0.94**	**350**	⇑P	**Pn**	**02 19 08.1**	**-0.5**	
ATMI	**Monte Miggiano**	**0.94**	**312**	⇓P	**Pn**	**02 19 08.6**	**-0.1**	
ATMI				AML	AML			
	comp=N,844µm,0.3s							
ATMI				AML	AML			
	comp=E,788µm,0.6s							
ATPI	**Pietralunga -**	**0.96**	**321**	⇑P	**Pg**	**02 19 07.4**	**-0.6**	
ATPI				AML	AML			
	comp=N,177µm,0.4s							
ATPI				AML	AML			
	comp=E,267µm,0.6s							
CAFR	**Castel Frentan**	**0.96**	**120**	P	**Pg**	**02 19 07.3**	**-0.6**	
CAFR				AML	AML			
	comp=E,1µm,0.4s							
CAFR				AML	AML			
	comp=N,239µm,0.4s							
LPEL	**Lama dei Pelig**	**0.97**	**133**	⇑P	**Pg**	**02 19 07.7**	**-0.4**	
LPEL				AML	AML			
	comp=E,217µm,0.2s							
LPEL				AML	AML			
	comp=N,228µm,0.4s							
PIEI	**Pieia**	**0.97**	**329**	⇑P	**Pg**	**02 19 07.5**	**-0.7**	
PIEI				AML	AML			
	comp=N,176µm,0.2s							
PIEI				AML	AML			
	comp=E,262µm,0.3s							
SACS	**San Casciano d**	**0.98**	**279**	P	**Pg**	**02 19 07.8**	**-0.6**	
SACS				AML	AML			
	comp=E,202µm,0.6s							
SACS				AML	AML			
	comp=N,275µm,0.7s							
MPAG	**Monte Paganucc**	**0.98**	**340**	⇑P	**Pb**	**02 19 07.9**	**-0.6**	
MPAG				AML	AML			
	comp=E,901µm,1.4s							
MPAG				AML	AML			
	comp=E,240µm,1.6s							
MPAG				AML	AML			
	comp=N,180µm,0.6s							
MPAG				AML	AML			
	comp=N,980µm,0.7s							
SENI	**Senigallia**	**1.00**	**0**	S	**Sb**	**02 19 21.0**	**-0.9**	
NARO	**Abbazia di Nar**	**1.02**	**333**	⇓P	**Pg**	**02 19 08.4**	**-0.7**	
NARO				AML	AML			
	comp=N,175µm,0.4s							
NARO				AML	AML			
	comp=E,137µm,0.9s							
FSSB	**Fossombrone**	**1.04**	**342**	⇓P	**Pb**	**02 19 08.9**	**-0.5**	
FSSB				AML	AML			
	comp=E,548µm,0.3s							
FSSB				AML	AML			
	comp=N,692µm,0.4s							
FSSB				AML	AML			
	comp=E,547µm,0.3s							
LATE	**Laterza**	**1.05**	**265**	P	**Pn**	**02 19 10.1**	**-0.1**	
LAV9	**Lanuvio**	**1.10**	**201**	⇓P	**Pn**	**02 19 12.0**	**+1.2**	
LAV9				AML	AML			
	comp=E,720µm,0.4s							
LAV9				AML	AML			
	comp=N,472µm,0.4s							
TOLF	**Tolfa**	**1.11**	**235**	⇓P	**Pb**	**02 19 10.0**	**-0.7**	
TOLF				AML	AML			
	comp=N,112µm,0.3s							
TOLF				AML	AML			
	comp=E,144µm,0.8s							
CAFI	**Castiglion Fio**	**1.11**	**304**	⇓P	**Pg**	**02 19 10.6**	**-0.3**	
CAFI				AML	AML			
	comp=E,260µm,1.3s							
CAFI				AML	AML			
	comp=N,245µm,0.9s							
GIUL	**Giuliano Di Ro**	**1.15**	**179**	P	**Pb**	**02 19 11.1**	**-0.2**	
GIUL				AML	AML			
	comp=E,146µm,0.7s							
GIUL				AML	AML			
	comp=N,168µm,0.5s							
ARCI	**Arcidosso**	**1.30**	**277**	⇓P	**Pg**	**02 19 15.1**	**+0.7**	
MELA	**Melanico ??? S**	**1.73**	**125**	⇓P	**Pg**	**02 19 21.8**	**-0.8**	
CASP	**Castiglione de**	**1.74**	**274**	⇓P	**Pn**	**02 19 19.8**	**+0.2**	
TRIF	**Trifonti**	**1.75**	**284**	⇑P	**Pb**	**02 19 20.6**	**-1.1**	
TRIF				AML	AML			
	comp=E,41µm,0.8s							
TRIF				AML	AML			
	comp=N,31µm,0.7s							
SGRT	**San Giovanni R**	**2.10**	**116**	⇑P	**Pb**	**02 19 26.0**	**-1.5**	
HVAR	**Hvar**	**2.41**	**78**	P	**Pn**	**02 19 29.9**	**+1.1**	
CMPR	**Campora**	**2.85**	**146**	P	**Pb**	**02 19 39.4**	**-1.0**	
CMPR				S	**Sn**	**02 20 11.0**	**+1.7**	
BOJS	**Bojanci**	**3.15**	**27**	P	**Pb**	**02 19 45.2**	**-0.3**	
BOJS				S	**Sn**	**02 20 18.0**	**+1.3**	
CGRP	**Cima Grappa**	**3.33**	**343**	⇓P	**Pn**	**02 19 42.7**	**+1.1**	
OBKA	**Obir**	**3.92**	**13**	*e*Pn	**Pn**	**02 19 49.4**	**-0.2**	
	comp=N,0.4nm,0.2s							
ABTA	**Abfaltersbach**	**4.07**	**353**	*e*Pn	**Pn**	**02 19 52.4**	**+0.7**	
	comp=N,1.5nm,0.3s							
FETA	**Feichten**	**4.67**	**339**	*e*Pn	**Pn**	**02 20 02.8**	**+2.8**	
	comp=N,0.5nm,0.2s							
WTTA	**Wattenberg**	**4.69**	**347**	*e*Pn	**Pn**	**02 20 02.9**	**+2.5**	
	comp=N,0.4nm,0.2s							
SQTA	**Sankt Quirin**	**4.74**	**343**	*i* Pn	**Pn**	**02 20 03.2**	**+2.4**	
	comp=N,2.2nm,0.4s							
WATA	**Walderalm**	**4.77**	**346**	*e*Pn	**Pn**	**02 20 04.7**	**+3.2**	
	comp=N,0.7nm,0.3s							
MOTA	**Moosalm**	**4.88**	**343**	*i* Pn	**Pn**	**02 20 03.6**	**+0.8**	
	comp=N,0.3nm,0.2s							
DAVA	**Damuels**	**5.16**	**334**	*e*Pn	**Pn**	**02 20 08.4**	**+1.7**	
	comp=N,1.7nm,0.5s							
MOA	**Molln**	**5.20**	**8**	*e*Pn	**Pn**	**02 20 10.5**	**+3.4**	
	comp=N,0.2nm,0.1s							
CONA	**Conrad Observa**	**5.54**	**19**	*i* Pn	**Pn**	**02 20 15.5**	**+3.6**	
	comp=N,0.2nm,0.2s							

IDC ***14*** *02:20:01.9±0.9, 37.˚98N×20.˚30E, h0km, mb3.9/10, mbtmp3.8/21, ML3.4/9, Error ellipse: s-maj=16.2km s-min=13.4km az=176.0*
ATH ***14*** *02:20:03.7, 37.˚96N×20.˚21E, h19km±4km, ML3.9/23, Error ellipse: s-maj=5.1km s-min=1.0km az=53.0*
THE ***14*** *02:20:03.1, 37.˚92N×20.˚18E, h2km±1km, ML3.9/15, Error ellipse: s-maj=1.8km s-min=0.7km az=58.0*
NEIC ***14*** *02:20:03.4±1.5, 37.˚89N±0.˚06×20.˚15E±0.˚04, h10km±1km, mb4.5/9, ML3.9(THE), ML3.9(ATH), Error ellipse: s-maj=10.8km s-min=2.9km az=209.0*
PDG ***14*** *02:20:03.6±0.6, 38.˚04N×20.˚21E, h10km±1km, ML4.0/14, Error ellipse: s-maj=1.0km s-min=1.2km az=0.0*
HLW ***14*** *02:20:04.4, 38.˚20N×20.˚78E, h33km±39km, Md5.1*

ISC 14 02:20:04.2±0.8, 37.˚95N±0.˚02×20.˚22E±0.˚03, h19km±2km, n231, σ1°62/279, mb4.3/13, 17C-13D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.28**	**22**	P	**Pg**	**02 20 10.2**	**-0.2**
KEF3				S	**Sg**	**02 20 14.3**	**-0.4**
KEF3	**Kipouria, Keph**	**0.28**	**22**	P	**Pg**	**02 20 10.2**	**-0.2**
KEF3				S	**Sb**	**02 20 14.6**	**0.0**
DMLN	**Damoulianata-K**	**0.32**	**23**	P	**Pg**	**02 20 10.4**	**-0.7**
DMLN				S	**Sg**	**02 20 15.1**	**-0.7**
	81µm,0.6s						
PSDA	**Pessada-Kefalo**	**0.33**	**60**	P	**Pg**	**02 20 10.4**	**-0.9**
PSDA				S	**Sg**	**02 20 14.7**	**-1.6**
	6µm,0.5s						
PSDA	**Pessada-Kefalo**	**0.33**	**60**	P	**Pg**	**02 20 10.5**	**-0.9**
PSDA				S	**Sg**	**02 20 15.1**	**-1.2**
KEF4	**Livadi, Kephal**	**0.35**	**28**	P	**Pg**	**02 20 10.9**	**-0.8**
KEF4				S	**Sg**	**02 20 16.0**	**-0.7**
	335µm,0.3s						
KEF4	**Livadi, Kephal**	**0.35**	**28**	P	**Pg**	**02 20 10.9**	**-0.8**
KEF4				S	**Sg**	**02 20 16.2**	**-0.5**
VLS	**Valsamata**	**0.37**	**52**	P	**Pg**	**02 20 11.0**	**-1.1**
VLS				S	**Sg**	**02 20 16.2**	**-1.2**
	55µm,0.3s						
VLS	**Valsamata**	**0.37**	**52**	P	**Pg**	**02 20 11.0**	**-1.1**
VLS				S	**Sg**	**02 20 16.0**	**-1.4**
VLS				AML	AML	02 20 16.3	
VLS				AML	AML	02 20 16.6	
	comp=N,91025µm,0.2s						
LTHK	**Lithakia**	**0.55**	**116**	P	**Pg**	**02 20 14.5**	**-0.7**
LTHK				S	**Sg**	**02 20 22.5**	**0.0**
	comp=N,18µm,0.4s						
LTHK	**Lithakia**	**0.55**	**116**	P	**Pg**	**02 20 14.5**	**-0.7**
LTHK				S	**Sg**	**02 20 22.6**	**+0.1**
LTHK				AML	AML	02 20 30.1	
	comp=N,38411µm,0.3s						
LTHK				AML	AML	02 20 32.1	
	comp=E,30087µm,0.5s						
FSK	**Fiskardo**	**0.58**	**28**	P	**Pg**	**02 20 15.2**	**-0.5**
FSK				S	**Sb**	**02 20 23.9**	**+0.5**
	comp=E,14µm,0.6s						
FSK	**Fiskardo**	**0.58**	**28**	P	**Pg**	**02 20 15.3**	**-0.5**
FSK				S	**Sg**	**02 20 22.9**	**-0.6**
FSK				AML	AML	02 20 28.5	
	comp=E,27141µm,0.7s						
FSK				AML	AML	02 20 28.8	
	comp=N,30050µm,0.6s						
EVGI	**Lefkada island**	**0.76**	**27**	P	**Pb**	**02 20 17.4**	**-1.4**
EVGI	**Lefkada island**	**0.76**	**27**	P	**Pb**	**02 20 17.4**	**-1.4**
EVGI				S	**Sb**	**02 20 28.3**	**-0.3**
DRAG	**Dragano-Lefkad**	**0.79**	**21**	P	**Pb**	**02 20 17.8**	**-1.5**
NYDR	**Nydri-Lefkada**	**0.85**	**26**	P	**Pb**	**02 20 18.9**	**-1.5**
NYDR				S	**Sn**	**02 20 33.0**	**-0.2**
	comp=N,23µm,0.5s						
LKD2	**Lefkada island**	**0.91**	**22**	P	**Pb**	**02 20 19.8**	**-1.6**
LKD2				S	**Sn**	**02 20 34.8**	**+0.2**
	comp=N,7µm,0.8s						
LKD2	**Lefkada island**	**0.91**	**22**	P	**Pb**	**02 20 19.9**	**-1.4**
LKD2				AML	AML	02 20 38.6	
	comp=E,13100µm,0.8s						
LKD2				AML	AML	02 20 42.1	
	comp=N,13416µm,0.9s						
TSLK	**Tsoukalades, L**	**0.94**	**21**	P	**Pb**	**02 20 20.5**	**-1.4**
TSLK				S	**Sn**	**02 20 35.9**	**+0.5**
	comp=N,9µm,0.6s						
TSLK	**Tsoukalades, L**	**0.94**	**21**	P	**Pb**	**02 20 20.8**	**-1.1**
TSLK				S	**Sb**	**02 20 32.3**	**-1.7**
RLS	**Riolos of Patr**	**0.99**	**83**	P	**Pb**	**02 20 21.8**	**-1.0**
RLS				S	**Sn**	**02 20 37.6**	**+1.0**
	comp=N,4µm,0.5s						
RLS	**Riolos of Patr**	**0.99**	**83**	P	**Pb**	**02 20 21.8**	**-1.0**
RLS				AML	AML	02 20 43.9	
	comp=E,7432µm,0.6s						
RLS				AML	AML	02 20 47.2	
	comp=N,8134µm,0.7s						
DRO	**Drossia**	**1.18**	**89**	P	**Pn**	**02 20 25.0**	**-0.7**
DRO	**Drossia**	**1.18**	**89**	P	**Pn**	**02 20 25.2**	**-0.6**
DRO				AML	AML	02 20 48.9	
	comp=E,20366µm,1.0s						
DRO				AML	AML	02 20 56.5	
	comp=N,18625µm,0.6s						
PVO	**Paravola**	**1.23**	**57**	P	**Pn**	**02 20 26.2**	**-0.1**
PVO				S	**Sg**	**02 20 45.3**	**+1.3**
	comp=N,7µm,0.6s						
PVO	**Paravola**	**1.23**	**57**	P	**Pn**	**02 20 26.4**	**0.0**
EFP	**Efpalio**	**1.42**	**70**	P	**Pn**	**02 20 29.1**	**+0.2**
EFP	**Efpalio**	**1.42**	**70**	P	**Pn**	**02 20 29.0**	**+0.2**
EFP				AML	AML	02 20 57.8	
	comp=E,5760µm,0.7s						
EFP				AML	AML	02 21 08.0	
	comp=N,4810µm,0.6s						
LAKA	**Lakka**	**1.42**	**78**	P	**Pn**	**02 20 29.2**	**+0.2**
LAKA	**Lakka**	**1.42**	**78**	P	**Pn**	**02 20 29.2**	**+0.2**
LAKA				AML	AML	02 20 59.3	
	comp=N,16812µm,0.7s						
LAKA				AML	AML	02 21 05.7	
	comp=E,19935µm,1.1s						
SERG	**Sergoula**	**1.52**	**72**	P	**Pn**	**02 20 30.7**	**+0.3**
SERG	**Sergoula**	**1.52**	**72**	P	**Pn**	**02 20 30.8**	**+0.3**
SERG				AML	AML	02 21 08.4	
	comp=E,3527µm,0.6s						
SERG				AML	AML	02 21 09.0	
	comp=N,4172µm,0.5s						
ALIK	**Aliki, Aigiali**	**1.53**	**78**	P	**Pb**	**02 20 31.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.53**	**86**	P	**Pb**	**02 20 31.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.53**	**86**	P	**Pn**	**02 20 31.0**	**+0.4**
KLV				AML	AML	02 21 03.0	
	comp=N,4538µm,0.7s						
KLV				AML	AML	02 21 05.4	
	comp=E,4040µm,0.7s						
ITM	**Ithomi**	**1.56**	**119**	P	**Pn**	**02 20 31.8**	**+0.9**
ITM				S	**Sb**	**02 20 53.3**	**+1.5**
	comp=E,2µm,0.9s						
ITM	**Ithomi**	**1.56**	**119**	Pn	**Pn**	**02 20 31.5**	**+0.6**
ITM	**Ithomi**	**1.56**	**119**	P	**Pn**	**02 20 31.9**	**+0.9**
ITM				AML	AML	02 21 04.8	
	comp=E,3905µm,0.6s						
ITM				AML	AML	02 21 07.3	
	comp=N,4888µm,0.5s						
EVR	**Evrytania**	**1.58**	**52**	P	**Pb**	**02 20 32.5**	**-0.4**
EVR				S	**Sg**	**02 20 54.7**	**-0.6**
	comp=N,2µm,1.0s						
EVR	**Evrytania**	**1.58**	**52**	P	**Pb**	**02 20 32.4**	**-0.5**
EVR				AML	AML	02 21 05.8	
	comp=N,2870µm,0.9s						
EVR				AML	AML	02 21 13.2	
	comp=E,4508µm,1.2s						
IGT	**Igoumenitsa**	**1.58**	**3**	P	**Pn**	**02 20 31.7**	**+0.4**
IGT				S	**Sb**	**02 20 53.5**	**+0.9**
	comp=E,2µm,0.5s						
IGT	**Igoumenitsa**	**1.58**	**3**	P	**Pn**	**02 20 31.6**	**+0.4**
IGT				AML	AML	02 21 10.4	
	comp=E,4175µm,0.5s						
IGT				AML	AML	02 21 11.5	
	comp=N,3524µm,0.5s						
PYL	**PYLOS**	**1.61**	**130**	P	**Pn**	**02 20 31.9**	**+0.4**
PYL				S	**Sb**	**02 20 52.8**	**-0.3**
	comp=N,2µm,0.8s						
PYL	**PYLOS**	**1.61**	**130**	P	**Pn**	**02 20 32.0**	**+0.4**
PYL				AML	AML	02 21 02.4	
	comp=E,4966µm,0.6s						
PYL				AML	AML	02 21 18.4	
	comp=N,3230µm,0.9s						
JAN	**Janina**	**1.78**	**16**	P	**Pn**	**02 20 34.3**	**+0.3**
JAN				AML	AML	02 21 07.0	
	comp=N,3192µm,0.7s						
JAN				AML	AML	02 21 10.5	
	comp=E,5588µm,1.0s						
KEK	**Kerkira**	**1.79**	**350**	P	**Pn**	**02 20 34.5**	**+0.4**
KEK	**Kerkira**	**1.79**	**350**		**Pn**	**02 20 34.5**	**+0.4**
KEK	**Kerkira**	**1.79**	**350**	P	**Pn**	**02 20 34.5**	**+0.4**
KEK				AML	AML	02 21 16.1	

comp=N,4363µm,0.6s
KEK AML AML 02 21 16.9
comp=E,4733µm,0.6s
KASA Kassiopi 1.81 353 P Pn 02 20 34.5 +0.2
MAKR Makrakomi, Fth 1.84 54 P Pb 02 20 37.1 -0.2
MAKR AML AML 02 21 16.1
comp=N,7815µm,0.5s
MAKR AML AML 02 21 20.9
comp=E,7844µm,0.9s
THAL Thalero 1.94 87 P Pb 02 20 38.0 -0.8
THAL AML AML 02 21 28.7
comp=N,7905µm,0.7s
THAL AML AML 02 21 29.3
comp=E,11382µm,1.1s
AXAR Agios Charalam 2.09 66 P Pb 02 20 40.1 -1.4
AXAR AML AML 02 21 28.1
comp=N,7039µm,0.7s
AXAR AML AML 02 21 33.6
comp=E,5774µm,0.6s
THL Klokotos Trika 2.14 40 P Pb 02 20 40.9 -1.5
THL AML AML 02 21 26.6
comp=E,2037µm,0.6s
THL AML AML 02 21 28.9
comp=N,2784µm,1.3s
LTK Loutraki 2.17 87 P Pn 02 20 40.6 +1.2
LTK Loutraki 2.17 87 P Pn 02 20 40.7 +1.3
LTK AML AML 02 21 30.8
comp=N,3743µm,0.7s
LTK AML AML 02 21 33.2
comp=E,3603µm,0.9s
LOUT Loutraki 2.18 88 P Pn 02 20 40.9 +1.4
LOUT AML AML 02 21 27.1
comp=N,449µm,1.0s
LOUT AML AML 02 21 32.6
comp=E,592µm,0.9s
LSK Leskovik 2.22 8 P Pn 02 20 41.0 +0.9
LKR Lokris 2.30 71 P Pn 02 20 41.2 +0.1
ATAL Atalanti 2.33 71 P Pn 02 20 42.6 +1.1
VLI Veliai 2.49 119 P Pn 02 20 46.0 +2.3
VLI AML AML 02 21 41.6
comp=E,1338µm,1.3s
VLI AML AML 02 21 41.6
comp=N,1475µm,0.6s
SCTE Santa Cesarea 2.52 328 Pn Pn 02 20 44.4 +0.3
VLO Vlora 2.58 348 Pn Pn 02 20 45.8 +0.9
KBN Korca 2.71 9 Pn 02 20 48.5 +1.7
LIT Litokhoron 2.79 39 Pn Pn 02 20 50.1 +2.3
DION Dionisos Attik 2.94 86 P Pn 02 20 50.9 +1.0
TIP Timpagrande 2.98 295 Pn Pn 02 20 50.8 +0.4
TIP Timpagrande 2.98 295 ⇓P Pn 02 20 51.3 +0.8
OHR Ohrid 3.19 8 *i* Pn Pn 02 20 55.9 +2.5
ANKY Antikythira Is 3.23 129 P Pn 02 20 55.8 +2.0
TIR Tirane 3.41 356 Pn 02 20 57.0 +0.8
CEL Celeste 3.42 277 Pn Pn 02 20 56.0 -0.6
VAY Valandovo 3.83 28 *i* Pn Pn 02 21 03.4 +1.3
MATE Matera 3.83 316 ⇓P Pn 02 21 03.5 +1.3
CUC Castrocucco 3.99 302 Pn Pn 02 21 04.6 +0.2
STIP Stip 4.04 21 *i* Pn Pn 02 21 08.5 +3.5
ULC Ulcinj 4.08 350 ⇓*i* Pn Pn 02 21 05.9 +0.3
ULC *i* Sn Sn 02 21 53.3 +0.5
SKO Skopje 4.13 13 *i* Pn Pg 02 21 21.6 -1.7
DRME Dracevica, Mon 4.31 350 *e*Pn Pn 02 21 08.6 -0.1
DRME Dracevica, Mon 4.31 350 ⇓*i* Pn Pn 02 21 08.8 +0.1
DRME *i* Sn Sn 02 21 58.8 +0.4
APE Apeiranthos 4.32 100 ⇑P Pn 02 21 11.0 +2.2
BUM Brajici-Budva 4.46 347 ⇑*i* Pn Pn 02 21 10.8 -0.1
BUM *i* Sn Sn 02 22 02.6 +0.2
KKB Krupnik 4.49 28 *i* P Pn 02 21 13.1 +1.9
MMB Musomiste 4.53 36 *i* P Pn 02 21 14.7 +2.9
PDG Podgorica 4.54 351 Pn Pn 02 21 11.8 0.0
PDG Podgorica 4.54 351 ⇓P Pn 02 21 11.0 -0.9
TTG Podgorica 4.54 351 ⇓*i* Pn Pn 02 21 12.4 +0.6
TTG *i* Sn Sn 02 22 04.4 +0.4
IDI Anoyia 4.60 124 Pn Pn 02 21 13.2 +0.4
comp=N,0.6nm,0.3s,baz=291,slow=6.6,SNR=13
IDI Sn Sn 02 22 07.6 +1.9
comp=N,22nm,0.3s,baz=148,slow=23,SNR=42
comp=N,3.0nm,0.3s
IDI Anoyia 4.60 124 Pn Pn 02 21 14.3 +1.5
IDI Anoyia 4.60 124 ⇓P Pn 02 21 17.5 +4.7
VAE Valguarnera 4.63 266 Pn Pn 02 21 15.1 +1.9
comp=N,2.2nm,0.3s,baz=191,slow=3.6,SNR=7.1
VAE Sn Sn 02 22 06.1 -0.2
comp=N,3.2nm,0.3s,baz=102,slow=7.6,SNR=6.8
comp=N,15nm,0.6s
PVY Plav 4.65 358 ⇑*i* Pn Pn 02 21 14.6 +1.1
PVY *i* Sn Sn 02 22 07.6 +0.7
HCY Herceg Novi 4.68 344 *e*Pn Pn 02 21 12.2 -1.7
HCY Herceg Novi 4.68 344 ⇑*i* Pn Pn 02 21 12.7 -1.2
HCY *e*Sn Sn 02 22 06.2 -1.5
CEME Cevo 4.70 348 ⇑*i* Pn Pn 02 21 13.6 -0.5
CEME *i* Sn Sn 02 22 08.2 0.0
RAFF Raffo Rosso 4.71 263 Pn Pn 02 21 13.6 -0.6
NKME Niksic 4.91 349 ⇑*i* Pn Pn 02 21 17.3 +0.3
NKME *i* Sn Sn 02 22 13.7 +0.4
IVA Berane 4.92 357 ⇓*i* Pn Pn 02 21 18.2 +1.0
IVA *e*Sn Sn 02 22 14.1 +0.4
KOME Kolasin 4.93 354 ⇑*i* Pn Pn 02 21 17.9 +0.6
KOME *e*Sn Sn 02 22 13.7 -0.1
NKY Niksic 4.95 350 ⇓*i* Pn Pn 02 21 18.0 +0.4
NKY *i* Sn Sn 02 22 14.1 -0.2
WDD Wied Dalam 5.03 247 Pn Pn 02 21 18.9 +0.3
RZN Rozhen 5.09 41 *i* P Pn 02 21 21.2 +1.5
BRY Bratogost 5.11 346 *e*Pn Pn 02 21 18.2 -1.7
BRY Bratogost 5.11 346 ⇓*i* Pn Pn 02 21 19.3 -0.6
BRY *i* Sn Sn 02 22 18.1 -0.3
SGRT San Giovanni R 5.13 319 Pn Pn 02 21 20.3 +0.3
VTS Vitosha 5.20 25 Pn Pn 02 21 21.8 +0.7
VTS Vitosha 5.20 25 *e*P Pn 02 21 23.3 +2.2
VTS Vitosha 5.20 25 ⇑P Pn 02 21 18.8 -2.3
RDO Rodhopi 5.21 51 Pn Pn 02 21 21.8 +0.8
STON Ston 5.28 339 *e*Pn Pn 02 21 19.6 -2.4
UPM Unac-Piva 5.34 350 *e*Pn Pn 02 21 23.7 +0.6
UPM Unac-Piva 5.34 350 ⇑*i* Pn Pn 02 21 22.9 -0.2
UPM *e*Sn Sn 02 22 24.1 -0.1
PAOL Paolisi 5.34 307 Pn Pn 02 21 24.4 +1.4
ALN Alexandroupoli 5.39 55 Pn Pn 02 21 23.8 +0.3
PLE Pljevlja 5.41 354 ⇑*i* Pn Pn 02 21 24.5 +0.5
PLE *e*Sn Sn 02 22 25.3 -0.5
KDZ Kurdzhali 5.45 46 *i* P Pn 02 21 25.7 +1.3
CLTB Caltabellotta 5.56 268 Pn Pn 02 21 27.2 +1.2
RUDO Rudo 5.70 354 *e*Pn Pn 02 21 27.1 -0.7
BOVS Bovan 5.79 11 ⇓P Pn 02 21 28.1 -1.0
BLKB Belogradchik 5.97 17 ⇓P Pn 02 21 30.6 -0.9
MPEP Malo Peshtene 6.03 25 *e*P Pn 02 21 32.2 -0.1
KARP Karpathos 6.07 111 Pn Pn 02 21 33.9 +1.0
DIVS Divibare 6.15 358 Pn Pn 02 21 33.1 -1.0
DIVS Divibare 6.15 358 *e*Pn Pn 02 21 32.8 -1.2
SRKY Kupres RS 6.54 340 *e*Pn Pn 02 21 38.4 -1.0
ARG Arkhangelos 6.55 103 Pn Pn 02 21 41.4 +1.8
AQU L'Aquila 6.83 312 Pn Pn 02 21 45.9 +2.6
MGRS Mrkonjic Grad 6.88 341 *e*Pn Pn 02 21 44.3 +0.3
MDVR Moldovita 6.92 9 ⇑P Pn 02 21 42.4 -2.2
CAMP Campotosto 6.94 313 Pn Pn 02 21 45.1 +0.3
A050A Klekovaca 7.09 338 *e*Pn Pn 02 21 47.4 +0.4
HERR Herculane 7.12 13 ⇑P Pn 02 21 45.6 -1.7
BLY Banja Luka 7.17 342 *e*Pn Pn 02 21 48.3 +0.4
FRGS Fruska Gora 7.21 358 *e*Pn Pn 02 21 47.9 -0.7
FRGS Fruska Gora 7.21 358 ⇑P Pn 02 21 46.9 -1.6
NRCA Norcia 7.29 314 Pn Pn 02 21 52.0 +2.3
A052A Srbac 7.43 345 *e*Pn Pn 02 21 49.2 -2.3
FDMO Fiordimonte 7.44 315 Pn Pn 02 21 51.7 0.0
A051A Mrakovica 7.48 342 *e*Pn Pn 02 21 51.4 -0.9
SLUM Salum 7.64 146 P Pn 02 21 54.0 -0.5
baz=150
SLUM S Sn 02 23 14.0 -6.5
baz=150
GZR Gura Zlata 7.68 14 ⇑P Pn 02 21 53.7 -1.3
BZS Buzias 7.73 7 ⇓P Pn 02 21 54.3 -1.4
MURB Monte Urbino 7.90 315 Pn Pn 02 21 58.8 +0.7
KOVH Kovagotottos 8.29 350 P Pn 02 22 04.5 +1.2
KOVH S Sn 02 23 29.6 -6.7
VOIR 8.31 24 ⇑P Pn 02 22 02.5 -1.1
MORH Mrgy, Hungar 8.34 352 P Pn 02 22 02.5 -1.5
MORH S Sn 02 23 30.1 -7.6
MORH Mrgy, Hungar 8.34 352 ⇑P Pn 02 22 03.1 -1.0
BOJS Bojanci 8.41 335 *e*Pn Pn 02 22 04.6 -0.4
BOJS Bojanci 8.41 335 *e*Pn Pn 02 22 04.7 -0.4
BOJS *i* Sn Sn 02 23 35.0 -4.4
CASP Castiglione de 8.62 307 Pn Pn 02 22 07.3 -0.5
MLR Muntele Rosu 8.67 28 Pn Pn 02 22 10.4 +1.8
comp=N,3.7nm,0.8s,baz=282,slow=23,SNR=1.0

OSSC Osservatorio P 8.79 312 Pn Pn 02 22 11.6 +1.3
SKDS Skadanscina 8.89 331 *e*Pn Pn 02 22 10.7 -0.9
CEY Cerknica 8.90 333 *e*Pn Pn 02 22 10.8 -0.9
KEST Kesra 8.99 259 Pn Pn 02 22 13.9 +0.8
comp=N,0.6nm,0.3s,baz=29,slow=7.3,SNR=17
KEST Sn Sn 02 23 52.5 -1.4
comp=N,0.1nm,0.3s,baz=142,slow=23,SNR=1.2
comp=N,3.6nm,0.7s
KEST Kesra 8.99 259 Pn Pn 02 22 12.8 -0.3
TRI Triste 9.12 330 Pn Pn 02 22 14.5 -0.3
SABO M.te Sabotino 9.41 331 Pn Pn 02 22 19.1 +0.3
MPLH Magyarpolny 9.43 349 S Sn 02 24 02.4 -1.8
MPLH Magyarpolny 9.43 349 P Pn 02 22 26.0 +7.1
OBKA Obir 9.53 336 *e*Pn Pn 02 22 19.0 -1.4
OBKA Obir 9.53 336 *e*Pn Pn 02 22 20.1 -0.3
comp=N,2.9nm,0.3s,SNR=9.4
OBKA Sn Sn 02 24 04.1 -2.9
comp=N,18nm,0.6s
SOKA Soboth 9.53 338 *e*Pn Pn 02 22 19.2 -1.2
comp=N,6.0nm,0.3s,SNR=21
SOKA *e*Sn Sn 02 24 00.5 -6.5
comp=N,4.8nm,0.6s
VLC Villacollemand 9.67 313 Pn Pn 02 22 24.9 +2.6
SWA2 9.72 152 P Pn 02 22 20.8 -2.1
baz=155
TEOL Teolo 9.78 322 Pn Pn 02 22 23.6 -0.2
ARSA Arzberg 9.92 341 *e*Pn Pn 02 22 25.8 +0.1
comp=N,1.3nm,0.3s
STAL STALIGIAL 10.00 329 Pn Pn 02 22 27.1 +0.3
CLUD Cludinico 10.09 330 Pn Pn 02 22 28.5 +0.5
CIMO Cimolais 10.15 328 Pn Pn 02 22 28.5 -0.4
CTI Castel Tesino 10.30 325 Pn Pn 02 22 31.0 +0.1
CONA Conrad Observa 10.47 344 *e*Pn Pn 02 22 35.4 +2.1
comp=N,0.6nm,0.4s
ABTA Abfaltersbach 10.47 330 *e*Pn Pn 02 22 34.4 +1.0
comp=N,1.0nm,0.3s
SALO Salr 10.53 320 Pn Pn 02 22 34.1 0.0
VYHS Vyhne 10.59 355 *e*PN Pn 02 22 38.3 +3.4
VYHS *e*SN Sn 02 24 31.5 -1.4
BR131 Keskin Array S 10.62 76 Pn Pn 02 22 38.0 +2.5
BRTR Keskin Array B 10.62 76 Pn Pn 02 22 38.7 +3.3
baz=256,slow=13,SNR=3.5
comp=N,0.4nm,0.6s
MOA Molln 10.81 338 *e*Pn Pn 02 22 37.5 -0.4
comp=N,1.4nm,0.2s,SNR=10
BIOA Bad Ischl, Aus 10.87 336 *e*Pn Pn 02 22 37.1 -1.6
comp=N,6.0nm,0.3s
WTTA Wattenberg 11.25 329 *e*Pn Pn 02 22 46.1 +2.1
comp=N,0.7nm,0.2s
WATA Walderalm 11.33 329 *e*Pn Pn 02 22 46.6 +1.5
comp=N,1.0nm,0.4s
SQTA Sankt Quirin 11.39 327 *e*Pn Pn 02 22 47.0 +1.1
comp=N,0.7nm,0.2s
MOTA Moosalm 11.53 327 *e*Pn Pn 02 22 48.9 +1.0
comp=N,1.3nm,0.4s
DAVOX Davos/Dischmat 11.67 322 Pn Pn 02 22 53.7 +3.9
comp=N,0.2nm,0.3s,baz=152,slow=17,SNR=3.4
DAVOX Sn Sn 02 24 54.0 -5.5
comp=N,0.4nm,0.3s,baz=21,slow=14,SNR=2.9
CKRC Cesky Krumlov 11.68 340 *e*PN Pn 02 22 48.9 -0.9
RETA Reutte 11.79 327 *e*Pn Pn 02 22 54.0 +2.7
comp=N,0.4nm,0.2s
GEC2 GERESS Array S 11.87 339 Pn Pn 02 22 52.1 -0.3
GERES GERESS Array B 11.87 339 Pn Pn 02 22 52.9 +0.4
comp=N,0.4nm,0.3s,baz=159,slow=14,SNR=9.0
GERES Sn Sn 02 24 55.6 -8.8
comp=N,0.2nm,0.3s,baz=150,slow=22,SNR=1.8
comp=N,0.7nm,0.4s
GERES GERESS Array B 11.87 339 Pn Pn 02 22 52.4 -0.1
HNAT Natroun 11.98 131 P Pn 02 22 53.0 -0.9
baz=133
KHC Kasperske Hory 12.16 339 Pn Pn 02 22 56.4 0.0
KHC Kasperske Hory 12.16 339 *e*PN Pn 02 22 56.2 -0.2
KHC *ex* x 02 23 07.0
KHC *e*SN Sn 02 25 03.7 -7.8
SENIN Lac Senin/Sane 12.74 315 Pn Pn 02 23 04.4 0.0
HFRF Wahat Farafira 12.74 145 P Pn 02 23 01.4 -3.0
baz=148
NBNS Bani Suef 13.12 132 P Pn 02 23 08.1 -1.4
baz=134
SUZ Suez 13.23 124 P Pn 02 23 10.0 -1.0
baz=126
MMAI Mount Meron Ar 13.31 107 Pn Pn 02 23 12.4 +0.2
comp=N,0.5nm,0.3s,baz=318,slow=16,SNR=1.7
MMAI Sn Sn 02 25 28.9 -11
comp=N,0.8nm,0.3s,baz=306,slow=18,SNR=1.7
comp=N,0.2nm,0.3s
ECH Echery 13.99 321 Pn Pn 02 23 21.0 -0.3
GHAJ Ghor Haditha 14.26 113 Pn Pn 02 23 25.5 +0.4
CLL Collm 14.30 341 *e*PP P 02 23 33.0 +0.4
EIL Elat 14.76 120 Pn Pn 02 23 30.1 -1.8
comp=N,0.5nm,0.3s,baz=161,slow=5.6,SNR=4.8
EIL Sn Sn 02 26 01.3 -14
comp=N,0.6nm,0.3s,baz=322,slow=20,SNR=2.6
comp=N,2.4nm,0.6s
ASF Jabal al Asfar 14.82 108 Pn P 02 23 35.9 -2.7
comp=N,0.1nm,0.3s,baz=286,slow=14,SNR=1.8
GURO Guroymak-BITLI 17.15 81 P 02 24 05.4 +1.0
NACGM Naroch 17.54 13⇑*e*P P 02 24 11.9 +3.5
baz=196
KBZ Khabaz 18.08 64 P Pn 02 24 14.2 0.0
comp=N,0.1nm,0.3s,baz=248,slow=2.9,SNR=2.3
comp=N,1.4nm,0.8s
ESDC Sonseca Array 18.91 283 P Pn 02 24 25.2 +0.8
baz=89,slow=11,SNR=4.8
comp=N,2.0nm,1.1s
GNI Garni 19.16 76 P P 02 24 26.7 0.0
comp=N,2.8nm,0.6s,baz=122,slow=7.1,SNR=3.0
MDT Midelt 20.85 263 P P 02 24 45.6 +0.6
comp=N,1.9nm,0.8s,baz=52,slow=1.7,SNR=2.5
comp=N,1.9nm,0.8s
HFS Hagfors 22.59 351 P P 02 25 04.0 +0.7
comp=N,6.5nm,0.7s,baz=138,slow=12,SNR=14
comp=N,6.5nm,0.7s
NC602 NORSAR Array S 23.46 349 P P 02 25 14.8 +2.6
NC602 IAmb IAmb 02 25 33.7
comp=Z,12nm,1.1s
EKA Eskdalemuir Ar 23.48 325 P P 02 25 14.3 +1.8
comp=Z,1.2nm,0.8s,baz=129,slow=7.6,SNR=3.9
comp=Z,1.2nm,0.8s
NC405 NORSAR Array S 23.80 350 P P 02 25 18.3 +2.8
NC405 IAmb IAmb 02 25 57.7
comp=Z,24nm,1.3s
NB2 NORSAR Subarra 23.80 349 P P 02 25 15.6 +0.1
comp=Z,6.5nm,1.4s,baz=162,slow=9.3
NOA NORSAR Array B 23.80 349 P P 02 25 15.5 0.0
comp=Z,0.9nm,0.7s,baz=159,slow=9.2,SNR=8.2
comp=Z,0.9nm,0.7s
FINES FINESS Array B 23.80 7 P P 02 25 16.2 +0.7
comp=Z,1.6nm,0.5s,baz=180,slow=9.5,SNR=14
comp=Z,1.6nm,0.5s
FIA1 FINESS Array S 23.80 7 P P 02 25 16.5 +1.0
FIA1 IAmb IAmb 02 25 41.2
comp=Z,11nm,1.1s
BELG Belogornoye 23.93 44 P P 02 25 16.9 0.0
comp=Z,6.6nm,0.6s,baz=297,slow=3.2,SNR=7.6
comp=Z,6.6nm,0.6s
TORD Torodi Ar. Bea 29.70 219 P P 02 26 10.5 +1.4
comp=Z,0.7nm,1.0s,baz=29,slow=9.2,SNR=9.8
comp=Z,0.7nm,1.0s
ABKAR Akbulak array 30.57 55 P P 02 26 17.0 +0.5
ARCES ARCESS Array B 31.78 4 P P 02 26 27.4 +0.4
comp=Z,1.9nm,0.9s,baz=184,slow=7.2,SNR=1.9
comp=Z,1.9nm,0.9s
ARCES ARCESS Array B 31.78 4 P P 02 26 27.6 +0.7
ARCES IAmb IAmb 02 27 05.4
comp=Z,16nm,1.5s
KKAR Karatay Array 38.11 66 P P 02 27 21.9 +0.1
MKAR Makanchi Array 45.63 58 P P 02 28 22.2 -1.0
comp=Z,0.7nm,0.4s,baz=277,slow=8.0,SNR=7.0
comp=Z,0.7nm,0.4s
MKAR Makanchi Array 45.63 58 P P 02 28 22.4 -0.9
ZAA0 Zalesovo Array 46.02 48 P P 02 28 25.3 -0.9
ZALV Zalesovo Beam 46.02 48 P P 02 28 25.4 -0.8
comp=Z,3.1nm,0.4s,baz=279,slow=7.9,SNR=13
comp=Z,3.1nm,0.4s
ZALV Zalesovo Beam 46.02 48 P P 02 28 24.9 -1.3
WMQ Urumqi 50.08 61 *e*P P 02 29 00.6 +2.8
SCHQ Schefferville 58.47 317 P P 02 29 57.4 -1.3
ULN Ulaanbaatar 61.18 50 P P 02 30 18.1 +0.5
ULN IAmb IAmb 02 30 18.3
comp=Z,2.3nm,0.5s
RCBR Riachuelo 67.87 243 P P 02 31 01.0 -0.6

BUC 14 02:20:48.7±0.3, 45°44N×26°30E, h10km, ml1.4/6, 6C-6D,
Error ellipse: s-maj=2.8km s-min=1.4km az=142.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.01**	**206**	⇓P		Pg	02 20 50.1	-0.4
NEHR				⇓S		Sg	02 20 51.7	-0.1
MLR	**Muntele Rosu**	**0.26**	**282**	⇓P		Pg	02 20 54.5	+0.5
MLR				⇓S		Sg	02 20 58.1	+0.6
COVR	**Voineasa-Covas**	**0.41**	**350**	⇑P		Pg	02 20 56.8	0.0
COVR				⇑S		Sg	02 21 01.9	-0.4
PLOR	**Plostina**	**0.48**	**30**	⇓P		Pg	02 20 58.0	0.0
PLOR				⇓S		Sg	02 21 05.0	+0.6
VRI	**Vrincioaia**	**0.52**	**35**	⇑P		Pg	02 20 58.9	+0.1
VRI				⇑S		Sb	02 21 06.8	-0.7
VOIR		**0.88**	**270**	⇑P		Pb	02 21 06.3	+0.1
VOIR				⇓S		Sb	02 21 18.1	+0.1

IDC ***14*** *02:35:19.9±1.3, 7°.78N×75°.84W, h0km, mb3.4/2, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=56.0km s-min=26.9km az=57.0*
RSNC ***14*** *02:35:20.9±1.4, 7°.20N×76°.25W, h0km±3km, ML3.3, Mw4.0*
ISC 14 02:35:19.1±1.0, 7°.25N±0°.02×76°.17W±0°.02, h8km±7km, n62, σ1.9 s98/114, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.24**	**190**	⇓*i*P		Pg	02 35 24.5	+0.6
DBBC				*e*S		Sg	02 35 28.5	+1.3
DBBC				IAML			02 35 29.6	
comp=Z,6µm,0.4s								
DBBC	**Dabeiba**	**0.24**	**190**	⇓*i*P		Pg	02 35 24.5	+0.6
DBBC				*e*S		Sg	02 35 29.4	+2.2
DBBC				IAML			02 35 30.5	
comp=Z,112µm,1.1s								
UREC	**San Jos de Ur**	**0.80**	**52**	*e*P		Pn	02 35 37.2	+0.4
UREC				*e*S		Sn	02 35 50.6	+1.7
UREC	**San Jos de Ur**	**0.80**	**52**	*e*P		Pn	02 35 37.1	+0.4
UREC				*e*S		Sn	02 35 50.8	+1.9
UREC				IAML			02 35 52.8	
comp=Z,3µm,0.4s								
HELC	**Santa Helena**	**1.23**	**149**	*e*P		Pg	02 35 42.5	-0.3
HELC				*e*S		Sb	02 35 59.4	+0.4
HELC	**Santa Helena**	**1.23**	**149**	*e*P		Pb	02 35 42.6	-0.3
HELC				*e*S		Sb	02 35 59.0	-0.1
HELC				IAML			02 36 05.8	
comp=Z,158nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.32**	**80**	*e*P		Pn	02 35 45.9	+2.0
ZARC				*e*S		Sn	02 36 04.9	+3.2
ZARC				IAML			02 36 06.3	
comp=Z,1µm,0.5s								
ZARC	**Zaragoza, Cauc**	**1.32**	**80**	*e*P		Pn	02 35 45.6	+1.7
ZARC				*e*S		Sn	02 36 05.2	+3.5
ZARC				IAML			02 36 06.7	
comp=Z,1µm,0.6s								
CBOC	**Ciudad Bolivar**	**1.39**	**174**	*e*P		Pn	02 35 45.4	+0.4
CBOC				*e*S		Sg	02 36 03.8	-0.1
CBOC				IAML			02 36 11.9	
comp=Z,272nm,0.8s								
CBOC	**Ciudad Bolivar**	**1.39**	**174**	*e*P		Pn	02 35 45.4	+0.4
CBOC				*e*S		Sn	02 36 04.8	+1.2
CBOC				IAML			02 36 12.5	
comp=Z,272nm,0.3s								
SOLC	**Bahia Solano**	**1.60**	**230**	*e*P		Pn	02 35 47.0	-0.7
SOLC				*e*S		Sn	02 36 08.5	0.0
SOLC	**Bahia Solano**	**1.60**	**230**	*e*P		Pn	02 35 47.8	+0.1
SOLC				*e*S		Sn	02 36 08.4	-0.2
SOLC				IAML			02 36 15.2	
comp=Z,164nm,0.8s								
LCBC	**Los crdobas,**	**1.61**	**353**	*e*P		Pb	02 35 49.2	+0.3
LCBC				*e*S		Sg	02 36 11.8	+1.0
LCBC				IAML			02 36 37.0	
comp=Z,209nm,0.6s								
LCBC	**Los crdobas,**	**1.61**	**353**	*e*P		Pb	02 35 49.4	+0.3
LCBC				*e*S		Sg	02 36 11.5	+0.7
LCBC				IAML			02 36 21.7	
comp=Z,160nm,0.4s								
PTBC	**PUERTO BERRIO,**	**1.84**	**113**	*e*P		Pg	02 35 53.8	-0.7
PTBC				*e*S		Sg	02 36 18.9	+0.5
PTBC				IAML			02 36 20.7	
comp=Z,733nm,0.7s								
PTBC	**PUERTO BERRIO,**	**1.84**	**113**	*e*P		Pg	02 35 53.8	-0.7
PTBC				*e*S		Sg	02 36 18.8	+0.5
PTBC				IAML			02 36 21.6	
comp=Z,677nm,0.7s								
NORC	**Norcasia**	**2.12**	**142**	*e*P		Pb	02 35 58.2	+0.4
NORC				*e*S		Sg	02 36 25.2	-2.0
NORC				IAML			02 36 29.7	
comp=Z,263nm,0.6s								
NORC	**Norcasia**	**2.12**	**142**	*e*P		Pb	02 35 58.1	+0.4
NORC				*e*S		Sg	02 36 26.3	-0.9
NORC				IAML			02 36 30.4	
comp=Z,237nm,0.7s								
GUY2C	**Guyana, Caldas**	**2.17**	**158**	*e*P		Pb	02 35 58.1	-0.9
GUY2C				*e*S		Sb	02 36 25.8	-0.3
GUY2C	**Guyana, Caldas**	**2.17**	**158**	*e*P		Pb	02 35 58.0	-0.9
GUY2C				*e*S		Sg	02 36 29.3	+0.4
GUY2C				IAML			02 36 40.6	
comp=Z,116nm,0.6s								
UPD2	**Meteti**	**2.24**	**305**	*e*P		Pn	02 35 57.2	+0.7
UPD2				*e*S		Sn	02 36 26.3	+2.0
PLMC	**San Jos del P**	**2.33**	**183**	*e*P		Pb	02 36 00.3	-1.2
PLMC				*e*S		Sb	02 36 29.9	-0.7
PLMC				IAML			02 36 37.6	
comp=Z,108nm,0.3s								
PLMC	**San Jos del P**	**2.33**	**183**	*e*P		Pb	02 36 00.4	-1.2
PLMC				*e*S		Sg	02 36 33.4	-0.8
PLMC				IAML			02 36 43.8	
comp=Z,122nm,0.6s								
BRRC	**Barranca, Sant**	**2.44**	**93**	*e*P		Pb	02 36 02.6	-0.7
BRRC				*e*S		Sg	02 36 35.8	-1.8
BRRC				IAML			02 36 43.4	
comp=Z,146nm,0.5s								
BRRC	**Barranca, Sant**	**2.44**	**93**	*e*P		Pb	02 36 02.9	-0.4
BRRC				*e*S		Sg	02 36 34.6	-3.0
BRRC				IAML			02 36 44.2	
comp=Z,145nm,0.7s								
SPBC	**San Pablo de B**	**2.62**	**127**	*e*P		Pb	02 36 06.5	+0.1
SPBC				*e*S		Sg	02 36 44.4	+1.0
SPBC				IAML			02 36 53.0	
comp=Z,126nm,0.7s								
SPBC	**San Pablo de B**	**2.62**	**127**	*e*P		Pb	02 36 06.6	+0.1
SPBC				*e*S		Sg	02 36 44.4	+1.0
SPBC				IAML			02 36 53.0	
comp=Z,126nm,0.7s								
SJCC	**San Jacinto, C**	**2.80**	**20**	*e*P		Pg	02 36 17.2	+4.3
SJCC				*e*S		Sn	02 36 38.7	+0.3
SJCC				IAML			02 36 41.0	
comp=Z,73nm,0.4s								
ANIL	**Santa Ana**	**2.85**	**164**	*e*P		Pn	02 36 05.4	+0.3
ANIL				*e*S		Sb	02 36 45.7	+0.1
ANIL				IAML			02 37 08.6	
comp=Z,72nm,0.3s								
ANIL	**Santa Ana**	**2.85**	**164**	*e*P		Pb	02 36 09.6	-0.8
ANIL				*e*S		Sg	02 36 49.1	-1.6
ANIL				IAML			02 37 03.1	
comp=Z,88nm,0.4s								
OCAC	**Ocana**	**2.99**	**71**	*e*P		Pb	02 36 09.8	-2.9
OCAC				*e*S		Sb	02 36 48.2	-1.3
OCAC	**Ocana**	**2.99**	**71**	*e*P		Pb	02 36 09.5	-3.2
OCAC				*e*S		Sb	02 36 48.5	-0.9
OCAC				IAML			02 37 05.8	
comp=Z,510nm,0.5s								
ROSC	**El Rosal**	**3.02**	**142**	Pn		Pb	02 36 13.2	-0.3
comp=Z,8.5nm,0.3s,baz=326,slow=18,SNR=12								
ROSC				Sn		Sg	02 36 54.8	-1.5
comp=Z,17nm,0.3s,baz=19,slow=22,SNR=10								
comp=Z,154nm,0.9s								
ROSC	**El Rosal**	**3.02**	**142**	*e*P		Pb	02 36 12.3	-1.1
ROSC				*e*S		Sb	02 36 52.7	+2.1
ROSC				IAML			02 37 06.2	
comp=Z,90nm,0.5s								
ROSC	**El Rosal**	**3.02**	**142**	*e*P		Pb	02 36 12.5	-0.9
ROSC				*e*S		Sg	02 36 56.1	-0.2
ROSC				IAML			02 37 06.2	
comp=Z,90nm,0.5s								
BARC	**Barichara**	**3.04**	**102**	*e*P		Pb	02 36 10.8	-2.8
BARC				*e*S		Sb	02 36 48.2	-2.7
BARC	**Barichara**	**3.04**	**102

ARGC					*e*S	**Sb**	**02 36 53.3**	**-2.5**
ARGC					IAML		02 37 21.1	
	comp=Z,39nm,0.5s							
YOTC	**Yotoco, Valle**	**3.25**	**183**		*e*P	**Pn**	**02 36 11.5**	**+0.9**
YOTC					*e*S	**Sn**	**02 36 50.6**	**+1.0**
YOTC	**Yotoco, Valle**	**3.25**	**183**		*e*P	**Pb**	**02 36 15.2**	**-2.0**
YOTC					*e*S	**Sb**	**02 36 56.0**	**-1.1**
YOTC					IAML		02 37 01.2	
	comp=Z,27nm,0.6s							
RUSC	**La Rusia**	**3.35**	**114**		*e*P	**Pb**	**02 36 15.2**	**-3.8**
RUSC					*e*S	**Sb**	**02 36 56.0**	**-4.1**
RUSC					IAML		02 37 14.9	
	comp=Z,128nm,0.6s							
RUSC	**La Rusia**	**3.35**	**114**		*e*P	**Pb**	**02 36 16.1**	**-3.0**
RUSC					*e*S	**Sb**	**02 36 57.7**	**-2.5**
RUSC					IAML		02 37 15.3	
	comp=Z,125nm,0.7s							
PAMC	**Pamplona, Colo**	**3.44**	**88**		*e*P	**Pb**	**02 36 17.2**	**-3.5**
PAMC					*e*S	**Sb**	**02 37 00.1**	**-2.8**
PAMC					IAML		02 37 17.5	
	comp=Z,131nm,0.6s							
CHIC	**Chingaza**	**3.56**	**137**		*e*P	**Pb**	**02 36 20.0**	**-2.6**
CHIC					*e*S	**Sn**	**02 37 00.8**	**+3.3**
CHIC					IAML		02 37 24.3	
	comp=Z,61nm,0.7s							
CHIC	**Chingaza**	**3.56**	**137**		*e*P	**Pb**	**02 36 20.1**	**-2.5**
CHIC					*e*S	**Sb**	**02 37 05.9**	**-0.2**
CHIC					IAML		02 37 24.4	
	comp=Z,64nm,0.7s							
UPA	**Univ. de Panam**	**3.75**	**297**		*e*P	**Pn**	**02 36 17.1**	**-0.2**
UPA					*e*S	**Sn**	**02 37 00.5**	**-1.2**
LL6C	**La Loma 6 Bece**	**3.78**	**49**		*e*P	**Pb**	**02 36 26.7**	**+0.5**
LL6C					*e*S	**Sn**	**02 37 03.9**	**+1.4**
LL6C					IAML		02 37 35.0	
	comp=Z,46nm,0.5s							
VILC	**Villavicencio,**	**3.98**	**142**		*e*P	**Pb**	**02 36 26.3**	**-3.3**
VILC					*e*S	**Sn**	**02 37 08.6**	**+1.2**
VILC					IAML		02 37 28.9	
	comp=Z,46nm,0.5s							
SMRC	**Santa Marta, M**	**4.33**	**26**		*e*P	**Pn**	**02 36 29.9**	**+4.6**
SMRC					*e*S	**Sn**	**02 37 14.7**	**-1.5**
SMRC					IAML		02 37 23.8	
	comp=Z,8.5nm,0.1s							
TAMC	**Tame, Arauca**	**4.42**	**100**		*e*P	**Pn**	**02 36 29.0**	**+2.4**
TAMC					*e*S	**Sn**	**02 37 23.6**	**+5.3**
TAMC					IAML		02 37 46.5	
	comp=Z,41nm,0.5s							
CRJC	**Cerrejon, Guaj**	**4.95**	**41**		*e*P	Pb	02 36 40.8	-5.4
CRJC					*e*S	**Sn**	**02 37 30.3**	**-1.2**
CRJC					IAML		02 37 32.4	
	comp=Z,52nm,0.2s							
PTGC	**Puerto Gaitan,**	**5.03**	**127**		*e*P	**Pn**	**02 36 38.0**	**+3.1**
PTGC					*e*S	**Sn**	**02 37 30.6**	**-2.7**
PTGC					IAML		02 37 32.6	
	comp=Z,22nm,0.5s							
GARC	**Garzon, Huila**	**5.08**	**172**		*e*P	**Pn**	**02 36 39.1**	**+3.3**
GARC					IAML		02 37 47.5	
	comp=Z,6.5nm,0.2s							
BBAC	**Balboa, Cauca**	**5.31**	**192**		*e*P	Pn	02 36 45.4	+6.5
BBAC					*e*S	**Sb**	**02 37 51.2**	**-5.2**
BBAC					IAML		02 38 22.9	
	comp=Z,4.5nm,0.6s							
MACC	**Macarena, Meta**	**5.58**	**155**		*e*P	**Pn**	**02 36 45.3**	**+2.8**
MACC					IAML		02 38 26.1	
	comp=Z,14nm,0.5s							
FLOC	**Florencia**	**5.66**	**175**		*e*S	**Sn**	**02 37 50.4**	**+1.6**
FLOC					IAML		02 38 27.9	
	comp=Z,6.0nm,0.8s							
GUVC	**San Jose del G**	**5.86**	**143**		*e*P	**Pn**	**02 36 48.5**	**+2.2**
GUVC					*e*S	**Sn**	**02 37 59.9**	**+6.2**
GUVC					IAML		02 38 00.2	
	comp=Z,12nm,0.1s							
URIC	**Uribia, Colomb**	**6.04**	**43**		*e*P	**Pn**	**02 36 45.7**	**-3.1**
URIC					*e*S	**Sn**	**02 37 57.0**	**-1.2**
URIC					IAML		02 38 40.3	
	comp=Z,14nm,0.7s							
PDAR	**Pinedale Array**	**45.98**	**326**		P	**P**	**02 43 43.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=116,slow=8.1,SNR=2.0							
	comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.61**	**78**		P	**P**	**02 47 10.7**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=279,slow=5.6,SNR=2.3							
	comp=Z,0.5nm,1.0s							
ASAR	**Alice Springs**	**146.85**	**237**		PKPbc	**PKiKP**	**02 55 06.2**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=113,slow=3.2,SNR=2.8							
WRA	**Warramunga Arr**	**147.85**	**244**		PKPbc	**PKiKP**	**02 55 08.1**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=109,slow=3.1,SNR=2.2							

RSNC 14 02:39:17.3±1.1, 7°.19N×76°.25W, h0km±2km, ML2.6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.18**	**166**	*i* P	Pg	02 39 20.9	+0.2
DBBC				*e*S	Sg	02 39 24.9	+1.8
DBBC				IAML		02 39 27.1	
	comp=Z,1μm,0.7s						
DBBC	**Dabeiba**	**0.18**	**166**	⇓*i* P	Pg	02 39 20.9	+0.2
DBBC				*e*S	Sg	02 39 25.5	+2.5
DBBC				IAML		02 39 27.3	
	comp=Z,1μm,0.7s						
UREC	**San Jos de Ur**	**0.91**	**52**	*e*P	Pg	02 39 33.6	-1.1
UREC				*e*S	Sg	02 39 47.4	+0.9
UREC				IAML		02 39 49.1	
	comp=Z,382nm,0.3s						
UREC	**San Jos de Ur**	**0.91**	**52**	*e*P	Pg	02 39 34.5	-0.3
UREC				*e*S	Sg	02 39 47.1	+0.6
UREC				IAML		02 39 49.2	
	comp=Z,371nm,0.2s						
HELC	**Santa Helena**	**1.23**	**144**	*e*P	Pg	02 39 39.1	-1.7
HELC				*e*S	Sg	02 39 56.1	-0.7
HELC				IAML		02 39 57.9	
	comp=Z,64nm,0.6s						
HELC	**Santa Helena**	**1.23**	**144**	*e*P	Pg	02 39 39.2	-1.6
HELC				*e*S	Sg	02 39 55.6	-1.1
HELC				IAML		02 39 58.0	
	comp=Z,64nm,0.6s						
CBOC	**Ciudad Bolivar**	**1.34**	**170**	*e*P	Pg	02 39 41.7	-1.3
CBOC				*e*S	Sg	02 40 00.5	+0.1
CBOC				IAML		02 40 11.8	
	comp=Z,71nm,0.3s						
CBOC	**Ciudad Bolivar**	**1.34**	**170**	*e*P	Pg	02 39 42.0	-1.0
CBOC				*e*S	Sb	02 40 01.0	-0.2
CBOC				IAML		02 40 11.9	
	comp=Z,63nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.42**	**78**	*e*P	Pn	02 39 42.5	-1.9
ZARC				*e*S	Sg	02 40 01.3	-1.6
ZARC				IAML		02 40 02.5	
	comp=Z,152nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.42**	**78**	*e*P	Pn	02 39 42.5	-1.9
ZARC				*e*S	Sg	02 40 00.7	-2.2
ZARC				IAML		02 40 03.3	
	comp=Z,178nm,0.3s						
SOLC	**Bahia Solano**	**1.50**	**230**	*e*P	Pn	02 39 43.5	-1.9
SOLC				*e*S	Sg	02 40 04.4	-1.0
SOLC				IAML		02 40 08.6	
	comp=Z,29nm,0.4s						
LCBC	**Los crdobas,**	**1.66**	**356**	*i* P	Pn	02 39 45.6	-2.1
LCBC				*e*S	Sb	02 40 10.2	-0.1
LCBC				IAML		02 40 16.5	
	comp=Z,32nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.90**	**110**	*e*P	Pn	02 39 49.7	-1.3
PTBC				*e*S	Sn	02 40 15.2	-0.5
PTBC				IAML		02 40 19.6	
	comp=Z,81nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.90**	**110**	*e*P	Pn	02 39 49.8	-1.2
PTBC				*e*S	Sn	02 40 14.8	-0.8
PTBC				IAML		02 40 19.7	
	comp=Z,83nm,0.6s						
NORC	**Norcasia**	**2.12**	**140**	*e*P	Pn	02 39 53.4	-0.8
NORC				*e*S	Sn	02 40 20.0	-1.2
NORC				IAML		02 40 26.1	
	comp=Z,79nm,0.4s						
NORC	**Norcasia**	**2.12**	**140**	*e*P	Pn	02 39 54.6	+0.5
NORC				*e*S	Sb	02 40 22.6	-1.0
NORC				IAML		02 40 26.3	
	comp=Z,71nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.14**	**156**	*e*P	Pn	02 39 53.5	-1.2
GUY2C				*e*S	Sn	02 40 22.0	-0.3
GUY2C				IAML		02 40 32.8	
	comp=Z,22nm,0.7s						
GUY2C	**Guyana, Caldas**	**2.14**	**156**	*e*P	Pn	02 39 55.5	+0.8
GUY2C				*e*S	Sn	02 40 22.9	+0.6
GUY2C				IAML		02 40 32.9	
	comp=Z,25nm,0.7s						
PLMC	**San Jos del P**	**2.27**	**181**	*e*P	Pn	02 39 57.6	+1.4
PLMC				*e*S	Sb	02 40 27.3	-0.6
PLMC				IAML		02 40 36.8	
	comp=Z,25nm,0.4s						
BRRC	**Barranca, Sant**	**2.52**	**92**	*e*P	Pn	02 39 58.6	-0.9
BRRC				*e*S	Sn	02 40 30.2	-0.9
BRRC				IAML		02 40 37.1	
	comp=Z,26nm,0.3s						
BRRC	**Barranca, Sant**	**2.52**	**92**	*e*P	Pn	02 39 59.5	-0.1
BRRC				*e*S	Sn	02 40 30.8	-0.3
BRRC				IAML		02 40 37.3	
	comp=Z,28nm,0.3s						
SPBC	**San Pablo de B**	**2.65**	**125**	*e*P	Pn	02 40 02.2	+0.7
SPBC				*e*S	Sb	02 40 37.4	-1.5
SPBC				IAML		02 40 46.1	
	comp=Z,30nm,0.4s						
OCAC	**Ocana**	**3.09**	**70**	*e*S	Sn	02 40 45.0	-0.2
OCAC				IAML		02 41 00.1	
	comp=Z,76nm,0.5s						
OCAC	**Ocana**	**3.09**	**70**	*e*P	Pn	02 40 07.2	-0.3
OCAC				*e*S	Sn	02 40 44.7	-0.6
OCAC				IAML		02 41 00.5	
	comp=Z,78nm,0.4s						
BARC	**Barichara**	**3.11**	**101**	*e*P	Pn	02 40 07.7	-0.1
BARC				*e*S	Sn	02 40 46.4	+0.6
BARC	**Barichara**	**3.11**	**101**	*e*P	Pn	02 40 07.3	-0.5
BARC				*e*S	Sn	02 40 46.3	+0.5
BARC				IAML		02 40 54.3	
	comp=Z,49nm,0.6s						
RUSC	**La Rusia**	**3.40**	**112**	*e*S	Sn	02 40 53.4	-0.1
RUSC				IAML		02 41 05.6	
	comp=Z,14nm,0.5s						
RUSC	**La Rusia**	**3.40**	**112**	*e*P	Pn	02 40 12.1	-0.1
RUSC				*e*S	Sn	02 40 51.7	-1.8
RUSC				IAML		02 41 04.4	
	comp=Z,16nm,0.7s						
PAMC	**Pamplona, Colo**	**3.53**	**87**	*e*P	Pn	02 40 13.2	-0.7
PAMC				*e*S	Sn	02 40 55.6	-0.9
PAMC				IAML		02 41 12.3	
	comp=Z,26nm,0.5s						

RSNC 14 02:42:45.4±0.7, 7°.23N×76°.28W, h0km±7km, ML1.9, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.23**	**162**	⇓*i* P	Pg	02 42 50.5	+0.8
DBBC				*e*S	Sg	02 42 54.6	+1.9
DBBC				IAML		02 42 56.8	
	comp=Z,123nm,0.5s						
DBBC	**Dabeiba**	**0.23**	**162**	⇓*i* P	Pg	02 42 50.5	+0.7
DBBC				*e*S	Sg	02 42 54.0	+1.3
DBBC				IAML		02 42 56.0	
	comp=Z,133nm,0.2s						
DBBC	**Dabeiba**	**0.23**	**162**	⇓*i* P	Pg	02 42 50.5	+0.8
DBBC				*e*S	Sg	02 42 54.0	+1.3
DBBC				IAML		02 42 55.9	
	comp=Z,133nm,0.2s						
UREC	**San Jos de Ur**	**0.90**	**55**	*e*P	Pg	02 43 01.4	-1.3
UREC				*e*S	Sg	02 43 14.6	+0.1
UREC				IAML		02 43 20.9	
	comp=Z,40nm,0.2s						
UREC	**San Jos de Ur**	**0.90**	**55**	*e*P	Pg	02 43 01.5	-1.3
UREC				*e*S	Sb	02 43 15.9	-0.7
UREC				IAML		02 43 21.0	
	comp=Z,43nm,0.3s						
UREC	**San Jos de Ur**	**0.90**	**55**	*e*P	Pg	02 43 03.3	+0.6
UREC				*e*S	Sb	02 43 15.8	-0.8
UREC				IAML		02 43 19.6	
	comp=Z,44nm,0.3s						
HELC	**Santa Helena**	**1.28**	**144**	*e*P	Pg	02 43 08.1	-1.8
HELC				*e*S	Sg	02 43 26.2	-0.4
HELC				IAML		02 43 32.4	
	comp=Z,7.8nm,0.6s						
HELC	**Santa Helena**	**1.28**	**144**	*e*P	Pg	02 43 08.1	-1.9
HELC				*e*S	Sg	02 43 25.2	-1.4
HELC				IAML		02 43 28.2	
	comp=Z,6.8nm,0.2s						
HELC	**Santa Helena**	**1.28**	**144**	*e*P	Pg	02 43 07.7	-2.2
HELC				*e*S	Sg	02 43 24.8	-1.8
HELC				IAML		02 43 33.9	
	comp=Z,10nm,0.4s						
CBOC	**Ciudad Bolivar**	**1.39**	**169**	*e*P	Pg	02 43 11.2	-0.9
CBOC				*e*S	Sb	02 43 30.4	-0.3
CBOC				IAML		02 43 35.3	
	comp=Z,14nm,0.8s						
CBOC	**Ciudad Bolivar**	**1.39**	**169**	*e*P	Pg	02 43 11.1	-0.9
CBOC				*e*S	Sn	02 43 31.1	-0.2
CBOC				IAML		02 43 36.0	
	comp=Z,17nm,0.7s						
CBOC	**Ciudad Bolivar**	**1.39**	**169**	*e*P	Pg	02 43 11.1	-0.9
CBOC				*e*S	Sg	02 43 29.9	-0.2
CBOC				IAML		02 43 36.0	
	comp=Z,17nm,0.7s						
ZARC	**Zaragoza, Cauc**	**1.44**	**80**	*e*P	Pn	02 43 11.2	-1.6
ZARC				*e*S	Sg	02 43 30.6	-1.0
ZARC				IAML		02 43 32.6	
	comp=Z,34nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.44**	**80**	*e*P	Pn	02 43 11.2	-1.5
ZARC				*e*S	Sg	02 43 30.3	-1.3
ZARC				IAML		02 43 32.4	
	comp=Z,35nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.44**	**80**	*e*P	Pn	02 43 11.0	-1.7
ZARC				*e*S	Sg	02 43 29.6	-2.0
ZARC				IAML		02 43 32.4	
	comp=Z,35nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.94**	**111**	*e*P	Pn	02 43 18.7	-0.9
PTBC				*e*S	Sn	02 43 44.3	-0.5
PTBC				IAML		02 43 48.4	
	comp=Z,11nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.94**	**111**	*e*P	Pn	02 43 19.1	-0.6
PTBC				*e*S	Sn	02 43 44.2	-0.6
PTBC				IAML		02 43 48.5	
	comp=Z,12nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.94**	**111**	*e*P	Pn	02 43 19.2	-0.5
PTBC				*e*S	Sn	02 43 43.4	-1.4
PTBC				IAML		02 43 48.5	
	comp=Z,12nm,0.6s						
NORC	**Norcasia**	**2.17**	**140**	*e*P	Pn	02 43 21.8	-1.1
NORC	**Norcasia**	**2.17**	**140**	*e*P	Pn	02 43 22.3	-0.6
NORC				*e*S	Sn	02 43 51.0	+0.4
NORC				IAML		02 43 58.5	
	comp=Z,6.6nm,0.5s						
GUY2C	**Guyana, Caldas**	**2.19**	**155**	*e*P	Pn	02 43 21.4	-2.1
GUY2C				*e*S	Sn	02 43 52.5	+0.8
GUY2C				IAML		02 44 02.4	
	comp=Z,4.8nm,0.6s						
PLMC	**San Jos del P**	**2.31**	**180**	*e*P	Pn	02 43 23.9	-1.0
PLMC				*e*S	Sb	02 43 56.4	-0.9
PLMC				IAML		02 44 09.1	
	comp=Z,5.8nm,0.5s						
SPBC	**San Pablo de B**	**2.70**	**125**	*e*P	Pn	02 43 30.7	+0.5
SPBC				*e*S	Sn	02 44 05.8	+2.1
SPBC				IAML		02 44 12.4	
	comp=Z,4.4nm,0.6s						

*IDC **14** 03:04:47.2±1.5, 7°.55N×76°.40W, h0km, mb3.7/3, mbtmp4.0/6, ML3.2/3, Error ellipse: s-maj=33.2km s-min=28.7km az=173.0*
*RSNC **14** 03:04:51.6±1.3, 7°.26N×76°.25W, h0km±5km, ML3.5, Mw3.9, Fault plane solution: NP1:φs108.00000°, δ78.00000°, λ.58.00000°.*

ISC 14 03:04:49.8±1.1, 7°.33N±0°.03×76°.26W±0°.03, h14km±8km, n39, σ2s12/58, mb3.6/3, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.31**	**171**	⇓*i* P	**Pg**	**03 04 55.6**	**-0.7**
DBBC				IAML		03 05 02.2	
	comp=Z,16μm,0.6s						
UREC	**San Jos de Ur**	**0.83**	**59**	⇑*i* P	**Pn**	**03 05 07.3**	**+0.2**
UREC				*e*S	**Sn**	**03 05 20.4**	**+1.1**
UREC				IAML		03 05 25.7	
	comp=Z,2μm,0.5s						
HELC	**Santa Helena**	**1.34**	**147**	⇓*i* P	**Pn**	**03 05 13.2**	**-1.2**
HELC				*e*S	**Sb**	**03 05 31.0**	**-1.1**
HELC				IAML		03 05 43.9	
	comp=Z,304nm,0.7s						
ZARC	**Zaragoza, Cauc**	**1.40**	**83**	⇑*i* P	**Pg**	**03 05 15.9**	**-0.7**
ZARC				*e*S	**Sg**	**03 05 35.2**	**+0.3**
ZARC				IAML		03 05 37.1	
	comp=Z,926nm,0.3s						
CBOC	**Ciudad Bolivar**	**1.47**	**170**	*e*P	**Pn**	**03 05 15.9**	**-0.1**
CBOC				IAML		03 05 45.0	
	comp=Z,742nm,0.6s						
LCBC	**Los crdobas,**	**1.53**	**356**	*e*P	**Pg**	**03 05 19.0**	**-0.2**
LCBC				*e*S	**Sg**	**03 05 42.5**	**+3.5**
LCBC				IAML		03 05 55.6	
	comp=Z,261nm,0.3s						
SOLC	**Bahia Solano**	**1.58**	**226**	*e*P	**Pb**	**03 05 18.5**	**-0.3**
SOLC				*e*S	**Sg**	**03 05 40.8**	**+0.1**
SOLC				IAML		03 05 46.1	
	comp=E,414nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.95**	**113**	⇑*e*P	**Pn**	**03 05 23.9**	**+1.3**
PTBC				*e*S	**Sb**	**03 05 49.5**	**+0.1**
PTBC				IAML		03 05 53.1	
	comp=Z,913nm,0.3s						
UPD2	**Meteti**	**2.12**	**305**	*e*P	**Pb**	**03 05 26.7**	**-1.3**
UPD2				*e*S	**Sg**	**03 05 56.3**	**-1.7**
NORC	**Norcasia**	**2.23**	**142**	*e*P	**Pb**	**03 05 28.8**	**-1.1**
NORC				*e*S	**Sb**	**03 05 57.9**	**+0.5**
NORC				IAML		03 06 02.6	
	comp=Z,395nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.27**	**157**	*e*P	**Pb**	**03 05 29.7**	**-1.1**
GUY2C				IAML		03 06 06.4	
	comp=Z,232nm,0.5s						
PLMC	**San Jos del P**	**2.41**	**181**	*e*P	**Pb**	**03 05 31.2**	**-1.7**
PLMC				IAML		03 06 11.5	
	comp=Z,178nm,0.5s						
BRRC	**Barranca, Sant**	**2.54**	**95**	⇑*e*P	**Pn**	**03 05 32.8**	**+2.2**
BRRC				*e*S	**Sb**	**03 06 07.8**	**+1.7**
BRRC				IAML		03 06 16.3	
	comp=Z,332nm,0.5s						
SPBC	**San Pablo de B**	**2.73**	**127**	*e*P	**Pn**	**03 05 35.8**	**+2.4**
SPBC				*e*S	**Sb**	**03 06 14.1**	**+2.1**
SPBC				IAML		03 06 15.6	
	comp=Z,229nm,0.5s						
SJCC	**San Jacinto, C**	**2.77**	**23**	*e*P	**Pn**	**03 05 35.1**	**+1.3**
SJCC				*e*S	**Sn**	**03 06 08.3**	**+1.2**
SJCC				IAML		03 06 26.8	
	comp=Z,64nm,0.5s						
ANIL	**Santa Ana**	**2.94**	**163**	*e*P	**Pb**	**03 05 40.2**	**-2.0**
ROSC	**El Rosal**	**3.13**	**142**	Pn	**Pb**	**03 05 43.5**	**-2.0**
	comp=Z,33nm,0.3s,baz=15,slow=20,SNR=30						
ROSC				Sn	**Sb**	**03 06 23.0**	**-0.7**
	comp=Z,32nm,0.3s,baz=289,slow=23,SNR=4.3						
	comp=Z,148nm,0.4s						
ROSC	**El Rosal**	**3.13**	**142**	*e*P	**Pb**	**03 05 43.2**	**-2.3**
ROSC				*e*S	**Sb**	**03 06 26.2**	**+2.4**
ROSC				IAML		03 06 31.1	
	comp=Z,170nm,0.6s						
BARC	**Barichara**	**3.14**	**103**	*e*P	**Pn**	**03 05 41.3**	**+2.3**
BARC				*e*S	**Sn**	**03 06 16.9**	**+0.4**
ARGC	**Ariguani, Magd**	**3.21**	**38**	*e*P	**Pg**	**03 05 50.4**	**-0.9**
YOTC	**Yotoco, Valle**	**3.32**	**181**	*e*P	**Pn**	**03 05 41.8**	**+0.3**
YOTC				*e*S	**Sn**	**03 06 24.2**	**+3.4**
RUSC	**La Rusia**	**3.46**	**114**	*e*P	**Pn**	**03 05 45.6**	**+1.9**
RUSC				*e*S	**Sb**	**03 06 31.1**	**-2.2**
RUSC				IAML		03 06 34.5	
	comp=Z,141nm,0.5s						
PAMC	**Pamplona, Colo**	**3.53**	**90**	*e*P	**Pn**	**03 05 47.4**	**+2.7**
PAMC				*e*S	**Sn**	**03 06 29.5**	**+3.0**
PAMC				IAML		03 06 49.4	
	comp=Z,205nm,0.6s						
CHIC	**Chingaza**	**3.67**	**137**	*e*P	**Pn**	**03 05 50.4**	**+3.9**
BCIP	**Isla Barro Col**	**3.99**	**298**	*e*P	**Pn**	**03 05 52.8**	**+2.2**
VILC	**Villavicencio,**	**4.09**	**141**	*e*P	**Pn**	**03 05 56.4**	**+4.4**
TAMC	**Tame, Arauca**	**4.52**	**101**	*e*P	**Pn**	**03 05 59.7**	**+1.8**
CRJC	**Cerrejon, Guaj**	**4.96**	**42**	*e*S	**Sn**	**03 06 59.5**	**-1.7**
PTGC	**Puerto Gaitan,**	**5.15**	**127**	*e*P	**Pn**	**03 06 08.9**	**+2.4**
GARC	**Garzon, Huila**	**5.16**	**171**	*e*P	**Pn**	**03 06 08.9**	**+2.0**
SOCV	**Socops**	**5.44**	**80**	*e*P	**Pn**	**03 06 12.7**	**+2.2**
SDV	**Santo Domingo**	**5.78**	**74**	Pn	**Pn**	**03 06 17.4**	**+2.0**
	comp=Z,2.9nm,0.3s,baz=338,slow=5.4,SNR=3.3						
SDV				Sn	**Sn**	**03 07 20.3**	**-1.3**
	comp=Z,9.0nm,0.3s,baz=252,slow=20,SNR=2.3						
	comp=Z,9.9nm,0.4s						
GUVC	**San Jose del G**	**5.97**	**143**	*e*P	**Pn**	**03 06 20.0**	**+2.2**
PCRV	**Puerto La Cruz**	**11.83**	**75**	Pn	**Pn**	**03 07 39.9**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=44,slow=21,SNR=1.1						
PCRV				Sn	**Sn**	**03 09 42.9**	**-7.3**
	comp=Z,0.3nm,0.3s,baz=327,slow=13,SNR=2.0						
	comp=Z,4.8nm,0.6s						
MDP	**Montagnes des**	**23.58**	**94**	P	**P**	**03 10 00.2**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=277,slow=10,SNR=5.2						
	comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**24.80**	**161**	P	**P**	**03 10 13.6**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=51,slow=17,SNR=2.3						
	comp=Z,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.69**	**78**	P	**P**	**03 16 41.0**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=284,slow=5.8,SNR=6.4						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**146.82**	**237**	PKPbc	**PKPbc**	**03 24 31.9**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=107,slow=3.1,SNR=1.4						
WRA	**Warramunga Arr**	**147.80**	**244**	PKPbc	**PKPbc**	**03 24 34.6**	**-0.7**
	comp=Z,0.3nm,0.9s,baz=100,slow=3.4,SNR=1.7						

*OSPL **14** 03:06:28.4±0.7, 17°.89N×68°.92W, h136km±8km, ML2.3*
*RSPR **14** 03:06:31.8, 18°.16N×68°.58W, h128km±1km, MD3.6/11*
*NEIC **14** 03:06:33.0±1.6, 18°.2N±0°.5×68°.5W±0°.2, h130km±18km, Error ellipse: s-maj=68.9km s-min=22.0km az=174.0*

ISC 14 03:06:27.6±1.6, 17°.9N±0°.1×68°.87W±0°.05, h110km, n60, σ1s59/64, 15C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.80**	**36**	⇑*e*P	**Pn**	**03 06 49.4**	**+2.5**
PCDR	**Punta Cana, DR**	**0.80**	**36**	*e*S	**Sn**	**03 07 04.2**	**+2.8**
PCDR	**Punta Cana, DR**	**0.80**	**36**		**Pn**	**03 06 49.4**	**+2.5**
PCDR					**Sn**	**03 07 04.2**	**+

EMPR						Sn	03 07 30.9	-2.1
SJG	**San Juan**	**2.60**	**84**	*e*S		**Sn**	**03 07 38.5**	**-1.3**
IGPR	**InterUniversit**	**2.64**	**87**⇑	*e*P		**Pn**	**03 07 09.6**	**+0.8**
IGPR	**InterUniversit**	**2.64**	**87**	*e*S		**Sn**	**03 07 40.6**	**0.0**
IGPR	**InterUniversit**	**2.64**	**87**			**Sn**	**03 07 40.6**	**0.0**
HUMP	**Col San Antoni**	**2.89**	**84**⇑	*e*P		**Pn**	**03 07 12.3**	**+0.1**
HUMP	**Col San Antoni**	**2.89**	**84**	*e*S		**Sn**	**03 07 44.7**	**-1.8**
HUMP	**Col San Antoni**	**2.89**	**84**			**Pn**	**03 07 12.3**	**+0.1**
HUMP						**Sn**	**03 07 44.7**	**-1.8**
HUMP	**Col San Antoni**	**2.89**	**84**	IAML			03 07 46.6	
	comp=N,31nm,0.2s							
CBYP	**Canovanas**	**2.90**	**81**⇓	*e*P		**Pn**	**03 07 11.7**	**-0.7**
CBYP	**Canovanas**	**2.90**	**81**	*e*S		**Sn**	**03 07 44.4**	**-2.5**
CBYP	**Canovanas**	**2.90**	**81**			**Pn**	**03 07 11.7**	**-0.7**
CBYP						**Sn**	**03 07 44.4**	**-2.5**
MTP	**Monte Pirata**	**3.17**	**85**⇑	*e*P		**Pn**	**03 07 16.3**	**+0.4**
MTP	**Monte Pirata**	**3.17**	**85**	*e*S		**Sn**	**03 07 52.1**	**-1.1**
MTP	**Monte Pirata**	**3.17**	**85**			**Pn**	**03 07 16.3**	**+0.4**
MTP	**Monte Pirata**	**3.17**	**85**			**Sn**	**03 07 52.1**	**-1.1**
MTP	**Monte Pirata**	**3.17**	**85**	IAML			03 07 50.5	
	comp=E,10nm,1.8s							
MTP	**Monte Pirata**	**3.17**	**85**	IAML			03 08 06.9	
	comp=N,12nm,1.2s							
CUPR	**Culebra, Puert**	**3.44**	**82**⇑	*e*P		**Pn**	**03 07 19.6**	**0.0**
CUPR	**Culebra, Puert**	**3.44**	**82**	*e*S		**Sn**	**03 07 57.0**	**-2.7**
CUPR	**Culebra, Puert**	**3.44**	**82**			**Pn**	**03 07 19.6**	**0.0**
CUPR						**Sn**	**03 07 57.0**	**-2.7**
CUPR	**Culebra, Puert**	**3.44**	**82**	IAML			03 08 01.7	
	comp=N,7.2nm,0.7s							
CUPR				IAML			03 08 18.6	
	comp=E,6.8nm,0.9s							
STVI	**Saint Thomas**	**3.76**	**82**⇑	*e*P		**Pn**	**03 07 24.2**	**+0.5**
STVI	**Saint Thomas**	**3.76**	**82**			**Pn**	**03 07 24.2**	**+0.5**
STVI	**Saint Thomas**	**3.76**	**82**	IAML			03 08 11.3	
	comp=N,17nm,1.5s							
GRTK	**Grand Turk**	**4.21**	**330**	*e*S		**Sn**	**03 08 12.5**	**-5.5**
GRTK				IAML			03 08 17.6	
	comp=Z,27nm,1.1s							

*IDC **14** 03:08:40.1±1.1,33.˚11N×46.˚32E, h0km, mb3.8/11, mbtmp3.8/16, ML4.0/4, MS4.2/2, Error ellipse: s-maj=24.8km s-min=14.4km az=177.0*
*TEH **14** 03:08:42.1,33.˚15N×46.˚27E, h18km, ML3.7*
*ISN **14** 03:08:43.0±1.2,33.˚10N×46.˚31E, h6km±342km, ML3.9*
ISC 14 03:08:42.6±0.5,**33.˚15N**±0.˚04×**46.˚34E**±0.˚04,**h13**km,**n69,** σ1=**31**/69,**mb3.9**/12,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.34**	**263**	*e*Pg		**Pg**	**03 08 50.1**	**+0.5**
	baz=92							
IBDR				*e*Sg		**Sg**	**03 08 55.0**	**+0.7**
IBDR				AML		AML	03 09 04.1	
	comp=E,15μm,0.5s							
IBDR				AML		AML	03 09 06.3	
	comp=N,10μm,0.6s							
DHL1	**Dehloran**	**0.92**	**120**	*e*Pg		**Pb**	**03 09 00.7**	**+0.2**
DHL1				*e*			03 09 23.6	
	comp=Z,46μm,0.8s							
IGHG	**Ghaleghazi**	**1.19**	**9**	*e*			03 09 24.9	
	comp=Z,18μm,0.9s							
IGHG				*e*Pg		**Pn**	**03 09 04.8**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.26**	**27**	*e*Pg		**Pn**	**03 09 06.5**	**+0.3**
IKFM	**Kafar-mosalman**	**1.32**	**73**	*e*			03 09 30.9	
	comp=Z,23μm,0.5s							
IKFM				*e*Pg		**Pb**	**03 09 08.3**	**+1.1**
KER	**Kermanshah**	**1.40**	**28**	*e*Pg		**Pn**	**03 09 09.1**	**+1.2**
IKOM	**Komasi**	**1.41**	**44**	*e*			03 09 10.9	
	comp=Z,25μm,0.2s							
IKOM				*e*Pg		**Pb**	**03 09 09.7**	**+0.8**
RAFI	**Al-Rafai**	**1.44**	**188**	*e*Pg		**Pg**	**03 09 11.0**	**+0.8**
RAFI				*e*Sg		**Sg**	**03 09 32.0**	**+3.1**
IDHR	**Dehrash**	**1.54**	**2**	*e*Pg		**Pn**	**03 09 10.8**	**+0.8**
IDOB	**Doab**	**1.66**	**67**	*e*Pn		**Pb**	**03 09 13.4**	**+0.2**
IDOB				*e*			03 09 47.6	
	comp=Z,8μm,0.7s							
ILIN	**Lien**	**1.84**	**16**	*e*Pg		**Pb**	**03 09 16.9**	**+0.7**
ILIN				*e*			03 09 46.7	
	comp=E,7μm,0.4s							
SNGE	**Sanandaj**	**2.11**	**23**	*e*Pn		**Pn**	**03 09 19.6**	**+1.8**
HSAM	**Samen**	**2.16**	**60**	*e*Pn		**Pn**	**03 09 20.1**	**+1.5**
HSAM				*e*			03 09 55.8	
	comp=Z,2μm,0.5s							
HAGD	**Aghdareh**	**2.86**	**54**	*e*Pn		**Pn**	**03 09 30.0**	**+1.8**
HAGD				*e*			03 09 32.6	
	comp=Z,3μm,0.2s							
AMIS	**Naft Sefid**	**2.90**	**120**	*e*Pn		**Pn**	**03 09 30.0**	**+1.5**
AMIS				*e*			03 10 44.0	
	comp=Z,2μm,0.9s							
KHMZ	**Khomeyn**	**3.08**	**78**	*e*Pn		**Pn**	**03 09 32.9**	**+1.7**
ASAO	**Ashtian**	**3.37**	**65**	*e*Pn		**Pn**	**03 09 37.3**	**+2.1**
MAHB	**Mahabad**	**3.64**	**352**	*e*Pn		**Pn**	**03 09 40.6**	**+1.8**
IRAZ	**Razeghan**	**3.73**	**52**	*e*Pn		**Pn**	**03 09 42.0**	**+2.0**
IRAZ				*e*			03 10 56.3	
	comp=Z,1μm,0.9s							
IPIR	**Pirpir**	**3.86**	**96**	*e*Pn		**Pn**	**03 09 44.2**	**+2.3**
IPIR				*e*			03 10 33.0	
	comp=Z,1μm,0.6s							
ZNJK	**Zanjan**	**4.00**	**28**	*e*Pn		**Pn**	**03 09 45.8**	**+1.9**
QSDN	**Sirdan**	**4.08**	**34**	*e*Pn		**Pn**	**03 09 46.7**	**+1.8**
QAMS	**Qamsar**	**4.27**	**81**	*e*Pn		**Pn**	**03 09 48.8**	**+1.3**
QAMS				*e*			03 10 47.6	
	comp=N,826nm,0.5s							
IQOM	**Qom**	**4.28**	**65**	*e*Pn		**Pn**	**03 09 48.9**	**+1.2**
GHVR	**GHOM**	**4.33**	**71**	*e*Pn		**Pn**	**03 09 50.1**	**+1.8**
IKLH	**Kolahrood**	**4.40**	**86**	*e*Pn		**Pn**	**03 09 51.2**	**+1.9**
IKLH				*e*			03 09 52.9	
	comp=Z,1μm,0.4s							
IAZR	**Azarshahr**	**4.53**	**356**	*e*Pn		**Pn**	**03 09 52.3**	**+1.2**
IBST	**Bostanabad**	**4.56**	**6**	*e*Pn		**Pn**	**03 09 53.2**	**+1.7**
GIDE	**GILAN DEYLAMAN**	**4.77**	**37**	*e*Pn		**Pn**	**03 09 56.3**	**+2.0**
CHTH	**Charan**	**4.81**	**54**	*e*Pn		**Pn**	**03 09 56.1**	**+1.1**
QALM	**Alamut, Qazvin**	**4.82**	**46**	*e*Pn		**Pn**	**03 09 56.2**	**+1.0**
IVRN	**Varamin**	**4.84**	**66**	*e*Pn		**Pn**	**03 09 56.4**	**+1.2**
IVRN				*e*			03 10 21.5	
	comp=Z,359nm,0.5s							
IGAR	**Gharneh**	**4.86**	**97**	*e*Pn		**Pn**	**03 09 56.7**	**+1.0**
KRSH	**Karshahi**	**4.91**	**79**	*e*Pn		**Pn**	**03 09 56.9**	**+0.6**
KLNJ	**Kolanjah**	**4.95**	**114**	*e*Pn		**Pn**	**03 09 57.9**	**+1.0**
IZEF	**Zefreh**	**5.04**	**91**	*e*Pn		**Pn**	**03 09 59.0**	**+0.9**
IZEF				*e*			03 10 04.4	
	comp=Z,157nm,0.3s							
ISFB	**Sefidab**	**5.06**	**75**	*e*Pn		**Pn**	**03 09 59.3**	**+1.0**
ISFB				*e*			03 11 39.7	
	comp=Z,232nm,0.7s							
ISHB	**Shabestar**	**5.15**	**354**	*e*Pn		**Pn**	**03 10 00.2**	**+0.5**
ISHB				*e*			03 10 03.3	
	comp=Z,234nm,0.3s							
IHRS	**Heris**	**5.19**	**6**	*e*Pn		**Pn**	**03 10 01.9**	**+1.8**
IRAM	**Ramesheh**	**5.28**	**103**	*e*Pn		**Pn**	**03 10 02.8**	**+1.4**
IDMV	**Damavand**	**5.29**	**61**	*e*Pn		**Pn**	**03 10 02.7**	**+1.0**
NASN	**Na'in**	**5.45**	**92**	*e*Pn		**Pn**	**03 10 04.3**	**+0.5**
GRMI	**Germi**	**5.78**	**12**	*e*Pn		**Pn**	**03 10 09.1**	**+0.9**
IFIR	**Firoozkooh**	**5.86**	**63**	*e*Pn		**Pn**	**03 10 10.1**	**+0.7**
ISAD	**Sadrabad**	**6.33**	**99**	*e*Pn		**Pn**	**03 10 16.8**	**+0.9**
YZKH	**Yazd**	**6.99**	**94**	*e*Pn		**Pn**	**03 10 25.5**	**+0.7**
ASF	**Jabal al Asfar**	**8.02**	**266**	Pn		**Pn**	**03 10 38.8**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=87,slow=2.0,SNR=11							
ASF				Sn		**Sn**	**03 12 08.3**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=91,slow=22,SNR=1.8							
ASF				Lg		Lg	03 12 55.4	
	comp=Z,0.8nm,0.3s,baz=73,slow=18,SNR=4.4 comp=Z,1.7nm,0.3s							
SHRO	**Shahrood**	**8.46**	**68**	*e*Pn		**Pn**	**03 10 46.9**	**+1.9**
TPRV	**Parvadeh(Tabas**	**8.69**	**88**	*e*Pn		**Pn**	**03 10 48.8**	**+0.8**
TKDS	**Koohdasht(Taba**	**9.03**	**84**	*e*Pn		**Pn**	**03 10 53.3**	**+0.5**
MMAI	**Mount Meron Ar**	**9.18**	**272**	LR		LR	03 15 25.6	
	comp=Z,2μm,18.7s,baz=182,slow=44							
EIL	**Elat**	**10.33**	**253**	Pn		Pn	03 11 05.7	-4.8
	comp=Z,0.2nm,0.3s,baz=93,slow=18,SNR=1.7							
EIL				Lg		Lg	03 14 12.8	
	comp=Z,0.4nm,0.3s,baz=356,slow=18,SNR=3.4							
BRTR	**Keskin Array B**	**12.14**	**306**	Pn		**Pn**	**03 11 36.2**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=118,slow=12,SNR=1.6							
WSAR	**Wadi Sarin**	**14.65**	**129**	Pn		**Pn**	**03 12 06.4**	**-3.2**
	comp=Z,0.8nm,0.3s,baz=343,slow=13,SNR=6.3 comp=Z,3.2nm,0.4s							
BELG	**Belogormoye**	**19.25**	**2**	LR		LR	03 20 27.7	
	comp=Z,608nm,21.3s,baz=318,slow=37							
AKTO	**Aktyubinsk**	**19.30**	**23**	P		**P**	**03 13 07.1**	**0.0**
	comp=Z,0.9nm,0.3s,baz=195,slow=11,SNR=15 comp=Z,2.4nm,0.4s							
MLR	**Muntele Rosu**	**19.95**	**314**	P		**P**	**03 13 15.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=250,slow=15,SNR=1.8 comp=Z,0.7nm,0.5s							
AKASG	**Malin Array Be**	**21.58**	**329**	P		**P**	**03 13 30.2**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=138,slow=10,SNR=4.2 comp=Z,0.5nm,0.4s							
KIRV	**Kirov**	**25.52**	**4**	P		**P**	**03 14 10.3**	**-0.2**
	comp=Z,15nm,0.5s,baz=187,slow=1.9,SNR=4.1							
BVAR	**Borovoye Array**	**26.30**	**34**	P		**P**	**03 14 18.2**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=222,slow=9.4,SNR=7.9 comp=Z,0.7nm,0.3s							
KURBB	**Kurchatov Arra**	**29.33**	**44**	P		**P**	**03 14 45.5**	**+0.6**
	comp=Z,2.1nm,0.2s,baz=250,slow=9.3,SNR=2.2 comp=Z,2.1nm,0.2s							
MKAR	**Makanchi Array**	**30.45**	**53**	P		**P**	**03 14 55.5**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=250,slow=7.3,SNR=14 comp=Z,1.8nm,0.7s							
FINES	**FINESS Array B**	**31.18**	**341**	P		**P**	**03 15 00.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=155,slow=10,SNR=6.4 comp=Z,0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**34.19**	**41**	P		**P**	**03 15 27.1**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=258,slow=9.6,SNR=5.2 comp=Z,1.0nm,0.3s							
NOA	**NORSAR Array B**	**35.96**	**332**	P		**P**	**03 15 42.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=124,slow=8.6,SNR=2.6 comp=Z,0.2nm,0.5s							
ARCES	**ARCESS Array B**	**38.25**	**348**	P		**P**	**03 16 01.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=160,slow=8.3,SNR=8.2 comp=Z,0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**45.22**	**255**	P		**P**	**03 16 59.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=50,slow=8.0,SNR=5.5 comp=Z,0.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**49.09**	**94**	P		**P**	**03 17 29.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=301,slow=7.2,SNR=1.8 comp=Z,0.5nm,0.3s							
KSRS	**Korea Array**	**64.70**	**61**	P		**P**	**03 19 19.6**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=285,slow=6.6,SNR=8.7 comp=Z,0.7nm,0.4s							

*IDC **14** 03:42:26.9±0.6, 47.˚02S×33.˚11E, h0km, mb4.1/12, mbtmp4.1/14, ML3.7/2, MS4.0/2, Error ellipse: s-maj=28.9km s-min=14.8km az=69.0*
*NEIC **14** 03:42:28.6±1.8, 46.˚94S±0.˚09×32.˚9E±0.˚2, h10km±1km, mb4.5/16, Error ellipse: s-maj=25.9km s-min=9.3km az=59.0*
ISC 14 03:42:28.3±0.5,**46.˚98S**±0.˚09×**32.˚9E**±0.˚1,**h10**km,**n37,** σ0=**97**/33,**mb4.3**/16,**Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.28**	**323**	P		**Pn**	**03 46 29.1**	**-0.8**
	0.2nm,0.3s,baz=186,slow=19,SNR=1.6							
SUR				S		Sn	03 49 25.5	-17
	5.0nm,1.1s,baz=198,slow=20,SNR=1.2							
SUR				LR		LR	03 52 07.7	
	comp=Z,287nm,19.7s,baz=108,slow=33 5.3nm,0.8s							
SUR	**Sutherland**	**17.28**	**323**	Pn		**Pn**	**03 46 29.1**	**-0.8**
SUR				IAmb		IAmb	03 47 00.2	
	comp=Z,33nm,1.4s							
BOSA	**Boshof**	**19.30**	**339**	P		**P**	**03 46 53.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=175,slow=15,SNR=4.8							
BOSA				S		Sn	03 50 11.9	-19
	comp=Z,2.4nm,0.9s,baz=135,slow=10.0,SNR=2.1 comp=Z,2.0nm,0.8s							
BOSA	**Boshof**	**19.30**	**339**	P		**P**	**03 46 53.2**	**-0.2**
LBTB	**Lobatse**	**22.69**	**343**	P		**P**	**03 47 31.1**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=160,slow=8.4,SNR=4.8 comp=Z,3.8nm,0.8s							
LBTB	**Lobatse**	**22.69**	**343**	P		**P**	**03 47 31.3**	**+1.3**
LBTB				IAmb		IAmb	03 47 38.7	
	comp=Z,7.8nm,1.0s							
FOMA	**Nahampoana Res**	**24.65**	**32**	P		**P**	**03 47 48.1**	**-0.9**
MAW	**Mawson**	**25.77**	**154**	P		**P**	**03 47 59.5**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=297,slow=12,SNR=10 comp=Z,3.6nm,0.8s							
MAW	**Mawson**	**25.77**	**154**	P		**P**	**03 48 00.5**	**+1.8**
SNAA	**Sanae**	**29.87**	**202**	P		**P**	**03 48 34.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=350,slow=6.8,SNR=2.5 comp=Z,0.8nm,0.7s							
SNAA	**Sanae**	**29.87**	**202**	P		**P**	**03 48 33.7**	**-1.9**
BELA	**Belgrano 2**	**39.86**	**198**	P		**P**	**03 50 01.6**	**+0.2**
QSPA	**South Pole Qui**	**43.24**	**180**	P		**P**	**03 50 29.7**	**+0.3**
	comp=Z,9.9nm,0.7s,baz=269,slow=2.5,SNR=9.7 comp=Z,2.9nm,0.7s							
QSPA	**South Pole Qui**	**43.24**	**180**	P		**P**	**03 50 29.3**	**-0.1**
QSPA				IAmb		IAmb	03 50 37.2	
	comp=Z,6.5nm,0.9s							
VNDA	**Vanda**	**51.84**	**168**	P		**P**	**03 51 35.2**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=241,slow=6.6,SNR=12 comp=Z,2.0nm,0.8s							
SBA	**Scott Base**	**52.27**	**169**	P		**P**	**03 51 40.0**	**+0.9**
SBA				IAmb		IAmb	03 51 41.6	
	comp=Z,9.4nm,1.1s							
H10S2	**ASCENSION HYDR**	**55.32**	**298**	T		T	04 51 48.2	
	baz=139,slow=74,SNR=18							
H10S3	**ASCENSION HYDR**	**55.34**	**297**	T		T	04 51 50.0	
	baz=81,slow=74,SNR=37							
TOA0	**Torodi Ar. Sit**	**66.08**	**326**	P		**P**	**03 53 14.2**	**-1.2**
TOA0				IAmb		IAmb	03 53 24.8	
	comp=Z,5.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**66.08**	**326**	P		**P**	**03 53 17.3**	**+1.9**
	comp=Z,4.6nm,0.8s,baz=160,slow=6.7,SNR=19 comp=Z,4.6nm,0.8s							
PLCA	**Paso Flores**	**69.37**	**232**	P		**P**	**03 53 36.6**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=220,slow=9.1,SNR=1.8 comp=Z,1.6nm,0.9s							
MT02	**Curacav**	**75.03**	**237**	P		**P**	**03 54 09.3**	**-0.7**
CO01	**Juntas del Tor**	**76.80**	**240**	P		**P**	**03 54 22.1**	**+1.7**
AC05	**El Transito**	**77.74**	**241**	P		**P**	**03 54 27.1**	**+1.5**
STKA	**Stephens Creek**	**78.66**	**125**	P		**P**	**03 54 30.3**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=118,slow=4.8,SNR=4.6 comp=Z,3.9nm,0.9s							
STKA	**Stephens Creek**	**78.66**	**125**	P		**P**	**03 54 30.6**	**+0.1**
STKA				IAmb		IAmb	03 54 36.9	
	comp=Z,3.6nm,1.5s							
FITZ	**Fitzroy Crossi**	**78.79**	**104**	P		**P**	**03 54 31.7**	**+0.3**
FITZ				IAmb		IAmb	03 54 45.0	
	comp=Z,4.4nm,1.2s							
ASAR	**Alice Springs**	**80.12**	**114**	P		**P**	**03 54 37.7**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=218,slow=4.8,SNR=12 comp=Z,1.6nm,0.8s							
ASAR	**Alice Springs**	**80.12**	**114**	P		**P**	**03 54 38.9**	**+0.2**
WRA	**Warramunga Arr**	**83.12**	**112**	P		**P**	**03 54 53.6**	**-0.9**
	comp=Z,2.3nm,1.0s,baz=226,slow=4.1,SNR=9.6 comp=Z,2.3nm,1.0s							
WB2	**Warramunga Arr**	**83.12**	**112**	P		**P**	**03 54 53.5**	**-1.1**
WB2				IAmb		IAmb	03 54 55.8	
	comp=Z,9.8nm,1.4s							
BRTR	**Keskin Array B**	**86.33**	**1**	P		**P**	**03 55 10.3**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=165,slow=7.4,SNR=4.6 comp=Z,0.8nm,0.9s							
GEYT	**Alibeck**	**87.49**	**20**	P		**P**	**03 55 15.9**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=232,slow=7.1,SNR=3.8 comp=Z,1.9nm,0.8s							
CTA	**Charters Tower**	**90.33**	**120**	LR		LR	04 30 57.2	
	comp=Z,137nm,19.7s,baz=331,slow=32							
TXAR	**Lajitas Array**	**142.16**	**258**	PKhKP		PKPpre	04 01 57.3	
	comp=Z,0.5nm,0.8s,baz=116,slow=4.1,SNR=5.1							
ULM	**Lac du Bonnet**	**146.55**	**295**	PKPbc		**PKPbc**	**04 02 09.2**	**+0.2**
	comp=Z,3.7nm,1.0s,baz=46,slow=6.0,SNR=3.4							
PDAR	**Pinedale Array**	**153.26**	**275**	PKPbc		**PKPbc**	**04 02 26.2**	**0.0**
	comp=Z,0.2nm,0.6s,baz=134,slow=5.2,SNR=2.1							

RSNC 14 03:46:10.2±1.6,**7.˚23N×76.˚24W,h4**km±10km,**ML3.1, Mw3.7,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.21**	**173**	*e*P		Pg	03 46 13.9	-0.4
DBBC				*e*S		Sg	03 46 17.7	+0.7
DBBC				IAML			03 46 19.9	
	comp=Z,4μm,0.6s							
UREC	**San Jos de Ur**	**0.87**	**53**	*e*P		Pg	03 46 25.6	-1.3
UREC				*e*S		Sg	03 46 38.2	-0.1
UREC				IAML			03 46 42.9	
	comp=Z,631nm,0.4s							
HELC	**Santa Helena**	**1.24**	**146**	*e*P		Pg	03 46 31.6	-2.5
HELC				*e*S		Sg	03 46 48.3	-2.0
HELC				IAML			03 46 56.6	
	comp=Z,263nm,0.8s							
CBOC	**Ciudad Bolivar**	**1.37**	**171**	*e*P		Pn	03 46 34.7	-1.6
CBOC				*e*S		Sg	03 46 52.5	-1.9
CBOC				IAML			03 47 07.8	
	comp=Z,186nm,0.7s							
ZARC	**Zaragoza, Cauc**	**1.39**	**79**	*e*P		Pn	03 46 34.8	-1.7
ZARC				*e*S		Sb	03 46 52.4	-2.5
ZARC				IAML			03 46 56.4	
	comp=Z,344nm,0.3s							
SOLC	**Bahia Solano**	**1.53**	**230**	*e*P		Pn	03 46 37.2	-1.2
SOLC				IAML			03 47 01.9	
	comp=Z,85nm,0.3s							
LCBC	**Los crdobas,**	**1.63**	**355**	*e*P		Pn	03 46 37.4	-2.2
LCBC				IAML			03 47 07.8	
	comp=Z,94nm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.89**	**111**	*e*P		Pn	03 46 42.0	-1.3
PTBC				*e*S		Sn	03 47 08.4	+0.7
PTBC				IAML			03 47 11.1	
	comp=Z,158nm,0.6s							
NORC	**Norcasia**	**2.14**	**140**	*e*P		Pn	03 46 47.2	+0.4
NORC				*e*S		Sb	03 47 17.7	+1.2
NORC				IAML			03 47 19.5	
	comp=Z,113nm,0.4s							
GUY2C	**Guyana, Caldas**	**2.17**	**156**	*e*P		Pn	03 46 47.5	0.0
GUY2C				*e*S		Sg	03 47 20.2	+0.2
GUY2C				IAML			03 47 31.1	
	comp=Z,104nm,0.6s							
UPD2	**Meteti**	**2.20**	**307**	*e*P		Pn	03 46 45.6	-1.9
UPD2				IAML			03 47 25.7	
	comp=Z,148nm,0.7s							
PLMC	**San Jos del P**	**2.31**	**181**	*e*P		Pn	03 46 48.4	-0.7
PLMC				IAML			03 47 31.3	
	comp=Z,102nm,0.5s							
BRRC	**Barranca, Sant**	**2.51**	**93**	*e*P		Pn	03 46 50.9	-0.9
SPBC	**San Pablo de B**	**2.66**	**126**	*e*P		Pn	03 46 55.0	+1.1
SPBC				*e*S		Sb	03 47 31.1	-0.4
SPBC				IAML			03 47 36.5	
	comp=Z,86nm,0.6s							
ANIL	**Santa Ana**	**2.84**	**163**	*e*P		Pb	03 46 59.3	-2.4
SJCC	**San Jacinto, C**	**2.85**	**21**	*e*P		Pn	03 46 53.7	-2.9
SJCC				*e*S		Sn	03 47 26.7	-4.8
ROSC	**El Rosal**	**3.04**	**141**	*e*P		Pb	03 47 03.1	-2.0
ROSC				*e*S		Sb	03 47 43.3	+0.5
ROSC				IAML			03 47 55.0	
	comp=Z,51nm,0.5s							
OCAC	**Ocana**	**3.06**	**71**	*e*P		Pn	03 47 01.6	+2.0
OCAC				IAML			03 47 56.1	
	comp=Z,177nm,0.5s							
BARC	**Barichara**	**3.10**	**102**	*e*P		Pn	03 46 59.5	-0.6
YOTC	**Yotoco, Valle**	**3.22**	**182**	*e*P		Pn	03 47 01.1	-0.6
RUSC	**La Rusia**	**3.40**	**113**	*e*P		Pn	03 47 05.5	+1.0
PAMC	**Pamplona, Colo**	**3.51**	**88**	*e*P		Pn	03 47 09.2	+3.2
PAMC				IAML			03 48 06.7	
	comp=Z,58nm,0.5s							
CHIC	**Chingaza**	**3.58**	**136**	*e*P		Pn	03 47 09.1	+2.1
CHIC				IAML			03 48 16.7	
	comp=Z,40nm,0.5s							
VILC	**Villavicencio,**	**4.00**	**141**	*e*P		Pn	03 47 15.3	+2.9
BCIP	**Isla Barro Col**	**4.05**	**299**	*e*P		Pn	03 47 11.4	-1.7
GUVC	**San Jose del G**	**5.88**	**142**	*e*P		Pn	03 47 38.3	+0.1

*IDC **14** 03:56:29.7±0.5, 56.˚11N×112.˚65E, h0km, mb4.4/31, mbtmp4.4/35, ML3.8/3, Error ellipse: s-maj=13.2km s-min=10.6km az=175.0*
*MOS **14** 03:56:31.7±1.1, 56.˚14N×112.˚55E, h13km, mb4.9/49, MS4.2/9, Error ellipse: s-maj=5.5km s-min=4.5km az=81.0*
MOS Felt (III-IV) at Novyy Uoyan; (III) at Mamakan.
*BJI **14** 03:56:32.0±0.0, 56.˚25N×112.˚07E, h10km, mb4.4/42, mB5.0/23, Ms4.6/23, Ms7 4.5/21*
*BYKL **14** 03:56:32.4±0.2, 56.˚07N×112.˚61E, FELT I=III-IV Novyy Uoyan;III at Mamakan and Bodaibo; II at Chita*
*NEIC **14** 03:56:33.9±1.6, 56.˚39N±0.˚04×112.˚5E±0.˚1, h18km±4km, mb4.9/242, Error ellipse: s-maj=10.3km s-min=4.9km az=78.0*
ISC 14 03:56:31.7±0.6,**56.˚16N**±0.˚02×**112.˚57E**±0.˚02,**h12**km±3km, **n718,** σ

NLYR e 03 57 25.7
NLYR pmax pmax
comp=Z,3μm,0.8s
NLYR smax smax
comp=N,14μm,1.2s
BOD Bodaibo 1.84 25⇓ *i*Pn **Pb 03 57 04.9 -0.3**
BOD e 03 57 08.9
BOD max 03 57 12.5
comp=N,5μm,1.1s
BOD eSg **Sb 03 57 29.5 +1.4**
BOD Smax 03 57 31.6
comp=N,28μm,1.0s
BOD Bodaibo 1.84 25⇓ *i*PN **Pb 03 57 04.9 -0.3**
BOD e 03 57 06.3
BOD e 03 57 29.4
BOD pmax pmax
comp=Z,2μm,0.6s
BOD smax smax
comp=N,30μm,0.5s
SYVR Suvo 2.92 212 Smax 03 57 02.2
comp=N,24μm,0.8s
SYVR ⇓ *i*Pn **Pn 03 57 17.8 0.0**
SYVR e Pg **Pb 03 57 23.1 -0.5**
SYVR Pmax 03 57 34.0
comp=N,806nm,0.6s
SYVR eSg **Sb 03 58 00.6 +1.5**
SYVR Suvo 2.92 212⇓ *i*PN **Pn 03 57 17.8 0.0**
SYVR e 03 57 23.1
SYVR e 03 58 00.1
SYVR pmax pmax
comp=Z,825nm,0.6s
SYVR smax smax
comp=N,24μm,0.8s
CRS Chara 3.24 74 *e*PN **Pn 03 57 23.2 +0.9**
CRS eS **Sb 03 58 12.2 +3.7**
CRS smax smax
comp=E,4μm,0.9s
VTMR Vitim 3.29 360 *e*Pn **Pn 03 57 24.0 +1.1**
VTMR e Pg **Pb 03 57 32.8 +2.9**
VTMR eSn **Sn 03 58 04.0 +2.2**
VTMR eSg **Sg 03 58 16.9 -0.3**
MXMB Maximikha 3.66 219 *e*Pn **Pn 03 57 28.3 +0.3**
MXMB e Pg **Pb 03 57 36.6 +0.4**
MXMB eSg **Sb 03 58 24.0 +3.6**
MXMB e 03 58 31.4
OGRR Ongureny 3.82 231⇓ *i*Pn **Pn 03 57 33.1 +2.8**
OGRR e Pg **Pb 03 57 40.7 +1.7**
OGRR e PgPg **Pg 03 57 43.9 -1.0**
OGRR max 03 57 44.0
comp=E,592nm,1.2s
OGRR e 03 58 07.4
OGRR eSg **Sg 03 58 31.0 -3.4**
OGRR Smax 03 58 37.0
comp=E,4μm,0.7s
OGRR Ongureny 3.82 231 *e*PN **Pn 03 57 33.1 +2.8**
OGRR e 03 57 41.7
OGRR e 03 58 28.8
OGRR pmax pmax
comp=Z,589nm,1.5s
OGRR smax smax
comp=E,4μm,1.6s
KHNR Khani 4.17 76 *e*Pn **Pn 03 57 36.2 +1.1**
KHNR e Pg **Pb 03 57 48.0 +3.1**
KHNR eSn **Sn 03 58 24.8 +1.1**
KHNR eSg **Sg 03 58 41.8 -3.7**
CIT Chita 4.19 172 *e*Pg **Pb 03 57 45.8 +0.5**
CIT Pmax 03 57 52.7
comp=E,1μm,1.3s
CIT eSg **Sb 03 58 39.1 +3.3**
CIT Smax 03 58 43.8
comp=E,6μm,0.6s
CIT Chita 4.19 172 *e*PN **Pn 03 57 36.5 +1.1**
CIT e 03 57 45.7
CIT e 03 58 41.5
CIT pmax pmax
comp=Z,1μm,1.3s
CIT smax smax
comp=E,5μm,0.8s
KELR Kotokel 4.30 219 *e*Pn **Pn 03 57 37.1 +0.3**
KELR e Pg **Pb 03 57 48.5 +1.4**
KELR eSn **Sn 03 58 24.9 -2.0**
KELR eSg **Sb 03 58 43.5 +4.6**
TUP Tupik 4.56 109⇓ *i*Pn **Pn 03 57 40.0 -0.5**
TUP e 03 57 44.0
TUP e Pg **Pb 03 57 52.6 +1.0**
TUP Pmax 03 57 59.1
comp=E,522nm,0.9s
TUP eSn **Sn 03 58 31.6 -1.8**
TUP eSg **Sg 03 58 52.8 -5.3**
TUP Smax 03 58 56.2
comp=E,5μm,1.3s
TUP Tupik 4.56 109⇓ *i*PN **Pn 03 57 40.0 -0.5**
TUP e 03 57 52.8
TUP eS **Sn 03 58 31.8 -1.6**
TUP e 03 58 51.9
TUP pmax pmax
comp=Z,348nm,0.8s
TUP smax smax
comp=N,5μm,1.0s
ZRHB Zarechye 4.81 223 *e*Pg **Pb 03 57 58.2 +2.4**
ZRHB Pmax 03 58 06.0
comp=N,807nm,0.9s
ZRHB eSg **Sg 03 59 00.7 -5.2**
ZRHB Smax 03 59 15.1
comp=N,8μm,1.0s
TRG Tyrgan 4.98 229⇓ *i*Pn **Pn 03 57 46.5 +0.2**
TRG e Pg **Pb 03 58 00.7 +2.0**
TRG eSn **Sn 03 58 41.5 -2.2**
TRG Pmax 03 58 58.2
comp=N,193nm,1.0s
TRG eSg **Sb 03 59 03.8 +5.3**
TRG Smax 03 59 13.5
comp=N,2μm,0.6s
TRG Tyrgan 4.98 229⇓ *i*PN **Pn 03 57 46.4 +0.2**
TRG e 03 57 59.0
TRG eS **Sn 03 58 41.8 -1.9**
TRG e 03 59 02.4
TRG pmax pmax
comp=Z,184nm,0.6s
TRG smax smax
comp=N,2μm,0.6s
YKLR Yuktali 5.07 81 *e*Pn **Pn 03 57 47.5 +0.1**
YKLR e Pg **Pb 03 58 03.1 +2.9**
YKLR eSg **Sg 03 59 08.4 -5.8**
FFNB Fofonovo 5.35 222 *e*Pn **Pn 03 57 51.4 +0.1**
FFNB e 03 57 54.6
FFNB e Pg **Pb 03 58 07.4 +2.3**
FFNB eSg **Sg 03 59 15.8 -7.6**
KAB Kabansk 5.39 223 *e*Pn **Pn 03 57 52.5 +0.6**
KAB e Pg **Pb 03 58 08.8 +3.0**
KAB Pmax 03 58 16.0
comp=N,453nm,0.8s
KAB eSg **Sg 03 59 18.1 -6.6**
KAB Smax 03 59 48.2
comp=N,7μm,1.8s
HRMR Khuramsha 5.63 218 *e*Pn **Pn 03 57 55.9 +0.8**
HRMR e Pg **Pb 03 58 12.7 +3.0**
HRMR Pmax 03 58 15.5
comp=N,458nm,0.6s
HRMR eSg **Sg 03 59 25.0 -7.1**
HRMR Smax 03 59 30.4
comp=N,10μm,0.6s
IRK Irkutsk 6.25 235 *e*Sg **Sg 03 59 44.2 -8.1**
IRK e 03 59 54.0
IRK max 03 59 55.5
comp=N,3μm,0.5s
IRK Irkutsk 6.25 235 *e*PN **Pn 03 58 02.2 -1.5**
IRK e 03 58 24.2
IRK e 03 59 43.8
IRK pmax pmax
comp=Z,280nm,0.2s
IRK smax smax
comp=N,3μm,0.5s
LSTR Listvyanka 6.27 230 max 03 58 04.3
LSTR max 03 58 23.8
LSTR e 03 59 41.9
LSTR eSg **Sg 03 59 45.8 -6.9**
LSTR Smax 03 59 51.7
comp=N,983nm,1.6s
KPC Khapcheranga 6.47 181 *e*Pn **Pn 03 58 05.0 -1.8**
KPC e Pg **Pb 03 58 28.0 +3.8**
KPC Pmax 03 58 34.8
comp=N,267nm,0.9s
KPC eSg **Sg 03 59 51.5 -7.7**
KPC Smax 03 59 57.1
comp=N,3μm,0.9s
KPC Khapcheranga 6.47 181 *e*PN **Pn 03 58 04.9 -1.8**
KPC e 03 58 25.0
KPC e 03 59 48.3
KPC pmax pmax
comp=Z,269nm,1.1s
KPC smax smax
comp=E,3μm,1.8s
IVK Ivanovka 6.50 231 *e*Pn **Pn 03 58 06.6 -0.4**
IVK e 03 58 13.9
IVK e Pg **Pb 03 58 28.5 +3.9**
IVK Pmax 03 58 49.0
comp=E,89nm,0.7s
IVK eSg **Sg 03 59 51.2 -8.9**
IVK Smax 04 00 01.0
comp=E,1μm,1.2s
CLNS Chul'man 6.86 79 *e*Pn **Pn 03 58 13.8 +1.9**
CLNS e Pg 03 58 36.1 +5.4
CLNS eSg **Sg 04 00 04.0 -7.5**
TLY Talaya 6.92 233 *e*Pn **Pn 03 58 12.4 -0.5**
TLY e Pg **Pb 03 58 35.9 +4.1**
TLY Pmax 03 58 46.5
comp=E,81nm,0.5s
TLY eSn **Sn 03 59 27.2 -4.2**
TLY eSg Sg 04 00 03.9 -10
TLY Smax 04 00 22.8
comp=E,856nm,0.8s
TLY Talaya 6.92 233 *e*PN **Pn 03 58 11.6 -1.3**
TLY e 03 58 37.5
TLY eS **Sn 03 59 27.3 -4.2**
TLY e 04 00 04.1
TLY pmax pmax
comp=Z,81nm,0.7s
TLY smax smax
comp=E,849nm,1.1s
ARS Arshan 7.33 239 *e*Pn **Pn 03 58 18.1 -0.4**
ARS e 03 58 47.9
ARS max 03 58 51.0
comp=E,200nm,0.7s
ARS eSg **Sg 04 00 18.0 -8.7**
ARS Smax 04 00 26.0
comp=E,4μm,0.9s
ARS Arshan 7.33 239 *e*PN **Pn 03 58 18.1 -0.4**
ARS eS Sb 04 00 15.6 +10
ARS smax smax
comp=E,3μm,1.0s
ZAK Zakamensk 8.03 228 *e*Pn **Pn 03 58 29.9 +1.8**
ZAK e 03 58 58.0
ZAK max 03 59 09.7
comp=E,45nm,1.0s
ZAK eSg Sg 04 00 38.7 -10
ZAK Smax 04 01 02.7
comp=E,958nm,1.5s
ZAK Zakamensk 8.03 228 *e*PN **Pn 03 58 29.6 +1.5**
ZAK e 03 58 57.0
ZAK e 04 00 41.3
ZAK pmax pmax
comp=Z,39nm,0.5s
ZAK smax smax
comp=N,876nm,1.1s
HIA Hailar 8.16 145 Pn **Pn 03 58 33.0 +3.2**
HIA Sn **Sn 04 00 08.8 +6.9**
HIA Hailar 8.16 145 *e*Pn **Pn 03 58 30.1 +0.3**
HIA eSn **Sn 03 59 58.1 -3.8**
HIA eSg Sg 04 00 41.7 -12
HIA Hailar 8.16 145 PN **Pn 03 58 33.0 +3.2**
MOY Mondy 8.18 241 *e*Pn **Pn 03 58 30.9 +0.7**
MOY e 03 58 37.4
MOY max 03 58 42.8
comp=N,255nm,1.0s
MOY eSn **Sn 04 00 00.4 -2.2**
MOY eSg Sg 04 00 44.8 -9.2
MOY Smax 04 00 55.7
comp=N,1μm,1.3s
MOY Mondy 8.18 241 *e*PN **Pn 03 58 30.8 +0.6**
MOY e 03 58 55.4
MOY eS **Sn 04 00 00.2 -2.4**
MOY e 04 00 44.9
ORL Orlik 8.29 249⇑ *i*Pn **Pn 03 58 32.2 +0.5**
ORL e 03 58 42.5
ORL ePg Pb 03 59 01.1 +6.0
ORL Pmax 03 59 01.8
comp=N,152nm,1.0s
ORL eSn **Sn 04 00 03.5 -1.7**
ORL eSg **Sg 04 00 48.6 -8.9**
ORL Smax 04 01 03.3
comp=N,884nm,1.0s
ORL Orlik 8.29 249⇑ *i*PN **Pn 03 58 31.8 +0.1**
ORL e 03 59 00.7
ORL eS **Sn 04 00 05.0 -0.2**
ORL e 04 00 47.6
ORL pmax pmax
comp=Z,259nm,0.7s
ORL smax smax
comp=N,882nm,1.2s
ZEA Zeya 8.79 100 *e*PN **Pn 03 58 38.9 +0.5**
ZEA e 04 00 18.8
ZEA e 04 01 06.3
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA smax smax
comp=N,60nm,0.7s
ZEA smax smax
comp=E,50nm,0.7s
ULN Ulaanbaatar 8.98 205 Pn Pn 03 58 45.9 +4.8
ULN Ulaanbaatar 8.98 205 *e*Pn **Pn 03 58 41.7 +0.5**
ULN ePg Pg 03 59 13.9 -9.5
ULN eSg Sg 04 01 08.3 -11
ULN Ulaanbaatar 8.98 205 *i*PN **Pn 03 58 42.6 +1.4**
SONM Songino Array 9.16 207 Pn **Pn 03 58 43.8 +0.1**
comp=E,1.2nm,0.3s,baz=17,slow=13,SNR=10
SONM Lg Lg 04 01 19.0
comp=E,19nm,0.3s,baz=15,slow=23,SNR=10.0
comp=E,1.8nm,0.4s
SONM Songino Array 9.16 207 Pn Pn 03 58 49.5 +5.7
SONM Songino Array 9.16 207 P Pn 03 58 49.5 +5.8
YAK Yakutsk 10.56 49 Pn **Pn 03 59 03.7 +1.1**
comp=E,0.3nm,0.3s,baz=44,slow=0.8,SNR=1.9
YAK Sn **Sn 04 00 53.1 -7.5**
comp=E,0.7nm,0.3s,baz=123,slow=12,SNR=2.0
YAK Lg Lg 04 01 57.9
comp=E,0.6nm,0.3s,baz=174,slow=22,SNR=8.4
YAK Yakutsk 10.56 49 Pn **Pn 03 59 00.6 -2.1**
YAK Yakutsk 10.56 49 *i*P **Pn 03 59 04.0 +1.4**
KNGR Kungurtug. Tuv 10.57 245 *i*P **Pn 03 59 05.0 +2.1**
XLT XiLinHaoTe 12.48 168 *e*P P 03 59 35.6 -5.3
XLT S Sn 04 02 00.9 +13
XLT pmax pmax
comp=E,12nm,0.7s
XLT pmax pmax
comp=E,160nm,5.7s
XLT LR LR
comp=E,130nm,8.6s
XLT LR LR
comp=E,870nm,6.7s
XLT LR LR
comp=E,2μm,9.0s
KLR Kul'dur 13.51 113 Pn **Pn 03 59 42.9 -0.1**
comp=E,0.7nm,0.3s,baz=307,slow=14,SNR=10
KLR Lg Lg 04 03 31.3
comp=E,1.0nm,0.3s,baz=233,slow=17,SNR=13
comp=E,3.3nm,0.5s
KLR Kul'dur 13.51 113 *i*P **Pn 03 59 43.4 +0.4**
BNX BinXian 13.97 132 ⇑Pg P 04 00 02.6 +5.3
BNX pmax pmax
comp=Z,4.0nm,0.5s
CN2 Changchun 14.85 141 *e*P **P 04 00 09.4 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,1μm,8.0s
CN2 LR LR
comp=Z,800nm,8.0s
CN2 LR LR
comp=Z,1μm,9.0s
GRNR Gornyy 15.15 101⇓ *i*P **P 04 00 09.9 -0.5**
GRNR pmax pmax
comp=N,4.0nm,0.2s
GRNR pmax pmax
comp=E,2.0nm,0.2s
GRNR pmax pmax
comp=Z,2.0nm,0.4s
GRNR MLR MLR
comp=E,370nm,16.0s
GRNR MLR MLR
comp=N,240nm,14.0s
HHC Hu-ho-hao-te 15.34 183 *e*P **P 04 00 13.8 +1.2**
HHC LR LR
comp=N,4μm,8.3s
HHC LR LR
comp=N,1μm,8.3s
HHC LR LR
comp=N,4μm,7.6s
MDJ Mudanjiang 15.80 130 P **P 04 00 23.3 +5.7**
MDJ sP sP 04 00 27.4 +4.3
MDJ PP **PnPn 04 00 32.4 +10**
MDJ pmax pmax
comp=N,10.0nm,0.7s
MDJ pmax pmax
comp=N,520nm,11.9s
ZAA0 Zalesovo Array 16.01 274 Pn **Pn 04 00 16.3 -0.1**
ZALV Zalesovo Beam 16.01 274 Pn **Pn 04 00 16.4 -0.1**
comp=N,0.9nm,0.3s,baz=72,slow=9.2,SNR=28
ZALV Lg Lg 04 04 54.4
comp=N,0.4nm,0.3s,baz=62,slow=25,SNR=2.6
comp=N,6.9nm,0.6s
ZALV Zalesovo Beam 16.01 274 Pn **Pn 04 00 16.4 -0.1**
ZALV Zalesovo Beam 16.01 274 *i*P **Pn 04 00 16.3 -0.1**
ZALV pmax pmax
comp=Z,9.0nm,0.7s
BJI Beijing 16.31 170 P **P 04 00 25.0 +1.8**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI LR LR
comp=Z,400nm,9.2s
BJI LR LR
comp=Z,490nm,9.5s
BJI LR LR
comp=Z,2μm,9.5s
BJT Baijiatuao 16.33 170 Pn **P 04 00 22.9 -0.6**
BJT Baijiatuao 16.33 170 P **P 04 00 22.9 -0.6**
BJT pmax pmax
comp=Z,12nm,0.9s
DGZ Jazzator, Alta 16.42 257 *i*P **Pn 04 00 21.4 -0.5**
TIXI Tiksi 17.00 18 P **Pn 04 00 24.9 -4.1**
comp=Z,27nm,0.6s,baz=263,slow=19,SNR=19
TIXI S Sn 04 03 21.5 -16
comp=Z,52nm,0.7s,baz=89,slow=23,SNR=18
TIXI Lg Lg 04 05 26.8
comp=Z,274nm,0.3s,baz=270,slow=24,SNR=5.3
TIXI Tiksi 17.00 18 Pn **Pn 04 00 24.6 -4.4**
TIXI Tiksi 17.00 18 *i*P **Pn 04 00 25.2 -3.7**
USA0B Ussuriysk Arra 17.19 126 Pn **P 04 00 34.5 +1.5**
USA0B Ussuriysk Arra 17.19 126 *i*P **P 04 00 32.6 -0.4**
USRK Ussuriysk Ar. 17.19 126 P **Pn 04 00 31.1 -0.2**
comp=Z,1.0nm,0.6s,baz=334,slow=13,SNR=2.4
USRK Lg Lg 04 05 26.8
comp=Z,0.2nm,0.3s,baz=332,slow=27,SNR=7.8
NRIK Noril'sk 17.29 330 P **Pn 04 00 27.6 -4.9**
comp=Z,23nm,0.6s,baz=130,slow=11,SNR=12
NRIK S Sn 04 03 32.2 -12
comp=Z,53nm,0.9s,baz=146,slow=19,SNR=3.7
NRIK Lg Lg 04 05 29.2
comp=Z,1.4nm,0.3s,baz=39,slow=20,SNR=1.8
NRIK Noril'sk 17.29 330 Pn **Pn 04 00 28.6 -3.9**
NRIK Noril'sk 17.29 330 *i*P **Pn 04 00 29.8 -2.7**
OKH Okha 17.60 86 *de*P **Pn 04 00 30.3 -6.2**
OKH MLR MLR
comp=E,1μm,10.0s
OKH MLR MLR
comp=N,500nm,12.0s
OKH MLR MLR
comp=Z,700nm,10.0s
GTA Gaotai 18.77 212 *e*P **P 04 00 50.6 0.0**
GTA pP pP 04 00 54.3 0.0
GTA sP sP 04 00 56.8 +0.7
GTA pmax pmax
comp=Z,13nm,0.8s
GTA LR LR
comp=Z,1μm,11.3s
GTA LR LR
comp=Z,1μm,11.6s
GTA LR LR
comp=Z,1μm,12.0s
HNS HongShan 18.82 175 ⇑P **Pn 04 00 58.3 +6.7**
HNS pmax pmax
comp=Z,10.0nm,1.1s
ZSN Zaisan 19.11 255 *e*P **P 04 00 53.2 -0.9**
ZSN Zaisan 19.11 255 *e*P **P 04 00 53.3 -0.9**
baz=254
ZSN *e*Lg Lg 04 06 36.1
baz=254
SEM Semipalatinsk 20.04 267 *e*P **P 04 01 03.8 -0.6**
SEM Semipalatinsk 20.04 267 *e*P **P 04 01 03.9 -0.6**
baz=267
SEM *e*Lg Lg 04 07 06.5
baz=267
WMQ Urumqi 20.07 243 *e*P Pn 04 01 07.0 +0.5
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ LR LR
comp=Z,640nm,14.3s
MA2 Magadan 20.40 65 P **P 04 01 08.6 +0.4**
MA2 Magadan 20.40 65 *i*P Pn 04 01 09.8 -0.4
MA2 pmax pmax
comp=Z,15nm,1.2s
SEHB SEOHWA 20.74 143 P Pn 04 01 17.2 +2.9
YSS Yuzh-Sakhalins 20.75 104 *e*P Pn 04 01 18.2 +3.8
KURK Kurchatov 20.80 269 P **P 04 01 11.9 -0.6**
KURK IAmb IAmb 04 01 13.7
comp=Z,58nm,1.1s
KURK Kurchatov 20.80 269 *ce*P **P 04 01 12.4 -0.1**
KURK pmax pmax
comp=Z,54nm,1.1s
KURBB Kurchatov Arra 20.89 269 P **P 04 01 14.0 +0.5**
comp=Z,29nm,0.7s,baz=69,slow=12,SNR=52
KURBB Lg Lg 04 07 24.3
baz=66,slow=33
comp=Z,29nm,0.7s
MK31 Makanchi Array 20.90 256 P **P 04 01 13.3 -0.4**
MK31 Makanchi Array 20.90 256 *i*P **P 04 01 13.7 0.0**
MKAR Makanchi Array 20.90 256 P **P 04 01 13.7 0.0**
comp=Z,16nm,0.8s,baz=58,slow=8.6,SNR=86
MKAR Lg Lg 04 07 26.1
baz=40,slow=28,SNR=2.6
comp=Z,16nm,0.8s
MKAR Makanchi Array 20.90 256 P **P 04 01 13.6 -0.1**
LZH Lanzhou 20.94 200 ⇑P **P 04 01 15.3 +1.0**
LZH pP sP 04 01 20.3 +0.5
LZH pmax pmax
comp=Z,37nm,1.4s
LZH pmax pmax
comp=Z,490nm,4.8s
LZH LR LR
comp=Z,870nm,10.6s
LZH LR LR
comp=Z,920nm,11.0s
LZH LR LR
comp=Z,660nm,9.3s
SEY Seymchan 20.99 55 P **P 04 01 14.9 +0.5**
comp=Z,6.5nm,0.8s,baz=254,slow=9.7,SNR=6.3
SEY Lg Lg 04 07 30.2
comp=Z,0.3nm,0.3s,baz=31,slow=19,SNR=9.9
comp=Z,6.5nm,0.8s
SEY Seymchan 20.99 55 *ce*P **P 04 01 16.0 +1.6**
SEY pmax pmax
comp=Z,21nm,1.3s
MAKZ Makanchi 21.07 257 P **P 04 01 15.1 -0.3**
MAKZ Makanchi 21.07 257 P **P 04 01 15.1 -0.3**
MAKZ pmax pmax
comp=Z,24nm,0.9s
KSAR Wonju Array Be 21.37 145 P **P 04 01 21.3 +2.6**
KSAR Wonju Array Be 21.37 145 P **P 04 01 21.3 +2.6**
KSRS Korea Array 21.37 145 P **P 04 01 18.0 -0.7**
comp=Z,1.1nm,0.9s,baz=123,slow=31,SNR=4.3
KSRS Lg Lg 04 07 44.1
baz=345,slow=26,SNR=3.0
KSRS Korea Array 21.37 145 P **P 04 01 18.0 -0.7**
XAN Xi'an 22.27 188 P **P 04 01 34.3 +5.9**
XAN pmax pmax
comp=Z,12nm,1.0s
GOMU GeErMu 23.32 219 P **P 04 01 40.4 +0.6**
GOMU pP sP 04 01 44.8 -0.6
GOMU sP pP 04 01 46.4 +2.8
GOMU pmax pmax
comp=Z,5.0nm,0.6s
TDK Taldyqorghan 24.14 257 *e*P **P 04 01 48.3 +1.0**
TDK Taldyqorghan 24.14 257 *e*P **P 04 01 48.3 +1.0**

baz=257
BVAR Borovoye Array 24.36 280 P **P 04 01 49.8 +0.6**
comp=Z,13nm,0.7s,baz=64,slow=10,SNR=49
BVAR S **S 04 06 13.6 +5.6**
comp=Z,2.6nm,0.8s,baz=54,slow=20,SNR=3.1
comp=Z,13nm,0.7s
BRVK Borovoye 24.40 281 P **P 04 01 50.2 +0.6**
BRVK IAmb IAmb 04 01 51.9
comp=Z,29nm,0.8s
BRVK Borovoye 24.40 281 *ce*P **P 04 01 49.9 +0.3**
BRVK pmax pmax
comp=Z,51nm,1.3s
BRZS Berezniki 24.48 272 *i* P **P 04 01 50.1 -0.2**
BRZS pmax pmax
comp=Z,9.0nm,0.7s
BRZS Berezniki 24.48 272 *i* P **P 04 01 50.2 -0.2**
comp=Z,9.5nm,0.7s,baz=272
NJ2 Nanjing 24.50 167 *e*P **P 04 01 54.8 +4.2**
NJ2 pmax pmax
comp=Z,15nm,0.6s
SHLS Shalkode 24.79 252 *e*P **P 04 01 52.0 -1.3**
SHLS pmax pmax
comp=Z,6.0nm,0.6s
SHLS Shalkode 24.79 252 *e*P **P 04 01 52.0 -1.3**
comp=Z,6.1nm,0.6s,baz=252
KPKS Kokpek 25.00 254 *e*P **P 04 01 56.2 +1.1**
KPKS Kokpek 25.00 254 *e*P **P 04 01 56.3 +1.1**
baz=254
UZB Uzynbulak 25.04 253 *e*P **P 04 01 56.7 +1.1**
UZB Uzynbulak 25.04 253 *e*P **P 04 01 56.7 +1.1**
baz=253
WHN Wuhan 25.64 176 ⇓P P 04 01 53.0 -7.9
CHKK Chushkaly 25.66 256 *e*P **P 04 02 02.3 +1.3**
CHKK Chushkaly 25.66 256 *e*P **P 04 02 02.3 +1.3**
baz=256
PETK Petropavlovsk- 25.94 78 P **P 04 02 03.7 +0.2**
comp=Z,1.1nm,0.5s,baz=342,slow=8.4,SNR=1.9
comp=Z,1.1nm,0.5s
PETK Petropavlovsk- 25.94 78 P **P 04 02 04.5 +1.1**
PETK Petropavlovsk- 25.94 78 P **P 04 02 04.6 +1.1**
CD2 Chengdu 26.00 197 P **P 04 02 08.8 +4.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MDOK Medeo 26.09 255 *e*P **P 04 02 07.2 +2.1**
MDOK Medeo 26.09 255 *e*P **P 04 02 07.2 +2.1**
baz=255
MDOK *e*Lg Lg 04 10 22.0
baz=255
BTLS Baital 26.51 262 *e*P **P 04 02 09.8 +1.1**
BTLS pmax pmax
comp=Z,9.0nm,0.6s
BTLS Baital 26.51 262 *e*P **P 04 02 09.9 +1.1**
comp=Z,9.3nm,0.6s,baz=262
BILL Bilibino 26.80 42 *ce*P **P 04 02 11.3 +0.2**
BILL *e* 04 02 52.4
BILL pmax pmax
comp=Z,12nm,1.1s
BOOM Boomskoye usch 27.14 255 P **P 04 02 16.6 +2.0**
BOOM IAmb IAmb 04 02 54.7
comp=Z,30nm,1.4s
BOOM Boomskoye usch 27.14 255 P **P 04 02 16.6 +2.0**
BOOM pmax pmax
comp=Z,30nm,1.5s
SGDS Sogindy 27.21 258 *e*P **P 04 02 15.6 +0.5**
SGDS Sogindy 27.21 258 *e*P **P 04 02 15.6 +0.5**
baz=258
AAK Ala-Archa 27.83 257 P **P 04 02 21.5 +0.7**
comp=Z,1.3nm,0.4s,baz=114,slow=7.4,SNR=5.8
comp=Z,1.3nm,0.4s
AAK Ala-Archa 27.83 257 *ce*P **P 04 02 20.9 +0.2**
AAK Ala-Archa 27.83 257 *ce*P **P 04 02 22.1 +1.3**
AAK pmax pmax
comp=Z,11nm,1.7s
NRN Naryn 27.84 254 P **P 04 02 22.8 +1.7**
NRN Naryn 27.84 254 P **P 04 02 22.8 +1.7**
NRN pmax pmax
comp=Z,10.0nm,1.1s
KSH Kashi 29.22 251 P **P 04 02 36.4 +3.2**
KSH sP sP 04 02 47.1 +8.2
KSH pmax pmax
comp=Z,10.0nm,1.4s
ARU Arti 29.33 293 P **P 04 02 33.7 -0.1**
ARU 04 03 24.5
ARU S **S 04 07 27.9 +1.4**
ARU MLR MLR
comp=Z,679nm,15.0s
KK31 Karatay Array 29.71 262 P **P 04 02 37.3 -0.1**
KK31 Karatay Array 29.71 262 P **P 04 02 37.3 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 29.71 262 P **P 04 02 36.9 -0.5**
KKAR Karatay Array 29.71 262 P **P 04 02 36.3 -1.0**
KKAR IAmb IAmb 04 02 39.3
comp=Z,3.8nm,0.8s
KKAR Karatay Array 29.71 262 P **P 04 02 36.3 -1.0**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
PZH PanZhiHua 30.65 199 P P 04 02 52.8 +6.9
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,260nm,5.7s
BTK Batken 31.61 257 P **P 04 02 54.2 0.0**
BTK IAmb IAmb 04 02 56.5
comp=Z,12nm,0.8s
BTK Batken 31.61 257 P **P 04 02 54.2 0.0**
BTK pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 31.93 280 P **P 04 02 56.2 -0.7**
AKTO Aktyubinsk 32.36 283 P **P 04 03 00.7 +0.2**
comp=Z,1.0nm,0.4s,baz=50,slow=5.8,SNR=5.5
comp=Z,1.0nm,0.4s
GAR Garm 32.63 256 P **P 04 03 04.1 +0.8**
GAR IAmb IAmb 04 03 08.8
comp=Z,16nm,0.8s
KIRV Kirov 33.03 301 *ce*P **P 04 03 06.7 +0.4**
CHGR Chuyangaron 33.51 257 P **P 04 03 11.4 +0.6**
CHGR Chuyangaron 33.51 257 P **P 04 03 11.4 +0.6**
CHGR pmax pmax
comp=Z,20nm,0.6s
PRGR Permogore 33.60 307 *e*P **P 04 03 12.1 +0.8**
JIRN Jiri 34.18 225 *e*P **P 04 03 18.3 +1.2**
comp=Z,42nm,0.7s
GKN Gorkha 34.50 227 *e*P **P 04 03 20.8 +1.2**
DANN Dangsing 34.55 228 *e*P **P 04 03 21.8 +1.6**
RAMN Ramite 34.66 223 *e*P **P 04 03 21.4 +0.3**
PYUN Piuthan 35.10 229 *e*P **P 04 03 26.0 +1.2**
comp=Z,49nm,1.1s
KBL Kabul 36.62 252 P **P 04 03 37.3 -0.5**
KBL Kabul 36.62 252 P **P 04 03 37.3 -0.5**
KBL pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 36.62 308 *e*P **P 04 03 36.7 -0.5**
KLMR *e* 04 04 55.7
KLMR pmax pmax
comp=Z,28nm,1.1s
KLMR Klimovskoe 36.62 308 *e*P **P 04 03 36.8 -0.5**
KLMR AMP 04 03 48.6
comp=Z,28nm,1.1s
KLMR *e*PP **PnPn 04 04 55.7 -4.4**
BELG Belogornoye 36.85 292 P **P 04 03 39.5 +0.1**
comp=Z,11nm,0.8s,baz=112,slow=3.4,SNR=3.6
comp=Z,11nm,0.8s
BELG Belogornoye 36.85 292 P **P 04 03 39.5 +0.1**
BELG Belogornoye 36.85 292 *i* P **P 04 03 39.0 -0.3**
BELG pmax pmax
comp=Z,2.0nm,0.9s
SPA0 Spitsbergen Ar 37.00 340 *e*P **P 04 03 40.5 +0.1**
SPA0 IAmb IAmb 04 05 06.4
comp=Z,77nm,1.3s
SPITS Spitsbergen Ar 37.00 340 P **P 04 03 40.3 -0.1**
comp=Z,18nm,0.8s,baz=74,slow=11,SNR=8.1
comp=Z,18nm,0.8s
SPITS Spitsbergen Ar 37.00 340 P **P 04 03 40.3 -0.1**
TNA Tin City 37.24 43 P **P 04 03 44.4 +1.9**
baz=295
ARA0 ARCESS Array S 38.19 325 *e*P **P 04 03 50.9 +0.4**
ARA0 IAmb IAmb 04 03 52.9
comp=Z,62nm,1.8s
ARCES ARCESS Array B 38.19 325 P **P 04 03 50.4 -0.1**
comp=Z,1.2nm,0.5s,baz=68,slow=9.8,SNR=14
comp=Z,1.2nm,0.5s
A21K Barrow 38.54 31 P **P 04 03 54.1 +0.7**
baz=297
ANM Nome 38.65 43 P **P 04 03 55.5 +1.1**
baz=298

KTK1 Kautokeino 39.15 325 *e*P **P 04 03 58.7 +0.2**
KTK1 IAmb IAmb 04 04 25.4
comp=Z,336nm,2.8s
JETT Jettan, Norway 39.77 327 *e*P **P 04 04 03.8 0.0**
MOS Moscow 40.03 302 *e*P P 04 04 11.5 +5.5
MOS *e* 04 05 49.1
GEYT Alibeck 40.13 267 P **P 04 04 08.1 +0.9**
comp=Z,9.4nm,0.9s,baz=318,slow=1.9,SNR=18
comp=Z,9.4nm,0.9s
GEYT Alibeck 40.13 267 P **P 04 04 08.5 +1.4**
GYA0B ALIBECK ARRAY 40.13 267 P **P 04 04 08.4 +1.3**
VRH Novokhopyorsk 40.56 294 *e*P **P 04 04 08.7 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 40.87 302 ⇑*e*P **P 04 04 12.3 -0.7**
OBN *e* 04 05 47.3
OBN *e*S **S 04 10 24.7 +1.0**
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,191nm,16.0s
C23K Itkillik River 41.02 32 P **P 04 04 14.4 +0.4**
baz=303
LPSR Galich'ya Gora 41.16 297 *e*P **P 04 04 13.4 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
D23K Nanushuk River 41.48 33 P **P 04 04 18.2 +0.4**
baz=303
F21K Alatna River 41.54 36 P **P 04 04 18.8 +0.4**
baz=303
VORR Voronezh 41.56 296 *e*P P 04 04 23.5 +4.8
VORR pmax pmax
comp=Z,30nm,0.4s
E22K Anaktuvuk Pass 41.58 34 P **P 04 04 19.0 +0.3**
baz=303
C24K Franklin Bluff 41.65 31 P **P 04 04 19.0 -0.1**
baz=304
GCSA Galena City Sc 41.72 40 P **P 04 04 20.6 +0.9**
baz=303
F22K John River 41.81 35 P **P 04 04 21.4 +0.8**
baz=304
VSR Storozhevoye 41.85 295 *e*P **P 04 04 20.2 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.7s
G21K Allakaket 41.92 37 P **P 04 04 22.9 +1.4**
baz=304
D24K Happy Valley 41.93 32 P **P 04 04 22.4 +0.9**
baz=305
FIA1 FINESS Array S 41.98 314 P **P 04 04 21.4 -0.6**
FIA1 IAmb IAmb 04 04 22.9
comp=Z,23nm,0.8s
FINES FINESS Array B 41.98 314 P **P 04 04 22.0 0.0**
comp=Z,16nm,0.8s,baz=66,slow=9.2,SNR=42
comp=Z,16nm,0.8s
FINES FINESS Array B 41.98 314 P **P 04 04 21.9 -0.1**
TOLK Toolik Lake Re 41.99 33 P **P 04 04 23.0 +0.9**
baz=304
E23K Chandalar 42.31 34 P **P 04 04 24.8 0.0**
baz=305
G22K Bettles 42.35 36 P **P 04 04 25.6 +0.6**
baz=305
FAUS Fauske 42.53 325 *e*P **P 04 04 26.8 +0.4**
FAUS IAmb IAmb 04 04 48.9
comp=Z,103nm,2.0s
COLD Coldfoot 42.60 35 P **P 04 04 27.6 +0.7**
baz=305
H21K Melozitna Rive 42.64 38 P **P 04 04 27.9 +0.5**
H21K Melozitna Rive 42.64 38 P **P 04 04 28.1 +0.7**
baz=305
E24K Your Creek 42.65 33 P **P 04 04 28.1 +0.6**
baz=306
G23K Bananza Creek 42.96 35 P **P 04 04 30.2 +0.3**
baz=306
H22K Ishtalitna Cre 42.99 37 P **P 04 04 31.0 +0.8**
baz=306
J20K Nowinta River 43.02 40 P **P 04 04 30.8 +0.3**
J20K IAmb IAmb 04 04 33.1
comp=Z,24nm,1.3s
J20K Nowinta River 43.02 40 P **P 04 04 31.4 +1.0**
baz=306,SNR=7.5
F24K Squaw Lake 43.16 34 P **P 04 04 32.0 +0.5**
baz=307
I21K Tanana 43.20 38 P **P 04 04 32.9 +1.1**
baz=306
N16K Nishlik Lake 43.40 46 P **P 04 04 35.0 +1.4**
baz=306
E25K Arctic Village 43.50 32 P **P 04 04 35.2 +0.8**
baz=308
MOR8 Moi Rana 43.51 324 *e*P **P 04 04 33.1 -1.3**
K20K Telida 43.52 41 P **P 04 04 35.8 +1.3**
baz=306
H23K Yukon River 43.64 36 P **P 04 04 35.9 +0.5**
H23K Yukon River 43.64 36 P **P 04 04 36.5 +1.1**
baz=307
MLY Manley 43.71 38 P **P 04 04 37.2 +1.1**
baz=307
G24K Hadweenzic Riv 43.78 34 P **P 04 04 37.5 +0.9**
baz=308
F25K Christian Rive 43.80 33 P **P 04 04 37.6 +0.8**
baz=308
L19K White Mountain 43.93 42 P **P 04 04 39.0 +1.2**
L19K IAmb IAmb 04 04 50.9
comp=Z,53nm,2.0s
L19K White Mountain 43.93 42 P **P 04 04 39.3 +1.5**
baz=307
UNV Unalaska Valle 43.95 57 P **P 04 04 39.0 +1.0**
baz=308
L20K Farewell, AK 44.12 42 P **P 04 04 40.7 +1.4**
baz=307
H24K Noodor Dome 44.18 36 P **P 04 04 39.7 -0.1**
H24K Noodor Dome 44.18 36 P **P 04 04 41.0 +1.2**
baz=308
BPAW Bear Paw Mtn. 44.18 39 P **P 04 04 39.7 -0.2**
BPAW Bear Paw Mtn. 44.18 39 P **P 04 04 41.1 +1.3**
baz=308
F26K Sheenjek River 44.19 32 P **P 04 04 41.0 +1.2**
baz=309
O16K Kokwok River B 44.20 47 P **P 04 04 41.3 +1.4**
baz=307
BMAR Burnt Mountain 44.22 33 P **P 04 04 40.9 +0.7**
M19K Big River Lodg 44.27 43 P **P 04 04 42.2 +1.6**
baz=307
SVW2 Sparrevohn 44.30 44 P **P 04 04 40.8 +0.1**
SVW2 IAmb IAmb 04 04 43.5
comp=Z,18nm,1.2s
N18K Kilae Creek 44.43 45 P **P 04 04 43.3 +1.5**
baz=308
O17K Koliganek Bris 44.49 46 P **P 04 04 44.0 +1.6**
baz=308
NEA2 Nenana 44.55 37 P **P 04 04 43.8 +1.1**
baz=308
H25K Birch Creek 44.57 34 P **P 04 04 43.9 +1.1**
baz=309
P16K Nushagak River 44.58 47 P **P 04 04 44.9 +1.9**
baz=308
KIV Kislovodsk 44.58 285 ⇓P **P 04 04 45.1 +1.8**
KIV Kislovodsk 44.58 285 P **P 04 04 42.4 -1.0**
KIV IAmb IAmb 04 04 59.1
comp=Z,16nm,1.1s
KIV Kislovodsk 44.58 285 *i* P **P 04 04 44.6 +1.3**
KIV *i* 04 04 50.9
KIV *i* 04 04 56.4
KIV *i* 04 06 26.1
KIV pmax pmax
comp=Z,11nm,0.8s
MDM Murphy Dome 44.60 37 P **P 04 04 42.8 -0.4**
E27K Coleen River 44.62 31 P **P 04 04 43.7 +0.4**
baz=310
ZEI Tsey 44.70 283 *e*P **P 04 04 43.0 -1.4**
ZEI pmax pmax
comp=Z,1.0nm,0.5s
M20K Styx River 44.76 42 P **P 04 04 45.6 +1.1**
M20K IAmb IAmb 04 04 59.8
comp=Z,15nm,1.2s
M20K Styx River 44.76 42 P **P 04 04 46.0 +1.5**
baz=308
G26K Porcupine Rive 44.77 33 P **P 04 04 45.8 +1.4**
baz=310
COLA College 44.78 37 *i* P **P 04 04 45.7 +1.2**
COLA pmax pmax
comp=Z,9.0nm,0.7s
TRF Thorofare Moun 44.83 39 P **P 04 04 46.3 +1.1**
TRF IAmb IAmb 04 04 52.6
comp=Z,19nm,0.9s
N19K Bonanza Creek 44.90 44 P **P 04 04 47.6 +1.9**
baz=308

CCB Clear Creek Bu 44.94 37 P **P 04 04 45.8 0.0**
WRH Wood River Hil 44.95 37 P **P 04 04 47.1 +1.1**
WRH IAmb IAmb 04 04 53.0
comp=Z,15nm,1.2s
P17K Kvichak River 45.11 47 P **P 04 04 49.1 +1.9**
baz=308
MCK McKinley 45.13 38 P **P 04 04 47.1 -0.3**
MCK IAmb IAmb 04 04 57.4
comp=Z,9.8nm,0.9s
MCK McKinley 45.13 38 P **P 04 04 47.1 -0.3**
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 45.13 38 P **P 04 04 48.5 +1.1**
baz=309
PRP Porcupine Dome 45.14 35 P **P 04 04 47.5 0.0**
PRP Porcupine Dome 45.14 35 P **P 04 04 49.1 +1.5**
baz=310
IL31 45.17 36 P **P 04 04 48.4 +0.9**
ILAR Eielson Array 45.17 36 P **P 04 04 48.5 +0.9**
comp=Z,3.7nm,0.8s,baz=301,slow=8.5,SNR=37
comp=Z,3.7nm,0.8s
O18K Koktuh Hills 45.20 45 P **P 04 04 47.3 -0.7**
O18K Koktuh Hills 45.20 45 P **P 04 04 49.7 +1.7**
baz=308
MNK Minsk 45.29 305 *i* P **P 04 04 49.4 +0.7**
MNK *i* 04 06 35.4
MNK *i* PPP PPP 04 07 14.0
MNK *i* S **S 04 11 30.5 +2.0**
MNK *i* SSS SSS 04 15 44.5
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=Z,305nm,16.0s
MNK MLR MLR
comp=E,32nm,16.0s
MNK Minsk 45.29 305 *i* P **P 04 04 49.5 +0.7**
comp=E,2.0nm,0.8s
MNK *i* P **P 04 04 49.5 +0.7**
comp=N,6.0nm,0.8s
MNK *i* P **P 04 04 49.5 +0.7**
comp=Z,11nm,0.8s,baz=52
MNK *i* PP **PP 04 06 35.5 +1.1**
MNK *i* PPP PPP 04 07 14.0
MNK *i* S **S 04 11 30.6 +2.0**
MNK *i* SS **SS 04 14 54.8 +4.0**
MNK *i* SSS SSS 04 15 44.5
MNK *i* LQ LQ 04 20 46.0
MNK *i* LR LR 04 23 36.5
MNK *i* LRM MLR 04 25 42.6
comp=N,17nm,16.1s
MNK *i* LRM MLR 04 25 53.0
comp=Z,305nm,16.1s
MNK *i* LRM MLR 04 25 53.9
comp=E,32nm,16.1s
SKT Skwentna 45.29 41 P **P 04 04 48.6 -0.1**
SKT Skwentna 45.29 41 P **P 04 04 49.4 +0.8**
baz=309
NSS Namsos 45.34 323 *e*P **P 04 04 49.0 0.0**
HDA Harding Lake 45.38 37 P **P 04 04 49.8 +0.4**
HDA Harding Lake 45.38 37 P **P 04 04 49.9 +0.6**
baz=310
P18K Big Mountain, 45.48 46 P **P 04 04 51.6 +1.4**
P18K Big Mountain, 45.48 46 P **P 04 04 51.5 +1.3**
baz=309
CUT Chulitna 45.49 40 P **P 04 04 51.0 +0.8**
baz=309
G27K Doyon Strip 45.50 32 P **P 04 04 50.9 +0.6**
baz=311
SPCR Spurr Chakacha 45.53 43 P **P 04 04 51.8 +1.2**
baz=309
N20K Mount Spurr 45.53 43 P **P 04 04 51.9 +1.2**
baz=309
NACGM Naroch 45.54 306 *e*P **P 04 04 51.1 +0.4**
baz=51
J25K Salcha River, 45.77 36 P **P 04 04 53.3 +0.8**
baz=311
RSO Redoubt South 45.78 44 P **P 04 04 54.0 +1.1**
WAT1 Susitna Watana 45.83 39 P **P 04 04 53.2 +0.3**
baz=310
SUA Susitna One 45.91 42 P **P 04 04 53.8 +0.1**
SUA Susitna One 45.91 42 P **P 04 04 55.0 +1.3**
baz=310,SNR=7.3
H27K Steamboat Moun 45.92 33 P **P 04 04 54.4 +0.7**
baz=312
ILSW Iliamna Southw 45.93 44 P **P 04 04 54.1 +0.2**
ILSW IAmb IAmb 04 05 01.3
comp=Z,24nm,0.9s
GUZR Guzeripl' 45.94 287 *i* P **P 04 04 55.7 +1.6**
I26K Coal Creek Min 46.03 34 P **P 04 04 54.8 +0.4**
I26K IAmb IAmb 04 05 37.7
comp=Z,14nm,1.6s
I26K Coal Creek Min 46.03 34 P **P 04 04 55.3 +0.8**
baz=312
GNI Garni 46.04 280 *i* P **P 04 04 58.3 +3.2**
O20K Slope Mountain 46.07 44 P **P 04 04 55.6 +0.6**
baz=310
DHY Denali Highway 46.09 38 P **P 04 04 55.4 +0.3**
DHY IAmb IAmb 04 05 03.8
comp=Z,11nm,0.8s
DHY Denali Highway 46.09 38 P **P 04 04 55.8 +0.7**
baz=311,SNR=8.5
R17K Ugashik Creek 46.10 48 P **P 04 04 55.9 +0.8**
baz=310
P19K Oil Pt 46.11 45 P **P 04 04 56.1 +0.9**
baz=310
K24K Donnelly Dome 46.16 37 P **P 04 04 55.9 +0.4**
baz=311
WAT6 Susitna Watana 46.28 39 P **P 04 04 57.1 +0.4**
baz=311,SNR=8.3
I27K Kandik River 46.32 34 P **P 04 04 57.2 +0.5**
baz=312
GHO Glory Hole Cre 46.38 41 P **P 04 04 58.0 +0.7**
PMR Palmer 46.42 41 P **P 04 04 58.3 +0.8**
PMR IAmb IAmb 04 05 04.2
comp=Z,15nm,0.9s
PMR Palmer 46.42 41 P **P 04 04 58.3 +0.8**
PMR pmax pmax
comp=Z,15nm,0.9s
PMR Palmer 46.42 41 P **P 04 04 58.2 +0.6**
baz=311,SNR=8.2
SOC Sochi 46.43 287 *e*P **P 04 04 57.3 -0.5**
SOC *e* 04 06 47.4
SOC *e*PPP PPP 04 07 27.5
SOC *e*S **S 04 11 45.7 +0.6**
SOC *e*SS **SS 04 15 06.6 -3.8**
SOC *e*SSS SSS 04 16 11.4
SOC pmax pmax
comp=Z,17nm,1.0s
SOC MLR MLR
comp=Z,230nm,19.0s
J26L Joseph Creek 46.43 35 P **P 04 04 58.0 +0.2**
baz=312
RIDG Independent Ri 46.52 37 P **P 04 04 58.5 +0.1**
RIDG IAmb IAmb 04 05 06.4
comp=Z,7.6nm,0.7s
RIDG Independent Ri 46.52 37 P **P 04 04 58.3 -0.1**
baz=312
RC01 Rabbit Creek A 46.52 42 P **P 04 04 58.5 +0.1**
baz=311
SML Sawmill 46.57 40 P **P 04 04 59.3 +0.5**
SML Sawmill 46.57 40 P **P 04 04 59.0 +0.2**
baz=311,SNR=7.3
SCRK Sand Creek 46.65 36 P **P 04 04 59.4 0.0**
baz=312
INK Inuvik 46.75 28 P **P 04 05 00.2 +0.1**
comp=Z,5.2nm,1.1s,baz=318,slow=12,SNR=8.5
comp=Z,5.2nm,1.1s
INK Inuvik 46.75 28 P **P 04 04 59.9 -0.2**
baz=316
KNK Knik Glacier 46.78 41 P **P 04 05 00.9 +0.4**
baz=311
M23K Glacier View 46.80 40 P **P 04 05 00.8 +0.2**
baz=311
PAX Paxson 46.81 38 P **P 04 05 00.9 +0.1**
PAX IAmb IAmb 04 05 07.0
comp=Z,8.9nm,1.0s
PAX Paxson 46.81 38 P **P 04 05 00.9 +0.1**
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 46.81 38 P **P 04 05 00.9 +0.1**
baz=312
ANN Anapa 46.83 289 *e*P **P 04 04 59.0 -1.9**

ANN pmax pmax
comp=Z,44nm,1.1s
DOT Dot Lake 46.84 37 P P 04 05 00.8 -0.1
DOT IAmb IAmb 04 05 07.9
comp=Z,11nm,0.7s
SCM Sheep Creek Mo 46.92 40 P P 04 05 02.0 +0.5
baz=312
O22K Cooper Landing 46.92 42 P P 04 05 01.9 +0.4
baz=311
EGAK Eagle 47.02 34 P P 04 05 02.3 +0.2
EGAK Eagle 47.02 34 P P 04 05 02.3 +0.2
baz=313
BRSE Bradley Lake S 47.02 43 P P 04 05 01.8 -0.5
baz=311
AKASG Malin Array Be 47.09 300 P P 04 05 02.5 -0.4
comp=Z,1.5nm,0.5s,baz=44,slow=8.8,SNR=23
comp=Z,1.5nm,0.5s
M24K Tolsona, Glenn 47.14 39 P P 04 05 03.8 +0.5
M24K Tolsona, Glenn 47.14 39 P P 04 05 03.6 +0.3
baz=312
PWL Port Wells 47.19 41 P P 04 05 04.1 +0.4
baz=312
K27K Chicken 47.23 35 P P 04 05 03.7 -0.2
K27K Chicken 47.23 35 P P 04 05 04.2 +0.3
baz=313
EPYK Eagle Plains 47.25 31 P P 04 05 04.2 +0.2
baz=315
SEW Seward 47.27 42 P P 04 05 04.8 +0.6
baz=312
HARP HAARP 47.30 38 P P 04 05 04.7 +0.2
baz=312
F31M Tsiigehtchic 47.31 29 P P 04 05 04.4 0.0
baz=316
I29M Ogilvie Camp, 47.49 33 P P 04 05 05.7 -0.2
baz=315
L26K Log Cabin Wild 47.50 37 P P 04 05 06.2 +0.2
baz=313
KDAK Kodiak Island 47.58 46 P P 04 05 07.1 +0.5
baz=312
CHIR Chirikof Islan 47.60 50 P P 04 05 07.5 +0.7
baz=311
KLU Klutina 47.64 40 P P 04 05 08.1 +0.8
KLU Klutina 47.64 40 P P 04 05 07.6 +0.4
baz=313
OHAK Old Harbor 47.66 47 P P 04 05 07.7 +0.4
OHAK Old Harbor 47.66 47 P P 04 05 07.9 +0.7
baz=312
NC405 NORSAR Array S 47.67 320 P P 04 05 07.1 -0.2
NB201 NORSAR Array S 47.86 320 P P 04 05 08.7 -0.1
NB2 NORSAR Subarra 47.90 320 P P 04 05 08.9 -0.2
comp=Z,4.0nm,0.6s,baz=48,slow=7.9
NB2 NORSAR Subarra 47.90 320 P P 04 05 08.9 -0.2
baz=48,slow=7.9
NOA NORSAR Array B 47.90 320 P P 04 05 08.9 -0.2
comp=Z,6.0nm,0.7s,baz=49,slow=7.6,SNR=41
comp=Z,6.0nm,0.7s
NC204 NORSAR Array S 47.90 320 P P 04 05 08.9 -0.2
NC204 NORSAR Array S 47.90 320 eP P 04 05 09.0 -0.2
DOMB Dombas 47.97 322 eP P 04 05 09.5 -0.2
L27K Beaver Creek, 47.98 36 P P 04 05 10.4 +0.6
L27K IAmb IAmb 04 05 11.8
comp=Z,8.2nm,0.8s
L27K Beaver Creek, 47.98 36 P P 04 05 10.4 +0.6
baz=314,SNR=13
NORES NORESS Array B 47.98 320 P P 04 05 09.4 -0.3
NC602 NORSAR Array S 47.98 320 P P 04 05 08.6 -1.1
NC602 NORSAR Array S 47.98 320 eP P 04 05 09.5 -0.3
BCAR Beaver Creek A 47.99 36 P P 04 05 11.2 +1.4
N25K Chitina, Valde 48.03 39 P P 04 05 10.2 -0.1
N25K Chitina, Valde 48.03 39 P P 04 05 10.9 +0.7
baz=313,SNR=8.9
M26K Nabesna, AK 48.04 37 P P 04 05 10.8 +0.6
baz=314
NBO00 NORSAR Array S 48.06 320 P P 04 05 10.0 -0.4
DAWY Dawson 48.06 34 P P 04 05 10.8 +0.4
baz=315
C36M Paulatuk 48.25 23 P P 04 05 11.0 -0.7
baz=322
EYAK Cordova Ski Ar 48.35 40 P P 04 05 13.7 +1.1
baz=313
M27K Edge Creek, AK 48.45 37 P P 04 05 13.9 +0.3
M27K IAmb IAmb 04 05 23.4
comp=Z,9.2nm,1.0s
M27K Edge Creek, AK 48.45 37 P P 04 05 13.9 +0.3
baz=314
BMRM Bremner River 48.47 39 P P 04 05 14.3 +0.7
baz=314
K29M Barlow Dome 48.81 34 P P 04 05 16.8 +0.5
baz=316
OSL Oslo 48.83 319 eP P 04 05 16.0 -0.2
SKAR Skarslia 49.18 321 eP P 04 05 19.2 +0.2
YUK3 Moose Creek 49.34 37 P P 04 05 21.1 +0.7
baz=316
KONO Kongsberg 49.44 319 ceP P 04 05 20.9 0.0
KONO pmax pmax
comp=Z,12nm,1.7s
KONO Kongsberg 49.44 319 eP P 04 05 21.3 +0.3
M29M Somme Creek 49.52 35 P P 04 05 22.2 +0.5
baz=316
M30M Minto, Yukon 49.95 34 P P 04 05 25.5 +0.6
baz=317
SUMG Summit 49.99 349 i P P 04 05 24.0 -1.4
O28M Mount Upton 50.15 38 P P 04 05 27.3 +0.6
baz=316
YUK4 Talbot Arm 50.25 36 P P 04 05 27.7 +0.3
baz=317
N30M Aishikik Lake 50.68 36 P P 04 05 29.8 -0.7
baz=318
M31M Drury Creek, Y 50.98 34 P P 04 05 33.1 +0.4
M31M Drury Creek, Y 50.98 34 P P 04 05 33.1 +0.4
baz=319
N31M Braeburn, Yuko 51.08 35 P P 04 05 34.1 +0.7
baz=318
BUR08 Bucovina Ar. S 51.10 300 P P 04 05 33.9 +0.1
BURAR Bucovina Array 51.11 300 ⇓P P 04 05 34.1 +0.2
BURAR Bucovina Array 51.11 300 P P 04 05 34.1 +0.2
BURAR Bucovina Array 51.11 300 ⇓P P 04 05 34.1 +0.2
FARO Faro, Yukon 51.29 33 P P 04 05 35.5 +0.5
baz=320
VRI Vrincioaia 51.59 297 ⇑P P 04 05 38.4 +1.0
VRI Vrincioaia 51.59 297 ⇑P P 04 05 38.4 +1.0
KOLS Kolonicke sedl 51.60 303 eP P 04 05 38.1 +0.7
KOLS pmax pmax
comp=Z,8.0nm,0.8s
KOLS Kolonicke sedl 51.60 303 eP P 04 05 38.1 +0.7
P29M Windy Craggy 51.82 37 P P 04 05 39.8 +0.8
baz=318
ARCR ARCALIA 51.90 300 ⇓P P 04 05 41.3 +1.6
TRPA Tarpa 52.04 302 ⇑P P 04 05 41.7 +1.1
TRPA Tarpa 52.04 302 P P 04 05 41.0 +0.4
NIE Niedzica 52.18 304 P P 04 05 42.9 +1.1
MLR Muntele Rosu 52.24 297 ⇑P P 04 05 43.5 +1.0
MLR Muntele Rosu 52.24 297 P P 04 05 43.4 +1.0
comp=Z,2.3nm,0.7s,baz=173,slow=11,SNR=4.1
comp=Z,2.3nm,0.7s
MLR Muntele Rosu 52.24 297 ⇑P P 04 05 43.5 +1.0
BR131 Keskin Array S 52.38 287 P P 04 05 43.4 -0.1
BR131 Keskin Array S 52.38 287 i P P 04 05 43.6 +0.1
BRTR Keskin Array B 52.38 287 P P 04 05 44.8 +1.2
comp=Z,2.0nm,0.6s,baz=68,slow=4.7,SNR=17
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 52.38 287 P P 04 05 43.5 -0.1
VOIR 52.73 298 ⇓P P 04 05 46.6 +0.7
VOIR 52.73 298 ⇓P P 04 05 46.6 +0.7
LANS Liptovska Anna 52.75 305 eP P 04 05 47.6 +1.6
LANS Liptovska Anna 52.75 305 eP P 04 05 47.6 +1.6
DRGR 52.90 301 ⇑P P 04 05 47.8 +0.6
DRGR 52.90 301 ⇑P P 04 05 47.8 +0.6
ARR Arges 52.98 298 ⇑P P 04 05 49.8 +2.0
P33M Teslin, Yukon 53.00 35 P P 04 05 46.9 -0.8
P33M Teslin, Yukon 53.00 35 P P 04 05 48.6 +0.9
baz=321
MORC Moravsky Berou 53.18 306 eP P 04 05 49.6 +0.4
OSTC Ostas 53.21 308 eP P 04 05 53.5 +4.1
OSTC AMS AMS 04 30 20.0
comp=Z,200nm,18.8s
KRLC Kraliky 53.31 307 eP P 04 05 50.4 +0.3
KRLC e 04 05 59.8
KRLC MLR MLR
comp=Z,200nm,16.6s
KRLC Kraliky 53.31 307 eP P 04 05 50.4 +0.3
KRLC ex x 04 05 59.8
KRLC AMS AMS 04 30 20.0
comp=Z,200nm,16.6s
DPC Dobruska-Polom 53.31 307 eP P 04 05 51.1 +0.9
DPC e 04 05 58.9
DPC MLR MLR
comp=Z,300nm,15.7s
DPC Dobruska-Polom 53.31 307 eP P 04 05 51.1 +0.9
DPC epP sP 04 05 58.9 +3.1
DPC AMS AMS 04 30 30.0
comp=Z,300nm,15.7s
UPC Upice 53.34 308 P P 04 05 51.2 +0.9
UPC pmax pmax
comp=Z,8.0nm,1.1s
UPC Upice 53.34 308 AMS AMS 04 30 30.0
comp=Z,300nm,15.7s
VYHS Vyhne 53.51 304 eP P 04 05 52.4 +0.8
VYHS pmax pmax
comp=Z,11nm,1.3s
VYHS Vyhne 53.51 304 eP P 04 05 52.4 +0.8
JAVC Velka Javorina 53.78 305 eP P 04 05 56.3 +2.7
SIRR Siria 53.78 301 ⇓P P 04 05 54.6 +1.0
GZR Gura Zlata 53.87 299 ⇓P P 04 05 55.1 +0.8
R32K Eaglecrest 53.94 37 P P 04 05 55.1 +0.5
baz=321
VRAC Vranov 53.95 306 eP P 04 05 55.5 +0.7
BORA Eskisehir 53.96 289 P P 04 05 54.7 -0.4
BRG Berggiesshubel 53.98 309 eP P 04 05 55.6 +0.6
BRG Amp 04 05 56.5
comp=Z,7.9nm,0.9s
BRG ex x 04 06 03.4
BRG Amp 04 06 07.4
comp=Z,6.2nm,0.9s
BRG Berggiesshubel 53.98 309 eP P 04 05 55.5 +0.6
BRG e 04 06 03.4
BRG pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 54.06 310 P P 04 05 55.0 -0.5
CLL IAmb IAmb 04 05 56.6
comp=Z,7.1nm,0.9s
CLL Collm 54.06 310 i P P 04 05 55.5 -0.1
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,18.3s
CLL Collm 54.06 310 i P P 04 05 55.5 -0.1
comp=Z,7.0nm,0.8s
CLL e(sP) sP 04 06 06.0 +4.7
CLL eP PP 04 07 57.0 +0.4
CLL LmV 04 30 00.0
comp=Z,300nm,18.3s
KRUC Moravsky 54.22 306 eP P 04 05 57.5 +0.8
KRUC Moravsky 54.22 306 P P 04 05 57.7 +1.0
KRUC pmax pmax
comp=Z,10.0nm,1.4s
R33M Jennings River 54.22 34 P P 04 05 57.2 +0.4
baz=322
BZS Buzias 54.28 300 ⇑P P 04 05 58.0 +0.8
BZS Buzias 54.28 300 ⇑P P 04 05 58.0 +0.8
PRU Prunonice 54.36 308 AMS AMS 04 31 10.0
comp=Z,300nm,17.9s
HERR Herculane 54.42 299 ⇓P P 04 05 58.6 +0.4
MDVR Moldovita 54.84 299 ⇓P P 04 06 01.3 0.0
MPLH Magyarpolny 55.08 304 P P 04 06 03.0 0.0
NKC Novy Kostel 55.09 310 AMS AMS 04 31 50.0
comp=Z,300nm,18.3s
MOX Moxa 55.15 310 P P 04 06 04.1 +0.6
MOX pmax pmax
comp=Z,15nm,1.1s
BLKB Belogradchik 55.21 298 ⇓P P 04 06 04.2 +0.1
RONA Rosalia, Austr 55.26 305 eP P 04 06 06.1 +1.8
comp=Z,6.9nm,1.3s
MORH Mrgy, Hungar 55.26 303 ⇓P P 04 06 04.8 +0.6
MORH Mrgy, Hungar 55.26 303 P P 04 06 03.8 -0.5
DLBC Dease Lake 55.28 35 P P 04 06 04.6 +0.2
baz=323
CONA Conrad Observa 55.29 306 eP P 04 06 05.8 +1.1
comp=Z,6.3nm,1.3s
KHC Kasperske Hory 55.42 308 P P 04 06 05.5 0.0
KHC Kasperske Hory 55.42 308 eP P 04 06 05.7 +0.2
KHC e 04 06 11.0
KHC Kasperske Hory 55.42 308 eP P 04 06 05.7 +0.2
KHC epP pP 04 06 11.0 +1.4
ISP Isparta 55.43 288 P P 04 06 05.5 -0.3
ISP IAmb IAmb 04 06 08.7
comp=Z,12nm,1.2s
ISP Isparta 55.43 288 P P 04 06 05.5 -0.3
ISP pmax pmax
comp=Z,13nm,1.2s
GEC2 GERESS Array S 55.58 308 P P 04 06 07.3 +0.6
GERES GERESS Array B 55.58 308 P P 04 06 07.1 +0.4
comp=Z,1.9nm,0.9s,baz=51,slow=7.2,SNR=14
comp=Z,1.9nm,0.9s
KOVH Kovagotottos 55.61 303 P P 04 06 06.7 -0.1
VTS Vitosha 55.67 297 ⇓P P 04 06 08.1 +0.6
VTS Vitosha 55.67 297 P P 04 06 07.2 -0.3
VTS IAmb IAmb 04 06 09.1
comp=Z,7.5nm,1.0s
VTS Vitosha 55.67 297 ⇓P P 04 06 08.1 +0.6
MOA Molln 56.07 307 eP P 04 06 11.3 +1.1
comp=Z,6.1nm,1.1s
YKA Yellowknife Ar 56.11 24 P P 04 06 09.2 -1.0
comp=Z,2.9nm,0.8s,baz=332,slow=7.6,SNR=4.1
YKA PcP PcP 04 07 08.1 +0.1
comp=Z,1.6nm,0.7s,baz=333,slow=3.8,SNR=3.0
comp=Z,2.9nm,0.8s
DIVS Divibare 56.17 300 P P 04 06 10.6 -0.4
SOKA Soboth 56.59 305 eP P 04 06 15.1 +1.1
comp=Z,5.6nm,1.0s
PTJ Puntijarka 56.74 304 P P 04 06 16.8 +1.8
OBKA Obir 56.94 305 eP P 04 06 17.7 +1.2
comp=Z,15nm,0.8s,SNR=11
KBA Koelnbreinsper 57.06 307 eP P 04 06 18.8 +1.4
comp=Z,14nm,1.1s,SNR=9.1
EKA Eskdalemuir Ar 57.22 322 P P 04 06 18.2 +0.1
PRED Cave del Predi 57.44 306 P P 04 06 18.9 -1.0
BTNL Ternell 57.47 314 dP P 04 06 20.3 +0.2
comp=Z,7.5nm,1.2s
MEM Membach 57.51 314 dP P 04 06 20.1 -0.2
comp=Z,10.0nm,0.9s
WATA Walderalm 57.65 308 eP P 04 06 22.7 +1.2
comp=Z,12nm,1.2s
WTTA Wattenberg 57.68 308 eP P 04 06 23.1 +1.4
comp=Z,12nm,1.1s
ABTA Abfaltersbach 57.68 307 eP P 04 06 22.5 +0.8
comp=Z,6.0nm,1.3s
BSTI Sart Tilman 57.70 314 dP P 04 06 22.2 +0.6
comp=Z,2.3nm,0.9s
CLUD Cludinico 57.74 306 P P 04 06 21.2 -0.8
CLUD IAmb IAmb 04 06 23.5
comp=Z,11nm,0.9s
PDG Podgorica 57.78 299 ⇓P P 04 06 21.7 -0.5
PDG Podgorica 57.78 299 P P 04 06 22.4 +0.1
PDG IAmb IAmb 04 06 23.1
comp=Z,5.5nm,0.7s
MOTA Moosalm 57.85 308 eP P 04 06 23.9 +0.9
comp=Z,7.7nm,1.1s
RETA Reutte 57.90 308 eP P 04 06 24.0 +0.8
comp=Z,4.1nm,1.1s
SQTA Sankt Quirin 57.90 308 eP P 04 06 24.6 +1.3
comp=Z,7.8nm,1.2s
BCLA Clavier 57.94 314 dP P 04 06 23.5 +0.2
STAL STALIGIAL 57.96 306 P P 04 06 23.2 -0.4
STAL IAmb IAmb 04 06 24.3
comp=Z,12nm,0.9s
CIMO Cimolais 58.05 306 P P 04 06 23.4 -0.8
CIMO IAmb IAmb 04 06 24.9
comp=Z,6.2nm,1.1s
RAYN Ar Rayn 58.06 265 P P 04 06 24.6 0.0
RAYN Ar Rayn 58.06 265 P P 04 06 24.6 0.0
RAYN pmax pmax
comp=Z,17nm,0.8s
BMRD Maredsous 58.24 314 dP P 04 06 25.6 +0.2
comp=Z,5.9nm,0.8s
FETA Feichten 58.27 308 eP P 04 06 26.4 +0.5
comp=Z,4.8nm,1.1s
DOU Dourbes 58.47 314 dP P 04 06 27.1 +0.1
CTI Castel Tesino 58.60 307 P P 04 06 27.1 -1.1
CTI IAmb IAmb 04 06 29.3
comp=Z,9.3nm,0.9s
CTI Castel Tesino 58.60 307 P P 04 06 27.1 -1.1
CTI pmax pmax
comp=Z,9.0nm,0.9s
DAVOX Davos/Dischmat 58.83 308 P P 04 06 30.7 +0.9
comp=Z,7.0nm,1.0s,baz=312,slow=1.3,SNR=8.4
comp=Z,7.0nm,1.0s
SGRT San Giovanni R 59.99 301 P P 04 06 36.1 -1.7
SGRT IAmb IAmb 04 06 38.4
comp=Z,11nm,0.8s
FDMO Fiordimonte 60.26 304 P P 04 06 39.3 -0.3
FDMO IAmb IAmb 04 06 42.9
comp=Z,7.2nm,0.9s
NRCA Norcia 60.41 303 P P 04 06 40.2 -0.4
OSSC Osservatorio P 60.73 305 P P 04 06 42.5 -0.2
OSSC IAmb IAmb 04 06 44.0
comp=Z,12nm,1.0s
LATE Laterza 61.18 304 IAmb IAmb 04 06 54.9
comp=Z,14nm,1.1s
TIP Timpagrande 61.48 298 P P 04 06 47.0 -0.9
TIP IAmb IAmb 04 06 57.6
comp=Z,20nm,1.5s
BNI Bardonecchia 61.57 309 P P 04 06 48.6 0.0
BNI IAmb IAmb 04 06 57.5
comp=Z,12nm,1.1s
BNI Bardonecchia 61.57 309 P P 04 06 48.6 0.0
BNI pmax pmax
comp=Z,12nm,1.1s
LLLB Lillooet 64.43 35 IAmb IAmb 04 07 09.3
comp=Z,13nm,1.1s
PGC Sidney 65.60 37 IAmb IAmb 04 07 21.8
comp=Z,7.4nm,0.8s
B04A Port Angeles 66.09 38 IAmb IAmb 04 07 25.4
comp=Z,12nm,0.9s
NLWA Neilton Lookou 66.54 38 IAmb IAmb 04 07 28.6
comp=Z,11nm,0.8s
B08A Colville Reser 67.21 35 IAmb IAmb 04 07 26.9
comp=Z,7.9nm,0.9s
LTY Liberty 67.74 36 IAmb IAmb 04 07 35.2
comp=Z,7.3nm,0.7s
KEST Kesra 67.80 301 P P 04 07 29.7 +0.4
comp=Z,2.0nm,1.0s,baz=185,slow=14,SNR=1.8
comp=Z,2.0nm,1.0s
NEW Newport 67.98 33 IAmb IAmb 04 07 37.2
comp=Z,4.3nm,0.7s
NEW Newport 67.98 33 P P 04 07 31.1 +0.9
baz=333,SNR=6.1
D08A Wollman Farm, 68.48 35 IAmb IAmb 04 07 40.3
comp=Z,8.7nm,0.8s
HAWA Hanford 68.87 36 IAmb IAmb 04 07 43.5
comp=Z,16nm,1.2s
E09A Wood Farm, Sta 69.22 35 IAmb IAmb 04 07 45.1
comp=Z,12nm,0.9s
SCHQ Schefferville 69.36 360 P P 04 07 38.4 -0.2
comp=Z,4.8nm,0.9s,baz=44,slow=3.4,SNR=4.2
comp=Z,4.8nm,0.9s
I03D Drain, OR 69.92 40 P P 04 07 44.0 +1.8
baz=331
G08A Pilot Rock 70.03 36 P P 04 07 43.9 +0.8
G08A IAmb IAmb 04 07 50.6
comp=Z,6.5nm,0.9s
I05D Terrebonne, OR 70.07 38 P P 04 07 44.3 +1.1
baz=332
I04A Tendick Farm, 70.17 39 P P 04 07 44.8 +1.0
baz=331
J01E Myrtle Point 70.18 40 P P 04 07 45.2 +1.4
baz=331
MSO Missoula 70.23 32 IAmb IAmb 04 07 52.2
comp=Z,16nm,1.1s
MSO Missoula 70.23 32 P P 04 07 44.9 +0.6
baz=335,SNR=7.6
EGMT Eagleton 70.32 29 P P 04 07 45.4 +0.6
baz=337
ESDC Sonseca Array 70.48 313 P P 04 07 46.4 +0.6
comp=Z,3.9nm,0.9s,baz=23,slow=6.6,SNR=25
comp=Z,3.9nm,0.9s
ESDC Sonseca Array 70.48 313 IAmb IAmb 04 07 47.3
comp=Z,17nm,1.7s
K02D Willamette Mer 70.68 41 P P 04 07 48.6 +1.6
baz=331
PINE Pine Mountain 70.69 38 IAmb IAmb 04 07 55.2
comp=Z,13nm,0.9s
J04D Umpqua Nationa 70.76 39 P P 04 07 48.8 +1.1
baz=332
I07A Izee 70.92 37 IAmb IAmb 04 07 56.9
comp=Z,13nm,1.0s
BMO Blue Mountains 70.96 35 P P 04 07 49.3 +0.6
BMO Blue Mountains 70.96 35 P P 04 07 49.3 +0.6
BMO pmax pmax
comp=Z,17nm,0.9s
J05D Fort Rock, OR 71.03 39 P P 04 07 50.5 +1.3
baz=332,SNR=7.6
L02F Cave Junction 71.22 41 P P 04 07 51.4 +1.2
baz=331
DGMT Dagmar 71.31 25 P P 04 07 50.9 +0.3
baz=340
K04D Chiloquin, OR 71.43 39 P P 04 07 52.4 +0.8
baz=332
L04D Klamath Falls 71.59 40 P P 04 07 53.4 +0.8
baz=332
K05A Summer Lake 71.64 39 P P 04 07 54.3 +1.4
K05A IAmb IAmb 04 08 00.9
comp=Z,15nm,1.0s
BOZ Bozeman (W) 72.02 31 P P 04 07 55.8 +0.6
baz=336,SNR=7.5
MOD Modoc Plateau 72.57 39 IAmb IAmb 04 08 06.1
comp=Z,16nm,1.0s
WVOR Wild Horse Val 72.68 37 IAmb IAmb 04 08 06.7
comp=Z,10.0nm,0.9s
MFID Camas Ranch 72.72 35 IAmb IAmb 04 08 06.8
comp=Z,13nm,0.8s
YHL Hebgen Lake 72.83 31 IAmb IAmb 04 08 02.1
comp=Z,11nm,0.9s
HLID Hailey 73.03 34 P P 04 08 02.3 +1.0
baz=335,SNR=10
RLMT Red Lodge 73.12 30 IAmb IAmb 04 08 03.6
comp=Z,14nm,1.1s
RLMT Red Lodge 73.12 30 P P 04 08 02.8 +1.0
baz=337,SNR=9.0
YMP Mirror Lake Pl 73.23 30 IAmb IAmb 04 08 10.7
comp=Z,13nm,1.4s
AGMN Agassiz Nation 73.23 19 IAmb IAmb 04 08 07.0
comp=Z,6.1nm,0.7s
AGMN Agassiz Nation 73.23 19 P P 04 08 01.3 -0.8
baz=344
YFT Old Faithful 73.30 31 IAmb IAmb 04 08 06.5
comp=Z,9.6nm,1.1s
LKWY Lake 73.32 31 IAmb IAmb 04 08 08.1
comp=Z,12nm,1.0s
H17A Grant Village 73.42 31 IAmb IAmb 04 08 12.2
comp=Z,8.1nm,1.1s
H17A Grant Village 73.42 31 P P 04 08 05.2 +1.6
baz=337
B35A Bob, Littlefor 73.55 18 IAmb IAmb 04 08 09.5
comp=Z,9.1nm,0.8s
MOOW Moose Ponds 73.97 31 IAmb IAmb 04 08 09.2
comp=Z,13nm,1.3s
FXWY Fox Creek 73.99 31 IAmb IAmb 04 08 15.1
comp=Z,18nm,1.0s
SNOW Snow King Moun 74.23 31 IAmb IAmb 04 08 16.6
comp=Z,15nm,1.1s
REDW Red Top Meadow 74.29 31 IAmb IAmb 04 08 16.3
comp=Z,10nm,0.9s
BEKR Beckworth 74.36 40 P P 04 08 09.1 0.0
BEKR IAmb IAmb 04 08 16.1
comp=Z,11nm,1.0s
PAHR Pah Rah Range 74.84 39 IAmb IAmb 04 08 19.1
comp=Z,10nm,1.0s
AFDM Forest Hills D 74.95 41 P P 04 08 12.5 +0.2
HVU Hansel Valley 75.16 33 IAmb IAmb 04 08 21.1
comp=Z,10nm,0.7s
BW06 Boulder Array 75.21 31 P P 04 08 14.4 +0.4
baz=338,SNR=5.3
PDAR Pinedale Array 75.21 31 P P 04 08 13.9 -0.1
comp=Z,2.6nm,0.9s,baz=24,slow=2.8,SNR=17
comp=Z,2.6nm,0.9s
ELK Elko 75.32 36 IAmb IAmb 04 08 22.4
comp=Z,10nm,0.9s
RSSD Black Hills 75.43 26 P P 04 08 14.5 -0.7
RSSD IAmb IAmb 04 08 35.4
comp=Z,5.7nm,0.8s
RSSD Black Hills 75.43 26 P P 04 08 14.5 -0.7
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 75.43 26 P P 04 08 15.6 +0.3
baz=340
YERR Yerington 75.53 39 IAmb IAmb 04 08 23.2
comp=Z,14nm,1.1s
F36A Milaca 76.00 18 IAmb IAmb 04 08 23.4
comp=Z,10nm,0.7s
RYN Ryan 76.11 39 IAmb IAmb 04 08 26.6
comp=Z,9.3nm,0.9s
K22A Casper 76.16 29 P P 04 08 19.0 -0.4
baz=339
TCUT Toone Canyon 76.18 33 IAmb IAmb 04 08 28.0
comp=Z,11nm,0.8s
SUSD Miller 76.30 23 P P 04 08 20.1 +0.1
baz=343

NVAR	Mina Array Bea	76.36	39	P	P	04 08 21.4	+0.7
	comp=Z,4.4nm,0.7s,baz=313,slow=4.1,SNR=43						
	comp=Z,4.4nm,0.7s						
NV11	Mina Array Sit	76.41	39	IAmb	IAmb	04 08 28.1	
	comp=Z,7.4nm,0.8s						
LHV	Little Huntoon	76.45	39	IAmb	IAmb	04 08 28.9	
	comp=Z,7.3nm,0.8s						
CTU	Camp Tracy	76.47	33	IAmb	IAmb	04 08 28.9	
	comp=Z,14nm,1.3s						
DUG	Dugway, Tooele	76.59	34	IAmb	IAmb	04 08 28.9	
	comp=Z,7.9nm,0.8s						
DUG	Dugway, Tooele	76.59	34	P	P	04 08 23.1	+1.2
	baz=336,SNR=8.5						
JLU	Jordanelle	76.64	33	IAmb	IAmb	04 08 30.3	
	comp=Z,7.6nm,1.0s						
SPMN	Marine on St.	76.75	18	P	P	04 08 21.8	-0.6
	baz=346						
NLU	North Lily Min	77.04	34	IAmb	IAmb	04 08 31.8	
	comp=Z,12nm,0.9s						
SPR3	Spring Creek 3	77.19	36	IAmb	IAmb	04 08 33.6	
	comp=Z,12nm,1.0s						
MZP	Montezuma Peak	77.33	38	IAmb	IAmb	04 08 33.5	
	comp=Z,5.4nm,0.8s						
R11A	Troy Canyon, C	77.36	37	IAmb	IAmb	04 08 34.1	
	comp=Z,8.8nm,1.2s						
R11A	Troy Canyon, C	77.36	37	P	P	04 08 27.1	+0.8
	baz=335						
DSP	Deep Springs	77.42	39	IAmb	IAmb	04 08 34.4	
	comp=Z,9.0nm,0.9s						
ECSD	EROS Data Cent	77.47	21	IAmb	IAmb	04 08 33.8	
	comp=Z,17nm,1.6s						
ECSD	EROS Data Cent	77.47	21	P	P	04 08 26.1	-0.4
	baz=344						
PHWY	Pilot Hill	77.70	28	IAmb	IAmb	04 08 30.7	
	comp=Z,1.5nm,1.1s						
PSUT	Pine Spring	77.77	36	IAmb	IAmb	04 08 35.9	
	comp=Z,9.5nm,0.8s						
TMUT	Trail Mountain	77.91	33	IAmb	IAmb	04 08 37.1	
	comp=Z,9.7nm,0.9s						
N23A	Red Feather La	77.95	29	IAmb	IAmb	04 08 36.9	
	comp=Z,11nm,0.9s						
N23A	Red Feather La	77.95	29	P	P	04 08 30.4	+0.8
	baz=340,SNR=6.4						
GRAC	Grapevine Rang	77.97	39	IAmb	IAmb	04 08 37.4	
	comp=Z,14nm,0.8s						
GRAC	Grapevine Rang	77.97	39	P	P	04 08 31.3	+1.8
	baz=334						
WRA	Warramunga Arr	78.01	159	P	P	04 08 28.4	-1.3
	comp=Z,2.6nm,0.7s,baz=350,slow=6.0,SNR=30						
	comp=Z,2.6nm,0.7s						
O20A	White River Ci	78.02	31	P	P	04 08 30.8	+0.9
	baz=338,SNR=13						
CWC	Cottonwood Cre	78.22	40	P	P	04 08 32.4	+1.3
	baz=334						
Q16A	Castle Valley	78.27	33	IAmb	IAmb	04 08 38.6	
	comp=Z,14nm,1.2s						
PRN	Pahroc Range	78.40	37	IAmb	IAmb	04 08 39.5	
	comp=Z,9.2nm,1.1s						
TPNV	Topopah Spring	78.40	38	P	P	04 08 32.6	+0.6
	baz=335						
WCT	Wildcat Mounta	78.41	38	IAmb	IAmb	04 08 39.6	
	comp=Z,14nm,0.9s						
SMMC	Simmler	78.53	42	P	P	04 08 33.9	+1.3
	baz=334						
FURC	Furnace Creek,	78.62	39	P	P	04 08 34.4	+1.4
	baz=335						
MTPU	Mount Pierson	78.75	35	IAmb	IAmb	04 08 42.1	
	comp=Z,7.6nm,0.8s						
MPMC	Manual Prospec	78.77	39	P	P	04 08 35.1	+0.9
	baz=334						
ISA	Isabella, Lake	78.77	40	P	P	04 08 34.6	+0.6
	baz=334						
OGNE	Ogallala	78.91	26	P	P	04 08 35.1	+0.3
	baz=341,SNR=5.6						
PKM	Mcpherson Peak	78.97	42	P	P	04 08 36.6	+1.4
	baz=334						
ISCO	Idaho Springs	79.06	29	P	P	04 08 36.9	+1.0
	baz=340,SNR=9.5						
SHPR	Sheep Range	79.17	37	IAmb	IAmb	04 08 44.1	
	comp=Z,9.9nm,1.0s						
PKCU	Pink Cliffs	79.26	35	IAmb	IAmb	04 09 55.0	
	comp=Z,14nm,0.8s						
LCMT	Little Creek M	79.35	36	IAmb	IAmb	04 08 44.6	
	comp=Z,7.7nm,0.9s						
LONY	Lake Ozonia	79.41	5	P	P	04 08 36.9	-0.4
	baz=356						
JFWS	Jewell Farm	79.42	17	P	P	04 08 36.9	-0.5
	baz=348						
PV07	Paradox Valley	79.47	32	IAmb	IAmb	04 08 46.6	
	comp=Z,8.9nm,0.7s						
EDW2	Edwards Air Fo	79.64	40	P	P	04 08 39.9	+1.2
	baz=334						
PV13	Radium Mtn., P	79.68	32	IAmb	IAmb	04 08 46.2	
	comp=Z,12nm,1.1s						
GSC	Goldstone, Bar	79.69	39	P	P	04 08 40.0	+1.0
	baz=335						
LBNH	Lisbon	79.90	3	P	P	04 08 40.0	+0.1
	baz=358						
Q24A	Divide	79.97	29	P	P	04 08 40.8	0.0
	baz=340						
BFSC	Mount Baldy Ra	80.34	40	P	P	04 08 43.6	+1.0
	baz=335						
GMRC	Granite Mounta	80.56	38	P	P	04 08 44.8	+1.0
	baz=335						
KSCO	Kaye Shedlock'	80.59	27	IAmb	IAmb	04 08 50.5	
	comp=Z,14nm,0.8s						
KSCO	Kaye Shedlock'	80.59	27	P	P	04 08 44.4	+0.5
	baz=341						
S22A	4UR Ranch, Cre	80.64	31	P	P	04 08 45.3	+0.9
	baz=339,SNR=9.8						
MVCO	Mesa Verde	80.65	32	IAmb	IAmb	04 08 51.5	
	comp=Z,9.7nm,0.9s						
MVCO	Mesa Verde	80.65	32	P	P	04 08 45.3	+0.9
	baz=338						
SDCO	Great Sand Dun	81.02	30	IAmb	IAmb	04 08 53.3	
	comp=Z,8.1nm,0.8s						
SDCO	Great Sand Dun	81.02	30	P	P	04 08 47.1	+0.7
	baz=340,SNR=15						
SCI2	San Clemente I	81.15	41	P	P	04 08 48.6	+1.8
	baz=334						
BELC	Belle Mtn. Jos	81.15	39	P	P	04 08 48.2	+1.2
	baz=335						
IRM	Iron Mountain	81.31	38	P	P	04 08 49.2	+1.5
	baz=336						
WUAZ	Wupatki	81.33	35	P	P	04 08 49.0	+1.1
	baz=337						
PMD	Palm Desert	81.33	40	IAmb	IAmb	04 08 55.1	
	comp=Z,5.4nm,0.9s						
PFO	Pinyon Flats O	81.34	40	P	P	04 08 46.8	-1.2
PFO	Pinyon Flats O	81.34	40	P	P	04 08 46.8	-1.2
PFO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PFO	Pinyon Flats O	81.34	40	P	P	04 08 49.0	+1.0
	baz=335						
TPFO	Pinon Flats	81.34	40	P	P	04 08 49.0	+1.0
	baz=335						
CBKS	Cedar Bluff	81.49	25	P	P	04 08 48.6	+0.1
	baz=343						
PDMCI	Parker Dam,Lak	81.52	38	P	P	04 08 49.3	+0.5
	baz=336						
ASAR	Alice Springs	81.55	160	P	P	04 08 47.7	-1.2
	comp=Z,0.8nm,0.5s,baz=353,slow=4.7,SNR=8.4						
	comp=Z,0.8nm,0.5s						
BINY	Binghamton	81.74	6	P	P	04 08 50.3	+0.5
	baz=355						
T25A	Trinidad	81.88	29	P	P	04 08 50.7	-0.2
	baz=340						
BLYC	Blythe	81.89	38	IAmb	IAmb	04 08 58.2	
	comp=Z,9.8nm,0.9s						
KSU1	Kansas State U	81.92	23	P	P	04 08 50.7	-0.1
	baz=344						
MONP2	Monument Peak	82.00	40	P	P	04 08 52.7	+1.1
	baz=335						
W18A	Petrified Fore	82.21	34	P	P	04 08 53.4	+0.8
	baz=338						
X16A	Lo Mia Camp, P	82.31	35	IAmb	IAmb	04 09 00.8	
	comp=Z,6.1nm,0.9s						
IKP	In-Ko-Pah, Jac	82.33	40	P	P	04 08 53.0	-0.2
	baz=335						
SFIN	Lafayette	82.39	15	P	P	04 08 53.0	-0.2
	baz=349						
X18A	Snowflake	82.69	34	IAmb	IAmb	04 09 02.4	
	comp=Z,5.7nm,0.9s						
KMBO	Kilima Mbogo	82.79	257	P	P	04 08 56.3	+0.4
	comp=Z,2.6nm,0.8s,baz=34,slow=11,SNR=4.9						
	comp=Z,2.6nm,0.8s						
KMBO	Kilima Mbogo	82.79	257	P	P	04 08 56.7	+0.8
KMBO				IAmb	IAmb	04 08 57.9	
	comp=Z,7.2nm,1.2s						
KMBO	Kilima Mbogo	82.79	257	*i* P	P	04 08 57.0	+1.1
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PAL	Palisades	83.05	5	P	P	04 08 56.3	-0.3
	baz=356						
ANMO	Albuquerque	83.36	31	P	P	04 08 58.6	0.0
ANMO				IAmb	IAmb	04 09 06.1	
	comp=Z,8.8nm,0.9s						
ANMO	Albuquerque	83.36	31	*ce*P	P	04 09 00.0	+1.4
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ANMO	Albuquerque	83.36	31	P	P	04 08 59.7	+1.1
	baz=340						
P49A	Miami Univ. Ec	83.55	13	P	P	04 08 58.7	-0.5
	baz=351						
P52A	Corning	83.76	11	P	P	04 08 59.8	-0.5
	baz=352						
CCM	Cathedral Cave	83.98	19	P	P	04 09 01.6	+0.1
	baz=347						
CROK	Carrier	84.10	24	IAmb	IAmb	04 09 03.6	
	comp=Z,23nm,1.1s						
214A	Organ Pipe Nat	84.11	37	P	P	04 09 02.1	-0.2
	baz=337						
ELIS	Ellis County	84.18	26	IAmb	IAmb	04 09 10.4	
	comp=Z,49nm,1.4s						
TUC	Tucson	84.46	36	P	P	04 09 04.1	0.0
	baz=338						
WCI	Wyandotte Cave	84.61	15	P	P	04 09 05.0	+0.4
	baz=350						
AMTX	Amarillo	84.73	28	P	P	04 09 06.2	+0.7
	baz=342						
U38A	Gravette	84.95	22	IAmb	IAmb	04 09 06.7	
	comp=Z,6.5nm,0.9s						
TUL1	Leonard	85.16	23	P	P	04 09 07.7	+0.2
	baz=345						
HHAR	Hobbs	85.19	21	IAmb	IAmb	04 09 13.3	
	comp=Z,8.3nm,1.1s						
121A	Cookes Peak, D	85.21	33	IAmb	IAmb	04 09 15.6	
	comp=Z,10nm,1.1s						
121A	Cookes Peak, D	85.21	33	P	P	04 09 09.1	+1.1
	baz=339						
MSTX	Muleshoe	85.31	29	IAmb	IAmb	04 09 16.0	
	comp=Z,6.2nm,0.7s						
MSTX	Muleshoe	85.31	29	P	P	04 09 08.9	+0.5
	baz=341						
WMOK	Wichita Mounta	85.60	25	P	P	04 09 10.8	+1.1
	baz=343,SNR=16						
MBAR	Mbarara	85.94	263	P	P	04 09 11.2	-0.6
MBAR				IAmb	IAmb	04 09 13.6	
	comp=Z,6.9nm,1.2s						
MBAR	Mbarara	85.94	263	*ce*P	P	04 09 12.8	+1.0
MBAR				pmax	pmax		
	comp=Z,7.0nm,1.7s						
WVT	Waverly	86.44	16	P	P	04 09 14.2	+0.4
WVT				IAmb	IAmb	04 09 25.3	
	comp=Z,5.1nm,0.8s						
WVT	Waverly	86.44	16	P	P	04 09 14.2	+0.4
WVT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WVT	Waverly	86.44	16	P	P	04 09 13.9	+0.1
	baz=349						
MNTX	Cornudas Mount	86.71	32	P	P	04 09 16.0	+0.8
	baz=340						
ABTX	Abilene, Hawle	87.40	27	P	P	04 09 19.0	+0.4
	baz=343						
WHTX	Lake Whitney,	88.54	25	P	P	04 09 24.7	+0.7
	baz=344						
JCT	Junction City	89.40	28	P	P	04 09 28.5	+0.3
	baz=343						
TX31	Lajitas Ar. Si	89.43	31	IAmb	IAmb	04 09 36.0	
	comp=Z,8.1nm,0.9s						
TXAR	Lajitas Array	89.43	31	P	P	04 09 28.9	+0.6
	comp=Z,1.6nm,0.9s,baz=326,slow=2.3,SNR=15						
	comp=Z,1.6nm,0.9s						
LRAL	Lakeview Retre	89.60	16	P	P	04 09 29.0	+0.1
	baz=350						
GOGA	Godfrey	89.74	13	P	P	04 09 29.5	-0.1
	baz=351						
TOA0	Torodi Ar. Sit	90.39	294	IAmb	IAmb	04 09 34.2	
	comp=Z,8.2nm,1.2s						
TORD	Torodi Ar. Bea	90.39	294	P	P	04 09 32.5	-0.4
	comp=Z,3.5nm,0.9s,baz=21,slow=4.5,SNR=13						
	comp=Z,3.5nm,0.9s						
SIV	San Ignacio	139.61	351	PKP	PKPdf	04 15 58.7	-0.4
	comp=Z,1.2nm,0.9s,baz=114,slow=3.5,SNR=3.1						
LPAZ	La Paz	140.20	1	PKP	PKPdf	04 16 01.0	+0.1
	comp=Z,1.4nm,0.8s,baz=70,slow=2.3,SNR=4.7						
NVL	N'lazarevskaya	144.75	214	*e*PKIKP	PKPab	04 16 04.9	-0.5
NVL				pmax	pmax		
	comp=Z,13nm,1.0s						
LVC	Limon Verde	146.47	2	PKPbc	PKPbc	04 16 12.6	-0.2
	comp=Z,4.4nm,0.8s,baz=288,slow=3.9,SNR=4.5						
TROLL	Troll, Antarti	147.93	213	PKPdf	PKPbc	04 16 14.8	-0.4
CPUP	Villa Florida	149.31	342	PKPbc	PKPbc	04 16 18.6	-1.3
	comp=Z,5.5nm,0.8s,baz=290,slow=1.1,SNR=10.0						
SNAA	Sanae	149.57	214	PKPdf	PKPbc	04 16 18.8	-0.5
SNAA	Sanae	149.57	214	PKPbc	PKPbc	04 16 19.0	-0.2
	comp=Z,3.1nm,0.7s,baz=135,slow=3.4,SNR=11						
VNA2	Neumayer--Watz	151.01	216	PKPdf	PKPbc	04 16 22.5	-0.1
	baz=72,slow=2.9						
VNA1	Neumayer--Stat	151.29	217	PKPdf	PKPbc	04 16 23.2	0.0
VNA3	Neumayer Olymp	151.75	215	PKPdf	PKPbc	04 16 23.8	-0.5

*ISU **14** 04:07:43,40˚.10N×72˚.95E,h13km*
*KRNET **14** 04:07:44.0±0.1,40˚.13N×73˚.02E,h18km,mb2.7*
*NNC **14** 04:07:51.1±7.9,40˚.41N×72˚.90E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=67.2km s-min=25.1km az=173.0

ISC 14 04:07:43.2±1.5,40˚.08N±0˚.05×73˚.00E±0˚.04,h6km±10km, n20,σ1s41/31,18C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	Osh	0.47	340	⇓*i* P	Pg	04 07 52.3	0.0
	baz=36						
OHH				⇓*i* S	Sg	04 07 58.6	+0.2
	baz=36						
OHH	Osh	0.47	340	P	Pg	04 07 52.0	-0.3
OHH				S	Sg	04 07 58.9	+0.5
TSTA	Tashata	0.63	321	P	Sb	04 08 05.2	-0.6
ANR	Andizhan	0.83	324	P	Sn	04 08 12.3	-1.7
FRG	Fergana	0.97	288	P	Sn	04 08 17.2	-0.3
DRK	Karamyk	1.10	237	⇑*e*P	Pn	04 08 05.4	0.0
DRK	baz=36			⇑*e*S	Sn	04 08 20.8	-0.2
	baz=36						
CHMI	Chimion	1.14	280	P	Sn	04 08 21.9	+0.1
BTK	Batken	1.67	270	⇑*i* P	Pg	04 08 15.1	-0.1
BTK	baz=68			⇑*i* S	Sg	04 08 37.5	+0.6
	baz=68						
ARK	Arkit	1.88	336	⇑*e*P	Pb	04 08 17.8	-0.3
	baz=35						
ARK				⇑*e*S	Sg	04 08 42.5	-1.2
	baz=35						
ARK	Arkit	1.88	336	P	Pb	04 08 17.8	-0.3
ARK				S	Sg	04 08 42.8	-0.9
TRKS	Terek-Say	2.02	316	⇑*e*P	Pb	04 08 18.9	-1.5
	baz=14						
TRKS				⇑*e*S	Sb	04 08 44.5	-1.3
	baz=14						
ARLS	Aral	2.04	29	⇑*e*P	Pb	04 08 19.6	-1.2
	baz=30						
ARLS				⇑*i* S	Sb	04 08 45.6	-0.9
	baz=30						
GAR	Garm	2.34	243	⇑*e*P	Pb	04 08 25.0	-0.8
	baz=42						
GAR				⇑*e*S	Sb	04 08 55.0	+0.1
	baz=42						
UCH	Uchtor	2.43	28	⇑*e*P	Pn	04 08 25.1	+1.3
	baz=28						
UCH				⇑*e*S	Sn	04 08 55.5	+1.4
	baz=28						
AAK	Ala-Archa	2.79	23	⇑*e*P	Pn	04 08 30.1	+1.6
	baz=23						
AAK				⇑*e*S	Sn	04 09 03.8	+1.2
	baz=23						
IUG	Iuzhnay	3.04	314	Pg	Pg	04 08 44.3	+2.8
	173nm,0.5s						
IUG				Lg	Lg	04 09 18.9	
	10nm,0.2s						
KK31	Karatay Array	3.55	329	⇑Pg	Pb	04 08 48.3	+2.0
	0.4nm,0.2s,baz=142,slow=16,SNR=6.1						
KK31				⇑Lg	Lg	04 09 33.8	
	0.4nm,0.3s,baz=150,slow=29,SNR=3.9						
KST	Kastek	3.70	36	Pg	Pg	04 08 56.6	+2.5
	1.2nm,0.1s						
KST				Lg	Lg	04 09 40.0	
	4.4nm,0.4s						
DGS	Degeres	3.78	32	Pg	Pg	04 08 54.3	-1.4
	2.0nm,0.5s						
DGS				Lg	Lg	04 09 36.7	
	2.3nm,0.5s						
BTLS	Baital	5.01	9	Pg	Pb	04 09 07.7	-3.6
	0.7nm,0.3s						
BTLS				Lg	Lg	04 09 59.1	
	1.2nm,0.3s						

*IDC **14** 04:09:51.8±2.8,16˚.64S×175˚.03W,h145km±22km,mb3.5/6,*
mbtmp4.0/7,Error ellipse: s-maj=119.3km s-min=16.5km
az=146.0

ISC 14 04:09:52.2±2.0,16˚.7S±0˚.7×175˚.0W±0˚.5,h150km,n7, σ0s89/8,mb3.5/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.16	49	P	Pn	04 10 55.7	+1.0
	174nm,0.4s,baz=222,slow=3.2,SNR=16						
AFI				S	Sn	04 11 41.8	-1.4
	77nm,0.3s,baz=58,slow=21,SNR=1.6						
STKA	Stephens Creek	42.05	241	P	P	04 17 29.0	-0.3
	1.6nm,0.4s,baz=62,slow=8.6,SNR=5.8						
	1.6nm,0.4s						
WRA	Warramunga Arr	48.04	258	P	P	04 18 16.6	-0.1
	1.1nm,0.6s,baz=97,slow=7.2,SNR=35						
	1.1nm,0.6s						
ASAR	Alice Springs	48.24	253	P	P	04 18 18.1	-0.2
	6.8nm,0.6s,baz=88,slow=8.6,SNR=88						
	6.8nm,0.6s						
NVAR	Mina Array Bea	76.31	43	P	P	04 21 25.5	+0.6
	0.4nm,0.7s,baz=223,slow=8.1,SNR=4.1						
	0.4nm,0.7s						
ILAR	Eielson Array	83.98	12	P	P	04 22 05.5	+0.4
	0.2nm,0.5s,baz=225,slow=5.9,SNR=2.2						
	0.2nm,0.5s						
PDAR	Pinedale Array	84.25	42	P	P	04 22 06.7	-0.6
	0.2nm,0.5s,baz=221,slow=3.5,SNR=2.2						
	0.2nm,0.5s						

*VIE **14** 04:10:39.9±0.5,51˚.51N×16˚.21E,h0km,mb2.2/1,ml2.8/1,*
Error ellipse: s-maj=6.1km s-min=3.0km az=58.0 72 km
NW of Wroclaw Suspected Mining induced.
*PRU **14** 04:10:40.7±0.0,51˚.48N×16˚.09E,h0km*

ISC 14 04:10:39.4±1.2,51˚.52N±0˚.05×16˚.14E±0˚.03,h0km,n25, σ0s73/48,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	172	*i* Pg	Pg	04 10 53.0	+0.5
KSP				*i* Sg	Sg	04 11 01.8	+0.5
OSTC	Ostas	0.96	177	*e*PG	Pb	04 10 58.5	-0.5
OSTC				*e*SG	Sg	04 11 10.7	+0.4
	comp=Z,46nm,0.4s						
UPC	Upice	1.01	184	*e*PG	Pg	04 10 59.0	+0.2
UPC				*e*SG	Sg	04 11 12.1	+0.1
	comp=Z,91nm,0.5s						
DPC	Dobruska-Polom	1.17	174	*e*PG	Pg	04 11 01.8	-0.1
DPC				*e*SG	Sg	04 11 16.4	-0.7
	comp=Z,28nm,0.5s						
PVCC	Panska Ves	1.40	226	*e*PG	Pg	04 11 06.5	+0.3
PVCC				*e*SG	Sb	04 11 25.1	+0.3
	comp=Z,124nm,0.2s						
KRLC	Kraliky	1.50	164	*e*PG	Pn	04 11 07.5	-0.1
KRLC				*e*SG	Sg	04 11 27.2	-0.4
BRG	Berggiesshubel	1.52	246	Pg	Pb	04 11 08.9	+0.3
BRG				Sg	Sn	04 11 28.9	+0.5
BRG				Amp		04 11 31.4	
	comp=Z,70nm,0.3s						
GOPC	GO Pecny, Ondr	1.82	209	*e*PG	Pb	04 11 13.8	+0.2
GOPC				*e*SG	Sb	04 11 36.7	-0.2
	comp=Z,15nm,0.2s						
PRU	Pruhonice	1.83	214	*e*PG	Pb	04 11 13.5	-0.4
PRU				*e*SG	Sb	04 11 37.5	+0.1
	comp=Z,29nm,0.3s						
MORC	Moravsky Berou	1.96	152	*e*PN	Pn	04 11 13.3	-0.6
MORC				*e*SG	Sb	04 11 40.8	-0.2
CLL	Collm	1.97	265	*e*Pn	Pn	04 11 13.0	-1.1
CLL				*e*Pg	Pb	04 11 17.0	+0.8
CLL				*i* x	x	04 11 19.6	
CLL				*e*Sg	Sb	04 11 42.0	+0.7
	comp=Z,26nm,0.5s						
OKC	Ostrava-Krasne	2.11	142	*e*SG	Sg	04 11 46.8	-0.5
	comp=Z,22nm,0.6s						
VRAC	Vranov	2.23	172	*e*PN	Pn	04 11 18.3	+0.6
VRAC				*e*SG	Sg	04 11 49.9	-1.1
TREC	Trest	2.26	191	*e*SG	Sg	04 11 51.2	-0.9
	comp=Z,14nm,0.3s						
KRUC	Moravsky	2.46	176	*e*PN	Pn	04 11 20.9	+0.1
KRUC				*e*SG	Sg	04 11 58.0	-0.5
OJC	Ojcow	2.66	118	*e*Pg	Pg	04 11 29.6	-0.8
OJC				*e*Sg	Sg	04 12 05.1	+0.3
NKC	Novy Kostel	2.67	243	*e*PN	Pn	04 11 24.2	+0.5
NKC				*e*PG	Pg	04 11 30.1	-0.4
NKC				*e*SG	Sg	04 12 05.0	-0.1
	comp=Z,40nm,0.3s						
JAVC	Velka Javorina	2.84	159	*e*PN	Pn	04 11 26.1	+0.1
KHC	Kasperske Hory	2.90	215	*e*PN	Pn	04 11 26.8	0.0
KHC				*e*PG	Pb	04 11 32.4	+0.4
KHC				*e*SN	Sn	04 12 00.7	-1.7
KHC				*e*SG	Sg	04 12 10.7	-1.8
	comp=Z,14nm,0.7s						
CKRC	Cesky Krumlov	2.94	204	*e*SG	Sb	04 12 11.3	+2.0
	comp=Z,12nm,0.4s						
LANS	Liptovska Anna	3.19	137	*e*PG	Pg	04 11 39.6	-0.9
LANS				*e*SG	Sg	04 12 22.2	+0.4
MODS	Modra-Piesok	3.23	166	*e*SG	Sg	04 12 23.5	+0.3
NIE	Niedzica	3.39	127	*e*P	Pg	04 11 44.1	-0.2
NIE				*e*S	Sg	04 12 29.0	+0.7
VYHS	Vyhne	3.49	149	*e*PG	Pg	04 11 47.1	+0.8
VYHS				*e*SG	Sg	04 12 32.8	+1.3
CONA	Conrad Observa	3.60	183	*e*Pn	Pn	04 11 37.2	+0.7
	comp=Z,0.6nm,0.3s						

IDC 14 04:13:38.2±1.4,4˚.02S×151˚.28E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=36.8km s-min=20.9km az=6.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.80	111	Pn	Pn	04 13 56.8	0.0
	67nm,0.3s,baz=270,slow=6.1,SNR=11						
WRA	Warramunga Arr	22.87	225	P	P	04 18 43.4	-0.2
	0.6nm,0.6s,baz=51,slow=9.5,SNR=6.0						
	0.6nm,0.6s						
ASAR	Alice Springs	25.75	219	P	P	04 19 11.0	+0.2
	1.0nm,0.7s,baz=44,slow=9.4,SNR=5.2						
	1.0nm,0.7s						
MKAR	Makanchi Array	78.74	319	P	P	04 25 43.2	+0.5
	0.2nm,0.4s,baz=90,slow=4.3,SNR=2.5						
	0.2nm,0.4s						
TORD	Torodi Ar. Bea	148.62	289	PKPbc	PKPbc	04 33 27.2	-1.2
	0.5nm,0.8s,baz=96,slow=2.9,SNR=1.5						

*IDC **14** 04:13:57.3±1.8,4˚.04S×151˚.51E,h0km

IDC ***14*** *04:14:06.3±0.6,54˚.55N×168˚.65E,h0km,mb3.8/16, mbtmp3.9/18,ML3.7/2,Error ellipse: s-maj=21.6km s-min=13.4km az=165.0*
MOS ***14*** *04:14:06.0±1.3,54˚.41N×168˚.71E,h16km,mb4.0/1,Error ellipse: s-maj=12.8km s-min=8.3km az=176.6*
KRSC ***14*** *04:14:08.4±1.6,54˚.22N×168˚.15E,h18km±29km,ML4.5*
NEIC ***14*** *04:14:10.6±1.3,54˚.32N±0˚.10×168˚.6E±0˚.1,h35km±9km, mb4.1/18,Error ellipse: s-maj=14.4km s-min=10.4km az=195.0*

ISC 14 04:14:09.2±0.5,54˚.30N±0˚.07×168˚.61E±0˚.05,h24km,n91, σ1९39/101,mb4.0/24,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.77**	**302**	PN	**Pn**	**04 14 36.4**	**-1.9**
BKI				S	**Sn**	**04 14 57.5**	**-2.5**
BKI	**Bering**	**1.77**	**302**	P	**Pn**	**04 14 36.4**	**-1.9**
BKI				S	**Sn**	**04 14 57.5**	**-2.5**
SHEM	**Shemya Is, Ala**	**3.64**	**113**	Pn	**Pn**	**04 15 04.5**	**+0.6**
	24nm,0.3s,baz=42,slow=2.2,SNR=16						
SHEM				Sn	**Sn**	**04 15 45.2**	**-0.9**
	16nm,0.3s,baz=232,slow=21,SNR=9.6						
	85nm,0.4s						
KBTR	**Krutoberegovo**	**3.82**	**302**	PN	**Pn**	**04 15 05.5**	**-0.9**
KBTR	**Krutoberegovo**	**3.82**	**302**	P	**Pn**	**04 15 05.5**	**-0.9**
MKZ	**Mys Kozlova**	**4.02**	**276**	PN	**Pn**	**04 15 08.9**	**-0.3**
MKZ	**Mys Kozlova**	**4.02**	**276**	P	**Pn**	**04 15 08.9**	**-0.3**
MKZ				S	**Sn**	**04 15 52.4**	**-3.1**
SMKR	**Semkarok**	**4.66**	**302**	PN	**Pn**	**04 15 19.1**	**+1.1**
SMKR				S	**Sn**	**04 16 12.2**	**+0.8**
SMKR	**Semkarok**	**4.66**	**302**	P	**Pn**	**04 15 19.1**	**+1.1**
SMKR				S	**Sn**	**04 16 12.2**	**+0.8**
SPN	**Mys Shipunski**	**5.24**	**260**	PN	**Pn**	**04 15 25.7**	**-0.2**
SPN	**Mys Shipunski**	**5.24**	**260**	P	**Pn**	**04 15 25.7**	**-0.2**
SPN				S	**Sn**	**04 16 22.3**	**-3.2**
NLC	**Nalytchevo**	**5.61**	**262**	PN	**Pn**	**04 15 31.7**	**+0.7**
NLC	**Nalytchevo**	**5.61**	**262**	P	**Pn**	**04 15 31.7**	**+0.7**
NLC				S	**Sn**	**04 16 33.1**	**-1.5**
SMAR	**Somma**	**5.91**	**264**	S	**Sn**	**04 16 40.8**	**-1.4**
UGLR	**Uglovaya**	**5.91**	**263**	PN	**Pn**	**04 15 35.7**	**+0.5**
UGLR	**Uglovaya**	**5.91**	**263**	P	**Pn**	**04 15 35.7**	**+0.5**
UGLR				S	**Sn**	**04 16 40.1**	**-2.0**
ESO	**Esso**	**5.91**	**290**	PN	**Pn**	**04 15 38.6**	**+3.4**
ESO	**Esso**	**5.91**	**290**	P	**Pn**	**04 15 38.6**	**+3.4**
KRER	**Koryakskii**	**5.93**	**264**	PN	**Pn**	**04 15 36.1**	**+0.6**
KRER	**Koryakskii**	**5.93**	**264**	P	**Pn**	**04 15 36.1**	**+0.6**
KRER				S	**Sn**	**04 16 39.9**	**-2.8**
AVH	**Avacha**	**5.94**	**264**	PN	**Pn**	**04 15 36.1**	**+0.5**
AVH	**Avacha**	**5.94**	**264**	P	**Pn**	**04 15 36.1**	**+0.5**
AVH				S	**Sn**	**04 16 42.4**	**-0.5**
KRX	**Arik**	**5.97**	**265**	PN	**Pn**	**04 15 36.3**	**+0.2**
KRX	**Arik**	**5.97**	**265**	P	**Pn**	**04 15 36.3**	**+0.2**
KRX				S	**Sn**	**04 16 41.3**	**-2.4**
DALK	**Dalny**	**5.99**	**262**	S	**Sn**	**04 16 42.4**	**-1.6**
PET	**Petropavlovsk**	**6.05**	**262**	Pn	**Pn**	**04 15 37.2**	**+0.2**
PET	**Petropavlovsk**	**6.05**	**262**	*e*PN	**Pn**	**04 15 39.6**	**+2.5**
PET				pmax	pmax		
	comp=Z,35nm,0.4s						
PET	**Petropavlovsk**	**6.05**	**262**	S	**Sn**	**04 16 44.2**	**-1.3**
GNL	**Ganaly**	**6.32**	**269**	PN	**Pn**	**04 15 42.1**	**+1.3**
GNL	**Ganaly**	**6.32**	**269**	P	**Pn**	**04 15 42.1**	**+1.3**
GNL				S	**Sn**	**04 16 50.0**	**-2.2**
RUS	**Russkaya**	**6.33**	**257**	PN	**Pn**	**04 15 42.2**	**+1.4**
RUS	**Russkaya**	**6.33**	**257**	P	**Pn**	**04 15 42.2**	**+1.4**
RUS				S	**Sn**	**04 16 49.8**	**-2.4**
KRMR	**Karymshinskiy**	**6.41**	**261**	S	**Sn**	**04 16 52.9**	**-1.5**
MTVR	**Mutnovka**	**6.50**	**258**	PN	**Pn**	**04 15 44.0**	**+0.7**
MTVR	**Mutnovka**	**6.50**	**258**	P	**Pn**	**04 15 44.0**	**+0.7**
MTVR				S	**Sn**	**04 16 54.6**	**-2.0**
PEA0B	**Petropavlovsk-**	**6.59**	**264**	Pn	**Pn**	**04 15 46.1**	**+1.7**
PEA0B	**Petropavlovsk-**	**6.59**	**264**	PN	**Pn**	**04 15 46.1**	**+1.7**
PETK	**Petropavlovsk-**	**6.59**	**264**	Pn	**Pn**	**04 15 44.8**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=49,slow=45,SNR=5.2						
PETK				Sn	**Sn**	**04 16 58.6**	**-0.1**
	comp=Z,4.1nm,0.3s,baz=44,slow=24,SNR=9.1						
	comp=Z,2.5nm,0.3s						
PETK	**Petropavlovsk-**	**6.59**	**264**	Pn	**Pn**	**04 15 45.1**	**+0.7**
KDTR	**Khodutka, Kamc**	**6.82**	**253**	PN	**Pn**	**04 15 48.1**	**+0.5**
KDTR	**Khodutka, Kamc**	**6.82**	**253**	P	**Pn**	**04 15 48.1**	**+0.5**
KDTR				S	**Sn**	**04 17 01.8**	**-2.6**
KIWB	**Kanaga Island**	**8.92**	**100**	Pn	**Pn**	**04 16 16.1**	**-0.3**
ADK	**Adak**	**9.18**	**99**	Pn	**Pn**	**04 16 18.2**	**-1.7**
ADK	**Adak**	**9.18**	**99**	PN	**Pn**	**04 16 18.2**	**-1.7**
GSTR	**Great Sitkin T**	**9.47**	**97**	Pn	**Pn**	**04 16 23.5**	**-0.5**
N18K	**Kilae Creek**	**19.92**	**57**	P	**Pn**	**04 18 39.6**	**-1.0**
N18K				IAmb	IAmb	04 18 51.7	
	comp=Z,10nm,1.3s						
P18K	**Big Mountain,**	**20.24**	**61**	P	Pn	04 18 42.5	-1.9
P18K				IAmb	IAmb	04 18 54.3	
	comp=Z,16nm,1.4s						
L19K	**White Mountain**	**20.53**	**53**	P	**P**	**04 18 44.2**	**-1.3**
J20K	**Nowinta River**	**21.13**	**47**	P	**P**	**04 18 52.1**	**+0.2**
J20K				IAmb	IAmb	04 19 01.5	
	comp=Z,5.5nm,0.8s						
KDAK	**Kodiak Island**	**21.75**	**65**	P	**P**	**04 18 57.7**	**-0.8**
	comp=Z,3.0nm,0.4s,baz=276,slow=6.0,SNR=16						
	comp=Z,3.0nm,0.4s						
MLY	**Manley**	**22.73**	**46**	P	**P**	**04 19 09.8**	**+0.8**
TRF	**Thorofare Moun**	**22.74**	**50**	P	**P**	**04 19 08.9**	**-0.4**
TRF				IAmb	IAmb	04 19 19.6	
	comp=Z,10nm,1.0s						
KLR	**Kul'dur**	**23.18**	**273**	P	**P**	**04 19 14.3**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=74,slow=3.0,SNR=4.2						
	comp=Z,1.3nm,0.5s						
NEA2	**Nenana**	**23.38**	**47**	P	**P**	**04 19 15.2**	**-0.4**
NEA2				IAmb	IAmb	04 19 58.0	
	comp=Z,7.1nm,1.3s						
MDM	**Murphy Dome**	**23.77**	**46**	P	**P**	**04 19 19.6**	**+0.1**
WRH	**Wood River Hil**	**23.79**	**47**	P	**P**	**04 19 19.5**	**0.0**
WRH				IAmb	IAmb	04 19 26.8	
	comp=Z,9.9nm,1.1s						
CCB	**Clear Creek Bu**	**23.93**	**47**	P	**P**	**04 19 20.5**	**-0.4**
CCB				IAmb	IAmb	04 19 29.4	
	comp=Z,11nm,1.3s						
TOLK	**Toolik Lake Re**	**23.95**	**37**	P	**P**	**04 19 20.8**	**-0.3**
HDA	**Harding Lake**	**24.28**	**48**	P	**P**	**04 19 23.9**	**-0.3**
HDA				IAmb	IAmb	04 19 27.1	
	comp=Z,3.6nm,0.8s						
IL31		**24.33**	**47**	P	**P**	**04 19 23.4**	**-1.2**
ILAR	**Eielson Array**	**24.33**	**47**	P	**P**	**04 19 23.4**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=255,slow=7.3,SNR=15						
	comp=Z,2.3nm,0.9s						
PRP	**Porcupine Dome**	**24.96**	**45**	P	**P**	**04 19 29.4**	**-1.1**
SCRK	**Sand Creek**	**25.56**	**49**	P	**P**	**04 19 34.5**	**-1.4**
L27K	**Beaver Creek,**	**26.56**	**51**	P	**P**	**04 19 44.9**	**0.0**
L27K				IAmb	IAmb	04 19 46.3	
	comp=Z,4.3nm,0.8s						
DAWY	**Dawson**	**27.58**	**48**	P	**P**	**04 19 54.1**	**+0.1**
INK	**Inuvik**	**29.77**	**39**	P	**P**	**04 20 12.2**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=304,slow=5.0,SNR=4.3						
	comp=Z,1.6nm,0.7s						
M31M	**Drury Creek, Y**	**30.08**	**52**	P	**P**	**04 20 16.8**	**+0.6**
M31M				IAmb	IAmb	04 20 17.9	
	comp=Z,3.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.54**	**183**	T	T	04 57 39.1	
	baz=1.4,slow=76,SNR=808						
H11N3	**WAKE ISLAND Hy**	**34.55**	**183**	T	T	04 57 36.1	
	baz=1.4,slow=76,SNR=710						
H11N1	**WAKE ISLAND Hy**	**34.55**	**183**	T	T	04 57 38.1	
	baz=1.4,slow=76,SNR=672						
H11S1	**WAKE ISLAND Hy**	**35.76**	**183**	T	T	04 59 06.8	
	baz=1.8,slow=76,SNR=123						
H11S3	**WAKE ISLAND Hy**	**35.77**	**183**	T	T	04 59 12.2	
	baz=1.8,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**35.78**	**183**	T	T	04 59 08.5	
	baz=1.8,slow=76,SNR=138						
SONM	**Songino Array**	**38.48**	**287**	P	**P**	**04 21 30.2**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=59,slow=7.3,SNR=6.5						
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**50.55**	**77**	P	**P**	**04 23 06.0**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=296,slow=7.6,SNR=8.6						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**52.08**	**300**	P	**P**	**04 23 15.4**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=53,slow=6.5,SNR=5.2						
	comp=Z,0.5nm,0.6s						
PDAR	**Pinedale Array**	**52.45**	**67**	P	**P**	**04 23 19.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=207,slow=42,SNR=2.5						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**53.58**	**345**	P	**P**	**04 23 26.4**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=14,slow=12,SNR=5.7						
	comp=Z,1.6nm,0.9s						
ABKAR	**Akbulak array**	**60.71**	**315**	P	**P**	**04 24 17.6**	**-0.6**
FINES	**FINESS Array B**	**60.85**	**340**	P	**P**	**04 24 18.0**	**-0.9**
FINES	**FINESS Array B**	**60.85**	**340**	P	**P**	**04 24 18.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**63.36**	**265**	P	**P**	**04 24 38.2**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=29,slow=6.4,SNR=1.4						
	comp=Z,0.7nm,0.5s						
NB2	**NORSAR Subarra**	**63.61**	**348**	P	**P**	**04 24 37.1**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=15,slow=6.9						
NOA	**NORSAR Array B**	**63.61**	**348**	P	**P**	**04 24 37.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=16,slow=6.8,SNR=8.2						
	comp=Z,0.6nm,0.5s						
NOA	**NORSAR Array B**	**63.61**	**348**	P	**P**	**04 24 37.0**	**-0.5**
TXAR	**Lajitas Array**	**65.47**	**74**	P	**P**	**04 24 50.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=302,slow=4.2,SNR=11						
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**78.68**	**326**	P	**P**	**04 26 09.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=28,slow=3.5,SNR=1.4						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**79.58**	**213**	P	**P**	**04 26 15.6**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=25,slow=6.3,SNR=8.4						
	comp=Z,1.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**80.92**	**221**	P	**P**	**04 26 23.7**	**+2.5**
	comp=Z,1.6nm,0.9s,baz=149,slow=3.1,SNR=2.1						
	comp=Z,1.6nm,0.9s						
ASAR	**Alice Springs**	**83.20**	**212**	P	**P**	**04 26 35.6**	**+2.5**
	comp=Z,1.7nm,0.8s,baz=20,slow=5.6,SNR=12						
	comp=Z,1.7nm,0.8s						
MAW	**Mawson**	**144.03**	**219**	PKP	**PKPdf**	**04 33 40.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=39,slow=15,SNR=3.4						

IDC ***14*** *04:15:48.8±0.9,3˚.95S×151˚.34E,h0km,mb3.9/6, mbtmp3.9/6,MS3.9/5,Error ellipse: s-maj=25.4km s-min=21.8km az=172.0*

ISC 14 04:15:52.3±0.9,4˚.0S±0˚.2×151˚.3E±0˚.1,h21km,n12, σ1९01/8,mb3.9/6,MS4.0/5,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.78**	**117**	Pn	**Pb**	**04 16 07.4**	**+0.2**
	86nm,0.3s,baz=252,slow=22,SNR=1.6						
SIJI	**Sorong**	**20.27**	**278**	LR	LR	04 29 13.3	
	comp=Z,495nm,18.3s,baz=252,slow=40						
WRA	**Warramunga Arr**	**22.95**	**225**	P	**P**	**04 20 53.7**	**-1.8**
	2.2nm,0.9s,baz=52,slow=9.8,SNR=6.1						
	2.2nm,0.9s						
DZM	**Mount Dumac**	**23.22**	**142**	LR	LR	04 28 53.9	
	comp=Z,567nm,21.1s,baz=254,slow=34						
ASAR	**Alice Springs**	**25.83**	**219**	P	**P**	**04 21 22.5**	**+0.1**
	1.8nm,0.8s,baz=49,slow=9.5,SNR=7.8						
	1.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.80**	**239**	P	**P**	**04 21 49.7**	**+0.5**
	2.0nm,0.8s,baz=95,slow=13,SNR=3.4						
	2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**56.19**	**295**	P	**P**	**04 25 32.1**	**+0.9**
	0.4nm,0.3s,baz=105,slow=5.7,SNR=4.0						
	0.4nm,0.3s						
SONM	**Songino Array**	**64.84**	**328**	LR	LR	04 54 03.5	
	comp=Z,98nm,19.6s,baz=155,slow=35						
YAK	**Yakutsk**	**67.87**	**349**	LR	LR	04 56 59.0	
	comp=Z,34nm,20.2s,baz=91,slow=36						
MKAR	**Makanchi Array**	**78.73**	**319**	P	**P**	**04 27 52.9**	**-0.4**
	0.6nm,0.7s,baz=104,slow=6.1,SNR=4.0						
MKAR				LR	LR	05 02 15.6	
	comp=Z,79nm,20.7s,baz=91,slow=35						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**81.94**	**22**	P	**P**	**04 28 09.8**	**-0.3**
	1.5nm,0.6s,baz=242,slow=6.0,SNR=14						
	1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.65**	**289**	PKPbc	**PKPbc**	**04 35 38.2**	**-0.8**
	2.3nm,0.9s,baz=66,slow=3.2,SNR=3.7						

IDC ***14*** *04:17:52.3±0.7,3˚.87S×151˚.34E,h0km,mb4.0/12, mbtmp4.0/12,MS3.8/13,Error ellipse: s-maj=19.0km s-min=15.9km az=40.0*
NEIC ***14*** *04:17:53.7±1.3,3˚.73S±0˚.10×151˚.34E±0˚.07,h13km±5km, mb4.6/10,Error ellipse: s-maj=15.6km s-min=8.2km az=206.0*

ISC 14 04:17:55.3±0.5,3˚.86S±0˚.10×151˚.33E±0˚.07,h21km,n41, σ1९09/30,mb4.1/18,MS3.8/11,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.83**	**122**	Pn	**Pn**	**04 18 11.5**	**-0.3**
	122nm,0.3s,baz=136,slow=23,SNR=1.4						
KRVT				Sn	**Sn**	**04 18 25.2**	**+1.8**
	232nm,0.3s,baz=80,slow=9.6,SNR=6.6						
RABL	**Rabaul**	**0.90**	**112**	Pg	**Pb**	**04 18 11.5**	**-0.8**
RABL				Sn	**Sn**	**04 18 25.4**	**+0.3**
PMG	**Port Moresby**	**6.89**	**217**	LR	LR	04 22 13.2	
	comp=Z,703nm,20.0s,baz=28,slow=38						
CTAO	**Charters Tower**	**16.87**	**197**		**P**	**04 21 53.5**	**+1.2**
GUMO	**Guam**	**18.48**	**340**	LR	LR	04 28 59.1	
	comp=Z,102nm,20.9s,baz=140,slow=36						
WB0	**Warramunga Arr**	**22.86**	**225**	P	**P**	**04 22 56.9**	**-0.7**
WRAB	**Tennant Creek**	**23.00**	**225**	P	**P**	**04 22 58.8**	**-0.3**
WRAB				IAmb	IAmb	04 23 22.4	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**23.01**	**225**	P	**P**	**04 22 57.7**	**-1.4**
WB2				IAmb	IAmb	04 23 08.3	
	comp=Z,23nm,1.5s						
WRA	**Warramunga Arr**	**23.02**	**225**	P	**P**	**04 22 58.5**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=45,slow=9.6,SNR=9.0						
	comp=Z,2.2nm,0.8s						
ASAR	**Alice Springs**	**25.90**	**219**	P	**P**	**04 23 25.7**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=53,slow=8.8,SNR=8.1						
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**25.90**	**219**	P	**P**	**04 23 25.5**	**-2.7**
DAV	**Davao City (W)**	**27.90**	**293**	LR	LR	04 34 52.1	
	comp=Z,93nm,18.4s,baz=252,slow=36						
FITZ	**Fitzroy Crossi**	**28.85**	**239**	P	**P**	**04 23 53.4**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=73,slow=7.9,SNR=6.4						
	comp=Z,2.4nm,0.7s						
MMRI	**Maumere**	**29.29**	**259**	P	**P**	**04 23 55.5**	**-1.1**
MSVF	**Nonsavu**	**29.59**	**120**	LR	LR	04 35 24.3	
	comp=Z,246nm,20.7s,baz=325,slow=36						
JCJ	**Chichijima**	**32.02**	**345**	LR	LR	04 35 36.2	
	comp=Z,231nm,21.8s,baz=128,slow=33						
AFI	**Afiamalu**	**37.74**	**108**	LR	LR	04 40 12.2	
	comp=Z,136nm,18.6s,baz=284,slow=36						
URZ	**Urewera**	**41.54**	**149**	LR	LR	04 40 56.4	
	comp=Z,146nm,21.8s,baz=20,slow=33						
MJAR	**Matsushiro Arr**	**42.02**	**344**	LR	LR	04 42 03.9	
	comp=Z,107nm,18.7s,baz=162,slow=34						
RPZ	**Rata Peaks**	**43.36**	**159**	LR	LR	04 41 42.0	
	comp=Z,359nm,21.7s,baz=303,slow=33						
LEM	**Lembang**	**43.60**	**264**	LR	LR	04 46 26.8	
	comp=Z,56nm,19.6s,baz=152,slow=39						
KSRS	**Korea Array**	**46.51**	**334**	LR	LR	04 43 19.0	
	comp=Z,66nm,21.2s,baz=175,slow=33						
RAR	**Rarotonga**	**50.50**	**114**	LR	LR	04 43 39.4	
	comp=Z,91nm,22.0s,baz=267,slow=31						
KLR	**Kul'dur**	**55.54**	**345**	P	**P**	**04 27 29.5**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=178,slow=5.7,SNR=2.6						
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**56.15**	**295**	P	**P**	**04 27 35.4**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=122,slow=6.5,SNR=1.6						
	comp=Z,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**57.01**	**5**	P	**P**	**04 27 39.9**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=162,slow=6.5,SNR=2.1						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**64.75**	**328**	P	**P**	**04 28 33.5**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=126,slow=5.2,SNR=4.3						
	comp=Z,0.7nm,0.5s						
L19K	**White Mountain**	**77.45**	**23**	P	**P**	**04 29 48.1**	**-0.8**
L19K				IAmb	IAmb	04 29 56.9	
	comp=Z,10.0nm,1.1s						
MKAR	**Makanchi Array**	**78.66**	**319**	P	**P**	**04 29 56.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=90,slow=6.6,SNR=3.3						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**78.66**	**319**	P	**P**	**04 29 55.6**	**-0.3**
MAKZ	**Makanchi**	**78.86**	**319**	P	**P**	**04 29 55.7**	**-1.4**
MAKZ				IAmb	IAmb	04 30 03.1	
	comp=Z,3.4nm,1.0s						
ZALV	**Zalesovo Beam**	**79.56**	**327**	P	**P**	**04 30 01.8**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=122,slow=7.1,SNR=1.8						
	comp=Z,0.5nm,0.3s						
ILAR	**Eielson Array**	**81.85**	**22**	P	**P**	**04 30 12.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=243,slow=5.3,SNR=13						
	comp=Z,1.5nm,0.6s						
J25K	**Salcha River,**	**82.36**	**23**	P	**P**	**04 30 14.2**	**-1.4**
J25K				IAmb	IAmb	04 30 18.5	
	comp=Z,4.2nm,0.7s						
BCAR	**Beaver Creek A**	**83.18**	**25**	P	**P**	**04 30 18.1**	**-1.6**
NRIK	**Noril'sk**	**84.61**	**341**	P	**P**	**04 30 26.6**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=106,slow=3.7,SNR=5.7						
	comp=Z,1.9nm,0.4s						
MAW	**Mawson**	**85.87**	**203**	LR	LR	05 05 47.7	
	comp=Z,94nm,20.4s,baz=90,slow=34						
KKAR	**Karatay Array**	**85.92**	**314**	P	**P**	**04 30 32.8**	**-1.2**
QSPA	**South Pole Qui**	**86.09**	**180**	P	**P**	**04 30 35.3**	**+0.7**
QSPA				IAmb	IAmb	04 31 08.0	
	comp=Z,9.5nm,1.5s						
NVAR	**Mina Array Bea**	**92.66**	**52**	P	**P**	**04 31 06.4**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=256,slow=3.6,SNR=1.7						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.62**	**289**	PKPbc	**PKPbc**	**04 37 41.6**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=84,slow=3.3,SNR=5.3						

WEL 14 04:38:36.4±1.0,37˚.5±4˚×17˚.9E±˚,h20km±6km,M3.3/27, ML3.5/31,MLv3.3/27,Error ellipse: s-maj=0.0km s-min=0.0km az=93.4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.66**	**229**	P	Pb	04 38 48.8	-0.4
MXZ				S	Sb	04 38 57.1	-0.8
WMGZ	**Waiomatatini S**	**0.80**	**211**	P	Pn	04 38 52.6	+0.1
WMGZ				S	Sn	04 39 05.5	+1.7
PKGZ	**Pakihiroa**	**1.01**	**222**	P	Pn	04 38 55.9	+0.3
PUZ	**Puketiti**	**1.08**	**210**	P	Pn	04 38 56.6	+0.2
PUZ				S	Sn	04 39 11.1	+0.3
HAZ	**Te Kaha**	**1.11**	**235**	P	Pn	04 38 56.4	-0.4
HAZ				S	Sn	04 39 13.0	+1.6
TWGZ	**Tauwhareparae**	**1.29**	**216**	P	Pb	04 39 00.0	+0.1
TWGZ				S	Sb	04 39 17.5	+1.4
RUGZ	**Raukumara Rang**	**1.30**	**230**	P	Pb	04 39 00.4	+0.2
CNGZ	**Carnagh Statio**	**1.47**	**203**	P	Pb	04 39 02.4	-0.6
TKGZ	**Te Karaka**	**1.56**	**213**	P	Pn	04 39 03.1	+0.1
MWZ	**Matawai**	**1.64**	**222**	P	Pn	04 39 04.7	+0.6
RAGZ	**Rawiri**	**1.81**	**221**	P	Pn	04 39 07.2	+0.6
RIGZ	**Rimuhau**	**1.82**	**210**	P	Pn	04 39 06.7	+0.1
RIGZ				S	Sn	04 39 29.1	-0.1
URZ	**Urewera**	**1.83**	**232**	P	Pn	04 39 07.5	+0.8
URZ				S	Sn	04 39 29.9	+0.6
SNGZ	**Shannon Statio**	**2.07**	**217**	P	Pn	04 39 10.3	+0.2
SNGZ				S	Sn	04 39 35.5	+0.2
KNZ	**Kokohu**	**2.13**	**207**	P	Pn	04 39 09.8	-1.0
MYRZ	**Mayor Island**	**2.15**	**265**	P	Pn	04 39 12.5	+1.4
MHGZ	**Mahia Peninsul**	**2.17**	**202**	P	Pn	04 39 11.0	-0.4
MUGZ	**Murupara**	**2.17**	**231**	P	Pn	04 39 11.8	+0.4
TARZ	**Mount Tarawera**	**2.22**	**240**	P	Pn	04 39 13.8	+1.6
MTHZ	**Maungataniwha**	**2.38**	**223**	P	Pn	04 39 15.0	+0.7
MTHZ				S	Sn	04 39 42.8	-0.2
NMHZ	**Naumai**	**2.58**	**220**	P	Pn	04 39 17.2	+0.1
KUZ	**Kuaotunu**	**2.60**	**278**	P	Pn	04 39 16.5	-0.8
ARHZ	**Aropaoanui**	**2.62**	**215**	P	Pn	04 39 17.2	-0.3
BKZ	**Black Stump Fm**	**2.79**	**223**	P	Pn	04 39 19.9	-0.2
MCHZ	**McNeill Hill**	**2.90**	**217**	P	Pn	04 39 20.8	-0.6
CKHZ	**Cape Kidnapper**	**2.91**	**209**	P	Pn	04 39 20.2	-1.4
GRZ	**Great Barrier**	**2.93**	**286**	P	Pn	04 39 21.7	-0.1
MKAZ	**Moumakai**	**3.01**	**269**	P	Pn	04 39 22.9	-0.1
KWHZ	**Kaweka Forest**	**3.02**	**220**	P	Pn	04 39 22.4	-0.8
WIAZ	**Waiheke Island**	**3.06**	**275**	P	Pn	04 39 24.1	+0.5
KAHZ	**Kahuranaki**	**3.11**	**211**	P	Pn	04 39 22.8	-1.5
KRHZ	**Kereru**	**3.21**	**218**	P	Pn	04 39 24.5	-1.3
TMVZ	**Te Maari**	**3.22**	**231**	P	Pn	04 39 26.0	+0.1
ETVZ	**East Tongariro**	**3.23**	**231

YSS MLR MLR
comp=Z,300nm,13.0s
YSS Yuzh-Sakhalins 5.16 302 *eP* **Pn 04 43 48.0 +1.7**
YSS AMB AMB 04 43 49.8
comp=Z,40nm,0.4s
YSS *erx* rx 04 44 43.8
UGL Uglegorsk 6.76 317 *eP* **Pn 04 44 08.3 +0.2**
UGL AMB AMB 04 44 10.2
comp=Z,50nm,0.6s
JANG Nango 6.92 237 *eP* **Pn 04 44 08.7 -1.7**
JANG *eS* **Sn 04 45 21.0 -6.8**
JTM Tenmabayashi 6.96 242 Pn **Pn 04 44 10.3 -0.6**
TYV Tymovskoe 7.82 328 *ePN* **Pn 04 44 24.9 +2.2**
TYV pmax pmax
comp=Z,10.0nm,0.7s
TYV pmax pmax
comp=Z,100nm,3.6s
TYV Tymovskoe 7.82 328 *eP* **Pn 04 44 24.9 +2.2**
TYV AMB AMB 04 44 25.7
comp=Z,10.0nm,0.7s
SKR Severo-Kuril's 7.87 34 *eP* **Pn 04 44 22.8 -0.5**
SKR AMB AMB 04 44 27.7
comp=Z,60nm,0.7s
PAU Pauzhetka 8.76 33 *eP* **Pn 04 44 36.9 +1.4**
PAU AMB AMB 04 44 37.8
comp=Z,20nm,0.4s
PAU *erx* rx 04 46 10.0
PETK Petropavlovsk- 10.39 30 P **Pn 04 44 57.2 -0.7**
comp=Z,0.5nm,0.3s,baz=200,slow=13,SNR=2.8
comp=Z,2.1nm,0.6s
PET Petropavlovsk 10.68 33 *eP* **Pn 04 45 01.3 -0.5**
USRK Ussuriysk Ar. 12.30 275 P **Pn 04 45 27.2 +3.3**
comp=Z,9.3nm,0.8s,baz=74,slow=12,SNR=8.9
USRK Ussuriysk Ar. 12.30 275 **Pn 04 45 27.4 +3.5**
USRK Ussuriysk Ar. 12.30 275 PN **Pn 04 45 27.4 +3.5**
KLR Kul'dur 12.86 298 P **Pn 04 45 34.3 +2.8**
comp=Z,1.7nm,0.7s,baz=103,slow=16,SNR=8.9
KLR Kul'dur 12.86 298 *i* PN **Pn 04 45 34.1 +2.6**
KLR Kul'dur 12.86 298 *eP* **Pn 04 45 34.1 +2.6**
KSRS Korea Array 17.44 254 P **Pn 04 46 29.6 -1.5**
baz=60,slow=11,SNR=6.6
KSRS LR LR 04 53 23.4
comp=Z,87nm,18.4s,baz=50,slow=37
comp=Z,1.0nm,0.6s
KSRS Korea Array 17.44 254 *eP* **P 04 46 32.9 +1.1**
KSRS pmax pmax
comp=Z,1.0nm,0.7s
SEY Seymchan 18.68 5 P **P 04 46 43.0 -2.2**
comp=Z,0.6nm,0.3s,baz=22,slow=23,SNR=6.3
comp=Z,2.4nm,0.2s
YAK Yakutsk 21.02 334 P **P 04 47 11.2 +0.6**
comp=Z,12nm,0.4s,baz=57,slow=0.8,SNR=1.9
comp=Z,12nm,0.4s
YAK Yakutsk 21.02 334 *eP* **P 04 47 11.8 +1.2**
YAK pmax pmax
comp=Z,38nm,1.0s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK Yakutsk 21.02 334 *eP* **P 04 47 11.8 +1.2**
BILL Bilibino 25.37 15⇑ *eP* **P 04 47 52.3 -1.2**
BILL *e* 04 48 25.6
BILL pmax pmax
comp=Z,4.0nm,0.4s
BILL MLR MLR
comp=Z,267nm,18.0s
BILL Bilibino 25.37 15 *eP* **P 04 47 52.3 -1.2**
H11N2 WAKE ISLAND Hy 28.69 143 T T 05 19 17.0
baz=334,slow=76,SNR=227
H11N1 WAKE ISLAND Hy 28.70 143 T T 05 19 19.1
baz=334,slow=76,SNR=197
H11N3 WAKE ISLAND Hy 28.71 143 T T 05 19 19.4
baz=334,slow=76,SNR=233
TIXI Tiksi 29.05 347 P **P 04 48 26.0 -0.5**
comp=Z,2.0nm,0.3s,baz=90,slow=20,SNR=2.4
comp=Z,2.0nm,0.3s
TIXI Tiksi 29.05 347 *i* P **P 04 48 26.1 -0.4**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 29.05 347 *eP* **P 04 48 26.1 -0.4**
SONM Songino Array 29.56 292 P **P 04 48 30.9 -0.6**
comp=Z,0.5nm,0.5s,baz=49,slow=10.0,SNR=4.1
comp=Z,0.5nm,0.5s
SONM Songino Array 29.56 292 *eP* **P 04 48 32.9 +1.5**
SONM pmax pmax
comp=Z,1.0nm,0.7s
H11S1 WAKE ISLAND Hy 29.70 145 T T 05 20 27.1
baz=334,slow=76,SNR=124
H11S3 WAKE ISLAND Hy 29.70 145 T T 05 20 42.1
baz=334,slow=76,SNR=118
H11S2 WAKE ISLAND Hy 29.72 145 T T 05 20 43.2
baz=334,slow=76,SNR=141
J20K Nowinta River 36.97 38 P **P 04 49 35.7 +0.2**
J20K IAmb IAmb 04 49 36.9
comp=Z,3.9nm,0.7s
COLD Coldfoot 38.85 33 P **P 04 49 51.6 +0.4**
ILAR Eielson Array 40.13 37 P **P 04 50 01.6 -0.3**
comp=Z,1.6nm,0.6s,baz=268,slow=8.4,SNR=15
comp=Z,1.6nm,0.6s
FYU Fort Yukon 40.78 34 P **P 04 50 07.9 +0.6**
FYU IAmb IAmb 04 50 09.0
comp=Z,6.3nm,0.6s
GOMU GeErMu 41.58 278 P **P 04 50 15.4 +0.7**
GOMU pP pP 04 50 19.3 -8.6
GOMU sP sP 04 50 20.9 -13
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GOMU pmax pmax
comp=Z,100nm,5.1s
ZALV Zelesovo Beam 41.77 307 PcP **PcP 04 52 11.2 +0.3**
comp=Z,1.4nm,0.6s,baz=72,slow=4.8,SNR=4.3
L27K Beaver Creek, 42.49 39 P **P 04 50 22.6 +1.2**
INK Inuvik 45.13 31 P **P 04 50 42.2 -0.2**
comp=Z,2.0nm,0.5s,baz=288,slow=6.7,SNR=17
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 45.56 298 P **P 04 50 44.4 -1.8**
MK31 Makanchi Array 45.56 298 P **P 04 50 44.4 -1.8**
MK31 pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 45.56 298 P **P 04 50 45.8 -0.4**
comp=Z,0.8nm,0.5s,baz=78,slow=9.5,SNR=11
MKAR PcP **PcP 04 52 24.1 +0.1**
comp=Z,0.5nm,0.6s,baz=62,slow=3.3,SNR=3.6
MKAR pPcP 04 52 36.1
comp=Z,0.7nm,0.8s,baz=81,slow=3.9,SNR=3.9
comp=Z,0.8nm,0.5s
KURK Kurchatov 46.37 304 P **P 04 50 52.0 -0.4**
KURK 04 52 27.2
KURK Kurchatov 46.37 304 *eP* **P 04 50 52.0 -0.4**
KURBB Kurchatov Arra 46.45 304 P **P 04 50 52.0 -1.1**
comp=Z,1.1nm,0.4s,baz=73,slow=8.2,SNR=12
KURBB PcP **PcP 04 52 27.2 +0.2**
comp=Z,0.8nm,0.5s,baz=76,slow=3.5,SNR=5.6
KURBB pPcP 04 52 38.9
comp=Z,0.9nm,0.6s,baz=70,slow=3.3,SNR=7.3
comp=Z,1.1nm,0.4s
CMAR Chiang Mai Arr 49.08 255 P **P 04 51 14.9 +1.0**
comp=Z,0.7nm,0.3s,baz=50,slow=7.2,SNR=1.7
comp=Z,0.7nm,0.3s
BVAR Borovoye Array 50.21 310 PcP **PcP 04 52 40.8 +0.3**
comp=Z,0.5nm,0.5s,baz=98,slow=1.7,SNR=3.5
BVAR pPcP 04 52 52.5
comp=Z,0.6nm,0.6s,baz=88,slow=4.9,SNR=2.8
JIRN Jiri 52.33 274 *eP* **P 04 51 39.2 +0.5**
comp=Z,12nm,0.6s
GUN Gumba 52.41 274 *eP* **P 04 51 39.9 +0.7**
comp=Z,11nm,0.3s
RAMN Ramite 52.46 273 *eP* **P 04 51 39.6 +0.1**
comp=Z,23nm,0.6s
PKI Pulchoki 52.94 274 *eP* **P 04 51 43.3 +0.1**
comp=Z,6.1nm,0.6s
DANN Dangsing 53.66 276 *eP* **P 04 51 49.1 +0.7**
comp=Z,13nm,0.7s
PYUN Piuthan 54.36 276 *eP* **P 04 51 52.6 -0.8**
comp=Z,7.5nm,0.7s
YKA Yellowknife Ar 54.47 35 P **P 04 51 53.8 +0.3**
comp=Z,2.2nm,0.6s,baz=301,slow=7.5,SNR=4.8
comp=Z,2.2nm,0.6s
ARU Arti 54.86 317 P **P 04 51 55.6 -0.8**
comp=Z,9.6nm,0.2s,baz=328,slow=23,SNR=3.7
GAR Garm 56.97 294 P **P 04 52 11.5 -0.4**
ABKAR Akbulak array 57.78 309 P **P 04 52 17.0 -0.2**
ABKAR Akbulak array 57.78 309 P **P 04 52 17.0 -0.2**
ABKAR IAmb IAmb 04 52 17.3
comp=Z,4.0nm,0.6s
CHGR Chuyangaron 57.91 294 P **P 04 52 17.8 -0.7**
CHGR pmax pmax
comp=Z,17nm,0.6s
FINES FINESS Array B 64.96 334 P **P 04 53 04.3 -1.1**
comp=Z,1.7nm,0.5s,baz=27,slow=6.9,SNR=11
comp=Z,1.7nm,0.5s
GEYT Alibeck 65.39 300 P **P 04 53 08.6 -0.1**
comp=Z,4.4nm,0.6s,baz=58,slow=3.6,SNR=5.6
comp=Z,2.4nm,0.6s
WB2 Warramunga Arr 65.42 195 P **P 04 53 08.5 -0.4**
WRA Warramunga Arr 65.43 195 P **P 04 53 09.9 +0.9**
comp=Z,0.5nm,0.6s,baz=15,slow=7.0,SNR=6.9
WRA pP **pP 04 53 22.9 +1.0**
comp=Z,1.3nm,0.8s,baz=19,slow=7.0,SNR=8.0
comp=Z,0.5nm,0.6s
WRA Warramunga Arr 65.43 195 *eP* **P 04 53 11.4 +2.4**
WRA pmax pmax
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 66.02 59 P **P 04 53 12.5 -0.5**
comp=Z,0.4nm,0.7s,baz=296,slow=7.2,SNR=5.0
NVAR pP **pP 04 53 26.8 +0.8**
comp=Z,0.5nm,0.6s,baz=289,slow=6.5,SNR=4.3
comp=Z,0.4nm,0.7s
VORR Voronezh 66.85 320 *eP* **P 04 53 19.7 +1.9**
VORR pmax pmax
comp=Z,90nm,0.5s
PDAR Pinedale Array 68.40 51 P **P 04 53 28.5 +0.4**
comp=Z,0.3nm,0.5s,baz=266,slow=2.0,SNR=5.2
comp=Z,0.3nm,0.5s
ASAR Alice Springs 69.14 195 P **P 04 53 34.6 +2.2**
comp=Z,0.5nm,0.7s,baz=7.8,slow=6.1,SNR=5.7
ASAR pP **pP 04 53 47.1 +1.7**
comp=Z,0.9nm,0.7s,baz=12,slow=6.1,SNR=5.7
comp=Z,0.5nm,0.7s
NC405 NORSAR Array S 69.33 339 P **P 04 53 32.0 -1.3**
NC405 IAmb IAmb 04 53 41.6
comp=Z,15nm,1.4s
NB2 NORSAR Subarra 69.52 340 P **P 04 53 32.7 -1.8**
comp=Z,0.9nm,0.4s,baz=31,slow=6.5
NOA NORSAR Array B 69.52 340 P **P 04 53 33.4 -1.0**
comp=Z,1.6nm,0.6s,baz=30,slow=6.4,SNR=14
comp=Z,1.6nm,0.6s
HFS Hagfors 69.65 338 LR LR 05 28 08.9
comp=Z,38nm,21.4s,baz=36,slow=39
NORES NORESS Array B 69.70 339 P **P 04 53 33.9 -1.6**
ULM Lac du Bonnet 70.12 38 P **P 04 53 38.1 -0.2**
comp=Z,1.3nm,0.4s,baz=314,slow=6.5,SNR=4.1
comp=Z,1.3nm,0.4s
KIV Kislovodsk 70.40 313 *i* P **P 04 53 41.5 +1.3**
KIV *i* 04 53 59.2
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV Kislovodsk 70.40 313 *eP* **P 04 53 41.5 +1.3**
KBZ Khabaz 70.44 312 P **P 04 53 40.6 +0.3**
comp=Z,3.6nm,0.8s,baz=43,slow=4.1,SNR=6.4
comp=Z,3.6nm,0.8s
AKASG Malin Array Be 71.91 325 P **P 04 53 48.4 -0.7**
comp=Z,2.9nm,0.5s,baz=36,slow=6.2,SNR=14
comp=Z,2.9nm,0.5s
BUR08 Bucovina Ar. S 75.95 325 P **P 04 54 12.7 -0.3**
BUR08 IAmb IAmb 04 54 13.6
comp=Z,4.2nm,0.6s
BURAR Bucovina Array 75.97 325 P **P 04 54 12.9 -0.1**
BURAR IAmb IAmb 04 54 13.9
comp=Z,3.8nm,0.8s
STKA Stephens Creek 76.21 187 P **P 04 54 15.0 +0.9**
comp=Z,3.4nm,0.9s,baz=348,slow=19,SNR=3.1
comp=Z,3.4nm,0.9s
DPC Dobruska-Polom 77.12 331 *eP* **P 04 54 20.3 +0.9**
DPC Dobruska-Polom 77.12 331 *eP* **P 04 54 20.3 +0.9**
KRLC Kraliky 77.19 331 *eP* **P 04 54 19.8 0.0**
KRLC Kraliky 77.19 331 *eP* **P 04 54 19.8 0.0**
CLL Collm 77.40 334 P **P 04 54 20.8 -0.1**
CLL IAmb IAmb 04 54 21.6
comp=Z,9.0nm,0.9s
CLL Collm 77.40 334 *i* P **P 04 54 20.3 -0.6**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 77.40 334 *i* P **P 04 54 20.3 -0.6**
comp=Z,8.0nm,0.7s
EKA Eskdalemuir Ar 77.92 344 P **P 04 54 23.1 -0.6**
GOPC GO Pecny, Ondr 78.01 332 *eP* **P 04 54 25.0 +0.7**
GOPC GO Pecny, Ondr 78.01 332 *eP* **P 04 54 25.0 +0.7**
BRTR Keskin Array B 78.14 315 P **P 04 54 24.7 -0.7**
comp=Z,0.9nm,0.7s,baz=121,slow=1.8,SNR=6.8
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 78.14 315 *eP* **P 04 54 25.6 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
KAN14 Manchester OK 78.82 49 P **P 04 54 28.6 -0.4**
KHC Kasperske Hory 79.09 332 P **P 04 54 29.9 -0.4**
KHC IAmb IAmb 04 54 31.4
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 79.09 332 *eP* **P 04 54 30.1 -0.2**
KHC Kasperske Hory 79.09 332 *eP* **P 04 54 30.1 -0.2**
GERES GERESS Array B 79.29 332 P **P 04 54 31.3 -0.2**
comp=Z,1.2nm,0.5s,baz=29,slow=5.2,SNR=11
comp=Z,1.2nm,0.5s
CONA Conrad Observa 79.33 330 *eP* **P 04 54 32.6 +0.9**
comp=Z,2.3nm,0.6s
RONA Rosalia, Austr 79.36 330 *eP* **P 04 54 32.7 +0.9**
comp=Z,6.8nm,1.2s
SOKA Soboth 80.69 330 *eP* **P 04 54 39.1 0.0**
comp=Z,1.5nm,0.7s
KBA Koelnbreinsper 80.94 331 *eP* **P 04 54 41.3 +0.8**
comp=Z,2.3nm,0.7s
TX31 Lajitas Ar. Si 81.10 58 P **P 04 54 41.9 +0.3**
TX31 IAmb IAmb 04 54 42.6
comp=Z,3.6nm,0.8s
TX32 Lajitas Array 81.10 58 P **P 04 54 41.3 -0.2**
TXAR Lajitas Array 81.10 58 P **P 04 54 42.1 +0.5**
comp=Z,0.8nm,0.5s,baz=300,slow=4.0,SNR=15
TXAR pP **pP 04 54 54.9 -0.1**
comp=Z,0.7nm,0.5s,baz=291,slow=4.1,SNR=6.3
comp=Z,0.8nm,0.5s
WATA Walderalm 81.31 332 *eP* **P 04 54 43.0 +0.6**
comp=Z,4.6nm,0.5s
WTTA Wattenberg 81.36 332 *eP* **P 04 54 43.2 +0.5**
comp=Z,3.7nm,0.5s
MOTA Moosalm 81.46 333 *eP* **P 04 54 43.4 +0.2**
comp=Z,7.6nm,0.9s
SQTA Sankt Quirin 81.54 333 *eP* **P 04 54 43.9 +0.3**
comp=Z,5.5nm,0.6s
PDG Podgorica 82.64 325 P **P 04 54 49.0 -0.2**
PDG IAmb IAmb 04 54 49.1
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 92.89 340 LR LR 05 41 50.4
comp=Z,72nm,20.9s,baz=344,slow=38
TORD Torodi Ar. Bea 115.55 324 PKP **PKiKP 05 01 07.4 -0.8**
comp=Z,1.0nm,1.0s,baz=30,slow=1.3,SNR=4.1
H03N2 Juan Fernandez 141.53 90 T T 07 39 45.5
baz=305,slow=77,SNR=5.4
H03N3 Juan Fernandez 141.54 90 T T 07 39 47.8
baz=305,slow=77,SNR=4.3
H03N1 Juan Fernandez 141.54 90 T T 07 39 54.3
baz=305,slow=77,SNR=5.5

RSNC 14 04:43:46.2±1.4, 7.19N×76.24W, h0km±3km, ML3.1, Mw3.7, 3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBBC	**Dabeiba**	**0.17**	**171**	*iP*	Pg	04 43 49.5	0.0
DBBC				*eS*	Sg	04 43 53.8	+2.0
DBBC				IAML		04 43 56.0	
	comp=Z,6μm,0.4s						
UREC	**San Jos de Ur**	**0.89**	**51**	*eP*	Pg	04 44 02.1	-1.3
UREC				*eS*	Sg	04 44 15.5	+0.5
UREC				IAML		04 44 17.9	
	comp=Z,647nm,0.2s						
HELC	**Santa Helena**	**1.22**	**145⇓**	*eP*	Pg	04 44 07.4	-2.1
HELC				*eS*	Sg	04 44 24.8	-0.5
HELC				IAML		04 44 29.6	
	comp=Z,155nm,0.5s						
CBOC	**Ciudad Bolivar**	**1.34**	**170⇑**	*iP*	Pg	04 44 10.2	-1.6
CBOC				*eS*	Sg	04 44 28.2	-1.0
CBOC				IAML		04 44 37.2	
	comp=Z,335nm,0.6s						
ZARC	**Zaragoza, Cauc**	**1.40**	**78⇑**	*eP*	Pn	04 44 10.7	-2.3
ZARC				*eS*	Sg	04 44 29.8	-1.4
ZARC				IAML		04 44 31.5	
	comp=Z,593nm,0.6s						
LCBC	**Los crdobas,**	**1.66**	**355**	*eP*	Pn	04 44 13.5	-3.1
LCBC				*eS*	Sn	04 44 37.5	-1.2
LCBC				IAML		04 44 48.0	
	comp=Z,97nm,0.4s						

PTBC PUERTO BERRIO, 1.88 110⇑ *eP* Pn 04 44 18.2 -1.5
PTBC *eS* Sn 04 44 43.6 -0.5
PTBC IAML 04 44 47.0
comp=Z,245nm,0.5s
NORC Norcasia 2.11 140 *eP* Pn 04 44 23.2 +0.3
NORC *eS* Sb 04 44 51.8 -0.4
NORC IAML 04 44 56.0
comp=Z,174nm,0.5s
GUY2C Guyana, Caldas 2.14 156 *eP* Pn 04 44 23.6 0.0
GUY2C *eS* Sn 04 44 49.9 -1.1
GUY2C IAML 04 44 59.6
comp=Z,114nm,0.6s
PLMC San Jos del P 2.27 181 *eP* Pn 04 44 24.2 -0.9
PLMC *eS* Sn 04 44 54.5 +0.7
PLMC IAML 04 45 07.0
comp=Z,120nm,0.6s
BRRC Barranca, Sant 2.51 92 *eP* Pn 04 44 27.7 -0.6
BRRC *eS* Sn 04 44 59.2 -0.3
BRRC IAML 04 45 18.0
comp=Z,74nm,0.5s
SPBC San Pablo de B 2.64 125 *eP* Pn 04 44 30.8 +0.6
SPBC *eS* Sn 04 45 05.0 +2.0
SPBC IAML 04 45 15.3
comp=Z,89nm,0.4s
ANIL Santa Ana 2.81 163 *eP* Pn 04 44 32.7 +0.1
ANIL *eS* Sb 04 45 10.2 -2.3
ANIL IAML 04 45 21.7
comp=Z,103nm,0.5s
SJCC San Jacinto, C 2.88 21 *eP* Pn 04 44 32.5 -1.0
SJCC *eS* Sn 04 45 01.9 -7.1
ROSC El Rosal 3.01 141 *eP* Pn 04 44 38.0 +2.5
ROSC *eS* Sb 04 45 19.9 +1.4
ROSC IAML 04 45 32.5
comp=Z,51nm,0.6s
OCAC Ocana 3.07 70 *eP* Pn 04 44 35.4 -0.8
OCAC *eS* Sn 04 45 12.3 -1.4
OCAC IAML 04 45 28.3
comp=Z,154nm,0.7s
BARC Barichara 3.09 101 *eP* Pn 04 44 35.7 -0.8
BARC *eS* Sn 04 45 13.3 -0.9
BARC IAML 04 45 32.0
comp=Z,134nm,0.5s
YOTC Yotoco, Valle 3.19 182 *eP* Pn 04 44 36.0 -1.8
YOTC *eS* Sn 04 45 15.0 -1.5
YOTC IAML 04 45 25.6
comp=Z,16nm,0.6s
RUSC La Rusia 3.39 112 *eP* Pn 04 44 40.5 -0.4
RUSC *eS* Sn 04 45 23.1 +1.1
RUSC IAML 04 45 36.7
comp=Z,77nm,0.6s
PAMC Pamplona, Colo 3.51 87 *eP* Pn 04 44 44.3 +1.8
PAMC *eS* Sn 04 45 24.9 -0.1
PAMC IAML 04 45 43.2
comp=Z,98nm,0.5s
CHIC Chingaza 3.56 135 *eP* Pn 04 44 45.1 +2.0
CHIC *eS* Sn 04 45 28.0 +1.9
CHIC IAML 04 45 49.2
comp=Z,24nm,0.6s
GARC Garzon, Huila 5.03 171 *eP* Pn 04 45 04.2 +1.0
GARC IAML 04 46 17.8
comp=Z,5.9nm,0.2s
CRJC Cerrejon, Guaj 5.04 41 *eP* Pn 04 45 01.6 -1.7
CRJC *eS* Sn 04 45 53.4 -8.9
CRJC IAML 04 45 56.1
comp=Z,15nm,0.4s
PTGC Puerto Gaitan, 5.05 126 *eP* Pn 04 45 03.2 0.0
PTGC *eS* Sn 04 46 00.1 -2.3
PTGC IAML 04 46 09.9
comp=Z,16nm,0.4s
MACC Macarena, Meta 5.55 154 *eP* Pn 04 45 11.0 +0.9
MACC *eS* Sn 04 46 19.1 +4.4
MACC IAML 04 46 53.2
comp=Z,12nm,0.5s

RSNC 14 04:48:35.6±1.0, 7.18N×76.21W, h0km±5km, ML1.5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBBC	**Dabeiba**	**0.17**	**181⇓**	*eP*	Pg	04 48 38.8	0.0
DBBC				*eS*	Sg	04 48 42.6	+1.6
DBBC				IAML		04 48 44.4	
	comp=Z,78nm,0.2s						
UREC	**San Jos de Ur**	**0.88**	**50**	*eP*	Pg	04 48 51.5	-0.9
UREC				*eS*	Sg	04 49 04.3	+0.6
UREC				IAML		04 49 06.8	
	comp=Z,39nm,0.2s						
HELC	**Santa Helena**	**1.20**	**146**	*eP*	Pg	04 48 55.9	-2.6
HELC				*eS*	Sg	04 49 13.6	-0.4
HELC				IAML		04 49 15.5	
	comp=Z,3.0nm,0.2s						
CBOC	**Ciudad Bolivar**	**1.33**	**172**	*eP*	Pg	04 48 59.7	-1.3
CBOC				*eS*	Sb	04 49 18.8	-0.3
CBOC				IAML		04 49 26.5	
	comp=Z,6.5nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.37**	**77**	*eP*	Pg	04 49 00.1	-1.9
ZARC				*eS*	Sg	04 49 18.4	-1.4
ZARC				IAML		04 49 21.1	
	comp=Z,13nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.85**	**110**	*eP*	Pn	04 49 07.5	-1.2
PTBC				*eS*	Sn	04 49 32.8	0.0
PTBC				IAML		04 49 36.9	
	comp=Z,3.9nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.12**	**157**	*eP*	Pn	04 49 11.8	-0.9
GUY2C				*eS*	Sn	04 49 39.9	-0.2
GUY2C				IAML		04 49 51.1	
	comp=Z,1.7nm,0.6s						
PLMC	**San Jos del P**	**2.27**	**182**	*eP*	Pn	04 49 13.5	-0.9
PLMC				*eS*	Sb	04 49 46.7	+0.6
PLMC				IAML		04 49 56.0	
	comp=Z,2.7nm,0.5s						

IDC ***14*** *05:12:20.2±1.1, 34.54N×109.19E, h0km, mb3.5/4, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=70.6km s-min=19.3km az=64.0*
ISC 14 05:12:25.5±1.2, 34.5N±0.1×109.1E±0.4, h35km, n6, σ1s34/7, mb3.7/4, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**13.49**	**352**	Pn	**Pn**	**05 15 33.0**	**-1.4**
	0.1nm,0.3s,baz=172,slow=14,SNR=2.4						
SONM				Sn	**Sn**	**05 18 04.2**	**+1.1**
	0.2nm,0.3s,baz=169,slow=20,SNR=1.6						
SONM				Lg	Lg	05 19 25.2	
	0.1nm,0.3s,baz=167,slow=28,SNR=4.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**23.62**	**309**	P	**P**	**05 17 32.3**	**-0.9**
	0.5nm,0.6s,baz=104,slow=9.1,SNR=5.5						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**59.23**	**152**	P	**P**	**05 22 23.4**	**+0.1**
	0.2nm,0.6s,baz=346,slow=7.8,SNR=6.8						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**62.46**	**154**	P	**P**	**05 22 45.1**	**-0.2**
	0.4nm,0.4s,baz=338,slow=7.1,SNR=5.2						
	0.4nm,0.4s						
NB2	**NORSAR Subarra**	**64.06**	**328**	P	**P**	**05 22 57.0**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=64,slow=6.9						
NOA	**NORSAR Array B**	**64.06**	**328**	P	**P**	**05 22 56.4**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=65,slow=6.6,SNR=6.8						
	comp=Z,0.5nm,0.4s						

MEX ***14*** *05:15:44.9±0.8, 14.76N×92.78W, h65km±11km, MD4.2*
GCG ***14*** *05:15:46.6±0.3, 15.04N×92.58W, h26km±2km, MD3.9*
ISC 14 05:15:44.4±1.9, 14.85N±0.08×92.80W±0.05, h24km±17km, n17, σ1s18/30, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.52**	**83**	*i* P	**Pn**	**05 15 56.4**	**+0.1**
THIG				*eS*	**Sn**	**05 16 03.9**	**-0.6**
PATR	**El Naranjo**	**0.61**	**64**	*eP*	**Pn**	**05 15 57.1**	**-0.6**
PATR				*i* S	**Sn**	**05 16 07.7**	**+0.7**
PAVE	**Pavencul**	**0.70**	**60**	*eP*	**Pn**	**05 15 58.5**	**-0.4**
PAVE				*eS*	**Sn**	**05 16 09.7**	**+0.7**
CHUJ	**Union Juarez**	**0.71**	**70**	*eP*	**Pb**	**05 15 58.4**	**+0.1**
CHUJ				*i* S	**Sn**	**05 16 09.8**	**+0.3**
PCIG		**0.94**	**335**	*i* P	**Pb**	**05 16 02.1**	**0.0**
PCIG				*i* S	**Sn**	**05 16 15.5**	**+0.6**
STG3	**Santiaguito 3,**	**1.20**	**96**	*eP*	**Pn**	**05 16 05.8**	**-0.1**
STG3				*eS*	**Sn**	**05 16 20.8**	**-0.6**
CCIG	**Comitan**	**1.56**	**24**	*eP*	**Pn**	**05 16 11.4**	**+0.5**

CCIG				eS	Sn	05 16 30.4	-0.1	
CARR	**Arriaga**	**1.76**	**323**	*i* P	Pn	05 16 13.8	+0.5	
CARR				*i* S	Sn	05 16 36.0	+1.0	
FUG	**Fuego 3**	**1.94**	**102**	*e*P	Pn	05 16 16.2	+0.2	
FUG				eS	Sn	05 16 39.2	-0.5	
TGIG		**1.95**	**351**	*e*P	Pn	05 16 15.9	-0.2	
TGIG				eS	Sn	05 16 39.6	-0.1	
PCG	**Pacaya**	**2.17**	**102**	*e*P	Pn	05 16 20.0	+0.7	
PCG				eS	Sn	05 16 45.7	+0.1	
NILT	**Santiago Nilte**	**2.44**	**315**	*e*	Pn	05 16 24.0	+1.2	
NILT				*i* S	Sn	05 16 51.8	-0.1	
UXUV	**UXUV**	**2.78**	**332**	*e*P	Pn	05 16 27.8	+0.4	
UXUV				eS	Sn	05 17 00.1	-0.1	
CMIG	**Matias Romero**	**3.00**	**318**	*e*	Pn	05 16 27.5	-2.9	
CMIG				*e*		05 17 02.9		
NEUV	**Arroyo Zacate**	**4.05**	**315**	*e*	Pn	05 16 41.5	-3.5	
NEUV				*e*		05 17 23.9		
TOIG	**Toxpalan**	**5.21**	**309**	*e*	Pn	05 17 03.9	+2.9	
TOIG				*e*		05 17 58.4		
JAUV	**Jalcomulco**	**5.90**	**320**	*e*	Pn	05 17 09.5	-0.9	
JAUV				*e*		05 18 10.8		

UPA ***14*** *05:29:18.9±2.6,6˙70N×76˙24W,h10^{km}±119^{km}*
NEIC ***14*** *05:29:21.4±1.3,7˙37N±0˙07×76˙12W±0˙07,h10^{km}±2^{km}, mb4.1/6,Error ellipse: s-maj=11.6km s-min=10.7km az=331.0*
RSNC ***14*** *05:29:21.6±1.5,7˙20N×76˙24W,h0^{km}±4^{km},ML3.6,Mw4.1*
IDC ***14*** *05:29:26.5±2.4,7˙47N×76˙21W,h72^{km}±21^{km},mb3.7/10, mbtmp4.1/13,MS3.1/2,Error ellipse: s-maj=19.3km s-min=13.6km az=92.0*
VAO ***14*** *05:29:28.0±0.5,8˙02N×76˙20W,h168^{km}±6^{km},mb4.5*

ISC 14 05:29:20.6±0.9,7˙29N±0˙02×76˙20W±0˙03,h15^{km}±6^{km}, n85,σ2^{s}28/125,mb4.1/10,3C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.27**	**183**	⇓*i*P		**Pg**	**05 29 25.3**	**-1.1**
DBBC				eS		**Sg**	**05 29 29.1**	**-1.2**
DBBC				IAML			05 29 32.3	
	comp=Z,10μm,0.5s							
UREC	**San Jos de Ur**	**0.80**	**55**	*e*P		**Pn**	**05 29 37.6**	**+0.1**
UREC				eS		**Sn**	**05 29 51.2**	**+1.9**
UREC				IAML			05 29 53.0	
	comp=Z,3μm,0.4s							
HELC	**Santa Helena**	**1.27**	**149**	⇓*e*P		**Pn**	**05 29 42.8**	**-1.5**
HELC				eS		**Sb**	**05 29 59.6**	**-1.4**
HELC				IAML			05 30 06.7	
	comp=Z,861nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.34**	**81**	⇑*e*P		**Pb**	**05 29 45.9**	**+0.3**
ZARC				eS		**Sg**	**05 30 05.1**	**+1.1**
CBOC	**Ciudad Bolivar**	**1.42**	**173**	*e*P		**Pn**	**05 29 45.8**	**-0.4**
CBOC				eS		**Sn**	**05 30 04.3**	**-0.5**
CBOC				IAML			05 30 12.1	
	comp=Z,834nm,0.3s							
LCBC	**Los crdobas,**	**1.57**	**354**	*e*P		**Pb**	**05 29 49.8**	**+0.3**
LCBC				eS		**Sg**	**05 30 12.9**	**+1.6**
LCBC				IAML			05 30 25.0	
	comp=Z,306nm,0.6s							
PTBC	**PUERTO BERRIO,**	**1.88**	**113**	⇑*e*P		**Pn**	**05 29 53.6**	**+1.3**
PTBC				eS		**Sb**	**05 30 19.5**	**+1.4**
NORC	**Norcasia**	**2.16**	**142**	*e*P		**Pn**	**05 29 58.1**	**+1.8**
NORC				eS		**Sb**	**05 30 27.3**	**+1.1**
NORC				IAML			05 30 30.7	
	comp=Z,799nm,0.5s							
UPD2	**Meteti**	**2.19**	**305**	*e*P		**Pn**	**05 29 57.8**	**+1.1**
UPD2				eS		**Sg**	**05 30 33.0**	**+1.7**
GUY2C	**Guyana, Caldas**	**2.21**	**158**	*e*P		**Pn**	**05 29 59.3**	**+2.0**
GUY2C				eS		**Sb**	**05 30 29.4**	**+1.4**
GUY2C				IAML			05 30 46.7	
	comp=Z,430nm,0.6s							
PLMC	**San Jos del P**	**2.37**	**182**	*e*P		**Pn**	**05 29 58.9**	**-0.2**
PLMC				eS		**Sn**	**05 30 30.7**	**+2.8**
PLMC				IAML			05 30 41.9	
	comp=Z,460nm,0.4s							
BRRC	**Barranca, Sant**	**2.47**	**94**	*e*P		**Pn**	**05 30 02.9**	**+2.4**
BRRC				eS		**Sb**	**05 30 35.1**	**0.0**
BRRC				IAML			05 30 47.0	
	comp=Z,524nm,0.5s							
SPBC	**San Pablo de B**	**2.66**	**127**	*e*P		**Pn**	**05 30 05.3**	**+2.1**
SPBC				eS		**Sb**	**05 30 40.2**	**-0.5**
SPBC				IAML			05 30 45.9	
	comp=Z,571nm,0.4s							
SJCC	**San Jacinto, C**	**2.78**	**21**	*e*P		**Pn**	**05 30 05.8**	**+1.1**
SJCC				eS		**Sn**	**05 30 38.0**	**-0.2**
SJCC				IAML			05 31 09.3	
	comp=Z,109nm,0.6s							
ANIL	**Santa Ana**	**2.89**	**164**	*e*P		**Pn**	**05 30 10.0**	**+3.5**
ANIL				eS		**Sb**	**05 30 49.0**	**+1.7**
ANIL				IAML			05 31 00.6	
	comp=Z,379nm,0.4s							
OCAC	**Ocana**	**3.00**	**71**	*e*P		**Pn**	**05 30 10.1**	**+2.2**
OCAC				eS		**Sb**	**05 30 48.8**	**-1.8**
ROSC	**El Rosal**	**3.06**	**142**	P		**Pb**	**05 30 13.5**	**-1.6**
	comp=Z,227nm,0.3s,baz=300,slow=18,SNR=116							
ROSC				S		**Sb**	**05 30 54.0**	**+1.5**
	comp=Z,220nm,0.4s,baz=0.7,slow=23,SNR=13							
ROSC	**El Rosal**	**3.06**	**142**			**Pb**	**05 30 13.1**	**-2.0**
ROSC	**El Rosal**	**3.06**	**142**	*e*P		**Pb**	**05 30 13.2**	**-2.0**
ROSC				eS		**Sb**	**05 30 53.2**	**+0.7**
ROSC				IAML			05 31 02.3	
	comp=Z,287nm,0.5s							
BARC	**Barichara**	**3.07**	**103**	*e*P		**Pn**	**05 30 11.1**	**+2.2**
BARC				eS		**Sn**	**05 30 48.1**	**+2.5**
ARGC	**Ariguani, Magd**	**3.20**	**37**	*e*P		**Pg**	**05 30 22.2**	**+0.1**
ARGC				eS		**Sg**	**05 31 08.4**	**+4.8**
ARGC				IAML			05 31 25.8	
	comp=Z,71nm,0.5s							
YOTC	**Yotoco, Valle**	**3.28**	**183**	*e*P		**Pn**	**05 30 12.2**	**+0.5**
YOTC				eS		**Sn**	**05 30 55.5**	**+4.9**
YOTC				IAML			05 31 01.6	
	comp=Z,87nm,0.7s							
RUSC	**La Rusia**	**3.39**	**114**	*e*P		**Pn**	**05 30 15.6**	**+2.1**
RUSC				eS		**Sn**	**05 30 57.4**	**+3.7**
RUSC				IAML			05 31 16.5	
	comp=Z,357nm,0.7s							
PAMC	**Pamplona, Colo**	**3.47**	**89**	*e*P		**Pn**	**05 30 17.6**	**+3.0**
PAMC				eS		**Sn**	**05 31 00.2**	**+4.5**
PAMC				IAML			05 31 15.8	
	comp=Z,437nm,0.5s							
CHIC	**Chingaza**	**3.60**	**137**	*e*P		**Pn**	**05 30 19.8**	**+3.4**
CHIC				eS		**Sb**	**05 31 06.8**	**-1.3**
CHIC				IAML			05 31 26.8	
	comp=Z,139nm,0.6s							
UPA	**Univ. de Panam**	**3.71**	**297**	*e*P		**Pn**	**05 30 17.9**	**+0.5**
UPA				eS		**Sn**	**05 31 01.0**	**0.0**
UPA	**Univ. de Panam**	**3.71**	**297**	*e*P		**Pn**	**05 30 18.8**	**+1.3**
UPA				eS		**Sn**	**05 31 03.6**	**+2.6**
LL6C	**La Loma 6 Bece**	**3.78**	**50**	*e*P		**Pb**	**05 30 24.0**	**-3.2**
LL6C				eS		**Sn**	**05 31 03.4**	**+0.6**
LL6C				IAML			05 31 26.8	
	comp=Z,86nm,0.4s							
CHOR3	**La Chorrera**	**3.88**	**295**	*e*P		**Pn**	**05 30 21.2**	**+1.4**
CHOR3				eS		**Sn**	**05 31 09.5**	**+4.3**
BCIP	**Isla Barro Col**	**4.06**	**298**	Pn		**Pn**	**05 30 23.7**	**+1.3**
VTON	**El Valle, Cocl**	**4.10**	**289**	⇑*e*P		**Pn**	**05 30 24.2**	**+1.3**
VTON				eS		**Sn**	**05 31 13.1**	**+2.4**
PNME	**Penonome**	**4.26**	**287**	*e*P		**Pn**	**05 30 26.2**	**+1.1**
PNME				*i* S		**Sn**	**05 31 16.9**	**+2.2**
TAMC	**Tame, Arauca**	**4.45**	**101**	*e*P		**Pn**	**05 30 30.5**	**+2.7**
TAMC				eS		**Sn**	**05 31 22.8**	**+3.3**
TAMC				IAML			05 32 01.9	
	comp=Z,127nm,0.5s							
CACAO	**El Cacao, Vera**	**4.63**	**271**	*e*P		**Pn**	**05 30 30.0**	**-0.2**
CACAO				eS		**Sn**	**05 31 20.3**	**-3.4**
BETC	**Betania**	**4.64**	**171**	*e*P		**Pn**	**05 30 33.2**	**+2.9**
BETC				eS		**Sn**	**05 31 28.6**	**+4.6**
BETC				IAML			05 31 52.2	
	comp=Z,45nm,0.6s							
CRJC	**Cerrejon, Guaj**	**4.95**	**41**	*e*P		**Pn**	**05 30 37.8**	**+3.2**
CRJC				eS		**Sn**	**05 31 29.0**	**-2.6**
CRJC				IAML			05 32 12.0	
	comp=Z,77nm,0.4s							
PTGC	**Puerto Gaitan,**	**5.07**	**127**	*e*P		**Pn**	**05 30 38.6**	**+2.3**
PTGC				eS		**Sn**	**05 31 36.9**	**+2.2**
PTGC				IAML			05 31 45.6	
	comp=Z,99nm,0.4s							
GARC	**Garzon, Huila**	**5.11**	**172**	*e*P		**Pn**	**05 30 39.9**	**+2.9**
GARC				IAML			05 32 19.5	
	comp=Z,29nm,0.3s							
FLOC	**Florencia**	**5.69**	**175**	*e*P		**Pn**	**05 30 47.2**	**+2.5**
FLOC				eS		**Sb**	**05 32 08.8**	**+0.9**
FLOC				IAML			05 32 26.8	
	comp=Z,12nm,0.5s							
SDV	**Santo Domingo**	**5.73**	**74**	P		**Pn**	**05 30 47.8**	**+2.3**
	comp=Z,9.0nm,0.3s,baz=282,slow=12,SNR=5.8							
SDV				S		**Sn**	**05 31 52.8**	**+1.6**
	comp=Z,26nm,0.3s,baz=257,slow=18,SNR=1.6							
SDV				LR		LR	05 32 53.0	
	comp=Z,56nm,18.1s,baz=253,slow=36							
SDV	**Santo Domingo**	**5.73**	**74**			**Pn**	**05 30 45.3**	**-0.2**
SDV	**Santo Domingo**	**5.73**	**74**	*e*P		**Pn**	**05 30 47.8**	**+2.3**
SDV				eS		**Sn**	**05 31 53.8**	**+2.6**
URIC	**Uribia, Colomb**	**6.04**	**43**	*e*P		**Pn**	**05 30 54.2**	**+4.7**
URIC				eS		**Sn**	**05 31 53.2**	**-5.2**
URIC				IAML			05 32 39.5	
	comp=Z,23nm,0.4s							
GCUF	**Volcan Galeras**	**6.13**	**191**	*e*P		**Pn**	**05 30 54.4**	**+3.2**
GCUF				eS		**Sn**	**05 31 55.7**	**-5.6**
PTLC	**Puerto Leguiza**	**7.20**	**169**	*e*P		Pn	05 31 10.7	+5.2
PTLC				eS		**Sb**	**05 32 58.4**	**+7.0**
PTLC				IAML			05 33 37.1	
	comp=Z,12nm,0.7s							
DRK0	**Durika**	**7.25**	**286**	Pn		**Pn**	**05 31 08.6**	**+2.3**
SRBA	**San Rafael, Bu**	**7.35**	**286**	Pn		**Pn**	**05 31 09.4**	**+1.8**
OTAV	**Otavalo**	**7.35**	**198**	Pn		**Pn**	**05 31 10.1**	**+2.1**
BAUV	**El Baul**	**8.24**	**78**			**Pn**	**05 31 19.3**	**-0.5**
ORTG	**Ortega, Santa**	**9.65**	**289**	Pn		**Pn**	**05 31 42.8**	**+3.5**
BIRV	**Birongo**	**10.31**	**71**	Pn		**Pn**	**05 31 47.7**	**-0.4**
MTDJ	**Mount Denham**	**10.95**	**353**	Pn		**Pn**	**05 31 57.1**	**+0.1**
PCRV	**Puerto La Cruz**	**11.78**	**75**	P		**Pn**	**05 32 10.7**	**+2.3**
	comp=Z,6.3nm,0.6s,baz=229,slow=6.3,SNR=2.0							
PCRV				S		**Sn**	**05 34 21.7**	**+1.9**
	comp=Z,8.0nm,1.0s,baz=288,slow=20,SNR=1.0							
SDDR	**Presa de Saban**	**12.57**	**22**			**Pn**	**05 32 20.9**	**+1.8**
TBTG	**Tabatinga, AM**	**13.01**	**151**	*e*P		**P**	**05 32 36.1**	**+0.6**
DR12	**Loma Pena Alta**	**13.21**	**29**	Pn		**Pn**	**05 32 26.1**	**-1.9**
CUPR	**Culebra, Puert**	**15.26**	**43**	Pn		**Pn**	**05 32 55.2**	**-0.5**
CZSB	**Cruzeiro do Su**	**15.32**	**167**	*e*P		**P**	**05 33 02.4**	**+1.1**
CZSB				eS		**S**	**05 36 03.4**	**+0.9**
BOAV	**Boa Vista**	**16.35**	**107**			**Pn**	**05 33 08.0**	**-2.0**
BOAV				IAmb		IAmb	05 33 20.6	
	comp=Z,6.1nm,0.5s							
BOAV	**Boa Vista**	**16.35**	**107**	*e*S		**Sn**	**05 36 15.9**	**+4.6**
MACA	**Manacapuru-AM**	**18.64**	**123**	P		**P**	**05 33 38.2**	**+0.2**
MACA				IAmb		IAmb	05 33 53.9	
	comp=Z,9.4nm,0.5s							
MACA	**Manacapuru-AM**	**18.64**	**123**	*e*P		**P**	**05 33 38.8**	**+0.8**
MACA				eS		**Sn**	**05 37 05.1**	**-1.6**
ETMB	**Extrema**	**19.68**	**150**	P		**P**	**05 33 49.6**	**+0.1**
ETMB				IAmb		IAmb	05 33 58.6	
	comp=Z,12nm,1.3s							
ETMB	**Extrema**	**19.68**	**150**	*e*P		**Pn**	**05 33 51.9**	**+0.9**
ETMB				eS		**S**	**05 37 29.7**	**-1.6**
MDP	**Montagnes des**	**23.52**	**94**	P		**P**	**05 34 30.5**	**0.0**
	comp=Z,4.5nm,0.5s,baz=278,slow=7.6,SNR=7.0							
	comp=Z,4.5nm,0.5s							
LPAZ	**La Paz**	**24.75**	**161**	P		**P**	**05 34 43.1**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=355,slow=7.3,SNR=2.5							
	comp=Z,0.9nm,0.7s							
LPAZ	**La Paz**	**24.75**	**161**	P		**P**	**05 34 43.5**	**+1.0**
LPAZ				IAmb		IAmb	05 35 05.2	
	comp=Z,4.3nm,1.2s							
NPGB	**Novo Progresso**	**25.19**	**124**	*e*P		**P**	**05 34 43.6**	**-2.4**
VILB	**Vilhena**	**25.63**	**142**	P		**P**	**05 34 49.3**	**-0.6**
VILB				IAmb		IAmb	05 34 55.9	
	comp=Z,38nm,1.5s							
SIV	**San Ignacio**	**27.55**	**147**	P		**P**	**05 35 07.5**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=324,slow=9.6,SNR=7.9							
SIV				LR		LR	05 46 05.1	
	comp=Z,137nm,20.3s,baz=16,slow=36							
	comp=Z,2.2nm,0.8s							
PTLB	**Pontes e Lacer**	**28.21**	**143**	P		**P**	**05 35 12.4**	**-0.7**
PRPB	**Parauapebas**	**29.52**	**116**	*e*P		P	05 35 19.7	-5.1
TMAB	**Tom-Au,PA,Br**	**29.64**	**108**	*e*P		P	05 35 19.4	-6.5
SALV	**Santo Antonio**	**30.71**	**139**	*e*P		**P**	**05 35 32.3**	**-3.0**
SNDB	**Serra Nova Dou**	**31.29**	**128**	*e*P		P	05 35 36.1	-4.4
SMTB	**Santa Maria do**	**32.71**	**119**	*e*P		P	05 35 47.6	-5.4
TXAR	**Lajitas Array**	**33.91**	**314**	P		**P**	**05 36 01.2**	**-2.2**
	comp=Z,0.4nm,0.9s,baz=117,slow=11,SNR=2.6							
	comp=Z,0.4nm,0.9s							
BDFB	**Brasilia**	**36.03**	**129**	P		**P**	**05 36 21.1**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=292,slow=4.5,SNR=6.1							
	comp=Z,1.7nm,0.4s							
PDAR	**Pinedale Array**	**45.94**	**326**	P		**P**	**05 37 41.6**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=124,slow=7.7,SNR=3.2							
	comp=Z,0.2nm,0.4s							
SCHQ	**Schefferville**	**48.01**	**7**	P		**P**	**05 37 58.3**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=214,slow=11,SNR=2.0							
	comp=Z,4.4nm,0.8s							
PLCA	**Paso Flores**	**48.06**	**174**	P		**P**	**05 38 00.1**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=346,slow=11,SNR=4.5							
	comp=Z,2.8nm,0.9s							
DBIC	**Dimbokro**	**70.74**	**85**	P		**P**	**05 40 36.3**	**-0.7**
	comp=Z,6.9nm,0.9s,baz=284,slow=7.4,SNR=4.2							
	comp=Z,6.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**76.63**	**78**	P		**P**	**05 41 10.8**	**-0.7**
	comp=Z,3.3nm,0.4s,baz=285,slow=6.7,SNR=9.4							
	comp=Z,0.3nm,0.4s							
ASAR	**Alice Springs**	**146.85**	**237**	PKPbc		**PKPdf**	**05 49 01.1**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=117,slow=3.5,SNR=4.1							
WRA	**Warramunga Arr**	**147.84**	**244**	PKPbc		**PKPdf**	**05 49 03.4**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=108,slow=3.1,SNR=6.4							

IDC 14 05:39:40.6±2.5,29˙51S×60˙84E,h0^{km},mb3.8/3, mbtmp3.9/4,ML4.1/1,Error ellipse: s-maj=279.0km s-min=27.4km az=23.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.53**	**308**		Pn	Pn	05 43 34.0	-0.1
	0.1nm,0.3s,baz=114,slow=16,SNR=2.4							
OPO					Sn	Sn	05 46 21.8	-17
	baz=130,slow=18,SNR=1.2							
	1.9nm,0.4s							
H01W2	**Cape Leeuwin H**	**44.98**	**111**	T		T	06 35 37.0	
	baz=260							
H01W3	**Cape Leeuwin H**	**44.99**	**111**	T		T	06 35 39.6	
	baz=260							
H01W1	**Cape Leeuwin H**	**45.00**	**111**	T		T	06 35 40.3	
	baz=260							
ASAR	**Alice Springs**	**64.64**	**104**	P		P	05 50 20.5	0.0
	0.9nm,0.8s,baz=244,slow=6.3,SNR=8.9							
	0.9nm,0.8s							
WRA	**Warramunga Arr**	**66.48**	**100**	P		P	05 50 32.5	0.0
	0.8nm,0.9s,baz=246,slow=5.4,SNR=4.6							
	0.8nm,0.9s							
TORD	**Torodi Ar. Bea**	**71.05**	**298**	P		P	05 51 00.9	+0.1
	1.0nm,0.8s,baz=128,slow=6.8,SNR=4.6							
	1.0nm,0.8s							

IDC 14 05:50:43.6±2.4,5˙79S×130˙51E,h0^{km},mb3.6/1, mbtmp3.5/4,ML3.6/2,Error ellipse: s-maj=97.5km s-min=29.9km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.12**	**201**		Pn	Pn	05 53 51.1	-0.3
	0.8nm,0.3s,baz=28,slow=15							
FITZ					Sn	Sn	05 56 04.0	-14
	0.1nm,0.3s,baz=13,slow=18,SNR=2.1							
WRA	**Warramunga Arr**	**14.55**	**166**		Pn	Pn	05 54 10.8	-0.2
	0.3nm,0.3s,baz=349,slow=13,SNR=22							
WRA					Sn	Sn	05 56 40.8	-12
	0.5nm,0.3s,baz=332,slow=21,SNR=8.7							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**18.07**	**170**	P		Pn	05 54 56.5	+0.2
	0.2nm,0.3s,baz=339,slow=9.9,SNR=6.5							
ASAR				S		Sn	05 58 04.4	-14
	0.5nm,1.0s,baz=352,slow=27,SNR=1.5							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**67.51**	**326**	P		P	06 01 41.7	0.0
	0.2nm,0.3s,baz=116,slow=6.6,SNR=3.7							
	0.2nm,0.3s							

IDC ***14*** *05:57:10.6±1.2,6˙46S×128˙58E,h281^{km}±16^{km},mb3.1/1, mbtmp4.2/5,Error ellipse: s-maj=20.0km s-min=11.0km az=103.0*

ISC 14 05:57:10.7±0.9,6˙46S±0˙07×128˙6E±0˙1,h300^{km},n6, σ2^{s}37/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.12**	**232**	P		**Pn**	**05 58 42.9**	**+1.3**
	18nm,0.5s,baz=101,slow=4.3,SNR=35							
BATI				S		**S**	**05 59 50.8**	**-4.0**
	72nm,0.4s,baz=82,slow=7.1,SNR=10.0							
SIJI	**Sorong**	**6.17**	**26**	P		**Pn**	**05 58 43.2**	**+1.1**
	11nm,0.3s,baz=204,slow=20,SNR=15							
SIJI				S		**S**	**05 59 52.8**	**-3.0**
	17nm,0.3s,baz=253,slow=19,SNR=15							
FITZ	**Fitzroy Crossi**	**11.92**	**194**	P		**P**	**05 59 53.0**	**-0.7**
	4.1nm,0.4s,baz=33,slow=10,SNR=22							
FITZ				S		**S**	**06 02 06.7**	**+1.7**
	0.7nm,0.3s,baz=343,slow=19,SNR=3.3							
WRA	**Warramunga Arr**	**14.52**	**158**	P		**Pn**	**06 00 24.7**	**+1.1**
	1.3nm,0.3s,baz=340,slow=12,SNR=26							
WRA				S		**S**	**06 02 59.1**	**-2.8**
	2.0nm,0.7s,baz=337,slow=21,SNR=9.2							
ASAR	**Alice Springs**	**17.86**	**164**	P		**Pn**	**06 01 01.6**	**-1.1**
	6.8nm,0.5s,baz=345,slow=12,SNR=86							
ASAR				S		**S**	**06 04 08.8**	**+0.5**
	1.3nm,0.9s,baz=347,slow=24,SNR=6.7							
MKAR	**Makanchi Array**	**67.01**	**327**	P		**P**	**06 07 33.5**	**+1.6**
	0.5nm,0.5s,baz=122,slow=7.8,SNR=6.8							
	0.5nm,0.5s							

IDC ***14*** *06:02:28.7±0.4,29˙28S×60˙97E,h0^{km},mb4.4/24, mbtmp4.4/25,ML4.9/1,MS3.9/26,Error ellipse: s-maj=15.3km s-min=14.3km az=75.0*
NEIC ***14*** *06:02:31.2±1.2,29˙2S±0˙1×60˙96E±0˙09,h10^{km}±1^{km}, mb4.7/26,Error ellipse: s-maj=19.0km s-min=12.6km az=173.0*

ISC 14 06:02:31.2±0.4,29˙25S±0˙08×60˙90E±0˙08,h14^{km},n102, σ1^{s}21/82,mb4.6/39,MS3.9/28,1D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.31**	**329**		Pn	**Pn**	**06 04 42.3**	**-2.8**
FOMA	**Nahampoana Res**	**13.11**	**286**		Pn	**Pn**	**06 05 35.1**	**-1.9**
VOI	**Vohitsoka**	**14.67**	**297**		Pn	**Pn**	**06 05 58.2**	**-0.4**
OPO	**Ambohidratompo**	**16.42**	**307**		Pn	**Pn**	**06 06 21.4**	**-0.1**
	0.4nm,0.3s,baz=122,slow=13,SNR=16							
OPO					Sn	Sn	06 09 08.3	-15
	0.3nm,0.3s,baz=121,slow=18,SNR=3.9							
	7.1nm,0.3s							
H08S1	**Diego Garcia H**	**24.10**	**29**	T		T	06 32 50.3	
	baz=203,slow=74							
H08S2	**Diego Garcia H**	**24.11**	**29**	T		T	06 32 48.2	
	baz=203,slow=74							
H08S3	**Diego Garcia H**	**24.12**	**29**	T		T	06 32 57.6	
	baz=203							
POGA	**Pongola**	**25.75**	**267**	P		**P**	**06 08 01.8**	**+0.3**
BOSA	**Boshof**	**31.13**	**262**	P		**P**	**06 08 49.9**	**+0.2**
	5.7nm,0.9s,baz=100,slow=10.0,SNR=5.3							
BOSA				LR		LR	06 19 21.3	
	comp=Z,258nm,19.6s,baz=108,slow=32							
	5.7nm,0.9s							
BOSA	**Boshof**	**31.13**	**262**	P		**P**	**06 08 49.7**	**0.0**
BOSA				IAmb		IAmb	06 08 59.4	
	comp=Z,12nm,1.1s							
LBTB	**Lobatse**	**31.63**	**269**	LR		LR	06 19 52.0	
	comp=Z,115nm,19.6s,baz=115,slow=33							
LBTB	**Lobatse**	**31.63**	**269**	P		**P**	**06 08 53.2**	**-0.9**
LSZ	**Lusaka**	**33.19**	**288**	LR		LR	06 22 04.7	
	comp=Z,176nm,18.3s,baz=138,slow=35							
SUR	**Sutherland**	**34.43**	**255**	P		**P**	**06 09 18.2**	**-0.5**
	comp=Z,6.4nm,1.0s,baz=106,slow=9.7,SNR=5.6							
SUR				LR		LR	06 20 44.2	
	comp=Z,211nm,20.9s,baz=97,slow=32							
	comp=Z,6.4nm,1.0s							
SUR	**Sutherland**	**34.43**	**255**	P		**P**	**06 09 19.1**	**+0.5**
KMBO	**Kilima Mbogo**	**35.92**	**317**	LR		LR	06 21 30.0	
	comp=Z,202nm,19.4s,baz=98,slow=32							
MAW	**Mawson**	**38.40**	**179**	P		**P**	**06 09 50.4**	**-1.4**
	comp=Z,2.6nm,0.8s,baz=1.2,slow=9.7,SNR=5.9							
MAW				LR		LR	06 22 37.4	
	comp=Z,154nm,18.1s,baz=353,slow=32							
	comp=Z,2.6nm,0.8s							
MBAR	**Mbarara**	**40.48**	**309**	LR		LR	06 25 26.6	
	comp=Z,147nm,19.8s,baz=123,slow=34							
TSUM	**Tsumeb**	**40.55**	**274**	P		**P**	**06 10 10.9**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=100,slow=6.0,SNR=6.3							
TSUM				LR		LR	06 25 57.4	
	comp=Z,182nm,18.2s,baz

GOMU					pP	pP	06 14 00.8	-0.2	
GOMU					sP	sP	06 14 02.1	-0.1	
GOMU					pmax	pmax			
	comp=Z,4.0nm,0.4s								
GOMU					pmax	pmax			
	comp=Z,150nm,5.1s								
DBIC	**Dimbokro**	**72.52**	**288**		P	**P**	**06 13 59.2**	**+1.2**	
	comp=Z,11nm,0.9s,baz=154,slow=5.9,SNR=8.1								
DBIC					LR	LR	06 45 00.9		
	comp=Z,97nm,18.8s,baz=147,slow=35								
	comp=Z,11nm,0.9s								
KKAR	**Karatay Array**	**72.54**	**7**	P		**P**	**06 13 57.9**	**+0.3**	
AAK	**Ala-Archa**	**72.62**	**10**	P		**P**	**06 13 58.3**	**+0.1**	
	comp=Z,2.2nm,0.5s,baz=198,slow=4.8,SNR=4.7								
	comp=Z,2.2nm,0.5s								
AAK	**Ala-Archa**	**72.62**	**10**	P		**P**	**06 13 58.9**	**+0.7**	
AAK				IAmb		IAmb	06 13 59.9		
	comp=Z,8.8nm,1.4s								
BR131	**Keskin Array S**	**73.17**	**338**	P		**P**	**06 14 01.5**	**0.0**	
BR131				IAmb		IAmb	06 14 02.2		
	comp=Z,5.6nm,1.1s								
BRTR	**Keskin Array B**	**73.17**	**338**	P		**P**	**06 14 01.4**	**-0.1**	
	comp=Z,2.2nm,0.9s,baz=163,slow=7.7,SNR=14								
	comp=Z,2.2nm,0.9s								
BORA	**Eskisehir**	**74.38**	**336**	IAmb		IAmb	06 14 09.8		
	comp=Z,8.8nm,1.2s								
KBZ	**Khabaz**	**74.48**	**347**	LR		LR	06 45 07.6		
	comp=Z,84nm,21.1s,baz=108,slow=34								
KOWA	**Kowa**	**76.24**	**295**	LR		LR	06 48 16.5		
	comp=Z,95nm,18.3s,baz=206,slow=36								
KOWA	**Kowa**	**76.24**	**295**	P		**P**	**06 14 20.2**	**+0.6**	
CTA	**Charters Tower**	**76.55**	**106**	LR		LR	06 45 33.8		
	comp=Z,57nm,18.5s,baz=253,slow=34								
WMQ	**Urumqi**	**76.75**	**20**	*e*P		**P**	**06 14 24.1**	**+2.1**	
WMQ				LR		LR			
	comp=Z,140nm,21.1s								
MKAR	**Makanchi Array**	**78.12**	**15**	P		**P**	**06 14 29.5**	**0.0**	
	comp=Z,2.5nm,0.9s,baz=186,slow=4.9,SNR=10								
	comp=Z,2.5nm,0.9s								
ABKAR	**Akbulak array**	**78.16**	**359**	P		**P**	**06 14 29.5**	**-0.2**	
ABKAR	**Akbulak array**	**78.16**	**359**	IAmb		IAmb	06 14 30.1		
	comp=Z,3.4nm,0.7s								
AKTO	**Aktyubinsk**	**79.38**	**358**	P		**P**	**06 14 36.4**	**0.0**	
	comp=Z,1.7nm,0.6s,baz=160,slow=5.5,SNR=3.7								
	comp=Z,1.7nm,0.6s								
VAE	**Valguarnera**	**79.39**	**324**	LR		LR	06 50 25.2		
	comp=Z,47nm,18.6s,baz=140,slow=36								
TIP	**Timpagrande**	**79.54**	**327**	P		**P**	**06 14 38.4**	**+0.7**	
TIP				IAmb		IAmb	06 14 39.1		
	comp=Z,6.1nm,1.1s								
KEST	**Kesra**	**80.83**	**320**	P		**P**	**06 14 44.6**	**-0.1**	
	comp=Z,3.2nm,0.8s,baz=246,slow=5.6,SNR=4.4								
KEST				LR		LR	06 51 43.3		
	comp=Z,101nm,18.4s,baz=316,slow=36								
	comp=Z,3.2nm,0.8s								
MLR	**Muntele Rosu**	**80.89**	**336**	IAmb		IAmb	06 14 46.3		
	comp=Z,13nm,1.4s								
KURBB	**Kurchatov Arra**	**81.04**	**11**	P		**P**	**06 14 44.8**	**-0.5**	
	comp=Z,1.2nm,0.8s,baz=205,slow=6.2,SNR=9.1								
	comp=Z,1.2nm,0.8s								
KURK	**Kurchatov**	**81.15**	**11**	P		**P**	**06 14 45.4**	**-0.5**	
DIVS	**Divibare**	**82.03**	**332**	IAmb		IAmb	06 14 52.3		
	comp=Z,5.4nm,0.9s								
BELG	**Belogornoye**	**82.12**	**352**	P		**P**	**06 14 50.8**	**-0.1**	
	comp=Z,15nm,0.8s,baz=276,slow=3.6,SNR=2.9								
	comp=Z,15nm,0.8s								
NJ2	**Nanjing**	**82.12**	**47**	*e*P		**P**	**06 14 51.8**	**+0.3**	
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
BVAR	**Borovoye Array**	**82.35**	**6**	P		**P**	**06 14 52.1**	**0.0**	
	comp=Z,0.8nm,0.6s,baz=160,slow=6.0,SNR=6.3								
	comp=Z,0.8nm,0.6s								
HHC	**Hu-ho-hao-te**	**84.06**	**36**	*e*P		**P**	**06 15 03.9**	**+2.4**	
HHC				pmax		pmax			
	comp=Z,22nm,0.8s								
HHC				pmax		pmax			
	comp=Z,230nm,6.1s								
AKASG	**Malin Array Be**	**84.39**	**340**	P		**P**	**06 15 02.2**	**-0.5**	
	comp=Z,2.7nm,0.8s,baz=154,slow=4.3,SNR=11								
	comp=Z,2.7nm,0.8s								
AKBB	**Malin Array Si**	**84.39**	**340**	IAmb		IAmb	06 15 03.3		
	comp=Z,5.2nm,0.8s								
ARU	**Arti**	**85.36**	**359**	P		**P**	**06 15 07.2**	**-0.2**	
	comp=Z,2.0nm,0.3s,baz=172,slow=7.7,SNR=5.2								
	comp=Z,2.0nm,0.3s								
MDT	**Midelt**	**87.54**	**310**	LR		LR	06 54 37.6		
	comp=Z,95nm,18.6s,baz=123,slow=36								
MNK	**Minsk**	**88.14**	**341**	*i* P		**P**	**06 15 21.1**	**+0.1**	
	comp=E,3.0nm,0.7s								
MNK				*i* P		**P**	**06 15 21.1**	**+0.1**	
	comp=N,7.0nm,0.8s								
MNK				*i* P		**P**	**06 15 21.1**	**+0.1**	
	comp=Z,17nm,0.8s,baz=332								
MNK				*i* PP		**PP**	**06 18 47.9**	**-0.6**	
MNK				*i* PPP		PPP	06 20 43.2		
MNK				*i* S		S	06 25 49.5	-15	
MNK				*i* PS		**PS**	**06 27 08.6**	**-0.7**	
MNK				*i* SS		**SS**	**06 31 55.7**	**+1.7**	
MNK				*i* SSS		SSS	06 35 40.9		
MNK				*i* LQ		LQ	06 49 11.5		
MNK				*i* LR		LR	06 55 54.3		
MNK				*i* LRM		MLR	06 56 00.6		
	comp=E,14nm,18.1s								
MNK				*i* LRM		MLR	06 56 13.5		
	comp=N,23nm,17.4s								
MNK				*i* LRM		MLR	06 56 47.7		
	comp=Z,63nm,22.6s								
GERES	**GERESS Array B**	**88.44**	**331**	P		**P**	**06 15 21.9**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=178,slow=4.9,SNR=4.9								
	comp=Z,0.2nm,0.3s								
NACGM	**Naroch**	**88.80**	**341**	⇓ *e*P		**P**	**06 15 25.2**	**+1.0**	
	baz=152								
ESDC	**Sonseca Array**	**91.30**	**316**	P		**P**	**06 15 36.8**	**+0.4**	
	comp=Z,5.0nm,1.0s,baz=116,slow=3.7,SNR=16								
	comp=Z,5.0nm,1.0s								
ESDC	**Sonseca Array**	**91.30**	**316**	P		**P**	**06 15 37.8**	**+1.4**	
ESDC				IAmb		IAmb	06 15 39.3		
	comp=Z,5.9nm,1.0s								
KLMR	**Klimovskoe**	**91.47**	**350**	*e*P		P	06 15 31.3	-5.2	
KLMR				AMP			06 15 44.0		
	comp=Z,13nm,1.8s								
ILAR	**Eielson Array**	**140.41**	**18**	PKP		**PKPdf**	**06 21 56.5**	**-2.7**	
	comp=Z,0.5nm,0.8s,baz=306,slow=3.0,SNR=2.3								
YKA	**Yellowknife Ar**	**146.62**	**356**	PKPbc		**PKPbc**	**06 22 11.5**	**-0.2**	
	comp=Z,7.1nm,1.0s,baz=350,slow=3.0,SNR=6.6								
DLBC	**Dease Lake**	**149.86**	**11**	PKPbc		**PKPbc**	**06 22 19.5**	**-1.0**	
	comp=Z,4.0nm,1.0s,baz=272,slow=3.9,SNR=3.7								
ULM	**Lac du Bonnet**	**152.66**	**327**	PKPbc		**PKPbc**	**06 22 26.4**	**-0.8**	
	comp=Z,6.9nm,0.6s,baz=55,slow=2.9,SNR=11								
PDAR	**Pinedale Array**	**164.48**	**333**	PKP		**PKPdf**	**06 22 33.7**	**-1.0**	
	comp=Z,1.3nm,1.0s,baz=123,slow=2.5,SNR=7.4								
TXAR	**Lajitas Array**	**166.53**	**274**	PKP		**PKPdf**	**06 22 34.2**	**-2.5**	
	comp=Z,0.2nm,0.8s,baz=67,slow=2.3,SNR=2.4								
TXAR				PKPab		**PKPab**	**06 23 38.5**	**-0.3**	
	comp=Z,0.3nm,0.7s,baz=79,slow=4.8,SNR=2.5								
NVAR	**Mina Array Bea**	**170.82**	**356**	PKP		**PKPdf**	**06 22 40.9**	**+1.5**	
	comp=Z,0.3nm,0.7s,baz=107,slow=3.0,SNR=5.0								
NVAR				PKPab		**PKPab**	**06 23 57.5**	**+0.1**	
	comp=Z,0.5nm,1.0s,baz=335,slow=1.5,SNR=1.8								

IDC **14** *06:14:11.2±2.9,54°.17N×86°.43E,h0km,mbtmp2.8/2,*
ML2.5/2,Error ellipse: s-maj=21.4km s-min=12.4km
az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**258**	*i*			06 20 30.0	
	baz=78,slow=323,SNR=0.7							
ZALV	**Zalesovo Beam**	**0.98**	**258**		Pg	Pg	06 14 29.6	-0.3
	1.0nm,0.3s,baz=77,slow=17,SNR=9.0							
ZALV					Lg	Lg	06 14 43.7	
	1.5nm,0.3s,baz=74,slow=31,SNR=13							
ZALV					Rg	Rg	06 14 49.4	
	19nm,0.9s,baz=75,slow=27,SNR=11							
KURBB	**Kurchatov Arra**	**6.00**	**237**		Pn	Pn	06 15 42.1	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=5.3							
KURBB					Lg	Lg	06 17 20.1	
	baz=47,slow=26,SNR=1.8							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**7.84**	**201**		Pn	Pn	06 16 07.0	+0.6
	0.1nm,0.3s,baz=14,slow=12,SNR=2.1							
MKAR					Sn	Sn	06 17 35.4	-0.4
	0.1nm,0.3s,baz=18,slow=24,SNR=3.8							
MKAR					Lg	Lg	06 18 20.0	
	baz=15,slow=24,SNR=5.2							
	0.2nm,0.4s							

IDC **14** *06:18:06.2±1.5,7°.20N×76°.52W,h0km,mb3.6/2,*
mbtmp3.9/4,ML2.8/2,MS3.4/2,Error ellipse: s-maj=50.7km
s-min=23.4km az=34.0
RSNC **14** *06:18:07.1±1.6,7°.21N×76°.25W,h0km±5km,ML3.2,Mw3.7*
ISC 14 06:18:06.9±1.2,7°.23N±0°.03×76°.25W±0°.04,h12km±8km,
n31,σ1§95/49,3C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.21**	**171**	⇓ *i*P		**Pg**	**06 18 11.3**	**-0.2**
DBBC					IAML		06 18 17.9	
	comp=Z,9μm,0.5s							
UREC	**San Jos de Ur**	**0.88**	**54**	⇑ *i*P		**Pg**	**06 18 23.1**	**-0.7**
UREC					*e*S	**Sb**	**06 18 36.7**	**+1.0**
UREC					IAML		06 18 39.0	
	comp=Z,2μm,0.3s							
HELC	**Santa Helena**	**1.25**	**145**	*e*P		**Pn**	**06 18 29.0**	**-1.6**
HELC					*e*S	**Sb**	**06 18 46.1**	**-0.8**
HELC					IAML		06 18 54.8	
	comp=Z,217nm,0.2s							
CBOC	**Ciudad Bolivar**	**1.38**	**170**	*e*P		**Pn**	**06 18 31.8**	**-0.2**
CBOC					*e*S	**Sg**	**06 18 53.4**	**+2.0**
CBOC					IAML		06 19 00.7	
	comp=Z,461nm,0.5s							
ZARC	**Zaragoza, Cauc**	**1.40**	**79**	*e*P		**Pn**	**06 18 31.9**	**-0.3**
ZARC					*e*S	**Sn**	**06 18 51.1**	**+0.5**
ZARC					IAML		06 18 53.4	
	comp=Z,536nm,0.3s							
SOLC	**Bahia Solano**	**1.53**	**229**	*e*P		**Pn**	**06 18 34.2**	**+0.2**
SOLC					*e*S	**Sg**	**06 18 57.2**	**+1.1**
SOLC					IAML		06 19 02.2	
	comp=Z,106nm,0.4s							
LCBC	**Los crdobas,**	**1.62**	**356**	*e*P		**Pn**	**06 18 34.9**	**-0.3**
LCBC					*e*S	**Sb**	**06 18 58.8**	**+1.7**
LCBC					IAML		06 19 09.0	
	comp=Z,101nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.90**	**111**	⇑ *i*P		**Pn**	**06 18 39.5**	**+0.3**
PTBC					*e*S	**Sb**	**06 19 05.1**	**-0.2**
PTBC					IAML		06 19 08.8	
	comp=Z,443nm,0.3s							
NORC	**Norcasia**	**2.15**	**140**	*e*P		**Pb**	**06 18 44.5**	**-1.2**
NORC					*e*S	**Sb**	**06 19 13.5**	**+1.1**
NORC					IAML		06 19 18.3	
	comp=Z,172nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.18**	**156**	*e*P		**Pb**	**06 18 45.7**	**-0.8**
GUY2C					*e*S	**Sg**	**06 19 15.7**	**-1.3**
GUY2C					IAML		06 19 24.7	
	comp=Z,93nm,0.5s							
PLMC	**San Jos del P**	**2.31**	**181**	*e*P		**Pb**	**06 18 48.0**	**-0.6**
PLMC					*e*S	**Sb**	**06 19 18.4**	**+1.3**
PLMC					IAML		06 19 23.2	
	comp=Z,93nm,0.5s							
BRRC	**Barranca, Sant**	**2.52**	**93**	⇑ *i*P		**Pn**	**06 18 48.4**	**+0.8**
BRRC					*e*S	**Sn**	**06 19 21.2**	**+3.0**
BRRC					IAML		06 19 28.7	
	comp=Z,189nm,0.4s							
SPBC	**San Pablo de B**	**2.67**	**126**	*e*P		**Pn**	**06 18 51.5**	**+1.8**
SPBC					*e*S	**Sb**	**06 19 26.7**	**-0.7**
SPBC					IAML		06 19 31.4	
	comp=Z,136nm,0.5s							
SJCC	**San Jacinto, C**	**2.85**	**22**	*e*P		**Pn**	**06 18 51.0**	**-1.2**
SJCC					*e*S	**Sn**	**06 19 25.3**	**-1.3**
SJCC					IAML		06 19 25.9	
	comp=Z,29nm,0.4s							
ROSC	**El Rosal**	**3.05**	**141**	Pn		**Pb**	**06 18 59.4**	**-2.0**
	comp=Z,21nm,0.3s,baz=302,slow=15,SNR=35							
ROSC					Sn	**Sb**	**06 19 37.4**	**-1.3**
	comp=Z,14nm,0.3s,baz=43,slow=21,SNR=2.8							
	comp=Z,63nm,0.3s							
ROSC	**El Rosal**	**3.05**	**141**	*e*P		**Pb**	**06 18 59.3**	**-2.0**
ROSC					*e*S	**Sb**	**06 19 41.8**	**+3.1**
ROSC					IAML		06 19 46.7	
	comp=Z,100nm,0.6s							
OCAC	**Ocana**	**3.07**	**71**	*e*P		**Pn**	**06 18 55.3**	**0.0**
OCAC					*e*S	**Sb**	**06 19 36.5**	**-2.4**
OCAC					IAML		06 19 48.5	
	comp=Z,245nm,0.4s							
YOTC	**Yotoco, Valle**	**3.23**	**182**	*e*P		**Pn**	**06 18 58.3**	**+0.8**
YOTC					*e*S	**Sb**	**06 19 40.2**	**-3.4**
YOTC					IAML		06 19 47.9	
	comp=Z,31nm,0.7s							
ARGC	**Ariguani, Magd**	**3.27**	**37**	*e*P		**Pb**	**06 19 05.5**	**+0.6**
ARGC					*e*S	**Sn**	**06 19 39.5**	**+2.5**
ARGC					IAML		06 20 11.4	
	comp=Z,19nm,0.4s							
RUSC	**La Rusia**	**3.41**	**113**	*e*P		**Pn**	**06 19 01.7**	**+1.3**
PAMC	**Pamplona, Colo**	**3.52**	**88**	*e*P		**Pn**	**06 19 03.3**	**+1.5**
VILC	**Villavicencio,**	**4.01**	**141**	*e*P		**Pn**	**06 19 12.7**	**+4.4**
VILC					*e*S	**Sb**	**06 20 01.6**	**-4.4**
VILC					IAML		06 20 15.2	
	comp=Z,52nm,0.4s							
SDV	**Santo Domingo**	**5.79**	**73**	Pn		**Pn**	**06 19 37.0**	**+4.2**
	comp=Z,3.0nm,0.3s,baz=246,slow=17,SNR=4.0							
SDV					Sn	**Sn**	**06 20 37.2**	**-2.2**
	comp=Z,2.8nm,0.3s,baz=249,slow=19,SNR=1.7							
	comp=Z,7.4nm,0.4s							
URIC	**Uribia, Colomb**	**6.11**	**43**	*e*P		Pn	06 19 44.2	+7.2
URIC					*e*S	**Sn**	**06 20 42.6**	**-4.3**
URIC					IAML		06 20 52.9	
	comp=Z,6.3nm,0.3s							
PCRV	**Puerto La Cruz**	**11.84**	**75**	Pn		**Pn**	**06 20 56.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=26,slow=13,SNR=2.3							
CMIG	**Matias Romero**	**20.67**	**300**	P		**P**	**06 22 46.0**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=135,slow=11,SNR=4.2							
	comp=Z,1.4nm,0.7s							
SIV	**San Ignacio**	**27.53**	**147**	P		**P**	**06 23 55.8**	**+2.0**
	comp=Z,1.4nm,0.9s,baz=315,slow=10.0,SNR=3.0							
	comp=Z,1.4nm,0.9s							
NEW	**Newport**	**53.54**	**327**	LR		LR	06 53 50.8	
	comp=Z,14nm,19.8s,baz=291,slow=40							
MLR	**Muntele Rosu**	**93.35**	**44**	LR		LR	07 08 37.4	
	comp=Z,51nm,21.4s,baz=36,slow=32							
ASAR	**Alice Springs**	**146.78**	**237**	PKPbc		**PKPbc**	**06 37 49.6**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=111,slow=4.1,SNR=1.8							
WRA	**Warramunga Arr**	**147.77**	**244**	PKPbc		**PKPbc**	**06 37 51.9**	**-0.7**
	comp=Z,0.2nm,0.9s,baz=106,slow=2.0,SNR=1.0							

RSNC **14** *06:21:09.4±1.9,7°.21N×76°.27W,h0km±7km,ML3.3,Mw4.0*
IDC **14** *06:21:16.0±5.3,7°.28N×76°.19W,h54km±42km,mb3.4/2,*
mbtmp4.0/5,ML3.0/3,MS3.2/2,Error ellipse: s-maj=43.7km
s-min=19.4km az=107.0
ISC 14 06:21:09.1±1.2,7°.24N±0°.02×76°.28W±0°.04,h5km±9km,n34,
σ2§04/59,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.23**	**163**	*e*P		**Pg**	**06 21 13.2**	**-0.4**
DBBC					*e*S	**Sg**	**06 21 17.4**	**+0.7**
DBBC					IAML		06 21 20.6	
	comp=Z,5μm,0.4s							
UREC	**San Jos de Ur**	**0.90**	**55**	*e*P		**Pg**	**06 21 25.7**	**-0.6**
UREC					*e*S	**Sb**	**06 21 39.7**	**+0.1**
UREC					IAML		06 21 43.0	
	comp=Z,1μm,0.2s							
HELC	**Santa Helena**	**1.28**	**144**	*e*P		**Pn**	**06 21 31.2**	**-2.9**
HELC					*e*S	**Sb**	**06 21 49.3**	**-1.6**
HELC					IAML		06 21 51.0	
	comp=Z,248nm,0.3s							
CBOC	**Ciudad Bolivar**	**1.39**	**169**	*e*P		**Pn**	**06 21 34.3**	**-1.1**
CBOC					*e*S	**Sg**	**06 21 54.1**	**+0.2**
CBOC					IAML		06 22 05.8	
	comp=Z,325nm,0.6s							
ZARC	**Zaragoza, Cauc**	**1.43**	**80**	*e*P		**Pn**	**06 21 34.0**	**-1.8**
ZARC					*e*S	**Sn**	**06 21 53.1**	**-1.9**
SOLC	**Bahia Solano**	**1.51**	**228**	*e*P		**Pn**	**06 21 36.1**	**-0.7**
SOLC					*e*S	**Sg**	**06 21 57.3**	**-0.3**
LCBC	**Los crdobas,**	**1.61**	**357**	*e*P		**Pn**	**06 21 37.8**	**-0.5**
LCBC					*e*S	**Sg**	**06 22 06.6**	**+5.7**
LCBC					IAML		06 22 19.5	
	comp=Z,168nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.94**	**111**	*e*P		**Pn**	**06 21 42.0**	**-0.8**
PTBC					*e*S	**Sn**	**06 22 06.9**	**-0.6**
PTBC					IAML		06 22 10.9	
	comp=Z,586nm,0.6s							
NORC	**Norcasia**	**2.17**	**140**	*e*P		**Pn**	**06 21 46.9**	**+0.8**
NORC					*e*S	**Sb**	**06 22 15.9**	**-0.5**
NORC					IAML		06 22 20.1	
	comp=Z,391nm,0.4s							
GUY2C	**Guyana, Caldas**	**2.20**	**156**	⇑ *i*P		**Pb**	**06 21 48.0**	**-1.7**
GUY2C					*e*S	**Sg**	**06 22 18.7**	**-1.1**
GUY2C					IAML		06 22 28.8	
	comp=Z,154nm,0.6s							
PLMC	**San Jos del P**	**2.32**	**180**	*e*P		**Pb**	**06 21 49.3**	**-2.2**
PLMC					*e*S	**Sb**	**06 22 20.4**	**-0.1**
PLMC					IAML		06 22 27.6	
	comp=Z,156nm,0.6s							
BRRC	**Barranca, Sant**	**2.55**	**93**	*e*P		**Pn**	**06 21 51.4**	**+0.2**
BRRC					*e*S	**Sn**	**06 22 23.2**	**+0.5**
BRRC					IAML		06 22 32.4	
	comp=Z,124nm,0.3s							
SPBC	**San Pablo de B**	**2.70**	**126**	*e*P		**Pn**	**06 21 54.7**	**+1.3**
SPBC					*e*S	**Sb**	**06 22 31.9**	**+0.4**
SPBC					IAML		06 22 36.4	
	comp=Z,208nm,0.6s							
SJCC	**San Jacinto, C**	**2.86**	**22**	*e*P		**Pb**	**06 21 59.0**	**-1.6**
SJCC					*e*S	**Sb**	**06 22 33.2**	**-2.8**
SJCC					IAML		06 22 47.6	
	comp=Z,48nm,0.6s							
ROSC	**El Rosal**	**3.08**	**141**	P		**Pb**	**06 22 01.9**	**-2.7**
	comp=Z,31nm,0.3s,baz=309,slow=8.5,SNR=6.7							
ROSC					S	**Sn**	**06 22 38.2**	**+2.0**
	comp=Z,51nm,0.5s,baz=120,slow=22,SNR=1.3							
	comp=Z,78nm,0.3s							
ROSC	**El Rosal**	**3.08**	**141**	*e*P		**Pb**	**06 22 02.6**	**-2.0**
ROSC					*e*S	**Sb**	**06 22 42.3**	**-0.4**
ROSC					IAML		06 22 59.5	
	comp=Z,103nm,0.7s							
OCAC	**Ocana**	**3.10**	**71**	*e*P		**Pn**	**06 21 59.7**	**+0.8**
OCAC					*e*S	**Sn**	**06 22 36.5**	**+0.1**
BARC	**Barichara**	**3.14**	**102**	*e*P		**Pn**	**06 21 59.4**	**-0.1**
BARC					*e*S	**Sn**	**06 22 37.7**	**+0.1**
YOTC	**Yotoco, Valle**	**3.23**	**181**	*e*P		**Pn**	**06 22 02.0**	**+1.3**
YOTC					*e*S	**Sn**	**06 22 40.3**	**+0.6**
ARGC	**Ariguani, Magd**	**3.29**	**38**	*e*P		**Pb**	**06 22 08.5**	**+0.5**
ARGC					*e*S	**Sn**	**06 22 40.4**	**-0.5**
ARGC					IAML		06 22 56.0	
	comp=Z,22nm,0.4s							
RUSC	**La Rusia**	**3.44**	**113**	*e*P		**Pn**	**06 22 04.1**	**+0.1**
RUSC					*e*S	**Sn**	**06 22 45.9**	**+0.4**
RUSC					IAML		06 22 58.9	
	comp=Z,152nm,0.8s							
PAMC	**Pamplona, Colo**	**3.55**	**88**	*e*P		**Pn**	**06 22 07.8**	**+2.4**
PAMC					*e*S	**Sn**	**06 22 50.6**	**+2.5**
PAMC					IAML		06 22 52.4	
	comp=Z,150nm,0.5s							
LL6C	**La Loma 6 Bece**	**3.87**	**50**	*e*P		**Pb**	**06 22 16.4**	**-1.6**
LL6C					*e*S	**Sn**	**06 22 53.5**	**-1.9**
LL6C					IAML		06 23 12.8	
	comp=Z,34nm,0.5s							
VILC	**Villavicencio,**	**4.03**	**140**	*e*P		**Pn**	**06 22 14.9**	**+3.2**
VILC					*e*S	**Sb**	**06 23 07.6**	**-2.4**
VILC					IAML		06 23 27.7	
	comp=Z,65nm,0.5s							
TAMC	**Tame, Arauca**	**4.53**	**100**	*e*P		**Pn**	**06 22 21.0**	**+2.6**
TAMC					*e*S	**Sn**	**06 23 15.1**	**+3.6**
TAMC					IAML		06 23 45.3	
	comp=Z,50nm,0.6s							
BETC	**Betania**	**4.60**	**170**	*e*P		**Pn**	**06 22 22.1**	**+2.6**
BETC					*e*S	**Sn**	**06 23 16.5**	**+3.0**
BETC					IAML		06 23 42.6	
	comp=Z,17nm,0.3s							
CRJC	**Cerrejon, Guaj**	**5.04**	**41**	*e*S		**Sn**	**06 23 18.3**	**-5.9**
CRJC					IAML		06 23 21.1	
	comp=Z,45nm,0.3s							
SDV	**Santo Domingo**	**5.82**	**73**	P		**Pn**	**06 22 40.3**	**+3.9**
	comp=Z,3.1nm,0.3s,baz=306,slow=5.4,SNR=2.8							
SDV					S	**Sn**	**06 23 42.4**	**-1.4**
	comp=Z,19nm,0.7s,baz=284,slow=14,SNR=1.6							
	comp=Z,9.2nm,0.4s							
PCRV	**Puerto La Cruz**	**11.87**	**75**	P		**Pn**	**06 24 02.2**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=82,slow=3.9,SNR=2.0							
	comp=Z,11nm,0.9s							
NNA	**Nana**	**19.11**	**182**	LR		LR	06 34 19.7	
	comp=Z,57nm,20.5s,baz=50,slow=41							
SIV	**San Ignacio**	**27.56**	**147**	P		**P**	**06 26 58.1**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=313,slow=12,SNR=2.8							
	comp=Z,0.9nm,0.8s							
NVAR	**Mina Array Bea**	**48.98**	**316**	LR		LR	06 53 47.1	
	comp=Z,35nm,20.8s,baz=294,slow=40							
TORD	**Torodi Ar. Bea**	**76.72**	**78**	P		**P**	**06 33 02.7**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=275,slow=7.3,SNR=1.8							
	comp=Z,0.6nm,1.0s							
WRA	**Warramunga Arr**	**147.75**	**244**	PKPbc		**PKPb

PET A A 06 24 00.3
comp=Z,180nm,0.4s
YUK Yuzh-Kuril'sk 6.57 243 *e*PN **Pn 06 22 49.8 -1.2**
YUK pmax pmax
comp=Z,245nm,0.4s
YUK pmax pmax
comp=N,283nm,0.3s
YUK pmax pmax
comp=E,206nm,0.3s
YUK Yuzh-Kuril'sk 6.57 243 *e*P **Pn 06 22 52.7 +1.7**
YUK AMB AMB 06 22 53.4
comp=E,250nm,0.4s
YUK *e*S **Sn 06 24 03.4 -1.1**
YUK A A 06 24 03.8
comp=E,140nm,0.5s
YUK A A 06 24 03.8
comp=E,110nm,0.5s
RUSJ Misakicho 6.90 245 *e*PN **Pn 06 22 58.1 +2.5**
RUSJ *e*S **Sn 06 24 14.1 +1.3**
NMR Nemuro--Hokkai 7.03 239 *e*PN **Pn 06 22 54.5 -2.8**
YSS Yuzh-Sakhalins 7.65 271 Pn **Pn 06 23 06.2 +0.4**
YSS Yuzh-Sakhalins 7.65 271 *e*PN **Pn 06 23 08.5 +2.6**
YSS pmax pmax
comp=Z,80nm,0.8s
YSS Yuzh-Sakhalins 7.65 271 *e*P **Pn 06 23 08.2 +2.3**
YSS AMB AMB 06 23 14.2
comp=Z,80nm,0.8s
YSS *e*S **Sn 06 24 30.9 -0.2**
UGL Uglegorsk 8.13 287 *e*P **Pn 06 23 14.3 +1.8**
UGL AMB AMB 06 23 17.8
comp=Z,90nm,0.6s
TYV Tymovskoe 8.21 300 *e*PN **Pn 06 23 17.1 +3.6**
TYV pmax pmax
comp=Z,29nm,0.9s
TYV pmax pmax
comp=Z,300nm,2.7s
TYV Tymovskoe 8.21 300 *e*P **Pn 06 23 17.1 +3.6**
TYV AMB AMB 06 23 18.9
comp=Z,30nm,0.9s
TYV *e*S **Sn 06 24 46.7 +1.9**
TYV A A 06 24 47.4
comp=Z,10.0nm,0.8s
TYV A A 06 24 47.4
comp=Z,10.0nm,0.8s
ERM Erimo 9.36 239 Pn **Pn 06 23 28.8 -0.5**
ERM Erimo 9.36 239⇓ *e*PN **Pn 06 23 30.5 +1.3**
OKH Okha 9.38 316 *e*P **Pn 06 23 31.1 +1.6**
MA2 Magadan 12.40 352 P **Pn 06 24 10.3 -0.4**
comp=Z,22nm,0.6s,baz=176,slow=12,SNR=10
MA2 LR LR 06 28 46.6
comp=Z,191nm,21.6s,baz=124,slow=36
MA2 Magadan 12.40 352 Pn **Pn 06 24 10.0 -0.7**
MA2 Magadan 12.40 352 *i* PN **Pn 06 24 11.3 +0.6**
MA2 Magadan 12.40 352 *e*P **Pn 06 24 11.3 +0.6**
SHEM Shemya Is, Ala 14.00 60 P **Pn 06 24 30.4 -2.2**
comp=Z,42nm,0.5s,baz=124,slow=3.2,SNR=8.2
SHEM S Sn 06 26 55.7 -10
comp=Z,27nm,0.6s,baz=117,slow=23,SNR=2.0
SHEM LR LR 06 29 22.9
comp=Z,120nm,21.9s,baz=264,slow=34
JSD Sado 14.80 237 Pn **Pn 06 24 43.7 +0.4**
KLR Kul'dur 14.90 285 P **Pn 06 24 45.8 +1.3**
comp=Z,3.0nm,0.5s,baz=94,slow=12,SNR=12
KLR LR LR 06 30 41.2
comp=Z,332nm,18.9s,baz=96,slow=38
KLR Kul'dur 14.90 285 *ce*P **Pn 06 24 45.9 +1.5**
KLR pmax pmax
comp=Z,12nm,1.3s
KLR Kul'dur 14.90 285 *e*P **Pn 06 24 45.9 +1.5**
USRK Ussuriysk Ar. 15.64 266 P **Pn 06 24 51.9 -2.1**
comp=Z,0.7nm,0.3s,baz=81,slow=12,SNR=3.0
comp=Z,2.2nm,0.4s
USRK Ussuriysk Ar. 15.64 266 Pn **Pn 06 24 51.6 -2.4**
SEY Seymchan 15.65 357 P **P 06 24 56.8 -0.6**
comp=Z,4.8nm,0.6s,baz=165,slow=12,SNR=8.7
MAJO Matsushiro 15.90 233 Pn **Pn 06 24 56.4 -1.1**
MAJO Matsushiro 15.90 233 *i* P **Pn 06 24 57.9 +0.5**
MJAR Matsushiro Arr 15.90 233 P **Pn 06 24 56.0 -1.4**
comp=Z,0.1nm,0.3s,baz=41,slow=12,SNR=12
comp=Z,5.0nm,0.7s
MDJ Mudanjiang 17.14 270 P **P 06 25 14.3 +0.3**
MDJ pmax pmax
comp=Z,19nm,1.3s
MDJ pmax pmax
comp=Z,220nm,5.0s
MDJ LR LR
comp=Z,360nm,20.6s
MDJ LR LR
comp=Z,410nm,18.4s
JHJ Hachijo jima 2 17.82 222 P **Pn 06 25 20.2 -1.2**
comp=Z,42nm,0.5s,baz=35,slow=19,SNR=1.6
ZEA Zeya 18.08 301 *e*P **Pn 06 25 26.9 +2.6**
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=Z,300nm,13.0s
ZEA Zeya 18.08 301 *e*P **Pn 06 25 26.9 +2.6**
BNX BinXian 18.31 275⇑ P **Pn 06 25 29.0 +1.7**
BNX pmax pmax
comp=Z,4.0nm,0.5s
BNX pmax pmax
comp=Z,150nm,4.4s
JHS Saijyo 19.88 239 P **P 06 25 43.8 -0.4**
YAK Yakutsk 20.15 326 LR LR 06 33 13.4
comp=Z,155nm,20.3s,baz=89,slow=36
YAK Yakutsk 20.15 326 *ce*P Pn 06 25 49.4 +0.4
YAK pmax pmax
comp=Z,30nm,0.7s
YAK Yakutsk 20.15 326 *e*P Pn 06 25 49.4 +0.4
CN2 Changchun 20.22 270 *e*P Pn 06 25 54.1 +4.1
CN2 S **S 06 29 27.8 -4.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,400nm,15.0s
SEHB SEOHWA 20.85 254 P **P 06 25 54.9 +0.3**
KSRS Korea Array 21.53 252 P **P 06 26 02.1 +0.3**
comp=Z,9.0nm,0.7s,baz=61,slow=10.0,SNR=57
KSRS LR LR 06 33 13.2
comp=Z,123nm,20.0s,baz=50,slow=33
comp=Z,9.0nm,0.7s
KS19 Wonju Array Si 21.54 252 P **P 06 26 01.7 -0.3**
KSAR Wonju Array Be 21.56 252 P **P 06 26 01.4 -0.8**
KSAR Wonju Array Be 21.56 252 P **P 06 26 01.4 -0.8**
BILL Bilibino 21.69 13⇑ *e*P **P 06 26 06.2 +2.9**
BILL *e* 06 26 21.3
BILL pmax pmax
comp=Z,8.0nm,0.5s
BILL MLR MLR
comp=Z,218nm,20.0s
BILL Bilibino 21.69 13 *e*P **P 06 26 06.2 +2.9**
KSCHJ Chungju 21.84 251 P **P 06 26 04.9 -0.3**
KSCHJ IAmb IAmb 06 26 06.9
comp=Z,19nm,0.7s
INCN Inchon 22.35 254 P **P 06 26 11.6 +0.9**
INCN IAmb IAmb 06 26 16.1
comp=Z,41nm,1.1s
INCN Inchon 22.35 254 P **P 06 26 11.6 +0.9**
INCN pmax pmax
comp=Z,41nm,1.1s
TJN Taejon 22.53 251 *ce*P **P 06 26 12.4 -0.2**
XLT XiLinHaoTe 26.54 277 *e*P **P 06 26 54.3 +4.2**
XLT pmax pmax
comp=Z,18nm,0.8s
XLT pmax pmax
comp=Z,170nm,4.8s
TIXI Tiksi 27.07 343 LR LR 06 38 33.5
comp=Z,90nm,19.0s,baz=178,slow=38
H11N2 WAKE ISLAND Hy 29.49 155 T T 06 58 25.6
baz=344
H11N1 WAKE ISLAND Hy 29.51 155 T T 06 58 33.0
baz=344
H11N3 WAKE ISLAND Hy 29.51 155 T T 06 58 32.0
baz=344
N16K Nishlik Lake 30.07 47 P **P 06 27 21.9 +0.7**
baz=266
P16K Nushagak River 30.39 49 P **P 06 27 25.2 +1.2**
baz=269
H11S1 WAKE ISLAND Hy 30.60 156 T T 06 59 54.2
baz=342
H11S3 WAKE ISLAND Hy 30.61 156 T T 06 59 33.8
baz=342
H11S2 WAKE ISLAND Hy 30.61 156 T T 06 59 56.5
baz=342
NJ2 Nanjing 30.73 253 *e*P **P 06 27 28.4 +1.1**
NJ2 pmax pmax
comp=Z,13nm,0.6s
HHC Hu-ho-hao-te 30.83 274 *e*P **P 06 27 29.3 +1.0**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,370nm,5.4s
O17K Koliganek Bris 30.87 48 P **P 06 27 29.1 +0.9**
baz=269
N18K Kilae Creek 31.50 46 P **P 06 27 34.4 +0.6**
baz=268
SONM Songino Array 31.69 289 P **P 06 27 34.2 -1.6**
comp=Z,1.1nm,0.8s,baz=66,slow=8.2,SNR=5.7
SONM LR LR 06 41 05.6
comp=Z,158nm,19.7s,baz=58,slow=38
comp=Z,1.1nm,0.8s
P18K Big Mountain, 31.81 49 P **P 06 27 37.5 +0.9**
baz=271
O18K Koktuh Hills 31.82 48 P **P 06 27 37.9 +1.2**
baz=270
L19K White Mountain 32.07 44 P **P 06 27 40.7 +1.9**
baz=267
N19K Bonanza Creek 32.19 46 P **P 06 27 40.7 +0.7**
baz=269
M19K Big River Lodg 32.27 44 P **P 06 27 41.7 +1.1**
baz=268
K20K Telida 32.51 41 P **P 06 27 44.6 +1.9**
K20K Telida 32.51 41 P **P 06 27 44.1 +1.5**
baz=266
L20K Farewell, AK 32.54 43 P **P 06 27 43.3 +0.3**
baz=267
J20K Nowinta River 32.55 40 P **P 06 27 44.5 +1.4**
J20K IAmb IAmb 06 27 50.4
comp=Z,10nm,1.4s
J20K Nowinta River 32.55 40 P **P 06 27 43.2 +0.2**
baz=264
M20K Styx River 32.86 44 P **P 06 27 46.4 +0.5**
baz=269
OHAK Old Harbor 32.95 53 P **P 06 27 47.6 +1.0**
baz=276
G21K Allakaket 33.12 36 P **P 06 27 48.5 +0.5**
baz=261
F21K Alatna River 33.25 34 P **P 06 27 49.1 0.0**
baz=260
KDAK Kodiak Island 33.28 52 P **P 06 27 49.3 -0.2**
comp=Z,7.3nm,0.7s,baz=325,slow=2.6,SNR=14
KDAK LR LR 06 40 54.9
comp=Z,130nm,21.8s,baz=266,slow=35
comp=Z,7.3nm,0.7s
KDAK Kodiak Island 33.28 52 P **P 06 27 49.0 -0.4**
KDAK IAmb IAmb 06 27 52.3
comp=Z,9.5nm,0.8s
KDAK Kodiak Island 33.28 52 P **P 06 27 49.2 -0.2**
baz=276
H21K Melozitna Rive 33.29 37 P **P 06 27 50.2 +0.7**
H21K Melozitna Rive 33.29 37 P **P 06 27 50.1 +0.6**
baz=263
N20K Mount Spurr 33.30 45 P **P 06 27 49.3 -0.4**
baz=271
SPCR Spurr Chakacha 33.30 45 P **P 06 27 49.3 -0.4**
baz=271
I21K Tanana 33.58 38 P **P 06 27 53.5 +1.5**
I21K IAmb IAmb 06 27 56.6
comp=Z,7.3nm,0.8s
I21K Tanana 33.58 38 P **P 06 27 53.2 +1.3**
baz=265
SKT Skwentna 33.62 44 P **P 06 27 53.5 +1.1**
SKT IAmb IAmb 06 27 57.1
comp=Z,5.9nm,0.9s
SKT Skwentna 33.62 44 P **P 06 27 52.8 +0.4**
baz=270
F22K Jan River 33.80 34 P **P 06 27 54.9 +1.1**
baz=261
H22K Ishtalitna Cre 33.90 37 P **P 06 27 55.5 +0.7**
baz=264
BPAW Bear Paw Mtn. 33.93 40 P **P 06 27 56.1 +1.1**
BPAW IAmb IAmb 06 28 00.1
comp=Z,7.4nm,1.0s
BPAW Bear Paw Mtn. 33.93 40 P **P 06 27 56.3 +1.2**
baz=268
G22K Bettles 33.97 35 P **P 06 27 56.6 +1.3**
baz=263
SUA Susitna One 34.00 45 P **P 06 27 57.0 +1.2**
baz=272
E22K Anaktuvuk Pass 34.04 33 P **P 06 27 56.4 +0.4**
baz=261
MLY Manley 34.09 39 P **P 06 27 59.0 +2.5**
MLY Manley 34.09 39 P **P 06 27 58.3 +1.8**
baz=266
TRF Thorofare Moun 34.21 41 IAmb IAmb 06 28 02.3
comp=Z,7.6nm,0.8s
TRF Thorofare Moun 34.21 41 P **P 06 27 58.7 +1.0**
baz=269
M22K Willow 34.29 44 P **P 06 27 59.1 +0.9**
baz=272
RC01 Rabbit Creek A 34.50 46 P **P 06 28 01.4 +1.4**
baz=273
COLD Coldfoot 34.52 35 P **P 06 28 02.0 +2.0**
COLD IAmb IAmb 06 28 04.4
comp=Z,4.7nm,0.7s
COLD Coldfoot 34.52 35 P **P 06 28 01.6 +1.5**
baz=264
G23K Bananza Creek 34.53 36 P **P 06 28 01.0 +0.7**
baz=265
H23K Yukon River 34.65 37 P **P 06 28 01.8 +0.5**
baz=266
PMR Palmer 34.77 45 IAmb IAmb 06 28 06.6
comp=Z,11nm,1.1s
PMR Palmer 34.77 45 P **P 06 28 02.9 +0.6**
baz=273
NEA2 Nenana 34.78 39 P **P 06 28 03.2 +0.8**
baz=268,SNR=14
MCK McKinley 34.82 41 P **P 06 28 03.3 +0.5**
baz=270
E23K Chandalar 34.84 33 P **P 06 28 03.9 +0.9**
baz=263
RND Reindeer 34.86 41 P **P 06 28 03.7 +0.5**
RND IAmb IAmb 06 28 06.8
comp=Z,8.3nm,0.8s
RND Reindeer 34.86 41 P **P 06 28 03.7 +0.5**
RND pmax pmax
comp=Z,8.0nm,0.8s
TOLK Toolik Lake Re 34.94 32 P **P 06 28 04.8 +1.1**
baz=262
KNK Knik Glacier 35.10 45 P **P 06 28 05.8 +0.6**
baz=274
SML Sawmill 35.14 44 P **P 06 28 06.5 +0.9**
SML Sawmill 35.14 44 P **P 06 28 06.5 +0.9**
SML pmax pmax
comp=Z,30nm,0.8s
SML Sawmill 35.14 44 P **P 06 28 06.1 +0.6**
baz=273,SNR=12
MDM Murphy Dome 35.15 39 IAmb IAmb 06 28 10.1
comp=Z,9.9nm,0.8s
PWL Port Wells 35.20 46 P **P 06 28 06.6 +0.5**
baz=274
WRH Wood River Hil 35.20 40 P **P 06 28 07.4 +1.4**
E24K Your Creek 35.26 33 P **P 06 28 07.2 +0.6**
baz=264
D24K Happy Valley 35.28 31 P **P 06 28 06.9 +0.3**
baz=262
TCOL CIGO, UAF Yank 35.31 39 P **P 06 28 07.7 +0.9**
baz=269
COLA College 35.31 39 P **P 06 28 08.2 +1.3**
COLA College 35.31 39 *i* P **P 06 28 08.6 +1.7**
COLA pmax pmax
comp=Z,15nm,0.7s
COLA College 35.31 39 P **P 06 28 07.6 +0.7**
baz=269
H24K Nodor Dome 35.33 37 IAmb IAmb 06 28 11.5
comp=Z,5.6nm,0.9s
H24K Noodor Dome 35.33 37 P **P 06 28 07.8 +0.6**
baz=268
WAT6 Susitna Watana 35.38 43 P **P 06 28 08.4 +0.6**
baz=273
M23K Glacier View 35.43 44 P **P 06 28 08.7 +0.7**
baz=274
F24K Squaw Lake 35.44 34 P **P 06 28 08.5 +0.4**
baz=266
POKR Poker Plat Res 35.49 38 P **P 06 28 09.1 +0.6**
baz=269
DHY Denali Highway 35.53 42 IAmb IAmb 06 28 12.4
comp=Z,7.0nm,0.9s
DHY Denali Highway 35.53 42 P **P 06 28 09.1 0.0**
baz=272
G24K Hadweenzic Riv 35.54 36 P **P 06 28 10.5 +1.6**
baz=267,SNR=11
SCM Sheep Creek Mo 35.62 44 P **P 06 28 10.4 +0.7**
baz=274
HDA Harding Lake 35.70 40 IAmb IAmb 06 28 14.4
comp=Z,8.4nm,0.7s
HDA Harding Lake 35.70 40 P **P 06 28 10.7 +0.5**
baz=271
ILAR Eielson Array 35.72 39 P **P 06 28 10.8 +0.4**
comp=Z,3.0nm,0.9s,baz=261,slow=6.8,SNR=18
comp=Z,3.0nm,0.9s
D25K Kavik River 36.16 31 P **P 06 28 14.8 +0.5**
baz=264
H25K Birch Creek 36.18 37 P **P 06 28 15.3 +1.0**
baz=269
K24K Donnelly Dome 36.23 41 P **P 06 28 15.1 +0.3**
baz=273
PRP Porcupine Dome 36.30 38 IAmb IAmb 06 28 20.5
comp=Z,8.1nm,0.8s
PRP Porcupine Dome 36.30 38 P **P 06 28 16.4 +0.8**
baz=270
F25K Christian Rive 36.30 34 P **P 06 28 16.4 +0.9**
baz=268
KLU Klutina 36.31 45 IAmb IAmb 06 28 35.7
comp=Z,19nm,1.3s
KLU Klutina 36.31 45 P **P 06 28 16.3 +0.7**
baz=276
E25K Arctic Village 36.36 33 P **P 06 28 16.7 +0.8**
baz=267
J25K Salcha River, 36.38 39 IAmb IAmb 06 28 19.6
comp=Z,5.8nm,0.8s
J25K Salcha River, 36.38 39 P **P 06 28 16.6 +0.5**
baz=272
FYU Fort Yukon 36.43 36 P **P 06 28 18.6 +2.2**
RIDG Independent Ri 36.64 41 IAmb IAmb 06 28 21.0
comp=Z,8.7nm,1.1s
RIDG Independent Ri 36.64 41 P **P 06 28 18.3 -0.1**
baz=274
F26K Sheenjek River 36.88 34 P **P 06 28 20.6 +0.2**
baz=269
N25K Chitina, Valde 36.93 44 P **P 06 28 21.7 +0.8**
baz=277
BMRM Bremner River 37.00 45 P **P 06 28 22.4 +1.0**
baz=277
G26K Porcupine Rive 37.01 35 P **P 06 28 23.5 +2.2**
baz=270,SNR=6.5
SCRK Sand Creek 37.01 40 P **P 06 28 21.6 0.0**
baz=274
C27K Jago River 37.12 31 P **P 06 28 22.8 +0.4**
baz=267
J26L Joseph Creek 37.16 39 P **P 06 28 23.4 +0.5**
baz=274
L26K Log Cabin Wild 37.37 42 IAmb IAmb 06 28 36.0
comp=Z,10nm,1.3s
L26K Log Cabin Wild 37.37 42 P **P 06 28 25.9 +1.3**
baz=276
M26K Nabesna, AK 37.59 43 IAmb IAmb 06 28 31.8
comp=Z,12nm,1.1s
M26K Nabesna, AK 37.59 43 P **P 06 28 28.1 +1.7**
baz=277,SNR=5.3
K27K Chicken 37.84 40 IAmb IAmb 06 28 33.2
comp=Z,9.4nm,0.8s
K27K Chicken 37.84 40 P **P 06 28 29.3 +0.9**
baz=276
E27K Coleen River 37.85 33 P **P 06 28 29.7 +1.2**
baz=270
H27K Steamboat Moun 37.92 37 P **P 06 28 30.8 +1.6**
baz=273
L27K Beaver Creek, 38.05 42 IAmb IAmb 06 28 35.7
comp=Z,17nm,1.4s
L27K Beaver Creek, 38.05 42 P **P 06 28 31.6 +1.3**
baz=277,SNR=9.1
M27K Edge Creek, AK 38.12 43 IAmb IAmb 06 28 36.4
comp=Z,10.0nm,1.1s
M27K Edge Creek, AK 38.12 43 P **P 06 28 32.2 +1.2**
baz=278
EGAK Eagle 38.17 39 P **P 06 28 31.6 +0.3**
EGAK Eagle 38.17 39 P **P 06 28 32.3 +1.1**
baz=275,SNR=14
LZH Lanzhou 38.45 272⇓ P **P 06 28 37.4 +3.3**
LZH pP sP 06 28 52.4 +0.3
LZH sP pwP 06 29 00.4 +11
LZH pmax pmax
comp=Z,23nm,1.5s
YUK3 Moose Creek 38.86 44 P **P 06 28 38.8 +1.4**
baz=280
DAWY Dawson 39.01 40 P **P 06 28 39.2 +0.9**
baz=278
O28M Mount Upton 39.16 45 P **P 06 28 41.0 +1.0**
baz=281
PINM Pinnacle 39.27 46 P **P 06 28 41.6 +1.1**
baz=282
I29M Ogilvie Camp, 39.32 38 IAmb IAmb 06 28 45.3
comp=Z,8.6nm,1.0s
I29M Ogilvie Camp, 39.32 38 P **P 06 28 42.1 +1.3**
baz=277,SNR=8.3
GTA Gaotai 39.45 279 *e*P **P 06 28 45.8 +3.4**
GTA pP sP 06 29 01.5 +1.0
GTA sP pwP 06 29 08.6 +11
GTA pmax pmax
comp=Z,6.0nm,0.7s
M29M Somme Creek 39.67 42 P **P 06 28 45.6 +1.6**
baz=280
L29M L29M 39.71 41 P **P 06 28 45.5 +1.3**
baz=280
YUK4 Talbot Arm 39.79 44 P **P 06 28 46.7 +1.7**
baz=282
EPYK Eagle Plains 39.85 36 IAmb IAmb 06 28 49.7
comp=Z,9.7nm,0.9s
EPYK Eagle Plains 39.85 36 P **P 06 28 47.0 +1.8**
baz=277,SNR=5.7
K29M Barlow Dome 39.86 40 P **P 06 28 47.0 +1.4**
baz=280
YUK6 Outpost Mounta 40.01 45 P **P 06 28 48.1 +1.2**
baz=282
O29M Mount Kennedy 40.04 46 P **P 06 28 48.6 +1.5**
baz=283
M30M Minto, Yukon 40.41 42 P **P 06 28 51.0 +1.0**
baz=282
HYT Haines Junctio 40.44 45 P **P 06 28 51.7 +1.3**
baz=283
N30M Aishikik Lake 40.50 44 P **P 06 28 52.3 +1.6**
baz=283
P29M Windy Craggy 40.60 46 P **P 06 28 53.2 +1.5**
baz=284
MAYO Mayo, Yukon 40.62 40 P **P 06 28 53.2 +1.5**
baz=281
INK Inuvik 40.84 33 P **P 06 28 53.5 +0.1**
comp=Z,4.9nm,0.8s,baz=286,slow=4.2,SNR=9.5
comp=Z,4.9nm,0.8s
INK Inuvik 40.84 33 P **P 06 28 55.4 +2.0**
INK Inuvik 40.84 33 P **P 06 28 55.4 +2.0**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 40.84 33 P **P 06 28 54.5 +1.2**
baz=278
P30M Million Dollar 40.87 46 P **P 06 28 54.9 +1.1**
baz=284
F31M Tsiigehtchic 40.87 34 P **P 06 28 54.5 +0.9**
baz=278
N31M Braeburn, Yuko 41.11 43 P **P 06 28 56.9 +1.1**
baz=284
O30N Mendenhall 41.13 45 P **P 06 28 57.5 +1.6**
baz=284
PLBC Pleasant Camp 41.33 46 P **P 06 28 58.5 +1.0**
baz=285
M31M Drury Creek, Y 41.59 42 P **P 06 29 00.6 +1.0**
baz=284
WHY Whitehorse 41.73 44 P **P 06 29 01.6 +0.7**
baz=285
FARO Faro, Yukon 42.05 42 P **P 06 29 04.5 +1.0**
baz=285
SIT Sitka 42.54 50 P **P 06 29 08.7 +1.3**
baz=289
R32K Eaglecrest 42.58 48 P **P 06 29 09.3 +1.6**
baz=288
ZALV Zalesovo Beam 42.74 306 P **P 06 29 06.6 -2.4**
comp=Z,3.2nm,0.6s,baz=66,slow=7.1,SNR=12
ZALV PcP **PcP 06 30 58.8 -1.0**
comp=Z,0.6nm,0.5s,baz=82,slow=3.1,SNR=1.9
comp=Z,3.2nm,0.6s
ZALV Zalesovo Beam 42.74 306 P **P 06 29 06.1 -2.9**
ZALV Zalesovo Beam 42.74 306 *i* P **P 06 29 09.8 +0.8**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
S32K Killisnoo 42.80 49 P **P 06 29 10.4 +1.0**
baz=289
DGZ Jazzator, Alta 42.82 299 *i* P **P 06 29 11.5 +1.5**

DGZ pmax pmax
comp=Z,6.0nm,2.0s
P33M Teslin, Yukon 42.84 45 P **P 06 29 11.5 +1.6**
baz=287
A36M Sachs Harbour 43.06 27 P **P 06 29 12.4 +1.0**
baz=281
R33M Jennings River 43.98 45 P **P 06 29 21.0 +1.9**
baz=289,SNR=9.0
C36M Paulatuk 44.02 30 P **P 06 29 20.0 +0.9**
baz=285
S34M Telegraph Cree 44.40 47 P **P 06 29 23.9 +1.5**
baz=290
GOMU GeErMu 44.51 278 P **P 06 29 21.5 -2.4**
GOMU pmax pmax
comp=Z,7.0nm,0.4s
GOMU pmax pmax
comp=Z,99nm,5.0s
DLBC Dease Lake 44.77 46 P **P 06 29 27.8 +2.4**
comp=Z,7.2nm,0.8s,baz=286,slow=12,SNR=14
DLBC LR LR 06 51 40.9
comp=Z,42nm,18.6s,baz=289,slow=41
comp=Z,7.2nm,0.8s
DLBC Dease Lake 44.77 46 IAmb IAmb 06 29 31.0
comp=Z,8.5nm,0.8s
DLBC Dease Lake 44.77 46 P **P 06 29 27.5 +2.2**
baz=291
V35K Ketchikan 45.09 51 P **P 06 29 29.1 +1.3**
baz=293
T35M Bob Quinn 45.18 48 P **P 06 29 30.0 +1.4**
baz=292
WMQ Urumqi 45.25 291 *e*P **P 06 29 30.6 +1.2**
WMQ LR LR
comp=Z,140nm,21.7s
PZH PanZhiHua 45.67 262 P **P 06 29 35.0 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,210nm,5.2s
KMI Kunming 45.92 260 ⇑P **P 06 29 35.3 +0.2**
KMI pmax pmax
comp=Z,12nm,0.9s
GRNB Grenville Isla 46.57 52 P **P 06 29 41.9 +2.4**
MK31 Makanchi Array 47.19 297 P **P 06 29 42.5 -2.1**
MK31 Makanchi Array 47.19 297 *i* P **P 06 29 42.6 -1.9**
MKAR Makanchi Array 47.19 297 P **P 06 29 42.5 -2.1**
comp=Z,2.2nm,0.8s,baz=65,slow=8.4,SNR=15
MKAR PcP **PcP 06 31 16.2 +0.9**
comp=Z,0.5nm,0.6s,baz=60,slow=3.5,SNR=1.5
MKAR LR LR 06 50 15.4
comp=Z,46nm,18.3s,baz=68,slow=37
comp=Z,2.2nm,0.8s
MKAR Makanchi Array 47.19 297 P **P 06 29 42.3 -2.2**
KURK Kurchatov 47.52 303 P **P 06 29 44.4 -2.6**
KURK IAmb IAmb 06 29 51.7
comp=Z,9.9nm,0.7s
KURK Kurchatov 47.52 303 *i* P **P 06 29 45.5 -1.5**
KURK pmax pmax
comp=Z,13nm,0.9s
KURK Kurchatov 47.52 303 *e*P **P 06 29 45.5 -1.5**
KURBB Kurchatov Arra 47.61 303 LR LR 06 51 01.0
comp=Z,163nm,19.4s,baz=23,slow=38
YKA Yellowknife Ar 50.10 37 P **P 06 30 07.6 +1.0**
comp=Z,3.3nm,0.7s,baz=294,slow=7.0,SNR=5.1
comp=Z,3.3nm,0.7s
YKA Yellowknife Ar 50.10 37 *i* P **P 06 30 08.0 +1.4**
YKA pmax pmax
comp=Z,3.0nm,0.7s
CRAI Chiangrai 50.87 257 P **P 06 30 14.0 +1.0**
CRAI IAmb IAmb 06 30 17.1
comp=Z,9.8nm,0.9s
BVAR Borovoye Array 50.93 309 LR LR 06 53 36.4
comp=Z,126nm,18.0s,baz=73,slow=38
BRVK Borovoye 50.97 309 *i* P **P 06 30 14.5 +1.2**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 50.97 309 *e*P **P 06 30 14.5 +1.2**
PHRA Phrae 52.19 256 P **P 06 30 23.4 +0.6**
LLLB Lillooet 52.47 53 IAmb IAmb 06 30 26.8
comp=Z,4.8nm,0.8s
CHTO Chiang Mai 52.82 257 P **P 06 30 27.8 +0.3**
CHTO Chiang Mai 52.82 257 P **P 06 30 27.8 +0.3**
CHTO pmax pmax
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 53.07 257 P **P 06 30 28.6 -0.8**
comp=Z,5.8nm,1.0s,baz=34,slow=6.9,SNR=13
CMAR LR LR 06 55 07.8
comp=Z,59nm,18.3s,baz=220,slow=38
comp=Z,5.8nm,1.0s
CMAR Chiang Mai Arr 53.07 257 *i* P **P 06 30 30.6 +1.2**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 54.09 296 LR LR 06 54 47.8
comp=Z,137nm,19.4s,baz=56,slow=37
AAK Ala-Archa 54.09 296 P **P 06 30 35.4 -1.4**
AAK Ala-Archa 54.09 296 *ce*P **P 06 30 37.7 +0.9**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 54.09 296 *e*P **P 06 30 37.7 +0.9**
NEEM North Greenlan 54.51 7 ⇑*i*P **P 06 30 37.8 -1.7**
NEEM IAmb IAmb 06 30 39.9
comp=Z,8.9nm,0.7s
TAPN Taplejung 54.64 273 *e*P **P 06 30 41.0 -0.1**
comp=Z,17nm,0.5s
ARU Arti 54.97 318 LR LR 06 56 23.9
comp=Z,121nm,18.1s,baz=65,slow=38
ARU Arti 54.97 318 *d i*P **P 06 30 41.7 -1.0**
ARU 06 32 41.8
ARU S **S 06 38 17.3 -3.3**
ARU pmax pmax
comp=Z,7.0nm,0.6s
B08A Colville Reser 55.09 54 IAmb IAmb 06 30 45.1
comp=Z,4.2nm,0.8s
JIRN Jiri 55.48 275 *e*P **P 06 30 47.3 +0.1**
comp=Z,58nm,0.7s
GUN Gumba 55.52 275 *e*P **P 06 30 47.7 +0.1**
comp=Z,22nm,0.4s
RAMN Ramite 55.66 274 *e*P **P 06 30 48.3 -0.1**
comp=Z,67nm,0.7s
G05D Wamic, OR 55.73 58 P **P 06 30 49.3 +0.9**
baz=305
K02D Willamette Mer 55.81 62 P **P 06 30 50.2 +1.0**
baz=306
I04A Tendick Farm, 55.93 60 P **P 06 30 51.1 +1.3**
baz=306
C09A Chrisman Ranch 55.99 54 IAmb IAmb 06 30 54.0
comp=Z,5.0nm,0.7s
PKI Pulchoki 56.06 275 *e*P **P 06 30 51.1 -0.3**
comp=Z,16nm,0.5s
PKIN Phulchoki 56.07 275 *e*P **P 06 30 51.2 -0.1**
comp=Z,17nm,0.5s
L02F Cave Junction 56.20 63 P **P 06 30 53.3 +1.5**
baz=306
KKAR Karatay Array 56.22 299 P **P 06 30 49.8 -2.1**
KKAR Karatay Array 56.22 299 P **P 06 30 49.8 -2.1**
KKAR Karatay Array 56.22 299 P **P 06 30 49.8 -2.1**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
I05D Terrebonne, OR 56.24 59 P **P 06 30 53.2 +1.1**
baz=306
DMN Daman 56.24 275 *e*P **P 06 30 52.9 +0.3**
comp=Z,43nm,0.6s
GKN Gorkha 56.31 276 *e*P **P 06 30 52.9 0.0**
comp=Z,34nm,0.5s
NEW Newport 56.35 53 P **P 06 30 52.4 -0.4**
comp=Z,1.8nm,0.7s,baz=19,slow=7.4,SNR=3.8
comp=Z,1.8nm,0.7s
NEW Newport 56.35 53 P **P 06 30 53.1 +0.2**
baz=306
J04D Umpqua Nationa 56.43 61 P **P 06 30 54.6 +1.0**
baz=306
DANN Dangsing 56.68 277 *e*P **P 06 30 56.0 +0.3**
comp=Z,58nm,0.8s
PINE Pine Mountain 56.79 60 IAmb IAmb 06 31 01.8
comp=Z,8.7nm,0.9s
E09A Wood Farm, Sta 56.80 56 P **P 06 30 56.7 +0.7**
E09A IAmb IAmb 06 31 00.1
comp=Z,5.9nm,0.8s
L04D Klamath Falls 56.91 62 P **P 06 30 58.1 +1.1**
baz=306
J05D Fort Rock, OR 56.92 60 P **P 06 30 58.5 +1.5**
baz=306
YBH Yreka Blue Hor 56.95 62 LR LR 06 51 08.4
comp=Z,36nm,21.6s,baz=297,slow=31
PYUN Piuthan 57.36 277 *e*P **P 06 31 00.4 0.0**
comp=Z,55nm,1.0s
ARCES ARCESS Array B 57.48 341 P **P 06 30 58.9 -1.5**
comp=Z,1.4nm,0.7s,baz=24,slow=9.0,SNR=1.9
ARCES LR LR 06 58 51.9
comp=Z,66nm,20.0s,baz=66,slow=39
comp=Z,1.4nm,0.7s
WALA Waterton Lakes 57.62 51 P **P 06 31 03.0 +1.2**
KIRV Kirov 57.65 323 LR LR 06 56 58.8
comp=Z,84nm,20.8s,baz=75,slow=37
JTMT Jette 58.20 53 IAmb IAmb 06 31 12.0
comp=Z,8.1nm,0.8s
BMO Blue Mountains 58.26 57 IAmb IAmb 06 31 10.9
comp=Z,4.5nm,0.8s
ABKAR Akbulak array 58.49 310 P **P 06 31 05.8 -2.0**
ABKAR IAmb IAmb 06 31 09.2
comp=Z,4.0nm,1.0s
AKTO Aktyubinsk 58.76 312 LR LR 06 58 46.4
comp=Z,120nm,18.6s,baz=62,slow=38
MSO Missoula 58.94 53 P **P 06 31 12.1 +1.0**
MSO IAmb IAmb 06 31 13.3
comp=Z,6.3nm,1.1s
MSO Missoula 58.94 53 P **P 06 31 12.0 +1.0**
baz=308,SNR=5.3
WVOR Wild Horse Val 58.96 60 IAmb IAmb 06 31 26.4
comp=Z,4.8nm,1.1s
SUMG Summit 60.07 4 P **P 06 31 17.2 -1.5**
SUMG Summit 60.07 4 P **P 06 31 17.3 -1.5**
SUMG pmax pmax
comp=Z,20nm,1.1s
SUMG Summit 60.07 4 *i* P **P 06 31 18.6 -0.2**
SUMG IAmb IAmb 06 31 20.4
comp=Z,13nm,0.8s
EGMT Eagleton 60.43 50 P **P 06 31 22.4 +1.1**
baz=309,SNR=5.4
PNTR Pine Nut 60.45 63 IAmb IAmb 06 31 24.0
comp=Z,3.2nm,0.8s
HLID Hailey 60.70 56 P **P 06 31 23.9 +0.6**
HLID Hailey 60.70 56 P **P 06 31 24.4 +1.0**
baz=309
BOZ Bozeman (W) 60.97 53 IAmb IAmb 06 31 29.6
comp=Z,7.9nm,0.9s
BOZ Bozeman (W) 60.97 53 P **P 06 31 26.3 +1.2**
baz=310,SNR=14
NVAR Mina Array Bea 61.65 63 P **P 06 31 30.9 +1.1**
comp=Z,1.1nm,0.7s,baz=295,slow=7.2,SNR=10
comp=Z,1.1nm,0.7s
YHL Hebgen Lake 61.68 54 IAmb IAmb 06 31 34.8
comp=Z,4.2nm,0.8s
YHH Holmes Hill 61.90 54 IAmb IAmb 06 31 36.6
comp=Z,5.1nm,0.8s
YFT Old Faithful 62.13 54 IAmb IAmb 06 31 40.4
comp=Z,5.6nm,0.8s
H17A Grant Village 62.31 54 P **P 06 31 36.7 +2.4**
H17A IAmb IAmb 06 31 38.3
comp=Z,6.5nm,1.0s
H17A Grant Village 62.31 54 P **P 06 31 35.0 +0.7**
baz=310
KBL Kabul 62.39 292 P **P 06 31 32.8 -2.1**
KBL IAmb IAmb 06 31 34.4
comp=Z,6.2nm,0.8s
KBL Kabul 62.39 292 P **P 06 31 32.8 -2.1**
KBL pmax pmax
comp=Z,6.0nm,0.8s
IMW Indian Meadow 62.43 54 IAmb IAmb 06 31 48.4
comp=Z,4.3nm,0.9s
BELG Belogornoye 62.48 318 LR LR 07 01 44.2
comp=Z,53nm,20.0s,baz=183,slow=39
BELG Belogornoye 62.48 318 *i* P **P 06 31 37.4 +2.5**
BELG pmax pmax
comp=Z,2.0nm,0.7s
RLMT Red Lodge 62.55 52 IAmb IAmb 06 31 41.4
comp=Z,7.0nm,0.8s
RLMT Red Lodge 62.55 52 P **P 06 31 37.0 +1.2**
baz=311,SNR=6.4
MOOW Moose Ponds 62.63 54 P **P 06 31 38.2 +1.8**
TPAW Teton Pass 62.69 55 IAmb IAmb 06 31 41.5
comp=Z,7.5nm,0.8s
LOHW Long Hollow 62.80 54 IAmb IAmb 06 31 43.1
comp=Z,7.3nm,1.4s
SNOW Snow King Moun 62.81 55 P **P 06 31 38.9 +1.3**
SNOW IAmb IAmb 06 31 40.7
comp=Z,4.5nm,0.8s
REDW Red Top Meadow 62.82 55 IAmb IAmb 06 31 42.7
comp=Z,5.7nm,0.8s
DGMT Dagmar 62.98 47 P **P 06 31 39.1 +0.7**
baz=312
CWC Cottonwood Cre 63.06 65 P **P 06 31 40.4 +1.1**
baz=311
AHID Auburn Hatcher 63.07 55 IAmb IAmb 06 31 43.7
comp=Z,3.8nm,0.8s
LAO LAA Array 63.13 50 P **P 06 31 40.9 +1.4**
baz=312
GRAC Grapevine Rang 63.13 64 P **P 06 31 40.2 +0.6**
baz=311
R11A Troy Canyon, C 63.34 62 P **P 06 31 42.1 +1.0**
baz=311
ICESG Greenland Ices 63.45 5 *e*P **P 06 31 41.3 -0.2**
HWUT Hardware Ranch 63.56 57 P **P 06 31 42.8 +0.3**
HWUT IAmb IAmb 06 31 47.7
comp=Z,3.7nm,0.8s
SPR3 Spring Creek 3 63.66 60 IAmb IAmb 06 31 46.1
comp=Z,2.3nm,0.8s
MPMC Manual Prospec 63.67 65 P **P 06 31 44.2 +0.9**
baz=311
FINES FINESS Array B 63.75 335 P **P 06 31 41.9 -1.3**
comp=Z,6.0nm,0.6s,baz=35,slow=7.8,SNR=47
FINES LR LR 07 03 17.9
comp=Z,99nm,19.0s,baz=31,slow=40
comp=Z,6.0nm,0.6s
DUG Dugway, Tooele 63.77 58 P **P 06 31 45.5 +1.6**
DUG pmax pmax
comp=Z,6.0nm,1.3s
DUG Dugway, Tooele 63.77 58 P **P 06 31 44.7 +0.8**
baz=311
FURC Furnace Creek, 63.78 64 P **P 06 31 44.9 +1.1**
baz=311
TPNV Topopah Spring 63.84 63 P **P 06 31 45.1 +0.6**
baz=311
LRMC Laurel Mtn Rad 63.92 65 P **P 06 31 45.5 +0.5**
baz=311
BW06 Boulder Array 63.93 55 IAmb IAmb 06 31 49.6
comp=Z,6.7nm,0.9s
BW06 Boulder Array 63.93 55 P **P 06 31 45.5 +0.4**
baz=312,SNR=9.8
PD31 Pinedale Array 63.93 55 IAmb IAmb 06 31 49.6
comp=Z,6.1nm,0.9s
PDAR Pinedale Array 63.93 55 P **P 06 31 45.7 +0.7**
comp=Z,4.8nm,0.8s,baz=306,slow=1.8,SNR=32
comp=Z,4.8nm,0.8s
PDAR Pinedale Array 63.93 55 P **P 06 31 45.5 +0.5**
EDW2 Edwards Air Fo 64.12 66 P **P 06 31 46.9 +0.7**
baz=311
SHOC Shoshone, Teco 64.52 64 P **P 06 31 48.5 -0.2**
baz=311
GSC Goldstone, Bar 64.58 65 P **P 06 31 49.6 +0.4**
baz=312
BFSC Mount Baldy Ra 64.75 66 P **P 06 31 50.8 +0.4**
baz=312
TUQ Turquoise Moun 65.03 64 P **P 06 31 52.6 +0.4**
baz=312
HEC Hector,Ludlow 65.18 65 P **P 06 31 53.6 +0.5**
baz=312
LCMT Little Creek M 65.61 61 P **P 06 31 57.5 +1.6**
MDND Maddock 65.65 45 P **P 06 31 56.2 +0.3**
baz=315
K22A Casper 65.67 53 IAmb IAmb 06 32 00.9
comp=Z,5.3nm,0.8s
K22A Casper 65.67 53 P **P 06 31 56.7 +0.5**
baz=313
ULM Lac du Bonnet 65.69 41 P **P 06 31 56.6 +0.5**
comp=Z,3.5nm,0.8s,baz=322,slow=9.7,SNR=4.1
comp=Z,3.5nm,0.8s
SRU San Rafael Swe 65.81 58 IAmb IAmb 06 32 01.8
comp=Z,7.9nm,0.8s
KNB Kanab 65.86 61 IAmb IAmb 06 32 00.6
comp=Z,4.6nm,0.9s
RSSD Black Hills 66.00 50 P **P 06 31 58.9 +0.5**
RSSD Black Hills 66.00 50 P **P 06 31 58.9 +0.5**
RSSD pmax pmax
comp=Z,10.0nm,0.7s
RSSD Black Hills 66.00 50 P **P 06 31 59.0 +0.5**
baz=314
IRM Iron Mountain 66.36 65 P **P 06 32 01.2 +0.5**
baz=312
MONP2 Monument Peak 66.42 67 P **P 06 32 01.9 +0.7**
O20A White River Ci 66.42 56 P **P 06 32 01.6 +0.4**
baz=313
IKP In-Ko-Pah, Jac 66.77 67 P **P 06 32 04.4 +1.1**
baz=313
GEYT Alibeck 66.80 301 P **P 06 32 02.6 -0.8**
comp=Z,1.6nm,0.4s,baz=349,slow=6.0,SNR=4.8
GEYT LR LR 07 02 40.3
comp=Z,68nm,19.4s,baz=102,slow=37
comp=Z,1.6nm,0.4s
AGMN Agassiz Nation 67.10 43 P **P 06 32 05.1 0.0**
baz=316
N23A Red Feather La 67.19 54 IAmb IAmb 06 32 08.0
comp=Z,4.7nm,0.9s
N23A Red Feather La 67.19 54 P **P 06 32 06.8 +0.7**
baz=314
GLA Glamis 67.30 66 P **P 06 32 06.8 +0.2**
baz=313
PV13 Radium Mtn., P 67.44 58 IAmb IAmb 06 32 11.8
comp=Z,6.2nm,0.8s
PV15 Paradox Valley 67.51 58 IAmb IAmb 06 32 12.2
comp=Z,5.7nm,1.0s
NC405 NORSAR Array S 67.68 341 P **P 06 32 08.0 -0.5**
NC405 IAmb IAmb 06 32 09.2
comp=Z,11nm,0.8s
SMCO Snowmass 67.79 56 P **P 06 32 11.0 +0.9**
SMCO IAmb IAmb 06 32 12.0
comp=Z,4.5nm,0.8s
NB201 NORSAR Array S 67.83 341 IAmb IAmb 06 32 11.7
comp=Z,13nm,0.9s
NB2 NORSAR Subarra 67.85 341 P **P 06 32 09.0 -0.7**
comp=Z,7.5nm,1.0s,baz=25,slow=6.2
NOA NORSAR Array B 67.85 341 P **P 06 32 09.2 -0.4**
comp=Z,2.7nm,0.7s,baz=26,slow=6.4,SNR=14
comp=Z,2.7nm,0.7s
B35A Bob, Littlefor 68.03 42 IAmb IAmb 06 32 13.8
comp=Z,19nm,1.4s
HFS Hagfors 68.10 340 LR LR 07 04 50.4
comp=Z,63nm,19.6s,baz=23,slow=38
ISCO Idaho Springs 68.12 55 P **P 06 32 11.8 -0.3**
ISCO pmax pmax
comp=Z,7.0nm,0.7s
ISCO Idaho Springs 68.12 55 P **P 06 32 13.0 +0.9**
baz=314,SNR=7.9
AFI Afiamalu 68.24 144 LR LR 06 56 38.8
comp=Z,40nm,20.1s,baz=128,slow=31
MVCO Mesa Verde 68.27 58 IAmb IAmb 06 32 27.7
comp=Z,7.3nm,1.2s
MVCO Mesa Verde 68.27 58 P **P 06 32 13.2 +0.3**
baz=314
SUSD Miller 68.38 47 P **P 06 32 13.6 +0.4**
baz=316
F33A 5 Mile Ranch, 68.68 45 IAmb IAmb 06 32 18.5
comp=Z,9.9nm,0.8s
S22A 4UR Ranch, Cre 68.86 57 P **P 06 32 17.4 +0.7**
baz=314
WRA Warramunga Arr 69.26 200 P **P 06 32 17.7 -1.1**
comp=Z,0.6nm,0.8s,baz=18,slow=6.6,SNR=7.3
comp=Z,0.6nm,0.8s
OGNE Ogallala 69.27 52 P **P 06 32 19.7 +0.8**
baz=315
214A Organ Pipe Nat 69.29 65 P **P 06 32 20.1 +1.0**
baz=314
EYMN Ely 69.34 41 P **P 06 32 19.8 +0.6**
baz=319
KONO Kongsberg 69.46 342 *ce*P **P 06 32 22.7 +3.1**
KONO pmax pmax
comp=Z,18nm,2.5s
SDCO Great Sand Dun 69.62 56 P **P 06 32 22.3 +1.0**
baz=315
ECSD EROS Data Cent 70.06 47 P **P 06 32 24.6 +1.0**
baz=317
TUC Tucson 70.29 64 P **P 06 32 25.9 +0.6**
baz=314
KSCO Kaye Shedlock' 70.32 54 P **P 06 32 26.2 +0.8**
baz=316
T25A Trinidad 70.66 56 P **P 06 32 28.3 +0.6**
baz=315
SPMN Marine on St. 70.79 43 IAmb IAmb 06 32 31.3
comp=Z,9.9nm,0.9s
SPMN Marine on St. 70.79 43 P **P 06 32 28.6 +0.6**
baz=319
KIV Kislovodsk 70.80 315 *i* P **P 06 32 29.6 +1.4**
KIV *i* 06 32 46.5
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,81nm,19.0s
KIV Kislovodsk 70.80 315 *e*P **P 06 32 29.6 +1.4**
KBZ Khabaz 70.86 314 P **P 06 32 27.7 -0.7**
comp=Z,2.3nm,0.6s,baz=59,slow=1.2,SNR=6.8
KBZ LR LR 07 07 11.4
comp=Z,91nm,20.0s,baz=41,slow=39
comp=Z,2.3nm,0.6s
KBZ Khabaz 70.86 314 *ce*P **P 06 32 28.9 +0.5**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.86 314 *e*P **P 06 32 28.9 +0.5**
ANMO Albuquerque 71.03 59 P **P 06 32 30.2 +0.3**
ANMO Albuquerque 71.03 59 *ce*P **P 06 32 30.7 +0.8**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 71.03 59 P **P 06 32 31.0 +1.1**
baz=315
ZEI Tsey 71.06 313 *e*P **P 06 32 29.2 -0.8**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 71.37 327 P **P 06 32 30.1 -1.3**
comp=Z,3.4nm,0.4s,baz=34,slow=6.1,SNR=19
AKASG LR LR 07 06 16.1
comp=Z,54nm,18.4s,baz=56,slow=38
comp=Z,3.4nm,0.4s
AKASG Malin Array Be 71.37 327 *i* P **P 06 32 30.6 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 71.37 327 P **P 06 32 29.9 -1.5**
AKBB IAmb IAmb 06 32 31.1
comp=Z,7.2nm,0.7s
AKBB Malin Array Si 71.37 327 *i* P **P 06 32 30.6 -0.8**
KIEV Kiev 71.39 327 P **P 06 32 30.0 -1.5**
319A Douglas 71.86 63 IAmb IAmb 06 32 39.6
comp=Z,9.3nm,1.0s
G40A Rib Lake 71.95 42 IAmb IAmb 06 32 38.5
comp=Z,6.9nm,0.8s
GNI Garni 72.59 311 LR LR 07 08 27.1
comp=Z,98nm,18.4s,baz=62,slow=39
I40A Norwalk 72.82 43 IAmb IAmb 06 32 43.3
comp=Z,11nm,0.8s
ASAR Alice Springs 72.96 199 P **P 06 32 41.6 +0.5**
comp=Z,2.0nm,0.8s,baz=9.8,slow=5.6,SNR=16
comp=Z,2.0nm,0.8s
SCIA State Center 73.09 46 P **P 06 32 42.5 +0.7**
baz=319
KSU1 Kansas State U 73.47 50 IAmb IAmb 06 32 46.4
comp=Z,9.7nm,0.9s
KSU1 Kansas State U 73.47 50 P **P 06 32 44.3 +0.1**
baz=318
JFWS Jewell Farm 73.74 44 P **P 06 32 45.1 -0.5**
baz=321
AMTX Amarillo 73.81 56 P **P 06 32 46.5 +0.1**
baz=317
MSTX Muleshoe 73.86 57 P **P 06 32 47.5 +0.8**
baz=317
MNTX Cornudas Mount 73.97 61 P **P 06 32 48.3 +1.1**
baz=316
KMPD K-Podol'skiy 74.16 327 P **P 06 32 47.0 -1.0**
P38A Dawn 74.65 48 IAmb IAmb 06 32 54.6
comp=Z,9.4nm,0.8s
GLMI Grayling 74.77 39 P **P 06 32 51.8 +0.1**
baz=323
OJC Ojcow 75.08 332 *e*P **P 06 32 52.0 -1.3**
OJC Ojcow 75.08 332 P **P 06 32 52.0 -1.3**
OJC IAmb IAmb 06 32 52.7
comp=Z,9.4nm,0.7s
OJC Ojcow 75.08 332 P **P 06 32 52.0 -1.3**
OJC pmax pmax
comp=Z,9.0nm,0.7s
KOLS Kolonicke sedl 75.35 329 *e*P **P 06 32 55.0 +0.1**
KOLS pmax pmax
comp=Z,10.0nm,0.7s
KOLS Kolonicke sedl 75.35 329 *e*P **P 06 32 55.0 +0.1**
BUR08 Bucovina Ar. S 75.39 327 IAmb IAmb 06 32 57.8
comp=Z,9.9nm,0.7s
BURAR Bucovina Array 75.41 327 ⇓P **P 06 32 55.2 -0.2**
BURAR Bucovina Array 75.41 327 IAmb IAmb 06 32 56.1
comp=Z,8.8nm,0.7s
BURAR Bucovina Array 75.41 327 ⇓P **P 06 32 55.2 -0.2**
P40A Paris 75.47 47 IAmb IAmb 06 32 59.5
comp=Z,11nm,0.9s
WMOK Wichita Mounta 75.54 54 P **P 06 32 57.0 +0.7**
baz=318
UZH Uzhgorod 75.60 329 *e*P **P 06 32 56.6 +0.3**
UZH *e* 06 33 12.3

UZH				*e*			06 33 15.7	
BIZ	**Bicaz**	**75.64**	**326**	⇑P		**P**	**06 32 56.5**	**-0.1**
CRVS	**Cervenica-Dubn**	**75.66**	**330**	*eP*		**P**	**06 32 56.7**	**0.0**
CRVS	**Cervenica-Dubn**	**75.66**	**330**	*eP*		**P**	**06 32 56.7**	**0.0**
OK034	**N. Norfolk Rd.**	**75.72**	**52**	IAmb	IAmb		06 33 01.0	
	comp=Z,9.1nm,0.6s							
TESR	**Tescani**	**75.79**	**325**	⇑P		**P**	**06 32 56.9**	**-0.5**
EKA	**Eskdalemuir Ar**	**75.90**	**347**	P		**P**	**06 32 57.5**	**-0.4**
FNO	**Franklin**	**75.91**	**53**	IAmb	IAmb		06 33 02.5	
	comp=Z,12nm,0.7s							
TRPA	**Tarpa**	**75.94**	**329**	⇑P		**P**	**06 32 58.8**	**+0.6**
J47A	**Summer**	**75.95**	**40**	P		**P**	**06 32 59.4**	**+1.0**
HDIL	**Hopedale**	**76.02**	**45**	P		**P**	**06 32 59.2**	**+0.3**
	baz=322							
TLCR		**76.03**	**323**	⇑P		**P**	**06 32 58.8**	**0.0**
TLCR		**76.03**	**323**	⇑P		**P**	**06 32 58.8**	**0.0**
DPC	**Dobruska-Polom**	**76.05**	**334**	*eP*		**P**	**06 32 59.2**	**+0.3**
DPC	**Dobruska-Polom**	**76.05**	**334**	*eP*		**P**	**06 32 59.2**	**+0.3**
LANS	**Liptovska Anna**	**76.11**	**331**	*eP*		**P**	**06 33 00.1**	**+0.8**
LANS				pmax	pmax			
	comp=Z,6.0nm,0.7s							
LANS	**Liptovska Anna**	**76.11**	**331**	*eP*		**P**	**06 33 00.1**	**+0.8**
KRLC	**Kraliky**	**76.16**	**333**	*eP*		**P**	**06 32 59.7**	**+0.2**
KRLC				MLR	MLR			
	comp=Z,100nm,18.4s							
KRLC	**Kraliky**	**76.16**	**333**	*eP*		**P**	**06 32 59.7**	**+0.2**
KRLC				AMS	AMS		07 10 30.0	
	comp=Z,100nm,18.4s							
CLL	**Collm**	**76.16**	**336**	⇓*i*P		**P**	**06 32 58.9**	**-0.6**
CLL				pmax	pmax			
	comp=Z,18nm,0.7s							
CLL	**Collm**	**76.16**	**336**	⇓*i*P		**P**	**06 32 58.9**	**-0.6**
	comp=Z,18nm,0.7s							
CLL				*i* x		x	06 33 01.2	
	comp=Z,13nm,0.7s							
CLL				*e*(PP)			06 35 58.0	
MORC	**Moravsky Berou**	**76.18**	**333**	⇑P		**P**	**06 32 59.2**	**-0.5**
MORC	**Moravsky Berou**	**76.18**	**333**	P		**P**	**06 32 59.8**	**+0.1**
MORC				IAmb	IAmb		06 33 00.6	
	comp=Z,9.1nm,0.8s							
MORC	**Moravsky Berou**	**76.18**	**333**	*eP*		**P**	**06 32 59.7**	**+0.1**
MORC	**Moravsky Berou**	**76.18**	**333**	P		**P**	**06 32 59.8**	**+0.1**
MORC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
BRG	**Berggiesshubel**	**76.29**	**335**	*eP*		**P**	**06 32 59.4**	**-0.8**
BRG				Amp			06 33 01.5	
	comp=Z,5.0nm,0.6s							
BRG	**Berggiesshubel**	**76.29**	**335**	*eP*		**P**	**06 32 59.3**	**-0.8**
BRG				pmax	pmax			
	comp=Z,5.0nm,0.6s							
TUL1	**Leonard**	**76.29**	**52**	P		**P**	**06 33 01.1**	**+0.7**
	baz=319							
VRI	**Vrincioaia**	**76.29**	**325**	⇑P		**P**	**06 33 00.1**	**-0.3**
VRI	**Vrincioaia**	**76.29**	**325**	⇑P		**P**	**06 33 00.1**	**-0.3**
CFR	**Carcaliu**	**76.31**	**324**	⇑P		**P**	**06 33 00.3**	**-0.1**
CFR	**Carcaliu**	**76.31**	**324**	⇑P		**P**	**06 33 00.3**	**-0.1**
R40A	**Maddies Statio**	**76.31**	**48**	IAmb	IAmb		06 33 03.4	
	comp=Z,8.0nm,0.9s							
PLOR	**Plostina**	**76.34**	**325**	⇑P		**P**	**06 33 01.2**	**+0.6**
PLOR	**Plostina**	**76.34**	**325**	⇑P		**P**	**06 33 01.2**	**+0.6**
TPGR	**Topolog**	**76.46**	**323**	⇑P		**P**	**06 33 01.6**	**+0.3**
OZUR		**76.47**	**326**	⇑P		**P**	**06 33 02.2**	**+0.8**
COVR	**Voineasa-Covas**	**76.51**	**325**	⇑P		**P**	**06 33 01.4**	**-0.2**
TX32	**Lajitas Array**	**76.70**	**61**	IAmb	IAmb		06 33 07.4	
	comp=Z,5.0nm,0.9s							
TXAR	**Lajitas Array**	**76.70**	**61**	P		**P**	**06 33 03.8**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=296,slow=4.2,SNR=34							
	comp=Z,3.1nm,0.7s							
TXAR	**Lajitas Array**	**76.70**	**61**	P		**P**	**06 33 04.0**	**+1.0**
TXAR	**Lajitas Array**	**76.70**	**61**	P		**P**	**06 33 04.0**	**+1.0**
WSAR	**Wadi Sarin**	**76.73**	**290**	LR		LR	07 10 48.3	
	comp=Z,43nm,18.9s,baz=8.0,slow=39							
MARD	**Mardin**	**76.76**	**311**	IAmb	IAmb		06 33 04.7	
	comp=Z,12nm,0.8s							
TIRR	**Tirgusor**	**76.79**	**323**	⇑P		**P**	**06 33 03.0**	**-0.1**
TIRR	**Tirgusor**	**76.79**	**323**	⇑P		**P**	**06 33 03.0**	**-0.1**
HARR	**Harsova**	**76.79**	**324**	⇑P		**P**	**06 33 02.5**	**-0.6**
HARR	**Harsova**	**76.79**	**324**	⇑P		**P**	**06 33 02.5**	**-0.6**
VYHS	**Vyhne**	**76.89**	**331**	*eP*		**P**	**06 33 03.9**	**+0.2**
VYHS				pmax	pmax			
	comp=Z,6.0nm,0.7s							
VYHS	**Vyhne**	**76.89**	**331**	*eP*		**P**	**06 33 03.9**	**+0.2**
VRAC	**Vranov**	**76.89**	**333**	LR		LR	07 11 42.8	
	comp=Z,92nm,19.6s,baz=20,slow=39							
VRAC	**Vranov**	**76.89**	**333**	*eP*		**P**	**06 33 03.7**	**+0.1**
GOPC	**GO Pecny, Ondr**	**76.90**	**334**	*eP*		**P**	**06 33 04.0**	**+0.3**
GOPC	**GO Pecny, Ondr**	**76.90**	**334**	*eP*		**P**	**06 33 04.0**	**+0.3**
PRU	**Pruhonice**	**76.91**	**334**	*eP*		**P**	**06 33 03.7**	**0.0**
PRU	**Pruhonice**	**76.91**	**334**	*eP*		**P**	**06 33 03.7**	**0.0**
MLR	**Muntele Rosu**	**76.91**	**325**	⇑P		**P**	**06 33 04.1**	**+0.1**
MLR	**Muntele Rosu**	**76.91**	**325**	P		**P**	**06 33 04.2**	**+0.1**
MLR	**Muntele Rosu**	**76.91**	**325**	P		**P**	**06 33 04.2**	**+0.2**
MLR				pmax	pmax			
	comp=Z,12nm,0.7s							
JAVC	**Velka Javorina**	**76.95**	**332**	*eP*		**P**	**06 33 04.8**	**+0.8**
HHAR	**Hobbs**	**76.98**	**50**	IAmb	IAmb		06 33 07.6	
	comp=Z,4.7nm,0.7s							
ISR	**Istrita**	**76.99**	**325**	P		**P**	**06 33 04.9**	**+0.6**
ISR				pmax	pmax			
	comp=Z,37nm,0.9s							
CCM	**Cathedral Cave**	**77.00**	**47**	P		**P**	**06 33 04.5**	**+0.1**
	baz=321							
DRGR		**77.02**	**328**	⇑P		**P**	**06 33 04.4**	**-0.1**
DRGR		**77.02**	**328**	⇑P		**P**	**06 33 04.4**	**-0.1**
PSZ	**Piszkesteto**	**77.04**	**330**	⇑P		**P**	**06 33 05.3**	**+0.7**
PSZ	**Piszkesteto**	**77.04**	**330**	⇑P		**P**	**06 33 05.3**	**+0.7**
UOSS	**Minazif**	**77.05**	**293**	P		**P**	**06 33 04.6**	**-0.3**
MOX	**Moxa**	**77.14**	**336**	P		**P**	**06 33 04.9**	**-0.1**
MOX				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KRUC	**Moravsky**	**77.17**	**333**	*eP*		**P**	**06 33 05.3**	**+0.1**
SFIN	**Lafayette**	**77.19**	**43**	P		**P**	**06 33 05.6**	**+0.1**
	baz=323							
VOIR		**77.30**	**326**	⇑P		**P**	**06 33 06.6**	**+0.5**
VOIR		**77.30**	**326**	⇑P		**P**	**06 33 06.6**	**+0.5**
ICOR	**Ion Corvin**	**77.32**	**323**	⇑P		**P**	**06 33 06.5**	**+0.5**
MODS	**Modra-Piesok**	**77.50**	**332**	*eP*		**P**	**06 33 07.9**	**+0.8**
MODS				pmax	pmax			
	comp=Z,16nm,1.1s							
MODS	**Modra-Piesok**	**77.50**	**332**	*eP*		**P**	**06 33 07.9**	**+0.8**
ARR	**Arges**	**77.52**	**326**	⇑P		**P**	**06 33 08.2**	**+0.9**
SIRR	**Siria**	**77.85**	**328**	⇑P		**P**	**06 33 09.2**	**+0.1**
KHC	**Kasperske Hory**	**77.95**	**335**	IAmb	IAmb		06 33 10.8	
	comp=Z,8.1nm,0.8s							
KHC	**Kasperske Hory**	**77.95**	**335**	*eP*		**P**	**06 33 09.1**	**-0.5**
KHC	**Kasperske Hory**	**77.95**	**335**	*eP*		**P**	**06 33 09.1**	**-0.5**
CKRC	**Cesky Krumlov**	**78.02**	**334**	*eP*		**P**	**06 33 09.7**	**-0.3**
JCT	**Junction City**	**78.12**	**58**	IAmb	IAmb		06 33 14.9	
	comp=Z,11nm,1.4s							
JCT	**Junction City**	**78.12**	**58**	P		**P**	**06 33 11.5**	**+0.6**
	baz=318							
GERES	**GERESS Array B**	**78.17**	**334**	P		**P**	**06 33 10.6**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=46,slow=6.5,SNR=18							
GERES				LR		LR	07 11 18.0	
	comp=Z,49nm,18.7s,baz=39,slow=38							
	comp=Z,2.3nm,0.5s							
O48B	**Farmland**	**78.18**	**42**	P		**P**	**06 33 10.8**	**-0.2**
	baz=324							
GZR	**Gura Zlata**	**78.19**	**327**	⇑P		**P**	**06 33 10.8**	**-0.3**
GZR	**Gura Zlata**	**78.19**	**327**	P		**P**	**06 33 10.7**	**-0.3**
FCAR	**Ozark Folk Cen**	**78.23**	**49**	IAmb	IAmb		06 33 14.0	
	comp=Z,5.5nm,0.7s							
WHTX	**Lake Whitney,**	**78.32**	**55**	P		**P**	**06 33 12.3**	**+0.4**
	baz=319							
CONA	**Conrad Observa**	**78.34**	**333**	*eP*		**P**	**06 33 12.6**	**+0.7**
	comp=Z,5.6nm,0.7s							
BR131	**Keskin Array S**	**78.35**	**317**	IAmb	IAmb		06 33 13.5	
	comp=Z,9.4nm,0.8s							
BRTR	**Keskin Array B**	**78.35**	**317**	P		**P**	**06 33 11.1**	**-1.1**
	comp=Z,5.2nm,0.8s,baz=66,slow=4.3,SNR=34							
	comp=Z,5.2nm,0.8s							
BRTR	**Keskin Array B**	**78.35**	**317**	P		**P**	**06 33 11.6**	**-0.5**
BRTR	**Keskin Array B**	**78.35**	**317**	*i* P		**P**	**06 33 12.3**	**+0.2**
BRTR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
RONA	**Rosalia, Austr**	**78.40**	**332**	*eP*		**P**	**06 33 13.0**	**+0.8**
	comp=Z,2.9nm,0.6s							
BZS	**Buzias**	**78.42**	**328**	⇑P		**P**	**06 33 12.6**	**+0.4**
BZS	**Buzias**	**78.42**	**328**	⇑P		**P**	**06 33 12.6**	**+0.4**
MIAR	**Mount Ida**	**78.50**	**51**	P		**P**	**06 33 13.3**	**+0.4**
	baz=320							
BTNL	**Ternell**	**78.59**	**340**	*dP*		**P**	**06 33 12.9**	**-0.1**
MEM	**Membach**	**78.59**	**340**	*dP*		**P**	**06 33 13.6**	**+0.6**
	comp=Z,10.0nm,0.9s							
ANTO	**Ankara**	**78.63**	**318**	⇑P		**P**	**06 33 14.4**	**+0.9**
ANTO	**Ankara**	**78.63**	**318**	P		**P**	**06 33 13.5**	**-0.1**
ANTO				IAmb	IAmb		06 33 17.3	
	comp=Z,13nm,0.9s							
ANTO	**Ankara**	**78.63**	**318**	⇑P		**P**	**06 33 14.4**	**+0.9**
BR231	**Keskin MP Arra**	**78.66**	**318**	IAmb	IAmb		06 33 15.0	
	comp=Z,9.3nm,0.8s							
HERR	**Herculane**	**78.76**	**327**	⇑P		**P**	**06 33 13.6**	**-0.5**
MOA	**Molln**	**78.90**	**334**	*eP*		**P**	**06 33 15.2**	**+0.4**
	comp=Z,4.1nm,0.8s							
MORH	**Mrgy, Hungar**	**78.94**	**330**	⇑P		**P**	**06 33 14.5**	**-0.5**
LONY	**Lake Ozonia**	**78.95**	**33**	P		**P**	**06 33 14.8**	**-0.4**
	baz=329							
P49A	**Miami Univ. Ec**	**78.97**	**42**	P		**P**	**06 33 15.1**	**-0.2**
	baz=324							
BMRD	**Maredsous**	**79.17**	**340**	*dP*		**P**	**06 33 16.4**	**+0.2**
M53A	**WI Miller and**	**79.20**	**39**	P		**P**	**06 33 16.4**	**-0.2**
	baz=326							
RCHB	**Rochefort**	**79.20**	**340**	*dP*		**P**	**06 33 16.5**	**+0.1**
WCI	**Wyandotte Cave**	**79.28**	**44**	P		**P**	**06 33 17.9**	**+0.9**
WCI				IAmb	IAmb		06 33 21.0	
	comp=Z,10nm,0.8s							
WCI	**Wyandotte Cave**	**79.28**	**44**	P		**P**	**06 33 17.9**	**+0.9**
WCI				pmax	pmax			
	comp=Z,11nm,0.9s							
WCI	**Wyandotte Cave**	**79.28**	**44**	P		**P**	**06 33 17.6**	**+0.6**
	baz=323							
FRGS	**Fruska Gora**	**79.46**	**329**	⇑P		**P**	**06 33 17.9**	**0.0**
SOKA	**Soboth**	**79.71**	**333**	*eP*		**P**	**06 33 19.6**	**+0.3**
	comp=Z,6.6nm,0.8s							
BLKB	**Belogradchik**	**79.74**	**326**	⇑P		**P**	**06 33 18.7**	**-0.8**
KBA	**Koelnbreinsper**	**79.87**	**334**	*i* P		**P**	**06 33 21.2**	**+0.9**
	comp=Z,6.9nm,0.6s							
T47A	**Sharon Grove**	**79.88**	**45**	IAmb	IAmb		06 33 23.9	
	comp=Z,5.5nm,0.7s							
O53A	**New Philadelph**	**79.95**	**40**	P		**P**	**06 33 20.4**	**-0.3**
	baz=326							
NATX	**Nacogdoches**	**80.05**	**54**	P		**P**	**06 33 21.4**	**+0.1**
	baz=320							
P52A	**Corning**	**80.05**	**41**	P		**P**	**06 33 20.5**	**-0.7**
	baz=325							
BOVS	**Bovan**	**80.09**	**327**	⇑P		**P**	**06 33 20.3**	**-1.1**
WATA	**Walderalm**	**80.15**	**335**	*eP*		**P**	**06 33 22.6**	**+0.8**
	comp=Z,6.3nm,0.5s							
WTTA	**Wattenberg**	**80.20**	**335**	*i* P		**P**	**06 33 22.9**	**+0.8**
	comp=Z,10nm,0.5s							
WVT	**Waverly**	**80.20**	**46**	P		**P**	**06 33 22.6**	**+0.5**
WVT	**Waverly**	**80.20**	**46**	P		**P**	**06 33 22.6**	**+0.5**
WVT				pmax	pmax			
	comp=Z,6.0nm,1.1s							
WVT	**Waverly**	**80.20**	**46**	P		**P**	**06 33 22.4**	**+0.3**
	baz=323							
MOTA	**Moosalm**	**80.28**	**335**	*i* P		**P**	**06 33 23.1**	**+0.6**
	comp=Z,6.7nm,0.6s							
DIVS	**Divibare**	**80.31**	**328**	IAmb	IAmb		06 33 22.8	
	comp=Z,6.0nm,0.6s							
SQTA	**Sankt Quirin**	**80.36**	**335**	*eP*		**P**	**06 33 23.7**	**+0.7**
	comp=Z,5.9nm,0.7s							
VTS	**Vitosha**	**80.38**	**325**	⇑P		**P**	**06 33 23.4**	**+0.3**
VTS	**Vitosha**	**80.38**	**325**	P		**P**	**06 33 22.6**	**-0.5**
VTS				IAmb	IAmb		06 33 24.1	
	comp=Z,10nm,0.8s							
VTS	**Vitosha**	**80.38**	**325**	⇑P		**P**	**06 33 23.5**	**+0.3**
ECH	**Echery**	**80.54**	**338**	IAmb	IAmb		06 33 24.6	
	comp=Z,6.1nm,0.9s							
FETA	**Feichten**	**80.68**	**335**	*eP*		**P**	**06 33 25.4**	**+0.7**
	comp=Z,3.6nm,0.8s							
OXF	**Oxford**	**80.69**	**48**	P		**P**	**06 33 24.7**	**0.0**
	baz=322							
PMOR	**Pomariorio Ree**	**80.89**	**124**	*e*T		T	08 02 32.2	
	comp=Z,11nm,0.2s							
PLAL	**Pickwick Lake**	**80.99**	**47**	IAmb	IAmb		06 33 29.2	
	comp=Z,8.3nm,1.1s							
MCWV	**Mont Chateau**	**81.02**	**39**	P		**P**	**06 33 25.8**	**-0.6**
	baz=327							
DAVOX	**Davos/Dischmat**	**81.14**	**336**	LR		LR	07 13 41.4	
	comp=Z,33nm,19.0s,baz=78,slow=39							
ISP	**Isparta**	**81.32**	**318**	IAmb	IAmb		06 33 29.4	
	comp=Z,6.6nm,0.9s							
SWET	**Sewanee**	**81.86**	**46**	P		**P**	**06 33 31.4**	**+0.4**
SWET				IAmb	IAmb		06 33 34.3	
	comp=Z,8.0nm,0.7s							
PDG	**Podgorica**	**82.03**	**328**	⇑P		**P**	**06 33 31.0**	**-0.7**
PPT2	**Papeete2**	**82.06**	**127**	*e*LR		LR	06 59 25.3	
	comp=Z,114nm,22.2s							
BLA	**Blacksburg**	**82.80**	**41**	P		**P**	**06 33 35.0**	**-0.9**
	baz=326							
MMAI	**Mount Meron Ar**	**82.85**	**312**	LR		LR	07 15 42.8	
	comp=Z,82nm,18.2s,baz=271,slow=40							
LRAL	**Lakeview Retre**	**83.08**	**48**	P		**P**	**06 33 37.1**	**-0.3**
	baz=324							
FDMO	**Fiordimonte**	**83.58**	**332**	IAmb	IAmb		06 33 44.7	
	comp=Z,14nm,1.4s							
KMSC	**Kings Mountain**	**84.10**	**43**	P		**P**	**06 33 42.5**	**-0.1**
	baz=326							
GOGA	**Godfrey**	**84.52**	**45**	P		**P**	**06 33 44.8**	**+0.1**
	baz=325							
RAYN	**Ar Rayn**	**84.65**	**299**	P		**P**	**06 33 45.8**	**+0.3**
RAYN				IAmb	IAmb		06 33 52.6	
	comp=Z,3.8nm,0.8s							
RAYN	**Ar Rayn**	**84.65**	**299**	P		**P**	**06 33 45.8**	**+0.3**
RAYN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
EIL	**Elat**	**85.75**	**310**	LR		LR	07 17 34.0	
	comp=Z,49nm,18.0s,baz=90,slow=40							
TIP	**Timpagrande**	**85.79**	**328**	IAmb	IAmb		06 33 57.3	
	comp=Z,6.8nm,1.1s							
TBI	**Tubuai**	**86.83**	**130**	*e*LR		LR	07 01 38.4	
	comp=Z,111nm,26.0s							
TBI	**Tubuai**	**86.83**	**130**	*e*T		T	08 09 49.8	
	comp=Z,4.8nm,0.4s							
VAE	**Valguarnera**	**88.14**	**329**	LR		LR	07 18 34.4	
	comp=Z,39nm,18.2s,baz=132,slow=39							
H03N2	**Juan Fernandez**	**138.18**	**90**	T		T	09 14 22.7	
	baz=308							
H03N1	**Juan Fernandez**	**138.19**	**90**	T		T	09 14 14.9	
	baz=308							
H03N3	**Juan Fernandez**	**138.19**	**90**	T		T	09 14 19.2	
	baz=308							
BDFB	**Brasilia**	**143.52**	**37**	PKP		**PKPdf**	**06 40 44.6**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=104,slow=7.9,SNR=3.1							
PLCA	**Paso Flores**	**147.68**	**95**	PKPbc		**PKPab**	**06 40 56.0**	**-2.0**
	comp=Z,2.2nm,0.8s,baz=255,slow=4.0,SNR=4.5							
TROLL	**Troll, Antarti**	**151.94**	**198**	PKPdf		**PKiKP**	**06 41 05.2**	**-0.3**
SNAA	**Sanae**	**153.28**	**196**	PKPab		PKPab	06 41 29.0	+8.7
VNA2	**Neumayer--Watz**	**154.72**	**194**	PKPab		**PKPab**	**06 41 26.3**	**0.0**
	baz=129,slow=2.1							
VNA3	**Neumayer Olymp**	**154.80**	**192**	PKPab		**PKPab**	**06 41 26.6**	**-0.1**

NEIC ***14*** *06:26:47.9±1.5,37°.27S±0°.08×179°.6E±0°.1,h10km±2km, mb4.2/8,ML4.0(WEL),Error ellipse: s-maj=18.5km s-min=5.5km az=45.0*

NOU ***14*** *06:26:48.7,37°.07S×179°.76E,h132km,MLv4.7/9, Off E. Coast of N. Island, N.Z.*

IDC ***14*** *06:26:49.5±1.9,36°.56S×179°.02E,h0km,mb3.9/2, mbtmp4.0/3,ML4.1/1,MS3.0/1,Error ellipse: s-maj=43.0km s-min=40.6km az=72.0*

WEL ***14*** *06:26:51.9±1.1,37°.5S±5°×17°.9E±1°.1,h18km±14km, M4.0/37,ML4.2/36,MLv4.0/37,Error ellipse: s-maj=0.0km s-min=0.0km az=78.8*

ISC 14 06:26:47.5±2.3,36°.98S±0°.06×179°.42E±0°.09,h0km±12km, n131,σ1s50/135,mb4.2/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.06**	**236**			**Pg**	**06 27 07.9**	**0.0**
MXZ	**Matakaoa Point**	**1.06**	**236**	P		**Pg**	**06 27 07.7**	**-0.3**
WMGZ	**Waiomatatini S**	**1.16**	**223**	P		**Pn**	**06 27 12.6**	**+1.6**
WMGZ				S		**Sn**	**06 27 28.8**	**+1.2**
PKGZ	**Pakihiroa**	**1.40**	**229**	P		**Pn**	**06 27 14.3**	**-0.1**
PKGZ				S		**Sn**	**06 27 33.9**	**+0.3**
PUZ	**Puketiti**	**1.43**	**220**	P		**Pg**	**06 27 16.6**	**+1.7**
PUZ				S		**Sn**	**06 27 34.4**	**+0.1**
HAZ	**Te Kaha**	**1.52**	**239**	P		**Pn**	**06 27 14.5**	**-1.4**
TWGZ	**Tauwhareparae**	**1.66**	**223**	P		**Pg**	**06 27 20.0**	**+0.8**
RUGZ	**Raukumara Rang**	**1.70**	**234**	P		**Pn**	**06 27 18.8**	**+0.3**
CNGZ	**Carnagh Statio**	**1.79**	**212**	P		**Pg**	**06 27 22.4**	**+0.6**
WIZ	**White Island**	**1.86**	**252**	P		**Pn**	**06 27 20.5**	**-0.1**
TKGZ	**Te Karaka**	**1.92**	**220**	P		**Pb**	**06 27 23.2**	**-0.2**
MWZ	**Matawai**	**2.02**	**227**	P		**Pb**	**06 27 24.6**	**-0.5**
WHRZ	**Whale Island**	**2.14**	**245**	P		**Pn**	**06 27 25.8**	**+1.3**
WHRZ				S		**Sn**	**06 27 51.1**	**-0.5**
RIGZ	**Rimuhau**	**2.17**	**217**	P		**Pb**	**06 27 26.5**	**-1.1**
RAGZ	**Rawiri**	**2.20**	**226**	P		**Pb**	**06 27 27.1**	**-1.1**
RAGZ				S		**Sn**	**06 27 53.7**	**+0.5**
URZ	**Urewera**	**2.24**	**234**	Pn		**Pn**	**06 27 27.1**	**+1.3**
	56nm,0.3s,baz=355,slow=5.5,SNR=288							
URZ				Sn		**Sn**	**06 27 51.9**	**-2.2**
	65nm,0.3s,baz=291,slow=18,SNR=11							
URZ				LR		LR	06 28 33.0	
	comp=Z,336nm,21.5s,baz=85,slow=45							
	126nm,0.3s							
URZ	**Urewera**	**2.24**	**234**			**Pn**	**06 27 26.3**	**+0.5**
URZ	**Urewera**	**2.24**	**234**	P		**Pn**	**06 27 26.3**	**+0.5**
URZ				S		**Sn**	**06 27 53.4**	**-0.6**
URZ	**Urewera**	**2.24**	**234**	P		**Pn**	**06 27 27.0**	**+1.3**
PRGZ	**Paritu Road**	**2.29**	**212**	P		**Pn**	**06 27 28.2**	**+1.6**
MARZ	**Manawahe**	**2.41**	**244**	P		**Pn**	**06 27 29.3**	**+1.1**
EDRZ	**Edgecumbe**	**2.41**	**241**	P		**Pn**	**06 27 29.7**	**+1.5**
OPRZ	**Ohinepanea**	**2.44**	**248**	P		**Pn**	**06 27 29.4**	**+0.8**
SNGZ	**Shannon Statio**	**2.44**	**222**	P		**Pn**	**06 27 30.1**	**+1.5**
SNGZ				S		**Sn**	**06 27 59.6**	**+0.4**
KNZ	**Kokohu**	**2.46**	**214**	P		**Pn**	**06 27 29.7**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.48**	**208**	P		**Pn**	**06 27 30.7**	**+1.6**
MYRZ	**Mayor Island**	**2.56**	**262**	P		**Pn**	**06 27 29.1**	**-1.2**
MUGZ	**Murupara**	**2.58**	**234**	P		**Pn**	**06 27 31.5**	**+1.0**
TGRZ	**Tauranga**	**2.63**	**252**	P		**Pn**	**06 27 31.0**	**+0.4**
TARZ	**Mount Tarawera**	**2.63**	**241**	P		**Pn**	**06 27 32.9**	**+1.6**
OMRZ	**Omania**	**2.67**	**244**	P		**Pn**	**06 27 33.3**	**+1.4**
RRRZ	**Republican Roa**	**2.68**	**239**	P		**Pn**	**06 27 33.1**	**+1.3**
WHHZ	**Waihua**	**2.72**	**219**	P		**Pn**	**06 27 33.8**	**+1.4**
KARZ	**Kaharoa**	**2.73**	**247**	P		**Pn**	**06 27 33.9**	**+1.3**
HLRZ	**Highlands Stat**	**2.75**	**241**	P		**Pn**	**06 27 34.7**	**+1.8**
MTHZ	**Maungataniwha**	**2.77**	**227**	P		**Pn**	**06 27 34.7**	**+1.6**
MTHZ				S		**Sn**	**06 28 07.3**	**0.0**
PRRZ	**Plateau Road**	**2.84**	**237**	P		**Pn**	**06 27 35.3**	**+1.2**
KMRZ	**Kaimai**	**2.90**	**252**	P		**Pn**	**06 27 35.3**	**+0.3**
ALRZ	**Allen Road**	**2.91**	**236**	P		**Pn**	**06 27 36.3**	**+1.3**
NMHZ	**Naumai**	**2.96**	**223**	P		**Pn**	**06 27 37.3**	**+1.5**
ARHZ	**Aropaoanui**	**2.98**	**219**	P		**Pn**	**06 27 37.2**	**+1.2**
BKZ	**Black Stump Fm**	**3.18**	**226**			**Pn**	**06 27 39.6**	**+0.8**
BKZ	**Black Stump Fm**	**3.18**	**226**	P		**Pn**	**06 27 39.9**	**+1.1**
BKZ				S		**Sn**	**06 28 15.1**	**-2.4**
BKZ	**Black Stump Fm**	**3.18**	**226**	P		**Pn**	**06 27 40.0**	**+1.2**
TOZ	**Tahuroa Road**	**3.21**	**255**	P		**Pn**	**06 27 38.2**	**-1.0**
KUTZ	**Kaahu Road**	**3.23**	**241**	P		**Pn**	**06 27 40.9**	**+1.5**
CKHZ	**Cape Kidnapper**	**3.25**	**214**	P		**Pn**	**06 27 40.2**	**+0.5**
MCHZ	**McNeill Hill**	**3.27**	**220**	P		**Pn**	**06 27 40.8**	**+0.9**
GRZ	**Great Barrier**	**3.27**	**282**	P		**Pn**	**06 27 40.6**	**+0.6**
KWHZ	**Kaweka Forest**	**3.40**	**223**	P		**Pn**	**06 27 42.4**	**+0.5**
KAHZ	**Kahuranaki**	**3.45**	**215**	P		**Pn**	**06 27 42.7**	**+0.2**
KRHZ	**Kereru**	**3.58**	**221**	P		**Pn**	**06 27 44.5**	**+0.1**
ETAZ	**East Tamaki Re**	**3.60**	**269**	P		**Pn**	**06 27 44.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.40**	**351**	⇓Pg	**Pg**	**06 30 37.4**	**-2.1**
	7.8nm,0.5s,baz=128,slow=30						
TKM2				⇓Lg	Lg	06 31 36.6	
	15nm,0.6s,baz=128,slow=30						
IZV	**Izvestkoviy**	**4.45**	**0**	*e*P	**Pg**	**06 30 38.8**	**-1.7**
	82nm,0.2s						
IZV				*e*S	**Sg**	**06 31 40.0**	**+1.8**
	9.5nm,0.5s						
IZV	**Izvestkoviy**	**4.45**	**0**	Pg	**Pg**	**06 30 38.8**	**-1.7**
	82nm,0.2s						
IZV				Lg	Lg	06 31 40.0	
	9.5nm,0.5s						
KST	**Kastek**	**4.48**	**354**	*e*P	**Pg**	**06 30 40.4**	**-0.7**
	6.0nm,0.5s						
KST				*e*S	**Sg**	**06 31 42.1**	**+3.0**
	21nm,0.6s						
MTBS	**Maitube**	**4.54**	**359**	*e*P	**Pg**	**06 30 39.3**	**-3.0**
	4.1nm,0.3s						
MTBS				*e*S	**Sg**	**06 31 40.8**	**-0.3**
	11nm,0.4s						
MTBS	**Maitube**	**4.54**	**359**	Pg	**Pg**	**06 30 39.3**	**-3.0**
	4.1nm,0.3s						
MTBS				Lg	Lg	06 31 40.8	
	11nm,0.4s						
MDOK	**Medeo**	**4.59**	**4**	*e*P	**Pg**	**06 30 41.8**	**-1.4**
	8.8nm,0.3s						
MDOK				*e*S	**Sg**	**06 31 45.1**	**+2.4**
	18nm,0.4s						
MDOK	**Medeo**	**4.59**	**4**	Pg	**Pg**	**06 30 41.3**	**-1.9**
	5.3nm,0.4s,baz=128,slow=30						
MDOK				Pg	**Pg**	**06 30 41.8**	**-1.4**
	8.8nm,0.3s						
MDOK				⇓Lg	Lg	06 31 42.4	
	13nm,0.5s,baz=128,slow=30						
MDOK				Lg	Lg	06 31 45.1	
	18nm,0.4s						
CHMS	**Chumysh**	**4.62**	**343**	⇓Pg	**Pg**	**06 30 41.3**	**-2.4**
	5.6nm,0.8s,baz=128,slow=30						
CHMS				⇑Lg	Lg	06 31 44.8	
	20nm,0.8s,baz=128,slow=30						
KOTS	**Kotyrbulak**	**4.67**	**5**	*e*P	**Pg**	**06 30 41.9**	**-2.7**
	4.9nm,0.4s						
KOTS				*e*S	**Sg**	**06 31 45.2**	**+0.2**
	19nm,0.4s						
KOTS	**Kotyrbulak**	**4.67**	**5**	Pg	**Pg**	**06 30 41.9**	**-2.7**
	4.9nm,0.4s						
KOTS				Lg	Lg	06 31 45.2	
	19nm,0.4s						
SATY	**Saty**	**4.69**	**17**	*e*P	**Pg**	**06 30 44.4**	**-0.5**
	8.1nm,0.3s						
SATY				*e*S	**Sg**	**06 31 49.6**	**+3.9**
	13nm,0.3s						
SATY	**Saty**	**4.69**	**17**	Pg	**Pg**	**06 30 44.4**	**-0.5**
	8.1nm,0.3s						
SATY				Lg	Lg	06 31 49.6	
	13nm,0.3s						
DGS	**Degeres**	**4.70**	**353**	*e*P	**Pg**	**06 30 43.1**	**-2.0**
	8.2nm,0.5s						
DGS				*e*S	**Sg**	**06 31 47.0**	**+1.1**
	2.6nm,0.2s						
DGS	**Degeres**	**4.70**	**353**	Pg	**Pg**	**06 30 43.1**	**-2.0**
	8.2nm,0.5s						
DGS				Lg	Lg	06 31 47.8	
	2.6nm,0.2s						
ZHN	**Zhinishke**	**4.79**	**17**	*e*P	**Pg**	**06 30 44.2**	**-2.9**
	3.8nm,0.1s						
ZHN				*e*S	**Sg**	**06 31 49.1**	**0.0**
	13nm,0.2s						
ZHN	**Zhinishke**	**4.79**	**17**	Pg	**Pg**	**06 30 44.2**	**-2.9**
	3.8nm,0.1s						
ZHN				Lg	Lg	06 31 49.1	
	13nm,0.2s						
MRKS	**Merke**	**4.87**	**330**	*e*P	**Pg**	**06 30 46.7**	**-1.8**
	4.8nm,0.8s						
MRKS				*e*S	**Sg**	**06 31 53.5**	**+1.8**
	13nm,0.4s						
MRKS	**Merke**	**4.87**	**330**	Pg	**Pg**	**06 30 46.7**	**-1.8**
	4.8nm,0.8s						
MRKS				Lg	Lg	06 31 53.5	
	13nm,0.4s						
UZB	**Uzynbulak**	**4.93**	**21**	*e*P	**Pg**	**06 30 45.7**	**-3.8**
	4.4nm,0.4s						
UZB				*e*S	**Sg**	**06 31 51.8**	**-1.6**
	5.4nm,0.4s						
UZB	**Uzynbulak**	**4.93**	**21**	Pg	**Pg**	**06 30 45.7**	**-3.8**
	4.4nm,0.4s						
UZB				Lg	Lg	06 31 51.8	
	5.4nm,0.4s						
KURS	**Kuram**	**5.05**	**13**	*e*P	**Pg**	**06 30 50.6**	**-1.4**
	12nm,0.8s						
KURS				*e*S	**Sg**	**06 32 00.1**	**+2.8**
	8.3nm,0.4s						
KURS	**Kuram**	**5.05**	**13**	Pg	**Pg**	**06 30 50.6**	**-1.4**
	12nm,0.8s						
KURS				Lg	Lg	06 32 00.1	
	8.3nm,0.4s						
SHLS	**Shalkode**	**5.07**	**25**	*e*P	**Pg**	**06 30 50.1**	**-2.2**
	9.7nm,0.4s						
SHLS				*e*S	**Sg**	**06 31 59.3**	**+1.3**
	15nm,0.6s						
SHLS	**Shalkode**	**5.07**	**25**	Pg	**Pg**	**06 30 50.1**	**-2.2**
	9.7nm,0.4s						
SHLS				Lg	Lg	06 31 59.3	
	15nm,0.6s						
SGDS	**Sogindy**	**5.08**	**344**	*e*P	**Pg**	**06 30 49.9**	**-2.6**
	1.5nm,0.5s						
SGDS				*e*S	**Sg**	**06 31 58.4**	**0.0**
	10.0nm,0.6s						
KTBS	**Karatobe**	**5.13**	**1**	*e*P	**Pg**	**06 30 51.4**	**-2.0**
	3.1nm,0.5s						
KTBS				*e*S	**Sg**	**06 32 01.1**	**+1.3**
	16nm,0.7s						
KPKS	**Kokpek**	**5.13**	**17**	*e*P	**Pg**	**06 30 51.4**	**-2.1**
	5.8nm,0.6s						
KPKS				*e*S	**Sg**	**06 32 01.0**	**+0.9**
	25nm,0.5s						
KRBS	**Karabastau**	**5.15**	**353**	*e*P	**Pg**	**06 30 52.1**	**-1.8**
	3.0nm,0.5s						
KRBS				*e*S	**Sg**	**06 32 02.2**	**+1.5**
	14nm,0.6s						
PDGK	**Podgornoye**	**5.23**	**24**	⇓Pg	**Pb**	**06 30 50.5**	**+3.6**
	5.1nm,0.6s,baz=128,slow=30						
PDGK				⇑Lg	Lg	06 32 03.7	
	7.5nm,0.5s,baz=128,slow=30						
CHKK	**Chushkaly**	**5.28**	**3**	*e*P	**Pg**	**06 30 52.4**	**-3.9**
	4.6nm,0.4s						
CHKK				*e*S	**Sg**	**06 32 03.1**	**-1.5**
	10.0nm,0.3s						
CHKK	**Chushkaly**	**5.28**	**3**	Pg	**Pg**	**06 30 52.3**	**-3.9**
	4.6nm,0.4s						
CHKK				Lg	Lg	06 32 03.1	
	10.0nm,0.3s						
BLB	**Baldybastay**	**5.70**	**14**	*e*P	**Pg**	**06 30 59.7**	**-4.5**
	12nm,0.4s						
BLB				*e*S	**Sg**	**06 32 15.8**	**-2.2**
	11nm,0.4s						
BLB	**Baldybastay**	**5.70**	**14**	Pg	**Pg**	**06 30 59.7**	**-4.5**
	12nm,0.4s						
BLB				Lg	Lg	06 32 15.8	
	11nm,0.4s						
ARXS	**Arharly**	**5.71**	**9**	*e*P	**Pg**	**06 31 01.5**	**-3.0**
	5.8nm,0.6s						
ARXS				*e*S	**Sg**	**06 32 18.9**	**+0.5**
	5.3nm,0.4s						
ARXS	**Arharly**	**5.71**	**9**	Pg	**Pg**	**06 31 01.5**	**-3.0**
	5.8nm,0.6s						
ARXS				Lg	Lg	06 32 18.9	
	5.3nm,0.4s						
IUG	**luzhnay**	**6.13**	**308**	*e*P	**Pg**	**06 31 10.2**	**-2.4**
	74nm,0.3s						
IUG				*e*S	**Sg**	**06 32 33.8**	**+1.7**
	11nm,0.6s						
IUG	**luzhnay**	**6.13**	**308**	Pg	**Pg**	**06 31 10.2**	**-2.4**
	74nm,0.3s						
IUG				Lg	Lg	06 32 33.8	
	11nm,0.6s						
KK31	**Karatay Array**	**6.44**	**316**	⇓Lg	Lg	06 32 44.1	
	1.3nm,0.5s,baz=128,slow=30,SNR=4.1						
BTLS	**Baital**	**6.72**	**345**	*e*P	**Pg**	**06 31 19.4**	**-4.5**
	0.7nm,0.3s						
BTLS				*e*S	**Sg**	**06 32 49.5**	**-1.5**
	3.0nm,0.6s						
BTLS	**Baital**	**6.72**	**345**	Pg	**Pg**	**06 31 19.4**	**-4.5**
	0.7nm,0.3s						
BTLS				Lg	Lg	06 32 49.5	
	3.0nm,0.6s						

RSNC 14 06:41:27.9±1.5, 6°74N×76°03W, h24km±6km, ML1.6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.33**	**327**	⇓*i*P	**Pb**	06 41 35.6	+0.2
DBBC				*e*S	Sb	06 41 40.4	-0.2
HELC	**Santa Helena**	**0.74**	**137**	*e*P	Pb	06 41 40.7	-1.6
HELC				*e*S	Sn	06 41 53.2	-0.6
CBOC	**Ciudad Bolivar**	**0.87**	**179**	*e*P	Pb	06 41 43.1	-1.4
CBOC				*e*S	Sb	06 41 56.0	+0.3
CBOC				IAML		06 41 58.8	
	comp=Z,4.3nm,0.2s						
UREC	**San Jos de Ur**	**1.12**	**26**	*e*P	Pn	06 41 47.9	-0.3
UREC				*e*S	Sn	06 42 01.5	-1.2
UREC				IAML		06 42 04.3	
	comp=Z,13nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.38**	**57**	IAML		06 41 56.9	
	comp=Z,6.7nm,0.1s						

IDC 14 06:41:42.8±0.7, 18°50S×65°54E, h0km, mb4.0/17, mbtmp4.0/18, ML3.7/1, MS3.5/10, Error ellipse: s-maj=22.0km s-min=19.4km az=16.0

ISC 14 06:41:45.2±0.7, 18°5S±0°1×65°5E±0°1, h15km, n36, σ0°60/20, mb4.1/17, MS3.5/10, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**12.76**	**33**	T	T	06 57 59.2	
	baz=211,slow=75,SNR=49						
H08S2	**Diego Garcia H**	**12.77**	**33**	T	T	06 57 57.7	
	baz=211,slow=75,SNR=41						
H08S3	**Diego Garcia H**	**12.78**	**33**	T	T	06 58 01.9	
	baz=211,slow=75,SNR=114						
OPO	**Ambohidratompo**	**17.36**	**267**	P	**P**	**06 45 48.4**	**-0.2**
	baz=55,slow=4.7,SNR=3.4						
	7.5nm,0.9s						
PALK	**Pallekele**	**29.69**	**32**	LR	LR	06 55 24.7	
	comp=Z,29nm,20.5s,baz=280,slow=28						
KMBO	**Kilima Mbogo**	**32.66**	**299**	LR	LR	06 58 53.8	
	comp=Z,70nm,20.2s,baz=110,slow=32						
LBTB	**Lobatse**	**37.51**	**253**	P	**P**	**06 48 58.2**	**-0.7**
	3.1nm,0.7s,baz=80,slow=7.1,SNR=3.7						
	3.1nm,0.7s						
BOSA	**Boshof**	**38.07**	**247**	LR	LR	07 01 15.6	
	comp=Z,78nm,21.7s,baz=18,slow=31						
MBAR	**Mbarara**	**38.48**	**294**	LR	LR	07 02 01.3	
	comp=Z,73nm,21.2s,baz=92,slow=32						
PSI	**Prapat**	**39.13**	**61**	LR	LR	07 02 13.6	
	comp=Z,93nm,18.2s,baz=257,slow=32						
SUR	**Sutherland**	**42.35**	**242**	LR	LR	07 05 11.1	
	comp=Z,61nm,19.0s,baz=92,slow=33						
LEM	**Lembang**	**42.60**	**80**	LR	LR	07 03 24.5	
	comp=Z,109nm,20.3s,baz=208,slow=31						
TSUM	**Tsumeb**	**45.23**	**261**	LR	LR	07 07 55.6	
	comp=Z,48nm,18.5s,baz=152,slow=35						
H01W2	**Cape Leeuwin H**	**45.96**	**121**	T	T	07 39 15.2	
	baz=279						
H01W3	**Cape Leeuwin H**	**45.96**	**121**	T	T	07 39 13.6	
	baz=279						
H01W1	**Cape Leeuwin H**	**45.98**	**121**	T	T	07 39 14.5	
	baz=279						
BRDH	**Bariadhala**	**48.26**	**33**	LR	LR	07 11 08.6	
	comp=Z,82nm,18.1s,baz=116,slow=37						
MAW	**Mawson**	**49.10**	**181**	P	**P**	**06 50 32.1**	**+0.5**
	1.5nm,0.5s,baz=344,slow=11,SNR=4.6						
	1.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**49.29**	**44**	LR	LR	07 08 15.8	
	comp=Z,35nm,20.9s,baz=195,slow=32						
ASAR	**Alice Springs**	**63.51**	**108**	P	**P**	**06 52 15.8**	**+0.4**
	0.5nm,0.8s,baz=264,slow=5.0,SNR=4.8						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**64.58**	**104**	P	**P**	**06 52 21.3**	**-1.2**
	1.2nm,0.9s,baz=263,slow=5.5,SNR=8.7						
	1.2nm,0.9s						
BRTR	**Keskin Array B**	**65.12**	**333**	P	**P**	**06 52 25.8**	**+0.2**
	0.4nm,0.7s,baz=123,slow=5.3,SNR=2.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**66.74**	**12**	P	**P**	**06 52 35.0**	**-0.7**
	0.7nm,0.8s,baz=205,slow=7.8,SNR=5.3						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.32**	**292**	P	**P**	**06 52 58.9**	**+0.2**
	0.7nm,1.1s,baz=80,slow=41,SNR=2.2						
	0.7nm,1.1s						
BVAR	**Borovoye Array**	**71.36**	**3**	P	**P**	**06 53 04.5**	**+0.3**
	0.9nm,0.7s,baz=144,slow=5.5,SNR=5.4						
	0.9nm,0.7s						
DBIC	**Dimbokro**	**73.71**	**283**	P	**P**	**06 53 19.3**	**+0.2**
	7.9nm,1.1s,baz=234,slow=2.0,SNR=2.7						
	7.9nm,1.1s						
ZALV	**Zalesovo Beam**	**74.05**	**12**	P	**P**	**06 53 19.9**	**-0.3**
	1.0nm,0.3s,baz=208,slow=5.3,SNR=8.6						
	1.0nm,0.3s						
ARU	**Arti**	**74.88**	**356**	P	**P**	**06 53 25.6**	**+0.6**
	1.1nm,0.3s,baz=302,slow=20,SNR=1.4						
	1.1nm,0.3s						
SONM	**Songino Array**	**75.52**	**27**	P	**P**	**06 53 29.5**	**+0.5**
	1.0nm,0.8s,baz=232,slow=4.9,SNR=4.4						
	1.0nm,0.8s						
AKASG	**Malin Array Be**	**75.94**	**337**	P	**P**	**06 53 30.3**	**-0.8**
	0.3nm,0.3s,baz=139,slow=4.7,SNR=6.6						
	0.3nm,0.3s						
KSRS	**Korea Array**	**80.89**	**46**	P	**P**	**06 53 58.4**	**-0.4**
	0.6nm,0.9s,baz=210,slow=7.0,SNR=2.3						
	0.6nm,0.9s						
DAVOX	**Davos/Dischmat**	**82.01**	**325**	P	**P**	**06 54 04.5**	**-0.3**
	2.8nm,0.8s,baz=158,slow=7.1,SNR=3.8						
	2.8nm,0.8s						
FINES	**FINESS Array B**	**85.67**	**342**	P	**P**	**06 54 22.9**	**0.0**
	1.7nm,0.8s,baz=164,slow=16,SNR=4.9						
	1.7nm,0.8s						
ESDC	**Sonseca Array**	**86.77**	**314**	P	**P**	**06 54 29.2**	**+0.2**
	1.6nm,1.0s,baz=114,slow=5.2,SNR=4.8						
	1.6nm,1.0s						
NVAR	**Mina Array Bea**	**159.88**	**9**	PKPab	**PKPab**	**07 02 24.2**	**+0.9**
	0.7nm,0.9s,baz=20,slow=2.9,SNR=4.9						
TXAR	**Lajitas Array**	**165.37**	**319**	PKPab	**PKPab**	**07 02 48.4**	**+0.8**
	0.9nm,0.9s,baz=70,slow=4.7,SNR=7.7						

VAO 14 06:46:57.9±0.3, 7°24N×76°06W, h10km, mb5.0
UPA 14 06:46:57.8±2.2, 7°02N×76°21W, h10km±17km, MW4.6
NEIC 14 06:46:58.9±2.2, 7°36N±0°06×76°15W±0°04, h10km±1km, mb4.9/197, Error ellipse: s-maj=10.3km s-min=7.0km az=182.0
RSNC 14 06:46:59.5±1.5, 7°23N×76°31W, h0km±5km, ML4.5, Mw4.7, Fault plane solution: NP1:φs98.00000°, δ59.00000°, λ-177.00000°.
IDC 14 06:47:03.5±2.0, 7°18N×76°31W, h59km±18km, mb4.1/25, mbtmp4.4/28, MS4.0/24, Error ellipse: s-maj=16.1km s-min=10.2km az=62.0

ISC 14 06:46:58.6±0.9, 7°29N±0°02×76°14W±0°02, h15km±6km, n540, σ1§48/501, mb4.8/113, MS3.9/22, 15C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.28**	**194**	⇓*i*P	**Pg**	**06 47 04.5**	**-0.1**
DBBC				*e*S	**Sg**	**06 47 08.9**	**+0.3**
DBBC				IAML		06 47 11.4	
	comp=Z,83μm,0.4s						
UREC	**San Jos de Ur**	**0.76**	**53**	⇑*i*P	**Pn**	**06 47 16.5**	**+1.7**
UREC				*e*S	**Sn**	**06 47 29.9**	**+3.9**
UREC				IAML		06 47 30.7	
	comp=Z,32μm,0.3s						
UREC	**San Jos de Ur**	**0.76**	**53**	*e*P	**Pn**	**06 47 16.5**	**+1.7**
UREC				*i* S	**Sn**	**06 47 30.3**	**+4.3**
HELC	**Santa Helena**	**1.25**	**151**	⇓*i*P	**Pb**	**06 47 21.9**	**-0.2**
HELC				*e*S	**Sg**	**06 47 39.3**	**+0.2**
HELC				IAML		06 47 42.0	
	comp=Z,6μm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.29**	**81**	⇑*i*P	**Pg**	**06 47 25.2**	**+1.8**
ZARC				*e*S	**Sg**	**06 47 44.3**	**+4.0**
ZARC				IAML		06 47 47.9	
	comp=Z,13μm,0.5s						
CBOC	**Ciudad Bolivar**	**1.42**	**175**	⇓*i*P	**Pn**	**06 47 24.0**	**0.0**
CBOC				*e*S	**Sg**	**06 47 44.6**	**0.0**
CBOC				IAML		06 47 50.1	
	comp=Z,7μm,0.5s						
LCBC	**Los crdobas,**	**1.57**	**352**	⇓*i*P	**Pb**	**06 47 27.5**	**+0.1**
LCBC				*e*S	**Sg**	**06 47 50.5**	**+1.1**
LCBC				IAML		06 48 06.2	
	comp=Z,3μm,0.4s						
LCBC	**Los crdobas,**	**1.57**	**352**	⇓*i*P	**Pb**	**06 47 27.6**	**+0.2**
LCBC				*e*S	**Sg**	**06 47 50.8**	**+1.5**
PTBC	**PUERTO BERRIO,**	**1.83**	**114**	⇑*i*P	**Pg**	**06 47 32.3**	**-1.5**
PTBC				*e*S	**Sg**	**06 47 58.5**	**+0.9**
PTBC				IAML		06 48 03.0	
	comp=Z,7μm,0.4s						
NORC	**Norcasia**	**2.13**	**144**	⇓*e*P	**Pb**	**06 47 36.7**	**-0.2**
NORC				*e*S	**Sg**	**06 48 05.9**	**-1.3**
NORC				IAML		06 48 10.1	
	comp=Z,7μm,0.4s						
GUY2C	**Guyana, Caldas**	**2.19**	**159**	⇓*e*P	**Pb**	**06 47 37.3**	**-0.9**
GUY2C				*e*S	**Sb**	**06 48 06.1**	**+0.7**
GUY2C				IAML		06 48 15.6	
	comp=Z,4μm,0.7s						
UPD2	**Meteti**	**2.24**	**304**	*e*P	**Pn**	**06 47 34.9**	**-0.2**
UPD2				*i* S	**Sb**	**06 48 06.2**	**-0.1**
PLMC	**San Jos del P**	**2.37**	**183**	*e*P	**Pn**	**06 47 36.7**	**-0.4**
PLMC				*e*S	**Sn**	**06 48 06.5**	**+0.6**
PLMC				IAML		06 48 23.0	
	comp=Z,4μm,0.5s						
BRRC	**Barranca, Sant**	**2.42**	**94**	⇑*i*P	**Pb**	**06 47 41.5**	**-0.3**
BRRC				*e*S	**Sg**	**06 48 14.5**	**-1.8**
BRRC				IAML		06 48 34.2	
	comp=Z,2μm,0.6s						
SPBC	**San Pablo de B**	**2.62**	**128**	⇑*i*P	**Pb**	**06 47 44.0**	**-1.4**
SPBC				*e*S	**Sb**	**06 48 18.6**	**+1.2**
SPBC				IAML		06 48 24.4	
	comp=Z,2μm,0.6s						
SJCC	**San Jacinto, C**	**2.76**	**20**	*e*P	**Pn**	**06 47 43.6**	**+1.2**
SJCC				*e*S	**Sn**	**06 48 16.2**	**+0.7**
SJCC				IAML		06 48 19.0	
	comp=Z,706nm,0.5s						
ANIL	**Santa Ana**	**2.88**	**165**	*e*P	**Pb**	**06 47 48.2**	**-1.6**
ANIL				*e*S	**Sb**	**06 48 26.4**	**+1.4**
ANIL				IAML		06 48 41.2	
	comp=Z,2μm,0.5s						
OCAC	**Ocana**	**2.95**	**71**	⇑*e*P	**Pb**	**06 47 48.1**	**-2.8**
OCAC				*e*S	**Sb**	**06 48 27.9**	**+0.9**
BARC	**Barichara**	**3.02**	**103**	⇑*i*P	**Pb**	**06 47 49.9**	**-2.3**
BARC				*e*S	**Sb**	**06 48 29.1**	**+0.1**
ROSC	**El Rosal**	**3.03**	**143**	P	**Pb**	**06 47 51.5**	**-1.0**
	comp=Z,692nm,0.3s,baz=349,slow=2.0,SNR=139						
ROSC				S	**Sb**	**06 48 26.8**	**-2.8**
	comp=Z,1μm,0.6s,baz=164,slow=23,SNR=2.7						
ROSC	**El Rosal**	**3.03**	**143**		**Pb**	**06 47 51.8**	**-0.7**
ROSC	**El Rosal**	**3.03**	**143**	⇑*i*P	**Pb**	**06 47 51.6**	**-1.0**
ROSC				*e*S	**Sg**	**06 48 33.6**	**-2.5**
ROSC				IAML		06 48 48.1	
	comp=Z,2μm,0.5s						
ARGC	**Ariguani, Magd**	**3.17**	**36**	*e*P	**Pb**	**06 47 54.7**	**+0.2**
ARGC				*e*S	**Sg**	**06 48 37.3**	**-3.1**
ARGC				IAML		06 48 53.7	
	comp=Z,502nm,0.5s						
YOTC	**Yotoco, Valle**	**3.29**	**184**	⇓*i*P	**Pn**	**06 47 49.3**	**-0.4**
YOTC				*e*S	**Sn**	**06 48 30.4**	**+1.7**
YOTC				IAML		06 48 47.1	
	comp=Z,510nm,0.7s						
CNTA3	**Canitas, Panam**	**3.33**	**305**	*e*P	**Pn**	**06 47 50.4**	**+0.2**
CNTA3				*e*S	**Sn**	**06 48 32.6**	**+3.2**
RUSC	**La Rusia**	**3.34**	**114**	*e*P	**Pb**	**06 47 54.0**	**-3.8**
RUSC				*e*S	**Sb**	**06 48 39.9**	**+1.4**
RUSC				IAML		06 48 56.0	
	comp=Z,3μm,0.6s						
LL1C	**La Loma 1 Cana**	**3.40**	**49**	*e*P	**Pb**	**06 47 58.4**	**-0.1**
LL1C				*e*S	**Sb**	**06 48 37.6**	**-2.1**
PAMC	**Pamplona, Colo**	**3.42**	**89**	⇑*i*P	**Pb**	**06 47 55.9**	**-3.2**
PAMC				*e*S	**Sg**	**06 48 43.3**	**-5.2**
PAMC				IAML		06 48 54.1	
	comp=Z,2μm,0.5s						
MALC	**Bahia Malaga**	**3.46**	**200**	*e*P	**Pn**	**06 47 54.5**	**+2.5**
MALC				*e*S	**Sn**	**06 48 37.3**	**+4.5**
CHIC	**Chingaza**	**3.57**	**138**	⇑*e*P	**Pb**	**06 47 58.5**	**-3.1**
CHIC				*e*S	**Sb**	**06 48 42.6**	**-2.4**
CHIC				IAML		06 49 10.4	
	comp=Z,946nm,0.7s						
LL6C	**La Loma 6 Bece**	**3.74**	**49**	*e*P	**Pb**	**06 47 59.6**	**-4.7**
LL6C				*e*S	**Sn**	**06 48 42.5**	**+2.9**
LL6C				IAML		06 49 06.2	
	comp=Z,706nm,0.6s						
UPA	**Univ. de Panam**	**3.76**	**297**	*e*P	**Pn**	**06 47 54.8**	**-1.2**
UPA				*e*S	**Sn**	**06 48 38.5**	**-1.5**
UPA	**Univ. de Panam**	**3.76**	**297**	*e*P	**Pn**	**06 47 55.4**	**-0.6**
UPA				*e*S	**Sn**	**06 48 40.0**	**+0.1**
PEDA3	**Pedasi**	**3.86**	**274**	*e*P	**Pn**	**06 47 56.2**	**-1.2**
PEDA3				*e*S	**Sn**	**06 48 39.8**	**-2.7**
CHOR3	**La Chorrera**	**3.93**	**294**	*e*P	**Pn**	**06 47 58.1**	**-0.2**
CHOR3				*e*S	**Sn**	**06 48 44.7**	**+0.5**
BCIP	**Isla Barro Col**	**4.11**	**297**		**Pn**	**06 48 00.3**	**-0.6**
BCIP	**Isla Barro Col**	**4.11**	**297**	*e*P	**Pn**	**06 48 00.0**	**-0.8**
BCIP				*e*S	**Sn**	**06 48 50.4**	**+1.7**
BCIP				IAML		06 49 11.6	
	comp=Z,304nm,0.7s						
VTON	**El Valle, Cocl**	**4.15**	**289**	*e*P	**Pn**	**06 48 01.1**	**-0.3**
VTON				*e*S	**Sn**	**06 48 49.4**	**-0.3**
SABA3	**Sabanitas, Col**	**4.16**	**300**	*e*P	**Pn**	**06 48 01.2**	**-0.3**
PNME	**Penonome**	**4.31**	**286**	⇑*i*P	**Pn**	**06 48 03.7**	**0.0**
PNME				*i* S	**Sn**	**06 48 52.8**	**-0.9**
TAMC	**Tame, Arauca**	**4.40**	**101**	*e*P	**Pn**	**06 48 09.0**	**+4.0**
TAMC				*e*S	**Sb**	**06 49 08.3**	**-0.4**
TAMC				IAML		06 49 32.2	
	comp=Z,630nm,0.6s						
BETC	**Betania**	**4.63**	**171**	*e*P	**Pn**	**06 48 11.1**	**+3.0**
BETC				*e*S	**Sn**	**06 49 05.8**	**+4.2**
BETC				IAML		06 49 22.4	
	comp=Z,389nm,0.6s						
CACAO	**El Cacao, Vera**	**4.68**	**271**	*e*P	**Pn**	**06 48 06.8**	**-1.9**
CACAO				*e*S	**Sn**	**06 48 55.9**	**-7.0**
CACAO	**El Cacao, Vera**	**4.68**	**271**	*e*P	**Pn**	**06 48 07.0**	**-1.7**
CACAO				*e*S	**Sn**	**06 48 58.4**	**-4.4**
MARI3	**Mariato, Verag**	**4.82**	**275**	*e*P	**Pn**	**06 48 10.2**	**-0.4**
MARI3				*e*S	**Sn**	**06 49 02.4**	**-3.9**
STIA3	**Santiago, Vera**	**4.86**	**280**	*e*P	**Pn**	**06 48 10.8**	**-0.3**
CRJC	**Cerrejon, Guaj**	**4.91**	**41**	*e*P	**Pn**	**06 48 13.1**	**+1.2**

SLOR San Lorenzo - 8.30 197 Pn 06 49 02.4 +3.4
HDC Heredia 8.33 289 Pn 06 48 59.4 +0.4
HATO Hato, Curacao 8.59 55 Pn 06 49 03.0 +0.5
COVE Coope Vega, Sa 8.84 293 Pn 06 49 06.2 +0.3
PORT Chimborazo Vol 9.08 197 Pn Pn 06 49 11.9 +2.2
JTS Las Juntas de 9.20 290 Pn Pn 06 49 11.9 +1.0
DUNO Dulce Nombre, 9.65 287 Pn 06 49 18.3 +1.3
ORTG Ortega, Santa 9.70 289 Pn Pn 06 49 15.9 -1.8
HZTE Horizontes, Gu 9.94 291 Pn Pn 06 49 22.9 +1.9
BIRV Birongo 10.26 71 Pn Pn 06 49 26.6 +1.3
HOJ Hope 10.67 357 *i* P Pn 06 49 34.1 +3.2
MCJ Malvern 10.68 352 *i* P Pn 06 49 31.2 +0.1
BOAB BOACO BROADBAN 10.69 299 Pn Pn 06 49 31.3 0.0
GWJ Greenwich 10.73 357 *i* P Pn 06 49 34.8 +2.8
STH Stony Hill 10.74 357 *i* P Pn 06 49 33.6 +1.6
MTDJ Mount Denham 10.96 353 Pn Pn 06 49 35.3 +0.3
MATN Matagalpa 11.14 301 Pn 06 49 37.9 +0.4
CNGN Cerro Negro 11.62 297 Pn 06 49 44.0 0.0
PCRV Puerto La Cruz 11.73 75 P Pn 06 49 46.6 +1.1
comp=Z,27nm,0.4s,baz=275,slow=1.9,SNR=37
PCRV S Sn 06 51 46.8 -10
comp=Z,16nm,0.6s,baz=9.2,slow=11,SNR=1.1
PCRV LR LR 06 55 11.8
comp=Z,379nm,20.1s,slow=41
MCRA Macar, Loja 12.19 198 Pn 06 49 52.6 +0.7
TGUH Tegucigalpa,Un 12.84 303 Pn Pn 06 50 00.7 -0.1
TBTG Tabatinga, AM 12.99 151 Pn 06 50 01.5 -1.2
TBTG Tabatinga, AM 12.99 151 *eP* Pn 06 50 02.9 +0.2
DR12 Loma Brna Alta 13.19 29 Pn Pn 06 49 59.6 -5.8
CRPR Cabo Rojo, PR 13.82 39 Pn Pn 06 50 14.4 +0.4
CELP Cerrillos 14.20 40 Pn Pn 06 50 19.4 +0.1
AOPR Arecibo Observ 14.29 39 Pn 06 50 19.1 -1.5
AOPR Arecibo Observ 14.29 39 *eP* Pn 06 50 19.6 -1.0
ATAH Atahualpa 14.50 189 P Pn 06 50 25.9 +2.1
comp=Z,2.8nm,0.6s,baz=320,slow=9.0,SNR=2.4
ATAH LR LR 06 57 21.6
comp=Z,951nm,19.2s,baz=11,slow=43
SJG San Juan 14.51 41 P Pn 06 50 21.2 -2.3
comp=Z,10nm,0.5s,baz=237,slow=21,SNR=3.5
SJG S Sn 06 52 53.4 -11
comp=Z,5.3nm,0.5s,baz=51,slow=24,SNR=1.6
SJG LR LR 06 57 03.4
comp=Z,174nm,19.2s,baz=210,slow=41
SJG San Juan 14.51 41 Pn 06 50 22.5 -1.0
SJG San Juan 14.51 41 *e* P 06 50 31.6 +1.5
EMPR Esperanza - Ma 14.53 39 Pn Pn 06 50 22.4 -1.4
GCPR Guaynabo City 14.69 41 Pn 06 50 25.5 -0.6
GRGR Grenville 15.07 70 Pn 06 50 31.5 +0.4
GRGR Grenville 15.07 70 *eP* P 06 50 33.1 -3.2
CDVI St. Croix 15.20 46 IAmb IAmb 06 50 36.5
comp=Z,33nm,0.7s
CDVI St. Croix 15.20 46 *eP* Pn 06 50 30.2 -2.7
CZSB Cruzeiro do Su 15.31 167 Pn Pn 06 50 32.9 -1.4
CZSB IAmb IAmb 06 50 42.7
comp=Z,17nm,0.9s
CZSB Cruzeiro do Su 15.31 167 *eP* Pn 06 50 34.1 -0.2
GCMP Grenada, Carri 15.39 69 *eP* Pn 06 50 35.4 +0.1
STVI Saint Thomas 15.48 44 Pn Pn 06 50 34.0 -2.4
STVI IAmb IAmb 06 50 44.3
comp=Z,34nm,0.8s
SVB Belmont 15.81 67 *eP* Pn 06 50 38.4 -2.4
TOSP Speyside 15.91 74 *eP* Pn 06 50 38.7 -3.3
MCLT Moule a Chique 16.25 66 IAmb IAmb 06 50 54.6
comp=Z,192nm,0.9s
MCLT Moule a Chique 16.25 66 *eP* P 06 50 49.7 +0.3
BOAV Boa Vista 16.30 107 Pn Pn 06 50 46.1 -1.0
BOAV IAmb IAmb 06 50 51.8
comp=Z,33nm,0.6s
BOAV Boa Vista 16.30 107 *eP* Pn 06 50 45.9 -1.2
BIM Bigot 16.44 63 *eP* P 06 50 56.8 +5.1
FDF Fort de France 16.46 62 Pn Pn 06 50 47.9 -1.3
FDF IAmb IAmb 06 50 57.7
comp=Z,53nm,0.6s
PETF Flores 16.47 307 P P 06 50 51.4 -0.5
DSLB Salisbury 16.54 59 *eP* P 06 50 53.2 +0.5
MPOM Morne Pois Mar 16.60 63 *eP* P 06 50 52.6 -0.7
SMRT St. Maarten 16.63 49 IAmb IAmb 06 50 57.6
comp=Z,139nm,1.3s
SMRT St. Maarten 16.63 49 *eP* P 06 50 56.2 +2.5
GDHS Morne Mazeau, 16.66 56 IAmb IAmb 06 50 58.3
comp=Z,104nm,0.9s
CBE Ff, Capester 16.68 57 *eP* P 06 50 57.8 +3.5
ILAM Ilet Lapin Mar 16.72 62 *e* Pn 06 50 48.2 -4.3
ABD La Joyeuse, An 16.99 56 *eP* P 06 50 58.6 +0.9
ANBD Bethesda, Anti 17.06 54 *eP* P 06 50 58.0 -0.5
GDSD La Dsirade Is 17.26 57 IAmb IAmb 06 51 04.1
comp=Z,162nm,1.0s
BBGH Gun Hill 17.32 69 *eP* Pn 06 50 59.9 -0.1
BBSP Saint Philip 17.40 69 *eP* Pn 06 50 57.9 -3.1
MACA Manacapuru-AM 18.59 123 P P 06 51 13.4 -2.0
MACA IAmb IAmb 06 51 23.0
comp=Z,56nm,0.7s
MACA Manacapuru-AM 18.59 123 *eP* Pn 06 51 15.3 -0.4
NNA Nana 19.16 182 LR LR 07 00 09.1
comp=Z,872nm,18.1s,baz=16,slow=41
ETMB Extrema 19.66 150 P P 06 51 26.8 -0.3
ETMB IAmb IAmb 06 51 35.8
comp=Z,53nm,1.0s
ETMB Extrema 19.66 150 *eP* P 06 51 27.0 -0.1
060A Indiantown 20.04 349 P P 06 51 30.2 -1.0
CMIG Matias Romero 20.73 300 P P 06 51 35.3 -3.5
comp=Z,4.2nm,0.8s,baz=101,slow=9.3,SNR=7.6
CMIG LR LR 07 00 39.1
comp=Z,654nm,20.8s,baz=126,slow=40
DWPF Disney Wildern 21.31 347 P P 06 51 44.7 -0.2
DWPF Disney Wildern 21.31 347 P P 06 51 45.4 +0.6
baz=166
ITTB Itaituba 23.43 119 *eP* P 06 52 06.3 -1.1
MDP Montagnes des 23.46 94 P P 06 52 08.4 +0.6
comp=Z,25nm,0.5s,baz=287,slow=9.4,SNR=50
MDP LR LR 07 01 47.7
comp=Z,1µm,18.5s,baz=270,slow=37
comp=Z,25nm,0.5s
MALB Monte Alegre 23.64 112 *eP* P 06 52 09.0 -0.5
TLIG Tlapa 24.13 297 P P 06 52 14.4 +0.1
TLIG IAmb IAmb 06 52 23.9
comp=Z,87nm,1.9s
LPAZ La Paz 24.73 161 P P 06 52 18.8 -1.5
comp=Z,5.7nm,0.6s,baz=313,slow=2.9,SNR=20
LPAZ LR LR 07 02 38.7
comp=Z,747nm,18.9s,baz=316,slow=38
comp=Z,5.7nm,0.6s
LPAZ La Paz 24.73 161 P P 06 52 19.2 -1.1
LPAZ IAmb IAmb 06 52 42.9
comp=Z,16nm,0.8s
LPAZ La Paz 24.73 161 *eP* P 06 52 18.8 -1.5
TIGA Tifton 25.01 345 P P 06 52 22.7 +0.7
baz=162
NPGB Novo Progresso 25.15 124 *eP* P 06 52 22.2 -1.2
352A Blakely 25.43 342 IAmb IAmb 06 52 30.3
comp=Z,40nm,0.9s
VILB Vilhena 25.60 142 IAmb IAmb 06 52 47.7
comp=Z,74nm,0.8s
VILB Vilhena 25.60 142 *eP* P 06 52 27.3 -0.2
152A Waverly Hall 26.48 344 IAmb IAmb 06 52 40.3
comp=Z,18nm,0.9s
GOGA Godfrey 26.86 346 P P 06 52 39.1 +0.3
GOGA IAmb IAmb 06 52 44.3
comp=Z,16nm,0.9s
GOGA Godfrey 26.86 346 P P 06 52 40.0 +1.2
baz=164,SNR=5.6
PDRB Porto dos Gac 26.93 134 *eP* P 06 52 38.5 -1.1
CLDB Colider 27.12 131 *eP* P 06 52 39.4 -1.9
Z51A Franklin 27.22 343 IAmb IAmb 06 52 47.8
comp=Z,17nm,1.1s
SIV San Ignacio 27.53 147 P P 06 52 43.3 -1.6
comp=Z,6.3nm,0.5s,baz=302,slow=8.6,SNR=47
SIV LR LR 07 04 02.9
comp=Z,662nm,19.9s,baz=313,slow=37
comp=Z,6.3nm,0.5s
LRAL Lakeview Retre 27.53 340 P P 06 52 45.8 +1.0
baz=156
GO01 Chusmiza 27.65 166 IAmb IAmb 06 53 01.3
comp=Z,16nm,0.9s
Z47A Carrollton 28.05 338 IAmb IAmb 06 52 51.4
comp=Z,22nm,0.8s
PTLB Pontes e Lacer 28.18 143 P P 06 52 50.1 -0.6
PTLB IAmb IAmb 06 52 51.6
comp=Z,24nm,1.2s
PTLB Pontes e Lacer 28.18 143 *eP* P 06 52 49.4 -1.4
VBMS Vicksburg 28.19 334 P P 06 52 51.6 +1.0
baz=149
342A Flagon Creek P 28.34 330 IAmb IAmb 06 52 53.4
comp=Z,20nm,0.8s

PB01 IPOC Station P 28.91 167 IAmb IAmb 06 52 58.5
comp=Z,28nm,1.0s
TKL Tuckaleechee C 29.09 347 P P 06 52 58.5 -0.1
comp=Z,1.2nm,0.5s,baz=31,slow=11,SNR=1.2
TKL LR LR 07 05 16.7
comp=Z,215nm,21.3s,baz=161,slow=38
comp=Z,1.2nm,0.5s
PRPB Parauapebas 29.47 116 *eP* P 06 53 01.5 -0.8
TMAB Tom-Au,PA,Br 29.59 108 *eP* P 06 53 03.4 +0.1
OXF Oxford 29.73 338 P P 06 53 04.6 +0.3
baz=153
V48A Smith Brothers 29.96 342 IAmb IAmb 06 53 08.4
comp=Z,18nm,0.9s
BLA Blacksburg 30.04 353 P P 06 53 08.8 +1.7
baz=172
833A Chaparral WMA, 30.34 316 IAmb IAmb 06 53 15.6
comp=Z,14nm,1.1s
833A Chaparral WMA, 30.34 316 P P 06 53 09.2 -0.6
baz=129
LVC Limon Verde 30.55 167 LR LR 07 08 46.9
comp=Z,247nm,18.4s,baz=314,slow=43
LVC Limon Verde 30.55 167 P P 06 53 11.9 -0.2
LVC IAmb IAmb 06 53 22.3
comp=Z,14nm,1.1s
LVC Limon Verde 30.55 167 *eP* P 06 53 11.5 -0.5
WVT Waverly 30.63 341 P P 06 53 12.3 0.0
WVT IAmb IAmb 06 53 14.4
comp=Z,24nm,1.7s
WVT Waverly 30.63 341 P P 06 53 12.7 +0.4
baz=157
SALV Santo Antonio 30.68 139 *eP* P 06 53 12.0 -0.8
Z38A Mt. Pleasant 31.19 328 IAmb IAmb 06 53 26.2
comp=Z,24nm,0.9s
T47A Sharon Grove 31.20 343 IAmb IAmb 06 53 18.8
comp=Z,16nm,0.7s
SNDB Serra Nova Dou 31.25 128 *eP* P 06 53 17.4 -0.6
MIAR Mount Ida 31.53 332 P P 06 53 20.1 -0.1
baz=146
WHAR Woody Hollow 31.57 334 IAmb IAmb 06 53 47.9
comp=Z,36nm,1.8s
R50A Paris 31.73 348 IAmb IAmb 06 53 30.2
comp=Z,17nm,1.3s
LCAR Lake Charles 31.77 337 IAmb IAmb 06 53 38.0
comp=Z,27nm,1.4s
JCT Junction City 32.00 319 P P 06 53 24.7 +0.2
baz=131
FCAR Ozark Folk Cen 32.01 335 IAmb IAmb 06 53 24.8
comp=Z,8.9nm,0.7s
WCI Wyandotte Cave 32.14 345 P P 06 53 25.8 +0.2
WCI IAmb IAmb 06 53 27.1
comp=Z,12nm,0.8s
WCI Wyandotte Cave 32.14 345 P P 06 53 26.7 +1.1
baz=161
CGM3 Cape Girardeau 32.30 340 IAmb IAmb 06 53 27.9
comp=Z,10nm,0.6s
MCWV Mont Chateau 32.40 355 P P 06 53 29.3 +1.5
baz=173
X37A Clayton 32.44 330 IAmb IAmb 06 53 29.0
comp=Z,10nm,0.6s
S44A Carbondale 32.52 340 IAmb IAmb 06 53 42.9
comp=Z,18nm,1.1s
SIUC Southern Illin 32.53 341 IAmb IAmb 06 53 43.0
comp=Z,17nm,0.8s
P52A Corning 32.65 351 P P 06 53 30.8 +0.8
baz=169
SMTB Santa Maria do 32.67 119 *eP* P 06 53 29.9 -0.6
P49A Miami Univ. Ec 33.02 348 P P 06 53 33.8 +0.6
baz=164
BLO Bloomington 33.09 345 IAmb IAmb 06 53 35.9
comp=Z,16nm,0.7s
P48A Milroy 33.10 347 IAmb IAmb 06 53 35.1
comp=Z,14nm,1.0s
OLIL Olney 33.12 343 IAmb IAmb 06 53 50.8
comp=Z,19nm,1.1s
HHAR Hobbs 33.13 333 IAmb IAmb 06 53 34.5
comp=Z,8.0nm,0.7s
O53A New Philadelph 33.13 353 P P 06 53 35.2 +1.0
baz=171
MGMO Mountain Grove 33.15 336 IAmb IAmb 06 53 48.0
comp=Z,38nm,1.8s
ACSO Alum Creek Sta 33.37 350 P P 06 53 37.5 +1.2
baz=168
U38A Gravette 33.46 333 IAmb IAmb 06 53 37.1
comp=Z,10nm,0.8s
ROSB Rosrio 33.52 106 *eP* P 06 53 37.4 -0.5
CCM Cathedral Cave 33.55 338 P P 06 53 37.2 -0.7
CCM IAmb IAmb 06 53 38.5
comp=Z,20nm,0.8s
CCM Cathedral Cave 33.55 338 P P 06 53 38.0 +0.1
baz=152
TUL1 Leonard 33.69 331 IAmb IAmb 06 53 39.4
comp=Z,18nm,0.7s
TUL1 Leonard 33.69 331 P P 06 53 38.7 -0.4
baz=143,SNR=10
X34A Smith Ranch, M 33.73 327 IAmb IAmb 06 53 47.9
comp=Z,10nm,0.9s
O48B Farmland 33.80 348 P P 06 53 40.2 +0.1
baz=164
TXAR Lajitas Array 33.94 314 P P 06 53 40.9 -0.7
comp=Z,1.5nm,0.9s,baz=132,slow=9.1,SNR=11
TXAR PcP PcP 06 56 15.9 -4.0
comp=Z,0.2nm,0.6s,baz=128,slow=5.8,SNR=1.5
comp=Z,1.5nm,0.9s
TX31 Lajitas Ar. Si 33.94 314 IAmb IAmb 06 53 57.1
comp=Z,21nm,1.2s
S39A Bolivar 34.05 335 IAmb IAmb 06 53 48.7
comp=Z,10nm,0.8s
AQDB Aquidauana 34.14 144 P P 06 53 41.7 -1.5
AQDB Aquidauana 34.14 144 *eP* P 06 53 42.7 -0.5
R40A Maddies Statio 34.14 337 IAmb IAmb 06 53 43.3
comp=Z,9.8nm,0.8s
OK034 N. Norfolk Rd. 34.23 330 IAmb IAmb 06 53 58.5
comp=Z,16nm,0.9s
OK031 S. Brethren Rd 34.25 329 IAmb IAmb 06 53 52.5
comp=Z,40nm,1.5s
WMOK Wichita Mounta 34.36 326 P P 06 53 44.5 -0.5
baz=138
SFIN Lafayette 34.38 345 P P 06 53 45.3 +0.2
baz=161
BCOK Bluff Creek, N 34.41 328 IAmb IAmb 06 53 45.4
comp=Z,21nm,0.6s
OK047 Pawnee, Statio 34.59 330 IAmb IAmb 06 53 55.8
comp=Z,27nm,1.0s
AC02 Maunga 34.60 169 P P 06 53 48.8 +1.1
T35A Sooner Cattle 34.84 331 IAmb IAmb 06 53 55.6
comp=Z,15nm,0.8s
P40A Paris 35.14 338 IAmb IAmb 06 53 52.0
comp=Z,12nm,0.8s
HDIL Hopedale 35.15 342 P P 06 53 51.1 -0.6
baz=157,SNR=6.2
ANTJ Antonio Joao (35.17 146 *eP* P 06 53 50.9 -1.3
CROK Carrier 35.26 329 IAmb IAmb 06 53 52.8
comp=Z,37nm,0.8s
HRV Adam Dziewonsk 35.31 6 P P 06 53 54.5 +1.5
baz=188
RPRD Ribas do Rio P 35.33 142 *eP* P 06 53 51.9 -1.6
ELIS Ellis County 35.69 327 IAmb IAmb 06 54 05.3
comp=Z,20nm,0.9s
P38A Dawn 35.78 337 IAmb IAmb 06 53 57.3
comp=Z,13nm,0.9s
NOKA Waynoka 35.85 328 IAmb IAmb 06 53 58.1
comp=Z,25nm,0.6s
BDFB Brasilia 35.99 129 P P 06 53 59.0 -0.4
comp=Z,4.1nm,0.4s,baz=289,slow=8.4,SNR=15
BDFB LR LR 07 09 58.5
comp=Z,786nm,18.8s,baz=38,slow=38
comp=Z,4.1nm,0.4s
BDFB Brasilia 35.99 129 P P 06 53 58.8 -0.6
BDFB Brasilia 35.99 129 *eP* P 06 53 59.0 -0.4
AMTX Amarillo 36.13 323 IAmb IAmb 06 54 08.9
comp=Z,9.5nm,0.9s
AMTX Amarillo 36.13 323 P P 06 54 00.3 -0.1
baz=134
MSTX Muleshoe 36.19 321 IAmb IAmb 06 54 08.9
comp=Z,27nm,1.2s
MSTX Muleshoe 36.19 321 P P 06 53 59.8 -1.1
baz=131,SNR=7.5
SLBS Sierra La Lagu 36.29 300 P P 06 54 03.3 +1.5
SLBS IAmb IAmb 06 54 14.8
comp=Z,44nm,1.4s
LCO Las Campanas 36.47 172 P P 06 54 04.7 +1.3
MNTX Cornudas Mount 36.51 316 P P 06 54 03.0 -0.5
baz=126,SNR=7.1
KSU1 Kansas State U 36.65 333 IAmb IAmb 06 54 10.1
comp=Z,19nm,0.9s
KSU1 Kansas State U 36.65 333 P P 06 54 03.5 -1.1
baz=145,SNR=6.3

SDBA SAO DESIDERIO 36.70 122 *eP* P 06 54 04.7 -0.8
LPIG La Paz 36.75 301 LR LR 07 10 09.9
comp=Z,149nm,18.1s,baz=118,slow=38
ITRB Iturama 36.93 137 *eP* P 06 54 05.9 -1.4
LBNH Lisbon 36.99 5 P P 06 54 07.5 0.0
baz=187
L40A Anamosa 37.12 341 IAmb IAmb 06 54 08.8
comp=Z,18nm,1.2s
IPMB Ipameri, GO 37.30 133 *eP* P 06 54 09.7 -0.8
SADO Sadowa 37.43 356 LR LR 07 10 01.9
comp=Z,146nm,21.8s,baz=172,slow=37
JFWS Jewell Farm 37.60 343 IAmb IAmb 06 54 12.6
comp=Z,17nm,0.7s
JFWS Jewell Farm 37.60 343 P P 06 54 11.7 -0.9
baz=157,SNR=6.3
SCIA State Center 37.65 339 P P 06 54 12.6 -0.5
baz=152
N35A Tabor 37.68 336 IAmb IAmb 06 54 18.7
comp=Z,18nm,1.0s
PCMB Pacaembu 37.69 140 *eP* P 06 54 12.3 -1.3
TRCB Terra Rica 37.73 143 *eP* P 06 54 12.6 -1.4
CBKS Cedar Bluff 37.92 329 IAmb IAmb 06 54 15.7
comp=Z,11nm,0.7s
CBKS Cedar Bluff 37.92 329 P P 06 54 14.9 -0.6
baz=140
CPUP Villa Florida 38.08 152 P P 06 54 14.9 -2.0
comp=Z,5.5nm,1.1s,baz=350,slow=5.6,SNR=6.4
CPUP LR LR 07 11 17.7
comp=Z,314nm,18.9s,baz=326,slow=38
comp=Z,5.5nm,1.1s
CPUP Villa Florida 38.08 152 *eP* P 06 54 16.9 0.0
MNTQ Montreal, Queb 38.13 3 P P 06 54 18.4 +1.4
MNTQ IAmb IAmb 06 54 23.5
comp=Z,13nm,0.8s
K38A Parkersburg 38.15 340 IAmb IAmb 06 54 17.1
comp=Z,21nm,0.6s
MCR1 Marechal Candi 38.22 146 *eP* P 06 54 16.7 -1.3
JANB Januaria 38.58 125 *eP* P 06 54 20.5 -0.8
121A Cookes Peak, D 38.66 315 P P 06 54 22.1 +0.1
CRNM Carnpina 38.75 317 P P 06 54 22.9 +0.2
PMNB Patos De Minas 38.95 132 *eP* P 06 54 23.3 -1.1
BB19B Bebedouro 39.11 137 *eP* P 06 54 24.2 -1.4
ANMO Albuquerque 39.16 319 LR LR 07 15 39.2
comp=Z,50nm,18.7s,baz=130,slow=44
ANMO Albuquerque 39.16 319 P P 06 54 26.1 -0.1
ANMO Albuquerque 39.16 319 P P 06 54 26.4 +0.2
baz=128
ZON Zonda 39.27 170 IAmb IAmb 06 54 28.4
comp=Z,20nm,0.9s
T25A Trinidad 39.29 323 P P 06 54 26.7 -0.5
baz=132
PTGB Pitanga 39.53 144 *eP* P 06 54 29.5 +0.3
I37A Lemond, Waseca 39.58 340 IAmb IAmb 06 54 28.9
comp=Z,12nm,0.7s
KSCO Kaye Shedlock' 39.58 327 IAmb IAmb 06 54 39.1
comp=Z,76nm,1.7s
KSCO Kaye Shedlock' 39.58 327 P P 06 54 29.7 +0.2
baz=136
MC01 Montes Claros 39.79 127 *eP* P 06 54 30.7 -0.7
FRBT Francisco Belt 39.95 147 *eP* P 06 54 29.7 -3.0
SDCO Great Sand Dun 40.34 323 P P 06 54 36.5 +0.4
baz=131,SNR=20
K31A O'Neill 40.45 334 IAmb IAmb 06 54 42.6
comp=Z,30nm,1.1s
ECSD EROS Data Cent 40.49 337 P P 06 54 35.1 -1.8
ECSD EROS Data Cent 40.49 337 P P 06 54 36.0 -0.9
baz=148
TUC Tucson 40.70 312 P P 06 54 38.0 -0.9
TUC Tucson 40.70 312 P P 06 54 38.4 -0.4
baz=120
DIAM Diamantina, MG 40.90 129 *eP* P 06 54 40.8 +0.1
S22A 4UR Ranch, Cre 41.14 322 P P 06 54 43.5 +0.9
baz=130,SNR=6.8
F36A Milaca 41.26 342 IAmb IAmb 06 54 58.0
comp=Z,20nm,1.1s
W18A Petrified Fore 41.45 317 IAmb IAmb 06 54 53.7
comp=Z,26nm,1.4s
W18A Petrified Fore 41.45 317 P P 06 54 45.3 +0.3
baz=124
VAO Valinhos 41.48 137 *eP* P 06 54 43.9 -1.4
ISCO Idaho Springs 41.78 325 P P 06 54 48.4 +0.5
ISCO Idaho Springs 41.78 325 P P 06 54 48.3 +0.4
baz=133
MVCO Mesa Verde 41.85 320 P P 06 54 49.2 +0.8
baz=127
GDU01 Guandu, BA 41.87 120 *eP* P 06 54 47.9 -0.7
SUSD Miller 42.02 335 IAmb IAmb 06 54 58.2
comp=Z,12nm,0.8s
SUSD Miller 42.02 335 P P 06 54 48.7 -0.7
baz=145
214A Organ Pipe Nat 42.03 311 P P 06 54 49.6 -0.2
baz=118
BO02 Sierra Bellavi 42.16 173 P P 06 54 51.4 +0.7
BO02 IAmb IAmb 06 54 59.8
comp=Z,28nm,0.9s
PET01 Itanhaem-SP 42.17 139 *eP* P 06 54 49.2 -1.7
RCBR Riachuelo 42.21 107 LR LR 07 13 58.1
comp=Z,707nm,19.3s,baz=84,slow=38
RCBR Riachuelo 42.21 107 P P 06 54 49.7 -1.7
RCBR IAmb IAmb 06 54 51.9
comp=Z,18nm,0.8s
RCBR Riachuelo 42.21 107 *eP* P 06 54 51.1 -0.3
NBLA Lagarto - SE 42.27 115 *eP* P 06 54 49.9 -1.9
PV15 Paradox Valley 42.53 322 IAmb IAmb 06 55 03.9
comp=Z,23nm,1.0s
EYMN Ely 42.57 345 P P 06 54 53.3 -0.6
EYMN IAmb IAmb 06 55 59.8
comp=Z,30nm,1.5s
EYMN Ely 42.57 345 P P 06 54 53.1 -0.7
baz=157
PV13 Radium Mtn., P 42.63 321 IAmb IAmb 06 55 17.4
comp=Z,14nm,0.9s
CMC01 Camacan, BA 42.70 122 *eP* P 06 54 54.5 -0.8
N23A Red Feather La 42.71 326 P P 06 54 54.0 -1.4
baz=134
WUAZ Wupatki 42.78 316 P P 06 54 55.3 -0.6
baz=123
GUA01 Guaratinga, BA 43.07 124 *eP* P 06 54 57.3 -1.0
SJMB Sao Joao De Ma 43.08 127 *eP* P 06 54 58.4 +0.1
NBAN Anadia - AL 43.14 112 *eP* P 06 54 57.6 -1.3
NAN01 Guarapari, ES 43.46 125 *eP* P 06 55 01.2 -0.2
VAS01 Vassouras-RJ 43.47 133 *eP* P 06 55 00.9 -0.6
O20A White River Ci 43.51 324 P P 06 55 01.7 -0.1
baz=130
B35A Bob, Littlefor 43.56 343 IAmb IAmb 06 55 01.9
comp=Z,17nm,0.6s
RIB01 Linhares ES 44.03 127 *eP* P 06 55 05.6 -0.4
RSSD Black Hills 44.04 331 P P 06 55 05.9 -0.1
baz=138
GLA Glamis 44.05 311 P P 06 55 05.8 -0.3
baz=117
PDMCI Parker Dam,Lak 44.12 313 P P 06 55 06.2 -0.4
baz=119
DUB01 Friburgo-RJ 44.13 132 *eP* P 06 55 06.2 -0.7
TER01 Tubarc-SC 44.13 145 *eP* P 06 55 04.4 -2.3
AGMN Agassiz Nation 44.16 341 IAmb IAmb 06 55 12.7
comp=Z,18nm,1.2s
AGMN Agassiz Nation 44.16 341 P P 06 55 06.4 -0.2
baz=151
K22A Casper 44.24 328 P P 06 55 07.3 -0.3
baz=134
E28A Huff 44.46 336 IAmb IAmb 06 55 17.2
comp=Z,22nm,0.9s
CAM01 Campos-RJ 44.50 131 *eP* P 06 55 09.5 -0.2
ALF01 Guarapari-ES 44.51 129 *eP* P 06 55 09.4 -0.4
BC3 Big Chuckawall 44.79 311 P P 06 55 12.7 +0.7
baz=117
IRM Iron Mountain 44.79 312 P P 06 55 12.3 +0.3
baz=118
MONP2 Monument Peak 45.18 310 P P 06 55 14.8 -0.5
baz=115
V12A Nelson 45.32 314 P P 06 55 17.3 +1.1
BELC Belle Mtn. Jos 45.35 312 P P 06 55 16.8 +0.3
baz=117
GMRC Granite Mounta 45.45 313 P P 06 55 16.1 -1.3
baz=118
TPFO Pinon Flats 45.51 311 P P 06 55 18.1 +0.3
baz=116
PFO Pinyon Flats O 45.52 311 LR LR 07 16 41.2
comp=Z,69nm,18.2s,baz=124,slow=39
PFO Pinyon Flats O 45.52 311 P P 06 55 18.5 +0.6
baz=116
ULM Lac du Bonnet 45.88 342 P P 06 55 19.3 -1.0
comp=Z,8.2nm,0.5s,baz=143,slow=8.1,SNR=17
comp=Z,8.2nm,0.5s
ULM Lac du Bonnet 45.88 342 IAmb IAmb 06 55 29.5

comp=Z,13nm,0.8s
TUQ Turquoise Moun 45.95 313 P P 06 55 22.7 +1.4
baz=118
HEC Hector,Ludlow 45.97 312 P P 06 55 21.7 +0.4
baz=117
BW06 Boulder Array 45.97 326 P P 06 55 22.2 +0.8
baz=131
PDAR Pinedale Array 45.97 326 P P 06 55 21.1 -0.4
comp=Z,1.0nm,0.6s,baz=114,slow=8.6,SNR=15
PDAR PcP PcP 06 56 56.7 -1.4
comp=Z,0.7nm,0.7s,baz=150,slow=3.8,SNR=2.4
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 45.97 326 P P 06 55 21.0 -0.5
TCUT Toone Canyon 46.01 323 IAmb IAmb 06 55 30.7
comp=Z,21nm,1.0s
MURC Murrieta 46.07 310 P P 06 55 22.9 +0.7
baz=115
BBRC Big Bear Solar 46.15 311 P P 06 55 24.2 +1.2
baz=116
DUG Dugway, Tooele 46.33 321 IAmb IAmb 06 55 33.2
comp=Z,6.3nm,0.8s
DUG Dugway, Tooele 46.33 321 P P 06 55 25.0 +0.7
baz=125
SHOC Shoshone, Teco 46.42 314 P P 06 55 25.2 +0.4
baz=118
GSC Goldstone, Bar 46.53 313 P P 06 55 26.6 +0.8
baz=117
TPNV Topopah Spring 46.90 315 P P 06 55 29.3 +0.5
baz=119
TRQA Tornquist 47.01 165 P P 06 55 29.0 -0.3
SNOW Snow King Moun 47.09 326 IAmb IAmb 06 55 37.2
comp=Z,9.7nm,1.0s
LOHW Long Hollow 47.10 326 IAmb IAmb 06 55 40.4
comp=Z,6.7nm,0.9s
FURC Furnace Creek, 47.10 314 P P 06 55 30.6 +0.4
baz=118
R11A Troy Canyon, C 47.14 317 IAmb IAmb 06 55 38.9
comp=Z,16nm,1.8s
R11A Troy Canyon, C 47.14 317 P P 06 55 31.7 +1.1
baz=121
EDW2 Edwards Air Fo 47.22 312 P P 06 55 31.9 +0.8
baz=116
LRMC Laurel Mtn Rad 47.25 313 P P 06 55 32.5 +1.0
baz=116
CCAC Calif City Air 47.35 312 IAmb IAmb 06 55 40.7
comp=Z,10.0nm,0.9s
FXWY Fox Creek 47.35 326 IAmb IAmb 06 55 43.5
comp=Z,19nm,1.9s
MPMC Manual Prospec 47.37 313 P P 06 55 32.5 0.0
baz=117
RLMT Red Lodge 47.38 328 P P 06 55 33.2 +0.7
baz=133
IMW Indian Meadow 47.47 326 IAmb IAmb 06 55 41.8
comp=Z,21nm,1.8s
GRAC Grapevine Rang 47.71 315 P P 06 55 34.4 -0.6
baz=118
ARVC Arvin 47.94 312 P P 06 55 36.7 0.0
baz=115
CWC Cottonwood Cre 47.96 313 P P 06 55 37.0 -0.1
baz=117
SCHQ Schefferville 47.99 7 P P 06 55 38.0 +1.2
comp=Z,5.7nm,0.7s,baz=186,slow=7.7,SNR=15
SCHQ LR LR 07 15 49.2
comp=Z,112nm,21.8s,baz=223,slow=36
comp=Z,5.7nm,0.7s
PLCA Paso Flores 48.06 174 P P 06 55 37.1 -0.4
comp=Z,6.5nm,1.0s,baz=331,slow=10.0,SNR=10
PLCA PcP PcP 06 57 04.7 -0.6
comp=Z,1.2nm,0.7s,baz=335,slow=7.6,SNR=1.2
comp=Z,6.5nm,1.0s
PLCA Paso Flores 48.06 174 P P 06 55 37.0 -0.5
PLCA IAmb IAmb 06 55 38.6
comp=Z,19nm,1.2s
PLCA Paso Flores 48.06 174 *e*P **P 06 55 37.8 +0.2**
SCZ2 Santa Cruz Isl 48.08 310 P P 06 55 37.7 -0.1
baz=114
ELK Elko 48.17 320 LR LR 07 18 38.3
comp=Z,59nm,21.1s,baz=133,slow=39
VES Vestal, Richgr 48.43 312 P P 06 55 41.2 +0.7
baz=116
SMMC Simmler 48.88 311 P P 06 55 44.5 +0.5
baz=114
BOZ Bozeman (W) 48.94 327 P P 06 55 44.6 +0.2
baz=130
NVAR Mina Array Bea 49.04 316 P P 06 55 44.6 -0.8
comp=Z,1.0nm,0.8s,baz=131,slow=6.3,SNR=6.8
NVAR PcP PcP 06 57 09.2 +0.1
comp=Z,1.3nm,0.9s,baz=119,slow=3.5,SNR=1.5
NVAR LR LR 07 19 32.8
comp=Z,138nm,19.8s,baz=133,slow=40
comp=Z,1.0nm,0.8s
KVN Kaiserville 49.19 317 P P 06 55 46.4 -0.2
HLID Hailey 49.25 324 P P 06 55 47.1 +0.2
baz=126
LL02 Futaleuf 50.39 176 P P 06 55 54.8 -0.5
MSO Missoula 50.96 327 P P 06 55 59.9 +0.1
baz=129
WVOR Wild Horse Val 51.23 320 IAmb IAmb 06 56 10.7
comp=Z,10nm,0.9s
AY01 Puyuhuapi 51.57 177 IAmb IAmb 06 56 12.2
comp=Z,17nm,0.9s
NEW Newport 53.55 327 P P 06 56 19.2 +0.4
baz=126
J04D Umpqua Nationa 53.85 319 P P 06 56 27.2 -0.8
baz=118
B08A Colville Reser 54.81 326 P P 06 56 27.2 0.0
FRB Frobisher Bay 56.62 4 LR LR 07 20 41.9
comp=Z,102nm,21.4s,baz=196,slow=36
BBTS Babate 58.84 77 LR LR 07 20 35.3
comp=Z,97nm,21.1s,baz=236,slow=34
CBB Campbell River 59.06 325 IAmb IAmb 06 57 07.5
comp=Z,8.3nm,0.8s
YKA Yellowknife Ar 61.82 341 P P 06 57 15.8 -0.9
comp=Z,2.9nm,0.5s,baz=131,slow=6.5,SNR=16
comp=Z,2.9nm,0.5s
SFJD Kangerlussuaq 62.11 11 PcP PcP 06 57 59.1 +0.4
comp=Z,5.9nm,0.7s,baz=143,slow=14,SNR=2.2
SFJD LR LR 07 23 32.2
comp=Z,98nm,21.4s,baz=206,slow=35
DLBC Dease Lake 65.50 332 P P 06 57 41.5 +0.3
baz=118
TAOE Nuku Hiva Isla 65.77 257 *e*LR LR 07 17 26.8
comp=Z,274nm,24.0s
R33M Jennings River 66.38 333 P P 06 57 47.4 +0.5
baz=118
Q32M Nakina River 66.78 332 P P 06 57 50.1 +0.6
baz=116
S32K Killisnoo 67.25 330 P P 06 57 53.2 +0.9
baz=114
R32K Eaglecrest 67.55 331 P P 06 57 55.0 +0.8
baz=114
PNCL Nicolau / Gran 67.94 52 *e*P **P 06 57 56.3 -0.8**
MMPY Sheldon Lake, 68.03 336 P P 06 57 57.8 +0.5
baz=119
PVAQ Vaqueiros 68.48 53 *e*P **P 06 58 00.3 -0.2**
PESTR Estremoz 68.78 51 *e*P **P 06 58 01.3 -1.0**
SUMG Summit 69.10 11 *i* P **P 06 58 05.0 +0.8**
PBAR Barrancos 69.12 52 *e*P **P 06 58 05.1 +0.7**
M31M Drury Creek, Y 69.14 335 P P 06 58 04.7 +0.6
baz=116
C36M Paulatuk 69.29 344 P P 06 58 05.5 +0.7
baz=128
O30N Mendenhall 69.29 333 P P 06 58 05.2 +0.1
baz=113
P30M Million Dollar 69.43 332 P P 06 58 06.8 +0.7
baz=112
N31M Braeburn, Yuko 69.44 334 P P 06 58 06.4 +0.3
baz=114
P29M Windy Craggy 69.61 332 P P 06 58 07.3 +0.2
baz=112
HYT Haines Junctio 69.95 333 P P 06 58 09.7 +0.4
baz=112
N30M Aishikik Lake 70.01 333 P P 06 58 10.3 +0.8
baz=113
M30M Minto, Yukon 70.32 335 P P 06 58 11.3 -0.1
M30M Minto, Yukon 70.32 335 P P 06 58 11.5 +0.1
baz=113,SNR=6.3
TIC Toumodi 70.53 86 eP P 06 58 13.7 +0.1
LIC Lamto 70.56 86 eP P 06 58 14.0 +0.3
comp=Z,97nm,0.7s
DBIC Dimbokro 70.69 85 P P 06 58 14.9 +0.4
comp=Z,37nm,0.8s,baz=289,slow=4.2,SNR=42
DBIC Dimbokro 70.69 85 P P 06 58 14.4 -0.1
KIC Kosan Boka 70.83 86 eP P 06 58 15.6 +0.2
comp=Z,43nm,0.7s
KOWA Kowa 70.96 77 P P 06 58 16.5 +0.4
M29M Somme Creek 70.98 334 P P 06 58 16.2 +0.7
baz=112

L29M L29M 71.09 335 P P 06 58 16.3 +0.2
baz=112
K29M Barlow Dome 71.12 336 P P 06 58 16.7 +0.4
baz=113,SNR=5.8
O28M Mount Upton 71.16 332 P P 06 58 17.2 +0.3
baz=110
A36M Sachs Harbour 71.23 346 P P 06 58 17.6 +1.0
baz=128
F31M Tsiigehtchic 71.25 340 P P 06 58 17.2 +0.3
baz=118
YUK3 Moose Creek 71.62 333 P P 06 58 19.8 +0.2
baz=110
ESDC Sonseca Array 71.67 51 P P 06 58 21.0 +0.9
comp=Z,4.3nm,0.9s,baz=270,slow=5.7,SNR=16
comp=Z,4.3nm,0.9s
ESDC Sonseca Array 71.67 51 P P 06 58 20.8 +0.7
EPYK Eagle Plains 71.83 338 P P 06 58 20.9 +0.4
baz=115
DAWY Dawson 71.97 336 P P 06 58 21.8 +0.5
baz=111
M27K Edge Creek, AK 72.44 334 P P 06 58 25.2 +0.8
baz=108,SNR=5.9
BCAR Beaver Creek A 72.63 334 P P 06 58 25.6 +0.3
L27K Beaver Creek, 72.65 334 P P 06 58 25.8 +0.3
L27K IAmb IAmb 06 58 35.5
comp=Z,7.8nm,0.8s
L27K Beaver Creek, 72.65 334 P P 06 58 26.0 +0.5
baz=109,SNR=5.1
EGAK Eagle 72.94 336 P P 06 58 27.3 +0.3
baz=110
M26K Nabesna, AK 72.95 333 P P 06 58 27.4 +0.1
baz=108
K27K Chicken 73.06 335 P P 06 58 28.3 +0.5
baz=109
BMRM Bremner River 73.28 332 P P 06 58 29.9 +0.7
baz=106
L26K Log Cabin Wild 73.30 334 P P 06 58 30.0 +0.8
baz=107
I27K Kandik River 73.40 337 P P 06 58 30.3 +0.4
baz=110
N25K Chitina, Valde 73.45 332 P P 06 58 30.9 +0.6
baz=106
H27K Steamboat Moun 73.58 337 P P 06 58 31.6 +0.7
baz=110
EYAK Cordova Ski Ar 73.72 331 P P 06 58 32.5 +0.8
baz=104
J26L Joseph Creek 73.83 335 P P 06 58 34.1 +1.6
baz=108
SCRK Sand Creek 73.85 335 P P 06 58 34.3 +1.7
baz=107
RIDG Independent Ri 74.15 334 IAmb IAmb 06 58 44.2
comp=Z,14nm,0.9s
RIDG Independent Ri 74.15 334 P P 06 58 35.0 +0.7
baz=106
E27K Coleen River 74.28 339 P P 06 58 36.5 +1.5
baz=110
EKA Eskdalemuir Ar 74.38 35 P P 06 58 36.0 +0.3
comp=Z,3.6nm,0.9s,baz=243,slow=4.6,SNR=4.1
comp=Z,3.6nm,0.9s
J25K Salcha River, 74.61 335 IAmb IAmb 06 58 46.4
comp=Z,5.6nm,0.8s
J25K Salcha River, 74.61 335 P P 06 58 37.7 +0.7
baz=106
G26K Porcupine Rive 74.67 338 P P 06 58 38.8 +1.7
baz=108
SCM Sheep Creek Mo 74.77 332 P P 06 58 39.5 +1.5
baz=103
M23K Glacier View 74.94 332 P P 06 58 38.9 0.0
baz=103
PWL Port Wells 75.03 331 P P 06 58 39.4 0.0
baz=102
WAT6 Susitna Watana 75.13 333 P P 06 58 41.0 +0.9
baz=103
KNK Knik Glacier 75.20 332 P P 06 58 41.5 +1.1
baz=102
HDA Harding Lake 75.22 335 IAmb IAmb 06 58 49.5
comp=Z,9.0nm,0.8s
HDA Harding Lake 75.22 335 P P 06 58 41.9 +1.5
baz=104
SML Sawmill 75.22 332 P P 06 58 41.9 +1.3
baz=102
H25K Birch Creek 75.24 337 P P 06 58 41.7 +1.2
baz=106
ILAR Eielson Array 75.28 335 P P 06 58 40.1 -0.7
comp=Z,1.3nm,0.8s,baz=107,slow=4.7,SNR=7.7
comp=Z,1.3nm,0.8s
ILAR Eielson Array 75.28 335 P P 06 58 39.7 -1.1
F25K Christian Rive 75.55 338 P P 06 58 43.6 +1.3
baz=106
PMR Palmer 75.55 332 P P 06 58 43.8 +1.4
baz=102
O22K Cooper Landing 75.62 331 P P 06 58 44.2 +1.4
baz=101
MCK McKinley 75.91 334 P P 06 58 45.5 +1.0
baz=102
H24K Noodor Dome 75.95 336 P P 06 58 45.5 +0.8
baz=104
G24K Hadweenzic Riv 76.00 337 P P 06 58 45.7 +0.8
baz=104
NEA2 Nenana 76.15 335 P P 06 58 46.9 +1.1
baz=102
SUA Susitna One 76.29 332 P P 06 58 47.3 +0.5
baz=100
D25K Kavik River 76.29 340 P P 06 58 47.1 +0.6
baz=106
F24K Squaw Lake 76.36 338 P P 06 58 48.7 +1.8
baz=104
CAPN Captain Cook N 76.36 331 P P 06 58 49.1 +2.1
baz=100
TORD Torodi Ar. Bea 76.58 78 P P 06 58 49.3 +0.1
comp=Z,3.9nm,0.8s,baz=288,slow=6.4,SNR=31
comp=Z,3.9nm,0.8s
PPT2 Papeete2 76.59 250 *e*LR LR 07 22 27.7
comp=Z,282nm,25.8s
H23K Yukon River 76.61 336 P P 06 58 49.1 +0.7
baz=102
KDAK Kodiak Island 76.64 328 P P 06 58 49.3 +0.6
baz=98
SKT Skwentna 76.75 332 P P 06 58 49.1 -0.1
baz=100
BPAW Bear Paw Mtn. 76.87 334 P P 06 58 49.3 -0.6
BPAW IAmb IAmb 06 58 58.9
comp=Z,9.4nm,0.8s
BPAW Bear Paw Mtn. 76.87 334 P P 06 58 50.6 +0.7
baz=100
MLY Manley 76.94 335 P P 06 58 50.7 +0.5
baz=101
G23K Bonanza Creek 76.99 337 P P 06 58 51.3 +0.8
baz=102
COLD Coldfoot 77.16 337 P P 06 58 52.2 +0.8
baz=102
H22K Ishtalitna Cre 77.36 336 P P 06 58 53.2 +0.6
baz=101
I21K Tanana 77.48 335 P P 06 58 54.0 +0.8
baz=100
G22K Bettles 77.61 337 P P 06 58 55.2 +1.4
baz=101
TBI Tubuai 77.76 244 *e*LR LR 07 23 00.5
comp=Z,84nm,26.2s
C23K Itkillik River 77.86 340 P P 06 58 56.0 +0.7
baz=102
H21K Melozitna Rive 77.90 336 P P 06 58 56.2 +0.6
baz=99
L20K Farewell, AK 77.91 332 P P 06 58 56.3 +0.6
baz=98
F22K John River 77.97 338 P P 06 58 56.5 +0.5
baz=100
N19K Bonanza Creek 77.99 331 P P 06 58 56.4 +0.2
baz=97
K20K Telida 78.11 333 P P 06 58 57.1 +0.3
baz=98
P18K Big Mountain, 78.21 329 P P 06 58 58.4 +1.0
baz=96
O18K Koktuh Hills 78.24 330 P P 06 58 58.8 +1.1
baz=96
J20K Nowinta River 78.25 334 P P 06 58 58.0 +0.5
baz=98
G21K Allakaket 78.32 336 P P 06 58 58.4 +0.5
baz=99
L19K White Mountain 78.32 332 P P 06 58 58.3 +0.3
baz=97
F21K Alatna River 78.42 337 P P 06 58 59.3 +0.8
baz=99
BMRD Maredsous 78.62 40 *d*P **P 06 59 00.7 +0.8**
N18K Kilae Creek 78.66 330 P P 06 59 00.3 +0.3
baz=95
Q16K King Salmon 78.88 328 P P 06 59 01.8 +0.7
baz=94

GCSA Galena City Sc 79.49 334 P P 06 59 05.5 +1.2
baz=95
DAVOX Davos/Dischmat 82.02 44 P P 06 59 19.8 +1.3
comp=Z,0.9nm,0.4s,baz=302,slow=7.8,SNR=2.0
comp=Z,0.9nm,0.4s
KEST Kesra 82.14 55 P P 06 59 20.7 +1.5
comp=Z,2.5nm,0.7s,baz=48,slow=16,SNR=1.9
comp=Z,2.5nm,0.7s
NB2 NORSAR Subarra 82.39 29 P P 06 59 21.0 +1.0
comp=Z,7.5nm,1.0s,baz=269,slow=5.6
NOA NORSAR Array B 82.39 29 P P 06 59 20.4 +0.5
comp=Z,0.9nm,0.6s,baz=274,slow=6.6,SNR=5.1
comp=Z,0.9nm,0.6s
HFS Hagfors 83.65 30 P P 06 59 25.9 -0.5
comp=Z,0.5nm,0.6s,baz=184,slow=37,SNR=2.0
comp=Z,0.5nm,0.6s
KHC Kasperske Hory 84.36 41 *e*P **P 06 59 31.0 +0.6**
GERES GERESS Array B 84.47 42 P P 06 59 31.2 +0.2
comp=Z,1.5nm,0.8s,baz=259,slow=2.7,SNR=7.1
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 87.27 20 P P 06 59 44.3 -0.1
comp=Z,2.6nm,0.7s,baz=284,slow=4.9,SNR=13
comp=Z,2.6nm,0.7s
DIVS Divibare 89.37 46 P P 06 59 53.3 -1.6
FINES FINESS Array B 89.45 28 P P 06 59 55.2 +0.5
comp=Z,1.4nm,0.7s,baz=192,slow=27,SNR=4.3
comp=Z,1.4nm,0.7s
VNA3 Neumayer Olymp 89.49 163 P P 06 59 54.4 -0.4
VNA1 Neumayer--Stat 89.67 162 P P 06 59 58.6 +3.0
SNAA Sanae 91.69 162 P P 07 00 03.7 -1.4
MLR Muntele Rosu 93.24 44 P P 07 00 14.1 +1.2
comp=Z,1.4nm,0.6s,baz=209,slow=7.1,SNR=1.7
comp=Z,1.4nm,0.6s
TROLL Troll, Antarti 93.40 162 P P 07 00 12.2 -0.8
WMQ Urumqi 127.06 15 *e*P **PKiKP 07 06 03.6 +0.5**
HYBB Hyderabad (bro 144.96 45 *e*PKPab **PKPab 07 06 34.7 -0.7**
PZH PanZhiHua 146.35 3 PKPbc **PKPdf 07 06 38.3 -0.3**
ASAR Alice Springs 146.89 237 PKPbc **PKPdf 07 06 40.0 +0.5**
comp=Z,2.3nm,0.7s,baz=120,slow=3.5,SNR=21
WRA Warramunga Arr 147.89 244 PKPbc **PKPdf 07 06 41.9 +0.7**
comp=Z,2.4nm,0.9s,baz=107,slow=2.5,SNR=15
CMAR Chiang Mai Arr 153.96 11 PKPbc **PKPbc 07 06 57.8 -0.7**
comp=Z,1.1nm,0.4s,baz=314,slow=2.8,SNR=6.2

JMA ***14*** *06:59:36.1±0.6,35°N±2°×14°1E±°, h35km±2km, MV2.8/32, FAR SE OFF BOSO PEN*

IDC ***14*** *06:59:39.3±5.4,34°.21N×136°.13E, h0km, mb3.6/2, mbtmp3.4/3, ML2.2/1, MS2.2/1, Error ellipse: s-maj=256.4km s-min=25.5km az=116.0*

ISC 14 06:59:36.6±1.6, 34°.68N±0°.08×141°.4E±0°.1, h27km, n11, σ1§13/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.36**	**267**	P	P	**Pn**	**06 59 44.8**	**-0.8**
BSO3	**Boso 3**	**0.76**	**280**	P	P	**Pn**	**06 59 50.9**	**-0.4**
BSO4	**Boso 4**	**0.94**	**290**	P	P	**Pb**	**06 59 53.7**	**-0.6**
JKUC	**kamogawauchiur**	**1.11**	**296**	P	P	**Pb**	**06 59 55.8**	**-1.4**
CHOJ	**Chosi**	**1.12**	**336**	*e*P	P	**Pb**	**06 59 55.7**	**-1.7**
JIM2	**Oshima 3**	**1.64**	**272**	*e*P	P	**Pn**	**07 00 03.3**	**-0.4**
JMKN	**Mikurajimanish**	**1.70**	**243**	P	P	**Pn**	**07 00 04.4**	**-0.2**
JYT	**Yasato**	**1.84**	**328**	*e*P	P	**Pn**	**07 00 06.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.21**	**306**	Pn	P	**Pn**	**07 00 25.9**	**+0.6**
	0.3nm,0.3s,baz=222,slow=4.0,SNR=4.9							
MJAR				Sn		**Sn**	**07 01 04.7**	**+2.0**
	0.3nm,0.3s,baz=153,slow=17,SNR=6.3							
MJAR				LR		LR	07 01 33.4	
	comp=Z,45nm,20.9s,baz=6.0,slow=40							
	1.4nm,0.3s							
WRA	**Warramunga Arr**	**54.73**	**188**	P	P		**07 09 04.1**	**+0.4**
	0.4nm,0.4s,baz=0.9,slow=7.6,SNR=5.8							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**58.46**	**188**	P	P		**07 09 31.1**	**+0.9**
	0.2nm,0.5s,baz=13,slow=8.8,SNR=2.0							
	0.2nm,0.5s							

IDC 14 07:01:08.5±2.9, 53°.99N×86°.51E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=22.9km s-min=13.6km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVINFRA**	**1.00**	**269**	*i*			07 08 10.0	
	baz=84,slow=321,SNR=1.6							
ZALV	**Zalesovo Beam**	**1.00**	**269**	Pg	Pg		07 01 27.1	-0.5
	0.8nm,0.3s,baz=88,slow=13,SNR=8.4							
ZALV				Lg	Lg		07 01 41.7	
	1.4nm,0.3s,baz=91,slow=29,SNR=9.2							
ZALV				Rg	Rg		07 01 48.7	
	9.2nm,0.9s,baz=87,slow=25,SNR=24							
KURBB	**Kurchatov Arra**	**5.94**	**239**	Pn	Pn		07 02 38.3	+0.6
	0.1nm,0.3s,baz=56,slow=14,SNR=4.6							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn		07 03 02.9	+1.2
	0.1nm,0.3s,baz=18,slow=15,SNR=2.0							
	0.1nm,0.2s							

IDC 14 07:10:55.6±2.1, 1°.72N×127°.04E, h0km, mb3.2/3, mbtmp3.3/4, Error ellipse: s-maj=119.9km s-min=27.2km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.75**	**184**	P	P		07 15 27.8	+0.6
	1.2nm,0.8s,baz=0.0,slow=10,SNR=1.9							
WRA	**Warramunga Arr**	**22.69**	**162**	P	P		07 15 58.6	-0.4
	0.6nm,0.5s,baz=340,slow=11,SNR=9.1							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**26.11**	**166**	P	P		07 16 31.4	0.0
	0.3nm,0.7s,baz=350,slow=14,SNR=5.9							
	0.3nm,0.7s							
MKAR	**Makanchi Array**	**59.37**	**326**	P	P		07 20 59.9	+0.1
	0.2nm,0.5s,baz=134,slow=8.3,SNR=1.8							
	0.2nm,0.5s							

BJI ***14*** *07:24:54.5±0.0, 9°.26S×159°.54E, h5km, mb5.3/78, mB6.1/71, Ms5.9/91, Ms7 5.7/85*

IDC ***14*** *07:24:56.8±0.3, 9°.24S×159°.09E, h0km, mb5.2/23, mbtmp5.2/25, ML4.6/2, MS5.5/62, Error ellipse: s-maj=11.3km s-min=7.7km az=19.0*

MOS ***14*** *07:24:59.4±1.2, 9°.24S×159°.03E, h22km, mb5.8/79, MS5.6/40, Error ellipse: s-maj=6.8km s-min=5.2km az=107.6*

NEIC ***14*** *07:25:00.2, 9°.37S×159°.16E, h9km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 4.53; Mθθ-1.99; Mϕϕ-2.54; Mrθ 0.69; Mθϕ 3.67; Mϕr-5.88; Fault plane solution: M0 8.00000×10^17 NP1: ϕs 163.37000°, δ 71.09000°, λ 112.73000°. NP2: ϕs 291.10000°, δ 29.24000°, λ 41.56000°. Principal axes: T 8.0143, Plg 58.0000°, Azm 104.0000°; N -0.0299, Plg 21.0000°, Azm 336.0000°; P -7.9844, Plg 23.0000°, Azm 236.0000°;*

NEIC ***14*** *07:25:00.1±2.5, 9°.33S±0°.07×159°.17E±0°.05, h14km±1km, mb5.9/444, Ms_20 5.7/402, Mwb5.9/60, Mww6.0 Error ellipse: s-maj=12.7km s-min=7.6km az=196.0*

GCMT ***14*** *07:25:03.1±0.1, 9°.48S×159°.07E, h20km, MW6.0/162, Moment Tensor Solution. s162,c339; s160,c517; Duration: 2s4 Moment tensor: Scale 10^18 Nm; Mrr 0.81±.01; Mθθ-0.38±.01; Mϕϕ-0.42±.01; Mrθ 0.18±.01; Mθϕ 0.57±.00; Mϕr-0.77±.01; Best double couple: M0 1.19900×10^18 NP1: ϕs 157.00000°, δ 67.00000°, λ 109.00000°. NP2: ϕs 295.00000°, δ 30.00000°, λ 52.00000°. Principal axes: T 1.1830, Plg 63.0000°, Azm 97.0000°; N 0.0340, Plg 18.0000°, Azm 329.0000°; P -1.2160, Plg 20.0000°, Azm 232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *07:25:04, 9°.47S×159°.04E, h12km, Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^18 Nm; Mrr 0.85; Mθθ-0.36; Mϕϕ-0.49; Mrθ-0.14; Mθϕ 0.62; Mϕr-0.51; Fault plane solution: M0 1.10000×10^18 NP1: ϕs 294.00000°, δ 42.00000°, λ 51.00000°. NP2: ϕs 162.00000°, δ 59.00000°, λ 120.00000°. Principal axes: T 1.1058, Plg 63.0000°, Azm 123.0000°; N -0.0154, Plg 25.0000°, Azm 326.0000°; P -1.0904, Plg 9.0000°, Azm 231.0000°;*

ISC 14 07:24:59.9±0.4, 9°.35S±0°.03×159°.12E±0°.03, h19km±1km,

h19km:pP-P,n1551,σ1ş55/1334,mb5.9/358,MS5.7/320,
133C-45D,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
HNR	**Honiara**	**0.82**	**96**	Pg	**Pb**	**07 25 15.0**	**-0.6**
	40μm,0.3s,baz=290,slow=1.5,SNR=479						
HNR				Lg	Lg	07 25 24.9	
	54μm,0.3s,baz=264,slow=21,SNR=9.7						
HNR	**Honiara**	**0.82**	**96**		**Pb**	**07 25 15.3**	**-0.3**
HNR	**Honiara**	**0.82**	**96**	P	**Pb**	**07 25 15.0**	**-0.6**
HNR	**Honiara**	**0.82**	**96**	P	**Pg**	**07 25 16.1**	**+0.1**
HNR	**Honiara**	**0.82**	**96**	⇓P	**Pb**	**07 25 14.9**	**-0.6**
RABL	**Rabaul**	**8.60**	**306**		**Pn**	**07 27 06.8**	**+3.3**
RABL	**Rabaul**	**8.60**	**306**	⇓P	**Pn**	**07 27 04.5**	**+1.0**
KRVT	**Keravat (AS076**	**8.64**	**305**	Pn	**Pn**	**07 27 05.7**	**+1.6**
	11nm,0.3s,baz=84,slow=4.9,SNR=2.7						
KRVT				Sn	**Sn**	**07 28 36.2**	**-4.9**
	17nm,0.3s,baz=277,slow=18,SNR=1.8						
KRVT				LR	LR	07 30 42.4	
	comp=Z,82μm,18.7s,baz=272,slow=40						
PMG	**Port Moresby**	**11.80**	**269**	Pn	Pn	07 27 53.4	+6.1
	1.1nm,0.3s,baz=73,slow=9.4,SNR=24						
PMG				Sn	**Sn**	**07 29 58.3**	**-0.3**
	0.9nm,0.3s,baz=185,slow=6.5,SNR=1.3						
PMG				LR	LR	07 32 05.9	
	comp=Z,87μm,19.6s,baz=90,slow=36						
PMG	**Port Moresby**	**11.80**	**269**	Pn	**Pn**	**07 27 51.6**	**+4.3**
PMG	**Port Moresby**	**11.80**	**269**	P	**Pn**	**07 27 51.6**	**+4.3**
DVP	**Devils Point**	**12.12**	**134**	P	**Pn**	**07 27 53.3**	**+1.6**
	3μm,1.1s						
KOUNC	**Koumac, New Ca**	**12.20**	**156**	Pn	**Pn**	**07 27 53.8**	**+1.0**
KOUNC	**Koumac, New Ca**	**12.20**	**156**	P	**Pn**	**07 27 55.2**	**+2.5**
	213nm,1.4s						
KOUNC	**Koumac, New Ca**	**12.20**	**156**	⇑P	**Pn**	**07 27 55.3**	**+2.5**
RTV	**Rentapao**	**12.33**	**134**	P	**Pn**	**07 27 56.6**	**+2.0**
	2μm,0.8s						
MANU	**Manus Island**	**13.76**	**301**	Pn	**Pn**	**07 28 17.2**	**+3.0**
LIFNC	**LIFOU**	**13.79**	**146**	Pn	**Pn**	**07 28 16.2**	**+1.7**
DZM	**Mont Dzumac**	**14.47**	**152**	*e*P	**Pn**	**07 28 24.0**	**+0.1**
	390nm,1.2s						
DZM				*e*LR	LR	07 31 40.4	
	comp=Z,58μm,23.9s						
DZM	**Mont Dzumac**	**14.47**	**152**	Pn	**Pn**	**07 28 26.2**	**+2.3**
	0.9nm,0.3s,baz=307,slow=21,SNR=11						
DZM				Sn	**Sn**	**07 31 00.9**	**-3.1**
	0.3nm,0.3s,baz=29,slow=23,SNR=1.6						
DZM				LR	LR	07 33 20.8	
	comp=Z,36μm,18.7s,baz=326,slow=35						
	33nm,1.0s						
DZM	**Mont Dzumac**	**14.47**	**152**	Pn	**Pn**	**07 28 25.5**	**+1.6**
DZM	**Mont Dzumac**	**14.47**	**152**	⇑P	**Pn**	**07 28 25.9**	**+1.9**
ONTNC	**Ouen Toro**	**14.68**	**152**	Pn	**Pn**	**07 28 27.3**	**+0.6**
ONTNC	**Ouen Toro**	**14.68**	**152**	⇑P	**Pn**	**07 28 27.5**	**+0.8**
MARNC	**Mare, Loyalty**	**14.80**	**146**	Pn	**Pn**	**07 28 29.1**	**+0.9**
MARNC	**Mare, Loyalty**	**14.80**	**146**	⇑P	**Pn**	**07 28 29.7**	**+1.4**
OUENC	**Ouen Island, N**	**14.96**	**151**	Pn	**Pn**	**07 28 31.6**	**+1.2**
PINNC	**Pines Island,**	**15.42**	**150**	Pn	**Pn**	**07 28 35.8**	**-0.7**
RK1H	**Rockhampton Ha**	**16.21**	**210**	P	**Pn**	**07 28 46.0**	**-0.8**
	268nm,1.1s						
COEN	**Coen**	**16.27**	**252**	P	**Pn**	**07 28 48.8**	**+1.2**
	baz=16,SNR=45						
COEN	**Coen**	**16.27**	**252**		**P**	**07 28 50.6**	**+0.1**
COEN				IAmb	IAmb	07 28 56.3	
	comp=Z,1μm,1.5s						
COEN	**Coen**	**16.27**	**252**	P	**Pn**	**07 28 48.1**	**+0.5**
	comp=Z,395nm,1.4s						
COEN	**Coen**	**16.27**	**252**	⇑P	**P**	**07 28 49.1**	**-1.4**
CTA	**Charters Tower**	**16.38**	**228**	Pn	**Pn**	**07 28 49.3**	**+0.4**
	comp=Z,2.8nm,0.3s,baz=45,slow=14,SNR=45						
CTA				Sn	**Sn**	**07 31 47.5**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=360,slow=22,SNR=1.7						
CTA				LR	LR	07 35 01.8	
	comp=Z,21μm,18.7s,baz=36,slow=37						
	comp=Z,44nm,0.7s						
CTA	**Charters Tower**	**16.38**	**228**	P	**Pn**	**07 28 49.7**	**+0.8**
	comp=Z,534nm,2.3s						
CTAO	**Charters Tower**	**16.38**	**228**	Pn	**Pn**	**07 28 49.0**	**0.0**
CTAO	**Charters Tower**	**16.38**	**228**	P	**Pn**	**07 28 49.0**	**0.0**
CTAO				pmax	pmax		
	comp=Z,611nm,1.3s						
CTAO	**Charters Tower**	**16.38**	**228**	P	**Pn**	**07 28 49.6**	**+0.7**
	comp=Z,456nm,2.4s						
CTAO	**Charters Tower**	**16.38**	**228**	⇑P	**Pn**	**07 28 48.2**	**-0.7**
MTSU	**Mount Surprise**	**16.81**	**237**	P	**P**	**07 28 55.6**	**-0.9**
	baz=17,SNR=36						
TARA	**Tarawa**	**17.39**	**53**	P	**P**	**07 29 04.5**	**+1.7**
TARA				IAmb	IAmb	07 29 11.0	
	comp=Z,549nm,0.7s						
TARA	**Tarawa**	**17.39**	**53**	⇑P	**Pn**	**07 29 02.0**	**+0.4**
EIDS	**Eidsvold**	**17.67**	**205**	P	**P**	**07 29 05.9**	**0.0**
	baz=18,SNR=13						
EIDS	**Eidsvold**	**17.67**	**205**		**P**	**07 29 05.9**	**0.0**
EIDS	**Eidsvold**	**17.67**	**205**	P	**P**	**07 29 06.6**	**+0.7**
	comp=Z,288nm,1.8s						
EIDS	**Eidsvold**	**17.67**	**205**	⇓P	**P**	**07 29 05.6**	**-0.3**
RMQ	**Roma**	**19.66**	**209**	P	**Pn**	**07 29 30.6**	**+1.3**
	baz=20,SNR=47						
RMQ	**Roma**	**19.66**	**209**	P	**Pn**	**07 29 29.0**	**-0.3**
	comp=Z,509nm,1.2s						
FUNA	**Funafuti**	**19.85**	**89**	P	**Pn**	**07 29 31.0**	**-0.6**
FUNA				IAmb	IAmb	07 29 32.3	
	comp=Z,564nm,1.2s						
KWAJ	**Kwajalein Atol**	**19.92**	**25**	P	**Pn**	**07 29 32.9**	**+0.5**
KWAJ	**Kwajalein Atol**	**19.92**	**25**	P	**Pn**	**07 29 32.9**	**+0.5**
KWAJ				pmax	pmax		
	comp=Z,2μm,1.0s						
KWAJ	**Kwajalein Atol**	**19.92**	**25**	P	**P**	**07 29 31.5**	**+0.8**
	comp=Z,3μm,0.8s						
KWAJ	**Kwajalein Atol**	**19.92**	**25**	⇑P	**Pn**	**07 29 33.2**	**+0.8**
GENI	**Genyem**	**20.00**	**288**	P	**P**	**07 29 31.4**	**-0.2**
	comp=Z,19μmcomp=Z,25μmcomp=Z,1μm,1.2s						
MSVF	**Nonsavu**	**20.19**	**116**	P	**P**	**07 29 34.3**	**+0.6**
	comp=Z,89nm,0.9s,baz=274,slow=7.4,SNR=23						
MSVF				LR	LR	07 36 53.2	
	comp=Z,16μm,18.1s,baz=296,slow=35						
	comp=Z,89nm,0.9s						
MSVF	**Nonsavu**	**20.19**	**116**	P	**P**	**07 29 33.6**	**-0.1**
MSVF				IAmb	IAmb	07 29 47.9	
	comp=Z,719nm,1.6s						
MSVF	**Nonsavu**	**20.19**	**116**	*c i*P	Pn	07 29 36.3	+0.6
MSVF				pmax	pmax		
	comp=Z,418nm,1.5s						
MSVF				MLR	MLR		
	comp=Z,16μm,14.0s						
MSVF	**Nonsavu**	**20.19**	**116**	P	Pn	07 29 35.2	-0.5
	comp=Z,280nm,1.8s						
MSVF	**Nonsavu**	**20.19**	**116**	⇑P	Pn	07 29 36.3	+0.6
SMPI	**Sarmi**	**21.57**	**289**	P	**P**	**07 29 49.0**	**+0.4**
	comp=Z,13μmcomp=Z,23μmcomp=Z,1μm,1.7s						
QIS	**Mount Isa**	**21.87**	**237**	P	**P**	**07 29 53.1**	**+1.3**
	baz=22,SNR=74						
QIS	**Mount Isa**	**21.87**	**237**	P	**P**	**07 29 52.8**	**+1.0**
	comp=Z,509nm,1.0s						
LHI	**Lord Howe Isla**	**22.06**	**180**	P	**P**	**07 29 53.2**	**-0.5**
LHI				IAmb	IAmb	07 30 10.7	
	comp=Z,639nm,1.5s						
ARMA	**Armidale**	**22.09**	**197**	P	**P**	**07 29 55.7**	**+1.5**
	baz=22,SNR=27						
ARMA	**Armidale**	**22.09**	**197**	P	**P**	**07 29 54.9**	**+0.7**
ARMA	**Armidale**	**22.09**	**197**	P	**P**	**07 29 55.7**	**+1.5**
	comp=Z,174nm,1.0s						
ARMA	**Armidale**	**22.09**	**197**	⇑P	**P**	**07 29 55.0**	**+0.8**
QLP	**Quilpie**	**22.19**	**218**	P	**P**	**07 29 56.3**	**+1.1**
	baz=22,SNR=20						
QLP	**Quilpie**	**22.19**	**218**	P	**P**	**07 29 56.7**	**+1.6**
	comp=Z,847nm,2.0s						
QLP	**Quilpie**	**22.19**	**218**	⇓P	**P**	**07 29 55.8**	**+0.7**
SRPI	**Serui, Papua**	**23.94**	**287**	P	**P**	**07 30 14.5**	**+1.4**
	comp=Z,7μmcomp=Z,301nm,1.2s						
BAKI	**Biak**	**24.29**	**288**	P	**P**	**07 30 16.5**	**+0.1**
INKA	**Innaminka**	**25.19**	**221**	P	**P**	**07 30 25.6**	**+1.2**
	comp=Z,751nm,1.4s						
CMSA	**Cobar Meteorol**	**25.36**	**208**	P	**P**	**07 30 26.2**	**+0.4**
	baz=25,SNR=25						
CMSA	**Cobar Meteorol**	**25.36**	**208**	P	**P**	**07 30 26.5**	**+0.6**
	comp=Z,248nm,1.6s						
RIV	**Riverview**	**25.44**	**196**	P	**P**	**07 30 29.8**	**+3.3**
WR0	**Warramunga Arr**	**25.97**	**243**	IAmb	IAmb	07 30 38.9	
	comp=Z,429nm,1.0s						
RKPI	**Ransiki, Papua**	**26.00**	**286**	P	**P**	**07 30 34.0**	**+2.0**
	comp=Z,6μmcomp=Z,8μmcomp=Z,256nm,1.1s						
WRAB	**Tennant Creek**	**26.13**	**243**	P	**P**	**07 30 33.5**	**+0.5**
WRAB	**Tennant Creek**	**26.13**	**243**	IAMs_20	IAMs_20	07 40 35.0	
	comp=Z,21μm,19.0s						
WRAB	**Tennant Creek**	**26.13**	**243**	*d i*P	**P**	**07 30 33.6**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,613nm,1.2s						
WRAB				MLR	MLR		
	comp=Z,20μm,18.0s						
WRAB	**Tennant Creek**	**26.13**	**243**	P	**P**	**07 30 33.0**	**-0.1**
	comp=Z,458nm,1.3s						
WRAB	**Tennant Creek**	**26.13**	**243**	⇓P	**P**	**07 30 32.8**	**-0.3**
WRA	**Warramunga Arr**	**26.14**	**243**	P	**P**	**07 30 33.0**	**-0.2**
	comp=Z,23nm,0.6s,baz=71,slow=9.4,SNR=129						
WRA				PcP	**PcP**	**07 34 01.3**	**+0.9**
	comp=Z,11nm,0.8s,baz=76,slow=2.9,SNR=5.0						
WRA				S	**S**	**07 35 00.9**	**-3.4**
	comp=Z,18nm,1.2s,baz=74,slow=16,SNR=3.3						
WRA				ScP	**ScP**	**07 37 41.2**	**+1.8**
	comp=Z,3.8nm,1.1s,baz=74,slow=3.0,SNR=2.8						
WRA				LR	LR	07 40 55.2	
	comp=Z,22μm,18.3s,baz=95,slow=37						
WRA				P3KPbc		08 03 22.3	
	comp=Z,1.3nm,0.8s,baz=252,slow=2.8,SNR=7.8						
	comp=Z,23nm,0.6s						
WRA	**Warramunga Arr**	**26.14**	**243**	*i* P	**P**	**07 30 33.0**	**-0.2**
WRA				pmax	pmax		
	comp=Z,24nm,0.6s						
KDU	**Kakadu**	**26.36**	**260**	P	**P**	**07 30 35.0**	**-0.1**
	baz=26,SNR=21						
KDU	**Kakadu**	**26.36**	**260**	⇑P	**P**	**07 30 34.0**	**-1.1**
GUMO	**Guam**	**26.83**	**328**	P	**P**	**07 30 38.5**	**-0.7**
	comp=Z,72nm,1.0s,baz=165,slow=4.0,SNR=2.0						
GUMO				LR	LR	07 40 41.6	
	comp=Z,5μm,21.5s,baz=142,slow=35						
	comp=Z,72nm,1.0s						
GUMO	**Guam**	**26.83**	**328**	P	**P**	**07 30 39.4**	**+0.1**
GUMO	**Guam**	**26.83**	**328**	P	**P**	**07 30 39.4**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,2μm,1.5s						
GUMO				MLR	MLR		
	comp=Z,12μm,21.0s						
GUMO	**Guam**	**26.83**	**328**	⇑P	**P**	**07 30 42.3**	**+3.0**
CNB	**Canberra Magne**	**27.34**	**198**	P	**P**	**07 30 44.9**	**+1.1**
	baz=27,SNR=7.3						
CNB	**Canberra Magne**	**27.34**	**198**	P	**P**	**07 30 46.2**	**+2.4**
	comp=Z,142nm,1.6s						
CAN	**Canberra**	**27.45**	**198**	P	**P**	**07 30 45.1**	**+0.3**
CAN	**Canberra**	**27.45**	**198**	P	**P**	**07 30 45.1**	**+0.3**
CAN				pmax	pmax		
	comp=Z,213nm,1.3s						
CAN				MLR	MLR		
	comp=Z,10μm,18.0s						
CAN	**Canberra**	**27.45**	**198**	P	**P**	**07 30 45.4**	**+0.6**
	comp=Z,218nm,1.6s						
CAN	**Canberra**	**27.45**	**198**	⇑P	**P**	**07 30 45.3**	**+0.5**
FAKI	**Fak Fak**	**27.45**	**282**	P	**P**	**07 30 46.7**	**+1.6**
FAKI	**Fak Fak**	**27.45**	**282**	P	**P**	**07 30 45.1**	**+0.1**
	comp=Z,7μmcomp=Z,5μmcomp=Z,180nm,1.9s						
SAUI	**Saumlaki**	**27.53**	**271**	P	**P**	**07 30 47.7**	**+2.0**
	comp=Z,24μmcomp=Z,20μmcomp=Z,718nm,1.0s						
MTN	**Manton Dam**	**27.67**	**260**	P	**P**	**07 30 47.9**	**+0.9**
MTN				IAmb	IAmb	07 31 01.0	
	comp=Z,222nm,1.1s						
STKA	**Stephens Creek**	**27.69**	**213**	P	**P**	**07 30 47.1**	**+0.2**
	comp=Z,29nm,0.7s,baz=21,slow=8.5,SNR=26						
STKA				PcP	**PcP**	**07 34 04.0**	**+0.1**
	comp=Z,16nm,0.9s,baz=90,slow=2.0,SNR=2.2						
STKA				S	**S**	**07 35 26.6**	**-1.7**
	comp=Z,6.3nm,0.9s,baz=342,slow=24,SNR=1.2						
STKA				LR	LR	07 42 16.2	
	comp=Z,23μm,18.1s,baz=30,slow=37						
	comp=Z,29nm,0.7s						
STKA	**Stephens Creek**	**27.69**	**213**	P	**P**	**07 30 47.5**	**+0.5**
	baz=28,SNR=20						
STKA	**Stephens Creek**	**27.69**	**213**	P	**P**	**07 30 47.1**	**+0.2**
STKA	**Stephens Creek**	**27.69**	**213**	*d i*P	**P**	**07 30 48.2**	**+1.3**
STKA	**Stephens Creek**	**27.69**	**213**	P	**P**	**07 30 47.7**	**+0.8**
	comp=Z,53nm,1.5s						
ASAR	**Alice Springs**	**27.98**	**236**	P	**P**	**07 30 48.9**	**-0.9**
	comp=Z,20nm,0.8s,baz=70,slow=8.9,SNR=129						
ASAR				PcP	**PcP**	**07 34 04.5**	**-0.3**
	comp=Z,6.9nm,0.7s,baz=76,slow=2.1,SNR=4.4						
ASAR				S	**S**	**07 35 26.7**	**-6.5**
	comp=Z,1.0nm,0.8s,baz=62,slow=16,SNR=0.9						
ASAR				ScP	**ScP**	**07 37 46.8**	**+1.9**
	comp=Z,3.1nm,0.7s,baz=70,slow=2.8,SNR=4.8						
ASAR				LR	LR	07 41 47.3	
	comp=Z,10μm,18.3s,baz=72,slow=36						
ASAR				P3KPbc		08 03 06.9	
	comp=Z,0.3nm,0.8s,baz=241,slow=5.2,SNR=1.5						
	comp=Z,20nm,0.8s						
ASAR	**Alice Springs**	**27.98**	**236**	P	**P**	**07 30 49.3**	**-0.4**
ASAR	**Alice Springs**	**27.98**	**236**	P	**P**	**07 30 49.3**	**-0.4**
LCRK	**Leigh Creek**	**28.65**	**220**	P	**P**	**07 30 55.9**	**+0.4**
	comp=Z,403nm,1.1s						
OOD	**Oodnadatta**	**28.71**	**227**	P	**P**	**07 30 56.1**	**0.0**
	comp=Z,360nm,1.3s						
AFI	**Afiamalu**	**28.85**	**102**	P	**P**	**07 30 57.3**	**-0.2**
	comp=Z,33nm,0.9s,baz=162,slow=22,SNR=2.5						
AFI				LR	LR	07 40 35.3	
	comp=Z,26μm,19.5s,baz=286,slow=32						
	comp=Z,33nm,0.9s						
AFI	**Afiamalu**	**28.85**	**102**	P	**P**	**07 30 55.5**	**-2.0**
AFI	**Afiamalu**	**28.85**	**102**	IAMs_20	IAMs_20	07 40 13.7	
	comp=Z,25μm,20.0s						
OUZ	**Omahuta**	**28.95**	**155**	P	**P**	**07 30 57.6**	**-0.4**
OUZ	**Omahuta**	**28.95**	**155**	P	**P**	**07 30 59.6**	**+1.5**
	comp=Z,50nm,0.8s						
OUZ	**Omahuta**	**28.95**	**155**	⇑P	**P**	**07 30 59.9**	**+1.8**
SIJI	**Sorong**	**28.97**	**285**	P	**P**	**07 30 57.6**	**-0.9**
	comp=Z,5.5nm,0.3s,baz=80,slow=4.6,SNR=6.9						
SIJI				S	**S**	**07 35 48.6**	**-0.2**
	comp=Z,9.7nm,0.5s,baz=220,slow=22,SNR=2.3						
	comp=Z,5.5nm,0.3s						
SWI	**Sorong**	**28.98**	**285**	P	**P**	**07 30 59.6**	**+1.0**
	comp=Z,5μmcomp=Z,3μmcomp=Z,107nm,1.5s						
MILA	**Mila**	**29.02**	**197**	P	**P**	**07 30 60.0**	**+1.2**
	baz=29,SNR=4.4						
RAO	**Raoul Island**	**29.24**	**136**	P	**P**	**07 31 02.0**	**+1.2**
	comp=Z,300nm,0.7s,baz=50,slow=17,SNR=4.0						
RAO				LR	LR	07 40 45.9	
	comp=Z,3μm,19.4s,baz=309,slow=32						
RAO	**Raoul Island**	**29.24**	**136**	P	**P**	**07 31 01.3**	**+0.5**
RAO	**Raoul Island**	**29.24**	**136**	P	**P**	**07 31 01.3**	**+0.5**
RAO				pmax	pmax		
	comp=Z,493nm,0.9s						
RAO				MLR	MLR		
	comp=Z,7μm,18.0s						
BNDI	**Bandanaira**	**29.38**	**277**	P	**P**	**07 31 03.5**	**+1.3**
	comp=Z,8μmcomp=Z,634nm,1.9s						
H11N1	**WAKE ISLAND Hy**	**29.88**	**15**	P	**P**	**07 31 04.5**	**-1.8**
	baz=116						
H11N3	**WAKE ISLAND Hy**	**29.89**	**15**	P	**P**	**07 31 04.9**	**-1.4**
	baz=116						
H11N2	**WAKE ISLAND Hy**	**29.90**	**15**	P	**P**	**07 31 05.7**	**-0.7**
	baz=116						
KNRA	**Kununurra**	**30.27**	**255**	P	**P**	**07 31 09.9**	**-0.2**
	baz=30,SNR=20						
KNRA	**Kununurra**	**30.27**	**255**	P	**P**	**07 31 10.1**	**+0.1**
KNRA				IAmb	IAmb	07 31 16.5	
	comp=Z,416nm,1.4s						
KNRA	**Kununurra**	**30.27**	**255**	P	**P**	**07 31 10.3**	**+0.2**
	comp=Z,218nm,1.3s						
HTT	**Hallett**	**30.34**	**215**	P	**P**	**07 31 11.1**	**+0.6**
	baz=30,SNR=11						
HTT	**Hallett**	**30.34**	**215**	P	**P**	**07 31 11.1**	**+0.6**
	comp=Z,245nm,1.4s						
HTT	**Hallett**	**30.34**	**215**	⇑P	**P**	**07 31 11.3**	**+0.8**
MSAI	**Masohi**	**30.58**	**279**	P	**P**	**07 31 13.5**	**+0.7**
	comp=Z,778nmcomp=Z,18nm,0.8s						
TOO	**Toolangi**	**30.67**	**202**	P	**P**	**07 31 14.5**	**+1.1**
	baz=31,SNR=8.4						
TOO	**Toolangi**	**30.67**	**202**	P	**P**	**07 31 14.2**	**+0.8**
TOO	**Toolangi**	**30.67**	**202**	P	**P**	**07 31 14.8**	**+1.4**
	comp=Z,79nm,1.7s						
TOO	**Toolangi**	**30.67**	**202**	⇑P	**P**	**07 31 14.8**	**+1.4**
AAI	**Ambon**	**31.22**	**278**	P	**P**	**07 31 19.2**	**+0.7**
	comp=Z,7μmcomp=Z,3μmcomp=Z,84nm,1.1s						
MULG	**Mulgathing**	**31.32**	**225**	P	**P**	**07 31 18.7**	**-0.4**
	comp=Z,350nm,1.2s						
ARPS	**Mount Arapiles**	**31.47**	**207**	P	**P**	**07 31 20.9**	**+0.5**
	baz=32,SNR=5.2						
ARPS	**Mount Arapiles**	**31.47**	**207**	P	**P**	**07 31 21.1**	**+0.7**
	comp=Z,96nm,1.0s						
BBOO	**Buckleboo**	**31.60**	**219**	P	**P**	**07 31 21.7**	**+0.1**
	baz=32,SNR=36						
BBOO	**Buckleboo**	**31.60**	**219**	P	**P**	**07 31 22.0**	**+0.4**
BBOO	**Buckleboo**	**31.60**	**219**	P	**P**	**07 31 22.0**	**+0.4**
	comp=Z,479nm,1.2s						
HIZ	**Hauiti**	**32.30**	**157**	P	**P**	**07 31 28.8**	**+1.2**
HIZ	**Hauiti**	**32.30**	**157**	P	**P**	**07 31 29.8**	**+2.2**
	comp=Z,725nm,1.3s						
NLAI	**Namlea**	**32.38**	**279**	P	**P**	**07 31 30.5**	**+1.8**
	comp=Z,3μmcomp=Z,113nm,2.2s						
LBMI	**Labuha**	**32.63**	**284**	P	**P**	**07 31 32.4**	**+1.5**
	comp=Z,4μmcomp=Z,10μmcomp=Z,283nm,1.6s						
MXZ	**Matakaoa Point**	**33.00**	**151**	IAMs_20	IAMs_20	07 42 13.7	
	comp=Z,19μm,22.0s						
URZ	**Urewera**	**33.02**	**153**	LR	LR	07 42 28.1	
	comp=Z,24μm,21.6s,baz=42,slow=32						
URZ	**Urewera**	**33.02**	**153**	IAmb	IAmb	07 31 44.9	
	comp=Z,111nm,0.9s						
URZ	**Urewera**	**33.02**	**153**	⇑P	**P**	**07 31 34.4**	**+0.5**
TNTI	**Ternate**	**33.18**	**286**	P	**P**	**07 31 35.5**	**-0.2**
TNTI				IAmb	IAmb	07 31 49.2	
	comp=Z,316nm,1.4s						
WRKA	**Warakurna**	**33.20**	**238**	P	**P**	**07 31 35.0**	**-0.8**
	baz=33,SNR=43						
WRKA	**Warakurna**	**33.20**	**238**	P	**P**	**07 31 35.1**	**-0.8**
	comp=Z,334nm,1.2s						
WRKA	**Warakurna**	**33.20**	**238**	⇓P	**P**	**07 31 35.5**	**-0.4**
BKZ	**Black Stump Fm**	**33.51**	**155**	P	**P**	**07 31 39.0**	**+0.6**
BKZ				IAmb	IAmb	07 31 44.8	
	comp=Z,133nm,0.7s						
QRZ	**Quartz Range**	**33.52**	**161**	IAmb	IAmb	07 31 41.8	
	comp=Z,231nm,1.6s						
QRZ	**Quartz Range**	**33.52**	**161**	P	**P**	**07 31 40.5**	**+2.1**
	comp=Z,99nm,1.9s						
FITZ	**Fitzroy Crossi**	**33.62**	**251**	LR	LR	07 45 44.8	
	comp=Z,11μm,19.1s,baz=75,slow=37						
FITZ	**Fitzroy Crossi**	**33.62**	**251**	P	**P**	**07 31 38.7**	**-0.7**
	baz=34,SNR=29						
FITZ	**Fitzroy Crossi**	**33.62**	**251**	P	**P**	**07 31 39.0**	**-0.4**
	comp=Z,75nm,2.0s						
FITZ	**Fitzroy Crossi**	**33.62**	**251**	⇓P	**P**	**07 31 39.1**	**-0.4**
SANI	**Sanana**	**33.73**	**280**	P	**P**	**07 31 41.3**	**+0.8**
	comp=Z,6μmcomp=Z,8μmcomp=Z,268nm,2.2s						
THZ	**Tophouse**	**34.49**	**162**	IAmb	IAmb	07 31 49.1	
	comp=Z,110nm,0.9s						
MOO	**Moorlands**	**34.59**	**196**	P	**P**	**07 31 50.7**	**+3.1**
	baz=35,SNR=4.2						
MOO	**Moorlands**	**34.59**	**196**	P	**P**	**07 31 49.4**	**+1.8**
	comp=Z,232nm,1.6s						
SNZO	**South Karori**	**34.69**	**159**	P	**P**	**07 31 47.8**	**-0.6**
SNZO	**South Karori**	**34.69**	**159**	P	**P**	**07 31 50.7**	**+2.3**
	comp=Z,158nm,1.3s						
BFZ	**Birch Farm**	**34.71**	**157**	IAMs_20	IAMs_20	07 44 53.2	
	comp=Z,15μm,20.0s						
BATI	**Baumata**	**34.94**	**266**	LR	LR	07 47 07.4	
	comp=Z,16μm,21.5s,baz=105,slow=38						
BATI	**Baumata**	**34.94**	**266**	P	**P**	**07 31 52.1**	**+1.1**
	comp=Z,4μmcomp=Z,4μmcomp=Z,233nm,1.2s						
TAU	**Tasmania Unive**	**34.99**	**195**	P	**P**	**07 31 51.8**	**+0.8**
TAU				IAmb	IAmb	07 32 01.2	
	comp=Z,334nm,1.4s						
TAU	**Tasmania Unive**	**34.99**	**195**	P	**P**	**07 31 51.8**	**+0.8**
TAU				pmax	pmax		
	comp=Z,333nm,1.5s						
TAU				MLR	MLR		
	comp=Z,8μm,19.0s						
WVZ	**Waitaha Valley**	**35.10**	**165**	P	**P**	**07 31 54.8**	**+2.8**
LTZ	**Lake Taylor**	**35.24**	**163**	IAMs_20	IAMs_20	07 43 59.5	
	comp=Z,11μm,20.0s						
KHZ	**Kahutara**	**35.28**	**161**	IAMs_20	IAMs_20	07 45 16.7	
	comp=Z,18μm,19.0s						
KHZ	**Kahutara**	**35.28**	**161**	P	**P**	**07 31 53.7**	**+0.1**
	comp=Z,158nm,1.2s						
KHZ	**Kahutara**	**35.28**	**161**	⇑P	**P**	**07 31 53.5**	**0.0**
FOZ	**Fox Glacier**	**35.30**	**166**	IAmb	IAmb	07 32 02.4	
	comp=Z,242nm,1.0s						
FOZ				IAMs_20	IAMs_20	07 44 37.3	
	comp=Z,15μm,18.0s						
OXZ	**Oxford**	**35.67**	**164**	IAMs_20	IAMs_20	07 44 02.1	
	comp=Z,12μm,20.0s						
RPZ	**Rata Peaks**	**35.78**	**165**	P	**P**	**07 31 58.6**	**+0.8**
	comp=Z,78nm,0.8s,baz=147,slow=1.3,SNR=35						
RPZ				P

JCJ	**Chichijima**	**39.78**	**336**	LR	LR	07 48 42.4			
	comp=Z,7µm,19.6s,baz=148,slow=36								
JOHN	**Johnston Islan**	**40.42**	**50**	IAMs_20	IAMs_20	07 47 37.2			
	comp=Z,11µm,20.0s								
RAR	**Rarotonga**	**41.25**	**111**	LR	LR	07 46 44.4			
	comp=Z,7µm,20.7s,baz=282,slow=32								
MEEK	**Meekatharra**	**41.96**	**240**	P	**P**	**07 32 50.1**	**+0.2**		
	baz=42,SNR=56								
MEEK	**Meekatharra**	**41.96**	**240**	P	**P**	**07 32 50.2**	**+0.2**		
	comp=Z,534nm,1.3s								
MIDW	**Midway**	**43.73**	**31**	P	**P**	**07 33 04.2**	**+0.2**		
MIDW				IAmb	IAmb	07 33 12.8			
	comp=Z,180nm,0.9s								
MIDW	**Midway**	**43.73**	**31**	⇓P	**P**	**07 33 05.2**	**+1.2**		
KLBR	**Kellerberrin**	**44.26**	**234**	P	**P**	**07 33 09.4**	**+1.0**		
	baz=44,SNR=20								
BLDU	**Ballidu**	**44.77**	**236**	P	**P**	**07 33 12.3**	**-0.2**		
	baz=45,SNR=13								
BLDU	**Ballidu**	**44.77**	**236**	P	**P**	**07 33 12.4**	**-0.1**		
	comp=Z,133nm,1.9s								
MORW	**Morawa**	**44.84**	**238**	P	**P**	**07 33 13.4**	**+0.2**		
	baz=45,SNR=17								
MORW	**Morawa**	**44.84**	**238**	P	**P**	**07 33 13.7**	**+0.6**		
MORW				IAmb	IAmb	07 33 21.0			
	comp=Z,238nm,1.1s								
MORW	**Morawa**	**44.84**	**238**	P	**P**	**07 33 13.3**	**+0.2**		
	comp=Z,225nm,1.2s								
MORW	**Morawa**	**44.84**	**238**	⇓P	**P**	**07 33 13.3**	**+0.2**		
GIRL	**Giralia**	**44.95**	**247**	P	**P**	**07 33 13.3**	**-0.7**		
	baz=45,SNR=5.5								
GIRL	**Giralia**	**44.95**	**247**	P	**P**	**07 33 16.4**	**+2.4**		
GIRL	**Giralia**	**44.95**	**247**	P	**P**	**07 33 15.5**	**+1.5**		
	comp=Z,466nm,1.6s								
NWAO	**Narrogin (SRO)**	**45.15**	**232**	LR	LR	07 53 07.3			
	comp=Z,14µm,18.0s,baz=288,slow=37								
NWAO	**Narrogin (SRO)**	**45.15**	**232**	P	**P**	**07 33 16.8**	**+1.3**		
	baz=45,SNR=8.0								
NWAO				P	**P**	**07 33 16.8**	**+1.3**		
	baz=45,SNR=8.0								
NWAO	**Narrogin (SRO)**	**45.15**	**232**	P	**P**	**07 33 15.7**	**+0.2**		
NWAO				IAmb	IAmb	07 33 23.4			
	comp=Z,230nm,1.1s								
NWAO	**Narrogin (SRO)**	**45.15**	**232**	P	**P**	**07 33 15.7**	**+0.2**		
NWAO				pmax	pmax				
	comp=Z,230nm,1.1s								
NWAO				MLR	MLR				
	comp=Z,15µm,18.0s								
NWAO	**Narrogin (SRO)**	**45.15**	**232**	P	**P**	**07 33 15.6**	**+0.1**		
	comp=Z,235nm,1.2s								
MUN	**Mundaring**	**45.62**	**234**	P	**P**	**07 33 20.6**	**+1.3**		
	baz=46,SNR=7.7								
RKGY	**Rocky Gully**	**45.98**	**230**	P	**P**	**07 33 22.2**	**+0.1**		
	baz=46,SNR=8.1								
JHJ	**Hachijo jima 2**	**46.08**	**337**	LR	LR	07 52 56.9			
	comp=Z,1µm,18.0s,baz=144,slow=37								
JOW	**Kunigami**	**46.80**	**321**	LR	LR	07 50 52.2			
	comp=Z,4µm,21.6s,baz=140,slow=33								
JOW	**Kunigami**	**46.80**	**321**	IAmb	IAmb	07 34 07.7			
	comp=Z,208nm,1.5s								
UGM	**Wanagama**	**48.04**	**268**	P	**P**	**07 33 39.6**	**+1.1**		
SMRI	**Semarang**	**48.21**	**269**	P	**P**	**07 33 41.0**	**+1.2**		
H01W1	**Cape Leeuwin H**	**48.25**	**231**	P	**P**	**07 33 37.2**	**-2.3**		
	baz=38,slow=75,SNR=5.9								
H01W3	**Cape Leeuwin H**	**48.26**	**231**	P	**P**	**07 33 37.3**	**-2.3**		
	baz=38,slow=75,SNR=6.7								
H01W2	**Cape Leeuwin H**	**48.26**	**231**	P	**P**	**07 33 40.2**	**+0.6**		
	baz=38,slow=75,SNR=5.3								
JYT	**Yasato**	**48.71**	**340**	IAmb	IAmb	07 33 49.8			
	comp=Z,88nm,0.8s								
JSU	**Suzuyama**	**49.03**	**327**	IAmb	IAmb	07 33 52.6			
	comp=Z,166nm,1.3s								
JMN	**Monobe**	**49.10**	**332**	P	**P**	**07 33 46.7**	**+0.4**		
JMN				IAmb	IAmb	07 34 13.7			
	comp=Z,202nm,1.1s								
JMN	**Monobe**	**49.10**	**332**	P	**P**	**07 33 46.8**	**+0.4**		
JMN	**Monobe**	**49.10**	**332**	⇓P	**P**	**07 33 47.3**	**+1.0**		
INU	**Inuyama**	**49.12**	**336**	IAmb	IAmb	07 34 20.2			
	comp=Z,212nm,1.5s								
JGF	**Kuroka**	**49.20**	**336**	P	**P**	**07 33 47.3**	**+0.2**		
NACB	**Ninganchiao**	**49.53**	**313**	IAMs_20	IAMs_20	07 50 32.3			
	comp=Z,7µm,21.0s								
MJAR	**Matsushiro Arr**	**49.71**	**338**	P	**P**	**07 33 49.7**	**-1.2**		
	comp=Z,6.1nm,0.9s,baz=164,slow=9.1,SNR=13								
MJAR				S	S	07 40 49.6	-9.4		
	comp=Z,1.0nm,0.3s,baz=75,slow=19,SNR=1.6								
MJAR				LR	LR	07 53 51.5			
	comp=Z,3µm,20.5s,baz=154,slow=35								
	comp=Z,6.1nm,0.9s								
MAJO	**Matsushiro**	**49.71**	**338**	P	**P**	**07 33 49.4**	**-1.4**		
MAJO	**Matsushiro**	**49.71**	**338**	⇓*i*P	**P**	**07 33 50.5**	**-0.4**		
MAJO				pmax	pmax				
	comp=Z,39nm,1.0s								
JWT	**Wachi**	**49.73**	**334**	P	**P**	**07 33 50.9**	**-0.2**		
JGN	**Niukaw**	**49.77**	**337**	P	**P**	**07 33 51.3**	**-0.1**		
JAD	**Aida**	**49.98**	**333**	P	**P**	**07 33 52.9**	**-0.1**		
YHNB	**Yeheng**	**49.99**	**313**	P	**P**	**07 33 53.2**	**-0.1**		
YHNB				IAmb	IAmb	07 33 60.0			
	comp=Z,233nm,1.2s								
JNU	**Nakatsue**	**50.08**	**329**	P	**P**	**07 33 53.1**	**-0.7**		
TATO	**Taipei**	**50.09**	**314**	IAMs_20	IAMs_20	07 51 49.1			
	comp=Z,11µm,20.0s								
PPT	**Papeete**	**50.43**	**105**	LR	LR	07 50 34.0			
	comp=Z,8µm,21.7s,baz=262,slow=30								
PPT2	**Papeete2**	**50.43**	**105**	*e*P	**P**	**07 33 58.7**	**+1.9**		
	comp=Z,1µm,25.0s								
PPT2	**Papeete2**	**50.43**	**105**	*e*PP	**PP**	**07 35 52.3**	**-0.3**		
	comp=Z,559nm,23.5s								
PPT2				*e*S	**S**	**07 41 10.7**	**+0.8**		
	comp=Z,5µm,28.0s								
PPT2				*e*LQ	LQ	07 46 13.0			
	comp=Z,9µm,28.8s								
PPT2				*e*LR	LR	07 48 20.5			
	comp=Z,18µm,22.8s								
PPTF	**Pamatai, Papee**	**50.44**	**105**	IAMs_20	IAMs_20	07 50 23.8			
	comp=Z,9µm,22.0s								
JHS	**Saijyo**	**50.51**	**332**	IAmb	IAmb	07 34 25.9			
	comp=Z,238nm,1.9s								
JHS	**Saijyo**	**50.51**	**332**	⇓P	**P**	**07 33 58.0**	**+1.0**		
TVO	**Taravao**	**50.75**	**105**	*e*P	**P**	**07 33 59.0**	**-0.2**		
	comp=Z,77nm,1.2s								
TBI	**Tubuai**	**51.01**	**112**	*e*P	**P**	**07 34 01.8**	**+0.8**		
	comp=Z,163nm,1.0s								
TBI	**Tubuai**	**51.01**	**112**	*e*PP	**PP**	**07 35 57.2**	**-0.4**		
	comp=Z,383nm,25.0s								
TBI				*e*S	**S**	**07 41 18.3**	**+0.8**		
	comp=Z,3µm,29.8s								
TBI				*e*LQ	LQ	07 46 27.2			
	comp=Z,25µm,30.8s								
TBI				*e*LR	LR	07 48 36.0			
	comp=Z,13µm,25.5s								
JSD	**Sado**	**51.02**	**339**	⇑P	**P**	**07 34 00.0**	**-0.7**		
JYA	**Atsumi**	**51.02**	**340**	P	**P**	**07 34 01.1**	**+0.4**		
LEM	**Lembang**	**51.02**	**269**	LR	LR	07 56 59.1			
	comp=Z,4µm,21.6s,baz=98,slow=38								
KIP	**Kipapa**	**52.03**	**54**	P	**P**	**07 34 08.7**	**+0.1**		
KIP				IAmb	IAmb	07 34 25.1			
	comp=Z,410nm,1.7s								
KIP	**Kipapa**	**52.03**	**54**	IAMs_20	IAMs_20	07 53 44.1			
	comp=Z,8µm,20.0s								
KIP	**Kipapa**	**52.03**	**54**	P	**P**	**07 34 08.7**	**+0.1**		
KIP				pmax	pmax				
	comp=Z,410nm,1.7s								
OPA	**Opana**	**52.17**	**53**	P	**P**	**07 34 10.9**	**+1.3**		
OPA	**Opana**	**52.17**	**53**	P	**P**	**07 34 10.9**	**+1.3**		
OPA				pmax	pmax				
	comp=Z,235nm,0.8s								
QZH	**Quanzhou**	**52.17**	**312**	*e*P	**P**	**07 34 12.1**	**+2.5**		
QZH				S	**S**	**07 41 38.5**	**+5.0**		
QZH				LR	LR				
	comp=Z,3µm,19.0s								
QZH				LR	LR				
	comp=Z,4µm,17.8s								
QZH				LR	LR				
	comp=Z,4µm,16.0s								
JTM	**Tenmabayashi**	**52.60**	**343**	IAmb	IAmb	07 34 13.1			
	comp=Z,140nm,1.3s								
JTM	**Tenmabayashi**	**52.60**	**343**	⇑P	**P**	**07 34 12.4**	**-0.1**		
KHLU	**Kahalu`u**	**52.83**	**57**	IAmb	IAmb	07 34 16.1			
	comp=Z,164nm,0.9s								
HUH	**Hualalai**	**52.92**	**57**	IAmb	IAmb	07 34 17.1			
	comp=Z,166nm,0.9s								
KHLH	**Kahului Airpor**	**53.03**	**55**	IAmb	IAmb	07 34 18.2			
	comp=Z,255nm,1.3s								
MLOA	**Mauna Loa Obse**	**53.06**	**57**	IAmb	IAmb	07 35 14.0			
	comp=Z,210nm,1.2s								
ERM	**Erimo**	**53.17**	**345**	IAMs_20	IAMs_20	07 57 04.5			
	comp=Z,7µm,19.0s								
ERM	**Erimo**	**53.17**	**345**	*c*eP	**P**	**07 34 16.8**	**+0.1**		
ERM				pmax	pmax				
	comp=Z,91nm,1.3s								
ERM				MLR	MLR				
	comp=Z,6µm,19.0s								
HPAH	**Hawaii Prepara**	**53.20**	**56**	IAmb	IAmb	07 34 18.6			
	comp=Z,170nm,1.0s								
POHA	**Pohakuloa**	**53.20**	**57**	P	**P**	**07 34 17.4**	**-0.2**		
POHA				IAmb	IAmb	07 34 19.8			
	comp=Z,206nm,0.9s								
POHA	**Pohakuloa**	**53.20**	**57**	IAMs_20	IAMs_20	07 53 23.3			
	comp=Z,8µm,20.0s								
POHA	**Pohakuloa**	**53.20**	**57**	⇑P	**P**	**07 34 18.6**	**+1.0**		
NAWB	**Namwon**	**53.67**	**328**	IAmb	IAmb	07 34 42.1			
	comp=Z,223nm,1.7s								
SSE	**Sheshan**	**54.21**	**319**	P	**P**	**07 34 25.6**	**+1.1**		
SSE				S	**S**	**07 42 05.1**	**+4.1**		
SSE				pmax	pmax				
	comp=Z,29nm,0.7s								
SSE				pmax	pmax				
	comp=Z,710nm,5.7s								
SSE				LR	LR				
	comp=Z,1µm,21.3s								
SSE				LR	LR				
	comp=Z,990nm,20.3s								
TJN	**Taejon**	**54.42**	**329**	*c i*P	**P**	**07 34 26.1**	**+0.2**		
YUK	**Yuzh-Kuril'sk**	**54.48**	**348**	*e*P	**P**	**07 34 23.4**	**-2.8**		
YUK				*e*		07 35 26.6			
YUK				*e*		07 36 25.6			
YUK				*e*PPP	PPP	07 37 34.7			
YUK				*e*S	**S**	**07 42 02.9**	**-1.2**		
YUK				*e*SS	**SS**	**07 45 46.8**	**-0.3**		
YUK				*e*SSS	SSS	07 47 47.2			
YUK				pmax	pmax				
	comp=Z,316nm,1.1s								
YUK				pmax	pmax				
	comp=E,167nm,1.0s								
YUK				pmax	pmax				
	comp=N,273nm,0.8s								
YUK				pmax	pmax				
	comp=Z,367nm,1.7s								
JSH	**Shimam**	**54.60**	**343**	P	**P**	**07 34 27.4**	**+0.2**		
KSRS	**Korea Array**	**54.97**	**330**	P	**P**	**07 34 29.8**	**-0.1**		
	comp=Z,36nm,1.2s,baz=149,slow=7.6,SNR=77								
KSRS				S	**S**	**07 42 09.7**	**-1.3**		
	comp=Z,0.2nm,0.4s,baz=206,slow=43,SNR=1.6								
KSRS				LR	LR	07 56 34.0			
	comp=Z,3µm,19.5s,baz=135,slow=35								
	comp=Z,36nm,1.2s								
JMP	**Maruseppu**	**55.00**	**346**	P	**P**	**07 34 30.7**	**+0.6**		
KS19	**Wonju Array Si**	**55.03**	**330**	IAmb	IAmb	07 34 42.8			
	comp=Z,103nm,1.2s								
KUR	**Kuril'sk**	**55.27**	**350**	*c i*P	**P**	**07 34 32.0**	**+0.1**		
KUR				*e*S	**S**	**07 42 19.3**	**+4.6**		
KUR				*i* SSS	SSS	07 48 00.9			
KUR				pmax	pmax				
	comp=Z,1µm,5.1s								
KUR				pmax	pmax				
	comp=Z,197nm,1.4s								
KUR				pmax	pmax				
	comp=N,130nm,1.5s								
ASAJ	**Asahikawa**	**55.29**	**346**	P	**P**	**07 34 32.9**	**+0.8**		
INCN	**Inchon**	**55.64**	**329**	P	**P**	**07 34 35.4**	**+0.6**		
INCN	**Inchon**	**55.64**	**329**	IAMs_20	IAMs_20	07 55 53.5			
	comp=Z,5µm,18.0s								
INCN	**Inchon**	**55.64**	**329**	P	**P**	**07 34 35.4**	**+0.6**		
INCN				pmax	pmax				
	comp=Z,335nm,1.4s								
INCN	**Inchon**	**55.64**	**329**	⇑P	**P**	**07 34 34.5**	**-0.3**		
QIZ	**Qiongzhong**	**56.17**	**300**	IAmb	IAmb	07 34 46.3			
	comp=Z,130nm,1.3s								
QIZ	**Qiongzhong**	**56.17**	**300**	IAMs_20	IAMs_20	07 54 47.8			
	comp=Z,8µm,22.0s								
QIZ	**Qiongzhong**	**56.17**	**300**	P	**P**	**07 34 39.8**	**+0.9**		
QIZ				PcP	**PcP**	**07 35 37.0**	**+0.3**		
QIZ				S	**S**	**07 42 29.3**	**+1.7**		
QIZ				pmax	pmax				
	comp=Z,48nm,1.7s								
QIZ				pmax	pmax				
	comp=Z,1µm,4.9s								
QIZ				LR	LR				
	comp=Z,3µm,23.5s								
QIZ				LR	LR				
	comp=Z,5µm,21.6s								
QIZ				LR	LR				
	comp=Z,10µm,22.5s								
NJ2	**Nanjing**	**56.34**	**319**	⇓P	P	07 34 45.3	+5.4		
NJ2				S	**S**	**07 42 32.5**	**+3.0**		
NJ2				SS	**SS**	**07 46 17.9**	**+1.0**		
NJ2				pmax	pmax				
	comp=Z,110nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,2µm,3.7s								
NJ2				LR	LR				
	comp=Z,5µm,21.8s								
NJ2				LR	LR				
	comp=Z,3µm,20.8s								
NJ2				LR	LR				
	comp=Z,6µm,22.1s								
HJU	**Haeju**	**56.53**	**329**	P	**P**	**07 34 41.4**	**+0.3**		
HJU				pP	**pP**	**07 34 46.2**	**-0.8**		
HJU				S	**S**	**07 42 31.8**	**0.0**		
HJU				AmB					
	comp=Z,416nm,1.3s								
HJU				AMS	AMS				
	comp=N,2µm,3.5s								
HJU				AMS	AMS				
	comp=E,8µm,13.7s								
HJU				AMS	AMS				
	comp=Z,9µm,15.3s								
HHU	**Hamhung**	**57.10**	**331**	P	**P**	**07 34 45.6**	**+0.6**		
HHU				pP	**pP**	**07 34 50.6**	**-0.1**		
HHU				S	**S**	**07 42 39.0**	**-0.2**		
HHU				AmB					
	comp=Z,1µm,3.5s								
HHU				AMS	AMS				
	comp=N,841nm,15.3s								
HHU				AMS	AMS				
	comp=E,216nm,3.9s								
HHU				AMS	AMS				
	comp=Z,172nm,3.1s								
TEY	**Ternei**	**57.82**	**341**	⇑*e*P	**P**	**07 34 48.9**	**-1.2**		
TEY				*e*		07 42 46.1			
TEY				pmax	pmax				
	comp=N,10.0nm,1.0s								
TEY				pmax	pmax				
	comp=E,10.0nm,1.0s								
TEY				pmax	pmax				
	comp=Z,20nm,1.0s								
TEY				pmax	pmax				
	comp=N,100nm,5.7s								
TEY				pmax	pmax				
	comp=Z,100nm,5.3s								
YSS	**Yuzh-Sakhalins**	**57.92**	**347**	P	**P**	**07 34 50.7**	**-0.1**		
YSS				IAMs_20	IAMs_20	07 55 56.3			
	comp=Z,5µm,21.0s								
YSS	**Yuzh-Sakhalins**	**57.92**	**347**	*c*eP	**P**	**07 34 50.8**	**0.0**		
YSS				*e*S	**S**	**07 42 46.0**	**-3.8**		
YSS				*e*PS	**PnS**	**07 42 56.4**	**-5.9**		
YSS				*e*		07 44 38.4			
YSS				*e*SS	**SS**	**07 46 41.5**	**+0.3**		
YSS				pmax	pmax				
	comp=Z,60nm,0.9s								
YSS				pmax	pmax				
	comp=Z,1µm,6.3s								
CNSH	**ChangSha**	**58.18**	**311**	⇑P	**P**	**07 34 53.8**	**+0.9**		
CNSH				S	**S**	**07 42 58.3**	**+4.5**		
CNSH				LR	LR				
	comp=Z,3µm,18.0s								
CNSH				LR	LR				
	comp=Z,3µm,15.6s								
CNSH				LR	LR				
	comp=Z,5µm,24.0s								
WHN	**Wuhan**	**58.48**	**315**	⇓P	P	07 35 00.1	+5.1		
WHN				S	**S**	**07 42 57.4**	**-0.3**		
WHN				LR	LR				
	comp=Z,10µm,16.0s								
WHN				LR	LR				
	comp=Z,4µm,14.1s								
WHN				LR	LR				
	comp=Z,18µm,25.2s								
UBPT	**Khong Chiam**	**58.52**	**294**	P	**P**	**07 34 56.2**	**+0.7**		
UBPT				IAmb	IAmb	07 35 05.6			
	comp=Z,99nm,1.2s								
UBPT	**Khong Chiam**	**58.52**	**294**	⇑P	P	07 35 01.1	+5.6		
USA0B	**Ussuriysk Arra**	**58.70**	**337**	*c i*P	**P**	**07 34 56.6**	**+0.4**		
USRK	**Ussuriysk Ar.**	**58.70**	**337**	P	**P**	**07 34 56.2**	**0.0**		
	comp=Z,22nm,0.9s,baz=148,slow=6.0,SNR=44								
USRK				S	**S**	**07 42 59.0**	**-1.0**		
	comp=Z,1.6nm,0.7s,baz=146,slow=32,SNR=1.0								
USRK				LR	LR	07 58 36.9			
	comp=Z,3µm,19.9s,baz=232,slow=34								
USRK				PKP2bc	**P'P'bc**	**08 04 43.5**	**+2.3**		
	comp=Z,1.5nm,0.7s,baz=336,slow=3.2,SNR=4.9								
	comp=Z,22nm,0.9s								
SUJ	**Sinuiju**	**58.72**	**329**	P	**P**	**07 34 56.4**	**0.0**		
SUJ				pP	**pP**	**07 35 01.8**	**-0.3**		
SUJ				S	**S**	**07 43 01.3**	**+1.0**		
SUJ				AmB					
	comp=Z,538nm,2.2s								
SUJ				AMS	AMS				
	comp=N,3µm,17.7s								
SUJ				AMS	AMS				
	comp=E,330nm,2.3s								
SUJ				AMS	AMS				
	comp=Z,768nm,5.4s								
DL2	**Dalian**	**59.34**	**326**	P	**P**	**07 35 00.8**	**0.0**		
DL2				S	**S**	**07 43 08.3**	**-0.2**		
DL2				pmax	pmax				
	comp=Z,42nm,1.1s								
DL2				pmax	pmax				
	comp=Z,850nm,7.8s								
DL2				LR	LR				
	comp=Z,3µm,15.1s								
DL2				LR	LR				
	comp=Z,2µm,16.6s								
DL2				LR	LR				
	comp=Z,3µm,23.2s								
SKR	**Severo-Kuril's**	**59.84**	**358**	*e*P	**P**	**07 35 03.9**	**-0.1**		
SKR				*e*S	**S**	**07 43 18.8**	**+4.3**		
SKR				*e*SS	**SS**	**07 47 16.1**	**+4.9**		
SKR				pmax	pmax				
	comp=Z,500nm,10.2s								
SKR				MLR	MLR				
	comp=Z,3µm,17.0s								
TAOE	**Nuku Hiva Isla**	**59.90**	**95**	*e*P	**P**	**07 35 07.6**	**+2.3**		
	comp=Z,886nm,24.3s								
TAOE				*e*S	**S**	**07 43 17.6**	**+0.7**		
	comp=Z,3µm,29.9s								
TAOE				*e*SS	**SS**	**07 47 15.2**	**+1.6**		
	comp=Z,2µm,29.6s								
TAOE				*e*LR	LR	07 52 43.6			
	comp=Z,11µm,23.1s								
MDJ	**Mudanjiang**	**59.98**	**336**	IAmb	IAmb	07 35 45.3			
	comp=Z,132nm,1.5s								
MDJ				IAMs_20	IAMs_20	07 58 20.1			
	comp=Z,5µm,21.0s								
MDJ	**Mudanjiang**	**59.98**	**336**	P	**P**	**07 35 05.3**	**+0.2**		
MDJ				sP	pP	07 35 10.1	-0.8		
MDJ				S	**S**	**07 43 25.4**	**+8.7**		
MDJ				pmax	pmax				
	comp=Z,45nm,1.3s								
MDJ				LR	LR				
	comp=Z,5µm,20.6s								
MDJ				LR	LR				
	comp=Z,5µm,21.7s								
MDJ				LR	LR				
	comp=Z,6µm,23.9s								
KULM	**Kulim**	**60.06**	**282**	IAmb	IAmb	07 35 12.3			
	comp=Z,133nm,1.3s								
UGL	**Uglegorsk**	**60.08**	**347**	*e*P	**P**	**07 35 06.2**	**+0.5**		
UGL				*e*S	**S**	**07 43 22.7**	**+5.0**		
UGL				pmax	pmax				
	comp=Z,2µm,5.0s								
UGL				smax	smax				
	comp=N,1µm,11.0s								
UGL				smax	smax				
	comp=E,2µm,11.0s								
TIA	**Tai'an**	**60.12**	**321**	*e*P	**P**	**07 35 04.4**	**-1.9**		
TIA				S	**S**	**07 43 17.8**	**-1.0**		
TIA				pmax	pmax				
	comp=E,39nm,1.8s								
TIA				pmax	pmax				
	comp=E,1µm,8.4s								
TIA				LR	LR				
	comp=E,2µm,18.6s								
TIA				LR	LR				
	comp=E,2µm,19.8s								
TIA				LR	LR				
	comp=E,3µm,22.1s								
SNY	**Shenyang**	**60.47**	**330**	⇑P	**P**	**07 35 08.6**	**+0.1**		
SNY				S	**S**	**07 43 29.4**	**+6.4**		
SNY				pmax	pmax				
	comp=E,16nm,0.9s								
SNY				pmax	pmax				
	comp=E,2µm,4.9s								
SNY				LR	LR				
	comp=E,3µm,17.3s								
SNY				LR	LR				
	comp=E,2µm,21.6s								
SNY				LR	LR				
	comp=E,6µm,19.4s								
CN2	**Changchun**	**61.10**	**333**	⇑*i*P	**P**	**07 35 13.3**	**+0.5**		
CN2				S	**S**	**07 43 27.9**	**-3.1**		
CN2				SS	**SS**	**07 47 30.3**	**-0.9**		
CN2				pmax	pmax				
	comp=E,60nm,1.3s								
CN2				pmax	pmax				
	comp=E,1µm,4.0s								
CN2				LR	LR				
	comp=E,4µm,16.0s								
CN2				LR	LR				
	comp=E,2µm,16.0s								
CN2				LR	LR				
	comp=E,3µm,20.0s								
RPSI	**Rantau Prapat**	**61.15**	**278**	P	**P**	**07 35 12.7**	**-1.0**		
PSI	**Prapat**	**61.18**	**278**	LR	LR	08 04 55.4			
	comp=E,2µm,19.4s,baz=120,slow=39								
PSI	**Prapat**	**61.18**	**278**	P	**P**	**07 35 12.7**	**-1.4**		
PSI				pmax	pmax				
	comp=Z,331nm,1.7s								
TYV	**Tymovskoe**	**61.65**	**348**	*e*P	**P**	**07 35 17.1**	**+0.8**		
TYV				*e*S	**S**	**07 43 40.4**	**+2.7**		
TYV				pmax	pmax				
	comp=Z,45nm,1.2s								
TYV				pmax	pmax				
	comp=Z,1µm,6.3s								
TYV				smax	smax				
	comp=N,2µm,11.8s								
TYV				smax	smax				
	comp=E,2µm,11.8s								
TYV				MLR	MLR				
	comp=N,5µm,16.0s								
TYV				MLR	MLR				
	comp=Z,4µm,16.0s								
BNX	**BinXian**	**61.79**	**335**	⇓P	**P**	**07 35 17.8**	**+0.4**		
BNX				pP	**pP**	**07 35 22.8**	**-0.4**		
BNX				sP	**sP**	**07 35 24.5**	**-0.9**		
BNX				PP	**PP**	**07 37 36.9**	**+3.2**		
BNX				S	**S**	**07 43 41.8**	**+2.1**		
BNX				sS	**pS**	**07 43 46.0**	**-1.1**		
BNX				pmax	pmax				
	comp=Z,44nm,1.2s								
BNX				pmax	pmax				
	comp=Z,1µm,3.9s								
BNX				LR	LR				
	comp=Z,4µm,22.4s								
BNX				LR	LR				
	comp=Z,5µm,22.8s								
BNX				LR	LR				
	comp=Z,2µm,20.6s								
ENH	**Enshi**	**61.84**	**312**	IAMs_20	IAMs_20	07 59 36.4			
	comp=Z,5µm,21.0s						

GYA				pmax	pmax			
	comp=Z,43nm,1.8s							
GYA				pmax	pmax			
	comp=Z,910nm,3.5s							
GYA				LR	LR			
	comp=Z,3µm,20.8s							
GYA				LR	LR			
	comp=Z,5µm,19.2s							
GYA				LR	LR			
	comp=Z,7µm,19.7s							
PET	**Petropavlovsk**	**62.13**	**360**	*e*P	**P**	**07**	**35**	**19.0 -0.5**
PET				*e*		07	35	57.4
PET				*e*		07	37	40.6
PET				*e*S	**S**	**07**	**43**	**42.4 -1.3**
PET				*e*PPS	PPS	07	44	07.4
PET				*e*		07	45	09.9
PET				*e*SS	**SS**	**07**	**47**	**49.5 +2.5**
PET				pmax	pmax			
	comp=Z,1µm,16.7s							
PET				pmax	pmax			
	comp=Z,131nm,1.5s							
PET				pmax	pmax			
	comp=Z,400nm,13.4s							
PET				MLR	MLR			
	comp=Z,3µm,13.0s							
PET				MLR	MLR			
	comp=Z,3µm,17.0s							
GSI	**Gunungsitoli**	**62.19**	**276**	P	**P**	**07**	**35**	**20.0 -0.8**
PEA0B	**Petropavlovsk-**	**62.23**	**359**	P	**P**	**07**	**35**	**19.9 -0.3**
PEA0B	**Petropavlovsk-**	**62.23**	**359**	*e*P	**P**	**07**	**35**	**20.4 +0.2**
PETK	**Petropavlovsk-**	**62.23**	**359**	P	**P**	**07**	**35**	**19.1 -1.1**
	comp=Z,29nm,0.9s,baz=167,slow=8.4,SNR=24							
PETK				S	**S**	**07**	**43**	**43.1 -1.9**
	comp=Z,4.2nm,1.0s,baz=300,slow=12,SNR=1.7							
	comp=Z,29nm,0.9s							
PETK	**Petropavlovsk-**	**62.23**	**359**	P	**P**	**07**	**35**	**19.6 -0.6**
PETK	**Petropavlovsk-**	**62.23**	**359**	P	**P**	**07**	**35**	**19.6 -0.6**
HNS	**HongShan**	**62.37**	**321**	⇑P	**P**	**07**	**35**	**21.0 -0.4**
HNS				PP	**PP**	**07**	**37**	**40.0 +1.1**
HNS				S	**S**	**07**	**43**	**44.8 -2.5**
HNS				SS	**SS**	**07**	**47**	**52.0 +0.6**
HNS				pmax	pmax			
	comp=Z,150nm,1.5s							
HNS				pmax	pmax			
	comp=Z,2µm,7.1s							
HNS				LR	LR			
	comp=Z,3µm,18.6s							
HNS				LR	LR			
	comp=Z,3µm,16.7s							
HNS				LR	LR			
	comp=Z,3µm,20.8s							
GRNR	**Gornyy**	**63.04**	**344**	⇑*i*P	**P**	**07**	**35**	**26.4 +0.7**
GRNR				*e*S	**S**	**07**	**44**	**01.5 +6.3**
GRNR				pmax	pmax			
	comp=E,7.0nm,1.1s							
GRNR				pmax	pmax			
	comp=N,20nm,0.9s							
GRNR				pmax	pmax			
	comp=Z,30nm,1.2s							
GRNR				smax	smax			
	comp=E,3.0nm,0.8s							
KLR	**Kul'dur**	**63.09**	**340**	LR	LR	08	00	49.9
	comp=E,5µm,21.1s,baz=146,slow=34							
KLR				PKPPKP	**P'P'df**	**08**	**04**	**25.1 +1.8**
	comp=E,1.3nm,0.8s,baz=310,slow=5.4,SNR=5.5							
KLR	**Kul'dur**	**63.09**	**340**	*c i*P	**P**	**07**	**35**	**26.2 +0.2**
KLR				pmax	pmax			
	comp=Z,82nm,1.1s							
KLR				MLR	MLR			
	comp=Z,1µm,18.0s							
SHEM	**Shemya Is, Ala**	**63.15**	**10**	LR	LR	07	57	39.0
	comp=Z,2µm,21.5s,baz=204,slow=31							
BJT	**Baijiatuau**	**63.17**	**324**	IAmb	IAmb	07	35	33.3
	comp=Z,172nm,1.6s							
BJI	**Beijing**	**63.18**	**324**	P	**P**	**07**	**35**	**26.4 -0.4**
BJI				pP	**pP**	**07**	**35**	**31.0 -1.8**
BJI				PP	**PP**	**07**	**37**	**46.6 +0.6**
BJI				S	**S**	**07**	**43**	**54.4 -3.0**
BJI				ScS	**SKSac**	**07**	**45**	**17.4 -1.6**
BJI				SS	**SS**	**07**	**48**	**05.3 +1.3**
BJI				pmax	pmax			
	comp=Z,25nm,1.5s							
BJI				pmax	pmax			
	comp=Z,1µm,7.8s							
BJI				LR	LR			
	comp=Z,510nm,16.8s							
BJI				LR	LR			
	comp=Z,2µm,16.9s							
BJI				LR	LR			
	comp=Z,3µm,17.8s							
TIY	**Taiyuan**	**63.99**	**320**	P	**P**	**07**	**35**	**33.3 +1.0**
TIY				S	**S**	**07**	**44**	**05.5 -2.2**
TIY				SS	**SS**	**07**	**48**	**15.6 -1.3**
TIY				pmax	pmax			
	comp=Z,39nm,0.5s							
TIY				pmax	pmax			
	comp=Z,1µm,5.7s							
TIY				LR	LR			
	comp=Z,4µm,15.1s							
TIY				LR	LR			
	comp=Z,3µm,15.8s							
TIY				LR	LR			
	comp=Z,5µm,18.5s							
XAN	**Xi'an**	**64.24**	**315**	P	**P**	**07**	**35**	**33.8 -0.2**
XAN				pP	pP	07	35	39.1 -0.9
XAN				S	**S**	**07**	**44**	**12.4 +1.5**
XAN				pmax	pmax			
	comp=Z,37nm,0.9s							
XAN				pmax	pmax			
	comp=Z,2µm,8.2s							
XAN				LR	LR			
	comp=Z,3µm,21.8s							
XAN				LR	LR			
	comp=Z,5µm,20.9s							
XAN				LR	LR			
	comp=Z,9µm,21.5s							
ADK	**Adak**	**64.45**	**16**	P	**P**	**07**	**35**	**35.1 +0.2**
ADK	**Adak**	**64.45**	**16**	P	**P**	**07**	**35**	**35.1 +0.2**
ADK				pmax	pmax			
	comp=Z,151nm,1.1s							
ADK	**Adak**	**64.45**	**16**	⇑P	**P**	**07**	**35**	**35.7 +0.7**
KMI	**Kunming**	**64.71**	**303**	⇑P	**P**	**07**	**35**	**38.3 +0.8**
KMI				pP	pP	07	35	43.4 -0.1
KMI				PcP	**PcP**	**07**	**36**	**14.3 +3.2**
KMI				S	**S**	**07**	**44**	**17.8 +0.3**
KMI				pmax	pmax			
	comp=Z,55nm,1.4s							
KMI				pmax	pmax			
	comp=Z,2µm,5.0s							
KMI				LR	LR			
	comp=Z,2µm,18.9s							
KMI				LR	LR			
	comp=Z,5µm,22.3s							
KMI				LR	LR			
	comp=Z,6µm,20.6s							
CMAR	**Chiang Mai Arr**	**65.48**	**295**	P	**P**	**07**	**35**	**43.0 +0.7**
	comp=Z,14nm,0.9s,baz=116,slow=4.3,SNR=50							
CMAR				S	**S**	**07**	**44**	**23.3 -3.3**
	comp=Z,0.8nm,0.3s,baz=332,slow=18,SNR=1.9							
CMAR				PKP2bc	**P'P'bc**	**08**	**04**	**25.5 -2.3**
	comp=Z,3.5nm,0.7s,baz=289,slow=5.1,SNR=11							
CMAR				LR	LR	08	05	06.5
	comp=Z,2µm,18.9s,baz=105,slow=37							
	comp=Z,14nm,0.9s							
CMAR	**Chiang Mai Arr**	**65.48**	**295**	P	**P**	**07**	**35**	**42.6 +0.3**
CMAR	**Chiang Mai Arr**	**65.48**	**295**	*i* P	**P**	**07**	**35**	**43.0 +0.7**
CMAR				pmax	pmax			
	comp=Z,13nm,0.9s							
CHTO	**Chiang Mai**	**65.60**	**296**	P	**P**	**07**	**35**	**43.0 -0.1**
CHTO	**Chiang Mai**	**65.60**	**296**	P	**P**	**07**	**35**	**43.0 -0.1**
CHTO				pmax	pmax			
	comp=Z,6.0nm,1.2s							
CHTO	**Chiang Mai**	**65.60**	**296**	⇑P	**P**	**07**	**35**	**43.5 +0.5**
CASY	**Casey**	**65.68**	**199**	P	**P**	**07**	**35**	**42.6 -0.1**
CASY	**Casey**	**65.68**	**199**	⇑P	**P**	**07**	**35**	**43.2 +0.4**
XLT	**XiLinHaoTe**	**65.80**	**327**	⇑*i*P	**P**	**07**	**35**	**44.8 +0.8**
XLT				pP	pP	07	35	50.3 +0.5
XLT				sP	sP	07	35	51.5 -0.5
XLT				S	**S**	**07**	**44**	**29.0 -0.9**
XLT				sS	sS	07	44	38.3 -0.7
XLT				pmax	pmax			
	comp=Z,120nm,0.9s							
XLT				pmax	pmax			
	comp=Z,2µm,4.1s							
XLT				LR	LR			
	comp=Z,3µm,17.1s							
XLT				LR	LR			
	comp=Z,4µm,19.4s							
PZH	**PanZhiHua**	**66.10**	**304**	P	**P**	**07**	**35**	**46.4 0.0**
PZH				sP	**pP**	**07**	**35**	**52.3 -0.1**
PZH				S	**S**	**07**	**44**	**37.6 +3.4**
PZH				SS	**SS**	**07**	**48**	**54.9 +4.6**
PZH				pmax	pmax			
	comp=Z,40nm,1.3s							
PZH				pmax	pmax			
	comp=Z,1µm,5.7s							
PZH				LR	LR			
	comp=Z,4µm,20.8s							
PZH				LR	LR			
	comp=Z,4µm,19.2s							
PZH				LR	LR			
	comp=Z,5µm,19.8s							
HHC	**Hu-ho-hao-te**	**66.42**	**322**	*e*P	**P**	**07**	**35**	**48.5 +0.4**
HHC				S	**S**	**07**	**44**	**35.6 -1.9**
HHC				SS	**SS**	**07**	**48**	**57.0 +2.3**
HHC				pmax	pmax			
	comp=Z,75nm,1.2s							
HHC				pmax	pmax			
	comp=Z,2µm,5.5s							
HHC				LR	LR			
	comp=Z,4µm,21.6s							
HHC				LR	LR			
	comp=Z,3µm,21.0s							
HHC				LR	LR			
	comp=Z,6µm,20.9s							
CD2	**Chengdu**	**66.45**	**310**	P	**P**	**07**	**35**	**48.3 -0.1**
CD2				sP	pP	07	35	53.6 -0.8
CD2				PP	**PP**	**07**	**38**	**14.3 -0.7**
CD2				S	**S**	**07**	**44**	**38.3 +0.2**
CD2				SS	**SS**	**07**	**48**	**59.0 +3.6**
CD2				pmax	pmax			
	comp=Z,100nm,1.3s							
CD2				pmax	pmax			
	comp=Z,2µm,6.5s							
CD2				LR	LR			
	comp=Z,3µm,17.0s							
CD2				LR	LR			
	comp=Z,4µm,23.7s							
CD2				LR	LR			
	comp=Z,5µm,23.7s							
BTO	**Baotou**	**67.21**	**321**	*e*P	**P**	**07**	**35**	**54.8 +1.7**
BTO				S	**S**	**07**	**44**	**46.3 -0.8**
BTO				LR	LR			
	comp=Z,11µm,18.8s							
BTO				LR	LR			
	comp=Z,8µm,17.3s							
HIA	**Hailar**	**67.81**	**333**	IAmb	IAmb	07	36	18.3
	comp=Z,103nm,1.2s							
NIKH	**Nikolski High**	**67.83**	**20**	P	**P**	**07**	**35**	**56.4 -0.1**
	baz=214							
VNDA	**Vanda**	**68.16**	**179**	P	**P**	**07**	**35**	**59.8 +1.4**
	comp=Z,24nm,0.8s,baz=341,slow=6.7,SNR=86							
VNDA				S	**S**	**07**	**44**	**58.5 +1.3**
	comp=Z,0.5nm,0.6s,baz=28,slow=10,SNR=1.2							
VNDA				LR	LR	08	00	16.2
	comp=Z,6µm,21.4s,baz=358,slow=31							
	comp=Z,24nm,0.8s							
VNDA	**Vanda**	**68.16**	**179**	P	**P**	**07**	**35**	**59.6 +1.2**
VNDA	**Vanda**	**68.16**	**179**	P	**P**	**07**	**35**	**59.6 +1.2**
VNDA				pmax	pmax			
	comp=Z,680nm,2.0s							
ZEA	**Zeya**	**68.41**	**340**	*e*P	**P**	**07**	**36**	**01.0 +0.8**
ZEA				*e*		07	38	37.4
ZEA				*e*S	**S**	**07**	**45**	**05.6 +4.9**
ZEA				pmax	pmax			
	comp=N,40nm,1.4s							
ZEA				pmax	pmax			
	comp=Z,40nm,1.3s							
ZEA				pmax	pmax			
	comp=Z,700nm,4.7s							
ZEA				smax	smax			
	comp=E,500nm,9.8s							
SBA	**Scott Base**	**68.59**	**178**	P	**P**	**07**	**36**	**03.0 +1.9**
SBA	**Scott Base**	**68.59**	**178**	IAMs_20	IAMs_20	08	00	01.7
	comp=Z,4µm,20.0s							
SBA	**Scott Base**	**68.59**	**178**	P	**P**	**07**	**36**	**03.0 +1.9**
SBA				pmax	pmax			
	comp=Z,264nm,1.5s							
LZH	**Lanzhou**	**68.86**	**314**	⇑P	**P**	**07**	**36**	**04.8 +1.1**
LZH				pP	pP	07	36	09.5 -0.2
LZH				PP	**PP**	**07**	**38**	**40.9 +4.9**
LZH				S	**S**	**07**	**45**	**06.8 -0.3**
LZH				SS	**SS**	**07**	**49**	**35.3 +2.5**
LZH				pmax	pmax			
	comp=Z,44nm,1.4s							
LZH				pmax	pmax			
	comp=Z,660nm,4.1s							
LZH				LR	LR			
	comp=Z,2µm,16.8s							
LZH				LR	LR			
	comp=Z,4µm,17.2s							
LZH				LR	LR			
	comp=Z,4µm,17.2s							
MA2	**Magadan**	**69.03**	**355**	LR	LR	08	03	50.9
	comp=Z,2µm,21.0s,baz=174,slow=34							
MA2	**Magadan**	**69.03**	**355**	P	**P**	**07**	**36**	**03.0 -1.0**
MA2				IAmb	IAmb	07	36	21.2
	comp=Z,109nm,1.1s							
MA2	**Magadan**	**69.03**	**355**	*ce*P	**P**	**07**	**36**	**03.4 -0.6**
MA2				pmax	pmax			
	comp=Z,66nm,1.1s							
UNV	**Unalaska Valle**	**69.36**	**21**	IAmb	IAmb	07	36	11.7
	comp=Z,158nm,1.3s							
UNV	**Unalaska Valle**	**69.36**	**21**	P	**P**	**07**	**36**	**05.8 -0.3**
	baz=216							
DGPR	**DIGLIPUR**	**69.42**	**288**	*e*P	**P**	**07**	**36**	**07.7 +0.4**
DGPR				IAmb	IAmb	07	36	37.7
	comp=Z,299nm,1.6s							
SPIA	**Saint Paul Isl**	**70.91**	**17**	P	**P**	**07**	**36**	**14.8 -0.8**
	baz=212							
LKP	**Lekhapani**	**71.27**	**303**	*e*P	**P**	**07**	**36**	**17.0 -1.5**
IMP	**Imphal**	**72.00**	**300**	*e*P	**P**	**07**	**36**	**22.4 -0.6**
IMP				IAmb	IAmb	07	36	33.9
	comp=Z,156nm,1.1s							
MOKO	**MOKOCHONG**	**72.02**	**302**	*e*P	**P**	**07**	**36**	**23.1 -0.1**
MOKO				IAmb	IAmb	07	36	29.5
	comp=Z,151nm,1.0s							
KOHI	**KOHIMA**	**72.16**	**301**	*e*P	**P**	**07**	**36**	**23.6 -0.4**
SEY	**Seymchan**	**72.26**	**357**	LR	LR	08	03	07.8
	comp=Z,3µm,20.9s,baz=159,slow=32							
SEY	**Seymchan**	**72.26**	**357**	*c i*P	**P**	**07**	**36**	**23.6 0.0**
SEY				pmax	pmax			
	comp=Z,65nm,1.5s							
SEY				MLR	MLR			
	comp=Z,2µm,18.0s							
JORH	**JORHAT**	**72.39**	**302**	*e*P	**P**	**07**	**36**	**24.9 -0.2**
CIT	**Chita**	**72.54**	**332**	*e*P	**P**	**07**	**36**	**26.0 +0.4**
CIT				*e*		07	36	42.4
CIT				pmax	pmax			
	comp=Z,367nm,3.6s							
CNBA	**Chernabura Isl**	**72.69**	**24**	IAMs_20	IAMs_20	08	07	42.5
	comp=Z,3µm,19.0s							
CHNA	**Chernabura Isl**	**72.70**	**24**	P	**P**	**07**	**36**	**25.4 -1.0**
	baz=223							
SDPT	**Sand Point**	**72.74**	**23**	P	**P**	**07**	**36**	**26.2 -0.4**
SDPT				IAmb	IAmb	07	36	34.8
	comp=Z,95nm,0.8s							
SDPT	**Sand Point**	**72.74**	**23**	P	**P**	**07**	**36**	**25.9 -0.7**
	baz=222							
ITAN	**ITANAGAR**	**72.97**	**302**	*e*P	**P**	**07**	**36**	**29.5 +0.8**
ZIRO	**ZIRO**	**73.00**	**302**	*e*P	**P**	**07**	**36**	**29.6 +0.5**
ZIRO				IAmb	IAmb	07	36	41.4
	comp=Z,477nm,1.8s							
ULN	**Ulaanbaatar**	**73.19**	**326**	P	**P**	**07**	**36**	**30.4 +0.7**
ULN				IAmb	IAmb	07	36	49.4
	comp=Z,160nm,1.4s							
ULN	**Ulaanbaatar**	**73.19**	**326**	IAMs_20	IAMs_20	08	06	20.2
	comp=Z,4µm,22.0s							
ULN	**Ulaanbaatar**	**73.19**	**326**	*c i*P	**P**	**07**	**36**	**30.3 +0.7**
ULN				pmax	pmax			
	comp=Z,149nm,1.4s							
ULN				MLR	MLR			
	comp=Z,3µm,18.0s							
ULN	**Ulaanbaatar**	**73.19**	**326**	⇑P	**P**	**07**	**36**	**30.5 +0.7**
GTA	**Gaotai**	**73.25**	**316**	⇑P	**P**	**07**	**36**	**31.1 +0.9**
GTA				pP	pP	07	36	36.8 +0.5
GTA				sP	sP	07	36	39.6 +1.5
GTA				S	**S**	**07**	**45**	**57.5 -0.4**
GTA				SKS	**SKSac**	**07**	**46**	**34.8 -0.8**
GTA				SS	**SS**	**07**	**50**	**42.8 +2.7**
GTA				pmax	pmax			
	comp=Z,40nm,1.9s							
GTA				LR	LR			
	comp=Z,2µm,20.7s							
GTA				LR	LR			
	comp=Z,3µm,22.2s							
GTA				LR	LR			
	comp=Z,4µm,21.8s							
BRDH	**Bariadhala**	**73.31**	**297**	LR	LR	08	07	04.4
	comp=Z,2µm,21.8s,baz=134,slow=34							
SONM	**Songino Array**	**73.54**	**326**	P	**P**	**07**	**36**	**31.9 +0.2**
	comp=Z,12nm,0.8s,baz=140,slow=5.8,SNR=63							
SONM				S	**S**	**07**	**46**	**00.6 -0.2**
	comp=Z,0.3nm,0.4s,baz=158,slow=12,SNR=0.9							
SONM				PKPPKP	**P'P'df**	**08**	**04**	**08.1 +1.3**
	comp=Z,1.4nm,0.9s,baz=269,slow=1.1,SNR=6.7							
SONM				LR	LR	08	06	32.2
	comp=Z,3µm,22.0s,baz=122,slow=34							
	comp=Z,12nm,0.8s							
SONM	**Songino Array**	**73.54**	**326**	IAmb	IAmb	07	36	39.1
	comp=Z,285nm,1.9s							
TEZP	**TEZPUR**	**73.57**	**301**	*e*P	**P**	**07**	**36**	**31.9 -0.2**
TEZP				IAmb	IAmb	07	36	43.8
	comp=Z,132nm,1.0s							
S14K	**Fog Glacier**	**73.78**	**23**	P	**P**	**07**	**36**	**32.8 -0.1**
	baz=223							
SHL	**Shillong**	**74.00**	**300**	*e*P	**P**	**07**	**36**	**34.8 -0.2**
SHL				IAmb	IAmb	07	36	46.8
	comp=Z,338nm,1.4s							
CHGN	**Chignik**	**74.23**	**23**	P	**P**	**07**	**36**	**34.7 -0.6**
	baz=224							
GUWA	**GUWAHATI**	**74.37**	**301**	*e*P	**P**	**07**	**36**	**37.2 +0.3**
GUWA				IAmb	IAmb	07	36	43.3
	comp=Z,87nm,0.8s							
YAK	**Yakutsk**	**74.76**	**346**	LR	LR	08	10	17.8
	comp=Z,2µm,19.0s,baz=134,slow=36							
YAK	**Yakutsk**	**74.76**	**346**	P	**P**	**07**	**36**	**38.5 +0.2**
YAK				IAmb	IAmb	07	36	48.0
	comp=Z,111nm,0.8s							
YAK	**Yakutsk**	**74.76**	**346**	*e*P	**P**	**07**	**36**	**38.2 -0.1**
YAK				*e**PP	**sP**	**07**	**36**	**45.9 -0.4**
YAK				*e*		07	36	54.7
YAK				*e*		07	39	24.9
YAK				*e*PPP	PPP	07	41	15.3
YAK				*e*S	**S**	**07**	**46**	**12.2 -1.5**
YAK				*e*		07	46	45.0
YAK				*e*SS	**SS**	**07**	**50**	**59.5 -2.4**
YAK				pmax	pmax			
	comp=Z,62nm,0.9s							
YAK				pmax	pmax			
	comp=N,19nm,1.1s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,69nm,1.5s							
YAK				pmax	pmax			
	comp=N,38nm,1.6s							
YAK				pmax	pmax			
	comp=E,24nm,1.6s							
YAK				smax	smax			
	comp=N,372nm,4.2s							
YAK				smax	smax			
	comp=E,531nm,4.8s							
GOMU	**GeErMu**	**75.45**	**311**	P	**P**	**07**	**36**	**45.8 +2.4**
GOMU				pP	pP	07	36	49.8 +0.3
GOMU				sP	sP	07	36	52.3 +1.0
GOMU				PP	**PP**	**07**	**39**	**29.1 -3.6**
GOMU				S	**S**	**07**	**46**	**24.6 +1.4**
GOMU				sS	pS	07	46	29.8 -0.9
GOMU				SS	**SS**	**07**	**51**	**12.0 -2.2**
GOMU				pmax	pmax			
	comp=E,1µm,5.3s							
GOMU				LR	LR			
	comp=E,2µm,17.0s							
GOMU				LR	LR			
	comp=E,2µm,20.7s							
GOMU				LR	LR			
	comp=E,2µm,19.3s							
R16K	**Pilot Point**	**75.47**	**22**	P	**P**	**07**	**36**	**42.7 +0.3**
	baz=224							
LSA	**Lhasa**	**75.97**	**304**	IAmb	IAmb	07	36	54.1
	comp=Z,112nm,1.4s							
LSA				IAMs_20	IAMs_20	08	07	45.7
	comp=Z,5µm,22.0s							
LSA	**Lhasa**	**75.97**	**304**	P	**P**	**07**	**36**	**47.3 +0.7**
LSA				S	**S**	**07**	**46**	**28.6 -0.8**
LSA				pmax	pmax			
	comp=Z,37nm,1.8s							
LSA				LR	LR			
	comp=Z,2µm,20.6s							
LSA				LR	LR			
	comp=Z,3µm,22.8s							
LSA				LR	LR			
	comp=Z,3µm,20.7s							
R17K	**Ugashik Creek**	**75.97**	**23**	P	**P**	**07**	**36**	**45.5 +0.1**
	baz=225							
SII	**Sitkinak Islan**	**76.10**	**25**	IAmb	IAmb	07	36	56.3
	comp=Z,162nm,1.1s							
SII	**Sitkinak Islan**	**76.10**	**25**	P	**P**	**07**	**36**	**46.4 +0.3**
	baz=228,SNR=7.5							
BOD	**Bodaibo**	**76.33**	**337**	*e*P	**P**	**07**	**36**	**46.4 -1.0**
BOD				pmax	pmax			
	comp=Z,99nm,1.7s							
P16K	**Nushagak River**	**76.37**	**21**	P	**P**	**07**	**36**	**46.9 -0.7**
	baz=224							
Q16K	**King Salmon**	**76.60**	**22**	P	**P**	**07**	**36**	**47.8 -1.1**
	baz=225							
ZAK	**Zakamensk**	**76.66**	**327**	*e*P	**P**	**07**	**36**	**49.2 -0.4**
ZAK				pmax	pmax			
	comp=Z,58nm,1.8s							
O16K	**Kokwok River B**	**76.74**	**21**	P	**P**	**07**	**36**	**49.2 -0.5**
	baz=223							
OHAK	**Old Harbor**	**76.91**	**24**	IAmb	IAmb	07	37	01.0
	comp=Z,129nm,1.2s							
OHAK	**Old Harbor**	**76.91**	**24**	P	**P**	**07**	**36**	**50.9 +0.2**
	baz=228,SNR=12							
P17K	**Kvichak River**	**77.05**	**22**	P	**P**	**07**	**36**	**50.5 -0.9**
	baz=225							
N16K	**Nishlik Lake**	**77.15**	**20**	P	**P**	**07**	**36**	**53.5 +1.5**
	baz=223,SNR=11							
IRK	**Irkutsk**	**77.17**	**329**	*e*P	**P**	**07**	**36**	**51.6 -0.7**
IRK				pmax	pmax			
	comp=Z,143nm,2.2s							
O17K	**Koliganek Bris**	**77.22**	**21**	P	**P**	**07**	**36**	**52.1 -0.3**
	baz=224							
GTK	**Tadong**	**77.34**	**301**	*e*P	**P**	**07**	**36**	**55.0 +0.9**
BILL	**Bilibino**	**77.37**	**3**	P	**P**	**07**	**36**	**53.6 +0.5**
BILL				IAmb	IAmb	07	37	11.3
	comp=Z,158nm,1.2s							
BILL				IAMs_20	IAMs_20	08	08	38.7
	comp=Z,4µm,19.0s							
BILL	**Bilibino**	**77.37**	**3**	*d i*P	**P**	**07**	**36**	**53.3 +0.2**
BILL				*e*		07	37	00.4
BILL				*e*		07	39	44.0
BILL				*e*PPP	PPP	07	41	43.2
BILL				*e*S	**SKSac**	**07**	**47**	**01.3 -3.5**
BILL				pmax	pmax			
	comp=Z,100nm,1.3s							
BILL				MLR	MLR			
	comp=Z,2µm,18.0s							
KDAK	**Kodiak Island**	**77.56**	**24**	LR	LR	08	06	09.2
	comp=Z,2µm,20.0s,baz=254,slow=32							
KDAK	**Kodiak Island**	**77.56**	**24**	P	**P**	**07**	**36**	**54.0 -0.4**
KDAK	**Kodiak Island**	**77.56**	**24**	*de*P	**P**	**07**	**36**	**54.1 -0.3**
KDAK				pmax	pmax			
	comp=Z,99nm,1.0s							
KDAK				MLR	MLR			
	comp=Z,3µm,18.0s							
KDAK	**Kodiak Island**	**77.56**	**24**	P	**P**	**07**	**36**	**52.9 -1.4**
	baz=229							
KDAK	**Kodiak Island**	**77.56**	**24**	⇑P	**P**	**07**	**36**	**54.7 +0.4**
P18K	**Big Mountain,**	**77.63**	**22**	IAmb	IAmb	07	37	04.2
	comp=Z,116nm,1.4s							
P18K	**Big Mountain,**	**77.63**	**22**	P	**P**	**07**	**36**	**54.0 -0.8**
	baz=226,SNR=13							
BWNR	**Bhubaneshwar**	**77.86**	**293**	*e*P	**P**	**07**	**37**	**01.6 +4.8**
Q19K	**Cape Douglas,**	**77.91**	**23**	IAMs_20	IAMs_20	08	11	28.1
	comp=Z,3µm,18.0s							
Q19K	**Cape Douglas,**	**77.91**	**23**	P	**P**	**07**	**36**	**55.9 -0.4**
	baz=228,SNR=8.1							
O18K	**Koktuh Hills**	**77.96**	**22**	P	**P**	**07**	**36**	**56.2 -0.4**

N18K	Kilae Creek	78.29	21	P	P	07 36 59.4	+1.0		
	baz=225,SNR=12								
ANM	Nome	78.39	15	P	P	07 36 60.0	+1.2		
	baz=216								
O19K	Port Alsworth	78.52	22	IAmb	IAmb	07 37 01.2			
	comp=Z,128nm,1.6s								
O19K	Port Alsworth	78.52	22	P	P	07 36 59.1	-0.5		
	baz=227								
P19K	Oil Pt	78.55	23	P	P	07 37 00.0	+0.1		
	baz=228,SNR=7.9								
MOY	Mondy	78.57	327	*e*P	P	07 37 00.6	+0.3		
MOY				pmax	pmax				
	comp=Z,149nm,3.1s								
TNA	Tin City	78.60	13	P	P	07 37 00.4	+0.4		
	baz=213								
SVW2	Sparrevohn	78.69	21	IAmb	IAmb	07 37 11.7			
	comp=Z,183nm,1.3s								
BOK	Bokaro	78.70	297⇑	*e*P	P	07 37 01.2	-0.2		
ILSW	Iliamna Southw	78.81	22	IAmb	IAmb	07 37 11.5			
	comp=Z,122nm,1.1s								
N19K	Bonanza Creek	78.88	21	P	P	07 37 01.7	-0.1		
	baz=227,SNR=5.6								
RAMN	Ramite	78.94	300	*e*P	P	07 37 03.1	+0.1		
	comp=Z,212nm,1.3s								
O20K	Slope Mountain	79.07	22	P	P	07 37 02.6	-0.2		
	baz=228								
HOM	Homer	79.16	23	P	P	07 37 03.9	+0.7		
	baz=230,SNR=8.1								
CNPM	China Poot	79.23	23	IAMs_20	IAMs_20	08 09 56.2			
	comp=Z,4µm,20.0s								
JIRN	Jiri	79.49	300	*e*P	P	07 37 06.3	+0.1		
	comp=Z,486nm,1.5s								
BRLK	Bradley Lake	79.53	23	IAmb	IAmb	07 37 22.7			
	comp=Z,137nm,1.0s								
BRLK				IAMs_20	IAMs_20	08 10 05.5			
	comp=Z,3µm,20.0s								
BRSE	Bradley Lake S	79.57	23	P	P	07 37 05.7	+0.3		
	baz=230,SNR=8.4								
M19K	Big River Lodg	79.66	20	P	P	07 37 07.1	+1.2		
	baz=227,SNR=47								
L19K	White Mountain	79.70	20	IAmb	IAmb	07 37 17.0			
	comp=Z,93nm,0.9s								
L19K				IAMs_20	IAMs_20	08 12 23.4			
	comp=Z,3µm,19.0s								
L19K	White Mountain	79.70	20	P	P	07 37 07.4	+1.3		
	baz=226,SNR=41								
GUN	Gumba	79.82	301	*e*P	P	07 37 08.2	+0.2		
	comp=Z,408nm,1.3s								
PALK	Pallekele	79.85	279	LR	LR	08 18 31.3			
	comp=Z,633nm,18.0s,baz=215,slow=40								
PALK	Pallekele	79.85	279	P	P	07 37 09.9	+2.0		
PALK	Pallekele	79.85	279‖	*e*P	P	07 37 08.9	+0.9		
PALK				pmax	pmax				
	comp=Z,322nm,1.4s								
KNGR	Kungurtug, Tuv	79.94	325	*de*P	P	07 37 08.7	+0.9		
KNGR				pmax	pmax				
	comp=Z,74nm,1.5s								
KNGR				MLR	MLR				
	comp=Z,2µm,17.0s								
N20K	Mount Spurr	79.96	22	P	P	07 37 06.6	-1.0		
	baz=229								
SPCR	Spurr Chakacha	79.96	22	P	P	07 37 06.4	-1.2		
	baz=229								
CAPN	Captain Cook N	80.07	22	P	P	07 37 09.3	+1.2		
	baz=230								
M20K	Styx River	80.09	21	IAmb	IAmb	07 37 26.3			
	comp=Z,251nm,1.9s								
M20K	Styx River	80.09	21	P	P	07 37 08.8	+0.5		
	baz=228,SNR=9.3								
PKI	Pulchoki	80.13	300	*e*P	P	07 37 09.3	-0.3		
	comp=Z,420nm,1.4s								
PKIN	Phulchoki	80.14	300	*e*P	P	07 37 09.4	-0.2		
	comp=Z,331nm,1.4s								
L20K	Farewell, AK	80.23	20	P	P	07 37 09.8	+0.8		
	baz=227,SNR=21								
SEW	Seward	80.30	23	P	P	07 37 09.5	+0.1		
	baz=231,SNR=12								
DMN	Daman	80.40	300	*e*P	P	07 37 11.1	+0.1		
	comp=Z,773nm,1.3s								
O22K	Cooper Landing	80.43	23	IAMs_20	IAMs_20	08 10 14.8			
	comp=Z,4µm,19.0s								
O22K	Cooper Landing	80.43	23	P	P	07 37 10.2	+0.1		
	baz=231,SNR=11								
QSPA	South Pole Qui	80.64	180	LR	LR	08 10 00.0			
	comp=Z,3µm,18.6s,baz=22,slow=34								
QSPA	South Pole Qui	80.64	180	P	P	07 37 12.1	+0.7		
QSPA	South Pole Qui	80.64	180	IAMs_20	IAMs_20	08 08 08.9			
	comp=Z,3µm,18.0s								
SUA	Susitna One	80.67	22	P	P	07 37 11.3	-0.1		
	baz=230,SNR=24								
SKT	Skwentna	80.72	21	IAMs_20	IAMs_20	08 10 54.4			
	comp=Z,3µm,20.0s								
SKT	Skwentna	80.72	21	P	P	07 37 10.6	-1.0		
	baz=229,SNR=7.6								
K20K	Telida	80.77	19	IAMs_20	IAMs_20	08 13 03.8			
	comp=Z,3µm,18.0s								
K20K	Telida	80.77	19	P	P	07 37 13.0	+1.1		
	baz=227,SNR=19								
RC01	Rabbit Creek A	80.81	23	IAmb	IAmb	07 37 22.3			
	comp=Z,114nm,1.0s								
RC01				IAMs_20	IAMs_20	08 14 23.8			
	comp=Z,3µm,19.0s								
RC01	Rabbit Creek A	80.81	23	P	P	07 37 12.5	+0.4		
	baz=231,SNR=18								
GCSA	Galena City Sc	80.87	18	P	P	07 37 13.0	+0.7		
	baz=224,SNR=9.2								
GKN	Gorkha	80.91	300	*e*P	P	07 37 13.5	-0.1		
	comp=Z,584nm,1.4s								
P23K	Montague Islan	81.05	24	P	P	07 37 13.6	+0.2		
	baz=233								
M22K	Willow	81.08	22	IAmb	IAmb	07 37 23.2			
	comp=Z,156nm,1.2s								
M22K	Willow	81.08	22	P	P	07 37 13.5	0.0		
	baz=231,SNR=14								
Q23K	Middleton Isla	81.15	25	P	P	07 37 13.3	-0.6		
	baz=234								
PWL	Port Wells	81.20	23	IAmb	IAmb	07 37 31.8			
	comp=Z,184nm,1.1s								
PWL				IAMs_20	IAMs_20	08 12 34.3			
	comp=Z,3µm,20.0s								
PWL	Port Wells	81.20	23	P	P	07 37 14.7	+0.5		
	baz=232,SNR=21								
J20K	Nowinta River	81.31	19	IAMs_20	IAMs_20	08 12 36.0			
	comp=Z,3µm,20.0s								
J20K	Nowinta River	81.31	19	P	P	07 37 15.8	+1.1		
	baz=227,SNR=31								
PMR	Palmer	81.35	22	IAmb	IAmb	07 37 25.0			
	comp=Z,120nm,1.0s								
PMR	Palmer	81.35	22	P	P	07 37 15.3	+0.3		
	baz=232,SNR=30								
CUT	Chulitna	81.45	21	IAmb	IAmb	07 38 19.2			
	comp=Z,88nm,1.0s								
CUT				IAMs_20	IAMs_20	08 12 08.7			
	comp=Z,3µm,19.0s								
CUT	Chulitna	81.45	21	P	P	07 37 14.8	-0.6		
	baz=230								
KNK	Knik Glacier	81.49	23	IAmb	IAmb	07 37 26.2			
	comp=Z,224nm,1.3s								
KNK				IAMs_20	IAMs_20	08 10 41.0			
	comp=Z,3µm,20.0s								
KNK	Knik Glacier	81.49	23	P	P	07 37 16.5	+0.7		
	baz=232,SNR=14								
GHO	Glory Hole Cre	81.54	22	IAmb	IAmb	07 37 26.2			
	comp=Z,127nm,1.0s								
BLSP	Bilaspur	81.63	294	*e*P	P	07 37 16.9	-0.4		
HIN	Hinchinbrook I	81.65	24	IAMs_20	IAMs_20	08 08 38.1			
	comp=Z,3µm,20.0s								
GLI	Glacier Island	81.70	24	IAmb	IAmb	07 37 27.0			
	comp=Z,96nm,1.0s								
GLI				IAMs_20	IAMs_20	08 12 04.4			
	comp=Z,3µm,19.0s								
GLI	Glacier Island	81.70	24	P	P	07 37 17.0	+0.1		
	baz=234								
DANN	Dangsing	81.74	300	*e*P	P	07 37 17.7	-0.5		
	comp=Z,185nm,1.0s								
SML	Sawmill	81.78	22	P	P	07 37 17.4	+0.1		
SML				IAmb	IAmb	07 37 34.6			
	comp=Z,153nm,0.9s								
SML				IAMs_20	IAMs_20	08 11 01.6			
	comp=Z,3µm,21.0s								
SML	Sawmill	81.78	22	P	P	07 37 18.0	+0.6		
	baz=232,SNR=32								
RDOG	Red Dog Mine	81.79	14	IAMs_20	IAMs_20	08 17 03.6			
	comp=Z,3µm,21.0s								
FID	Port Fidalgo	81.87	24	IAmb	IAmb	07 37 47.7			
	comp=Z,116nm,1.2s								
FID				IAMs_20	IAMs_20	08 13 24.2			
	comp=Z,3µm,18.0s								
M23K	Glacier View	82.00	23	P	P	07 37 18.5	0.0		
	baz=233,SNR=14								
EYAK	Cordova Ski Ar	82.04	24	P	P	07 37 18.9	+0.3		
	baz=235								
TRF	Thorofare Moun	82.11	21	IAmb	IAmb	07 37 27.8			
	comp=Z,277nm,1.9s								
TRF	Thorofare Moun	82.11	21	P	P	07 37 18.5	-0.7		
	baz=230								
SCM	Sheep Creek Mo	82.18	23	IAmb	IAmb	07 37 30.0			
	comp=Z,157nm,1.0s								
SCM				IAMs_20	IAMs_20	08 10 51.0			
	comp=Z,3µm,20.0s								
SCM	Sheep Creek Mo	82.18	23	P	P	07 37 20.2	+0.8		
	baz=233,SNR=20								
KAIM	Kayak Island	82.23	25	P	P	07 37 20.7	+1.0		
	baz=236								
BPAW	Bear Paw Mtn.	82.29	20	P	P	07 37 19.0	-0.9		
BPAW				IAMs_20	IAMs_20	08 14 09.9			
	comp=Z,3µm,19.0s								
BPAW	Bear Paw Mtn.	82.29	20	P	P	07 37 19.4	-0.5		
	baz=230,SNR=20								
WAT1	Susitna Watana	82.33	22	P	P	07 37 20.2	0.0		
	baz=232								
PYUN	Piuthan	82.34	300	*e*P	P	07 37 20.2	-1.0		
	comp=Z,256nm,1.1s								
DIV	Divide	82.37	24	IAmb	IAmb	07 37 30.7			
	comp=Z,134nm,1.6s								
RAGM	Ragged Mountai	82.39	25	IAMs_20	IAMs_20	08 11 46.6			
	comp=Z,4µm,19.0s								
WAT6	Susitna Watana	82.48	22	P	P	07 37 21.3	+0.3		
	baz=233,SNR=25								
KLU	Klutina	82.52	23	IAmb	IAmb	07 37 39.4			
	comp=Z,88nm,1.1s								
KLU				IAMs_20	IAMs_20	08 12 21.1			
	comp=Z,3µm,20.0s								
KLU	Klutina	82.52	23	P	P	07 37 22.0	+0.7		
	baz=234,SNR=11								
HMT	Hamilton	82.53	25	IAmb	IAmb	07 37 31.8			
	comp=Z,182nm,1.6s								
HMT				IAMs_20	IAMs_20	08 13 18.3			
	comp=Z,3µm,18.0s								
RND	Reindeer	82.58	21	IAMs_20	IAMs_20	08 12 44.6			
	comp=Z,3µm,20.0s								
SUCK	Suckling Hills	82.58	25	IAMs_20	IAMs_20	08 15 26.8			
	comp=Z,3µm,19.0s								
I21K	Tanana	82.68	19	IAmb	IAmb	07 37 32.8			
	comp=Z,142nm,1.2s								
I21K				IAMs_20	IAMs_20	08 13 17.1			
	comp=Z,2µm,19.0s								
I21K	Tanana	82.68	19	P	P	07 37 22.8	+1.0		
	baz=228,SNR=27								
IMAR	Indian Mountai	82.68	18	P	P	07 37 22.2	+0.4		
H21K	Melozitna Rive	82.74	18	P	P	07 37 23.1	+0.9		
	baz=228,SNR=20								
BMRM	Bremner River	82.74	24	IAmb	IAmb	07 37 33.7			
	comp=Z,138nm,1.5s								
BMRM	Bremner River	82.74	24	P	P	07 37 22.7	+0.4		
	baz=236								
MCK	McKinley	82.76	21	IAMs_20	IAMs_20	08 13 51.3			
	comp=Z,3µm,20.0s								
MCK	McKinley	82.76	21	P	P	07 37 22.2	-0.1		
	baz=232,SNR=57								
M24K	Tolsona, Glenn	82.78	23	P	P	07 37 23.9	+1.3		
	baz=234,SNR=24								
BERG	Berg Lake	82.79	25	IAmb	IAmb	07 37 33.2			
	comp=Z,97nm,1.1s								
BERG				IAMs_20	IAMs_20	08 19 07.4			
	comp=Z,3µm,18.0s								
BGLC	Bering Glacier	82.82	25	P	P	07 37 23.7	+1.0		
	baz=237								
BWN	Browne	82.85	20	IAMs_20	IAMs_20	08 14 20.3			
	comp=Z,3µm,19.0s								
DHY	Denali Highway	82.91	22	IAmb	IAmb	07 37 33.6			
	comp=Z,56nm,0.9s								
DHY				IAMs_20	IAMs_20	08 17 14.3			
	comp=Z,3µm,18.0s								
DHY	Denali Highway	82.91	22	P	P	07 37 23.7	+0.4		
	baz=233,SNR=29								
MLY	Manley	82.98	19	IAmb	IAmb	07 37 33.6			
	comp=Z,129nm,1.2s								
MLY				IAMs_20	IAMs_20	08 21 19.0			
	comp=Z,2µm,19.0s								
MLY	Manley	82.98	19	P	P	07 37 23.6	+0.2		
	baz=230,SNR=37								
SNH	Sunshine Point	83.04	25	IAMs_20	IAMs_20	08 13 10.8			
	comp=Z,4µm,18.0s								
SALM	Salem	83.10	283	*e*P	P	07 37 27.2	+2.1		
N25K	Chitina, Valde	83.11	24	IAmb	IAmb	07 37 42.5			
	comp=Z,226nm,1.8s								
N25K	Chitina, Valde	83.11	24	P	P	07 37 25.0	+0.8		
	baz=236,SNR=20								
G21K	Allakaket	83.11	17	P	P	07 37 24.6	+0.5		
	baz=227								
WAX	Waxell Ridge	83.18	25	IAmb	IAmb	07 37 43.8			
	comp=Z,106nm,1.1s								
WAX				IAMs_20	IAMs_20	08 11 31.5			
	comp=Z,3µm,20.0s								
NEA2	Nenana	83.25	20	IAmb	IAmb	07 37 34.3			
	comp=Z,156nm,1.2s								
NEA2	Nenana	83.25	20	P	P	07 37 24.4	-0.4		
	baz=231,SNR=49								
TIXI	Tiksi	83.29	351	S	S	07 47 38.7	-5.4		
	comp=Z,1.7nm,0.3s,baz=275,slow=22,SNR=1.8								
TIXI				LR	LR	08 18 27.2			
	comp=Z,2µm,18.0s,baz=179,slow=39								
TIXI	Tiksi	83.29	351	P	P	07 37 23.8	-1.1		
TIXI				IAmb	IAmb	07 37 26.3			
	comp=Z,190nm,1.8s								
TIXI				IAMs_20	IAMs_20	08 18 52.3			
	comp=Z,2µm,19.0s								
TIXI	Tiksi	83.29	351	*c i*P	P	07 37 24.0	-0.9		
TIXI				pmax	pmax				
	comp=Z,98nm,1.7s								
GLB	Gilahina Butte	83.33	24	IAmb	IAmb	07 37 44.1			
	comp=Z,84nm,1.1s								
WMQ	Urumqi	83.33	316⇑	*i*P	P	07 37 26.3	+0.5		
WMQ				pP	pP	07 37 32.0	+0.2		
WMQ				S	S	07 47 43.9	-2.0		
WMQ				sS	sS	07 47 56.1	+0.7		
WMQ				pmax	pmax				
	comp=Z,110nm,1.5s								
WMQ				pmax	pmax				
	comp=Z,2µm,5.3s								
WMQ				LR	LR				
	comp=Z,2µm,22.5s								
WMQ				LR	LR				
	comp=Z,2µm,20.9s								
WMQ				LR	LR				
	comp=Z,3µm,23.5s								
H22K	Ishtalitna Cre	83.34	18	P	P	07 37 26.2	+1.0		
	baz=229,SNR=33								
HARP	HAARP	83.34	23	P	P	07 37 26.2	+0.9		
	baz=235,SNR=7.6								
TGL	Tana Glacier	83.35	25	IAmb	IAmb	07 37 43.6			
	comp=Z,135nm,1.4s								
TGL				IAMs_20	IAMs_20	08 20 08.1			
	comp=Z,2µm,18.0s								
MESA	MESA	83.41	26	IAmb	IAmb	07 37 45.5			
	comp=Z,98nm,1.0s								
MESA				IAMs_20	IAMs_20	08 13 20.8			
	comp=Z,3µm,18.0s								
MESA	MESA	83.41	26	P	P	07 37 26.3	+0.2		
	baz=238								
ISLE	Juniper Island	83.47	25	IAmb	IAmb	07 37 55.6			
	comp=Z,105nm,1.3s								
ISLE				IAMs_20	IAMs_20	08 13 18.3			
	comp=Z,2µm,19.0s								
WRH	Wood River Hil	83.51	20	IAmb	IAmb	07 37 42.5			
	comp=Z,83nm,1.1s								
KOD	Kodaikanal	83.54	281	*e*P	P	07 37 29.4	+1.6		
PAX	Paxson	83.55	22	P	P	07 37 26.6	+0.1		
	baz=235,SNR=10								
YAH	Yahtse	83.60	25	IAmb	IAmb	07 37 54.4			
	comp=Z,69nm,1.1s								
YAH				IAMs_20	IAMs_20	08 11 31.5			
	comp=Z,2µm,19.0s								
F21K	Alatna River	83.60	17	P	P	07 37 27.0	+0.3		
	baz=227								
MCARA	McCarthy VSAT	83.61	24	P	P	07 37 27.3	+0.5		
MCARA				IAmb	IAmb	07 37 44.9			
	comp=Z,95nm,1.2s								
MCARA	McCarthy VSAT	83.61	24	P	P	07 37 27.5	+0.7		
	baz=237,SNR=10								
TRD	Trivandrum	83.72	280	*e*P	P	07 37 30.4	+2.0		
MDM	Murphy Dome	83.76	20	IAmb	IAmb	07 37 37.6			
	comp=Z,117nm,1.2s								
MAW	Mawson	83.80	203	P	P	07 37 28.6	+0.9		
	comp=Z,56nm,1.1s,baz=90,slow=6.3,SNR=63								
MAW				LR	LR	08 12 25.8			
	comp=Z,1µm,19.7s,baz=90,slow=34								
	comp=Z,56nm,1.1s								
MAW	Mawson	83.80	203	P	P	07 37 28.8	+1.1		
	baz=84,SNR=45								
MAW	Mawson	83.80	203	P	P	07 37 28.6	+0.9		
MAW				IAmb	IAmb	07 37 37.3			
	comp=Z,94nm,1.4s								
TCOL	CIGO, UAF Yank	83.83	20	IAmb	IAmb	07 37 37.3			
	comp=Z,119nm,0.9s								
TCOL	CIGO, UAF Yank	83.83	20	P	P	07 37 27.2	-0.6		
	baz=232,SNR=21								
COLA	College	83.83	20	P	P	07 37 27.1	-0.7		
COLA				IAmb	IAmb	07 37 37.3			
	comp=Z,118nm,0.9s								
COLA	College	83.83	20	*c i*P	P	07 37 26.7	-1.1		
COLA				pmax	pmax				
	comp=Z,94nm,1.0s								
COLA				MLR	MLR				
	comp=Z,2µm,18.0s								
COLA	College	83.83	20	P	P	07 37 27.3	-0.5		
	baz=232								
COLA	College	83.83	20	⇑P	P	07 37 27.3	-0.5		
COLA				⇑P	P	07 37 27.4	-0.5		
HDA	Harding Lake	83.86	21	IAmb	IAmb	07 37 37.8			
	comp=Z,101nm,1.0s								
HDA				IAMs_20	IAMs_20	08 13 23.5			
	comp=Z,3µm,20.0s								
HDA	Harding Lake	83.86	21	P	P	07 37 27.8	-0.2		
	baz=233,SNR=42								
H23K	Yukon River	83.87	19	IAmb	IAmb	07 37 38.6			
	comp=Z,106nm,1.1s								
H23K	Yukon River	83.87	19	P	P	07 37 28.4	+0.4		
	baz=231,SNR=45								
HYB	Hyderabad	83.89	289	*e*P	P	07 37 28.8	-0.4		
HYB				IAmb	IAmb	07 37 34.6			
	comp=Z,104nm,1.3s								
HYBB	Hyderabad (bro	83.89	289⇑	*e*P	P	07 37 28.9	-0.3		
HYBB				*e*SKSac	SKSac	07 47 51.2	-0.8		
TABL	Table Mountain	83.89	26	IAmb	IAmb	07 37 47.3			
	comp=Z,74nm,0.8s								
K24K	Donnelly Dome	83.92	21	P	P	07 37 28.8	+0.4		
	baz=234,SNR=16								
G22K	Bettles	83.98	18	P	P	07 37 29.1	+0.6		
	baz=229								
CTG	Chitna Glacier	84.08	25	P	P	07 37 29.9	+0.5		
	baz=239								
CTGM	Chitina Glacie	84.08	25	IAmb	IAmb	07 37 47.0			
	comp=Z,74nm,0.9s								
PCA	Pinnacle	84.10	26	IAmb	IAmb	07 37 41.2			
	comp=Z,95nm,0.9s								
PINM	Pinnacle	84.10	26	P	P	07 37 30.1	+0.7		
	baz=240,SNR=16								
ILAR	Eielson Array	84.10	20	P	P	07 37 28.4	-0.8		
	comp=Z,19nm,1.0s,baz=258,slow=4.0,SNR=83								
ILAR				PP	PP	07 40 45.2	+1.7		
	comp=Z,4.6nm,1.1s,baz=235,slow=7.8,SNR=3.6								
ILAR				S	S	07 47 45.3	-7.4		
	comp=Z,0.2nm,0.7s,baz=118,slow=13,SNR=2.0								
ILAR				PKKPbc	PKKPbc	07 55 43.8	-2.7		
	comp=Z,0.6nm,0.8s,baz=20,slow=1.4,SNR=4.5								
ILAR				PKPPKP	P'P'df	08 03 46.9	0.0		
	comp=Z,0.2nm,0.5s,baz=28,slow=2.1,SNR=4.6								
	comp=Z,19nm,1.0s								
POKR	Poker Plat Res	84.12	20	P	P	07 37 29.1	-0.2		
POKR	Poker Plat Res	84.12	20	P	P	07 37 28.4	-0.9		
	baz=233								
LOGN	Logan Glacier	84.15	25	IAmb	IAmb	07 37 48.4			
	comp=Z,65nm,1.0s								
F22K	John River	84.17	17	P	P	07 37 30.0	+0.4		
	baz=228								
M26K	Nabesna, AK	84.18	23	IAmb	IAmb	07 37 47.9			
	comp=Z,159nm,1.6s								
M26K	Nabesna, AK	84.18	23	P	P	07 37 30.3	+0.6		
	baz=237,SNR=26								
MENT	Mentasta	84.19	23	IAmb	IAmb	07 37 47.3			
	comp=Z,49nm,0.8s								
NGP	Nagpur	84.21	292	*e*P	P	07 37 30.5	-0.2		
RIDG	Independent Ri	84.22	22	IAMs_20	IAMs_20	08 14 56.1			
	comp=Z,3µm,19.0s								
RIDG	Independent Ri	84.22	22	P	P	07 37 30.4	+0.5		
	baz=235								
PNL	Peninsula	84.26	27	P	P	07 37 30.4	+0.3		
	baz=241								
G23K	Bananza Creek	84.29	18	P	P	07 37 31.1	+0.9		
	baz=230,SNR=27								
BCPM	Bancas Point	84.30	26	IAmb	IAmb	07 37 47.9			
	comp=Z,59nm,0.9s								
BCPM				IAMs_20	IAMs_20	08 09 53.1			
	comp=Z,2µm,18.0s								
L26K	Log Cabin Wild	84.38	23	IAmb	IAmb	07 37 48.9			
	comp=Z,115nm,1.3s								
L26K	Log Cabin Wild	84.38	23	P	P	07 37 31.6	+0.9		
	baz=237,SNR=23								
H24K	Noodor Dome	84.42	19	IAMs_20	IAMs_20	08 15 09.1			
	comp=Z,3µm,19.0s								
H24K	Noodor Dome	84.42	19	P	P	07 37 30.1	-0.7		
	baz=232,SNR=13								
O28M	Mount Upton	84.47	25	P	P	07 37 32.1	+0.5		
	baz=240,SNR=27								
J25K	Salcha River,	84.54	21	IAMs_20	IAMs_20	08 12 34.3			
	comp=Z,3µm,20.0s								
J25K	Salcha River,	84.54	21	P	P	07 37 31.8	+0.3		
	baz=235,SNR=39								
COLD	Coldfoot	84.56	18	P	P	07 37 32.3	+0.8		
COLD				IAmb	IAmb	07 37 42.6			
	comp=Z,68nm,1.3s								
COLD	Coldfoot	84.56	18	P	P	07 37 32.6	+1.1		
	baz=230,SNR=18								
M27K	Edge Creek, AK	84.59	24	IAmb	IAmb	07 37 43.1			
	comp=Z,128nm,1.1s								
M27K	Edge Creek, AK	84.59	24	P	P	07 37 32.8	+0.9		
	baz=238,SNR=37								
SCRK	Sand Creek	84.67	22	IAmb	IAmb	07 37 42.8			
	comp=Z,108nm,1.2s								
SCRK				IAMs_20	IAMs_20	08 15 17.9			
	comp=Z,4µm,19.0s								
SCRK	Sand Creek	84.67	22	P	P	07 37 32.9	+0.6		
	baz=236								
E22K	Anaktuvuk Pass	84.69	17	P	P	07 37 32.8	+0.6		

H08S2 **Diego Garcia H** 85.47 263 P P 07 37 35.9 -1.0
baz=358,slow=76
H08S3 **Diego Garcia H** 85.48 263 P P 07 37 37.5 +0.5
baz=358,slow=76
H08S1 **Diego Garcia H** 85.49 263 P P 07 37 38.9 +1.9
baz=358
DGZ **Jazzator, Alta** 85.50 322 *c* iP P 07 37 36.5 -0.3
DGZ pmax pmax
comp=Z,95nm,1.6s
DGZ MLR MLR
comp=Z,2µm,18.0s
S32K **Killisnoo** 85.50 30 P P 07 37 36.6 +0.2
baz=245
PLBC **Pleasant Camp** 85.52 28 P P 07 37 37.1 +0.7
baz=243,SNR=20
DGAR **Diego Garcia** 85.55 263 P P 07 37 38.4 +0.8
DGAR **Diego Garcia** 85.55 263 P P 07 37 38.4 +0.8
DGAR pmax pmax
comp=Z,625nm,1.5s
D23K **Nanushuk River** 85.56 16 P P 07 37 37.7 +1.2
baz=229,SNR=17
P30M **Million Dollar** 85.56 27 P P 07 37 38.0 +1.3
baz=243,SNR=21
JHNI **Jhansi** 85.58 297 *e* P P 07 37 35.8 -1.8
E24K **Your Creek** 85.61 17 P P 07 37 37.6 +0.8
baz=232,SNR=9.1
HYT **Haines Junctio** 85.64 26 P P 07 37 38.6 +1.4
baz=242,SNR=62
TOLK **Toolik Lake Re** 85.66 17 IAMs_20 IAMs_20 08 13 22.8
comp=Z,3µm,20.0s
TOLK **Toolik Lake Re** 85.66 17 P P 07 37 37.8 +0.8
baz=230,SNR=7.2
A21K **Barrow** 85.71 13 IAMs_20 IAMs_20 08 14 06.2
comp=Z,4µm,20.0s
I26K **Coal Creek Min** 85.71 21 IAmb IAmb 07 37 48.1
comp=Z,179nm,1.6s
I26K IAMs_20 IAMs_20 08 13 08.3
comp=Z,3µm,20.0s
I26K **Coal Creek Min** 85.71 21 P P 07 37 37.8 +0.5
baz=237
FYU **Fort Yukon** 85.71 19 IAMs_20 IAMs_20 08 23 25.4
comp=Z,2µm,18.0s
BESE **Bessie Mountai** 85.84 29 IAmb IAmb 07 37 56.9
comp=Z,143nm,1.6s
R32K **Eaglecrest** 85.87 29 P P 07 37 39.1 +0.9
baz=245
JIS **Juneau Island** 85.94 29 IAmb IAmb 07 37 57.4
comp=Z,149nm,1.9s
JIS IAMs_20 IAMs_20 08 12 20.6
comp=Z,3µm,20.0s
AKL **Akola** 85.97 292 *e* P P 07 37 38.8 -0.8
SKAG **Skagway** 86.00 28 IAmb IAmb 07 38 15.3
comp=Z,80nm,1.1s
SKAG **Skagway** 86.00 28 P P 07 37 39.5 +0.7
baz=244,SNR=6.5
M29M **Somme Creek** 86.01 24 P P 07 37 40.1 +1.1
baz=241,SNR=16
T33K **Petersburg** 86.04 31 P P 07 37 39.6 +0.5
baz=246
BHPL **Bhopal** 86.11 294 *e* P P 07 37 38.0 -2.2
BHPL IAmb IAmb 07 37 45.5
comp=Z,125nm,1.4s
N30M **Aishikik Lake** 86.12 26 P P 07 37 40.6 +1.1
baz=242,SNR=28
EGAK **Eagle** 86.14 22 P P 07 37 39.8 +0.4
EGAK IAmb IAmb 07 37 50.4
comp=Z,94nm,1.0s
EGAK IAMs_20 IAMs_20 08 16 10.8
comp=Z,3µm,19.0s
EGAK **Eagle** 86.14 22 P P 07 37 40.3 +0.9
baz=239,SNR=55
C23K **Itkillik River** 86.14 16 P P 07 37 40.7 +1.4
baz=230,SNR=9.2
V35K **Ketchikan** 86.15 32 P P 07 37 40.3 +0.7
baz=248
F25K **Christian Rive** 86.18 18 P P 07 37 41.0 +1.3
baz=234,SNR=13
D24K **Happy Valley** 86.19 16 P P 07 37 40.8 +1.2
baz=231
WRAK **Wrangell Islan** 86.19 31 IAMs_20 IAMs_20 08 14 41.4
comp=Z,3µm,18.0s
WRAK **Wrangell Islan** 86.19 31 P P 07 37 40.8 +1.0
baz=247
O30N **Mendenhall** 86.24 26 P P 07 37 40.9 +0.8
baz=243,SNR=29
KCPM **Cahto Peak** 86.29 49 P P 07 37 41.5 +0.7
KCPM IAmb IAmb 07 37 52.5
comp=Z,96nm,1.1s
KMRM **Mail Ridge** 86.34 48 P P 07 37 41.8 +0.7
KMRM IAmb IAmb 07 37 43.7
comp=Z,79nm,1.0s
KRPM **Rodgers** 86.36 47 IAmb IAmb 07 37 53.3
comp=Z,168nm,1.5s
ZSN **Zaisan** 86.38 319 *c* iP P 07 37 40.8 -0.2
ZSN *i* S SKSac 07 48 04.9 -1.6
ZSN pmax pmax
comp=Z,39nm,1.6s
ZSN **Zaisan** 86.38 319⇑ *i* P P 07 37 40.8 -0.2
comp=Z,39nm,1.6s,baz=319
ZSN *i* S SKSac 07 48 04.9 -1.6
baz=319
G26K **Porcupine Rive** 86.41 19 P P 07 37 42.2 +1.5
baz=236,SNR=37
I27K **Kandik River** 86.41 21 P P 07 37 42.1 +1.3
baz=238,SNR=26
MCCM **Marconi Confer** 86.42 51 IAMs_20 IAMs_20 08 11 20.6
comp=Z,3µm,20.0s
BMAR **Burnt Mountain** 86.42 19 P P 07 37 42.1 +1.3
DAWY **Dawson** 86.44 23 IAmb IAmb 07 37 52.4
comp=Z,114nm,1.2s
DAWY **Dawson** 86.44 23 P P 07 37 42.2 +1.2
baz=240,SNR=38
L29M **L29M** 86.47 24 P P 07 37 42.2 +1.0
baz=242
HOPS **Hopland Field** 86.49 50 IAmb IAmb 07 37 52.4
comp=Z,196nm,1.6s
HOPS IAMs_20 IAMs_20 08 15 21.4
comp=Z,3µm,18.0s
KHMM **Horse Mountain** 86.49 48 IAmb IAmb 07 37 53.8
comp=Z,116nm,1.3s
E25K **Arctic Village** 86.51 18 P P 07 37 42.5 +1.3
baz=234,SNR=14
KRMB **Red Mountain** 86.54 47 P P 07 37 42.9 +0.8
KRMB IAmb IAmb 07 37 53.3
comp=Z,184nm,1.6s
C24K **Franklin Bluff** 86.58 16 P P 07 37 42.8 +1.3
baz=231
KSXB **Camp Six Broad** 86.64 47 IAmb IAmb 07 37 54.3
comp=Z,93nm,1.4s
N31M **Braeburn, Yuko** 86.69 26 IAMs_20 IAMs_20 08 14 56.4
comp=Z,2µm,19.0s
N31M **Braeburn, Yuko** 86.69 26 P P 07 37 43.5 +1.2
baz=244,SNR=29
F26K **Sheenjek River** 86.71 19 P P 07 37 43.8 +1.5
baz=236,SNR=18
WHY **Whitehorse** 86.72 27 IAmb IAmb 07 38 00.8
comp=Z,213nm,1.9s
WHY **Whitehorse** 86.72 27 P P 07 37 43.1 +0.5
baz=244,SNR=6.7
M30M **Minto, Yukon** 86.76 25 IAmb IAmb 07 38 00.6
comp=Z,64nm,1.0s
M30M **Minto, Yukon** 86.76 25 P P 07 37 43.5 +0.9
baz=243,SNR=41
H27K **Steamboat Moun** 86.77 20 P P 07 37 44.0 +1.4
baz=238,SNR=32
P32M **Atlin** 86.80 28 P P 07 37 43.5 +0.7
baz=246
L02F **Cave Junction** 86.94 47 P P 07 37 45.4 +1.5
baz=254,SNR=7.3
J01E **Myrtle Point** 86.96 46 IAMs_20 IAMs_20 08 10 04.8
comp=Z,4µm,20.0s
J01E **Myrtle Point** 86.96 46 P P 07 37 45.4 +1.5
baz=254
BBB **Bella Bella** 86.97 36 LR LR 08 08 41.5
comp=Z,2µm,21.4s,baz=252,slow=30
D25K **Kavik River** 86.98 17 P P 07 37 44.2 +0.6
baz=234,SNR=11
K02D **Willamette Mer** 87.03 46 P P 07 37 45.9 +1.5
baz=254,SNR=8.6
G27K **Doyon Strip** 87.03 20 P P 07 37 45.0 +1.1
baz=238,SNR=20
DDI **Dehra Dun** 87.05 301⇑ *e* P P 07 37 43.6 -1.2
K29M **Barlow Dome** 87.06 23 P P 07 37 45.4 +1.3
baz=242,SNR=56
J29M **Klondike Camp** 87.08 23 P P 07 37 45.7 +1.6
baz=241
RPN **Rapa Nui** 87.16 117 LR LR 08 08 46.5
comp=Z,3µm,21.1s,baz=273,slow=30

SAO **San Andreas Ge** 87.19 52 IAmb IAmb 07 37 55.9
comp=Z,63nm,1.2s
SAO IAMs_20 IAMs_20 08 17 08.9
comp=Z,4µm,18.0s
SAO **San Andreas Ge** 87.19 52 ⇑P P 07 37 46.6 +1.4
SAO **San Andreas Ge** 87.19 52 ⇑P P 07 37 46.6 +1.4
SAO ⇓P P 07 37 46.9 +1.7
Q32M **Nakina River** 87.23 29 P P 07 37 45.1 0.0
baz=247
I02E **Swisshome, OR** 87.28 45 IAMs_20 IAMs_20 08 17 23.1
comp=Z,3µm,19.0s
I02E **Swisshome, OR** 87.28 45 P P 07 37 46.8 +1.4
baz=254
S34M **Telegraph Cree** 87.38 30 P P 07 37 46.3 +0.7
baz=248
DBO **Dodson Butte** 87.44 46 IAmb IAmb 07 37 57.2
comp=Z,121nm,1.6s
YBH **Yreka Blue Hor** 87.46 47 LR LR 08 11 58.8
comp=Z,2µm,20.0s,baz=258,slow=32
YBH **Yreka Blue Hor** 87.46 47 IAmb IAmb 07 37 57.5
comp=Z,138nm,1.7s
P33M **Teslin, Yukon** 87.47 28 IAMs_20 IAMs_20 08 15 34.0
comp=Z,3µm,18.0s
P33M **Teslin, Yukon** 87.47 28 P P 07 37 46.5 +0.4
baz=246
T35M **Bob Quinn** 87.47 31 P P 07 37 47.0 +0.8
baz=249
I29M **Ogilvie Camp,** 87.48 22 IAMs_20 IAMs_20 08 13 56.2
comp=Z,2µm,21.0s
I29M **Ogilvie Camp,** 87.48 22 P P 07 37 46.8 +0.8
baz=241,SNR=48
HUMO **Hull Mountain** 87.51 46 P P 07 37 47.4 +0.8
HUMO IAmb IAmb 07 37 57.7
comp=Z,83nm,1.4s
HUMO IAMs_20 IAMs_20 08 10 11.2
comp=Z,3µm,20.0s
I03D **Drain, OR** 87.51 45 P P 07 37 47.1 +0.6
baz=255
MAYO **Mayo, Yukon** 87.59 24 P P 07 37 48.0 +1.5
baz=244,SNR=9.4
M31M **Drury Creek, Y** 87.60 25 IAmb IAmb 07 38 04.6
comp=Z,44nm,0.9s
M31M IAMs_20 IAMs_20 08 12 04.4
comp=Z,3µm,20.0s
M31M **Drury Creek, Y** 87.60 25 P P 07 37 47.1 +0.5
baz=245,SNR=17
N32M **Quiet Lake** 87.73 27 P P 07 37 47.9 +0.6
baz=246
C26K **Camden Bay** 87.75 17 P P 07 37 48.4 +1.3
baz=235
COR **Corvallis** 87.78 44 IAMs_20 IAMs_20 08 17 37.3
comp=Z,2µm,19.0s
E27K **Coleen River** 87.79 19 P P 07 37 48.9 +1.5
baz=238
ORV **Oroville** 87.81 50 IAmb IAmb 07 37 58.5
comp=Z,75nm,1.4s
MK31 **Makanchi Array** 87.87 318 P P 07 37 48.0 -0.4
MK31 **Makanchi Array** 87.87 318 *c* iP P 07 37 47.9 -0.4
MKAR **Makanchi Array** 87.87 318 P P 07 37 47.9 -0.4
comp=Z,13nm,0.7s,baz=98,slow=6.2,SNR=120
MKAR PP PP 07 41 12.9 -1.6
comp=Z,3.7nm,1.0s,baz=102,slow=7.0,SNR=2.1
MKAR PKiKP PKiKP 07 42 50.1 -0.9
comp=Z,2.3nm,1.0s,baz=116,slow=3.4,SNR=2.4
MKAR S SKSac 07 48 06.5 -9.2
comp=Z,0.2nm,0.5s,baz=80,slow=8.1,SNR=1.2
MKAR PKKP PKKPdf 07 55 31.9 +0.7
comp=Z,1.1nm,0.7s,baz=300,slow=2.6,SNR=8.8
MKAR PKPPKP P'P'df 08 03 41.7 0.0
comp=Z,0.8nm,0.9s,baz=318,slow=1.6,SNR=4.1
MKAR LR LR 08 16 56.0
comp=Z,2µm,20.1s,baz=95,slow=36
comp=Z,13nm,0.7s
MKAR **Makanchi Array** 87.87 318 P P 07 37 47.6 -0.7
L04D **Klamath Falls** 87.87 47 IAmb IAmb 07 37 59.2
comp=Z,139nm,1.5s
L04D **Klamath Falls** 87.87 47 P P 07 37 49.8 +1.3
baz=255
SNCC **San Nicolas Is** 87.93 56 P P 07 37 50.7 +1.8
baz=257,SNR=11
C27K **Jago River** 87.93 17 P P 07 37 49.8 +1.8
baz=236,SNR=9.1
SMLA **Simla** 87.97 302 *e* P P 07 37 48.1 -0.9
SMLA IAmb IAmb 07 37 55.2
comp=Z,111nm,1.2s
G03D **McMinnville, O** 87.97 44 IAMs_20 IAMs_20 08 10 38.4
comp=Z,2µm,20.0s
G03D **McMinnville, O** 87.97 44 P P 07 37 49.4 +0.7
baz=255
SMMC **Simmler** 88.00 54 P P 07 37 51.0 +1.9
baz=257
SCZ2 **Santa Cruz Isl** 88.00 55 P P 07 37 50.6 +1.4
baz=257
R33M **Jennings River** 88.01 29 P P 07 37 49.4 +0.6
baz=248
SBC **Santa Barbara** 88.03 55 P P 07 37 51.1 +1.8
baz=257
PKM **Mcpherson Peak** 88.05 54 P P 07 37 51.3 +1.6
baz=257
FARO **Faro, Yukon** 88.05 26 IAmb IAmb 07 38 06.9
comp=Z,72nm,1.3s
FARO **Faro, Yukon** 88.05 26 P P 07 37 49.2 +0.4
baz=246,SNR=15
AFDM **Forest Hills D** 88.07 50 IAmb IAmb 07 37 59.9
comp=Z,147nm,1.5s
MAKZ **Makanchi** 88.08 318 P P 07 37 48.7 -0.6
MAKZ IAmb IAmb 07 38 08.4
comp=Z,48nm,0.9s
MAKZ IAMs_20 IAMs_20 08 17 00.6
comp=Z,3µm,20.0s
MAKZ **Makanchi** 88.08 318 P P 07 37 48.7 -0.6
MAKZ pmax pmax
comp=Z,48nm,1.0s
DLBC **Dease Lake** 88.11 30 LR LR 08 13 31.2
comp=Z,4µm,18.8s,baz=259,slow=33
DLBC **Dease Lake** 88.11 30 P P 07 37 49.7 +0.4
baz=249
NLWA **Neilton Lookou** 88.15 41 IAMs_20 IAMs_20 08 13 18.1
comp=Z,3µm,19.0s
H04D **Lebanon** 88.15 44 P P 07 37 51.1 +1.4
baz=255
I04A **Tendick Farm,** 88.19 45 P P 07 37 50.8 +0.9
baz=255
J04D **Umpqua Nationa** 88.27 46 IAmb IAmb 07 38 01.2
comp=Z,80nm,0.9s
J04D IAMs_20 IAMs_20 08 11 16.4
comp=Z,3µm,20.0s
J04D **Umpqua Nationa** 88.27 46 P P 07 37 51.8 +1.3
baz=256,SNR=11
CMB **Columbia Colle** 88.30 51 IAmb IAmb 07 38 01.1
comp=Z,89nm,1.6s
CMB IAMs_20 IAMs_20 08 11 42.5
comp=Z,3µm,19.0s
K04D **Chiloquin, OR** 88.37 46 P P 07 37 52.1 +1.2
baz=256
F04D **Rainier, OR** 88.37 43 P P 07 37 51.9 +1.3
baz=255
ZALV **Zalesovo Beam** 88.42 325 P P 07 37 48.6 -2.0
comp=Z,4.8nm,0.7s,baz=112,slow=5.4,SNR=13
ZALV S SKSac 07 48 09.9 -8.7
comp=Z,0.7nm,0.4s,baz=333,slow=44,SNR=1.3
ZALV PKKP PKKPdf 07 55 31.3 +0.8
comp=Z,0.4nm,0.3s,baz=321,slow=2.0,SNR=4.7
ZALV LR LR 08 18 28.5
comp=Z,1µm,19.2s,baz=98,slow=36
comp=Z,4.8nm,0.7s
ZALV **Zalesovo Beam** 88.42 325 P P 07 37 49.3 -1.4
ZALV **Zalesovo Beam** 88.42 325 *i* P P 07 37 49.4 -1.2
ZALV pmax pmax
comp=Z,5.0nm,0.6s
POO **Poona** 88.50 289 *e* P P 07 37 51.4 -0.5
EPYK **Eagle Plains** 88.53 21 P P 07 37 52.0 +1.0
baz=243,SNR=18
SCI2 **San Clemente I** 88.67 56 P P 07 37 53.9 +1.5
baz=258,SNR=6.2
VOG **Valley Oaks Go** 88.70 53 P P 07 37 53.7 +1.3
baz=257
BEKR **Beckworth** 88.74 49 IAmb IAmb 07 38 03.5
comp=Z,167nm,1.6s
VES **Vestal, Richgr** 88.84 54 P P 07 37 54.1 +1.1
baz=258,SNR=19
CIS **Catalina Islan** 88.87 56 P P 07 37 54.7 +1.4
baz=258,SNR=20
OSI **Osito Audit: C** 88.87 55 P P 07 37 54.9 +1.6
baz=258
SHLS **Shalkode** 88.88 314 *c* iP P 07 37 51.6 -1.6
SHLS *e* S SKSac 07 48 17.8 -4.3
SHLS pmax pmax

SHLS **Shalkode** 88.88 314⇑ iP P 07 37 51.7 -1.6
comp=Z,39nm,1.6s,baz=314
SHLS *e* S SKSac 07 48 17.8 -4.3
baz=314
ARVC **Arvin** 88.89 54 P P 07 37 55.1 +1.7
baz=258,SNR=19
J05D **Fort Rock, OR** 88.90 46 P P 07 37 54.9 +1.5
baz=256,SNR=18
K05A **Summer Lake** 89.01 47 P P 07 37 55.9 +1.9
FMP **Fort Macarthur** 89.03 56 P P 07 37 55.5 +1.5
baz=258
I05D **Terrebonne, OR** 89.08 45 P P 07 37 55.0 +0.9
baz=256,SNR=7.3
MMPY **Sheldon Lake,** 89.10 26 P P 07 37 54.4 +0.7
baz=248,SNR=12
DECC **Green Verdugo** 89.11 55 P P 07 37 55.6 +1.1
baz=258,SNR=7.7
VCNR **Virginia City** 89.15 50 IAmb IAmb 07 38 05.7
comp=Z,105nm,1.4s
UZB **Uzunbulak** 89.19 314 *i* P P 07 37 54.5 -0.2
UZB pmax pmax
comp=Z,27nm,2.0s
UZB **Uzunbulak** 89.19 314 *i* P P 07 37 54.6 -0.2
comp=Z,27nm,2.0s,baz=314
MDPB **Devils Postpil** 89.22 52 IAmb IAmb 07 38 06.6
comp=Z,141nm,1.4s
AJM **Ajmer** 89.22 297 *e* P P 07 37 54.0 -1.1
PINE **Pine Mountain** 89.23 45 IAmb IAmb 07 38 06.7
comp=Z,96nm,1.6s
MOD **Modoc Plateau** 89.25 47 P P 07 37 55.6 +0.5
MOD IAmb IAmb 07 38 05.8
comp=Z,185nm,1.8s
OMMB **Old Mammoth Mi** 89.28 52 IAmb IAmb 07 38 07.1
comp=Z,145nm,1.6s
ISA **Isabella, Lake** 89.29 54 IAmb IAmb 07 38 06.7
comp=Z,158nm,1.6s
ISA **Isabella, Lake** 89.29 54 P P 07 37 56.7 +1.4
baz=258,SNR=29
G05D **Wamic, OR** 89.31 44 P P 07 37 56.4 +1.3
baz=256
D05A **Enumclaw** 89.34 42 IAmb IAmb 07 38 11.6
comp=Z,143nm,1.6s
YERR **Yerington** 89.39 50 IAmb IAmb 07 38 06.6
comp=Z,134nm,1.5s
MLAC **Mammoth, Mammc** 89.41 52 P P 07 37 57.6 +1.6
baz=258
PAHR **Pah Rah Range** 89.44 50 IAmb IAmb 07 38 06.8
comp=Z,141nm,1.4s
THN **Thein Dam** 89.44 303 *e* P P 07 37 55.4 -0.6
KPKS **Kokpek** 89.50 314 *c* iP P 07 37 55.9 -0.2
KPKS *i* S SKSac 07 48 23.3 -2.4
KPKS pmax pmax
comp=Z,72nm,1.9s
KPKS **Kokpek** 89.50 314⇑ *i* P P 07 37 55.9 -0.2
comp=Z,72nm,1.9s,baz=314
KPKS *i* S SKSac 07 48 23.3 -2.4
baz=314
EDW2 **Edwards Air Fo** 89.51 55 P P 07 37 58.0 +1.6
baz=258,SNR=53
PLTX **Planet X, Gerl** 89.59 49 IAmb IAmb 07 38 07.7
comp=Z,183nm,1.5s
SATY **Saty** 89.61 314 *c* iP P 07 37 56.6 -0.1
SATY *e* S SKSac 07 48 24.2 -2.2
SATY pmax pmax
comp=Z,45nm,1.6s
SATY **Saty** 89.61 314⇑ *i* P P 07 37 56.6 -0.1
comp=Z,45nm,1.6s,baz=314
SATY *e* S SKSac 07 48 24.2 -2.2
baz=314
ZHN **Zhinishke** 89.61 314 *e* P P 07 37 56.1 -0.6
ZHN **Zhinishke** 89.61 314 *e* P P 07 37 56.1 -0.6
baz=314
BFSC **Mount Baldy Ra** 89.65 55 P P 07 37 58.4 +1.3
baz=258,SNR=44
ELS **Elsinore Mount** 89.72 56 IAmb IAmb 07 38 08.8
comp=Z,164nm,1.6s
CWC **Cottonwood Cre** 89.76 53 P P 07 37 59.0 +1.4
baz=258
TIN **Tinemaha, Big** 89.76 53 P P 07 37 59.4 +1.8
baz=258,SNR=14
LHV **Little Huntoon** 89.80 51 IAmb IAmb 07 38 09.5
comp=Z,170nm,1.4s
109C **Camp Elliot, M** 89.84 57 P P 07 37 59.3 +1.4
baz=259,SNR=13
RYN **Ryan** 89.86 51 IAmb IAmb 07 38 09.6
comp=Z,167nm,1.4s
LRMC **Laurel Mtn Rad** 89.88 54 P P 07 37 59.6 +1.4
baz=258,SNR=80
MURC **Murrieta** 89.91 56 P P 07 37 59.4 +1.2
baz=259,SNR=14
NVAR **Mina Array Bea** 89.99 51 P P 07 37 59.5 +0.8
comp=Z,33nm,1.0s,baz=241,slow=6.5,SNR=180
NVAR PKKP PKKPdf 07 55 27.1 -0.4
comp=Z,0.1nm,0.5s,baz=81,slow=3.0,SNR=1.6
NVAR PKPPKP P'P'df 08 03 39.8 +1.1
comp=Z,0.4nm,0.7s,baz=134,slow=4.3,SNR=5.6
NVAR LR LR 08 13 31.4
comp=Z,2µm,19.3s,baz=278,slow=32
comp=Z,33nm,1.0s
CCX **Cicese** 90.01 58 IAmb IAmb 07 38 09.4
comp=Z,133nm,1.2s
TGTN **Hyland Airport** 90.02 27 P P 07 37 58.4 +0.3
baz=250
DSP **Deep Springs** 90.03 52 IAmb IAmb 07 38 09.7
comp=Z,172nm,1.4s
TDK **Taldyqorghan** 90.05 316 *c* iP P 07 37 58.6 +0.1
TDK *e* S SKSac 07 48 28.0 -0.7
TDK pmax pmax
comp=Z,66nm,1.7s
TDK MLR MLR
comp=Z,2µm,19.0s
TDK **Taldyqorghan** 90.05 316⇑ *i* P P 07 37 58.7 +0.1
comp=Z,66nm,1.7s,baz=316
TDK *e* S SKSac 07 48 28.1 -0.7
baz=316
TDK LR LR 08 18 20.1
comp=Z,2µm,18.7s,baz=316
F31M **Tsiigehtchic** 90.06 21 P P 07 37 58.0 0.0
baz=245
SEM **Semipalatinsk** 90.12 321 *e* P P 07 37 56.9 -2.1
SEM pmax pmax
comp=Z,51nm,1.6s
SEM **Semipalatinsk** 90.12 321 *e* P P 07 37 56.9 -2.1
comp=Z,51nm,1.6s,baz=321
MPMC **Manual Prospec** 90.15 54 P P 07 38 01.0 +1.6
baz=258,SNR=63
BAR **Barrett** 90.16 57 IAmb IAmb 07 38 09.9
comp=Z,126nm,1.3s
TKX **Tecate** 90.19 57 IAmb IAmb 07 38 10.8
comp=Z,166nm,1.5s
BBRC **Big Bear Solar** 90.26 55 P P 07 38 01.3 +1.2
baz=258,SNR=6.8
LCH **Last Change Ra** 90.26 52 IAmb IAmb 07 38 10.3
comp=Z,136nm,1.8s
ARXS **Arharly** 90.27 315 *e* P P 07 37 59.1 -0.6
RRX **Edison Barstow** 90.31 55 P P 07 38 01.4 +1.3
baz=259
MONP2 **Monument Peak** 90.41 57 P P 07 38 02.3 +1.5
baz=259,SNR=36
GRAC **Grapevine Rang** 90.43 53 P P 07 38 02.3 +1.7
baz=258,SNR=18
INK **Inuvik** 90.49 20 PKKP PKKPdf 07 55 26.9 -0.3
comp=Z,4.3nm,1.2s,baz=36,slow=11,SNR=3.4
INK LR LR 08 19 08.8
comp=Z,2µm,18.3s,baz=234,slow=36
INK **Inuvik** 90.49 20 IAmb IAmb 07 38 02.1
comp=Z,84nm,1.7s
INK **Inuvik** 90.49 20 P P 07 38 00.6 +0.5
baz=246
PFO **Pinyon Flats O** 90.51 56 LR LR 08 11 50.3
comp=Z,8µm,19.9s,baz=290,slow=31
PFO **Pinyon Flats O** 90.51 56 P P 07 38 02.4 +1.2
PFO IAmb IAmb 07 38 11.7
comp=Z,101nm,1.3s
PFO **Pinyon Flats O** 90.51 56 *c* iP P 07 38 02.4 +1.2
PFO pmax pmax
comp=Z,146nm,1.4s
PFO MLR MLR
comp=Z,7µm,17.0s
PFO **Pinyon Flats O** 90.51 56 P P 07 38 02.3 +1.2
baz=259,SNR=19
TPFO **Pinon Flats** 90.51 56 P P 07 38 02.4 +1.2
baz=259,SNR=22
GSC **Goldstone, Bar** 90.55 54 IAmb IAmb 07 38 11.9
comp=Z,90nm,1.4s
GSC **Goldstone, Bar** 90.55 54 P P 07 38 02.7 +1.4
baz=259,SNR=30

MZP	**Montezuma Peak**	**90.56**	**52**	IAmb	IAmb	07 38 11.9		
	comp=Z,114nm,1.6s							
WVOR	**Wild Horse Val**	**90.57**	**47**	IAMs_20	IAMs_20	08 14 58.3		
	comp=Z,2µm,20.0s							
WVOR	**Wild Horse Val**	**90.57**	**47**	P	**P**	**07 38 02.6**	**+1.4**	
PMD	**Palm Desert**	**90.58**	**56**	IAmb	IAmb	07 38 11.9		
	comp=Z,118nm,1.4s							
MDOK	**Medeo**	**90.60**	**314**	*i* P	**P**	**07 38 01.1**	**-0.2**	
MDOK				*i* S	**SKSac**	**07 48 29.8**	**-2.4**	
MDOK	**Medeo**	**90.60**	**314**	*i* P	**P**	**07 38 01.1**	**-0.2**	
	baz=314							
MDOK				*i* S	**SKSac**	**07 48 29.9**	**-2.4**	
	baz=314							
MDOK				LR	LR	08 21 08.2		
	baz=314							
IKP	**In-Ko-Pah, Jac**	**90.62**	**57**	P	**P**	**07 38 03.3**	**+1.7**	
	baz=259,SNR=16							
QSM	**Queen of Sheba**	**90.62**	**54**	IAmb	IAmb	07 38 12.0		
	comp=Z,146nm,1.5s							
KSH	**Kashi**	**90.64**	**310**	P	**P**	**07 38 03.3**	**+1.7**	
KSH				pP	sP	07 38 09.3	-0.2	
KSH				SKS	**SKSac**	**07 48 32.8**	**+0.2**	
KSH				pmax	pmax			
	comp=Z,40nm,1.4s							
KSH				pmax	pmax			
	comp=Z,570nm,5.1s							
KSH				LR	LR			
	comp=Z,3µm,20.3s							
KSH				LR	LR			
	comp=Z,2µm,22.5s							
KSH				LR	LR			
	comp=Z,3µm,21.3s							
AAA	**Alma-Ata**	**90.70**	**314**	*e*P	**P**	**07 38 01.8**	**+0.1**	
AAA	**Alma-Ata**	**90.70**	**314**	*e*P	**P**	**07 38 01.8**	**+0.1**	
	baz=314							
FURC	**Furnace Creek,**	**90.72**	**53**	P	**P**	**07 38 03.6**	**+1.8**	
	baz=259,SNR=60							
CHKK	**Chushkaly**	**90.79**	**314**	*e*P	**P**	**07 38 01.0**	**-1.0**	
CHKK	**Chushkaly**	**90.79**	**314**	*e*P	**P**	**07 38 01.1**	**-1.0**	
	baz=314							
HAWA	**Hanford**	**90.79**	**43**	IAMs_20	IAMs_20	08 12 28.0		
	comp=Z,3µm,20.0s							
GWY	**Greenwater Val**	**90.83**	**54**	IAmb	IAmb	07 38 13.8		
	comp=Z,160nm,1.6s							
HEC	**Hector,Ludlow**	**90.84**	**55**	P	**P**	**07 38 03.9**	**+1.3**	
	baz=259,SNR=9.3							
SWSC	**Sam W. Stewart**	**90.93**	**57**	P	**P**	**07 38 04.5**	**+1.6**	
	baz=260,SNR=8.8							
G08A	**Pilot Rock**	**90.94**	**44**	P	**P**	**07 38 01.8**	**-1.0**	
G08A				IAmb	IAmb	07 38 13.7		
	comp=Z,46nm,1.1s							
BELC	**Belle Mtn. Jos**	**90.96**	**56**	P	**P**	**07 38 04.6**	**+1.3**	
	baz=259,SNR=55							
WCT	**Wildcat Mounta**	**90.97**	**53**	IAmb	IAmb	07 38 13.9		
	comp=Z,124nm,1.4s							
ULHL	**Ulahol**	**90.99**	**313**	P	**P**	**07 38 03.7**	**+0.4**	
	SNR=11							
NRN	**Naryn**	**91.00**	**312**	IAmb	IAmb	07 38 16.3		
	comp=Z,101nm,1.6s							
SHOC	**Shoshone, Teco**	**91.08**	**54**	P	**P**	**07 38 04.7**	**+1.0**	
	baz=259,SNR=26							
E08A	**Dider Farm, El**	**91.13**	**43**	IAmb	IAmb	07 38 14.5		
	comp=Z,101nm,1.5s							
KURK	**Kurchatov**	**91.21**	**321**	P	**P**	**07 38 02.4**	**-1.3**	
KURK				IAmb	IAmb	07 38 05.3		
	comp=Z,114nm,1.6s							
KURK	**Kurchatov**	**91.21**	**321**	IAMs_20	IAMs_20	08 17 35.1		
	comp=Z,2µm,19.0s							
KURK	**Kurchatov**	**91.21**	**321***c*	*i*P	**P**	**07 38 02.4**	**-1.3**	
KURK				pmax	pmax			
	comp=Z,84nm,1.6s							
KURBB	**Kurchatov Arra**	**91.24**	**321**	PKiKP	**PKiKP**	**07 42 55.5**	**-0.9**	
	comp=Z,0.9nm,0.7s,baz=92,slow=1.7,SNR=4.6							
KURBB				S	**SKSac**	**07 48 29.8**	**-5.4**	
	comp=Z,0.1nm,0.4s,baz=93,slow=3.2,SNR=1.1							
KURBB				PKKP	**PKKPdf**	**07 55 25.1**	**-0.3**	
	comp=Z,1.4nm,0.7s,baz=288,slow=2.9,SNR=13							
KURBB				LR	LR	08 19 28.5		
	comp=Z,1µm,20.8s,baz=79,slow=36							
KURBB	**Kurchatov Arra**	**91.24**	**321**	P	**P**	**07 38 00.1**	**-3.8**	
BOOM	**Boomskoye usch**	**91.26**	**313**	IAmb	IAmb	07 38 11.3		
	comp=Z,128nm,1.4s							
TUQ	**Turquoise Moun**	**91.28**	**54**	P	**P**	**07 38 06.0**	**+1.3**	
	baz=259,SNR=37							
TPNV	**Topopah Spring**	**91.30**	**53**	IAMs_20	IAMs_20	08 18 49.8		
	comp=Z,2µm,18.0s							
TPNV	**Topopah Spring**	**91.30**	**53**	P	**P**	**07 38 06.1**	**+1.3**	
	baz=259,SNR=54							
BC3	**Big Chuckawall**	**91.34**	**56**	P	**P**	**07 38 06.7**	**+1.7**	
	baz=260,SNR=25							
D08A	**Wollman Farm,**	**91.34**	**43**	IAmb	IAmb	07 38 15.2		
	comp=Z,74nm,1.7s							
GMRC	**Granite Mounta**	**91.38**	**55**	P	**P**	**07 38 06.6**	**+1.4**	
	baz=260,SNR=26							
TKM2	**Tokmak 2**	**91.59**	**313**	P	**P**	**07 38 05.7**	**-0.4**	
	SNR=14							
TKM2	**Tokmak 2**	**91.59**	**313**	P	**P**	**07 38 04.2**	**-1.9**	
IRM	**Iron Mountain**	**91.68**	**56**	P	**P**	**07 38 08.1**	**+1.7**	
	baz=260,SNR=42							
E09A	**Wood Farm, Sta**	**91.75**	**43**	P	**P**	**07 38 06.0**	**-0.5**	
E09A				IAmb	IAmb	07 38 17.2		
	comp=Z,76nm,1.3s							
GLA	**Glamis**	**91.75**	**57**	P	**P**	**07 38 08.5**	**+1.7**	
	baz=260,SNR=8.7							
FLDN	**Fort Liard**	**91.87**	**29**	P	**P**	**07 38 09.2**	**+2.6**	
	baz=254							
BMO	**Blue Mountains**	**92.00**	**45**	IAmb	IAmb	07 38 18.6		
	comp=Z,60nm,1.1s							
BMO				IAMs_20	IAMs_20	08 13 08.1		
	comp=Z,2µm,20.0s							
KBK	**Karagaybulak**	**92.01**	**313**	P	**P**	**07 38 07.8**	**-0.2**	
	SNR=5.2							
R11A	**Troy Canyon, C**	**92.07**	**52**	IAmb	IAmb	07 38 19.8		
	comp=Z,107nm,1.5s							
R11A	**Troy Canyon, C**	**92.07**	**52**	P	**P**	**07 38 09.7**	**+1.4**	
	baz=260,SNR=50							
BLYC	**Blythe**	**92.12**	**56**	IAmb	IAmb	07 38 19.3		
	comp=Z,72nm,1.1s							
WTNK	**Soaring Height**	**92.14**	**54**	IAmb	IAmb	07 38 19.3		
	comp=Z,50nm,1.9s							
V12A	**Nelson**	**92.19**	**54**	IAmb	IAmb	07 38 19.7		
	comp=Z,137nm,1.7s							
CHMS	**Chumysh**	**92.22**	**313**	P	**P**	**07 38 08.9**	**+0.1**	
	SNR=7.8							
NEE2	**Needles Airpor**	**92.22**	**55**	P	**P**	**07 38 10.5**	**+1.6**	
	baz=260							
UCH	**Uchtor**	**92.25**	**312**	P	**P**	**07 38 09.8**	**+0.4**	
	SNR=26							
F10A	**Beach Ranch, E**	**92.27**	**44**	P	**P**	**07 38 08.0**	**-0.9**	
F10A				IAmb	IAmb	07 38 10.8		
	comp=Z,42nm,0.8s							
NRIK	**Noril'sk**	**92.30**	**340**	P	**P**	**07 38 07.2**	**-1.2**	
	comp=Z,1.8nm,0.4s,baz=124,slow=4.1,SNR=15							
NRIK				LR	LR	08 17 56.5		
	comp=Z,3µm,21.9s,baz=101,slow=34							
	comp=Z,1.8nm,0.4s							
NRIK	**Noril'sk**	**92.30**	**340***c*	*i*P	**P**	**07 38 06.3**	**-2.1**	
NRIK				pmax	pmax			
	comp=Z,37nm,1.5s							
AAK	**Ala-Archa**	**92.33**	**313**	P	**P**	**07 38 09.4**	**0.0**	
	SNR=7.0							
AAK	**Ala-Archa**	**92.33**	**313**	S	**SKSac**	**07 48 39.2**	**-2.9**	
	comp=Z,2.0nm,0.4s,baz=126,slow=14,SNR=2.3							
AAK				LR	LR	08 20 05.9		
	comp=Z,2µm,20.8s,baz=100,slow=36							
AAK	**Ala-Archa**	**92.33**	**313**	P	**P**	**07 38 08.9**	**-0.5**	
AAK	**Ala-Archa**	**92.33**	**313**	IAMs_20	IAMs_20	08 19 52.7		
	comp=Z,2µm,20.0s							
AAK	**Ala-Archa**	**92.33**	**313***c*	*i*P	**P**	**07 38 09.1**	**-0.3**	
AAK				pmax	pmax			
	comp=Z,27nm,1.0s							
SGDS	**Sogindy**	**92.39**	**313**	*e*P	**P**	**07 38 08.7**	**-0.8**	
SGDS				*e*S	**SKSac**	**07 48 40.6**	**-1.6**	
SGDS	**Sogindy**	**92.39**	**313**	*e*P	**P**	**07 38 08.8**	**-0.8**	
	baz=314							
SGDS				*e*S	**SKSac**	**07 48 40.7**	**-1.6**	
	baz=314							
USP	**Ospenovka**	**92.44**	**313**	P	**P**	**07 38 09.6**	**-0.2**	
	SNR=7.9							
PDMCI	**Parker Dam,Lak**	**92.53**	**56**	P	**P**	**07 38 11.9**	**+1.6**	
	baz=260,SNR=17							
WRGLY	**Wrigley**	**92.67**	**26**	P	**P**	**07 38 10.4**	**+0.1**	
	baz=255							
ELK	**Elko**	**92.75**	**49**	LR	LR	08 11 53.7		
	comp=Z,1µm,21.8s,baz=262,slow=30							
ELK	**Elko**	**92.75**	**49**	IAmb	IAmb	07 38 22.3		
	comp=Z,77nm,1.3s							
ELK	**Elko**	**92.75**	**49**	P	**P**	**07 38 12.8**	**+1.3**	
NEW	**Newport**	**92.78**	**42**	LR	LR	08 17 07.8		
	comp=Z,2µm,18.1s,baz=266,slow=34							
NEW	**Newport**	**92.78**	**42**	IAMs_20	IAMs_20	08 16 21.5		
	comp=Z,2µm,19.0s							
NEW	**Newport**	**92.78**	**42**	P	**P**	**07 38 11.3**	**+0.2**	
	baz=259,SNR=12							
MFID	**Camas Ranch**	**92.78**	**47**	IAmb	IAmb	07 38 22.9		
	comp=Z,109nm,1.4s							
MFID				IAMs_20	IAMs_20	08 14 49.9		
	comp=Z,2µm,20.0s							
AML	**Almayashu**	**92.83**	**312**	P	**P**	**07 38 12.3**	**+0.3**	
	SNR=19							
EKS2	**Erkin-Say**	**92.86**	**313**	P	**P**	**07 38 12.3**	**+0.5**	
	SNR=9.5							
W13A	**Hualapai Mount**	**92.87**	**55**	IAmb	IAmb	07 38 22.9		
	comp=Z,37nm,1.1s							
SRIG	**Santa Rosalia**	**93.03**	**63**	IAmb	IAmb	07 38 23.0		
	comp=Z,64nm,1.2s							
BTLS	**Baital**	**93.08**	**315***c*	*i*P	**P**	**07 38 11.9**	**-0.7**	
BTLS				pmax	pmax			
	comp=Z,36nm,1.8s							
BTLS	**Baital**	**93.08**	**315**⇑	*i*P	**P**	**07 38 12.0**	**-0.7**	
	comp=Z,36nm,1.8s,baz=315							
SPR3	**Spring Creek 3**	**93.15**	**51**	IAmb	IAmb	07 38 25.1		
	comp=Z,154nm,1.5s							
214A	**Organ Pipe Nat**	**93.25**	**58**	P	**P**	**07 38 15.2**	**+1.4**	
	baz=261							
PSUT	**Pine Spring**	**93.44**	**52**	IAmb	IAmb	07 38 25.6		
	comp=Z,60nm,1.5s							
CCUT	**Cedar City**	**93.67**	**53**	IAmb	IAmb	07 38 27.0		
	comp=Z,63nm,1.6s							
LCMT	**Little Creek M**	**93.68**	**53**	IAmb	IAmb	07 38 28.4		
	comp=Z,95nm,1.8s							
HLID	**Hailey**	**93.82**	**47**	IAmb	IAmb	07 38 27.9		
	comp=Z,88nm,1.4s							
HLID	**Hailey**	**93.82**	**47**	P	**P**	**07 38 17.4**	**+1.1**	
	baz=261,SNR=50							
SZCU	**Shurtz Canyon**	**93.89**	**53**	IAmb	IAmb	07 38 27.9		
	comp=Z,66nm,1.7s							
KNB	**Kanab**	**94.02**	**53**	IAmb	IAmb	07 38 31.4		
	comp=Z,165nm,2.0s							
C36M	**Paulatuk**	**94.08**	**20**	P	**P**	**07 38 16.3**	**-0.3**	
	baz=254							
LPIG	**La Paz**	**94.28**	**66**	LR	LR	08 14 42.6		
	comp=Z,5µm,18.9s,baz=262,slow=32							
HSIG		**94.41**	**61**	IAmb	IAmb	07 38 30.9		
	comp=Z,51nm,1.4s							
A36M	**Sachs Harbour**	**94.43**	**18**	P	**P**	**07 38 17.9**	**-0.2**	
	baz=254							
BGU	**Big Grassy Mou**	**94.44**	**49**	IAmb	IAmb	07 38 29.8		
	comp=Z,68nm,1.5s							
PKCU	**Pink Cliffs**	**94.48**	**53**	IAmb	IAmb	07 38 34.6		
	comp=Z,71nm,1.3s							
DUG	**Dugway, Tooele**	**94.49**	**50**	IAmb	IAmb	07 38 31.0		
	comp=Z,96nm,1.8s							
DUG				IAMs_20	IAMs_20	08 19 21.2		
	comp=Z,3µm,19.0s							
DUG	**Dugway, Tooele**	**94.49**	**50**	P	**P**	**07 38 20.6**	**+1.2**	
	baz=262,SNR=13							
TCRU	**Three Creeks R**	**94.54**	**52**	P	**P**	**07 38 22.0**	**+2.2**	
SLBS	**Sierra La Lagu**	**94.55**	**67**	P	**P**	**07 38 19.6**	**-0.3**	
BTK	**Batken**	**94.65**	**310**	IAmb	IAmb	07 38 26.3		
	comp=Z,77nm,1.4s							
MSO	**Missoula**	**94.66**	**43**	IAMs_20	IAMs_20	08 14 38.4		
	comp=Z,2µm,20.0s							
MSO	**Missoula**	**94.66**	**43**	P	**P**	**07 38 19.8**	**-0.2**	
	baz=261							
DZA	**Taraz**	**94.67**	**313**	*e*P	**P**	**07 38 19.2**	**-0.8**	
DZA	**Taraz**	**94.67**	**313**	*e*P	**P**	**07 38 19.3**	**-0.8**	
	baz=312							
HVU	**Hansel Valley**	**94.75**	**49**	IAmb	IAmb	07 38 32.0		
	comp=Z,82nm,1.1s							
BRZS	**Berezniki**	**94.81**	**320***c*	*i*P	**P**	**07 38 18.5**	**-1.9**	
BRZS				pmax	pmax			
	comp=Z,25nm,1.9s							
BRZS	**Berezniki**	**94.81**	**320**⇑	*i*P	**P**	**07 38 18.6**	**-1.9**	
	comp=Z,25nm,1.9s,baz=320							
GAR	**Garm**	**94.88**	**309**	IAmb	IAmb	07 38 22.2		
	comp=Z,85nm,1.5s							
WUAZ	**Wupatki**	**94.96**	**55**	P	**P**	**07 38 23.1**	**+1.4**	
	baz=262							
TUC	**Tucson**	**95.01**	**58**	P	**P**	**07 38 22.8**	**+0.9**	
TUC	**Tucson**	**95.01**	**58**	P	**P**	**07 38 22.8**	**+0.9**	
TUC				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TUC	**Tucson**	**95.01**	**58**	P	**P**	**07 38 23.3**	**+1.4**	
	baz=262							
WALA	**Waterton Lakes**	**95.01**	**41**	IAmb	IAmb	07 38 32.8		
	comp=Z,96nm,2.0s							
NLU	**North Lily Min**	**95.02**	**50**	IAmb	IAmb	07 38 32.8		
	comp=Z,78nm,1.6s							
KBL	**Kabul**	**95.29**	**304**	P	**P**	**07 38 21.3**	**-2.0**	
KBL	**Kabul**	**95.29**	**304**	P	**P**	**07 38 21.3**	**-2.0**	
KBL				pmax	pmax			
	comp=Z,27nm,1.3s							
KK31	**Karatay Array**	**95.30**	**313**	P	**P**	**07 38 21.5**	**-1.3**	
KK31	**Karatay Array**	**95.30**	**313**	*i* P	**P**	**07 38 21.7**	**-1.2**	
CTU	**Camp Tracy**	**95.36**	**50**	P	**P**	**07 38 23.2**	**-0.2**	
IUG	**luzhnay**	**95.52**	**312***c*	*i*P	**P**	**07 38 23.2**	**-0.8**	
IUG				*e*S	**SKSac**	**07 48 57.7**	**-1.7**	
IUG	**luzhnay**	**95.52**	**312**⇑	*i*P	**P**	**07 38 23.3**	**-0.8**	
	baz=312							
IUG				*e*S	**SKSac**	**07 48 57.8**	**-1.7**	
	baz=312							
Q16A	**Castle Valley**	**95.57**	**52**	IAmb	IAmb	07 38 37.4		
	comp=Z,82nm,2.0s							
JLU	**Jordanelle**	**95.58**	**50**	IAmb	IAmb	07 38 35.8		
	comp=Z,57nm,1.5s							
CHGR	**Chuyangaron**	**95.73**	**308**	IAmb	IAmb	07 38 36.9		
	comp=Z,114nm,1.6s							
CHGR	**Chuyangaron**	**95.73**	**308**	P	**P**	**07 38 24.4**	**-0.7**	
EDM	**Edmonton**	**95.94**	**37**	P	**P**	**07 38 24.6**	**-1.0**	
EDM				IAmb	IAmb	07 38 35.2		
	comp=Z,34nm,1.1s							
EDM	**Edmonton**	**95.94**	**37**	P	**P**	**07 38 24.6**	**-1.0**	
EDM				pmax	pmax			
	comp=Z,34nm,1.1s							
ECR	**Eagle Creek**	**95.95**	**47**	P	**P**	**07 38 25.6**	**-0.5**	
BOZ	**Bozeman (W)**	**96.08**	**45**	IAMs_20	IAMs_20	08 15 50.0		
	comp=Z,3µm,20.0s							
BOZ	**Bozeman (W)**	**96.08**	**45**	P	**P**	**07 38 27.5**	**+0.9**	
	baz=263,SNR=17							
W18A	**Petrified Fore**	**96.24**	**56**	P	**P**	**07 38 28.3**	**+0.7**	
	baz=263							
YHL	**Hebgen Lake**	**96.30**	**46**	IAmb	IAmb	07 39 07.6		
	comp=Z,53nm,1.7s							
TPAW	**Teton Pass**	**96.31**	**47**	IAmb	IAmb	07 38 40.6		
	comp=Z,54nm,1.6s							
REDW	**Red Top Meadow**	**96.36**	**47**	IAmb	IAmb	07 38 38.5		
	comp=Z,53nm,1.6s							
IMW	**Indian Meadow**	**96.36**	**47**	IAMs_20	IAMs_20	08 23 22.5		
	comp=Z,2µm,18.0s							
YMR	**Madison River**	**96.44**	**46**	IAmb	IAmb	07 38 42.2		
	comp=Z,39nm,1.4s							
SNOW	**Snow King Moun**	**96.44**	**47**	P	**P**	**07 38 27.9**	**-0.5**	
MOOW	**Moose Ponds**	**96.49**	**47**	P	**P**	**07 38 27.8**	**-0.8**	
MOOW				IAMs_20	IAMs_20	08 22 59.9		
	comp=Z,2µm,18.0s							
YFT	**Old Faithful**	**96.50**	**46**	IAmb	IAmb	07 38 42.7		
	comp=Z,46nm,1.7s							
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**	**07 38 27.5**	**-0.4**	
	comp=Z,6.7nm,0.9s,baz=255,slow=5.0,SNR=8.8							
YKA				PKKP	**PKKPdf**	**07 55 16.1**	**0.0**	
	comp=Z,4.6nm,1.0s,baz=76,slow=3.0,SNR=4.8							
YKA				LR	LR	08 18 10.4		
	comp=Z,2µm,19.2s,baz=274,slow=33							
	comp=Z,6.7nm,0.9s							
BVA0	**Borovoye Array**	**96.63**	**323**	*i* P	**P**	**07 38 26.8**	**-1.9**	
BVAR	**Borovoye Array**	**96.63**	**323**	S	**SKSac**	**07 48 59.7**	**-4.8**	
	comp=Z,0.5nm,0.4s,baz=233,slow=44,SNR=2.4							
BVAR				PKKPbc	PKKPbc	07 55 12.5	-1.7	
	comp=Z,0.8nm,0.6s,baz=291,slow=4.6,SNR=4.6							
BVAR				LR	LR	08 21 06.4		
	comp=Z,2µm,21.7s,baz=83,slow=35							
YNR	**Norris Junctio**	**96.64**	**46**	IAmb	IAmb	07 38 43.8		
	comp=Z,56nm,1.7s							
H17A	**Grant Village**	**96.68**	**46**	P	**P**	**07 38 29.9**	**+0.4**	
H17A	**Grant Village**	**96.68**	**46**	P	**P**	**07 38 31.2**	**+1.8**	
	baz=264							
BRVK	**Borovoye**	**96.70**	**323**	P	**P**	**07 38 27.2**	**-1.7**	
BRVK				IAmb	IAmb	07 38 34.2		
	comp=Z,71nm,1.6s							
BRVK	**Borovoye**	**96.70**	**323**	IAMs_20	IAMs_20	08 20 33.2		
	comp=Z,3µm,20.0s							
BRVK	**Borovoye**	**96.70**	**323***c*	*i*P	**P**	**07 38 27.4**	**-1.6**	
BRVK				pmax	pmax			
	comp=Z,49nm,1.6s							
YMP	**Mirror Lake Pl**	**97.02**	**46**	IAmb	IAmb	07 38 48.5		
	comp=Z,60nm,1.8s							
NVL	**N'lazarevskaya**	**97.06**	**190**	*e*P	**P**	**07 38 29.1**	**-1.2**	
NVL				*e*S	**SKSac**	**07 49 02.0**	**-4.2**	
NVL				pmax	pmax			
	comp=Z,12nm,0.8s							
NVL				MLR	MLR			
	comp=Z,4µm,17.0s							
BW06	**Boulder Array**	**97.24**	**48**	P	Pdif	07 38 32.3	+0.2	
	baz=264							
PDAR	**Pinedale Array**	**97.24**	**48**	P	Pdif	07 38 32.2	+0.1	
	comp=Z,5.2nm,0.8s,baz=234,slow=2.3,SNR=47							
PDAR				PKKP	**PKKPdf**	**07 55 14.6**	**-0.1**	
	comp=Z,0.9nm,0.9s,baz=90,slow=4.4,SNR=4.5							
PDAR				PKPPKP	**P'P'df**	**08 03 25.0**	**0.0**	
	comp=Z,0.1nm,0.4s,baz=72,slow=2.9,SNR=1.7							
PDAR				LR	LR	08 19 17.2		
	comp=Z,1µm,18.6s,baz=298,slow=34							
	comp=Z,5.2nm,0.8s							
TROLL	**Troll, Antarti**	**97.35**	**187**	P	Pdif	07 38 32.7	+0.8	
MVCO	**Mesa Verde**	**97.47**	**54**	P	Pdif	07 38 34.1	+0.9	
	baz=264							
121A	**Cookes Peak, D**	**97.55**	**58**	P	Pdif	07 38 35.5	+1.9	
	baz=264							
EGMT	**Eagleton**	**97.62**	**43**	IAMs_20	IAMs_20	08 20 31.8		
	comp=Z,2µm,20.0s							
EGMT	**Eagleton**	**97.62**	**43**	P	**P**	**07 38 33.4**	**0.0**	
	baz=264							
RLMT	**Red Lodge**	**97.68**	**46**	IAMs_20	IAMs_20	08 16 12.5		
	comp=Z,2µm,20.0s							
RLMT	**Red Lodge**	**97.68**	**46**	P	Pdif	07 38 34.0	0.0	
	baz=264							
O20A	**White River Ci**	**97.96**	**51**	IAmb	IAmb	07 38 47.6		
	comp=Z,66nm,1.8s							
O20A	**White River Ci**	**97.96**	**51**	P	Pdif	07 38 35.6	+0.3	
	baz=264							
SNAA	**Sanae**	**98.26**	**186**	P	Pdif	07 38 36.2	+0.4	
SNAA	**Sanae**	**98.26**	**186**	IAMs_20	IAMs_20	08 21 52.7		
	comp=Z,3µm,19.0s							
SNAA	**Sanae**	**98.26**	**186***c*	*i*P	**P**	**07 38 35.8**	**0.0**	
SNAA				pmax	pmax			
	comp=Z,69nm,1.5s							
SNAA				MLR	MLR			
	comp=Z,2µm,16.0s							
S22A	**4UR Ranch, Cre**	**98.84**	**53**	Pdiff	Pdif	07 38 40.9	+1.5	
	baz=265							
SMCO	**Snowmass**	**98.85**	**52**	P	**P**	**07 38 39.3**	**-0.2**	
RWWY	**Rawlins**	**98.88**	**49**	IAmb	IAmb	07 38 48.3		
	comp=Z,36nm,1.4s							
RWWY				IAMs_20	IAMs_20	08 21 36.3		
	comp=Z,2µm,19.0s							
ANMO	**Albuquerque**	**98.89**	**56**	LR	LR	08 19 26.9		
	comp=Z,2µm,18.3s,baz=278,slow=33							
ANMO	**Albuquerque**	**98.89**	**56**		Pdif	07 38 40.0	+0.4	
ANMO	**Albuquerque**	**98.89**	**56**	IAMs_20	IAMs_20	08 19 34.1		
	comp=Z,3µm,18.0s							
ANMO	**Albuquerque**	**98.89**	**56**⇑	*e*P	Pdif	07 38 40.2	+0.6	
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.2s							
ANMO	**Albuquerque**	**98.89**	**56**	Pdiff	Pdif	07 38 40.9	+1.4	
	baz=265							
VNA3	**Neumayer Olymp**	**99.23**	**184**	Pdiff	**Pdif**	**07 38 40.1**	**0.0**	
PMSA	**Palmer Station**	**99.36**	**163**	LR	LR	08 20 06.9		
	comp=Z,2µm,18.3s,baz=233,slow=33							
VNA2	**Neumayer--Watz**	**99.38**	**184**	Pdiff	**Pdif**	**07 38 41.2**	**+0.5**	
	baz=175,slow=4.6							
K22A	**Casper**	**99.46**	**48**	IAmb	IAmb	07 38 53.5		
	comp=Z,59nm,1.8s							
K22A	**Casper**	**99.46**	**48**	Pdiff	**Pdif**	**07 38 42.6**	**+0.7**	
	baz=266							
MNTX	**Cornudas Mount**	**99.50**	**59**	IAMs_20	IAMs_20	08 17 17.3		
	comp=Z,3µm,20.0s							
MNTX	**Cornudas Mount**	**99.50**	**59**	Pdiff	**Pdif**	**07 38 43.0**	**+0.9**	
	baz=265							
VNA1	**Neumayer--Stat**	**99.72**	**184**	Pdiff	**Pdif**	**07 38 42.6**	**+0.4**	
N23A	**Red Feather La**	**99.77**	**50**	Pdiff	**Pdif**	**07 38 44.2**	**+0.8**	
	baz=266							
SDCO	**Great Sand Dun**	**99.89**	**53**	Pdiff	**Pdif**	**07 38 44.8**	**+0.7**	
	baz=266							
LAO	**LASA Array**	**99.92**	**44**	IAMs_20	IAMs_20	08 17 57.6		
	comp=Z,2µm,20.0s							
LAO	**LASA Array**	**99.92**	**44**	Pdiff	**Pdif**	**07 38 44.8**	**+1.1**	
	baz=267							
ISCO	**Idaho Springs**	**99.95**	**51**	Pdiff	**Pdif**	**07 38 44.8**	**+0.5**	
	baz=266							
PHWY	**Pilot Hill**	**100.16**	**50**	IAMs_20	IAMs_20	08 22 02.3		
	comp=Z,2µm,19.0s							
Q24A	**Divide**	**100.25**	**52**	Pdiff	**Pdif**	**07 38 45.0**	**-0.6**	
	baz=266							
T25A	**Trinidad**	**100.72**	**54**	Pdiff	**Pdif**	**07 38 46.8**	**-0.8**	
	baz=266							
TXAR	**Lajitas Array**	**100.77**	**62**	P	**Pdif**	**07 38 47.3**	**-0.6**	
	comp=Z,1.6nm,0.8s,baz=264,slow=2.5,SNR=21							
TXAR				PP	**PP**	**07 42 54.2**	**-1.6**	
	comp=Z,1.9nm,0.9s,baz=241,slow=9.9,SNR=8.0							
TXAR				PKKPbc	**PKKPbc**	**07 55 00.8**	**-1.0**	
	comp=Z,0.7nm,0.7s,baz=105,slow=4.2,SNR=8.0							
T

LVZ Lovozero 111.15 340 IAMs_20 IAMs_20 08 31 26.5
comp=Z,3µm,20.0s
JFWS Jewell Farm 111.41 48 IAMs_20 IAMs_20 08 35 24.8
comp=Z,2µm,18.0s
APA Apatity 111.73 340 ⇓*i* PKIKP PKiKP 07 43 41.5 +8.6
APA *i* 07 44 19.0
APA pmax pmax
comp=Z,6.0nm,0.9s
COWI Conover 111.74 44 IAMs_20 IAMs_20 08 39 25.3
comp=Z,2µm,18.0s
MAK Makhachkala 112.12 313 *e*P **Pdif** **07 39 30.6 -7.3**
MAK *e* 07 44 13.7
MAK *e* 07 50 07.5
MAK *e*PS **PS** **07 53 52.6 +0.2**
MAK *e*SS SS 07 59 50.8 -5.5
MAK pmax pmax
comp=Z,136nm,1.5s
VBMS Vicksburg 112.13 59 IAMs_20 IAMs_20 08 24 37.8
comp=Z,3µm,20.0s
PLCA Paso Flores 112.36 141 PKiKP **PKiKP** **07 43 34.8 -0.3**
comp=Z,1.4nm,0.8s,baz=278,slow=2.4,SNR=3.5
PLCA PKKPab **PKKPab** **07 54 33.0 -2.0**
comp=Z,2.9nm,1.0s,baz=36,slow=3.9,SNR=3.8
KEV Kevo 112.44 344 IAMs_20 IAMs_20 08 32 07.3
comp=Z,2µm,20.0s
OXF Oxford 112.92 57 IAMs_20 IAMs_20 08 24 07.3
comp=Z,3µm,20.0s
ARCES ARCESS Array B 112.99 344 PKiKP **PKiKP** **07 43 34.4 -0.9**
comp=Z,4.9nm,0.7s,baz=45,slow=1.9,SNR=12
ARCES PKKPbc **PKKPbc** **07 54 22.0 -2.9**
comp=Z,3.9nm,0.7s,baz=236,slow=1.3,SNR=8.0
SNET Serv Nac Est T 113.07 79 IAMs_20 IAMs_20 08 29 14.5
comp=Z,2µm,18.0s
L44A Lake County Fo 113.22 48 IAMs_20 IAMs_20 08 27 02.8
comp=Z,2µm,20.0s
GROC Groznyy 113.32 313 *i* PKIKP **PKiKP** **07 43 41.0 +4.3**
GROC *e* 07 44 32.9
GROC pmax pmax
comp=Z,86nm,1.1s
HQIL Hanson Quary C 113.32 49 IAMs_20 IAMs_20 08 32 30.4
comp=Z,3µm,19.0s
VRH Novokhopyorsk 114.28 322 *e*PKIKP PKPdf 07 43 35.8 -2.4
VRH pmax pmax
comp=Z,9.0nm,0.8s
TEIG Tepich 114.31 72 IAMs_20 IAMs_20 08 33 24.2
comp=Z,1µm,18.0s
ZEI Tsey 114.76 313 *i* PKIKP PKPdf 07 43 38.9 -0.8
ZEI pmax pmax
comp=Z,4.0nm,1.0s
TGUH Tegucigalpa,Un 114.99 79 IAMs_20 IAMs_20 08 26 50.5
comp=Z,2µm,19.0s
GLMI Grayling 115.10 45 IAMs_20 IAMs_20 08 33 42.3
comp=Z,2µm,19.0s
HOPE Hope Point 115.25 170 IAMs_20 IAMs_20 08 33 35.5
comp=Z,2µm,19.0s
RAYN Ar Rayn 115.27 292 **PKPdf** **07 43 40.9 -0.2**
RAYN Ar Rayn 115.27 292 PKIKP **PKPdf** **07 43 40.9 -0.2**
KBZ Khabaz 115.30 314 PKP **PKiKP** **07 43 40.4 0.0**
comp=Z,0.9nm,0.5s,baz=99,slow=6.6,SNR=1.5
KBZ PP **PP** **07 44 40.9 -0.3**
comp=Z,5.3nm,1.1s,baz=56,slow=8.4,SNR=3.6
KBZ PKKPbc **PKKPbc** **07 54 15.1 -1.1**
comp=Z,0.9nm,0.4s,baz=217,slow=5.1,SNR=1.9
KIV Kislovodsk 115.40 314 *i* PKIKP **PKPdf** **07 43 44.3 +3.5**
KIV *i* 07 44 41.0
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,1µm,19.0s
LPSR Galich'ya Gora 115.51 324 *e*PKIKP **PKiKP** **07 43 37.9 -2.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 115.64 323 *e*PKIKP **PKiKP** **07 43 40.2 -0.7**
VSR Storozhevoye 115.81 323 *e*PKIKP **PKiKP** **07 43 37.4 -3.8**
VSR pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 115.93 327 ⇓*i* PKIKP **PKPdf** **07 43 41.7 +0.4**
OBN *e* 07 44 43.4
OBN *e*PPP PPP 07 47 10.8
OBN *i* SS SS 08 00 45.1 -0.4
OBN pmax pmax
comp=Z,15nm,0.5s
SOC Sochi 117.58 314 *i* PKIKP **PKPdf** **07 43 41.8 -3.1**
SOC *e* 07 44 52.8
SOC *e*PS **PKKPdf** **07 54 38.5 +2.2**
SOC MLR MLR
comp=Z,2µm,21.0s
FINES FINESS Array B 117.73 337 PKP **PKPdf** **07 43 43.8 -0.8**
comp=Z,5.6nm,0.7s,baz=108,slow=6.2,SNR=20
FINES PKKPbc **PKKPbc** **07 54 06.5 -1.6**
comp=Z,1.8nm,0.8s,baz=200,slow=5.1,SNR=4.7
LCO Las Campanas 118.67 130 **PKiKP** **07 43 48.2 +0.4**
LCO Las Campanas 118.67 130 PKIKP **PKiKP** **07 43 48.2 +0.4**
ANN Anapa 118.84 316 *i* PKIKP **PKPdf** **07 43 44.6 -2.6**
ANN *e* 07 45 06.2
ANN *e*PPP PPP 07 47 33.0
ANN *e* 07 50 42.5
ANN pmax pmax
comp=Z,87nm,2.1s
ERPA Erie 119.00 47 IAMs_20 IAMs_20 08 29 40.7
comp=Z,2µm,20.0s
Q54A Coxs Mills 119.10 51 **PKPdf** **07 43 47.2 -0.8**
MEF Metsahovi 119.12 336 *e*P **PKPdf** **07 43 46.9 -0.4**
O54A Avella 119.18 49 **PKPdf** **07 43 46.9 -1.2**
RAF Rauma 119.64 338 *e*P **PKiKP** **07 43 48.6 +0.3**
KIBK Kibwezi 120.16 262 IAMs_20 IAMs_20 08 33 08.9
comp=Z,2µm,20.0s
MTSE Matsula 120.25 335 *e*P **PKiKP** **07 43 49.5 0.0**
DWPF Disney Wildern 120.28 63 IAMs_20 IAMs_20 08 28 22.9
comp=Z,2µm,21.0s
NNA Nana 120.48 110 IAMs_20 IAMs_20 08 30 08.0
comp=Z,2µm,21.0s
MNK Minsk 120.70 329 *i* PKIKP **PKPdf** **07 43 45.6 -4.9**
MNK *i* 07 50 57.7
MNK *i* PS **PS** **07 55 04.7 -5.1**
MNK *i* SS SS 08 01 45.3 -2.0
MNK *i* SSS SSS 08 06 12.7
MNK pmax pmax
comp=Z,23nm,0.7s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=Z,2µm,20.0s
MNK Minsk 120.70 329 *i* PKP **PKPdf** **07 43 45.7 -4.9**
comp=E,3.0nm,0.9s
MNK *i* PKP **PKPdf** **07 43 45.7 -4.9**
comp=N,6.0nm,0.8s
MNK *i* PKP **PKPdf** **07 43 45.7 -4.9**
comp=Z,23nm,0.7s,baz=240
MNK *i* PP **PP** **07 45 13.4 -4.7**
MNK *i* PPP PPP 07 47 46.9
MNK *i* SKS **SKSdf** **07 50 57.7 -3.8**
MNK *i* PS **PS** **07 55 04.7 -5.1**
MNK *i* SS **SS** **08 01 45.3 -2.0**
MNK *i* SSS SSS 08 06 12.8
MNK *i* LQ LQ 08 28 47.9
MNK *i* LR LR 08 32 49.4
MNK *i* LRM MLR 08 35 17.7
comp=N,94nm,18.1s
MNK *i* LRM MLR 08 35 53.5
comp=E,3.0nm,0.9s
MNK *i* LRM MLR 08 36 24.4
comp=Z,2µm,20.0s
ISAL Salakas 121.00 331 *e*P **PKiKP** **07 43 52.1 +0.9**
NACGM Naroch 121.04 330 ⇓*e*PKP **PKiKP** **07 43 51.3 0.0**
baz=58
SIM Simferopol' 121.04 317 *i* PKIKP **PKPdf** **07 43 46.1 -5.4**
SIM *e* 07 45 23.0
SIM pmax pmax
comp=Z,19nm,0.8s
SIM pmax pmax
comp=Z,250nm,4.8s
IIGN Ignalina 121.08 331 *e*P **PKPdf** **07 43 50.5 -0.7**
KMBO Kilima Mbogo 121.18 263 PKP **PKiKP** **07 43 53.2 +0.1**
comp=Z,2.8nm,0.8s,baz=84,slow=2.1,SNR=8.9
KMBO PP **PP** **07 45 22.6 -0.7**
comp=Z,0.7nm,0.4s,baz=98,slow=9.0,SNR=1.8
KMBO Kilima Mbogo 121.18 263 PKPdf **PKPdf** **07 43 51.8 -1.2**
KMBO Kilima Mbogo 121.18 263 IAMs_20 IAMs_20 08 33 47.1
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 121.18 263 PKIKP **PKPdf** **07 43 51.8 -1.2**
KMBO MLR MLR
comp=Z,2µm,20.0s
FURI Furi 121.26 275 IAMs_20 IAMs_20 08 37 44.5
comp=Z,2µm,20.0s
BOSA Boshof 121.62 228 PKP **PKPdf** **07 43 52.9 -0.5**
comp=Z,6.7nm,0.7s,baz=121,slow=1.7,SNR=16
VSVD Vaisvydziai 121.81 332 *e*P **PKiKP** **07 43 52.8 0.0**
AKASG Malin Array Be 121.81 325 PKP **PKPdf** **07 43 52.2 -0.5**
comp=Z,10nm,0.7s,baz=62,slow=2.2,SNR=34
BCIP Isla Barro Col 121.88 85 IAMs_20 IAMs_20 08 27 38.9
comp=Z,2µm,19.0s
OTAV Otavalo 122.00 96 PKPdf **PKPdf** **07 43 53.4 -1.4**
OTAV Otavalo 122.00 96 PKIKP **PKPdf** **07 43 53.4 -1.4**
OTAV Otavalo 122.00 96 *e*P **PKiKP** **07 43 55.5 +0.5**
LONY Lake Ozonia 122.02 43 IAMs_20 IAMs_20 08 39 27.3
comp=Z,2µm,18.0s
PABE Paberze 122.06 332 PKPdf **PKPdf** **07 43 52.1 -1.0**
PABE Paberze 122.06 332 *e*P **PKiKP** **07 43 53.6 +0.3**
BRTR Keskin Array B 122.99 312 PKP **PKPdf** **07 43 55.3 -0.3**
comp=Z,5.2nm,1.0s,baz=132,slow=1.8,SNR=18
BRTR PP **PP** **07 45 34.5 -0.1**
comp=Z,1.6nm,1.0s,baz=64,slow=3.4,SNR=1.8
BRTR PKKPbc **PKKPab** **07 53 47.0 +0.1**
comp=Z,1.7nm,1.0s,baz=209,slow=4.1,SNR=8.6
NC204 NORSAR Array S 123.18 342 **PKPdf** **07 43 53.5 -1.7**
NB2 NORSAR Subarra 123.23 342 PKPdf **PKPdf** **07 43 54.3 -1.0**
comp=Z,4.4nm,0.7s,baz=41,slow=1.9
NB2 NORSAR Subarra 123.23 342 PKPdf **PKPdf** **07 43 54.3 -1.0**
baz=41,slow=1.9
NOA NORSAR Array B 123.23 342 PKP **PKPdf** **07 43 54.6 -0.7**
comp=Z,6.2nm,0.7s,baz=43,slow=2.1,SNR=45
NOA PKKPbc **PKKPab** **07 53 46.1 +0.9**
comp=Z,1.1nm,0.8s,baz=218,slow=4.1,SNR=5.0
LVC Limon Verde 123.24 125 PKP **PKPdf** **07 43 56.0 -0.9**
comp=Z,9.0nm,0.7s,baz=304,slow=3.3,SNR=7.6
LVC PKKPbc **PKKPbc** **07 53 46.2 -0.9**
comp=Z,2.1nm,0.6s,baz=124,slow=3.6,SNR=2.2
LVC Limon Verde 123.24 125 PKPdf **PKPdf** **07 43 55.8 -1.1**
LVC Limon Verde 123.24 125 PKIKP **PKPdf** **07 43 55.8 -1.1**
LVC Limon Verde 123.24 125 *e*P **PKiKP** **07 43 57.9 +0.8**
LBTB Lobatse 123.28 232 PKPdf **PKPdf** **07 43 54.0 -2.5**
LBTB Lobatse 123.28 232 PKIKP **PKPdf** **07 43 54.0 -2.5**
TRY Troy 123.29 45 IAMs_20 IAMs_20 08 40 36.1
comp=Z,2µm,19.0s
NORES NORESS Array B 123.36 342 PKIKP **PKPdf** **07 43 55.0 -0.5**
NORES pmax pmax
comp=Z,2.0nm,0.6s
NBO00 NORSAR Array S 123.37 342 **PKPdf** **07 43 54.4 -1.1**
ANTO Ankara 123.57 312 ⇑P **PKPdf** **07 43 55.1 -1.5**
ANTO Ankara 123.57 312 PKPdf **PKPdf** **07 43 56.6 -0.1**
ANTO Ankara 123.57 312 ⇑PKIKP **PKPdf** **07 43 55.1 -1.5**
MILM Milestii Mici 123.72 321 ⇑P **PKiKP** **07 43 56.9 +0.1**
MILM Milestii Mici 123.72 321 ⇑PKIKP **PKiKP** **07 43 56.9 +0.1**
PB12 IPOC Station P 123.87 120 PKPdf **PKPdf** **07 43 56.9 -0.9**
LBNH Lisbon 123.93 42 IAMs_20 IAMs_20 08 43 18.8
comp=Z,2µm,18.0s
TLCR 124.44 319 ⇑P **PKiKP** **07 43 58.8 +0.5**
TLCR 124.44 319 ⇑PKIKP **PKiKP** **07 43 58.8 +0.5**
VLDR Vladesti 124.64 320 ⇑P **PKiKP** **07 43 58.8 +0.1**
KONO Kongsberg 124.82 342 IAMs_20 IAMs_20 08 39 00.7
comp=Z,2µm,21.0s
HRV Adam Dziewonsk 124.83 44 IAMs_20 IAMs_20 08 35 44.7
comp=Z,2µm,20.0s
CFR Carcaliu 124.88 319 ⇓P **PKiKP** **07 43 59.4 +0.2**
CFR Carcaliu 124.88 319 ⇓PKIKP **PKiKP** **07 43 59.4 +0.2**
LVV L'vov 125.15 326 *e*PKIKP **PKPdf** **07 43 59.1 -0.1**
LVV MLR MLR
comp=Z,2µm,23.0s
HARR Harsova 125.22 319 ⇑P **PKPdf** **07 43 59.6 +0.1**
HARR Harsova 125.22 319 ⇑PKIKP **PKPdf** **07 43 59.6 +0.1**
PKME Peaks-Kenny Pk 125.24 40 IAMs_20 IAMs_20 08 32 12.1
comp=Z,2µm,21.0s
TESR Tescani 125.24 321 ⇑P **PKiKP** **07 44 00.3 +0.5**
BIZ Bicaz 125.37 322 ⇑P **PKiKP** **07 44 00.1 0.0**
VRI Vrincioaia 125.48 321 ⇑P **PKiKP** **07 44 00.6 +0.2**
VRI Vrincioaia 125.48 321 ⇑PKIKP **PKiKP** **07 44 00.6 +0.2**
LSZ Lusaka 125.57 244 **PKiKP** **07 44 01.5 -0.1**
LSZ Lusaka 125.57 244 PKIKP **PKiKP** **07 44 01.5 -0.1**
LSZ MLR MLR
comp=Z,3µm,18.0s
BURAR Bucovina Array 125.58 323 ⇑P **PKiKP** **07 44 01.6 +0.9**
BURAR Bucovina Array 125.58 323 ⇑PKIKP **PKiKP** **07 44 01.6 +0.9**
CZSB Cruzeiro do Su 125.66 106 *e*P **PKiKP** **07 44 02.1 +0.5**
ISP Isparta 125.88 310 **PKPdf** **07 43 59.9 -1.3**
ISP Isparta 125.88 310 PKIKP **PKPdf** **07 43 59.9 -1.3**
OZUR 125.96 321 ⇑P **PKiKP** **07 44 01.9 +0.6**
MLR Muntele Rosu 126.14 321 ⇑P **PKiKP** **07 44 01.7 -0.2**
MLR Muntele Rosu 126.14 321 IAMs_20 IAMs_20 08 42 01.2
comp=Z,2µm,20.0s
MLR Muntele Rosu 126.14 321 ⇑PKIKP **PKiKP** **07 44 01.7 -0.2**
DOPR Dopca 126.27 321 ⇑P **PKiKP** **07 44 02.8 +0.9**
BATG Bathurst New B 126.29 37 **PKPdf** **07 43 59.9 -1.6**
BSD Bornholm Skovb 126.30 335 *e*P **PKiKP** **07 44 01.5 -0.1**
GKP Gorka Klasztor 126.54 333 *e*P **PKPdf** **07 43 56.7 -5.1**
KOLS Kolonicke sedl 126.59 326 *e*PKIKP **PKiKP** **07 44 03.6 +1.1**
KOLS Kolonicke sedl 126.59 326 *e*PKP **PKiKP** **07 44 03.6 +1.1**
EMMW East Machias 126.65 40 IAMs_20 IAMs_20 08 34 05.5
comp=Z,2µm,20.0s
VOIR 126.72 321 ⇑P **PKiKP** **07 44 03.1 +0.1**
VOIR 126.72 321 ⇑PKIKP **PKiKP** **07 44 03.1 +0.1**
UZH Uzhgorod 126.75 325 *i* PKHKP PKPpre 07 43 45.5
UZH *i* 07 44 00.6
UZH *i* 07 44 05.7
UZH *e* 07 44 10.8
LPAZ La Paz 126.75 118 PKP **PKiKP** **07 44 04.3 -0.2**
comp=Z,23nm,0.8s,baz=279,slow=1.4,SNR=76
LPAZ La Paz 126.75 118 *e*P **PKiKP** **07 44 04.8 +0.3**
ROSC El Rosal 126.82 91 PKP **PKPdf** **07 44 03.5 -0.5**
comp=Z,34nm,0.7s,baz=155,slow=4.3,SNR=20
CJR Cluj-Napoca 126.99 323 ⇓P **PKiKP** **07 44 03.9 +0.5**
CJR Cluj-Napoca 126.99 323 ⇓PKIKP **PKiKP** **07 44 03.9 +0.5**
ARR Arges 127.01 321 ⇑P **PKiKP** **07 44 04.5 +1.0**
JMB Yambol 127.03 317 *i* P **PKPdf** **07 44 00.7 -2.4**
CRVS Cervenica-Dubn 127.06 326 *e*PKIKP **PKiKP** **07 44 04.1 +0.7**
CRVS Cervenica-Dubn 127.06 326 *e*PKP **PKiKP** **07 44 04.1 +0.7**
SZH Strazhica 127.13 318 *i* P **PKiKP** **07 44 04.3 +0.6**
OJC Ojcow 127.19 328 *e*PKPdf **PKPdf** **07 44 02.2 -0.9**
OJC *e*PP **PP** **07 46 05.9 +4.1**
OJC *e*L L 08 43 16.5
comp=Z,2µm,20.2s
RGN Rugen 127.36 336 IAMs_20 IAMs_20 08 45 55.4
comp=Z,2µm,19.0s
NIE Niedzica 127.40 327 *e*PKPdf **PKiKP** **07 44 04.7 +0.5**
NIE *e*L L 08 41 28.1
comp=Z,2µm,20.6s
DRGR 127.47 323 ⇑P **PKiKP** **07 44 04.7 +0.3**
DRGR 127.47 323 ⇑PKIKP **PKiKP** **07 44 04.7 +0.3**
MBAR Mbarara 127.66 262 IAMs_20 IAMs_20 08 35 29.9
comp=Z,1µm,20.0s
LANS Liptovska Anna 128.00 327 *e*PKIKP **PKiKP** **07 44 06.4 +1.1**
LANS Liptovska Anna 128.00 327 *e*PKP **PKiKP** **07 44 06.4 +1.1**
ITQB Itaqui 128.14 140 PKPdf **PKiKP** **07 44 06.1 -0.1**
ITQB Itaqui 128.14 140 *e*P **PKiKP** **07 44 08.1 +1.9**
GZR Gura Zlata 128.15 322 ⇑P **PKiKP** **07 44 05.9 +0.1**
GZR Gura Zlata 128.15 322 ⇑PKIKP **PKiKP** **07 44 05.9 +0.1**
KDZ Kurdzhali 128.16 316 *i* P **PKPdf** **07 44 04.3 -1.0**
OKC Ostrava-Krasne 128.28 329 AMS AMS 08 44 20.0
comp=Z,2µm,19.9s
SIRR Siria 128.37 323 ⇑P **PKiKP** **07 44 06.7 +0.5**
PSZ Piszkesteto 128.47 326 ⇑P **PKiKP** **07 44 06.9 +0.5**
PSZ Piszkesteto 128.47 326 ⇑PKIKP **PKiKP** **07 44 06.9 +0.5**
PSZ Piszkesteto 128.47 326 PKP **PKiKP** **07 44 06.6 +0.2**
PLTB Pedras Altas 128.51 144 *e*P **PKiKP** **07 44 07.2 +0.3**
KSP Ksiaz 128.56 331 *e*PKPdf **PKiKP** **07 44 06.3 -0.1**
KSP *e*PP **PP** **07 46 13.0 +2.3**
KSP *e*L L 08 40 31.0
comp=Z,3µm,22.4s
PGB Panagyurishte 128.61 318 *i* P **PKPdf** **07 44 05.3 -0.9**
MORC Moravsky Berou 128.62 329 ⇑P **PKiKP** **07 44 07.5 +0.9**
MORC Moravsky Berou 128.62 329 *e*PKP **PKiKP** **07 44 06.3 -0.3**
MORC Moravsky Berou 128.62 329 ⇑PKIKP **PKiKP** **07 44 07.5 +0.9**
RZN Rozhen 128.62 317 *i* P **PKPdf** **07 44 05.6 -0.8**
RUE Ruedersdorf 128.62 334 *e*P **PKPdf** **07 44 04.7 -1.0**
VYHS Vyhne 128.72 327 *e*PKIKP **PKiKP** **07 44 07.0 +0.2**
VYHS Vyhne 128.72 327 *e*PKP **PKiKP** **07 44 07.0 +0.2**
MAUC Maruska 128.73 328 *e*PKPDF **PKiKP** **07 44 07.4 +0.6**
MAUC AMS AMS 08 48 40.0
comp=Z,3µm,18.3s
BZS Buzias 128.73 323 ⇑P **PKiKP** **07 44 07.3 +0.5**
BZS Buzias 128.73 323 ⇑PKIKP **PKiKP** **07 44 07.4 +0.5**
OSTC Ostas 128.79 330 *e*PKPDF **PKiKP** **07 44 07.3 +0.4**
OSTC AMS AMS 08 40 30.0
comp=Z,3µm,21.3s
KRLC Kraliky 128.82 330 *e*PKIKP **PKiKP** **07 44 07.2 +0.2**
KRLC MLR MLR
comp=Z,2µm,18.9s
KRLC Kraliky 128.82 330 *e*PKPDF **PKiKP** **07 44 07.2 +0.2**
KRLC AMS AMS 08 44 30.0
comp=Z,2µm,18.9s
CHVC Chvalec 128.85 331 AMS AMS 08 40 20.0
comp=Z,3µm,22.5s
DPC Dobruska-Polom 128.87 330 *e*PKIKP **PKiKP** **07 44 07.3 +0.2**
DPC *e* 07 44 13.2
DPC *e* 07 46 10.5
DPC MLR MLR
comp=Z,2µm,20.5s
DPC Dobruska-Polom 128.87 330 *e*PKPDF **PKiKP** **07 44 07.3 +0.2**
DPC *e*pPKP **sPKPdf** **07 44 13.2 -1.1**
DPC *e*PP **PP** **07 46 10.5 -2.3**
DPC AMS AMS 08 40 20.0
comp=Z,2µm,20.5s
UPC Upice 128.92 330 *e*PKIKP **PKiKP** **07 44 07.5 +0.4**
UPC *e* 07 46 14.2
UPC MLR MLR
comp=Z,3µm,21.4s
UPC Upice 128.92 330 *e*PKPDF **PKiKP** **07 44 07.5 +0.4**
UPC *e*PP **PP** **07 46 14.2 +1.1**
UPC AMS AMS 08 40 30.0
comp=Z,3µm,21.4s
BLKB Belogradchik 129.08 320 ⇑P **PKiKP** **07 44 07.8 +0.1**
MDVR Moldovita 129.10 322 ⇑P **PKiKP** **07 44 07.8 +0.1**
JAVC Velka Javorina 129.12 328 *e*PKP **PKiKP** **07 44 08.1 +0.5**
VTS Vitosha 129.19 318 ⇓P **PKPdf** **07 44 07.7 +0.3**
VTS Vitosha 129.19 318 ⇓PKIKP **PKPdf** **07 44 07.7 +0.3**
VTS Vitosha 129.19 318 *i* P **PKPdf** **07 44 07.4 0.0**
TBTG Tabatinga, AM 129.32 103 *e*P **PKPdf** **07 44 08.4 +0.1**
MMB Musomiste 129.33 317 *i* P **PKPdf** **07 44 06.9 -0.6**
VRAC Vranov 129.40 329 *e*PKP **PKPdf** **07 44 07.5 +0.1**
CPSB Cacapava Do Su 129.59 143 *e*P **PKiKP** **07 44 09.9 +0.8**
PVCC Panska Ves 129.60 331 AMS AMS 08 45 00.0
comp=Z,2µm,19.9s
MODS Modra-Piesok 129.62 328 *e*PKIKP **PKiKP** **07 44 08.6 0.0**
MODS Modra-Piesok 129.62 328 *e*PKP **PKiKP** **07 44 08.6 0.0**
KRUC Moravsky 129.65 329 *e*PKP **PKPdf** **07 44 07.9 0.0**
BRG Berggiesshubel 129.66 332 Amp 07 44 35.9
comp=Z,30nm,1.4s
BRG Berggiesshubel 129.66 332 *i* PKIKP **PKiKP** **07 44 08.5 -0.1**
BRG pmax pmax
comp=Z,79nm,1.6s
BRG Berggiesshubel 129.66 332 ⇓*i* PKPf 07 44 08.5
BRG Berggiesshubel 129.66 332 Amp 07 44 10.5
comp=Z,79nm,1.6s
BRG Berggiesshubel 129.66 332 PKPab **PKiKP** **07 44 15.3 +6.8**
BRG Berggiesshubel 129.66 332 Amp 07 44 17.2
comp=Z,63nm,1.4s
BRG Berggiesshubel 129.66 332 *e*x x 07 44 34.1
BOVS Bovan 129.69 320 ⇑P **PKPdf** **07 44 08.1 +0.1**
CSKK Cskako 129.70 326 PKP **PKiKP** **07 44 09.0 +0.2**
CLL Collm 129.79 333 IAMs_20 IAMs_20 08 41 59.0
comp=Z,2µm,20.0s
CLL Collm 129.79 333 *i* PKIKP **PKPdf** **07 44 08.2 +0.2**
CLL *e* 07 44 14.0
CLL pmax pmax
comp=Z,34nm,1.4s
CLL MLR MLR
comp=Z,2µm,19.3s
CLL Collm 129.79 333 *i* PKPdf **PKPdf** **07 44 08.2 +0.2**
comp=Z,34nm,1.4s
CLL *es*PKPdf **pPKPdf** **07 44 14.0 +0.1**
CLL *e*PP **PP** **07 46 18.0 -0.6**
CLL *ex* x 07 46 37.0
CLL *ex* x 07 47 35.0
CLL *e*PPPP 07 51 00.0
CLL *e*SKKSac SKKSac 07 53 18.0 +2.9
CLL *e*Sdif **Sdif** **07 54 30.0 +3.9**
CLL *e*SP **SP** **07 56 24.0 -2.1**
CLL *e*PPS PPS 07 58 06.0
CLL *ex* x 07 59 30.0
CLL *e*PPPrev 08 00 38.0
CLL *ex* x 08 03 12.0
CLL *e*SS **SS** **08 03 45.0 +3.8**
CLL *ex* x 08 06 18.0
CLL *e*SSS SSS 08 08 18.0
CLL *e*(SSSS) 08 12 42.0
CLL LmV 08 48 00.0
comp=Z,2µm,19.3s
CPUP Villa Florida 129.88 136 PKP **PKPdf** **07 44 08.3 -0.7**
comp=Z,15nm,1.0s,baz=231,slow=2.3,SNR=15
GOPC GO Pecny, Ondr 129.90 331 *e*PKIKP **PKiKP** **07 44 09.4 +0.3**
GOPC MLR MLR
comp=Z,3µm,20.4s
GOPC GO Pecny, Ondr 129.90 331 *e*PKPDF **PKiKP** **07 44 09.4 +0.3**
GOPC AMS AMS 08 41 00.0
comp=Z,3µm,20.4s
PRU Pruhonice 129.97 331 AMS AMS 08 46 10.0
comp=Z,3µm,18.7s
FRGS Fruska Gora 130.06 323 ⇑P **PKiKP** **07 44 09.6 0.0**
MORH Mrgy, Hungar 130.15 325 ⇑P **PKiKP** **07 44 09.6 0.0**
MORH Mrgy, Hungar 130.15 325 PKP **PKPdf** **07 44 08.9 0.0**
MPLH Magyarpolny 130.21 326 PKP **PKiKP** **07 44 10.1 +0.3**
VAY Valandovo 130.23 317 *i* P **PKPdf** **07 44 08.7 -0.5**
GRTK Grand Turk 130.28 70 IAMs_20 IAMs_20 08 36 02.0
comp=Z,2µm,19.0s
SOP Sopron 130.43 327 PKP **PKiKP** **07 44 12.4 +2.2**
KOVH Kovagotottos 130.53 325 PKP **PKiKP** **07 44 10.5 0.0**
RONA Rosalia, Austr 130.56 328 *e*P **PKPdf** **07 44 09.7 +0.1**
comp=Z,28nm,1.3s,SNR=13
CONA Conrad Observa 130.64 328 *e*P **PKPdf** **07 44 09.7 -0.2**
comp=Z,42nm,1.7s,SNR=14
SKO Skopje 130.67 319 *i* P **PKiKP** **07 44 10.6 -0.3**
NKC Novy Kostel 130.79 332 AMS AMS 08 42 10.0
comp=Z,2µm,22.2s
CKRC Cesky Krumlov 130.86 330 *e*PKPDF **PKPdf** **07 44 10.4 +0.2**
CKRC AMS AMS 08 41 40.0
comp=Z,2µm,20.5s
SDV Santo Domingo 130.91 86 PKPdf **PKPdf** **07 44 10.9 -0.5**
SDV Santo Domingo 130.91 86 IAMs_20 IAMs_20 08 31 58.3
comp=Z,2µm,20.0s
SDV Santo Domingo 130.91 86 *e*P **PKiKP** **07 44 12.9 +0.5**
KHC Kasperske Hory 131.01 330 *e*PKIKP **PKPdf** **07 44 10.8 +0.3**
KHC *e* 07 44 16.9
KHC *e* 07 46 27.2
KHC MLR MLR
comp=Z,2µm,18.9s
KHC Kasperske Hory 131.01 330 *e*PKPDF **PKPdf** **07 44 10.8 +0.3**
KHC *e*pPKP **pPKPdf** **07 44 16.9 +0.5**
KHC *e*PP **PP** **07 46 27.2 +0.5**
KHC *e*SKP 07 47 34.5
KHC AMS AMS 08 43 20.0
comp=Z,2µm,18.9s
ETMB Extrema 131.03 112 *e*P **PKiKP** **07 44 12.0 -0.4**
GERES GERESS Array B 131.14 330 PKP **PKPdf** **07 44 10.7 -0.1**
comp=Z,6.7nm,0.7s,baz=90,slow=1.3,SNR=37
ARSA Arzberg 131.25 327 *e*P **PKPdf** **07 44 10.5 -0.5**
comp=Z,8.9nm,1.0s
OHR Ohrid 131.51 318 *i* P **PKiKP** **07 44 12.5 -0.2**
MOA Molln 131.52 329 *e*P **PKPdf** **07 44 11.1 -0.4**
comp=Z,9.6nm,0.9s
GRA1 Grafenberg Arr 131.74 332 IAMs_20 IAMs_20 08 43 47.6
comp=Z,2µm,20.0s
GRFO Grafenberg 131.74 332 IAMs_20 IAMs_20 08 43 16.6
comp=Z,2µm,20.0s
PDG Podgorica 131.84 320 ⇑P **PKPdf** **07 44 12.6 +0.4**
PDG Podgorica 131.84 320 IAMs_20 IAMs_20 08 44 41.1
comp=Z,2µm,22.0s
SOKA Soboth 131.87 327 *e*P **PKPdf** **07 44 11.7 -0.6**
comp=Z,19nm,1.1s,SNR=16
BIOA Bad Ischl, Aus 131.94 329 *e*P **PKPdf** **07 44 11.8 -0.5**
comp=Z,9.1nm,0.8s,SNR=7.5
TIR Tirane 132.00 319 IAMs_20 IAMs_20 08 43 53.7
comp=Z,2µm,22.0s
ESK Eskdalemuir 132.06 346 IAMs_20 IAMs_20 08 49 23.8
comp=Z,2µm,20.0s
CRES Cresnjev 132.17 326 *i* PKPdf **PKPdf** **07 44 12.8 0.0**
OBKA Obir 132.23 327 *e*P **PKPdf** **07 44 12.3 -0.7**
comp=Z,5.5nm,0.9s
BOJS Bojanci 132.48 326 *i* PKPdf **PKPdf** **07 44 13.6 +0.3**
BOJS *i* 07 47 39.7
KBA Koelnbreinsper 132.50 329 *i* P **PKPdf** **07 44 12.6 -1.0**
comp=Z,7.0nm,0.8s
VISS Visnje 132.52 326 *i* PKPdf **PKPdf** **07 44 13.5 +0.1**
VISS *i* 07 47 40.3
VISS *e* 07 47 51.1
MYKA Terra Mystica 132.63 328 *e*P **PKPdf** **07 44 12.8 -0.9**
comp=Z,4.1nm,0.5s
ITAB Concordia 132.66 141 *e*P **PKiKP** **07 44 16.5 +1.1**
VOJS Vojsko 132.89 327 *i* PKPdf **PKPdf** **07 44 13.7 -0.6**
VOJS *i* pPKPdf **pPKPdf** **07 44 19.0 -1.1**
SIV San Ignacio 132.91 122 PKhKP PKPpre 07 44 02.0

comp=Z,0.7nm,0.6s,baz=153,slow=9.5,SNR=2.3
SIV PKP **PKPdf** 07 44 14.9 -0.1

comp=Z,11nm,0.8s,baz=225,slow=2.0,SNR=26
ABTA Abfaltersbach 133.14 329 *e*P **PKPdf** 07 44 13.8 -0.9
comp=Z,13nm,0.8s,SNR=11
WATA Walderalm 133.22 330 *i* P **PKPdf** 07 44 14.4 -0.4
comp=Z,11nm,0.7s,SNR=5.2
BTNL Ternell 133.23 337 *d*PKP **PKPdf** 07 44 15.2 +0.6
WTTA Wattenberg 133.24 330 *i* P **PKPdf** 07 44 14.7 -0.2
comp=Z,18nm,0.8s,SNR=9.0
MEM Membach 133.26 337 *d*PKPdf **PKPdf** 07 44 15.1 +0.5
MEM *d*PKiKP **PKiKP** 07 44 16.1 +0.3
STU Stuttgart 133.32 333 IAMs_20 IAMs_20 08 45 03.4
comp=Z,2μm,21.0s
MOTA Moosalm 133.44 330 *i* P **PKPdf** 07 44 14.8 -0.5
comp=Z,14nm,1.1s,SNR=6.4
BHOU Houvegnez 133.46 336 *d*PKiKP **PKiKP** 07 44 17.0 +0.7
SQTA Sankt Quirin 133.48 330 *e*P **PKPdf** 07 44 14.9 -0.4
comp=Z,17nm,1.0s
TER01 Tubaro-SC 133.49 145 *e*P **PKPdf** 07 44 16.2 +0.4
BBSR BB Station 133.52 54 IAMs_20 IAMs_20 08 39 43.7
comp=Z,1μm,20.0s
BCLA Clavier 133.68 337 *d*PKP **PKPdf** 07 44 15.3 -0.1
FETA Feichten 133.85 330 *e*P **PKPdf** 07 44 15.9 -0.2
comp=Z,7.9nm,0.8s,SNR=8.9
RCHB Rochefort 133.92 337 *d*PKPdf **PKPdf** 07 44 16.1 +0.2
RCHB *d*PKiKP **PKiKP** 07 44 17.3 +0.1
WLF Walferdange 133.94 336 *d*PKiKP **PKiKP** 07 44 17.2 0.0
BMRD Maredsous 133.98 337 *d*PKPdf **PKPdf** 07 44 16.3 +0.3
BFO Black Forest 134.03 333 IAMs_20 IAMs_20 08 49 12.3
comp=Z,1μm,19.0s
DAVA Damuels 134.07 331 *e*P **PKPdf** 07 44 16.2 -0.3
comp=Z,14nm,0.9s
GIVF Givet 134.12 337 *e*PKiKP **PKPdf** 07 44 14.5 -1.8
GIVF pmax pmax
comp=Z,53nm,1.4s
DOU Dourbes 134.21 337 *d*PKiKP **PKiKP** 07 44 17.9 +0.1
BAIF Baives 134.39 338 *e*PKiKP **PKPdf** 07 44 17.1 +0.4
BAIF pmax pmax
comp=Z,21nm,1.2s
MATE Matera 134.41 319 ⇑P **PKPdf** 07 44 16.3 -0.7
CDF Champ du Feu 134.44 334 *e*PKiKP **PKPdf** 07 44 17.4 +0.4
CDF pmax pmax
comp=Z,22nm,1.2s
MLPR Magueyes Islan 134.44 74 PKPdf **PKPdf** 07 44 14.4 -3.3
AQDB Aquidauana 134.71 131 *e*P **PKiKP** 07 44 19.1 -0.5
PTLB Pontes e Lacer 134.79 123 *e*P **PKiKP** 07 44 19.4 -0.5
HINF Hinteralfeld 135.07 334 *e*PKiKP **PKPdf** 07 44 17.7 -0.5
HINF pmax pmax
comp=Z,53nm,1.7s
VILB Vilhena 135.10 119 *e*P **PKiKP** 07 44 20.9 +0.3
HAU Haudompre 135.15 334 *e*PKiKP **PKPdf** 07 44 17.9 -0.4
HAU pmax pmax
comp=Z,42nm,1.5s
TIP Timpagrande 135.15 318 ⇑P **PKPdf** 07 44 18.2 -0.4
TIP Timpagrande 135.15 318 IAMs_20 IAMs_20 08 50 01.1
comp=Z,1μm,20.0s
SJG San Juan 135.27 74 **PKPdf** 07 44 18.1 -1.2
SJG San Juan 135.27 74 PKiKP **PKPdf** 07 44 18.1 -1.2
AQU L'Aquila 135.46 323 IAMs_20 IAMs_20 08 47 17.4
comp=Z,2μm,21.0s
SENIN Lac Senin/Sane 135.96 332 IAMs_20 IAMs_20 08 49 03.5
comp=Z,1μm,20.0s
CEL Celeste 136.21 317 IAMs_20 IAMs_20 08 48 06.2
comp=Z,1μm,21.0s
CABF La Chapelle 136.33 333 *e*PKiKP **PKPdf** 07 44 21.0 +0.4
CABF pmax pmax
comp=Z,27nm,1.0s
LOR Lormes 136.77 335 *e*PKiKP **PKiKP** 07 44 22.5 -0.6
LOR pmax pmax
comp=Z,18nm,1.1s
CLF Chambon-Foret 136.79 337 IAMs_20 IAMs_20 08 51 07.7
comp=Z,2μm,20.0s
LPL La Plagne 136.86 332 *e*PKiKP **PKPdf** 07 44 19.8 -2.0
LPL pmax pmax
comp=Z,20nm,1.1s
FLN La Foliniere 137.15 340 *e*PKiKP **PKiKP** 07 44 22.9 -0.9
FLN pmax pmax
comp=Z,36nm,1.3s
BNI Bardonecchia 137.23 331 PKPdf **PKPdf** 07 44 20.3 -2.1
BNI Bardonecchia 137.23 331 PKiKP **PKPdf** 07 44 20.3 -2.1
BNI MLR MLR
comp=Z,2μm,21.0s
SMF Signal de Mont 137.28 335 *e*PKiKP **PKiKP** 07 44 23.4 -0.7
SMF pmax pmax
comp=Z,31nm,1.4s
SALV Santo Antonio 137.37 126 *e*P **PKPdf** 07 44 23.9 +0.6
MBDF Montbardon 137.42 331 *e*PKiKP **PKPdf** 07 44 23.7 +0.9
MBDF pmax pmax
comp=Z,13nm,1.2s
SBF Sospel 137.72 329 *e*PKiKP **PKPdf** 07 44 23.2 -0.1
SBF pmax pmax
comp=Z,8.0nm,0.7s
BGF Bois d'Agland 137.76 336 *e*PKiKP **PKiKP** 07 44 25.0 -0.1
BGF pmax pmax
comp=Z,37nm,1.2s
RAFF Raffo Rosso 137.78 317 PKPdf **PKPdf** 07 44 22.9 -0.6
PGF Pioggiola 137.83 327 *e*PKiKP **PKPdf** 07 44 22.7 -0.8
PGF pmax pmax
comp=Z,45nm,1.0s
C2SB Chapadao do Su 137.88 132 *e*P **PKiKP** 07 44 25.7 -0.4
SSB Saint Sauveur 138.04 333 IAMs_20 IAMs_20 08 50 40.4
comp=Z,2μm,20.0s
SGMF Saint Gilles 138.26 342 *e*PKiKP **PKiKP** 07 44 25.1 -1.0
SGMF pmax pmax
comp=Z,57nm,1.4s
VIVF Saint-Julien-l 138.31 333 *e*PKiKP **PKiKP** 07 44 25.7 -0.6
VIVF pmax pmax
comp=Z,40nm,1.4s
MACA Manacapuru-AM 138.43 106 *e*P **PKiKP** 07 44 26.9 -0.5
PDRB Porto dos Gac 138.72 120 *e*P **PKPdf** 07 44 26.3 +0.5
ITRB Iturama 139.05 135 *e*P **PKPdf** 07 44 27.2 +0.9
CAF Calviac 139.40 335 *e*PKiKP **PKPdf** 07 44 26.5 +0.2
CAF pmax pmax
comp=Z,19nm,1.2s
ANWB Willy Bob 139.45 74 IAMs_20 IAMs_20 08 40 41.3
comp=Z,1μm,21.0s
TDBA Terre de Bas, 139.76 77 IAMs_20 IAMs_20 08 40 50.6
comp=Z,2μm,20.0s
CBE Ff. Capester 139.77 76 IAMs_20 IAMs_20 08 41 20.8
comp=Z,2μm,21.0s
ABD La Joyeuse, An 139.85 76 IAMs_20 IAMs_20 08 44 19.0
comp=Z,2μm,19.0s
GRGR Grenville 139.87 82 IAMs_20 IAMs_20 08 40 35.8
comp=Z,1μm,19.0s
CLDB Colider 139.88 119 *e*P **PKPdf** 07 44 29.0 +1.0
BOAV Boa Vista 140.00 97 *e*P **PKPdf** 07 44 29.3 +1.1
GDSD La Dsirade Is 140.27 76 **PKPdf** 07 44 25.5 -3.1
SVN Savane Anatole 140.27 78 IAMs_20 IAMs_20 08 45 57.4
comp=Z,1μm,20.0s
FDF Fort de France 140.30 78 IAMs_20 IAMs_20 08 50 31.1
comp=Z,1μm,19.0s
BIM Bigot 140.38 79 IAMs_20 IAMs_20 09 00 24.4
comp=Z,1μm,20.0s
ILAM Ilet Lapin Mar 140.56 78 IAMs_20 IAMs_20 08 50 38.9
comp=Z,1μm,19.0s
MPOM Morne Pois Mar 140.59 79 IAMs_20 IAMs_20 08 45 19.8
comp=Z,1μm,19.0s
MTLF Montolieu 140.60 333 *e*PKiKP **PKPdf** 07 44 25.3 -3.1
MTLF pmax pmax
comp=Z,72nm,1.5s
KEST Kesra 141.97 318 PKhKP PKPpre 07 44 26.6
baz=1.9,slow=3.4
MAHO Mahon 142.22 328 PKP **PKPdf** 07 44 24.9 -6.6
MAHO Mahon 142.22 328 IAMs_20 IAMs_20 08 51 17.8
comp=Z,1μm,20.0s
BDFB Brasilia 143.41 133 PKhKP PKPpre 07 44 30.1
comp=Z,17nm,0.8s,baz=196,slow=2.2,SNR=16
BDFB Brasilia 143.41 133 PKPdf PKPbc 07 44 31.2 -0.3
BDFB Brasilia 143.41 133 PKiKP PKPbc 07 44 31.2 -0.3
BDFB Brasilia 143.41 133 *e*P **PKPdf** 07 44 35.9 +1.5
ALF01 Guarapari-ES 144.39 147 *e*P **PKPdf** 07 44 36.2 +0.4
DIAM Diamantina, MG 144.49 141 *e*P PKPbc 07 44 35.3 +0.5
MALB Monte Alegre 144.93 107 *e*P **PKPdf** 07 44 37.1 +0.1
PBRG Braganca 145.36 341 *e*PKPbc **PKPbc** 07 44 36.7 -0.1
UCM Universidad Co 145.41 336 PKP **PKPbc** 07 44 36.8 -0.2
GUD Guadarrama 145.48 337 PKiKP **PKPbc** 07 44 36.8 -0.5
MC01 Montes Claros 145.49 139 *e*P **PKPab** 07 44 39.2 +1.1
RIB01 Linhares ES 145.63 146 *e*P **PKPab** 07 44 40.1 +1.6
PGAV Gavieira, Arco 145.67 343 *e*PKPbc **PKPbc** 07 44 37.8 0.0
PGAV Gavieira, Arco 145.67 343 *e*LR LR 08 43 18.1
comp=Z,2μm,22.0s
SJMB Sao Joao De Ma 145.67 144 *e*P **PKPab** 07 44 38.9 +0.2
PCAB Cabril 145.84 343 *e*PKPbc **PKPab** 07 44 38.6 -0.1
MVO Moncorvo 146.03 341 *e*PKPbc **PKPbc** 07 44 39.1 +0.2
MVO Moncorvo 146.03 341 *e*LQ LQ 08 26 09.3
MVO Moncorvo 146.03 341 *e*LR LR 08 38 51.1
comp=Z,2μm,20.0s
POLO Lamas de Olo 146.07 342 *e*PKPbc **PKPbc** 07 44 39.3 +0.2
PVRL Vila Real 146.14 342 *e*PKPbc **PKPab** 07 44 40.0 +0.2
ESDC Sonseca Array 146.24 336 PKPbc **PKPbc** 07 44 39.2 -0.3
comp=Z,12nm,1.0s,baz=17,slow=2.2,SNR=31
JANB Januaria 146.42 136 *e*P **PKPbc** 07 44 41.0 +0.2
PAB San Pablo 146.50 337 IAMs_20 IAMs_20 08 50 01.9
comp=Z,2μm,22.0s
PAB San Pablo 146.50 337 ⇑PKP2 **PKPbc** 07 44 40.5 +0.1
PTO Porto 146.53 343 *e*PKPbc **PKPab** 07 44 41.3 +0.1
CART Cartagena 146.65 331 PKP **PKPbc** 07 44 40.0 -0.8
CART Cartagena 146.65 331 IAMs_20 IAMs_20 08 55 07.5
comp=Z,1μm,20.0s
PVIS Viseu 146.71 342 *e*PKPbc **PKPbc** 07 44 41.4 +0.5
MTE Manteigas 146.88 341 *e*PKPbc **PKPbc** 07 44 41.8 +0.3
MTE Manteigas 146.88 341 *e*LQ LQ 08 25 35.8
MTE Manteigas 146.88 341 *e*LR LR 08 40 50.0
comp=Z,1μm,20.0s
MTE Manteigas 146.88 341 IAMs_20 IAMs_20 08 57 45.4
comp=Z,2μm,20.0s
NAN01 Guarapari, ES 146.96 145 *e*P **PKPbc** 07 44 42.2 0.0
OKGL Djebel Kef Gue 147.00 327 P **PKPbc** 07 44 42.0 +0.1
PRPB Parauapebas 147.30 117 *e*P **PKPbc** 07 44 44.0 +0.6
OJGS Djebel Guires 147.34 326 P **PKPbc** 07 44 43.0 +0.1
PCBR Castelo Branco 147.37 341 *e*PKPbc **PKPbc** 07 44 42.8 +0.1
OJBR Djebel Berber 147.50 327 P **PKPdf** 07 44 41.0 +0.2
PCAS Casmilo, Conde 147.50 342 *e*PKPbc **PKPbc** 07 44 43.7 +0.6
PMRV Marv??o 147.71 340 *e*PKPbc **PKPbc** 07 44 43.9 +0.2
PMRV Marv??o 147.71 340 *e*LR LR 08 39 02.8
comp=Z,1μm,22.0s
SDBA SAO DESIDERIO 147.79 132 *e*P **PKPbc** 07 44 44.0 -0.7
SMTB Santa Maria do 147.83 123 *e*P **PKPbc** 07 44 43.7 -1.0
ODJA Bouhanifia 147.96 327 P **PKPbc** 07 44 45.0 +0.4
PSBE So Bento 148.08 342 *e*PKPbc **PKPdf** 07 44 39.0 -2.6
GUA01 Guaratinga, BA 148.15 144 *e*P **PKPbc** 07 44 44.3 -1.2
PESTR Estremoz 148.29 340 *e*PKPbc **PKPbc** 07 44 45.4 +0.1
PESTR Estremoz 148.29 340 **PKPdf** 07 44 42.5 +0.6
PMTG Montargil 148.31 341 *e*PKPbc **PKPbc** 07 44 45.0 -0.3
OTSS Djebel Tessala 148.34 328 P **PKPdf** 07 44 39.0 -3.2
PBAR Barrancos 148.71 339 *e*PKPbc **PKPbc** 07 44 45.9 -0.5
EVO Evora 148.73 340 PKP **PKPbc** 07 44 46.4 0.0
EVO Evora 148.73 340 *e*PKPbc PKPab 07 45 20.2 +30
PMAFR Mafra 148.74 342 *e*PKPbc **PKPbc** 07 44 46.5 0.0
EMAL Malaga-Limoner 148.90 334 PKP **PKPbc** 07 44 47.1 +0.2
LIS Lisbon 148.92 342 *e*PKPdf **PKPdf** 07 44 43.9 +1.0
LIS IAMs_20 IAMs_20 09 06 25.1
comp=Z,2μm,22.7s
LIS Lisbon 148.92 342 *e*PKPbc **PKPab** 07 44 51.8 +1.0
LIS Lisbon 148.92 342 *e*PKiKP **PKPdf** 07 44 43.9 +1.0
PBEJ Beja 149.14 340 *e*PKPbc **PKiKP** 07 44 48.3 -0.4
CHAS Isla Isabel II 149.25 330 PKP **PKPdf** 07 44 42.8 -0.8
CMC01 Camacan, BA 149.28 143 *e*P **PKPdf** 07 44 45.8 +1.6
PNCL Nicolau / Gran 149.28 341 *e*PKPbc **PKPbc** 07 44 48.3 +0.5
WMELI Melilla 149.41 330 PKP **PKPdf** 07 44 44.5 +0.7
MESJ Messejana 149.43 340 *e*PKPdf **PKPdf** 07 44 44.7 +0.9
MESJ IAMs_20 IAMs_20 08 52 45.5
comp=Z,2μm,30.3s
MESJ Messejana 149.43 340 *e*PKPbc **PKPbc** 07 44 48.6 +0.4
MESJ Messejana 149.43 340 *e*PKiKP **PKPdf** 07 44 44.7 +0.9
PCVE Castro Verde 149.55 340 *e*PKPbc **PKiKP** 07 44 49.2 -0.4
PVAQ Vaqueiros 149.64 339 *e*PKPbc **PKiKP** 07 44 49.4 -0.4
PVAQ Vaqueiros 149.64 339 *e*LQ LQ 08 25 16.3
PVAQ Vaqueiros 149.64 339 *e*LR LR 08 38 24.4
comp=Z,1μm,22.0s
PVAQ Vaqueiros 149.64 339 P **PKiKP** 07 44 49.4 -0.4
PGRA Graciosa 149.77 11 *e*PKP **PKiKP** 07 44 50.4 +0.4
PTEO Sao Teotonio 149.86 341 *e*PKPbc **PKiKP** 07 44 49.9 -0.3
SFS San Fernando 149.90 336 PKP **PKPdf** 07 44 42.7 -1.8
PALE Palemas 149.96 332 P **PKPbc** 07 44 50.0 +0.3
JBK JBK 149.99 329 P **PKiKP** 07 44 51.0 +0.1
ROSA Rosais 150.02 12 *e*PKP **PKPbc** 07 44 48.5 -1.1
CEU Ceuta 150.04 334 PKP **PKPdf** 07 44 39.6 -5.2
MORF Marmelete 150.06 340 *e*PKPdf **PKPdf** 07 44 45.7 +0.8
MORF IAMs_20 IAMs_20 08 53 36.6
comp=Z,2μm,17.5s
MORF Marmelete 150.06 340 *e*PKPbc **PKiKP** 07 44 50.5 -0.2
MORF Marmelete 150.06 340 *e*PKHKP PKPpre 07 44 45.7
CALA Caldeira 150.06 12 *e*PKP **PKiKP** 07 44 50.7 0.0
PVLZ Peæn de 150.16 332 PKP **PKPbc** 07 44 49.9 -0.2
PAGU Agualva, Azore 150.17 10 *e*PKP **PKiKP** 07 44 52.2 +1.4
PICO Pico 150.20 12 *e*PKP **PKiKP** 07 44 51.8 +0.8
SMIR Smir Dam 150.22 334 P **PKiKP** 07 44 51.0 -0.1
PFVI Vila Bisbo 150.27 340 *e*PKPbc **PKiKP** 07 44 50.9 -0.2
TMAB Tom-Au,PA,Br 150.49 112 *e*P **PKPbc** 07 44 49.0 -2.4
AKLM AKL 150.50 331 P **PKiKP** 07 44 52.0 +0.2
GDU01 Guandu, BA 150.51 141 *e*P **PKPdf** 07 44 48.4 +2.3
CHEFC Chefchaouen 150.69 333 P **PKiKP** 07 44 52.1 -0.1
SHEL Horse Pasture 150.72 211 PKPbc **PKiKP** 07 44 53.7 +1.0
SHEL Horse Pasture 150.72 211 PKIKP **PKiKP** 07 44 53.7 +1.0
FIGM Figuig 150.94 324 P **PKiKP** 07 44 53.0 +0.2
RSA Sarsar 151.09 334 P **PKiKP** 07 44 54.0 +1.1
PSET Sete Cidades 151.32 8 *e*PKP **PKPdf** 07 44 48.5 +1.7
TAM Tamanrasset 151.39 301 IAMs_20 IAMs_20 09 07 49.7
comp=Z,1μm,18.0s
LCRM LCR 151.65 331 P **PKiKP** 07 44 55.0 +0.7
IFR Ifrane 151.91 331 PKP **PKPdf** 07 44 48.6 +0.6
PSMN Pico do Norte, 152.21 7 *e*PKP **PKPdf** 07 44 50.7 +2.6
MDT Midelt 152.23 330 P **PKiKP** 07 44 56.1 +0.7
CZD Col de Zad 152.27 330 P **PKiKP** 07 44 57.0 +1.2
ZHG ZHG 152.67 333 P **PKiKP** 07 44 57.0 +0.7
AVE Averroes 153.13 334 PKP **PKPdf** 07 44 48.6 -1.0
AVE Averroes 153.13 334 IAMs_20 IAMs_20 09 03 26.5
comp=Z,2μm,21.0s
NBLA Lagarto - SE 153.71 140 *e*P **PKPdf** 07 44 51.7 +0.8
ROSB Rosrio 153.84 117 *e*P **PKPdf** 07 44 53.8 +2.7
NBAN Anadia - AL 155.67 141 *e*P **PKPdf** 07 44 54.4 +0.8
PMPST Porto Santo, M 156.02 351 *e*PKPbc **PKPdf** 07 44 55.7 +2.1
PMOZ Porto Moniz, M 156.40 352 *e*PKPbc **PKPdf** 07 44 59.3 +5.1
PMOZ Porto Moniz, M 156.40 352 *e*LR LR 08 51 07.7
comp=Z,1μm,20.0s
PMAR Madeira 156.46 352 *e*PKPbc **PKPdf** 07 44 59.4 +5.0
NBRF Rio Formoso - 157.15 141 *e*P **PKPdf** 07 44 58.6 +3.0
TOA0 Torodi Ar. Sit 157.54 282 PKPdf **PKPdf** 07 44 55.9 -0.1
TORD Torodi Ar. Bea 157.54 282 PKP **PKPdf** 07 44 55.5 -0.5
comp=Z,7.6nm,1.1s,baz=21,slow=1.0,SNR=26
TORD PKPab **PKPab** 07 45 27.7 -0.2
comp=Z,27nm,1.2s,baz=78,slow=2.8,SNR=9.1
TORD PP **PP** 07 49 07.5 +0.2
comp=Z,5.5nm,1.1s,baz=96,slow=8.9,SNR=4.1
RCBR Riachuelo 158.75 135 *e*P **PKPdf** 07 44 59.2 +1.6
KOWA Kowa 162.73 289 **PKPdf** 07 45 02.0 +0.2
KOWA **PKPab** 07 45 51.0 +0.5
KIC Kosan Boka 163.74 261⇑ *e*P **PKPab** 07 45 55.1 +0.1
comp=Z,84nm,1.5s
DBIC Dimbokro 163.91 262 PKP **PKPdf** 07 45 02.7 -0.3
comp=Z,11nm,1.0s,baz=23,slow=2.9,SNR=5.1
DBIC PKPab **PKPab** 07 45 55.1 -0.6
comp=Z,10nm,1.1s,baz=170,slow=6.4,SNR=2.3
DBIC Dimbokro 163.91 262 **PKPdf** 07 45 01.9 -1.0
DBIC Dimbokro 163.91 262 PKIKP **PKPdf** 07 45 02.0 -1.0
LIC Lamto 163.99 260⇑ *e*P **PKPab** 07 45 56.2 +0.1
comp=Z,172nm,1.5s
TIC Toumodi 164.06 261⇑ *e*P **PKPab** 07 45 57.6 +1.1

RSNC 14 07:25:35.4±1.8, 7°23N×76°28W, h0 km±6km, ML3.1, Mw3.5, 4C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.22**	**163**	↓*i*P		Pg	07 25 38.6	-1.1
DBBC				*e*S		Sg	07 25 42.1	-0.5
DBBC				IAML			07 25 43.8	
	comp=Z,4μm,0.3s							
UREC	**San Jos de Ur**	**0.90**	**55**	*e*P		Pg	07 25 50.9	-1.8
UREC				*e*S		Sg	07 26 04.4	+0.1
UREC				IAML			07 26 07.0	
	comp=Z,850nm,0.2s							
HELC	**Santa Helena**	**1.27**	**144**	⇑*i*P		Pg	07 25 56.5	-3.4
HELC				*e*S		Sg	07 26 15.5	-0.9
HELC				IAML			07 26 18.2	
	comp=Z,115nm,0.3s							
CBOC	**Ciudad Bolivar**	**1.39**	**169**	⇑ *e*P		Pg	07 25 59.1	-2.9
CBOC				*e*S		Sg	07 26 20.2	+0.2
CBOC				IAML			07 26 25.4	
	comp=Z,248nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.43**	**80**	⇑ *e*P		Pn	07 25 59.4	-3.2
ZARC				*e*S		Sg	07 26 19.1	-2.3
ZARC				IAML			07 26 21.3	
	comp=Z,739nm,0.3s							
SOLC	**Bahia Solano**	**1.50**	**228**	*e*P		Pn	07 26 01.6	-2.1
SOLC				*e*S		Sg	07 26 23.1	-0.7
SOLC				IAML			07 26 31.6	
	comp=Z,71nm,0.4s							
LCBC	**Los crdobas,**	**1.62**	**357**	*e*P		Pn	07 26 02.7	-2.5
LCBC				*e*S		Sg	07 26 30.4	+3.0
LCBC				IAML			07 26 38.7	
	comp=Z,65nm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.93**	**111**	*e*P		Pn	07 26 07.1	-2.5
PTBC				*e*S		Sn	07 26 32.4	-2.2
PTBC				IAML			07 26 35.2	
	comp=Z,193nm,0.3s							
UPD2	**Meteti**	**2.16**	**307**	*e*P		Pn	07 26 10.8	-1.9
UPD2				*e*S		Sn	07 26 40.0	-0.2
UPD2				IAML			07 26 49.8	
	comp=Z,159nm,0.5s							
NORC	**Norcasia**	**2.17**	**140**	*e*P		Pn	07 26 11.9	-1.0
NORC				*e*S		Sn	07 26 40.7	+0.2
NORC				IAML			07 26 44.9	
	comp=Z,119nm,0.5s							
GUY2C	**Guyana, Caldas**	**2.19**	**156**	*e*P		Pn	07 26 13.0	-0.5
GUY2C				*e*S		Sn	07 26 41.9	+0.3
GUY2C				IAML			07 26 54.3	
	comp=Z,80nm,0.5s							
PLMC	**San Jos del P**	**2.31**	**180**	*e*P		Pn	07 26 14.1	-0.8
PLMC				*e*S		Sn	07 26 44.2	+0.1
PLMC				IAML			07 26 58.0	
	comp=Z,113nm,0.6s							
BRRC	**Barranca, Sant**	**2.55**	**93**	*e*P		Pn	07 26 16.6	-1.4
BRRC				*e*S		Sn	07 26 48.8	-0.9
BRRC				IAML			07 27 06.7	
	comp=Z,70nm,0.5s							
SPBC	**San Pablo de B**	**2.69**	**126**	*e*P		Pn	07 26 19.4	-0.8
SPBC				*e*S		Sn	07 26 52.9	-0.6
SPBC				IAML			07 27 02.5	
	comp=Z,62nm,0.5s							
ANIL	**Santa Ana**	**2.86**	**162⇑**	*e*P		Pn	07 26 23.8	+1.2
ANIL				*e*S		Sn	07 27 00.5	+2.6
ANIL				IAML			07 27 10.0	
	comp=Z,80nm,0.5s							
SJCC	**San Jacinto, C**	**2.86**	**22**	*e*P		Pn	07 26 19.0	-3.4
SJCC				*e*S		Sn	07 26 52.3	-5.3
ROSC	**El Rosal**	**3.07**	**141**	*e*P		Pn	07 26 27.6	+2.0
ROSC				*e*S		Sn	07 27 03.2	-0.1
ROSC				IAML			07 27 21.4	
	comp=Z,32nm,0.5s							
OCAC	**Ocana**	**3.10**	**71**	*e*P		Pn	07 26 25.2	-0.5
OCAC				*e*S		Sn	07 27 03.8	+0.2
OCAC				IAML			07 27 15.2	
	comp=Z,137nm,0.4s							
BARC	**Barichara**	**3.14**	**102**	*e*P		Pn	07 26 25.0	-1.3
BARC				*e*S		Sn	07 27 04.3	-0.4
BARC				IAML			07 27 09.5	
	comp=Z,101nm,0.5s							
YOTC	**Yotoco, Valle**	**3.23**	**181**	*e*P		Pn	07 26 26.9	-0.7
YOTC				*e*S		Sn	07 27 04.7	-2.1
YOTC				IAML			07 27 12.8	
	comp=Z,19nm,0.5s							
ARGC	**Ariguani, Magd**	**3.29**	**37**	*e*P		Pn	07 26 24.2	-4.0
ARGC				*e*S		Sn	07 27 05.1	-3.1
RUSC	**La Rusia**	**3.44**	**113**	*e*P		Pn	07 26 29.5	-1.3
RUSC				*e*S		Sn	07 27 11.7	-0.8
RUSC				IAML			07 27 17.4	
	comp=Z,48nm,0.4s							
PAMC	**Pamplona, Colo**	**3.55**	**88**	*e*P		Pn	07 26 31.7	-0.5
PAMC				*e*S		Sn	07 27 13.5	-1.7
PAMC				IAML			07 27 31.0	
	comp=Z,122nm,0.6s							
CHIC	**Chingaza**	**3.62**	**135**	*e*P		Pn	07 26 33.9	+0.8
CHIC				*e*S		Sb	07 27 22.1	-3.1
CHIC				IAML			07 27 39.2	
	comp=Z,22nm,0.5s							
LL6C	**La Loma 6 Bece**	**3.88**	**50**	*e*P		Pn	07 26 36.8	+0.5
LL6C				*e*S		Sn	07 27 19.6	-2.9
BCIP	**Isla Barro Col**	**4.01**	**299**	*e*P		Pn	07 26 36.9	-1.3
BCIP				*e*S		Sn	07 27 28.5	+2.5
VILC	**Villavicencio,**	**4.03**	**140**	*e*P		Pn	07 26 40.3	+1.8
VILC				*e*S		Sb	07 27 33.8	-2.9
VILC				IAML			07 27 53.5	
	comp=Z,30nm,0.5s							
TAMC	**Tame, Arauca**	**4.52**	**100**	*e*P		Pn	07 26 45.4	+0.1
TAMC				*e*S		Sn	07 27 37.9	-0.7
BETC	**Betania**	**4.60**	**170**	*e*P		Pn	07 26 47.4	+1.1
BETC				*e*S		Sn	07 27 42.8	+2.3
CRJC	**Cerrejon, Guaj**	**5.04**	**41**	*e*P		Pn	07 26 49.0	-3.4
CRJC				*e*S		Sn	07 27 44.0	-7.4
CRJC				IAML			07 27 45.1	
	comp=Z,14nm,0.2s							
GARC	**Garzon, Huila**	**5.07**	**171**	*e*P		Pn	07 26 53.4	+0.4
PTGC	**Puerto Gaitan,**	**5.11**	**126**	*e*P		Pn	07 26 52.4	-0.8
PTGC				*e*S		Sn	07 27 53.2	+0.2
PTGC				IAML			07 27 54.4	
	comp=Z,13nm,0.4s							
BBAC	**Balboa, Cauca**	**5.27**	**191**	*e*P		Pn	07 26 59.7	+4.0
BBAC				*e*S		Sn	07 28 02.6	+5.4
SOCV	**Socops**	**5.47**	**79**	*e*P		Pn	07 26 57.3	-1.0
SOCV				*e*S		Sn	07 27 57.3	-4.7
FLOC	**Florencia**	**5.65**	**174**	*e*P		Pn	07 27 01.6	+0.9
GUVC	**San Jose del G**	**5.91**	**142**	*e*P		Pn	07 27 03.2	-1.1
URIC	**Uribia, Colomb**	**6.13**	**43**	*e*P		Pn	07 27 00.1	-7.2
URIC				*e*S		Sn	07 28 05.2	-13

RSNC 14 07:27:04.0±1.7, 7°20N×76°25W, h0 km±4km, ML2.6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.18**	**168**	*e*P		Pg	07 27 06.9	-0.6
DBBC				*e*S		Sg	07 27 10.8	+1.0
DBBC				IAML			07 27 14.0	
	comp=Z,622nm,0.4s							
DBBC	**Dabeiba**	**0.18**	**168**	↓ *e*P		Pg	07 27 06.9	-0.5
DBBC				*e*S		Sg	07 27 10.9	+1.0
DBBC				IAML			07 27 12.6	
	comp=Z,621nm,0.4s							
UREC	**San Jos de Ur**	**0.90**	**52**	*e*P		Pg	07 27 19.8	-1.5
UREC				*e*S		Sg	07 27 32.2	-0.7
UREC				IAML			07 27 33.4	
	comp=Z,204nm,0.3s							
UREC	**San Jos de Ur**	**0.90**	**52**	*e*P		Pg	07 27 19.5	-1.8
UREC				*e*S		Sg	07 27 32.5	-0.5
UREC				IAML			07 27 33.4	
	comp=Z,196nm,0.2s							
HELC	**Santa Helena**	**1.23**	**144**	*e*P		Pg	07 27 25.4	-2.2
HELC				*e*S		Sg	07 27 42.3	-1.2
HELC				IAML

PTBC				IAML		07 28 03.8		
	comp=Z,116nm,0.6s							
NORC	**Norcasia**	**2.12**	**140**	*e*P	Pn	07 27 40.9	+0.1	
NORC				*e*S	Sb	07 28 09.4	-1.0	
NORC				IAML		07 28 13.3		
	comp=Z,56nm,0.5s							
NORC	**Norcasia**	**2.12**	**140**	*e*P	Pn	07 27 40.4	-0.5	
NORC				*e*S	Sn	07 28 07.2	-0.7	
NORC				IAML		07 28 13.3		
	comp=Z,56nm,0.5s							
GUY2C	**Guyana, Caldas**	**2.15**	**156**	*e*P	Pn	07 27 40.1	-1.4	
GUY2C				*e*S	Sn	07 28 08.2	-1.0	
GUY2C				IAML		07 28 28.0		
	comp=Z,20nm,0.5s							
GUY2C	**Guyana, Caldas**	**2.15**	**156**	*e*P	Pg	07 27 47.7	+2.5	
GUY2C				*e*S	Sg	07 28 13.1	0.0	
GUY2C				IAML		07 28 27.8		
	comp=Z,20nm,0.5s							
UPD2	**Meteti**	**2.21**	**308**	*e*P	Pn	07 27 38.3	-3.6	
UPD2				*e*S	Sn	07 28 10.1	+0.2	
UPD2				IAML		07 28 15.5		
	comp=Z,43nm,0.5s							
PLMC	**San Jos del P**	**2.27**	**181**	*e*P	Pn	07 27 42.0	-0.9	
PLMC				*e*S	Sb	07 28 15.6	+0.9	
PLMC				IAML		07 28 21.1		
	comp=Z,28nm,0.5s							
PLMC	**San Jos del P**	**2.27**	**181**	*e*P	Pb	07 27 45.4	-0.6	
PLMC				*e*S	Sg	07 28 17.2	0.0	
PLMC				IAML		07 28 21.1		
	comp=Z,28nm,0.5s							
BRRC	**Barranca, Sant**	**2.52**	**92**	*e*P	Pn	07 27 45.7	-0.5	
BRRC				*e*S	Sb	07 28 19.8	-1.9	
BRRC				IAML		07 28 38.1		
	comp=Z,20nm,0.6s							
SPBC	**San Pablo de B**	**2.65**	**125**	*e*P	Pn	07 27 49.3	+1.2	
SPBC				*e*S	Sb	07 28 23.6	-2.0	
SPBC				IAML		07 28 29.9		
	comp=Z,32nm,0.5s							
SPBC	**San Pablo de B**	**2.65**	**125**	*e*P	Pn	07 27 48.6	+0.5	
SPBC				*e*S	Sb	07 28 24.6	-1.1	
SPBC				IAML		07 28 29.9		
	comp=Z,32nm,0.5s							
SJCC	**San Jacinto, C**	**2.88**	**21**	*e*P	Pn	07 27 51.6	+0.3	
SJCC				*e*S	Sn	07 28 20.3	-6.5	
SJCC				IAML		07 28 45.9		
	comp=Z,8.9nm,0.7s							
ROSC	**El Rosal**	**3.03**	**141**	*e*P	Pb	07 27 57.1	-1.9	
ROSC				*e*S	Sb	07 28 38.5	+1.8	
ROSC				IAML		07 28 53.0		
	comp=Z,17nm,0.7s							
ROSC	**El Rosal**	**3.03**	**141**	*e*P	Pn	07 27 55.9	+2.4	
ROSC				*e*S	Sb	07 28 38.2	+1.5	
ROSC				IAML		07 28 53.0		
	comp=Z,17nm,0.7s							
OCAC	**Ocana**	**3.08**	**70**	*e*P	Pn	07 27 45.7	-8.5	
OCAC				*e*S	Sn	07 28 34.5	+2.7	
OCAC				IAML		07 28 51.2		
	comp=Z,59nm,0.4s							
BARC	**Barichara**	**3.10**	**101**	*e*P	Pn	07 27 54.2	-0.3	
BARC				*e*S	Sn	07 28 32.9	+0.5	
BARC				IAML		07 28 43.6		
	comp=Z,48nm,0.5s							
RUSC	**La Rusia**	**3.40**	**112**	*e*P	Pb	07 28 05.0	-0.5	
RUSC				*e*S	Sb	07 28 44.0	-3.6	
RUSC				IAML		07 28 46.6		
	comp=Z,16nm,0.7s							
PAMC	**Pamplona, Colo**	**3.52**	**87**	*e*P	Pn	07 28 01.8	+1.3	
PAMC				*e*S	Sb	07 28 49.3	-1.8	
PAMC				IAML		07 28 58.6		
	comp=Z,27nm,0.7s							
CHIC	**Chingaza**	**3.57**	**135**	*e*S	Sn	07 28 44.7	+0.4	
LL6C	**La Loma 6 Bece**	**3.88**	**49**	*e*P	Pn	07 28 09.1	+4.2	
LL6C				*e*S	Sn	07 28 43.7	-7.6	
BCIP	**Isla Barro Col**	**4.06**	**299**	*e*S	Sb	07 29 10.0	+4.0	
CRJC	**Cerrejon, Guaj**	**5.05**	**41**	*e*P	Pn	07 28 26.4	+5.3	
CRJC				*e*S	Sn	07 29 11.9	-8.4	
CRJC				IAML		07 29 16.4		
	comp=Z,7.2nm,0.3s							
PTGC	**Puerto Gaitan,**	**5.06**	**126**	*e*P	Pn	07 28 22.0	+0.7	
PTGC				*e*S	Sn	07 29 23.0	+2.6	

WEL 14 07:30:27.0, 39°S±6°×17°6E±°, *h*93km±13km, M2.9/31, ML2.0/8, MLv2.9/31, Error ellipse: s-maj=0.0km s-min=0.0km az=73.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	**Matea Rd**	**0.26**	**105**	P	Pn	07 30 41.0	+0.3
ALRZ	**Allen Road**	**0.28**	**44**	P	Pn	07 30 41.0	+0.3
TMVZ	**Te Maari**	**0.46**	**221**	P	Pn	07 30 42.5	+0.6
NTVZ	**North Tongariro**	**0.47**	**224**	P	Pn	07 30 39.5	-2.4
ETVZ	**East Tongariro**	**0.48**	**219**	P	Pn	07 30 42.6	+0.6
BKZ	**Black Stump Fm**	**0.51**	**142**	P	Pn	07 30 42.6	+0.5
OTVZ	**Otukere**	**0.52**	**220**	P	Pn	07 30 43.2	+0.8
MTHZ	**Maungataniwha**	**0.59**	**99**	P	Pn	07 30 43.2	+0.4
MUGZ	**Murupara**	**0.60**	**62**	P	Pn	07 30 42.7	-0.2
TUVZ	**Tukino**	**0.61**	**214**	P	Pn	07 30 43.6	+0.5
TLZ	**Tolley Road**	**0.61**	**315**	P	Pn	07 30 43.0	0.0
NMHZ	**Naumai**	**0.65**	**121**	P	Pn	07 30 44.6	+1.2
WNVZ	**Wahianoa**	**0.68**	**214**	P	Pn	07 30 44.2	+0.4
MOVZ	**Moawhango**	**0.69**	**202**	P	Pn	07 30 43.8	+0.1
KWHZ	**Kaweka Forest**	**0.71**	**159**	P	Pn	07 30 44.6	+0.7
BHHZ	**Black Hill Sta**	**0.72**	**182**	P	Pn	07 30 44.3	+0.3
MCHZ	**McNeill Hill**	**0.83**	**146**	P	Pn	07 30 46.2	+1.2
KRHZ	**Kereru**	**0.90**	**166**	P	Pn	07 30 46.4	+0.5
KMRZ	**Kaimai**	**0.93**	**353**	P	Pn	07 30 44.1	-2.0
URZ	**Urewera**	**0.94**	**58**	P	Pn	07 30 45.8	-0.4
TOZ	**Tahuroa Road**	**1.13**	**336**	P	Pn	07 30 48.0	-0.4
PNHZ	**Pukenui**	**1.15**	**176**	P	Pn	07 30 48.7	0.0
CKHZ	**Cape Kidnapper**	**1.18**	**140**	P	Pn	07 30 49.6	+0.7
KAHZ	**Kahuranaki**	**1.20**	**150**	P	Pn	07 30 49.7	+0.5
MWZ	**Matawai**	**1.20**	**70**	P	Pn	07 30 48.9	-0.4
TSZ	**Takapari Road**	**1.30**	**184**	P	Pn	07 30 50.1	-0.3
WPHZ	**Waipukurau**	**1.33**	**168**	P	Pn	07 30 50.6	-0.1
PXZ	**Pawanui**	**1.40**	**155**	P	Pn	07 30 51.0	-0.6
RUGZ	**Raukumara Rang**	**1.48**	**58**	P	Pn	07 30 52.0	-0.8
DVHZ	**Dannevirke**	**1.53**	**178**	P	Pn	07 30 52.4	-1.0
PRHZ	**Porangahau**	**1.56**	**165**	P	Pn	07 30 53.2	-0.4
HAZ	**Te Kaha**	**1.67**	**53**	P	Pn	07 30 53.7	-1.3
ANWZ	**Angora Road**	**1.72**	**170**	P	Pn	07 30 55.2	-0.5
BFZ	**Birch Farm**	**1.92**	**177**	P	Pn	07 30 57.0	-1.2
MRZ	**Mangatainoka R**	**1.94**	**192**	P	Pn	07 30 56.9	-1.5
OGWZ	**Otaki Gorge**	**2.17**	**199**	P	Pn	07 30 59.8	-1.7
HOWZ	**Holdsworth Sta**	**2.18**	**192**	P	Pn	07 30 59.7	-2.0
MTW	**Mount Morrison**	**2.43**	**191**	P	Pn	07 31 02.5	-2.5
CAW	**Cannon Point**	**2.47**	**198**	P	Pn	07 31 03.1	-2.4

ROM 14 07:42:14.3±0.1, 42°.852N±0°.004×13°.354E±0°.006, *h*22km, ML0.9/3, Error ellipse: s-maj=0.6km s-min=0.2km az=60.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMO1	**Montemonaco**	**0.05**	**337**	P	Pb	07 42 18.4	-0.1
MMO1				S	Sb	07 42 21.2	0.0
T1241	**Roccafluvione,**	**0.06**	**86**	P	Pb	07 42 18.5	+0.1
T1241				S	Sb	07 42 21.4	+0.3
T1241				AML	AML		
	comp=E,146μm,0.3s						
T1241				AML	AML		
	comp=N,109μm,0.2s						
T1242	**Castelluccio d**	**0.11**	**258**	P	Pb	07 42 18.8	-0.4
T1242				AML	AML		
	comp=N,44μm,0.2s						
T1242				AML	AML		
	comp=E,25μm,0.3s						
MC2	**Monte Cornacci**	**0.14**	**297**	P	Pb	07 42 19.1	-0.2
MC2				S	Sb	07 42 22.7	-0.1
T1243	**Rocca Santa Ma**	**0.17**	**156**	P	Pb	07 42 19.5	-0.1
T1202	**Accumoli, Fraz**	**0.18**	**213**	P	Pb	07 42 19.6	0.0
T1202				S	Sb	07 42 23.5	+0.3
T1204	**Amatrice, Fraz**	**0.18**	**189**	P	Pb	07 42 19.5	-0.2
CSP1	**Cessapalombo**	**0.26**	**335**	P	Pb	07 42 20.9	+0.2
FDMO	**Fiordimonte**	**0.27**	**313**	P	Pb	07 42 20.7	0.0
FDMO				S	Sb	07 42 25.5	+0.4
FDMO				AML	AML		
	comp=E,21μm,0.1s						
FDMO				AML	AML		
	comp=N,30μm,0.3s						
FDMO				AML	AML		
	comp=E,21μm,0.1s						

PP3	**Marolino**	**0.56**	**20**	S	Sb	07 42 34.0	+1.0	

ROM 14 07:45:45.9±0.1, 42°.745N±0°.004×13°.185E±0°.004, *h*8km±1km, ML1.0/5, 3C-2D, Error ellipse: s-maj=0.4km s-min=0.2km az=199.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.09**	**10**	⇑P	Pg	07 45 48.2	0.0
T1242				S	Sg	07 45 50.0	+0.2
T1242				AML	AML		
	comp=N,128μm,0.5s						
T1242				AML	AML		
	comp=E,108μm,0.3s						
T1242				AML	AML		
	comp=N,128μm,0.5s						
NRCA	**Norcia**	**0.10**	**329**	⇓P	Pg	07 45 48.4	0.0
NRCA				S	Sg	07 45 50.1	0.0
NRCA				AML	AML		
	comp=N,324μm,0.1s						
NRCA				AML	AML		
	comp=E,396μm,0.2s						
T1204	**Amatrice, Fraz**	**0.12**	**125**	P	Pg	07 45 49.0	+0.4
T1204				AML	AML		
	comp=E,128μm,0.3s						
T1204				AML	AML		
	comp=N,80μm,0.6s						
MC2	**Monte Cornacci**	**0.17**	**1**	P	Pg	07 45 49.7	+0.2
MC2				S	Sg	07 45 52.9	+1.0
MMO1	**Montemonaco**	**0.19**	**34**	P	Pg	07 45 49.9	+0.1
MMO1				S	Sg	07 45 53.2	+0.9
T1216	**Preci, Frazion**	**0.19**	**320**	⇑P	Pg	07 45 51.4	+1.6
T1217	**Poggiodomo (PG**	**0.19**	**260**	P	Pg	07 45 49.9	+0.1
T1217				S	Sg	07 45 53.4	+0.9
T1243	**Rocca Santa Ma**	**0.20**	**104**	⇓P	Pg	07 45 50.2	+0.2
T1243				S	Sg	07 45 53.6	+0.8
T1241	**Roccafluvione,**	**0.21**	**58**	P	Pg	07 45 50.5	+0.2
T1241				S	Sg	07 45 54.2	+1.0
T1241				AML	AML		
	comp=E,49μm,0.8s						
T1241				AML	AML		
	comp=N,27μm,0.5s						
T1241				AML	AML		
	comp=E,49μm,0.8s						
T1215	**Vallo di Nera,**	**0.24**	**284**	⇑P	Pg	07 45 50.8	+0.1
T1215				S	Sg	07 45 55.0	+1.0
FDMO	**Fiordimonte**	**0.30**	**346**	P	Pg	07 45 51.8	0.0
TERO	**Teramo**	**0.33**	**111**	P	Pg	07 45 52.2	-0.3
TERO				S	Sg	07 45 58.0	+1.1
TERO				AML	AML		
	comp=E,31μm,0.6s						
TERO				AML	AML		
	comp=N,32μm,1.2s						
TERO				AML	AML		
	comp=E,31μm,0.6s						
CSP1	**Cessapalombo**	**0.35**	**2**	P	Pg	07 45 52.6	-0.1
CSP1				S	Sg	07 45 58.6	+1.2

IDC 14 07:45:52.0±2.9, 54°.20N×86°.39E, *h*0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=21.6km s-min=13.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**256**	*i*		07 52 40.0	
	baz=74,slow=322,SNR=1.2						
ZALV	**Zalesovo Beam**	**0.96**	**256**	Pg	Pg	07 46 09.6	-0.8
	1.7nm,0.3s,baz=74,slow=17,SNR=14						
ZALV				Lg	Lg	07 46 24.0	
	1.7nm,0.3s,baz=75,slow=29,SNR=8.5						
ZALV				Rg	Rg	07 46 31.2	
	11nm,0.9s,baz=77,slow=30,SNR=13						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pn	07 47 22.9	+1.1
	baz=54,slow=13,SNR=2.8						
KURBB				Lg	Lg	07 49 02.0	
	baz=60,slow=32,SNR=1.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**7.86**	**201**	Pn	Pn	07 47 48.5	+1.0
	0.1nm,0.3s,baz=19,slow=14,SNR=4.4						
	0.2nm,0.3s						

IDC 14 07:48:50.7±2.9, 54°.18N×87°.23E, *h*0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=23.3km s-min=16.7km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**262**	*i*		07 58 10.0	
	baz=79,slow=325,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.44**	**262**	Pg	Pn	07 49 17.0	-1.0
	2.4nm,0.3s,baz=82,slow=16,SNR=15						
ZALV				Lg	Lg	07 49 37.4	
	4.1nm,0.3s,baz=80,slow=21,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.41**	**240**	Pn	Pn	07 50 26.3	0.0
	0.1nm,0.3s,baz=55,slow=14,SNR=4.9						
KURBB				Sn	Sn	07 51 38.8	-1.3
	baz=40,slow=25,SNR=1.5						
KURBB				Lg	Lg	07 52 14.2	
	baz=33,slow=27,SNR=1.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.04**	**205**	Pn	Pn	07 50 50.5	+1.8
	0.2nm,0.3s,baz=27,slow=14,SNR=5.7						
MKAR				Sn	Sn	07 52 19.4	-0.9
	0.1nm,0.3s,baz=22,slow=18,SNR=1.6						
MKAR				Lg	Lg	07 53 06.7	
	0.1nm,0.3s,baz=27,slow=32,SNR=2.6						
	0.2nm,0.3s						

*IDC **14** 07:51:18.7±0.8, 29°.42S×60°.91E, *h*0km, mb3.9/8, mbtmp4.0/9, ML4.2/1, MS5.1/8, Error ellipse: s-maj=27.1km s-min=21.9km az=41.0*

*NEIC **14** 07:51:18.6±1.5, 28°.9S±0°.1×60°.7E±0°.2, *h*10km±1km, mb4.5/9, Error ellipse: s-maj=25.2km s-min=18.2km az=66.0*

ISC 14 07:51:19.0±0.7, 29°.0S±0°.1×60°.6E±0°.1, *h*10km, n38, σ2°.38/24, mb4.2/11, MS5.3/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**8.97**	**330**	Pn	**Pn**	**07 53 28.1**	**-0.7**
FOMA	**Nahampoana Res**	**12.76**	**285**	Pn	**Pn**	**07 54 20.9**	**+0.3**
VOI	**Vohitsoka**	**14.31**	**297**	P	**P**	**07 54 48.3**	**-0.8**
ABPO	**Ambohimpanom**	**15.73**	**306**	P	**P**	**07 55 05.6**	**+0.6**
ABPO				IAmb	IAmb	07 55 46.0	
	comp=Z,16nm,1.2s						
OPO	**Ambohidratompo**	**16.05**	**308**	Pn	**P**	**07 55 12.1**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=115,slow=13,SNR=2.4						
OPO				Sn	**Sn**	**07 57 58.8**	**-4.5**
	baz=60,slow=16,SNR=2.3						
OPO				LR	LR	07 59 19.1	
	comp=Z,268nm,19.5s,baz=173,slow=29						
	comp=Z,1.9nm,0.3s						
H08S1	**Diego Garcia H**	**24.06**	**30**	T	T	08 21 37.0	
	baz=203						
H08S2	**Diego Garcia H**	**24.07**	**30**	T	T	08 21 46.8	
	baz=203						
H08S3	**Diego Garcia H**	**24.08**	**30**	T	T	08 21 52.5	
	baz=203						
H01W2	**Cape Leeuwin H**	**45.38**	**112**	T	T	08 47 13.2	
	baz=261,slow=75,SNR=5.2						
H01W3	**Cape Leeuwin H**	**45.38**	**112**	T	T	08 47 15.3	
	baz=261,slow=75,SNR=5.9						
H01W1	**Cape Leeuwin H**	**45.40**	**112**	T	T	08 47 16.3	
	baz=261,slow=75,SNR=5.3						
SNAA	**Sanae**	**54.40**	**200**	P	**P**	**08 00 45.3**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=108,slow=11,SNR=5.5						
	comp=Z,1.1nm,0.9s						
SNAA	**Sanae**	**54.40**	**200**	P	**P**	**08 00 45.5**	**-0.4**
SNAA				IAmb	IAmb	08 01 13.2	
	comp=Z,4.1nm,1.3s						
CMAR	**Chiang Mai Arr**	**60.03**	**43**	P	**P**	**08 01 28.5**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=224,slow=6.1,SNR=1.4						
	comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**61.12**	**180**	P	**P**	**08 01 31.9**	**-1.4**
	comp=Z,2.3nm,1.1s,baz=139,slow=6.6,SNR=3.4						
	comp=Z,2.3nm,1.1s						
QSPA	**South Pole Qui**	**61.12**	**180**	P	**P**	**08 01 33.4**	**+0.1**
QSPA				IAmb	IAmb	08 02 13.9	
	comp=Z,7.5nm,1.4s						
ASAR	**Alice Springs**	**64.99**	**104**	P	**P**	**08 01 58.3**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=244,slow=6.0,SNR=17						
	comp=Z,1.3nm,0.7s						

ASAR	**Alice Springs**	**64.99**	**104**	P	**P**	**08 01 58.1**	**-1.5**	
AS31	**Alice Springs**	**64.99**	**104**	P	**P**	**08 01 58.1**	**-1.5**	
GEYT	**Alibeck**	**66.65**	**358**	LR	LR	08 27 45.4		
	comp=Z,2μm,20.5s,baz=98,slow=33							
WRA	**Warramunga Arr**	**66.81**	**101**	P	**P**	**08 02 10.3**	**-1.0**	
	comp=Z,1.3nm,0.9s,baz=247,slow=5.5,SNR=11							
	comp=Z,1.3nm,0.9s							
WRA	**Warramunga Arr**	**66.81**	**101**	P	**P**	**08 02 08.9**	**-2.4**	
WB0	**Warramunga Arr**	**66.92**	**101**	P	**P**	**08 02 10.3**	**-1.7**	
WB0				IAmb	IAmb	08 02 12.3		
	comp=Z,8.4nm,1.4s							
GNI	**Garni**	**70.39**	**347**	LR	LR	08 33 44.5		
	comp=Z,869nm,20.9s,baz=85,slow=36							
TORD	**Torodi Ar. Bea**	**70.61**	**298**	P	**P**	**08 02 39.2**	**+4.2**	
	comp=Z,1.2nm,0.8s,baz=108,slow=5.3,SNR=5.2							
	comp=Z,1.2nm,0.8s							
HOPE	**Hope Point**	**70.84**	**218**	P	**P**	**08 02 35.9**	**+0.1**	
KBZ	**Khabaz**	**74.20**	**347**	LR	LR	08 35 33.2		
	comp=Z,2μm,19.5s,baz=74,slow=36							
ABKAR	**Akbulak array**	**77.94**	**360**	P	**P**	**08 03 12.5**	**-4.5**	
MKAR	**Makanchi Array**	**77.99**	**15**	P	**P**	**08 03 20.0**	**+2.7**	
	comp=Z,0.2nm,0.4s,baz=202,slow=6.2,SNR=2.5							
	comp=Z,0.2nm,0.4s							
VAE	**Valguarnera**	**79.04**	**324**	P	P	08 03 27.8	+4.4	
	comp=Z,13nm,0.4s,baz=309,slow=20,SNR=3.2							
MLR	**Muntele Rosu**	**80.58**	**336**	P	**P**	**08 03 35.1**	**+3.5**	
	comp=Z,1.3nm,0.5s,baz=176,slow=15,SNR=1.7							
	comp=Z,1.3nm,0.5s							
KURK	**Kurchatov**	**80.99**	**12**	P	**P**	**08 03 33.7**	**+0.2**	
KURK				IAmb	IAmb	08 03 44.2		
	comp=Z,8.2nm,1.4s							
AKBB	**Malin Array Si**	**84.09**	**341**	P	**P**	**08 03 47.9**	**-1.8**	
VRAC	**Vranov**	**87.28**	**333**	LR	LR	08 43 43.2		
	comp=Z,1μm,20.1s,baz=45,slow=36							
GERES	**GERESS Array B**	**88.10**	**331**	LR	LR	08 42 30.1		
	comp=Z,2μm,21.4s,baz=39,slow=35							
DAVOX	**Davos/Dischmat**	**88.25**	**328**	LR	LR	08 48 13.2		
	comp=Z,1μm,18.1s,baz=42,slow=38							
BDFB	**Brasilia**	**98.01**	**247**	LR	LR	08 43 24.1		
	comp=Z,804nm,19.4s,baz=212,slow=32							
NOA	**NORSAR Array B**	**98.29**	**338**	LR	LR	08 48 43.8		
	comp=Z,241nm,19.3s,baz=50,slow=35							

KRSC 14 07:57:04.4±0.7, 54°.30N×168°.09E, *h*24km±18km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.53**	**307**	P	Pb	07 57 31.2	-0.8
BKI				S	Sb	07 57 51.4	+0.6
KBTR	**Krutoberegovo**	**3.57**	**305**	P	Pn	07 58 02.0	+3.7
MKZ	**Mys Kozlova**	**3.72**	**277**	P	Pn	07 58 04.0	+3.7
MKZ				S	Sn	07 58 47.7	+4.3
KII	**Karymskiy**	**5.08**	**271**	P	Pn	07 58 23.5	+4.4
AVH	**Avacha**	**5.64**	**263**	P	Pn	07 58 31.5	+4.7
KRX	**Arik**	**5.67**	**264**	P	Pn	07 58 31.9	+4.7
GNL	**Ganaly**	**6.01**	**268**	P	Pn	07 58 36.9	+4.9

*LDG **14** 07:59:08.1±0.1, 51°.59N×16°.14E, *h*1km, Ml4.4/11, Error ellipse: s-maj=3.3km s-min=2.0km az=19.0, Suspected Mining induced.*

*DNK **14** 07:59:08.7±2.2, 51°.64N×16°.05E, *h*0km±70km, ML3.1*

*VIE **14** 07:59:08.3±0.7, 51°.61N×16°.38E, *h*0km, mb3.4/12, ml3.7/10, ms4.3/1, Error ellipse: s-maj=7.6km s-min=5.4km az=64.0 73 km NW of Wroclaw Suspected Mining induced.*

*IPEC **14** 07:59:08.2±0.3, 51°.65N×16°.20E, *h*0km, ML3.6/5, Error ellipse: s-maj=2.0km s-min=1.3km az=28.0*

*IDC **14** 07:59:09.6±0.5, 51°.56N×16°.04E, *h*0km, mb3.7/11, mbtmp3.7/19, ML3.4/8, Error ellipse: s-maj=9.0km s-min=5.2km az=102.0*

*BGR **14** 07:59:10.2±0.6, 51°.55N×16°.12E, *h*1km, ML3.7/10, Error ellipse: s-maj=7.8km s-min=4.4km az=27.0*

*UPP **14** 07:59:11.1±3.0, 51°.68N×15°.66E, *h*0km, ML3.0, Suspected explosion*

*PRU **14** 07:59:11.0±0.0, 51°.51N×16°.11E, *h*0km*

ISC 14 07:59:07.7±0.4, 51°.60N±0°.02×16°.09E±0°.02, *h*0km, n133, σ1°.94/203, mb3.6/11, 8C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**170**	*i* Pg	**Pb**	**07 59 23.8**	**-0.1**
KSP				*i* Sgd		07 59 33.6	
KSP	**Ksiaz**	**0.77**	**170**	*e*Pg	**Pb**	**07 59 23.9**	**-0.1**
KSP				*e*Sg	**Sb**	**07 59 33.8**	**-1.2**
CHVC	**Chvalec**	**1.02**	**181**	*e*PG	**Pb**	**07 59 28.6**	**+0.4**
CHVC				*e*SG	**Sb**	**07 59 41.7**	**-0.4**
OSTC	**Ostas**	**1.05**	**175**	*e*PG	**Pn**	**07 59 29.3**	**-0.4**
OSTC				*e*SG	**Sg**	**07 59 41.7**	**+0.3**
UPC	**Upice**	**1.10**	**182**	*e*PG	**Pb**	**07 59 29.8**	**+0.3**
UPC				*e*SG	**Sg**	**07 59 43.4**	**+0.5**
	comp=Z,612nm,0.4s						
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*PG	**Pn**	**07 59 32.7**	**+0.1**
DPC				*e*SG	**Sg**	**07 59 48.3**	**+0.1**
	comp=Z,406nm,0.6s						
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*Pg	**Pn**	**07 59 32.7**	**+0.1**
PVCC	**Panska Ves**	**1.44**	**222**	*e*PG	**Pb**	**07 59 36.8**	**+1.4**
PVCC				*e*SG	**Sn**	**07 59 55.6**	**+1.0**
	comp=Z,1μm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**242**	Pn	**Pg**	**07 59 36.9**	**-0.1**
BRG				Pg	**Pb**	**07 59 39.1**	**+2.1**
BRG				Sg	**Sn**	**07 59 59.3**	**+2.4**
BRG				Amp		08 00 01.1	
	comp=Z,472nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**242**	*e*Pn	**Pn**	**07 59 36.2**	**-0.1**
BRG				*e*Sg	**Sn**	**07 59 59.0**	**+2.2**
KRLC	**Kraliky**	**1.59**	**164**	*e*PG	**Pb**	**07 59 37.8**	**-0.2**
KRLC				*e*SG	**Sb**	**07 59 58.7**	**0.0**
	comp=Z,354nm,0.5s						
RUE	**Ruedersdorf**	**1.67**	**303**	*e*P	**Pb**	**07 59 39.1**	**-0.2**
GKP	**Gorka Klasztor**	**1.81**	**22**	*e*P	**Pg**	**07 59 44.8**	**+2.4**
FBE	**Freiberg**	**1.85**	**249**

baz=357
KRUC eSg Sg 08 00 29.5 -0.1
comp=Z,355nm,1.5s,baz=357
TANN Tannenbergstha 2.58 244 ePn Pn 07 59 52.2 +1.4
TANN eSg Sg 08 00 31.5 +0.9
NKC Novy Kostel 2.68 241 ePN Pn 07 59 53.8 +1.7
NKC ePG Pg 07 59 59.8 +0.8
NKC eSG Sg 08 00 35.3 +1.6
comp=Z,458nm,0.4s
OJC Ojcow 2.73 119 ePn Pn 07 59 50.6 -2.1
OJC ePg Pg 07 59 59.2 -0.7
OJC eSg Sg 08 00 34.3 -1.0
JAVC Velka Javorina 2.93 159 ePn Pn 07 59 56.6 +1.1
baz=342
KHC Kasperske Hory 2.95 214 ePN Pn 07 59 57.0 +1.2
KHC ePG Pg 08 00 03.0 -1.2
KHC eSN Sn 08 00 31.8 -0.1
KHC eSG Sg 08 00 42.8 +0.4
comp=Z,110nm,0.5s
CKRC Cesky Krumlov 3.01 203 ePN Pn 07 59 58.5 +1.9
CKRC ePG Pg 08 00 04.7 -0.7
CKRC eSG Sg 08 00 42.5 -1.9
comp=Z,135nm,0.4s
ROTZ Rotzenmuhle 3.08 235 ePn Pn 07 59 58.6 +1.1
GERES GERESS Array B 3.16 210 Pn Pn 08 00 00.5 +1.8
comp=Z,10nm,0.3s,baz=28,slow=12,SNR=128
GERES Pg Pb 08 00 06.3 +1.6
comp=Z,28nm,0.3s,baz=27,slow=16,SNR=37
GERES Sn Sn 08 00 37.6 +0.5
comp=Z,14nm,0.3s,baz=36,slow=25,SNR=6.5
GERES Lg Lg 08 00 47.9
comp=Z,35nm,0.3s,baz=33,slow=27,SNR=13
comp=Z,15nm,0.3s
WET Wettzell 3.21 221 ePn Pn 08 00 00.6 +1.3
LANS Liptovska Anna 3.27 137 ePN Pn 08 00 01.7 +1.5
LANS ePG Pg 08 00 10.0 -0.4
LANS eSG Sg 08 00 52.5 -0.3
LANS eLG Lg 08 01 09.1
MODS Modra-Piesok 3.32 166 ePN Pn 08 00 02.5 +1.6
MODS ePG Pg 08 00 12.1 +0.8
NIE Niedzica 3.47 127 eP Pg 08 00 15.2 +1.2
NIE eS Sg 08 00 59.5 +0.5
ZST Bratislava 3.47 169 ePN Pn 08 00 04.7 +1.8
ZST ePG Pg 08 00 14.1 -0.1
ZST eSG Sg 08 00 59.3 +0.1
ZST eLG Lg 08 01 13.7
CLZ Clausthal 3.56 276 ePn Pn 08 00 06.5 +2.3
VYHS Vyhne 3.58 149 ePN Pn 08 00 05.1 +0.6
VYHS ePG Pg 08 00 18.0 +1.7
VYHS eSG Sg 08 01 04.1 +1.4
VYHS eLG Lg 08 01 19.1
BSD Bornholm Skovb 3.59 349 eP Pn 08 00 04.0 -0.5
BSD Bornholm Skovb 3.59 349⇑ iP Pn 08 00 05.1 +0.6
BSD eS Sn 08 00 43.7 -3.7
BSD IAML 08 01 18.4
comp=Z,28nm,1.0s
GRF Grafenberg Arr 3.64 240 ePn Pn 08 00 07.0 +1.7
CONA Conrad Observa 3.68 182 ePn Pn 08 00 07.2 +1.3
comp=Z,7.7nm,0.2s,SNR=17
RONA Rosalia, Austr 3.91 178 i Pn Pn 08 00 10.2 +1.2
comp=Z,4.6nm,0.3s
SOP Sopron 3.94 175 P Pn 08 00 11.2 +1.9
MOA Molln 3.94 198 i Pn Pn 08 00 10.7 +1.3
comp=Z,31nm,0.3s,SNR=44
KECS Kecovo 4.22 136 ePG Pg 08 00 30.0 +1.5
KECS eSG Sg 08 01 25.9 +2.8
KECS eLG Lg 08 01 39.1
BIOA Bad Ischl, Aus 4.23 203 ePn Pn 08 00 14.2 +0.9
comp=Z,25nm,0.4s,SNR=12
LUNU Lund 4.33 340 eP Pn 08 00 14.4 -0.2
LUNU P Pn 08 00 15.0 +0.3
LUNU S Sn 08 01 06.0 +0.2
LUNU Lund 4.33 340 P Pn 08 00 15.0 +0.3
LUNU S Sn 08 01 06.0 +0.2
ARSA Arzberg 4.37 185 i Pn Pn 08 00 17.9 +2.6
comp=Z,15nm,0.3s,SNR=6.5
CRVS Cervenica-Dubn 4.38 126 ePN Pn 08 00 17.7 +2.3
CRVS ePG Pg 08 00 32.4 +0.8
PSZ Piszkesteto 4.44 145 ⇓P Pn 08 00 13.9 -2.4
PSZ Piszkesteto 4.44 145 P Pn 08 00 17.7 +1.4
CSKK Cskako 4.47 161 P Pb 08 00 24.1 -2.9
MPLH Magyarpolny 4.54 167 P Pn 08 00 19.0 +1.4
BLEU Blekinge 4.71 358 eP Pn 08 00 20.4 +0.5
BLEU P Pn 08 00 21.2 +1.3
BLEU S Sn 08 01 13.3 -1.9
BLEU eS Sn 08 01 13.6 -1.6
BLEU Blekinge 4.71 358 P Pn 08 00 21.2 +1.3
BLEU S Sn 08 01 13.3 -1.9
KOLS Kolonicke sedl 4.78 122 ePN Pn 08 00 22.7 +0.7
KOLS ePG Pg 08 00 42.7 +3.4
KOLS eLG Lg 08 02 00.0
KBA Koelnbreinsper 4.87 203 i Pn Pn 08 00 23.8 +1.5
comp=Z,20nm,0.4s,SNR=24
SOKA Soboth 4.98 188 i P Pn 08 00 26.9 +3.2
SNR=7.6
DEL Delary 5.05 346 i P Pn 08 00 25.0 +0.5
DEL P Pn 08 00 25.1 +0.6
DEL eS Sn 08 01 20.8 -2.7
DEL Delary 5.05 346 P Pn 08 00 25.1 +0.6
WTTA Wattenberg 5.22 215 i Pn Pn 08 00 29.8 +2.7
comp=Z,3.6nm,0.3s
VXJU Vaexsjoe 5.37 353 P Pn 08 00 30.0 +1.1
VXJU Vaexsjoe 5.37 353 P Pn 08 00 30.0 +1.1
ABTA Abfaltersbach 5.40 207 i P Pn 08 00 31.9 +2.4
SNR=8.4
PBUR Paburge 5.62 36 eP Pn 08 00 34.2 +1.8
PBUR IAML 08 01 04.1
comp=Z,60nm,0.5s
MORH Mrgy, Hungar 5.65 162⇑P Pn 08 00 30.0 -2.8
MORH Mrgy, Hungar 5.65 162 P Pn 08 00 34.9 +2.0
KOVH Kovagotottos 5.68 166 P Pn 08 00 34.9 +1.6
BYXU Byxelkrok 5.72 5 P Pn 08 00 35.5 +1.7
BYXU Byxelkrok 5.72 5 P Pn 08 00 35.5 +1.7
FABU Falkenberg 5.76 341 P Pn 08 00 34.7 +0.5
FABU eS Sn 08 01 38.2 -2.1
FABU Falkenberg 5.76 341 P Pn 08 00 34.7 +0.5
GNOU Gnosjoe 5.86 348 P Pn 08 00 36.4 +0.8
GNOU Gnosjoe 5.86 348 P Pn 08 00 36.4 +0.8
EKSU Eksjoe 6.00 356 P Pn 08 00 38.5 +1.0
EKSU Eksjoe 6.00 356 P Pn 08 00 38.5 +1.0
PABE Paberze 6.11 47 eP Pg 08 01 09.8 +5.1
PABE Paberze 6.11 47 eP Pn 08 00 42.8 +3.7
DAVOX Davos/Dischmat 6.31 223 Pn Pn 08 00 42.7 +0.6
comp=Z,0.9nm,0.3s,baz=33,slow=13,SNR=5.7
DAVOX Sn Sn 08 01 59.4 +4.5
comp=Z,0.7nm,0.3s,baz=130,slow=22,SNR=1.5
DAVOX Lg Lg 08 02 26.6
comp=Z,1.1nm,0.3s,baz=54,slow=20,SNR=2.2
comp=Z,2.7nm,0.3s
VSVD Vaisvydziai 6.39 44 eP Pg 08 01 05.5 -4.4
SIRR Siria 6.48 143⇑P Pn 08 00 42.1 -2.2
DRGR 6.48 135⇑P Pn 08 00 43.9 -0.4
CDF Champ du Feu 6.51 244 ePn Pn 08 00 44.3 -0.5
CDF eSg Sg 08 02 32.7 -4.1
comp=Z,193nm,1.2s
SLIT Slitere, Latvi 7.03 28 eP Pn 08 00 53.4 +1.7
HINF Hinteralfeld 7.08 241 ePn Pn 08 00 51.4 -1.2
HINF eSg Sg 08 02 50.8 -4.2
NACGM Naroch 7.22 59⇑eP Pn 08 00 57.3 +3.0
baz=244
HAU Haudompre 7.26 244 ePn Pn 08 00 54.5 -0.4
HAU eSg Sg 08 02 56.4 -4.2
comp=Z,105nm,1.0s
GIVF Givet 7.29 263 ePn Pn 08 00 53.3 -2.0
GIVF eSg Sg 08 02 56.9 -4.6
comp=Z,58nm,1.1s
GZR Gura Zlata 7.64 142⇓P Pn 08 00 57.7 -2.5
BAIF Baives 7.68 263 eSg Sg 08 03 08.8 -5.3
comp=Z,74nm,1.3s
SFTF Sexfontaines 7.90 249 eSg Sg 08 03 16.6 -4.6
comp=Z,287nm,1.6s
LOT Lotru 7.99 137⇑P Pn 08 01 03.3 -1.8
CABF La Chapelle 8.24 237 ePn Pn 08 01 06.9 -1.6
CABF eSg Sg 08 03 27.7 -4.5
comp=Z,240nm,1.3s
AKASG Malin Array Be 8.31 91 Pn Pn 08 01 08.5 -0.8
comp=Z,3.2nm,0.3s,baz=280,slow=12,SNR=17
AKASG Pg Pg 08 01 45.1 -1.7
comp=Z,1.0nm,0.3s,baz=280,slow=16,SNR=8.4
AKASG Sn Sn 08 02 40.2 -3.6
comp=Z,1.7nm,0.3s,baz=274,slow=23,SNR=3.5
AKASG Lg Lg 08 03 35.0
comp=Z,0.2nm,0.3s,baz=272,slow=27,SNR=1.5
comp=Z,5.6nm,0.7s
MTSE Matsula 8.38 29 eP Pn 08 01 13.0 +2.7
HFS Hagfors 8.65 352 Pn Pn 08 01 14.6 +0.6
comp=Z,0.4nm,0.3s,baz=162,slow=14,SNR=11
HFS Sn Sn 08 02 49.3 -2.9
comp=Z,0.4nm,0.3s,baz=198,slow=27,SNR=2.1
HFS Lg Lg 08 03 52.0
comp=Z,0.2nm,0.3s,baz=173,slow=25,SNR=4.2
comp=Z,0.7nm,0.3s
LPL La Plagne 8.69 229 ePn Pn 08 01 13.3 -1.4
LPL eSg Sg 08 03 41.5 -5.0
LPG La Plagne 8.69 229 ePn Pn 08 01 13.0 -1.9
LPG eSg Sg 08 03 41.4 -5.3
comp=Z,95nm,1.3s
LOR Lormes 9.07 246 ePn Pn 08 01 18.0 -1.8
baz=67
LOR eSg Sn 08 03 52.1 +50
comp=Z,61nm,1.2s
MBDF Montbardon 9.27 226 ePn Pn 08 01 24.6 +1.9
MBDF eSg Sn 08 03 59.0 +51
comp=Z,140nm,1.9s
SSF Saint Saulge 9.38 246 eSg Sn 08 04 02.3 +52
comp=Z,104nm,1.8s
SMF Signal de Mont 9.43 243 eSg Sn 08 04 04.6 +53
AVF Avril sur Loir 9.62 245 ePn Pn 08 01 23.9 -3.4
SBF Sospel 9.69 220 ePn Pn 08 01 28.0 -0.3
NOA NORSAR Array B 9.84 346 Pn Pn 08 01 29.5 -0.7
baz=184,slow=11,SNR=4.1
NOA Sn Sn 08 03 07.7 -14
baz=166,slow=15,SNR=1.2
NOA Lg Lg 08 04 23.6
baz=73,slow=17,SNR=4.0
comp=Z,0.1nm,0.3s
BGF Bois d'Agland 10.04 245 ePn Pn 08 01 30.8 -2.3
BGF eSg Sn 08 04 22.0 +56
comp=Z,115nm,1.5s
PGF Pioggiola 10.26 211 ePn Pn 08 01 34.1 -2.1
LMR La Mourre 10.50 222 ePn Pn 08 01 37.2 -2.2
TCF Toulx Ste Croi 10.56 245 ePn Pn 08 01 37.5 -2.7
FINES FINESS Array B 11.28 25 Pn Pn 08 01 48.7 -1.2
comp=Z,0.7nm,0.3s,baz=208,slow=11,SNR=23
FINES Sn Sn 08 03 48.1 -8.5
comp=Z,0.6nm,0.3s,baz=220,slow=22,SNR=2.3
FINES Lg Lg 08 05 17.7
comp=Z,0.3nm,0.3s,baz=205,slow=23,SNR=2.4
comp=Z,1.4nm,0.3s
EKA Eskdalemuir Ar 12.05 296 Pn Pn 08 01 58.3 -2.2
baz=100,slow=14
EKA Sn Sn 08 04 10.8 -4.7
baz=101,slow=26
VAE Valguarnera 14.17 185 Pn Pn 08 02 29.4 -0.2
comp=Z,11nm,0.3s,baz=0.0,slow=4.0,SNR=3.8
ARCES ARCESS Array B 18.53 10 Pn P 08 03 23.0 -2.4
comp=Z,0.1nm,0.3s,baz=189,slow=12,SNR=4.8
comp=Z,2.9nm,0.8s
ARU Arti 25.11 62 P P 08 04 35.0 +1.3
comp=Z,1.7nm,0.4s,baz=301,slow=7.7,SNR=3.3
comp=Z,1.7nm,0.4s
AKTO Aktyubinsk 26.15 76 P P 08 04 44.3 +1.0
comp=Z,0.9nm,0.4s,baz=299,slow=11,SNR=4.8
comp=Z,0.9nm,0.4s
SFJD Kangerlussuaq 35.34 321 P P 08 06 05.1 +0.9
comp=Z,7.1nm,0.9s,baz=231,slow=22,SNR=1.3
comp=Z,7.1nm,0.9s
TORD Torodi Ar. Bea 40.08 202 P P 08 06 45.2 +0.4
comp=Z,0.7nm,0.9s,baz=23,slow=7.8,SNR=3.5
comp=Z,0.7nm,0.9s
ZALV Zalesovo Beam 40.16 59 P P 08 06 47.2 +2.1
comp=Z,0.7nm,0.3s,baz=302,slow=11,SNR=1.9
comp=Z,0.7nm,0.3s
MKAR Makanchi Array 42.20 69 P P 08 07 03.4 +1.5
comp=Z,0.1nm,0.4s,baz=305,slow=5.1,SNR=2.1
comp=Z,0.1nm,0.4s
SONM Songino Array 54.87 55 P P 08 08 41.6 +1.9
comp=Z,0.5nm,0.7s,baz=286,slow=5.2,SNR=3.7
comp=Z,0.5nm,0.7s
ILAR Eielson Array 63.21 352 P P 08 09 39.4 +2.3
comp=Z,0.2nm,0.6s,baz=16,slow=7.8,SNR=1.9
comp=Z,0.2nm,0.6s
PDAR Pinedale Array 74.86 322 P P 08 10 52.3 +2.2
comp=Z,0.4nm,0.6s,baz=63,slow=6.4,SNR=6.2
comp=Z,0.4nm,0.6s
NVAR Mina Array Bea 81.88 325 P P 08 11 31.7 +2.7
comp=Z,0.2nm,0.6s,baz=51,slow=6.0,SNR=2.9
comp=Z,0.2nm,0.6s
TXAR Lajitas Array 83.64 310 P P 08 11 40.0 +1.9
comp=Z,0.2nm,0.6s,baz=64,slow=5.7,SNR=3.9
comp=Z,0.2nm,0.6s

NEIC ***14*** *08:26:07.3±1.3,36°38S±0°06×71°7W±0°1,h109km±13km, Error ellipse: s-maj=12.8km s-min=8.1km az=107.0*
GUC ***14*** *08:26:08.6±0.7,36°28S×71°69W,h109km±4km,ML4.1*
IDC ***14*** *08:26:08.1±4.1,36°39S×71°41W,h103km±31km,mb3.8/5, mbtmp4.1/6,Error ellipse: s-maj=70.2km s-min=22.5km az=108.0*
ISC 14 08:26:07.8±0.8,36°36S±0°04×71°62W±0°07,h108km±7km, n59,σ0°95/74,mb4.0/6,10C-2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ML02	**Panimavida**	**0.62**	**15**		**Pn**	**08 26 25.0**	**-0.3**
ML02	**Panimavida**	**0.62**	**15**⇑	iP	**Pn**	**08 26 25.0**	**-0.3**
ML02				*i* S	**Sn**	**08 26 37.9**	**-0.5**
ML02				IAML		08 26 38.9	
comp=N,9μm,0.4s							
CCSP	**San Pedro de C**	**1.29**	**248**	eP	**Pn**	**08 26 32.2**	**+0.2**
CCSP				*i* S	**Sn**	**08 26 50.7**	**+0.3**
CCSP				IAML		08 26 54.6	
comp=E,7μm,0.4s							
BI05	**Punta Hualpn**	**1.33**	**252**		**Pn**	**08 26 32.6**	**+0.2**
BI05	**Punta Hualpn**	**1.33**	**252**	eP	**Pn**	**08 26 32.6**	**+0.2**
BI05				*i* S	**Sn**	**08 26 50.9**	**-0.1**
BI05				IAML		08 26 52.4	
comp=E,3μm,0.3s							
BO02	**Sierra Bellavi**	**1.70**	**24**		**Pn**	**08 26 37.5**	**+0.5**
BO02	**Sierra Bellavi**	**1.70**	**24**⇑	iP	**Pn**	**08 26 37.5**	**+0.5**
BO02				*i* S	**Sn**	**08 26 59.2**	**-0.1**
BO02				IAML		08 27 03.6	
comp=E,1μm,0.4s							
BO03	**Pichilemu**	**1.88**	**351**⇑	iP	**Pn**	**08 26 39.4**	**+0.2**
BO03				*i* S	**Sn**	**08 27 02.1**	**-1.0**
BO03				IAML		08 27 05.2	
comp=N,1μm,0.4s							
MT01	**Popeta**	**2.51**	**7**		**Pn**	**08 26 47.3**	**0.0**
MT01	**Popeta**	**2.51**	**7**⇑	iP	**Pn**	**08 26 47.2**	**0.0**
MT01				*i* S	**Sn**	**08 27 16.3**	**-1.2**
MT01				IAML		08 27 21.5	
comp=N,778nm,0.4s							
MT09	**Talagante**	**2.63**	**11**	Pn	**Pn**	**08 26 48.5**	**-0.5**
MT09	**Talagante**	**2.63**	**11**⇑	iP	**Pn**	**08 26 48.8**	**-0.2**
MT09				*i* S	**Sn**	**08 27 19.1**	**-1.4**
MT09				IAML		08 27 24.2	
comp=N,797nm,0.5s							
VA05	**Santo Domingo**	**2.69**	**0**		**Pn**	**08 26 49.0**	**-0.7**
VA05	**Santo Domingo**	**2.69**	**0**	eP	**Pn**	**08 26 48.9**	**-0.8**
VA05				*i* S	**Sn**	**08 27 19.9**	**-2.0**
VA05				IAML		08 27 26.5	
comp=N,911nm,0.2s							
LMEL	**Las Melosas**	**2.76**	**25**		**Pn**	**08 26 51.3**	**+0.5**
LMEL	**Las Melosas**	**2.76**	**25**	eP	**Pn**	**08 26 51.0**	**+0.2**
LMEL				IAML		08 27 28.7	
comp=N,349nm,0.2s							
MT03	**Universidad Ad**	**3.00**	**18**		**Pn**	**08 26 53.8**	**0.0**
MT03	**Universidad Ad**	**3.00**	**18**	eP	**Pn**	**08 26 53.8**	**0.0**
MT03				*i* S	**Sn**	**08 27 29.0**	**-0.3**
MT03				IAML		08 27 31.4	
comp=E,447nm,0.2s							
MT05	**Renca**	**3.05**	**14**	Pn	**Pn**	**08 26 54.5**	**0.0**
MT05	**Renca**	**3.05**	**14**	eP	**Pn**	**08 26 54.5**	**0.0**
MT05				*i* S	**Sn**	**08 27 29.0**	**-1.3**
MT05				IAML		08 27 35.3	
comp=E,566nm,0.5s							
MT02	**Curacav**	**3.12**	**7**		**Pn**	**08 26 54.9**	**-0.5**
MT02	**Curacav**	**3.12**	**7**⇑	iP	**Pn**	**08 26 55.1**	**-0.2**
MT02				*i* S	**Sn**	**08 27 30.1**	**-1.9**
MT02				IAML		08 27 32.7	
comp=N,344nm,0.3s							
FCH	**Farellones**	**3.21**	**20**⇑	iP	**Pn**	**08 26 56.6**	**-0.3**
FCH				*i* S	**Sn**	**08 27 34.4**	**-0.3**
FCH				IAML		08 27 37.5	
comp=N,232nm,0.2s							
GO06	**Curarrehue**	**3.22**	**178**	Pn	**Pn**	**08 26 55.8**	**-1.0**
PEL	**Peldehue**	**3.30**	**14**		**Pn**	**08 26 56.8**	**-0.9**
PEL	**Peldehue**	**3.30**	**14**⇑	iP	**Pn**	**08 26 57.4**	**-0.3**
PEL				*i* S	**Sn**	**08 27 34.4**	**-1.9**
PEL				IAML		08 27 40.7	
comp=N,306nm,0.5s							
LR03	**Panguipulli**	**3.32**	**190**		**Pn**	**08 26 56.3**	**-1.6**
VA01	**Torpederas**	**3.33**	**360**		**Pn**	**08 26 57.5**	**-0.6**
VA01	**Torpederas**	**3.33**	**360**	eP	**Pn**	**08 26 57.8**	**-0.2**
VA01				*i* S	**Sn**	**08 27 34.6**	**-2.3**
VA01				IAML		08 27 37.2	
comp=N,387nm,0.1s							
ROC1	**El Roble**	**3.41**	**9**		**Pn**	**08 26 58.5**	**-1.0**
ROCH	**El Roble**	**3.42**	**9**⇑	iP	**Pn**	**08 26 59.1**	**-0.3**
ROCH				⇓*i* P	**Pn**	**08 26 59.2**	**-0.3**
ROCH				*i* S	**Sn**	**08 27 38.3**	**-1.1**
ROCH				*i* S	**Sn**	**08 27 38.7**	**-0.7**
ROCH				IAML		08 27 41.6	
comp=E,532nm,0.5s							
ROCH				IAML		08 27 41.8	
comp=N,614nm,0.6s							
VA03	**San Esteban**	**3.69**	**14**		**Pn**	**08 27 02.5**	**-0.6**
VA03	**San Esteban**	**3.69**	**14**⇓	iP	**Pn**	**08 27 02.6**	**-0.5**
VA03				*i* S	**Sn**	**08 27 44.2**	**-1.7**
LR04	**Corral**	**3.79**	**202**	Pn	**Pn**	**08 27 01.9**	**-2.3**
VA06	**Catapilco**	**3.80**	**4**		**Pn**	**08 27 03.6**	**-0.8**
VA06	**Catapilco**	**3.80**	**4**⇑	iP	**Pn**	**08 27 03.6**	**-0.8**
VA06				*i* S	**Sn**	**08 27 45.8**	**-2.3**
PLCA	**Paso Flores**	**4.45**	**170**	P	**Pn**	**08 27 12.3**	**-0.8**
comp=N,9.4nm,0.4s,baz=331,slow=11,SNR=177							
PLCA	**Paso Flores**	**4.45**	**170**	Pn	**Pn**	**08 27 13.0**	**-0.2**
LL04	**Puerto Octay**	**4.59**	**188**	Pn	**Pn**	**08 27 13.1**	**-1.8**
LL04	**Puerto Octay**	**4.59**	**188**	eP	**Pn**	**08 27 13.1**	**-1.8**
CO02	**Combarbal**	**5.17**	**6**		**Pn**	**08 27 22.6**	**-0.4**
H03S1	**Juan Fernandez**	**6.48**	**291**	T	T	08 33 32.4	
baz=112							
H03S3	**Juan Fernandez**	**6.49**	**291**	T	T	08 33 30.6	
baz=112							
H03S2	**Juan Fernandez**	**6.50**	**291**	T	T	08 33 35.3	
baz=112							
GO10	**Punta Arenas**	**16.80**	**179**		**P**	**08 29 57.0**	**+0.3**
EFI	**East Falkland**	**18.10**	**152**	P	**P**	**08 30 10.8**	**-0.2**
SIV	**San Ignacio**	**22.35**	**28**	P	**P**	**08 30 57.4**	**+0.4**
comp=N,1.1nm,0.7s,baz=202,slow=11,SNR=5.4							
comp=N,1.1nm,0.7s							
VNA3	**Neumayer Olymp**	**47.05**	**157**	P	**P**	**08 34 28.5**	**+0.4**
VNA1	**Neumayer--Stat**	**47.38**	**156**	P	**P**	**08 34 31.9**	**+1.5**
VNA2	**Neumayer--Watz**	**47.71**	**156**	P	**P**	**08 34 33.7**	**+0.6**
baz=283,slow=8.4							
SNAA	**Sanae**	**49.28**	**157**	P	**P**	**08 34 46.2**	**+1.0**
TROLL	**Troll, Antarti**	**50.98**	**157**	P	**P**	**08 34 59.1**	**+1.0**
QSPA	**South Pole Qui**	**53.88**	**180**	P	**P**	**08 35 20.7**	**+1.1**
comp=N,2.2nm,0.7s,baz=126,slow=6.5,SNR=8.6							
comp=N,2.2nm,0.7s							
TXAR	**Lajitas Array**	**71.96**	**331**	pP	pP	08 37 46.9	0.0
comp=N,0.3nm,0.7s,baz=175,slow=6.3,SNR=4.0							
DBIC	**Dimbokro**	**75.62**	**70**	P	**P**	**08 37 41.7**	**+0.5**
comp=N,3.5nm,0.6s,baz=203,slow=3.0,SNR=2.1							
comp=N,3.5nm,0.6s							
BOSA	**Boshof**	**78.68**	**117**	P	**P**	**08 37 58.0**	**-0.4**
comp=N,2.0nm,0.6s,baz=224,slow=7.7,SNR=3.6							

SNET ***14*** *08:15:28.4±1.7,13°41N×90°86W,h15km,ML3.4*
GCG ***14*** *08:15:36.5±0.5,14°23N×91°02W,h25km±8km,MD3.9*
ISC 14 08:15:26.8±3.1,13°61N±0°09×90°93W±0°09,h12km±14km, n18,σ1°19/28,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.84**	**6**	*i* Pg	**Pn**	**08 15 46.2**	**+1.5**
PCG	**Pacaya**	**0.84**	**22**	eP	**Pn**	**08 15 46.3**	**+1.5**
PCG				eS	**Sn**	**08 15 53.9**	**-3.3**
NBG	**Las Nubes**	**1.13**	**30**	eP	**Pn**	**08 15 51.3**	**+2.5**
NBG				eS	**Sn**	**08 16 02.4**	**-2.0**
SLOZ	**Alcaldia de Sa**	**1.19**	**69**	eP	**Pb**	**08 15 49.5**	**+0.1**
SLOZ				eS	**Sn**	**08 16 06.7**	**+1.1**
STG3	**Santiaguito 3,**	**1.26**	**331**	eP	**Pn**	**08 15 50.8**	**+0.3**
RTR	**El Retiro**	**1.28**	**77**	eP	**Pb**	**08 15 50.9**	**-0.2**
CEVE	**Cerro Verde**	**1.29**	**80**	eP	**Pn**	**08 15 50.7**	**-0.3**
CEVE				eS	**Sg**	**08 16 08.3**	**-0.2**
CEVE				IAML		08 16 17.2	
comp=Z,2μm,0.3s							
SBLS	**San Blas**	**1.29**	**80**	eP	**Pn**	**08 15 50.6**	**-0.4**
CEDA	**San Andres**	**1.51**	**82**	eP	**Pn**	**08 15 54.7**	**+0.9**
CEDA				eS	**Sg**	**08 16 14.3**	**-1.1**
CEDA				IAML		08 16 24.0	
comp=Z,673nm,0.3s							
BOQS	**Boqueron**	**1.61**	**85**	eP	**Pn**	**08 15 56.4**	**+1.0**
UEES	**Universidad Ev**	**1.65**	**86**	eP	**Pn**	**08 15 55.7**	**-0.1**
UEES				eS	**Sg**	**08 16 19.5**	**-0.5**
UEES				IAML		08 16 22.1	
comp=Z,462nm,0.2s							
SNET	**Serv Nac Est T**	**1.66**	**87**	eP	**Pn**	**08 15 56.5**	**+0.7**
SNET				eS	**Sn**	**08 16 16.9**	**-0.2**
ESQI	**Esquipulas**	**1.81**	**58**	eP	**Pb**	**08 15 59.6**	**-0.4**
ESQI				eS	**Sg**	**08 16 26.0**	**+0.8**
LFRS	**El Faro**	**1.82**	**89**	eP	**Pn**	**08 15 58.9**	**+0.7**
SJTE	**Alcalda de S**	**1.87**	**90**	eP	**Pn**	**08 15 59.1**	**+0.2**
SJTE				eS	**Sn**	**08 16 22.8**	**+0.2**
SJTE				IAML		08 16 32.9	
comp=Z,130nm,0.3s							
PAVA	**Las Pavas**	**1.94**	**87**	eP	**Pn**	**08 16 00.4**	**+0.6**
PAVA				IAML		08 16 30.9	
comp=Z,214nm,0.4s							
COEG	**Centro de Oper**	**2.00**	**89**	eP	**Pn**	**08 16 01.0**	**+0.5**
COEB	**Comit de Eme**	**2.34**	**92**	eP	**Pn**	**08 16 05.4**	**+0.1**
COEB				eS	**Sn**	**08 16 35.0**	**+0.9**

ROM 14 08:00:24.5±0.1,42°821N±0°004×13°181E±0°006, h8km,ML0.7/2,2C-1D,Error ellipse: s-maj=0.5km s-min=0.3km az=69.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.02**	**65**	P	Pg	08 00 26.1	-0.2
T1242				S	Sg	08 00 26.7	-0.8
NRCA	**Norcia**	**0.05**	**284**	⇑P	Pg	08 00 26.6	+0.1
NRCA				S	Sg	08 00 27.6	-0.1
NRCA				AML	AML		
comp=E,1311μm,0.2s							
NRCA				AML	AML		
comp=N,1160μm,0.1s							
NRCA				AML	AML		
comp=E,1435μm,0.1s							
NRCA				AML	AML		
comp=N,978μm,0.1s							
MC2	**Monte Cornacci**	**0.09**	**4**	⇑P	Pg	08 00 27.4	+0.4
MC2				S	Sg	08 00 29.3	+0.5
T1202	**Accumoli, Fraz**	**0.12**	**165**	P	Pg	08 00 28.0	+0.6
T1202				S	Sg	08 00 30.9	+1.5
MMO1	**Montemonaco**	**0.13**	**54**	P	Pg	08 00 28.0	+0.5
MMO1				S	Sg	08 00 30.5	+0.9
T1216	**Preci, Frazion**	**0.14**	**300**	P	Pg	08 00 28.1	+0.5
T1204	**Amatrice, Fraz**	**0.18**	**145**	P	Pg	08 00 29.3	+1.0
T1241	**Roccafluvione,**	**0.19**	**79**	P	Pg	08 00 29.2	+0.8
T1241				S	Sg	08 00 32.6	+1.5
T1241				AML	AML		
comp=N,29μm,0.7s							
T1241				AML	AML		
comp=E,51μm,0.2s							
T1241				AML	AML		
comp=N,29μm,0.7s							
T1217	**Poggiodomo (PG**	**0.21**	**239**	P	Pg	08 00 29.6	+0.7
FDMO	**Fiordimonte**	**0.23**	**342**	P	Pg	08 00 30.3	+1.1
FDMO				AML	AML		
comp=E,25μm,0.7s							
FDMO				AML	AML		
comp=N,24μm,1.2s							
FDMO				AML	AML		
comp=N,24μm,1.2s							
FDMO				AML	AML		
comp=E,25μm,0.7s							
T1243	**Rocca Santa Ma**	**0.23**	**122**	P	Pg	08 00 29.8	+0.5
T1243				S	Sg	08 00 33.7	+1.3
LNSS	**Leonessa**	**0.24**	**206**	⇓P	Pg	08 00 30.1	+0.7
LNSS				S	Sg	08 00 34.3	+1.6
CSP1	**Cessapalombo**	**0.27**	**4**	P	Pg	08 00 30.9	+0.8
CSP1				S	Sb	08 00 35.3	-1.3
TERO	**Teramo**	**0.37**	**122**	P	Pg	08 00 32.1	+0.3
TERO				S	Sb	08 00 38.2	-1.0
FIU1	**Fiuminata**	**0.41**	**334**	S	Sb	08 00 43.0	+2.5
EL6	**Elcito**	**0.51**	**353**	S	Sb	08 00 44.0	+0.6
ARVD	**Arc

	comp=N,2.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**84.70**	**70**	P		**P**	08 38 30.0	**+0.1**
	comp=N,1.2nm,0.9s,baz=230,slow=5.6,SNR=4.0							
	comp=N,1.2nm,0.9s							
WRA	**Warramunga Arr**	**118.86**	**208**	PKP		**PKiKP**	08 44 44.1	**+0.1**
	comp=N,0.2nm,0.4s,baz=156,slow=1.6,SNR=4.6							
MKAR	**Makanchi Array**	**157.97**	**54**	PKPab		**PKPab**	08 46 24.9	**-0.3**
	comp=N,0.4nm,0.6s,baz=270,slow=2.9,SNR=3.6							

JMA ***14*** *08:27:12.1±0.4,36°N±1°×12°9E±°, h3km, MV2.8/6, S KOREAN PENINSULA REG*

KMA ***14*** *08:27:14.3±0.0,35°.78N×129°.16E, h15km, Error ellipse: s-maj=0.6km s-min=0.4km az=299.0*

ISC 14 08:27:14.4±1.4,35.77N±0°.03×129.17E±0°.04,h21km±2km, n37,σ0§49/39,South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSDAG	**Daegu**	**0.22**	**269**	P		**Pb**		**08 27 19.6**	**-0.8**
	SNR=631								
YOCB	**Yeongcheon**	**0.27**	**319**	P		**Pb**		**08 27 20.4**	**-0.4**
	SNR=147								
MIYA	**Miryang-si**	**0.45**	**231**	P		**Pb**		**08 27 23.3**	**-0.1**
	SNR=11								
KSPHA	**Pohang**	**0.45**	**21**	P		**Pb**		**08 27 23.4**	**-0.2**
	SNR=40								
KSDAU	**Deagu-acc**	**0.46**	**284**	P		**Pb**		**08 27 23.7**	**-0.1**
	SNR=64								
KSBUS	**Busan**	**0.52**	**185**	P		**Pb**		**08 27 24.4**	**-0.5**
	SNR=134								
KSCHR	**CHANGNYEONG**	**0.60**	**248**	P		**Pb**		**08 27 25.9**	**-0.4**
	SNR=25								
KSADO	**Andong**	**0.67**	**344**	P		**Pb**		**08 27 27.1**	**-0.3**
	SNR=168								
EUSB	**Uiseong**	**0.70**	**326**	P		**Pb**		**08 27 27.6**	**-0.3**
	SNR=15								
YODB	**Yeongdeok**	**0.79**	**14**	P		**Pn**		**08 27 29.1**	**-1.1**
	SNR=28								
EURB	**Uiryeong-eup**	**0.85**	**238**	P		**Pb**		**08 27 30.1**	**-0.3**
	SNR=19								
YEYB	**Yeongyang**	**0.85**	**356**	P		**Pb**		**08 27 30.3**	**-0.2**
	SNR=51								
ADOA	**Andong Acc Bor**	**0.89**	**335**	P		**Pb**		**08 27 30.9**	**-0.2**
	SNR=11								
KSGIC	**Gimchen**	**0.92**	**290**	P		**Pb**		**08 27 31.6**	**-0.1**
	SNR=34								
HACA	**Hapcheon Acc B**	**0.94**	**248**	P		**Pb**		**08 27 32.0**	**0.0**
	SNR=13								
KSULJ	**Uljin**	**0.95**	**12**	P		**Pb**		**08 27 32.0**	**-0.2**
	SNR=90								
KSSAJ	**Sangju**	**1.04**	**308**	P		**Pb**		**08 27 33.6**	**0.0**
	SNR=15								
DUSB	**Deogyusan**	**1.14**	**277**	P		**Pb**		**08 27 35.4**	**0.0**
	SNR=50								
CHYB	**Chungyang**	**1.19**	**350**	P		**Pb**		**08 27 36.1**	**-0.1**
	SNR=12								
HAMB	**Hamyang**	**1.19**	**258**	P		**Pb**		**08 27 36.1**	**-0.1**
	SNR=11								
YOJB	**Youngju**	**1.22**	**334**	P		**Pb**		**08 27 36.7**	**0.0**
	SNR=14								
OKCB	**Cheongsan-myeo**	**1.25**	**298**	P		**Pb**		**08 27 37.4**	**0.0**
	SNR=12								
JTU	**Tsushima**	**1.26**	**171**	*e*P		**Pn**		**08 27 36.7**	**0.0**
JTU				*e*S		**Sb**		**08 27 53.7**	**+0.6**
KSMGY	**Mungyeong**	**1.26**	**315**	P		**Pb**		**08 27 37.3**	**-0.1**
	SNR=25								
KSBON	**Boeun**	**1.33**	**304**	P		**Pb**		**08 27 38.9**	**+0.4**
	SNR=37								
KSTBA	**Taebaek**	**1.36**	**353**	P		**Pb**		**08 27 39.4**	**+0.2**
	SNR=23								
YKDB	**Yokjido**	**1.36**	**213**	P		**Pb**		**08 27 39.0**	**-0.2**
	SNR=15								
JTSM	**Tsushimamitsus**	**1.44**	**173**	*e*P		**Pb**		**08 27 39.7**	**-0.8**
JTSM				*e*S		**Sb**		**08 27 59.2**	**+0.9**
KSCHJ	**Chungju**	**1.46**	**319**	P		**Pb**		**08 27 41.0**	**+0.1**
	SNR=14								
IMWB	**Imwonan-gil**	**1.47**	**5**	P		**Pb**		**08 27 41.2**	**+0.2**
	SNR=9.1								
NAWB	**Namwon**	**1.49**	**257**	P		**Pb**		**08 27 41.2**	**-0.1**
	SNR=18								
KSJEO	**Jeonju**	**1.54**	**277**	P		**Pb**		**08 27 42.2**	**+0.1**
	SNR=22								
JECH	**Jecheon**	**1.59**	**331**	P		**Pb**		**08 27 43.1**	**-0.1**
	SNR=7.7								
KSJEU	**Jeongeup**	**1.85**	**262**	P		**Pb**		**08 27 46.4**	**-1.0**
	SNR=8.5								
JHGM	**Hagimishima**	**1.89**	**121**	*e*S		**Sb**		**08 28 12.3**	**+1.0**
JII	**Iki**	**2.02**	**167**	*e*S		**Sb**		**08 28 16.1**	**+1.0**
JTY	**Toyota**	**2.16**	**134**	*e*S		**Sb**		**08 28 19.9**	**+0.7**

ROM 14 09:00:21.3±0.1,42°.801N±0°.004×13°.242E±0°.005, h10km, ML1.5/2, 2C-2D, Error ellipse: s-maj=0.5km s-min=0.2km az=51.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**315**	P		Pg		09 00 23.2	-0.3
T1242				S		Sg		09 00 24.1	-0.9
T1242				AML		AML			
	comp=E,505μm,0.8s								
T1242				AML		AML			
	comp=N,704μm,0.6s								
T1242	**Castelluccio d**	**0.04**	**315**	AML		AML			
	comp=N,704μm,0.6s								
T1242				AML		AML			
	comp=E,505μm,0.8s								
T1202	**Accumoli, Fraz**	**0.10**	**187**	P		Pg		09 00 24.5	+0.5
NRCA	**Norcia**	**0.10**	**289**	⇑P		Pg		09 00 24.2	+0.2
NRCA				S		Sg		09 00 25.9	0.0
NRCA				AML		AML			
	comp=E,368μm,0.5s								
NRCA				AML		AML			
	comp=N,286μm,0.1s								
NRCA	**Norcia**	**0.10**	**289**	AML		AML			
	comp=N,286μm,0.1s								
NRCA				AML		AML			
	comp=E,368μm,0.5s								
MMO1	**Montemonaco**	**0.12**	**32**	P		Pg		09 00 24.6	+0.3
MMO1				S		Sg		09 00 26.9	+0.5
MMO1	**Montemonaco**	**0.12**	**32**	S		Sg		09 00 26.7	+0.4
MC2	**Monte Cornacci**	**0.12**	**341**	P		Pg		09 00 24.7	+0.3
MC2				S		Sg		09 00 27.4	+0.8
MC2	**Monte Cornacci**	**0.12**	**341**	S		Sg		09 00 27.3	+0.8
T1204	**Amatrice, Fraz**	**0.14**	**156**	P		Pb		09 00 25.3	-0.7
T1204				S		Sg		09 00 27.9	+1.1
T1241	**Roccafluvione,**	**0.15**	**68**	P		Pg		09 00 25.3	+0.6
T1241				S		Sg		09 00 28.1	+1.0
T1241	**Roccafluvione,**	**0.15**	**68**	P		Pg		09 00 25.3	+0.6
T1241				S		Sg		09 00 28.1	+1.0
T1241				AML		AML			
	comp=E,203μm,0.6s								
T1241				AML		AML			
	comp=N,240μm,0.5s								
T1243	**Rocca Santa Ma**	**0.18**	**124**	P		Pg		09 00 25.9	+0.6
T1243				S		Sg		09 00 29.1	+1.0
T1243	**Rocca Santa Ma**	**0.18**	**124**	P		Pg		09 00 25.9	+0.5
T1216	**Preci, Frazion**	**0.19**	**299**	⇑P		Pg		09 00 25.8	+0.5
AM05	**Amandola Campo**	**0.19**	**25**	AML		AML			
	comp=N,710μm,0.6s								
AM05				AML		AML			
	comp=E,516μm,0.1s								
FDMO	**Fiordimonte**	**0.26**	**334**	⇓P		Pg		09 00 27.2	+0.5
FDMO	**Fiordimonte**	**0.26**	**334**	P		Pg		09 00 27.1	+0.5
FDMO				S		Sb		09 00 31.6	-1.1
FDMO				AML		AML			
	comp=E,344μm,0.2s								
FDMO				AML		AML			
	comp=N,309μm,0.2s								
T1215	**Vallo di Nera,**	**0.28**	**270**	P		Pg		09 00 27.5	+0.6
T1215				S		Sb		09 00 32.0	-1.1
T1215				AML		AML			
	comp=E,123μm,1.5s								
T1215				AML		AML			
	comp=N,105μm,0.5s								
CSP1	**Cessapalombo**	**0.29**	**355**	P		Pg		09 00 27.8	+0.5
CSP1				S		Sb		09 00 32.8	-0.9
TERO	**Teramo**	**0.32**	**124**	P		Pg		09 00 28.4	+0.6
TERO	**Teramo**	**0.32**	**124**	P		Pg		09 00 28.3	+0.6
TERO				S		Sb		09 00 33.7	-0.7
T1247	**Pizzolo (AQ)**	**0.36**	**173**	P		Pg		09 00 27.5	-1.0
PP3	**Marolino**	**0.64**	**25**	⇓P		Pg		09 00 32.8	-0.9
SRES	**S.Oreste - Sor**	**0.78**	**224**	AML		AML			
	comp=N,24μm,0.8s								
SRES				AML		AML			
	comp=E,23μm,0.3s								
RMP	**Rome, Mte Porz**	**1.07**	**202**	AML		AML			
	comp=N,315μm,0.1s								
RMP				AML		AML			
	comp=E,236μm,0.5s								

IDC 14 09:00:31.6±3.2,52°.41N×35°.10E, h0km, mbtmp3.5/2, ML2.8/3, Error ellipse: s-maj=33.6km s-min=12.5km az=113.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.85**	**17**	Lg		Lg		09 01 57.9	
	1.1nm,0.3s,baz=229,slow=20,SNR=6.4								
AKASG	**Malin Array Be**	**4.04**	**247**	Pn		Pn		09 01 31.7	-3.0
	1.0nm,0.3s,baz=56,slow=14,SNR=2.2								
AKASG				Pg		Pb		09 01 42.9	-0.7
	1.5nm,0.3s,baz=58,slow=16,SNR=5.5								
AKASG				Sn		Sn		09 02 21.6	-1.2
	1.1nm,0.3s,baz=61,slow=28,SNR=1.6								
AKASG				Lg		Lg		09 02 38.7	
	1.8nm,0.3s,baz=129,slow=28,SNR=5.0								
I43RU	**DUBNA INFRASON**	**4.50**	**15**	*i*				09 29 30.0	
	baz=194,slow=334,SNR=0.7								
FINES	**FINESS Array B**	**10.30**	**335**	Pn		Pn		09 02 56.7	-3.8
	0.1nm,0.3s,baz=150,slow=14,SNR=1.4								
FINES				Sn		Sn		09 04 45.6	-11
	0.1nm,0.3s,baz=145,slow=30,SNR=2.0								
FINES				Lg		Lg		09 05 56.2	
	0.2nm,0.3s,baz=153,slow=25,SNR=2.1								
	0.4nm,0.4s								
ARCES	**ARCESS Array B**	**17.76**	**349**	P		Pn		09 04 40.0	0.0
	0.1nm,0.3s,baz=165,slow=11,SNR=6.5								
	1.6nm,0.8s								

NOU ***14*** *09:02:54.8,37°.23S×179°.82W, h106km, MLv4.6/7, East of North Island, N.Z.*

WEL ***14*** *09:03:04.3±1.2,37°.5±4°×17°.9E±°, h17km±6km, M3.3/45, ML3.5/49, MLv3.3/45, Error ellipse: s-maj=0.0km s-min=0.0km az=85.7*

ISC 14 09:03:02.4±5.6,37°.3S±0°.1×179°.3E±0°.2,h36km±12km,n91, σ1§40/99,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.85**	**249**	P		**Pn**		**09 03 16.5**	**-1.3**
MXZ				S		**Sn**		**09 03 24.4**	**-4.7**
WMGZ	**Waiomatatini S**	**0.90**	**232**	P		**Pn**		**09 03 20.0**	**+1.5**
WMGZ				S		**Sn**		**09 03 31.0**	**+0.7**
PKGZ	**Pakihiroa**	**1.16**	**237**	P		**Pn**		**09 03 23.1**	**+1.0**
PKGZ				S		**Sn**		**09 03 36.2**	**-0.5**
PUZ	**Puketiti**	**1.16**	**226**	P		**Pn**		**09 03 23.7**	**+1.7**
PUZ				S		**Sn**		**09 03 36.8**	**+0.2**
HAZ	**Te Kaha**	**1.31**	**248**	P		**Pn**		**09 03 23.7**	**-0.4**
HAZ				S		**Sn**		**09 03 39.1**	**-1.2**
TWGZ	**Tauwhareparae**	**1.39**	**229**	P		**Pn**		**09 03 27.0**	**+1.8**
TWGZ				P		**Pn**		**09 03 27.1**	**+1.8**
TWGZ				S		**Sn**		**09 03 44.4**	**+2.0**
RUGZ	**Raukumara Rang**	**1.47**	**241**	P		**Pn**		**09 03 28.0**	**+1.5**
CNGZ	**Carnagh Statio**	**1.50**	**215**	P		**Pn**		**09 03 29.5**	**+2.9**
TKGZ	**Te Karaka**	**1.65**	**224**	P		**Pn**		**09 03 30.2**	**+1.5**
TKGZ				S		**Sn**		**09 03 49.1**	**+0.4**
WIZ	**White Island**	**1.71**	**261**	P		**Pn**		**09 03 31.2**	**+1.6**
MWZ	**Matawai**	**1.77**	**232**	P		**Pn**		**09 03 31.6**	**+1.2**
RIGZ	**Rimuhau**	**1.89**	**220**	P		**Pn**		**09 03 33.7**	**+1.7**
RIGZ				S		**Sn**		**09 03 55.0**	**+0.4**
RAGZ	**Rawiri**	**1.94**	**230**	P		**Pn**		**09 03 34.4**	**+1.6**
WHRZ	**Whale Island**	**1.95**	**252**	P		**Pn**		**09 03 34.3**	**+1.5**
PRGZ	**Paritu Road**	**2.00**	**214**	P		**Pn**		**09 03 35.4**	**+1.7**
URZ	**Urewera**	**2.00**	**240**	P		**Pn**		**09 03 35.1**	**+1.5**
URZ	**Urewera**	**2.00**	**240**	P		**Pn**		**09 03 35.3**	**+1.7**
SNGZ	**Shannon Statio**	**2.17**	**225**	P		**Pn**		**09 03 37.2**	**+1.2**
KNZ	**Kokohu**	**2.18**	**216**	P		**Pn**		**09 03 36.9**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.18**	**210**	P		**Pn**		**09 03 38.1**	**+2.0**
EDRZ	**Edgecumbe**	**2.21**	**247**	P		**Pn**		**09 03 37.9**	**+1.4**
OPRZ	**Ohinepanea**	**2.26**	**254**	P		**Pn**		**09 03 37.7**	**+0.5**
MUGZ	**Murupara**	**2.34**	**238**	P		**Pn**		**09 03 39.4**	**+1.1**
RAHZ	**Arahi**	**2.41**	**226**	P		**Pn**		**09 03 40.9**	**+1.7**
TARZ	**Mount Tarawera**	**2.42**	**246**	P		**Pn**		**09 03 41.0**	**+1.5**
WHHZ	**Waihua**	**2.44**	**221**	P		**Pn**		**09 03 41.0**	**+1.4**
MYRZ	**Mayor Island**	**2.45**	**269**	P		**Pn**		**09 03 42.2**	**+2.4**
RRRZ	**Republican Roa**	**2.46**	**243**	P		**Pn**		**09 03 41.2**	**+1.2**
TGRZ	**Tauranga**	**2.47**	**258**	P		**Pn**		**09 03 40.7**	**+0.7**
OMRZ	**Omania**	**2.48**	**249**	P		**Pn**		**09 03 41.8**	**+1.6**
MTHZ	**Maungataniwha**	**2.51**	**230**	P		**Pn**		**09 03 42.4**	**+1.7**
KARZ	**Kaharoa**	**2.55**	**252**	P		**Pn**		**09 03 42.2**	**+1.1**
PRRZ	**Plateau Road**	**2.62**	**241**	P		**Pn**		**09 03 43.0**	**+0.9**
HSRZ	**Hossack Road**	**2.64**	**246**	P		**Pn**		**09 03 44.2**	**+1.8**
HRRZ	**Handcock Road**	**2.65**	**244**	P		**Pn**		**09 03 43.7**	**+1.2**
ALRZ	**Allen Road**	**2.68**	**240**	P		**Pn**		**09 03 43.9**	**+0.9**
NMHZ	**Naumai**	**2.69**	**226**	P		**Pn**		**09 03 45.0**	**+1.8**
ARHZ	**Aropaoanui**	**2.70**	**222**	P		**Pn**		**09 03 44.4**	**+1.2**
MRHZ	**Matea Rd**	**2.77**	**235**	P		**Pn**		**09 03 45.2**	**+1.0**
BKZ	**Black Stump Fm**	**2.92**	**229**	P		**Pn**		**09 03 47.3**	**+1.1**
BKZ	**Black Stump Fm**	**2.92**	**229**	P		**Pn**		**09 03 47.4**	**+1.1**
KUZ	**Kuaotunu**	**2.92**	**279**	P		**Pn**		**09 03 44.6**	**-1.6**
CKHZ	**Cape Kidnapper**	**2.96**	**216**	P		**Pn**		**09 03 47.3**	**+0.5**
MCHZ	**McNeill Hill**	**2.99**	**223**	P		**Pn**		**09 03 48.1**	**+0.9**
KUTZ	**Kaahu Road**	**3.02**	**245**	P		**Pn**		**09 03 48.8**	**+1.2**
TOZ	**Tahuroa Road**	**3.06**	**260**	P		**Pn**		**09 03 48.2**	**0.0**
KWKZ	**Kaweka Forest**	**3.13**	**226**	P		**Pn**		**09 03 49.7**	**+0.5**
KAHZ	**Kahuranaki**	**3.17**	**216**	P		**Pn**		**09 03 50.2**	**+0.5**
RITZ	**Rihia Road**	**3.21**	**237**	P		**Pn**		**09 03 51.7**	**+1.4**
RATZ	**Rangitukua**	**3.22**	**239**	P		**Pn**		**09 03 51.7**	**+1.3**
GRZ	**Great Barrier**	**3.25**	**287**	P		**Pn**		**09 03 50.7**	**-0.1**
KRHZ	**Kereru**	**3.31**	**223**	P		**Pn**		**09 03 51.9**	**+0.3**
MKAZ	**Moumakai**	**3.32**	**272**	P		**Pn**		**09 03 51.1**	**-0.5**
PXZ	**Pawanui**	**3.36**	**214**	P		**Pn**		**09 03 52.2**	**-0.1**
BHHZ	**Black Hill Sta**	**3.38**	**228**	P		**Pn**		**09 03 53.4**	**+0.8**
TMVZ	**Te Maari**	**3.39**	**236**	P		**Pn**		**09 03 53.5**	**+0.8**
ETVZ	**East Tongariro**	**3.40**	**236**	P		**Pn**		**09 03 53.6**	**+0.7**
NTVZ	**North Tongarir**	**3.40**	**236**	P		**Pn**		**09 03 53.7**	**+0.8**
NNVZ	**North Ngauruho**	**3.46**	**236**	P		**Pn**		**09 03 54.9**	**+1.2**
SNVZ	**South Ngauruho**	**3.47**	**235**	P		**Pn**		**09 03 54.6**	**+0.7**
NGZ	**Ngauruhoe**	**3.49**	**236**	P		**Pn**		**09 03 54.9**	**+0.8**
ETAZ	**East Tamaki Re**	**3.52**	**274**	P		**Pn**		**09 03 56.3**	**+1.9**
MOVZ	**Moawhango**	**3.52**	**232**	P		**Pn**		**09 03 55.1**	**+0.5**
TWVZ	**Taurewa**	**3.54**	**238**	P		**Pn**		**09 03 56.6**	**+1.7**
FWVZ	**Fwr West T-bar**	**3.56**	**235**	P		**Pn**		**09 03 56.1**	**+0.8**
MBAZ	**Motutapu North**	**3.56**	**277**	P		**Pn**		**09 03 55.5**	**+0.4**
WNVZ	**Wahianoa**	**3.57**	**234**	P		**Pn**		**09 03 55.7**	**+0.3**
WPHZ	**Waipukurau**	**3.58**	**218**	P		**Pn**		**09 03 55.4**	**0.0**
PNHZ	**Pukenui**	**3.59**	**222**	P		**Pn**		**09 03 55.1**	**-0.4**
ABAZ	**Army Bay**	**3.65**	**279**	P		**Pn**		**09 03 58.2**	**+1.9**
PRHZ	**Porangahau**	**3.65**	**214**	P		**Pn**		**09 03 55.8**	**-0.5**
AWAZ	**Awhitu Peninsu**	**3.73**	**272**	P		**Pn**		**09 03 59.0**	**+1.6**
HIZ	**Hauiti**	**3.74**	**249**	P		**Pn**		**09 03 59.5**	**+2.1**
HIZ	**Hauiti**	**3.74**	**249**	P		**Pn**		**09 03 59.6**	**+2.1**
RVAZ	**Riverhead Bore**	**3.82**	**276**	P		**Pn**		**09 03 58.8**	**+0.3**
DVHZ	**Dannevirke**	**3.90**	**218**	P		**Pn**		**09 03 59.3**	**-0.4**
BFZ	**Birch Farm**	**4.16**	**214**	P		**Pn**		**09 04 02.4**	**-1.0**
PRWZ	**Pori Road**	**4.19**	**217**	P		**Pn**		**09 04 03.3**	**-0.4**
WAZ	**Wanganui**	**4.20**	**232**	P		**Pn**		**09 04 04.8**	**+0.9**
WCZ	**Waipu Caves**	**4.21**	**287**	P		**Pn**		**09 04 04.5**	**+0.5**
LREZ	**Lake Rotokare**	**4.43**	**239**	P		**Pn**		**09 04 09.0**	**+1.9**
MRZ	**Mangatainoka R**	**4.47**	**219**	P		**Pn**		**09 04 06.3**	**-1.2**
KHEZ	**Kahui Hut**	**4.63**	**242**	P		**Pn**		**09 04 12.6**	**+2.7**
OUZ	**Omahuta**	**5.05**	**292**	P		**Pn**		**09 04 16.7**	**+1.2**
OUZ	**Omahuta**	**5.05**	**292**	P		**Pn**		**09 04 16.9**	**+1.4**
KHZ	**Kahutara**	**6.79**	**219**	P		**Pn**		**09 04 38.9**	**-0.5**
KHZ	**Kahutara**	**6.79**	**219**	P		**Pn**		**09 04 38.9**	**-0.5**
CTZ	**Chatham Island**	**7.17**	**156**	P		Pn		09 04 50.4	+5.9
GVZ	**Greta Valley S**	**7.45**	**218**	P		**Pn**		**09 04 47.4**	**-1.1**
RPZ	**Rata Peaks**	**9.00**	**222**	P		**Pn**		**09 05 08.9**	**-0.8**
ODZ	**Otahua Downs**	**10.15**	**217**	P		**Pn**		**09 05 22.7**	**-2.7**

IDC 14 09:07:10.1±3.3,53°.60N×87°.90E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=31.3km s-min=17.7km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**282**	*i*				09 19 10.0	
	baz=98,slow=330,SNR=1.7								
ZALV	**Zalesovo Beam**	**1.86**	**282**	Pn		Pn		09 07 42.9	-0.3
	3.3nm,0.3s,baz=97,slow=14,SNR=22								
ZALV				Lg		Lg		09 08 09.1	
	2.5nm,0.3s,baz=104,slow=34,SNR=8.6								
KURBB	**Kurchatov Arra**	**6.49**	**246**	Pn		Pn		09 08 47.6	+0.7
	0.3nm,0.3s,baz=61,slow=14,SNR=1.6								
	1.4nm,0.2s								
MKAR	**Makanchi Array**	**7.70**	**210**	Pn		Pn		09 09 04.6	+1.2
	0.2nm,0.3s,baz=27,slow=14,SNR=6.6								
MKAR				Lg		Lg		09 11 13.5	
	0.1nm,0.3s,baz=24,slow=27,SNR=3.0								
	0.3nm,0.4s								

IDC ***14*** *09:11:05.0±3.0,53°.59N×87°.93E, h0km, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=24.3km s-min=15.0km az=57.0*

NNC ***14*** *09:11:04.6±3.4,53°.53N×87°.93E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=30.6km s-min=14.6km az=49.0, Suspected Mining explosion.*

ISC 14 09:11:04.5±3.5,53°.7N±0°.1×87°.9E±0°.2,h0km,n7,σ1§58/9, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**281**	*i*				09 23 30.0	
	baz=98,slow=330,SNR=1.0								
ZAA0	**Zalesovo Array**	**1.82**	**281**	⇑P		**Pb**		**09 11 37.6**	**-1.1**
	0.8nm,0.6s								
ZAA0				⇓S		**Sg**		**09 12 03.7**	**+0.7**
	16nm,0.8s								
ZALV	**Zalesovo Beam**	**1.82**	**281**	Pg		**Pg**		**09 11 38.5**	**-0.9**
	4.2nm,0.3s,baz=100,slow=14,SNR=33								
ZALV				Lg		Lg		09 12 04.5	
	8.3nm,0.3s,baz=104,slow=24,SNR=28								
KURK	**Kurchatov**	**6.39**	**246**	⇑Lg		Lg		09 14 25.6	
	9.1nm,0.7s								
KURBB	**Kurchatov Arra**	**6.49**	**246**	Pn		**Pn**		**09 12 43.1**	**+2.0**
	0.3nm,0.3s,baz=62,slow=14,SNR=2.6								
KURBB				Sn		**Sn**		**09 13 56.3**	**+0.5**
	0.1nm,0.3s,baz=66,slow=24,SNR=2.0								
KURBB				Lg		Lg		09 14 31.0	
	baz=61,slow=32								
	2.6nm,0.2s								
MK31	**Makanchi Array**	**7.73**	**210**	⇑Pn		**Pn**		**09 12 59.8**	**+1.5**
	0.1nm,0.3s,baz=30,slow=14,SNR=13								
MK31				⇓Sn		**Sn**		**09 14 24.5**	**-2.0**
	2.6nm,0.9s								
MK31				⇑Lg		Lg		09 15 06.7	
	2.3nm,0.7s,baz=27,slow=28,SNR=4.5								
MKAR	**Makanchi Array**	**7.73**	**210**	Pn		**Pn**		**09 12 59.4**	**+1.1**
	0.3nm,0.3s,baz=30,slow=14,SNR=9.4								
MKAR				Sn		**Sn**		**09 14 25.8**	**-0.7**
	0.2nm,0.3s,baz=30,slow=27,SNR=5.1								
MKAR				Lg		Lg		09 15 09.4	
	0.2nm,0.3s,baz=25,slow=30,SNR=3.1								
	0.3nm,0.3s								

IDC 14 09:13:52.5±3.5,54°.31N×86°.85E, h0km, mbtmp3.0/2, ML2.1/1, Error ellipse: s-maj=30.5km s-min=16.2km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**254**	*i*				09 22 10.0	
	baz=72,slow=324,SNR=1.0								
ZALV	**Zalesovo Beam**	**1.25**	**254**	Pg		Pg		09 14 15.1	-1.3
	1.0nm,0.3s,baz=70,slow=16,SNR=6.9								
ZALV				Lg		Lg		09 14 32.8	
	1.4nm,0.3s,baz=74,slow=30,SNR=2.0								
KURBB	**Kurchatov Arra**	**6.28**	**237**	Pn		Pn		09 15 27.7	+1.3
	baz=54,slow=14,SNR=1.5								
	0.9nm,0.5s								
MKAR	**Makanchi Array**	**8.06**	**203**	Pn		Pn		09 15 52.0	+1.2
	0.4nm,0.5s,baz=19,slow=14,SNR=1.1								
MKAR				Lg		Lg		09 18 08.4	
	0.1nm,0.3s,baz=26,slow=30,SNR=3.8								

IDC ***14*** *09:17:30.2±0.8,16°.30N×148°.15E, h0km, mb3.7/8, mbtmp3.7/9, ML4.1/1, Error ellipse: s-maj=32.8km s-min=17.9km az=115.0*

**ISC 14 09:17:35.4±0.9,16°.3N±0°.2×

DBIC Dimbokro 12.27 50 Pn Pn 09 21 14.8 -4.2
1.0nm,0.3s,baz=244,slow=12,SNR=19
DBIC Sn Sn 09 23 21.6 -14
1.0nm,0.3s,baz=294,slow=18,SNR=1.5
DBIC LR LR 09 24 59.3
comp=Z,3μm,21.4s,baz=212,slow=32
DBIC Dimbokro 12.27 50 Pn **Pn 09 21 15.7 -3.3**
BBTS Babate 15.95 352 LR LR 09 26 38.9
comp=Z,994nm,19.8s,baz=175,slow=31
KOWA Kowa 18.66 33 P **P 09 22 39.1 -3.1**
30nm,0.7s,baz=209,slow=12,SNR=41
KOWA S Sn 09 25 52.7 -19
5.2nm,0.5s,baz=198,slow=20,SNR=2.4
KOWA LR LR 09 29 18.3
comp=Z,3μm,18.1s,baz=213,slow=35
KOWA Kowa 18.66 33 P **P 09 22 40.4 -1.8**
TOA0 Torodi Ar. Sit 21.36 47 P **P 09 23 10.2 -1.5**
TORD Torodi Ar. Bea 21.36 47 P **P 09 23 09.2 -2.4**
17nm,0.7s,baz=231,slow=10,SNR=69
TORD S S 09 26 58.6 -10
3.1nm,0.7s,baz=225,slow=22,SNR=3.3
TORD LR LR 09 30 35.0
comp=Z,2μm,19.3s,baz=202,slow=34
TORD Torodi Ar. Bea 21.36 47 P **P 09 23 10.1 -1.6**
RCBR Riachuelo 22.03 258 LR LR 09 29 43.0
comp=Z,401nm,19.7s,baz=222,slow=31
RCBR Riachuelo 22.03 258 P **P 09 23 17.5 -1.5**
TAM Tamanrasset 30.72 38 P **P 09 24 40.0 +0.4**
MDT Midelt 35.09 14 LR LR 09 38 32.9
comp=Z,611nm,19.9s,baz=206,slow=34
TSUM Tsumeb 35.97 122 LR LR 09 36 45.8
comp=Z,846nm,21.6s,baz=324,slow=31
TSUM Tsumeb 35.97 122 P **P 09 25 25.8 +0.3**
TSUM IAmb IAmb 09 25 37.3
comp=Z,27nm,1.9s
BDFB Brasilia 36.20 245 P **P 09 25 26.1 -1.3**
comp=Z,1.5nm,0.5s,baz=52,slow=12,SNR=2.3
BDFB LR LR 09 38 37.1
comp=Z,384nm,19.1s,baz=74,slow=34
comp=Z,1.5nm,0.5s
SFS San Fernando 38.26 11 P **P 09 25 44.5 0.0**
MDP Montagnes des 38.81 280 LR LR 09 38 35.4
comp=Z,311nm,19.2s,baz=86,slow=31
ESDC Sonseca Array 41.81 12 LR LR 09 43 47.5
comp=Z,498nm,18.4s,baz=196,slow=36
KEST Kesra 42.89 29 P **P 09 26 24.8 +1.9**
comp=Z,8.3nm,0.9s,baz=200,slow=7.3,SNR=4.6
KEST LR LR 09 43 52.5
comp=Z,741nm,20.2s,baz=190,slow=36
comp=Z,8.3nm,0.9s
KEST Kesra 42.89 29 P **P 09 26 24.0 +1.1**
LSZ Lusaka 44.18 111 P **P 09 26 34.3 +0.6**
comp=Z,6.6nm,0.8s,baz=284,slow=7.1,SNR=12
LSZ LR LR 09 41 38.6
comp=Z,577nm,20.3s,baz=308,slow=32
comp=Z,6.6nm,0.8s
LSZ Lusaka 44.18 111 P **P 09 26 33.8 +0.2**
MBAR Mbarara 45.04 90 LR LR 09 42 23.0
comp=Z,355nm,19.1s,baz=242,slow=32
MBAR Mbarara 45.04 90 P **P 09 26 40.8 +0.2**
MBAR IAmb IAmb 09 26 52.8
comp=Z,17nm,0.8s
LBTB Lobatse 45.18 125 P **P 09 26 42.1 +0.7**
comp=Z,8.9nm,1.0s,baz=286,slow=7.7,SNR=8.0
LBTB LR LR 09 43 29.7
comp=Z,508nm,18.2s,baz=309,slow=33
comp=Z,8.9nm,1.0s
LBTB Lobatse 45.18 125 P **P 09 26 41.4 -0.1**
LBTB IAmb IAmb 09 26 43.0
comp=Z,16nm,1.1s
SUR Sutherland 45.30 137 LR LR 09 41 04.0
comp=Z,451nm,21.6s,baz=296,slow=30
PTGA Pitinga 45.66 270 P **P 09 26 44.3 -1.0**
comp=Z,1.5nm,0.6s,baz=90,slow=20,SNR=2.5
comp=Z,1.5nm,0.6s
CLTB Caltabellotta 46.26 31 P **P 09 26 50.8 +1.0**
BOAV Boa Vista 46.35 274 P **P 09 26 51.1 +0.3**
BOAV IAmb IAmb 09 26 53.2
comp=Z,7.4nm,0.8s
MACA Manacapuru-AM 46.38 267 P **P 09 26 51.2 +0.1**
MACA IAmb IAmb 09 27 01.7
comp=Z,17nm,1.0s
BOSA Boshof 46.53 130 P **P 09 26 52.1 -0.1**
comp=Z,11nm,0.9s,baz=304,slow=6.3,SNR=10
comp=Z,11nm,0.9s
BOSA Boshof 46.53 130 P **P 09 26 52.2 +0.1**
BOSA IAmb IAmb 09 26 53.3
comp=Z,16nm,1.0s
VAE Valguarnera 46.80 32 LR LR 09 46 08.5
comp=Z,592nm,18.1s,baz=148,slow=36
VILB Vilhena 46.91 253 P **P 09 26 55.9 +0.7**
VILB IAmb IAmb 09 26 57.0
comp=Z,14nm,1.1s
CPUP Villa Florida 48.29 235 LR LR 09 44 06.3
comp=Z,568nm,21.9s,baz=61,slow=32
SIV San Ignacio 48.36 250 P **P 09 27 06.8 +0.4**
comp=Z,2.6nm,1.1s,baz=73,slow=14,SNR=4.6
SIV LR LR 09 46 07.1
comp=Z,448nm,18.8s,baz=86,slow=34
comp=Z,2.6nm,1.1s
H05S1 Guadeloupe/Mar 48.62 290 T T 10 19 18.4
SNR=3.6
SVB Belmont 48.73 289 P **P 09 27 10.3 +1.0**
TIP Timpagrande 49.30 32 ⇑P **P 09 27 15.0 +1.7**
TIP Timpagrande 49.30 32 P **P 09 27 14.2 +0.9**
CASP Castiglione de 49.34 24 P **P 09 27 14.9 +1.4**
CASP IAmb IAmb 09 27 23.6
comp=Z,10nm,0.9s
CUC Castrocucco 49.41 31 P **P 09 27 15.5 +1.3**
LATE Laterza 49.59 25 P **P 09 27 15.2 -0.3**
BNI Bardonecchia 49.72 19 P **P 09 27 17.8 +1.3**
BNI IAmb IAmb 09 27 29.2
comp=Z,30nm,1.5s
LODK Lodwar 49.86 85 P **P 09 27 18.6 +0.6**
LODK IAmb IAmb 09 27 30.9
comp=Z,16nm,1.3s
CESX Cesi 49.92 26 P **P 09 27 17.9 -0.1**
CESX IAmb IAmb 09 27 28.4
comp=Z,15nm,0.8s
AQU L'Aquila 50.08 27 P **P 09 27 19.8 +0.5**
MSSA Maissana 50.09 22 P **P 09 27 20.8 +1.5**
MSSA IAmb IAmb 09 27 30.5
comp=Z,16nm,1.0s
CAMP Campotosto 50.23 27 P **P 09 27 21.7 +1.2**
NRCA Norcia 50.34 26 P **P 09 27 23.0 +1.9**
MURB Monte Urbino 50.43 25 P **P 09 27 21.2 -0.6**
MURB IAmb IAmb 09 27 32.6
comp=Z,37nm,1.4s
FDMO Fiordimonte 50.49 26 P **P 09 27 22.7 +0.4**
FDMO IAmb IAmb 09 27 33.1
comp=Z,23nm,1.0s
KMBO Kilima Mbogo 51.54 90 LR LR 09 48 03.4
comp=Z,289nm,18.4s,baz=274,slow=34
ETMB Extrema 52.30 259 P **P 09 27 35.9 -0.4**
ETMB IAmb IAmb 09 27 46.4
comp=Z,7.8nm,1.0s
DAVOX Davos/Dischmat 52.33 21 LR LR 09 49 58.7
comp=Z,554nm,18.9s,baz=254,slow=36
CTI Castel Tesino 52.36 23 P **P 09 27 36.8 +0.5**
CTI IAmb IAmb 09 27 46.9
comp=Z,11nm,0.8s
DAVA Damuels 52.76 21 *eP* **P 09 27 39.6 +0.3**
comp=Z,18nm,1.0s
FETA Feichten 52.84 21 *eP* **P 09 27 40.3 +0.4**
comp=Z,6.6nm,1.0s
CIMO Cimolais 52.89 23 IAmb IAmb 09 27 51.6
comp=Z,4.8nm,0.9s
SKDS Skadanscina 52.90 25 *i* P **P 09 27 41.2 +1.0**
SKDS *ePcP* **pwP 09 27 49.0 +0.5**
TRI Trieste 52.93 24 IAmb IAmb 09 27 50.5
comp=Z,21nm,0.9s
PDG Podgorica 52.96 31 P **P 09 27 41.9 +1.2**
PDG IAmb IAmb 09 27 52.6
comp=Z,14nm,1.2s
SABO M.te Sabotino 53.08 24 P **P 09 27 43.2 +1.7**
SABO IAmb IAmb 09 27 52.1
comp=Z,30nm,0.9s
BFO Black Forest 53.15 19 P **P 09 27 41.9 -0.1**
BFO IAmb IAmb 09 27 51.7
comp=Z,18nm,1.0s
SQTA Sankt Quirin 53.18 22 *eP* **P 09 27 42.7 +0.3**
comp=Z,16nm,0.9s
CLUD Cludinico 53.18 23 P **P 09 27 43.8 +1.5**
CLUD IAmb IAmb 09 27 53.1
comp=Z,24nm,1.0s
JAVS Javornik 53.20 24 *i* P **P 09 27 43.7 +1.1**

JAVS *ePcP* **pwP 09 27 51.4 +0.7**
MOTA Moosalm 53.25 21 *eP* **P 09 27 42.7 -0.3**
comp=Z,7.6nm,1.0s
ABTA Abfaltersbach 53.28 23 *eP* **P 09 27 46.9 +3.8**
comp=Z,4.8nm,0.9s
CADS Cadrg 53.34 24 *i* P **P 09 27 44.8 +1.3**
WTTA Wattenberg 53.37 22 *eP* **P 09 27 44.7 +0.8**
comp=Z,14nm,1.3s
BOJS Bojanci 53.39 26 *i* P **P 09 27 45.5 +1.7**
WATA Walderalm 53.41 22 *eP* **P 09 27 44.5 +0.4**
comp=Z,6.3nm,0.9s
MYKA Terra Mystica 53.62 24 *eP* **P 09 27 47.6 +2.0**
comp=Z,3.8nm,0.7s
KBA Koelnbreinsper 53.87 23 *eP* **P 09 27 48.0 +0.5**
comp=Z,4.6nm,0.9s
OBKA Obir 53.90 24 *eP* **P 09 27 50.8 +3.2**
comp=Z,4.5nm,1.1s
SOKA Soboth 54.23 25 *eP* **P 09 27 51.7 +1.6**
comp=Z,7.8nm,1.2s
SJG San Juan 54.50 293 LR LR 09 45 19.9
comp=Z,220nm,21.9s,baz=79,slow=30
DIVS Divibare 54.54 30 IAmb IAmb 09 28 03.2
comp=Z,12nm,1.1s
MOA Molln 54.86 23 *eP* **P 09 27 54.6 0.0**
comp=Z,4.0nm,0.7s
ARSA Arzberg 54.89 24 *eP* **P 09 27 56.2 +1.5**
comp=Z,5.8nm,0.8s
LPAZ La Paz 55.06 251 P **P 09 27 56.5 -0.7**
comp=Z,1.8nm,0.8s,baz=93,slow=5.4,SNR=7.4
LPAZ LR LR 09 49 48.1
comp=Z,426nm,20.6s,baz=90,slow=34
comp=Z,1.8nm,0.8s
KOVH Kovagotottos 55.11 27 P P 09 28 06.3 +10
VTS Vitosha 55.20 33 ⇑P P 09 28 03.1 +5.8
MORH Mrgy, Hungar 55.45 27 ⇑P P 09 27 54.8 -4.0
MORH Mrgy, Hungar 55.45 27 P **P 09 28 01.8 +3.0**
GEC2 GERESS Array S 55.46 22 P **P 09 27 59.6 +0.7**
GEC2 IAmb IAmb 09 28 08.6
comp=Z,26nm,1.0s
GERES GERESS Array B 55.46 22 P **P 09 27 59.3 +0.3**
comp=Z,5.3nm,0.8s,baz=225,slow=9.2,SNR=22
comp=Z,5.3nm,0.8s
GERES GERESS Array B 55.46 22 P **P 09 27 59.0 +0.1**
RONA Rosalia, Austr 55.57 25 *eP* **P 09 28 00.9 +1.2**
comp=Z,5.8nm,0.7s
CONA Conrad Observa 55.57 24 *eP* **P 09 28 01.0 +1.2**
comp=Z,4.8nm,1.1s
BLKB Belogradchik 55.58 32 ⇑P **P 09 28 01.7 +1.8**
KHC Kasperske Hory 55.65 22 IAmb IAmb 09 28 10.6
comp=Z,9.6nm,1.0s
KHC Kasperske Hory 55.65 22 *eP* **P 09 28 02.9 +2.7**
KHC *epP* **pwP 09 28 09.6 +1.1**
KHC AMS AMS 09 52 10.0
comp=Z,500nm,22.9s
SOP Sopron 55.66 25 P P 09 28 11.5 +11
CKRC Cesky Krumlov 55.67 23 *eP* **P 09 28 01.1 +0.7**
CKRC *epP* **pwP 09 28 09.1 +0.5**
MPLH Magyarpolny 55.68 26 P P 09 28 10.5 +10
EIL Elat 56.13 53 LR LR 09 52 33.7
comp=Z,642nm,18.9s,baz=266,slow=36
ZST Bratislava 56.29 25 *e* P 09 28 14.4 +10
HERR Herculane 56.31 31 ⇑P **P 09 28 07.1 +2.1**
MODS Modra-Piesok 56.51 25 *eP* **P 09 28 07.9 +1.6**
MODS *e* 09 28 15.7
BUD Budapest 56.58 27 P P 09 28 17.7 +11
KRUC Moravsky 56.68 24 *eP* **P 09 28 07.8 +0.2**
KRUC *e* 09 28 15.7
PRU Pruhonice 56.71 22 AMS AMS 09 52 40.0
comp=Z,500nm,14.8s
GOPC GO Pecny, Ondr 56.74 22 *eP* **P 09 28 08.7 +0.7**
GOPC *epP* **pwP 09 28 16.6 +0.3**
GOPC AMS AMS 09 52 50.0
comp=Z,400nm,14.2s
GZR Gura Zlata 56.85 30 ⇑P **P 09 28 11.3 +2.3**
VRAC Vranov 56.96 24 LR LR 09 53 00.1
comp=Z,190nm,19.5s,baz=208,slow=36
VRAC Vranov 56.96 24 *eP* **P 09 28 10.4 +0.9**
VRAC *e* 09 28 17.8
EKA Eskdalemuir Ar 57.12 8 LR LR 09 50 00.9
comp=Z,198nm,21.7s,baz=170,slow=33
PVCC Panska Ves 57.16 22 AMS AMS 09 52 50.0
comp=Z,500nm,16.8s
BRG Berggiesshubel 57.22 21 *eP* **P 09 28 13.6 +2.3**
BRG Amp 09 28 14.9
comp=Z,6.1nm,1.2s
BRG *i* x x 09 28 20.6
BRG Amp 09 28 22.8
comp=Z,19nm,1.2s
BRG *ex* x 09 29 36.0
BRG Amp 09 29 39.4
comp=Z,14nm,1.3s
CLL Collm 57.26 20 *eP* **P 09 28 13.0 +1.4**
CLL *e*(sP) **pwP 09 28 20.0 +0.2**
comp=Z,17nm,1.3s
VYHS Vyhne 57.26 26 *eP* **P 09 28 13.2 +1.5**
VYHS *e* 09 28 21.0
PSZ Piszkesteto 57.29 27 P P 09 28 21.6 +10
MAUC Maruska 57.51 24 *eP* P 09 28 22.7 +9.3
KRLC Kraliky 57.64 23 *eP* **P 09 28 15.4 +1.0**
KRLC *epP* **pwP 09 28 23.3 +0.7**
DPC Dobruska-Polom 57.68 23 *eP* **P 09 28 15.4 +0.7**
DPC *epP* **pwP 09 28 23.5 +0.6**
UPC Upice 57.69 22 AMS AMS 09 53 40.0
comp=Z,500nm,17.9s
MORC Moravsky Berou 57.71 24 ⇑P **P 09 28 13.5 -1.4**
MORC Moravsky Berou 57.71 24 *eP* **P 09 28 15.8 +0.9**
MORC *e* 09 28 23.7
CHVC Chvalec 57.77 22 *eP* **P 09 28 17.0 +1.7**
CHVC *epP* **pwP 09 28 23.7 +0.2**
DRGR 57.80 29 ⇑P **P 09 28 16.1 +0.5**
OSTC Ostas 57.80 23 *eP* **P 09 28 17.2 +1.7**
OSTC *epP* **pwP 09 28 24.6 +0.8**
OSTC AMS AMS 09 53 50.0
comp=Z,400nm,17.8s
MMAI Mount Meron Ar 57.89 49 LR LR 09 54 51.8
comp=Z,97nm,18.8s,baz=119,slow=38
VOIR 58.06 32 ⇑P **P 09 28 21.8 +4.3**
CJR Cluj-Napoca 58.18 30 ⇑P **P 09 28 22.0 +3.7**
AC02 Maricunga 58.38 239 P **P 09 28 20.8 +0.1**
MLR Muntele Rosu 58.57 32 ⇓P P 09 28 26.3 +5.2
MLR Muntele Rosu 58.57 32 LR LR 09 54 10.4
comp=Z,390nm,21.1s,baz=223,slow=37
MLR Muntele Rosu 58.57 32 P **P 09 28 22.2 +1.1**
TRPA Tarpa 58.66 28 P P 09 28 30.7 +9.2
CRVS Cervenica-Dubn 58.73 27 *eP* **P 09 28 24.0 +2.0**
CRVS *e* 09 28 31.4
KOLS Kolonicke sedl 59.12 27 *eP* **P 09 28 26.7 +2.0**
KOLS *e* 09 28 35.1
PLOR Plostina 59.18 32 ⇑P P 09 28 32.8 +7.6
BIZ Bicaz 59.60 31 ⇑P **P 09 28 29.6 +1.5**
BURAR Bucovina Array 59.60 30 ⇑P **P 09 28 30.3 +2.1**
BURAR Bucovina Array 59.60 30 IAmb IAmb 09 28 39.2
comp=Z,9.7nm,1.4s
TESR Tescani 59.61 32 ⇓P P 09 28 36.3 +8.2
BR131 Keskin Array S 59.81 41 P **P 09 28 30.4 +0.5**
BR131 IAmb IAmb 09 28 40.7
comp=Z,18nm,1.1s
BRTR Keskin Array B 59.81 41 P **P 09 28 31.1 +1.3**
comp=Z,3.2nm,1.0s,baz=231,slow=7.3,SNR=14
BRTR LR LR 09 57 33.5
comp=Z,131nm,19.5s,baz=230,slow=39
comp=Z,3.2nm,1.0s
BRTR Keskin Array B 59.81 41 P **P 09 28 31.0 +1.2**
ROSC El Rosal 60.26 276 LR LR 09 54 03.1
comp=Z,273nm,18.2s,baz=95,slow=36
BNN Bunyan 60.87 43 P **P 09 28 36.6 -0.5**
RAYN Ar Rayn 63.06 63 P **P 09 28 51.9 -0.2**
RAYN IAmb IAmb 09 29 03.8
comp=Z,8.6nm,1.1s
AKASG Malin Array Be 63.62 29 P **P 09 28 55.2 +0.2**
comp=Z,0.9nm,0.6s,baz=230,slow=6.1,SNR=8.9
AKASG LR LR 09 56 54.0
comp=Z,148nm,21.9s,baz=240,slow=36
comp=Z,0.9nm,0.6s
AKBB Malin Array Si 63.62 29 P **P 09 28 54.7 -0.4**
PLCA Paso Flores 64.15 225 LR LR 09 53 34.3
comp=Z,391nm,19.2s,baz=64,slow=33
NB2 NORSAR Subarra 65.14 13 P **P 09 29 05.4 +0.4**
comp=Z,6.6nm,1.0s,baz=207,slow=6.9
NOA NORSAR Array B 65.14 13 P **P 09 29 05.1 +0.2**
comp=Z,0.9nm,0.9s,baz=205,slow=5.4,SNR=3.9
comp=Z,0.9nm,0.9s
NACGM Naroch 65.31 25 ⇓*eP* P 09 29 14.5 +8.4
baz=226
MNK Minsk 65.50 25 *i* P **P 09 29 07.1 -0.3**
comp=E,3.0nm,0.8s
MNK *i* P **P 09 29 07.1 -0.3**
comp=N,8.0nm,0.9s
MNK *i* P **P 09 29 07.1 -0.3**
comp=Z,11nm,0.6s,baz=48
MNK *i* PcP **PcP 09 29 38.8 -0.2**
MNK *i* PP **PP 09 31 30.9 -0.7**
MNK *i* PPP PPP 09 33 03.7
MNK *i* S **S 09 37 52.2 0.0**
MNK *i* SS **SS 09 42 06.5 +0.6**
MNK *i* SSS SSS 09 45 11.7
MNK *i* LQ LQ 09 53 02.1
MNK *i* LR LR 09 57 04.5
MNK *i* LRM MLR 09 59 59.1
comp=E,68nm,20.0s
MNK *i* LRM MLR 10 00 09.3
comp=Z,365nm,18.7s
MNK *i* LRM MLR 10 00 14.0
comp=N,16nm,16.8s
KBZ Khabaz 67.80 41 P **P 09 29 22.9 +0.7**
comp=N,5.0nm,0.9s,baz=254,slow=1.8,SNR=8.7
KBZ LR LR 10 01 30.8
comp=N,92nm,18.4s,baz=232,slow=38
comp=N,5.0nm,0.9s
VNA1 Neumayer--Stat 69.41 178 P **P 09 29 33.3 +1.6**
FINES FINESS Array B 69.69 19 P **P 09 29 32.8 -0.8**
comp=N,2.2nm,0.8s,baz=217,slow=3.5,SNR=9.0
comp=N,2.2nm,0.8s
VNA2 Neumayer--Watz 69.72 178 P **P 09 29 35.0 +1.3**
baz=340,slow=7.5
OBN Obninsk 69.83 28 LR LR 10 01 34.0
comp=N,75nm,20.0s,baz=262,slow=37
VNA3 Neumayer Olymp 69.96 178 P **P 09 29 36.0 +0.8**
SNAA Sanae 70.71 176 P **P 09 29 40.3 +0.4**
SNAA Sanae 70.71 176 P **P 09 29 40.2 +0.4**
comp=N,2.4nm,0.9s,baz=28,slow=11,SNR=7.7
comp=N,2.4nm,0.9s
SNAA Sanae 70.71 176 P **P 09 29 40.9 +1.1**
TROLL Troll, Antarti 71.47 175 P **P 09 29 45.0 +0.4**
JMIC Jan Mayen 72.20 2 LR LR 09 58 23.7
comp=N,86nm,19.7s,baz=172,slow=33
PMSA Palmer Station 72.77 200 LR LR 09 54 23.6
comp=N,447nm,20.5s,baz=35,slow=30
SADO Sadowa 73.28 318 LR LR 09 56 28.3
comp=N,251nm,19.4s,baz=170,slow=31
TKL Tuckaleechee C 74.16 308 LR LR 09 56 26.3
comp=N,186nm,20.2s,baz=112,slow=31
KLMR Klimovskoe 74.33 24 *eP* **P 09 30 01.0 -0.5**
KLMR AMP 09 30 10.4
comp=Z,20nm,1.4s
ARCES ARCESS Array B 75.52 13 P **P 09 30 09.3 +1.1**
comp=Z,1.7nm,0.8s,baz=204,slow=3.8,SNR=4.5
ARCES LR LR 10 04 37.9
comp=Z,205nm,19.5s,baz=214,slow=37
comp=Z,1.7nm,0.8s
GEYT Alibeck 76.96 51 LR LR 10 07 18.6
comp=Z,210nm,18.1s,baz=268,slow=38
KIRV Kirov 77.67 29 LR LR 10 06 26.4
comp=Z,274nm,18.3s,baz=261,slow=37
PBMO Poplar Bluff 79.65 308 P **P 09 30 32.0 0.0**
JCT Junction City 86.74 300 P **P 09 31 08.4 -0.4**
JCT IAmb IAmb 09 31 13.4
comp=Z,6.1nm,1.0s
KKAR Karatay Array 87.05 47 P **P 09 31 10.6 +0.5**
BVAR Borovoye Array 87.78 37 P **P 09 31 13.7 +0.4**
comp=Z,0.2nm,0.3s,baz=289,slow=4.4,SNR=1.9
BVAR LR LR 10 14 34.8
comp=Z,142nm,18.5s,baz=271,slow=38
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 90.05 299 P **P 09 31 23.8 -0.9**
comp=Z,0.3nm,0.8s,baz=124,slow=4.9,SNR=2.5
comp=Z,0.3nm,0.8s
KSH Kashi 90.99 51 P P 09 31 37.5 +8.6
KSH pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 92.47 305 LR LR 10 07 26.2
comp=Z,178nm,19.7s,baz=72,slow=32
RPN Rapa Nui 93.92 243 LR LR 10 07 44.1
comp=Z,90nm,21.6s,baz=72,slow=32
PDAR Pinedale Array 94.70 313 LR LR 10 09 59.9
comp=Z,112nm,19.6s,baz=82,slow=33
ELK Elko 99.10 311 LR LR 10 11 15.4
comp=Z,169nm,21.5s,baz=74,slow=32
NEW Newport 99.45 319 LR LR 10 12 01.2
comp=Z,208nm,19.7s,baz=77,slow=32
WMQ Urumqi 99.51 46 *eP* **Pdif 09 32 09.6 +2.0**
PZH PanZhiHua 113.76 62 PKP **PKiKP 09 37 05.3 +1.4**
NJ2 Nanjing 126.30 50 *eP* **PKPdf 09 37 27.4 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ASAR Alice Springs 140.40 131 PKhKP PKPpre 09 37 46.4
comp=Z,0.3nm,0.5s,baz=226,slow=2.9,SNR=6.1
WRA Warramunga Arr 142.74 126 PKhKP PKPpre 09 37 53.8
comp=Z,0.4nm,0.5s,baz=237,slow=2.6,SNR=9.5
CTA Charters Tower 151.49 139 PKPbc **PKPbc 09 38 18.8 -0.5**
comp=Z,1.1nm,0.4s,baz=153,slow=2.3,SNR=1.4

*SKHL **14** 09:20:53.8±0.2, 43.°10N×145.°80E, h43km±5km, mb4.4/2*
*JMA **14** 09:20:54.8±0.2, 43.°2N±0.°5×145.°6E±0.°7, h56km±1km, MV3.4/39, OFF NEMURO PENINSULA*
ISC 14 09:20:54.6±1.8, 43.°21N±0.°07×145.°58E±0.°06, h56km±10km, n13, σ0.°54/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NMR	**Nemuro--Hokkai**	**0.20**	**33**	*i* P	P	**Pn**	**09 21 03.7**	**+0.2**
NMR				*i* S		**Sn**	**09 21 10.1**	**+0.2**
NEM2	**Nemuro 2**	**0.20**	**37**	P	P	**Pn**	**09 21 03.7**	**+0.1**
NEM2				*eS*		**Sn**	**09 21 10.0**	**+0.1**
JKHN	**Kushirohamanak**	**0.33**	**248**	P	P	**Pn**	**09 21 04.8**	**+0.3**
JKHN				*eS*		**Sn**	**09 21 11.9**	**+0.2**
AKK	**Akkeshi**	**0.57**	**251**	*eP*	P	**Pn**	**09 21 06.8**	**-0.2**
AKK				*eS*		**Sn**	**09 21 15.5**	**-0.6**
JAK	**Akkeshi**	**0.68**	**252**	P	P	**Pn**	**09 21 08.2**	**-0.1**
JAK				*eS*		**Sn**	**09 21 18.0**	**-0.3**
JNSB	**Nemuroshibetsu**	**0.71**	**324**	P	P	**Pn**	**09 21 08.6**	**-0.1**
JNSB				*eS*		**Sn**	**09 21 18.6**	**-0.3**
JNK	**Nakash**	**0.73**	**301**	P	P	**Pn**	**09 21 08.6**	**-0.4**
JNK				*eS*		**Sn**	**09 21 18.4**	**-1.2**
JRA	**Rausu**	**0.80**	**336**	P	P	**Pn**	**09 21 10.0**	**+0.1**
JRA				*eS*		**Sn**	**09 21 21.1**	**0.0**
YUK	**Yuzh-Kuril'sk**	**0.85**	**14**	*i* P	P	**Pn**	**09 21 10.5**	**0.0**
YUK				AMB	AMB		09 21 11.4	
	240nm,0.2s							
YUK				*eS*		**Sn**	**09 21 22.4**	**+0.2**
YUK				A	A		09 21 23.5	
	1μm,0.4s							
YUK				A	A		09 21 23.5	
	1μm,0.4s							
JOB	**Onbets**	**1.31**	**257**	P	P	**Pn**	**09 21 16.8**	**+0.1**
JOB				*eS*		**Sn**	**09 21 33.3**	**+0.1**
JAR	**Ashorobuto**	**1.33**	**275**	P	P	**Pn**	**09 21 17.0**	**+0.2**
JAR				*eS*		**Sn**	**09 21 33.4**	**-0.1**
JTKR	**Abashiri--Toko**	**1.44**	**303**	P	P	**Pn**	**09 21 18.8**	**+0.5**
JTKR				*eS*		**Sn**	**09 21 37.2**	**+1.2**
KUR	**Kuril'sk**	**2.61**	**38**	*eP*	P	**Pn**	**09 21 34.8**	**+0.5**
KUR				AMB	AMB		09 21 44.5	
	60nm,0.6s							
KUR				*eS*		**Sn**	**09 22 03.3**	**-1.4**
KUR				A	A		09 22 08.5	
	40nm,0.4s							
KUR				A	A		09 22 08.5	
	90nm,0.4s							

*IDC **14** 09:32:33.3±0.4, 45.°99N×93.°92E, h0km, mb4.6/42, mbtmp4.5/48, ML3.8/6, MS4.0/13, Error ellipse: s-maj=11.9km s-min=8.1km az=9.0*
*MOS **14** 09:32:34.4±1.3, 45.°98N×93.°80E, h16km, mb5.0/38, MS4.5/12, Error ellipse: s-maj=5.5km s-min=4.1km az=20.9*
*BJI **14** 09:32:34.0±0.0, 46.°09N×93.°94E, h11km, mb4.5/46, mB4.9/28, ML5.3/8, Ms4.7/38, Ms7 4.4/35*
*NEIC **14** 09:32:36.6±1.9, 46.°09N±0.°05×93.°77E±0.°09, h16km±3km, mb4.9/183, Error ellipse: s-maj=9.5km s-min=7.1km az=85.0*
*NNC **14** 09:32:36.8±2.1, 45.°92N×93.°62E, h12km±10km, mb4.9, mpv4.8, Error ellipse: s-maj=16.8km s-min=10.5km az=147.0*
*ASRS **14** 09:32:42.5±0.5, 47.°N±3.°×9.°4E±.°, h2km, MLh5.8/10, Error ellipse: s-maj=5.5km s-min=3.4km az=172.6, confirmed*

ISC 14 09:32:35.1±0.3, 46°02N±0°03, 93°75E±0°03, h10km, n693, σ1§64/674, mb4.9/180, MS4.4/26, 71C-26D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERNS	**Erzin**	**4.35**	**12**	P	**Pn**	**09 33 41.8**	**+0.4**
ERNS	**Erzin**	**4.35**	**12**	Pn	**Pn**	**09 33 42.1**	**+0.7**
ERNS				Pg	**Pb**	**09 33 51.1**	**-0.6**
ERNS				Sg	**Sb**	**09 34 44.3**	**0.0**
WMQ	**Urumqi**	**4.83**	**245**	*e*Pn	Pn	09 33 52.4	+4.5
WMQ				Sn	**Sb**	**09 34 54.6**	**-3.4**
WMQ				Sg	**Sg**	**09 35 09.3**	**-0.8**
WMQ				smax	smax		
	comp=N,4μm,1.3s						
WMQ				smax	smax		
	comp=E,4μm,0.9s						
HVS	**Khovu-Aksy**	**5.12**	**360**	P	**Pb**	**09 34 04.5**	**-0.4**
KNGR	**Kungurtug, Tuv**	**5.23**	**27**	P	**Pb**	**09 34 06.7**	**-0.1**
KNGR	**Kungurtug, Tuv**	**5.23**	**27**	Pg	**Pb**	**09 34 06.5**	**-0.2**
KNGR				Sg	**Sb**	**09 35 14.8**	**+5.2**
CUR	**Chagan-Uzun**	**5.46**	**320**	Pn	**Pn**	**09 33 58.9**	**+2.3**
CUR				Pg	**Pg**	**09 34 17.2**	**-2.4**
CUR				Sg	**Sg**	**09 35 26.3**	**-4.0**
DGZ	**Jazzator, Alta**	**5.62**	**313**	⇓*i*P	**Pn**	**09 34 01.1**	**+2.2**
DGZ	**Jazzator, Alta**	**5.62**	**313**	Pn	**Pn**	**09 34 01.7**	**+2.8**
DGZ				Pg	**Pg**	**09 34 19.6**	**-3.2**
DGZ				Sg	**Sg**	**09 35 32.7**	**-3.0**
KZLR	**Kyzyl**	**5.71**	**4**	P	**Pb**	**09 34 14.6**	**-0.2**
KZLR	**Kyzyl**	**5.71**	**4**	Pg	**Pb**	**09 34 15.6**	**+0.7**
KZLR				Sg	**Sb**	**09 35 27.4**	**+4.1**
AKAR	**Aktash**	**5.94**	**319**	Pn	**Pn**	**09 34 05.7**	**+2.4**
AKAR				Pg	**Pg**	**09 34 28.8**	**-0.1**
AKAR				Sg	**Sg**	**09 35 41.9**	**-3.9**
CHBI	**Chibit, Altay**	**5.99**	**318**	Pn	**Pn**	**09 34 07.2**	**+3.3**
CHBI				Pg	**Pg**	**09 34 27.8**	**-2.0**
CHBI				Sg	**Sg**	**09 35 45.6**	**-1.8**
ULGR	**Ulagan, Altay**	**6.01**	**322**	Pn	**Pn**	**09 34 07.5**	**+3.4**
ULGR				Pg	**Pg**	**09 34 27.4**	**-2.8**
ULGR				Sg	**Sg**	**09 35 43.4**	**-4.5**
ZSN	**Zaisan**	**6.27**	**286**	*i* P	**Pn**	**09 34 10.7**	**+3.1**
ZSN				pmax	pmax		
	comp=Z,24nm,0.8s						
ZSN	**Zaisan**	**6.27**	**286**	*i* P	**Pn**	**09 34 10.8**	**+3.1**
	comp=Z,24nm,0.8s,baz=286						
ZSN				*e*Pg	Pg	09 34 29.9	-5.3
	baz=286						
ZSN				*e*Lg	Lg	09 35 54.1	
	baz=286						
DJOS	**Djoyskaya Sosn**	**6.95**	**348**	Pg	Pb	09 34 41.2	+5.2
DJOS				Sg	**Sb**	**09 36 05.2**	**+6.2**
DJO	**Djoy, Khakassi**	**6.97**	**347**	Pg	**Pb**	**09 34 36.5**	**+0.3**
DJO				Sg	**Sb**	**09 36 06.3**	**+6.9**
CERR	**Cheremushki**	**7.01**	**348**	Pg	**Pb**	**09 34 38.1**	**+1.2**
CERR				Sg	**Sb**	**09 36 08.0**	**+7.4**
ARTR	**Artybash**	**7.18**	**326**	Pn	**Pn**	**09 34 23.5**	**+3.3**
ARTR				Pg	**Pg**	**09 34 49.8**	**-2.8**
ARTR				Sg	**Sg**	**09 36 22.7**	**-2.8**
MOY	**Mondy**	**7.40**	**38**	Pn	**Pn**	**09 34 25.6**	**+2.3**
MOY				Pg	**Pb**	**09 34 42.7**	**-1.0**
MOY				Sg	Sb	09 36 21.0	+9.1
ZAK	**Zakamensk**	**7.72**	**52**	*e*P	**Pn**	**09 34 25.5**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,229nm,0.9s						
ZAK	**Zakamensk**	**7.72**	**52**	Pn	**Pn**	**09 34 28.5**	**+0.9**
ZAK				Pg	**Pb**	**09 34 48.3**	**-0.8**
ZAK				Sg	**Sb**	**09 36 28.8**	**+7.7**
UKR	**Ust'-Kan**	**7.73**	**313**	Sg	**Sg**	**09 36 43.7**	**+0.7**
TASR	**Tashtagol**	**7.76**	**333**	Pn	Pn	09 34 38.2	+10
TASR				Pg	Pb	09 34 55.4	+5.8
TASR				Sg	**Sg**	**09 36 37.1**	**-6.8**
MK31	**Makanchi Array**	**7.96**	**280**	Pn	**Pn**	**09 34 32.2**	**+1.4**
MK31	**Makanchi Array**	**7.96**	**280**	*e*P	**Pn**	**09 34 32.9**	**+2.1**
MK31	**Makanchi Array**	**7.96**	**280**	⇑Pn	**Pn**	**09 34 32.9**	**+2.1**
	comp=Z,3.4nm,0.2s,baz=96,slow=14,SNR=137						
MK31				⇓Pg	Pg	09 35 00.5	-6.9
	comp=Z,90nm,0.6s,baz=98,slow=16,SNR=6.4						
MK31				Lg	Lg	09 36 47.5	
	comp=Z,343nm,0.8s,baz=92,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**7.96**	**280**	Pn	**Pn**	**09 34 32.8**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=94,slow=13,SNR=66						
MKAR				Sn	**Sn**	**09 36 05.0**	**+4.0**
	comp=Z,13nm,0.3s,baz=87,slow=24,SNR=1.6						
MKAR				Lg	Lg	09 36 45.4	
	comp=Z,25nm,0.3s,baz=92,slow=29,SNR=6.3						
	comp=Z,10nm,0.5s						
MKAR	**Makanchi Array**	**7.96**	**280**	Pn	**Pn**	**09 34 32.1**	**+1.3**
MKAR	**Makanchi Array**	**7.96**	**280**	Pn	**Pn**	**09 34 33.2**	**+2.3**
MKAR				Pg	Pg	09 35 02.6	-4.8
MKAR				Sg	**Sg**	**09 36 47.1**	**-3.3**
GTA	**Gaotai**	**7.97**	**144**	*e*P	**Pn**	**09 34 30.3**	**-0.8**
GTA				pP	Pn	09 34 34.6	+3.5
GTA				sP	Pn	09 34 37.3	+6.2
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,130nm,4.1s						
GTA				LR	LR		
	comp=Z,2μm,9.8s						
GTA				LR	LR		
	comp=Z,2μm,9.0s						
GTA				LR	LR		
	comp=Z,3μm,7.6s						
MAKZ	**Makanchi**	**8.17**	**280**		**Pn**	**09 34 35.0**	**+1.2**
MAKZ	**Makanchi**	**8.17**	**280**	P	**Pn**	**09 34 35.0**	**+1.2**
MAKZ	**Makanchi**	**8.17**	**280**	⇑Pn	**Pn**	**09 34 35.7**	**+1.9**
	comp=Z,28nm,0.7s						
MAKZ				⇑Pg	Pb	09 35 04.1	+7.4
	comp=Z,56nm,0.7s						
MAKZ				⇓Lg	Lg	09 36 55.9	
	comp=Z,723nm,0.9s						
MAKZ	**Makanchi**	**8.17**	**280**	Pn	**Pn**	**09 34 35.5**	**+1.7**
MAKZ				Pg	**Pg**	**09 35 08.8**	**-2.7**
MAKZ				Sg	**Sg**	**09 36 56.8**	**-0.5**
LUZB	**Luzhba, Kemero**	**8.27**	**340**	Pn	**Pn**	**09 34 37.1**	**+2.0**
LUZB				Pg	Pb	09 35 04.5	+6.2
LUZB				Sg	**Sg**	**09 36 52.1**	**-8.1**
ELT	**Eltsovka**	**8.73**	**329**	Pn	**Pn**	**09 34 43.0**	**+1.6**
ELT				Pg	Pg	09 35 13.7	-8.5
ELT				Sg	**Sg**	**09 37 10.8**	**-4.3**
SONM	**Songino Array**	**8.85**	**74**	Pn	**Pn**	**09 34 40.7**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=260,slow=15,SNR=16						
SONM				Sn	**Sn**	**09 36 25.9**	**+3.0**
	comp=Z,5.1nm,0.3s,baz=253,slow=28,SNR=1.6						
SONM				Lg	Lg	09 37 03.1	
	comp=Z,20nm,0.3s,baz=262,slow=31,SNR=7.7						
SONM				LR	LR	09 38 16.0	
	comp=Z,781nm,19.0s,baz=266,slow=39						
	comp=Z,1.8nm,0.3s						
SONM	**Songino Array**	**8.85**	**74**	Pn	**Pn**	**09 34 43.8**	**+0.7**
SONM	**Songino Array**	**8.85**	**74**	P	**Pn**	**09 34 43.8**	**+0.7**
MINR	**Mina**	**8.90**	**2**	Pn	Pn	09 34 49.7	+6.0
MINR				Pg	Pg	09 35 14.7	-11
MINR				Sg	Sg	09 37 09.6	-11
ERU	**Erunakovo, Kuz**	**9.10**	**336**	Sg	Sn	09 37 22.9	+54
VCHU	**Verkh-Chumysh,**	**9.23**	**332**	Pn	**Pn**	**09 34 50.6**	**+2.4**
VCHU				Sg	Sn	09 37 23.7	+52
KOTO	**Kotino, Kuzbas**	**9.28**	**334**	Sg	Sn	09 37 27.9	+55
IRK	**Irkutsk**	**9.29**	**44**	Sg	Sn	09 37 20.9	+47
ULN	**Ulaanbaatar**	**9.29**	**74**		**Pn**	**09 34 50.8**	**+1.6**
ULN	**Ulaanbaatar**	**9.29**	**74**	⇑*e*P	**Pn**	**09 34 51.1**	**+1.9**
BJR1	**Bachatsky 1, K**	**9.60**	**332**	Sg	Sn	09 37 37.9	+57
BJR2	**Bachatsky-2, K**	**9.60**	**332**	Sg	Sn	09 37 37.9	+57
ZAA0	**Zalesovo Array**	**9.79**	**327**	Pn	**Pn**	**09 34 55.7**	**-0.2**
ZAA0	**Zalesovo Array**	**9.79**	**327**	⇑Pn	**Pn**	**09 34 59.4**	**+3.4**
	comp=Z,1.1nm,0.7s						
ZAA0				⇑Pg		09 35 35.2	
	comp=Z,5.2nm,1.0s						
ZAA0				⇑Lg	Lg	09 37 48.4	
	comp=Z,76nm,1.2s						
ZALV	**Zalesovo Beam**	**9.79**	**327**	Pn	**Pn**	**09 34 56.4**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=140,slow=12,SNR=15						
ZALV				Pg		09 35 36.3	
	comp=Z,1.3nm,0.3s,baz=146,slow=16,SNR=10						
ZALV				Lg	Lg	09 37 45.2	
	comp=Z,3.7nm,0.3s,baz=148,slow=22,SNR=9.7						
ZALV				LR	LR	09 39 02.2	
	comp=Z,296nm,20.6s,baz=172,slow=39						
	comp=Z,3.9nm,0.5s						
ZALV	**Zalesovo Beam**	**9.79**	**327**	Pn	**Pn**	**09 34 56.0**	**+0.1**
GOMU	**GeErMu**	**9.84**	**175**	P	**Pn**	**09 34 56.4**	**-0.6**
GOMU				pmax	pmax		
	comp=Z,13nm,0.5s						
GOMU				LR	LR		
	comp=Z,770nm,6.3s						
GOMU				LR	LR		
	comp=Z,790nm,9.1s						
GOMU				LR	LR		
	comp=Z,740nm,7.5s						
SALR	**Pechorkino, Sa**	**9.86**	**331**	Pn	**Pn**	**09 34 57.6**	**+0.8**
SALR				Sg	Sn	09 37 42.0	+55
SEM	**Semipalatinsk**	**10.02**	**301**	*e*P	**Pn**	**09 34 58.3**	**-1.0**
	baz=300						
PDGK	**Podgornoye**	**10.51**	**260**	P	**Pn**	**09 35 05.8**	**-0.1**
PDGK						09 37 05.1	
PDGK	**Podgornoye**	**10.51**	**260**	⇑Pn	**Pn**	**09 35 06.4**	**+0.5**
	comp=Z,119nm,0.8s						
PDGK				⇑Sn	**Sn**	**09 37 03.7**	**+0.1**
	comp=Z,212nm,0.8s						
PDGK				⇓Lg	Lg	09 38 06.9	
	comp=Z,362nm,1.1s						
SHLS	**Shalkode**	**10.58**	**259**	*e*P	**Pn**	**09 35 04.2**	**-2.7**
SHLS	**Shalkode**	**10.58**	**259**	*e*P	**Pn**	**09 35 04.2**	**-2.7**
	baz=258						
TDK	**Taldyqorghan**	**10.82**	**270**	*e*P	**Pn**	**09 35 11.9**	**+1.9**
TDK	**Taldyqorghan**	**10.82**	**270**	*e*P	**Pn**	**09 35 12.0**	**+1.9**
	baz=269						
UZB	**Uzynbulak**	**10.89**	**260**	*e*P	**Pn**	**09 35 11.4**	**+0.3**
UZB				*e*S	**Sn**	**09 37 14.2**	**+1.2**
UZB	**Uzynbulak**	**10.89**	**260**	*e*P	**Pn**	**09 35 11.5**	**+0.3**
	baz=259						
UZB				*e*S	**Sn**	**09 37 14.2**	**+1.2**
	baz=259						
KPKS	**Kokpek**	**11.02**	**262**	*e*P	**Pn**	**09 35 14.0**	**+1.2**
KPKS				*e*S	**Sn**	**09 37 18.0**	**+1.9**
KPKS	**Kokpek**	**11.02**	**262**	*e*P	**Pn**	**09 35 14.1**	**+1.2**
	baz=261						
KPKS				*e*S	**Sn**	**09 37 18.0**	**+1.9**
	baz=261						
NVSII	**Novosibirsk**	**11.08**	**327**	Sg		09 38 27.8	
KURK	**Kurchatov**	**11.10**	**301**	Pn	**Pn**	**09 35 12.8**	**-1.0**
KURK	**Kurchatov**	**11.10**	**301**	*c i*P	**Pn**	**09 35 13.1**	**-0.7**
KURK				pmax	pmax		
	comp=Z,44nm,1.0s						
KURK	**Kurchatov**	**11.10**	**301**	⇑Pn	**Pn**	**09 35 13.6**	**-0.2**
	comp=Z,51nm,0.8s						
KURK				⇑Lg	Lg	09 38 28.5	
	comp=Z,624nm,0.9s						
BSTK	**Bystrovka, Nov**	**11.11**	**324**	Pn	Pn	09 35 19.7	+5.9
BSTK				Sg		09 38 27.8	
KURBB	**Kurchatov Arra**	**11.13**	**300**	Pn	**Pn**	**09 35 14.0**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=103,slow=14,SNR=56						
KURBB				Sn	**Sn**	**09 37 21.7**	**+3.2**
	comp=Z,0.8nm,0.3s,baz=98,slow=26,SNR=5.3						
KURBB				Lg	Lg	09 38 31.2	
	comp=Z,2.3nm,0.3s,baz=106,slow=30,SNR=6.5						
KURBB				LR	LR	09 39 36.1	
	comp=Z,828nm,18.9s,baz=124,slow=38						
	comp=Z,28nm,0.9s						
ZHN	**Zhinishke**	**11.29**	**261**	*e*P	**Pn**	**09 35 18.0**	**+1.5**
ZHN	**Zhinishke**	**11.29**	**261**	*e*P	**Pn**	**09 35 18.1**	**+1.5**
	baz=260						
SATY	**Saty**	**11.34**	**260**	*e*P	**Pn**	**09 35 18.5**	**+1.2**
SATY				*e*S	**Sn**	**09 37 26.6**	**+2.5**
SATY	**Saty**	**11.34**	**260**	*e*P	**Pn**	**09 35 18.6**	**+1.2**
	baz=260						
SATY				*e*S	**Sn**	**09 37 26.7**	**+2.5**
	baz=260						
ARXS	**Arharly**	**11.40**	**267**	*e*P	**Pn**	**09 35 18.5**	**+0.5**
CHKK	**Chushkaly**	**12.07**	**266**	*e*P	**Pn**	**09 35 27.8**	**+0.6**
CHKK				*e*S	**Sn**	**09 37 44.2**	**+2.3**
CHKK	**Chushkaly**	**12.07**	**266**	*e*P	**Pn**	**09 35 27.9**	**+0.6**
	baz=265						
CHKK				*e*S	**Sn**	**09 37 44.2**	**+2.3**
	baz=265						
MDOK	**Medeo**	**12.24**	**263**	*e*P	**Pn**	**09 35 30.5**	**+0.9**
MDOK	**Medeo**	**12.24**	**263**	*e*P	**Pn**	**09 35 30.6**	**+0.9**
	baz=262						
MDOK	**Medeo**	**12.24**	**263**	⇓Pn	**Pn**	**09 35 30.2**	**+0.6**
	comp=Z,105nm,1.2s						
MDOK				⇑Sn	**Sn**	**09 37 47.5**	**+1.3**
	comp=Z,78nm,0.8s						
MDOK				⇑Lg	Lg	09 39 00.3	
	comp=Z,254nm,0.9s						
TARG	**Taragay, Kyrgy**	**12.28**	**255**	Pn	**Pn**	**09 35 31.9**	**+1.6**
TARG	**Taragay, Kyrgy**	**12.28**	**255**	P	**Pn**	**09 35 31.9**	**+1.6**
LZH	**Lanzhou**	**12.50**	**139**	*e*P	**Pn**	**09 35 33.1**	**-0.1**
LZH				pP		09 35 37.3	
LZH				pmax	pmax		
	comp=Z,71nm,1.5s						
LZH				pmax	pmax		
	comp=Z,270nm,4.8s						
LZH				LR	LR		
	comp=Z,2μm,8.9s						
LZH				LR	LR		
	comp=Z,2μm,9.6s						
LZH				LR	LR		
	comp=Z,920nm,9.6s						
BTO	**Baotou**	**13.02**	**109**	*e*P	**Pn**	**09 35 38.4**	**-1.8**
BTO				LR	LR		
	comp=Z,5μm,6.8s						
BTO				LR	LR		
	comp=Z,3μm,6.4s						
ULHL	**Ulahol**	**13.13**	**260**	P	**Pn**	**09 35 43.8**	**+2.1**
	SNR=12						
BOOM	**Boomskoye usch**	**13.24**	**261**	Pn	**Pn**	**09 35 43.7**	**+0.4**
BOOM	**Boomskoye usch**	**13.24**	**261**	P	**Pn**	**09 35 43.7**	**+0.4**
TKM2	**Tokmak 2**	**13.33**	**263**	P	**P**	**09 35 49.9**	**-4.4**
	SNR=18						
TKM2	**Tokmak 2**	**13.33**	**263**	P	**Pn**	**09 35 45.1**	**+0.6**
TKM2	**Tokmak 2**	**13.33**	**263**	⇑Pn	**Pn**	**09 35 43.0**	**-1.5**
	comp=Z,46nm,0.7s						
TKM2				⇑Sn	**Sn**	**09 38 12.1**	**-0.7**
	comp=Z,37nm,0.8s						
TKM2				⇑Lg	Lg	09 39 34.3	
	comp=Z,109nm,1.1s						
NRN	**Naryn**	**13.62**	**257**	Pn	**Pn**	**09 35 48.7**	**+0.1**
NRN	**Naryn**	**13.62**	**257**	P	**Pn**	**09 35 48.7**	**+0.1**
SGDS	**Sogindy**	**13.83**	**266**	*e*P	**Pn**	**09 35 51.5**	**+0.3**
SGDS	**Sogindy**	**13.83**	**266**	*e*P	**Pn**	**09 35 51.6**	**+0.3**
	baz=266						
BTLS	**Baital**	**13.85**	**273**	*i* P	**Pn**	**09 35 51.3**	**-0.1**
BTLS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BTLS	**Baital**	**13.85**	**273**	*i* P	**Pn**	**09 35 51.3**	**-0.1**
	comp=Z,9.9nm,0.9s,baz=272						
KBK	**Karagaybulak**	**13.87**	**263**	P	**Pn**	**09 35 54.9**	**+3.1**
	SNR=16						
CHMS	**Chumysh**	**13.89**	**264**	P	**Pn**	**09 35 49.2**	**-2.8**
CHMS	**Chumysh**	**13.89**	**264**	⇑Pn	**Pn**	**09 35 49.2**	**-2.8**
	comp=Z,50nm,1.4s						
CHMS				⇓Lg	Lg	09 39 51.8	
	comp=Z,124nm,1.1s						
HHC	**Hu-ho-hao-te**	**13.93**	**105**	*e*P	**Pn**	**09 35 50.9**	**-1.7**
HHC				pmax	pmax		
	comp=Z,49nm,0.5s						
HHC				pmax	pmax		
	comp=Z,270nm,5.5s						
HHC				LR	LR		
	comp=Z,1μm,7.9s						
HHC				LR	LR		
	comp=Z,3μm,8.6s						
HHC				LR	LR		
	comp=Z,4μm,9.2s						
USP	**Ospenovka**	**13.98**	**266**	P	**Pn**	**09 35 55.1**	**+1.9**
	SNR=12						
AAK	**Ala-Archa**	**14.19**	**263**	P	**P**	**09 36 07.3**	**+3.5**
	SNR=15						
AAK	**Ala-Archa**	**14.19**	**263**	Pn	**Pn**	**09 35 57.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=64,slow=8.8,SNR=8.1						
AAK				Sn	**Sn**	**09 38 36.3**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=45,slow=18,SNR=2.1						
AAK				Lg	Lg	09 40 07.6	
	comp=Z,0.6nm,0.3s,baz=3.5,slow=19,SNR=2.1						
AAK				LR	LR	09 41 57.6	
	comp=Z,459nm,18.2s,baz=222,slow=40						
	comp=Z,6.5nm,0.7s						
AAK	**Ala-Archa**	**14.19**	**263**	Pn	**Pn**	**09 35 57.6**	**+1.4**
AAK	**Ala-Archa**	**14.19**	**263**	⇑*e*P	**Pn**	**09 35 59.5**	**+3.3**
AAK				pmax	pmax		
	comp=Z,12nm,1.0s						
UCH	**Uchtor**	**14.32**	**262**	P	**P**	**09 36 02.3**	**-3.3**
	SNR=20						
KSH	**Kashi**	**14.57**	**250**	P	Pn	09 36 10.4	+9.0
KSH				pP	P	09 36 12.8	+4.8
KSH				sP		09 36 17.0	
KSH				PP	PnPn	09 36 19.8	+11
KSH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSH				LR	LR		
	comp=Z,750nm,15.9s						
KSH				LR	LR		
	comp=Z,1μm,16.5s						
KSH				LR	LR		
	comp=Z,1μm,13.6s						
BRZS	**Berezniki**	**14.64**	**293**	*e*P	**Pn**	**09 36 01.3**	**-0.9**
BRZS	**Berezniki**	**14.64**	**293**	*e*P	**Pn**	**09 36 01.4**	**-0.9**
	baz=293						
EKS2	**Erkin-Say**	**14.68**	**264**	P	**Pn**	**09 36 05.5**	**+2.7**
	SNR=11						
AML	**Almayashu**	**14.92**	**262**	P	**P**	**09 36 16.3**	**+4.1**
	SNR=12						
XLT	**XiLinHaoTe**	**15.94**	**90**	*e*P	**P**	**09 36 24.1**	**+0.9**
XLT				pP	sP	09 36 27.5	-0.7
XLT				sP	pP	09 36 30.8	+4.2
XLT				S	**Sn**	**09 39 20.1**	**+3.8**
XLT				pmax	pmax		
	comp=Z,18nm,0.6s						
XLT				pmax	pmax		
	comp=Z,230nm,5.9s						
XLT				LR	LR		
	comp=N,72nm,9.4s						
XLT				LR	LR		
	comp=E,3μm,9.6s						
XLT				LR	LR		
	comp=Z,3μm,9.7s						
OHH	**Osh**	**16.21**	**258**	P	**P**	**09 36 29.4**	**+3.3**
OHH				pmax	pmax		
	comp=Z,35nm,1.7s						
DZA	**Taraz**	**16.30**	**267**	*e*P	**Pn**	**09 36 25.0**	**+1.0**
DZA	**Taraz**	**16.30**	**267**	*e*P	**Pn**	**09 36 25.0**	**+1.0**
	baz=266						
LSA	**Lhasa**	**16.42**	**188**		**P**	**09 36 27.2**	**-1.7**
LSA	**Lhasa**	**16.42**	**188**	P	**P**	**09 36 30.8**	**+1.9**
LSA	**Lhasa**	**16.42**	**188**	P	**P**	**09 36 27.2**	**-1.7**
LSA				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN	**Xi'an**	**16.64**	**131**	P	**P**	**09 36 31.1**	**+0.2**
XAN				pmax	pmax		
	comp=Z,23nm,1.1s						
BVA0	**Borovoye Array**	**16.66**	**303**	*i* P	**Pn**	**09 36 28.9**	**+0.4**
BVA0	**Borovoye Array**	**16.66**	**303**	⇓Pn	**Pn**	**09 36 29.0**	**+0.4**
	comp=Z,22nm,0.8s,baz=91,slow=10,SNR=14						
BVA0				⇑Sn	**Sn**	**09 39 33.6**	**+0.2**
	comp=Z,25nm,1.0s						
BVAR	**Borovoye Array**	**16.66**	**303**	Pn	**Pn**	**09 36 27.4**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=93,slow=15,SNR=26						
BVAR				Sn	**Sn**	**09 39 29.5**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=119,slow=23,SNR=1.9						
BVAR				Lg	Lg	09 41 18.6	
	comp=Z,0.4nm,0.3s,baz=103,slow=33,SNR=1.2						
BVAR				LR	LR	09 43 01.6	
	comp=Z,778nm,18.0s,baz=230,slow=37						
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**16.73**	**303**	Pn	**Pn**	**09 36 28.5**	**-1.0**
BRVK	**Borovoye**	**16.73**	**303**	*d i*P	**Pn**	**09 36 29.1**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,48nm,1.7s						
KK31	**Karatay Array**	**16.80**	**268**	Pn	**Pn**	**09 36 29.8**	**-0.6**
KK31	**Karatay Array**	**16.80**	**268**	*i* P	**P**	**09 36 31.9**	**-0.7**
KK31	**Karatay Array**	**16.80**	**268**	⇑Pn	**P**	**09 36 31.8**	**-0.7**
	comp=Z,24nm,0.9s,baz=62,slow=12,SNR=7.3						
KKAR	**Karatay Array**	**16.80**	**268**		**Pn**	**09 36 29.8**	**-0.6**
KKAR	**Karatay Array**	**16.80**	**268**		**Pn**	**09 36 29.5**	**-0.9**
KKAR				IAmb	IAmb	09 36 34.9	
	comp=Z,24nm,0.8s						
KKAR	**Karatay Array**	**16.80**	**268**	P	**Pn**	**09 36 29.5**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,24nm,0.9s						
BOD	**Bodaibo**	**17.11**	**39**	*e*P	**Pn**	**09 36 30.3**	**-3.9**
BOD				pmax	pmax		
	comp=Z,34nm,1.2s						
DRK	**Karamyk**	**17.37**	**256**	P	**P**	**09 36 38.9**	**-0.2**
IUG	**luzhnay**	**17.45**	**266**	*e*P	**P**	**09 36 39.3**	**-0.6**
IUG	**luzhnay**	**17.45**	**266**	*e*P	**P**	**09 36 39.3**	**-0.6**
	baz=265						
BTK	**Batken**	**17.76**	**259**	P	**P**	**09 36 43.1**	**-0.1**
BTK	**Batken**	**17.76**	**259**	P	**P**	**09 36 43.2**	**-0.1**
BTK				pmax	pmax		
	comp=Z,36nm,1.4s						
HIA	**Hailar**	**17.78**	**70**	P	**Pn**	**09 36 40.2**	**-2.5**
HIA	**Hailar**	**17.78**	**70**	P	**Pn**	**09 36 40.2**	**-2.5**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HNS	**HongShan**	**17.82**	**111**	⇑P	**P**	**09 36 45.3**	**+1.4**
HNS				pmax	pmax		
	comp=Z,20nm,0.9s						
HNS				LR	LR		
	comp=Z,1μm,10.0s						
HNS				LR	LR		
	comp=Z,1μm,11.4s						
HNS				LR	LR		
	comp=Z,1μm,13.7s						
LYN	**LuoYang**	**18.26**	**122**	*e*P	**Pn**	**09 36 45.3**	**-3.2**
LYN				PP	**PnPn**	**09 37 00.0**	**+0.3**
LYN				pmax	pmax		
	comp=Z,190nm,5.0s						
LYN				LR	LR		
	comp=Z,730nm,13.2s						
LYN				LR	LR		
	comp=Z,680nm,12.0s						
GAR	**Garm**	**18.61**	**256**	P	**Pn**	**09 36 53.1**	**+0.3**
GAR				IAmb	IAmb	09 37 00.4	
	comp=Z,85nm,0.8s						
GUN	**Gumba**	**19.12**	**202**	*e*P	**Pn**	**09 36 59.6**	**+0.2**
	comp=Z,378nm,1.1s						
TAPN	**Taplejung**	**19.24**	**196**	*e*P	**Pn**	**09 37 00.7**	**-0.1**
	comp=Z,47nm,0.7s						
JIRN	**Jiri**	**19.28**	**201**	*e*P	**Pn**	**

CN2 S S 09 41 29.9 -11
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,1μm,9.0s
CN2 LR LR
comp=Z,500nm,9.0s
CN2 LR LR
comp=Z,700nm,9.0s
ZEA Zeya 22.76 58 *e*P **P 09 37 35.3 -2.0**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=E,800nm,8.0s
ZEA MLR MLR
comp=Z,800nm,8.0s
AB31 Akbulak array 22.90 290 *i*P **P 09 37 39.2 +0.4**
AB31 Akbulak array 22.90 290 ⇑P **P 09 37 39.2 +0.4**
comp=Z,35nm,0.8s,baz=84,slow=10,SNR=196
ABKAR Akbulak array 22.90 290 P **P 09 37 39.0 +0.2**
ABKAR IAmb IAmb 09 37 42.0
comp=Z,46nm,0.9s
ABKAR Akbulak array 22.90 290 P **P 09 37 39.2 +0.4**
BNX BinXian 23.34 78 ⇓P **P 09 37 42.1 -1.3**
BNX pmax pmax
comp=Z,3.0nm,0.5s
BNX pmax pmax
comp=Z,170nm,5.4s
BRDH Bariadhala 23.35 185 P **P 09 37 43.5 -0.1**
BRDH LR LR 09 49 02.7
comp=Z,22nm,0.4s,baz=59,slow=12,SNR=5.9
comp=Z,305nm,18.4s,baz=319,slow=42
comp=Z,22nm,0.4s
NRIK Noril'sk 23.59 355 P **P 09 37 45.4 -0.3**
comp=Z,42nm,0.8s,baz=155,slow=7.5,SNR=20
comp=Z,42nm,0.8s
NRIK Noril'sk 23.59 355 P **P 09 37 44.5 -1.2**
NRIK Noril'sk 23.59 355*d i*P **P 09 37 44.9 -0.8**
NRIK pmax pmax
comp=Z,68nm,0.9s
NJ2 Nanjing 23.85 117 *e*P **P 09 37 50.4 +1.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
AKTO Aktyubinsk 24.06 294 P **P 09 37 51.1 +0.8**
comp=Z,15nm,0.7s,baz=94,slow=9.4,SNR=36
AKTO Lg Lg 09 45 20.7
baz=254,slow=22
AKTO LR LR 09 47 29.1
comp=Z,425nm,20.2s,baz=278,slow=37
comp=Z,15nm,0.7s
AKTO Aktyubinsk 24.06 294 P **P 09 37 50.9 +0.6**
AKTO Aktyubinsk 24.06 294 ⇑P **P 09 37 51.0 +0.6**
comp=Z,26nm,0.9s
ARU Arti 24.11 308 P **P 09 37 51.8 +1.1**
comp=Z,42nm,0.6s,baz=100,slow=5.3,SNR=49
ARU Lg Lg 09 45 22.8
baz=296,slow=12,SNR=1.2
ARU LR LR 09 48 02.7
comp=Z,460nm,20.3s,baz=295,slow=38
comp=Z,42nm,0.6s
ARU Arti 24.11 308 P **P 09 37 51.0 +0.2**
ARU Arti 24.11 308*c i*P **P 09 37 51.5 +0.8**
ARU 09 38 18.3
ARU S **S 09 42 10.5 +2.4**
ARU SS **SnSn 09 42 50.8 +1.8**
ARU pmax pmax
comp=Z,119nm,1.8s
ARU MLR MLR
comp=Z,315nm,11.0s
MDJ Mudanjiang 25.12 80 P **P 09 37 59.3 -0.7**
MDJ Mudanjiang 25.12 80 P **P 09 37 59.4 -0.6**
MDJ pP sP 09 38 04.4 -0.9
MDJ sP pP 09 38 06.6 +2.8
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,190nm,4.5s
KLR Kul'dur 25.63 69 P **P 09 38 04.3 -0.3**
comp=Z,3.5nm,0.7s,baz=279,slow=11,SNR=14
KLR Lg Lg 09 46 04.8
baz=203,slow=23
comp=Z,3.5nm,0.7s
KLR Kul'dur 25.63 69*ce*P **P 09 38 05.3 +0.7**
KLR pmax pmax
comp=Z,4.0nm,0.7s
INCN Inchon 25.83 98 P **P 09 38 06.3 -0.2**
INCN IAmb IAmb 09 38 10.5
comp=Z,34nm,1.3s
INCN Inchon 25.83 98 P **P 09 38 06.3 -0.2**
INCN pmax pmax
comp=Z,34nm,1.3s
YAK Yakutsk 26.04 39 *e*P **P 09 38 06.2 -1.9**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
HRA Herat 26.55 255 P **P 09 38 13.4 +0.1**
KS19 Wonju Array Si 26.67 96 P **P 09 38 15.0 +0.8**
KSAR Wonju Array Be 26.71 96 P **P 09 38 14.3 -0.1**
KSAR Wonju Array Be 26.71 96 P **P 09 38 14.4 -0.1**
KSRS Korea Array 26.73 96 P **P 09 38 14.0 -0.7**
comp=E,3.0nm,0.8s,baz=290,slow=8.4,SNR=19
comp=E,3.0nm,0.8s
USRK Ussuriysk Ar. 26.88 80 P **P 09 38 15.8 -0.2**
comp=E,3.9nm,0.7s,baz=272,slow=10,SNR=8.9
comp=E,3.9nm,0.7s
USRK Ussuriysk Ar. 26.88 80 P **P 09 38 14.4 -1.6**
GEYT Alibeck 27.51 266 P **P 09 38 23.6 +1.8**
comp=E,4.1nm,0.8s,baz=50,slow=4.6,SNR=8.9
comp=E,4.1nm,0.8s
CMAR Chiang Mai Arr 27.82 169 P **P 09 38 24.5 0.0**
comp=E,1.2nm,0.7s,baz=355,slow=9.0,SNR=6.3
CMAR LR LR 09 48 52.0
comp=E,94nm,19.0s,baz=295,slow=35
comp=E,1.2nm,0.7s
CMAR Chiang Mai Arr 27.82 169 *i*P **P 09 38 25.7 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KIRV Kirov 29.30 312 P **P 09 38 37.9 +0.5**
comp=Z,19nm,0.8s,baz=243,slow=8.2,SNR=7.6
comp=Z,19nm,0.8s
KIRV Kirov 29.30 312⇑ *e*P **P 09 38 36.5 -0.9**
BELG Belogornoye 30.37 299 P **P 09 38 48.0 +1.0**
comp=Z,51nm,0.9s,baz=90,slow=2.9,SNR=14
comp=Z,51nm,0.9s
BELG Belogornoye 30.37 299*c i*P **P 09 38 47.8 +0.9**
BELG pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 30.59 21 P **P 09 38 46.9 -1.8**
comp=Z,20nm,0.6s,baz=272,slow=23,SNR=33
comp=Z,20nm,0.6s
TIXI Tiksi 30.59 21 P **P 09 38 47.3 -1.3**
TIXI IAmb IAmb 09 38 51.1
comp=Z,20nm,0.7s
TIXI Tiksi 30.59 21⇑ *e*P **P 09 38 48.0 -0.7**
TIXI pmax pmax
comp=Z,20nm,0.7s
PRGR Permogore 31.54 317 *e*P **P 09 38 53.3 -3.8**
PRGR *e* 09 41 47.4
PRGR pmax pmax
comp=Z,42nm,0.5s
VRH Novokhopyorsk 34.18 298 *e*P **P 09 39 19.8 -0.5**
VRH pmax pmax
comp=Z,30nm,0.9s
MJAR Matsushiro Arr 34.34 90 P **P 09 39 21.1 -0.8**
comp=Z,2.1nm,0.9s,baz=304,slow=5.7,SNR=6.2
MJAR LR LR 09 53 47.9
comp=Z,193nm,18.7s,baz=322,slow=37
comp=Z,2.1nm,0.9s
KLMR Klimovskoe 34.43 315 *e*P **P 09 39 21.7 -0.7**
KLMR *e* 09 40 37.0
KLMR pmax pmax
comp=Z,45nm,1.0s
KLMR MLR MLR
comp=Z,331nm,10.0s
KLMR Klimovskoe 34.43 315 *e*P **P 09 39 21.7 -0.7**
KLMR AMP 09 39 23.8
comp=Z,45nm,1.0s
KLMR *e*PP **PnPn 09 40 37.0 0.0**
KLMR LQ LQ 09 50 47.5
KLMR LQ LQ 09 50 47.5
KLMR LR LR 09 52 14.4
KLMR AMP 09 54 27.2
comp=Z,331nm,10.4s
ZEI Tsey 35.29 283 *e*P **P 09 39 30.0 -0.3**
ZEI pmax pmax
comp=Z,12nm,1.4s
LPSR Galich'ya Gora 35.59 301 *e*P **P 09 39 32.7 +0.3**
LPSR pmax pmax
comp=Z,70nm,0.9s
KBZ Khabaz 35.61 285 P **P 09 39 33.9 +1.1**
comp=Z,3.7nm,0.8s,baz=101,slow=7.5,SNR=6.4
comp=Z,3.7nm,0.8s
KBZ Khabaz 35.61 285⇓ *e*P **P 09 39 33.9 +1.1**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
VORR Voronezh 35.62 299 *e*P **P 09 39 34.1 +1.4**
VORR pmax pmax
comp=Z,90nm,0.4s
KIV Kislovodsk 35.67 286 *i*P **P 09 39 31.5 -1.9**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,163nm,16.0s
VSR Storozhevoye 35.75 299 *e*P **P 09 39 34.0 +0.2**
VSR pmax pmax
comp=Z,40nm,1.0s
MOS Moscow 35.79 307 *e*P **P 09 39 33.8 -0.3**
MOS *e* 09 41 15.3
MOS pmax pmax
comp=Z,68nm,0.8s
GNI Garni 35.80 279 P **P 09 39 35.8 +1.1**
GNI Garni 35.80 279*c i*P **P 09 39 38.0 +3.3**
GNI pmax pmax
comp=Z,111nm,1.5s
MA2 Magadan 35.86 47 P **P 09 39 34.6 -0.1**
comp=Z,5.8nm,0.5s,baz=247,slow=12,SNR=4.1
comp=Z,5.8nm,0.5s
NEY Neytrino 35.91 284⇑ *e*P **P 09 39 38.4 +2.8**
NEY pmax pmax
comp=Z,15nm,2.0s
OBN Obninsk 36.48 306 P **P 09 39 40.4 +0.3**
OBN Obninsk 36.48 306*c i*P **P 09 39 40.3 +0.3**
OBN *e* 09 41 04.5
OBN pmax pmax
comp=Z,109nm,1.7s
OBN MLR MLR
comp=Z,164nm,14.0s
SEY Seymchan 36.52 41 P **P 09 39 39.6 -0.6**
comp=Z,3.6nm,0.6s,baz=288,slow=6.4,SNR=8.1
comp=Z,3.6nm,0.6s
SEY Seymchan 36.52 41⇑ *e*P **P 09 39 41.1 +0.8**
SEY pmax pmax
comp=Z,12nm,1.4s
APA Apatity 37.38 327⇓ *i*P **P 09 39 47.4 -0.2**
APA *i* 09 42 04.0
APA *i* S **S 09 45 31.0 -4.2**
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,900nm,14.0s
SOC Sochi 37.80 286 *e*P **P 09 39 53.0 +1.6**
SOC *e* 09 41 15.2
SOC *e*PPP PPP 09 41 35.8
SOC *e*S **S 09 45 46.5 +4.4**
SOC *e*SS **SnSn 09 48 20.6 -1.5**
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC MLR MLR
comp=Z,190nm,19.0s
GURO Guroymak-BITLI 38.40 278 IAmb IAmb 09 40 01.3
comp=Z,24nm,1.1s
KOPT Kop Dagi 38.78 281 IAmb IAmb 09 40 05.2
comp=Z,22nm,1.2s
MARD Mardin 39.87 277 P **P 09 40 11.0 +2.0**
ARCES ARCESS Array B 40.34 330 P **P 09 40 12.9 +0.5**
comp=Z,5.5nm,0.6s,baz=76,slow=10,SNR=13
ARCES PcP **PcP 09 42 13.4 -2.0**
comp=Z,3.5nm,0.6s,baz=98,slow=3.7,SNR=4.9
comp=Z,5.5nm,0.6s
ARCES ARCESS Array B 40.34 330 P **P 09 40 11.7 -0.7**
PEA0B Petropavlovsk- 40.83 56*de*P **P 09 40 17.7 +1.1**
PETK Petropavlovsk- 40.83 56 P **P 09 40 15.2 -1.4**
comp=Z,14nm,0.9s,baz=270,slow=3.9,SNR=10
comp=Z,14nm,0.9s
PETK Petropavlovsk- 40.83 56 P **P 09 40 17.1 +0.6**
PETK Petropavlovsk- 40.83 56 P **P 09 40 17.2 +0.6**
FIA1 FINESS Array S 40.87 317 P **P 09 40 16.7 -0.1**
FINES FINESS Array B 40.87 317 P **P 09 40 17.2 +0.4**
comp=Z,8.4nm,0.9s,baz=89,slow=8.2,SNR=22
FINES PcP **PcP 09 42 16.1 -1.2**
comp=Z,2.3nm,0.7s,baz=83,slow=4.3,SNR=2.5
comp=Z,8.4nm,0.9s
HAMF Hammerfest 40.94 331 *e*P **P 09 40 17.7 +0.4**
SIM Simferopol' 40.96 291 *e*P **P 09 40 18.8 +1.0**
SIM pmax pmax
comp=Z,55nm,1.1s
VSU Vasula 41.13 313*d i*P **P 09 40 20.0 +1.0**
VSU pmax pmax
comp=Z,64nm,1.2s
KTK1 Kautokeino 41.16 329 *e*P **P 09 40 20.3 +1.1**
MNK Minsk 41.52 307 *i*P **P 09 40 21.5 -0.7**
MNK *i* 09 41 57.2
MNK *i* PPP PPP 09 42 24.6
MNK *i* S **S 09 46 37.1 -0.4**
MNK *i* SS **SS 09 49 42.4 +0.8**
MNK pmax pmax
comp=Z,23nm,1.0s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=N,11nm,15.0s
MNK MLR MLR
comp=E,73nm,22.0s
MNK MLR MLR
comp=Z,368nm,17.0s
MNK Minsk 41.52 307 *i*P **P 09 40 21.5 -0.7**
comp=E,4.0nm,0.8s
MNK *i*P **P 09 40 21.5 -0.7**
comp=N,7.0nm,0.8s
MNK *i*P **P 09 40 21.5 -0.7**
comp=Z,23nm,1.0s,baz=253
MNK *i* PP **PP 09 41 57.2 -0.7**
MNK *i* PPP PPP 09 42 24.7
MNK *i* S **S 09 46 37.1 -0.4**
MNK *i* SS **SS 09 49 42.5 +0.8**
MNK *i* SSS SSS 09 50 09.6
MNK *i* LQ LQ 09 54 30.4
MNK *i* LR LR 09 57 39.5
MNK *i* LRM MLR 09 59 21.7
comp=N,11nm,15.3s
MNK *i* LRM MLR 09 59 27.2
comp=E,73nm,22.4s
MNK *i* LRM MLR 10 00 00.1
comp=Z,368nm,17.2s
AKASG Malin Array Be 41.91 301 P **P 09 40 26.2 +0.7**
comp=Z,7.3nm,0.6s,baz=58,slow=8.6,SNR=29
comp=Z,7.3nm,0.6s
AKASG Malin Array Be 41.91 301 *i*P **P 09 40 26.2 +0.7**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 41.91 301 IAmb IAmb 09 40 26.7
comp=Z,13nm,0.7s
AKBB Malin Array Si 41.91 301*c i*P **P 09 40 26.0 +0.5**
AKBB pmax pmax
comp=Z,14nm,0.7s
BILL Bilibino 41.99 32⇓ *e*P **P 09 40 28.4 +2.5**
BILL *e* 09 42 03.5
BILL pmax pmax
comp=Z,19nm,1.7s
BILL MLR MLR
comp=Z,1μm,19.0s
NACGM Naroch 42.01 307⇓ *e*P **P 09 40 27.3 +1.0**
baz=74
JETT Jettan, Norway 42.12 330 *e*P **P 09 40 28.3 +1.2**
JETT IAmb IAmb 09 40 32.9
comp=Z,29nm,0.7s
BZK Bozkurt 42.30 287 ⇑P **P 09 40 29.2 +0.4**
TRO Tromso 42.63 330 *e*P **P 09 40 31.9 +0.7**
SPITS Spitsbergen Ar 42.84 343 P **P 09 40 33.9 +1.0**
comp=Z,13nm,0.8s,baz=81,slow=8.9,SNR=2.7
SPITS LR LR 10 01 48.6
comp=Z,181nm,18.3s,baz=177,slow=41
comp=Z,13nm,0.8s
BR131 Keskin Array S 43.58 284 P **P 09 40 41.0 +1.6**
BR131 IAmb IAmb 09 40 42.4
comp=Z,25nm,0.8s
BR131 Keskin Array S 43.58 284*c i*P **P 09 40 41.2 +1.8**
BRTR Keskin Array B 43.58 284 P **P 09 40 41.4 +1.9**
comp=Z,15nm,0.8s,baz=79,slow=7.9,SNR=88
comp=Z,15nm,0.8s
ANTO Ankara 44.08 285 ⇑P **P 09 40 43.1 -0.2**
ANTO Ankara 44.08 285 P **P 09 40 43.6 +0.2**
ANTO IAmb IAmb 09 40 46.4
comp=Z,19nm,0.8s
ANTO Ankara 44.08 285 P **P 09 40 43.6 +0.2**
ANTO pmax pmax
comp=Z,19nm,0.9s
BR231 Keskin MP Arra 44.11 285 IAmb IAmb 09 40 46.6
comp=Z,16nm,0.8s
STEI Steigen 44.23 328 *e*P **P 09 40 44.5 +0.4**
FAUS Fauske 44.33 327 *e*P **P 09 40 45.5 +0.6**
FAUS IAmb IAmb 09 40 46.0
comp=Z,33nm,0.8s
TPGR Topolog 44.68 293 ⇑P **P 09 40 49.6 +1.6**
RAYN Ar Rayn 44.72 257 P **P 09 40 48.8 +0.2**
RAYN IAmb IAmb 09 40 50.8
comp=Z,16nm,0.9s
RAYN Ar Rayn 44.72 257 P **P 09 40 48.8 +0.2**
RAYN pmax pmax
comp=Z,16nm,0.9s
CFR Carcaliu 44.72 294 ⇑P **P 09 40 50.0 +1.8**
CFR Carcaliu 44.72 294 ⇑P **P 09 40 50.1 +1.8**
LOF Lofoten 44.81 328 *e*P **P 09 40 48.7 0.0**
MOR8 Moi Rana 44.94 326 *e*P **P 09 40 49.0 -0.7**
MOR8 IAmb IAmb 09 40 52.3
comp=Z,16nm,0.6s
TESR Tescani 45.09 296 ⇑P **P 09 40 52.7 +1.4**
BIZ Bicaz 45.25 297 ⇑P **P 09 40 52.9 +0.5**
VRI Vrincioaia 45.32 295 ⇑P **P 09 40 55.1 +2.1**
VRI Vrincioaia 45.32 295 ⇑P **P 09 40 55.1 +2.1**
LVV L'vov 45.34 301 *e*P **P 09 40 53.9 +0.8**
LVV *e*S **S 09 47 32.1 -1.5**
LVV MLR MLR
comp=Z,300nm,17.0s
KONS Konsvik 45.37 326 *e*P **P 09 40 53.8 +0.7**
BUR08 Bucovina Ar. S 45.52 298 P **P 09 40 55.2 +0.5**
BUR08 IAmb IAmb 09 40 57.3
comp=Z,12nm,0.9s
BURAR Bucovina Array 45.52 298 ⇑P **P 09 40 56.9 +2.2**
BURAR Bucovina Array 45.52 298 P **P 09 40 55.3 +0.6**
BURAR IAmb IAmb 09 40 57.5
comp=Z,11nm,0.9s
BURAR Bucovina Array 45.52 298 P **P 09 40 55.3 +0.6**
BURAR pmax pmax
comp=Z,11nm,0.9s
BORA Eskisehir 45.65 286 IAmb IAmb 09 40 58.3
comp=Z,9.8nm,0.9s
COVR Voineasa-Covas 45.66 295 ⇑P **P 09 40 58.2 +2.4**
KLNR Kaliningrad 45.72 309⇓ *e*P **P 09 40 56.4 +0.4**
KLNR pmax pmax
comp=Z,63nm,1.2s
ISR Istrita 45.76 294 ⇑P **P 09 40 58.2 +1.6**
ISR Istrita 45.76 294 ⇑P **P 09 40 58.2 +1.6**
MLR Muntele Rosu 45.98 295 ⇑P **P 09 41 00.5 +2.1**
MLR Muntele Rosu 45.98 295 ⇑P **P 09 41 00.5 +2.1**
MYLDM Lahad Datu 46.01 145 P **P 09 40 59.8 +1.1**
DOPR Dopca 46.12 296 ⇑P **P 09 41 01.8 +2.4**
ARCR ARCALIA 46.27 298 ⇑P **P 09 41 02.7 +2.1**
SBUM Sibu 46.31 154 P **P 09 41 01.4 +0.4**
SBUM IAmb IAmb 09 41 05.4
comp=Z,18nm,1.2s
NSS Namsos 46.39 324 *e*P **P 09 41 01.1 0.0**
NSS IAmb IAmb 09 41 02.0
comp=Z,12nm,0.8s
VOIR 46.56 295 ⇑P **P 09 41 05.3 +2.3**
VOIR 46.56 295 ⇑P **P 09 41 05.3 +2.3**
GHAJ Ghor Haditha 46.74 273 P **P 09 41 05.2 +0.8**
GHAJ IAmb IAmb 09 41 08.6
comp=Z,19nm,1.0s
KOLS Kolonicke sedl 46.75 301 *e*P **P 09 41 04.5 +0.2**
KOLS *e* 09 42 54.5
KOLS Kolonicke sedl 46.75 301 *e*P **P 09 41 04.5 +0.2**
KOLS *e*PP **PP 09 42 54.5 +0.5**
ARR Arges 46.86 295 ⇑P **P 09 41 08.0 +2.8**
UZH Uzhgorod 46.87 300 *e*P **P 09 41 08.0 +2.8**
UZH *e* 09 41 12.1
LOT Lotru 47.36 296 ⇑P **P 09 41 11.6 +2.3**
DRGR 47.41 298 ⇑P **P 09 41 11.4 +1.8**
DRGR 47.41 298 ⇑P **P 09 41 11.4 +1.8**
OJC Ojcow 47.67 303 *e*P **P 09 41 11.3 -0.1**
OJC Ojcow 47.67 303 P **P 09 41 11.6 +0.2**
NIE Niedzica 47.72 302 P **P 09 41 14.8 +3.0**
NB201 NORSAR Array S 47.85 319 P **P 09 41 12.8 +0.1**
NC602 NORSAR Array S 47.85 319 IAmb IAmb 09 41 13.6
comp=Z,44nm,1.0s
NC602 NORSAR Array S 47.85 319 *e*P **P 09 41 12.7 +0.1**
NC602 IAmb IAmb 09 41 13.8
comp=Z,28nm,1.1s
NORES NORESS Array B 47.85 319 P **P 09 41 12.8 +0.2**
NORES pmax pmax
comp=Z,6.0nm,0.9s
NB2 NORSAR Subarra 47.88 319 P **P 09 41 12.7 -0.3**
comp=Z,13nm,0.8s,baz=65,slow=7.4
NB2 NORSAR Subarra 47.88 319 P **P 09 41 09.1 -3.9**
NB2 pmax pmax
comp=Z,559nm,3.6s
NB2 NORSAR Subarra 47.88 319 P **P 09 41 12.7 -0.3**
baz=65,slow=7.4
NOA NORSAR Array B 47.88 319 P **P 09 41 12.8 -0.3**
comp=Z,5.3nm,0.7s,baz=65,slow=7.5,SNR=30
comp=Z,5.3nm,0.7s
GZR Gura Zlata 48.01 296 ⇓P **P 09 41 16.5 +2.3**
GZR Gura Zlata 48.01 296 ⇓P **P 09 41 16.5 +2.3**
ALN Alexandroupoli 48.07 289 IAmb IAmb 09 41 17.3
comp=Z,18nm,1.1s
SIRR Siria 48.30 298 ⇑P **P 09 41 18.2 +1.8**
DEL Delary 48.35 313 *i*P **P 09 41 16.0 -0.5**
DOMB Dombas 48.47 321 *e*P **P 09 41 17.6 +0.1**
DOMB IAmb IAmb 09 41 18.2
comp=Z,15nm,1.0s
BZS Buzias 48.63 297 ⇑P **P 09 41 21.1 +2.2**
BZS Buzias 48.63 297 ⇑P **P 09 41 21.1 +2.2**
STRU Stroemstad 48.66 317 *e*P **P 09 41 19.2 +0.3**
FABU Falkenberg 48.72 314 *e*P **P 09 41 19.8 +0.4**
BLKB Belogradchik 48.91 294 ⇑P **P 09 41 23.1 +2.0**
ONAU Onsala 48.96 315 *e*P **P 09 41 20.4 -0.8**
MDVR Moldovita 48.96 296 ⇓P **P 09 41 23.6 +2.0**
VYHS Vyhne 48.99 302 *e*P **P 09 41 23.3 +1.6**
VYHS pmax pmax
comp=Z,16nm,1.5s
VYHS Vyhne 48.99 302 *e*P **P 09 41 23.3 +1.6**
VYHS *e*PP **PP 09 43 16.6 +1.8**
VTS Vitosha 49.05 293 ⇑P **P 09 41 24.3 +2.0**
VTS Vitosha 49.05 293 IAmb IAmb 09 41 25.2
comp=Z,9.6nm,0.9s
VTS Vitosha 49.05 293 ⇑P **P 09 41 24.3 +2.0**
KONO Kongsberg 49.16 318 P **P 09 41 23.0 +0.3**
KONO IAmb IAmb 09 41 24.0
comp=Z,19nm,1.2s
KONO Kongsberg 49.16 318*ce*P **P 09 41 23.7 +0.9**
KONO pmax pmax
comp=Z,15nm,1.3s
KONO Kongsberg 49.16 318 *e*P **P 09 41 23.0 +0.3**
MORC Moravsky Berou 49.17 304 *e*P **P 09 41 24.0 +0.9**
AKN Aaknes 49.31 322 *e*P **P 09 41 24.6 +0.7**
AKN IAmb IAmb 09 41 25.6
comp=Z,26nm,1.1s
SKAR Skarslia 49.34 320 *e*P **P 09 41 25.1 +0.9**
SKAR IAmb IAmb 09 41 25.7
comp=Z,21nm,1.0s
KRLC Kraliky 49.48 304 *e*P **P 09 41 26.7 +1.3**
KRLC MLR MLR
comp=Z,400nm,15.1s
KRLC Kraliky 49.48 304 *e*P **P 09 41 26.7 +1.3**
KRLC AMS AMS 10 02 40.0
comp=Z,400nm,15.1s
JAVC Velka Javorina 49.51 303 *e*P **P 09 41 27.9 +2.2**
BOVS Bovan 49.52 295 ⇑P **P 09 41 27.4 +1.6**
OSTC Ostas 49.58 305 AMS AMS 10 02 40.0
comp=Z,300nm,12.4s
DPC Dobruska-Polom 49.62 305 *e*P **P 09 41 28.1 +1.6**
DPC MLR MLR
comp=Z,400nm,10.9s
DPC Dobruska-Polom 49.62 305 *e*P **P 09 41 28.1 +1.6**
DPC AMS AMS 10 02 40.0
comp=Z,400nm,10.9s
CHVC Chvalec 49.66 305 *e*P **P 09 41 28.3 +1.5**
UPC Upice 49.72 305 AMS AMS 10 02 40.0
comp=Z,500nm,8.8s
VRAC Vranov 49.94 304 *e*P **P 09 41 30.3 +1.4**

KRUC **Moravsky** 50.16 303 *e*P P 09 41 31.8 +1.2
MORH **Mrgy, Hungar** 50.17 299 ⇑P P 09 41 32.7 +2.0
MORH **Mrgy, Hungar** 50.17 299 P P 09 41 32.0 +1.4
HOMB **Homborsund** 50.25 317 *e*P P 09 41 31.2 +0.1
HOMB **Homborsund** 50.25 317 *e*P P 09 41 31.3 +0.3
HOMB IAmb IAmb 09 41 31.9
comp=Z,20nm,0.8s
TIH **Tihany** 50.30 300 P P 09 41 35.5 +3.9
DIVS **Divibare** 50.37 296 IAmb IAmb 09 41 34.3
comp=Z,17nm,1.4s
MPLH **Magyarpolny** 50.38 301 P P 09 41 34.8 +2.6
PVCC **Panska Ves** 50.53 306 AMS AMS 10 03 10.0
comp=Z,400nm,11.5s
KOVH **Kovagotottos** 50.56 299 P P 09 41 35.4 +1.8
GOPC **GO Pecny, Ondr** 50.69 305 AMS AMS 10 03 20.0
comp=Z,400nm,10.9s
BLS5 **Blasjo** 50.71 319 *e*P P 09 41 35.4 +0.8
BLS5 IAmb IAmb 09 41 36.0
comp=Z,13nm,0.8s
SOP **Sopron** 50.72 302 P P 09 41 38.3 +3.6
SOP **Sopron** 50.72 302 P P 09 41 38.4 +3.6
MUD **Monsted U'grnd** 50.72 314 *e*P P 09 41 35.6 +1.0
MUD IAmb IAmb 09 41 36.5
comp=Z,21nm,0.7s
BRG **Berggiesshubel** 50.73 306 *e*P P 09 41 37.0 +2.2
BRG Amp 09 41 37.9
comp=Z,15nm,1.1s
BRG *ex* x 09 42 09.6
BRG Amp 09 42 10.8
comp=Z,6.6nm,0.9s
BRG *ex* x 09 42 27.8
BRG Amp 09 42 29.6
comp=Z,5.9nm,0.9s
BRG **Berggiesshubel** 50.73 306 *e*P P 09 41 37.0 +2.2
BRG pmax pmax
comp=Z,15nm,1.1s
BRG MLR MLR
comp=N,298nm,20.9s
BRG MLR MLR
comp=E,180nm,16.1s
BRG MLR MLR
comp=Z,334nm,18.8s
PRU **Pruhonice** 50.80 305 *e*P P 09 41 37.3 +1.9
PRU MLR MLR
comp=Z,400nm,10.9s
PRU **Pruhonice** 50.80 305 *e*P P 09 41 37.3 +1.9
PRU AMS AMS 10 03 20.0
comp=Z,400nm,10.9s
SNART **Snartemo** 50.84 317 *e*P P 09 41 36.5 +1.0
SNART IAmb IAmb 09 41 38.0
comp=Z,83nm,1.3s
RONA **Rosalia, Austr** 50.87 302 *e*P P 09 41 37.7 +1.8
comp=Z,8.2nm,0.8s,SNR=6.0
CONA **Conrad Observa** 51.01 302 *e*P P 09 41 39.2 +2.0
comp=Z,9.7nm,0.9s,SNR=10
CLL **Collm** 51.05 307 IAmb IAmb 09 41 39.1
comp=Z,16nm,1.1s
CLL **Collm** 51.05 307 *i* P P 09 41 37.7 +0.5
CLL *i* 09 41 41.7
CLL *i* 09 41 43.5
CLL pmax pmax
comp=Z,13nm,0.9s
CLL **Collm** 51.05 307 *i* P P 09 41 37.7 +0.5
comp=Z,13nm,0.9s
CLL *i* pP **sP** 09 41 41.7 -1.0
CLL *i* sP **pP** 09 41 43.5 +2.3
CLL *e*PP **PP** 09 43 33.0 -0.4
CKRC **Cesky Krumlov** 51.49 304 *e*P P 09 41 42.1 +1.5
CKRC *e*P P 09 41 42.1 +1.5
MRSI **Marisa** 51.68 143 P P 09 41 42.6 +0.3
comp=Z,23nm,1.0s
PDG **Podgorica** 51.68 295 IAmb IAmb 09 41 47.0
comp=Z,14nm,0.8s
KHC **Kasperske Hory** 51.76 305 *e*P P 09 41 40.1 -2.5
KHC MLR MLR
comp=Z,400nm,11.5s
KHC **Kasperske Hory** 51.76 305 *e*P P 09 41 40.1 -2.5
KHC AMS AMS 10 04 00.0
comp=Z,400nm,11.5s
GERES **GERESS Array B** 51.83 304 P P 09 41 43.9 +0.7
comp=Z,1.1nm,0.7s,baz=64,slow=6.1,SNR=5.9
comp=Z,1.1nm,0.7s
NKC **Novy Kostel** 51.87 306 AMS AMS 10 04 10.0
comp=Z,600nm,12.7s
PTJ **Puntijarka** 51.94 300 P P 09 41 46.8 +2.7
MOA **Molln** 51.99 303 *e*P P 09 41 45.4 +1.1
comp=Z,6.5nm,1.1s
SOKA **Soboth** 52.12 301 *e*P P 09 41 46.4 +1.0
comp=Z,5.6nm,1.0s,SNR=6.1
BIOA **Bad Ischl, Aus** 52.44 303 *e*P P 09 41 49.1 +1.4
comp=Z,12nm,1.2s
OBKA **Obir** 52.49 301 *e*P P 09 41 49.3 +1.1
comp=Z,7.3nm,0.9s
ITM **Ithomi** 52.76 288 IAmb IAmb 09 41 51.4
comp=Z,8.3nm,0.7s
KBA **Koelnbreinsper** 52.92 302 *e*P P 09 41 52.8 +1.4
comp=Z,12nm,1.0s,SNR=14
SABO **M.te Sabotino** 53.33 301 IAmb IAmb 09 41 55.4
comp=Z,39nm,1.6s
ABTA **Abfaltersbach** 53.58 302 *e*P P 09 41 57.2 +1.0
comp=Z,4.4nm,0.7s,SNR=5.2
STAL **STALIGIAL** 53.71 302 IAmb IAmb 09 41 58.3
comp=Z,11nm,1.1s
WTTA **Wattenberg** 53.82 303 *e*P P 09 41 59.2 +1.1
comp=Z,11nm,1.3s
CIMO **Cimolais** 53.85 302 IAmb IAmb 09 41 59.2
comp=Z,37nm,1.6s
MOTA **Moosalm** 54.09 304 *e*P P 09 42 01.1 +1.1
comp=Z,8.1nm,0.8s,SNR=5.2
SQTA **Sankt Quirin** 54.09 303 *e*P P 09 42 01.0 +1.0
comp=Z,10nm,0.8s
EUNU **Eureka** 54.19 0 P P 09 41 58.7 -1.4
RETA **Reutte** 54.21 304 *e*P P 09 42 01.9 +1.1
comp=Z,10nm,1.3s
CTI **Castel Tesino** 54.45 302 P P 09 42 02.3 -0.3
CTI IAmb IAmb 09 42 07.2
comp=Z,17nm,1.3s
CTI **Castel Tesino** 54.45 302 P P 09 42 02.3 -0.3
CTI pmax pmax
comp=Z,17nm,1.3s
FETA **Feichten** 54.48 303 *i* P P 09 42 03.8 +0.9
comp=Z,11nm,1.1s,SNR=6.8
TEOL **Teolo** 54.81 301 P P 09 42 05.6 +0.5
DAVA **Damuels** 54.83 304 *i* P P 09 42 07.0 +1.6
comp=Z,8.1nm,1.0s
SPSI **Sidrap Palu** 54.87 148 P P 09 42 04.5 -1.2
comp=Z,2µmcomp=Z,24nm,1.0s
TIP **Timpagrande** 55.03 292 ⇑P P 09 42 09.0 +2.2
TIP **Timpagrande** 55.03 292 IAmb IAmb 09 42 09.3
comp=Z,18nm,0.9s
FDMO **Fiordimonte** 55.21 298 IAmb IAmb 09 42 12.3
comp=Z,11nm,1.0s
MEM **Membach** 55.23 309 *dx* P 09 42 09.4 +1.4
NRCA **Norcia** 55.30 298 IAmb IAmb 09 42 11.1
comp=Z,12nm,1.0s
C23K **Itkillik River** 55.38 22 P P 09 42 10.2 +1.4
baz=310,SNR=5.1
SPIA **Saint Paul Isl** 55.82 41 P P 09 42 12.9 +0.8
baz=303
RCHB **Rochefort** 55.89 309 *dx* P 09 42 13.9 +1.2
D23K **Nanushuk River** 55.93 23 P P 09 42 13.9 +1.2
baz=311,SNR=5.5
C24K **Franklin Bluff** 55.96 22 P P 09 42 13.8 +0.9
baz=312
E22K **Anaktuvuk Pass** 56.15 24 P P 09 42 16.0 +1.6
baz=310
F21K **Alatna River** 56.25 26 P P 09 42 15.9 +0.8
baz=309,SNR=9.1
DOU **Dourbes** 56.27 309 *d*P P 09 42 15.3 -0.2
D24K **Happy Valley** 56.30 22 P P 09 42 17.5 +2.1
baz=312
TOLK **Toolik Lake Re** 56.45 23 P P 09 42 17.6 +1.1
baz=312,SNR=8.7
F22K **John River** 56.45 25 P P 09 42 17.6 +1.0
baz=310,SNR=12
G21K **Allakaket** 56.69 26 P P 09 42 19.8 +1.5
baz=310
GCSA **Galena City Sc** 56.72 29 P P 09 42 19.5 +1.1
baz=308
C26K **Camden Bay** 56.78 21 P P 09 42 20.4 +1.7
baz=315
E23K **Chandalar** 56.82 24 P P 09 42 21.0 +1.7
baz=312
D25K **Kavik River** 56.83 22 P P 09 42 20.5 +1.2
baz=314,SNR=6.1
E24K **Your Creek** 57.13 23 P P 09 42 22.6 +1.2
baz=313,SNR=11
COLD **Coldfoot** 57.21 25 P P 09 42 23.4 +1.5
baz=312,SNR=15
EKA **Eskdalemuir Ar** 57.27 318 P P 09 42 23.0 +0.5
C27K **Jago River** 57.28 21 P P 09 42 23.6 +1.3
baz=316
H21K **Melozitna Rive** 57.47 27 IAmb IAmb 09 42 26.7
comp=Z,16nm,0.9s
H21K **Melozitna Rive** 57.47 27 P P 09 42 25.5 +1.7
baz=311,SNR=9.0
G23K **Bananza Creek** 57.61 25 P P 09 42 25.9 +1.1
baz=312
F24K **Squaw Lake** 57.67 24 P P 09 42 26.1 +0.9
baz=314,SNR=10
H22K **Ishtalitna Cre** 57.76 26 P P 09 42 26.7 +0.9
baz=312
E25K **Arctic Village** 57.88 22 P P 09 42 27.9 +1.2
baz=315,SNR=7.7
BNI **Bardonecchia** 57.92 303 IAmb IAmb 09 42 31.1
comp=Z,24nm,1.3s
J20K **Nowinta River** 58.00 29 IAmb IAmb 09 42 30.8
comp=Z,8.4nm,0.8s
J20K **Nowinta River** 58.00 29 P P 09 42 29.0 +1.5
baz=310,SNR=5.2
I21K **Tanana** 58.04 27 IAmb IAmb 09 42 31.4
comp=Z,14nm,1.1s
I21K **Tanana** 58.04 27 P P 09 42 29.3 +1.5
baz=312,SNR=5.4
F25K **Christian Rive** 58.24 23 P P 09 42 30.9 +1.6
baz=315,SNR=8.7
H23K **Yukon River** 58.36 26 IAmb IAmb 09 42 33.5
comp=Z,16nm,0.8s
H23K **Yukon River** 58.36 26 P P 09 42 31.9 +1.9
baz=313,SNR=10
G24K **Hadweenzic Riv** 58.36 24 P P 09 42 31.7 +1.7
baz=314,SNR=6.0
MLY **Manley** 58.53 27 IAmb IAmb 09 42 34.3
comp=Z,14nm,1.1s
MLY **Manley** 58.53 27 P P 09 42 33.1 +1.8
baz=313,SNR=7.0
K20K **Telida** 58.56 29 P P 09 42 33.1 +1.6
baz=311
F26K **Sheenjek River** 58.57 22 P P 09 42 32.8 +1.3
baz=316,SNR=5.4
BMAR **Burnt Mountain** 58.64 23 P P 09 42 31.9 -0.2
N16K **Nishlik Lake** 58.71 34 P P 09 42 34.7 +2.2
baz=309
H24K **Noodor Dome** 58.85 25 P P 09 42 35.2 +1.8
baz=314,SNR=5.4
E27K **Coleen River** 58.86 21 P P 09 42 34.8 +1.3
baz=318
NIKH **Nikolski High** 58.87 44 P P 09 42 35.7 +1.9
baz=306
L19K **White Mountain** 59.06 31 P P 09 42 36.7 +1.7
baz=311,SNR=5.7
BPAW **Bear Paw Mtn.** 59.09 28 IAmb IAmb 09 42 38.1
comp=Z,10nm,1.0s
BPAW **Bear Paw Mtn.** 59.09 28 P P 09 42 36.8 +1.7
baz=313,SNR=5.9
H25K **Birch Creek** 59.14 24 P P 09 42 37.2 +1.9
baz=316
G26K **Porcupine Rive** 59.20 23 P P 09 42 37.7 +1.9
baz=317
L20K **Farwell, AK** 59.21 30 P P 09 42 37.7 +1.7
baz=312,SNR=5.9
NEA2 **Nenana** 59.36 26 IAmb IAmb 09 42 39.7
comp=Z,13nm,0.9s
NEA2 **Nenana** 59.36 26 P P 09 42 38.7 +1.7
baz=314,SNR=7.8
MDM **Murphy Dome** 59.36 26 IAmb IAmb 09 42 40.4
comp=Z,11nm,0.9s
M19K **Big River Lodg** 59.41 31 IAmb IAmb 09 42 41.1
comp=Z,10.0nm,0.8s
M19K **Big River Lodg** 59.41 31 P P 09 42 38.7 +1.4
baz=311
SVW2 **Sparrevohn** 59.51 32 IAmb IAmb 09 42 42.2
comp=Z,13nm,1.1s
TCOL **CIGO, UAF Yank** 59.53 26 IAmb IAmb 09 42 41.1
comp=Z,14nm,1.0s
TCOL **CIGO, UAF Yank** 59.53 26 P P 09 42 38.9 +0.8
baz=315
COLA **College** 59.53 26 P P 09 42 38.3 +0.2
COLA IAmb IAmb 09 42 41.1
comp=Z,12nm,0.9s
COLA **College** 59.53 26*d* *i* P P 09 42 39.9 +1.8
COLA pmax pmax
comp=Z,11nm,0.9s
COLA **College** 59.53 26 P P 09 42 38.9 +0.8
baz=315
N18K **Kilae Creek** 59.67 32 P P 09 42 39.8 +0.6
baz=311
CCB **Clear Creek Bu** 59.71 26 IAmb IAmb 09 42 41.8
comp=Z,11nm,1.0s
WRH **Wood River Hil** 59.74 26 IAmb IAmb 09 42 42.0
comp=Z,7.8nm,0.7s
PRP **Porcupine Dome** 59.76 24 IAmb IAmb 09 42 43.0
comp=Z,8.9nm,1.0s
PRP **Porcupine Dome** 59.76 24 P P 09 42 40.2 +0.3
baz=316
M20K **Styx River** 59.87 30 P P 09 42 41.7 +1.0
baz=312,SNR=5.3
G27K **Doyon Strip** 59.88 22 P P 09 42 40.8 +0.3
baz=318
IL31 59.90 26 IAmb IAmb 09 42 42.9
comp=Z,6.6nm,0.7s
ILAR **Eielson Array** 59.90 26 P P 09 42 39.7 -1.0
comp=Z,4.9nm,0.8s,baz=312,slow=5.0,SNR=32
ILAR PcP **PcP** 09 43 27.8 +0.9
comp=Z,1.5nm,0.7s,baz=315,slow=5.0,SNR=4.3
ILAR PP **PP** 09 44 53.0 +0.8
comp=Z,0.8nm,0.9s,baz=314,slow=12,SNR=4.7
comp=Z,4.9nm,0.8s
MCK **McKinley** 60.00 27 P P 09 42 42.6 +1.2
baz=314
N19K **Bonanza Creek** 60.10 32 P P 09 42 43.2 +0.9
baz=312
HDA **Harding Lake** 60.14 26 IAmb IAmb 09 42 44.0
comp=Z,7.5nm,1.0s
HDA **Harding Lake** 60.14 26 P P 09 42 43.7 +1.4
baz=316
H27K **Steamboat Moun** 60.35 23 P P 09 42 44.5 +0.7
baz=319
SKT **Skwentna** 60.36 30 IAmb IAmb 09 42 47.2
comp=Z,11nm,0.9s
SKT **Skwentna** 60.36 30 P P 09 42 45.0 +1.1
baz=313,SNR=6.4
P17K **Kvichak River** 60.44 34 P P 09 42 44.9 +0.5
baz=311
J25K **Salcha River,** 60.47 25 P P 09 42 45.8 +1.2
baz=317
I26K **Coal Creek Min** 60.59 24 IAmb IAmb 09 42 48.8
comp=Z,7.7nm,1.1s
I26K **Coal Creek Min** 60.59 24 P P 09 42 46.7 +1.2
baz=318
INK **Inuvik** 60.66 18 P P 09 42 45.4 -0.4
comp=Z,10nm,0.8s,baz=345,slow=8.2,SNR=17
comp=Z,10nm,0.8s
INK **Inuvik** 60.66 18 P P 09 42 45.4 -0.4
INK IAmb IAmb 09 42 48.5
comp=Z,14nm,1.0s
INK **Inuvik** 60.66 18 P P 09 42 46.0 +0.3
baz=324
Q16K **King Salmon** 60.69 34 P P 09 42 47.1 +1.0
baz=311
P18K **Big Mountain,** 60.77 33 P P 09 42 47.7 +0.9
baz=312
I27K **Kamdik River** 60.80 23 P P 09 42 47.6 +0.7
baz=319,SNR=6.0
K24K **Donnelly Dome** 60.93 26 P P 09 42 48.5 +0.7
baz=317,SNR=6.2
DHY **Denali Highway** 60.96 27 IAmb IAmb 09 42 50.1
comp=Z,8.2nm,0.8s
DHY **Denali Highway** 60.96 27 P P 09 42 48.4 +0.3
baz=316,SNR=6.4
SUA **Susitna One** 60.99 30 P P 09 42 48.6 +0.3
baz=314
M22K **Willow** 61.00 29 P P 09 42 48.8 +0.6
baz=314
J26L **Joseph Creek** 61.08 25 IAmb IAmb 09 42 50.9
comp=Z,7.1nm,0.8s
J26L **Joseph Creek** 61.08 25 P P 09 42 49.2 +0.3
baz=318,SNR=7.0
WAT6 **Susitna Watana** 61.20 28 P P 09 42 49.9 +0.1
baz=316
RIDG **Independent Ri** 61.26 26 P P 09 42 51.2 +1.2
baz=317
F31M **Tsiigehtchic** 61.31 19 P P 09 42 50.5 +0.3
baz=324
SCRK **Sand Creek** 61.34 25 P P 09 42 50.5 -0.2
baz=318
PMR **Palmer** 61.45 29 P P 09 42 51.3 0.0
baz=315
EPYK **Eagle Plains** 61.47 21 P P 09 42 51.3 -0.2
baz=322
R17K **Ugashik Creek** 61.49 35 P P 09 42 51.8 +0.2
baz=312
EGAK **Eagle** 61.55 23 IAmb IAmb 09 42 54.5
comp=Z,11nm,1.2s
EGAK **Eagle** 61.55 23 P P 09 42 52.3 +0.3
baz=320
SML **Sawmill** 61.56 29 P P 09 42 52.0 -0.1
baz=316
DOT **Dot Lake** 61.56 25 IAmb IAmb 09 42 54.1
comp=Z,15nm,1.6s
RC01 **Rabbit Creek A** 61.60 30 P P 09 42 52.4 +0.1
baz=315
C36M **Paulatuk** 61.62 14 P P 09 42 52.2 -0.1
baz=331
PAX **Paxson** 61.64 26 IAmb IAmb 09 42 54.6
comp=Z,21nm,1.8s
PAX **Paxson** 61.64 26 P P 09 42 52.9 +0.2
baz=317
M23K **Glacier View** 61.77 28 P P 09 42 54.1 +0.6
baz=316
KNK **Knik Glacier** 61.80 29 P P 09 42 53.7 0.0
baz=316
KEST **Kesra** 61.82 293 P P 09 42 55.4 +1.1
comp=Z,3.0nm,0.8s,baz=34,slow=7.3,SNR=4.0
comp=Z,3.0nm,0.8s
K27K **Chicken** 61.86 24 IAmb IAmb 09 42 57.0
comp=Z,10nm,1.0s
K27K **Chicken** 61.86 24 P P 09 42 54.5 +0.4
baz=319
I29M **Ogilvie Camp,** 61.87 22 P P 09 42 54.4 +0.3
baz=322
SCM **Sheep Creek Mo** 61.87 28 P P 09 42 54.7 +0.5
baz=316
O22K **Cooper Landing** 62.03 30 P P 09 42 55.9 +0.7
baz=315
M24K **Tolsona, Glenn** 62.05 27 P P 09 42 55.4 0.0
baz=317
HARP **HAARP** 62.16 27 P P 09 42 56.5 +0.4
baz=318
L26K **Log Cabin Wild** 62.25 26 IAmb IAmb 09 42 58.8
comp=Z,11nm,1.6s
L26K **Log Cabin Wild** 62.25 26 P P 09 42 57.2 +0.5
baz=319
Q20K **Shuyak Island** 62.38 33 P P 09 42 57.7 +0.2
baz=314
SEW **Seward** 62.40 30 P P 09 42 57.9 +0.3
baz=316
KLU **Klutina** 62.58 28 P P 09 42 58.8 -0.2
baz=317
DAWY **Dawson** 62.59 23 IAmb IAmb 09 43 01.3
comp=Z,8.3nm,0.9s
DAWY **Dawson** 62.59 23 P P 09 42 59.2 +0.3
baz=321,SNR=8.1
GLI **Glacier Island** 62.65 29 P P 09 42 59.6 +0.2
baz=317
L27K **Beaver Creek,** 62.67 25 IAmb IAmb 09 43 02.6
comp=Z,19nm,1.8s
L27K **Beaver Creek,** 62.67 25 P P 09 42 59.7 +0.2
baz=320
M26K **Nabesna, AK** 62.83 26 P P 09 43 00.5 -0.1
baz=319
KDAK **Kodiak Island** 62.89 33 P P 09 43 01.5 +0.6
comp=Z,3.7nm,0.5s,baz=331,slow=2.7
comp=Z,3.7nm,0.5s
KDAK **Kodiak Island** 62.89 33 P P 09 43 01.0 +0.1
baz=314
N25K **Chitina, Valde** 62.92 27 P P 09 43 01.6 +0.3
baz=318
OHAK **Old Harbor** 63.00 34 P P 09 43 01.5 -0.3
baz=314
P23K **Montague Islan** 63.19 30 P P 09 43 02.5 -0.4
baz=317
M27K **Edge Creek, AK** 63.20 26 P P 09 43 03.2 0.0
baz=320,SNR=9.7
K29M **Barlow Dome** 63.28 23 P P 09 43 03.9 +0.3
baz=323
BVCY **Beaver Creek** 63.46 25 P P 09 43 04.6 -0.2
baz=321,SNR=5.9
MCARA **McCarthy VSAT** 63.59 27 P P 09 43 04.8 -0.8
baz=320
L29M **L29M** 63.69 24 P P 09 43 06.0 -0.3
baz=322
M29M **Somme Creek** 64.13 24 P P 09 43 08.8 -0.5
baz=322
KAIM **Kayak Island** 64.25 28 P P 09 43 09.9 0.0
baz=319
M30M **Minto, Yukon** 64.49 23 P P 09 43 11.7 +0.1
baz=324
MESA **MESA** 64.85 27 P P 09 43 13.8 -0.4
baz=321
O28M **Mount Upton** 64.94 26 P P 09 43 14.8 0.0
baz=322
YUK4 **Talbot Arm** 64.95 25 P P 09 43 14.3 -0.4
baz=323
N30M **Aishikik Lake** 65.31 24 P P 09 43 17.3 +0.3
baz=324
M31M **Drury Creek, Y** 65.45 23 IAmb IAmb 09 43 20.3
comp=Z,10nm,0.9s
M31M **Drury Creek, Y** 65.45 23 P P 09 43 17.9 +0.2
baz=325
PINM **Pinnacle** 65.45 26 P P 09 43 17.5 -0.3
baz=322
N31M **Braeburn, Yuko** 65.66 24 P P 09 43 18.9 -0.2
baz=324
HYT **Haines Junctio** 65.70 25 P P 09 43 18.8 -0.8
baz=324
FARO **Faro, Yukon** 65.70 22 IAmb IAmb 09 43 22.7
comp=Z,22nm,1.8s
FARO **Faro, Yukon** 65.70 22 P P 09 43 18.8 -0.7
baz=326
O29M **Mount Kennedy** 65.80 26 P P 09 43 20.5 +0.3
baz=323
MMPY **Sheldon Lake,** 65.91 21 P P 09 43 21.3 +0.6
baz=327
O30N **Mendenhall** 66.15 24 P P 09 43 22.4 0.0
baz=324
WHY **Whitehorse** 66.59 24 P P 09 43 25.2 -0.1
baz=325
N32M **Quiet Lake** 66.67 23 P P 09 43 25.6 -0.1
baz=326
PLBC **Pleasant Camp** 67.14 25 P P 09 43 28.6 0.0
baz=325
WRGLY **Wrigley** 67.16 17 P P 09 43 28.9 +0.2
baz=333
ESDC **Sonseca Array** 67.42 304 P P 09 43 31.4 +0.6
comp=Z,5.3nm,0.8s,baz=50,slow=5.6,SNR=25
ESDC LR LR 10 12 57.2
comp=Z,79nm,19.3s,baz=74,slow=36
comp=Z,5.3nm,0.8s
ESDC **Sonseca Array** 67.42 304 P P 09 43 31.0 +0.2
ESDC IAmb IAmb 09 43 32.5
comp=Z,8.0nm,1.1s
P33M **Teslin, Yukon** 67.53 23 IAmb IAmb 09 43 33.4
comp=Z,7.2nm,0.9s
P33M **Teslin, Yukon** 67.53 23 P P 09 43 31.0 -0.1
baz=327
PBRG **Braganca** 67.58 307 *e*P P 09 43 33.0 +1.3
TGTN **Hyland Airport** 67.58 20 P P 09 43 31.2 -0.2
baz=330
MVO **Moncorvo** 68.17 307 *e*P P 09 43 36.8 +1.3
KMBO **Kilima Mbogo** 68.25 244 P P 09 43 36.3 -0.2
comp=Z,1.8nm,0.4s,baz=38,slow=9.7,SNR=8.7
comp=Z,1.8nm,0.4s
KMBO **Kilima Mbogo** 68.25 244 P P 09 43 36.3 -0.2
KMBO IAmb IAmb 09 43 38.4
comp=Z,9.2nm,1.1s
R33M **Jennings River** 68.72 23 P P 09 43 38.8 0.0
baz=328
PVIS **Viseu** 68.95 307 *e*P P 09 43 41.5 +1.1
YKA **Yellowknife Ar** 69.48 14 P P 09 43 42.4 -0.8
comp=Z,2.4nm,0.8s,baz=339,slow=6.1,SNR=4.1
comp=Z,2.4nm,0.8s
YKA **Yellowknife Ar** 69.48 14 *i* P P 09 43 44.5 +1.3
YKA pmax pmax
comp=Z,2.0nm,0.8s
PMRV **Marv??o** 69.55 306 *e*P P 09 43 45.2 +1.1
PCAS **Casmilo, Conde** 69.74 307 *e*P P 09 43 46.0 +0.8
DLBC **Dease Lake** 69.80 23 LR LR 10 16 30.3
comp=Z,212nm,18.2s,baz=84,slow=38
DLBC **Dease Lake** 69.80 23 P P 09 43 44.0 -1.4
baz=329
S34M **Telegraph Cree** 69.94 24 P P 09 43 45.0 -1.2

baz=328
PESTR **Estremoz** 70.05 305 *e*P P 09 43 48.4 +1.3
PBAR **Barrancos** 70.20 305 *e*P P 09 43 49.3 +1.2
EVO **Evora** 70.52 305 *e*P P 09 43 50.8 +0.8
PBEJ **Beja** 70.78 305 *e*P P 09 43 52.8 +1.2
T35M **Bob Quinn** 70.99 24 P P 09 43 51.8 -0.7
baz=329
PNCL **Nicolau / Gran** 71.10 305 *e*P P 09 43 54.8 +1.3
MESJ **Messejana** 71.11 305 *e*P P 09 43 54.3 +0.6
MESJ IAmb IAmb 09 43 55.2
comp=Z,12nm,0.9s
MESJ **Messejana** 71.11 305 *e*P P 09 43 54.2 +0.6
MESJ **Messejana** 71.11 305 *e*P P 09 43 54.3 +0.6
MBAR **Mbarara** 72.02 250 *ce*P P 09 44 01.1 +1.6
MBAR pmax pmax
comp=Z,5.0nm,1.0s
WB0 **Warramunga Arr** 75.12 141 P P 09 44 18.3 +1.0
WB0 IAmb IAmb 09 45 19.6
comp=Z,21nm,1.6s
WRA **Warramunga Arr** 75.25 141 P P 09 44 16.4 -1.7
comp=Z,4.9nm,1.0s,baz=339,slow=5.6,SNR=16
comp=Z,4.9nm,1.0s
WRA **Warramunga Arr** 75.25 141 P P 09 44 16.6 -1.5
WRA **Warramunga Arr** 75.25 141 *i* P P 09 44 15.8 -2.3
WRA pmax pmax
comp=Z,5.0nm,1.0s
WB2 **Warramunga Arr** 75.25 141 P P 09 44 16.5 -1.7
SCHQ **Schefferville** 78.19 349 P P 09 44 34.4 0.0
comp=Z,3.6nm,0.6s,baz=4.7,slow=8.8,SNR=7.8
comp=Z,3.6nm,0.6s
ASAR **Alice Springs** 78.34 143 P P 09 44 34.5 -1.0
comp=Z,2.1nm,0.8s,baz=338,slow=5.1,SNR=16
comp=Z,2.1nm,0.8s
ASAR **Alice Springs** 78.34 143 P P 09 44 34.9 -0.6
ASAR **Alice Springs** 78.34 143 P P 09 44 34.9 -0.6
EDM **Edmonton** 78.46 16 IAmb IAmb 09 44 36.6
comp=Z,26nm,1.6s
VOI **Vohitsoka** 79.88 224 P P 09 44 45.0 +0.8
TORD **Torodi Ar. Bea** 82.08 281 P P 09 44 55.9 -0.1
comp=Z,1.2nm,0.6s,baz=37,slow=5.0,SNR=8.2
comp=Z,1.2nm,0.6s
NEW **Newport** 82.30 20 P P 09 44 55.4 -1.4
comp=Z,1.6nm,0.8s,baz=325,slow=6.3,SNR=3.6
comp=Z,1.6nm,0.8s
NEW **Newport** 82.30 20 P P 09 44 56.2 -0.5
baz=339
C09A **Chrisman Ranch** 82.45 21 IAmb IAmb 09 45 00.8
comp=Z,13nm,1.2s
EGMT **Eagleton** 84.11 16 P P 09 45 05.4 -0.7
baz=344
MSO **Missoula** 84.39 19 IAmb IAmb 09 45 10.8
comp=Z,8.1nm,1.2s
MSO **Missoula** 84.39 19 P P 09 45 06.5 -1.1
baz=341
DGMT **Dagmar** 84.60 12 P P 09 45 07.3 -1.2
baz=348
AGMN **Agassiz Nation** 85.69 6 P P 09 45 12.8 -1.2
baz=353
J05D **Fort Kobok, OR** 85.81 25 P P 09 45 14.0 -0.9
baz=336
BOZ **Bozeman (W)** 86.06 18 P P 09 45 15.0 -1.0
baz=343
EYMN **Ely** 86.31 4 P P 09 45 16.5 -0.5
baz=356
L04D **Klamath Falls** 86.47 26 P P 09 45 17.7 -0.4
baz=336
RLMT **Red Lodge** 86.99 16 P P 09 45 20.3 -0.4
baz=344
HLID **Hailey** 87.37 20 P P 09 45 22.0 -0.5
baz=341
FXWY **Fox Creek** 88.06 18 IAmb IAmb 09 45 29.8
comp=Z,14nm,1.9s
STKA **Stephens Creek** 88.80 141 P P 09 45 26.6 -2.4
comp=Z,4.5nm,1.0s,baz=348,slow=6.3,SNR=5.8
comp=Z,4.5nm,1.0s
RSSD **Black Hills** 88.87 13 P P 09 45 29.2 -0.4
RSSD **Black Hills** 88.87 13 P P 09 45 29.3 -0.4
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD **Black Hills** 88.87 13 P P 09 45 28.8 -0.9
baz=348
SPMN **Marine on St.** 88.96 5 P P 09 45 28.8 -1.0
baz=355
LONY **Lake Ozonia** 89.16 352 P P 09 45 29.5 -1.3
baz=8.1
PDAR **Pinedale Array** 89.20 17 P P 09 45 29.7 -1.6
comp=Z,0.6nm,0.8s,baz=23,slow=2.9,SNR=6.2
comp=Z,0.6nm,0.8s
BEKR **Beckworth** 89.21 26 IAmb IAmb 09 45 34.6
comp=Z,5.0nm,1.0s
SUSD **Miller** 89.22 9 P P 09 45 30.8 -0.3
baz=351
ELK **Elko** 89.82 22 P P 09 45 34.0 -0.2
comp=Z,2.0nm,1.0s,baz=297,slow=4.2,SNR=5.2
comp=Z,2.0nm,1.0s
HWUT **Hardware Ranch** 89.88 19 IAmb IAmb 09 45 37.8
comp=Z,4.6nm,0.8s
PNTR **Pine Nut** 90.15 25 IAmb IAmb 09 45 39.0
comp=Z,6.2nm,1.0s
ECSD **EROS Data Cent** 90.16 7 IAmb IAmb 09 45 38.2
comp=Z,8.1nm,0.8s
ECSD **EROS Data Cent** 90.16 7 P P 09 45 34.9 -0.5
baz=353
TCUT **Toone Canyon** 90.39 19 IAmb IAmb 09 45 40.9
comp=Z,9.4nm,0.9s
DUG **Dugway, Tooele** 90.94 20 P P 09 45 38.4 -0.9
baz=342
NVAR **Mina Array Bea** 91.14 25 P P 09 45 40.9 +0.5
comp=Z,0.8nm,0.7s,baz=335,slow=4.0,SNR=7.7
comp=Z,0.8nm,0.7s
DBIC **Dimbokro** 91.19 281 P P 09 45 42.8 +2.1
comp=Z,3.1nm,0.8s,baz=84,slow=6.0,SNR=3.8
comp=Z,3.1nm,0.8s
RDMU **Red Mountain** 91.31 18 IAmb IAmb 09 45 44.8
comp=Z,9.0nm,0.9s
PHWY **Pilot Hill** 91.39 14 IAmb IAmb 09 45 45.0
comp=Z,7.9nm,0.9s
BINY **Binghamton** 91.69 352 P P 09 45 42.8 +0.1
baz=7.1
SPR3 **Spring Creek 3** 91.69 22 IAmb IAmb 09 45 47.2
comp=Z,4.4nm,0.8s
N23A **Red Feather La** 91.70 15 IAmb IAmb 09 45 47.5
comp=Z,6.7nm,1.1s
N23A **Red Feather La** 91.70 15 P P 09 45 42.6 -0.4
baz=346
R11A **Troy Canyon, C** 91.98 23 P P 09 45 43.9 -0.4
baz=340
O20A **White River Ci** 92.00 17 P P 09 45 44.1 -0.2
baz=345
P17A **Butcher Ranch,** 92.11 19 IAmb IAmb 09 45 48.2
comp=Z,7.1nm,1.2s
L44A **Lake County Fo** 92.18 1 P P 09 45 44.3 -0.5
baz=359
TCRU **Three Creeks R** 92.53 20 IAmb IAmb 09 45 51.0
comp=Z,5.3nm,0.9s
Q16A **Castle Valley** 92.54 19 IAmb IAmb 09 45 50.3
comp=Z,3.4nm,0.9s
ISCO **Idaho Springs** 92.82 15 P P 09 45 47.8 -0.5
baz=347
CWC **Cottonwood Cre** 93.05 25 P P 09 45 48.9 -0.3
baz=338
MPMC **Manual Prospec** 93.58 25 P P 09 45 51.0 -0.7
baz=339
PV15 **Paradox Valley** 93.68 17 IAmb IAmb 09 45 55.6
comp=Z,5.9nm,0.8s
PKM **Mcpherson Peak** 93.95 27 P P 09 45 53.2 -0.2
baz=337
LRMC **Laurel Mtn Rad** 94.06 25 P P 09 45 53.7 -0.1
baz=339
SHOC **Shoshone, Teco** 94.08 24 P P 09 45 53.7 -0.1
baz=340
ACSO **Alum Creek Sta** 94.08 357 P P 09 45 53.1 -0.6
baz=2.3
GSC **Goldstone, Bar** 94.49 25 P P 09 45 55.7 0.0
baz=339
P38A **Dawn** 94.49 6 IAmb IAmb 09 45 58.1
comp=Z,6.7nm,0.9s
MCWV **Mont Chateau** 94.51 355 P P 09 45 55.5 -0.1
baz=4.4
EDW2 **Edwards Air Fo** 94.53 26 P P 09 45 56.0 +0.1
baz=338
S22A **4UR Ranch, Cre** 94.59 16 P P 09 45 56.0 -0.4
baz=346
TUQ **Turquoise Moun** 94.61 24 P P 09 45 55.7 -0.7
baz=340
P52A **Corning** 94.65 357 P P 09 45 55.6 -0.7
baz=2.9
CBKS **Cedar Bluff** 94.69 11 P P 09 45 56.1 -0.4
baz=351
SDCO **Great Sand Dun** 94.84 15 P P 09 45 56.4 -1.2
SDCO **Great Sand Dun** 94.84 15 P P 09 45 56.1 -1.4
baz=347
T25A **Trinidad** 95.62 14 P P 09 45 58.9 -2.1
baz=348
BELC **Belle Mtn. Jos** 95.94 24 P P 09 46 00.6 -1.9
baz=340
PFO **Pinyon Flats O** 96.17 25 *i* P P 09 46 03.9 +0.5
ANMO **Albuquerque** 97.37 17 P Pdif 09 46 09.7 +0.6
comp=Z,2.6nm,0.9s,baz=9.1,slow=5.3,SNR=10
comp=Z,2.6nm,0.9s
ANMO **Albuquerque** 97.37 17 P Pdif 09 46 09.9 +0.8
ANMO IAmb IAmb 09 46 12.8
comp=Z,2.4nm,0.8s
ANMO **Albuquerque** 97.37 17 ⇓ *i* P Pdif 09 46 09.3 +0.3
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO **Albuquerque** 97.37 17 P P 09 46 07.1 -1.9
baz=346
WMOK **Wichita Mounta** 98.82 10 P P 09 46 13.4 -1.9
baz=351
MSTX **Muleshoe** 98.99 14 P Pdif 09 46 14.0 -2.2
baz=348
MIAR **Mount Ida** 99.54 6 P Pdif 09 46 16.6 -1.9
baz=355
OXF **Oxford** 99.79 3 P Pdif 09 46 17.7 -1.9
baz=358
GOGA **Godfrey** 100.90 358 P Pdif 09 46 22.4 -2.1
baz=1.9
NHSC **New Hope** 101.05 355 P Pdif 09 46 23.2 -2.0
baz=4.3
LPAZ **La Paz** 146.72 327 PKPbc PKPdf 09 52 16.0 -0.5
comp=Z,4.5nm,0.7s,baz=71,slow=2.7,SNR=14
CPUP **Villa Florida** 149.74 301 PKPbc PKPbc 09 52 23.4 -1.8
comp=Z,6.6nm,0.7s,baz=40,slow=1.3,SNR=12

DDA 14 09:38:27.7±0.0, 40.71N×32.86E, h7km±1km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMDR	**Camlidere-ANKA**	**0.36**	**234**	P	Pg	09 38 35.3	+0.4
CMDR				S	Sg	09 38 41.0	+1.3
CMDR				*i* AML	AML	09 38 42.0	
	comp=E,20nm,0.3s						
CMDR				*i* AML	AML	09 38 42.0	
	comp=N,18nm,0.2s						
ELDT	**Eldivan**	**0.49**	**117**	P	Pg	09 38 37.4	+0.3
ELDT				S	Sg	09 38 44.4	+0.9
BCAM	**Yenicaga**	**0.61**	**280**	P	Pg	09 38 40.0	+0.5
KIBS	**BOLU**	**0.82**	**250**	P	Pg	09 38 43.8	+0.3
KIBS				S	Sb	09 38 55.5	-0.2
KIBS				*i* AML	AML	09 38 56.0	
	comp=E,8.7nm,0.6s						
KIBS				*i* AML	AML	09 38 56.0	
	comp=N,8.8nm,0.2s						

VIE 14 09:38:44.4±0.1, 48.35N×15.63E, h0km, mb1.2/1, ml1.1/3, Error ellipse: s-maj=1.3km s-min=1.1km az=122.0 7 km WSW of Wagram a.d. Traisen Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONA	**Conrad Observa**	**0.45**	**159**	*e*Pg	Pg	09 38 53.2	+0.2
	0.3nm,0.1s						
CONA				*e*Sg	Sg	09 38 59.6	+0.8
	1.2nm,0.2s						
RONA	**Rosalia, Austr**	**0.79**	**145**	*e*Pg	Pg	09 38 59.6	+0.1
	0.6nm,0.1s						
RONA				Sg	Sg	09 39 10.4	+0.7
	2.0nm,0.2s						

ROM 14 09:42:26.0±0.1, 42.912N±0.002×13.182E±0.004, h7km, ML1.0/4, 1C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=269.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.01**	**82**	P	Pg	09 42 27.4	-0.2
MC2				S	Sg	09 42 28.4	-0.2
T1242	**Castelluccio d**	**0.08**	**169**	P	Pg	09 42 28.2	0.0
T1242				S	Sg	09 42 29.9	+0.2
T1242				AML	AML		
	comp=E,65μm,0.4s						
T1242				AML	AML		
	comp=N,66μm,0.3s						
T1242				AML	AML		
	comp=E,100μm,0.3s						
T1242				AML	AML		
	comp=N,146μm,0.6s						
T1242				AML	AML		
	comp=E,100μm,0.3s						
T1242				AML	AML		
	comp=N,146μm,0.6s						
NRCA	**Norcia**	**0.09**	**213**	⇑ P	Pg	09 42 28.4	+0.2
NRCA				S	Sg	09 42 30.1	+0.3
MMO1	**Montemonaco**	**0.11**	**97**	P	Pg	09 42 28.5	+0.1
MMO1				S	Sg	09 42 30.3	+0.2
T1216	**Preci, Frazion**	**0.12**	**260**	P	Pg	09 42 25.9	-2.8
AM05	**Amandola Campo**	**0.14**	**62**	P	Pg	09 42 28.7	-0.2
AM05				AML	AML		
	comp=N,445μm,0.1s						
AM05				AML	AML		
	comp=E,733μm,0.1s						
FDMO	**Fiordimonte**	**0.14**	**331**	P	Pg	09 42 29.1	+0.1
FDMO				S	Sg	09 42 31.7	+0.6
FDMO				AML	AML		
	comp=E,24μm,1.0s						
FDMO				AML	AML		
	comp=N,36μm,0.2s						
CSP1	**Cessapalombo**	**0.18**	**5**	P	Pg	09 42 29.8	+0.1
CSP1				S	Sg	09 42 33.0	+0.8
T1241	**Roccafluvione,**	**0.19**	**107**	⇓ P	Pg	09 42 30.1	+0.2
T1215	**Vallo di Nera,**	**0.26**	**245**	P	Pg	09 42 31.1	+0.1
T1215				S	Sg	09 42 35.2	+0.7
T1215				AML	AML		
	comp=E,84μm,1.6s						
T1215				AML	AML		
	comp=N,50μm,1.4s						
T1243	**Rocca Santa Ma**	**0.29**	**138**	P	Pg	09 42 29.4	-2.4
T1243				S	Sg	09 42 36.5	+0.9
TERO	**Teramo**	**0.42**	**133**	P	Pg	09 42 33.0	-1.2

*UPP **14** 09:59:52.5±3.0, 64.24N×32.38E, h0km, ML2.0, Suspected explosion*
*BER **14** 10:00:01.8±1.1, 64.55N×31.43E, h0km, ML1.8, Suspected explosion*
*HEL **14** 10:00:02.4±0.1, 64.60N×30.71E, h0km, ML2.2, Explosion*
*IDC **14** 10:00:04.3±2.1, 64.66N×30.88E, h0km, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=29.9km s-min=9.9km az=102.0*

ISC 14 10:00:02.3±1.0, 64.66N±0.03×30.66E±0.05, h0km, n43, σ1s89/65, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.55**	**216**	PG	**Pg**	**10 00 11.7**	**-1.1**
KU6	**Riekki**	**1.41**	**347**	PG	**Pg**	**10 00 28.7**	**-0.6**
	baz=168						
KU6				SG	**Sg**	**10 00 46.7**	**-0.7**
KU6				MSG		10 00 46.7	
	comp=Z,14nm,0.2s						
MSF	**Maaselka**	**1.43**	**332**	PG	**Pn**	**10 00 29.4**	**-0.1**
MSF				SG	**Sg**	**10 00 47.7**	**-0.4**
OLKF	**Oulanka, Finla**	**1.75**	**343**	PB	**Pn**	**10 00 32.6**	**-1.3**
OLKF				SG	**Sn**	**10 00 57.7**	**+0.9**
JOF	**Joensuu**	**1.77**	**170**	PG	**Pn**	**10 00 32.8**	**-1.4**
OUL	**Oulu**	**2.08**	**284**	PB	**Pn**	**10 00 39.2**	**+0.8**
OUL				SG	**Sb**	**10 01 07.2**	**+0.1**
OBF4	**Vikkela, Lumij**	**2.39**	**276**	PB	**Pn**	**10 00 43.9**	**+1.3**
	baz=94						
OUF	**Merijarvi**	**2.58**	**266**	PN	**Pn**	**10 00 45.2**	**0.0**
	baz=86						
OUF				MSG		10 01 19.1	
	comp=Z,28nm,0.2s						
OUF				SG	**Sb**	**10 01 21.9**	**+0.3**
RNF	**Rovaniemi**	**2.75**	**318**	PN	**Pn**	**10 00 49.4**	**+1.8**
	baz=133						
RNF				SB	**Sb**	**10 01 26.0**	**-0.3**
OBF0	**Syolatti, Pyha**	**2.78**	**270**	PB	**Pn**	**10 00 49.6**	**+1.7**
TOF	**Tornio**	**3.01**	**301**	PN	**Pn**	**10 00 52.3**	**+1.2**
TOF				MSG		10 01 32.3	
	comp=Z,7.6nm,0.2s						
TOF				SB	**Sb**	**10 01 34.0**	**+0.1**
VRF	**Varrio**	**3.13**	**353**	PN	**Pn**	**10 00 53.8**	**+1.0**
VRF				MSG		10 01 36.2	
	comp=Z,4.0nm,0.2s						
VRF				SB	**Sb**	**10 01 38.3**	**+0.9**
OBF8	**Ulkokalla**	**3.14**	**267**	PN	**Pn**	**10 00 54.4**	**+1.5**
KAF	**Kangasniemi**	**3.22**	**219**	PB	**Pn**	**10 00 56.8**	**+2.7**
	baz=35						
KAF				MSG		10 01 35.9	
	comp=Z,3.9nm,0.2s						
SGF	**Sodankyl**	**3.26**	**331**	PG	**Pb**	**10 01 02.5**	**+1.5**
SGF				SG	**Sb**	**10 01 43.6**	**+2.5**
RUFX	**Ruokolahti**	**3.34**	**194**	PB	**Pn**	**10 00 57.2**	**+1.6**
KEF	**Keuruu**	**3.61**	**229**	PB	**Pn**	**10 01 01.9**	**+2.5**
LVZ	**Lovozero**	**3.63**	**25**	SN	**Sn**	**10 01 42.5**	**-0.6**
KLF	**Kolari**	**3.77**	**316**	PN	**Pn**	**10 01 02.3**	**+0.8**
KLF				SG	**Sg**	**10 02 00.7**	**-2.4**
FIA0	**FINESS Array S**	**3.84**	**215**	PN	**Pn**	**10 01 03.2**	**+0.6**
	baz=30						
FINES	**FINESS Array B**	**3.84**	**215**	Pn	**Pn**	**10 01 04.2**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=9.9						
FINES				Pg	**Pb**	**10 01 11.7**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=32,slow=15,SNR=13						
FINES				Lg	Lg	10 02 02.1	
	comp=Z,2.1nm,0.3s,baz=46,slow=28,SNR=12						
	comp=Z,0.6nm,0.3s						
VAF	**Ylistaro**	**3.89**	**249**	PN	**Pn**	**10 01 04.4**	**+1.1**
PAJU	**Pajala**	**3.90**	**311**	P	**Pn**	**10 01 04.5**	**+1.0**
PAJU				S	**Sn**	**10 01 54.7**	**+4.7**
PAJU	**Pajala**	**3.90**	**311**	PN	**Pn**	**10 01 04.7**	**+1.2**
PAJU				SG	**Sb**	**10 02 03.4**	**+3.7**
SJUU	**Sjulsmark**	**3.92**	**287**	P	**Pn**	**10 01 04.8**	**+1.1**
SJUU				S	**Sb**	**10 02 03.7**	**+3.5**
ERTU	**Ertsjaerv**	**3.99**	**302**	P	**Pn**	**10 01 06.0**	**+1.3**
ERTU	**Ertsjaerv**	**3.99**	**302**	PN	**Pn**	**10 01 05.9**	**+1.3**
ERTU				SG	**Sg**	**10 02 08.4**	**-2.1**
BURU	**Burvik**	**4.00**	**273**	P	**Pn**	**10 01 03.6**	**-1.1**
ODEU	**Stanfors**	**4.30**	**271**	P	**Pn**	**10 01 09.0**	**+0.1**
HARU	**Harads**	**4.32**	**295**	P	**Pn**	**10 01 10.0**	**+0.9**
LILU	**Lilltraesk**	**4.64**	**283**	P	**Pn**	**10 01 14.5**	**+1.0**
HEF	**Hetta**	**4.69**	**326**	*e*P	**Pn**	**10 01 16.5**	**+2.3**
HEF				*e*S	**Sn**	**10 02 10.2**	**+1.0**
HEF	**Hetta**	**4.69**	**326**	PN	**Pn**	**10 01 16.3**	**+2.2**
HEF				SG	**Sb**	**10 02 26.6**	**+4.5**
PVF	**Pernaja**	**4.69**	**210**	SG	**Sb**	**10 02 25.7**	**+3.6**
SVAU	**Svanoeiden**	**4.78**	**273**	P	**Pn**	**10 01 16.1**	**+0.6**
KTK1	**Kautokeino**	**5.26**	**329**	*e*P	**Pn**	**10 01 23.0**	**+1.0**
KTK1				*e*S	**Sn**	**10 02 22.4**	**-0.8**
KTK1				IAML		10 02 49.2	
	comp=Z,2.5nm,0.2s						
ARA0	**ARCESS Array S**	**5.29**	**340**	*e*P	**Pn**	**10 01 23.1**	**+0.6**
ARA0				*e*S	**Sn**	**10 02 23.1**	**-1.0**
ARA0				IAML		10 02 50.2	
	comp=Z,2.4nm,0.3s						
ARCES	**ARCESS Array B**	**5.29**	**340**	Pn	**Pn**	**10 01 23.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=149,slow=13,SNR=24						
ARCES				Sn	**Sn**	**10 02 19.9**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=158,slow=22,SNR=2.2						
ARCES				Lg	Lg	10 02 43.8	
	comp=Z,0.7nm,0.3s,baz=148,slow=28,SNR=8.6						
	comp=Z,0.5nm,0.2s						
KEV	**Kevo**	**5.31**	**346**	*e*P	**Pn**	**10 01 22.1**	**-0.6**
KEV				*e*S	**Sn**	**10 02 22.3**	**-2.2**
SALU	**Saltoluokta**	**5.66**	**304**	*e*P	**Pn**	**10 01 28.7**	**+1.2**
KIF	**Kilpisjarvi**	**5.84**	**323**	*e*S	**Sn**	**10 02 38.0**	**+0.5**
HFS	**Hagfors**	**9.07**	**248**	Pn	**Pn**	**10 02 14.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=54,slow=13,SNR=7.7						
HFS				Sn	**Sn**	**10 03 51.7**	**-5.4**
	comp=Z,0.2nm,0.3s,baz=62,slow=28,SNR=2.4						
HFS				Lg	Lg	10 04 43.9	
	comp=Z,0.5nm,0.3s,baz=64,slow=28,SNR=3.8						
	comp=Z,0.7nm,0.3s						
NOA	**NORSAR Array B**	**9.58**	**257**	Pn	**Pn**	**10 02 21.0**	**-0.3**
	baz=67,slow=13,SNR=3.9						
NOA				Lg	Lg	10 05 01.2	
	baz=44,slow=8.2,SNR=3.6						
	comp=Z,0.1nm,0.3s						

IDC 14 10:03:34.6±2.5, 54.75N×83.77E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=20.0km s-min=11.0km az=171.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**142**	*i*		10 10 00.0	
	baz=320,slow=319,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.01**	**142**	Pg	Pg	10 03 53.0	-1.0
	1.7nm,0.3s,baz=324,slow=17,SNR=19						
ZALV				Lg	Lg	10 04 08.5	
	4.2nm,0.3s,baz=324,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**5.22**	**220**	Pn	Pn	10 04 54.3	+0.4
	baz=42,slow=14,SNR=4.5						
KURBB				Sn	Sn	10 05 53.1	-1.6
	baz=59,slow=33,SNR=1.8						
KURBB				Lg	Lg	10 06 19.7	
	baz=38,slow=27,SNR=2.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**8.02**	**187**	Pn	Pn	10 05 32.1	-0.3
	0.1nm,0.3s,baz=11,slow=13,SNR=3.2						
MKAR				Sn	Sn	10 07 04.1	+0.4
	0.1nm,0.3s,baz=17,slow=23,SNR=2.9						
	0.3nm,0.5s						

*SNET **14** 10:05:05.6±0.8, 13.43N×90.87W, h12km±16km, ML3.0*
*GCG **14** 10:05:06.8±0.4, 13.76N×91.02W, h47km±16km, MD3.3*

ISC 14 10:05:04.0±3.6, 13.6N±0.1×91.04W±0.10, h23km±25km, n8, σ0s68/14, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.87**	**13**	*e*P	**Pn**	**10 05 21.2**	**+0.1**
PCG	**Pacaya**	**0.90**	**28**	*e*P	**Pn**	**10 05 21.1**	**+0.2**
PCG				*e*S	**Sb**	**10 05 33.5**	**+0.7**
NBG	**Las Nubes**	**1.20**	**34**	*e*P	**Pn**	**10 05 26.0**	**+0.4**
NBG				*e*S	**Sn**	**10 05 41.0**	**-0.3**
STG3	**Santiaguito 3,**	**1.23**	**335**	*e*P	**Pn**	**10 05 26.2**	**+0.2**
STG3				*e*S	**Sn**	**10 05 41.5**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.29**	**70**	*e*P	**Pn**	**10 05 26.8**	**0.0**
SLOZ				*e*S	**Sb**	**10 05 43.8**	**-0.1**
CEVE	**Cerro Verde**	**1.39**	**80**	*e*P	**Pn**	**10 05 28.8**	**+0.4**
CEVE				*e*S	**Sb**	**10 05 47.0**	**0.0**
CEVE				IAML		10 05 47.8	
	comp=Z,584nm,0.2s						
UEES	**Universidad Ev**	**1.75**	**86**	*e*P	**Pn**	**10 05 33.9**	**+0.8**
UEES				*e*S	**Sb**	**10 05 55.6**	**-1.5**
COEB	**Comit de Eme**	**2.44**	**92**	*e*P	**Pn**	**10 05 43.1**	**+0.5**

*LVSN **14** 10:19:38.9±1.9, 57.06N×24.30E, h0km±74km, ML1.5*

HEL 14 10:19:35.2±0.3, 61.00N×30.13E, h0km, ML1.6, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUFX	**Ruokolahti**	**0.71**	**308**	PG	Pg	10 19 48.3	-0.6
	baz=129						
RUFX				SG	Sg	10 19 56.5	-1.7
VJF	**Virojoki**	**1.35**	**251**	PN	Pg	10 20 00.7	-0.3
VJF				MSG		10 20 15.9	
	comp=Z,5.4nm,0.2s						
JOF	**Joensuu**	**2.00**	**16**	PG	Pn	10 20 11.1	+0.8
	baz=200						
JOF				SB	Sn	10 20 35.4	-0.6
FIA0	**FINESS Array S**	**2.01**	**285**	PG	Pn	10 20 11.3	+1.0
	baz=105						
FIA0				SG	Sn	10 20 37.1	+0.9
KAF	**Kangasniemi**	**2.14**	**303**	PG	Pb	10 20 13.9	-1.0
KAF				MSG		10 20 38.7	
	comp=Z,2.4nm,0.2s						
KAF				SG	Sb	10 20 40.9	-1.1
PVF	**Pernaja**	**2.14**	**260**	PG	Pb	10 20 13.8	-1.1
	baz=73						
PVF				MSG		10 20 38.7	
	comp=Z,4.0nm,0.2s						
KEF	**Keuruu**	**2.77**	**297**	PB	Pn	10 20 22.9	+2.0
KEF				MSG		10 20 56.8	
	comp=Z,1.1nm,0.2s						
KEF				SG	Sb	10 20 58.9	-1.2
MEF	**Metsahovi**	**2.94**	**257**	*e*P	Pb	10 20 27.2	-1.1

MEF				*e*S	Sb	10 21 04.6	0.0	
MEF				AML	AML	10 21 10.0		
	comp=E,2.4nm,0.3s							
MEF				AML	AML	10 21 22.4		
	comp=N,3.2nm,0.3s							
MEF				AML	AML	10 21 36.5		
	comp=Z,3.2nm,0.5s							
MEF	**Metsahovi**	**2.94**	**257**	PG	Pb	10 20 27.0	-1.3	
MEF				MSG		10 21 01.5		
	comp=Z,2.5nm,0.2s							
VSU	**Vasula**	**3.07**	**216**	*e*S	Pg	10 20 34.6	+0.6	
RMF	**Romuvaara**	**3.23**	**358**	PN	Pn	10 20 29.1	+2.0	
RAF	**Rauma**	**4.07**	**274**	*e*P	Pn	10 20 42.8	+4.1	
RAF				AML	AML	10 20 57.0		
	comp=Z,2.5nm,0.5s							
RAF				*e*S	Sn	10 21 28.5	+1.5	
RAF				AML	AML	10 21 45.1		
	comp=N,1.7nm,0.3s							
RAF				AML	AML	10 22 24.6		
	comp=E,2.8nm,0.5s							
RAF	**Rauma**	**4.07**	**274**	PB	Pn	10 20 43.0	+4.3	

*IDC **14** 10:53:41.8±2.4,21˚.28S×178˚.56W,h515^{km}±30^{km},mb2.8/6, mbtmp3.9/8, Error ellipse: s-maj=42.9km s-min=16.6km az=145.0*

ISC 14 10:53:42.9±0.9,21˚.3S±0˚.2×178˚.5W±0˚.2,h536^{km},n10, σ1^{s}23/10,mb3.4/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.73**	**42**	P		**P**	**10 55 57.0**	**-1.1**
	28nm,0.5s,baz=247,slow=13,SNR=8.3							
URZ	**Urewera**	**17.34**	**192**	P		**P**	**10 57 14.7**	**-0.4**
	2.7nm,0.4s,baz=341,slow=7.7,SNR=2.7							
STKA	**Stephens Creek**	**37.04**	**245**	P		**P**	**11 00 07.8**	**+0.4**
	2.5nm,0.9s,baz=90,slow=16,SNR=2.0							
	2.5nm,0.9s							
ASAR	**Alice Springs**	**43.90**	**258**	P		**P**	**11 01 02.0**	**-0.3**
	0.7nm,0.6s,baz=98,slow=7.7,SNR=17							
	0.7nm,0.6s							
WRA	**Warramunga Arr**	**44.04**	**263**	P		**P**	**11 01 02.8**	**-0.7**
	0.3nm,0.6s,baz=94,slow=8.1,SNR=1.9							
	0.3nm,0.6s							
NVAR	**Mina Array Bea**	**81.91**	**43**	P		**P**	**11 05 09.4**	**+2.7**
	0.2nm,0.5s,baz=220,slow=5.9,SNR=4.7							
	0.2nm,0.5s							
ILAR	**Eielson Array**	**89.18**	**13**	P		**P**	**11 05 41.0**	**+0.1**
	0.3nm,0.6s,baz=219,slow=5.6,SNR=4.6							
	0.3nm,0.6s							
PDAR	**Pinedale Array**	**89.85**	**43**	P		**P**	**11 05 44.1**	**-0.7**
	0.3nm,0.7s,baz=237,slow=3.1,SNR=4.1							
	0.3nm,0.7s							
ARCES	**ARCESS Array B**	**129.61**	**349**	PKP		**PKPdf**	**11 11 49.7**	**-0.6**
	3.4nm,1.0s,baz=42,slow=1.5,SNR=4.6							
BRTR	**Keskin Array B**	**147.02**	**311**	PKPbc		**PKPbc**	**11 12 26.5**	**+0.6**
	0.2nm,0.4s,baz=56,slow=2.8,SNR=2.2							

*SCB **14** 11:18:43.7±1.1,20˚.85S×67˚.38W,h187^{km}±8^{km},ML3.6/3, Error ellipse: s-maj=3.6km s-min=3.3km az=0.0*

ISC 14 11:18:40.3±2.0,20˚.86S±0˚.05×67˚.38W±0˚.05, h203^{km}±17^{km},n23,σ1^{s}73/36,5C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.68**	**104**	P		**Pn**	**11 19 17.4**	**+1.0**
MOCB				S		**Sn**	**11 19 40.7**	**-3.6**
MOCB				IAML			11 19 44.7	
	247nm,0.3s							
PB09	**IPOC Station P**	**1.97**	**241**	⇓	*i*P	**Pn**	**11 19 20.4**	**+1.6**
PB09					*i* S	**Sn**	**11 19 50.0**	**+1.1**
PB09				IAML			11 19 51.7	
	comp=N,104nm,0.5s							
PB01	**IPOC Station P**	**1.97**	**264**	⇑	*i*P	**Pn**	**11 19 19.6**	**+0.8**
PB01					*i* S	**Sn**	**11 19 48.4**	**-0.4**
PB01				IAML			11 19 50.3	
	comp=N,324nm,0.2s							
GO01	**Chusmiza**	**2.07**	**305**	⇑	*i*P	**Pn**	**11 19 21.5**	**+1.1**
GO01					*i* S	**Sn**	**11 19 54.4**	**+3.1**
GO01				IAML			11 20 01.9	
	comp=N,714nm,0.1s							
GO01	**Chusmiza**	**2.07**	**305**	P		**Pn**	**11 19 21.4**	**+1.1**
GO01				S		**Sn**	**11 19 48.2**	**-3.2**
YJA	**Yavi**	**2.18**	**127**	P		**Pn**	**11 19 22.6**	**+1.3**
LVC	**Limon Verde**	**2.25**	**219**	*e*P		**Pn**	**11 19 23.3**	**+1.3**
LVC				*i* S		**Sn**	**11 19 54.6**	**+0.1**
LVC	**Limon Verde**	**2.25**	**219**	P		**Pn**	**11 19 23.1**	**+1.1**
PB02	**IPOC Station P**	**2.39**	**259**	P		**Pn**	**11 19 24.4**	**+1.2**
PB02				S		**Sn**	**11 19 53.6**	**-3.1**
PB02				IAML			11 19 56.7	
	comp=N,349nm,0.4s							
PB07	**IPOC Station P**	**2.49**	**249**	*e*P		**Pn**	**11 19 25.1**	**+0.7**
PB07				*i* S		**Sn**	**11 19 58.1**	**-0.7**
TA01	**Diego Aracena**	**2.63**	**276**	⇑	*i*P	**Pn**	**11 19 25.7**	**-0.2**
TA01					*i* S	**Sn**	**11 19 59.5**	**-1.9**
TA01				IAML			11 20 00.7	
	comp=E,292nm,0.4s							
TA01	**Diego Aracena**	**2.63**	**276**	P		**Pn**	**11 19 26.5**	**+0.7**
TA02	**Huaiquique**	**2.64**	**282**	P		**Pn**	**11 19 26.7**	**+0.8**
PB06	**IPOC Station P**	**2.74**	**228**	P		**Pn**	**11 19 28.5**	**+1.3**
PB04	**IPOC Station P**	**2.96**	**240**	P		**Pn**	**11 19 30.7**	**+0.9**
PB04				S		**Sn**	**11 20 05.0**	**-3.5**
PB04				IAML			11 20 11.0	
	comp=E,106nm,0.2s							
PB15	**IPOC Station P**	**3.03**	**219**	*e*P		**Pn**	**11 19 31.7**	**+1.0**
PB15				*i* S		**Sn**	**11 20 10.0**	**-0.2**
PB15	**IPOC Station P**	**3.03**	**219**	P		**Pn**	**11 19 31.9**	**+1.2**
PB16	**IPOC Station P**	**3.21**	**321**	⇑	*i*P	**Pn**	**11 19 35.0**	**+1.7**
PB16					*i* S	**Sn**	**11 20 16.1**	**+1.6**
PB12	**IPOC Station P**	**3.56**	**308**	⇑	*i*P	**Pn**	**11 19 36.2**	**-0.7**
PB12					*i* S	**Sn**	**11 20 18.7**	**-2.6**
BBOE	**La Paz, Chanca**	**4.07**	**352**	P		**Pn**	**11 19 45.1**	**+1.5**
BBOD	**La Paz, Gloria**	**4.36**	**344**	P		**Pn**	**11 19 47.6**	**+0.4**
LPAZ	**La Paz**	**4.60**	**351**	P		**Pn**	**11 19 51.0**	**+0.6**
GO02	**Mina Guanaco**	**4.74**	**205**	P		**Pn**	**11 19 52.5**	**+0.8**

WEL 14 11:25:22.5±1.0,37˚S±4˚×17˚9E±˚,h21^{km}±8^{km},M3.4/25, ML3.6/31,MLv3.4/25,Error ellipse: s-maj=0.0km s-min=0.0km az=96.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.85**	**234**	P		Pb	11 25 37.4	-1.2
MXZ				S		Sb	11 25 48.2	-1.4
WMGZ	**Waiomatatini S**	**0.97**	**218**	P		Pn	11 25 41.1	+0.2
WMGZ				S		Sn	11 25 55.7	+1.7
PKGZ	**Pakihiroa**	**1.20**	**226**	P		Pn	11 25 43.8	-0.4
PKGZ				S		Sn	11 26 00.8	+1.0
PUZ	**Puketiti**	**1.24**	**215**	P		Pn	11 25 44.6	-0.1
PUZ				S		Sn	11 26 02.4	+1.5
HAZ	**Te Kaha**	**1.30**	**237**	P		Pn	11 25 44.2	-1.3
HAZ				S		Sb	11 26 03.9	+1.3
TWGZ	**Tauwhareparae**	**1.46**	**220**	P		Pn	11 25 48.3	+0.6
TWGZ				S		Sb	11 26 08.0	+0.8
RUGZ	**Raukumara Rang**	**1.49**	**232**	P		Pn	11 25 48.5	+0.2
RUGZ				S		Sb	11 26 08.4	+0.3
CNGZ	**Carnagh Statio**	**1.61**	**208**	P		Pn	11 25 50.5	+0.7
MWZ	**Matawai**	**1.82**	**225**	P		Pn	11 25 52.9	+0.3
MWZ				S		Sn	11 26 15.2	0.0
WHRZ	**Whale Island**	**1.92**	**245**	P		Pn	11 25 54.7	+0.7
RIGZ	**Rimuhau**	**1.98**	**214**	P		Pn	11 25 54.7	-0.2
RIGZ				S		Sn	11 26 19.9	+0.7
RAGZ	**Rawiri**	**2.00**	**224**	P		Pn	11 25 55.4	+0.3
URZ	**Urewera**	**2.02**	**233**	P		Pn	11 25 55.7	+0.3
URZ				S		Sn	11 26 20.4	+0.3
PRGZ	**Paritu Road**	**2.12**	**208**	P		Pn	11 25 56.4	-0.4
EDRZ	**Edgecumbe**	**2.19**	**241**	P		Pn	11 25 58.7	+0.8
OPRZ	**Ohinepanea**	**2.22**	**249**	P		Pn	11 25 58.2	0.0
SNGZ	**Shannon Statio**	**2.25**	**220**	P		Pn	11 25 58.0	-0.5
SNGZ				S		Sn	11 26 25.4	-0.2
KNZ	**Kokohu**	**2.29**	**211**	P		Pn	11 25 57.9	-1.2
KNZ				S		Sn	11 26 25.1	-1.4
MHGZ	**Mahia Peninsul**	**2.31**	**205**	P		Pn	11 25 59.0	-0.5
MYRZ	**Mayor Island**	**2.35**	**264**	P		Pn	11 26 00.2	+0.3
MUGZ	**Murupara**	**2.37**	**233**	P		Pn	11 26 00.2	0.0
TGRZ	**Tauranga**	**2.41**	**253**	P		Pn	11 26 00.6	-0.2
TARZ	**Mount Tarawera**	**2.42**	**240**	P		Pn	11 26 02.4	+1.4
RRRZ	**Republican Roa**	**2.46**	**238**	P		Pn	11 26 02.1	+0.6
RAHZ	**Arahi**	**2.48**	**221**	P		Pn	11 26 02.2	+0.5
RAHZ				S		Sn	11 26 31.2	-0.1
WHHZ	**Waihua**	**2.53**	**217**	P		Pn	11 26 02.0	-0.3
MTHZ	**Maungataniwha**	**2.57**	**225**	P		Pn	11 26 03.1	+0.1
ALRZ	**Allen Road**	**2.69**	**235**	P		Pn	11 26 05.5	+0.8
NMHZ	**Naumai**	**2.76**	**222**	P		Pn	11 26 05.9	+0.2
KUZ	**Kuaotunu**	**2.78**	**275**	P		Pn	11 26 04.5	-1.3
ARHZ	**Aropaoanui**	**2.79**	**217**	P		Pn	11 26 05.4	-0.5
MRHZ	**Matea Rd**	**2.80**	**230**	P		Pn	11 26 05.9	-0.3
BKZ	**Black Stump Fm**	**2.98**	**224**	P		Pn	11 26 08.3	-0.4
TOZ	**Tahuroa Road**	**3.00**	**256**	P		Pn	11 26 07.8	-1.0
CKHZ	**Cape Kidnapper**	**3.07**	**212**	P		Pn	11 26 08.4	-1.4
MCHZ	**McNeill Hill**	**3.07**	**219**	P		Pn	11 26 09.0	-0.9
GRZ	**Great Barrier**	**3.09**	**284**	P		Pn	11 26 10.6	+0.5
KWHZ	**Kaweka Forest**	**3.20**	**222**	P		Pn	11 26 11.2	-0.5
MKAZ	**Moumakai**	**3.21**	**268**	P		Pn	11 26 10.7	-0.9
WIAZ	**Waiheke Island**	**3.25**	**274**	P		Pn	11 26 11.6	-0.7
KAHZ	**Kahuranaki**	**3.27**	**213**	P		Pn	11 26 10.8	-1.8
KRHZ	**Kereru**	**3.39**	**220**	P		Pn	11 26 12.9	-1.3
ETAZ	**East Tamaki Re**	**3.40**	**271**	P		Pn	11 26 14.8	+0.5
TMVZ	**Te Maari**	**3.42**	**232**	P		Pn	11 26 14.5	-0.2
ETVZ	**East Tongariro**	**3.42**	**232**	P		Pn	11 26 14.6	-0.3
MBAZ	**Motutapu North**	**3.44**	**274**	P		Pn	11 26 15.1	+0.2
BHHZ	**Black Hill Sta**	**3.44**	**224**	P		Pn	11 26 14.4	-0.7
OTVZ	**Oturere**	**3.47**	**232**	P		Pn	11 26 15.3	-0.2
PXZ	**Pawanui**	**3.47**	**211**	P		Pn	11 26 13.0	-2.3
NNVZ	**North Ngauruho**	**3.48**	**233**	P		Pn	11 26 16.5	+0.8
ABAZ	**Army Bay**	**3.51**	**276**	P		Pn	11 26 16.9	+1.0
NGZ	**Ngauruhoe**	**3.52**	**232**	P		Pn	11 26 16.2	0.0
TWVZ	**Taurewa**	**3.56**	**235**	P		Pn	11 26 17.5	+0.8
MOVZ	**Moawhango**	**3.57**	**228**	P		Pn	11 26 16.2	-0.6
PNHZ	**Pukenui**	**3.68**	**218**	P		Pn	11 26 17.6	-0.7
RVAZ	**Riverhead Bore**	**3.69**	**273**	P		Pn	11 26 18.3	-0.1
HIZ	**Hauiti**	**3.71**	**246**	P		Pn	11 26 19.9	+1.2
TSZ	**Takapari Road**	**3.91**	**219**	P		Pn	11 26 19.7	-1.7
WCZ	**Waipu Caves**	**4.05**	**285**	P		Pn	11 26 22.5	+0.3
WAZ	**Wanganui**	**4.25**	**229**	P		Pn	11 26 26.2	+0.2
NEZ	**North Egmont**	**4.57**	**240**	P		Pn	11 26 33.3	+2.8
KHEZ	**Kahui Hut**	**4.63**	**240**	P		Pn	11 26 35.9	+4.5
OUZ	**Omahuta**	**4.87**	**291**	P		Pn	11 26 35.3	+0.7
OGWZ	**Otaki Gorge**	**4.88**	**219**	P		Pn	11 26 32.6	-2.1

*IDC **14** 11:26:50.7±2.0,36˚.55N×71˚.06E,h219^{km}±19^{km},mb3.7/25, mbtmp4.4/33,MS3.5/1,Error ellipse: s-maj=11.8km s-min=8.5km az=174.0*

*BJI **14** 11:26:50.5±0.0,36˚.76N×71˚.07E,h220^{km},mb4.6/31, mB4.8/14*

*MOS **14** 11:26:50.4±0.9,36˚.67N×71˚.10E,h225^{km},mb4.2/27,Error ellipse: s-maj=6.5km s-min=3.4km az=78.1*

*NNC **14** 11:26:51.3±1.5,36˚.83N×70˚.96E,h202^{km}±16^{km},mb3.7, mpv4.7,Error ellipse: s-maj=16.2km s-min=8.1km az=162.0*

*NEIC **14** 11:26:51.6±2.0,36˚.65N±0˚.06×71˚.02E±0˚.07,h226^{km}±6^{km}, mb4.4/37, Error ellipse: s-maj=9.7km s-min=7.5km az=133.0*

ISC 14 11:26:50.5±0.4,36˚.63N±0˚.04×71˚.09E±0˚.03,h217^{km}±4^{km}, h217^{km}:pP-P,n259,σ1^{s}63/298,mb4.2/55,22C-23D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.45**	**346**	Pn		**Pn**	**11 27 36.1**	**+1.1**
CHGR	**Chuyangaron**	**2.54**	**323**			**Pn**	**11 27 36.8**	**+0.8**
CHGR	**Chuyangaron**	**2.54**	**323**	PN		**Pn**	**11 27 36.8**	**+0.8**
KBL	**Kabul**	**2.67**	**219**	Pn		**Pn**	**11 27 38.9**	**+1.2**
KBL	**Kabul**	**2.67**	**219**	PN		**Pn**	**11 27 38.9**	**+1.2**
CEP	**Cherat**	**2.88**	**166**	P		**Pn**	**11 27 42.9**	**+3.0**
CEP				S		**S**	**11 28 20.0**	**+1.8**
BTK	**Batken**	**3.43**	**356**			**Pn**	**11 27 47.9**	**+1.8**
BTK	**Batken**	**3.43**	**356**	PN		**Pn**	**11 27 47.9**	**+1.8**
CHCP	**Chirah Chowk**	**3.45**	**148**	P		**Pn**	**11 27 48.7**	**+2.2**
NIL	**Nilore**	**3.46**	**149**			**Pn**	**11 27 48.9**	**+2.4**
NIL	**Nilore**	**3.46**	**149**	PN		**Pn**	**11 27 48.9**	**+2.4**
OHH	**Osh**	**4.11**	**18**	PN		**Pn**	**11 27 55.2**	**+0.9**
KSH	**Kashi**	**4.81**	**52**	P		**Pn**	**11 27 59.5**	**-3.5**
KSH				S		S	11 28 46.6	-14
KSH				smax		smax		
	comp=N,1μm,0.7s							
KSH				smax		smax		
	comp=E,1μm,0.6s							
TAS	**Tashkent**	**4.90**	**344**	Pn		**Pn**	**11 28 04.9**	**+0.9**
TAS	**Tashkent**	**4.90**	**344**	PN		**Pn**	**11 28 04.9**	**+0.9**
JMU	**Jammu**	**5.00**	**140**	*e*P		**Pn**	**11 28 07.4**	**+2.0**
JMU				*e*S		**S**	**11 29 01.0**	**-3.5**
ARK	**Arkit**	**5.21**	**7**	PN		**Pn**	**11 28 08.8**	**+0.8**
IUG	**luzhnay**	**5.57**	**352**	*e*PN		**Pn**	**11 28 12.9**	**+0.3**
IUG				*i* S		**S**	**11 29 15.2**	**-2.4**
IUG	**luzhnay**	**5.57**	**352**	*e*P		**Pn**	**11 28 12.9**	**+0.3**
	baz=352							
IUG				*i* S		**S**	**11 29 15.3**	**-2.4**
	baz=352							
THN	**Thein Dam**	**5.66**	**136**	*e*P		**Pn**	**11 28 15.7**	**+2.0**
THN				*e*P		**Pn**	**11 28 17.0**	**+3.3**
THN				*e*S		**S**	**11 29 17.3**	**-2.2**
THN				*e*S		S	11 29 20.0	+0.5
ARLS	**Aral**	**5.80**	**25**	PN		**Pn**	**11 28 15.7**	**+0.2**
AML	**Almayashu**	**5.85**	**19**	P		**Pn**	**11 28 16.9**	**+0.4**
	SNR=97							
NRN	**Naryn**	**6.13**	**37**			**Pn**	**11 28 19.4**	**-0.6**
NRN	**Naryn**	**6.13**	**37**	PN		**Pn**	**11 28 19.4**	**-0.6**
UCH	**Uchtor**	**6.19**	**24**	P		**Pn**	**11 28 21.4**	**+0.6**
	SNR=76							
DZA	**Taraz**	**6.26**	**2**	*e*PN		**Pn**	**11 28 21.9**	**+0.6**
DZA	**Taraz**	**6.26**	**2**	*e*P		**Pn**	**11 28 21.9**	**+0.6**
	baz=1.6							
EKS2	**Erkin-Say**	**6.37**	**18**	P		**Pn**	**11 28 23.5**	**+0.7**
	SNR=26							
KK31	**Karatay Array**	**6.48**	**356**	Pn		**Pn**	**11 28 24.2**	**0.0**
KK31	**Karatay Array**	**6.48**	**356**	PN		**Pn**	**11 28 24.4**	**+0.3**
KK31				*e*S		**S**	**11 29 35.2**	**-3.4**
KK31	**Karatay Array**	**6.48**	**356**	P		**Pn**	**11 28 23.6**	**-0.6**
	10nm,0.2s,baz=186,slow=13,SNR=357							
KK31				⇑	S	**S**	**11 29 35.2**	**-3.4**
	87nm,0.5s,baz=171,slow=24,SNR=3.6							
KKAR	**Karatay Array**	**6.48**	**356**	Pn		**Pn**	**11 28 24.7**	**+0.5**
KKAR	**Karatay Array**	**6.48**	**356**			**Pn**	**11 28 25.6**	**+1.4**
KKAR	**Karatay Array**	**6.48**	**356**	PN		**Pn**	**11 28 25.6**	**+1.4**
AAK	**Ala-Archa**	**6.55**	**23**	P		**Pn**	**11 28 26.0**	**+0.8**
	SNR=56							
AAK	**Ala-Archa**	**6.55**	**23**	P		**Pn**	**11 28 25.8**	**+0.7**
	38nm,0.3s,baz=203,slow=9.9,SNR=108							
AAK				S		**S**	**11 29 38.0**	**-2.4**
	71nm,0.5s,baz=151,slow=15,SNR=18							
AAK	**Ala-Archa**	**6.55**	**23**	*d*P		**Pn**	**11 28 25.7**	**+0.6**
AAK				pmax		pmax		
	comp=Z,34nm,0.5s							
KBK	**Karagaybulak**	**6.71**	**25**	P		**Pn**	**11 28 28.4**	**+1.1**
	SNR=14							
BHK	**Bhakra**	**6.82**	**138**	⇑	eP	**Pn**	**11 28 29.5**	**+0.9**
BHK					eS	**S**	**11 29 44.0**	**-2.6**
ULHL	**Ulahol**	**6.88**	**34**	P		**Pn**	**11 28 29.9**	**+0.5**
	SNR=40							
BOOM	**Boomskoye usch**	**6.95**	**31**	Pn		**Pn**	**11 28 30.9**	**+0.6**
BOOM	**Boomskoye usch**	**6.95**	**31**	PN		**Pn**	**11 28 30.9**	**+0.6**
CHMS	**Chumysh**	**6.96**	**23**	P		**Pn**	**11 28 31.2**	**+0.9**
	SNR=7.9							
CHMS	**Chumysh**	**6.96**	**23**	PN		**Pn**	**11 28 29.9**	**-0.3**
CHMS				S		**S**	**11 29 46.2**	**-3.5**
CHMS	**Chumysh**	**6.96**	**23**	⇓	P	**Pn**	**11 28 30.0**	**-0.3**
	comp=Z,13nm,0.4s							
CHMS				⇓	S	**S**	**11 29 46.2**	**-3.5**
	comp=Z,125nm,0.7s							
USP	**Ospenovka**	**7.13**	**20**	P		**Pn**	**11 28 33.2**	**+0.7**
	SNR=19							
TKM2	**Tokmak 2**	**7.18**	**27**	P		**Pn**	**11 28 33.8**	**+0.6**
	SNR=21							
TKM2	**Tokmak 2**	**7.18**	**27**	PN		**Pn**	**11 28 33.0**	**-0.2**
TKM2				S		**S**	**11 29 52.7**	**-2.4**
TKM2	**Tokmak 2**	**7.18**	**27**	⇑	P	**Pn**	**11 28 33.0**	**-0.2**
	comp=Z,42nm,0.5s							
TKM2				⇓	S	**S**	**11 29 52.8**	**-2.4**
	comp=Z,84nm,0.7s							
TARG	**Taragay, Kyrgy**	**7.29**	**44**	Pn		**Pn**	**11 28 34.7**	**-0.2**
TARG	**Taragay, Kyrgy**	**7.29**	**44**	PN		**Pn**	**11 28 34.7**	**-0.2**
SGDS	**Sogindy**	**7.34**	**21**	*e*PN		**Pn**	**11 28 34.8**	**-0.3**
SGDS				pmax		pmax		
	comp=Z,7.0nm,0.4s							
SGDS	**Sogindy**	**7.34**	**21**	*e*P		**Pn**	**11 28 34.9**	**-0.3**
	comp=Z,6.9nm,0.4s,baz=21							
SMLA	**Simla**	**7.45**	**136**	*e*P		**Pn**	**11 28 37.5**	**+0.8**
SMLA				*e*S		**S**	**11 29 58.6**	**-2.8**
SMLA				IAML			11 30 00.1	
	comp=E,244nm,0.4s							
SMLA				IAML			11 30 01.1	
	comp=N,251nm,0.4s							
HRA	**Herat**	**7.56**	**255**	Pn		**Pn**	**11 28 38.6**	**+0.3**
KRBS	**Karabastau**	**7.88**	**25**	P		**Pn**	**11 28 41.6**	**-0.6**
	comp=N,6.8nm,0.4s							
AAA	**Alma-Ata**	**7.95**	**32**	*e*PN		**Pn**	**11 28 43.5**	**+0.5**
AAA	**Alma-Ata**	**7.95**	**32**	*e*P		**Pn**	**11 28 43.5**	**+0.5**
	baz=33							
MDOK	**Medeo**	**7.97**	**33**	*i* PN		**Pn**	**11 28 43.3**	**-0.1**
MDOK	**Medeo**	**7.97**	**33**	*i* P		**Pn**	**11 28 43.4**	**-0.1**
	baz=33							
MDOK	**Medeo**	**7.97**	**33**	⇑	P	**Pn**	**11 28 43.6**	**+0.1**
	comp=N,27nm,0.7s							
MDOK				⇓	S	**S**	**11 30 10.5**	**-3.2**
	comp=N,40nm,1.3s							
MDOK				Lg		Lg	11 30 10.7	
	comp=N,22nm,1.2s							
KNDC	**Almaty**	**7.98**	**33**	PN		**Pn**	**11 28 44.2**	**+0.8**
KNDC				S		**S**	**11 30 12.5**	**-1.2**
KNDC	**Almaty**	**7.98**	**33**	⇑	P	**Pn**	**11 28 44.2**	**+0.8**
	comp=N,79nm,0.6s							
KNDC				⇓	S	**S**	**11 30 12.5**	**-1.2**
	comp=N,78nm,0.5s							
CHKK	**Chushkaly**	**8.51**	**30**	*e*PN		**Pn**	**11 28 49.9**	**-0.3**
CHKK	**Chushkaly**	**8.51**	**30**	*e*P		**Pn**	**11 28 49.9**	**-0.3**
	baz=30							
SATY	**Saty**	**8.54**	**39**	*e*PN		**Pn**	**11 28 50.1**	**-0.6**
SATY	**Saty**	**8.54**	**39**	*e*P		**Pn**	**11 28 50.1**	**-0.6**
	baz=39							
DDI	**Dehra Dun**	**8.56**	**135**	*e*S		**S**	**11 30 24.9**	**-2.8**
ZHN	**Zhinishke**	**8.63**	**39**	*e*PN		**Pn**	**11 28 51.3**	**-0.6**
ZHN	**Zhinishke**	**8.63**	**39**	*e*P		**Pn**	**11 28 51.4**	**-0.5**
	baz=39							
BTLS	**Baital**	**8.70**	**14**	*e*PN		**Pn**	**11 28 52.4**	**-0.2**
BTLS	**Baital**	**8.70**	**14**	*e*P		**Pn**	**11 28 52.5**	**-0.2**
	baz=14							
KURS	**Kuram**	**8.74**	**36**	P		**Pn**	**11 28 54.6**	**+1.3**
UZB	**Uzunbulak**	**8.91**	**41**	*e*PN		**Pn**	**11 28 55.8**	**+0.2**
UZB	**Uzunbulak**	**8.91**	**41**	*e*P		**Pn**	**11 28 55.8**	**+0.2**
	baz=41							
KPKS	**Kokpek**	**8.97**	**38**	*e*PN		**Pn**	**11 28 56.1**	**-0.1**
KPKS				pmax		pmax		
	comp=Z,7.0nm,0.6s							
KPKS	**Kokpek**	**8.97**	**38**	*e*P		**Pn**	**11 28 56.2**	**-0.1**
	comp=Z,6.8nm,0.6s,baz=38							
ARXS	**Arharly**	**9.15**	**32**	P		**Pn**	**11 28 57.6**	**-0.9**
SHLS	**Shalkode**	**9.15**	**42**	*e*P		**Pn**	**11 29 01.3**	**+2.7**
SHLS				pmax		pmax		
	comp=Z,7.0nm,0.7s							
SHLS	**Shalkode**	**9.15**	**42**	*e*P		**Pn**	**11 29 01.4**	**+2.7**
	comp=Z,6.7nm,0.7s,baz=44							
PDGK	**Podgornoye**	**9.29**	**41**	P		**Pn**	**11 28 59.1**	**-1.2**
PDGK				S		**S**	**11 30 39.0**	**-5.8**
PDGK	**Podgornoye**	**9.29**	**41**	⇑	P	**Pn**	**11 28 59.1**	**-1.2**
	comp=Z,24nm,0.9s							
PDGK				⇓	S	**S**	**11 30 42.9**	**-1.9**
	comp=Z,29nm,0.8s							
SONA	**Sohna**	**9.76**	**147**	*e*S		**S**	**11 30 49.1**	**-7.0**
KTMS	**Ketmen**	**9.83**	**43**	P		**Pn**	**11 29 06.4**	**-1.0**
PTH	**Pithoragarh**	**10.40**	**130**	*e*P		**Pn**	**11 29 14.7**	**-0.2**
PTH				*e*S		**S**	**11 31 04.5**	**-7.2**
GEYT	**Alibeck**	**10.42**	**281**	P		**Pn**	**11 29 13.5**	**-1.4**
	comp=Z,4.6nm,0.3s,baz=100,slow=7.8,SNR=12							
GEYT				S		**S**	**11 31 09.3**	**-2.5**
	comp=Z,8.5nm,0.4s,baz=251,slow=4.5,SNR=5.3							
**GEY

UOSS	**Minazif**	**17.27**	**232**	P	**P**	**11 30 38.2**	**+0.8**
UOSS				IAmb	IAmb	11 30 39.8	
	comp=Z,18nm,1.0s						
DGZ	**Jazzator, Alta**	**17.63**	**37**	*d* iP	**Pn**	**11 30 42.7**	**-0.6**
LSA	**Lhasa**	**18.14**	**107**	P	**P**	**11 30 46.8**	**-0.4**
LSA				IAmb	IAmb	11 30 52.0	
	comp=Z,15nm,0.9s						
LSA	**Lhasa**	**18.14**	**107**	P	**P**	**11 30 46.8**	**-0.4**
LSA				pmax	pmax		
	comp=Z,15nm,0.9s						
GOMU	**GeErMu**	**19.09**	**84**	P	**P**	**11 30 59.4**	**+2.1**
GOMU				pP	Pn	11 31 03.1	+2.3
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,97nm,5.6s						
MAK	**Makhachkala**	**19.17**	**297**	*e*P	**P**	**11 30 54.3**	**-3.3**
MAK				*e*S	**S**	**11 34 17.1**	**-5.9**
MAK				pmax	pmax		
	comp=Z,26nm,0.4s						
ZAA0	**Zalesovo Array**	**19.77**	**24**	P	**P**	**11 31 04.0**	**+0.1**
ZAA0	**Zalesovo Array**	**19.77**	**24**	⇓P	**P**	**11 31 04.0**	**+0.1**
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**19.77**	**24**	P	**P**	**11 31 04.0**	**+0.1**
	comp=Z,18nm,0.4s,baz=219,slow=12,SNR=85						
ZALV	**Zalesovo Beam**	**19.77**	**24**	P	**P**	**11 31 04.3**	**+0.3**
GROC	**Groznyy**	**20.44**	**297**	*e*P	**P**	**11 31 13.4**	**+2.1**
GROC				*e**SP	**sP**	**11 32 18.4**	**+3.3**
GROC				*e*S	**S**	**11 34 50.7**	**+3.1**
GROC				pmax	pmax		
	comp=Z,103nm,1.0s						
ARU	**Arti**	**21.54**	**341**	P	**P**	**11 31 23.0**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=154,slow=7.3,SNR=5.0						
	comp=Z,2.5nm,0.3s						
ARU	**Arti**	**21.54**	**341**	P	**P**	**11 31 22.7**	**+0.3**
ARU	**Arti**	**21.54**	**341**	P	**P**	**11 31 23.0**	**+0.5**
ZEI	**Tsey**	**21.75**	**295**	*e*P	**P**	**11 31 25.9**	**+0.9**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KBZ	**Khabaz**	**22.61**	**297**	P	**P**	**11 31 32.7**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=116,slow=5.7,SNR=6.5						
	comp=Z,2.1nm,0.6s						
KBZ	**Khabaz**	**22.61**	**297**	⇓*e*P	**P**	**11 31 33.7**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA	**Gaotai**	**22.76**	**74**	*e*P	**P**	**11 31 35.3**	**+1.1**
GTA				pP	pP	11 32 20.4	+6.6
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**22.80**	**298**	*i* P	**P**	**11 31 35.1**	**+0.6**
KIV				*i* *PP	**pP**	**11 32 12.6**	**-0.5**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BELG	**Belogornoye**	**22.84**	**321**	P	**P**	**11 31 35.8**	**+1.2**
	comp=Z,31nm,0.7s,baz=124,slow=5.4,SNR=8.6						
	comp=Z,31nm,0.7s						
BELG	**Belogornoye**	**22.84**	**321**	*d* iP	**P**	**11 31 35.8**	**+1.2**
BELG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KNGR	**Kungurtug, Tuv**	**23.53**	**45**	⇓*i*P	**P**	**11 31 43.0**	**+1.9**
KNGR				pmax	pmax		
	comp=Z,21nm,0.8s						
RAYN	**Ar Rayn**	**25.62**	**246**	P	**P**	**11 31 59.7**	**-0.4**
RAYN	**Ar Rayn**	**25.62**	**246**	P	**P**	**11 32 00.4**	**+0.2**
RAYN				pmax	pmax		
	comp=Z,11nm,0.5s						
KIRV	**Kirov**	**26.16**	**334**	⇓*e*P	**P**	**11 32 04.8**	**+0.3**
PZH	**PanZhiHua**	**27.89**	**102**	P	**P**	**11 32 22.1**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,350nm,4.5s						
SONM	**Songino Array**	**28.20**	**55**	P	**P**	**11 32 24.7**	**+1.6**
	comp=Z,4.2nm,0.8s,baz=254,slow=10,SNR=16						
	comp=Z,4.2nm,0.8s						
SONM	**Songino Array**	**28.20**	**55**	P	**P**	**11 32 23.3**	**+0.3**
SONM	**Songino Array**	**28.20**	**55**	P	**P**	**11 32 23.3**	**+0.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ULN	**Ulaanbaatar**	**28.64**	**56**	⇓*e*P	**P**	**11 32 28.2**	**+1.2**
ULN				pmax	pmax		
	comp=Z,21nm,4.0s						
BR131	**Keskin Array S**	**29.47**	**288**	P	**P**	**11 32 35.8**	**+1.4**
BR131	**Keskin Array S**	**29.47**	**288**	⇑*e*P	**P**	**11 32 35.7**	**+1.4**
BRTR	**Keskin Array B**	**29.47**	**288**	P	**P**	**11 32 35.5**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=100,slow=8.9,SNR=13						
	comp=Z,1.4nm,0.6s						
BRTR	**Keskin Array B**	**29.47**	**288**	P	**P**	**11 32 35.2**	**+0.8**
BRTR	**Keskin Array B**	**29.47**	**288**	*i* P	**P**	**11 32 35.5**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**29.89**	**319**	⇓*e*P	**P**	**11 32 38.6**	**+1.0**
OBN				*e**PP	**pP**	**11 33 23.7**	**+2.1**
OBN				pmax	pmax		
	comp=Z,13nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.45**	**119**	P	**P**	**11 32 43.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=299,slow=9.0,SNR=7.3						
	comp=Z,0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.45**	**119**	*i* P	**P**	**11 32 45.0**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KLMR	**Klimovskoe**	**31.41**	**331**	*e*P	**P**	**11 32 50.2**	**-0.6**
KLMR				*e*		11 34 00.5	
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KLMR	**Klimovskoe**	**31.41**	**331**	*e*P	**P**	**11 32 50.3**	**-0.6**
KLMR				AMP		11 32 52.0	
	comp=Z,5.0nm,0.8s						
KLMR				*e*PP	**sP**	**11 34 00.6**	**0.0**
HHC	**Hu-ho-hao-te**	**31.65**	**70**	*e*P	**P**	**11 32 55.9**	**+2.5**
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC				pmax	pmax		
	comp=Z,310nm,4.1s						
ELL	**Elmali**	**32.85**	**283**	P	**P**	**11 33 05.5**	**+1.6**
ELL	**Elmali**	**32.85**	**283**	P	**P**	**11 33 05.5**	**+1.6**
ELL				pmax	pmax		
	comp=Z,25nm,0.5s						
AKASG	**Malin Array Be**	**32.92**	**309**	P	**P**	**11 33 04.3**	**0.0**
	comp=Z,1.7nm,0.6s,baz=84,slow=6.6,SNR=13						
	comp=Z,1.7nm,0.6s						
AKBB	**Malin Array Si**	**32.92**	**309**	P	**P**	**11 33 02.7**	**-1.5**
AKBB	**Malin Array Si**	**32.92**	**309**	⇓*e*P	**P**	**11 33 04.9**	**+0.7**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NRIK	**Noril'sk**	**33.99**	**10**	P	**P**	**11 33 14.8**	**+1.6**
	comp=Z,7.0nm,0.6s,baz=190,slow=5.2,SNR=6.4						
	comp=Z,7.0nm,0.6s						
NRIK	**Noril'sk**	**33.99**	**10**	P	**P**	**11 33 13.1**	**0.0**
NRIK				IAmb	IAmb	11 33 15.5	
	comp=Z,7.0nm,0.7s						
NRIK	**Noril'sk**	**33.99**	**10**	*d* iP	**P**	**11 33 14.4**	**+1.2**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MNK	**Minsk**	**34.46**	**315**	*i* P	**P**	**11 33 17.2**	**-0.2**
MNK				*i* *PP	**pP**	**11 34 02.2**	**+0.2**
MNK				*i*		11 34 40.2	
MNK				*i*		11 35 47.0	
MNK				*i* S	**S**	**11 38 29.5**	**+0.3**
MNK				*i* *SS	**sS**	**11 39 50.3**	**+0.4**
MNK				pmax	pmax		
	comp=E,3.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MNK				pmax	pmax		
	comp=N,6.0nm,0.9s						
MNK				MLR	MLR		
	comp=Z,26nm,12.0s						
MNK				MLR	MLR		
	comp=N,17nm,14.0s						
MNK				MLR	MLR		
	comp=E,18nm,15.0s						
MNK	**Minsk**	**34.46**	**315**	*i* P	**P**	**11 33 17.3**	**-0.2**
	comp=E,3.0nm,0.8s						
MNK				*i* P	**P**	**11 33 17.3**	**-0.2**
	comp=N,6.0nm,0.9s						
MNK				*i* P	**P**	**11 33 17.3**	**-0.2**
	comp=Z,5.0nm,0.5s,baz=103						
MNK				*i* pP	**pP**	**11 34 02.2**	**+0.2**
MNK				*i* PP	**PP**	**11 34 40.3**	**+0.1**
MNK				*i* S	**S**	**11 38 29.5**	**+0.3**
MNK				*i* sS	**sS**	**11 39 50.3**	**+0.4**
MNK				*i* LRM	MLR	11 48 59.8	
	comp=N,17nm,13.6s						
MNK				*i* LRM	MLR	11 48 59.8	
	comp=Z,26nm,11.6s						
MNK				*i* LRM	MLR	11 49 05.4	
	comp=E,18nm,15.5s						
MLR	**Muntele Rosu**	**34.78**	**299**	P	**P**	**11 33 22.9**	**+2.4**
MLR	**Muntele Rosu**	**34.78**	**299**	P	**P**	**11 33 22.9**	**+2.4**
MLR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VSU	**Vasula**	**36.13**	**321**	⇓*e*P	**P**	**11 33 31.2**	**-0.4**
FIA1	**FINESS Array S**	**37.42**	**326**	P	**P**	**11 33 41.4**	**-1.0**
FIA1				IAmb	IAmb	11 33 43.8	
	comp=Z,6.5nm,0.8s						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**11 33 43.0**	**+0.7**
	comp=Z,6.4nm,0.6s,baz=116,slow=9.5,SNR=35						
	comp=Z,6.4nm,0.6s						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**11 33 41.5**	**-0.9**
PSZ	**Piszkesteto**	**38.87**	**303**	P	**P**	**11 33 52.7**	**-2.1**
PSZ				IAmb	IAmb	11 34 09.8	
	comp=Z,9.2nm,1.4s						
PSZ	**Piszkesteto**	**38.87**	**303**	P	**P**	**11 33 52.7**	**-2.1**
PSZ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KEV	**Kevo**	**40.71**	**338**	P	**P**	**11 34 10.2**	**+0.7**
KEV				IAmb	IAmb	11 34 28.6	
	comp=Z,18nm,1.4s						
KEV	**Kevo**	**40.71**	**338**	P	**P**	**11 34 10.2**	**+0.7**
KEV				pmax	pmax		
	comp=Z,18nm,1.4s						
ARA0	**ARCESS Array S**	**41.06**	**338**	*e*P	**P**	**11 34 13.4**	**+1.0**
ARA0				IAmb	IAmb	11 34 13.8	
	comp=Z,8.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**11 34 13.2**	**+0.9**
	comp=Z,5.8nm,0.6s,baz=111,slow=8.4,SNR=37						
	comp=Z,5.8nm,0.6s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**11 34 13.4**	**+1.1**
ARCES				IAmb	IAmb	11 34 14.0	
	comp=Z,6.1nm,0.8s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**11 34 13.4**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KTK1	**Kautokeino**	**41.53**	**336**	*e*P	**P**	**11 34 16.7**	**+0.5**
KTK1				IAmb	IAmb	11 34 17.2	
	comp=Z,6.7nm,0.6s						
ZEA	**Zeya**	**41.93**	**48**	*e*P	**P**	**11 34 21.3**	**+1.7**
TIP	**Timpagrande**	**42.41**	**291**	P	**P**	**11 34 25.0**	**+1.2**
GERES	**GERESS Array B**	**42.92**	**305**	P	**P**	**11 34 29.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=73,slow=11,SNR=1.6						
	comp=Z,0.3nm,0.3s						
MOR8	**Moi Rana**	**43.74**	**331**	*e*P	**P**	**11 34 33.8**	**-0.2**
MOR8				IAmb	IAmb	11 34 34.4	
	comp=Z,17nm,0.7s						
YAK	**Yakutsk**	**43.82**	**36**	⇓*e*P	**P**	**11 34 35.4**	**+0.8**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
NC405	**NORSAR Array S**	**44.09**	**323**	P	**P**	**11 34 37.0**	**+0.2**
NC405				IAmb	IAmb	11 34 38.3	
	comp=Z,16nm,0.9s						
NORES	**NORESS Array B**	**44.14**	**323**	P	**P**	**11 34 36.9**	**-0.3**
NB201	**NORSAR Array S**	**44.29**	**323**	IAmb	IAmb	11 34 38.8	
	comp=Z,8.0nm,0.5s						
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**11 34 38.7**	**0.0**
	comp=Z,2.7nm,0.5s,baz=96,slow=7.9						
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**11 34 38.7**	**0.0**
	baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**11 34 38.5**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=96,slow=7.8,SNR=24						
	comp=Z,5.2nm,0.7s						
KONS	**Konsvik**	**44.34**	**331**	*e*P	**P**	**11 34 39.2**	**+0.6**
KONS				IAmb	IAmb	11 34 40.8	
	comp=Z,6.3nm,0.6s						
NBO00	**NORSAR Array S**	**44.54**	**323**	IAmb	IAmb	11 34 41.1	
	comp=Z,13nm,0.8s						
NBO00	**NORSAR Array S**	**44.54**	**323**	*e*P	**P**	**11 34 40.4**	**0.0**
NBO00				IAmb	IAmb	11 34 41.1	
	comp=Z,7.0nm,0.7s						
NC204	**NORSAR Array S**	**44.56**	**323**	IAmb	IAmb	11 34 41.1	
	comp=Z,9.4nm,0.6s						
NC204	**NORSAR Array S**	**44.56**	**323**	*e*P	**P**	**11 34 40.6**	**0.0**
NC204				IAmb	IAmb	11 34 40.9	
	comp=Z,5.9nm,0.6s						
KSRS	**Korea Array**	**44.77**	**71**	P	**P**	**11 34 43.9**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=287,slow=7.2,SNR=4.9						
	comp=Z,0.5nm,0.4s						
KLR	**Kul'dur**	**45.01**	**54**	P	**P**	**11 34 45.1**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=284,slow=9.8,SNR=6.6						
	comp=Z,1.7nm,0.4s						
KLR	**Kul'dur**	**45.01**	**54**	⇑*e*P	**P**	**11 34 45.4**	**+1.2**
KLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TIXI	**Tiksi**	**45.63**	**22**	P	**P**	**11 34 49.1**	**+0.3**
	comp=Z,4.6nm,0.3s,baz=287,slow=11,SNR=17						
	comp=Z,4.6nm,0.3s						
TIXI	**Tiksi**	**45.63**	**22**	P	**P**	**11 34 49.3**	**+0.5**
TIXI	**Tiksi**	**45.63**	**22**	*d* iP	**P**	**11 34 49.2**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KMBO	**Kilima Mbogo**	**48.97**	**228**	P	**P**	**11 35 16.0**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=43,slow=13,SNR=3.9						
	comp=Z,1.3nm,0.5s						
KMBO	**Kilima Mbogo**	**48.97**	**228**	*i* P	**P**	**11 35 17.3**	**+1.8**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEST	**Kesra**	**49.07**	**288**	P	**P**	**11 35 16.6**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=293,slow=3.2,SNR=9.0						
	comp=Z,2.7nm,0.5s						
KEST	**Kesra**	**49.07**	**288**	P	**P**	**11 35 17.1**	**+1.2**
MBAR	**Mbarara**	**52.64**	**235**	P	**P**	**11 35 41.8**	**-1.0**
MBAR				IAmb	IAmb	11 35 44.2	
	comp=Z,7.2nm,0.8s						
MBAR	**Mbarara**	**52.64**	**235**	*ce*P	**P**	**11 35 43.8**	**+1.0**
MBAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ESDC	**Sonseca Array**	**57.47**	**298**	P	**P**	**11 36 16.5**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=55,slow=6.3,SNR=6.1						
	comp=Z,1.3nm,0.8s						
PEA0B	**Petropavlovsk-**	**59.83**	**44**	⇑*e*P	**P**	**11 36 32.1**	**-0.7**
PETK	**Petropavlovsk-**	**59.83**	**44**	LR	LR	12 05 50.6	
	comp=Z,33nm,18.6s,baz=109,slow=39						
VOI	**Vohitsoka**	**62.58**	**206**	P	**P**	**11 36 52.6**	**+0.9**
TOA0	**Torodi Ar. Sit**	**65.80**	**269**	P	**P**	**11 37 11.0**	**-1.7**
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	**P**	**11 37 11.1**	**-1.7**
	comp=Z,12nm,0.6s,baz=51,slow=6.3,SNR=99						
	comp=Z,12nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	**P**	**11 37 11.3**	**-1.4**
KOWA	**Kowa**	**69.64**	**273**	P	**P**	**11 37 35.9**	**-0.8**
TOLK	**Toolik Lake Re**	**70.78**	**15**	P	**P**	**11 37 43.5**	**+0.7**
TOLK				IAmb	IAmb	11 37 44.2	
	comp=Z,3.3nm,0.5s						
BMAR	**Burnt Mountain**	**72.80**	**14**	P	**P**	**11 37 56.8**	**+1.9**
C36M	**Paulatuk**	**73.75**	**6**	P	**P**	**11 38 00.6**	**+0.4**
INK	**Inuvik**	**73.77**	**9**	P	**P**	**11 38 01.4**	**+1.1**
INK	**Inuvik**	**73.77**	**9**	P	**P**	**11 38 01.5**	**+1.1**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
COLA	**College**	**74.33**	**16**	⇑*e*P	**P**	**11 38 05.6**	**+1.9**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ILAR	**Eielson Array**	**74.64**	**16**	P	**P**	**11 38 04.9**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=303,slow=5.2,SNR=2.5						
	comp=Z,0.3nm,0.7s						
DBIC	**Dimbokro**	**74.78**	**267**	P	**P**	**11 38 05.5**	**-1.6**
	comp=Z,4.0nm,0.7s,baz=79,slow=6.3,SNR=5.6						
	comp=Z,4.0nm,0.7s						
DBIC	**Dimbokro**	**74.78**	**267**	P	**P**	**11 38 06.4**	**-0.7**
DBIC				IAmb	IAmb	11 38 25.5	
	comp=Z,12nm,1.2s						
DBIC	**Dimbokro**	**74.78**	**267**	P	**P**	**11 38 06.4**	**-0.7**
DBIC				pmax	pmax		
	comp=Z,12nm,1.2s						
LBTB	**Lobatse**	**74.82**	**222**	P	**P**	**11 38 07.5**	**+0.4**
LBTB	**Lobatse**	**74.82**	**222**	P	**P**	**11 38 07.6**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,17nm,0.7s						
RND	**Reindeer**	**75.35**	**17**	P	**P**	**11 38 09.5**	**-0.2**
RND				IAmb	IAmb	11 38 12.0	
	comp=Z,5.7nm,1.3s						
RND	**Reindeer**	**75.35**	**17**	P	**P**	**11 38 09.5**	**-0.2**
RND				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KDAK	**Kodiak Island**	**79.05**	**22**	P	**P**	**11 38 30.6**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=292,slow=5.4,SNR=1.7						
	comp=Z,3.4nm,0.9s						
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**11 38 41.6**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=351,slow=5.5,SNR=4.2						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**81.99**	**122**	P	**P**	**11 38 45.5**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=326,slow=4.8,SNR=9.6						
	comp=Z,0.4nm,0.5s						
WB2	**Warramunga Arr**	**82.00**	**122**	P	**P**	**11 38 45.6**	**-0.8**
WB2				IAmb	IAmb	11 39 00.9	
	comp=Z,6.5nm,1.2s						
ASAR	**Alice Springs**	**84.27**	**125**	P	**P**	**11 38 57.2**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=311,slow=4.8,SNR=11						
	comp=Z,0.4nm,0.6s						
PLCA	**Paso Flores**	**149.94**	**250**	PKPbc	**PKPbc**	**11 46 14.9**	**0.0**
	comp=Z,3.4nm,1.0s,baz=279,slow=2.3,SNR=4.7						

IDC ***14*** *12:02:47.9±0.5, 7.20N×76.25W, h0km, mb4.2/23, mbtmp4.2/27, ML3.8/4, MS3.7/39, Error ellipse: s-maj=14.5km s-min=9.7km az=49.0*

UPA ***14*** *12:02:49.4±0.9, 7.09N×76.17W, h2km±5km, MW4.6*

VAO ***14*** *12:02:51.0±0.2, 7.27N×75.96W, h10km, mb4.8*

NEIC ***14*** *12:02:51.4±1.8, 7.33N±0.07×76.17W±0.07, h10km±1km, mb4.7/54, Mwr4.7(RSNC), Error ellipse: s-maj=12.4km s-min=9.8km az=45.0*

RSNC ***14*** *12:02:52.0±1.3, 7.21N×76.25W, h0km±3km, ML4.0, Mw4.6, Fault plane solution: NP1:φ±110.00000°, δ60.00000°, λ156.00000°.*

ISC 14 12:02:49.2±1.1, 7.29N±0.02×76.12W±0.02, h5km±7km, n230, σ1$98/245, mb4.6/48, MS3.7/35, 11C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.28**	**199**	⇓*i*P		**Pg**	**12 02 55.4**	**+0.6**
DBBC				*e*S		**Sg**	**12 02 59.5**	**+0.9**
DBBC				IAML			12 03 00.9	
	comp=Z,11μm,0.3s							
UREC	**San Jos de Ur**	**0.74**	**52**	⇑*i*P		**Pn**	**12 03 07.7**	**+1.3**
UREC				*e*S		**Sn**	**12 03 21.6**	**+3.4**
UREC				IAML			12 03 24.1	
	comp=Z,13μm,0.4s							
UREC	**San Jos de Ur**	**0.74**	**52**	*e*P		**Pn**	**12 03 07.8**	**+1.4**
UREC				*e*S		**Sn**	**12 03 21.6**	**+3.4**
HELC	**Santa Helena**	**1.24**	**152**	⇓*i*P		**Pg**	**12 03 12.9**	**-0.1**
HELC				*e*S		**Sn**	**12 03 30.3**	**-0.6**
HELC				IAML			12 03 36.6	
	comp=Z,2μm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.27**	**81**	⇑*i*P		**Pn**	**12 03 16.2**	**+2.5**
ZARC				*e*S		**Sn**	**12 03 35.6**	**+4.5**
CBOC	**Ciudad Bolivar**	**1.42**	**176**	⇓*i*P		**Pn**	**12 03 15.9**	**-0.1**
CBOC				*e*S		**Sg**	**12 03 35.7**	**+0.8**
CBOC				IAML			12 03 44.5	
	comp=Z,1μm,0.5s							
LCBC	**Los crdobas,**	**1.58**	**351**	⇓*i*P		**Pg**	**12 03 20.0**	**+0.5**
LCBC				*e*S		**Sg**	**12 03 43.8**	**+3.8**
LCBC				IAML			12 04 11.3	
	comp=Z,1μm,0.6s							
SOLC	**Bahia Solano**	**1.66**	**231**	*e*P		**Pn**	**12 03 18.1**	**-1.0**
SOLC				*e*S		**Sn**	**12 03 40.2**	**-0.6**
SOLC				IAML			12 03 44.9	
	comp=Z,737nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.81**	**114**	⇑*i*P		**Pg**	**12 03 23.9**	**0.0**
PTBC				*e*S		**Sg**	**12 03 49.3**	**+1.8**
NORC	**Norcasia**	**2.12**	**144**	⇓*i*P		**Pb**	**12 03 28.1**	**0.0**
NORC				*e*S		**Sg**	**12 03 56.3**	**-1.0**
NORC				IAML			12 04 03.0	
	comp=Z,1μm,0.6s							
GUY2C	**Guyana, Caldas**	**2.18**	**160**	⇑*i*P		**Pb**	**12 03 29.4**	**-0.2**
GUY2C				*e*S		**Sg**	**12 04 00.7**	**+1.2**
GUY2C				IAML			12 04 16.7	
	comp=Z,988nm,0.6s							
UPD2	**Meteti**	**2.26**	**304**	*e*P		**Pn**	**12 03 28.1**	**+0.8**
UPD2				*e*S		**Sb**	**12 03 59.7**	**+0.8**
UPD2				IAML			12 04 06.0	
	comp=Z,799nm,0.6s							
UPD2	**Meteti**	**2.26**	**304**	*e*P		**Pn**	**12 03 27.9**	**+0.5**
PLMC	**San Jos del P**	**2.37**	**184**	*e*P		**Pn**	**12 03 29.9**	**+1.0**
PLMC				*e*S		**Sg**	**12 04 04.7**	**-0.9**
PLMC				IAML			12 04 14.6	
	comp=Z,731nm,0.6s							
BRRC	**Barranca, Sant**	**2.39**	**94**	⇑*i*P		**Pb**	**12 03 33.0**	**+0.2**
BRRC				*e*S		**Sg**	**12 04 05.1**	**-1.1**
BRRC				IAML			12 04 15.6	
	comp=Z,2μm,0.6s							
SPBC	**San Pablo de B**	**2.60**	**129**	⇑*i*P		**Pb**	**12 03 35.6**	**-0.9**
SPBC				*e*S		**Sg**	**12 04 13.1**	**+0.2**
SPBC				IAML			12 04 17.1	
	comp=Z,2μm,0.4s							
SJCC	**San Jacinto, C**	**2.75**	**20**	*e*P		**Pn**	**12 03 35.6**	**+1.4**
SJCC				*e*S		**Sg**	**12 04 23.4**	**+5.6**
SJCC				IAML			12 04 31.6	
	comp=Z,532nm,0.5s							
ANIL	**Santa Ana**	**2.87**	**166**	*e*P		**Pb**	**12 03 40.1**	**-1.1**
ANIL				IAML			12 04 23.0	
	comp=Z,562nm,0.4s							
OCAC	**Ocana**	**2.93**	**71**	*e*P		**Pb**	**12 03 41.6**	**-0.5**
OCAC				*e*S		**Sg**	**12 04 20.5**	**-3.0**
BARC	**Barichara**	**3.00**	**103**	⇑*i*P		**Pb**	**12 03 41.3**	**-2.0**
BARC				*e*S		**Sb**	**12 04 19.8**	**-0.5**
ROSC	**El Rosal**	**3.02**	**144**	Pg		**Pb**	**12 03 43.5**	**-0.3**
	comp=Z,110nm,0.3s,baz=11,slow=4.0,SNR=113							
ROSC				Lg		Lg	12 04 26.9	
	comp=Z,133nm,0.3s,baz=234,slow=19,SNR=14							
ROSC				LR		LR	12 04 32.0	
	comp=Z,612nm,20.1s,baz=330,slow=34

TAMC IAML 12 05 05.1
comp=Z,452nm,0.5s
BETC Betania 4.63 172 *eP* **Pn 12 04 03.6 +3.7**
BETC *eS* **Sn 12 04 59.1 +4.9**
BETC IAML 12 05 29.7
comp=Z,118nm,0.7s
CACAO El Cacao, Vera 4.71 271 *eP* **Pn 12 04 00.7 -0.3**
CACAO *eS* **Sn 12 04 54.1 -2.0**
CACAO El Cacao, Vera 4.71 271 *eP* **Pn 12 04 00.6 -0.4**
CACAO *eS* **Sn 12 04 54.4 -1.6**
GR1C Gorgona, Isla 4.72 206 *eP* **Pn 12 04 03.3 +2.1**
GR1C *eS* **Sb 12 05 05.7 -4.1**
GR1C IAML 12 05 06.3
comp=Z,252nm,0.7s
CRJC Cerrejon, Guaj 4.89 41 *eP* **Pn 12 04 05.2 +1.5**
CRJC *eS* **Sn 12 04 58.6 -2.2**
CRJC IAML 12 05 49.3
comp=Z,390nm,0.6s
PTGC Puerto Gaitan, 5.01 128⇑ *iP* **Pn 12 04 08.8 +3.6**
PTGC *eS* **Sn 12 05 08.7 +5.0**
PTGC IAML 12 06 29.0
comp=Z,79nm,0.5s
GARC Garzon, Huila 5.11 173 *eP* **Pn 12 04 09.7 +3.0**
GARC IAML 12 05 25.1
comp=Z,50nm,0.6s
GARC *eS* **Sg 12 05 31.5 -1.9**
SOCV Socops 5.31 79 *eP* **Pn 12 04 13.2 +3.9**
BBAC Balboa, Cauca 5.35 192 *eP* **Pn 12 04 13.5 +3.4**
BBAC *eS* **Sb 12 05 30.4 +2.2**
MACC Macarena, Meta 5.59 156 *eP* **Pn 12 04 16.8 +3.6**
MACC *eS* **Sb 12 05 39.9 +5.1**
MACC IAML 12 06 01.8
comp=Z,161nm,0.6s
SDV Santo Domingo 5.66 73 Pn **Pn 12 04 17.5 +3.3**
comp=Z,3.6nm,0.3s,baz=262,slow=11,SNR=11
SDV Sn **Sn 12 05 24.5 +4.6**
comp=Z,68nm,0.3s,baz=347,slow=14,SNR=6.9
SDV Lg Lg 12 05 53.9
comp=Z,70nm,0.3s,baz=28,slow=18,SNR=8.6
SDV LR LR 12 06 33.5
comp=Z,262nm,21.1s,baz=240,slow=39
comp=Z,26nm,0.6s
SDV Santo Domingo 5.66 73 Pn **Pn 12 04 18.0 +3.7**
SDV Santo Domingo 5.66 73 *eP* **Pn 12 04 13.0 -1.3**
FLOC Florencia 5.69 175 *eP* **Pn 12 04 17.1 +2.6**
FLOC *eS* **Sg 12 05 46.4 -5.7**
FLOC IAML 12 06 06.8
comp=Z,95nm,0.9s
CRUC La Cruz 5.74 188 *eP* Pn 12 04 23.0 +7.4
GUVC San Jose del G 5.86 143 *eP* **Pn 12 04 19.9 +3.1**
GUVC *eS* **Sn 12 05 32.4 +7.9**
GUVC IAML 12 05 42.0
comp=Z,49nm,0.4s
URIC Uribia, Colomb 5.98 43 *eP* **Pb 12 04 30.7 -3.4**
URIC *eS* **Sn 12 05 26.5 -1.0**
URIC IAML 12 06 08.8
comp=Z,98nm,0.5s
GCUF Volcan Galeras 6.14 192 *eP* Pn 12 04 27.5 +6.2
GCUF *eS* **Sb 12 05 54.0 +2.7**
GCUF IAML 12 06 20.9
comp=Z,20nm,0.8s
DABV Dabajuro 6.51 56 *eP* **Pn 12 04 29.8 +4.0**
DABV *eS* **Sn 12 05 41.8 +1.4**
BRU2 Volcan 6.68 283 **Pn 12 04 28.4 +0.1**
BRU2 Volcan 6.68 283 *eP* **Pn 12 04 29.9 +1.7**
TULM Tulcn-Chalpat 6.74 194 **Pn 12 04 34.0 +4.6**
CDITO Canoas 6.81 281 **Pn 12 04 30.7 +0.8**
RGM0 Gandoca 6.81 290 Pn **Pn 12 04 31.6 +1.6**
PTLC Puerto Leguiza 7.19 169 *eP* Pn 12 04 42.5 +7.3
PTLC *eS* **Sg 12 06 39.2 -1.1**
PTLC IAML 12 07 29.2
comp=Z,38nm,0.7s
IMBA Imbabura, San 7.27 197 Pn **Pn 12 04 38.8 +2.1**
DRK0 Durika 7.32 286 Pn **Pn 12 04 37.8 +0.6**
OTAV Otavalo 7.38 198 Pn **Pn 12 04 40.8 +2.6**
OTAV Otavalo 7.38 198 *eP* **Pn 12 04 37.5 -0.7**
OTAV Otavalo 7.38 198 *eP* **Pn 12 04 39.1 +0.9**
SRBA San Rafael, Bu 7.42 286 **Pn 12 04 39.7 +1.2**
PEZE Perez Zeledon, 7.76 286 **Pn 12 04 45.4 +2.3**
RIMA Rio Macho 8.05 288 **Pn 12 04 48.2 +1.1**
BAUV El Baul 8.16 78 Pn **Pn 12 04 49.7 +1.2**
SLOR San Lorenzo - 8.31 197 Pn **Pn 12 04 53.7 +2.8**
HDC Heredia 8.35 289 **Pn 12 04 52.4 +1.1**
COVE Coope Vega, Sa 8.86 293 **Pn 12 04 59.2 +1.1**
CHSH Refugio Sur-Vo 9.14 198 **Pn 12 05 05.2 +2.6**
JTS Las Juntas de 9.23 290 Pn **Pn 12 05 04.8 +1.6**
DUNO Dulce Nombre, 9.68 287 Pn **Pn 12 05 11.3 +2.0**
ORTG Ortega, Santa 9.72 289 Pn **Pn 12 05 10.9 +0.8**
ACON Acoyapa 10.07 298 **Pn 12 05 14.5 -0.2**
BOSC San Juan Bosco 10.64 193 Pn **Pn 12 05 23.2 +0.5**
BOAB BOACO BROADBAN 10.71 299 Pn **Pn 12 05 23.4 -0.1**
MTDJ Mount Denham 10.96 353 Pn **Pn 12 05 27.4 +0.4**
MATN Matagalpa 11.16 301 **Pn 12 05 29.9 +0.1**
PCRV Puerto La Cruz 11.71 75 Pn **Pn 12 05 39.8 +2.7**
comp=Z,1.2nm,0.3s,baz=190,slow=2.9,SNR=3.3
PCRV Sn **Sn 12 07 47.1 -1.3**
baz=204,slow=10.0
comp=Z,7.7nm,0.6s
MCRA Macar, Loja 12.20 198 **Pn 12 05 47.5 +3.6**
SDDR Presa de Saban 12.54 22 **Pn 12 05 51.4 +2.9**
TGUH Tegucigalpa,Un 12.86 302 Pn **Pn 12 05 52.6 -0.4**
TBTG Tabatinga, AM 12.97 151 Pn **Pn 12 05 52.4 -2.1**
TBTG Tabatinga, AM 12.97 151 *eP* **Pn 12 05 53.9 -0.5**
ATAH Atahualpa 14.51 189 Pn **Pn 12 06 14.1 -1.7**
comp=Z,0.2nm,0.3s,baz=359,slow=8.4,SNR=4.7
ATAH LR LR 12 13 04.9
comp=Z,436nm,19.7s,baz=14,slow=43
comp=Z,5.9nm,0.9s
CZSB Cruzeiro do Su 15.30 167 *eP* **Pn 12 06 27.1 +1.0**
BOAV Boa Vista 16.28 107 **Pn 12 06 37.3 -1.6**
BOAV IAmb IAmb 12 06 50.9
comp=Z,15nm,0.6s
BOAV Boa Vista 16.28 107 *eP* **Pn 12 06 37.1 -1.8**
MACA Manacapuru-AM 18.57 123 P **P 12 07 02.2 -5.1**
MACA IAmb IAmb 12 07 26.2
comp=Z,31nm,0.9s
NNA Nana 19.16 182 P **P 12 07 13.4 -0.4**
comp=Z,2.1nm,0.3s,baz=344,slow=15,SNR=2.2
NNA LR LR 12 15 53.6
comp=Z,550nm,21.4s,baz=2.5,slow=41
comp=Z,6.2nm,0.4s
ETMB Extrema 19.65 150 P **P 12 07 18.2 -0.9**
ETMB IAmb IAmb 12 07 28.9
comp=Z,28nm,0.9s
ETMB Extrema 19.65 150 *eP* **P 12 07 18.6 -0.6**
SAML Samuel 20.65 141 P **P 12 07 28.7 -1.3**
SAML IAmb IAmb 12 07 34.4
comp=Z,49nm,0.9s
CMIG Matias Romero 20.75 300 LR LR 12 16 32.7
comp=Z,304nm,21.1s,baz=130,slow=40
ITTB Itaituba 23.41 119 *eP* **P 12 07 58.5 -1.0**
MDP Montagnes des 23.44 94 P **P 12 07 58.9 -0.9**
comp=Z,23nm,1.0s,baz=264,slow=6.5,SNR=5.8
MDP LR LR 12 17 36.7
comp=Z,612nm,18.1s,baz=266,slow=38
comp=Z,23nm,1.0s
MALB Monte Alegre 23.62 112 *eP* **P 12 08 01.1 -0.4**
LPAZ La Paz 24.72 161 P **P 12 08 11.1 -1.4**
comp=Z,5.6nm,1.0s,baz=354,slow=11,SNR=6.1
LPAZ LR LR 12 18 31.9
comp=Z,564nm,19.0s,baz=332,slow=38
comp=Z,5.6nm,1.0s
LPAZ La Paz 24.72 161 P **P 12 08 12.2 -0.3**
LPAZ La Paz 24.72 161 *eP* **P 12 08 12.8 +0.3**
NPGB Novo Progresso 25.13 124 *eP* **P 12 08 14.1 -1.4**
VILB Vilhena 25.58 142 P **P 12 08 20.0 +0.3**
VILB IAmb IAmb 12 08 26.7
comp=Z,39nm,0.8s
VILB Vilhena 25.58 142 *eP* **P 12 08 20.0 +0.3**
PDRB Porto dos Gac 26.92 134 *eP* **P 12 08 31.0 -0.7**
CLDB Colider 27.10 132 *eP* **P 12 08 32.2 -1.2**
SIV San Ignacio 27.51 147 P **P 12 08 36.2 -0.8**
comp=Z,5.1nm,0.7s,baz=322,slow=9.3,SNR=23
SIV LR LR 12 19 35.7
comp=Z,429nm,18.6s,baz=296,slow=37
comp=Z,5.1nm,0.7s
PTLB Pontes e Lacer 28.17 143 P **P 12 08 42.0 -0.9**
PTLB IAmb IAmb 12 08 43.7
comp=Z,7.6nm,0.9s
PTLB Pontes e Lacer 28.17 143 *eP* **P 12 08 42.8 0.0**
PB01 IPOC Station P 28.90 167 IAmb IAmb 12 08 50.9
comp=Z,27nm,1.1s
TKL Tuckaleechee C 29.10 347 LR LR 12 20 56.6
comp=Z,137nm,21.1s,baz=167,slow=37

PRPB Parauapebas 29.45 116 *eP* **P 12 08 53.2 -1.2**
TMAB Tom-Au,PA,Br 29.56 108 *eP* **P 12 08 56.3 +0.9**
LVC Limon Verde 30.54 167 LR LR 12 22 26.6
comp=Z,242nm,18.7s,baz=316,slow=39
LVC Limon Verde 30.54 167 *eP* **P 12 09 05.4 +1.1**
LCAR Lake Charles 31.78 336 IAmb IAmb 12 09 16.8
comp=Z,17nm,1.4s
FCAR Ozark Folk Cen 32.02 335 P **P 12 09 16.9 +0.1**
SMTB Santa Maria do 32.65 119 *eP* **P 12 09 22.0 -0.6**
GO02 Mina Guanaco 32.88 169 IAmb IAmb 12 09 26.2
comp=Z,16nm,0.9s
HHAR Hobbs 33.14 333 IAmb IAmb 12 09 27.9
comp=Z,6.3nm,1.0s
U38A Gravette 33.47 333 IAmb IAmb 12 09 30.0
comp=Z,7.1nm,0.9s
ROSB Rosrio 33.49 106 *eP* **P 12 09 29.7 -0.3**
CCM Cathedral Cave 33.56 338 P **P 12 09 30.1 -0.2**
CCM IAmb IAmb 12 09 31.3
comp=Z,12nm,0.8s
TXAR Lajitas Array 33.96 314 P **P 12 09 32.5 -1.5**
comp=Z,0.2nm,0.4s,baz=132,slow=6.3,SNR=3.6
TXAR LR LR 12 25 40.2
comp=Z,40nm,19.0s,baz=109,slow=40
comp=Z,0.2nm,0.4s
FNO Franklin 34.01 328 P **P 12 09 34.0 -0.2**
S39A Bolivar 34.06 335 P **P 12 09 34.6 0.0**
S39A IAmb IAmb 12 09 35.3
comp=Z,7.3nm,0.8s
AQDB Aquidauana 34.12 144 P **P 12 09 35.7 +0.4**
AQDB Aquidauana 34.12 144 *eP* **P 12 09 35.9 +0.6**
WMOK Wichita Mounta 34.37 326 IAmb IAmb 12 09 40.8
comp=Z,9.5nm,1.4s
AC02 Maricunga 34.59 169 P **P 12 09 40.7 +0.8**
AC02 IAmb IAmb 12 09 42.1
comp=Z,14nm,0.8s
P40A Paris 35.15 338 IAmb IAmb 12 09 44.8
comp=Z,6.8nm,0.8s
CROK Carrier 35.27 329 P **P 12 09 44.8 -0.3**
CROK IAmb IAmb 12 09 45.6
comp=Z,13nm,0.8s
P38A Dawn 35.80 337 IAmb IAmb 12 09 50.1
comp=Z,11nm,1.1s
BDFB Brasilia 35.97 129 P **P 12 09 49.9 -1.6**
comp=Z,2.7nm,0.4s,baz=327,slow=8.1,SNR=4.2
BDFB LR LR 12 27 25.2
comp=Z,69nm,18.7s,baz=316,slow=41
comp=Z,2.7nm,0.4s
BDFB Brasilia 35.97 129 *eP* **P 12 09 51.2 -0.3**
MSTX Muleshoe 36.20 321 IAmb IAmb 12 09 54.6
comp=Z,14nm,1.1s
AC05 El Transito 36.35 171 P **P 12 09 55.1 +0.5**
LCO Las Campanas 36.46 172 P **P 12 09 57.3 +1.6**
MNTX Cornudas Mount 36.53 316 P **P 12 09 55.7 -0.3**
SDBA SAO DESIDERIO 36.68 122 *eP* **P 12 09 56.7 -0.9**
LPIG La Paz 36.77 301 LR LR 12 26 01.9
comp=Z,65nm,18.9s,baz=124,slow=38
SADO Sadowa 37.43 356 LR LR 12 26 13.7
comp=Z,128nm,20.3s,baz=170,slow=38
PCMB Pacaembu 37.67 140 *eP* **P 12 10 04.8 -1.0**
CPUP Villa Florida 38.07 152 P **P 12 10 07.8 -1.3**
comp=Z,1.0nm,0.4s,baz=338,slow=5.4,SNR=1.8
CPUP LR LR 12 25 54.6
comp=Z,160nm,19.8s,baz=348,slow=36
comp=Z,1.0nm,0.4s
JANB Januaria 38.56 125 *eP* **P 12 10 12.4 -1.0**
PMNB Patos De Minas 38.93 132 *eP* **P 12 10 17.5 +0.9**
SBM South Baldy 39.08 317 P **P 12 10 17.9 -0.1**
BB19B Bebedouro 39.09 137 *eP* **P 12 10 17.3 -0.5**
ANMO Albuquerque 39.18 319 P **P 12 10 18.3 -0.2**
comp=Z,5.1nm,1.1s,baz=135,slow=11,SNR=8.1
ANMO LR LR 12 32 12.0
comp=Z,36nm,18.1s,baz=123,slow=45
comp=Z,5.1nm,1.1s
ANMO Albuquerque 39.18 319 P **P 12 10 18.9 +0.3**
ZON Zonda 39.26 170 IAmb IAmb 12 10 20.7
comp=Z,19nm,1.0s
MC01 Montes Claros 39.77 127 *eP* **P 12 10 23.3 -0.2**
DIAM Diamantina, MG 40.88 129 *eP* **P 12 10 32.5 -0.4**
MT09 Talagante 41.13 173 P **P 12 10 35.7 +1.0**
F36A Milaca 41.27 342 P **P 12 10 34.9 -0.6**
BO02 Sierra Bellavi 42.16 173 IAmb IAmb 12 10 45.4
comp=Z,28nm,1.0s
RCBR Riachuelo 42.19 107 P **P 12 10 42.6 -1.0**
comp=Z,11nm,0.8s,baz=42,slow=7.3,SNR=3.6
RCBR LR LR 12 29 47.7
comp=Z,370nm,18.9s,baz=97,slow=38
comp=Z,11nm,0.8s
RCBR Riachuelo 42.19 107 *eP* **P 12 10 43.0 -0.6**
PV15 Paradox Valley 42.54 322 IAmb IAmb 12 11 04.7
comp=Z,17nm,1.2s
CMC01 Camacan, BA 42.68 122 *eP* **P 12 10 46.0 -1.4**
GUA01 Guaratinga, BA 43.05 124 *eP* **P 12 10 49.9 -0.6**
SJMB Sao Joao De Ma 43.05 127 *eP* **P 12 10 51.6 +1.2**
NBAM Anadia - AL 43.12 112 *eP* **P 12 10 50.2 -0.8**
RIB01 Linhares ES 44.01 127 *eP* **P 12 10 57.0 -1.2**
TER01 Tubaro-SC 44.12 145 *eP* **P 12 10 59.0 +0.2**
PLTB Pedras Altas 44.39 152 *eP* **P 12 11 02.5 +1.5**
PFO Pinyon Flats O 45.54 311 LR LR 12 32 52.8
comp=Z,35nm,18.2s,baz=112,slow=40
ULM Lac du Bonnet 45.89 342 P **P 12 11 12.2 -0.5**
comp=Z,4.9nm,0.8s,baz=118,slow=6.4,SNR=5.5
ULM LR LR 12 31 15.3
comp=Z,89nm,18.4s,baz=181,slow=37
comp=Z,4.9nm,0.8s
PDAR Pinedale Array 45.98 326 P **P 12 11 13.9 0.0**
comp=Z,0.6nm,0.7s,baz=120,slow=9.0,SNR=7.7
PDAR LR LR 12 33 41.8
comp=Z,24nm,19.5s,baz=102,slow=40
comp=Z,0.6nm,0.7s
GO06 Curarrehue 46.83 175 P **P 12 11 21.2 +0.8**
REDW Red Top Meadow 47.09 325 P **P 12 11 23.2 +0.6**
REDW IAmb IAmb 12 11 24.0
comp=Z,16nm,1.5s
LOHW Long Hollow 47.12 326 IAmb IAmb 12 11 52.0
comp=Z,1.1nm,1.2s
MOOW Moose Ponds 47.28 326 P **P 12 11 24.4 +0.4**
SCHQ Schefferville 47.99 7 P **P 12 11 29.6 +0.5**
comp=Z,3.6nm,0.7s,baz=184,slow=6.3,SNR=4.0
comp=Z,3.6nm,0.7s
PLCA Paso Flores 48.06 174 P **P 12 11 29.1 -0.7**
comp=Z,9.8nm,0.9s,baz=351,slow=8.9,SNR=12
comp=Z,9.8nm,0.9s
PLCA Paso Flores 48.06 174 P **P 12 11 29.8 0.0**
PLCA Paso Flores 48.06 174 *eP* **P 12 11 30.3 +0.5**
ELK Elko 48.19 320 P **P 12 11 31.6 +0.4**
comp=Z,0.3nm,0.3s,baz=138,slow=12,SNR=2.0
ELK LR LR 12 34 11.6
comp=Z,42nm,21.0s,baz=152,slow=39
comp=Z,0.3nm,0.3s
YHL Hebgen Lake 48.23 327 IAmb IAmb 12 11 33.8
comp=Z,4.9nm,1.0s
NVAR Mina Array Bea 49.06 316 P **P 12 11 37.1 -0.7**
comp=Z,0.8nm,1.0s,baz=118,slow=8.6,SNR=4.5
NVAR LR LR 12 35 36.2
comp=Z,60nm,18.9s,baz=123,slow=40
comp=Z,0.8nm,1.0s
LL02 Futaleuf 50.39 176 P **P 12 11 47.5 -0.1**
AY01 Puyuhuapi 51.56 177 IAmb IAmb 12 11 57.6
comp=Z,16nm,0.9s
NEW Newport 53.56 327 LR LR 12 41 29.4
comp=Z,29nm,18.6s,baz=144,slow=43
YBH Yreka Blue Hor 53.57 317 LR LR 12 38 33.4
comp=Z,42nm,19.1s,baz=148,slow=40
FRB Frobisher Bay 56.62 4 LR LR 12 36 43.1
comp=Z,87nm,21.2s,baz=208,slow=36
YKA Yellowknife Ar 61.83 341 P **P 12 13 07.8 -1.3**
comp=Z,2.3nm,0.9s,baz=135,slow=6.9,SNR=2.3
YKA LR LR 12 39 58.8
comp=Z,60nm,21.0s,baz=91,slow=36
comp=Z,2.3nm,0.9s
SFJD Kangerlussuaq 62.11 11 LR LR 12 38 26.3
comp=Z,60nm,21.2s,baz=222,slow=34
DLBC Dease Lake 65.51 332 LR LR 12 46 20.0
comp=Z,74nm,18.4s,baz=132,slow=40
RES Resolute Bay 68.22 355 LR LR 12 44 44.8
comp=Z,125nm,20.5s,baz=184,slow=37
M30M Minto, Yukon 70.33 335 P **P 12 14 04.3 +0.4**
M30M IAmb IAmb 12 14 12.5
comp=Z,7.1nm,1.1s
DBIC Dimbokro 70.67 85 P **P 12 14 06.9 +0.1**
comp=Z,16nm,0.8s,baz=276,slow=5.7,SNR=13
comp=Z,16nm,0.8s
DBIC Dimbokro 70.67 85 P **P 12 14 06.8 +0.1**
KOWA Kowa 70.93 77 P **P 12 14 09.0 +0.7**
comp=Z,2.4nm,0.6s,baz=275,slow=7.0,SNR=7.6
KOWA LR LR 12 45 51.7
comp=Z,64nm,19.2s,baz=312,slow=36
comp=Z,2.4nm,0.6s
KOWA Kowa 70.93 77 P **P 12 14 09.3 +0.9**
INK Inuvik 71.60 341 LR LR 12 47 43.5
comp=Z,76nm,19.8s,baz=114,slow=38
ESDC Sonseca Array 71.65 51 P **P 12 14 13.9 +1.5**
comp=Z,1.5nm,0.8s,baz=273,slow=5.9,SNR=7.8
comp=Z,1.5nm,0.8s
M27K Edge Creek, AK 72.46 334 P **P 12 14 16.9 +0.1**
M27K IAmb IAmb 12 14 31.1
comp=Z,8.4nm,1.1s
BCAR Beaver Creek A 72.64 334 P **P 12 14 18.2 +0.4**
ILAR Eielson Array 75.29 335 P **P 12 14 32.7 -0.5**
comp=Z,0.7nm,0.8s,baz=109,slow=3.8,SNR=6.8
ILAR LR LR 12 52 37.3
comp=Z,38nm,18.7s,baz=63,slow=40
comp=Z,0.7nm,0.8s
RND Reindeer 75.81 334 P **P 12 14 37.2 +0.8**
RND IAmb IAmb 12 14 42.2
comp=Z,6.0nm,1.1s
TORD Torodi Ar. Bea 76.56 78 P **P 12 14 41.2 -0.2**
comp=Z,1.6nm,0.9s,baz=288,slow=7.4,SNR=7.3
comp=Z,1.6nm,0.9s
PPT Papeete 76.61 250 P **P 12 14 41.7 +0.1**
comp=Z,23nm,0.7s,baz=46,slow=17,SNR=2.1
KDAK Kodiak Island 76.66 328 LR LR 12 51 43.7
comp=Z,41nm,20.0s,baz=102,slow=38
DAVOX Davos/Dischmat 82.00 44 LR LR 12 46 52.9
comp=Z,15nm,20.1s,baz=263,slow=32
NOA NORSAR Array B 82.38 29 P **P 12 15 13.9 +1.6**
comp=Z,1.1nm,1.0s,baz=274,slow=5.2,SNR=3.7
comp=Z,1.1nm,1.0s
GERES GERESS Array B 84.45 42 P **P 12 15 22.8 -0.6**
comp=Z,0.3nm,0.3s,baz=241,slow=6.1,SNR=2.0
comp=Z,0.3nm,0.3s
VRAC Vranov 86.30 41 LR LR 12 50 00.9
comp=Z,23nm,21.1s,baz=268,slow=33
ARCES ARCESS Array B 87.27 20 P **P 12 15 35.8 -0.9**
comp=Z,0.9nm,0.6s,baz=287,slow=4.6,SNR=5.3
comp=Z,0.9nm,0.6s
VNA3 Neumayer Olymp 89.48 163 P **P 12 15 47.1 0.0**
VNA1 Neumayer--Stat 89.67 162 P **P 12 15 45.8 -2.1**
TROLL Troll, Antarti 93.39 162 P **P 12 16 04.8 -0.6**
AKASG Malin Array Be 93.99 38 LR LR 13 01 09.9
comp=Z,20nm,18.1s,baz=302,slow=37
TSUM Tsumeb 95.84 109 LR LR 12 58 07.9
comp=Z,30nm,18.7s,baz=356,slow=35
TIXI Tiksi 99.51 352 LR LR 13 03 34.6
comp=Z,60nm,21.1s,baz=1.0,slow=37
SUR Sutherland 99.70 122 LR LR 13 00 12.8
comp=Z,85nm,18.1s,baz=290,slow=34
PZH PanZhiHua 146.35 3 PKPbc **PKPdf 12 22 30.8 -0.3**
ASAR Alice Springs 146.91 237 PKPbc **PKPdf 12 22 31.6 -0.4**
comp=Z,2.1nm,0.8s,baz=112,slow=2.8,SNR=15
WRA Warramunga Arr 147.91 244 PKPbc **PKPdf 12 22 33.5 -0.1**
comp=Z,1.3nm,0.9s,baz=116,slow=1.1,SNR=8.4
CMAR Chiang Mai Arr 153.96 11 PKPbc **PKPbc 12 22 50.0 -1.0**
comp=Z,0.4nm,0.4s,baz=272,slow=2.7,SNR=4.1

IDC ***14*** *12:12:06.9±0.8,39.°11N×99.°76W,h0km,mb3.6/1, mbtmp3.7/6,ML4.2/3,MS3.0/4,Error ellipse: s-maj=10.8km s-min=9.0km az=88.0*

NEIC ***14*** *12:12:06.6±0.6,39.°04N±0.°03×99.°57W±0.°06,h5km±2km, mb_Lg3.5/61,Mwr3.3/19(SLM),Error ellipse: s-maj=9.3km s-min=3.0km az=64.0*

NEIC ***14*** *12:12:06,39.°01N×99.°57W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; Mrr=0.02; Mθθ-0.19; Mφφ 0.21; Mrθ 0.10; Mrφ- 1.10; Mθφ 0.09; Fault plane solution: M0 1.2000×10^{14} NP1:φs185.00000°, δ85.00000°,λ-5.00000°. NP2:φs275.00000°,δ85.00000°, λ-175.00000°. Principal axes: T 1.1268, Plg0.0000°, Azm50.0000°; N -0.0002, Plg83.0000°, Azm320.0000°; P -1.1266, Plg7.0000°, Azm140.0000°;*

ANF ***14*** *12:12:07.5±0.6,39.°00N×99.°55W,h6km±5km,ML4.5/18 Error ellipse: s-maj=3.8km s-min=3.6km az=114.0*

ISC 14 12:12:07.0±1.0,39.°05N±0.°04×99.°53W±0.°03,h11km±7km, n176,σ1s52/200,Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBKS	**Cedar Bluff**	**0.28**	**215**	Pg	**Pg**	**12 12 11.8**	**-1.0**
CBKS				Sg	**Sg**	**12 12 15.3**	**-1.3**
CBKS	**Cedar Bluff**	**0.28**	**215**	P	**Pg**	**12 12 11.5**	**-1.2**
	baz=33,SNR=1000						
CBKS				S	**Sg**	**12 12 15.3**	**-1.3**
	baz=33						
CBKS	**Cedar Bluff**	**0.28**	**215**	P	**Pg**	**12 12 11.8**	**-1.0**
	baz=33,SNR=1000						
CBKS				S	**Sg**	**12 12 15.2**	**-1.4**
	baz=33						
R32A	**Long Quarter,**	**0.89**	**134**		**Pg**	**12 12 24.3**	**+0.1**
R32A				Sg	**Sg**	**12 12 36.5**	**+0.6**
R32A	**Long Quarter,**	**0.89**	**134**	P	**Pg**	**12 12 24.2**	**0.0**
	baz=311,SNR=315						
KAN12	**Harper NE Stat**	**2.12**	**145**		**Pn**	**12 12 44.0**	**+1.6**
KAN16	**Harper SW Stat**	**2.15**	**147**	Pn	**Pn**	**12 12 43.8**	**+0.9**
KAN16				IAmb_Lg		12 13 18.5	
	comp=Z,178nm,0.8s						
KAN08	**Anthony NE Sta**	**2.19**	**145**		**Pn**	**12 12 45.6**	**+2.3**
KAN08				IAmb_Lg		12 13 21.5	
	comp=Z,254nm,0.9s						
KAN06	**Argonia West S**	**2.23**	**143**		**Pn**	**12 12 45.6**	**+1.7**
KAN10	**Anthony SW Sta**	**2.23**	**149**		**Pn**	**12 12 45.7**	**+1.8**
KAN10				IAmb_Lg		12 13 18.5	
	comp=Z,220nm,1.1s						
KSU1	**Kansas State U**	**2.27**	**88**		**Pn**	**12 12 44.2**	**-0.3**
KSU1				IAmb_Lg		12 13 23.4	
	comp=Z,202nm,0.8s						
KSU1	**Kansas State U**	**2.27**	**88**	P	**Pn**	**12 12 46.0**	**+1.5**
	baz=269,SNR=13						
KSU1				S	**Sb**	**12 13 16.0**	**-0.2**
	baz=269						
KSU1	**Kansas State U**	**2.27**	**88**	P	**Pn**	**12 12 45.8**	**+1.3**
	baz=269,SNR=14						
KSU1				S	**Sn**	**12 13 15.5**	**+3.0**
	baz=269						
KS21	**Milan North St**	**2.29**	**139**		**Pn**	**12 12 46.3**	**+1.5**
N33B	**J Bar K, Exete**	**2.33**	**43**	P	**Pn**	**12 12 46.9**	**+1.7**
	baz=224,SNR=86						
N33A	**J Bar K, Exete**	**2.33**	**43**		**Pn**	**12 12 46.9**	**+1.7**
N33A				IAmb_Lg		12 13 26.7	
	comp=Z,199nm,0.7s						
KAN05	**Bluff City Nor**	**2.33**	**145**		**Pn**	**12 12 47.1**	**+1.8**
KAN05				IAmb_Lg		12 13 25.8	
	comp=Z,229nm,1.0s						
KAN01	**Argonia South**	**2.35**	**143**		**Pn**	**12 12 47.5**	**+1.9**
KS20	**Mayfield South**	**2.39**	**139**		**Pn**	**12 12 48.1**	**+2.0**
KS20				IAmb_Lg		12 13 27.0	
	comp=Z,244nm,0.7s						
KSCO	**Kaye Shedlock'**	**2.41**	**270**		**Pn**	**12 12 47.8**	**+1.3**
KSCO	**Kaye Shedlock'**	**2.41**	**270**	P	**Pn**	**12 12 46.2**	**-0.3**
	baz=89,SNR=51						
KSCO				S	**Sn**	**12 13 16.6**	**+0.5**
	baz=89						
OK035	**E0210 Rd and N**	**2.42**	**164**		**Pn**	**12 12 47.6**	**+1.1**
KAN14	**Manchester OK**	**2.43**	**149**		**Pn**	**12 12 48.3**	**+1.7**
KAN14				IAmb_Lg		12 13 29.6	
	comp=Z,179nm,0.9s						
KAN09	**Caldwell North**	**2.43**	**141**		**Pn**	**12 12 48.4**	**+1.8**
KAN09				IAmb_Lg		12 13 30.0	
	comp=Z,171nm,0.8s						
KAN17	**Caldwell West**	**2.44**	**145**		**Pn**	**12 12 48.3**	**+1.5**
NOKA	**Waynoka**	**2.45**	**169**		**Pn**	**12 12 48.2**	**+1.2**
NOKA				IAmb_Lg		12 13 30.9	
	comp=Z,174nm,1.0s						
OK032	**Salt Plains WL**	**2.47**	**155**		**Pn**	**12 12 48.8**	**+1.6**
GC02	**Grant County #**	**2.56**	**148**		**Pn**	**12 12 50.0**	**+1.6**
BGNE	**Belgrade**	**2.59**	**24**		**Pn**	**12 12 50.7**	**+1.9**
BGNE	**Belgrade**	**2.59**	**24**	P	**Pn**	**12 12 50.4**	**+1.6**
	baz=205,SNR=73						
BGNE	**Belgrade**	**2.59**	**24**	P	**Pn**	**12 12 50.4**	**+1.6**
	baz=205,SNR=50						
BGNE				S	**Sn**	**12 13 22.2**	**+2.0**
	baz=205						
KAN13	**South Haven SW**	**2.60**	**141**		**Pn**	**12 12 50.4**	**+1.4**
KAN13				IAmb_Lg		12 13 35.4	
	comp=Z,205nm,0.8s						
OK038	**West end E0370**	**2.64**	**166**		**Pn**	**12 12 50.6**	**+1.1**
U32A	**Winter Ranch,**	**2.69**	**171**		**Pn**	**12 12 51.5**	**+1.2**
OGNE	**Ogallala**	**2.70**	**315**		**Pn**	**12 12 52.0**	**+1.6**
OGNE	**Ogallala**	**2.70**	**315**	P	**Pn**	**12 12 51.8**	**+1.3**
	baz=135,SNR=55						
OGNE				S	**Sb**	**12 13 28.7**	**+0.2**
	baz=135						

OGNE	**Ogallala**	**2.70**	**315**	P	**Pn**	**12 12 51.7 +1.3**
	baz=135,SNR=45					
OGNE				S	**Sn**	**12 13 24.6 +1.5**
	baz=135					
CROK	**Carrier**	**2.82**	**154**		**Pn**	**12 12 53.1 +1.2**
CROK				IAmb_Lg		12 13 39.2
	comp=Z,165nm,0.8s					
BLOK	**Blackwell**	**2.93**	**141**		**Pn**	**12 12 53.6 +0.2**
BLOK				IAmb_Lg		12 13 43.1
	comp=Z,159nm,0.8s					
ELIS	**Ellis County**	**2.98**	**178**		**Pn**	**12 12 54.2 0.0**
OK049	**E0420 Rd and N**	**3.17**	**145**		**Pn**	**12 12 57.1 +0.3**
OK049				IAmb_Lg		12 13 51.8
	comp=Z,96nm,1.1s					
T35A	**Sooner Cattle**	**3.19**	**131**	Pn	**Pn**	**12 12 57.5 +0.3**
T35B	**Sooner Cattle**	**3.19**	**131**	P	**Pn**	**12 12 58.5 +1.4**
	baz=312,SNR=18					
OK051	**E0350 and S346**	**3.31**	**139**	Pn	**Pn**	**12 12 59.6 +0.8**
OK045	**Pawnee Station**	**3.32**	**141**		**Pn**	**12 12 58.5 -0.3**
OK050	**Pawnee Station**	**3.33**	**142**		**Pn**	**12 12 59.5 +0.5**
OK048	**Pawnee Station**	**3.33**	**141**	Pn	**Pn**	**12 12 59.5 +0.5**
OK046	**Pawnee Station**	**3.36**	**141**		**Pn**	**12 13 00.5 +1.0**
OK047	**Pawnee, Statio**	**3.40**	**138**	Pn	**Pn**	**12 13 01.4 +1.4**
OK044	**Pawnee Station**	**3.44**	**140**	Pn	**Pn**	**12 13 01.0 +0.5**
CSTR	**Hydro, Custer**	**3.46**	**169**		**Pn**	**12 13 01.0 +0.2**
CSTR				IAmb_Lg		12 13 53.1
	comp=Z,4.8nm,0.8s					
N35A	**Tabor**	**3.50**	**58**		**Pn**	**12 13 02.6 +1.4**
N35A				IAmb_Lg		12 14 02.0
	comp=Z,132nm,0.7s					
N35A	**Tabor**	**3.50**	**58**	P	**Pn**	**12 13 02.5 +1.2**
	baz=240					
K31A	**O'Neill**	**3.62**	**9**		**Pn**	**12 13 03.3 +0.3**
K31A	**O'Neill**	**3.62**	**9**	P	**Pn**	**12 13 05.3 +2.3**
	baz=190					
OK029	**Liberty Lake**	**3.64**	**152**	Pn	**Pn**	**12 13 04.1 +0.8**
OK029				IAmb_Lg		12 14 10.2
	comp=Z,79nm,0.7s					
QUOK	**Quay**	**3.64**	**141**		**Pn**	**12 13 03.7 +0.4**
QUOK				IAmb_Lg		12 14 03.5
	comp=Z,42nm,0.7s					
BCOK	**Bluff Creek, N**	**3.71**	**155**	Pn	**Pn**	**12 13 04.3 0.0**
BCOK				IAmb_Lg		12 14 07.6
	comp=Z,158nm,0.8s					
OK034	**N. Norfolk Rd.**	**3.77**	**143**	IAmb_Lg		12 14 09.7
	comp=Z,97nm,1.0s					
L34A	**Svendsen Farm,**	**3.78**	**38**		**Pn**	**12 13 06.6 +1.4**
L34A	**Svendsen Farm,**	**3.78**	**38**	P	**Pn**	**12 13 06.1 +0.9**
	baz=220,SNR=20					
OK030	**Cody Creek RV**	**3.80**	**144**	Pn	**Pn**	**12 13 07.4 +1.9**
OK025	**Westminster Rd**	**3.88**	**153**	IAmb_Lg		12 14 10.8
	comp=Z,115nm,0.8s					
DEOK	**Depew**	**4.01**	**142**	Pn	**Pn**	**12 13 09.3 +1.0**
DEOK				IAmb_Lg		12 14 18.6
	comp=Z,46nm,0.8s					
FNO	**Franklin**	**4.15**	**155**	Pn	**Pn**	**12 13 11.4 +1.1**
T25A	**Trinidad**	**4.29**	**245**	Pn	**Pn**	**12 13 11.5 -1.0**
T25A	**Trinidad**	**4.29**	**245**	P	**Pn**	**12 13 12.2 -0.3**
	baz=62					
TUL1	**Leonard**	**4.32**	**135**	Pn	**Pn**	**12 13 14.1 +1.5**
TUL1	**Leonard**	**4.32**	**135**	P	**Pn**	**12 13 13.9 +1.3**
	baz=317,SNR=14					
TUL1	**Leonard**	**4.32**	**135**	P	**Pn**	**12 13 13.9 +1.3**
	baz=317,SNR=6.0					
TUL1				S	**Sn**	**12 14 04.2 +1.3**
	baz=317					
WMOK	**Wichita Mounta**	**4.34**	**172**		**Pn**	**12 13 13.6 +0.6**
WMOK				IAmb_Lg		12 14 30.0
	comp=Z,77nm,0.7s					
WMOK	**Wichita Mounta**	**4.34**	**172**	P	**Pn**	**12 13 14.2 +1.2**
	baz=352					
WMOK				S	**Sn**	**12 14 03.7 +0.1**
	baz=352					
WMOK	**Wichita Mounta**	**4.34**	**172**	P	**Pn**	**12 13 13.5 +0.6**
	baz=352,SNR=9.6					
WMOK				S	**Sn**	**12 14 02.9 -0.6**
	baz=352					
Q24A	**Divide**	**4.38**	**271**		**Pn**	**12 13 14.4 +0.7**
Q24A				IAmb_Lg		12 14 29.2
	comp=Z,97nm,0.8s					
Q24A	**Divide**	**4.38**	**271**	P	**Pn**	**12 13 13.9 +0.2**
	baz=88,SNR=17					
Q24A				S	**Sn**	**12 14 05.7 +0.8**
	baz=88					
AMTX	**Amarillo**	**4.50**	**203**		**Pn**	**12 13 16.0 +0.9**
AMTX	**Amarillo**	**4.50**	**203**	P	**Pn**	**12 13 16.2 +1.1**
	baz=22					
AMTX				S	**Sn**	**12 14 09.8 +2.3**
	baz=22					
AMTX	**Amarillo**	**4.50**	**203**	P	**Pn**	**12 13 15.5 +0.4**
	baz=22					
AMTX				S	**Sn**	**12 14 07.9 +0.5**
	baz=22					
RLO	**Rose Lookout**	**4.59**	**127**	Pn	**Pn**	**12 13 17.6 +1.3**
RLO				IAmb_Lg		12 14 35.5
	comp=Z,129nm,0.8s					
X34A	**Smith Ranch, M**	**4.64**	**162**		**Pn**	**12 13 18.3 +1.3**
P38A	**Dawn**	**4.69**	**81**		**Pn**	**12 13 19.6 +2.0**
P38A	**Dawn**	**4.69**	**81**	P	**Pn**	**12 13 19.5 +1.8**
	baz=264,SNR=12					
ISCO	**Idaho Springs**	**4.77**	**281**		**Pn**	**12 13 20.2 +1.1**
ISCO	**Idaho Springs**	**4.77**	**281**	P	**Pn**	**12 13 19.9 +0.8**
	baz=98,SNR=28					
ISCO	**Idaho Springs**	**4.77**	**281**	P	**Pn**	**12 13 19.7 +0.6**
	baz=98,SNR=29					
ISCO				S	**Sn**	**12 14 13.4 -1.1**
	baz=98					
U38A	**Gravette**	**4.84**	**121**	Pn	**Pn**	**12 13 21.3 +1.6**
U38A				IAmb_Lg		12 14 43.3
	comp=Z,90nm,0.7s					
U38A	**Gravette**	**4.84**	**121**	P	**Pn**	**12 13 21.8 +2.1**
	baz=304,SNR=6.4					
SDCO	**Great Sand Dun**	**4.87**	**256**		**Pn**	**12 13 21.3 +0.9**
SDCO				IAmb_Lg		12 14 38.9
	comp=Z,109nm,0.8s					
SDCO	**Great Sand Dun**	**4.87**	**256**	P	**Pn**	**12 13 21.2 +0.9**
	baz=73,SNR=31					
SDCO	**Great Sand Dun**	**4.87**	**256**	P	**Pn**	**12 13 21.0 +0.6**
	baz=73,SNR=14					
SDCO				Sb	**Sb**	**12 14 34.1 +3.0**
	baz=73					
PHWY	**Pilot Hill**	**5.07**	**298**		**Pn**	**12 13 23.6 +0.5**
PHWY				IAmb_Lg		12 14 49.5
	comp=Z,73nm,0.8s					
N38A	**Joes South For**	**5.14**	**68**		**Pn**	**12 13 25.6 +1.7**
ECSD	**EROS Data Cent**	**5.17**	**24**		**Pn**	**12 13 26.5 +2.2**
ECSD				IAmb_Lg		12 14 51.1
	comp=Z,92nm,0.7s					
ECSD	**EROS Data Cent**	**5.17**	**24**	P	**Pn**	**12 13 26.3 +2.0**
	baz=206					
ECSD	**EROS Data Cent**	**5.17**	**24**	P	**Pn**	**12 13 25.9 +1.6**
	baz=206,SNR=18					
ECSD				S	**Sn**	**12 14 25.4 +1.5**
	baz=206					
HHAR	**Hobbs**	**5.22**	**120**	Pn	**Pn**	**12 13 26.7 +1.7**
HHAR				IAmb_Lg		12 15 02.0
	comp=Z,63nm,0.8s					
N23A	**Red Feather La**	**5.26**	**293**	Pn	**Pn**	**12 13 26.7 +0.9**
N23A	**Red Feather La**	**5.26**	**293**	P	**Pn**	**12 13 26.4 +0.6**
	baz=109,SNR=19					
N23A				Sb	**Sb**	**12 14 47.1 +4.7**
	baz=109					
LOOK	**Love County**	**5.39**	**159**	Pn	**Pn**	**12 13 28.4 +1.1**
LOOK				IAmb_Lg		12 15 03.8
	comp=Z,137nm,0.8s					
SUSD	**Miller**	**5.41**	**4**		**Pn**	**12 13 29.7 +2.1**
SUSD	**Miller**	**5.41**	**4**	P	**Pn**	**12 13 29.3 +1.7**
	baz=185,SNR=14					
SUSD				S	**Sn**	**12 14 30.4 +0.5**
	baz=185					
SUSD	**Miller**	**5.41**	**4**	P	**Pn**	**12 13 29.2 +1.6**
	baz=185					
SUSD				S	**Sn**	**12 14 30.4 +0.5**
	baz=185					
X37A	**Clayton**	**5.56**	**142**	Pn	**Pn**	**12 13 31.2 +1.5**
X37A	**Clayton**	**5.56**	**142**	P	**Pn**	**12 13 30.7 +1.1**
	baz=324,SNR=14					
MSTX	**Muleshoe**	**5.70**	**208**	Pn	**Pn**	**12 13 32.0 +0.4**
MSTX				IAmb_Lg		12 15 10.5
	comp=Z,96nm,0.9s					
MSTX	**Muleshoe**	**5.70**	**208**	S	**Sn**	**12 14 37.3 +0.1**
	baz=26					
MSTX	**Muleshoe**	**5.70**	**208**	P	**Pn**	**12 13 32.1 +0.5**
	baz=26					
MSTX				S	**Sn**	**12 14 35.5 -1.7**
	baz=26					
R40A	**Maddies Statio**	**5.73**	**95**	P	**Pn**	**12 13 34.6 +2.6**
	baz=279					
SMCO	**Snowmass**	**5.79**	**274**		**Pn**	**12 13 34.2 +1.0**
P40A	**Paris**	**5.83**	**83**		**Pn**	**12 13 34.8 +1.5**
P40A	**Paris**	**5.83**	**83**	S	**Sn**	**12 14 39.1 -0.9**
	baz=267					
S22A	**4UR Ranch, Cre**	**5.88**	**260**	Pn	**Pn**	**12 13 35.3 +1.0**
S22A	**4UR Ranch, Cre**	**5.88**	**260**	P	**Pn**	**12 13 34.9 +0.6**
	baz=75,SNR=12					
S22A				Sb	**Sb**	**12 15 05.3 +5.1**
	baz=75					
Z35A	**Perchaven, San**	**5.99**	**161**	IAmb_Lg		12 15 26.3
	comp=Z,53nm,0.9s					
RSSD	**Black Hills**	**6.09**	**328**	Pn	**Pn**	**12 13 37.5 +0.3**
RSSD	**Black Hills**	**6.09**	**328**	P	**Pn**	**12 13 38.7 +1.6**
	baz=145					
K22A	**Casper**	**6.41**	**306**		**Pn**	**12 13 42.7 +1.3**
K22A	**Casper**	**6.41**	**306**	P	**Pn**	**12 13 42.6 +1.1**
	baz=122					
ABTX	**Abilene, Hawle**	**6.41**	**181**	P	**Pn**	**12 13 41.8 +0.5**
	baz=0.5					
RWWY	**Rawlins**	**6.43**	**297**		**Pn**	**12 13 42.5 +0.6**
MIAR	**Mount Ida**	**6.56**	**131**	Pn	**Pn**	**12 13 44.6 +1.2**
MIAR	**Mount Ida**	**6.56**	**131**	P	**Pn**	**12 13 44.7 +1.4**
	baz=315,SNR=14					
MIAR	**Mount Ida**	**6.56**	**131**	P	**Pn**	**12 13 44.5 +1.1**
	baz=315,SNR=9.1					
MIAR				S	**Sn**	**12 14 59.2 +1.1**
	baz=315					
CCM	**Cathedral Cave**	**6.57**	**96**	P	**Pn**	**12 13 44.5 +1.0**
	baz=281					
FCAR	**Ozark Folk Cen**	**6.68**	**116**		**Pn**	**12 13 47.0 +2.0**
I37A	**Lemond, Waseca**	**6.77**	**41**	Pn	**Pn**	**12 13 47.1 +0.9**
O20A	**White River Ci**	**6.81**	**282**	P	**Pn**	**12 13 46.1 -1.0**
	baz=97					
N41A	**Harden Midland**	**6.88**	**73**	Pn	**Pn**	**12 13 48.4 +0.7**
ANMO	**Albuquerque**	**6.89**	**236**	Pn	**Pn**	**12 13 49.3 +1.2**
	comp=Z,1.0nm,0.5s,baz=53,slow=14,SNR=5.3					
ANMO				Pg	**Pb**	**12 14 09.7 +2.9**
	comp=Z,4.7nm,0.3s,baz=51,slow=16,SNR=30					
ANMO				Lg	Lg	12 15 37.7
	comp=Z,3.0nm,0.3s,baz=335,slow=19,SNR=5.7					
ANMO				LR	LR	12 16 21.0
	comp=Z,48nm,18.0s,baz=24,slow=38					
ANMO	**Albuquerque**	**6.89**	**236**	Pn	**Pn**	**12 13 47.2 -0.9**
ANMO	**Albuquerque**	**6.89**	**236**	P	**Pn**	**12 13 46.8 -1.2**
	baz=52					
WHAR	**Wooly Hollow**	**6.89**	**121**	Pn	**Pn**	**12 13 48.6 +0.7**
F33A	**5 Mile Ranch,**	**7.20**	**18**	Pn	**Pn**	**12 13 53.0 +0.8**
WHTX	**Lake Whitney,**	**7.24**	**166**	Pn	**Pn**	**12 13 53.1 +0.4**
WHTX	**Lake Whitney,**	**7.24**	**166**	P	**Pn**	**12 13 52.8 +0.1**
	baz=347					
WHTX	**Lake Whitney,**	**7.24**	**166**	P	**Pn**	**12 13 52.6 -0.1**
	baz=347					
LCAR	**Lake Charles**	**7.29**	**111**		**Pn**	**12 13 54.8 +1.5**
MVCO	**Mesa Verde**	**7.30**	**258**	Pn	**Pn**	**12 13 54.6 +0.9**
MVCO	**Mesa Verde**	**7.30**	**258**	P	**Pn**	**12 13 53.0 -0.8**
	baz=73					
GDL2	**Guadalupe Moun**	**7.88**	**211**	Pn	**Pn**	**12 14 02.4 +0.8**
SPMN	**Marine on St.**	**7.94**	**37**		**Pn**	**12 14 03.4 +1.1**
SPMN	**Marine on St.**	**7.94**	**37**	P	**Pn**	**12 14 03.2 +0.9**
	baz=221					
BW06	**Boulder Array**	**8.45**	**299**		**Pn**	**12 14 08.0 -1.6**
BW06	**Boulder Array**	**8.45**	**299**	P	**Pn**	**12 14 09.4 -0.2**
	baz=113					
PD31	**Pinedale Array**	**8.45**	**299**	Pn	**Pn**	**12 14 08.1 -1.5**
PDAR	**Pinedale Array**	**8.45**	**299**	Pn	**Pn**	**12 14 09.0 -0.6**
	comp=Z,1.0nm,0.3s,baz=118,slow=11,SNR=27					
PDAR				Sn	**Sn**	**12 15 40.2 -4.8**
	comp=Z,0.7nm,0.3s,baz=108,slow=19,SNR=1.6					
PDAR				Lg	Lg	12 16 26.4
	comp=Z,3.3nm,0.3s,baz=112,slow=31,SNR=8.9					
PDAR				LR	LR	12 17 49.3
	comp=Z,25nm,21.4s,baz=204,slow=41					
	comp=Z,2.4nm,0.4s					
PDAR	**Pinedale Array**	**8.45**	**299**	Pn	**Pn**	**12 14 09.1 -0.4**
JCT	**Junction City**	**8.55**	**182**	P	**Pn**	**12 14 10.5 -0.2**
	baz=1.2					
MNTX	**Cornudas Mount**	**8.75**	**215**	P	**Pn**	**12 14 13.8 +0.4**
	baz=31					
LAO	**LASA Array**	**9.08**	**329**		**Pn**	**12 14 18.3 +0.3**
LAO	**LASA Array**	**9.08**	**329**	P	**Pn**	**12 14 19.1 +1.2**
	baz=145					
L44A	**Lake County Fo**	**9.37**	**67**	P	**Pn**	**12 14 23.0 +1.0**
	baz=254					
RLMT	**Red Lodge**	**9.44**	**313**	Pn	**Pn**	**12 14 23.1 0.0**
RLMT	**Red Lodge**	**9.44**	**313**	P	**Pn**	**12 14 23.4 +0.3**
	baz=127					
LOHW	**Long Hollow**	**9.49**	**302**		**Pn**	**12 14 23.3 -0.5**
HWUT	**Hardware Ranch**	**9.54**	**289**	Pn	**Pn**	**12 14 22.5 -1.9**
AGMN	**Agassiz Nation**	**9.62**	**15**	P	**Pn**	**12 14 26.2 +0.9**
	baz=197					
MOOW	**Moose Ponds**	**9.64**	**303**	Pn	**Pn**	**12 14 26.5 +0.6**
WVT	**Waverly**	**9.73**	**104**	Pn	**Pn**	**12 14 27.5 +0.6**
WVT	**Waverly**	**9.73**	**104**	P	**Pn**	**12 14 25.6 -1.2**
	baz=291					
DGMT	**Dagmar**	**10.00**	**342**	P	**Pn**	**12 14 32.4 +1.8**
	baz=159					
DGMT	**Dagmar**	**10.00**	**342**	P	**Pn**	**12 14 31.7 +1.1**
	baz=159					
PLAL	**Pickwick Lake**	**10.02**	**110**	Pn	**Pn**	**12 14 30.6 -0.2**
B35A	**Bob, Littlefor**	**10.21**	**22**		**Pn**	**12 14 33.9 +0.5**
TX31	**Lajitas Ar. Si**	**10.27**	**201**		**Pn**	**12 14 34.5 +0.1**
TX32	**Lajitas Array**	**10.27**	**201**		**Pn**	**12 14 34.5 +0.1**
TXAR	**Lajitas Array**	**10.27**	**201**	Pn	**Pn**	**12 14 33.7 -0.7**
	comp=Z,0.3nm,0.3s,baz=29,slow=11,SNR=21					
TXAR				Pg		12 15 13.6
	comp=Z,0.8nm,0.3s,baz=16,slow=15,SNR=14					
TXAR				Sn	**Sn**	**12 16 25.1 -4.5**
	comp=Z,0.5nm,0.3s,baz=27,slow=16,SNR=1.8					
TXAR				Lg	Lg	12 17 27.4
	comp=Z,1.0nm,0.3s,baz=24,slow=25,SNR=4.1					
	comp=Z,0.4nm,0.3s					
EYMN	**Ely**	**10.63**	**31**	Pn	**Pn**	**12 14 38.8 -0.4**
EYMN	**Ely**	**10.63**	**31**	P	**Pn**	**12 14 39.1 -0.1**
	baz=216					
ULM	**Lac du Bonnet**	**11.50**	**12**	Pn	**Pn**	**12 14 49.5 -1.5**
	comp=Z,1.7nm,0.3s,baz=191,slow=16					
ULM				Sn	**Sn**	**12 16 51.8 -7.5**
	comp=Z,1.0nm,0.3s,baz=246,slow=20,SNR=4.1					
EGMT	**Eagleton**	**11.63**	**324**	P	**Pn**	**12 14 54.3 +1.4**
	baz=137					
ELK	**Elko**	**12.19**	**283**	Lg	Lg	12 18 25.2
	comp=Z,0.1nm,0.3s,baz=87,slow=11,SNR=1.6					
TKL	**Tuckaleechee C**	**12.98**	**100**	Pn	**Pn**	**12 15 11.2 -0.2**
	comp=Z,0.3nm,0.3s,baz=281,slow=16,SNR=2.7					
TKL				Sn	**Sn**	**12 17 32.9 -2.9**
	comp=Z,0.2nm,0.3s,baz=288,slow=16,SNR=2.6					
TKL				Lg	Lg	12 18 52.0
	comp=Z,0.6nm,0.3s,baz=259,slow=19,SNR=3.6					
	comp=Z,3.3nm,0.8s					
ILAR	**Eielson Array**	**37.54**	**329**	P	**P**	**12 19 23.0 +2.2**
	comp=Z,0.7nm,0.8s,baz=104,slow=7.5,SNR=6.9					
	comp=Z,0.7nm,0.8s					
KIRV	**Kirov**	**79.34**	**16**	LR	LR	12 59 47.0
	comp=Z,28nm,19.9s,baz=282,slow=36					
ARU	**Arti**	**83.09**	**12**	LR	LR	13 03 35.9
	comp=Z,26nm,20.1s,baz=309,slow=37					

*IDC **14** 12:25:55.6±0.9, 28.°00S×176.°31W, h0km, mb3.7/4, mbtmpb3.7/4, MS3.6/5, Error ellipse: s-maj=31.3km s-min=22.9km az=132.0*

ISC 14 12:26:01.4±0.7, 28.°0S±0.°1×176.°4W±0.°2, h37km, n27, σ1s50/22, mb3.9/5, MS3.7/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.79**	**227**	Pn	**Pn**	**12 26 28.8**	**-1.1**
	209nm,0.3s,baz=33,slow=20,SNR=10.0						
RAO				Sn	**Sn**	**12 26 54.2**	**+2.8**
	237nm,0.3s,baz=285,slow=23,SNR=9.5						
URZ	**Urewera**	**11.54**	**206**	Pn	Pn	12 28 34.4	-9.1
	0.4nm,0.3s,baz=147,slow=11,SNR=1.7						
URZ				Sn	Sn	12 30 40.5	-11
	1.0nm,0.3s,baz=276,slow=20,SNR=2.9						
DZM	**Mont Dzumac**	**16.63**	**287**	LR	LR	12 34 50.0	
	comp=Z,68nm,19.1s,baz=207,slow=32						
RPZ	**Rata Peaks**	**18.61**	**210**	P	**P**	**12 30 12.2**	**-3.4**
	1.9nm,0.3s,baz=345,slow=2.5,SNR=5.9						
RPZ				S	Sn	12 33 20.5	-23
	5.0nm,0.9s,baz=87,slow=22,SNR=1.7						
CTA	**Charters Tower**	**34.90**	**275**	LR	LR	12 45 12.6	
	comp=Z,62nm,18.4s,baz=82,slow=33						
ASAR	**Alice Springs**	**44.69**	**264**	P	**P**	**12 34 11.2**	**+0.2**
	0.4nm,0.7s,baz=102,slow=6.7,SNR=6.6						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**45.47**	**269**	P	**P**	**12 34 17.2**	**-0.1**
	0.4nm,0.4s,baz=111,slow=6.3,SNR=14						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**62.06**	**180**	P	**P**	**12 36 18.3**	**+0.3**
	1.5nm,1.0s,baz=17,slow=4.8,SNR=3.0						
	1.5nm,1.0s						
JHJ	**Hachijo jima 2**	**73.68**	**323**	LR	LR	13 02 47.7	
	comp=Z,134nm,20.2s,baz=72,slow=30						
MAW	**Mawson**	**74.99**	**200**	LR	LR	13 09 57.5	
	comp=Z,49nm,19.0s,baz=215,slow=35						
TROLL	**Troll, Antarti**	**80.22**	**180**	P	**P**	**12 38 09.0**	**+1.2**
SNAA	**Sanae**	**80.46**	**178**	P	**P**	**12 38 09.5**	**+0.5**
SNAA	**Sanae**	**80.46**	**178**	P	**P**	**12 38 08.9**	**-0.2**
	1.2nm,1.0s,baz=175,slow=8.8,SNR=3.7						
	1.2nm,1.0s						
VNA3	**Neumayer Olymp**	**80.55**	**176**	P	**P**	**12 38 09.8**	**+0.3**
VNA2	**Neumayer--Watz**	**81.00**	**176**	P	**P**	**12 38 12.6**	**+0.8**
	baz=174,slow=4.8						
VNA1	**Neumayer--Stat**	**81.22**	**176**	P	**P**	**12 38 13.9**	**+0.9**
NVAR	**Mina Array Bea**	**85.56**	**42**	P	**P**	**12 38 38.4**	**+2.4**
	0.8nm,0.9s,baz=228,slow=8.9,SNR=4.9						
KLR	**Kul'dur**	**89.73**	**329**	LR	LR	13 11 13.1	
	comp=Z,27nm,21.6s,baz=8.5,slow=30						
ZALV	**Zalesovo Beam**	**117.19**	**319**	PKP	**PKiKP**	**12 44 43.2**	**+1.0**
	0.3nm,0.4s,baz=64,slow=6.6,SNR=1.6						
MKAR	**Makanchi Array**	**117.31**	**311**	PKP	**PKiKP**	**12 44 43.0**	**+0.3**
	0.3nm,0.8s,baz=91,slow=6.3,SNR=2.5						
FINES	**FINESS Array B**	**143.38**	**342**	PKP	**PKPdf**	**12 45 29.8**	**-1.4**
	0.3nm,0.4s,baz=31,slow=4.4,SNR=4.7						
NB2	**NORSAR Subarra**	**146.61**	**353**	PKP	**PKPab**	**12 45 39.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=12,slow=3.0						
NOA	**NORSAR Array B**	**146.61**	**353**	PKPbc	**PKPbc**	**12 45 38.8**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=14,slow=4.5,SNR=7.9						
AKASG	**Malin Array Be**	**150.19**	**326**	PKPbc	**PKPbc**	**12 45 48.4**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=51,slow=2.7,SNR=7.3						
BRTR	**Keskin Array B**	**152.60**	**303**	PKPab	**PKPab**	**12 46 04.3**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=90,slow=3.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**165.07**	**173**	PKPab	**PKPab**	**12 46 59.3**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=199,slow=4.4,SNR=7.5						
ESDC	**Sonseca Array**	**166.82**	**26**	PKPab	**PKPab**	**12 47 03.2**	**-3.0**
	comp=Z,0.6nm,0.4s,baz=334,slow=3.6,SNR=3.5						

RSNC 14 12:37:59.1±0.6, 7.°16N×76.°25W, h15km±3km, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBBC	**Dabeiba**	**0.15**	**166**	*eP*	Pg	12 38 02.6	-0.5
DBBC				*eS*	Sb	12 38 07.2	+0.6
DBBC	**Dabeiba**	**0.15**	**166**	*eP*	Pg	12 38 02.6	-0.5
DBBC				*eS*	Sg	12 38 06.1	+0.4
UREC	**San Jos de Ur**	**0.92**	**50**	*eP*	Pb	12 38 15.5	-1.3
UREC				*eS*	Sb	12 38 28.1	-0.6
UREC				IAML		12 38 30.8	
	comp=Z,67nm,0.2s						
UREC	**San Jos de Ur**	**0.92**	**50**	*eP*	Pb	12 38 15.5	-1.2
UREC				*eS*	Sb	12 38 27.9	-0.9
UREC				IAML		12 38 30.8	
	comp=Z,63nm,0.2s						
HELC	**Santa Helena**	**1.20**	**144**	*eP*	Pb	12 38 22.0	+0.2
HELC				*eS*	Sb	12 38 36.8	-0.4
HELC				IAML		12 38 42.3	
	comp=Z,6.7nm,0.6s						
CBOC	**Ciudad Bolivar**	**1.31**	**170**	*eP*	Pg	12 38 24.4	0.0
CBOC				*eS*	Sg	12 38 42.4	+0.8
CBOC				IAML		12 38 51.3	
	comp=Z,11nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.41**	**76**	*eP*	Pn	12 38 24.2	-0.1
ZARC				*eS*	Sb	12 38 43.1	0.0
ZARC				IAML		12 38 45.1	
	comp=Z,36nm,0.6s						
ZARC	**Zaragoza, Cauc**	**1.41**	**76**	*eP*	Pn	12 38 23.9	-0.4
ZARC				*eS*	Sn	12 38 41.8	-0.9
ZARC				IAML		12 38 45.1	
	comp=Z,36nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.88**	**109**	*eP*	Pn	12 38 31.4	+0.6
PTBC				*eS*	Sb	12 38 56.9	+0.4
PTBC				IAML		12 39 01.0	
	comp=Z,13nm,0.6s						

WEL 14 12:47:40.9±1.3, 37.°S±5.°×17.°9E±.°, h21km±10km, M3.3/12, ML3.5/17, MLv3.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=101.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.87**	**237**	P	Pb	12 47 56.2	-1.1
MXZ				S	Sb	12 48 07.4	-1.1
WMGZ	**Waiomatatini S**	**0.97**	**221**	P	Pn	12 47 59.8	+0.5
WMGZ				S	Sn	12 48 13.7	+1.3
PKGZ	**Pakihiroa**	**1.21**	**229**	P	Pn	12 48 02.8	+0.1
PKGZ				S	Sn	12 48 19.4	+0.9
PUZ	**Puketiti**	**1.25**	**218**	P	Pn	12 48 03.4	+0.3
PUZ				S	Sb	12 48 20.6	+1.3
HAZ	**Te Kaha**	**1.33**	**240**	P	Pn	12 48 03.2

FINES	**FINES Array B**	**62.56**	**31**	P		P		13 10 53.2	-0.2
	0.5nm,0.8s,baz=249,slow=2.4,SNR=1.4								
	0.5nm,0.8s								
AKASG	**Malin Array Be**	**64.14**	**43**	P		P		13 11 03.9	-0.1
	0.7nm,0.5s,baz=268,slow=6.1,SNR=5.9								
	0.7nm,0.5s								
BRTR	**Keskin Array B**	**68.57**	**55**	P		P		13 11 33.1	+0.3
	0.4nm,0.5s,baz=260,slow=5.4,SNR=4.0								
	0.4nm,0.5s								
ILAR	**Eielson Array**	**75.28**	**334**	P		P		13 12 12.2	-0.2
	1.8nm,0.7s,baz=77,slow=4.6,SNR=16								
	1.8nm,0.7s								
YAK	**Yakutsk**	**96.55**	**2**	LR		LR		13 52 40.0	
	comp=Z,29nm,21.9s,baz=86,slow=32								

*IDC **14** 13:05:20.7±1.1,1°.86N×126°.23E,h0km,mb3.7/4, mbtmp3.7/6,ML3.4/2,Error ellipse: s-maj=50.5km s-min=18.8km az=71.0*

*DJA **14** 13:05:26.4±0.3,2°.N±3°×12°.7E±°,h10km,M3.8/12,mb4.0/5, mB5.4/1,MLv3.7/12,Mw(mB)4.9/1*

ISC 14 13:05:24.0±1.0,2°.17N±0°.07×126°.95E±0°.09,h10km,n25, σ2⁰34/24,mb3.7/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.45**	**163**	P		**Pn**	**13 05 51.6**	**+1.3**
TNTI				S		**Sb**	**13 06 11.8**	**+2.1**
TNTI	**Ternate**	**1.45**	**163**	P		**Pn**	**13 05 51.6**	**+1.3**
SGSI	**Sangihe**	**2.07**	**317**	P		**Pn**	**13 05 59.1**	**+0.2**
LBMI	**Labuha**	**2.84**	**169**	P		**Pn**	**13 06 11.6**	**+2.1**
KMSI	**Cibinong**	**3.37**	**242**	P		**Pn**	**13 06 18.5**	**+1.8**
GTOI	**Gorontalo**	**4.22**	**249**	P		**Pn**	**13 06 30.3**	**+1.8**
SANI	**Sanana**	**4.30**	**193**	P		**Pn**	**13 06 28.9**	**-0.7**
SANI	**Sanana**	**4.30**	**193**	P		**Pn**	**13 06 29.2**	**-0.4**
SIJI	**Sorong**	**5.26**	**125**	Pn		**Pn**	**13 06 47.2**	**+4.3**
	1.8nm,0.3s,baz=287,slow=19,SNR=4.2							
	5.4nm,0.4s							
MRSI	**Marisa**	**5.28**	**252**	P		**Pn**	**13 06 45.4**	**+2.3**
	0.1nm20nm,0.5s							
NLAI	**Namlea**	**5.38**	**178**	P		**Pn**	**13 06 46.7**	**+2.4**
	0.1nm4μm9.6nm,1.6s							
APSI	**Ampana**	**6.12**	**240**	P		**Pn**	**13 06 57.1**	**+2.5**
	0.1nm30nm,0.8s							
MPSI	**Mapaga**	**7.28**	**256**	P		**Pn**	**13 07 12.9**	**+2.3**
KDU	**Kakadu**	**15.75**	**160**	P		**Pn**	**13 09 02.9**	**-3.2**
KNRA	**Kununurra**	**17.82**	**174**	P		**Pn**	**13 09 30.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**20.18**	**184**	P		**P**	**13 09 54.3**	**-4.6**
	0.1nm,0.3s,baz=19,slow=9.3,SNR=1.7							
	1.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**20.18**	**184**	P		**P**	**13 09 57.7**	**-1.2**
WRAB	**Tennant Creek**	**23.14**	**162**	P		**P**	**13 10 29.0**	**-1.6**
WRA	**Warramunga Arr**	**23.14**	**162**	P		**P**	**13 10 27.1**	**-3.6**
	2.3nm,0.5s,baz=339,slow=11,SNR=21							
	2.3nm,0.5s							
QIS	**Mount Isa**	**25.77**	**152**	P		**P**	**13 10 55.5**	**+0.3**
ASAR	**Alice Springs**	**26.56**	**166**	P		**P**	**13 11 00.9**	**-1.5**
	0.4nm,0.3s,baz=351,slow=14,SNR=4.1							
WRKA	**Warakurna**	**27.08**	**177**	P		**P**	**13 11 06.8**	**-0.2**
KSRS	**Korea Array**	**35.12**	**1**	P		**P**	**13 12 18.8**	**+1.1**
	0.3nm,0.5s,baz=178,slow=10.0,SNR=4.6							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**58.96**	**326**	P		P	13 15 21.0	-2.8
	0.2nm,0.3s,baz=121,slow=6.8,SNR=11							
	0.2nm,0.3s							
VNDA	**Vanda**	**81.86**	**173**	P		P	13 17 39.6	-3.5
	0.4nm,0.6s,baz=321,slow=6.5,SNR=1.5							
	0.4nm,0.6s							

*MDD **14** 13:10:45.0±1.6,32°.46N×8°.15W,h0km,Mb4.1/4, M_mb3.5/4,Error ellipse: s-maj=13.0km s-min=8.6km az=46.0*

*SFS **14** 13:10:44.0,32°.46N×8°.15W,ML3.5,BENGUERIR (MARRUECOS)*

ISC 14 13:10:49.9±3.9,32°.7N±0°.2×7°.9W±0°.1,h10km,n8,σ1⁰89/14, 4C,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AVE	**Averroes**	**0.73**	**37**	P		**Pg**	**13 11 04.6**	**+0.5**
AVE				S		**Sn**	**13 11 21.8**	**+4.3**
IFR	**Ifrane**	**2.49**	**70**	P		**Pn**	**13 11 30.6**	**-0.1**
IFR				S		**Sb**	**13 12 05.1**	**-0.6**
PVAQ	**Vaqueiros**	**4.68**	**2**	*e*P		**Pn**	**13 12 00.8**	**+0.1**
PVAQ				*e*S		**Sn**	**13 12 57.3**	**+2.2**
PVAQ				A		A	13 12 59.0	
	4.5nm,0.6s							
EGRO	**El Granado**	**4.83**	**4**	⇑*i*Vmb_V			13 12 04.1	
	197nm,SNR=1.8							
EGRO				Sn		**Sn**	**13 12 57.1**	**-1.5**
EMIN	**Mina Concepcio**	**5.15**	**11**	⇑*i*Vmb_V			13 12 08.5	
	129nm,SNR=1.7							
EMIN				Sn		**Sn**	**13 13 05.8**	**-0.7**
PBAR	**Barrancos**	**5.50**	**7**	*e*P		**Pn**	**13 12 12.1**	**+0.2**
PBAR				*e*S		**Sn**	**13 13 16.5**	**+1.3**
PBAR				A		A	13 13 18.2	
	1.6nm,0.5s							
ECAB	**El Cabril**	**5.73**	**20**	Pn		**Pn**	**13 12 13.9**	**-1.1**
ECAB				⇑*i*Vmb_V			13 12 16.5	
	63nm,SNR=0.7							
ECAB				Sn		**Sn**	**13 13 19.5**	**-1.4**
EADA	**Adamuz**	**6.09**	**26**	Pn		**Pn**	**13 12 18.4**	**-1.7**
EADA				⇑*i*Vmb_V			13 12 19.7	
	115nm,SNR=1.1							
EADA				Sn		**Sn**	**13 13 27.7**	**-2.1**

*IDC **14** 13:15:43.2±1.1,43°.56N×89°.96E,h0km,mb3.5/6, mbtmp3.5/8,ML3.1/2,MS3.6/2,Error ellipse: s-maj=48.6km s-min=16.9km az=46.0*

*NNC **14** 13:15:48.7±1.8,43°.80N×89°.87E,h28km±13km,mb3.9, mpv3.6,Error ellipse: s-maj=13.4km s-min=11.9km az=34.0*

ISC 14 13:15:48.6±1.1,43°.7N±0°.1×89°.9E±0°.1,h35km,n15, σ1⁰03/17,mb3.5/6,9C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array**	**6.22**	**303**	Pn		**Pn**	**13 17 17.8**	**-0.1**
	0.4nm,0.2s,baz=112,slow=14,SNR=145							
MK31				⇑Sn		**Sn**	**13 18 27.1**	**-0.7**
	2.8nm,0.4s,baz=110,slow=27,SNR=4.4							
MK31				⇑Lg		Lg	13 19 02.3	
	17nm,0.6s,baz=113,slow=28,SNR=6.7							
MKAR	**Makanchi Array**	**6.22**	**303**	Pn		**Pn**	**13 17 18.0**	**+0.1**
	1.7nm,0.3s,baz=111,slow=15,SNR=53							
MKAR				Sn		**Sn**	**13 18 26.9**	**-0.9**
	2.7nm,0.3s,baz=109,slow=26,SNR=6.5							
MKAR				Lg		Lg	13 19 03.7	
	2.4nm,0.3s,baz=121,slow=25,SNR=4.5							
	1.6nm,0.3s							
MAKZ	**Makanchi**	**6.42**	**302**	⇑Pn		**Pn**	**13 17 20.7**	**+0.1**
	2.5nm,0.3s							
MAKZ				⇑Sn		**Sn**	**13 18 32.4**	**-0.3**
	2.8nm,0.4s							
MAKZ				⇑Lg		Lg	13 19 09.5	
	17nm,0.8s							
PDGK	**Podgornoye**	**7.60**	**271**	⇓Pn		**Pn**	**13 17 37.1**	**+0.2**
	4.0nm,0.4s							
PDGK				⇓Sn		**Sn**	**13 19 02.2**	**+0.4**
	24nm,1.2s							
PDGK				⇑Lg		Lg	13 19 48.5	
	14nm,0.8s							
KURBB	**Kurchatov Arra**	**10.40**	**316**	⇑Pn		**Pn**	**13 18 13.9**	**-1.2**
	1.8nm,0.7s							
KURBB				⇑Lg		Lg	13 21 18.0	
	23nm,0.7s							
KURK	**Kurchatov**	**10.41**	**316**	⇑Pn		**Pn**	**13 18 13.1**	**-2.2**
	0.6nm,0.3s							
KURK				⇓Lg		Lg	13 21 18.0	
	6.0nm,0.5s							
ZALV	**Zalesovo Beam**	**10.80**	**344**	Pn		**Pn**	**13 18 21.8**	**+1.3**
	0.2nm,0.3s,baz=198,slow=9.1,SNR=2.3							
ZALV				Lg		Lg	13 21 27.6	
	0.1nm,0.3s,baz=162,slow=24,SNR=2.0							
	0.3nm,0.3s							
ARCES	**ARCESS Array B**	**41.02**	**331**	P		**P**	**13 23 28.9**	**+1.1**
	0.7nm,0.6s,baz=87,slow=8.2,SNR=1.4							
	0.7nm,0.6s							
NOA	**NORSAR Array B**	**47.90**	**320**	P		**P**	**13 24 22.9**	**-0.1**
	0.2nm,0.4s,baz=76,slow=5.6,SNR=2.2							
	0.2nm,0.4s							
IDI	**Anoyia**	**49.74**	**284**	LR		LR	13 47 38.5	
	comp=Z,65nm,19.4s,baz=270,slow=38							
GERES	**GERESS Array B**	**50.89**	**304**	LR		LR	13 47 39.9	
	comp=Z,55nm,19.4s,baz=313,slow=38							
ESDC	**Sonseca Array**	**66.44**	**303**	P		**P**	**13 26 35.4**	**+1.2**
	0.2nm,0.4s,baz=39,slow=8.3,SNR=3.2							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**75.28**	**137**	P		**P**	**13 27 26.2**	**-1.7**
	0.4nm,0.9s,baz=340,slow=6.1,SNR=2.3							
	0.4nm,0.9s							
ASAR	**Alice Springs**	**78.23**	**139**	P		**P**	**13 27 45.0**	**+0.4**
	0.2nm,0.6s,baz=329,slow=5.4,SNR=4.5							
	0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**79.79**	**278**	P		**P**	**13 27 53.3**	**-0.1**
	0.3nm,0.5s,baz=39,slow=4.7,SNR=4.9							
	0.3nm,0.5s							

*IDC **14** 13:35:04.2±1.9,12°.14S×123°.34E,h0km,mb3.3/1, mbtmp3.7/4,ML3.8/3,Error ellipse: s-maj=57.1km s-min=21.4km az=76.0*

ISC 14 13:35:07.0±1.0,12°.25S±0°.06×123°.09E±0°.08,h35km,n16, σ1⁰34/17,South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**2.10**	**16**	Pn		**Pn**	**13 35 39.0**	**-0.8**
	49nm,0.3s,baz=219,slow=9.2,SNR=36							
BATI				Sn		**Sn**	**13 36 04.5**	**-0.2**
	25nm,0.3s,baz=282,slow=22,SNR=11							
BATI	**Baumata**	**2.10**	**16**	P		**Pn**	**13 35 39.9**	**+0.1**
BATI				S		**Sn**	**13 36 04.0**	**-0.7**
BASI	**Baing, Sumba**	**3.18**	**309**	P		**Pn**	**13 35 55.1**	**+0.6**
BASI				S		**Sn**	**13 36 29.4**	**-1.9**
MMRI	**Maumere**	**3.68**	**347**	P		**Pn**	**13 36 01.2**	**-0.3**
EDFI	**Ende, Flores**	**3.73**	**338**	P		**Pn**	**13 36 00.6**	**-1.7**
WBSI	**Waikabubak, Su**	**4.46**	**305**	P		**Pn**	**13 36 12.1**	**-0.1**
PLAI	**Plampang**	**6.23**	**303**	P		**Pn**	**13 36 36.9**	**+0.4**
	0.2nm40nm,1.3s							
FITZ	**Fitzroy Crossi**	**6.32**	**157**	Pn		**Pn**	**13 36 39.9**	**+2.2**
	1.2nm,0.3s,baz=347,slow=8.2,SNR=38							
FITZ				Sn		**Sn**	**13 37 47.8**	**-0.9**
	3.0nm,0.3s,baz=37,slow=20,SNR=12							
	3.1nm,0.3s							
TWSI	**Taliwang, Sumb**	**7.03**	**299**	P		**Pn**	**13 36 47.2**	**-0.2**
	0.1nm11nm,2.2s							
BKSI	**Bulukumba**	**7.48**	**337**	P		**Pn**	**13 36 52.9**	**-0.7**
	0.0nm7.1nm,0.7s							
WRA	**Warramunga Arr**	**13.24**	**127**	Pn		**Pn**	**13 38 10.8**	**-1.8**
	0.7nm,0.3s,baz=298,slow=14,SNR=39							
WRA				Sn		Sn	13 40 23.8	-15
	0.1nm,0.3s,baz=345,slow=41,SNR=2.4							
	2.5nm,0.5s							
ASAR	**Alice Springs**	**15.32**	**139**	Pn		**Pn**	**13 38 40.1**	**-0.6**
	0.3nm,0.3s,baz=318,slow=12,SNR=38							
ASAR				Sn		Sn	13 41 17.2	-12
	0.1nm,0.3s,baz=312,slow=24,SNR=6.3							
	1.6nm,0.6s							
H08S2	**Diego Garcia H**	**49.99**	**270**	T		T	14 37 32.0	
	baz=100,slow=74							
H08S3	**Diego Garcia H**	**50.00**	**270**	T		T	14 37 32.2	
	baz=100,slow=74							
H08S1	**Diego Garcia H**	**50.00**	**270**	T		T	14 37 32.5	
	baz=100							
MKAR	**Makanchi Array**	**69.19**	**331**	P		**P**	**13 46 12.7**	**+2.7**
	0.2nm,0.5s,baz=132,slow=6.0,SNR=2.1							
	0.2nm,0.5s							

DJA 14 14:18:37.0±0.3,6°S±2°×12°8E±°,h22km±3km,M4.1/13, mb4.2/13,mB4.7/1,MLv4.0/13,Mw(mB)3.9/1,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**2.35**	**41**	P		Pn	14 19 13.9	-0.4
AAI	**Ambon**	**2.62**	**356**	P		Pn	14 19 17.1	-1.0
MSAI	**Masohi**	**3.01**	**11**	P		Pn	14 19 23.0	-0.4
NLAI	**Namlea**	**3.31**	**337**	P		Pn	14 19 28.0	+0.4
SANI	**Sanana**	**4.86**	**331**	P		Pn	14 19 49.0	+0.1
FAKI	**Fak Fak**	**5.13**	**49**	P		Pn	14 19 54.6	+2.0
	0.1nm28nm,0.6s							
LBMI	**Labuha**	**5.71**	**351**	P		Pn	14 20 03.3	+2.7
	0.1nm35nm,0.8s							
BATI	**Baumata**	**6.05**	**230**	P		Pn	14 20 07.1	+1.8
	0.1nm30nm,0.5s							
EDFI	**Ende, Flores**	**7.05**	**250**	P		Pn	14 20 19.8	+0.8
	0.1nm13nm,1.1s							
BSSI	**Bau Bau, Buton**	**7.84**	**271**	P		Pn	14 20 30.2	+0.4
	0.1nm14nm,0.8s							
BKSI	**Bulukumba**	**8.27**	**276**	P		Pn	14 20 36.0	+0.3
	20nm,0.7s							

*IDC **14** 14:20:12.7±0.7,0°.62N×67°.17E,h0km,mb4.0/14, mbtmp4.0/14,ML5.5/1,MS4.0/67,Error ellipse: s-maj=19.1km s-min=18.0km az=69.0*

*NEIC **14** 14:20:15.4±1.6,0°.70N±0°.08×67°.19E±0°.08,h10km±1km, mb4.4/29,Error ellipse: s-maj=14.4km s-min=13.1km az=142.0*

*GCMT **14** 14:20:17.4±0.2,0°.46N±0°.01×67°.09E±0°.01,h16km±1km, MW5.0/128,Moment Tensor Solution. s51,c60; s128,c203; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.26±.10; $M_{\theta\theta}$=-3.22±.09; $M_{\phi\phi}$3.49±.10; $M_{r\theta}$-0.79±.28; $M_{\theta\phi}$=-1.62±.08; $M_{r\phi}$0.46±.25; Best double couple: M_o3.83800×10^{16} NP1:ϕ_s122.00000°,δ88.00000°, λ-166.00000°. NP2:ϕ_s32.00000°,δ76.00000°,λ-2.00000°. Principal axes: T 3.9530, Plg8.0000°, Azm256.0000°; N -0.2230, Plg76.0000°, Azm130.0000°; P -3.7220, Plg11.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 14:20:16.4±0.5,0°.69N±0°.07×67°.20E±0°.06,h22km,n113, σ0⁰95/55,mb4.3/25,MS4.0/66,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAAM	**Kaadhehdhoo**	**5.80**	**92**			**Pn**	**14 21 37.9**	**-3.3**
MNCI	**Minicoy**	**9.54**	**38**	Pn		**Pn**	**14 22 30.6**	**-1.9**
DGAR	**Diego Garcia**	**9.61**	**147**	Pn		**Pn**	**14 22 34.4**	**+0.9**
H08S3	**Diego Garcia H**	**9.80**	**148**	Pn		**Pn**	**14 22 37.0**	**+1.1**
	baz=339,slow=19							
H08S1	**Diego Garcia H**	**9.81**	**148**	Pn		**Pn**	**14 22 36.5**	**+0.4**
	baz=339,slow=19							
H08S2	**Diego Garcia H**	**9.82**	**148**	Pn		**Pn**	**14 22 38.7**	**+2.5**
	baz=339,slow=19							
MSEY	**Mahe Island**	**12.87**	**245**			**Pn**	**14 23 16.3**	**-1.8**
PALK	**Pallekele**	**14.97**	**64**	Pn		**Pn**	**14 23 47.0**	**+0.2**
	22nm,0.3s,baz=333,slow=18,SNR=103							
PALK				LR		LR	14 28 33.5	
	comp=Z,1μm,18.3s,baz=354,slow=33							
PALK	**Pallekele**	**14.97**	**64**			**Pn**	**14 23 46.8**	**0.0**
SOCY	**Socotra**	**17.38**	**312**	P		**P**	**14 24 20.0**	**+1.0**
SOCY				IAmb		IAmb	14 24 50.5	
	comp=Z,67nm,1.2s							
WSAR	**Wadi Sarin**	**23.91**	**340**	LR		LR	14 33 15.6	
	comp=Z,430nm,18.4s,baz=170,slow=33							
RER	**Riviere de l'E**	**24.43**	**207**	P		**P**	**14 25 34.6**	**+0.8**
ATD	**Arta Tunnel**	**26.46**	**295**	LR		LR	14 34 58.2	
	comp=Z,200nm,18.2s,baz=130,slow=34							
ATD	**Arta Tunnel**	**26.46**	**295**	P		**P**	**14 25 53.4**	**+1.2**
ATD				IAmb		IAmb	14 26 35.7	
	comp=Z,13nm,1.0s							
KIBK	**Kibwezi**	**29.30**	**264**	P		**P**	**14 26 17.8**	**0.0**
KIBK				IAmb		IAmb	14 26 18.9	
	comp=Z,10nm,1.3s							
KMBO	**Kilima Mbogo**	**30.00**	**267**	LR		LR	14 37 49.8	
	comp=Z,455nm,18.1s,baz=94,slow=35							
GSI	**Gunungsitoli**	**30.38**	**89**	P		**P**	**14 26 26.1**	**-1.1**
RAYN	**Ar Rayn**	**30.96**	**319**	P		**P**	**14 26 32.9**	**+0.7**
PSI	**Prapat**	**31.78**	**86**	LR		LR	14 37 22.7	
	comp=Z,715nm,21.3s,baz=262,slow=32							
LODK	**Lodwar**	**31.93**	**275**	P		**P**	**14 26 40.5**	**-0.4**
LODK				IAmb		IAmb	14 26 42.8	
	comp=Z,3.8nm,0.9s							
BRDH	**Bariadhala**	**32.29**	**46**	LR		LR	14 41 24.7	
	comp=Z,246nm,18.7s,baz=162,slow=39							
KULM	**Kulim**	**33.71**	**82**	P		**P**	**14 26 56.4**	**0.0**
HRA	**Herat**	**33.84**	**353**	P		**P**	**14 26 58.3**	**+0.8**
HRA				IAmb		IAmb	14 26 59.6	
	comp=Z,2.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**35.81**	**59**	P		**P**	**14 27 16.0**	**+1.5**
	comp=Z,2.2nm,1.0s,baz=244,slow=11,SNR=11							
CMAR				LR		LR	14 41 17.8	
	comp=Z,239nm,19.1s,baz=240,slow=35							
	comp=Z,2.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**35.81**	**59**	P		**P**	**14 27 14.1**	**-0.5**
CHTO	**Chiang Mai**	**35.97**	**58**	P		**P**	**14 27 15.4**	**-0.5**
MBAR	**Mbarara**	**36.48**	**268**	LR		LR	14 40 17.5	
	comp=Z,356nm,21.5s,baz=52,slow=33							
MBAR	**Mbarara**	**36.48**	**268**	P		**P**	**14 27 20.7**	**+0.1**
MBAR				IAmb		IAmb	14 27 26.4	
	comp=Z,5.5nm,1.0s							
LSA	**Lhasa**	**36.77**	**36**	P		**P**	**14 27 24.1**	**+0.9**
LSA				IAmb		IAmb	14 27 26.7	
	comp=Z,3.7nm,0.6s							
GEYT	**Alibeck**	**37.99**	**348**	LR		LR	14 42 30.7	
	comp=Z,305nm,21.4s,baz=170,slow=35							
GAR	**Garm**	**38.23**	**4**	P		**P**	**14 27 35.5**	**+0.5**
LEM	**Lembang**	**41.02**	**101**	LR		LR	14 41 42.7	
	comp=Z,427nm,20.1s,baz=240,slow=31							
LSZ	**Lusaka**	**41.69**	**246**	P		**P**	**14 28 03.0**	**-1.1**
	comp=Z,2.4nm,0.3s,baz=74,slow=7.0,SNR=7.1							
LSZ				LR		LR	14 42 53.7	
	comp=Z,670nm,20.6s,baz=104,slow=33							
	comp=Z,2.4nm,0.3s							
LSZ	**Lusaka**	**41.69**	**246**	P		**P**	**14 28 03.0**	**-1.1**
LSZ				IAmb		IAmb	14 28 03.8	
	comp=Z,6.4nm,0.9s							
EIL	**Elat**	**42.10**	**316**	LR		LR	14 43 14.7	
	comp=Z,236nm,18.9s,baz=118,slow=33							
AAK	**Ala-Archa**	**42.27**	**8**	LR		LR	14 45 16.1	
	comp=Z,118nm,21.1s,baz=194,slow=36							
ASF	**Jabal al Asfar**	**42.40**	**321**	LR		LR	14 44 11.7	
	comp=Z,248nm,20.3s,baz=140,slow=34							
MMAI	**Mount Meron Ar**	**43.90**	**320**	LR		LR	14 45 17.0	
	comp=Z,344nm,18.1s,baz=346,slow=34							
GNI	**Garni**	**44.27**	**335**	LR		LR	14 46 55.9	
	comp=Z,231nm,19.4s,baz=144,slow=36							
LBTB	**Lobatse**	**47.67**	**235**	LR		LR	14 46 53.2	
	comp=Z,172nm,18.4s,baz=64,slow=34							
MAKZ	**Makanchi**	**47.71**	**14**	P		**P**	**14 28 50.9**	**-0.6**
MKAR	**Makanchi Array**	**47.77**	**14**	P		**P**	**14 28 51.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=200,slow=8.6,SNR=5.8							
MKAR				LR		LR	14 49 17.1	
	comp=Z,120nm,21.2s,baz=235,slow=36							
	comp=Z,0.6nm,0.8s							
KBZ	**Khabaz**	**48.02**	**336**	LR		LR	14 49 42.6	
	comp=Z,151nm,21.3s,baz=152,slow=37							
ABKAR	**Akbulak array**	**48.78**	**354**	P		**P**	**14 28 59.3**	**-0.4**
ABKAR				IAmb		IAmb	14 29 06.3	
	comp=Z,5.1nm,1.4s							
BR131	**Keskin Array S**	**49.44**	**326**	P		**P**	**14 29 04.7**	**-0.4**
BR131				IAmb		IAmb	14 29 21.7	
	comp=Z,3.4nm,1.1s							
BRTR	**Keskin Array B**	**49.44**	**326**	P		**P**	**14 29 05.1**	**0.0**
	comp=Z,0.6nm,0.7s,baz=140,slow=8.1,SNR=4.0							
BRTR				LR		LR	14 50 11.4	
	comp=Z,318nm,19.0s,baz=143,slow=36							
	comp=Z,0.6nm,0.7s							
BOSA	**Boshof**	**49.59**	**231**	P		**P**	**14 29 05.6**	**-0.9**
	comp=Z,4.1nm,0.9s,baz=78,slow=8.1,SNR=4.1							
BOSA				LR		LR	14 46 34.8	
	comp=Z,243nm,21.6s,baz=64,slow=32							
	comp=Z,4.1nm,0.9s							
AKTO	**Aktyubinsk**	**50.17**	**352**	P		**P**	**14 29 09.9**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=158,slow=7.6,SNR=15							
AKTO				LR		LR	14 50 28.6	
	comp=Z,64nm,19.9s,baz=162,slow=36							
	comp=Z,2.9nm,0.6s							
ILGA	**Ilgaz**	**50.31**	**327**	P		**P**	**14 29 12.3**	**+0.5**
KURBB	**Kurchatov Arra**	**50.67**	**9**	P		**P**	**14 29 14.0**	**0.0**
	comp=Z,1.1nm,0.9s,baz=205,slow=7.8,SNR=7.4							
KURBB				LR		LR	14 49 51.1	
	comp=Z,185nm,21.5s,baz=174,slow=35							
	comp=Z,1.1nm,0.9s							
KURK	**Kurchatov**	**50.77**	**9**	P		**P**	**14 29 15.2**	**+0.4**
XAN	**Xi'an**	**51.21**	**45**	P		**P**	**14 29 19.3**	**+0.8**
XAN				pP		pwP	14 29 28.8	-0.3
XAN				pmax		pmax		
	comp=Z,11nm,1.0s							
BVAR	**Borovoye Array**	**52.22**	**2**	LR		LR	14 52 38.7	
	comp=Z,135nm,19.1s,baz=187,slow=37							
IDI	**Anoyia**	**52.28**	**316**	LR		LR	14 52 00.5	
	comp=Z,58nm,20.3s,baz=86,slow=36							
TSUM	**Tsumeb**	**52.53**	**245**	LR		LR	14 49 19.8	
	comp=Z,500nm,20.6s,baz=125,slow=33							
MPSI	**Mapaga**	**52.70**	**90**	P		**P**	**14 29 29.7**	**-0.1**
KAPI	**Kappang**	**52.80**	**97**	LR		LR	14 51 24.5	
	comp=Z,110nm,18.9s,baz=266,slow=35							
SUR	**Sutherland**	**54.75**	**229**	LR		LR	14 49 26.2	
	comp=Z,205nm,20.3s,baz=69,slow=32							
ZAA0	**Zalesovo Array**	**55.04**	**13**	P		**P**	**14 29 46.0**	**-0.3**
ZAA0				IAmb		IAmb	14 29 50.6	
	comp=Z,2.2nm,0.8s							
ZALV	**Zalesovo Beam**	**55.04**	**13**	P		**P**	**14 29 46.1**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=196,slow=8.6,SNR=4.2							
	comp=Z,1.1nm,0.7s							
ZALV	**Zalesovo Beam**	**55.04**	**13**	P		**P**	**14 29 46.2**	**0.0**
RDO	**Rodhopi**	**55.11**	**322**	P		**P**	**14 29

comp=Z,63nm,21.4s,baz=124,slow=37
MDT Midelt 74.37 304 LR LR 15 04 47.7
comp=Z,72nm,19.5s,baz=149,slow=36
STKA Stephens Creek 77.14 123 LR LR 15 03 27.7
comp=Z,160nm,20.0s,baz=255,slow=34
GUMO Guam 77.85 76 LR LR 15 03 09.3
comp=Z,56nm,21.6s,baz=279,slow=33
EKA Eskdalemuir Ar 78.35 327 LR LR 15 10 10.2
comp=Z,46nm,18.9s,baz=150,slow=38
CTA Charters Tower 79.96 110 LR LR 15 06 34.6
comp=Z,118nm,18.1s,baz=267,slow=35
PMG Port Moresby 80.21 100 LR LR 15 09 22.9
comp=Z,41nm,18.1s,baz=271,slow=37
TIXI Tiksi 80.69 16 LR LR 15 07 45.4
comp=Z,518nm,21.4s,baz=241,slow=35
SPITS Spitsbergen Ar 81.84 351 LR LR 15 13 18.6
comp=Z,72nm,18.1s,baz=114,slow=39
BBTS Babate 83.76 285 LR LR 15 11 18.1
comp=Z,214nm,18.0s,baz=78,slow=37
SNAA Sanae 84.46 197 LR LR 15 05 17.7
comp=Z,81nm,18.1s,baz=46,slow=32
JMIC Jan Mayen 84.70 341 LR LR 15 12 59.9
comp=Z,48nm,19.5s,baz=190,slow=37
MA2 Magadan 86.14 30 LR LR 15 12 39.0
comp=Z,147nm,18.6s,baz=290,slow=36
BORG Borgarnes 88.75 335 LR LR 15 14 38.8
comp=Z,58nm,21.6s,baz=87,slow=37
PETK Petropavlovsk- 89.75 37 LR LR 15 14 51.2
comp=Z,78nm,18.4s,baz=288,slow=36
QSPA South Pole Qui 90.67 180 LR LR 15 07 52.1
comp=Z,112nm,21.3s,baz=252,slow=32
VNDA Vanda 91.68 167 LR LR 15 09 36.4
comp=Z,100nm,18.2s,baz=251,slow=32
DZM Mont Dzumac 98.83 112 LR LR 15 12 59.8
comp=Z,156nm,21.9s,baz=222,slow=32
SHEM Shemya Is, Ala 99.63 36 LR LR 15 22 06.4
comp=Z,36nm,18.9s,baz=292,slow=37
TXAR Lajitas Array 148.89 344 PKPbc **PKiKP 14 40 04.1 -0.6**
comp=Z,0.7nm,0.9s,baz=57,slow=3.3,SNR=6.0

JMA ***14*** *14:39:58.6±1.2,46˚N±6˚×15˚3E±˚, h30km, MV4.6/17, KURILE ISLANDS REGION*
SKHL ***14*** *14:40:01.6±0.6,46˚.20N×152˚.40E, h62km±8km, mb5.0/6*
BJI ***14*** *14:40:01.0±0.0,46˚.50N×152˚.10E, h40km, mb4.7/23, mB4.9/13, Ms4.6/5, Ms7 4.4/5*
MOS ***14*** *14:40:01.0±1.1,46˚.12N×152˚.30E, h56km, mb4.8/44, MS3.5/7, Error ellipse: s-maj=7.1km s-min=5.4km az=92.4*
NEIC ***14*** *14:40:04.9±1.2,46˚.4N±0˚.1×152˚.1E±0˚.1, h62km±8km, mb4.6/45, Error ellipse: s-maj=18.3km s-min=11.5km az=142.0*
IDC ***14*** *14:40:04.0±2.5,46˚.26N×152˚.22E, h67km±22km, mb3.7/20, mbtmp4.0/26, MS3.8/33, Error ellipse: s-maj=17.7km s-min=11.6km az=147.0*
ISC 14 14:40:02.1±0.5, 46˚.13N±0˚.06×152˚.29E±0˚.06, h50km, n264, σ1$34/242, **mb4.6/79, MS3.9/34, 9C-12D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.23**	**255**	*c i* PN	**Pn**	**14 40 50.7**	**+0.5**
KUR				*i* S	**Sn**	**14 41 29.8**	**+2.4**
KUR				pmax	pmax		
	comp=E,70nm,0.4s						
KUR				pmax	pmax		
	comp=Z,343nm,0.4s						
KUR				pmax	pmax		
	comp=N,83nm,0.3s						
KUR				smax	smax		
	comp=E,1μm,0.4s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR	**Kuril'sk**	**3.23**	**255**	*i* P	**Pn**	**14 40 50.5**	**+0.3**
KUR				AMB	AMB	14 40 52.9	
	comp=N,340nm,0.4s						
KUR				*i* S	**Sn**	**14 41 28.1**	**+0.7**
KUR				A	A	14 41 37.2	
	comp=N,1μm,0.6s						
KUR				A	A	14 41 37.2	
	comp=N,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.01**	**248**	*e*PN	**Pn**	**14 41 14.7**	**0.0**
YUK				*e*S	**Sn**	**14 42 12.7**	**+1.4**
YUK				pmax	pmax		
	comp=Z,454nm,0.5s						
YUK				pmax	pmax		
	comp=E,263nm,0.5s						
YUK				pmax	pmax		
	comp=Z,294nm,0.5s						
YUK				pmax	pmax		
	comp=N,230nm,0.5s						
YUK				smax	smax		
	comp=N,668nm,0.7s						
YUK				smax	smax		
	comp=E,2μm,0.9s						
YUK				smax	smax		
	comp=N,791nm,0.4s						
YUK				smax	smax		
	comp=E,832nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.01**	**248**	*e*P	**Pn**	**14 41 15.9**	**+1.2**
YUK				AMB	AMB	14 41 21.7	
	comp=E,290nm,0.5s						
YUK				*e*S	**Sn**	**14 42 11.9**	**+0.6**
YUK				A	A	14 42 28.5	
	comp=E,790nm,0.5s						
YUK				A	A	14 42 28.5	
	comp=E,830nm,0.5s						
SKR	**Severo-Kuril's**	**5.22**	**28**	*e*PN	**Pn**	**14 41 18.0**	**+0.5**
SKR				pmax	pmax		
	comp=Z,71nm,0.6s						
SKR	**Severo-Kuril's**	**5.22**	**28**	*e*P	**Pn**	**14 41 15.7**	**-1.8**
SKR				AMB	AMB	14 41 19.8	
	comp=Z,70nm,0.6s						
SKR				*e*S	**Sn**	**14 42 10.8**	**-5.5**
SKR				A	A	14 42 28.3	
	comp=Z,230nm,0.8s						
SKR				A	A	14 42 28.3	
	comp=Z,160nm,0.8s						
RUSJ	**Misakicho**	**5.38**	**250**	*e*PN	**Pn**	**14 41 19.5**	**-0.3**
RUSJ				*e*S	**Sn**	**14 42 20.9**	**+0.5**
NEM2	**Nemuro 2**	**5.42**	**242**	*e*P	**Pn**	**14 41 18.8**	**-1.6**
NEM2				*e*S	**Sn**	**14 42 19.0**	**-2.3**
NMR	**Nemuro--Hokkai**	**5.43**	**242**	*e*PN	**Pn**	**14 41 19.1**	**-1.3**
NMR	**Nemuro--Hokkai**	**5.43**	**242**	*e*P	**Pn**	**14 41 19.1**	**-1.3**
NMR				*e*S	**Sn**	**14 42 19.9**	**-1.6**
JRA	**Rausu**	**5.53**	**249**	*e*P	**Pn**	**14 41 23.5**	**+1.7**
JNK	**Nakash**	**5.95**	**247**	P	**Pn**	**14 41 28.1**	**+0.5**
JNK				*e*S	**Sn**	**14 42 35.0**	**+0.5**
PAU	**Pauzhetka**	**6.12**	**28**	*e*P	**Pn**	**14 41 29.2**	**-0.6**
PAU				AMB	AMB	14 41 37.1	
	comp=Z,40nm,0.6s						
PAU				*e*S	**Sn**	**14 42 34.2**	**-4.2**
PAU				A	A	14 42 41.4	
	comp=Z,150nm,0.4s						
PAU				A	A	14 42 41.4	
	comp=Z,180nm,0.4s						
JAK	**Akkeshi**	**6.26**	**243**	*e*P	**Pn**	**14 41 30.4**	**-1.5**
JAK				*e*S	**Sn**	**14 42 38.8**	**-3.3**
JTKR	**Abashiri--Toko**	**6.32**	**253**	*e*P	**Pn**	**14 41 33.9**	**+1.3**
YSS	**Yuzh-Sakhalins**	**6.63**	**281**		**Pn**	**14 41 38.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**6.63**	**281**	⇑*e*PN	**Pn**	**14 41 38.3**	**+1.4**
YSS				*e*S	**Sn**	**14 42 53.2**	**+2.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax	smax		
	comp=N,20nm,0.6s						
YSS				smax	smax		
	comp=E,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.63**	**281**	*e*P	**Pn**	**14 41 38.3**	**+1.4**
YSS				AMB	AMB	14 41 40.1	
	comp=N,30nm,0.9s						
JAR	**Ashorobuto**	**6.70**	**248**	*e*P	**Pn**	**14 41 38.5**	**+0.7**
JOB	**Onbets**	**6.85**	**245**	*e*P	**Pn**	**14 41 39.7**	**-0.2**
JOB				*e*S	**Sn**	**14 42 54.4**	**-2.1**
JKK2	**Kamakawa 2**	**7.13**	**255**	P	**Pn**	**14 41 46.0**	**+2.2**
JCH	**Churui**	**7.30**	**244**	P	**Pn**	**14 41 45.4**	**-0.7**
JCH				*e*S	**Sn**	**14 43 04.3**	**-3.2**
UGL	**Uglegorsk**	**7.51**	**297**	*e*PN	**Pn**	**14 41 50.8**	**+1.8**
UGL				pmax	pmax		
	comp=Z,100nm,0.6s						
UGL	**Uglegorsk**	**7.51**	**297**	*e*P	**Pn**	**14 41 50.8**	**+1.8**
UGL				AMB	AMB	14 41 51.5	
	comp=Z,100nm,0.6s						
UGL				*e*S	**Sn**	**14 43 10.0**	**-2.7**
UGL				A	A	14 43 16.0	
	comp=Z,80nm,0.7s						
UGL				A	A	14 43 16.0	
	comp=Z,90nm,0.7s						
JAB	**Ashibetsu**	**7.62**	**253**	P	**Pn**	**14 41 53.0**	**+2.5**
ERM	**Erimo**	**7.76**	**241**	Pn	**Pn**	**14 41 53.0**	**+0.6**
ERM	**Erimo**	**7.76**	**241**	*e*PN	**Pn**	**14 41 53.1**	**+0.8**
PEA0B	**Petropavlovsk-**	**7.81**	**25**	Pn	**Pn**	**14 41 52.0**	**-1.1**
PEA0B	**Petropavlovsk-**	**7.81**	**25**	*d i* PN	Pn	14 41 58.1	+5.0
PETK	**Petropavlovsk-**	**7.81**	**25**	P	**Pn**	**14 41 51.8**	**-1.4**
	comp=Z,3.2nm,0.5s,baz=183,slow=11,SNR=20						
PETK				S	**Sn**	**14 43 25.9**	**+5.8**
	comp=Z,2.5nm,0.7s,baz=238,slow=14,SNR=0.8						
PETK				LR	LR	14 44 45.0	
	comp=Z,105nm,21.5s,baz=232,slow=36						
JNBK	**Urakawa-nobuka**	**7.86**	**244**	*e*P	**Pn**	**14 41 52.5**	**-1.3**
JRBN	**Rebuntou**	**7.88**	**269**	*e*P	**Pn**	**14 41 57.1**	**+3.0**
TYV	**Tymovskoe**	**7.96**	**310**	*e*PN	**Pn**	**14 41 57.5**	**+2.4**
TYV				*e*S	**Sn**	**14 43 29.2**	**+5.6**
TYV				pmax	pmax		
	comp=Z,13nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,2.4s						
TYV				smax	smax		
	comp=N,43nm,1.6s						
TYV				smax	smax		
	comp=E,20nm,1.6s						
TYV				smax	smax		
	comp=E,300nm,2.3s						
TYV	**Tymovskoe**	**7.96**	**310**	*e*P	**Pn**	**14 41 57.5**	**+2.4**
TYV				AMB	AMB	14 41 59.4	
	comp=E,10.0nm,0.8s						
PET	**Petropavlovsk**	**8.04**	**29**	Pn	**Pn**	**14 41 57.1**	**+0.9**
PET	**Petropavlovsk**	**8.04**	**29**	*e*PN	**Pn**	**14 41 57.5**	**+1.3**
PET				pmax	pmax		
	comp=Z,45nm,0.9s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
PET	**Petropavlovsk**	**8.04**	**29**	*e*P	**Pn**	**14 41 57.5**	**+1.3**
PET				AMB	AMB	14 42 03.2	
	comp=Z,50nm,0.9s						
JEW	**Eniwo**	**8.42**	**251**	Pn	**Pn**	**14 42 02.6**	**+1.2**
OKH	**Okha**	**9.57**	**324**	*e*P	**Pn**	**14 42 16.6**	**-0.5**
OKH				*e*S	**Sn**	**14 43 59.8**	**-3.2**
JANG	**Nango**	**9.74**	**238**	*e*P	**Pn**	**14 42 15.9**	**-3.5**
JANG				*e*S	Sn	14 43 57.9	-9.5
MA2	**Magadan**	**13.50**	**357**	P	**Pn**	**14 43 09.4**	**-1.3**
	comp=Z,5.1nm,0.5s,baz=190,slow=11,SNR=6.6						
MA2				LR	LR	14 48 17.2	
	comp=Z,191nm,19.9s,baz=172,slow=37						
MA2	**Magadan**	**13.50**	**357**	Pn	**Pn**	**14 43 09.6**	**-1.1**
MA2	**Magadan**	**13.50**	**357**	P	**Pn**	**14 43 09.6**	**-1.1**
MA2	**Magadan**	**13.50**	**357**	*e*P	**Pn**	**14 43 09.6**	**-1.1**
KLR	**Kul'dur**	**14.18**	**290**	P	**Pn**	**14 43 19.6**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=118,slow=12,SNR=3.4						
KLR				LR	LR	14 49 00.2	
	comp=Z,295nm,18.6s,baz=100,slow=38						
KLR	**Kul'dur**	**14.18**	**290**	⇓*i* P	**Pn**	**14 43 21.8**	**+1.9**
KLR				pmax	pmax		
	comp=Z,14nm,1.7s						
KLR				MLR	MLR		
	comp=Z,293nm,15.0s						
KLR	**Kul'dur**	**14.18**	**290**	*e*P	**Pn**	**14 43 21.8**	**+1.9**
MAJO	**Matsushiro**	**14.25**	**233**	⇓*e*P	**Pn**	**14 43 18.7**	**-2.4**
MJAR	**Matsushiro Arr**	**14.25**	**233**	P	**Pn**	**14 43 22.2**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=339,slow=13,SNR=2.4						
MJAR				LR	LR	14 49 31.4	
	comp=Z,146nm,20.3s,baz=54,slow=40						
USRK	**Ussuriysk Ar.**	**14.45**	**270**	P	**Pn**	**14 43 24.0**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=67,slow=12,SNR=6.4						
USRK	**Ussuriysk Ar.**	**14.45**	**270**	Pn	**Pn**	**14 43 24.9**	**+1.3**
USRK	**Ussuriysk Ar.**	**14.45**	**270**	*e*P	**Pn**	**14 43 25.4**	**+1.8**
USRK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SEY	**Seymchan**	**16.84**	**0**	P	**Pn**	**14 43 54.2**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=215,slow=17,SNR=3.2						
ZEA	**Zeya**	**17.76**	**304**	*e*P	**P**	**14 44 06.1**	**+0.3**
ZEA				pmax	pmax		
	comp=E,10.0nm,1.6s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,100nm,12.7s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						
ZEA	**Zeya**	**17.76**	**304**	*e*P	**Pn**	**14 44 04.1**	**-1.4**
KSRS	**Korea Array**	**20.07**	**253**	P	Pn	14 44 32.5	-0.9
	comp=Z,2.3nm,0.6s,baz=56,slow=11,SNR=25						
KSRS				LR	LR	14 51 27.4	
	comp=Z,90nm,20.3s,baz=65,slow=34						
	comp=Z,2.3nm,0.6s						
KSRS	**Korea Array**	**20.07**	**253**	*e*P	Pn	14 44 32.8	-0.5
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSRS	**Korea Array**	**20.07**	**253**	*e*P	Pn	14 44 32.8	-0.5
KS19	**Wonju Array Si**	**20.08**	**253**	P	Pn	14 44 32.9	-0.6
KSAR	**Wonju Array Be**	**20.10**	**253**	P	Pn	14 44 33.2	-0.5
KSAR	**Wonju Array Be**	**20.10**	**253**	P	Pn	14 44 33.2	-0.5
KSCHJ	**Chungju**	**20.36**	**252**	P	Pn	14 44 36.0	-0.7
YAK	**Yakutsk**	**20.55**	**329**	P	**P**	**14 44 35.4**	**-0.8**
	comp=Z,7.2nm,0.6s,baz=94,slow=2.7,SNR=8.6						
YAK				LR	LR	14 52 27.4	
	comp=Z,157nm,19.4s,baz=88,slow=36						
	comp=Z,7.2nm,0.6s						
YAK	**Yakutsk**	**20.55**	**329**	P	**P**	**14 44 35.1**	**-1.0**
YAK				AMB	AMB	14 44 41.9	
	comp=Z,41nm,0.8s						
YAK	**Yakutsk**	**20.55**	**329**	*e*P	**P**	**14 44 35.3**	**-0.8**
YAK				pmax	pmax		
	comp=Z,27nm,1.1s						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				pmax	pmax		
	comp=E,20nm,1.1s						
INCN	**Inchon**	**20.92**	**255**	P	Pn	14 44 42.4	-1.0
INCN				AMB	AMB	14 44 45.4	
	comp=Z,15nm,0.6s						
INCN	**Inchon**	**20.92**	**255**	P	Pn	14 44 42.4	-1.0
INCN				pmax	pmax		
	comp=Z,15nm,0.6s						
TJN	**Taejon**	**21.05**	**251**	P	**P**	**14 44 43.5**	**+1.8**
TJN				AMB	AMB	14 44 47.9	
	comp=Z,31nm,0.9s						
TJN	**Taejon**	**21.05**	**251**	P	**P**	**14 44 43.5**	**+1.8**
TJN				pmax	pmax		
	comp=Z,31nm,0.9s						
NAWB	**Namwon**	**21.59**	**249**	P	**P**	**14 44 48.4**	**+0.9**
NAWB				AMB	AMB	14 45 12.8	
	comp=Z,31nm,1.5s						
BILL	**Bilibino**	**23.12**	**13**	⇑*e*P	**P**	**14 45 04.1**	**+0.6**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,126nm,16.0s						
BILL	**Bilibino**	**23.12**	**13**	*e*P	**P**	**14 45 04.1**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**28.94**	**151**	T	T	15 16 28.5	
	baz=340,SNR=782						
H11N1	**WAKE ISLAND Hy**	**28.96**	**151**	T	T	15 16 32.3	
	baz=340,slow=74,SNR=554						
H11N3	**WAKE ISLAND Hy**	**28.96**	**151**	T	T	15 16 32.3	
	baz=340,slow=74,SNR=534						
HNS	**HongShan**	**29.13**	**266**	⇑P	**P**	**14 45 59.8**	**+1.6**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**30.02**	**152**	T	T	15 17 53.4	
	baz=340,slow=76,SNR=433						
H11S3	**WAKE ISLAND Hy**	**30.02**	**152**	T	T	15 17 53.4	
	baz=340,slow=76,SNR=521						
H11S2	**WAKE ISLAND Hy**	**30.03**	**152**	T	T	15 17 53.4	
	baz=340,slow=76,SNR=478						
SONM	**Songino Array**	**31.01**	**290**	P	**P**	**14 46 14.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=49,slow=4.6,SNR=1.9						
	comp=Z,0.5nm,0.5s						
IMAR	**Indian Mountai**	**34.60**	**36**	P	**P**	**14 46 46.0**	**+0.1**
KDAK	**Kodiak Island**	**34.94**	**50**	P	**P**	**14 46 48.3**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=291,slow=11,SNR=1.6						
	comp=Z,3.5nm,0.8s						
H21K	**Melozitna Rive**	**34.95**	**36**	P	**P**	**14 46 48.5**	**-0.3**
H21K				AMB	AMB	14 47 29.7	
	comp=Z,8.5nm,1.3s						
SKT	**Skwentna**	**35.29**	**43**	P	**P**	**14 46 52.0**	**+0.1**
SKT				AMB	AMB	14 47 34.9	
	comp=Z,13nm,1.5s						
BPAW	**Bear Paw Mtn.**	**35.59**	**39**	P	**P**	**14 46 54.6**	**+0.2**
MLY	**Manley**	**35.75**	**38**	P	**P**	**14 46 56.4**	**+0.6**
TRF	**Thorofare Moun**	**35.88**	**40**	P	**P**	**14 46 56.7**	**-0.4**
TRF				AMb	AMb	14 47 17.9	
	comp=Z,9.3nm,1.4s						
SML	**Sawmill**	**36.81**	**43**	P	**P**	**14 47 04.8**	**-0.1**
SML				AMb	AMb	14 47 05.3	
	comp=Z,9.1nm,0.8s						
MDM	**Murphy Dome**	**36.81**	**38**	P	**P**	**14 47 04.9**	**+0.1**
COLA	**College**	**36.98**	**38**	⇓*e*P	**P**	**14 47 06.6**	**+0.5**
COLA				pmax	pmax		
	comp=Z,10.0nm,1.6s						
H24K	**Noodor Dome**	**36.99**	**36**	P	**P**	**14 47 05.9**	**-0.4**
CCB	**Clear Creek Bu**	**36.99**	**38**	P	**P**	**14 47 06.6**	**+0.3**
LZH	**Lanzhou**	**37.34**	**272**	*e*P	**P**	**14 47 10.9**	**+1.1**
LZH				pP	pP	14 47 18.8	-3.4
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
ILAR	**Eielson Array**	**37.39**	**38**	P	**P**	**14 47 09.0**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=259,slow=7.7,SNR=13						
	comp=Z,1.0nm,0.8s						
GTA	**Gaotai**	**38.51**	**279**	*e*P	**P**	**14 47 22.3**	**+2.7**
GTA				pP	pP	14 47 32.5	+0.9
GTA				sP	pwP	14 47 36.5	+0.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
M26K	**Nabesna, AK**	**39.26**	**42**	P	**P**	**14 47 26.0**	**+0.5**
K27K	**Chicken**	**39.51**	**39**	P	**P**	**14 47 27.6**	**+0.1**
L27K	**Beaver Creek,**	**39.72**	**41**	P	**P**	**14 47 29.6**	**+0.3**
DGZ	**Jazzator, Alta**	**42.41**	**299**	⇑*e*P	**P**	**14 47 51.3**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,5.0nm,2.7s						
INK	**Inuvik**	**42.48**	**32**	P	**P**	**14 47 50.0**	**-1.7**
	comp=Z,3.0nm,0.9s,baz=291,slow=5.2,SNR=3.1						
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**42.51**	**306**	P	**P**	**14 47 50.2**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=46,slow=6.2,SNR=2.6						
ZALV				PcP	**PcP**	**14 49 43.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=57,slow=5.3,SNR=5.0						
ZALV				LR	LR	15 06 40.1	
	comp=Z,236nm,18.7s,baz=68,slow=38						
	comp=Z,0.5nm,0.5s						
GOMU	**GeErMu**	**43.53**	**278**	P	**P**	**14 48 02.1**	**+0.9**
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,91nm,6.5s						
MK31	**Makanchi Array**	**46.72**	**298**	P	**P**	**14 48 26.4**	**+0.5**
MK31	**Makanchi Array**	**46.72**	**298**	P	**P**	**14 48 26.4**	**+0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**46.72**	**298**	P	**P**	**14 48 24.6**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=74,slow=7.5,SNR=16						
MKAR				PcP	**PcP**	**14 49 57.5**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=64,slow=3.4,SNR=4.6						
MKAR				LR	LR	15 09 03.0	
	comp=Z,180nm,19.2s,baz=116,slow=37						
	comp=Z,1.7nm,0.6s						
MKAR	**Makanchi Array**	**46.72**	**298**	P	**P**	**14 48 24.5**	**-1.4**
HON	**Honolulu**	**47.23**	**104**	P	P	14 48 36.0	+5.9
KURK	**Kurchatov**	**47.23**	**304**	⇓*e*P	**P**	**14 48 27.8**	**-2.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
CRAI	**Chiangrai**	**49.47**	**257**	P	**P**	**14 48 48.5**	**+1.0**
CRAI				AMb	AMb	14 48 50.6	
	comp=Z,5.2nm,0.8s						
BVAR	**Borovoye Array**	**50.81**	**310**	LR	LR	15 11 49.3	
	comp=Z,126nm,20.3s,baz=57,slow=38						
BRVK	**Borovoye**	**50.85**	**310**	*d e*P	**P**	**14 48 56.3**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
BRVK	**Borovoye**	**50.85**	**310**	*e*P	**P**	**14 48 56.3**	**-1.2**
CHTO	**Chiang Mai**	**51.42**	**256**	P	**P**	**14 49 03.0**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**51.67**	**256**	P	**P**	**14 49 05.2**	**+1.2**
	comp=Z,3.8nm,0.9s,baz=37,slow=7.5,SNR=22						
CMAR				LR	LR	15 11 13.6	
	comp=Z,29nm,20.7s,baz=185,slow=36						
	comp=Z,3.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**51.67**	**256**	*e*P	**P**	**14 49 05.7**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOOM	**Boomskoye usch**	**52.77**	**295**	P	**P**	**14 49 11.5**	**-0.6**
BOOM				AMb	AMb	14 49 13.6	
	comp=Z,3.6nm,0.9s						
BOOM	**Boomskoye usch**	**52.77**	**295**	P	**P**	**14 49 11.5**	**-0.6**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**53.60**	**296**	LR	LR	15 13 24.3	
	comp=Z,126nm,18.4s,baz=62,slow=37						
AAK	**Ala-Archa**	**53.60**	**296**	⇓*e*P	**P**	**14 49 17.7**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
AAK	**Ala-Archa**	**53.60**	**296**	*e*P	**P**	**14 49 17.7**	**-0.5**
BRDH	**Bariadhala**	**53.82**	**266**	LR	LR	15 15 17.1	
	comp=Z,57nm,19.9s,baz=88,slow=39						
GUN	**Gumba**	**54.49**	**275**	*e*P	**P**	**14 49 26.0**	**+0.9**
	comp=Z,14nm,0.4s						
PKI	**Pulchoki**	**55.02**	**275**	*e*P	**P**	**14 49 29.3**	**+0.3**
PKIN	**Phulchoki**	**55.03**	**275**	*e*P	**P**	**14 49 29.2**	**+0.3**
	comp=Z,11nm,0.5s						
ARU	**Arti**	**55.08**	**317**	LR	LR	15 13 25.6	
	comp=Z,67nm,21.0s,baz=342,slow=36						
ARU	**Arti**	**55.08**	**317**	*d i* P	**P**	**14 49 26.9**	**-1.7**
ARU				*PP	**pP**	**14 49 42.3**	**+1.0**
ARU				S	**S**	**14 57 04.0**	**-3.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ARU				MLR	MLR		
	comp=Z,104nm,15.0s						
ARU	**Arti**	**55.08**	**317**	*e*P	**P**	**14 49 26.8**	**-1.8**
GKN	**Gorkha**	**55.29**	**276**	*e*P	**P**	**14 49 31.3**	**+0.6**
	comp=Z,67nm,1.0s						
DANN	**Dangsing**	**55.68**	**277**	*e*P	**P**	**14 49 34.6**	**+1.0**
	comp=Z,95nm,0.8s						
HNR	**Honiara**	**55.73**	**171**	LR	LR	15 12 25.2	
	comp=Z,404nm,19.7s,baz=250,slow=35						
PYUN	**Piuthan**	**56.37**	**277**	*e*P	**P**	**14 49 39.2**	**+0.7**
	comp=Z,56nm,0.9s						
KIRV	**Kirov**	**57.93**	**323**	LR	LR	15 15 57.3	
	comp=Z,58nm,19.5s,baz=70,slow=37						
GAR	**Garm**	**58.26**	**295**	P	**P**	**14 49 52.0**	**+0.4**
ABKAR	**Akbulak array**	**58.39**	**310**	P	**P**	**14 49 50.5**	**-1.6**
AKTO	**Aktyubinsk**	**58.72**	**312**	LR	LR	15 17 29.4	
	comp=Z,225nm,18.3s,baz=58,slow=38						
CHGR	**Chuyangaron**

comp=Z,7.6nm,1.2s
GEYT Alibeck 66.43 301 P **P** **14 50 45.9 -0.2**
comp=Z,4.5nm,0.7s,baz=9.1,slow=3.8,SNR=8.7
comp=Z,4.5nm,0.7s
GEYT Alibeck 66.43 301 P **P** **14 50 45.4 -0.6**
GEYT IAmb IAmb 14 50 47.2
comp=Z,4.6nm,0.7s
VSU Vasula 66.50 332⇑*eP* **P** **14 50 45.6 -0.5**
WRA Warramunga Arr 67.74 198 P **P** **14 50 54.2 -0.2**
comp=Z,0.2nm,0.4s,baz=17,slow=6.7,SNR=2.1
comp=Z,0.2nm,0.4s
NB201 NORSAR Array S 68.60 341 P **P** **14 50 58.5 -0.9**
NB2 NORSAR Subarra 68.63 341 P **P** **14 50 58.3 -1.2**
comp=Z,1.6nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.63 341 P **P** **14 50 59.0 -0.6**
comp=Z,2.2nm,0.6s,baz=28,slow=6.4,SNR=15
NOA LR LR 15 24 58.1
comp=Z,47nm,19.1s,baz=20,slow=39
comp=Z,2.2nm,0.6s
NOA NORSAR Array B 68.63 341 *e*P **P** **14 50 59.0 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.6s
DZM Mont Dzumac 69.08 166 *e*LR LR 15 11 30.9
comp=Z,264nm,24.2s
KIV Kislovodsk 70.82 314 *i* P **P** **14 51 15.0 +1.6**
KIV *i* 14 51 32.8
KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,50nm,18.0s
KIV Kislovodsk 70.82 314 *e*P **P** **14 51 15.0 +1.6**
KBZ Khabaz 70.88 314 P **P** **14 51 12.9 -0.7**
comp=Z,12nm,1.0s,baz=72,slow=10,SNR=3.7
KBZ LR LR 15 27 11.2
comp=Z,80nm,18.4s,baz=32,slow=40
KBZ Khabaz 70.88 314*c* *i*P **P** **14 51 14.1 +0.5**
KBZ pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 70.88 314 *e*P **P** **14 51 14.1 +0.5**
ZEI Tsey 71.04 312 *e*P **P** **14 51 14.3 -0.6**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
ASAR Alice Springs 71.44 198 P **P** **14 51 18.2 +1.1**
comp=Z,0.5nm,0.5s,baz=10,slow=5.6,SNR=13
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 71.74 326 P **P** **14 51 17.4 -1.3**
comp=Z,1.5nm,0.4s,baz=35,slow=5.9,SNR=11
AKASG LR LR 15 25 08.2
comp=Z,76nm,19.7s,baz=34,slow=38
comp=Z,1.5nm,0.4s
AKASG Malin Array Be 71.74 326 *i* P **P** **14 51 17.2 -1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 71.74 326 P **P** **14 51 17.4 -1.3**
AKBB IAmb IAmb 14 51 18.5
comp=Z,6.1nm,0.8s
AKBB Malin Array Si 71.74 326⇓*i*P **P** **14 51 18.0 -0.7**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
PALK Pallekele 72.05 262 LR LR 15 27 23.9
comp=Z,23nm,18.1s,baz=129,slow=39
GNI Garni 72.50 310 LR LR 15 26 54.6
comp=Z,105nm,18.4s,baz=58,slow=39
GNI Garni 72.50 310⇓*e*P **P** **14 51 24.5 +0.9**
GNI pmax pmax
comp=Z,15nm,1.3s
SCHQ Schefferville 74.10 22 LR LR 15 27 51.6
comp=Z,48nm,20.4s,baz=130,slow=39
BUR08 Bucovina Ar. S 75.77 326 P **P** **14 51 41.7 -0.8**
BURAR Bucovina Array 75.79 326 P **P** **14 51 42.4 -0.2**
KOLS Kolonicke sedl 75.80 329 *e*P **P** **14 51 43.1 +0.6**
KOLS pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 75.80 329 *e*P **P** **14 51 43.1 +0.6**
WSAR Wadi Sarin 76.05 289 LR LR 15 29 28.1
comp=Z,75nm,18.9s,baz=43,slow=39
NIE Niedzica 76.09 330 P **P** **14 51 42.8 -1.4**
NIE pmax pmax
comp=Z,3.0nm,1.1s
LANS Liptovska Anna 76.61 330 *e*P **P** **14 51 47.8 +0.7**
LANS pmax pmax
comp=Z,6.0nm,1.1s
LANS Liptovska Anna 76.61 330 *e*P **P** **14 51 47.8 +0.7**
DPC Dobruska-Polom 76.62 333 *e*P **P** **14 51 47.5 +0.3**
DPC Dobruska-Polom 76.62 333 *e*P **P** **14 51 47.5 +0.3**
MARD Mardin 76.68 310 P **P** **14 51 48.4 +0.5**
MARD IAmb IAmb 14 51 49.6
comp=Z,8.4nm,0.8s
KRLC Kraliky 76.71 332 *e*P **P** **14 51 47.6 -0.1**
KRLC Kraliky 76.71 332 *e*P **P** **14 51 47.6 -0.1**
MORC Moravsky Berou 76.72 332 P **P** **14 51 47.5 -0.3**
MORC IAmb IAmb 14 51 48.6
comp=Z,12nm,1.1s
MORC Moravsky Berou 76.72 332 *e*P **P** **14 51 47.7 -0.1**
MORC Moravsky Berou 76.72 332 P **P** **14 51 48.1 +0.3**
MORC pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 76.79 335 P **P** **14 51 47.3 -0.7**
CLL IAmb IAmb 14 51 48.1
comp=Z,15nm,1.1s
CLL Collm 76.79 335⇓*i*P **P** **14 51 47.5 -0.5**
CLL pmax pmax
comp=Z,21nm,1.3s
CLL Collm 76.79 335⇓*i*P **P** **14 51 47.5 -0.5**
comp=Z,21nm,1.3s
CLL LmV 17 51 00.0
comp=Z,100nm,20.6s
MLR Muntele Rosu 77.24 324 LR LR 15 28 10.6
comp=Z,51nm,20.3s,baz=50,slow=37
MLR Muntele Rosu 77.24 324 P **P** **14 51 51.6 +0.7**
MLR pmax pmax
comp=Z,12nm,0.8s
VYHS Vyhne 77.39 330 *e*P **P** **14 51 51.7 +0.2**
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 77.39 330 *e*P **P** **14 51 51.7 +0.2**
VRAC Vranov 77.44 332 LR LR 15 31 05.8
comp=Z,88nm,18.3s,baz=34,slow=40
VRAC Vranov 77.44 332 *e*P **P** **14 51 51.8 +0.1**
VRAC Vranov 77.44 332 P **P** **14 51 52.3 +0.6**
VRAC pmax pmax
comp=Z,10.0nm,1.1s
JAVC Velka Javorina 77.47 331 *e*P **P** **14 51 52.9 +0.9**
GOPC GO Pecny, Ondr 77.48 333 *e*P **P** **14 51 52.2 +0.2**
GOPC GO Pecny, Ondr 77.48 333 *e*P **P** **14 51 52.2 +0.2**
PRU Pruhonice 77.49 334 *e*P **P** **14 51 51.9 -0.1**
PRU Pruhonice 77.49 334 *e*P **P** **14 51 51.9 -0.1**
VOIR 77.64 325 P **P** **14 51 53.4 +0.3**
VOIR pmax pmax
comp=Z,14nm,0.9s
KRUC Moravsky 77.71 332 *e*P **P** **14 51 53.4 +0.1**
KRUC Moravsky 77.71 332 P **P** **14 51 53.0 -0.3**
KRUC pmax pmax
comp=Z,11nm,1.1s
MOX Moxa 77.78 336 P **P** **14 51 53.1 -0.5**
MOX pmax pmax
comp=Z,8.0nm,1.1s
SMOL Smolenice 77.85 331 *e*P **P** **14 51 54.1 +0.1**
MODS Modra-Piesok 78.02 331 *e*P **P** **14 51 55.3 +0.3**
MODS Modra-Piesok 78.02 331 *e*P **P** **14 51 55.3 +0.3**
BNN Bunyan 78.05 314 P **P** **14 51 54.9 -0.6**
TXAR Lajitas Array 78.29 60 P **P** **14 51 57.4 +0.5**
comp=Z,0.7nm,0.5s,baz=298,slow=4.3,SNR=14
comp=Z,0.7nm,0.5s
BR131 Keskin Array S 78.45 316 P **P** **14 51 58.0 +0.3**
BR131 IAmb IAmb 14 51 59.8
comp=Z,8.7nm,1.1s
BR131 Keskin Array S 78.45 316*d* *i*P **P** **14 51 58.1 +0.3**
BRTR Keskin Array B 78.45 316 P **P** **14 51 58.0 +0.3**
comp=Z,5.2nm,1.0s,baz=63,slow=3.5,SNR=21
comp=Z,5.2nm,1.0s
BRTR Keskin Array B 78.45 316 P **P** **14 51 58.2 +0.5**
BRTR Keskin Array B 78.45 316 *e*P **P** **14 51 58.0 +0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 78.55 334 P **P** **14 51 57.9 -0.1**
KHC IAmb IAmb 14 51 59.5
comp=Z,8.2nm,1.0s
KHC Kasperske Hory 78.55 334 *e*P **P** **14 51 57.9 -0.1**
KHC Kasperske Hory 78.55 334 *e*P **P** **14 51 57.9 -0.1**
ANTO Ankara 78.74 317 P **P** **14 51 59.0 -0.2**
ANTO Ankara 78.74 317 P **P** **14 51 59.0 -0.2**
ANTO pmax pmax
comp=Z,9.0nm,0.7s
WET Wettzell 78.75 334 P **P** **14 51 59.2 +0.2**
WET pmax pmax
comp=Z,10.0nm,1.1s
GERES GERESS Array B 78.76 334 P **P** **14 51 58.6 -0.5**
comp=Z,1.8nm,0.7s,baz=31,slow=5.9,SNR=12
comp=Z,1.8nm,0.7s
GERES GERESS Array B 78.76 334 *e*P **P** **14 51 59.0 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.7s
CONA Conrad Observa 78.88 332 *e*P **P** **14 52 00.2 +0.4**
comp=Z,12nm,1.4s
RONA Rosalia, Austr 78.93 331 *e*P **P** **14 52 00.6 +0.5**
comp=Z,9.9nm,1.2s
MOA Molln 79.46 333 *e*P **P** **14 52 03.6 +0.7**
comp=Z,4.6nm,0.8s
ARSA Arzberg 79.58 332 *e*P **P** **14 52 03.4 -0.2**
BIOA Bad Ischl, Aus 79.80 333 *e*P **P** **14 52 05.1 +0.3**
comp=Z,9.5nm,1.0s
SOKA Soboth 80.24 332 *e*P **P** **14 52 07.1 -0.2**
comp=Z,11nm,1.3s
KBA Koelnbreinsper 80.44 333 P **P** **14 52 08.7 +0.3**
KBA pmax pmax
comp=Z,12nm,1.6s
KBA Koelnbreinsper 80.44 333 *e*P **P** **14 52 08.8 +0.4**
comp=Z,15nm,1.3s
OBKA Obir 80.55 332 *e*P **P** **14 52 08.0 -1.0**
comp=Z,1.5nm,0.5s
VTS Vitosha 80.72 324 P **P** **14 52 09.5 -0.5**
VTS IAmb IAmb 14 52 11.0
comp=Z,14nm,1.0s
VTS Vitosha 80.72 324 P **P** **14 52 09.5 -0.5**
VTS pmax pmax
comp=Z,14nm,1.0s
WATA Walderalm 80.75 334 *e*P **P** **14 52 10.5 +0.4**
comp=Z,15nm,1.2s
WTTA Wattenberg 80.80 334 *e*P **P** **14 52 10.9 +0.5**
comp=Z,12nm,1.0s
RETA Reutte 80.86 335 *e*P **P** **14 52 12.7 +2.1**
comp=Z,5.5nm,0.8s
MOTA Moosalm 80.89 334 *e*P **P** **14 52 11.0 +0.2**
comp=Z,13nm,1.1s
SQTA Sankt Quirin 80.97 334 *e*P **P** **14 52 11.4 +0.2**
comp=Z,7.7nm,1.0s
RDO Rodhopi 80.98 322 P **P** **14 52 11.2 0.0**
RDO IAmb IAmb 14 52 12.3
comp=Z,11nm,0.9s
PMOR Pomariorio Ree 81.20 122 *e*T T 16 21 49.3
comp=Z,4.7nm,0.2s
FETA Feichten 81.29 335 *e*P **P** **14 52 12.2 -0.8**
comp=Z,5.4nm,1.2s
DAVOX Davos/Dischmat 81.76 335 LR LR 15 33 27.3
comp=Z,36nm,18.5s,baz=259,slow=39
SRS Serrai 81.82 323 P **P** **14 52 15.7 0.0**
SRS pmax pmax
comp=Z,9.0nm,1.2s
KNT Kendrikon 82.07 324 P **P** **14 52 17.3 +0.3**
PPT2 Papeete2 82.28 125 *e*LR LR 15 17 21.7
comp=Z,76nm,23.0s
PHP Peshkopia 82.61 326 P **P** **14 52 19.4 -0.5**
PHP pmax pmax
comp=Z,7.0nm,1.1s
MMAI Mount Meron Ar 82.79 311 LR LR 15 34 11.5
comp=Z,87nm,18.1s,baz=202,slow=39
RAYN Ar Rayn 84.21 298 P **P** **14 52 28.3 -0.1**
RAYN IAmb IAmb 14 52 51.2
comp=Z,7.5nm,1.4s
RAYN Ar Rayn 84.21 298 P **P** **14 52 28.3 -0.1**
RAYN pmax pmax
comp=Z,7.0nm,1.5s
TBI Tubuai 86.95 128 *e*LR LR 15 19 33.2
comp=Z,65nm,26.8s
VAE Valguarnera 88.57 328 LR LR 15 37 18.4
comp=Z,25nm,19.2s,baz=142,slow=39
BFZ Birch Farm 89.04 162 P **P** **14 52 54.1 +2.9**
ESDC Sonseca Array 91.97 342 LR LR 15 38 40.9
comp=Z,33nm,20.3s,baz=324,slow=38
ATD Arta Tunnel 94.83 292 LR LR 15 40 55.2
comp=Z,32nm,18.1s,baz=100,slow=38
MDT Midelt 98.69 340 LR LR 15 41 42.5
comp=Z,29nm,22.0s,baz=358,slow=38
TORD Torodi Ar. Bea 115.33 328 PKP **PKiKP** **14 58 37.5 -0.9**
comp=Z,0.2nm,0.4s,baz=359,slow=0.5,SNR=1.3
H03N2 Juan Fernandez 139.32 90 T T 17 34 52.8
baz=308,slow=77,SNR=22
H03N1 Juan Fernandez 139.33 90 T T 17 34 53.6
baz=308,slow=77,SNR=19
H03N3 Juan Fernandez 139.33 90 T T 17 34 57.9
baz=308,slow=77,SNR=25

*IDC **14** 14:43:54.4±1.0,7°.31N×76°.36W,h0km,mb3.9/5, mbtmp3.9/6,ML2.7/1,MS3.2/5,Error ellipse: s-maj=21.6km s-min=17.0km az=41.0*
*RSNC **14** 14:43:58.2±1.8,7°.16N×76°.29W,h0km±5km,ML3.6,Mw4.1*
*NEIC **14** 14:43:58.5±2.2,7°.26N±0°.08×76°.32W±0°.08,h10km±2km, mb4.3/7,ML3.6(RSNC),Error ellipse: s-maj=14.7km s-min=11.2km az=37.0*
ISC 14 14:43:56.9±1.1,7°.23N±0°.02×76°.31W±0°.02,h5km±8km,n71, σ2S12/102,mb3.9/5,MS3.6/3,6C-6D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.23**	**153**	⇓*i*P		**Pg**		**14 44 01.0**	**-0.5**
DBBC				*e*S		**Sg**		**14 44 05.5**	**+1.0**
DBBC				IAML				14 44 07.2	
	comp=Z,15μm,0.3s								
UREC	**San Jos de Ur**	**0.94**	**56**⇑	*i*P		**Pg**		**14 44 14.8**	**0.0**
UREC				*e*S		**Sb**		**14 44 29.5**	**+1.2**
UREC				IAML				14 44 31.7	
	comp=Z,1μm,0.5s								
HELC	**Santa Helena**	**1.29**	**143**	⇓*i*P		**Pg**		**14 44 19.2**	**-2.5**
HELC				*e*S		**Sg**		**14 44 36.7**	**-1.8**
HELC				IAML				14 44 38.8	
	comp=Z,820nm,0.5s								
CBOC	**Ciudad Bolivar**	**1.39**	**167**⇑	*e*P		**Pn**		**14 44 21.9**	**-1.1**
CBOC				*e*S		**Sn**		**14 44 43.4**	**+1.6**
CBOC				IAML				14 44 49.0	
	comp=Z,1μm,0.7s								
ZARC	**Zaragoza, Cauc**	**1.47**	**79**⇑	*i*P		**Pn**		**14 44 23.5**	**-0.6**
ZARC				*e*S		**Sb**		**14 44 43.6**	**-0.1**
ZARC				IAML				14 44 45.4	
	comp=Z,1μm,0.4s								
SOLC	**Bahia Solano**	**1.47**	**228**	*e*P		**Pn**		**14 44 23.3**	**-0.8**
SOLC				*e*S		**Sn**		**14 44 44.6**	**+0.9**
SOLC				IAML				14 44 49.1	
	comp=Z,356nm,0.4s								
PTAC	**Punta Ardita,**	**1.48**	**267**	*e*P		**Pn**		**14 44 23.1**	**-1.1**
PTAC				*e*S		**Sg**		**14 44 45.1**	**+0.5**
PTAC				IAML				14 44 51.2	
	comp=Z,510nm,0.5s								
LCBC	**Los crdobas,**	**1.62**	**358**⇓	*e*P		**Pn**		**14 44 26.4**	**+0.2**
LCBC				*e*S		**Sg**		**14 44 50.9**	**+1.8**
LCBC				IAML				14 45 02.7	
	comp=Z,331nm,0.6s								
PTBC	**PUERTO BERRIO,**	**1.97**	**110**	*e*P		**Pn**		**14 44 32.0**	**+1.1**
PTBC				*e*S		**Sb**		**14 44 58.3**	**+0.2**
PTBC				IAML				14 45 01.5	
	comp=Z,1μm,0.5s								
UPD2	**Meteti**	**2.14**	**308**	*e*P		**Pn**		**14 44 34.1**	**+0.9**
UPD2				*e*S		**Sg**		**14 45 04.7**	**-1.0**
UPD2				IAML				14 45 17.7	
	comp=Z,384nm,0.4s								
NORC	**Norcasia**	**2.19**	**139**	*e*P		**Pn**		**14 44 34.8**	**+0.8**
NORC				*e*S		**Sn**		**14 45 03.7**	**+2.2**
NORC				IAML				14 45 08.1	
	comp=Z,841nm,0.6s								
GUY2C	**Guyana, Caldas**	**2.20**	**155**⇓	*i*P		**Pn**		**14 44 36.1**	**+1.6**
GUY2C				*e*S		**Sb**		**14 45 06.5**	**+1.3**
GUY2C				IAML				14 45 32.6	
	comp=Z,367nm,0.6s								
PLMC	**San Jos del P**	**2.31**	**179**	*e*P		**Pn**		**14 44 34.9**	**-0.7**
PLMC				*e*S		**Sb**		**14 45 09.6**	**+1.8**
PLMC				IAML				14 45 22.8	
	comp=Z,559nm,0.8s								
BRRC	**Barranca, Sant**	**2.58**	**92**⇓	*e*P		**Pn**		**14 44 40.7**	**+1.3**
BRRC				*e*S		**Sn**		**14 45 12.9**	**+1.7**
BRRC				IAML				14 45 26.2	
	comp=Z,235nm,0.5s								
SPBC	**San Pablo de B**	**2.72**	**125**	*e*P		**Pn**		**14 44 42.6**	**+1.2**
SPBC				*e*S		**Sb**		**14 45 20.3**	**+0.4**
SPBC				IAML				14 45 23.6	
	comp=Z,376nm,0.5s								
ANIL	**Santa Ana**	**2.86**	**161**	*e*P		**Pn**		**14 44 46.5**	**+3.1**
ANIL				*e*S		**Sb**		**14 45 23.5**	**-0.6**
ANIL				IAML				14 45 30.2	
	comp=Z,386nm,0.5s								
SJCC San Jacinto, C 2.88 23 *e*P **Pb** **14 44 48.4 -0.4**
SJCC *e*S **Sg** **14 45 35.3 +5.8**
SJCC IAML 14 45 45.2
comp=Z,70nm,0.7s
ROSC El Rosal 3.09 140 Pg **Pn** **14 44 50.7 +4.0**
comp=Z,46nm,0.3s,baz=47,slow=1.6,SNR=39
ROSC Sn **Sn** **14 45 25.2 +1.0**
comp=Z,15nm,0.3s,baz=288,slow=20,SNR=4.7
ROSC Lg Lg 14 45 35.0
comp=Z,71nm,0.3s,baz=222,slow=19,SNR=4.8
ROSC El Rosal 3.09 140 Pn **Pn** **14 44 49.9 +3.2**
ROSC El Rosal 3.09 140 *e*P **Pn** **14 44 50.3 +3.6**
ROSC *e*S **Sb** **14 45 32.9 +2.1**
ROSC IAML 14 45 37.2
comp=Z,261nm,0.5s
OCAC Ocana 3.13 71 *e*P **Pn** **14 44 47.9 +0.8**
OCAC *e*S **Sb** **14 45 30.2 -1.6**
OCAC IAML 14 45 43.7
comp=Z,431nm,0.5s
BARC Barichara 3.17 101⇑*e*P **Pn** **14 44 48.3 +0.7**
BARC *e*S **Sn** **14 45 28.7 +2.6**
YOTC Yotoco, Valle 3.22 181⇓*e*P **Pn** **14 44 47.6 -0.7**
MALC Bahia Malaga 3.35 198 *e*P **Pn** **14 44 52.6 +2.7**
MALC *e*S **Sb** **14 45 39.2 +1.3**
RUSC La Rusia 3.47 112 *e*P **Pn** **14 44 53.8 +1.7**
RUSC *e*S **Sn** **14 45 37.5 +3.7**
RUSC IAML 14 45 54.0
comp=Z,241nm,0.6s
LL1C La Loma 1 Cana 3.57 50 *e*S **Sg** **14 45 49.9 -1.8**
LL1C IAML 14 46 20.9
comp=Z,280nm,0.7s
PAMC Pamplona, Colo 3.59 88 *e*P **Pn** **14 44 54.9 +1.3**
PAMC *e*S **Sn** **14 45 38.2 +1.6**
PAMC IAML 14 45 52.2
comp=Z,217nm,0.5s
UPA Univ. de Panam 3.63 299 *e*P **Pb** **14 45 00.3 -1.4**
UPA *e*S **Sn** **14 45 39.6 +2.5**
CHIC Chingaza 3.64 135⇑*e*P **Pn** **14 44 56.9 +2.6**
CHIC *e*S **Sb** **14 45 48.1 +1.5**
CHIC IAML 14 46 05.2
comp=Z,111nm,0.6s
AZU Azuero 3.97 278 *e*P **Pn** **14 44 57.7 -0.7**
AZU *e*S **Sn** **14 45 43.2 -2.1**
BCIP Isla Barro Col 3.98 299 **Pn** **14 44 58.9 +0.2**
BCIP Isla Barro Col 3.98 299 *e*P **Pn** **14 44 59.1 +0.4**
BCIP *e*S **Sb** **14 45 58.7 +2.6**
BCIP IAML 14 46 14.7
comp=Z,25nm,0.6s
VILC Villavicencio, 4.04 140⇑*e*P **Pn** **14 45 03.6 +4.0**
VILC *e*S **Sb** **14 45 55.1 -2.9**
VILC IAML 14 46 05.6
comp=Z,135nm,0.5s
TAMC Tame, Arauca 4.56 100 *e*P **Pn** **14 45 10.3 +3.7**
TAMC *e*S **Sn** **14 46 02.1 +2.0**
TAMC IAML 14 46 39.0
comp=Z,92nm,0.6s
BETC Betania 4.60 169 *e*P **Pn** **14 45 09.6 +2.5**
BETC *e*S **Sn** **14 46 01.0 0.0**
BETC IAML 14 46 14.2
comp=Z,58nm,0.6s
CRJC Cerrejon, Guaj 5.07 42 *e*P **Pn** **14 45 15.7 +2.0**
CRJC *e*S **Sn** **14 46 08.4 -4.2**
CRJC IAML 14 46 26.8
comp=Z,49nm,0.5s
GARC Garzon, Huila 5.07 171 *e*P **Pn** **14 45 16.4 +2.6**
BBAC Balboa, Cauca 5.25 190 *e*P **Pn** **14 45 17.5 +1.2**
BBAC *e*S **Sn** **14 46 24.4 +7.1**
MACC Macarena, Meta 5.61 154 *e*P **Pn** **14 45 23.4 +2.4**
FLOC Florencia 5.64 173 *e*P **Pn** **14 45 23.9 +2.4**
FLOC *e*S **Sn** **14 46 34.0 +7.2**
FLOC IAML 14 47 13.7
comp=Z,12nm,0.8s
SDV Santo Domingo 5.86 73 Pn **Pn** **14 45 25.0 +0.4**
comp=Z,1.9nm,0.3s,baz=270,slow=9.8,SNR=9.9
SDV Sn **Sn** **14 46 32.0 -0.4**
comp=Z,10nm,0.3s,baz=296,slow=22,SNR=3.3
SDV Lg Lg 14 47 01.3
comp=Z,14nm,0.3s,baz=270,slow=20,SNR=5.7
SDV LR LR 14 48 07.5
comp=Z,96nm,19.4s,baz=242,slow=43
comp=Z,15nm,0.6s
SDV Santo Domingo 5.86 73 Pn **Pn** **14 45 25.2 +0.5**
TULM Tulcn-Chalpat 6.63 193 Pn **Pn** **14 45 36.1 +0.6**
DRK0 Durika 7.15 287 Pn **Pn** **14 45 44.2 +1.8**
SRBA San Rafael, Bu 7.25 286 Pn **Pn** **14 45 45.1 +1.4**
OTAV Otavalo 7.26 197 **Pn** **14 45 45.9 +1.8**
BATAN Batan 7.54 293 **Pn** **14 45 48.9 +1.3**
PEZE Perez Zeledon, 7.59 287 Pn **Pn** **14 45 49.6 +1.2**
RIMA Rio Macho 7.88 289 Pn **Pn** **14 45 53.7 +1.2**
BAUV El Baul 8.37 78 **Pn** **14 45 59.5 +0.6**
HATO Hato, Curacao 8.76 55 Pn **Pn** **14 46 05.7 +1.4**
BIRV Birongo 10.44 71 Pn **Pn** **14 46 26.9 -0.5**
SDDR Presa de Saban 12.67 22 Pn **Pn** **14 47 00.1 +2.2**
SJG San Juan 14.67 42 LR LR 14 53 05.5
comp=Z,34nm,21.1s,baz=142,slow=38
CUPR Culebra, Puert 15.39 43 Pn **Pn** **14 47 34.7 -0.1**
CUPR IAmb IAmb 14 47 41.7
comp=Z,10nm,0.9s
STVI Saint Thomas 15.64 44 Pn **Pn** **14 47 38.0 -0.2**
SVB Belmont 15.99 67 Pn **Pn** **14 47 42.0 -0.7**
SVB IAmb IAmb 14 47 53.8
comp=Z,43nm,1.0s
TOSP Speyside 16.09 74 **Pn** **14 47 44.3 +0.3**
TOSP IAmb IAmb 14 48 10.0
comp=Z,37nm,1.2s
ETMB Extrema 19.69 149 P **P** **14 48 27.0 -0.1**
ETMB IAmb IAmb 14 48 28.7
comp=Z,7.4nm,0.7s
CMIG Matias Romero 20.61 300 LR LR 14 56 13.4
comp=Z,31nm,19.5s,baz=136,slow=36
SAML Samuel 20.72 141 P **P** **14 48 36.0 -2.4**
SAML IAmb IAmb 14 48 42.6
comp=Z,25nm,1.3s
LPAZ La Paz 24.73 161 P **P** **14 49 20.4 +0.4**
comp=Z,0.9nm,0.4s,baz=338,slow=5.4,SNR=5.3
comp=Z,0.9nm,0.4s
LPAZ La Paz 24.73 161 P **P** **14 49 20.0 0.0**
PLCA Paso Flores 48.01 174 P **P** **14 52 36.6 -0.5**
comp=Z,1.3nm,0.8s,baz=357,slow=14,SNR=3.6
comp=Z,1.3nm,0.8s
DBIC Dimbokro 70.86 85 P **P** **14 55 14.0 -1.5**
comp=Z,7.3nm,0.8s,baz=285,slow=7.6,SNR=5.2
comp=Z,7.3nm,0.8s
ILAR Eielson Array 75.27 335 P **P** **14 55 37.7 -3.0**
comp=Z,0.2nm,0.9s,baz=117,slow=4.0,SNR=1.8
comp=Z,0.2nm,0.9s
KDAK Kodiak Island 76.61 328 LR LR 15 32 56.2
comp=Z,30nm,18.2s,baz=332,slow=38
TORD Torodi Ar. Bea 76.76 78 P **P** **14 55 48.9 -1.2**
comp=Z,0.7nm,0.6s,baz=286,slow=5.4,SNR=2.7
comp=Z,0.7nm,0.6s
RAR Rarotonga 86.53 248 LR LR 15 25 06.1
comp=Z,78nm,19.6s,baz=254,slow=29
ASAR Alice Springs 146.72 237 PKPbc **PKPdf** **15 03 38.5 -0.6**
comp=Z,0.4nm,0.5s,baz=123,slow=3.5,SNR=9.2
WRA Warramunga Arr 147.71 244 PKPbc **PKPdf** **15 03 40.9 0.0**
comp=Z,0.5nm,0.9s,baz=106,slow=3.1,SNR=2.5

PGC 14 14:47:22.9±0.3,48°.89N×128°.20W,h10km,MLSn2.7/38, Mw3.3/38,169km west of Tofino, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NC89	**ODP889**	**0.92**	**103**	P		**Pg**		**14 47 39.6**	**-1.0**
NC89				S		**Sg**		**14 47 50.5**	**-2.1**
NCHR	**NEPTUNE Canada**	**1.09**	**213**	P		**Pb**		**14 47 40.8**	**-2.9**
NCHR				S		**Sb**		**14 47 52.2**	**-5.6**
KEMF	**NEPTUNE Canada**	**1.12**	**213**	P		**Pb**		**14 47 41.1**	**-3.0**
NC27	**ODP1027**	**1.17**	**165**	P		**Pb**		**14 47 42.0**	**-2.9**
ETB	**Estevan Point**	**1.20**	**66**	P		**Pb**		**14 47 44.2**	**-1.4**
EDB	**Eliza Dome**	**1.21**	**35**	P		**Pn**		**14 47 43.7**	**-2.2**
EDB				S		**Sb**		**14 47 58.0**	**-3.6**
BPBC	**Brooks Peninsu**	**1.30**	**12**	P		**Pn**		**14 47 44.9**	**-2.2**
BPBC				S		**Sb**		**14 48 00.4**	**-3.7**
NCBC	**Barkley Canyon**	**1.42**	**108**	Pn		**Pn**		**14 47 46.9**	**-1.8**
NCBC				Sn		**Sn**		**14 48 04.0**	**-3.4**
TOFB	**Tofino**	**1.53**	**79**	Pn		**Pn**		**14 47 48.2**	**-2.1**
TOFB				Sn		**Sn**		**14 48 06.4**	**-3.8**
PACB	**Port Alice, BC**	**1.61**	**16**	Pn		**Pn**		**14 47 49.5**	**-1.9**
PACB				Sn		**Sn**		**14 48 08.3**	**-3.9**
MAYB	**Maynard**	**1.65**	**24**	Pn		**Pn**		**14 47 50.7**	**-1.4**
MAYB				Sn		**Sn**		**14 48 10.1**	**-3.4**

WOSB	**Woss**	**1.66**	**39**	Pn	Pn	14 47 50.7	-1.3
WOSB				Sn	Sn	14 48 10.2	-3.3
GDR	**Gold River**	**1.68**	**57**	Pn	Pn	14 47 50.6	-1.6
GDR				Sn	Sn	14 48 09.4	-4.4
HOLB	**Holberg**	**1.75**	**1**	Pn	Pn	14 47 51.4	-1.9
HOLB				Sn	Sn	14 48 11.3	-4.4
B012	**Ucluelet**	**1.76**	**88**	Pn	Pn	14 47 51.3	-2.0
B012				Sn	Sn	14 48 11.3	-4.4
OZB	**Mount Ozzard**	**1.79**	**87**	Pn	Pn	14 47 51.7	-2.2
OZB				Sn	Sn	14 48 12.3	-4.3
BTB	**Buttle Lake**	**1.85**	**71**	Pn	Pn	14 47 53.4	-1.4
BTB				Sn	Sn	14 48 15.2	-3.1
PHC	**Port Hardy**	**1.88**	**15**	Pn	Pn	14 47 53.5	-1.6
PHC				Sn	Sn	14 48 15.0	-3.9
BFSB	**Bamfield**	**2.03**	**91**	Pn	Pn	14 47 55.0	-2.0
BFSB				Sn	Sn	14 48 18.4	-4.0
B928	**Bamfield**	**2.03**	**91**	Pn	Pn	14 47 55.0	-2.0
B928				Sn	Sn	14 48 18.2	-4.1
NCRB	**Newcastle Ridg**	**2.06**	**42**	Pn	Pn	14 47 56.8	-0.9
NCRB				Sn	Sn	14 48 20.9	-2.5
MWAB	**Mount Washingt**	**2.08**	**65**	Pn	Pn	14 47 56.1	-1.8
MWAB				Sn	Sn	14 48 20.7	-3.2
CBB	**Campbell River**	**2.17**	**57**	Pn	Pn	14 47 58.2	-1.0
CBB				Sn	Sn	14 48 23.1	-3.0
B927	**Port Alberni**	**2.25**	**80**	Sn	Sn	14 48 24.4	-3.6
MGB	**Mount Grey**	**2.32**	**86**	Pn	Pn	14 47 59.1	-2.1
MGB				Sn	Sn	14 48 25.6	-4.2
OCP	**Olym-Cheeka Pk**	**2.45**	**103**	Pn	Pn	14 48 01.4	-1.5
PFB	**Port Renfrew**	**2.51**	**96**	Pn	Pn	14 48 02.0	-1.8
PFB				Sn	Sn	14 48 30.1	-4.3
TXB	**Texada**	**2.59**	**71**	Pn	Pn	14 48 04.3	-0.6
TXB				Sn	Sn	14 48 33.9	-2.5
GHNB	**Nanoose**	**2.64**	**79**	Pn	Pn	14 48 04.4	-1.1
GHNB				Sn	Sn	14 48 34.7	-2.8
B926	**Mesachie Lake**	**2.69**	**90**	Sn	Sn	14 48 35.3	-3.4
NLLB	**Nanaimo Lost L**	**2.79**	**82**	Pn	Pn	14 48 06.8	-0.8
NLLB				Sn	Sn	14 48 38.9	-2.4
SHB	**Sechelt**	**2.92**	**74**	Pn	Pn	14 48 08.6	-0.9
SHB				Sn	Sn	14 48 42.1	-2.5
GOBB	**Galiano Island**	**3.10**	**87**	Pn	Pn	14 48 10.9	-0.8
BIB	**Bowen Island**	**3.25**	**79**	Pn	Pn	14 48 13.0	-1.0
BIB				Sn	Sn	14 48 50.4	-2.3
VGZ	**Gonzales**	**3.27**	**97**	Pn	Pn	14 48 12.6	-1.6
VGZ				Sn	Sn	14 48 49.2	-3.8
BBB	**Bella Bella**	**3.30**	**1**	Pn	Pn	14 48 13.8	-0.7
BBB				Sn	Sn	14 48 49.7	-4.0
SNB	**Saturna Island**	**3.33**	**90**	Pn	Pn	14 48 13.2	-1.8
MCW	**Mount Constitu**	**3.56**	**91**	Pn	Pn	14 48 17.3	-0.9
WSLR	**Whistler**	**3.66**	**68**	Pn	Pn	14 48 19.7	+0.1
WSLR				Sn	Sn	14 49 00.4	-2.3
HNBB	**Haney**	**3.72**	**82**	Pn	Pn	14 48 19.9	-0.5
HG4B	**Hotspring**	**3.90**	**332**	Pn	Pn	14 48 22.9	+0.1
HG4B				Sn	Sn	14 49 05.0	-3.7
VDB	**Vedder Mountai**	**4.02**	**86**	Pn	Pn	14 48 24.1	-0.3
MBW	**Mount Baker**	**4.16**	**89**	Pn	Pn	14 48 26.5	-0.1
BUTB	**Butedale**	**4.18**	**358**	Pn	Pn	14 48 26.1	-0.6
BUTB				Sn	Sn	14 49 12.1	-3.6
BNB	**Barry Inlet**	**4.32**	**330**	Pn	Pn	14 48 26.3	-2.3
LLLB	**Lillooet**	**4.44**	**65**	Pn	Pn	14 48 30.5	+0.2
RPW	**Rockport**	**4.46**	**93**	Pn	Pn	14 48 30.2	-0.3
BNKB	**Banks Island**	**4.57**	**347**	Pn	Pn	14 48 30.9	-1.1
BNKB				Sn	Sn	14 49 21.5	-3.7
HWKB	**Hawksbury Isla**	**4.75**	**353**	Pn	Pn	14 48 34.1	-0.4
HWKB				Sn	Sn	14 49 26.0	-3.7
FMW	**Mount Fremont**	**4.81**	**112**	Pn	Pn	14 48 36.2	+0.7
BNAB	**Bonilla**	**4.85**	**343**	Pn	Pn	14 48 35.2	-0.6
BNAB				Sn	Sn	14 49 28.3	-3.8
GRNB	**Grenville Isla**	**5.08**	**348**	Pn	Pn	14 48 38.4	-0.6
GRNB				Sn	Sn	14 49 33.8	-4.0
GRNB	**Grenville Isla**	**5.08**	**348**	P	Pn	14 48 38.2	-0.8
KITB	**Kitimat**	**5.20**	**357**	Pn	Pn	14 48 40.8	+0.2
LTY	**Liberty**	**5.31**	**105**	Pn	Pn	14 48 42.8	+0.6
FSJB	**Fort St James**	**6.08**	**22**	Pn	Pn	14 48 52.7	-0.1
FSB	**Fort Saint Jam**	**6.09**	**22**	Pn	Pn	14 48 53.5	+0.6
SLEB	**Sale Mountain**	**6.88**	**67**	Pn	Pn	14 49 04.0	+0.1
MNB	**Mounoet Dainar**	**7.08**	**58**	Pn	Pn	14 49 07.1	+0.4
T35M	**Bob Quinn**	**8.20**	**352**	Pn	Pn	14 49 22.9	+1.1
S34M	**Telegraph Cree**	**9.20**	**350**	Pn	Pn	14 49 37.8	+2.3
NBC5	**NorthernBC 5**	**9.26**	**19**	Pn	Pn	14 49 37.7	+1.4
DLBC	**Dease Lake**	**9.62**	**354**	Pn	Pn	14 49 44.2	+2.8

ROM 14 14:49:46.8±0.1,**42°.565N**±0°.004×**13°.287E**±0°.004,
h11km,**ML1.0/3,1C,Error ellipse: s-maj=0.5km**
s-min=0.3km az=162.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.07**	**29**	P	Pg	14 49 49.7	+0.4
SMA1				S	Sg	14 49 51.4	+0.2
SMA1				AML	AML		
	comp=E,476µm,0.4s						
SMA1				AML	AML		
	comp=N,260µm,0.2s						
RM33	**Pellescritta (**	**0.08**	**224**	⇑P	Pg	14 49 49.7	+0.4
RM33				S	Sg	14 49 51.4	+0.2
RM33				AML	AML		
	comp=N,197µm,0.3s						
RM33				AML	AML		
	comp=E,172µm,1.3s						
T1204	**Amatrice, Fraz**	**0.11**	**11**	P	Pg	14 49 50.3	+0.4
T1243	**Rocca Santa Ma**	**0.18**	**42**	P	Pg	14 49 51.3	+0.5
T1243				S	Sg	14 49 54.3	+0.8
LNSS	**Leonessa**	**0.19**	**282**	P	Pg	14 49 51.4	+0.5
LNSS				AML	AML		
	comp=E,56µm,0.8s						
LNSS				AML	AML		
	comp=N,64µm,0.4s						
LNSS				AML	AML		
	comp=N,64µm,0.4s						
TERO	**Teramo**	**0.24**	**76**	P	Pg	14 49 52.4	+0.6
TERO				S	Sg	14 49 56.3	+1.1
TERO				AML	AML		
	comp=E,57µm,0.4s						
TERO				AML	AML		
	comp=N,44µm,0.1s						
TERO				AML	AML		
	comp=E,57µm,0.4s						
T1215	**Vallo di Nera,**	**0.39**	**308**	P	Pg	14 49 54.8	+0.3
T1215				S	Sg	14 50 00.7	+1.0

*BUC **14** 14:50:16.1±0.3,45°.56N×26°.40E,h136km±2km,ml3.5/23,*
Error ellipse: s-maj=2.8km s-min=2.2km az=3.0
ISC 14 14:50:15.6±2.0,**45°.55N**±0°.05×**26°.38E**±0°.05,**h140**km±12km,
n30,σ0**°60/46,28C-16D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.14**	**207**	⇑P	**Pn**	**14 50 34.8**	**+0.2**
NEHR				⇑S	**Sn**	**14 50 49.3**	**+0.3**
MLR	**Muntele Rosu**	**0.31**	**260**	⇓P	**Pn**	**14 50 35.0**	**-0.1**
MLR				⇑S	**Sn**	**14 50 49.5**	**-0.5**
COVR	**Voineasa-Covas**	**0.32**	**337**	⇑P	**Pn**	**14 50 34.8**	**-0.3**
COVR				⇓S	**Sn**	**14 50 49.4**	**-0.5**
PLOR	**Plostina**	**0.36**	**32**	⇑P	**Pn**	**14 50 35.1**	**-0.1**
PLOR				⇑S	**Sn**	**14 50 50.5**	**+0.4**
VRI	**Vrincioaia**	**0.40**	**37**	⇑P	**Pn**	**14 50 35.5**	**+0.1**
VRI				⇓S	**Sn**	**14 50 50.7**	**+0.4**
PANC	**Panciu**	**0.63**	**59**	⇑P	**Pn**	**14 50 37.1**	**+0.6**
PANC				⇑S	**Sn**	**14 50 53.1**	**+0.7**
PLAR	**PLOIESTI**	**0.68**	**202**	⇑S	**Sn**	**14 50 53.4**	**+0.4**
OZUR		**0.69**	**323**	⇑P	**Pn**	**14 50 36.6**	**-0.4**
PGOR	**Pogoanele**	**0.77**	**146**	⇑S	**Sn**	**14 50 54.1**	**0.0**
DOPR	**Dopca**	**0.81**	**301**	⇓P	**Pn**	**14 50 37.5**	**-0.4**
VOIR		**0.94**	**264**	⇑P	**Pn**	**14 50 38.3**	**-0.7**
IZVR	**Izvoarele**	**0.97**	**90**	⇓S	**Sn**	**14 50 56.7**	**-0.3**
SLCR	**Slobozia Conac**	**0.97**	**87**	⇓P	**Pn**	**14 50 39.5**	**+0.3**
SLCR				⇓S	**Sn**	**14 50 56.8**	**-0.3**
TESR	**Tescani**	**0.98**	**11**	⇑P	**Pn**	**14 50 39.1**	**-0.1**
TESR				⇓S	**Sn**	**14 50 56.5**	**-0.8**
BIR	**Birlad**	**1.13**	**50**	⇑P	**Pn**	**14 50 41.1**	**+0.5**
SCTR	**Scanteiesti**	**1.14**	**83**	⇓P	**Pn**	**14 50 41.3**	**+0.6**
SCTR				⇑S	**Sn**	**14 51 00.5**	**+0.8**
TATR	**Tatarca**	**1.17**	**87**	⇑P	**Pn**	**14 50 41.4**	**+0.5**
TATR				⇑S	**Sn**	**14 51 00.1**	**-0.2**
VLDR	**Vladesti**	**1.23**	**75**	⇑P	**Pn**	**14 50 42.0**	**+0.5**
VLDR				⇑S	**Sn**	**14 51 01.3**	**0.0**
ARR	**Arges**	**1.25**	**262**	⇓P	**Pn**	**14 50 42.4**	**+0.5**
CFR	**Carcaliu**	**1.29**	**106**	⇑P	**Pn**	**14 50 42.1**	**-0.1**
CFR				⇑S	**Sn**	**14 51 01.5**	**-0.9**
HARR	**Harsova**	**1.39**	**128**	⇑P	**Pn**	**14 50 43.2**	**0.0**
BIZ	**Bicaz**	**1.41**	**352**	⇑P	**Pn**	**14 50 44.3**	**+0.9**
LEOM	**Leova**	**1.59**	**54**	⇓P	**Pn**	**14 50 45.9**	**+0.6**
LEOM				⇑S	**Sn**	**14 51 07.8**	**-0.4**
TPGR	**Topolog**	**1.60**	**115**	⇑P	**Pn**	**14 50 45.2**	**-0.3**
ICOR	**Ion Corvin**	**1.75**	**144**	⇓P	**Pn**	**14 50 47.4**	**+0.2**
TLCR		**1.75**	**101**	⇓P	**Pn**	**14 50 47.5**	**+0.3**
TLCR				⇑S	**Sn**	**14 51 11.9**	**+0.6**
TIRR	**Tirgusor**	**1.81**	**126**	⇓P	**Pn**	**14 50 47.8**	**-0.1**
MILM	**Milestii Mici**	**2.17**	**50**	⇑P	**Pn**	**14 50 52.2**	**0.0**
MILM				⇓S	**Sn**	**14 51 19.3**	**-0.9**
BURAR	**Bucovina Array**	**2.22**	**339**	⇓P	**Pn**	**14 50 54.1**	**+1.3**
KIS	**Kishinev**	**2.23**	**48**	eP	**Pn**	**14 50 52.6**	**-0.2**
KIS				eS	**Sn**	**14 51 19.3**	**-2.1**
	60nm,0.1s						

*GEN **14** 14:50:22.4,44°.14N×10°.70E,h14km±1km,Ml1.8*
*ROM **14** 14:50:22.9±0.1,44°.136N±0°.005×10°.667E±0°.006,*
h11km±1km,ML2.0/13,Error ellipse: s-maj=0.6km
s-min=0.2km az=4.0
ISC 14 14:50:22.8±0.8,**44°.13N**±0°.02×**10°.68E**±0°.02,**h16**km±5km,
n42,σ0**°31/69,3C-2D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDI	**Bagni Di Lucca**	**0.09**	**221**	⇑P	**Pg**	**14 50 26.0**	**-0.2**
BDI				S	**Sg**	**14 50 28.3**	**0.0**
BDI				AML	AML		
	comp=E,3330µm,0.3s						
BDI				AML	AML		
	comp=N,4080µm,0.3s						
BDI				AML	AML		
	comp=N,1630µm,0.5s						
BDI				AML	AML		
	comp=E,1325µm,0.2s						
BDI				AML	AML		
	comp=N,4075µm,0.3s						
BDI				AML	AML		
	comp=E,3330µm,0.2s						
CARD	**Cardoso**	**0.18**	**233**	P	**Pg**	**14 50 27.1**	**-0.1**
CARD				S	**Sg**	**14 50 30.5**	**-0.5**
CARD	**Cardoso**	**0.18**	**233**	⇑P	**Pg**	**14 50 27.0**	**-0.1**
CARD				S	**Sg**	**14 50 30.3**	**+0.2**
CARD				AML	AML		
	comp=E,2295µm,0.1s						
CARD				AML	AML		
	comp=N,1765µm,0.4s						
CARD				AML	AML		
	comp=E,2300µm,0.1s						
SARO	**Sassorosso**	**0.21**	**284**	P	**Pg**	**14 50 27.5**	**-0.2**
SARO				S	**Sg**	**14 50 31.1**	**0.0**
VLC	**Villacollemand**	**0.21**	**277**	P	**Pg**	**14 50 27.6**	**-0.1**
VLC				S	**Sg**	**14 50 31.3**	**+0.2**
VLC	**Villacollemand**	**0.21**	**277**	⇑P	**Pg**	**14 50 27.6**	**-0.1**
VLC				S	**Sg**	**14 50 31.3**	**+0.2**
VLC				AML	AML		
	comp=E,616µm,0.4s						
VLC				AML	AML		
	comp=N,834µm,0.2s						
VLC				AML	AML		
	comp=E,616µm,0.4s						
VLC				AML	AML		
	comp=N,830µm,0.2s						
VLC				AML	AML		
	comp=E,620µm,0.4s						
VLC				AML	AML		
	comp=N,830µm,1.8s						
GSCL	**Gusciola**	**0.23**	**343**	P	**Pg**	**14 50 27.7**	**-0.3**
GSCL				S	**Sg**	**14 50 31.6**	**0.0**
MTCR	**Monte La Croce**	**0.25**	**115**	P	**Pg**	**14 50 28.3**	**-0.2**
MTCR				S	**Sg**	**14 50 32.4**	**+0.2**
MTCR	**Monte La Croce**	**0.25**	**115**	⇓P	**Pg**	**14 50 28.2**	**-0.2**
MTCR				S	**Sb**	**14 50 32.6**	**-0.7**
MTCR				AML	AML		
	comp=E,353µm,0.2s						
MTCR				AML	AML		
	comp=N,397µm,0.2s						
MTCR				AML	AML		
	comp=E,353µm,0.2s						
MTCR				AML	AML		
	comp=E,354µm,0.2s						
MTCR				AML	AML		
	comp=N,394µm,0.2s						
MAIM	**Mastiano**	**0.26**	**212**	P	**Pg**	**14 50 28.4**	**-0.1**
MAIM				S	**Sb**	**14 50 32.7**	**-0.6**
MAIM	**Mastiano**	**0.26**	**212**	P	**Pg**	**14 50 28.3**	**-0.1**
ZCCA	**Zocca**	**0.30**	**44**	P	**Pb**	**14 50 29.9**	**-0.1**
ZCCA	**Zocca**	**0.30**	**44**	P	**Pb**	**14 50 29.8**	**-0.1**
ZCCA				AML	AML		
	comp=N,260µm,0.6s						
ZCCA				AML	AML		
	comp=E,202µm,0.5s						
ZCCA				AML	AML		
	comp=N,260µm,1.4s						
FNVD	**Fontana Vidola**	**0.32**	**84**	P	**Pg**	**14 50 29.2**	**-0.3**
FNVD	**Fontana Vidola**	**0.32**	**84**	P	**Pg**	**14 50 29.2**	**-0.3**
MPPT	**Montemurlo**	**0.34**	**121**	P	**Pg**	**14 50 29.8**	**-0.1**
MPPT				S	**Sb**	**14 50 35.3**	**-0.6**
MPPT				AML	AML		
	comp=E,128µm,0.5s						
MPPT				AML	AML		
	comp=N,191µm,0.5s						
MPPT				AML	AML		
	comp=E,128µm,0.5s						
MPPT				AML	AML		
	comp=N,191µm,0.5s						
EQUI	**Equi**	**0.38**	**275**	P	**Pg**	**14 50 30.2**	**-0.3**
EQUI				S	**Sg**	**14 50 35.5**	**-0.4**
EQUI	**Equi**	**0.38**	**275**	P	**Pg**	**14 50 30.3**	**-0.3**
EQUI				S	**Sg**	**14 50 35.4**	**-0.4**
EQUI				AML	AML		
	comp=E,144µm,0.2s						
EQUI				AML	AML		
	comp=N,165µm,1.3s						
EQUI				AML	AML		
	comp=N,165µm,0.7s						
CRMI	**Carmignano**	**0.40**	**149**	P	**Pb**	**14 50 31.3**	**-0.3**
CRMI				S	**Sb**	**14 50 37.6**	**+0.1**
A306A	**Viano (RE)**	**0.41**	**351**	P	**Pb**	**14 50 32.5**	**+0.8**
FIVI	**Fivizzano**	**0.41**	**285**	P	**Pg**	**14 50 31.1**	**0.0**
FIVI				S	**Sg**	**14 50 37.1**	**+0.3**
PII	**Pisa**	**0.43**	**195**	P	**Pg**	**14 50 31.5**	**+0.2**
PII				S	**Sb**	**14 50 37.9**	**-0.2**
PII	**Pisa**	**0.43**	**195**	AML	AML		
	comp=E,401µm,0.6s						
PII				AML	AML		
	comp=E,400µm,0.6s						
PII				AML	AML		
	comp=N,334µm,0.2s						
PII				AML	AML		
	comp=E,400µm,1.4s						
SEI	**Scarperia**	**0.49**	**99**	P	**Pg**	**14 50 32.4**	**-0.2**
SEI				S	**Sb**	**14 50 40.3**	**+0.1**
SEI	**Scarperia**	**0.49**	**99**	P	**Pg**	**14 50 32.4**	**-0.2**
SEI				S	**Sb**	**14 50 40.6**	**+0.4**
SEI				AML	AML		
	comp=E,273µm,0.4s						
SEI				AML	AML		
	comp=N,218µm,0.6s						
SEI				AML	AML		
	comp=E,274µm,0.4s						
SEI				AML	AML		
	comp=N,219µm,0.6s						
SEI				AML	AML		
	comp=E,273µm,1.6s						
GRAM	**Graiana**	**0.57**	**309**	P	**Pg**	**14 50 34.0**	**-0.1**
GRAM				S	**Sg**	**14 50 41.8**	**+0.2**
GRAM	**Graiana**	**0.57**	**309**	P	**Pg**	**14 50 34.0**	**-0.1**
GRAM				S	**Sb**	**14 50 42.3**	**-0.1**
GRAM				AML	AML		
	comp=N,259µm,1.2s						
GRAM				AML	AML		
	comp=E,529µm,0.3s						
GRAM				AML	AML		
	comp=N,259µm,0.8s						
PLMA	**Palmaria, Port**	**0.60**	**262**	P	**Pg**	**14 50 34.6**	**0.0**
PLMA				S	**Sg**	**14 50 42.6**	**-0.2**
PLMA	**Palmaria, Port**	**0.60**	**262**	P	**Pg**	**14 50 34.5**	**-0.1**
PLMA				S	**Sg**	**14 50 42.5**	**-0.2**
PLMA				AML	AML		
	comp=N,128µm,0.3s						
PLMA				AML	AML		
	comp=E,116µm,0.6s						
A319A	**Santa Luce (Pl**	**0.66**	**186**	P	**Pb**	**14 50 36.0**	**0.0**
A319A				S	**Sb**	**14 50 44.9**	**0.0**
RUFI	**Rufina**	**0.67**	**116**	P	**Pb**	**14 50 36.0**	**-0.1**
RUFI				S	**Sb**	**14 50 45.9**	**+0.8**
RUFI	**Rufina**	**0.67**	**116**	P	**Pb**	**14 50 36.0**	**-0.1**
RUFI				AML	AML		
	comp=E,44µm,1.6s						
RUFI				AML	AML		
	comp=N,54µm,1.6s						
OSSC	**Osservatorio P**	**0.73**	**146**	P	**Pb**	**14 50 37.4**	**+0.1**
LMD	**Lutirano**	**0.74**	**94**	P	**Pb**	**14 50 37.7**	**+0.3**
MSSA	**Maissana**	**0.86**	**283**	P	**Pb**	**14 50 39.4**	**0.0**
MSSA				S	**Sg**	**14 50 50.2**	**-0.5**
MSSA	**Maissana**	**0.86**	**283**	P	**Pb**	**14 50 39.3**	**0.0**
MSSA				S	**Sg**	**14 50 50.2**	**-0.5**
MSSA				AML	AML		
	comp=E,75µm,0.9s						
MSSA				AML	AML		
	comp=E,75µm,0.9s						
MSSA				AML	AML		
	comp=N,95µm,1.4s						
MSSA				AML	AML		
	comp=N,95µm,0.6s						
MSSA				AML	AML		
	comp=E,75µm,1.1s						
ASQU	**Asqua**	**0.87**	**112**	P	**Pb**	**14 50 39.6**	**+0.1**
ASQU	**Asqua**	**0.87**	**112**	P	**Pb**	**14 50 39.8**	**+0.2**
ASQU				S	**Sb**	**14 50 51.1**	**+0.1**
GROG	**Isola di Gorgo**	**0.91**	**219**	P	**Pb**	**14 50 40.5**	**+0.3**
GROG				S	**Sb**	**14 50 52.6**	**+0.6**
GROG	**Isola di Gorgo**	**0.91**	**219**	⇓P	**Pb**	**14 50 40.4**	**+0.3**
GROG				S	**Sb**	**14 50 52.6**	**+0.6**
GROG				AML	AML		
	comp=N,71µm,1.4s						
GROG				AML	AML		
	comp=N,71µm,1.4s						
GROG				AML	AML		
	comp=E,64µm,1.6s						
GROG				AML	AML		
	comp=N,71µm,0.6s						
GROG				AML	AML		
	comp=E,64µm,0.4s						
CRE	**Caprese Michel**	**1.05**	**119**	P	**Pn**	**14 50 43.2**	**+0.1**
LPEL	**Lama dei Pelig**	**3.31**	**128**	AML	AML		
	comp=N,26µm,0.8s						
LPEL				AML	AML		
	comp=E,17µm,0.2s						
LPEL				AML	AML		
	comp=N,26µm,1.2s						

*IDC **14** 14:52:42.5±1.3,34°.29N×141°.65E,h0km,mb3.2/4,*
mbtmp3.2/5,ML2.4/1,Error ellipse: s-maj=27.5km
s-min=22.0km az=105.0
*JMA **14** 14:52:44.1±0.5,34°N±1°×14°2E±°,h36km±2km,MV2.6/22,*
FAR SE OFF BOSO PEN
ISC 14 14:52:46.3±1.2,**34°.37N**±0°.06×**141°.65E**±0°.09,**h27**km,**n11,**
σ1811/15,mb3.2/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.62**	**298**	eP	**Pn**	**14 52 58.4**	**-0.4**
BSO3	**Boso 3**	**1.03**	**295**	eP	**Pb**	**14 53 05.0**	**-0.3**
JKUC	**kamogawauchiur**	**1.43**	**304**	eP	**Pn**	**14 53 10.5**	**0.0**
JKUC				eS	**Sb**	**14 53 29.4**	**-0.6**
CHOJ	**Chosi**	**1.48**	**334**	eP	**Pn**	**14 53 10.1**	**-1.1**
CHOJ				eS	**Sn**	**14 53 29.2**	**-0.4**
JMKN	**Mikurajimanish**	**1.77**	**255**	eP	**Pn**	**14 53 15.7**	**+0.6**
JHJ	**Hachijo jima 2**	**1.99**	**232**	Pn	**Pn**	**14 53 16.5**	**-1.6**
	11nm,0.3s,baz=53,slow=20,SNR=7.7						
JHJ				Sn	**Sn**	**14 53 41.8**	**-0.3**
	38nm,0.3s,baz=37,slow=21,SNR=10						
MJAR	**Matsushiro Arr**	**3.55**	**309**	Pn	**Pn**	**14 53 37.6**	**-2.0**
	0.3nm,0.3s,baz=128,slow=10,SNR=16						
MJAR				Sn	**Sn**	**14 54 21.5**	**+0.8**
	0.1nm,0.3s,baz=119,slow=12,SNR=4.4						
	2.0nm,0.3s						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**15 01 07.2**	**+2.1**
	0.1nm,0.4s,baz=89,slow=7.6,SNR=1.7						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**51.66**	**31**	P	**P**	**15 01 50.7**	**+0.4**
	0.3nm,0.8s,baz=263,slow=7.2,SNR=4.9						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**54.45**	**188**	P	**P**	**15 02 11.0**	**-0.3**
	0.4nm,0.7s,baz=7.9,slow=7.9,SNR=3.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**58.18**	**188**	P	**P**	**15 02 37.5**	**-0.4**
	0.1nm,0.6s,baz=9.2,slow=7.5,SNR=2.0						
	0.1nm,0.6s						

*SNET **14** 15:11:07.6±0.9,12°.95N×89°.55W,h20km,ML3.5*
*INET **14** 15:11:11.7±1.0,12°.94N×89°.30W,h19km±9km,MW3.2*
ISC 14 15:11:05.7±3.4,**12°.84N**±0°.08×**89°.57W**±0°.09,**h16**km±26km,
n19,σ0**°74/27,1C-6D,Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.92**	**32**	⇓iP	**Pb**	**15 11 23.6**	**+0.2**
BOQS	**Boqueron**	**0.93**	**18**	eP	**Pb**	**15 11 23.7**	**+0.1**
SJTE	**Alcalda de S**	**0.94**	**35**	eP	**Pb**	**15 11 23.7**	**0.0**
SJTE				eS	**Sb**	**15 11 35.5**	**-0.6**
CEVE	**Cerro Verde**	**0.98**	**357**	⇓iP	**Pb**	**15 11 24.4**	**-0.1**
CEVE				eS	**Sb**	**15 11 37.3**	**0.0**
SNJE	**San Jose**	**1.02**	**358**	eP	**Pb**	**15 11 24.8**	**-0.3**
COEG	**Centro de Oper**	**1.02**	**41**	⇓iP	**Pb**	**15 11 24.9**	**-0.2**
COEG				eS	**Sb**	**15 11 37.7**	**-0.6**
LBRS	**Las Brisas**	**1.03**	**30**	eP	**Pb**	**15 11 25.3**	**+0.1**
RTR	**El Retiro**	**1.05**	**356**	eP	**Pb**	**15 11 25.4**	**-0.2**
PAVA	**Las Pavas**	**1.06**	**35**	⇓iP	**Pb**	**15 11 25.9**	**+0.1**
PAVA				eS	**Sb**	**15 11 39.4**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.18**	**44**	⇓iP	**Pn**	**15 11 27.8**	**+0.1**
PACA	**Pacayal**	**1.36**	**63**	eP	**Pb**	**15 11 31.2**	**+0.2**
MTO3	**Montecristo**	**1.56**	**7**	⇑iP	**Pn**	**15 11 33.1**	**+0.1**
MTO3				eS	**Sn**	**15 11 52.7**	**-0.3**
LCND	**La Caada**	**1.70**	**74**	⇓iP	**Pn**	**15 11 35.6**	**+0.8**
LCND				eS	**Sn**	**15 11 56.3**	**+0.1**
CNCH	**Conchagua**	**1.75**	**75**	eP	**Pn**	**15 11 36.4**	**+0.9**
CNCH				eS	**Sn**	**15 11 58.4**	**+0.9**
CSGN	**Cosiguina Volc**	**1.96**	**86**	eP	**Pn**	**15 11 39.2**	**+0.7**
CRIN	**San C

TSZ	**Takapari Road**	**9.51 201**	P	Pn	15 15 53.8	-2.1
MRZ	**Mangatainoka R**	**10.18 201**	P	Pn	15 16 00.2	-3.5

VAO **14** *15:59:33.7±0.3,7°.33N×76°.03W,h10km,mb5.0*
UPA **14** *15:59:33.8±0.6,7°.10N×76°.27W,h10km±5km,MW4.4*
NEIC **14** *15:59:34.1±3.0,7°.39N±0°.06×76°.23W±0°.06,h10km±1km, mb4.8/88,Error ellipse: s-maj=11.8km s-min=9.4km az=226.0*
RSNC **14** *15:59:34.8±1.0,7°.24N×76°.34W,h0km±4km,ML4.3,Mw4.7*
IDC **14** *15:59:36.2±4.4,7°.08N×76°.23W,h33km±33km,mb4.2/19, mbtmp4.4/23,ML4.2/4,MS3.8/32,Error ellipse: s-maj=17.3km s-min=12.9km az=57.0*
ISC 14 15:59:34.3±0.9,7°.23N±0°.01×76°.31W±0°.02,h20km±4km, n361,σ2ᵗ15/439,mb4.8/54,MS3.8/27,30C-16D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.23**	**156**	⇓	*iP*		**Pb**	**15 59 40.1**	**+0.3**
DBBC					*eS*		**Sg**	**15 59 44.7**	**+0.8**
DBBC					IAML			15 59 46.8	
	comp=Z,48μm,0.6s								
DBBC	**Dabeiba**	**0.23**	**156**	⇓	*iP*		**Pb**	**15 59 40.1**	**+0.3**
DBBC					*eS*		**Sg**	**15 59 44.7**	**+0.8**
DBBC					IAML			15 59 46.8	
	comp=Z,48μm,0.6s								
UREC	**San Jos de Ur**	**0.93**	**56**	⇑	*iP*		**Pb**	**15 59 52.0**	**+0.2**
UREC					*eS*		**Sn**	**16 00 05.5**	**+0.5**
UREC					IAML			16 00 07.8	
	comp=Z,11μm,0.4s								
UREC	**San Jos de Ur**	**0.93**	**56**	⇑	*iP*		**Pb**	**15 59 52.0**	**+0.2**
UREC					*eS*		**Sn**	**16 00 05.5**	**+0.5**
UREC					IAML			16 00 07.8	
	comp=Z,11μm,0.4s								
UREC	**San Jos de Ur**	**0.93**	**56**		*eP*		**Pb**	**15 59 52.0**	**+0.2**
UREC					*eS*		**Sn**	**16 00 05.9**	**+0.9**
HELC	**Santa Helena**	**1.29**	**143**	⇓	*iP*		**Pg**	**15 59 57.7**	**-1.7**
HELC					*eS*		**Sn**	**16 00 16.6**	**+2.1**
HELC					IAML			16 00 18.2	
	comp=Z,3μm,0.5s								
HELC	**Santa Helena**	**1.29**	**143**	⇓	*iP*		**Pg**	**15 59 57.7**	**-1.7**
HELC					*eS*		**Sn**	**16 00 16.6**	**+2.1**
HELC					IAML			16 00 18.2	
	comp=Z,3μm,0.5s								
CBOC	**Ciudad Bolivar**	**1.39**	**168**	⇓	*iP*		**Pg**	**15 59 59.8**	**-1.4**
CBOC					*eS*		**Sg**	**16 00 20.3**	**+0.9**
CBOC					IAML			16 00 25.9	
	comp=Z,5μm,0.5s								
CBOC	**Ciudad Bolivar**	**1.39**	**168**	⇓	*iP*		**Pg**	**15 59 59.8**	**-1.4**
CBOC					*eS*		**Sg**	**16 00 20.3**	**+0.9**
CBOC					IAML			16 00 25.9	
	comp=Z,5μm,0.5s								
ZARC	**Zaragoza, Cauc**	**1.46**	**80**	⇑	*iP*		**Pb**	**16 00 00.8**	**0.0**
ZARC					*eS*		**Sg**	**16 00 21.3**	**-0.3**
ZARC					IAML			16 00 24.6	
	comp=Z,6μm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.46**	**80**	⇑	*iP*		**Pb**	**16 00 00.8**	**0.0**
ZARC					*eS*		**Sg**	**16 00 21.3**	**-0.3**
ZARC					IAML			16 00 24.6	
	comp=Z,6μm,0.4s								
SOLC	**Bahia Solano**	**1.48**	**228**		*eP*		**Pb**	**16 00 01.1**	**-0.1**
SOLC					*eS*		**Sg**	**16 00 21.3**	**-1.0**
SOLC					IAML			16 00 30.6	
	comp=Z,894nm,0.5s								
SOLC	**Bahia Solano**	**1.48**	**228**		*eP*		**Pb**	**16 00 01.1**	**-0.1**
SOLC					*eS*		**Sg**	**16 00 21.3**	**-1.0**
SOLC					IAML			16 00 30.6	
	comp=Z,894nm,0.5s								
PTAC	**Punta Ardita,**	**1.49**	**267**		*eP*		**Pn**	**16 00 00.3**	**+0.2**
PTAC					*eS*		**Sn**	**16 00 19.9**	**+1.0**
PTAC					IAML			16 00 29.6	
	comp=Z,2μm,0.6s								
PTAC	**Punta Ardita,**	**1.49**	**267**		*eP*		**Pn**	**16 00 00.3**	**+0.2**
PTAC					*eS*		**Sn**	**16 00 19.9**	**+1.0**
PTAC					IAML			16 00 29.6	
	comp=Z,2μm,0.6s								
PTAC	**Punta Ardita,**	**1.49**	**267**		*eP*		**Pn**	**15 59 59.9**	**-0.1**
PTAC					*eS*		**Sn**	**16 00 20.1**	**+1.2**
LCBC	**Los crdobas,**	**1.62**	**358**	⇓	*iP*		**Pn**	**16 00 02.7**	**+1.0**
LCBC					*eS*		**Sg**	**16 00 25.8**	**-0.9**
LCBC					IAML			16 00 33.0	
	comp=Z,4μm,0.5s								
LCBC	**Los crdobas,**	**1.62**	**358**	⇓	*iP*		**Pn**	**16 00 02.7**	**+1.0**
LCBC					*eS*		**Sg**	**16 00 25.8**	**-0.9**
LCBC					IAML			16 00 33.0	
	comp=Z,4μm,0.5s								
LCBC	**Los crdobas,**	**1.62**	**358**	⇓	*iP*		**Pn**	**16 00 02.8**	**+1.0**
LCBC					*eS*		**Sg**	**16 00 26.2**	**-0.4**
PTBC	**PUERTO BERRIO,**	**1.96**	**110**	⇑	*iP*		**Pb**	**16 00 08.2**	**-1.1**
PTBC					*eS*		**Sg**	**16 00 34.5**	**-3.1**
PTBC					IAML			16 00 38.3	
	comp=Z,3μm,0.7s								
PTBC	**PUERTO BERRIO,**	**1.96**	**110**	⇑	*iP*		**Pb**	**16 00 08.2**	**-1.1**
PTBC					*eS*		**Sg**	**16 00 34.5**	**-3.1**
PTBC					IAML			16 00 38.3	
	comp=Z,3μm,0.7s								
UPD2	**Meteti**	**2.14**	**308**		*eP*		**Pn**	**16 00 10.1**	**+1.2**
UPD2					*eS*		**Sb**	**16 00 41.3**	**+2.7**
UPD2					IAML			16 00 49.4	
	comp=Z,2μm,0.6s								
UPD2	**Meteti**	**2.14**	**308**		*eP*		**Pn**	**16 00 10.1**	**+1.2**
UPD2					*eS*		**Sb**	**16 00 41.3**	**+2.7**
UPD2					IAML			16 00 49.4	
	comp=Z,2μm,0.6s								
NORC	**Norcasia**	**2.19**	**139**		*eP*		**Pb**	**16 00 12.5**	**-0.8**
NORC					*eS*		**Sb**	**16 00 40.8**	**+0.8**
NORC					IAML			16 00 43.9	
	comp=Z,3μm,0.6s								
NORC	**Norcasia**	**2.19**	**139**		*eP*		**Pb**	**16 00 12.5**	**-0.8**
NORC					*eS*		**Sb**	**16 00 40.8**	**+0.8**
NORC					IAML			16 00 43.9	
	comp=Z,3μm,0.6s								
GUY2C	**Guyana, Caldas**	**2.20**	**155**	⇓	*iP*		**Pb**	**16 00 13.0**	**-0.8**
GUY2C					*eS*		**Sg**	**16 00 46.0**	**+0.6**
GUY2C					IAML			16 00 49.9	
	comp=Z,2μm,0.6s								
GUY2C	**Guyana, Caldas**	**2.20**	**155**	⇓	*iP*		**Pb**	**16 00 13.0**	**-0.8**
GUY2C					*eS*		**Sg**	**16 00 46.0**	**+0.6**
GUY2C					IAML			16 00 49.9	
	comp=Z,2μm,0.6s								
PLMC	**San Jos del P**	**2.31**	**179**		*eP*		**Pn**	**16 00 12.8**	**+1.4**
PLMC					*eS*		**Sg**	**16 00 47.5**	**-1.2**
PLMC					IAML			16 00 53.7	
	comp=Z,1μm,0.5s								
PLMC	**San Jos del P**	**2.31**	**179**		*eP*		**Pn**	**16 00 12.8**	**+1.4**
PLMC					*eS*		**Sg**	**16 00 47.5**	**-1.2**
PLMC					IAML			16 00 53.7	
	comp=Z,1μm,0.5s								
BRRC	**Barranca, Sant**	**2.58**	**93**	⇑	*iP*		**Pb**	**16 00 17.3**	**-2.6**
BRRC					*eS*		**Sb**	**16 00 52.6**	**+1.4**
BRRC					IAML			16 01 00.9	
	comp=Z,19μm,1.3s								
BRRC	**Barranca, Sant**	**2.58**	**93**	⇑	*iP*		**Pb**	**16 00 17.3**	**-2.6**
BRRC					*eS*		**Sb**	**16 00 52.6**	**+1.4**
BRRC					IAML			16 01 00.9	
	comp=Z,19μm,1.3s								
SPBC	**San Pablo de B**	**2.72**	**125**		*eP*		**Pb**	**16 00 20.7**	**-1.7**
SPBC					*eS*		**Sb**	**16 00 56.2**	**+0.9**
SPBC					IAML			16 01 05.3	
	comp=Z,1μm,0.5s								
SPBC	**San Pablo de B**	**2.72**	**125**		*eP*		**Pb**	**16 00 20.7**	**-1.7**
SPBC					*eS*		**Sb**	**16 00 56.2**	**+0.9**
SPBC					IAML			16 01 05.3	
	comp=Z,1μm,0.5s								
ANIL	**Santa Ana**	**2.87**	**162**		*eP*		**Pb**	**16 00 24.1**	**-0.9**
ANIL					*eS*		**Sg**	**16 01 03.0**	**-3.6**
ANIL	**Santa Ana**	**2.87**	**162**		*eP*		**Pb**	**16 00 24.1**	**-0.9**
ANIL					*eS*		**Sg**	**16 01 03.0**	**-3.6**
SJCC	**San Jacinto, C**	**2.87**	**23**		*eP*		**Pn**	**16 00 19.2**	**+0.1**
SJCC					*eS*		**Sn**	**16 00 52.1**	**-1.0**
SJCC	**San Jacinto, C**	**2.87**	**23**		*eP*		**Pn**	**16 00 19.2**	**+0.1**
SJCC					*eS*		**Sn**	**16 00 52.1**	**-1.0**
ROSC	**El Rosal**	**3.09**	**140**	Pn			**Pb**	**16 00 27.3**	**-1.5**
	comp=Z,93nm,0.3s,baz=342,slow=16,SNR=56								
ROSC				Sn			**Sb**	**16 01 08.3**	**+2.1**
	comp=Z,251nm,0.3s,baz=258,slow=20,SNR=7.4								
ROSC				LR			LR	16 01 17.0	
	comp=Z,1μm,18.3s,baz=62,slow=34								
ROSC	**El Rosal**	**3.09**	**140**	⇑	*iP*		**Pb**	**16 00 27.6**	**-1.3**
ROSC					*eS*		**Sg**	**16 01 09.3**	**-4.5**
ROSC					IAML			16 01 22.0	
	comp=Z,786nm,0.6s								
ROSC	**El Rosal**	**3.09**	**140**	⇑	*iP*		**Pb**	**16 00 27.6**	**-1.3**
ROSC					*eS*		**Sg**	**16 01 09.3**	**-4.5**
ROSC					IAML			16 01 22.0	
	comp=Z,786nm,0.6s								
OCAC	**Ocana**	**3.12**	**71**		*eP*		**Pn**	**16 00 24.2**	**+1.6**
OCAC					*eS*		**Sb**	**16 01 04.5**	**-2.6**
OCAC					IAML			16 01 20.4	
	comp=Z,4μm,0.5s								
OCAC	**Ocana**	**3.12**	**71**		*eP*		**Pn**	**16 00 24.2**	**+1.6**
OCAC					*eS*		**Sb**	**16 01 04.5**	**-2.6**
OCAC					IAML			16 01 20.4	
	comp=Z,4μm,0.5s								
BARC	**Barichara**	**3.17**	**101**	⇑	*iP*		**Pn**	**16 00 25.8**	**+2.5**
BARC					*eS*		**Sb**	**16 01 05.8**	**-2.5**
BARC					IAML			16 01 24.0	
	comp=Z,4μm,0.7s								
BARC	**Barichara**	**3.17**	**101**	⇑	*iP*		**Pn**	**16 00 25.8**	**+2.5**
BARC					*eS*		**Sb**	**16 01 05.8**	**-2.5**
BARC					IAML			16 01 24.0	
	comp=Z,4μm,0.7s								
YOTC	**Yotoco, Valle**	**3.23**	**181**	⇓	*iP*		**Pn**	**16 00 24.9**	**+0.9**
YOTC					*eS*		**Sb**	**16 01 07.0**	**-3.0**
YOTC	**Yotoco, Valle**	**3.23**	**181**	⇓	*iP*		**Pn**	**16 00 24.9**	**+0.9**
YOTC					*eS*		**Sb**	**16 01 07.0**	**-3.0**
ARGC	**Ariguani, Magd**	**3.31**	**38**		*eP*		**Pg**	**16 00 40.3**	**+2.5**
ARGC					*eS*		**Sg**	**16 01 22.2**	**+1.4**
ARGC					IAML			16 01 57.7	
	comp=Z,310nm,0.7s								
ARGC	**Ariguani, Magd**	**3.31**	**38**		*eP*		**Pg**	**16 00 40.3**	**+2.5**
ARGC					*eS*		**Sg**	**16 01 22.2**	**+1.4**
ARGC					IAML			16 01 57.7	
	comp=Z,310nm,0.7s								
MALC	**Bahia Malaga**	**3.36**	**198**	⇓	*eP*		**Pb**	**16 00 30.1**	**-3.1**
MALC	**Bahia Malaga**	**3.36**	**198**	⇓	*eP*		**Pb**	**16 00 30.1**	**-3.1**
RUSC	**La Rusia**	**3.47**	**112**	⇑	*eP*		**Pn**	**16 00 30.1**	**+2.5**
RUSC					*eS*		**Sb**	**16 01 17.1**	**-0.1**
RUSC					IAML			16 01 22.3	
	comp=Z,1μm,0.6s								
RUSC	**La Rusia**	**3.47**	**112**	⇑	*eP*		**Pn**	**16 00 30.1**	**+2.5**
RUSC					*eS*		**Sb**	**16 01 17.1**	**-0.1**
RUSC					IAML			16 01 22.3	
	comp=Z,1μm,0.6s								
LL1C	**La Loma 1 Cana**	**3.56**	**50**		*eP*		**Pb**	**16 00 36.8**	**+0.1**
LL1C					*eS*		**Sn**	**16 01 11.3**	**+1.3**
LL1C					IAML			16 01 54.5	
	comp=Z,3μm,0.6s								
LL1C	**La Loma 1 Cana**	**3.56**	**50**		*eP*		**Pb**	**16 00 36.8**	**+0.1**
LL1C					*eS*		**Sn**	**16 01 11.3**	**+1.3**
LL1C					IAML			16 01 54.5	
	comp=Z,3μm,0.6s								
LL5C	**La Loma 5 El P**	**3.58**	**45**		*eP*		**Pg**	**16 00 40.6**	**-2.3**
LL5C					IAML			16 01 44.6	
	comp=Z,821nm,0.5s								
LL5C	**La Loma 5 El P**	**3.58**	**45**		*eP*		**Pg**	**16 00 40.6**	**-2.3**
LL5C					IAML			16 01 44.6	
	comp=Z,821nm,0.5s								
PAMC	**Pamplona, Colo**	**3.58**	**88**	⇑	*eP*		**Pn**	**16 00 31.7**	**+2.6**
PAMC					*eS*		**Sg**	**16 01 25.4**	**-4.0**
PAMC	**Pamplona, Colo**	**3.58**	**88**	⇑	*eP*		**Pn**	**16 00 31.7**	**+2.6**
PAMC					*eS*		**Sg**	**16 01 25.4**	**-4.0**
CHIC	**Chingaza**	**3.64**	**135**	⇑	*iP*		**Pb**	**16 00 34.4**	**-3.9**
CHIC					*eS*		**Sb**	**16 01 20.7**	**-1.4**
CHIC					IAML			16 01 41.0	
	comp=Z,552nm,0.6s								
CHIC	**Chingaza**	**3.64**	**135**	⇑	*iP*		**Pb**	**16 00 34.4**	**-3.9**
CHIC					*eS*		**Sb**	**16 01 20.7**	**-1.4**
CHIC					IAML			16 01 41.0	
	comp=Z,552nm,0.6s								
UPA	**Univ. de Panam**	**3.64**	**299**		*eP*		**Pn**	**16 00 30.9**	**+1.3**
UPA					*eS*		**Sb**	**16 01 18.5**	**-3.2**
UPA					IAML			16 01 39.5	
	comp=Z,94nm,0.6s								
UPA	**Univ. de Panam**	**3.64**	**299**		*eP*		**Pn**	**16 00 30.9**	**+1.3**
UPA					*eS*		**Sb**	**16 01 18.5**	**-3.2**
UPA					IAML			16 01 39.5	
	comp=Z,94nm,0.6s								
UPA	**Univ. de Panam**	**3.64**	**299**		*eP*		**Pn**	**16 00 30.9**	**+1.3**
UPA					*eS*		**Sn**	**16 01 14.1**	**+2.1**
CHOR3	**La Chorrera**	**3.81**	**296**		*eS*		**Sn**	**16 01 18.4**	**+2.3**
AZU	**Azuero**	**3.97**	**278**		*eP*		**Pn**	**16 00 35.1**	**+1.0**
AZU					*eS*		**Sn**	**16 01 19.2**	**-1.0**
AZU	**Azuero**	**3.97**	**278**		*eP*		**Pn**	**16 00 35.1**	**+1.0**
AZU					*eS*		**Sn**	**16 01 19.2**	**-1.0**
AZU	**Azuero**	**3.97**	**278**	⇓	*iP*		**Pn**	**16 00 35.4**	**+1.3**
AZU					*eS*		**Sn**	**16 01 21.3**	**+1.1**
BCIP	**Isla Barro Col**	**3.99**	**299**				**Pn**	**16 00 35.6**	**+1.2**
BCIP	**Isla Barro Col**	**3.99**	**299**		*eP*		**Pn**	**16 00 35.8**	**+1.4**
BCIP					*eS*		**Sb**	**16 01 27.8**	**-4.0**
BCIP					IAML			16 01 44.7	
	comp=Z,246nm,0.8s								
BCIP	**Isla Barro Col**	**3.99**	**299**		*eP*		**Pn**	**16 00 35.8**	**+1.4**
BCIP					*eS*		**Sb**	**16 01 27.8**	**-4.0**
BCIP					IAML			16 01 44.7	
	comp=Z,246nm,0.8s								
BCIP	**Isla Barro Col**	**3.99**	**299**	⇑	*iP*		**Pn**	**16 00 35.9**	**+1.5**
BCIP					*eS*		**Sn**	**16 01 22.8**	**+2.1**
VTON	**El Valle, Cocl**	**4.01**	**290**		*eP*		**Pn**	**16 00 36.2**	**+1.4**
VTON					*eS*		**Sn**	**16 01 23.3**	**+2.0**
VILC	**Villavicencio,**	**4.04**	**140**		*eP*		**Pb**	**16 00 40.7**	**-4.3**
VILC					*eS*		**Sg**	**16 01 44.9**	**+0.5**
VILC					IAML			16 01 48.0	
	comp=Z,541nm,0.5s								
VILC	**Villavicencio,**	**4.04**	**140**		*eP*		**Pb**	**16 00 40.7**	**-4.3**
VILC					*eS*		**Sg**	**16 01 44.9**	**+0.5**
VILC					IAML			16 01 48.0	
	comp=Z,541nm,0.5s								
PNME	**Penonome**	**4.17**	**288**		*eP*		**Pn**	**16 00 37.8**	**+0.9**
PNME	**Penonome**	**4.17**	**288**		*eP*		**Pn**	**16 00 37.8**	**+0.9**
PNME	**Penonome**	**4.17**	**288**		*eP*		**Pn**	**16 00 38.8**	**+1.9**
PNME					*eS*		**Sn**	**16 01 27.1**	**+1.9**
SMRC	**Santa Marta, M**	**4.42**	**28**		*eP*		**Pn**	**16 00 43.5**	**+3.2**
SMRC					*eS*		**Sn**	**16 01 30.2**	**-1.0**
SMRC					IAML			16 02 04.2	
	comp=Z,111nm,0.7s								
SMRC	**Santa Marta, M**	**4.42**	**28**		*eP*		**Pn**	**16 00 43.5**	**+3.2**
SMRC					*eS*		**Sn**	**16 01 30.2**	**-1.0**
SMRC					IAML			16 02 04.2	
	comp=Z,111nm,0.7s								
CACAO	**El Cacao, Vera**	**4.52**	**272**		*eP*		**Pn**	**16 00 42.1**	**+0.4**
TAMC	**Tame, Arauca**	**4.55**	**100**	⇑	*eP*		**Pn**	**16 00 44.9**	**+2.7**
TAMC					*eS*		**Sg**	**16 01 58.5**	**-2.1**
TAMC					IAML			16 02 18.5	
	comp=Z,371nm,0.6s								
TAMC	**Tame, Arauca**	**4.55**	**100**	⇑	*eP*		**Pn**	**16 00 44.9**	**+2.7**
TAMC					*eS*		**Sg**	**16 01 58.5**	**-2.1**
TAMC					IAML			16 02 18.5	
	comp=Z,371nm,0.6s								
GR1C	**Gorgona, Isla**	**4.59**	**204**		*eP*		**Pn**	**16 00 43.8**	**+1.1**
GR1C	**Gorgona, Isla**	**4.59**	**204**		*eP*		**Pn**	**16 00 43.8**	**+1.1**
BETC	**Betania**	**4.60**	**169**		*eP*		**Pn**	**16 00 47.3**	**+4.5**
BETC					*eS*		**Sb**	**16 01 43.4**	**-6.1**
BETC					IAML			16 01 47.0	
	comp=Z,290nm,0.6s								
BETC	**Betania**	**4.60**	**169**		*eP*		**Pn**	**16 00 47.3**	**+4.5**
BETC					*eS*		**Sb**	**16 01 43.4**	**-6.1**
BETC					IAML			16 01 47.0	
	comp=Z,290nm,0.6s								
CRJC	**Cerrejon, Guaj**	**5.06**	**42**		*eP*		**Pn**	**16 00 48.6**	**-0.6**
CRJC					*eS*		**Sn**	**16 01 43.5**	**-3.7**
CRJC					IAML			16 01 51.8	
	comp=Z,423nm,0.5s								
CRJC	**Cerrejon, Guaj**	**5.06**	**42**		*eP*		**Pn**	**16 00 48.6**	**-0.6**
CRJC					*eS*		**Sn**	**16 01 43.5**	**-3.7**
CRJC					IAML			16 01 51.8	
	comp=Z,423nm,0.5s								
GARC	**Garzon, Huila**	**5.08**	**171**		*eP*		**Pn**	**16 00 53.4**	**+3.9**
GARC					*eS*		**Sb**	**16 02 08.7**	**+5.3**
GARC					IAML			16 02 10.0	
	comp=Z,83nm,0.5s								
GARC	**Garzon, Huila**	**5.08**	**171**		*eP*		**Pn**	**16 00 53.4**	**+3.9**
GARC					*eS*		**Sb**	**16 02 08.7**	**+5.3**
GARC					IAML			16 02 10.0	
	comp=Z,83nm,0.5s								
PTGC	**Puerto Gaitan,**	**5.13**	**126**	⇑	*eP*		**Pn**	**16 00 52.7**	**+2.7**
PTGC					*eS*		**Sn**	**16 01 50.6**	**+1.8**
PTGC					IAML			16 03 53.1	
	comp=Z,44nm,0.6s								
PTGC	**Puerto Gaitan,**	**5.13**	**126**	⇑	*eP*		**Pn**	**16 00 52.7**	**+2.7**
PTGC					*eS*		**Sn**	**16 01 50.6**	**+1.8**
PTGC					IAML			16 03 53.1	
	comp=Z,44nm,0.6s								
BBAC	**Balboa, Cauca**	**5.26**	**190**		*eP*		Pn	16 00 57.6	+5.5
BBAC					*eS*		**Sn**	**16 01 57.5**	**+5.2**
BBAC					IAML			16 02 28.1	
	comp=Z,51nm,0.7s								
BBAC	**Balboa, Cauca**	**5.26**	**190**		*eP*		Pn	16 00 57.6	+5.5
BBAC					*eS*		**Sn**	**16 01 57.5**	**+5.2**
BBAC					IAML			16 02 28.1	
	comp=Z,51nm,0.7s								
SOCV	**Socops**	**5.50**	**79**	⇑	*iP*		**Pn**	**16 00 56.7**	**+1.5**
SOCV					*eS*		**Sn**	**16 01 58.7**	**+0.8**
SOCV	**Socops**	**5.50**	**79**	⇑	*iP*		**Pn**	**16 00 56.7**	**+1.5**
SOCV					*eS*		**Sn**	**16 01 58.7**	**+0.8**
MACC	**Macarena, Meta**	**5.62**	**154**		*eP*		**Pn**	**16 01 00.7**	**+3.9**
MACC					*eS*		Sg	16 02 50.4	+16
MACC					IAML			16 03 04.4	
	comp=Z,185nm,0.6s								
MACC	**Macarena, Meta**	**5.62**	**154**		*eP*		**Pn**	**16 01 00.7**	**+3.9**
MACC					*eS*		Sg	16 02 50.4	+16
MACC					IAML			16 03 04.4	
	comp=Z,185nm,0.6s								
FLOC	**Florencia**	**5.65**	**173**		*eP*		**Pn**	**16 01 00.8**	**+3.6**
FLOC					*eS*		**Sg**	**16 02 30.7**	**-5.0**
FLOC					IAML			16 02 46.5	
	comp=Z,44nm,0.7s								
FLOC	**Florencia**	**5.65**	**173**		*eP*		**Pn**	**16 01 00.8**	**+3.6**
FLOC					*eS*		**Sg**	**16 02 30.7**	**-5.0**
FLOC					IAML			16 02 46.5	
	comp=Z,44nm,0.7s								
CRUC	**La Cruz**	**5.66**	**187**		*eP*		Pb	16 01 05.1	-7.6
CRUC	**La Cruz**	**5.66**	**187**		*eP*		Pb	16 01 05.1	-7.6
SDV	**Santo Domingo**	**5.85**	**73**		Pn		**Pn**	**16 01 01.1**	**+0.9**
	comp=Z,16nm,0.3s,baz=253,slow=10.0,SNR=36								
SDV					Sn		**Sn**	**16 02 07.5**	**+0.6**
	comp=Z,58nm,0.3s,baz=248,slow=19,SNR=6.5								
SDV					Lg	Lg		16 02 36.5	
	comp=Z,26nm,0.3s,baz=296,slow=23,SNR=2.7								
	comp=Z,69nm,0.5s								
SDV	**Santo Domingo**	**5.85**	**73**		Pn		**Pn**	**16 01 01.6**	**+1.4**
GUVC	**San Jose del G**	**5.92**	**142**		*eP*		**Pn**	**16 01 03.9**	**+2.9**
GUVC					IAML			16 01 11.5	
	comp=Z,96nm,0.6s								
GUVC					*eS*		**Sn**	**16 02 13.4**	**+5.0**
GUVC	**San Jose del G**	**5.92**	**142**		*eP*		**Pn**	**16 01 03.9**	**+2.9**
GUVC					IAML			16 01 11.5	
	comp=Z,96nm,0.6s								
GUVC					*eS*		**Sn**	**16 02 13.4**	**+5.0**
GCUF	**Volcan Galeras**	**6.05**	**190**		*eP*		**Pb**	**16 01 15.1**	**-4.4**
GCUF					*eS*		**Sg**	**16 02 47.0**	**-1.9**
GCUF					IAML			16 02 56.3	
	comp=Z,25nm,0.6s								
GCUF	**Volcan Galeras**	**6.05**	**190**		*eP*		**Pb**	**16 01 15.1**	**-4.4**
GCUF					*eS*		**Sg**	**16 02 47.0**	**-1.9**
GCUF					IAML			16 02 56.3	
	comp=Z,25nm,0.6s								
URIC	**Uribia, Colomb**	**6.15**	**43**		*eP*		**Pn**	**16 01 06.6**	**+2.5**
URIC					*eS*		**Sn**	**16 02 10.3**	**-3.6**
URIC					IAML			16 02 54.1	
	comp=Z,77nm,0.6s								
URIC	**Uribia, Colomb**	**6.15**	**43**		*eP*		**Pn**	**16 01 06.6**	**+2.5**
URIC					*eS*		**Sn**	**16 02 10.3**	**-3.6**
URIC					IAML			16 02 54.1	
	comp=Z,77nm,0.6s								
BRU2	**Volcan**	**6.51**	**284**		Pn		**Pn**	**16 01 09.1**	**-0.2**
BRU2	**Volcan**	**6.51**	**284**		*eP*		**Pn**	**16 01 08.6**	**-0.6**
BRU2					*eS*		Sb	16 02 36.5	-8.1
BRU2					IAML			16 03 22.8	
	comp=Z,21nm,0.8s								
BRU2	**Volcan**	**6.51**	**284**		*eP*		**Pn**	**16 01 08.6**	**-0.6**
BRU2					*eS*		Sb	16 02 36.5	-8.1
BRU2					IAML			16 03 22.8	
	comp=Z,21nm,0.8s								
TULM	**Tulcn-Chalpat**	**6.64**	**193**		Pn		**Pn**	**16 01 15.6**	**+4.3**
CDITO	**Can

TOSP	Speyside	16.08	74	P	Pn	16 03 20.0	+0.6	
MCLT	Moule a Chique	16.42	66	P	P	16 03 25.5	-0.9	
MCLT				IAmb	IAmb	16 03 31.9		
	comp=Z,56nm,0.9s							
BOAV	Boa Vista	16.44	106	Pn	Pn	16 03 21.8	-2.3	
BOAV				IAmb	IAmb	16 03 28.1		
	comp=Z,38nm,1.3s							
BOAV	Boa Vista	16.44	106	eP	Pn	16 03 21.6	-2.4	
MPOM	Morne Pois Mar	16.77	63	P	Pn	16 03 27.5	-0.7	
MPOM				IAmb	IAmb	16 03 36.2		
	comp=Z,42nm,0.7s							
SMRT	St. Maarten	16.79	49	P	Pn	16 03 27.9	-0.6	
GDSD	La Dsirade Is	17.43	57	P	Pn	16 03 35.2	-1.2	
GDSD				IAmb	IAmb	16 03 40.2		
	comp=Z,150nm,1.2s							
CCIG	Comitan	17.91	302	P	Pn	16 03 42.2	-0.4	
MACA	Manacapuru-AM	18.70	123	P	Pn	16 03 52.7	+0.6	
MACA				IAmb	IAmb	16 03 53.6		
	comp=Z,37nm,0.6s							
NNA	Nana	19.10	182	LR	LR	16 12 44.2		
	comp=Z,648nm,19.0s,baz=9.5,slow=42							
ETMB	Extrema	19.69	149	P	P	16 04 02.5	-0.1	
ETMB				IAmb	IAmb	16 04 12.0		
	comp=Z,35nm,0.9s							
ETMB	Extrema	19.69	149	eP	P	16 04 02.7	+0.1	
CMIG	Matias Romero	20.62	300	LR	LR	16 13 14.3		
	comp=Z,470nm,20.7s,baz=126,slow=39							
SAML	Samuel	20.72	141	P	P	16 04 12.2	-1.6	
SAML				IAmb	IAmb	16 04 24.1		
	comp=Z,83nm,1.0s							
ITTB	Itaituba	23.54	119	eP	P	16 04 42.0	-1.6	
MDP	Montagnes des	23.62	94	P	P	16 04 44.3	-0.1	
	comp=Z,36nm,0.9s,baz=266,slow=7.4,SNR=18							
MDP				LR	LR	16 14 22.8		
	comp=Z,807nm,18.6s,baz=254,slow=38							
	comp=Z,36nm,0.9s							
MALB	Monte Alegre	23.77	111	eP	P	16 04 44.5	-1.3	
LPAZ	La Paz	24.73	161	P	P	16 04 53.2	-2.0	
	comp=Z,3.5nm,0.6s,baz=345,slow=12,SNR=10							
	comp=Z,3.5nm,0.6s							
LPAZ	La Paz	24.73	161	P	P	16 04 55.0	-0.2	
LPAZ				IAmb	IAmb	16 05 06.1		
	comp=Z,32nm,1.4s							
LPAZ	La Paz	24.73	161	eP	P	16 04 56.0	+0.7	
NPGB	Novo Progresso	25.25	124	eP	P	16 04 58.1	-1.3	
VILB	Vilhena	25.66	141	P	P	16 05 02.6	-0.5	
VILB				IAmb	IAmb	16 05 17.3		
	comp=Z,52nm,0.9s							
VILB	Vilhena	25.66	141	eP	P	16 05 02.9	-0.1	
PB16	IPOC Station P	26.27	165	P	P	16 05 08.0	-1.2	
PDRB	Porto dos Gac	27.01	134	eP	P	16 05 13.8	-1.5	
CLDB	Colider	27.21	131	eP	P	16 05 15.4	-1.7	
SIV	San Ignacio	27.57	147	P	P	16 05 18.4	-1.9	
	comp=Z,5.6nm,0.4s,baz=317,slow=11,SNR=9.3							
SIV				LR	LR	16 16 37.5		
	comp=Z,606nm,18.7s,baz=325,slow=37							
	comp=Z,5.6nm,0.4s							
GO01	Chusmiza	27.63	165	P	P	16 05 21.1	-0.3	
GO01				IAmb	IAmb	16 05 39.6		
	comp=Z,13nm,1.0s							
PTLB	Pontes e Lacer	28.23	143	P	P	16 05 25.6	-0.6	
PTLB				IAmb	IAmb	16 05 27.3		
	comp=Z,16nm,1.0s							
PTLB	Pontes e Lacer	28.23	143	eP	P	16 05 26.1	-0.1	
PB01	IPOC Station P	28.89	167	P	P	16 05 32.4	+0.3	
PB01				IAmb	IAmb	16 05 41.8		
	comp=Z,22nm,1.0s							
PB02	IPOC Station P	29.06	168	P	P	16 05 34.1	+0.4	
TKL	Tuckaleechee C	29.11	347	LR	LR	16 17 51.8		
	comp=Z,236nm,20.4s,baz=160,slow=37							
PB07	IPOC Station P	29.46	168	P	P	16 05 37.1	-0.2	
735A	Kenedy	29.57	319	P	P	16 05 36.4	-1.5	
PRPB	Parauapebas	29.59	116	eP	P	16 05 37.5	-0.9	
PB09	IPOC Station P	29.67	167	P	P	16 05 40.3	+1.2	
TMAB	Tom-Au,PA,Br	29.72	108	eP	P	16 05 39.1	-0.5	
833A	Chaparral WMA,	30.27	317	P	P	16 05 43.8	-0.4	
833A				IAmb	IAmb	16 05 51.1		
	comp=Z,12nm,0.8s							
LVC	Limon Verde	30.53	166	LR	LR	16 19 09.5		
	comp=Z,216nm,18.7s,baz=312,slow=39							
LVC	Limon Verde	30.53	166	eP	P	16 05 48.5	+1.5	
SALV	Santo Antonio	30.74	138	eP	P	16 05 47.9	-0.5	
T47A	Sharon Grove	31.21	343	P	P	16 05 54.2	+1.8	
SNDB	Serra Nova Dou	31.35	127	eP	P	16 05 53.3	-0.6	
FCAR	Ozark Folk Cen	31.99	335	P	P	16 05 59.6	+0.3	
USIN	University of	32.28	343	P	P	16 06 02.7	+0.9	
PP1B	Ponte de Pedra	32.51	140	eP	P	16 06 03.8	-0.3	
P52A	Corning	32.68	352	P	P	16 06 04.0	-1.3	
P52A				IAmb	IAmb	16 07 11.1		
	comp=Z,16nm,0.8s							
SMTB	Santa Maria do	32.78	119	eP	P	16 06 05.9	-0.6	
GO02	Mina Guanaco	32.85	169	P	P	16 06 08.4	+1.1	
FVM	French Village	33.18	339	P	P	16 06 10.2	+0.5	
CCM	Cathedral Cave	33.54	338	P	P	16 06 12.8	0.0	
CCM				IAmb	IAmb	16 06 21.6		
	comp=Z,12nm,0.8s							
ROSB	Rosrio	33.66	106	eP	P	16 06 13.1	-1.1	
P46A	Rosedale	33.70	345	P	P	16 06 14.5	+0.3	
P46A				IAmb	IAmb	16 06 26.6		
	comp=Z,14nm,0.7s							
TXAR	Lajitas Array	33.87	314	P	P	16 06 17.4	+1.5	
	comp=Z,0.8nm,0.8s,baz=130,slow=12,SNR=8.9							
	comp=Z,0.8nm,0.8s							
TXAR	Lajitas Array	33.87	314	P	P	16 06 14.9	-1.0	
TX31	Lajitas Ar. Si	33.87	314	P	P	16 06 17.2	+1.3	
TX31				IAmb	IAmb	16 06 23.9		
	comp=Z,17nm,1.1s							
TX32	Lajitas Array	33.87	314	P	P	16 06 17.5	+1.6	
FNO	Franklin	33.96	328	P	P	16 06 16.2	-0.4	
AQDB	Aquidauana	34.19	144	P	P	16 06 17.8	-0.8	
AQDB	Aquidauana	34.19	144	eP	P	16 06 18.7	+0.1	
AC02	Maricunga	34.57	169	P	P	16 06 22.4	-0.1	
C2SB	Chapadao do Su	34.69	138	eP	P	16 06 23.7	+0.7	
P40A	Paris	35.13	339	P	P	16 06 26.7	+0.1	
P40A				IAmb	IAmb	16 06 33.3		
	comp=Z,11nm,1.0s							
CROK	Carrier	35.22	329	P	P	16 06 27.3	-0.2	
CROK				IAmb	IAmb	16 06 31.8		
	comp=Z,19nm,0.8s							
RPRD	Ribas do Rio P	35.39	142	eP	P	16 06 29.3	+0.3	
KAN17	Caldwell West	35.53	330	P	P	16 06 29.1	-1.0	
P38A	Dawn	35.77	337	P	P	16 06 32.1	0.0	
BDFB	Brasilia	36.08	129	P	P	16 06 33.8	-1.4	
	comp=Z,3.1nm,0.4s,baz=296,slow=13,SNR=3.7							
	comp=Z,3.1nm,0.4s							
BDFB	Brasilia	36.08	129	eP	P	16 06 34.7	-0.5	
MSTX	Muleshoe	36.13	321	P	P	16 06 35.6	+0.1	
MSTX				IAmb	IAmb	16 06 42.3		
	comp=Z,12nm,0.8s							
AC05	El Transito	36.33	171	P	P	16 06 38.3	+1.2	
MNTX	Cornudas Mount	36.44	316	P	P	16 06 38.5	+0.5	
LPIG	La Paz	36.64	301	LR	LR	16 22 54.6		
	comp=Z,114nm,18.3s,baz=151,slow=38							
SDBA	SAO DESIDERIO	36.81	122	eP	P	16 06 40.5	-0.9	
IPMB	Ipameri, GO	37.38	132	eP	P	16 06 46.2	0.0	
SADO	Sadowa	37.48	357	LR	LR	16 22 48.3		
	comp=Z,112nm,20.8s,baz=171,slow=37							
PCMB	Pacaembu	37.75	140	eP	P	16 06 48.2	-0.9	
CPUP	Villa Florida	38.11	152	LR	LR	16 23 35.8		
	comp=Z,295nm,19.0s,baz=333,slow=38							
MNTQ	Montreal, Queb	38.20	3	P	P	16 06 53.0	+0.4	
MNTQ				IAmb	IAmb	16 07 05.2		
	comp=Z,20nm,0.8s							
JANB	Januaria	38.68	125	eP	P	16 06 56.6	-0.5	
CRNM	Carthage	38.68	318	P	P	16 06 57.8	+0.7	
BNM	Barren Site	38.73	318	P	P	16 06 58.9	+1.3	
LENM	Lemitar	38.97	318	P	P	16 06 56.7	-2.9	
SBM	South Baldy	38.99	317	P	P	16 06 59.1	-0.9	
PMNB	Patos De Minas	39.03	131	eP	P	16 07 00.5	+0.3	
ANMO	Albuquerque	39.10	319	LR	LR	16 26 41.1		
	comp=Z,47nm,19.5s,baz=132,slow=41							
ANMO	Albuquerque	39.10	319	P	P	16 07 01.6	+0.9	
BB19B	Bebedouro	39.18	136	eP	P	16 06 59.9	-1.3	
ZON	Zonda	39.24	170	P	P	16 07 02.6	+1.0	
ZON				IAmb	IAmb	16 07 04.9		
	comp=Z,43nm,1.4s							
MC01	Montes Claros	39.88	127	eP	P	16 07 07.2	0.0	
SDCO	Great Sand Dun	40.29	323	P	P	16 07 11.8	+1.2	
DIAM	Diamantina, MG	40.99	129	eP	P	16 07 15.8	-0.6	
F36A	Milaca	41.26	342	P	P	16 07 18.5	+0.3	
UNIS	Unistalda (Bra	41.48	151	eP	P	16 07 19.8	-0.4	
VAO	Valinhos	41.55	137	eP	P	16 07 20.0	-0.9	
GDU01	Guandu, BA	41.99	120	eP	P	16 07 23.2	-1.3	
BO02	Sierra Bellavi	42.12	173	P	P	16 07 26.1	+0.8	

PET01	Itanhaem-SP	42.23	139	eP	P	16 07 24.9	-1.5	
RCBR	Riachuelo	42.35	107	LR	LR	16 26 33.0		
	comp=Z,468nm,18.6s,baz=86,slow=38							
RCBR	Riachuelo	42.35	107	P	P	16 07 26.1	-1.5	
RCBR				IAmb	IAmb	16 07 27.6		
	comp=Z,20nm,1.0s							
RCBR	Riachuelo	42.35	107	eP	P	16 07 26.7	-0.8	
PV07	Paradox Valley	42.63	322	P	P	16 07 30.8	+1.1	
PV07				IAmb	IAmb	16 07 39.5		
	comp=Z,40nm,1.9s							
CMC01	Camacan, BA	42.81	122	eP	P	16 07 30.1	-1.1	
NBAN	Anadia - AL	43.27	112	eP	P	16 07 34.0	-1.0	
B35A	Bob, Littlefor	43.57	343	P	P	16 07 36.0	-0.9	
B35A				IAmb	IAmb	16 07 45.9		
	comp=Z,17nm,0.9s							
NBRF	Rio Formoso -	43.98	110	eP	P	16 07 39.9	-0.8	
RIB01	Linhares ES	44.13	127	eP	P	16 07 42.0	+0.3	
PFO	Pinyon Flats O	45.43	311	LR	LR	16 29 34.2		
	comp=Z,62nm,18.3s,baz=113,slow=39							
ULM	Lac du Bonnet	45.89	343	P	P	16 07 55.6	+0.2	
	comp=Z,5.0nm,0.7s,baz=175,slow=7.7,SNR=5.2							
	comp=Z,5.0nm,0.7s							
ULM	Lac du Bonnet	45.89	343	P	P	16 07 55.6	+0.2	
ULM				IAmb	IAmb	16 08 02.2		
	comp=Z,8.5nm,0.8s							
PDAR	Pinedale Array	45.93	326	P	P	16 07 58.2	+2.1	
	comp=Z,0.7nm,0.7s,baz=110,slow=8.7,SNR=8.0							
PDAR				PcP	PcP	16 09 31.2	-1.8	
	comp=Z,1.1nm,0.8s,baz=146,slow=5.3,SNR=3.6							
PDAR				LR	LR	16 30 52.7		
	comp=Z,65nm,18.2s,baz=118,slow=41							
	comp=Z,0.7nm,0.7s							
PDAR	Pinedale Array	45.93	326	P	P	16 07 55.5	-0.6	
TCUT	Toone Canyon	45.96	323	P	P	16 07 56.2	-0.2	
TCUT				IAmb	IAmb	16 08 06.2		
	comp=Z,16nm,1.0s							
REDW	Red Top Meadow	47.03	326	P	P	16 08 05.6	+0.8	
REDW				IAmb	IAmb	16 08 14.4		
	comp=Z,16nm,1.1s							
LOHW	Long Hollow	47.06	326	P	P	16 08 05.3	+0.4	
LOHW				IAmb	IAmb	16 08 14.6		
	comp=Z,12nm,1.4s							
R11A	Troy Canyon, C	47.07	317	P	P	16 08 06.6	+1.5	
TPAW	Teton Pass	47.17	326	P	P	16 08 04.9	-1.0	
TPAW				IAmb	IAmb	16 08 24.2		
	comp=Z,6.1nm,0.9s							
FXWY	Fox Creek	47.31	326	P	P	16 08 06.5	-0.4	
IMW	Indian Meadow	47.43	326	P	P	16 08 06.4	-1.5	
YHH	Holmes Hill	47.95	327	P	P	16 08 13.8	+1.8	
GCMT	Greycliff	48.00	329	P	P	16 08 12.1	-0.1	
PLCA	Paso Flores	48.02	174	P	P	16 08 12.1	-0.2	
	comp=Z,5.5nm,1.1s,baz=348,slow=7.8,SNR=5.5							
	comp=Z,5.5nm,1.1s							
PLCA	Paso Flores	48.02	174	eP	P	16 08 13.6	+1.4	
LL04	Puerto Octay	48.04	176	P	P	16 08 15.0	+2.7	
SCHQ	Schefferville	48.07	7	P	P	16 08 13.3	+0.9	
	comp=Z,4.0nm,0.5s,baz=206,slow=7.3,SNR=8.4							
SCHQ				LR	LR	16 28 47.0		
	comp=Z,91nm,20.9s,baz=179,slow=36							
	comp=Z,4.0nm,0.5s							
ELK	Elko	48.11	320	LR	LR	16 31 12.9		
	comp=Z,48nm,20.2s,baz=146,slow=39							
YHL	Hebgen Lake	48.18	327	P	P	16 08 14.8	+1.1	
YHL				IAmb	IAmb	16 08 27.3		
	comp=Z,18nm,1.4s							
DSP	Deep Springs	48.23	315	P	P	16 08 15.7	+1.8	
QLMT	Earthquake Lak	48.30	327	P	P	16 08 15.8	+1.2	
NVAR	Mina Array Bea	48.97	316	P	P	16 08 22.0	+2.2	
	comp=Z,0.3nm,0.5s,baz=138,slow=5.3,SNR=5.6							
NVAR				LR	LR	16 32 08.8		
	comp=Z,98nm,19.7s,baz=129,slow=40							
	comp=Z,0.3nm,0.5s							
NVAR	Mina Array Bea	48.97	316	P	P	16 08 21.2	+1.3	
HLID	Hailey	49.20	324	P	P	16 08 22.8	+1.3	
LL02	Futaleuf	50.34	176	P	P	16 08 30.4	+0.5	
LL02				IAmb	IAmb	16 08 39.4		
	comp=Z,20nm,1.1s							
AY01	Puyuhuapi	51.52	177	P	P	16 08 43.1	+4.5	
AY01				IAmb	IAmb	16 08 49.0		
	comp=Z,14nm,0.9s							
YBH	Yreka Blue Hor	53.49	318	LR	LR	16 34 55.8		
	comp=Z,86nm,21.1s,baz=150,slow=40							
FRB	Frobisher Bay	56.69	4	LR	LR	16 33 18.6		
	comp=Z,58nm,21.8s,baz=203,slow=36							
YKA	Yellowknife Ar	61.82	341	P	P	16 09 53.8	+2.1	
	comp=Z,3.3nm,0.6s,baz=128,slow=7.0,SNR=6.7							
	comp=Z,3.3nm,0.6s							
SFJD	Kangerlussuaq	62.20	11	LR	LR	16 35 34.4		
	comp=Z,113nm,21.5s,baz=215,slow=35							
DLBC	Dease Lake	65.47	332	P	P	16 10 17.1	+1.1	
DLBC				IAmb	IAmb	16 10 35.1		
	comp=Z,7.1nm,1.1s							
RES	Resolute Bay	68.26	355	LR	LR	16 41 09.3		
	comp=Z,100nm,20.9s,baz=146,slow=36							
BORG	Borgarnes	69.07	22	LR	LR	16 37 47.5		
	comp=Z,81nm,21.8s,baz=208,slow=33							
M31M	Drury Creek, Y	69.12	335	P	P	16 10 40.5	+1.5	
M31M				IAmb	IAmb	16 10 46.6		
	comp=Z,5.4nm,1.1s							
MTE	Manteigas	69.19	50	P	P	16 10 37.9	-2.0	
M30M	Minto, Yukon	70.30	335	P	P	16 10 46.2	0.0	
M30M				IAmb	IAmb	16 10 53.6		
	comp=Z,9.7nm,1.1s							
TIC	Toumodi	70.70	85⇑	eP	P	16 10 49.3	-0.3	
	comp=Z,20nm,0.8s							
LIC	Lamto	70.73	86⇑	eP	P	16 10 49.3	-0.4	
	comp=Z,82nm,0.9s							
DBIC	Dimbokro	70.86	85	P	P	16 10 50.4	-0.1	
	comp=Z,22nm,0.8s,baz=290,slow=6.2,SNR=16							
DBIC				LR	LR	16 39 27.7		
	comp=Z,64nm,19.8s,baz=306,slow=34							
	comp=Z,22nm,0.8s							
DBIC	Dimbokro	70.86	85	P	P	16 10 50.4	-0.1	
KIC	Kosan Boka	71.00	86⇑	eP	P	16 10 51.1	-0.3	
	comp=Z,29nm,0.8s							
KOWA	Kowa	71.13	77	LR	LR	16 42 28.1		
	comp=Z,58nm,19.6s,baz=244,slow=36							
KOWA	Kowa	71.13	77	P	P	16 10 52.9	+0.7	
ESDC	Sonseca Array	71.83	51	P	P	16 10 56.8	+0.7	
	comp=Z,5.7nm,0.9s,baz=270,slow=6.5,SNR=21							
	comp=Z,5.7nm,0.9s							
ESDC	Sonseca Array	71.83	51	P	P	16 10 56.6	+0.6	
ESDC				IAmb	IAmb	16 10 58.1		
	comp=Z,5.9nm,1.1s							
PMSA	Palmer Station	72.39	175	P	P	16 11 02.9	+4.2	
BCAR	Beaver Creek A	72.61	334	P	P	16 11 00.8	+0.5	
L27K	Beaver Creek,	72.63	334	P	P	16 11 00.4	+0.1	
L27K				IAmb	IAmb	16 11 08.0		
	comp=Z,6.7nm,1.1s							
J26L	Joseph Creek	73.81	335	P	P	16 11 07.8	+0.5	
J25K	Salcha River,	74.59	335	P	P	16 11 12.0	+0.1	
BMAR	Burnt Mountain	75.10	338	P	P	16 11 14.3	-0.4	
ILAR	Eielson Array	75.27	335	P	P	16 11 15.4	-0.2	
	comp=Z,0.6nm,0.7s,baz=108,slow=4.0,SNR=4.7							
	comp=Z,0.6nm,0.7s							
RND	Reindeer	75.78	334	P	P	16 11 19.6	+0.8	
RND				IAmb	IAmb	16 11 30.6		
	comp=Z,8.9nm,0.8s							
TOA0	Torodi Ar. Sit	76.75	78	P	P	16 11 24.6	-0.5	
TOA0				IAmb	IAmb	16 11 25.6		
	comp=Z,16nm,1.5s							
TORD	Torodi Ar. Bea	76.75	78	P	P	16 11 25.0	-0.1	
	comp=Z,2.5nm,0.7s,baz=284,slow=5.4,SNR=16							
	comp=Z,2.5nm,0.7s							
BPAW	Bear Paw Mtn.	76.85	334	P	P	16 11 24.5	-0.2	
BPAW				IAmb	IAmb	16 11 36.0		
	comp=Z,9.7nm,1.1s							
MLY	Manley	76.92	335	P	P	16 11 25.3	+0.2	
MLY				IAmb	IAmb	16 11 46.3		
	comp=Z,15nm,1.7s							
J20K	Nowinta River	78.23	334	P	P	16 11 32.0	-0.4	
J20K				IAmb	IAmb	16 11 39.0		
	comp=Z,13nm,1.2s							
IMAR	Indian Mountai	78.33	336	P	P	16 11 32.0	-0.8	
NC204	NORSAR Array S	82.30	29	P	P	16 11 55.1	+0.7	
NB2	NORSAR Subarra	82.52	29	P	P	16 11 56.3	+0.7	
	comp=Z,11nm,1.7s,baz=269,slow=5.6							
NOA	NORSAR Array B	82.52	29	P	P	16 11 56.5	+0.9	
	comp=Z,1.3nm,0.7s,baz=274,slow=5.3,SNR=12							
	comp=Z,1.3nm,0.7s							
SPITS	Spitsbergen Ar	83.52	12	LR	LR	16 48 56.4		
	comp=Z,54nm,21.4s,baz=264,slow=35							
KHC	Kasperske Hory	84.51	41	eP	P	16 12 07.4	+1.3	
GERES	GERESS Array B	84.62	42	P	P	16 12 06.9	+0.2	
	comp=Z,2.1nm,0.8s,baz=259,slow=3.5,SNR=12							
	comp=Z,2.1nm,0.8s							

GERES	GERESS Array B	84.62	42	P	P	16 12 06.4	-0.3	
CKRC	Cesky Krumlov	85.02	42	eP	P	16 12 09.4	+0.8	
DPC	Dobruska-Polom	86.17	40	eP	P	16 12 15.6	+1.3	
VRAC	Vranov	86.46	41	LR	LR	16 48 05.6		
	comp=Z,31nm,21.1s,baz=300,slow=34							
KRLC	Kraliky	86.49	40	eP	P	16 12 17.6	+1.7	
RAR	Rarotonga	86.54	248	LR	LR	16 43 25.2		
	comp=Z,78nm,18.2s,baz=127,slow=30							
ARCES	ARCESS Array B	87.39	20	P	P	16 12 19.5	-0.3	
	comp=Z,2.6nm,0.7s,baz=294,slow=3.9,SNR=17							
	comp=Z,2.6nm,0.7s							
VYHS	Vyhne	88.04	42	eP	P	16 12 25.3	+1.9	
VNA3	Neumayer Olymp	89.49	163	P	P	16 12 29.7	0.0	
FINES	FINESS Array B	89.58	28	P	P	16 12 30.2	-0.1	
	comp=Z,2.1nm,0.7s,baz=288,slow=0.4,SNR=7.7							
FINES				LR	LR	16 46 40.9		
	comp=Z,34nm,20.9s,baz=310,slow=32							
	comp=Z,2.1nm,0.7s							
VNA1	Neumayer--Stat	89.67	162	P	P	16 12 31.0	+0.5	
TROLL	Troll, Antarti	93.39	162	P	P	16 12 48.2	+0.3	
AKASG	Malin Array Be	94.15	38	LR	LR	16 53 30.6		
	comp=Z,32nm,18.4s,baz=320,slow=34							
ZALV	Zalesovo Beam	117.00	12	PKP	PKPdf	16 18 18.3	+0.5	
	comp=Z,0.2nm,0.3s,baz=312,slow=6.7,SNR=1.6							
MKAR	Makanchi Array	122.94	17	PKP	PKPdf	16 18 29.2	-0.3	
	comp=Z,0.7nm,0.7s,baz=350,slow=3.2,SNR=8.0							
HYBB	Hyderabad (bro	145.11	45	ePKPdf	PKPbc	16 19 10.7	-0.3	
PZH	PanZhiHua	146.41	3	PKPbc	PKPdf	16 19 13.4	-0.3	
ASAR	Alice Springs	146.72	237	PKPbc	PKPdf	16 19 15.2	+1.1	
	comp=Z,3.6nm,0.7s,baz=109,slow=3.4,SNR=5.3							
WRA	Warramunga Arr	147.72	244	PKPbc	PKPdf	16 19 16.5	+0.7	
	comp=Z,3.4nm,1.0s,baz=116,slow=3.0,SNR=4.5							
DAV	Davao City (W)	153.96	303	PKPbc	PKPbc	16 19 34.2	+0.6	
	comp=Z,138nm,0.4s,baz=90,slow=7.1,SNR=3.2							
CMAR	Chiang Mai Arr	154.05	10	PKPbc	PKPbc	16 19 33.5	-0.2	
	comp=Z,2.3nm,0.7s,baz=330,slow=2.7,SNR=13							

HVO ***14*** *16:04:42.2±1.1, 19°.43N±0°.01×155°.62W±0°.01, h3km±6km, ML2.9/19, ML2.6/38(NEIC), Error ellipse: s-maj=2.0km s-min=1.3km az=215.0*

NEIC 14 16:04:42.7±0.8, 19°.42N±0°.01×155°.600W±0°.007, h6km±1km, Error ellipse: s-maj=2.2km s-min=0.8km az=192.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWH	Moku'aweowe	0.06	3	Pg	Pg	16 04 44.2	-0.6
MLOA	Mauna Loa Obse	0.12	11		Pg	16 04 45.2	-0.1
MLOA					Sg	16 04 47.0	-0.3
MLOA				IAML		16 04 48.0	
	comp=E,3μm,0.7s						
MLOA				IAML		16 04 48.0	
	comp=N,2μm,0.2s						
ALEP	Alea Permanent	0.12	341		Pg	16 04 45.4	-0.1
ALEP					Sg	16 04 47.8	+0.3
AIN	Ainahou	0.14	111	Pg	Pg	16 04 46.0	+0.3
AIN				IAML		16 04 50.9	
	comp=E,2μm,0.3s						
KHU	Kahuku	0.18	185	Pg	Pg	16 04 46.2	-0.1
HMH	Humu'ula Sheep	0.21	32	Pg	Pg	16 04 46.5	-0.4
HMH				Sg	Sg	16 04 50.3	+0.4
MLH	Mauna Loa	0.21	71	Pg	Pg	16 04 47.3	+0.3
MLH				Sg	Sg	16 04 51.4	+1.4
MLH				IAML		16 04 51.8	
	comp=E,1μm,0.4s						
MLH				IAML		16 04 52.1	
	comp=N,1μm,0.3s						
HTC	Hot Caves	0.27	134		Pg	16 04 47.9	0.0
WRMHI	West Rim	0.28	93	Pg	Pg	16 04 48.1	-0.2
UWE	Uwekahuna	0.29	90	Pg	Pg	16 04 48.1	-0.3
SDHHI	Sand Hill	0.29	96	Pg	Pg	16 04 48.1	-0.3
SDHHI				IAML		16 04 54.5	
	comp=E,1μm,1.0s						
HLP	Hilina Pali	0.30	115		Pg	16 04 48.9	+0.2
HLP				IAML		16 04 56.1	
	comp=N,855nm,0.6s						
UWB	Uwekahuna B	0.30	90	Pg	Pg	16 04 48.4	-0.3
CPH	Captain Cook	0.31	282		Pg	16 04 49.2	+0.5
RSD	Rainshed	0.

WRA	**Warramunga Arr**	**21.76**	**229**	P	**P**	**16 11 26.6**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=54,slow=10,SNR=35						
WRA				PcP	**PcP**	**16 15 28.0**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=36,slow=1.9,SNR=3.0						
WRA				LR	LR	16 19 57.4	
	comp=Z,79nm,20.0s,baz=84,slow=37						
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**21.76**	**229**	P	**P**	**16 11 25.8**	**-1.3**
KNRA	**Kununurra**	**24.38**	**245**	P	**P**	**16 11 52.7**	**-0.8**
AS31	**Alice Springs**	**24.46**	**222**	P	**P**	**16 11 56.8**	**+2.6**
ASAR	**Alice Springs**	**24.46**	**222**	P	**P**	**16 11 53.6**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=57,slow=8.9,SNR=25						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**24.46**	**222**	P	**P**	**16 11 55.3**	**+1.0**
STKA	**Stephens Creek**	**27.39**	**199**	P	**P**	**16 12 18.9**	**-1.6**
	comp=Z,2.8nm,1.0s,baz=343,slow=16,SNR=2.2						
	comp=Z,2.6nm,1.0s						
STKA	**Stephens Creek**	**27.39**	**199**	P	**P**	**16 12 18.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**28.04**	**242**	P	**P**	**16 12 24.9**	**-1.7**
	comp=Z,2.3nm,0.6s,baz=62,slow=8.5,SNR=17						
	comp=Z,2.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.04**	**242**	P	**P**	**16 12 25.2**	**-1.4**
JCJ	**Chichijima**	**34.15**	**345**	LR	LR	16 25 50.6	
	comp=Z,87nm,21.2s,baz=180,slow=34						
PSA00	**Pilbara Seismi**	**34.39**	**240**	P	**P**	**16 13 21.4**	**-1.1**
RPZ	**Rata Peaks**	**41.27**	**159**	LR	LR	16 30 40.7	
	comp=Z,136nm,19.1s,baz=278,slow=35						
SONM	**Songino Array**	**66.72**	**329**	P	**P**	**16 17 24.0**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=130,slow=5.8,SNR=4.9						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**80.45**	**319**	P	**P**	**16 18 46.8**	**0.0**
	comp=Z,0.5nm,0.9s,baz=94,slow=5.8,SNR=3.6						
	comp=Z,0.5nm,0.9s						
MLY	**Manley**	**82.43**	**21**	P	**P**	**16 18 55.6**	**-1.2**
MLY				IAmb	IAmb	16 19 05.1	
	comp=Z,0.8nm,0.8s						
J25K	**Salcha River,**	**84.22**	**23**	P	**P**	**16 19 04.9**	**-1.2**
J25K				IAmb	IAmb	16 19 16.8	
	comp=Z,3.0nm,1.2s						
M27K	**Edge Creek, AK**	**84.67**	**25**	P	**P**	**16 19 07.5**	**-1.0**
NVAR	**Mina Array Bea**	**93.76**	**52**	P	**P**	**16 19 54.0**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=255,slow=5.8,SNR=6.7						
	comp=Z,0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.52**	**286**	PKPbc	**PKPbc**	**16 26 24.0**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=80,slow=2.6,SNR=61						

WEL ***14*** *16:09:00,37.˚13S×179.˚04E,h15km,ML5.0,Mw5.0, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁶ Nm; Mrr=0.43; Mθθ 0.10; Mϕϕ 0.33; Mrθ 1.21; Mθϕ -0.13; Mϕr 3.40; Fault plane solution: M₀ 3.63000×10¹⁶ NP1: ϕs 332.00000°, δ 4.00000°, λ -137.00000°. NP2: ϕs 199.00000°, δ 87.00000°, λ -87.00000°. Principal axes: T -3729.7000, Plg 42.0000°, Azm 286.0000°; N 202.5400, Plg 3.0000°, Azm 18.0000°; P 3527.1600, Plg 48.0000°, Azm 112.0000°;*

NOU ***14*** *16:09:21.8,37.˚35S×179.˚76E,h0km,mb5.1/39,Off E. Coast of N. Island, N.Z.*

NEIC ***14*** *16:09:27.1±2.5,37.˚33S±0.˚07×179.˚16E±0.˚04,h10km±1km, mb5.2/32,Mwr4.7/12,Error ellipse: s-maj=12.7km s-min=6.2km az=180.0*

NEIC ***14*** *16:09:28.7,37.˚39S×179.˚14E,h29km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶ Nm; Mrr=0.31; Mθθ 0.00; Mϕϕ 0.31; Mrθ -0.20; Mθϕ 1.19; Mϕr 0.68; Fault plane solution: M₀ 1.42000×10¹⁶ NP1: ϕs 179.97000°, δ 78.75000°, λ -148.17000°. NP2: ϕs 83.06000°, δ 58.85000°, λ -13.17000°. Principal axes: T 1.4393, Plg 13.0000°, Azm 308.0000°; N -0.0470, Plg 56.0000°, Azm 197.0000°; P -1.3923, Plg 30.0000°, Azm 46.0000°;*

BJI ***14*** *16:09:30.0±0.0,37.˚30S×179.˚20E,h30km,mb5.2/8, mB5.4/1,Ms4.8/1,Ms7 4.5/1*

WEL ***14*** *16:09:31.2±0.7,37.˚3S×17.˚9E±.˚,h20km,M4.9/52, ML5.1/52,MLv4.9/52,Error ellipse: s-maj=0.0km s-min=0.0km az=84.9*

GCMT ***14*** *16:09:34.1±0.4,37.˚32S±0.˚03×178.˚96E±0.˚04,h39km±2km, MW4.9/54,Moment Tensor Solution. s31,c40; s54,c70; Duration: 0 Moment tensor: Scale 10¹⁶ Nm; Mrr 1.47±.18; Mθθ -1.00±.14; Mϕϕ -0.46±.12; Mrθ 1.10±.14; Mθϕ -1.00±.07; Mϕr 1.66±.15; Best double couple: M₀ 2.57600×10¹⁶ NP1: ϕs 37.00000°, δ 71.00000°, λ 78.00000°. NP2: ϕs 251.00000°, δ 22.00000°, λ 121.00000°. Principal axes: T 2.4930, Plg 62.0000°, Azm 289.0000°; N 0.1680, Plg 11.0000°, Azm 41.0000°; P -2.6580, Plg 25.0000°, Azm 137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***14*** *16:09:37.0±1.3,37.˚31S×178.˚77E,h77km±10km,mb4.3/13, mbtmp4.6/15,MS4.1/34 Error ellipse: s-maj=17.0km s-min=10.7km az=165.0*

ISC 14 16:09:32.6±1.0,37.˚22S±0.˚05×178.˚95E±0.˚06,h45km±7km, n323,σt¹s45/323,mb5.2/42,MS4.2/37,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.61**	**236**		**Pn**	**16 09 42.5**	**-2.6**
MXZ	**Matakaoa Point**	**0.61**	**236**	P	**Pn**	**16 09 42.5**	**-2.6**
MXZ				S	**Sn**	**16 09 52.5**	**-1.6**
WMGZ	**Waiomatatini S**	**0.73**	**215**	P	**Pn**	**16 09 46.7**	**+0.1**
WMGZ				S	**Sn**	**16 09 59.1**	**+2.4**
PKGZ	**Pakihiroa**	**0.96**	**226**	P	**Pn**	**16 09 48.9**	**-0.9**
PKGZ				S	**Sn**	**16 10 04.0**	**+1.6**
PUZ	**Puketiti**	**1.01**	**213**	P	**Pn**	**16 09 50.5**	**+0.1**
PUZ				S	**Sn**	**16 10 05.4**	**+1.9**
HAZ	**Te Kaha**	**1.07**	**240**	P	**Pn**	**16 09 49.3**	**-1.9**
HAZ				S	**Sn**	**16 10 07.0**	**+2.1**
TWGZ	**Tauwhareparae**	**1.22**	**219**	P	**Pn**	**16 09 53.6**	**+0.3**
TWGZ				S	**Sn**	**16 10 12.4**	**+3.7**
RUGZ	**Raukumara Rang**	**1.25**	**233**	P	**Pn**	**16 09 53.5**	**-0.3**
RUGZ				S	**Sn**	**16 10 12.6**	**+3.0**
CNGZ	**Carnagh Statio**	**1.39**	**205**	P	**Pn**	**16 09 56.2**	**+0.6**
WIZ	**White Island**	**1.44**	**257**	P	**Pn**	**16 09 54.3**	**-1.9**
WSRZ	**White Island S**	**1.44**	**258**	P	**Pn**	**16 09 55.7**	**-0.7**
TKGZ	**Te Karaka**	**1.50**	**215**	P	**Pn**	**16 09 56.8**	**-0.2**
MWZ	**Matawai**	**1.58**	**225**	P	**Pn**	**16 09 58.2**	**-0.1**
WHRZ	**Whale Island**	**1.69**	**248**	P	**Pn**	**16 09 59.9**	**+0.1**
RIGZ	**Rimuhau**	**1.75**	**212**	P	**Pn**	**16 10 00.2**	**-0.4**
RAGZ	**Rawiri**	**1.76**	**223**	P	**Pn**	**16 10 01.1**	**+0.4**
URZ	**Urewera**	**1.79**	**234**	P	**Pn**	**16 10 01.6**	**+0.6**
	2μm,0.3s,baz=114,slow=1.5,SNR=5533						
URZ				S	**Sn**	**16 10 24.3**	**+1.8**
	12μm,0.8s,baz=239,slow=22,SNR=14						
URZ				LR	LR	16 11 00.5	
	comp=Z,6μm,19.6s,baz=96,slow=52						
URZ	**Urewera**	**1.79**	**234**	Pn	**Pn**	**16 10 01.3**	**+0.3**
URZ	**Urewera**	**1.79**	**234**	P	**Pn**	**16 10 01.3**	**+0.3**
URZ				S	**Sn**	**16 10 24.2**	**+1.7**
URZ	**Urewera**	**1.79**	**234**	P	**Pn**	**16 10 01.9**	**+0.9**
PRGZ	**Paritu Road**	**1.89**	**206**	P	**Pn**	**16 10 02.0**	**-0.5**
MARZ	**Manawahe**	**1.96**	**246**	P	**Pn**	**16 10 03.4**	**0.0**
EDRZ	**Edgecumbe**	**1.96**	**243**	P	**Pn**	**16 10 03.8**	**+0.3**
OPRZ	**Ohinepanea**	**2.00**	**251**	P	**Pn**	**16 10 03.1**	**-0.9**
SNGZ	**Shannon Statio**	**2.01**	**219**	P	**Pn**	**16 10 03.8**	**-0.4**
KNZ	**Kokohu**	**2.06**	**209**	P	**Pn**	**16 10 03.6**	**-1.2**
KNZ				S	**Sn**	**16 10 29.6**	**+0.4**
MHGZ	**Mahia Peninsul**	**2.09**	**203**	P	**Pn**	**16 10 04.6**	**-0.6**
MUGZ	**Murupara**	**2.13**	**233**	P	**Pn**	**16 10 05.7**	**0.0**
MYRZ	**Mayor Island**	**2.16**	**268**	P	**Pn**	**16 10 04.7**	**-1.5**
MKRZ	**Makatiti**	**2.17**	**244**	P	**Pn**	**16 10 07.1**	**+0.7**
LIRZ	**Lichensteins R**	**2.18**	**248**	P	**Pn**	**16 10 07.2**	**+0.7**
TARZ	**Mount Tarawera**	**2.19**	**242**	P	**Pn**	**16 10 07.0**	**+0.4**
TGRZ	**Tauranga**	**2.20**	**256**	P	**Pn**	**16 10 06.5**	**-0.2**
OMRZ	**Omania**	**2.23**	**246**	P	**Pn**	**16 10 07.3**	**+0.2**
RRRZ	**Republican Roa**	**2.23**	**239**	P	**Pn**	**16 10 07.5**	**+0.4**
RAHZ	**Arahi**	**2.24**	**220**	P	**Pn**	**16 10 07.2**	**-0.1**
KARZ	**Kaharoa**	**2.29**	**249**	P	**Pn**	**16 10 08.0**	**0.0**
WHHZ	**Waihua**	**2.29**	**216**	P	**Pn**	**16 10 07.6**	**-0.4**
HLRZ	**Highlands Stat**	**2.30**	**243**	P	**Pn**	**16 10 08.7**	**+0.5**
MTHZ	**Maungataniwha**	**2.33**	**225**	P	**Pn**	**16 10 08.7**	**+0.2**
NGRZ	**Ngongotaha**	**2.36**	**247**	P	**Pn**	**16 10 09.6**	**+0.7**
UTU	**Utuhina**	**2.38**	**246**	P	**Pn**	**16 10 10.7**	**+1.4**
PRRZ	**Plateau Road**	**2.39**	**237**	P	**Pn**	**16 10 09.3**	**0.0**
HSRZ	**Hossack Road**	**2.40**	**242**	P	**Pn**	**16 10 10.6**	**+1.1**
HRRZ	**Handcock Road**	**2.41**	**240**	P	**Pn**	**16 10 10.1**	**+0.5**
ALRZ	**Allen Road**	**2.46**	**236**	P	**Pn**	**16 10 10.2**	**0.0**
KMRZ	**Kaimai**	**2.47**	**255**	P	**Pn**	**16 10 10.2**	**-0.2**
GRRZ	**Galatos Road**	**2.52**	**243**	P	**Pn**	**16 10 11.8**	**+0.7**
NMHZ	**Naumai**	**2.52**	**221**	P	**Pn**	**16 10 11.3**	**+0.1**
ARHZ	**Aropaoanui**	**2.55**	**216**	P	**Pn**	**16 10 11.1**	**-0.5**
ARHZ				S	**Sn**	**16 10 42.2**	**+0.8**
WPRZ	**Whakapapataran**	**2.56**	**239**	P	**Pn**	**16 10 12.3**	**+0.7**
MRHZ	**Matea Rd**	**2.57**	**230**	P	**Pn**	**16 10 11.6**	**-0.2**
MRHZ				S	**Sn**	**16 10 42.3**	**+0.5**
KUZ	**Kuaotunu**	**2.63**	**279**	P	**Pn**	**16 10 10.2**	**-2.3**
KUZ				S	**Sn**	**16 10 38.5**	**-4.8**
BKZ	**Black Stump Fm**	**2.74**	**224**		**Pn**	**16 10 13.8**	**-0.4**
BKZ	**Black Stump Fm**	**2.74**	**224**	P	**Pn**	**16 10 14.0**	**-0.2**
BKZ				S	**Sn**	**16 10 46.7**	**+0.7**
BKZ	**Black Stump Fm**	**2.74**	**224**	P	**Pn**	**16 10 14.2**	**0.0**
WHTZ	**Whakaora**	**2.77**	**238**	P	**Pn**	**16 10 15.7**	**+1.1**
KUTZ	**Kaahu Road**	**2.78**	**242**	P	**Pn**	**16 10 15.2**	**+0.6**
TOZ	**Tahuroa Road**	**2.79**	**258**	P	**Pn**	**16 10 13.5**	**-1.2**
HATZ	**Hinemaiaia**	**2.80**	**233**	P	**Pn**	**16 10 15.4**	**+0.4**
MCHZ	**McNeill Hill**	**2.84**	**218**	P	**Pn**	**16 10 14.7**	**-0.7**
CKHZ	**Cape Kidnapper**	**2.84**	**211**	P	**Pn**	**16 10 14.1**	**-1.3**
CKHZ				S	**Sn**	**16 10 47.3**	**-1.2**
TLZ	**Tolley Road**	**2.92**	**247**	P	**Pn**	**16 10 16.7**	**+0.1**
WATZ	**Wairara**	**2.94**	**239**	P	**Pn**	**16 10 17.7**	**+0.8**
KWHZ	**Kaweka Forest**	**2.96**	**221**	P	**Pn**	**16 10 16.3**	**-0.9**
KWHZ				S	**Sn**	**16 10 51.6**	**0.0**
GRZ	**Great Barrier**	**2.97**	**288**	P	**Pn**	**16 10 15.6**	**-1.6**
RATZ	**Rangitukua**	**3.00**	**236**	P	**Pn**	**16 10 18.2**	**+0.6**
RITZ	**Rihia Road**	**3.00**	**233**	P	**Pn**	**16 10 18.1**	**+0.4**
MKAZ	**Moumakai**	**3.03**	**271**	P	**Pn**	**16 10 16.4**	**-1.7**
KAHZ	**Kahuranaki**	**3.04**	**212**	P	**Pn**	**16 10 16.5**	**-1.7**
KAHZ				S	**Sn**	**16 10 52.9**	**-0.5**
WIAZ	**Waiheke Island**	**3.08**	**277**	P	**Pn**	**16 10 17.3**	**-1.5**
KATZ	**Kakaramea**	**3.11**	**235**	P	**Pn**	**16 10 19.7**	**+0.4**
KRHZ	**Kereru**	**3.15**	**219**	P	**Pn**	**16 10 18.3**	**-1.5**
KRHZ				S	**Sn**	**16 10 54.5**	**-1.6**
TMVZ	**Te Maari**	**3.18**	**233**	P	**Pn**	**16 10 19.9**	**-0.3**
ETVZ	**East Tongariro**	**3.19**	**232**	P	**Pn**	**16 10 20.0**	**-0.4**
NTVZ	**North Tongarir**	**3.19**	**233**	P	**Pn**	**16 10 20.2**	**-0.1**
BHHZ	**Black Hill Sta**	**3.20**	**224**	P	**Pn**	**16 10 19.8**	**-0.8**
KRVZ	**Karewarewa**	**3.21**	**233**	P	**Pn**	**16 10 20.8**	**+0.2**
ETAZ	**East Tamaki Re**	**3.23**	**274**	P	**Pn**	**16 10 19.5**	**-1.3**
OTVZ	**Oturere**	**3.23**	**232**	P	**Pn**	**16 10 20.9**	**-0.1**
PXZ	**Pawanui**	**3.25**	**210**	P	**Pn**	**16 10 18.7**	**-2.3**
NNVZ	**North Ngauruho**	**3.25**	**233**	P	**Pn**	**16 10 21.3**	**+0.1**
WTVZ	**West Tongariro**	**3.25**	**233**	P	**Pn**	**16 10 21.3**	**0.0**
SNVZ	**South Ngauruho**	**3.26**	**232**	P	**Pn**	**16 10 21.1**	**-0.3**
MBAZ	**Motutapu North**	**3.28**	**277**	P	**Pn**	**16 10 20.2**	**-1.2**
NGZ	**Ngauruhoe**	**3.28**	**233**	P	**Pn**	**16 10 21.4**	**-0.3**
TUVZ	**Tukino**	**3.30**	**231**	P	**Pn**	**16 10 21.9**	**-0.1**
TWVZ	**Taurewa**	**3.33**	**235**	P	**Pn**	**16 10 22.9**	**+0.6**
MOVZ	**Moawhango**	**3.33**	**228**	P	**Pn**	**16 10 21.6**	**-0.7**
WHVZ	**Whangaehu Hut**	**3.35**	**231**	P	**Pn**	**16 10 22.3**	**-0.4**
FWVZ	**Far West T-bar**	**3.36**	**232**	P	**Pn**	**16 10 22.8**	**0.0**
ABAZ	**Army Bay**	**3.36**	**279**	P	**Pn**	**16 10 21.6**	**-1.0**
WNVZ	**Wahianoa**	**3.37**	**230**	P	**Pn**	**16 10 22.8**	**-0.2**
EPAZ	**Eden Park BICE**	**3.38**	**275**	P	**Pn**	**16 10 22.5**	**-0.4**
TRVZ	**Turoa**	**3.39**	**231**	P	**Pn**	**16 10 23.4**	**+0.2**
HBAZ	**Herne Bay Bore**	**3.40**	**275**	P	**Pn**	**16 10 22.7**	**-0.4**
PNHZ	**Pukenui**	**3.44**	**218**	P	**Pn**	**16 10 21.9**	**-1.9**
AWAZ	**Awhitu Peninsu**	**3.44**	**271**	P	**Pn**	**16 10 22.9**	**-0.9**
WPHZ	**Waipukurau**	**3.45**	**214**	P	**Pn**	**16 10 22.0**	**-1.9**
MTVZ	**Mangateitei**	**3.48**	**231**	P	**Pn**	**16 10 23.8**	**-0.6**
HIZ	**Hauiti**	**3.49**	**247**		**Pn**	**16 10 24.9**	**+0.6**
HIZ	**Hauiti**	**3.49**	**247**	P	**Pn**	**16 10 25.1**	**+0.8**
HIZ	**Hauiti**	**3.49**	**247**	P	**Pn**	**16 10 25.7**	**+1.4**
WTAZ	**Waiatarua**	**3.51**	**273**	P	**Pn**	**16 10 24.0**	**-0.7**
RVAZ	**Riverhead Bore**	**3.53**	**276**	P	**Pn**	**16 10 24.0**	**-0.9**
WCZ	**Waipu Caves**	**3.92**	**288**	P	**Pn**	**16 10 29.3**	**-1.0**
WAZ	**Wanganui**	**4.01**	**230**	P	**Pn**	**16 10 31.1**	**-0.5**
POWZ	**Post Office Ro**	**4.02**	**217**	P	**Pn**	**16 10 29.4**	**-2.3**
BFZ	**Birch Farm**	**4.04**	**211**	Pn	**Pn**	**16 10 28.3**	**-3.7**
BFZ	**Birch Farm**	**4.04**	**211**	P	**Pn**	**16 10 29.0**	**-3.0**
PRWZ	**Pori Road**	**4.06**	**214**	P	**Pn**	**16 10 30.2**	**-1.9**
MHEZ	**Mangahewa**	**4.09**	**242**	P	**Pn**	**16 10 34.8**	**+2.2**
OHWZ	**Ohakea**	**4.12**	**223**	P	**Pn**	**16 10 32.4**	**-0.6**
LREZ	**Lake Rotokare**	**4.21**	**237**	P	**Pn**	**16 10 35.0**	**+0.6**
DREZ	**Durham Road**	**4.22**	**241**	P	**Pn**	**16 10 36.2**	**+1.7**
TIWZ	**Tintock**	**4.28**	**213**	P	**Pn**	**16 10 33.3**	**-1.9**
PREZ	**Palmer Road**	**4.32**	**239**	P	**Pn**	**16 10 37.4**	**+1.5**
NEZ	**North Egmont**	**4.33**	**240**	P	**Pn**	**16 10 37.6**	**+1.6**
PKE	**Pukeiti**	**4.38**	**242**	P	**Pn**	**16 10 38.5**	**+1.9**
KHEZ	**Kahui Hut**	**4.40**	**240**	P	**Pn**	**16 10 38.4**	**+1.5**
NBEZ	**Newall Road No**	**4.49**	**241**	P	**Pn**	**16 10 40.5**	**+2.4**
NMEZ	**Namu Road**	**4.55**	**240**	P	**Pn**	**16 10 40.8**	**+1.9**
OUZ	**Omahuta**	**4.77**	**293**	Pn	**Pn**	**16 10 41.3**	**-0.6**
OUZ	**Omahuta**	**4.77**	**293**	P	**Pn**	**16 10 41.4**	**-0.6**
OUZ	**Omahuta**	**4.77**	**293**	P	**Pn**	**16 10 41.7**	**-0.2**
MSWZ	**Moikau Station**	**5.08**	**213**		**Pn**	**16 10 41.5**	**-4.6**
PLWZ	**Palliser**	**5.20**	**212**	Pn	**Pn**	**16 10 43.0**	**-4.9**
SNZO	**South Karori**	**5.24**	**218**	P	**Pn**	**16 10 44.9**	**-3.5**
CMWZ	**Cape Campbell**	**5.82**	**218**	P	**Pn**	**16 10 55.7**	**-0.6**
QRZ	**Quartz Range**	**6.16**	**232**	P	**Pn**	**16 10 58.0**	**-3.0**
KHZ	**Kahutara**	**6.65**	**217**	P	**Pn**	**16 11 03.8**	**-3.9**
CTZ	**Chatham Island**	**7.33**	**154**	P	**Pn**	**16 11 16.6**	**-0.4**
MQZ	**McQueen's Vall**	**8.06**	**215**	Pn	**Pn**	**16 11 21.7**	**-5.3**
RPZ	**Rata Peaks**	**8.84**	**220**	P	**Pn**	**16 11 33.3**	**-4.5**
	9.2nm,0.3s,baz=107,slow=3.8,SNR=43						
RPZ				S	Sn	16 13 05.2	-11
	161nm,0.6s,baz=318,slow=21,SNR=16						
MSZ	**Milford Sound**	**11.17**	**225**	P	**Pn**	**16 12 08.7**	**-0.9**
MLZ	**Mavora Lakes**	**11.50**	**222**	P	**Pn**	**16 12 14.0**	**-0.2**
WHZ	**Wether Hill Ro**	**11.95**	**220**	Pn	**Pn**	**16 12 15.9**	**-4.3**
DZM	**Mont Dzumac**	**18.58**	**321**	eLR	LR	16 18 10.9	
	comp=Z,3μm,23.7s						
DZM	**Mont Dzumac**	**18.58**	**321**	P	**Pn**	**16 13 49.3**	**+2.7**
	14nm,1.2s,baz=126,slow=19,SNR=2.3						
DZM				LR	LR	16 19 48.4	
	comp=Z,2μm,20.2s,baz=138,slow=33						
MSVF	**Nonsavu**	**19.43**	**357**	P	**Pn**	**16 13 56.9**	**+0.1**
	9.1nm,0.9s,baz=129,slow=13,SNR=2.6						
MSVF				LR	LR	16 19 46.4	
	comp=Z,940nm,20.9s,baz=177,slow=31						
CNB	**Canberra Magne**	**23.89**	**266**	P	**P**	**16 14 41.5**	**-0.6**
	baz=24,SNR=6.2						
CNB	**Canberra Magne**	**23.89**	**266**	P	**P**	**16 14 44.2**	**+2.1**
CAN	**Canberra**	**24.18**	**265**	P	**P**	**16 14 45.4**	**+0.6**
CAN				IAmb	IAmb	16 14 48.2	
	comp=Z,52nm,1.4s						
RAR	**Rarotonga**	**24.40**	**55**	LR	LR	16 22 36.0	
	comp=Z,253nm,20.1s,baz=230,slow=32						
TAU	**Tasmania Unive**	**24.77**	**247**	P	**P**	**16 14 48.7**	**-1.3**
TAU				IAmb	IAmb	16 15 26.0	
	comp=Z,115nm,1.5s						
TAU	**Tasmania Unive**	**24.77**	**247**	P	**P**	**16 14 49.2**	**-0.8**
EIDS	**Eidsvold**	**26.48**	**289**	P	**P**	**16 15 06.2**	**+0.5**
	baz=26,SNR=3.3						
EIDS	**Eidsvold**	**26.48**	**289**	P	**P**	**16 15 04.6**	**-1.1**
TOO	**Toolangi**	**26.51**	**259**	P	**P**	**16 15 06.7**	**+0.9**
RMQ	**Roma**	**27.68**	**284**	P	**P**	**16 15 16.7**	**+0.3**
	baz=27,SNR=8.6						
CMSA	**Cobar Meteorol**	**27.94**	**272**	P	**P**	**16 15 18.7**	**0.0**
	baz=28,SNR=24						
CMSA	**Cobar Meteorol**	**27.94**	**272**	P	**P**	**16 15 19.4**	**+0.7**
TBI	**Tubuai**	**30.42**	**72**	eS	**S**	**16 20 36.9**	**-1.6**
	comp=Z,81nm,26.0s						
TBI				eLR	LR	16 23 30.7	
	comp=Z,659nm,26.8s						
TBI	**Tubuai**	**30.42**	**72**	eT	T	16 47 26.9	
	comp=Z,37nm,0.3s						
STKA	**Stephens Creek**	**31.09**	**269**	P	**P**	**16 15 47.0**	**+0.4**
	comp=Z,16nm,0.9s,baz=103,slow=9.3,SNR=22						
STKA				LR	LR	16 27 02.6	
	comp=Z,789nm,21.1s,baz=91,slow=34						
	comp=Z,16nm,0.9s						
STKA	**Stephens Creek**	**31.09**	**269**	P	**P**	**16 15 46.5**	**-0.1**
	baz=31,SNR=3.8						
STKA	**Stephens Creek**	**31.09**	**269**	P	**P**	**16 15 48.1**	**+1.5**
STKA	**Stephens Creek**	**31.09**	**269**	P	**P**	**16 15 47.2**	**+0.6**
HNR	**Honiara**	**32.57**	**323**	LR	LR	16 28 03.5	
	comp=Z,4μm,18.2s,baz=177,slow=34						
HTT	**Hallett**	**32.71**	**264**	P	**P**	**16 16 00.4**	**-0.5**
	baz=32,SNR=6.4						
HTT	**Hallett**	**32.71**	**264**	P	**P**	**16 16 01.9**	**+1.0**
CTA	**Charters Tower**	**33.17**	**292**	P	**P**	**16 16 05.9**	**+1.0**
	comp=Z,2.6nm,0.5s,baz=122,slow=9.4,SNR=8.7						
CTA				LR	LR	16 28 10.6	
	comp=Z,562nm,21.9s,baz=116,slow=34						
	comp=Z,2.6nm,0.5s						
CTA	**Charters Tower**	**33.17**	**292**	P	**P**	**16 16 06.2**	**+1.2**
CTAO	**Charters Tower**	**33.17**	**292**	P	**P**	**16 16 04.8**	**-0.1**
CTAO	**Charters Tower**	**33.17**	**292**	P	**P**	**16 16 06.2**	**+1.2**
INKA	**Innaminka**	**33.40**	**275**	P	**P**	**16 16 08.1**	**+1.3**
PAE	**Paea**	**33.82**	**63**	eT	T	16 51 51.8	
	comp=Z,2.7nm,0.3s						
PPT2	**Papeete2**	**33.87**	**63**	eLR	LR	16 25 07.8	
	comp=Z,723nm,24.8s						
PPT2	**Papeete2**	**33.87**	**63**	eT	T	16 51 56.2	
	comp=Z,4.4nm,0.3s						
PPT	**Papeete**	**33.89**	**63**	LR	LR	16 26 29.9	
	comp=Z,278nm,21.3s,baz=208,slow=30						
TVO	**Taravao**	**33.98**	**64**	eT	T	16 52 04.2	
	comp=Z,4.0nm,0.3s						
LCRK	**Leigh Creek**	**34.30**	**269**	P	**P**	**16 16 15.3**	**+0.6**
BBOO	**Buckleboo**	**35.18**	**264**	P	**P**	**16 16 22.6**	**+0.3**
	baz=35,SNR=10.0						
BBOO	**Buckleboo**	**35.18**	**264**	P	**P**	**16 16 21.6**	**-0.7**
BBOO				IAmb	IAmb	16 17 02.1	
	comp=Z,40nm,1.4s						
BBOO	**Buckleboo**	**35.18**	**264**	P	**P**	**16 16 22.6**	**+0.3**
MTSU	**Mount Surprise**	**35.81**	**293**	P	**P**	**16 16 29.2**	**+1.4**
	baz=36,SNR=4.6						
MTSU	**Mount Surprise**	**35.81**	**293**	P	**P**	**16 16 28.8**	**+0.9**
PMOR	**Pomariorio Ree**	**36.80**	**62**	eT	T	16 55 38.0	
	comp=Z,3.4nm,0.3s						
VAH	**Vaihoa**	**36.83**	**62**	eT	T	16 55 38.0	
	comp=Z,10nm,0.3s						
OOD	**Oodnadatta**	**37.40**	**272**	P	**P**	**16 16 41.8**	**+0.5**
QIS	**Mount Isa**	**37.93**	**285**	P	**P**	**16 16 47.1**	**+1.2**
	baz=38,SNR=19						
QIS	**Mount Isa**	**37.93**	**285**	P	**P**	**16 16 46.8**	**+1.0**
COEN	**Coen**	**39.37**	**297**	P	**P**	**16 16 59.0**	**+1.1**
	baz=39,SNR=38						
COEN	**Coen**	**39.37**	**297**	P	**P**	**16 16 58.7**	**+0.9**
COEN				IAmb	IAmb	16 16 59.5	
	comp=Z,84nm,1.3s						
COEN	**Coen**	**39.37**	**297**	P	**P**	**16 16 58.6**	**+0.7**
PMG	**Port Moresby**	**39.89**	**306**	LR	LR	16 32 22.3	
	comp=Z,342nm,18.2s,baz=154,slow=34						
AS31	**Alice Springs**	**40.75**	**276**	P	**P**	**16 17 08.5**	**-0.9**
ASAR	**Alice Springs**	**40.75**	**276**	P	**P**	**16 17 08.9**	**-0.5**
	comp=Z,21nm,0.7s,baz=119,slow=8.0,SNR=232						
ASAR				PcP	**PcP**	**16 19 08.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=129,slow=4.3,SNR=1.5						
ASAR				ScP	**ScP**	**16 22 53.8**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=119,slow=3.6,SNR=2.2						
ASAR				S	**S**	**16 23 14.8**	**-2.2**
	comp=Z,3.0nm,0.9s,baz=123,slow=13,SNR=13						
ASAR				LR	LR

comp=Z,266nm,19.7s,baz=240,slow=29
PLAI Plampang 61.82 281 P **P** **16 19 47.2 0.0**
TWSI Taliwang, Sumb 62.58 280 P **P** **16 19 50.2 -2.1**
comp=Z,32nm,1.2s
KAPI Kappang 62.65 286 LR LR 16 48 04.7
comp=Z,190nm,18.9s,baz=126,slow=37
TTSI Tana Toraja 63.85 287 P **P** **16 20 00.1 -0.6**
comp=Z,383nmcomp=Z,17nm,1.4s
APSI Ampana 63.85 290 P **P** **16 20 00.7 0.0**
comp=Z,17nm,1.5s
JAGI Jajag, Banyuwa 64.89 279 P **P** **16 20 06.7 -0.9**
MAW Mawson 65.05 202 P **P** **16 20 07.1 -0.6**
comp=Z,0.5nm,0.4s,baz=3.5,slow=3.3,SNR=1.6
MAW LR LR 16 47 55.6
comp=Z,209nm,19.4s,baz=108,slow=35
comp=Z,0.5nm,0.4s
MPSI Mapaga 65.99 290 P **P** **16 20 13.9 -0.7**
comp=Z,10nm,0.9s
DAV Davao City (W) 66.48 300 LR LR 16 50 57.1
comp=Z,56nm,19.7s,baz=142,slow=37
PWJI Pagerwojo 67.01 278 P **P** **16 20 20.9 -0.3**
comp=Z,96nm,1.4s
PMSA Palmer Station 67.11 156 LR LR 16 44 25.7
comp=Z,349nm,21.7s,baz=228,slow=31
PCJI Pacitan 67.41 277 P **P** **16 20 25.0 +1.3**
comp=Z,159nm,1.1s
BBKI Banjar Baru 67.41 283 P **P** **16 20 24.1 +0.4**
UGM Wanagama 68.09 277 P **P** **16 20 27.5 -0.6**
UGM Wanagama 68.09 277 P **P** **16 20 27.8 -0.2**
TROLL Troll, Antarti 71.04 181 P **P** **16 20 48.2 +2.7**
TROLL Troll, Antarti 71.04 181 PcP **PcP** **16 21 02.9 -2.6**
LEM Lembang 71.05 276 LR LR 16 54 05.9
comp=Z,209nm,19.8s,baz=138,slow=38
SNAA Sanae 71.40 179 P **P** **16 20 50.0 +2.4**
SNAA Sanae 71.40 179 PcP **PcP** **16 21 05.2 -1.7**
SNAA Sanae 71.40 179 LR LR 16 49 39.1
comp=Z,178nm,20.7s,baz=229,slow=34
SNAA Sanae 71.40 179 P **P** **16 20 48.5 +1.0**
VNA3 Neumayer Olymp 71.66 177 P **P** **16 20 51.5 +2.5**
VNA3 Neumayer Olymp 71.66 177 PcP **PcP** **16 21 07.2 -0.8**
VNA3 S **S** **16 30 04.8 -0.1**
VNA2 Neumayer--Watz 72.06 178 P **P** **16 20 54.2 +2.8**
baz=178,slow=5.3
VNA2 Neumayer--Watz 72.06 178 PcP **PcP** **16 21 09.7 0.0**
VNA1 Neumayer--Stat 72.31 177 P **P** **16 20 55.8 +2.9**
VNA1 Neumayer--Stat 72.31 177 PcP **PcP** **16 21 11.4 +0.6**
JCJ Chichijima 72.71 326 LR LR 16 47 24.1
comp=Z,71nm,20.0s,baz=154,slow=31
H03S2 Juan Fernandez 78.80 124 T T 17 48 01.7
baz=230
H03S1 Juan Fernandez 78.81 124 T T 17 48 04.4
baz=230
H03S3 Juan Fernandez 78.81 124 T T 17 48 17.1
baz=230
H03N3 Juan Fernandez 79.03 124 T T 17 48 06.7
baz=234,slow=72,SNR=87
H03N2 Juan Fernandez 79.03 124 T T 17 48 05.5
baz=234,slow=72,SNR=82
H03N1 Juan Fernandez 79.04 124 T T 17 48 12.9
baz=234,slow=72,SNR=90
JOW Kunigami 79.54 315 LR LR 16 54 24.4
comp=Z,72nm,20.5s,baz=144,slow=34
PLCA Paso Flores 79.68 134 P **P** **16 21 38.6 +3.0**
comp=Z,1.7nm,0.7s,baz=206,slow=3.1,SNR=6.2
PLCA LR LR 16 48 35.0
comp=Z,96nm,21.1s,baz=226,slow=29
comp=Z,1.7nm,0.7s
MJAR Matsushiro Arr 82.53 328 P **P** **16 21 52.9 +2.5**
comp=Z,1.1nm,0.8s,baz=156,slow=6.1,SNR=2.2
MJAR LR LR 16 58 57.5
comp=Z,33nm,19.0s,baz=158,slow=36
comp=Z,1.1nm,0.8s
BO02 Sierra Bellavi 83.42 129 P **P** **16 21 52.6 -2.9**
BO02 IAmb IAmb 16 21 54.3
comp=Z,14nm,0.6s
PSI Prapat 83.75 278 LR LR 17 02 09.9
comp=Z,185nm,19.3s,baz=91,slow=38
GSI Gunungsitoli 83.91 276 P **P** **16 21 56.8 -1.2**
GSI IAmb IAmb 16 22 06.8
comp=Z,24nm,1.0s
KSRS Korea Array 88.01 322 P **P** **16 22 18.5 +0.9**
comp=Z,1.4nm,0.9s,baz=138,slow=5.3,SNR=12
KSRS LR LR 17 01 02.1
comp=Z,25nm,18.1s,baz=155,slow=35
comp=Z,1.4nm,0.9s
KSAR Wonju Array Be 88.02 322 P **P** **16 22 19.0 +1.3**
NJ2 Nanjing 88.86 313 *e*P **P** **16 22 25.3 +3.5**
NJ2 pmax pmax
comp=Z,12nm,0.6s
LPIG La Paz 90.23 60 LR LR 16 54 28.7
comp=Z,78nm,19.7s,baz=198,slow=30
USRK Ussuriysk Ar. 91.53 328 P **P** **16 22 34.7 +0.7**
comp=Z,1.6nm,1.0s,baz=132,slow=2.1,SNR=4.9
USRK LR LR 17 02 44.3
comp=Z,35nm,18.2s,baz=174,slow=35
comp=Z,1.6nm,1.0s
PETK Petropavlovsk- 91.84 347 P **P** **16 22 35.2 0.0**
comp=Z,3.1nm,0.9s,baz=134,slow=6.2,SNR=3.3
PETK LR LR 16 59 11.9
comp=Z,68nm,19.8s,baz=141,slow=32
comp=Z,3.1nm,0.9s
CMAR Chiang Mai Arr 93.33 291 P **P** **16 22 43.6 +0.7**
comp=Z,2.3nm,0.7s,baz=143,slow=3.8,SNR=15
CMAR LR LR 17 06 20.1
comp=Z,58nm,21.8s,baz=165,slow=36
comp=Z,2.3nm,0.7s
CHTO Chiang Mai 93.55 291 P **P** **16 22 45.8 +1.9**
PZH PanZhiHua 96.26 298 P **P** **16 22 55.3 -1.0**
PZH pmax pmax
comp=Z,20nm,0.9s
HHC Hu-ho-hao-te 99.19 315 *e*P **Pdif** **16 23 10.0 +0.9**
HHC pmax pmax
comp=Z,24nm,0.8s
MA2 Magadan 99.23 346 LR LR 17 01 53.2
comp=Z,107nm,20.9s,baz=145,slow=32
GOMU GeErMu 106.75 303 Pdif **Pdif** **16 23 49.3 +6.0**
WMQ Urumqi 115.36 307 *e*PKP **PKiKP** **16 28 09.0 0.0**
MKAR Makanchi Array 120.08 308 PKP **PKPdf** **16 28 17.6 -0.3**
comp=Z,0.9nm,0.9s,baz=72,slow=2.8,SNR=5.4
MKAR PP **PP** **16 29 43.2 -0.7**
comp=Z,0.4nm,0.7s,baz=127,slow=7.2,SNR=3.5
KURK Kurchatov 123.78 311 **PKiKP** **16 28 25.4 +0.3**
NRIK Noril'sk 124.75 334 PKP **PKPdf** **16 28 24.8 -1.3**
comp=Z,1.6nm,0.8s,baz=85,slow=4.0,SNR=3.7
GEYT Alibeck 133.81 290 PKP **PKiKP** **16 28 45.7 0.0**
comp=Z,1.2nm,0.7s,baz=172,slow=2.9,SNR=3.1
ARCES ARCESS Array B 144.59 344 PKP **PKPdf** **16 29 02.6 -0.4**
comp=Z,2.7nm,0.6s,baz=30,slow=2.1,SNR=12
KLMR Klimovskoe 145.29 326 *e*PKPdf **PKPbc** **16 29 02.0 -2.3**
KLMR AMP 16 29 06.3
comp=Z,26nm,1.4s
KBZ Khabaz 146.26 295 PKPbc **PKPbc** **16 29 07.8 0.0**
comp=Z,6.6nm,0.9s,baz=102,slow=0.9,SNR=9.9
DBIC Dimbokro 149.39 173 PKPbc **PKPbc** **16 29 15.2 -1.9**
comp=Z,5.1nm,1.0s,baz=212,slow=15,SNR=1.8
FIA1 FINESS Array S 150.41 334 PKPdf **PKPdf** **16 29 11.7 -1.1**
FIA1 **PKPbc** **16 29 16.8 -1.4**
FINES FINESS Array B 150.41 334 PKPbc **PKPbc** **16 29 18.2 +0.1**
comp=Z,2.3nm,0.5s,baz=33,slow=4.3,SNR=29
FINES FINESS Array B 150.41 334 PKPdf **PKPdf** **16 29 12.1 -0.8**
FINES **PKPbc** **16 29 17.0 -1.1**
MEF Metsahovi 151.85 333 *e*P **PKPbc** **16 29 21.3 -0.3**
VSU Vasula 152.08 328 *e*P **PKPbc** **16 29 19.8 -2.3**
RAF Rauma 152.18 336 *e*P **PKPbc** **16 29 22.1 -0.1**
BR131 Keskin Array S 152.83 286 PKPbc **PKPbc** **16 29 24.2 -0.5**
BRTR Keskin Array B 152.83 286 PKPbc **PKPbc** **16 29 24.4 -0.2**
comp=Z,3.8nm,0.8s,baz=102,slow=2.3,SNR=8.3
BRTR Keskin Array B 152.83 286 **PKPbc** **16 29 23.6 -1.0**
MTSE Matsula 153.10 331 *e*P **PKPbc** **16 29 22.5 -1.8**
MNK Minsk 153.73 320 *i* PKP **PKPdf** **16 29 17.3 -0.7**
comp=E,1.0nm,0.6s
MNK *i* PKP **PKPdf** **16 29 17.3 -0.7**
comp=N,4.0nm,0.8s
MNK *i* PKP **PKPdf** **16 29 17.3 -0.7**
comp=Z,7.0nm,0.6s,baz=62
MNK *i* PP **PP** **16 33 13.9 +0.3**
MNK *i* SKS **SKSdf** **16 36 23.2 +2.3**
MNK *i* PPP PPP 16 36 42.4
MNK *i* SKKS **SKKSdf** **16 45 03.6 +0.7**
MNK *i* SS **SS** **16 52 51.9 +5.3**
MNK *i* SSS SSS 16 58 43.1
MNK *i* LR LR 17 39 39.8
MNK *i* LRM MLR 17 43 45.1
comp=E,14nm,24.3s
MNK *i* LRM MLR 17 43 45.1
comp=N,9.0nm,15.3s
MNK *i* LRM MLR 17 43 45.1
comp=Z,74nm,20.4s
NB2 NORSAR Subarra154.93 346 PKPdf **PKiKP** **16 29 28.9 +0.6**
comp=Z,0.4nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B154.93 346 PKPbc **PKiKP** **16 29 28.7 +0.3**
comp=Z,0.3nm,0.5s,baz=14,slow=4.2,SNR=3.1
TORD Torodi Ar. Bea 155.90 187 PKPbc **pPKPdf** **16 29 35.4 -0.6**
comp=Z,0.6nm,0.5s,baz=162,slow=2.9,SNR=6.3
TORD PKPab **PKPab** **16 29 48.6 -0.4**
comp=Z,3.5nm,0.8s,baz=175,slow=1.7,SNR=9.3
GERES GERESS Array B 164.18 322 PKPab **PKPab** **16 30 25.6 +1.1**
comp=Z,0.6nm,0.7s,baz=59,slow=5.1,SNR=3.9

*IDC **14** 16:22:19.8±2.4, 33.03S×177.99W, h0km, mb4.1/4, mbtmp4.0/5, Error ellipse: s-maj=56.7km s-min=35.3km az=128.0*
ISC 14 16:22:23.8±2.3, 33.2S±0.2×177.8W±0.3, h34km, n8, σ1§41/9, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
URZ	**Urewera**	**6.55**	**218**	Pn	**Pn**		**Pn**	**16 23 58.2**	**+0.5**
	2.7nm,0.3s,baz=59,slow=12,SNR=0.8								
URZ				Sn	**Sn**		**Sn**	**16 25 12.7**	**+1.5**
	2.9nm,0.3s,baz=117,slow=22,SNR=6.8								
RPZ	**Rata Peaks**	**13.67**	**216**	Pn	**Pn**		**Pn**	**16 25 32.7**	**-2.4**
	0.3nm,0.3s,baz=281,slow=22,SNR=0.9								
RPZ				Sn	Sn			16 27 56.5	-9.1
	0.2nm,0.3s,baz=90,slow=12,SNR=2.3								
CTA	**Charters Tower**	**34.49**	**283**	P	**P**		**P**	**16 29 09.0**	**+0.2**
	1.5nm,0.5s,baz=138,slow=10.0,SNR=5.7								
	1.5nm,0.5s								
ASAR	**Alice Springs**	**43.19**	**270**	P	**P**		**P**	**16 30 21.4**	**-0.2**
	1.5nm,0.7s,baz=108,slow=7.5,SNR=31								
	1.5nm,0.7s								
WRA	**Warramunga Arr**	**44.43**	**275**	P	**P**		**P**	**16 30 30.9**	**-0.7**
	1.6nm,0.5s,baz=115,slow=7.6,SNR=36								
	1.6nm,0.5s								
FITZ	**Fitzroy Crossi**	**52.56**	**272**	P	**P**		**P**	**16 31 33.7**	**-0.5**
	2.9nm,1.1s,baz=124,slow=7.3,SNR=2.6								
	2.9nm,1.1s								
FINES	**FINESS Array B**	**147.78**	**339**	PKPbc	**PKPbc**			**16 42 04.2**	**0.0**
	1.1nm,0.5s,baz=53,slow=2.5,SNR=7.3								
BRTR	**Keskin Array B**	**153.96**	**294**	PKPbc	**PKiKP**			**16 42 21.4**	**+1.6**
	0.2nm,0.5s,baz=113,slow=2.2,SNR=3.1								

*IDC **14** 16:37:32.9±1.9, 2.00N×127.30E, h0km, mb3.8/3, mbtmp3.8/3, MS3.7/5, Error ellipse: s-maj=125.7km s-min=19.1km az=67.0*
*DJA **14** 16:37:46.8±0.7, 2.7N±3.3×12.7E±.°, h92km±8km, M3.5/7, mb3.6/1, MLv3.5/7*
ISC 14 16:37:46.1±1.3, 2.0N±0.1×127.4E±0.1, h100km, n14, σ3§68/11, mb3.8/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
TNTI	**Ternate**	**1.21**	**182**	P	**Pn**		**Pn**	**16 38 09.4**	**+0.5**
SGSI	**Sangihe**	**2.52**	**312**	S	**Sn**		**Sn**	**16 38 57.1**	**+1.5**
LBMI	**Labuha**	**2.61**	**178**	P	**Pn**		**Pn**	**16 38 27.3**	**+0.5**
KMSI	**Cibinong**	**3.70**	**248**	P	**Pn**		**Pn**	**16 38 41.6**	**+0.4**
KMSI				S	**Sn**		**Sn**	**16 39 23.7**	**-0.2**
SANI	**Sanana**	**4.25**	**199**	P	**Pn**		**Pn**	**16 38 46.7**	**-2.1**
APSI	**Ampana**	**6.43**	**243**	P	**Pn**		**Pn**	**16 39 18.8**	**+0.5**
WRA	**Warramunga Arr**	**22.84**	**163**	P	**P**		**P**	**16 42 37.5**	**-3.4**
	2.4nm,0.4s,baz=344,slow=11,SNR=45								
WRA				S	**S**		**S**	**16 46 51.8**	**+8.9**
	0.3nm,0.5s,baz=329,slow=22,SNR=3.1								
	2.4nm,0.4s								
ASAR	**Alice Springs**	**26.28**	**166**	P	**P**		**P**	**16 43 09.2**	**-3.1**
	0.7nm,0.5s,baz=347,slow=7.5,SNR=57								
	0.7nm,0.5s								
SONM	**Songino Array**	**49.15**	**341**	LR	LR			17 09 01.2	
	comp=Z,72nm,18.4s,baz=94,slow=38								
MKAR	**Makanchi Array**	**59.36**	**326**	P	**P**		**P**	**16 47 37.1**	**-0.8**
	0.3nm,0.4s,baz=119,slow=7.4,SNR=7.1								
	0.3nm,0.4s								
ZALV	**Zalesovo Beam**	**62.43**	**333**	LR	LR			17 18 23.5	
	comp=Z,38nm,18.1s,baz=86,slow=39								
WSAR	**Wadi Sarin**	**69.73**	**294**	LR	LR			17 23 39.7	
	comp=Z,56nm,18.6s,baz=139,slow=40								
ARU	**Arti**	**76.75**	**328**	LR	LR			17 25 40.2	
	comp=Z,49nm,20.1s,baz=70,slow=38								
GNI	**Garni**	**83.10**	**310**	LR	LR			17 32 05.3	
	comp=Z,41nm,22.0s,baz=124,slow=39								

*IDC **14** 16:42:28.6±17.0, 40.44N×141.79E, h85km±83km, mb3.1/3, mbtmp3.5/4, ML2.1/1, Error ellipse: s-maj=334.0km s-min=35.8km az=61.0*
*JMA **14** 16:42:29.2±0.1, 40.5N±0.3×141.6E±0.5, h85km, MV3.2/40, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
ISC 14 16:42:29.2±1.1, 40.52N±0.04×141.59E±0.08, h83km±7km, n22, σ0§68/28, mb3.4/3, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
JANG	**Nango**	**0.16**	**199**	*i* P	**Pn**		**Pn**	**16 42 41.3**	**+0.1**
JANG				S	**Sn**		**Sn**	**16 42 50.1**	**0.0**
JKEN	**Kujiedanarisaw**	**0.33**	**163**	*i* P	**Pn**		**Pn**	**16 42 42.5**	**+0.4**
JKEN				S	**Sn**		**Sn**	**16 42 52.1**	**+0.6**
JTM	**Tenmabayashi**	**0.47**	**304**	*i* P	**Pn**		**Pn**	**16 42 42.8**	**-0.2**
JTM				S	**Sn**		**Sn**	**16 42 53.1**	**-0.2**
JAH	**Hinai**	**0.80**	**245**	*i* P	**Pn**		**Pn**	**16 42 46.1**	**-0.1**
JAH				S	**Sn**		**Sn**	**16 42 58.6**	**-0.2**
JOT	**Ohata**	**0.95**	**335**	*i* P	**Pn**		**Pn**	**16 42 48.0**	**+0.2**
JOT				S	**Sn**		**Sn**	**16 43 01.9**	**+0.2**
JOM	**Ohasama**	**1.07**	**192**	↓*i* P	**Pn**		**Pn**	**16 42 49.8**	**+0.4**
JOM				↓S	**Sn**		**Sn**	**16 43 05.0**	**+0.6**
JIW	**Iwasaki**	**1.20**	**274**	↓*i* P	**Pn**		**Pn**	**16 42 51.0**	**0.0**
JIW				↓S	**Sn**		**Sn**	**16 43 07.0**	**-0.2**
JSR	**Shiriuchi**	**1.34**	**319**	*i* P	**Pn**		**Pn**	**16 42 52.7**	**+0.1**
JSR				*e*S	**Sn**		**Sn**	**16 43 10.4**	**+0.2**
JRG	**Rokugo**	**1.34**	**213**	P	**Pn**		**Pn**	**16 42 53.3**	**+0.6**
JRG				S	**Sn**		**Sn**	**16 43 10.8**	**+0.5**
JKB	**Kayabe**	**1.42**	**343**	*i* P	**Pn**		**Pn**	**16 42 54.3**	**+0.6**
JKB				S	**Sn**		**Sn**	**16 43 12.6**	**+0.5**
JOMM	**Oshimamatsumae**	**1.56**	**310**	↓*i* P	**Pn**		**Pn**	**16 42 55.2**	**-0.2**
JOMM				↓S	**Sn**		**Sn**	**16 43 15.2**	**0.0**
JMK	**Ichinoseki**	**1.60**	**190**	*i* P	**Pn**		**Pn**	**16 42 56.2**	**+0.3**
JMK				S	**Sn**		**Sn**	**16 43 16.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**8.00**	**300**	P	**Pn**		**Pn**	**16 44 24.4**	**+1.8**
	0.2nm,0.3s,baz=106,slow=15,SNR=9.5								
	1.8nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**29.96**	**126**	T	T		T	17 19 29.9	
	baz=318,slow=75,SNR=6.9								
H11N1	**WAKE ISLAND Hy**	**29.97**	**126**	T	T		T	17 19 28.1	
	baz=318,slow=75,SNR=6.7								
H11N3	**WAKE ISLAND Hy**	**29.98**	**126**	T	T		T	17 19 31.4	
	baz=318,slow=75,SNR=5.9								
H11S1	**WAKE ISLAND Hy**	**30.78**	**128**	T	T		T	17 21 05.9	
	baz=322								
H11S3	**WAKE ISLAND Hy**	**30.78**	**128**	T	T		T	17 21 05.1	
	baz=322								
H11S2	**WAKE ISLAND Hy**	**30.79**	**128**	T	T		T	17 21 22.4	
	baz=322								
MKAR	**Makanchi Array**	**42.46**	**299**	P	**P**		**P**	**16 50 16.5**	**+0.6**
	0.2nm,0.5s,baz=87,slow=11,SNR=3.7								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**60.53**	**188**	P	**P**		**P**	**16 52 29.1**	**-1.7**
	0.2nm,0.4s,baz=4.1,slow=6.7,SNR=7.7								
	0.2nm,0.4s								
ASAR	**Alice Springs**	**64.26**	**188**	P	**P**		**P**	**16 52 54.5**	**-1.1**
	0.2nm,0.4s,baz=1.4,slow=7.0,SNR=9.5								
	0.2nm,0.4s								

*IDC **14** 16:50:32.7±0.7, 0.63N×80.10W, h0km, mb4.5/16, mbtmp4.5/20, ML3.8/4, MS3.9/30, Error ellipse: s-maj=19.9km s-min=12.5km az=66.0*
*IGQ **14** 16:50:34±0.4, 1.1N±2.8×80.0W±.°, h8km*
*VAO **14** 16:50:34.7±0.3, 0.62N±0.02W, h10km, mb5.1*
*NEIC **14** 16:50:36.1±2.3, 0.57N±0.05×79.97W±0.06, h6km±4km, mb4.7/102, Error ellipse: s-maj=9.4km s-min=7.6km az=69.0*
ISC 14 16:50:36.0±0.3, 0.55N±0.02×80.06W±0.03, h17km, n318, σ1§38/278, mb4.7/60, MS4.0/27, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
PTGL	**Punta Galera**	**0.23**	**7**	P	**Pg**		**16 50 40.0**		**-1.3**
PTGL	**Punta Galera**	**0.23**	**7**	S	**Sg**		**16 50 45.0**		**+0.1**
AMA1	**Acelerografo,**	**0.50**	**41**	P	**Pg**		**16 50 46.0**		**-0.2**
AMA1	**Acelerografo,**	**0.50**	**41**	S	**Sn**		**16 50 56.0**		**-0.8**
AES2	**Ecuador-Puerto**	**0.60**	**43**	P	**Pb**		**16 50 48.0**		**-0.1**
AES2	**Ecuador-Puerto**	**0.60**	**43**	S	**Sn**		**16 50 59.0**		**-0.1**
AV18	**Acelerografo,**	**0.63**	**112**	P	**Pb**		**16 50 49.0**		**+0.5**
MAG1	**Magdalena**	**0.68**	**156**	P	**Pg**		**16 50 49.0**		**-0.5**
JAMA	**Jama**	**0.82**	**190**	P	**Pb**		**16 50 50.0**		**-2.0**
JAMA	**Jama**	**0.82**	**190**	S	**Sg**		**16 51 03.0**		**-0.1**
BV15	**Puerto Quito-O**	**0.92**	**115**	P	**Pb**		**16 50 53.0**		**-0.6**
BV15	**Puerto Quito-O**	**0.92**	**115**	S	**Sn**		**16 51 08.0**		**+0.9**
FLF1	**Flavio Alfaro-**	**0.93**	**167**	P	**Pg**		**16 50 54.0**		**-0.2**
FLF1	**Flavio Alfaro-**	**0.93**	**167**	S	**Sn**		**16 51 09.0**		**+1.6**
CABP	**Cabo Pasado**	**1.00**	**202**	P	**Pb**		**16 50 53.0**		**-2.0**
APR2	**Miler**	**1.19**	**114**	P	**Pn**		**16 50 57.0**		**-1.0**
APR2	**Miler**	**1.19**	**114**	S	**Sg**		**16 51 18.0**		**+3.4**
PAC1	**Pacto, Paraso**	**1.30**	**103**	P	**Pn**		**16 50 59.0**		**-0.5**
SNLR	**San Lorenzo-Es**	**1.41**	**59**	P	**Pn**		**16 51 01.0**		**0.0**
APR1	**Acelerografo,**	**1.56**	**112**	P	**Pb**		**16 51 04.0**		**-0.7**
GGPC	**Guagua Pichinc**	**1.63**	**116**	P	**Pn**		**16 51 04.0**		**-0.5**
OTAV	**Otavalo**	**1.64**	**101**	Pn	**Pn**		**16 51 04.8**		**+0.3**
OTAV	**Otavalo**	**1.64**	**101**	P	**Pn**		**16 51 04.0**		**-0.5**
OTAV	**Otavalo**	**1.64**	**101**	*e*P	**Pn**		**16 51 04.8**		**+0.3**
PULU	**Pululahua**	**1.64**	**109**		**Pb**		**16 51 05.1**		**-1.0**
PULU	**Pululahua**	**1.64**	**109**	P	**Pn**		**16 51 05.0**		**+0.5**
CUSE	**Cuicocha Este**	**1.68**	**98**	P	**Pn**		**16 51 05.0**		**0.0**
ALIT	**Ecuador-Imbabu**	**1.71**	**82**	P	**Pn**		**16 51 05.0**		**-0.2**
LITE1	**Lita**	**1.71**	**82**	P	**Pn**		**16 51 04.0**		**-1.2**
CUIC	**Cuicocha-Domo**	**1.71**	**98**	P	**Pn**		**16 51 06.0**		**+0.5**
CUSW	**Cuicocha Oeste**	**1.73**	**99**	P	**Pn**		**16 51 06.0**		**+0.3**
AV11	**Acelerografo,**	**1.80**	**110**	P	**Pb**		**16 51 09.0**		**+0.3**
URCU	**Urucqui**	**1.80**	**94**	P	**Pn**		**16 51 07.0**		**+0.2**
ILLI	**Illinizas Sur**	**1.83**	**133**	P	**Pn**		**16 51 07.0**		**-0.2**
TUMC	**Tumaco**	**1.83**	**46**	P	**Pn**		**16 51 06.0**		**-0.8**
IMBA	**Imbabura, San**	**1.88**	**98**	Pn	**Pb**		**16 51 09.3**		**-0.9**
IMBA	**Imbabura, San**	**1.88**	**98**	P	**Pb**		**16 51 09.0**		**-1.2**
PAST	**Pastocalle**	**1.88**	**131**	P	**Pn**		**16 51 08.0**		**+0.2**
TOMA	**Boca Toma-Volc**	**1.93**	**123**	P	**Pn**		**16 51 09.0**		**+0.5**
SUCR	**Mariscal Sucre**	**1.96**	**127**	P	**Pn**		**16 51 10.0**		**+1.0**
SRAM	**San Ramn-Vol**	**1.97**	**131**	P	**Pn**		**16 51 10.0**		**+0.9**
CAMI	**Rancho Maria**	**1.98**	**128**	P	**Pn**		**16 51 10.0**		**+0.8**
NAS2	**Nasa**	**1.98**	**127**	P	**Pb**		**16 51 11.0**		**-1.0**
BNAS	**Cotopaxi Volca**	**1.99**	**128**	P	**Pb**		**16 51 11.0**		**-1.1**
YAHU	**Yahuarcocha**	**1.99**	**95**	P	**Pb**		**16 51 11.0**		**-1.1**
SLOR	**San Lorenzo -**	**2.01**	**129**		**Pb**		**16 51 11.5**		**-1.0**
SLOR	**San Lorenzo -**	**2.01**	**129**	P	**Pb**		**16 51 11.0**		**-1.5**
CHMA	**Chilma**	**2.02**	**81**	P	**Pn**		**16 51 09.0**		**-0.6**
BREF	**Cotopaxi Volca**	**2.02**	**127**	P	**Pn**		**16 51 11.0**		**+1.0**
VC1	**Cotopaxi 1**	**2.04**	**126**	P	**Pn**		**16 51 12.0**		**-0.9**
BVC2	**Cotopaxi Volca**	**2.04**	**126**	P	**Pn**		**16 51 11.0**		**+0.9**
BMOR	**Cotopaxi Volca**	**2.04**	**129**	P	**Pn**		**16 51 11.0**		**+0.8**
BTAM	**Cotopaxi Volca**	**2.06**	**126**	P	**Pb**		**16 51 12.0**		**-1.4**
LNGL	**El Angel-Carch**	**2.06**	**85**	P	**Pn**		**16 51 11.0**		**+0.6**
ISPT	**Isla de la Pla**	**2.07**	**209**	P	**Pn**		**16 51 09.0**		**-1.1**
ANTG	**Antisana-Guama**	**2.08**	**120**	P	**Pn**		**16 51 12.0**		**+1.3**
TAMB	**Tambo**	**2.09**	**126**	P	**Pn**		**16 51 12.0**		**+1.1**
ECEN	**Cerro Negro**	**2.10**	**83**	P	**Pn**		**16 51 11.0**		**0.0**
ANGU	**Angureal**	**2.11**	**104**	P	**Pb**		**16 51 14.0**		**-0.2**
CAYR	**Refugio Cayamb**	**2.12**	**105**	P	**Pb**		**16 51 14.0**		**-0.4**
CAYA	**Cayambe**	**2.12**	**103**	P	**Pb**		**16 51 13.0**		**-1.4**
CHL1	**Volcn Chiles**	**2.12**	**84**	P	**Pn**		**16 51 11.0**		**-0.3**
ANTM	**Antisana-La Mi**	**2.13**	**121**	P	**Pb**		**16 51 13.0**		**-1.5**
VCES	**Cotopaxi**	**2.14**	**129**	P	**Pb**		**16 51 13.0**		**-1.7**
ANTI	**Antisana**	**2.14**	**118**	P	**Pb**		**16 51 13.0**		**-1.7**
CHL2	**Volcn Chiles**	**2.15**	**83**	P	**Pn**		**16 51 12.0**		**+0.4**
ANTS	**Antisana-Sarah**	**2.15**	**119**	P	**Pn**		**16 51 13.0**		**+1.2**
CMBC	**Cumbal**	**2.26**	**80**	P	**Pn**		**16 51 13.0**		**-0.1**
TULM	**Tulcn-Chalpat**	**2.27**	**86**		**Pb**		**16 51 16.3**		**-1.7**
TULM	**Tulcn-Chalpat**	**2.27**	**86**	P	**Pb**		**16 51 15.0**		**-2.0**
ATUL	**Tulcn**	**2.34**	**85**	P	**Pb**		**16 51 16.0**		**-2.0**
CHSH	**Refugio Sur-Vo**	**2.35**	**150**	Pn	**Pn**		**16 51 15.7**		**+1.2**
CHSH	**Refugio Sur-Vo**	**2.35**	**150**	P	**Pn**		**16 51 15.0**		**+0.5**
PIAT	**Ana Tenorio**	**2.37**	**131**	P	**Pn**		**16 51 16.0**		**+1.5**
PORT	**Chimborazo Vol**	**2.38**	**147**	Pn	**Pn**		**16 51 15.9**		**+1.0**
PORT	**Chimborazo Vol**	**2.38**	**147**	P	**Pn**		**16 51 15.0**		**+0.2**
TAMH	**Tambohuasha Ch**	**2.44**	**149**	P	**Pn**		**16 51 16.0**		**+0.4**
IGUA	**Igualata**	**2.48**	**145**	P	**Pn**		**16 51 18.0**		**+1.8**
JUI6	**Juive**	**2.53**	**141**	P	**Pn**		**16 51 18.0**		**+1.4**
BONI	**La Bonita**	**2.53**	**92**	P	**Pb**		**16 51 19.0**		**-2.2**
BBIL	**Ulba Tungurahu**	**2.53**	**142**	P	**Pn**		**16 51 18.0**		**+1.2**
POND	**Pondoa**	**2.53**	**141**	P	**Pb**		**16 51 19.0**		**-2.3**
BRUN	**Tungurahua Vol**	**2.55**	**140**	P	**Pn**		**16 51 19.0**		**+2.1**
RETU	**Refugio**	**2.56**	**141**	P	**Pn**		**16 51 19.0**		**+1.7**
BMAS	**Trigal station**	**2.58**	**142**	P	**Pn**		**16 51 19.0**		**+1.6**
ARRY	**Arrayan**	**2.60**	**142**	P	**Pn**		**16 51 19.0**		**+1.3**
BPAT

MACA Manacapuru-AM 19.71 101 P P 16 55 04.6 -0.3
MACA IAmb IAmb 16 55 08.8
comp=Z,58nm,0.6s
MACA Manacapuru-AM 19.71 101 eP P 16 55 04.9 0.0
LPAZ La Paz 20.46 145 P P 16 55 14.5 +0.9
comp=Z,21nm,0.7s,baz=330,slow=8.9,SNR=18
comp=Z,21nm,0.7s
LPAZ La Paz 20.46 145 P P 16 55 13.7 +0.1
LPAZ IAmb IAmb 16 55 19.3
comp=Z,25nm,0.8s
LPAZ La Paz 20.46 145 eP P 16 55 13.5 -0.1
PB12 IPOC Station P 21.31 154 P P 16 55 21.2 -1.1
PB12 IAmb IAmb 16 55 23.5
comp=Z,60nm,1.1s
PB16 IPOC Station P 21.45 152 P P 16 55 24.8 +0.5
CRPR Cabo Rojo, PR 21.51 36 P P 16 55 24.2 -0.2
CRPR IAmb IAmb 16 55 38.1
comp=Z,51nm,1.0s
MLPR Magueyes Islan 21.52 36 P P 16 55 23.2 -1.3
MLPR IAmb IAmb 16 55 30.7
comp=Z,34nm,1.1s
OBIP Obispado Ponce 21.84 37 P P 16 55 26.9 -0.9
OBIP IAmb IAmb 16 55 33.1
comp=Z,43nm,1.1s
CELP Cerrillos 21.88 37 P P 16 55 28.3 +0.1
CELP IAmb IAmb 16 55 31.8
comp=Z,37nm,1.1s
CMIG Matias Romero 21.98 319 P P 16 55 26.1 -3.3
comp=Z,2.6nm,0.9s,baz=163,slow=7.6,SNR=3.5
CMIG LR LR 17 02 27.9
comp=Z,198nm,18.8s,baz=156,slow=33
comp=Z,2.6nm,0.9s
AOPR Arecibo Observ 21.99 36 P P 16 55 30.3 +0.9
TOSP Speyside 22.13 60 P P 16 55 28.8 -2.3
SJG San Juan 22.16 37 P P 16 55 30.4 -0.9
comp=Z,9.9nm,0.2s,baz=260,slow=8.2,SNR=5.8
SJG LR LR 17 05 31.4
comp=Z,200nm,21.0s,baz=188,slow=41
comp=Z,9.9nm,0.2s
SJG San Juan 22.16 37 P P 16 55 30.8 -0.5
SJG IAmb IAmb 16 55 32.4
comp=Z,44nm,1.3s
GCPR Guaynabo City 22.36 37 P P 16 55 33.3 -0.1
HUMP Col San Antoni 22.37 38 P P 16 55 32.6 -0.9
CBYP Canovanas 22.46 38 IAmb IAmb 16 56 07.8
comp=Z,30nm,0.9s
TA02 Huaiquique 22.86 155 P P 16 55 39.2 +0.4
PB01 IPOC Station P 23.82 155 IAmb IAmb 16 56 21.1
comp=Z,26nm,1.0s
VILB Vilhena 23.83 125 IAmb IAmb 16 55 57.4
comp=Z,86nm,0.8s
VILB Vilhena 23.83 125 eP P 16 55 49.4 +0.8
SMRT St. Maarten 24.10 43 P P 16 55 49.5 -1.6
PB07 IPOC Station P 24.27 156 IAmb IAmb 16 56 20.8
comp=Z,28nm,0.9s
ITTB Itaituba 24.79 102 eP P 16 55 56.2 -1.2
SIV San Ignacio 24.93 132 P P 16 55 58.7 0.0
comp=Z,11nm,0.8s,baz=299,slow=9.0,SNR=33
SIV LR LR 17 07 32.9
comp=Z,964nm,18.0s,baz=326,slow=41
comp=Z,11nm,0.8s
LVC Limon Verde 25.46 155 P P 16 56 04.4 +0.7
comp=Z,18nm,1.0s,baz=325,slow=7.5,SNR=9.7
LVC LR LR 17 08 00.7
comp=Z,235nm,21.5s,baz=314,slow=41
comp=Z,18nm,1.0s
LVC Limon Verde 25.46 155 P P 16 56 04.7 +1.0
LVC Limon Verde 25.46 155 eP P 16 56 05.5 +1.8
NPGB Novo Progresso 25.77 107 eP P 16 56 04.7 -1.7
MALB Monte Alegre 25.90 95 eP P 16 56 07.0 -0.5
PTLB Pontes e Lacer 26.08 128 IAmb IAmb 16 56 10.5
comp=Z,38nm,0.8s
PTLB Pontes e Lacer 26.08 128 eP P 16 56 09.7 +0.7
PDRB Porto dos Gac 26.14 118 eP P 16 56 09.4 -0.2
CLDB Colider 26.66 116 eP P 16 56 13.5 -0.8
MDP Montagnes des 27.74 80 P P 16 56 23.7 -0.4
comp=Z,15nm,0.7s,baz=245,slow=9.2,SNR=9.1
MDP LR LR 17 07 48.4
comp=Z,608nm,20.7s,baz=277,slow=37
comp=Z,15nm,0.7s
SALV Santo Antonio 29.09 125 eP P 16 56 36.3 +0.3
AC02 Maricunga 29.19 160 P P 16 56 38.4 +1.0
AC02 IAmb IAmb 16 57 14.5
comp=Z,17nm,1.1s
PP1B Ponte de Pedra 30.66 127 eP P 16 56 50.4 +0.5
AC05 El Transito 30.69 163 P P 16 56 51.8 +1.6
PRPB Parauapebas 30.92 103 eP P 16 56 51.2 -1.1
SNDB Serra Nova Dou 31.15 114 eP P 16 56 54.2 -0.2
AQDB Aquidauana 31.71 133 IAmb IAmb 16 57 30.8
comp=Z,11nm,1.1s
AQDB Aquidauana 31.71 133 eP P 16 56 59.1 0.0
ANTJ Antonio Joao (32.45 135 eP P 16 57 05.1 -0.6
C2SB Chapadao do Su 32.92 127 eP P 16 57 10.6 +0.9
RPRD Ribas do Rio P 33.20 131 eP P 16 57 11.6 -0.7
SMTB Santa Maria do 33.67 107 eP P 16 57 15.9 -0.6
CPUP Villa Florida 34.57 142 P P 16 57 23.1 -0.9
comp=Z,6.3nm,0.9s,baz=326,slow=8.8,SNR=6.7
CPUP LR LR 17 14 51.2
comp=Z,720nm,18.1s,baz=327,slow=42
comp=Z,6.3nm,0.9s
CPUP Villa Florida 34.57 142 eP P 16 57 23.9 -0.1
TKL Tuckaleechee C 35.10 355 LR LR 17 11 28.0
comp=Z,143nm,21.1s,baz=204,slow=36
ITRB Iturama 35.40 126 eP P 16 57 31.3 -0.1
BDFB Brasilia 35.51 118 P P 16 57 31.6 -0.8
comp=Z,11nm,0.8s,baz=299,slow=12,SNR=11
comp=Z,11nm,0.8s
BDFB Brasilia 35.51 118 P P 16 57 31.9 -0.6
BDFB Brasilia 35.51 118 eP P 16 57 32.5 +0.1
PCMB Pacaembu 35.71 130 eP P 16 57 33.2 -0.8
ROSB Rosrio 36.08 96 eP P 16 57 36.5 -0.8
IPMB Ipameri, GO 36.34 122 eP P 16 57 39.3 -0.2
TXAR Lajitas Array 36.42 324 P P 16 57 39.1 -1.0
comp=Z,0.8nm,1.1s,baz=138,slow=11,SNR=4.2
comp=Z,0.8nm,1.1s
TXAR Lajitas Array 36.42 324 P P 16 57 40.2 +0.1
PTGB Pitanga 36.96 135 eP P 16 57 44.2 -0.5
S51A Beattyville 37.05 355 P P 16 57 47.6 +2.4
S51A IAmb IAmb 16 57 49.6
comp=Z,9.3nm,0.7s
FRBT Francisco Belt 37.07 137 eP P 16 57 45.5 -0.2
SDBA SAO DESIDERIO 37.19 111 eP P 16 57 46.4 -0.3
CRSM Crissiumal (Br 37.45 140 eP P 16 57 47.8 -1.0
ITQB Itaqui 37.46 145 eP P 16 57 49.2 +0.4
LPIG La Paz 37.51 311 LR LR 17 09 57.3
comp=Z,31nm,19.4s,baz=140,slow=31
BB19B Bebedouro 37.57 127 eP P 16 57 49.5 -0.5
UNIS Unistalda (Bra 37.92 143 eP P 16 57 52.6 -0.2
PMNB Patos De Minas 38.09 122 eP P 16 57 54.2 -0.2
ITAB Concordia 38.53 138 eP P 16 57 57.6 -0.2
JANB Januaria 38.59 115 eP P 16 57 57.9 -0.7
RODS Rosario do Sul 38.79 145 eP P 16 58 00.2 +0.3
ALGR Alto Alegre (B 39.00 141 eP P 16 58 00.7 -1.2
RPN Rapa Nui 39.38 223 LR LR 17 11 10.1
comp=Z,202nm,18.2s,baz=330,slow=31
MSTX Muleshoe 39.48 330 P P 16 58 06.6 +0.8
MC01 Montes Claros 39.52 117 eP P 16 58 06.2 -0.2
TIJ01 Guaruva-PR 39.54 133 eP P 16 58 05.6 -0.9
ELIS Ellis County 39.65 335 P P 16 58 11.1 +4.0
ELIS IAmb IAmb 16 58 14.3
comp=Z,43nm,1.5s
VAO Valinhos 39.81 128 eP P 16 58 07.6 -1.1
CPSB Cacapava Do Su 39.87 143 eP P 16 58 08.6 -0.5
PET01 Itanhaem-SP 40.25 130 eP P 16 58 11.0 -1.3
DIAM Diamantina, MG 40.37 120 eP P 16 58 12.5 -1.0
BSCB Bom Sucesso 40.60 124 eP P 16 58 14.7 -0.6
PLTB Pedras Altas 40.75 144 eP P 16 58 16.6 +0.3
PARB Paraibuna 41.04 128 eP P 16 58 18.4 -0.5
121A Cookes Peak, D 41.16 323 IAmb IAmb 16 58 26.9
comp=Z,23nm,1.4s
CRNM Carthage 41.58 326 P P 16 58 23.6 +0.3
LL04 Puerto Octay 41.85 171 P P 16 58 25.1 -0.1
LL04 IAmb IAmb 16 58 26.3
comp=Z,16nm,0.8s
PLCA Paso Flores 41.99 169 P P 16 58 26.7 +0.2
comp=Z,13nm,0.9s,baz=343,slow=9.4,SNR=24
comp=Z,13nm,0.9s
PLCA Paso Flores 41.99 169 P P 16 58 26.8 +0.2
PLCA IAmb IAmb 16 58 28.1
comp=Z,15nm,0.8s
PLCA Paso Flores 41.99 169 eP P 16 58 27.4 +0.9
ANMO Albuquerque 42.16 327 P P 16 58 28.5 +0.4
ANMO IAmb IAmb 16 58 34.3
comp=Z,12nm,1.1s
CMC01 Camacan, BA 43.06 113 eP P 16 58 35.6 +0.1

DUB01 Friburgo-RJ 43.08 124 eP P 16 58 34.1 -1.5
GUA01 Guaratinga, BA 43.19 115 eP P 16 58 36.3 -0.1
NBLA Lagarto - SE 43.55 107 eP P 16 58 37.9 -1.5
CAM01 Campos-RJ 43.56 123 eP P 16 58 38.8 -0.6
RIB01 Linhares ES 43.63 119 eP P 16 58 39.5 -0.5
S22A 4UR Ranch, Cre 44.48 329 P P 16 58 48.3 +1.4
RCBR Riachuelo 44.54 99 LR LR 17 17 55.3
comp=Z,366nm,18.3s,baz=56,slow=37
RCBR Riachuelo 44.54 99 eP P 16 58 45.6 -1.9
X16A Lo Mia Camp, P 44.67 322 P P 16 58 48.7 +0.3
NBAN Anadia - AL 44.75 104 eP P 16 58 48.0 -1.1
K31A O'Neill 45.12 340 P P 16 58 55.4 +3.7
SMCO Snowmass 45.65 331 P P 16 58 58.4 +2.1
SMCO IAmb IAmb 16 59 02.0
comp=Z,6.4nm,1.1s
PV15 Paradox Valley 45.78 329 P P 16 58 59.7 +2.6
PV15 IAmb IAmb 16 59 04.9
comp=Z,8.4nm,0.9s
U15A North Rim 46.54 324 P P 16 59 06.6 +3.4
U15A IAmb IAmb 16 59 09.3
comp=Z,9.5nm,1.3s
W13A Hualapai Mount 46.64 321 P P 16 59 06.5 +2.5
PFO Pinyon Flats O 47.40 318 LR LR 17 17 23.4
comp=Z,116nm,18.1s,baz=122,slow=34
RDMU Red Mountain 48.00 330 P P 16 59 15.7 +1.2
RDMU IAmb IAmb 16 59 19.9
comp=Z,12nm,1.2s
SHPR Sheep Range 48.33 322 P P 16 59 21.8 +4.7
SHPR IAmb IAmb 16 59 23.4
comp=Z,9.1nm,1.4s
RSSD Black Hills 48.34 337 P P 16 59 17.5 +0.4
RSSD IAmb IAmb 16 59 22.5
comp=Z,7.1nm,1.1s
QSM Queen of Sheba 49.08 320 P P 16 59 24.2 +1.6
SPR3 Spring Creek 3 49.47 325 IAmb IAmb 16 59 32.3
comp=Z,4.8nm,1.1s
PDAR Pinedale Array 49.66 332 P P 16 59 28.9 +1.8
comp=Z,1.0nm,0.8s,baz=146,slow=6.6,SNR=8.1
PDAR PcP PcP 17 00 50.5 +2.0
comp=Z,0.1nm,0.4s,baz=64,slow=2.1,SNR=1.5
PDAR LR LR 17 21 36.7
comp=Z,125nm,19.6s,baz=142,slow=38
HWUT Hardware Ranch 49.78 329 IAmb IAmb 16 59 38.6
comp=Z,7.3nm,1.1s
GRAC Grapevine Rang 50.02 321 P P 16 59 31.9 +2.1
REDW Red Top Meadow 50.73 331 IAmb IAmb 16 59 40.7
comp=Z,7.4nm,1.1s
ELK Elko 51.16 326 LR LR 17 20 01.2
comp=Z,56nm,21.5s,baz=114,slow=35
NV11 Mina Array Sit 51.39 322 IAmb IAmb 16 59 45.9
comp=Z,9.6nm,1.2s
NVAR Mina Array Bea 51.48 322 P P 16 59 40.2 -0.9
comp=Z,1.9nm,1.0s,baz=125,slow=7.8,SNR=8.9
NVAR LR LR 17 19 48.8
comp=Z,122nm,18.1s,baz=100,slow=34
comp=Z,1.9nm,1.0s
NVAR Mina Array Bea 51.48 322 P P 16 59 41.0 0.0
LHV Little Huntoon 51.50 321 IAmb IAmb 16 59 47.5
comp=Z,9.6nm,1.2s
YHL Hebgen Lake 52.00 332 IAmb IAmb 16 59 52.2
comp=Z,13nm,1.3s
HLID Hailey 52.65 329 P P 16 59 52.8 +3.2
BOZ Bozeman (W) 52.77 333 IAmb IAmb 16 59 55.5
comp=Z,6.7nm,1.0s
MFID Camas Ranch 53.29 328 IAmb IAmb 17 00 00.3
comp=Z,15nm,1.2s
WVOR Wild Horse Val 54.19 325 IAmb IAmb 17 00 06.3
comp=Z,8.6nm,1.2s
MSO Missoula 54.76 332 P P 17 00 07.6 +2.7
MSO IAmb IAmb 17 00 10.3
comp=Z,17nm,1.4s
YBH Yreka Blue Hor 56.16 322 LR LR 17 24 02.6
comp=Z,15nm,19.2s,baz=144,slow=36
KSXB Camp Six Broad 56.94 322 P P 17 00 26.1 +5.4
NEW Newport 57.30 331 LR LR 17 25 41.1
comp=Z,65nm,19.2s,baz=145,slow=37
LLLB Lillooet 61.17 331 P P 17 00 53.2 +3.4
LLLB IAmb IAmb 17 00 55.8
comp=Z,11nm,1.2s
BBB Bella Bella 65.22 330 LR LR 17 30 29.0
comp=Z,48nm,21.7s,baz=140,slow=37
YKA Yellowknife Ar 66.99 343 LR LR 17 30 43.4
comp=Z,57nm,19.4s,baz=52,slow=36
PPT Papeete 70.68 251 LR LR 17 25 46.8
comp=Z,178nm,18.5s,baz=106,slow=30
FARO Faro, Yukon 73.24 337 IAmb IAmb 17 02 11.8
comp=Z,6.2nm,1.2s
ICESG Greenland Ices 73.60 14 eP P 17 02 04.7 -3.8
M30M Minto, Yukon 74.78 336 P P 17 02 17.4 +2.3
DBIC Dimbokro 75.24 83 P P 17 02 17.7 -1.0
comp=Z,4.3nm,0.7s,baz=288,slow=6.4,SNR=3.6
DBIC LR LR 17 34 24.5
comp=Z,110nm,18.5s,baz=230,slow=35
comp=Z,4.3nm,0.7s
KOWA Kowa 76.35 75 LR LR 17 35 41.3
comp=Z,102nm,20.3s,baz=234,slow=36
KOWA Kowa 76.35 75 P P 17 02 24.0 -1.0
KOWA IAmb IAmb 17 02 25.5
comp=Z,7.8nm,0.8s
SUMG Summit 76.44 12 eP P 17 02 18.5 -6.4
BORG Borgarnes 76.62 22 LR LR 17 33 17.7
comp=Z,74nm,21.0s,baz=216,slow=34
I29M Ogilvie Camp, 76.74 339 IAmb IAmb 17 02 32.4
comp=Z,12nm,1.4s
L27K Beaver Creek, 77.06 336 P P 17 02 30.6 +2.5
L27K IAmb IAmb 17 02 34.2
comp=Z,10.0nm,1.3s
GLB Gilahina Butte 77.24 334 IAmb IAmb 17 02 34.3
comp=Z,12nm,1.2s
M26K Nabesna, AK 77.27 335 IAmb IAmb 17 02 34.9
comp=Z,8.0nm,1.2s
EGAK Eagle 77.54 337 IAmb IAmb 17 02 36.1
comp=Z,11nm,1.1s
DOT Dot Lake 78.22 336 IAmb IAmb 17 02 40.1
comp=Z,11nm,1.4s
SCRK Sand Creek 78.32 336 P P 17 02 38.2 +2.9
SCRK IAmb IAmb 17 02 40.5
comp=Z,6.8nm,1.2s
J26L Joseph Creek 78.36 337 IAmb IAmb 17 02 41.5
comp=Z,5.0nm,1.1s
ESDC Sonseca Array 78.95 50 P P 17 02 38.7 -0.4
comp=Z,4.0nm,1.0s,baz=269,slow=4.8,SNR=13
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 78.95 50 P P 17 02 39.0 -0.2
ESDC IAmb IAmb 17 02 41.2
comp=Z,9.0nm,1.4s
ILAR Eielson Array 79.79 336 P P 17 02 42.6 -0.5
comp=Z,2.1nm,1.1s,baz=114,slow=4.4,SNR=8.0
ILAR LR LR 17 40 09.6
comp=Z,59nm,19.1s,baz=12,slow=37
comp=Z,2.1nm,1.1s
MDM Murphy Dome 80.39 336 IAmb IAmb 17 02 51.8
comp=Z,11nm,1.4s
NEA2 Nenana 80.61 336 IAmb IAmb 17 02 52.4
comp=Z,11nm,1.3s
RAR Rarotonga 80.61 249 LR LR 17 31 12.3
comp=Z,83nm,20.9s,baz=124,slow=30
TOA0 Torodi Ar. Sit 81.84 77 P P 17 02 53.7 -1.4
TORD Torodi Ar. Bea 81.84 77 P P 17 02 54.0 -1.0
comp=Z,6.5nm,0.8s,baz=280,slow=6.1,SNR=40
TORD LR LR 17 40 53.5
comp=Z,82nm,18.4s,baz=209,slow=37
comp=Z,6.5nm,0.8s
BELA Belgrano 2 82.01 171 P P 17 02 55.6 +0.9
BELA IAmb IAmb 17 03 00.8
comp=Z,7.0nm,1.3s
VNA3 Neumayer Olymp 84.29 162 P P 17 03 06.4 -0.3
VNA1 Neumayer--Stat 84.54 161 P P 17 03 07.2 -0.7
VNA2 Neumayer--Watz 84.90 162 P P 17 03 09.4 -0.3
baz=287,slow=4.4
SNAA Sanae 86.51 162 P P 17 03 17.4 -0.4
TROLL Troll, Antarti 88.22 162 P P 17 03 26.1 0.0
KEST Kesra 89.19 54 P P 17 03 31.2 -0.2
comp=Z,2.9nm,0.9s,baz=267,slow=16,SNR=3.9
comp=Z,2.9nm,0.9s
VRAC Vranov 93.93 41 LR LR 17 42 58.7
comp=Z,66nm,19.9s,baz=16,slow=34
TSUM Tsumeb 97.40 109 LR LR 17 46 10.4
comp=Z,122nm,19.2s,baz=286,slow=34
ZALV Zalesovo Beam 124.25 11 PKP PKPdf 17 09 32.5 -1.4
comp=Z,0.6nm,0.5s,baz=318,slow=1.9,SNR=4.6
GEYT Alibeck 125.69 40 PKP PKPdf 17 09 36.0 -1.3
comp=Z,1.3nm,0.7s,baz=237,slow=10,SNR=2.4
MKAR Makanchi Array 130.37 16 PKP PKPdf 17 09 44.4 -1.6
comp=Z,0.8nm,0.8s,baz=349,slow=0.7,SNR=7.3
KSRS Korea Array 134.18 329 PKP PKPdf 17 09 52.6 -0.7
comp=Z,0.9nm,0.9s,baz=24,slow=3.1,SNR=4.7

ASAR Alice Springs 139.84 233 PKhKP PKPpre 17 09 59.8
comp=Z,0.4nm,0.8s,baz=117,slow=3.6,SNR=7.4
WRA Warramunga Arr 141.22 238 PKP PKPdf 17 10 03.8 -3.0
comp=Z,0.9nm,0.9s,baz=119,slow=2.1,SNR=7.4
PYUN Piuthan 147.19 28 eP PKPdf 17 10 17.9 +0.6
comp=Z,22nm,1.1s
DANN Dangsing 147.34 27 eP PKPdf 17 10 18.8 +1.2
comp=Z,37nm,0.8s
GKN Gorkha 148.03 26 eP PKPdf 17 10 17.7 -0.9
DMN Daman 148.58 26 eP PKPdf 17 10 19.0 -0.6
comp=Z,4.6nm,0.3s
PKIN Phulchoki 148.73 25 eP PKPdf 17 10 17.7 -2.2
PKI Pulchoki 148.74 25 eP PKPdf 17 10 19.5 -0.5
PZH PanZhiHua 153.04 356 PKPbc PKPdf 17 10 25.4 -1.0

---

*IDC **14** 17:13:43.8±0.9,36°.51N×98°.79W,h0km,mb3.7/2, mbtmp3.8/8,ML3.6/6,MS2.7/2,Error ellipse: s-maj=12.5km s-min=10.2km az=123.0*
*TUL **14** 17:13:44.9±0.4,36°.451N±0°.004×98°.77W±0°.02,h8km±3km, ML3.7,mb_Lg3.8/109(NEIC),Mwr3.7/49(NEIC),Error ellipse: s-maj=2.1km s-min=0.5km az=86.0*
*ANF **14** 17:13:45.3±0.2,36°.42N×98°.74W,h4km,ML4.6/16,Error ellipse: s-maj=2.1km s-min=1.5km az=148.0*
*NEIC **14** 17:13:45.6±0.4,36°.45N±0°.01×98°.76W±0°.02,h5km±5km, Error ellipse: s-maj=2.0km s-min=1.8km az=178.0*
*NEIC **14** 17:13:45.5,36°.45N×98°.76W,h8km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=0.92; Mθθ=4.75; Mϕϕ=3.83; Mrθ=-0.92; Mrϕ=-0.71; Mθϕ=0.70; Fault plane solution: M0=4.57000×10^14^ NP1:ϕs=319.40000°, δ=73.99000°,λ=-4.11000°. NP2:ϕs=50.54000°,δ=86.05000°, λ=-163.95000°. Principal axes: T 4.9297, Plg=8.0000°, Azm=184.0000°; N -0.8470, Plg=73.0000°, Azm=64.0000°; P =4.0827, Plg=14.0000°, Azm=276.0000°;*
ISC 14 17:13:45.1±0.8,36°.47N±0°.02×98°.75W±0°.02,h9km±6km, n=189,σ=1^{2}0/189,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK038	**West end E0370**	**0.01**	**27**	Pg	**Pg**	**17 13 46.7**	**0.0**
U32A	**Winter Ranch,**	**0.22**	**247**	Pg	**Pg**	**17 13 49.1**	**-0.5**
U32A				Sg	**Sg**	**17 13 52.6**	**0.0**
U32A	**Winter Ranch,**	**0.22**	**247**	P	**Pg**	**17 13 49.3**	**-0.3**
	baz=69,SNR=1000						
U32A				S	**Sg**	**17 13 52.2**	**-0.4**
	baz=69						
NOKA	**Waynoka**	**0.22**	**319**	Pg	**Pg**	**17 13 49.8**	**+0.1**
NOKA					**Sg**	**17 13 53.4**	**+0.7**
OK035	**E0210 Rd and N**	**0.24**	**7**		**Pg**	**17 13 50.4**	**+0.4**
OK032	**Salt Plains WL**	**0.55**	**52**	Pg	**Pg**	**17 13 55.8**	**+0.1**
OK032				Sg	**Sg**	**17 14 03.2**	**+0.4**
CROK	**Carrier**	**0.62**	**86**	Pg	**Pg**	**17 13 57.1**	**+0.1**
ELIS	**Ellis County**	**0.67**	**234**	Pg	**Pg**	**17 13 57.6**	**-0.5**
ELIS				Sg	**Sg**	**17 14 06.9**	**0.0**
KAN14	**Manchester OK**	**0.80**	**52**	Pg	**Pg**	**17 14 00.4**	**0.0**
GC02	**Grant County #**	**0.81**	**62**	Pg	**Pg**	**17 14 00.7**	**0.0**
CSTR	**Hydro, Custer**	**0.82**	**177**	Pg	**Pg**	**17 14 00.3**	**-0.6**
CSTR				IAmb_Lg		17 14 10.9	
	comp=Z,41nm,0.8s						
KAN10	**Anthony SW Sta**	**0.84**	**39**	Pg	**Pg**	**17 14 01.1**	**-0.1**
KAN16	**Harper SW Stat**	**0.94**	**36**		**Pb**	**17 14 02.9**	**-0.6**
KAN05	**Bluff City Nor**	**0.95**	**47**		**Pb**	**17 14 03.3**	**-0.5**
KAN17	**Caldwell West**	**0.98**	**54**	Pg	**Pg**	**17 14 03.5**	**-0.3**
KAN08	**Anthony NE Sta**	**0.98**	**39**		**Pg**	**17 14 03.6**	**-0.3**
KAN12	**Harper NE Stat**	**1.02**	**36**		**Pg**	**17 14 04.5**	**-0.3**
KAN01	**Argonia South**	**1.05**	**49**	Pg	**Pb**	**17 14 05.0**	**-0.5**
KAN06	**Argonia West S**	**1.06**	**42**		**Pg**	**17 14 04.9**	**-0.4**
KAN09	**Caldwell North**	**1.13**	**53**		**Pg**	**17 14 06.2**	**-0.5**
KAN13	**South Haven SW**	**1.16**	**62**		**Pg**	**17 14 06.7**	**-0.6**
OK049	**E0420 Rd and N**	**1.17**	**93**		**Pg**	**17 14 06.8**	**-0.7**
KS21	**Milan North St**	**1.19**	**46**	Pg	**Pg**	**17 14 07.6**	**-0.4**
KS20	**Mayfield South**	**1.22**	**51**		**Pg**	**17 14 08.0**	**-0.6**
BCOK	**Bluff Creek, N**	**1.23**	**131**		**Pg**	**17 14 07.4**	**-1.2**
OK029	**Liberty Lake**	**1.24**	**122**		**Pg**	**17 14 07.7**	**-1.2**
BLOK	**Blackwell**	**1.27**	**76**		**Pg**	**17 14 08.6**	**-0.8**
BLOK				IAmb_Lg		17 14 27.8	
	comp=Z,225nm,0.8s						
OK050	**Pawnee Station**	**1.43**	**92**		**Pn**	**17 14 11.2**	**0.0**
OK025	**Westminster Rd**	**1.45**	**127**		**Pn**	**17 14 11.2**	**-0.3**
OK048	**Pawnee Station**	**1.46**	**91**		**Pn**	**17 14 11.8**	**+0.2**
OK045	**Pawnee Station**	**1.47**	**90**		**Pn**	**17 14 12.0**	**+0.2**
OK046	**Pawnee Station**	**1.49**	**92**		**Pn**	**17 14 12.2**	**+0.2**
OK005	**Luther M Schoo**	**1.50**	**122**	Pg	**Pn**	**17 14 12.3**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**1.50**	**135**		**Pn**	**17 14 12.6**	**+0.4**
OK033	**Mehan**	**1.52**	**106**		**Pn**	**17 14 12.6**	**+0.1**
OK051	**E0350 and S346**	**1.54**	**88**		**Pn**	**17 14 13.2**	**+0.4**
OK044	**Pawnee Station**	**1.58**	**93**		**Pn**	**17 14 13.7**	**+0.4**
OK031	**S. Brethren Rd**	**1.63**	**108**	Pn	**Pn**	**17 14 14.3**	**+0.4**
FNO	**Franklin**	**1.63**	**137**	Pn	**Pn**	**17 14 14.4**	**+0.4**
OK047	**Pawnee, Statio**	**1.63**	**89**	Pn	**Pn**	**17 14 14.7**	**+0.7**
QUOK	**Quay**	**1.68**	**100**		**Pn**	**17 14 15.1**	**+0.5**
OK030	**Cody Creek RV**	**1.68**	**108**	Pn	**Pn**	**17 14 14.8**	**+0.3**
OK034	**N. Norfolk Rd.**	**1.71**	**105**	Pn	**Pn**	**17 14 15.5**	**+0.4**
WMOK	**Wichita Mounta**	**1.73**	**181**		**Pn**	**17 14 14.7**	**-0.7**
WMOK	**Wichita Mounta**	**1.73**	**181**	P	**Pn**	**17 14 14.6**	**-0.7**
	baz=0.6,SNR=448						
WMOK				S	**Sn**	**17 14 38.8**	**+1.3**
	baz=0.6						
WMOK	**Wichita Mounta**	**1.73**	**181**	P	**Pn**	**17 14 14.6**	**-0.7**
	baz=0.6						
T35A	**Sooner Cattle**	**1.85**	**75**	Pn	**Pn**	**17 14 17.9**	**+0.9**
T35A				IAmb_Lg		17 14 44.4	
	comp=Z,488nm,1.1s						
T35B	**Sooner Cattle**	**1.85**	**75**	P	**Pn**	**17 14 17.6**	**+0.5**
	baz=256,SNR=222						
T35B				S	**Sb**	**17 14 43.2**	**+0.7**
	baz=256						
DEOK	**Depew**	**1.93**	**108**	Pn	**Pn**	**17 14 18.8**	**+0.7**
DEOK				IAmb_Lg		17 14 44.8	
	comp=Z,96nm,0.8s						
OK011	**Prague**	**1.94**	**120**	Pn	**Pn**	**17 14 18.9**	**+0.7**
R32A	**Long Quarter,**	**1.95**	**1**	Pn	**Pb**	**17 14 19.8**	**-1.1**
R32A	**Long Quarter,**	**1.95**	**1**	P	**Pb**	**17 14 20.0**	**-0.9**
	baz=181,SNR=118						
R32A				S	**Sg**	**17 14 46.9**	**-0.9**
	baz=181						
X34A	**Smith Ranch, M**	**2.01**	**158**		**Pn**	**17 14 20.3**	**+1.1**
X34A				IAmb_Lg		17 14 49.3	
	comp=Z,842nm,0.8s						
TUL1	**Leonard**	**2.46**	**102**	Pn	**Pn**	**17 14 25.6**	**+0.2**
TUL1				IAmb_Lg		17 15 01.9	
	comp=Z,374nm,1.0s						
TUL1	**Leonard**	**2.46**	**102**	P	**Pn**	**17 14 26.2**	**+0.8**
	baz=284,SNR=44						
TUL1				S	**Sn**	**17 14 57.3**	**+1.8**
	baz=284						
TUL1	**Leonard**	**2.46**	**102**	P	**Pn**	**17 14 26.2**	**+0.8**
	baz=284						
TUL1				S	**Sn**	**17 14 57.2**	**+1.8**
	baz=284						
CBKS	**Cedar Bluff**	**2.47**	**342**		**Pn**	**17 14 26.1**	**+0.5**
CBKS	**Cedar Bluff**	**2.47**	**342**	P	**Pb**	**17 14 29.7**	**0.0**
	baz=162						
CBKS				S	**Sb**	**17 15 01.5**	**+1.2**
	baz=162						
LOOK	**Love County**	**2.78**	**152**	Pn	**Pn**	**17 14 30.7**	**+0.9**
LOOK				IAmb_Lg		17 15 19.1	
	comp=Z,449nm,1.1s						
AMTX	**Amarillo**	**2.86**	**237**	Pn	**Pn**	**17 14 31.8**	**+0.7**
AMTX	**Amarillo**	**2.86**	**237**	P	**Pn**	**17 14 32.2**	**+1.2**
	baz=56,SNR=149						
AMTX				Sb	**Sb**	**17 15 14.0**	**+2.4**
	baz=56						
AMTX	**Amarillo**	**2.86**	**237**	P	**Pn**	**17 14 32.2**	**+1.2**
	baz=56						
AMTX				Sb	**Sb**	**17 15 13.9**	**+2.3**
	baz=56						
RLO	**Rose Lookout**	**3.02**	**95**	Pn	**Pn**	**17 14 33.9**	**+0.7**
RLO				IAmb_Lg		17 15 21.9	
	comp=Z,177nm,0.8s						
KSU1	**Kansas State U**	**3.13**	**32**	Pn	**Pn**	**17 14 35.8**	**+1.2**
KSU1				IAmb_Lg		17 15 31.6	
	comp=Z,178nm,0.7s						
KSU1	**Kansas State U**	**3.13**	**32**	P	**Pn**	**17 14 36.0**	**+1.3**
	baz=213,SNR=44						
KSU1	**Kansas State U**	**3.13**	**32**	P	**Pn**	**17 14 35.9**	**+1.3**
	baz=213						
X37A	**Clayton**	**3.33**	**123**	Pn	**Pn**	**17 14 37.9**	**+0.5**
X37A	**Clayton**	**3.33**	**123**	P	**Pn**	**17 14 37.7**	**+0.3**
	baz=305,SNR=28						
Z35A	**Perchaven, San**	**3.36**	**158**		**Pn**	**17 14 38.1**	**+0.3**
Z35A	**Perchaven, San**	**3.36**	**158**	S	**Sn**	**17 15

baz=339
U38A Gravette 3.52 89 Pn **Pn** **17 14 40.9 +1.0**
U38A lAmb_Lg 17 15 36.9
comp=Z,204nm,0.9s
U38A Gravette 3.52 89 P **Pn** **17 14 41.0 +1.0**
baz=272,SNR=21
HHAR Hobbs 3.88 91 Pn **Pn** **17 14 45.5 +0.5**
HHAR lAmb_Lg 17 15 52.0
comp=Z,203nm,0.8s
ABTX Abilene, Hawle 3.91 191 Pn **Pn** **17 14 45.5 +0.2**
ABTX lAmb_Lg 17 15 54.8
comp=Z,174nm,0.8s
ABTX Abilene, Hawle 3.91 191 P **Pn** **17 14 45.5 +0.2**
baz=11
KSCO Kaye Shedlock' 3.99 311 **Pn** **17 14 47.1 +0.6**
KSCO lAmb_Lg 17 15 58.9
comp=Z,327nm,0.7s
KSCO Kaye Shedlock' 3.99 311 Sb **Sg** **17 15 50.5 -2.6**
baz=129
MSTX Muleshoe 4.13 234 Pn **Pn** **17 14 48.7 +0.2**
MSTX lAmb_Lg 17 16 03.8
comp=Z,281nm,0.8s
MSTX Muleshoe 4.13 234 P **Pn** **17 14 48.8 +0.2**
baz=52,SNR=16
MSTX Sb **Sb** **17 15 52.4 +4.3**
baz=52
N33A J Bar K, Exete 4.38 13 **Pn** **17 14 52.1 +0.3**
N33A lAmb_Lg 17 16 16.6
comp=Z,174nm,0.8s
Z38A Mt. Pleasant 4.45 135 **Pn** **17 14 52.3 -0.5**
Z38A lAmb_Lg 17 16 11.9
comp=Z,244nm,0.9s
S39A Bolivar 4.51 73 **Pn** **17 14 53.9 +0.4**
S39A lAmb_Lg 17 16 08.8
comp=Z,215nm,0.9s
WHTX Lake Whitney, 4.59 166 **Pn** **17 14 54.6 -0.1**
WHTX Lake Whitney, 4.59 166 P **Pn** **17 14 55.0 +0.2**
baz=347
T25A Trinidad 4.59 280 Pn **Pn** **17 14 55.2 +0.2**
T25A Trinidad 4.59 280 P **Pn** **17 14 55.8 +0.8**
baz=97
T25A Sb **Sg** **17 16 07.3 -5.3**
baz=97
MIAR Mount Ida 4.63 113 Pn **Pn** **17 14 55.8 +0.5**
MIAR lAmb_Lg 17 16 22.5
comp=Z,149nm,0.9s
BGNE Belgrade 4.96 5 Pn **Pn** **17 15 00.1 +0.4**
BGNE lAmb_Lg 17 16 36.8
comp=Z,169nm,0.8s
BGNE Belgrade 4.96 5 P **Pn** **17 15 00.5 +0.8**
baz=186,SNR=34
BGNE Belgrade 4.96 5 P **Pn** **17 15 00.5 +0.8**
baz=186
N35A Tabor 5.01 28 **Pn** **17 15 01.3 +0.8**
N35A Tabor 5.01 28 S **Sn** **17 16 02.1 +3.5**
baz=210
237A Washetta, Mont 5.08 150 Pn **Pn** **17 15 00.9 -0.5**
237A lAmb_Lg 17 16 35.9
comp=Z,142nm,0.9s
OGNE Ogallala 5.16 331 Pn **Pn** **17 15 03.8 +1.2**
OGNE lAmb_Lg 17 16 40.1
comp=Z,263nm,0.8s
P38A Dawn 5.18 51 **Pn** **17 15 03.3 +0.4**
P38A lAmb_Lg 17 16 39.5
comp=Z,116nm,0.8s
P38A Dawn 5.18 51 P **Pn** **17 15 03.5 +0.6**
baz=234,SNR=17
MGMO Mountain Grove 5.24 81 Pn **Pn** **17 15 04.2 +0.5**
MGMO lAmb_Lg 17 16 35.8
comp=Z,137nm,0.9s
WHAR Wooly Hollow 5.38 101 Pn **Pn** **17 15 06.2 +0.8**
WHAR lAmb_Lg 17 16 43.0
comp=Z,197nm,0.8s
FCAR Ozark Folk Cen 5.39 94 Pn **Pn** **17 15 06.5 +0.8**
FCAR lAmb_Lg 17 16 42.8
comp=Z,141nm,0.9s
WLAR White Oak Lake 5.39 119 lAmb_Lg 17 16 41.4
comp=Z,159nm,0.8s
CPRX Cap Rock 5.43 232 Pn **Pn** **17 15 06.6 +0.2**
R40A Maddies Statio 5.47 69 Pn **Pn** **17 15 06.5 -0.3**
UALR University of 5.48 106 **Pn** **17 15 08.4 +1.4**
UALR lAmb_Lg 17 16 46.8
comp=Z,117nm,0.8s
SDCO Great Sand Dun 5.55 285 **Pn** **17 15 09.2 +1.1**
SDCO lAmb_Lg 17 16 49.6
comp=Z,147nm,1.1s
SDCO Great Sand Dun 5.55 285 P **Pn** **17 15 09.5 +1.4**
baz=102
Q24A Divide 5.65 298 lAmb_Lg 17 16 45.1
comp=Z,135nm,0.9s
435B Jarrell 5.75 170 lAmb_Lg 17 16 59.5
comp=Z,181nm,0.8s
NATX Nacogdoches 5.79 143 lAmb_Lg 17 17 01.1
comp=Z,141nm,0.8s
L34A Svendsen Farm, 5.79 18 **Pn** **17 15 11.2 0.0**
CLN7 Carlsbad 7 5.82 227 **Pn** **17 15 12.4 +0.7**
JCT Junction City 6.04 189 Pn **Pn** **17 15 15.1 +0.4**
N38A Joes South For 6.11 43 **Pn** **17 15 16.1 +0.6**
N38A Joes South For 6.11 43 P **Pn** **17 15 16.0 +0.5**
baz=227
P40A Paris 6.11 58 **Pn** **17 15 15.9 +0.4**
P40A Paris 6.11 58 P **Pn** **17 15 16.1 +0.5**
baz=242
K31A O'Neill 6.15 360 Pn **Pn** **17 15 16.9 +0.8**
K31A lAmb_Lg 17 17 03.8
comp=Z,132nm,0.7s
LCAR Lake Charles 6.15 91 Pn **Pn** **17 15 16.9 +0.9**
CCM Cathedral Cave 6.19 73 Pn **Pn** **17 15 17.2 +0.6**
CCM lAmb_Lg 17 17 08.6
comp=Z,177nm,0.9s
CCM Cathedral Cave 6.19 73 P **Pn** **17 15 17.4 +0.7**
baz=257
CCAR Cane Creek 6.25 112 lAmb_Lg 17 17 21.2
comp=Z,159nm,0.9s
ISCO Idaho Springs 6.35 304 **Pn** **17 15 19.9 +0.7**
ISCO lAmb_Lg 17 17 11.1
comp=Z,95nm,0.9s
ISCO Idaho Springs 6.35 304 Sb **Sg** **17 17 03.2 -5.7**
baz=120
ANMO Albuquerque 6.45 259 Pn **Pn** **17 15 21.7 +1.2**
comp=Z,0.3nm,0.3s,baz=78,slow=16,SNR=4.1
ANMO Pg **Pb** **17 15 40.2 +2.5**
comp=Z,0.6nm,0.3s,baz=77,slow=18,SNR=3.5
ANMO Lg Lg 17 17 04.4
comp=Z,4.0nm,0.3s,baz=336,slow=17,SNR=4.2
ANMO LR LR 17 17 22.0
comp=Z,42nm,21.7s,baz=90,slow=34
comp=Z,1.5nm,0.5s
ANMO Albuquerque 6.45 259 Pn **Pn** **17 15 20.9 +0.5**
BNM Barren Site 6.84 253 Pn **Pn** **17 15 26.3 +0.4**
SCIA State Center 6.92 37 Pn **Pn** **17 15 27.6 +0.8**
SCIA lAmb_Lg 17 17 38.6
comp=Z,182nm,0.8s
HKT Hockley 6.94 159 **Pg** **17 15 57.1 -0.9**
SLM Saint Louis 7.10 70 lAmb_Lg 17 17 30.4
comp=Z,179nm,0.8s
PHWY Pilot Hill 7.12 315 Pn **Pn** **17 15 30.8 +1.2**
PHWY lAmb_Lg 17 17 30.5
comp=Z,118nm,0.9s
N23A Red Feather La 7.16 310 Pn **Pn** **17 15 31.6 +1.4**
MNTX Cornudas Mount 7.27 231 Pn **Pn** **17 15 31.9 +0.3**
MNTX lAmb_Lg 17 17 33.7
comp=Z,105nm,0.8s
MNTX Cornudas Mount 7.27 231 P **Pn** **17 15 32.0 +0.5**
baz=47
MNTX Cornudas Mount 7.27 231 P **Pn** **17 15 32.0 +0.5**
baz=47
CGM3 Cape Girardeau 7.33 81 **Pn** **17 15 32.9 +0.6**
CGM3 lAmb_Lg 17 17 48.9
comp=Z,71nm,0.8s
ECSD EROS Data Cent 7.44 12 Pn **Pn** **17 15 34.5 +0.7**
N41A Harden Midland 7.49 53 Pn **Pn** **17 15 34.9 +0.4**
735A Kenedy 7.63 174 lAmb_Lg 17 18 00.1
comp=Z,136nm,1.1s
S44A Carbondale 7.69 78 **Pn** **17 15 37.8 +0.6**
S44A lAmb_Lg 17 17 59.7
comp=Z,108nm,0.7s
SIUC Southern Illin 7.72 78 **Pn** **17 15 37.4 -0.3**
SIUC lAmb_Lg 17 17 56.1
comp=Z,112nm,0.8s
MVCO Mesa Verde 7.85 278 **Pn** **17 15 37.4 -2.3**
OXF Oxford 7.86 102 **Pn** **17 15 38.8 -0.8**
OXF lAmb_Lg 17 18 03.3
comp=Z,73nm,0.9s
W45A Hickory Valley 7.88 97 Pn **Pn** **17 15 39.3 -0.5**
W45A lAmb_Lg 17 17 56.5
comp=Z,103nm,0.9s
P43A Skaggs, Pawnee 7.94 64 Pn **Pn** **17 15 40.5 -0.1**
SUSD Miller 7.97 359 Pn **Pn** **17 15 40.6 -0.5**
SUSD lAmb_Lg 17 18 11.1
comp=Z,75nm,0.9s
Y45A Yeager Farm, C 7.97 106 lAmb_Lg 17 18 14.5
comp=Z,70nm,0.9s
VBMS Vicksburg 8.02 120 lAmb_Lg 17 18 17.4
comp=Z,57nm,1.1s
L40A Anamosa 8.08 44 Pn **Pn** **17 15 41.8 -0.7**
Q44A Meyer Farm, Va 8.09 70 Pn **Pn** **17 15 41.8 -1.0**
Q44A Meyer Farm, Va 8.09 70 P **Pn** **17 15 43.1 +0.4**
baz=255
833A Chaparral WMA, 8.14 184 lAmb_Lg 17 18 18.9
comp=Z,102nm,1.2s
TX31 Lajitas Ar. Si 8.23 212 **Pn** **17 15 44.2 -0.6**
TX32 Lajitas Array 8.23 212 **Pn** **17 15 44.2 -0.6**
TXAR Lajitas Array 8.23 212 Pn **Pn** **17 15 43.5 -1.3**
comp=Z,1.2nm,0.3s,baz=39,slow=12,SNR=49
TXAR Sn **Sn** **17 17 14.1 -3.8**
comp=Z,1.3nm,0.3s,baz=40,slow=15,SNR=2.0
TXAR Lg Lg 17 18 02.4
comp=Z,3.4nm,0.3s,baz=29,slow=26,SNR=10
TXAR LR LR 17 19 11.2
comp=Z,82nm,20.4s,baz=14,slow=40
comp=Z,1.9nm,0.4s
TXAR Lajitas Array 8.23 212 Pn **Pn** **17 15 43.9 -0.8**
O20A White River Ci 8.31 299 lAmb_Lg 17 18 30.2
comp=Z,60nm,1.2s
RWWY Rawlins 8.39 311 Pn **Pn** **17 15 47.5 +0.4**
RWWY lAmb_Lg 17 18 13.6
comp=Z,137nm,1.3s
121A Cookes Peak, D 8.43 245 Pn **Pn** **17 15 46.3 -1.3**
121A lAmb_Lg 17 18 14.0
comp=Z,87nm,1.2s
HDIL Hopedale 8.46 58 Pn **Pn** **17 15 47.2 -0.6**
I37A Lemond, Waseca 8.57 27 Pn **Pn** **17 15 48.2 -1.2**
I37A lAmb_Lg 17 18 31.6
comp=Z,158nm,1.2s
K22A Casper 8.61 318 lAmb_Lg 17 18 27.6
comp=Z,134nm,0.9s
RSSD Black Hills 8.64 334 Pn **Pn** **17 15 52.3 +1.8**
RSSD lAmb_Lg 17 18 25.7
comp=Z,89nm,0.9s
PLAL Pickwick Lake 8.80 97 Pn **Pn** **17 15 53.7 +1.1**
L42A Oliver, Polo 8.95 49 lAmb_Lg 17 18 33.4
comp=Z,125nm,0.9s
JFWS Jewell Farm 9.18 43 Pn **Pn** **17 15 59.8 +2.0**
JFWS lAmb_Lg 17 18 42.5
comp=Z,74nm,0.7s
T47A Sharon Grove 9.36 83 Pn **Pn** **17 16 02.1 +1.9**
F33A 5 Mile Ranch, 9.54 10 Pn **Pn** **17 16 01.6 -1.0**
F33A lAmb_Lg 17 18 56.3
comp=Z,48nm,1.0s
I40A Norwalk 9.68 37 lAmb_Lg 17 18 54.1
comp=Z,42nm,0.7s
SPMN Marine on St. 9.84 25 **Pn** **17 16 07.0 +0.4**
F36A Milaca 10.18 21 Pn **Pn** **17 16 12.4 +1.1**
PD31 Pinedale Array 10.44 310 **Pn** **17 16 14.3 -0.9**
PDAR Pinedale Array 10.44 310 Pn **Pn** **17 16 14.2 -1.0**
comp=Z,0.3nm,0.3s,baz=124,slow=16,SNR=8.5
PDAR Pg 17 16 57.9
comp=Z,0.6nm,0.3s,baz=120,slow=14,SNR=5.7
PDAR Lg Lg 17 19 10.8
comp=Z,1.4nm,0.3s,baz=127,slow=32,SNR=9.9
comp=Z,0.6nm,0.4s
SWET Sewanee 10.48 93 **Pn** **17 16 14.3 -1.3**
X16A Lo Mia Camp, P 10.55 263 Pn **Pn** **17 16 14.4 -2.3**
I42A Draeger Farm, 10.56 42 Pn **Pn** **17 16 15.5 -1.0**
CPCT Cooper Cave 11.58 91 **Pn** **17 16 30.3 -0.3**
LAO LASA Array 11.64 334 **Pn** **17 16 33.3 +1.9**
V51A Loudon 11.66 89 Pn **Pn** **17 16 33.6 +1.9**
TKL Tuckaleechee C 12.15 89 Pn **Pn** **17 16 36.5 -1.8**
comp=Z,1.0nm,0.3s,baz=234,slow=19,SNR=6.1
TKL Lg Lg 17 20 01.2
comp=Z,0.9nm,0.3s,baz=168,slow=23,SNR=2.7
comp=Z,4.4nm,0.6s
S51A Beattyville 12.17 80 **Pn** **17 16 39.7 +1.1**
F42A Maple Grove Fa 12.24 37 **Pn** **17 16 41.1 +1.5**
EYMN Ely 12.66 23 **Pn** **17 16 42.0 -3.2**
E43A Lone Tree Farm 13.24 38 Pn **Pn** **17 16 53.5 +0.3**
ULM Lac du Bonnet 13.93 8 Pn **Pn** **17 16 57.1 -5.5**
comp=Z,0.6nm,0.3s,baz=190,slow=14,SNR=3.1
ULM Lg Lg 17 20 58.0
comp=Z,0.3nm,0.3s,baz=282,slow=20,SNR=1.5
comp=Z,2.5nm,0.4s
T57A Hurt 15.64 82 **Pn** **17 17 24.9 -0.9**
SADO Sadowa 17.01 55 Lg Lg 17 22 35.6
comp=Z,0.6nm,0.3s,baz=308,slow=15,SNR=4.3
YBH Yreka Blue Hor 19.30 293 P **P** **17 18 09.9 -0.5**
comp=Z,0.1nm,0.3s,baz=109,slow=16,SNR=3.7
comp=Z,2.6nm,0.9s
ILAR Eielson Array 40.07 330 P **P** **17 21 21.6 +1.1**
comp=Z,0.6nm,0.9s,baz=108,slow=8.6,SNR=4.7
comp=Z,0.6nm,0.9s
ARCES ARCESS Array B 66.77 18 P **P** **17 24 37.1 +0.7**
comp=Z,1.4nm,0.8s,baz=323,slow=5.8,SNR=4.7
comp=Z,1.4nm,0.8s
RAO Raoul Island 98.94 240 LR LR 18 02 55.3
comp=Z,201nm,21.7s,baz=164,slow=30

*NIED **14** 17:21:15.4,39°.24N×142°.50E,h28km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.42; Mθθ3.01; Mϕϕ0.40; Mrθ0.72; Mϕθ0.39; Mϕr-0.09; Fault plane solution: M₀3.32000×10¹⁴ NP1:ϕ₀79.00000°, δ39.00000°,λ-94.00000°. NP2:ϕ₀265.00000°,δ51.00000°, λ-86.00000°.*
*JMA **14** 17:21:15.4±0.1,39°.2N±0°.2×142°.5E±0°.6,h28km±1km, MV3.6/40,E OFF IWATE PREF*
*IDC **14** 17:21:16.6±3.9,39°.24N×142°.69E,h46km±34km,mb3.4/9, mbtmp3.5/12,ML2.4/3,Error ellipse: s-maj=34.1km s-min=16.6km az=86.0*
ISC 14 17:21:13.3±1.9,39°.22N±0°.04×142°.57E±0°.07,h17km±10km, n28,σ1§45/33,mb3.6/9,2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.68**	**302**	*i* P		**Pb**	**17 21 27.4**	**+0.6**
MIYJ				S		**Sb**	**17 21 35.8**	**-0.2**
OFUJ	**Ofunato**	**0.71**	**259**	*i* P		**Pn**	**17 21 28.1**	**-0.5**
OFUJ				S		**Sn**	**17 21 36.9**	**-2.3**
JTH	**Tanohata**	**0.90**	**323**	*i* P		**Pb**	**17 21 31.0**	**+0.4**
JTH				S		**Sg**	**17 21 42.6**	**-0.3**
JKMT	**Kesennumamotoy**	**0.94**	**245**	*i* P		**Pn**	**17 21 31.8**	**0.0**
JKMT				S		**Sn**	**17 21 43.4**	**-1.5**
JOM	**Ohasama**	**1.02**	**285**	*i* P		**Pn**	**17 21 32.9**	**0.0**
JOM				S		**Sg**	**17 21 45.5**	**-1.0**
JMK	**Ichinoseki**	**1.08**	**256**	⇓*i* P		**Pg**	**17 21 33.9**	**-0.3**
JMK				⇓S		**Sn**	**17 21 47.2**	**-1.0**
JIO	**Ouri**	**1.22**	**232**	P		**Pb**	**17 21 35.6**	**-0.2**
JIO				S		**Sb**	**17 21 50.4**	**-0.9**
JKZ	**Kuzumaki**	**1.23**	**309**	*i* P		**Pb**	**17 21 36.2**	**+0.1**
JKZ				S		**Sb**	**17 21 51.2**	**-0.5**
JANG	**Nango**	**1.41**	**325**	*i* P		**Pn**	**17 21 38.6**	**+0.3**
JANG				*e*S		**Sn**	**17 21 55.8**	**-0.7**
JRG	**Rokugo**	**1.51**	**277**	*i* P		**Pb**	**17 21 40.9**	**0.0**
JRG				*e*S		**Sb**	**17 21 59.0**	**-0.8**
MJAR	**Matsushiro Arr**	**4.36**	**234**	P		**Pn**	**17 22 21.0**	**+2.2**
	0.2nm,0.3s,baz=39,slow=12,SNR=20							
MJAR				S		**Sn**	**17 23 12.4**	**+3.2**
	1.3nm,0.5s,baz=92,slow=15,SNR=1.1							
	7.1nm,0.8s							
USRK	**Usuriysk Ar.**	**9.35**	**306**	P		**Pn**	**17 23 30.3**	**+3.1**
	0.1nm,0.3s,baz=108,slow=14,SNR=2.7							
	0.9nm,0.5s							
KSRS	**Korea Array**	**11.64**	**266**	P		**Pn**	**17 24 02.4**	**+3.8**
	0.1nm,0.3s,baz=74,slow=15,SNR=4.7							
	0.5nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.58**	**126**	T		T	17 57 37.5	
	baz=318,slow=75,SNR=69							
H11N1	**WAKE ISLAND Hy**	**28.59**	**126**	T		T	17 57 41.0	
	baz=318,slow=75,SNR=52							
H11N3	**WAKE ISLAND Hy**	**28.60**	**126**	T		T	17 57 41.7	
	baz=318,slow=75,SNR=96							
H11S1	**WAKE ISLAND Hy**	**29.38**	**128**	T		T	17 58 47.1	
	baz=319,slow=76,SNR=7.9							
H11S3	**WAKE ISLAND Hy**	**29.38**	**128**	T		T	17 58 42.6	
	baz=319,slow=76,SNR=2.5							
H11S2	**WAKE ISLAND Hy**	**29.39**	**128**	T		T	17 58 48.4	
	baz=319,slow=76,SNR=6.7							
ZALV	**Zalesovo Beam**	**41.15**	**311**	P		**P**	**17 28 55.7**	**-0.7**
	0.4nm,0.3s,baz=82,slow=13,SNR=1.5							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**43.77**	**300**	P		**P**	**17 29 18.0**	**+0.2**
	0.6nm,1.0s,baz=75,slow=14,SNR=3.3							
	0.6nm,1.0s							
KURBB	**Kurchatov Arra**	**45.41**	**306**	P		**P**	**17 29 31.1**	**+0.3**
	0.7nm,0.5s,baz=80,slow=8.5,SNR=3.5							
	0.7nm,0.5s							
ILAR	**Eielson Array**	**47.17**	**33**	P		**P**	**17 29 42.7**	**-1.9**
	0.4nm,0.7s,baz=261,slow=5.4,SNR=2.9							
	0.4nm,0.7s							
BVAR	**Borovoye Array**	**49.80**	**311**	P		**P**	**17 30 02.8**	**-2.1**
	0.2nm,0.4s,baz=76,slow=12,SNR=2.5							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**59.35**	**189**	P		**P**	**17 31 14.6**	**+0.1**
	1.0nm,0.5s,baz=6.5,slow=7.0,SNR=20							
	1.0nm,0.5s							
ASAR	**Alice Springs**	**63.08**	**189**	P		**P**	**17 31 39.1**	**-0.6**
	0.4nm,0.8s,baz=13,slow=8.9,SNR=12							
	0.4nm,0.8s							
FINES	**FINESS Array B**	**67.31**	**332**	P		**P**	**17 32 07.0**	**+0.2**
	1.4nm,1.0s,baz=30,slow=12,SNR=2.0							
	1.4nm,1.0s							
NOA	**NORSAR Array B**	**72.53**	**337**	P		**P**	**17 32 39.7**	**+0.8**
	0.2nm,0.5s,baz=38,slow=4.6,SNR=1.8							
	0.2nm,0.5s							

*SOME **14** 17:30:59.3,37°.78N×71°.95E,h0km*
*IDC **14** 17:31:02.6±5.8,36°.56N×70°.97E,h132km±46km, mbtmp3.7/7,Error ellipse: s-maj=68.0km s-min=19.5km az=155.0*
*NNC **14** 17:31:04.9±2.8,36°.70N×70°.88E,h142km±44km,mb3.3, mpv4.2,Error ellipse: s-maj=26.1km s-min=14.1km az=161.0*
ISC 14 17:31:02.3±0.8,36°.53N±0°.06×70°.98E±0°.06,h150km,n32, σ1§80/44,9C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THN	**Thein Dam**	**5.65**	**135**	*e*P		**Pn**	**17 32 25.5**	**+1.2**
THN				*e*S		**Sn**	**17 33 28.0**	**-0.4**
IUG	**Iuzhnay**	**5.66**	**353**	*e*P		**Pn**	**17 32 25.9**	**+1.3**
	146nm,0.4s							
IUG				*e*S		**Sn**	**17 33 28.0**	**-0.8**
	56nm,0.5s							
AML	**Almayashu**	**5.98**	**20**	P		**Pn**	**17 32 29.4**	**+0.4**
	SNR=67							
UCH	**Uchtor**	**6.32**	**25**	P		**Pn**	**17 32 35.4**	**+1.9**
	SNR=17							
DZA	**Taraz**	**6.36**	**2**	*e*P		**Pn**	**17 32 35.1**	**+1.3**
	86nm,0.2s							
DZA				*e*S		**Sn**	**17 33 43.6**	**-1.8**
	145nm,0.5s							
MRKS	**Merke**	**6.45**	**15**	*e*P		**Pn**	**17 32 35.3**	**+0.3**
	9.9nm,0.5s							
MRKS				*e*S		**Sn**	**17 33 43.9**	**-3.6**
	41nm,0.7s							
EKS2	**Erkin-Say**	**6.50**	**19**	P		**Pn**	**17 32 36.9**	**+1.3**
	SNR=10.0							
KK31	**Karatay Array**	**6.58**	**357**	P		**Pn**	**17 32 37.9**	**+1.2**
	35nm,0.3s,baz=186,slow=14,SNR=502							
KK31				S		**Sn**	**17 33 49.5**	**-1.1**
	18nm,0.6s,baz=189,slow=22,SNR=15							
AAK	**Ala-Archa**	**6.68**	**23**	P		**Pn**	**17 32 41.4**	**+3.3**
	SNR=9.9							
AAK	**Ala-Archa**	**6.68**	**23**	P		**Pn**	**17 32 39.9**	**+1.8**
	9.8nm,0.4s,baz=202,slow=5.4,SNR=21							
AAK				S		**Sn**	**17 33 51.3**	**-1.8**
	4.3nm,0.4s,baz=327,slow=22,SNR=11							
CHMS	**Chumysh**	**7.08**	**23**	⇑P		**Pn**	**17 32 45.0**	**+1.6**
	5.0nm,0.5s							
CHMS				⇑S		**Sn**	**17 34 02.8**	**0.0**
	5.8nm,0.5s							
TKM2	**Tokmak 2**	**7.31**	**28**	P		**Pn**	**17 32 48.4**	**+1.8**
	SNR=12							
TKM2	**Tokmak 2**	**7.31**	**28**	⇓P		**Pn**	**17 32 48.3**	**+1.7**
	3.5nm,0.5s							
TKM2				⇓S		**Sn**	**17 34 07.9**	**-0.4**
	5.5nm,0.6s							
KST	**Kastek**	**7.55**	**29**	*e*P		**Pn**	**17 32 51.5**	**+1.8**
	3.1nm,0.5s							
KST				*e*S		**Sn**	**17 34 12.2**	**-1.9**
	13nm,0.7s							
MDOK	**Medeo**	**8.10**	**33**	⇑P		**Pn**	**17 32 58.1**	**+0.9**
	4.9nm,0.7s							
GEYT	**Alibeck**	**10.36**	**282**	P		**Pn**	**17 33 27.2**	**+0.3**
	1.0nm,0.3s,baz=102,slow=11,SNR=7.6							
GEYT				S		**Sn**	**17 35 20.7**	**-0.8**
	1.7nm,0.4s,baz=116,slow=16,SNR=7.8							
GYA0B	**ALIBECK ARRAY**	**10.36**	**282**	⇑P		**Pn**	**17 33 29.0**	**+2.0**
GYA0B				⇓S		**Sn**	**17 35 19.4**	**-2.2**
MAKZ	**Makanchi**	**13.14**	**35**	⇑P		**Pn**	**17 34 01.1**	**-2.1**
	1.5nm,0.5s							
PYUN	**Piuthan**	**13.17**	**126**	*e*P		**Pn**	**17 34 00.7**	**-3.2**
	9.7nm,0.3s							
PYUN				*e*S		Sn	17 36 16.7	-13
	28nm,0.6s							
MK31	**Makanchi Array**	**13.28**	**36**	⇓P		**Pn**	**17 34 05.3**	**+0.4**
	1.1nm,0.6s,baz=209,slow=11,SNR=4.6							
MKAR	**Makanchi Array**	**13.28**	**36**	P		**Pn**	**17 34 05.2**	**+0.3**
	0.2nm,0.4s,baz=214,slow=11,SNR=3.5							
DANN	**Dangsing**	**13.51**	**123**	*e*P		**Pn**	**17 34 06.7**	**-1.6**
GKN	**Gorkha**	**14.33**	**122**	*e*P		**Pn**	**17 34 17.5**	**-1.0**
AB31	**Akbulak array**	**15.05**	**331**	⇑P		**P**	**17 34 28.4**	**-0.5**
	0.6nm,0.3s,baz=141,slow=13,SNR=46							
AB31				⇑S		**Sn**	**17 37 10.5**	**-3.8**
	0.6nm,0.6s,baz=159,slow=22,SNR=3.2							
KURBB	**Kurchatov Arra**	**15.10**	**19**	P		**P**	**17 34 30.4**	**+1.0**
	0.4nm,0.3s,baz=205,slow=11,SNR=5.4							
PKIN	**Phulchoki**	**15.12**	**122**	*e*P		**Pn**	**17 34 28.0**	**-0.4**
PKI	**Pulchoki**	**15.13**	**122**	*e*P		**Pn**	**17 34 28.1**	**-0.6**
BVA0	**Borovoye Array**	**16.50**	**359**	⇑P		**Pn**	**17 34 48.7**	**+3.8**
	0.6nm,0.6s,baz=168,slow=10,SNR=4.7							
BVAR	**Borovoye Array**	**16.50**	**359**	P		**Pn**	**17 34 46.4**	**+1.5**
	0.3nm,0.4s,baz=186,slow=12,SNR=5.3							
AKTO	**Aktyubinsk**	**16.75**	**330**	P		**Pn**	**17 34 49.9**	**+2.0**
	2.7nm,0.8s,baz=134,slow=12,SNR=8.3							
AKTO	**Aktyubinsk**	**16.75**	**330**	⇑P		**Pn**	**17 34 49.8**	**+1.9**
	1.8nm,0.6s							
ZALV	**Zalesovo Beam**	**19.90**	**25**	P		**P**	**17 35 22.4**	**+0.5**
	3.2nm,0.5s,baz=226,slow=11,SNR=13							

*IDC **14** 17:41:24.5±0.7,29°.23S×60°.98E,h0km,mb3.8/10, mbtmp3.8/11,ML3.9/1,MS3.3/1,Error ellipse: s-maj=25.3km s-min=20.8km az=66.0*
ISC 14 17:41:26.0±0.7,29°.2S±0°.1×61°.0E±0°.2,h10km,n18, σ0§77/11,mb3.9/10,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.45**	**307**	Pn		**Pn**	**17 45 17.0**	**-0.3**
	baz=111,slow=17,SNR=2.1							
OPO				Sn		Sn	17 48 05.4	-15
	0.1nm,0.3s,baz=133,slow=14,SNR=6.3							
	1.9nm,0.5s							
H08S1	**Diego Carcia H**	**24.04**	**29**	T		T	18 11 47.4	
	baz=202							
H08S2	**Diego Garcia H**	**24.05**	**29**	T		T	18 12 08.3	
	baz=202							
H08S3	**Diego Garcia H**	**24.06**	**29**	T		T	18 11 47.6	
	baz=202							
SUR	**Sutherland**	**34.50**	**254**	LR		LR	17 59 39.1	
	comp=Z,45nm,21.0s,baz=92,slow=32							
H01W2	**Cape Leeuwin H**	**44.98**	**111**	T		T	18 37 21.6	
	baz=260,slow=75,SNR=7.6							
H01W3	**Cape Leeuwin H**	**44.98**	**111**	T		T	18 37 18.0	
	baz=260,slow=75,SNR=6.9							
H01W1	**Cape Leeuwin H**	**44.99**	**111**	T		T	18 37 22.8	
	baz=260,slow=75,SNR=7.3							
SNAA	**Sanae**	**54.35**	**200**	P		**P**	**17 50 52.3**	**-0.3**
	0.6nm,0.7s,baz=181,slow=22,SNR=5.4							
	0.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**59.92**	**42**	P		**P**	**17 51 31.6**	**-0.8**
	0.5nm,0.5s,baz=231,slow=6.9,SNR=2.8							
	0.5nm,0.5s							
QSPA	**South Pole Qui**	**60.94**	**180**	P		**P**	**17 51 38.6**	**-0.5**
	2.0nm,1.0s,baz=269,slow=1.5,SNR=5.6							
	2.0nm,1.0s							
VNDA	**Vanda**	**64.02**	**166**	P		**P**	**17 51 59.6**	**+0.3**
	0.5nm,0.6s,baz=200,slow=1.0,SNR=1.9							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**64.59**	**104**	P		**P**	**17 52 04.1**	**+0.1**
	1.6nm,0.7s,baz=244,slow=6.1,SNR=37							
	1.6nm,0.7s							
WRA	**Warramunga Arr**	**66.

TORD	**Torodi Ar. Bea**	**71.02**	**298**	P		**P**		**17 52 45.3**	**+0.8**
	1.5nm,0.8s,baz=122,slow=4.8,SNR=5.9								
	1.5nm,0.8s								
BRTR	**Keskin Array B**	**73.16**	**338**	P		**P**		**17 52 56.1**	**-0.8**
	0.4nm,0.7s,baz=137,slow=4.9,SNR=4.0								
	0.4nm,0.7s								
MKAR	**Makanchi Array**	**78.08**	**15**	P		**P**		**17 53 25.0**	**+0.2**
	0.3nm,0.7s,baz=153,slow=4.8,SNR=2.4								
	0.3nm,0.7s								
ZALV	**Zalesovo Beam**	**85.36**	**14**	P		**P**		**17 54 04.5**	**+1.5**
	0.3nm,0.3s,baz=242,slow=3.1,SNR=3.7								
	0.3nm,0.3s								

KRNET ***14*** *17:52:52.9±0.1, 39°.25N×71°.47E, h16km, mb4.0*
NNC ***14*** *17:52:57.7±4.3, 39°.24N×71°.75E, h161km±63km, mb2.6, mpv3.5, Error ellipse: s-maj=58.6km s-min=13.9km az=23.0*
ISC 14 17:52:53.4±1.1, **39°.21N**±0°.06×**71°.51E**±0°.04, **h10km, n23, σ2s45/34, 19C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.95**	**258**	⇑	*i*	P	**Pg**	**17 53 10.9**	**-0.7**
	baz=55								
GAR				⇑	*e*	S	**Sb**	**17 53 23.7**	**-0.9**
	baz=55								
BTK	**Batken**	**1.00**	**328**	⇑	*e*	P	**Pg**	**17 53 11.1**	**-1.5**
	baz=28								
BTK				⇑	*e*	S	**Sg**	**17 53 24.6**	**-1.1**
	baz=28								
OHH	**Osh**	**1.64**	**36**	⇓	*e*	P	**Pb**	**17 53 23.2**	**-0.6**
	baz=38								
OHH				⇓	*e*	S	**Sg**	**17 53 45.2**	**-1.0**
	baz=38								
CHGR	**Chuyangaron**	**1.91**	**254**	⇑	*e*	P	**Pb**	**17 53 28.0**	**-0.4**
	baz=53								
CHGR				⇑	*e*	S	**Sg**	**17 53 54.0**	**-0.8**
	baz=53								
TRKS	**Terek-Say**	**2.34**	**353**	⇑	*i*	P	**Pn**	**17 53 33.0**	**+1.0**
	baz=54								
TRKS				⇑	*i*	S	**Sn**	**17 54 02.0**	**+1.2**
	baz=54								
TAS	**Tashkent**	**2.71**	**322**	⇑	*e*	P	**Pn**	**17 53 38.8**	**+1.8**
	baz=22								
TAS				⇑	*e*	S	**Sb**	**17 54 12.4**	**-2.8**
	baz=22								
AML	**Almayashu**	**3.36**	**29**	P			**Pb**	**17 53 49.8**	**-3.5**
	SNR=37								
ARLS	**Aral**	**3.41**	**38**	⇑	*e*	P	**Pn**	**17 53 49.1**	**+2.3**
	baz=39								
ARLS				⇑	*e*	S	**Sn**	**17 54 30.3**	**+3.0**
	baz=39								
UCH	**Uchtor**	**3.78**	**36**	P			**Pn**	**17 53 55.5**	**+3.4**
	SNR=27								
EKS2	**Erkin-Say**	**3.85**	**26**	P			**Pn**	**17 53 56.0**	**+3.1**
	SNR=14								
EKS2	**Erkin-Say**	**3.85**	**26**	⇑	*e*	P	**Pn**	**17 53 55.0**	**+2.2**
	baz=26								
EKS2				⇑	*e*	S	**Sn**	**17 54 40.5**	**+2.2**
	baz=26								
KK31	**Karatay Array**	**3.96**	**349**	⇓		P	**Pn**	**17 53 57.6**	**+3.4**
	3.4nm,0.2s,baz=13,slow=8.0,SNR=258								
KK31				⇓		S	**Sn**	**17 54 45.0**	**+4.3**
	4.3nm,0.3s,baz=169,slow=31,SNR=6.4								
KKAR	**Karatay Array**	**3.96**	**349**	⇑	*e*	P	**Pn**	**17 53 56.3**	**+2.1**
	baz=50								
KKAR				⇑	*e*	S	**Sn**	**17 54 42.8**	**+2.0**
	baz=50								
AAK	**Ala-Archa**	**4.11**	**32**	P			**Pn**	**17 53 59.1**	**+2.8**
	SNR=11								
KBK	**Karagaybulak**	**4.32**	**36**	P			**Pn**	**17 54 03.2**	**+4.0**
	SNR=7.3								
CHMS	**Chumysh**	**4.51**	**32**	P			**Pn**	**17 54 05.5**	**+3.7**
	SNR=15								
CHMS	**Chumysh**	**4.51**	**32**	⇑		P	**Pn**	**17 54 02.8**	**+1.1**
	16nm,0.7s								
USP	**Ospenovka**	**4.64**	**28**	P			**Pn**	**17 54 06.5**	**+3.0**
	SNR=28								
TKM2	**Tokmak 2**	**4.83**	**39**	P			**Pn**	**17 54 09.6**	**+3.3**
	SNR=5.1								
TKM2	**Tokmak 2**	**4.83**	**39**	⇑		P	**Pn**	**17 54 09.0**	**+2.7**
	4.3nm,0.5s								
MDOK	**Medeo**	**5.75**	**45**	⇓		P	**Pn**	**17 54 18.4**	**-0.5**
	2.9nm,0.8s								
PDGK	**Podgornoye**	**7.29**	**53**	⇓		P	**Pn**	**17 54 38.4**	**-1.6**
	1.7nm,0.7s								
AB31	**Akbulak array**	**13.01**	**324**	P			**Pn**	**17 55 57.4**	**-0.7**
	0.4nm,0.3s,baz=130,slow=14,SNR=31								
AB31				⇑		S	**Sn**	**17 58 23.9**	**+1.1**
	1.6nm,0.7s,baz=137,slow=24,SNR=4.8								

WEL ***14*** *17:55:00, 37°.19S×178°.94E, h15km, ML4.5, Mw4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=0.77; Mθθ=0.25; Mϕϕ 1.03; Mrθ=4.85; Mθϕ=0.24; Mϕr=8.03; Fault plane solution: Mo=9.43000×10^15 NP1: ϕs=344.00000°, δ=4.00000°, λ=-137.00000°. NP2: ϕs=211.00000°, δ=87.00000°, λ=-87.00000°. Principal axes: T -936.7800, Plg42.0000°, Azm298.0000°; N -12.9600, Plg3.0000°, Azm30.0000°; P 949.7300, Plg48.0000°, Azm124.0000°;*
NOU ***14*** *17:55:33.2, 37°.40S×179°.89E, h0km, mb5.1/44, Off E. Coast of N. Island, N.Z.*
BJI ***14*** *17:55:36.4±0.0, 37°.30S×179°.54E, h5km, mb5.2/10, mB5.6/5, Ms5.0/2, Ms7 4.7/2*
NEIC ***14*** *17:55:40.0±1.4, 37°.50S±0°.04×179°.21E±0°.10, h19km±4km, mb5.2/32, Error ellipse: s-maj=11.9km s-min=4.4km az=105.0*
WEL ***14*** *17:55:43.6±0.8, 37°S±4°×17°9E±°, h18km±5km, M4.5/41, ML4.8/41, MLv4.5/41, Error ellipse: s-maj=0.0km s-min=0.0km az=94.4*
IDC ***14*** *17:55:47.7±1.7, 37°.03S×178°.59E, h55km±13km, mb4.5/10, mbtmp4.8/10, MS3.8/34, Error ellipse: s-maj=16.1km s-min=12.4km az=151.0*
ISC 14 17:55:42.6±1.1, **37°.24S**±0°.04×**179°.09E**±0°.06, **h32**km±6km, **n345, σ1s71/331, mb5.2/40, MS3.9/35, 1D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.70**	**243**				**Pn**	**17 55 55.1**	**-1.2**
MXZ							**Sb**	**17 56 03.4**	**-2.5**
MXZ	**Matakaoa Point**	**0.70**	**243**	P			**Pn**	**17 55 55.1**	**-1.2**
MXZ				S			**Sb**	**17 56 03.8**	**-2.1**
WMGZ	**Waiomatatini S**	**0.79**	**223**	P			**Pb**	**17 55 59.3**	**+1.4**
PKGZ	**Pakihiroa**	**1.03**	**231**	P			**Pn**	**17 56 01.7**	**+0.7**
PKGZ				S			**Sb**	**17 56 16.8**	**+1.6**
PUZ	**Puketiti**	**1.06**	**218**	P			**Pb**	**17 56 03.1**	**+0.7**
PUZ				S			**Sb**	**17 56 18.6**	**+2.6**
HAZ	**Te Kaha**	**1.16**	**243**	P			**Pn**	**17 56 01.9**	**-0.7**
HAZ				S			**Sn**	**17 56 20.0**	**+2.6**
TWGZ	**Tauwhareparae**	**1.28**	**223**	P			**Pb**	**17 56 06.2**	**0.0**
RUGZ	**Raukumara Rang**	**1.33**	**237**	P			**Pn**	**17 56 06.3**	**+1.2**
RUGZ				S			**Sn**	**17 56 24.4**	**+2.5**
CNGZ	**Carnagh Statio**	**1.42**	**209**	P			**Pb**	**17 56 08.7**	**+0.2**
CNGZ				S			**Sb**	**17 56 29.1**	**+2.8**
WIZ	**White Island**	**1.54**	**259**	P			**Pn**	**17 56 07.2**	**-0.6**
TKGZ	**Te Karaka**	**1.55**	**219**	P			**Pn**	**17 56 09.7**	**+1.8**
WSRZ	**White Island S**	**1.55**	**259**	P			**Pn**	**17 56 09.0**	**+1.1**
MWZ	**Matawai**	**1.65**	**228**	P			**Pn**	**17 56 10.9**	**+1.5**
WHRZ	**Whale Island**	**1.79**	**249**	P			**Pn**	**17 56 13.4**	**+2.1**
RIGZ	**Rimuhau**	**1.80**	**215**	P			**Pn**	**17 56 12.8**	**+1.3**
RAGZ	**Rawiri**	**1.82**	**226**	P			**Pn**	**17 56 13.7**	**+1.9**
URZ	**Urewera**	**1.87**	**237**	P			**Pn**	**17 56 13.8**	**+1.5**
	598nm,0.3s,baz=296,slow=0.3,SNR=1490								
URZ						S	**Sn**	**17 56 35.3**	**+0.4**
	1μm,0.5s,baz=102,slow=8.8,SNR=7.9								
URZ	**Urewera**	**1.87**	**237**				**Pn**	**17 56 13.8**	**+1.5**
URZ							**Sn**	**17 56 35.7**	**+0.9**
URZ	**Urewera**	**1.87**	**237**	P			**Pn**	**17 56 13.8**	**+1.5**
URZ				S			**Sn**	**17 56 37.1**	**+2.2**
URZ	**Urewera**	**1.87**	**237**	P			**Pn**	**17 56 14.3**	**+1.9**
PRGZ	**Paritu Road**	**1.93**	**209**	P			**Pn**	**17 56 14.7**	**+1.5**
EDRZ	**Edgecumbe**	**2.06**	**244**	P			**Pn**	**17 56 16.6**	**+1.6**
MARZ	**Manawahe**	**2.06**	**248**	P			**Pn**	**17 56 16.4**	**+1.4**
SNGZ	**Shannon Statio**	**2.07**	**221**	P			**Pn**	**17 56 16.4**	**+1.3**
KNZ	**Kokohu**	**2.10**	**212**	P			**Pn**	**17 56 16.4**	**+0.9**
KNZ				S			**Sn**	**17 56 42.3**	**+1.8**
OPRZ	**Ohinepanea**	**2.10**	**253**	P			**Pn**	**17 56 16.1**	**+0.5**
OPRZ				S			**Sn**	**17 56 40.3**	**-0.3**
MHGZ	**Mahia Peninsul**	**2.12**	**206**	P			**Pn**	**17 56 17.2**	**+1.3**
MUGZ	**Murupara**	**2.21**	**235**	P			**Pn**	**17 56 18.3**	**+1.2**
MKRZ	**Makatiti**	**2.27**	**246**	P			**Pn**	**17 56 20.6**	**+2.7**
MYRZ	**Mayor Island**	**2.27**	**268**	P			**Pn**	**17 56 17.8**	**-0.1**
TARZ	**Mount Tarawera**	**2.28**	**243**	P			**Pn**	**17 56 19.9**	**+1.9**
LIRZ	**Lichensteins R**	**2.28**	**250**	P			**Pn**	**17 56 20.0**	**+2.0**
RAHZ	**Arahi**	**2.30**	**223**	P			**Pn**	**17 56 19.7**	**+1.4**
RAHZ				S			**Sn**	**17 56 48.0**	**+2.5**
TGRZ	**Tauranga**	**2.30**	**257**	P			**Pn**	**17 56 19.4**	**+1.1**
RRRZ	**Republican Roa**	**2.32**	**241**	P			**Pn**	**17 56 20.3**	**+1.8**
OMRZ	**Omania**	**2.32**	**247**	P			**Pn**	**17 56 20.8**	**+2.2**
WHHZ	**Waihua**	**2.34**	**218**	P			**Pn**	**17 56 20.2**	**+1.3**
WHHZ				S			**Sn**	**17 56 48.5**	**+1.9**
KARZ	**Kaharoa**	**2.39**	**250**	P			**Pn**	**17 56 21.3**	**+1.7**
MTHZ	**Maungataniwha**	**2.40**	**227**	P			**Pn**	**17 56 21.3**	**+1.6**
MTHZ				S			**Sn**	**17 56 50.4**	**+2.5**
NGRZ	**Ngongotaha**	**2.46**	**249**	P			**Pn**	**17 56 23.0**	**+2.5**
PRRZ	**Plateau Road**	**2.48**	**239**	P			**Pn**	**17 56 22.1**	**+1.4**
PRRZ				S			**Sn**	**17 56 51.3**	**+1.4**
UTU	**Utuhina**	**2.48**	**247**	P			**Pn**	**17 56 24.1**	**+3.3**
HSRZ	**Hossack Road**	**2.50**	**244**	P			**Pn**	**17 56 23.8**	**+2.8**
HRRZ	**Handcock Road**	**2.50**	**242**	P			**Pn**	**17 56 23.2**	**+2.1**
ALRZ	**Allen Road**	**2.54**	**238**	P			**Pn**	**17 56 23.0**	**+1.3**
KMRZ	**Kaimai**	**2.57**	**256**	P			**Pn**	**17 56 23.2**	**+1.1**
NMHZ	**Naumai**	**2.58**	**223**	P			**Pn**	**17 56 24.0**	**+1.7**
NMHZ				S			**Sn**	**17 56 55.7**	**+3.1**
ARHZ	**Aropaoanui**	**2.61**	**219**	P			**Pn**	**17 56 23.6**	**+1.1**
ARHZ				S			**Sn**	**17 56 55.3**	**+2.2**
GRRZ	**Galatos Road**	**2.61**	**244**	P			**Pn**	**17 56 24.5**	**+2.0**
MRHZ	**Matea Rd**	**2.64**	**232**	P			**Pn**	**17 56 24.6**	**+1.5**
MRHZ				S			**Sn**	**17 56 54.7**	**+0.7**
BKZ	**Black Stump Fm**	**2.81**	**226**				**Pn**	**17 56 26.0**	**+0.7**
BKZ	**Black Stump Fm**	**2.81**	**226**	P			**Pn**	**17 56 26.4**	**+1.1**
BKZ	**Black Stump Fm**	**2.81**	**226**	P			**Pn**	**17 56 26.6**	**+1.3**
KUTZ	**Kaahu Road**	**2.87**	**243**	P			**Pn**	**17 56 28.0**	**+1.8**
CKHZ	**Cape Kidnapper**	**2.88**	**213**	P			**Pn**	**17 56 26.7**	**+0.3**
CKHZ				S			**Sn**	**17 57 00.5**	**+0.6**
MCHZ	**McNeill Hill**	**2.89**	**220**	P			**Pn**	**17 56 27.2**	**+0.8**
MCHZ				S			**Sn**	**17 57 01.7**	**+1.5**
TOZ	**Tahuroa Road**	**2.90**	**259**	P			**Pn**	**17 56 26.2**	**-0.3**
TLZ	**Tolley Road**	**3.02**	**248**	P			**Pn**	**17 56 29.8**	**+1.6**
KWHZ	**Kaweka Forest**	**3.02**	**223**	P			**Pn**	**17 56 28.8**	**+0.5**
WATZ	**Wairara**	**3.03**	**240**	P			**Pn**	**17 56 31.1**	**+2.7**
RATZ	**Rangitukua**	**3.08**	**237**	P			**Pn**	**17 56 30.9**	**+1.8**
RITZ	**Rihia Road**	**3.08**	**235**	P			**Pn**	**17 56 30.8**	**+1.7**
KAHZ	**Kahuranaki**	**3.08**	**214**	P			**Pn**	**17 56 29.3**	**+0.2**
KATZ	**Kakaramea**	**3.19**	**236**	P			**Pn**	**17 56 32.5**	**+1.8**
KRHZ	**Kereru**	**3.21**	**221**	P			**Pn**	**17 56 30.9**	**+0.1**
TMVZ	**Te Maari**	**3.26**	**234**	P			**Pn**	**17 56 32.7**	**+1.1**
ETVZ	**East Tongariro**	**3.27**	**234**	P			**Pn**	**17 56 32.7**	**+1.0**
NTVZ	**North Tongarir**	**3.27**	**234**	P			**Pn**	**17 56 32.8**	**+1.1**
BHHZ	**Black Hill Sta**	**3.27**	**226**	P			**Pn**	**17 56 32.3**	**+0.6**
PXZ	**Pawanui**	**3.29**	**211**	P			**Pn**	**17 56 31.3**	**-0.5**
KRVZ	**Karewarewa**	**3.29**	**235**	P			**Pn**	**17 56 33.1**	**+1.1**
OTVZ	**Oturere**	**3.31**	**234**	P			**Pn**	**17 56 33.4**	**+1.0**
NNVZ	**North Ngauruho**	**3.33**	**234**	P			**Pn**	**17 56 33.9**	**+1.4**
WTVZ	**West Tongariro**	**3.33**	**235**	P			**Pn**	**17 56 34.3**	**+1.6**
SNVZ	**South Ngauruho**	**3.34**	**233**	P			**Pn**	**17 56 33.6**	**+0.9**
ETAZ	**East Tamaki Re**	**3.34**	**274**	P			**Pn**	**17 56 32.4**	**-0.1**
NGZ	**Ngauruhoe**	**3.36**	**234**	P			**Pn**	**17 56 34.0**	**+1.0**
TUVZ	**Tukino**	**3.38**	**232**	P			**Pn**	**17 56 34.3**	**+1.0**
MOVZ	**Moawhango**	**3.40**	**230**	P			**Pn**	**17 56 34.0**	**+0.5**
TWVZ	**Taurewa**	**3.41**	**237**	P			**Pn**	**17 56 35.1**	**+1.5**
WHVZ	**Whangaehu Hut**	**3.43**	**232**	P			**Pn**	**17 56 35.0**	**+1.0**
FWVZ	**Far West T-bar**	**3.43**	**233**	P			**Pn**	**17 56 35.2**	**+1.1**
WNVZ	**Wahianoa**	**3.45**	**232**	P			**Pn**	**17 56 35.0**	**+0.8**
TRVZ	**Turoa**	**3.46**	**233**	P			**Pn**	**17 56 36.0**	**+1.5**
ABAZ	**Army Bay**	**3.47**	**279**	P			**Pn**	**17 56 34.6**	**+0.2**
EPAZ	**Eden Park BICE**	**3.50**	**275**	P			**Pn**	**17 56 35.9**	**+1.2**
PNHZ	**Pukenui**	**3.50**	**219**	P			**Pn**	**17 56 34.2**	**-0.7**
WPHZ	**Waipukurau**	**3.50**	**216**	P			**Pn**	**17 56 34.5**	**-0.3**
HBAZ	**Herne Bay Bore**	**3.51**	**275**	P			**Pn**	**17 56 35.9**	**+1.0**
AWAZ	**Awhitu Peninsu**	**3.56**	**272**	P			**Pn**	**17 56 35.9**	**+0.3**
MTVZ	**Mangateitei**	**3.56**	**232**	P			**Pn**	**17 56 36.4**	**+0.7**
PRHZ	**Porangahau**	**3.58**	**212**	P			**Pn**	**17 56 35.0**	**-0.9**
HIZ	**Hauiti**	**3.58**	**248**		Pn		**Pn**	**17 56 38.1**	**+2.1**
HIZ	**Hauiti**	**3.58**	**248**	P			**Pn**	**17 56 38.2**	**+2.3**
HIZ	**Hauiti**	**3.58**	**248**	P			**Pn**	**17 56 38.3**	**+2.3**
PKVZ	**Pokaka**	**3.59**	**234**	P			**Pn**	**17 56 37.6**	**+1.6**
WTAZ	**Waiatarua**	**3.62**	**274**	P			**Pn**	**17 56 36.8**	**+0.3**
RVAZ	**Riverhead Bore**	**3.64**	**276**	P			**Pn**	**17 56 36.9**	**+0.2**
TSZ	**Takapari Road**	**3.73**	**220**	P			**Pn**	**17 56 37.1**	**-0.9**
ANWZ	**Angora Road**	**3.81**	**212**	P			**Pn**	**17 56 38.3**	**-0.7**
DVHZ	**Dannevirke**	**3.81**	**216**	P			**Pn**	**17 56 38.2**	**-0.9**
WCZ	**Waipu Caves**	**4.03**	**287**	P			**Pn**	**17 56 41.9**	**-0.3**
POWZ	**Post Office Ro**	**4.08**	**219**	P			**Pn**	**17 56 41.7**	**-1.0**
WAZ	**Wanganui**	**4.08**	**231**	P			**Pn**	**17 56 43.7**	**+0.9**
BFZ	**Birch Farm**	**4.09**	**212**				**Pn**	**17 56 41.2**	**-1.7**
BFZ	**Birch Farm**	**4.09**	**212**	P			**Pn**	**17 56 41.4**	**-1.5**
PRWZ	**Pori Road**	**4.11**	**215**	P			**Pn**	**17 56 42.9**	**-0.3**
MHEZ	**Mangahewa**	**4.18**	**243**	P			**Pn**	**17 56 48.8**	**+4.7**
OHWZ	**Ohakea**	**4.18**	**224**	P			**Pn**	**17 56 45.2**	**+1.1**
CPWZ	**Castlepoint**	**4.30**	**211**	P			**Pn**	**17 56 45.3**	**-0.4**
LREZ	**Lake Rotokare**	**4.30**	**238**	P			**Pn**	**17 56 47.7**	**+1.9**
PREZ	**Palmer Road**	**4.41**	**240**	P			**Pn**	**17 56 50.2**	**+2.8**
NEZ	**North Egmont**	**4.42**	**241**	P			**Pn**	**17 56 50.4**	**+2.8**
PKE	**Pukeiti**	**4.47**	**243**	P			**Pn**	**17 56 51.0**	**+2.9**
KHEZ	**Kahui Hut**	**4.49**	**241**	P			**Pn**	**17 56 51.3**	**+2.8**
NBEZ	**Newall Road No**	**4.58**	**242**	P			**Pn**	**17 56 53.4**	**+3.7**
NMEZ	**Namu Road**	**4.64**	**241**	P			**Pn**	**17 56 54.3**	**+3.9**
OUZ	**Omahuta**	**4.88**	**293**		Pn		**Pn**	**17 56 53.7**	**0.0**
OUZ	**Omahuta**	**4.88**	**293**	P			**Pn**	**17 56 53.8**	**0.0**
OUZ	**Omahuta**	**4.88**	**293**	P			**Pn**	**17 56 54.5**	**+0.8**
MSWZ	**Moikau Station**	**5.12**	**214**				**Pn**	**17 56 54.1**	**-3.0**
MSWZ							**Sn**	**17 57 50.3**	**-4.8**
PLWZ	**Palliser**	**5.24**	**213**		Pn		**Pn**	**17 56 55.0**	**-3.8**
SNZO	**South Karori**	**5.30**	**219**				**Pn**	**17 56 56.3**	**-3.2**
SNZO	**South Karori**	**5.30**	**219**	P			**Pn**	**17 56 56.8**	**-2.7**
TUWZ	**Tuamarina**	**5.78**	**222**				**Pn**	**17 57 02.6**	**-3.5**
CMWZ	**Cape Campbell**	**5.87**	**218**		Pn		**Pn**	**17 57 03.8**	**-3.6**
CMWZ							**Sn**	**17 58 09.7**	**-3.9**
CMWZ	**Cape Campbell**	**5.87**	**218**	P			**Pn**	**17 57 06.9**	**-0.4**
NNZ	**Nelson**	**5.95**	**226**		Pn		**Pn**	**17 57 05.4**	**-3.1**
BSWZ	**Blackbirch Sta**	**6.02**	**220**				**Pn**	**17 57 05.8**	**-3.5**
QRZ	**Quartz Range**	**6.24**	**233**				**Pn**	**17 57 10.0**	**-2.4**
QRZ	**Quartz Range**	**6.24**	**233**	P			**Pn**	**17 57 10.6**	**-1.8**
THZ	**Tophouse**	**6.58**	**225**		Pn		**Pn**	**17 57 13.5**	**-3.6**
KHZ	**Kahutara**	**6.70**	**218**		Pn		**Pn**	**17 57 14.5**	**-4.3**
KHZ	**Kahutara**	**6.70**	**218**	P			**Pn**	**17 57 16.1**	**-2.7**
CTZ	**Chatham Island**	**7.26**	**155**	P			**Pn**	**17 57 29.2**	**+2.7**
LTZ	**Lake Taylor**	**7.61**	**221**		Pn		**Pn**	**17 57 26.6**	**-4.8**
MQZ	**Mcqueen's Vall**	**8.11**	**215**		Pn		**Pn**	**17 57 33.2**	**-4.8**
OXZ	**Oxford**	**8.12**	**219**				**Pn**	**17 57 33.6**	**-4.6**
RPZ	**Rata Peaks**	**8.90**	**221**	P			**Pn**	**17 57 46.2**	**-2.7**
	11nm,0.3s,baz=296,slow=1.9,SNR=31								
RPZ						S	Sn	17 59 16.7	-11
	28nm,0.3s,baz=340,slow=4.4,SNR=18								
RPZ	**Rata Peaks**	**8.90**	**221**				**Pn**	17 57 44.4	-4.5
RPZ	**Rata Peaks**	**8.90**	**221**	P			**Pn**	**17 57 46.7**	**-2.3**
FOZ	**Fox Glacier**	**9.46**	**226**		Pn		**Pn**	**17 57 52.7**	**-3.8**
LBZ	**Lake Benmore**	**9.82**	**221**		Pn		Pn	17 57 57.0	-4.5
ODZ	**Otahua Downs**	**10.06**	**217**		Pn		**Pn**	17 58 00.4	-4.4
ODZ	**Otahua Downs**	**10.06**	**217**	P			**Pn**	**17 58 01.7**	**-3.1**
WKZ	**Wanaka**	**10.73**	**222**		Pn		**Pn**	17 58 09.5	-4.5
MLZ	**Mavora Lakes**	**11.56**	**222**		Pn		**Pn**	17 58 21.4	-5.0
WHZ	**Wether Hill Ro**	**12.00**	**220**		Pn		**Pn**	17 58 26.3	-5.1
DCZ	**Deep Cove**	**12.15**	**224**		Pn		**Pn**	17 58 28.8	-4.6
DZM	**Mont Dzumac**	**18.66**	**321**	*e*	P		**Pn**	**18 00 01.6**	**+3.1**
	93nm,28.4s								
DZM				*e*	LR		LR	18 04 24.8	
	comp=Z,1μm,23.9s								
DZM	**Mont Dzumac**	**18.66**	**321**	LR			LR	18 06 00.0	
	comp=Z,752nm,19.9s,baz=160,slow=34								
MSVF	**Nonsavu**	**19.46**	**357**	LR			LR	18 06 07.4	
	comp=Z,549nm,18.8s,baz=187,slow=32								
KOUNC	**Koumac, New Ca**	**21.04**	**318**	P			**P**	**18 00 25.1**	**+1.3**
KOUNC	**Koumac, New Ca**	**21.04**	**318**	P			**P**	**18 00 24.1**	**+0.3**
ARMA	**Armidale**	**23.75**	**279**	P			**P**	**18 00 51.7**	**-0.6**
ARMA							IAmb	IAmb	18 00 58.0
	comp=Z,56nm,1.6s								
CNB	**Canberra Magne**	**24.00**	**266**	P			**P**	**18 00 55.7**	**+1.2**
	baz=24,SNR=9.8								
CNB	**Canberra Magne**	**24.00**	**266**	P			**P**	**18 00 56.4**	**+1.9**
CAN	**Canberra**	**24.29**	**265**	P			**P**	**18 00 55.9**	**-1.2**
CAN	**Canberra**	**24.29**	**265**	P			**P**	**18 00 59.2**	**+2.1**
TAU	**Tasmania Unive**	**24.87**	**247**	P			**P**	**18 00 59.9**	**-2.3**
TAU							IAmb	IAmb	18 01 21.4
	comp=Z,120nm,1.6s								
EIDS	**Eidsvold**	**26.60**	**288**	P			**P**	**18 01 17.7**	**-0.3**
TOO	**Toolangi**	**26.61**	**259**	P			**P**	**18 01 16.3**	**-1.8**
TOO							IAmb	IAmb	18 01 20.6
	comp=Z,43nm,1.6s								
TOO	**Toolangi**	**26.61**	**259**	P			**P**	**18 01 19.0**	**+0.8**
RMQ	**Roma**	**27.80**	**284**	P			**P**	**18 01 29.9**	**+1.1**
	baz=28,SNR=5.3								
RMQ	**Roma**	**27.80**	**284**	P			**P**	**18 01 30.5**	**+1.7**
CMSA	**Cobar Meteorol**	**28.05**	**272**	P			**P**	**18 01 32.4**	**+1.4**
	baz=28,SNR=18								
CMSA	**Cobar Meteorol**	**28.05**	**272**	P			**P**	**18 01 32.1**	**+1.1**
TBI	**Tubuai**	**30.32**	**72**	*e*	LR		LR	18 09 40.4	
	comp=Z,170nm,26.8s								
TBI	**Tubuai**	**30.32**	**72**	*e*	T		T	18 33 47.4	
	comp=Z,27nm,0.3s								
STKA	**Stephens Creek**	**31.20**	**269**	P			**P**	**18 01 59.8**	**+0.9**
	comp=Z,18nm,0.8s,baz=102,slow=9.5,SNR=30								
STKA					LR		LR	18 13 03.3	
	comp=Z,275nm,21.9s,baz=65,slow=34								
	comp=Z,18nm,0.8s								
STKA	**Stephens Creek**	**31.20**	**269**	P			**P**	**18 02 00.1**	**+1.1**
	baz=32,SNR=19								
STKA	**Stephens Creek**	**31.20**	**269**	P			**P**	**18 01 57.7**	**-1.3**
STKA	**Stephens Creek**	**31.20**	**269**	P			**P**	**18 01 59.9**	**+0.9**
QLP	**Quilpie**	**31.28**	**280**	P			**P**	**18 02 00.7**	**+1.0**
	baz=32,SNR=11								
HNR	**Honiara**	**32.65**	**323**	LR			LR	18 14 06.2	
	comp=Z,1μm,18.1s,baz=161,slow=34								
HTT	**Hallett**	**32.82**	**264**	P			**P**	**18 02 14.7**	**+1.5**
	baz=33,SNR=11								
HTT	**Hallett**	**32.82**	**264**	P			**P**	**18 02 13.8**	**+0.6**
CTA	**Charters Tower**	**33.28**	**292**	P			**P**	**18 02 18.1**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=128,slow=7.8,SNR=9.3								
CTA					LR		LR	18 14 22.3	
	comp=Z,204nm,21.3s,baz=106,slow=34								
	comp=Z,4.9nm,0.8s								
CTAO	**Charters Tower**	**33.28

	comp=Z,61nm,1.9s						
MBWA	**Marble Bar**	**53.42 270**	P	**P**	**18 04 58.2**	**-1.4**	
MBWA			IAmb	IAmb	18 04 59.7		
	comp=Z,12nm,0.8s						
MBWA	**Marble Bar**	**53.42 270**	P	**P**	**18 04 59.0**	**-0.6**	
FAKI	**Fak Fak**	**54.85 297**	P	**P**	**18 05 07.8**	**-2.3**	
FAKI			IAmb	IAmb	18 05 16.1		
	comp=Z,44nm,1.1s						
FAKI	**Fak Fak**	**54.85 297**	P	**P**	**18 05 09.4**	**-0.7**	
BATI	**Baumata**	**56.51 284**	LR	LR	18 29 42.8		
	comp=Z,293nm,21.4s,baz=148,slow=36						
SIJI	**Sorong**	**56.99 298**	LR	LR	18 30 11.1		
	comp=Z,69nm,20.0s,baz=168,slow=36						
GIRL	**Giralia**	**57.05 265**	P	**P**	**18 05 25.0**	**-0.7**	
GIRL	**Giralia**	**57.05 265**	P	**P**	**18 05 25.4**	**-0.3**	
MMRI	**Maumere**	**58.58 284**	P	**P**	**18 05 36.1**	**-0.4**	
MMRI	**Maumere**	**58.58 284**	P	**P**	**18 05 36.8**	**+0.3**	
	comp=Z,78nm,1.0s						
EDFI	**Ende, Flores**	**58.93 284**	P	**P**	**18 05 38.6**	**-0.5**	
	comp=Z,14nm,1.4s						
GUMO	**Guam**	**59.94 321**	LR	LR	18 30 44.3		
	comp=Z,27nm,18.2s,baz=186,slow=35						
SANI	**Sanana**	**59.98 293**	P	**P**	**18 05 45.9**	**-0.3**	
	comp=Z,18nm,0.9s						
SANI			pP	**pP**	**18 05 51.6**	**-4.0**	
	comp=Z,18nm,0.9s						
SANI	**Sanana**	**59.98 293**	P	**P**	**18 05 45.2**	**-1.0**	
RPN	**Rapa Nui**	**60.13 103**	LR	LR	18 26 22.3		
	comp=Z,48nm,18.7s,baz=326,slow=30						
TWSI	**Taliwang, Sumb**	**62.69 280**	P	**P**	**18 06 05.6**	**+1.0**	
	comp=Z,25nm,1.5s						
KAPI	**Kappang**	**62.76 285**	LR	LR	18 33 36.5		
	comp=Z,88nm,19.6s,baz=137,slow=36						
APSI	**Ampana**	**63.97 290**	P	**P**	**18 06 14.1**	**+1.1**	
	comp=Z,1μmcomp=Z,15nm,1.0s						
MAW	**Mawson**	**65.07 202**	P	**P**	**18 06 23.6**	**+4.2**	
	comp=Z,3.3nm,0.8s,baz=132,slow=14,SNR=5.1						
MAW			LR	LR	18 35 47.5		
	comp=Z,92nm,18.1s,baz=107,slow=37						
	comp=Z,3.3nm,0.8s						
MPSI	**Mapaga**	**66.10 290**	P	**P**	**18 06 26.4**	**-0.4**	
	comp=Z,830nmcomp=Z,11nm,1.0s						
DAV	**Davao City (W)**	**66.59 300**	LR	LR	18 35 02.6		
	comp=Z,33nm,22.0s,baz=102,slow=36						
PMSA	**Palmer Station**	**67.05 155**	LR	LR	18 32 46.3		
	comp=Z,120nm,18.3s,baz=41,slow=33						
PWJI	**Pagerwojo**	**67.13 277**	P	**P**	**18 06 33.2**	**-0.2**	
	comp=Z,62nm,0.8s						
BBKI	**Banjar Baru**	**67.53 283**	P	**P**	**18 06 36.7**	**+0.7**	
	comp=Z,18nm,1.3s						
UGM	**Wanagama**	**68.21 277**	P	**P**	**18 06 39.6**	**-0.7**	
UGM	**Wanagama**	**68.21 277**	P	**P**	**18 06 40.1**	**-0.2**	
TROLL	**Troll, Antarti**	**71.02 181**	P	**P**	**18 07 00.5**	**+3.6**	
LEM	**Lembang**	**71.16 276**	LR	LR	18 40 27.3		
	comp=Z,103nm,18.9s,baz=180,slow=38						
SNAA	**Sanae**	**71.38 179**	P	**P**	**18 07 02.3**	**+3.3**	
SNAA	**Sanae**	**71.38 179**	LR	LR	18 37 23.7		
	comp=Z,59nm,18.1s,baz=238,slow=35						
DBJI	**Dramaga**	**72.01 275**	P	**P**	**18 07 04.5**	**+0.9**	
VNA2	**Neumayer--Watz**	**72.04 178**	P	**P**	**18 07 06.5**	**+3.6**	
	baz=173,slow=5.8						
MNAI	**Manna**	**76.34 275**	P	**P**	**18 07 28.6**	**-0.3**	
H03S2	**Juan Fernandez**	**78.69 124**	T	T	19 34 20.2		
	baz=231						
H03S1	**Juan Fernandez**	**78.70 124**	T	T	19 34 15.8		
	baz=231						
H03S3	**Juan Fernandez**	**78.71 124**	T	T	19 34 13.0		
	baz=231						
H03N3	**Juan Fernandez**	**78.92 124**	T	T	19 34 20.6		
	baz=234,slow=72,SNR=63						
H03N2	**Juan Fernandez**	**78.93 124**	T	T	19 34 23.4		
	baz=234,slow=72,SNR=56						
H03N1	**Juan Fernandez**	**78.94 124**	T	T	19 34 19.7		
	baz=234,slow=72,SNR=63						
MJAR	**Matsushiro Arr**	**82.61 328**	LR	LR	18 41 09.4		
	comp=Z,22nm,19.4s,baz=158,slow=33						
GSI	**Gunungsitoli**	**84.03 276**	P	**P**	**18 08 09.9**	**-0.3**	
GSI			IAmb	IAmb	18 10 15.2		
	comp=Z,18nm,0.6s						
KSRS	**Korea Array**	**88.09 322**	P	**P**	**18 08 30.6**	**+1.0**	
	comp=Z,1.8nm,0.8s,baz=139,slow=5.1,SNR=14						
KSRS			LR	LR	18 45 52.1		
	comp=Z,11nm,18.0s,baz=155,slow=34						
	comp=Z,1.8nm,0.8s						
KS19	**Wonju Array Si**	**88.16 322**	P	**P**	**18 08 29.8**	**-0.3**	
KS19			IAmb	IAmb	18 08 35.4		
	comp=Z,36nm,1.8s						
NJ2	**Nanjing**	**88.96 313**	*e*P	P	18 08 20.3	-14	
NJ2			pmax	pmax			
	comp=Z,22nm,0.5s						
NJ2	**Nanjing**	**88.96 313**	*e*P	**P**	**18 08 34.8**	**+0.9**	
NJ2			pmax	pmax			
	comp=Z,9.0nm,0.6s						
SHEM	**Shemya Is, Ala**	**89.71 357**	LR	LR	18 42 25.7		
	comp=Z,56nm,22.0s,baz=270,slow=31						
LPIG	**La Paz**	**90.14 60**	LR	LR	18 42 42.7		
	comp=Z,31nm,18.6s,baz=217,slow=31						
PETK	**Petropavlovsk-**	**91.88 347**	P	**P**	**18 08 47.3**	**+0.2**	
	comp=Z,1.0nm,0.7s,baz=111,slow=7.9,SNR=1.7						
PETK			LR	LR	18 45 24.2		
	comp=Z,42nm,19.5s,baz=143,slow=32						
	comp=Z,1.0nm,0.7s						
LVC	**Limon Verde**	**92.63 121**	LR	LR	18 41 38.5		
	comp=Z,72nm,21.0s,baz=226,slow=30						
CMAR	**Chiang Mai Arr**	**93.44 290**	P	**P**	**18 08 55.2**	**+0.1**	
	comp=Z,2.1nm,0.7s,baz=142,slow=3.7,SNR=14						
CMAR			LR	LR	18 52 53.6		
	comp=Z,16nm,21.0s,baz=135,slow=37						
	comp=Z,2.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.44 290**	P	**P**	**18 08 53.7**	**-1.4**	
KMI	**Kunming**	**94.80 298**	⇓P	P	18 09 07.0	+5.5	
KMI			pmax	pmax			
	comp=Z,8.0nm,0.9s						
NVAR	**Mina Array Bea**	**94.85 44**	P	**P**	**18 09 04.5**	**+3.1**	
	comp=Z,0.2nm,0.6s,baz=202,slow=6.8,SNR=1.2						
KLR	**Kul'dur**	**95.77 331**	LR	LR	18 46 37.9		
	comp=Z,225nm,20.1s,baz=198,slow=32						
PZH	**PanZhiHua**	**96.36 298**	P	**P**	**18 09 11.0**	**+2.5**	
PZH			pmax	pmax			
	comp=Z,10.0nm,0.8s						
PZH			pmax	pmax			
	comp=Z,100nm,3.8s						
CMIG	**Matias Romero**	**97.07 74**	LR	LR	18 45 07.1		
	comp=Z,47nm,20.8s,baz=184,slow=30						
CPUP	**Villa Florida**	**97.48 131**	LR	LR	18 47 19.1		
	comp=Z,102nm,18.6s,baz=236,slow=32						
KDAK	**Kodiak Island**	**97.62 15**	LR	LR	18 48 42.4		
	comp=Z,31nm,18.4s,baz=212,slow=33						
CD2	**Chengdu**	**97.72 303**	P	Pdif	18 09 14.4	-0.1	
ELK	**Elko**	**98.16 44**	LR	LR	18 46 48.0		
	comp=Z,37nm,19.7s,baz=222,slow=31						
MA2	**Magadan**	**99.28 346**	LR	LR	18 47 32.5		
	comp=Z,70nm,21.8s,baz=204,slow=31						
HHC	**Hu-ho-hao-te**	**99.28 315**	*e*P	**Pdif**	**18 09 22.1**	**+0.9**	
HHC			pmax	pmax			
	comp=Z,36nm,0.8s						
WMQ	**Urumqi**	**115.46 307**	*e*PKP	**PKiKP**	**18 14 21.1**	**+0.2**	
NRIK	**Noril'sk**	**124.82 334**	PKP	**PKiKP**	**18 14 38.8**	**+0.5**	
	comp=Z,5.0nm,0.8s,baz=78,slow=3.4,SNR=5.2						
ARA0	**ARCESS Array S**	**144.63 344**	*e*PKPdf	**PKPdf**	**18 15 14.8**	**0.0**	
ARCES	**ARCESS Array B**	**144.63 344**	PKP	**PKPdf**	**18 15 14.7**	**-0.1**	
	comp=Z,4.2nm,0.6s,baz=41,slow=3.0,SNR=27						
ARCES	**ARCESS Array B**	**144.63 344**		PKPbc	18 15 13.5	-0.1	
KLMR	**Klimovskoe**	**145.37 326**	*e*PKPdf	**PKPdf**	**18 15 14.2**	**-2.1**	
KLMR			AMP		18 15 17.8		
	comp=Z,23nm,1.2s						
KTK1	**Kautokeino**	**145.54 345**	*e*PKPab	**PKPab**	**18 15 16.6**	**-0.2**	
KTK1			IAmb	IAmb	18 15 18.5		
	comp=Z,10nm,1.0s						
JETT	**Jettan, Norway**	**145.63 347**	*e*PKPdf	**PKPdf**	**18 15 15.7**	**-0.8**	
TRO	**Tromso**	**145.82 348**	*e*PKPdf	**PKPdf**	**18 15 16.1**	**-0.7**	
GURO	**Guroymak-BITLI**	**146.31 286**		**PKPab**	**18 15 20.4**	**-0.6**	
KBZ	**Khabaz**	**146.37 295**	PKPbc	**PKPab**	**18 15 20.1**	**-0.6**	
	comp=Z,6.9nm,0.8s,baz=89,slow=1.9,SNR=14						
STEI	**Steigen**	**147.95 349**	*e*pPKPbc	**PKiKP**	**18 15 24.4**	**-0.9**	
STEI			IAmb	IAmb	18 15 26.4		
	comp=Z,23nm,0.9s						
FAUS	**Fauske**	**148.44 348**	*e*pPKPbc	**PKPab**	**18 15 26.8**	**-1.4**	
DBIC	**Dimbokro**	**149.36 172**	PKPbc	**PKPab**	**18 15 32.0**	**-1.3**	
	comp=Z,3.9nm,0.8s,baz=90,slow=2.0,SNR=1.6						
KONS	**Konsvik**	**149.60 349**	*e*pPKPbc	**PKiKP**	**18 15 29.2**	**+0.4**	
KONS			IAmb	IAmb	18 15 29.7		
	comp=Z,13nm,0.6s						
MOR8	**Moi Rana**	**149.69 348**	*e*PKPbc	**PKPbc**	**18 15 27.5**	**-0.5**	
FIA1	**FINESS Array S**	**150.48 334**	PKPdf	**PKPdf**	**18 15 23.0**	**-1.6**	
FIA1				**PKiKP**	**18 15 30.0**	**-0.8**	
FINES	**FINESS Array B**	**150.48 334**	PKPbc	**PKiKP**	**18 15 30.1**	**-0.6**	
	comp=Z,7.9nm,0.8s,baz=64,slow=4.4,SNR=22						
FINES	**FINESS Array B**	**150.48 334**	PKPdf	**PKPdf**	**18 15 23.4**	**-1.2**	
FINES				**PKiKP**	**18 15 30.2**	**-0.6**	
BNN	**Bunyan**	**151.13 285**		**PKPbc**	**18 15 31.0**	**-1.5**	
NSS	**Namsos**	**151.61 348**	*e*PKPbc	**PKiKP**	**18 15 32.5**	**-0.5**	
MEF	**Metsahovi**	**151.92 333**	*e*P	**PKiKP**	**18 15 33.6**	**-0.1**	
VSU	**Vasula**	**152.16 329**	*e*P	**PKiKP**	**18 15 34.4**	**+0.1**	
RAF	**Rauma**	**152.24 336**	*e*P	**PKiKP**	**18 15 35.1**	**+0.8**	
BR131	**Keskin Array S**	**152.94 286**		**PKPbc**	**18 15 35.3**	**-1.3**	
BRTR	**Keskin Array B**	**152.94 286**	PKPbc	**PKiKP**	**18 15 36.3**	**-0.5**	
	comp=Z,4.2nm,0.8s,baz=128,slow=3.4,SNR=21						
BRTR	**Keskin Array B**	**152.94 286**		**PKPbc**	**18 15 34.6**	**-2.0**	
MTSE	**Matsula**	**153.17 331**	*e*P	**PKiKP**	**18 15 36.6**	**+0.3**	
MNK	**Minsk**	**153.82 320**	*i* PKP	**PKPdf**	**18 15 26.9**	**-2.9**	
	comp=E,2.0nm,0.7s						
MNK			*i* PKP	**PKPdf**	**18 15 26.9**	**-2.9**	
	comp=N,8.0nm,0.9s						
MNK			*i* PKP	**PKPdf**	**18 15 26.9**	**-2.9**	
	comp=Z,11nm,0.7s,baz=60						
MNK			*i* PP	**PP**	**18 19 23.2**	**-2.5**	
MNK			*i* SKS	**SKSdf**	**18 22 32.8**	**-1.3**	
MNK			*i* PPP	PPP	18 22 51.6		
MNK			*i* SKKS	**SKKSdf**	**18 31 17.8**	**+2.0**	
MNK			*i* SS	**SS**	**18 39 00.8**	**+0.6**	
MNK			*i* SSS	SSS	18 44 51.9		
MNK			*i* LR	LR	19 21 23.7		
MNK			*i* LRM	MLR	19 24 07.6		
	comp=N,17nm,17.9s						
MNK			*i* LRM	MLR	19 24 21.3		
	comp=Z,66nm,17.2s						
MNK			*i* LRM	MLR	19 24 26.1		
	comp=E,16nm,22.4s						
DOMB	**Dombas**	**154.41 349**	*e*PKPbc	**PKiKP**	**18 15 38.4**	**-0.5**	
AKN	**Aaknes**	**154.56 351**	*e*pPKPbc	**PKiKP**	**18 15 41.1**	**+1.9**	
AKASG	**Malin Array Be**	**154.69 312**	PKPbc	**PKPbc**	**18 15 39.2**	**-0.5**	
	comp=E,0.8nm,0.6s,baz=59,slow=2.3,SNR=4.6						
NC303	**NORSAR Array S**	**154.78 346**		**PKPbc**	**18 15 38.3**	**-1.4**	
NB2	**NORSAR Subarra**	**154.98 346**	PKPdf	**PKiKP**	**18 15 40.6**	**+0.4**	
	comp=Z,2.7nm,0.8s,baz=6.6,slow=1.8						
NB2	**NORSAR Subarra**	**154.98 346**	PKPdf	**PKiKP**	**18 15 40.5**	**+0.4**	
	comp=Z,2.6nm,0.7s,baz=6.6,slow=1.8						
NB2	**NORSAR Subarra**	**154.98 346**	*e*	**PKiKP**	**18 15 40.6**	**+0.4**	
	baz=6.6,slow=1.8						
NOA	**NORSAR Array B**	**154.98 346**	PKPbc	**PKiKP**	**18 15 40.6**	**+0.4**	
	comp=E,2.0nm,0.8s,baz=31,slow=2.0,SNR=10						
NC602	**NORSAR Array S**	**155.19 345**	*e*	PKPdf	18 15 41.5	+10	
TORD	**Torodi Ar. Bea**	**155.89 186**	PKPab	**PKPab**	**18 16 05.7**	**+5.0**	
	comp=Z,5.5nm,0.9s,baz=201,slow=3.3,SNR=4.3						
GERES	**GERESS Array B**	**164.27 322**	PKPab	**PKPab**	**18 16 36.3**	**-0.3**	
	comp=Z,0.7nm,0.7s,baz=64,slow=6.5,SNR=6.1						

MAN 14 17:58:29.9, 13.75N×125.47E, h33km, mb4.3, ML3.2, MS2.9, 6C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.28**	**263**	*i*P	Pn	17 58 51.6	0.0
PVCP				*e*S	Sn	17 59 07.2	-0.5
CNP	**Catarman**	**1.46**	**213**	*e*P	Pn	17 58 54.5	+0.6
CNP				*e*S	Sn	17 59 10.9	-1.1
SCSP	**San Jose Seism**	**1.90**	**267**	*i*P	Pn	17 59 01.7	+1.7
SCSP				*e*S	Sn	17 59 20.6	-2.1
BESP	**Borongan**	**2.13**	**181**	*i*P	Pb	17 59 18.6	+11
BESP				*e*S	Sn	17 59 27.4	-1.2
GQP	**Guinayangan**	**2.94**	**273**	*e*P	Pn	17 59 15.6	+1.3
GQP				*e*S	Sn	17 59 49.8	+1.3
RCP	**Roxas**	**3.43**	**231**	*e*P	Pn	17 59 22.4	+1.3
BOAC	**Boac**	**3.53**	**266**	*i*P	Pn	17 59 23.3	+0.7
BOAC				*e*S	Sn	17 59 47.5	-16
LQP	**Lukban**	**3.83**	**276**	*e*P	Pn	17 59 28.6	+1.8
BALP	**Baler**	**4.25**	**298**	*i*P	Pn	17 59 32.2	-0.3
BALP				*e*S	Sn	18 00 15.3	-5.8
CAUP	**Cauayan**	**4.74**	**313**	*e*P	Pn	17 59 40.6	+1.5

*IDC **14** 17:58:34.7±1.2,24.94S×179.68E, h511km±13km, mb3.5/12, mbtmp4.5/15, Error ellipse: s-maj=15.4km s-min=13.2km az=79.0*
*NEIC **14** 17:58:35.1±1.9,25.1S±0.1×179.7E±0.1, h514km±9km, mb4.6/40, Error ellipse: s-maj=19.8km s-min=15.2km az=82.0*

ISC 14 17:58:33.1±0.5, 24.97S±0.06×179.79E±0.07, h501km, n86, σ1f80/90, mb4.4/25, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.73**	**155**	P	**P**	**18 00 00.9**	**+3.3**
	486nm,0.4s,baz=95,slow=5.1,SNR=9.7						
RAO				S	**S**	**18 01 04.0**	**-2.8**
	164nm,0.3s,baz=236,slow=23,SNR=2.4						
RAO	**Raoul Island**	**4.73**	**155**	P	**P**	**17 59 58.9**	**+1.2**
MSVF	**Nonsavu**	**7.38**	**347**	P	**P**	**18 00 24.7**	**+1.3**
	35nm,0.6s,baz=199,slow=9.3,SNR=33						
MSVF				S	**S**	**18 01 55.7**	**+2.1**
	7.7nm,1.0s,baz=2.4,slow=23,SNR=1.1						
MSVF	**Nonsavu**	**7.38**	**347**	P	**P**	**18 00 24.0**	**+0.6**
NIUE	**Niue**	**11.19**	**60**	P	**P**	**18 01 02.4**	**-0.9**
MARNC	**Mare, Loyalty**	**11.36**	**285**	P	**P**	**18 01 06.7**	**+1.8**
MARNC	**Mare, Loyalty**	**11.36**	**285**	P	**P**	**18 01 07.2**	**+2.3**
OUZ	**Omahuta**	**11.54**	**206**	P	**P**	**18 01 10.3**	**+3.7**
PINNC	**Pines Island,**	**11.54**	**279**	P	**P**	**18 01 04.3**	**-2.5**
PINNC	**Pines Island,**	**11.54**	**279**	P	**P**	**18 01 10.3**	**+3.4**
DZM	**Mont Dzumac**	**12.58**	**281**	P	**P**	**18 01 20.0**	**+2.1**
	12nm,0.8s,baz=78,slow=17,SNR=7.4						
DZM	**Mont Dzumac**	**12.58**	**281**	P	**P**	**18 01 21.0**	**+3.0**
MXZ	**Matakaoa Point**	**12.62**	**185**	P	**P**	**18 01 19.1**	**+1.0**
NOUC	**Port Laguerre**	**12.70**	**280**	P	**P**	**18 01 22.0**	**+2.9**
URZ	**Urewera**	**13.45**	**189**	P	**P**	**18 01 27.2**	**+0.5**
	21nm,0.5s,baz=50,slow=1.7,SNR=9.4						
URZ				S	**S**	**18 03 47.0**	**-3.0**
	6.1nm,0.6s,baz=252,slow=20,SNR=2.7						
URZ	**Urewera**	**13.45**	**189**	P	**P**	**18 01 26.8**	**0.0**
AFI	**Afiamalu**	**13.57**	**37**	P	**P**	**18 01 25.8**	**-2.6**
	43nm,0.6s,baz=309,slow=1.8,SNR=6.1						
AFI				S	**S**	**18 03 48.0**	**-5.1**
	20nm,0.7s,baz=36,slow=23,SNR=1.7						
HIZ	**Hauiti**	**14.14**	**196**	P	**P**	**18 01 31.7**	**-2.4**
BKZ	**Black Stump Fm**	**14.43**	**190**	P	**P**	**18 01 37.4**	**+0.1**
BFZ	**Birch Farm**	**15.95**	**190**	P	**P**	**18 01 52.0**	**-1.0**
BFZ				IAmb	IAmb	18 01 54.7	
	comp=Z,14nm,0.5s						
MSWZ	**Moikau Station**	**16.83**	**192**	P	**P**	**18 02 01.7**	**-0.6**
SNZO	**South Karori**	**16.84**	**193**	P	**P**	**18 02 01.6**	**-0.6**
QRZ	**Quartz Range**	**16.94**	**199**	P	**P**	**18 02 03.2**	**0.0**
PLWZ	**Palliser**	**16.98**	**192**	P	**P**	**18 02 03.2**	**-0.5**
NNZ	**Nelson**	**17.06**	**197**	P	**P**	**18 02 04.2**	**-0.3**
NNZ				IAmb	IAmb	18 02 31.9	
	comp=Z,36nm,1.3s						
TUWZ	**Tuamarina**	**17.12**	**195**	P	**P**	**18 02 03.6**	**-1.4**
CMWZ	**Cape Campbell**	**17.37**	**194**	P	**P**	**18 02 06.9**	**-0.5**
BSWZ	**Blackbirch Sta**	**17.41**	**195**	P	**P**	**18 02 06.5**	**-1.4**
THZ	**Tophouse**	**17.70**	**197**	P	**P**	**18 02 09.4**	**-1.2**
THZ				IAmb	IAmb	18 02 22.6	
	comp=Z,23nm,1.1s						
KHZ	**Kahutara**	**18.15**	**195**	P	**P**	**18 02 13.3**	**-1.3**
LTZ	**Lake Taylor**	**18.82**	**197**	P	**P**	**18 02 19.8**	**-1.0**
LTZ				IAmb	IAmb	18 02 24.1	
	comp=Z,14nm,0.5s						
OXZ	**Oxford**	**19.39**	**197**	P	**P**	**18 02 25.3**	**-0.6**
MQZ	**McQueen's Vall**	**19.59**	**196**	P	**P**	**18 02 26.8**	**-0.9**
RPZ	**Rata Peaks**	**20.02**	**199**	P	**P**	**18 02 32.0**	**+0.3**
	comp=Z,7.5nm,0.5s,baz=18,slow=8.9,SNR=3.4						
	comp=Z,7.5nm,0.5s						
RPZ	**Rata Peaks**	**20.02**	**199**	P	**P**	**18 02 31.0**	**-0.7**
RPZ				IAmb	IAmb	18 02 58.1	
	comp=Z,24nm,1.3s						
FOZ	**Fox Glacier**	**20.24**	**201**	P	**P**	**18 02 32.8**	**-0.9**
LBZ	**Lake Benmore**	**20.89**	**200**	P	**P**	**18 02 37.4**	**-2.2**
LBZ				IAmb	IAmb	18 02 55.4	
	comp=Z,15nm,1.3s						
ODZ	**Otahua Downs**	**21.36**	**198**	P	**P**	**18 02 43.6**	**-0.2**
WKZ	**Wanaka**	**21.66**	**201**	P	**P**	**18 02 45.0**	**-1.5**
MLZ	**Mavora Lakes**	**22.43**	**202**	P	**P**	**18 02 51.4**	**-2.2**
MLZ				IAmb	IAmb	18 03 24.8	
	comp=Z,38nm,1.4s						
WHZ	**Wether Hill Ro**	**22.95**	**202**	P	**P**	**18 02 56.3**	**-1.9**
WHZ				IAmb	IAmb	18 03 38.8	
	comp=Z,35nm,1.3s						
HNR	**Honiara**	**24.40**	**306**	P	**P**	**18 03 10.4**	**-1.0**
	comp=Z,754nm,0.8s,baz=145,slow=12,SNR=1.6						
CTA	**Charters Tower**	**31.30**	**272**	P	**P**	**18 04 12.9**	**+1.1**
	comp=Z,12nm,0.4s,baz=94,slow=10,SNR=35						
	comp=Z,12nm,0.4s						
CTAO	**Charters Tower**	**31.30**	**272**	P	**P**	**18 04 13.2**	**+1.3**
CTAO				IAmb	IAmb	18 04 13.3	
	comp=Z,14nm,0.5s						
KRVT	**Keravat (AS076**	**33.67**	**303**	P	**P**	**18 04 31.6**	**-0.4**
	comp=Z,20nm,0.5s,baz=175,slow=11,SNR=1.5						
	comp=Z,20nm,0.5s						
STKA	**Stephens Creek**	**34.16**	**250**	P	**P**	**18 04 35.6**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=117,slow=21,SNR=1.8						
	comp=Z,1.9nm,0.8s						
AS31	**Alice Springs**	**41.68**	**262**	P	**P**	**18 05 37.1**	**-0.5**
ASAR	**Alice Springs**	**41.68**	**262**	P	**P**	**18 05 37.5**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=92,slow=7.4,SNR=7.1						
ASAR				S	**S**	**18 11 15.2**	**-2.7**
	comp=Z,0.8nm,0.8s,baz=97,slow=15,SNR=2.5						
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**41.68**	**262**	P	**P**	**18 05 37.8**	**+0.2**
WB2	**Warramunga Arr**	**42.14**	**267**	P	**P**	**18 05 41.0**	**-0.3**
WB2				IAmb	IAmb	18 05 41.8	
	comp=Z,9.7nm,1.1s						
WRAB	**Tennant Creek**	**42.15**	**267**	P	**P**	**18 05 41.1**	**-0.2**
WRAB				IAmb	IAmb	18 05 41.8	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**42.15**	**268**	P	**P**	**18 05 41.1**	**-0.3**
WB0				IAmb	IAmb	18 05 41.8	
	comp=Z,8.7nm,0.6s						
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**18 05 41.2**	**-0.1**
	comp=Z,5.2nm,0.4s,baz=100,slow=6.8,SNR=19						
WRA				ScP	**ScP**	**18 10 28.4**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=104,slow=3.6,SNR=6.0						
WRA				S	**S**	**18 11 18.9**	**-5.9**
	comp=Z,1.0nm,0.9s,baz=100,slow=15,SNR=5.0						
	comp=Z,5.2nm,0.4s						
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**18 05 40.9**	**-0.4**
KNRA	**Kununurra**	**48.50**	**271**	P	**P**	**18 06 30.3**	**+0.2**
KNRA				IAmb	IAmb	18 06 30.7	
	comp=Z,15nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.56**	**267**	P	**P**	**18 06 46.4**	**+1.1**
MBWA	**Marble Bar**	**55.01**	**261**	P	**P**	**18 07 16.6**	**-0.5**
MBWA				IAmb	IAmb	18 07 30.8	
	comp=Z,26nm,1.5s						
MMRI	**Maumere**	**57.03**	**276**	P	**P**	**18 07 30.4**	**-0.8**
MMRI				IAmb	IAmb	18 07 43.3	
	comp=Z,45nm,1.2s						
CASY	**Casey**	**59.07**	**206**	P	**P**	**18 07 44.1**	**-0.1**
GIRL	**Giralia**	**59.49**	**257**	P	**P**	**18 07 46.5**	**-1.3**
JAGI	**Jajag, Banyuwa**	**64.42**	**272**	P	**P**	**18 08 18.4**	**-1.6**
QSPA	**South Pole Qui**	**65.12**	**180**	P	**P**	**18 08 25.1**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=294,slow=1.0,SNR=6.4						
	comp=Z,2.4nm,0.7s						
QSPA	**South Pole Qui**	**65.12**	**180**	P	**P**	**18 08 25.6**	**+1.9**
JSU	**Suzuyama**	**73.33**	**317**	P	**P**	**18 09 14.1**	**+0.6**
JSU				IAmb	IAmb	18 09 24.1	
	comp=Z,8.1nm,1.0s						
MAW	**Mawson**	**76.69**	**201**	P	**P**	**18 09 32.8**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=126,slow=6.8,SNR=6.2						
	comp=Z,1.7nm,0.6s						
MAW	**Mawson**	**76.69**	**201**	P	**P**	**18 09 33.4**	**+1.8**
KSRS	**Korea Array**	**78.94**	**320**	P	**P**	**18 09 45.4**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=130,slow=6.4,SNR=4.3						
	comp=Z,0.7nm,0.6s						
ISA	**Isabella, Lake**	**83.90**	**46**	P	**P**	**18 10 11.7**	**+1.7**
NVAR	**Mina Array Bea**	**85.65**	**44**	P	**P**	**18 10 20.1**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=221,slow=8.3,SNR=10						
	comp=Z,1.5nm,0.8s						
TPNV	**Topopah Spring**	**86.10**	**46**	P	**P**	**18 10 21

TROLL S S 18 11 37.1 +5.5
TROLL Troll, Antarti 20.22 153 ScP ScP 18 15 24.3 -0.2
SMAI San Martin Ant 21.46 221 P P 18 08 08.3 +3.2
BELA Belgrano 2 21.89 184 P P 18 08 10.6 +1.0
CNLB Canela 31.51 319 eP P 18 09 38.6 +1.5
CPSB Cacapava Do Su 31.53 314 eP P 18 09 37.8 +0.6
TER01 Tubaro-SC 31.61 322 eP P 18 09 38.1 +0.2
PLCA Paso Flores 31.76 281 P P 18 09 38.7 -0.5
2.4nm,0.9s,baz=142,slow=7.6,SNR=4.3
PLCA PcP PcP 18 12 28.0 +0.7
3.0nm,0.8s,baz=101,slow=5.5,SNR=5.4
PLCA ScP ScP 18 15 56.4 -2.1
1.4nm,0.7s,baz=180,slow=3.0,SNR=3.5
2.4nm,0.9s
PLCA Paso Flores 31.76 281 eP P 18 09 39.4 +0.2
RODS Rosario do Sul 32.30 312 eP P 18 09 44.9 +1.0
ALGR Alto Alegre (B 32.80 316 eP P 18 09 49.6 +1.3
UNIS Unistalda (Bra 33.37 313 eP P 18 09 54.1 +0.8
ITQB Itaqui 33.49 310 eP P 18 09 54.5 +0.2
QSPA South Pole Qui 34.04 180 P P 18 10 01.4 +2.6
49nm,0.6s,baz=191,slow=3.0,SNR=200
QSPA PcP PcP 18 12 34.1 +0.8
12nm,0.6s,baz=205,slow=3.2,SNR=4.3
49nm,0.6s
QSPA South Pole Qui 34.04 180 P P 18 09 58.8 0.0
CRSM Crissiumal (Br 34.36 316 eP P 18 10 02.7 +0.9
FRBT Francisco Belt 35.35 318 eP P 18 10 11.3 +1.0
VAO Valinhos 36.09 329 eP P 18 10 18.6 +1.9
PTGB Pitanga 36.14 320 eP P 18 10 17.7 +0.6
BO02 Sierra Bellavi 36.22 288 P P 18 10 17.7 +0.1
BO02 IAmb IAmb 18 11 09.1
comp=Z,60nm,1.9s
BO02 PcP PcP 18 12 40.2 0.0
CPUP Villa Florida 36.72 312 P P 18 10 21.7 -0.2
comp=Z,13nm,0.9s,baz=146,slow=8.9,SNR=12
CPUP PcP PcP 18 12 42.0 +0.4
comp=Z,13nm,0.8s,baz=151,slow=2.7,SNR=12
CPUP LR LR 18 27 04.5
comp=Z,47nm,18.2s,baz=205,slow=39
comp=Z,13nm,0.9s
CPUP Villa Florida 36.72 312 eP P 18 10 22.1 +0.3
CPUP Villa Florida 36.72 312 P P 18 10 20.9 -1.0
CPUP pP pP 18 10 50.2 +1.0
MT09 Talagante 37.10 289 P P 18 10 24.1 -1.2
MT09 IAmb IAmb 18 11 04.1
comp=Z,63nm,1.6s
MT02 Curacav 37.58 289 P P 18 10 28.5 -0.7
VA03 San Esteban 37.66 290 P P 18 10 29.1 -0.8
VA03 IAmb IAmb 18 11 09.4
comp=Z,39nm,1.4s
VA03 PcP PcP 18 12 45.1 +0.5
ROC1 El Roble 37.74 290 P P 18 10 29.1 -1.7
ROC1 IAmb IAmb 18 10 34.6
comp=Z,14nm,0.7s
TRCB Terra Rica 38.10 321 eP P 18 10 34.3 +0.7
BB19B Bebedouro 38.37 328 eP P 18 10 35.9 0.0
PCMB Pacaembu 38.73 323 eP P 18 10 39.4 +0.5
SJMB Sao Joao De Ma 38.81 339 eP P 18 10 40.1 +0.5
NAN01 Guarapari, ES 39.45 341 eP P 18 10 45.1 +0.3
CO01 Juntas del Tor 39.63 293 P P 18 10 46.7 +0.1
ANTJ Antonio Joao (40.07 317 eP P 18 10 49.3 -0.7
MAW Mawson 40.18 144 P P 18 10 52.3 +1.9
comp=Z,19nm,0.6s,baz=233,slow=8.0,SNR=71
MAW PcP PcP 18 12 53.5 +1.7
comp=Z,8.7nm,0.8s,baz=248,slow=5.6,SNR=4.6
MAW ScP ScP 18 16 29.1 +0.3
comp=Z,3.5nm,0.7s,baz=258,slow=6.2,SNR=7.9
comp=Z,19nm,0.6s
MAW Mawson 40.18 144 P P 18 10 52.2 +1.9
PMNB Patos De Minas 40.18 332 eP P 18 10 52.1 +1.0
ITRB Iturama 40.21 326 eP P 18 10 52.3 +1.1
RPRD Ribas do Rio P 40.61 321 eP P 18 10 54.9 +0.5
GUA01 Guaratinga, BA 40.62 342 eP P 18 10 55.3 +0.8
AC05 El Transito 40.64 294 P P 18 10 55.0 +0.2
AC05 IAmb IAmb 18 10 56.1
comp=Z,26nm,1.0s
SUR Sutherland 40.94 75 PcP PcP 18 12 57.0 +1.8
comp=Z,9.4nm,1.0s,baz=212,slow=9.5,SNR=2.4
SUR LR LR 18 24 33.1
comp=Z,121nm,18.9s,baz=204,slow=31
IPMB Ipameri, GO 41.20 330 eP P 18 10 59.5 +0.2
MC01 Montes Claros 41.33 336 eP P 18 11 00.7 +0.3
AQDB Aquidauana 41.34 318 P P 18 10 59.3 -1.1
AQDB IAmb IAmb 18 11 01.1
comp=Z,71nm,1.8s
AQDB Aquidauana 41.34 318 eP P 18 11 00.1 -0.3
AC02 Maricunga 41.71 297 P P 18 11 03.5 -0.4
AC02 IAmb IAmb 18 11 06.0
comp=Z,32nm,0.8s
CMC01 Camacan, BA 41.77 343 eP P 18 11 04.7 +0.8
AC06 Mina Casimiro 41.89 295 P P 18 11 04.6 -0.3
JANB Januaria 43.01 336 eP P 18 11 14.6 +0.6
GO02 Mina Guanaco 43.33 298 P P 18 11 17.1 +0.3
BDFB Brasilia 43.37 331 P P 18 11 17.8 +0.8
comp=Z,4.5nm,0.6s,baz=154,slow=7.3,SNR=6.6
comp=Z,4.5nm,0.6s
BDFB Brasilia 43.37 331 eP P 18 11 17.8 +0.8
PB15 IPOC Station P 44.91 300 P P 18 11 29.9 +0.6
PB15 IAmb IAmb 18 12 02.0
comp=Z,53nm,1.0s
LVC Limon Verde 45.15 301 P P 18 11 32.3 +0.9
LVC IAmb IAmb 18 11 33.3
comp=Z,35nm,0.7s
LVC Limon Verde 45.15 301 eP P 18 11 32.7 +1.3
LVC Limon Verde 45.15 301 P P 18 11 31.8 +0.4
LVC pP pP 18 11 55.6 -3.8
PB06 IPOC Station P 45.39 300 P P 18 11 33.5 +0.5
SALV Santo Antonio 45.54 321 eP P 18 11 34.7 +0.6
SDBA SAO DESIDERIO 45.70 336 eP P 18 11 36.1 +0.7
NBLA Lagarto - SE 45.80 346 eP P 18 11 36.4 +0.2
SBA Scott Base 45.90 184 P P 18 11 38.9 +2.7
SBA Scott Base 45.90 184 P P 18 11 38.2 +2.0
SBA pP pwP 18 12 09.0 +0.6
PB04 IPOC Station P 45.98 300 P P 18 11 38.0 +0.2
PB04 IAmb IAmb 18 11 39.0
comp=Z,68nm,1.2s
PB09 IPOC Station P 46.00 301 P P 18 11 39.0 +1.2
BOSA Boshof 46.27 76 P P 18 11 40.5 +0.6
comp=Z,3.8nm,0.8s,baz=224,slow=7.3,SNR=7.4
BOSA pP pP 18 12 09.0 +1.0
comp=Z,9.3nm,1.1s,baz=197,slow=5.9,SNR=3.6
BOSA PcP PcP 18 13 14.0 +0.8
comp=Z,5.8nm,0.8s,baz=210,slow=3.0,SNR=5.0
BOSA LR LR 18 28 17.9
comp=Z,161nm,19.4s,baz=189,slow=32
comp=Z,3.8nm,0.8s
PB07 IPOC Station P 46.37 300 P P 18 11 40.9 +0.1
VNDA Vanda 46.40 183 P P 18 11 42.9 +2.7
comp=Z,35nm,0.7s,baz=193,slow=7.9,SNR=210
comp=Z,35nm,0.7s
VNDA Vanda 46.40 183 P P 18 11 42.3 +2.2
VNDA IAmb IAmb 18 11 44.3
comp=Z,38nm,0.8s
VNDA Vanda 46.40 183 P P 18 11 41.4 +1.3
PB02 IPOC Station P 46.72 301 P P 18 11 43.6 +0.1
PB02 IAmb IAmb 18 11 45.3
comp=Z,73nm,1.1s
PB01 IPOC Station P 46.76 301 P P 18 11 44.3 +0.5
NBAN Anadia - AL 46.92 348 eP P 18 11 44.7 -0.2
PTLB Pontes e Lacer 47.23 317 P P 18 11 46.9 -0.3
PTLB IAmb IAmb 18 11 48.3
comp=Z,24nm,0.8s
PTLB Pontes e Lacer 47.23 317 eP P 18 11 47.6 +0.3
CCD Concordia, Ant 47.56 170 P P 18 11 49.3 -0.4
NBRF Rio Formoso - 47.77 350 eP P 18 11 51.8 +0.3
SNDB Serra Nova Dou 47.79 328 eP P 18 11 52.5 +0.9
GO01 Chusmiza 47.80 303 P P 18 11 52.7 +0.5
H10S2 ASCENSION HYDR 48.24 17 T T 19 03 51.0
baz=31,slow=74,SNR=5.7
H10S3 ASCENSION HYDR 48.24 17 T T 19 03 47.7
baz=189,slow=74,SNR=6.0
PB16 IPOC Station P 49.10 303 P P 18 12 02.6 +0.3
H10N1 ASCENSION HYDR 49.35 17 T T 19 05 07.9
baz=188,slow=76,SNR=5.0
H10N3 ASCENSION HYDR 49.35 17 T T 19 05 04.2
baz=188,slow=76,SNR=9.7
H10N2 ASCENSION HYDR 49.37 17 T T 19 05 01.6
baz=188,slow=76,SNR=6.9
SMTB Santa Maria do 49.76 334 eP P 18 12 07.9 +1.3
PDRB Porto dos Gac 49.88 322 eP P 18 12 07.5 -0.1
VILB Vilhena 49.91 317 P P 18 12 07.6 -0.3
VILB IAmb IAmb 18 12 08.6
comp=Z,24nm,0.7s
VILB Vilhena 49.91 317 eP P 18 12 08.2 +0.3

TSUM Tsumeb 50.00 61 LR LR 18 30 19.5
comp=Z,71nm,18.1s,baz=182,slow=32
CLDB Colider 50.25 323 eP P 18 12 10.4 0.0
LPAZ La Paz 50.25 306 P P 18 12 12.0 +1.0
comp=Z,23nm,0.6s,baz=150,slow=5.6,SNR=78
LPAZ PcP PcP 18 13 29.2 +0.9
comp=Z,7.9nm,0.7s,baz=134,slow=5.6,SNR=2.2
LPAZ ScP ScP 18 17 10.9 -0.9
comp=Z,1.0nm,0.6s,baz=68,slow=5.4,SNR=2.4
comp=Z,23nm,0.6s
LPAZ La Paz 50.25 306 P P 18 12 11.4 +0.3
LPAZ IAmb IAmb 18 12 12.6
comp=Z,23nm,0.8s
LPAZ La Paz 50.25 306 eP P 18 12 12.3 +1.3
LPAZ La Paz 50.25 306 P P 18 12 10.3 -0.8
LPAZ pP pP 18 12 38.4 -1.5
RCBR Riachuelo 50.67 349 LR LR 18 30 29.8
comp=Z,56nm,18.9s,baz=318,slow=32
PRPB Parauapebas 52.91 322 eP P 18 12 31.5 +1.4
NPGB Novo Progresso 53.69 325 eP P 18 12 35.9 +0.1
SAML Samuel 54.73 315 P P 18 12 43.1 -0.2
SAML IAmb IAmb 18 12 44.3
comp=Z,20nm,0.9s
SAML Samuel 54.73 315 P P 18 12 42.5 -0.8
SAML pP pP 18 13 09.4 -3.3
ROSB Rosrio 54.78 340 eP P 18 12 44.7 +1.0
ETMB Extrema 55.17 312 P P 18 12 46.1 -0.4
ETMB IAmb IAmb 18 12 47.0
comp=Z,11nm,0.9s
ETMB Extrema 55.17 312 eP P 18 12 46.8 +0.2
TMAB Tom-Au,PA,Br 56.14 335 eP P 18 12 53.0 -0.4
ITTB Itaituba 56.33 326 eP P 18 12 55.1 +0.3
DRV Dumont d'Urvil 57.09 174 P P 18 12 59.5 0.0
DRV pP pwP 18 13 34.1 +1.7
MALB Monte Alegre 58.27 328 eP P 18 13 08.6 +0.3
LSZ Lusaka 58.69 69 LR LR 18 36 15.5
comp=Z,113nm,18.3s,baz=184,slow=34
MACA Manacapuru-AM 59.12 321 P P 18 13 13.3 -1.0
MACA IAmb IAmb 18 13 14.2
comp=Z,37nm,0.7s
MACA Manacapuru-AM 59.12 321 eP P 18 13 13.6 -0.7
CZSB Cruzeiro do Su 59.86 306 eP P 18 13 19.3 -0.1
ATAH Atahualpa 63.04 300 LR LR 18 42 52.1
comp=Z,63nm,20.5s,baz=246,slow=38
BOAV Boa Vista 64.25 323 P P 18 13 47.7 -0.9
BOAV IAmb IAmb 18 13 48.9
comp=Z,18nm,0.7s
BOAV Boa Vista 64.25 323 eP P 18 13 48.3 -0.4
DBIC Dimbokro 65.43 25 P P 18 13 55.6 -0.6
comp=Z,2.0nm,0.5s,baz=187,slow=7.0,SNR=5.7
comp=Z,2.0nm,0.5s
MCRA Macar, Loja 66.20 300 P P 18 14 00.9 -0.4
MCRA IAmb IAmb 18 14 02.5
comp=Z,36nm,0.8s
BOSC San Juan Bosco 66.56 302 P P 18 14 03.5 -0.3
BOSC IAmb IAmb 18 14 05.0
comp=Z,34nm,1.2s
ARNL Arenillas 66.97 301 P P 18 14 07.7 +1.6
PORT Chimborazo Vol 68.17 303 P P 18 14 16.2 +1.8
CHSH Refugio Sur-Vo 68.19 303 P P 18 14 15.2 +0.7
CHSH IAmb IAmb 18 14 17.0
comp=Z,47nm,0.8s
SLOR San Lorenzo - 68.69 304 P P 18 14 18.9 +1.4
PULU Pululahua 69.35 304 P P 18 14 22.6 +1.0
IMBA Imbabura, San 69.44 304 P P 18 14 23.5 +1.4
IMBA IAmb IAmb 18 14 25.1
comp=Z,59nm,1.1s
OTAV Otavalo 69.52 304 P P 18 14 22.6 0.0
OTAV IAmb IAmb 18 14 25.9
comp=Z,21nm,1.0s
OTAV Otavalo 69.52 304 eP P 18 14 23.2 +0.6
TULM Tulcn-Chalpat 69.64 305 P P 18 14 23.4 +0.1
TULM IAmb IAmb 18 14 26.5
comp=Z,61nm,1.1s
BAUV El Baul 72.99 318 P P 18 14 41.9 -0.9
BAUV IAmb IAmb 18 14 44.1
comp=Z,44nm,0.9s
TOA0 Torodi Ar. Sit 73.33 30 P P 18 14 45.0 +0.2
TORD Torodi Ar. Bea 73.33 30 P P 18 14 45.2 +0.4
comp=Z,12nm,0.7s,baz=199,slow=6.5,SNR=48
TORD pP pP 18 15 15.7 0.0
comp=Z,7.2nm,0.7s,baz=196,slow=6.3,SNR=4.3
comp=Z,12nm,0.7s
TORD Torodi Ar. Bea 73.33 30 P P 18 14 45.1 +0.4
BIRV Birongo 73.76 320 P P 18 14 46.8 -0.5
BIRV IAmb IAmb 18 14 49.1
comp=Z,31nm,0.8s
SDV Santo Domingo 73.93 316 P P 18 14 47.6 -1.0
SDV IAmb IAmb 18 14 49.8
comp=Z,23nm,0.8s
SDV Santo Domingo 73.93 316 eP P 18 14 48.9 +0.3
GDHS Morne Mazeau, 77.68 327 P P 18 15 07.9 -1.7
RPZ Rata Peaks 79.19 194 LR LR 18 47 50.7
comp=Z,81nm,19.7s,baz=89,slow=34
SRBA San Rafael, Bu 79.70 304 P P 18 15 20.8 -0.1
LTZ Lake Taylor 79.94 195 P P 18 15 22.3 +0.5
TAU Tasmania Unive 81.16 176 P P 18 15 28.1 -0.1
JTS Las Juntas de 81.37 303 P P 18 15 29.6 0.0
JTS IAmb IAmb 18 15 31.9
comp=Z,27nm,1.1s
DUNO Dulce Nombre, 81.44 303 P P 18 15 30.2 +0.2
DUNO IAmb IAmb 18 15 32.1
comp=Z,35nm,0.9s
ORTG Ortega, Santa 81.67 303 P P 18 15 30.8 -0.5
ORTG IAmb IAmb 18 15 33.4
comp=Z,25nm,0.9s
ACON Acoyapa 82.94 304 P P 18 15 37.9 +0.1
ACON IAmb IAmb 18 15 38.9
comp=Z,46nm,1.0s
SDDR Presa de Saban 83.42 319 P P 18 15 39.8 -0.3
URZ Urewera 83.56 199 P P 18 15 41.4 +0.6
comp=Z,10nm,0.9s,baz=141,slow=6.5,SNR=4.9
comp=Z,10nm,0.9s
TAM Tamanrasset 83.57 31 P P 18 15 39.4 -1.7
BOAB BOACO BROADBAND 83.59 304 P P 18 15 40.3 -0.8
BOAB IAmb IAmb 18 15 42.3
comp=Z,51nm,1.0s
MATN Matagalpa 84.13 304 P P 18 15 43.0 -0.9
MTO3 Montecristo 87.03 301 P P 18 15 58.5 +0.1
MTO3 IAmb IAmb 18 15 59.7
comp=Z,32nm,0.8s
OUZ Omahuta 87.14 197 P P 18 15 59.0 +0.5
OUZ IAmb IAmb 18 16 00.0
comp=Z,22nm,1.2s
ESQI Esquipulas 87.16 301 P P 18 15 59.4 +0.4
FORT Forrest 90.92 159 P P 18 16 16.9 +0.5
TEIG Tepich 91.58 305 P P 18 16 19.3 -0.1
STKA Stephens Creek 91.78 171 P P 18 16 21.0 +0.6
comp=Z,5.9nm,0.7s,baz=149,slow=5.9,SNR=11
comp=Z,5.9nm,0.7s
STKA Stephens Creek 91.78 171 P P 18 16 20.8 +0.4
PPT Papeete 91.88 234 LR LR 18 49 33.7
comp=Z,27nm,19.9s,baz=9.5,slow=30
ASAR Alice Springs 96.91 163 P Pdif 18 16 53.0 -0.1
comp=Z,7.7nm,0.8s,baz=183,slow=4.1,SNR=84
ASAR PP PP 18 20 52.9 -2.4
comp=Z,3.6nm,1.0s,baz=187,slow=6.8,SNR=8.8
ASAR PKiKP PKiKP 18 21 23.1 -0.1
comp=Z,0.5nm,0.6s,baz=182,slow=2.4,SNR=6.4
ASAR PKKPbc PKKPdf 18 33 18.1 -0.6
comp=Z,0.5nm,0.7s,baz=23,slow=2.3,SNR=9.0
comp=Z,7.7nm,0.8s
ASAR Alice Springs 98.91 163 P Pdif 18 16 52.4 -0.7
AS31 Alice Springs 98.92 163 P Pdif 18 16 52.8 -0.2
WRA Warramunga Arr 102.63 163 P Pdif 18 17 09.3 -0.3
comp=Z,1.6nm,0.7s,baz=196,slow=4.4,SNR=21
WRA PP PP 18 21 23.8 +0.4
comp=Z,3.7nm,1.0s,baz=193,slow=6.7,SNR=5.4
WRA PKKPbc PKKPbc 18 33 06.7 +0.8
comp=Z,0.2nm,0.5s,baz=356,slow=2.9,SNR=7.6
TXAR Lajitas Array 106.63 298 Pdiff Pdif 18 17 27.7 +0.6
comp=Z,0.3nm,0.8s,baz=151,slow=5.8,SNR=2.7
TXAR PKiKP PKiKP 18 21 37.3 +0.4
comp=Z,0.3nm,0.7s,baz=140,slow=4.5,SNR=3.5
TUL1 Leonard 108.38 307 P PKiKP 18 21 41.2 +1.4
baz=147
SFIN Lafayette 108.55 316 P PKiKP 18 21 41.6 +1.6
baz=150
121A Cookes Peak, D 111.27 297 P PKiKP 18 21 46.3 +0.7
baz=144
TUC Tucson 112.61 294 P PKiKP 18 21 48.9 +0.9
baz=143
T25A Trinidad 113.34 302 P PKiKP 18 21 50.2 +0.7
baz=144
BGNE Belgrade 113.96 309 P PKiKP 18 21 51.8 +1.5
baz=145
KSCO Kaye Shedlock' 114.01 305 P PKiKP 18 21 51.9 +1.3
baz=144
W18A Petrified Fore 114.31 297 P PKiKP 18 21 52.6 +1.2
baz=143
SDCO Great Sand Dun 114.34 302 P PKiKP 18 21 52.1 +0.6
baz=143
MVCO Mesa Verde 115.36 299 P PKiKP 18 21 54.1 +0.8
baz=142
IKP In-Ko-Pah, Jac 115.62 291 P PKiKP 18 21 54.7 +0.9
baz=142
SWSC Sam W. Stewart 115.69 291 P PKiKP 18 21 55.1 +1.3
baz=142
PDMCI Parker Dam,Lak 115.90 293 P PKiKP 18 21 55.3 +1.1
baz=142
MONP2 Monument Peak 115.98 291 P PKiKP 18 21 55.5 +0.8
baz=142
ISCO Idaho Springs 116.03 303 P PKiKP 18 21 55.5 +0.8
baz=142
BC3 Big Chuckawall 116.07 292 P PKiKP 18 21 55.5 +0.8
baz=142
IRM Iron Mountain 116.30 292 P PKiKP 18 21 55.8 +0.7
baz=142
AKASG Malin Array Be 116.49 37 PKP PKPdf 18 21 53.4 -1.4
comp=Z,0.2nm,0.3s,baz=225,slow=1.0,SNR=5.1
PFO Pinyon Flats O 116.56 291 P PKiKP 18 21 56.5 +0.8
baz=141
BELC Belle Mtn. Jos 116.62 292 P PKiKP 18 21 56.7 +0.9
baz=141
N23A Red Feather La 117.05 304 P PKPdf 18 21 56.6 0.0
baz=142
GMRC Granite Mounta 117.05 293 P PKiKP 18 21 57.3 +0.7
baz=141
SCI2 San Clemente I 117.16 289 P PKiKP 18 21 57.3 +0.6
baz=141
KNB Kanab 117.34 296 PKiKP 18 21 57.3 +0.2
CIS Catalina Islan 117.42 290 P PKiKP 18 21 57.9 +0.7
baz=141
HEC Hector,Ludlow 117.44 292 P PKiKP 18 21 57.7 +0.4
baz=141
O20A White River Ci 117.54 301 P PKiKP 18 21 57.7 +0.3
baz=142
BFSC Mount Baldy Ra 117.67 291 P PKiKP 18 21 58.5 +0.7
baz=141
TUQ Turquoise Moun 117.70 293 P PKiKP 18 21 58.4 +0.5
baz=141
RRX Edison Barstow 117.82 292 P PKiKP 18 21 58.8 +0.9
baz=141
SZCU Shurtz Canyon 117.93 296 PKiKP 18 21 59.0 +0.6
DECC Green Verdugo 118.03 290 P PKiKP 18 21 58.9 +0.6
baz=141
GSC Goldstone, Bar 118.05 292 P PKiKP 18 21 59.2 +0.7
baz=141
MSU Marysvale 118.19 298 PKPdf PKiKP 18 21 59.6 +0.8
MVU Marysvale 118.20 298 PKiKP 18 21 59.4 +0.5
SHOC Shoshone, Teco 118.23 293 P PKiKP 18 21 59.6 +0.9
baz=141
RWWY Rawlins 118.26 303 PKPdf 18 21 57.6 -1.3
TMUT Trail Mountain 118.32 299 PKiKP 18 21 59.5 +0.4
EDW2 Edwards Air Fo 118.34 291 P PKiKP 18 21 59.7 +0.7
baz=141
OSI Osito Audit: C 118.52 290 P PKiKP 18 22 00.1 +0.8
baz=140
QSM Queen of Sheba 118.59 293 PKiKP 18 22 00.3 +0.9
LRMC Laurel Mtn Rad 118.64 292 P PKiKP 18 22 00.4 +0.8
baz=140
GWY Greenwater Val 118.66 293 PKiKP 18 22 00.5 +0.8
RSSD Black Hills 118.72 307 PKPdf PKPdf 18 21 59.0 -0.6
PRN Pahroc Range 118.77 295 PKiKP 18 22 01.0 +1.1
MPMC Manual Prospec 118.98 292 P PKiKP 18 22 01.2 +0.8
baz=140,SNR=5.7
TPNV Topopah Spring 119.03 294 PKiKP 18 22 01.5 +1.1
TPNV Topopah Spring 119.03 294 P PKiKP 18 22 01.5 +1.1
baz=140,SNR=7.0
PSUT Pine Spring 119.04 296 PKiKP 18 22 01.1 +0.6
ISA Isabella, Lake 119.19 291 PKPdf PKiKP 18 22 01.3 +0.6
ISA Isabella, Lake 119.19 291 P PKiKP 18 22 01.7 +1.1
baz=140,SNR=6.1
NLU North Lily Min 119.25 299 PKPdf PKiKP 18 22 01.5 +0.7
PKM Mcpherson Peak 119.30 290 P PKiKP 18 22 01.9 +0.8
baz=140
CWC Cottonwood Cre 119.58 292 P PKiKP 18 22 02.3 +0.8
baz=140
SPR3 Spring Creek 3 119.63 297 PKPdf PKiKP 18 22 02.4 +0.6
GRAC Grapevine Rang 119.64 293 P PKiKP 18 22 02.3 +0.8
baz=140
SMMC Simmler 119.72 290 P PKiKP 18 22 02.8 +1.2
baz=140
R11A Troy Canyon, C 119.77 295 PKiKP 18 22 02.4 +0.5
R11A Troy Canyon, C 119.77 295 P PKiKP 18 22 02.5 +0.7
baz=140
DUG Dugway, Tooele 119.80 298 PKiKP 18 22 02.2 +0.5
DUG Dugway, Tooele 119.80 298 P PKiKP 18 22 02.3 +0.5
baz=140,SNR=5.6
GMN Gold Mountain 119.82 293 PKiKP 18 22 02.9 +0.9
LCH Last Change Ra 119.96 293 PKiKP 18 22 02.6 +0.4
ULM Lac du Bonnet 120.18 316 PKP PKPdf 18 22 00.7 -1.2
comp=Z,4.2nm,0.6s,baz=108,slow=5.6,SNR=5.4
MZP Montezuma Peak 120.19 293 PKiKP 18 22 03.7 +1.0
PD31 Pinedale Array 120.20 302 PKPdf PKPdf 18 22 01.4 -1.1
PDAR Pinedale Array 120.20 302 PKP PKPdf 18 22 01.7 -0.8
comp=Z,1.6nm,0.7s,baz=134,slow=5.2,SNR=14
DSP Deep Springs 120.23 293 PKiKP 18 22 03.4 +0.9
HWUT Hardware Ranch 120.27 300 PKPdf PKPdf 18 22 02.6 0.0
BGU Big Grassy Mou 120.46 299 PKiKP 18 22 03.4 +0.3
NB2 NORSAR Subarra 120.86 21 PKPdf PKPdf 18 22 02.7 -0.2
comp=Z,2.5nm,1.2s,baz=202,slow=1.9
NOA NORSAR Array B 120.86 21 PKP PKPdf 18 22 02.5 -0.4
comp=Z,1.3nm,0.8s,baz=206,slow=2.0,SNR=4.3
OMMB Old Mammoth Mi 120.95 292 PKPdf PKiKP 18 22 04.8 +0.5
HVU Hansel Valley 120.99 300 PKPdf 18 22 04.0 0.0
MDPB Devils Postpil 121.01 292 PKPdf 18 22 04.3 +0.1
NV11 Mina Array Sit 121.14 293 PKiKP 18 22 04.9 +0.4
LHV Little Huntoon 121.18 293 PKiKP 18 22 05.4 +1.1
NVAR Mina Array Bea 121.21 293 PKP PKiKP 18 22 05.3 +0.6
comp=Z,2.7nm,0.6s,baz=122,slow=3.3,SNR=29
NVAR Mina Array Bea 121.21 293 PKiKP 18 22 05.4 +0.7
BBGB Big Mountain B 121.23 290 PKPdf PKiKP 18 22 06.0 +1.4
LOHW Long Hollow 121.34 302 PKiKP 18 22 05.0 +0.2
TPAW Teton Pass 121.41 302 PKPdf 18 22 04.2 -0.7
ELK Elko 121.41 297 PKPdf PKiKP 18 22 05.8 +0.7
MOOW Moose Ponds 121.51 302 PKiKP 18 22 05.2 +0.1
FXWY Fox Creek 121.56 302 PKiKP 18 22 05.3 +0.1
KVN Kaiserville 121.58 294 PKPdf PKiKP 18 22 06.1 +0.8
LAO LASA Array 121.68 308 PKPdf 18 22 04.8 -0.2
LAO LASA Array 121.68 308 P PKiKP 18 22 05.4 +0.3
baz=140
RLMT Red Lodge 121.86 304 PKPdf 18 22 05.6 0.0
RLMT Red Lodge 121.86 304 P PKiKP 18 22 05.9 +0.1
baz=139
CMB Columbia Colle 121.99 292 PKiKP 18 22 06.8 +0.8
DGMT Dagmar 122.17 310 P PKiKP 18 22 07.2 +1.2
baz=140
YHH Holmes Hill 122.35 303 PKiKP 18 22 07.5 +0.7
YHL Hebgen Lake 122.55 303 PKPdf PKiKP 18 22 07.3 +0.1
GCMT Greycliff 122.55 305 PKiKP 18 22 07.2 +0.2
AFDM Forest Hills D 122.98 292 PKPdf PKiKP 18 22 08.8 +0.9
HLID Hailey 123.12 300 PKiKP 18 22 08.6 +0.4
HLID Hailey 123.12 300 P PKiKP 18 22 09.0 +0.8
baz=138
BOZ Bozeman (W) 123.32 303 PKPdf 18 22 08.4 +0.1
BOZ Bozeman (W) 123.32 303 P PKiKP 18 22 08.9 +0.4
baz=138
BEKR Beckworth 123.34 293 PKPdf PKiKP 18 22 09.4 +0.6
PYUN Piuthan 124.25 90 eP PKPdf 18 22 10.0 -0.7
comp=Z,14nm,0.7s
EGMT Eagleton 124.27 306 PKPdf PKiKP 18 22 10.2 0.0
EGMT Eagleton 124.27 306 P PKiKP 18 22 10.3 +0.1
baz=138
KOLN Koldanda 124.33 91 eP PKPdf 18 22 10.1 -0.8
WVOR Wild Horse Val 124.37 296 PKiKP 18 22 11.3 +0.6
CHGR Chuyangaron 124.61 71 PKiKP 18 22 11.6 +0.4
FINES FINESS Array B 124.66 28 PKP PKPdf 18 22 09.8 -0.3
comp=Z,4.6nm,0.5s,baz=156,slow=1.4,SNR=44
FINES SKP SKPdf 18 25 33.0 -0.3
comp=Z,1.9nm,1.0s,baz=264,slow=1.4,SNR=4.1
FINES FINESS Array B 124.66 28 PKPdf PKPdf 18 22 09.4 -0.7
FIA1 FINESS Array S 124.66 28 PKPdf PKPdf 18 22 09.7 -0.4
MOD Modoc Plateau 124.82 295 PKiKP 18 22 12.1 +0.4
DANN Dangsing 124.87 90 eP PKPdf 18 22 11.9 -0.1
J08A Circle Bar Ran 124.97 297 PKiKP 18 22 12.4 +0.6
DMN Daman 125.05 92 eP PKPdf 18 22 11.8 -0.5
GKN Gorkha 125.09 91 eP PKPdf 18 22 11.8 -0.5
comp=Z,16nm,0.7s
PKIN Phulchoki 125.19 92 eP PKPdf 18 22 11.4 -1.2

PKI	Pulchoki	125.19	92	*eP*		PKPdf	18 22 12.0	-0.7	EPYK	Eagle Plains	146.36	317			PKPbc	18 22 51.6	0.0	GHO	Glory Hole Cre	150.16	305			PKPbc	18 23 02.1	+0.4
	comp=Z,11nm,0.7s								EPYK	Eagle Plains	146.36	317	P		PKPbc	18 22 51.7	+0.1	PMR	Palmer	150.21	305	PKPdf		PKPdf	18 22 54.9	-1.5
CM31	Chiang Mai Arr	125.26	111			PKiKP	18 22 13.2	+0.1		baz=107,SNR=63								PMR						PKPbc	18 23 01.7	+0.1
CMAR	Chiang Mai Arr	125.26	111	PKP		PKiKP	18 22 13.2	+0.1	YUK3	Moose Creek	146.36	308	P		PKPbc	18 22 52.0	+0.1	PMR	Palmer	150.21	305	P		PKiKP	18 23 02.4	0.0
	comp=Z,5.9nm,0.8s,baz=233,slow=3.8,SNR=33									baz=111,SNR=15									baz=106							
CMAR	Chiang Mai Arr	125.26	111	PKPdf		PKPdf	18 22 12.5	-0.2	YAH	Yahtse	146.40	305			PKPab	18 22 52.9	-0.5	WAT1	Susitna Watana	150.28	307	P		PKiKP	18 23 02.3	-0.3
MSO	Missoula	125.31	303	PKPdf		PKiKP	18 22 12.5	+0.1	MESA	MESA	146.42	305			PKPab	18 22 52.9	-0.5		baz=104							
MSO	Missoula	125.31	303	P		PKiKP	18 22 12.5	+0.1	MESA	MESA	146.42	305	P		PKPab	18 22 52.8	-0.5	POKR	Poker Plat Res	150.32	312			PKPbc	18 23 02.0	+0.1
	baz=137									baz=113								POKR	Poker Plat Res	150.32	312	P		PKPbc	18 23 02.0	+0.1
RAMN	Ramite	125.37	94	*eP*		PKPdf	18 22 12.6	-0.4	CTG	Chitna Glacier	146.45	306	P		PKPbc	18 22 52.8	+0.6		baz=101							
GAR	Garm	125.48	71	PKPdf		PKiKP	18 22 13.3	+0.3		baz=112								RC01	Rabbit Creek A	150.34	304			PKPbc	18 23 02.4	+0.3
BMO	Blue Mountains	125.48	299			PKPdf	18 22 12.4	+0.1	NJ2	Nanjing	146.49	122	*e*PKPbc		PKPdf	18 22 52.1	+0.8	RC01	Rabbit Creek A	150.34	304	P		PKiKP	18 23 03.0	+0.2
JIRN	Jiri	125.70	93	*eP*		PKPdf	18 22 13.7	0.0	I29M	Ogilvie Camp,	146.67	314			PKPbc	18 22 52.1	-0.4		baz=107,SNR=11							
	comp=Z,28nm,0.6s								I29M	Ogilvie Camp,	146.67	314	P		PKPbc	18 22 52.4	-0.1	CCB	Clear Creek Bu	150.38	311			PKPbc	18 23 01.9	0.0
GUN	Gumba	125.72	92	*eP*		PKiKP	18 22 13.9	-0.2		baz=108,SNR=36								BRSE	Bradley Lake S	150.40	301	P		PKiKP	18 23 02.8	-0.1
K05A	Summer Lake	125.72	295	PKPdf		PKiKP	18 22 14.5	+1.0	DAWY	Dawson	146.70	312			PKPbc	18 22 52.6	-0.1		baz=108,SNR=10							
YBH	Yreka Blue Hor	125.92	293	PKPdf		PKiKP	18 22 13.6	-0.1	DAWY	Dawson	146.70	312	P		PKPbc	18 22 52.6	-0.1	COLA	College	150.44	312			PKPbc	18 23 02.0	-0.1
I07A	Izee	126.00	297	PKPdf		PKiKP	18 22 14.6	+0.7		baz=109,SNR=30								COLA	College	150.44	312	P		PKPbc	18 23 02.4	+0.2
L04D	Klamath Falls	126.07	294	P		PKiKP	18 22 14.0	-0.1	BVCY	Beaver Creek	146.76	309	P		PKPbc	18 22 53.2	+0.3		baz=102							
	baz=136									baz=110								TCOL	CIGO, UAF Yank	150.45	312			PKPbc	18 23 02.0	-0.1
K04D	Chiloquin, OR	126.08	294	P		PKiKP	18 22 14.4	+0.3	ISLE	Juniper Island	146.76	305			PKPbc	18 22 53.3	+0.3	TCOL	CIGO, UAF Yank	150.45	312	P		PKPbc	18 23 02.2	+0.1
	baz=136								WAX	Waxell Ridge	146.94	305			PKPbc	18 22 53.8	+0.3		baz=102							
JTMT	Jette	126.14	303	PKPdf		PKPdf	18 22 13.4	-0.2	M27K	Edge Creek, AK	147.19	308			PKPdf	18 22 51.1	-0.7	WRH	Wood River Hil	150.46	311			PKPdf	18 22 54.4	-2.4
J05D	Fort Rock, OR	126.30	295	P		PKiKP	18 22 15.1	+0.5	M27K	Edge Creek, AK	147.19	308	P		PKPbc	18 22 54.5	+0.3	WRH						PKPbc	18 23 02.2	0.0
	baz=136									baz=110,SNR=16								BRLK	Bradley Lake	150.48	301			PKPbc	18 23 02.9	-0.2
BTK	Batken	126.51	71	PKPdf		PKPdf	18 22 14.4	-0.1	BERG	Berg Lake	147.31	304			PKPbc	18 22 54.8	+0.4	D25K	Kavik River	150.53	321	P		PKPbc	18 23 02.4	+0.1
PINE	Pine Mountain	126.51	296	PKPdf		PKiKP	18 22 15.8	+0.8	MCARA	McCarthy VSAT	147.36	306			PKPdf	18 22 51.9	+0.1		baz=95,SNR=13							
G08A	Pilot Rock	126.61	298	PKPdf		PKiKP	18 22 15.3	+0.3	MCARA	McCarthy VSAT	147.36	306	P		PKPbc	18 22 55.1	+0.5	RND	Reindeer	150.55	308			PKiKP	18 23 03.2	0.0
L02F	Cave Junction	126.65	293	P		PKiKP	18 22 15.2	+0.1		baz=110								CNPM	China Poot	150.57	300			PKiKP	18 23 03.3	0.0
	baz=136								L27K	Beaver Creek,	147.40	310	PKPdf		PKPdf	18 22 50.9	-1.1	G24K	Hadweenzic Riv	150.62	315	P		PKiKP	18 23 03.4	+0.2
HUMO	Hull Mountain	126.68	294	PKPdf		PKiKP	18 22 15.6	+0.5	L27K				PKPbc		PKPbc	18 22 54.9	+0.3		baz=99,SNR=31							
MND	Mandalay	126.69	106	PKPdf		PKPdf	18 22 15.0	-0.3	L27K	Beaver Creek,	147.40	310	P		PKPbc	18 22 54.9	+0.3	MDM	Murphy Dome	150.62	312			PKPbc	18 23 01.8	-0.9
J04D	Umpqua Nationa	126.71	295			PKiKP	18 22 15.9	+0.5		baz=109,SNR=23								H24K	Noodor Dome	150.64	313	PKPbc		PKPbc	18 23 02.3	-0.3
J04D	Umpqua Nationa	126.71	295	P		PKiKP	18 22 15.9	+0.5	KAIM	Kayak Island	147.47	303	P		PKPbc	18 22 55.2	+0.4	H24K	Noodor Dome	150.64	313	P		PKiKP	18 23 03.2	0.0
	baz=136									baz=112									baz=100,SNR=18							
WALA	Waterton Lakes	126.91	305			PKPdf	18 22 15.1	+0.1	HMT	Hamilton	147.55	304			PKPbc	18 22 55.8	+0.7	KDAK	Kodiak Island	150.65	296			PKPbc	18 23 02.5	-0.3
I05D	Terrebonne, OR	127.11	296	P		PKiKP	18 22 16.6	+0.6	EGAK	Eagle	147.65	313			PKPbc	18 22 54.7	-0.4	KDAK	Kodiak Island	150.65	296	P		PKiKP	18 23 03.7	+0.3
	baz=136								EGAK	Eagle	147.65	313	P		PKPbc	18 22 55.2	0.0		baz=111							
K02D	Willamette Mer	127.11	293	P		PKiKP	18 22 16.5	+0.4		baz=106,SNR=14								MCK	McKinley	150.66	309			PKiKP	18 23 03.1	-0.3
	baz=136,SNR=5.6								M26K	Nabesna, AK	147.70	308			PKPbc	18 22 55.3	-0.2	MCK	McKinley	150.66	309	P		PKiKP	18 23 03.6	+0.2
I04A	Tendick Farm,	127.26	295	P		PKiKP	18 22 16.4	+0.1	M26K	Nabesna, AK	147.70	308	P		PKPbc	18 22 55.6	+0.1		baz=103,SNR=37							
	baz=136									baz=109,SNR=7.8								M22K	Willow	150.70	305	P		PKiKP	18 23 03.6	+0.2
J01E	Myrtle Point	127.58	293	P		PKiKP	18 22 17.4	+0.5	GLB	Gilahina Butte	147.74	306			PKPbc	18 22 55.8	+0.2		baz=105,SNR=11							
	baz=135								RAGM	Ragged Mountai	147.76	304			PKPbc	18 22 56.5	+0.9	OHAK	Old Harbor	150.80	295	P		PKiKP	18 23 03.7	0.0
I03D	Drain, OR	127.66	294	P		PKiKP	18 22 17.2	+0.2	K27K	Chicken	147.81	311	P		PKiKP	18 22 56.7	-0.8		baz=111							
	baz=135									baz=107								HOM	Homer	150.81	300	P		PKiKP	18 23 04.0	+0.2
ABKAR	Akbulak array	127.69	56	PKPdf		PKPdf	18 22 15.9	-0.4	BMRM	Bremner River	147.93	305			PKPdf	18 22 52.2	-0.7		baz=108							
ABKAR	Akbulak array	127.69	56	PKPdf		PKiKP	18 22 16.5	-0.4	BMRM				PKPbc		PKPbc	18 22 56.5	+0.4	Q20K	Shuyak Island	150.84	298	P		PKiKP	18 23 04.2	+0.4
NEW	Newport	127.84	302	P		PKiKP	18 22 17.6	+0.3	BMRM	Bremner River	147.93	305	P		PKPbc	18 22 56.8	+0.7		baz=109							
	baz=135									baz=110,SNR=9.1								F24K	Squaw Lake	150.89	317	P		PKiKP	18 23 04.0	+0.2
H04D	Lebanon	127.94	295	P		PKiKP	18 22 17.7	+0.1	L26K	Log Cabin Wild	148.05	309			PKPdf	18 22 52.5	-0.5		baz=97,SNR=17							
	baz=135								L26K				PKPbc		PKPbc	18 22 57.0	+0.6	NEA2	Nenana	150.90	311			PKPbc	18 23 02.9	-0.3
KLMR	Klimovskoe	128.11	35	*e*PKPdf		PKPdf	18 22 15.6	-1.1	L26K	Log Cabin Wild	148.05	309	P		PKPbc	18 22 56.8	+0.5	NEA2	Nenana	150.90	311	P		PKPbc	18 23 03.4	+0.1
KLMR				AMP			18 22 17.8			baz=108									baz=101,SNR=22							
	comp=Z,16nm,1.4s								I27K	Kandik River	148.06	314	P		PKPbc	18 22 56.8	+0.5	SUA	Susitna One	150.91	304			PKPbc	18 23 03.8	+0.3
KK31	Karatay Array	128.53	68	PKPdf		PKPdf	18 22 17.7	-0.5		baz=105,SNR=38								SUA	Susitna One	150.91	304	P		PKiKP	18 23 04.0	-0.1
KKAR	Karatay Array	128.53	68	PKPdf		PKPdf	18 22 18.0	-0.2	N25K	Chitina, Valde	148.15	306	PKPdf		PKPdf	18 22 52.2	-1.0		baz=105,SNR=12							
G03D	McMinnville, O	128.69	296	P		PKiKP	18 22 19.2	+0.2	N25K				PKPbc		PKPbc	18 22 57.1	+0.4	CUT	Chulitna	150.94	306			PKPbc	18 23 03.4	0.0
	baz=134								N25K	Chitina, Valde	148.15	306	P		PKPbc	18 22 57.5	+0.7	CUT	Chulitna	150.94	306	P		PKiKP	18 23 04.5	+0.6
KSH	Kashi	128.87	75	PKP		PKiKP	18 22 19.8	0.0		baz=109,SNR=9.5									baz=104,SNR=13							
B08A	Colville Reser	128.96	301	PKPdf		PKPdf	18 22 19.2	+0.4	MENT	Mentasta	148.18	309	PKPdf		PKPdf	18 22 52.1	-1.1	JSU	Suzuyama	150.95	139			PKPbc	18 23 04.0	-0.4
AML	Almayashu	129.51	71	P		PKiKP	18 22 21.4	+0.1	MENT				PKPbc		PKPbc	18 22 56.9	+0.2	BWN	Browne	150.99	310			PKiKP	18 23 03.8	-0.2
	SNR=12								H27K	Steamboat Moun	148.19	315	P		PKPbc	18 22 57.2	+0.6	SII	Sitkinak Islan	151.01	293			PKiKP	18 23 04.9	+0.6
EDM	Edmonton	129.59	309	PKPdf		PKPdf	18 22 19.8	-0.1		baz=104,SNR=62								SII	Sitkinak Islan	151.01	293	P		PKiKP	18 23 04.5	+0.2
EKS2	Erkin-Say	129.93	71	P		PKiKP	18 22 21.6	-0.2	EYAK	Cordova Ski Ar	148.32	304			PKiKP	18 22 58.0	-0.6		baz=112							
	SNR=9.4								EYAK	Cordova Ski Ar	148.32	304	P		PKiKP	18 22 57.9	-0.6	SONM	Songino Array	151.01	87	PKP		PKPdf	18 22 58.3	0.0
UCH	Uchtor	130.01	71	P		PKiKP	18 22 22.3	-0.1		baz=110									comp=Z,1.5nm,0.8s,baz=206,slow=2.4,SNR=8.1							
	SNR=6.6								G27K	Doyon Strip	148.37	316	P		PKPbc	18 22 57.6	+0.5	SONM				PKPbc		PKiKP	18 23 04.4	-0.3
AAK	Ala-Archa	130.29	71	P		PKiKP	18 22 22.6	+0.1		baz=103,SNR=17									comp=Z,40nm,0.7s,baz=222,slow=3.3,SNR=164							
	SNR=6.5								BTO	Baotou	148.46	102	*e*PKPbc		PKPbc	18 22 58.8	+0.6	SONM	Songino Array	151.01	87	PKPdf		PKPdf	18 22 57.5	-0.8
AAK	Ala-Archa	130.29	71	PKPdf		PKiKP	18 22 22.1	-0.5	DIV	Divide	148.52	305			PKiKP	18 22 58.6	-0.5	SONM						PKPbc	18 23 04.2	0.0
USP	Ospenovka	130.73	70	P		PKPdf	18 22 22.5	+0.2	DOT	Dot Lake	148.54	310			PKiKP	18 22 58.3	-0.7	E24K	Your Creek	151.18	318	P		PKiKP	18 23 04.7	+0.3
	SNR=5.2								J26L	Joseph Creek	148.57	312			PKPbc	18 22 58.1	+0.4		baz=95,SNR=19							
ARCES	ARCESS Array B	131.20	22	PKP		PKPdf	18 22 22.3	-0.1	J26L	Joseph Creek	148.57	312	P		PKPbc	18 22 58.3	+0.6	H23K	Yukon River	151.31	313			PKiKP	18 23 04.5	-0.1
	comp=Z,5.3nm,0.8s,baz=197,slow=0.9,SNR=26									baz=105,SNR=42								H23K	Yukon River	151.31	313	P		PKiKP	18 23 04.5	-0.1
LLLB	Lilooet	131.71	302	PKPdf		PKPdf	18 22 22.6	-1.4	SCRK	Sand Creek	148.60	311	P		PKiKP	18 22 58.6	-0.6		baz=98,SNR=9.2							
ARU	Arti	132.01	48	PKPdf		PKPdf	18 22 23.8	-0.4		baz=106								C24K	Franklin Bluff	151.37	321	P		PKiKP	18 23 04.8	+0.2
PZH	PanZhiHua	133.31	108	PKP		PKPdf	18 22 27.5	-0.4	E27K	Coleen River	148.64	319	P		PKPbc	18 22 58.4	+0.6		baz=92,SNR=6.1							
BRVK	Borovoye	135.07	58	PKPdf		PKPdf	18 22 30.6	+0.5		baz=101,SNR=18								D24K	Happy Valley	151.39	320	P		PKiKP	18 23 04.6	-0.1
YKA	Yellowknife Ar	136.11	318	PKP		PKPdf	18 22 31.2	-0.5	HARP	HAARP	148.65	307	P		PKiKP	18 22 58.7	-0.6		baz=93							
	comp=Z,5.8nm,0.6s,baz=121,slow=2.6,SNR=12									baz=108								ULN	Ulaanbaatar	151.39	88			PKPbc	18 23 04.6	-0.5
GOMU	GeErMu	136.92	93	PKP		PKiKP	18 22 38.0	+1.5	HNS	HongShan	148.65	111	⇑PKPbc		PKPbc	18 22 59.0	+0.4	SKT	Skwentna	151.41	305	PKPbc		PKiKP	18 23 05.0	0.0
GOMU				AMB		AMB			KLU	Klutina	148.71	306			PKPdf	18 22 53.4	-0.8	SKT	Skwentna	151.41	305	P		PKiKP	18 23 05.1	+0.2
	comp=Z,58nm,4.5s								KLU				PKPbc		PKiKP	18 22 59.2	-0.3		baz=104,SNR=36							
MK31	Makanchi Array	137.20	72			PKPdf	18 22 32.6	-1.7	KLU	Klutina	148.71	306	P		PKiKP	18 22 59.4	0.0	O20K	Slope Mountain	151.41	301	P		PKiKP	18 23 04.8	+0.1
MK31				SKPbc		SKPbc	18 25 54.9	-0.6		baz=108,SNR=16									baz=107							
MKAR	Makanchi Array	137.20	72	PKhKP		PKPpre	18 22 23.4		FID	Port Fidalgo	148.72	304			PKiKP	18 22 59.2	-0.3	SPU	Mount Spurr	151.45	303			PKiKP	18 23 04.5	-0.2
	comp=Z,0.5nm,0.6s,baz=252,slow=2.2,SNR=4.9								P23K	Montague Islan	148.90	302	P		PKiKP	18 22 59.3	-0.5	CHIR	Chirikof Islan	151.47	291	P		PKiKP	18 23 05.6	+0.4
MKAR				PKP		PKPdf	18 22 34.1	-0.3		baz=108									baz=112							
	comp=Z,2.2nm,0.6s,baz=245,slow=1.9,SNR=14								RIDG	Independent Ri	148.90	310	P		PKiKP	18 22 59.9	+0.1	N20K	Mount Spurr	151.52	303	P		PKPbc	18 23 05.0	+0.1
MKAR				SKPbc		SKPbc	18 25 53.5	-2.0		baz=106									baz=105,SNR=6.3							
	comp=Z,1.2nm,0.9s,baz=235,slow=5.1,SNR=7.9								PAX	Paxson	148.96	308			PKPbc	18 22 58.9	+0.1	SPCR	Spurr Chakacha	151.52	303	P		PKPbc	18 23 05.0	+0.1
MKAR	Makanchi Array	137.20	72	PKPdf		PKPdf	18 22 33.1	-1.3	PAX	Paxson	148.96	308	P		PKiKP	18 22 59.1	+0.4		baz=105,SNR=5.3							
MKAR				SKPbc		SKPbc	18 25 55.0	-0.5		baz=106,SNR=27								Q19K	Cape Douglas,	151.56	298			PKiKP	18 23 05.4	0.0
KURK	Kurchatov	137.72	65			PKPpre	18 22 25.9		TIA	Tai'an	148.99	115	⇑PKPbc		PKPbc	18 22 59.9	+0.4	Q19K	Cape Douglas,	151.56	298	P		PKPbc	18 23 05.2	+0.2
CD2	Chengdu	137.88	106	PKP		PKPdf	18 22 36.5	+0.3	M24K	Tolsona, Glenn	149.02	307			PKiKP	18 22 59.5	-0.5		baz=108							
WMQ	Urumqi	138.21	79	*e*PKP		PKiKP	18 22 37.4	-1.1	M24K	Tolsona, Glenn	149.02	307	P		PKiKP	18 23 00.1	+0.1	P19K	Oil Pt	151.58	300	P		PKPbc	18 23 05.2	+0.2
WRAK	Wrangell Islan	140.19	303	P		PKPdf	18 22 40.2	+0.8		baz=107,SNR=10									baz=107							
	baz=122								GLI	Glacier Island	149.05	304			PKPbc	18 22 59.0	+0.1	RSO	Redoubt South	151.58	302			PKPbc	18 23 05.2	+0.1
S34M	Telegraph Cree	140.42	305	P		PKiKP	18 22 42.7	+0.3	GLI	Glacier Island	149.05	304	P		PKiKP	18 22 59.7	-0.4	E23K	Chandalar	151.60	318	P		PKiKP	18 23 05.2	-0.1
	baz=121									baz=103									baz=94							
R33M	Jennings River	141.11	308	P		PKPdf	18 22 41.9	+0.6	G26K	Porcupine Rive	149.23	316	P		PKPbc	18 22 59.7	+0.5	G23K	Bananza Creek	151.62	315	P		PKiKP	18 23 06.1	+0.8
	baz=120									baz=101,SNR=33									baz=96,SNR=35							
Q32M	Nakina River	141.47	306	P		PKPdf	18 22 42.5	+0.5	NRIK	Noril'sk	149.31	39	PKPbc		PKPbc	18 22 59.2	-0.1	BPAW	Bear Paw Mtn.	151.63	309			PKPbc	18 23 05.0	0.0
	baz=120									comp=Z,11nm,0.9s,baz=281,slow=0.9,SNR=13								BPAW	Bear Paw Mtn.	151.63	309	P		PKiKP	18 23 05.4	0.0
S32K	Killisnoo	141.78	303	P		PKPdf	18 22 43.2	+0.9	NRIK	Noril'sk	149.31	319			PKPbc	18 22 57.9	-1.4		baz=100,SNR=48							
	baz=120								K24K	Donnelly Dome	149.32	310	P		PKPbc	18 23 00.1	+0.5	TOLK	Toolik Lake Re	151.63	319			PKiKP	18 23 05.2	-0.1
LZH	Lanzhou	141.84	101	*e*PKP		PKPdf	18 22 41.9	-1.5		baz=105,SNR=10								TOLK	Toolik Lake Re	151.63	319	P		PKiKP	18 23 05.5	+0.3
GTA	Gaotai	141.99	94	*e*PKP		PKPdf	18 22 39.3	-4.2	J25K	Salcha River,	149.35	312			PKPdf	18 22 53.2	-1.9		baz=93,SNR=28							
P33M	Teslin, Yukon	142.32	308			PKPpre	18 22 39.2		J25K				PKPbc		PKPbc	18 23 00.0	+0.4	ILSW	Iliamna Southw	151.63	300			PKiKP	18 23 05.6	0.0
ZAA0	Zalesovo Array	142.69	64			PKPpre	18 22 39.9		J25K	Salcha River,	149.35	312	P		PKiKP	18 23 00.3	-0.4	MLY	Manley	151.68	311			PKPbc	18 23 04.6	-0.5
ZALV	Zalesovo Beam	142.69	64	PKhKP		PKPpre	18 22 39.9			baz=104,SNR=16								MLY	Manley	151.68	311	P		PKPbc	18 23 04.9	-0.2
	comp=Z,2.7nm,0.4s,baz=228,slow=3.9,SNR=14								SCM	Sheep Creek Mo	149.45	306	PKPdf		PKPdf	18 22 52.8	-2.5		baz=99,SNR=18							
ZALV				SKPbc		SKPbc	18 26 07.9	-1.9	SCM				PKiKP		PKiKP	18 23 00.7	-0.3	COLD	Coldfoot	151.75	316	PKPdf		PKPdf	18 22 57.0	-1.6
	comp=Z,0.9nm,0.7s,baz=252,slow=2.9,SNR=3.0								SCM	Sheep Creek Mo	149.45	306	P		PKiKP	18 23 00.9	0.0	COLD						PKiKP	18 23 06.0	+0.5
ZALV	Zalesovo Beam	142.69	64			PKPpre	18 22 39.6			baz=107,SNR=15								COLD	Coldfoot	151.75	316	P		PKiKP	18 23 06.3	+0.9
XAN	Xi'an	143.05	108	PKP		PKiKP	18 22 48.8	+0.1	HHC	Hu-ho-hao-te	149.47	103	*e*PKPbc		PKPbc	18 23 00.5	-0.2		baz=95,SNR=15							
WHY	Whitehorse	143.44	308			PKPpre	18 22 42.3		F26K	Sheenjek River	149.50	318	P		PKiKP	18 23 01.0	+0.1	C23K	Itkillik River	152.04	322	P		PKiKP	18 23 06.4	+0.5
FARO	Faro, Yukon	143.46	311			PKPpre	18 22 42.3			baz=100,SNR=24									baz=90,SNR=8.2							
N31M	Braeburn, Yuko	144.19	309	PKPdf		PKPbc	18 22 45.1	0.0	PWL	Port Wells	149.62	304			PKiKP	18 23 01.1	-0.2	D23K	Nanushuk River	152.04	320	P		PKiKP	18 23 06.6	+0.5
A36M	Sachs Harbour	144.21	328	PKPdf		PKPbc	18 22 45.0	+0.2	PWL	Port Wells	149.62	304	P		PKiKP	18 23 01.0	-0.2		baz=92,SNR=5.3							
P29M	Windy Craggy	144.26	305			PKPbc	18 22 46.0	+0.6		baz=108,SNR=19								H22K	Ishtalitna Cre	152.07	313	P		PKiKP	18 23 06.6	+0.4
P29M	Windy Craggy	144.26	305	P		PKPbc	18 22 45.9	+0.6	PRP	Porcupine Dome	149.62	313	PKPbc		PKPbc	18 23 00.6	+0.2		baz=97,SNR=11							
	baz=116,SNR=11								PRP	Porcupine Dome	149.62	313	P		PKPbc	18 23 00.8	+0.5	M20K	Styx River	152.12	304			PKPbc	18 23 06.0	-0.2
HYT	Haines Junctio	144.67	307	PKPdf		PKPdf	18 22 47.5	0.0		baz=102,SNR=35								M20K	Styx River	152.12	304	P		PKPbc	18 23 06.4	+0.2
HYT	Haines Junctio	144.67	307	P		PKPdf	18 22 47.7	+0.2	M23K	Glacier View	149.62	306	P		PKiKP	18 23 01.0	-0.3		baz=103,SNR=22							
	baz=114,SNR=14									baz=107,SNR=13								I21K	Tanana	152.22	312	P		PKiKP	18 23 06.6	+0.1
N30M	Aishikik Lake	144.75	308	P		PKPdf	18 22 47.9	+0.4	C27K	Jago River	149.62	322	P		PKiKP	18 23 00.9	-0.1		baz=98,SNR=5.8							
	baz=114,SNR=55									baz=97,SNR=13								G22K	Bettles	152.23	315	P		PKiKP	18 23 07.1	+0.7
O29M	Mount Kennedy	144.93	306	P		PKPdf	18 22 48.0	+0.1	FYU	Fort Yukon	149.72	315			PKiKP	18 23 01.1	-0.1		baz=95							
	baz=114								DHY	Denali Highway	149.82	308			PKiKP	18 23 01.5	-0.3	O19K	Port Alsworth	152.26	301	P		PKiKP	18 23 06.7	0.0
PNL	Peninsula	145.04	305	P		PKPdf	18 22 48.1	+0.1	DHY	Denali Highway	149.82	308	P		PKiKP	18 23 01.6	-0.2		baz=105							
	baz=115									baz=105,SNR=16								P18K	Big Mountain,	152.48	299			PKPbc	18 23 06.6	-0.4
M30M	Minto, Yukon	145.07	310			PKPdf	18 22 48.1	+0.1	KNK	Knik Glacier	149.84	305			PKPbc	18 23 01.3	+0.4	P18K	Big Mountain,	152.48	299	P		PKPbc	18 23 06.8	-0.2
M30M	Minto, Yukon	145.07	310	P		PKPdf	18 22 48.2	+0.1	KNK	Knik Glacier	149.84	305	P		PKiKP	18 23 01.7	0.0		baz=106							
	baz=113									baz=107,SNR=9.8								N19K	Bonanza Creek	152.50	302			PKPbc	18 23 06.8	-0.4
MAYO	Mayo, Yukon	145.08	312			PKPdf	18 22 48.2	+0.3	WAT6	Susitna Watana	149.85	307	P		PKiKP	18 23 01.9	0.0	N19K	Bonanza Creek	152.50	302	P		PKPbc	18 23 06.9	-0.2
MAYO	Mayo, Yukon	145.08	312	P		PKPdf	18 22 48.2	+0.3		baz=105,SNR=8.3									baz=104,SNR=12		

baz=92,SNR=8.4
SVW2 Sparrevohn 153.09 302 PKPbc PKPbc 18 23 07.9 -0.4
CHGN Chignik 153.10 291 P **PKiKP 18 23 08.7 +0.2**
baz=110
N18K Kilae Creek 153.13 301 P **PKPbc 18 23 08.5 +0.1**
baz=104
CHNA Chernabura Isl 153.18 287 P **PKiKP 18 23 08.8 0.0**
baz=113
O17K Koliganek Bris 153.49 299 P **PKiKP 18 23 09.3 0.0**
baz=104
SDPT Sand Point 153.84 288 P **PKiKP 18 23 12.8 +2.7**
baz=111
XLT XiLinHaoTe 154.00 103 *e*PKPbc **PKPbc 18 23 08.9 -2.0**
KSAR Wonju Array Be 155.08 129 PKPdf **PKPdf 18 23 02.1 -2.2**
KSAR PKPab **PKPab 18 23 30.2 +0.7**
KS19 Wonju Array Si 155.13 128 PKPdf **PKPdf 18 23 02.3 -2.1**
KS19 PKPab **PKPab 18 23 30.1 +0.4**
UNV Unalaska Valle 156.53 282 P **PKPab 18 23 38.1 +2.7**
baz=112
TIXI Tiksi 161.62 24 PKPab **PKPab 18 23 58.1 +1.0**
comp=Z,3.0nm,0.8s,baz=270,slow=20,SNR=4.6
SEY Seymchan 173.26 360 PKP **PKPdf 18 23 17.6 -2.0**
comp=Z,6.3nm,1.0s,baz=89,slow=7.1,SNR=3.8
PETK Petropavlovsk- 175.59 227 PKP **PKPdf 18 23 19.9 -0.8**
comp=Z,3.9nm,0.8s,baz=180,slow=1.4,SNR=6.0
PETK PKPab **PKPab 18 24 59.1 -0.3**
comp=Z,3.7nm,0.7s,baz=116,slow=6.7,SNR=2.1

*MOS **14** 18:19:36.2±0.9,29.°91N×140.°83E,h99km,mb4.5/24,Error ellipse: s-maj=13.0km s-min=7.0km az=104.4*
*JMA **14** 18:19:36.8±0.1,30.°2N±0.°4×14.°2E±.°,h53km,MV4.9/33, NEAR TORISHIMA IS*
*IDC **14** 18:19:37.9±1.7,29.°93N×140.°88E,h101km±15km, mb3.7/19,mbtmp4.1/23,MS3.3/1,Error ellipse: s-maj=19.2km s-min=10.9km az=77.0*
*NEIC **14** 18:19:38.0±1.4,29.°99N±0.°07×140.°9E±0.°1,h97km±7km, mb4.4/69,Error ellipse: s-maj=17.2km s-min=9.6km az=78.0*
ISC 14 18:19:37.7±0.4,30.°03N±0.°05×140.°97E±0.°08,h100km, n170,σ1$33/172,mb4.3/64,6C-5D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.64**	**337**	*e*P		**Pn**	**Pn**	**18 20 20.8**	**+2.1**
CBIJ	**Chichi jima**	**3.11**	**160**	*e*P		**Pn**	**Pn**	**18 20 25.1**	**+0.1**
CBIJ				*e*S		**Sn**	**Sn**	**18 21 01.1**	**-0.4**
JCJ	**Chichijima**	**3.11**	**160**	P		**Pn**	**Pn**	**18 20 24.8**	**-0.2**
	140nm,0.3s,baz=308,slow=18,SNR=106								
JCJ				S		**Sn**	**Sn**	**18 20 59.0**	**-2.4**
	393nm,0.3s,baz=294,slow=20,SNR=9.8								
JCJ	**Chichijima**	**3.11**	**160**	Pn		**Pn**	**Pn**	**18 20 25.1**	**+0.1**
JHJ2	**Mitsune**	**3.23**	**343**	Pn		**Pn**	**Pn**	**18 20 27.7**	**+1.2**
JHJ2	**Mitsune**	**3.23**	**343**	*e*P		**Pn**	**Pn**	**18 20 28.2**	**+1.7**
JHJ	**Hachijo jima 2**	**3.24**	**342**	P		**Pn**	**Pn**	**18 20 27.9**	**+1.2**
	53nm,0.4s,baz=106,slow=18,SNR=22								
JHJ				S		**Sn**	**Sn**	**18 21 02.8**	**-1.7**
	293nm,0.2s,baz=107,slow=19,SNR=10								
JHH2	**Haha-jima-NKT2**	**3.55**	**162**	*e*S		**Sn**	**Sn**	**18 21 12.0**	**+0.1**
JMKN	**Mikurajimanish**	**4.03**	**343**	*e*P		**Pn**	**Pn**	**18 20 38.9**	**+1.7**
BSO3	**Boso 3**	**4.77**	**355**	P		**Pn**	**Pn**	**18 20 47.2**	**+0.2**
JHU	**Hanno**	**5.98**	**347**	*e*P		**Pn**	**Pn**	**18 21 04.7**	**+1.0**
JYT	**Yasato**	**6.21**	**354**	Pn		**Pn**	**Pn**	**18 21 07.4**	**+0.5**
JYT						**Sn**	**Sn**	**18 22 13.0**	**-3.5**
JYT	**Yasato**	**6.21**	**354**	*e*P		**Pn**	**Pn**	**18 21 07.0**	**+0.2**
JRY	**Ryogami san**	**6.22**	**344**	P		**Pn**	**Pn**	**18 21 08.2**	**+1.3**
JHO	**Hitachi**	**6.57**	**357**	*e*P		**Pn**	**Pn**	**18 21 11.1**	**-0.6**
MJAR	**Matsushiro Arr**	**6.89**	**341**	P		**Pn**	**Pn**	**18 21 17.6**	**+1.5**
	3.2nm,0.3s,baz=156,slow=16,SNR=31								
MJAR				S		**Sn**	**Sn**	**18 22 31.2**	**-1.8**
	3.0nm,0.5s,baz=157,slow=20,SNR=1.8								
MAJO	**Matsushiro**	**6.89**	**341**	Pn		**Pn**	**Pn**	**18 21 18.2**	**+2.0**
MAJO	**Matsushiro**	**6.89**	**341**	*ce*P		**Pn**	**Pn**	**18 21 18.2**	**+2.0**
JFK	**Kawauchi**	**7.32**	**359**	*e*P		**Pn**	**Pn**	**18 21 20.5**	**-1.4**
JMM	**Marumori**	**7.82**	**359**			**Pn**	**Pn**	**18 21 27.2**	**-1.5**
JMM				Sn		Sn	Sn	**18 22 47.1**	**-8.3**
JSD	**Sado**	**8.30**	**345**	Pn		Pn	Pn	**18 21 30.4**	**-4.8**
JMK	**Ichinoseki**	**8.90**	**1**	*e*P		**Pn**	**Pn**	**18 21 42.4**	**-1.0**
JMK				*e*S		**Sn**	**Sn**	**18 23 14.8**	**-7.0**
JTM	**Tenmabayashi**	**10.73**	**0**	Pn		**Pn**	**Pn**	**18 22 05.4**	**-2.9**
ERM	**Erimo**	**12.09**	**8**	Pn		Pn	Pn	**18 22 20.5**	**-6.0**
ERM	**Erimo**	**12.09**	**8**	*i*P		**Pn**	**Pn**	**18 22 23.6**	**-2.9**
NMR	**Nemuro--Hokkai**	**13.85**	**15**	*e*P		**Pn**	**Pn**	**18 22 50.4**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**14.51**	**14**	P		**Pn**	**Pn**	**18 22 58.8**	**+0.8**
YUK					pmax	pmax			
	comp=Z,83nm,0.8s								
YUK					pmax	pmax			
	comp=E,73nm,0.7s								
YUK					pmax	pmax			
	comp=N,74nm,0.6s								
USA0B	**Ussuriysk Arra**	**15.84**	**336**	Pn		**Pn**	**Pn**	**18 23 11.4**	**-3.4**
USA0B	**Ussuriysk Arra**	**15.84**	**336**	P		**Pn**	**Pn**	**18 23 11.4**	**-3.4**
USA0B					pmax	pmax			
	comp=Z,4.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**15.84**	**336**	P		**Pn**	**Pn**	**18 23 15.7**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=129,slow=11,SNR=2.3								
USRK	**Ussuriysk Ar.**	**15.84**	**336**	Pn		**Pn**	**Pn**	**18 23 11.2**	**-3.7**
YSS	**Yuzh-Sakhalins**	**16.95**	**4**	P		**Pn**	**Pn**	**18 23 29.4**	**+0.9**
YSS					IAmb	IAmb	IAmb	18 23 30.5	
	comp=Z,11nm,0.8s								
YSS	**Yuzh-Sakhalins**	**16.95**	**4**	*e*P		**P**	**P**	**18 23 29.6**	**+0.7**
YSS					pmax	pmax			
	comp=Z,10.0nm,0.7s								
MDJ	**Mudanjiang**	**17.12**	**331**			**Pn**	**Pn**	**18 23 29.9**	**-0.7**
KLR	**Kul'dur**	**20.42**	**342**	P		**P**	**P**	**18 24 06.9**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=154,slow=12,SNR=8.5								
	comp=Z,2.2nm,0.5s								
KLR	**Kul'dur**	**20.42**	**342**	*ie*P		**P**	**P**	**18 24 06.9**	**+0.2**
KLR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
HIA	**Hailar**	**25.07**	**326**	*i*P		**P**	**P**	**18 24 53.4**	**+0.6**
HIA					pmax	pmax			
	comp=Z,5.0nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**25.60**	**108**	T		T	T	18 53 03.0	
	baz=300,slow=75,SNR=20								
H11N1	**WAKE ISLAND Hy**	**25.61**	**108**	T		T	T	18 53 02.2	
	baz=300,slow=75,SNR=9.0								
H11N3	**WAKE ISLAND Hy**	**25.62**	**108**	T		T	T	18 53 04.1	
	baz=300,slow=75,SNR=11								
ZEA	**Zeya**	**25.71**	**341**	*e*P		**P**	**P**	**18 25 01.7**	**+3.3**
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.7s								
H11S3	**WAKE ISLAND Hy**	**26.04**	**110**	T		T	T	18 53 05.8	
	baz=303,slow=76,SNR=4.8								
H11S1	**WAKE ISLAND Hy**	**26.05**	**110**	T		T	T	18 53 10.1	
	baz=303,slow=76,SNR=6.7								
H11S2	**WAKE ISLAND Hy**	**26.06**	**110**	T		T	T	18 53 08.6	
	baz=303,slow=76,SNR=4.8								
SONM	**Songino Array**	**31.89**	**314**	P		**P**	**P**	**18 25 53.4**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=127,slow=9.3,SNR=3.1								
	comp=Z,0.6nm,0.4s								
PZH	**PanZhiHua**	**34.62**	**274**	P		**P**	**P**	**18 26 17.8**	**+0.3**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.9s								
PZH					pmax	pmax			
	comp=Z,100nm,4.3s								
CRAI	**Chiangrai**	**37.86**	**265**	P		**P**	**P**	**18 26 45.1**	**+0.1**
CRAI					IAmb	IAmb	IAmb	18 26 46.1	
	comp=Z,5.9nm,0.8s								
ADK	**Adak**	**38.00**	**43**	P		**P**	**P**	**18 26 46.7**	**+0.9**
ADK	**Adak**	**38.00**	**43**	P		**P**	**P**	**18 26 46.7**	**+0.9**
ADK					pmax	pmax			
	comp=Z,94nm,1.3s								
CHTO	**Chiang Mai**	**39.66**	**263**	P		**P**	**P**	**18 26 59.5**	**-0.6**
CHTO	**Chiang Mai**	**39.66**	**263**	P		**P**	**P**	**18 26 59.5**	**-0.6**
CM31	**Chiang Mai Arr**	**39.81**	**263**	P		**P**	**P**	**18 27 00.8**	**-0.6**
CM31					IAmb	IAmb	IAmb	18 27 02.8	
	comp=Z,5.9nm,1.1s								
CMAR	**Chiang Mai Arr**	**39.81**	**263**	P		**P**	**P**	**18 27 00.8**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=61,slow=6.1,SNR=12								
	comp=Z,1.5nm,0.8s								
CMAR	**Chiang Mai Arr**	**39.81**	**263**	P		**P**	**P**	**18 27 01.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**39.81**	**263**	P		**P**	**P**	**18 27 01.2**	**-0.2**
MTN	**Manton Dam**	**43.67**	**194**	P		**P**	**P**	**18 27 31.7**	**-1.0**
WMQ	**Urumqi**	**44.03**	**303**	*e*P		**P**	**P**	**18 27 37.8**	**+2.3**
DGZ	**Jazzator, Alta**	**44.49**	**312**	*ie*P		**P**	**P**	**18 27 38.7**	**-0.5**
DGZ					pmax	pmax			
	comp=Z,3.0nm,0.8s								
ZAA0	**Zalesovo Array**	**46.59**	**317**	P		**P**	**P**	**18 27 54.0**	**-1.5**
ZALV	**Zalesovo Beam**	**46.59**	**317**	P		**P**	**P**	**18 27 55.6**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=95,slow=8.6,SNR=6.5								
ZALV				PcP		**PcP**	**PcP**	**18 29 27.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=112,slow=2.6,SNR=3.1								
	comp=Z,1.1nm,0.4s								
ZALV	**Zalesovo Beam**	**46.59**	**317**	P		**P**	**P**	**18 27 54.5**	**-1.0**
ZALV	**Zalesovo Beam**	**46.59**	**317**	*i*P		**P**	**P**	**18 27 55.0**	**-0.5**
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
MK31	**Makanchi Array**	**47.81**	**308**	P		**P**	**P**	**18 28 04.3**	**-0.8**
MK31	**Makanchi Array**	**47.81**	**308**	P		**P**	**P**	**18 28 04.3**	**-0.8**
MK31					pmax	pmax			
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**47.81**	**308**	P		**P**	**P**	**18 28 04.5**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=89,slow=9.7,SNR=4.4								
MKAR				PcP		**PcP**	**PcP**	**18 29 33.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=86,slow=4.5,SNR=5.3								
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**47.81**	**308**	P		**P**	**P**	**18 28 03.8**	**-1.3**
MKAR	**Makanchi Array**	**47.81**	**308**	P		**P**	**P**	**18 28 03.8**	**-1.3**
WB0	**Warramunga Arr**	**49.91**	**188**	P		**P**	**P**	**18 28 20.2**	**-1.1**
WB0					IAmb	IAmb	IAmb	18 28 32.3	
	comp=Z,4.5nm,1.1s								
FITZ	**Fitzroy Crossi**	**50.08**	**199**	P		**P**	**P**	**18 28 22.9**	**+0.4**
FITZ					IAmb	IAmb	IAmb	18 28 23.9	
	comp=Z,5.9nm,1.1s								
WR0	**Warramunga Arr**	**50.09**	**188**	P		**P**	**P**	**18 28 22.0**	**-0.6**
WR0					IAmb	IAmb	IAmb	18 28 53.4	
	comp=Z,4.9nm,1.3s								
CTA	**Charters Tower**	**50.09**	**174**	P		**P**	**P**	**18 28 21.5**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=339,slow=8.6,SNR=1.2								
	comp=Z,1.3nm,0.8s								
WB2	**Warramunga Arr**	**50.09**	**188**	P		**P**	**P**	**18 28 21.7**	**-0.9**
WB2					IAmb	IAmb	IAmb	18 28 59.2	
	comp=Z,6.9nm,1.1s								
WRA	**Warramunga Arr**	**50.09**	**188**	P		**P**	**P**	**18 28 21.2**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=4.7,slow=7.4,SNR=40								
WRA				PcP		**PcP**	**PcP**	**18 29 41.9**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=7.8,slow=3.7,SNR=2.7								
	comp=Z,1.3nm,0.4s								
WRA	**Warramunga Arr**	**50.09**	**188**	P		**P**	**P**	**18 28 21.7**	**-1.0**
WRA	**Warramunga Arr**	**50.09**	**188**	P		**P**	**P**	**18 28 21.7**	**-1.0**
GSI	**Gununguitoli**	**50.12**	**244**	P		**P**	**P**	**18 28 22.4**	**-0.7**
KURK	**Kurchatov**	**50.19**	**313**	P		**P**	**P**	**18 28 22.1**	**-1.0**
KURK					IAmb	IAmb	IAmb	18 28 23.5	
	comp=Z,2.8nm,0.8s								
KURK	**Kurchatov**	**50.19**	**313**	*ie*P		**P**	**P**	**18 28 23.0**	**-0.1**
KURK					pmax	pmax			
	comp=Z,1.0nm,0.6s								
K20K	**Telida**	**52.41**	**31**	P		**P**	**P**	**18 28 41.3**	**+1.7**
J20K	**Nowinta River**	**52.49**	**30**	P		**P**	**P**	**18 28 41.9**	**+1.8**
KSH	**Kashi**	**53.20**	**299**	P		**P**	**P**	**18 28 49.3**	**+3.5**
KSH					pmax	pmax			
	comp=Z,5.0nm,0.5s								
AAK	**Ala-Archa**	**53.74**	**303**	P		**P**	**P**	**18 28 48.0**	**-1.8**
AAK					IAmb	IAmb	IAmb	18 28 49.9	
	comp=Z,1.9nm,0.9s								
AAK	**Ala-Archa**	**53.74**	**303**	*ie*P		**P**	**P**	**18 28 49.0**	**-0.8**
AAK					pmax	pmax			
	comp=Z,6.0nm,2.5s								
SUA	**Susitna One**	**53.78**	**34**	P		**P**	**P**	**18 28 49.8**	**+0.1**
AS31	**Alice Springs**	**53.82**	**188**	P		**P**	**P**	**18 28 50.1**	**-0.2**
ASAR	**Alice Springs**	**53.82**	**188**	P		**P**	**P**	**18 28 48.5**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=359,slow=5.2,SNR=55								
	comp=Z,0.8nm,0.4s								
ASAR	**Alice Springs**	**53.82**	**188**	P		**P**	**P**	**18 28 49.8**	**-0.5**
ASAR	**Alice Springs**	**53.82**	**188**	P		**P**	**P**	**18 28 49.8**	**-0.5**
NEA2	**Nenana**	**54.73**	**30**	P		**P**	**P**	**18 28 57.9**	**+1.5**
NEA2					IAmb	IAmb	IAmb	18 28 58.5	
	comp=Z,5.6nm,0.9s								
MDM	**Murphy Dome**	**55.11**	**29**	P		**P**	**P**	**18 29 00.2**	**+1.0**
MDM					IAmb	IAmb	IAmb	18 29 01.8	
	comp=Z,6.3nm,1.2s								
BRVK	**Borovoye**	**55.24**	**316**	P		**P**	**P**	**18 29 00.4**	**+0.1**
BRVK	**Borovoye**	**55.24**	**316**	*i*P		**P**	**P**	**18 29 00.6**	**+0.3**
BRVK					pmax	pmax			
	comp=Z,8.0nm,1.0s								
IL31		**55.68**	**30**	P		**P**	**P**	**18 29 02.9**	**-0.3**
IL31					IAmb	IAmb	IAmb	18 29 36.6	
	comp=Z,4.1nm,1.2s								
ILAR	**Eielson Array**	**55.68**	**30**	P		**P**	**P**	**18 29 03.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=272,slow=6.2,SNR=7.7								
ILAR					LR	LR		18 51 29.8	
	comp=Z,30nm,21.9s,baz=256,slow=34								
	comp=Z,1.2nm,0.7s								
KK31	**Karatay Array**	**56.53**	**304**	P		**P**	**P**	**18 29 09.1**	**-0.6**
KK31					IAmb	IAmb	IAmb	18 29 09.9	
	comp=Z,4.0nm,0.8s								
KK31	**Karatay Array**	**56.53**	**304**	P		**P**	**P**	**18 29 09.1**	**-0.6**
KK31					pmax	pmax			
	comp=Z,4.0nm,0.8s								
KKAR	**Karatay Array**	**56.53**	**304**	P		**P**	**P**	**18 29 08.9**	**-0.8**
KKAR	**Karatay Array**	**56.53**	**304**	P		**P**	**P**	**18 29 09.1**	**-0.6**
KKAR					IAmb	IAmb	IAmb	18 29 09.9	
	comp=Z,4.0nm,0.8s								
KKAR	**Karatay Array**	**56.53**	**304**	P		**P**	**P**	**18 29 09.1**	**-0.6**
KKAR					pmax	pmax			
	comp=Z,4.0nm,0.8s								
SCRK	**Sand Creek**	**56.93**	**31**	P		**P**	**P**	**18 29 13.0**	**+0.6**
SCRK					IAmb	IAmb	IAmb	18 29 13.7	
	comp=Z,2.2nm,0.6s								
J26L	**Joseph Creek**	**57.11**	**30**	P		**P**	**P**	**18 29 13.9**	**+0.4**
J26L					IAmb	IAmb	IAmb	18 29 14.6	
	comp=Z,3.0nm,0.7s								
GAR	**Garm**	**57.59**	**299**	P		**P**	**P**	**18 29 16.6**	**-0.8**
BCAR	**Beaver Creek A**	**57.96**	**32**	P		**P**	**P**	**18 29 21.2**	**+1.7**
M27K	**Edge Creek, AK**	**57.97**	**32**	P		**P**	**P**	**18 29 20.5**	**+0.9**
M27K					IAmb	IAmb	IAmb	18 30 02.7	
	comp=Z,9.0nm,1.4s								
CHGR	**Chuyangaron**	**58.55**	**299**	P		**P**	**P**	**18 29 23.5**	**-0.5**
CHGR	**Chuyangaron**	**58.55**	**299**	P		**P**	**P**	**18 29 23.5**	**-0.5**
CHGR					pmax	pmax			
	comp=Z,26nm,0.6s								
KBL	**Kabul**	**59.79**	**295**	P		**P**	**P**	**18 29 31.4**	**-1.4**
KBL					IAmb	IAmb	IAmb	18 29 32.4	
	comp=Z,2.4nm,0.8s								
KBL	**Kabul**	**59.79**	**295**	P		**P**	**P**	**18 29 31.4**	**-1.4**
KBL					pmax	pmax			
	comp=Z,2.0nm,0.8s								
EPYK	**Eagle Plains**	**59.84**	**28**	P		**P**	**P**	**18 29 33.6**	**+1.2**
HYT	**Haines Junctio**	**60.22**	**34**	P		**P**	**P**	**18 29 37.4**	**+2.2**
HYT					IAmb	IAmb	IAmb	18 29 38.3	
	comp=Z,3.7nm,1.0s								
M31M	**Drury Creek, Y**	**61.46**	**32**	P		**P**	**P**	**18 29 44.5**	**+1.1**
M31M					IAmb	IAmb	IAmb	18 29 45.4	
	comp=Z,3.6nm,0.8s								
ARU	**Arti**	**61.47**	**321**	P		**P**	**P**	**18 29 43.8**	**+0.3**
ARU	**Arti**	**61.47**	**321**	*ie*P		**P**	**P**	**18 29 43.9**	**+0.4**
ARU					pmax	pmax			
	comp=Z,5.0nm,1.7s								
STKA	**Stephens Creek**	**61.57**	**179**	P		**P**	**P**	**18 29 44.2**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=336,slow=10,SNR=3.8								
	comp=Z,1.6nm,0.6s								
FARO	**Faro, Yukon**	**61.93**	**32**	P		**P**	**P**	**18 29 47.9**	**+1.3**
FARO					IAmb	IAmb	IAmb	18 29 48.5	
	comp=Z,3.0nm,0.7s								
ABKAR	**Akbulak array**	**62.30**	**313**				**P**	**18 29 49.3**	**+0.1**
ABKAR	**Akbulak array**	**62.30**	**313**	P		P	**P**	**18 29 49.1**	**-0.2**
GEYT	**Alibeck**	**67.04**	**302**	P		**P**	**P**	**18 30 20.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=49,slow=4.4,SNR=4.0								
	comp=Z,1.4nm,0.7s								
ARCES	**ARCESS Array B**	**70.43**	**340**	P		**P**	**P**	**18 30 40.9**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=70,slow=8.8,SNR=4.5								
	comp=Z,1.7nm,0.8s								
FINES	**FINESS Array B**	**74.85**	**333**	P		**P**	**P**	**18 31 07.3**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=68,slow=5.2,SNR=28								
	comp=Z,1.4nm,0.4s								
FINES	**FINESS Array B**	**74.85**	**333**	P		**P**	**P**	**18 31 07.1**	**+0.1**
PINE	**Pine Mountain**	**75.22**	**48**	P		**P**	**P**	**18 31 11.8**	**+2.0**
PINE					IAmb	IAmb	IAmb	18 31 12.8	
	comp=Z,4.8nm,0.8s								
KBZ	**Khabaz**	**75.24**	**312**	P		**P**	**P**	**18 31 10.2**	**+0.6**
	comp=Z,4.1nm,0.7s,baz=78,slow=4.2,SNR=11								
	comp=Z,4.1nm,0.7s								
KBZ	**Khabaz**	**75.24**	**312**	*ie*P		**P**	**P**	**18 31 10.9**	**+1.3**
WALA	**Waterton Lakes**	**76.92**	**41**	P		**P**	**P**	**18 31 20.3**	**+1.1**
WALA					IAmb	IAmb	IAmb	18 31 21.1	
	comp=Z,3.3nm,0.6s								
BEKR	**Beckworth**	**77.45**	**51**	P		**P**	**P**	**18 31 23.3**	**+0.9**
BEKR					IAmb	IAmb	IAmb	18 31 24.3	
	comp=Z,3.5nm,0.8s								
PAHR	**Pah Rah Range**	**78.18**	**51**	P		**P**	**P**	**18 31 26.5**	**+0.1**
CMB	**Columbia Colle**	**78.31**	**53**	P		**P**	**P**	**18 31 27.1**	**0.0**
CMB	**Columbia Colle**	**78.31**	**53**	P		**P**	**P**	**18 31 27.1**	**0.0**
CMB					pmax	pmax			
	comp=Z,2.0nm,0.9s								
YERR	**Yerington**	**78.63**	**52**	P		**P**	**P**	**18 31 30.1**	**+1.1**
YERR					IAmb	IAmb	IAmb	18 31 31.3	
	comp=Z,5.1nm,1.0s								
KVN	**Kaiserville**	**79.37**	**51**	P		**P**	**P**	**18 31 34.2**	**+1.1**
KVN					pmax	pmax			
	comp=Z,2.0nm,0.8s								
LRM	**Limekiln Ridge**	**79.46**	**43**	P		**P**	**P**	**18 31 34.7**	**+1.3**
LHV	**Little Huntoon**	**79.50**	**52**	P		**P**	**P**	**18 31 35.3**	**+1.8**
LHV					IAmb	IAmb		18 32 13.8	
	comp=Z,4.1nm,1.1s								
NVAR	**Mina Array Bea**	**79.55**	**52**	P		**P**	**P**	**18 31 35.4**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=297,slow=5.7,SNR=14								
	comp=Z,1.9nm,0.7s								
NVAR	**Mina Array Bea**	**79.55**	**52**	P		**P**	**P**	**18 31 35.5**	**+1.5**
AKASG	**Malin Array Be**	**79.63**	**323**	P		**P**	**P**	**18 31 33.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=49,slow=6.9,SNR=4.1								
	comp=Z,0.3nm,0.3s								
AKASG	**Malin Array Be**	**79.63**	**323**	*ie*P		**P**	**P**	**18 31 33.5**	**-0.4**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.2s								
MARD	**Mardin**	**79.73**	**307**	P		**P**	**P**	**18 31 34.8**	**-0.2**
MARD					IAmb	IAmb	IAmb	18 31 36.1	
	comp=Z,4.3nm,0.6s								
BOZ	**Bozeman (W)**	**80.07**	**43**	P		**P**	**P**	**18 31 37.9**	**+1.3**
BOZ	**Bozeman (W)**	**80.07**	**43**	P		**P**	**P**	**18 31 37.9**	**+1.3**
BOZ					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ELK	**Elko**	**80.40**	**48**	P		**P**	**P**	**18 31 38.9**	**+0.2**
ELK	**Elko**	**80.40**	**48**	P		**P**	**P**	**18 31 38.9**	**+0.2**
ELK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
NOA	**NORSAR Array B**	**80.50**	**338**	P		**P**	**P**	**18 31 38.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=44,slow=5.3,SNR=3.6								
NOA				pP		**pwP**	**pwP**	**18 32 06.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=28,slow=3.0,SNR=4.1								
	comp=Z,0.3nm,0.6s								
MZP	**Montezuma Peak**	**80.54**	**52**	P		**P**	**P**	**18 31 40.6**	**+1.1**
GMN	**Gold Mountain**	**80.83**	**52**	P		**P**	**P**	**18 31 42.4**	**+1.4**
YHH	**Holmes Hill**	**80.97**	**43**			**P**	**P**	**18 31 41.2**	**-0.5**
TPNV	**Topopah Spring**	**81.70**	**52**	P		**P**	**P**	**18 31 46.6**	**+1.1**
TPNV					IAmb	IAmb	IAmb	18 31 47.4	
	comp=Z,5.0nm,0.7s								
TPNV	**Topopah Spring**	**81.70**	**52**	P		**P**	**P**	**18 31 46.6**	**+1.1**
TPNV					pmax	pmax			
	comp=Z,5.0nm,0.7s								
QSM	**Queen of Sheba**	**81.78**	**53**	P		**P**	**P**	**18 31 45.1**	**-0.7**
QSM					IAmb	IAmb		18 31 47.7	
	comp=Z,3.5nm,0.9s								
GWY	**Greenwater Val**	**81.81**	**53**	P		**P**	**P**	**18 31 47.2**	**+1.1**
GWY					IAmb	IAmb	IAmb	18 32 13.0	
	comp=Z,7.8nm,1.3s								
AHID	**Auburn Hatcher**	**81.94**	**45**	P		**P**	**P**	**18 31 47.0**	**+0.3**
AHID					IAmb	IAmb	IAmb	18 31 47.4	
	comp=Z,6.5nm,1.2s								
DUG	**Dugway, Tooele**	**82.26**	**48**	P		**P**	**P**	**18 31 49.1**	**+0.7**
DUG	**Dugway, Tooele**	**82.26**	**48**	P

comp=Z,0.3nm,0.4s,baz=144,slow=3.8,SNR=2.1
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 85.60 14 P **P** **18 33 46.1 -0.8**
comp=Z,0.7nm,0.7s,baz=224,slow=4.0,SNR=3.0
comp=Z,0.7nm,0.7s

---

*JMA **14** 18:22:27.1±0.4,36°N±2°×12°9E±°, h4km±4km, MV3.1/12, S KOREAN PENINSULA REG*
*KMA **14** 18:22:28.5±0.1,35.77N×129.18E, h5km, Error ellipse: s-maj=0.8km s-min=0.3km az=291.0*
*KEA **14** 18:22:31.6,35.77N×129.08E, h21km, ML3.1/1*
ISC 14 18:22:28.2±0.8, 35.78N±0.02×129.10E±0.03, h10km, n56, σ1§19/60, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSADO	**Andong**	**0.65**	**349**	P	**Pg**	**18 22 41.7**	**+1.0**
	SNR=457						
EUSB	**Uiseong**	**0.67**	**330**	P	**Pb**	**18 22 42.5**	**+0.5**
	SNR=190						
YODB	**Yeongdeok**	**0.79**	**18**	P	**Pg**	**18 22 43.8**	**+0.3**
	SNR=96						
KSGUM	**GUMI**	**0.80**	**305**	P	**Pb**	**18 22 45.2**	**+1.0**
	SNR=64						
EURB	**Uiryeong-eup**	**0.80**	**236**	P	**Pb**	**18 22 45.0**	**+0.7**
	SNR=55						
YEYB	**Yeongyang**	**0.84**	**359**	P	**Pg**	**18 22 45.0**	**+0.5**
	SNR=152						
ADOA	**Andong Acc Bor**	**0.86**	**338**	P	**Pb**	**18 22 45.7**	**+0.5**
	SNR=56						
KSGIC	**Gimchen**	**0.86**	**291**	P	**Pb**	**18 22 46.4**	**+1.0**
	SNR=363						
HACA	**Hapcheon Acc B**	**0.89**	**246**	P	**Pb**	**18 22 46.5**	**+0.7**
	SNR=53						
KSULJ	**Ulijin**	**0.95**	**15**	P	**Pg**	**18 22 46.7**	**+0.1**
	SNR=543						
KUJA	**Jangpyeong**	**0.98**	**205**	P	**Pg**	**18 22 47.5**	**+0.5**
	SNR=14						
KSSAJ	**Sangju**	**0.99**	**310**	P	**Pn**	**18 22 48.5**	**+0.3**
	SNR=121						
KSYCH	**Yecheon**	**1.01**	**327**	P	**Pn**	**18 22 48.9**	**+0.4**
	SNR=5.2						
DUSB	**Deogyusan**	**1.08**	**277**	P	**Pn**	**18 22 50.3**	**+0.7**
	SNR=264						
HAMB	**Hamyang**	**1.14**	**257**	P	**Pn**	**18 22 51.0**	**+0.8**
	SNR=48						
CHYB	**Chungyang**	**1.17**	**353**	P	**Pb**	**18 22 51.0**	**+0.4**
	SNR=154						
YOJB	**Youngju**	**1.19**	**337**	P	**Pb**	**18 22 51.3**	**+0.4**
	SNR=239						
OKCB	**Cheongsan-myeo**	**1.20**	**299**	P	**Pg**	**18 22 52.2**	**+0.9**
	SNR=105						
KSMGY	**Mungyeong**	**1.21**	**316**	P	**Pg**	**18 22 52.1**	**+0.6**
	SNR=132						
JTU	**Tsushima**	**1.27**	**169**	P	**Pn**	**18 22 51.4**	**-0.6**
JTU				S	**Sb**	**18 23 08.1**	**-0.6**
YKDB	**Yokjido**	**1.34**	**211**	P	**Pn**	**18 22 53.5**	**+0.6**
	SNR=94						
KSTBA	**Taebaek**	**1.35**	**355**	P	**Pn**	**18 22 54.1**	**+0.9**
	SNR=172						
GWYB	**Gwangyang**	**1.42**	**235**	P	**Pg**	**18 22 55.8**	**+0.3**
	SNR=13						
KSCHJ	**Chungju**	**1.42**	**321**	P	**Pn**	**18 22 55.0**	**+0.9**
	SNR=50						
NAWB	**Namwon**	**1.43**	**256**	P	**Pg**	**18 22 56.0**	**+0.2**
	SNR=128						
JTSM	**Tsushimamitsus**	**1.46**	**171**	*e*P	**Pn**	**18 22 54.0**	**-0.5**
JTSM				S	**Sn**	**18 23 13.3**	**-0.4**
IMWB	**Imwonan-gil**	**1.47**	**8**	P	**Pn**	**18 22 56.0**	**+1.2**
	SNR=113						
KSJEO	**Jeonju**	**1.48**	**277**	P	**Pg**	**18 22 57.0**	**+0.4**
	SNR=224						
KSTEJ	**Daejeon**	**1.52**	**293**	P	**Pg**	**18 22 57.8**	**+0.4**
	SNR=39						
JECH	**Jecheon**	**1.56**	**332**	P	**Pn**	**18 22 56.6**	**+0.6**
	SNR=44						
SUCA	**Sunchang**	**1.65**	**256**	P	**Pg**	**18 22 60.0**	**+0.1**
	SNR=39						
IKSA	**Iksan Acc Bore**	**1.68**	**280**	P	**Pg**	**18 23 00.5**	**0.0**
	SNR=8.1						
EMSB	**Eumseong**	**1.69**	**315**	P	**Pn**	**18 22 59.0**	**+1.2**
	SNR=43						
YNDB	**Yeoundo**	**1.71**	**219**	P	**Pb**	**18 22 60.0**	**+0.2**
	SNR=32						
KSJEU	**Jeongeup**	**1.79**	**262**	P	**Pb**	**18 23 01.1**	**-0.1**
	SNR=78						
BURB	**Buron**	**1.81**	**323**	P	**Pn**	**18 23 00.5**	**+1.0**
	SNR=22						
KSCEA	**Cheonan**	**1.82**	**306**	P	**Pb**	**18 23 02.8**	**+1.2**
	SNR=10.0						
KSWJU	**Wonju**	**1.83**	**333**	P	**Pn**	**18 23 00.5**	**+0.8**
	SNR=46						
KSKWJ	**Gwangju**	**1.83**	**251**	P	**Pb**	**18 23 01.4**	**-0.4**
	SNR=148						
KSKWJ	**Gwangju**	**1.83**	**251**	P	**Pb**	**18 23 02.0**	**+0.3**
	SNR=21						
BOSB	**Boseong-gun**	**1.85**	**237**	P	**Pn**	**18 23 01.0**	**+1.1**
	SNR=98						
KOHB	**KOHEUNG**	**1.89**	**233**	P	**Pb**	**18 23 03.5**	**+0.7**
	SNR=22						
KSDGY	**Daegwallycong**	**1.94**	**350**	P	**Pb**	**18 23 04.0**	**+0.3**
	SNR=32						
JHGM	**Hagimishima**	**1.94**	**120**	*e*S	**Sn**	**18 23 26.7**	**+1.0**
JII	**Iki**	**2.04**	**165**	*e*P	**Pn**	**18 23 03.5**	**+0.8**
JII				S	**Sb**	**18 23 31.0**	**+0.1**
SMKB	**Mukjeong-gil**	**2.07**	**268**	P	**Pb**	**18 23 06.0**	**+0.1**
	SNR=59						
JTY	**Toyota**	**2.21**	**133**	S	**Sn**	**18 23 34.1**	**+1.8**
HAWB	**Hwaseong-si**	**2.29**	**305**	P	**Pn**	**18 23 07.4**	**+1.4**
	SNR=8.6						
KSSES	**Seosan**	**2.37**	**296**	P	**Pn**	**18 23 08.5**	**+1.4**
	SNR=14						
BGDB	**Bigeumdo**	**2.77**	**250**	P	**Pn**	**18 23 13.9**	**+1.3**
	SNR=6.3						
KSDEI	**Deokjeokdo**	**2.83**	**302**	P	**Pn**	**18 23 15.0**	**+1.6**
	SNR=7.6						
HUK2	**Heuksan-myeon**	**3.18**	**251**	P	**Pn**	**18 23 20.0**	**+1.7**
	SNR=5.9						
HJU	**Haeju**	**3.52**	**311**	Pg	**Pg**	**18 23 35.6**	**-0.1**
HJU				Sg	**Sg**	**18 24 20.0**	**-1.5**
HJU				AML	AML		
	comp=N,95nm,0.3s						
HJU				AML	AML		
	comp=E,44nm,0.5s						
HJU				AML	AML		
	comp=Z,47nm,0.4s						
PYS	**Pyongsong**	**4.32**	**324**	Sg	**Sg**	**18 24 44.0**	**-3.0**
HHU	**Hamhung**	**4.33**	**344**	Sg	**Sg**	**18 24 44.4**	**-2.7**
SUJ	**Sinuiju**	**5.65**	**321**	Sg	**Sg**	**18 25 24.3**	**-5.2**

---

*IDC **14** 18:24:18.0±4.0, 13.08N×86.89W, h0km, mb3.2/1, mbtmp3.5/2, ML3.0/1, MS3.3/1, Error ellipse: s-maj=148.6km s-min=52.4km az=36.0*
*INET **14** 18:24:19.8±0.6, 12.94N×87.21W, h4km±4km, MW4.2*
*SNET **14** 18:24:30.4±1.1, 13.29N×87.74W, h5km±4km, ML3.7, ML3.7*
ISC 14 18:24:19.9±0.8, 12.92N±0.06×87.22W±0.05, h13km, n30, σ1§89/32, 1C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.27**	**144**	*e*P	**Pb**	**18 24 26.8**	**0.0**
CRIN				*e*S	**Sb**	**18 24 31.8**	**+0.5**
CSGN	**Cosiguina Volc**	**0.34**	**279**	*e*P	**Pb**	**18 24 27.3**	**-0.6**
TEL3	**Telica 3**	**0.50**	**134**	*e*P	**Pb**	**18 24 30.3**	**-0.3**
CNGN	**Cerro Negro**	**0.66**	**130**	*e*P	**Pb**	**18 24 32.8**	**-0.4**
CNCH	**Conchagua**	**0.70**	**300**	*i*P	**Pb**	**18 24 33.5**	**-0.5**
CNCH				*e*S	**Sg**	**18 24 36.5**	**-6.3**
CNCH				IAML		18 24 52.2	
	comp=Z,16μm,0.4s						
LCND	**La Caada**	**0.76**	**300**	*i*P	**Pb**	**18 24 34.5**	**-0.5**
MOMN	**Momotombo**	**0.83**	**128**	*e*P	**Pb**	**18 24 35.9**	**-0.4**
COPN	**Copaltepe**	**0.96**	**140**	*e*P	**Pb**	**18 24 37.4**	**-1.0**
APYN	**Apoyeque**	**1.09**	**129**	*e*P	**Pb**	**18 24 38.5**	**-2.1**
TGUH	**Tegucigalpa,Un**	**1.13**	**357**	*e*P	**Pb**	**18 24 41.0**	**-0.4**
VSM	**San Miguel**	**1.15**	**296**	*e*P	**Pg**	**18 24 41.6**	**-0.5**
HUEN		**1.17**	**120**	*e*P	**Pn**	**18 24 41.6**	**-0.4**
TISN	**Laguna Tiscapa**	**1.21**	**130**	*e*P	**Pb**	**18 24 42.5**	**-0.2**
PACA	**Pacayal**	**1.21**	**297**	*i*P	**Pg**	**18 24 42.3**	**-0.9**
PACA	**Pacayal**	**1.21**	**297**	*e*P	**Pb**	**18 24 42.2**	**-0.6**
MATN	**Matagalpa**	**1.26**	**90**	*e*P	**Pn**	**18 24 42.7**	**-0.6**
MASN	**Masaya**	**1.40**	**132**	*e*P	**Pn**	**18 24 45.0**	**-0.2**
BOAB	**BOACO BROADBAN**	**1.58**	**107**	*e*P	**Pn**	**18 24 46.9**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.66**	**298**	*e*P	**Pb**	**18 24 50.2**	**-0.3**
COEG	**Centro de Oper**	**1.76**	**293**	*i*P	**Pb**	**18 24 51.6**	**-0.6**
PAVA	**Las Pavas**	**1.85**	**295**	*i*P	**Pb**	**18 24 53.6**	**-0.1**
PAVA				IAML		18 24 59.3	
	comp=Z,1μm,0.6s						
SJTE	**Alcalda de S**	**1.88**	**292**	*e*P	**Pb**	**18 24 53.8**	**-0.3**
LFRS	**El Faro**	**1.93**	**291**	*e*P	**Pb**	**18 24 54.2**	**-0.8**
CEVE	**Cerro Verde**	**2.51**	**291**	*e*P	**Pb**	**18 25 04.2**	**-0.8**
CEVE				IAML		18 25 46.5	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**2.51**	**292**	*e*P	**Pb**	**18 25 03.3**	**-1.8**
CMIG	**Matias Romero**	**8.49**	**300**	Pn	**Pn**	**18 26 26.0**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=97,slow=8.1,SNR=3.9						
CMIG				Sn	**Sn**	**18 28 04.3**	**+6.0**
	baz=91,slow=10						
	comp=Z,3.3nm,0.8s						
TXAR	**Lajitas Array**	**22.36**	**319**	P	**P**	**18 29 18.7**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=151,slow=11,SNR=3.3						
	comp=Z,0.9nm,0.9s						
PDAR	**Pinedale Array**	**35.47**	**331**	LR	LR	18 49 08.3	
	comp=Z,44nm,18.3s,baz=222,slow=42						
WRA	**Warramunga Arr**	**139.62**	**254**	PKP	**PKiKP**	**18 43 49.2**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=90,slow=2.7,SNR=5.3						
ASAR	**Alice Springs**	**139.65**	**249**	PKP	**PKPdf**	**18 43 48.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=97,slow=3.1,SNR=1.9						

---

*IDC **14** 18:26:41.5±11.0, 29.86S×179.85W, h376km±106km, mb2.9/3, mbtmp3.7/3, Error ellipse: s-maj=137.4km s-min=39.3km az=14.0*
ISC 14 18:26:49.9±0.9, 30.38S±0.09×179.3E±0.1, h400km, n32, σ1§88/39, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.67**	**66**	P	**Pn**	**18 27 48.7**	**-1.8**
GLKZ				S	**S**	**18 28 42.8**	**+3.4**
GRZ	**Great Barrier**	**6.68**	**208**	P	**P**	**18 28 33.3**	**+3.0**
KUZ	**Kuaotunu**	**7.01**	**204**	P	**P**	**18 28 38.1**	**+3.9**
MXZ	**Matakaoa Point**	**7.21**	**186**	P	**Pn**	**18 28 35.3**	**-0.4**
MXZ				S	**S**	**18 30 03.6**	**+1.2**
WMGZ	**Waiomatatini S**	**7.46**	**185**	P	**Pn**	**18 28 39.4**	**+0.8**
HAZ	**Te Kaha**	**7.47**	**189**	P	**P**	**18 28 39.8**	**+0.6**
RUGZ	**Raukumara Rang**	**7.69**	**190**	P	**Pn**	**18 28 41.1**	**-0.2**
OPRZ	**Ohinepanea**	**7.79**	**196**	P	**P**	**18 28 45.3**	**+2.6**
TWGZ	**Tauwhareparae**	**7.86**	**188**	P	**Pn**	**18 28 43.6**	**+0.5**
URZ	**Urewera**	**8.07**	**192**	P	**Pn**	**18 28 44.6**	**-0.8**
	38nm,0.3s,baz=7.9,slow=3.7,SNR=30						
URZ	**Urewera**	**8.07**	**192**	P	**Pn**	**18 28 44.8**	**-0.6**
MWZ	**Matawai**	**8.07**	**190**	P	**Pn**	**18 28 45.5**	**0.0**
OMRZ	**Omania**	**8.08**	**197**	P	**P**	**18 28 49.6**	**+3.6**
TKGZ	**Te Karaka**	**8.13**	**188**	P	**Pn**	**18 28 46.3**	**+0.2**
CNGZ	**Carnagh Statio**	**8.14**	**186**	P	**P**	**18 28 47.0**	**+0.4**
TARZ	**Mount Tarawera**	**8.17**	**196**	P	**P**	**18 28 49.7**	**+2.7**
HLRZ	**Highlands Stat**	**8.22**	**196**	P	**P**	**18 28 50.4**	**+2.8**
RAGZ	**Rawiri**	**8.25**	**190**	P	**P**	**18 28 48.3**	**+0.4**
MUGZ	**Murupara**	**8.34**	**194**	P	**Pn**	**18 28 48.6**	**0.0**
RIGZ	**Rimuhau**	**8.40**	**188**	P	**Pn**	**18 28 49.9**	**+0.5**
RIGZ				S	**S**	**18 30 25.4**	**-1.9**
SNGZ	**Shannon Statio**	**8.54**	**190**	P	**P**	**18 28 52.5**	**+1.4**
SNGZ				S	**S**	**18 30 31.9**	**+1.8**
PRGZ	**Paritu Road**	**8.60**	**187**	P	**P**	**18 28 53.0**	**+1.1**
PRGZ				S	**S**	**18 30 30.9**	**-0.7**
MTHZ	**Maungataniwha**	**8.69**	**193**	P	**Pn**	**18 28 52.5**	**-0.1**
MTHZ				S	**S**	**18 30 30.0**	**-3.5**
RAHZ	**Arahi**	**8.71**	**191**	P	**Pn**	**18 28 53.2**	**+0.4**
MRHZ	**Matea Rd**	**8.76**	**195**	P	**Pn**	**18 28 52.9**	**-0.6**
NMHZ	**Naumai**	**8.94**	**193**	P	**Pn**	**18 28 54.2**	**-1.3**
NMHZ				S	**S**	**18 30 37.1**	**-1.6**
ETVZ	**East Tongariro**	**9.22**	**198**	P	**P**	**18 28 58.8**	**+0.1**
STKA	**Stephens Creek**	**32.20**	**257**	P	**P**	**18 32 43.6**	**+0.9**
	1.4nm,0.6s,baz=121,slow=12,SNR=4.4						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**40.77**	**268**	P	**P**	**18 33 53.6**	**-0.7**
	0.5nm,1.0s,baz=102,slow=7.6,SNR=8.5						
ASAR				PcP	**PcP**	**18 35 42.2**	**-4.4**
	0.2nm,0.8s,baz=118,slow=4.0,SNR=1.6						
	0.5nm,1.0s						
WRA	**Warramunga Arr**	**41.76**	**274**	P	**P**	**18 34 01.6**	**-0.6**
	0.4nm,0.4s,baz=112,slow=7.8,SNR=8.0						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**144.29**	**338**	PKP	PKPbc	18 45 32.0	-5.5
	0.9nm,0.8s,baz=25,slow=3.7,SNR=3.9						
BRTR	**Keskin Array B**	**150.52**	**298**	PKPbc	**PKPdf**	**18 45 50.5**	**+1.1**
	0.4nm,0.7s,baz=75,slow=1.6,SNR=3.2						

---

*NEIC **14** 18:26:49.6±1.6, 29.1S±0.2×61.34E±0.08, h10km±1km, mb4.4/7, Error ellipse: s-maj=38.4km s-min=9.8km az=188.0*
*IDC **14** 18:26:51.6±1.4, 29.35S×60.90E, h0km, mb3.8/7, mbtmp3.9/8, ML4.2/1, MS3.3/1, Error ellipse: s-maj=58.0km s-min=22.3km az=28.0*
ISC 14 18:26:51.0±1.0, 29.5S±0.2×60.9E±0.1, h10km, n27, σ2§52/18, mb4.1/12, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**13.14**	**287**	Pn	**Pn**	**18 29 57.6**	**-0.1**
VOI	**Vohitsoka**	**14.74**	**297**	Pn	**Pn**	**18 30 21.4**	**+1.6**
ABPO	**Ambohimpanom**	**16.20**	**307**		**Pn**	**18 30 40.2**	**+1.3**
OPO	**Ambohidratompo**	**16.53**	**308**	Pn	**P**	**18 30 44.7**	**-1.1**
	0.1nm,0.3s,baz=124,slow=16,SNR=6.1						
OPO				Sn	Sn	18 33 31.4	-15
	0.1nm,0.3s,baz=120,slow=16,SNR=6.0						
	1.8nm,0.4s						
H08S1	**Diego Garcia H**	**24.28**	**29**	T	T	18 57 12.5	
	baz=203						
H08S2	**Diego Garcia H**	**24.29**	**29**	T	T	18 57 21.1	
	baz=203						
H08S3	**Diego Garcia H**	**24.30**	**29**	T	T	18 57 15.0	
	baz=203						
POGA	**Pongola**	**25.72**	**268**	P	**P**	**18 32 23.9**	**+2.2**
POGA				IAmb	IAmb	18 33 07.0	
	comp=Z,14nm,1.1s						
SOE	**Somerset East**	**30.34**	**255**	P	**P**	**18 33 01.3**	**-1.7**
H01W2	**Cape Leeuwin H**	**44.97**	**111**	T	T	19 22 47.8	
	baz=261,slow=75,SNR=5.2						
H01W3	**Cape Leeuwin H**	**44.97**	**111**	T	T	19 22 49.2	
	baz=261,slow=75,SNR=5.4						
H01W1	**Cape Leeuwin H**	**44.99**	**111**	T	T	19 22 48.4	
	baz=261,slow=75,SNR=6.2						
FITZ	**Fitzroy Crossi**	**59.69**	**95**	LR	LR	18 58 23.7	
	comp=Z,26nm,18.4s,baz=192,slow=32						
CMAR	**Chiang Mai Arr**	**60.14**	**42**	P	**P**	**18 37 01.6**	**+2.6**
	comp=Z,0.7nm,0.6s,baz=230,slow=7.0,SNR=2.5						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**64.61**	**104**	P	**P**	**18 37 31.4**	**+2.3**
	comp=Z,1.3nm,0.8s,baz=242,slow=6.5,SNR=28						
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**64.61**	**104**	P	P	18 37 23.8	-5.3
AS31	**Alice Springs**	**64.62**	**104**	P	P	18 37 24.8	-4.3
AS31				IAmb	IAmb	18 37 40.0	
	comp=Z,0.8nm,0.9s						
WRA	**Warramunga Arr**	**66.46**	**100**	P	**P**	**18 37 43.2**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=246,slow=5.6,SNR=9.6						
	comp=Z,1.0nm,0.8s						
WB0	**Warramunga Arr**	**66.58**	**100**	P	**P**	**18 37 38.1**	**-3.7**
WB0				IAmb	IAmb	18 38 05.0	
	comp=Z,9.3nm,1.4s						
TOA0	**Torodi Ar. Sit**	**71.05**	**298**	P	**P**	**18 38 08.3**	**-1.3**
TOA0				IAmb	IAmb	18 38 18.2	
	comp=Z,4.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**71.05**	**298**	P	**P**	**18 38 12.2**	**+2.5**
	comp=Z,1.4nm,0.8s,baz=117,slow=6.6,SNR=6.8						
	comp=Z,1.4nm,0.8s						
KKAR	**Karatay Array**	**72.74**	**7**	P	**P**	**18 38 15.3**	**-3.8**
AAK	**Ala-Archa**	**72.82**	**10**	P	**P**	**18 38 16.3**	**-3.5**
AAK				IAmb	IAmb	18 38 22.5	
	comp=Z,1.7nm,0.7s						
BRTR	**Keskin Array B**	**73.34**	**338**	P	**P**	**18 38 24.6**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=148,slow=8.5,SNR=4.0						
	comp=Z,0.5nm,0.9s						
MKAR	**Makanchi Array**	**78.32**	**15**	P	**P**	**18 38 52.4**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=206,slow=4.5,SNR=4.8						
	comp=Z,0.5nm,0.8s						
ABKAR	**Akbulak array**	**78.36**	**359**	P	**P**	**18 38 47.9**	**-3.2**
AKASG	**Malin Array Be**	**84.57**	**340**	P	**P**	**18 39 25.3**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=170,slow=4.7,SNR=2.5						
	comp=Z,0.5nm,0.4s						

---

*IDC **14** 18:42:01.6±0.7,22.83S×13.12W, h0km, mb4.0/16, mbtmp4.0/16, MS3.7/28, Error ellipse: s-maj=21.4km s-min=15.9km az=120.0*

---

*NEIC **14** 18:42:03.1±2.3,22.9S±0.1×13.1W±0.1, h10km±1km, mb4.6/8, Error ellipse: s-maj=27.7km s-min=9.9km az=306.0*
ISC 14 18:42:03.3±0.5, 22.8S±0.1×13.1W±0.1, h10km, n56, σ1§30/31, mb4.1/20, MS3.7/28, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**13.84**	**354**	T	T	18 59 22.3	
	baz=173,slow=74						
H10S3	**ASCENSION HYDR**	**13.85**	**354**	T	T	18 59 25.4	
	baz=47,slow=74						
H10N1	**ASCENSION HYDR**	**14.93**	**355**	T	T	19 00 53.6	
	baz=178,slow=76						
H10N3	**ASCENSION HYDR**	**14.94**	**355**	T	T	19 00 55.3	
	baz=178,slow=76						
H10N2	**ASCENSION HYDR**	**14.95**	**355**	T	T	19 00 55.0	
	baz=178,slow=76						
RCBR	**Riachuelo**	**27.72**	**304**	LR	LR	18 55 49.2	
	comp=Z,183nm,21.9s,baz=311,slow=30						
TSUM	**Tsumeb**	**28.85**	**89**	LR	LR	18 57 15.9	
	comp=Z,94nm,21.8s,baz=252,slow=32						
DBIC	**Dimbokro**	**30.39**	**16**	P	**P**	**18 48 15.4**	**-0.2**
	2.1nm,0.6s,baz=186,slow=8.1,SNR=4.0						
DBIC				LR	LR	18 57 27.1	
	comp=Z,116nm,20.5s,baz=198,slow=30						
	2.1nm,0.6s						
DBIC	**Dimbokro**	**30.39**	**16**	P	**P**	**18 48 14.5**	**-1.2**
SUR	**Sutherland**	**31.43**	**115**	LR	LR	18 59 15.8	
	comp=Z,83nm,18.9s,baz=237,slow=33						
BDFB	**Brasilia**	**33.66**	**276**	P	**P**	**18 48 43.6**	**-1.0**
	1.8nm,0.4s,baz=127,slow=17,SNR=2.3						
BDFB				LR	LR	18 59 32.4	
	comp=Z,215nm,21.8s,baz=275,slow=31						
	1.8nm,0.4s						
BOSA	**Boshof**	**34.95**	**108**	P	**P**	**18 48 55.2**	**-0.5**
	6.6nm,0.7s,baz=281,slow=9.6,SNR=15						
BOSA				LR	LR	19 00 41.7	
	comp=Z,98nm,20.2s,baz=260,slow=32						
	6.6nm,0.7s						
BOSA	**Boshof**	**34.95**	**108**	P	**P**	**18 48 55.2**	**-0.5**
BOSA				IAmb	IAmb	18 48 56.1	
	comp=Z,8.5nm,0.8s						
LBTB	**Lobatse**	**35.38**	**101**	LR	LR	19 01 49.5	
	comp=Z,64nm,18.2s,baz=228,slow=34						
LBTB	**Lobatse**	**35.38**	**101**	P	**P**	**18 48 57.6**	**-1.9**
LBTB				IAmb	IAmb	18 49 15.7	
	comp=Z,14nm,1.4s						
KOWA	**Kowa**	**38.12**	**14**	P	**P**	**18 49 22.5**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=204,slow=9.0,SNR=7.0						
KOWA				LR	LR	19 02 15.7	
	comp=Z,122nm,19.4s,baz=215,slow=32						
	comp=Z,3.7nm,0.8s						
KOWA	**Kowa**	**38.12**	**14**	P	**P**	**18 49 22.6**	**-0.1**
KOWA				IAmb	IAmb	18 49 35.9	
	comp=Z,11nm,1.4s						
TOA0	**Torodi Ar. Sit**	**38.56**	**24**	P	**P**	**18 49 26.4**	**0.0**
TORD	**Torodi Ar. Bea**	**38.56**	**24**	P	**P**	**18 49 26.2**	**-0.2**
	comp=Z,4.7nm,0.5s,baz=202,slow=8.9,SNR=72						
TORD				LR	LR	19 03 02.5	
	comp=Z,136nm,18.9s,baz=209,slow=33						
	comp=Z,4.7nm,0.5s						
LSZ	**Lusaka**	**39.65**	**87**	LR	LR	19 04 53.3	
	comp=Z,107nm,18.3s,baz=202,slow=35						
CPUP	**Villa Florida**	**40.23**	**256**	P	**P**	**18 49 40.1**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=110,slow=5.2,SNR=2.8						
	comp=Z,1.4nm,0.5s						
SIV	**San Ignacio**	**45.59**	**270**	P	**P**	**18 50 23.4**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=164,slow=7.4,SNR=4.7						
SIV				LR	LR	19 07 22.1	
	comp=Z,57nm,20.3s,baz=98,slow=33						
	comp=Z,1.0nm,0.6s						
MDP	**Montagnes des**	**47.55**	**301**	LR	LR	19 08 02.2	
	comp=Z,70nm,19.9s,baz=131,slow=33						
VNA1	**Neumayer--Stat**	**47.95**	**178**	P	**P**	**18 50 44.4**	**+2.8**
MBAR	**Mbarara**	**47.98**	**69**	LR	LR	19 07 42.7	
	comp=Z,75nm,20.0s,baz=152,slow=32						
VNA2	**Neumayer--Watz**	**48.26**	**177**	P	**P**	**18 50 45.4**	**+1.4**
	baz=349,slow=9.0						
VNA3	**Neumayer Olymp**	**48.50**	**179**	P	**P**	**18 50 49.3**	**+3.4**
SNAA	**Sanae**	**49.24**	**176**	P	**P**	**18 50 52.0**	**+0.3**
SNAA	**Sanae**	**49.24**	**176**	P	**P**	**18 50 50.6**	**-1.1**
	comp=Z,1.1nm,1.0s,baz=333,slow=11,SNR=9.6						
	comp=Z,1.1nm,1.0s						
SNAA	**Sanae**	**49.24**	**176**	P	**P**	**18 50 50.8**	**-0.9**
TROLL	**Troll, Antarti**	**50.03**	**174**	P	**P**	**18 50 58.6**	**+0.8**
PLCA	**Paso Flores**	**51.11**	**235**	P	**P**	**18 51 07.0**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=61,slow=10,SNR=3.2						
PLCA				LR	LR	19 09 35.4	
	comp=Z,81nm,20.1s,baz=182,slow=32						
	comp=Z,1.3nm,0.9s						
LVC	**Limon Verde**	**51.20**	**259**	LR	LR	19 11 45.8	
	comp=Z,34nm,18.8s,baz=248,slow=35						
PMSA	**Palmer Station**	**53.32**	**205**	LR	LR	19 09 19.8	
	comp=Z,82nm,18.3s,baz=210,slow

GCMT	**Greycliff**	**2.18**	**266**	Pn	**Pn**	**19 05 16.2**	**-0.1**
GCMT				Sn	**Sn**	**19 05 43.3**	**-0.8**
RSSD	**Black Hills**	**2.58**	**135**	Pn	**Pb**	**19 05 24.7**	**-1.1**
RSSD				Sn	**Sg**	**19 06 00.0**	**-1.5**
RSSD				IAML		19 06 01.3	
	60nm,0.6s						
RSSD				IAML		19 06 02.3	
	90nm,0.6s						
YMP	**Mirror Lake Pl**	**2.83**	**245**	Pn	**Pn**	**19 05 25.5**	**+0.2**
DGMT	**Dagmar**	**2.96**	**32**		**Pn**	**19 05 25.7**	**-1.1**
EGMT	**Eagleton**	**2.99**	**314**		**Pn**	**19 05 24.6**	**-2.8**
LKWY	**Lake**	**3.06**	**244**	Pn	**Pn**	**19 05 29.6**	**+1.1**
LKWY				IAML		19 06 15.4	
	64nm,0.6s						
YUF	**Upper Falls**	**3.07**	**247**	Pn	**Pn**	**19 05 27.6**	**-0.9**
YUF				IAML		19 06 21.2	
	comp=E,46nm,2.0s						
YNR	**Norris Junctio**	**3.17**	**248**	Pn	**Pn**	**19 05 26.1**	**-3.9**
YNR				IAML		19 06 14.1	
	comp=E,56nm,0.5s						
YNR				IAML		19 06 19.5	
	comp=N,59nm,0.5s						
YHH	**Holmes Hill**	**3.26**	**250**		**Pn**	**19 05 31.0**	**-0.2**
YHH				IAML		19 06 17.1	
	comp=N,36nm,0.6s						
YHH				IAML		19 06 26.8	
	comp=E,37nm,1.4s						
H17A	**Grant Village**	**3.26**	**242**	Pn	**Pn**	**19 05 30.6**	**-0.6**
H17A				IAML		19 06 37.7	
	comp=N,34nm,1.1s						
K22A	**Casper**	**3.34**	**180**	Pn	**Pn**	**19 05 33.5**	**+1.3**
K22A				IAML		19 06 30.2	
	comp=N,43nm,0.5s						
K22A				IAML		19 07 40.5	
	comp=E,49nm,2.7s						
YFT	**Old Faithful**	**3.39**	**245**	Pn	**Pn**	**19 05 32.4**	**-0.6**
YFT				IAML		19 06 50.6	
	comp=N,29nm,3.5s						
YHL	**Hebgen Lake**	**3.45**	**252**	Pn	**Pn**	**19 05 36.5**	**+2.7**
YHL				IAML		19 06 42.1	
	comp=N,49nm,1.3s						
YPP	**Pitchstone Pla**	**3.46**	**242**	Pn	**Pn**	**19 05 35.6**	**+1.6**
QLMT	**Earthquake Lak**	**3.62**	**253**	Pn	**Pn**	**19 05 37.3**	**+1.1**
HRY	**Holter Researc**	**3.73**	**283**		**Pn**	**19 05 38.2**	**+0.7**
MOOW	**Moose Ponds**	**3.73**	**235**	Pn	**Pn**	**19 05 37.5**	**-0.1**
LOHW	**Long Hollow**	**3.73**	**232**	Pn	**Pn**	**19 05 37.6**	**-0.1**
LOHW				IAML		19 06 37.6	
	comp=N,25nm,2.1s						
LOHW				IAML		19 07 41.1	
	comp=N,22nm,3.7s						
IMW	**Indian Meadow**	**3.75**	**238**		**Pn**	**19 05 37.7**	**-0.3**
IMW				IAML		19 06 51.7	
	comp=N,28nm,1.0s						
BW06	**Boulder Array**	**3.87**	**215**	Pn	**Pn**	**19 05 39.4**	**-0.2**
BW06				IAML		19 06 39.8	
	comp=N,32nm,0.6s						
BW06				IAML		19 06 40.1	
	comp=N,24nm,0.5s						
PD31	**Pinedale Array**	**3.87**	**215**	Pn	**Pn**	**19 05 39.5**	**-0.1**
PDAR	**Pinedale Array**	**3.87**	**215**	Pn	**Pn**	**19 05 41.3**	**+1.7**
	comp=N,0.9nm,0.4s,baz=47,slow=13,SNR=1.0						
PDAR				Pg	**Pb**	**19 05 47.6**	**-0.3**
	comp=N,3.0nm,0.3s,baz=43,slow=18,SNR=6.2						
PDAR				Lg	Lg	19 06 35.2	
	comp=N,2.7nm,0.3s,baz=45,slow=32,SNR=4.4						
PDAR	**Pinedale Array**	**3.87**	**215**		**Pn**	**19 05 37.8**	**-1.8**
LRM	**Limekiln Ridge**	**4.12**	**270**		**Pn**	**19 05 44.7**	**+1.7**
MCMT	**McKenzie Canyo**	**4.58**	**258**		**Pn**	**19 05 51.1**	**+1.7**
BCYI	**Bear Canyon**	**5.13**	**253**	Pn	**Pn**	**19 05 57.2**	**+0.4**
MSO	**Missoula**	**5.18**	**282**	Pn	**Pn**	**19 05 57.9**	**+0.5**
I56US	**NEWPORT INFRAS**	**7.56**	**291**	*i*		19 50 30.0	
	baz=103,slow=316,SNR=1.8						
ULM	**Lac du Bonnet**	**8.32**	**55**	Pn	**Pn**	**19 06 44.1**	**+3.7**
	comp=N,0.3nm,0.3s,baz=248,slow=10,SNR=1.8						
ULM				Lg	Lg	19 09 04.2	
	comp=N,0.5nm,0.3s,baz=332,slow=21,SNR=3.1						
	comp=N,3.6nm,0.7s						

*IDC **14** 19:23:55.2±2.0,9.05S×119.52E,h83$^{km}_{\pm}$18^{km},mb4.3/24, mbtmp4.7/26,MS3.2/16,Error ellipse: s-maj=16.7km s-min=11.2km az=53.0*

*DJA **14** 19:23:55.7±0.1,9.3S±2.2×11.9E±.1,h94$^{km}_{\pm}$2^{km},M4.8/51, mB5.3/19,mb5.0/51,MLv5.0/21,Mw(mB)4.7/19*

*NEIC **14** 19:23:56.3±2.3,9.30S±0.08×119.46E±0.05,h103$^{km}_{\pm}$5^{km}, mb4.6/71,Error ellipse: s-maj=11.9km s-min=7.1km az=190.0*

ISC 14 19:23:55.9±0.3,9.30S±0.04×119.50E±0.04,h100^{km},n247, σ1^{s}81/247,mb4.7/55,Suma region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.36**	**198**	P	**Pn**	**19 24 10.2**	**-0.7**
WBSI				S	**Sn**	**19 24 20.6**	**-1.5**
BASI	**Baing, Sumba**	**1.40**	**131**	P	**Pn**	**19 24 21.5**	**+0.5**
PLAI	**Plampang**	**1.77**	**285**	P	**Pn**	**19 24 26.7**	**+1.2**
PLAI	**Plampang**	**1.77**	**285**	P	**Pn**	**19 24 27.0**	**+1.5**
EDFI	**Ende, Flores**	**2.23**	**76**	P	**Pn**	**19 24 31.3**	**-0.3**
TWSI	**Taliwang, Sumb**	**2.65**	**282**	P	**Pn**	**19 24 38.5**	**+1.5**
MMRI	**Maumere**	**2.78**	**77**	Pn	**Pn**	**19 24 39.6**	**+0.8**
MMRI	**Maumere**	**2.78**	**77**	P	**Pn**	**19 24 39.6**	**+0.8**
MMRI	**Maumere**	**2.78**	**77**	P	**Pn**	**19 24 39.9**	**+1.1**
BSSI	**Bau Bau, Buton**	**3.29**	**17**	P	**Pn**	**19 24 45.4**	**-0.2**
BKSI	**Bulukumba**	**4.00**	**9**	P	**Pn**	**19 24 55.7**	**+0.5**
BATI	**Baumata**	**4.20**	**103**	P	**Pn**	**19 24 58.7**	**+0.9**
	3μm,0.5s,baz=302,slow=1.9,SNR=1432						
BATI				S	**Sn**	**19 25 44.1**	**-1.9**
	914nm,0.3s,baz=226,slow=17,SNR=3.2						
BATI				LR	LR	19 27 27.9	
	comp=Z,53nm,20.1s,baz=336,slow=50						
BATI	**Baumata**	**4.20**	**103**	P	**Pn**	**19 24 58.8**	**+0.9**
KAPI	**Kappang**	**4.26**	**3**	P	**Pn**	**19 24 59.4**	**+0.7**
	190nm,0.4s,baz=163,slow=5.1,SNR=282						
KAPI				S	**Sn**	**19 25 44.8**	**-2.6**
	382nm,0.5s,baz=29,slow=22,SNR=14						
KAPI	**Kappang**	**4.26**	**3**	P	**Pn**	**19 24 59.6**	**+0.9**
DNP	**Denpasar**	**4.28**	**278**	P	**Pn**	**19 25 00.3**	**+1.3**
IGBI	**Denpasar**	**4.33**	**276**	P	**Pn**	**19 24 59.6**	**0.0**
SRBI	**Singaraja**	**4.41**	**286**	P	**Pn**	**19 25 00.9**	**+0.2**
BBSI	**Bau Bau**	**4.86**	**39**	P	**Pn**	**19 25 07.2**	**+0.4**
SPSI	**Sidrap Palu**	**5.31**	**3**	P	**Pn**	**19 25 13.9**	**+1.0**
	0.6nm2μm152nm,0.7s						
JAGI	**Jajag, Banyuwa**	**5.35**	**278**	Pn	**Pn**	**19 25 12.3**	**-1.1**
JAGI	**Jajag, Banyuwa**	**5.35**	**278**	P	**Pn**	**19 25 12.3**	**-1.1**
	2.6nm15μm608nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.35**	**278**	P	**Pn**	**19 25 12.5**	**-0.9**
ABJI	**Asem Bagus**	**5.42**	**286**	P	**Pn**	**19 25 15.6**	**+1.2**
	0.8nm3μm238nm,0.7s						
KMMI	**Kalianget**	**5.92**	**292**	P	**Pn**	**19 25 22.6**	**+1.5**
	0.4nm70nm,0.5s						
BLJI	**Banyuglugur**	**6.04**	**284**	P	**Pn**	**19 25 23.5**	**+0.7**
GMJI	**Gumukmas**	**6.07**	**279**	P	**Pn**	**19 25 22.0**	**-1.3**
TTSI	**Tana Toraja**	**6.22**	**3**	P	**Pn**	**19 25 28.0**	**+2.7**
	0.5nm2μm141nm,1.0s						
BBKI	**Banjar Baru**	**7.42**	**321**	P	**Pn**	**19 25 43.6**	**+2.0**
	0.4nm121nm,0.8s						
PWJI	**Pagerwojo**	**7.71**	**279**	P	**Pn**	**19 25 45.0**	**-0.6**
PCJI	**Pacitan**	**8.30**	**277**	P	**Pn**	**19 25 52.2**	**-1.4**
	184nm,0.7s						
APSI	**Ampana**	**8.60**	**15**	P	**Pn**	**19 25 58.9**	**+1.2**
	519nm41nm,0.9s						
LUWI	**Luwuk**	**8.82**	**22**	Pn	**Pn**	**19 26 02.1**	**+1.4**
LUWI	**Luwuk**	**8.82**	**22**	P	**Pn**	**19 26 02.5**	**+1.7**
	998nm118nm,1.2s						
LUWI	**Luwuk**	**8.82**	**22**	P	**Pn**	**19 26 02.4**	**+1.7**
UGM	**Wanagama**	**8.98**	**278**	Pn	**Pn**	**19 26 02.4**	**-0.6**
UGM	**Wanagama**	**8.98**	**278**	P	**Pn**	**19 26 00.9**	**-2.0**
	282nm,2.0s						
UGM	**Wanagama**	**8.98**	**278**	P	**Pn**	**19 26 01.3**	**-1.6**
SMRI	**Semarang**	**9.24**	**283**	Pn	**Pn**	**19 26 07.3**	**+0.8**
SMRI	**Semarang**	**9.24**	**283**	P	**Pn**	**19 26 08.4**	**+2.0**
	102nm,0.6s						
MTKI	**Muara Teweh, K**	**9.48**	**331**	P	**Pn**	**19 26 12.8**	**+3.1**
	22nm,0.5s						
MPSI	**Mapaga**	**9.58**	**2**	P	**Pn**	**19 26 13.6**	**+2.6**
	7.0nm,1.0s						
NLAI	**Namlea**	**9.66**	**52**	P	**Pn**	**19 26 16.2**	**+4.2**
	4μm29nm,0.6s						
SANI	**Sanana**	**9.67**	**42**	P	**Pn**	**19 26 13.7**	**+1.5**
	14nm,0.8s						
SANI	**Sanana**	**9.67**	**42**	P	**Pn**	**19 26 13.8**	**+1.5**
MRSI	**Marisa**	**10.01**	**14**	P	**Pn**	**19 26 18.2**	**+1.3**
GTOI	**Gorontalo**	**10.47**	**20**	P	**Pn**	**19 26 22.4**	**-0.7**
	12nm,0.7s						

FITZ	**Fitzroy Crossi**	**10.59**	**146**	P	**Pn**	**19 26 22.9**	**-1.7**
	35nm,0.6s,baz=338,slow=7.8,SNR=166						
FITZ				S	**Sn**	**19 28 13.6**	**-7.6**
	66nm,0.5s,baz=193,slow=22,SNR=15						
FITZ				LR	LR	19 31 21.9	
	comp=Z,126nm,20.8s,baz=312,slow=41						
FITZ	**Fitzroy Crossi**	**10.59**	**146**	Pn	**Pn**	**19 26 22.9**	**-1.7**
FITZ				Sn	Sn	19 28 11.1	-10
FITZ	**Fitzroy Crossi**	**10.59**	**146**	P	**Pn**	**19 26 22.9**	**-1.7**
KMSI	**Cibinong**	**10.78**	**25**	P	**Pn**	**19 26 30.1**	**+2.8**
	37nm,0.6s						
KNRA	**Kununurra**	**11.04**	**126**	Pn	**Pn**	**19 26 28.9**	**-2.0**
KNRA	**Kununurra**	**11.04**	**126**	P	**Pn**	**19 26 29.2**	**-1.7**
LBMI	**Labuha**	**11.72**	**43**	P	Pn	19 26 51.2	+11
SAUI	**Saumlaki**	**11.74**	**85**	Pn	**Pn**	**19 26 38.4**	**-1.9**
SAUI	**Saumlaki**	**11.74**	**85**	P	**Pn**	**19 26 38.5**	**-1.7**
	258nm,0.7s						
SAUI	**Saumlaki**	**11.74**	**85**	P	**Pn**	**19 26 39.0**	**-1.2**
MBWA	**Marble Bar**	**11.79**	**179**	Pn	**Pn**	**19 26 39.3**	**-1.7**
MBWA	**Marble Bar**	**11.79**	**179**	P	**Pn**	**19 26 39.1**	**-1.8**
MTN	**Manton Dam**	**11.95**	**108**	Pn	**Pn**	**19 26 40.5**	**-2.5**
MTN	**Manton Dam**	**11.95**	**108**	P	**Pn**	**19 26 40.6**	**-2.4**
LEM	**Lembang**	**12.02**	**281**	P	**Pn**	**19 26 43.7**	**-0.4**
	53nm,0.6s,baz=100,slow=17,SNR=7.7						
LEM				LR	LR	19 32 16.9	
	comp=Z,60nm,18.4s,baz=101,slow=42						
PSA00	**Pilbara Seismi**	**12.21**	**178**		**Pn**	**19 26 44.8**	**-1.7**
PSA00	**Pilbara Seismi**	**12.21**	**178**	Pn	**Pn**	**19 26 43.7**	**-2.8**
PSA00	**Pilbara Seismi**	**12.21**	**178**	P	**Pn**	**19 26 44.8**	**-1.7**
CNJI	**Cibinong**	**12.40**	**278**	P	**Pn**	**19 26 44.7**	**-4.3**
	165nm,0.8s						
TNTI	**Ternate**	**12.71**	**38**	Pn	**Pn**	**19 26 53.1**	**+0.1**
TNTI	**Ternate**	**12.71**	**38**	P	**Pn**	**19 26 56.9**	**+3.8**
	19nm,0.8s						
CBJI	**Citeko**	**12.85**	**282**	P	**Pn**	**19 26 51.4**	**-3.6**
	3μm236nm,0.7s						
DBJI	**Dramaga**	**12.92**	**281**	P	**Pn**	**19 26 55.8**	**-0.1**
	155nm,1.0s						
SKJI	**Sukabumi**	**13.02**	**279**	P	**Pn**	**19 26 56.6**	**-0.6**
	2μm132nm,0.5s						
KDU	**Kakadu**	**13.17**	**106**	P	**Pn**	**19 26 56.8**	**-2.4**
XMIS	**Christmas Isla**	**13.70**	**264**	Pn	**Pn**	**19 27 05.1**	**-1.0**
SBUM	**Sibu**	**13.74**	**328**		**Pn**	**19 27 03.6**	**-3.1**
FAKI	**Fak Fak**	**14.17**	**64**	Pn	**Pn**	**19 27 09.9**	**-2.2**
FAKI	**Fak Fak**	**14.17**	**64**	P	**Pn**	**19 27 10.0**	**-2.2**
	77nm,1.7s						
FAKI	**Fak Fak**	**14.17**	**64**	P	**Pn**	**19 27 11.1**	**-1.0**
GIRL	**Giralia**	**14.20**	**200**	P	**Pn**	**19 27 12.2**	**-0.3**
GIRL	**Giralia**	**14.20**	**200**	P	**Pn**	**19 27 12.5**	**0.0**
SIJI	**Sorong**	**14.39**	**55**	P	**Pn**	**19 27 13.8**	**-1.3**
	36nm,0.6s,baz=250,slow=9.9,SNR=4.9						
SIJI				S	**Sn**	**19 30 00.2**	**+6.4**
	12nm,0.6s,baz=122,slow=23,SNR=7.9						
SIJI				LR	LR	19 33 06.8	
	comp=Z,83nm,19.2s,baz=232,slow=39						
MYLDM	**Lahad Datu**	**14.42**	**356**		**Pn**	**19 27 13.1**	**-2.2**
KLI	**Kotabumi**	**15.18**	**286**	P	**P**	**19 27 27.6**	**-0.2**
	133nm,0.8s						
KASI	**Kota Agung**	**15.34**	**283**	P	**Pn**	**19 27 25.3**	**-1.8**
	3μm193nm,0.6s						
KKM	**Kota Kinabalu**	**15.59**	**348**	Pn	**Pn**	**19 27 28.1**	**-2.2**
KKM				P	**P**	**19 27 32.2**	**-0.2**
LWLI	**Liwa**	**15.90**	**284**	P	**Pn**	**19 27 34.2**	**0.0**
	1μm137nm,0.7s						
PMBI	**Palembang**	**15.95**	**292**	P	**P**	**19 27 35.8**	**-0.6**
MNAI	**Manna**	**17.14**	**286**	Pn	**Pn**	**19 27 46.3**	**-3.1**
MNAI	**Manna**	**17.14**	**286**	P	**Pn**	**19 27 47.4**	**-2.0**
	178nm,0.9s						
MEEK	**Meekatharra**	**17.27**	**183**	P	**Pn**	**19 27 52.7**	**+1.8**
KSI	**Kapahiang**	**17.71**	**287**	P	**P**	**19 27 55.6**	**-0.2**
	2μm141nm,0.7s						
WRKA	**Warakurna**	**17.75**	**153**	P	**Pn**	**19 27 58.2**	**+1.4**
WB0	**Warramunga Arr**	**17.76**	**128**		**P**	**19 27 55.3**	**-1.1**
WB0				IAmb	IAmb	19 27 60.0	
	comp=Z,26nm,0.7s						
WRA	**Warramunga Arr**	**17.82**	**128**	P	**P**	**19 27 56.3**	**-0.7**
	comp=Z,17nm,0.5s,baz=302,slow=13,SNR=124						
WRA				S	Sn	19 31 03.2	-13
	comp=Z,8.7nm,0.6s,baz=302,slow=25,SNR=7.3						
WRA				LR	LR	19 34 42.7	
	comp=Z,76nm,21.4s,baz=120,slow=36						
WRA	**Warramunga Arr**	**17.82**	**128**	P	**P**	**19 27 56.0**	**-1.0**
WRAB	**Tennant Creek**	**17.82**	**128**	P	**P**	**19 27 56.3**	**-0.7**
WRAB				IAmb	IAmb	19 28 11.7	
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**17.82**	**128**	P	**P**	**19 27 57.0**	**0.0**
WB2	**Warramunga Arr**	**17.83**	**128**		**P**	**19 27 56.1**	**-1.0**
WB2				IAmb	IAmb	19 27 59.4	
	comp=Z,32nm,0.8s						
WR0	**Warramunga Arr**	**17.98**	**128**	P	**P**	**19 27 59.1**	**+0.3**
WR0				IAmb	IAmb	19 28 02.5	
	comp=Z,31nm,0.7s						
BAKI	**Biak**	**18.38**	**65**	P	**P**	**19 28 04.0**	**+0.8**
	comp=Z,65nm,1.2s						
KRJI	**Kerinci**	**19.32**	**291**	P	**Pn**	**19 28 15.9**	**+0.4**
	comp=Z,196nm,0.7s						
SDSI	**Sungai Dareh**	**19.81**	**294**	P	**P**	**19 28 18.3**	**-0.5**
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**19.84**	**138**	P	**P**	**19 28 20.8**	**+1.7**
AS31				IAmb	IAmb	19 28 40.1	
	comp=Z,9.2nm,0.5s						
ASAR	**Alice Springs**	**19.84**	**138**	P	**P**	**19 28 20.8**	**+1.7**
	comp=Z,6.9nm,0.4s,baz=308,slow=9.4,SNR=176						
ASAR				S	**S**	**19 31 52.9**	**-4.3**
	comp=Z,6.3nm,0.6s,baz=313,slow=23,SNR=12						
ASAR				ScP	**ScP**	**19 36 02.8**	**+2.6**
	comp=Z,1.4nm,0.7s,baz=320,slow=2.4,SNR=3.7						
ASAR				LR	LR	19 37 26.5	
	comp=Z,76nm,18.5s,baz=274,slow=40						
	comp=Z,6.9nm,0.4s						
ASAR	**Alice Springs**	**19.84**	**138**	P	**P**	**19 28 20.5**	**+1.4**
MORW	**Morawa**	**19.93**	**189**	Pn	**Pn**	**19 28 29.0**	**+6.5**
MORW				IAmb	IAmb	19 28 30.7	
	comp=Z,15nm,0.6s						
SMPI	**Sarmi**	**20.44**	**70**	P	**P**	**19 28 25.3**	**-0.2**
	comp=Z,13nm,1.1s						
PDSI	**Padang**	**20.70**	**293**	P	**P**	**19 28 25.7**	**-2.7**
	comp=Z,9.2nm,0.5s						
QIS	**Mount Isa**	**22.39**	**122**	P	**P**	**19 28 47.6**	**+1.3**
FORT	**Forrest**	**22.81**	**161**	P	**P**	**19 28 48.2**	**-2.3**
FORT				IAmb	IAmb	19 29 15.3	
	comp=Z,24nm,0.8s						
FORT	**Forrest**	**22.81**	**161**	P	**P**	**19 28 51.8**	**+1.3**
IPM	**Ipoh**	**22.94**	**306**	P	**P**	**19 28 51.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**23.61**	**185**	S	**S**	**19 33 12.8**	**+7.9**
	comp=Z,11nm,0.5s,baz=131,slow=21,SNR=2.7						
NWAO	**Narrogin (SRO)**	**23.61**	**185**		pP	19 29 15.5	-2.5
COEN	**Coen**	**23.64**	**104**	P	**P**	**19 28 59.8**	**+1.4**
COEN				IAmb	IAmb	19 29 16.1	
	comp=Z,17nm,0.6s						
COEN	**Coen**	**23.64**	**104**	P	**P**	**19 28 59.8**	**+1.4**
RPSI	**Rantau Prapat**	**23.72**	**299**	P	**P**	**19 28 57.9**	**-1.2**
RPSI				IAmb	IAmb	19 29 00.2	
	comp=Z,26nm,1.1s						
RPSI	**Rantau Prapat**	**23.72**	**299**	P	**P**	**19 28 58.0**	**-1.0**
KULM	**Kulim**	**23.73**	**307**	P	**P**	**19 28 58.2**	**-0.9**
PSI	**Prapat**	**23.77**	**299**	P	**P**	**19 28 58.0**	**-1.6**
	comp=Z,13nm,0.7s,baz=166,slow=12,SNR=8.5						
	comp=Z,13nm,0.7s						
OOD	**Oodnadatta**	**23.91**	**142**	P	**P**	**19 29 02.5**	**+1.9**
GSI	**Gunungsitoli**	**24.25**	**295**	P	**P**	**19 29 01.8**	**-2.1**
GSI	**Gunungsitoli**	**24.25**	**295**	P	**P**	**19 29 04.8**	**+0.9**
	comp=Z,22nm,0.6s						
GSI	**Gunungsitoli**	**24.25**	**295**	P	**P**	**19 29 06.1**	**+2.2**
	comp=Z,22nm,0.6s						
MULG	**Mulgathing**	**24.91**	**149**	P	**P**	**19 29 11.7**	**+1.9**
MTSU	**Mount Surprise**	**25.63**	**113**	P	**P**	**19 29 18.8**	**+2.4**
INKA	**Innaminka**	**27.16**	**135**	P	**P**	**19 29 32.6**	**+2.5**
PMG	**Port Moresby**	**27.29**	**92**	P	**P**	**19 29 32.4**	**+1.0**
	comp=Z,9.1nm,0.6s,baz=2.0,slow=4.7,SNR=2.2						
	comp=Z,9.1nm,0.6s						
PMG	**Port Moresby**	**27.29**	**92**	P	**P**	**19 29 31.8**	**+0.5**
PMG				IAmb	IAmb	19 29 47.3	
	comp=Z,34nm,1.2s						
LCRK	**Leigh Creek**	**27.35**	**143**	P	**P**	**19 29 33.6**	**+1.9**
BBOO	**Buckleboo**	**27.96**	**149**	P	**P**	**19 29 36.4**	**-0.7**
BBOO				IAmb	IAmb	19 30 14.2	
	comp=Z,30nm,1.3s						
BBOO	**Buckleboo**	**27.96**	**149**	P	**P**	**19 29 39.1**	**+2.0**
CTA	**Charters Tower**	**27.97**	**116**	P	**P**	**19 29 38.9**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=292,slow=14,SNR=2.0						
CTA				LR	LR	19 41 31.0	
	comp=Z,49nm,20.4s,baz=266,slow=38						
	comp=Z,2.4nm,0.8s						
CTAO	**Charters Tower**	**27.97**	**116**	P	**P**	**19 29 36.9**	**-0.5**

CTAO				IAmb	IAmb	19 30 11.4	
	comp=Z,9.9nm,1.1s						
QIZ	**Qiongzhong**	**29.72**	**341**	P	**P**	**19 29 52.1**	**-0.7**
QIZ				IAmb	IAmb	19 30 04.7	
	comp=Z,23nm,1.4s						
HTT	**Hallett**	**29.95**	**146**	P	**P**	**19 29 57.7**	**+2.9**
STKA	**Stephens Creek**	**30.41**	**141**	P	**P**	**19 30 00.8**	**+2.0**
	comp=Z,3.7nm,0.5s,baz=322,slow=9.2,SNR=15						
STKA				LR	LR	19 43 48.8	
	comp=Z,69nm,18.5s,baz=264,slow=39						
	comp=Z,3.7nm,0.5s						
STKA	**Stephens Creek**	**30.41**	**141**	P	**P**	**19 30 00.8**	**+2.0**
STKA	**Stephens Creek**	**30.41**	**141**	P	**P**	**19 30 01.1**	**+2.2**
CMSA	**Cobar Meteorol**	**32.88**	**136**	P	**P**	**19 30 23.6**	**+3.1**
GUMO	**Guam**	**33.93**	**48**	P	**P**	**19 30 27.6**	**-2.2**
	comp=Z,25nm,0.4s,baz=12,slow=9.6,SNR=5.3						
	comp=Z,25nm,0.4s						
ARPS	**Mount Arapiles**	**34.03**	**147**	P	**P**	**19 30 32.4**	**+2.0**
CM31	**Chiang Mai Arr**	**34.24**	**324**	P	**P**	**19 30 33.7**	**+1.2**
CM31				IAmb	IAmb	19 30 34.8	
	comp=Z,10.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**34.24**	**324**	P	**P**	**19 30 33.5**	**+1.1**
	comp=Z,3.1nm,0.5s,baz=159,slow=7.3,SNR=39						
CMAR				PcP	**PcP**	**19 33 08.3**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=168,slow=3.7,SNR=4.9						
CMAR				LR	LR	19 44 48.2	
	comp=Z,40nm,18.2s,baz=160,slow=37						
	comp=Z,3.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**34.24**	**324**	P	**P**	**19 30 33.0**	**+0.5**
CHTO	**Chiang Mai**	**34.52**	**324**	P	**P**	**19 30 36.1**	**+1.2**
CHTO	**Chiang Mai**	**34.52**	**324**	P	**P**	**19 30 36.6**	**+1.7**
CRAI	**Chiangrai**	**34.86**	**327**	P	**P**	**19 30 38.9**	**+1.1**
CRAI				IAmb	IAmb	19 30 40.3	
	comp=Z,5.1nm,0.6s						
JOW	**Kunigami**	**36.91**	**13**	P	**P**	**19 30 55.5**	**+0.3**
	comp=Z,7.5nm,0.5s,baz=261,slow=12,SNR=1.4						
	comp=Z,7.5nm,0.5s						
PZH	**PanZhiHua**	**39.55**	**335**	P	**P**	**19 31 20.1**	**+2.6**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,220nm,4.7s						
ENH	**Enshi**	**40.50**	**347**	P	**P**	**19 31 25.1**	**-0.1**
NJ2	**Nanjing**	**41.12**	**359**	*eP*	**P**	**19 31 34.5**	**+4.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PALK	**Pallekele**	**42.02**	**292**	LR	LR	19 50 26.7	
	comp=Z,23nm,18.0s,baz=207,slow=38						
SHL	**Shillong**	**43.86**	**323**	P	**P**	**19 31 52.3**	**-0.4**
SHL				IAmb	IAmb	19 31 54.4	
	comp=Z,12nm,0.8s						
XAN	**Xi'an**	**44.25**	**347**	P	**P**	**19 31 55.8**	**+0.2**
XAN				pP	pP	19 32 02.4	-17
XAN				pmax	pmax		
	comp=Z,20nm,0.9s						
KSBUS	**Busan**	**45.23**	**11**	P	**P**	**19 32 01.4**	**-1.9**
KSBUS				IAmb	IAmb	19 32 12.4	
	comp=Z,38nm,1.4s						
JHS	**Saijyo**	**45.90**	**16**	P	**P**	**19 32 07.4**	**-1.2**
JHS				IAmb	IAmb	19 32 31.4	
	comp=Z,23nm,1.5s						
TJN	**Taejon**	**46.03**	**9**	P	**P**	**19 32 08.8**	**-0.7**
H08S2	**Diego Garcia H**	**46.50**	**268**	T	T	20 21 44.3	
	baz=96,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**46.51**	**268**	T	T	20 21 40.9	
	baz=96,slow=76,SNR=19						
H08S1	**Diego Garcia H**	**46.52**	**268**	T	T	20 21 42.7	
	baz=96,slow=76,SNR=12						
KSRS	**Korea Array**	**47.17**	**9**	P	**P**	**19 32 17.8**	**-0.7**

BOOM					IAmb	IAmb	19 34 28.9
	comp=Z,6.0nm,1.3s						
AAK	**Ala-Archa**	**66.01**	**325**	LR	LR		20 06 47.5
	comp=Z,25nm,19.3s,baz=125,slow=39						
AAK	**Ala-Archa**	**66.01**	**325**	P	**P**		**19 34 31.6 -0.5**
AAK					IAmb	IAmb	19 34 33.7
	comp=Z,2.7nm,0.5s						
GAR	**Garm**	**66.29**	**320**	P	**P**		**19 34 32.4 -1.5**
BTK	**Batken**	**66.59**	**321**	P	**P**		**19 34 35.3 -0.5**
CHGR	**Chuyangaron**	**66.84**	**319**	P	**P**		**19 34 36.4 -1.0**
CHGR					IAmb	IAmb	19 34 37.7
	comp=Z,9.3nm,0.7s						
KK31	**Karatay Array**	**68.59**	**324**	P	**P**		**19 34 46.7 -1.5**
KKAR	**Karatay Array**	**68.59**	**324**	P	**P**		**19 34 46.7 -1.5**
KKAR	**Karatay Array**	**68.59**	**324**	P	**P**		**19 34 47.6 -0.6**
KURK	**Kurchatov**	**69.48**	**334**	P	**P**		**19 34 52.3 -1.2**
ZAA0	**Zalesovo Array**	**69.50**	**339**	P	**P**		**19 34 51.9 -1.6**
ZAA0					IAmb	IAmb	19 34 55.6
	comp=Z,9.9nm,0.5s						
ZALV	**Zalesovo Beam**	**69.50**	**339**	P	**P**		**19 34 52.1 -1.3**
	comp=Z,9.2nm,0.5s,baz=136,slow=5.3,SNR=32						
	comp=Z,9.2nm,0.5s						
ZALV	**Zalesovo Beam**	**69.50**	**339**	P	**P**		**19 34 51.7 -1.8**
PETK	**Petropavlovsk-**	**70.15**	**23**	P	**P**		**19 34 57.5 0.0**
	comp=Z,4.4nm,0.7s,baz=201,slow=7.9,SNR=4.7						
	comp=Z,4.4nm,0.7s						
PETK	**Petropavlovsk-**	**70.15**	**23**	P	**P**		**19 34 56.7 -0.8**
YAK	**Yakutsk**	**71.55**	**5**	P	**P**		**19 35 04.6 -1.2**
	comp=Z,16nm,0.6s,baz=215,slow=0.2,SNR=26						
	comp=Z,16nm,0.6s						
YAK	**Yakutsk**	**71.55**	**5**	P	**P**		**19 35 04.3 -1.5**
VNDA	**Vanda**	**71.62**	**171**	P	**P**		**19 35 09.1 +3.0**
	comp=Z,0.8nm,0.7s,baz=329,slow=6.8,SNR=5.5						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**71.62**	**171**	P	**P**		**19 35 08.8 +2.7**
MA2	**Magadan**	**73.07**	**16**	P	**P**		**19 35 15.4 +0.5**
	comp=Z,22nm,0.8s,baz=201,slow=6.4,SNR=11						
	comp=Z,22nm,0.8s						
MA2	**Magadan**	**73.07**	**16**	P	**P**		**19 35 15.2 +0.3**
GEYT	**Alibeck**	**74.00**	**314**	P	**P**		**19 35 20.9 -0.1**
	comp=Z,1.6nm,0.8s,baz=167,slow=7.4,SNR=4.5						
	comp=Z,1.6nm,0.8s						
GEYT	**Alibeck**	**74.00**	**314**	P	**P**		**19 35 21.1 +0.2**
GYA0B	**ALIBECK ARRAY**	**74.00**	**314**	P	**P**		**19 35 18.9 -2.1**
BVAR	**Borovoye Array**	**74.79**	**332**	LR	LR		20 10 23.2
	comp=Z,18nm,20.4s,baz=210,slow=37						
BRVK	**Borovoye**	**74.86**	**332**	P	**P**		**19 35 24.1 -1.4**
ABKAR	**Akbulak array**	**78.09**	**325**	P	**P**		**19 35 42.8 -1.1**
ABKAR	**Akbulak array**	**78.09**	**325**	P	**P**		**19 35 42.5 -1.3**
ABKAR					IAmb	IAmb	19 35 44.0
	comp=Z,4.6nm,0.7s						
RAYN	**Ar Rayn**	**79.28**	**296**	P	**P**		**19 35 50.1 -0.9**
TIXI	**Tiksi**	**81.01**	**3**	P	**P**		**19 35 57.3 -1.9**
TIXI					IAmb	IAmb	19 36 04.5
	comp=Z,5.1nm,0.8s						
NRIK	**Noril'sk**	**81.54**	**349**	P	**P**		**19 36 03.0 +1.0**
	comp=Z,2.8nm,0.4s,baz=133,slow=7.7,SNR=3.0						
	comp=Z,2.8nm,0.4s						
ADK	**Adak**	**81.72**	**34**	P	**P**		**19 36 03.2 -0.1**
ARU	**Arti**	**82.36**	**331**	LR	LR		20 15 23.7
	comp=Z,24nm,18.9s,baz=120,slow=38						
ARU	**Arti**	**82.36**	**331**	P	**P**		**19 36 05.0 -1.6**
MARD	**Mardin**	**86.73**	**308**	P	**P**		**19 36 29.5 +0.3**
MARD					IAmb	IAmb	19 36 31.9
	comp=Z,5.2nm,0.8s						
KBZ	**Khabaz**	**86.83**	**315**	P	**P**		**19 36 30.0 +0.6**
	comp=Z,1.7nm,0.7s,baz=187,slow=3.2,SNR=4.9						
	comp=Z,1.7nm,0.7s						
LBTB	**Lobatse**	**89.63**	**245**	LR	LR		20 09 46.5
	comp=Z,22nm,19.9s,baz=145,slow=31						
BRTR	**Keskin Array B**	**92.71**	**310**	P	**P**		**19 36 56.1 -1.1**
	comp=Z,0.6nm,0.8s,baz=134,slow=7.1,SNR=6.0						
	comp=Z,0.6nm,0.8s						
IDI	**Anoyia**	**99.05**	**304**	LR	LR		20 28 45.2
	comp=Z,5.9nm,18.9s,baz=332,slow=39						
FINES	**FINESS Array B**	**99.74**	**331**	P	**Pdif**		**19 37 27.8 -0.5**
	comp=Z,1.1nm,0.7s,baz=96,slow=8.5,SNR=5.0						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**99.89**	**26**	P	**Pdif**		**19 37 27.8 -1.3**
	comp=Z,0.4nm,0.5s,baz=255,slow=5.0,SNR=4.3						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**119.00**	**280**	PKP	**PKiKP**		**19 42 34.8 +0.8**
	comp=Z,2.1nm,0.6s,baz=52,slow=2.1,SNR=30						
TORD				PKKPbc	**PKKPbc**		**19 52 49.7 +1.5**
	comp=Z,0.2nm,0.4s,baz=299,slow=3.1,SNR=4.6						
NVAR	**Mina Array Bea**	**120.82**	**51**	PP	**PP**		**19 44 04.9 -1.9**
	comp=Z,0.7nm,0.9s,baz=280,slow=5.4,SNR=5.5						
ESDC	**Sonseca Array**	**121.47**	**311**	PKP	**PKiKP**		**19 42 39.5 +1.2**
	comp=Z,0.6nm,0.6s,baz=24,slow=2.5,SNR=4.3						
ELK	**Elko**	**122.50**	**47**	PKP	**PKiKP**		**19 42 41.6 +1.1**
	comp=Z,0.5nm,0.5s,baz=180,slow=7.1,SNR=2.4						
DBIC	**Dimbokro**	**124.88**	**272**	PKP	**PKiKP**		**19 42 46.8 +1.2**
	comp=Z,1.5nm,0.4s,baz=129,slow=5.5,SNR=1.6						
PLCA	**Paso Flores**	**129.36**	**170**	PKP	**PKiKP**		**19 42 54.6 +0.6**
	comp=Z,1.0nm,0.8s,baz=192,slow=23,SNR=1.7						
CPUP	**Villa Florida**	**144.45**	**185**	PKP	**PKPdf**		**19 43 22.3 +1.0**
	comp=Z,2.3nm,0.7s,baz=166,slow=2.1,SNR=3.4						
CMIG	**Matias Romero**	**145.68**	**73**	PKPbc	**PKPab**		**19 43 25.9 +1.3**
	comp=Z,8.4nm,0.7s,baz=309,slow=4.3,SNR=14						
TKL	**Tuckaleechee C**	**146.26**	**35**	PKPbc	**PKPbc**		**19 43 25.4 0.0**
	comp=Z,30nm,0.6s,baz=309,slow=6.5,SNR=39						
LPAZ	**La Paz**	**153.48**	**163**	PKPbc	**PKiKP**		**19 43 47.7 +3.0**
	comp=Z,1.2nm,0.6s,baz=106,slow=4.7,SNR=3.7						

*IDC **14** 19:26:14.5±0.7, 7.°02N×72.°24W, h0km, mb3.7/8, mbtmp3.8/12, ML3.6/4, MS3.1/4, Error ellipse: s-maj=19.0km s-min=13.6km az=122.0*
*RSNC **14** 19:26:19.4±1.1, 7.°07N×72.°20W, h4km±4km, ML3.8, Mw3.9, Fault plane solution: NP1:ϕ±104.00000°, δ60.00000°, λ138.00000°.*

ISC 14 19:26:17.4±1.1, 7.°10N±0.°03×72.°13W±0.°03, h14km±7km, n38, σ1ᵍ73/61, mb3.6/8, 3C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.61**	**293**	⇓*eP*		**Pg**	**19 26 29.4**	**-0.1**
PAMC				*eS*		**Sg**	**19 26 37.2**	**-0.5**
PAMC				IAML			19 26 37.8	
	comp=Z,4μm,0.5s							
TAMC	**Tame, Arauca**	**0.74**	**153**	⇓*eP*		**Pg**	**19 26 32.8**	**+1.0**
TAMC				*eS*		**Sg**	**19 26 42.8**	**+1.2**
TAMC				IAML			19 26 44.2	
	comp=Z,4μm,0.3s							
BARC	**Barichara**	**1.16**	**244**	⇓*eP*		**Pb**	**19 26 38.7**	**-0.7**
BARC				*eS*		**Sb**	**19 26 53.6**	**-0.7**
BARC				IAML			19 26 59.1	
	comp=Z,4μm,0.5s							
RUSC	**La Rusia**	**1.53**	**218**	⇑*iP*		**Pn**	**19 26 45.3**	**+0.6**
RUSC				*eS*		**Sn**	**19 27 04.5**	**-0.1**
RUSC				IAML			19 27 08.3	
	comp=Z,1μm,0.5s							
BRRC	**Barranca, Sant**	**1.57**	**270**	⇓*eP*		**Pb**	**19 26 46.7**	**+0.6**
BRRC				*eS*		**Sb**	**19 27 07.0**	**+1.1**
BRRC				IAML			19 27 10.2	
	comp=Z,1μm,0.4s							
OCAC	**Ocana**	**1.63**	**314**	⇓*eP*		**Pb**	**19 26 48.0**	**+0.6**
OCAC				*eS*		**Sg**	**19 27 09.4**	**-0.7**
OCAC				IAML			19 27 15.5	
	comp=Z,11μm,0.5s							
SOCV	**Socops**	**1.73**	**47**	*eP*		**Pb**	**19 26 49.2**	**+0.3**
SOCV				*eS*		**Sg**	**19 27 13.6**	**+0.6**
SDV	**Santo Domingo**	**2.31**	**40**	Pn		**Pb**	**19 26 57.7**	**-1.3**
	comp=Z,61nm,0.3s,baz=190,slow=6.3,SNR=52							
SDV				Sn		**Sb**	**19 27 27.8**	**+0.3**
	comp=Z,186nm,0.3s,baz=250,slow=18,SNR=7.5							
SDV				Lg		Lg	19 27 31.5	
	comp=Z,659nm,0.3s,baz=310,slow=12,SNR=31							
	comp=Z,105nm,0.3s							
PTBC	**PUERTO BERRIO,**	**2.38**	**257**	*eP*		**Pn**	**19 26 56.5**	**+0.5**
PTBC				*eS*		**Sn**	**19 27 27.7**	**+2.8**
PTBC				IAML			19 27 31.6	
	comp=Z,617nm,0.4s							
SPBC	**San Pablo de B**	**2.41**	**233**	*eP*		**Pn**	**19 26 57.1**	**+0.7**
SPBC				*eS*		**Sn**	**19 27 28.7**	**+2.9**
SPBC				IAML			19 27 32.8	
	comp=Z,594nm,0.3s							
ZARC	**Zaragoza, Cauc**	**2.73**	**278**	⇑*eP*		**Pn**	**19 27 02.5**	**+1.7**
ZARC				*eS*		**Sn**	**19 27 35.1**	**+1.4**
ZARC				IAML			19 27 42.5	
	comp=Z,674nm,0.5s							
LL6C	**La Loma 6 Bece**	**2.85**	**337**	*eP*		**Pb**	**19 27 05.8**	**-2.2**
LL6C				*eS*		**Sb**	**19 27 45.1**	**+2.3**
LL6C				IAML			19 27 51.2	
	comp=Z,299nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.88**	**180**	*eP*		**Pn**	**19 27 04.0**	**+1.1**
PTGC				*eS*		**Sn**	**19 27 39.4**	**+2.0**
PTGC				IAML			19 27 50.5	
	comp=Z,645nm,0.3s							
CHIC	**Chingaza**	**2.93**	**213**	⇓*eP*		**Pn**	**19 27 05.1**	**+1.2**
CHIC				*eS*		**Sn**	**19 27 40.2**	**+1.2**
CHIC				IAML			19 27 54.0	
	comp=Z,214nm,0.4s							
NORC	**Norcasia**	**3.12**	**241**	*eP*		**Pn**	**19 27 07.2**	**+0.9**
NORC				*eS*		**Sn**	**19 27 46.1**	**+2.8**
NORC				IAML			19 27 53.6	
	comp=Z,363nm,0.4s							
VILC	**Villavicencio,**	**3.35**	**208**	*eP*		**Pn**	**19 27 09.9**	**+0.4**
VILC				*eS*		**Sg**	**19 28 04.6**	**-0.6**
UREC	**San Jos de Ur**	**3.44**	**281**	*eP*		**Pn**	**19 27 13.2**	**+2.7**
UREC				*eS*		**Sn**	**19 27 54.0**	**+3.0**
UREC				IAML			19 28 04.3	
	comp=Z,186nm,0.4s							
ARGC	**Ariguani, Magd**	**3.45**	**323**	*eP*		**Pb**	**19 27 16.1**	**-2.1**
ARGC				*eS*		**Sb**	**19 27 57.6**	**-2.4**
ARGC				IAML			19 28 14.5	
	comp=Z,83nm,0.5s							
HELC	**Santa Helena**	**3.49**	**255**	*eP*		**Pn**	**19 27 13.2**	**+1.5**
HELC				*eS*		**Sn**	**19 27 55.9**	**+2.9**
HELC				IAML			19 28 07.7	
	comp=Z,152nm,0.4s							
GUY2C	**Guyana, Caldas**	**3.72**	**240**	⇑*eP*		**Pn**	**19 27 16.6**	**+1.8**
GUY2C				*eS*		**Sn**	**19 28 01.7**	**+3.1**
GUY2C				IAML			19 28 15.5	
	comp=Z,162nm,0.6s							
CBOC	**Ciudad Bolivar**	**4.05**	**253**	*eP*		**Pn**	**19 27 22.1**	**+3.0**
CBOC				*eS*		**Sb**	**19 28 14.3**	**-3.1**
CBOC				IAML			19 28 25.7	
	comp=Z,81nm,0.6s							
SJCC	**San Jacinto, C**	**4.10**	**313**	*eP*		**Pn**	**19 27 22.4**	**+2.7**
SJCC				*eS*		**Sn**	**19 28 08.5**	**+1.0**
SJCC				IAML			19 28 31.8	
	comp=Z,69nm,0.4s							
ANIL	**Santa Ana**	**4.16**	**232**	*eP*		**Pn**	**19 27 22.3**	**+1.5**
ANIL				*eS*		**Sn**	**19 28 12.0**	**+2.6**
ANIL				IAML			19 28 33.0	
	comp=Z,342nm,0.4s							
PCRV	**Puerto La Cruz**	**8.02**	**67**	Pn		**Pn**	**19 28 14.1**	**+0.5**
	comp=Z,2.9nm,0.3s,baz=251,slow=2.6,SNR=17							
PCRV				Sn		**Sn**	**19 29 42.4**	**-1.7**
	comp=Z,2.8nm,0.3s,baz=141,slow=23,SNR=1.7							
	comp=Z,13nm,0.5s							
SJG	**San Juan**	**12.40**	**27**	LR	LR		19 34 09.2	
	comp=Z,33nm,20.7s,baz=90,slow=38							
ATAH	**Atahualpa**	**15.46**	**204**	Pn		**Pn**	**19 29 52.9**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=35,slow=8.1,SNR=2.8							
ATAH				LR		LR	19 37 01.7	
	comp=Z,94nm,20.4s,baz=25,slow=42							
	comp=Z,3.4nm,0.6s							
MDP	**Montagnes des**	**19.48**	**95**	P		**P**	**19 30 45.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=297,slow=9.0,SNR=1.6							
MDP				LR		LR	19 38 31.4	
	comp=Z,93nm,19.1s,baz=268,slow=38							
	comp=Z,1.4nm,0.4s							
LPAZ	**La Paz**	**23.57**	**170**	P		**P**	**19 31 27.9**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=344,slow=6.2,SNR=4.5							
	comp=Z,1.0nm,0.4s							
SIV	**San Ignacio**	**25.42**	**155**	P		**P**	**19 31 44.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=296,slow=7.6,SNR=4.6							
	comp=Z,0.8nm,0.5s							
TKL	**Tuckaleechee C**	**30.36**	**341**	LR	LR		19 44 40.1	
	comp=Z,33nm,18.7s,baz=88,slow=36							
TXAR	**Lajitas Array**	**37.02**	**311**	P		**P**	**19 33 26.6**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=131,slow=8.8,SNR=11							
TXAR				PcP		**PcP**	**19 35 48.2**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=134,slow=3.9,SNR=3.5							
	comp=Z,0.7nm,0.7s							
PLCA	**Paso Flores**	**47.62**	**178**	P		**P**	**19 34 51.3**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=342,slow=9.7,SNR=4.2							
	comp=Z,1.7nm,0.8s							
PDAR	**Pinedale Array**	**48.44**	**323**	P		**P**	**19 34 59.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=133,slow=6.6,SNR=2.6							
	comp=Z,0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**72.72**	**78**	P		**P**	**19 37 45.3**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=287,slow=6.8,SNR=7.4							
	comp=Z,0.3nm,0.6s							
ILAR	**Eielson Array**	**77.13**	**335**	P		**P**	**19 38 09.5**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=103,slow=3.9,SNR=3.8							
	comp=Z,0.5nm,0.7s							
NOA	**NORSAR Array B**	**80.60**	**29**	P		**P**	**19 38 29.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=267,slow=5.5,SNR=3.4							
	comp=Z,0.6nm,0.9s							
ASAR	**Alice Springs**	**150.07**	**234**	PKPbc		**PKPdf**	**19 46 06.6**	**+3.0**
	comp=Z,1.2nm,0.8s,baz=126,slow=3.2,SNR=11							
WRA	**Warramunga Arr**	**151.33**	**241**	PKPbc		**PKPbc**	**19 46 09.9**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=107,slow=2.8,SNR=18							

*DJA **14** 19:29:13.9±0.6, 3.°N±5.°×12.°8E±.°, h152km±5km, M4.0/12, mb3.8/6, mB5.0/1, MLv4.2/12, Mw(mB)4.4/1*

ISC 14 19:29:12.6±2.3, 2.°60N±0.°09×128.°4E±0.°2, h150km, n13, σ0ᵍ79/16, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.07**	**209**	P		**Pn**	**19 29 49.5**	**+0.9**
SGSI	**Sangihe**	**3.02**	**291**	P		**Pn**	**19 30 00.5**	**+0.3**
SGSI				S		**Sn**	**19 30 36.7**	**-0.4**
LBMI	**Labuha**	**3.33**	**195**	P		**Pn**	**19 30 04.9**	**+0.7**
DDMP	**Don Marcelino,**	**4.37**	**323**	⇑*iP*		**Pn**	**19 30 17.5**	**-0.2**
DDMP				*eS*		**Sn**	**19 31 07.2**	**-1.1**
KMSI	**Cibinong**	**4.81**	**245**	P		**Pn**	**19 30 24.5**	**+0.9**
SANI	**Sanana**	**5.19**	**207**	P		**Pn**	**19 30 27.3**	**-1.3**
	0.1nm4.9nm,0.6s							
SKMP	**Bagumbayan, Su**	**5.44**	**316**	⇑*iP*		**Pn**	**19 30 32.7**	**+0.8**
SKMP				*eS*		**Sn**	**19 31 34.2**	**+0.5**
GTOI	**Gorontalo**	**5.69**	**250**	P		**Pn**	**19 30 35.7**	**+0.5**
	0.1nm6.6nm,0.5s							
NLAI	**Namlea**	**5.94**	**192**	P		**Pn**	**19 30 38.9**	**+0.4**
	0.1nm2μm9.3nm,0.7s							
LUWI	**Luwuk**	**6.65**	**237**	P		**Pn**	**19 30 47.3**	**-0.8**
	0.9nm17nm,0.7s							
MRSI	**Marisa**	**6.75**	**252**	P		**Pn**	**19 30 49.6**	**+0.2**
	0.4nm16nm,0.5s							
APSI	**Ampana**	**7.56**	**243**	P		**Pn**	**19 30 59.4**	**-0.7**
	0.1nm5.5nm,0.6s							
MPSI	**Mapaga**	**8.75**	**255**	P		**Pn**	**19 31 16.5**	**+0.5**

*NEIC **14** 19:30:53.9±1.7, 23.°64S×179.°07E, h532km±15km, mb4.5/27, Error ellipse: s-maj=20.8km s-min=18.1km az=100.0*
*IDC **14** 19:30:53.5±1.6, 23.°64S×179.°07E, h532km±15km, mb3.3/11, mbtmp4.2/12, Error ellipse: s-maj=19.1km s-min=14.4km az=148.0*

ISC 14 19:30:54.7±0.5, 23.73S±0.°07×179.°11E±0.°09, h555km, n78, σ1ᵍ71/77, mb4.1/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.04**	**350**	P		**P**	**19 32 31.2**	**-3.1**
	6.3nm,0.4s,baz=163,slow=7.0,SNR=12							
MSVF	**Nonsavu**	**6.04**	**350**	P		**P**	**19 32 30.6**	**-3.6**
MARNC	**Mare, Loyalty**	**10.47**	**280**	P		**P**	**19 33 15.1**	**-2.5**
PINNC	**Pines Island,**	**10.79**	**274**	P		**P**	**19 33 21.1**	**+0.3**
DZM	**Mont Dzumac**	**11.79**	**276**	P		**P**	**19 33 32.2**	**+0.9**
	4.6nm,0.7s,baz=97,slow=16,SNR=1.6							
OUZ	**Omahuta**	**12.41**	**201**	P		**P**	**19 33 38.7**	**+1.4**
KOUNC	**Koumac, New Ca**	**14.09**	**280**	P		**P**	**19 33 52.6**	**-2.3**
URZ	**Urewera**	**14.59**	**186**	P		**P**	**19 33 56.7**	**-2.9**
	13nm,0.6s,baz=35,slow=1.8,SNR=12							
URZ				S		**S**	**19 36 26.0**	**-6.0**
	12nm,0.9s,baz=91,slow=23,SNR=8.4							
URZ	**Urewera**	**14.59**	**186**	P		**P**	**19 33 56.2**	**-3.4**
BFZ	**Birch Farm**	**17.08**	**187**	P		**P**	**19 34 23.1**	**-0.5**
BFZ				IAmb		IAmb	19 34 34.2	
	comp=Z,24nm,1.3s							
QRZ	**Quartz Range**	**17.92**	**196**	P		**P**	**19 34 32.4**	**+1.0**
MSWZ	**Moikau Station**	**17.93**	**189**	P		**P**	**19 34 26.3**	**-5.3**
PLWZ	**Palliser**	**18.08**	**189**	P		**P**	**19 34 30.8**	**-2.1**
BSWZ	**Blackbirch Sta**	**18.46**	**192**	P		**P**	**19 34 37.1**	**+0.8**
THZ	**Tophouse**	**18.72**	**195**	P		**P**	**19 34 38.5**	**-0.3**
THZ				IAmb		IAmb	19 34 51.9	
	comp=Z,15nm,1.2s							
KHZ	**Kahutara**	**19.20**	**193**	P		**P**	**19 34 41.9**	**-1.1**
LTZ	**Lake Taylor**	**19.83**	**195**	P		**P**	**19 34 47.6**	**-1.2**
LTZ				IAmb		IAmb	19 35 30.9	
	comp=Z,21nm,1.3s							
FOZ	**Fox Glacier**	**21.19**	**199**	P		**P**	**19 35 01.0**	**0.0**
WHZ	**Wether Hill Ro**	**23.89**	**199**	P		**P**	**19 35 25.6**	**+0.4**
ARMA	**Armidale**	**25.32**	**249**	P		**P**	**19 35 39.2**	**+1.0**
ARMA				IAmb		IAmb	19 36 15.3	
	comp=Z,17nm,1.4s							
EIDS	**Eidsvold**	**25.53**	**261**	P		**P**	**19 35 40.7**	**+0.8**
EIDS				IAmb		IAmb	19 35 41.5	
	comp=Z,12nm,1.4s							
CAN	**Canberra**	**28.52**	**239**	P		**P**	**19 36 07.5**	**+1.4**
CAN				IAmb		IAmb	19 36 49.9	
	comp=Z,22nm,1.4s							
CTA	**Charters Tower**	**30.66**	**270**	P		**P**	**19 36 25.4**	**+0.7**
	comp=Z,13nm,0.3s,baz=95,slow=10,SNR=42							
	comp=Z,13nm,0.3s							
CTAO	**Charters Tower**	**30.66**	**270**	P		**P**	**19 36 25.1**	**+0.4**
TOO	**Toolangi**	**31.86**	**236**	P		**P**	**19 36 35.6**	**+0.8**
TOO				IAmb		IAmb	19 36 40.4	
	comp=Z,34nm,1.5s							
PMG	**Port Moresby**	**33.66**	**290**	P		**P**	**19 36 49.8**	**-0.5**
STKA	**Stephens Creek**	**34.03**	**248**	P		**P**	**19 36 53.4**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=88,slow=12,SNR=4.8							
	comp=Z,2.9nm,0.5s							
STKA	**Stephens Creek**	**34.03**	**248**	P		**P**	**19 36 52.5**	**-0.7**
BBOO	**Buckleboo**	**38.76**	**247**	P		**P**	**19 37 31.3**	**-0.8**
BBOO				IAmb		IAmb	19 37 37.2	
	comp=Z,24nm,1.2s							
AS31	**Alice Springs**	**41.25**	**261**	P		**P**	**19 37 51.9**	**-0.3**
ASAR	**Alice Springs**	**41.26**	**261**	P		**P**	**19 37 52.4**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=87,slow=8.6,SNR=11							
ASAR				PcP		**PcP**	**19 39 38.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=113,slow=3.4,SNR=2.6							
ASAR				ScP		**ScP**	**19 42 39.6**	**+4.5**
	comp=Z,0.5nm,0.9s,baz=111,slow=5.1,SNR=3.2							
ASAR				S		**S**	**19 43 27.1**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=99,slow=15,SNR=5.2							
	comp=Z,3.0nm,0.9s							
ASAR	**Alice Springs**	**41.26**	**261**	P		**P**	**19 37 51.5**	**-0.7**
WR0	**Warramunga Arr**	**41.41**	**266**	P		**P**	**19 37 52.1**	**-1.4**
WB2	**Warramunga Arr**	**41.59**	**266**	P		**P**	**19 37 54.2**	**-0.7**
WB2				IAmb		IAmb	19 37 55.3	
	comp=Z,4.5nm,0.8s							
WB0	**Warramunga Arr**	**41.59**	**267**	P		**P**	**19 37 54.3**	**-0.5**
WB0				IAmb		IAmb	19 37 55.5	
	comp=Z,4.8nm,0.8s							
WRA	**Warramunga Arr**	**41.60**	**266**	P		**P**	**19 37 54.5**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=90,slow=5.7,SNR=29							
WRA				ScP		**ScP**	**19 42 41.1**	**+4.6**
	comp=Z,0.4nm,1.1s,baz=100,slow=3.8,SNR=6.5							
WRA				S		**S**	**19 43 29.1**	**-2.6**
	comp=Z,0.9nm,0.9s,baz=98,slow=14,SNR=4.7							
	comp=Z,3.5nm,0.8s							
WRA	**Warramunga Arr**	**41.60**	**266**	P		**P**	**19 37 54.5**	**-0.4**
FORT	**Forrest**	**45.60**	**250**	P		**P**	**19 38 26.9**	**+1.1**
FORT				IAmb		IAmb	19 38 54.6	
	comp=Z,33nm,1.2s							
KNRA	**Kununurra**	**47.87**	**270**	P		**P**	**19 38 43.2**	**+0.2**
KNRA				IAmb		IAmb	19 39 03.0	
	comp=Z,37nm,1.4s							
FITZ	**Fitzroy Crossi**	**50.02**	**266**	P		**P**	**19 38 59.8**	**+0.9**
FITZ				IAmb		IAmb	19 39 18.5	
	comp=Z,14nm,1.5s							
VNDA	**Vanda**	**54.48**	**185**	P		**P**	**19 39 31.4**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=306,slow=1.6,SNR=2.5							
	comp=Z,0.5nm,0.6s							
VNDA	**Vanda**	**54.48**	**185**	P		**P**	**19 39 32.0**	**+2.0**
CASY	**Casey**	**59.91**	**206**	P		**P**	**19 40 07.2**	**+0.1**
CASY				IAmb		IAmb	19 40 07.7	
	comp=Z,8.3nm,1.2s							
QSPA	**South Pole Qui**	**66.35**	**180**	P		**P**	**19 40 50.0**	**+1.4**
Q

TORD	**Torodi Ar. Bea**	**40.80**	**273**	P		**P**		**19 58 22.1**	**+1.0**
	0.6nm,0.8s,baz=79,slow=7.5,SNR=2.7								
	0.6nm,0.8s								
GERES	**GERESS Array B**	**41.84**	**330**	P		**P**		**19 58 30.4**	**+1.2**
	0.3nm,0.6s,baz=116,slow=6.7,SNR=4.0								
	0.3nm,0.6s								
MKAR	**Makanchi Array**	**45.11**	**37**	P		**P**		**19 58 54.5**	**-1.1**
	0.6nm,0.7s,baz=230,slow=7.0,SNR=5.2								
	0.6nm,0.7s								
ZALV	**Zalesovo Beam**	**50.39**	**30**	P		**P**		**19 59 35.0**	**-1.4**
	2.2nm,0.5s,baz=232,slow=8.3,SNR=11								
	2.2nm,0.5s								

NOU ***14*** *20:05:16.2, 37˝.23S×179˚.66E, h141km, mb3.9/6, Off E. Coast of N. Island, N.Z.*
WEL ***14*** *20:05:22.4±2.1, 37˚.5±8˝×17˚.9E±1˚.2, h10km±7km, M3.1/18, ML3.4/21, MLv3.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=68.9*

ISC 14 20:05:23.6±3.1, 37˚.18S±0˚.09×178˚.9E±0˚.2, h35km, n48, σ1§25/50, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MXZ	**Matakaoa Point**	**0.63**	**233**	P	**Pn**		**20 05 34.3**	**-1.6**
MXZ				S	**Sn**		**20 05 42.3**	**-2.5**
WMGZ	**Waiomatatini S**	**0.76**	**213**	P	**Pn**		**20 05 38.3**	**+0.6**
PKGZ	**Pakihiroa**	**0.98**	**224**	P	**Pn**		**20 05 40.6**	**-0.2**
PKGZ				S	**Sn**		**20 05 54.7**	**+1.2**
HAZ	**Te Kaha**	**1.08**	**238**	P	**Pn**		**20 05 41.2**	**-0.9**
TWGZ	**Tauwhareparae**	**1.25**	**217**	P	**Pn**		**20 05 45.9**	**+1.3**
RUGZ	**Raukumara Rang**	**1.27**	**232**	P	**Pn**		**20 05 45.4**	**+0.6**
CNGZ	**Carnagh Statio**	**1.42**	**204**	P	**Pn**		**20 05 48.3**	**+1.5**
TKGZ	**Te Karaka**	**1.52**	**214**	P	**Pn**		**20 05 49.3**	**+1.1**
MWZ	**Matawai**	**1.60**	**224**	P	**Pn**		**20 05 50.3**	**+0.9**
RAWZ	**Rawiri**	**1.78**	**222**	P	**Pn**		**20 05 52.9**	**+1.0**
RIGZ	**Rimuhau**	**1.78**	**211**	P	**Pn**		**20 05 53.0**	**+1.1**
URZ	**Urewera**	**1.80**	**233**	P	**Pn**		**20 05 53.1**	**+1.1**
URZ	**Urewera**	**1.80**	**233**	P	**Pn**		**20 05 53.2**	**+1.1**
OPRZ	**Ohinepanea**	**2.00**	**250**	P	**Pn**		**20 05 55.4**	**+0.6**
SNGZ	**Shannon Statio**	**2.03**	**218**	P	**Pn**		**20 05 56.1**	**+0.8**
MUGZ	**Murupara**	**2.14**	**232**	P	**Pn**		**20 05 57.7**	**+0.9**
MYRZ	**Mayor Island**	**2.15**	**267**	P	**Pn**		**20 05 56.7**	**-0.2**
TARZ	**Mount Tarawera**	**2.19**	**241**	P	**Pn**		**20 05 59.1**	**+1.5**
RAHZ	**Arahi**	**2.26**	**220**	P	**Pn**		**20 06 00.2**	**+1.7**
MTHZ	**Maungataniwha**	**2.35**	**224**	P	**Pn**		**20 06 00.5**	**+0.9**
NMHZ	**Naumai**	**2.54**	**221**	P	**Pn**		**20 06 03.2**	**+0.9**
ARHZ	**Aropaoanui**	**2.58**	**216**	P	**Pn**		**20 06 02.9**	**+0.2**
MRHZ	**Matea Rd**	**2.58**	**230**	P	**Pn**		**20 06 04.7**	**+1.8**
KUZ	**Kuaotunu**	**2.61**	**279**	P	**Pn**		**20 06 02.5**	**-0.7**
BKZ	**Black Stump Fm**	**2.76**	**223**	P	**Pn**		**20 06 05.9**	**+0.5**
BKZ	**Black Stump Fm**	**2.76**	**223**	P	**Pn**		**20 06 05.9**	**+0.5**
TOZ	**Tahuroa Road**	**2.78**	**258**	P	**Pn**		**20 06 06.1**	**+0.5**
MCHZ	**McNeill Hill**	**2.86**	**217**	P	**Pn**		**20 06 06.8**	**+0.1**
MKAZ	**Moumakai**	**3.01**	**270**	P	**Pn**		**20 06 08.6**	**-0.2**
KAHZ	**Kahuranaki**	**3.06**	**211**	P	**Pn**		**20 06 08.6**	**-0.9**
TMVZ	**Te Maari**	**3.19**	**232**	P	**Pn**		**20 06 11.8**	**+0.4**
ETVZ	**East Tongariro**	**3.20**	**232**	P	**Pn**		**20 06 11.7**	**+0.2**
NTVZ	**North Tongariro**	**3.20**	**232**	P	**Pn**		**20 06 11.8**	**+0.4**
BHHZ	**Black Hill Sta**	**3.22**	**224**	P	**Pn**		**20 06 11.9**	**+0.1**
OTVZ	**Oturere**	**3.25**	**232**	P	**Pn**		**20 06 12.3**	**+0.1**
NNVZ	**North Ngauruho**	**3.26**	**232**	P	**Pn**		**20 06 13.4**	**+1.1**
SNVZ	**South Ngauruho**	**3.27**	**231**	P	**Pn**		**20 06 12.8**	**+0.3**
NGZ	**Ngauruhoe**	**3.29**	**232**	P	**Pn**		**20 06 13.0**	**+0.2**
TUVZ	**Tukino**	**3.31**	**230**	P	**Pn**		**20 06 13.9**	**+0.8**
HIZ	**Hauiti**	**3.49**	**246**	P	**Pn**		**20 06 17.0**	**+1.7**
HIZ	**Hauiti**	**3.49**	**246**	P	**Pn**		**20 06 17.0**	**+1.7**
WCZ	**Waipu Caves**	**3.90**	**287**	P	**Pn**		**20 06 21.6**	**+0.7**
WAZ	**Wanganui**	**4.02**	**229**	P	**Pn**		**20 06 23.3**	**+0.7**
BFZ	**Birch Farm**	**4.07**	**210**	P	**Pn**		**20 06 21.0**	**-2.3**
PKE	**Pukeiti**	**4.38**	**241**	P	**Pn**		**20 06 31.0**	**+3.3**
KHEZ	**Kahui Hut**	**4.41**	**240**	P	**Pn**		**20 06 30.7**	**+2.6**
OUZ	**Omahuta**	**4.74**	**293**	P	**Pn**		**20 06 33.4**	**+0.9**
QRZ	**Quartz Range**	**6.17**	**232**	P	**Pn**		**20 06 50.1**	**-2.1**

IDC ***14*** *20:11:27.6±1.5, 7˚.20S×150˚.12E, h0km, mb4.1/4, mbtmp4.1/7, ML4.0/3, MS2.9/2, Error ellipse: s-maj=64.6km s-min=18.2km az=126.0*
NEIC ***14*** *20:11:32.9±1.8, 7˚.1S±0˚.2×150˚.2E±0˚.2, h45km±20km, mb4.3/10, Error ellipse: s-maj=42.0km s-min=7.5km az=123.0*

ISC 14 20:11:31.3±0.9, 7˚.3S±0˚.1×150˚.4E±0˚.2, h35km, n25, σ1§84/25, mb4.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KRVT	**Keravat (AS076**	**3.41**	**28**	Pn	**Pn**		**20 12 23.8**	**+1.7**
	11nm,0.3s,baz=187,slow=3.8,SNR=6.9							
KRVT				Sn	**Sn**		**20 13 03.2**	**+1.8**
	29nm,0.3s,baz=197,slow=22,SNR=13							
KRVT				LR	LR		20 13 18.1	
	comp=Z,84nm,21.3s,baz=46,slow=32							
	47nm,0.5s							
RABL	**Rabaul**	**3.58**	**29**	Pn	**Pn**		**20 12 24.2**	**-0.3**
RABL				Sn	**Sn**		**20 13 08.2**	**+2.6**
PMG	**Port Moresby**	**3.82**	**237**	Pn	**Pn**		**20 12 29.3**	**+1.5**
	8.8nm,0.3s,baz=78,slow=7.0,SNR=15							
PMG				Sn	**Sn**		**20 13 12.9**	**+1.4**
	13nm,0.3s,baz=356,slow=13,SNR=3.8							
PMG	**Port Moresby**	**3.82**	**237**	Pn	**Pn**		**20 12 28.4**	**+0.6**
COEN	**Coen**	**9.69**	**227**	Pn	Pn		20 13 43.5	-4.9
CTA	**Charters Tower**	**13.30**	**197**	Pn	**Pn**		**20 14 38.0**	**+0.3**
	0.4nm,0.3s,baz=21,slow=8.6,SNR=1.9							
	2.1nm,0.5s							
CTAO	**Charters Tower**	**13.30**	**197**	Pn	Pn		20 14 35.6	-2.1
PATS	**Pohnpei**	**16.14**	**29**	Pn	**Pn**		**20 15 10.3**	**-5.3**
MTN	**Manton Dam**	**19.75**	**252**	P	**P**		**20 15 54.9**	**-3.6**
MTN				IAmb	IAmb		20 16 24.3	
	comp=Z,31nm,1.5s							
WB0	**Warramunga Arr**	**19.86**	**230**	P	**P**		**20 15 59.0**	**-0.6**
WB0				IAmb	IAmb		20 16 00.9	
	comp=Z,6.4nm,0.8s							
WR0	**Warramunga Arr**	**19.86**	**229**	P	**P**		**20 15 59.1**	**-0.5**
WR0				IAmb	IAmb		20 16 00.9	
	comp=Z,4.8nm,0.9s							
WB2	**Warramunga Arr**	**19.99**	**230**	P	**P**		**20 16 00.8**	**-0.3**
WB2				IAmb	IAmb		20 16 02.3	
	comp=Z,5.6nm,0.7s							
WRA	**Warramunga Arr**	**20.00**	**230**	P	**P**		**20 16 00.1**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=53,slow=10,SNR=55							
	comp=Z,2.5nm,0.5s							
WRA	**Warramunga Arr**	**20.00**	**230**	P	**P**		**20 15 59.3**	**-1.9**
AS31	**Alice Springs**	**22.69**	**223**	P	**P**		**20 16 29.2**	**-0.9**
ASAR	**Alice Springs**	**22.69**	**223**	P	**P**		**20 16 29.6**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=55,slow=9.0,SNR=68							
	comp=Z,2.5nm,0.5s							
ASAR	**Alice Springs**	**22.69**	**223**	P	**P**		**20 16 29.4**	**-0.6**
KNRA	**Kununurra**	**22.76**	**247**	P	**P**		**20 16 28.5**	**-2.4**
KNRA				IAmb	IAmb		20 17 05.4	
	comp=Z,58nm,1.4s							
STKA	**Stephens Creek**	**25.76**	**197**	LR	LR		20 26 02.4	
	comp=Z,59nm,19.2s,baz=25,slow=34							
FITZ	**Fitzroy Crossi**	**26.39**	**244**	P	**P**		**20 17 04.5**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=63,slow=8.9,SNR=21							
	comp=Z,4.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**26.39**	**244**		**P**		**20 17 05.0**	**+0.2**
FORT	**Forrest**	**31.33**	**219**	P	**P**		**20 17 48.6**	**0.0**
FORT				IAmb	IAmb		20 18 00.9	
	comp=Z,14nm,0.9s							
ZALV	**Zalesovo Beam**	**81.97**	**327**	P	**P**		**20 23 48.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=113,slow=7.0,SNR=2.4							
	comp=Z,0.6nm,0.6s							
ILAR	**Eielson Array**	**85.39**	**22**	P	**P**		**20 24 06.1**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=246,slow=5.7,SNR=6.8							
	comp=Z,0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**148.71**	**283**	PKPbc		**PKPbc**		**20 31 16.9**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=81,slow=3.4,SNR=9.9								

JMA ***14*** *20:15:17.7±0.4, 34˚.2˚×14˚.2E±˚, h23km±2km, MV2.7/22, FAR SE OFF BOSO PEN*
IDC ***14*** *20:15:18.6±2.1, 34˚.41N×141˚.65E, h0km, mb3.4/3, mbtmp3.4/5, ML2.7/2, MS3.8/2, Error ellipse: s-maj=42.5km s-min=24.9km az=84.0*

ISC 14 20:15:19.2±1.5, 34˚.41N±0˚.07×141˚.79E±0˚.09, h10km, n14, σ0§67/15, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BSO1	**Boso 1**	**0.71**	**290**	*eP*	**Pg**		**20 15 33.0**	**+0.1**
BSO1				*eX*			20 15 44.0	
BSO2	**Boso 2**	**0.92**	**292**	*eS*	**Sg**		**20 15 49.9**	**+1.1**
BSO3	**Boso 3**	**1.13**	**291**	*eP*	**Pn**		**20 15 39.9**	**-0.8**
BSO3				*eS*	**Sb**		**20 15 55.0**	**-0.2**
BSO4	**Boso 4**	**1.33**	**296**	*eP*	**Pn**		**20 15 43.7**	**0.0**
CHOJ	**Chosi**	**1.50**	**330**	*eP*	**Pn**		**20 15 45.4**	**-0.8**
JKUC	**kamogawauchiur**	**1.51**	**300**	P	**Pn**		**20 15 45.8**	**-0.5**
JKUC				*eS*	**Sn**		**20 16 05.4**	**-0.6**
JMKN	**Mikurajimanish**	**1.90**	**255**	*eP*	**Pn**		**20 15 50.7**	**-0.9**
JHJ	**Hachijo jima 2**	**2.11**	**233**	Pn	**Pn**		**20 15 54.3**	**-0.2**
	8.8nm,0.3s,baz=80,slow=19,SNR=13							
JHJ				Sn	**Sn**		**20 16 20.1**	**-0.7**
	20nm,0.3s,baz=131,slow=20,SNR=8.4							
	98nm,0.7s							
MJAR	**Matsushiro Arr**	**3.62**	**307**	Pn	**Pn**		**20 16 15.2**	**0.0**
	0.4nm,0.3s,baz=131,slow=8.8,SNR=20							
	2.0nm,0.3s							
PETK	**Petropavlovsk-**	**21.85**	**26**	LR	LR		20 32 51.8	
	comp=Z,118nm,18.1s,baz=215,slow=48							
TIXI	**Tiksi**	**37.93**	**353**	LR	LR		20 40 39.6	
	comp=Z,225nm,18.2s,baz=181,slow=40							
MKAR	**Makanchi Array**	**45.81**	**304**	P	**P**		**20 23 41.6**	**+0.5**
	0.4nm,0.7s,baz=100,slow=8.3,SNR=5.4							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**47.89**	**310**	P	**P**		**20 23 56.7**	**-0.5**
	0.3nm,0.5s,baz=85,slow=7.6,SNR=5.2							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**54.51**	**189**	P	**P**		**20 24 47.9**	**+0.7**
	0.3nm,0.6s,baz=1.1,slow=7.4,SNR=8.4							
	0.3nm,0.6s							

JMA ***14*** *20:16:02.8±0.4, 34˚.N±1˚.×14˚.2E±˚, h29km±3km, MD4.5/27, MW4.6/27, FAR SE OFF BOSO PEN*
IDC ***14*** *20:16:02.7±0.5, 34˚.43N×141˚.55E, h0km, mb4.2/26, mbtmp4.2/29, ML3.8/3, MS4.0/28, Error ellipse: s-maj=14.0km s-min=12.4km az=93.0*
NIED ***14*** *20:16:02.8, 34˚.41N×141˚.91E, h29km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr5.46; Mθθ-0.08; Mφφ-5.38; Mrθ1.69; Mθφ-0.13; Mφr3.39; Fault plane solution: Mo6.60000×10¹⁵ NP1: φs169.00000°, δ30.00000°, λ68.00000°. NP2:φs15.00000°, δ62.00000°, λ102.00000°.*
MOS ***14*** *20:16:03.7±1.1, 34˚.35N×141˚.52E, h16km, mb4.6/24, MS4.0/7 Error ellipse: s-maj=12.4km s-min=6.0km az=127.1*
NEIC ***14*** *20:16:05.5±2.6, 34˚.52N±0˚.06×141˚.54E±0˚.09, h10km±1km, mb4.6/94, Error ellipse: s-maj=12.4km s-min=9.7km az=80.0*
BJI ***14*** *20:16:06.3±0.0, 34˚.56N×141˚.45E, h25km, mb4.4/26, mB5.1/15, Ms4.5/26, Ms7 4.3/26*

ISC 14 20:16:06.3±0.4, 34˚.41N±0˚.04×141˚.71E±0˚.05, h27km, n284, σ1§66/254, mb4.5/94, MS4.1/38, 9C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BSO1	**Boso 1**	**0.65**	**292**	*eP*	**Pb**		**20 16 17.8**	**-1.0**
BSO3	**Boso 3**	**1.07**	**292**	*eP*	**Pn**		**20 16 24.6**	**-0.6**
BSO4	**Boso 4**	**1.27**	**298**	*eP*	**Pn**		**20 16 27.9**	**-0.3**
KTR	**Katsuura**	**1.37**	**303**	*eS*	**Sb**		**20 16 48.4**	**+0.2**
JKUC	**kamogawauchiur**	**1.45**	**301**	*eP*	**Pn**		**20 16 29.8**	**-0.9**
JKUC				*eS*	**Sb**		**20 16 49.9**	**-0.8**
JKUC	**kamogawauchiur**	**1.45**	**301**	A	A		20 16 29.8	
	comp=E,15nm,9.5s,comp=E,13nm,7.4s							
CHOJ	**Chosi**	**1.47**	**332**	*eP*	**Pn**		**20 16 29.4**	**-1.6**
CHOJ				*eS*	**Sn**		**20 16 46.6**	**-2.7**
CHOJ	**Chosi**	**1.47**	**332**	A	A		20 16 29.4	
	comp=E,8.0nm,2.3s,comp=E,7.0nm,7.0s							
JCN	**Chigara**	**1.60**	**310**	A	A		20 16 31.9	
	comp=E,60nm,5.9s,comp=E,39nm,8.9s							
JSMT	**Sammumatsuo**	**1.61**	**320**	A	A		20 16 31.7	
	comp=E,50nm,6.3s,comp=E,57nm,7.0s							
JIHU	**Itakohorinouch**	**1.83**	**328**	A	A		20 16 34.6	
	comp=E,20nm,5.6s,comp=E,20nm,5.5s							
JMKN	**Mikurajimanish**	**1.83**	**254**	*eP*	**Pn**		**20 16 35.2**	**-0.8**
JMKN				*eS*	**Sb**		**20 16 59.5**	**-2.1**
JYO	**Yokosk**	**1.87**	**296**	A	A		20 16 36.1	
	comp=E,24nm,6.1s,comp=E,15nm,6.8s							
JIM2	**Oshima 3**	**1.91**	**280**	A	A		20 16 36.8	
	comp=E,10.0nm,3.6s,comp=E,9.0nm,2.2s							
JTHY	**Toshimahigashi**	**2.01**	**274**	A	A		20 16 38.2	
	comp=E,12nm,6.6s,comp=E,12nm,9.7s							
JNIO	**Niijimaoohara**	**2.02**	**269**	A	A		20 16 38.4	
	comp=E,14nm,3.9s,comp=E,13nm,3.3s							
JHJ2	**Mitsune**	**2.04**	**231**	Pn	**Pn**		**20 16 38.7**	**-0.1**
JHJ2	**Mitsune**	**2.04**	**231**	*eP*	**Pn**		**20 16 39.1**	**+0.2**
TOK	**Tokyo**	**2.05**	**309**	A	A		20 16 38.3	
	comp=E,30nm,7.3s,comp=E,22nm,5.5s							
JHJ	**Hachijo jima 2**	**2.06**	**232**	Pn	**Pn**		**20 16 39.0**	**-0.1**
	119nm,0.3s,baz=90,slow=19,SNR=14							
JHJ				Sn	**Sn**		**20 17 04.4**	**+0.5**
	150nm,0.3s,baz=52,slow=19,SNR=5.6							
JYT	**Yasato**	**2.20**	**326**	Pn	**Pn**		**20 16 39.2**	**-1.8**
JYT	**Yasato**	**2.20**	**326**	A	A		20 16 40.0	
	comp=E,5.0nm,3.2s,comp=E,4.0nm,8.4s							
JHTM	**Izuhatsuma**	**2.29**	**285**	A	A		20 16 42.3	
	comp=E,7.0nm,2.7s,comp=E,7.0nm,4.0s							
JOD2	**Odawara 2**	**2.32**	**292**	P	**Pn**		**20 16 41.9**	**-0.8**
JOD2	**Odawara 2**	**2.32**	**292**	A	A		20 16 41.9	
	comp=E,4.0nm,4.7s,comp=E,5.0nm,4.6s							
JIZS	**Izushimoda**	**2.36**	**278**	A	A		20 16 43.3	
	comp=E,3.0nm,5.1s,comp=E,3.0nm,2.9s							
JSGW	**Sagamiharawaka**	**2.38**	**301**	A	A		20 16 43.2	
	comp=E,4.0nm,3.7s,comp=E,3.0nm,4.7s							
JHU	**Hanno**	**2.46**	**307**	A	A		20 16 44.3	
	comp=E,4.0nm,8.4s,comp=E,4.0nm,2.9s							
JFNN	**Fujinakano**	**2.61**	**288**	A	A		20 16 46.8	
	comp=E,6.0nm,3.5s,comp=E,7.0nm,2.8s							
JSG	**Saga**	**2.92**	**276**	A	A		20 16 51.3	
	comp=E,4.0nm,3.3s,comp=E,6.0nm,5.2s							
JSB	**Shiboa**	**2.94**	**331**	A	A		20 16 50.4	
	comp=E,6.0nm,4.6s,comp=E,8.0nm,5.0s							
JKKS	**Kakegawashinom**	**3.09**	**277**	A	A		20 16 53.7	
	comp=E,6.0nm,6.3s,comp=E,5.0nm,2.7s							
JMM	**Marumori**	**3.53**	**348**		**Pn**		**20 16 54.6**	**-4.8**
MJA0	**Matsu Arr-Jizo**	**3.54**	**308**	*eP*	**Pn**		**20 16 59.2**	**-0.3**
MJA0				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MJAR	**Matsushiro Arr**	**3.56**	**308**	Pn	**Pn**		**20 16 59.0**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=121,slow=8.1,SNR=46							
MJAR				Sn	**Sn**		**20 17 40.2**	**-0.9**
	comp=Z,2.8nm,0.3s,baz=135,slow=23,SNR=5.2							
	comp=Z,12nm,0.3s							
MAJO	**Matsushiro**	**3.57**	**308**		**Pn**		**20 16 59.1**	**-0.7**
MAJO	**Matsushiro**	**3.57**	**308**	*ceP*	**Pn**		**20 16 59.9**	**0.0**
JGF	**Kuroka**	**3.77**	**290**		**Pn**		**20 17 03.0**	**+0.3**
INU	**Inuyama**	**3.97**	**285**		**Pn**		**20 17 06.2**	**+0.8**
JSD	**Sado**	**4.57**	**323**		**Pn**		**20 17 12.1**	**-1.6**
JTM	**Tenmabayashi**	**6.39**	**356**		**Pn**		**20 17 37.0**	**-1.6**
JHS	**Saijyo**	**7.10**	**277**		**Pn**		**20 17 52.2**	**+3.7**
JCJ	**Chichijima**	**7.30**	**177**	Pn	**Pn**		**20 17 50.6**	**-0.6**
	comp=Z,12nm,0.3s,baz=295,slow=19,SNR=3.0							
JCJ				Sn	**Sn**		**20 19 07.6**	**-5.6**
	comp=Z,8.4nm,0.3s,baz=287,slow=19,SNR=1.9							
	comp=Z,34nm,0.3s							
JCJ	**Chichijima**	**7.30**	**177**	Pn	**Pn**		**20 17 50.8**	**-0.4**
ERM	**Erimo**	**7.68**	**8**	Pn	**Pn**		**20 17 53.4**	**-2.9**
ERM	**Erimo**	**7.68**	**8**	*eP*	**Pn**		**20 17 53.3**	**-3.0**
JEW	**Eniwo**	**8.42**	**359**	Pn	**Pn**		**20 18 05.3**	**-1.2**
KSRS	**Korea Array**	**11.58**	**289**	Pn	**Pn**		**20 18 51.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=102,slow=14,SNR=15							
KSRS				LR	LR		20 23 49.4	
	comp=Z,332nm,18.7s,baz=100,slow=41							
KSRS	**Korea Array**	**11.58**	**289**	*eP*	**Pn**		**20 18 51.9**	**+2.1**
USRK	**Ussuriysk Ar.**	**12.33**	**325**	LR	LR		20 24 06.0	
	comp=Z,657nm,18.5s,baz=220,slow=40							
YSS	**Yuzh-Sakhalins**	**12.56**	**3**	Pn	**Pn**		**20 19 00.7**	**-2.4**
YSS	**Yuzh-Sakhalins**	**12.56**	**3**	*eP*	**Pn**		**20 19 00.8**	**-2.3**
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
YSS				MLR	MLR			
	comp=Z,800nm,14.0s							
JOW	**Kunigami**	**13.81**	**240**	LR	LR		20 24 36.2	
	comp=Z,297nm,20.3s,baz=108,slow=38							
MDJ	**Mudanjiang**	**13.82**	**321**	P	P		20 19 34.6	+6.1
MDJ				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MDJ				pmax	pmax			
	comp=Z,110nm,4.6s							
KLR	**Kul'dur**	**16.54**	**337**	Pn	**Pn**		**20 19 54.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=159,slow=8.6,SNR=2.5							
	comp=Z,0.8nm,0.5s							
NJ2	**Nanjing**	**19.26**	**269**	*eP*	**Pn**		**20 20 31.1**	**+1.3**
NJ2				pmax	pmax			
	comp=Z,12nm,0.6s							
NJ2				LR	LR			
	comp=Z,1μm,10.9s							
NJ2				LR	LR			
	comp=Z,1μm,11.4s							
NJ2				LR	LR			
	comp=Z,2μm,15.6s							
BJI	**Beijing**	**21.06**	**293**	P	**P**		**20 20 45.5**	**-2.7**
BJI				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BJI				LR	LR			
	comp=Z,93nm,14.3s							
BJI				LR	LR			
	comp=Z,360nm,13.5s							
BJI				LR	LR			
	comp=Z,470nm,11.1s							
ZEA	**Zeya**	**21.86**	**337**	*eP*	**P**		**20 20 56.7**	**0.0**
ZEA				pmax	pmax			
	comp=E,10.0nm,0.4s							
ZEA				pmax	pmax			
	comp=N,10.0nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,20nm,0.8s							
ZEA				MLR	MLR			
	comp=E,200nm,14.0s							
ZEA				MLR	MLR			
	comp=Z,500nm,16.0s							
HIA	**Hailar**	**21.98**	**319**	P	**P**		**20 20 53.5**	**-4.6**
HIA	**Hailar**	**21.98**	**319**	P	**P**		**20 20 53.5**	**-4.6**
HIA				pmax	pmax			
	comp=Z,8.0nm,1.1s							
PET	**Petropavlovsk**	**22.17**	**28**	*eP*	P		20 21 07.4	+7.4
PET				*eS*	**S**		**20 25 03.6**	**+0.9**
PET				MLR	MLR			
	comp=Z,300nm,18.0s							
MA2	**Magadan**	**25.88**	**11**	LR	LR		20 33 16.6	
	comp=Z,154nm,18.1s,baz=192,slow=40							
MA2	**Magadan**	**25.88**	**11**	*eP*	**P**		**20 21 36.1**	**+0.6**
MA2				pmax	pmax			
	comp=Z,25nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**26.67**	**117**	T	T		20 49 51.4	
	baz=309,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**26.68**	**117**	T	T		20 49 49.5	
	baz=309,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**26.69**	**117**	T	T		20 49 50.4	
	baz=309,slow=75,SNR=20							
H11S3	**WAKE ISLAND Hy**	**27.30**	**119**	T	T		20 50 43.6	
	baz=312,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**27.30**	**119**	T	T		20 50 41.1	
	baz=312,slow=75,SNR=15							
H11S2	**WAKE ISLAND Hy**	**27.32**	**119**	T	T		20 50 44.6	
	baz=312,slow=75,SNR=14							
YAK	**Yakutsk**	**28.68**	**348**	P	**P**		**20 22 00.2**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=113,slow=1.9,SNR=2.8							
	comp=Z,2.4nm,0.4s							
YAK	**Yakutsk**	**28.68**	**348**	P	**P**		**20 21 58.4**	**-2.3**
YAK				IAmb	IAmb		20 22 37.2	
	comp=Z,11nm,1.0s							
YAK	**Yakutsk**	**28.68**	**348**	*eP*	**P**		**20 22 00.6**	**0.0**
YAK				pmax	pmax			
	comp=Z,28nm,2.5s							
ULN	**Ulaanbaatar**	**29.10**	**308**	P	**P**		**20 22 02.9**	**-1.8**
ULN				IAmb	IAmb		20 22 08.0	
	comp=Z,11nm,1.4s							
ULN	**Ulaanbaatar**	**29.10**	**308**	*d iP*	**P**		**20 22 06.3**	**+1.6**
ULN				pmax	pmax			
	comp=Z,11nm,2.5s							
SONM	**Songino Array**	**29.52**	**308**	P	**P**		**20 22 08.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=101,slow=8.3,SNR=6.1							
	comp=Z,0.7nm,0.5s							
SONM	**Songino

NRIK **Noril'sk** **45.76 336** P **P** **20 24 23.9 -1.0**
NRIK IAmb IAmb 20 24 27.8
comp=Z,12nm,1.4s
NRIK **Noril'sk** **45.76 336**‖ *e*P **P** **20 24 27.1 +2.2**
NRIK pmax pmax
comp=Z,10.0nm,1.4s
MK31 **Makanchi Array** **45.76 304** P **P** **20 24 25.0 -0.3**
MK31 **Makanchi Array** **45.76 304** *d* P **P** **20 24 26.2 +0.9**
MKAR **Makanchi Array** **45.76 304** P **P** **20 24 24.9 -0.4**
comp=Z,2.2nm,0.6s,baz=88,slow=8.9,SNR=16
comp=Z,2.2nm,0.6s
MKAR **Makanchi Array** **45.76 304** P **P** **20 24 24.6 -0.7**
MAKZ **Makanchi** **45.97 304** **P** **20 24 27.4 +0.4**
MAKZ **Makanchi** **45.97 304** P **P** **20 24 27.4 +0.4**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
RAMN **Ramite** **47.49 277** *e*P **P** **20 24 38.2 -1.2**
comp=Z,9.5nm,0.6s
JIRN **Jiri** **47.55 278** *e*P **P** **20 24 39.4 -0.6**
GUN **Gumba** **47.71 278** *e*P **P** **20 24 40.9 -0.3**
KURK **Kurchatov** **47.77 310** P **P** **20 24 39.9 -1.1**
KURK **Kurchatov** **47.77 310** *c i*P **P** **20 24 40.4 -0.6**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURBB **Kurchatov Arra** **47.84 310** P **P** **20 24 40.6 -0.8**
comp=Z,4.1nm,0.6s,baz=86,slow=7.9,SNR=43
comp=Z,4.1nm,0.6s
PKI **Pulchoki** **48.23 278** *e*P **P** **20 24 43.9 -1.3**
PKIN **Phulchoki** **48.23 278** *e*P **P** **20 24 44.0 -1.2**
comp=Z,7.5nm,0.5s
GKN **Gorkha** **48.69 279** *e*P **P** **20 24 47.4 -1.2**
H21K **Melozitna Rive** **49.15 30** P **P** **20 24 54.8 +3.4**
H21K IAmb IAmb 20 24 55.8
comp=Z,14nm,1.4s
DANN **Dangsing** **49.28 280** *e*P **P** **20 24 52.6 -0.6**
comp=Z,25nm,0.6s
MLY **Manley** **49.96 31** P **P** **20 24 59.9 +2.3**
MLY IAmb IAmb 20 25 12.5
comp=Z,5.6nm,1.0s
PYUN **Piuthan** **50.00 280** *e*P **P** **20 24 57.7 -0.9**
comp=Z,29nm,0.8s
NEA2 **Nenana** **50.65 31** P **P** **20 25 05.9 +3.1**
BOOM **Boomskoye usch** **50.98 300** P **P** **20 25 05.7 -0.2**
BOOM **Boomskoye usch** **50.98 300** P **P** **20 25 05.7 -0.2**
BOOM pmax pmax
comp=Z,6.0nm,1.2s
MDM **Murphy Dome** **51.02 31** P **P** **20 25 07.7 +2.1**
NRN **Naryn** **51.20 298** P **P** **20 25 06.7 -1.0**
NRN **Naryn** **51.20 298** P **P** **20 25 06.7 -1.0**
NRN pmax pmax
comp=Z,7.0nm,1.5s
HDA **Harding Lake** **51.57 32** P **P** **20 25 10.9 +1.2**
HDA IAmb IAmb 20 25 23.2
comp=Z,6.0nm,0.8s
IL31 **51.59 31** P **P** **20 25 09.5 -0.3**
IL31 IAmb IAmb 20 25 23.5
comp=Z,5.0nm,0.8s
ILAR **Eielson Array** **51.59 31** P **P** **20 25 10.5 +0.6**
comp=Z,2.7nm,0.8s,baz=274,slow=6.5,SNR=14
comp=Z,2.7nm,0.8s
ILAR **Eielson Array** **51.59 31** P **P** **20 25 10.2 +0.3**
KSH **Kashi** **51.74 296** P **P** **20 25 15.5 +4.0**
KSH LR LR
comp=Z,240nm,15.2s
KSH LR LR
comp=Z,260nm,14.0s
KSH LR LR
comp=Z,270nm,12.1s
AAK **Ala-Archa** **51.98 300** P **P** **20 25 12.9 -0.4**
AAK **Ala-Archa** **51.98 300**‖ *e*P **P** **20 25 13.7 +0.4**
AAK pmax pmax
comp=Z,5.0nm,1.6s
RIDG **Independent Ri** **52.51 33** P **P** **20 25 17.1 +0.3**
RIDG IAmb IAmb 20 25 19.2
comp=Z,12nm,1.4s
BVAR **Borovoye Array** **52.54 314** P **P** **20 25 16.6 -0.5**
comp=Z,1.3nm,0.5s,baz=84,slow=8.1,SNR=9.3
BVAR PcP **PcP** **20 26 27.6 +0.4**
comp=Z,0.9nm,0.5s,baz=103,slow=4.6,SNR=2.4
comp=Z,1.3nm,0.5s
BRVK **Borovoye** **52.60 314** P **P** **20 25 17.1 -0.4**
BRVK IAmb IAmb 20 25 19.1
comp=Z,8.8nm,1.2s
BRVK **Borovoye** **52.60 314**‖ *e*P **P** **20 25 17.4 -0.1**
BRVK pmax pmax
comp=Z,15nm,2.5s
SCRK **Sand Creek** **52.88 32** P **P** **20 25 22.1 +2.5**
SCRK IAmb IAmb 20 25 34.0
comp=Z,4.9nm,0.8s
L26K **Log Cabin Wild** **53.23 33** P **P** **20 25 23.6 +1.5**
L27K **Beaver Creek,** **53.92 33** P **P** **20 25 29.8 +2.7**
L27K IAmb IAmb 20 25 31.3
comp=Z,5.3nm,1.1s
BCAR **Beaver Creek A** **53.94 33** P **P** **20 25 28.3 +1.1**
WB0 **Warramunga Ar** **54.32 188** P **P** **20 25 30.4 0.0**
FITZ **Fitzroy Crossi** **54.41 199** P **P** **20 25 31.4 +0.3**
comp=Z,3.1nm,0.7s,baz=11,slow=6.8,SNR=12
comp=Z,3.1nm,0.7s
WRAB **Tennant Creek** **54.49 189**‖ *e*P **P** **20 25 31.4 -0.3**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WB2 **Warramunga Arr** **54.50 189** P **P** **20 25 31.7 0.0**
WB2 IAmb IAmb 20 26 05.7
comp=Z,7.1nm,0.9s
WRA **Warramunga Ar** **54.50 189** P **P** **20 25 31.7 0.0**
comp=Z,1.6nm,0.5s,baz=2.3,slow=7.6,SNR=25
comp=Z,1.6nm,0.5s
WRA **Warramunga Ar** **54.50 189** P **P** **20 25 31.3 -0.4**
KK31 **Karatay Array** **54.68 302** P **P** **20 25 32.9 0.0**
KK31 **Karatay Array** **54.68 302** P **P** **20 25 32.9 0.0**
KK31 pmax pmax
comp=Z,13nm,1.3s
KKAR **Karatay Array** **54.68 302** P **P** **20 25 32.5 -0.5**
KKAR **Karatay Array** **54.68 302** P **P** **20 25 32.9 0.0**
KKAR IAmb IAmb 20 25 39.0
comp=Z,13nm,1.2s
KKAR **Karatay Array** **54.68 302** P **P** **20 25 32.9 0.0**
KKAR pmax pmax
comp=Z,13nm,1.3s
EPYK **Eagle Plains** **55.69 29** P **P** **20 25 40.1 +0.2**
GAR **Garm** **56.08 297** P **P** **20 25 42.3 -0.9**
CPH **Captain Cook** **56.75 88** P **P** **20 25 50.1 +2.0**
CHGR **Chuyangaron** **57.04 297** P **P** **20 25 49.7 -0.3**
CHGR **Chuyangaron** **57.04 297** P **P** **20 25 49.7 -0.3**
CHGR pmax pmax
comp=Z,17nm,0.6s
HMH **Humu'ula Sheep** **57.06 88** P **P** **20 25 49.4 -1.2**
AS31 **Alice Springs** **58.23 188** P **P** **20 25 58.9 +0.6**
ASAR **Alice Springs** **58.23 188** P **P** **20 25 58.4 +0.2**
comp=Z,1.3nm,0.8s,baz=16,slow=13,SNR=18
comp=Z,1.3nm,0.8s
ASAR **Alice Springs** **58.23 188** P **P** **20 25 58.7 +0.4**
ASAR **Alice Springs** **58.23 188** P **P** **20 25 58.7 +0.4**
ARU **Arti** **58.50 320** P **P** **20 25 59.0 -0.8**
ARU IAmb IAmb 20 26 12.2
comp=Z,5.5nm,0.7s
ARU **Arti** **58.50 320** *c i*P **P** **20 25 59.5 -0.3**
ARU 20 26 46.1
ARU S **S** **20 34 03.6 +2.1**
ARU SS **SS** **20 37 55.2 +1.7**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU MLR MLR
comp=Z,215nm,16.0s
KBL **Kabul** **58.61 293** P **P** **20 26 01.9 +0.6**
KBL IAmb IAmb 20 26 10.4
comp=Z,7.1nm,1.3s
KBL **Kabul** **58.61 293** P **P** **20 26 01.9 +0.6**
KBL pmax pmax
comp=Z,7.0nm,1.3s
P33M **Teslin, Yukon** **58.67 36** P **P** **20 26 00.9 -0.2**
ABKAR **Akbulak array** **59.83 311** P **P** **20 26 08.8 -0.4**
ABKAR **Akbulak array** **59.83 311** P **P** **20 26 08.6 -0.6**
ABKAR IAmb IAmb 20 26 10.5
comp=Z,3.8nm,0.7s
DLBC **Dease Lake** **60.55 37** P **P** **20 26 16.5 +2.4**
comp=Z,2.3nm,0.9s,baz=5.9,slow=14,SNR=3.1
comp=Z,2.3nm,0.9s
AKTO **Aktyubinsk** **60.63 313** P **P** **20 26 14.5 -0.1**
comp=Z,3.3nm,0.6s,baz=73,slow=12,SNR=12
comp=Z,3.3nm,0.6s
KIRV **Kirov** **62.49 324** P **P** **20 26 27.4 +0.4**
comp=Z,5.3nm,0.5s,baz=1.8,slow=3.7,SNR=4.1
comp=Z,5.3nm,0.5s

SPITS **Spitsbergen Ar** **63.14 349** LR LR 20 56 11.6
comp=Z,120nm,18.6s,baz=5.0,slow=38
HRA **Herat** **63.82 295** P **P** **20 26 36.7 +0.1**
HRA IAmb IAmb 20 26 38.5
comp=Z,3.4nm,1.1s
AFI **Afiamalu** **65.28 129** LR LR 20 51 49.9
comp=Z,104nm,19.2s,baz=54,slow=33
GEYT **Alibeck** **65.34 300** P **P** **20 26 46.1 -0.1**
comp=Z,1.3nm,0.6s,baz=90,slow=4.3,SNR=3.1
comp=Z,1.3nm,0.6s
GEYT **Alibeck** **65.34 300** P **P** **20 26 45.0 -1.2**
GEYT IAmb IAmb 20 26 59.7
comp=Z,2.6nm,0.8s
KLMR **Klimovskoe** **66.11 328** *e*P **P** **20 26 50.4 -0.3**
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR **Klimovskoe** **66.11 328** *e*P **P** **20 26 50.4 -0.3**
KLMR AMP 20 26 51.7
comp=Z,11nm,1.3s
OBN **Obninsk** **70.35 324**‖ *e*P **P** **20 27 17.8 +0.5**
OBN *e* 20 27 38.6
OBN *e* 20 29 52.8
OBN *e*S **SKiKP** **20 37 02.9 +2.9**
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,163nm,16.0s
FINES **FINESS Array B** **71.25 333** P **P** **20 27 22.3 -0.4**
comp=Z,1.8nm,0.7s,baz=60,slow=11,SNR=7.2
comp=Z,1.8nm,0.7s
FINES **FINESS Array B** **71.25 333** *e*P **P** **20 27 23.0 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
YBH **Yreka Blue Hor** **71.77 52** LR LR 20 55 26.7
comp=Z,34nm,19.2s,baz=306,slow=33
PINE **Pine Mountain** **71.86 49** P **P** **20 27 28.9 +1.9**
KBZ **Khabaz** **72.81 311** P **P** **20 27 32.9 +0.6**
comp=Z,3.2nm,0.9s,baz=85,slow=2.8,SNR=6.5
comp=Z,3.2nm,0.9s
KBZ **Khabaz** **72.81 311** *e*P **P** **20 27 33.8 +1.5**
KBZ pmax pmax
comp=Z,9.0nm,1.3s
KIV **Kislovodsk** **72.82 312** P **P** **20 27 32.3 -0.3**
KIV IAmb IAmb 20 28 03.5
comp=Z,7.2nm,1.0s
KIV **Kislovodsk** **72.82 312** *i* P **P** **20 27 34.1 +1.5**
KIV *i* 20 27 50.2
KIV pmax pmax
comp=Z,4.0nm,1.0s
GNI **Garni** **73.48 307** P **P** **20 27 37.0 +0.4**
comp=Z,5.5nm,0.9s,baz=17,slow=20,SNR=2.8
GNI LR LR 21 03 28.7
comp=Z,179nm,18.3s,baz=56,slow=39
comp=Z,5.5nm,0.9s
GNI **Garni** **73.48 307**‖ *e*P **P** **20 27 38.1 +1.4**
GNI pmax pmax
comp=Z,10.0nm,1.3s
J08A **Circle Bar Ran** **73.62 49** P **P** **20 27 38.2 +0.8**
J08A IAmb IAmb 20 27 53.6
comp=Z,5.2nm,1.0s
ORV **Oroville** **73.67 53** P **P** **20 27 39.7 +2.1**
ORV **Oroville** **73.67 53** P **P** **20 27 39.7 +2.1**
ORV pmax pmax
comp=Z,3.0nm,0.9s
JTMT **Jette** **73.74 43** P **P** **20 27 39.3 +1.3**
JTMT IAmb IAmb 20 27 45.6
comp=Z,5.7nm,1.0s
BEKR **Beckworth** **74.25 52** P **P** **20 27 43.1 +1.8**
BEKR IAmb IAmb 20 27 56.2
comp=Z,5.1nm,0.8s
MNK **Minsk** **74.81 326** *i* P **P** **20 27 43.2 -0.7**
MNK *i* 20 30 30.5
MNK *i* PPP PPP 20 32 16.5
MNK *i* S **S** **20 37 18.3 -0.4**
MNK *i* 20 37 52.3
MNK *i* SS **SS** **20 42 07.6 +1.8**
MNK *i* SSS SSS 20 45 30.2
MNK pmax pmax
comp=Z,4.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=E,32nm,19.0s
MNK MLR MLR
comp=Z,101nm,17.0s
MNK MLR MLR
comp=N,15nm,15.0s
MNK **Minsk** **74.81 326** *i* P **P** **20 27 43.2 -0.7**
comp=E,1.0nm,0.9s
MNK *i* P **P** **20 27 43.2 -0.7**
comp=N,7.0nm,0.9s
MNK *i* P **P** **20 27 43.2 -0.7**
comp=Z,4.0nm,0.8s,baz=51
MNK *i* PP **PP** **20 30 30.6 -0.2**
MNK *i* PPP PPP 20 32 16.5
MNK *i* S **S** **20 37 18.4 -0.4**
MNK *i* SS **SS** **20 42 07.7 +1.8**
MNK *i* SSS SSS 20 45 30.2
MNK *i* LR LR 21 01 57.8
MNK *i* LRM MLR 21 03 37.0
MNK *i* LRM MLR 21 03 51.9
comp=Z,101nm,17.4s
MNK *i* LRM MLR 21 04 01.5
comp=N,15nm,15.5s
PAHR **Pah Rah Range** **74.98 52** P **P** **20 27 47.9 +2.5**
PAHR IAmb IAmb 20 27 48.8
comp=Z,7.6nm,1.3s
PNTR **Pine Nut** **75.17 53** P **P** **20 27 47.2 +0.6**
PNTR IAmb IAmb 20 27 50.3
comp=Z,4.2nm,0.8s
CMB **Columbia Colle** **75.20 54** P **P** **20 27 48.2 +1.6**
CMB **Columbia Colle** **75.20 54** P **P** **20 27 48.2 +1.6**
CMB pmax pmax
comp=Z,3.0nm,0.9s
MFID **Camas Ranch** **75.21 47** P **P** **20 27 47.7 +1.0**
MFID IAmb IAmb 20 27 50.2
comp=Z,4.0nm,0.9s
YERR **Yerington** **75.46 53** P **P** **20 27 48.6 +0.4**
YERR IAmb IAmb 20 28 03.1
comp=Z,4.2nm,0.8s
LRM **Limekiln Ridge** **75.86 44** P **P** **20 27 51.7 +1.2**
HLID **Hailey** **75.99 47** P **P** **20 27 54.4 +3.3**
GURO **Guroymak-BITLI** **76.11 307** P **P** **20 27 52.6 +0.7**
GURO IAmb IAmb 20 27 54.6
comp=Z,4.5nm,1.0s
KVN **Kaiserville** **76.17 52** P **P** **20 27 54.3 +2.0**
KVN IAmb IAmb 20 28 07.2
comp=Z,4.8nm,0.8s
KVN **Kaiserville** **76.17 52** P **P** **20 27 54.3 +2.0**
KVN pmax pmax
comp=Z,5.0nm,0.8s
LHV **Little Huntoon** **76.34 53** P **P** **20 27 56.0 +3.1**
LHV IAmb IAmb 20 28 01.4
comp=Z,11nm,1.3s
NVAR **Mina Array Bea** **76.37 53** P **P** **20 27 55.0 +1.5**
comp=Z,2.1nm,0.8s,baz=287,slow=5.2,SNR=14
NVAR LR LR 20 58 57.8
comp=Z,50nm,18.2s,baz=267,slow=34
comp=Z,2.1nm,0.8s
NVAR **Mina Array Bea** **76.37 53** P **P** **20 27 55.0 +1.5**
AKASG **Malin Array Be** **76.53 323** P **P** **20 27 55.3 -0.3**
comp=Z,1.2nm,0.6s,baz=49,slow=6.0,SNR=8.4
AKASG LR LR 21 05 17.5
comp=Z,302nm,18.5s,baz=87,slow=39
comp=Z,1.2nm,0.6s
AKASG **Malin Array Be** **76.53 323** *i* P **P** **20 27 53.0 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB **Malin Array Si** **76.53 323**‖ *e*P **P** **20 27 53.8 0.0**
AKBB pmax pmax
comp=Z,2.0nm,0.6s
HFS **Hagfors** **76.58 336** LR LR 21 05 39.6
comp=Z,257nm,18.6s,baz=30,slow=39
NB2 **NORSAR Subarra** **76.70 338** P **P** **20 27 54.6 -0.1**
comp=Z,0.7nm,0.6s,baz=41,slow=5.9
NOA **NORSAR Array B** **76.70 338** P **P** **20 27 53.3 -1.4**
comp=Z,1.1nm,0.7s,baz=39,slow=5.7,SNR=10
comp=Z,1.1nm,0.7s
NOA **NORSAR Array B** **76.70 338** *e*P **P** **20 27 54.7 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.7s
ELK **Elko** **77.06 49** P **P** **20 27 59.3 +2.0**
comp=Z,1.1nm,0.7s,baz=297,slow=9.0,SNR=5.3

ELK LR LR 20 54 08.0
comp=Z,17nm,21.4s,baz=287,slow=30
comp=Z,1.1nm,0.7s
ELK **Elko** **77.06 49** P **P** **20 28 00.4 +3.0**
ELK **Elko** **77.06 49** P **P** **20 28 00.4 +3.0**
ELK pmax pmax
comp=Z,3.0nm,1.0s
LCH **Last Change Ra** **77.47 53** P **P** **20 27 59.1 -0.4**
YFT **Old Faithful** **77.59 44** P **P** **20 28 00.8 +0.5**
YFT IAmb IAmb 20 28 33.9
comp=Z,4.3nm,0.8s
MARD **Mardin** **77.61 307** P **P** **20 28 01.6 +1.2**
GMN **Gold Mountain** **77.68 53** P **P** **20 28 03.1 +2.2**
IMW **Indian Meadow** **77.85 45** P **P** **20 28 03.7 +1.9**
IMW IAmb IAmb 20 28 36.6
comp=Z,3.6nm,0.5s
FXWY **Fox Creek** **77.95 45** P **P** **20 28 05.0 +2.7**
FXWY IAmb IAmb 20 28 26.2
comp=Z,7.0nm,1.3s
HVU **Hansel Valley** **78.00 47** P **P** **20 28 04.4 +1.9**
HVU IAmb IAmb 20 28 17.7
comp=Z,5.2nm,1.0s
HVU **Hansel Valley** **78.00 47** P **P** **20 28 04.4 +1.9**
HVU pmax pmax
comp=Z,5.0nm,1.0s
RLMT **Red Lodge** **78.08 43** P **P** **20 28 04.0 +1.0**
R11A **Troy Canyon, C** **78.19 52** P **P** **20 28 06.6 +3.0**
BGU **Big Grassy Mou** **78.33 48** P **P** **20 28 07.2 +2.9**
BGU IAmb IAmb 20 28 11.7
comp=Z,4.8nm,1.2s
RAR **Rarotonga** **78.43 126** LR LR 20 58 51.0
comp=Z,67nm,19.4s,baz=202,slow=33
SFJD **Kangerlussuaq** **78.47 5** LR LR 21 04 58.9
comp=Z,50nm,19.3s,baz=344,slow=37
S11A **Rachel** **78.49 52** P **P** **20 28 07.8 +2.6**
S11A IAmb IAmb 20 28 20.4
comp=Z,6.1nm,0.9s
QSM **Queen of Sheba** **78.69 54** P **P** **20 28 08.1 +1.9**
QSM IAmb IAmb 20 28 09.5
comp=Z,4.2nm,1.0s
DUG **Dugway, Tooele** **78.89 49** P **P** **20 28 09.4 +2.0**
DUG IAmb IAmb 20 28 11.3
comp=Z,6.2nm,0.9s
DUG **Dugway, Tooele** **78.89 49** P **P** **20 28 09.4 +2.0**
DUG pmax pmax
comp=Z,6.0nm,1.0s
PSUT **Pine Spring** **79.20 51** P **P** **20 28 12.6 +3.4**
FRB **Frobisher Bay** **79.27 13** LR LR 21 06 51.0
comp=Z,63nm,18.7s,baz=346,slow=38
PDAR **Pinedale Array** **79.34 45** P **P** **20 28 11.4 +1.5**
comp=Z,1.1nm,0.8s,baz=284,slow=3.1,SNR=8.8
comp=Z,1.1nm,0.8s
PDAR **Pinedale Array** **79.34 45** P **P** **20 28 10.5 +0.6**
NLU **North Lily Min** **79.49 49** P **P** **20 28 11.5 +0.7**
JLU **Jordanelle** **79.50 48** P **P** **20 28 12.7 +1.8**
JLU IAmb IAmb 20 28 26.0
comp=Z,5.9nm,1.0s
MPU **Maple Canyon** **79.73 48** P **P** **20 28 12.6 +0.5**
MPU IAmb IAmb 20 28 15.7
comp=Z,7.9nm,1.1s
CCUT **Cedar City** **80.09 51** P **P** **20 28 17.0 +2.9**
MSU **Marysvale** **80.28 50** P **P** **20 28 17.7 +2.6**
MSU **Marysvale** **80.28 50** P **P** **20 28 17.7 +2.6**
PFO **Pinyon Flats O** **80.30 56** LR LR 21 00 38.6
comp=Z,120nm,19.6s,baz=297,slow=33
LCMT **Little Creek M** **80.48 52** P **P** **20 28 18.9 +2.8**
MTPU **Mount Pierson** **80.55 50** P **P** **20 28 20.1 +3.4**
MTPU IAmb IAmb 20 28 32.9
comp=Z,4.9nm,0.9s
P17A **Butcher Ranch,** **80.61 48** P **P** **20 28 19.4 +2.6**
RDMU **Red Mountain** **80.66 47** P **P** **20 28 19.6 +2.5**
KNB **Kanab** **80.75 51** P **P** **20 28 20.6 +3.0**
KNB IAmb IAmb 20 28 22.2
comp=Z,12nm,1.2s
KNB **Kanab** **80.75 51** P **P** **20 28 20.6 +3.0**
KNB pmax pmax
comp=Z,12nm,1.2s
BR131 **Keskin Array S** **80.78 312** P **P** **20 28 18.3 +0.7**
BR131 **Keskin Array S** **80.78 312**‖ *e*P **P** **20 28 18.4 +0.7**
BRTR **Keskin Array B** **80.78 312** P **P** **20 28 18.1 +0.5**
comp=Z,1.1nm,0.8s,baz=114,slow=2.4,SNR=7.8
BRTR LR LR 21 09 17.1
comp=Z,90nm,18.6s,baz=74,slow=40
comp=Z,1.1nm,0.8s
BRTR **Keskin Array B** **80.78 312** P **P** **20 28 17.6 0.0**
BRTR **Keskin Array B** **80.78 312** *e*P **P** **20 28 18.3 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
SRU **San Rafael Swe** **80.96 49** P **P** **20 28 20.8 +2.1**
SRU **San Rafael Swe** **80.96 49** P **P** **20 28 20.8 +2.1**
SRU pmax pmax
comp=Z,9.0nm,0.8s
U15A **North Rim** **81.44 52** P **P** **20 28 24.2 +2.8**
U15A IAmb IAmb 20 28 37.7
comp=Z,4.0nm,0.8s
MLR **Muntele Rosu** **81.55 320** LR LR 21 08 28.3
comp=Z,278nm,18.2s,baz=74,slow=39
RAYN **Ar Rayn** **81.89 293** P **P** **20 28 23.5 -0.2**
RAYN IAmb IAmb 20 28 26.3
comp=Z,3.4nm,0.8s
RAYN **Ar Rayn** **81.89 293** P **P** **20 28 23.5 -0.2**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
PV13 **Radium Mtn., P** **82.59 49** P **P** **20 28 30.2 +2.8**
N23A **Red Feather La** **82.61 45** P **P** **20 28 30.6 +3.1**
PHWY **Pilot Hill** **82.64 44** P **P** **20 28 29.3 +1.7**
PHWY IAmb IAmb 20 29 06.2
comp=Z,9.8nm,1.5s
VYHS **Vyhne** **83.02 326** *e*P **P** **20 28 27.5 -1.6**
VYHS **Vyhne** **83.02 326** *e*P **P** **20 28 27.5 -1.6**
PPT **Papeete** **83.25 116** LR LR 21 05 57.4
comp=Z,69nm,19.1s,baz=352,slow=36
VRAC **Vranov** **83.45 327** LR LR 21 08 22.6
comp=Z,116nm,19.6s,baz=43,slow=38
S22A **4UR Ranch, Cre** **84.08 48** P **P** **20 28 37.1 +2.0**
SDCO **Great Sand Dun** **84.89 47** P **P** **20 28 41.4 +2.2**
VTS **Vitosha** **84.92 319** P **P** **20 28 40.7 +1.6**
VTS IAmb IAmb 20 28 42.2
comp=Z,2.7nm,0.8s
VTS **Vitosha** **84.92 319** P **P** **20 28 40.7 +1.6**
VTS pmax pmax
comp=Z,3.0nm,0.8s
ANMO **Albuquerque** **86.09 50** LR LR 21 04 01.2
comp=Z,31nm,21.4s,baz=312,slow=33
DAVOX **Davos/Dischmat** **88.30 329** LR LR 21 12 35.3
comp=Z,123nm,18.6s,baz=83,slow=38
LPIG **La Paz** **90.28 60** LR LR 21 10 46.9
comp=Z,27nm,18.8s,baz=261,slow=36
TXAR **Lajitas Array** **91.53 53** P **P** **20 29 12.0 +1.1**
comp=Z,0.7nm,0.7s,baz=284,slow=3.3,SNR=7.9
TXAR LR LR 21 09 31.0
comp=Z,69nm,18.1s,baz=300,slow=35
comp=Z,0.7nm,0.7s
TXAR **Lajitas Array** **91.53 53** P **P** **20 29 12.0 +1.1**
SADO **Sadowa** **92.90 28** LR LR 21 13 21.3
comp=Z,35nm,20.6s,baz=312,slow=37
TKL **Tuckaleechee C** **98.37 36** LR LR 21 19 36.1
comp=Z,17nm,18.5s,baz=314,slow=39
ESDC **Sonseca Array** **99.75 334** LR LR 21 19 18.0
comp=Z,108nm,19.2s,baz=19,slow=38
TORD **Torodi Ar. Bea** **119.34 314** PKP **PKPdf** **20 34 53.5 -0.2**
comp=Z,0.4nm,0.8s,baz=50,slow=0.8,SNR=1.6
NVL **N'lazarevskaya** **134.94 201** *e*PKHKP PKPpre 20 35 05.1
NVL pmax pmax
comp=Z,16nm,0.9s
ETMB **Extrema** **144.61 53** PKPdf PKPbc 20 35 40.0 +0.3
LPAZ **La Paz** **147.73 64** PKPbc **PKiKP** **20 35 50.8 -1.0**
comp=Z,2.6nm,0.6s,baz=341,slow=3.4,SNR=11

IDC ***14*** *20:25:11.2±2.2, 34°.38N×141°.80E, h0km, mb3.3/3, mbtmp3.3/5, ML2.7/2, Error ellipse: s-maj=40.3km s-min=24.8km az=76.0*
JMA ***14*** *20:25:11.9±0.6, 34°.6N±2°×14°.2E±°, h24km±3km, MV2.6/19, FAR SE OFF BOSO PEN*
ISC 14 20:25:12.4±2.7, 34°.41N±0°.06×141°.8E±0°.1, h11km±13km, n14, σ0s62/17, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BSO1	**Boso 1**	**0.73**	**290**	P		**Pb**	**20 25 26.9**	**+0.1**
BSO3	**Boso 3**	**1.14**	**290**	*e*P		**Pg**	**20 25 34.0**	**-0.3**
BSO3				*e*S		**Sg**	**20 25 49.6**	**+0.4**
BSO4	**Boso 4**	**1.35**	**296**	P		**Pb**	**20 25 37.5**	**-0.1**
CHOJ	**Chosi**	**1.51**	**329**	P		**Pn**	**20 25 39.0**	**-0.4**

CHOJ				eS		Sn	20 25 57.8	-1.3
JKUC	**kamogawauchiur**	**1.52**	**300**	P		Pn	20 25 39.4	-0.2
JKUC				eS		Sn	20 25 59.1	-0.3
JMKN	**Mikurajimanish**	**1.91**	**255**	P		Pn	20 25 44.3	-0.7
JMKN				eS		Sn	20 26 08.7	-0.4
JHJ	**Hachijo jima 2**	**2.12**	**233**	Pn		Pn	20 25 48.2	+0.3
	11nm,0.3s,baz=66,slow=20,SNR=6.5							
JHJ				Sn		Sn	20 26 13.6	-0.6
	18nm,0.3s,baz=238,slow=23,SNR=6.2							
	49nm,0.4s							
MJAR	**Matsushiro Arr**	**3.63**	**307**	Pn		Pn	20 26 09.4	+0.8
	0.4nm,0.3s,baz=136,slow=11,SNR=15							
MJAR				Sn		Sn	20 26 52.5	+1.0
	0.1nm,0.3s,baz=98,slow=29,SNR=2.1							
	1.2nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**26.60**	**117**	T		T	20 58 58.5	
	baz=310							
H11N1	**WAKE ISLAND Hy**	**26.61**	**117**	T		T	20 58 58.5	
	baz=310							
H11N3	**WAKE ISLAND Hy**	**26.62**	**117**	T		T	20 58 59.9	
	baz=310							
MKAR	**Makanchi Array**	**45.83**	**304**	P		P	20 33 34.8	+0.4
	0.3nm,0.6s,baz=87,slow=8.9,SNR=3.1							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**47.90**	**310**	P		P	20 33 50.5	0.0
	0.3nm,0.5s,baz=84,slow=7.8,SNR=5.2							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**54.52**	**189**	P		P	20 34 40.6	+0.2
	0.2nm,0.5s,baz=4.0,slow=7.6,SNR=6.2							
	0.2nm,0.5s							

*IDC **14** 20:36:43.3±1.8,34°.36N×141°.59E,h0km,mb3.3/4,*
mbtmp3.2/5,ML2.2/1,Error ellipse: s-maj=36.4km
s-min=21.8km az=73.0
*JMA **14** 20:36:43.1±0.7,34°.36N±3°×14°2E±°,h26km,MV2.6/15,FAR*
SE OFF BOSO PEN

ISC 14 20:36:46.2±1.5,**34°.42N**±0°.07×**141°.7E**±0°.1,**h27**km,**n12,**
σ0**s78**/14,**mb3.4/4,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.65**	**291**	P	**Pb**	**20 36 57.4**	**-1.2**
BSO2	**Boso 2**	**0.86**	**293**	S	**Sb**	**20 37 13.5**	**+0.2**
BSO3	**Boso 3**	**1.06**	**291**	*e*S	**Sn**	**20 37 19.1**	**+0.3**
BSO4	**Boso 4**	**1.27**	**297**	*e*P	**Pn**	**20 37 08.2**	**+0.2**
JKUC	**kamogawauchiur**	**1.45**	**301**	*e*P	**Pn**	**20 37 10.0**	**-0.6**
CHOJ	**Chosi**	**1.46**	**332**	*e*P	**Pn**	**20 37 09.6**	**-1.1**
JHJ	**Hachijo jima 2**	**2.06**	**232**	Pn	**Pn**	**20 37 18.3**	**-0.8**
	11nm,0.3s,baz=62,slow=15,SNR=2.2						
JHJ				Sn	**Sn**	**20 37 44.2**	**+0.3**
	15nm,0.3s,baz=64,slow=22,SNR=5.8						
MJAR	**Matsushiro Arr**	**3.56**	**308**	Pn	**Pn**	**20 37 40.8**	**+1.2**
	0.2nm,0.3s,baz=137,slow=9.4,SNR=8.7						
MJAR				Sn	**Sn**	**20 38 21.3**	**+0.5**
	0.1nm,0.3s,baz=132,slow=28,SNR=3.1						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**45.75**	**304**	P	**P**	**20 45 05.4**	**+0.3**
	0.2nm,0.6s,baz=84,slow=8.9,SNR=2.0						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**47.83**	**310**	P	**P**	**20 45 21.1**	**-0.2**
	0.2nm,0.5s,baz=85,slow=7.8,SNR=4.3						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**54.51**	**189**	P	**P**	**20 46 12.2**	**+0.6**
	0.3nm,0.7s,baz=3.2,slow=7.5,SNR=7.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**58.24**	**188**	P	**P**	**20 46 39.0**	**+0.8**
	0.2nm,0.6s,baz=1.8,slow=8.6,SNR=3.1						
	0.2nm,0.6s						

IDC 14 20:49:06.4±8.9,**10°.16S**×**161°.27E,h0**km,**mb3.5**/3,
mbtmp3.5/3,**Error ellipse: s-maj=243.7km**
s-min=46.9km az=116.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.50**	**299**	LR	LR	20 50 20.2	
	comp=Z,2μm,19.9s,baz=354,slow=49						
WRA	**Warramunga Arr**	**27.73**	**246**	P	P	20 54 56.6	-0.2
	0.4nm,0.7s,baz=76,slow=9.1,SNR=1.9						
	0.4nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**28.97**	**11**	T	T	21 26 29.9	
	baz=190						
H11S3	**WAKE ISLAND Hy**	**28.97**	**11**	T	T	21 26 35.3	
	baz=190						
H11S1	**WAKE ISLAND Hy**	**28.99**	**11**	T	T	21 26 37.0	
	baz=190						
ASAR	**Alice Springs**	**29.35**	**239**	P	P	20 55 11.5	+0.2
	0.1nm,0.5s,baz=66,slow=10,SNR=1.5						
	0.1nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**30.20**	**11**	T	T	21 27 57.6	
	baz=188						
H11N3	**WAKE ISLAND Hy**	**30.21**	**11**	T	T	21 27 59.9	
	baz=188						
H11N2	**WAKE ISLAND Hy**	**30.22**	**11**	T	T	21 27 44.7	
	baz=188						
SONM	**Songino Array**	**75.40**	**325**	P	P	21 00 52.3	+0.1
	0.4nm,0.6s,baz=130,slow=5.8,SNR=2.5						
	0.4nm,0.6s						

*IDC **14** 20:54:07.8±0.8,29°.28S×60°.98E,h0km,mb4.0/9,*
mbtmp4.0/10,ML3.9/1,MS3.3/8,Error ellipse:
s-maj=29.5km s-min=20.0km az=42.0
*NEIC **14** 20:54:07.9±2.6,29°.3S±0°.1×60°.7E±0°.1,h10km±1km,*
mb4.2/6,Error ellipse: s-maj=26.5km s-min=12.1km
az=221.0

ISC 14 20:54:08.6±0.6,**29°.2S**±0°.1×**60°.6E**±0°.1,**h10**km,**n34,**
σ2**s77**/22,**mb4.2**/13,**MS3.3/8,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**12.80**	**286**	Pn	**Pn**	**20 57 12.1**	**+1.5**
VOI	**Vohitsoka**	**14.37**	**297**		**P**	**20 57 37.7**	**-1.7**
ABPO	**Ambohimpanom**	**15.80**	**307**	Pn	**Pn**	**20 57 50.7**	**-0.8**
OPO	**Ambohidratompo**	**16.13**	**308**	Pn	**P**	**20 57 59.7**	**+0.7**
	baz=139,slow=15,SNR=2.4						
OPO				Sn	**Sn**	**21 00 47.1**	**-7.7**
	0.1nm,0.3s,baz=108,slow=19,SNR=2.8						
	2.6nm,0.6s						
H08S1	**Diego Garcia H**	**24.17**	**30**	T	T	21 24 36.8	
	baz=204						
H08S2	**Diego Garcia H**	**24.18**	**30**	T	T	21 24 36.5	
	baz=204						
H08S3	**Diego Garcia H**	**24.19**	**30**	T	T	21 24 36.9	
	baz=204						
LBTB	**Lobatse**	**31.33**	**269**	LR	LR	21 11 30.9	
	comp=Z,29nm,18.3s,baz=94,slow=33						
KMBO	**Kilima Mbogo**	**35.65**	**317**	LR	LR	21 13 19.1	
	comp=Z,42nm,18.7s,baz=84,slow=32						
MAW	**Mawson**	**38.49**	**179**	LR	LR	21 13 39.4	
	comp=Z,47nm,19.9s,baz=301,slow=30						
MBAR	**Mbarara**	**40.20**	**310**	LR	LR	21 17 05.2	
	comp=Z,43nm,19.8s,baz=107,slow=34						
H01W2	**Cape Leeuwin H**	**45.33**	**112**	T	T	21 50 00.1	
	baz=261,slow=75,SNR=7.0						
H01W3	**Cape Leeuwin H**	**45.34**	**112**	T	T	21 50 04.8	
	baz=261,slow=75,SNR=7.1						
H01W1	**Cape Leeuwin H**	**45.35**	**112**	T	T	21 50 02.0	
	baz=261,slow=75,SNR=8.0						
SNAA	**Sanae**	**54.28**	**200**	P	**P**	**21 03 32.9**	**-1.7**
SNAA				IAmb	IAmb	21 03 41.0	
	comp=Z,1.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.12**	**43**	P	**P**	**21 04 17.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=227,slow=7.5,SNR=5.2						
CMAR				LR	LR	21 27 51.1	
	comp=Z,8.4nm,18.1s,baz=255,slow=34						
	comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.12**	**43**	P	**P**	**21 04 13.6**	**-2.8**
QSPA	**South Pole Qui**	**60.99**	**180**	P	**P**	**21 04 21.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=280,slow=3.1,SNR=3.6						
	comp=Z,1.0nm,0.5s						
VNDA	**Vanda**	**64.16**	**166**	P	**P**	**21 04 42.7**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=285,slow=6.4,SNR=3.6						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**64.95**	**104**	P	**P**	**21 04 47.0**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=243,slow=6.1,SNR=29						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**64.95**	**104**	P	**P**	**21 04 47.1**	**-1.8**
AS31	**Alice Springs**	**64.96**	**104**	P	**P**	**21 04 47.1**	**-1.8**
AS31				IAmb	IAmb	21 04 47.7	
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**66.78**	**101**	P	**P**	**21 04 58.9**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=247,slow=5.6,SNR=15						
	comp=Z,1.6nm,0.8s						
WB2	**Warramunga Arr**	**66.80**	**101**	P	**P**	**21 04 57.6**	**-3.2**
WB2				IAmb	IAmb	21 05 02.7	
	comp=Z,4.8nm,1.2s						
WRAB	**Tennant Creek**	**66.80**	**101**	P	**P**	**21 04 56.7**	**-4.1**
GNI	**Garni**	**70.51**	**347**	LR	LR	21 34 47.5	
	comp=Z,22nm,20.2s,baz=170,slow=34						
TORD	**Torodi Ar. Bea**	**70.67**	**298**	P	**P**	**21 05 27.9**	**+3.0**
	comp=Z,2.3nm,0.8s,baz=118,slow=5.4,SNR=9.6						
	comp=Z,2.3nm,0.8s						
KKAR	**Karatay Array**	**72.49**	**8**	P	**P**	**21 05 36.2**	**+0.9**
BRTR	**Keskin Array B**	**72.97**	**339**	P	**P**	**21 05 40.3**	**+1.9**
	comp=Z,1.2nm,1.0s,baz=164,slow=5.7,SNR=6.2						
	comp=Z,1.2nm,1.0s						
KOWA	**Kowa**	**75.93**	**296**	LR	LR	21 39 16.8	
	comp=Z,43nm,18.0s,baz=108,slow=36						
ABKAR	**Akbulak array**	**78.07**	**360**	P	**P**	**21 06 07.6**	**+0.4**
ABKAR				IAmb	IAmb	21 06 09.6	
	comp=Z,3.6nm,1.2s						
MKAR	**Makanchi Array**	**78.11**	**15**	P	**P**	**21 06 07.8**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=189,slow=6.1,SNR=4.5						
	comp=Z,0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**81.01**	**11**	LR	LR	21 39 47.9	
	comp=Z,38nm,18.4s,baz=221,slow=34						
ESDC	**Sonseca Array**	**91.03**	**316**	P	**P**	**21 07 17.0**	**+3.9**
	comp=Z,1.4nm,0.9s,baz=144,slow=4.3,SNR=5.6						
	comp=Z,1.4nm,0.9s						

*JMA **14** 21:02:34.6±0.6,34°.N±2°×14°2E±°,h32km,MV2.8/18,FAR*
SE OFF BOSO PEN
*IDC **14** 21:02:35.9±2.6,34°.32N×141°.73E,h0km,mb3.2/2,*
mbtmp3.1/3,ML2.3/1,MS3.4/1,Error ellipse: s-maj=42.5km
s-min=27.8km az=76.0

ISC 14 21:02:38.1±1.7,**34°.41N**±0°.06×**141°.8E**±0°.1,**h21**km,**n12,**
σ1**s03**/15,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.71**	**290**	*e*P	**Pb**	**21 02 50.6**	**-0.8**
BSO1				*e*X		21 03 02.1	
BSO3	**Boso 3**	**1.12**	**291**	*e*S	**Sn**	**21 03 13.3**	**+0.3**
BSO4	**Boso 4**	**1.33**	**296**	*e*P	**Pn**	**21 03 00.9**	**-0.4**
CHOJ	**Chosi**	**1.50**	**330**	*e*P	**Pn**	**21 03 02.3**	**-1.3**
CHOJ				*e*S	**Sn**	**21 03 22.6**	**0.0**
JKUC	**kamogawauchiur**	**1.50**	**300**	P	**Pn**	**21 03 02.8**	**-1.0**
JKUC				*e*S	**Sn**	**21 03 23.5**	**+0.7**
JHJ	**Hachijo jima 2**	**2.11**	**233**	Pn	**Pn**	**21 03 11.6**	**-0.6**
	8.7nm,0.3s,baz=337,slow=23,SNR=9.5						
JHJ				Sn	**Sn**	**21 03 37.4**	**-0.3**
	18nm,0.3s,baz=241,slow=23,SNR=1.9						
JAG	**Ashikaga**	**2.77**	**317**	P	**Pn**	**21 03 20.6**	**-0.6**
JRY	**Ryogami san**	**2.85**	**305**	*e*P	**Pn**	**21 03 22.0**	**-0.4**
MJAR	**Matsushiro Arr**	**3.61**	**307**	Pn	**Pn**	**21 03 31.4**	**-1.4**
	0.3nm,0.3s,baz=130,slow=10,SNR=9.1						
MJAR				Sn	**Sn**	**21 04 15.3**	**+0.5**
	0.2nm,0.3s,baz=113,slow=29,SNR=5.0						
	1.4nm,0.4s						
SHEM	**Shemya Is, Ala**	**29.36**	**42**	LR	LR	21 18 14.0	
	comp=Z,78nm,21.0s,baz=296,slow=32						
MKAR	**Makanchi Array**	**45.81**	**304**	P	**P**	**21 11 00.5**	**+2.2**
	0.2nm,0.6s,baz=76,slow=9.1,SNR=1.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**54.52**	**189**	P	**P**	**21 12 04.1**	**-0.4**
	0.3nm,0.7s,baz=6.8,slow=7.6,SNR=1.6						
	0.3nm,0.7s						

*IDC **14** 21:08:29.3±1.6,29°.53S×60°.91E,h0km,mb3.8/4,*
mbtmp3.8/4,MS3.2/2,Error ellipse: s-maj=75.5km
s-min=32.0km az=20.0
*NEIC **14** 21:08:31.0±1.3,29°.5S±0°.2×60°.90E±0°.09,h10km±2km,*
mb4.1/5,Error ellipse: s-maj=33.2km s-min=11.5km
az=14.0

ISC 14 21:08:31.1±0.9,**29°.5S**±0°.2×**60°.8E**±0°.1,**h14**km,**n18,**
σ0**s80**/13,**mb4.0/7,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**13.12**	**287**	Pn	**Pn**	**21 11 35.7**	**-1.4**
VOI	**Vohitsoka**	**14.73**	**298**	Pn	**Pn**	**21 11 59.9**	**+0.5**
ABPO	**Ambohimpanom**	**16.20**	**307**	Pn	**Pn**	**21 12 19.1**	**+0.5**
KMBO	**Kilima Mbogo**	**36.07**	**317**	LR	LR	21 27 31.6	
	comp=Z,31nm,19.4s,baz=141,slow=32						
H01W2	**Cape Leeuwin H**	**44.99**	**111**	T	T	22 04 26.0	
	baz=261,slow=75,SNR=5.8						
H01W3	**Cape Leeuwin H**	**44.99**	**111**	T	T	22 04 26.6	
	baz=261,slow=75,SNR=5.8						
H01W1	**Cape Leeuwin H**	**45.01**	**111**	T	T	22 04 27.7	
	baz=261,slow=75,SNR=6.0						
CMAR	**Chiang Mai Arr**	**60.22**	**42**	P	**P**	**21 18 39.2**	**+0.2**
	0.3nm,0.3s,baz=214,slow=9.5,SNR=2.1						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**60.65**	**180**	P	**P**	**21 18 42.1**	**+0.6**
QSPA				IAmb	IAmb	21 18 48.1	
	comp=Z,1.3nm,0.9s						
ASAR	**Alice Springs**	**64.64**	**104**	P	**P**	**21 19 08.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=247,slow=5.8,SNR=11						
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**64.64**	**104**	P	**P**	**21 19 07.8**	**-1.0**
AS31	**Alice Springs**	**64.64**	**104**	P	**P**	**21 19 08.1**	**-0.7**
AS31				IAmb	IAmb	21 19 25.8	
	comp=Z,1.5nm,1.4s						
WRA	**Warramunga Arr**	**66.49**	**100**	P	**P**	**21 19 20.7**	**0.0**
	comp=Z,0.8nm,0.8s,baz=247,slow=5.5,SNR=4.9						
	comp=Z,0.8nm,0.8s						
GNI	**Garni**	**70.90**	**347**	LR	LR	21 49 09.0	
	comp=Z,17nm,19.1s,baz=153,slow=34						
TOA0	**Tordi Ar. Sit**	**71.04**	**298**	P	**P**	**21 19 49.5**	**+0.5**
TOA0				IAmb	IAmb	21 20 04.0	
	comp=Z,3.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**71.04**	**298**	P	**P**	**21 19 50.0**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=133,slow=6.2,SNR=4.2						
	comp=Z,1.2nm,0.9s						
KOWA	**Kowa**	**76.29**	**296**	P	**P**	**21 20 20.5**	**+0.6**
ABKAR	**Akbulak array**	**78.42**	**359**	P	**P**	**21 20 30.1**	**-0.9**

*IDC **14** 21:08:59.4±4.9,4°.64N×95°.55E,h60km±44km,mb3.3/8,*
mbtmp3.6/9,ML3.9/1,MS3.3/2,Error ellipse: s-maj=55.4km
s-min=21.2km az=54.0
*NEIC **14** 21:09:00.4±1.9,4°.48N±0°.07×95°.5E±0°.1,h66km±9km,*
mb4.1/8,Error ellipse: s-maj=15.5km s-min=10.6km
az=86.0

ISC 14 21:08:59.5±0.7,**4°.49N**±0°.07×**95°.52E**±0°.08,**h63**km,**n38,**
σ1**s07**/36,**mb3.8**/12,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.60**	**63**		**Pn**	**21 09 27.5**	**+1.8**
LHMI				Sn	**Sn**	**21 09 43.7**	**-1.6**
LHMI	**Lhok Sumawe**	**1.60**	**63**	P	**Pn**	**21 09 27.4**	**+1.8**
GSI	**Gunungsitoli**	**3.77**	**147**	Pn	**Pn**	**21 09 55.7**	**+0.6**
GSI	**Gunungsitoli**	**3.77**	**147**	P	**Pn**	**21 09 55.8**	**+0.6**
PSI	**Prapat**	**3.79**	**116**	P	**Pn**	**21 09 56.7**	**+1.2**
	8.3nm,0.3s,baz=303,slow=9.2,SNR=24						
PSI				S	**Sn**	**21 10 38.8**	**-0.2**
	17nm,0.6s,baz=305,slow=10,SNR=4.4						
	20nm,0.3s						
PSI	**Prapat**	**3.79**	**116**	P	**Pn**	**21 09 58.4**	**+2.9**
RPSI	**Rantau Prapat**	**3.84**	**118**		**Pn**	**21 09 57.3**	**+1.2**
RPSI	**Rantau Prapat**	**3.84**	**118**		**Pn**	**21 09 56.7**	**+0.7**
RPSI					**Sn**	**21 10 38.8**	**-1.2**
KULM	**Kulim**	**5.17**	**81**		**Pn**	**21 10 15.5**	**+1.1**
IPM	**Ipoh**	**5.49**	**90**		**Pn**	**21 10 19.1**	**+0.3**
IPM	**Ipoh**	**5.49**	**90**	P	**Pn**	**21 10 19.7**	**+1.0**
SRIT	**Nakonsritamara**	**5.75**	**45**		**Pn**	**21 10 23.2**	**+0.9**
MNAI	**Manna**	**11.51**	**140**	Pn	**Pn**	**21 11 40.3**	**-0.8**
H08S2	**Diego Garcia H**	**25.94**	**242**	T	T	21 41 43.1	
	baz=61,slow=74						
H08S3	**Diego Garcia H**	**25.95**	**242**	T	T	21 41 42.6	
	baz=61,slow=74						
H08S1	**Diego Garcia H**	**25.96**	**242**	T	T	21 41 45.2	
	baz=61,slow=74						
NIL	**Nilore**	**35.66**	**327**	P	**P**	**21 15 51.7**	**0.0**
FITZ	**Fitzroy Crossi**	**37.23**	**128**	LR	LR	21 32 03.2	
	comp=Z,54nm,18.3s,baz=124,slow=37						
GAR	**Garm**	**41.27**	**330**	P	**P**	**21 16 39.4**	**+0.7**
GAR				IAmb	IAmb	21 17 05.1	
	comp=Z,5.7nm,1.3s						
MK31	**Makanchi Array**	**43.67**	**347**	P	**P**	**21 16 57.3**	**-0.8**
MKAR	**Makanchi Array**	**43.67**	**347**	P	**P**	**21 16 56.8**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=152,slow=8.3,SNR=6.8						
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**43.67**	**347**	P	**P**	**21 16 57.1**	**-1.0**
KSRS	**Korea Array**	**44.20**	**38**	P	**P**	**21 17 01.3**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=221,slow=9.2,SNR=2.1						
	comp=Z,0.3nm,0.6s						
KK31	**Karatay Array**	**44.38**	**334**	P	**P**	**21 17 05.5**	**+1.6**
KK31				IAmb	IAmb	21 17 31.4	
	comp=Z,2.1nm,1.4s						
KKAR	**Karatay Array**	**44.38**	**334**	P	**P**	**21 17 04.6**	**+0.8**
WB0	**Warramunga Arr**	**45.18**	**124**	P	**P**	**21 17 10.2**	**-0.3**
WB0				IAmb	IAmb	21 17 38.5	
	comp=Z,4.6nm,1.3s						
WRA	**Warramunga Arr**	**45.22**	**124**	P	**P**	**21 17 11.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=302,slow=9.2,SNR=0.4						
WRA				pP	pP	21 17 18.3	-8.5
	comp=Z,0.8nm,0.3s,baz=310,slow=9.4,SNR=4.9						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**46.73**	**129**	P	**P**	**21 17 23.4**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=299,slow=7.6,SNR=8.7						
ASAR				pP	pP	21 17 31.4	-7.4
	comp=Z,0.8nm,0.3s,baz=305,slow=7.7,SNR=22						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**46.73**	**129**	P	**P**	**21 17 23.1**	**+0.5**
ZALV	**Zalesovo Beam**	**50.08**	**352**	P	**P**	**21 17 47.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=162,slow=7.0,SNR=2.6						
	comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**52.62**	**341**	LR	LR	21 44 21.4	
	comp=Z,22nm,18.1s,baz=123,slow=40						
ABKAR	**Akbulak array**	**53.84**	**332**	P	**P**	**21 18 16.1**	**+0.1**
ABKAR	**Akbulak array**	**53.84**	**332**	P	**P**	**21 18 15.9**	**0.0**
ABKAR				IAmb	IAmb	21 18 34.8	
	comp=Z,3.0nm,1.5s						
BRTR	**Keskin Array B**	**65.68**	**312**	P	**P**	**21 19 37.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=110,slow=6.7,SNR=2.0						
	comp=Z,0.2nm,0.6s						
BURAR	**Bucovina Array**	**73.47**	**318**	P	**P**	**21 20 26.0**	**+0.5**
FINES	**FINESS Array B**	**76.33**	**332**	P	**P**	**21 20 40.8**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=86,slow=6.7,SNR=3.8						
	comp=Z,1.1nm,1.0s						
FINES	**FINESS Array B**	**76.33**	**332**	P	**P**	**21 20 41.0**	**-0.5**
ARCES	**ARCESS Array B**	**78.89**	**340**	P	**P**	**21 20 55.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.3,SNR=4.2						
	comp=Z,0.4nm,0.5s						

*NEIC **14** 21:16:16.9±2.1,28°.99S±0°.03×71°.49W±0°.07,h20km±3km,*
mb4.6/17,ML4.1(GUC),Error ellipse: s-maj=9.1km
s-min=3.7km az=101.0
*SJA **14** 21:16:16.9±1.0,29°.01S×71°.36W,h36km±5km,ML4.3,*
MW4.3
*GUC **14** 21:16:17.6±0.6,29°.03S×71°.36W,h39km±2km,ML4.1*
*IDC **14** 21:16:18.4±0.8,29°.18S×71°.31W,h39km±5km,mb3.7/4,*
mbtmp3.9/8,ML3.6/4,MS3.3/5,Error ellipse: s-maj=31.6km
s-min=23.2km az=85.0

ISC 14 21:16:17.8±0.7,**29°.02S**±0°.02×**71°.37W**±0°.04,**h33**km,±3km,
n112,σ1**s43**/125,**mb4.5**/13,**12C,Near coast of central**
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.59**	**90**		**Pn**	**21 16 29.8**	**-0.3**
LCO					**Sn**	**21 16 37.8**	**-0.9**
LCO	**Las Campanas**	**0.59**	**90**	*e*P	**Pb**	**21 16 28.9**	**-1.1**
LCO				*e*S	**Sn**	**21 16 37.4**	**-1.3**
LCO	**Las Campanas**	**0.59**	**90**	*i* P	**Pn**	**21 16 29.7**	**-0.4**
LCO				IAML		21 16 38.5	
	comp=Z,99μm,0.7s						
AC04	**Llanos de Chal**	**0.85**	**18**		**Pn**	**21 16 33.8**	**+0.3**
AC04					**Sn**	**21 16 44.9**	**+0.2**
AC04	**Llanos de Chal**	**0.85**	**18**	*e*P	**Pn**	**21 16 33.4**	**-0.1**
AC04				*e*S	**Sn**	**21 16 44.9**	**+0.2**
AC04				IAML		21 16 47.4	
	comp=E,20μm,0.1s						
AC04	**Llanos de Chal**	**0.85**	**18**	*i* P	**Pn**	**21 16 34.0**	**+0.5**
CO05	**La Serena**	**0.91**	**173**		**Pn**	**21 16 34.7**	**+0.4**
CO05				Sn	**Sn**	**21 16 46.5**	**+0.3**
CO05	**La Serena**	**0.91**	**173**	*e*P	**Pn**	**21 16 33.8**	**-0.5**
CO05				*e*S	**Sn**	**21 16 45.5**	**-0.7**
CO05				IAML		21 16 51.0	
	comp=E,12μm,0.3s						
AC05	**El Transito**	**0.98**	**80**	Pn	**Pn**	**21 16 35.2**	**-0.2**
AC05	**El Transito**	**0.98**	**80**	*e*P	**Pn**	**21 16 35.0**	**-0.3**
AC05				*e*S	**Sb**	**21 16 48.1**	**-1.0**
AC05				IAML		21 16 53.2	
	comp=N,4μm,0.4s						
GO04	**Tololo Observa**	**1.26**	**157**	Pn	**Pn**	**21 16 39.9**	**+0.6**
GO04	**Tololo Observa**	**1.26**	**157**	*e*P	**Pn**	**21 16 39.3**	**0.0**
GO04				*e*S	**Sn**	**21 16 55.5**	**+0.3**
GO04	**Tololo Observa**	**1.26**	**157**	*i* P	**Pn**	**21 16 40.0**	**+0.7**
CO01	**Juntas del Tor**	**1.47**	**131**	Pn	**Pb**	**21 16 43.4**	**-1.4**
CO01	**Juntas del Tor**	**1.47**	**131**	*e*P	**Pb**	**21 16 43.3**	**-1.4**
CO01				*e*S	**Sb**	**21 17 02.0**	**-1.2**
CO01				IAML		21 17 04.6	
	comp=N,2μm,0.2s						
CO01	**Junt

CYA	**Choya**	**4.92**	**85**	*i* P	**Pn**	**21 17 31.0**	**+1.4**
CYA				IAML		21 18 34.0	
	comp=Z,138nm,0.6s						
BO02	**Sierra Bellavi**	**5.78**	**175**	Pn	**Pn**	**21 17 42.1**	**+0.8**
PB15	**IPOC Station P**	**6.03**	**17**	Pn	**Pn**	**21 17 43.1**	**-1.9**
PB06	**IPOC Station P**	**6.49**	**15**	Pn	**Pn**	**21 17 50.3**	**-0.9**
LVC	**Limon Verde**	**6.75**	**20**	Pn	**Pn**	**21 17 58.4**	**+3.4**
	comp=Z,1.8nm,0.3s,baz=199,slow=12,SNR=2.8						
LVC				LR	LR	21 20 31.1	
	comp=Z,220nm,19.8s,baz=208,slow=37						
	comp=Z,2.4nm,0.2s						
H03N1	**Juan Fernandez**	**7.82**	**234**	T	T	21 25 58.8	
	baz=62,slow=72,SNR=1951						
H03N2	**Juan Fernandez**	**7.83**	**234**	T	T	21 25 49.7	
	baz=62,slow=72,SNR=1552						
H03N3	**Juan Fernandez**	**7.83**	**234**	T	T	21 25 57.7	
	baz=62,slow=72,SNR=1206						
PLCA	**Paso Flores**	**11.71**	**177**	Pn	**Pn**	**21 19 02.2**	**-0.4**
	baz=326,slow=3.6,SNR=1.4						
	comp=Z,1.1nm,0.8s						
TRQA	**Tornquist**	**11.94**	**141**	Pn	**Pn**	**21 19 06.6**	**+0.9**
ITQB	**Itaqui**	**12.88**	**97**	Pn	**Pn**	**21 19 20.3**	**+1.7**
LPAZ	**La Paz**	**13.01**	**14**	Pn	**Pn**	**21 19 23.5**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=253,slow=5.9,SNR=1.9						
LPAZ				LR	LR	21 24 21.3	
	comp=Z,91nm,18.5s,baz=128,slow=37						
	comp=Z,1.2nm,0.5s						
PLTB	**Pedras Altas**	**15.58**	**105**	Pn	**Pn**	**21 19 54.4**	**-0.7**
SIV	**San Ignacio**	**16.07**	**38**	Pn	**Pn**	**21 20 02.2**	**+0.8**
	baz=239,slow=12,SNR=6.4						
	comp=Z,2.5nm,0.7s						
NNA	**Nana**	**17.70**	**342**	LR	LR	21 25 53.5	
	comp=Z,40nm,21.4s,baz=219,slow=32						
ETMB	**Extrema**	**19.70**	**15**	P	**Pn**	**21 20 47.0**	**+0.9**
ETMB				IAmb	IAmb	21 21 01.2	
	comp=Z,9.3nm,0.9s						
BOAV	**Boa Vista**	**32.92**	**20**	P	**P**	**21 22 48.7**	**-0.6**
BOAV				IAmb	IAmb	21 23 04.1	
	comp=Z,5.7nm,0.9s						
BAUV	**El Baul**	**37.87**	**5**	P	**P**	**21 23 31.1**	**-0.7**
BAUV				IAmb	IAmb	21 23 46.9	
	comp=Z,20nm,1.1s						
MDP	**Montagnes des**	**38.41**	**31**	LR	LR	21 39 58.4	
	comp=Z,77nm,19.1s,baz=309,slow=37						
BELA	**Belgrano 2**	**51.68**	**171**	P	**P**	**21 25 23.4**	**+2.2**
SNAA	**Sanae**	**56.00**	**159**	P	**P**	**21 25 52.8**	**0.0**
SNAA				IAmb	IAmb	21 26 10.2	
	comp=Z,7.0nm,1.4s						
QSPA	**South Pole Qui**	**61.21**	**180**	P	**P**	**21 26 29.5**	**+0.3**
QSPA				IAmb	IAmb	21 26 49.3	
	comp=Z,5.5nm,1.4s						
TXAR	**Lajitas Array**	**65.72**	**329**	P	**P**	**21 27 00.5**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=153,slow=5.3,SNR=4.2						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**65.72**	**329**	P	**P**	**21 26 60.0**	**+0.6**
ABTX	**Abilene, Hawle**	**66.92**	**334**	P	**P**	**21 27 07.6**	**+0.7**
ABTX				IAmb	IAmb	21 27 11.8	
	comp=Z,3.8nm,0.9s						
LCAR	**Lake Charles**	**67.36**	**343**	P	**P**	**21 27 10.1**	**+0.4**
LCAR				IAmb	IAmb	21 27 10.4	
	comp=Z,4.6nm,0.8s						
VNDA	**Vanda**	**69.09**	**191**	P	**P**	**21 27 19.9**	**-0.1**
CCM	**Cathedral Cave**	**69.27**	**343**	P	**P**	**21 27 21.6**	**+0.1**
CCM				IAmb	IAmb	21 27 33.1	
	comp=Z,12nm,1.5s						
R40A	**Maddies Statio**	**69.75**	**343**	P	**P**	**21 27 24.2**	**-0.3**
DBIC	**Dimbokro**	**73.08**	**72**	P	**P**	**21 27 44.6**	**-0.6**
KOWA	**Kowa**	**78.08**	**66**	P	**P**	**21 28 13.2**	**-0.5**
KOWA				IAmb	IAmb	21 28 33.0	
	comp=Z,5.6nm,1.1s						
PDAR	**Pinedale Array**	**79.60**	**332**	P	**P**	**21 28 22.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=148,slow=7.5,SNR=2.3						
	comp=Z,0.2nm,0.6s						
BOSA	**Boshof**	**81.89**	**118**	P	**P**	**21 28 33.3**	**-1.2**
	comp=Z,3.6nm,0.9s,baz=256,slow=2.8,SNR=9.1						
BOSA				pP	**pP**	**21 28 45.7**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=262,slow=7.1,SNR=1.9						
	comp=Z,3.6nm,0.9s						
BOSA	**Boshof**	**81.89**	**118**	P	**P**	**21 28 34.1**	**-0.3**
TOA0	**Torodi Ar. Sit**	**81.98**	**70**	P	**P**	**21 28 34.0**	**-0.9**
TOA0				IAmb	IAmb	21 28 35.1	
	comp=Z,2.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**81.98**	**70**	P	**P**	**21 28 34.4**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=264,slow=5.2,SNR=28						
TORD				pP	**pP**	**21 28 47.6**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=256,slow=5.2,SNR=3.7						
	comp=Z,2.5nm,0.6s						
LBTB	**Lobatse**	**83.89**	**115**	P	**P**	**21 28 44.4**	**-0.4**
ESDC	**Sonseca Array**	**92.70**	**46**	LR	LR	22 08 08.7	
	comp=Z,18nm,18.6s,baz=238,slow=34						
ASAR	**Alice Springs**	**122.25**	**208**	PKP	**PKPdf**	**21 35 09.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=126,slow=2.4,SNR=2.5						
ASAR				pPKP	**pPKPdf**	**21 35 21.4**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=144,slow=1.1,SNR=2.9						
WB2	**Warramunga Arr**	**125.36**	**210**	PKPdf	**PKPdf**	**21 35 15.7**	**-0.3**
WRA	**Warramunga Arr**	**125.37**	**210**	PKP	**PKPdf**	**21 35 15.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=164,slow=1.6,SNR=16						
WRA				pPKP	**pPKPdf**	**21 35 27.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=165,slow=1.6,SNR=4.9						
WRA	**Warramunga Arr**	**125.37**	**210**	PKPdf	**PKPdf**	**21 35 15.2**	**-0.8**
H11N3	**WAKE ISLAND Hyl**	**126.56**	**274**	T	T	23 54 28.4	
	baz=113,slow=75,SNR=9.1						
H11N1	**WAKE ISLAND Hyl**	**126.58**	**274**	T	T	23 54 29.2	
	baz=113,slow=75,SNR=5.0						
H11N2	**WAKE ISLAND Hyl**	**126.58**	**274**	T	T	23 54 32.4	
	baz=113,slow=75,SNR=5.9						
KURK	**Kurchatov**	**148.72**	**38**	PKPbc	**PKPbc**	**21 36 01.3**	**0.0**
AAK	**Ala-Archa**	**149.39**	**54**	PKPbc	**PKiKP**	**21 36 04.9**	**+0.2**
ZAA0	**Zalesovo Array**	**149.64**	**28**	PKPdf	**PKPdf**	**21 35 59.7**	**+0.8**
ZAA0				PKPbc	**PKPbc**	**21 36 03.9**	**+0.3**
ZALV	**Zalesovo Beam**	**149.64**	**28**	PKPbc	**PKPbc**	**21 36 03.7**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=308,slow=4.0,SNR=15						
ZALV				pPKPbc	**pPKPbc**	**21 36 15.8**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=298,slow=3.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**149.64**	**28**	PKPdf	**PKPdf**	**21 35 59.8**	**+0.9**
ZALV				PKPbc	**PKPbc**	**21 36 03.7**	**+0.1**
GSI	**Gunungsitoli**	**150.49**	**157**	PKPdf	**PKPdf**	**21 35 59.3**	**-2.2**
GSI				PKPbc	**PKPbc**	**21 36 06.0**	**-0.9**
MAKZ	**Makanchi**	**152.67**	**42**	PKPbc	**PKPbc**	**21 36 10.2**	**-0.7**
MK31	**Makanchi Array**	**152.86**	**42**	PKPbc	**PKPbc**	**21 36 11.0**	**-0.3**
MKAR	**Makanchi Array**	**152.86**	**42**	PKPbc	**PKPbc**	**21 36 11.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=314,slow=1.4,SNR=9.3						
MKAR				pPKPbc	**pPKPbc**	**21 36 22.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=292,slow=1.9,SNR=4.5						
PZH	**PanZhiHua**	**173.41**	**111**	PKP	**PKPdf**	**21 36 23.1**	**-1.2**

ROM 14 21:18:22.2±0.0, 42°.805N±0°.003×13°.163E±0°.004, h10km, ML1.6/15, 9C-13D, Error ellipse: s-maj=0.3km s-min=0.2km az=237.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**52**	⇓P	Pg	21 18 24.7	+0.2
T1242				S	Sg	21 18 25.8	-0.1
T1242				AML	AML		
	comp=E,1672μm,0.5s						
T1242				AML	AML		
	comp=E,1670μm,0.5s						
T1242				AML	AML		
	comp=E,1670μm,0.5s						
T1242				AML	AML		
	comp=E,1690μm,0.5s						
T1242				AML	AML		
	comp=N,1870μm,0.2s						
T1242				AML	AML		
	comp=N,1895μm,0.2s						
T1242	**Castelluccio d**	**0.04**	**52**	S	Sg	21 18 25.8	-0.2
T1242				AML	AML		
	comp=E,81μm,0.2s						
T1242				AML	AML		
	comp=N,138μm,0.4s						
T1242				AML	AML		
	comp=E,81μm,0.2s						
T1242				AML	AML		
	comp=N,138μm,0.4s						
T1242				AML	AML		
	comp=E,1670μm,0.5s						
T1242				AML	AML		
	comp=E,1690μm,0.5s						
T1242				AML	AML		
	comp=N,1870μm,0.2s						
T1242				AML	AML		
	comp=N,1895μm,0.2s						
NRCA	**Norcia**	**0.05**	**308**	⇑P	Pg	21 18 24.6	+0.3
NRCA				S	Sg	21 18 25.8	-0.1
NRCA				AML	AML		
	comp=E,6170μm,0.1s						
NRCA				AML	AML		
	comp=N,3790μm,0.1s						
NRCA				AML	AML		
	comp=N,4025μm,0.1s						
NRCA				AML	AML		
	comp=N,3795μm,0.1s						
NRCA				AML	AML		
	comp=E,6175μm,0.1s						
NRCA				AML	AML		
	comp=E,6715μm,0.1s						
NRCA	**Norcia**	**0.05**	**308**	S	Sg	21 18 25.8	-0.2
NRCA				AML	AML		
	comp=N,4025μm,0.1s						
NRCA				AML	AML		
	comp=N,3795μm,0.1s						
NRCA				AML	AML		
	comp=E,6175μm,0.1s						
NRCA				AML	AML		
	comp=E,6715μm,0.1s						
MC2	**Monte Cornacci**	**0.11**	**11**	P	Pg	21 18 25.8	+0.6
MC2				S	Sg	21 18 28.2	+0.8
MC2	**Monte Cornacci**	**0.11**	**11**	⇑P	Pg	21 18 25.8	+0.5
MC2				S	Sg	21 18 28.1	+0.7
T1202	**Accumoli, Fraz**	**0.11**	**156**	P	Pg	21 18 25.8	+0.6
T1202	**Accumoli, Fraz**	**0.11**	**156**	P	Pg	21 18 25.7	+0.6
T1202				S	Sg	21 18 28.1	+0.9
T1202				AML	AML		
	comp=E,100μm,0.3s						
T1202				AML	AML		
	comp=N,205μm,0.1s						
T1216	**Preci, Frazion**	**0.14**	**309**	P	Pg	21 18 26.0	+0.6
T1216				S	Sg	21 18 28.4	+0.7
T1216	**Preci, Frazion**	**0.14**	**309**	⇑P	Pg	21 18 26.1	+0.6
T1216				S	Sg	21 18 28.3	+0.6
MMO1	**Montemonaco**	**0.15**	**52**	⇓P	Pg	21 18 26.4	+0.7
MMO1				S	Sg	21 18 29.1	+0.9
MMO1	**Montemonaco**	**0.15**	**52**	S	Sg	21 18 29.1	+0.9
T1204	**Amatrice, Fraz**	**0.17**	**139**	P	Pg	21 18 26.8	+0.7
T1204				S	Sg	21 18 29.8	+1.1
T1204				AML	AML		
	comp=E,381μm,0.3s						
T1204				AML	AML		
	comp=N,223μm,1.1s						
T1204				AML	AML		
	comp=E,380μm,0.3s						
T1204				AML	AML		
	comp=N,223μm,1.1s						
T1204				AML	AML		
	comp=N,230μm,1.1s						
T1204				AML	AML		
	comp=E,381μm,0.3s						
T1204	**Amatrice, Fraz**	**0.17**	**139**	P	Pb	21 18 26.8	-0.7
T1204				S	Sg	21 18 29.8	+1.1
T1204				AML	AML		
	comp=N,230μm,1.1s						
T1204				AML	AML		
	comp=E,381μm,0.3s						
FEMA	**Monte Fema**	**0.18**	**332**	P	Pg	21 18 26.8	+0.6
FEMA				S	Sg	21 18 30.0	+1.0
T1217	**Poggiodomo (PG**	**0.19**	**241**	P	Pg	21 18 27.0	+0.6
T1217	**Poggiodomo (PG**	**0.19**	**241**	⇓P	Pg	21 18 27.1	+0.7
T1217				S	Sg	21 18 30.4	+1.1
T1241	**Roccafluvione,**	**0.20**	**75**	⇑P	Pb	21 18 27.4	-0.7
T1241				AML	AML		
	comp=N,137μm,0.6s						
T1241				AML	AML		
	comp=E,358μm,0.3s						
T1241				AML	AML		
	comp=N,137μm,0.6s						
T1241	**Roccafluvione,**	**0.20**	**75**	S	Sg	21 18 30.9	+1.3
T1241				AML	AML		
	comp=E,358μm,0.3s						
T1241				AML	AML		
	comp=N,137μm,0.6s						
SMA1	**SAN MARTINO**	**0.22**	**144**	P	Pg	21 18 27.4	+0.6
SMA1				AML	AML		
	comp=E,188μm,0.3s						
SMA1				AML	AML		
	comp=N,128μm,0.6s						
SMA1				AML	AML		
	comp=N,128μm,0.6s						
SMA1				AML	AML		
	comp=N,128μm,0.6s						
SMA1	**SAN MARTINO**	**0.22**	**144**	⇓P	Pg	21 18 27.5	+0.7
SMA1				S	Sg	21 18 31.1	+1.2
SMA1				AML	AML		
	comp=N,128μm,0.6s						
SMA1				AML	AML		
	comp=E,188μm,0.3s						
T1215	**Vallo di Nera,**	**0.22**	**269**	⇑P	Pg	21 18 27.5	+0.7
T1215	**Vallo di Nera,**	**0.22**	**269**	S	Sg	21 18 30.9	+1.1
LNSS	**Leonessa**	**0.22**	**204**	P	Pg	21 18 27.5	+0.7
LNSS				S	Sg	21 18 31.4	+1.4
LNSS				AML	AML		
	comp=E,374μm,1.3s						
LNSS				AML	AML		
	comp=N,386μm,0.3s						
LNSS				AML	AML		
	comp=N,386μm,0.3s						
LNSS				AML	AML		
	comp=E,374μm,1.3s						
LNSS	**Leonessa**	**0.22**	**204**	⇓P	Pg	21 18 27.6	+0.7
LNSS				S	Sg	21 18 31.3	+1.3
LNSS				AML	AML		
	comp=E,53μm,0.2s						
LNSS				AML	AML		
	comp=N,57μm,0.5s						
LNSS				AML	AML		
	comp=E,53μm,0.2s						
LNSS				AML	AML		
	comp=N,57μm,0.5s						
LNSS				AML	AML		
	comp=N,386μm,0.3s						
LNSS				AML	AML		
	comp=E,374μm,1.3s						
AM05	**Amandola Campo**	**0.22**	**39**	⇑P	Pb	21 18 28.0	-0.3
AM05				AML	AML		
	comp=E,235μm,1.5s						
AM05				AML	AML		
	comp=N,446μm,0.8s						
AM05				AML	AML		
	comp=E,234μm,1.5s						
AM05	**Amandola Campo**	**0.22**	**39**	AML	AML		
	comp=N,446μm,0.8s						
AM05				AML	AML		
	comp=E,234μm,1.5s						
T1243	**Rocca Santa Ma**	**0.24**	**117**	⇑P	Pg	21 18 27.7	+0.5
T1243	**Rocca Santa Ma**	**0.24**	**117**	S	Sg	21 18 31.5	+1.0
FDMO	**Fiordimonte**	**0.24**	**347**	⇓P	Pb	21 18 28.0	-0.7
FDMO				AML	AML		
	comp=N,81μm,0.6s						
FDMO				AML	AML		
	comp=E,88μm,0.2s						
FDMO	**Fiordimonte**	**0.24**	**347**	S	Sg	21 18 31.8	+1.2
FDMO				AML	AML		
	comp=N,81μm,0.6s						
FDMO				AML	AML		
	comp=E,88μm,0.2s						
CESI	**CESI - Serrava**	**0.28**	**317**	⇓P	Pb	21 18 28.7	-0.6
CESI				AML	AML		
	comp=N,333μm,0.2s						
CESI				AML	AML		
	comp=E,162μm,0.2s						
CESI	**CESI - Serrava**	**0.28**	**317**	S	Sb	21 18 33.1	-0.9
CESI				AML	AML		
	comp=E,162μm,0.2s						
CESI				AML	AML		
	comp=N,333μm,0.2s						
GUMA	**Gualdo di Mace**	**0.29**	**26**	⇓P	Pg	21 18 27.9	-0.2
GUMA				AML	AML		
	comp=E,308μm,0.2s						
GUMA				AML	AML		
	comp=N,314μm,1.0s						
GUMA				AML	AML		
	comp=E,308μm,0.2s						
GUMA				AML	AML		
	comp=N,314μm,1.0s						
GUMA	**Gualdo di Mace**	**0.29**	**26**	S	Sg	21 18 32.9	+0.9
GUMA				AML	AML		
	comp=E,308μm,0.2s						
GUMA				AML	AML		
	comp=N,314μm,1.0s						
CSP1	**Cessapalombo**	**0.29**	**6**	⇓P	Pb	21 18 29.0	-0.6
CSP1	**Cessapalombo**	**0.29**	**6**	S	Sb	21 18 33.7	-0.7
RM33	**Pellescritta (**	**0.30**	**173**	P	Pb	21 18 29.1	-0.6
CAMP	**Campotosto**	**0.33**	**146**	P	Pg	21 18 29.2	+0.5
CAMP				AML	AML		
	comp=E,93μm,0.2s						
CAMP				AML	AML		
	comp=N,45μm,0.2s						
CAMP				AML	AML		
	comp=E,93μm,0.2s						
CAMP	**Campotosto**	**0.33**	**146**	S	Sb	21 18 34.3	-1.1
CAMP				AML	AML		
	comp=E,93μm,0.2s						
CAMP				AML	AML		
	comp=N,45μm,0.2s						
ARRO	**Arrone**	**0.37**	**232**	⇑P	Pb	21 18 30.4	-0.4
ARRO				AML	AML		
	comp=E,48μm,0.3s						
ARRO				AML	AML		
	comp=N,46μm,0.7s						
TERO	**Teramo**	**0.37**	**119**	⇑P	Pg	21 18 30.0	+0.4
TERO				AML	AML		
	comp=E,94μm,1.0s						
TERO				AML	AML		
	comp=N,124μm,0.7s						
TERO				AML	AML		
	comp=N,124μm,0.7s						
TERO				AML	AML		
	comp=E,94μm,1.0s						
TERO	**Teramo**	**0.37**	**119**	S	Sb	21 18 35.9	-0.9
TERO				AML	AML		
	comp=E,12μm,0.5s						
TERO				AML	AML		
	comp=N,13μm,1.5s						
TERO				AML	AML		
	comp=E,12μm,0.5s						
TERO				AML	AML		
	comp=N,16μm,0.1s						
TERO				AML	AML		
	comp=N,124μm,0.7s						
TERO				AML	AML		
	comp=E,94μm,1.0s						
OFFI	**Offida**	**0.41**	**71**	P	Pb	21 18 31.9	+0.4
OFFI				AML	AML		
	comp=N,96μm,0.3s						
OFFI				AML	AML		
	comp=N,96μm,0.3s						
OFFI				AML	AML		
	comp=E,77μm,0.3s						
OFFI	**Offida**	**0.41**	**71**	AML	AML		
	comp=N,96μm,0.3s						
OFFI				AML	AML		
	comp=E,77μm,0.3s						
GIGS	**Gran Sasso**	**0.47**	**140**	⇓P	Pg	21 18 31.5	+0.2
FIAM	**Fiamignano**	**0.54**	**184**	P	Pb	21 18 33.3	-0.5
FIAM				AML	AML		
	comp=E,15μm,1.4s						
FIAM				AML	AML		
	comp=N,14μm,0.9s						
FIAM	**Fiamignano**	**0.54**	**184**	AML	AML		
	comp=N,14μm,0.9s						
FIAM				AML	AML		
	comp=E,15μm,1.4s						
ATCC	**AVT- Casa Cast**	**0.54**	**315**	P	Pb	21 18 33.4	-0.4
ATCC				AML	AML		
	comp=E,56μm,1.1s						
ATCC				AML	AML		
	comp=N,55μm,1.1s						
CING	**Cingoli**	**0.57**	**2**	⇓P	Pb	21 18 34.0	-0.3
CING				AML	AML		
	comp=N,33μm,1.3s						
CING				AML	AML		
	comp=E,23μm,0.9s						
CING	**Cingoli**	**0.57**	**2**	AML	AML		
	comp=E,23μm,0.9s						
CING				AML	AML		
	comp=N,33μm,1.3s						
VCEL	**Villa Celiera**	**0.65**	**129**	⇓P	Pb	21 18 35.6	-0.1
PP3	**Marolino**	**0.66**	**30**	S	Sg	21 18 44.0	+0.3
ARVD	**Arcevia**	**0.71**	**347**	S	Sn	21 18 49.0	-0.3
SRES	**S.Oreste - Sor**	**0.74**	**221**	⇓P	Pb	21 18 37.9	+0.6

IDC 14 21:20:50.8±5.1, 13°.86S×166°.94E, h0km, mb3.9/4, mbtmp3.8/4, Error ellipse: s-maj=135.5km s-min=50.8km az=115.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.32**	**228**	P	P	21 26 55.0	-0.3
	3.0nm,0.5s,baz=59,slow=9.5,SNR=13						
	3.0nm,0.5s						
WRA	**Warramunga Arr**	**31.73**	**254**	P	P	21 27 17.0	+0.2
	0.4nm,0.8s,baz=86,slow=9.4,SNR=1.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**32.69**	**248**	P	P	21 27 25.3	+0.1
	0.4nm,0.6s,baz=73,slow=9.4,SNR=8.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**96.35**	**317**	P	P	21 34 21.4	-0.2
	0.3nm,0.6s,baz=93,slow=6.1,SNR=3.8						
	0.3nm,0.6s						

IDC ***14*** *21:31:59.8±0.5, 9°.53S×158°.40E, h0km, mb4.4/19, mbtmp4.4/21, ML3.9/2, MS3.6/43, Error ellipse: s-maj=16.4km s-min=14.0km az=137.0*
NEIC ***14*** *21:32:01.6±1.2, 9°.58S±0°.07×158°.48E±0°.06, h14km±4km, mb4.9/54, Error ellipse: s-maj=10.9km s-min=8.2km az=190.0*
BJI ***14*** *21:32:02.6±0.0, 8°.97S×158°.20E, h10km, mb4.9/49, mB5.1/27, Ms4.7/4, Ms7 4.2/4*

ISC 14 21:32:01.0±0.4, 9°.51S±0°.07×158°.47E±0°.06, h10km, n170, σ1°08/146, mb4.8/56, MS3.6/41, 2C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.46**	**87**	Pn	**Pn**	**21 32 27.1**	**-0.3**
	2μm,0.3s,baz=212,slow=11,SNR=62						
HNR				Sn	**Sn**	**21 32 45.8**	**-0.6**
	11μm,0.3s,baz=87,slow=23,SNR=9.6						
HNR	**Honiara**	**1.46**	**87**		**Pn**	**21 32 27.1**	**-0.3**
HNR				Sn	**Sn**	**21 32 46.3**	**-0.2**
HNR	**Honiara**	**1.46**	**87**	P	**Pn**	**21 32 27.0**	**-0.3**
RABL	**Rabaul**	**8.20**	**310**	Pn	**Pn**	**21 34 00.5**	**+0.4**
KRVT	**Keravat (AS076**	**8.23**	**308**	Pn	**Pn**	**21 34 01.7**	**+1.3**
	3.4nm,0.3s,baz=50,slow=16,SNR=5.1						
	48nm,0.6s						
PMG	**Port Moresby**	**11.16**	**270**	LR	LR	21 38 43.5	
	comp=Z,802nm,18.5s,baz=92,slow=36						
COEN	**Coen**	**15.62**	**252**	P	**P**	**21 35 46.7**	**+1.1**
RK1H	**Rockhampton Ha**	**15.77**	**208**	P	**P**	**21 35 50.0**	**+2.8**
	13nm,1.0s						
CTA	**Charters Tower**	**15.80**	**227**	Pn	**Pn**	**21 35 43.0**	**-0.8**
	0.2nm,0.3s,baz=45,slow=10.0,SNR=4.8						
CTA				LR	LR	21 41 00.5	
	comp=Z,435nm,20.3s,baz=58,slow=34						
	4.1nm,0.7s						
CTA	**Charters Tower**	**15.80**	**227**	P	**P**	**21 35 49.7**	**+2.1**
CTAO	**Charters Tower**	**15.80**	**227**		**Pn**	**21 35 42.2**	**-1.5**
CTAO	**Charters Tower**	**15.80**	**227**	P	**P**	**21 35 49.7**	**+2.1**
	17nm,1.5s						
MTSU	**Mount Surprise**	**16.19**	**237**	P	**P**	**21 35 55.3**	**+3.3**
PATS	**Pohnpei**	**16.24**	**359**	Pn	**Pn**	**21 35 50.2**	**+0.8**
PATS				IAmb	IAmb	21 35 51.0	
	comp=Z,113nm,1.3s						
EIDS	**Eidsvold**	**17.27**	**203**	P	**Pn**	**21 36 02.0**	**-0.3**
EIDS	**Eidsvold**	**17.27**	**203**	P	**P**	**21 36 05.7**	**+1.9**
	comp=Z,28nm,0.9s						
RMQ	**Roma**	**19.23**	**207**	P	**Pn**	**21 36 29.0**	**+2.6**
	comp=Z,26nm,1.2s						
GENI	**Genyem**	**19.45**	**290**	P	**P**	**21 36 29.3**	**+1.4**
MSVF	**Nonsavu**	**20.69**	**115**	P	Pn	21 36 43.4	-0.4
	comp=Z,18nm,1.0s,baz=166,slow=16,SNR=3.5						
MSVF				LR	LR	21 43 56.7	
	comp=Z,120nm,18.4s,baz=173,slow=34						
	comp=Z,18nm,1.0s						
SMPI	**Sarmi**	**21.02**	**290**	P	**P**	**21 36 44.9**	**-0.1**
	comp=Z,45nm,0.9s						
SMPI				pP	**pP**	**21 36 47.7**	**+0.9**
	comp=Z,45nm,0.9s						
QIS	**Mount Isa**	**21.25**	**237**	P	**P**	**21 36 49.3**	**+1.8**
QLP	**Quilpie**	**21.68**	**217**	P	**P**	**21 36 54.6**	**+2.6**
INKA	**Inna

WRA PcP **PcP** **21 41 01.6 0.0**
comp=Z,2.7nm,1.0s,baz=69,slow=2.2,SNR=6.3
WRA LR LR 21 47 00.2
comp=Z,82nm,20.3s,baz=55,slow=35
comp=Z,13nm,0.9s
WRA Warramunga Arr 25.51 243 P **P** **21 37 28.6 -1.2**
KDU Kakadu 25.70 261 P **P** **21 37 31.4 -0.2**
GUMO Guam 26.63 329 LR LR 21 48 18.0
comp=Z,26nm,18.9s,baz=143,slow=37
STKA Stephens Creek 27.21 213 P **P** **21 37 44.7 -0.4**
comp=Z,6.2nm,0.8s,baz=39,slow=13,SNR=11
STKA LR LR 21 47 49.2
comp=Z,349nm,19.6s,baz=30,slow=35
comp=Z,6.2nm,0.8s
STKA Stephens Creek 27.21 213 P **P** **21 37 45.0 -0.1**
AS31 Alice Springs 27.37 236 P **P** **21 37 44.6 -2.1**
ASAR Alice Springs 27.37 236 P **P** **21 37 45.5 -1.1**
comp=Z,1.4nm,0.6s,baz=60,slow=9.0,SNR=17
ASAR PcP **PcP** **21 41 05.4 -0.5**
comp=Z,0.9nm,0.6s,baz=66,slow=2.3,SNR=4.8
ASAR LR LR 21 48 18.8
comp=Z,154nm,18.3s,baz=89,slow=36
comp=Z,1.4nm,0.6s
ASAR Alice Springs 27.37 236 P **P** **21 37 44.9 -1.8**
SIJI Sorong 28.40 286 LR LR 21 51 05.3
comp=Z,89nm,18.9s,baz=75,slow=40
AFI Afiamalu 29.44 101 LR LR 21 47 39.4
comp=Z,138nm,20.1s,baz=68,slow=32
KNRA Kununurra 29.61 255 P **P** **21 38 05.9 -0.7**
BBOO Buckleboo 31.08 218 P **P** **21 38 19.1 -0.3**
FITZ Fitzroy Crossi 32.96 251 P **P** **21 38 35.1 -1.1**
comp=Z,3.6nm,0.6s,baz=90,slow=7.3,SNR=17
FITZ LR LR 21 51 20.7
comp=Z,89nm,19.8s,baz=80,slow=35
comp=Z,3.6nm,0.6s
FITZ Fitzroy Crossi 32.96 251 P **P** **21 38 35.3 -0.9**
FITZ IAmb IAmb 21 38 46.7
comp=Z,21nm,1.7s
SANI Sanana 33.13 281 P **P** **21 38 37.3 -0.4**
comp=Z,18nm,1.2s
BATI Baumata 34.29 266 LR LR 21 53 50.0
comp=Z,133nm,18.5s,baz=124,slow=38
MMRI Maumere 35.78 268 P **P** **21 38 59.2 -1.5**
RPZ Rata Peaks 35.79 164 LR LR 21 51 42.9
comp=Z,122nm,21.1s,baz=314,slow=33
EDFI Ende, Flores 36.31 268 P **P** **21 39 03.6 -1.8**
comp=Z,7.3nm,1.0s
LUWI Luwuk 36.50 281 P **P** **21 39 06.2 -0.5**
LUWI IAmb IAmb 21 39 07.8
comp=Z,22nm,1.0s
LUWI Luwuk 36.50 281 P **P** **21 39 06.3 -0.5**
comp=Z,2µmcomp=Z,22nm,0.9s
GTOI Gorontalo 36.72 284 P **P** **21 39 09.6 +0.9**
comp=Z,15nm,0.8s
APSI Ampana 37.62 281 P **P** **21 39 17.2 +0.9**
comp=Z,18nm,1.2s
MRSI Marisa 37.70 283 P P 21 39 26.6 +10
KAPI Kappang 38.65 274 P **P** **21 39 25.0 -0.1**
comp=Z,5.9nm,0.3s,baz=121,slow=5.1,SNR=6.0
KAPI LR LR 21 57 35.3
comp=Z,53nm,18.1s,baz=100,slow=40
comp=Z,5.9nm,0.3s
KAPI Kappang 38.65 274 P **P** **21 39 23.7 -1.4**
KAPI IAmb IAmb 21 39 26.0
comp=Z,26nm,1.1s
PSA00 Pilbara Seismi 38.99 247 P **P** **21 39 26.1 -1.7**
MBWA Marble Bar 39.01 248 P **P** **21 39 26.6 -1.5**
MBWA IAmb IAmb 21 40 54.2
comp=Z,57nm,1.6s
MPSI Mapaga 39.63 282 P **P** **21 39 32.3 -0.9**
MYLDM Lahad Datu 42.42 288 P **P** **21 39 55.9 -0.3**
MYLDM IAmb IAmb 21 40 16.9
comp=Z,17nm,1.0s
MORW Morawa 44.22 238 P **P** **21 40 08.5 -2.1**
MORW IAmb IAmb 21 40 11.2
comp=Z,50nm,1.9s
NWAO Narrogin (SRO) 44.55 232 LR LR 21 58 15.1
comp=Z,186nm,21.2s,baz=18,slow=35
JMN Monobe 48.94 333 P **P** **21 40 47.0 -0.6**
MJAR Matsushiro Arr 49.61 339 P **P** **21 40 52.1 -0.6**
comp=Z,2.5nm,0.8s,baz=155,slow=9.0,SNR=9.4
comp=Z,2.5nm,0.8s
YHNB Yeheng 49.63 314 P **P** **21 40 53.1 0.0**
JHS Saijyo 50.35 333 P **P** **21 40 57.5 -0.8**
JHS IAmb IAmb 21 42 40.2
comp=Z,43nm,1.8s
LEM Lembang 50.38 269 LR LR 22 05 31.2
comp=Z,31nm,20.2s,baz=237,slow=40
PPT Papeete 51.01 105 LR LR 21 59 19.0
comp=Z,51nm,18.5s,baz=14,slow=32
KSRS Korea Array 54.78 330 P **P** **21 41 31.5 +0.5**
comp=Z,2.4nm,0.6s,baz=140,slow=7.0,SNR=22
KSRS LR LR 22 02 40.0
comp=Z,20nm,21.4s,baz=130,slow=34
comp=Z,2.4nm,0.6s
KSAR Wonju Array Be 54.80 330 P **P** **21 41 30.5 -0.6**
KS19 Wonju Array Si 54.85 330 P **P** **21 41 30.9 -0.6**
KS19 IAmb IAmb 21 41 31.7
comp=Z,9.4nm,1.1s
INCN Inchon 55.45 329 P **P** **21 41 35.4 -0.5**
INCN IAmb IAmb 21 41 37.2
comp=Z,23nm,1.1s
NJ2 Nanjing 56.05 319 *eP* **P** **21 41 39.3 -0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 58.60 338 P **P** **21 41 59.0 +0.9**
comp=Z,4.4nm,0.8s,baz=145,slow=7.0,SNR=11
comp=Z,4.4nm,0.8s
USRK Ussuriysk Ar. 58.60 338 P **P** **21 41 58.6 +0.5**
MDJ Mudanjiang 59.87 336 P **P** **21 42 06.6 -0.2**
MDJ IAmb IAmb 21 42 08.3
comp=Z,19nm,1.3s
MDJ Mudanjiang 59.87 336 P **P** **21 42 07.5 +0.6**
MDJ sP pwP 21 42 13.8 -0.5
MDJ pmax pmax
comp=Z,14nm,1.4s
MDJ pmax pmax
comp=Z,140nm,5.6s
ENH Enshi 61.47 312 P **P** **21 42 17.1 -1.1**
GSI Gunungsitoli 61.58 277 P **P** **21 42 17.2 -2.0**
HNS HongShan 62.09 321 ⇓P **P** **21 42 22.4 +0.3**
HNS pmax pmax
comp=Z,15nm,1.3s
PEA0B Petropavlovsk- 62.37 359 P **P** **21 42 23.8 +0.1**
PETK Petropavlovsk- 62.37 359 P **P** **21 42 23.6 -0.1**
comp=Z,3.9nm,0.9s,baz=166,slow=7.0,SNR=7.1
PETK LR LR 22 05 41.8
comp=Z,59nm,21.5s,baz=153,slow=32
comp=Z,3.9nm,0.9s
PETK Petropavlovsk- 62.37 359 P **P** **21 42 23.4 -0.3**
BJT Baijiatuau 62.93 325 P **P** **21 42 27.3 -0.3**
BJI Beijing 62.94 325 P **P** **21 42 28.4 +0.7**
BJI pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 63.02 341 LR LR 22 06 33.1
comp=Z,21nm,21.5s,baz=162,slow=33
SHEM Shemya Is, Ala 63.42 11 LR LR 22 05 44.4
comp=Z,56nm,21.5s,baz=296,slow=32
XAN Xi'an 63.90 315 P **P** **21 42 33.9 -0.4**
XAN pP pP 21 42 37.4 +1.2
XAN pmax pmax
comp=Z,33nm,0.8s
KMI Kunming 64.27 304 ⇑P **P** **21 42 37.6 +0.5**
KMI pP sP 21 42 42.8 +3.1
KMI pmax pmax
comp=Z,9.0nm,1.4s
CM31 Chiang Mai Arr 64.97 295 P **P** **21 42 40.7 -0.8**
CM31 IAmb IAmb 21 42 42.9
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 64.97 295 P **P** **21 42 41.9 +0.4**
comp=Z,6.0nm,1.1s,baz=120,slow=5.0,SNR=26
CMAR LR LR 22 10 51.6
comp=Z,9.7nm,19.2s,baz=125,slow=36
comp=Z,6.0nm,1.1s
CMAR Chiang Mai Arr 64.97 295 P **P** **21 42 41.0 -0.6**
CHTO Chiang Mai 65.09 296 P **P** **21 42 41.7 -0.6**
XLT XiLinHaoTe 65.59 328 *eP* **P** **21 42 45.8 +0.6**
XLT pmax pmax
comp=Z,39nm,0.7s
XLT pmax pmax
comp=Z,85nm,4.2s
PZH PanZhiHua 65.67 305 P **P** **21 42 48.8 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,150nm,3.9s

HHC Hu-ho-hao-te 66.16 323 *eP* **P** **21 42 51.3 +2.4**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.7s
HIA Hailar 67.66 334 P **P** **21 42 58.1 -0.2**
HIA IAmb IAmb 21 42 59.5
comp=Z,11nm,0.8s
VNDA Vanda 68.01 179 P **P** **21 43 01.3 +1.3**
comp=Z,0.7nm,0.9s,baz=351,slow=8.4,SNR=2.5
VNDA LR LR 22 08 30.1
comp=Z,120nm,18.2s,baz=356,slow=32
comp=Z,0.7nm,0.9s
LZH Lanzhou 68.52 315 *eP* **P** **21 43 05.0 +1.0**
LZH pP sP 21 43 09.6 +3.0
LZH PcP **PcP** **21 43 31.3 +2.1**
LZH pmax pmax
comp=Z,29nm,1.5s
GTA Gaotai 72.92 316 ⇑P **P** **21 43 31.8 +1.0**
GTA pP sP 21 43 34.9 +1.5
GTA sP pwP 21 43 37.8 -0.5
GTA pmax pmax
comp=Z,17nm,0.9s
ULN Ulaanbaatar 72.97 327 P **P** **21 43 31.0 +0.1**
ULN IAmb IAmb 21 43 33.0
comp=Z,12nm,1.1s
SONM Songino Array 73.31 326 P **P** **21 43 34.0 +1.1**
comp=Z,8.2nm,0.7s,baz=138,slow=5.6,SNR=41
comp=Z,8.2nm,0.7s
SONM Songino Array 73.31 326 P **P** **21 43 33.3 +0.3**
SONM IAmb IAmb 21 43 34.7
comp=Z,11nm,0.8s
SHL Shillong 73.53 300 P **P** **21 43 34.0 -0.8**
YAK Yakutsk 74.76 346 LR LR 22 13 40.0
comp=Z,18nm,21.6s,baz=89,slow=33
GOMU GeErMu 75.08 311 P **P** **21 43 44.9 +1.1**
GOMU pP sP 21 43 48.1 +1.7
GOMU sP pwP 21 43 49.9 -1.4
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU pmax pmax
comp=Z,110nm,4.3s
LSA Lhasa 75.53 304 P **P** **21 43 46.8 +0.2**
LSA IAmb IAmb 21 43 48.6
comp=Z,18nm,1.3s
LSA Lhasa 75.53 304 P **P** **21 43 47.4 +0.8**
LSA pmax pmax
comp=Z,13nm,1.1s
TAPN Taplejung 77.64 301 *eP* **P** **21 43 58.6 +0.2**
comp=Z,26nm,1.0s
KDAK Kodiak Island 77.97 24 LR LR 22 10 20.0
comp=Z,65nm,21.5s,baz=226,slow=30
Q19K Cape Douglas, 78.30 23 P **P** **21 44 00.6 -0.5**
RAMN Ramite 78.47 300 *eP* **P** **21 44 02.8 -0.2**
JIRN Jiri 79.02 301 *eP* **P** **21 44 06.2 0.0**
PALK Pallekele 79.24 279 LR LR 22 22 16.2
comp=Z,16nm,18.2s,baz=226,slow=38
GUN Gumba 79.36 301 *eP* **P** **21 44 08.3 +0.3**
comp=Z,59nm,1.0s
PKI Pulchoki 79.66 300 *eP* **P** **21 44 09.5 -0.1**
comp=Z,46nm,1.1s
PKIN Phulchoki 79.67 300 *eP* **P** **21 44 09.4 -0.2**
comp=Z,51nm,1.3s
DMN Daman 79.93 300 *eP* **P** **21 44 11.0 0.0**
comp=Z,71nm,1.0s
GKN Gorkha 80.44 301 *eP* **P** **21 44 13.5 -0.1**
comp=Z,78nm,1.0s
QSPA South Pole Qui 80.48 180 P **P** **21 44 13.4 +0.4**
QSPA IAmb IAmb 21 44 34.1
comp=Z,15nm,1.5s
SUA Susitna One 81.05 22 P **P** **21 44 16.1 0.0**
SUA IAmb IAmb 21 46 09.2
comp=Z,32nm,1.5s
KOLN Koldanda 81.26 300 *eP* **P** **21 44 17.6 -0.4**
DANN Dangsing 81.28 301 *eP* **P** **21 44 17.7 -0.5**
comp=Z,48nm,1.1s
PYUN Piuthan 81.86 300 *eP* **P** **21 44 20.7 -0.6**
comp=Z,44nm,1.0s
TRF Thorofare Moun 82.48 21 P **P** **21 44 24.5 +0.9**
WMQ Urumqi 83.00 316 *eP* **P** **21 44 28.5 +1.8**
IMAR Indian Mountai 83.02 18 P **P** **21 44 26.4 +0.3**
MCK McKinley 83.13 21 P **P** **21 44 26.7 -0.1**
MCK IAmb IAmb 21 44 28.3
comp=Z,16nm,1.0s
MLY Manley 83.33 19 P **P** **21 44 27.9 0.0**
MLY IAmb IAmb 21 44 38.7
comp=Z,7.8nm,1.1s
TIXI Tiksi 83.34 351 LR LR 22 19 52.9
comp=Z,18nm,21.2s,baz=181,slow=34
MAW Mawson 83.41 203 P **P** **21 44 28.8 +0.5**
comp=Z,2.3nm,0.9s,baz=78,slow=2.3,SNR=3.6
MAW LR LR 22 19 26.5
comp=Z,63nm,18.1s,baz=130,slow=34
comp=Z,2.3nm,0.9s
NEA2 Nenana 83.61 20 P **P** **21 44 29.0 -0.3**
NEA2 IAmb IAmb 21 44 30.0
comp=Z,9.1nm,1.0s
H23K Yukon River 84.22 19 P **P** **21 44 32.4 -0.1**
H23K IAmb IAmb 21 44 36.6
comp=Z,7.9nm,1.1s
ILAR Eielson Array 84.47 21 P **P** **21 44 33.2 -0.4**
comp=Z,1.8nm,0.9s,baz=260,slow=4.4,SNR=12
ILAR LR LR 22 16 48.4
comp=Z,38nm,20.6s,baz=225,slow=32
comp=Z,1.8nm,0.9s
SCRK Sand Creek 85.05 22 P **P** **21 44 37.1 +0.3**
BCAR Beaver Creek A 85.40 23 P **P** **21 44 38.8 +0.4**
BMAR Burnt Mountain 86.77 19 P **P** **21 44 46.5 +1.4**
M30M Minto, Yukon 87.17 25 P **P** **21 44 47.5 +0.3**
M30M IAmb IAmb 21 45 20.1
comp=Z,11nm,1.6s
BBB Bella Bella 87.48 36 LR LR 22 16 44.6
comp=Z,26nm,20.5s,baz=212,slow=31
MK31 Makanchi Array 87.56 318 P **P** **21 44 48.7 -0.7**
MKAR Makanchi Array 87.56 318 P **P** **21 44 49.2 -0.1**
comp=Z,2.7nm,0.6s,baz=100,slow=5.9,SNR=35
MKAR LR LR 22 22 57.7
comp=Z,13nm,20.2s,baz=138,slow=35
comp=Z,2.7nm,0.6s
MKAR Makanchi Array 87.56 318 P **P** **21 44 48.8 -0.5**
YBH Yreka Blue Hor 88.03 47 LR LR 22 17 05.8
comp=Z,27nm,20.0s,baz=290,slow=31
ZALV Zalesovo Beam 88.18 325 P **P** **21 44 51.0 -1.1**
comp=Z,1.6nm,0.6s,baz=104,slow=6.3,SNR=6.9
comp=Z,1.6nm,0.6s
ZALV Zalesovo Beam 88.18 325 P **P** **21 44 50.5 -1.6**
DLBC Dease Lake 88.56 30 LR LR 22 16 01.5
comp=Z,59nm,21.9s,baz=269,slow=30
KSH Kashi 90.25 310 P **P** **21 45 04.6 +2.2**
KSH sP pwP 21 45 15.5 +5.6
KSH pmax pmax
comp=Z,5.0nm,1.2s
NVAR Mina Array Bea 90.58 51 P **P** **21 45 06.3 +2.2**
comp=Z,3.0nm,0.9s,baz=245,slow=6.4,SNR=16
NVAR LR LR 22 20 32.8
comp=Z,23nm,18.7s,baz=271,slow=32
comp=Z,3.0nm,0.9s
DSP Deep Springs 90.63 52 P **P** **21 45 04.6 +0.6**
DSP IAmb IAmb 21 45 15.9
comp=Z,6.5nm,1.2s
INK Inuvik 90.86 20 LR LR 22 24 33.6
comp=Z,12nm,19.6s,baz=183,slow=35
BOOM Boomskoye usch 90.90 313 P **P** **21 45 05.5 +0.1**
BOOM IAmb IAmb 21 45 06.7
comp=Z,5.0nm,0.8s
PFO Pinyon Flats O 91.13 56 LR LR 22 18 16.6
comp=Z,84nm,20.8s,baz=244,slow=30
MZP Montezuma Peak 91.15 52 P **P** **21 45 07.2 +0.4**
BELA Belgrano 2 92.45 177 P **P** **21 45 11.1 -0.6**
BMO Blue Mountains 92.56 45 P **P** **21 45 13.5 +0.5**
BMO IAmb IAmb 21 45 22.4
comp=Z,6.8nm,1.4s
NEW Newport 93.32 42 LR LR 22 19 05.0
comp=Z,45nm,21.6s,baz=256,slow=30
ELK Elko 93.34 49 LR LR 22 29 07.5
comp=Z,18nm,18.1s,baz=234,slow=37
ELK Elko 93.34 49 P **P** **21 45 16.3 -0.5**
BTK Batken 94.26 310 P **P** **21 45 19.8 -1.0**
LPIG La Paz 94.92 66 LR LR 22 23 00.2
comp=Z,35nm,18.1s,baz=248,slow=32
BVAR Borovoye Array 96.37 323 LR LR 22 32 23.0
comp=Z,16nm,18.0s,baz=59,slow=38
YKA Yellowknife Ar 96.94 28 LR LR 22 22 34.4
comp=Z,39nm,21.2s,baz=294,slow=31
PDAR Pinedale Array 97.82 48 P Pdif 21 45 38.3 +1.1
comp=Z,0.5nm,0.7s,baz=202,slow=1.6,SNR=5.2
PDAR LR LR 22 22 48.9
comp=Z,14nm,21.5s,baz=258,slow=31
comp=Z,0.5nm,0.7s
SNAA Sanae 98.04 186 LR LR 22 26 15.2
comp=Z,30nm,18.4s,baz=234,slow=33
ANMO Albuquerque 99.51 56 LR LR 22 23 53.0
comp=Z,48nm,20.1s,baz=269,slow=31
AKASG Malin Array Be 121.57 325 PKP **PKPdf** **21 50 54.8 -0.1**
comp=Z,0.8nm,0.5s,baz=67,slow=2.0,SNR=5.9
BRTR Keskin Array B 122.62 311 PKP **PKPdf** **21 50 57.2 -0.3**
comp=Z,1.0nm,0.9s,baz=73,slow=2.0,SNR=6.3
BORG Borgarnes 124.85 360 PKPdf **PKPdf** **21 50 59.1 -1.6**
BURAR Bucovina Array 125.33 323 PKPdf **PKPdf** **21 51 02.3 -0.1**
KOLS Kolonicke sedl 126.36 325 *e*PKP **PKiKP** **21 51 05.6 +0.9**
GERES GERESS Array B 130.96 330 PKP **PKPdf** **21 51 13.7 +0.7**
comp=Z,0.6nm,0.7s,baz=0.0,slow=0.0,SNR=5.0
ESDC Sonseca Array 146.12 335 PKPbc **PKPdf** **21 51 41.9 +0.9**
comp=Z,1.8nm,1.1s,baz=28,slow=5.8,SNR=4.7
TAM Tamanrasset 150.92 300 PKPdf **PKPdf** **21 51 46.9 -2.5**
TORD Torodi Ar. Bea 156.95 281 PKP **PKPdf** **21 51 58.0 +0.1**
comp=Z,1.2nm,0.8s,baz=73,slow=0.8,SNR=6.2

IDC 14 21:35:12.3±2.7, 29.80N×67.00E, h0km, mb3.5/3, mbtmp3.5/4, ML3.2/1, MS3.0/4, Error ellipse: s-maj=62.4km s-min=39.0km az=69.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**10.96**	**320**	Pn	Pn	21 37 50.4	-0.1
	0.2nm,0.3s,baz=149,slow=17,SNR=3.0						
GEYT				Lg	Lg	21 40 44.8	
	0.1nm,0.3s,baz=125,slow=16,SNR=3.6						
GEYT				LR	LR	21 41 51.1	
	comp=Z,41nm,21.7s,baz=102,slow=36						
	0.9nm,0.7s						
AAK	**Ala-Archa**	**14.16**	**23**	LR	LR	21 44 49.2	
	comp=Z,38nm,18.9s,baz=204,slow=41						
MKAR	**Makanchi Array**	**20.72**	**31**	P	P	21 39 54.2	-0.1
	1.0nm,0.6s,baz=214,slow=9.5,SNR=8.7						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**27.39**	**23**	P	P	21 40 59.4	+0.1
	0.4nm,0.4s,baz=217,slow=14,SNR=1.9						
	0.4nm,0.4s						
BRTR	**Keskin Array B**	**29.00**	**299**	LR	LR	21 54 48.9	
	comp=Z,36nm,21.4s,baz=312,slow=41						
SONM	**Songino Array**	**35.12**	**48**	LR	LR	21 59 06.2	
	comp=Z,40nm,19.4s,baz=229,slow=41						
ASAR	**Alice Springs**	**83.38**	**122**	P	P	21 47 41.8	0.0
	0.2nm,0.6s,baz=316,slow=5.2,SNR=1.5						
	0.2nm,0.6s						

IDC 14 21:54:58.2±1.6, 5.28S×141.86E, h0km, mb3.9/3, mbtmp4.0/5, ML4.1/2, MS3.0/3, Error ellipse: s-maj=57.1km s-min=20.7km az=114.0

ISC 14 21:55:01.2±1.2, 5.3S±0.1×141.6E±0.2, h10km, n19, σ2s91/15, mb4.1/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**8.73**	**170**	P	Pn	21 57 11.2	+3.5
KDU	**Kakadu**	**11.58**	**230**	P	**Pn**	**21 57 47.4**	**+0.8**
MTN	**Manton Dam**	**12.72**	**233**	P	**Pn**	**21 58 02.6**	**+0.4**
MTSU	**Mount Surprise**	**13.02**	**168**	P	Pn	21 58 11.2	+4.8
QIS	**Mount Isa**	**15.27**	**187**	P	**Pn**	**21 58 37.0**	**0.0**
CTA	**Charters Tower**	**15.38**	**163**	LR	LR	22 05 05.4	
	comp=Z,89nm,20.3s,baz=77,slow=40						
WRAB	**Tennant Creek**	**16.13**	**205**	P	**Pn**	**21 58 47.1**	**-1.1**
WRA	**Warramunga Arr**	**16.14**	**205**	Pn	**Pn**	**21 58 46.8**	**-1.6**
	0.6nm,0.3s,baz=28,slow=13,SNR=26						
WRA				Sn	Sn	22 01 35.9	-12
	0.1nm,0.3s,baz=31,slow=24,SNR=2.7						
WRA				Lg	Lg	22 03 35.2	
	0.1nm,0.3s,baz=28,slow=31,SNR=2.7						
WRA				LR	LR	22 05 30.5	
	comp=Z,103nm,18.9s,baz=52,slow=39						
	3.6nm,0.7s						
KNRA	**Kununurra**	**16.24**	**230**	P	**Pn**	**21 58 48.6**	**-1.0**
ASAR	**Alice Springs**	**19.68**	**201**	P	**Pn**	**21 59 32.5**	**+0.5**
	0.7nm,0.3s,baz=32,slow=9.8,SNR=75						
ASAR				S	**S**	**22 03 04.8**	**-8.0**
	1.0nm,0.7s,baz=22,slow=26,SNR=5.4						
ASAR				Lg	Lg	22 05 27.6	
	baz=24,slow=31						
	2.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.08**	**229**	P	**P**	**21 59 35.4**	**+0.4**
	3.9nm,0.8s,baz=51,slow=11,SNR=10						
FITZ				S	S	22 03 08.6	-12
	5.0nm,0.8s,baz=45,slow=20,SNR=7.2						
FITZ				Lg	Lg	22 05 43.1	
	0.2nm,0.3s,baz=112,slow=5.4,SNR=1.9						
	3.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.08**	**229**	P	Pn	21 59 36.7	-0.1
DAV	**Davao City (W)**	**20.14**	**307**	LR	LR	22 07 45.7	
	comp=Z,12nm,21.9s,baz=270,slow=38						
QLP	**Quilpie**	**21.30**	**173**	P	**P**	**21 59 51.5**	**+3.3**
	20nm,0.8s						
OOD	**Oodnadatta**	**23.04**	**193**	P	**P**	**22 00 08.3**	**+1.6**
WRKA	**Warakurna**	**23.37**	**212**	P	**P**	**22 00 10.9**	**+0.7**
MULG	**Mulgathing**	**25.82**	**195**	P	**P**	**22 00 36.1**	**+3.4**
MKAR	**Makanchi Array**	**73.58**	**322**	P	**P**	**22 06 34.8**	**+0.1**
	1.1nm,0.8s,baz=104,slow=7.2,SNR=6.6						
	1.1nm,0.8s						
ILAR	**Eielson Array**	**87.03**	**24**	P	**P**	**22 07 44.0**	**-2.6**
	0.9nm,0.7s,baz=262,slow=5.0,SNR=9.3						
	0.9nm,0.7s						

IDC 14 22:01:29.5±2.1, 47.75N×147.59E, h395km±26km, mb2.9/6, mbtmp3.7/11, Error ellipse: s-maj=31.8km s-min=17.0km az=157.0

ISC 14 22:01:29.9±1.0, 47.8N±0.2×147.6E±0.1, h400km, n11, σ0s51/11, mb3.4/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**8.37**	**46**	P	**Pn**	**22 03 28.1**	**-0.8**
	1.8nm,0.8s,baz=216,slow=9.0,SNR=2.2						
KLR	**Kul'dur**	**10.64**	**284**	P	**P**	**22 03 54.9**	**+0.5**
	1.4nm,0.7s,baz=56,slow=9.1,SNR=4.6						
USRK	**Ussuriysk Ar.**	**11.44**	**258**	P	**P**	**22 04 02.5**	**-0.8**
	1.6nm,0.6s,baz=73,slow=11,SNR=2.4						
MJAR	**Matsushiro Arr**	**13.19**	**215**	P	**P**	**22 04 22.3**	**-0.3**
	2.6nm,0.6s,baz=300,slow=11,SNR=8.7						
KSRS	**Korea Array**	**17.72**	**242**	P	**P**	**22 05 11.2**	**-0.2**
	1.0nm,0.8s,baz=49,slow=11,SNR=8.6						
ILAR	**Eielson Array**	**38.12**	**39**	P	**P**	**22 08 12.3**	**+0.4**
	0.4nm,0.7s,baz=276,slow=8.1,SNR=2.5						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**61.47**	**332**	P	**P**	**22 11 05.0**	**-0.2**
	0.8nm,0.5s,baz=37,slow=7.6,SNR=11						
	0.8nm,0.5s						
NOA	**NORSAR Array B**	**65.99**	**338**	P	**P**	**22 11 34.4**	**-0.1**
	0.5nm,0.5s,baz=31,slow=6.7,SNR=4.6						
	0.5nm,0.5s						
PDAR	**Pinedale Array**	**67.11**	**51**	P	**P**	**22 11 42.2**	**+0.2**
	0.3nm,0.5s,baz=4.2,slow=1.0,SNR=5.3						
	0.3nm,0.5s						
KBZ	**Khabaz**	**67.42**	**311**	P	**P**	**22 11 43.8**	**+0.3**
	0.6nm,0.6s,baz=45,slow=4.3,SNR=1.6						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**80.17**	**57**	P	**P**	**22 12 57.4**	**+0.4**
	0.2nm,0.4s,baz=310,slow=3.4,SNR=5.2						
	0.2nm,0.4s						

IDC 14 22:24:31.8±1.2, 19.48N×75.67W, h0km, mb3.6/8, mbtmp3.6/8, MS3.2/3, Error ellipse: s-maj=42.0km s-min=25.1km az=4.0
OSPL 14 22:24:34.0±9.5, 20.00N×75.96W, h38km±476km, ML3.8
SSNC 14 22:24:35.9±2.4, 19.65N×75.56W, h16km±12km, MD4.0, ML3.7, MW3.9
JSN 14 22:24:35.9±0.6, 19.56N×75.62W, h0km±922km, MD4.0

ISC 14 22:24:33.7±1.6, 19.72N±0.04×75.68W±0.03, h11km±10km, n28, σ2s18/36, mb3.7/8, 2C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HLGC	**Holguin**	**1.22**	**343**	*eP*	**Pg**	**22 24 58.6**	**+1.5**
HLGC				*eS*	**Sn**	**22 25 16.5**	**+3.3**
LMGC	**Las Mercedes**	**1.29**	**286**	*eP*	**Pg**	**22 24 58.5**	**0.0**
LMGC				*eS*	**Sn**	**22 25 14.2**	**-0.7**
LMGC				IAML		22 25 14.9	
	comp=E,781nm,0.3s						
LMGC				IAML		22 25 15.6	
	comp=N,844nm,0.1s						

MASC	**Masc**	**1.44**	**71**	*i* P		**Pn**	**22 24 58.1**	**-1.6**
MASC				*e*S		**Sn**	**22 25 14.2**	**-4.4**
MASC				IAML			22 25 20.3	
	comp=E,1μm,0.2s							
MASC				IAML			22 25 23.4	
	comp=N,1μm,0.5s							
MASC	**Masc**	**1.44**	**71**	*i* P		**Pb**	**22 24 58.3**	**-2.2**
MASC				*e*S		**Sn**	**22 25 15.4**	**-3.2**
MASC				IAML			22 25 24.4	
	comp=Z,947nm,0.3s							
GWJ	**Greenwich**	**1.91**	**211**	⇓*i* P		**Pb**	**22 25 07.0**	**-1.7**
STH	**Stony Hill**	**1.95**	**213**	⇓*i* P		**Pb**	**22 25 07.5**	**-1.8**
HOJ	**Hope**	**1.98**	**211**	⇑*i* P		**Pb**	**22 25 08.3**	**-1.5**
MTDJ	**Mount Denham**	**2.30**	**230**	*i* P		**Pn**	**22 25 12.3**	**+0.7**
MTDJ				*e*S		**Sn**	**22 25 35.9**	**-4.1**
CCCC	**Cccc**	**2.45**	**307**	*e*P		**Pn**	**22 25 12.3**	**-1.3**
CCCC				*e*S		**Sn**	**22 25 38.5**	**-5.0**
MCJ	**Malvern**	**2.61**	**227**	⇑*i* P		**Pb**	**22 25 17.5**	**-3.0**
MCJ				*i* S		**Sn**	**22 25 48.7**	**+1.1**
PAPH	**Port-au-Prince**	**3.41**	**110**	*i* P		**Pn**	**22 25 28.5**	**+1.6**
PAPH				*e*S		**Sn**	**22 26 08.5**	**+1.2**
PAPH				IAML			22 26 17.4	
	comp=Z,176nm,0.2s							
LOPE2	**Hotel El Peder**	**4.09**	**114**	*i* P		**Pn**	**22 25 38.1**	**+2.0**
LOPE2				IAML			22 26 45.8	
	comp=Z,89nm,0.5s							
SDDR	**Presa de Saban**	**4.21**	**99**	*i* P		**Pn**	**22 25 38.7**	**+0.8**
SDDR				*e*S		**Sn**	**22 26 26.7**	**-0.5**
SDDR				IAML			22 26 40.8	
	comp=Z,79nm,0.5s							
GRTK	**Grand Turk**	**4.62**	**66**	*i* P		**Pn**	**22 25 44.3**	**+0.8**
GRTK				*e*S		**Sn**	**22 26 33.1**	**-4.0**
GRTK				IAML			22 26 37.5	
	comp=Z,80nm,0.8s							
MGV	**Manicaragua**	**4.67**	**301**	*e*P		**Pn**	**22 25 45.3**	**+1.1**
SJG	**San Juan**	**9.16**	**98**	LR		LR	22 30 13.9	
	comp=Z,67nm,18.0s,baz=246,slow=38							
TXAR	**Lajitas Array**	**27.14**	**296**	P		**P**	**22 30 16.7**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=118,slow=7.3,SNR=3.3							
	comp=Z,0.3nm,0.8s							
PDAR	**Pinedale Array**	**36.59**	**316**	P		**P**	**22 31 41.5**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=118,slow=12,SNR=5.5							
	comp=Z,0.5nm,0.7s							
NVAR	**Mina Array Bea**	**41.23**	**306**	P		**P**	**22 32 21.3**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=116,slow=6.1,SNR=2.2							
	comp=Z,0.3nm,0.7s							
ILAR	**Eielson Array**	**64.33**	**333**	P		**P**	**22 35 09.7**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=91,slow=5.6,SNR=2.7							
ILAR				LR		LR	23 04 45.4	
	comp=Z,25nm,18.5s,baz=350,slow=37							
	comp=Z,0.8nm,0.9s							
NOA	**NORSAR Array B**	**71.47**	**31**	P		**P**	**22 35 55.4**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=277,slow=6.1,SNR=3.7							
	comp=Z,0.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**73.96**	**82**	P		**P**	**22 36 09.7**	**0.0**
	comp=Z,0.9nm,1.0s,baz=256,slow=5.1,SNR=3.1							
	comp=Z,0.9nm,1.0s							
GERES	**GERESS Array B**	**75.02**	**43**	P		**P**	**22 36 16.2**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=309,slow=6.7,SNR=3.4							
	comp=Z,0.4nm,0.6s							
FINES	**FINESS Array B**	**78.35**	**29**	P		**P**	**22 36 35.0**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=297,slow=1.5,SNR=11							
	comp=Z,1.2nm,0.7s							
MLR	**Muntele Rosu**	**83.98**	**44**	LR		LR	23 16 00.8	
	comp=Z,14nm,18.0s,baz=110,slow=37							
STKA	**Stephens Creek**	**144.49**	**243**	PKP		**PKPdf**	**22 44 09.8**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=41,slow=5.0,SNR=3.9							
WRA	**Warramunga Arr**	**151.78**	**264**	PKPbc		**PKiKP**	**22 44 29.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=85,slow=3.0,SNR=13							
ASAR	**Alice Springs**	**152.26**	**257**	PKPbc		**PKiKP**	**22 44 30.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=70,slow=2.3,SNR=5.8							

*AEIC **14** 22:30:48.2±2.0, 60.29N±0.04×140.68W±0.07, h22km±7km, Error ellipse: s-maj=6.3km s-min=2.7km az=221.0*
*NEIC **14** 22:30:49.4±1.4, 60.26N±0.04×140.66W±0.06, h11km±10km, Error ellipse: s-maj=5.6km s-min=3.9km az=151.0*
*PGC **14** 22:30:50.3±0.0, 60.28N×140.68W, h8km, ML2.5, ML2.5/11, 128km northwest of Yakutat, Ak Southeastern Alaska*

ISC 14 22:30:49.1±0.9, 60.29N±0.02×140.70W±0.02, h15km±8km, n86, σ1°34/120, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.16**	**194**	P		**Pb**		**22 30 54.3**	**+0.5**
SAMH				S		**Sb**		**22 30 56.8**	**-0.2**
TABL	**Table Mountain**	**0.27**	**306**			**Pb**		**22 30 55.7**	**-0.1**
TABL				Sg		**Sb**		**22 31 00.6**	**+0.3**
TABL	**Table Mountain**	**0.27**	**306**	P		**Pb**		**22 30 55.7**	**-0.1**
TABL				S		**Sb**		**22 30 60.0**	**-0.3**
PCA	**Pinnacle**	**0.29**	**130**	Pg		**Pb**		**22 30 55.9**	**-0.2**
PCA	**Pinnacle**	**0.29**	**130**	P		**Pb**		**22 30 55.9**	**-0.2**
PCA				S		**Sg**		**22 30 60.0**	**+0.5**
YAH	**Yahtse**	**0.52**	**279**			**Pb**		**22 31 00.5**	**+0.4**
YAH				Sg		**Sb**		**22 31 08.2**	**+0.6**
O28M	**Mount Upton**	**0.55**	**27**	P		**Pg**		**22 31 00.2**	**+0.2**
O28M				S		**Sg**		**22 31 07.5**	**+0.1**
LOGN	**Logan Glacier**	**0.56**	**345**	Pg		**Pg**		**22 31 00.4**	**+0.3**
LOGN				Sg		**Sg**		**22 31 08.5**	**+0.8**
LOGN	**Logan Glacier**	**0.56**	**345**	P		**Pg**		**22 31 00.5**	**+0.3**
LOGN				S		**Sg**		**22 31 08.4**	**+0.8**
BCPM	**Bancas Point**	**0.63**	**121**	Pg		**Pg**		**22 31 01.0**	**-0.4**
BCPM				IAML				22 31 14.4	
	comp=N,354nm,0.3s								
MESA	**MESA**	**0.63**	**261**	Pg		**Pg**		**22 30 59.8**	**-1.7**
CTGM	**Chitina Glacie**	**0.75**	**336**			**Pg**		**22 31 03.5**	**-0.1**
CTGM				IAML				22 31 14.5	
	comp=E,368nm,0.5s								
CTGM				Sg		**Sg**		**22 31 14.0**	**+0.4**
CTGM	**Chitina Glacie**	**0.75**	**336**	P		**Pg**		**22 31 03.6**	**-0.1**
CTGM				S		**Sg**		**22 31 13.8**	**+0.3**
ISLE	**Juniper Island**	**0.87**	**292**			**Pg**		**22 31 05.3**	**-0.7**
ISLE				IAML				22 31 23.9	
	comp=E,205nm,0.4s								
PNL	**Peninsula**	**0.90**	**133**	P		**Pg**		**22 31 05.3**	**-1.2**
PNL				S		**Sg**		**22 31 17.5**	**-0.9**
YKU2	**Yakutat**	**0.94**	**146**	Pg		**Pg**		**22 31 06.9**	**-0.3**
O29M	**Mount Kennedy**	**1.06**	**88**	P		**Pb**		**22 31 08.7**	**-0.6**
O29M				S		**Sg**		**22 31 23.6**	**+0.2**
SNH	**Sunshine Point**	**1.07**	**265**			**Pb**		**22 31 09.7**	**+0.4**
SNH				IAML				22 31 28.1	
	comp=E,208nm,0.3s								
SNH				IAML				22 31 30.1	
	comp=N,163nm,0.3s								
WAX	**Waxell Ridge**	**1.08**	**280**			**Pb**		**22 31 09.8**	**+0.3**
TGL	**Tana Glacier**	**1.15**	**295**			**Pb**		**22 31 10.2**	**-0.6**
TGL				IAML				22 31 29.4	
	comp=E,141nm,0.3s								
TGL				IAML				22 31 29.6	
	comp=N,192nm,0.3s								
PTPK	**Patty Peak**	**1.25**	**317**	P		**Pn**		**22 31 11.6**	**-0.6**
PTPK				S		**Sb**		**22 31 28.3**	**-0.2**
YUK7	**Dusty Glacier**	**1.30**	**78**	P		**Pg**		**22 31 14.2**	**+0.1**
YUK6	**Outpost Mounta**	**1.33**	**59**	P		**Pb**		**22 31 14.0**	**+0.2**
YUK6				S		**Sb**		**22 31 30.9**	**+0.1**
YUK4	**Talbot Arm**	**1.47**	**43**	Pn		**Pg**		**22 31 18.7**	**+1.5**
BERG	**Berg Lake**	**1.50**	**275**			**Pn**		**22 31 16.3**	**+0.9**
BERG				IAML				22 31 43.7	
	comp=N,169nm,0.3s								
YUK3	**Moose Creek**	**1.50**	**4**	Pn		**Pb**		**22 31 16.9**	**+0.1**
YUK3				Sg		**Sg**		**22 31 37.3**	**-0.1**
YUK2	**White River**	**1.51**	**357**	Pn		**Pb**		**22 31 16.9**	**+0.1**
YUK2				Sg		**Sg**		**22 31 37.3**	**-0.3**
SUCK	**Suckling Hills**	**1.55**	**263**	Pn		**Pb**		**22 31 17.3**	**-0.2**
SUCK				IAML				22 31 41.2	
	comp=N,103nm,0.5s								
SUCK				IAML				22 31 41.7	
	comp=E,81nm,0.7s								
MCARA	**McCarthy VSAT**	**1.58**	**315**			**Pn**		**22 31 16.9**	**+0.3**
MCARA				IAML				22 31 44.9	
	comp=N,108nm,0.4s								
MCARA				IAML				22 31 47.2	
	comp=E,107nm,0.4s								
P29M	**Windy Craggy**	**1.63**	**112**			**Pn**		**22 31 17.6**	**+0.3**
P29M				IAML				22 31 41.1	
	comp=E,98nm,0.4s								
P29M				IAML				22 31 41.8	
	comp=N,142nm,0.4s								
P29M	**Windy Craggy**	**1.63**	**112**	Pn		**Pn**		**22 31 17.6**	**+0.3**
P29M				Sg		**Sb**		**22 31 39.4**	**+0.2**
YUK5	**Granite Creek**	**1.64**	**58**	Sg		**Sb**		**22 31 40.3**	**+0.8**
HYT	**Haines Junctio**	**1.67**	**70**			**Pn**		**22 31 19.0**	**+1.1**
HYT	**Haines Junctio**	**1.67**	**70**	Pn		**Pb**		**22 31 19.2**	**-0.4**
HYT				Sg		**Sb**		**22 31 41.3**	**+0.8**
HMT	**Hamilton**	**1.77**	**273**	Pn		**Pb**		**22 31 20.9**	**-0.4**
P30M	**Million Dollar**	**1.88**	**93**	Pn		**Pn**		**22 31 22.0**	**+1.3**
P30M				Sn		**Sb**		**22 31 46.8**	**+0.4**
KAIM	**Kayak Island**	**1.90**	**261**	Pn		**Pn**		**22 31 21.8**	**+1.0**
KAIM				IAML				22 31 59.4	
	comp=E,66nm,1.2s								
KAIM				IAML				22 32 15.7	
	comp=N,84nm,1.7s								
GLB	**Gilahina Butte**	**1.91**	**309**			**Pn**		**22 31 21.8**	**+0.6**
RAGM	**Ragged Mountai**	**1.98**	**275**	Pn		**Pn**		**22 31 23.4**	**+1.3**
BMRM	**Bremner River**	**2.04**	**291**			**Pn**		**22 31 24.0**	**+1.1**
N30M	**Aishikik Lake**	**2.12**	**55**	Pn		**Pn**		**22 31 25.0**	**+0.9**
N30M				Sn		**Sn**		**22 31 51.0**	**+0.7**
BVCY	**Beaver Creek**	**2.14**	**358**	Pn		**Pb**		**22 31 26.3**	**-1.2**
M27K	**Edge Creek, AK**	**2.15**	**345**			**Pn**		**22 31 26.5**	**+2.0**
M27K				IAML				22 31 59.0	
	comp=E,55nm,1.0s								
M27K				IAML				22 31 59.7	
	comp=N,44nm,0.9s								
M27K	**Edge Creek, AK**	**2.15**	**345**	Pn		**Pn**		**22 31 26.6**	**+2.0**
M27K				Sg		**Sg**		**22 31 57.3**	**-1.0**
N25K	**Chitina, Valde**	**2.32**	**307**			**Pn**		**22 31 28.4**	**+1.7**
N25K				IAML				22 32 01.4	
	comp=N,44nm,0.5s								
PLBC	**Pleasant Camp**	**2.34**	**109**	Pn		**Pn**		**22 31 28.9**	**+1.8**
PLBC				Sn		**Sn**		**22 31 56.6**	**+1.2**
M26K	**Nabesna, AK**	**2.39**	**334**			**Pn**		**22 31 29.6**	**+1.8**
M29M	**Somme Creek**	**2.42**	**26**	Pn		**Pn**		**22 31 30.0**	**+1.8**
M29M				Sn		**Sb**		**22 32 00.4**	**-1.6**
DIV	**Divide**	**2.63**	**291**	Pn		**Pn**		**22 31 32.1**	**+1.1**
N31M	**Braeburn, Yuko**	**2.69**	**61**			**Pn**		**22 31 32.5**	**+0.6**
N31M				IAML				22 32 21.5	
	comp=E,39nm,0.9s								
N31M	**Braeburn, Yuko**	**2.69**	**61**	Sn		**Sn**		**22 32 04.2**	**0.0**
KLU	**Klutina**	**2.82**	**298**			**Pn**		**22 31 35.1**	**+1.3**
BCAR	**Beaver Creek A**	**2.84**	**350**			**Pn**		**22 31 34.6**	**+0.7**
L27K	**Beaver Creek,**	**2.84**	**350**			**Pn**		**22 31 35.0**	**+1.1**
L27K	**Beaver Creek,**	**2.84**	**350**	Pn		**Pn**		**22 31 35.1**	**+1.2**
L27K				Sn		**Sn**		**22 32 10.0**	**+2.2**
L27K				Sg		**Sg**		**22 32 18.6**	**-1.5**
FID	**Port Fidalgo**	**2.89**	**282**	Pn		**Pn**		**22 31 35.8**	**+1.2**
FID				IAML				22 32 19.8	
	comp=N,29nm,1.1s								
FID				IAML				22 32 19.9	
	comp=E,37nm,0.8s								
WHY	**Whitehorse**	**2.91**	**80**			**Pn**		**22 31 35.9**	**+0.9**
WHY	**Whitehorse**	**2.91**	**80**	Pn		**Pn**		**22 31 36.0**	**+1.1**
WHY				Sn		**Sn**		**22 32 11.0**	**+1.4**
M30M	**Minto, Yukon**	**2.97**	**38**			**Pn**		**22 31 37.1**	**+1.4**
M30M				IAML				22 32 24.1	
	comp=E,31nm,0.6s								
M30M				IAML				22 32 25.4	
	comp=N,32nm,0.7s								
M30M	**Minto, Yukon**	**2.97**	**38**	Pn		**Pn**		**22 31 37.3**	**+1.6**
M30M				Pg		**Pg**		**22 31 44.1**	**-1.8**
M30M				Sg		**Sg**		**22 32 22.6**	**-1.8**
MENT	**Mentasta**	**3.03**	**333**			**Pn**		**22 31 38.1**	**+1.6**
M24K	**Tolsona, Glenn**	**3.22**	**307**	Pn		**Pn**		**22 31 41.2**	**+2.1**
PAX	**Paxson**	**3.52**	**322**	Pn		**Pn**		**22 31 44.5**	**+1.2**
SCM	**Sheep Creek Mo**	**3.57**	**299**	Pn		**Pn**		**22 31 45.2**	**+1.2**
SCM				IAML				22 32 44.0	
	comp=N,18nm,2.7s								
SCM				IAML				22 32 50.1	
	comp=E,19nm,2.9s								
P32M	**Atlin**	**3.59**	**98**	Sn		**Sn**		**22 32 25.8**	**-0.4**
M31M	**Drury Creek, Y**	**3.61**	**55**			**Pn**		**22 31 45.8**	**+1.4**
M31M				IAML				22 32 42.2	
	comp=N,17nm,0.5s								
M31M				IAML				22 32 49.0	
	comp=E,16nm,1.0s								
DOT	**Dot Lake**	**3.73**	**336**			**Pn**		**22 31 47.3**	**+1.2**
DOT	**Dot Lake**	**3.73**	**336**	Pn		**Pn**		**22 31 46.9**	**+0.8**
DOT				Sn		**Sn**		**22 32 30.8**	**+1.1**
K27K	**Chicken**	**3.81**	**351**			**Pn**		**22 31 48.9**	**+1.7**
K27K				IAML				22 32 49.4	
	comp=E,13nm,0.9s								
K27K				IAML				22 32 49.8	
	comp=N,11nm,3.5s								
K27K	**Chicken**	**3.81**	**351**	Pn		**Pn**		**22 31 48.9**	**+1.7**
DAWY	**Dawson**	**3.84**	**9**	Pn		**Pn**		**22 31 49.0**	**+1.3**
DAWY				IAML				22 32 31.3	
	comp=N,10nm,4.2s								
DAWY				IAML				22 32 51.7	
	comp=E,15nm,0.8s								
DAWY	**Dawson**	**3.84**	**9**	Pn		**Pn**		**22 31 49.5**	**+1.8**
DAWY				Sg		**Sg**		**22 32 49.6**	**-2.7**
K29M	**Barlow Dome**	**3.87**	**21**	Pn		**Pn**		**22 31 50.5**	**+2.4**
K29M				Sn		**Sn**		**22 32 32.9**	**-0.5**
K29M				Sg		**Sg**		**22 32 50.4**	**-2.8**
P33M	**Teslin, Yukon**	**3.93**	**88**	Sn		**Sn**		**22 32 34.6**	**-0.2**
RIDG	**Independent Ri**	**3.98**	**332**	Pn		**Pn**		**22 31 52.1**	**+2.6**
RIDG				IAML				22 32 49.2	
	comp=E,15nm,4.4s								
RIDG				IAML				22 32 49.6	
	comp=N,11nm,3.5s								
SML	**Sawmill**	**4.01**	**296**	Pn		**Pn**		**22 31 51.8**	**+1.8**
SCRK	**Sand Creek**	**4.01**	**339**			**Pn**		**22 31 51.3**	**+1.2**
SCRK				IAML				22 32 43.2	
	comp=E,9.2nm,4.2s								
DHY	**Denali Highway**	**4.23**	**314**	Pn		**Pn**		**22 31 55.9**	**+2.7**
DHY				IAML				22 32 38.6	
	comp=E,11nm,4.1s								
DHY				IAML				22 32 45.7	
	comp=N,12nm,4.0s								
GHO	**Glory Hole Cre**	**4.27**	**294**	Pn		**Pn**		**22 31 54.2**	**+0.7**
J26L	**Joseph Creek**	**4.43**	**344**			**Pn**		**22 31 57.6**	**+1.7**
J26L				IAML				22 32 55.5	
	comp=N,9.2nm,3.8s								
J26L				IAML				22 33 10.3	
	comp=E,8.3nm,2.0s								
J25K	**Salcha River,**	**4.85**	**336**	Pn		**Pn**		**22 32 02.6**	**+1.1**
J25K				IAML				22 33 10.5	
	comp=E,7.3nm,4.6s								
J25K				IAML				22 34 24.4	
	comp=N,8.4nm,3.8s								
R33M	**Jennings River**	**4.99**	**96**	Sn		**Sn**		**22 33 00.3**	**-0.7**
MMPY	**Sheldon Lake,**	**5.10**	**59**	Sn		**Sn**		**22 33 01.9**	**-1.6**
I29M	**Ogilvie Camp,**	**5.21**	**11**	Pn		**Pn**		**22 32 08.4**	**+2.0**
I29M				IAML				22 33 39.5	
	comp=E,7.4nm,0.8s								
I27K	**Kandik River**	**5.36**	**356**	Pn		**Pn**		**22 32 10.1**	**+1.7**
I27K				Sg		**Sg**		**22 33 37.1**	**-3.7**
H27K	**Steamboat Moun**	**5.98**	**357**	Pn		**Pn**		**22 32 18.9**	**+1.9**
H27K				Sg		**Sg**		**22 33 55.2**	**-5.5**

*ATH **14** 22:53:00.8, 34.76N×26.63E, h10km±31km, ML3.4/4, Error ellipse: s-maj=31.6km s-min=1.4km az=0.0*
*IDC **14** 22:53:00.1±1.1, 34.91N×26.63E, h0km, mb3.6/6, mbtmp3.6/10, ML3.0/4, MS2.7/1, Error ellipse: s-maj=24.1km s-min=13.6km az=3.0*
*ISK **14** 22:53:00.9, 34.83N×26.61E, h4km, ML3.4/22*
*DDA **14** 22:53:02.9±0.0, 34.78N×26.72E, h6km±5km, ML3.3*
*THE **14** 22:53:02.8, 34.88N×26.56E, h1km±5km, ML3.1/3, Error ellipse: s-maj=8.2km s-min=1.9km az=167.0*

ISC 14 22:53:00.6±1.4, 34.75N±0.05×26.60E±0.03, h9km±9km, n75, σ1°66/100, mb3.5/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.48**	**319**	P		**Pg**		**22 53 09.7**	**-0.3**
ZKR				S		**Sg**		**22 53 16.4**	**+0.1**
	4μm,0.4s								
ZKR	**Zakros**	**0.48**	**319**	PG		**Pg**		**22 53 09.9**	**-0.1**
ZKR				SG		**Sg**		**22 53 16.6**	**+0.2**
ZKR	**Zakros**	**0.48**	**319**	P		**Pg**		**22 53 09.8**	**-0.3**
ZKR				S		**Sg**		**22 53 16.5**	**+0.2**
ZKR				AML	AML			22 53 17.4	
	comp=E,10216μm,0.4s								
ZKR				AML	AML			22 53 17.6	
	comp=N,6873μm,0.3s								
STIA	**Sitia Lasithi**	**0.61**	**317**	P		**Pg**		**22 53 12.2**	**-0.3**
STIA				S		**Sb**		**22 53 21.1**	**-1.1**
STIA	**Sitia Lasithi**	**0.61**	**317**	P		**Pg**		**22 53 12.3**	**-0.3**
STIA				S		**Sb**		**22 53 21.5**	**-0.7**
STIA				AML	AML			22 53 22.2	
	comp=N,9552μm,0.4s								
STIA				AML	AML			22 53 27.0	
	comp=E,9775μm,0.5s								
FRMA	**Ierapetra Chan**	**0.76**	**290**	P		**Pg**		**22 53 13.5**	**-1.8**
FRMA				S		**Sg**		**22 53 23.2**	**-1.9**
	comp=E,1μm,0.5s								
FRMA	**Ierapetra Chan**	**0.76**	**290**	P		**Pg**		**22 53 13.9**	**-1.4**
FRMA				S		**Sg**		**22 53 23.7**	**-1.5**
FRMA				AML	AML			22 53 25.1	
	comp=E,3918μm,0.3s								
FRMA				AML	AML			22 53 25.4	
	comp=N,7625μm,0.4s								
KARP	**Karpathos**	**0.92**	**30**	P		**Pg**		**22 53 17.9**	**-0.4**
KARP				S		**Sb**		**22 53 30.9**	**-0.2**
	comp=N,3μm,0.9s								
KARP	**Karpathos**	**0.92**	**30**	PG		**Pg**		**22 53 17.9**	**-0.4**
KARP	**Karpathos**	**0.92**	**30**	P		**Pg**		**22 53 17.8**	**-0.4**
KARP				S		**Sb**		**22 53 30.5**	**-0.6**
KARP				AML	AML			22 53 39.9	
	comp=N,5094μm,0.9s								
KARP				AML	AML			22 53 41.0	
	comp=E,5795μm,0.9s								
HRKL	**Herakleio**	**1.35**	**295**	PN		**Pb**		**22 53 27.4**	**+1.3**
IDI	**Anoyia**	**1.50**	**291**	Pn		**Pn**		**22 53 29.3**	**+1.5**
	comp=E,4.4nm,0.3s,baz=106,slow=16,SNR=39								
IDI				Sn		**Sg**		**22 53 49.7**	**+0.8**
	comp=E,16nm,0.3s,baz=8.7,slow=13,SNR=8.4								
IDI	**Anoyia**	**1.50**	**291**	P		**Pn**		**22 53 28.7**	**+0.9**
IDI	**Anoyia**	**1.50**	**291**	P		**Pn**		**22 53 28.7**	**+0.9**
SANT	**Santorini**	**1.86**	**330**	P		**Pn**		**22 53 33.5**	**+0.8**
SANT	**Santorini**	**1.86**	**330**	PN		**Pn**		**22 53 33.9**	**+1.2**
THR6	**Thira Island,**	**1.88**	**329**	P		**Pn**		**22 53 33.4**	**+0.5**
THR8	**Santorini-Mono**	**1.89**	**331**	P		**Pn**		**22 53 33.5**	**+0.5**
NIS1	**Nisyros Isl.**	**1.91**	**14**	PN		**Pn**		**22 53 34.2**	**+0.9**
ARG	**Arkhangelos**	**1.92**	**40**	P		**Pb**		**22 53 36.4**	**+0.6**
ARG	**Arkhangelos**	**1.92**	**40**	PN		**Pn**		**22 53 34.7**	**+1.2**
ARG	**Arkhangelos**	**1.92**	**40**	P		**Pn**		**22 53 35.0**	**+1.5**
THR5	**Thira Island,**	**1.95**	**329**	P		**Pn**		**22 53 34.9**	**+1.0**
CMBO	**Columbo, Santo**	**1.97**	**331**	P		**Pn**		**22 53 35.1**	**+0.9**
KOSK	**Kos Island**	**2.02**	**9**	PN		**Pn**		**22 53 35.8**	**+1.0**
GVDS	**Gavdos**	**2.07**	**273**	PN		**Pn**		**22 53 38.7**	**+3.2**
GVD	**Gavdhos**	**2.07**	**273**	PN		**Pn**		**22 53 36.9**	**+1.4**
DAT	**Datca**	**2.13**	**22**	PN		**Pn**		**22 53 37.8**	**+1.4**
IMMV	**Iera Moni Meta**	**2.26**	**289**	PN		**Pn**		**22 53 40.9**	**+2.8**
IMMV	**Iera Moni Meta**	**2.26**	**289**	P		**Pb**		**22 53 41.7**	**+0.2**
BODT	**Bodrum**	**2.38**	**14**	PN		**Pn**		**22 53 40.8**	**+1.0**
TURN	**Turunc**	**2.42**	**33**	PN		**Pn**		**22 53 41.4**	**+1.0**
TURN	**Turunc**	**2.42**	**33**	P		**Pn**		**22 53 42.2**	**+1.9**
TURN				S		**Sb**		**22 54 15.4**	**+1.1**
APE	**Apeiranthos**	**2.47**	**340**	PN		**Pn**		**22 53 41.9**	**+0.8**
DALY	**Dalyan (Mula)**	**2.65**	**38**	PN		**Pn**		**22 53 45.7**	**+2.2**
YER	**Yerkesik**	**2.74**	**29**	PN		**Pn**		**22 53 46.9**	**+2.0**
FETY	**Fethiye**	**2.76**	**46**	PN		**Pn**		**22 53 45.6**	**+0.5**
MULA	**Mugla, Merkez-**	**2.86**	**29**	P		**Pn**		**22 53 48.8**	**+2.2**
MULA				S		**Sn**		**22 54 21.4**	**+0.3**
AKAS	**Kas**	**2.86**	**58**	PN		**Pn**		**22 53 47.2**	**+0.6**
AKAS	**Kas**	**2.86**	**58**	P		**Pn**		**22 53 46.2**	**-0.4**
AKAS				S		**Sn**		**22 54 18.5**	**-2.8**
CAME	**Cameli-Denizli**	**3.10**	**44**	PN		**Pn**		**22 53 51.3**	**+1.5**
CAEL	**Denizli, Camel**	**3.24**	**42**	P		**Pn**		**22 53 52.5**	**+0.8**
CAEL				*i* AML		AML		22 54 46.0	
	comp=E,87nm,0.7s								
KTHA	**Kythira Island**	**3.25**	**299**	PN		**Pn**		**22 53 54.2**	**+2.4**
TAVA	**DENIZLI_Tavas**	**3.29**	**34**	P		**Pn**		**22 53 53.2**	**+0.7**
TAVA				S		**Sn**		**22 54 32.8**	**+1.0**
ELL	**Elmali**	**3.35**	**53**	PN		**Pn**		**22 53 55.2**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**3.35**	**18**	PN		**Pn**		**22 53 54.7**	**+1.4**
GOLH	**Golhisar**	**3.45**	**43**	P		**Pn**		**22 53 56.6**	**+2.0**
APMY	**Acipayam-Deniz**	**3.49**	**38**	PN		**Pn**		**22

0.4nm,0.3s,baz=185,slow=19,SNR=1.3
URZ Sn Sn 23 13 09.3 -10
1.9nm,0.3s,baz=84,slow=24,SNR=10
URZ Urewera 11.52 205 Pn Pn 23 11 04.2 -7.9
BKZ Black Stump Fm 12.54 205 Pn Pn 23 11 21.8 -4.4
DZM Mont Dzumac 16.32 287 *e*LR LR 23 15 47.2
comp=Z,361nm,23.8s
DZM Mont Dzumac 16.32 287 LR LR 23 17 42.5
comp=Z,324nm,18.1s,baz=37,slow=34
DZM Mont Dzumac 16.32 287 P 23 12 18.7 -0.6
RAR Rarotonga 16.81 70 LR LR 23 17 06.9
comp=Z,80nm,19.4s,baz=174,slow=31
TBI Tubuai 24.98 86 *e*LR LR 23 19 47.4
comp=Z,92nm,27.8s
PPT2 Papeete2 27.02 73 *e*LR LR 23 20 48.0
comp=Z,130nm,26.5s
PPT Papeete 27.03 73 LR LR 23 25 15.0
comp=Z,33nm,18.0s,baz=178,slow=38
CTA Charters Tower 34.60 275 LR LR 23 28 07.3
comp=Z,204nm,18.8s,baz=80,slow=34
STKA Stephens Creek 36.18 253 P P 23 15 29.4 +0.1
0.9nm,0.5s,baz=68,slow=5.9,SNR=2.0
STKA LR LR 23 28 57.1
comp=Z,116nm,18.7s,baz=31,slow=34
0.9nm,0.5s
PMG Port Moresby 38.64 291 LR LR 23 28 50.7
comp=Z,46nm,21.9s,baz=83,slow=32
ASAR Alice Springs 44.41 264 P P 23 16 38.4 +0.7
1.7nm,0.5s,baz=94,slow=6.8,SNR=21
ASAR LR LR 23 34 06.1
comp=Z,123nm,18.6s,baz=93,slow=35
1.7nm,0.5s
WR0 Warramunga Arr 44.99 269 P P 23 16 42.1 -0.2
WR0 IAmb IAmb 23 17 02.5
comp=Z,7.8nm,1.4s
WRA Warramunga Arr 45.18 269 P P 23 16 43.8 +0.1
comp=Z,1.5nm,0.5s,baz=108,slow=7.7,SNR=14
WRA PcP **PcP 23 18 25.0 +1.3**
comp=Z,0.5nm,0.8s,baz=106,slow=3.1,SNR=2.6
comp=Z,1.5nm,0.5s
FORT Forrest 47.79 253 P P 23 17 03.1 -1.0
FITZ Fitzroy Crossi 53.52 267 LR LR 23 40 22.5
comp=Z,97nm,18.3s,baz=114,slow=36
FITZ Fitzroy Crossi 53.52 267 P P 23 17 46.8 -0.7
FITZ IAmb IAmb 23 17 49.9
comp=Z,9.0nm,1.2s
GUMO Guam 55.56 313 LR LR 23 38 59.9
comp=Z,26nm,21.8s,baz=130,slow=33
CASY Casey 57.83 207 P P 23 18 17.2 -0.5
CASY IAmb IAmb 23 18 28.8
comp=Z,6.2nm,1.1s
BATI Baumata 58.48 275 LR LR 23 43 55.8
comp=Z,160nm,18.5s,baz=126,slow=36
RPN Rapa Nui 59.05 106 LR LR 23 39 57.8
comp=Z,28nm,18.3s,baz=300,slow=32
QSPA South Pole Qui 62.17 180 LR LR 23 42 24.6
comp=Z,50nm,19.9s,baz=46,slow=33
QSPA South Pole Qui 62.17 180 P 23 18 46.9 -0.8
QSPA IAmb IAmb 23 19 05.3
comp=Z,5.1nm,1.1s
KAPI Kappang 64.31 278 LR LR 23 48 16.7
comp=Z,43nm,18.0s,baz=115,slow=37
MAW Mawson 75.00 200 P P 23 20 08.2 +0.8
comp=Z,2.6nm,0.9s,baz=140,slow=7.9,SNR=4.0
comp=Z,2.6nm,0.9s
MJAR Matsushiro Arr 76.87 324 P P 23 20 18.1 -0.4
comp=Z,2.3nm,0.8s,baz=152,slow=6.3,SNR=6.5
MJAR LR LR 23 49 20.1
comp=Z,17nm,20.9s,baz=172,slow=32
comp=Z,2.3nm,0.8s
KSRS Korea Array 83.21 319 P P 23 20 52.8 +0.2
comp=Z,1.8nm,1.0s,baz=140,slow=5.3,SNR=7.2
comp=Z,1.8nm,1.0s
KSAR Wonju Array Be 83.22 319 P P 23 20 52.9 +0.3
NVAR Mina Array Bea 85.68 42 P P 23 21 06.3 +0.9
comp=Z,0.5nm,0.7s,baz=221,slow=9.2,SNR=4.2
comp=Z,0.5nm,0.7s
USRK Ussuriysk Ar. 85.73 326 P P 23 21 06.2 +1.0
PSI Prapat 86.30 275 LR LR 00 03 14.4
comp=Z,32nm,18.4s,baz=98,slow=38
PDAR Pinedale Array 93.58 43 LR LR 00 02 37.6
comp=Z,28nm,18.1s,baz=277,slow=35
MKAR Makanchi Array 117.02 311 PKP **PKPdf 23 27 10.6 -0.4**
comp=Z,0.5nm,0.9s,baz=132,slow=2.1,SNR=3.7
FINES FINESS Array B 143.18 342 PKhKP PKPpre 23 27 56.4
comp=Z,1.9nm,0.9s,baz=10,slow=4.3,SNR=5.0
NB2 NORSAR Subarra146.46 353 PKP **PKPbc 23 28 07.3 +0.5**
comp=Z,1.6nm,0.8s,baz=11,slow=2.9
NOA NORSAR Array B146.46 353 PKPbc **PKPbc 23 28 07.1 +0.2**
comp=Z,2.8nm,0.8s,baz=14,slow=4.4,SNR=16
AKASG Malin Array Be 149.94 326 PKPbc **PKPbc 23 28 16.4 +0.2**
comp=Z,2.8nm,0.8s,baz=49,slow=2.4,SNR=11
BRTR Keskin Array B 152.29 303 PKPbc **PKPbc 23 28 21.9 -0.4**
comp=Z,0.7nm,0.9s,baz=132,slow=1.8,SNR=4.3
TORD Torodi Ar. Bea 165.22 174 PKPab **PKPab 23 29 26.7 -1.7**
comp=Z,0.7nm,0.9s,baz=178,slow=3.1,SNR=2.5

*IDC **14** 23:32:43.2±3.6, 4.°53S×104.°86E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=195.9km s-min=29.8km az=53.0*
*DJA **14** 23:32:58.4±0.5, 5.°5S±4.°×10.°5E±.°, h101km±5km, M3.5/8, MLv3.5/8*
ISC 14 23:32:57.6±1.0, 5.°17S±0.°07×104.°60E±0.°06, h117km±7km, n15, σ0°76/19, mb3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.37**	**197**	P	**Pn**	**23 33 14.5**	**-0.1**
KASI				S	**Sn**	**23 33 27.9**	**+0.6**
KLI	**Kotabumi**	**0.40**	**40**	P	**Pn**	**23 33 14.0**	**-0.7**
LWLI	**Liwa**	**0.56**	**286**	P	**Pn**	**23 33 15.9**	**+0.1**
LWLI				S	**Sn**	**23 33 30.0**	**+0.5**
BLSI	**Bandar Lampung**	**0.67**	**107**	S	**Sn**	**23 33 30.7**	**0.0**
SBJI	**Serang**	**1.79**	**122**	P	**Pn**	**23 33 27.7**	**-0.7**
SBJI				S	**Sn**	**23 33 52.1**	**+0.3**
MNAI	**Manna**	**1.83**	**296**	P	**Pn**	**23 33 28.7**	**-0.2**
MNAI				S	**Sn**	**23 33 52.4**	**-0.3**
PMBI	**Palembang**	**2.23**	**4**	S	**Sn**	**23 34 02.5**	**+0.7**
KSI	**Kapahiang**	**2.51**	**307**	P	**Pn**	**23 33 37.5**	**0.0**
KSI				S	**Sn**	**23 34 08.0**	**-0.1**
DBJI	**Dramaga**	**2.54**	**123**	P	**Pn**	**23 33 38.6**	**+0.7**
CNJI	**Cibinong**	**3.29**	**130**	P	**Pn**	**23 33 47.3**	**-0.4**
TPI	**Tanjungpandan**	**3.88**	**52**	P	**Pn**	**23 33 55.5**	**0.0**
WRA	**Warramunga Arr**	**32.44**	**120**	P	**P**	**23 39 15.6**	**-1.3**
	0.2nm,0.3s,baz=297,slow=9.3,SNR=6.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**33.69**	**126**	P	**P**	**23 39 29.7**	**+1.9**
	0.4nm,0.3s,baz=304,slow=8.1,SNR=4.1						
	0.4nm,0.3s						
STKA	**Stephens Creek**	**43.63**	**132**	P	**P**	**23 40 50.1**	**-0.5**
	1.2nm,0.5s,baz=308,slow=5.3,SNR=3.4						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**55.39**	**342**	P	P	23 42 15.4	-4.2
	0.2nm,0.7s,baz=150,slow=9.2,SNR=1.4						
	0.2nm,0.7s						

*NOU **15** 00:14:28.1, 14.°33S×167.°68E, h146km, MLv4.9/12, Vanuatu Islands*
*IDC **15** 00:14:36.0±24.0, 15.°18S×165.°90E, h0km, mb4.1/3, mbtmp4.2/4, ML4.5/1, Error ellipse: s-maj=420.0km s-min=46.0km az=51.0*
*NEIC **15** 00:14:36.8±2.2, 15.°1S±0.°1×167.°5E±0.°2, h110km±13km, mb4.2/11, Error ellipse: s-maj=24.7km s-min=15.9km az=73.0*
ISC 15 00:14:35.2±1.3, 15.°0S±0.°1×167.°5E±0.°1, h100km, n43, σ2°91/40, mb4.2/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.75**	**166**	P	**Pn**	**00 15 21.3**	**+3.6**
LIFNC	**LIFOU**	**5.71**	**182**	Pn	**Pn**	**00 15 58.3**	**+0.8**
LIFNC				Sn	**Sn**	**00 16 59.2**	**-2.5**
LIFNC	**LIFOU**	**5.71**	**182**	P	**Pn**	**00 15 58.8**	**+1.3**
KOUNC	**Koumac, New Ca**	**6.26**	**208**	Pn	**Pn**	**00 16 07.1**	**+2.1**
KOUNC	**Koumac, New Ca**	**6.26**	**208**	P	**Pn**	**00 16 07.7**	**+2.7**
MARNC	**Mare, Loyalty**	**6.42**	**175**	Pn	**Pn**	**00 16 08.8**	**+1.5**
MARNC				Sn	**Sn**	**00 17 16.7**	**-2.5**
MARNC	**Mare, Loyalty**	**6.42**	**175**	P	**Pn**	**00 16 08.8**	**+1.5**
YATNC	**Mamie plateau,**	**7.00**	**184**	P	**Pn**	**00 16 17.3**	**+2.2**
DZM	**Mont Dzumac**	**7.06**	**188**	Pn	**Pn**	**00 16 18.4**	**+2.4**
	9.0nm,0.3s,baz=0.0,slow=20,SNR=40						
DZM				Sn	**Sn**	**00 17 33.7**	**-1.1**
	16nm,0.3s,baz=319,slow=19,SNR=18						
	24nm,0.3s						
DZM	**Mont Dzumac**	**7.06**	**188**		**Pn**	**00 16 16.6**	**+0.7**
DZM	**Mont Dzumac**	**7.06**	**188**	P	**Pn**	**00 16 18.8**	**+2.8**
NOUC	**Port Laguerre**	**7.11**	**189**	P	**Pn**	**00 16 19.2**	**+2.6**
ONTNC	**Ouen Toro**	**7.29**	**187**		**Pn**	**00 16 22.8**	**+3.8**
ONTNC	**Ouen Toro**	**7.29**	**187**	P	**Pn**	**00 16 22.8**	**+3.8**
OUENC	**Ouen Island, N**	**7.36**	**185**	Pn	**Pn**	**00 16 23.8**	**+3.8**
OUENC	**Ouen Island, N**	**7.36**	**185**	P	**Pn**	**00 16 23.6**	**+3.6**
PINNC	**Pines Island,**	**7.53**	**180**	Pn	**Pn**	**00 16 25.0**	**+2.7**
OUZ	**Omahuta**	**20.83**	**166**	P	**P**	**00 19 08.7**	**-0.1**
OUZ				IAmb	IAmb	00 19 11.8	
	comp=Z,12nm,1.0s						
BKZ	**Black Stump Fm**	**25.31**	**163**	P	**P**	**00 19 52.8**	**+0.3**
BKZ				IAmb	IAmb	00 20 16.5	
	comp=Z,30nm,1.5s						
LTZ	**Lake Taylor**	**27.95**	**172**	P	**P**	**00 20 15.9**	**-0.3**
LTZ				IAmb	IAmb	00 20 38.1	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**28.94**	**230**	P	**P**	**00 20 25.9**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=60,slow=9.5,SNR=9.0						
	comp=Z,2.5nm,0.3s						
STKA	**Stephens Creek**	**28.94**	**230**	P	**P**	**00 20 26.2**	**+1.0**
WB0	**Warramunga Arr**	**31.88**	**257**	P	**P**	**00 20 50.2**	**-0.9**
WB0				IAmb	IAmb	00 21 11.1	
	comp=Z,7.2nm,1.4s						
WRA	**Warramunga Arr**	**31.94**	**256**	P	**P**	**00 20 50.2**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=82,slow=7.8,SNR=7.0						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**31.94**	**256**	P	**P**	**00 20 50.8**	**-0.9**
AS31	**Alice Springs**	**32.74**	**250**	P	**P**	**00 20 58.1**	**-0.7**
AS31				IAmb	IAmb	00 20 59.1	
	comp=Z,1.4nm,1.1s						
ASAR	**Alice Springs**	**32.74**	**250**	P	**P**	**00 20 58.3**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=82,slow=8.8,SNR=24						
	comp=Z,2.1nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**33.33**	**359**	T	T	00 56 03.7	
	baz=184,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**33.34**	**359**	T	T	00 56 07.0	
	baz=184,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**33.35**	**359**	T	T	00 56 04.9	
	baz=184,slow=76,SNR=12						
BBOO	**Buckleboo**	**33.54**	**233**	P	**P**	**00 21 06.2**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**34.54**	**359**	T	T	00 57 37.6	
	baz=188						
H11N3	**WAKE ISLAND Hy**	**34.55**	**359**	T	T	00 57 37.6	
	baz=188						
H11N2	**WAKE ISLAND Hy**	**34.56**	**359**	T	T	00 57 36.9	
	baz=188						
FORT	**Forrest**	**39.30**	**240**	P	**P**	**00 21 54.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.15**	**260**	P	**P**	**00 22 01.6**	**-0.2**
VNDA	**Vanda**	**62.55**	**181**	P	**P**	**00 24 48.4**	**+0.4**
VNDA				IAmb	IAmb	00 24 51.3	
	comp=Z,3.3nm,1.4s						
QSPA	**South Pole Qui**	**74.99**	**180**	P	**P**	**00 26 04.8**	**-0.7**
QSPA				IAmb	IAmb	00 26 05.9	
	comp=Z,3.2nm,0.8s						
TROLL	**Troll, Antarti**	**92.57**	**185**	P	**P**	**00 27 34.4**	**-0.8**
SNAA	**Sanae**	**93.25**	**183**	P	**P**	**00 27 37.0**	**-1.3**
VNA3	**Neumayer Olymp**	**93.91**	**181**	P	**P**	**00 27 39.8**	**-1.5**
VNA2	**Neumayer--Watz**	**94.17**	**182**	P	**P**	**00 27 41.3**	**-1.2**
	baz=192,slow=3.0						
VNA1	**Neumayer--Stat**	**94.47**	**181**	P	**P**	**00 27 42.6**	**-1.2**

*IDC **15** 00:23:01.1±1.7, 24.°64S×179.°95E, h515km±16km, mb3.6/7, mbtmp4.4/10, Error ellipse: s-maj=19.7km s-min=19.1km az=7.0*
*NEIC **15** 00:23:04.1±2.1, 25.°0S±0.°1×179.°8E±0.°2, h532km±10km, mb4.2/16, Error ellipse: s-maj=26.6km s-min=11.0km az=66.0*
ISC 15 00:23:01.3±0.6, 24.°70S±0.°09×180.°0E±0.°1, h517km, n49, σ0°96/53, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.15**	**345**	P	**P**	**00 24 48.8**	**-1.0**
	26nm,0.6s,baz=217,slow=20,SNR=7.2						
PINNC	**Pines Island,**	**11.64**	**278**	P	**P**	**00 25 38.4**	**+2.4**
DZM	**Mont Dzumac**	**12.67**	**279**	P	**P**	**00 25 47.7**	**+0.7**
	4.5nm,0.7s,baz=134,slow=23,SNR=2.4						
DZM	**Mont Dzumac**	**12.67**	**279**	P	**P**	**00 25 46.8**	**-0.2**
URZ	**Urewera**	**13.73**	**189**	P	**P**	**00 25 59.2**	**+1.5**
	1.7nm,0.4s,baz=96,slow=17,SNR=1.2						
URZ				S	**S**	**00 28 21.8**	**-1.4**
	4.4nm,0.5s,baz=315,slow=24,SNR=7.7						
BKZ	**Black Stump Fm**	**14.72**	**191**	P	**P**	**00 26 09.1**	**+0.9**
BFZ	**Birch Farm**	**16.24**	**190**	P	**P**	**00 26 21.7**	**-2.1**
ARMA	**Armidale**	**25.71**	**251**	P	**P**	**00 27 51.2**	**+1.0**
ARMA				IAmb	IAmb	00 28 02.9	
	comp=Z,8.5nm,1.1s						
EIDS	**Eidsvold**	**26.14**	**262**	P	**P**	**00 27 54.3**	**+0.3**
EIDS				IAmb	IAmb	00 27 55.2	
	comp=Z,4.8nm,0.7s						
CTA	**Charters Tower**	**31.44**	**272**	P	**P**	**00 28 40.6**	**+0.5**
	comp=Z,18nm,0.4s,baz=94,slow=10.0,SNR=45						
	comp=Z,18nm,0.4s						
CTAO	**Charters Tower**	**31.44**	**272**	P	**P**	**00 28 40.8**	**+0.7**
TOO	**Toolangi**	**31.98**	**238**	P	**P**	**00 28 44.7**	**+0.1**
TOO				IAmb	IAmb	00 29 12.7	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**00 29 05.0**	**0.0**
	comp=Z,3.7nm,0.4s,baz=100,slow=10,SNR=9.2						
	comp=Z,3.7nm,0.4s						
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**00 29 05.3**	**+0.3**
COEN	**Coen**	**36.20**	**280**	P	**P**	**00 29 19.0**	**-1.3**
COEN				IAmb	IAmb	00 29 19.4	
	comp=Z,14nm,1.4s						
BBOO	**Buckleboo**	**39.09**	**248**	P	**P**	**00 29 43.0**	**-0.8**
BBOO				IAmb	IAmb	00 30 10.3	
	comp=Z,19nm,1.2s						
AS31	**Alice Springs**	**41.86**	**262**	P	**P**	**00 30 05.8**	**-0.2**
ASAR	**Alice Springs**	**41.86**	**262**	P	**P**	**00 30 05.7**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=100,slow=7.8,SNR=40						
ASAR				PcP	**PcP**	**00 31 49.9**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=101,slow=5.1,SNR=1.5						
ASAR				ScP	**ScP**	**00 34 51.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=125,slow=4.9,SNR=1.7						
	comp=Z,1.9nm,0.4s						
ASAR	**Alice Springs**	**41.86**	**262**	P	**P**	**00 30 05.2**	**-0.8**
WR0	**Warramunga Arr**	**42.12**	**267**	P	**P**	**00 30 07.2**	**-1.0**
WR0				IAmb	IAmb	00 30 08.0	
	comp=Z,4.8nm,0.7s						
WRA	**Warramunga Arr**	**42.31**	**267**	P	**P**	**00 30 08.6**	**-1.1**
	comp=Z,8.8nm,0.5s,baz=102,slow=8.0,SNR=203						
WRA				ScP	**ScP**	**00 34 52.9**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=103,slow=4.1,SNR=10						
WRA				S	S	00 35 43.6	-9.5
	comp=Z,0.1nm,0.7s,baz=112,slow=14,SNR=0.8						
	comp=Z,8.8nm,0.5s						
WRA	**Warramunga Arr**	**42.31**	**267**	P	**P**	**00 30 08.5**	**-1.1**
FORT	**Forrest**	**45.99**	**250**	P	**P**	**00 30 36.8**	**-1.2**
KNRA	**Kununurra**	**48.64**	**271**	P	**P**	**00 30 57.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.72**	**266**	P	**P**	**00 31 13.1**	**-0.3**
QSPA	**South Pole Qui**	**65.39**	**180**	P	**P**	**00 32 52.8**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=19,slow=0.8,SNR=12						
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**65.39**	**180**	P	**P**	**00 32 52.5**	**+0.3**
QSPA				IAmb	IAmb	00 33 13.4	
	comp=Z,3.8nm,1.5s						
SMAI	**San Martin Ant**	**75.38**	**159**	P	**P**	**00 33 51.6**	**+0.4**
TROLL	**Troll, Antarti**	**83.54**	**181**	P	**P**	**00 34 34.3**	**-0.1**
SNAA	**Sanae**	**83.87**	**179**	P	**P**	**00 34 34.9**	**-1.0**
SNAA	**Sanae**	**83.87**	**179**	P	**P**	**00 34 35.0**	**-1.0**
SNAA				IAmb	IAmb	00 35 02.7	
	comp=Z,4.8nm,1.5s						
VNA3	**Neumayer Olymp**	**84.08**	**177**	P	**P**	**00 34 36.7**	**-0.3**
VNA2	**Neumayer--Watz**	**84.50**	**178**	P	**P**	**00 34 38.9**	**-0.1**
	baz=176,slow=5.1						
VNA1	**Neumayer--Stat**	**84.74**	**177**	P	**P**	**00 34 41.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**89.76**	**290**	P	**P**	**00 35 06.4**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=126,slow=4.0,SNR=4.2						
	comp=Z,0.8nm,0.4s						
TXAR	**Lajitas Array**	**90.89**	**58**	P	**P**	**00 35 10.4**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=221,slow=6.2,SNR=4.8						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**139.18**	**341**	PKhKP	PKPpre	00 41 19.3	
	comp=Z,0.9nm,0.8s,baz=52,slow=3.1,SNR=5.3						
FINES				PKP	**PKPdf**	**00 41 29.4**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=97,slow=4.4,SNR=4.1						
NOA	**NORSAR Array B**	**142.86**	**351**	PKhKP	PKPpre	00 41 30.8	
	comp=Z,0.2nm,0.6s,baz=12,slow=2.5,SNR=3.0						
PABE	**Paberze**	**144.53**	**336**	PKPdf	**PKPdf**	**00 41 38.1**	**0.0**
AKASG	**Malin Array Be**	**145.61**	**327**	PKPbc	**PKPdf**	**00 41 40.3**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=43,slow=4.6,SNR=6.1						
BNN	**Bunyan**	**146.61**	**304**	PKPbc	**PKPdf**	**00 41 43.7**	**+1.3**
BR131	**Keskin Array S**	**148.01**	**306**	PKPbc	**PKPbc**	**00 41 48.3**	**-0.4**
BRTR	**Keskin Array B**	**148.01**	**306**	PKPbc	**PKPbc**	**00 41 47.4**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=144,slow=5.1,SNR=7.1						
BRTR				PKPab	**PKPab**	**00 41 53.4**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=98,slow=4.1,SNR=10						
BRTR	**Keskin Array B**	**148.01**	**306**	PKPbc	**PKPbc**	**00 41 48.3**	**-0.4**
CSS	**Mathiatis**	**149.41**	**297**	PKPbc	**PKPbc**	**00 41 51.9**	**-0.2**
BUR08	**Bucovina Ar. S**	**149.59**	**325**	PKPbc	**PKiKP**	**00 41 53.5**	**+0.6**
BURAR	**Bucovina Array**	**149.60**	**325**	PKPbc	**PKiKP**	**00 41 53.2**	**+0.3**
GERES	**GERESS Array B**	**152.59**	**339**	PKPbc	**PKPbc**	**00 41 58.5**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=3.4,slow=4.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**168.39**	**188**	PKPab	**PKPab**	**00 43 20.4**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=174,slow=3.6,SNR=1.4						

WEL 15 00:23:48.7, 40.°S±3.°×17.°5E±.°, h31km±10km, M2.4/30, ML2.6/39, MLv2.4/30, Error ellipse: s-maj=0.0km s-min=0.0km az=57.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHWZ	**Ohakea**	**0.28**	**114**	P	Pn	00 23 58.6	+1.8
WAZ	**Wanganui**	**0.34**	**1**	P	Pb	00 23 56.3	-0.5
POWZ	**Post Office Ro**	**0.68**	**117**	P	Pb	00 24 01.7	-0.4
MRZ	**Mangatainoka R**	**0.73**	**141**	P	Pn	00 24 02.4	-0.5
OGWZ	**Otaki Gorge**	**0.74**	**169**	P	Pn	00 24 02.0	-1.1
TSZ	**Takapari Road**	**0.76**	**88**	P	Pn	00 24 03.1	-0.2
LREZ	**Lake Rotokare**	**0.77**	**325**	P	Pb	00 24 04.1	+0.4
KIW	**Kapiti Island**	**0.77**	**184**	P	Pn	00 24 01.9	-1.6
MTVZ	**Mangateitei**	**0.80**	**29**	P	Pn	00 24 03.9	-0.1
PRWZ	**Pori Road**	**0.89**	**122**	P	Pb	00 24 06.0	+0.3
WNVZ	**Wahianoa**	**0.90**	**32**	P	Pn	00 24 05.3	-0.2
HOWZ	**Holdsworth Sta**	**0.90**	**153**	P	Pn	00 24 05.4	0.0
MOVZ	**Moawhango**	**0.91**	**41**	P	Pn	00 24 04.8	-0.7
DVHZ	**Dannevirke**	**0.94**	**103**	P	Pn	00 24 06.7	+0.3
WHVZ	**Whangaehu Hut**	**0.94**	**31**	P	Pn	00 24 06.0	0.0
FWVZ	**Far West T-bar**	**0.95**	**28**	P	Pn	00 24 06.0	-0.1
PNHZ	**Pukenui**	**0.96**	**80**	P	Pb	00 24 06.5	-0.3
TUVZ	**Tukino**	**0.97**	**33**	P	Pn	00 24 06.8	+0.3
TIWZ	**Tintock**	**0.97**	**135**	P	Pb	00 24 07.2	+0.1
CAW	**Cannon Point**	**1.02**	**176**	P	Pn	00 24 06.7	-0.3
BHHZ	**Black Hill Sta**	**1.03**	**55**	P	Pn	00 24 06.8	-0.3
NGZ	**Ngauruhoe**	**1.03**	**28**	P	Pn	00 24 07.5	+0.3
SNVZ	**South Ngauruho**	**1.04**	**30**	P	Pn	00 24 07.6	+0.2
DUWZ	**D'Urville Isla**	**1.07**	**228**	P	Pn	00 24 06.9	-0.8
NNVZ	**North Ngauruho**	**1.08**	**27**	P	Pn	00 24 08.0	+0.2
TWVZ	**Taurewa**	**1.08**	**19**	P	Pn	00 24 07.5	-0.3
WTVZ	**West Tongariro**	**1.08**	**26**	P	Pn	00 24 08.0	+0.1
KHEZ	**Kahui Hut**	**1.09**	**317**	P	Pb	00 24 09.1	0.0
ETVZ	**East Tongariro**	**1.11**	**31**	P	Pn	00 24 08.6	+0.3
KRVZ	**Karewarewa**	**1.12**	**28**	P	Pn	00 24 08.6	+0.2
TMVZ	**Te Maari**	**1.12**	**30**	P	Pn	00 24 08.8	+0.3
NTVZ	**North Tongarir**	**1.13**	**29**	P	Pn	00 24 09.4	+0.4
BFZ	**Birch Farm**	**1.14**	**122**	P	Pb	00 24 09.8	0.0
MTW	**Mount Morrison**	**1.14**	**160**	P	Pb	00 24 09.3	-0.5
KRHZ	**Kereru**	**1.16**	**68**	P	Pb	00 24 10.0	-0.3
PKE	**Pukeiti**	**1.18**	**319**	P	Pb	00 24 10.5	0.0
TMWZ	**Te Maipa**	**1.23**	**146**	P	Pb	00 24 10.9	-0.6
TCW	**Tory Channel**	**1.24**	**205**	P	Pn	00 24 09.3	-0.6
KATZ	**Kakaramea**	**1.25**	**27**	P	Pn	00 24 10.8	+0.7
KWHZ	**Kaweka Forest**	**1.30**	**60**	P	Pb	00 24 12.0	-0.6
MSWZ	**Moikau Station**	**1.34**	**171**	P	Pb	00 24 12.4	-0.9
BKZ	**Black Stump Fm**	**1.49**	**52**	P	Pb	00 24 15.3	-0.6
KAHZ	**Kahuranaki**	**1.49**	**79**	P	Pb	00 24 15.5	-0.4
PLWZ	**Palliser**	**1.49**	**172**	P	Pb	00 24 14.7	-1.1
TUWZ	**Tuamarina**	**1.55**	**210**	P	Pn	00 24 15.0	+0.8
HIZ	**Hauiti**	**1.58**	**357**	P	Pn	00 24 15.7	+1.1
NNZ	**Nelson**	**1.66**	**227**	P	Pn	00 24 17.0	+1.3
TKNZ	**Takaka Hill**	**1.80**	**238**	P	Pb	00 24 19.9	-1.2
BSWZ	**Blackbirch Sta**	**1.82**	**207**	P	Pb	00 24 20.1	-1.4
MTHZ	**Maungatapiwha**	**1.90**	**50**	P	Pb	00 24 22.1	-1.7
QRZ	**Quartz Range**	**2.01**	**248**	P	Pn	00 24 22.4	+1.9
MRNZ	**Matariki Terra**	**2.13**	**232**	P	Pb	00 24 25.4	-1.3
THZ	**Tophouse**	**2.29**	**223**	P	Pb	00 24 27.4	-2.0
URZ	**Urewera**	**2.47**	**43**	P	Pn	00 24 29.2	+2.4
KUZ	**Kuaotunu**	**3.39**	**10**	P	Pn	00 24 38.5	-1.0
WMGZ	**Waiomatatini S**	**3.51**	**51**	P	Pn	00 24 42.9	+1.7

IDC 15 00:33:52.5±3.9, 2.°79N×96.°12E, h0km, mb3.8/5, mbtmp3.8/5, MS2.9/2, Error ellipse: s-maj=151.1km s-min=30.8km az=56.0, Northern Sumatera

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

MKAR				Sg	Sg	00 44 56.9	-6.7
LUZB	**Luzhba, Kemero**	**8.41**	**338**	Sg	Sg	00 45 07.4	-2.5
MAKZ	**Makanchi**	**8.43**	**280**	⇓Pn	Pn	00 42 43.9	+1.6
	2.7nm,1.0s						
MAKZ				⇑Lg	Lg	00 45 12.6	
	16nm,0.9s						
MAKZ	**Makanchi**	**8.43**	**280**	Sg	Sg	00 45 05.2	-5.3
ELT	**Eltsovka**	**8.91**	**328**	Pg	Pg	00 43 27.3	-3.4
ELT				Sg	Sg	00 45 25.9	-0.1
MINR	**Mina**	**8.96**	**0**	Sg	Sg	00 45 27.1	-0.3
PDGK	**Podgornoye**	**10.74**	**261**	⇓Pn	Pn	00 43 17.8	+3.7
	1.2nm,0.6s						
PDGK				⇑Sn	Sn	00 45 26.3	+12
	4.9nm,0.7s						
PDGK				⇓Lg	Lg	00 46 32.8	
	8.5nm,0.9s						
KURK	**Kurchatov**	**11.35**	**300**	⇑Lg	Lg	00 46 38.5	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**11.37**	**300**	⇑Lg	Lg	00 46 38.5	
	29nm,0.7s						

*NOU **15** 00:50:30.3, 37°.32S×179°.70E, h141km, MLv4.6/8, Off E. Coast of N. Island, N.Z.*
*IDC **15** 00:50:33.2±1.2, 37°.00S×178°.97E, h0km, mb4.0/4, mbtmp4.0/4, MS3.1/2, Error ellipse: s-maj=32.4km s-min=29.7km az=46.0*
*WEL **15** 00:50:34.9±0.7, 37°.S±4°×17°.9E±°, h5km, M3.9/27, ML4.1/28, MLv3.9/27, Error ellipse: s-maj=0.0km s-min=0.0km az=119.7*
*NEIC **15** 00:50:36.4±2.1, 37°.31S±0°.04×178°.95E±0°.05, h10km±1km, mb4.3/11, Error ellipse: s-maj=7.7km s-min=5.2km az=306.0*

ISC 15 00:50:34.2±1.9, 37°.33S±0°.05×179°.15E±0°.06, h7km±9km, n113, σ1s31/147, mb4.2/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.71**	**251**		**Pg**	**00 50 47.3**	**-0.5**
MXZ				Sg	**Sg**	**00 50 54.8**	**-2.3**
MXZ	**Matakaoa Point**	**0.71**	**251**	P	**Pg**	**00 50 47.1**	**-0.8**
MXZ				S	**Sg**	**00 50 55.6**	**-1.5**
WMGZ	**Waiomatatini S**	**0.76**	**230**	P	**Pn**	**00 50 51.2**	**-0.2**
WMGZ				S	**Sn**	**00 51 03.0**	**-0.1**
PKGZ	**Pakihiroa**	**1.02**	**237**	P	**Pg**	**00 50 53.8**	**0.0**
PKGZ				S	**Sn**	**00 51 09.8**	**+0.2**
PUZ	**Puketiti**	**1.02**	**223**	P	**Pn**	**00 50 55.6**	**+0.5**
PUZ				S	**Sn**	**00 51 10.8**	**+1.2**
HAZ	**Te Kaha**	**1.17**	**248**	P	**Pb**	**00 50 54.7**	**-2.1**
TWGZ	**Tauwhareparae**	**1.25**	**227**	P	**Pg**	**00 50 59.3**	**+1.0**
TWGZ				S	**Sn**	**00 51 17.9**	**+2.5**
RUGZ	**Raukumara Rang**	**1.33**	**241**	P	**Pn**	**00 50 59.0**	**-0.3**
RUGZ				S	**Sg**	**00 51 18.8**	**+1.9**
CNGZ	**Carnagh Statio**	**1.37**	**213**	P	**Pg**	**00 51 01.2**	**+0.7**
CNGZ				S	**Sg**	**00 51 22.3**	**+3.9**
TKGZ	**Te Karaka**	**1.51**	**223**	P	**Pb**	**00 51 02.6**	**0.0**
TKGZ				S	**Sg**	**00 51 24.0**	**+1.2**
MWZ	**Matawai**	**1.63**	**232**	P	**Pn**	**00 51 03.9**	**+0.6**
MWZ				S	**Sb**	**00 51 25.9**	**+0.5**
RIGZ	**Rimuhau**	**1.76**	**218**	P	**Pn**	**00 51 05.8**	**+0.6**
RIGZ				S	**Sb**	**00 51 29.1**	**+0.1**
RAGZ	**Rawiri**	**1.80**	**229**	P	**Pn**	**00 51 06.6**	**+0.9**
WHRZ	**Whale Island**	**1.81**	**252**	P	**Pb**	**00 51 07.1**	**-0.5**
WHRZ				S	**Sb**	**00 51 30.9**	**+0.5**
URZ	**Urewera**	**1.86**	**240**	Pn	**Pn**	**00 51 07.2**	**+0.7**
	50nm,0.3s,baz=107,slow=9.9,SNR=129						
URZ				Sn	**Sn**	**00 51 30.5**	**+0.2**
	54nm,0.3s,baz=127,slow=20,SNR=6.8						
URZ				LR	LR	00 51 39.4	
	comp=Z,243nm,21.4s,baz=158,slow=34						
URZ	**Urewera**	**1.86**	**240**		**Pn**	**00 51 07.2**	**+0.7**
URZ					**Sn**	**00 51 30.8**	**+0.5**
URZ	**Urewera**	**1.86**	**240**	P	**Pn**	**00 51 07.4**	**+0.8**
URZ				S	**Sb**	**00 51 31.7**	**-0.4**
URZ	**Urewera**	**1.86**	**240**	P	**Pn**	**00 51 07.5**	**+1.0**
PRGZ	**Paritu Road**	**1.88**	**212**	P	**Pn**	**00 51 07.3**	**+0.5**
PRGZ				S	**Sb**	**00 51 33.5**	**+1.0**
SNGZ	**Shannon Statio**	**2.03**	**224**	P	**Pn**	**00 51 10.2**	**+1.2**
KNZ	**Kokohu**	**2.05**	**214**	P	**Pn**	**00 51 09.0**	**-0.1**
EDRZ	**Edgecumbe**	**2.06**	**247**	P	**Pn**	**00 51 10.4**	**+1.0**
EDRZ				S	**Sn**	**00 51 36.1**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.06**	**208**	P	**Pn**	**00 51 09.9**	**+0.6**
OPRZ	**Ohinepanea**	**2.12**	**255**	P	**Pn**	**00 51 11.0**	**+0.9**
RTZ	**Ruatahuna**	**2.14**	**233**	P	**Pn**	**00 51 11.6**	**+1.1**
MUGZ	**Murupara**	**2.20**	**238**	P	**Pn**	**00 51 11.8**	**+0.6**
TARZ	**Mount Tarawera**	**2.28**	**246**	P	**Pn**	**00 51 13.5**	**+1.1**
MTHZ	**Maungataniwha**	**2.37**	**229**	P	**Pn**	**00 51 14.5**	**+0.9**
KARZ	**Kaharoa**	**2.41**	**253**	P	**Pn**	**00 51 14.8**	**+0.7**
PRRZ	**Plateau Road**	**2.47**	**241**	P	**Pn**	**00 51 15.5**	**+0.6**
ALRZ	**Allen Road**	**2.54**	**240**	P	**Pn**	**00 51 16.5**	**+0.7**
NMHZ	**Naumai**	**2.55**	**226**	P	**Pn**	**00 51 17.0**	**+0.9**
NMHZ				S	**Sn**	**00 51 48.0**	**+0.5**
ARHZ	**Aropaoanui**	**2.57**	**221**	P	**Pn**	**00 51 16.6**	**+0.4**
ARHZ				S	**Sn**	**00 51 48.7**	**+1.0**
MRHZ	**Matea Rd**	**2.63**	**234**	P	**Pn**	**00 51 17.6**	**+0.5**
MRHZ				S	**Sn**	**00 51 49.3**	**0.0**
BKZ	**Black Stump Fm**	**2.78**	**228**		**Pn**	**00 51 19.2**	**0.0**
BKZ	**Black Stump Fm**	**2.78**	**228**	P	**Pn**	**00 51 19.5**	**+0.2**
BKZ				S	**Sn**	**00 51 51.8**	**-1.3**
BKZ	**Black Stump Fm**	**2.78**	**228**	P	**Pn**	**00 51 19.3**	**+0.1**
CKHZ	**Cape Kidnapper**	**2.84**	**214**	P	**Pn**	**00 51 19.5**	**-0.4**
CKHZ				S	**Sn**	**00 51 53.4**	**-0.9**
MCHZ	**McNeill Hill**	**2.86**	**222**	P	**Pn**	**00 51 20.4**	**+0.1**
MCHZ				S	**Sn**	**00 51 55.2**	**+0.3**
KWHZ	**Kaweka Forest**	**2.99**	**225**	P	**Pn**	**00 51 21.9**	**-0.2**
KWHZ				S	**Sn**	**00 51 57.4**	**-0.9**
KAHZ	**Kahuranaki**	**3.04**	**215**	P	**Pn**	**00 51 22.1**	**-0.7**
KAHZ				S	**Sn**	**00 51 59.3**	**-0.1**
RITZ	**Rihia Road**	**3.07**	**237**	P	**Pn**	**00 51 23.9**	**+0.7**
RATZ	**Rangitukua**	**3.07**	**239**	P	**Pn**	**00 51 24.0**	**+0.8**
GRZ	**Great Barrier**	**3.15**	**289**	P	**Pn**	**00 51 24.9**	**+0.6**
KRHZ	**Kereru**	**3.18**	**223**	P	**Pn**	**00 51 24.2**	**-0.5**
KRHZ				S	**Sn**	**00 52 02.1**	**-0.7**
KATZ	**Kakaramea**	**3.18**	**238**	P	**Pn**	**00 51 25.5**	**+0.7**
MKAZ	**Moumakai**	**3.19**	**273**	P	**Pn**	**00 51 25.1**	**+0.3**
PXZ	**Pawanui**	**3.24**	**213**	P	**Pn**	**00 51 24.2**	**-1.3**
PXZ				S	**Sn**	**00 52 02.7**	**-1.5**
BHHZ	**Black Hill Sta**	**3.24**	**227**	P	**Pn**	**00 51 25.4**	**-0.2**
BHHZ				S	**Sn**	**00 52 03.9**	**-0.6**
TMVZ	**Te Maari**	**3.25**	**236**	P	**Pn**	**00 51 25.9**	**+0.2**
TMVZ				S	**Sn**	**00 52 03.6**	**-1.0**
ETVZ	**East Tongariro**	**3.25**	**235**	P	**Pn**	**00 51 26.0**	**+0.2**
ETVZ				S	**Sn**	**00 52 03.0**	**-1.8**
NTVZ	**North Tongarir**	**3.25**	**236**	P	**Pn**	**00 51 26.1**	**+0.3**
NTVZ				S	**Sn**	**00 52 03.9**	**-1.0**
WIAZ	**Waiheke Island**	**3.26**	**278**	P	**Pn**	**00 51 26.7**	**+0.9**
KRVZ	**Karewarewa**	**3.28**	**236**	P	**Pn**	**00 51 26.4**	**+0.3**
KRVZ				S	**Sn**	**00 52 04.6**	**-0.8**
OTVZ	**Oturere**	**3.30**	**235**	P	**Pn**	**00 51 26.6**	**+0.2**
OTVZ				S	**Sn**	**00 52 04.5**	**-1.4**
NNVZ	**North Ngauruho**	**3.31**	**236**	P	**Pn**	**00 51 27.1**	**+0.4**
WTVZ	**West Tongariro**	**3.32**	**236**	P	**Pn**	**00 51 27.1**	**+0.4**
SNVZ	**South Ngauruho**	**3.33**	**235**	P	**Pn**	**00 51 26.9**	**+0.1**
SNVZ				S	**Sn**	**00 52 05.3**	**-1.4**
NGZ	**Ngauruhoe**	**3.35**	**236**	P	**Pn**	**00 51 27.3**	**+0.2**
TUVZ	**Tukino**	**3.36**	**234**	P	**Pn**	**00 51 27.8**	**+0.5**
TUVZ				S	**Sn**	**00 52 06.0**	**-1.5**
MOVZ	**Moawhango**	**3.38**	**231**	P	**Pn**	**00 51 27.6**	**+0.1**
MOVZ				S	**Sn**	**00 52 05.8**	**-2.1**
TWVZ	**Taurewa**	**3.40**	**238**	P	**Pn**	**00 51 28.3**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.41**	**234**	P	**Pn**	**00 51 28.4**	**+0.3**
WHVZ				S	**Sn**	**00 52 07.3**	**-1.6**
FWVZ	**Far West T-bar**	**3.42**	**235**	P	**Pn**	**00 51 28.4**	**+0.2**
WNVZ	**Wahianoa**	**3.43**	**233**	P	**Pn**	**00 51 28.4**	**+0.1**
MBAZ	**Motutapu North**	**3.45**	**278**	P	**Pn**	**00 51 30.4**	**+2.1**
WPHZ	**Waipukurau**	**3.46**	**217**	P	**Pn**	**00 51 27.4**	**-1.1**
WPHZ				S	**Sn**	**00 52 08.6**	**-1.1**
PNHZ	**Pukenui**	**3.46**	**221**	P	**Pn**	**00 51 27.3**	**-1.3**
PNHZ				S	**Sn**	**00 52 08.1**	**-1.7**
ABAZ	**Army Bay**	**3.53**	**281**	P	**Pn**	**00 51 30.6**	**+1.1**
HIZ	**Hauiti**	**3.59**	**250**	P	**Pn**	**00 51 32.1**	**+1.7**
HIZ	**Hauiti**	**3.59**	**250**	P	**Pn**	**00 51 31.5**	**+1.1**
TSZ	**Takapari Road**	**3.69**	**222**	P	**Pn**	**00 51 30.3**	**-1.4**
TSZ				S	**Sn**	**00 52 13.5**	**-2.0**
DVHZ	**Dannevirke**	**3.77**	**217**	P	**Pn**	**00 51 31.2**	**-1.6**
DVHZ				S	**Sn**	**00 52 15.1**	**-2.3**
BFZ	**Birch Farm**	**4.04**	**213**	P	**Pn**	**00 51 34.2**	**-2.3**
POWZ	**Post Office Ro**	**4.04**	**220**	P	**Pn**	**00 51 34.9**	**-1.6**
POWZ				S	**Sn**	**00 52 21.3**	**-2.7**
WAZ	**Wanganui**	**4.06**	**232**	P	**Pn**	**00 51 37.4**	**+0.6**
WAZ				S	**Sn**	**00 52 24.4**	**-0.3**
NEZ	**North Egmont**	**4.42**	**242**	P	**Pn**	**00 51 44.5**	**+2.7**
PKE	**Pukeiti**	**4.47**	**244**	P	**Pn**	**00 51 45.4**	**+3.0**
KHEZ	**Kahui Hut**	**4.49**	**243**	P	**Pn**	**00 51 45.2**	**+2.4**
OUZ	**Omahuta**	**4.96**	**293**	P	**Pn**	**00 51 48.2**	**-0.9**
QRZ	**Quartz Range**	**6.22**	**234**	P	**Pn**	**00 52 03.3**	**-3.1**
KHZ	**Kahutara**	**6.66**	**219**	P	**Pn**	**00 52 09.4**	**-3.1**
RPZ	**Rata Peaks**	**8.87**	**221**	Pn	**Pn**	**00 52 39.2**	**-3.5**
	0.4nm,0.3s,baz=310,slow=19,SNR=1.4						
RPZ				Sn	Sn	00 54 10.9	-12
	1.5nm,0.3s,baz=125,slow=23,SNR=7.8						
RPZ				LR	LR	00 55 55.6	
	comp=Z,80nm,21.4s,baz=28,slow=36						
ODZ	**Otahua Downs**	**10.02**	**217**	P	**Pn**	**00 52 54.7**	**-3.8**
STKA	**Stephens Creek**	**31.24**	**269**	LR	LR	01 08 42.0	
	comp=Z,58nm,18.7s,baz=194,slow=35						
STKA	**Stephens Creek**	**31.24**	**269**	P	**P**	**00 56 54.4**	**-0.1**
STKA				IAmb	IAmb	00 56 58.2	
	comp=Z,2.5nm,1.4s						
BBOO	**Buckleboo**	**35.33**	**264**	P	**P**	**00 57 29.3**	**-0.9**
COEN	**Coen**	**39.56**	**296**	P	**P**	**00 58 06.5**	**+0.4**
COEN				IAmb	IAmb	00 58 07.5	
	comp=Z,8.8nm,1.0s						
AS31	**Alice Springs**	**40.92**	**276**	P	**P**	**00 58 17.7**	**+0.3**
AS31				IAmb	IAmb	00 58 17.9	
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**40.92**	**276**	P	**P**	**00 58 15.9**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=116,slow=7.6,SNR=19						
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**40.92**	**276**	P	**P**	**00 58 17.9**	**+0.5**
VNDA	**Vanda**	**40.98**	**186**	P	**P**	**00 58 17.9**	**+0.7**
WR0	**Warramunga Arr**	**42.38**	**281**	P	**P**	**00 58 28.1**	**-1.3**
WR0				IAmb	IAmb	00 58 44.5	
	comp=Z,9.2nm,1.4s						
FORT	**Forrest**	**42.41**	**263**	P	**P**	**00 58 29.0**	**-0.5**
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**00 58 29.1**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=122,slow=7.5,SNR=34						
WRA				PcP	**PcP**	**01 00 21.1**	**-2.2**
	comp=Z,0.1nm,0.4s,baz=123,slow=2.9,SNR=1.7						
	comp=Z,1.3nm,0.6s						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**00 58 29.6**	**-1.2**
CASY	**Casey**	**47.95**	**210**	P	**P**	**00 59 14.5**	**+1.5**
CASY				IAmb	IAmb	00 59 41.9	
	comp=Z,6.8nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.41**	**277**	P	**P**	**00 59 31.4**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=108,slow=6.4,SNR=2.0						
	comp=Z,1.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.41**	**277**	P	**P**	**00 59 32.0**	**-0.5**
FITZ				IAmb	IAmb	00 59 41.1	
	comp=Z,9.3nm,1.5s						
QSPA	**South Pole Qui**	**52.79**	**180**	P	**P**	**00 59 52.7**	**+2.8**
	comp=Z,1.7nm,0.7s,baz=32,slow=0.8,SNR=7.3						
	comp=Z,1.7nm,0.7s						
QSPA	**South Pole Qui**	**52.79**	**180**	P	**P**	**00 59 52.7**	**+2.8**
QSPA				IAmb	IAmb	01 00 10.5	
	comp=Z,5.2nm,1.3s						
H03S2	**Juan Fernandez**	**78.60**	**124**	T	T	02 29 07.0	
	baz=231						
H03S1	**Juan Fernandez**	**78.61**	**124**	T	T	02 29 05.4	
	baz=231						
H03S3	**Juan Fernandez**	**78.62**	**124**	T	T	02 28 58.0	
	baz=231						
H03N3	**Juan Fernandez**	**78.83**	**124**	T	T	02 29 16.3	
	baz=234,slow=72,SNR=24						
H03N2	**Juan Fernandez**	**78.84**	**123**	T	T	02 29 20.9	
	baz=234,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**78.85**	**124**	T	T	02 29 14.4	
	baz=234,slow=72,SNR=27						
ARCES	**ARCESS Array B**	**144.73**	**344**	PKP	PKPbc	01 10 09.7	+0.1
	comp=Z,3.7nm,1.0s,baz=45,slow=2.4,SNR=6.6						
FINES	**FINESS Array B**	**150.58**	**334**	PKPbc	**PKPbc**	**01 10 25.4**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=20,slow=6.1,SNR=12						
BRTR	**Keskin Array B**	**153.01**	**286**	PKPbc	**PKPbc**	**01 10 31.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=93,slow=2.9,SNR=1.9						
NB2	**NORSAR Subarra**	**155.08**	**346**	PKP	PKPdf	01 10 36.0	+8.8
	comp=Z,0.2nm,0.5s,baz=39,slow=2.8						
NOA	**NORSAR Array B**	**155.08**	**346**	PKPbc	PKPdf	01 10 35.5	+8.3
	comp=Z,0.3nm,0.7s,baz=30,slow=2.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**155.81**	**186**	PKPab	**PKPab**	**01 10 56.6**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=227,slow=3.6,SNR=2.0						

NEIC 15 01:02:17.6±0.7, 35°.636N±0°.010×97°.42W±0°.01, h5km±1km, ML1.9/41, Error ellipse: s-maj=2.2km s-min=1.7km az=81.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.05**	**180**		**Pg**	01 02 18.6	-0.4
OK009				Sg	Sg	01 02 19.9	-0.1
OK025	**Westminster Rd**	**0.09**	**128**	Pg	Pg	01 02 19.3	-0.2
OK025				Sg	Sg	01 02 21.1	+0.3
OK025				IAML		01 02 21.3	
	619nm,0.1s						
BCOK	**Bluff Creek, N**	**0.15**	**278**	Pg	Pg	01 02 20.2	-0.5
BCOK				Sg	Sg	01 02 22.9	+0.1
BCOK				IAML		01 02 23.0	
	comp=N,210nm,0.2s						
OK029	**Liberty Lake**	**0.16**	**351**	Pg	Pg	01 02 20.6	-0.4
OK029				Sg	Sg	01 02 23.4	+0.3
OK029				IAML		01 02 23.6	
	comp=N,322nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.23**	**183**	Pg	Pg	01 02 21.1	-1.0
OKCSW				Sg	Sg	01 02 25.5	+0.3
FNO	**Franklin**	**0.38**	**177**	Pg	Pg	01 02 24.5	-0.5
FNO				Sg	Sg	01 02 30.2	+0.3
OK031	**S. Brethren Rd**	**0.57**	**56**	Pg	Pg	01 02 28.2	-0.5
OK031				Sg	Sg	01 02 36.1	0.0
OK031				IAML		01 02 36.5	
	comp=N,80nm,0.2s						
OK030	**Cody Creek RV**	**0.60**	**61**	Pg	Pg	01 02 28.8	-0.3
OK030				Sg	Sg	01 02 36.9	0.0
OK034	**N. Norfolk Rd.**	**0.69**	**57**	Pg	Pg	01 02 30.2	-0.7
OK034				Sg	Sg	01 02 39.8	0.0
DEOK	**Depew**	**0.78**	**74**	Pg	Pg	01 02 31.5	-1.2
DEOK				Sg	Sg	01 02 42.5	-0.2
DEOK				IAML		01 02 42.7	
	comp=E,41nm,0.3s						
DEOK				IAML		01 02 45.5	
	comp=N,49nm,0.5s						
QUOK	**Quay**	**0.79**	**47**	Pg	Pg	01 02 32.0	-0.8
QUOK				Sg	Sg	01 02 42.7	-0.4
QUOK				IAML		01 02 43.3	
	comp=E,73nm,0.2s						
QUOK				IAML		01 02 43.4	
	comp=N,71nm,0.4s						
OK050	**Pawnee Station**	**0.84**	**25**	Pg	Pg	01 02 33.0	-0.8
OK050				Sg	Sg	01 02 44.7	+0.1
OK050				IAML		01 02 45.0	
	comp=N,27nm,0.2s						
OK050				IAML		01 02 47.4	
	comp=N,33nm,0.2s						
OK046	**Pawnee Station**	**0.87**	**29**	Pg	Pg	01 02 33.4	-1.0
OK046				Sg	Sg	01 02 45.4	-0.2
OK046				IAML		01 02 45.8	
	comp=N,47nm,0.2s						
OK048	**Pawnee Station**	**0.87**	**26**	Pg	Pg	01 02 33.5	-0.9
OK048				Sg	Sg	01 02 45.1	-0.6
OK044	**Pawnee Station**	**0.89**	**34**	Pg	Pg	01 02 33.5	-1.3
OK044				Sg	Sg	01 02 45.9	-0.5
OK044				IAML		01 02 46.6	
	comp=N,30nm,0.3s						
OK044				IAML		01 02 49.0	
	comp=N,27nm,0.2s						
OK045	**Pawnee Station**	**0.91**	**26**	Pg	Pg	01 02 34.2	-0.9
OK045				Sg	Sg	01 02 46.9	+0.1
OK045				IAML		01 02 47.0	
	comp=N,44nm,0.2s						
OK045				IAML		01 02 55.4	
	comp=N,38nm,0.2s						
CROK	**Carrier**	**0.98**	**333**	Pg	Pg	01 02 35.2	-1.2
CROK				IAML		01 02 52.6	
	comp=N,38nm,0.2s						
OK051	**E0350 and S346**	**0.99**	**29**	Pg	Pg	01 02 35.7	-0.9
OK051				Sg	Sg	01 02 49.1	-0.4
OK051				IAML		01 02 50.9	
	comp=N,50nm,0.1s						
OK051				IAML		01 02 52.5	
	comp=N,47nm,0.2s						
OK047	**Pawnee, Statio**	**1.01**	**34**	Pg	Pg	01 02 35.7	-1.2
OK047				IAML		01 02 54.5	
	comp=N,46nm,0.2s						
X34A	**Smith Ranch, M**	**1.09**	**198**	Pg	Pg	01 02 37.7	-0.7
X34A				IAML		01 03 11.8	
	comp=N,17nm,4.2s						
BLOK	**Blackwell**	**1.14**	**8**	Pg	Pg	01 02 38.1	-1.3
BLOK				Sg	Sg	01 02 54.0	-0.2
BLOK				IAML		01 02 56.5	
	comp=E,39nm,0.2s						
BLOK				IAML		01 02 57.6	
	comp=N,65nm,0.2s						
TUL1	**Leonard**	**1.35**	**78**		Pn	01 02 41.0	-2.2
OK038	**West end E0370**	**1.36**	**309**		Pn	01 02 41.8	-1.6
WMOK	**Wichita Mounta**	**1.43**	**232**		Pn	01 02 42.6	-1.6
T35A	**Sooner Cattle**	**1.47**	**30**		Pn	01 02 43.7	-1.2
U32A	**Winter Ranch,**	**1.48**	**301**		Pn	01 02 43.9	-1.1
X37A	**Clayton**	**1.98**	**121**	Pn	Pn	01 02 52.3	+0.5
RLO	**Rose Lookout**	**2.02**	**74**	Pn	Pn	01 02 52.1	-0.3

*NEIC **15** 01:06:30.9±1.5, 56°.0S±0°.1×27°.4W±0°.2, h113km±8km, mb4.9/17, Error ellipse: s-maj=23.2km s-min=15.6km az=218.0*
*IDC **15** 01:06:33.6±3.2, 56°.09S×27°.47W, h140km±27km, mb4.0/7, mbtmp4.3/8, Error ellipse: s-maj=26.5km s-min=12.1km az=74.0*

ISC 15 01:06:30.2±0.5, 56°.02S±0°.09×27°.4W±0°.1, h112km, n59, σ0s91/59, mb4.8/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.51**	**285**		**Pn**	**01 07 50.6**	**+0.8**
VNA1	**Neumayer--Stat**	**16.86**	**158**	P	**P**	**01 10 20.4**	**+1.2**
VNA3	**Neumayer Olymp**	**17.05**	**160**	P	**P**	**01 10 21.7**	**+0.3**
VNA2	**Neumayer--Watz**	**17.26**	**158**	P	**Pn**	**01 10 24.2**	**+0.4**
	baz=312,slow=12						
SNAA	**Sanae**	**18.81**	**156**	P	**P**	**01 10 41.0**	**+0.3**
SNAA	**Sanae**	**18.81**	**156**	P	**P**	**01 10 40.7**	**+0.1**
	5.6nm,0.4s,baz=310,slow=9.5,SNR=214						
SNAA				S	**S**	**01 14 08.3**	**-0.1**
	0.3nm,0.7s,baz=47,slow=9.7,SNR=1.2						
SNAA				PcP	**PcP**	**01 15 02.5**	**0.0**
	0.2nm,0.3s,baz=236,slow=3.6,SNR=1.2						
SNAA				ScP	**ScP**	**01 18 24.1**	**-3.4**
	0.7nm,0.9s,baz=0.0,slow=2.0,SNR=3.0						
SNAA	**Sanae**	**18.81**	**156**	P	**P**	**01 10 41.2**	**+0.5**
TROLL	**Troll, Antarti**	**20.32**	**153**	P	**P**	**01 10 57.2**	**+0.2**
TRIS	**Tristan da Cun**	**21.52**	**35**	P	**P**	**01 11 10.2**	**+0.2**
TRQA	**Tornquist**	**29.21**	**293**	P	**P**	**01 12 21.3**	**+0.2**
LL04	**Puerto Octay**	**32.80**	**278**	P	**P**	**01 12 53.6**	**+1.1**
LL04				IAmb	IAmb	01 13 39.2	
	comp=Z,38nm,1.9s						
QSPA	**South Pole Qui**	**34.23**	**180**	P	**P**	**01 13 05.1**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=177,slow=2.6,SNR=21						
QSPA				PcP	**PcP**	**01 15 38.0**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=104,slow=4.2,SNR=2.6						
	comp=Z,4.1nm,0.6s						
QSPA	**South Pole Qui**	**34.23**	**180**	P	**P**	**01 13 05.4**	**+0.5**
QSPA	**South Pole Qui**	**34.23**	**180**	P	**P**	**01 13 05.1**	**+0.2**
MT09	**Talagante**	**37.20**	**288**	P	**P**	**01 13 29.2**	**-1.4**
MT02	**Curacav**	**37.68**	**289**	P	**P**	**01 13 33.0**	**-1.4**
MT02				IAmb	IAmb	01 14 17.6	
	comp=Z,43nm,1.6s						
VA06	**Catapilco**	**38.30**	**289**	P	**P**	**01 13 38.5**	**-1.1**
VA06				IAmb	IAmb	01 14 35.5	
	comp=Z,38nm,1.4s						
CO02	**Combarbal**	**39.21**	**291**	P	**P**	**01 13 46.4**	**-1.0**
CO02				IAmb	IAmb	01 14 05.0	
	comp=Z,45nm,1.6s						
CO06	**Fray Jorge**	**39.96**	**291**	P	**P**	**01 13 52.0**	**-1.4**
MAW	**Mawson**	**40.23**	**144**	P	**P**	**01 13 55.8**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=247,slow=10,SNR=7.1						
	comp=Z,1.8nm,0.6s						
MAW	**Mawson**	**40.23**	**144**	P	**P**	**01 13 56.4**	**+1.2**
AC05	**El Transito**	**40.72**	**294**	P	**P**	**01 13 58.8**	**-1.1**
AC05				IAmb	IAmb	01 14 34.3	
	comp=Z,30nm,1.6s						
AC02	**Maricunga**	**41.77**	**297**	P	**P**	**01 14 09.9**	**+1.0**
LVC	**Limon Verde**	**45.20**	**300**	P	**P**	**01 14 36.3**	**+0.1**
LVC				IAmb	IAmb	01 15 38.0	
	comp=Z,40nm,1.9s						
**PB

MGB				Sn	Sn	01 09 30.5	-2.6
B926	**Mesachie Lake**	**5.58**	**31**	Pn	Pn	01 08 28.9	-0.8
B926				Sn	Sn	01 09 32.5	-1.4
B009	**North Saanich**	**5.71**	**35**	Sn	Sn	01 09 33.6	-3.3
B010	**North Saanich**	**5.71**	**35**	Sn	Sn	01 09 34.3	-2.6
PGC	**Sidney**	**5.71**	**35**	Pn	Pn	01 08 31.2	-0.2
B011	**North Saanich**	**5.71**	**35**	Sn	Sn	01 09 35.7	-1.3
BTB	**Buttle Lake**	**5.74**	**19**	Pn	Pn	01 08 31.6	-0.4
BTB				Sn	Sn	01 09 36.2	-1.7
GHNB	**Nanoose**	**5.96**	**27**	Sn	Sn	01 09 42.6	-0.5
NLLB	**Nanaimo Lost L**	**5.98**	**29**	Pn	Pn	01 08 35.2	+0.1
NLLB				Sn	Sn	01 09 42.8	-0.7
TXB	**Texada**	**6.24**	**25**	Pn	Pn	01 08 39.3	+0.6
TXB				Sn	Sn	01 09 47.8	-2.2
SHB	**Sechelt**	**6.33**	**28**	Pn	Pn	01 08 40.5	+0.5
SHB				Sn	Sn	01 09 51.3	-1.1
BIB	**Bowen Island**	**6.37**	**32**	Pn	Pn	01 08 40.8	+0.3
HNBB	**Haney**	**6.57**	**36**	Pn	Pn	01 08 43.7	+0.4
WPB	**Watts Point**	**6.62**	**31**	Pn	Pn	01 08 44.1	+0.2
PHC	**Port Hardy**	**6.66**	**5**	Pn	Pn	01 08 45.1	+0.8

HVO ***15*** *01:14:46.9±0.9, 19°.522N×0°.008×155°.610W±0°.008, h13km±2km, ML3.4/23, ML3.5/46(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=196.0*

NEIC 15 01:14:46.4±0.8, 19°.523N±0°.007×155°.613W±0°.007, h16km±2km, Error ellipse: s-maj=1.3km s-min=0.5km az=215.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEP	**Alea Permanent**	**0.04**	**301**		Pg	01 14 51.5	+1.7
MLOA	**Mauna Loa Obse**	**0.04**	**70**		Pg	01 14 49.7	-0.2
MLOA				Sg	Sg	01 14 51.6	-0.6
MWH	**Moku'aweowe**	**0.04**	**159**		Pg	01 14 49.7	-0.3
MWH					Sg	01 14 52.0	-0.4
HMH	**Humu'ula Sheep**	**0.14**	**57**		Pb	01 14 50.9	0.0
HMH					Sb	01 14 53.8	-0.1
HMH	**Humu'ula Sheep**	**0.14**	**57**	IAML		01 14 54.9	
	comp=E,26μm,0.3s						
HMH				IAML		01 14 54.9	
	comp=N,25μm,0.3s						
AIN	**Ainahou**	**0.21**	**136**		Pb	01 14 51.7	-0.2
AIN					Sb	01 14 55.5	-0.1
AIN	**Ainahou**	**0.21**	**136**	IAML		01 14 56.5	
	comp=E,8μm,0.2s						
MLH	**Mauna Loa**	**0.22**	**98**		Pb	01 14 51.9	-0.1
MLH					Sb	01 14 55.6	-0.3
MLH	**Mauna Loa**	**0.22**	**98**	IAML		01 14 55.8	
	comp=E,33μm,0.2s						
POHA	**Pohakuloa**	**0.24**	**18**		Pg	01 14 52.1	0.0
POHA					Sg	01 14 55.9	0.0
POHA	**Pohakuloa**	**0.24**	**18**	IAML		01 14 57.5	
	comp=E,3μm,0.3s						
HUH	**Hualalai**	**0.27**	**307**		Pb	01 14 53.0	+0.1
HUH	**Hualalai**	**0.27**	**307**	IAML		01 14 59.6	
	comp=E,19μm,0.4s						
HUH				IAML		01 15 00.9	
	comp=N,14μm,0.3s						
KHLU	**Kahalu`u**	**0.27**	**285**		Pb	01 14 52.8	-0.2
KHU	**Kahuku**	**0.28**	**180**		Pg	01 14 52.5	0.0
KHU					Sg	01 14 56.7	0.0
KHU	**Kahuku**	**0.28**	**180**	IAML		01 14 57.1	
	comp=E,1μm,0.3s						
CPH	**Captain Cook**	**0.29**	**263**		Pg	01 14 52.8	+0.2
WRMHI	**West Rim**	**0.32**	**111**		Pg	01 14 53.3	+0.1
WRMHI					Sb	01 14 58.6	-0.1
WRMHI	**West Rim**	**0.32**	**111**	IAML		01 14 59.4	
	comp=N,12μm,0.6s						
WRMHI				IAML		01 15 04.7	
	comp=E,24μm,0.3s						
UWE	**Uwekahuna**	**0.32**	**109**		Pg	01 14 53.4	+0.2
UWE					Sb	01 14 58.6	-0.1
UWE	**Uwekahuna**	**0.32**	**109**	IAML		01 14 59.3	
	comp=E,31μm,0.4s						
UWE				IAML		01 15 01.7	
	comp=N,25μm,0.4s						
RSD	**Rainshed**	**0.32**	**101**		Pg	01 14 53.5	+0.3
RSD					Sg	01 14 58.2	+0.3
OBL	**Observatory Le**	**0.33**	**109**		Pg	01 14 53.4	+0.1
OBL					Sb	01 14 58.7	-0.2
OBL	**Observatory Le**	**0.33**	**109**	IAML		01 15 00.1	
	comp=N,27μm,0.4s						
OBL				IAML		01 15 01.0	
	comp=E,19μm,0.5s						
SDHHI	**Sand Hill**	**0.33**	**114**		Pg	01 14 53.5	+0.1
SDHHI					Sb	01 14 58.7	-0.3
SDHHI	**Sand Hill**	**0.33**	**114**	IAML		01 14 59.0	
	comp=E,12μm,0.4s						
UWB	**Uwekahuna B**	**0.33**	**107**		Pg	01 14 53.4	0.0
UWB					Sg	01 14 58.4	+0.3
UWB	**Uwekahuna B**	**0.33**	**107**	IAML		01 14 59.0	
	comp=E,3μm,0.4s						
UWB				IAML		01 14 59.1	
	comp=N,5μm,0.5s						
NPH	**North Pit**	**0.33**	**109**		Pg	01 14 53.4	0.0
NPH					Sb	01 14 58.7	-0.4
NPH	**North Pit**	**0.33**	**109**	IAML		01 15 01.1	
	comp=E,2μm,0.5s						
SBLHI	**Steaming Bluff**	**0.34**	**106**		Pg	01 14 53.5	0.0
SBLHI					Sg	01 14 58.7	+0.3
SBLHI	**Steaming Bluff**	**0.34**	**106**	IAML		01 15 02.9	
	comp=N,10μm,0.6s						
RIM	**Rim**	**0.34**	**112**		Pg	01 14 53.7	+0.1
RIM					Sb	01 14 59.3	-0.2
RIM	**Rim**	**0.34**	**112**	IAML		01 15 03.2	
	comp=E,5μm,0.6s						
HATHI	**Halema'uma'u T**	**0.35**	**107**		Pg	01 14 53.6	-0.1
HATHI	**Halema'uma'u T**	**0.35**	**107**	IAML		01 15 01.1	
	comp=E,7μm,0.5s						
HATHI				IAML		01 15 04.0	
	comp=N,5μm,0.5s						
HTC	**Hot Caves**	**0.35**	**144**		Pg	01 14 53.7	0.0
HTC					Sb	01 14 59.5	0.0
KKO	**Keanakako`i**	**0.35**	**111**		Pg	01 14 53.9	+0.1
KKO				IAML		01 15 00.2	
	comp=E,4μm,0.4s						
KKO				IAML		01 15 06.0	
	comp=N,5μm,0.5s						
BYL	**Byron's Ledge**	**0.35**	**108**		Pg	01 14 53.7	0.0
BYL				IAML		01 15 01.6	
	comp=E,5μm,0.5s						
BYL				IAML		01 15 04.8	
	comp=N,4μm,0.5s						
BYL	**Byron's Ledge**	**0.35**	**108**		Sb	01 14 59.2	-0.4
HLP	**Hilina Pali**	**0.37**	**128**		Pg	01 14 54.1	+0.1
HLP					Sb	01 15 00.0	0.0
HLP	**Hilina Pali**	**0.37**	**128**	IAML		01 15 00.5	
	comp=N,7μm,0.3s						
HLP				IAML		01 15 00.5	
	comp=E,8μm,0.3s						
PUH	**Pauahi**	**0.40**	**112**		Pg	01 14 54.5	-0.2
PUH					Sg	01 15 00.2	0.0
PUH	**Pauahi**	**0.40**	**112**	IAML		01 15 03.7	
	comp=N,3μm,0.6s						
PUH				IAML		01 15 05.2	
	comp=E,2μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.44**	**109**		Pg	01 14 54.9	-0.4
NPOC	**North of Pu'u**	**0.49**	**105**		Pg	01 14 56.0	-0.2
NPOC					Sg	01 15 02.0	-0.9
NPOC	**North of Pu'u**	**0.49**	**105**	IAML		01 15 04.5	
	comp=N,3μm,0.4s						
NPOC				IAML		01 15 05.9	
	comp=E,2μm,0.4s						
JCUZ	**Jacuzzi**	**0.50**	**106**		Pg	01 14 56.0	-0.4
JCUZ					Sg	01 15 03.0	-0.2
HPAH	**Hawaii Prepara**	**0.51**	**351**		Pg	01 14 55.7	-0.9
JOKA	**Jonika Flow**	**0.58**	**99**		Pg	01 14 56.6	-1.3
JOKA					Sb	01 15 06.7	+0.5

NAO ***15*** *01:16:01.4±1.2, 76°.92N×18°.76E, ML2.5*
IEPN ***15*** *01:16:02.0, 76°.95N×18°.77E, h10km*
BER ***15*** *01:16:06.3±2.9, 76°.96N×18°.11E, h20km±11km, ML2.1, ML2.5(NAO), Confirmed Earthquake*

ISC 15 01:16:04.8±1.1, 76°.96N±0°.05×18°.30E±0°.04, h27km±13km, n21, σ2°.19/38, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.63**	**275**	Pg	**Pb**	**01 16 16.0**	**-1.2**
HSPB	**Hornsund (broa**	**0.63**	**275**	*eP*	**Pb**	**01 16 16.2**	**-1.0**
HSPB				*eS*	**Sb**	**01 16 24.1**	**-1.5**
HSPB					IAML	01 16 29.1	
	comp=Z,40nm,0.2s						
HSPB	**Hornsund (broa**	**0.63**	**275**	*eP*	**Pb**	**01 16 15.8**	**-1.4**
HSPB				*eS*	**Sb**	**01 16 25.4**	**-0.1**
SPA0	**Spitsbergen Ar**	**1.30**	**342**	Pn	**Pn**	**01 16 27.2**	**+0.2**
	baz=151,slow=22						
SPA0				Lg	Lg	01 16 43.9	
	baz=159,slow=28						
SPA0	**Spitsbergen Ar**	**1.30**	**342**	Pn	**Pn**	**01 16 27.2**	**+0.2**
	baz=151,slow=22						
SPA0				Sg	**Sn**	**01 16 43.9**	**+0.4**
	baz=159,slow=28						
SPA0				IAML		01 16 48.9	
	comp=Z,30nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.30**	**342**	*iP*	**Pn**	**01 16 27.2**	**+0.2**
SPA0				*eS*	**Sn**	**01 16 44.3**	**+0.9**
BRBA	**Barentsburg A**	**1.42**	**323**	Pn	**Pn**	**01 16 30.1**	**+1.5**
BRBA				Lg	Lg	01 16 48.5	
BRBA	**Barentsburg A**	**1.42**	**323**	*ePg*	**Pn**	**01 16 30.5**	**+1.8**
BRBA				*eSg*	**Sn**	**01 16 48.4**	**+2.0**
BRBA				IAML		01 16 49.2	
	comp=Z,100nm,0.2s						
BRBB	**Barentsburg B**	**1.45**	**324**	Pn	**Pn**	**01 16 30.7**	**+1.7**
BRBB				Lg	Lg	01 16 48.9	
BRBB	**Barentsburg B**	**1.45**	**324**	*ePg*	**Pn**	**01 16 30.7**	**+1.7**
BRBB				*eSg*	**Sn**	**01 16 48.9**	**+1.8**
HOPEN	**Hopen**	**1.61**	**103**	Sn	**Sn**	**01 16 52.9**	**+1.7**
HOPEN	**Hopen**	**1.61**	**103**	*eP*	**Pn**	**01 16 32.5**	**+1.1**
HOPEN				*ePg*	**Pb**	**01 16 35.3**	**+1.5**
HOPEN				*eS*	**Sn**	**01 16 52.9**	**+1.7**
HOPEN				*eSg*	**Sb**	**01 16 56.0**	**+2.4**
HOPEN				IAML		01 16 59.0	
	comp=Z,44nm,0.3s						
HOPEN	**Hopen**	**1.61**	**103**	*eP*	**Pn**	**01 16 32.0**	**+0.7**
HOPEN				*eS*	**Sn**	**01 16 52.5**	**+1.4**
KBS	**Kingsbay**	**2.39**	**329**	Pn	**Pn**	**01 16 41.7**	**-0.2**
KBS				Pg	**Pb**	**01 16 47.0**	**0.0**
KBS				Lg	Lg	01 17 16.6	
KBS	**Kingsbay**	**2.39**	**329**	*eP*	**Pn**	**01 16 41.7**	**-0.2**
KBS				*ePg*	**Pb**	**01 16 47.3**	**+0.4**
KBS				*eS*	**Sn**	**01 17 10.5**	**+0.3**
KBS				*eSg*	**Sb**	**01 17 16.6**	**+0.8**
KBS				IAML		01 17 25.9	
	comp=Z,46nm,0.3s						
KBS	**Kingsbay**	**2.39**	**329**	P	**Pn**	**01 16 41.1**	**-0.9**
KBS				*i* S	**Sn**	**01 17 10.6**	**+0.3**
BJO1	**Bjornoya**	**2.48**	**176**	*eSg*	**Sb**	**01 17 21.9**	**+3.4**
BJO1				IAML		01 17 41.2	
	comp=Z,25nm,0.7s						
ZFI	**Zemlya Franca-**	**6.77**	**42**	P	**Pn**	**01 17 41.9**	**-0.2**
ZFI				*eS*	**Sn**	**01 18 54.1**	**-4.0**
	comp=Z,50nm,2.6s						
ZFI2	**Zemlya Franca-**	**6.77**	**42**	P	**Pn**	**01 17 40.7**	**-1.4**
ZFI2				*eS*	**Sn**	**01 18 53.3**	**-4.8**
	comp=Z,58nm,1.1s						
ARA0	**ARCESS Array S**	**7.74**	**161**	Sn	**Sn**	**01 19 16.2**	**-5.7**
	baz=358,slow=22						
ARA0	**ARCESS Array S**	**7.74**	**161**	Sn	**Sn**	**01 19 16.2**	**-5.7**
	baz=358,slow=22						

IDC ***15*** *01:19:15.9±1.1, 55°.20S×28°.76W, h0km, mb4.0/3, mbtmp4.0/3, MS3.5/3, Error ellipse: s-maj=42.9km s-min=35.4km az=84.0*

ISC 15 01:19:17.3±0.9, 55°.2S±0°.2×28°.7W±0°.3, h10km, n17, σ0°.72/10, mb4.2/3, MS3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**18.09**	**160**	P	**P**	**01 23 30.3**	**+1.6**
VNA2	**Neumayer--Wakz**	**18.32**	**158**	P	**P**	**01 23 31.0**	**-0.2**
	baz=314,slow=13						
SNAA	**Sanae**	**19.88**	**156**	P	**P**	**01 23 47.9**	**-0.5**
TROLL	**Troll, Antarti**	**21.41**	**154**	P	**P**	**01 24 04.2**	**-0.8**
CPUP	**Villa Florida**	**35.58**	**312**	LR	LR	01 41 42.4	
	comp=Z,21nm,18.8s,baz=216,slow=38						
VNDA	**Vanda**	**47.38**	**183**	P	**P**	**01 27 50.8**	**-0.1**
	1.1nm,0.7s,baz=194,slow=5.5,SNR=2.4						
	1.1nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.46**	**19**	T	T	02 19 14.8	
	baz=189						
H10S3	**ASCENSION HYDR**	**47.46**	**19**	T	T	02 19 12.5	
	baz=31						
H10N1	**ASCENSION HYDR**	**48.57**	**19**	T	T	02 20 37.9	
	baz=190						
H10N3	**ASCENSION HYDR**	**48.58**	**19**	T	T	02 20 34.1	
	baz=190,slow=74						
H10N2	**ASCENSION HYDR**	**48.59**	**19**	T	T	02 20 36.3	
	baz=190,slow=74						
LPAZ	**La Paz**	**49.16**	**306**	P	**P**	**01 28 05.9**	**-0.1**
	1.6nm,0.6s,baz=172,slow=11,SNR=8.5						
	1.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.76**	**31**	P	**P**	**01 30 45.9**	**+0.3**
	1.6nm,0.6s,baz=196,slow=6.1,SNR=11						
TORD				LR	LR	01 56 16.4	
	comp=Z,40nm,20.6s,baz=216,slow=30						
	1.6nm,0.6s						
KEST	**Kesra**	**96.27**	**30**	LR	LR	02 09 45.7	
	comp=Z,45nm,21.6s,baz=262,slow=32						
FINES	**FINESS Array B**	**124.04**	**28**	PKP	**PKPdf**	**01 38 13.9**	**-0.4**
	0.9nm,0.8s,baz=200,slow=5.1,SNR=4.9						
ILAR	**Eielson Array**	**148.89**	**313**	PKPbc	**PKPbc**	**01 39 03.8**	**+0.1**
	1.8nm,0.9s,baz=130,slow=2.0,SNR=11						
SONM	**Songino Array**	**151.55**	**86**	PKPbc	**PKiKP**	**01 39 11.3**	**+0.1**
	0.4nm,0.4s,baz=194,slow=3.9,SNR=1.9						

WEL 15 01:34:09.0±0.3, 42°S±2°×17°3E±°, h35km±5km, M3.3/17, ML3.5/18, MLv3.3/17, Error ellipse: s-maj=0.0km s-min=0.0km az=118.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.16**	**130**	P	Pb	01 34 16.6	+1.2
KHZ				S	Sb	01 34 21.9	+2.0
THZ	**Tophouse**	**0.65**	**328**	P	Pn	01 34 20.5	-1.2
THZ				S	Sb	01 34 32.0	+1.0
GVZ	**Greta Valley S**	**0.70**	**200**	P	Pb	01 34 23.8	+0.9
GVZ				S	Sb	01 34 34.6	+2.1
BSWZ	**Blackbirch Sta**	**0.70**	**33**	P	Pb	01 34 23.0	+0.1
BSWZ				S	Sb	01 34 33.6	+1.1
CMWZ	**Cape Campbell**	**0.84**	**49**	P	Pb	01 34 25.9	+0.7
CMWZ				S	Sb	01 34 39.1	+2.8
LTZ	**Lake Taylor**	**0.94**	**240**	P	Pb	01 34 26.4	-0.4
LTZ				S	Sb	01 34 38.8	-0.3
TUWZ	**Tuamarina**	**0.98**	**26**	P	Pn	01 34 26.7	+0.5
TUWZ				S	Sb	01 34 39.9	-0.2
AMCZ	**Amberley**	**1.01**	**211**	P	Pb	01 34 27.6	-0.5
MRNZ	**Matariki Terra**	**1.02**	**333**	P	Pn	01 34 26.6	-0.2
NNZ	**Nelson**	**1.09**	**0**	P	Pn	01 34 27.9	+0.2
NNZ				S	Sn	01 34 42.2	+0.6
TCW	**Tory Channel**	**1.29**	**32**	P	Pn	01 34 30.8	+0.3
DSZ	**Denniston Nort**	**1.29**	**295**	P	Pn	01 34 30.6	0.0
DSZ				S	Sn	01 34 47.5	+0.8
TKNZ	**Takaka Hill**	**1.31**	**346**	P	Pn	01 34 31.1	+0.3
TKNZ				S	Sn	01 34 47.8	+0.7
OXZ	**Oxford**	**1.41**	**224**	P	Pn	01 34 32.0	-0.1
OKCZ	**Okains Bay**	**1.43**	**189**	P	Pn	01 34 32.9	+0.5
INZ	**Inchbonnie**	**1.48**	**253**	P	Pn	01 34 33.9	+0.8
INZ				S	Sn	01 34 52.0	+0.8
MQZ	**McQueen's Vall**	**1.49**	**200**	P	Pn	01 34 32.7	-0.5
MQZ				S	Sn	01 34 50.8	-0.7
DUWZ	**D'Urville Isla**	**1.56**	**16**	P	Pn	01 34 34.7	+0.4
PLWZ	**Palliser**	**1.59**	**63**	P	Pn	01 34 34.4	-0.3
AKCZ	**Akaroa Harbour**	**1.60**	**192**	P	Pn	01 34 35.1	+0.3
AKCZ				S	Sn	01 34 54.1	0.0
QRZ	**Quartz Range**	**1.61**	**337**	P	Pn	01 34 35.5	+0.6
QRZ				S	Sn	01 34 55.0	+0.5
MSWZ	**Moikau Station**	**1.67**	**58**	P	Pn	01 34 35.4	-0.3
MSWZ				S	Sn	01 34 55.0	-0.8
RACZ	**Rakaia**	**1.68**	**212**	P	Pn	01 34 35.9	0.0
RACZ				S	Sn	01 34 56.0	-0.1
CAW	**Cannon Point**	**1.75**	**47**	P	Pn	01 34 36.8	0.0
CAW				S	Sn	01 34 57.3	-0.6
PAWZ	**Paruwai Farm**	**1.80**	**60**	P	Pn	01 34 37.1	-0.4
PAWZ				S	Sn	01 34 57.9	-1.2
KIW	**Kapiti Island**	**1.85**	**39**	P	Pn	01 34 38.5	+0.2
KIW				S	Sn	01 34 59.6	-0.9
MTW	**Mount Morrison**	**1.97**	**55**	P	Pn	01 34 39.1	-0.8
MTW				S	Sn	01 35 02.1	-1.2
WACZ	**Wakanui South**	**1.98**	**214**	P	Pn	01 34 39.9	0.0
WACZ				S	Sn	01 35 03.0	-0.5

OGWZ	**Otaki Gorge**	**2.01**	**43**	P	Pn	01 34 40.3	-0.1
OGWZ				S	Sn	01 35 03.2	-1.2
WVZ	**Waitaha Valley**	**2.09**	**248**	P	Pn	01 34 42.0	+0.6
WVZ				S	Sn	01 35 06.3	+0.2
RPZ	**Rata Peaks**	**2.20**	**230**	P	Pn	01 34 43.1	0.0
RPZ				S	Sn	01 35 08.0	-1.1
TMWZ	**Te Maipa**	**2.24**	**58**	P	Pn	01 34 42.7	-0.8
ARCZ	**Arundel**	**2.29**	**224**	P	Pn	01 34 44.3	0.0
MRZ	**Mangatainoka R**	**2.34**	**46**	P	Pn	01 34 44.3	-0.6
MRZ				S	Sn	01 35 11.2	-1.2
TMZ	**Timaru**	**2.69**	**219**	P	Pn	01 34 50.2	+0.3
BFZ	**Birch Farm**	**2.71**	**54**	P	Pn	01 34 49.6	-0.4
WAZ	**Wanganui**	**2.83**	**26**	P	Pn	01 34 53.5	+1.8
FOZ	**Fox Glacier**	**2.88**	**244**	P	Pn	01 34 53.0	+0.7
DVHZ	**Dannevirke**	**2.91**	**47**	P	Pn	01 34 51.3	-1.5
TSZ	**Takapari Road**	**2.98**	**42**	P	Pn	01 34 52.8	-1.0
KHEZ	**Kahui Hut**	**3.05**	**9**	P	Pn	01 34 56.2	+1.4
PKE	**Pukeiti**	**3.15**	**9**	P	Pn	01 34 57.8	+1.7
PNHZ	**Pukenui**	**3.21**	**43**	P	Pn	01 34 55.8	-1.2
ODZ	**Otahua Downs**	**3.37**	**215**	P	Pn	01 34 58.9	-0.2
MOVZ	**Moawhango**	**3.42**	**33**	P	Pn	01 34 59.4	-0.5
WNVZ	**Wahianoa**	**3.43**	**30**	P	Pn	01 35 00.6	+0.6
BHHZ	**Black Hill Sta**	**3.48**	**37**	P	Pn	01 35 00.3	-0.4
NGZ	**Ngauruhoe**	**3.56**	**29**	P	Pn	01 35 02.5	+0.7
SNVZ	**South Ngauruho**	**3.57**	**30**	P	Pn	01 35 02.4	+0.4
OTVZ	**Oturere**	**3.59**	**30**	P	Pn	01 35 02.7	+0.4
NNVZ	**North Ngauruho**	**3.60**	**29**	P	Pn	01 35 02.9	+0.5
WTVZ	**West Tongariro**	**3.61**	**29**	P	Pn	01 35 02.8	+0.3
ETVZ	**East Tongariro**	**3.64**	**30**	P	Pn	01 35 03.2	+0.3
KRVZ	**Karewarewa**	**3.65**	**29**	P	Pn	01 35 03.5	+0.5
TMVZ	**Te Maari**	**3.65**	**30**	P	Pn	01 35 03.4	+0.3
KAHZ	**Kahuranaki**	**3.65**	**48**	P	Pn	01 35 01.4	-1.6
NTVZ	**North Tongariro**	**3.66**	**29**	P	Pn	01 35 03.6	+0.4
JCZ	**Jackson Bay**	**3.79**	**241**	P	Pn	01 35 05.4	+0.5
HIZ	**Hauiti**	**3.96**	**17**	P	Pn	01 35 08.4	+1.2
TLZ	**Tolley Road**	**4.31**	**23**	P	Pn	01 35 13.4	+1.3
MSZ	**Milford Sound**	**4.61**	**237**	P	Pn	01 35 19.3	+3.2
TOZ	**Tahuroa Road**	**4.86**	**20**	P	Pn	01 35 19.7	+0.2
AWAZ	**Awhitu Peninsu**	**5.33**	**11**	P	Pn	01 35 27.0	+0.9
MKAZ	**Moumakai**	**5.38**	**15**	P	Pn	01 35 27.1	+0.4
RUGZ	**Raukumara Rang**	**5.45**	**39**	P	Pn	01 35 27.3	-0.5
WIAZ	**Waiheke Island**	**5.68**	**14**	P	Pn	01 35 31.7	+0.9
ABAZ	**Army Bay**	**5.81**	**12**	P	Pn	01 35 33.7	+1.0

ATH 15 01:55:50.9, 39°.40N×25°.86E, h18km±4km, ML1.2/1, Error ellipse: s-maj=4.8km s-min=1.2km az=196.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.19**	**181**	P	Pg	01 55 55.5	-0.2
SIGR				S	Sg	01 55 58.7	-0.2
SIGR				AML	AML	01 55 58.8	
	comp=E,232μm,0.2s						
SIGR				AML	AML	01 55 59.3	
	comp=N,134μm,0.2s						
PRK	**Paraskevi**	**0.35**	**116**	P	Pg	01 55 58.5	+0.1
PRK				S	Sg	01 56 03.6	+0.1
LIA	**Limnos Island**	**0.72**	**314**	P	Pg	01 56 05.4	+0.4
CHOS	**Chios island**	**1.02**	**171**	P	Pg	01 56 10.6	-0.2
SMTH	**Samothraki Isl**	**1.10**	**347**	P	Pg	01 56 11.8	-0.4
SMTH				S	Sn	01 56 26.2	+0.2
ALN	**Alexandroupoli**	**1.50**	**5**	P	Pb	01 56 18.3	+0.2

DDA 15 01:55:54.3±0.0, 38°.93N×27°.74E, h12km±1km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.08**	**128**	P	Pg	01 55 57.1	+0.2
AKHS				S	Sg	01 55 59.2	+0.4
STEP	**BALIKESIR_Sava**	**0.45**	**358**	P	Pg	01 56 03.3	+0.1
STEP				S	Sg	01 56 09.6	+0.4
STEP				*i* AML	AML	01 56 10.0	
	comp=N,43nm,0.2s						
STEP				*i* AML	AML	01 56 12.0	
	comp=E,22nm,0.4s						
ZEDA	**zmir-Bergama**	**0.52**	**275**	P	Pg	01 56 04.8	+0.4
ZEDA				*i* AML	AML	01 56 12.0	
	comp=N,16nm,0.7s						
BUHA	**Balikesir, Bur**	**0.77**	**318**	P	Pb	01 56 10.1	+0.5
BUHA				S	Sb	01 56 20.7	+0.7
DEMI	**Demirci**	**0.77**	**81**	P	Pb	01 56 09.6	-0.1
DEMI				S	Sb	01 56 19.8	-0.4
DEMI				*i* AML	AML	01 56 22.0	
	comp=E,17nm,0.2s						
DEMI				*i* AML	AML	01 56 23.0	
	comp=N,12nm,0.2s						
MANT	**Manisa**	**0.78**	**124**	P	Pn	01 56 10.8	-0.5
MANT				S	Sb	01 56 20.7	+0.3
BALY	**Balya**	**0.82**	**354**	P	Pg	01 56 09.1	-1.1
BALY				*i* AML	AML	01 56 20.0	
	comp=E,22nm,0.4s						
BALY				S	Sg	01 56 20.0	-0.8
BALY				*i* AML	AML	01 56 21.0	
	comp=N,11nm,0.4s						
DURS	**Dursunbey**	**0.88**	**40**	P	Pg	01 56 11.0	-0.4
DURS				*i* AML	AML	01 56 26.0	
	comp=E,10nm,0.2s						
AYVA	**Ayvalik**	**0.90**	**295**	P	Pg	01 56 10.8	-0.9
AYVA				*i* AML	AML	01 56 26.0	
	comp=E,7.6nm,0.3s						
A

MT05					IAML			01 58 48.3	
	comp=E,6μm,0.3s								
MT01	**Popeta**	**1.80**	**158**	*eP*		**Pb**	**01 58 27.4**	**-0.6**	
MT01				*i* S		**Sb**	**01 58 50.8**	**-0.2**	
MT01					IAML		01 58 57.7		
	comp=E,1μm,0.3s								
MT01	**Popeta**	**1.80**	**158**	*eP*		**Pb**	**01 58 27.0**	**-1.0**	
MT01				*eS*		**Sg**	**01 58 52.9**	**+0.6**	
MT01					IAML		01 58 58.0		
	comp=Z,955nm,0.3s								
MT09	**Talagante**	**1.82**	**151**	*eP*		**Pb**	**01 58 28.2**	**-0.1**	
MT09				*i* S		**Sb**	**01 58 51.1**	**-0.4**	
MT09					IAML		01 58 58.3		
	comp=N,3μm,0.3s								
MT03	**Universidad Ad**	**1.84**	**136**	*eP*		**Pb**	**01 58 28.0**	**-0.7**	
MT03				*i* S		**Sn**	**01 58 49.9**	**-0.7**	
MT03					IAML		01 58 52.7		
	comp=E,2μm,0.3s								
MT03	**Universidad Ad**	**1.84**	**136**	*eP*		**Pb**	**01 58 28.1**	**-0.5**	
MT03				*eS*		**Sg**	**01 58 53.6**	**+0.2**	
MT03					IAML		01 58 56.0		
	comp=Z,1μm,0.7s								
FCH	**Farellones**	**1.87**	**128**	*eP*		**Pn**	**01 58 28.1**	**+0.5**	
FCH				*i* S		**Sn**	**01 58 50.9**	**-0.8**	
BO04	**La Punta**	**2.17**	**146**	*eP*		**Pb**	**01 58 33.1**	**-1.1**	
BO04				*i* S		**Sb**	**01 59 00.7**	**-0.8**	
GO04	**Tololo Observa**	**2.28**	**28**	*eP*		**Pn**	**01 58 33.5**	**+0.4**	
GO04				*i* S		**Sn**	**01 59 03.2**	**+1.5**	
GO04	**Tololo Observa**	**2.28**	**28**	*eP*		**Pn**	**01 58 34.0**	**+0.9**	
GO04				*eS*		**Sn**	**01 59 00.1**	**-1.6**	
RTLS	**Leoncito**	**2.37**	**81**	*eP*		**Pb**	**01 58 37.0**	**-0.9**	
RTLS				*eS*		**Sb**	**01 59 09.8**	**+2.2**	
RTLS					IAML		01 59 16.1		
	comp=Z,302nm,0.5s								
ARCO	**CERRO ARCO**	**2.71**	**105**	*eP*		Pn	01 58 25.6	-13	
ARCO				*eS*		**Sn**	**01 59 09.2**	**-3.2**	
ARCO					IAML		01 59 24.7		
	comp=Z,377nm,0.9s								
ASAL	**Salagasta**	**2.75**	**99**	*eP*		**Pb**	**01 58 43.5**	**-0.7**	
ASAL				*eS*		**Sb**	**01 59 18.6**	**+0.3**	
CO01	**Juntas del Tor**	**2.77**	**38**	*eP*		**Pn**	**01 58 42.4**	**+2.5**	
CO01				*eS*		**Sb**	**01 59 19.6**	**+0.5**	
CO01					IAML		01 59 21.1		
	comp=Z,378nm,0.7s								
BO02	**Sierra Bellavi**	**2.81**	**158**	*eP*		**Pn**	**01 58 41.8**	**+1.5**	
BO02				*i* S		**Sb**	**01 59 19.9**	**-0.1**	
BO02	**Sierra Bellavi**	**2.81**	**158**	*eP*		**Pn**	**01 58 41.6**	**+1.5**	
BO02				*eS*		**Sn**	**01 59 16.6**	**+2.1**	
BO02					IAML		01 59 24.5		
	comp=Z,1μm,0.7s								
AAGR	**Agrelo**	**2.86**	**109**	*eP*		**Pb**	**01 58 45.1**	**-1.0**	
AAGR				*eS*		**Sg**	**01 59 27.1**	**+0.8**	
ZON	**Zonda**	**2.94**	**78**	*eP*		**Pb**	**01 58 46.4**	**-1.1**	
ZON				*eS*		**Sn**	**01 59 19.1**	**+1.4**	
ZON					IAML		01 59 31.0		
	comp=Z,237nm,1.2s								
LCO	**Las Campanas**	**3.37**	**21**	*eP*		**Pn**	**01 58 49.0**	**+0.8**	
AC05	**El Transito**	**3.67**	**25**	*eP*		**Pn**	**01 58 53.9**	**+1.7**	
AC05				*eS*		**Sn**	**01 59 34.1**	**-1.9**	
AC05					IAML		01 59 57.1		
	comp=Z,268nm,0.7s								
RFA	**San Rafael**	**3.95**	**132**	*eP*		**Pn**	**01 58 57.6**	**+1.7**	
RFA				*eP*		**Pb**	**01 59 00.1**	**-4.5**	
RFA				*eS*		**Sg**	**01 00 01.1**	**-0.2**	
RFA					IAML		02 00 05.8		
	comp=Z,82nm,0.7s								
AVFE	**Valle Fertil**	**4.21**	**70**	*eP*		**Pn**	**01 59 02.9**	**+3.4**	
AVFE				*eS*		**Sb**	**01 59 56.1**	**-4.3**	
AVFE					IAML		02 00 04.9		
	comp=Z,114nm,0.7s								
ACHE	**Chepes**	**4.70**	**79**	*eP*		**Pn**	**01 59 09.0**	**+2.6**	
ACHE				*eS*		**Sn**	**02 00 02.6**	**+1.1**	
VCA	**Vinchina**	**4.78**	**45**	*eP*		**Pn**	**01 59 08.7**	**+1.2**	
VCA				*eS*		**Sb**	**02 00 14.7**	**-2.2**	
VCA				*eS*		Sg	02 00 19.5	-8.5	
VCA					IAML		02 00 33.1		
	comp=Z,220nm,0.7s								
APLL	**PUNTA DE LOS L**	**5.05**	**71**	*eP*		**Pn**	**01 59 08.7**	**-2.4**	
APLL				*eP*		Pb	01 59 14.0	-9.5	
APLL				*eS*		**Sn**	**02 00 14.7**	**+4.7**	
ACLC	**CERRO LA CRUZ**	**5.18**	**59**	*eP*		**Pn**	**01 59 16.0**	**+3.1**	
ACLC				*eP*		Pb	01 59 16.1	-10	
ACLC				*eS*		**Sn**	**02 00 16.1**	**+2.9**	
ACLC					IAML		02 00 46.6		
	comp=Z,88nm,0.8s								

IDC 15 02:11:22.6±1.0, 29°23S×61°02E, h0km, mb3.8/5, mbtmp3.8/6, ML4.0/1, MS3.3/7, Error ellipse: s-maj=43.9km s-min=24.2km az=27.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.49**	**307**	Pn		P	02 15 17.7	-0.7
	0.1nm,0.3s,baz=112,slow=17,SNR=1.8							
OPO				Sn		Sn	02 18 04.1	-15
	0.2nm,0.3s,baz=85,slow=5.1,SNR=4.4							
	2.7nm,0.5s							
H08S1	**Diego Carcia H**	**24.03**	**29**	T		T	02 41 24.6	
	baz=204,slow=76,SNR=4.7							
H08S2	**Diego Garcia H**	**24.03**	**29**	T		T	02 41 25.3	
	baz=204,slow=76,SNR=4.2							
H08S3	**Diego Garcia H**	**24.05**	**29**	T		T	02 41 26.1	
	baz=204,slow=76,SNR=5.4							
BOSA	**Boshof**	**31.24**	**262**	LR		LR	02 27 33.6	
	comp=Z,40nm,19.7s,baz=50,slow=31							
LBTB	**Lobatse**	**31.73**	**269**	LR		LR	02 27 50.5	
	comp=Z,22nm,20.1s,baz=91,slow=31							
LSZ	**Lusaka**	**33.28**	**288**	LR		LR	02 30 30.7	
	comp=Z,26nm,18.4s,baz=188,slow=34							
SUR	**Sutherland**	**34.54**	**254**	LR		LR	02 31 08.1	
	comp=Z,30nm,18.8s,baz=97,slow=34							
KMBO	**Kilima Mbogo**	**35.98**	**317**	LR		LR	02 30 01.1	
	comp=Z,35nm,18.4s,baz=198,slow=31							
TSUM	**Tsumeb**	**40.66**	**274**	LR		LR	02 34 20.0	
	comp=Z,36nm,18.8s,baz=154,slow=34							
H01W2	**Cape Leeuwin H**	**44.93**	**111**	T		T	03 07 18.5	
	baz=261,slow=75,SNR=8.6							
H01W3	**Cape Leeuwin H**	**44.94**	**111**	T		T	03 07 18.8	
	baz=261,slow=75,SNR=7.3							
H01W1	**Cape Leeuwin H**	**44.95**	**111**	T		T	03 07 19.9	
	baz=261,slow=75,SNR=10							
SNAA	**Sanae**	**54.36**	**200**	P		P	02 20 50.6	-0.2
	0.7nm,1.0s,baz=76,slow=13,SNR=1.9							
	0.7nm,1.0s							
ASAR	**Alice Springs**	**64.55**	**104**	P		P	02 22 01.9	0.0
	0.8nm,0.7s,baz=240,slow=6.4,SNR=8.1							
	0.8nm,0.7s							
WRA	**Warramunga Arr**	**66.37**	**100**	P		P	02 22 14.0	+0.2
	1.1nm,0.9s,baz=247,slow=5.5,SNR=6.4							
	1.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**71.06**	**298**	P		P	02 22 42.8	-0.1
	1.9nm,0.8s,baz=124,slow=5.4,SNR=8.5							
	1.9nm,0.8s							
DAV	**Davao City (W)**	**71.74**	**71**	LR		LR	02 54 01.0	
	comp=Z,240nm,18.0s,baz=332,slow=36							
BRTR	**Keskin Array B**	**73.18**	**338**	P		P	02 22 54.8	-0.5
	0.5nm,0.9s,baz=153,slow=8.1,SNR=2.8							
	0.5nm,0.9s							
JOW	**Kunigami**	**85.19**	**56**	LR		LR	02 58 16.7	
	comp=Z,361nm,18.1s,baz=156,slow=33							
JHJ	**Hachijo jima 2**	**96.96**	**56**	LR		LR	03 01 20.5	
	comp=Z,126nm,21.8s,baz=90,slow=31							

*BJI **15** 02:30:40.7±0.0, 9°81N×91°56E, h10km, mb4.7/63, mB5.1/43, Ms4.7/61, Ms7 4.4/58*
*IDC **15** 02:30:42.7±0.4, 10°04N×91°49E, h0km, mb4.3/32, mbtmp4.3/35, ML4.3/3, MS4.3/60, Error ellipse: s-maj=13.6km s-min=11.1km az=55.0*
*NDI **15** 02:30:43.4±3.5, 9°93N×91°46E, h10km, mb4.7, ML4.3, mb5.0(NEIC)*
*KLM **15** 02:30:45, 10°21N×91°41E, h6km, mb5.2*
*DJA **15** 02:30:45.9±0.9, 10°N±3°×9°1E±°, h22km±7km, M5.1/46, mB5.5/20, mb5.1/46, MLv5.3/2, Mw(mB)5.0/20*
*NEIC **15** 02:30:46.5±1.6, 10°16N±0°06×91°71E±0°07, h21km±4km, mb5.0/54, Error ellipse: s-maj=10.5km s-min=8.9km az=113.0*
*GCMT **15** 02:30:46.5±0.3, 10°13N±0°02×91°45E±0°01, h12km, MW4.9/113, Moment Tensor Solution. s28,c31; s113,c167; Duration: 0 Moment tensor: Scale 10^16^Nm;*

Mrr0.69±.08; Mθθ1.27±.07; Mϕϕ-1.96±.07; Mrθ-0.56±.24; Mθϕ-1.98±.06; Mϕr-1.21±.20; Best double couple: Mo2.77500×10^16^ NP1:φ339.00000°, δ78.00000°, λ-14.00000°. NP2:φ72.00000°, δ77.00000°, λ-167.00000°. Principal axes: T 2.2100, Plg1.0000°, Azm26.0000°; N 1.1270, Plg72.0000°, Azm118.0000°; P -3.3400, Plg18.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 15 02:30:46.7±0.3, 10°20N±0°04×91°52E±0°04, h24km, n306, σ1§84/285, mb4.8/79, MS4.4/79, 3C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**1.89**	**40**	Pn		**Pn**	**02 31 17.3**	**-0.2**
PBA				Sn		**Sn**	**02 31 37.3**	**-3.2**
PBA	**Port Blair**	**1.89**	**40**	*eP*		**Pn**	**02 31 17.1**	**-0.3**
DGPR	**DIGLIPUR**	**3.27**	**25**	*eP*		**Pn**	**02 31 36.5**	**0.0**
DGPR					IAML		02 32 17.4	
	comp=E,2μm,0.7s							
LHMI	**Lhok Sumawe**	**7.30**	**132**			**Pn**	**02 32 28.9**	**-3.0**
LHMI	**Lhok Sumawe**	**7.30**	**132**	P		**Pn**	**02 32 30.1**	**-1.8**
	comp=E,0.7nmcomp=E,193nm,1.4s							
KCSI	**Kotacane, Aceh**	**9.08**	**136**	P		**Pn**	**02 32 55.2**	**-1.2**
	comp=E,1μmcomp=E,26nm,0.6s							
KULM	**Kulim**	**10.28**	**118**			**Pn**	**02 33 10.1**	**-2.7**
PSI	**Prapat**	**10.40**	**134**	Pn		**Pn**	**02 33 15.2**	**+0.7**
	comp=E,0.9nm,0.3s,baz=326,slow=7.1,SNR=4.9							
	comp=E,6.1nm,0.6s							
RPSI	**Rantau Prapat**	**10.47**	**135**	Pn		**Pn**	**02 33 14.0**	**-1.5**
RPSI	**Rantau Prapat**	**10.47**	**135**			**Pn**	**02 33 15.2**	**-0.2**
GSI	**Gunungsitoli**	**10.69**	**145**	P		**Pn**	**02 33 18.1**	**-0.4**
	comp=E,24nm,0.5s							
CM31	**Chiang Mai Arr**	**10.92**	**40**	Pn		**Pn**	**02 33 20.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**10.92**	**40**	Pn		**Pn**	**02 33 23.4**	**+1.9**
	comp=E,1.0nm,0.3s,baz=234,slow=14,SNR=16							
	comp=E,7.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**10.92**	**40**	Pn		**Pn**	**02 33 21.4**	**-0.1**
IPM	**Ipoh**	**11.01**	**120**	Pn		**Pn**	**02 33 20.6**	**-2.2**
PALK	**Pallekele**	**11.08**	**256**	Pn		**Pn**	**02 33 21.0**	**-2.8**
	comp=E,2.4nm,0.3s,baz=171,slow=12,SNR=10							
PALK				Sn		Sn	02 35 14.9	-12
	comp=E,12nm,0.3s,baz=265,slow=19,SNR=10							
PALK				LR		LR	02 37 08.7	
	comp=E,2μm,19.4s,baz=174,slow=35							
	comp=E,11nm,0.6s							
PALK	**Pallekele**	**11.08**	**256**	Pn		Pn	02 33 28.6	+4.8
CHTO	**Chiang Mai**	**11.18**	**39**	Pn		**Pn**	**02 33 23.5**	**-1.6**
MDRS	**Chennai**	**11.40**	**286**	*eP*		**Pn**	**02 33 26.2**	**-2.0**
MDRS					IAmb	IAmb	02 33 33.9	
	comp=Z,126nm,0.8s							
MDRS				*eS*		Sn	02 35 23.5	-11
BWNR	**Bhubaneshwar**	**11.45**	**332**	*eP*		**Pn**	**02 33 26.0**	**-2.8**
RAGD	**RAYAGADA**	**11.90**	**320**	*eP*		**Pn**	**02 33 34.4**	**-0.6**
BRDH	**Bariadhala**	**12.41**	**1**	Pn		P	02 33 48.6	-5.1
	comp=Z,9.0nm,0.3s,baz=87,slow=14,SNR=1.7							
JRMM	**Jerantut**	**12.55**	**119**	P		**Pn**	**02 33 46.0**	**+2.1**
MND	**Mandalay**	**12.55**	**20**	Pn		**Pn**	**02 33 40.9**	**-3.0**
CRAI	**Chiangrai**	**13.13**	**40**			**Pn**	**02 33 51.0**	**-0.8**
SALM	**Salem**	**13.16**	**278**	*eP*		**Pn**	**02 33 51.3**	**-0.8**
SALM				*eS*		Sn	02 36 05.9	-12
JHSG	**JHARSUGUGA**	**13.69**	**328**	*eP*		**Pn**	**02 33 59.6**	**+0.1**
JHSG				*eS*		**Sn**	**02 36 22.8**	**-8.1**
SISI	**Saibi**	**13.71**	**146**	P		**Pn**	**02 33 59.3**	**-0.4**
	comp=Z,16nm,1.8s							
KOD	**Kodaikanal**	**13.83**	**271**	*eP*		**Pn**	**02 34 00.2**	**-1.4**
KOD				*eS*		Sn	02 36 19.1	-16
PDSI	**Padang**	**14.18**	**141**	P		**Pn**	**02 34 07.4**	**+1.2**
	comp=Z,4μmcomp=Z,78nm,0.9s							
TRD	**Trivandrum**	**14.46**	**265**	*eP*		**Pn**	**02 34 05.9**	**-4.1**
TRD				*eS*		Sn	02 36 32.4	-17
HYBB	**Hyderabad (bro**	**14.49**	**301**	*eP*		**Pn**	**02 34 12.7**	**+2.2**
BOK	**Bokaro**	**14.55**	**339**	*eP*		**Pn**	**02 34 12.8**	**+1.5**
BOK					IAmb	IAmb	02 34 30.6	
	comp=Z,56nm,0.9s							
BOK				*eS*		Sn	02 36 40.8	-11
SDSI	**Sungai Dareh**	**14.82**	**138**	P		**Pn**	**02 34 16.2**	**+1.3**
	comp=Z,49nm,0.7s							
MYKOM	**Kota Tinggi**	**14.83**	**123**	Pn		**Pn**	**02 34 11.7**	**-3.4**
BLSP	**Bilaspur**	**14.89**	**324**	*eP*		**Pn**	**02 34 12.8**	**-3.1**
BLSP				*eS*		Sn	02 36 48.3	-12
PCHI	**Peechi**	**14.93**	**273⇓**	*eP*		**Pn**	**02 34 15.0**	**-1.4**
PCHI				*eS*		Sn	02 36 46.3	-15
SHL	**Shillong**	**15.29**	**1**			**Pn**	**02 34 19.3**	**-2.0**
SHL	**Shillong**	**15.29**	**1**	*eP*		**P**	**02 34 25.1**	**-0.9**
SHL					IAmb	IAmb	02 34 37.7	
	comp=Z,55nm,0.8s							
SHL				*eS*		**Sn**	**02 37 02.7**	**-7.4**
KOHI	**KOHIMA**	**15.63**	**9**	*eP*		**Pn**	**02 34 23.4**	**-2.4**
KOHI					IAmb	IAmb	02 34 45.2	
	comp=Z,132nm,0.9s							
KOHI				*eS*		Sn	02 37 07.4	-11
KRJI	**Kerinci**	**15.72**	**140**	P		**Pn**	**02 34 28.5**	**+1.7**
	comp=Z,21μmcomp=Z,838nm,1.2s							
GUWA	**GUWAHATI**	**15.91**	**1**	*eP*		**Pn**	**02 34 29.8**	**+0.6**
GUWA					IAmb	IAmb	02 34 38.7	
	comp=Z,27nm,0.6s							
GUWA				*eS*		**Sn**	**02 37 17.5**	**-7.5**
MOKO	**MOKOCHONG**	**16.29**	**10**	*eP*		**P**	**02 34 36.5**	**-0.5**
TEZP	**TEZPUR**	**16.38**	**4**	*eP*		**P**	**02 34 38.6**	**+0.8**
TEZP					IAmb	IAmb	02 34 49.7	
	comp=Z,20nm,0.7s							
JBP	**Jabalpur**	**16.97**	**321**	*eP*		**Pn**	**02 34 43.1**	**+0.5**
JBP				*eS*		Sn	02 37 39.6	-11
ODAN	**Odare**	**17.03**	**347**	*eP*		**P**	**02 34 45.2**	**-0.1**
GTK	**Tadong**	**17.25**	**351⇑**	*eS*		**Sn**	**02 37 48.8**	**-9.0**
RAMN	**Ramite**	**17.30**	**345**	*eP*		**P**	**02 34 48.3**	**0.0**
	comp=Z,48nm,0.7s							
AKL	**Akola**	**17.43**	**309**	*eP*		**P**	**02 34 49.6**	**0.0**
AKL				*eS*		Sn	02 37 47.1	-15
TAPN	**Taplejung**	**17.44**	**349**	*eP*		**P**	**02 34 50.5**	**+0.6**
	comp=Z,43nm,0.7s							
ALBI	**Allahabad**	**17.63**	**330**	*eP*		**P**	**02 34 55.3**	**+3.6**
ALBI				*eS*		Sn	02 37 55.5	-11
KSI	**Kapahiang**	**17.63**	**141**	P		**P**	**02 34 52.1**	**+0.2**
	comp=Z,307nm,0.9s							
JIRN	**Jiri**	**18.08**	**345**	*eP*		**P**	**02 34 57.9**	**+0.8**
PKI	**Pulchoki**	**18.22**	**342**	*eP*		**P**	**02 34 59.1**	**+0.6**
PKIN	**Phulchoki**	**18.23**	**342**	*eP*		**P**	**02 34 59.2**	**+0.7**
	comp=Z,82nm,0.6s							
KAD	**Karad**	**18.25**	**295**	*eP*		**P**	**02 34 58.9**	**+0.3**
KAD				*eS*		Sn	02 38 01.6	-20
KMI	**Kunming**	**18.28**	**34**	⇑P		**P**	**02 35 00.3**	**+1.2**
KMI				pP		pwP	02 35 06.8	-0.5
KMI				sP		sP	02 35 10.8	+2.7
KMI				S		**S**	**02 38 32.6**	**+5.4**
KMI				pmax		pmax		
	comp=Z,25nm,1.2s							
KMI				pmax		pmax		
	comp=Z,360nm,5.3s							
KMI				LR		LR		
	comp=Z,1μm,20.9s							
KMI				LR		LR		
	comp=Z,1μm,24.5s							
KMI				LR		LR		
	comp=Z,1μm,21.2s							
DMN	**Daman**	**18.34**	**342**	*eP*		**Pn**	**02 35 00.9**	**+1.0**
GUN	**Gumba**	**18.40**	**344**	*eP*		**Pn**	**02 35 02.6**	**+1.9**
MNAI	**Manna**	**18.41**	**141**	P		**P**	**02 35 00.2**	**-0.2**
	comp=Z,281nm,1.1s							
KKN	**Kakani**	**18.46**	**342**	*eP*		**Pn**	**02 35 02.6**	**+1.3**
BHPL	**Bhopal**	**18.70**	**316**	*eP*		**Pn**	**02 35 04.0**	**0.0**
BHPL					IAmb	IAmb	02 35 08.3	
	comp=Z,40nm,1.0s							
BHPL				*eS*		Sn	02 38 19.3	-13
GKN	**Gorkha**	**18.86**	**341**	*eP*		**Pn**	**02 35 07.4**	**+1.4**
	comp=Z,26nm,0.3s							
PZH	**PanZhiHua**	**18.88**	**29**	P		**Pn**	**02 35 09.0**	**+2.7**
PZH				sP		**sP**	**02 35 18.0**	**+3.3**
PZH				S		**S**	**02 38 41.9**	**+3.0**
PZH				sS		**sS**	**02 38 45.6**	**-3.1**
PZH				pmax		pmax		
	comp=Z,20nm,1.0s							
PZH				pmax		pmax		
	comp=Z,120nm,6.3s							
PZH				LR		LR		
	comp=Z,680nm,18.4s							
PZH				LR		LR		
	comp=Z,740nm,19.6s							
PZH				LR		LR		
	comp=Z,660nm,18.6s							
KOLN	**Koldanda**	**19.00**	**338**	*eP*		**Pn**	**02 35 08.7**	**+0.9**
	comp=Z,10nm,0.8s							
PPBI	**Pangkal Pinang**	**19.04**	**129**	P		**P**	**02 35 07.6**	**+0.3**
	comp=Z,44nm,1.3s							
LSA	**Lhasa**	**19.41**	**359**			**P**	**02 35 10.1**	**-1.6**
LSA					IAmb	IAmb	02 35 25.9	
	comp=Z,50nm,0.8s							
LSA	**Lhasa**	**19.41**	**359**	P		**Pn**	**02 35 12.9**	**0.0**
LSA				S		**S**	**02 38 47.8**	**-2.3**
LSA				LR		LR		
	comp=Z,1μm,13.5s							
LSA				LR		LR		
	comp=Z,1μm,14.2s							
LSA				LR		LR		
	comp=Z,900nm,17.8s							
DANN	**Dangsing**	**19.47**	**339**	*eP*		**Pn**	**02 35 13.1**	**-0.5**
	comp=Z,58nm,0.8s							
PYUN	**Piuthan**	**19.53**	**337**	*eP*		**Pn**	**02 35 14.1**	**-0.1**
LWLI	**Liwa**	**19.61**	**140**	P		**P**	**02 35 14.2**	**+0.6**
	comp=Z,148nm,0.7s							
QIZ	**Qiongzhong**	**19.77**	**62**			**P**	**02 35 12.2**	**-3.1**
QIZ	**Qiongzhong**	**19.77**	**62**	P		**P**	**02 35 15.4**	**+0.1**
QIZ				S		**S**	**02 38 56.3**	**-0.8**
QIZ				pmax		pmax		
	comp=Z,23nm,1.8s							
QIZ				pmax		pmax		
	comp=Z,460nm,6.4s							
QIZ				LR		LR		
	comp=Z,2μm,18.1s							
QIZ				LR		LR		
	comp=Z,920nm,19.1s							
QIZ				LR		LR		
	comp=Z,960nm,17.5s							
KASI	**Kota Agung**	**20.27**	**140**	P		**P**	**02 35 20.6**	**-0.2**
	comp=Z,154nm,1.0s							
TPI	**Tanjungpandan**	**20.59**	**128**	P		**P**	**02 35 24.8**	**+0.6**
	comp=Z,27nm,1.2s							
GYA	**Guiyang**	**21.60**	**40**	⇓P		**P**	**02 35 38.4**	**+3.2**
GYA				sP		sP	02 35 46.1	+1.8
GYA				S		**S**	**02 39 33.8**	**+0.2**
GYA				pmax		pmax		
	comp=Z,46nm,0.9s							
GYA				pmax		pmax		
	comp=Z,500nm,4.0s							
GYA				LR		LR		
	comp=Z,890nm,19.9s							
GYA				LR		LR		
	comp=Z,1μm,15.3s							
GYA				LR		LR		
	comp=Z,890nm,18.4s							
SBUM	**Sibu**	**21.95**	**109**	P		**P**	**02 35 36.6**	**-2.3**
SBUM					IAmb	IAmb	02 35 47.4	
	comp=Z,68nm,1.3s							
SBUM	**Sibu**	**21.95**	**109**	P		**P**	**02 35 41.0**	**+2.1**
LEM	**Lembang**	**23.30**	**136**	LR		LR	02 46 09.7	
	comp=Z,2μm,20.1s,baz=308,slow=40							
CD2	**Chengdu**	**23.54**	**27**	P		**P**	**02 35 55.8**	**+0.4**
CD2				pP		sP	02 36 02.8	-1.3
CD2				sP		pwP	02 36 06.8	+1.4
CD2				S		**S**	**02 40 11.1**	**+2.9**
CD2				pmax		pmax		
	comp=Z,60nm,0.9s							
CD2				pmax		pmax		
	comp=Z,320nm,4.5s							
CD2				LR		LR		
	comp=Z,1μm,11.9s							
CD2				LR		LR		
	comp=Z,2μm,13.7s							
CD2				LR		LR		
	comp=Z,820nm,10.6s							
KKM	**Kota Kinabalu**	**24.79**	**98**	P		**P**	**02 36 04.5**	**-2.7**
KKM					IAmb	IAmb	02 36 24.1	
	comp=Z,88nm,1.2s							
SPMM	**Sapulut**	**25.32**	**101**	P		**P**	**02 36 13.0**	**+1.1**
H08S3	**Diego Garcia H**	**25.94**	**228**	T		T	03 03 30.8	
	baz=47,slow=75,SNR=1123							
H08S2	**Diego Garcia H**	**25.94**	**228**	T		T	03 03 31.1	
	baz=47,slow=75,SNR=1147							
H08S1	**Diego Carcia H**	**25.95**	**228**	T		T	03 03 18.4	
	baz=47,slow=75,SNR=330							
GOMU	**GeErMu**	**26.06**	**6**	P		**P**	**02 36 21.3**	**+2.5**
GOMU				pP		pP	02 36 25.9	+0.7
GOMU				sP		sP	02 36 27.0	-0.8
GOMU				S		**S**	**02 40 54.0**	**+5.1**
GOMU				pmax		pmax		
	comp=Z,8.0nm,0.6s							
GOMU				pmax		pmax		
	comp=Z,130nm,5.0s							
GOMU				LR		LR		
	comp=Z,400nm,18.2s							
GOMU				LR		LR		
	comp=Z,260nm,16.9s							
GOMU				LR		LR		
	comp=Z,260nm,15.4s							
ENH	**Enshi**	**26.07**	**37**	P		**P**	**02 36 17.8**	**-0.8**
MYLDM	**Lahad Datu**	**27.19**	**99**	P		**P**	**02 36 27.3**	**-1.5**
LZH	**Lanzhou**	**28.10**	**22**	⇓P		**P**	**02 36 38.1**	**+1.2**
LZH				pP		sP	02 36 46.3	+0.4
LZH				S		**S**	**02 41 24.3**	**+3.6**
LZH				pmax		pmax		
	comp=Z,23nm,1.4s							
LZH				LR		LR		
	comp=Z,1μm,17.5s							
LZH				LR		LR		
	comp=Z,930nm,16.8s							
LZH				LR		LR		
	comp=Z,1μm,17.5s							
XAN	**Xi'an**	**28.60**	**31**	P		**P**	**02 36 40.3**	**-0.9**
XAN				pP		pP	02 36 46.9	-0.6
XAN				pmax		pmax		
	comp=Z,9.0nm,1.0s							
XAN				LR	

comp=Z,460nm,18.7s
KSH LR LR
comp=Z,910nm,17.5s
KSH LR LR
comp=Z,660nm,20.0s
BKSI Bulukumba 32.40 117 P **P** **02 37 15.5 +0.6**
comp=Z,884nmcomp=Z,76nm,1.1s
LUWI Luwuk 33.05 108 P **P** **02 37 21.2 +0.5**
comp=Z,186nm,1.2s
NJ2 Nanjing 33.34 45 *eP* **P** **02 37 24.9 +1.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,660nm,4.7s
NJ2 LR LR
comp=Z,1µm,15.2s
NJ2 LR LR
comp=Z,1µm,11.4s
NJ2 LR LR
comp=Z,1µm,13.3s
TARG Taragay, Kyrgy 33.65 341 P **P** **02 37 25.1 -0.9**
TARG IAmb IAmb 02 37 38.6
comp=Z,12nm,0.7s
WMQ Urumqi 33.66 355 *eP* **P** **02 37 27.6 +1.8**
WMQ pP pwP 02 37 37.5 +2.3
WMQ PP **PnPn** **02 38 37.9 -0.1**
WMQ S **S** **02 42 50.1 +2.7**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ LR LR
comp=Z,290nm,17.1s
WMQ LR LR
comp=Z,1µm,19.7s
WMQ LR LR
comp=Z,250nm,22.3s
WSAR Wadi Sarin 33.96 297 P **P** **02 37 30.3 +1.7**
comp=Z,2.6nm,0.8s,baz=338,slow=3.0,SNR=2.7
WSAR LR LR 02 50 04.9
comp=Z,766nm,20.4s,baz=120,slow=34
comp=Z,2.6nm,0.8s
NRN Naryn 33.99 339 P **P** **02 37 28.6 -0.3**
NRN IAmb IAmb 02 37 42.2
comp=Z,19nm,1.1s
HNS HongShan 34.21 34 ⇑P **P** **02 37 31.1 +0.6**
HNS *e*S **S** **02 42 55.5 -0.3**
HNS sS **sS** **02 43 05.8 -0.8**
HNS pmax pmax
comp=Z,19nm,1.1s
HNS LR LR
comp=Z,800nm,15.9s
HNS LR LR
comp=Z,740nm,15.2s
HNS LR LR
comp=Z,1µm,18.4s
GAR Garm 34.37 330 P **P** **02 37 31.9 -0.2**
BTO Baotou 34.44 25 *eP* **P** **02 37 32.6 +0.1**
BTO S **S** **02 43 06.5 +7.0**
BTO LR LR
comp=Z,3µm,14.5s
BTO LR LR
comp=Z,2µm,13.1s
SHLS Shalkode 34.48 344 *eP* **P** **02 37 33.1 +0.2**
baz=345
UZB Uzynbulak 34.59 344 *eP* **P** **02 37 35.0 +1.1**
baz=344
SATY Saty 34.68 343 *eP* **P** **02 37 35.7 +1.0**
baz=343
CHGR Chuyangaron 34.69 328 P **P** **02 37 34.7 -0.1**
BOOM Boomskoye usch 34.94 340 P **P** **02 37 36.5 -0.4**
KPKS Kokpek 34.98 344 *eP* **P** **02 37 38.1 +0.9**
baz=344
MDOK Medeo 35.18 342 *eP* **P** **02 37 39.7 +0.6**
baz=342
MDOK *e*S **S** **02 43 12.7 +1.7**
baz=342
AAA Alma-Ata 35.27 341 *eP* **P** **02 37 41.0 +1.4**
baz=342
EDFI Ende, Flores 35.44 121 P **P** **02 37 41.7 +0.1**
comp=Z,16nm,1.5s
AAK Ala-Archa 35.58 338 P **P** **02 37 44.7 +2.2**
comp=Z,6.5nm,0.8s,baz=165,slow=9.0,SNR=12
AAK LR LR 02 53 16.8
comp=Z,646nm,20.6s,baz=154,slow=38
comp=Z,6.5nm,0.8s
AAK Ala-Archa 35.58 338 P **P** **02 37 42.4 -0.1**
AAK IAmb IAmb 02 37 56.3
comp=Z,27nm,1.1s
KUU Kurty 36.06 341 *eP* **P** **02 37 46.8 +0.3**
comp=Z,20nm,1.0s,baz=341
SGDS Sogindy 36.24 339 *eP* **P** **02 37 48.5 +0.4**
comp=Z,18nm,1.7s,baz=339
SANI Sanana 36.41 108 P **P** **02 37 48.6 -1.1**
comp=Z,750nmcomp=Z,25nm,1.5s
TDK Taldyqorghan 36.47 344 *eP* **P** **02 37 50.5 +0.6**
baz=344
BJT Baijiatuan 36.90 32 P **P** **02 37 52.5 -1.1**
BJT IAmb IAmb 02 38 05.7
comp=Z,21nm,0.8s
BJI Beijing 36.91 32 P **P** **02 37 54.6 +0.9**
BJI sP **pwP** **02 38 05.3 +1.4**
BJI S **S** **02 43 39.9 +2.6**
BJI sS **sS** **02 43 46.8 -1.3**
BJI pmax pmax
comp=Z,10.0nm,0.9s
BJI pmax pmax
comp=Z,190nm,6.3s
BJI LR LR
comp=Z,120nm,22.2s
BJI LR LR
comp=Z,710nm,21.2s
BJI LR LR
comp=Z,890nm,18.7s
IUG Iuzhnay 36.99 333 *eP* **P** **02 37 55.3 +0.9**
baz=333
MK31 Makanchi Array 37.31 350 P **P** **02 37 57.3 +0.3**
MKAR Makanchi Array 37.31 350 P **P** **02 37 57.5 +0.5**
comp=Z,3.2nm,0.6s,baz=169,slow=8.3,SNR=18
comp=Z,3.2nm,0.6s
MKAR Makanchi Array 37.31 350 P **P** **02 37 57.3 +0.3**
MAKZ Makanchi 37.38 349 P **P** **02 37 57.9 +0.3**
LBMI Labuha 37.38 105 P **P** **02 37 58.5 +0.4**
comp=Z,1µmcomp=Z,75nm,1.3s
KK31 Karatay Array 37.55 334 P **P** **02 37 59.5 +0.4**
KK31 IAmb IAmb 02 38 11.5
comp=Z,17nm,0.9s
KKAR Karatay Array 37.55 334 P **P** **02 37 59.5 +0.4**
ZSN Zaisan 37.55 353 *eP* **P** **02 38 00.1 +1.0**
baz=353
BTLS Baital 37.84 340 *eP* **P** **02 38 02.0 +0.5**
baz=340
BATI Baumata 37.86 121 LR LR 02 56 08.3
comp=Z,1µm,19.8s,baz=306,slow=40
NLAI Namlea 37.87 109 P **P** **02 38 02.3 +0.2**
comp=Z,3µmcomp=Z,22nm,0.8s
SOEI Soe 38.14 120 P **P** **02 38 02.6 -1.9**
SOEI IAmb IAmb 02 38 20.3
comp=Z,22nm,0.7s
SONM Songino Array 39.56 16 P **P** **02 38 16.8 +0.8**
comp=Z,5.9nm,0.9s,baz=196,slow=9.7,SNR=17
comp=Z,5.9nm,0.9s
SONM Songino Array 39.56 16 P **P** **02 38 15.1 -0.9**
XLT XiLinHaoTe 39.76 28 *eP* **P** **02 38 19.3 +1.6**
XLT sP pwP 02 38 28.9 +1.0
XLT S **S** **02 44 23.0 +2.6**
XLT sS sS 02 44 30.8 -0.6
XLT pmax pmax
comp=Z,17nm,0.7s
XLT pmax pmax
comp=Z,140nm,4.4s
XLT LR LR
comp=Z,62nm,12.6s
XLT LR LR
comp=Z,500nm,14.4s
XLT LR LR
comp=Z,670nm,13.4s
ULN Ulaanbaatar 39.77 16 P **P** **02 38 17.4 -0.4**
GEYT Alibeck 40.75 318 P **P** **02 38 27.1 +1.1**
comp=Z,2.8nm,0.7s,baz=169,slow=8.6,SNR=9.7
comp=Z,2.8nm,0.7s
GEYT Alibeck 40.75 318 P **P** **02 38 26.9 +0.9**
GEYT IAmb IAmb 02 38 39.0
comp=Z,29nm,1.1s
GYA0B ALIBECK ARRAY 40.75 318 **P** **02 38 27.6 +1.6**
GYA0B IAmb IAmb 02 38 41.0
comp=Z,20nm,0.9s
SIJI Sorong 41.05 103 P **P** **02 38 28.8 +0.1**
comp=Z,6.3nm,0.3s,baz=299,slow=23,SNR=1.6
SIJI LR LR 02 58 42.3
comp=Z,43nm,18.3s,baz=198,slow=41
comp=Z,6.3nm,0.3s
KURBB Kurchatov Arra 41.70 348 P **P** **02 38 34.0 +0.5**
comp=Z,4.1nm,1.0s,baz=163,slow=7.6,SNR=11
comp=Z,4.1nm,1.0s
KURK Kurchatov 41.77 348 P **P** **02 38 34.0 -0.1**
KSAR Wonju Array Be 42.49 44 P **P** **02 38 38.8 -1.4**
KSRS Korea Array 42.52 44 P **P** **02 38 40.0 -0.4**
comp=Z,1.1nm,0.6s,baz=238,slow=8.6,SNR=11
KSRS LR LR 02 58 36.0
comp=Z,350nm,18.7s,baz=235,slow=39
comp=Z,1.1nm,0.6s
FAKI Fak Fak 42.60 106 P **P** **02 38 42.5 +1.1**
comp=Z,74nm,1.3s
BRZS Berezniki 42.63 342 *eP* **P** **02 38 41.5 +0.4**
baz=342
FITZ Fitzroy Crossi 43.88 130 LR LR 02 58 38.9
comp=Z,353nm,21.1s,baz=306,slow=38
FITZ Fitzroy Crossi 43.88 130 P **P** **02 38 50.3 -1.3**
baz=44,SNR=16
FITZ Fitzroy Crossi 43.88 130 P **P** **02 38 50.0 -1.6**
FITZ IAmb IAmb 02 39 00.2
comp=Z,26nm,1.1s
ZAA0 Zalesovo Array 43.96 354 P **P** **02 38 51.8 0.0**
ZAA0 IAmb IAmb 02 39 03.8
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 43.96 354 P **P** **02 38 52.6 +0.7**
comp=Z,3.2nm,0.6s,baz=171,slow=10,SNR=7.7
comp=Z,3.2nm,0.6s
ZALV Zalesovo Beam 43.96 354 P **P** **02 38 52.1 +0.3**
CN2 Changchun 44.55 35 *eP* **P** **02 38 57.0 +0.4**
CN2 *e*S **S** **02 45 31.1 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,600nm,15.1s
KNRA Kununurra 44.96 124 **P** **02 38 59.4 -0.9**
KNRA IAmb IAmb 02 39 09.1
comp=Z,27nm,0.9s
MEEK Meekatharra 45.09 145 P **P** **02 39 00.8 -0.4**
baz=45,SNR=3.9
MTN Manton Dam 45.51 119 P **P** **02 39 03.4 -1.3**
baz=45,SNR=5.2
RAYN Ar Rayn 45.79 293 P **P** **02 39 07.5 +0.6**
RAYN IAmb IAmb 02 39 19.7
comp=Z,11nm,1.0s
BRVK Borovoye 46.05 342 P **P** **02 39 08.3 -0.1**
BNX BinXian 46.84 34 ⇓P **P** **02 39 14.8 +0.1**
BNX pmax pmax
comp=Z,9.0nm,0.8s
BNX pmax pmax
comp=Z,130nm,4.0s
ABKAR Akbulak array 46.97 332 P **P** **02 39 16.5 +0.8**
ATD Arta Tunnel 47.77 276 P **P** **02 39 23.4 +0.8**
comp=Z,3.4nm,0.3s,baz=237,slow=21,SNR=1.7
comp=Z,3.4nm,0.3s
MUN Mundaring 48.13 152 P **P** **02 39 23.7 -1.2**
baz=48,SNR=3.9
USRK Ussuriysk Ar. 48.64 38 P **P** **02 39 29.6 +0.9**
comp=Z,2.1nm,0.8s,baz=243,slow=1.3,SNR=4.2
USRK LR LR 03 01 38.7
comp=Z,424nm,18.6s,baz=270,slow=38
comp=Z,2.1nm,0.8s
NWAO Narrogin (SRO) 49.40 151 P **P** **02 39 33.0 -1.6**
comp=Z,6.9nm,0.6s,baz=181,slow=6.6,SNR=5.7
comp=Z,6.9nm,0.6s
MJAR Matsushiro Arr 49.61 50 P **P** **02 39 38.3 +2.0**
comp=Z,0.5nm,0.3s,baz=256,slow=9.9,SNR=2.0
MJAR LR LR 03 03 01.1
comp=Z,288nm,18.6s,baz=248,slow=39
comp=Z,0.5nm,0.3s
H01W3 Cape Leeuwin H 49.69 156 T T 03 32 53.2
baz=331,slow=76,SNR=4.2
H01W2 Cape Leeuwin H 49.70 156 T T 03 32 53.2
baz=331,slow=76,SNR=4.7
H01W1 Cape Leeuwin H 49.71 155 T T 03 32 54.7
baz=331,slow=76,SNR=5.1
WRKA Warakurna 50.12 135 P **P** **02 39 39.3 -1.1**
baz=50,SNR=3.5
GNI Garni 50.97 314 LR LR 03 05 30.7
comp=Z,229nm,18.1s,baz=110,slow=41
GNI Garni 50.97 314 **P** **02 39 47.2 +0.5**
GNI IAmb IAmb 02 39 57.0
comp=Z,36nm,1.1s
KLR Kul'dur 51.28 33 LR LR 03 05 15.1
comp=Z,591nm,18.7s,baz=225,slow=40
WB0 Warramunga Arr 51.66 125 P **P** **02 39 49.5 -2.5**
WRA Warramunga Ar 51.71 125 P **P** **02 39 51.2 -1.1**
comp=Z,9.3nm,0.9s,baz=309,slow=7.8,SNR=53
WRA LR LR 03 04 28.3
comp=Z,336nm,19.0s,baz=294,slow=39
comp=Z,9.3nm,0.9s
WRA Warramunga Arr 51.71 125 P **P** **02 39 49.8 -2.6**
WRAB Tennant Creek 51.72 125 P **P** **02 39 50.3 -2.1**
WB2 Warramunga Arr 51.72 125 P **P** **02 39 50.1 -2.4**
WR0 Warramunga Arr 51.88 125 P **P** **02 39 51.8 -1.9**
OPO Ambohidratompo 52.24 237 P **P** **02 39 55.7 -0.8**
comp=Z,2.9nm,0.8s,baz=258,slow=8.4,SNR=2.7
comp=Z,2.9nm,0.8s
GURO Guroymak-BITLI 52.37 311 P **P** **02 39 58.4 +1.2**
ARU Arti 52.76 338 LR LR 03 03 55.3
comp=Z,618nm,20.2s,baz=140,slow=38
ARU Arti 52.76 338 P **P** **02 40 00.4 +0.8**
ARU IAmb IAmb 02 40 15.1
comp=Z,22nm,1.3s
ASAR Alice Springs 53.38 130 P **P** **02 40 03.5 -1.3**
comp=Z,4.3nm,0.9s,baz=304,slow=6.8,SNR=30
ASAR LR LR 03 06 06.7
comp=Z,349nm,19.3s,baz=276,slow=40
comp=Z,4.3nm,0.9s
ASAR Alice Springs 53.38 130 P **P** **02 40 02.1 -2.7**
AS31 Alice Springs 53.38 130 P **P** **02 40 01.5 -3.2**
KBZ Khabaz 53.64 318 P **P** **02 40 07.7 +1.5**
comp=Z,8.1nm,1.0s,baz=115,slow=6.4,SNR=7.1
KBZ LR LR 03 05 59.2
comp=Z,158nm,21.3s,baz=105,slow=39
comp=Z,8.1nm,1.0s
KIV Kislovodsk 53.87 318 P **P** **02 40 08.9 +0.8**
KIV IAmb IAmb 02 40 20.1
comp=Z,24nm,0.9s
BELG Belogornoye 54.99 329 LR LR 03 06 40.6
comp=Z,266nm,20.5s,baz=145,slow=39
KMBO Kilima Mbogo 55.15 261 LR LR 02 59 53.8
comp=Z,301nm,21.1s,baz=72,slow=32
EIL Elat 56.04 299 LR LR 03 04 52.1
comp=Z,480nm,21.9s,baz=90,slow=36
MMAI Mount Meron Ar 56.19 303 LR LR 03 07 50.6
comp=Z,560nm,18.3s,baz=329,slow=40
QIS Mount Isa 56.30 123 P **P** **02 40 25.0 -1.0**
baz=56,SNR=7.8
YAK Yakutsk 58.67 20 LR LR 03 10 34.0
comp=Z,228nm,18.1s,baz=264,slow=41
PMG Port Moresby 58.69 108 LR LR 03 10 27.8
comp=Z,101nm,18.3s,baz=269,slow=41
BRTR Keskin Array B 58.96 310 P **P** **02 40 43.6 -1.0**
comp=Z,1.6nm,0.9s,baz=142,slow=6.3,SNR=7.4
BRTR LR LR 03 10 00.7
comp=Z,236nm,18.1s,baz=116,slow=40
comp=Z,1.6nm,0.9s
BRTR Keskin Array B 58.96 310 P **P** **02 40 44.7 +0.1**
BR131 Keskin Array S 58.96 310 P **P** **02 40 44.7 +0.1**
BR131 IAmb IAmb 02 40 54.7
comp=Z,6.7nm,0.8s
NRIK Noril'sk 59.14 358 P **P** **02 40 46.1 +1.1**
comp=Z,3.5nm,0.9s,baz=167,slow=6.0,SNR=4.1
NRIK LR LR 03 09 44.4
comp=Z,355nm,19.8s,baz=192,slow=40
comp=Z,3.5nm,0.9s
NRIK Noril'sk 59.14 358 P **P** **02 40 44.1 -1.0**
NRIK IAmb IAmb 02 40 56.7
comp=Z,14nm,1.2s
MTSU Mount Surprise 59.23 118 P **P** **02 40 47.3 +0.7**
baz=59,SNR=5.1
MBAR Mbarara 61.40 264 LR LR 03 06 56.9
comp=Z,387nm,18.6s,baz=64,slow=35
CTA Charters Tower 61.70 119 LR LR 03 10 02.8
comp=Z,221nm,18.6s,baz=270,slow=38
CTAO Charters Tower 61.70 119 P **P** **02 41 01.6 -1.8**
OBN Obninsk 62.05 328 LR LR 03 12 55.8
comp=Z,48nm,18.1s,baz=158,slow=41
HTT Hallett 62.57 136 P **P** **02 41 08.9 -0.1**
baz=62,SNR=4.3
QLP Quilpie 62.89 127 P **P** **02 41 12.4 +1.1**
baz=63,SNR=8.0
KLMR Klimovskoe 63.25 334 *eP* **P** **02 41 11.3 -1.8**
KLMR AMP 02 41 20.7
comp=Z,29nm,1.3s
KLMR LQ LQ 03 03 57.2
KLMR LQ LQ 03 03 57.2
KLMR LR LR 03 05 52.2
KLMR AMP 03 13 03.7
comp=Z,162nm,11.2s
STKA Stephens Creek 63.58 133 P **P** **02 41 14.9 -0.8**
comp=Z,3.8nm,0.9s,baz=310,slow=6.3,SNR=5.5
STKA LR LR 03 12 57.0
comp=Z,305nm,19.0s,baz=297,slow=40
comp=Z,3.8nm,0.9s
STKA Stephens Creek 63.58 133 P **P** **02 41 14.6 -1.1**
baz=63,SNR=7.3
STKA Stephens Creek 63.58 133 P **P** **02 41 14.3 -1.4**
AKASG Malin Array Be 64.74 321 P **P** **02 41 24.3 +1.3**
comp=Z,0.4nm,0.4s,baz=90,slow=4.3,SNR=8.3
AKASG LR LR 03 13 37.3
comp=Z,192nm,20.4s,baz=90,slow=40
comp=Z,0.4nm,0.4s
IDI Anoyia 65.12 304 LR LR 03 16 04.5
comp=Z,81nm,18.6s,baz=88,slow=42
TIXI Tiksi 65.50 12 P **P** **02 41 26.8 -0.8**
MLR Muntele Rosu 65.71 315 LR LR 03 16 44.8
comp=Z,199nm,18.1s,baz=80,slow=42
MA2 Magadan 65.95 29 LR LR 03 11 58.4
comp=Z,195nm,21.2s,baz=270,slow=38
CMSA Cobar Meteorol 66.39 131 P **P** **02 41 34.3 +0.3**
baz=66,SNR=18
RMQ Roma 66.46 125 P **P** **02 41 36.1 +1.5**
baz=66,SNR=10
MNK Minsk 66.56 325 *i* P **P** **02 41 33.4 -1.3**
comp=E,1.0nm,1.0s
MNK *j* P **P** **02 41 33.4 -1.3**
MNK *j* P **P** **02 41 33.4 -1.3**
comp=Z,5.0nm,0.8s,baz=106
MNK *j* PP **PP** **02 43 59.9 -1.4**
MNK *j* PPP PPP 02 45 35.4
MNK *i* S **S** **02 50 23.3 -1.0**
MNK *i* SS **SS** **02 54 41.8 +0.4**
MNK *i* SSS SSS 02 57 53.3
MNK *i* LQ LQ 03 05 46.1
MNK *i* LR LR 03 11 09.7
MNK *i* LRM MLR 03 13 44.6
comp=Z,91nm,16.3s
MNK *i* LRM MLR 03 13 47.5
comp=E,32nm,19.2s
NACGM Naroch 67.28 326 *eP* **P** **02 41 39.5 +0.2**
baz=105
LSZ Lusaka 67.64 249 LR LR 03 07 40.6
comp=E,681nm,18.1s,baz=112,slow=33
PETK Petropavlovsk- 67.67 37 LR LR 03 15 58.1
comp=E,163nm,18.3s,baz=252,slow=40
SEY Seymchan 67.94 26 LR LR 03 15 18.0
comp=E,425nm,20.7s,baz=325,slow=39
CRVS Cervenica-Dubn 69.28 318 *eP* P 02 41 57.8 +5.8
FINES FINESS Array B 69.46 332 P **P** **02 41 52.3 -0.6**
comp=E,1.3nm,0.7s,baz=113,slow=4.4,SNR=2.8
FINES LR LR 03 15 26.3
comp=E,277nm,20.4s,baz=105,slow=39
comp=E,1.3nm,0.7s
JAVC Velka Javorina 71.76 318 *eP* P 02 42 12.7 +5.5
MORC Moravsky Berou 71.94 319 *eP* **P** **02 42 12.9 +4.7**
ARCES ARCESS Array B 72.22 340 P **P** **02 42 11.8 +2.3**
comp=E,4.6nm,1.1s,baz=91,slow=5.4,SNR=2.2
ARCES LR LR 03 16 04.4
comp=E,530nm,19.9s,baz=109,slow=38
comp=E,4.6nm,1.1s
KRLC Kraliky 72.45 319 *eP* **P** **02 42 11.0 -0.3**
VRAC Vranov 72.51 319 LR LR 03 17 55.7
comp=E,106nm,20.2s,baz=92,slow=39
DPC Dobruska-Polom 72.77 320 *eP* **P** **02 42 17.8 +4.6**
LBTB Lobatse 73.11 240 P **P** **02 42 14.9 -0.8**
comp=E,2.6nm,0.6s,baz=70,slow=3.9,SNR=6.4
comp=E,2.6nm,0.6s
VAE Valguarnera 73.66 306 LR LR 03 18 36.9
comp=E,133nm,19.3s,baz=153,slow=39
BRG Berggiesshubel 74.32 320 *eP* P 02 42 27.4 +5.2
BRG Amp 02 42 29.9
comp=Z,5.5nm,1.0s
BRG *ex* x 02 42 45.5
BRG Amp 02 42 50.4
comp=Z,12nm,1.5s
GERES GERESS Array B 74.38 318 P **P** **02 42 21.9 -0.9**
comp=Z,8.6nm,0.8s,baz=63,slow=6.6,SNR=6.9
comp=Z,0.8nm,0.8s
KHC Kasperske Hory 74.47 318 *eP* **P** **02 42 22.5 -0.7**
KHC *ex* x 02 42 26.2
BOSA Boshof 74.65 237 P **P** **02 42 23.6 -1.1**
comp=Z,4.4nm,0.7s,baz=96,slow=5.3,SNR=11
BOSA LR LR 03 12 41.5
comp=Z,319nm,18.2s,baz=52,slow=34
comp=Z,4.4nm,0.7s
CLUD Cludinico 74.86 315 P **P** **02 42 25.2 -0.3**
CLUD IAmb IAmb 02 42 35.9
comp=Z,13nm,1.0s
CLL Collm 74.93 320 *eP* **P** **02 42 27.0 +1.2**
STAL STALIGIAL 74.97 315 P **P** **02 42 26.4 +0.2**
STAL IAmb IAmb 02 42 33.5
comp=Z,23nm,1.4s
HFS Hagfors 75.16 330 LR LR 03 19 11.4
comp=Z,310nm,19.3s,baz=92,slow=39
CIMO Cimolais 75.16 315 P **P** **02 42 27.2 -0.1**
CIMO IAmb IAmb 02 42 32.5
comp=Z,14nm,1.1s
NC405 NORSAR Array S 76.21 331 P **P** **02 42 33.5 +0.5**
NC405 IAmb IAmb 02 42 39.9
comp=Z,22nm,1.4s
NB2 NORSAR Subarra 76.45 330 P **P** **02 42 33.3 -1.0**
comp=Z,5.2nm,1.0s,baz=93,slow=5.9
NOA NORSAR Array B 76.45 330 P **P** **02 42 33.6 -0.7**
comp=Z,1.7nm,0.9s,baz=94,slow=5.7,SNR=6.0
comp=Z,1.7nm,0.9s
SPITS Spitsbergen Ar 77.05 348 LR LR 03 20 50.3
comp=Z,199nm,21.7s,baz=79,slow=39
SHEM Shemya Is, Ala 77.47 38 LR LR 03 17 10.0
comp=Z,72nm,21.6s,baz=290,slow=36
KEST Kesra 77.80 304 P **P** **02 42 42.5 0.0**
comp=Z,5.3nm,1.1s,baz=293,slow=7.7,SNR=3.6
KEST LR LR 03 19 52.8
comp=Z,208nm,21.6s,baz=312,slow=38
comp=Z,5.3nm,1.1s
KEST Kesra 77.80 304 P **P** **02 42 42.5 0.0**
KEST IAmb IAmb 02 42 50.8
comp=Z,24nm,1.1s
DZM Mont Dzumac 80.11 115 *e*S **S** **02 52 57.8 -1.3**
DZM Mont Dzumac 80.11 115 *e*LR LR 03 07 51.1
comp=Z,257nm,23.9s
DZM Mont Dzumac 80.11 115 LR LR 03 20 53.0
comp=Z,82nm,21.0s,baz=218,slow=38
MAW Mawson 80.29 191 P **P** **02 42 54.7 -0.5**
comp=Z,2.2nm,1.0s,baz=73,slow=12,SNR=2.7
MAW LR LR 03 13 14.0
comp=Z,157nm,18.6s,baz=12,slow=32
comp=Z,2.2nm,1.0s
JMIC Jan Mayen 83.68 341 LR LR 03 21 57.4
comp=Z,157nm,20.4s,baz=114,slow=37
EKA Eskdalemuir Ar 84.35 325 LR LR 03 26 21.6
comp=Z,156nm,18.6s,baz=75,slow=40
TORD Torodi Ar. Bea 87.55 283 P **P** **02 43 33.7 +0.2**
comp=Z,1.3nm,0.6s,baz=97,slow=4.9,SNR=10
comp=Z,1.3nm,0.6s
ESDC Sonseca Array 87.75 310 P **P** **02 43 33.5 -0.6**
comp=Z,0.6nm,0.7s,baz=64,slow=4.2,SNR=5.0
comp=Z,0.6nm,0.7s
RPZ Rata Peaks 89.51 135 LR LR 03 23 51.2
comp=Z,350nm,21.9s,baz=270,slow=36
BORG Borgarnes 90.29 337 LR LR 03 28 31.9
comp=Z,157nm,18.5s,baz=84,slow=38
G21K Allakaket 90.31 21 P **P** **02 43 46.4 +0.9**
baz=297
F22K John River 90.32 20 P **P** **02 43 48.5 +3.0**
baz=298
J20K Nowinta River 91.12 24 P **P** **02 43 48.5 -0.8**
J20K Nowinta River 91.12 24 P **P** **02 43 51.0 +1.8**
baz=296
E24K Your Creek 91.25 19 P **P** **02 43 51.2 +1.3**
baz=301
SUMG Summit 91.31 347 *i* P **P** **02 43 51.0 +0.5**
H22K Ishtalitna Cre 91.37 21 P **P** **02 43 52.0 +1.6**
baz=299
K20K Telida 91.52 24 P **P** **02 43 49.4 -1.8**
K20K Telida 91.52 24 P **P** **02 43 53.5 +2.4**

baz=296
O17K Koliganek Bris 91.72 28 P **P 02 43 53.3 +1.2**
baz=293
M19K Big River Lodg 92.03 26 P **P 02 43 54.6 +1.1**
baz=296
BPAW Bear Paw Mtn. 92.39 23 P **P 02 43 56.2 +1.0**
baz=299
F25K Christian Rive 92.42 19 P **P 02 43 57.0 +1.7**
baz=304
N19K Bonanza Creek 92.46 27 P **P 02 43 54.9 -0.8**
M20K Styx River 92.57 25 P **P 02 43 57.8 +1.6**
baz=297
KOWA Kowa 92.76 285 LR LR 03 24 46.2
comp=Z,340nm,20.7s,baz=114,slow=35
URZ Urewera 92.80 128 LR LR 03 29 06.8
comp=Z,259nm,19.1s,baz=5.5,slow=38
TRF Thorofare Moun 92.97 23 P **P 02 43 58.2 +0.2**
baz=300
SKT Skwentna 93.19 25 P **P 02 44 00.4 +1.5**
baz=298
ILAR Eielson Array 93.56 21 P **P 02 44 00.2 -0.3**
comp=Z,0.5nm,0.7s,baz=323,slow=31,SNR=3.6
ILAR LR LR 03 31 28.9
comp=Z,118nm,19.4s,baz=288,slow=39
comp=Z,0.5nm,0.7s
PRP Porcupine Dome 93.63 21 P **P 02 43 59.9 -1.2**
PRP IAmb IAmb 02 44 12.6
comp=Z,8.1nm,1.0s
SCRK Sand Creek 95.06 21 P **P 02 44 08.3 +0.7**
baz=305
DBIC Dimbokro 95.06 278 LR LR 03 26 12.4
comp=Z,85nm,19.0s,baz=90,slow=35
RES Resolute Bay 95.19 2 LR LR 03 31 40.6
comp=Z,96nm,19.5s,baz=19,slow=38
INK Inuvik 95.47 15 LR LR 03 35 33.9
comp=Z,107nm,18.2s,baz=246,slow=41
VNDA Vanda 95.72 168 LR LR 03 22 13.3
comp=Z,165nm,19.7s,baz=300,slow=32
SFJD Kangerlussuaq 98.26 346 LR LR 03 35 05.7
comp=Z,96nm,21.0s,baz=32,slow=39
QSPA South Pole Qui 100.09 180 LR LR 03 25 33.8
comp=Z,342nm,19.8s,baz=296,slow=33
PPT2 Papeete2 120.44 104 eLR LR 03 26 32.2
comp=Z,111nm,23.0s
TBI Tubuai 120.55 111 eLR LR 03 26 34.8
comp=Z,202nm,25.5s
PDAR Pinedale Array 123.88 19 PKP **PKPdf 02 49 42.8 -0.7**
comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=4.0
NVAR Mina Array Bea 124.19 28 PKP **PKiKP 02 49 45.2 +0.7**
comp=Z,0.9nm,0.7s,baz=300,slow=2.8,SNR=8.9
NVAR Mina Array Bea 124.19 28 **PKiKP 02 49 44.8 +0.4**
R11A Troy Canyon, C 125.48 26 P **PKiKP 02 49 47.7 +0.7**
baz=326
ECSD EROS Data Cent 125.82 7 PKPdf **PKPdf 02 49 46.6 -0.2**
MPMC Manual Prospec 126.48 29 P **PKiKP 02 49 50.4 +1.3**
baz=324
N23A Red Feather La 126.67 16 P **PKiKP 02 49 50.7 +1.4**
baz=338
TAOE Nuku Hiva Isla 129.07 93 eLR LR 03 30 31.8
comp=Z,160nm,26.1s
MNTX Cornudas Mount 135.31 21 P **PKPdf 02 50 05.7 +0.5**
baz=336
TXAR Lajitas Array 138.06 20 PKhKP PKPpre 02 50 03.9
comp=Z,0.4nm,1.0s,baz=85,slow=2.0,SNR=3.7
TXAR PKP **PKiKP 02 50 11.6 -0.8**
comp=Z,0.4nm,0.8s,baz=156,slow=1.1,SNR=3.4
TXAR SKPbc **SKPbc 02 53 44.0 +0.8**
comp=Z,1.5nm,1.0s,baz=255,slow=1.8,SNR=5.4
PLCA Paso Flores 145.69 205 PKPbc **PKPdf 02 50 23.3 -0.3**
comp=Z,9.3nm,1.0s,baz=145,slow=1.5,SNR=6.5
CPUP Villa Florida 146.47 237 PKPbc **PKPdf**
comp=Z,2.0nm,0.9s,baz=182,slow=15,SNR=1.8
PTLB Pontes e Lacer 150.93 257 **PKPbc 02 50 37.5 -0.9**

ROM 15 02:36:42.8±0.2,**42°.702N**±0°.007×**13°.287E**±0°.010, **h11km, ML0.9/5, 7C-1D, Error ellipse: s-maj=0.8km s-min=0.8km az=196.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.03**	**140**	P	Pg	02 36 45.2	+0.2
T1204				S	Sg	02 36 46.8	+0.3
T1202	**Accumoli, Fraz**	**0.05**	**272**	P	Pg	02 36 45.4	+0.3
T1202				S	Sg	02 36 47.2	+0.6
SMA1	**SAN MARTINO**	**0.08**	**154**	⇑P	Pg	02 36 45.5	+0.2
SMA1				S	Sg	02 36 46.8	-0.4
SMA1				AML	AML		
	comp=E,151μm,0.3s						
SMA1				AML	AML		
	comp=N,80μm,0.5s						
T1243	**Rocca Santa Ma**	**0.12**	**93**	P	Pg	02 36 46.3	+0.5
T1243				S	Sg	02 36 48.9	+0.9
T1242	**Castelluccio d**	**0.14**	**334**	⇑P	Pg	02 36 46.8	+0.6
T1242				S	Sg	02 36 48.7	+0.1
T1242				AML	AML		
	comp=E,78μm,0.1s						
T1242				AML	AML		
	comp=N,158μm,0.2s						
T1241	**Roccafluvione,**	**0.19**	**35**	⇓P	Pb	02 36 47.6	-0.7
T1241				S	Sg	02 36 50.9	+1.2
RM33	**Pellescritta (**	**0.20**	**196**	⇑P	Pg	02 36 47.0	-0.1
RM33				AML	AML		
	comp=N,58μm,0.6s						
RM33				AML	AML		
	comp=E,68μm,0.2s						
LNSS	**Leonessa**	**0.21**	**241**	P	Pg	02 36 47.1	-0.1
LNSS				AML	AML		
	comp=E,64μm,0.2s						
LNSS				AML	AML		
	comp=N,70μm,0.5s						
MC2	**Monte Cornacci**	**0.22**	**341**	⇑P	Pg	02 36 48.0	+0.5
TERO	**Teramo**	**0.25**	**109**	P	Pg	02 36 48.1	+0.2
TERO				AML	AML		
	comp=E,26μm,0.3s						
TERO				AML	AML		
	comp=N,26μm,0.7s						
TERO				AML	AML		
	comp=N,26μm,0.7s						
TERO				AML	AML		
	comp=E,26μm,0.3s						
T1217	**Poggiodomo (PG**	**0.26**	**272**	⇑P	Pg	02 36 48.1	-0.1
T1216	**Preci, Frazion**	**0.27**	**314**	P	Pg	02 36 49.0	+0.6
AM05	**Amandola Campo**	**0.28**	**10**	⇑P	Pg	02 36 49.1	+0.6
FDMO	**Fiordimonte**	**0.36**	**336**	P	Pg	02 36 50.4	+0.3
CSP1	**Cessapalombo**	**0.39**	**351**	⇑P	Pg	02 36 50.8	+0.2

SOF ***15*** *02:37:23.1,39°.98N×24°.89E,h2km,MD3.5*
ISK ***15*** *02:37:26.6,40°.09N×24°.83E,h16km,ML3.4/28*
ATH ***15*** *02:37:26.2,40°.08N×24°.83E,h28km,ML3.4/28, Error ellipse: s-maj=0.9km s-min=0.7km az=56.0*
THE ***15*** *02:37:27.3,40°.09N×24°.82E,h11km,ML3.3/23, Error ellipse: s-maj=1.0km s-min=0.6km az=10.0*
PDG ***15*** *02:37:27.1±0.6,40°.08N×24°.83E,h18km,ML3.5/13, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*
DDA ***15*** *02:37:27.1±0.0,40°.15N×24°.80E,h14km,MW3.6*
IDC ***15*** *02:37:28.6±2.2,39°.61N×25°.18E,h0km,mb3.6/2, mbtmp3.5/3,ML3.2/1,MS2.4/4, Error ellipse: s-maj=87.8km s-min=25.5km az=154.0*
BEO ***15*** *02:37:28.2±0.8,40°.04N×24°.80E,h15km±4km,ML3.6/6*
ISC 15 02:37:27.2±1.0,**40°.09N**±0°.01×**24°.82E**±0°.01,**h8**km±8km, **n196,σ0.96/264, 18C-17D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.34**	**124**	P	**Pg**	**02 37 34.0**	**+0.2**
LIA				S	**Sg**	**02 37 38.7**	**+0.4**
	17μm,0.5s						
LIA	**Limnos Island**	**0.34**	**124**	P	**Pg**	**02 37 34.1**	**+0.2**
LIA				S	**Sg**	**02 37 38.7**	**+0.4**
LIA				AML	AML	02 37 38.9	
	comp=E,39543μm,0.5s						
LIA				AML	AML	02 37 39.4	
	comp=N,26824μm,0.5s						
THAS	**Thassos island**	**0.52**	**352**	P	**Pg**	**02 37 37.1**	**-0.3**
THAS				S	**Sg**	**02 37 44.9**	**+0.6**
	comp=N,2μm,0.3s						
THAS	**Thassos island**	**0.52**	**352**	P	**Pg**	**02 37 37.1**	**-0.3**
THAS				AML	AML	02 37 47.5	
	comp=E,4997μm,0.3s						
THAS				AML	AML	02 37 49.9	
	comp=N,4700μm,0.3s						
EFSA	**Agios Efstrati**	**0.56**	**167**	P	**Pg**	**02 37 38.6**	**+0.5**
EFSA				S	**Sg**	**02 37 46.0**	**+0.6**
EFSA				AML	AML	02 37 50.0	
	comp=N,9594μm,0.3s						
EFSA				AML	AML	02 37 50.2	
	comp=E,20745μm,0.4s						
SMTH	**Samothraki Isl**	**0.66**	**55**	P	**Pg**	**02 37 39.7**	**-0.3**
SMTH				S	**Sg**	**02 37 49.5**	**+0.8**
	comp=E,1μm,0.4s						
SMTH	**Samothraki Isl**	**0.66**	**55**	P	**Pg**	**02 37 39.7**	**-0.3**
SMTH				S	**Sg**	**02 37 48.9**	**+0.1**
SMTH				AML	AML	02 37 50.1	
	comp=N,2833μm,0.4s						
SMTH				AML	AML	02 37 50.5	
	comp=E,2037μm,0.5s						
OUR	**Ouranopolis**	**0.69**	**291**	P	**Pg**	**02 37 40.6**	**+0.1**
OUR				S	**Sg**	**02 37 49.8**	**+0.3**
	comp=E,5μm,0.2s						
OUR	**Ouranopolis**	**0.69**	**291**	PG	**Pg**	**02 37 40.7**	**+0.2**
OUR				SG	**Sb**	**02 37 50.5**	**-0.6**
OUR	**Ouranopolis**	**0.69**	**291**	P	**Pg**	**02 37 40.6**	**+0.2**
OUR				S	**Sg**	**02 37 50.2**	**+0.7**
OUR				AML	AML	02 37 52.6	
	comp=N,9233μm,0.2s						
OUR				AML	AML	02 37 53.4	
	comp=E,11029μm,0.3s						
GADA	**Gvkgeada**	**0.83**	**83**	PG	**Pg**	**02 37 43.3**	**+0.1**
GADA				SG	**Sb**	**02 37 55.3**	**0.0**
GOKA	**anakkale-Gk**	**0.84**	**83**	P	**Pg**	**02 37 43.5**	**+0.1**
GOKA				S	**Sb**	**02 37 56.3**	**+0.9**
PAIG	**Paliouri**	**0.89**	**260**	P	**Pg**	**02 37 44.1**	**-0.2**
PAIG				S	**Sb**	**02 37 57.9**	**+0.9**
	comp=E,2μm,0.4s						
PAIG	**Paliouri**	**0.89**	**260**	P	**Pg**	**02 37 44.1**	**-0.2**
PAIG				S	**Sg**	**02 37 55.9**	**0.0**
PAIG				AML	AML	02 38 00.2	
	comp=E,3654μm,0.3s						
PAIG				AML	AML	02 38 01.6	
	comp=N,2800μm,0.4s						
KVLA	**Kavala**	**0.91**	**339**	P	**Pg**	**02 37 44.9**	**+0.1**
KVLA				S	**Sg**	**02 37 56.4**	**-0.2**
KVLA				AML	AML	02 37 57.4	
	comp=N,7282μm,0.3s						
KVLA				AML	AML	02 38 00.2	
	comp=E,3916μm,0.3s						
KAVA	**Kavala**	**0.94**	**346**	P	**Pg**	**02 37 45.3**	**0.0**
KAVA				S	**Sg**	**02 37 57.9**	**+0.4**
	comp=E,4μm,0.5s						
KAVA	**Kavala**	**0.94**	**346**	P	**Pg**	**02 37 45.2**	**-0.1**
KAVA				S	**Sg**	**02 37 57.4**	**-0.1**
KOKK	**Kokkinochori,**	**0.96**	**320**	P	**Pg**	**02 37 45.6**	**-0.1**
KOKK				S	**Sg**	**02 37 58.5**	**+0.3**
	comp=E,4μm,0.5s						
KOKK	**Kokkinochori,**	**0.96**	**320**	P	**Pg**	**02 37 45.6**	**-0.1**
KOKK				S	**Sg**	**02 37 58.5**	**+0.3**
BOZC	**Bozcaada**	**0.98**	**104**	PG	**Pg**	**02 37 45.4**	**-0.6**
BOZC	**Bozcaada**	**0.98**	**104**	P	**Pg**	**02 37 45.8**	**-0.2**
BOZC				S	**Sb**	**02 37 59.4**	**0.0**
ECEA	**Canakkale, Ece**	**1.04**	**92**	P	**Pg**	**02 37 46.9**	**-0.3**
ECEA				S	**Sn**	**02 38 02.2**	**-0.5**
KOCA	**Canakkale, Ayv**	**1.17**	**120**	P	**Pg**	**02 37 49.7**	**0.0**
KOCA				S	**Sg**	**02 38 04.7**	**-0.2**
SIGR	**SIGRI**	**1.18**	**137**	P	**Pb**	**02 37 49.3**	**-0.6**
SIGR				S	**Sn**	**02 38 06.1**	**-0.2**
	comp=E,7μm,0.5s						
SIGR	**SIGRI**	**1.18**	**137**	PN	**Pb**	**02 37 49.8**	**-0.1**
SIGR	**SIGRI**	**1.18**	**137**	P	**Pb**	**02 37 49.3**	**-0.6**
SIGR				S	**Sg**	**02 38 04.1**	**-1.2**
SIGR				AML	AML	02 38 07.9	
	comp=N,17251μm,0.5s						
SIGR				AML	AML	02 38 08.0	
	comp=E,10122μm,0.5s						
EZN	**Ezine**	**1.19**	**102**	P	**Pb**	**02 37 49.2**	**-0.7**
EZN				S	**Sg**	**02 38 05.2**	**-0.2**
	comp=E,1μm,0.8s						
EZN	**Ezine**	**1.19**	**102**	PN	**Pb**	**02 37 49.3**	**-0.7**
RDO	**Rodhopi**	**1.19**	**27**	P	**Pb**	**02 37 48.5**	**-1.6**
RDO				S	**Sb**	**02 38 05.8**	**+0.2**
	comp=E,410nm,0.6s						
RDO	**Rodhopi**	**1.19**	**27**	PN	**Pb**	**02 37 48.4**	**-1.6**
RDO	**Rodhopi**	**1.19**	**27**	P	**Pb**	**02 37 48.6**	**-1.4**
GPNR	**Gulpinar-Canak**	**1.19**	**122**	PN	**Pb**	**02 37 49.8**	**-0.2**
ALNA	**Alonissos**	**1.19**	**218**	P	**Pb**	**02 37 48.8**	**-1.2**
ALNA				S	**Sg**	**02 38 05.4**	**-0.2**
ALNA				AML	AML	02 38 10.2	
	comp=N,5246μm,0.4s						
ALNA				AML	AML	02 38 11.4	
	comp=E,4822μm,0.3s						
CAVK	**Edirne/Enez-Ca**	**1.19**	**59**	P	**Pb**	**02 37 48.4**	**-1.7**
CAVK				S	**Sg**	**02 38 05.6**	**0.0**
ENEZ	**Enez**	**1.21**	**57**	P	**Pb**	**02 37 49.0**	**-1.3**
ENEZ				S	**Sb**	**02 38 06.3**	**+0.3**
ENEZ	**Enez**	**1.21**	**57**	PN	**Pb**	**02 37 49.2**	**-1.1**
SKY	**Skiros Island**	**1.23**	**190**	P	**Pb**	**02 37 49.5**	**-1.1**
SKY				S	**Sb**	**02 38 05.6**	**-1.0**
	comp=E,3μm,0.4s						
SKY	**Skiros Island**	**1.23**	**190**	P	**Pb**	**02 37 49.4**	**-1.3**
SKY				AML	AML	02 38 10.2	
	comp=N,4485μm,0.3s						
SKY				AML	AML	02 38 10.4	
	comp=E,4800nm,0.2s						
ALN	**Alexandroupoli**	**1.24**	**49**	P	**Pn**	**02 37 49.1**	**-1.7**
ALN				S	**Sn**	**02 38 07.5**	**-0.1**
	comp=E,638nm,0.6s						
ALN	**Alexandroupoli**	**1.24**	**49**	PN	**Pn**	**02 37 49.2**	**-1.6**
ALN	**Alexandroupoli**	**1.24**	**49**	P	**Pn**	**02 37 49.1**	**-1.6**
ALN				S	**Sb**	**02 38 06.5**	**-0.4**
ALN				AML	AML	02 38 09.6	
	comp=N,1476μm,0.8s						
ALN				AML	AML	02 38 09.9	
	comp=E,1065μm,0.4s						
GELI	**Tayfur-Gelibol**	**1.30**	**76**	PN	**Pn**	**02 37 50.6**	**-1.1**
SOH	**Sokhos**	**1.34**	**304**	P	**Pn**	**02 37 51.3**	**-0.9**
SOH				S	**Sb**	**02 38 08.9**	**-1.0**
	comp=E,3μm,0.6s						
SOH	**Sokhos**	**1.34**	**304**	P	**Pn**	**02 37 51.4**	**-0.9**
SOH				AML	AML	02 38 13.2	
	comp=E,10877μm,0.6s						
SOH				AML	AML	02 38 13.8	
	comp=N,5930μm,0.6s						
BAYC	**CANAKKALE_Bayr**	**1.37**	**104**	P	**Pn**	**02 37 52.1**	**-0.6**
SRS	**Serrai**	**1.39**	**318**	P	**Pn**	**02 37 51.8**	**-1.2**
SRS				S	**Sb**	**02 38 09.7**	**-1.7**
	comp=N,1μm,0.5s						
SRS	**Serrai**	**1.39**	**318**	P	**Pn**	**02 37 51.7**	**-1.2**
SRS				AML	AML	02 38 16.4	
	comp=N,2041μm,0.4s						
SRS				AML	AML	02 38 19.2	
	comp=E,2029μm,0.5s						
PRK	**Paraskevi**	**1.40**	**126**	P	**Pb**	**02 37 53.5**	**-0.1**
PRK				S	**Sb**	**02 38 11.4**	**-0.2**
	comp=E,7μm,0.6s						
PRK	**Paraskevi**	**1.40**	**126**	P	**Pb**	**02 37 53.6**	**0.0**
PRK				AML	AML	02 38 15.9	
	comp=E,9516μm,0.6s						
PRK				AML	AML	02 38 16.2	
	comp=N,8455μm,0.7s						
HORT	**Hortiatis**	**1.41**	**292**	P	**Pn**	**02 37 52.2**	**-1.1**
HORT				S	**Sg**	**02 38 12.6**	**0.0**
	comp=N,585nm,0.5s						
HORT	**Hortiatis**	**1.41**	**292**	PN	**Pn**	**02 37 52.3**	**-1.1**
HORT	**Hortiatis**	**1.41**	**292**	P	**Pn**	**02 37 52.2**	**-1.1**
HORT				AML	AML	02 38 16.4	
	comp=E,996μm,0.4s						
HORT				AML	AML	02 38 17.8	
	comp=N,1330μm,0.6s						
XOR	**Xorichti**	**1.45**	**241**	P	**Pn**	**02 37 51.9**	**-1.9**
XOR				S	**Sn**	**02 38 11.4**	**-1.5**
	comp=N,612nm,0.5s						
XOR	**Xorichti**	**1.45**	**241**	P	**Pn**	**02 37 51.8**	**-1.9**
XOR				AML	AML	02 38 21.2	
	comp=N,1311μm,0.6s						
XOR				AML	AML	02 38 24.9	
	comp=E,1142μm,0.4s						
NVR	**Nevrokopi**	**1.46**	**330**	P	**Pn**	**02 37 53.0**	**-0.9**
NVR				S	**Sn**	**02 38 11.2**	**-2.0**
	comp=E,665nm,0.5s						
NVR	**Nevrokopi**	**1.46**	**330**	P	**Pn**	**02 37 52.9**	**-0.9**
NVR				AML	AML	02 38 17.5	
	comp=E,1566μm,0.3s						
NVR				AML	AML	02 38 24.6	
	comp=N,1133μm,0.6s						
NEO	**Neokhori**	**1.46**	**238**	P	**Pn**	**02 37 52.2**	**-1.7**
NEO				S	**Sn**	**02 38 11.2**	**-2.0**
	comp=N,640nm,0.4s						
NEO	**Neokhori**	**1.46**	**238**	P	**Pn**	**02 37 52.2**	**-1.7**
THE	**Thessaloniki**	**1.52**	**292**	P	**Pn**	**02 37 53.8**	**-0.9**
THE				S	**Sb**	**02 38 15.3**	**+0.3**
	comp=N,250nm,0.5s						
THE	**Thessaloniki**	**1.52**	**292**	P	**Pn**	**02 37 53.7**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.56**	**201**	P	**Pn**	**02 37 54.0**	**-1.2**
KYMI				S	**Sn**	**02 38 14.9**	**-0.7**
	comp=N,845nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.56**	**201**	P	**Pn**	**02 37 53.7**	**-1.5**
KYMI				AML	AML	02 38 20.9	
	comp=E,1833μm,0.5s						
KYMI				AML	AML	02 38 21.0	
	comp=N,1552μm,0.6s						
KESN	**Edirne-Kesan**	**1.60**	**62**	P	**Pn**	**02 37 54.6**	**-1.5**
KESN				S	**Sn**	**02 38 13.9**	**-3.2**
RZN	**Rozhen**	**1.60**	**357**	*i* P	**Pn**	**02 37 55.4**	**-0.6**
KDZ	**Kurdzhali**	**1.62**	**16**	PN	**Pn**	**02 37 54.7**	**-1.4**
KDZ	**Kurdzhali**	**1.62**	**16**	*i* P	**Pn**	**02 37 54.8**	**-1.4**
AYVA	**Ayvalik**	**1.64**	**118**	P	**Pn**	**02 37 56.3**	**0.0**
PSRA	**Psara**	**1.65**	**159**	P	**Pn**	**02 37 56.6**	**+0.2**
PSRA				AML	AML	02 38 22.8	
	comp=E,2584μm,0.4s						
PSRA				AML	AML	02 38 23.4	
	comp=N,2192μm,0.3s						
MMB	**Musomiste**	**1.71**	**331**	*i* P	**Pn**	**02 37 56.3**	**-1.1**
UKOP	**Uzunkopru-Edir**	**1.73**	**52**	PN	**Pn**	**02 37 56.9**	**-0.6**
LIT	**Litokhoron**	**1.79**	**271**	P	**Pn**	**02 37 57.1**	**-1.3**
LIT				S	**Sn**	**02 38 20.1**	**-1.2**
LIT	**Litokhoron**	**1.79**	**271**	P	**Pn**	**02 37 57.0**	**-1.5**
KNT	**Kendrikon**	**1.81**	**307**	P	**Pn**	**02 37 58.3**	**-0.5**
KNT				S	**Sn**	**02 38 21.1**	**-0.9**
	comp=N,940nm,0.4s						
KNT	**Kendrikon**	**1.81**	**307**	PN	**Pn**	**02 37 58.3**	**-0.5**
KNT	**Kendrikon**	**1.81**	**307**	P	**Pn**	**02 37 58.0**	**-0.8**
BUHA	**Balikesir, Bur**	**1.83**	**108**	P	**Pn**	**02 37 59.2**	**+0.1**
BUHA				S	**Sn**	**02 38 21.9**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.90**	**71**	PN	**Pn**	**02 37 58.5**	**-1.5**
SART	**Tekirdag**	**1.90**	**71**	P	**Pn**	**02 37 58.7**	**-1.3**
SART				S	**Sn**	**02 38 22.5**	**-1.6**
DKL	**Dikili**	**1.90**	**122**	PN	**Pn**	**02 38 00.1**	**+0.1**
CHOS	**Chios island**	**1.95**	**150**	P	**Pn**	**02 38 00.3**	**-0.4**
CHOS				S	**Sn**	**02 38 26.0**	**+0.6**
	comp=N,620nm,0.6s						
CHOS	**Chios island**	**1.95**	**150**	PN	**Pn**	**02 38 00.1**	**-0.6**
CHOS	**Chios island**	**1.95**	**150**	P	**Pn**	**02 38 00.0**	**-0.6**
CHOS				AML	AML	02 38 33.0	
	comp=N,1204μm,0.6s						
CHOS				AML	AML	02 38 41.5	
	comp=E,1678μm,0.6s						
ATAL	**Atalanti**	**1.97**	**226**	P	**Pn**	**02 37 59.7**	**-1.2**
ATAL				AML	AML	02 38 33.4	
	comp=N,511μm,0.5s						
ATAL				AML	AML	02 38 34.2	
	comp=E,419μm,0.6s						
PLD	**Plovdiv**	**2.02**	**358**	*e*Pg	**Pg**	**02 38 06.0**	**+0.1**
PLD				*e*Sg	**Sg**	**02 38 32.7**	**+0.6**
PLD				*e*Sg	**Sg**	**02 38 33.6**	**+1.5**
PLD	**Plovdiv**	**2.02**	**358**	*i* P	**Pg**	**02 38 06.1**	**+0.1**
DIM	**Dimitrovgrad**	**2.03**	**15**	*i* P	**Pn**	**02 38 01.8**	**0.0**
GRG	**Griva**	**2.04**	**296**	PN	**Pn**	**02 38 01.8**	**-0.1**
GRG	**Griva**	**2.04**	**296**	P	**Pn**	**02 38 01.4**	**-0.4**
GRG				AML	AML	02 38 40.5	
	comp=E,928μm,0.7s						
GRG				AML	AML	02 38 42.6	
	comp=N,961μm,0.6s						
ZEDA	**zmir-Bergama**	**2.07**	**122**	P	**Pn**	**02 38 02.4**	**+0.1**
ZEDA				S	**Sn**	**02 38 28.3**	**0.0**
KNL	**Balıkesir**	**2.08**	**84**	P	**Pn**	**02 38 02.0**	**-0.4**
VAY	**Valandovo**	**2.11**	**306**	*e*Pg	**Pb**	**02 38 06.2**	**+0.5**
VAY				*e*Sg	**Sg**	**02 38 36.2**	**+1.2**
VAY	**Valandovo**	**2.11**	**306**	*i* Pn	**Pn**	**02 38 02.5**	**-0.3**
DION	**Dionisos Attik**	**2.12**	**199**	P	**Pn**	**02 38 01.9**	**-1.1**
DION				AML	AML	02 38 40.0	
	comp=E,1617μm,0.4s						
DION				AML	AML	02 38 40.6	
	comp=N,1605μm,0.5s						
PTL	**Penteli**	**2.17**	**200**	P	**Pn**	**02 38 02.5**	**-1.1**
PTL				AML	AML	02 38 41.7	
	comp=E,759μm,0.9s						
PTL				AML	AML	02 38 41.9	
	comp=N,755μm,0.5s						
BALY	**Balya**	**2.18**	**98**	P	**Pn**	**02 38 03.1**	**-0.7**
BALY				S	**Sn**	**02 38 29.7**	**-1.3**
MRMT	**Marmara Adasi**	**2.18**	**75**	PN	**Pn**	**02 38 03.8**	**-0.1**
GONE	**Gonen-Balikesi**	**2.20**	**90**	PN	**Pn**	**02 38 03.9**	**-0.1**
URLA	**Izmir**	**2.21**	**141**	PN	**Pn**	**02 38 02.9**	**-1.3**
URLA	**Izmir**	**2.21**	**141**	P	**Pn**	**02 38 02.7**	**-1.5**
KKB	**Krupnik**	**2.21**	**324**	*i* P	**Pn**	**02 38 03.8**	**-0.4**
THL	**Klokotos Trika**	**2.22**	**257**	P	**Pn**	**02 38 03.6**	**-0.8**
THL				S	**Sn**	**02 38 30.7**	**-1.3**
THL	**Klokotos Trika**	**2.22**	**257**	P	**Pn**	**02 38 03.4**	**-1.0**
VIL2	**Platees**	**2.23**	**213**	P	**Pn**	**02 38 03.8**	**-0.7**
VIL2				AML	AML	02 38 46.8	
	comp=E,1071μm,0.5s						
VIL2				AML	AML	02 38 48.5	
	comp=N,942μm,0.6s						
ZEYE	**Izmir, Urla-Ze**	**2.26**	**144**	P	**Pb**	**02 38 06.9**	**-1.4**
ATHU	**Athens Univers**	**2.27**	**201**	P	**Pn**	**02 38 03.8**	**-1.2**
ATH	**Athens Observa**	**2.28**	**203**	P	**Pn**	**02 38 04.2**	**-0.9**
ATH				AML	AML	02 38 46.0	
	comp=E,787μm,0.7s						
ATH				AML	AML	02 38 46.7	
	comp=N,1015μm,0.5s						
EDRB	**Edirne**	**2.28**	**39**	PN	**Pn**	**02 38 05.2**	**0.0**
MAKR	**Makrakomi, Fth**	**2.34**	**244**	P	**Pn**	**02 38 05.6**	**-0.4**
STEP	**BALIKESIR_Sava**	**2.34**	**107**	P	**Pn**	**02 38 06.0**	**-0.1**
KZN	**Kozani**	**2.35**	**276**	P	**Pn**	**02 38 05.4**	**-0.7**
VLY	**Voula,Athens**	**2.37**	**200**	P	**Pn**	**02 38 05.2**	**-1.2**
VLY				AML	AML	02 38 46.9	
	comp=N,1271μm,0.7s						
VLY				AML	AML	02 38 52.5	
	comp=E,1253μm,0.6s						
BLCB	**Balcova**	**2.42**	**134**	PN	**Pn**	**02 38 06.6**	**-0.5**
LTK	**Loutraki**	**2.52**	**216**	P	**Pn**	**02 38 07.5**	**-0.9**
LOUT	**Loutraki**	**2.54**	**215**	P	**Pn**	**02 38 07.2**	**-1.6**
PHSR	**Pinarhisar**	**2.56**	**52**	PN	**Pn**	**02 38 07.9**	**-1.2**
DGB	**zmir**	**2.59**	**141**	P	**Pn**	**02 38 09.1**	**-0.3**
EVR	**Evrytania**	**2.61**	**244**	P	**Pn**	**02 38 08.9**	**-0.8**
THAL	**Thalero**	**2.65**	**220**	P	**Pn**	**02 38 09.2**	**-1.0**
THAL				AML	AML	02 39 05.2	
	comp=E,987μm,0.7s						
THAL				AML	AML	02 39 06.9	
	comp=N,693μm,0.6s						
SERG	**Sergoula**	**2.72**	**233**	P	**Pn**	**02 38 10.2**	**-1.0**
JMB	**Yambol**	**2.72**	**29**	*i* P	**Pb**	**02 38 15.1**	**-1.1**
VTS	**Vitosha**	**2.80**	**335**	⇑P	**Pn**	**02 38 14.2**	**+1.8**
VTS	**Vitosha**	**2.80**	**335**	*e*Pn	**Pn**	**02 38 13.4**	**+1.0**
VTS				*e*Sn	**Sn**

ULC				*i* Sn		**Sn**	**02 39 30.9**	**-0.2**
IVA	**Berane**	**4.63**	**309**	⇓*i* Pn		**Pn**	**02 38 38.2**	**+0.6**
IVA				*i* Sn		**Sn**	**02 39 30.7**	**-0.8**
DRME	**Dracevica, Mon**	**4.75**	**298**	⇓*i* Pn		**Pn**	**02 38 40.2**	**+1.2**
DRME				*i* Sn		**Sn**	**02 39 33.5**	**-0.7**
IDI	**Anoyia**	**4.79**	**179**	LR		LR	02 39 48.1	
	comp=N,11nm,19.5s,baz=306,slow=32							
PDG	**Podgorica**	**4.80**	**301**	⇑P		**Pn**	**02 38 41.7**	**+1.8**
TTG	**Podgorica**	**4.80**	**301**	⇓*i* Pn		**Pn**	**02 38 41.2**	**+1.4**
TTG				*i* Sn		**Sn**	**02 39 34.7**	**-0.9**
SJES	**Sjenica**	**4.82**	**313**	*e*Pn		**Pn**	**02 38 40.7**	**+0.5**
KOME	**Kolasin**	**4.85**	**306**	⇓*i* Pn		**Pn**	**02 38 41.6**	**+1.0**
KOME				*i* Sn		**Sn**	**02 39 36.3**	**-0.6**
GRUS	**Gruza**	**4.88**	**322**	*e*Pn		**Pn**	**02 38 40.3**	**-0.6**
KUBS	**Kucevo**	**4.91**	**333**	*e*Pn		**Pn**	**02 38 41.5**	**+0.2**
IVAS	**Ivanjica**	**4.93**	**317**	*e*Pn		**Pn**	**02 38 41.0**	**-0.7**
BUM	**Brajici-Budva**	**4.99**	**298**	⇓*i* Pn		**Pn**	**02 38 43.1**	**+0.6**
BUM				*i* Sn		**Sn**	**02 39 39.9**	**-0.4**
CEME	**Cevo**	**5.08**	**301**	⇓*i* Pn		**Pn**	**02 38 44.4**	**+0.7**
CEME				*i* Sn		**Sn**	**02 39 42.0**	**-0.6**
TIRR	**Tirgusor**	**5.12**	**30**	⇓P		**Pn**	**02 38 43.5**	**-0.6**
HARR	**Harsova**	**5.14**	**26**	⇑P		**Pn**	**02 38 44.5**	**0.0**
NKY	**Niksic**	**5.16**	**304**	⇑*i* Pn		**Pn**	**02 38 45.7**	**+0.9**
NKY				*i* Sn		**Sn**	**02 39 43.8**	**-0.7**
NKME	**Niksic**	**5.16**	**303**	⇓*i* Pn		**Pn**	**02 38 45.5**	**+0.7**
NKME				*i* Sn		**Sn**	**02 39 43.8**	**-0.7**
PLE	**Pljevlja**	**5.20**	**310**	⇑*i* Pn		**Pn**	**02 38 45.9**	**+0.5**
PLE				*i* Sn		**Sn**	**02 39 44.8**	**-0.8**
TRUS	**Trudelj**	**5.28**	**323**	*e*Pn		**Pn**	**02 38 45.8**	**-0.6**
ARR	**Arges**	**5.28**	**359**	⇑P		**Pn**	**02 38 46.4**	**-0.1**
HCY	**Herceg Novi**	**5.32**	**298**	⇑*i* Pn		**Pn**	**02 38 47.8**	**+0.9**
HCY				*i* Sn		**Sn**	**02 39 47.7**	**-0.7**
DIVS	**Divibare**	**5.38**	**320**	*e*Pn		**Pn**	**02 38 47.0**	**-0.9**
UPM	**Unac-Piva**	**5.42**	**307**	⇑*i* Pn		**Pn**	**02 38 49.2**	**+0.8**
UPM				*i* Sn		**Sn**	**02 39 50.1**	**-0.9**
NEHR	**Nehoiu**	**5.45**	**11**	⇓P		**Pn**	**02 38 45.1**	**-3.6**
MLR	**Muntele Rosu**	**5.46**	**8**	⇓P		**Pn**	**02 38 49.6**	**+0.6**
BRY	**Bratogost**	**5.49**	**303**	⇑*i* Pn		**Pn**	**02 38 50.1**	**+0.7**
BRY				*i* Sn		**Sn**	**02 39 51.7**	**-1.1**
GZR	**Gura Zlata**	**5.51**	**345**	⇑P		**Pn**	**02 38 48.8**	**-0.8**
CFR	**Carcaliu**	**5.64**	**25**	⇑P		**Pn**	**02 38 50.7**	**-0.7**
COVR	**Voineasa-Covas**	**5.84**	**10**	⇑P		**Pn**	**02 38 54.9**	**+0.7**
DOPR	**Dopca**	**5.89**	**4**	⇑P		**Pn**	**02 38 54.9**	**+0.1**
PLOR	**Plostina**	**5.92**	**12**	⇓P		**Pn**	**02 38 55.0**	**-0.1**
VRI	**Vrincioaia**	**5.94**	**13**	⇑P		**Pn**	**02 38 56.6**	**+1.1**
DEV	**Deva**	**5.96**	**347**	⇓P		**Pn**	**02 38 56.4**	**+0.6**
BZS	**Buzias**	**6.01**	**338**	⇑P		**Pn**	**02 38 56.0**	**-0.4**
OZUR		**6.05**	**6**	⇓P		**Pn**	**02 38 56.2**	**-0.8**
TESR	**Tescani**	**6.56**	**11**	⇑P		**Pn**	**02 39 04.6**	**+0.7**
BRTR	**Keskin Array B**	**6.79**	**90**	Pn		**Pn**	**02 39 07.8**	**+0.6**
	comp=N,0.5nm,0.3s,baz=266,slow=12,SNR=18							
BRTR				Sn		**Sn**	**02 40 24.2**	**-0.7**
	baz=266,slow=20							
BRTR				LR		LR	02 41 17.1	
	comp=N,58nm,20.7s,baz=291,slow=35							
	comp=N,1.1nm,0.4s							
DRGR		**6.88**	**348**	⇑P		**Pn**	**02 39 10.1**	**+1.8**
BIZ	**Bicaz**	**6.91**	**7**	⇓P		**Pn**	**02 39 09.5**	**+0.7**
BURAR	**Bucovina Array**	**7.53**	**2**	⇓P		**Pn**	**02 39 18.0**	**+0.7**
AKASG	**Malin Array Be**	**11.05**	**15**	LR		LR	02 44 43.1	
	comp=N,22nm,18.0s,baz=206,slow=38							
NOA	**NORSAR Array B**	**22.60**	**343**	LR		LR	02 52 55.0	
	comp=N,12nm,18.5s,baz=130,slow=40							
TORD	**Torodi Ar. Bea**	**33.67**	**224**	P		**P**	**02 44 10.2**	**+1.5**
	comp=N,0.7nm,0.6s,baz=33,slow=7.5,SNR=5.6							
	comp=N,0.7nm,0.6s							
MKAR	**Makanchi Array**	**41.45**	**61**	P		**P**	**02 45 16.2**	**+1.9**
	comp=N,0.6nm,0.8s,baz=265,slow=6.9,SNR=2.1							
	comp=N,0.6nm,0.8s							

IDC ***15*** *02:37:56.5±0.9,59°.88S×26°.63W, h0km, mb4.0/5, mbtmp4.0/6, ML4.0/1, Error ellipse: s-maj=33.6km s-min=24.1km az=62.0*
NEIC ***15*** *02:37:59.1±1.3, 60°.0S±0°.1×26°.8W±0°.3, h10km±1km, mb4.8/15, Error ellipse: s-maj=27.6km s-min=17.8km az=34.0*

ISC 15 02:38:00.3±0.8, 60°.0S±0°.1×26°.6W±0°.1, h26km, n31, σ1§98/29, mb4.6/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ORCD	**Orcadas**	**9.04**	**258**	Pn		**Pn**	**02 40 07.2**	**-1.6**
VNA1	**Neumayer--Stat**	**13.04**	**152**	P		**Pn**	**02 41 04.8**	**+1.2**
VNA1				S		Sn	02 43 19.8	-7.8
VNA3	**Neumayer Olymp**	**13.18**	**156**	P		**Pn**	**02 41 06.4**	**+0.9**
VNA3				S		Sn	02 43 18.9	-12
VNA2	**Neumayer--Watz**	**13.44**	**152**	P		**Pn**	**02 41 09.7**	**+0.6**
	baz=308,slow=16							
VNA2				S		Sn	02 43 27.0	-10
SNAA	**Sanae**	**15.04**	**151**	P		**Pn**	**02 41 31.2**	**+0.4**
SNAA				S		Sn	02 44 04.8	-12
SNAA	**Sanae**	**15.04**	**151**	Pn		**Pn**	**02 41 31.3**	**+0.5**
	0.7nm,0.3s,baz=315,slow=14,SNR=52							
SNAA				Sn		Sn	02 44 04.9	-11
	0.1nm,0.3s,baz=220,slow=8.5,SNR=3.2							
	3.0nm,0.5s							
SNAA	**Sanae**	**15.04**	**151**			**Pn**	**02 41 31.3**	**+0.5**
TROLL	**Troll, Antarti**	**16.61**	**148**	P		**P**	**02 41 54.2**	**+0.8**
TROLL				S		**Sn**	**02 44 46.5**	**-8.1**
BELA	**Belgrano 2**	**18.15**	**185**			**P**	**02 42 13.4**	**+3.2**
QSPA	**South Pole Qui**	**30.23**	**180**	P		**P**	**02 44 10.8**	**+2.3**
	0.6nm,0.5s,baz=225,slow=2.6,SNR=9.1							
	0.6nm,0.5s							
QSPA	**South Pole Qui**	**30.23**	**180**	P		**P**	**02 44 11.0**	**+2.5**
QSPA				IAmb	IAmb		02 45 10.3	
	comp=Z,18nm,1.9s							
TRQA	**Tornquist**	**31.36**	**298**	P		**P**	**02 44 18.9**	**+0.3**
PLCA	**Paso Flores**	**33.21**	**285**	P		**P**	**02 44 34.1**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=135,slow=7.9,SNR=7.0							
	comp=Z,1.2nm,0.6s							
BO02	**Sierra Bellavi**	**38.05**	**291**	P		**P**	**02 45 15.9**	**-0.5**
BO02				IAmb	IAmb		02 46 31.8	
	comp=Z,34nm,1.8s							
BO04	**La Punta**	**38.64**	**292**	P		**P**	**02 45 19.5**	**-1.8**
BO04				IAmb	IAmb		02 46 05.7	
	comp=Z,42nm,1.9s							
MT09	**Talagante**	**38.99**	**292**	P		**P**	**02 45 23.6**	**-0.8**
MT09				IAmb	IAmb		02 45 25.0	
	comp=Z,12nm,1.0s							
MT01	**Popeta**	**39.04**	**292**	P		**P**	**02 45 24.1**	**-0.5**
MT01				IAmb	IAmb		02 45 25.5	
	comp=Z,58nm,1.9s							
MT02	**Curacav**	**39.49**	**292**	P		**P**	**02 45 27.9**	**-0.4**
MT02				IAmb	IAmb		02 46 48.6	
	comp=Z,70nm,1.8s							
VA03	**San Esteban**	**39.63**	**293**	P		**P**	**02 45 29.5**	**-0.2**
VA03				IAmb	IAmb		02 46 08.0	
	comp=Z,77nm,1.9s							
CO02	**Combarbal**	**41.14**	**294**	P		**P**	**02 45 42.6**	**+0.3**
CO02				IAmb	IAmb		02 46 14.5	
	comp=Z,38nm,1.4s							
CO01	**Juntas del Tor**	**41.77**	**296**	P		**P**	**02 45 48.2**	**+0.6**
CO01				IAmb	IAmb		02 46 34.7	
	comp=Z,18nm,1.6s							
PB01	**IPOC Station P**	**49.29**	**303**	P		**P**	**02 46 46.4**	**-0.5**
H10N1	**ASCENSION HYDR**	**52.84**	**15**	T		T	03 44 45.6	
	baz=191							
H10N3	**ASCENSION HYDR**	**52.85**	**15**	T		T	03 44 38.7	
	baz=191							
H10N2	**ASCENSION HYDR**	**52.86**	**15**	T		T	03 44 39.7	
	baz=191							
LPAZ	**La Paz**	**52.99**	**307**	P		**P**	**02 47 15.2**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=93,slow=4.7,SNR=8.8							
	comp=Z,1.3nm,0.6s							
BOAV	**Boa Vista**	**67.64**	**323**	P		**P**	**02 48 54.4**	**-0.4**
BOAV				IAmb	IAmb		02 50 42.7	
	comp=Z,19nm,1.1s							
TORD	**Torodi Ar. Bea**	**76.37**	**28**	P		**P**	**02 49 47.4**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=195,slow=6.4,SNR=54							
	comp=Z,1.3nm,0.3s							
ASAR	**Alice Springs**	**95.10**	**162**	P		**P**	**02 51 21.2**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=175,slow=4.2,SNR=4.1							
	comp=Z,0.3nm,0.7s							
SONM	**Songino Array**	**150.41**	**93**	PKPbc		**PKPbc**	**02 57 48.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=222,slow=1.9,SNR=5.0							
ILAR	**Eielson Array**	**152.87**	**306**	PKPbc		**PKPbc**	**02 57 51.9**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=152,slow=1.7,SNR=5.7							

ROM ***15*** *02:42:06.8±0.3, 45°.26N±0°.02×14°.37E±0°.02, h10km, ML2.3/7, Error ellipse: s-maj=2.0km s-min=1.5km az=338.0*

LJU ***15*** *02:42:06.2, 45°.29N×14°.32E, h11km, ML1.7*
RHSSO ***15*** *02:42:07.8±0.4, 45°.33N×14°.35E, h3km, ML2.0/9*

ISC 15 02:42:06.6±0.9, 45°.28N±0°.02×14°.36E±0°.02, h7km±8km, n51, σ0§89/77, 2C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.10**	**64**	*i* Pg		**Pg**	**02 42 09.0**	**+0.2**
RIY				Sg		**Sg**	**02 42 10.8**	**+0.5**
KNDS	**Knezji Do**	**0.24**	**3**	⇓*i* Pg		**Pg**	**02 42 11.3**	**-0.2**
KNDS				*i* Sg		**Sg**	**02 42 15.9**	**+1.1**
KNDS				IAML			02 42 16.6	
	comp=Z,82nm,0.2s							
SMRN	**Sveta Marina**	**0.29**	**210**	*e*Pg		**Pg**	**02 42 11.9**	**-0.3**
SMRN				Sg		**Sg**	**02 42 16.7**	**+0.7**
SKDS	**Skadanscina**	**0.36**	**317**	⇑*i* Pg		**Pg**	**02 42 12.4**	**-1.2**
SKDS				*e*Sg		**Sg**	**02 42 18.3**	**-0.1**
SKDS	**Skadanscina**	**0.36**	**317**	*i* Pg		**Pg**	**02 42 12.9**	**-0.8**
SKDS				*i* Sg		**Sg**	**02 42 18.1**	**-0.3**
SKDS				IAML			02 42 18.7	
	comp=Z,66nm,0.1s							
A253A	**Karojba, Istri**	**0.38**	**272**	*i* Pg		**Pg**	**02 42 13.2**	**-0.9**
A253A				Sg		**Sg**	**02 42 18.8**	**-0.3**
GBRS	**Gornja Briga**	**0.40**	**52**	⇓*i* Pg		**Pg**	**02 42 14.7**	**+0.2**
GBRS				*i* Sg		**Sg**	**02 42 20.9**	**+1.1**
GBRS				IAML			02 42 22.2	
	comp=Z,16nm,0.1s							
A250A	**Rusevo Krmpots**	**0.44**	**117**	*e*Pg		**Pg**	**02 42 15.1**	**0.0**
A250A				Sg		**Sb**	**02 42 22.2**	**-1.3**
CEY	**Cerknica**	**0.46**	**6**	⇓*i* Pg		**Pg**	**02 42 14.5**	**-1.0**
CEY				*e*Sg		**Sg**	**02 42 21.2**	**-0.3**
CEY	**Cerknica**	**0.46**	**6**	*i* Pg		**Pg**	**02 42 14.7**	**-0.8**
CEY				IAML			02 42 23.9	
	comp=Z,21nm,0.1s							
BRJN	**Brijuni**	**0.57**	**229**	*e*Pg		**Pg**	**02 42 18.1**	**+0.4**
BRJN				Sg		**Sg**	**02 42 24.8**	**-0.3**
BRJN	**Brijuni**	**0.57**	**229**	P		**Pg**	**02 42 17.8**	**+0.1**
BRJN				S		**Sb**	**02 42 26.4**	**-1.0**
TRI	**Trieste**	**0.60**	**316**	*e*Pg		**Pg**	**02 42 17.1**	**-1.0**
TRI				*e*Sg		**Sg**	**02 42 25.6**	**-0.3**
RABC	**Rab**	**0.61**	**151**	*e*Pg		**Pb**	**02 42 19.7**	**0.0**
VISS	**Visnje**	**0.62**	**33**	*i* Pg		**Pg**	**02 42 18.1**	**-0.5**
VISS				*i* Sg		**Sb**	**02 42 28.3**	**-0.5**
VISS				IAML			02 42 33.3	
	comp=Z,11nm,0.1s							
BOJS	**Bojanci**	**0.67**	**70**	⇑*i* Pg		**Pg**	**02 42 19.6**	**+0.2**
BOJS				*e*Sg		**Sg**	**02 42 28.9**	**+0.8**
BOJS	**Bojanci**	**0.67**	**70**	*i* Pg		**Pg**	**02 42 19.9**	**+0.5**
BOJS				IAML			02 42 33.8	
	comp=Z,8.8nm,0.2s							
BOJS	**Bojanci**	**0.67**	**70**	P		**Pg**	**02 42 19.9**	**+0.5**
BOJS				S		**Sg**	**02 42 29.0**	**+0.9**
LJU	**Ljubljana**	**0.77**	**9**	P		**Pg**	**02 42 21.3**	**-0.1**
LJU				AML	AML			
	comp=N,824μm,0.6s							
LJU				AML	AML			
	comp=E,336μm,0.5s							
LJU				AML	AML			
	comp=N,824μm,1.4s							
NVLJ	**Novalja**	**0.81**	**153**	*e*Pg		**Pb**	**02 42 22.7**	**-0.2**
OZLJ	**Ozalj**	**0.85**	**67**	*e*Pg		**Pg**	**02 42 23.2**	**+0.4**
SABO	**M.te Sabotino**	**0.88**	**323**	*e*Sg		**Sg**	**02 42 34.7**	**-0.2**
SABO	**M.te Sabotino**	**0.88**	**323**	P		**Pg**	**02 42 22.0**	**-1.4**
SABO				S		**Sg**	**02 42 36.1**	**+1.2**
SABO				AML	AML			
	comp=N,440μm,1.6s							
SABO				AML	AML			
	comp=N,440μm,1.6s							
SABO				AML	AML			
	comp=N,106μm,0.7s							
SABO				AML	AML			
	comp=E,117μm,0.7s							
SABO				AML	AML			
	comp=E,426μm,0.7s							
SABO				AML	AML			
	comp=N,440μm,0.4s							
SABO	**M.te Sabotino**	**0.88**	**323**	*e*Pg		**Pg**	**02 42 22.1**	**-1.4**
PLIT	**Plitvice**	**0.98**	**114**	*e*Pg		**Pn**	**02 42 26.0**	**-0.9**
DRE	**Drenchia**	**1.02**	**331**	P		**Pg**	**02 42 25.1**	**-1.2**
VIRC	**Vir**	**1.11**	**153**	*e*Pg		**Pn**	**02 42 28.4**	**-0.2**
OBKA	**Obir**	**1.23**	**6**	*e*Pg		**Pn**	**02 42 29.8**	**-0.6**
OBKA				*e*Sg		**Sb**	**02 42 45.9**	**-0.6**
OBKA	**Obir**	**1.23**	**6**	*i* Pg		**Pn**	**02 42 30.0**	**-0.4**
	comp=N,2.2nm,0.1s,SNR=9.2							
OBKA				*e*Sg		**Sn**	**02 42 48.3**	**+0.8**
	comp=N,20nm,0.3s							
UDBI	**Udbina**	**1.25**	**127**	*e*Pn		**Pg**	**02 42 31.8**	**+1.2**
PTJ	**Puntijarka**	**1.29**	**61**	*e*Pn		**Pb**	**02 42 31.4**	**+0.1**
PTCC	**Patocco-Chiusa**	**1.32**	**328**	P		**Pb**	**02 42 32.1**	**+0.2**
PTCC				AML	AML			
	comp=E,36μm,0.3s							
PTCC				AML	AML			
	comp=N,30μm,0.4s							
PTCC				AML	AML			
	comp=E,36μm,0.3s							
PTCC				AML	AML			
	comp=N,30μm,0.4s							
MPRI	**Monte Prat**	**1.36**	**315**	P		**Pb**	**02 42 32.6**	**+0.2**
MPRI				AML	AML			
	comp=E,106μm,1.6s							
MPRI				AML	AML			
	comp=N,111μm,1.2s							
MPRI				AML	AML			
	comp=E,106μm,0.4s							
MPRI				AML	AML			
	comp=N,111μm,0.8s							
DUGI	**Dugi Otok**	**1.38**	**159**	*e*Pn		**Pg**	**02 42 33.5**	**+0.4**
ACOM	**Acomizza, Ital**	**1.40**	**335**	P		**Pb**	**02 42 33.5**	**+0.4**
ACOM				AML	AML			
	comp=N,74μm,0.5s							
ACOM				AML	AML			
	comp=N,74μm,0.5s							
ACOM				AML	AML			
	comp=E,153μm,0.4s							
MYKA	**Terra Mystica**	**1.44**	**340**	*i* Pg		**Pg**	**02 42 34.9**	**+0.7**
	comp=E,2.0nm,0.2s							
MYKA				*i* Sg		**Sg**	**02 42 54.3**	**+1.5**
	comp=E,10nm,0.4s							
SOKA	**Soboth**	**1.47**	**18**	*e*Pg		**Pb**	**02 42 34.9**	**+0.5**
	comp=E,0.9nm,0.1s							
SOKA				*e*Sg		**Sg**	**02 42 55.0**	**+1.1**
	comp=E,3.9nm,0.2s							
STAL	**STALIGIAL**	**1.51**	**311**	P		**Pn**	**02 42 34.6**	**+0.4**
STAL				AML	AML			
	comp=N,108μm,1.5s							
STAL				AML	AML			
	comp=N,108μm,1.5s							
STAL				AML	AML			
	comp=E,129μm,0.3s							
STAL				AML	AML			
	comp=E,129μm,1.7s							
STAL				AML	AML			
	comp=N,108μm,0.5s							
CLUD	**Cludinico**	**1.56**	**319**	P		**Pn**	**02 42 35.3**	**+0.4**
ZOU	**Zoufplan**	**1.60**	**323**	P		**Pb**	**02 42 36.4**	**-0.3**
ZOU				AML	AML			
	comp=E,32μm,1.1s							
ZOU				AML	AML			
	comp=N,30μm,1.1s							
ZOU				AML	AML			
	comp=N,32μm,1.6s							
ZOU				AML	AML			
	comp=E,32μm,1.1s							
ZOU				AML	AML			
	comp=N,32μm,0.4s							
MORI	**Morici**	**1.71**	**145**	*e*Pn		**Pg**	**02 42 38.7**	**-0.7**
MOSL	**Moslavina**	**1.72**	**78**	*e*Pn		**Pb**	**02 42 38.5**	**-0.1**
A050A	**Klekovaca**	**1.74**	**117**	*e*Pn		**Pg**	**02 42 39.6**	**-0.4**
A050A				*e*Sn		**Sg**	**02 43 02.4**	**-0.1**
A051A	**Mrakovica**	**1.82**	**98**	*e*Pn		**Pb**	**02 42 40.5**	**+0.1**
A051A				*e*Sn		**Sb**	**02 43 03.8**	**+0.4**
ABTA	**Abfaltersbach**	**1.95**	**319**	*e*Pg		**Pb**	**02 42 42.8**	**+0.2**
	comp=N,0.4nm,0.1s							
ABTA				*e*Sg		**Sg**	**02 43 09.7**	**+0.5**
	comp=N,2.3nm,0.2s							
BLY	**Banja Luka**	**2.07**	**104**	*e*Pn		**Pb**	**02 42 43.7**	**-0.9**
BLY				*e*Sn		**Sb**	**02 43 09.4**	**-1.2**
MGRS	**Mrkonjic Grad**	**2.12**	**113**	*e*Pn		**Pb**	**02 42 44.6**	**-0.8**
MGRS				*e*Sn		**Sb**	**02 43 11.3**	**-0.7**
SRKY	**Kupres RS**	**2.34**	**120**	*e*Sn		**Sb**	**02 43 17.6**	**-0.8**
BOSI	**Bolzano**	**2.44**	**301**	⇓P		**Pg**	**02 42 57.5**	**+4.0**
MNTV	**Mantova**	**2.53**	**268**	S		**Sb**	**02 43 25.0**	**+1.4**
MOA	**Molln**	**2.57**	**359**	*e*Pg		**Pb**	**02 42 51.9**	**-1.2**
	comp=N,0.9nm,0.3s							
MOA				*e*Sn		**Sb**	**02 43 23.1**	**-1.8**
	comp=N,1.6nm,0.3s							

IDC ***15*** *02:49:44.6±0.6, 2°.47N×30°.92W, h0km, mb3.9/17, mbtmp3.9/18, ML4.0/1, MS4.0/31, Error ellipse: s-maj=23.0km s-min=15.2km az=139.0*
GCMT ***15*** *02:49:50.0±0.4, 2°.78N±0°.03×30°.95W±0°.02, h13km±2km, MW4.7/81, Moment Tensor Solution. s8,c8; s81,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.34±.10; Mθθ=0.06±.08; Mφφ=0.40±.07; Mrθ=0.17±.20; Mrφ=-1.15±.07; Mθφ=-0.47±.23; Best double couple: Mo1.25800×10^16 NP1:ϕs5.00000°, δ90.00000°, λ-21.00000°. NP2: ϕs95.00000°, δ69.00000°, λ-180.00000°. Principal axes: T 1.4670, Plg15.0000°, Azm52.0000°; N -0.4180, Plg69.0000°, Azm184.0000°; P -1.0490, Plg15.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 15 02:49:45.8±0.5, 2°.3N±0°.1×31°.0W±0°.1, h10km, n51, σ1§41/25, mb4.0/21, MS4.0/29, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.49**	**211**	Pn		**Pn**	**02 52 03.1**	**+0.4**
	1.4nm,0.3s,baz=161,slow=14,SNR=25							
RCBR				Sn		**Sn**	**02 53 45.5**	**-4.1**
	0.4nm,0.3s,baz=268,slow=20,SNR=1.3							
RCBR				LR		LR	02 55 06.7	
	comp=Z,1μm,19.1s,baz=156,slow=34							
	7.7nm,0.5s							
BBTS	**Babate**	**18.78**	**48**	LR		LR	02 59 45.5	
	comp=Z,432nm,18.6s,baz=230,slow=32							
H10N3	**ASCENSION HYDR**	**19.27**	**122**	T		T	03 14 10.1	
	baz=301,slow=74,SNR=552							
H10N2	**ASCENSION HYDR**	**19.28**	**122**	T		T	03 14 11.9	
	baz=301,slow=74,SNR=610							
H10N1	**ASCENSION HYDR**	**19.29**	**122**	T		T	03 14 11.6	
	baz=301,slow=74,SNR=618							
BDFB	**Brasilia**	**24.57**	**223**	LR		LR	03 03 56.8	
	comp=Z,370nm,18.6s,baz=148,slow=34							
DBIC	**Dimbokro**	**26.37**	**80**	P		**P**	**02 55 23.9**	**+1.3**
	4.0nm,0.8s,baz=300,slow=10,SNR=3.0							
DBIC				LR		LR	03 03 28.4	
	comp=Z,237nm,21.3s,baz=268,slow=31							
	4.0nm,0.8s							
KOWA	**Kowa**	**29.21**	**64**	P		**P**	**02 55 48.8**	**+0.7**
	2.0nm,1.1s,baz=136,slow=19,SNR=1.8							
KOWA				LR		LR	03 06 06.1	
	comp=Z,346nm,20.9s,baz=282,slow=34							
	2.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**34.04**	**70**	P		**P**	**02 56 29.3**	**-1.3**
	2.2nm,0.8s,baz=258,slow=7.9,SNR=8.9							
	2.2nm,0.8s							
SIV	**San Ignacio**	**34.89**	**238**	LR		LR	03 10 46.9	
	comp=Z,582nm,19.0s,baz=89,slow=36							
SJG	**San Juan**	**37.90**	**297**	LR		LR	03 09 27.8	
	comp=Z,72nm,20.2s,baz=110,slow=31							
CPUP	**Villa Florida**	**38.23**	**220**	P		**P**	**02 57 07.1**	**+0.9**
	2.2nm,0.9s,baz=297,slow=8.9,SNR=2.2							
CPUP				LR		LR	03 12 32.8	
	comp=Z,423nm,18.8s,baz=52,slow=36							
	2.2nm,0.9s							
LPAZ	**La Paz**	**41.12**	**242**	P		**P**	**02 57 31.8**	**+0.7**
	1.5nm,0.9s,baz=111,slow=5.4,SNR=6.5							
LPAZ				LR		LR	03 14 30.6	
	comp=Z,445nm,18.7s,baz=96,slow=36							
	1.5nm,0.9s							
ROSC	**El Rosal**	**43.34**	**275**	LR		LR	03 15 39.5	
	comp=Z,128nm,18.6s,baz=54,slow=36							
ESDC	**Sonseca Array**	**44.54**	**30**	P		**P**	**02 57 55.6**	**-2.3**
	1.9nm,0.9s,baz=224,slow=10,SNR=7.9							
	1.9nm,0.9s							
LVC	**Limon Verde**	**44.55**	**234**	LR		LR	03 17 49.6	
	comp=Z,213nm,18.2s,baz=53,slow=38							
NNA	**Nana**	**47.76**	**252**	LR		LR	03 17 56.9	
	comp=Z,148nm,19.2s,baz=85,slow=35							
ATAH	**Atahualpa**	**48.27**	**258**	LR		LR	03 18 42.6	
	comp=Z,173nm,20.3s,baz=81,slow=36							
PLCA	**Paso Flores**	**56.02**	**216**	LR		LR	03 22 05.5	
	comp=Z,203nm,22.0s,baz=64,slow=35							
FETA	**Feichten**	**57.32**	**33**	*e*P		**P**	**02 59 33.8**	**-0.4**
	2.9nm,0.8s							
SQTA	**Sankt Quirin**	**57.70**	**33**	*e*P		**P**	**02 59 36.7**	**-0.1**
	4.7nm,1.2s							
MOTA	**Moosalm**	**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.56**	**182**	P	P	03 02 42.4	-0.1
	0.1nm,0.3s,baz=16,slow=11,SNR=2.1 1.1nm,0.7s						
WRA	**Warramunga Arr**	**22.73**	**160**	P	P	03 03 16.4	-0.4
	3.1nm,0.5s,baz=340,slow=12,SNR=80 3.1nm,0.5s						
ASAR	**Alice Springs**	**26.11**	**164**	P	P	03 03 49.2	+0.5
	0.7nm,0.4s,baz=344,slow=7.8,SNR=16 0.7nm,0.4s						
SONM	**Songino Array**	**49.25**	**342**	P	P	03 07 04.3	+0.8
	0.5nm,0.6s,baz=150,slow=9.9,SNR=2.0 0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.17**	**326**	P	P	03 08 14.7	-1.1
	0.3nm,0.4s,baz=106,slow=5.2,SNR=2.9 0.3nm,0.4s						

*KNET **15** 03:06:07.8±0.3, 43.03°N×74.89°E, h13km±2km, ml1.3, Error ellipse: s-maj=2.4km s-min=1.8km az=7.0*
*NNC **15** 03:06:08.5±0.1, 43.01°N×74.92°E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=3.4km s-min=0.7km az=175.0*
*SOME **15** 03:06:08.2, 43.05°N×74.92°E, h0km*

ISC 15 03:06:08.7±0.9, 43.04°N±0.03°×74.90°E±0.02°, h6km±8km, n37, σ0.59/71, 15C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.12**	**251**	⇑P	**Pg**	**03 06 10.9**	**-0.3**
	63nm,0.2s,SNR=86						
CHMS				⇑S	**Sg**	**03 06 12.9**	**+0.1**
	72nm,0.1s						
CHMS	**Chumysh**	**0.12**	**251**	⇑P	**Pg**	**03 06 10.7**	**-0.5**
	8.1nm,0.2s						
CHMS				⇑S	**Sg**	**03 06 12.8**	**0.0**
	214nm,0.8s						
USP	**Ospenovka**	**0.38**	**308**	⇑P	**Pg**	**03 06 15.8**	**-0.2**
	42nm,0.1s,SNR=204						
USP				⇑S	**Sg**	**03 06 21.1**	**+0.2**
	31nm,0.1s						
KBK	**Karagaybulak**	**0.38**	**175**	⇑P	**Pg**	**03 06 16.4**	**+0.3**
	42nm,0.1s,SNR=52						
KBK				⇑S	**Sg**	**03 06 22.4**	**+1.2**
	43nm,0.2s						
AAK	**Ala-Archa**	**0.50**	**217**	⇓P	**Pg**	**03 06 18.2**	**-0.1**
	6.6nm,0.2s,SNR=12						
AAK				⇓S	**Sg**	**03 06 25.6**	**+0.7**
	14nm,0.2s						
TKM2	**Tokmak 2**	**0.52**	**103**	⇑P	**Pg**	**03 06 18.2**	**-0.6**
	8.4nm,0.1s,SNR=69						
TKM2				⇑S	**Sg**	**03 06 25.7**	**+0.1**
	38nm,0.1s						
TKM2	**Tokmak 2**	**0.52**	**103**	⇓P	**Pg**	**03 06 18.2**	**-0.6**
	0.6nm,0.1s						
TKM2				⇑S	**Sg**	**03 06 25.7**	**+0.1**
	2.7nm,0.1s						
DGS	**Degeres**	**0.67**	**72**	*e*P	**Pg**	**03 06 21.4**	**-0.1**
	4.3nm,0.2s						
DGS				*e*S	**Sg**	**03 06 30.9**	**+0.7**
	13nm,0.1s						
DGS	**Degeres**	**0.67**	**72**	P	**Pg**	**03 06 21.4**	**-0.1**
	4.3nm,0.2s						
DGS				S	**Sg**	**03 06 30.9**	**+0.7**
	8.1nm,0.2s						
KST	**Kastek**	**0.78**	**89**	*e*P	**Pg**	**03 06 23.4**	**-0.2**
	5.0nm,0.1s						
KST				*e*S	**Sb**	**03 06 34.5**	**-1.1**
	10nm,0.4s						
KST	**Kastek**	**0.78**	**89**	P	**Pg**	**03 06 23.4**	**-0.2**
	5.0nm,0.1s						
KST				S	**Sb**	**03 06 34.5**	**-1.1**
	10nm,0.4s						
UCH	**Uchtor**	**0.86**	**200**	⇑P	**Pg**	**03 06 24.9**	**-0.3**
	2.4nm,0.1s,SNR=17						
UCH				⇓S	**Sb**	**03 06 37.3**	**-0.9**
	2.7nm,0.1s						
KRBS	**Karabastau**	**0.87**	**40**	*e*P	**Pg**	**03 06 25.0**	**-0.3**
	2.4nm,0.1s						
KRBS				*e*S	**Sg**	**03 06 37.1**	**+0.6**
	6.0nm,0.2s						
KRBS	**Karabastau**	**0.87**	**40**	P	**Pg**	**03 06 25.0**	**-0.3**
	4.1nm,0.1s						
KRBS				S	**Sg**	**03 06 37.1**	**+0.6**
	6.0nm,0.2s						
EKS2	**Erkin-Say**	**0.91**	**246**	⇑P	**Pg**	**03 06 25.6**	**-0.5**
	5.7nm,0.1s,SNR=11						
EKS2				⇓S	**Sb**	**03 06 39.0**	**-0.4**
	5.1nm,0.2s						
MTBS	**Maitube**	**1.12**	**85**	*e*P	**Pg**	**03 06 29.8**	**-0.4**
	4.0nm,0.1s						
MTBS				*e*S	**Sb**	**03 06 45.5**	**+0.1**
	4.3nm,0.1s						
MTBS	**Maitube**	**1.12**	**85**	P	**Pg**	**03 06 29.8**	**-0.4**
	4.0nm,0.1s						
MTBS				S	**Sb**	**03 06 45.5**	**+0.1**
	4.9nm,0.2s						
IZV	**Izvestkoviy**	**1.25**	**89**	*e*P	**Pg**	**03 06 32.3**	**-0.4**
	127nm,0.2s						
IZV				*e*S	**Sb**	**03 06 49.3**	**0.0**
	5.6nm,0.2s						
IZV	**Izvestkoviy**	**1.25**	**89**	P	**Pg**	**03 06 32.3**	**-0.4**
	127nm,0.2s						
IZV				S	**Sb**	**03 06 49.3**	**0.0**
	5.6nm,0.2s						
ULHL	**Ulahol**	**1.27**	**128**	⇑P	**Pg**	**03 06 31.8**	**-1.1**
	2.1nm,0.1s,SNR=16						
MRKS	**Merke**	**1.27**	**257**	*e*P	**Pg**	**03 06 32.9**	**-0.1**
	2.4nm,0.1s						
MRKS				*e*S	**Sn**	**03 06 50.5**	**0.0**
	22nm,0.2s						
MRKS	**Merke**	**1.27**	**257**	P	**Pg**	**03 06 32.9**	**-0.1**
	2.4nm,0.1s						
MRKS				S	**Sn**	**03 06 50.5**	**0.0**
	22nm,0.2s						
AML	**Almayashu**	**1.27**	**225**	⇑P	**Pg**	**03 06 32.6**	**-0.5**
	1.9nm,0.1s,SNR=8.4						
AML				⇓S	**Sg**	**03 06 49.5**	**-0.1**
	3.5nm,0.2s						
KUU	**Kurty**	**1.35**	**50**	*e*P	**Pn**	**03 06 33.5**	**-0.6**
	2.5nm,0.1s						
KUU				*e*S	**Sg**	**03 06 51.6**	**-0.5**
	10nm,0.4s						
KUU	**Kurty**	**1.35**	**50**	P	**Pn**	**03 06 33.5**	**-0.6**
	2.5nm,0.1s						
KUU				S	**Sg**	**03 06 51.6**	**-0.5**
	10nm,0.4s						
KTBS	**Karatobe**	**1.46**	**62**	*e*P	**Pn**	**03 06 35.7**	**0.0**
	2.4nm,0.3s						
KTBS				*e*S	**Sg**	**03 06 55.8**	**+0.2**
	9.4nm,0.4s						
KTBS	**Karatobe**	**1.46**	**62**	P	**Pn**	**03 06 35.7**	**0.0**
	2.4nm,0.3s						
KTBS				S	**Sg**	**03 06 55.8**	**+0.2**
	9.4nm,0.4s						
MDOK	**Medeo**	**1.57**	**85**	*e*P	**Pn**	**03 06 37.8**	**+0.4**
	8.8nm,0.2s						
MDOK				*e*S	**Sg**	**03 06 59.0**	**-0.3**
	7.3nm,0.3s						
MDOK	**Medeo**	**1.57**	**85**	Pn	**Pn**	**03 06 37.4**	**0.0**
	1.4nm,0.2s						
MDOK				Pg	**Pn**	**03 06 37.8**	**+0.4**
	8.8nm,0.2s						
MDOK				Lg	Lg	03 06 59.0	
	7.3nm,0.3s						
MDOK				Sn	**Sg**	**03 07 00.5**	**+1.2**
	6.1nm,0.8s						
CHKK	**Chushkaly**	**1.72**	**61**	*e*P	**Pb**	**03 06 41.0**	**+0.2**
	4.6nm,0.3s						
CHKK				*e*S	**Sg**	**03 07 04.6**	**+0.6**
	11nm,0.3s						
CHKK	**Chushkaly**	**1.72**	**61**	P	**Pb**	**03 06 41.0**	**+0.2**
	4.6nm,0.3s						
CHKK				S	**Sg**	**03 07 04.6**	**+0.6**
	11nm,0.3s						
BTLS	**Baital**	**2.10**	**343**	*e*P	**Pb**	**03 06 47.8**	**+0.6**
	1.9nm,0.2s						
BTLS				*e*S	**Sg**	**03 07 16.0**	**0.0**
	9.0nm,0.4s						
BTLS	**Baital**	**2.10**	**343**	Pg	**Pb**	**03 06 47.8**	**+0.6**
	1.9nm,0.2s						
BTLS				Lg	Lg	03 07 16.0	
	9.0nm,0.4s						
ARXS	**Arharly**	**2.43**	**60**	*e*P	**Pb**	**03 06 53.0**	**+0.2**
	3.0nm,0.5s						
ARXS				*e*S	**Sg**	**03 07 25.0**	**-1.6**
	6.3nm,0.4s						
ARXS	**Arharly**	**2.43**	**60**	Pg	**Pb**	**03 06 53.0**	**+0.2**
	3.0nm,0.5s						
ARXS				Lg	Lg	03 07 25.0	
	6.3nm,0.4s						
KPKS	**Kokpek**	**2.79**	**80**	*e*P	**Pb**	**03 06 59.1**	**0.0**
	3.0nm,0.2s						
KPKS				*e*S	**Sb**	**03 07 35.9**	**+2.3**
	6.0nm,0.4s						
KPKS	**Kokpek**	**2.79**	**80**	Pg	**Pb**	**03 06 59.1**	**0.0**
	3.0nm,0.2s						
KPKS				Lg	Lg	03 07 35.9	
	6.0nm,0.4s						

*IDC **15** 03:11:58.8±0.6, 51.43°N×16.17°E, h0km, mb3.7/1, mbtmp3.3/9, ML3.0/8, Error ellipse: s-maj=10.9km s-min=6.0km az=107.0*
*BGR **15** 03:11:58.5±0.6, 51.47°N×16.20°E, h1km, ML3.0/8, Error ellipse: s-maj=7.8km s-min=4.4km az=28.0*
*IPEC **15** 03:11:58.5±0.2, 51.45°N×16.28°E, h1km, ML3.0/5, Error ellipse: s-maj=2.0km s-min=1.1km az=38.0*
*PRU **15** 03:11:59.3±0.0, 51.43°N×16.17°E, h0km*
*DNK **15** 03:11:59.0±2.0, 51.46°N×16.24°E, h28km±67km, ML2.5*
*LDG **15** 03:12:00.1±0.6, 51.34°N×16.14°E, h1km, Ml3.2/7, Error ellipse: s-maj=13.4km s-min=5.2km az=21.0, Suspected Mining induced.*
*UPP **15** 03:12:00.0±3.1, 51.47°N×15.15°E, h0km, ML2.0, Suspected explosion*
*VIE **15** 03:12:02.7±0.8, 51.21°N×15.97°E, h0km, mb2.9/17, ml2.8/16, ms3.7/1, Error ellipse: s-maj=4.8km s-min=3.9km az=15.0 74 km WNW of Wroclaw Suspected Mining induced.*

ISC 15 03:11:55.8±0.6, 51.54°N±0.03°×16.16°E±0.02°, h0km, n96, σ2.11/165, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**173**	*e*Pg	**Pg**	**03 12 10.3**	**+1.2**
KSP				*e*Sg	**Sg**	**03 12 18.5**	**+0.3**
KSP	**Ksiaz**	**0.70**	**173**	*e*Pg	**Pg**	**03 12 10.4**	**+1.2**
KSP				*e*Sg	**Sg**	**03 12 18.1**	**-0.1**
CHVC	**Chvalec**	**0.95**	**184**	*e*SG	**Sg**	**03 12 26.4**	**+0.1**
OSTC	**Ostas**	**0.98**	**178**	*e*PG	**Pb**	**03 12 15.9**	**+0.2**
OSTC				*e*SG	**Sg**	**03 12 26.9**	**-0.4**
UPC	**Upice**	**1.03**	**185**	*e*PG	**Pg**	**03 12 16.5**	**+0.9**
UPC				*e*SG	**Sg**	**03 12 29.1**	**+0.1**
	comp=Z,331nm,0.5s						
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*PG	**Pg**	**03 12 19.2**	**+0.6**
DPC				*e*SG	**Sg**	**03 12 33.9**	**-0.2**
	comp=Z,162nm,0.5s						
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*Pg	**Pg**	**03 12 19.2**	**+0.6**
DPC				*e*Sg	**Sg**	**03 12 35.1**	**+1.0**
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pb**	**03 12 24.8**	**+1.6**
PVCC				*e*SG	**Sn**	**03 12 43.7**	**+1.4**
	comp=Z,317nm,0.4s						
KRLC	**Kraliky**	**1.52**	**165**	*e*PG	**Pn**	**03 12 24.9**	**+0.7**
KRLC				*e*SG	**Sg**	**03 12 43.8**	**-0.6**
BRG	**Berggiesshubel**	**1.54**	**245**	Pn	**Pg**	**03 12 26.0**	**+0.6**
BRG				Pg	**Pb**	**03 12 27.9**	**+2.7**
BRG				Sg	**Sg**	**03 12 48.1**	**+2.8**
BRG				Amp		03 12 51.5	
	comp=Z,54nm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**245**	*e*Pn	**Pg**	**03 12 26.0**	**+0.6**
RUE	**Ruedersdorf**	**1.75**	**304**	*e*P	**Pb**	**03 12 29.2**	**+0.6**
GKP	**Gorka Klasztor**	**1.86**	**20**	*e*P	Pg	03 12 40.3	+8.9
PRU	**Pruhonice**	**1.86**	**214**	*e*PN	**Pn**	**03 12 30.1**	**+1.2**
PRU				*e*PG	**Pg**	**03 12 31.8**	**+0.4**
PRU				*e*SG	**Sb**	**03 12 55.6**	**+1.2**
	comp=Z,99nm,0.6s						
FBE	**Freiberg**	**1.87**	**252**	*e*Sg	**Sg**	**03 12 56.6**	**+0.8**
MORC	**Moravsky Berou**	**1.97**	**153**	*e*Pn	**Pn**	**03 12 31.0**	**+0.6**
	baz=335						
MORC				*e*Sg	**Sn**	**03 12 56.4**	**+0.5**
	comp=Z,110nm,0.9s,baz=335						
MORC	**Moravsky Berou**	**1.97**	**153**	*e*Pn	**Pn**	**03 12 31.0**	**+0.6**
CLL	**Collm**	**1.99**	**265**	*e*Pn	**Pb**	**03 12 33.0**	**+0.2**
CLL				*e*Pg	**Pg**	**03 12 36.0**	**+2.1**
CLL				*ex*	x	03 12 51.0	
CLL				*e*Sg	**Sg**	**03 13 03.0**	**+3.4**
	comp=Z,49nm,0.7s						
CLL	**Collm**	**1.99**	**265**	*e*Pn	**Pn**	**03 12 32.3**	**+1.7**
OKC	**Ostrava-Krasne**	**2.12**	**143**	*e*PG	**Pg**	**03 12 36.4**	**0.0**
OKC				*e*SG	**Sb**	**03 13 01.8**	**-0.1**
VRAC	**Vranov**	**2.25**	**173**	Pn	**Pn**	**03 12 35.9**	**+1.7**
	comp=Z,5.6nm,0.3s,baz=341,slow=14,SNR=20						
VRAC				Lg	Lg	03 13 04.9	
	comp=Z,8.9nm,0.3s,baz=244,slow=23,SNR=6.2 comp=Z,16nm,0.4s						
VRAC	**Vranov**	**2.25**	**173**	*e*Pn	**Pn**	**03 12 35.2**	**+1.0**
	baz=355						
VRAC				*e*Sg	**Sb**	**03 13 05.9**	**+0.3**
	comp=Z,94nm,1.1s,baz=355						
TREC	**Trest**	**2.29**	**191**	*e*SG	**Sb**	**03 13 08.0**	**+1.3**
	comp=Z,34nm,0.5s						
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**03 12 38.4**	**+1.0**
	baz=358						
KRUC				*e*Sg	**Sb**	**03 13 13.0**	**+0.7**
	comp=Z,81nm,1.2s,baz=358						
TANN	**Tannenbergstha**	**2.59**	**246**	*e*Pn	**Pn**	**03 12 41.3**	**+2.3**
TANN				*e*Sg	**Sg**	**03 13 20.9**	**+1.9**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**03 12 46.7**	**0.0**
OJC				*e*Sg	**Sg**	**03 13 20.5**	**-0.5**
OJC	**Ojcow**	**2.66**	**118**	*e*Pn	**Pn**	**03 12 39.8**	**0.0**
WERD	**Werda**	**2.67**	**247**	*e*Pn	**Pn**	**03 12 42.3**	**+2.3**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**03 12 42.4**	**+2.1**
NKC				*e*PG	**Pg**	**03 12 49.0**	**+1.7**
NKC				*e*SG	**Sg**	**03 13 24.8**	**+2.7**
	comp=Z,51nm,0.5s						
JAVC	**Velka Javorina**	**2.85**	**159**	*e*Pn	**Pn**	**03 12 43.3**	**+0.7**
	baz=342						
JAVC	**Velka Javorina**	**2.85**	**159**	*e*PN	**Pn**	**03 12 43.4**	**+0.8**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**03 12 45.0**	**+1.5**
KHC				*e*PG	**Pg**	**03 12 51.3**	**-0.4**
KHC				*e*SG	**Sb**	**03 13 28.1**	**+3.1**
	comp=Z,28nm,0.5s						
CKRC	**Cesky Krumlov**	**2.97**	**204**	*e*PN	**Pn**	**03 12 46.3**	**+2.2**
CKRC				*e*PG	**Pg**	**03 12 51.8**	**-0.8**
CKRC				*e*SG	**Sg**	**03 13 29.6**	**-1.5**
	comp=Z,43nm,0.6s						
MANZ	**Manzenberg**	**3.00**	**240**	*e*Pn	**Pn**	**03 12 46.8**	**+2.2**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**03 12 48.7**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=34,slow=13,SNR=34						
GERES				Pg	**Pg**	**03 12 54.6**	**-0.9**
	comp=Z,12nm,0.3s,baz=33,slow=20,SNR=76						
GERES				Sn	**Sn**	**03 13 24.3**	**-0.1**
	comp=Z,3.0nm,0.3s,baz=30,slow=28,SNR=5.9						
GERES				Lg	Lg	03 13 33.2	
	comp=Z,8.1nm,0.3s,baz=32,slow=30,SNR=12 comp=Z,2.5nm,0.5s						
LANS	**Liptovska Anna**	**3.19**	**137**	*e*PN	**Pn**	**03 12 49.1**	**+1.8**
LANS				*e*PG	**Pg**	**03 12 58.8**	**+1.8**
LANS				*e*SG	**Sg**	**03 13 38.7**	**+0.4**
LANS				*e*LG	Lg	03 13 49.2	
MODS	**Modra-Piesok**	**3.25**	**167**	*e*PN	**Pn**	**03 12 51.2**	**+3.2**
MODS				*e*PG	**Pg**	**03 12 58.4**	**+0.4**
MODS				*e*SG	**Sg**	**03 13 40.1**	**0.0**
MODS				*e*LG	Lg	03 13 44.0	
NIE	**Niedzica**	**3.39**	**127**	*e*P	**Pb**	**03 12 57.4**	**+0.6**
NIE				*e*S	**Sg**	**03 13 44.6**	**-0.1**
ZST	**Bratislava**	**3.40**	**169**	*e*PG	**Pg**	**03 13 00.4**	**-0.5**
ZST				*e*SG	**Sg**	**03 13 43.7**	**-1.2**
ZST				*e*LG	Lg	03 13 48.2	
VYHS	**Vyhne**	**3.50**	**149**	*e*PN	**Pn**	**03 12 52.0**	**+0.5**
VYHS				*e*PG	**Pg**	**03 13 04.0**	**+1.1**
VYHS				*e*SG	**Sg**	**03 13 48.6**	**+0.4**
CONA	**Conrad Observa**	**3.62**	**183**	Pn	**Pn**	**03 12 54.9**	**+1.8**
	comp=Z,1.2nm,0.3s,SNR=5.8						
CONA				*e*Sg	**Sg**	**03 13 51.0**	**-1.0**
	comp=Z,38nm,0.4s						
BSD	**Bornholm Skovb**	**3.66**	**349**	*e*P	**Pn**	**03 12 55.7**	**+2.1**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**03 12 55.0**	**+1.4**
BSD				*e*S	**Sn**	**03 13 35.9**	**-1.5**
BSD				IAML		03 13 41.8	
	comp=Z,4.8nm,0.4s						
RONA	**Rosalia, Austr**	**3.84**	**179**	*e*Pn	**Pn**	**03 12 58.2**	**+2.0**
	comp=Z,1.1nm,0.4s						
RONA				*e*Sg	**Sg**	**03 13 59.8**	**+0.7**
	comp=Z,15nm,0.4s						
MOA	**Molln**	**3.89**	**199**	Pn	**Pn**	**03 12 58.4**	**+1.6**
	comp=Z,3.6nm,0.3s,SNR=14						
MOA				*e*Sg	**Sg**	**03 14 01.6**	**+0.9**
	comp=Z,27nm,0.5s						
KECS	**Kecovo**	**4.14**	**136**	*e*SG	**Sg**	**03 14 09.6**	**+0.9**
BIOA	**Bad Ischl, Aus**	**4.18**	**204**	*e*Pn	**Pn**	**03 13 03.1**	**+2.3**
	comp=Z,5.1nm,0.4s						
BIOA				*e*Sg	**Sg**	**03 14 10.4**	**+0.3**
	comp=Z,76nm,0.9s						
CRVS	**Cervenica-Dubn**	**4.31**	**126**	*e*PG	**Pg**	**03 13 18.7**	**+0.4**
ARSA	**Arzberg**	**4.31**	**186**	*e*Pn	**Pn**	**03 13 06.3**	**+3.7**
	comp=Z,1.4nm,0.3s						
ARSA				*e*Sg	**Sg**	**03 14 15.0**	**+0.8**
	comp=Z,21nm,0.6s						
PSZ	**Piszkesteto**	**4.36**	**145**	P	**Pn**	**03 13 05.1**	**+1.8**
LUNU	**Lund**	**4.41**	**340**	P	**Pn**	**03 13 05.3**	**+1.5**
LUNU				*i* P	**Pn**	**03 13 06.0**	**+2.1**
LUNU				S	**Sn**	**03 13 56.2**	**+0.4**
LUNU	**Lund**	**4.41**	**340**	P	**Pn**	**03 13 05.3**	**+1.5**
LUNU				S	**Sn**	**03 13 56.2**	**+0.4**
MPLH	**Magyarpolny**	**4.46**	**168**	P	**Pn**	**03 13 06.1**	**+1.5**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*PN	**Pn**	**03 13 09.5**	**+1.4**
KOLS				*e*PG	**Pg**	**03 13 29.2**	**+3.2**
KOLS				*e*SG	**Sg**	**03 14 28.5**	**+1.5**
BLEU	**Blekinge**	**4.78**	**358**	*e*P	**Pn**	**03 13 10.8**	**+1.8**
BLEU				*e*S	**Sn**	**03 14 04.6**	**-0.4**
KBA	**Koelnbreinsper**	**4.83**	**203**	*e*Pn	**Pn**	**03 13 12.3**	**+2.4**
	comp=Z,0.6nm,0.1s						
KBA				*e*Sg	**Sg**	**03 14 31.2**	**+0.4**
	comp=Z,36nm,0.8s						
BJUU	**Bjuv**	**4.91**	**339**	P	**Pn**	**03 13 12.4**	**+1.7**
BJUU				S	**Sn**	**03 14 07.2**	**-1.0**
BJUU	**Bjuv**	**4.91**	**339**	P	**Pn**	**03 13 12.4**	**+1.7**
BJUU				S	**Sn**	**03 14 07.2**	**-1.0**
SOKA	**Soboth**	**4.92**	**189**	*e*Sg	**Sg**	**03 14 32.3**	**-1.4**
	comp=Z,6.1nm,0.6s						
DEL	**Delary**	**5.12**	**346**	P	**Pn**	**03 13 15.8**	**+2.2**
DEL				*i* P	**Pn**	**03 13 16.0**	**+2.3**
DEL				*e*S	**Sn**	**03 14 09.9**	**-3.5**
DEL	**Delary**	**5.12**	**346**	P	**Pn**	**03 13 15.8**	**+2.2**
OBKA	**Obir**	**5.14**	**192**	Sg	**Sg**	**03 14 40.9**	**0.0**
	comp=Z,12nm,0.8s						
WATA	**Walderalm**	**5.16**	**217**	*e*Pn	**Pn**	**03 13 17.2**	**+2.9**
	comp=Z,1.0nm,0.2s						
WATA				Sg	**Sg**	**03 14 41.9**	**+0.5**
	comp=Z,21nm,0.7s						
MYKA	**Terra Mystica**	**5.18**	**200**	Sg	**Sg**	**03 14 41.9**	**-0.3**
	comp=Z,6.6nm,0.4s						
WTTA	**Wattenberg**	**5.20**	**216**	*e*Pn	**Pn**	**03 13 18.0**	**+3.1**
	comp=Z,1.3nm,0.2s						
WTTA				*e*Sg	**Sg**	**03 14 41.6**	**-1.0**
	comp=Z,14nm,0.6s						
MOTA	**Moosalm**	**5.33**	**220**	*e*Pn	**Pn**	**03 13 19.2**	**+2.5**
	comp=Z,1.8nm,0.5s						
MOTA				Sg	**Sg**	**03 14 48.3**	**+1.2**
	comp=Z,17nm,0.7s						
ABTA	**Abfaltersbach**	**5.36**	**208**	*e*Pn	**Pn**	**03 13 19.9**	**+2.8**
	comp=Z,1.6nm,0.4s						
RETA	**Reutte**	**5.36**	**223**	Pn	**Pn**	**03 13 18.8**	**+1.7**
	comp=Z,1.0nm,0.2s,SNR=4.7						
RETA				*e*Sg	**Sg**	**03 14 45.7**	**-2.3**
	comp=Z,13nm,0.6s						
SQTA	**Sankt Quirin**	**5.39**	**219**	*i* Pn	**Pn**	**03 13 20.7**	**+3.2**
	comp=Z,1.9nm,0.2s,SNR=5.9						
SQTA				*e*Sg	**Sg**	**03 14 49.1**	**+0.1**
	comp=Z,18nm,0.8s						
MORH	**Mrgy, Hungar**	**5.57**	**162**	P	**Pn**	**03 13 22.5**	**+2.6**
PBUR	**Paburge**	**5.65**	**35**	*e*P	Pn	03 13 11.6	-9.3
FETA	**Feichten**	**5.75**	**220**	*i* Pn	**Pn**	**03 13 24.7**	**+2.3**
	comp=Z,0.9nm,0.5s						
FABU	**Falkenberg**	**5.83**	**341**	P	**Pn**	**03 13 25.3**	**+1.9**
FABU	**Falkenberg**	**5.83**	**341**	P	**Pn**	**03 13 25.3**	**+1.9**
DAVA	**Damuels**	**5.91**	**226**	*e*Pn	**Pn**	**03 13 26.0**	**+1.4**
	comp=Z,2.2nm,0.5s						
GNOU	**Gnosjoe**	**5.93**	**347**	P	**Pn**	**03 13 27.3**	**+2.5**
GNOU	**Gnosjoe**	**5.93**	**347**	P	**Pn**	**03 13 27.3**	**+2.5**
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**03 13 31.8**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=18,slow=23,SNR=2.7						
DAVOX				Sn	**Sn**	**03 14 43.4**	**+0.7**
	baz=160,slow=23,SNR=1.5						
DAVOX				Lg	Lg	03 15 15.6	
	comp=Z,0.4nm,0.3s,baz=208,slow=24,SNR=5.0 comp=Z,1.0nm,0.4s						
CDF	**Champ du Feu**	**6.53**	**245**	*e*Pn	**Pn**	**03 13 35.6**	**+2.5**
CDF	**Champ du Feu**	**6.53**	**245**	*e*Pg	**Pg**	**03 13 59.2**	**-1.6**
CDF				*e*Sg	**Sg**	**03 15 22.6**	**-2.7**
	comp=Z,61nm,1.3s						
HINF	**Hinteralfeld**	**7.09**	**242**	*e*Pn	**Pn**	**03 13 42.1**	**+1.3**
HINF				*e*Sg	**Sg**	**03 15 39.2**	**-4.2**
	comp=Z,15nm,1.0s						
NACGM	**Naroch**	**7.21**	**58⇑**	*e*P	**Pn**	**03 13 47.0**	**+4.6**
	baz=247						
HAU	**Haudompre**	**7.27**	**245**	*e*Pn	**Pn**	**03 13 44.0**	**+0.8**
HAU				*e*Sg	**Sg**	**03 15 44.9**	**-4.2**
	comp=Z,10.0nm,0.7s						
MNK	**Minsk**	**7.67**	**63**	*i* P	**Pn**	**03 13 50.5**	**+1.8**
	comp=E,1.0nm,0.7s						
MNK				*i* P	**Pn**	**03 13 50.5**	**+1.8**
MNK				*i* P	**Pn**	**03 13 50.5**	**+1.8**
	comp=Z,4.0nm,0.7s,baz=251						
MNK				*i* S	**Sn**	**03 15 19.2**	**+3.1**
MNK				*i* LRM	MLR	03 17 01.5	
	comp=E,44nm,16.9s						
MNK				*i* LRM	MLR	03 17 01.5	
	comp=Z,132nm,13.9s						
BAIF	**Baives**	**7.72**	**264**	*e*P	Pn	03 13 56.0	+6.7
BAIF				*e*Sn	**Sn**	**03 15 12.9**	**-4.4

CAMP					S	Sg	03 14 26.8	+0.4
CAMP					AML	AML		
	comp=N,42µm,0.4s							
CAMP					AML	AML		
	comp=E,29µm,1.0s							
RM33	**Pellescritta (**		**0.13**	**213**	⇑P	Pg	03 14 24.9	+0.5
RM33					S	Sg	03 14 27.3	+0.5
RM33					AML	AML		
	comp=E,238µm,0.2s							
RM33					AML	AML		
	comp=N,300µm,0.3s							
LNSS	**Leonessa**		**0.20**	**266**	AML	AML		
	comp=E,52µm,1.0s							
LNSS					AML	AML		
	comp=N,50µm,1.5s							
TERO	**Teramo**		**0.22**	**89**	⇑P	Pg	03 14 26.2	+0.5
TERO					AML	AML		
	comp=E,144µm,0.1s							
TERO					AML	AML		
	comp=N,99µm,0.1s							
T1242	**Castelluccio d**		**0.23**	**340**	⇑P	Pg	03 14 26.4	+0.4
T1242					AML	AML		
	comp=E,28µm,0.4s							
T1242					AML	AML		
	comp=N,42µm,0.2s							
GIGS	**Gran Sasso**		**0.26**	**131**	P	Pg	03 14 26.8	+0.4
GIGS					AML	AML		
	comp=E,15µm,0.2s							
GIGS					AML	AML		
	comp=N,17µm,0.5s							
NRCA	**Norcia**		**0.26**	**326**	⇓P	Pg	03 14 26.8	+0.3
NRCA					AML	AML		
	comp=E,177µm,0.2s							
NRCA					AML	AML		
	comp=N,122µm,1.3s							
MMO1	**Montemonaco**		**0.28**	**2**	P	Pg	03 14 27.4	+0.4
T1217	**Poggiodomo (PG**		**0.29**	**289**	⇑P	Pg	03 14 27.3	+0.1
AM05	**Amandola Campo**		**0.36**	**5**	AML	AML		
	comp=N,286µm,0.1s							
AM05					AML	AML		
	comp=E,208µm,0.1s							

WEL 15 03:25:07.9,39˚S±15˚×17˚6E±1˚5, h137km±20km, M2.3/33, mB5.4/1, ML2.0/26, MLv2.3/33, Mw(mB)4.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=135.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.08**	**256**	P	Pn	03 25 26.0	-0.5
KATZ	**Kakaramea**	**0.19**	**228**	P	Pn	03 25 26.3	-0.4
NTVZ	**North Tongarir**	**0.30**	**212**	P	Pn	03 25 27.6	+0.6
TMVZ	**Te Maari**	**0.30**	**206**	P	Pn	03 25 27.5	+0.5
KRVZ	**Karewarewa**	**0.31**	**216**	P	Pn	03 25 26.5	-0.5
ETVZ	**East Tongariro**	**0.32**	**204**	P	Pn	03 25 27.5	+0.5
WTVZ	**West Tongariro**	**0.35**	**220**	P	Pn	03 25 27.4	+0.2
NNVZ	**North Ngauruho**	**0.35**	**215**	P	Pn	03 25 27.6	+0.3
OTVZ	**Oturere**	**0.36**	**207**	P	Pn	03 25 27.9	+0.6
SNVZ	**South Ngauruho**	**0.39**	**208**	P	Pn	03 25 28.1	+0.7
NGZ	**Ngauruhoe**	**0.39**	**213**	P	Pn	03 25 27.9	+0.5
TWVZ	**Taurewa**	**0.41**	**237**	P	Pn	03 25 27.4	0.0
MRHZ	**Matea Rd**	**0.42**	**89**	P	Pn	03 25 26.2	-1.2
TUVZ	**Tukino**	**0.46**	**202**	P	Pn	03 25 28.4	+0.7
FWVZ	**Far West T-bar**	**0.48**	**212**	P	Pn	03 25 28.4	+0.5
WNVZ	**Wahianoa**	**0.53**	**204**	P	Pn	03 25 28.8	+0.7
MOVZ	**Moawhango**	**0.57**	**190**	P	Pn	03 25 28.7	+0.5
BKZ	**Black Stmp Fm**	**0.58**	**124**	P	Pn	03 25 28.1	-0.1
TLZ	**Tolley Road**	**0.58**	**333**	P	Pn	03 25 25.6	-2.7
BHHZ	**Black Hill Sta**	**0.66**	**167**	P	Pn	03 25 29.5	+0.7
KWHZ	**Kaweka Forest**	**0.72**	**144**	P	Pn	03 25 30.0	+0.8
MTHZ	**Maungataniwha**	**0.75**	**91**	P	Pn	03 25 28.1	-1.3
NMHZ	**Naumai**	**0.77**	**109**	P	Pn	03 25 29.8	+0.2
KRHZ	**Kereru**	**0.88**	**154**	P	Pn	03 25 31.4	+1.0
ARHZ	**Aropaoanui**	**0.97**	**116**	P	Pn	03 25 31.2	+0.1
PNHZ	**Pukenui**	**1.09**	**167**	P	Pn	03 25 33.3	+0.9
URZ	**Urewera**	**1.13**	**59**	P	Pn	03 25 28.1	-4.5
TSZ	**Takapari Road**	**1.21**	**177**	P	Pn	03 25 34.5	+1.0
KAHZ	**Kahuranaki**	**1.22**	**141**	P	Pn	03 25 34.6	+1.0
WPHZ	**Waipukurau**	**1.29**	**160**	P	Pn	03 25 35.1	+0.9
DVHZ	**Dannevirke**	**1.47**	**171**	P	Pn	03 25 36.6	+0.5
RIGZ	**Rimuhau**	**1.48**	**85**	P	Pn	03 25 34.0	-2.2
PRHZ	**Porangahau**	**1.54**	**158**	P	Pn	03 25 37.5	+0.7
POWZ	**Post Office Ro**	**1.55**	**183**	P	Pn	03 25 37.4	+0.5
MHGZ	**Mahia Peninsul**	**1.61**	**102**	P	Pn	03 25 36.0	-1.7
RUGZ	**Raukumara Rang**	**1.67**	**59**	P	Pn	03 25 31.8	-6.6
ANWZ	**Angora Road**	**1.68**	**164**	P	Pn	03 25 39.1	+0.8
PRWZ	**Pori Road**	**1.71**	**178**	P	Pn	03 25 39.5	+0.7
MRZ	**Mangatainoka R**	**1.83**	**187**	P	Pn	03 25 40.1	0.0
MKAZ	**Moumakai**	**1.83**	**342**	P	Pn	03 25 32.6	-7.6
HAZ	**Te Kaha**	**1.85**	**55**	P	Pn	03 25 33.3	-7.1
BFZ	**Birch Farm**	**1.86**	**171**	P	Pn	03 25 40.6	+0.1
OGWZ	**Otaki Gorge**	**2.04**	**195**	P	Pn	03 25 42.5	-0.2
HOWZ	**Holdsworth Sta**	**2.07**	**188**	P	Pn	03 25 42.6	-0.5
KIW	**Kapiti Island**	**2.15**	**200**	P	Pn	03 25 43.2	-0.8
TMWZ	**Te Maipa**	**2.26**	**180**	P	Pn	03 25 45.0	-0.4
MTW	**Mount Morrison**	**2.33**	**187**	P	Pn	03 25 45.2	-1.0
CAW	**Cannon Point**	**2.34**	**195**	P	Pn	03 25 45.6	-0.8
DUWZ	**D'Urville Isla**	**2.47**	**217**	P	Pn	03 25 46.2	-1.7
TRWZ	**Traveller**	**2.55**	**183**	P	Pn	03 25 48.2	-0.8
PAWZ	**Paruwai Farm**	**2.56**	**188**	P	Pn	03 25 47.8	-1.3
MSWZ	**Moikau Station**	**2.61**	**190**	P	Pn	03 25 48.4	-1.4
TCW	**Tory Channel**	**2.66**	**207**	P	Pn	03 25 48.8	-1.5
PLWZ	**Palliser**	**2.76**	**190**	P	Pn	03 25 50.1	-1.6
TUWZ	**Tuamarina**	**2.98**	**209**	P	Pn	03 25 52.6	-1.8
NNZ	**Nelson**	**3.05**	**218**	P	Pn	03 25 52.6	-2.6
QRZ	**Quartz Range**	**3.25**	**231**	P	Pn	03 25 53.7	-4.2
BSWZ	**Blackbirch Sta**	**3.25**	**207**	P	Pn	03 25 56.3	-1.6
THZ	**Tophouse**	**3.69**	**217**	P	Pn	03 26 01.3	-2.4
KHZ	**Kahutara**	**3.98**	**206**	P	Pn	03 26 05.1	-2.3
LTZ	**Lake Taylor**	**4.79**	**214**	P	Pn	03 26 14.3	-3.9
MQZ	**McQueen's Vall**	**5.43**	**206**	P	Pn	03 26 21.7	-5.0
TMZ	**Timaru**	**6.63**	**212**	P	Pn	03 26 35.7	-7.1

*IDC **15** 03:28:50.6±1.0, 0.˚84S×120.˚75E, h0km, mb3.7/6, mbtmp3.8/7, ML4.0/1, MS3.4/15, Error ellipse: s-maj=55.3km s-min=17.2km az=73.0*
*DJA **15** 03:28:53.4±0.9, 1.˚5S×2.˚2×12.˚0E±1.˚4, h23km±8km, M4.2/12, mb4.4/5, mB5.0/1, MLv4.2/12, Mw(mB)4.3/1*
*NEIC **15** 03:28:55.3±1.0, 0.˚88S±0.˚08×120.˚45E±0.˚06, h38km±11km, mb4.2/8, Error ellipse: s-maj=11.4km s-min=8.3km az=197.0*

ISC 15 03:28:54.2±1.6, 0.˚87S±0.˚03×120.˚36E±0.˚05, h26km±12km, n45, σ1s52/43, mb3.9/10, MS3.4/12, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.29**	**339**	P	**Pn**	**03 29 15.1**	**-1.4**
MPSI				S	**Sb**	**03 29 33.2**	**-0.7**
APSI	**Ampana**	**1.29**	**92**	P	**Pb**	**03 29 17.6**	**-0.2**
APSI				S	**Sb**	**03 29 36.3**	**+2.3**
TOLI2	**Tolitoli**	**2.02**	**12**	Pn	**Pn**	**03 29 26.5**	**0.0**
TOLI2				Sn	**Sn**	**03 29 50.7**	**-0.2**
MRSI	**Marisa**	**2.08**	**50**	P	**Pn**	**03 29 25.3**	**-2.0**
TTSI	**Tana Toraja**	**2.22**	**194**	P	**Pn**	**03 29 29.1**	**-0.3**
TTSI				S	**Sn**	**03 29 57.3**	**+1.3**
LUWI	**Luwuk**	**2.42**	**94**	Pn	**Pn**	**03 29 30.2**	**-1.8**
LUWI	**Luwuk**	**2.42**	**94**	P	**Pn**	**03 29 31.9**	**-0.2**
LUWI				S	**Sn**	**03 30 03.9**	**+3.0**
GTOI	**Gorontalo**	**3.05**	**61**	P	**Pn**	**03 29 40.4**	**-0.3**
SPSI	**Sidrap Palu**	**3.13**	**191**	P	**Pn**	**03 29 41.1**	**-0.7**
SPSI				S	**Sn**	**03 30 20.1**	**+1.8**
KAPI	**Kappang**	**4.16**	**188**	Pn	**Pn**	**03 29 56.6**	**+0.7**
	8.9nm,0.3s,baz=315,slow=8.0,SNR=27						
KAPI				Sn	**Sn**	**03 30 42.6**	**-1.2**
	12nm,0.3s,baz=167,slow=20,SNR=6.7						
KAPI				LR	LR	03 31 55.3	
	comp=Z,603nm,20.7s,baz=355,slow=43						
	51nm,0.4s						
KAPI	**Kappang**	**4.16**	**188**		**Pn**	**03 29 56.3**	**+0.3**
BKSI	**Bulukumba**	**4.42**	**183**	P	**Pn**	**03 30 00.0**	**+0.3**
BKSI				S	**Sn**	**03 30 49.2**	**-1.2**
BBSI	**Bau Bau**	**5.09**	**154**	P	**Pn**	**03 30 09.0**	**+0.2**
	0.0nm13nm,0.6s						
BSSI	**Bau Bau, Buton**	**5.24**	**179**	P	**Pn**	**03 30 11.2**	**+0.4**
	0.2nm50nm,0.6s						
SANI	**Sanana**	**5.75**	**102**	P	**Pn**	**03 30 17.3**	**-0.6**
	0.1nm22nm,0.6s						
MYLDM	**Lahad Datu**	**6.29**	**343**	Pn	**Pn**	**03 30 25.0**	**-0.3**
LBMI	**Labuha**	**7.15**	**88**	P	**Pn**	**03 30 38.1**	**+1.0**
	0.1nm898nm26nm,0.5s						
DAV	**Davao City (W)**	**9.46**	**33**	LR	LR	03 35 06.2	
	comp=Z,327nm,21.6s,baz=164,slow=41						
FITZ	**Fitzroy Crossi**	**17.89**	**163**	LR	LR	03 40 44.3	
	comp=E,66nm,20.6s,baz=336,slow=40						
PSI	**Prapat**	**21.73**	**280**	LR	LR	03 43 40.5	
	comp=Z,103nm,19.4s,baz=145,slow=40						
WB0	**Warramunga Arr**	**23.27**	**145**	P	**P**	**03 33 57.9**	**-2.1**
WB0				IAmb	IAmb	03 34 10.6	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**23.38**	**145**	P	**P**	**03 33 59.2**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=328,slow=10,SNR=32						
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**23.38**	**145**	P	**P**	**03 33 59.0**	**-2.0**
WB2	**Warramunga Arr**	**23.38**	**145**	P	**P**	**03 33 59.3**	**-1.8**
WB2				IAmb	IAmb	03 34 21.7	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**23.51**	**145**	P	**P**	**03 34 01.1**	**-1.2**
WR0				IAmb	IAmb	03 34 05.2	
	comp=Z,10nm,0.6s						
AS31	**Alice Springs**	**26.19**	**151**	P	**P**	**03 34 25.6**	**-1.4**
ASAR	**Alice Springs**	**26.19**	**151**	P	**P**	**03 34 25.9**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=342,slow=14,SNR=24						
ASAR				PcP	**PcP**	**03 37 53.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=322,slow=1.8,SNR=4.9						
ASAR				LR	LR	03 45 21.7	
	comp=Z,112nm,20.1s,baz=94,slow=38						
	comp=Z,1.3nm,0.6s						
MANU	**Manus Island**	**27.03**	**93**	P	**P**	**03 34 32.2**	**-2.3**
GUMO	**Guam**	**28.23**	**59**	P	**P**	**03 34 43.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**28.50**	**313**	LR	LR	03 46 53.3	
	comp=Z,35nm,21.6s,baz=120,slow=38						
JOW	**Kunigami**	**28.58**	**15**	LR	LR	03 46 16.3	
	comp=Z,114nm,20.7s,baz=128,slow=37						
KMI	**Kunming**	**30.96**	**328**	⇑P	**P**	**03 35 13.3**	**+3.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRDH	**Bariadhala**	**36.47**	**312**	LR	LR	03 52 46.5	
	comp=Z,75nm,18.6s,baz=124,slow=39						
STKA	**Stephens Creek**	**36.79**	**149**	P	**P**	**03 35 58.5**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=330,slow=12,SNR=3.5						
STKA				LR	LR	03 54 37.3	
	comp=Z,50nm,18.6s,baz=348,slow=42						
	comp=Z,1.2nm,0.7s						
STKA	**Stephens Creek**	**36.79**	**149**	P	**P**	**03 35 59.5**	**-0.5**
STKA				IAmb	IAmb	03 36 07.3	
	comp=Z,1.7nm,1.1s						
KSRS	**Korea Array**	**38.77**	**10**	P	**P**	**03 36 15.5**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=190,slow=8.1,SNR=6.7						
KSRS				LR	LR	03 51 51.9	
	comp=Z,20nm,20.7s,baz=310,slow=36						
	comp=Z,0.7nm,0.6s						
PALK	**Pallekele**	**40.38**	**282**	LR	LR	03 55 09.6	
	comp=Z,34nm,19.0s,baz=205,slow=39						
MJAR	**Matsushiro Arr**	**40.76**	**22**	LR	LR	03 51 35.8	
	comp=Z,59nm,21.2s,baz=196,slow=34						
SONM	**Songino Array**	**50.02**	**348**	P	**P**	**03 37 47.8**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=170,slow=9.7,SNR=3.7						
	comp=Z,0.4nm,0.5s						
WMQ	**Urumqi**	**53.21**	**331**	eP	**P**	**03 38 13.3**	**+2.9**
MKAR	**Makanchi Array**	**58.00**	**330**	P	**P**	**03 38 46.1**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=130,slow=7.8,SNR=5.2						
	comp=Z,0.7nm,0.6s						
AAK	**Ala-Archa**	**59.76**	**322**	LR	LR	04 07 27.5	
	comp=Z,33nm,19.5s,baz=60,slow=39						
PETK	**Petropavlovsk-**	**62.15**	**24**	LR	LR	04 05 19.4	
	comp=Z,20nm,20.5s,baz=184,slow=35						
ABKAR	**Akbulak array**	**71.82**	**323**	P	**P**	**03 40 13.8**	**-0.8**
LBTB	**Lobatse**	**93.95**	**245**	LR	LR	04 23 09.0	
	comp=Z,35nm,18.6s,baz=110,slow=34						

*IDC **15** 03:30:00.1±1.3, 10.˚53S×165.˚57E, h0km, mb3.7/6, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=46.9km s-min=25.6km az=136.0*

ISC 15 03:30:05.2±1.0, 10.˚81S±0.˚10×165.˚6E±0.˚2, h35km, n13, σ2s23/8, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.23**	**176**	Pn	**Pn**	**03 32 45.9**	**+2.6**
	1.1nm,0.3s,baz=0.0,slow=20,SNR=9.7						
DZM				Sn	**Sn**	**03 34 44.2**	**-3.4**
	0.2nm,0.3s,baz=337,slow=15,SNR=1.9						
	2.4nm,0.3s						
H11S2	**WAKE ISLAND Hy 29.13**		**2**	T	T	04 06 26.6	
	baz=181,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy 29.14**		**2**	T	T	04 06 31.1	
	baz=181,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy 29.15**		**2**	T	T	04 06 29.8	
	baz=181,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy 30.35**		**2**	T	T	04 07 57.9	
	baz=182,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy 30.36**		**2**	T	T	04 07 58.3	
	baz=182,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy 30.37**		**2**	T	T	04 07 59.3	
	baz=182,slow=76,SNR=25						
WRA	**Warramunga Arr**	**31.47**	**249**	P	**P**	**03 36 24.2**	**+0.4**
	0.6nm,0.7s,baz=83,slow=8.6,SNR=4.8						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**32.80**	**243**	P	**P**	**03 36 35.8**	**+0.3**
	0.2nm,0.4s,baz=69,slow=8.4,SNR=2.2						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**39.34**	**255**	P	**P**	**03 37 31.8**	**+0.4**
	1.1nm,0.7s,baz=92,slow=6.4,SNR=5.5						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**83.32**	**19**	P	**P**	**03 42 26.5**	**-1.6**
	0.3nm,0.4s,baz=237,slow=5.4,SNR=8.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**93.28**	**317**	P	**P**	**03 43 15.2**	**-1.2**
	0.3nm,0.6s,baz=90,slow=5.8,SNR=2.5						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**93.47**	**47**	P	**P**	**03 43 19.1**	**+1.4**
	0.4nm,1.0s,baz=252,slow=4.6,SNR=3.9						
	0.4nm,1.0s						

*HEL **15** 03:41:56.9, 67.˚18N×20.˚57E, h1km, ML2.1, Confirmed Induced event*
*BER **15** 03:41:56.6±0.8, 66.˚84N×21.˚19E, h1km, ML2.2, Confirmed Induced event*
*IDC **15** 03:41:57.3±0.9, 67.˚17N×20.˚93E, h0km, mbtmp2.6/4, ML2.0/4, Error ellipse: s-maj=18.6km s-min=7.9km az=118.0*

ISC 15 03:41:56.5±0.7, 67.˚19N±0.˚02×20.˚67E±0.˚02, h0km, n35, σ1s23/61, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**209**	*i* P	**Pg**	**03 41 59.0**	**+1.0**
DUNU				*i* S	**Sg**	**03 42 00.2**	**+1.2**
RATU	**Laukkuluspa**	**0.76**	**327**	*i* P	**Pg**	**03 42 11.2**	**+0.2**
RATU				*i* S	**Sg**	**03 42 21.1**	**+0.3**
KUA	**Kurravaara**	**0.78**	**351**	*i* P	**Pg**	**03 42 11.4**	**0.0**
KUA				*i* S	**Sg**	**03 42 21.5**	**+0.1**
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	**Pg**	**03 42 13.3**	**+0.4**
ERTU	**Ertsjaerv**	**0.88**	**136**	*e*P	**Pg**	**03 42 12.9**	**-0.4**
ERTU				*e*S	**Sg**	**03 42 24.9**	**+0.3**
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	**Pg**	**03 42 14.3**	**+0.1**
PAJU	**Pajala**	**0.97**	**99**	*e*P	**Pg**	**03 42 14.7**	**-0.4**
PAJU				*e*S	**Sg**	**03 42 28.3**	**+0.7**
LANU	**Lannavaara**	**1.00**	**30**	*e*P	**Pg**	**03 42 15.2**	**-0.4**
LANU				*e*S	**Sg**	**03 42 28.2**	**-0.4**
HARU	**Harads**	**1.04**	**173**	*e*P	**Pg**	**03 42 16.1**	**-0.2**
KLF	**Kolari**	**1.28**	**87**	*e*P	**Pg**	**03 42 20.3**	**-0.7**
KLF				*e*SB	**Sg**	**03 42 38.2**	**+0.6**
HEF	**Hetta**	**1.67**	**42**	*e*P	**Pn**	**03 42 27.2**	**+0.2**
HEF				*e*S	**Sb**	**03 42 49.9**	**+0.3**
HEF	**Hetta**	**1.67**	**42**	*e*P	**Pn**	**03 42 26.8**	**-0.1**
HEF				*e*SN	**Sg**	**03 42 50.4**	**+0.3**
HEF				MSG		03 42 55.2	
	comp=Z,10nm,0.3s						
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	**Pb**	**03 42 30.2**	**-0.5**
KIF				*e*S	**Sg**	**03 42 55.4**	**+0.5**
KIF				MSG		03 42 58.2	
	comp=Z,19nm,0.3s						
TOF	**Tornio**	**1.84**	**126**	*e*P	**Pn**	**03 42 29.8**	**+0.6**
TOF				*e*SG	**Sb**	**03 42 54.7**	**+0.3**
TOF				MSG		03 42 56.6	
	comp=Z,18nm,0.4s						
KTK1	**Kautokeino**	**2.07**	**27**	*e*P	**Pb**	**03 42 34.4**	**-0.4**
KTK1				*e*S	**Sb**	**03 43 01.9**	**+0.8**
KTK1				IAML		03 43 03.4	
	comp=Z,23nm,0.6s						
KTK1	**Kautokeino**	**2.07**	**27**	*e*PB	**Pb**	**03 42 34.0**	**-0.8**
KTK1				*e*SG	**Sb**	**03 43 01.7**	**+0.7**
FAUS	**Fauske**	**2.10**	**278**	*e*P	**Pb**	**03 42 34.7**	**-0.6**
FAUS				IAML		03 43 05.5	
	comp=Z,23nm,1.0s						
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB	**Pn**	**03 42 35.5**	**+1.4**
RNF				*e*SG	**Sb**	**03 43 05.4**	**+1.0**
STEI	**Steigen**	**2.21**	**292**	*e*P	**Pb**	**03 42 37.2**	**0.0**
STEI				IAML		03 43 08.3	
	comp=Z,19nm,0.6s						
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	**Pn**	**03 42 37.0**	**+1.6**
SGF				*e*SG	**Sb**	**03 43 07.8**	**+0.5**
JETT	**Jettan, Norway**	**2.38**	**358**	*e*P	**Pb**	**03 42 39.1**	**-1.0**
JETT				IAML		03 43 13.3	
	comp=Z,30nm,0.3s						
TRO	**Tromso**	**2.54**	**346**	*e*PB	**Pb**	**03 42 41.1**	**-1.7**
TRO				*e*SG	**Sb**	**03 43 15.8**	**+1.3**
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*P	**Pn**	**03 42 45.4**	**+0.8**
ARA0				*e*S	**Sn**	**03 43 21.7**	**+0.9**
ARCES	**ARCESS Array B**	**2.96**	**35**	Pn	**Pn**	**03 42 44.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=216,slow=12,SNR=30						
ARCES				Sn	**Sn**	**03 43 22.2**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=218,slow=20,SNR=15						
	comp=Z,1.5nm,0.5s						
OUL	**Oulu**	**3.00**	**132**	*e*PG	**Pb**	**03 42 50.4**	**-0.2**
OUL				*e*SG	**Sg**	**03 43 30.7**	**-1.9**
OUF	**Merijarvi**	**3.29**	**148**	*e*PG	**Pb**	**03 42 55.8**	**+0.2**
KEV	**Kevo**	**3.48**	**39**	*e*P	**Pn**	**03 42 53.1**	**+1.4**
KEV				*e*S	**Sn**	**03 43 34.0**	**+0.5**
VRF	**Varrio**	**3.49**	**77**	*e*PG	**Pb**	**03 42 59.7**	**+0.7**
OLKF	**Oulanka, Finla**	**3.57**	**100**	*e*P	**Pn**	**03 42 54.8**	**+1.8**
OLKF				*e*SG	**Sg**	**03 43 49.1**	**-1.9**
MSF	**Maaselka**	**3.58**	**107**	*e*PG	**Pb**	**03 43 01.6**	**+0.9**
MSF				*e*SG	**Sb**	**03 43 47.4**	**+2.8**
KU6	**Riekki**	**3.86**	**103**	*e*PG	**Pb**	**03 43 06.5**	**+1.2**
KU6				*e*SG	**Sg**	**03 43 57.5**	**-2.8**
HEMU	**Hemsoen**	**4.67**	**195**	*e*S	**Sn**	**03 44 01.6**	**-1.3**
FINES	**FINESS Array B**	**6.23**	**155**	Pn	**Pn**	**03 43 30.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=5.9						
FINES				Sn	**Sn**	**03 44 39.4**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=346,slow=23,SNR=3.1						
FINES				Lg	Lg	03 45 05.0	
	comp=Z,0.2nm,0.3s,baz=339,slow=31,SNR=1.9						
	comp=Z,0.9nm,0.5s						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**03 43 46.3**	**+0.4**
	baz=28,slow=11,SNR=4.3						
NOA				Sn	**Sn**	**03 45 08.6**	**-2.2**
	baz=33,slow=23,SNR=4.4						
NOA				Lg	Lg	03 45 48.2	
	baz=22,slow=7.2,SNR=6.1						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**03 43 49.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=21,slow=13,SNR=5.1						
HFS				Sn	**Sn**	**03 45 13.5**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=29,slow=21,SNR=1.1						
HFS				Lg	Lg	03 45 54.2	
	comp=Z,0.2nm,0.3s,baz=26,slow=27,SNR=2.2						
	comp=Z,0.3nm,0.3s						

*IDC **15** 03:51:37.9±2.0, 6.˚66N×77.˚07W, h0km, mb3.4/2, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=57.9km s-min=35.6km az=33.0*
*RSNC **15** 03:51:39.2±1.3, 7.˚15N×76.˚29W, h0km±5km, ML3.4, Mw3.8*

ISC 15 03:51:37.9±1.0, 7.˚19N±0.˚03×76.˚30W±0.˚03, h10km±8km, n40, σ1s83/53, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.19**	**153**	⇓*i* P	**Pg**	**03 51 42.0**	**0.0**
DBBC				*e*S	**Sg**	**03 51 45.5**	**+0.8**
DBBC				IAML		03 51 47.3	
	comp=Z,7µm,0.3s						
UREC	**San Jos de Ur**	**0.94**	**53**	⇑*e*P	**Pg**	**03 51 55.8**	**-0.2**
UREC				*e*S	**Sn**	**03 52 10.8**	**0.0**
UREC				IAML		03 52 13.1	
	comp=Z,1µm,0.3s						
HELC	**Santa Helena**	**1.25**	**142**	⇓*e*P	**Pn**	**03 52 00.3**	**-1.5**
HELC				*e*S	**Sn**	**03 52 18.6**	**-0.2**
HELC				IAML		03 52 23.1	
	comp=Z,230nm,0.3s						
CBOC	**Ciudad Bolivar**	**1.34**	**168**	*e*P	**Pg**	**03 52 03.0**	**-0.8**
CBOC				*e*S	**Sg**	**03 52 23.1**	**+1.8**
CBOC				IAML		03 52 31.8	
	comp=Z,860nm,0.8s						
ZARC	**Zaragoza, Cauc**	**1.46**	**78**	*e*P	**Pn**	**03 52 04.4**	**+0.1**
ZARC				*e*S	**Sg**	**03 52 25.

comp=Z,0.2nm,0.5s,baz=272,slow=5.5,SNR=1.6
comp=Z,0.2nm,0.5s
WRA Warramunga Arr 147.71 244 PKPbc **PKPbc 04 11 22.7 -1.2**
comp=Z,0.2nm,0.7s,baz=104,slow=3.0,SNR=1.6

SOME ***15*** *04:07:08.8, 39°.27N × 73°.13E, h0km*
KRNET ***15*** *04:07:17.3 ± 0.1, 39°.42N × 73°.64E, mb3.6*
NNC ***15*** *04:07:29.6 ± 0.7, 39°.84N × 73°.43E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.0km s-min=3.2km az=172.0*
ISC 15 04:07:20.8 ± 1.5, **39°.56N** ± 0°.07 × **73°.48E** ± 0°.05, **h10km, n28, σ1§92/46, 13C-7D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.10**	**331**	⇑*i*	*i*P **Pb**	**04 07 41.8**	**-0.3**
	baz=29						
OHH				⇑*i*	*i*S **Sn**	**04 07 59.7**	**+1.9**
	baz=29						
BTK	**Batken**	**2.11**	**285**	⇑*e*	*e*P **Pb**	**04 07 58.2**	**-1.0**
	baz=87						
BTK				⇑*i*	*i*S **Sb**	**04 08 28.0**	**+2.4**
	baz=87						
GAR	**Garm**	**2.52**	**258**	⇓*i*	*i*P **Pb**	**04 08 03.1**	**-3.1**
	baz=62						
GAR				⇓*i*	*i*S **Sb**	**04 08 36.5**	**-0.8**
	baz=62						
UCH	**Uchtor**	**2.78**	**16**	⇑*e*	*e*P **Pb**	**04 08 06.8**	**-4.1**
	baz=13						
UCH				⇑*i*	*i*S **Sb**	**04 08 43.0**	**-2.2**
	baz=13						
AAK	**Ala-Archa**	**3.17**	**14**	⇑*i*	*i*P **Pn**	**04 08 12.1**	**+1.2**
	baz=11						
AAK				⇑*i*	*i*S **Sb**	**04 08 52.1**	**-4.0**
	baz=11						
MRKS	**Merke**	**3.19**	**357**	*e*P	**Pb**	**04 08 15.3**	**-2.3**
	2.9nm,0.1s						
MRKS				*e*S	**Sg**	**04 09 03.6**	**+0.3**
	45nm,0.2s						
MRKS	**Merke**	**3.19**	**357**	Pg	**Pb**	**04 08 15.3**	**-2.3**
	4.6nm,0.2s						
MRKS				Lg	Lg	04 09 03.6	
	45nm,0.4s						
KBK	**Karagaybulak**	**3.29**	**19**	⇑*e*	*e*P **Pn**	**04 08 13.5**	**+0.9**
	baz=17						
KBK				⇑*i*	*i*S **Sn**	**04 08 54.5**	**+2.7**
	baz=17						
CHMS	**Chumysh**	**3.57**	**15**	⇓Pn	**Pb**	**04 08 22.8**	**-1.2**
	3.4nm,0.6s						
CHMS				⇓Lg	Lg	04 09 14.0	
	14nm,0.7s						
IUG	**luzhnay**	**3.68**	**316**	*e*P	**Pn**	**04 08 18.4**	**+0.5**
	67nm,0.3s						
IUG				*e*S	**Sb**	**04 09 08.8**	**-1.9**
	42nm,0.6s						
IUG	**luzhnay**	**3.68**	**316**	Pg	**Pn**	**04 08 18.4**	**+0.5**
	67nm,0.3s						
IUG				Lg	Lg	04 09 08.8	
	42nm,0.6s						
TKM2	**Tokmak 2**	**3.72**	**25**	⇑Pn	**Pb**	**04 08 25.4**	**-1.3**
	2.5nm,0.6s						
TKM2				⇓Lg	Lg	04 09 20.0	
	11nm,0.7s						
KST	**Kastek**	**3.95**	**27**	*e*P	**Pb**	**04 08 29.7**	**-1.0**
	1.8nm,0.5s						
KST				*e*S	**Sg**	**04 09 28.2**	**+0.5**
	30nm,0.8s						
KST	**Kastek**	**3.95**	**27**	Pg	**Pb**	**04 08 29.7**	**-1.0**
	1.8nm,0.5s						
KST				Lg	Lg	04 09 28.2	
	30nm,0.8s						
SGDS	**Sogindy**	**3.99**	**12**	*e*P	**Pb**	**04 08 28.9**	**-2.2**
	1.0nm,0.2s						
SGDS				*e*S	**Sg**	**04 09 26.5**	**-2.3**
	8.9nm,0.5s						
DGS	**Degeres**	**4.07**	**24**	*e*P	**Pb**	**04 08 32.0**	**-0.5**
	2.1nm,0.3s						
DGS				*e*S	**Sg**	**04 09 31.9**	**+0.5**
	12nm,0.6s						
DGS	**Degeres**	**4.07**	**24**	Pg	**Pb**	**04 08 31.3**	**-1.2**
	3.4nm,0.6s						
DGS				Lg	Lg	04 09 31.8	
	12nm,0.6s						
KK31	**Karatay Array**	**4.19**	**329**	⇓Pn	**Pb**	**04 08 31.1**	**-3.6**
	0.5nm,0.3s,baz=135,slow=13,SNR=11						
KK31				⇓Pg	**Pg**	**04 08 41.0**	**0.0**
	2.1nm,0.4s,baz=149,slow=16,SNR=13						
KK31				⇑Sn	**Sn**	**04 09 19.2**	**+5.4**
	3.8nm,0.5s,baz=29,slow=38,SNR=4.4						
KK31				⇑Lg	Lg	04 09 34.1	
	7.4nm,0.6s,baz=141,slow=29,SNR=3.8						
MTBS	**Maitube**	**4.20**	**31**	*e*P	**Pb**	**04 08 34.2**	**-0.6**
	2.1nm,0.1s						
MTBS				*e*S	**Sg**	**04 09 35.5**	**-0.2**
	14nm,0.3s						
MTBS	**Maitube**	**4.20**	**31**	Pg	**Pb**	**04 08 34.2**	**-0.6**
MTBS				Lg	Lg	04 09 35.6	
KRBS	**Karabastau**	**4.45**	**21**	*e*P	**Pb**	**04 08 39.3**	**+0.2**
	1.2nm,0.3s						
KRBS				*e*S	**Sg**	**04 09 44.6**	**+0.9**
	8.9nm,0.2s						
KRBS	**Karabastau**	**4.45**	**21**	Pg	**Pb**	**04 08 39.3**	**+0.2**
	1.2nm,0.3s						
KRBS				Lg	Lg	04 09 44.6	
	5.5nm,0.7s						
MDOK	**Medeo**	**4.49**	**36**	Pn	**Pb**	**04 08 36.6**	**-3.3**
	3.2nm,0.6s						
MDOK				Lg	Lg	04 09 45.8	
	21nm,1.0s						
KTBS	**Karatobe**	**4.79**	**29**	*e*P	**Pb**	**04 08 45.0**	**+0.1**
	1.7nm,0.8s						
KTBS				*e*S	**Sg**	**04 09 54.1**	**-0.6**
	30nm,0.5s						
KTBS	**Karatobe**	**4.79**	**29**	Pg	**Pb**	**04 08 45.0**	**+0.1**
	1.7nm,0.8s						
KTBS				Lg	Lg	04 09 54.1	
	30nm,0.5s						
KUU	**Kurty**	**4.83**	**25**	*e*P	**Pb**	**04 08 46.2**	**+0.7**
	1.3nm,0.4s						
KUU				*e*S	**Sg**	**04 09 56.1**	**+0.2**
	17nm,0.8s						
KUU	**Kurty**	**4.83**	**25**	Pg	**Pb**	**04 08 46.2**	**+0.7**
	1.3nm,0.4s						
KUU				Lg	Lg	04 09 56.1	
	17nm,0.8s						
ARXS	**Arharly**	**5.67**	**33**	*e*P	**Pb**	**04 09 00.8**	**+1.0**
	1.5nm,0.6s						
ARXS				*e*S	**Sg**	**04 10 21.4**	**-1.4**
	12nm,0.4s						

KRSC ***15*** *04:22:55.6 ± 1.8, 49°.57N × 157°.90E, h34km ± 41km, ML4.8*
MOS ***15*** *04:22:57.8 ± 1.0, 49°.81N × 156°.33E, h85km, mb4.4/22, Error ellipse: s-maj=10.8km s-min=4.0km az=82.7*
NEIC ***15*** *04:22:59.0 ± 0.8, 49°.8N ± 0°.1 × 156°.27E ± 0°.08, h79km ± 9km, mb4.4/20, Error ellipse: s-maj=18.3km s-min=6.1km az=163.0*
IDC ***15*** *04:23:00.6 ± 2.8, 49°.91N × 156°.29E, h98km ± 23km, mb3.7/19, mbtmp4.1/22, MS3.1/10, Error ellipse: s-maj=21.3km s-min=12.7km az=165.0*
ISC 15 04:22:57.8 ± 0.8, **49°.70N** ± 0°.07 × **156°.51E** ± 0°.06, **h82km** ± 6km, **n177, σ1§46/191, mb4.3/47, 7C-8D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.02**	**346**	⇑*i*	*i*PN **Pn**	**04 23 17.2**	**0.0**
SKR				*i*	S **Sn**	**04 23 31.9**	**+0.2**
SKR					smax smax		
	comp=N,3μm,0.3s						
SKR					smax smax		
	comp=E,3μm,0.2s						
KDTR	**Khodutka, Kamc**	**2.34**	**25**		PN **Pn**	**04 23 33.7**	**-0.5**
KDTR					S **Sn**	**04 24 00.8**	**-1.3**
KDTR	**Khodutka, Kamc**	**2.34**	**25**		*e*P **Pn**	**04 23 33.7**	**-0.5**
KDTR					*e*S **Sn**	**04 24 00.8**	**-1.3**
ASAK	**Asacha**	**2.83**	**18**		PN **Pn**	**04 23 41.5**	**+0.6**
ASAK					S **Sn**	**04 24 13.6**	**-0.5**
ASAK	**Asacha**	**2.83**	**18**		*e*P **Pn**	**04 23 41.5**	**+0.6**
ASAK					*e*S **Sn**	**04 24 13.6**	**-0.5**
MTVR	**Mutnovka**	**2.98**	**20**		PN **Pn**	**04 23 43.4**	**+0.3**
MTVR					S **Sn**	**04 24 17.4**	**-0.5**
MTVR	**Mutnovka**	**2.98**	**20**		*e*P **Pn**	**04 23 43.4**	**+0.3**
MTVR					*e*S **Sn**	**04 24 17.4**	**-0.5**
RUS	**Russkaya**	**3.02**	**24**		PN **Pn**	**04 23 42.6**	**-0.8**
RUS					S **Sn**	**04 24 16.3**	**-2.2**
RUS	**Russkaya**	**3.02**	**24**		*e*P **Pn**	**04 23 42.6**	**-0.8**
RUS					*e*S **Sn**	**04 24 16.3**	**-2.2**
APC	**Apacha**	**3.26**	**7**		PN **Pn**	**04 23 48.0**	**+1.4**
APC	**Apacha**	**3.26**	**7**		*e*P **Pn**	**04 23 48.0**	**+1.4**
KRMR	**Karymshinskiy**	**3.30**	**17**		PN **Pn**	**04 23 47.5**	**+0.3**
KRMR					S **Sn**	**04 24 27.5**	**+2.2**
KRMR	**Karymshinskiy**	**3.30**	**17**		*e*P **Pn**	**04 23 47.5**	**+0.3**
KRMR					*e*S **Sn**	**04 24 27.5**	**+2.2**
PEA0B	**Petropavlovsk-**	**3.50**	**12**		**Pn**	**04 23 51.2**	**+1.3**
PEA0B	**Petropavlovsk-**	**3.50**	**12**	*d*	*i*PN **Pn**	**04 23 51.3**	**+1.4**
PETK	**Petropavlovsk-**	**3.50**	**12**		P **Pn**	**04 23 50.2**	**+0.3**
	comp=E,6.7nm,0.4s,baz=188,slow=9,0,SNR=42						
PETK					S **Sn**	**04 24 36.6**	**+6.5**
	comp=E,18nm,0.5s,baz=160,slow=23,SNR=6.0						
PETK	**Petropavlovsk-**	**3.50**	**12**		**Pn**	**04 23 50.8**	**+0.9**
PETK	**Petropavlovsk-**	**3.50**	**12**		PN **Pn**	**04 23 50.8**	**+0.9**
PET	**Petropavlovsk**	**3.59**	**21**		Pn **Pn**	**04 23 51.7**	**+0.6**
PET					**Sn**	**04 24 32.5**	**+0.2**
PET	**Petropavlovsk**	**3.59**	**21**	*e*	PN **Pn**	**04 23 51.6**	**+0.4**
PET					*e*S **Sn**	**04 24 32.6**	**+0.2**
PET					pmax pmax		
	comp=Z,77nm,0.5s						
PET					smax smax		
	comp=E,340nm,0.6s						
PET					smax smax		
	comp=N,312nm,0.6s						
PET	**Petropavlovsk**	**3.59**	**21**	*e*	P **Pn**	**04 23 51.5**	**+0.4**
PET					*e*S **Sn**	**04 24 31.8**	**-0.6**
DALK	**Dalny**	**3.62**	**22**		PN **Pn**	**04 23 51.8**	**+0.2**
DALK					S **Sn**	**04 24 32.5**	**-0.6**
DALK	**Dalny**	**3.62**	**22**	*e*	P **Pn**	**04 23 51.8**	**+0.2**
DALK					*e*S **Sn**	**04 24 32.5**	**-0.6**
UGLR	**Uglovaya**	**3.80**	**22**		PN **Pn**	**04 23 55.0**	**+0.9**
UGLR	**Uglovaya**	**3.80**	**22**	*e*	P **Pn**	**04 23 55.0**	**+0.9**
AVH	**Avacha**	**3.84**	**20**		PN **Pn**	**04 23 55.8**	**+1.3**
AVH					S **Sn**	**04 24 40.4**	**+1.9**
AVH	**Avacha**	**3.84**	**20**	*e*	P **Pn**	**04 23 55.8**	**+1.3**
AVH					*e*S **Sn**	**04 24 40.4**	**+1.9**
KOK	**Koryaka**	**3.84**	**19**		PN **Pn**	**04 23 56.3**	**+1.7**
KOK					S **Sn**	**04 24 41.1**	**+2.6**
KOK	**Koryaka**	**3.84**	**19**	*e*	P **Pn**	**04 23 56.3**	**+1.7**
KOK					*e*S **Sn**	**04 24 41.1**	**+2.6**
SMAR	**Somma**	**3.85**	**21**		PN **Pn**	**04 23 55.6**	**+0.8**
SMAR	**Somma**	**3.85**	**21**	*e*	P **Pn**	**04 23 55.6**	**+0.8**
KRER	**Koryakskii**	**3.87**	**20**		PN **Pn**	**04 23 56.4**	**+1.2**
KRER					S **Sn**	**04 24 41.5**	**+1.9**
KRER	**Koryakskii**	**3.87**	**20**	*e*	P **Pn**	**04 23 56.4**	**+1.2**
KRER					*e*S **Sn**	**04 24 41.5**	**+1.9**
SDLR	**Sedlovina**	**3.88**	**22**		PN **Pn**	**04 23 55.4**	**+0.2**
SDLR	**Sedlovina**	**3.88**	**22**	*e*	P **Pn**	**04 23 55.4**	**+0.2**
KRX	**Arik**	**3.90**	**19**		PN **Pn**	**04 23 56.9**	**+1.4**
KRX	**Arik**	**3.90**	**19**	*e*	P **Pn**	**04 23 56.9**	**+1.4**
NLC	**Nalytchevo**	**3.91**	**26**		PN **Pn**	**04 23 54.3**	**-1.1**
NLC					S **Sn**	**04 24 37.3**	**-2.7**
NLC	**Nalytchevo**	**3.91**	**26**	*e*	P **Pn**	**04 23 54.3**	**-1.1**
NLC					*e*S **Sn**	**04 24 37.3**	**-2.7**
SPN	**Mys Shipunski**	**4.05**	**32**		PN **Pn**	**04 23 56.9**	**-0.5**
SPN					S **Sn**	**04 24 41.2**	**-2.5**
SPN	**Mys Shipunski**	**4.05**	**32**	*e*	P **Pn**	**04 23 56.9**	**-0.5**
SPN					*e*S **Sn**	**04 24 41.2**	**-2.5**
GNL	**Ganaly**	**4.10**	**12**		PN **Pn**	**04 23 59.9**	**+1.7**
GNL	**Ganaly**	**4.10**	**12**	*e*	P **Pn**	**04 23 59.9**	**+1.7**
KII	**Karymskiy**	**4.71**	**22**		PN **Pn**	**04 24 08.0**	**+1.6**
KII	**Karymskiy**	**4.71**	**22**	*e*	P **Pn**	**04 24 08.0**	**+1.6**
MKZ	**Mys Kozlova**	**5.83**	**31**		PN **Pn**	**04 24 20.2**	**-1.4**
MKZ	**Mys Kozlova**	**5.83**	**31**	*e*	P **Pn**	**04 24 20.2**	**-1.4**
MKZ					*e*S **Sn**	**04 25 22.6**	**-4.4**
TUMR	**Tumrok**	**6.02**	**20**		PN **Pn**	**04 24 25.8**	**+1.5**
TUMR	**Tumrok**	**6.02**	**20**	*e*	P **Pn**	**04 24 25.8**	**+1.5**
KBTR	**Krutoberegovo**	**7.55**	**28**		PN **Pn**	**04 24 44.3**	**-0.7**
KBTR	**Krutoberegovo**	**7.55**	**28**	*e*	P **Pn**	**04 24 44.3**	**-0.7**
BKI	**Bering**	**7.99**	**43**	*e*	S Sn	04 26 10.2	-9.4
MA2	**Magadan**	**10.44**	**344**		P **Pn**	**04 25 25.0**	**+0.6**
	comp=N,4.2nm,0.4s,baz=211,slow=21,SNR=1.9						
MA2	**Magadan**	**10.44**	**344**		Pn **Pn**	**04 25 25.6**	**+1.3**
MA2	**Magadan**	**10.44**	**344**		PN **Pn**	**04 25 25.6**	**+1.3**
KLR	**Kul'dur**	**16.09**	**278**		P **P**	**04 26 40.3**	**-0.3**
	comp=N,2.6nm,0.9s,baz=101,slow=19,SNR=4.9						
KLR					LR LR	04 33 31.6	
	comp=N,23nm,21.9s,baz=46,slow=40						
KLR	**Kul'dur**	**16.09**	**278**	*i*	*e*P **P**	**04 26 41.9**	**+1.2**
ZEA	**Zeya**	**18.50**	**294**		*e*P **Pn**	**04 27 07.5**	**-0.8**
ZEA					pmax pmax		
	comp=Z,10.0nm,0.9s						
YAK	**Yakutsk**	**19.29**	**320**	⇓	*e*P **P**	**04 27 14.9**	**-0.8**
HIA	**Hailar**	**23.74**	**283**	⇓	*e*P **P**	**04 28 00.8**	**-1.5**
HIA					pmax pmax		
	comp=Z,5.0nm,0.6s						
KSRS	**Korea Array**	**23.89**	**250**		P **P**	**04 28 04.5**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=46,slow=10,SNR=20						
KSRS					LR LR	04 37 21.8	
	comp=Z,7.9nm,20.9s,baz=65,slow=36						
	comp=Z,2.8nm,0.8s						
KSRS	**Korea Array**	**23.89**	**250**	*e*	P **P**	**04 28 04.5**	**+0.8**
KSRS					pmax pmax		
	comp=Z,2.0nm,0.7s						
TIXI	**Tiksi**	**25.37**	**340**		P **P**	**04 28 15.4**	**-1.3**
	comp=Z,6.9nm,0.5s,baz=95,slow=22,SNR=7.6						
	comp=Z,6.9nm,0.5s						
TIXI	**Tiksi**	**25.37**	**340**		P **P**	**04 28 15.6**	**-1.2**
TIXI					IAmb IAmb	04 28 17.1	
	comp=Z,8.0nm,0.6s						
TIXI	**Tiksi**	**25.37**	**340**	⇓	*e*P **P**	**04 28 15.5**	**-1.3**
TIXI					pmax pmax		
	comp=Z,5.0nm,0.5s						
J20K	**Nowinta River**	**29.66**	**42**		P **P**	**04 28 56.7**	**+1.4**
IMAR	**Indian Mountai**	**30.05**	**39**		P **P**	**04 28 59.3**	**+0.7**
H21K	**Melozitna Rive**	**30.39**	**39**		P **P**	**04 29 03.3**	**+1.6**
KDAK	**Kodiak Island**	**30.52**	**55**		LR LR	04 41 55.7	
	comp=Z,45nm,20.1s,baz=244,slow=37						
H11N2	**WAKE ISLAND Hy**	**31.03**	**161**		T T	05 02 18.1	
	baz=347,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**31.05**	**161**		T T	05 02 19.3	
	baz=347,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**31.05**	**161**		T T	05 02 21.1	
	baz=347,slow=76,SNR=35						
ULN	**Ulaanbaatar**	**32.17**	**286**	⇓	*e*P **P**	**04 29 16.9**	**-0.8**
ULN					pmax pmax		
	comp=Z,1.0nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**32.18**	**162**		T T	05 03 37.9	
	baz=347,slow=76,SNR=95						
H11S3	**WAKE ISLAND Hy**	**32.19**	**162**		T T	05 03 38.6	
	baz=347,slow=76,SNR=141						
H11S2	**WAKE ISLAND Hy**	**32.20**	**162**		T T	05 03 39.2	
	baz=347,slow=76,SNR=84						
SONM	**Songino Array**	**32.59**	**286**		P **P**	**04 29 20.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=75,slow=7.8,SNR=2.7						
	comp=Z,0.4nm,0.3s						
SONM	**Songino Array**	**32.59**	**286**		P **P**	**04 29 20.0**	**-1.3**
ILAR	**Eielson Array**	**32.83**	**41**		P **P**	**04 29 23.9**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=254,slow=7.8,SNR=10						
	comp=Z,1.4nm,0.8s						
ILAR	**Eielson Array**	**32.83**	**41**	*e*	P **P**	**04 29 24.2**	**+1.1**
ILAR					pmax pmax		
	comp=Z,1.0nm,0.7s						
NJ2	**Nanjing**	**33.05**	**252**	*e*	P **P**	**04 29 20.9**	**-4.4**
NJ2					pmax pmax		
	comp=Z,11nm,0.6s						
PRP	**Porcupine Dome**	**33.40**	**40**		P **P**	**04 29 30.1**	**+1.9**
L27K	**Beaver Creek,**	**35.17**	**44**		P **P**	**04 29 45.8**	**+2.4**
L27K					IAmb IAmb	04 29 47.1	
	comp=Z,4.9nm,1.0s						
WHN	**Wuhan**	**36.88**	**255**	⇑	P **P**	**04 29 58.6**	**+0.3**
LZH	**Lanzhou**	**40.09**	**271**		*e*P P	04 30 34.8	+9.5
LZH					pP pP	04 30 41.3	-3.5
LZH					pmax pmax		
	comp=Z,18nm,1.6s						
GTA	**Gaotai**	**40.79**	**278**		*e*P **P**	**04 30 31.1**	**+0.1**
GTA					pP pP	04 30 35.1	-15
GTA					sP sP	04 30 38.1	-22
GTA					pmax pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**42.78**	**304**		P **P**	**04 30 45.9**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=57,slow=11,SNR=5.1						
	comp=Z,1.6nm,0.3s						
ZALV	**Zalesovo Beam**	**42.78**	**304**		*e*P **P**	**04 30 46.0**	**-0.8**
ZALV					pmax pmax		
	comp=Z,2.0nm,0.3s						
DGZ	**Jazzator, Alta**	**43.20**	**298**	⇓	*i*P **P**	**04 30 51.1**	**+0.6**
DGZ					pmax pmax		
	comp=Z,4.0nm,0.9s						
GOMU	**GeErMu**	**45.87**	**277**		P **P**	**04 31 10.0**	**-2.2**
GOMU					pP pP	04 31 14.3	-18
GOMU					sP sP	04 31 15.3	-26
GOMU					pmax pmax		
	comp=Z,4.0nm,0.7s						
GOMU					pmax pmax		
	comp=Z,85nm,5.2s						
MK31	**Makanchi Array**	**47.63**	**297**		P **P**	**04 31 25.1**	**-0.2**
MK31	**Makanchi Array**	**47.63**	**297**	*d*	*i*P **P**	**04 31 24.9**	**-0.5**
MKAR	**Makanchi Array**	**47.63**	**297**		P **P**	**04 31 24.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=50,slow=6.0,SNR=24						
MKAR					LR LR	04 52 27.7	
	comp=Z,26nm,20.4s,baz=304,slow=37						
	comp=Z,1.6nm,0.5s						
MKAR	**Makanchi Array**	**47.63**	**297**		P **P**	**04 31 25.1**	**-0.2**
KURK	**Kurchatov**	**47.65**	**303**		P **P**	**04 31 25.2**	**-0.2**
KURK	**Kurchatov**	**47.65**	**303**	*d*	*i*P **P**	**04 31 24.9**	**-0.5**
KURK					pmax pmax		
	comp=Z,17nm,1.3s						
BRVK	**Borovoye**	**50.79**	**309**		P **P**	**04 31 48.1**	**-1.2**
BRVK	**Borovoye**	**50.79**	**309**	*ce*	P **P**	**04 31 48.6**	**-0.7**
BRVK					pmax pmax		
	comp=Z,4.0nm,0.6s						
BOOM	**Boomskoye usch**	**53.81**	**295**		P **P**	**04 32 11.9**	**-0.1**
BOOM					pmax pmax		
	comp=Z,4.0nm,0.6s						
ARU	**Arti**	**54.38**	**317**	*c*	*i*P **P**	**04 32 14.9**	**-0.8**
ARU					*PP **pP**	**04 32 34.8**	**-1.3**
ARU						04 33 15.2	
ARU					S **S**	**04 39 45.1**	**-2.2**
ARU					SS **SS**	**04 43 23.4**	**-6.3**
ARU					pmax pmax		
	comp=Z,4.0nm,0.6s						
YBH	**Yreka Blue Hor**	**54.40**	**65**		LR LR	04 52 09.3	
	comp=Z,22nm,20.1s,baz=287,slow=32						
AAK	**Ala-Archa**	**54.56**	**296**		LR LR	04 57 59.8	
	comp=Z,19nm,18.3s,baz=310,slow=39						
AAK	**Ala-Archa**	**54.56**	**296**	⇑*e*	*e*P **P**	**04 32 17.3**	**-0.2**
AAK					pmax pmax		
	comp=Z,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**55.26**	**257**		P **P**	**04 32 23.3**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=30,slow=6.5,SNR=9.7						
	comp=Z,2.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**55.26**	**257**	*e*	P **P**	**04 32 25.4**	**+2.8**
CMAR					pmax pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**55.80**	**341**		P **P**	**04 32 24.3**	**-1.5**
	comp=Z,3.1nm,0.8s,baz=38,slow=8.2,SNR=6.7						
	comp=Z,3.1nm,0.8s						
ARCES	**ARCESS Array B**	**55.80**	**341**	*e*	P **P**	**04 32 25.1**	**-0.7**
ARCES					pmax pmax		
	comp=Z,3.0nm,0.8s						
WVOR	**Wild Horse Val**	**56.33**	**62**		P **P**	**04 32 31.3**	**+1.2**
WVOR					pmax pmax		
	comp=Z,2.0nm,1.1s						
SUMG	**Summit**	**57.58**	**5**		P **P**	**04 32 40.0**	**+1.2**
SUMG					pmax pmax		
	comp=Z,12nm,2.4s						
ABKAR	**Akbulak array**	**58.27**	**310**		P **P**	**04 32 43.6**	**+0.1**
ABKAR	**Akbulak array**	**58.27**	**310**		P **P**	**04 32 43.6**	**+0.1**
ABKAR					IAmb IAmb	04 32 43.8	
	comp=Z,3.4nm,0.8s						
NVAR	**Mina Array Bea**	**59.10**	**66**		P **P**	**04 32 51.0**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=296,slow=7.7,SNR=10						
	comp=Z,0.9nm,0.6s						
GAR	**Garm**	**59.32**	**295**		P **P**	**04 32 50.8**	**-0.3**
ELK	**Elko**	**59.37**	**62**		LR LR	04 57 34.4	
	comp=Z,11nm,18.8s,baz=235,slow=35						
CHGR	**Chuyangaron**	**60.22**	**296**		P **P**	**04 32 56.9**	**-0.3**
CHGR	**Chuyangaron**	**60.22**	**296**		P **P**	**04 32 56.9**	**-0.3**
CHGR					pmax pmax		
	comp=Z,9.0nm,0.6s						
PDAR	**Pinedale Array**	**61.20**	**57**		P **P**	**04 33 05.3**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=270,slow=1.5,SNR=8.0						
PDAR					pP **pP**	**04 33 24.3**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=298,slow=3.2,SNR=3.0						
	comp=Z,0.9nm,0.9s						
FINES	**FINESS Array B**	**62.32**	**336**		P **P**	**04 33 09.5**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=41,slow=8.8,SNR=7.8						
	comp=Z,0.6nm,0.4s						
FINES	**FINESS Array B**	**62.32**	**336**	*e*	P **P**	**04 33 10.6**	**-0.2**
FINES					pmax pmax		
	comp=Z,1.0nm,0.4s						
KAPI	**Kappang**	**63.11**	**222**		LR LR	05 06 14.3	
	comp=Z,17nm,18.0s,baz=101,slow=41						
PFO	**Pinyon Flats O**	**63.45**	**69**	*i*	P **P**	**04 33 22.7**	**+3.7**
NB2	**NORSAR Subarra**	**66.14**	**342**		P **P**	**04 33 35.7**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**66.14**	**342**		P **P**	**04 33 35.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=28,slow=6.0,SNR=5.6						
	comp=Z,0.3nm,0.5s						
NOA	**NORSAR Array B**	**66.14**	**342**	*e*	P **P**	**04 33 36.0**	**+0.1**
HFS	**Hagfors**	**66.45**	**341**		LR LR	05 04 58.5	
	comp=Z,24nm,19.6s,baz=340,slow=38						
GEYT	**Alibeck**	**67.01**	**302**		P **P**	**04 33 41.3**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=28,slow=6.7,SNR=4.1						
	comp=Z,2.2

BRTR	**Keskin Array B**	**77.74 318**	P	**P**	**04 34 46.4**	**+0.7**
BRTR	**Keskin Array B**	**77.74 318**	*e*P	**P**	**04 34 46.5**	**+0.7**
BRTR			pmax	pmax		
	comp=Z,2.0nm,0.9s					
KBA	**Koelnbreinsper**	**78.47 335**	P	**P**	**04 34 51.6**	**+1.9**
KBA			pmax	pmax		
	comp=Z,12nm,0.9s					
KBA	**Koelnbreinsper**	**78.47 335**	*e*P	**P**	**04 34 51.4**	**+1.7**
WTTA	**Wattenberg**	**78.75 336**	P	**P**	**04 34 52.5**	**+1.3**
WTTA			pmax	pmax		
	comp=Z,9.0nm,1.1s					
ECH	**Echery**	**78.94 340**	P	**P**	**04 34 52.6**	**+0.5**
DIVS	**Divibare**	**79.17 330**	P	**P**	**04 34 53.4**	**-0.1**
DIVS			IAmb	IAmb	04 34 54.4	
	comp=Z,3.8nm,0.8s					
VTS	**Vitosha**	**79.37 327**	P	**P**	**04 34 55.1**	**+0.5**
VTS			IAmb	IAmb	04 34 56.1	
	comp=Z,5.0nm,0.8s					
VTS	**Vitosha**	**79.37 327**	P	**P**	**04 34 55.1**	**+0.5**
VTS			pmax	pmax		
	comp=Z,5.0nm,0.8s					
PHP	**Peshkopia**	**81.17 328**	P	**P**	**04 35 04.2**	**0.0**
PHP			pmax	pmax		
	comp=Z,7.0nm,0.9s					
RAYN	**Ar Rayn**	**84.94 301**	P	**P**	**04 35 23.8**	**-0.1**
RAYN			IAmb	IAmb	04 35 25.2	
	comp=Z,2.0nm,0.7s					
RAYN	**Ar Rayn**	**84.94 301**	P	**P**	**04 35 23.8**	**-0.1**
RAYN			pmax	pmax		
	comp=Z,2.0nm,0.7s					
H03N2	**Juan Fernandez**	**136.48 90**	T	T	07 14 25.6	
	baz=313,slow=76					
H03N1	**Juan Fernandez**	**136.49 90**	T	T	07 14 25.2	
	baz=313,slow=76					
H03N3	**Juan Fernandez**	**136.50 90**	T	T	07 14 27.0	
	baz=313					

NOU ***15*** *04:23:07.0,37.°08S×179.°80W,h123km,MLv4.8/7, East of North Island, N.Z.*
IDC ***15*** *04:23:13.0±1.1,36.°79S×179.°02E,h0km,mb4.6/6, mbtmp4.5/7,ML4.2/1,MS3.5/6,Error ellipse: s-maj=32.0km s-min=27.4km az=57.0*
NEIC ***15*** *04:23:14.2±1.0,37.°26S±0.°08×179.°15E±0.°08,h8km±2km, mb4.9/19,Error ellipse: s-maj=13.2km s-min=7.1km az=151.0*
WEL ***15*** *04:23:18.2±0.9,37°S±4.°×17.°9E±.°,h20km±5km,M4.1/35, ML4.3/35,MLv4.1/35,Error ellipse: s-maj=0.0km s-min=0.0km az=99.8*

ISC 15 04:23:17.4±1.7,37.°20S±0.°05×178.°98E±0.°07,h30km±9km, n147,σ1s74/166,mb4.8/16,MS3.5/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.65**	**236**		**Pb**	**04 23 29.7**	**-0.5**
MXZ				Sg	**Sb**	**04 23 38.1**	**-0.8**
MXZ	**Matakaoa Point**	**0.65**	**236**	P	**Pb**	**04 23 39.0**	**-0.4**
MXZ				S	**Sb**	**04 23 38.0**	**-1.0**
WMGZ	**Waiomatatini S**	**0.76**	**216**	P	**Pn**	**04 23 34.0**	**+1.9**
WMGZ				S	**Sn**	**04 23 46.6**	**+4.0**
PKGZ	**Pakihiroa**	**0.99**	**226**	P	**Pn**	**04 23 36.2**	**+0.9**
PKGZ				S	**Sn**	**04 23 51.5**	**+3.1**
PUZ	**Puketiti**	**1.04**	**213**	P	**Pb**	**04 23 37.8**	**+0.9**
PUZ				S	**Sn**	**04 23 52.7**	**+3.1**
HAZ	**Te Kaha**	**1.10**	**239**	P	**Pn**	**04 23 37.0**	**+0.2**
HAZ				S	**Sn**	**04 23 54.3**	**+3.4**
TWGZ	**Tauwhareparae**	**1.25**	**219**	P	**Pb**	**04 23 41.0**	**+0.5**
TWGZ				S	**Sb**	**04 23 59.2**	**+2.9**
RUGZ	**Raukumara Rang**	**1.28**	**233**	P	**Pb**	**04 23 41.1**	**+0.1**
RUGZ				S	**Sb**	**04 23 59.3**	**+2.1**
CNGZ	**Carnagh Statio**	**1.42**	**205**	P	**Pb**	**04 23 43.4**	**+0.2**
WIZ	**White Island**	**1.46**	**257**	P	**Pn**	**04 23 42.7**	**+1.0**
TKGZ	**Te Karaka**	**1.53**	**216**	P	**Pb**	**04 23 44.4**	**-0.7**
MWZ	**Matawai**	**1.61**	**225**	P	**Pb**	**04 23 45.7**	**-0.9**
MWZ				S	**Sb**	**04 24 06.0**	**-0.6**
WHRZ	**Whale Island**	**1.72**	**247**	P	**Pb**	**04 23 48.2**	**-0.1**
RIGZ	**Rimuhau**	**1.78**	**212**	P	**Pb**	**04 23 47.5**	**-2.0**
RIGZ				S	**Sb**	**04 24 10.6**	**-0.8**
RAGZ	**Rawiri**	**1.79**	**223**	P	**Pb**	**04 23 48.3**	**-1.2**
RAGZ				S	**Sn**	**04 24 10.3**	**+2.2**
URZ	**Urewera**	**1.82**	**234**	Pn	**Pb**	**04 23 48.5**	**-1.5**
	69nm,0.3s,baz=267,slow=0.4,SNR=123						
URZ				Sn	**Sn**	**04 24 09.8**	**+1.1**
	153nm,0.3s,baz=71,slow=22,SNR=38 422nm,0.7s						
URZ	**Urewera**	**1.82**	**234**	Pn	**Pb**	**04 23 48.5**	**-1.5**
URZ				Sn	**Sn**	**04 24 11.0**	**+2.3**
URZ	**Urewera**	**1.82**	**234**	P	**Pn**	**04 23 48.7**	**-1.3**
URZ				S	**Sn**	**04 24 11.2**	**+2.5**
PRGZ	**Paritu Road**	**1.92**	**206**	P	**Pn**	**04 23 49.4**	**+1.3**
MARZ	**Manawahe**	**1.99**	**246**	P	**Pb**	**04 23 51.9**	**-1.0**
EDRZ	**Edgecumbe**	**1.99**	**242**	P	**Pn**	**04 23 51.1**	**+2.0**
OPRZ	**Ohinepanea**	**2.03**	**251**	P	**Pn**	**04 23 51.1**	**+1.5**
SNGZ	**Shannon Statio**	**2.04**	**219**	P	**Pn**	**04 23 51.4**	**+1.6**
SNGZ				S	**Sn**	**04 24 16.4**	**+2.2**
KNZ	**Kokohu**	**2.09**	**209**	P	**Pn**	**04 23 51.2**	**+0.8**
KNZ				S	**Sn**	**04 24 16.6**	**+1.3**
RTZ	**Ruatahuna**	**2.12**	**228**	P	**Pb**	**04 23 53.1**	**-2.1**
RTZ				S	**Sb**	**04 24 19.8**	**-1.3**
MHGZ	**Mahia Peninsul**	**2.12**	**203**	P	**Pn**	**04 23 52.2**	**+1.3**
MUGZ	**Murupara**	**2.16**	**233**	P	**Pn**	**04 23 53.0**	**+1.7**
MYRZ	**Mayor Island**	**2.19**	**267**	P	**Pn**	**04 23 52.5**	**+0.8**
TARZ	**Mount Tarawera**	**2.21**	**241**	P	**Pb**	**04 23 55.0**	**-1.8**
TGRZ	**Tauranga**	**2.23**	**255**	P	**Pn**	**04 23 54.3**	**+2.0**
OMRZ	**Omania**	**2.26**	**246**	P	**Pn**	**04 23 55.2**	**+2.5**
RRRZ	**Republican Roa**	**2.26**	**239**	P	**Pb**	**04 23 56.4**	**-1.1**
RAHZ	**Arahi**	**2.27**	**221**	P	**Pn**	**04 23 54.6**	**+1.7**
KARZ	**Kaharoa**	**2.32**	**249**	P	**Pn**	**04 23 56.0**	**+2.5**
WHHZ	**Waihua**	**2.32**	**216**	P	**Pn**	**04 23 55.3**	**+1.7**
WHHZ				S	**Sn**	**04 24 23.0**	**+1.9**
MTHZ	**Maungataniwha**	**2.36**	**225**	P	**Pn**	**04 23 56.2**	**+2.1**
MTHZ				S	**Sn**	**04 24 24.9**	**+2.8**
HSRZ	**Hossack Road**	**2.43**	**242**	P	**Pb**	**04 24 00.0**	**-0.5**
ALRZ	**Allen Road**	**2.49**	**236**	P	**Pn**	**04 23 57.8**	**+1.9**
KMRZ	**Kaimai**	**2.50**	**254**	P	**Pn**	**04 23 57.1**	**+1.0**
NMHZ	**Naumai**	**2.55**	**221**	P	**Pn**	**04 23 58.7**	**+1.9**
ARHZ	**Aropaoanui**	**2.58**	**217**	P	**Pn**	**04 23 58.4**	**+1.2**
ARHZ				S	**Sn**	**04 24 29.7**	**+2.1**
KUZ	**Kuaotunu**	**2.65**	**279**	P	**Pn**	**04 23 57.5**	**-0.5**
BKZ	**Black Stump Fm**	**2.77**	**224**		**Pn**	**04 24 00.7**	**+0.9**
BKZ	**Black Stump Fm**	**2.77**	**224**	P	**Pn**	**04 24 01.1**	**+1.3**
BKZ	**Black Stump Fm**	**2.77**	**224**	P	**Pn**	**04 24 01.3**	**+1.5**
KUTZ	**Kaahu Road**	**2.81**	**242**	P	**Pn**	**04 24 03.2**	**+2.9**
TOZ	**Tahuroa Road**	**2.81**	**258**	P	**Pn**	**04 24 00.7**	**+0.4**
MCHZ	**McNeill Hill**	**2.87**	**218**	P	**Pn**	**04 24 02.0**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.87**	**211**	P	**Pn**	**04 24 01.3**	**+0.2**
CKHZ				S	**Sn**	**04 24 35.2**	**+0.5**
TLZ	**Tolley Road**	**2.95**	**246**	P	**Pn**	**04 24 05.9**	**+3.7**
GRZ	**Great Barrier**	**2.98**	**287**	P	**Pn**	**04 24 02.9**	**+0.3**
KWHZ	**Kaweka Forest**	**2.99**	**221**	P	**Pn**	**04 24 03.5**	**+0.6**
RATZ	**Rangitukua**	**3.03**	**236**	P	**Pb**	**04 24 07.3**	**-3.3**
RITZ	**Rihia Road**	**3.03**	**233**	P	**Pn**	**04 24 05.8**	**+2.4**
MKAZ	**Moumakai**	**3.05**	**271**	P	**Pn**	**04 24 03.8**	**+0.2**
KAHZ	**Kahuranaki**	**3.07**	**212**	P	**Pn**	**04 24 04.0**	**+0.1**
WIAZ	**Waiheke Island**	**3.10**	**276**	P	**Pn**	**04 24 05.6**	**+1.3**
KATZ	**Kakaramea**	**3.14**	**235**	P	**Pn**	**04 24 07.5**	**+2.5**
KRHZ	**Kereru**	**3.18**	**219**	P	**Pn**	**04 24 05.4**	**0.0**
KRHZ				S	**Sn**	**04 24 42.5**	**+0.1**
TMVZ	**Te Maari**	**3.21**	**232**	P	**Pn**	**04 24 07.2**	**+1.3**
ETVZ	**East Tongariro**	**3.22**	**232**	P	**Pn**	**04 24 07.4**	**+1.3**
NTVZ	**North Tongariro**	**3.22**	**233**	P	**Pn**	**04 24 07.5**	**+1.5**
BHHZ	**Black Hill Sta**	**3.24**	**224**	P	**Pn**	**04 24 07.0**	**+0.8**
KRVZ	**Karewarewa**	**3.24**	**233**	P	**Pn**	**04 24 08.2**	**+1.9**
ETAZ	**East Tamaki Re**	**3.25**	**273**	P	**Pn**	**04 24 07.1**	**+0.8**
OTVZ	**Oturere**	**3.26**	**232**	P	**Pn**	**04 24 07.9**	**+1.2**
NNVZ	**North Ngauruho**	**3.28**	**233**	P	**Pn**	**04 24 08.9**	**+2.1**
WTVZ	**West Tongariro**	**3.28**	**233**	P	**Pn**	**04 24 09.1**	**+2.2**
SNVZ	**South Ngauruho**	**3.29**	**232**	P	**Pn**	**04 24 08.6**	**+1.5**
MBAZ	**Motutapu North**	**3.29**	**276**	P	**Pn**	**04 24 07.9**	**+1.0**
NGZ	**Ngauruhoe**	**3.31**	**232**	P	**Pn**	**04 24 09.0**	**+1.7**
TUVZ	**Tukino**	**3.33**	**231**	P	**Pn**	**04 24 09.9**	**+2.3**
TWVZ	**Taurewa**	**3.36**	**235**	P	**Pn**	**04 24 10.3**	**+2.4**
MOVZ	**Moawhango**	**3.36**	**228**	P	**Pn**	**04 24 08.7**	**+0.8**
ABAZ	**Army Bay**	**3.38**	**279**	P	**Pn**	**04 24 09.0**	**+0.9**
WHVZ	**Whangaehu Hut**	**3.38**	**231**	P	**Pn**	**04 24 10.1**	**+1.7**
FWVZ	**Far West T-bar**	**3.39**	**232**	P	**Pn**	**04 24 10.0**	**+1.6**
WNVZ	**Wahianoa**	**3.40**	**230**	P	**Pn**	**04 24 09.6**	**+1.0**
AWAZ	**Awhitu Peninsu**	**3.47**	**271**	P	**Pn**	**04 24 10.3**	**+1.0**
PNHZ	**Pukenui**	**3.48**	**218**	P	**Pn**	**04 24 09.1**	**-0.3**
WPHZ	**Waipukurau**	**3.48**	**214**	P	**Pn**	**04 24 09.4**	**-0.1**
HIZ	**Hauiti**	**3.52**	**247**		**Pn**	**04 24 12.6**	**+2.7**
HIZ	**Hauiti**	**3.52**	**247**	P	**Pn**	**04 24 13.2**	**+3.3**
HIZ	**Hauiti**	**3.52**	**247**	P	**Pn**	**04 24 13.0**	**+3.0**
WTAZ	**Waiatarua**	**3.53**	**273**	P	**Pn**	**04 24 11.8**	**+1.6**
RVAZ	**Riverhead Bore**	**3.55**	**276**	P	**Pn**	**04 24 11.5**	**+1.1**
PRHZ	**Porangahau**	**3.57**	**210**	P	**Pn**	**04 24 09.9**	**-0.8**
TSZ	**Takapari Road**	**3.70**	**219**	P	**Pn**	**04 24 12.6**	**0.0**
DVHZ	**Dannevirke**	**3.79**	**215**	P	**Pn**	**04 24 13.1**	**-0.7**
WCZ	**Waipu Caves**	**3.94**	**287**	P	**Pn**	**04 24 16.8**	**+1.0**
WAZ	**Wanganui**	**4.04**	**230**	P	**Pn**	**04 24 18.9**	**+1.7**
POWZ	**Post Office Ro**	**4.05**	**217**	P	**Pn**	**04 24 17.4**	**0.0**
BFZ	**Birch Farm**	**4.08**	**211**		**Pn**	**04 24 15.5**	**-2.2**
BFZ	**Birch Farm**	**4.08**	**211**	P	**Pn**	**04 24 16.0**	**-1.7**
PRWZ	**Pori Road**	**4.09**	**214**	P	**Pn**	**04 24 17.8**	**-0.1**
NEZ	**North Egmont**	**4.36**	**240**	P	**Pn**	**04 24 25.9**	**+4.2**
PKE	**Pukeiti**	**4.41**	**242**	P	Pn	04 24 27.4	+5.2
KHEZ	**Kahui Hut**	**4.43**	**240**	P	**Pn**	**04 24 27.1**	**+4.5**
OUZ	**Omahuta**	**4.78**	**293**		**Pn**	**04 24 28.4**	**+1.1**
OUZ	**Omahuta**	**4.78**	**293**	P	**Pn**	**04 24 28.8**	**+1.4**
OUZ	**Omahuta**	**4.78**	**293**	P	**Pn**	**04 24 28.7**	**+1.4**
TUWZ	**Tuamarina**	**5.75**	**221**	Pn	**Pn**	**04 24 40.0**	**-0.7**
TUWZ	**Tuamarina**	**5.75**	**221**	P	**Pn**	**04 24 40.7**	**+0.1**
BSWZ	**Blackbirch Sta**	**5.99**	**220**	P	**Pn**	**04 24 43.5**	**-0.5**
TKNZ	**Takaka Hill**	**6.04**	**229**	P	**Pn**	**04 24 44.1**	**-0.7**
QRZ	**Quartz Range**	**6.19**	**232**	P	**Pn**	**04 24 46.9**	**+0.2**
KHZ	**Kahutara**	**6.68**	**217**	P	**Pn**	**04 24 52.3**	**-1.1**
CTZ	**Chatham Island**	**7.34**	**154**	P	**Pn**	**04 25 03.8**	**+1.3**
OXZ	**Oxford**	**8.10**	**219**		**Pn**	**04 25 11.7**	**-1.1**
LBZ	**Lake Benmore**	**9.79**	**220**	Pn	**Pn**	**04 25 33.0**	**-3.1**
ODZ	**Otahua Downs**	**10.04**	**216**	Pn	**Pn**	**04 25 36.6**	**-2.9**
ODZ	**Otahua Downs**	**10.04**	**216**	P	**Pn**	**04 25 37.3**	**-2.2**
DZM	**Mont Dzumac**	**18.57**	**321**	LR	LR	04 32 49.4	
	comp=Z,208nm,18.9s,baz=198,slow=32						
MSVF	**Nonsavu**	**19.41**	**357**	LR	LR	04 33 52.7	
	comp=Z,118nm,19.1s,baz=140,slow=34						
STKA	**Stephens Creek**	**31.11**	**269**	P	**P**	**04 29 33.8**	**+0.5**
	5.7nm,0.7s,baz=112,slow=11,SNR=12						
STKA				LR	LR	04 41 00.4	
	comp=Z,102nm,19.0s,baz=20,slow=34 5.7nm,0.7s						
STKA	**Stephens Creek**	**31.11**	**269**	P	**P**	**04 29 34.6**	**+1.4**
CTA	**Charters Tower**	**33.18**	**292**	LR	LR	04 42 07.4	
	comp=Z,93nm,18.4s,baz=81,slow=34						
BBOO	**Buckleboo**	**35.20**	**264**	P	**P**	**04 30 09.4**	**+0.5**
BBOO				IAmb	IAmb	04 30 10.3	
	comp=Z,41nm,1.4s						
COEN	**Coen**	**39.38**	**296**	P	**P**	**04 30 45.9**	**+1.5**
COEN				IAmb	IAmb	04 30 46.7	
	comp=Z,15nm,0.8s						
AS31	**Alice Springs**	**40.77**	**276**	P	**P**	**04 30 56.5**	**+0.5**
ASAR	**Alice Springs**	**40.77**	**276**	P	**P**	**04 30 56.1**	**+0.1**
	comp=Z,10nm,0.7s,baz=118,slow=8.0,SNR=109						
ASAR				S	**S**	**04 36 60.0**	**-5.0**
	comp=Z,0.6nm,0.8s,baz=121,slow=14,SNR=4.7						
ASAR				LR	LR	04 46 52.0	
	comp=Z,40nm,20.6s,baz=90,slow=35 comp=Z,10nm,0.7s						
ASAR	**Alice Springs**	**40.77**	**276**	P	**P**	**04 30 56.3**	**+0.3**
WR0	**Warramunga Arr**	**42.22**	**281**	P	**P**	**04 31 07.8**	**-0.1**
WR0				IAmb	IAmb	04 31 08.7	
	comp=Z,12nm,0.6s						
FORT	**Forrest**	**42.29**	**263**	P	**P**	**04 31 08.5**	**+0.2**
FORT				IAmb	IAmb	04 31 09.3	
	comp=Z,28nm,0.6s						
WB2	**Warramunga Arr**	**42.38**	**281**	P	**P**	**04 31 09.4**	**+0.2**
WB2				IAmb	IAmb	04 31 10.0	
	comp=Z,29nm,0.6s						
WRAB	**Tennant Creek**	**42.38**	**281**	P	**P**	**04 31 09.4**	**+0.2**
WRAB				IAmb	IAmb	04 31 09.9	
	comp=Z,25nm,0.6s						
WRA	**Warramunga Arr**	**42.38**	**281**	P	**P**	**04 31 09.2**	**-0.1**
	comp=Z,16nm,0.5s,baz=121,slow=7.8,SNR=568						
WRA				PcP	**PcP**	**04 33 02.9**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=116,slow=2.9,SNR=3.6						
WRA				S	**S**	**04 37 24.2**	**-4.7**
	comp=Z,0.8nm,1.1s,baz=123,slow=15,SNR=3.3 comp=Z,16nm,0.5s						
WRA	**Warramunga Arr**	**42.38**	**281**	P	**P**	**04 31 08.7**	**-0.5**
WB0	**Warramunga Arr**	**42.44**	**282**	P	**P**	**04 31 09.8**	**+0.2**
MTN	**Manton Dam**	**49.03**	**287**	P	**P**	**04 32 01.6**	**-0.1**
MTN				IAmb	IAmb	04 32 02.0	
	comp=Z,9.7nm,0.9s						
KNRA	**Kununurra**	**49.17**	**282**	P	**P**	**04 32 03.2**	**+0.4**
KNRA				IAmb	IAmb	04 32 07.8	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.26**	**277**	P	**P**	**04 32 11.5**	**+0.4**
FITZ				IAmb	IAmb	04 32 12.2	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**52.48**	**259**	P	**P**	**04 32 26.2**	**-1.5**
QSPA	**South Pole Qui**	**52.92**	**180**	P	**P**	**04 32 34.0**	**+3.5**
	comp=Z,2.9nm,0.8s,baz=28,slow=1.5,SNR=9.9 comp=Z,2.9nm,0.8s						
QSPA	**South Pole Qui**	**52.92**	**180**	P	**P**	**04 32 33.2**	**+2.6**
QSPA				IAmb	IAmb	04 32 47.3	
	comp=Z,8.4nm,1.2s						
MBWA	**Marble Bar**	**53.33**	**270**	P	**P**	**04 32 33.2**	**-0.8**
BELA	**Belgrano 2**	**63.40**	**172**	P	**P**	**04 33 45.7**	**+2.2**
BELA				IAmb	IAmb	04 34 05.5	
	comp=Z,7.3nm,1.4s						
JAGI	**Jajag, Banyuwa**	**64.91**	**279**	P	**P**	**04 33 54.0**	**-0.2**
MAW	**Mawson**	**65.08**	**202**	P	**P**	**04 33 54.6**	**+0.1**
LEM	**Lembang**	**71.06**	**276**	LR	LR	05 07 51.0	
	comp=Z,34nm,18.8s,baz=188,slow=38						
KSRS	**Korea Array**	**88.00**	**322**	P	**P**	**04 36 03.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=138,slow=6.0,SNR=2.7 comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**93.34**	**291**	P	**P**	**04 36 29.2**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=108,slow=2.9,SNR=4.4 comp=Z,1.1nm,0.3s						
ARCES	**ARCESS Array B**	**144.57**	**344**	PKP	PKPbc	04 42 48.5	0.0
	comp=Z,1.2nm,0.6s,baz=32,slow=3.6,SNR=1.6						
KBZ	**Khabaz**	**146.27**	**295**	PKPbc	**PKPdf**	**04 42 53.9**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=121,slow=5.9,SNR=2.9						
FINES	**FINESS Array B**	**150.40**	**334**	PKPbc	**PKPbc**	**04 43 04.7**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=85,slow=4.0,SNR=6.6						
BRTR	**Keskin Array B**	**152.84**	**286**	PKPbc	**PKPbc**	**04 43 10.3**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=134,slow=5.0,SNR=8.7						
TORD	**Torodi Ar. Bea**	**155.92**	**186**	PKPbc	PKPbc	04 43 20.8	
	comp=Z,0.4nm,0.8s,baz=159,slow=1.8,SNR=1.8						
TORD				PKPab	**PKPab**	**04 43 38.3**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=170,slow=3.8,SNR=6.2						

VIE ***15*** *04:49:09.9±2.5,49.°65N×18.°65E,h0km,mb2.3/2, ml2.6/3, Error ellipse: s-maj=16.2km s-min=10.0km az=91.0 35 km SE of Ostrava Suspected Mining induced.*
IPEC ***15*** *04:49:10.8±0.2,49.°87N×18.°58E,h1km,ML2.5/4,Error ellipse: s-maj=1.8km s-min=1.1km az=163.0*
PRU ***15*** *04:49:11.5±0.0,49.°84N×18.°51E,h0km,Mining Induced Event Csm, E=4.9e+05*

ISC 15 04:49:11.2±0.8,49.°81N±0.°03×18.°56E±0.°02,h0km,n29, σ0s99/49,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.27**	**275**	*e*PG	**Pg**	**04 49 17.1**	**+0.7**
OKC				*e*SG	**Sg**	**04 49 21.3**	**+1.4**
	comp=Z,118nm,0.3s						
MAUC	**Maruska**	**0.66**	**227**	*e*PG	**Pg**	**04 49 24.6**	**+0.8**
MAUC				*e*SG	**Sb**	**04 49 33.9**	**-1.3**
	comp=Z,144nm,0.5s						
MORC	**Moravsky Berou**	**0.66**	**267**	*e*Pg	**Pg**	**04 49 23.9**	**0.0**
	baz=82						
MORC				*e*Sg	**Sg**	**04 49 32.2**	**-0.3**
	85nm,0.4s,baz=82						
LANS	**Liptovska Anna**	**0.89**	**138**	*e*PG	**Pg**	**04 49 28.9**	**+0.7**
LANS				*e*SG	**Sb**	**04 49 42.9**	**+1.0**
LANS				*e*LG	Lg	04 49 45.6	
OJC	**Ojcow**	**0.89**	**63**	*e*Pg	**Pg**	**04 49 26.9**	**-1.4**
OJC				*e*Sg	**Sg**	**04 49 39.3**	**-0.6**
JAVC	**Velka Javorina**	**1.12**	**212**	*e*Pg	**Pb**	**04 49 33.4**	**0.0**
	baz=30						
JAVC	**Velka Javorina**	**1.12**	**212**	*e*PG	**Pb**	**04 49 33.5**	**0.0**
KRLC	**Kraliky**	**1.18**	**283**	*e*SG	**Sg**	**04 49 49.0**	**-0.1**
	comp=Z,51nm,0.3s						
NIE	**Niedzica**	**1.20**	**109**	*e*Pg	**Pg**	**04 49 34.6**	**+0.5**
NIE				*e*Sg	**Sb**	**04 49 51.2**	**+0.4**
VYHS	**Vyhne**	**1.33**	**172**	*e*PG	**Pg**	**04 49 36.9**	**+0.2**
VYHS				*e*SG	**Sn**	**04 49 55.6**	**+0.1**
VYHS				*e*LG	Lg	04 49 57.7	
VRAC	**Vranov**	**1.38**	**249**	*e*Pg	**Pg**	**04 49 37.2**	**-0.4**
	baz=66						
VRAC				*e*Sg	**Sg**	**04 49 54.8**	**-0.7**
	65nm,0.4s,baz=66						
DPC	**Dobruska-Polom**	**1.54**	**291**	*e*PG	**Pn**	**04 49 39.3**	**-0.7**
DPC				*e*SG	**Sg**	**04 49 59.5**	**-1.2**
	comp=Z,33nm,0.3s						
KRUC	**Moravsky**	**1.60**	**243**	*e*Pg	**Pn**	**04 49 40.5**	**-0.2**
	baz=60						
KRUC				*e*Sg	**Sn**	**04 50 02.0**	**-0.1**
	48nm,0.4s,baz=60						
KRUC	**Moravsky**	**1.60**	**243**	*e*PG	**Pn**	**04 49 40.6**	**-0.2**
KRUC				*e*SG	**Sn**	**04 50 02.1**	**-0.1**
MODS	**Modra-Piesok**	**1.67**	**211**	*e*PG	**Pn**	**04 49 41.8**	**+0.1**
MODS				*e*SG	**Sn**	**04 50 03.5**	**-0.4**
OSTC	**Ostas**	**1.68**	**297**	*e*PG	**Pn**	**04 49 42.1**	**+0.2**
OSTC				*e*SG	**Sn**	**04 50 03.8**	**-0.4**
	comp=Z,19nm,0.3s						
UPC	**Upice**	**1.78**	**294**	*e*SG	**Sb**	**04 50 07.3**	**-0.3**
KSP	**Ksiaz**	**1.78**	**306**	*e*Pg	**Pn**	**04 49 43.8**	**+0.5**
KSP				*e*Sg	**Sg**	**04 50 08.1**	**-0.3**
CHVC	**Chvalec**	**1.79**	**297**	*e*PG	**Pn**	**04 49 43.5**	**+0.1**
CHVC				*e*SG	**Sn**	**04 50 06.8**	**0.0**
TREC	**Trest**	**2.07**	**257**	*e*SG	**Sb**	**04 50 15.9**	**0.0**
CRVS	**Cervenica-Dubn**	**2.10**	**115**	*e*PN	**Pg**	**04 49 51.5**	**0.0**
KOLS	**Kolonicke sedl**	**2.58**	**109**	*e*PG	**Pg**	**04 50 01.3**	**+0.7**
RONA	**Rosalia, Austr**	**2.59**	**216**	*e*Pg	**Pn**	**04 49 54.5**	**0.0**
	1.2nm,0.2s						
RONA				Sg	**Sn**	**04 50 26.9**	**+0.3**
	6.0nm,0.3s						
CONA	**Conrad Observa**	**2.60**	**224**	*e*Pn	**Pn**	**04 49 53.9**	**-0.6**
	1.9nm,0.3s						
CONA				*e*Sg	**Sn**	**04 50 26.6**	**-0.2**
	4.8nm,0.3s						
PRU	**Pruhonice**	**2.61**	**275**	*e*SG	**Sb**	**04 50 32.3**	**+1.0**
	comp=Z,9.5nm,0.4s						
CKRC	**Cesky Krumlov**	**2.96**	**252**	*e*PG	**Pb**	**04 50 06.0**	**+1.3**
CKRC				*e*SG	**Sb**	**04 50 43.4**	**+2.0**
	comp=Z,9.0nm,0.5s						
BRG	**Berggiesshubel**	**3.14**	**291**	Pg	**Pb**	**04 50 08.7**	**+0.8**
BRG				Sg	**Sg**	**04 50 49.9**	**-2.3**
BRG				Amp		04 50 52.4	
	comp=Z,6.7nm,0.4s						
KHC	**Kasperske Hory**	**3.32**	**260**	*e*PG	**Pb**	**04 50 12.3**	**+1.3**
KHC				*e*SG	**Sg**	**04 50 55.1**	**-2.8**
	comp=Z,8.5nm,0.4s						
MOA	**Mollm**	**3.45**	**237**	*e*Sg	**Sg**	**04 50 59.0**	**-3.1**
	comp=Z,15nm,0.5s						

IDC ***15*** *04:50:31.3±0.6,55.°14S×31.°06W,h0km,mb4.2/11, mbtmp4.3/12,ML3.8/1,MS3.4/6,Error ellipse: s-maj=20.9km s-min=15.3km az=60.0*
NEIC ***15*** *04:50:34.1±1.1,55.°28S±0.°08×31.°4W±0.°2,h10km±2km, mb4.7/22,Error ellipse: s-maj=21.8km s-min=10.1km az=64.0*

ISC 15 04:50:33.0±0.5,55.°16S±0.°08×31.°16W±0.°09,h10km,n58, σ0s85/50,mb4.6/21,MS3.4/6,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.21**	**284**	Pn	**Pn**	**04 51 23.0**	**-0.4**
ORCD	**Orcadas**	**9.12

MDP	**Montagnes des** comp=Z,26nm,18.0s,baz=216,slow=37	**62.64**	**336**	LR	LR	05 28 51.6	
KOWA	**Kowa** comp=Z,26nm,21.2s,baz=118,slow=30	**73.09**	**28**	LR	LR	05 27 08.2	
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.7s,baz=197,slow=7.1,SNR=18 comp=Z,1.6nm,0.7s	**73.47**	**33**	P	**P**	**05 02 05.2**	**-0.3**
KMBO	**Kilima Mbogo** comp=Z,33nm,18.1s,baz=226,slow=35	**76.87**	**73**	LR	LR	05 35 29.3	
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=184,slow=4.6,SNR=6.6	**100.45**	**166**	P	**Pdif**	**05 04 18.2**	**-2.2**
WRA	**Warramunga Arr** comp=Z,0.1nm,0.5s,baz=188,slow=4.0,SNR=1.3	**104.18**	**166**	Pdiff	**Pdif**	**05 04 35.5**	**-1.5**
FINES	**FINESS Array B** comp=Z,0.8nm,0.5s,baz=113,slow=5.0,SNR=8.1	**124.68**	**29**	PKP	**PKPdf**	**05 09 29.7**	**-1.5**
ARCES	**ARCESS Array B** comp=Z,4.0nm,0.8s,baz=187,slow=1.0,SNR=5.5	**130.98**	**23**	PKP	**PKPdf**	**05 09 42.7**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,1.4nm,0.8s,baz=132,slow=2.5,SNR=2.4	**134.02**	**320**	PKP	**PKPdf**	**05 09 48.7**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.6s,baz=216,slow=4.6,SNR=1.3	**138.76**	**73**	PKhKP	PKPpre	05 09 49.9	
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.6s,baz=245,slow=3.3,SNR=5.8	**144.01**	**65**	PKP	**PKPab**	**05 10 05.4**	**+0.5**
ILAR	**Eielson Array** comp=Z,5.1nm,0.7s,baz=121,slow=1.7,SNR=34	**147.85**	**313**	PKPbc	**PKPbc**	**05 10 16.6**	**-0.1**
SONM	**Songino Array** comp=Z,2.5nm,0.6s,baz=223,slow=1.8,SNR=9.2	**152.93**	**88**	PKPbc	**PKPbc**	**05 10 28.7**	**-0.9**
KSRS	**Korea Array** comp=Z,0.4nm,0.6s,baz=201,slow=4.0,SNR=2.8	**157.29**	**133**	PKPab	**PKPab**	**05 10 58.4**	**-1.2**

*IDC **15** 05:02:43.2±4.3, 36.°80N×142.°36E, h0km, mb3.3/1, mbtmp3.2/3, ML2.7/2, MS2.8/1, Error ellipse: s-maj=76.0km s-min=34.4km az=31.0*
*JMA **15** 05:02:45.1±0.4, 37.°0N±1.°0×14.°2E±.°, h54km, MV3.1/32, E OFF FUKUSHIMA PREF*

ISC 15 05:02:39.5±3.0, **36.°90N**±0.°08×**142.°2E**±0.°1, **h10**km±14km, **n21**, **σ0**≥**90**/22, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**1.19**	**294**	P		**Pg**	**05 03 03.1**	**+0.8**
JFK				*eS*		**Sb**	**05 03 17.1**	**-0.5**
JFFD	**Fukushimafurud**	**1.36**	**279**	P		**Pg**	**05 03 05.9**	**+0.3**
JFFD				*eS*		**Sb**	**05 03 22.6**	**+0.1**
JMST	**Minamisoumatoc**	**1.36**	**308**	P		**Pg**	**05 03 05.7**	**+0.2**
JMST				*eS*		**Sb**	**05 03 21.6**	**-0.8**
JHO	**Hitachi**	**1.37**	**258**	P		**Pg**	**05 03 06.5**	**+0.7**
JHO				*eS*		**Sb**	**05 03 22.0**	**-0.9**
JMM	**Marumori**	**1.50**	**310**	P		**Pb**	**05 03 07.3**	**-0.2**
JMM				S		**Sn**	**05 03 24.5**	**-1.7**
JIO	**Ouri**	**1.71**	**336**	P		**Pg**	**05 03 12.0**	**-0.3**
JIO				S		**Sb**	**05 03 31.8**	**-0.7**
JOU	**Okura**	**1.93**	**320**	P		**Pb**	**05 03 14.1**	**-0.7**
JFY	**Yanaizu**	**2.09**	**285**	*eS*		**Sn**	**05 03 41.7**	**+1.0**
JYS	**Shirataka**	**2.17**	**308**	P		**Pb**	**05 03 19.0**	**0.0**
JYS				*eS*		**Sn**	**05 03 44.0**	**+1.2**
JMK	**Ichinoseki**	**2.20**	**339**	P		**Pb**	**05 03 19.9**	**+0.4**
JMK				*eS*		**Sn**	**05 03 44.7**	**+1.3**
JAG	**Ashikaga**	**2.29**	**259**	P		**Pb**	**05 03 20.1**	**-0.8**
JAG				*eS*		**Sn**	**05 03 46.3**	**+0.7**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=88,slow=14,SNR=14	**3.26**	**265**	Pn		**Pb**	**05 03 36.2**	**-1.3**
MJAR					Sn	**Sb**	**05 04 18.1**	**+0.9**
	0.2nm,0.3s,baz=83,slow=32,SNR=5.7 3.5nm,0.4s							
KSRS	**Korea Array** 0.1nm,0.3s,baz=91,slow=12,SNR=1.4 0.6nm,0.6s	**11.44**	**277**	Pn		Pn	05 05 29.6	+6.7
PETK	**Petropavlovsk-** comp=Z,31nm,20.2s,baz=132,slow=39	**19.48**	**29**	LR		LR	05 15 31.5	
H11N2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=4.7	**27.51**	**122**	T		T	05 37 42.3	
H11N1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=4.9	**27.52**	**122**	T		T	05 37 46.3	
H11N3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=5.5	**27.53**	**122**	T		T	05 37 54.8	
H11S1	**WAKE ISLAND Hy** baz=316	**28.23**	**124**	T		T	05 38 37.5	
H11S3	**WAKE ISLAND Hy** baz=316	**28.23**	**124**	T		T	05 38 48.7	
H11S2	**WAKE ISLAND Hy** baz=316	**28.25**	**124**	T		T	05 38 51.6	
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=7.3,slow=7.3,SNR=2.1 0.2nm,0.6s	**57.02**	**189**	P		P	05 12 30.2	+4.7

JMA 15 05:09:41.1±0.1, **24.°2N**±0.°3×**123.°8E**±0.°3, **h18**km±1km, **MV0.7**/7, **NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IRIF	**Iriomote-Funau**	**0.13**	**317**	P		Pg	05 09 45.0	0.0
JKRS	**Kuro-shima**	**0.17**	**91**	P		Pb	05 09 45.5	0.0
JKRS				*eS*		Sg	05 09 48.8	+0.2
HATJ	**Hateruma jima**	**0.18**	**186**	P		Pg	05 09 45.6	-0.1
HATJ				*eS*		Sg	05 09 48.9	-0.1
JIJ	**Ishigaki jima**	**0.31**	**67**	*eP*		Pg	05 09 47.7	-0.2
JIJ				*eS*		Sg	05 09 52.1	-0.4
YOJ	**Yonaguni jima**	**0.78**	**287**	*eP*		Pb	05 09 55.8	-0.3
JYNG	**Yonagunijimaku**	**0.83**	**285**	*eS*		Sg	05 10 08.1	-0.2

TAP 15 05:09:53.9, 24.°61N×121.°68E, h7km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NDS	**Dongshan** baz=57	**0.04**	**57**	*eP*		Pg	05 09 55.8	+0.4
ENTT	**Nioudou** baz=285	**0.11**	**285**	*eP*		Pg	05 09 56.8	+0.5
ENTT				S		Sg	05 09 58.0	0.0
	baz=285							
TWE	**Neicheng** baz=4.0	**0.11**	**354**	P		Pg	05 09 56.9	+0.5
TWE				S		Sg	05 09 58.9	+0.8
	baz=4.0							
NDT	**Datong Townshi** baz=266	**0.15**	**266**	*i* P		Pg	05 09 57.7	+0.6
NDT				S		Sg	05 09 59.9	+0.6
	baz=266							
TWC	**Suao** baz=99	**0.15**	**91**	P		Pg	05 09 57.8	+0.6
TWC				S		Sg	05 09 59.9	+0.6
	baz=99							
LATG	**Datong** baz=241	**0.16**	**241**	P		Pg	05 09 58.1	+0.9
LATG				S		Sg	05 10 00.7	+1.1
	baz=241							
FUSB	**Fushanzhiwuyua** baz=324	**0.17**	**331**	P		Pg	05 09 58.2	+0.7
FUSB				S		Sg	05 10 00.7	+0.8
	baz=324							
EWUT	**Wuta** baz=144	**0.19**	**151**	P		Pg	05 09 57.6	-0.1
EWUT				S		Sg	05 10 00.2	-0.1
	baz=144							
ENA	**Nanau** baz=154	**0.19**	**163**	*eP*		Pg	05 09 58.7	+0.9
ENA				*eS*		Sg	05 10 01.3	+0.9
	baz=154							
YHNB	**Yeheng** baz=287	**0.28**	**282**	P		Pg	05 10 00.3	+0.8
YHNB				S		Sg	05 10 03.9	+0.6
	baz=287							
NSK	**Sanguang** baz=287	**0.30**	**282**	P		Pg	05 09 59.6	-0.3
NSK				S		Sg	05 10 03.2	-0.6
	baz=287							
NNSB	**Datong** baz=227	**0.33**	**236**	*eS*		Sg	05 10 05.2	+0.5
EGS	baz=47	**0.33**	**45**	*eP*		Pg	05 10 00.2	-0.1
EGS				*eS*		Sg	05 10 04.7	0.0
	baz=47							
NNS	**Nan Shan** baz=228	**0.33**	**238**	*eP*		Pg	05 10 00.4	0.0
NNS				*eS*		Sg	05 10 04.9	+0.2
	baz=228							
TIPB	**Shuangxi** baz=10.0	**0.38**	**20**	*eP*		Pg	05 10 01.1	-0.3
TIPB				*eS*		Sg	05 10 07.0	+0.5
	baz=10.0							
NWF	**Wu-fen Shan** baz=12	**0.47**	**11**	*eS*		Sg	05 10 10.1	+1.0
NFF	**Wufeng Townshi** baz=272	**0.51**	**272**	*eP*		Pg	05 10 10 03.3	-0.5
NFF				*eS*		Sg	05 10 10.2	-0.3
	baz=272							
FUSS	**Fushou** baz=217	**0.54**	**228**	*eP*		Pg	05 10 10 03.8	-0.6
FUSS				*eS*		Sg	05 10 12.1	+0.7
	baz=217							
NSTT	**Nanjuang** baz=272	**0.62**	**272**	*eP*		Pb	05 10 06.6	-0.4
NSTT				*eS*		Sg	05 10 14.9	+1.0
	baz=272							

DJA 15 05:30:19.9±0.3, **8.°S**±2.°×**12.°2E**±.°, **h20**km±3km, **M4.1**/14, **mb4.5**/6, **mB5.8**/1, **MLv3.9**/14, **Mw(mB)5.3**/1, **Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EDFI	**Ende, Flores**	**0.35**	**162**	P		Pn	05 30 28.9	-1.1
EDFI				S		Sb	05 30 34.4	+1.6
MMRI	**Maumere**	**0.69**	**109**	P		Pn	05 30 33.9	-0.6
MMRI				S		Sb	05 30 43.0	+0.7
BASI	**Baing, Sumba**	**2.05**	**209**	P		Pn	05 30 53.2	-0.1
BASI				S		Sn	05 31 19.0	+0.7
WBSI	**Waikabubak, Su**	**2.48**	**240**	P		Pn	05 30 59.5	+0.2
BSSI	**Bau Bau, Buton**	**2.50**	**334**	P		Pn	05 30 58.9	-0.6
BATI	**Baumata**	**2.72**	**131**	P		Pn	05 31 03.0	+0.4
BBSI	**Bau Bau**	**3.06**	**19**	P		Pn	05 31 07.2	-0.1
BBSI				S		Sn	05 31 42.1	-1.3
BKSI	**Bulukumba**	**3.39**	**335**	P		Pn	05 31 10.8	-0.9
PLAI	**Plampang**	**3.78**	**263**	P		Pn	05 31 18.0	+0.9
TWSI	**Taliwang, Sumb**	**4.66**	**266**	P		Pn	05 31 29.6	+0.4
TWSI				S		Sn	05 32 22.1	-0.6
SPSI	**Sidrap Palu**	**4.77**	**338**	P		Pn	05 31 31.3	+0.6
JAGI	**Jajag, Banyuwa** 0.2nm40nm,2.3s	**7.35**	**269**	P		Pn	05 32 04.8	-1.4
LUWI	**Luwuk** 0.6nm6µm52nm,0.4s	**7.42**	**9**	P		Pn	05 32 07.2	+0.1
APSI	**Ampana** 0.1nm35nm,0.9s	**7.45**	**1**	P		Pn	05 32 08.5	+1.0
NLAI	**Namlea** 0.2nm20nm,0.9s	**7.52**	**47**	P		Pn	05 32 09.3	+0.8
PCJI	**Pacitan** 71nm,1.7s	**10.30**	**270**	P		Pn	05 32 47.8	+1.2

*IDC **15** 05:57:21.4±0.4, 12.°45N×86.°57W, h0km, mb4.9/34, mbtmp4.9/36, ML3.7/2, MS5.4/67, Error ellipse: s-maj=15.2km s-min=9.2km az=64.0*
*INET **15** 05:57:21.8±0.9, 12.°48N×86.°64W, h1km±2km, ML5.9*
*MOS **15** 05:57:23.6±1.2, 12.°42N×86.°62W, h16km, mb5.5/59, MS5.5/12, Error ellipse: s-maj=8.0km s-min=5.5km az=108.3*
*UCR **15** 05:57:23.6±1.9, 12.°50N×86.°60W, h10km, ML5.3, MW5.6, mb5.7(NEIC)*
*NEIC **15** 05:57:24.3, 12.°44N×86.°61W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.37; $M_{\theta\theta}$=-2.26; $M_{\phi\phi}$2.63; $M_{r\theta}$=0.95; $M_{r\phi}$=-1.09; $M_{\theta\phi}$=0.53; Fault plane solution: M_o2.91000×10^{17} NP1:ϕ_s305.04000°, δ69.95000°, λ-168.06000°. NP2:ϕ_s210.89000°, δ78.79000°, λ-20.46000°. Principal axes: T 2.8951, Plg6.0000°, Azm259.0000°; N 0.0233, Plg67.0000°, Azm3.0000°; P -2.9184, Plg22.0000°, Azm167.0000°;*
*NEIC **15** 05:57:24.3±1.3, 12.°44N±0.°05×86.°64W±0.°05, h10km±1km, mb5.4/518, Ms_20 5.6/375, Mwb5.6/55, Mww5.7, Md5.4(SNET) Error ellipse: s-maj=10.0km s-min=5.7km az=220.0*
*SNET **15** 05:57:25.0±6.5, 12.°47N×86.°62W, h10km, ML5.4, ML5.5*
*GCMT **15** 05:57:28.3±0.1, 12.°51N±0.°01×86.°68W, h12km, MW5.7/168, Moment Tensor Solution. s148,c277; s168,c378; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.19±.03; $M_{\theta\theta}$=-3.42±.03; $M_{\phi\phi}$4.62±.03; $M_{r\theta}$0.27±.09; $M_{r\phi}$=-1.87±.03; $M_{\theta\phi}$=-0.11±.09; Best double couple: M_o4.44700×10^{17} NP1:ϕ_s303.00000°, δ87.00000°, λ-175.00000°. NP2:ϕ_s212.00000°, δ85.00000°, λ-3.00000°. Principal axes: T 5.0380, Plg1.0000°, Azm77.0000°; N -1.1720, Plg85.0000°, Azm332.0000°; P -3.8560, Plg5.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 05:57:31, 12.°35N×86.°74W, h12km, Moment Tensor Solution. Duration: 14s6 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.56; $M_{\theta\theta}$=4.01; $M_{\phi\phi}$4.56; $M_{r\theta}$=1.89; $M_{\theta\phi}$=-1.51; $M_{r\phi}$=0.07; Fault plane solution: M_o4.94000×10^{17} NP1: ϕ_s33.00000°, δ72.00000°, λ-14.00000°. NP2:ϕ_s127.00000°, δ76.00000°, λ-161.00000°. Principal axes: T 4.8309, Plg3.0000°, Azm260.0000°; N 0.2182, Plg67.0000°, Azm163.0000°; P -5.0491, Plg23.0000°, Azm351.0000°;*
*GCG **15** 05:58:02.3±0.5, 13.°89N×88.°84W, h50km±131km, MD5.1*

ISC 15 05:57:23.2±0.5, **12.°40N**±0.°02×**86.°66W**±0.°02, **h5**km±2km, **n1506**, **σ2**≥**31**/1463, **mb5.4**/363, **MS5.6**/269, **16C-15D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNGN	**Cerro Negro**	**0.10**	**338**	Pg		**Pg**	**05 57 23.2**	**-2.2**
CNGN						**Sg**	**05 57 23.9**	**-3.1**
CNGN	**Cerro Negro**	**0.10**	**338**	*eP*		**Pg**	**05 57 22.8**	**-2.7**
MOMN	**Momotombo**	**0.12**	**87**	*eP*		**Pg**	**05 57 25.2**	**-0.4**
COPN	**Copaltepe**	**0.23**	**164**	*eP*		**Pg**	**05 57 27.8**	**0.0**
TEL3	**Telica 3**	**0.25**	**313**	*eP*		**Pg**	**05 57 26.2**	**-1.9**
TELN	**Telica**	**0.26**	**320**	*eP*		**Pg**	**05 57 28.0**	**-0.4**
APYN	**Apoyeque**	**0.34**	**119**	*eP*		**Pg**	**05 57 28.4**	**-1.5**
BRAN	**Las Pilas**	**0.44**	**44**	*eP*		**Pg**	**05 57 31.5**	**-0.2**
MGAN	**Managua**	**0.47**	**122**	*eP*		**Pg**	**05 57 32.6**	**+0.1**
CRIN	**San Cristobal**	**0.48**	**308**	Pg		**Pg**	**05 57 32.1**	**-0.5**
CRIN				Sg		**Sg**	**05 57 39.3**	**+0.4**
CRIN	**San Cristobal**	**0.48**	**308**	*eP*		**Pg**	**05 57 31.5**	**-1.1**
CRIN				*eS*		**Sb**	**05 57 43.5**	**+1.6**
WILN	**Americas 2**	**0.52**	**118**	*eP*		**Pg**	**05 57 33.0**	**-0.2**
MASN	**Masaya**	**0.65**	**130**	*eP*		**Pg**	**05 57 35.5**	**-0.1**
MATN	**Matagalpa**	**0.89**	**54**	Pg		**Pg**	**05 57 38.4**	**-1.9**
MATN	**Matagalpa**	**0.89**	**54**	*eP*		**Pg**	**05 57 38.1**	**-2.2**
BOAB	**BOACO BROADBAN**	**0.97**	**87**	Pg		**Pg**	**05 57 40.3**	**-1.6**
BOAB	**BOACO BROADBAN**	**0.97**	**87**	*eP*		**Pg**	**05 57 40.0**	**-1.9**
CSGN	**Cosiguina Volc**	**1.05**	**303**	*eP*		**Pg**	**05 57 41.5**	**-1.9**
CNCH	**Conchagua**	**1.44**	**307**	*eP*		**Pn**	**05 57 48.2**	**-1.9**
CNCH	**Conchagua**	**1.44**	**307**	*eP*		**Pn**	**05 57 48.2**	**-1.9**
LCND	**La Caada**	**1.50**	**307**	*eP*		**Pn**	**05 57 48.8**	**-2.1**
LCND					IAML		05 58 15.6	
	comp=Z,63µm,0.5s							
ACON	**Acoyapa**	**1.51**	**106**	Pn		**Pn**	**05 57 49.4**	**-1.7**
ACON	**Acoyapa**	**1.51**	**106**	*eP*		**Pn**	**05 57 49.0**	**-2.1**
TGUH	**Tegucigalpa,Un**	**1.75**	**340**	Pn		**Pn**	**05 57 53.6**	**-0.9**
TGUH	**Tegucigalpa,Un**	**1.75**	**340**	*eP*		**Pn**	**05 57 53.2**	**-1.2**
CNRM	**Centro Naciona**	**1.82**	**306**	*eP*		**Pn**	**05 57 55.2**	**-0.1**
CNRM	**Centro Naciona**	**1.82**	**306**	*eP*		**Pn**	**05 57 55.2**	**-0.1**
LCY	**Lacayo**	**1.89**	**303**	*eP*		**Pn**	**05 57 55.5**	**-0.9**
LCY	**Lacayo**	**1.89**	**303**	*eP*		**Pn**	**05 57 55.5**	**-0.9**
HZTE	**Horizontes, Gu**	**1.98**	**148**	Pn		**Pn**	**05 57 57.0**	**-0.4**
HZTE	**Horizontes, Gu**	**1.98**	**148**	*eP*		**Pn**	**05 57 56.7**	**-0.7**
BUAI	**Buenos Aires**	**2.00**	**139**	*eP*		**Pn**	**05 57 56.7**	**-1.1**
GBS3	**Finca Las Img**	**2.00**	**144**	*eP*		**Pn**	**05 57 56.7**	**-1.0**
GB1A	**Boringuen Arri**	**2.00**	**142**	*eP*		**Pn**	**05 57 56.9**	**-0.9**
BUEV	**Buena Vista**	**2.01**	**142**	*eP*		**Pn**	**05 57 57.5**	**-0.5**
LAPC	**Finca la Perla**	**2.02**	**143**	*eP*		**Pn**	**05 57 56.7**	**-1.4**
CAHU	**Cacacuatique**	**2.04**	**312**	*eP*		**Pn**	**05 57 56.4**	**-2.1**
CAHU	**Cacacuatique**	**2.04**	**312**	*eP*		**Pn**	**05 57 56.4**	**-2.1**
GPS1	**Guardaparques**	**2.06**	**141**	*eP*		**Pn**	**05 57 58.4**	**-0.3**
GPS3	**Bodega del ICE**	**2.07**	**142**	*eP*		**Pn**	**05 57 58.4**	**-0.5**
GPS2	**Hotel Rincn d**	**2.08**	**142**	*eP*		**Pn**	**05 57 58.6**	**-0.3**
COEB	**Comit de Eme**	**2.13**	**301**	*eP*		**Pn**	**05 57 59.8**	**+0.2**
COEB	**Comit de Eme**	**2.13**	**301**	*eP*		**Pn**	**05 57 59.8**	**+0.2**
COEB				*eS*		**Sg**	**05 58 34.1**	**+2.5**
LIM1	**Limonal**	**2.18**	**141**	*eP*		**Pn**	**05 58 00.1**	**-0.3**
VMAR	**Armenia, Volca**	**2.18**	**136**	*eP*		**Pn**	**05 58 00.6**	**+0.2**
GUAB	**Guayabo de Bag**	**2.19**	**140**	*eP*		**Pn**	**05 57 60.0**	**-0.5**
PQSS	**Presa 15 de Se**	**2.22**	**303**	*eS*		**Sb**	**05 58 33.4**	**+1.7**
HORNC	**Hornillas**	**2.22**	**139**	*eP*		**Pn**	**05 57 59.8**	**-1.1**
COLC	**Colonia**	**2.24**	**140**	*eP*		**Pn**	**05 58 00.7**	**-0.4**
CUI	**Cuipilapa**	**2.27**	**140**	*eP*		**Pn**	**05 58 01.2**	**-0.3**
VERA	**Finca Concepci**	**2.33**	**131**	*eP*		**Pn**	**05 58 00.9**	**-1.4**
ORTG	**Ortega, Santa**	**2.34**	**150**			**Pn**	**05 58 02.1**	**-0.4**
PTEN	**Parque Tenorio**	**2.34**	**136**	*eP*		**Pn**	**05 58 01.1**	**-1.5**
ACAL	**Aguas Claras**	**2.37**	**138**	*eP*		**Pn**	**05 58 03.1**	**+0.2**
SAJU	**San Juanillo,**	**2.50**	**158**	*eP*		**Pn**	**05 58 04.2**	**-0.4**
PAVA	**Las Pavas**	**2.58**	**301**	*eP*		**Pn**	**05 58 06.2**	**+0.4**
PAVA	**Las Pavas**	**2.58**	**301**	*eP*		**Pn**	**05 58 06.2**	**+0.4**
DUNO	**Dulce Nombre,**	**2.58**	**154**			**Pn**	**05 58 06.0**	**+0.3**
P5NO	**Presa 5 de nov**	**2.58**	**308**	*eS*		**Sb**	**05 58 44.6**	**+2.5**
LFRS	**El Faro**	**2.64**	**298**	*eP*		**Pn**	**05 58 06.2**	**-0.5**
LFRS	**El Faro**	**2.64**	**298**	*eP*		**Pn**	**05 58 06.2**	**-0.5**
JTS	**Las Juntas de**	**2.68**	**141**	Pn		**Pn**	**05 58 06.3**	**-0.9**
JTS	**Las Juntas de**	**2.68**	**141**	*eP*		**Pn**	**05 58 06.4**	**-0.8**
JTS	**Las Juntas de**	**2.68**	**141**	*d* P		**Pn**	**05 58 06.1**	**-1.1**
AEIL	**Aeropuerto Ilo**	**2.72**	**299**	*eP*		**Pn**	**05 58 07.2**	**-0.6**
AEIL	**Aeropuerto Ilo**	**2.72**	**299**	*eP*		**Pn**	**05 58 07.2**	**-0.6**
INDI	**Punta indio, G**	**2.76**	**156**	*eP*		**Pn**	**05 58 07.7**	**-0.5**
COVE	**Coope Vega, Sa**	**2.77**	**127**	Pn		**Pn**	**05 58 08.2**	**-0.2**
COVE	**Coope Vega, Sa**	**2.77**	**127**	*eP*		**Pn**	**05 58 07.6**	**-0.8**
IGN	**Direccin Gen**	**2.77**	**298**	*eP*		**Pn**	**05 58 08.7**	**+0.2**
IGN	**Direccin Gen**	**2.77**	**298**	*eP*		**Pn**	**05 58 08.7**	**+0.2**
SNET	**Serv Nac Est T**	**2.81**	**297**			**Pn**	**05 58 08.8**	**-0.2**
BOQS	**Boqueron**	**2.88**	**298**	*eP*		**Pn**	**05 58 09.9**	**-0.1**
BOQS	**Boqueron**	**2.88**	**298**	*eP*		**Pn**	**05 58 09.9**	**-0.1**
CEDA	**San Andres**	**3.01**	**298**	*eP*		**Pn**	**05 58 11.5**	**-0.2**
CEDA	**San Andres**	**3.01**	**298**	*eP*		**Pn**	**05 58 11.5**	**-0.2**
CEDA				*eP*		**Pb**	**05 58 13.9**	**-3.5**
LAFE	**Finca La Fe, P**	**3.10**	**146**	*eP*		**Pn**	**05 58 12.2**	**-0.7**
CEVE	**Cerro Verde**	**3.22**	**296**	*eP*		**Pn**	**05 58 15.3**	**+0.5**
CEVE	**Cerro Verde**	**3.22**	**296**	*eP*		**Pn**	**05 58 15.3**	**+0.5**
CEVE				*eS*		**Sb**	**05 59 02.3**	**+1.6**
RTR	**El Retiro**	**3.27**	**297**	*eP*		**Pn**	**05 58 15.5**	**+0.1**
RTR	**El Retiro**	**3.27**	**297**	*eP*		**Pn**	**05 58 15.5**	**+0.1**
ESQI	**Esquipulas**	**3.38**	**310**	Pn		**Pn**	**05 58 15.6**	**-1.3**
HDC	**Heredia**	**3.45**	**133**			**Pn**	**05 58 17.9**	**0.0**
HDC	**Heredia**	**3.45**	**133**	*eP*		**Pn**	**05 58 16.5**	**-1.4**
CVTR	**Volcan Turrial**	**3.70**	**129**			**Pn**	**05 58 20.9**	**-0.7**
RIMA	**Rio Macho**	**3.79**	**133**			**Pn**	**05 58 22.3**	**-0.3**
RIMA	**Rio Macho**	**3.79**	**133**	*eP*		**Pn**	**05 58 21.1**	**-1.5**
BATAN	**Batan**	**3.95**	**125**			**Pn**	**05 58 25.1**	**+0.5**
MRL	**Marmol**	**3.97**	**313**	*eP*		**Pn**	**05 58 26.8**	**+1.7**
CDM	**Cerro de Muert**	**4.01**	**135**	*eP*		**Pn**	**05 58 24.8**	**-1.1**
EDDO	**Dominical**	**4.16**	**138**	*eP*		**Pn**	**05 58 29.0**	**+1.5**
PEZE	**Perez Zeledon,**	**4.19**	**135**			**Pn**	**05 58 29.0**	**+1.0**
PEZE	**Perez Zeledon,**	**4.19**	**135**	*eP*		**Pn**	**05 58 26.6**	**-1.4**
NBG	**Las Nubes**	**4.19**	**302**	*eP*		**Pn**	**05 58 30.6**	**+2.4**
PCG	**Pacaya**	**4.32**	**298**	*eP*		**Pn**	**05 58 31.9**	**+1.9**
SRBA	**San Rafael, Bu**	**4.52**	**134**			**Pn**	**05 58 33.5**	**+1.0**
SRBA	**San Rafael, Bu**	**4.52**	**134**	*eP*		**Pn**	**05 58 33.2**	**+0.7**
FUG	**Fuego 3**	**4.55**	**297**	*eP*		**Pn**	**05 58 34.2**	**+1.2**
DRK0	**Durika**	**4.58**	**133**	Pn		**Pn**	**05 58 33.6**	**+0.1**
EDBA	**Buenos Aires**	**4.63**	**134**	*eP*		**Pn**	**05 58 35.0**	**+1.1**
RGM0	**Gandoca**	**4.86**	**125**			**Pn**	**05 58 38.3**	**+1.2**
EDSV	**San Vito**	**5.08**	**134**	*eP*		**Pn**	**05 58 42.0**	**+1.8**
BRU2	**Volcan**	**5.30**	**132**			**Pn**	**05 58 44.7**	**+1.4**
STG3	**Santiaguito 3,**	**5.30**	**296**	*eP*		**Pn**	**05 58 45.2**	**+1.9**
CDITO	**Canoas**	**5.32**	**135**			**Pn**	**05 58 44.6**	**+1.1**
RTAL	**Retalhuleu**	**5.33**	**294**	Pn		**Pn**	**05 58 44.0**	**+0.4**
PETF	**Flores**	**5.46**	**326**			**Pn**	**05 58 45.6**	**+0.3**
HUEH	**Huehuetenango**	**5.53**	**302**			**Pn**	**05 58 48.1**	**+1.6**
CCIG	**Comitan**	**6.56**	**307**			**Pn**	**05 59 00.7**	**0.0**
BCIP	**Isla Barro Col**	**7.43**	**115**			**Pn**	**05 59 11.2**	**-1.3**
BCIP	**Isla Barro Col**	**7.43**	**115**	P		**Pn**	**05 59 11.2**	**-1.3**
TEIG	**Tepich**	**7.93**	**349**	Pn		**Pn**	**05 59 19.9**	**+0.6**
CMIG	**Matias Romero** comp=Z,2.6nm,0.3s,baz=124,slow=9.2,SNR=41	**9.22**	**301**	Pn		**Pn**	**05 59 38.2**	**+1.2**
CMIG					Sn	**Sn**	**06 01 20.0**	**-1.2**
	comp=Z,4.0nm,0.3s,baz=311,slow=21,SNR=1.4 comp=Z,113nm,0.9s							
LCCY	**Blossom Villag**	**9.60**	**40**	Pn		**Pn**	**05 59 41.8**	**-0.3**
MTDJ	**Mount Denham**	**10.53**	**56**	Pn		**Pn**	**05 59 54.6**	**-0.5**
**T

HKT	**Hockley**		**19.43**	**335**	P		**Pn**	**06 01 52.8**	**+1.2**
	baz=152									
HKT					S		**S**	**06 05 29.7**	**-1.0**
	baz=152									
250A	**Grady**		**19.49**	**1**	P		**Pn**	**06 01 55.8**	**+3.4**
	baz=181,SNR=22									
250A					S		**S**	**06 05 38.3**	**+6.4**
	baz=181									
342B	**Flagon Creek P**		**19.59**	**345**	P		**Pn**	**06 01 57.4**	**+3.7**
	baz=163,SNR=40									
342B					S		**Sn**	**06 05 37.9**	**+3.9**
	baz=163									
CRPR	**Cabo Rojo, PR**		**19.66**	**71**	IAmb		IAmb	06 02 00.7		
	comp=Z,260nm,1.4s									
MLPR	**Magueyes Islan**		**19.71**	**71**	IAmb		IAmb	06 02 02.3		
	comp=Z,566nm,1.6s									
833A	**Chaparral WMA,**		**19.81**	**325**	P		**P**	**06 01 54.2**	**-0.6**
833A					IAmb		IAmb	06 01 58.3		
	comp=Z,351nm,0.9s									
833A	**Chaparral WMA,**		**19.81**	**325**	P		**P**	**06 01 54.0**	**-0.8**
	baz=141,SNR=138									
833A					S		**S**	**06 05 33.9**	**-4.6**
	baz=141									
833A	**Chaparral WMA,**		**19.81**	**325**	P		**P**	**06 01 54.1**	**-0.6**
	baz=141,SNR=138									
833A					S		**S**	**06 05 34.2**	**-4.2**
	baz=141									
255A	**Hazlehurst**		**19.81**	**11**	P		**P**	**06 01 54.9**	**+0.2**
	baz=192									
255A					S		**Sn**	**06 05 46.5**	**+7.2**
	baz=192									
VBMS	**Vicksburg**		**20.04**	**350**	P		Pn	06 02 00.0	+1.0	
	baz=169,SNR=26									
VBMS					S		Sn	06 05 52.9	+8.1	
	baz=169									
VBMS	**Vicksburg**		**20.04**	**350**	P		Pn	06 01 59.0	0.0	
	baz=169,SNR=26									
VBMS					S		**S**	**06 05 41.5**	**-1.5**
	baz=169									
AOPR	**Arecibo Observ**		**20.07**	**70**	P		**P**	**06 01 57.4**	**-0.4**
AOPR	**Arecibo Observ**		**20.07**	**70**	*e*P		**P**	**06 01 57.7**	**-0.1**
CELP	**Cerrillos**		**20.17**	**71**	IAmb		IAmb	06 02 06.7		
	comp=Z,499nm,1.4s									
ICMP	**Isla Caja de M**		**20.18**	**72**	P		**P**	**06 01 59.2**	**+0.3**
152A	**Waverly Hall**		**20.25**	**5**	IAmb		IAmb	06 02 14.2		
	comp=Z,160nm,1.1s									
152A	**Waverly Hall**		**20.25**	**5**	P		Pn	06 02 03.1	+1.6	
	baz=185,SNR=16									
152A					S		**S**	**06 05 46.9**	**-0.4**
	baz=185									
146A	**Union**		**20.26**	**354**	P		Pn	06 02 03.4	+1.8	
	baz=173,SNR=23									
146A					S		Sn	06 05 57.1	+7.0	
	baz=173									
154A	**Montrose**		**20.38**	**9**	P		**P**	**06 02 00.5**	**-0.4**
154A					IAmb		IAmb	06 02 14.9		
	comp=Z,218nm,0.8s									
154A	**Montrose**		**20.38**	**9**	P		Pn	06 02 04.1	+1.1	
	baz=190,SNR=12									
LRAL	**Lakeview Retre**		**20.54**	**359**	P		Pn	06 02 06.6	+1.7	
	baz=179,SNR=55									
LRAL	**Lakeview Retre**		**20.54**	**359**	P		Pn	06 02 04.1	-0.7	
	baz=179,SNR=55									
LRAL					S		**S**	**06 05 53.8**	**+0.9**	
	baz=179									
SJG	**San Juan**		**20.58**	**71**	P		**P**	**06 02 02.3**	**-0.9**	
	comp=Z,54nm,1.0s,baz=267,slow=9.0,SNR=20									
SJG					S		Sn	06 06 00.7	+2.8	
	comp=Z,2.3nm,0.2s,baz=339,slow=19,SNR=1.1									
SJG					LR		LR	06 10 33.3		
	comp=Z,38µm,19.2s,baz=272,slow=39									
	comp=Z,54nm,1.0s									
SJG	**San Juan**		**20.58**	**71**	P		**P**	**06 02 03.1**	**-0.1**	
SJG					IAmb		IAmb	06 02 08.7		
	comp=Z,246nm,1.1s									
SJG	**San Juan**		**20.58**	**71**	P		**P**	**06 02 03.1**	**-0.1**	
SJG					pmax		pmax			
	comp=Z,246nm,1.2s									
SJG					MLR		MLR			
	comp=Z,35µm,19.0s									
SJG	**San Juan**		**20.58**	**71**	*e*P		**P**	**06 02 03.3**	**+0.1**	
NATX	**Nacogdoches**		**20.63**	**340**	P		Pn	06 02 05.3	-0.7	
NATX	**Nacogdoches**		**20.63**	**340**	P		Pn	06 02 05.5	-0.4	
	baz=157,SNR=62									
NATX					S		Sn	06 05 57.6	-1.3	
	baz=157									
NATX	**Nacogdoches**		**20.63**	**340**	P		**P**	**06 02 04.3**	**+0.7**	
	baz=157,SNR=62									
NATX					S		Sn	06 05 56.5	-2.5	
	baz=157									
143A	**Socs Landing,**		**20.67**	**349**	IAmb		IAmb	06 02 11.6		
	comp=Z,272nm,1.1s									
143A	**Socs Landing,**		**20.67**	**349**	P		Pn	06 02 08.0	+1.6	
	baz=167,SNR=23									
143A					S		Sn	06 06 03.6	+3.6	
	baz=167									
GCPR	**Guaynabo City**		**20.68**	**71**	P		**P**	**06 02 04.3**	**0.0**	
GCPR					IAmb		IAmb	06 02 09.3		
	comp=Z,399nm,2.0s									
Z47A	**Carrollton**		**20.74**	**357**	P		Pn	06 02 10.5	+3.3	
	baz=176,SNR=58									
HUMP	**Col San Antoni**		**20.86**	**72**	IAmb		IAmb	06 02 12.9		
	comp=Z,375nm,1.4s									
Z51A	**Franklin**		**20.86**	**3**	P		Pn	06 02 09.8	+1.2	
	baz=184,SNR=28									
Z51A					S		Sn	06 06 01.6	-3.0	
	baz=184									
435B	**Jarrell**		**20.90**	**333**	IAmb		IAmb	06 02 13.2		
	comp=Z,155nm,0.9s									
435B	**Jarrell**		**20.90**	**333**	P		Pn	06 02 08.8	-0.3	
	baz=149,SNR=20									
435B					S		Sn	06 06 03.1	-2.4	
	baz=149									
435B	**Jarrell**		**20.90**	**333**	P		**P**	**06 02 07.5**	**+0.9**	
	baz=149									
435B					S		**S**	**06 05 58.9**	**-1.2**	
	baz=149									
ATAH	**Atahualpa**		**21.08**	**157**	P		**P**	**06 02 08.8**	**-0.2**	
	comp=Z,20nm,1.0s,baz=339,slow=11,SNR=10									
ATAH					S		Sn	06 06 09.1	-1.5	
	comp=Z,3.0nm,0.9s,baz=60,slow=12,SNR=0.8									
ATAH					LR		LR	06 09 35.1		
	comp=Z,32µm,20.6s,baz=334,slow=35									
	comp=Z,20nm,1.0s									
GOGA	**Godfrey**		**21.11**	**7**	P		**P**	**06 02 12.3**	**+3.4**	
GOGA	**Godfrey**		**21.11**	**7**	P		**P**	**06 02 10.3**	**+1.4**	
	baz=189,SNR=39									
GOGA					S		**S**	**06 06 06.3**	**+2.0**	
	baz=189									
GOGA	**Godfrey**		**21.11**	**7**	P		**P**	**06 02 10.5**	**+1.6**	
	baz=189,SNR=39									
GOGA					S		**S**	**06 06 03.6**	**-0.8**	
	baz=189									
MTP	**Monte Pirata**		**21.13**	**72**	IAmb		IAmb	06 02 18.9		
	comp=Z,422nm,1.6s									
237A	**Washetta, Mont**		**21.25**	**338**	P		**P**	**06 02 14.1**	**+3.7**	
	baz=155,SNR=41									
237A					S		**S**	**06 06 08.2**	**+1.2**	
	baz=155									
Y49A	**Blount Mountai**		**21.36**	**1**	IAmb		IAmb	06 02 20.9		
	comp=Z,180nm,0.9s									
Y49A	**Blount Mountai**		**21.36**	**1**	P		**P**	**06 02 15.1**	**+3.5**	
	baz=181,SNR=40									
Y49A					S		Sn	06 06 12.2	-4.3	
	baz=181									
HAW	**Hawthorne Fire**		**21.37**	**12**	P		**P**	**06 02 14.9**	**+3.3**	
	baz=194,SNR=8.7									
HAW					S		**S**	**06 06 10.8**	**+1.5**	
	baz=194									
NHSC	**New Hope**		**21.45**	**15**	P		**P**	**06 02 15.9**	**+3.4**	
	baz=197,SNR=6.1									
NHSC	**New Hope**		**21.45**	**15**	P		**P**	**06 02 13.0**	**+0.5**	
	baz=197,SNR=6.1									
Y52A	**Lilburn**		**21.50**	**6**	P		**P**	**06 02 16.3**	**+3.3**	
	baz=187,SNR=63									
Y52A					P		**P**	**06 02 16.3**	**+3.3**	
	baz=187,SNR=63									
Y52A					S		**S**	**06 06 13.5**	**+1.6**	
	baz=187									
Y52A					S		**S**	**06 06 13.5**	**+1.6**	
	baz=187									
Y45A	**Yeager Farm, C**		**21.53**	**353**	P		**P**	**06 02 16.9**	**+3.6**	
	baz=172,SNR=58									
Y45A					S		Sn	06 06 19.5	-1.0	
	baz=172									
PCRV	**Puerto La Cruz**		**21.71**	**94**	P		**P**	**06 02 15.2**	**-0.3**	
	comp=Z,85nm,1.0s,baz=278,slow=7.7,SNR=19									
PCRV					LR		LR	06 13 57.5		
	comp=Z,8µm,18.2s,slow=46									
	comp=Z,85nm,1.0s									
JCT	**Junction City**		**21.72**	**328**	P		**P**	**06 02 17.3**	**+1.8**	
	baz=143,SNR=40									
JCT					S		Sn	06 06 21.4	-3.9	
	baz=143									
JCT	**Junction City**		**21.72**	**328**	P		**P**	**06 02 15.5**	**0.0**	
	baz=143,SNR=40									
JCT					S		**S**	**06 06 13.4**	**-3.0**	
	baz=143									
CDVI	**St. Croix**		**21.79**	**73**	IAmb		IAmb	06 02 24.0		
	comp=Z,218nm,1.1s									
CDVI	**St. Croix**		**21.79**	**73**	*e*P		**P**	**06 02 15.2**	**-1.2**	
WHTX	**Lake Whitney,**		**21.88**	**335**	IAmb		IAmb	06 02 25.0		
	comp=Z,275nm,1.1s									
WHTX	**Lake Whitney,**		**21.88**	**335**	P		**P**	**06 02 17.9**	**+0.7**	
	baz=151,SNR=76									
WHTX					S		**S**	**06 06 20.4**	**+0.9**	
	baz=151									
WHTX	**Lake Whitney,**		**21.88**	**335**	P		**P**	**06 02 17.6**	**+0.4**	
	baz=151,SNR=76									
WHTX					S		**S**	**06 06 17.0**	**-2.5**	
	baz=151									
CCAR	**Cane Creek**		**21.92**	**349**	P		**P**	**06 02 17.2**	**-0.3**	
CCAR	**Cane Creek**		**21.92**	**349**	S		Sn	06 06 25.7	-4.2	
	baz=166									
X48A	**Hartselle**		**21.95**	**359**	P		**P**	**06 02 21.1**	**+3.2**	
	baz=179,SNR=70									
X48A					S		Sn	06 06 25.7	-5.1	
	baz=179									
FPAL	**Fort Paine**		**22.06**	**2**	IAmb		IAmb	06 02 30.3		
	comp=Z,194nm,1.0s									
HODGE	**Hodges**		**22.10**	**10**	P		**P**	**06 02 22.3**	**+2.9**	
	baz=191,SNR=13									
HODGE					S		**S**	**06 06 27.4**	**+3.8**	
	baz=191									
Z38A	**Mt. Pleasant**		**22.11**	**341**	P		**P**	**06 02 21.1**	**+1.4**	
	baz=158,SNR=40									
Z38A					S		**S**	**06 06 26.6**	**+2.6**	
	baz=158									
X51A	**Calhoun**		**22.12**	**4**	P		**P**	**06 02 22.7**	**+2.9**	
	baz=185,SNR=15									
X51A					P		**P**	**06 02 22.7**	**+2.9**	
	baz=185,SNR=15									
X51A					S		**S**	**06 06 26.1**	**+2.0**	
	baz=185									
X51A					S		**S**	**06 06 26.1**	**+2.0**	
	baz=185									
OXF	**Oxford**		**22.15**	**354**	P		**P**	**06 02 20.9**	**+0.8**	
	baz=173									
OXF					S		**S**	**06 06 28.0**	**+3.4**	
	baz=173									
OXF	**Oxford**		**22.15**	**354**	P		**P**	**06 02 21.1**	**+1.1**	
	baz=173									
OXF					S		**S**	**06 06 26.1**	**+1.5**	
	baz=173									
Y57A	**Sumter**		**22.26**	**14**	S		**S**	**06 06 30.7**	**+4.0**	
	baz=196									
Y57A					S		**S**	**06 06 30.7**	**+4.0**	
	baz=196									
JSC	**Jenkinsville**		**22.33**	**12**	P		**P**	**06 02 24.3**	**+2.4**	
	baz=194,SNR=10.0									
Y58A	**Scranton**		**22.34**	**15**	S		Sn	06 06 38.9	-1.0	
	baz=198									
Y58A					S		Sn	06 06 38.9	-1.0	
	baz=198									
PLAL	**Pickwick Lake**		**22.52**	**357**	P		**P**	**06 02 23.7**	**-0.3**	
PLAL					IAmb		IAmb	06 02 31.6		
	comp=Z,167nm,1.1s									
Y59A	**Loris**		**22.63**	**17**	S		Sn	06 06 44.7	-2.3	
	baz=200									
Y59A					S		Sn	06 06 44.7	-2.3	
	baz=200									
SWET	**Sewanee**		**22.72**	**2**	IAmb		IAmb	06 02 33.5		
	comp=Z,217nm,1.0s									
W52A	**Murphy**		**22.73**	**6**	P		**P**	**06 02 28.2**	**+2.0**	
	baz=187,SNR=59									
W52A					S		**S**	**06 06 39.2**	**+3.7**	
	baz=187									
W50A	**Signal Mountai**		**22.73**	**3**	P		**P**	**06 02 27.5**	**+1.2**	
	baz=183,SNR=43									
W50A					S		**S**	**06 06 41.2**	**+5.7**	
	baz=183									
CASEE	**Lake Jocassee**		**22.74**	**8**	P		**P**	**06 02 29.3**	**+2.9**	
	baz=189,SNR=50									
CASEE					S		**S**	**06 06 41.1**	**+5.4**	
	baz=189									
PAULI	**Pauline**		**22.75**	**10**	P		**P**	**06 02 26.0**	**-0.4**	
PAULI					IAmb		IAmb	06 02 38.6		
	comp=Z,162nm,1.1s									
PAULI	**Pauline**		**22.75**	**10**	P		**P**	**06 02 28.7**	**+2.3**	
	baz=192,SNR=19									
PAULI					S		**S**	**06 06 40.8**	**+5.0**	
	baz=192									
W45A	**Hickory Valley**		**22.77**	**355**	P		**P**	**06 02 26.8**	**+0.1**	
W45A	**Hickory Valley**		**22.77**	**355**	P		**P**	**06 02 28.6**	**+2.0**	
	baz=174,SNR=35									
W45A					S		**S**	**06 06 38.9**	**+2.7**	
	baz=174									
Y60A	**Bolivia**		**22.84**	**18**	S		Sn	06 06 46.7	-5.3	
	baz=202									
Y60A					S		Sn	06 06 46.7	-5.3	
	baz=202									
BIRD	**Birdtown, Kers**		**22.85**	**13**	P		**P**	**06 02 29.5**	**+2.0**	
	baz=196,SNR=26									
BIRD					S		**S**	**06 06 40.6**	**+3.0**	
	baz=196									
UALR	**University of**		**22.86**	**348**	IAmb		IAmb	06 02 35.0		
	comp=Z,145nm,1.1s									
MIAR	**Mount Ida**		**22.92**	**345**	IAmb		IAmb	06 02 35.4		
	comp=Z,120nm,0.9s									
MIAR	**Mount Ida**		**22.92**	**345**	P		**P**	**06 02 28.3**	**0.0**	
	baz=162									
MIAR					S		**S**	**06 06 36.4**	**-2.5**	
	baz=162									
MIAR	**Mount Ida**		**22.92**	**345**	P		**P**	**06 02 28.9**	**+0.6**	
	baz=162									
MIAR					S		**S**	**06 06 37.0**	**-1.9**	
	baz=162									
HPIG			**22.96**	**312**	P		**P**	**06 02 28.2**	**-0.8**	
Z35A	**Perchaven, San**		**22.97**	**337**	P		**P**	**06 02 30.4**	**+1.6**	
	baz=153,SNR=35									
Z35A					S		**S**	**06 06 42.8**	**+2.9**	
	baz=153									
CPCT	**Cooper Cave**		**23.03**	**4**	IAmb		IAmb	06 02 36.9		
	comp=Z,122nm,0.8s									
TX31	**Lajitas Ar. Si**		**23.11**	**319**	P		**P**	**06 02 28.9**	**-1.5**	
TX31					IAmb		IAmb	06 02 35.3		
	comp=Z,142nm,0.8s									
TX31	**Lajitas Ar. Si**		**23.11**	**319**	P		**P**	**06 02 28.9**	**-1.5**	
	baz=133,SNR=141									
TX31					S		**S**	**06 06 43.6**	**+1.2**	
	baz=133									
TX32	**Lajitas Array**		**23.11**	**319**	P		**P**	**06 02 28.8**	**-1.6**	
TXAR	**Lajitas Array**		**23.11**	**319**	P		**P**	**06 02 28.9**	**-1.5**	
	comp=Z,60nm,1.1s,baz=139,slow=9.8,SNR=76									
TXAR					S		**S**	**06 06 38.8**	**-3.6**	
	comp=Z,0.5nm,0.7s,baz=159,slow=12,SNR=0.9									
TXAR					LR		LR	06 14 27.9		
	comp=Z,6µm,18.2s,baz=129,slow=44									
	comp=Z,60nm,1.1s									
TXAR	**Lajitas Array**		**23.11**	**319**	P		**P**	**06 02 28.6**	**-1.8**	
TXAR	**Lajitas Array**		**23.11**	**319**	P		**P**	**06 02 28.6**	**-1.8**	
KMSC	**Kings Mountain**		**23.15**	**11**	P		**P**	**06 02 30.2**	**-0.4**	
KMSC					IAmb		IAmb	06 02 40.0		
	comp=Z,105nm,0.8s									
KMSC	**Kings Mountain**		**23.15**	**11**	P		**P**	**06 02 33.0**	**+2.4**	
	baz=193,SNR=32									
KMSC					S		**S**	**06 06 45.2**	**+2.4**	
	baz=193									
KMSC	**Kings Mountain**		**23.15**	**11**	P		**P**	**06 02 31.5**	**+0.9**	
	baz=193,SNR=32									
KMSC					S		**S**	**06 06 44.1**	**+1.4**	
	baz=193									
V48A	**Smith Brothers**		**23.24**	**360**	P		**P**	**06 02 34.1**	**+2.6**	
	baz=180,SNR=49									
V48A					S		**S**	**06 06 46.8**	**+2.6**	
	baz=180									
TKL	**Tuckaleechee C**		**23.30**	**6**	P		**P**	**06 02 31.8**	**-0.4**	
	comp=Z,20nm,0.8s,baz=188,slow=10,SNR=21									
TKL					S		**S**	**06 06 44.2**	**-1.1**	
	comp=Z,3.3nm,0.8s,baz=74,slow=8.9,SNR=1.1									
TKL					LR		LR	06 11 36.3		
	comp=Z,5µm,18.9s,baz=178,slow=37									
	comp=Z,20nm,0.8s									
TKL	**Tuckaleechee C**		**23.30**	**6**	IAmb		IAmb	06 02 48.1		
	comp=Z,137nm,1.0s									
TKL	**Tuckaleechee C**		**23.30**	**6**	P		**P**	**06 02 33.8**	**+1.7**	
	baz=187,SNR=30									
TKL					S		**S**	**06 06 49.9**	**+4.6**	
	baz=187									
HBAR	**Harrisburg**		**23.33**	**352**	P		**P**	**06 02 34.1**	**+1.6**	
	baz=170,SNR=20									
WHAR	**Wooly Hollow**		**23.35**	**348**	IAmb		IAmb	06 02 38.7		
	comp=Z,182nm,1.0s									
ABTX	**Abilene, Hawle**		**23.39**	**331**	P		**P**	**06 02 33.1**	**0.0**	
ABTX					IAmb		IAmb	06 02 39.4		
	comp=Z,269nm,1.4s									
ABTX	**Abilene, Hawle**		**23.39**	**331**	P		**P**	**06 02 34.6**	**+1.6**	
	baz=146,SNR=34									
ABTX					S		**S**	**06 06 48.1**	**+1.3**	
	baz=146									
ABTX	**Abilene, Hawle**		**23.39**	**331**	P		**P**	**06 02 33.3**	**+0.2**	
	baz=146,SNR=34									
ABTX					S		**S**	**06 06 47.0**	**+0.2**	
	baz=146									
V51A	**Loudon**		**23.39**	**5**	P		**P**	**06 02 35.0**	**+2.0**	
	baz=186,SNR=66									
V51A					S		**S**	**06 06 52.3**	**+5.5**	
	baz=186									
TBTG	**Tabatinga, AM**		**23.43**	**134**	P		**P**	**06 02 32.9**	**-0.7**	
TBTG					IAmb		IAmb	06 02 54.6		
	comp=Z,84nm,1.0s									
TBTG	**Tabatinga, AM**		**23.43**	**134**	*e*P		**P**	**06 02 33.1**	**-0.5**	
V53A	**Saluda**		**23.43**	**8**	IAmb		IAmb	06 02 54.6		
	comp=Z,140nm,1.2s									
V53A	**Saluda**		**23.43**	**8**	P		**P**	**06 02 35.1**	**+1.6**	
	baz=189,SNR=17									
V53A					P		**P**	**06 02 35.1**	**+1.6**	
	baz=189,SNR=17									
V53A					S		**S**	**06 06 50.6**	**+3.1**	
	baz=189									
V53A					S		**S**	**06 06 50.6**	**+3.1**	
	baz=189									
SMRT	**St. Maarten**		**23.43**	**73**	IAmb		IAmb	06 02 52.0		
	comp=Z,278nm,1.4s									
SMRT					IAMs_20		IAMs_20	06 12 12.7		
	comp=Z,17µm,18.0s									
SMRT	**St. Maarten**		**23.43**	**73**	*e*P		**P**	**06 02 34.2**	**+0.6**	
W57A	**Gilead**		**23.44**	**14**	IAmb		IAmb	06 02 41.9		
	comp=Z,76nm,0.8s									
W57A	**Gilead**		**23.44**	**14**	P		**P**	**06 02 35.9**	**+2.3**	
	baz=196,SNR=7.7									
W57A					P		**P**	**06 02 35.9**	**+2.3**	
	baz=196,SNR=7.7									
W57A					S		**S**	**06 06 49.5**	**+1.9**	
	baz=196									
W57A					S		**S**	**06 06 49.5**	**+1.9**	
	baz=196									
X37A	**Clayton**		**23.46**	**342**	IAmb		IAmb	06 02 47.8		
	comp=Z,234nm,1.1s									
X37A	**Clayton**		**23.46**	**342**	P		**P**	**06 02 34.8**	**+1.0**	
	baz=158,SNR=55									
X37A					S		**S**	**06 06 48.2**	**+0.2**	
	baz=158									
V52A	**Sevierville**		**23.50**	**6**	IAmb		IAmb	06 02 44.7		
	comp=Z,131nm,1.1s									
V52A	**Sevierville**		**23.50**	**6**	P		**P**	**06 02 35.4**	**+1.3**	
	baz=187,SNR=12									
V52A					S		**S**	**06 06 54.8**	**+6.2**	
	baz=187									
HALT	**Halls**		**23.53**	**355**	P		**P**	**06 02 33.9**	**-0.5**	
LOOK	**Love County**		**23.54**	**338**	IAmb		IAmb	06 02 42.0		
	comp=Z,328nm,1.0s									
CLTN	**Cedars of Leba**		**23.59**	**1**	IAmb		IAmb	06 02 43.3		
	comp=Z,172nm,0.8s									
WVT	**Waverly**		**23.65**	**358**	P		**P**	**06 02 35.3**	**-0.3**	
WVT	**Waverly**		**23.65**	**358**	P		**P**	**06 02 35.3**	**-0.3**	
WVT					pmax		pmax			
	comp=Z,297nm,1.3s									
WVT	**Waverly**		**23.65**	**358**	P		**P**	**06 02 36.4**	**+0.8**	
	baz=177,SNR=103									
WVT					S		**S**	**06 06 53.0**	**+2.1**	
	baz=177									
WVT	**Waverly**		**23.65**	**358**	P		**P**	**06 02 36.2**	**+0.6**	
	baz=177									
WVT					S		**S**	**06 06 51.5**	**+0.6**	
	baz=177									
LNXT	**Lenox**		**23.73**	**354**	P		**P**	**06 02 37.9**	**+1.5**	
	baz=173,SNR=26									
LNXT					S		**S**	**06 07 00.4**	**+8.2**	
	baz=173									
V55A	**Taylorsville**		**23.86**	**11**	IAmb		IAmb	06 02 58.3		
	comp=Z,260nm,1.6s									
V55A	**Taylorsville**		**23.86**	**11**	P		**P**	**06 02 39.1**	**+1.4**	
	baz=193,SNR=6.0									
V55A					P		**P**	**06 02 39.1**	**+1.4**	
	baz=193,SNR=6.0									
V55A					S		**S**	**06 06 58.8**	**+4.6**	
	baz=193									
V55A					S		**S**	**06 06 58.8**	**+4.6**	
	baz=193									
FCAR	**Ozark Folk Cen**		**23.90**	**349**	P		**P**	**06 02 37.2**	**-0.8**	
FCAR					IAmb		IAmb	06 02 43.6		
	comp=Z,97nm,1.0s									
LCAR	**Lake Charles**		**23.91**	**351**	IAmb		IAmb	06 03 03.8		
	comp=Z,226nm,1.3s									
LCAR	**Lake Charles**		**23.91**	**351**	S		**S**	**06 06 57.2**	**+2.1**	
	baz=169									
U49A	**Red Boiling Sp**		**24.02**	**2**	P		**P**	**06 02 39.3**	**+0.1**	
	baz=182,SNR=86									
U49A					S		**S**	**06 06 60.0**	**+3.2**	
	baz=182									
MBFL	**Flemmings, Mon**		**24.04**	**77**	*e*P		**P**	**06 02 40.7**	**+1.1**	
MLYT	**Lee's Yard**		**24.06**	**77**	*e*P		**P**	**06 02 40.0**	**+0.3**	
CNNC	**Cliffs of the**		**24.08**	**18**	IAMs_20		IAMs_20	06 12 17.0		
	comp=Z,14µm,18.0s									
CNNC	**Cliffs of the**		**24.08**	**18**	S		**S**	**06 07 04.3**	**+6.5**	
	baz=201									
CNNC	**Cliffs of the**		**24.08**	**18**	P		**P**	**06 02 39.5**	**-0.3**	
	baz=201									
CNNC					S		**S**	**06 06 59.7**	**+1.9**	
	baz=201									
TZTN	**Tazewell**		**24.20**	**6**	IAmb		IAmb	06 02 52.2		
	comp=Z

	baz=195									
U56A					S		**S**	**06 07 11.8**	**+7.2**	
	baz=195									
ANBD	**Bethesda, Anti**	**24.50**	**76**	*e*P		**P**		**06 02 42.4**	**-1.4**	
PBMO	**Poplar Bluff**	**24.51**	**353**	S		**S**		**06 07 06.1**	**+1.4**	
	baz=171									
CBE	**Ff, Capester**	**24.55**	**78**	IAMs_20		IAMs_20		06 11 55.4		
	comp=Z,20µm,18.0s									
CBE	**Ff, Capester**	**24.55**	**78**	*e*P		**P**		**06 02 45.9**	**+1.6**	
ANWB	**Willy Bob**	**24.57**	**75**	IAmb		IAmb		06 02 52.8		
	comp=Z,149nm,1.1s									
ANWB				IAMs_20		IAMs_20		06 12 50.1		
	comp=Z,17µm,20.0s									
ANWB	**Willy Bob**	**24.57**	**75**	*e*P		**P**		**06 02 43.5**	**-0.9**	
T45B	**Paducah**	**24.57**	**356**	P		**P**		**06 02 45.6**	**+1.3**	
	baz=175,SNR=34									
T45B				S		**S**		**06 07 07.3**	**+1.6**	
	baz=175									
GCMP	**Grenada, Carri**	**24.64**	**87**	*e*P		**P**		**06 02 45.3**	**+0.2**	
GCMP	**Grenada, Carri**	**24.64**	**87**	*e*S		**S**		**06 07 12.4**	**+5.2**	
HHAR	**Hobbs**	**24.67**	**346**	P		**P**		**06 02 44.5**	**-0.6**	
HHAR	**Hobbs**	**24.67**	**346**	P		**P**		**06 02 45.0**	**-0.2**	
	baz=163									
HHAR				S		S		06 07 19.2	+12	
	baz=163									
DSLB	**Salisbury**	**24.68**	**80**	*e*P		**P**		**06 02 46.7**	**+1.3**	
MDN	**Morne-Daniel**	**24.70**	**80**	*e*P		**P**		**06 02 51.4**	**+5.9**	
ABD	**La Joyeuse, An**	**24.70**	**78**	IAMs_20		IAMs_20		06 11 58.5		
	comp=Z,18µm,18.0s									
ABD	**La Joyeuse, An**	**24.70**	**78**	*e*P		**P**		**06 02 47.1**	**+1.5**	
MDVC	**Dominica, Viel**	**24.70**	**80**	*e*P		**P**		**06 02 48.3**	**+2.7**	
SLBS	**Sierra La Lagu**	**24.78**	**300**	P		**P**		**06 02 48.4**	**+2.1**	
SVB	**Belmont**	**24.78**	**85**	*e*P		**P**		**06 02 44.8**	**-1.6**	
SVB	**Belmont**	**24.78**	**85**	*e*S		**S**		**06 07 15.0**	**+5.4**	
TPP	**Pointe-a-Pierr**	**24.80**	**92**	*e*P		**P**		**06 02 49.0**	**+2.5**	
TRN	**Trinidad (W)**	**24.80**	**91**	*e*P		**P**		**06 02 49.7**	**+3.1**	
WMOK	**Wichita Mounta**	**24.81**	**336**	P		**P**		**06 02 45.6**	**-0.8**	
WMOK	**Wichita Mounta**	**24.81**	**336**	P		**P**		**06 02 45.6**	**-0.8**	
WMOK				pmax		pmax				
	comp=Z,240nm,1.1s									
WMOK	**Wichita Mounta**	**24.81**	**336**	P		**P**		**06 02 46.3**	**-0.2**	
	baz=151,SNR=135									
WMOK				S		**S**		**06 07 09.8**	**+0.1**	
	baz=151									
WMOK	**Wichita Mounta**	**24.81**	**336**	P		**P**		**06 02 45.7**	**-0.8**	
	baz=151,SNR=135									
WMOK				S		**S**		**06 07 09.5**	**-0.2**	
	baz=151									
TUL1	**Leonard**	**24.82**	**342**	P		**P**		**06 02 46.0**	**-0.4**	
	baz=158,SNR=61									
TUL1				S		**S**		**06 07 10.5**	**+0.8**	
	baz=158									
TUL1	**Leonard**	**24.82**	**342**	P		**P**		**06 02 46.6**	**+0.1**	
	baz=158,SNR=61									
TUL1				S		**S**		**06 07 10.0**	**+0.4**	
	baz=158									
DLPL	**La Plaine**	**24.84**	**80**	*e*P		**P**		**06 02 50.3**	**+3.4**	
MAGL	**Barre de l'ile**	**24.85**	**79**	IAMs_20		IAMs_20		06 12 03.4		
	comp=Z,17µm,18.0s									
MAGL	**Barre de l'ile**	**24.85**	**79**	*e*P		**P**		**06 02 48.8**	**+1.9**	
FDF	**Fort de France**	**24.90**	**82**	P		**P**		**06 02 46.8**	**-0.7**	
FDF	**Fort de France**	**24.90**	**82**	P		**P**		**06 02 46.8**	**-0.7**	
FDF				pmax		pmax				
	comp=Z,197nm,1.1s									
FDF	**Fort de France**	**24.90**	**82**	*e*P		**P**		**06 02 49.8**	**+2.3**	
U38A	**Gravette**	**24.93**	**345**	IAmb		IAmb		06 03 11.2		
	comp=Z,69nm,1.1s									
U38A	**Gravette**	**24.93**	**345**	P		**P**		**06 02 46.7**	**-0.7**	
	baz=162,SNR=26									
U38A				S		**S**		**06 07 12.5**	**+1.0**	
	baz=162									
CGM3	**Cape Girardeau**	**24.94**	**354**	IAmb		IAmb		06 02 54.9		
	comp=Z,112nm,1.0s									
BIM	**Bigot**	**24.97**	**82**	*e*P		**P**		**06 02 48.5**	**+0.3**	
DEOK	**Depew**	**24.97**	**341**	IAmb		IAmb		06 02 53.7		
	comp=Z,175nm,1.1s									
OK025	**Westminster Rd**	**25.02**	**339**			**P**		**06 02 49.4**	**+1.1**	
SLBI	**Saint Lucia, B**	**25.05**	**83**	*e*P		**P**		**06 02 50.9**	**+2.1**	
MCLT	**Moule a Chique**	**25.08**	**84**	P		**P**		**06 02 53.2**	**+4.1**	
MCLT	**Moule a Chique**	**25.08**	**84**	*e*P		**P**		**06 02 51.9**	**+2.8**	
GDSD	**La Dsirade Is**	**25.09**	**78**	P		**P**		**06 02 47.8**	**-1.4**	
GDSD				IAmb		IAmb		06 02 52.8		
	comp=Z,130nm,1.0s									
GDSD				IAMs_20		IAMs_20		06 12 20.8		
	comp=Z,19µm,19.0s									
OK030	**Cody Creek RV**	**25.14**	**340**			**P**		**06 02 48.7**	**-0.7**	
U59A	**Littleton**	**25.15**	**17**	P		**P**		**06 02 50.9**	**+1.5**	
	baz=201,SNR=9.9									
U59A				P		**P**		**06 02 50.9**	**+1.5**	
	baz=201,SNR=9.9									
MGMO	**Mountain Grove**	**25.16**	**349**	IAmb		IAmb		06 02 56.4		
	comp=Z,83nm,1.0s									
ILAM	**Ilet Lapin Mar**	**25.17**	**82**	IAMs_20		IAMs_20		06 13 05.0		
	comp=Z,13µm,19.0s									
ILAM	**Ilet Lapin Mar**	**25.17**	**82**	*e*P		**P**		**06 02 51.4**	**+1.6**	
MPOM	**Morne Pois Mar**	**25.17**	**82**	*e*P		**P**		**06 02 51.6**	**+1.7**	
BCOK	**Bluff Creek, N**	**25.18**	**339**			**P**		**06 02 49.4**	**-0.4**	
BCOK				IAmb		IAmb		06 02 58.0		
	comp=Z,220nm,1.0s									
OK031	**S. Brethren Rd**	**25.18**	**340**			**P**		**06 02 48.9**	**-0.9**	
OK034	**N. Norfolk Rd.**	**25.20**	**341**			**P**		**06 02 49.3**	**-0.6**	
LPIG	**La Paz**	**25.25**	**301**	P		**P**		**06 02 51.6**	**+1.1**	
	comp=Z,15nm,0.3s,baz=317,slow=1.4,SNR=1.6									
LPIG				LR		LR		06 12 36.7		
	comp=Z,20µm,21.9s,baz=118,slow=36 comp=Z,15nm,0.3s									
OK029	**Liberty Lake**	**25.25**	**339**			**P**		**06 02 49.7**	**-0.7**	
S51A	**Beattyville**	**25.28**	**6**	P		**P**		**06 02 51.4**	**+0.7**	
	baz=187,SNR=36									
S51A				P		**P**		**06 02 51.4**	**+0.7**	
	baz=187,SNR=36									
S51A				S		**S**		**06 07 23.8**	**+6.7**	
	baz=187									
S51A				S		**S**		**06 07 23.8**	**+6.7**	
	baz=187									
S44A	**Carbondale**	**25.29**	**355**	P		**P**		**06 02 52.6**	**+1.8**	
	baz=174,SNR=22									
S44A				S		**S**		**06 07 15.6**	**-1.6**	
	baz=174									
OK033	**Mehan**	**25.30**	**340**			**P**		**06 02 50.2**	**-0.7**	
BLA	**Blacksburg**	**25.33**	**12**	P		**P**		**06 02 52.5**	**+1.4**	
	baz=194,SNR=16									
BLA				S		**S**		**06 07 26.2**	**+8.2**	
	baz=194									
BLA	**Blacksburg**	**25.33**	**12**	P		**P**		**06 02 52.5**	**+1.4**	
	baz=194,SNR=16									
BLA				S		**S**		**06 07 21.6**	**+3.7**	
	baz=194									
QUOK	**Quay**	**25.34**	**341**	IAmb		IAmb		06 03 09.2		
	comp=Z,203nm,1.0s									
T57A	**Hurt**	**25.38**	**14**	IAmb		IAmb		06 02 59.7		
	comp=Z,122nm,1.0s									
T57A	**Hurt**	**25.38**	**14**	P		**P**		**06 02 52.6**	**+1.1**	
	baz=197,SNR=30									
T57A				P		**P**		**06 02 52.6**	**+1.1**	
	baz=197,SNR=30									
T57A				S		**S**		**06 07 25.0**	**+6.4**	
	baz=197									
T57A				S		**S**		**06 07 25.0**	**+6.4**	
	baz=197									
CSTR	**Hydro, Custer**	**25.57**	**337**	IAmb		IAmb		06 03 01.2		
	comp=Z,57nm,1.2s									
TOSP	**Speyside**	**25.59**	**90**	*e*P		**P**		**06 02 49.1**	**-4.6**	
OK050	**Pawnee Station**	**25.64**	**340**	P		**P**		**06 02 55.7**	**+1.8**	
OK045	**Pawnee Station**	**25.66**	**341**	P		**P**		**06 02 56.0**	**+1.9**	
OK051	**E0350 and S346**	**25.69**	**341**			**P**		**06 02 56.6**	**+2.2**	
WCI	**Wyandotte Cave**	**25.72**	**1**	P		**P**		**06 02 53.9**	**-0.7**	
WCI	**Wyandotte Cave**	**25.72**	**1**	P		**P**		**06 02 53.9**	**-0.7**	
WCI				pmax		pmax				
	comp=Z,162nm,0.9s									
WCI	**Wyandotte Cave**	**25.72**	**1**	P		**P**		**06 02 55.0**	**+0.3**	
	baz=181,SNR=23									
WCI				S		**S**		**06 07 27.6**	**+3.6**	
	baz=181									
WCI	**Wyandotte Cave**	**25.72**	**1**	P		**P**		**06 02 55.4**	**+0.8**	
	baz=181									
WCI				S		**S**		**06 07 27.1**	**+3.1**	
	baz=181									
S54A	**Dingess, Beckl**	**25.74**	**10**	IAmb		IAmb		06 03 07.7		
	comp=Z,87nm,0.9s									
S54A	**Dingess, Beckl**	**25.74**	**10**	P		**P**		**06 02 55.8**	**+1.0**	
	baz=192									
S54A				P		**P**		**06 02 55.8**	**+1.0**	
	baz=192									
S54A				S		**S**		**06 07 31.5**	**+7.1**	
	baz=192									
S54A				S		**S**		**06 07 31.5**	**+7.1**	
	baz=192									
OK049	**E0420 Rd and N**	**25.75**	**340**			**P**		**06 02 56.7**	**+1.8**	
T59A	**Double "B" Far**	**25.80**	**17**	P		**P**		**06 02 56.4**	**+1.1**	
	baz=201									
T59A				P		**P**		**06 02 56.4**	**+1.1**	
	baz=201									
T59A				S		**S**		**06 07 31.2**	**+6.0**	
	baz=201									
T59A				S		**S**		**06 07 31.2**	**+6.0**	
	baz=201									
MNTX	**Cornudas Mount**	**25.81**	**321**	P		**P**		**06 02 55.2**	**-0.4**	
	baz=134,SNR=78									
MNTX				S		**S**		**06 07 30.4**	**+4.8**	
	baz=134									
MNTX	**Cornudas Mount**	**25.81**	**321**	P		**P**		**06 02 55.3**	**-0.2**	
	baz=134,SNR=78									
MNTX				S		**S**		**06 07 26.9**	**+1.3**	
	baz=134									
R49A	**Shelbyville**	**25.82**	**3**	IAmb		IAmb		06 03 02.1		
	comp=Z,141nm,1.1s									
R49A	**Shelbyville**	**25.82**	**3**	S		**S**		**06 07 29.3**	**+3.7**	
	baz=183									
R49A				S		**S**		**06 07 29.3**	**+3.7**	
	baz=183									
R50A	**Paris**	**25.86**	**4**	IAmb		IAmb		06 03 02.8		
	comp=Z,125nm,0.9s									
R50A	**Paris**	**25.86**	**4**	P		**P**		**06 02 56.4**	**+0.5**	
	baz=185,SNR=50									
R50A				P		**P**		**06 02 56.4**	**+0.5**	
	baz=185,SNR=50									
R50A				S		**S**		**06 07 29.8**	**+3.7**	
	baz=185									
R50A				S		**S**		**06 07 29.8**	**+3.7**	
	baz=185									
CCM	**Cathedral Cave**	**25.87**	**352**	P		**P**		**06 02 56.0**	**0.0**	
CCM				IAmb		IAmb		06 03 03.4		
	comp=Z,96nm,0.8s									
CCM	**Cathedral Cave**	**25.87**	**352**	P		**P**		**06 02 56.0**	**0.0**	
CCM				pmax		pmax				
	comp=Z,96nm,0.9s									
CCM				MLR		MLR				
	comp=Z,4µm,22.0s									
CCM	**Cathedral Cave**	**25.87**	**352**	P		**P**		**06 02 55.9**	**-0.1**	
	baz=170,SNR=85									
CCM				S		**S**		**06 07 27.2**	**+0.7**	
	baz=170									
CCM	**Cathedral Cave**	**25.87**	**352**	P		**P**		**06 02 56.0**	**0.0**	
	baz=170									
CCM				S		**S**		**06 07 23.5**	**-2.9**	
	baz=170									
S39A	**Bolivar**	**25.88**	**348**	IAmb		IAmb		06 03 01.3		
	comp=Z,79nm,0.8s									
S39A	**Bolivar**	**25.88**	**348**	P		**P**		**06 02 56.2**	**+0.1**	
	baz=165,SNR=42									
S39A				S		**S**		**06 07 35.3**	**+8.7**	
	baz=165									
T35A	**Sooner Cattle**	**25.96**	**342**	IAmb		IAmb		06 03 05.8		
	comp=Z,141nm,1.2s									
T35B	**Sooner Cattle**	**25.96**	**342**	P		**P**		**06 02 56.1**	**-0.8**	
	baz=158									
T35B				S		**S**		**06 07 34.0**	**+6.1**	
	baz=158									
MSTX	**Muleshoe**	**26.01**	**328**	P		**P**		**06 02 56.8**	**-0.7**	
	baz=142,SNR=179									
MSTX				S		**S**		**06 07 30.3**	**+1.3**	
	baz=142									
MSTX	**Muleshoe**	**26.01**	**328**	P		**P**		**06 02 57.0**	**-0.5**	
	baz=142,SNR=179									
MSTX				S		**S**		**06 07 31.8**	**+2.8**	
	baz=142									
BLOK	**Blackwell**	**26.05**	**340**			**P**		**06 02 60.0**	**+2.3**	
BLOK				IAmb		IAmb		06 03 05.0		
	comp=Z,224nm,1.2s									
CROK	**Carrier**	**26.07**	**339**	IAmb		IAmb		06 03 19.5		
	comp=Z,104nm,0.9s									
NNA	**Nana**	**26.12**	**158**	P		**P**		**06 02 57.2**	**-1.2**	
	comp=Z,19nm,0.9s,baz=250,slow=2.9,SNR=3.9									
NNA				LR		LR		06 11 07.9		
	comp=Z,5µm,20.5s,baz=348,slow=32 comp=Z,19nm,0.9s									
NNA	**Nana**	**26.12**	**158**	P		**P**		**06 02 58.4**	**-0.1**	
NNA				IAmb		IAmb		06 03 15.2		
	comp=Z,100nm,1.4s									
NNA	**Nana**	**26.12**	**158**	*d* iP		**P**		**06 03 00.1**	**+1.6**	
NNA				pmax		pmax				
	comp=Z,121nm,1.4s									
R53A	**Hurricane**	**26.16**	**8**	P		**P**		**06 02 59.3**	**+0.7**	
	baz=190,SNR=7.4									
R53A				P		**P**		**06 02 59.3**	**+0.7**	
	baz=190,SNR=7.4									
R53A				S		**S**		**06 07 36.6**	**+5.6**	
	baz=190									
R53A				S		**S**		**06 07 36.6**	**+5.6**	
	baz=190									
S57A	**Dark Hollow, R**	**26.18**	**14**	IAmb		IAmb		06 03 06.6		
	comp=Z,59nm,0.9s									
S57A	**Dark Hollow, R**	**26.18**	**14**	P		**P**		**06 02 59.6**	**+0.9**	
	baz=197,SNR=18									
S57A				P		**P**		**06 02 59.6**	**+0.9**	
	baz=197,SNR=18									
S57A				S		**S**		**06 07 38.9**	**+7.7**	
	baz=197									
S57A				S		**S**		**06 07 38.9**	**+7.7**	
	baz=197									
T60A	**Surry**	**26.19**	**18**	P		**P**		**06 03 00.3**	**+1.4**	
	baz=202									
T60A				P		**P**		**06 03 00.3**	**+1.4**	
	baz=202									
AMTX	**Amarillo**	**26.20**	**331**	P		**P**		**06 02 59.1**	**0.0**	
	baz=145,SNR=41									
AMTX				S		**S**		**06 07 36.5**	**+4.5**	
	baz=145									
AMTX	**Amarillo**	**26.20**	**331**	P		**P**		**06 02 58.6**	**-0.6**	
	baz=145									
AMTX				S		**S**		**06 07 34.9**	**+2.9**	
	baz=145									
ELIS	**Ellis County**	**26.22**	**336**	IAmb		IAmb		06 03 05.0		
	comp=Z,317nm,0.9s									
OLIL	**Olney**	**26.26**	**357**	P		**P**		**06 03 01.8**	**+2.3**	
	baz=177,SNR=20									
OLIL				S		**S**		**06 07 34.9**	**+2.4**	
	baz=177									
R40A	**Maddies Statio**	**26.26**	**350**	IAmb		IAmb		06 03 40.2		
	comp=Z,65nm,1.1s									
R40A	**Maddies Statio**	**26.26**	**350**	P		**P**		**06 02 59.2**	**-0.3**	
	baz=168,SNR=18									
R40A				S		**S**		**06 07 33.5**	**+0.9**	
	baz=168									
SLM	**Saint Louis**	**26.32**	**354**	S		**S**		**06 07 34.7**	**+1.2**	
	baz=172									
OK038	**West end E0370**	**26.32**	**338**	IAmb		IAmb		06 03 05.7		
	comp=Z,114nm,0.9s									
U32A	**Winter Ranch,**	**26.34**	**337**	P		**P**		**06 02 60.0**	**-0.3**	
	baz=152,SNR=18									
OK032	**Salt Plains WL**	**26.42**	**339**	IAmb		IAmb		06 03 05.8		
	comp=Z,81nm,0.9s									
R55A	**Marlinton**	**26.43**	**12**	IAmb		IAmb		06 03 21.0		
	comp=Z,62nm,0.9s									
R55A	**Marlinton**	**26.43**	**12**	P		**P**		**06 03 02.6**	**+1.5**	
	baz=194,SNR=16									
R55A				P		**P**		**06 03 02.6**	**+1.5**	
	baz=194,SNR=16									
R55A				S		**S**		**06 07 37.7**	**+2.4**	
	baz=194									
R55A				S		**S**		**06 07 37.7**	**+2.4**	
	baz=194									
BBGH	**Gun Hill**	**26.43**	**85**	*e*P		P		06 03 08.9	+7.5	
KAN14	**Manchester OK**	**26.47**	**339**	IAmb		IAmb		06 03 06.2		
	comp=Z,53nm,0.9s									
Q44A	**Meyer Farm, Va**	**26.48**	**356**	IAmb		IAmb		06 03 11.2		
	comp=Z,107nm,0.9s									
Q44A	**Meyer Farm, Va**	**26.48**	**356**	S		**S**		**06 07 37.7**	**+1.8**	
	baz=175									
KAN17	**Caldwell West**	**26.48**	**340**			**P**		**06 03 00.8**	**-0.8**	
KAN17				IAmb		IAmb		06 03 09.9		
	comp=Z,79nm,0.9s									
KAN09	**Caldwell North**	**26.52**	**340**	IAmb		IAmb		06 03 09.3		
	comp=Z,95nm,1.0s									
NOKA	**Waynoka**	**26.53**	**337**	IAmb		IAmb		06 03 06.8		
	comp=Z,284nm,1.0s									
BBSP	**Saint Philip**	**26.54**	**85**	*e*P		**P**		**06 03 02.5**	**+0.3**	
KAN05	**Bluff City Nor**	**26.58**	**340**	IAmb		IAmb		06 03 07.5		
	comp=Z,99nm,1.0s									
KAN01	**Argonia South**	**26.58**	**340**	IAmb		IAmb		06 03 10.9		
	comp=Z,78nm,1.0s									
KS20	**Mayfield South**	**26.58**	**340**	IAmb		IAmb		06 03 11.8		
	comp=Z,142nm,1.3s									
R58B	**Mineral**	**26.64**	**16**	P		**P**		**06 03 05.2**	**+2.2**	
	baz=199									
R58B				P		**P**		**06 03 05.2**	**+2.2**	
	baz=199									
R58B				S		**S**		**06 07 45.9**	**+7.4**	
	baz=199									
R58B				S		**S**		**06 07 45.9**	**+7.4**	
	baz=199									
BLO	**Bloomington**	**26.66**	**0**	IAmb		IAmb		06 03 15.7		
	comp=Z,85nm,1.1s									
Q51A	**Peebles**	**26.68**	**6**	P		**P**		**06 03 04.1**	**+0.7**	
	baz=187,SNR=70									
Q51A				P		**P**		**06 03 04.1**	**+0.7**	
	baz=187,SNR=70									
Q51A				S		**S**		**06 07 44.1**	**+4.9**	
	baz=187									
Q51A				S		**S**		**06 07 44.1**	**+4.9**	
	baz=187									
KAN06	**Argonia West S**	**26.70**	**340**	IAmb		IAmb		06 03 08.8		
	comp=Z,66nm,0.8s									
KAN08	**Anthony NE Sta**	**26.72**	**340**	IAmb		IAmb		06 03 08.9		
	comp=Z,101nm,0.8s									
Q52A	**Bidwell**	**26.74**	**8**	P		**P**		**06 03 06.2**	**+2.4**	
	baz=190,SNR=13									
Q52A				P		**P**		**06 03 06.2**	**+2.4**	
	baz=190,SNR=13									
Q52A				S		**S**		**06 07 47.3**	**+7.2**	
	baz=190									
Q52A				S		**S**		**06 07 47.3**	**+7.2**	
	baz=190									
KAN16	**Harper SW Stat**	**26.75**	**339**	IAmb		IAmb		06 03 09.1		
	comp=Z,63nm,0.9s									
P48A	**Milroy**	**26.97**	**2**	IAmb		IAmb		06 03 11.3		
	comp=Z,65nm,0.8s									
P48A	**Milroy**	**26.97**	**2**	P		**P**		**06 03 05.2**	**-0.8**	
	baz=183,SNR=20									
P48A				P		**P**		**06 03 05.2**	**-0.8**	
	baz=183,SNR=20									
P48A				S		**S**		**06 07 46.6**	**+2.8**	
	baz=183									
P48A				S		**S**		**06 07 46.6**	**+2.8**	
	baz=183									
Q54A	**Coxs Mills**	**26.98**	**10**	IAmb		IAmb		06 03 19.3		
	comp=Z,71nm,0.8s									
Q54A	**Coxs Mills**	**26.98**	**10**	P		**P**		**06 03 06.7**	**+0.8**	
	baz=192,SNR=12									
Q54A				P		**P**		**06 03 06.7**	**+0.8**	
	baz=192,SNR=12									
Q54A				S		**S**		**06 07 51.4**	**+7.6**	
	baz=192									
Q54A				S		**S**		**06 07 51.4**	**+7.6**	
	baz=192									
CBN	**Corbin Frederi**	**27.00**	**16**	IAMs_20		IAMs_20		06 14 04.2		
	comp=Z,14µm,18.0s									
CBN	**Corbin Frederi**	**27.00**	**16**	P		**P**		**06 03 08.5**	**+2.4**	
	baz=200,SNR=8.1									
CBN				S		**S**		**06 07 50.1**	**+6.0**	
	baz=200									
CBN	**Corbin Frederi**	**27.00**	**16**	P		**P**		**06 03 06.6**	**+0.5**	
	baz=200,SNR=8.1									
CBN				S		**S**		**06 07 49.5**	**+5.4**	
	baz=200									
P49A	**Miami Univ. Ec**	**27.08**	**3**	IAmb		IAmb		06 03 12.3		
	comp=Z,61nm,0.8s									
P49A	**Miami Univ. Ec**	**27.08**	**3**	P		**P**		**06 03 07.0**	**+0.1**	
	baz=184									
P49A				S		**S**		**06 07 48.2**	**+2.7**	
	baz=184									
P51A	**Williamsport**	**27.16**	**6**	S		**S**		**06 07 52.7**	**+6.0**	
	baz=188									
P51A				S		**S**		**06 07 52.7**	**+6.0**	
	baz=188									
P43A	**Skaggs, Pawnee**	**27.25**	**355**	IAmb		IAmb		06 03 17.4		
	comp=Z,66nm,1.1s									
P43A	**Skaggs, Pawnee**	**27.25**	**355**	P		**P**		**06 03 09.9**	**+1.5**	
	baz=174									
P43A				S		**S**		**06 07 50.7**	**+2.6**	
	baz=174									
Q56A	**Snyder Ridge,**	**27.35**	**13**	IAmb		IAmb		06 03 19.7		
	comp=Z,126nm,1.1s									
Q56A	**Snyder Ridge,**	**27.35**	**13**	P		**P**		**06 03 11.1**	**+1.8**	
	baz=196,SNR=18									
Q56A				P		**P**		**06 03 11.1**	**+1.8**	
	baz=196,SNR=18									
Q56A				S		**S**		**06 07 56.9**	**+7.2**	
	baz=196									
Q56A				S		**S**		**06 07 56.9**	**+7.2**	
	baz=196									
P53A	**Whipple**	**27.38**	**9**	IAmb		IAmb		06 03 16.3		
	comp=Z,86nm,0.8s									
P53A	**Whipple**	**27.38**	**9**	P		**P**		**06 03 10.4**	**+0.8**	
	baz=191,SNR=22									
P53A				P		**P**		**06 03 10.4**	**+0.8**	
	baz=191,SNR=22									
P53A				S		**S**		**06 07 56.4**	**+6.3**	
	baz=191									
P53A				S		**S**		**06 07 56.4**	**+6.3**	
	baz=191									
P52A	**Corning**	**27.42**	**8**	IAmb		IAmb		06 03 17.6		
	comp=Z,100nm,0.8s									
P52A	**Corning**	**27.42**	**8**	P		**P**		**06 03 09.9**	**0.0**	
	baz=190,SNR=11									
P52A				S		**S**		**06 07 54.3**	**+3.5**	
	baz=190									
P40A	**Paris**	**27.44**	**351**	P		**P**		**06 03 11.1**	**+1.0**	
	baz=168,SNR=13									
P40A				S		**S**		**06 07 52.4**	**+1.3**	
	baz=168									
O44A	**Mansfield**	**27.69**	**357**	IAmb		IAmb		06 03 19.4		
	comp=Z,66nm,0.8s									
O44A	**Mansfield**	**27.69**	**357**	S		**S**		**

baz=190,SNR=7.9
O52A P P 06 03 14.8 +0.3
baz=190,SNR=7.9
O52A S S 06 08 04.2 +5.3
baz=190
O52A S S 06 08 04.2 +5.3
baz=190
KSU1 Kansas State U 28.02 343 P P 06 03 15.7 +0.3
baz=159
KSU1 S S 06 07 55.7 -4.6
baz=159
P57A Homestead Farm 28.04 14 IAmb IAmb 06 03 24.2
comp=Z,72nm,0.8s
P57A Homestead Farm 28.04 14 P P 06 03 17.1 +1.6
baz=198
P57A P P 06 03 17.1 +1.6
baz=198
R32A Long Quarter, 28.05 340 IAmb IAmb 06 03 21.4
comp=Z,54nm,0.9s
HDIL Hopedale 28.14 356 IAmb IAmb 06 03 23.8
comp=Z,89nm,0.8s
HDIL Hopedale 28.14 356 P P 06 03 17.8 +1.4
baz=174,SNR=6.5
HDIL Hopedale 28.14 356 P P 06 03 16.9 +0.5
baz=174,SNR=6.5
HDIL S S 06 08 01.6 -0.6
baz=174
O53A New Philadelph 28.15 9 IAmb IAmb 06 03 22.7
comp=Z,86nm,0.8s
O53A New Philadelph 28.15 9 P P 06 03 16.9 +0.4
baz=191,SNR=19
O53A S S 06 08 04.8 +2.4
baz=191
O54A Avella 28.22 10 IAmb IAmb 06 03 25.6
comp=Z,40nm,0.7s
O54A Avella 28.22 10 S S 06 08 10.2 +6.8
baz=193
O54A S S 06 08 10.2 +6.8
baz=193
SDMD Soldier's Deli 28.27 16 P P 06 03 18.9 +1.3
baz=200,SNR=7.9
SDMD S S 06 08 14.5 +10
baz=200
Y22A Socorro 28.32 323 P P 06 03 19.9 +1.6
baz=134,SNR=46
Y22A S S 06 08 05.7 +0.2
baz=134
N47A Urbana 28.38 2 S S 06 08 06.5 +0.5
baz=182
N47A S S 06 08 06.5 +0.5
baz=182
Y22D IRIS PASSCAL I 28.39 323 P P 06 03 19.2 +0.3
baz=135
N41A Harden Midland 28.44 353 IAmb IAmb 06 03 25.0
comp=Z,43nm,0.8s
N41A Harden Midland 28.44 353 S S 06 08 08.8 +2.0
baz=171
N49A Columbus Grove 28.49 4 P P 06 03 19.0 -0.5
baz=185,SNR=42
N49A P P 06 03 19.0 -0.5
baz=185,SNR=42
N49A S S 06 08 08.5 +0.8
baz=185
N49A S S 06 08 08.5 +0.8
baz=185
N51A Ashland 28.65 7 S S 06 08 14.9 +4.7
baz=189
N51A S S 06 08 14.9 +4.7
baz=189
ANMO Albuquerque 28.74 325 P P 06 03 21.6 -0.4
comp=Z,17nm,1.0s,baz=160,slow=5.4,SNR=30
ANMO S S 06 08 05.9 -6.3
comp=Z,1.3nm,0.8s,baz=197,slow=9.2,SNR=1.4
comp=Z,17nm,1.0s
ANMO Albuquerque 28.74 325 P P 06 03 21.7 -0.4
ANMO Albuquerque 28.74 325‖ *e*P P 06 03 23.0 +0.9
ANMO pmax pmax
comp=Z,59nm,1.3s
ANMO Albuquerque 28.74 325 P P 06 03 22.5 +0.5
baz=136,SNR=59
ANMO S S 06 08 12.1 -0.1
baz=136
ANMO Albuquerque 28.74 325 P P 06 03 22.4 +0.3
baz=136
ANMO S S 06 08 12.0 -0.1
baz=136
N53A Lisbon 28.75 9 IAmb IAmb 06 03 29.9
comp=Z,58nm,0.7s
N53A Lisbon 28.75 9 P P 06 03 22.7 +0.9
baz=192,SNR=8.8
N53A P P 06 03 22.7 +0.9
baz=192,SNR=8.8
N53A S S 06 08 16.6 +4.8
baz=192
N53A S S 06 08 16.6 +4.8
baz=192
CBKS Cedar Bluff 28.76 338 P P 06 03 22.1 0.0
baz=153,SNR=8.8
CBKS S S 06 08 14.0 +2.0
baz=153
CBKS Cedar Bluff 28.76 338 P P 06 03 22.2 +0.2
baz=153,SNR=8.8
CBKS S S 06 08 13.4 +1.3
baz=153
N38A Joes South For 28.87 350 S S 06 08 14.8 +1.2
baz=167
M44A Midewin, Midew 28.90 358 S S 06 08 14.5 +0.4
baz=177
MVL Millersville 28.96 16 P P 06 03 23.6 0.0
MVL IAmb IAmb 06 03 32.2
comp=Z,55nm,1.0s
GEDE Greenville 28.99 18 S S 06 08 23.0 +7.5
baz=203
M50A Fremont 29.06 6 P P 06 03 23.6 -1.1
M50A Fremont 29.06 6 P P 06 03 25.3 +0.7
baz=187,SNR=8.0
M50A P P 06 03 25.3 +0.7
baz=187,SNR=8.0
SSPA Standing Stone 29.16 14 P P 06 03 25.4 -0.1
SSPA IAmb IAmb 06 03 34.2
comp=Z,51nm,0.7s
SSPA Standing Stone 29.16 14 IAMs_20 IAMs_20 06 14 55.5
comp=Z,8µm,19.0s
SSPA Standing Stone 29.16 14 P P 06 03 26.3 +0.8
baz=198,SNR=20
SSPA S S 06 08 23.8 +5.6
baz=198
SSPA Standing Stone 29.16 14 P P 06 03 26.7 +1.2
baz=198
SSPA S S 06 08 23.3 +5.0
baz=198
T25A Trinidad 29.33 330 IAmb IAmb 06 03 38.3
comp=Z,92nm,1.2s
T25A Trinidad 29.33 330 P P 06 03 28.3 +1.0
baz=143,SNR=17
T25A S S 06 08 21.0 -0.4
baz=143
M52A Chesterland 29.40 8 S S 06 08 26.2 +4.2
baz=190
M52A S S 06 08 26.2 +4.2
baz=190
M53A WI Miller and 29.40 9 IAmb IAmb 06 03 36.2
comp=Z,78nm,0.8s
M53A WI Miller and 29.40 9 P P 06 03 27.6 0.0
baz=192,SNR=7.7
M53A S S 06 08 23.8 +1.9
baz=192
N35A Tabor 29.43 346 P P 06 03 26.3 -1.5
N35A IAmb IAmb 06 03 32.9
comp=Z,91nm,0.9s
N35A Tabor 29.43 346 P P 06 03 29.1 +1.2
baz=162,SNR=10
PSDB Penn State Uni 29.44 12 P P 06 03 29.9 +1.9
baz=196
TUPA Temple Univers 29.45 18 P P 06 03 29.2 +1.2
baz=203,SNR=12
L48A N Adams 29.50 3 IAmb IAmb 06 03 34.0
comp=Z,56nm,0.8s
L48A N Adams 29.50 3 P P 06 03 27.9 -0.5
baz=184,SNR=14
L48A P P 06 03 27.9 -0.5
baz=184,SNR=14
L48A S S 06 08 25.4 +2.0
baz=184
L48A S S 06 08 25.4 +2.0
baz=184
L46A Eue Claire 29.50 1 IAmb IAmb 06 03 33.1
comp=Z,100nm,0.8s
L46A Eue Claire 29.50 1 P P 06 03 27.1 -1.4
baz=181,SNR=5.2
L46A P P 06 03 27.1 -1.4
baz=181,SNR=5.2
L46A S S 06 08 23.5 0.0
baz=181
L46A S S 06 08 23.5 0.0
baz=181
PTGA Pitinga 29.53 114 LR LR 06 15 56.6
comp=Z,5µm,18.3s,baz=296,slow=38
L42A Oliver, Polo 29.61 355 P P 06 03 29.0 -0.5
L42A IAmb IAmb 06 03 36.1
comp=Z,46nm,0.7s
L42A Oliver, Polo 29.61 355 P P 06 03 29.3 -0.1
baz=174
L42A S S 06 08 25.9 +0.7
baz=174
N58A Sunbury 29.64 15 IAmb IAmb 06 03 37.8
comp=Z,56nm,0.8s
N58A Sunbury 29.64 15 S S 06 08 34.5 +8.7
baz=200
N58A S S 06 08 34.5 +8.7
baz=200
L44A Lake County Fo 29.68 358 P P 06 03 30.3 +0.2
baz=178
L44A S S 06 08 25.9 -0.5
baz=178
ALLY Alegheny Colle 29.69 10 P P 06 03 29.6 -0.5
ALLY IAmb IAmb 06 03 36.1
comp=Z,58nm,1.0s
TUC Tucson 29.71 316 P P 06 03 30.7 +0.1
TUC Tucson 29.71 316 IAMs_20 IAMs_20 06 16 37.5
comp=Z,11µm,22.0s
TUC Tucson 29.71 316 P P 06 03 30.7 +0.1
TUC pmax pmax
comp=Z,25nm,1.2s
TUC MLR MLR
comp=Z,11µm,22.0s
TUC Tucson 29.71 316 P P 06 03 31.4 +0.8
baz=126
TUC S S 06 08 27.4 +0.1
baz=126
N33B J Bar K, Exete 29.78 343 S S 06 08 29.8 +1.8
baz=158
PANJ Princeton 29.79 19 P P 06 03 33.9 +2.9
baz=204,SNR=6.7
PANJ S S 06 08 35.4 +7.3
baz=204
L40A Anamosa 29.82 353 IAmb IAmb 06 03 37.4
comp=Z,58nm,0.9s
L40A Anamosa 29.82 353 P P 06 03 32.4 +1.1
baz=171,SNR=7.1
AAM Ann Arbor 29.90 4 P P 06 03 32.6 +0.6
baz=186
AAM S S 06 08 31.0 +1.2
baz=186
ETMB Extrema 30.00 136 P P 06 03 31.0 -2.2
ETMB IAmb IAmb 06 03 34.6
comp=Z,50nm,0.7s
M57A Sunshine Farm, 30.01 14 IAmb IAmb 06 03 40.7
comp=Z,75nm,0.8s
M57A Sunshine Farm, 30.01 14 P P 06 03 33.8 +0.8
baz=199,SNR=24
M57A P P 06 03 33.8 +0.8
baz=199,SNR=24
M57A S S 06 08 39.8 +8.2
baz=199
M57A S S 06 08 39.8 +8.2
baz=199
KSCO Kaye Shedlock' 30.05 335 P P 06 03 32.2 -1.4
KSCO IAmb IAmb 06 03 37.0
comp=Z,70nm,0.8s
KSCO Kaye Shedlock' 30.05 335 P P 06 03 33.6 0.0
baz=148,SNR=15
KSCO Kaye Shedlock' 30.05 335 P P 06 03 33.8 +0.2
baz=148,SNR=15
KSCO S S 06 08 33.9 +1.3
baz=148
MACA Manacapuru-AM 30.09 119 P P 06 03 32.5 -1.5
MACA IAmb IAmb 06 03 40.9
comp=Z,66nm,0.8s
MACA Manacapuru-AM 30.09 119 *e*P P 06 03 32.9 -1.1
ERPA Erie 30.17 10 P P 06 03 34.1 -0.3
ERPA IAMs_20 IAMs_20 06 16 11.2
comp=Z,10µm,19.0s
ERPA Erie 30.17 10 P P 06 03 34.7 +0.2
baz=193,SNR=6.2
ERPA S S 06 08 39.9 +5.8
baz=193
ERPA Erie 30.17 10 P P 06 03 34.6 +0.2
baz=193,SNR=6.2
ERPA S S 06 08 39.2 +5.1
baz=193
K43A Burlington 30.23 358 IAmb IAmb 06 04 32.7
comp=Z,106nm,1.4s
K43A Burlington 30.23 358 S S 06 08 34.0 -0.9
baz=177
SDCO Great Sand Dun 30.34 330 P P 06 03 36.4 +0.1
baz=141,SNR=57
SDCO S S 06 08 36.2 -1.2
baz=141
SDCO Great Sand Dun 30.34 330 P P 06 03 36.2 -0.2
baz=141,SNR=57
SDCO S S 06 08 35.3 -2.2
baz=141
K50A Casco 30.46 6 S S 06 08 41.5 +2.9
baz=188
K50A S S 06 08 41.5 +2.9
baz=188
ODNJ Ogdensburg 30.46 18 P P 06 03 39.5 +2.5
baz=204
ODNJ S S 06 08 45.0 +6.3
baz=204
JFWS Jewell Farm 30.56 355 P P 06 03 38.4 +0.5
baz=173
JFWS S S 06 08 41.8 +1.6
baz=173
JFWS Jewell Farm 30.56 355 P P 06 03 38.4 +0.5
baz=173
JFWS S S 06 08 37.4 -2.8
baz=173
KSPA Keystone Colle 30.57 16 P P 06 03 39.5 +1.5
baz=201
BGNE Belgrade 30.60 343 P P 06 03 38.1 -0.2
baz=158
BGNE S S 06 08 40.3 -0.5
baz=158
K38A Parkersburg 30.60 351 S S 06 08 40.3 -0.5
baz=168
PAL Palisades 30.61 19 P P 06 03 38.5 +0.2
baz=205
PAL S S 06 08 41.9 +0.9
baz=205
L34A Svendsen Farm, 30.65 346 P P 06 03 37.4 -1.3
L34A IAmb IAmb 06 03 44.8
comp=Z,57nm,0.8s
L34A Svendsen Farm, 30.65 346 P P 06 03 38.0 -0.7
baz=161,SNR=10
L56A Greenwood 30.67 13 P P 06 03 40.2 +1.3
baz=198,SNR=8.5
L56A P P 06 03 40.2 +1.3
baz=198,SNR=8.5
L56A S S 06 08 49.9 +7.9
baz=198
L56A S S 06 08 49.9 +7.9
baz=198
WVNY West Valley, N 30.70 12 S S 06 08 47.0 +4.5
baz=196
J47A Sunmer 30.77 3 IAmb IAmb 06 03 54.2
comp=Z,46nm,1.1s
J47A Sunmer 30.77 3 S S 06 08 43.8 +0.4
baz=184
J47A S S 06 08 43.8 +0.4
baz=184
W18A Petrified Fore 30.79 321 P P 06 03 39.6 -0.7
baz=132,SNR=9.0
W18A S S 06 08 41.8 -2.6
baz=132
214A Organ Pipe Nat 30.93 313 P P 06 03 41.6 +0.3
baz=123,SNR=6.7
214A S S 06 08 42.9 -3.4
baz=123
BRNY Black Rk. Fore 30.95 19 S S 06 08 56.7 +10
baz=204
S22A 4UR Ranch, Cre 31.01 328 IAmb IAmb 06 03 48.3
comp=Z,153nm,1.9s
S22A 4UR Ranch, Cre 31.01 328 P P 06 03 42.3 0.0
baz=139,SNR=47
S22A S S 06 08 46.5 -1.5
baz=139
BINY Binghamton 31.11 15 IAMs_20 IAMs_20 06 16 16.0
comp=Z,8µm,18.0s
BINY Binghamton 31.11 15 P P 06 03 44.1 +1.4
baz=200,SNR=27
BINY S S 06 08 55.1 +6.3
baz=200
BINY Binghamton 31.11 15 P P 06 03 43.9 +1.1
baz=200,SNR=27
BINY S S 06 08 52.7 +3.9
baz=200
Q24A Divide 31.13 331 P P 06 03 43.2 -0.2
baz=143,SNR=16
Q24A S S 06 08 49.2 -0.7
baz=143
NPNY Mohonk Preserv 31.22 18 P P 06 03 44.9 +1.2
baz=204
NPNY S S 06 08 55.3 +4.8
baz=204
L59A Walton 31.36 17 P P 06 03 46.3 +1.3
baz=202,SNR=19
L59A P P 06 03 46.3 +1.3
baz=202,SNR=19
L59A S S 06 09 00.1 +7.4
baz=202
L59A S S 06 09 00.1 +7.4
baz=202
I42A Draeger Farm, 31.44 357 P P 06 03 46.5 +1.0
baz=176,SNR=15
I42A S S 06 08 53.7 -0.1
baz=176
OGNE Ogallala 31.47 337 P P 06 03 46.8 +0.8
baz=150,SNR=17
OGNE Ogallala 31.47 337 P P 06 03 46.5 +0.5
baz=150,SNR=17
OGNE S S 06 08 56.0 +1.3
baz=150
K57A Scipio Center 31.48 14 S S 06 09 00.2 +5.7
baz=199
MVCO Mesa Verde 31.52 325 P P 06 03 46.2 -0.5
MVCO IAmb IAmb 06 03 51.5
comp=Z,37nm,0.9s
MVCO Mesa Verde 31.52 325 P P 06 03 46.4 -0.3
baz=136,SNR=39
MVCO S S 06 08 56.6 +0.9
baz=136
I45A Fountain 31.52 1 P P 06 03 45.5 -0.9
I45A IAmb IAmb 06 03 51.1
comp=Z,70nm,0.8s
I45A Fountain 31.52 1 S S 06 08 55.7 +0.5
baz=181
I45A S S 06 08 55.7 +0.5
baz=181
J54A Appleton 31.53 11 S S 06 09 00.9 +5.6
baz=195
J54A S S 06 09 00.9 +5.6
baz=195
I40A Norwalk 31.56 355 IAmb IAmb 06 03 52.2
comp=Z,32nm,0.8s
I40A Norwalk 31.56 355 S S 06 08 53.6 -2.2
baz=173
M63A Gales Ferry 31.59 21 S S 06 09 04.0 +7.6
baz=208
M63A S S 06 09 04.0 +7.6
baz=208
I49A Point Hope 31.60 5 S S 06 08 58.1 +1.8
baz=187
I49A S S 06 08 58.1 +1.8
baz=187
J55A Hilton 31.69 12 S S 06 09 03.1 +5.3
baz=196
J55A S S 06 09 03.1 +5.3
baz=196
K31A O'Neill 31.89 343 IAmb IAmb 06 04 02.3
comp=Z,97nm,1.1s
K31A O'Neill 31.89 343 P P 06 03 49.8 +0.2
baz=157,SNR=9.0
J56A Wolcott 31.91 14 P P 06 03 51.0 +1.3
baz=198,SNR=9.3
J56A P P 06 03 51.0 +1.3
baz=198,SNR=9.3
H43A Windswept, Lux 31.97 358 IAmb IAmb 06 03 56.8
comp=Z,39nm,0.8s
H43A Windswept, Lux 31.97 358 P P 06 03 51.9 +1.6
baz=178
H43A S S 06 08 59.2 -3.0
baz=178
HCNY Howe Caverns 32.01 17 P P 06 03 51.8 +1.2
baz=203
HCNY S S 06 09 05.6 +2.8
baz=203
ISCO Idaho Springs 32.02 332 P P 06 03 53.0 +1.9
ISCO Idaho Springs 32.02 332 P P 06 03 51.0 -0.1
baz=143,SNR=24
ISCO S S 06 09 07.8 +4.1
baz=143
ISCO Idaho Springs 32.02 332 P P 06 03 51.5 +0.4
baz=143,SNR=24
ISCO S S 06 09 03.9 +0.2
baz=143
I37A Lemond, Waseca 32.03 351 IAmb IAmb 06 03 55.2
comp=Z,60nm,0.9s
I37B Waseca 32.03 351 P P 06 03 50.6 -0.2
baz=168,SNR=16
I37B S S 06 09 00.4 -2.8
baz=168
WUAZ Wupatki 32.07 320 P P 06 03 51.3 -0.2
WUAZ IAmb IAmb 06 03 57.4
comp=Z,55nm,1.1s
WUAZ IAMs_20 IAMs_20 06 18 29.8
comp=Z,12µm,20.0s
WUAZ Wupatki 32.07 320 P P 06 03 52.2 +0.7
baz=130,SNR=29
WUAZ S S 06 09 05.8 +1.5
baz=130
SMCO Snowmass 32.18 330 IAmb IAmb 06 03 58.4
comp=Z,105nm,1.2s
J57A Williamstown 32.24 15 P P 06 03 53.6 +0.9
baz=200,SNR=17
J57A P P 06 03 53.6 +0.9
baz=200,SNR=17
J57A S S 06 09 10.8 +4.3
baz=200
J57A S S 06 09 10.8 +4.3
baz=200
TRY Troy 32.25 18 S S 06 09 17.7 +11
baz=204
L61B Northampton 32.31 20 IAMs_20 IAMs_20 06 17 19.8
comp=Z,9µm,19.0s
L61B Northampton 32.31 20 S S 06 09 15.5 +8.0
baz=206
L61B Northampton 32.31 20 P P 06 03 53.6 +0.3
baz=206
L61B S S 06 09 10.6 +3.1
baz=206
GLMI Grayling 32.36 3 P P 06 03 53.2 -0.5
baz=184
GLMI Grayling 32.36 3 P P 06 03 52.3 -1.3
baz=184
GLMI S S 06 09 10.7 +2.5
baz=184
J58A Remsen 32.38 16 P P 06 03 55.8 +1.9
baz=201,SNR=20
J58A P P 06 03 55.8 +1.9
baz=201,SNR=20
J58A S S 06 09 14.5 +6.0
baz=201
J58A S S 06 09 14.5 +6.0
baz=201
PV13 Radium Mtn., P 32.38 326 IAmb IAmb 06 03 59.2
comp=Z,52nm,1.0s
ECSD EROS Data Cent 32.38 346 IAmb IAmb 06 03 59.4
comp=Z,59nm,0.9s
ECSD EROS Data Cent 32.38 346 P P 06 03 53.0 -0.8
baz=162,SNR=30
ECSD S S 06 09 03.6 -5.0
baz=162
ECSD EROS Data Cent 32.38 346 P P 06 03 53.1 -0.8
baz=162,SNR=30
ECSD S S 06 09 05.6 -3.1
baz=162
PV07 Paradox Valley 32.49 327 P P 06 03 54.8 -0.4
PV07 IAmb IAmb 06 04 01.1
comp=Z,144nm,1.6s
G45A Suttons Bay 32.54 1 IAmb IAmb 06 03 59.7
comp=Z,60nm,0.8s
G45A Suttons Bay 32.54 1 S S 06 09 12.6 +1.6

baz=182
G45A S **S** **06 09 12.6 +1.6**
baz=182
K62A **Royalston** **32.65 20** S **S** **06 09 16.1 +3.2**
baz=207
K62A S **S** **06 09 16.1 +3.2**
baz=207
J59A **Piesco** **32.68 16** IAmb IAmb 06 04 04.5
comp=Z,70nm,1.0s
J59A **Piesco** **32.68 16** P **P** **06 03 57.2 +0.6**
baz=202,SNR=6.7
J59A P **P** **06 03 57.2 +0.6**
baz=202,SNR=6.7
J59A S **S** **06 09 20.7 +7.3**
baz=202
J59A S **S** **06 09 20.7 +7.3**
baz=202
PV23 **Carpenter Ridg** **32.69 326** IAmb IAmb 06 04 01.8
comp=Z,63nm,1.0s
WES **Weston** **32.72 21** IAMs_20 IAMs_20 06 17 54.5
comp=Z,13µm,18.0s
WES **Weston** **32.72 21** S S 06 09 22.9 +9.1
baz=208
HRV **Adam Dziewonsk** **32.74 21** IAMs_20 IAMs_20 06 18 20.1
comp=Z,12µm,18.0s
HRV **Adam Dziewonsk** **32.74 21** S S 06 09 22.7 +8.5
baz=208
HRV **Adam Dziewonsk** **32.74 21** P **P** **06 03 57.1 0.0**
baz=208
HRV S **S** **06 09 18.1 +3.9**
baz=208
ACCN **Adirondack Com** **32.85 18** P **P** **06 03 57.8 -0.2**
baz=204,SNR=5.8
ACCN S S 06 09 26.1 +10
baz=204
WCNY **West Carthage** **32.86 15** S S 06 09 24.9 +8.8
baz=200
SADO **Sadowa** **32.89 10** P **P** **06 03 56.2 -2.1**
comp=Z,13nm,0.7s,baz=226,slow=3.3,SNR=1.7
SADO S **S** **06 09 17.0 +0.5**
comp=Z,7.2nm,1.1s,baz=101,slow=15,SNR=1.8
SADO LR LR 06 17 25.7
comp=Z,5µm,18.1s,baz=186,slow=37
comp=Z,13nm,0.7s
SADO **Sadowa** **32.89 10** IAmb IAmb 06 04 03.7
comp=Z,35nm,0.9s
G40A **Rib Lake** **32.89 355** S **S** **06 09 17.2 +0.6**
baz=174
GLA **Glamis** **32.95 313** P **P** **06 03 58.4 -0.7**
baz=122,SNR=15
GLA S **S** **06 09 17.6 -0.2**
baz=122
N23A **Red Feather La** **33.05 333** P **P** **06 03 59.9 -0.2**
baz=144,SNR=14
N23A S **S** **06 09 17.1 -2.5**
baz=144
SPMN **Marine on St.** **33.13 352** IAmb IAmb 06 04 05.0
comp=Z,55nm,1.0s
SPMN **Marine on St.** **33.13 352** P **P** **06 03 59.6 -0.8**
baz=169,SNR=19
SPMN S **S** **06 09 19.8 -0.4**
baz=169
SPMN **Marine on St.** **33.13 352** P **P** **06 03 59.8 -0.7**
baz=169,SNR=19
SPMN S **S** **06 09 18.5 -1.7**
baz=169
PDMCI **Parker Dam,Lak** **33.16 316** P **P** **06 04 00.5 -0.2**
baz=124,SNR=32
J61A **Chester** **33.16 19** P **P** **06 04 03.1 +2.5**
baz=206,SNR=6.9
J61A P **P** **06 04 03.1 +2.5**
baz=206,SNR=6.9
PHWY **Pilot Hill** **33.16 334** IAmb IAmb 06 04 05.3
comp=Z,29nm,0.7s
NCB **Newcomb** **33.23 16** S **S** **06 09 23.2 +1.4**
baz=202
W13A **Hualapai Mount** **33.44 317** IAmb IAmb 06 04 10.5
comp=Z,53nm,1.3s
UNH **University of** **33.50 21** S S 06 09 35.3 +9.4
baz=209
O20A **White River Ci** **33.54 329** P **P** **06 04 04.5 +0.2**
baz=140,SNR=74
O20A S **S** **06 09 29.9 +2.7**
baz=140
FFD **Franklin Falls** **33.56 20** P **P** **06 04 06.3 +2.1**
baz=207,SNR=5.2
HNH **Hanover** **33.56 19** IAMs_20 IAMs_20 06 17 39.9
comp=Z,10µm,19.0s
MCVT **Middlebury Col** **33.57 18** P **P** **06 04 05.2 +0.9**
baz=205
MCVT S **S** **06 09 35.0 +7.9**
baz=205
SWSC **Sam W. Stewart** **33.59 312** P **P** **06 04 04.3 -0.3**
baz=121
SWSC S **S** **06 09 33.8 +6.1**
baz=121
SUSD **Miller** **33.63 344** P **P** **06 04 03.7 -1.1**
SUSD IAmb IAmb 06 04 08.2
comp=Z,67nm,0.8s
SUSD **Miller** **33.63 344** P **P** **06 04 05.3 +0.5**
baz=158,SNR=7.2
SUSD **Miller** **33.63 344** P **P** **06 04 03.5 -1.3**
baz=158,SNR=7.2
SUSD S **S** **06 09 27.6 -0.5**
baz=158
COWI **Conover** **33.65 357** P **P** **06 04 03.8 -1.2**
COWI **Conover** **33.65 357** P **P** **06 04 04.8 -0.2**
baz=176
COWI S **S** **06 09 26.2 -2.2**
baz=176
IKP **In-Ko-Pah, Jac** **33.67 312** P **P** **06 04 03.5 -1.9**
baz=120
IKP S **S** **06 09 31.3 +2.2**
baz=120
BC3 **Big Chuckawall** **33.71 314** P **P** **06 04 06.2 +0.3**
baz=122,SNR=13
BC3 S **S** **06 09 29.0 -0.8**
baz=122
LONY **Lake Ozonia** **33.73 16** P **P** **06 04 06.2 +0.5**
baz=202,SNR=26
LONY S **S** **06 09 35.8 +6.2**
baz=202
NEE2 **Needles Airpor** **33.74 316** P **P** **06 04 05.5 -0.4**
baz=124
NEE2 S **S** **06 09 35.2 +5.2**
baz=124
IRM **Iron Mountain** **33.77 315** P **P** **06 04 06.7 +0.6**
baz=123,SNR=18
IRM S **S** **06 09 34.3 +3.8**
baz=123
F36A **Milaca** **33.85 351** P **P** **06 04 05.5 -1.2**
F36A IAmb IAmb 06 04 11.1
comp=Z,33nm,0.8s
F36A **Milaca** **33.85 351** P **P** **06 04 05.8 -0.9**
baz=168,SNR=23
F36A S **S** **06 09 31.2 -0.3**
baz=168
E43A **Lone Tree Farm** **33.86 360** IAmb IAmb 06 04 14.2
comp=Z,34nm,0.8s
E43A **Lone Tree Farm** **33.86 360** S **S** **06 09 31.9 +0.3**
baz=179
LPAZ **La Paz** **33.89 147** P **P** **06 04 07.4 -0.6**
comp=Z,1.9nm,0.8s,baz=332,slow=10,SNR=5.5
LPAZ LR LR 06 18 54.7
comp=Z,6µm,21.7s,baz=323,slow=38
comp=Z,1.9nm,0.8s
E46A **Sault Ste Mari** **33.91 3** S **S** **06 09 35.3 +3.0**
baz=184
KNB **Kanab** **33.92 321** IAmb IAmb 06 04 14.0
comp=Z,62nm,1.2s
BMNY **Brushton-Moira** **33.96 16** P **P** **06 04 08.2 +0.6**
baz=202,SNR=18
BMNY S **S** **06 09 39.6 +6.6**
baz=202
VT1 **Waterbury** **33.98 18** IAMs_20 IAMs_20 06 17 33.9
comp=Z,9µm,20.0s
SRU **San Rafael Swe** **33.99 326** P **P** **06 04 07.6 -0.6**
SRU **San Rafael Swe** **33.99 326** P **P** **06 04 07.6 -0.6**
SRU pmax pmax
comp=Z,192nm,1.6s
MONP2 **Monument Peak** **34.02 312** P **P** **06 04 10.0 +1.4**
baz=120,SNR=6.9
I62A **Tamworth** **34.02 20** P **P** **06 04 10.1 +1.9**
baz=207,SNR=7.0
I62A P **P** **06 04 10.1 +1.9**
baz=207,SNR=7.0
LBNH **Lisbon** **34.16 19** IAMs_20 IAMs_20 06 17 56.7
comp=Z,9µm,19.0s
LBNH **Lisbon** **34.16 19** P **P** **06 04 09.7 +0.3**
baz=206,SNR=6.0
LBNH **Lisbon** **34.16 19** P **P** **06 04 10.1 +0.7**
baz=206,SNR=6.0
LBNH S **S** **06 09 38.7 +2.5**
baz=206
MTPU **Mount Pierson** **34.20 323** IAmb IAmb 06 04 17.5
comp=Z,163nm,1.9s
Q16A **Castle Valley** **34.21 325** IAmb IAmb 06 04 16.1
comp=Z,115nm,1.4s
BELC **Belle Mtn. Jos** **34.28 314** P **P** **06 04 12.0 +1.2**
baz=122,SNR=13
BELC S **S** **06 09 41.3 +2.7**
baz=122
F33A **5 Mile Ranch,** **34.32 348** IAmb IAmb 06 04 14.8
comp=Z,63nm,0.7s
F33A **5 Mile Ranch,** **34.32 348** P **P** **06 04 09.5 -1.3**
baz=163,SNR=44
F33A S **S** **06 09 37.0 -1.6**
baz=163
E38A **The Farm, Brul** **34.34 354** P **P** **06 04 09.9 -1.1**
E38A IAmb IAmb 06 04 18.2
comp=Z,33nm,0.8s
E38A **The Farm, Brul** **34.34 354** P **P** **06 04 10.3 -0.6**
baz=172,SNR=9.1
E38A S **S** **06 09 38.2 -0.8**
baz=172
P17A **Butcher Ranch,** **34.36 326** IAmb IAmb 06 04 16.2
comp=Z,79nm,0.9s
MDP **Montagnes des** **34.36 99** LR LR 06 19 35.8
comp=Z,9µm,18.3s,baz=282,slow=39
PMD **Palm Desert** **34.37 313** IAmb IAmb 06 04 15.6
comp=Z,16nm,0.9s
TPFO **Pinon Flats** **34.40 313** P **P** **06 04 12.9 +1.1**
baz=121,SNR=6.0
PFO **Pinyon Flats O** **34.41 313** LR LR 06 18 42.3
comp=Z,8µm,18.2s,baz=140,slow=37
PFO **Pinyon Flats O** **34.41 313** IAMs_20 IAMs_20 06 19 47.8
comp=Z,8µm,18.0s
PFO **Pinyon Flats O** **34.41 313**↑ *e*P **P** **06 04 12.2 +0.3**
PFO pmax pmax
comp=Z,18nm,0.9s
PFO **Pinyon Flats O** **34.41 313** P **P** **06 04 13.0 +1.1**
baz=121,SNR=6.3
PFO S **S** **06 09 48.5 +7.9**
baz=121
I63A **Otisfield** **34.44 21** S **S** **06 09 44.3 +3.8**
baz=208
I63A S **S** **06 09 44.3 +3.8**
baz=208
V12A **Nelson** **34.45 317** IAmb IAmb 06 04 17.6
comp=Z,42nm,1.1s
SZCU **Shurtz Canyon** **34.46 321** IAmb IAmb 06 04 17.7
comp=Z,42nm,1.0s
GMRC **Granite Mounta** **34.46 315** P **P** **06 04 13.8 +1.5**
baz=123,SNR=23
GMRC S **S** **06 09 49.0 +7.6**
baz=123
TMUT **Trail Mountain** **34.50 325** IAmb IAmb 06 04 18.5
comp=Z,96nm,1.3s
109C **Camp Elliot, M** **34.52 311** IAMs_20 IAMs_20 06 18 19.9
comp=Z,11µm,20.0s
109C **Camp Elliot, M** **34.52 311** S **S** **06 09 44.2 +2.2**
baz=119
RDMU **Red Mountain** **34.54 328** IAmb IAmb 06 04 18.4
comp=Z,85nm,1.2s
H62A **Milan** **34.71 20** S S 06 09 53.1 +8.4
baz=207
H62A S S 06 09 53.1 +8.4
baz=207
K22A **Casper** **34.72 334** P **P** **06 04 14.9 +0.4**
baz=144,SNR=30
K22A **Casper** **34.72 334** P **P** **06 04 14.5 -0.1**
baz=144,SNR=30
K22A S **S** **06 09 45.4 +0.1**
baz=144
MURC **Murrieta** **34.93 312** P **P** **06 04 16.2 -0.1**
baz=120,SNR=8.3
HEC **Hector,Ludlow** **34.95 315** P **P** **06 04 16.8 +0.3**
baz=122,SNR=6.8
HEC S **S** **06 09 53.3 +4.3**
baz=122
ITTB **Itaituba** **34.96 117** *e*P **P** **06 04 15.7 -1.0**
RSSD **Black Hills** **34.96 338** P **P** **06 04 16.0 -0.6**
RSSD IAmb IAmb 06 04 22.6
comp=Z,68nm,0.9s
RSSD **Black Hills** **34.96 338** P **P** **06 04 16.0 -0.6**
RSSD pmax pmax
comp=Z,69nm,1.0s
RSSD MLR MLR
comp=Z,3µm,22.0s
RSSD **Black Hills** **34.96 338** P **P** **06 04 17.4 +0.8**
baz=149,SNR=38
RSSD S **S** **06 09 49.1 +0.1**
baz=149
RSSD **Black Hills** **34.96 338** P **P** **06 04 17.0 +0.4**
baz=149
RSSD S **S** **06 09 50.1 +1.0**
baz=149
TUQ **Turquoise Moun** **35.00 316** P **P** **06 04 17.8 +0.8**
baz=124,SNR=14
TUQ S **S** **06 09 52.8 +3.1**
baz=124
BBRC **Big Bear Solar** **35.07 313** P **P** **06 04 18.2 +0.5**
baz=121
MALB **Monte Alegre** **35.15 112** *e*P **P** **06 04 20.1 +1.7**
WVL **Waterville** **35.21 21** IAMs_20 IAMs_20 06 19 10.4
comp=Z,8µm,19.0s
WVL **Waterville** **35.21 21** P **P** **06 04 19.2 +0.8**
baz=210,SNR=5.4
NLU **North Lily Min** **35.44 325** IAmb IAmb 06 04 26.6
comp=Z,100nm,1.6s
G62A **West of Eustis** **35.48 20** P **P** **06 04 23.9 +3.1**
baz=208,SNR=22
G62A P **P** **06 04 23.9 +3.1**
baz=208,SNR=22
G62A S **S** **06 09 58.8 +2.1**
baz=208
G62A S **S** **06 09 58.8 +2.1**
baz=208
SHOC **Shoshone, Teco** **35.50 316** P **P** **06 04 21.4 +0.2**
baz=124
SHOC S **S** **06 09 59.7 +2.6**
baz=124
GSC **Goldstone, Bar** **35.53 315** P **P** **06 04 20.9 -0.6**
GSC **Goldstone, Bar** **35.53 315** P **P** **06 04 20.9 -0.6**
GSC pmax pmax
comp=Z,44nm,1.9s
GSC **Goldstone, Bar** **35.53 315** P **P** **06 04 21.3 -0.2**
baz=122
PRN **Patroc Range** **35.56 319** IAmb IAmb 06 04 29.0
comp=Z,77nm,1.5s
BFSC **Mount Baldy Ra** **35.58 313** P **P** **06 04 22.3 +0.3**
baz=120
BFSC S **S** **06 10 04.8 +6.1**
baz=120
EYMN **Ely** **35.66 354** P **P** **06 04 22.9 +0.5**
baz=172
EYMN S **S** **06 09 56.2 -3.1**
baz=172
D32A **Dogwood Acres,** **35.70 348** P **P** **06 04 22.3 -0.4**
D32A IAmb IAmb 06 04 28.7
comp=Z,43nm,0.8s
CTU **Camp Tracy** **35.77 327** IAmb IAmb 06 04 27.9
comp=Z,45nm,0.9s
FMP **Fort Macarthur** **35.78 312** P **P** **06 04 24.4 +0.9**
baz=119
TCUT **Toone Canyon** **35.89 327** IAmb IAmb 06 04 30.5
comp=Z,54nm,0.9s
PASC **Pasadena Art C** **35.93 312** IAMs_20 IAMs_20 06 20 44.2
comp=Z,9µm,19.0s
PKME **Peaks-Kenny Pk** **35.95 21** P **P** **06 04 27.2 +2.5**
baz=210,SNR=7.0
PKME S **S** **06 10 05.9 +2.3**
baz=210
PKME **Peaks-Kenny Pk** **35.95 21** P **P** **06 04 26.0 +1.2**
baz=210,SNR=7.0
PKME S **S** **06 10 05.4 +1.8**
baz=210
DUG **Dugway, Tooele** **36.01 325** IAmb IAmb 06 04 31.4
comp=Z,88nm,1.4s
DUG IAMs_20 IAMs_20 06 21 36.0
comp=Z,6µm,21.0s
DUG **Dugway, Tooele** **36.01 325** P **P** **06 04 26.5 +0.8**
baz=133,SNR=38
DUG S **S** **06 10 02.5 -2.7**
baz=133
E28A **Huff** **36.07 343** IAmb IAmb 06 04 31.3
comp=Z,93nm,1.2s
TPNV **Topopah Spring** **36.07 318** P **P** **06 04 27.0 +0.8**
baz=125,SNR=44
TPNV S **S** **06 10 06.4 +0.2**
baz=125
SPR3 **Spring Creek 3** **36.10 322** IAmb IAmb 06 04 31.5
comp=Z,53nm,0.9s
EDW2 **Edwards Air Fo** **36.15 314** P **P** **06 04 27.6 +0.8**
baz=121,SNR=6.2
EDW2 S **S** **06 10 09.6 +2.4**
baz=121
EMMW **East Machias** **36.15 23** IAMs_20 IAMs_20 06 18 16.3
comp=Z,7µm,20.0s
BW06 **Boulder Array** **36.19 331** P **P** **06 04 27.3 +0.1**
baz=140,SNR=42
BW06 S **S** **06 10 02.3 -5.7**
baz=140
PDAR **Pinedale Array** **36.19 331** P **P** **06 04 26.2 -0.9**
comp=Z,14nm,0.7s,baz=126,slow=10.0,SNR=51
PDAR LR LR 06 23 49.7
comp=Z,5µm,18.5s,baz=150,slow=44
comp=Z,14nm,0.7s
FURC **Furnace Creek,** **36.21 317** P **P** **06 04 28.1 +1.0**
baz=124
LRMC **Laurel Mtn Rad** **36.23 315** P **P** **06 04 27.6 +0.1**
baz=122,SNR=9.2
LRMC S **S** **06 10 11.2 +2.6**
baz=122
HWUT **Hardware Ranch** **36.32 328** IAmb IAmb 06 04 32.9
comp=Z,88nm,0.8s
B35A **Bob, Littlefor** **36.33 352** S **S** **06 10 03.8 -5.7**
baz=168
VILB **Vilhena** **36.38 133** IAmb IAmb 06 04 30.2
comp=Z,30nm,0.7s
VILB **Vilhena** **36.38 133** *e*P **P** **06 04 27.7 -1.2**
F63A **Nahmakanta, Br** **36.39 21** P **P** **06 04 31.2 +2.6**
baz=210,SNR=5.2
F63A P **P** **06 04 31.2 +2.6**
baz=210,SNR=5.2
MPMC **Manual Prospec** **36.41 316** P **P** **06 04 29.4 +0.2**
baz=122,SNR=24
R11A **Troy Canyon, C** **36.47 320** P **P** **06 04 29.6 0.0**
baz=127,SNR=59
R11A S **S** **06 10 08.1 -4.2**
baz=127
SNCC **San Nicolas Is** **36.48 310** P **P** **06 04 29.3 -0.2**
baz=117
AGMN **Agassiz Nation** **36.60 350** IAmb IAmb 06 04 40.1
comp=Z,50nm,0.9s
AGMN **Agassiz Nation** **36.60 350** P **P** **06 04 31.0 +0.7**
baz=165,SNR=18
AGMN S **S** **06 10 11.7 -1.9**
baz=165
AGMN **Agassiz Nation** **36.60 350** P **P** **06 04 30.6 +0.2**
baz=165,SNR=18
AGMN S **S** **06 10 07.7 -5.9**
baz=165
F64A **Sherman** **36.80 21** P **P** **06 04 34.7 +2.6**
baz=211,SNR=7.5
F64A P **P** **06 04 34.7 +2.6**
baz=211,SNR=7.5
F64A S **S** **06 10 22.1 +5.4**
baz=211
F64A S **S** **06 10 22.1 +5.4**
baz=211
GRAC **Grapevine Rang** **36.84 317** IAmb IAmb 06 04 39.2
comp=Z,75nm,1.4s
GRAC **Grapevine Rang** **36.84 317** P **P** **06 04 33.1 +0.5**
baz=124,SNR=40
GRAC S **S** **06 10 19.0 +1.4**
baz=124
ARVC **Arvin** **36.86 313** P **P** **06 04 33.2 +0.4**
baz=120,SNR=6.8
ISA **Isabella, Lake** **36.88 314** P **P** **06 04 33.6 +0.6**
baz=121,SNR=6.3
ISA S **S** **06 10 20.2 +1.8**
baz=121
AHID **Auburn Hatcher** **36.93 330** IAmb IAmb 06 04 38.0
comp=Z,92nm,0.8s
MDND **Maddock** **36.96 345** P **P** **06 04 33.6 +0.1**
baz=159,SNR=24
MDND **Maddock** **36.96 345** P **P** **06 04 32.9 -0.5**
baz=159,SNR=24
CWC **Cottonwood Cre** **37.02 316** P **P** **06 04 34.1 -0.2**
baz=122
CWC S **S** **06 10 22.3 +1.6**
baz=122
E62A **Clayton Lake** **37.05 20** P **P** **06 04 36.7 +2.5**
baz=208,SNR=5.0
E62A P **P** **06 04 36.7 +2.5**
baz=208,SNR=5.0
E62A S **S** **06 10 26.9 +6.3**
baz=208
E62A S **S** **06 10 26.9 +6.3**
baz=208
HVU **Hansel Valley** **37.09 327** IAmb IAmb 06 04 40.4
comp=Z,46nm,0.9s
E63A **Oxbow** **37.25 21** P **P** **06 04 38.3 +2.4**
baz=210
E63A P **P** **06 04 38.3 +2.4**
baz=210
E63A S **S** **06 10 25.4 +1.8**
baz=210
E63A S **S** **06 10 25.4 +1.8**
baz=210
SNOW **Snow King Moun** **37.28 331** P **P** **06 04 36.2 -0.4**
LOHW **Long Hollow** **37.33 331** IAmb IAmb 06 04 42.4
comp=Z,134nm,1.2s
VES **Vestal, Richgr** **37.40 314** P **P** **06 04 37.1 -0.2**
baz=120,SNR=11
TIN **Tinemaha, Big** **37.45 316** P **P** **06 04 37.4 -0.5**
baz=123
PKM **Mcpherson Peak** **37.45 312** P **P** **06 04 37.5 -0.5**
baz=118,SNR=5.6
MOOW **Moose Ponds** **37.49 331** P **P** **06 04 38.0 -0.4**
MOOW IAmb IAmb 06 04 42.9
comp=Z,46nm,0.8s
PQI **Presque Isle** **37.61 21** IAMs_20 IAMs_20 06 21 56.9
comp=Z,8µm,21.0s
D62A **Allapoint, All** **37.61 20** P **P** **06 04 41.0 +2.1**
baz=209,SNR=23
D62A P **P** **06 04 41.0 +2.1**
baz=209,SNR=23
LMQ **La Malbaie** **37.62 18** IAmb IAmb 06 04 45.9
comp=Z,36nm,0.7s
IMW **Indian Meadow** **37.70 331** IAmb IAmb 06 04 44.5
comp=Z,154nm,1.7s
ELK **Elko** **37.76 324** LR LR 06 23 39.8
comp=Z,12µm,18.8s,baz=141,slow=42
ELK **Elko** **37.76 324** IAMs_20 IAMs_20 06 23 10.3
comp=Z,8µm,21.0s
ELK **Elko** **37.76 324** P **P** **06 04 41.3 +0.7**
SMMC **Simmler** **37.78 313** P **P** **06 04 40.6 -0.1**
baz=119,SNR=7.4
RLMT **Red Lodge** **37.89 334** P **P** **06 04 40.6 -1.0**
RLMT IAmb IAmb 06 04 46.0
comp=Z,123nm,1.4s
RLMT **Red Lodge** **37.89 334** P **P** **06 04 41.4 -0.3**
baz=142,SNR=57
SIV **San Ignacio** **37.90 137** LR LR 06 21 11.6
comp=Z,12µm,19.0s,baz=330,slow=38
H17A **Grant Village** **37.91 332** P **P** **06 04 41.5 -0.4**
baz=140,SNR=30
H17A S **S** **06 10 34.4 +0.2**
baz=140
YPP **Pitchstone Pla** **37.92 331** IAmb IAmb 06 05 06.9
comp=Z,119nm,1.5s
LAO **LASA Array** **37.95 338** P **P** **06 04 42.3 +0.3**
baz=148,SNR=44
LAO S **S** **06 10 36.2 +1.8**
baz=148
LAO **LASA Array** **37.95 338** P **P** **06 04 41.9 0.0**
baz=148,SNR=44
LAO S **S** **06 10 34.0 -0.5**
baz=148
YMP **Mirror Lake Pl** **37.98 333** IAmb IAmb 06 05 04.7
comp=Z,106nm,1.1s
MLAC **Mammoth, Mammo** **38.16 317** P **P** **06 04 43.6 -0.5**
baz=123
NVAR **Mina Array Bea** **38.25 318** P **P** **06 04 44.6 -0.2**
comp=Z,20nm,0.9s,baz=130,slow=7.3,SNR=50
NVAR LR LR 06 23 29.5
comp=Z,14µm,20.6s,baz=131,slow=41
comp=Z,20nm,0.9s
YMR **Madison River** **38.30 332** IAmb IAmb 06 04 51.0
comp=Z,141nm,1.0s
MDPB **Devils Postpil** **38.33 317** P **P** **06 04 45.1 -0.4**
YHH **Holmes Hill** **38.33 332** IAmb IAmb 06 04 51.9

comp=Z,124nm,1.3s
CLDB Colider 38.39 126 *e*P P 06 04 45.3 -0.6
ULM Lac du Bonnet 38.49 350 P P 06 04 45.5 -0.8
comp=Z,13nm,0.6s,baz=164,slow=9.1,SNR=20
comp=Z,13nm,0.6s
ULM Lac du Bonnet 38.49 350*ce*P P 06 04 46.8 +0.5
GCMT Greycliff 38.59 334 P P 06 04 46.9 -0.5
BMN Battle Mountai 38.74 322 IAmb IAmb 06 04 55.6
comp=Z,198nm,1.5s
DGMT Dagmar 38.81 341 P P 06 04 48.9 -0.2
baz=152,SNR=69
DGMT Dagmar 38.81 341 P P 06 04 48.5 -0.6
baz=152,SNR=69
DGMT S S 06 10 46.4 -0.8
baz=152
PTLB Pontes e Lacer 38.83 135 IAmb IAmb 06 05 10.9
comp=Z,16nm,1.1s
LVC Limon Verde 38.90 153 P P 06 04 50.6 +0.1
comp=Z,13nm,1.0s,baz=304,slow=6.6,SNR=3.5
LVC LR LR 06 21 07.9
comp=Z,6µm,21.2s,baz=334,slow=37
comp=Z,13nm,1.0s
LVC Limon Verde 38.90 153 IAMs_20 IAMs_20 06 20 55.6
comp=Z,6µm,20.0s
LVC Limon Verde 38.90 153 *e*P P 06 04 51.9 +1.3
HLID Hailey 39.19 328 IAMs_20 IAMs_20 06 23 42.1
comp=Z,7µm,22.0s
HLID Hailey 39.19 328 P P 06 04 51.9 -0.7
baz=134,SNR=68
HLID S S 06 10 54.8 +1.3
baz=134
BOZ Bozeman (W) 39.31 332 IAmb IAmb 06 04 59.2
comp=Z,156nm,1.3s
BOZ Bozeman (W) 39.31 332 P P 06 04 53.0 -0.5
baz=139,SNR=130
BOZ S S 06 11 00.1 +5.1
baz=139
CMB Columbia Colle 39.42 316 IAMs_20 IAMs_20 06 21 55.5
comp=Z,7µm,20.0s
MFID Camas Ranch 39.85 326 P P 06 04 57.5 -0.5
MFID IAmb IAmb 06 05 05.5
comp=Z,156nm,1.9s
MFID IAMs_20 IAMs_20 06 23 34.4
comp=Z,8µm,20.0s
BEKR Beckworth 40.38 319 P P 06 05 01.6 -0.8
EGMT Eagleton 40.41 336 IAmb IAmb 06 05 07.2
comp=Z,118nm,1.2s
EGMT Eagleton 40.41 336 P P 06 05 01.6 -0.9
baz=144,SNR=25
EGMT S S 06 11 11.1 -0.3
baz=144
WVOR Wild Horse Val 40.80 323 IAMs_20 IAMs_20 06 24 39.9
comp=Z,8µm,20.0s
WVOR Wild Horse Val 40.80 323 P P 06 05 05.6 -0.3
ORV Oroville 40.95 318 IAMs_20 IAMs_20 06 25 17.0
comp=Z,6µm,19.0s
PRPB Parauapebas 41.01 115 *e*P P 06 05 09.0 +1.1
TMAB Tom-Au,PA,Br 41.02 108 *e*P P 06 05 07.9 0.0
MCCM Marconi Confer 41.18 315 IAMs_20 IAMs_20 06 22 17.1
comp=Z,7µm,20.0s
J08A Circle Bar Ran 41.28 324 P P 06 05 09.5 -0.3
MSO Missoula 41.30 332 IAmb IAmb 06 05 15.7
comp=Z,194nm,1.4s
MSO Missoula 41.30 332 P P 06 05 08.8 -1.0
baz=137,SNR=63
MSO S S 06 11 23.6 -1.1
baz=137
MOD Modoc Plateau 41.48 321 P P 06 05 11.0 -0.5
MOD IAMs_20 IAMs_20 06 24 57.0
comp=Z,9µm,20.0s
BMO Blue Mountains 41.60 327 IAMs_20 IAMs_20 06 25 37.7
comp=Z,7µm,21.0s
I07A Izee 42.31 325 P P 06 05 17.4 -0.9
SNDB Serra Nova Dou 42.64 123 *e*P P 06 05 22.0 +0.9
KMRM Mail Ridge 42.75 317 P P 06 05 22.1 +0.3
J05D Fort Rock, OR 42.84 322 P P 06 05 21.4 -1.3
baz=125,SNR=15
J05D S S 06 11 45.7 -2.1
baz=125
YBH Yreka Blue Hor 42.89 320 LR LR 06 26 05.6
comp=Z,11µm,20.4s,baz=151,slow=40
YBH Yreka Blue Hor 42.89 320 P P 06 05 22.2 -0.7
YBH Yreka Blue Hor 42.89 320 P P 06 05 22.2 -0.7
YBH pmax pmax
comp=Z,24nm,1.5s
YBH MLR MLR
comp=Z,11µm,20.0s
L04D Klamath Falls 42.89 321 IAmb IAmb 06 05 28.4
comp=Z,168nm,1.6s
L04D IAMs_20 IAMs_20 06 25 08.3
comp=Z,9µm,20.0s
L04D Klamath Falls 42.89 321 P P 06 05 22.1 -1.0
baz=123,SNR=27
WALA Waterton Lakes 42.94 334 IAmb IAmb 06 05 28.8
comp=Z,73nm,1.1s
PINE Pine Mountain 42.97 323 P P 06 05 22.8 -0.8
E09A Wood Farm, Sta 43.14 328 IAmb IAmb 06 05 29.4
comp=Z,79nm,1.3s
JCC Jacoby Creek, 43.26 318 IAMs_20 IAMs_20 06 25 52.2
comp=Z,8µm,18.0s
J04D Umpqua Nationa 43.34 322 IAMs_20 IAMs_20 06 26 19.1
comp=Z,7µm,20.0s
J04D Umpqua Nationa 43.34 322 P P 06 05 25.3 -1.5
baz=124,SNR=23
KRPM Rodgers 43.43 318 P P 06 05 26.1 -1.2
KRPM IAmb IAmb 06 05 33.1
comp=Z,93nm,1.1s
I05D Terrebonne, OR 43.52 324 P P 06 05 27.3 -0.7
baz=126,SNR=8.6
E08A Dider Farm, El 43.60 328 IAmb IAmb 06 05 32.6
comp=Z,76nm,1.3s
L02F Cave Junction 43.64 320 P P 06 05 28.6 -0.3
baz=122
HAWA Hanford 43.79 327 IAMs_20 IAMs_20 06 27 13.6
comp=Z,8µm,21.0s
NEW Newport 43.83 331 LR LR 06 28 10.4
comp=Z,8µm,19.2s,baz=146,slow=42
NEW Newport 43.83 331 IAmb IAmb 06 05 34.8
comp=Z,94nm,1.8s
NEW Newport 43.83 331 IAMs_20 IAMs_20 06 26 39.6
comp=Z,5µm,22.0s
NEW Newport 43.83 331 P P 06 05 31.6 +1.2
NEW Newport 43.83 331 P P 06 05 30.4 0.0
baz=134,SNR=20
NEW S S 06 12 00.7 -1.1
baz=134
I04A Tendick Farm, 43.84 322 P P 06 05 30.1 -0.4
baz=124,SNR=29
D08A Wollman Farm, 43.90 328 IAmb IAmb 06 05 33.7
comp=Z,39nm,0.8s
FFC Flin Flon 43.91 347 P P 06 05 30.1 -0.8
FFC Flin Flon 43.91 347 P P 06 05 30.1 -0.8
FFC pmax pmax
comp=Z,428nm,2.0s
FFC MLR MLR
comp=Z,3µm,20.0s
AC05 El Transito 43.95 159 P P 06 05 31.3 -0.3
LCO Las Campanas 43.96 160 P P 06 05 33.2 +1.3
LCO Las Campanas 43.96 160 P P 06 05 33.2 +1.3
LCO MLR MLR
comp=Z,2µm,20.0s
K02D Willamette Mer 44.00 320 P P 06 05 31.9 0.0
baz=122,SNR=12
G05D Wamic, OR 44.05 325 P P 06 05 32.0 -0.2
baz=127,SNR=18
G05D S S 06 12 05.9 +0.8
baz=127
C09A Chrisman Ranch 44.07 329 P P 06 05 31.1 -1.2
KBO Bosley Butte 44.10 319 P P 06 05 31.6 -1.1
KBO IAmb IAmb 06 05 38.2
comp=Z,114nm,1.4s
SMTB Santa Maria do 44.20 117 *e*P P 06 05 34.5 +0.8
H04A Detroit Lake 44.22 324 P P 06 05 33.0 -0.5
H04A IAmb IAmb 06 05 38.1
comp=Z,104nm,1.3s
I03D Drain, OR 44.35 322 P P 06 05 34.1 -0.4
baz=123,SNR=20
J01E Myrtle Point 44.41 321 P P 06 05 34.7 -0.3
baz=122,SNR=17
H04D Lebanon 44.45 323 IAMs_20 IAMs_20 06 27 33.2
comp=Z,7µm,20.0s
H04D Lebanon 44.45 323 P P 06 05 34.9 -0.4
baz=125,SNR=9.8
AQDB Aquidauana 44.66 137 P P 06 05 36.5 -0.8
AQDB Aquidauana 44.66 137 *e*P P 06 05 38.3 +1.0
COR Corvallis 44.81 323 IAMs_20 IAMs_20 06 26 20.0
comp=Z,8µm,21.0s
COR Corvallis 44.81 323 P P 06 05 40.7 +2.5
I02E Swisshome, OR 44.87 322 IAmb IAmb 06 05 42.7
comp=Z,47nm,0.7s
I02E Swisshome, OR 44.87 322 P P 06 05 38.3 -0.4
baz=123,SNR=5.9
ROSB Rosrio 44.90 107 *e*P P 06 05 40.5 +1.1
LTY Liberty 44.94 327 IAmb IAmb 06 05 43.4
comp=Z,33nm,0.9s
RPN Rapa Nui 45.04 209 LR LR 06 20 14.0
comp=Z,4µm,18.6s,baz=27,slow=30
SCHQ Schefferville 45.11 16 P P 06 05 39.2 -1.2
comp=Z,17nm,0.6s,baz=218,slow=5.8,SNR=19
SCHQ LR LR 06 24 44.8
comp=Z,5µm,18.8s,baz=206,slow=36
comp=Z,17nm,0.6s
SCHQ Schefferville 45.11 16 P P 06 05 39.8 -0.7
SCHQ IAmb IAmb 06 05 46.2
comp=Z,71nm,0.8s
G03D McMinnville, O 45.15 324 P P 06 05 39.8 -1.1
baz=125,SNR=12
F04D Rainier, OR 45.50 325 P P 06 05 43.7 -0.1
baz=126
C2SB Chapadao do Su 45.51 132 *e*P P 06 05 43.8 -0.3
ANTJ Antonio Joao (45.53 138 *e*P P 06 05 43.5 -0.8
CO02 Combarbal 45.89 161 P P 06 05 46.7 -0.4
CO02 IAmb IAmb 06 06 05.7
comp=Z,39nm,0.9s
E03A Lebam 46.08 325 P P 06 05 48.3 0.0
RADR Rader Ridge 46.14 325 P P 06 05 48.2 -0.6
RADR IAmb IAmb 06 06 02.2
comp=Z,179nm,1.2s
ZON Zonda 46.98 159 IAmb IAmb 06 06 24.0
comp=Z,45nm,1.4s
VA06 Catapilco 47.06 162 IAmb IAmb 06 06 08.7
comp=Z,70nm,1.5s
BDFB Brasilia 47.31 125 P P 06 05 56.2 -2.3
comp=Z,7.9nm,1.0s,baz=286,slow=11,SNR=7.0
BDFB LR LR 06 27 13.1
comp=Z,7µm,18.1s,baz=301,slow=38
comp=Z,7.9nm,1.0s
VA01 Torpederas 47.39 163 IAmb IAmb 06 06 00.7
comp=Z,39nm,1.0s
VA03 San Esteban 47.48 162 P P 06 05 58.5 -0.9
VA03 IAmb IAmb 06 06 01.8
comp=Z,45nm,0.9s
ROC1 El Roble 47.53 162 IAmb IAmb 06 06 21.1
comp=Z,24nm,0.9s
CPUP Villa Florida 47.91 144 P P 06 06 02.2 -0.6
comp=Z,4.4nm,1.1s,baz=3.7,slow=6.4,SNR=3.6
CPUP LR LR 06 27 13.7
comp=Z,2µm,21.9s,baz=329,slow=37
comp=Z,4.4nm,1.1s
MT05 Renca 48.00 162 IAmb IAmb 06 06 15.7
comp=Z,35nm,0.9s
MT03 Universidad Ad 48.17 162 IAmb IAmb 06 06 27.1
comp=Z,47nm,1.1s
MT09 Talagante 48.29 162 IAmb IAmb 06 06 10.4
comp=Z,57nm,1.5s
BO04 La Punta 48.60 162 IAmb IAmb 06 06 35.7
comp=Z,45nm,1.4s
BO02 Sierra Bellavi 49.30 163 IAmb IAmb 06 06 21.0
comp=Z,42nm,1.2s
ML02 Panimavida 50.02 164 IAmb IAmb 06 06 20.8
comp=Z,46nm,0.9s
FRBT Francisco Belt 50.24 140 *e*P P 06 06 21.6 +0.8
CRSM Crissiumal (Br 50.73 142 *e*P P 06 06 24.3 -0.1
BBB Bella Bella 51.76 329 LR LR 06 31 06.5
comp=Z,4µm,20.3s,baz=150,slow=39
FRB Frobisher Bay 52.84 10 LR LR 06 28 24.7
comp=Z,4µm,21.7s,baz=198,slow=35
RCBR Riachuelo 53.60 107 LR LR 06 31 29.2
comp=Z,7µm,18.6s,baz=87,slow=38
RCBR Riachuelo 53.60 107 P P 06 06 45.0 -1.1
RCBR Riachuelo 53.60 107 IAMs_20 IAMs_20 06 31 09.2
comp=Z,6µm,19.0s
RCBR Riachuelo 53.60 107 P P 06 06 45.0 -1.1
RCBR pmax pmax
comp=Z,24nm,1.1s
RCBR MLR MLR
comp=Z,6µm,19.0s
YKA Yellowknife Ar 53.86 344 P P 06 06 45.1 -2.1
comp=Z,29nm,0.9s,baz=140,slow=7.3,SNR=37
YKA LR LR 06 32 48.7
comp=Z,2µm,19.9s,baz=156,slow=40
comp=Z,29nm,0.9s
YKA Yellowknife Ar 53.86 344 P P 06 06 47.0 -0.1
YKA Yellowknife Ar 53.86 344 P P 06 06 47.0 -0.1
LPA La Plata 54.37 151*ce*P P 06 06 47.7 -3.5
LPA PCP PcP 06 07 55.9 +0.8
LPA PP PP 06 08 49.3 -4.1
LPA PPP PPP 06 10 05.7
LL04 Puerto Octay 54.66 167 P P 06 06 52.8 -0.4
PLCA Paso Flores 54.93 165 P P 06 06 54.4 -0.9
comp=Z,34nm,1.0s,baz=351,slow=8.9,SNR=35
PLCA LR LR 06 26 07.3
comp=Z,1µm,20.6s,baz=4.5,slow=31
comp=Z,34nm,1.0s
PLCA Paso Flores 54.93 165 P P 06 06 53.8 -1.5
PLCA IAmb IAmb 06 06 57.2
comp=Z,39nm,0.9s
PLCA Paso Flores 54.93 165 P P 06 06 53.8 -1.5
PLCA pmax pmax
comp=Z,39nm,1.0s
PLCA Paso Flores 54.93 165 *e*P P 06 06 54.2 -1.1
T35M Bob Quinn 55.53 333 P P 06 06 59.8 +0.4
baz=125
CRAG Craig 56.04 330 P P 06 07 02.9 -0.1
baz=121
WRAK Wrangell Islan 56.17 331 IAMs_20 IAMs_20 06 35 38.1
comp=Z,4µm,18.0s
WRAK Wrangell Islan 56.17 331 P P 06 07 03.8 -0.2
baz=123
DLBC Dease Lake 56.29 334 LR LR 06 34 56.4
comp=Z,5µm,18.9s,baz=136,slow=40
DLBC Dease Lake 56.29 334 IAmb IAmb 06 07 11.2
comp=Z,60nm,0.9s
DLBC Dease Lake 56.29 334 P P 06 07 05.1 +0.2
baz=126,SNR=27
S34M Telegraph Cree 56.46 333 P P 06 07 05.8 -0.2
baz=125
WTLY Watson Lake, Y 56.80 336 P P 06 07 09.4 +1.0
baz=128
LL02 Futaleuf 56.96 167 IAmb IAmb 06 07 13.3
comp=Z,38nm,1.2s
WRGLY Wrigley 57.01 341 P P 06 07 11.1 +1.3
baz=136
NUUK Nuuk 57.14 17 *e*P P 06 07 11.6 +0.9
NUUK IAmb IAmb 06 07 25.4
comp=Z,78nm,1.1s
TAOE Nuku Hiva Isla 57.20 251 *e*P P 06 07 14.0 +2.0
comp=Z,81nm,23.5s
TAOE *e*S S 06 15 07.2 -1.5
comp=Z,2µm,25.2s
TAOE *e*LR LR 06 23 55.4
comp=Z,7µm,23.4s
R33M Jennings River 57.24 335 P P 06 07 11.7 0.0
baz=126,SNR=15
CALA Caldeira 57.40 52 *e*P P 06 07 15.5 +2.4
comp=Z,61nm,1.3s
PCED Cedros 57.41 52 *e*P P 06 07 14.7 +1.6
comp=Z,49nm,1.1s
TGTN Hyland Airport 57.50 338 P P 06 07 13.3 -0.1
baz=130
Q32M Nakina River 57.54 334 P P 06 07 13.6 -0.3
baz=124
PICO Pico 57.60 52 *e*P P 06 07 15.7 +1.2
comp=Z,32nm,0.8s
PPNO Prainha do Nor 57.72 52 *e*P P 06 07 14.5 -0.8
comp=Z,29nm,1.0s
PID Ribeirinha 57.82 52 *e*P P 06 07 17.7 +1.6
comp=Z,89nm,0.8s
PMAN Manadas 57.88 52 *e*P P 06 07 18.7 +2.3
comp=Z,52nm,0.7s
P33M Teslin, Yukon 58.48 335 IAmb IAmb 06 07 24.7
comp=Z,55nm,1.9s
P33M IAMs_20 IAMs_20 06 36 08.9
comp=Z,5µm,20.0s
P33M Teslin, Yukon 58.48 335 P P 06 07 20.4 +0.1
baz=124,SNR=7.3
P32M Atlin 58.51 334 P P 06 07 20.4 -0.1
baz=123
N32M Quiet Lake 59.12 336 P P 06 07 25.4 +0.7
baz=124
SKAG Skagway 59.14 333 P P 06 07 25.0 +0.2
baz=121
COYC Coyhaique 59.19 168 P P 06 07 24.9 -0.3
SFJD Kangerlussuaq 59.55 16 LR LR 06 32 57.4
comp=Z,5µm,19.8s,baz=218,slow=36
SFJD Kangerlussuaq 59.55 16 P P 06 07 26.7 -0.8
SFJD IAmb IAmb 06 07 32.6
comp=Z,34nm,1.1s
SFJD Kangerlussuaq 59.55 16 IAMs_20 IAMs_20 06 32 25.3
comp=Z,5µm,21.0s
SFJD Kangerlussuaq 59.55 16 P P 06 07 26.7 -0.8
SFJD pmax pmax
comp=Z,35nm,1.2s
SFJD Kangerlussuaq 59.55 16 *e*P P 06 07 25.6 -1.9
SFJD IAmb IAmb 06 07 32.2
comp=Z,31nm,1.1s
WHY Whitehorse 59.58 335 P P 06 07 28.0 0.0
baz=122
PLBC Pleasant Camp 59.59 333 P P 06 07 26.9 -1.0
baz=120
CMLA Cha da Macela 59.74 53 IAMs_20 IAMs_20 06 29 58.0
comp=Z,4µm,19.0s
FARO Faro, Yukon 59.84 337 P P 06 07 29.0 -0.7
baz=125
BART Pico Bartolome 60.02 53 *e*P P 06 07 31.5 +0.1
comp=Z,77nm,1.2s
O30N Mendenhall 60.15 335 P P 06 07 30.7 -1.1
baz=121,SNR=9.9
P30M Million Dollar 60.19 334 P P 06 07 31.1 -1.0
baz=120
M31M Drury Creek, Y 60.23 336 IAMs_20 IAMs_20 06 36 20.1
comp=Z,5µm,21.0s
M31M Drury Creek, Y 60.23 336 P P 06 07 31.8 -0.6
baz=124,SNR=10
P29M Windy Craggy 60.29 333 P P 06 07 31.7 -1.1
baz=119
DY2G Dye2 60.39 17 *e*P P 06 07 32.5 -1.0
DY2G IAmb IAmb 06 07 37.5
comp=Z,201nm,1.7s
DY2G IVmB_BB 06 07 38.0
comp=Z,2µm,3.1s
N31M Braeburn, Yuko 60.39 335 P P 06 07 33.8 +0.4
N31M IAmb IAmb 06 07 38.8
comp=Z,29nm,1.1s
N31M Braeburn, Yuko 60.39 335 P P 06 07 33.0 -0.5
baz=122
HYT Haines Junctio 60.77 334 P P 06 07 36.4 +0.2
baz=120
N30M Aishikik Lake 60.92 335 P P 06 07 36.9 -0.2
baz=120,SNR=8.9
O29M Mount Kennedy 60.98 333 P P 06 07 37.8 +0.2
baz=118
PNL Peninsula 61.05 333 P P 06 07 37.0 -1.0
baz=117
SACV Santiago Islan 61.14 80 IAMs_20 IAMs_20 06 29 50.0
comp=Z,3µm,20.0s
YUK6 Outpost Mounta 61.20 334 P P 06 07 38.2 -1.0
baz=119
BCPM Bancas Point 61.29 333 IAMs_20 IAMs_20 06 39 16.2
comp=Z,4µm,19.0s
M30M Minto, Yukon 61.37 336 P P 06 07 38.9 -1.3
M30M IAmb IAmb 06 07 44.7
comp=Z,31nm,1.1s
M30M IAMs_20 IAMs_20 06 37 09.4
comp=Z,3µm,22.0s
M30M Minto, Yukon 61.37 336 P P 06 07 40.6 +0.4
baz=121,SNR=18
YUK4 Talbot Arm 61.51 334 P P 06 07 40.1 -1.2
baz=119
MAYO Mayo, Yukon 61.57 337 P P 06 07 41.0 -0.4
baz=123
PINM Pinnacle 61.63 333 P P 06 07 41.2 -0.7
baz=117
C36M Paulatuk 61.65 346 IAMs_20 IAMs_20 06 38 12.3
comp=Z,3µm,21.0s
C36M Paulatuk 61.65 346 P P 06 07 41.2 -0.6
baz=138
O28M Mount Upton 61.91 333 P P 06 07 43.3 -0.7
baz=117
M29M Somme Creek 61.97 336 P P 06 07 43.7 -0.6
baz=120,SNR=29
L29M L29M 62.17 336 P P 06 07 45.4 -0.2
baz=120
K29M Barlow Dome 62.31 337 P P 06 07 45.6 -0.9
baz=121,SNR=15
MESA MESA 62.43 332 P P 06 07 46.5 -1.0
baz=115
RES Resolute Bay 62.44 358 LR LR 06 35 36.8
comp=Z,2µm,18.1s,baz=166,slow=37
YUK3 Moose Creek 62.48 334 P P 06 07 46.4 -1.4
baz=117,SNR=8.3
CTG Chitna Glacier 62.50 333 P P 06 07 46.0 -1.8
baz=116
ANGG Ammassalik, Gr 62.60 21 IAMs_20 IAMs_20 06 36 42.9
comp=Z,4µm,19.0s
BVCY Beaver Creek 62.94 335 P P 06 07 49.9 -0.8
baz=117
F31M Tsiigehtchic 63.03 342 P P 06 07 50.6 -0.4
baz=127,SNR=13
TGL Tana Glacier 63.07 333 IAMs_20 IAMs_20 06 37 38.2
comp=Z,5µm,21.0s
DAWY Dawson 63.14 337 IAmb IAmb 06 07 56.6
comp=Z,23nm,1.1s
DAWY Dawson 63.14 337 P P 06 07 51.7 -0.3
baz=119,SNR=13
SUCK Suckling Hills 63.22 332 IAMs_20 IAMs_20 06 36 39.4
comp=Z,3µm,21.0s
BERG Berg Lake 63.31 332 IAMs_20 IAMs_20 06 39 26.8
comp=Z,3µm,20.0s
M27K Edge Creek, AK 63.34 335 IAmb IAmb 06 07 59.1
comp=Z,25nm,1.2s
M27K Edge Creek, AK 63.34 335 P P 06 07 53.2 -0.2
baz=116,SNR=8.4
EPYK Eagle Plains 63.38 340 IAMs_20 IAMs_20 06 38 46.1
comp=Z,3µm,19.0s
EPYK Eagle Plains 63.38 340 P P 06 07 53.2 -0.2
baz=123,SNR=21
I29M Ogilvie Camp, 63.39 338 IAmb IAmb 06 07 58.7
comp=Z,30nm,1.1s
I29M IAMs_20 IAMs_20 06 40 38.6
comp=Z,4µm,21.0s
I29M Ogilvie Camp, 63.39 338 P P 06 07 53.2 -0.4
baz=121,SNR=18
MCARA McCarthy VSAT 63.41 333 P P 06 07 53.2 -0.5
baz=114
KAIM Kayak Island 63.46 332 IAMs_20 IAMs_20 06 36 21.7
comp=Z,4µm,21.0s
INK Inuvik 63.48 342 P P 06 07 53.6 -0.4
INK Inuvik 63.48 342 P P 06 07 53.6 -0.4
INK pmax pmax
comp=Z,75nm,1.0s
INK Inuvik 63.48 342 P P 06 07 53.7 -0.4
baz=127,SNR=40
HMT Hamilton 63.55 332 IAMs_20 IAMs_20 06 37 34.0
comp=Z,4µm,22.0s
L27K Beaver Creek, 63.63 335 IAmb IAmb 06 08 00.8
comp=Z,38nm,1.1s
L27K Beaver Creek, 63.63 335 P P 06 07 54.8 -0.4
baz=116,SNR=23
RAGM Ragged Mountai 63.75 332 IAMs_20 IAMs_20 06 37 29.5
comp=Z,5µm,22.0s
GLB Gilahina Butte 63.78 333 IAMs_20 IAMs_20 06 40 54.2
comp=Z,4µm,19.0s
M26K Nabesna, AK 63.83 334 P P 06 07 56.0 -0.6
baz=115,SNR=7.7
A36M Sachs Harbour 63.87 348 IAMs_20 IAMs_20 06 40 17.9
comp=Z,4µm,19.0s
A36M Sachs Harbour 63.87 348 P P 06 07 55.5 -1.1
baz=137
BMRM Bremner River 63.95 333 P P 06 07 56.3 -1.1
baz=113
ICESG Greenland Ices 64.00 17 *e*P P 06 07 57.5 -0.5
ICESG IAmb IAmb 06 08 03.8
comp=Z,56nm,0.8s
EGAK Eagle 64.16 337 IAmb IAmb 06 08 03.4
comp=Z,25nm,1.2s
EGAK IAMs_20 IAMs_20 06 38 09.9
comp=Z,3µm,20.0s
EGAK Eagle 64.16 337 P P 06 07 57.7 -0.9
baz=118,SNR=15
K27K Chicken 64.17 336 P P 06 07 57.7 -0.9
baz=117
Q23K Middleton Isla 64.19 331 IAMs_20 IAMs_20 06 37 46.9
comp=Z,2µm,19.0s
N25K Chitina, Valde 64.19 333 IAMs_20 IAMs_20 06 40 46.1
comp=Z,4µm,20.0s
N25K Chitina, Valde 64.19 333 P P 06 07 57.3 -1.7
baz=113
L26K Log Cabin Wild 64.24 335 IAmb IAmb 06 08 04.2
comp=Z,30nm,1.4s
L26K IAMs_20 IAMs_20 06 40 27.2
comp=Z,4µm,20.0s

L26K Log Cabin Wild 64.24 335 P P 06 07 58.8 -0.4
baz=115,SNR=7.9
EYAK Cordova Ski Ar 64.31 332 P P 06 07 59.0 -0.6
baz=112
HIN Hinchinbrook I 64.60 332 IAMs_20 IAMs_20 06 35 30.9
comp=Z,5µm,22.0s
I27K Kandik River 64.72 338 P P 06 08 01.4 -0.9
baz=118,SNR=21
FID Port Fidalgo 64.72 332 IAMs_20 IAMs_20 06 38 44.2
comp=Z,5µm,21.0s
KLU Klutina 64.74 333 IAMs_20 IAMs_20 06 37 50.4
comp=Z,4µm,22.0s
KLU Klutina 64.74 333 P P 06 08 01.6 -1.0
baz=112
DOT Dot Lake 64.80 335 IAmb IAmb 06 08 08.4
comp=Z,26nm,0.9s
SCRK Sand Creek 64.90 336 IAmb IAmb 06 08 08.7
comp=Z,52nm,1.5s
SCRK Sand Creek 64.90 336 P P 06 08 03.8 +0.2
baz=115,SNR=17
J26L Joseph Creek 64.96 336 P P 06 08 03.8 -0.2
baz=115,SNR=45
H27K Steamboat Moun 64.98 339 P P 06 08 03.5 -0.5
baz=118,SNR=50
GLI Glacier Island 65.05 332 IAMs_20 IAMs_20 06 39 02.6
comp=Z,4µm,21.0s
M24K Tolsona, Glenn 65.08 333 IAMs_20 IAMs_20 06 41 24.4
comp=Z,4µm,20.0s
M24K Tolsona, Glenn 65.08 333 P P 06 08 04.6 -0.2
baz=112
PAX Paxson 65.10 334 P P 06 08 04.4 -0.5
baz=113
RIDG Independent Ri 65.15 335 IAmb IAmb 06 08 10.9
comp=Z,31nm,1.0s
RIDG Independent Ri 65.15 335 P P 06 08 04.8 -0.4
baz=114,SNR=13
I26K Coal Creek Min 65.15 337 IAMs_20 IAMs_20 06 38 50.2
comp=Z,4µm,20.0s
I26K Coal Creek Min 65.15 337 P P 06 08 04.7 -0.4
baz=116
G27K Doyon Strip 65.30 339 P P 06 08 05.7 -0.4
baz=118,SNR=16
SCM Sheep Creek Mo 65.48 333 IAMs_20 IAMs_20 06 37 49.2
comp=Z,4µm,22.0s
SCM Sheep Creek Mo 65.48 333 P P 06 08 06.6 -0.8
baz=111
K24K Donnelly Dome 65.56 335 P P 06 08 07.1 -0.7
baz=113
PWL Port Wells 65.61 332 IAMs_20 IAMs_20 06 40 42.5
comp=Z,4µm,20.0s
PWL Port Wells 65.61 332 P P 06 08 07.3 -0.8
baz=109
M23K Glacier View 65.65 333 P P 06 08 07.4 -1.0
baz=110
J25K Salcha River, 65.72 336 IAmb IAmb 06 08 13.9
comp=Z,30nm,1.1s
J25K Salcha River, 65.72 336 P P 06 08 08.6 -0.3
baz=114,SNR=21
KNK Knik Glacier 65.85 332 IAMs_20 IAMs_20 06 39 39.9
comp=Z,4µm,22.0s
KNK Knik Glacier 65.85 332 P P 06 08 09.1 -0.6
baz=109
SEW Seward 65.89 331 P P 06 08 09.6 -0.3
baz=108
SML Sawmill 65.92 333 IAMs_20 IAMs_20 06 40 56.8
comp=Z,3µm,22.0s
SML Sawmill 65.92 333 P P 06 08 09.2 -1.0
baz=110
WAT6 Susitna Watana 65.93 334 P P 06 08 09.3 -1.1
baz=110,SNR=6.2
E27K Coleen River 65.94 340 P P 06 08 10.3 +0.1
baz=119,SNR=35
DHY Denali Highway 65.95 334 IAMs_20 IAMs_20 06 38 43.4
comp=Z,3µm,21.0s
DHY Denali Highway 65.95 334 P P 06 08 09.5 -1.0
baz=111
G26K Porcupine Rive 66.11 339 P P 06 08 10.7 -0.6
baz=116,SNR=19
O22K Cooper Landing 66.14 331 IAMs_20 IAMs_20 06 42 33.6
comp=Z,3µm,19.0s
O22K Cooper Landing 66.14 331 P P 06 08 10.7 -0.8
baz=108
PRP Porcupine Dome 66.14 337 P P 06 08 10.3 -1.4
PRP IAmb IAmb 06 08 16.9
comp=Z,26nm,1.0s
PRP Porcupine Dome 66.14 337 P P 06 08 10.9 -0.8
baz=114,SNR=18
GHO Glory Hole Cre 66.18 333 IAmb IAmb 06 08 16.9
comp=Z,28nm,0.9s
GHO IAMs_20 IAMs_20 06 40 01.6
comp=Z,3µm,20.0s
PMOZ Porto Moniz, M 66.19 60 *e*LR LR 06 28 21.2
comp=Z,2µm,18.0s
PMR Palmer 66.21 332 P P 06 08 11.5 -0.4
baz=109
HDA Harding Lake 66.27 336 IAmb IAmb 06 08 17.3
comp=Z,43nm,1.0s
HDA Harding Lake 66.27 336 P P 06 08 11.6 -0.6
baz=112,SNR=25
RC01 Rabbit Creek A 66.33 332 IAMs_20 IAMs_20 06 41 34.7
comp=Z,4µm,20.0s
RC01 Rabbit Creek A 66.33 332 P P 06 08 12.3 -0.5
baz=108
WAT1 Susitna Watana 66.37 334 P P 06 08 13.1 +0.1
baz=110
ILAR Eielson Array 66.38 336 P P 06 08 11.1 -2.0
comp=Z,25nm,1.1s,baz=116,slow=4.7,SNR=43
ILAR LR LR 06 41 60.0
comp=Z,6µm,19.5s,baz=111,slow=40
comp=Z,25nm,1.1s
BRSE Bradley Lake S 66.41 330 P P 06 08 12.8 -0.5
baz=106
SUMG Summit 66.44 14 P P 06 08 13.0 -0.8
SUMG IAMs_20 IAMs_20 06 37 10.3
comp=Z,4µm,20.0s
SUMG Summit 66.44 14 P P 06 08 13.0 -0.8
SUMG pmax pmax
comp=Z,52nm,0.9s
SUMG MLR MLR
comp=Z,4µm,20.0s
SUMG Summit 66.44 14 *i* P P 06 08 13.0 -0.8
SUMG IAmb IAmb 06 08 20.9
comp=Z,60nm,1.0s
FYU Fort Yukon 66.47 338 P P 06 08 13.4 0.0
FYU IAmb IAmb 06 08 19.1
comp=Z,32nm,0.9s
FYU IAMs_20 IAMs_20 06 41 51.8
comp=Z,4µm,21.0s
BRLK Bradley Lake 66.48 330 IAMs_20 IAMs_20 06 39 07.9
comp=Z,3µm,20.0s
H25K Birch Creek 66.56 338 P P 06 08 14.0 -0.1
baz=114,SNR=22
F26K Sheenjek River 66.57 339 P P 06 08 13.8 -0.4
baz=116,SNR=15
CNPM China Poot 66.59 330 IAMs_20 IAMs_20 06 39 29.5
comp=Z,4µm,20.0s
RND Reindeer 66.69 334 IAMs_20 IAMs_20 06 39 14.1
comp=Z,5µm,22.0s
M22K Willow 66.71 332 P P 06 08 14.5 -0.6
baz=108
POKR Poker Plat Res 66.72 336 P P 06 08 14.0 -1.2
baz=112
WRH Wood River Hil 66.75 336 IAMs_20 IAMs_20 06 39 41.5
comp=Z,4µm,21.0s
COLA College 66.80 336 P P 06 08 15.6 0.0
COLA IAmb IAmb 06 08 23.5
comp=Z,28nm,1.1s
COLA College 66.80 336 ↓ *i* P P 06 08 16.8 +1.2
COLA pmax pmax
comp=Z,33nm,1.4s
COLA College 66.80 336 P P 06 08 14.7 -0.9
baz=111
TCOL CIGO, UAF Yank 66.80 336 P P 06 08 14.5 -1.2
baz=111
KDAK Kodiak Island 66.82 328 LR LR 06 38 43.4
comp=Z,3µm,20.4s,baz=129,slow=37
KDAK Kodiak Island 66.82 328 IAMs_20 IAMs_20 06 39 55.7
comp=Z,3µm,20.0s
KDAK Kodiak Island 66.82 328 P P 06 08 15.2 -0.7
baz=104
HOM Homer 66.82 330 IAMs_20 IAMs_20 06 36 09.8
comp=Z,3µm,20.0s
MCK McKinley 66.84 335 IAMs_20 IAMs_20 06 39 40.9
comp=Z,2µm,19.0s
MCK McKinley 66.84 335 P P 06 08 15.3 -0.7
baz=110,SNR=12
MACI Morro de la Ar 66.85 64 P P 06 08 16.1 -0.9
SUA Susitna One 66.91 332 IAMs_20 IAMs_20 06 41 54.9
comp=Z,4µm,20.0s
PMPS Porto Santo 66.92 59 *e*P P 06 08 18.6 +1.6
comp=Z,234nm,1.4s
CUT Chulitna 66.98 333 IAMs_20 IAMs_20 06 42 23.7
comp=Z,4µm,20.0s
CUT Chulitna 66.98 333 P P 06 08 16.6 -0.2
baz=108
MDM Murphy Dome 66.98 336 IAmb IAmb 06 08 21.9
comp=Z,51nm,1.6s
F25K Christian Rive 67.04 339 P P 06 08 16.8 -0.5
baz=115,SNR=33
H24K Noodor Dome 67.16 337 IAmb IAmb 06 08 23.5
comp=Z,36nm,1.0s
H24K Noodor Dome 67.16 337 P P 06 08 17.0 -1.0
baz=112,SNR=24
NEA2 Nenana 67.19 335 IAmb IAmb 06 08 22.9
comp=Z,25nm,1.1s
NEA2 IAMs_20 IAMs_20 06 42 39.1
comp=Z,2µm,21.0s
NEA2 Nenana 67.19 335 P P 06 08 17.2 -1.0
baz=110,SNR=8.0
E25K Arctic Village 67.24 340 P P 06 08 17.0 -1.4
baz=115,SNR=14
C27K Jago River 67.30 341 P P 06 08 18.1 -0.7
baz=117,SNR=18
TRF Thorofare Moun 67.32 334 IAmb IAmb 06 08 25.5
comp=Z,26nm,0.9s
TRF Thorofare Moun 67.32 334 P P 06 08 18.7 -0.6
baz=108,SNR=8.6
G24K Hadweenzic Riv 67.34 338 P P 06 08 18.4 -0.8
baz=112,SNR=26
SII Sitkinak Islan 67.39 326 IAMs_20 IAMs_20 06 39 42.0
comp=Z,3µm,20.0s
SKT Skwentna 67.42 332 IAMs_20 IAMs_20 06 40 15.3
comp=Z,3µm,22.0s
SKT Skwentna 67.42 332 P P 06 08 18.4 -1.3
baz=107
N20K Mount Spurr 67.51 332 P P 06 08 19.1 -1.3
baz=106
SPCR Spurr Chakacha 67.51 332 P P 06 08 19.1 -1.3
baz=106
NEEM North Greenlan 67.54 8 *e*P P 06 08 21.4 +0.8
NEEM IAmb IAmb 06 08 24.6
comp=Z,62nm,0.8s
MBO M'Bour 67.60 79 IAMs_20 IAMs_20 06 32 52.2
comp=Z,5µm,22.0s
P19K Oil Pt 67.60 330 IAMs_20 IAMs_20 06 42 25.3
comp=Z,3µm,18.0s
Q19K Cape Douglas, 67.63 329 IAMs_20 IAMs_20 06 38 43.2
comp=Z,3µm,20.0s
H23K Yukon River 67.80 337 P P 06 08 21.7 -0.3
baz=110,SNR=8.8
C26K Camden Bay 67.80 342 P P 06 08 21.6 -0.3
baz=116,SNR=11
F24K Squaw Lake 67.80 339 P P 06 08 21.8 -0.2
baz=112
BPAW Bear Paw Mtn. 67.82 335 IAmb IAmb 06 08 42.2
comp=Z,26nm,1.0s
BPAW IAMs_20 IAMs_20 06 38 42.7
comp=Z,3µm,22.0s
BPAW Bear Paw Mtn. 67.82 335 P P 06 08 21.7 -0.5
baz=108,SNR=9.1
BBTS Babate 67.97 79 LR LR 06 33 24.8
comp=Z,6µm,21.5s,baz=252,slow=32
D25K Kavik River 68.01 341 P P 06 08 23.1 -0.2
baz=114,SNR=37
MLY Manley 68.01 336 IAmb IAmb 06 08 28.5
comp=Z,28nm,0.8s
MLY IAMs_20 IAMs_20 06 42 56.8
comp=Z,3µm,19.0s
MLY Manley 68.01 336 P P 06 08 22.8 -0.6
baz=110,SNR=24
CHIR Chirikof Islan 68.03 325 IAMs_20 IAMs_20 06 38 32.0
comp=Z,3µm,19.0s
M20K Styx River 68.12 332 IAmb IAmb 06 08 26.5
comp=Z,42nm,1.6s
M20K IAMs_20 IAMs_20 06 43 36.9
comp=Z,4µm,19.0s
M20K Styx River 68.12 332 P P 06 08 23.7 -0.5
baz=105
E24K Your Creek 68.22 339 P P 06 08 24.7 0.0
baz=112
O19K Port Alsworth 68.26 330 IAMs_20 IAMs_20 06 40 21.8
comp=Z,3µm,20.0s
G23K Bananza Creek 68.29 338 P P 06 08 24.7 -0.5
baz=110,SNR=16
BORG Borgarnes 68.43 25 LR LR 06 36 18.0
comp=Z,3µm,20.1s,baz=254,slow=34
N19K Bonanza Creek 68.48 331 IAMs_20 IAMs_20 06 40 52.7
comp=Z,2µm,20.0s
N19K Bonanza Creek 68.48 331 P P 06 08 25.3 -1.2
baz=104
COLD Coldfoot 68.53 338 IAmb IAmb 06 08 32.9
comp=Z,40nm,1.0s
COLD Coldfoot 68.53 338 P P 06 08 26.3 -0.3
baz=110,SNR=29
P18K Big Mountain, 68.53 329 IAMs_20 IAMs_20 06 39 20.0
comp=Z,3µm,21.0s
P18K Big Mountain, 68.53 329 P P 06 08 26.3 -0.5
baz=102
H22K Ishtalitna Cre 68.53 336 P P 06 08 26.0 -0.7
baz=108,SNR=13
I21K Tanana 68.55 336 P P 06 08 26.2 -0.5
baz=108
E23K Chandalar 68.61 339 P P 06 08 27.6 +0.4
baz=111
L20K Farewell, AK 68.61 333 P P 06 08 26.3 -0.9
baz=105
O18K Kodiak Hills 68.62 330 IAMs_20 IAMs_20 06 42 55.3
comp=Z,4µm,19.0s
M19K Big River Lodg 68.70 332 IAMs_20 IAMs_20 06 43 56.3
comp=Z,3µm,18.0s
M19K Big River Lodg 68.70 332 P P 06 08 27.3 -0.4
baz=104
D24K Happy Valley 68.74 340 P P 06 08 27.7 -0.2
baz=112
R17K Ugashik Creek 68.78 327 P P 06 08 28.0 -0.3
baz=100
TOLK Toolik Lake Re 68.81 340 IAmb IAmb 06 08 33.8
comp=Z,17nm,0.8s
TOLK IAMs_20 IAMs_20 06 44 07.6
comp=Z,4µm,19.0s
TOLK Toolik Lake Re 68.81 340 P P 06 08 28.0 -0.4
baz=111,SNR=8.8
PPT Papeete 68.88 246 LR LR 06 31 46.5
comp=Z,4µm,19.2s,baz=64,slow=30
PPT2 Papeete2 68.89 246 *e*P P 06 08 31.6 +1.9
comp=Z,75nm,22.8s
PPT2 *e*S S 06 17 35.2 +0.1
comp=Z,1µm,24.5s
PPT2 Papeete2 68.89 246 *e*LR LR 06 29 19.9
comp=Z,10µm,26.2s
G22K Bettles 68.91 338 P P 06 08 28.3 -0.6
baz=109
C24K Franklin Bluff 68.92 341 P P 06 08 28.8 -0.1
baz=112
K20K Telida 68.92 334 IAMs_20 IAMs_20 06 41 10.0
comp=Z,3µm,20.0s
K20K Telida 68.92 334 P P 06 08 28.2 -0.9
baz=105
L19K White Mountain 68.98 332 IAMs_20 IAMs_20 06 44 12.6
comp=Z,3µm,20.0s
L19K White Mountain 68.98 332 P P 06 08 28.6 -0.9
baz=104
H21K Melozitna Rive 69.03 336 IAMs_20 IAMs_20 06 44 17.6
comp=Z,3µm,19.0s
H21K Melozitna Rive 69.03 336 P P 06 08 28.9 -0.8
baz=107
P17K Kvichak River 69.10 329 P P 06 08 29.2 -1.0
baz=101
Q16K King Salmon 69.11 328 P P 06 08 30.1 -0.2
baz=101
N18K Kilae Creek 69.13 330 IAMs_20 IAMs_20 06 40 49.7
comp=Z,3µm,20.0s
J20K Nowinta River 69.17 334 IAMs_20 IAMs_20 06 40 11.4
comp=Z,4µm,22.0s
J20K Nowinta River 69.17 334 P P 06 08 30.4 -0.1
baz=105,SNR=6.5
D23K Nanushuk River 69.30 340 P P 06 08 30.2 -1.1
baz=110,SNR=13
F22K John River 69.35 338 P P 06 08 31.1 -0.6
baz=108
O17K Koliganek Bris 69.54 329 P P 06 08 32.1 -0.9
baz=101
G21K Allakaket 69.55 337 P P 06 08 32.5 -0.5
baz=106,SNR=17
C23K Itkillik River 69.58 341 P P 06 08 32.2 -0.8
baz=110
F21K Alatna River 69.74 338 P P 06 08 33.9 -0.3
baz=107,SNR=22
CNBA Chernabura Isl 70.12 324 IAMs_20 IAMs_20 06 37 55.5
comp=Z,3µm,21.0s
TBI Tubuai 70.96 240 *e*P P 06 08 43.9 +1.6
comp=Z,90nm,41.0s
TBI *e*S S 06 17 58.5 -0.5
comp=Z,930nm,25.2s
TBI Tubuai 70.96 240 *e*LR LR 06 30 18.1
comp=Z,8µm,26.0s
TBI Tubuai 70.96 240 *e*T T 07 25 33.5
comp=Z,4.1nm,0.3s
A21K Barrow 71.95 341 IAMs_20 IAMs_20 06 43 04.5
comp=Z,2µm,20.0s
LIS Lisbon 72.65 53 *e*S S 06 18 18.2 +0.1
LIS IAMs_20 IAMs_20 06 35 29.7
comp=Z,3µm,23.5s
PFVI Vila Bisbo 72.97 55 *e*P P 06 08 57.9 +3.7
comp=Z,159nm,1.6s
DAG Danmarks Havn 73.03 13 *i* P P 06 08 50.0 -3.8
DAG IAmb IAmb 06 08 56.8
comp=Z,25nm,0.7s
PTEO Sao Teotonio 73.03 54 *e*P P 06 08 56.8 +2.2
comp=Z,108nm,1.4s
MORF Marmelete 73.10 55 *e*P P 06 08 55.2 +0.2
MORF *e*S S 06 18 23.4 -0.1
MORF IAMs_20 IAMs_20 06 39 38.8
comp=Z,5µm,16.6s
MORF Marmelete 73.10 55 *e*P P 06 08 55.5 +0.5
comp=Z,100nm,1.3s
MORF Marmelete 73.10 55 *e*P P 06 08 55.2 +0.2
MORF *e*S S 06 18 23.4 -0.1
PGAV Gavieira, Arco 73.21 50 *e*S SKiKP 06 18 29.7 +1.0
PGAV Gavieira, Arco 73.21 50 *e*LR LR 06 29 32.7
comp=Z,2µm,18.0s
PMTG Montargil 73.35 53 *e*P P 06 08 57.3 +0.9
comp=Z,54nm,1.4s
MESJ Messejana 73.42 54 *e*P P 06 08 57.0 +0.2
MESJ *e*S S 06 18 26.9 -0.1
MESJ IAMs_20 IAMs_20 06 38 44.3
comp=Z,4µm,16.4s
MESJ Messejana 73.42 54 *e*P P 06 08 56.9 +0.1
comp=Z,34nm,2.1s
MESJ Messejana 73.42 54 *e*P P 06 08 57.0 +0.2
MESJ *e*S S 06 18 26.9 -0.1
PVIS Viseu 73.54 51 *e*P P 06 08 56.5 -1.1
comp=Z,93nm,1.2s
PCVE Castro Verde 73.57 54 *e*P P 06 09 03.6 +5.8
comp=Z,5.4nm,0.7s
POLO Lamas de Olo 73.59 50 *e*P P 06 09 02.1 +4.2
comp=Z,40nm,1.7s
PBEJ Beja 73.69 54 *e*P P 06 08 58.9 +0.5
comp=Z,38nm,2.0s
MTE Manteigas 73.82 51 *e*P P 06 08 59.5 +0.3
comp=Z,102nm,1.3s
MTE *e*S S 06 18 35.9 +4.3
MTE Manteigas 73.82 51 *e*LR LR 06 31 08.1
comp=Z,4µm,20.0s
PVAQ Vaqueiros 73.84 54 *e*P P 06 09 00.8 +1.5
comp=Z,44nm,2.1s
PVAQ *e*S S 06 18 33.8 +2.1
PVAQ Vaqueiros 73.84 54 *e*LR LR 06 30 20.4
comp=Z,4µm,18.0s
PESTR Estremoz 73.86 53 *e*P P 06 09 00.0 +0.6
comp=Z,57nm,2.6s
PESTR Estremoz 73.86 53 IAmb IAmb 06 09 07.9
comp=Z,44nm,1.5s
PCBR Castelo Branco 73.90 52 *e*P P 06 08 59.2 -0.4
comp=Z,76nm,1.4s
PMRV Marv??o 73.98 52 *e*P P 06 08 59.0 -1.2
comp=Z,51nm,1.4s
PMRV *e*S S 06 18 36.8 +3.5
PMRV Marv??o 73.98 52 *e*LR LR 06 29 35.2
comp=Z,3µm,20.0s
ANM Nome 74.04 334 IAMs_20 IAMs_20 06 42 09.2
comp=Z,2µm,22.0s
UNV Unalaska Valle 74.10 323 P P 06 08 60.0 -0.5
baz=91
MVO Moncorvo 74.17 51 *e*P P 06 09 00.7 -0.6
comp=Z,76nm,1.3s
MVO *e*S S 06 18 38.7 +3.2
MVO Moncorvo 74.17 51 *e*LR LR 06 30 09.8
comp=Z,3µm,20.0s
PBAR Barrancos 74.33 54 *e*P P 06 09 03.4 +1.2
comp=Z,60nm,1.3s
PBRG Braganca 74.36 50 *e*P P 06 09 04.9 +2.5
comp=Z,91nm,1.6s
AVE Averroes 74.38 59 IAMs_20 IAMs_20 06 40 54.8
comp=Z,3µm,19.0s
JMIC Jan Mayen 74.49 19 LR LR 06 41 50.2
comp=Z,1µm,19.4s,baz=268,slow=36
ASCN Ascension 74.63 102 IAMs_20 IAMs_20 06 40 27.4
comp=Z,2µm,20.0s
ESK Eskdalemuir 76.19 36 P P 06 09 11.0 -1.5
ESK IAmb IAmb 06 09 17.5
comp=Z,31nm,0.8s
ESK Eskdalemuir 76.19 36 IAMs_20 IAMs_20 06 43 44.4
comp=Z,3µm,18.0s
ESK Eskdalemuir 76.19 36 P P 06 09 11.0 -1.5
ESK pmax pmax
comp=Z,31nm,0.8s
ESK MLR MLR
comp=Z,3µm,18.0s
EKA Eskdalemuir Ar 76.21 36 LR LR 06 37 12.3
comp=Z,2µm,21.9s,baz=272,slow=31
EKA Eskdalemuir Ar 76.21 36 P P 06 09 14.3 +1.6
PAB San Pablo 76.33 52 P P 06 09 12.9 -0.9
PAB San Pablo 76.33 52 IAMs_20 IAMs_20 06 39 09.0
comp=Z,3µm,20.0s
PAB San Pablo 76.33 52 P P 06 09 12.9 -0.9
PAB pmax pmax
comp=Z,149nm,1.8s
QUIF Quistinic 76.56 43 *e*P P 06 09 13.0 -1.8
QUIF pmax pmax
comp=Z,37nm,0.9s
ESDC Sonseca Array 76.61 52 P P 06 09 14.1 -1.3
comp=Z,8.6nm,0.8s,baz=282,slow=4.9,SNR=24
ESDC LR LR 06 38 51.9
comp=Z,3µm,20.3s,baz=279,slow=32
comp=Z,8.6nm,0.8s
ESBB Sonseca Array 76.61 52 IAmb IAmb 06 09 24.1
comp=Z,98nm,1.7s
MDT Midelt 76.77 59 LR LR 06 41 28.6
comp=Z,2µm,18.0s,baz=291,slow=34
GRR Gorron 78.07 43 *e*P P 06 09 20.9 -2.3
GRR pmax pmax
comp=Z,29nm,0.8s
FLN La Foliniere 78.28 42 *e*P P 06 09 22.8 -1.6
FLN pmax pmax
comp=Z,20nm,0.8s
LDF La Druitiere 78.53 43 *e*P P 06 09 25.8 0.0
LDF pmax pmax
comp=Z,49nm,1.3s
MFF Saint Martin d 78.72 45 *e*P P 06 09 26.4 -0.5
MFF pmax pmax
comp=Z,142nm,1.8s
HOPE Hope Point 78.81 153 IAMs_20 IAMs_20 06 44 16.9
comp=Z,2µm,21.0s
PMSA Palmer Station 78.83 170 LR LR 06 38 56.3
comp=Z,1µm,21.3s,baz=338,slow=32
ETSF Etsaut 78.84 48 *e*P P 06 09 28.6 +0.9
ETSF pmax pmax
comp=Z,22nm,1.2s
CART Cartagena 79.14 54 IAMs_20 IAMs_20 06 47 09.6
comp=Z,2µm,18.0s
RAR Rarotonga 79.16 245 LR LR 06 36 49.4
comp=Z,3µm,19.0s,baz=79,slow=30
EPF Esparros 79.48 48 *e*P P 06 09 31.6 +0.4
EPF pmax pmax
comp=Z,27nm,1.2s
SUE Sulen 79.94 30 *e*P P 06 09 33.7 +0.5
KOWA Kowa 79.96 77 LR LR 06 38 51.7
comp=Z,3µm,21.6s,baz=286,slow=31
KOWA Kowa 79.96 77 P P 06 09 32.9 -1.4
KOWA IAmb IAmb 06 09 38.8
comp=Z,116nm,1.6s
KOWA IAMs_20 IAMs_20 06 38 51.9
comp=Z,4µm,22.0s
FOO Floro 80.01 29 *e*P P 06 09 33.4 -0.1
CLF Chambon-Foret 80.18 43 IAmb IAmb 06 09 40.6
comp=Z,66nm,1.1s
ASK Askoy 80.23 30 *e*P P 06 09 35.5 +0.7
TCF Toulx Ste Croi 80.38 45 *e*P P 06 09 35.6 -0.4
TCF pmax pmax
comp=Z,41nm,1.3s
KMY Karmoy 80.43 31 *e*P P 06 09 36.5 +0.6
CAF Calviac 80.46 46 *e*P P 06 09 36.4 -0.1

CAF pmax pmax
comp=Z,31nm,1.3s
TIC Toumodi 80.46 85[i] *e*P P 06 09 35.1 -1.9
comp=Z,104nm,1.3s
LIC Lamto 80.54 86[ij] *e*P P 06 09 35.9 -1.5
comp=Z,157nm,1.3s
SPITS Spitsbergen Ar 80.60 12 LR LR 06 45 04.7
comp=Z,2µm,19.7s,baz=252,slow=36
HYA Hoyanger 80.61 29 *e*P P 06 09 37.0 +0.2
DBIC Dimbokro 80.62 85 P P 06 09 36.3 -1.5
DBIC IAmb IAmb 06 09 44.2
comp=Z,72nm,1.3s
DBIC Dimbokro 80.62 85 P P 06 09 36.3 -1.5
DBIC pmax pmax
comp=Z,72nm,1.3s
BGF Bois d'Agland 80.78 44 *e*P P 06 09 39.1 +1.0
BGF pmax pmax
comp=Z,128nm,1.9s
KIC Kosan Boka 80.79 85[i] *e*P P 06 09 37.0 -1.8
comp=Z,18nm,0.6s
MTLF Montolieu 80.80 48 *e*P P 06 09 38.3 0.0
MTLF pmax pmax
comp=Z,42nm,1.2s
AKN Aaknes 80.84 28 *e*P P 06 09 37.3 -0.8
BLS5 Blasjo 81.01 31 *e*P P 06 09 39.7 +0.6
BLS5 IAmb IAmb 06 09 46.4
comp=Z,30nm,1.1s
ODD1 Odda 81.02 31 *e*P P 06 09 39.7 +0.6
ODD1 IAmb IAmb 06 09 54.6
comp=Z,21nm,0.9s
LOR Lormes 81.36 44 *e*P P 06 09 40.7 -0.5
LOR pmax pmax
comp=Z,10.0nm,0.8s
DOU Dourbes 81.40 41 *d*P P 06 09 41.0 -0.4
SMF Signal de Mont 81.44 44 *e*P P 06 09 42.6 +1.0
SMF pmax pmax
comp=Z,54nm,1.6s
SMAI San Martin Ant 81.54 173 P P 06 09 41.3 -0.2
GIVF Givet 81.55 41 *e*P P 06 09 46.8 +4.7
GIVF pmax pmax
comp=Z,35nm,1.4s
SNART Snartemo 81.57 32 *e*P P 06 09 42.2 +0.2
SKAR Skarslia 81.71 30 *e*P P 06 09 43.4 +0.6
BCLA Clavier 81.80 40 *d*P P 06 09 43.1 -0.3
DOMB Dombas 81.82 28 *e*P P 06 09 44.3 +1.0
SSB Saint Sauveur 82.14 45 IAMs_20 IAMs_20 06 41 06.6
comp=Z,2µm,20.0s
MEM Membach 82.21 40 *d*P P 06 09 44.9 -0.7
MEM *d*PcP **sP 06 09 50.2 +2.5**
HOMB Homborsund 82.26 32 *e*P P 06 09 46.3 +0.7
HOMB IAmb IAmb 06 09 53.8
comp=Z,25nm,1.3s
VIVF Saint-Julien-l 82.31 46 *e*P P 06 09 46.8 +0.5
VIVF pmax pmax
comp=Z,47nm,1.2s
WLF Walferdange 82.47 41 IAMs_20 IAMs_20 06 43 21.8
comp=Z,3µm,20.0s
WLF Walferdange 82.47 41 *d*P P 06 09 47.3 +0.4
KONO Kongsberg 82.54 31 IAMs_20 IAMs_20 06 45 42.3
comp=Z,2µm,21.0s
NSS Namsos 82.58 26 *e*P P 06 09 48.0 +0.8
NSS IAmb IAmb 06 09 48.2
comp=Z,41nm,1.5s
KONS Konsvik 82.59 23 *e*P P 06 09 47.7 +0.5
KONS IAmb IAmb 06 09 49.0
comp=Z,9.1nm,0.6s
STOK Stokkvaagen 82.59 24 *e*P P 06 09 47.8 +0.6
NC204 NORSAR Array S 82.77 29 P P 06 09 47.1 -1.2
NC204 IAmb IAmb 06 09 53.5
comp=Z,30nm,1.2s
NBO00 NORSAR Array S 82.83 29 IAmb IAmb 06 09 54.1
comp=Z,58nm,1.1s
HAU Haudompre 82.89 43 *e*P P 06 09 49.8 +0.6
HAU pmax pmax
comp=Z,12nm,0.9s
STEI Steigen 83.03 22 *e*P P 06 09 48.8 -0.6
STEI IAmb IAmb 06 09 51.2
comp=Z,18nm,0.9s
NB2 NORSAR Subarra 83.03 29 P P 06 09 48.2 -1.5
comp=Z,21nm,1.0s,baz=282,slow=5.1
NB2 NORSAR Subarra 83.03 29 *e*P P 06 09 47.2 -2.5
NB2 pmax pmax
comp=Z,10.0nm,1.1s
NB2 NORSAR Subarra 83.03 29 P P 06 09 48.2 -1.5
baz=282,slow=5.1
NOA NORSAR Array B 83.03 29 P P 06 09 48.4 -1.3
comp=Z,6.2nm,0.8s,baz=285,slow=5.0,SNR=19
comp=Z,6.2nm,0.8s
FAUS Fauske 83.19 22 *e*P P 06 09 50.7 +0.4
FAUS IAmb IAmb 06 09 58.2
comp=Z,50nm,1.5s
MOR8 Moi Rana 83.19 24 *e*P P 06 09 51.6 +1.2
NC405 NORSAR Array S 83.25 29 P P 06 09 51.2 +0.4
NC405 IAmb IAmb 06 09 56.2
comp=Z,45nm,1.1s
NC602 NORSAR Array S 83.26 29 IAmb IAmb 06 09 56.4
comp=Z,38nm,1.1s
NC602 NORSAR Array S 83.26 29 *e*P P 06 09 49.9 -1.0
NC602 IAML 06 09 54.3
comp=Z,6.1nm,0.7s
NORES NORESS Array B 83.26 29 P P 06 09 51.7 +0.9
NORES pmax pmax
comp=Z,2.0nm,0.7s
HINF Hinteralfeld 83.26 43 *e*P P 06 09 52.6 +1.4
HINF pmax pmax
comp=Z,38nm,1.6s
ECH Echery 83.39 42 IAmb IAmb 06 09 59.2
comp=Z,20nm,1.1s
CDF Champ du Feu 83.43 42 *e*P P 06 09 53.8 +1.7
CDF pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 83.67 45 IAMs_20 IAMs_20 06 42 17.0
comp=Z,3µm,20.0s
SENIN Lac Senin/Sane 83.84 44 IAMs_20 IAMs_20 06 43 27.4
comp=Z,3µm,21.0s
BFO Black Forest 84.13 42 P P 06 09 54.7 -0.9
BFO IAmb IAmb 06 09 56.7
comp=Z,31nm,1.5s
BFO Black Forest 84.13 42 P P 06 09 54.7 -0.9
BFO pmax pmax
comp=Z,31nm,1.5s
JETT Jettan, Norway 84.32 20 *e*P P 06 09 55.3 -0.8
JETT IAmb IAmb 06 09 58.1
comp=Z,62nm,0.7s
HFS Hagfors 84.44 30 P P 06 09 54.4 -2.5
comp=Z,5.5nm,0.8s,baz=228,slow=3.6,SNR=13
HFS LR LR 06 44 19.1
comp=Z,1µm,20.2s,baz=274,slow=33
comp=Z,5.5nm,0.8s
STU Stuttgart 84.60 41 IAMs_20 IAMs_20 06 44 12.3
comp=Z,2µm,20.0s
BILL Bilibino 84.84 339 IAMs_20 IAMs_20 06 49 26.6
comp=Z,2µm,21.0s
BILL Bilibino 84.84 339[ij] *e*P P 06 10 00.0 +1.2
BILL pmax pmax
comp=Z,32nm,1.2s
BILL MLR MLR
comp=Z,2µm,20.0s
DAVA Damuels 85.38 43 *e*P P 06 10 01.3 -0.8
comp=Z,27nm,1.0s
KTK1 Kautokeino 85.45 20 *e*P P 06 10 00.5 -1.3
KTK1 IAmb IAmb 06 10 03.1
comp=Z,45nm,1.4s
DAVOX Davos/Dischmat 85.49 43 LR LR 06 42 29.6
comp=Z,2µm,21.5s,baz=266,slow=32
TOA0 Torodi Ar. Sit 85.67 78 P P 06 10 01.8 -2.1
TOA0 IAmb IAmb 06 10 05.4
comp=Z,37nm,1.6s
TORD Torodi Ar. Bea 85.67 78 P P 06 10 01.4 -2.5
comp=Z,4.3nm,0.6s,baz=292,slow=4.9,SNR=11
TORD LR LR 06 42 27.3
comp=Z,2µm,21.9s,baz=270,slow=32
comp=Z,4.3nm,0.6s
TORD Torodi Ar. Bea 85.67 78 P P 06 10 01.7 -2.2
TORD IAmb IAmb 06 10 10.6
comp=Z,52nm,1.7s
RGN Rugen 85.71 35 IAMs_20 IAMs_20 06 47 59.2
comp=Z,2µm,19.0s
SHEM Shemya Is, Ala 85.76 323 LR LR 06 49 04.9
comp=Z,982nm,20.3s,baz=72,slow=36
RETA Reutte 85.91 42 *e*P P 06 10 04.4 -0.2
comp=Z,13nm,1.1s
ARA0 ARCESS Array S 85.98 19 *e*P P 06 10 04.2 -0.2
ARA0 IAmb IAmb 06 10 05.5
comp=Z,10nm,0.8s
ARCES ARCESS Array B 85.98 19 P P 06 10 03.4 -1.1
comp=Z,8.6nm,0.8s,baz=278,slow=4.5,SNR=19
ARCES LR LR 06 46 40.2
comp=Z,1µm,21.0s,baz=296,slow=34
comp=Z,8.6nm,0.8s
ARCES ARCESS Array B 85.98 19 IAmb IAmb 06 11 17.9
comp=Z,74nm,1.9s
FETA Feichten 86.00 43 *e*P P 06 10 05.1 -0.1
comp=Z,12nm,1.2s
MOTA Moosalm 86.17 42 *e*P P 06 10 06.0 -0.1
comp=Z,14nm,1.2s
SQTA Sankt Quirin 86.27 43 *e*P P 06 10 08.6 +2.1
comp=Z,8.6nm,0.9s
NKC Novy Kostel 86.31 39 AMS AMS 06 44 30.0
comp=Z,3µm,19.4s
KEV Kevo 86.36 19 IAMs_20 IAMs_20 06 49 34.5
comp=Z,1µm,18.0s
CLL Collm 86.38 38 P P 06 10 05.7 -1.0
CLL IAMs_20 IAMs_20 06 49 13.0
comp=Z,2µm,20.0s
CLL Collm 86.38 38 *e*P P 06 10 06.0 -0.7
CLL *i* 06 10 10.3
CLL *e*S S 06 20 38.0 -5.2
CLL pmax pmax
comp=Z,34nm,1.5s
CLL MLR MLR
comp=Z,2µm,19.6s
CLL Collm 86.38 38 *e*P P 06 10 06.0 -0.7
comp=Z,34nm,1.5s
CLL *i* pP **pP 06 10 10.3 +2.0**
CLL *e*PP **PP 06 13 24.0 -3.5**
CLL *e*S **S 06 20 38.0 -5.2**
CLL *e*SP **SPn 06 21 39.0 -0.3**
CLL *ex* x 06 24 18.0
CLL *e*SS **SS 06 26 24.0 +1.8**
CLL Lm MLR 06 49 00.0
comp=N,900nm,20.7s
CLL Lm MLR 06 49 00.0
comp=E,2µm,20.4s
CLL Lm MLR 06 49 00.0
comp=Z,2µm,19.6s
WATA Walderalm 86.49 42 *e*P P 06 10 09.8 +2.2
comp=Z,5.0nm,0.5s
WTTA Wattenberg 86.55 42 *e*P P 06 10 08.7 +0.8
comp=Z,4.8nm,1.0s
CTI Castel Tesino 86.86 44 P P 06 10 08.6 -0.8
CTI Castel Tesino 86.86 44 P P 06 10 08.6 -0.8
CTI pmax pmax
comp=Z,11nm,0.7s
TEOL Teolo 87.04 44 IAmb IAmb 06 10 14.8
comp=Z,36nm,0.8s
BRG Berggiesshubel 87.06 39 *e*P P 06 10 10.0 -0.1
BRG Amp 06 10 16.8
comp=Z,14nm,1.2s
BRG *ex* x 06 10 24.4
BRG Amp 06 10 28.0
comp=Z,10nm,1.2s
BRG *ex* x 06 10 53.5
BRG Amp 06 10 56.6
comp=Z,8.1nm,1.0s
BRG PP **PP 06 13 40.5 +7.4**
BRG Amp 06 13 50.4
comp=Z,4.4nm,1.1s
BRG Berggiesshubel 87.06 39 SS SS 06 26 41.0 +8.7
BRG Amp 06 43 38.0
comp=E,1.1nm,22.1s
BRG Amp 06 43 43.0
comp=Z,1.9nm,20.7s
BRG Amp 06 43 45.0
comp=N,1.6nm,18.0s
BRG Berggiesshubel 87.06 39 *e*P P 06 10 10.0 -0.1
BRG 06 13 40.4
BRG S **S 06 20 52.0 +2.1**
BRG pmax pmax
comp=Z,14nm,1.2s
BRG pmax pmax
comp=Z,4.0nm,1.1s
ABTA Abfaltersbach 87.26 43 *e*P P 06 10 10.9 -0.4
comp=Z,19nm,1.1s
KHC Kasperske Hory 87.31 40 *e*P P 06 10 09.7 -1.7
KHC *e* 06 10 15.5
KHC *e* 06 20 52.4
KHC MLR MLR
comp=Z,4µm,18.7s
KHC Kasperske Hory 87.31 40 *e*P P 06 10 09.7 -1.7
KHC *e*pP **sP 06 10 15.5 +1.9**
KHC *e*S **S 06 20 52.4 -0.1**
KHC AMS AMS 06 46 40.0
comp=Z,4µm,18.7s
CIMO Cimolais 87.32 43 IAmb IAmb 06 10 17.9
comp=Z,23nm,1.2s
GERES GERESS Array B 87.47 41 P P 06 10 10.4 -1.9
comp=Z,2.6nm,0.8s,baz=318,slow=1.8,SNR=17
GERES LR LR 06 46 42.3
comp=Z,3µm,19.1s,baz=282,slow=34
comp=Z,2.6nm,0.8s
GERES GERESS Array B 87.47 41 P P 06 10 10.1 -2.2
GERES GERESS Array B 87.47 41 P P 06 10 10.1 -2.2
STAL STALIGIAL 87.52 43 IAmb IAmb 06 10 17.0
comp=Z,18nm,1.0s
PVCC Panska Ves 87.54 39 AMS AMS 06 43 30.0
comp=Z,2µm,21.6s
CLUD Cludinico 87.58 43 P P 06 10 12.1 -0.7
CLUD IAmb IAmb 06 10 17.2
comp=Z,32nm,1.0s
KEST Kesra 87.65 54 P P 06 10 12.1 -1.3
comp=Z,18nm,1.1s,baz=62,slow=1.9,SNR=7.1
KEST LR LR 06 45 14.7
comp=Z,1µm,20.8s,baz=238,slow=33
comp=Z,18nm,1.1s
KEST Kesra 87.65 54 IAmb IAmb 06 10 18.9
comp=Z,37nm,1.2s
PRU Pruhonice 87.68 39 *e*S S 06 20 57.6 +1.8
PRU AMS AMS 06 45 30.0
comp=Z,4µm,20.6s
KBA Koelnbreinsper 87.72 42 *e*P P 06 10 13.2 -0.4
comp=Z,24nm,1.2s
BIOA Bad Ischl, Aus 87.74 42 *e*P P 06 10 14.2 +0.7
comp=Z,9.2nm,1.0s
CKRC Cesky Krumlov 87.86 40 *e*S S 06 20 57.4 -0.3
CKRC AMS AMS 06 47 20.0
comp=Z,4µm,18.8s
MYKA Terra Mystica 88.04 43 *e*P P 06 10 14.7 -0.3
comp=Z,11nm,1.0s
AFI Afiamalu 88.30 255 LR LR 06 41 22.6
comp=Z,2µm,19.7s,baz=78,slow=30
AFI Afiamalu 88.30 255 IAMs_20 IAMs_20 06 41 29.7
comp=Z,2µm,19.0s
UPC Upice 88.43 39 *e*S S 06 21 00.9 -2.1
UPC AMS AMS 06 44 10.0
comp=Z,2µm,22.2s
CHVC Chvalec 88.43 38 AMS AMS 06 44 10.0
comp=Z,2µm,19.8s
TREC Trest 88.47 40 AMS AMS 06 46 10.0
comp=Z,4µm,19.6s
OSTC Ostas 88.54 38 *e*P P 06 10 18.1 +0.9
OSTC *e*SKS S 06 21 03.3 -0.8
OSTC AMS AMS 06 44 00.0
comp=Z,2µm,20.2s
FDMO Fiordimonte 88.63 46 IAmb IAmb 06 13 17.1
comp=Z,22nm,0.7s
DPC Dobruska-Polom 88.67 39 *e*S S 06 21 03.5 -1.8
DPC AMS AMS 06 44 20.0
comp=Z,2µm,21.3s
OBKA Obir 88.67 43 *e*P P 06 10 19.7 +1.7
comp=Z,16nm,1.1s
SOKA Soboth 88.94 42 *e*P P 06 10 19.0 -0.3
comp=Z,9.8nm,1.2s
KRLC Kraliky 89.03 39 AMS AMS 06 52 50.0
comp=Z,3µm,17.2s
AQU L'Aquila 89.04 47 IAMs_20 IAMs_20 06 47 14.2
comp=Z,2µm,20.0s
ARSA Arzberg 89.10 42 *e*P P 06 10 19.5 -0.5
comp=Z,3.0nm,0.6s
KRUC Moravsky 89.11 40 *e*P P 06 10 19.3 -0.6
KRUC Moravsky 89.11 40 *e*S S 06 21 07.9 -1.5
CONA Conrad Observa 89.11 41 *e*P P 06 10 20.1 0.0
comp=Z,8.7nm,1.0s
VRAC Vranov 89.15 40 P P 06 10 19.1 -1.0
VRAC comp=Z,6.7nm,0.8s,baz=315,slow=10,SNR=3.8 LR LR 06 47 29.4
comp=Z,4µm,19.5s,baz=280,slow=34
comp=Z,6.7nm,0.8s
VRAC Vranov 89.15 40 *e*P P 06 10 19.9 -0.2
VRAC Vranov 89.15 40 *e*S S 06 21 10.2 +0.3
RONA Rosalia, Austr 89.46 41 *e*P P 06 10 22.2 +0.5
comp=Z,12nm,1.1s
APA Apatity 89.47 19[ij] *i*P P 06 10 16.5 -4.7
APA pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 89.59 39 *e*S S 06 21 13.8 -0.2
FINES FINESS Array B 89.67 26 P P 06 10 20.0 -2.2
comp=Z,3.0nm,0.7s,baz=286,slow=7.7,SNR=7.3
FINES LR LR 06 46 29.4
comp=Z,3µm,21.8s,baz=299,slow=33
comp=Z,3.0nm,0.7s
FINES FINESS Array B 89.67 26 P P 06 10 20.6 -1.6
FINES FINESS Array B 89.67 26 P P 06 10 20.6 -1.6
LVZ Lovozero 89.69 19 IAMs_20 IAMs_20 06 46 48.7
comp=Z,2µm,22.0s
ZST Bratislava 89.82 41 *e*P P 06 10 24.9 +1.7
ZST pmax pmax
comp=Z,42nm,1.1s
ZST Bratislava 89.82 41 *e*P P 06 10 24.9 +1.7
MODS Modra-Piesok 89.88 40 *e*P P 06 10 24.8 +1.3
MODS pmax pmax
comp=Z,31nm,1.2s
MODS Modra-Piesok 89.88 40 *e*P P 06 10 24.8 +1.3
MODS Modra-Piesok 89.88 40 *e*S S 06 21 15.1 -1.6
MODS *e*L L 06 47 33.6
MAUC Maruska 89.90 39 AMS AMS 06 47 00.0
comp=Z,7µm,21.0s
SMOL Smolenice 89.93 40 *e*P P 06 10 24.4 +0.7
SMOL pmax pmax
comp=Z,5.0nm,1.0s
OKC Ostrava-Krasne 89.94 39 *e*S S 06 21 17.4 +0.2
OKC AMS AMS 06 53 10.0
comp=Z,2µm,17.0s
JAVC Velka Javorina 89.97 40 *e*P P 06 10 24.5 +0.5
JAVC Velka Javorina 89.97 40 *e*S S 06 21 15.6 -2.0
MPLH Magyarpolny 90.43 41 P P 06 10 27.5 +1.4
OJC Ojcow 90.82 38 *e*P P 06 10 26.6 -1.2
VYHS Vyhne 90.82 40 *e*P P 06 10 28.0 +0.1
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS Vyhne 90.82 40 *e*P P 06 10 28.0 +0.1
VYHS Vyhne 90.82 40 *e*S S 06 21 24.7 -0.6
VYHS *e*L L 06 49 26.6
VSU Vasula 91.28 29[i] *e*P P 06 10 29.6 -0.2
NIE Niedzica 91.40 39 *e*P P 06 10 32.4 +1.7
MORH Mrgy, Hungar 91.46 42 P P 06 10 31.5 +0.6
PSZ Piszkesteto 91.68 40 IAMs_20 IAMs_20 06 48 46.5
comp=Z,2µm,20.0s
CRVS Cervenica-Dubn 92.30 39 *e*P P 06 10 34.3 -0.5
CRVS pmax pmax
comp=Z,15nm,1.3s
CRVS Cervenica-Dubn 92.30 39 *e*P P 06 10 34.3 -0.5
CRVS *e*L L 06 49 14.3
SEY Seymchan 92.30 337 P P 06 10 35.1 +0.6
comp=Z,2.4nm,0.2s,baz=25,slow=22,SNR=1.5
SEY LR LR 06 55 25.1
comp=Z,2µm,21.2s,baz=81,slow=38
comp=Z,2.4nm,0.2s
SEY Seymchan 92.30 337[i] *e*P P 06 10 37.6 +3.2
SEY pmax pmax
comp=Z,14nm,1.6s
TIP Timpagrande 92.40 49 IAmb IAmb 06 10 39.1
comp=Z,11nm,0.9s
TIXI Tiksi 92.83 349 LR LR 06 54 39.5
comp=Z,2µm,21.9s,baz=1.0,slow=37
TIXI Tiksi 92.83 349 IAMs_20 IAMs_20 06 59 37.3
comp=Z,3µm,20.0s
TIXI Tiksi 92.83 349[i] *e*P P 06 10 37.5 +0.8
TIXI pmax pmax
comp=Z,5.0nm,0.9s
UZH Uzhgorod 92.91 39 *e*P P 06 10 40.5 +2.9
UZH *e* 06 14 20.8
UZH *e*PPP PPP 06 16 20.0
UZH *i* S **S 06 21 44.3 +0.2**
UZH *e*PS **PS 06 22 54.0 -2.1**
PDG Podgorica 93.14 45 IAMs_20 IAMs_20 06 51 38.8
comp=Z,2µm,19.0s
MNK Minsk 93.63 32 *i* P P 06 10 41.4 +0.7
MNK *i* 06 14 26.0
MNK *i* PPP PPP 06 16 26.4
MNK *i* S **SKSac 06 21 15.6 -0.4**
MNK *i* SS **SS 06 28 09.7 +2.8**
MNK *i* SSS SSS 06 31 51.2
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK MLR MLR
comp=Z,1µm,16.0s
MNK Minsk 93.63 32 *i* P P 06 10 41.4 +0.7
comp=E,3.0nm,1.0s
MNK *i* P P 06 10 41.4 +0.7
MNK *i* P P 06 10 41.4 +0.7
comp=Z,10.0nm,0.9s,baz=297
MNK *i* PP **PP 06 14 26.1 +1.0**
MNK *i* PPP PPP 06 16 26.4
MNK *i* S **SKSac 06 21 15.7 -0.4**
MNK *i* SS **SS 06 28 09.8 +2.8**
MNK *i* SSS SSS 06 31 51.3
MNK *i* LQ LQ 06 46 59.8
MNK *i* LR LR 06 49 49.9
MNK *i* LRM MLR 06 52 43.6
comp=Z,1µm,16.0s
MA2 Magadan 94.82 335 IAMs_20 IAMs_20 06 56 04.5
comp=Z,2µm,21.0s
PETK Petropavlovsk- 94.86 327 P P 06 10 45.8 -0.7
comp=Z,1.4nm,0.8s,baz=46,slow=6.7,SNR=2.0
PETK LR LR 06 56 24.6
comp=Z,605nm,20.2s,baz=58,slow=37
comp=Z,1.4nm,0.8s
KLMR Klimovskoe 95.52 23 *e*P P 06 10 47.0 -2.2
KLMR *e* 06 14 40.0
KLMR S **SKSac 06 21 22.8 -3.2**
KLMR pmax pmax
comp=Z,20nm,1.5s
KLMR MLR MLR
comp=Z,1µm,17.0s
KLMR Klimovskoe 95.52 23 *e*P P 06 10 47.1 -2.2
KLMR *e*P P 06 10 47.1 -2.2
KLMR *e*P P 06 10 47.1 -2.2
KLMR AMP 06 10 53.6
comp=Z,20nm,1.5s
KLMR *e*PP **PP 06 14 40.0 +0.5**
KLMR S **SKSac 06 21 22.9 -3.1**
KLMR S **SKSac 06 21 22.9 -3.1**
KLMR LQ LQ 06 33 05.1
KLMR LQ LQ 06 33 05.1
KLMR LR LR 06 35 59.5
KLMR AMP 06 52 39.7
comp=Z,1µm,16.6s
AKASG Malin Array Be 96.11 35 P P 06 10 49.3 -2.9
comp=Z,0.2nm,0.4s,baz=299,slow=3.9,SNR=2.5
AKASG PKKPbc **PKKPbc 06 27 39.3 -1.5**
comp=Z,0.1nm,0.3s,baz=95,slow=2.2,SNR=4.1
AKASG LR LR 06 51 54.4
comp=Z,2µm,20.4s,baz=284,slow=34
comp=Z,0.2nm,0.4s
AKASG Malin Array Be 96.11 35 *i* P P 06 10 54.5 +2.3
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 96.11 35[ij] *e*P P 06 10 52.7 +0.5
AKBB pmax pmax
comp=Z,6.0nm,1.4s
MLR Muntele Rosu 96.46 41 P P 06 10 52.5 -1.6
comp=Z,2.0nm,0.6s,baz=33,slow=5.6,SNR=4.9
MLR LR LR 06 53 07.9
comp=Z,2µm,19.1s,baz=299,slow=35
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 96.46 41 IAmb IAmb 06 10 58.8
comp=Z,14nm,1.3s
MLR IAMs_20 IAMs_20 06 52 46.9
comp=Z,2µm,20.0s
RAO Raoul Island 97.04 242 LR LR 06 46 01.1
comp=Z,1µm,19.9s,baz=104,slow=30
PRGR Permogore 97.26 21 *e*P P 06 10 55.2 -1.9
PRGR pmax pmax
comp=Z,53nm,1.4s
OBN Obninsk 97.64 29 LR LR 06 52 37.9
comp=Z,411nm,20.8s,baz=302,slow=34
OBN Obninsk 97.64 29 IAMs_20 IAMs_20 06 56 36.2
comp=Z,2µm,18.0s
NRIK Noril'sk 98.36 2 LR LR 06 57 48.3
comp=Z,2µm,19.4s,baz=9.0,slow=37

MSVF Nonsavu 98.66 254 LR LR 06 46 44.7
comp=Z,2µm,20.2s,baz=78,slow=30
MSVF Nonsavu 98.66 254 IAMs_20 IAMs_20 06 46 35.2
comp=Z,2µm,20.0s
SNAA Sanae 99.74 161 IAMs_20 IAMs_20 06 54 56.0
comp=Z,1µm,20.0s
SNAA Sanae 99.74 161⇑*eP* **Pdif 06 11 10.5 +2.5**
SNAA pmax pmax
comp=Z,5.0nm,1.6s
IDI Anoyia 99.83 51 LR LR 06 52 06.1
comp=Z,794nm,21.4s,baz=308,slow=33
YAK Yakutsk 100.53 343 IAMs_20 IAMs_20 07 04 30.9
comp=Z,2µm,19.0s
KARP Karpathos 101.43 50 IAMs_20 IAMs_20 06 56 14.4
comp=Z,1µm,20.0s
QSPA South Pole Qui 102.37 180 IAMs_20 IAMs_20 06 52 46.4
comp=Z,1µm,19.0s
URZ Urewera 102.42 233 IAMs_20 IAMs_20 06 50 38.0
comp=Z,2µm,18.0s
ISP Isparta 102.89 46 IAMs_20 IAMs_20 06 59 56.2
comp=Z,1µm,19.0s
ANTO Ankara 103.50 44 IAMs_20 IAMs_20 07 02 16.6
comp=Z,1µm,19.0s
ARU Arti 105.57 19 IAMs_20 IAMs_20 06 56 20.4
comp=Z,2µm,22.0s
YSS Yuzh-Sakhalins 106.26 327 IAMs_20 IAMs_20 07 10 01.6
comp=Z,2µm,19.0s
KIV Kislovodsk 107.44 36 IAMs_20 IAMs_20 06 58 14.1
comp=Z,1µm,21.0s
DZM Mont Dzumac 110.07 251 *e*LR LR 06 48 24.7
comp=Z,2µm,23.1s
BRVK Borovoye 111.86 15 IAMs_20 IAMs_20 07 09 04.8
comp=Z,2µm,19.0s
HIA Hailar 114.33 341 IAMs_20 IAMs_20 07 09 29.8
comp=Z,2µm,21.0s
MDJ Mudanjiang 114.41 332 IAMs_20 IAMs_20 07 12 20.9
comp=Z,1µm,20.0s
HNR Honiara 114.68 265 IAMs_20 IAMs_20 06 56 56.8
comp=Z,1µm,20.0s
BOSA Boshof 114.98 116 PKP PKPdf 06 16 04.2 -2.1
comp=Z,2.8nm,0.9s,baz=46,slow=22,SNR=2.0
MAJO Matsushiro 115.54 321 IAMs_20 IAMs_20 07 01 36.2
comp=Z,1µm,22.0s
KURBB Kurchatov Arra 115.92 10 PKP **PKiKP 06 16 06.1 -1.2**
comp=Z,0.4nm,0.6s,baz=348,slow=1.9,SNR=2.4
KURBB PP **PP 06 17 10.7 +0.8**
comp=Z,0.9nm,0.8s,baz=346,slow=6.2,SNR=5.4
INU Inuyama 117.05 321 IAMs_20 IAMs_20 07 17 04.0
comp=Z,1µm,21.0s
KNGR Kungurtug, Tuv 117.16 357⇓*i*PKIKP **PKPdf 06 16 07.9 -2.0**
SONM Songino Array 118.92 350 PP **PP 06 17 31.5 +0.5**
comp=Z,3.7nm,1.0s,baz=6.2,slow=6.3,SNR=7.3
GEYT Alibeck 120.03 32 PKP **PKPdf 06 16 14.1 -1.6**
comp=Z,2.2nm,0.5s,baz=305,slow=5.1,SNR=3.2
MAKZ Makanchi 120.19 9 IAMs_20 IAMs_20 07 08 39.7
comp=Z,2µm,22.0s
MKAR Makanchi Array 120.25 9 PKP PKPdf 06 16 14.2 -1.7
comp=Z,0.2nm,0.4s,baz=31,slow=5.6,SNR=2.2
MKAR PP **PP 06 17 38.8 -1.2**
comp=Z,0.9nm,0.7s,baz=51,slow=4.8,SNR=4.3
XLT XiLinHaoTe 120.26 341⇑*i*PKP **PKiKP 06 16 17.1 +1.0**
XLT PP **PP 06 17 46.9 +6.6**
XLT SKS **SKSdf 06 23 30.3 +1.2**
XLT AMB AMB
comp=Z,130nm,6.0s
XLT LR LR
comp=Z,1µm,20.4s
XLT LR LR
comp=Z,2µm,19.4s
KSRS Korea Array 120.72 328 PKP **PKPdf 06 16 15.8 -1.1**
comp=Z,1.4nm,0.7s,baz=17,slow=1.8,SNR=11
MAW Mawson 121.32 167 PKP **PKPdf 06 16 14.2 -2.9**
comp=Z,1.4nm,0.8s,baz=268,slow=6.7,SNR=1.9
INCN Inchon 121.35 329 IAMs_20 IAMs_20 07 20 12.3
comp=Z,1µm,18.0s
FURI Furi 121.71 71 IAMs_20 IAMs_20 07 08 11.7
comp=Z,2µm,21.0s
AAK Ala-Archa 122.56 16 PP **PP 06 17 56.3 +0.2**
comp=Z,0.9nm,0.3s,baz=328,slow=6.8,SNR=4.7
KMBO Kilima Mbogo 123.31 83 IAMs_20 IAMs_20 07 08 19.9
comp=Z,2µm,20.0s
BJT Baijiatuau 123.70 339 IAMs_20 IAMs_20 07 16 39.0
comp=Z,1µm,20.0s
WMQ Urumqi 123.81 5 *e*PKP **PKiKP 06 16 23.5 +0.4**
WMQ LR LR
comp=Z,2µm,23.9s
WMQ LR LR
comp=Z,1µm,21.3s
WMQ LR LR
comp=Z,2µm,23.9s
ATD Arta Tunnel 124.52 67 IAMs_20 IAMs_20 07 08 52.8
comp=Z,1µm,20.0s
KSH Kashi 125.87 17 PKP **PKPdf 06 16 25.8 -1.2**
KSH PP PP 06 18 26.9 +8.6
KSH LR LR
comp=Z,2µm,22.5s
KSH LR LR
comp=Z,1µm,22.5s
KSH LR LR
comp=Z,3µm,22.9s
HNS HongShan 126.55 339 *e*PKP **PKiKP 06 16 30.6 +2.0**
HNS *e*PP **PP 06 18 28.5 +5.8**
HNS LR LR
comp=Z,560nm,21.9s
HNS LR LR
comp=Z,1µm,20.5s
HNS LR LR
comp=Z,1µm,19.6s
PMG Port Moresby 127.14 268 IAMs_20 IAMs_20 07 04 38.1
comp=Z,1µm,20.0s
UOSS Minazif 128.13 44 IAMs_20 IAMs_20 07 14 52.9
comp=Z,1µm,21.0s
CTAO Charters Tower 128.80 254 IAMs_20 IAMs_20 07 02 28.9
comp=Z,1µm,19.0s
NJ2 Nanjing 129.50 332 *e*PKP **PKPdf 06 16 32.3 -1.6**
NIL Nilore 130.37 22 IAMs_20 IAMs_20 07 16 28.9
comp=Z,1µm,22.0s
LZH Lanzhou 130.76 349 *e*PKP **PKPdf 06 16 33.8 -2.7**
LZH AMB AMB
comp=Z,250nm,9.5s
LZH LR LR
comp=Z,2µm,18.9s
LZH LR LR
comp=Z,1µm,19.2s
LZH LR LR
comp=Z,2µm,17.5s
STKA Stephens Creek 131.73 238 PKP **PKPdf 06 16 37.0 -1.1**
comp=Z,4.9nm,0.6s,baz=91,slow=3.4,SNR=11
STKA Stephens Creek 131.73 238 PKPdf **PKPdf 06 16 37.3 -0.9**
STKA Stephens Creek 131.73 238⇑*e*PKIKP **PKPdf 06 16 37.2 -0.9**
SOCY Socotra 133.94 59 IAMs_20 IAMs_20 07 11 24.0
comp=Z,2µm,22.0s
ENH Enshi 134.81 340 IAMs_20 IAMs_20 07 25 52.0
comp=Z,1µm,21.0s
CD2 Chengdu 135.79 347 PKP **PKPdf 06 16 43.9 -2.0**
CD2 AMB AMB
comp=Z,120nm,5.2s
CD2 LR LR
comp=Z,1µm,21.2s
CD2 LR LR
comp=Z,1µm,19.4s
CD2 LR LR
comp=Z,1µm,22.4s
LSA Lhasa 138.09 3 IAMs_20 IAMs_20 07 20 08.5
comp=Z,1µm,22.0s
HKPS Hong Kong Po S 139.95 329 IAMs_20 IAMs_20 07 29 01.5
comp=Z,1µm,20.0s
ASAR Alice Springs 139.97 248 PKhKP PKPpre 06 16 45.8
comp=Z,1.7nm,0.6s,baz=95,slow=2.6,SNR=12
ASAR PKP **PKPdf 06 16 52.1 -1.6**
comp=Z,14nm,0.8s,baz=100,slow=1.8,SNR=20
ASAR SKPbc **SKPbc 06 20 30.4 -0.2**
comp=Z,3.3nm,0.9s,baz=111,slow=2.8,SNR=7.4
WRAB Tennant Creek 139.99 254 PKPdf 06 16 53.2 -0.6
WRAB Tennant Creek 139.99 254 PKIKP **PKPdf 06 16 53.2 -0.6**
WRA Warramunga Arr 140.00 254 PKhKP PKPpre 06 16 43.9
comp=Z,1.8nm,0.6s,baz=311,slow=1.4,SNR=21
WRA PKP **PKPdf 06 16 52.9 -0.9**
comp=Z,18nm,0.8s,baz=91,slow=2.5,SNR=32
WRA SKPbc **SKPbc 06 20 28.9 -1.8**
comp=Z,1.8nm,0.9s,baz=94,slow=2.7,SNR=4.8
FAKI Fak Fak 140.36 281 IAMs_20 IAMs_20 07 08 14.9
comp=Z,1µm,22.0s
PZH PanZhiHua 140.47 348 PKP **PKPdf 06 16 54.1 -0.6**
PZH PP PP 06 20 01.3 +10
PZH SKKS 06 26 42.1
PZH AMB AMB
comp=Z,110nm,6.1s
PZH LR LR
comp=Z,2µm,18.5s
PZH LR LR
comp=Z,3µm,17.6s
PZH LR LR
comp=Z,3µm,18.1s
FORT Forrest 143.11 235 PKPdf PKPbc 06 16 57.0 +1.1
QIZ Qiongzhong 144.79 332 IAMs_20 IAMs_20 07 36 05.2
comp=Z,786nm,20.0s
QIZ Qiongzhong 144.79 332 PKP **PKPab 06 17 01.0 -0.1**
QIZ SS SS 06 39 11.8 +5.2
QIZ LR LR
comp=Z,580nm,26.3s
QIZ LR LR
comp=Z,770nm,19.1s
QIZ LR LR
comp=Z,820nm,22.3s
HYBB Hyderabad (bro 146.96 27 *e*PKPab **PKPbc 06 17 07.6 -0.4**
FITZ Fitzroy Crossi 148.36 256 PKPbc 06 17 10.4 -1.4
CMAR Chiang Mai Arr 148.84 350 PKPbc **PKPdf 06 17 08.9 -0.3**
comp=Z,0.8nm,0.3s,baz=41,slow=23,SNR=2.1
CMAR PKPab **sPKPdf 06 17 14.1 +2.7**
comp=Z,5.5nm,0.9s,baz=339,slow=3.8,SNR=11
CMAR Chiang Mai Arr 148.84 350 PKPdf 06 17 08.3 -0.9
CMAR Chiang Mai Arr 148.84 350 PKIKP **PKPdf 06 17 08.3 -0.9**
SOEI Soe 149.55 272 IAMs_20 IAMs_20 07 23 54.8
comp=Z,746nm,19.0s
NWAO Narrogin (SRO) 150.08 223 PKPbc 06 17 14.7 -1.0
NWAO Narrogin (SRO) 150.08 223 PKIKP **PKPbc 06 17 14.7 -1.0**
KKM Kota Kinabalu 150.80 308 IAMs_20 IAMs_20 07 14 31.2
comp=Z,731nm,20.0s
MMRI Maumere 151.35 275 IAMs_20 IAMs_20 07 31 53.6
comp=Z,540nm,19.0s
PCHI Peechi 151.64 37 *eP* **PKPbc 06 17 20.1 +0.2**
PCHI *ex* x 06 31 11.3
SBUM Sibu 156.14 307 IAMs_20 IAMs_20 07 41 38.9
comp=Z,845nm,21.0s
JAGI Jajag, Banyuwa 159.17 279 IAMs_20 IAMs_20 07 45 42.5
comp=Z,790nm,20.0s

INET ***15*** *06:02:26.8±1.2, 12°.47N×86°.65W, h2km±5km, MW4.7*
UCR ***15*** *06:02:28.2±1.8, 12°.58N×86°.83W, h30km, mb4.6(NEIC)*
NEIC ***15*** *06:02:29.6±1.9, 12°.47N±0°.05×86°.55W±0°.04, h10km±1km, mb4.6/31, Error ellipse: s-maj=9.5km s-min=6.7km az=195.0*
IDC ***15*** *06:02:33.4±5.1, 12°.44N×86°.52W, h44km±49km, mb3.9/11, mbtmp4.2/12, ML3.3/1, Error ellipse: s-maj=34.4km s-min=25.6km az=66.0*
GCG ***15*** *06:03:21.9±0.6, 14°.20N×89°.80W, h57km±25km, MD4.4*
ISC 15 06:02:27.5±1.2, 12°.46N±0°.03×86°.62W±0°.03, h2km±8km, n106, σ1§26/113, mb4.6/26, 2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.09**	**300**	*eP*	**Pg**	**06 02 28.2**	**-1.1**
MOMN	**Momotombo**	**0.09**	**121**	*eP*	**Pg**	**06 02 30.2**	**+0.8**
MOMN				*eS*	**Sg**	**06 02 32.6**	**+2.0**
TEL3	**Telica 3**	**0.25**	**298**	*eP*	**Pg**	**06 02 31.1**	**-1.3**
TELN	**Telica**	**0.25**	**306**	*eP*	**Pg**	**06 02 32.7**	**+0.2**
COPN	**Copaltepe**	**0.28**	**174**	*eP*	**Pg**	**06 02 32.5**	**-0.3**
BRAN	**Las Pilas**	**0.37**	**45**	*eP*	**Pb**	**06 02 36.4**	**-0.6**
MGAN	**Managua**	**0.48**	**130**	*eP*	**Pg**	**06 02 37.7**	**+1.0**
MGAN				*eP*	**Pb**	**06 02 38.0**	**-0.7**
CRIN	**San Cristobal**	**0.48**	**300**	Pg	**Pg**	**06 02 37.2**	**+0.4**
CRIN	**San Cristobal**	**0.48**	**300**	*eP*	**Pg**	**06 02 36.6**	**-0.3**
MASN	**Masaya**	**0.65**	**135**	*eP*	**Pg**	**06 02 40.4**	**+0.3**
MATN	**Matagalpa**	**0.83**	**55**	Pg	**Pb**	**06 02 43.6**	**-1.1**
MATN				Sg	**Sb**	**06 02 55.3**	**-1.1**
MATN	**Matagalpa**	**0.83**	**55**	*eP*	**Pg**	**06 02 43.2**	**-0.3**
BOAB	**BOACO BROADBAN**	**0.93**	**90**		**Pg**	**06 02 45.1**	**-0.3**
BOAB				Sg	**Sb**	**06 02 58.7**	**-0.6**
BOAB	**BOACO BROADBAN**	**0.93**	**90**	*eP*	**Pg**	**06 02 45.1**	**-0.3**
ACON	**Acoyapa**	**1.50**	**109**	Pn	**Pn**	**06 02 53.9**	**-1.5**
ACON				Sn	**Sg**	**06 03 15.2**	**-0.5**
ACON	**Acoyapa**	**1.50**	**109**	*eP*	**Pn**	**06 02 53.6**	**-1.8**
TGUH	**Tegucigalpa,Un**	**1.71**	**338**	Pn	**Pn**	**06 02 58.4**	**-0.2**
HZTE	**Horizontes, Gu**	**2.00**	**150**	Pn	**Pn**	**06 03 02.1**	**-0.3**
BUAI	**Buenos Aires**	**2.01**	**141**	*eP*	**Pb**	**06 03 04.9**	**0.0**
GBS3	**Finca Las Img**	**2.02**	**145**	*eP*	**Pn**	**06 03 02.4**	**-0.3**
GB1A	**Borinquen Arri**	**2.02**	**144**	*eP*	**Pn**	**06 03 02.7**	**-0.1**
BUEV	**Buena Vista**	**2.03**	**144**⇓	*eP*	**Pn**	**06 03 02.5**	**-0.4**
LAPC	**Finca la Perla**	**2.04**	**145**	*eP*	**Pn**	**06 03 02.7**	**-0.3**
GPS1	**Guardaparques**	**2.08**	**143**	*eP*	**Pn**	**06 03 03.8**	**+0.2**
GPS3	**Bodega del ICE**	**2.09**	**144**	*eP*	**Pn**	**06 03 03.5**	**-0.2**
GPS2	**Hotel Rincn d**	**2.10**	**144**	*eP*	**Pn**	**06 03 04.0**	**+0.2**
LIM1	**Limonal**	**2.20**	**142**	*eP*	**Pn**	**06 03 05.6**	**+0.4**
GUAB	**Guayabo de Bag**	**2.21**	**142**	*eP*	**Pn**	**06 03 05.8**	**+0.5**
HORNC	**Hornillas**	**2.24**	**141**	*eP*	**Pn**	**06 03 06.7**	**+1.0**
HORNC				*eS*	**Sn**	**06 03 35.2**	**+1.2**
COLC	**Colonia**	**2.26**	**142**	*eP*	**Pn**	**06 03 05.8**	**-0.1**
CUI	**Cuipilapa**	**2.29**	**141**	*eP*	**Pn**	**06 03 06.7**	**+0.2**
VERA	**Finca Concepci**	**2.34**	**133**⇓	*eP*	**Pg**	**06 03 12.8**	**+0.3**
PTEN	**Parque Tenorio**	**2.36**	**137**	*eP*	**Pb**	**06 03 09.7**	**-1.1**
ORTG	**Ortega, Santa**	**2.37**	**151**	Pn	**Pn**	**06 03 08.2**	**+0.6**
ACAL	**Aguas Claras**	**2.39**	**139**	*eP*	**Pn**	**06 03 08.6**	**+0.8**
SAJU	**San Juanillo,**	**2.54**	**159**	*eP*	**Pn**	**06 03 07.3**	**-2.5**
SAJU				*eP*	**Pb**	**06 03 10.1**	**-3.8**
NICO	**Nicoya**	**2.58**	**153**	*eP*	**Pn**	**06 03 11.5**	**+1.1**
DUNO	**Dulce Nombre,**	**2.61**	**155**	Pn	**Pn**	**06 03 11.4**	**+0.6**
JTS	**Las Juntas de**	**2.70**	**143**	Pn	**Pn**	**06 03 12.9**	**+0.8**
COVE	**Coope Vega, Sa**	**2.78**	**128**	Pn	**Pn**	**06 03 13.9**	**+0.8**
SNET	**Serv Nac Est T**	**2.82**	**296**	Pn	**Pn**	**06 03 14.1**	**+0.3**
ESQI	**Esquipulas**	**3.37**	**309**	Pn	**Pn**	**06 03 23.4**	**+2.0**
HDC	**Heredia**	**3.46**	**135**	Pn	**Pn**	**06 03 22.0**	**-0.7**
RIMA	**Rio Macho**	**3.80**	**134**	Pn	**Pn**	**06 03 29.3**	**+1.9**
BATAN	**Batan**	**3.95**	**126**	Pn	**Pn**	**06 03 29.1**	**-0.2**
MRL	**Marmol**	**3.96**	**312**	*eP*	**Pb**	**06 03 39.1**	**+0.8**
NBG	**Las Nubes**	**4.20**	**301**	*eP*	**Pb**	**06 03 38.0**	**-4.3**
PEZE	**Perez Zeledon,**	**4.21**	**136**	Pn	**Pn**	**06 03 35.2**	**+2.3**
PCG	**Pacaya**	**4.33**	**297**	*eP*	**Pn**	**06 03 38.4**	**+3.7**
SRBA	**San Rafael, Bu**	**4.53**	**135**	Pn	**Pn**	**06 03 38.7**	**+1.3**
FUG	**Fuego 3**	**4.56**	**296**	*eP*	**Pn**	**06 03 40.4**	**+2.6**
BRU2	**Volcan**	**5.31**	**133**	Pn	**Pn**	**06 03 46.4**	**-1.7**
STG3	**Santiaguito 3,**	**5.31**	**296**	*eP*	**Pn**	**06 03 51.3**	**+3.2**
RTAL	**Retalhuleu**	**5.35**	**293**	Pn	**Pn**	**06 03 50.5**	**+2.0**
PETF	**Flores**	**5.43**	**325**	Pn	**Pn**	**06 03 50.6**	**+1.0**
HUEH	**Huehuetenango**	**5.53**	**302**	Pn	**Pn**	**06 03 51.8**	**+0.6**
CMIG	**Matias Romero**	**9.22**	**301**	P	**Pn**	**06 04 45.1**	**+3.4**
	0.3nm,0.3s,baz=100,slow=11,SNR=1.4						
CMIG				S	**Sn**	**06 06 29.7**	**+3.5**
	5.3nm,0.9s,baz=58,slow=4.7,SNR=1.1						
	25nm,1.1s						
HKT	**Hockley**	**19.39**	**335**		**Pn**	**06 06 55.6**	**-0.3**
HKT				IAmb	IAmb	06 07 00.7	
	comp=Z,32nm,1.3s						
NATX	**Nacogdoches**	**20.59**	**340**	P	**P**	**06 07 08.8**	**+0.9**
NATX				IAmb	IAmb	06 07 11.3	
	comp=Z,51nm,0.9s						
Y45A	**Yeager Farm, C**	**21.48**	**353**	P	**P**	**06 07 18.1**	**+0.6**
SWET	**Sewanee**	**22.67**	**1**	P	**P**	**06 07 31.2**	**+0.9**
SWET				IAmb	IAmb	06 07 32.6	
	comp=Z,22nm,0.9s						
MIAR	**Mount Ida**	**22.88**	**345**	P	**P**	**06 07 33.2**	**+0.6**
MIAR				IAmb	IAmb	06 07 35.8	
	comp=Z,18nm,1.1s						
TXAR	**Lajitas Array**	**23.09**	**319**	P	**P**	**06 07 36.3**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=134,slow=13,SNR=3.6						
	comp=Z,2.4nm,0.8s						
TXAR	**Lajitas Array**	**23.09**	**319**	P	**P**	**06 07 36.1**	**+1.2**
V48A	**Smith Brothers**	**23.18**	**360**	P	**P**	**06 07 36.3**	**+0.6**
V48A				IAmb	IAmb	06 07 38.4	
	comp=Z,27nm,1.2s						
TKL	**Tuckaleechee C**	**23.24**	**6**	P	**P**	**06 07 36.9**	**+0.6**
	comp=Z,22nm,1.1s,baz=174,slow=10,SNR=4.6						
	comp=Z,22nm,1.1s						
X37A	**Clayton**	**23.43**	**342**	P	**P**	**06 07 37.6**	**-0.5**
X37A				IAmb	IAmb	06 07 41.8	
	comp=Z,29nm,1.2s						
HALT	**Halls**	**23.48**	**354**	P	**P**	**06 07 39.5**	**+0.9**
U49A	**Red Boiling Sp**	**23.97**	**2**	P	**P**	**06 07 43.8**	**+0.4**
U49A				IAmb	IAmb	06 07 47.7	
	comp=Z,14nm,0.8s						
T47A	**Sharon Grove**	**24.43**	**359**	P	**P**	**06 07 47.4**	**-0.3**
PBMO	**Poplar Bluff**	**24.46**	**353**	P	**P**	**06 07 45.0**	**-3.0**
T45A	**Paducah**	**24.53**	**356**	P	**P**	**06 07 49.3**	**+0.8**
SVB	**Belmont**	**24.74**	**85**	*e*	**P**	**06 07 42.8**	**-8.0**
TUL1	**Leonard**	**24.78**	**342**	P	**P**	**06 07 50.1**	**-0.7**
TUL1				IAmb	IAmb	06 07 53.5	
	comp=Z,14nm,0.7s						
WMOK	**Wichita Mounta**	**24.78**	**336**	P	**P**	**06 07 51.3**	**+0.3**
WMOK				IAmb	IAmb	06 07 54.7	
	comp=Z,14nm,0.9s						
OK030	**Cody Creek RV**	**25.11**	**340**	P	**P**	**06 07 54.2**	**+0.4**
OK030				IAmb	IAmb	06 07 55.5	
	comp=Z,18nm,1.0s						
OK046	**Pawnee Station**	**25.57**	**341**	P	**P**	**06 07 57.5**	**-0.6**
CCM	**Cathedral Cave**	**25.83**	**352**	P	**P**	**06 07 59.9**	**-0.5**
CCM				IAmb	IAmb	06 08 02.3	
	comp=Z,12nm,0.9s						
BBGH	**Gun Hill**	**26.39**	**86**	*e*	**P**	**06 08 05.9**	**+0.1**
BBSP	**Saint Philip**	**26.49**	**86**	*e*	**P**	**06 08 06.9**	**+0.3**
N49A	**Columbus Grove**	**28.44**	**4**	P	**P**	**06 08 22.6**	**-1.2**
N49A				IAmb	IAmb	06 08 26.8	
	comp=Z,22nm,1.0s						
ETMB	**Extrema**	**30.01**	**137**	P	**P**	**06 08 37.2**	**-0.8**
ETMB				IAmb	IAmb	06 08 38.5	
	comp=Z,5.8nm,0.8s						
PDAR	**Pinedale Array**	**36.16**	**331**	P	**P**	**06 09 31.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=128,slow=8.5,SNR=4.0						
	comp=Z,1.1nm,0.7s						
HWUT	**Hardware Ranch**	**36.30**	**328**	P	**P**	**06 09 33.1**	**+0.3**
HVU	**Hansel Valley**	**37.06**	**327**	P	**P**	**06 09 39.9**	**+0.6**
REDW	**Red Top Meadow**	**37.23**	**330**	P	**P**	**06 09 40.9**	**+0.1**
REDW				IAmb	IAmb	06 09 45.6	
	comp=Z,18nm,1.2s						
SNOW	**Snow King Moun**	**37.26**	**331**	P	**P**	**06 09 41.2**	**+0.1**
SNOW				IAmb	IAmb	06 09 42.8	
	comp=Z,8.5nm,0.8s						
LOHW	**Long Hollow**	**37.30**	**331**	P	**P**	**06 09 41.2**	**-0.1**
TPAW	**Teton Pass**	**37.37**	**330**	P	**P**	**06 09 42.3**	**+0.2**
TPAW				IAmb	IAmb	06 09 51.1	
	comp=Z,8.4nm,1.0s						
MOOW	**Moose Ponds**	**37.47**	**331**	P	**P**	**06 09 42.3**	**-0.5**
NVAR	**Mina Array Bea**	**38.23**	**318**	P	**P**	**06 09 50.6**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=134,slow=7.7,SNR=5.0						
	comp=Z,0.7nm,0.7s						
ULM	**Lac du Bonnet**	**38.44**	**350**	P	**P**	**06 09 51.3**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=160,slow=6.6,SNR=3.0						
	comp=Z,4.2nm,0.9s						
KVN	**Kaiserville**	**38.45**	**319**	P	**P**	**06 09 51.7**	**+0.5**
DGMT	**Dagmar**	**38.77**	**341**	P	**P**	**06 09 52.9**	**-0.6**
DGMT				IAmb	IAmb	06 09 58.2	
	comp=Z,18nm,0.8s						
MCMT	**McKenzie Canyo**	**39.28**	**330**	P	**P**	**06 09 58.8**	**+0.7**
LRM	**Limekiln Ridge**	**39.83**	**332**	P	**P**	**06 10 02.9**	**+0.3**
SCHQ	**Schefferville**	**45.05**	**16**	P	**P**	**06 10 44.6**	**-0.1**
	comp=Z,6.9nm,0.8s,baz=204,slow=10.0,SNR=3.7						
	comp=Z,6.9nm,0.8s						
PLCA	**Paso Flores**	**54.97**	**165**	P	**P**	**06 11 59.7**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=320,slow=7.9,SNR=2.8						
	comp=Z,2.9nm,1.0s						
ILAR	**Eielson Array**	**66.34**	**336**	P	**P**	**06 13 17.6**	**0.0**
	comp=Z,3.5nm,1.2s,baz=154,slow=5.7,SNR=5.9						
	comp=Z,3.5nm,1.2s						
SUMG	**Summit**	**66.38**	**14**	P	**P**	**06 13 17.8**	**-0.4**
ESDC	**Sonseca Array**	**76.55**	**52**	P	**P**	**06 14 19.4**	**-0.3**
	comp=Z,4.3nm,1.1s,baz=290,slow=6.1,SNR=4.6						
	comp=Z,4.3nm,1.1s						
NB2	**NORSAR Subarra**	**82.97**	**29**	P	**P**	**06 14 53.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=281,slow=5.1						
NOA	**NORSAR Array B**	**82.97**	**29**	P	**P**	**06 14 53.1**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=279,slow=5.1,SNR=4.4						
	comp=Z,1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**85.62**	**78**	P	**P**	**06 15 07.6**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=274,slow=7.1,SNR=2.7						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**140.02**	**248**	PKP	**PKPdf**	**06 21 58.6**	**0.0**
	comp=Z,0.9nm,0.8s,baz=96,slow=1.6,SNR=3.8						
WRA	**Warramunga Arr**	**140.05**	**254**	PKP	**PKPdf**	**06 21 58.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=90,slow=2.6,SNR=6.7						

IDC 15 06:16:21.6±3.7, 53°.37N×91°.30E, h0km, mbtmp3.1/3, ML2.9/2, 2D, Error ellipse: s-maj=33.3km s-min=27.1km az=100.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.90**	**281**	*i*		06 42 07.4	
	baz=89,slow=322,SNR=1.0						
ZALV	**Zalesovo Beam**	**3.90**	**281**	Pn	Pn	06 17 23.6	+0.9
	1.9nm,0.3s,baz=101,slow=14,SNR=1.0						
ZALV				Sn	Sn	06 18 11.8	+2.6
	0.4nm,0.3s,baz=92,slow=17,SNR=2.0						
ZALV				Lg	Lg	06 18 18.7	
	1.5nm,0.3s,baz=91,slow=28,SNR=12						
KURK	**Kurchatov**	**8.26**	**256**	⇓Sn	Sg	06 20 41.1	-5.4
	25nm,1.1s						
KURBB	**Kurchatov Arra**	**8.35**	**256**	Pn	Pn	06 18 23.9	+0.1
	0.1nm,0.3s,baz=66,slow=15,SNR=8.8						
KURBB				Sn	Sn	06 19 55.2	-3.4
	baz=71,slow=20,SNR=1.4						
KURBB				Lg	Lg	06 20 47.5	
	baz=68,slow=33,SNR=6.3						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**8.35**	**256**	⇓Sn	Sg	06 20 42.7	-6.7
	20nm,0.8s						
MKAR	**Makanchi Array**	**8.76**	**225**	Pn	Pn	06 18 29.7	+0.2
	0.2nm,0.3s,baz=36,slow=7.4,SNR=1.4						
MKAR				Sn	Sn	06 20 08.4	-0.5
	0.1nm,0.3s,baz=36,slow=13,SNR=1.5						
MKAR				Lg	Lg	06 20 60.0	
	baz=43,slow=26,SNR=2.8						
	0.6nm,0.7s						
SONM	**Songino Array**	**11.07**	**114**	Lg	Lg	06 22 19.3	
	baz=299,slow=30						

IDC ***15*** *06:33:28.1±4.5, 28°.00S×176°.47W, h65km±40km, mb3.4/5, mbtmp3.7/5, Error ellipse: s-maj=45.2km s-min=29.3km az=167.0*
ISC 15 06:33:24.7±0.8, 27°.9S±0°.2×176°.3W±0°.2, h37km, n16, σ0§97/17, mb3.6/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.94**	**227**	P	**Pn**	**06 33 55.9**	**+0.8**
	146nm,0.3s,baz=103,slow=22,SNR=3.1						
RAO				S	**Sn**	**06 34 19.0**	**+0.8**
	677nm,0.5s,baz=44,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**44.80**	**264**	P	**P**	**06 41 34.5**	**-0.7**
	0.6nm,0.7s,baz=96,slow=7.0,SNR=9.3						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**45.58**	**269**	P	**P**	**06 41 39.1**	**-2.2**
	0.6nm,0.5s,baz=111,slow=7.4,SNR=12						
	0.6nm,0.5s						
TROLL	**Troll, Antarti**	**80.32**	**180**	P	**P**	**06 45 31.3**	**-0.3**
SNAA	**Sanae**	**80.55**	**178**	P	**P**	**06 45 32.0**	**-0.8**
VNA3	**Neumayer Olymp**	**80.64**	**176**	P	**P**	**06 45 32.2**	**-1.0**
VNA2	**Neumayer--Watz**	**81.09**	**176**	P	**P**	**06 45 35.0**	**-0.6**
	baz=178,slow=1.8						
**VN

OHH	**Osh**	**1.22**	**327**	P		**Pg**	**06 37 41.8**	**+1.1**
OHH				S		**Sn**	**06 37 59.7**	**+0.9**
TSTA	**Tashata**	**1.40**	**321**	P		**Sn**	**06 38 04.9**	**+1.6**
DRK	**Karamyk**	**1.43**	**270**	⇑*i*	P	**Pg**	**06 37 45.0**	**+0.2**
	baz=72							
DRK				⇑*i*	S	**Sg**	**06 38 03.9**	**+0.6**
	baz=72							
FRG	**Fergana**	**1.68**	**302**	P		**Pg**	**06 37 51.1**	**+1.6**
FRG				S		**Sg**	**06 38 13.7**	**+2.4**
BTK	**Batken**	**2.25**	**285**	⇓*e*	P	**Pb**	**06 37 58.7**	**-0.2**
	baz=87							
BTK				⇓*i*	S	**Sb**	**06 38 27.9**	**+0.6**
	baz=87							
BTK	**Batken**	**2.25**	**285**	P		**Pg**	**06 38 00.4**	**-0.1**
BTK				S		**Sg**	**06 38 30.2**	**+0.5**
ARLS	**Aral**	**2.41**	**12**	⇑*i*	P	**Pb**	**06 38 02.4**	**+0.7**
	baz=13							
ARLS				⇑*i*	S	**Sg**	**06 38 34.3**	**-0.6**
	baz=13							
GAR	**Garm**	**2.63**	**260**	⇑*i*	P	**Pb**	**06 38 03.7**	**-1.7**
	baz=61							
GAR				⇑*i*	S	**Sb**	**06 38 36.5**	**-1.8**
	baz=61							
UCH	**Uchtor**	**2.80**	**13**	⇑*i*	P	**Pb**	**06 38 08.2**	**-0.3**
	baz=14							
UCH				⇑*i*	S	**Sb**	**06 38 44.2**	**+0.7**
	baz=14							
MRKS	**Merke**	**3.26**	**355**	*e*	P	**Pb**	**06 38 14.9**	**-1.1**
	6.2nm,0.6s							
MRKS				*e*	S	**Sb**	**06 38 56.2**	**0.0**
	9.3nm,0.2s							
MRKS	**Merke**	**3.26**	**355**	Pg		**Pb**	**06 38 14.9**	**-1.1**
	6.2nm,0.6s							
MRKS				Lg		Lg	06 38 56.2	
	6.0nm,0.6s							
TKM2	**Tokmak 2**	**3.72**	**23**	⇑Pn		**Pb**	**06 38 22.6**	**-1.4**
	2.0nm,0.6s							
TKM2				⇓Lg		Lg	06 39 23.8	
	5.0nm,0.6s							
IUG	**luzhnay**	**3.81**	**315**	*e*	P	**Pb**	**06 38 22.4**	**-3.1**
	58nm,0.1s							
IUG				*e*	S	**Sb**	**06 39 08.6**	**-3.6**
	27nm,0.2s							
IUG	**luzhnay**	**3.81**	**315**	Pg		**Pb**	**06 38 22.4**	**-3.1**
IUG				Lg		Lg	06 39 08.6	
KST	**Kastek**	**3.95**	**25**	*e*	P	**Pg**	**06 38 30.6**	**-2.4**
	3.1nm,0.4s							
KST				*e*	S	**Sg**	**06 39 23.0**	**-1.1**
	8.0nm,0.3s							
KST	**Kastek**	**3.95**	**25**	Pg		**Pg**	**06 38 30.6**	**-2.4**
	3.1nm,0.4s							
KST				Lg		Lg	06 39 23.0	
	5.9nm,0.6s							
DGS	**Degeres**	**4.07**	**22**	*e*	P	**Pg**	**06 38 33.8**	**-1.5**
	4.4nm,0.2s							
DGS				*e*	S	**Sg**	**06 39 28.2**	**+0.2**
	6.0nm,0.4s							
DGS	**Degeres**	**4.07**	**22**	Pg		**Pg**	**06 38 33.8**	**-1.5**
	4.4nm,0.5s							
DGS				Lg		Lg	06 39 28.2	
	5.5nm,0.8s							
IZV	**Izvestkoviy**	**4.18**	**31**	*e*	P	**Pg**	**06 38 37.6**	**+0.1**
	59nm,0.1s							
IZV				*e*	S	**Sg**	**06 39 35.0**	**+3.4**
	5.0nm,0.1s							
IZV	**Izvestkoviy**	**4.18**	**31**	Pg		**Pg**	**06 38 37.6**	**+0.1**
	2.9nm,0.2s							
IZV				Lg		Lg	06 39 35.0	
	5.0nm,0.3s							
KK31	**Karatay Array**	**4.31**	**328**	⇑Pn		**Pn**	**06 38 26.2**	**+2.2**
	0.4nm,0.5s,baz=125,slow=12,SNR=9.3							
KK31				⇑Pg		**Pg**	**06 38 37.9**	**-2.0**
	1.9nm,0.6s,baz=139,slow=16,SNR=5.7							
KK31				⇓Sn		**Sb**	**06 39 22.0**	**-4.4**
	1.7nm,0.4s,baz=157,slow=24,SNR=4.0							
KK31				⇑Lg		Lg	06 39 37.1	
	1.4nm,0.3s,baz=150,slow=26,SNR=3.9							
KRBS	**Karabastau**	**4.46**	**19**	*e*	P	**Pg**	**06 38 42.2**	**-0.6**
	2.7nm,0.2s							
KRBS				*e*	S	**Sg**	**06 39 42.8**	**+2.2**
	4.2nm,0.3s							
KRBS	**Karabastau**	**4.46**	**19**	Pg		**Pg**	**06 38 42.2**	**-0.6**
	2.7nm,0.6s							
KRBS				Lg		Lg	06 39 42.8	
	3.7nm,0.7s							
MDOK	**Medeo**	**4.47**	**34**	*e*	P	**Pg**	**06 38 42.6**	**-0.3**
	2.2nm,0.5s							
MDOK				*e*	S	**Sg**	**06 39 43.4**	**+2.6**
	3.7nm,0.6s							
MDOK	**Medeo**	**4.47**	**34**	Pg		**Pg**	**06 38 42.6**	**-0.3**
	2.2nm,0.5s							
MDOK				Lg		Lg	06 39 43.4	
	3.7nm,0.6s							
KTBS	**Karatobe**	**4.78**	**27**	*e*	P	**Pg**	**06 38 48.0**	**-1.0**
	2.0nm,1.0s							
KTBS				*e*	S	**Sg**	**06 39 52.5**	**+1.5**
	6.9nm,0.6s							
KTBS	**Karatobe**	**4.78**	**27**	Pg		**Pg**	**06 38 48.0**	**-1.0**
	2.0nm,1.0s							
KTBS				Lg		Lg	06 39 52.5	
	6.9nm,0.6s							
ARXS	**Arharly**	**5.65**	**32**	*e*	P	**Pg**	**06 39 03.9**	**-1.7**
	2.9nm,0.9s							
ARXS				*e*	S	**Sg**	**06 40 19.5**	**+0.8**
	2.3nm,0.8s							
ARXS	**Arharly**	**5.65**	**32**	Pg		**Pg**	**06 39 03.9**	**-1.7**
	2.9nm,0.9s							
ARXS				Lg		Lg	06 40 19.5	
	2.3nm,0.8s							

IDC 15 06:41:35.8±3.1, 54°41N×87°04E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.4km s-min=20.6km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**251**	*i*		06 50 00.0	
	baz=71,slow=319,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.39**	**251**	Pg	Pg	06 42 00.0	-2.3
	1.7nm,0.3s,baz=72,slow=18,SNR=7.9						
ZALV				Lg	Lg	06 42 20.0	
	2.6nm,0.3s,baz=66,slow=30,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.43**	**237**	Pn	Pn	06 43 12.7	+1.0
	0.1nm,0.3s,baz=53,slow=14,SNR=14						
KURBB				Sn	Sn	06 44 25.1	-0.6
	0.1nm,0.3s,baz=90,slow=3.7,SNR=1.9						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**8.20**	**204**	Pn	Pn	06 43 37.0	+1.0
	0.1nm,0.3s,baz=22,slow=12,SNR=5.2						
	0.3nm,0.4s						

IDC 15 06:42:18.6±0.7, 6°37S×76°65W, h0km, mb4.1/10, mbtmp4.2/16, ML3.7/6, MS4.1/2, Error ellipse: s-maj=17.9km s-min=13.1km az=77.0
VAO 15 06:42:20.5±0.5, 6°23S×76°47W, h11km, mb4.5
NEIC 15 06:42:22.8±1.5, 6°35S±0°06×76°73W±0°06, h20km±5km, mb4.5/88, Error ellipse: s-maj=9.1km s-min=8.3km az=51.0

ISC 15 06:42:20.3±0.4, 6°33S±0°04×76°60W±0°06, h10km, n138, σ1°16/106, mb4.5/49, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.95**	**246**	Pn	**Pn**	**06 42 52.6**	**-1.2**
	130nm,0.3s,baz=27,slow=7.5,SNR=617						
ATAH				Sn	**Sn**	**06 43 17.4**	**-1.2**
	129nm,0.3s,baz=298,slow=16,SNR=8.0						
BOSC	**San Juan Bosco**	**3.68**	**329**	Pn	**Pn**	**06 43 15.7**	**-1.8**
BOSC				Sn	**Sn**	**06 44 00.1**	**-0.9**
MCRA	**Macar, Loja**	**3.87**	**300**		**Pn**	**06 43 18.7**	**-1.2**
CZSB	**Cruzeiro do Su**	**4.11**	**110**	Pn	**Pn**	**06 43 25.9**	**+2.7**
ARNL	**Arenillas**	**4.42**	**309**		**Pn**	**06 43 26.3**	**-1.3**
PORT	**Chimborazo Vol**	**5.30**	**336**		**Pn**	**06 43 42.1**	**+2.0**
CHSH	**Refugio Sur-Vo**	**5.31**	**335**		**Pn**	**06 43 41.9**	**+1.6**
NNA	**Nana**	**5.62**	**182**	Pn	**Pn**	**06 43 43.9**	**-0.2**
	18nm,0.3s,baz=352,slow=12,SNR=46						
NNA				Sn	**Sn**	**06 44 48.2**	**-0.6**
	9.3nm,0.3s,baz=274,slow=18,SNR=2.8						
	64nm,0.4s						
NNA	**Nana**	**5.62**	**182**	Pn	**Pn**	**06 43 44.8**	**+0.7**
SLOR	**San Lorenzo -**	**5.88**	**341**		**Pn**	**06 43 49.1**	**+1.1**
IMBA	**Imbabura, San**	**6.76**	**346**		**Pn**	**06 44 00.7**	**+0.7**
OTAV	**Otavalo**	**6.78**	**344**		**Pn**	**06 44 01.7**	**+1.4**
TBTG	**Tabatinga, AM**	**7.00**	**73**		**Pn**	**06 44 04.9**	**+2.0**

TULM	**Tulcn-Chalpat**	**7.10**	**350**			**Pn**	**06 44 06.1**	**+1.3**
ETMB	**Extrema**	**10.85**	**109**	Pn		**Pn**	**06 44 55.4**	**-0.4**
ETMB	**Extrema**	**10.85**	**109**	*e*P		Pn	06 44 55.1	-0.7
ROSC	**El Rosal**	**11.33**	**12**	Pn		**Pn**	**06 45 02.5**	**-0.2**
	1.2nm,0.3s,baz=217,slow=19,SNR=2.9							
ROSC				Lg		Lg	06 48 22.3	
	2.6nm,0.3s,baz=211,slow=22,SNR=2.3							
	2.7nm,0.4s							
ROSC	**El Rosal**	**11.33**	**12**	Pn		**Pn**	**06 45 03.6**	**+0.9**
LPAZ	**La Paz**	**12.91**	**141**	Pn		**Pn**	**06 45 23.6**	**-0.9**
	0.1nm,0.3s,baz=322,slow=11,SNR=5.2							
	0.8nm,0.6s							
LPAZ	**La Paz**	**12.91**	**141**	Pn		**Pn**	**06 45 24.1**	**-0.4**
LPAZ	**La Paz**	**12.91**	**141**	*e*P		**Pn**	**06 45 23.7**	**-0.8**
MACA	**Manacapuru-AM**	**16.17**	**79**	Pn		Pn	06 46 04.0	-3.9
MACA				IAmb		IAmb	06 46 17.2	
	comp=Z,36nm,0.7s							
SDV	**Santo Domingo**	**16.25**	**22**	Pn		**Pn**	**06 46 09.7**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=197,slow=8.3,SNR=2.9							
SDV				LR		LR	06 53 01.8	
	comp=Z,507nm,18.2s,baz=92,slow=40							
	comp=Z,6.8nm,0.4s							
SDV	**Santo Domingo**	**16.25**	**22**	Pn		**Pn**	**06 46 09.7**	**+0.7**
SDV	**Santo Domingo**	**16.25**	**22**	*e*P		**Pn**	**06 46 06.6**	**-2.4**
PB07	**IPOC Station P**	**16.62**	**158**			**Pn**	**06 46 13.7**	**0.0**
PB07				IAmb		IAmb	06 46 25.4	
	comp=Z,32nm,1.0s							
BAUV	**El Baul**	**17.41**	**29**	P		**Pn**	**06 46 22.8**	**-0.7**
VILB	**Vilhena**	**17.45**	**113**	P		**Pn**	**06 46 22.5**	**-1.6**
VILB				IAmb		IAmb	06 46 35.5	
	comp=Z,11nm,0.7s							
VILB	**Vilhena**	**17.45**	**113**	*e*P		**Pn**	**06 46 23.6**	**-0.5**
LVC	**Limon Verde**	**17.80**	**156**	P		**Pn**	**06 46 28.7**	**0.0**
	comp=Z,0.5nm,0.3s,baz=340,slow=7.9,SNR=2.5							
	comp=Z,3.6nm,0.8s							
LVC	**Limon Verde**	**17.80**	**156**	*e*P		**Pn**	**06 46 29.1**	**+0.4**
SIV	**San Ignacio**	**17.99**	**124**	P		**Pn**	**06 46 30.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=318,slow=11,SNR=26							
SIV				Lg		Lg	06 51 48.0	
	baz=222,slow=22,SNR=3.5							
	comp=Z,3.3nm,0.6s							
BOAV	**Boa Vista**	**18.25**	**62**	*e*P		**Pn**	**06 46 31.6**	**-2.2**
PTLB	**Pontes e Lacer**	**19.38**	**119**			**P**	**06 46 46.9**	**+0.4**
PTLB				IAmb		IAmb	06 46 57.0	
	comp=Z,7.6nm,0.9s							
PTLB	**Pontes e Lacer**	**19.38**	**119**	*e*P		**P**	**06 46 46.4**	**0.0**
BIRV	**Birongo**	**19.61**	**32**	P		**P**	**06 46 50.7**	**+1.7**
PCRV	**Puerto La Cruz**	**20.27**	**36**	P		**P**	**06 46 57.0**	**+0.7**
	comp=Z,7.9nm,0.8s,baz=56,slow=20,SNR=2.1							
	comp=Z,7.9nm,0.8s							
PDRB	**Porto dos Gac**	**20.31**	**106**	*e*P		**P**	**06 46 56.0**	**-0.7**
ITTB	**Itaituba**	**20.87**	**86**	*e*P		**P**	**06 47 00.4**	**-2.3**
NPGB	**Novo Progresso**	**21.11**	**93**	*e*P		**P**	**06 47 03.0**	**-2.3**
SALV	**Santo Antonio**	**22.59**	**117**	*e*P		**P**	**06 47 21.1**	**-0.2**
MALB	**Monte Alegre**	**22.71**	**80**	*e*P		**P**	**06 47 21.1**	**-1.4**
AQDB	**Aquidauana**	**24.67**	**127**	P		**P**	**06 47 42.5**	**+0.9**
AQDB				IAmb		IAmb	06 47 46.4	
	comp=Z,17nm,1.3s							
AQDB	**Aquidauana**	**24.67**	**127**	*e*P		**P**	**06 47 40.3**	**-1.3**
ANTJ	**Antonio Joao (**	**25.27**	**130**	*e*P		**P**	**06 47 47.6**	**+0.6**
SNDB	**Serra Nova Dou**	**25.59**	**104**	*e*P		**P**	**06 47 49.4**	**-0.6**
FDF	**Fort de France**	**25.94**	**36**	P		**P**	**06 47 52.3**	**-0.8**
CELP	**Cerrillos**	**26.19**	**22**	P		**P**	**06 47 56.0**	**+0.6**
CELP				IAmb		IAmb	06 48 14.4	
	comp=Z,29nm,1.5s							
SJG	**San Juan**	**26.39**	**23**	P		**P**	**06 47 57.3**	**+0.2**
	comp=Z,13nm,0.8s,baz=248,slow=4.5,SNR=5.4							
	comp=Z,13nm,0.8s							
PRPB	**Parauapebas**	**26.63**	**91**	*e*P		**P**	**06 47 59.4**	**0.0**
CPUP	**Villa Florida**	**27.08**	**139**	P		**P**	**06 48 03.7**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=336,slow=9.2,SNR=5.7							
	comp=Z,1.5nm,0.6s							
CPUP	**Villa Florida**	**27.08**	**139**	P		**P**	**06 48 04.0**	**+0.8**
STVI	**Saint Thomas**	**27.09**	**25**	P		**P**	**06 48 02.8**	**-0.6**
ITRB	**Iturama**	**28.75**	**120**	*e*P		**P**	**06 48 18.6**	**+0.2**
SMTB	**Santa Maria do**	**28.86**	**97**	*e*P		P	06 48 18.1	-1.3
FRBT	**Francisco Belt**	**29.77**	**134**	*e*P		**P**	**06 48 27.4**	**0.0**
ITQB	**Itaqui**	**29.89**	**143**	P		**P**	**06 48 28.7**	**+0.4**
ITQB	**Itaqui**	**29.89**	**143**	*e*P		**P**	**06 48 27.8**	**-0.5**
IPMB	**Ipameri, GO**	**30.02**	**115**	*e*P		**P**	**06 48 30.0**	**+0.3**
RODS	**Rosario do Sul**	**31.23**	**143**	*e*P		**P**	**06 48 39.5**	**-0.7**
BSCB	**Bom Sucesso**	**34.09**	**118**	*e*P		**P**	**06 49 04.4**	**-1.0**
PLCA	**Paso Flores**	**34.68**	**172**	P		**P**	**06 49 09.7**	**-0.6**
	comp=Z,2.4nm,1.0s,baz=15,slow=6.3,SNR=3.5							
	comp=Z,2.4nm,1.0s							
PLCA	**Paso Flores**	**34.68**	**172**	P		**P**	**06 49 09.9**	**-0.3**
GDU01	**Guandu, BA**	**37.15**	**104**	*e*P		**P**	**06 49 31.4**	**-0.3**
CMC01	**Camacan, BA**	**37.45**	**107**	*e*P		**P**	**06 49 34.0**	**-0.3**
NBLA	**Sagarro - SE**	**38.63**	**100**	*e*P		P	06 49 42.4	-1.8
TX31	**Lajitas Ar. Si**	**43.99**	**325**	P		**P**	**06 50 29.1**	**+0.9**
TX31				IAmb		IAmb	06 50 29.3	
	comp=Z,5.3nm,0.8s							
TX32	**Lajitas Array**	**43.99**	**325**	P		**P**	**06 50 29.0**	**+0.8**
TXAR	**Lajitas Array**	**43.99**	**325**	P		**P**	**06 50 28.4**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=148,slow=8.4,SNR=19							
	comp=Z,0.9nm,0.6s							
TXAR	**Lajitas Array**	**43.99**	**325**	P		**P**	**06 50 28.8**	**+0.6**
HTMS	**Hat Mesa**	**46.38**	**328**	P		**P**	**06 50 47.3**	**+0.1**
CLN7	**Carlsbad 7**	**46.43**	**328**	P		**P**	**06 50 47.5**	**0.0**
GDL2	**Guadalupe Moun**	**46.56**	**327**	P		**P**	**06 50 49.5**	**+0.9**
MNTX	**Cornudas Mount**	**46.74**	**326**	P		**P**	**06 50 49.7**	**-0.2**
MNTX				IAmb		IAmb	06 50 54.4	
	comp=Z,3.1nm,0.8s							
CROK	**Carrier**	**47.09**	**336**	P		**P**	**06 50 52.8**	**+0.2**
CROK				IAmb		IAmb	06 50 54.0	
	comp=Z,22nm,1.5s							
MSTX	**Muleshoe**	**47.12**	**330**	P		**P**	**06 50 52.9**	**-0.1**
KAN13	**South Haven SW**	**47.34**	**337**			**P**	**06 50 53.3**	**-1.1**
KAN01	**Argonia South**	**47.57**	**337**			**P**	**06 50 56.5**	**+0.3**
319A	**Douglas**	**48.79**	**322**	P		**P**	**06 51 05.1**	**-0.9**
319A				IAmb		IAmb	06 51 07.5	
	comp=Z,5.4nm,0.7s							
SBM	**South Baldy**	**49.45**	**326**	P		**P**	**06 51 10.1**	**-1.1**
ANMO	**Albuquerque**	**49.78**	**328**	P		**P**	**06 51 13.6**	**+0.1**
ANMO				IAmb		IAmb	06 51 19.1	
	comp=Z,7.1nm,0.8s							
TUC	**Tucson**	**50.36**	**322**	P		**P**	**06 51 17.7**	**-0.1**
214A	**Organ Pipe Nat**	**51.39**	**320**	P		**P**	**06 51 25.6**	**+0.1**
SDCO	**Great Sand Dun**	**51.46**	**331**	P		**P**	**06 51 26.4**	**+0.1**
SDCO				IAmb		IAmb	06 51 31.5	
	comp=Z,5.1nm,0.8s							
X16A	**Lo Mia Camp, P**	**52.21**	**323**	IAmb		IAmb	06 51 37.7	
	comp=Z,6.7nm,0.9s							
WUAZ	**Wupatki**	**52.94**	**324**	P		**P**	**06 51 37.2**	**+0.1**
WUAZ				IAmb		IAmb	06 51 43.1	
	comp=Z,8.9nm,0.9s							
W13A	**Hualapai Mount**	**54.14**	**322**	IAmb		IAmb	06 51 51.5	
	comp=Z,3.3nm,0.9s							
KNB	**Kanab**	**54.82**	**325**	IAmb		IAmb	06 51 56.9	
	comp=Z,5.0nm,0.7s							
PKCU	**Pink Cliffs**	**54.83**	**325**	IAmb		IAmb	06 51 56.6	
	comp=Z,7.8nm,1.0s							
SRU	**San Rafael Swe**	**55.05**	**328**	IAmb		IAmb	06 51 57.2	
	comp=Z,4.9nm,1.0s							
LCMT	**Little Creek M**	**55.06**	**324**	IAmb		IAmb	06 51 58.0	
	comp=Z,5.1nm,0.9s							
V12A	**Nelson**	**55.15**	**322**	IAmb		IAmb	06 51 54.6	
	comp=Z,3.2nm,0.9s							
SZCU	**Shurtz Canyon**	**55.37**	**325**	IAmb		IAmb	06 52 13.2	
	comp=Z,2.5nm,0.6s							
P17A	**Butcher Ranch,**	**55.43**	**328**	IAmb		IAmb	06 52 00.0	
	comp=Z,5.5nm,0.7s							
CCUT	**Cedar City**	**55.50**	**325**	IAmb		IAmb	06 52 02.0	
	comp=Z,4.1nm,0.8s							
SHPR	**Sheep Range**	**55.85**	**323**	P		**P**	**06 51 58.1**	**-0.2**
GSC	**Goldstone, Bar**	**56.09**	**320**	P		**P**	**06 51 59.6**	**-0.4**
GSC				IAmb		IAmb	06 52 05.3	
	comp=Z,4.7nm,0.8s							
PSUT	**Pine Spring**	**56.46**	**325**	IAmb		IAmb	06 52 08.5	
	comp=Z,5.1nm,1.0s							
TPNV	**Topopah Spring**	**56.80**	**322**	IAmb		IAmb	06 52 11.0	
	comp=Z,3.1nm,0.8s							
SPR3	**Spring Creek 3**	**57.05**	**325**	IAmb		IAmb	06 52 11.7	
	comp=Z,3.8nm,0.9s							
DUG	**Dugway, Tooele**	**57.05**	**327**	IAmb		IAmb	06 52 12.0	
	comp=Z,4.1nm,0.8s							
PDAR	**Pinedale Array**	**57.31**	**332**	P		**P**	**06 52 08.8**	**0.0**
	comp=Z,0.8nm,0.5s,baz=149,slow=6.1,SNR=6.5							
	comp=Z,0.8nm,0.5s							
ISA	**Isabella, Lake**	**57.38**	**320**	P		**P**	**06 52 09.5**	**+0.4**
HWUT	**Hardware Ranch**	**57.43**	**329**	P		**P**	**06 52 09.2**	**-0.3**
DSP	**Deep Springs**	**58.12**	**322**	IAmb		IAmb	06 52 20.0	
	comp=Z,4.7nm,1.1s							
TPAW	**Teton Pass**	**58.53**	**331**	IAmb		IAmb	06 52 25.3	
	comp=Z,3.3nm,1.0s							

ELK	**Elko**	**58.76**	**326**	IAmb		IAmb	06 52 24.1	
	comp=Z,4.8nm,1.1s							
IMW	**Indian Meadow**	**58.83**	**332**	IAmb		IAmb	06 52 24.6	
	comp=Z,2.4nm,0.7s							
NV11	**Mina Array Sit**	**58.91**	**323**	IAmb		IAmb	06 52 25.4	
	comp=Z,3.4nm,1.2s							
OMMB	**Old Mammoth Mi**	**58.91**	**321**	IAmb		IAmb	06 52 25.1	
	comp=Z,4.5nm,0.8s							
NVAR	**Mina Array Bea**	**59.00**	**322**	P		**P**	**06 52 20.7**	**0.0**
	comp=Z,2.4nm,0.7s,baz=127,slow=7.3,SNR=16							
	comp=Z,2.4nm,0.7s							
LHV	**Little Huntoon**	**59.01**	**322**	IAmb		IAmb	06 52 25.8	
	comp=Z,5.1nm,0.9s							
KVN	**Kaiserville**	**59.27**	**323**	IAmb		IAmb	06 52 27.7	
	comp=Z,4.0nm,1.2s							
HLID	**Hailey**	**60.29**	**329**	P		**P**	**06 52 29.4**	**+0.1**
HLID				IAmb		IAmb	06 52 34.8	
	comp=Z,3.1nm,0.8s							
VCNR	**Virginia City**	**60.36**	**322**	IAmb		IAmb	06 52 35.2	
	comp=Z,3.2nm,0.8s							
BOZ	**Bozeman (W)**	**60.43**	**332**	IAmb		IAmb	06 52 35.7	
	comp=Z,6.1nm,1.1s							
WVOR	**Wild Horse Val**	**61.78**	**326**	IAmb		IAmb	06 52 44.1	
	comp=Z,2.4nm,0.8s							
MSO	**Missoula**	**62.42**	**332**	P		**P**	**06 52 43.7**	**0.0**
MSO				IAmb		IAmb	06 52 49.2	
	comp=Z,6.3nm,1.0s							
I07A	**Izee**	**63.34**	**327**	IAmb		IAmb	06 52 55.3	
	comp=Z,5.1nm,1.0s							
YBH	**Yreka Blue Hor**	**63.70**	**323**	IAmb		IAmb	06 52 55.9	
	comp=Z,3.3nm,0.9s							
G08A	**Pilot Rock**	**63.84**	**328**	IAmb		IAmb	06 52 58.0	
	comp=Z,8.3nm,1.5s							
PINE	**Pine Mountain**	**63.94**	**326**	P		**P**	**06 52 54.4**	**+0.5**
PINE				IAmb		IAmb	06 53 01.0	
	comp=Z,4.7nm,0.8s							
YKA	**Yellowknife Ar**	**74.54**	**343**	P		**P**	**06 53 58.2**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=139,slow=6.2,SNR=5.8							
	comp=Z,2.9nm,0.8s							
VNA3	**Neumayer Olymp**	**76.72**	**162**	P		P	06 54 18.8	+7.4
VNA2	**Neumayer--Watz**	**77.32**	**162**	P		**P**	**06 54 18.4**	**+3.6**
	baz=283,slow=2.7							
MDT	**Midelt**	**78.49**	**55**	LR		LR	07 27 38.2	
	comp=Z,138nm,20.5s,baz=4.0,slow=35							
SNAA	**Sanae**	**78.94**	**162**	P		**P**	**06 54 27.5**	**+3.6**
SNAA	**Sanae**	**78.94**	**162**	P		**P**	**06 54 23.7**	**-0.2**
TORD	**Tordii Ar. Bea**	**80.12**	**76**	P		**P**	**06 54 32.2**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=292,slow=4.3,SNR=2.9							
	comp=Z,0.7nm,0.6s							
TROLL	**Troll, Antarti**	**80.65**	**162**	P		**P**	**06 54 37.1**	**+3.8**
SUMG	**Summit**	**82.47**	**11**	*i* P		**P**	**06 54 46.0**	**+2.9**
QSPA	**South Pole Qui**	**83.76**	**180**	P		**P**	**06 54 49.3**	**-0.3**
ILAR	**Eielson Array**	**87.44**	**336**	P		**P**	**06 55 07.5**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=90,slow=2.7,SNR=3.0							
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**135.79**	**21**	PKP		**PKPdf**	**07 01 40.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=282,slow=3.1,SNR=2.5							
ASAR	**Alice Springs**	**137.86**	**224**	PKhKP	PKPpre		07 01 35.4	
	comp=Z,0.5nm,0.6s,baz=137,slow=3.4,SNR=4.4							
WRA	**Warramunga Arr**	**139.90**	**229**	PKhKP	PKPpre		07 01 41.1	
	comp=Z,0.3nm,0.5s,baz=123,slow=2.3,SNR=7.3							
WRA				PKP		**PKPdf**	**07 01 50.8**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=125,slow=2.0,SNR=8.1							
KSRS	**Korea Array**	**141.81**	**328**	PKP		**PKPdf**	**07 01 52.5**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=347,slow=2.0,SNR=6.8							
PZH	**PanZhiHua**	**159.88**	**4**	PKP		**PKPdf**	**07 02 19.6**	**-1.1**

MAN 15 06:58:03.6, 9°74N×126°29E, h30km, mb3.8, ML2.5, MS2.0, 4C-3D, Mindanao

| Code | Station Name | Δ° | AZ

H23K					IAmb	IAmb	07 17 55.5	
	comp=Z,6.6nm,1.4s							
MDM	**Murphy Dome**	**34.20**	**42**	P	**P**		**07 17 55.9**	**+0.2**
MDM					IAmb	IAmb	07 18 12.9	
	comp=Z,9.1nm,1.4s							
WRH	**Wood River Hil**	**34.30**	**42**	P	**P**		**07 17 57.4**	**+0.8**
WRH					IAmb	IAmb	07 18 31.5	
	comp=Z,7.8nm,1.4s							
SEW	**Seward**	**34.33**	**50**	P	**P**		**07 17 56.5**	**-0.2**
SML	**Sawmill**	**34.55**	**47**	P	**P**		**07 17 59.2**	**+0.5**
IL31		**34.78**	**42**	P	**P**		**07 18 01.0**	**+0.4**
IL31					IAmb	IAmb	07 18 17.3	
	comp=Z,6.2nm,1.4s							
ILAR	**Eielson Array**	**34.78**	**42**	P	**P**		**07 18 00.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=264,slow=8.1,SNR=14							
	comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**34.78**	**42**	P	**P**		**07 18 01.0**	**+0.4**
PRP	**Porcupine Dome**	**35.27**	**40**	P	**P**		**07 18 05.5**	**+0.6**
BMAR	**Burnt Mountain**	**35.46**	**37**	P	**P**		**07 18 06.3**	**0.0**
SCRK	**Sand Creek**	**36.15**	**43**	P	**P**		**07 18 10.8**	**-1.4**
SCRK					IAmb	IAmb	07 18 12.7	
	comp=Z,8.5nm,1.4s							
K27K	**Chicken**	**36.97**	**43**	P	**P**		**07 18 18.7**	**-0.1**
K27K					IAmb	IAmb	07 18 20.0	
	comp=Z,5.3nm,1.2s							
M27K	**Edge Creek, AK**	**37.42**	**45**	P	**P**		**07 18 23.6**	**+0.9**
M27K					IAmb	IAmb	07 18 30.7	
	comp=Z,6.2nm,1.4s							
INK	**Inuvik**	**39.46**	**35**	P	**P**		**07 18 38.1**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=296,slow=9.9,SNR=8.9							
	comp=Z,1.6nm,0.6s							
INK	**Inuvik**	**39.46**	**35**	P	**P**		**07 18 38.6**	**-0.5**
INK					IAmb	IAmb	07 18 50.2	
	comp=Z,8.5nm,1.4s							
INK	**Inuvik**	**39.46**	**35**	P	**P**		**07 18 38.6**	**-0.5**
INK					pmax	pmax		
	comp=Z,9.0nm,1.5s							
YKA	**Yellowknife Ar**	**48.97**	**38**	P	**P**		**07 19 52.3**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=246,slow=6.2,SNR=1.0							
	comp=Z,1.0nm,0.7s							
HUMO	**Hull Mountain**	**56.80**	**62**	P	**P**		**07 20 51.2**	**+1.5**
FINES	**FINESS Array B**	**59.90**	**333**	P	**P**		**07 21 09.4**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=34,slow=7.3,SNR=14							
	comp=Z,0.9nm,0.3s							
FINES	**FINESS Array B**	**59.90**	**333**	P	**P**		**07 21 09.1**	**-1.3**
LRM	**Limekiln Ridge**	**60.30**	**53**	P	**P**		**07 21 14.3**	**+0.6**
BOZ	**Bozeman (W)**	**60.87**	**53**	P	**P**		**07 21 17.8**	**+0.4**
BOZ					IAmb	IAmb	07 21 18.4	
	comp=Z,1.6nm,0.5s							
BOZ	**Bozeman (W)**	**60.87**	**53**	P	**P**		**07 21 17.8**	**+0.4**
NVAR	**Mina Array Bea**	**62.22**	**63**	P	**P**		**07 21 27.4**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=297,slow=6.4,SNR=6.8							
	comp=Z,0.5nm,0.7s							
PDAR	**Pinedale Array**	**63.92**	**54**	P	**P**		**07 21 37.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=333,slow=1.8,SNR=9.4							
	comp=Z,0.6nm,0.5s							
NOA	**NORSAR Array B**	**64.10**	**339**	P	**P**		**07 21 36.3**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=28,slow=6.6,SNR=1.7							
	comp=Z,0.2nm,0.5s							
WB0	**Warramunga Arr**	**71.40**	**196**	P	**P**		**07 22 22.0**	**-1.2**
WB0					IAmb	IAmb	07 23 04.7	
	comp=Z,6.7nm,1.5s							
WR0	**Warramunga Arr**	**71.57**	**196**	P	**P**		**07 22 23.0**	**-1.2**
WRA	**Warramunga Arr**	**71.58**	**196**	P	**P**		**07 22 23.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=12,slow=6.3,SNR=8.9							
	comp=Z,0.5nm,0.6s							
WRA	**Warramunga Arr**	**71.58**	**196**	P	**P**		**07 22 22.5**	**-1.8**
WRA	**Warramunga Arr**	**71.58**	**196**	P	**P**		**07 22 22.5**	**-1.8**
AS31	**Alice Springs**	**75.30**	**196**	P	**P**		**07 22 45.8**	**+0.2**
ASAR	**Alice Springs**	**75.30**	**196**	P	**P**		**07 22 45.8**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=6.9,slow=5.5,SNR=20							
	comp=Z,0.7nm,0.4s							
ASAR	**Alice Springs**	**75.30**	**196**	P	**P**		**07 22 45.6**	**+0.1**
ASAR	**Alice Springs**	**75.30**	**196**	P	**P**		**07 22 45.6**	**+0.1**
TXAR	**Lajitas Array**	**77.11**	**60**	P	**P**		**07 22 55.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=306,slow=7.1,SNR=4.0							
	comp=Z,0.3nm,0.6s							
TXAR	**Lajitas Array**	**77.11**	**60**	P	**P**		**07 22 55.7**	**-0.1**

*IDC **15** 07:14:53.5±0.9, 12°.19N×86°.72W, h0km, mb3.9/11, mbtmp4.0/13, ML3.0/2, MS3.6/3, Error ellipse: s-maj=32.2km s-min=15.2km az=46.0*
*SNET **15** 07:14:54.4±1.1, 12°.80N×86°.33W, h15km±999km, ML4.1*
*INET **15** 07:14:54.1±0.6, 12°.45N×86°.67W, h2km±3km, MW4.5*
*NEIC **15** 07:14:55.9±2.2, 12°.48N±0°.07×86°.53W±0°.05, h3km±5km, mb4.4/30, Error ellipse: s-maj=10.9km s-min=5.4km az=214.0*
*GCG **15** 07:14:56.3±0.8, 10°.49N×88°.12W, h34km±699km, MD4.7*
*UCR **15** 07:14:58.1±1.7, 12°.10N×86°.93W, h30km, ML3.8, mb4.4(NEIC)*

ISC 15 07:14:55.6±1.0, 12°.45N±0°.04×86°.63W±0°.03, h7km±6km, n133, σ1§16/138, mb4.3/24, 5C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CNGN	**Cerro Negro**	**0.09**	**305**	*eP*		**Pg**	**07 14 56.2**	**-1.4**
MOMN	**Momotombo**	**0.09**	**117**	*eP*		**Pg**	**07 14 57.8**	**0.0**
COPN	**Copaltepe**	**0.27**	**173**	*eP*		**Pg**	**07 15 00.4**	**-0.5**
APYN	**Apoyeque**	**0.34**	**129**	*eP*		**Pg**	**07 15 02.2**	**-0.1**
MGAN	**Managua**	**0.48**	**129**	*eP*		**Pg**	**07 15 04.8**	**0.0**
MGAN				*eP*		**Pg**	**07 15 04.8**	**0.0**
CRIN	**San Cristobal**	**0.48**	**301**			**Pg**	**07 15 03.9**	**-1.0**
CRIN					Sg	**Sg**	**07 15 10.8**	**-0.4**
CRIN	**San Cristobal**	**0.48**	**301**	*eP*		**Pg**	**07 15 04.0**	**-1.0**
CRIN				*eS*		**Sg**	**07 15 10.9**	**-0.4**
WILN	**Americas 2**	**0.52**	**124**	*eP*		**Pg**	**07 15 05.4**	**-0.2**
MASN	**Masaya**	**0.65**	**135**	*eP*		**Pg**	**07 15 07.6**	**-0.6**
MATN	**Matagalpa**	**0.83**	**55**			**Pg**	**07 15 10.7**	**-0.9**
MATN	**Matagalpa**	**0.83**	**55**	*eP*		**Pg**	**07 15 11.0**	**-0.6**
BOAB	**BOACO BROADBAN**	**0.94**	**90**			**Pg**	**07 15 12.4**	**-1.2**
BOAB	**BOACO BROADBAN**	**0.94**	**90**	*eP*		**Pg**	**07 15 12.7**	**-0.9**
CSGN	**Cosiguina Volc**	**1.05**	**300**	*eP*		**Pg**	**07 15 14.0**	**-1.8**
RCON	**San Juan de Ri**	**1.12**	**24**	*eP*		**Pb**	**07 15 17.9**	**+0.4**
ACON	**Acoyapa**	**1.50**	**109**			**Pn**	**07 15 20.6**	**-2.3**
LCND	**La Caada**	**1.50**	**305**	*eS*		**Sb**	**07 15 42.5**	**-0.6**
LCND	**La Caada**	**1.50**	**305**	*eS*		**Sb**	**07 15 42.5**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.72**	**339**	Pn		**Pn**	**07 15 26.5**	**+0.4**
PACA	**Pacayal**	**1.94**	**302**	*eP*		**Pn**	**07 15 28.3**	**-0.9**
HZTE	**Horizontes, Gu**	**2.00**	**150**	Pn		**Pn**	**07 15 28.9**	**-1.0**
BUAI	**Buenos Aires**	**2.01**	**141**	*eP*		**Pn**	**07 15 29.3**	**-0.8**
GBS3	**Finca Las Img**	**2.02**	**145**	*iP*		**Pn**	**07 15 28.9**	**-1.3**
GB1A	**Borinquen Arri**	**2.02**	**143**	*eP*		**Pn**	**07 15 28.7**	**-1.6**
BUEV	**Buena Vista**	**2.03**	**144**	*eP*		**Pn**	**07 15 28.8**	**-1.6**
LAPC	**Finca la Perla**	**2.04**	**145**	*eP*		**Pn**	**07 15 28.6**	**-1.8**
GPS1	**Guardaparques**	**2.08**	**143**	*eP*		**Pn**	**07 15 30.4**	**-0.8**
GPS3	**Bodega del ICE**	**2.09**	**144**	*eP*		**Pn**	**07 15 32.2**	**-1.0**
GPS2	**Hotel Rincn d**	**2.10**	**143**	*iP*		**Pn**	**07 15 30.5**	**-0.9**
COEB	**Comit de Eme**	**2.13**	**299**	*eP*		**Pn**	**07 15 31.0**	**-0.8**
COEB					IAML		07 16 09.3	
	comp=Z,790nm,0.5s							
COEB	**Comit de Eme**	**2.13**	**299**	*eP*		**Pn**	**07 15 31.0**	**-0.8**
COEB				*eS*		**Sn**	**07 16 00.4**	**+1.8**
COEB					IAML		07 16 09.3	
	comp=Z,790nm,0.5s							
LIM1	**Limonal**	**2.20**	**142**	*eP*		**Pn**	**07 15 32.0**	**-0.7**
GUAB	**Guayabo de Bag**	**2.21**	**142**	*iP*		**Pn**	**07 15 32.4**	**-0.5**
HORNC	**Hornillas**	**2.24**	**140**	*eP*		**Pn**	**07 15 32.3**	**-0.9**
COLC	**Colonia**	**2.26**	**142**	*eP*		**Pn**	**07 15 32.6**	**-0.9**
CUI	**Cuipilapa**	**2.29**	**141**	*eP*		**Pn**	**07 15 33.1**	**-0.8**
ORTG	**Ortega, Santa**	**2.37**	**151**	Pn		**Pn**	**07 15 34.6**	**-0.4**
ACAL	**Aguas Claras**	**2.39**	**139**	*eP*		**Pn**	**07 15 34.2**	**-1.1**
SCLA	**Alcaldia de Sa**	**2.40**	**301**	*eP*		**Pn**	**07 15 34.9**	**-0.5**
SCLA	**Alcaldia de Sa**	**2.40**	**301**	*eP*		**Pn**	**07 15 34.9**	**-0.5**
COEG	**Centro de Oper**	**2.48**	**298**	*eP*		**Pn**	**07 15 36.2**	**-0.4**
COEG					IAML		07 16 15.5	
	comp=Z,615nm,0.7s							
COEG	**Centro de Oper**	**2.48**	**298**	*eP*		**Pn**	**07 15 36.2**	**-0.4**
COEG					IAML		07 16 15.5	
	comp=Z,615nm,0.7s							
SJTE	**Alcalda de S**	**2.59**	**297**	*eP*		**Pn**	**07 15 38.2**	**0.0**
SJTE	**Alcalda de S**	**2.59**	**297**	*eP*		**Pn**	**07 15 38.2**	**0.0**
DUNO	**Dulce Nombre,**	**2.61**	**155**			**Pn**	**07 15 38.3**	**+0.1**
JTS	**Las Juntas de**	**2.70**	**142**	Pn		**Pn**	**07 15 38.8**	**-0.8**
COVE	**Coope Vega, Sa**	**2.78**	**128**			**Pn**	**07 15 39.5**	**-1.1**
UEES	**Universidad Ev**	**2.84**	**297**	*eP*		**Pn**	**07 15 41.7**	**+0.1**
UEES					IAML		07 16 30.1	
	comp=Z,524nm,0.7s							
UEES	**Universidad Ev**	**2.84**	**297**	*eP*		**Pn**	**07 15 41.7**	**+0.1**
UEES				*eS*		**Sn**	**07 16 18.2**	**+2.1**
UEES					IAML		07 16 30.1	
	comp=Z,524nm,0.7s							
CEDA	**San Andres**	**3.01**	**297**	IAML			07 16 42.9	
	comp=Z,800nm,0.7s							
CEDA	**San Andres**	**3.01**	**297**	IAML			07 16 42.9	
	comp=Z,800nm,0.7s							
MTO3	**Montecristo**	**3.29**	**306**			**Pn**	**07 15 46.9**	**-0.9**
ESQI	**Esquipulas**	**3.37**	**309**			**Pn**	**07 15 48.3**	**-0.6**
HDC	**Heredia**	**3.46**	**134**			**Pn**	**07 15 50.0**	**-0.2**
HDC	**Heredia**	**3.46**	**134**	*eP*		**Pn**	**07 15 51.3**	**+1.2**
HDC3	**Heredia 3**	**3.46**	**134**	*eP*		**Pn**	**07 15 50.3**	**+0.1**
OCM	**Ochomogo**	**3.65**	**134**	*eP*		**Pn**	**07 15 53.5**	**+0.7**
CVTR	**Volcan Turrial**	**3.71**	**130**	*eP*		**Pn**	**07 15 55.4**	**+1.6**
RAFA	**San Farael, Vo**	**3.71**	**132**	*eP*		**Pn**	**07 15 54.6**	**+0.9**
LCR2	**La Lucha 2**	**3.72**	**136**	*eP*		**Pn**	**07 15 53.8**	**0.0**
RIMA	**Rio Macho**	**3.80**	**134**			**Pn**	**07 15 53.5**	**-1.4**
RIMA	**Rio Macho**	**3.80**	**134**	*eP*		**Pn**	**07 15 55.9**	**+1.0**
MRL	**Marmol**	**3.96**	**312**	*eP*		**Pb**	**07 16 07.8**	**+1.9**
MRL				*eS*		**Sg**	**07 17 03.3**	**+0.5**
CDM	**Cerro de Muert**	**4.02**	**135**	*eP*		**Pn**	**07 15 58.2**	**0.0**
NBG	**Las Nubes**	**4.20**	**301**	*eP*		**Pn**	**07 16 03.8**	**+3.5**
PEZE	**Perez Zeledon,**	**4.21**	**136**			**Pn**	**07 15 59.8**	**-0.6**
PEZE	**Perez Zeledon,**	**4.21**	**136**	*eP*		**Pn**	**07 16 01.0**	**+0.7**
SRBA	**San Rafael, Bu**	**4.53**	**135**			**Pn**	**07 16 04.4**	**-0.4**
SRBA	**San Rafael, Bu**	**4.53**	**135**	*eP*		**Pn**	**07 16 05.3**	**+0.5**
FUG	**Fuego 3**	**4.56**	**296**	*eP*		**Pn**	**07 16 06.4**	**+1.2**
FUG				*eS*		**Sn**	**07 17 00.6**	**+2.0**
DRK0	**Durika**	**4.59**	**133**	Pn		**Pn**	**07 16 06.6**	**+0.9**
STG3	**Santiaguito 3,**	**5.31**	**296**	*eP*		**Pn**	**07 16 16.9**	**+1.3**
STG3				*eS*		**Sn**	**07 17 17.4**	**+0.3**
BRU2	**Volcan**	**5.31**	**133**			**Pn**	**07 16 16.0**	**+0.5**
BRU2	**Volcan**	**5.31**	**133**	*eP*		**Pn**	**07 16 16.2**	**+0.6**
CDITO	**Canoas**	**5.34**	**136**			**Pn**	**07 16 17.5**	**+1.7**
RTAL	**Retalhuleu**	**5.34**	**293**			**Pn**	**07 16 17.6**	**+1.7**
CCOL	**Caracol de Cor**	**5.39**	**138**	*eP*		**Pn**	**07 16 18.1**	**+1.6**
HUEH	**Huehuetenango**	**5.53**	**302**			**Pn**	**07 16 20.7**	**+2.1**
CCIG	**Comitan**	**6.56**	**306**			**Pn**	**07 16 35.3**	**+2.6**
BCIP	**Isla Barro Col**	**7.42**	**115**	Pn		**Pn**	**07 16 43.7**	**-0.8**
CMIG	**Matias Romero**	**9.22**	**301**	Pn		**Pn**	**07 17 09.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=138,slow=9.1,SNR=2.6							
CMIG						Sn	**Sn**	**07 18 54.8**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=78,slow=20,SNR=1.5							
	comp=Z,4.0nm,0.8s							
ROSC	**El Rosal**	**14.32**	**121**	Pn		**P**	**07 18 29.0**	**+2.3**
	comp=Z,1.3nm,0.3s,baz=308,slow=19,SNR=11							
TULM	**Tulcn-Chalpat**	**14.59**	**142**			**Pn**	**07 18 23.2**	**+0.1**
SLOR	**San Lorenzo -**	**15.38**	**148**			**Pn**	**07 18 32.5**	**-1.3**
SLOR					IAmb	IAmb	07 18 38.2	
	comp=Z,18nm,1.1s							
SDV	**Santo Domingo**	**16.11**	**101**	Pn		**Pn**	**07 18 43.7**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=348,slow=11,SNR=1.4							
SDV					LR	LR	07 25 26.5	
	comp=Z,161nm,18.7s,baz=276,slow=39							
	comp=Z,3.1nm,0.3s							
BOSC	**San Juan Bosco**	**17.48**	**152**			**Pn**	**07 18 59.1**	**-1.2**
KVTX	**Kingsville**	**18.35**	**327**			**Pn**	**07 19 11.6**	**+0.8**
KVTX					IAmb	IAmb	07 19 15.1	
	comp=Z,30nm,0.7s							
HKT	**Hockley**	**19.40**	**335**			**P**	**07 19 23.2**	**+1.0**
833A	**Chaparral WMA,**	**19.79**	**325**			**P**	**07 19 27.3**	**+0.7**
833A					IAmb	IAmb	07 19 29.9	
	comp=Z,13nm,0.9s							
SJG	**San Juan**	**20.53**	**72**	LR		LR	07 28 03.7	
	comp=Z,193nm,18.0s,baz=302,slow=38							
NATX	**Nacogdoches**	**20.59**	**340**	P		**P**	**07 19 36.6**	**+1.2**
NATX					IAmb	IAmb	07 19 40.2	
	comp=Z,17nm,0.9s							
ATAH	**Atahualpa**	**21.11**	**157**	LR		LR	07 26 56.2	
	comp=Z,151nm,20.1s,baz=24,slow=35							
Y45A	**Yeager Farm, C**	**21.48**	**353**	P		**P**	**07 19 45.9**	**+0.9**
Y45A					IAmb	IAmb	07 19 50.1	
	comp=Z,24nm,1.2s							
PCRV	**Puerto La Cruz**	**21.68**	**94**	P		**P**	**07 19 49.3**	**+2.0**
	comp=Z,4.9nm,0.6s,baz=270,slow=2.0,SNR=2.3							
	comp=Z,4.9nm,0.6s							
MIAR	**Mount Ida**	**22.89**	**345**	P		**P**	**07 20 01.3**	**+1.4**
Z35A	**Perchaven, San**	**22.94**	**337**	P		**P**	**07 20 01.6**	**+1.0**
Z35A					IAmb	IAmb	07 20 05.0	
	comp=Z,20nm,1.2s							
TXAR	**Lajitas Array**	**23.09**	**319**	P		**P**	**07 20 01.1**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=141,slow=10,SNR=17							
	comp=Z,1.5nm,0.7s							
TX31	**Lajitas Ar. Si**	**23.09**	**319**	P		**P**	**07 20 02.8**	**+0.5**
TX31					IAmb	IAmb	07 20 37.8	
	comp=Z,10nm,1.2s							
TX32	**Lajitas Array**	**23.09**	**319**	P		**P**	**07 20 02.1**	**-0.2**
TKL	**Tuckaleechee C**	**23.25**	**6**	P		**P**	**07 20 07.1**	**+3.4**
	comp=Z,9.4nm,1.1s,baz=186,slow=13,SNR=4.5							
	comp=Z,9.4nm,1.1s							
HALT	**Halls**	**23.49**	**354**	P		**P**	**07 20 06.6**	**+0.5**
GLAT	**Glass**	**23.84**	**355**	P		**P**	**07 20 10.5**	**+1.0**
UTMT	**University of**	**23.87**	**356**	P		**P**	**07 20 10.3**	**+0.5**
HICK	**Hickman**	**24.10**	**355**	P		**P**	**07 20 11.9**	**-0.1**
T47A	**Sharon Grove**	**24.44**	**359**	P		**P**	**07 20 15.9**	**+0.8**
OK031	**S. Brethren HD**	**25.15**	**340**	P		**P**	**07 20 22.5**	**+1.0**
OK031					IAmb	IAmb	07 20 32.3	
	comp=Z,9.0nm,0.9s							
OK034	**N. Norfolk Rd.**	**25.16**	**340**	P		**P**	**07 20 22.6**	**+1.0**
OK034					IAmb	IAmb	07 20 50.9	
	comp=Z,10.0nm,1.0s							
S44A	**Carbondale**	**25.25**	**355**	P		**P**	**07 20 22.6**	**+0.3**
S44A					IAmb	IAmb	07 20 28.0	
	comp=Z,8.0nm,0.8s							
SIUC	**Southern Illin**	**25.27**	**355**	P		**P**	**07 20 21.9**	**-0.6**
SIUC					IAmb	IAmb	07 20 27.8	
	comp=Z,9.5nm,0.8s							
OK046	**Pawnee Station**	**25.58**	**341**	P		**P**	**07 20 26.4**	**+1.0**
MSTX	**Muleshoe**	**25.99**	**328**	P		**P**	**07 20 28.5**	**-0.8**
MSTX					IAmb	IAmb	07 20 32.3	
	comp=Z,9.7nm,0.9s							
Q51A	**Peebles**	**26.63**	**6**	P		**P**	**07 20 35.0**	**+0.1**
PDAR	**Pinedale Array**	**36.16**	**331**	P		**P**	**07 21 59.3**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=131,slow=11,SNR=6.0							
	comp=Z,0.7nm,0.8s							
HWUT	**Hardware Ranch**	**36.30**	**328**	P		**P**	**07 22 00.3**	**+0.1**
HWUT					IAmb	IAmb	07 22 02.2	
	comp=Z,3.6nm,0.9s							
REDW	**Red Top Meadow**	**37.23**	**330**	P		**P**	**07 22 08.3**	**+0.1**
REDW					IAmb	IAmb	07 22 11.6	
	comp=Z,12nm,1.1s							
SNOW	**Snow King Moun**	**37.26**	**331**	P		**P**	**07 22 08.8**	**+0.3**
SNOW					IAmb	IAmb	07 22 10.7	
	comp=Z,7.4nm,0.9s							
TPAW	**Teton Pass**	**37.37**	**330**	P		**P**	**07 22 10.1**	**+0.6**
TPAW					IAmb	IAmb	07 22 12.7	
	comp=Z,4.0nm,0.8s							
IMW	**Indian Meadow**	**37.67**	**331**	P		**P**	**07 22 12.3**	**+0.3**
SIV	**San Ignacio**	**37.92**	**138**	P		**P**	**07 22 11.1**	**-2.9**
	comp=Z,2.6nm,0.8s,baz=311,slow=8.5,SNR=13							
	comp=Z,2.6nm,0.8s							
NVAR	**Mina Array Bea**	**38.23**	**318**	P		**P**	**07 22 17.4**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=142,slow=6.0,SNR=7.8							
	comp=Z,1.5nm,1.0s							
NVAR	**Mina Array Bea**	**38.23**	**318**	P		**P**	**07 22 17.5**	**+0.8**
BCYI	**Bear Canyon**	**39.18**	**329**	P		**P**	**07 22 26.1**	**+1.5**
BOZ	**Bozeman (W)**	**39.28**	**332**	P		**P**	**07 22 26.2**	**+0.9**
BEKR	**Beckworth**	**40.36**	**319**	P		**P**	**07 22 34.8**	**+0.4**
PLCA	**Paso Flores**	**54.97**	**165**	P		**P**	**07 24 25.7**	**-1.9**
	comp=Z,1.7nm,0.9s,baz=339,slow=11,SNR=3.7							
	comp=Z,1.7nm,0.9s							
INK	**Inuvik**	**63.45**	**342**	P		**P**	**07 25 27.0**	**+1.1**
	comp=Z,5.3nm,1.1s,baz=132,slow=4.7,SNR=3.8							
	comp=Z,5.3nm,1.1s							
ILAR	**Eielson Array**	**66.35**	**336**	P		**P**	**07 25 45.2**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=120,slow=3.2,SNR=6.7							
	comp=Z,1.0nm,1.0s							
ESDC	**Sonseca Array**	**76.56**	**52**	P		**P**	**07 26 46.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=300,slow=5.8,SNR=3.6							
	comp=Z,0.7nm,0.7s							
SPITS	**Spitsbergen Ar**	**80.54**	**12**	P		**P**	**07 27 07.7**	**-0.6**
	comp=Z,15nm,1.1s,baz=330,slow=14,SNR=1.8							
NOA	**NORSAR Array B**	**82.98**	**29**	P		**P**	**07 27 20.5**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=285,slow=5.0,SNR=2.2							
	comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**140.02**	**248**	PKP		**PKPdf**	**07 34 25.2**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=113,slow=2.0,SNR=2.0							
WRA	**Warramunga Arr**	**140.04**	**254**	PKP		**PKPdf**	**07 34 22.4**	**-3.5**
	comp=Z,0.7nm,0.9s,baz=91,slow=1.6,SNR=4.7							
PZH	**PanZhiHua**	**140.43**	**348**	PKP		**PKPdf**	**07 34 25.4**	**-1.3**

IDC 15 07:18:33.3±2.0, 5°.59N×61°.49E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=71.7km s-min=24.8km az=56.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BRTR	**Keskin Array B**	**42.24**	**328**	P		P	07 26 28.3	-0.3
	comp=Z,1.4nm,0.9s,baz=146,slow=6.3,SNR=5.6							
	1.4nm,0.9s							
AKTO	**Aktyubinsk**	**44.79**	**357**	P		P	07 26 48.9	+0.1
	1.8nm,0.9s,baz=165,slow=8.9,SNR=4.8							
	1.8nm,0.9s							
KURBB	**Kurchatov Arra**	**47.10**	**15**	P		P	07 27 07.2	+0.2
	0.4nm,0.9s,baz=209,slow=7.4,SNR=2.7							
	0.4nm,0.9s							
SONM	**Songino Array**	**56.88**	**35**	P		P	07 28 19.6	-0.5
	0.4nm,0.5s,baz=256,slow=5.8,SNR=1.4							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**75.92**	**112**	P		P	07 30 22.7	+0.1
	1.5nm,0.9s,baz=294,slow=4.6,SNR=12							
	1.5nm,0.9s							
ASAR	**Alice Springs**	**76.29**	**116**	P		P	07 30 24.7	+0.1
	0.8nm,0.8s,baz=291,slow=5.3,SNR=7.3							
	0.8nm,0.8s							

*IDC **15** 07:25:58.1±10.0, 1°.24N×127°.30E, h141km±99km, mb3.7/5, mbtmp4.0/6, Error ellipse: s-maj=98.1km s-min=21.6km az=62.0*
*DJA **15** 07:25:59.0±0.5, 1°.N±2°×12°.7E±°, h139km±5km, M4.3/12, mb4.5/5, mB5.4/2, MLv4.1/12, Mw(mB)4.8/2*

ISC 15 07:25:58.5±0.9, 1°.30N±0°.06×127°.33E±0°.07, h150km, n17, σ1§12/24, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TNTI	**Ternate**	**0.53**	**176**	P		**Pn**	**07 26 21.1**	**+1.1**
TNTI					S	**Sn**	**07 26 37.2**	**+0.8**
LBMI	**Labuha**	**1.93**	**175**	P		**Pn**	**07 26 33.1**	**+0.2**
LBMI					S	**Sn**	**07 26 59.4**	**+0.1**
SGSI	**Sangihe**	**2.98**	**323**	P		**Pn**	**07 26 45.0**	**-0.6**
SGSI					S	**Sn**	**07 27 20.4**	**-1.7**
KMSI	**Cibinong**	**3.42**	**258**	P		**Pn**	**07 26 50.8**	**-0.5**
KMSI					S	**Sn**	**07 27 31.2**	**-1.1**
SANI	**Sanana**	**3.59**	**202**	P		**Pn**	**07 26 52.7**	**-0.8**
GTOI	**Gorontalo**	**4.37**	**261**	P		**Pn**	**07 27 05.5**	**+1.9**
GTOI					S	**Sn**	**07 27 56.0**	**+1.7**
NLAI	**Namlea**	**4.51**	**183**	P		**Pn**	**07 27 06.1**	**+0.5**
NLAI					S	**Sn**	**07 27 54.7**	**-3.1**
LUWI	**Luwuk**	**5.12**	**243**	P		**Pn**	**07 27 14.5**	**+1.0**
	1.1nm16µm181nm,0.5s							
MRSI	**Marisa**	**5.45**	**261**	P		**Pn**	**07 27 17.9**	**-0.1**

PAVA	Las Pavas	2.59 299	*eP*		Pn	07 46 26.1	-1.2
DUNO	Dulce Nombre,	2.59 155			Pn	07 46 26.4	-0.7
DUNO	Dulce Nombre,	2.59 155	⇓*iP*		Pn	07 46 26.7	-0.5
GRZA	Playa Garza	2.69 159	⇑*iP*		Pn	07 46 27.4	-1.1
JTS	Las Juntas de	2.69 143	Pn		Pn	07 46 26.8	-1.7
JTS	Las Juntas de	2.69 143	⇓*iP*		Pn	07 46 26.7	-1.8
COVE	Coope Vega, Sa	2.76 128			Pn	07 46 28.1	-1.4
INDI	Punta indio, G	2.78 157	*eP*		Pn	07 46 29.7	0.0
SNET	Serv Nac Est T	2.83 296			Pn	07 46 30.7	+0.1
CEDA	San Andres	3.03 297	IAML			07 47 29.0	
	comp=Z,460nm,0.4s						
CEDA	San Andres	3.03 297	IAML			07 47 29.0	
	comp=Z,460nm,0.4s						
LAFE	Finca La Fe, P	3.11 147	*eP*		Pn	07 46 33.9	-0.3
MTO3	Montecristo	3.31 306			Pn	07 46 36.4	-0.8
ESQI	Esquipulas	3.39 309			Pn	07 46 39.4	+1.3
HDC	Heredia	3.45 134			Pn	07 46 38.6	-0.4
HDC	Heredia	3.45 134	*eP*		Pn	07 46 39.9	+0.9
HDC3	Heredia 3	3.45 134	*eP*		Pn	07 46 39.9	+0.9
SLOZ	Alcaldia de Sa	3.46 297	*eP*		Pn	07 46 39.6	+0.4
CVTR	Volcan Turrial	3.69 130			Pn	07 46 42.6	0.0
RAFA	San Farael, Vo	3.69 132	*eP*		Pn	07 46 43.5	+0.8
LCR2	La Lucha 2	3.71 136	*eP*		Pn	07 46 42.7	0.0
RIMA	Rio Macho	3.79 134			Pn	07 46 43.8	0.0
RIMA	Rio Macho	3.79 134	⇑*eP*		Pn	07 46 44.5	+0.7
BATAN	Batan	3.94 126			Pn	07 46 46.1	+0.5
CDM	Cerro de Muert	4.01 135	*eP*		Pn	07 46 46.6	-0.4
MRVA	Moravia de Chi	4.06 130	*eP*		Pn	07 46 46.1	-1.3
PEZE	Perez Zeledon,	4.19 136			Pn	07 46 47.1	-2.1
SRBA	San Rafael, Bu	4.52 135			Pn	07 46 53.1	-0.6
SRBA	San Rafael, Bu	4.52 135	*eP*		Pn	07 46 53.7	0.0
BRU2	Volcan	5.29 133			Pn	07 47 02.8	-1.6
CDITO	Canoas	5.32 136	Pn		Pn	07 47 02.2	-2.4
RTAL	Retalhuleu	5.36 293			Pn	07 47 06.8	+1.6
PETF	Flores	5.45 325	Pn		Pn	07 47 07.0	+0.6
HUEH	Huehuetenango	5.54 302			Pn	07 47 10.0	+2.1
CCIG	Comitan	6.57 306			Pn	07 47 22.9	+0.9
CMIG	Matias Romero	9.24 301	P		Pn	07 48 00.6	+2.1
	comp=Z,0.3nm,0.3s,baz=180,slow=10.0,SNR=6.2						
CMIG			S		Sn	07 49 42.6	+0.1
	comp=Z,2.2nm,0.8s,baz=26,slow=19,SNR=1.2						
	comp=Z,1.9nm,0.6s						
ROSC	El Rosal	14.30 121	P		P	07 49 16.9	+1.4
	comp=Z,0.7nm,0.3s,baz=336,slow=20,SNR=7.8						
	comp=Z,15nm,0.8s						
SJG	San Juan	20.52 72	LR		LR	07 58 33.5	
	comp=Z,160nm,19.9s,baz=298,slow=36						
WHTX	Lake Whitney,	21.86 335	P		P	07 50 37.4	-0.7
WHTX			IAmb		IAmb	07 50 44.0	
	comp=Z,13nm,1.1s						
CPCT	Cooper Cave	22.98 4	P		P	07 50 48.8	-1.2
CPCT			IAmb		IAmb	07 51 26.5	
	comp=Z,10nm,1.4s						
TXAR	Lajitas Array	23.11 319	P		P	07 50 50.6	-0.8
	comp=Z,0.8nm,0.5s,baz=143,slow=9.0,SNR=19						
	comp=Z,0.8nm,0.5s						
TXAR	Lajitas Array	23.11 319	P		P	07 50 50.1	-1.3
TX32	Lajitas Array	23.11 319	P		P	07 50 51.2	-0.2
TKL	Tuckaleechee C	23.25 6	P		P	07 50 57.9	+5.1
	comp=Z,2.8nm,0.8s,baz=214,slow=8.7,SNR=2.0						
	comp=Z,2.8nm,0.8s						
WMOK	Wichita Mounta	24.79 336	P		P	07 51 07.2	-0.1
WMOK			IAmb		IAmb	07 51 11.8	
	comp=Z,6.1nm,1.0s						
MSTX	Muleshoe	26.00 328	P		P	07 51 16.7	-1.7
MSTX			IAmb		IAmb	07 51 21.9	
	comp=Z,13nm,1.1s						
AMTX	Amarillo	26.19 331	P		P	07 51 20.6	+0.6
AMTX			IAmb		IAmb	07 51 26.4	
	comp=Z,11nm,0.8s						
NOKA	Waynoka	26.51 337	P		P	07 51 22.4	-0.5
NOKA			IAmb		IAmb	07 51 26.4	
	comp=Z,16nm,1.2s						
PDAR	Pinedale Array	36.17 331	P		P	07 52 50.2	+2.1
	comp=Z,0.8nm,0.8s,baz=128,slow=9.6,SNR=6.7						
	comp=Z,0.8nm,0.8s						
REDW	Red Top Meadow	37.24 330	P		P	07 52 56.9	-0.3
REDW			IAmb		IAmb	07 53 01.2	
	comp=Z,7.9nm,0.9s						
LOHW	Long Hollow	37.31 331	P		P	07 52 58.2	+0.4
MOOW	Moose Ponds	37.48 331	P		P	07 52 58.9	-0.3
MOOW			IAmb		IAmb	07 53 03.7	
	comp=Z,2.8nm,0.9s						
NVAR	Mina Array Bea	38.25 318	P		P	07 53 06.2	+0.4
	comp=Z,0.8nm,0.8s,baz=123,slow=6.6,SNR=4.0						
	comp=Z,0.8nm,0.8s						
HOOD	Mount Hood Mea	44.28 325	P		P	07 53 55.2	0.0
ILAR	Eielson Array	66.36 336	P		P	07 56 35.4	+1.5
	comp=Z,0.5nm,0.9s,baz=166,slow=4.2,SNR=3.5						
	comp=Z,0.5nm,0.9s						
EKA	Eskdalemuir Ar	76.15 36	P		P	07 57 37.1	+3.8
	comp=Z,2.4nm,1.1s,baz=264,slow=3.5,SNR=1.9						
	comp=Z,2.4nm,1.1s						
ESDC	Sonseca Array	76.55 52	P		P	07 57 40.3	+4.3
	comp=Z,1.0nm,0.8s,baz=270,slow=4.4,SNR=4.2						
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	140.03 248	PKP		PKiKP	08 05 16.1	-1.1
	comp=Z,0.1nm,0.7s,baz=112,slow=3.4,SNR=1.6						
WRA	Warrumunga Arr	140.05 244	PKP		PKPdf	08 05 13.8	-1.1
	comp=Z,0.2nm,0.6s,baz=90,slow=2.2,SNR=6.2						
PZH	PanZhiHua	140.44 348	PKP		PKPdf	08 05 13.6	-2.0

IDC 15 07:51:01.0±3.2, 53°49N×87°24E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=31.0km s-min=18.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.51	289	*i*		08 01 00.0	
	baz=108,slow=321,SNR=1.4						
ZALV	Zalesovo Beam	1.51	289	Pg	Pn	07 51 28.2	-1.1
	0.9nm,0.3s,baz=106,slow=14,SNR=4.9						
ZALV				Lg	Lg	07 51 48.7	
	0.6nm,0.3s,baz=108,slow=30,SNR=2.1						
KURBB	Kurchatov Arra	6.09	245	Pn	Pn	07 52 33.0	+0.8
	baz=61,slow=14,SNR=5.4						
KURBB				Lg	Lg	07 54 15.4	
	baz=54,slow=22,SNR=3.2						
	0.8nm,0.7s						
MKAR	Makanchi Array	7.42	207	Pn	Pn	07 52 51.5	+1.1
	0.1nm,0.3s,baz=23,slow=18,SNR=3.2						
	0.3nm,0.5s						

INET 15 08:00:59.4±1.1, 12°.49N×86°.64W, h1km±4km, MW4.0
UCR 15 08:01:00.1±1.6, 12°.57N×86°.94W, h30km, MW4.1
SNET 15 08:01:03.5±2.1, 12°.46N×86°.73W, h18km±999km, ML2.9
ISC 15 08:00:58.7±0.9, 12°42N±0°.05×86°.66W±0°.04, h14km±8km, n30, σ1§19/35, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	Cerro Negro	0.09	332	*eP*	Pg	08 01 00.9	-0.9
MOMN	Momotombo	0.11	97	*eP*	Pg	08 01 02.9	+0.8
COPN	Copaltepe	0.25	166	*eP*	Pb	08 01 06.2	+1.3
APYN	Apoyeque	0.35	122	*eP*	Pb	08 01 07.4	+0.7
BRAN	Las Pilas	0.42	45	*eP*	Pn	08 01 09.2	-1.1
CRIN	San Cristobal	0.47	306	*eP*	Pb	08 01 09.8	+0.9
MGAN	Managua	0.48	124	*eP*	Pn	08 01 10.5	-0.7
WILN	Americas 2	0.53	120	*eP*	Pn	08 01 11.1	-0.7
MASN	Masaya	0.66	131	*eP*	Pn	08 01 13.5	-0.1
MATN	Matagalpa	0.87	55	*eP*	Pn	08 01 15.7	-0.9
BOAB	BOACO BROADBAN	0.97	88	*eP*	Pg	08 01 17.7	+0.3
CSGN	Cosiguina Volc	1.04	302	*eP*	Pg	08 01 19.7	+0.8
CNCH	Conchagua	1.43	307	*eP*	Pg	08 01 26.2	0.0
CNCH				*eS*	Sg	08 01 47.4	+2.5
LCND	La Caada	1.49	306	*eP*	Pg	08 01 27.4	0.0
HZTE	Horizontes, Gu	1.99	148	*eP*	Pb	08 01 34.9	+0.2
COEB	Comit de Eme	2.12	301	*eP*	Pb	08 01 37.5	+0.6
COEB				*eS*	Sb	08 02 02.2	-0.9
VMAR	Armenia, Volca	2.19	137	*eP*	Pb	08 01 38.5	+0.3
CUI	Cuipilapa	2.28	140	*eP*	Pb	08 01 39.4	-0.3
CUI				*eS*	Sg	08 02 11.2	-1.0
ORTG	Ortega, Santa	2.36	150	*eP*	Pb	08 01 40.3	-0.7
ORTG				*eS*	Sb	08 02 12.8	+2.8
SCLA	Alcaldia de Sa	2.39	302	*eP*	Pb	08 01 41.6	+0.1
COEG	Centro de Oper	2.47	299	*eP*	Pb	08 01 42.3	-0.7
COEG				IAML		08 02 25.4	
	comp=Z,61nm,0.3s						
SAJU	San Juanillo,	2.52	158	*eP*	Pb	08 01 42.7	-0.9
NICO	Nicoya	2.56	152	*eP*	Pb	08 01 43.7	-0.8
PAVA	Las Pavas	2.57	300	*eP*	Pb	08 01 44.2	-0.4
SJTE	Alcalda de S	2.58	298	*eP*	Pb	08 01 43.3	-1.5
DUNO	Dulce Nombre,	2.59	154	*eP*	Pb	08 01 43.6	-1.3
DUNO				*eS*	Sb	08 02 17.2	+0.5
GRZA	Playa Garza	2.68	158	*eP*	Pb	08 01 44.6	-1.9
JTS	Las Juntas de	2.70	142	*eP*	Pb	08 01 44.7	-2.0
COVE	Coope Vega, Sa	2.78	127	*eP*	Pb	08 01 48.7	+0.5
LAFE	Finca La Fe, P	3.11	146	*eP*	Pb	08 01 51.6	-2.2

ROM 15 08:15:14.9±0.3, 42°830N±0°.005×13°26E±0°.01, h8km±1km, ML1.0/3, 1C, Error ellipse: s-maj=0.7km s-min=0.6km az=96.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	Castelluccio d	0.04	269	⇑P	Pg	08 15 16.3	-0.4
T1242				S	Sg	08 15 17.3	-0.5
T1242				AML	AML		
	comp=E,1830μm,1.2s						
T1242				AML	AML		
	comp=E,202μm,1.1s						
T1242				AML	AML		
	comp=N,322μm,0.3s						
T1242				AML	AML		
	comp=N,1932μm,1.0s						
MMO1	Montemonaco	0.09	37	P	Pg	08 15 17.2	+0.1
MMO1				S	Sg	08 15 19.1	+0.4
MC2	Monte Cornacci	0.10	330	P	Pg	08 15 17.5	+0.1
T1202	Accumoli, Fraz	0.13	190	P	Pg	08 15 18.0	+0.2
T1202				S	Sg	08 15 20.9	+1.1
T1202				AML	AML		
	comp=E,291μm,1.1s						
T1202				AML	AML		
	comp=N,459μm,0.2s						
T1202				AML	AML		
	comp=N,456μm,0.2s						
T1202				AML	AML		
	comp=E,301μm,1.1s						
T1241	Roccafluvione,	0.13	78	P	Pg	08 15 18.0	+0.2
T1241				S	Sg	08 15 20.6	+0.8
T1241				AML	AML		
	comp=N,59μm,0.7s						
T1241				AML	AML		
	comp=N,59μm,0.7s						
T1241				AML	AML		
	comp=E,80μm,1.0s						
T1204	Amatrice, Fraz	0.16	163	P	Pg	08 15 18.3	0.0
T1204				S	Sg	08 15 21.7	+1.0
T1243	Rocca Santa Ma	0.20	133	P	Pg	08 15 18.9	-0.1
SMA1	SAN MARTINO	0.21	163	P	Pg	08 15 19.1	0.0
SMA1				S	Sg	08 15 22.8	+0.8
TERO	Teramo	0.33	129	P	Pg	08 15 21.2	-0.2
TERO				S	Sg	08 15 26.8	+1.0
TERO				AML	AML		
	comp=E,25μm,0.7s						
TERO				AML	AML		
	comp=N,28μm,0.8s						
T1247	Pizzolo (AQ)	0.39	175	S	Sg	08 15 27.0	-0.7

ATH 15 08:15:40.7, 38°.96N×27°.79E, h13km±5km, ML3.7/3, Error ellipse: s-maj=6.9km s-min=1.7km az=244.0
DDA 15 08:15:42.5±0.0, 38°.91N×27°.74E, h12km, MW3.7
ISK 15 08:15:42.2, 38°.91N×27°.72E, h12km, ML3.8/37
THE 15 08:15:43.4, 38°.92N×27°.79E, h9km±3km, ML3.6/8, Error ellipse: s-maj=3.3km s-min=1.0km az=87.0
ISC 15 08:15:42.8±0.8, 38°91N±0°.02×27°73E±0°.01, h11km±5km, n104, σ0§75/150, 10C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	Akhisar	0.07	117	PG	Pg	08 15 44.8	-0.3
AKHS	Akhisar	0.07	116	P	Pg	08 15 45.0	-0.1
AKHS				S	Sg	08 15 46.9	+0.1
GOMA	Golmarmara-Man	0.25	144	PG	Pg	08 15 47.9	0.0
GOMA				SG	Sg	08 15 52.2	+0.9
STEP	BALIKESIR_Sava	0.47	359	P	Pg	08 15 51.6	-0.3
STEP				S	Sg	08 15 58.8	+0.6
ZEDA	zmir-Bergama	0.51	276	P	Pg	08 15 53.0	+0.2
ZEDA				S	Sb	08 16 00.7	-0.6
DKL	Dikili	0.66	284	PG	Pg	08 15 55.7	+0.1
DKL				SG	Sg	08 16 04.9	+0.5
MANT	Manisa	0.77	123	P	Pg	08 15 57.5	-0.1
MANT				S	Sb	08 16 08.5	-0.4
DEMI	Demirci	0.78	80	P	Pg	08 15 57.8	0.0
DEMI				S	Sb	08 16 08.5	-0.5
BUHA	Balikesir, Bur	0.78	319	P	Pg	08 15 57.6	-0.2
BUHA				S	Sb	08 16 09.8	+0.9
FOCM	Foa	0.81	256	PG	Pg	08 15 58.1	-0.2
FOCM				SG	Sb	08 16 09.5	-0.2
BALY	Balya	0.83	354	P	Pg	08 15 57.4	-1.4
BALY				S	Sg	08 16 09.2	-0.5
DURS	Dursunbey	0.90	40	P	Pg	08 15 59.2	-0.9
DURS				S	Sb	08 16 12.3	-0.2
AYVA	Ayvalik	0.90	296	P	Pg	08 16 00.2	0.0
AYVA				S	Sb	08 16 13.2	+0.8
AYDB	Zeytinkoy-Aydi	0.97	173	PG	Pg	08 16 01.4	-0.1
AYDB				SG	Sb	08 16 15.0	+0.5
KRBN	Karaburun	0.97	251	PG	Pg	08 16 01.2	-0.3
KRBN				SG	Sb	08 16 14.9	+0.4
DST	Dursunbey	0.98	45	PG	Pb	08 16 01.6	-0.1
DST				SG	Sn	08 16 15.6	-0.8
SMAA	Simav-Kutahya	0.99	79	PG	Pb	08 16 02.0	0.0
USAK	Uak-Merkez	1.02	101	P	Pg	08 16 01.9	-0.6
USAK				S	Sn	08 16 17.7	+0.2
URLA	Izmir	1.05	239	PG	Pb	08 16 01.8	-1.1
URLA	Izmir	1.05	239	P	Pb	08 16 01.5	-1.4
URLA				S	Sb	08 16 16.3	-0.3
DGB	zmir	1.09	218	P	Sb	08 16 03.0	-0.5
DGB				S	Sn	08 16 18.7	-0.2
GONE	Gonen-Balikesi	1.14	358	PN	Pn	08 16 04.4	-0.2
ZEYE	Izmir, Urla-Ze	1.17	236	P	Pb	08 16 04.5	-0.5
ZEYE				S	Sg	08 16 20.8	+0.3
PRK	Paraskevi	1.19	287	P	Pg	08 16 06.2	+0.7
PRK				S	Sn	08 16 22.7	+1.3
	3μm,0.8s						
BAYC	CANAKKALE_Bayr	1.24	312	P	Pn	08 16 05.8	-0.3
BAYC				S	Sb	08 16 22.1	0.0
AYDN	Tasoluk	1.25	175	P	Pn	08 16 06.0	-0.3
AYDN				S	Sg	08 16 23.2	+0.1
GCAM	G?zelcaml?	1.27	198	PN	Pn	08 16 05.7	-0.7
GCAM	G?zelcaml?	1.27	198	P	Pn	08 16 05.5	-0.9
GCAM				S	Sg	08 16 24.6	+1.0
GEDZ	Gediz	1.31	84	PN	Pb	08 16 07.5	0.0
KNL	Balıkesir	1.37	353	P	Pb	08 16 08.1	-0.3
KNL				S	Sn	08 16 25.8	-0.2
KOCA	Canakkale, Ayv	1.37	296	P	Pn	08 16 07.8	-0.1
KOCA				S	Sb	08 16 26.1	+0.1
GDZ	Gediz	1.37	82	P	Pb	08 16 08.2	-0.4
GDZ				S	Sn	08 16 26.0	-0.3
SMG	Samos	1.39	211	P	Pn	08 16 07.3	-0.8
SMG				S	Sg	08 16 27.3	-0.2
	2μm,0.4s						
SMG	Samos	1.39	211	P	Pn	08 16 08.4	+0.3
SMG				S	Sg	08 16 27.6	+0.1
SMG				AML	AML	08 16 31.1	
	comp=E,4099μm,0.4s						
SMG				AML	AML	08 16 32.1	
	comp=N,5691μm,0.4s						
CHOS	Chios island	1.41	249	P	Pn	08 16 08.5	0.0
CHOS				S	Sg	08 16 28.8	+0.5
	comp=N,4μm,0.4s						
CHOS	Chios island	1.41	249	PN	Pn	08 16 08.5	0.0
CHOS	Chios island	1.41	249	P	Pn	08 16 08.4	0.0
CHOS				S	Sg	08 16 28.8	+0.5
CHOS				AML	AML	08 16 30.7	
	comp=E,9154μm,0.4s						
CHOS				AML	AML	08 16 32.1	
	comp=N,7778μm,0.4s						
EZN	Ezine	1.42	310	P	Pn	08 16 08.4	-0.1
EZN				S	Sb	08 16 27.4	0.0
	comp=N,702nm,0.7s						
EZN	Ezine	1.42	310	PN	Pn	08 16 08.3	-0.2
EDC	Edincik	1.44	4	PN	Pn	08 16 08.7	-0.1
ORLT	Orhaneli	1.45	38	PN	Pb	08 16 09.2	-0.6
TVSB	Tavsanli	1.45	68	PN	Pn	08 16 09.1	+0.1
PASA	Karahalli, USA	1.48	112	P	Pb	08 16 10.1	-0.3
PASA				S	Sg	08 16 30.3	-0.3
SIGR	SIGRI	1.49	282	P	Pn	08 16 09.2	-0.3
SIGR				S	Sn	08 16 29.0	0.0
	comp=N,1μm,0.4s						
SIGR	SIGRI	1.49	282	PN	Pn	08 16 09.3	-0.3
SIGR	SIGRI	1.49	282	P	Pn	08 16 09.2	-0.3
SIGR				AML	AML	08 16 34.8	
	comp=N,2005μm,0.4s						
SIGR				AML	AML	08 16 34.8	
	comp=E,2016μm,0.4s						
DDIM	Aydin, Didim	1.50	195	P	Pg	08 16 11.2	-0.3
DDIM				S	Sg	08 16 32.0	+1.0
KHL	Karahalli	1.52	112	PN	Pn	08 16 10.1	+0.1
BOZC	Bozcaada	1.60	306	PN	Pn	08 16 11.2	+0.2
BOZC	Bozcaada	1.60	306	P	Pn	08 16 10.8	-0.2
BOZC				S	Sb	08 16 32.1	-0.4
ULDT	Uludag	1.64	41	P	Pb	08 16 12.9	-0.3
ULDT				S	Sn	08 16 32.6	-0.3
ECEA	Canakkale, Ece	1.65	314	P	Pn	08 16 12.0	+0.3
ECEA				S	Sb	08 16 33.6	-0.5
MDNY	Mudanya-Bursa	1.71	31	PN	Pn	08 16 12.4	0.0
MULA	Mugla, Merkez-	1.72	164	P	Pn	08 16 12.6	0.0
MULA				S	Sg	08 16 38.4	+0.4
TAVA	DENIZLI_Tavas	1.72	147	P	Pn	08 16 13.1	+0.4
TAVA				S	Sg	08 16 38.6	+0.6
IGD	Bursa	1.77	40	P	Pb	08 16 15.2	0.0
IGD				S	Sb	08 16 37.3	0.0
GELI	Tayfur-Gelibol	1.77	327	PN	Pn	08 16 13.4	0.0
ANDZ	Kutahya, Merke	1.79	70	P	Pb	08 16 15.6	+0.1
ANDZ				S	Sg	08 16 40.0	-0.2
YER	Yerkesik	1.82	166	P	Pn	08 16 13.9	-0.2
YER				S	Sb	08 16 38.1	-1.0
YER	Yerkesik	1.82	166	PN	Pn	08 16 14.0	-0.2
RKY	Sarkoy-Tekirda	1.83	347	PN	Pn	08 16 14.1	-0.1
SART	Tekirdag	1.83	347	P	Pb	08 16 16.5	+0.3
SART				S	Sn	08 16 36.8	-0.6
BDRM	Kayabasi	1.86	187	P	Pg	08 16 17.9	-0.4
BDRM				S	Sb	08 16 40.6	+0.6
ARMT	Armutlu	1.87	27	PN	Pn	08 16 14.2	-0.5
BODT	Bodrum	1.88	190	P	Pn	08 16 13.0	-1.7
BODT	Bodrum	1.88	190	PN	Pn	08 16 13.1	-1.7
GEMT	Gemlik	1.89	36	PN	Pn	08 16 14.7	-0.3
APMY	Acipayam-Deniz	1.90	139	PN	Pn	08 16 15.3	+0.2
GADA	Gvkgeada	1.91	313	PN	Pn	08 16 15.4	+0.2
AUBOZ	BOZOYUK	2.04	60	PN	Pn	08 16 17.7	+0.6
BASM	Basmaki-Afyon	2.07	118	PN	Pn	08 16 17.8	+0.2
CAVI	Cavuskoy	2.08	51	PN	Pn	08 16 17.5	-0.1
YLV	Yalova	2.08	37	PN	Pn	08 16 17.1	-0.6
ADVT	Abdulvahap	2.17	45	PN	Pn	08 16 18.4	-0.4
TURN	Turunc	2.17	169	PN	Pn	08 16 18.6	-0.2
DAT	Datca	2.18	183	P	Pn	08 16 19.2	+0.2
DAT	Datca	2.18	183	PN	Pn	08 16 19.3	+0.2
ENEZ	Enez	2.19	327	P	Pn	08 16 19.7	+0.6
ENEZ				S	Sb	08 16 47.9	-1.7
	comp=E,3μm,0.5s						
LIA	Limnos Island	2.21	297	P	Pn	08 16 19.5	+0.2
LIA				S	Sb	08 16 48.7	-1.3
	comp=E,190nm,0.7s						
LIA	Limnos Island	2.21	297	P	Pn	08 16 19.6	+0.3
DALY	Dalyan (Mula)	2.21	160	PN	Pn	08 16 19.8	+0.4
AVCI	Avcilar-stanb	2.22	20	PN	Pn	08 16 19.9	+0.4
SHUT	Suhut-Afyon	2.23	98	PN	Pn	08 16 20.2	+0.4
KOSK	Kos Island	2.24	196	PN	Pn	08 16 20.1	+0.4
SMTH	Samothraki Isl	2.31	313	P	Pn	08 16 20.7	0.0
SMTH				S	Sn	08 16 49.3	+0.2
SMTH	Samothraki Isl	2.31	313	P	Pn	08 16 20.6	+0.0
ALN	Alexandroupoli	2.37	327	P	Pn	08 16 21.8	+0.2
ALN				S	Sn	08 16 50.6	-0.1
	comp=E,732nm,0.4s						
ISK	Istanbul-Kandi	2.38	25	P	Pn	08 16 20.9	-0.8
ISK				S	Sn	08 16 49.5	-1.4
APE	Apeiranthos	2.53	224	⇑P	Pn	08 16 21.6	-2.2
ARG	Arkhangelos	2.71	173	P	Pn	08 16 26.9	+0.7
ARG				S	Sn	08 16 59.5	+0.5
KDZE	Karadeniz Ereo	3.72	49	⇓P	Pg	08 16 55.2	+1.2
ANTO	Ankara	4.04	75	⇑P	Pg	08 17 00.8	+0.7
VTS	Vitosha	5.04	319	⇑P	Pn	08 16 58.6	+0.3
BLKB	Belogradchik	6.06	323	⇑P	Pn	08 17 12.9	+0.6
BOVS	Bovan	6.55	318	⇓P	Pn	08 17 19.1	+0.1
MLR	Muntele Rosu	6.71	349	⇑P	Pn	08 17 27.8	+6.5
VOIR		6.82	344	⇑P	Pn	08 17 27.1	+4.3
PLOR	Plostina	6.98	354	⇑P	Pn	08 17 31.7	+6.7
VRI	Vrincioaia	6.99	354	⇑P	Pn	08 17 31.4	+6.3
HERR	Herculane	7.16	328	⇓P	Pn	08 17 28.1	+0.7
MDVR	Moldovita	7.39	324	⇑P	Pn	08 17 30.9	+0.3
GZR	Gura Zlata	7.45	332	⇓P	Pn	08 17 32.5	+1.0
DRGR		8.70	337	⇓P	Pn	08 17 52.0	+3.5
BURAR	Bucovina Array	8.89	349	⇑P	Pn	08 17 57.3	+6.1

IDC 15 08:19:32.2±3.2, 53°48N×87°26E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=29.6km s-min=18.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.52	289	*i*		08 29 30.0	
	baz=107,slow=320,SNR=1.2						
ZALV	Zalesovo Beam	1.52	289	Pg	Pn	08 19 59.9	-0.8
	0.5nm,0.3s,baz=103,slow=20,SNR=4.1						
ZALV				Lg	Lg	08 20 20.4	
	0.9nm,0.3s,baz=103,slow=28,SNR=3.7						
KURBB	Kurchatov Arra	6.10	245	Pn	Pn	08 21 04.2	+0.7
	baz=59,slow=14,SNR=3.7						
KURBB				Lg	Lg	08 22 45.3	

5.2nm,1.1s
BVAR Borovoye Array 10.39 274 Pn Pn 08 26 37.1 +0.6
0.2nm,0.3s,baz=76,slow=12,SNR=2.9
BVAR Sn **Sn 08 28 31.6 -2.0**
0.2nm,0.3s,baz=84,slow=26,SNR=5.2
0.4nm,0.4s

IDC ***15*** *08:29:41.4±4.0,52.°09N×160.°72E,h0km,mb3.9/2, mbtmp3.9/3,ML3.2/1,Error ellipse: s-maj=102.6km s-min=44.1km az=11.0*
KRSC ***15*** *08:29:46.0±1.7,52.°59N×160.°84E,h18km±25km,ML4.0*
ISC 15 08:29:43.7±1.9,52.°62N±0.°07×160.°95E±0.°05,h6km±11km, n32,σ0°89/39,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.74**	**311**	*eP*		**Pn**	**08 30 00.5**	**-0.1**
SPN				*eS*		**Sg**	**08 30 07.7**	**+0.3**
NLC	**Nalytchevo**	**1.12**	**300**	*eP*		**Pn**	**08 30 05.8**	**0.0**
DALK	**Dalny**	**1.39**	**288**	*eP*		**Pb**	**08 30 10.1**	**0.0**
DALK				*eS*		**Sb**	**08 30 27.4**	**-0.7**
SDLR	**Sedlovina**	**1.41**	**299**	*eP*		**Pb**	**08 30 10.6**	**+0.1**
UGLR	**Uglovaya**	**1.42**	**295**	*eP*		**Pb**	**08 30 10.9**	**+0.4**
SMAR	**Somma**	**1.45**	**297**	*eP*		**Pb**	**08 30 11.1**	**-0.1**
PET	**Petropavlovsk**	**1.45**	**287**	*eP*		**Pb**	**08 30 11.0**	**-0.1**
PET				*eS*		**Sn**	**08 30 28.7**	**-1.0**
AVH	**Avacha**	**1.49**	**297**	*i P*		**Pb**	**08 30 11.9**	**+0.2**
KRER	**Koryakskii**	**1.50**	**298**	*i P*		**Pb**	**08 30 12.2**	**+0.2**
RUS	**Russkaya**	**1.50**	**264**	*eP*		**Pb**	**08 30 11.8**	**-0.1**
RUS				*eS*		**Sn**	**08 30 29.9**	**-1.0**
KOK	**Koryaka**	**1.55**	**297**	*eP*		**Pb**	**08 30 12.9**	**0.0**
KRX	**Arik**	**1.57**	**299**	*i P*		**Pb**	**08 30 13.0**	**-0.3**
KII	**Karymskiy**	**1.68**	**328**	*eP*		**Pg**	**08 30 16.0**	**+0.1**
MTVR	**Mutnovka**	**1.69**	**266**	*eP*		**Pn**	**08 30 14.8**	**+0.9**
MTVR				*eS*		**Sn**	**08 30 35.2**	**-0.8**
KRMR	**Karymshinskiy**	**1.73**	**278**	*eP*		**Pn**	**08 30 13.9**	**-0.3**
KRMR				*eS*		**Sn**	**08 30 35.1**	**-1.5**
GRL	**Gorelyy**	**1.76**	**269**	*eP*		**Pb**	**08 30 16.5**	**+0.1**
GRL				*eS*		**Sn**	**08 30 37.5**	**0.0**
ASAK	**Asacha**	**1.88**	**264**	*eP*		**Pb**	**08 30 18.4**	**0.0**
ASAK				*eS*		**Sb**	**08 30 41.4**	**-0.8**
KDTR	**Khodutka, Kamc**	**1.95**	**246**	*eP*		**Pn**	**08 30 18.7**	**+1.5**
MKZ	**Mys Kozlova**	**1.99**	**13**	*eP*		**Pg**	**08 30 22.1**	**+0.2**
MKZ				*eS*		**Sb**	**08 30 46.2**	**+0.8**
PETK	**Petropavlovsk-** 36nm,0.3s,baz=97,slow=17,SNR=125	**2.03**	**285**	Pn		**Pn**	**08 30 19.1**	**+0.7**
PETK				Sn		**Sn**	**08 30 44.3**	**+0.3**
	24nm,0.3s,baz=115,slow=19,SNR=8.1 41nm,0.3s							
GNL	**Ganaly**	**2.11**	**302**	*i P*		**Pb**	**08 30 21.9**	**-0.4**
APC	**Apacha**	**2.32**	**279**	*eP*		**Pb**	**08 30 25.0**	**-0.9**
APC				*eS*		**Sb**	**08 30 53.4**	**-1.4**
TUMR	**Tumrok**	**2.71**	**350**	*eP*		**Pb**	**08 30 32.7**	**+0.1**
TUMR				*eS*		**Sb**	**08 31 05.6**	**-0.5**
BKI	**Bering**	**3.94**	**47**	*eP*		**Pb**	**08 30 50.7**	**-2.7**
BKI				*eS*		**Sn**	**08 31 32.7**	**+1.7**
H11N2	**WAKE ISLAND Hy** baz=354,slow=76	**33.15**	**170**	T		T	09 11 42.4	
H11N3	**WAKE ISLAND Hy** baz=354,slow=76	**33.17**	**170**	T		T	09 11 52.2	
H11N1	**WAKE ISLAND Hy** baz=354,slow=76	**33.17**	**170**	T		T	09 11 43.7	
H11S1	**WAKE ISLAND Hy** baz=352	**34.34**	**170**	T		T	09 13 12.0	
H11S3	**WAKE ISLAND Hy** baz=352	**34.35**	**170**	T		T	09 13 12.7	
H11S2	**WAKE ISLAND Hy** baz=352	**34.36**	**170**	T		T	09 13 12.8	
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=53,slow=6.0,SNR=7.5 0.4nm,0.5s	**48.83**	**296**	P		**P**	**08 38 28.7**	**-0.9**
FINES	**FINESS Array B** 1.4nm,0.6s,baz=39,slow=7.3,SNR=9.7 1.4nm,0.6s	**60.76**	**337**	P		**P**	**08 39 57.3**	**+1.7**

INET ***15*** *08:51:46.8±0.7,12.°50N×86.°65W,h1km±1km,MW4.1*
UCR ***15*** *08:51:49.4±1.6,12.°71N×86.°55W,h20km,MW4.2*
SNET ***15*** *08:51:54.4±1.1,12.°72N×86.°81W,h10km,ML3.0*
ISC 15 08:51:47.6±1.1,12.°57N±0.°05×86.°62W±0.°04,h7km±9km, n23,σ1°01/29,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.11**	**227**	*eP*		**Pg**	**08 51 49.2**	**-0.7**
CNGN				*eS*		**Sg**	**08 51 51.5**	**-0.1**
MOMN	**Momotombo**	**0.18**	**155**	*eP*		**Pg**	**08 51 52.2**	**+1.0**
MOMN				*eS*		**Sg**	**08 51 54.5**	**+0.8**
COPN	**Copaltepe**	**0.39**	**176**	*eP*		**Pg**	**08 51 55.2**	**0.0**
APYN	**Apoyeque**	**0.43**	**142**	*eP*		**Pg**	**08 51 56.5**	**+0.6**
CRIN	**San Cristobal**	**0.44**	**287**	*eP*		**Pb**	**08 51 57.9**	**+0.2**
MGAN	**Managua**	**0.56**	**139**	*eP*		**Pb**	**08 51 59.4**	**-0.3**
MGAN				*eP*		**Pg**	**08 51 59.5**	**+1.2**
WILN	**Americas 2**	**0.59**	**134**	*eP*		**Pb**	**08 52 00.1**	**-0.1**
MASN	**Masaya**	**0.74**	**142**	*eP*		**Pb**	**08 52 02.6**	**-0.2**
MATN	**Matagalpa**	**0.76**	**62**	*eP*		**Pn**	**08 52 04.6**	**-0.2**
BOAB	**BOACO BROADBAN**	**0.94**	**97**	*eP*		**Pn**	**08 52 06.7**	**-0.5**
CSGN	**Cosiguina Volc**	**1.00**	**294**	*eP*		**Pn**	**08 52 07.9**	**-0.2**
CNCH	**Conchagua**	**1.38**	**301**	*eP*		**Pg**	**08 52 14.4**	**+0.4**
CNCH				IAML			08 52 43.8	
	comp=Z,743nm,0.4s							
LCND	**La Caada**	**1.44**	**301**	*eP*		**Pg**	**08 52 15.3**	**+0.1**
LCND				IAML			08 52 44.6	
	comp=Z,260nm,0.5s							
ACON	**Acoyapa**	**1.54**	**113**	*eP*		**Pn**	**08 52 14.9**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.61**	**337**	*eP*		**Pg**	**08 52 19.2**	**+0.8**
COEB	**Comit de Eme**	**2.08**	**296**	*eP*		**Pb**	**08 52 26.3**	**+0.6**
COEB				*eS*		**Sb**	**08 52 51.1**	**-0.6**
COEB				IAML			08 53 05.8	
	comp=Z,49nm,0.3s							
HZTE	**Horizontes, Gu**	**2.10**	**151**	*eP*		**Pn**	**08 52 24.3**	**+1.1**
VMAR	**Armenia, Volca**	**2.28**	**140**	*eP*		**Pb**	**08 52 28.0**	**-1.2**
CUI	**Cuipilapa**	**2.38**	**143**	*eP*		**Pn**	**08 52 28.2**	**+1.2**
CUI				*eS*		**Sb**	**08 52 58.4**	**-2.0**
COEG	**Centro de Oper**	**2.44**	**296**	*eP*		**Pb**	**08 52 31.6**	**-0.2**
ORTG	**Ortega, Santa**	**2.47**	**153**	*eP*		**Pn**	**08 52 29.2**	**+0.8**
ORTG				*eS*		**Sb**	**08 53 01.3**	**-1.9**
DUNO	**Dulce Nombre,**	**2.71**	**156**	*eP*		**Pn**	**08 52 33.6**	**+2.0**
JTS	**Las Juntas de**	**2.79**	**144**	*eP*		**Pn**	**08 52 34.5**	**+1.7**

MAN 15 09:08:09.6,15.°78N×120.°22E,h11km,mb4.1,ML2.9, MS2.6,3C-4D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.30**	**269**	*eP*		Pg	09 08 15.5	-0.2
SCZP				*eS*		Sg	09 08 20.7	+1.0
SMPP	**San Manuel, Pa**	**0.58**	**50**	*eP*		Pb	09 08 22.5	+0.7
SMPP				*eS*		Sn	09 08 31.9	-1.4
BOLP	**Bolinao**	**0.67**	**334**	*eP*		Pb	09 08 23.4	0.0
BOLP				*eS*		Sn	09 08 34.1	-1.4
PCPH	**Palayan**	**0.87**	**104**	*eP*		Pg	09 08 25.8	-0.6
PCPH				*eS*		Sb	09 08 38.6	+0.2
BALP	**Baler**	**1.30**	**91**	*i P*		Pn	09 08 33.9	0.0
BALP				*eS*		Sn	09 08 51.3	0.0
CAUP	**Cauayan**	**1.93**	**53**	*i P*		Pb	09 08 45.3	+0.5
LQP	**Lukban**	**2.09**	**142**	*eP*		Pn	09 08 43.3	-1.5
LQP				*eS*		Sg	09 09 17.4	+0.5

IDC ***15*** *09:28:45.4±1.6,52.°81N×171.°84W,h0km,mb3.4/5, mbtmp3.5/6,ML3.4/1,Error ellipse: s-maj=109.7km s-min=21.7km az=155.0*
NEIC ***15*** *09:28:53.1±1.7,52.°1N±0.°3×171.°1W±0.°1,h34km±19km, Error ellipse: s-maj=41.1km s-min=4.8km az=163.0*
AEIC ***15*** *09:28:53.3±2.1,52.°1N±0.°2×171.°1W±0.°1,h38km±10km, ML3.5/28,ML4.0/6(NEIC),Error ellipse: s-maj=23.4km s-min=5.5km az=159.0*
ISC 15 09:28:53.9±0.8,52.°1N±0.°1×171.°08W±0.°05,h42km,n45, σ1°23/47,mb3.4/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLES	**Cleveland East**	**1.04**	**44**			**Pn**	**09 29 10.9**	**-1.0**
CLES						**Sn**	**09 29 24.5**	**-0.7**
CLES	**Cleveland East** comp=E,10µm,0.3s	**1.04**	**44**	IAML			09 29 26.5	
CLES				IAML			09 29 26.5	
	comp=N,8µm,0.4s							
CLCO	**Concord Point,**	**1.09**	**49**			**Pn**	**09 29 11.5**	**-1.1**
CLCO						**Sn**	**09 29 25.8**	**-0.7**
NIKH	**Nikolski High**	**1.62**	**56**			**Pn**	**09 29 18.5**	**-1.5**
NIKH						**Sn**	**09 29 37.2**	**-2.4**
KOSE	**Korovin Southe**	**1.84**	**279**			**Pn**	**09 29 22.3**	**-0.7**
KOFP	**Korovin Flat P**	**1.86**	**277**			**Pn**	**09 29 22.4**	**-0.9**
KOFP						**Sn**	**09 29 44.9**	**-0.8**
KOKL	**Mount Kliuchef**	**1.93**	**278**			**Pn**	**09 29 23.3**	**-0.9**
KOKL						**Sn**	**09 29 46.8**	**-0.5**
OKSP	**Okmok Steeple**	**2.06**	**54**			**Pn**	**09 29 25.4**	**-0.7**
OKSP						**Sn**	**09 29 49.6**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**2.26**	**54**			**Pn**	**09 29 28.7**	**-0.1**
OKNC	**Okmok New Cone**	**2.26**	**51**			**Pn**	**09 29 29.1**	**+0.4**
OKRE	**Okmok R'deer P**	**2.28**	**50**			**Pn**	**09 29 29.3**	**+0.3**
MAPS	**Pakushin South**	**3.04**	**54**			**Pn**	**09 29 39.5**	**0.0**
MAPS						**Sn**	**09 30 13.7**	**-0.8**
GSTR	**Great Sitkin T**	**3.07**	**272**	Pn		**Pn**	**09 29 37.8**	**-2.0**
GSTR						**Sn**	**09 30 16.2**	**+0.9**
MGOD	**Makushin Gods**	**3.07**	**54**			**Pn**	**09 29 40.0**	**+0.1**
GSTD	**Great Sitkin T**	**3.12**	**271**			**Pn**	**09 29 39.8**	**-0.8**
GSTD						**Sn**	**09 30 15.9**	**-0.7**
GSCK	**Great Sitkin C**	**3.14**	**271**			**Pn**	**09 29 39.7**	**-1.0**
MNAT	**Makushin Natee**	**3.21**	**54**			**Pn**	**09 29 42.0**	**+0.3**
MNAT						**Sn**	**09 30 17.1**	**-1.7**
UNV	**Unalaska Valle**	**3.28**	**56**			**Pn**	**09 29 42.7**	**0.0**
ADK	**Adak**	**3.47**	**269**			**Pn**	**09 29 44.1**	**-1.1**
ADK	**Adak** comp=N,291nm,0.6s	**3.47**	**269**	IAML			09 30 32.6	
ADK				IAML			09 30 36.1	
	comp=N,314nm,1.1s							
AKBBA	**Akutan Broad B**	**3.70**	**55**			**Pn**	**09 29 49.6**	**+1.1**
KIWB	**Kanaga Island**	**3.76**	**269**			**Pn**	**09 29 48.2**	**-1.0**
AKUT	**Akutan**	**3.80**	**55**	Pn		**Pn**	**09 29 52.5**	**+2.7**
AKUT				IAML			09 30 48.9	
	comp=E,104nm,3.0s							
AMKA	**Amchitka**	**6.02**	**267**	Pn		**Pn**	**09 30 20.7**	**+0.5**
SDPT	**Sand Point**	**7.09**	**58**	Pn		**Pn**	**09 30 36.7**	**+1.8**
OHAK	**Old Harbor**	**11.51**	**56**	Pn		**Pn**	**09 31 37.6**	**+2.3**
O18K	**Koktuh Hills**	**11.79**	**43**	Pn		**Pn**	**09 31 41.2**	**+1.9**
N18K	**Kilae Creek**	**12.01**	**38**	Pn		**Pn**	**09 31 43.3**	**+1.0**
KDAK	**Kodiak Island** comp=E,0.2nm,0.3s,baz=260,slow=6.1,SNR=8.4 comp=E,3.6nm,0.8s	**12.05**	**54**	Pn		**Pn**	**09 31 40.3**	**-2.5**
P19K	**Oil Pt**	**12.54**	**46**	Pn		**Pn**	**09 31 49.7**	**+0.3**
M19K	**Big River Lodg**	**13.35**	**36**	Pn		**Pn**	**09 32 02.2**	**+1.6**
L19K	**White Mountain**	**13.37**	**35**	Pn		**Pn**	**09 32 02.4**	**+1.6**
SEW	**Seward**	**14.44**	**48**	Pn		**Pn**	**09 32 15.2**	**0.0**
H11N2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=9.3	**36.59**	**216**	T		T	10 15 02.8	
H11N3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=9.3	**36.59**	**216**	T		T	10 14 59.5	
H11N1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=7.4	**36.60**	**216**	T		T	10 15 01.4	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=15	**37.78**	**216**	T		T	10 16 41.7	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=14	**37.80**	**216**	T		T	10 16 43.4	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=17	**37.80**	**216**	T		T	10 16 43.9	
NVAR	**Mina Array Bea** comp=E,0.3nm,0.7s,baz=292,slow=8.6,SNR=3.7 comp=E,0.3nm,0.7s	**38.72**	**89**	P		**P**	**09 36 14.9**	**+1.0**
PDAR	**Pinedale Array** comp=E,0.6nm,0.7s,baz=308,slow=4.4,SNR=7.6 comp=E,0.6nm,0.7s	**41.49**	**78**	P		**P**	**09 36 37.5**	**+0.6**
TXAR	**Lajitas Array** comp=E,0.1nm,0.6s,baz=310,slow=7.0,SNR=2.5 comp=E,0.1nm,0.6s	**53.81**	**87**	P		**P**	**09 38 12.1**	**-0.2**
WRA	**Warramunga Arr** comp=E,0.2nm,0.6s,baz=39,slow=6.7,SNR=2.6 comp=E,0.2nm,0.6s	**86.01**	**230**	P		**P**	**09 41 29.4**	**-0.3**
ASAR	**Alice Springs** comp=E,0.5nm,0.6s,baz=33,slow=4.7,SNR=8.9 comp=E,0.5nm,0.6s	**89.41**	**229**	P		**P**	**09 41 45.3**	**-0.6**
MAW	**Mawson** comp=E,1.1nm,0.6s,baz=102,slow=5.9,SNR=10	**150.00**	**218**	PKPbc		**PKPdf**	**09 48 34.5**	**+1.4**

IDC 15 09:32:44.2±2.8,28.°99S×61.°13E,h0km,mb3.6/3, mbtmp3.7/4,ML3.9/1,MS3.0/1,Error ellipse: s-maj=328.5km s-min=29.0km az=23.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo** baz=130,slow=16,SNR=1.9	**16.43**	**306**	Pn		Pn	09 36 36.2	-0.2
OPO				Sn		Sn	09 39 24.7	-15
	baz=268,slow=22,SNR=1.6 1.4nm,0.4s							
H08S1	**Diego Carcia H** baz=204	**23.77**	**29**	T		T	10 03 04.0	
H08S2	**Diego Garcia H** baz=204	**23.78**	**29**	T		T	10 03 12.9	
H08S3	**Diego Garcia H** baz=204	**23.79**	**29**	T		T	10 03 15.2	
KMBO	**Kilima Mbogo** comp=Z,21nm,18.3s,baz=87,slow=32	**35.87**	**316**	LR		LR	09 51 54.3	
H01W2	**Cape Leeuwin H** baz=261	**44.93**	**112**	T		T	10 28 38.4	
H01W3	**Cape Leeuwin H** baz=261	**44.94**	**112**	T		T	10 28 44.8	
H01W1	**Cape Leeuwin H** baz=261	**44.95**	**112**	T		T	10 28 42.9	
ASAR	**Alice Springs** 0.6nm,0.7s,baz=243,slow=6.0,SNR=7.3 0.6nm,0.7s	**64.51**	**104**	P		P	09 43 23.2	-0.1
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=247,slow=5.8,SNR=3.9 0.6nm,0.9s	**66.32**	**100**	P		P	09 43 35.1	+0.1
TORD	**Torodi Ar. Bea** 0.7nm,1.0s,baz=129,slow=7.7,SNR=2.4 0.7nm,1.0s	**71.03**	**298**	P		P	09 44 04.4	+0.1

IDC 15 09:36:38.6±3.0,53.°72N×88.°07E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=25.9km s-min=16.5km az=63.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=94,slow=326,SNR=1.5	**1.94**	**278**	*i*			09 49 30.0	
ZALV	**Zalesovo Beam** 3.4nm,0.3s,baz=93,slow=11,SNR=30	**1.94**	**278**	Pn		Pn	09 37 12.7	-0.1
ZALV				Lg		Lg	09 37 39.8	
	7.3nm,0.3s,baz=97,slow=28,SNR=29							
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=63,slow=14,SNR=3.2	**6.64**	**246**	Pn		Pn	09 38 18.0	+0.6
KURBB				Lg		Lg	09 40 09.8	
	0.1nm,0.3s,baz=61,slow=31,SNR=3.3 1.1nm,0.3s							
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=32,slow=13,SNR=7.0	**7.86**	**210**	Pn		Pn	09 38 35.4	+1.3
MKAR				Sn		Sn	09 40 03.5	-0.4
	0.2nm,0.3s,baz=32,slow=26,SNR=7.7							
MKAR				Lg		Lg	09 40 47.0	
	baz=32,slow=33,SNR=3.0 0.3nm,0.4s							

IDC ***15*** *09:42:19.4±0.6,54.°91N×158.°75W,h0km,mb4.0/28, mbtmp4.0/31,ML3.6/3,MS3.4/30,Error ellipse: s-maj=21.0km s-min=11.5km az=16.0*
AEIC ***15*** *09:42:21.7±2.6,54.°79N±0.°05×158.°39W±0.°06,h19km±5km, Error ellipse: s-maj=7.1km s-min=4.7km az=180.0*
NEIC ***15*** *09:42:23.4±2.3,54.°84N±0.°05×158.°49W±0.°03,h23km±6km, mb4.3/39,ML4.1/59(AEIC),Error ellipse: s-maj=6.7km s-min=2.2km az=174.0*
ISC 15 09:42:23.0±1.5,54.°86N±0.°05×158.°41W±0.°04, h23km±10km,n216,σ1°43/195,mb4.2/51,MS3.5/25,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHNA	**Chernabura Isl** baz=93	**0.69**	**268**	P		**Pb**	**09 42 35.2**	**-1.1**
CHNA				S		**Sb**	**09 42 45.5**	**+0.2**
	baz=93							
CNBA	**Chernabura Isl**	**0.69**	**267**			**Pb**	**09 42 35.2**	**-1.0**
CNBA	**Chernabura Isl**	**0.69**	**267**			**Sb**	**09 42 45.5**	**+0.2**
SDPT	**Sand Point**	**1.28**	**293**			**Sn**	**09 43 00.6**	**-1.3**
SDPT	**Sand Point**	**1.28**	**293**			**Pn**	**09 42 44.5**	**-1.0**
SDPT	**Sand Point** baz=114	**1.28**	**293**	P		**Pn**	**09 42 44.0**	**-1.5**
SDPT				S		**Sn**	**09 43 00.6**	**-1.3**
	baz=114							
CHGN	**Chignik**	**1.44**	**360**			**Pn**	**09 42 46.9**	**-0.8**
CHGN						**Sn**	**09 43 06.5**	**+0.7**
CHGN	**Chignik** baz=180	**1.44**	**360**	P		**Pn**	**09 42 46.9**	**-0.8**
CHGN				S		**Sn**	**09 43 06.5**	**+0.7**
	baz=180							
S14K	**Fog Glacier** baz=156	**1.57**	**336**	P		**Pn**	**09 42 49.8**	**+0.3**
S14K				S		**Sb**	**09 43 11.6**	**+0.9**
	baz=156							
VNFG	**Fog Glacier, M**	**1.57**	**336**			**Pn**	**09 42 49.8**	**+0.3**
VNFG						**Sb**	**09 43 11.6**	**+0.9**
CHIR	**Chirikof Islan**	**1.86**	**58**	Pn		**Pn**	**09 42 53.2**	**-0.2**
CHIR	**Chirikof Islan** baz=238	**1.86**	**58**	P		**Pn**	**09 42 52.9**	**-0.5**
ANPK	**Aniakchak Peak**	**1.99**	**4**			**Pn**	**09 42 56.5**	**+1.2**
PVV	**Pavlof Volcano**	**2.01**	**286**			**Pn**	**09 42 55.2**	**-0.3**
PS4A	**Pavlof South-4**	**2.04**	**285**			**Pn**	**09 42 55.5**	**-0.4**
HAG	**Hague Volcano**	**2.06**	**284**			**Pn**	**09 42 56.0**	**-0.2**
DT1	**Dutton Round H**	**2.25**	**278**			**Pn**	**09 42 58.4**	**-0.3**
SII	**Sitkinak Islan**	**2.93**	**53**	Pn		**Pn**	**09 43 07.5**	**-0.7**
SII	**Sitkinak Islan** baz=235	**2.93**	**53**	P		**Pn**	**09 43 07.7**	**-0.5**
R17K	**Ugashik Creek**	**3.00**	**21**			**Pn**	**09 43 10.5**	**+1.4**
R17K	**Ugashik Creek** baz=202	**3.00**	**21**	P		**Pn**	**09 43 10.5**	**+1.4**
ISLZ	**Isanotski Laza**	**3.07**	**270**			**Pn**	**09 43 10.0**	**-0.2**
ISLZ						**Sn**	**09 43 46.6**	**+0.4**
BRPK	**Brown Peak**	**3.10**	**268**			**Pn**	**09 43 10.5**	**0.0**
ISNN	**Isanotski Nort**	**3.11**	**272**			**Pn**	**09 43 10.9**	**+0.3**
PLK1	**Peulik 1**	**3.11**	**18**			**Pn**	**09 43 11.4**	**+0.8**
SSLN	**Shishaldin Nor**	**3.23**	**271**			**Pn**	**09 43 12.8**	**+0.5**
SSLS	**Shishaldin Sou**	**3.24**	**270**			**Pn**	**09 43 12.2**	**-0.3**
WECS	**Westdahl Cape**	**3.71**	**267**			**Pn**	**09 43 19.3**	**-0.4**
OHAK	**Old Harbor**	**3.72**	**48**	Pn		**Pn**	**09 43 18.1**	**-0.8**
OHAK	**Old Harbor** baz=232	**3.72**	**48**	P		**Pn**	**09 43 18.4**	**-0.6**
Q16K	**King Salmon**	**3.94**	**13**			**Pn**	**09 43 22.4**	**+0.4**
Q16K	**King Salmon** baz=194	**3.94**	**13**	P		**Pn**	**09 43 22.4**	**+0.4**
P16K	**Nushagak River**	**4.18**	**3**			**Pn**	**09 43 25.4**	**+0.1**
P16K	**Nushagak River** baz=183	**4.18**	**3**	P		**Pn**	**09 43 25.4**	**+0.1**
KAHC	**Katmai Hardscr**	**4.23**	**25**			**Pn**	**09 43 26.3**	**+0.2**
KAHC	**Katmai Hardscr** baz=207	**4.23**	**25**	P		**Pn**	**09 43 26.3**	**+0.2**
AKSA	**Akutan Strait**	**4.31**	**263**			**Pn**	**09 43 27.3**	**+0.2**
AKUT	**Akutan**	**4.36**	**263**	Pn		**Pn**	**09 43 27.8**	**+0.1**
KDAK	**Kodiak Island** 1.8nm,0.3s,baz=231,slow=13,SNR=44	**4.37**	**46**	Pn		**Pn**	**09 43 26.9**	**-0.9**
KDAK				Sn		**Sn**	**09 44 14.1**	**-3.8**
	3.7nm,0.3s,baz=280,slow=18,SNR=7.0							
KDAK				LR		LR	09 44 31.1	
	comp=Z,59nm,19.8s,baz=235,slow=29							
KDAK				Lg		Lg	09 44 40.7	
	2.9nm,0.3s,baz=195,slow=20,SNR=4.8 7.5nm,0.4s							
KDAK	**Kodiak Island**	**4.37**	**46**			**Pn**	**09 43 27.4**	**-0.4**
AKBBA	**Akutan Broad B**	**4.46**	**263**			**Pn**	**09 43 29.2**	**+0.1**
AKLV	**Akutan Long Va**	**4.46**	**264**			**Pn**	**09 43 28.9**	**-0.2**
AKMO	**Akutan Morgan**	**4.50**	**263**			**Pn**	**09 43 29.8**	**+0.1**
O16K	**Kokwok River B**	**4.75**	**2**			**Pn**	**09 43 32.8**	**-0.3**
O16K	**Kokwok River B** baz=182	**4.75**	**2**	P		**Pn**	**09 43 32.8**	**-0.3**
Q19K	**Cape Douglas,**	**4.84**	**31**	Pn		**Pn**	**09 43 37.5**	**+3.2**
UNV	**Unalaska Valle**	**4.85**	**261**	Pn		**Pn**	**09 43 33.2**	**-1.2**
UNV	**Unalaska Valle** baz=75	**4.85**	**261**	P		**Pn**	**09 43 33.8**	**-0.6**
P18K	**Big Mountain,**	**4.86**	**20**			**Pn**	**09 43 36.9**	**+2.3**
P18K	**Big Mountain,** baz=202	**4.86**	**20**	P		**Pn**	**09 43 35.8**	**+1.1**
MNAT	**Makushin Natee**	**4.94**	**262**			**Pn**	**09 43 35.1**	**-0.6**
O17K	**Koliganek Bris**	**4.97**	**8**			**Pn**	**09 43 36.9**	**+0.7**
O17K	**Koliganek Bris** baz=189	**4.97**	**8**	P		**Pn**	**09 43 36.9**	**+0.7**
Q20K	**Shuyak Island** baz=223	**5.00**	**39**	P		**Pn**	**09 43 36.2**	**-0.4**
SYI	**Shuyak Island**	**5.01**	**39**			**Pn**	**09 43 36.2**	**-0.4**
MGOD	**Makushin Gods**	**5.07**	**261**			**Pn**	**09 43 37.4**	**-0.1**
MAPS	**Pakushin South**	**5.11**	**262**			**Pn**	**09 43 37.8**	**-0.3**
O18K	**Koktuh Hills**	**5.29**	**18**			**Pn**	**09 43 41.1**	**+0.5**
O18K	**Koktuh Hills** baz=200	**5.29**	**18**	P		**Pn**	**09 43 41.1**	**+0.5**
N16K	**Nishlik Lake**	**5.63**	**358**			**Pn**	**09 43 45.6**	**+0.4**
N16K	**Nishlik Lake** baz=178	**5.63**	**358**	P		**Pn**	**09 43 45.6**	**+0.4**
O19K	**Port Alsworth**	**5.78**	**21**			**Pn**	**09 43 49.0**	**+1.8**
ILSW	**Iliamna Southw**	**5.87**	**27**			**Pn**	**09 43 51.4**	**+2.8**
N18K	**Kilae Creek**	**5.99**	**12**	Pn		**Pn**	**09 43 52.3**	**+2.2**
N18K	**Kilae Creek** baz=194	**5.99**	**12**	P		**Pn**	**09 43 50.4**	**+0.3**
CNPM	**China Poot**	**6.08**	**37**	Pn		**Pn**	**09 43 54.1**	**+2.7**
N19K	**Bonanza Creek**	**6.32**	**18**	Pn		**Pn**	**09 43 55.8**	**+1.0**

IMAR	Indian Mountai	11.39	10			Pn	09 45 06.5	+2.4
DOT	Dot Lake	11.44	34	Pn		Pn	09 45 07.3	+2.5
IL31		11.48	25			Pn	09 45 05.1	-0.2
ILAR	Eielson Array	11.48	25	Pn		Pn	09 45 04.0	-1.3
	0.3nm,0.3s,baz=219,slow=14,SNR=19							
ILAR				Sn		Sn	09 47 05.0	-7.6
	0.1nm,0.3s,baz=220,slow=22,SNR=1.3							
ILAR				Lg		Lg	09 48 23.6	
	baz=211,slow=27							
ILAR				LR		LR	09 49 41.3	
	comp=Z,182nm,18.1s,baz=204,slow=38							
ILAR	Eielson Array	11.48	25	Pn		Pn	09 45 06.3	+1.0
SCRK	Sand Creek	11.69	33			Pn	09 45 08.7	+0.5
J25K	Salcha River,	11.75	29	Pn		Pn	09 45 08.7	-0.4
L27K	Beaver Creek,	11.83	39			Pn	09 45 11.8	+1.7
BCAR	Beaver Creek A	11.85	39	Pn		Pn	09 45 09.9	-0.4
P29M	Windy Craggy	12.14	58			Pn	09 45 14.9	+0.4
J26L	Joseph Creek	12.19	32			Pn	09 45 14.1	-1.0
DLBC	Dease Lake	15.95	65	Pn		Pn	09 46 06.3	+0.5
	0.1nm,0.3s,baz=278,slow=15,SNR=1.0							
DLBC				LR		LR	09 51 20.0	
	comp=Z,90nm,20.5s,baz=298,slow=34							
	1.4nm,0.8s							
INK	Inuvik	17.74	31	Pn		P	09 46 28.7	-0.1
	0.3nm,0.3s,baz=224,slow=13,SNR=7.9							
INK				LR		LR	09 53 53.0	
	comp=Z,196nm,20.4s,baz=234,slow=39							
	2.7nm,0.5s							
BBB	Bella Bella	18.14	86	LR		LR	09 52 20.6	
	comp=Z,77nm,18.7s,baz=265,slow=33							
C36M	Paulatuk	21.21	34	P		P	09 47 06.7	+0.1
C36M				IAmb		IAmb	09 47 41.0	
	comp=Z,26nm,1.1s							
YKA	Yellowknife Ar	23.59	53	P		P	09 47 33.5	+1.8
	comp=Z,0.6nm,0.7s,baz=270,slow=8.3,SNR=3.1							
	comp=Z,0.6nm,0.7s							
PETK	Petropavlovsk-	25.56	284	P		P	09 47 47.7	-2.1
	comp=Z,2.1nm,0.7s,baz=86,slow=16,SNR=4.3							
	comp=Z,2.1nm,0.7s							
NEW	Newport	26.19	87	P		P	09 47 57.1	+1.5
	comp=Z,2.0nm,0.8s,baz=308,slow=11,SNR=5.4							
NEW				LR		LR	09 56 40.3	
	comp=Z,61nm,19.1s,baz=268,slow=33							
	comp=Z,2.0nm,0.8s							
NEW	Newport	26.19	87	P		P	09 47 57.1	+1.5
YBH	Yreka Blue Hor	26.81	104	P		P	09 48 04.1	+2.7
	comp=Z,0.8nm,0.8s,baz=294,slow=10,SNR=4.0							
YBH				LR		LR	09 56 24.3	
	comp=Z,128nm,19.8s,baz=302,slow=31							
	comp=Z,0.8nm,0.8s							
JTMT	Jette	28.09	86	P		P	09 48 13.6	+0.7
JTMT				IAmb		IAmb	09 48 15.8	
	comp=Z,5.6nm,1.0s							
MFID	Camas Ranch	29.66	95	IAmb		IAmb	09 48 30.2	
	comp=Z,2.9nm,0.9s							
RES	Resolute Bay	31.22	27	LR		LR	10 03 13.4	
	comp=Z,48nm,18.2s,baz=9.5,slow=40							
NVAR	Mina Array Bea	31.53	105	P		P	09 48 46.0	+2.5
	comp=Z,1.8nm,0.7s,baz=303,slow=8.7,SNR=7.0							
NVAR				PcP		PcP	09 51 36.5	+0.7
	comp=Z,0.4nm,0.8s,baz=298,slow=1.9,SNR=3.8							
NVAR				LR		LR	09 59 28.2	
	comp=Z,123nm,18.0s,baz=329,slow=32							
	comp=Z,1.8nm,0.7s							
ELK	Elko	31.69	98	LR		LR	09 59 48.1	
	comp=Z,82nm,19.0s,baz=308,slow=33							
YMR	Madison River	31.72	89	IAmb		IAmb	09 48 48.2	
	comp=Z,5.3nm,0.8s							
OMMB	Old Mammoth Mi	31.72	106	P		P	09 48 46.1	+0.8
OMMB				IAmb		IAmb	09 48 49.2	
	comp=Z,2.0nm,0.9s							
IMW	Indian Meadow	32.19	90	IAmb		IAmb	09 49 31.4	
	comp=Z,4.3nm,1.4s							
R11A	Troy Canyon, C	33.12	102	IAmb		IAmb	09 49 01.1	
	comp=Z,3.6nm,1.2s							
DUG	Dugway, Tooele	33.45	97	IAmb		IAmb	09 49 03.5	
	comp=Z,4.3nm,1.1s							
PD31	Pinedale Array	33.68	90	IAmb		IAmb	09 49 48.5	
	comp=Z,3.8nm,1.4s							
PDAR	Pinedale Array	33.68	90	P		P	09 49 03.8	+1.6
	comp=Z,1.1nm,0.7s,baz=304,slow=5.1,SNR=15							
	comp=Z,1.1nm,0.7s							
TPNV	Topopah Spring	33.73	104	IAmb		IAmb	09 49 05.7	
	comp=Z,3.9nm,0.8s							
TIXI	Tiksi	34.07	327	LR		LR	10 04 59.3	
	comp=Z,81nm,19.2s,baz=2.5,slow=40							
PRN	Pahroc Range	34.08	103	IAmb		IAmb	09 49 09.0	
	comp=Z,4.9nm,1.1s							
RDMU	Red Mountain	35.07	93	P		P	09 49 16.7	+2.5
RDMU				IAmb		IAmb	09 49 17.3	
	comp=Z,6.8nm,1.1s							
Q16A	Castle Valley	35.24	97	IAmb		IAmb	09 49 18.7	
	comp=Z,3.1nm,1.0s							
V12A	Nelson	35.39	105	IAmb		IAmb	09 49 20.6	
	comp=Z,4.3nm,1.2s							
SRU	San Rafael Swe	35.48	96	IAmb		IAmb	09 49 21.2	
	comp=Z,5.8nm,1.0s							
RWWY	Rawlins	35.71	90	IAmb		IAmb	09 49 21.2	
	comp=Z,6.5nm,1.1s							
RSSD	Black Hills	36.04	84	P		P	09 49 23.7	+1.2
RSSD				IAmb		IAmb	09 49 24.9	
	comp=Z,4.8nm,0.8s							
W13A	Hualapai Mount	36.39	104	IAmb		IAmb	09 49 29.0	
	comp=Z,2.0nm,0.9s							
PV13	Radium Mtn., P	37.11	96	IAmb		IAmb	09 49 34.3	
	comp=Z,8.9nm,1.0s							
TUC	Tucson	40.18	104	P		P	09 49 58.0	+0.5
ANMO	Albuquerque	40.71	97	P		P	09 50 03.1	+1.2
	comp=Z,0.8nm,0.8s,baz=344,slow=11,SNR=3.7							
ANMO				PcP		PcP	09 52 04.1	+1.0
	comp=Z,0.3nm,0.4s,baz=273,slow=3.5,SNR=4.6							
	comp=Z,0.8nm,0.8s							
KLR	Kul'dur	41.69	292	LR		LR	10 07 57.0	
	comp=Z,31nm,19.7s,baz=114,slow=37							
MNTX	Cornudas Mount	43.69	100	IAmb		IAmb	09 50 29.2	
	comp=Z,3.4nm,0.9s							
H11N2	WAKE ISLAND Hy	43.81	231	T		T	10 37 01.2	
	baz=28,slow=76,SNR=19							
H11N3	WAKE ISLAND Hy	43.82	231	T		T	10 36 57.2	
	baz=28,slow=76,SNR=20							
H11N1	WAKE ISLAND Hy	43.83	231	T		T	10 37 04.5	
	baz=28,slow=76,SNR=15							
H11S1	WAKE ISLAND Hy	44.98	230	T		T	10 38 22.2	
	baz=28,slow=76,SNR=22							
H11S2	WAKE ISLAND Hy	44.99	230	T		T	10 38 23.3	
	baz=28,slow=76,SNR=26							
H11S3	WAKE ISLAND Hy	44.99	230	T		T	10 38 23.6	
	baz=28,slow=76,SNR=18							
SUMG	Summit	46.28	21	*i* P		P	09 50 53.0	+6.4
TX32	Lajitas Array	46.44	100	IAmb		IAmb	09 50 50.8	
	comp=Z,4.3nm,0.9s							
TXAR	Lajitas Array	46.44	100	P		P	09 50 49.4	+1.4
	comp=Z,2.8nm,0.8s,baz=307,slow=6.0,SNR=42							
TXAR				PcP		PcP	09 52 22.1	-0.3
	comp=Z,0.6nm,0.7s,baz=318,slow=1.2,SNR=4.8							
TXAR				LR		LR	10 08 44.7	
	comp=Z,59nm,20.1s,baz=299,slow=34							
	comp=Z,2.8nm,0.8s							
TXAR	Lajitas Array	46.44	100	P		P	09 50 48.9	+0.9
JHJ	Hachijo jima 2	47.71	269	LR		LR	10 09 19.7	
	comp=Z,19nm,21.2s,baz=310,slow=34							
SCHQ	Schefferville	48.98	50	LR		LR	10 13 10.5	
	comp=Z,102nm,18.9s,baz=139,slow=38							
WVT	Waverly	50.61	81	P		P	09 51 19.2	-0.6
KSRS	Korea Array	51.43	282	P		P	09 51 25.2	-0.7
KSRS				LR		LR	10 14 13.2	
	comp=Z,1.2nm,0.8s,baz=47,slow=6.9,SNR=6.8							
	comp=Z,14nm,19.5s,baz=25,slow=37							
	comp=Z,1.2nm,0.8s							
XLT	XiLinHaoTe	53.38	296	*e*P		P	09 51 43.3	+2.8
XLT				pmax		pmax		
	comp=Z,13nm,0.7s							
XLT				pmax		pmax		
	comp=Z,130nm,5.1s							
SONM	Songino Array	55.41	305	P		P	09 51 54.3	-0.9
	comp=Z,2.1nm,1.0s,baz=42,slow=5.6,SNR=5.2							
SONM				PcP		PcP	09 52 55.7	+0.4
	comp=Z,1.1nm,0.7s,baz=55,slow=3.2,SNR=3.6							
SONM				LR		LR	10 17 27.5	
	comp=Z,65nm,18.1s,baz=49,slow=38							
	comp=Z,2.1nm,1.0s							
BORG	Borgarnes	56.26	21	LR		LR	10 17 49.8	
	comp=Z,23nm,21.1s,baz=188,slow=38							
ZALV	Zalesovo Beam	59.72	322	P		P	09 52 23.7	-1.6
	comp=Z,0.4nm,0.3s,baz=64,slow=6.6,SNR=1.1							
ZALV				LR		LR	10 20 34.9	
	comp=Z,83nm,18.2s,baz=74,slow=38							
	comp=Z,0.4nm,0.3s							

NOA	NORSAR Array B	64.15	6	P		P	09 52 55.0	0.0
	comp=Z,0.6nm,0.8s,baz=354,slow=6.6,SNR=3.1							
NOA				LR		LR	10 19 11.2	
	comp=Z,11nm,21.9s,baz=330,slow=34							
	comp=Z,0.6nm,0.8s							
KURBB	Kurchatov Arra	64.65	324	P		P	09 52 57.5	-0.9
	comp=Z,1.2nm,0.2s,baz=25,slow=6.5,SNR=4.4							
KURBB				LR		LR	10 23 42.3	
	comp=Z,112nm,18.3s,baz=29,slow=38							
	comp=Z,1.2nm,0.2s							
ARU	Arti	65.05	338	P		P	09 52 59.9	-1.0
	comp=Z,1.8nm,0.3s,baz=98,slow=15,SNR=1.7							
	comp=Z,1.8nm,0.3s							
BVAR	Borovoye Array	65.15	330	P		P	09 53 00.9	-0.7
	comp=Z,0.6nm,0.5s,baz=21,slow=8.4,SNR=4.8							
	comp=Z,0.6nm,0.5s							
HFS	Hagfors	65.18	4	P		P	09 53 01.0	-0.7
	comp=Z,1.2nm,0.7s,baz=346,slow=4.8,SNR=4.2							
HFS				LR		LR	10 22 29.5	
	comp=Z,14nm,19.5s,baz=338,slow=37							
	comp=Z,1.2nm,0.7s							
MKAR	Makanchi Array	66.52	319	P		P	09 53 09.6	-1.0
	comp=Z,0.6nm,0.7s,baz=28,slow=5.5,SNR=5.2							
MKAR				LR		LR	10 24 37.3	
	comp=Z,42nm,19.1s,baz=323,slow=38							
	comp=Z,0.6nm,0.7s							
WMQ	Urumqi	66.83	314	*e*P		P	09 53 15.6	+2.9
EKA	Eskdalemuir Ar	68.31	15	P		P	09 53 21.9	+0.2
	comp=Z,1.3nm,0.8s,baz=347,slow=5.3,SNR=4.6							
	comp=Z,1.3nm,0.8s							
AKTO	Aktyubinsk	70.74	336	P		P	09 53 36.5	-0.3
	comp=Z,1.8nm,0.7s,baz=13,slow=5.2,SNR=7.6							
AKTO				LR		LR	10 31 10.6	
	comp=Z,22nm,18.1s,baz=31,slow=42							
	comp=Z,1.8nm,0.7s							
AAK	Ala-Archa	72.94	322	P		P	09 53 50.2	-0.1
	comp=Z,0.7nm,0.3s,baz=58,slow=9.5,SNR=3.6							
AAK				LR		LR	10 28 30.7	
	comp=Z,116nm,18.0s,baz=20,slow=38							
	comp=Z,0.7nm,0.3s							
PZH	PanZhiHua	74.12	293	P		P	09 53 59.3	+1.8
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,110nm,5.8s							
AKASG	Malin Array Be	74.61	355	P		P	09 53 58.9	-0.9
	comp=Z,0.9nm,0.5s,baz=6.2,slow=6.0,SNR=7.9							
	comp=Z,0.9nm,0.5s							
KSH	Kashi	75.13	319	P		P	09 54 06.6	+3.5
KSH				sP		pP	09 54 13.8	+3.4
KSH				pmax		pmax		
	comp=Z,6.0nm,0.8s							
MLR	Muntele Rosu	79.95	357	LR		LR	10 32 05.4	
	comp=Z,36nm,19.1s,baz=90,slow=37							
KBZ	Khabaz	80.12	344	P		P	09 54 30.7	0.0
	comp=Z,1.7nm,0.8s,baz=51,slow=13,SNR=1.9							
	comp=Z,1.7nm,0.8s							
CMAR	Chiang Mai Arr	82.15	291	P		P	09 54 41.4	-0.5
	comp=Z,2.5nm,0.8s,baz=16,slow=5.4,SNR=12							
CMAR				LR		LR	10 34 48.0	
	comp=Z,14nm,18.6s,baz=105,slow=38							
	comp=Z,2.5nm,0.8s							
GEYT	Alibeck	82.41	332	P		P	09 54 43.0	0.0
	comp=Z,0.7nm,0.4s,baz=83,slow=4.6,SNR=1.4							
GEYT				LR		LR	10 36 07.9	
	comp=Z,38nm,18.1s,baz=22,slow=39							
	comp=Z,0.7nm,0.4s							
GNI	Garni	83.30	342	LR		LR	10 38 05.9	
	comp=Z,28nm,18.6s,baz=303,slow=40							
ESDC	Sonseca Array	83.32	20	P		P	09 54 47.4	-0.4
	comp=Z,0.9nm,0.7s,baz=341,slow=6.5,SNR=4.7							
	comp=Z,0.9nm,0.7s							
BRTR	Keskin Array B	85.22	351	P		P	09 54 56.9	-0.6
	comp=Z,1.2nm,0.9s,baz=357,slow=6.3,SNR=5.3							
	comp=Z,1.2nm,0.9s							
KAPI	Kappang	89.38	260	LR		LR	10 30 31.7	
	comp=Z,11nm,21.4s,baz=100,slow=32							
WRA	Warramunga Arr	93.81	240	P		P	09 55 36.6	-1.5
	comp=Z,0.8nm,0.8s,baz=33,slow=5.5,SNR=9.4							
	comp=Z,0.8nm,0.8s							
ASAR	Alice Springs	97.15	239	P		P	09 55 52.1	-1.2
	comp=Z,0.4nm,0.9s,baz=37,slow=6.3,SNR=2.7							
	comp=Z,0.4nm,0.9s							
QSPA	South Pole Qui	144.64	180	PKP		PKPab	10 01 54.3	-0.6
	comp=Z,5.7nm,1.1s,baz=67,slow=0.9,SNR=6.3							

NOU ***15*** *09:49:53.7,36°.86S×179°.64W,h136km,MLv4.8/10,East of North Island, N.Z.*
IDC ***15*** *09:49:59.4±1.6,37°.02S×179°.41E,h0km,mb4.1/2, mbtmp4.2/4, ML4.1/2,MS3.3/1,Error ellipse: s-maj=45.2km s-min=28.3km az=140.0*
WEL ***15*** *09:50:05.8±0.8,37°.S±4°×17°9E±°,h22km±9km, M3.9/41, ML4.2/42, MLv3.9/41,Error ellipse: s-maj=0.0km s-min=0.0km az=67.9*

ISC 15 09:50:02.5±1.3,36°.96S±0°.07×179°.39E±0°.10,h21km±5km, n131,σ1$44/148,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.05	235	P		Pb	09 50 20.9	-1.1
MXZ				S		Sb	09 50 33.5	-1.8
WMGZ	Waiomatatini S	1.15	222	P		Pb	09 50 25.4	+1.7
WMGZ				S		Sn	09 50 40.5	+2.0
PKGZ	Pakihiroa	1.39	228	P		Pn	09 50 27.2	+0.4
PKGZ				S		Sb	09 50 41.6	+0.9
PUZ	Puketiti	1.43	219	P		Pb	09 50 28.9	+0.5
PUZ				S		Sb	09 50 47.0	+0.9
HAZ	Te Kaha	1.50	238	P		Pn	09 50 27.3	-0.9
TWGZ	Tauwhareparae	1.65	222	P		Pb	09 50 32.2	0.0
RUGZ	Raukumara Rang	1.69	233	P		Pn	09 50 31.4	+0.5
CNGZ	Carnagh Statio	1.78	211	P		Pb	09 50 34.5	0.0
WIZ	White Island	1.84	252	P		Pn	09 50 33.5	+0.7
TKGZ	Te Karaka	1.91	219	P		Pn	09 50 35.2	+1.4
MWZ	Matawai	2.01	227	P		Pn	09 50 36.7	+1.4
MWZ				S		Sn	09 51 00.4	+0.5
WHRZ	Whale Island	2.12	244	P		Pn	09 50 38.3	+1.7
RIGZ	Rimuhau	2.16	216	P		Pn	09 50 38.6	+1.3
RAGZ	Rawiri	2.19	225	P		Pn	09 50 39.3	+1.6
RAGZ				S		Sn	09 51 04.8	+0.6
URZ	Urewera	2.22	234	Pn		Pn	09 50 39.1	+1.0
	77nm,0.3s,baz=103,slow=1.2,SNR=246							
URZ				Sn		Sn	09 51 05.0	+0.1
	82nm,0.3s,baz=343,slow=20,SNR=6.5							
	218nm,0.4s							
URZ	Urewera	2.22	234	P		Pn	09 50 39.3	+1.3
URZ				S		Sn	09 51 05.3	+0.3
URZ	Urewera	2.22	234	P		Pn	09 50 39.4	+1.3
PRGZ	Paritu Road	2.29	211	P		Pn	09 50 40.3	+1.3
PRGZ				S		Sn	09 51 08.6	+2.0
EDRZ	Edgecumbe	2.40	241	P		Pn	09 50 42.0	+1.5
OPRZ	Ohinepanea	2.42	248	P		Pn	09 50 40.2	-0.6
OPRZ				S		Sn	09 51 08.7	-1.1
SNGZ	Shannon Statio	2.43	221	P		Pn	09 50 42.2	+1.2
KNZ	Kokohu	2.46	213	P		Pn	09 50 42.2	+0.8
KNZ				S		Sn	09 51 10.8	0.0
MHGZ	Mahia Peninsul	2.48	208	P		Pn	09 50 43.1	+1.5
MHGZ				S		Sn	09 51 11.8	+0.6
RTZ	Ruatahuna	2.52	228	P		Pn	09 50 43.6	+1.3
RTZ				S		Sn	09 51 12.7	+0.3
MYRZ	Mayor Island	2.54	262	P		Pn	09 50 41.4	-1.0
MUGZ	Murupara	2.57	233	P		Pn	09 50 43.9	+1.1
MKRZ	Makatiti	2.60	242	P		Pn	09 50 45.9	+2.6
LIRZ	Lichensteins R	2.61	246	P		Pn	09 50 45.2	+1.9
TGRZ	Tauranga	2.61	252	P		Pn	09 50 44.2	+0.8
TARZ	Mount Tarawera	2.62	240	P		Pn	09 50 45.3	+1.6
OMRZ	Omania	2.66	244	P		Pn	09 50 46.5	+2.4
RRRZ	Republican Roa	2.66	238	P		Pn	09 50 45.3	+1.2
RAHZ	Arahi	2.67	222	P		Pn	09 50 45.4	+1.2
WHHZ	Waihua	2.71	218	P		Pn	09 50 45.8	+1.0
WHHZ				S		Sn	09 51 17.2	+0.2
KARZ	Kaharoa	2.71	246	P		Pn	09 50 46.5	+1.6
HLRZ	Highlands Stat	2.73	241	P		Pn	09 50 47.4	+2.2
MTHZ	Maungataniwha	2.76	226	P		Pn	09 50 46.9	+1.3
MTHZ				S		Sn	09 51 19.3	+1.0
NGRZ	Ngongotaha	2.79	245	P		Pn	09 50 48.2	+2.3
PRRZ	Plateau Road	2.83	236	P		Pn	09 50 47.6	+1.2
HRRZ	Handcock Road	2.85	239	P		Pn	09 50 48.2	+1.5
KMRZ	Kaimai	2.88	251	P		Pn	09 50 48.8	+1.6
ALRZ	Allen Road	2.89	236	P		Pn	09 50 48.3	+1.0
NMHZ	Naumai	2.95	223	P		Pn	09 50 49.5	+1.4
NMHZ				S		Sn	09 51 24.6	+1.6
KUZ	Kuaotunu	2.95	273	P		Pn	09 50 46.5	-1.6
ARHZ	Aropaoanui	2.97	219	P		Pn	09 50 49.4	+1.0
MRHZ	Matea Rd	3.00	231	P		Pn	09 50 49.8	+0.9

BKZ	Black Stump Fm	3.17	225	P		Pn	09 50 51.9	+0.7
BKZ				S		Sn	09 51 28.1	-0.3
BKZ	Black Stump Fm	3.17	225	P		Pn	09 50 51.9	+0.7
TOZ	Tahuroa Road	3.19	255	P		Pn	09 50 50.6	-0.8
KUTZ	Kaahu Road	3.21	241	P		Pn	09 50 53.2	+1.5
GRZ	Great Barrier	3.24	282	P		Pn	09 50 51.2	-0.9
CKHZ	Cape Kidnapper	3.25	213	P		Pn	09 50 52.5	+0.3
CKHZ				S		Sn	09 51 28.8	-1.4
MCHZ	McNeill Hill	3.26	220	P		Pn	09 50 53.0	+0.6
MCHZ				S		Sn	09 51 31.3	+0.7
TLZ	Tolley Road	3.35	245	P		Pn	09 50 56.6	+3.0
MKAZ	Moumakai	3.39	266	P		Pn	09 50 53.2	-0.9
MKAZ				S		Sn	09 51 31.2	-2.4
KWHZ	Kaweka Forest	3.39	223	P		Pn	09 50 54.5	+0.3
KWHZ				S		Sn	09 51 32.8	-1.0
WIAZ	Waiheke Island	3.42	272	P		Pn	09 50 54.3	-0.2
RATZ	Rangitukua	3.43	235	P		Pn	09 50 56.4	+1.6
KAHZ	Kahuranaki	3.45	214	P		Pn	09 50 55.0	0.0
KAHZ				S		Sn	09 51 34.1	-1.1
KATZ	Kakaramea	3.54	234	P		Pn	09 50 57.7	+1.4
ETAZ	East Tamaki Re	3.57	269	P		Pn	09 50 56.7	0.0
KRHZ	Kereru	3.58	221	P		Pn	09 50 56.4	-0.4
KRHZ				S		Sn	09 51 37.7	-0.7
MBAZ	Motutapu North	3.61	272	P		Pn	09 50 57.4	+0.3
TMVZ	Te Maari	3.62	232	P		Pn	09 50 58.0	+0.6
TMVZ				S		Sn	09 51 38.1	-1.4
ETVZ	East Tongariro	3.62	232	P		Pn	09 50 58.0	+0.5
NTVZ	North Tongarir	3.62	233	P		Pn	09 50 58.1	+0.6
BHHZ	Black Hill Sta	3.63	225	P		Pn	09 50 58.0	+0.4
KRVZ	Karewarewa	3.64	233	P		Pn	09 50 58.9	+1.1
PXZ	Pawanui	3.65	212	P		Pn	09 50 56.9	-0.8
PXZ				S		Sn	09 51 38.0	-2.0
OTVZ	Oturere	3.67	232	P		Pn	09 50 58.5	+0.4
ABAZ	Army Bay	3.68	274	P		Pn	09 50 59.5	+1.5
NNVZ	North Ngauruho	3.68	233	P		Pn	09 50 59.6	+1.2
WTVZ	West Tongariro	3.69	233	P		Pn	09 50 59.6	+1.2
SNVZ	South Ngauruho	3.70	232	P		Pn	09 50 59.0	+0.5
NGZ	Ngauruhoe	3.72	232	P		Pn	09 50 59.3	+0.5
EPAZ	Eden Park BICE	3.72	270	P		Pn	09 50 60.0	+1.3
HBAZ	Herne Bay Bore	3.74	270	P		Pn	09 50 59.6	+0.7
MOVZ	Moawhango	3.76	228	P		Pn	09 50 59.5	+0.2
MOVZ				S		Sn	09 51 39.8	-3.2
TWVZ	Taurewa	3.76	235	P		Pn	09 51 00.6	+1.2
WHVZ	Whangaehu Hut	3.79	231	P		Pn	09 51 00.6	+0.7
FWVZ	Far West T-bar	3.79	232	P		Pn	09 51 00.7	+0.8
AWAZ	Awhitu Peninsu	3.80	267	P		Pn	09 50 59.6	-0.1
WNVZ	Wahianoa	3.81	231	P		Pn	09 51 00.3	+0.3
TRVZ	Turoa	3.82	231	P		Pn	09 51 00.8	+0.5
WTAZ	Waiatarua	3.86	269	P		Pn	09 51 00.8	+0.2
RVAZ	Riverhead Bore	3.86	271	P		Pn	09 51 00.8	+0.2
WPHZ	Waipukurau	3.86	216	P		Pn	09 51 00.3	-0.4
PNHZ	Pukenui	3.87	219	P		Pn	09 51 00.1	-0.6
HIZ	Hauiti	3.91	245	P		Pn	09 51 03.4	+2.1
HIZ	Hauiti	3.91	245	P		Pn	09 51 03.2	+1.9
PRHZ	Porangahau	3.94	212	P		Pn	09 51 00.8	-0.9
TSZ	Takapari Road	4.10	220	P		Pn	09 51 02.7	-1.2
DVHZ	Dannevirke	4.18	216	P		Pn	09 51 04.1	-0.9
WCZ	Waipu Caves	4.19	283	P		Pn	09 51 05.2	0.0
POWZ	Post Office Ro	4.44	219	P		Pn	09 51 08.9	+0.3
WAZ	Wanganui	4.44	230	P		Pn	09 51 09.8	+1.1
BFZ	Birch Farm	4.45	213	P		Pn	09 51 06.7	-2.0
PRWZ	Pori Road	4.47	216	P		Pn	09 51 08.3	-0.7
MHEZ	Mangahewa	4.52	241	P		Pn	09 51 14.2	+4.5
LREZ	Lake Rotokare	4.65	236	P		Pn	09 51 13.1	+1.7
DREZ	Durham Road	4.66	240	P		Pn	09 51 14.5	+2.9
NEZ	North Egmont	4.77	240	P		Pn	09 51 15.9	+2.7
PKE	Pukeiti	4.81	241	P		Pn	09 51 17.0	+3.4
KHEZ	Kahui Hut	4.83	240	P		Pn	09 51 17.2	+3.1
NBEZ	Newall Road No	4.92	240

az=179.0

ISC 15 09:51:23.4±1.2, 61°29'N±0'04×30°02'E±0'05, h0km, n22, σ1§85/35, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
RUFX	**Ruokolahti** baz=127	**0.53**	**285**	Op PG		**Pb**	**09 51 35.5**	**-0.2**
RUFX				SG		**Sb**	**09 51 44.7**	**+0.8**
VJF	**Virojoki**	**1.42**	**239**	PN		**Pn**	**09 51 47.7**	**-2.8**
VJF	comp=Z,61nm,0.2s			MSG			09 52 03.0	
VJF				SN		**Sg**	**09 52 09.6**	**+0.5**
JOF	**Joensuu**	**1.74**	**20**	PG		**Pg**	**09 51 57.2**	**+0.5**
JOF				SG		**Sg**	**09 52 22.4**	**+3.2**
FIA0	**FINESS Array S**	**1.91**	**276**	PG		**Pb**	**09 51 58.3**	**-0.7**
FIA0				SG		**Sb**	**09 52 24.5**	**+1.2**
FINES	**FINESS Array B** comp=Z,6.2nm,0.3s,baz=99,slow=17,SNR=212	**1.91**	**276**	Pg		**Pb**	**09 51 58.2**	**-0.9**
FINES				Lg		Lg	09 52 24.4	
	comp=Z,10.0nm,0.3s,baz=100,slow=29,SNR=5.3							
FINES				Rg		Rg	09 52 36.1	
	comp=Z,18nm,0.6s,baz=110,slow=29,SNR=6.1							
KAF	**Kangasniemi**	**1.95**	**297**	PG		**Pg**	**09 52 00.8**	**0.0**
KAF	comp=Z,24nm,0.2s			MSG			09 52 26.1	
KAF				SG		**Sg**	**09 52 29.1**	**+3.0**
PVF	**Pernaja**	**2.17**	**252**	PG		**Pn**	**09 52 00.7**	**0.0**
PVF	comp=Z,77nm,0.2s			MSG			09 52 26.1	
PVF				SG		**Sn**	**09 52 29.3**	**+1.1**
KEF	**Keuruu**	**2.60**	**292**	PB		**Pb**	**09 52 09.7**	**-1.2**
KEF	comp=Z,10nm,0.2s			MSG			09 52 44.2	
KEF				SB		**Sb**	**09 52 44.6**	**+1.1**
NUR	**Nurmijrvi**	**2.74**	**256**	PB		**Pn**	**09 52 09.0**	**+0.4**
NUR				SG		**Sb**	**09 52 49.2**	**+1.8**
RMF	**Romuvaara**	**2.94**	**359**	PN		**Pb**	**09 52 14.7**	**-1.9**
RMF				SB		**Sg**	**09 52 57.0**	**-0.6**
MEF	**Metsahovi**	**2.97**	**251**	*eP*		**Pb**	**09 52 14.8**	**-2.2**
MEF	**Metsahovi**	**2.97**	**251**	PB		**Pn**	**09 52 12.2**	**+0.5**
MEF				SB		**Sn**	**09 52 48.3**	**+0.4**
MEF	comp=Z,31nm,0.2s			MSG			09 52 48.9	
VSU	**Vasula**	**3.29**	**212**	*eP*		**Pb**	**09 52 22.0**	**-0.6**
OUF	**Merijarvi**	**3.92**	**324**	PB		**Pb**	**09 52 32.2**	**-1.2**
OUF				SG		**Sg**	**09 53 30.1**	**+0.8**
RAF	**Rauma**	**4.01**	**270**	*eP*		**Pn**	**09 52 28.2**	**+2.2**
OBF4	**Vikkela, Lumij**	**4.18**	**330**	SG		**Sg**	**09 53 40.3**	**+2.7**
OUL	**Oulu**	**4.24**	**336**	PB		**Pb**	**09 52 38.5**	**-0.2**
OUL				SB		**Sg**	**09 53 35.1**	**-4.4**
OBF8	**Ulkokalla**	**4.29**	**318**	SG		**Sg**	**09 53 41.0**	**0.0**
HFS	**Hagfors** comp=Z,0.8nm,0.3s,baz=81,slow=13,SNR=15	**8.09**	**269**	Pn		**Pn**	**09 53 21.7**	**-0.3**
HFS				Sn		**Sn**	**09 54 49.8**	**-4.2**
	comp=Z,0.7nm,0.3s,baz=78,slow=24,SNR=5.3							
HFS				Lg		Lg	09 55 34.7	
	comp=Z,1.5nm,0.3s,baz=73,slow=29,SNR=6.4							
	comp=Z,1.7nm,0.3s							
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=161,slow=14,SNR=9.1	**8.48**	**349**	Pn		**Pn**	**09 53 29.4**	**+2.0**
ARCES				Sn		**Sn**	**09 55 01.2**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=167,slow=17,SNR=1.4							
ARCES				Lg		Lg	09 55 45.9	
	comp=Z,0.6nm,0.3s,baz=163,slow=31,SNR=5.9							
	comp=Z,0.4nm,0.3s							
NOA	**NORSAR Array B** comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=28	**9.09**	**277**	Pn		**Pn**	**09 53 35.1**	**-0.7**
NOA				Lg		Lg	09 56 08.6	
	comp=Z,0.1nm,0.3s,baz=80,slow=16,SNR=4.8							
	comp=Z,0.3nm,0.3s							
AKASG	**Malin Array Be** comp=Z,1.1nm,0.3s,baz=1.1,slow=13,SNR=4.3	**10.63**	**183**	Pn		Pn	09 53 49.9	-6.9
	comp=Z,0.6nm,0.4s							

*IDC **15** 09:52:05.9±7.1, 60°47'S×27°18'W, h0km, mb4.1/3, mbtmp4.1/3, MS3.4/9, Error ellipse: s-maj=519.7km s-min=29.8km az=101.0*

ISC 15 09:52:08.4±1.4, 60°6'S±0'2×26°4'W±0'4, h10km, n17, σ1§91/10, mb4.0/3, MS3.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
VNA1	**Neumayer--Stat**	**12.49**	**151**	P		**Pn**	**09 55 07.7**	**+1.8**
VNA1				S		**Sn**	**09 57 22.3**	**-2.6**
VNA3	**Neumayer Olymp**	**12.62**	**155**	P		**Pn**	**09 55 07.6**	**0.0**
VNA3				S		Sn	09 57 18.8	-9.2
VNA2	**Neumayer--Watz** baz=298,slow=15	**12.89**	**151**	P		**Pn**	**09 55 12.8**	**+1.4**
VNA2				S		Sn	09 57 30.0	-4.8
SNAA	**Sanae**	**14.49**	**150**	P		**Pn**	**09 55 35.7**	**+2.3**
SNAA				S		Sn	09 58 08.5	-5.3
SNAA	**Sanae** comp=Z,109nm,18.6s,baz=248,slow=32	**14.49**	**150**	LR		LR	10 00 03.4	
TROLL	**Troll, Antarti**	**16.08**	**147**	P		**Pn**	**09 55 57.0**	**+2.6**
TROLL				S		Sn	09 58 45.4	-7.0
QSPA	**South Pole Qui** 0.8nm,0.3s,baz=174,slow=8.8,SNR=13	**29.64**	**180**	P		**P**	**09 58 14.1**	**+0.5**
QSPA				LR		LR	10 09 41.8	
	comp=Z,144nm,18.4s,baz=178,slow=36							
	0.8nm,0.3s							
PLCA	**Paso Flores** comp=Z,48nm,19.3s,baz=150,slow=32	**33.43**	**286**	LR		LR	10 09 53.2	
CPUP	**Villa Florida** comp=Z,32nm,21.5s,baz=182,slow=34	**40.21**	**314**	LR		LR	10 14 50.3	
SIV	**San Ignacio** comp=Z,28nm,18.1s,baz=265,slow=38	**51.05**	**315**	LR		LR	10 24 36.4	
LPAZ	**La Paz** comp=Z,14nm,19.1s,baz=170,slow=40	**53.40**	**307**	LR		LR	10 27 32.6	
TORD	**Torodi Ar. Bea** 1.1nm,0.5s,baz=201,slow=6.6,SNR=14	**76.86**	**28**	P		**P**	**10 03 59.8**	**-0.5**
	1.1nm,0.5s							
SDV	**Santo Domingo** comp=Z,27nm,21.2s,baz=86,slow=36	**77.52**	**315**	LR		LR	10 37 49.1	
STKA	**Stephens Creek** comp=Z,64nm,19.7s,baz=204,slow=34	**87.34**	**170**	LR		LR	10 41 27.4	
ASAR	**Alice Springs** 0.4nm,0.8s,baz=188,slow=5.6,SNR=1.6	**94.52**	**162**	P		**P**	**10 05 28.3**	**-0.6**
	0.4nm,0.8s							
CTA	**Charters Tower** comp=Z,35nm,18.2s,baz=82,slow=36	**99.38**	**173**	LR		LR	10 52 16.8	
SONM	**Songino Array** 0.4nm,0.4s,baz=201,slow=0.7,SNR=3.9	**150.31**	**94**	PKPbc		**PKiKP**	**10 11 59.1**	**-0.6**

*ISU **15** 10:13:44, 40°93N×69°63E, h10km*
*SOME **15** 10:13:46.7, 40°92N×70°33E, h0km*
*KRNET **15** 10:13:47.8±0.1, 41°01N×70°22E, mb3.0*

ISC 15 10:13:49.7±1.3, 41°06N±0'04×70°06E±0'05, h14km±11km, n11, σ2§35/20, 8C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
CHMG	**Chimgan**	**0.50**	**355**	P		**Pg**	**10 13 57.8**	**-1.8**
CHMG				S		**Sb**	**10 14 08.5**	**+1.0**
CHRV	**Charvak**	**0.59**	**352**	P		**Pb**	**10 13 59.4**	**-2.5**
CHRV				S		**Sg**	**10 14 10.8**	**+1.6**
TRKS	**Terek-Say** baz=58	**0.94**	**59**	⇑*iP*		Pb	10 14 04.1	-3.8
TRKS				⇑*iS*		**Sb**	**10 14 16.1**	**-4.2**
	baz=58							
IUG	**Iuzhnay** 600nm,0.3s	**1.09**	**359**	*eP*		**Pb**	**10 14 10.6**	**+0.2**
IUG				*eS*		**Sg**	**10 14 27.9**	**+2.8**
	108nm,0.3s							
FRG	**Fergana**	**1.48**	**117**	P		**Pn**	**10 14 15.7**	**-0.2**
FRG				S		**Sg**	**10 14 39.2**	**+2.0**
ARK	**Arkit** baz=58	**1.61**	**62**	⇑*iP*		**Pn**	**10 14 16.8**	**-1.0**
ARK				⇑*iS*		**Sn**	**10 14 37.7**	**-0.7**
	baz=58							
ANR	**Andizhan**	**1.77**	**99**	P		**Sg**	**10 14 47.7**	**+1.1**
GAR	**Garm** baz=78	**2.06**	**174**	⇑*iP*		**Pn**	**10 14 25.2**	**+1.2**
GAR				⇑*iS*		**Sb**	**10 14 52.4**	**-0.1**
	baz=78							
KKAR	**Karatay Array** baz=6.0	**2.07**	**9**	⇑*iP*		**Pb**	**10 14 26.5**	**-0.6**
KKAR				⇑*iS*		**Sb**	**10 14 54.6**	**+1.9**
	baz=6.0							
MRKS	**Merke** 4.1nm,0.7s	**2.90**	**53**	*eP*		**Pb**	**10 14 39.4**	**-1.9**
MRKS				*eS*		**Sb**	**10 15 17.6**	**+0.9**
	13nm,0.9s							
KRBS	**Karabastau** 1.1nm,0.3s	**4.92**	**56**	*eP*		**Pb**	**10 15 16.3**	**+0.6**
KRBS				*eS*		**Sb**	**10 16 20.6**	**+5.8**
	1.3nm,0.3s							

IDC 15 10:21:10.8±7.0, 5°48S×111°83W, h0km, mb3.7/4, mbtmp3.7/4, MS3.2/4, Error ellipse: s-maj=233.3km s-min=110.7km az=143.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
H10N2	**ASCENSION HYDR** baz=53,slow=75	**3.53**	**228**	Op T		ISC T	10 25 37.0	ISC
H10N1	**ASCENSION HYDR** baz=53,slow=75	**3.53**	**228**	T		T	10 25 36.9	
H10N3	**ASCENSION HYDR** baz=53,slow=75	**3.54**	**228**	T		T	10 25 38.5	
DBIC	**Dimbokro** comp=Z,54nm,21.7s,baz=172,slow=31	**13.93**	**30**	LR		LR	10 28 25.0	
TORD	**Torodi Ar. Bea** 3.6nm,1.1s,baz=210,slow=11,SNR=9.1	**22.87**	**36**	P		P	10 26 16.1	0.0
	3.6nm,1.1s							
TSUM	**Tsumeb** comp=Z,32nm,18.4s,baz=32,slow=33	**31.73**	**118**	LR		LR	10 38 32.0	
MBAR	**Mbarara** comp=Z,48nm,18.0s,baz=82,slow=35	**42.76**	**85**	LR		LR	10 45 55.9	
KMBO	**Kilima Mbogo** comp=Z,41nm,19.2s,baz=89,slow=34	**49.17**	**87**	LR		LR	10 48 52.3	
GERES	**GERESS Array B** 0.3nm,0.3s,baz=188,slow=5.6,SNR=3.3	**58.52**	**20**	P		P	10 31 09.1	+0.1
	0.3nm,0.3s							
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=224,slow=8.8,SNR=2.7	**61.44**	**39**	P		P	10 31 29.7	+0.3
	0.5nm,0.7s							
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=225,slow=6.7,SNR=7.3	**66.16**	**27**	P		P	10 31 59.8	-0.3
	0.3nm,0.3s							

*IDC **15** 10:22:49.7±2.1, 55°08S×28°78W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=82.1km s-min=45.6km az=3.0*

ISC 15 10:22:50.3±1.1, 55°3S±0'2×28°9W±0'3, h10km, n9, σ0§40/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SNAA	**Sanae**	**19.86**	**156**	P		**P**	**10 27 21.3**	**0.0**
TROLL	**Troll, Antarti**	**21.39**	**154**	P		**P**	**10 27 37.9**	**+0.1**
H10N1	**ASCENSION HYDR** baz=194	**48.65**	**19**	T		T	11 24 07.0	
H10N3	**ASCENSION HYDR** baz=194,slow=74	**48.65**	**19**	T		T	11 24 00.4	
H10N2	**ASCENSION HYDR** baz=194,slow=74	**48.67**	**19**	T		T	11 24 01.1	
LPAZ	**La Paz** 1.2nm,0.8s,baz=162,slow=6.2,SNR=4.3	**49.13**	**307**	P		**P**	**10 31 39.0**	**+0.2**
	1.2nm,0.8s							
TORD	**Torodi Ar. Bea** 1.4nm,0.6s,baz=198,slow=6.6,SNR=12	**72.85**	**31**	P		**P**	**10 34 19.2**	**+0.1**
	1.4nm,0.6s							
ILAR	**Eielson Array** 1.0nm,0.6s,baz=85,slow=1.5,SNR=8.3	**148.87**	**313**	PKPbc		**PKiKP**	**10 42 37.4**	**-0.6**
SONM	**Songino Array** 0.9nm,0.7s,baz=248,slow=1.6,SNR=4.3	**151.63**	**86**	PKPbc		**PKiKP**	**10 42 44.5**	**+0.1**

*KRNET **15** 10:43:35.7±0.1, 39°53N×75°72E, mb3.4*
*SOME **15** 10:43:36.2, 39°93N×75°57E, h0km*
*NNC **15** 10:43:41.6±1.9, 40°08N×75°70E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=15.3km s-min=11.5km az=149.0*

ISC 15 10:43:42.1±1.5, 40°11N±0'08×75°50E±0'03, h10km, n44, σ1§51/66, 16C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
OHH	**Osh** baz=95	**2.12**	**282**	⇑*iP*		**Pn**	**10 44 17.5**	**-0.1**
OHH				⇑*iS*		**Sb**	**10 44 47.9**	**+0.9**
	baz=95							
ULHL	**Ulahol** SNR=16	**2.21**	**14**	P		**Pb**	**10 44 21.0**	**-1.3**
UCH	**Uchtor** SNR=35	**2.25**	**341**	P		**Pb**	**10 44 22.8**	**-0.2**
UCH	**Uchtor** baz=42	**2.25**	**341**	⇑*iP*		**Pb**	**10 44 22.8**	**-0.2**
UCH				⇑*iS*		**Sg**	**10 44 57.2**	**+2.9**
	baz=42							
BOOM	**Boomskoye usch** baz=3.0	**2.40**	**8**	⇑*iP*		**Pb**	**10 44 24.4**	**-1.1**
BOOM				⇑*iS*		**Sg**	**10 45 00.1**	**+0.8**
	baz=3.0							
KBK	**Karagaybulak** SNR=12	**2.58**	**351**	P		**Pb**	**10 44 28.9**	**+0.3**
KBK	**Karagaybulak** baz=50	**2.58**	**351**	⇑*iP*		**Pb**	**10 44 27.4**	**-1.1**
KBK				⇑*iS*		**Sg**	**10 45 04.9**	**-0.1**
	baz=50							
AAK	**Ala-Archa** SNR=8.4	**2.64**	**344**	P		**Pn**	**10 44 27.2**	**+2.3**
AAK	**Ala-Archa** baz=44	**2.64**	**344**	⇑*iP*		**Pb**	**10 44 28.0**	**-1.5**
AAK				⇑*iS*		**Sg**	**10 45 06.4**	**-0.5**
	baz=44							
TKM2	**Tokmak 2** SNR=12	**2.81**	**1**	P		**Pn**	**10 44 29.8**	**+2.5**
TKM2	**Tokmak 2** 5.1nm,0.6s	**2.81**	**1**	⇓Pn		**Pn**	**10 44 29.7**	**+2.5**
TKM2				⇓Lg		Lg	10 45 12.0	
	41nm,0.7s							
EKS2	**Erkin-Say** baz=36	**2.86**	**334**	⇑*eP*		**Pb**	**10 44 31.2**	**-2.1**
EKS2				⇑*iS*		**Sg**	**10 45 11.6**	**-2.4**
	baz=36							
CHMS	**Chumysh** 3.4nm,0.2s	**2.94**	**349**	⇑Pn		**Pn**	**10 44 29.5**	**+0.5**
CHMS				⇑Lg		Lg	10 45 17.5	
	7.0nm,0.3s							
KST	**Kastek** 3.1nm,0.2s	**2.95**	**7**	*eP*		**Pb**	**10 44 33.9**	**-0.9**
KST				*eS*		**Sg**	**10 45 15.0**	**-2.0**
	19nm,0.3s							
KST	**Kastek**	**2.95**	**7**	Pg		**Pb**	**10 44 33.9**	**-0.9**
KST				Lg		Lg	10 45 15.0	
IZV	**Izvestkoviy** 84nm,0.2s	**3.04**	**16**	*eP*		**Pb**	**10 44 36.0**	**-0.4**
IZV				*eS*		**Sg**	**10 45 19.1**	**-0.7**
	49nm,0.6s							
IZV	**Izvestkoviy** 84nm,0.2s	**3.04**	**16**	Pg		**Pb**	**10 44 36.0**	**-0.4**
IZV				Lg		Lg	10 45 19.1	
	49nm,0.6s							
MTBS	**Maitube** 6.0nm,0.3s	**3.10**	**13**	*eP*		**Pb**	**10 44 38.2**	**+0.9**
MTBS				*eS*		**Sg**	**10 45 22.6**	**+1.0**
	29nm,0.4s							
MTBS	**Maitube** 6.0nm,0.3s	**3.10**	**13**	Pg		**Pb**	**10 44 38.2**	**+0.9**
MTBS				Lg		Lg	10 45 22.6	
	29nm,0.4s							
DGS	**Degeres** 5.1nm,0.7s	**3.14**	**4**	*eP*		**Pb**	**10 44 39.0**	**+1.0**
DGS				*eS*		**Sg**	**10 45 24.5**	**+1.6**
	17nm,0.6s							
DGS	**Degeres** 5.1nm,0.7s	**3.14**	**4**	Pg		**Pb**	**10 44 39.0**	**+1.0**
DGS				Lg		Lg	10 45 24.5	
	17nm,0.6s							
MRKS	**Merke** 4.3nm,0.4s	**3.14**	**328**	*eP*		**Pb**	**10 44 38.4**	**+0.4**
MRKS				*eS*		**Sg**	**10 45 22.9**	**-0.1**
	18nm,0.5s							
MRKS	**Merke** 4.3nm,0.4s	**3.14**	**328**	Pg		**Pb**	**10 44 38.4**	**+0.4**
MRKS				Lg		Lg	10 45 22.8	
	18nm,0.5s							
MDOK	**Medeo** 5.3nm,0.7s	**3.27**	**20**	*eP*		**Pb**	**10 44 40.6**	**+0.4**
MDOK				*eS*		**Sg**	**10 45 26.5**	**-0.4**
	26nm,0.8s							
MDOK	**Medeo** 7.1nm,0.9s	**3.27**	**20**	Pn		**Pn**	**10 44 33.1**	**-0.3**
MDOK				Pg		**Pb**	**10 44 40.6**	**+0.4**
	5.3nm,0.7s							
MDOK				⇑Lg		Lg	10 45 23.1	
	34nm,0.8s							
MDOK				Lg		Lg	10 45 26.5	
	26nm,0.8s							
KRBS	**Karabastau** 5.7nm,0.5s	**3.59**	**2**	*eP*		**Pb**	**10 44 46.4**	**+0.8**
KRBS				*eS*		**Sg**	**10 45 37.2**	**-0.1**
	8.6nm,0.5s							
KRBS	**Karabastau** 5.7nm,0.5s	**3.59**	**2**	Pg		**Pb**	**10 44 46.4**	**+0.8**
KRBS				Lg		Lg	10 45 37.2	
	8.6nm,0.5s							
SATY	**Saty** 4.6nm,0.4s	**3.67**	**35**	*eP*		**Pb**	**10 44 47.6**	**+0.6**
SATY				*eS*		**Sg**	**10 45 38.5**	**-1.2**
	18nm,0.6s							
SATY	**Saty** 4.6nm,0.4s	**3.67**	**35**	Pg		**Pb**	**10 44 47.6**	**+0.6**
SATY				Lg		Lg	10 45 38.6	
	18nm,0.6s							
KTBS	**Karatobe** 7.2nm,0.5s	**3.71**	**13**	*eP*		**Pb**	**10 44 48.4**	**+0.7**
KTBS				*eS*		**Sg**	**10 45 41.0**	**-0.2**
	33nm,0.5s							
KTBS	**Karatobe** 7.2nm,0.5s	**3.71**	**13**	Pg		**Pb**	**10 44 48.4**	**+0.7**
KTBS				Lg		Lg	10 45 40.9	
	33nm,0.5s							
KUU	**Kurty** 2.4nm,0.6s	**3.83**	**9**	*eP*		**Pb**	**10 44 50.9**	**+1.1**
KUU				*eS*		**Sg**	**10 45 44.3**	**-0.9**
	25nm,0.8s							
KUU	**Kurty** 2.4nm,0.6s	**3.83**	**9**	Pg		**Pb**	**10 44 50.9**	**+1.1**
KUU				Lg		Lg	10 45 44.3	
	25nm,0.8s							
UZB	**Uzynbulak** 1.8nm,0.3s	**4.02**	**40**	*eP*		**Pb**	**10 44 53.3**	**+0.2**
UZB				*eS*		**Sg**	**10 45 48.2**	**-3.0**
	12nm,0.6s							
UZB	**Uzynbulak** 1.8nm,0.3s	**4.02**	**40**	Pg		**Pb**	**10 44 53.3**	**+0.2**
UZB				Lg		Lg	10 45 48.2	
	12nm,0.6s							
KPKS	**Kokpek** 3.7nm,0.6s	**4.11**	**34**	*eP*		**Pb**	**10 44 54.5**	**-0.1**
KPKS				*eS*		**Sg**	**10 45 50.6**	**-3.6**
	18nm,0.5s							
KPKS	**Kokpek** 3.7nm,0.6s	**4.11**	**34**	Pg		**Pb**	**10 44 54.5**	**-0.1**
KPKS				Lg		Lg	10 45 50.6	
	18nm,0.5s							
SHLS	**Shalkode** 2.5nm,0.2s	**4.25**	**43**	*eP*		**Pg**	**10 45 02.1**	**-1.4**
SHLS				*eS*		**Sg**	**10 46 03.3**	**+4.7**
	12nm,0.8s							
SHLS	**Shalkode** 2.5nm,0.2s	**4.25**	**43**	Pg		**Pg**	**10 45 02.1**	**-1.4**
ARXS	**Arharly** 5.3nm,0.7s	**4.45**	**22**	*eP*		**Pb**	**10 45 01.7**	**+1.3**
ARXS				*eS*		**Sg**	**10 46 03.4**	**-1.6**
	5.5nm,0.5s							
ARXS	**Arharly** 5.3nm,0.7s	**4.45**	**22**	Pg		**Pb**	**10 45 01.7**	**+1.3**
ARXS				Lg		Lg	10 46 03.4	
	5.5nm,0.5s							
IUG	**Iuzhnay** 101nm,0.6s	**4.61**	**298**	*eP*		**Pb**	**10 45 05.1**	**+2.1**
IUG				*eS*		**Sg**	**10 46 08.5**	**-1.5**
	13nm,0.6s							
IUG	**Iuzhnay** 101nm,0.6s	**4.61**	**298**	Pg		**Pb**	**10 45 05.1**	**+2.1**
KK31	**Karatay Array** 0.3nm,0.3s	**4.79**	**310**	⇑Pn		**Pb**	**10 45 02.8**	**-3.3**
KK31				⇓Lg		Lg	10 46 20.0	
	1.3nm,0.5s,baz=126,slow=30,SNR=4.0							

*IDC **15** 10:43:44.9±1.0, 0°00N×16°96W, h0km, mb4.0/8, mbtmp4.2/11, ML4.6/3, MS3.4/40, Error ellipse: s-maj=47.4km s-min=16.4km az=145.0*

ISC 15 10:43:47.0±0.7, 0°2N±0'2×17°0W±0'1, h13km, n56, σ1§35/21, mb4.1/8, MS3.5/36, 3C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
H10N2	**ASCENSION HYDR** baz=341,slow=76	**8.31**	**163**	Op T		ISC T	10 54 50.9	ISC
H10N3	**ASCENSION HYDR** baz=341,slow=76	**8.32**	**163**	T		T	10 54 48.2	
H10N1	**ASCENSION HYDR** baz=341,slow=76	**8.33**	**163**	T		T	10 54 52.7	
LIC	**Lamto** 23nm,0.6s	**13.38**	**63**	⇑*eP*		**Pn**	**10 46 57.3**	**+0.5**
TIC	**Toumodi** 14nm,0.6s	**13.58**	**61**	⇑*eP*		**Pn**	**10 46 58.0**	**-1.5**
KIC	**Kosan Boka** 7.4nm,0.6s	**13.70**	**63**	⇑*eP*		**Pn**	**10 46 59.3**	**-1.8**
DBIC	**Dimbokro** 2.5nm,0.3s,baz=266,slow=14,SNR=17	**13.74**	**62**	Pn		**Pn**	**10 47 00.2**	**-1.4**
DBIC				Sn		Sn	10 49 23.6	-11
	0.5nm,0.3s,baz=259,slow=5.2,SNR=2.1			LR		LR	10 51 51.3	
	comp=Z,150nm,18.1s,baz=236,slow=35							
	8.7nm,0.4s							
BBTS	**Babate** comp=Z,161nm,19.3s,baz=208,slow=35	**14.42**	**2**	LR		LR	10 52 09.9	
KOWA	**Kowa** 1.1nm,0.3s,baz=218,slow=11,SNR=42	**19.19**	**41**	P		**P**	**10 48 10.9**	**+0.3**
KOWA				LR		LR	10 54 54.5	
	comp=Z,203nm,21.1s,baz=224,slow=35							
	19nm,0.7s							
RCBR	**Riachuelo** 3.5nm,0.3s,baz=230,slow=13,SNR=21	**19.78**	**252**	P		**Pn**	**10 48 18.3**	**-0.4**
RCBR				LR		LR	10 53 55.5	
	comp=Z,132nm,19.6s,baz=198,slow=31							
	7.6nm,0.3s							
TORD	**Torodi Ar. Bea** 20nm,0.9s,baz=235,slow=9.8,SNR=27	**22.58**	**54**	P		**P**	**10 48 47.1**	**-0.3**
TORD				LR		LR	10 56 39.4	
	comp=Z,125nm,20.9s,baz=246,slow=34							
	20nm,0.9s							
MDT	**Midelt** comp=Z,64nm,21.8s,baz=202,slow=35	**34.52**	**19**	LR		LR	11 04 11.0	
MDP	**Montagnes des** comp=Z,62nm,18.3s,baz=70,slow=32	**35.93**	**278**	LR		LR	11 03 08.6	
TSUM	**Tsumeb** comp=Z,60nm,20.4s,baz=330,slow=30	**39.00**	**122**	LR		LR	11 03 28.9	
ESDC	**Sonseca Array** comp=Z,39nm,19.6s,baz=193,slow=36	**41.10**	**15**	LR		LR	11 08 27.3	
KEST	**Kesra** comp=Z,91nm,21.3s,baz=216,slow=37	**43.06**	**32**	LR		LR	11 10 40.3	
SIV	**San Ignacio** comp=Z,98nm,19.2s,baz=72,slow=34	**46.35**	**248**	LR		LR	11 10 13.3	
CPUP	**Villa Florida** 2.4nm,0.8s,baz=63,slow=8.1,SNR=3.0	**46.92**	**233**	P		**P**	**10 52 16.9**	**-0.7**
CPUP				LR		LR	11 11 45.1	
	comp=Z,70nm,18.0s,baz=47,slow=36							
	2.4nm,0.8s							
VAE	**Valguarnera** comp=Z,96nm,18.1s,baz=150,slow=40	**47.11**	**34**	LR		LR	11 14 55.8	
SUR	**Sutherland** comp=Z,43nm,18.2s,baz=344,slow=32	**48.16**	**136**	LR		LR	11 09 38.4	
IDI	**Anoyia** comp=Z,22nm,18.9s,baz=267,slow=40	**52.37**	**44**	LR		LR	11 18 14.5	
LPAZ	**La Paz** 2.1nm,0.8s,baz=84,slow=5.4,SNR=9.6	**52.99**	**249**	P		**P**	**10 53 03.7**	**-0.9**
LPAZ				LR		LR	11 14 18.2	
	comp=Z,46nm,18.4s,baz=114,slow=35							
	2.1nm,0.8s							
KMBO	**Kilima Mbogo** comp=Z,40nm,18.5s,baz=90,slow=35	**54.27**	**91**	LR		LR	11 15 04.3	
GERES	**GERESS Array B** 0.3nm,0.3s,baz=169,slow=5.9,SNR=4.4	**55.25**	**24**	P		**P**	**10 53 22.6**	**+2.6**
GERES				PP		**PP**	**10 55 20.7**	**-2.9**
	0.4nm,0.5s,baz=200,slow=8.3,SNR=3.9							
	0.3nm,0.3s							
LVC	**Limon Verde** comp=Z,38nm,19.4s,baz=112,slow=36	**55.32**	**242**	LR		LR	11 16 36.1	
VRAC	**Vranov** comp=Z,15nm,19.2s

1.1nm,0.9s,baz=236,slow=6.7,SNR=5.5
1.1nm,0.9s
ATAH Atahualpa 61.65 262 LR LR 11 18 36.4
comp=Z,66nm,21.5s,baz=93,slow=34
PLCA Paso Flores 63.27 223 LR LR 11 21 09.6
comp=Z,32nm,18.2s,baz=122,slow=36
AKASG Malin Array Be 63.77 31 LR LR 11 24 37.8
comp=Z,44nm,18.3s,baz=228,slow=38
HFS Hagfors 64.36 16 LR LR 11 23 11.7
comp=Z,20nm,18.1s,baz=234,slow=37
NOA NORSAR Array B 64.46 15 P **P 10 54 22.9 -0.1**
0.8nm,0.8s,baz=211,slow=6.4,SNR=1.7
NOA LR LR 11 24 28.9
comp=Z,18nm,19.2s,baz=205,slow=38
0.8nm,0.8s
KBZ Khabaz 68.57 42 LR LR 11 27 38.3
comp=Z,14nm,18.4s,baz=256,slow=38
GNI Garni 68.62 46 LR LR 11 29 47.4
comp=Z,8.3nm,18.4s,baz=244,slow=40
FINES FINESS Array B 69.31 21 P **P 10 54 54.5 +0.7**
3.1nm,0.8s,baz=211,slow=4.6,SNR=4.1
FINES LR LR 11 26 14.3
comp=Z,18nm,20.1s,baz=260,slow=37
3.1nm,0.8s
VNA1 Neumayer--Stat 70.92 177 P **P 10 55 04.8 +1.3**
TKL Tuckaleechee C 71.17 308 LR LR 11 22 42.6
comp=Z,25nm,18.2s,baz=142,slow=33
VNA2 Neumayer--Watz 71.24 177 P **P 10 55 06.3 +0.8**
baz=339,slow=6.9
VNA3 Neumayer Olymp 71.44 178 P **P 10 55 08.0 +1.3**
SNAA Sanae 72.29 175 P **P 10 55 12.4 +0.5**
TROLL Troll, Antarti 73.12 174 P **P 10 55 17.7 +0.8**
BELG Belogornoye 74.65 35 LR LR 11 29 58.5
comp=Z,26nm,20.8s,baz=164,slow=37
ARCES ARCESS Array B 74.83 14 LR LR 11 30 39.1
comp=Z,20nm,18.4s,baz=280,slow=38
KIRV Kirov 77.77 29 LR LR 11 32 41.8
comp=Z,16nm,18.3s,baz=232,slow=38
AKTO Aktyubinsk 80.37 39 LR LR 11 36 12.6
comp=Z,9.8nm,18.0s,baz=302,slow=39
ARU Arti 81.91 33 LR LR 11 35 07.8
comp=Z,24nm,19.6s,baz=237,slow=38
TXAR Lajitas Array 87.02 299 P **P 10 56 33.1 +0.3**
0.4nm,0.5s,baz=111,slow=5.5,SNR=8.3
0.4nm,0.5s
QSPA South Pole Qui 90.22 180 LR LR 11 32 32.5
comp=Z,28nm,18.7s,baz=32,slow=32
AAK Ala-Archa 91.00 48 LR LR 11 42 49.9
comp=Z,13nm,19.1s,baz=271,slow=39
ZALV Zalesovo Beam 96.83 36 LR LR 11 44 00.7
comp=Z,14nm,20.6s,baz=62,slow=37
ASAR Alice Springs 143.34 132 PKhKP PKPpre 11 03 18.5
0.9nm,0.4s,baz=223,slow=2.4,SNR=26
WRA Warramunga Arr 145.73 127 PKPbc **PKPab 11 03 26.1 -1.0**
3.0nm,0.9s,baz=245,slow=2.5,SNR=19

*HEL **15** 10:48:23.3±0.3,60.98N×30.25E, h0km, ML2.6, Explosion*
*IDC **15** 10:48:26.4±1.1,61.12N×30.08E, h0km, mb3.3/1, mbtmp3.3/6, ML3.5/5, MS3.1/2, Error ellipse: s-maj=11.4km s-min=9.0km az=7.0*
*UPP **15** 10:48:31.6±3.2,61.02N×29.39E, h0km, ML2.2, Suspected explosion*

ISC 15 10:48:24.7±0.9,**61.25N**±0.05×**30.09E**±0.04,**h0km**,**n39**, σ1§**92**/50,**Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RUFX	**Ruokolahti**	**0.58**	**288**		PG	**Pb**	**10 48 37.8**	**+0.2**
RUFX	baz=130				SG	**Sb**	**10 48 47.0**	**+0.7**
VJF	**Virojoki**	**1.43**	**241**		PN	**Pn**	**10 48 50.0**	**-1.8**
VJF					MSG		10 49 05.3	
	comp=Z,45nm,0.2s							
JOF	**Joensuu**	**1.77**	**18**		PG	**Pg**	**10 48 59.3**	**+0.8**
JOF					SB	**Sg**	**10 49 24.7**	**+3.2**
FIA0	**FINESS Array S**	**1.94**	**277**		PG	**Pb**	**10 49 00.5**	**-0.4**
FIA0	baz=99				SG	**Sg**	**10 49 27.6**	**+0.6**
FINES	**FINESS Array B**	**1.94**	**277**		Pg	**Pb**	**10 49 00.8**	**-0.1**
FINES	comp=Z,6.4nm,0.3s,baz=98,slow=17,SNR=184				Lg	Lg	10 49 27.1	
	comp=Z,3.2nm,0.3s,baz=100,slow=23,SNR=5.3							
KAF	**Kangasniemi**	**2.00**	**297**		PG	**Pg**	**10 49 03.1**	**+0.1**
KAF					MSG		10 49 28.6	
	comp=Z,29nm,0.2s							
KAF					SG	**Sg**	**10 49 31.9**	**+3.1**
PVF	**Pernaja**	**2.19**	**253**		PG	**Pn**	**10 49 02.7**	**+0.5**
PVF					MSG		10 49 28.4	
	comp=Z,84nm,0.2s							
PVF					SG	**Sn**	**10 49 31.5**	**+1.6**
KEF	**Keuruu**	**2.65**	**293**		PB	**Pb**	**10 49 12.0**	**-1.0**
KEF					SB	**Sb**	**10 49 46.7**	**+0.7**
KEF					MSG		10 49 47.0	
	comp=Z,8.8nm,0.2s							
NUR	**Nurmijrvi**	**2.76**	**257**		PG	**Pn**	**10 49 12.8**	**+2.7**
RMF	**Romuvaara**	**2.98**	**359**		PN	**Pb**	**10 49 16.9**	**-1.6**
RMF	baz=175				SB	**Sg**	**10 49 59.3**	**-0.9**
MEF	**Metsahovi**	**2.98**	**252**	*eP*		**Pn**	**10 49 14.0**	**+0.9**
MEF	**Metsahovi**	**2.98**	**252**		PB	**Pn**	**10 49 14.0**	**+0.9**
MEF					SB	**Sn**	**10 49 50.8**	**+1.2**
MEF					MSG		10 49 51.1	
	comp=Z,34nm,0.2s							
VSU	**Vasula**	**3.27**	**213**	*eP*		**Pn**	**10 49 18.1**	**+1.0**
VSU	**Vasula**	**3.27**	**213**		PG	**Pn**	**10 49 18.0**	**+0.9**
VSU					SG	**Sn**	**10 49 56.6**	**0.0**
OUF	**Merijarvi**	**3.98**	**324**		PB	**Pb**	**10 49 34.4**	**-1.1**
OUF					SG	**Sg**	**10 50 33.2**	**+0.9**
RAF	**Rauma**	**4.04**	**270**	*eP*		**Pn**	**10 49 30.6**	**+2.9**
MTSE	**Matsula**	**4.05**	**234**	PB		**Pn**	**10 49 29.3**	**+1.5**
OBF0	**Syolatti, Pyha**	**4.22**	**323**	PG		**Pg**	**10 49 44.1**	**-1.3**
OBF4	**Vikkela, Lumij**	**4.23**	**330**	SG		**Sg**	**10 50 42.4**	**+1.9**
OBF8	**Ulkokalla**	**4.34**	**318**	SG		**Sg**	**10 50 47.6**	**+3.6**
AAL	**Aland**	**5.07**	**262**	P		**Pn**	**10 49 42.8**	**+0.9**
AAL				S		**Sn**	**10 50 38.6**	**-2.5**
GRAU	**Graesoe**	**5.73**	**266**	P		**Pn**	**10 49 50.9**	**0.0**
HEMU	**Hemsoen**	**5.86**	**289**	P		**Pn**	**10 49 55.2**	**+2.5**
NRTU	**Norrtaelje**	**5.88**	**259**	P		**Pn**	**10 49 53.3**	**+0.3**
ISAL	**Salakas**	**6.07**	**202**	*eP*		**Pn**	**10 49 52.4**	**-3.1**
ISAL				IAML			10 50 13.0	
	comp=Z,15nm,0.1s							
ARNU	**Arnoeviken**	**6.11**	**280**	P		**Pn**	**10 49 57.8**	**+1.7**
IGGU	**Iggoen**	**6.21**	**272**	P		**Pn**	**10 49 57.9**	**+0.4**
OSTU	**Oestervaala**	**6.43**	**267**	P		**Pn**	**10 50 01.9**	**+1.3**
NYNU	**Nynaeshamn**	**6.45**	**255**	P		**Pn**	**10 50 01.3**	**+0.6**
HASU	**Hassela**	**6.47**	**284**	P		**Pn**	**10 50 03.3**	**+2.2**
ESKU	**Eskilstuna**	**7.11**	**259**	P		**Pn**	**10 50 10.5**	**+0.7**
HFS	**Hagfors**	**8.12**	**269**	Pn		**Pn**	**10 50 23.9**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=82,slow=20,SNR=16							
HFS					Sn	**Sn**	**10 51 49.3**	**-6.7**
	comp=Z,0.4nm,0.3s,baz=75,slow=18,SNR=2.3							
HFS					Lg	Lg	10 52 35.9	
	comp=Z,0.9nm,0.3s,baz=79,slow=30,SNR=3.1							
	comp=Z,1.8nm,0.3s							
ARCES	**ARCESS Array B**	**8.53**	**349**		Pn	**Pn**	**10 50 30.7**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=6.9							
ARCES					Sn	**Sn**	**10 52 03.8**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=163,slow=25,SNR=2.2							
ARCES					Lg	Lg	10 52 56.0	
	comp=Z,1.1nm,0.3s,baz=174,slow=31,SNR=8.5							
	comp=Z,0.5nm,0.4s							
NOA	**NORSAR Array B**	**9.13**	**277**		Pn	**Pn**	**10 50 36.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=29							
NOA					Sn	**Sn**	**10 52 17.4**	**-3.4**
	baz=117,slow=14,SNR=1.7							
NOA					Lg	Lg	10 53 14.6	
	comp=Z,0.1nm,0.3s,baz=57,slow=19,SNR=4.4							
	comp=Z,0.4nm,0.3s							
AKASG	**Malin Array Be**	**10.59**	**183**		Pn	Pn	10 50 51.9	-5.6
	comp=Z,1.1nm,0.3s,baz=2.2,slow=13,SNR=4.0							
	comp=Z,0.4nm,0.3s							
EKA	**Eskdalemuir Ar**	**18.30**	**266**		P	**Pn**	**10 52 39.1**	**-0.5**
	baz=58,slow=12							
	comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**32.90**	**92**		P	**P**	**10 54 59.9**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=304,slow=7.0,SNR=6.3							
	comp=Z,0.2nm,0.4s							
INK	**Inuvik**	**50.19**	**352**		LR	LR	11 21 39.2	
	comp=Z,19nm,19.6s,baz=26,slow=40							
ATD	**Arta Tunnel**	**50.51**	**164**		LR	LR	11 20 52.7	
	comp=Z,21nm,18.5s,baz=31,slow=39							

*BER **15** 11:14:06.8±1.4,67.31N×31.44E, h0km, ML1.4, Suspected explosion*
*KOLA **15** 11:14:11.7,67.25N×30.12E, h0km, ML2.5*
*HEL **15** 11:14:11.1±0.1,67.55N×30.43E, h0km, ML1.9, Explosion*

ISC 15 11:14:10.4±0.8,**67.51N**±0.03×**30.38E**±0.02,**h0km**,**n29**, σ0§**91**/47,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.38**	**309**	*eP*		**Pg**	**11 14 17.6**	**0.0**
VRF				*eS*		**Sg**	**11 14 22.6**	**+0.1**
APA0	**Apatity Array**	**1.01**	**84**	P		**Pg**	**11 14 29.4**	**-0.4**
APA0				S		**Sb**	**11 14 44.4**	**-0.2**
APA0	**Apatity Array**	**1.01**	**84**	P		**Pn**	**11 14 33.3**	**+1.4**
APA0				S		**Sn**	**11 14 47.3**	**+0.6**
APA	**Apatity**	**1.17**	**86**	P		**Pg**	**11 14 31.2**	**-1.5**
APA				S		**Sb**	**11 14 49.6**	**+0.5**
OLKF	**Oulanka, Finla**	**1.26**	**198**	*eP*		**Pg**	**11 14 34.6**	**+0.1**
OLKF				*eS*		**Sb**	**11 14 52.2**	**+0.4**
SGF	**Sodankyl**	**1.48**	**269**	*eP*		**Pn**	**11 14 38.2**	**-0.1**
SGF				*eS*		**Sn**	**11 14 58.9**	**+0.5**
KU6	**Riekki**	**1.51**	**188**	*eP*		**Pn**	**11 14 38.9**	**+0.2**
KU6				*eS*		**Sg**	**11 14 58.2**	**-0.6**
LVZ	**Lovozero**	**1.68**	**75**	*eS*		**Sn**	**11 15 01.7**	**-1.5**
MSF	**Maaselka**	**1.69**	**199**	*eP*		**Pb**	**11 14 42.2**	**-0.2**
MSF				*eS*		**Sn**	**11 15 03.9**	**+0.3**
RNF	**Rovaniemi**	**1.94**	**244**	*eP*		**Pb**	**11 14 45.9**	**-0.7**
RNF				*eS*		**Sb**	**11 15 11.4**	**+0.3**
KLF	**Kolari**	**2.50**	**267**	*eP*		**Pn**	**11 14 52.9**	**+0.7**
KEV	**Kevo**	**2.57**	**333**	*eP*		**Pn**	**11 14 53.9**	**+0.7**
KEV				*eS*		**Sn**	**11 15 26.4**	**+1.3**
KEV	**Kevo**	**2.57**	**333**	*eP*		**Pn**	**11 14 53.5**	**+0.3**
KEV				*eS*		**Sn**	**11 15 25.0**	**-0.1**
KEV				MSG			11 15 26.1	
	comp=Z,5.0nm,0.2s							
HEF	**Hetta**	**2.69**	**293**	*eP*		**Pn**	**11 14 55.6**	**+0.7**
HEF				*eS*		**Sb**	**11 15 31.5**	**-1.4**
HEF	**Hetta**	**2.69**	**293**	*eP*		**Pn**	**11 14 54.8**	**-0.1**
HEF				MSG			11 15 27.6	
	comp=Z,3.2nm,0.2s							
HEF				*eS*		**Sn**	**11 15 28.8**	**+0.7**
ARA0	**ARCESS Array S**	**2.71**	**321**	*eP*		**Pn**	**11 14 55.9**	**+0.7**
ARA0	**ARCESS Array S**	**2.71**	**321**	*eP*		**Pn**	**11 14 55.7**	**+0.5**
ARCES	**ARCESS Array B**	**2.71**	**321**	P		**Pn**	**11 14 56.8**	**+1.6**
ARCES				S		**Sb**	**11 15 31.5**	**-1.9**
ARCES	**ARCESS Array B**	**2.71**	**321**	P		**Pn**	**11 14 57.2**	**+2.0**
ARCES				S		**Sb**	**11 15 33.0**	**-0.4**
TOF	**Tornio**	**2.79**	**242**	*eP*		**Pn**	**11 14 56.5**	**+0.2**
TOF				*eS*		**Sn**	**11 15 31.4**	**+0.7**
TOF				MSG			11 15 43.2	
	comp=Z,3.3nm,0.2s							
PAJU	**Pajala**	**2.86**	**263**	*eP*		**Pn**	**11 14 57.8**	**+0.5**
OUL	**Oulu**	**3.04**	**219**	*eP*		**Pn**	**11 15 01.5**	**+1.9**
KTK1	**Kautokeino**	**3.05**	**303**	*eP*		**Pn**	**11 15 01.0**	**+1.1**
KTK1				IAML			11 15 43.8	
	comp=Z,2.6nm,0.2s							
RMF	**Romuvaara**	**3.32**	**183**	*eP*		**Pn**	**11 15 04.3**	**+0.8**
RMF				*eS*		**Sn**	**11 15 43.6**	**+0.1**
ERTU	**Ertsjaerv**	**3.35**	**257**	*ePG*		**Pg**	**11 15 13.5**	**-1.1**
KIF	**Kilpisjarvi**	**3.86**	**297**	*eP*		**Pn**	**11 15 11.4**	**+0.4**
KIF	**Kilpisjarvi**	**3.86**	**297**	*ePG*		**Pb**	**11 15 20.3**	**+1.0**
KIF				MSG			11 16 01.3	
	comp=Z,2.5nm,0.2s							
STEI	**Steigen**	**5.77**	**281**	*eP*		**Pn**	**11 15 36.5**	**-0.6**
STEI				*eS*		**Sn**	**11 16 45.1**	**+1.1**
FAUS	**Fauske**	**5.81**	**276**	*eP*		**Pn**	**11 15 37.0**	**-0.7**

*IDC **15** 11:35:14.0±0.7, 14.85S×173.89W, h0km, mb4.1/9, mbtmp4.1/9, MS3.8/42, Error ellipse: s-maj=38.0km s-min=18.0km az=136.0*
*NEIC **15** 11:35:14.3±1.8, 14.9S±0.1×173.55W±0.08, h19km±4km, mb4.5/18, Error ellipse: s-maj=16.1km s-min=9.7km az=159.0*
*NOU **15** 11:35:29.0, 14.04S×172.70W, h63km, MLv3.5/5, Samoa Islands*

ISC 15 11:35:15.9±0.6,**14.88S**±0.1×**173.52W**±0.10,**h30km**,**n85**, σ1§**75**/37,**mb4.3**/18,**MS3.9**/44,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.93**	**62**		Pn	**Pn**	**11 35 45.9**	**-0.7**
	40nm,0.3s,baz=205,slow=3.6,SNR=35							
AFI					Sn	**Sn**	**11 36 07.6**	**-2.3**
	223nm,0.3s,baz=233,slow=20,SNR=10.0							
AFI	**Afiamalu**	**1.93**	**62**		P	**Pn**	**11 35 46.0**	**-0.7**
NIUE	**Niue**	**5.44**	**141**		Pn	**Pn**	**11 36 33.9**	**-1.1**
MSVF	**Nonsavu**	**8.59**	**249**		LR	LR	11 39 48.0	
	comp=Z,210nm,20.2s,baz=172,slow=33							
MSVF	**Nonsavu**	**8.59**	**249**		Pn	**Pn**	**11 37 15.8**	**-2.6**
RAR	**Rarotonga**	**14.53**	**118**		LR	LR	11 42 59.9	
	comp=Z,388nm,18.9s,baz=284,slow=31							
DZM	**Mont Dzumac**	**20.31**	**246**	*eLR*		LR	11 44 30.2	
	comp=Z,215nm,22.1s							
DZM	**Mont Dzumac**	**20.31**	**246**		LR	LR	11 46 29.2	
	comp=Z,325nm,18.0s,baz=56,slow=34							
PPT	**Papeete**	**23.15**	**100**		LR	LR	11 46 59.0	
	comp=Z,163nm,20.4s,baz=290,slow=30							
PPT2	**Papeete2**	**23.15**	**100**	*eP*		P	11 40 04.8	-15
	56nm,24.2s							
PPT2				*eLR*		LR	11 45 32.1	
	comp=Z,726nm,26.5s							
PPT2	**Papeete2**	**23.15**	**100**	*eT*		T	12 04 05.5	
	3.0nm,0.2s							
PAE	**Paea**	**23.15**	**100**	*eT*		T	12 04 14.4	
	3.6nm,0.3s							
TVO	**Taravao**	**23.47**	**100**	*eT*		T	12 04 39.6	
	2.7nm,0.3s							
TBI	**Tubuai**	**24.23**	**114**	*eLR*		LR	11 45 58.3	
	comp=Z,869nm,27.0s							
TBI	**Tubuai**	**24.23**	**114**	*eT*		T	12 05 38.4	
	15nm,0.4s							
URZ	**Urewera**	**24.76**	**198**	P		**P**	**11 40 36.2**	**+1.3**
	3.1nm,0.6s,baz=27,slow=18,SNR=1.7							
URZ					LR	LR	11 48 55.8	
	comp=Z,255nm,20.2s,baz=90,slow=33							
	3.1nm,0.6s							
HNR	**Honiara**	**26.48**	**279**		LR	LR	11 49 38.4	
	comp=Z,2μm,18.1s,baz=124,slow=33							
RPZ	**Rata Peaks**	**31.66**	**202**		LR	LR	11 53 16.4	
	comp=Z,213nm,18.8s,baz=20,slow=34							
TAOE	**Nuku Hiva Isla**	**33.17**	**83**	*eLR*		LR	11 50 15.6	
	comp=Z,367nm,26.4s							
CTA	**Charters Tower**	**38.66**	**256**		LR	LR	11 55 36.3	
	comp=Z,184nm,21.4s,baz=82,slow=32							
PMG	**Port Moresby**	**38.78**	**273**		LR	LR	11 56 25.9	
	comp=Z,146nm,19.4s,baz=132,slow=33							
H11N3	**WAKE ISLAND Hy**	**39.37**	**330**		T	T	12 24 29.2	
	baz=150,slow=76							
H11N1	**WAKE ISLAND Hy**	**39.37**	**330**		T	T	12 24 30.8	
	baz=150,slow=76							
H11N2	**WAKE ISLAND Hy**	**39.38**	**330**		T	T	12 24 30.5	
	baz=150,slow=76							
STKA	**Stephens Creek**	**44.22**	**239**		LR	LR	12 00 23.9	
	comp=Z,51nm,18.3s,baz=33,slow=34							
WRA	**Warramunga Arr**	**49.86**	**256**		P	**P**	**11 44 06.5**	**-0.4**
	0.5nm,0.6s,baz=91,slow=6.8,SNR=12							
WRA					LR	LR	12 02 24.3	
	comp=Z,133nm,20.6s,baz=94,slow=33							
	0.5nm,0.6s							
GUMO	**Guam**	**49.93**	**302**		LR	LR	12 03 05.9	
	comp=Z,79nm,18.7s,baz=116,slow=34							
AS31	**Alice Springs**	**50.17**	**251**		P	**P**	**11 44 07.7**	**-1.5**
AS31					IAmb	IAmb	11 44 17.3	
	comp=Z,2.6nm,0.7s							
ASAR	**Alice Springs**	**50.18**	**251**		P	**P**	**11 44 08.8**	**-0.4**
	comp=Z,5.7nm,0.6s,baz=86,slow=8.2,SNR=72							
ASAR					LR	LR	12 02 58.8	
	comp=Z,171nm,22.0s,baz=90,slow=33							
	comp=Z,5.7nm,0.6s							
SIJI	**Sorong**	**56.25**	**279**		LR	LR	12 08 02.7	
	comp=Z,114nm,20.5s,baz=186,slow=35							
FITZ	**Fitzroy Crossi**	**58.21**	**258**		LR	LR	12 07 53.1	
	comp=Z,94nm,20.6s,baz=94,slow=34							
JCJ	**Chichijima**	**59.88**	**314**		LR	LR	12 06 08.6	
	comp=Z,117nm,19.9s,baz=112,slow=31							
RPN	**Rapa Nui**	**60.61**	**113**		LR	LR	12 04 50.1	
	comp=Z,71nm,20.5s,baz=265,slow=29							
BATI	**Baumata**	**61.33**	**266**		LR	LR	12 09 51.7	
	comp=Z,124nm,21.4s,baz=132,slow=34							
VNDA	**Vanda**	**63.92**	**186**		P	**P**	**11 45 48.2**	**+2.6**
	comp=Z,1.8nm,1.2s,baz=3.6,slow=5.9,SNR=3.8							
VNDA					LR	LR	12 08 19.1	
	comp=Z,41nm,21.6s,baz=16,slow=31							
	comp=Z,1.8nm,1.2s							

DAV Davao City (W) 64.17 286 LR LR 12 12 09.6
comp=Z,89nm,18.5s,baz=86,slow=35
JHJ Hachijo jima 2 65.28 318 LR LR 12 07 32.0
comp=Z,43nm,21.6s,baz=98,slow=30
KAPI Kappang 66.25 271 LR LR 12 13 54.4
comp=Z,21nm,20.5s,baz=91,slow=35
MJAR Matsushiro Arr 68.44 320 LR LR 12 10 19.1
comp=Z,123nm,21.7s,baz=110,slow=31
PFO Pinyon Flats O 72.62 47 LR LR 12 10 25.1
comp=Z,50nm,21.4s,baz=268,slow=29
LPIG La Paz 72.84 59 LR LR 12 12 29.5
comp=Z,35nm,19.2s,baz=210,slow=31
YBH Yreka Blue Hor 73.22 37 P P 11 46 48.9 +4.6
comp=Z,1.5nm,0.7s,baz=226,slow=4.3,SNR=8.3
YBH LR LR 12 10 36.9
comp=Z,45nm,20.5s,baz=274,slow=29
comp=Z,1.5nm,0.7s
NVAR Mina Array Bea 73.99 42 P **P 11 46 53.0 +3.9**
comp=Z,1.6nm,0.8s,baz=233,slow=8.9,SNR=12
comp=Z,1.6nm,0.8s
NVAR Mina Array Bea 73.99 42 P **P 11 46 49.3 +0.3**
GMN Gold Mountain 74.05 44 P **P 11 46 48.3 -1.1**
NV11 Mina Array Sit 74.09 42 P **P 11 46 48.7 -0.8**
NV11 IAmb IAmb 11 47 03.5
comp=Z,7.5nm,1.3s
KVN Kaiserville 74.47 42 P **P 11 46 50.2 -1.5**
KVN IAmb IAmb 11 46 57.6
comp=Z,4.2nm,1.1s
TPH Tonopah 74.50 43 P **P 11 46 51.6 -0.3**
K05A Summer Lake 74.90 37 P **P 11 46 54.4 +0.3**
QSPA South Pole Qui 75.20 180 LR LR 12 18 27.4
comp=Z,50nm,18.1s,baz=55,slow=34
PINE Pine Mountain 75.52 36 P **P 11 46 57.0 -0.7**
PRN Pahroc Range 75.59 44 P **P 11 46 58.5 +0.3**
PRN IAmb IAmb 11 47 17.3
comp=Z,4.7nm,1.1s
KSRS Korea Array 75.68 316 LR LR 12 14 25.7
comp=Z,40nm,21.6s,baz=85,slow=31
R11A Troy Canyon, C 75.73 43 P **P 11 46 58.5 -0.5**
I07A Izee 76.52 37 P **P 11 47 04.4 +1.1**
I07A IAmb IAmb 11 47 09.4
comp=Z,8.8nm,1.4s
J08A Circle Bar Ran 76.70 38 P **P 11 47 04.5 +0.1**
J08A IAmb IAmb 11 47 17.6
comp=Z,9.8nm,1.4s
USRK Ussuriysk Ar. 76.87 323 LR LR 12 14 03.7
comp=Z,99nm,21.9s,baz=213,slow=30
KNB Kanab 76.92 46 P **P 11 47 06.0 +0.2**
ELK Elko 77.24 42 P **P 11 47 05.1 -2.5**
G08A Pilot Rock 77.55 36 P **P 11 47 09.2 +0.1**
G08A IAmb IAmb 11 47 22.2
comp=Z,4.9nm,1.2s
LEM Lembang 77.55 266 LR LR 12 20 39.3
comp=Z,48nm,19.9s,baz=188,slow=35
HLID Hailey 79.27 39 P **P 11 47 18.6 -0.1**
HLID IAmb IAmb 11 47 31.4
comp=Z,7.6nm,1.2s
NEW Newport 80.31 34 LR LR 12 17 52.7
comp=Z,40nm,18.2s,baz=308,slow=32
TXAR Lajitas Array 80.40 56 P P 11 47 29.7 +4.7
comp=Z,2.0nm,1.0s,baz=237,slow=6.3,SNR=17
TXAR LR LR 12 17 25.6
comp=Z,25nm,19.8s,baz=254,slow=31
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 80.40 56 P **P 11 47 23.4 -1.6**
GDL2 Guadalupe Moun 80.98 53 P **P 11 47 29.9 +1.8**
ILAR Eielson Array 81.92 11 P **P 11 47 35.1 +2.9**
comp=Z,1.4nm,1.0s,baz=225,slow=4.9,SNR=7.6
comp=Z,1.4nm,1.0s
ILAR Eielson Array 81.92 11 P **P 11 47 32.7 +0.5**
PDAR Pinedale Array 81.93 42 P **P 11 47 36.9 +3.9**
comp=Z,1.1nm,0.8s,baz=234,slow=5.0,SNR=9.8
PDAR LR LR 12 21 48.6
comp=Z,21nm,18.8s,baz=274,slow=34
comp=Z,1.1nm,0.8s
PDAR Pinedale Array 81.93 42 P **P 11 47 33.5 +0.5**
BOZ Bozeman (W) 82.03 39 P **P 11 47 32.5 -0.9**
BOZ IAmb IAmb 11 47 48.6
comp=Z,6.1nm,1.5s
BMAR Burnt Mountain 84.72 11 P **P 11 47 50.7 +4.0**
PMSA Palmer Station 84.73 156 LR LR 12 21 40.4
comp=Z,58nm,18.8s,baz=313,slow=33
MAW Mawson 88.29 199 LR LR 12 27 11.3
comp=Z,78nm,18.0s,baz=134,slow=35
PSI Prapat 88.35 273 LR LR 12 29 02.9
comp=Z,25nm,18.4s,baz=146,slow=37
YAK Yakutsk 88.55 337 LR LR 12 20 37.6
comp=Z,37nm,21.5s,baz=89,slow=31
PLCA Paso Flores 89.97 132 LR LR 12 19 49.0
comp=Z,24nm,19.2s,baz=243,slow=30
CMAR Chiang Mai Arr 92.33 288 LR LR 12 24 08.1
comp=Z,36nm,21.5s,baz=105,slow=32
ATAH Atahualpa 93.12 98 LR LR 12 21 55.8
comp=Z,81nm,19.8s,baz=243,slow=30
SNAA Sanae 93.47 177 LR LR 12 26 43.8
comp=Z,49nm,19.8s,baz=228,slow=33
LVC Limon Verde 97.36 116 LR LR 12 24 23.1
comp=Z,44nm,18.2s,baz=234,slow=30
BRDH Bariadhala 99.95 291 LR LR 12 30 43.1
comp=Z,55nm,20.9s,baz=92,slow=33
GERES GERESS Array B 145.57 352 PKPbc **PKiKP 11 54 54.4 -1.0**
comp=Z,0.8nm,0.7s,baz=48,slow=1.5,SNR=8.4
BRTR Keskin Array B 145.65 321 PKPbc **PKiKP 11 54 54.5 -1.4**
comp=Z,2.6nm,0.7s,baz=125,slow=2.1,SNR=18
DAVOX Davos/Dischmat 148.03 356 PKPbc **PKiKP 11 55 00.6 -0.1**
comp=Z,1.7nm,0.4s,baz=177,slow=0.7,SNR=3.7

*HEL **15** 11:42:05.7±0.2, 61.05N×30.25E, h0km, ML2.6, Explosion*
*IDC **15** 11:42:07.2±1.0, 61.14N×30.08E, h0km, mb3.2/1, mbtmp3.3/5, ML3.2/4, Error ellipse: s-maj=9.7km s-min=8.5km az=31.0*
*UPP **15** 11:42:09.2±3.0, 61.05N×29.86E, h0km, ML2.1, Suspected explosion*

ISC 15 11:42:05.7±0.9,**61.26N**±0.04×**30.06E**±0.04,**h0km**,**n29**, σ1§**99**/45,**Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RUFX	**Ruokolahti**	**0.56**	**288**	*eP*		**Pb**	**11 42 18.7**	**+0.3**
RUFX				*eS*		**Sb**	**11 42 27.9**	**+0.9**
VJF	**Virojoki**	**1.42**	**241**	*eP*		**Pn**	**11 42 30.8**	**-2.0**
VJF				MSG			11 42 47.1	
	comp=Z,61nm,0.2s							
VJF				*eSN*		**Sn**	**11 42 52.9**	**+0.7**
JOF	**Joensuu**	**1.77**	**19**	*ePG*		**Pg**	**11 42 40.3**	**+0.8**
JOF				*eSG*		**Sg**	**11 43 05.5**	**+3.1**
FIA0	**FINESS Array S**	**1.93**	**277**	*eP*		**P

GRAU	**Graesoe**	**5.72**	**266**	P	**Pn**	**11 43 32.2**	**+0.5**
SVAU	**Svanoeiden**	**5.79**	**309**	P	**Pn**	**11 43 36.1**	**+3.4**
NRTU	**Norrtaelje**	**5.87**	**259**	P	**Pn**	**11 43 34.0**	**+0.1**
FORU	**Forsmark**	**5.88**	**267**	P	**Pn**	**11 43 35.4**	**+1.4**
BREU	**Bredtraesk**	**5.92**	**301**	P	**Pn**	**11 43 36.8**	**+2.2**
HFS	**Hagfors**	**8.11**	**269**	Pn	**Pn**	**11 44 04.5**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=81,slow=8.9,SNR=17						
HFS				Sn	**Sn**	**11 45 31.5**	**-5.3**
	comp=Z,0.4nm,0.3s,baz=72,slow=23,SNR=2.6						
HFS				Lg	Lg	11 46 17.2	
	comp=Z,0.9nm,0.3s,baz=79,slow=31,SNR=3.2						
	comp=Z,1.7nm,0.3s						
ARCES	**ARCESS Array B**	**8.52**	**349**	Pn	**Pn**	**11 44 11.4**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=11						
ARCES				Sn	**Sn**	**11 45 44.0**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=165,slow=24,SNR=2.1						
ARCES				Lg	Lg	11 46 35.3	
	comp=Z,1.1nm,0.3s,baz=175,slow=31,SNR=8.4						
	comp=Z,0.8nm,0.6s						
NOA	**NORSAR Array B**	**9.11**	**277**	Pn	**Pn**	**11 44 17.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=25						
NOA				Sn	**Sn**	**11 45 55.9**	**-5.6**
	baz=65,slow=17,SNR=2.5						
NOA				Lg	Lg	11 46 54.5	
	comp=Z,0.1nm,0.3s,baz=81,slow=16,SNR=4.1						
	comp=Z,0.4nm,0.3s						
AKASG	**Malin Array Be**	**10.60**	**183**	Pn	Pn	11 44 32.8	-5.8
	comp=Z,1.2nm,0.3s,baz=1.2,slow=13,SNR=5.0						
AKASG				Sn	Sn	11 46 24.8	-13
	comp=Z,0.7nm,0.3s,baz=1.7,slow=23,SNR=2.5						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**32.91**	**92**	P	**P**	**11 48 40.9**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=308,slow=7.7,SNR=4.4						
	comp=Z,0.1nm,0.4s						

IDC 15 11:45:46.5±526.0, 48°62N×47°04E, h0km, Error ellipse: s-maj=189.1km s-min=147.8km az=55.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.38**	**72**	*i*		12 33 20.0	
	0.1nm,0.7s,baz=261,slow=317,SNR=5.4						
I43RU	**DUBNA INFRASON**	**10.06**	**327**	*i*		12 51 10.0	
	baz=141,slow=327,SNR=3.2						
I46RU	**ZALESOVO INFRA**	**24.02**	**63**	*i*		14 11 10.0	
	baz=274,slow=323,SNR=0.6						

*JMA **15** 11:48:24.5±0.6, 36°N×2°×12°9E±°, h6km, MV2.9/14, S KOREAN PENINSULA REG*
*KMA **15** 11:48:25.2±0.1, 35°.76N×129°.19E, h19km±2km, Error ellipse: s-maj=1.9km s-min=1.5km az=106.0*
ISC 15 11:48:25.3±1.4, 35°.77N±0°.04×129°.17E±0°.06, h17km±13km, n14, σ0s35/22, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.23**	**270**	P	**Pb**	**11 48 30.9**	**0.0**
	SNR=799						
YOCB	**Yeongcheon**	**0.28**	**319**	P	**Pb**	**11 48 31.7**	**-0.2**
	SNR=107						
YOCB				S	**Sb**	**11 48 35.8**	**-0.4**
MIYA	**Miryang-si**	**0.45**	**232**	P	**Pb**	**11 48 34.5**	**-0.2**
	SNR=14						
KSPHA	**Pohang**	**0.45**	**21**	P	**Pg**	**11 48 34.6**	**+0.1**
	SNR=37						
KSPHA				P	**Pg**	**11 48 34.6**	**+0.1**
	SNR=37						
KSDAU	**Deagu-acc**	**0.47**	**285**	P	**Pb**	**11 48 35.1**	**0.0**
	SNR=64						
KSBUS	**Busan**	**0.52**	**186**	P	**Pb**	**11 48 35.6**	**-0.4**
	SNR=79						
KSBUS				P	**Pb**	**11 48 35.6**	**-0.4**
	SNR=79						
KSCHR	**CHANGNYEONG**	**0.60**	**248**	P	**Pb**	**11 48 37.1**	**-0.2**
	SNR=21						
KSADO	**Andong**	**0.67**	**344**	P	**Pb**	**11 48 38.3**	**-0.3**
	SNR=212						
KSADO				P	**Pb**	**11 48 38.3**	**-0.3**
	SNR=212						
EUSB	**Uiseong**	**0.71**	**326**	P	**Pb**	**11 48 39.0**	**-0.1**
	SNR=66						
EUSB				P	**Pb**	**11 48 39.0**	**-0.1**
	SNR=66						
JTU	**Tsushima**	**1.25**	**172**	P	**Pn**	**11 48 48.0**	**0.0**
JTU				S	**Sn**	**11 49 04.7**	**+0.2**
JTSM	**Tsushimamitsus**	**1.44**	**173**	P	**Pn**	**11 48 50.5**	**0.0**
JTSM				*eS*	**Sn**	**11 49 09.1**	**+0.1**
JHGM	**Hagimishima**	**1.89**	**121**	*eS*	**Sb**	**11 49 23.3**	**+0.7**
JII	**Iki**	**2.02**	**167**	*eP*	**Pb**	**11 49 01.1**	**-0.5**
JII				*eS*	**Sb**	**11 49 27.1**	**+0.7**
JTY	**Toyota**	**2.16**	**134**	*eS*	**Sb**	**11 49 30.0**	**-0.4**

*IDC **15** 11:57:22.5±0.8, 51°.45N×178°.10W, h0km, mb4.0/15, mbtmp4.0/16, ML4.2/1, MS3.4/14, Error ellipse: s-maj=28.1km s-min=14.1km az=167.0*
*MOS **15** 11:57:23.2±1.6, 51°.34N×178°.29W, h47km, mb4.5/14, Error ellipse: s-maj=13.5km s-min=9.7km az=81.8*
*AEIC **15** 11:57:26.7±1.9, 51°.12N±0°.09×177°.92W±0°.06, h19km±5km, Error ellipse: s-maj=13.6km s-min=5.0km az=171.0*
*NEIC **15** 11:57:29.8±2.6, 51°.31N±0°.09×177°.94W±0°.08, h46km±9km, mb4.4/148, ML4.4/28(AEIC), Error ellipse: s-maj=13.0km s-min=6.7km az=171.0*
ISC 15 11:57:28.5±0.5, 51°30N±0°.08×177°.97W±0°.03, h45km, n395, σ1s16/326, mb4.4/73, MS3.4/14, 4C-3D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPA	**Tanaga Point A**	**0.53**	**11**		**Pn**	**11 57 40.3**	**+0.4**
TASE	**Tanaga Southea**	**0.54**	**356**		**Pn**	**11 57 40.8**	**+0.7**
KIMD	**Kanaga Island**	**0.66**	**44**		**Pn**	**11 57 41.4**	**0.0**
GALAA	**Gareloi Lava P**	**0.68**	**313**		**Pn**	**11 57 42.8**	**+1.0**
GAEA	**Gareloi East**	**0.69**	**316**		**Pn**	**11 57 42.9**	**+1.0**
GANO	**Gareloi North**	**0.74**	**316**		**Pn**	**11 57 43.3**	**+0.8**
KIWB	**Kanaga Island**	**0.76**	**42**	Pn	**Pn**	**11 57 42.9**	**+0.1**
KIKV	**Kanaga Island**	**0.77**	**40**		**Pn**	**11 57 43.3**	**+0.4**
KICM	**Kanaga Island**	**0.79**	**38**		**Pn**	**11 57 43.8**	**+0.6**
ADK	**Adak**	**1.00**	**53**		**Pn**	**11 57 46.2**	**+0.2**
ADK	**Adak**	**1.00**	**53**		**Sn**	**11 57 59.2**	**+0.3**
ADK	**Adak**	**1.00**	**53**	P	**Pn**	**11 57 46.2**	**+0.2**
GSCK	**Great Sitkin C**	**1.34**	**57**		**Pn**	**11 57 51.2**	**+0.5**
GSTD	**Great Sitkin T**	**1.37**	**56**		**Pn**	**11 57 51.5**	**+0.4**
GSMY	**Great Sitkin M**	**1.41**	**57**		**Pn**	**11 57 52.1**	**+0.5**
GSTR	**Great Sitkin T**	**1.44**	**55**	Pn	**Pn**	**11 57 53.1**	**+1.1**
CERAA	**Semis' Rag'd T**	**1.58**	**294**		**Pn**	**11 57 55.4**	**+1.3**
CERB	**Semis' Cerberu**	**1.62**	**294**		**Pn**	**11 57 56.4**	**+1.8**
CERB					**Sn**	**11 58 16.9**	**+2.7**
CEPE	**Semis' Perret**	**1.63**	**295**		**Pn**	**11 57 56.3**	**+1.7**
CESW	**Semis' Southwe**	**1.65**	**292**		**Pn**	**11 57 56.1**	**+1.2**
AMKA	**Amchitka**	**1.71**	**274**	Pn	**Pn**	**11 57 56.5**	**+0.7**
AMKA	**Amchitka**	**1.71**	**274**		**Sn**	**11 58 17.8**	**+1.4**
KOKL	**Mount Kliuchef**	**2.56**	**65**		**Pn**	**11 58 08.2**	**+0.8**
KOFP	**Korovin Flat P**	**2.60**	**66**		**Pn**	**11 58 09.2**	**+1.2**
SHEM	**Shemya Is, Ala**	**5.10**	**289**	LR	LR	12 00 30.6	
	comp=Z,364nm,18.6s,baz=96,slow=38						
NIKH	**Nikolski High**	**5.86**	**70**	Pn	**Pn**	**11 58 56.0**	**+3.3**
NIKH	**Nikolski High**	**5.86**	**70**	P	**Pn**	**11 58 54.6**	**+1.9**
	baz=255						
MAPS	**Pakushin South**	**7.18**	**65**		**Pn**	**11 59 12.3**	**+1.5**
MNAT	**Makushin Natee**	**7.35**	**65**		**Pn**	**11 59 14.2**	**+1.1**
SPIA	**Saint Paul Isl**	**7.43**	**35**	Pn	**Pn**	**11 59 15.8**	**+1.7**
UNV	**Unalaska Valle**	**7.44**	**65**	Pn	**Pn**	**11 59 17.2**	**+2.9**
AKUT	**Akutan**	**7.94**	**64**	Pn	**Pn**	**11 59 23.8**	**+2.7**
SDPT	**Sand Point**	**11.22**	**62**	Pn	**Pn**	**12 00 07.2**	**+1.3**
CNBA	**Chernabura Isl**	**11.61**	**65**	Pn	**Pn**	**12 00 12.0**	**+0.8**
O16K	**Kokwok River B**	**13.96**	**46**	P	**Pn**	**12 00 44.9**	**+1.5**
	baz=242						
R17K	**Ugashik Creek**	**14.03**	**55**	P	**Pn**	**12 00 44.7**	**+0.4**
	baz=252						
N16K	**Nishlik Lake**	**14.11**	**42**	P	**Pn**	**12 00 46.5**	**+1.1**
	baz=237						
Q16K	**King Salmon**	**14.25**	**50**	P	**Pn**	**12 00 48.3**	**+1.1**
	baz=247						
O17K	**Koliganek Bris**	**14.50**	**46**	P	**Pn**	**12 00 52.4**	**+1.9**
	baz=243						
P17K	**Kvichak River**	**14.55**	**49**	P	**Pn**	**12 00 53.0**	**+1.7**
	baz=246						
PEA0B	**Petropavlovsk-**	**15.01**	**286**	*i* P	**Pn**	**12 00 51.1**	**-6.3**
P18K	**Big Mountain,**	**15.20**	**49**	P	**P**	**12 01 04.3**	**+0.1**
P18K				IAmb	IAmb	12 01 06.9	
	comp=Z,20nm,0.8s						
P18K	**Big Mountain,**	**15.20**	**49**	P	**Pn**	**12 01 01.4**	**+1.5**
	baz=247						
O18K	**Koktuh Hills**	**15.39**	**47**	P	**P**	**12 01 06.1**	**-0.2**
O18K				IAmb	IAmb	12 01 10.7	
	comp=Z,28nm,0.7s						
O18K	**Koktuh Hills**	**15.39**	**47**	P	**Pn**	**12 01 03.4**	**+1.0**
	baz=246,SNR=5.7						
N18K	**Kilae Creek**	**15.45**	**44**	P	**P**	**12 01 06.5**	**-0.4**
N18K	**Kilae Creek**	**15.45**	**44**	P	**Pn**	**12 01 04.0**	**+1.0**
	baz=242						
OHAK	**Old Harbor**	**15.54**	**58**	Pn	**Pn**	**12 01 02.9**	**-1.4**
OHAK	**Old Harbor**	**15.54**	**58**	P	**Pn**	**12 01 05.2**	**+1.0**
	baz=257						
SVW2	**Sparrevohn**	**15.78**	**43**	P	**P**	**12 01 12.1**	**+1.6**
Q19K	**Cape Douglas,**	**15.81**	**52**	Pn	**Pn**	**12 01 07.9**	**+0.2**
O19K	**Port Alsworth**	**15.94**	**47**	P	**Pn**	**12 01 10.4**	**+1.1**
	baz=246						
KDAK	**Kodiak Island**	**16.04**	**56**	Pn	**Pn**	**12 01 07.7**	**-2.8**
	comp=Z,0.9nm,0.3s,baz=279,slow=3.5,SNR=25						
KDAK				Sn	**Sn**	**12 04 02.6**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=189,slow=19,SNR=0.7						
	comp=Z,11nm,0.5s						
KDAK	**Kodiak Island**	**16.04**	**56**	Pn	**Pn**	**12 01 09.5**	**-1.0**
KDAK				IAmb	IAmb	12 01 17.0	
	comp=Z,19nm,0.8s						
KDAK	**Kodiak Island**	**16.04**	**56**	*i* P	**P**	**12 01 13.3**	**-0.1**
KDAK				pmax	pmax		
	comp=Z,29nm,0.8s						
KDAK	**Kodiak Island**	**16.04**	**56**	P	**Pn**	**12 01 11.1**	**+0.6**
	baz=256						
N19K	**Bonanza Creek**	**16.12**	**45**	P	**P**	**12 01 16.5**	**+2.0**
N19K				IAmb	IAmb	12 01 20.8	
	comp=Z,31nm,0.8s						
N19K	**Bonanza Creek**	**16.12**	**45**	P	**Pn**	**12 01 12.6**	**+0.9**
	baz=244,SNR=11						
P19K	**Oil Pt**	**16.25**	**49**	P	**P**	**12 01 17.4**	**+1.7**
Q20K	**Shuyak Island**	**16.34**	**53**	P	**P**	**12 01 16.6**	**-0.1**
	baz=254						
L19K	**White Mountain**	**16.61**	**40**	P	**P**	**12 01 21.7**	**+1.9**
L19K	**White Mountain**	**16.61**	**40**	P	**P**	**12 01 19.0**	**-0.7**
	baz=239						
M19K	**Big River Lodg**	**16.66**	**41**	P	**P**	**12 01 21.2**	**+0.8**
M19K	**Big River Lodg**	**16.66**	**41**	P	**P**	**12 01 20.5**	**+0.2**
	baz=241						
RSO	**Redoubt South**	**16.76**	**47**	P	**P**	**12 01 20.9**	**-0.7**
HOM	**Homer**	**17.01**	**50**	P	**P**	**12 01 26.6**	**+2.5**
L20K	**Farewell, AK**	**17.16**	**40**	P	**P**	**12 01 26.5**	**+0.7**
	baz=240						
CNPM	**China Poot**	**17.17**	**51**	Pn	**Pn**	**12 01 25.3**	**+0.5**
CNPM				IAmb	IAmb	12 01 30.7	
	comp=Z,39nm,0.8s						
M20K	**Styx River**	**17.18**	**42**	P	**P**	**12 01 29.6**	**+3.5**
M20K	**Styx River**	**17.18**	**42**	P	**P**	**12 01 26.7**	**+0.6**
	baz=243						
N20K	**Mount Spurr**	**17.29**	**45**	P	**P**	**12 01 28.1**	**+0.8**
	baz=246						
SPCR	**Spurr Chakacha**	**17.29**	**45**	P	**P**	**12 01 28.2**	**+0.9**
	baz=246						
SPU	**Mount Spurr**	**17.35**	**45**	P	**P**	**12 01 31.1**	**+3.1**
GCSA	**Galena City Sc**	**17.38**	**31**	P	**P**	**12 01 28.7**	**+0.6**
	baz=229						
BRSE	**Bradley Lake S**	**17.47**	**51**	P	**P**	**12 01 30.6**	**+1.4**
	baz=253						
K20K	**Telida**	**17.54**	**37**	P	**P**	**12 01 31.7**	**+1.8**
K20K	**Telida**	**17.54**	**37**	P	**P**	**12 01 30.7**	**+0.8**
	baz=237,SNR=7.5						
SKT	**Skwentna**	**17.91**	**43**		**P**	**12 01 35.9**	**+1.8**
SKT				IAmb	IAmb	12 01 42.9	
	comp=Z,22nm,0.8s						
SKT	**Skwentna**	**17.91**	**43**	P	**P**	**12 01 35.4**	**+1.3**
	baz=245						
J20K	**Nowinta River**	**17.96**	**35**		**P**	**12 01 36.2**	**+1.6**
J20K	**Nowinta River**	**17.96**	**35**	P	**P**	**12 01 35.6**	**+1.0**
	baz=235,SNR=6.2						
SUA	**Susitna One**	**18.05**	**45**	P	**P**	**12 01 38.0**	**+2.3**
SUA				IAmb	IAmb	12 01 40.7	
	comp=Z,50nm,1.4s						
O22K	**Cooper Landing**	**18.18**	**49**		**Pn**	**12 01 38.8**	**+1.7**
O22K	**Cooper Landing**	**18.18**	**49**	P	**Pn**	**12 01 37.8**	**+0.7**
	baz=252						
SEW	**Seward**	**18.20**	**50**		**P**	**12 01 36.6**	**-0.6**
SEW				IAmb	IAmb	12 01 45.5	
	comp=Z,30nm,0.8s						
SEW	**Seward**	**18.20**	**50**	P	**Pn**	**12 01 37.7**	**+0.3**
	baz=253						
M22K	**Willow**	**18.43**	**45**	P	**Pn**	**12 01 40.1**	**-0.1**
	baz=248						
BILL	**Bilibino**	**18.47**	**341**	*eP*	**P**	**12 01 39.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BILL				MLR	MLR		
	comp=Z,33nm,14.0s						
CUT	**Chulitna**	**18.62**	**43**	P	**Pn**	**12 01 42.4**	**-0.1**
	baz=246						
PMR	**Palmer**	**18.81**	**46**	Pn	**Pn**	**12 01 47.2**	**+2.4**
PMR	**Palmer**	**18.81**	**46**	P	**Pn**	**12 01 47.2**	**+2.4**
PMR				pmax	pmax		
	comp=Z,13nm,1.2s						
PMR	**Palmer**	**18.81**	**46**	P	**Pn**	**12 01 45.9**	**+1.1**
	baz=249						
PWL	**Pot Wells**	**18.95**	**48**	P	**Pn**	**12 01 47.0**	**+0.5**
	baz=252						
KNK	**Knik Glacier**	**19.06**	**47**	P	**Pn**	**12 01 51.2**	**+3.4**
KNK	**Knik Glacier**	**19.06**	**47**	P	**Pn**	**12 01 48.1**	**+0.3**
	baz=251,SNR=7.1						
TRF	**Thorofare Moun**	**19.06**	**40**		**Pn**	**12 01 48.4**	**+0.4**
TRF				IAmb	IAmb	12 01 55.0	
	comp=Z,33nm,0.8s						
TRF	**Thorofare Moun**	**19.06**	**40**	P	**P**	**12 01 47.4**	**+0.6**
	baz=243,SNR=14						
BPAW	**Bear Paw Mtn.**	**19.10**	**38**		**P**	**12 01 46.4**	**-0.7**
BPAW				IAmb	IAmb	12 01 52.8	
	comp=Z,13nm,0.7s						
BPAW	**Bear Paw Mtn.**	**19.10**	**38**	P	**Pn**	**12 01 48.2**	**0.0**
	baz=240						
SML	**Sawmill**	**19.25**	**45**	P	**Pn**	**12 01 50.9**	**+0.8**
SML				IAmb	IAmb	12 01 57.1	
	comp=Z,19nm,0.9s						
SML	**Sawmill**	**19.25**	**45**	P	**Pn**	**12 01 49.8**	**-0.3**
	baz=250						
H21K	**Melozitna Rive**	**19.29**	**32**	P	**Pn**	**12 01 50.9**	**+0.4**
	baz=234,SNR=8.3						
I21K	**Tanana**	**19.30**	**34**	IAmb	IAmb	12 01 55.6	
	comp=Z,28nm,0.8s						
I21K	**Tanana**	**19.30**	**34**	P	**Pn**	**12 01 50.3**	**-0.2**
	baz=236						
M23K	**Glacier View**	**19.51**	**46**	P	**Pn**	**12 01 53.6**	**+0.4**
	baz=251,SNR=12						
WAT1	**Susitna Watana**	**19.52**	**42**	P	**P**	**12 01 52.6**	**+0.8**
	baz=247						
G21K	**Allakaket**	**19.59**	**30**	P	**Pn**	**12 01 53.9**	**-0.2**
	baz=230						
SEY	**Seymchan**	**19.65**	**318**	P	**Pn**	**12 01 54.7**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=123,slow=16,SNR=4.3						
SEY	**Seymchan**	**19.65**	**318**	*i* P	**P**	**12 01 52.6**	**-0.5**
SEY				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MLY	**Manley**	**19.66**	**35**	P	**Pn**	**12 01 54.8**	**-0.1**
MLY				IAmb	IAmb	12 01 58.5	
	comp=Z,25nm,0.7s						
MLY	**Manley**	**19.66**	**35**	P	**Pn**	**12 01 54.9**	**-0.1**
	baz=238,SNR=34						
SCM	**Sheep Creek Mo**	**19.70**	**46**	IAmb	IAmb	12 02 01.2	
	comp=Z,27nm,0.8s						
SCM	**Sheep Creek Mo**	**19.70**	**46**	P	**Pn**	**12 01 55.3**	**-0.2**
	baz=251,SNR=5.9						
MCK	**McKinley**	**19.73**	**40**	IAmb	IAmb	12 02 01.3	
	comp=Z,20nm,0.8s						
MCK	**McKinley**	**19.73**	**40**	P	**P**	**12 01 54.5**	**+0.5**
	baz=244						
WAT6	**Susitna Watana**	**19.77**	**44**	P	**P**	**12 01 54.8**	**+0.1**
	baz=249						
H22K	**Ishtalitna Cre**	**19.91**	**33**	P	**Pn**	**12 01 57.2**	**-0.7**
	baz=235,SNR=12						
F21K	**Alatna River**	**20.05**	**28**	P	**P**	**12 01 58.6**	**+1.1**
	baz=229,SNR=8.2						
NEA2	**Nenana**	**20.07**	**37**	P	**P**	**12 01 58.6**	**+1.0**
NEA2				IAmb	IAmb	12 02 05.1	
	comp=Z,22nm,0.9s						
NEA2	**Nenana**	**20.07**	**37**	P	**P**	**12 01 58.3**	**+0.7**
	baz=242,SNR=9.6						
DHY	**Denali Highway**	**20.11**	**42**	IAmb	IAmb	12 02 00.0	
	comp=Z,16nm,0.6s						
DHY	**Denali Highway**	**20.11**	**42**	P	**P**	**12 01 58.3**	**0.0**
	baz=248,SNR=15						
DIV	**Divide**	**20.22**	**48**		Pn	12 02 01.9	+0.2
DIV				IAmb	IAmb	12 02 06.2	
	comp=Z,14nm,0.6s						
KLU	**Klutina**	**20.25**	**47**	IAmb	IAmb	12 02 06.0	
	comp=Z,17nm,0.7s						
KLU	**Klutina**	**20.25**	**47**	P	**P**	**12 02 00.5**	**+0.8**
	baz=254,SNR=9.3						
M24K	**Tolsona, Glenn**	**20.31**	**46**	P	**P**	**12 02 00.8**	**+0.5**
	baz=252						
WRH	**Wood River Hil**	**20.39**	**38**	P	**P**	**12 02 01.8**	**+0.7**
G22K	**Bettles**	**20.47**	**30**	P	**P**	**12 02 03.1**	**+1.2**
	baz=233						
H23K	**Yukon River**	**20.50**	**34**	IAmb	IAmb	12 02 10.3	
	comp=Z,14nm,0.9s						
H23K	**Yukon River**	**20.50**	**34**	P	**P**	**12 02 03.5**	**+1.1**
	baz=238,SNR=13						
MDM	**Murphy Dome**	**20.55**	**37**	P	**P**	**12 02 03.2**	**+0.2**
MDM				IAmb	IAmb	12 02 11.0	
	comp=Z,24nm,0.8s						
CCB	**Clear Creek Bu**	**20.58**	**38**	IAmb	IAmb	12 02 19.1	
	comp=Z,9.0nm,0.6s						
F22K	**John River**	**20.62**	**28**	P	**P**	**12 02 04.4**	**+0.8**
	baz=230,SNR=8.9						
TCOL	**CIGO, UAF Yank**	**20.66**	**37**	IAmb	IAmb	12 02 23.5	
	comp=Z,13nm,0.7s						
TCOL	**CIGO, UAF Yank**	**20.66**	**37**	P	**P**	**12 02 04.7**	**+0.8**
	baz=243						
COLA	**College**	**20.66**	**37**	P	Pn	12 02 07.7	+1.0
COLA				IAmb	IAmb	12 02 23.5	
	comp=Z,13nm,0.7s						
COLA	**College**	**20.66**	**37**	*i* P	**P**	**12 02 05.4**	**+1.4**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLA	**College**	**20.66**	**37**	P	**P**	**12 02 05.0**	**+1.0**
	baz=243						
BMRM	**Bremner River**	**20.73**	**49**	P	Pn	12 02 07.6	-0.1
BMRM	**Bremner River**	**20.73**	**49**	P	Pn	12 02 06.5	-1.2
	baz=257,SNR=6.7						
HDA	**Harding Lake**	**20.81**	**39**	P	Pn	12 02 07.2	-1.3
HDA	**Harding Lake**	**20.81**	**39**	P	**P**	**12 02 06.9**	**+1.2**
	baz=245						
G23K	**Bananza Creek**	**20.82**	**32**	P	**P**	**12 02 06.6**	**+0.8**
	baz=236,SNR=7.7						
HARP	**HAARP**	**20.85**	**45**	P	**P**	**12 02 06.6**	**+0.5**
	baz=252,SNR=8.7						
N25K	**Chitina, Valde**	**20.89**	**48**		Pn	12 02 08.9	-0.6
N25K				IAmb	IAmb	12 02 14.6	
	comp=Z,16nm,0.8s						
N25K	**Chitina, Valde**	**20.89**	**48**	P	**P**	**12 02 07.2**	**+0.6**
	baz=255,SNR=8.2						
PAX	**Paxson**	**20.89**	**44**	IAmb	IAmb	12 02 12.3	
	comp=Z,11nm,0.7s						
PAX	**Paxson**	**20.89**	**44**	P	**P**	**12 02 07.1**	**+0.5**
	baz=251,SNR=5.7						
POKR	**Poker Plat Res**	**20.93**	**37**	P	**P**	**12 02 07.6**	**+0.6**
	baz=243						
IL31		**20.99**	**38**	IAmb	IAmb	12 02 26.6	
	comp=Z,15nm,0.8s						
ILAR	**Eielson Array**	**20.99**	**38**	P	**P**	**12 02 05.5**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=237,slow=9.5,SNR=20						
ILAR				PcP	**PcP**	**12 06 12.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=261,slow=2.9,SNR=1.9						
ILAR				LR	LR	12 11 18.7	
	comp=Z,45nm,19.6s,baz=251,slow=40						
	comp=Z,1.2nm,0.7s						
K24K	**Donnelly Dome**	**21.05**	**41**	P	**P**	**12 02 09.6**	**+1.3**
	baz=248						
COLD	**Coldfoot**	**21.06**	**30**	IAmb	IAmb	12 02 15.7	
	comp=Z,12nm,0.8s						
COLD	**Coldfoot**	**21.06**	**30**	P	**P**	**12 02 09.1**	**+0.8**
	baz=234,SNR=5.7						
H24K	**Noodor Dome**	**21.10**	**35**	IAmb	IAmb	12 02 15.3	
	comp=Z,12nm,0.7s						
H24K	**Noodor Dome**	**21.10**	**35**	P	**P**	**12 02 10.3**	**+1.4**
	baz=241,SNR=14						
GLB	**Gilahina Butte**	**21.22**	**48**	IAmb	IAmb	12 02 17.0	
	comp=Z,11nm,0.7s						
RIDG	**Independent Ri**	**21.41**	**42**	P	**P**	**12 02 11.9**	**-0.3**
	baz=250						
J25K	**Salcha River,**	**21.52**	**39**	P	**P**	**12 02 12.2**	**-1.1**
	baz=247						
MCARA	**McCarthy VSAT**	**21.57**	**49**	P	**P**	**12 02 13.5**	**-0.4**
	baz=258,SNR=6.1						
MENT	**Mentasta**	**21.64**	**44**	P	**P**	**12 02 17.6**	**+2.9**
MENT				IAmb	IAmb	12 02 37.3	
	comp=Z,10nm,0.7s						
G24K	**Hadweenzic Riv**	**21.67**	**33**	P	**P**	**12 02 14.7**	**-0.2**
	baz=239						
DOT	**Dot Lake**	**21.71**	**42**	IAmb	IAmb	12 02 20.8	
	comp=Z,12nm,0.7s						
E23K	**Chandalar**	**21.73**	**29**	P	**P**	**12 02 15.8**	**+0.2**
	baz=233						
M26K	**Nabesna, AK**	**21.82**	**46**	IAmb	IAmb	12 02 26.5	
	comp=Z,8.8nm,0.6s						
M26K	**Nabesna, AK**	**21.82**	**46**	P	**P**	**12 02 17.1**	**+0.5**
	baz=255,SNR=5.8						
PRP	**Porcupine Dome**	**21.82**	**37**	P	**P**	**12 02 16.3**	**-0.4**
	baz=245						
L26K	**Log Cabin Wild**	**21.83**	**44**	IAmb	IAmb	12 02 27.1	
	comp=Z,13nm,0.8s						
L26K	**Log Cabin Wild**	**21.83**	**44**	P	**P**	**12 02 16.8**	**+0.2**
	baz=253						

baz=236
H27K **Steamboat Moun** 23.62 37 P P 12 02 34.8 -0.2
baz=248
YUK4 **Talbot Arm** 23.64 50 P P 12 02 36.3 +0.8
baz=262
G27K **Doyon Strip** 23.79 36 P P 12 02 36.5 -0.1
baz=247
DAWY **Dawson** 23.81 43 P P 12 02 37.1 +0.2
baz=256
M29M **Somme Creek** 23.89 47 P P 12 02 37.4 -0.3
baz=260
E27K **Coleen River** 24.38 32 P P 12 02 41.6 -0.3
baz=244,SNR=5.7
C27K **Jago River** 24.39 29 P P 12 02 41.8 -0.3
baz=239
K29M **Barlow Dome** 24.57 44 P P 12 02 42.4 -1.4
baz=258
I29M **Ogilvie Camp,** 24.60 40 IAmb IAmb 12 02 48.8
comp=Z,9.1nm,0.7s
I29M **Ogilvie Camp,** 24.60 40 P P 12 02 42.5 -1.5
baz=254
EPYK **Eagle Plains** 25.50 38 P P 12 02 50.9 -1.3
baz=254
WRAK **Wrangell Islan** 26.99 61 P P 12 03 06.3 +0.7
baz=278
INK **Inuvik** 27.23 35 P P 12 03 05.5 -2.1
comp=Z,1.4nm,0.6s,baz=241,slow=9.0,SNR=7.2
INK LR LR 12 14 37.0
comp=Z,62nm,18.6s,baz=202,slow=38
comp=Z,1.4nm,0.6s
INK **Inuvik** 27.23 35 P P 12 03 07.2 -0.4
baz=254
DLBC **Dease Lake** 27.97 56 LR LR 12 14 46.1
comp=Z,52nm,19.0s,baz=274,slow=37
BBB **Bella Bella** 30.40 68 P P 12 03 37.2 +1.2
comp=Z,6.5nm,0.8s,baz=300,slow=9.4,SNR=5.0
comp=Z,6.5nm,0.8s
TIXI **Tiksi** 30.96 330 LR LR 12 16 45.0
comp=Z,68nm,19.2s,baz=178,slow=38
KLR **Kul'dur** 31.70 286 P P 12 03 47.6 +0.1
comp=Z,4.2nm,0.7s,baz=56,slow=7.6,SNR=12
comp=Z,4.2nm,0.7s
KLR **Kul'dur** 31.70 286 *ce*P P 12 03 45.9 -1.6
KLR pmax pmax
comp=Z,8.0nm,1.7s
ZEA **Zeya** 32.73 296 *i* P P 12 03 54.3 -2.2
H11N2 **WAKE ISLAND Hy** 33.68 206 T T 12 40 42.0
baz=17,slow=76
H11N3 **WAKE ISLAND Hy** 33.69 206 T T 12 40 41.1
baz=17,slow=76
H11N1 **WAKE ISLAND Hy** 33.70 206 T T 12 40 50.8
baz=17,slow=76
H11S1 **WAKE ISLAND Hy** 34.90 206 T T 12 42 14.2
baz=17,slow=76
H11S2 **WAKE ISLAND Hy** 34.91 206 T T 12 42 19.3
baz=17,slow=76
YKA **Yellowknife Ar** 34.91 46 P P 12 04 15.2 -0.1
comp=Z,3.6nm,0.8s,baz=285,slow=7.6,SNR=7.2
YKA PcP PcP 12 06 47.2 +0.2
comp=Z,1.2nm,0.8s,baz=282,slow=3.1,SNR=3.7
YKA LR LR 12 19 08.1
comp=Z,52nm,18.9s,baz=254,slow=37
comp=Z,3.6nm,0.8s
YKA **Yellowknife Ar** 34.91 46 *ce*P P 12 04 18.2 +2.9
YKA pmax pmax
comp=Z,3.0nm,0.7s
H11S3 **WAKE ISLAND Hy** 34.91 206 T T 12 42 16.4
baz=17,slow=76
LTY **Liberty** 36.79 73 IAmb IAmb 12 04 40.6
comp=Z,8.7nm,1.4s
H04D **Lebanon** 36.87 78 P P 12 04 33.0 +0.7
baz=300
I03D **Drain, OR** 36.92 80 P P 12 04 32.9 +0.2
baz=301
B08A **Colville Reser** 37.07 71 P P 12 04 35.4 +1.4
G05D **Wamic, OR** 37.38 76 P P 12 04 36.8 +0.2
baz=300
I04A **Tendick Farm,** 37.45 79 P P 12 04 38.0 +0.7
baz=301
L02F **Cave Junction** 37.63 82 P P 12 04 39.3 +0.5
baz=303
I05D **Terrebonne, OR** 37.83 78 P P 12 04 41.0 +0.6
baz=301
HAWA **Hanford** 37.89 74 IAmb IAmb 12 04 47.9
comp=Z,5.5nm,0.7s
J04D **Umpqua Nationa** 37.93 80 P P 12 04 42.0 +0.5
baz=302
D08A **Wollman Farm,** 37.93 73 IAmb IAmb 12 04 43.3
comp=Z,2.8nm,0.6s
C09A **Chrisman Ranch** 37.96 71 IAmb IAmb 12 04 43.8
comp=Z,12nm,1.4s
CN2 **Changchun** 38.07 281 *e*P P 12 04 41.6 -0.8
CN2 pmax pmax
comp=Z,10.0nm,0.5s
PINE **Pine Mountain** 38.36 78 IAmb IAmb 12 04 49.2
comp=Z,9.1nm,1.1s
L04D **Klamath Falls** 38.36 81 P P 12 04 45.9 +0.8
baz=303
NEW **Newport** 38.42 70 P P 12 04 46.3 +0.9
baz=298,SNR=12
J05D **Fort Rock, OR** 38.45 79 P P 12 04 46.6 +0.8
baz=302
K05A **Summer Lake** 38.96 80 IAmb IAmb 12 04 59.9
comp=Z,9.2nm,1.1s
I07A **Izee** 39.08 77 IAmb IAmb 12 04 53.9
comp=Z,5.1nm,0.9s
RES **Resolute Bay** 39.60 24 LR LR 12 22 50.5
comp=Z,32nm,21.1s,baz=190,slow=39
MOD **Modoc Plateau** 39.78 80 P P 12 04 58.7 +1.8
J08A **Circle Bar Ran** 40.10 77 IAmb IAmb 12 05 02.2
comp=Z,6.5nm,1.2s
KSRS **Korea Array** 40.16 272 P P 12 04 59.9 0.0
comp=Z,0.5nm,0.7s,baz=50,slow=9.5,SNR=2.9
comp=Z,0.5nm,0.7s
JTMT **Jette** 40.35 69 P P 12 05 03.0 +1.4
WVOR **Wild Horse Val** 40.51 79 IAmb IAmb 12 05 06.1
comp=Z,5.8nm,1.0s
MSO **Missoula** 41.01 70 IAmb IAmb 12 05 08.8
comp=Z,6.1nm,0.8s
MSO **Missoula** 41.01 70 P P 12 05 07.5 +0.5
baz=300,SNR=5.1
PNTR **Pine Nut** 41.84 83 P P 12 05 15.9 +1.8
PNTR IAmb IAmb 12 05 38.9
comp=Z,3.9nm,0.7s
HLID **Hailey** 42.46 75 P P 12 05 19.6 +0.6
baz=303,SNR=6.1
EGMT **Eagleton** 42.84 66 IAmb IAmb 12 05 26.0
comp=Z,7.7nm,0.8s
EGMT **Eagleton** 42.84 66 P P 12 05 22.3 +0.4
baz=301
BOZ **Bozeman (W)** 43.02 70 P P 12 05 24.1 +0.6
baz=302,SNR=7.4
NVAR **Mina Array Bea** 43.05 83 P P 12 05 24.9 +1.0
comp=Z,0.8nm,0.8s,baz=294,slow=9.2,SNR=8.4
comp=Z,0.8nm,0.8s
YHL **Hebgen Lake** 43.69 71 IAmb IAmb 12 05 31.6
comp=Z,6.7nm,1.1s
XLT **XiLinHaoTe** 43.71 287 *e*P P 12 05 30.0 +1.0
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,62nm,5.1s
VES **Vestal, Richgr** 44.17 87 P P 12 05 33.6 +1.0
baz=309
H17A **Grant Village** 44.30 71 IAmb IAmb 12 05 37.5
comp=Z,12nm,1.4s
H17A **Grant Village** 44.30 71 P P 12 05 35.9 +1.9
baz=304
PKM **Mcpherson Peak** 44.32 88 P P 12 05 33.8 -0.3
baz=310
CWC **Cottonwood Cre** 44.42 85 P P 12 05 34.2 -0.6
baz=309
RLMT **Red Lodge** 44.67 70 P P 12 05 37.3 +0.5
baz=304,SNR=7.6
NRIK **Noril'sk** 44.74 330 *i* P P 12 05 36.7 0.0
NRIK pmax pmax
comp=Z,7.0nm,1.5s
R11A **Troy Canyon, C** 44.79 81 P P 12 05 38.5 +0.7
baz=308,SNR=5.3
MPMC **Manual Prospec** 45.03 85 P P 12 05 40.2 +0.5
baz=309
FURC **Furnace Creek,** 45.16 84 P P 12 05 41.1 +0.7
baz=309
SPR3 **Spring Creek 3** 45.17 80 IAmb IAmb 12 05 49.4
comp=Z,1.6nm,0.8s
TPNV **Topopah Spring** 45.24 83 P P 12 05 42.8 +1.4
TPNV **Topopah Spring** 45.24 83 P P 12 05 42.8 +1.4
TPNV pmax pmax
comp=Z,4.0nm,1.0s
TPNV **Topopah Spring** 45.24 83 P P 12 05 42.3 +1.0
baz=309
DUG **Dugway, Tooele** 45.38 78 IAmb IAmb 12 05 44.8
comp=Z,8.9nm,1.1s
DUG **Dugway, Tooele** 45.38 78 P P 12 05 43.2 +0.8
baz=307,SNR=10
EDW2 **Edwards Air Fo** 45.47 87 P P 12 05 43.9 +0.9
baz=310
LAO **LASA Array** 45.58 66 P P 12 05 44.0 +0.2
baz=303,SNR=6.5
PRN **Pahroc Range** 45.70 82 IAmb IAmb 12 05 48.0
comp=Z,8.8nm,1.2s
DGMT **Dagmar** 45.76 63 P P 12 05 45.2 +0.1
baz=302
BW06 **Boulder Array** 45.84 73 IAmb IAmb 12 05 47.9
comp=Z,3.5nm,0.8s
BW06 **Boulder Array** 45.84 73 P P 12 05 46.3 +0.2
baz=305,SNR=6.8
PD31 **Pinedale Array** 45.84 73 IAmb IAmb 12 06 07.0
comp=Z,4.9nm,1.1s
PDAR **Pinedale Array** 45.84 73 P P 12 05 47.0 +0.8
comp=Z,1.9nm,0.6s,baz=307,slow=4.0,SNR=38
comp=Z,1.9nm,0.6s
PDAR **Pinedale Array** 45.84 73 P P 12 05 46.8 +0.6
GSC **Goldstone, Bar** 45.94 86 P P 12 05 47.5 +0.7
baz=310
JLU **Jordanelle** 45.97 76 IAmb IAmb 12 05 49.5
comp=Z,4.9nm,1.0s
NLU **North Lily Min** 45.98 77 P P 12 05 48.5 +1.3
NLU IAmb IAmb 12 05 49.4
comp=Z,3.3nm,0.8s
ULN **Ulaanbaatar** 46.76 297 *i* P P 12 05 52.9 -0.3
ULN pmax pmax
comp=Z,6.0nm,2.7s
TMUT **Trail Mountain** 46.91 78 IAmb IAmb 12 05 57.5
comp=Z,5.5nm,0.9s
P17A **Butcher Ranch,** 47.09 77 IAmb IAmb 12 05 58.1
comp=Z,4.4nm,0.6s
Q16A **Castle Valley** 47.16 78 IAmb IAmb 12 06 05.3
comp=Z,3.9nm,0.7s
SRU **San Rafael Swe** 47.44 77 IAmb IAmb 12 06 01.6
comp=Z,6.5nm,1.0s
K22A **Casper** 47.72 71 P P 12 06 01.0 +0.3
baz=306
O20A **White River Ci** 48.20 75 P P 12 06 04.9 +0.4
baz=308,SNR=7.8
PDMCI **Parker Dam,Lak** 48.25 85 P P 12 06 05.2 +0.5
baz=311
RSSD **Black Hills** 48.31 68 P P 12 06 05.1 -0.2
RSSD IAmb IAmb 12 06 06.4
comp=Z,3.7nm,0.8s
RSSD **Black Hills** 48.31 68 P P 12 06 05.1 -0.2
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD **Black Hills** 48.31 68 P P 12 06 05.2 -0.1
baz=306
MDND **Maddock** 48.66 61 P P 12 06 08.0 +0.3
baz=305
N23A **Red Feather La** 49.12 72 P P 12 06 12.2 +0.6
baz=308
WUAZ **Wupatki** 49.19 82 P P 12 06 11.6 -0.5
WUAZ IAmb IAmb 12 06 31.0
comp=Z,3.2nm,0.8s
WUAZ **Wupatki** 49.19 82 P P 12 06 12.8 +0.7
baz=310
NJ2 **Nanjing** 49.33 273 *e*P P 12 06 07.8 -5.2
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MVCO **Mesa Verde** 49.88 78 IAmb IAmb 12 06 35.4
comp=Z,3.2nm,0.9s
MVCO **Mesa Verde** 49.88 78 P P 12 06 17.7 +0.3
baz=310
ISCO **Idaho Springs** 50.00 73 P P 12 06 18.8 +0.4
baz=308
W18A **Petrified Fore** 50.46 81 P P 12 06 22.9 +1.1
baz=311
S22A **4UR Ranch, Cre** 50.56 76 IAmb IAmb 12 06 25.9
comp=Z,3.7nm,1.0s
S22A **4UR Ranch, Cre** 50.56 76 P P 12 06 23.8 +1.1
baz=310,SNR=5.2
214A **Organ Pipe Nat** 50.64 86 P P 12 06 23.4 +0.4
baz=312
SUSD **Miller** 51.04 65 P P 12 06 26.0 +0.2
baz=307
SDCO **Great Sand Dun** 51.37 75 IAmb IAmb 12 06 30.9
comp=Z,3.4nm,0.9s
SDCO **Great Sand Dun** 51.37 75 P P 12 06 28.4 -0.2
baz=310
OGNE **Ogallala** 51.42 70 P P 12 06 29.7 +1.0
baz=309
TUC **Tucson** 51.67 84 P P 12 06 31.0 +0.2
baz=312
T25A **Trinidad** 52.42 75 IAmb IAmb 12 06 39.3
comp=Z,6.9nm,1.1s
T25A **Trinidad** 52.42 75 P P 12 06 37.2 +0.7
baz=310
ANMO **Albuquerque** 52.60 79 LR LR 12 27 58.9
comp=Z,19nm,19.0s,baz=285,slow=35
ANMO **Albuquerque** 52.60 79 *i* P P 12 06 38.2 +0.4
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO **Albuquerque** 52.60 79 P P 12 06 38.4 +0.6
baz=311
ECSD **EROS Data Cent** 52.80 64 P P 12 06 38.0 -1.0
baz=309
Y22D **IRIS PASSCAL I** 52.90 80 P P 12 06 40.2 +0.3
baz=312
BGNE **Belgrade** 53.39 67 P P 12 06 43.5 +0.2
baz=310
CBKS **Cedar Bluff** 54.14 71 P P 12 06 48.9 +0.1
baz=311
ZALV **Zalesovo Beam** 54.46 314 PcP PcP 12 07 54.5 +0.6
comp=Z,0.8nm,0.5s,baz=66,slow=3.5,SNR=5.2
MNTX **Cornudas Mount** 55.45 81 IAmb IAmb 12 07 00.8
comp=Z,3.3nm,0.9s
MNTX **Cornudas Mount** 55.45 81 P P 12 06 59.1 +0.7
baz=313,SNR=5.0
MSTX **Muleshoe** 55.52 77 P P 12 06 59.0 +0.1
baz=312
GTA **Gaotai** 56.08 292 *e*P P 12 07 04.3 +1.4
GTA pP pP 12 07 13.4 -1.9
GTA sP sP 12 07 18.0 -2.4
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,47nm,5.0s
GTA LR LR
comp=N,43nm,14.9s
GTA LR LR
comp=E,97nm,17.1s
GTA LR LR
comp=Z,94nm,19.6s
WMOK **Wichita Mounta** 57.42 74 IAmb IAmb 12 07 14.0
comp=Z,2.5nm,0.8s
WMOK **Wichita Mounta** 57.42 74 P P 12 07 13.2 +0.8
baz=313
TX31 **Lajitas Ar. Si** 58.15 82 P P 12 07 18.0 +0.3
TX32 **Lajitas Array** 58.15 82 P P 12 07 17.9 +0.2
TX32 IAmb IAmb 12 07 19.1
comp=Z,3.8nm,1.2s
TXAR **Lajitas Array** 58.15 82 P P 12 07 18.3 +0.6
comp=Z,1.3nm,0.9s,baz=311,slow=3.8,SNR=11
comp=Z,1.3nm,0.9s
TUL1 **Leonard** 58.41 71 P P 12 07 19.8 +0.6
baz=313
KURK **Kurchatov** 59.45 314 *i* P P 12 07 24.5 -1.7
KURBB **Kurchatov Arra** 59.56 314 LR LR 12 35 01.0
comp=Z,73nm,20.4s,baz=40,slow=38
CCM **Cathedral Cave** 59.60 66 P P 12 07 27.5 0.0
baz=313
WMQ **Urumqi** 59.82 303 *e*P P 12 07 30.0 +1.0
WHTX **Lake Whitney,** 60.12 75 P P 12 07 31.3 +0.2
baz=314
SFIN **Lafayette** 60.34 62 P P 12 07 32.5 +0.1
baz=314
MKAR **Makanchi Array** 60.49 309 P P 12 07 32.8 -0.7
comp=Z,0.2nm,0.4s,baz=60,slow=8.7,SNR=1.9
MKAR LR LR 12 35 05.3
comp=Z,30nm,18.0s,baz=128,slow=38
comp=Z,0.2nm,0.4s
FCAR **Ozark Folk Cen** 60.58 68 P P 12 07 33.2 -1.1
MIAR **Mount Ida** 60.66 70 P P 12 07 35.6 +0.8
MIAR **Mount Ida** 60.66 70 P P 12 07 35.6 +0.8
MIAR pmax pmax
comp=Z,5.0nm,0.8s
MIAR **Mount Ida** 60.66 70 P P 12 07 35.0 +0.2
baz=314
O48B **Farmland** 61.48 60 P P 12 07 39.5 -0.8
baz=314
P49A **Miami Univ. Ec** 62.23 61 P P 12 07 44.6 -0.8
baz=315
WCI **Wyandotte Cave** 62.28 63 P P 12 07 45.3 -0.4
baz=315
ACSO **Alum Creek Sta** 62.68 59 P P 12 07 48.3 0.0
baz=315
WVT **Waverly** 62.89 65 P P 12 07 49.6 -0.2
baz=315
ARU **Arti** 62.95 329 *d* iP P 12 07 49.6 -0.2
ARU 12 08 25.4
ARU 12 10 02.7
ARU S S 12 16 17.5 +1.4
ARU SS SS 12 20 21.2 +0.2
ARU pmax pmax
comp=Z,9.0nm,2.1s
OXF **Oxford** 63.13 68 P P 12 07 51.3 0.0
baz=315
O52A **Adamsville** 63.38 59 P P 12 07 52.6 -0.3
PZH **PanZhiHua** 63.87 280 P P 12 07 55.8 -0.7
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.9s
KIRV **Kirov** 63.87 335 LR LR 12 38 30.6
comp=Z,54nm,19.7s,baz=28,slow=39
DAV **Davao City (W)** 63.92 247 LR LR 12 33 16.7
comp=Z,24nm,20.0s,baz=296,slow=34
TZTN **Tazewell** 65.01 62 P P 12 08 04.1 +0.4
baz=316
LBNH **Lisbon** 65.39 49 P P 12 08 06.2 +0.1
baz=318
LRAL **Lakeview Retre** 65.59 67 P P 12 08 07.3 -0.1
baz=316
KMSC **Kings Mountain** 67.26 62 P P 12 08 18.5 +0.4
baz=317
AAK **Ala-Archa** 67.31 310 LR LR 12 39 26.2
comp=Z,53nm,20.7s,baz=70,slow=38
GOGA **Godfrey** 67.34 65 P P 12 08 18.6 0.0
baz=317
VSU **Vasula** 68.75 346 *i* P P P 12 08 27.5 +0.4
VSU pmax pmax
comp=Z,12nm,0.9s
BELG **Belogornoye** 69.77 332 *i* P P P 12 08 31.7 -1.7
BELG pmax pmax
comp=Z,2.0nm,0.6s
OBN **Obninsk** 70.13 340 ||*e*P P 12 08 36.2 +0.6
OBN *e**PP pP 12 08 42.9 -5.4
OBN *e* 12 08 55.8
OBN pmax pmax
comp=Z,4.0nm,0.9s
TAPN **Taplejung** 71.72 291 *e*P P 12 08 47.5 +1.4
GUN **Gumba** 72.37 293 *e*P P 12 08 51.6 +1.5
comp=Z,39nm,0.7s
JIRN **Jiri** 72.38 292 *e*P P 12 08 51.7 +1.6
comp=Z,31nm,0.8s
RAMN **Ramite** 72.67 291 *e*P P 12 08 52.9 +1.2
PKI **Pulchoki** 72.89 293 *e*P P 12 08 54.0 +0.8
PKIN **Phulchoki** 72.90 293 *e*P P 12 08 53.9 +0.8
GKN **Gorkha** 73.01 294 *e*P P 12 08 54.6 +0.9
DANN **Dangsing** 73.25 294 *e*P P 12 08 57.2 +2.0
EKA **Eskdalemuir Ar** 73.65 3 P P 12 08 57.2 +0.4
comp=Z,0.6nm,0.7s,baz=348,slow=6.5,SNR=2.3
comp=Z,0.6nm,0.7s
PYUN **Piuthan** 73.88 295 *e*P P 12 09 00.1 +1.3
comp=Z,19nm,1.0s
AKASG **Malin Array Be** 75.78 343 P P 12 09 08.8 -0.4
comp=Z,0.5nm,0.4s,baz=16,slow=5.5,SNR=6.2
comp=Z,0.5nm,0.4s
AKASG **Malin Array Be** 75.78 343 *ce*P P 12 09 08.6 -0.5
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB **Malin Array Si** 75.78 343 *ce*P P 12 09 08.7 -0.4
GEYT **Alibeck** 78.49 318 LR LR 12 47 23.1
comp=Z,54nm,18.9s,baz=1.5,slow=38
BRTR **Keskin Array B** 85.23 336 P P 12 10 00.6 +0.4
comp=Z,2.5nm,0.9s,baz=41,slow=4.1,SNR=11
comp=Z,2.5nm,0.9s
ASAR **Alice Springs** 85.78 223 P P 12 10 03.6 +0.8
comp=Z,0.7nm,1.0s,baz=22,slow=6.0,SNR=6.1
comp=Z,0.7nm,1.0s
ESDC **Sonseca Array** 89.25 5 P P 12 10 18.8 -0.7
comp=Z,1.7nm,1.0s,baz=344,slow=4.1,SNR=3.6
comp=Z,1.7nm,1.0s
H03N2 **Juan Fernandez** 120.62 106 T T 14 28 30.2
baz=317,slow=77
H03N1 **Juan Fernandez** 120.64 106 T T 14 28 42.3
baz=317,slow=77
H03N3 **Juan Fernandez** 120.64 106 T T 14 28 26.6
baz=317,slow=77
MAW **Mawson** 146.73 218 PKPbc PKPbc 12 17 03.3 -0.6
comp=Z,1.1nm,0.7s,baz=346,slow=7.7,SNR=4.1
BOSA **Boshof** 151.41 314 PKPbc PKPbc 12 17 17.1 -0.1
comp=Z,2.8nm,0.7s,baz=8.3,slow=3.9,SNR=6.3

IDC 15 12:12:20.0±1.7, 12°03'S×124°06'E, h0km, mb3.7/1, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=85.9km s-min=22.2km az=65.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.85**	**348**	Pn	Pn	12 12 51.4	-1.6
	46nm,0.3s,baz=203,slow=2.9,SNR=28						
BATI				Sn	Sn	12 13 14.8	-2.4
	22nm,0.3s,baz=278,slow=23,SNR=5.0						
FITZ	**Fitzroy Crossi**	**6.23**	**166**	Pn	Pn	12 13 51.2	-2.0
	1.0nm,0.3s,baz=345,slow=7.9,SNR=38						
FITZ				Sn	Sn	12 14 59.0	-6.1
	0.9nm,0.3s,baz=14,slow=12,SNR=3.6						
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**12.63**	**130**	Pn	Pn	12 15 22.4	+1.3
	0.9nm,0.3s,baz=309,slow=15,SNR=51						
WRA				Sn	Sn	12 17 38.9	-3.6
	0.8nm,0.3s,baz=307,slow=24,SNR=9.1						
	3.0nm,0.6s						
ASAR	**Alice Springs**	**14.88**	**142**	Pn	Pn	12 15 51.8	-0.1
	0.3nm,0.3s,baz=319,slow=12,SNR=46						
ASAR				Sn	Sn	12 18 31.8	-5.8
	0.3nm,0.3s,baz=314,slow=22,SNR=11						
	2.1nm,0.6s						
H08S2	**Diego Garcia H**	**50.94**	**270**	T	T	13 14 41.0	
	baz=100,slow=74						
H08S3	**Diego Garcia H**	**50.95**	**270**	T	T	13 14 46.7	
	baz=100,slow=74						
H08S1	**Diego Carcia H**	**50.96**	**270**	T	T	13 14 44.2	
	baz=100						
MKAR	**Makanchi Array**	**69.46**	**331**	P	P	12 23 31.2	+1.0
	0.5nm,0.6s,baz=150,slow=7.4,SNR=4.8						
	0.5nm,0.6s						

IDC 15 12:20:06.5±15.0, 20°16S×177°99E, h439km±213km, mb3.0/3, mbtmp3.7/4, Error ellipse: s-maj=512.2km s-min=111.5km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.42**	**1**	P	P	12 21 08.7	-0.1
	4.1nm,0.4s,baz=180,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**34.57**	**243**	P	P	12 26 17.0	+0.2
	1.1nm,0.6s,baz=68,slow=11,SNR=3.3						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**40.91**	**263**	P	P	12 27 09.1	-0.2
	0.4nm,0.3s,baz=96,slow=8.2,SNR=21						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**40.93**	**257**	P	P	12 27 09.1	-0.3
	1.4nm,0.7s,baz=96,slow=8.0,SNR=23						
	1.4nm,0.7s						

MAN 15 12:33:07.1, 8°01N×124°49E, h1km, mb4.5, ML3.4, MS3.3, 6C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.48**	**25**	↑*i*P	Pg	12 33 16.8	+0.4
CGP				*i* S	Sg	12 33 23.8	+1.1
BUKP	**Musuan**	**0.58**	**103**	↑*i*P	Pg	12 33 18.6	+0.3
BUKP				*e*S	Sb	12 33 30.1	+1.1
BUKP	**Musuan**	**0.58**	**103**	↑*e*P	Pn	12 33 30.1	+7.4
BUKP				*i* S	Pn	12 33 30.1	+7.4
CTBH	**Cotabato--PC H**	**0.82**	**197**	↓*i*P	Pg	12 33 22.8	-0.2
CTBH				*i* S	Sb	12 33 35.0	-0.9
PAGZ	**Pagadian**	**1.11**	**262**	↑*e*P	Pb	12 33 29.0	-0.2
PAGZ				*e*S	Sn	12 33 46.2	+0.4
KCP	**Kidapawan**	**1.16**	**149**	↓*i*P	Pg	12 33 29.6	+0.1

KCP				*i* S	Sn	12 33 48.2	+1.0	
TABP	**Talibon, Bohol**	**2.07**	**356**⇑	*e*P	Pn	12 33 42.9	-0.1	
TABP				*i* S	Sb	12 34 12.0	+0.2	
DDMP	**Don Marcelino,**	**2.25**	**147**⇑	*i*P	Pn	12 33 46.2	+0.6	
DDMP				*e*S	Sb	12 34 16.6	-0.4	

IDC 15 12:33:33.7±51.0, 22°59S×174°98W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=961.0km s-min=171.5km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.48**	**247**	P	P	12 41 06.1	0.0
	1.2nm,0.6s,baz=89,slow=9.5,SNR=4.6 1.2nm,0.6s						
ASAR	**Alice Springs**	**46.81**	**258**	P	P	12 42 05.4	-0.2
	0.7nm,0.7s,baz=92,slow=7.6,SNR=14 0.7nm,0.7s						
WRA	**Warramunga Arr**	**47.12**	**263**	P	P	12 42 07.9	-0.2
	1.0nm,0.6s,baz=103,slow=8.1,SNR=32 1.0nm,0.6s						

*JMA **15** 12:39:11.2±0.1, 37°.4N±0°.2×140°.5E±0°.4, h87km, MV3.3/39, MID FUKUSHIMA PREF*
JMA Felt I J1 at MID FUKUSHIMA PREF .
*IDC **15** 12:39:12.7±4.3, 37°.17N×140°.22E, h109km±32km, mb3.5/6, mbtmp3.9/7, Error ellipse: s-maj=49.0km s-min=13.2km az=58.0*

ISC 15 12:39:10.3±0.9, 37°31N±0°.04×140°48E±0°.05, h94km±6km, n30, σ0°75/35, mb3.8/6, 10D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.23**	**164**⇓	*i*P	**Pn**	**12 39 24.2**	**+0.3**
JFFD				⇓S	**Sn**	**12 39 33.8**	**-0.1**
JFK	**Kawauchi**	**0.32**	**80**⇓	*i*P	**Pn**	**12 39 24.4**	**+0.1**
JFK				⇓S	**Sn**	**12 39 34.4**	**-0.3**
JMM	**Marumori**	**0.61**	**24**⇓	*i*P	**Pn**	**12 39 26.3**	**0.0**
JMM				⇓S	**Sn**	**12 39 37.4**	**-0.9**
JFY	**Yanaizu**	**0.63**	**279**⇓	*i*P	**Pn**	**12 39 26.7**	**+0.2**
JFY				⇓S	**Sn**	**12 39 38.0**	**-0.6**
JYS	**Shirataka**	**0.97**	**340**⇓	*i*P	**Pn**	**12 39 30.3**	**+0.3**
JYS				⇓*e*S	**Sn**	**12 39 44.6**	**0.0**
JNS	**Sasagawa**	**1.06**	**299**	P	**Pn**	**12 39 30.8**	**-0.1**
JOU	**Okura**	**1.06**	**8**	P	**Pn**	**12 39 31.4**	**+0.3**
JOU				*e*S	**Sn**	**12 39 47.6**	**+1.1**
JKT	**Katashina**	**1.13**	**242**	*i* P	**Pn**	**12 39 33.2**	**+1.4**
JUON	**Uonuma**	**1.14**	**265**	P	**Pn**	**12 39 32.5**	**+0.6**
JUON				*e*S	**Sn**	**12 39 48.7**	**+0.6**
JAG	**Ashikaga**	**1.21**	**223**	*i* P	**Pn**	**12 39 34.1**	**+1.4**
JIO	**Ouri**	**1.33**	**31**	*i* P	**Pn**	**12 39 34.1**	**0.0**
JIO				S	**Sn**	**12 39 50.7**	**-1.4**
JYA	**Atsumi**	**1.42**	**335**	*i* P	**Pn**	**12 39 35.8**	**+0.6**
JYA				S	**Sn**	**12 39 54.6**	**+0.6**
JAW	**Awa shima**	**1.50**	**320**	P	**Pn**	**12 39 36.5**	**+0.2**
JYK	**Kaneyama**	**1.61**	**357**	*i* P	**Pn**	**12 39 38.1**	**+0.5**
JMK	**Ichinoseki**	**1.74**	**19**	P	**Pn**	**12 39 39.7**	**+0.5**
JMK				*e*S	**Sn**	**12 40 01.1**	**-0.1**
MJAR	**Matsushiro Arr**	**1.98**	**248**	P	**Pn**	**12 39 41.1**	**-1.3**
	36nm,0.7s,baz=72,slon=12,SNR=63						
MJAR				S	**Sn**	**12 40 04.6**	**-2.2**
	5.8nm,0.4s,baz=84,slow=18,SNR=5.6						
JHJ	**Hachijo jima 2**	**4.22**	**188**	P	**Pn**	**12 40 13.0**	**+0.6**
	23nm,0.3s,baz=72,slow=19,SNR=12						
JHJ				S	**Sn**	**12 41 00.5**	**-0.1**
	29nm,0.3s,baz=61,slow=23,SNR=1.6						
KSRS	**Korea Array**	**10.00**	**275**	P	Pn	12 41 34.9	+3.9
	1.4nm,0.9s,baz=87,slow=13,SNR=6.3						
SONM	**Songino Array**	**27.01**	**304**	P	**P**	**12 44 43.2**	**-0.3**
	0.8nm,0.5s,baz=84,slow=7.5,SNR=4.1 0.8nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.93**	**120**	T	T	13 15 16.6	
	baz=314,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**28.94**	**120**	T	T	13 15 16.7	
	baz=314,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.95**	**120**	T	T	13 15 18.0	
	baz=314,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.63**	**122**	T	T	13 16 06.9	
	baz=314,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.64**	**122**	T	T	13 16 08.2	
	baz=314,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.65**	**122**	T	T	13 16 08.0	
	baz=314,slow=76,SNR=10						
ZALV	**Zalesovo Beam**	**41.18**	**312**	P	**P**	**12 46 45.7**	**+0.4**
	0.5nm,0.3s,baz=87,slow=8.6,SNR=2.1 0.5nm,0.3s						
MKAR	**Makanchi Array**	**43.34**	**302**	P	**P**	**12 47 03.2**	**+0.2**
	0.6nm,0.6s,baz=81,slow=9.4,SNR=9.0 0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**45.24**	**308**	P	**P**	**12 47 17.8**	**-0.3**
	1.5nm,0.4s,baz=83,slow=8.1,SNR=13 1.5nm,0.4s						
BVAR	**Borovoye Array**	**49.84**	**312**	P	**P**	**12 47 53.7**	**+0.1**
	0.4nm,0.4s,baz=64,slow=9.8,SNR=2.1 0.4nm,0.4s						
WRA	**Warramunga Arr**	**57.24**	**187**	P	**P**	**12 48 47.8**	**-0.2**
	0.7nm,0.7s,baz=2.3,slow=7.2,SNR=9.4 0.7nm,0.7s						

*DNK **15** 12:40:55.4±1.3, 59°.38N×32°.31E, h15km*
*HEL **15** 12:40:57.6±0.2, 61°.00N×30°.25E, h0km, ML2.6, Explosion*
*BER **15** 12:40:59.6±1.6, 61°.12N×30°.14E, h0km, ML2.2, ML2.6(HEL), Suspected explosion*
*IDC **15** 12:41:00.6±1.1, 61°.03N×30°.04E, h0km, mb3.3/1, mbtmp3.4/6, ML3.3/4, MS2.6/1, Error ellipse: s-maj=12.0km s-min=8.6km az=15.0*

ISC 15 12:40:56.3±0.8, 61°07N±0°.03×30°14E±0°.04, h0km, n37, σ1s97/54, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUFX	**Ruokolahti**	**0.68**	**303**	PB	**Pb**	**12 41 12.1**	**+1.1**
	baz=127						
RUFX				SG	**Sb**	**12 41 21.2**	**+0.3**
VJF	**Virojoki**	**1.37**	**248**	PN	**Pb**	**12 41 24.2**	**+1.4**
VJF				MSG		12 41 39.6	
	comp=Z,48nm,0.2s						
VJF	**Virojoki**	**1.37**	**248**	PN	**Pb**	**12 41 24.2**	**+1.4**
VJF				MSG		12 41 39.6	
	comp=Z,48nm,0.2s						
VJF				SN	**Sn**	**12 41 46.0**	**+4.5**
JOF	**Joensuu**	**1.94**	**16**	PG	**Pg**	**12 41 33.4**	**0.0**
JOF				SG	**Sg**	**12 41 58.9**	**+0.4**
JOF	**Joensuu**	**1.94**	**16**	PG	**Pg**	**12 41 33.4**	**0.0**
JOF				SG	**Sg**	**12 41 58.9**	**+0.4**
FIA0	**FINESS Array S**	**2.00**	**283**	PG	**Pg**	**12 41 34.8**	**+0.3**
	baz=102						
FIA0				SG	**Sg**	**12 42 01.8**	**+1.4**
FIA0	**FINESS Array S**	**2.00**	**283**	PG	**Pg**	**12 41 34.8**	**+0.3**
	baz=102						
FIA0				SG	**Sg**	**12 42 01.8**	**+1.4**
FINES	**FINESS Array B**	**2.00**	**283**	Pg	**Pg**	**12 41 34.8**	**+0.3**
	comp=Z,6.2nm,0.3s,baz=105,slow=16,SNR=205						
FINES				Lg	Lg	12 42 02.0	
	comp=Z,16nm,0.3s,baz=101,slow=29,SNR=37						
KAF	**Kangasniemi**	**2.11**	**301**	PG	**Pg**	**12 41 37.2**	**+0.5**
KAF				MSG		12 42 02.6	
	comp=Z,28nm,0.2s						
KAF				SG	**Sg**	**12 42 04.9**	**+0.9**
PVF	**Pernaja**	**2.16**	**258**	PG	**Pg**	**12 41 37.1**	**-0.6**
PVF				MSG		12 42 02.6	
	comp=Z,87nm,0.2s						
PVF				SG	**Sg**	**12 42 05.9**	**+0.3**
KEF	**Keuruu**	**2.75**	**296**	PB	**Pb**	**12 41 46.2**	**0.0**
KEF				MSG		12 42 20.8	
	comp=Z,8.5nm,0.2s						
KEF				SB	**Sb**	**12 42 21.0**	**+0.6**
NUR	**Nurmijrvi**	**2.75**	**261**	PG	**Pb**	**12 41 47.3**	**+1.0**
NUR				SG	**Sg**	**12 42 25.8**	**+1.3**
MEF	**Metsahovi**	**2.95**	**256**	*e*P	**Pb**	**12 41 50.2**	**+0.5**
MEF				IAML		12 42 32.9	
	comp=Z,30nm,0.2s						
MEF	**Metsahovi**	**2.95**	**256**	PB	**Pb**	**12 41 48.3**	**-1.4**
MEF				SB	**Sb**	**12 42 25.0**	**-1.3**
MEF				MSG		12 42 25.4	
	comp=Z,35nm,0.2s						
VSU	**Vasula**	**3.13**	**215**	*e*P	**Pb**	**12 41 51.1**	**-1.6**
VSU	**Vasula**	**3.13**	**215**	PG	**Pb**	**12 41 51.7**	**-1.1**
VSU				SG	**Sb**	**12 42 31.0**	**-0.4**
RMF	**Romuvaara**	**3.16**	**358**	PB	**Pb**	**12 41 51.2**	**-2.1**
	baz=174						
RMF				SB	**Sb**	**12 42 33.5**	**+1.1**
MTSE	**Matsula**	**3.96**	**236**	*e*P	**Pb**	**12 42 03.5**	**-3.5**
MTSE	**Matsula**	**3.96**	**236**	PB	**Pb**	**12 42 03.7**	**-3.3**
RAF	**Rauma**	**4.07**	**273**	*e*P	**Pb**	**12 42 04.8**	**-4.0**
RAF				IAML		12 43 10.0	
	comp=Z,9.4nm,0.4s						
OUF	**Merijarvi**	**4.14**	**325**	PB	**Pb**	**12 42 08.6**	**-1.4**
OUF				SG	**Sg**	**12 43 06.4**	**-2.8**
OBF4	**Vikkela, Lumij**	**4.41**	**331**	SG	**Sg**	**12 43 16.9**	**-0.8**
SLIT	**Slitere, Latvi**	**5.29**	**233**	*e*P	Pn	12 42 21.2	+4.7
HFS	**Hagfors**	**8.14**	**271**	Pn	**Pn**	**12 42 58.2**	**+2.6**
	comp=Z,1.0nm,0.3s,baz=83,slow=12,SNR=18						
HFS				Sn	**Sn**	**12 44 25.3**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=73,slow=20,SNR=2.4						
HFS				Lg	Lg	12 45 11.1	
	comp=Z,0.5nm,0.3s,baz=75,slow=29,SNR=2.0						
HFS				LR	LR	12 46 03.3	
	comp=Z,42nm,20.0s,baz=357,slow=37 comp=Z,1.8nm,0.3s						
KTK1	**Kautokeino**	**8.49**	**343**	*e*P	**Pn**	**12 43 00.2**	**0.0**
KTK1				IAML		12 44 41.6	
	comp=Z,1.6nm,0.4s						
MOR8	**Moi Rana**	**8.65**	**313**	*e*P	**Pn**	**12 43 01.8**	**-0.7**
MOR8				IAML		12 44 44.7	
	comp=Z,2.2nm,0.5s						
ARA0	**ARCESS Array S**	**8.72**	**349**	*e*P	**Pn**	**12 43 02.1**	**-1.4**
ARA0				*e*S	Sn	12 44 31.8	-10
ARA0				IAML		12 44 44.4	
	comp=Z,2.2nm,0.9s						
ARCES	**ARCESS Array B**	**8.72**	**349**	Pn	**Pn**	**12 43 06.4**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=168,slow=13,SNR=6.2						
ARCES				Sn	**Sn**	**12 44 39.3**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=167,slow=24,SNR=1.4						
ARCES				Lg	Lg	12 45 26.3	
	comp=Z,0.5nm,0.3s,baz=151,slow=33,SNR=4.3 comp=Z,1.4nm,0.6s						
BLEU	**Blekinge**	**8.85**	**244**	*e*P	**Pn**	**12 43 07.0**	**+1.8**
BLEU				*e*S	**Sn**	**12 44 41.5**	**-4.0**
KIF	**Kilpisjarvi**	**8.88**	**338**	*e*P	**Pn**	**12 43 03.7**	**-1.9**
NOA	**NORSAR Array B**	**9.17**	**278**	Pn	**Pn**	**12 43 09.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=24						
NOA				Lg	Lg	12 45 43.3	
	comp=Z,0.1nm,0.3s,baz=123,slow=20,SNR=4.7 comp=Z,0.4nm,0.3s						
BORU	**Boraas**	**9.51**	**256**	*e*S	**Sn**	**12 44 58.9**	**-2.8**
DEL	**Delary**	**9.61**	**249**	*i* P	**Pn**	**12 43 17.0**	**+1.3**
DEL				*e*S	**Sn**	**12 45 02.5**	**-1.8**
BSD	**Bornholm Skovb**	**10.01**	**240**	*e*S	**Sn**	**12 45 10.2**	**-3.8**
AKASG	**Malin Array Be**	**10.40**	**183**	Pn	**Pn**	**12 43 25.2**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=4.5,slow=13,SNR=4.4 comp=Z,0.5nm,0.4s						
EKA	**Eskdalemuir Ar**	**18.31**	**267**	P	**P**	**12 45 13.8**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=58,slow=13,SNR=1.1						
MKAR	**Makanchi Array**	**32.87**	**92**	P	**P**	**12 47 34.5**	**+3.0**
	comp=Z,0.2nm,0.4s,baz=307,slow=7.4,SNR=5.5 comp=Z,0.2nm,0.4s						

*IDC **15** 12:52:45.6±0.8, 29°.32S×60°.93E, h0km, mb3.9/8, mbtmp4.0/9, ML4.1/1, MS3.3/7, Error ellipse: s-maj=31.9km s-min=22.4km az=33.0*

ISC 15 12:52:47.9±0.9, 29°3S±0°.2×60°9E±0°.2, h14km, n22, σ1s24/10, mb4.1/8, MS3.2/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.42**	**308**	Pn	**Pn**	**12 56 36.5**	**-1.6**
	0.1nm,0.3s,baz=108,slow=7.5,SNR=3.1						
OPO				Sn	Sn	12 59 25.3	-15
	0.1nm,0.3s,baz=110,slow=19,SNR=2.8						
OPO				LR	LR	13 00 18.7	
	comp=Z,69nm,20.9s,baz=360,slow=28 1.6nm,0.4s						
H08S1	**Diego Garcia H**	**24.17**	**29**	T	T	13 23 16.1	
	baz=204,slow=76,SNR=8.2						
H08S2	**Diego Garcia H**	**24.18**	**29**	T	T	13 22 51.2	
	baz=204,slow=76,SNR=9.9						
H08S3	**Diego Garcia H**	**24.19**	**29**	T	T	13 22 55.5	
	baz=204,slow=76,SNR=9.9						
BOSA	**Boshof**	**31.08**	**262**	LR	LR	13 09 18.0	
	comp=Z,50nm,19.6s,baz=18,slow=32						
LBTB	**Lobatse**	**31.58**	**269**	LR	LR	13 10 00.3	
	comp=Z,30nm,18.8s,baz=84,slow=33						
LSZ	**Lusaka**	**33.16**	**288**	LR	LR	13 11 05.8	
	comp=Z,41nm,20.0s,baz=106,slow=33						
TSUM	**Tsumeb**	**40.51**	**274**	LR	LR	13 15 14.5	
	comp=Z,46nm,21.5s,baz=358,slow=33						
H01W2	**Cape Leeuwin H**	**45.05**	**111**	T	T	13 48 41.6	
	baz=261,slow=75,SNR=29						
H01W3	**Cape Leeuwin H**	**45.05**	**111**	T	T	13 48 41.9	
	baz=261,slow=75,SNR=23						
H01W1	**Cape Leeuwin H**	**45.06**	**111**	T	T	13 48 42.8	
	baz=261,slow=75,SNR=26						
CMAR	**Chiang Mai Arr**	**60.05**	**43**	P	**P**	**13 02 55.5**	**+0.9**
	0.5nm,0.4s,baz=229,slow=7.8,SNR=4.8 0.5nm,0.4s						
QSPA	**South Pole Qui**	**60.85**	**180**	P	**P**	**13 02 59.8**	**+0.2**
	0.8nm,0.8s,baz=315,slow=3.4,SNR=5.1 0.8nm,0.8s						
ASAR	**Alice Springs**	**64.67**	**104**	P	**P**	**13 03 24.9**	**-0.8**
	1.5nm,0.8s,baz=243,slow=6.2,SNR=29 1.5nm,0.8s						
WRA	**Warramunga Arr**	**66.51**	**100**	P	**P**	**13 03 37.0**	**-0.6**
	1.5nm,0.9s,baz=247,slow=5.8,SNR=7.9 1.5nm,0.9s						
GNI	**Garni**	**70.71**	**347**	LR	LR	13 33 44.8	
	comp=Z,22nm,20.0s,baz=195,slow=35						
TORD	**Torodi Ar. Bea**	**70.96**	**298**	P	**P**	**13 04 06.0**	**+0.8**
	2.4nm,0.8s,baz=119,slow=4.9,SNR=10 2.4nm,0.8s						
MKAR	**Makanchi Array**	**78.19**	**15**	P	**P**	**13 04 46.7**	**+0.1**
	0.5nm,0.8s,baz=163,slow=5.6,SNR=4.8 0.5nm,0.8s						
KEST	**Kesra**	**80.84**	**320**	LR	LR	13 41 31.9	
	comp=Z,28nm,19.5s,baz=256,slow=36						
ZALV	**Zalesovo Beam**	**85.47**	**14**	P	**P**	**13 05 23.9**	**-0.8**
	0.3nm,0.3s,baz=199,slow=3.1,SNR=2.0 0.3nm,0.3s						
ESDC	**Sonseca Array**	**91.30**	**316**	P	**P**	**13 05 54.7**	**+1.7**
	0.9nm,0.9s,baz=109,slow=4.1,SNR=3.3 0.9nm,0.9s						
YKA	**Yellowknife Ar**	**146.67**	**356**	PKPbc	**PKPdf**	**13 12 25.3**	**-1.5**
	2.6nm,1.0s,baz=347,slow=3.2,SNR=4.0						

*MAN **15** 13:04:35.9, 12°.52N×125°.95E, h44km, mb4.7, ML3.6, MS3.6*
*IDC **15** 13:04:36.5±0.9, 12°.24N×125°.41E, h0km, mb3.7/8, mbtmp3.7/8, MS2.8/4, Error ellipse: s-maj=43.3km s-min=17.9km az=67.0*

ISC 15 13:04:36.6±1.7, 12°40N±0°.04×125°79E±0°.06, h4km±10km, n29, σ1s64/37, mb3.6/8, 7C-7D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.86**	**203**⇓	*e*P	**Pb**	**13 04 54.9**	**+0.7**
BESP				*e*S	**Sn**	**13 05 07.9**	**-0.7**
CNP	**Catarman**	**1.10**	**276**⇑	*i*P	**Pg**	**13 04 56.6**	**-1.1**
CNP				*e*S	**Sb**	**13 05 13.1**	**+0.1**
OCLP	**Ormoc**	**1.77**	**221**⇑	*i*P	**Pb**	**13 05 09.8**	**+0.2**
OCLP				*e*S	**Sb**	**13 05 32.0**	**-0.2**
PVCP	**Virac**	**1.99**	**307**⇓	*e*P	**Pn**	**13 05 08.3**	**-2.7**
PVCP				*e*S	**Sg**	**13 05 42.0**	**+1.4**
MSLP	**Maasin**	**2.43**	**202**⇓	*e*P	**Pn**	**13 05 17.9**	**+0.8**
MSLP				*e*S	**Sg**	**13 05 53.8**	**-0.9**
TABP	**Talibon, Bohol**	**2.70**	**212**⇑	*e*P	**Pn**	**13 05 21.1**	**+0.3**
TABP				*i* S	**Sn**	**13 05 55.4**	**+1.4**
RCP	**Roxas**	**3.09**	**255**⇑	*e*P	**Pn**	**13 05 26.4**	**+0.1**
RCP				*e*S	**Sn**	**13 06 06.9**	**+3.2**
GHBP	**Garcia Hernand**	**3.11**	**208**⇓	*e*P	**Pn**	**13 05 27.5**	**+1.1**
GHBP				*i* S	**Sg**	**13 06 15.5**	**-1.0**
TBP	**Tagbilaran**	**3.29**	**215**	*e*P	**Pb**	**13 05 34.0**	**-1.5**
TBP				*i* S	**Sb**	**13 06 14.0**	**-2.0**
BOAC	**Boac**	**3.99**	**286**⇑	*i*P	**Pn**	**13 05 42.3**	**+3.8**
BOAC				*e*S	**Sb**	**13 06 33.5**	**-2.6**
CGP	**Cagayan de Oro**	**4.06**	**195**⇓	*e*P	**Pb**	**13 05 48.5**	**-0.3**
CGP				*e*S	**Sn**	**13 06 26.4**	**-1.2**
BIPH	**Bislig**	**4.23**	**172**⇑	*e*P	**Pb**	**13 05 51.0**	**-0.5**
BIPH				*e*S	**Sb**	**13 06 41.3**	**-1.6**
LQP	**Lukban**	**4.47**	**293**⇓	*e*P	**Pn**	**13 05 48.5**	**+3.1**
DAV	**Davao City (W)**	**5.30**	**182**	LR	LR	13 07 57.5	
	comp=Z,80nm,20.3s,baz=344,slow=39						
KCP	**Kidapawan**	**5.40**	**187**⇑	*e*P	**Pg**	**13 06 22.0**	**+1.9**
CAUP	**Cauayan**	**5.93**	**320**⇓	*e*P	**Pn**	**13 06 04.8**	**-0.4**
GUMO	**Guam**	**18.63**	**84**	LR	LR	13 16 31.3	
	comp=Z,31nm,18.1s,baz=216,slow=38						
JHJ	**Hachijo jima 2**	**24.28**	**30**	LR	LR	13 17 49.1	
	comp=Z,22nm,21.8s,baz=158,slow=32						
KSRS	**Korea Array**	**25.02**	**4**	P	**P**	**13 10 04.2**	**+2.5**
	0.7nm,0.8s,baz=175,slow=9.8,SNR=4.7 0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.55**	**286**	P	**P**	**13 10 13.6**	**-2.2**
	1.7nm,0.9s,baz=91,slow=7.5,SNR=10						
CMAR				LR	LR	13 22 06.5	
	comp=Z,29nm,18.4s,baz=120,slow=40 1.7nm,0.9s						
WRA	**Warramunga Arr**	**33.22**	**165**	P	**P**	**13 11 16.4**	**+1.4**
	0.5nm,0.8s,baz=344,slow=8.8,SNR=2.8						
WRA				PcP	**PcP**	**13 13 56.9**	**-0.9**
	0.4nm,0.6s,baz=334,slow=2.9,SNR=5.3 0.5nm,0.8s						
ASAR	**Alice Springs**	**36.71**	**167**	P	**P**	**13 11 44.9**	**-0.1**
	0.5nm,0.8s,baz=337,slow=6.9,SNR=7.8						
ASAR				PcP	**PcP**	**13 14 06.8**	**-1.0**
	0.3nm,0.7s,baz=0.5,slow=2.5,SNR=6.0 0.5nm,0.8s						
SONM	**Songino Array**	**38.87**	**339**	P	**P**	**13 12 03.8**	**+0.6**
	0.2nm,0.3s,baz=151,slow=6.3,SNR=1.8 0.2nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**40.08**	**74**	T	T	13 55 29.2	
	baz=266,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy**	**40.09**	**74**	T	T	13 55 29.5	
	baz=266,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**40.10**	**74**	T	T	13 55 30.4	
	baz=266,slow=75,SNR=25						
MKAR	**Makanchi Array**	**50.06**	**322**	P	**P**	**13 13 32.3**	**-0.3**
	1.5nm,0.9s,baz=118,slow=8.8,SNR=12 1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**52.55**	**331**	P	**P**	**13 13 50.7**	**-0.4**
	0.5nm,0.5s,baz=128,slow=9.5,SNR=1.7 0.5nm,0.5s						
GEYT	**Alibeck**	**64.91**	**306**	P	**P**	**13 15 16.9**	**-0.6**
	2.5nm,0.9s,baz=158,slow=4.7,SNR=3.8 2.5nm,0.9s						

*SJA **15** 13:14:04.1±0.3, 33°.61S×72°.93W, h10km, ML4.5, MW4.0*
*GUC **15** 13:14:14.1±0.7, 33°.41S×72°.27W, h36km±3km, ML3.9*
*IDC **15** 13:14:14.3±1.1, 33°.53S×71°.16W, h0km, mb3.9/4, mbtmp3.9/7, ML4.0/3, MS3.4/2, Error ellipse: s-maj=48.5km s-min=17.5km az=92.0*

ISC 15 13:14:11.5±1.6, 33°38S±0°.03×72°28W±0°.05, h3km±10km, n44, σ1s70/56, mb4.0/4, 10C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA05	**Santo Domingo**	**0.62**	**116**⇓	*e*P	**Pn**	**13 14 25.8**	**-1.5**
VA05				*e*S	**Sb**	**13 14 34.3**	**+0.1**
VA05				IAML		13 14 41.0	
	comp=E,10μm,0.5s						
VA01	**Torpederas**	**0.64**	**56**⇑	*e*P	**Pn**	**13 14 26.7**	**-0.8**
VA01				*i* S	**Sn**	**13 14 35.9**	**-2.3**
MT02	**Curacav**	**0.97**	**83**⇓	*e*P	**Pn**	**13 14 31.5**	**-0.5**
MT02				*e*S	**Sn**	**13 14 44.4**	**-1.9**
MT02				IAML		13 14 46.4	
	comp=E,4μm,0.4s						
MT01	**Popeta**	**0.99**	**119**⇓	*e*P	**Pn**	**13 14 31.4**	**-0.9**
MT01				*e*S	**Sb**	**13 14 44.4**	**-0.3**
MT01				IAML		13 14 47.1	
	comp=N,4μm,0.4s						
ROCH	**El Roble**	**1.14**	**69**⇑	*e*P	**Pn**	**13 14 34.4**	**-0.2**
ROCH				*e*S	**Sn**	**13 14 49.3**	**-1.6**
ROCH				IAML		13 14 56.4	
	comp=N,5μm,0.5s						
BO03	**Pichilemu**	**1.14**	**167**⇑	*e*P	**Pn**	**13 14 33.7**	**-0.7**
BO03				*e*S	**Sg**	**13 14 48.5**	**+0.2**
MT09	**Talagante**	**1.15**	**110**⇓	*e*P	**Pn**	**13 14 34.1**	**-0.5**
MT09				*e*S	**Sg**	**13 14 49.2**	**+0.7**
MT09				IAML		13 14 51.7	
	comp=N,6μm,0.6s						
VA06	**Catapilco**	**1.17**	**46**⇑	*e*P	**Pg**	**13 14 34.5**	**+0.6**
VA06				*i* S	**Sn**	**13 14 50.3**	**-0.8**
MT05	**Renca**	**1.29**	**91**	*e*P	**Pg**	**13 14 36.5**	**+0.3**
MT05				*i* S	**Sg**	**13 14 53.7**	**+0.7**
MT05				IAML		13 14 56.1	
	comp=E,5μm,0.6s						
PEL	**Peldehue**	**1.36**	**80**⇑	*e*P	**Pg**	**13 14 37.8**	**+0.2**
PEL				*e*S	**Sn**	**13 14 55.2**	**-0.8**
MT03	**Universidad Ad**	**1.49**	**95**⇑	*e*P	**Pg**	**13 14 39.8**	**-0.2**
MT03				*e*S	**Sg**	**13 14 59.5**	**+0.2**
MT03				IAML		13 15 06.1	
	comp=N,3μm,0.6s						
BO04	**La Punta**	**1.52**	**114**⇑	*e*P	**Pb**	**13 14 39.8**	**-0.6**
BO04				*e*S	**Sn**	**13 14 58.9**	**-1.1**
VA03	**San Esteban**	**1.58**	**67**⇑	*e*P	**Pb**	**13 14 41.2**	**-0.2**
VA03				*e*S	**Sn**	**13 15 00.8**	**-0.8**
VA03				IAML		13 15 09.7	
	comp=N,3μm,0.4s						
FCH	**Farellones**	**1.67**	**89**⇑	*e*P	**Pb**	**13 14 43.0**	**0.0**
FCH				*e*S	**Sb**	**13 15 04.4**	**-0.2**
FCH				IAML		13 15 10.8	
	comp=E,2μm,0.5s						
LMEL	**Las Melosas**	**1.80**	**106**⇑	*e*P	**Pb**	**13 14 44.3**	**-0.9**
LMEL				*e*S

comp=Z,1.1nm,0.7s,baz=252,slow=6.1,SNR=7.4
comp=Z,1.1nm,0.7s
TROLL Troll, Antarti 53.94 158 P **P** **13 23 36.5 +0.3**
QSPA South Pole Qui 56.85 180 P **P** **13 23 58.4 +1.2**
comp=Z,1.4nm,0.8s,baz=182,slow=4.4,SNR=8.8
comp=Z,1.4nm,0.8s
TXAR Lajitas Array 69.10 331 P P 13 25 26.9 +7.9
comp=Z,0.4nm,0.7s,baz=134,slow=6.5,SNR=4.6
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 84.19 70 P **P** **13 26 44.1 -0.6**
comp=Z,1.4nm,0.7s,baz=261,slow=3.6,SNR=7.2
comp=Z,1.4nm,0.7s
ZALV Zalesovo Beam 153.81 31 PKPbc **PKiKP** **13 34 12.2 +0.6**
comp=Z,0.9nm,0.7s,baz=321,slow=3.7,SNR=2.3
MKAR Makanchi Array 156.51 48 PKPab **PKPab** **13 34 36.4 0.0**
comp=Z,0.8nm,0.7s,baz=308,slow=3.9,SNR=7.4

---

*IDC **15** 13:41:17.4±6.6,23°.79N×109°.00W,h0km,mbtmp2.9/3, ML3.4/3,Error ellipse: s-maj=94.6km s-min=17.8km az=171.0*
*MEX **15** 13:41:22.4±0.4,24°.07N×108°.93W,h16km±10km,MD3.7*
ISC 15 13:41:20.0±1.2,**24°.0N**±0°.1×**108°.94W**±0°.06,**h22**km,**n8,** σ2**97**/13,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.97**	**251**	*eP*			**Pb**	**13 41 38.1**	**0.0**
SLBS				eS			**Sb**	**13 41 49.7**	**-0.8**
LPIG	**La Paz**	**1.25**	**275**	Pg			**Pn**	**13 41 41.6**	**-0.6**
	73nm,0.3s,baz=88,slow=7.3,SNR=19								
LPIG				Lg	Lg			13 41 57.2	
	44nm,0.3s,baz=145,slow=22,SNR=14								
LPIG	**La Paz**	**1.25**	**275**	*eP*			**Pn**	**13 41 41.6**	**-0.6**
LPIG				eS			**Sn**	**13 41 56.4**	**-2.0**
TSIG	**Topolobambo**	**1.59**	**357**	*eP*			**Pn**	**13 41 45.7**	**-1.2**
TSIG				eS			**Sn**	**13 42 01.7**	**-5.0**
SSIG	**Sanalona**	**1.83**	**63**	*eP*			**Pn**	**13 41 49.0**	**-1.2**
SSIG				eS			**Sn**	**13 42 07.3**	**-5.5**
TXAR	**Lajitas Array**	**7.10**	**40**	Pn			**Pn**	**13 43 05.3**	**+2.6**
	0.1nm,0.3s,baz=213,slow=13,SNR=4.3								
TXAR				Sn			**Sn**	**13 44 22.7**	**-0.2**
	0.3nm,0.3s,baz=299,slow=28,SNR=7.2								
	0.2nm,0.4s								
NVAR	**Mina Array Bea**	**16.44**	**333**	Pn			**P**	**13 45 14.6**	**+2.4**
	baz=155,slow=8.7,SNR=2.2								
	0.2nm,0.6s								
PDAR	**Pinedale Array**	**18.72**	**359**	P			**Pn**	**13 45 41.5**	**+3.7**
	baz=167,slow=12,SNR=4.2								
	0.6nm,0.9s								

---

*GUC **15** 13:43:25.1±0.5,23°.77S×67°.08W,h218km±8km,ML4.1*
*IDC **15** 13:44:10.1±2.0,16°.04S×66°.15W,h476km±67km,mb3.2/1, mbtmp4.0/1,Error ellipse: s-maj=294.4km s-min=148.1km az=173.0*
ISC 15 13:43:24.8±1.3,**23°.75S**±0°.06×**67°.00W**±0°.10,**h200**km,**n14,** σ1**93**/25,**6C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.10**	**303**	*eP*			**Pn**	**13 44 05.4**	**+0.6**
LVC				eS			**Sn**	**13 44 36.2**	**+0.5**
PB15	**IPOC Station P**	**2.33**	**283**	*eP*			**Pn**	**13 44 08.1**	**+1.0**
PB15				*i* S			**Sn**	**13 44 40.3**	**+0.3**
PB06	**IPOC Station P**	**2.59**	**293**	*eP*			**Pn**	**13 44 10.9**	**+1.0**
PB06				eS			**Sn**	**13 44 45.6**	**+0.7**
PB06				IAML				13 44 47.4	
	comp=N,303nm,0.1s								
GO02	**Mina Guanaco**	**2.75**	**239**	*eP*			**Pn**	**13 44 12.9**	**+1.0**
GO02				*i* S			**Sn**	**13 44 49.1**	**+0.6**
GO02				IAML				13 44 51.0	
	comp=E,522nm,0.7s								
PB04	**IPOC Station P**	**3.23**	**295**	*eP*			**Pn**	**13 44 18.3**	**+1.0**
PB04				eS			**Sn**	**13 44 58.2**	**-0.2**
PB10	**IPOC Station P**	**3.27**	**273**	*eP*			**Pn**	**13 44 18.5**	**+0.8**
PB10				eS			**Sn**	**13 44 58.4**	**-0.6**
PB07	**IPOC Station P**	**3.34**	**307**	*eP*			**Pn**	**13 44 19.6**	**+0.8**
PB07				eS			**Sn**	**13 45 00.0**	**-0.9**
PB01	**IPOC Station P**	**3.55**	**319**	*i* P			**Pn**	**13 44 21.9**	**+0.8**
PB01				eS			**Sn**	**13 45 04.7**	**-0.6**
PB02	**IPOC Station P**	**3.61**	**312**	*eP*			**Pn**	**13 44 22.4**	**+0.4**
PB02				*i* S			**Sn**	**13 45 05.8**	**-0.8**
AC02	**Maricunga**	**3.62**	**212**	*eP*			**Pn**	**13 44 23.0**	**+0.6**
AC02				*i* S			**Sn**	**13 45 08.9**	**+1.2**
AC01	**Pan de Azucar**	**4.04**	**233**	*eP*			**Pn**	**13 44 26.6**	**-0.5**
AC01				eS			**Sn**	**13 45 13.4**	**-2.8**
LPAZ	**La Paz**	**7.50**	**352**	P			**Pn**	**13 45 13.4**	**+1.1**
	comp=E,1.5nm,0.3s,baz=84,slow=5.3,SNR=11								
TORD	**Torodi Ar. Bea**	**76.48**	**69**	P			**P**	**13 54 51.6**	**-1.4**
	comp=E,0.6nm,0.4s,baz=256,slow=6.4,SNR=7.6								
	comp=E,0.6nm,0.4s								
MKAR	**Makanchi Array**	**146.33**	**39**	PKP			**PKPbc**	**14 02 42.5**	**+0.6**
	comp=E,0.3nm,0.5s,baz=303,slow=2.5,SNR=5.3								

---

*NEIC **15** 13:44:18.8±1.3,54°.30N±0°.04×161°.50W±0°.05, h37km±53km,Error ellipse: s-maj=6.5km s-min=2.9km az=212.0*
AEIC 15 13:44:18.6±1.5,**54°.35N**±0°.06×**161°.55W**±0°.05, **h38**km±10km,**ML2.9**/25,**ML2.9**/8(NEIC),**Error ellipse: s-maj=10.1km s-min=1.5km az=156.0,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.87**	**331**				Pn	13 44 34.2	0.0
DT1							Sn	13 44 46.1	+0.4
HAG	**Hague Volcano**	**0.99**	**348**				Pn	13 44 37.0	+1.1
PS4A	**Pavlof South-4**	**1.01**	**350**				Pn	13 44 36.8	+0.6
PVV	**Pavlof Volcano**	**1.03**	**352**				Pn	13 44 37.1	+0.6
PVV							Sn	13 44 51.5	+1.8
SDPT	**Sand Point**	**1.18**	**31**				Pn	13 44 39.3	+0.8
SDPT							Sn	13 44 55.0	+1.7
SDPT	**Sand Point**	**1.18**	**31**	IAML				13 44 57.3	
	comp=N,225nm,0.5s								
CNBA	**Chernabura Isl**	**1.23**	**67**				Pn	13 44 38.5	-0.8
ISLZ	**Isanotski Laza**	**1.31**	**287**				Pn	13 44 40.8	+0.4
ISLZ							Sn	13 44 59.1	+2.3
ISNN	**Isanotski Nort**	**1.38**	**291**				Pn	13 44 42.6	+1.3
ISNN							Sn	13 45 03.0	+4.6
SSLS	**Shishaldin Sou**	**1.47**	**285**				Pn	13 44 43.5	+0.9
SSLN	**Shishaldin Nor**	**1.50**	**289**				Pn	13 44 44.2	+1.3
SSBA	**Shishaldin**	**1.56**	**287**				Pn	13 44 44.8	+1.0
WECS	**Westdahl Cape**	**1.89**	**277**				Pn	13 44 49.6	+1.2
AKSA	**Akutan Strait**	**2.44**	**267**				Pn	13 44 56.5	+0.6
AKUT	**Akutan**	**2.49**	**267**	Pn			Pn	13 44 57.5	+1.0
AKUT				IAML				13 45 35.0	
	comp=E,77nm,3.2s								
CHGN	**Chignik**	**2.65**	**41**	Pn			Pn	13 45 00.0	+1.3
CHGN				IAML				13 45 40.1	
	comp=E,46nm,1.8s								
CHGN				IAML				13 45 55.1	
	comp=N,43nm,3.9s								
UNV	**Unalaska Valle**	**2.96**	**262**				Pn	13 45 03.2	+0.2
MAPS	**Pakushin South**	**3.22**	**262**				Pn	13 45 06.8	+0.2

---

*MOS **15** 13:46:40.6±1.1,17°.18N×94°.71W,h43km,mb5.4/69, MS4.3/4,Error ellipse: s-maj=6.8km s-min=4.5km az=96.3*
*IDC **15** 13:46:41.9±0.5,17°.14N×94°.75W,h44km±5km,mb4.6/32, mbtmp4.9/33,ML4.9/1,MS4.1/61,Error ellipse: s-maj=12.4km s-min=8.4km az=62.0*
*NEIC **15** 13:46:43.0±2.3,17°.13N±0°.06×94°.91W±0°.04,h51km±5km, mb5.2/270,Mww5.2,Md5.3/142(MEX),Error ellipse: s-maj=8.6km s-min=5.5km az=191.0*
*MEX **15** 13:46:44.1±0.6,17°.11N×94°.98W,h52km±3km,MD5.3*
*GCMT **15** 13:46:45.0±0.1, 17°.16N±0°.01×94°.90W±0°.01,h62km±1km, MW5.2/133,Moment Tensor Solution. s86,c113; s133,c219; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}0.03±.14; $M_{\theta\theta}$-2.31±.11; $M_{\phi\phi}$2.28±.12; $M_{r\theta}$0.64±.09; $M_{\theta\phi}$3.94±.11; $M_{\phi r}$-4.84±.10; Best double couple: M_o6.65800×10¹⁶ NP1:φs166.00000°,δ89.00000°, λ133.00000°. NP2:φs257.00000°,δ43.00000°,λ1.00000°. Principal axes: T 6.9770, Plg32.0000°, Azm111.0000°; N -0.6350, Plg43.0000°, Azm345.0000°; P -6.3390, Plg30.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **15** 13:46:45, 17°.15N×94°.91W,h50km,Moment Tensor Solution. Duration: 3s8 Moment tensor: Scale 10¹⁶Nm; M_{rr}0.59; $M_{\theta\theta}$-0.94; $M_{\theta\phi}$1.53; $M_{r\theta}$0.73; $M_{\theta\phi}$3.63; $M_{\phi r}$-5.60; Fault plane solution: M_o6.84000×10¹⁶ NP1: φs259.00000°,δ34.00000°,λ-5.00000°. NP2:φs353.00000°, δ87.00000°,λ-123.00000°. Principal axes: T 6.9186, Plg33.0000°, Azm112.0000°; N -0.1605, Plg34.0000°, Azm355.0000°; P -6.7581, Plg39.0000°, Azm233.0000°;*
*BJI **15** 13:46:46.0±0.0, 17°.20N×94°.80W,h60km,Ms5.3/3, Ms7 4.7/3*
*GCG **15** 13:47:15.0±3.4, 16°.14N×92°.34W,h0km±999km,MD5.1*
ISC 15 13:46:42.6±0.3,**17°.09N**±0°.03×**94°.91W**±0°.03,**h53**km±2km, **h53**km:**pP-P,n1241,σ1938**/1337,**mb5.2**/256,**MS4.1**/71, **49C-14D,Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.02**	**99**	P			**Pn**	**13 46 50.7**	**0.0**
	57µm,0.4s,baz=234,slow=4.3								
CMIG				S			**Sn**	**13 46 56.2**	**-0.2**
	70µm,0.4s,baz=102,slow=20,SNR=40								
CMIG	**Matias Romero**	**0.02**	**99**	*eP*			**Pn**	**13 46 50.5**	**-0.2**
CMIG				eS			**Sn**	**13 46 56.2**	**-0.2**
NILT	**Santiago Nilte**	**0.59**	**152**	*eP*			**Pn**	**13 46 55.2**	**0.0**
NILT				eS			**Sn**	**13 47 04.6**	**+0.3**
MIHL	**Minatitlan**	**0.95**	**21**	*eP*			**Pn**	**13 47 01.1**	**+1.3**
MIHL				*i* S			**Sn**	**13 47 12.7**	**+0.2**
TUIG	**Tuzandepetl**	**1.04**	**26**	*ii* P			**Pn**	**13 47 02.1**	**+1.1**
TUIG				eS			**Sn**	**13 47 14.9**	**+0.3**
NEUV	**Arroyo Zacate**	**1.05**	**306**	*eP*			**Pn**	**13 46 59.9**	**-1.3**
NEUV				*i* S			**Sn**	**13 47 12.8**	**-2.0**
CARR	**Arriaga**	**1.27**	**131**	*eP*			**Pn**	**13 47 04.4**	**+0.3**
CARR				*i* S			**Sn**	**13 47 21.8**	**+1.7**
OXLC	**Oaxaca**	**1.72**	**269**	*eP*			**Pn**	**13 47 10.1**	**-0.2**
OXLC				eS			**Sn**	**13 47 28.5**	**-2.9**
TGIG		**1.73**	**100**				**Pn**	**13 47 10.5**	**+0.5**
TGIG							**Sn**	**13 47 32.7**	**+1.2**
TGIG		**1.73**	**100**	*ii* P			**Pn**	**13 47 10.9**	**+0.5**
TGIG				eS			**Sn**	**13 47 32.7**	**+1.2**
OXBJ	**Oaxaca**	**1.74**	**269**				**Pn**	**13 47 10.3**	**-0.4**
OXBJ							**Sn**	**13 47 28.9**	**-2.9**
OXBJ	**Oaxaca**	**1.74**	**269**	*eP*			**Pn**	**13 47 10.3**	**-0.4**
OXBJ				eS			**Sn**	**13 47 28.9**	**-2.9**
OXIG	**Oaxaca**	**1.75**	**270**				**Pn**	**13 47 10.5**	**-0.3**
OXIG							**Sn**	**13 47 30.7**	**-1.3**
VHO	**Vista Hermosa**	**1.75**	**270**	*eP*			**Pn**	**13 47 10.5**	**-0.3**
VHO				eS			**Sn**	**13 47 30.7**	**-1.3**
HUIG	**Huatulco**	**1.75**	**221**				**Pn**	**13 47 08.7**	**-1.9**
HUIG							**Sn**	**13 47 29.6**	**-2.2**
HUIG	**Huatulco**	**1.75**	**221**	*eP*			**Pn**	**13 47 08.7**	**-1.9**
HUIG				eS			**Sn**	**13 47 29.6**	**-2.2**
TGBT	**Tuxtla Gutierr**	**1.77**	**100**				**Pn**	**13 47 11.5**	**+0.7**
TGBT							**Sn**	**13 47 32.4**	**+0.3**
TGBT	**Tuxtla Gutierr**	**1.77**	**100**	*eP*			**Pn**	**13 47 11.5**	**+0.7**
TGBT				eS			**Sn**	**13 47 32.4**	**+0.3**
VHSA	**Villahermosa**	**2.07**	**64**	*eP*			**Pn**	**13 47 14.5**	**-0.5**
VHSA				eS			**Sn**	**13 47 42.1**	**+2.5**
PCIG		**2.13**	**130**				**Pn**	**13 47 16.4**	**+0.7**
PCIG							**Sn**	**13 47 43.3**	**+2.3**
PCIG		**2.13**	**130**	*ii* P			**Pn**	**13 47 16.4**	**+0.7**
PCIG				eS			**Sn**	**13 47 43.3**	**+2.3**
TOIG	**Toxpalan**	**2.29**	**296**				**Pn**	**13 47 17.4**	**-0.6**
TOIG							**Sn**	**13 47 42.5**	**-2.6**
TOIG	**Toxpalan**	**2.29**	**296**	*eP*			**Pn**	**13 47 17.4**	**-0.6**
TOIG				eS			**Sn**	**13 47 42.5**	**-2.6**
PEIG	**Puerto Escondi**	**2.41**	**243**				**Pn**	**13 47 17.4**	**-2.3**
PEIG							**Sn**	**13 47 43.3**	**-4.7**
PEIG	**Puerto Escondi**	**2.41**	**243**	*eP*			**Pn**	**13 47 17.4**	**-2.3**
PEIG				eS			**Sn**	**13 47 43.3**	**-4.7**
YOIG	**Yosondua**	**2.54**	**265**				**Pn**	**13 47 21.4**	**-0.2**
YOIG							**Sn**	**13 47 49.3**	**-2.2**
YOIG	**Yosondua**	**2.54**	**265**	*ii* P			**Pn**	**13 47 21.4**	**-0.2**
YOIG				*i* S			**Sn**	**13 47 49.3**	**-2.2**
OZST	**Orizaba**	**2.73**	**310**	*eP*			**Pn**	**13 47 22.5**	**-1.5**
OZST				eS			**Sn**	**13 47 53.4**	**-2.5**
THEZ	**Tehuacan**	**2.73**	**301**	*eP*			**Pn**	**13 47 23.4**	**-0.8**
THEZ				eS			**Sn**	**13 47 54.0**	**-2.2**
TXIG	**Tlaxiaco**	**2.74**	**274**				**Pn**	**13 47 24.6**	**+0.2**
TXIG							**Sn**	**13 47 52.9**	**-3.5**
TXIG	**Tlaxiaco**	**2.74**	**274**	*ii* P			**Pn**	**13 47 24.6**	**+0.2**
TXIG				eS			**Sn**	**13 47 52.9**	**-3.5**
CCIG	**Comitan**	**2.77**	**107**				**Pn**	**13 47 25.5**	**+0.7**
CCIG	**Comitan**	**2.77**	**107**	*ii* P			**Pn**	**13 47 25.6**	**+0.9**
CCIG				eS			**Sn**	**13 47 59.5**	**+2.4**
HLIG	**Huajuapan de L**	**2.86**	**285**				**Pn**	**13 47 25.9**	**0.0**
HLIG							**Sn**	**13 47 57.3**	**-2.0**
HLIG	**Huajuapan de L**	**2.86**	**285**	*ii* P			**Pn**	**13 47 25.9**	**0.0**
HLIG				eS			**Sn**	**13 47 57.3**	**-2.0**
JAUV	**Jalcomulco**	**2.89**	**322**	*ii* P			**Pn**	**13 47 25.9**	**-1.8**
JAUV				eS			**Sn**	**13 47 55.9**	**-4.0**
LVIG	**Laguna Verde**	**2.98**	**331**	*ii* P			**Pn**	**13 47 24.9**	**-2.6**
LVIG				*e*				13 47 56.1	
FTIG	**Fresnillo de T**	**3.18**	**285**				**Pn**	**13 47 30.6**	**+0.2**
FTIG							**Sn**	**13 48 03.7**	**-3.4**
FTIG	**Fresnillo de T**	**3.18**	**285**	*ii* P			**Pn**	**13 47 30.6**	**+0.2**
FTIG				eS			**Sn**	**13 48 03.7**	**-3.4**
PAVE	**Pavencul**	**3.23**	**125**	*ii* P			**Pn**	**13 47 32.6**	**+1.5**
PAVE				eS			**Sn**	**13 48 09.8**	**+1.4**
PATR	**El Naranjo**	**3.23**	**127**	*ii* P			**Pn**	**13 47 32.1**	**+1.0**
PATR				eS			**Sn**	**13 48 10.1**	**+1.6**
CHUJ	**Union Juarez**	**3.34**	**126**	*ii* P			**Pn**	**13 47 33.8**	**+1.1**
CHUJ				eS			**Sn**	**13 48 12.9**	**+1.6**
TLIG	**Tlapa**	**3.53**	**278**	Pn			**Pn**	**13 47 35.0**	**0.0**
TLIG	**Tlapa**	**3.53**	**278**	*ii* P			**Pn**	**13 47 35.0**	**0.0**
TLIG				eS			**Sn**	**13 48 10.9**	**-4.8**
HMTT	**Tlapaneco**	**3.56**	**282**				**Pn**	**13 47 35.5**	**0.0**
HMTT							**Sn**	**13 48 13.7**	**-2.6**
HMTT	**Tlapaneco**	**3.56**	**282**	*eP*			**Pn**	**13 47 35.5**	**0.0**
HMTT				eS			**Sn**	**13 48 13.7**	**-2.6**
MGIG	**Malinaltepec**	**3.57**	**273**				**Pn**	**13 47 35.2**	**-0.5**
MGIG							**Sn**	**13 48 14.4**	**-2.2**
MGIG	**Malinaltepec**	**3.57**	**273**	*eP*			**Pn**	**13 47 35.2**	**-0.5**
MGIG				eS			**Sn**	**13 48 14.4**	**-2.2**
PHPU	**Puebla**	**3.66**	**302**				**Pn**	**13 47 36.6**	**-0.4**
PHPU							**Sn**	**13 48 17.4**	**-1.6**
PHPU	**Puebla**	**3.66**	**302**	*eP*			**Pn**	**13 47 36.6**	**-0.4**
PHPU				eS			**Sn**	**13 48 17.4**	**-1.6**
HUEH	**Huehuetenango**	**3.72**	**118**				**Pn**	**13 47 38.4**	**+0.7**
CXUV	**Coxquihui**	**3.98**	**321**	*ii* P			**Pn**	**13 47 39.9**	**-1.3**
CXUV				eS			**Sn**	**13 48 23.7**	**-2.9**
STG3	**Santiaguito 3,**	**3.99**	**126**	*eP*			**Pn**	**13 47 43.9**	**+2.4**
SCIG	**Sabancuy**	**4.00**	**62**	*eP*			**Pn**	**13 47 41.6**	**+0.2**
SCIG				eS			**Sn**	**13 48 23.9**	**-3.1**
RTAL	**Retalhuleu**	**4.01**	**129**	Pn			**Pn**	**13 47 43.4**	**+1.8**
PPMI	**Popocatepetl**	**4.05**	**300**	*ii* P			**Pn**	**13 47 43.7**	**+1.2**
PPMI				eS			**Sn**	**13 48 27.5**	**-1.4**
PPIG	**Popocatepetl**	**4.05**	**300**				**Pn**	**13 47 43.7**	**+1.2**
PPIG							**Sn**	**13 48 27.5**	**-1.5**
CRIG	**Cruz Grande**	**4.06**	**266**				**Pn**	**13 47 40.2**	**-2.0**
CRIG							**Sn**	**13 48 22.2**	**-6.3**
CRIG	**Cruz Grande**	**4.06**	**266**	*eP*			**Pn**	**13 47 40.2**	**-2.0**
CRIG				eS			**Sn**	**13 48 22.2**	**-6.3**
YAIG	**Yautepec**	**4.33**	**295**				**Pn**	**13 47 46.5**	**+0.4**
YAIG							**Sn**	**13 48 32.1**	**-3.4**
YAIG	**Yautepec**	**4.33**	**295**	*ii* P			**Pn**	**13 47 46.5**	**+0.4**
YAIG				*i* S			**Sn**	**13 48 32.1**	**-3.4**
TXVM	**Universitario**	**4.47**	**302**	*i* P			**Pn**	**13 47 49.8**	**+1.7**
TXVM				eS			**Sn**	**13 48 33.7**	**-5.2**
DAIG	**Los Arroyos**	**4.54**	**270**				**Pn**	**13 47 47.2**	**-1.6**
DAIG							**Sn**	**13 48 37.2**	**-3.1**
DAIG	**Los Arroyos**	**4.54**	**270**	*ii* P			**Pn**	**13 47 47.2**	**-1.6**
DAIG				eS			**Sn**	**13 48 37.2**	**-3.1**
PLIG	**Platanillo**	**4.57**	**287**				**Pn**	**13 47 49.7**	**+0.5**
PLIG							**Sn**	**13 48 37.0**	**-4.2**
PLIG	**Platanillo**	**4.57**	**287**	*ii* P			**Pn**	**13 47 49.7**	**+0.5**
PLIG				eS			**Sn**	**13 48 37.0**	**-4.2**
MEIG	**Mezcala**	**4.57**	**281**				**Pn**	**13 47 49.3**	**0.0**
MEIG							**Sn**	**13 48 36.5**	**-4.8**
MEIG	**Mezcala**	**4.57**	**281**	*ii* P			**Pn**	**13 47 49.3**	**0.0**
MEIG				eS			**Sn**	**13 48 36.5**	**-4.8**
UNM	**Universidad Na**	**4.63**	**299**				**Pn**	**13 47 52.1**	**+1.9**
UNM	**Universidad Na**	**4.63**	**299**	P			**Pn**	**13 47 52.2**	**+1.9**
UNM	**Universidad Na**	**4.63**	**299**	*eP*			**Pn**	**13 47 50.8**	**+0.5**
UNM				*i* S			**Sn**	**13 48 38.5**	**-4.5**
CUIG	**Ciudad Univers**	**4.63**	**299**				**Pn**	**13 47 50.8**	**+0.5**
CUIG							**Sn**	**13 48 38.5**	**-4.5**
FUG	**Fuego 3**	**4.71**	**123**	*eP*			**Pn**	**13 47 53.4**	**+2.0**
FUG				eS			Sn	13 48 58.5	+14
MAVM	**Malinalco, Edo**	**4.74**	**294**				Pn	13 47 57.7	+5.9
MAVM							**Sn**	**13 48 44.0**	**-1.7**
MAVM	**Malinalco, Edo**	**4.74**	**294**	*eP*			Pn	13 47 57.7	+5.9
MAVM				eS			**Sn**	**13 48 44.0**	**-1.7**
ACP2	**Acapulco**	**4.77**	**268**				**Pn**	**13 47 49.3**	**-2.7**
ACP2							**Sn**	**13 48 44.9**	**-1.2**
ACP2	**Acapulco**	**4.77**	**268**	*eP*			**Pn**	**13 47 49.3**	**-2.7**
ACP2				*i* S			**Sn**	**13 48 44.9**	**-1.2**
PETF	**Flores**	**4.82**	**91**	Pn			**Pn**	**13 47 53.3**	**+0.6**
PCG	**Pacaya**	**4.93**	**122**	*eP*			**Pn**	**13 47 56.4**	**+1.9**
NBG	**Las Nubes**	**5.05**	**119**	*eP*			**Pn**	**13 47 57.3**	**+1.3**
DEIG	**Demacu**	**5.05**	**310**	*eP*			**Pn**	**13 47 56.2**	**+0.1**
DEIG				eS			**Sn**	**13 48 54.7**	**+1.5**
DHIG	**Demacu**	**5.05**	**310**				**Pn**	**13 47 56.2**	**+0.2**
DHIG							**Sn**	**13 48 54.7**	**+1.5**
CAIG	**El Cayaco**	**5.13**	**270**				**Pn**	**13 47 55.1**	**-1.8**
CAIG							**Sn**	**13 48 50.9**	**-3.9**
CAIG	**El Cayaco**	**5.13**	**270**	*ii* P	*eP*		**Pn**	**13 47 55.1**	**-1.8**
CAIG					eS		**Sn**	**13 48 50.9**	**-3.9**
TEJU	**Tejupilco**	**5.31**	**291**		*eP*		**Pn**	**13 47 58.6**	**-0.9**
TEJU					eS		**Sn**	**13 48 54.9**	**-4.7**
ARIG	**Puente Sto Nin**	**5.32**	**284**				**Pn**	**13 47 60.0**	**+0.4**
ARIG							**Sn**	**13 48 56.5**	**-3.1**
ARIG	**Puente Sto Nin**	**5.32**	**284**	*ii* P	*eP*		**Pn**	**13 47 60.0**	**+0.4**
ARIG					eS		**Sn**	**13 48 56.5**	**-3.1**
MRL	**Marmol**	**5.40**	**111**	*eP*			**Pn**	**13 48 01.1**	**+0.2**
ESQI	**Esquipulas**	**5.92**	**114**				**Pn**	**13 48 08.5**	**+0.7**
MTO3	**Montecristo**	**5.97**	**116**				**Pn**	**13 48 07.8**	**-0.9**
MYIG	**Mrida**	**6.22**	**51**	*eP*			**Pn**	**13 48 13.8**	**+2.0**
MYIG				eS			**Sn**	**13 49 17.3**	**-4.2**
ZIIG	**Zihuatanejo**	**6.29**	**276**				**Pn**	**13 48 11.9**	**-0.9**
ZIIG							**Sn**	**13 49 19.1**	**-4.1**
ZIIG	**Zihuatanejo**	**6.29**	**276**	*ii* P			**Pn**	**13 48 11.9**	**-0.9**
ZIIG				eS			**Sn**	**13 49 19.1**	**-4.1**
JRQG	**Juriquilla Cam**	**6.36**	**305**	*eP*			**Pn**	**13 48 15.3**	**+1.4**
JRQG				eS			**Sn**	**13 49 25.6**	**+0.3**
SNET	**Serv Nac Est T**	**6.44**	**121**				**Pn**	**13 48 15.6**	**+0.7**
MOIG	**Morelia**	**6.50**	**294**	Pn			**Pn**	**13 48 17.3**	**+1.4**
MOIG	**Morelia**	**6.50**	**294**	*ii* P			**Pn**	**13 48 17.3**	**+1.4**
MOIG				eS			**Sn**	**13 49 28.4**	**-0.4**
RPIG	**Rio Verde**	**6.76**	**316**				**Pn**	**13 48 21.1**	**+1.8**
RPIG							**Sn**	**13 49 33.5**	**-1.5**
RPIG	**Rio Verde**	**6.76**	**316**	*eP*			**Pn**	**13 48 21.1**	**+1.8**
RPIG				eS			**Sn**	**13 49 33.5**	**-1.5**
TEIG	**Tepich**	**7.01**	**63**	Pn			**Pn**	**13 48 21.6**	**-1.1**
IGIG	**Irapuato, Guan**	**7.08**	**302**				**Pn**	**13 48 25.9**	**+2.0**
IGIG	**Irapuato, Guan**	**7.08**	**302**	*eP*			**Pn**	**13 48 25.9**	**+2.0**
GTIG	**Gomez Farias**	**7.17**	**327**				**Pn**	**13 48 23.4**	**-1.5**
GTIG	**Gomez Farias**	**7.17**	**327**	*eP*			**Pn**	**13 48 23.4**	**-1.5**
GTIG				*i*				13 49 38.4	
TGUH	**Tegucigalpa,Un**	**7.95**	**111**	Pn			**Pn**	**13 48 37.0**	**+1.2**
MMIG	**Aquila**	**8.13**	**280**				**Pn**	**13 48 37.6**	**-0.5**
MMIG							**Sn**	**13 50 08.2**	**-0.4**
MMIG	**Aquila**	**8.13**	**280**	*eP*			**Pn**	**13 48 37.6**	**-0.5**
MMIG				eS			**Sn**	**13 50 08.2**	**-0.4**
AAIG	**Aguscalientes**	**8.55**	**306**				**Pn**	**13 48 45.4**	**+1.4**
AAIG					

comp=Z,332nm,20.4s,baz=137,slow=38
TXAR Lajitas Array 14.60 328 Pn Pn 13 50 07.8 +1.7
TXAR Lajitas Array 14.60 328 P Pn 13 50 07.9 +1.7
NATX Nacogdoches 14.60 1 S Sn 13 52 32.8 -14
baz=180
NATX Nacogdoches 14.60 1 P Pn 13 50 05.3 -0.9
baz=180
237A Washetta, Mont 14.87 357 Pn 13 50 09.5 -0.1
237A Washetta, Mont 14.87 357 P Pn 13 50 10.2 +0.7
baz=176,SNR=19
237A S Sn 13 52 39.0 -14
baz=176
MGV Manicaragua 14.92 68 *e*P **Pn 13 50 08.5 -1.9**
MGV IAmb IAmb 13 50 15.4
comp=Z,237nm,1.1s
WHTX Lake Whitney, 15.01 352 Pn 13 50 11.5 0.0
WHTX Lake Whitney, 15.01 352 P Pn 13 50 11.8 +0.3
baz=170
WHTX Lake Whitney, 15.01 352 P Pn 13 50 13.3 +1.8
baz=170,SNR=193
SLBS Sierra La Lagu 15.54 297 Pn 13 50 18.7 +0.2
VBMS Vicksburg 15.57 14 S Sn 13 52 54.8 -15
baz=196
TSIG Topolobambo 15.64 305 Pn 13 50 19.6 0.0
TSIG Topolobambo 15.64 305 *e*P **Pn 13 50 19.6 0.0**
061Z Ochoppi 15.67 54 Pn Pn 13 50 18.9 -1.1
061Z Ochoppi 15.67 54 P Pn 13 50 20.9 +0.9
baz=239,SNR=15
061Z S Sn 13 52 59.6 -13
baz=239
BRAL Brewton 15.73 26 P Pn 13 50 21.1 +0.4
baz=209
451A Vernon 15.84 30 S Sn 13 53 03.1 -14
baz=214
LPIG La Paz 16.01 298 P P 13 50 26.5 -0.4
comp=Z,4.8nm,0.3s,baz=155,slow=0.4,SNR=17
LPIG LR LR 13 56 40.9
comp=Z,3µm,20.6s,baz=110,slow=37
comp=Z,133nm,0.9s
ABTX Abilene, Hawle 16.05 345 Pn 13 50 25.7 +0.9
ABTX IAmb IAmb 13 50 29.8
comp=Z,119nm,0.6s
ABTX Abilene, Hawle 16.05 345 P P 13 50 27.0 -0.4
baz=163,SNR=50
ABTX S Sn 13 53 08.2 -14
baz=163
ABTX Abilene, Hawle 16.05 345 P P 13 50 26.4 -0.9
baz=163,SNR=50
Z38A Mt. Pleasant 16.10 360 Pn Pn 13 50 24.7 -0.7
Z38A IAmb IAmb 13 50 33.1
comp=Z,152nm,0.7s
Z38A Mt. Pleasant 16.10 360 P Pn 13 50 25.7 +0.3
baz=179,SNR=12
Z38A S Sn 13 53 07.4 -16
baz=179
Z35A Perchaven, San 16.31 353 Pn Pn 13 50 28.1 0.0
Z35A Perchaven, San 16.31 353 P P 13 50 31.9 +1.6
baz=172,SNR=19
Z35A S Sn 13 53 14.4 -14
baz=172
146A Union 16.35 18 S Sn 13 53 12.0 -17
baz=200
DWPF Disney Wildern 16.57 46 S Sn 13 53 19.2 -15
baz=231
DWPF Disney Wildern 16.57 46 P Pn 13 50 31.5 +0.2
baz=231
MTDJ Mount Denham 16.59 84 Pn Pn 13 50 31.5 -0.4
MTDJ Mount Denham 16.59 84 *e*P **P 13 50 33.0 -0.6**
WLAR White Oak Lake 16.60 5 Pn Pn 13 50 30.6 -1.1
656A Willston 16.67 41 Pn Pn 13 50 31.2 -1.5
656A IAmb IAmb 13 50 36.1
comp=Z,106nm,0.8s
656A Willston 16.67 41 P Pn 13 50 32.1 -0.5
baz=226,SNR=5.7
656A S Sn 13 53 22.2 -15
baz=226
CCCC Cccc 16.70 73 *e*P **P 13 50 37.3 +2.6**
CCCC IAmb IAmb 13 50 42.4
comp=Z,87nm,0.9s
250A Grady 16.76 26 Pn Pn 13 50 33.0 -0.8
250A Grady 16.76 26 S Sn 13 53 23.3 -16
baz=210
352A Blakely 16.95 31 P P 13 50 37.6 +0.3
baz=214,SNR=6.6
352A S Sn 13 53 28.3 -15
baz=214
LOOK Love County 16.95 354 P P 13 50 38.2 +0.9
LOOK IAmb IAmb 13 50 42.1
comp=Z,630nm,0.6s
CCAR Cane Creek 16.99 9 P P 13 50 47.7 +10
baz=190,SNR=8.5
Z47A Carrollton 17.18 20 Pn 13 50 38.5 -0.4
Z47A Carrollton 17.18 20 P Pn 13 50 38.8 -0.1
baz=202
LMGC Las Mercedes 17.23 77 *e*P **Pn 13 50 39.9 +0.4**
MNTX Cornudas Mount 17.37 329 P Pn 13 50 41.4 0.0
MNTX Cornudas Mount 17.37 329 P P 13 50 43.3 +1.3
baz=144,SNR=36
MNTX Cornudas Mount 17.37 329 P P 13 50 42.8 +0.8
baz=144,SNR=36
Y45A Yeager Farm, C 17.38 15 Pn Pn 13 50 40.3 -1.2
Y45A Yeager Farm, C 17.38 15 S Sn 13 53 38.5 -16
baz=197
LRAL Lakeview Retre 17.40 23 P Pn 13 50 40.9 -0.8
LRAL Lakeview Retre 17.40 23 P Pn 13 50 41.8 +0.2
baz=206
LRAL Lakeview Retre 17.40 23 P P 13 50 42.1 -0.2
baz=206
MIAR Mount Ida 17.42 4 P Pn 13 50 41.9 0.0
MIAR IAmb IAmb 13 50 52.5
comp=Z,115nm,0.8s
MIAR Mount Ida 17.42 4 P Pn 13 50 41.9 0.0
MIAR pmax pmax
comp=Z,115nm,0.8s
MIAR Mount Ida 17.42 4 P P 13 50 43.0 +0.5
baz=184,SNR=56
X37A Clayton 17.43 359 P P 13 50 42.8 +0.1
baz=178,SNR=146
X37A S Sn 13 53 39.6 -16
baz=178
TIGA Tifton 17.60 34 P P 13 50 44.7 +0.2
baz=218
X34A Smith Ranch, M 17.63 352 P 13 50 45.0 +0.1
UALR University of 17.76 7 Pn 13 50 46.0 -0.1
UALR IAmb IAmb 13 50 56.1
comp=Z,138nm,0.7s
CGIG 17.80 320 P P 13 50 47.2 +0.3
CGIG 17.80 320 *e*P **P 13 50 47.2 +0.3**
WMOK Wichita Mounta 17.91 350 P P 13 50 48.2 +0.3
WMOK Wichita Mounta 17.91 350 P P 13 50 48.3 +0.3
WMOK pmax pmax
comp=Z,50nm,0.6s
WMOK Wichita Mounta 17.91 350 P P 13 50 50.1 +2.1
baz=168,SNR=24
WMOK S Sn 13 53 52.7 -14
baz=168
WMOK Wichita Mounta 17.91 350 P P 13 50 48.8 +0.9
baz=168,SNR=24
OXF Oxford 18.03 15 P P 13 50 49.0 -0.3
baz=197
152A Waverly Hall 18.03 29 P Pn 13 50 49.7 +0.3
HLGC Holguin 18.21 75 *e*P **P 13 50 50.4 -1.1**
HLGC IAmb IAmb 13 50 54.0
comp=Z,281nm,1.1s
MSTX Muleshoe 18.23 339 P Pn 13 50 52.3 +0.4
MSTX Muleshoe 18.23 339 P Pn 13 50 52.1 +0.1
baz=155,SNR=33
WHAR Wooly Hollow 18.27 7 P Pn 13 50 53.2 +0.9
Y49A Blount Mountai 18.35 23 P Pn 13 50 53.1 -0.2
Y49A Blount Mountai 18.35 23 P Pn 13 50 53.6 +0.3
baz=206
Z51A Franklin 18.38 27 P P 13 50 52.6 -0.5
RCC Rio Carpintero 18.44 78 *e*P **P 13 50 53.3 -0.6**
255A Hazlehurst 18.57 35 P P 13 50 54.9 -0.4
255A IAmb IAmb 13 51 00.5
comp=Z,153nm,1.1s
BCOK Bluff Creek, N 18.64 353 P P 13 50 55.9 -0.1
BCOK IAmb IAmb 13 51 05.3
comp=Z,447nm,0.7s
X48A Hartselle 18.66 21 P P 13 50 55.6 -0.6
X48A Hartselle 18.66 21 P Pn 13 50 57.0 -0.1
baz=204,SNR=9.5
AMTX Amarillo 18.72 342 P P 13 50 57.2 +0.2
AMTX Amarillo 18.72 342 P Pn 13 50 58.5 +0.6
baz=159,SNR=17
AMTX Amarillo 18.72 342 P Pn 13 50 57.8 -0.1
baz=159
DEOK Depew 18.73 356 P P 13 50 57.4 +0.4
DEOK IAmb IAmb 13 51 05.9
comp=Z,454nm,0.6s
TUL1 Leonard 18.76 358 P Pn 13 50 59.2 +1.0
baz=177,SNR=23
154A Montrose 18.77 32 P Pn 13 50 58.1 -0.3
154A IAmb IAmb 13 51 01.5
comp=Z,116nm,0.9s
NZIG Nacozari, Sono 18.80 317 P Pn 13 50 59.8 +0.8
NZIG Nacozari, Sono 18.80 317 *e*P **Pn 13 50 59.8 +0.8**
FCAR Ozark Folk Cen 18.88 7 P P 13 50 59.0 +0.4
FCAR IAmb IAmb 13 51 08.0
comp=Z,141nm,0.8s
OK034 N. Norfolk Rd. 18.91 355 Pn 13 50 59.8 -0.2
HSIG 18.92 312 P Pn 13 51 00.3 +0.1
HSIG IAmb IAmb 13 51 05.0
comp=Z,231nm,1.8s
HSIG 18.92 312 *e*P **Pn 13 51 00.6 +0.5**
OK033 Mehan 18.96 355 P 13 50 57.8 -1.7
RLO Rose Lookout 19.00 360 Pn 13 51 00.7 -0.3
RLO IAmb IAmb 13 51 09.7
comp=Z,61nm,0.5s
QUOK Quay 19.07 356 Pn 13 51 01.4 -0.5
QUOK IAmb IAmb 13 51 09.3
comp=Z,486nm,0.6s
LCAR Lake Charles 19.19 9 P Pn 13 51 02.9 -0.5
LCAR IAmb IAmb 13 51 11.6
comp=Z,123nm,0.9s
LCAR Lake Charles 19.19 9 P Pn 13 51 03.1 -0.3
baz=191,SNR=19
GOGA Godfrey 19.24 30 P P 13 51 03.1 +0.6
GOGA Godfrey 19.24 30 P P 13 51 03.1 +0.6
GOGA pmax pmax
comp=Z,38nm,1.0s
GOGA Godfrey 19.24 30 P P 13 51 03.2 +0.6
baz=215,SNR=13
GOGA Godfrey 19.24 30 P Pn 13 51 03.7 -0.2
baz=215,SNR=13
FPAL Fort Paine 19.26 24 P P 13 51 02.9 0.0
U38A Gravette 19.27 1 Pn 13 51 04.1 -0.3
U38A IAmb IAmb 13 51 11.9
comp=Z,153nm,1.1s
U38A Gravette 19.27 1 P Pn 13 51 04.1 -0.3
baz=181,SNR=18
OK044 Pawnee Station 19.28 355 P 13 51 03.6 +0.7
121A Cookes Peak, D 19.28 325 P Pn 13 51 05.0 +0.4
121A IAmb IAmb 13 51 11.0
comp=Z,112nm,0.8s
121A Cookes Peak, D 19.28 325 P Pn 13 51 05.2 +0.6
baz=139,SNR=102
OK046 Pawnee Station 19.31 355 P P 13 51 03.9 +0.6
OK050 Pawnee Station 19.31 355 P Pn 13 51 04.1 -0.7
OK048 Pawnee Station 19.33 355 P 13 51 04.2 +0.7
Y52A Lilburn 19.33 28 P P 13 51 03.9 +0.3
Y52A IAmb IAmb 13 51 12.3
comp=Z,88nm,0.8s
Y52A Lilburn 19.33 28 P Pn 13 51 04.7 -0.4
baz=213,SNR=13
Y52A P Pn 13 51 04.7 -0.4
baz=213,SNR=13
OK047 Pawnee, Statio 19.37 356 P P 13 51 04.3 +0.4
CROK Carrier 19.53 353 P P 13 51 04.0 -1.7
CROK IAmb IAmb 13 51 13.9
comp=Z,248nm,0.6s
U32A Winter Ranch, 19.55 350 P Pn 13 51 07.0 -0.6
baz=168,SNR=8.1
X51A Calhoun 19.59 25 P P 13 51 05.6 -0.8
SWET Sewanee 19.74 22 P P 13 51 06.7 -1.4
T35A Sooner Cattle 19.80 356 P P 13 51 08.9 +0.3
T35B Sooner Cattle 19.80 356 P P 13 51 09.3 +0.7
baz=175,SNR=12
MASC Masc 19.83 78 *e*P **P 13 51 08.5 -0.5**
MASC IAmb IAmb 13 51 14.3
comp=Z,418nm,1.6s
CRNM Carthage 19.86 330 P P 13 51 08.5 -1.1
V48A Smith Brothers 19.91 20 P P 13 51 08.2 -1.7
V48A Smith Brothers 19.91 20 P P 13 51 10.2 +0.3
baz=203,SNR=8.8
W50A Signal Mountai 19.96 24 P P 13 51 09.9 -0.5
W50A Signal Mountai 19.96 24 P P 13 51 10.5 0.0
baz=208,SNR=13
Y22A Socorro 19.96 329 P Pn 13 51 12.5 -0.3
baz=144,SNR=28
KAN13 South Haven SW 19.97 354 P P 13 51 10.9 +0.4
KAN13 IAmb IAmb 13 51 23.6
comp=Z,148nm,0.6s
WVT Waverly 19.97 17 P P 13 51 10.7 +0.2
WVT IAmb IAmb 13 51 28.1
comp=Z,93nm,1.1s
WVT Waverly 19.97 17 P P 13 51 10.7 +0.2
WVT pmax pmax
comp=Z,93nm,1.2s
WVT Waverly 19.97 17 P P 13 51 10.6 +0.1
baz=200,SNR=13
WVT Waverly 19.97 17 P P 13 51 10.7 +0.2
baz=200
BNM Barn Site 19.98 330 P P 13 51 11.2 +0.4
KAN17 Caldwell West 20.03 353 P P 13 51 11.1 -0.1
SBM South Baldy 20.10 329 P P 13 51 12.1 -0.2
MGMO Mountain Grove 20.12 6 P P 13 51 12.2 +0.1
MGMO IAmb IAmb 13 51 25.7
comp=Z,94nm,1.0s
HAW Hawthorne Fire 20.14 34 P P 13 51 12.7 +0.3
baz=220,SNR=11
KAN01 Argonia South 20.14 353 P P 13 51 10.8 -1.5
KAN01 IAmb IAmb 13 51 26.1
comp=Z,99nm,0.8s
KAN12 Harper NE Stat 20.31 353 P P 13 51 13.3 -0.9
KAN12 IAmb IAmb 13 51 26.2
comp=Z,103nm,0.7s
CLTN Cedars of Leba 20.40 20 P P 13 51 14.0 -1.1
W52A Murphy 20.43 27 P P 13 51 15.0 -0.5
W52A Murphy 20.43 27 P P 13 51 15.8 +0.3
baz=211,SNR=8.4
CPCT Cooper Cave 20.49 25 P P 13 51 15.6 -0.5
HODGE Hodges 20.49 31 P P 13 51 14.2 -1.9
HODGE IAmb IAmb 13 51 30.7
comp=Z,101nm,1.0s
HODGE Hodges 20.49 31 P P 13 51 16.4 +0.3
baz=217,SNR=13
ANMO Albuquerque 20.56 332 P P 13 51 18.3 +1.2
comp=Z,9.8nm,0.6s,baz=134,slow=12,SNR=20
comp=Z,9.8nm,0.6s
ANMO Albuquerque 20.56 332 P P 13 51 17.1 0.0
ANMO Albuquerque 20.56 332 *ce*P Pn 13 51 18.5 -1.2
ANMO pmax pmax
comp=Z,23nm,1.3s
ANMO Albuquerque 20.56 332 P Pn 13 51 18.5 -1.2
baz=147,SNR=22
ANMO Albuquerque 20.56 332 P P 13 51 18.0 +0.9
baz=147
S39A Bolivar 20.57 4 P Pn 13 51 18.3 -1.3
baz=184,SNR=37
CGM3 Cape Girardeau 20.65 12 P P 13 51 17.2 -0.7
CGM3 IAmb IAmb 13 51 36.0
comp=Z,48nm,1.0s
NHSC New Hope 20.75 37 P P 13 51 18.8 -0.1
baz=223
BG3 Lake Jocassee 20.79 29 P P 13 51 19.2 -0.2
CASEE Lake Jocassee 20.79 29 P P 13 51 20.0 +0.6
baz=214,SNR=10.0
V51A Loudon 20.86 25 P P 13 51 19.5 -0.6
V51A IAmb IAmb 13 51 22.8
comp=Z,52nm,0.7s
TUC Tucson 20.88 319 P P 13 51 20.3 -0.2
TUC Tucson 20.88 319 P P 13 51 20.3 -0.2
TUC pmax pmax
comp=Z,54nm,1.0s
TUC Tucson 20.88 319 P P 13 51 21.6 +1.2
baz=132
U49A Red Boiling Sp 20.96 21 P P 13 51 20.7 -0.5
U49A IAmb IAmb 13 51 23.7
comp=Z,111nm,0.6s
U49A Red Boiling Sp 20.96 21 P P 13 51 20.8 -0.4
baz=205,SNR=38
TKL Tuckaleechee C 20.98 26 P P 13 51 21.9 +0.5
comp=Z,32nm,0.7s,baz=205,slow=10,SNR=26
TKL S S 13 55 10.1 -2.1
comp=Z,26nm,0.5s,baz=112,slow=21,SNR=8.6
TKL LR LR 14 00 08.0
comp=Z,236nm,21.9s,baz=210,slow=39
comp=Z,32nm,0.7s
TKL Tuckaleechee C 20.98 26 P P 13 51 21.7 +0.3
TKL Tuckaleechee C 20.98 26 P P 13 51 22.5 +1.1
baz=211,SNR=10
T47A Sharon Grove 20.98 18 P P 13 51 21.3 -0.1
T47A IAmb IAmb 13 51 38.4
comp=Z,108nm,0.7s
T47A Sharon Grove 20.98 18 P P 13 51 21.1 -0.3
baz=201,SNR=19
JSC Jenkinsville 21.04 33 P P 13 51 21.3 -0.7
JSC Jenkinsville 21.04 33 P P 13 51 21.3 -0.7
JSC pmax pmax
comp=Z,70nm,0.9s
JSC Jenkinsville 21.04 33 P P 13 51 22.2 +0.2
baz=219,SNR=14
CCM Cathedral Cave 21.13 8 P P 13 51 23.2 +0.2
CCM IAmb IAmb 13 51 31.2
comp=Z,250nm,1.5s
CCM Cathedral Cave 21.13 8 P P 13 51 23.2 +0.2
CCM pmax pmax
comp=Z,250nm,1.5s
CCM Cathedral Cave 21.13 8 P P 13 51 23.3 +0.3
baz=190,SNR=40
CCM Cathedral Cave 21.13 8 P P 13 51 23.0 0.0
baz=190
PAULI Pauline 21.18 31 P P 13 51 23.7 +0.1
PAULI Pauline 21.18 31 P P 13 51 23.9 +0.4
baz=217,SNR=15
R40A Maddies Statio 21.24 6 P P 13 51 24.8 +0.6
R40A IAmb IAmb 13 51 34.7
comp=Z,94nm,0.7s
R40A Maddies Statio 21.24 6 P P 13 51 26.3 +2.1
baz=187,SNR=53
T25A Trinidad 21.66 339 P P 13 51 29.4 +0.5
baz=154,SNR=32
KMSC Kings Mountain 21.67 31 P P 13 51 28.5 -0.3
baz=217,SNR=11
KMSC Kings Mountain 21.67 31 P P 13 51 28.6 -0.3
baz=217,SNR=11
BIRD Birdtown, Kers 21.73 34 P P 13 51 31.4 +1.9
baz=220,SNR=8.2
TZTN Tazewell 21.83 25 P P 13 51 30.0 -0.5
TZTN Tazewell 21.83 25 P P 13 51 30.0 -0.5
baz=210
214A Organ Pipe Nat 21.96 316 P P 13 51 33.0 +1.1
baz=128,SNR=36
KSU1 Kansas State U 21.98 356 P P 13 51 33.9 +1.9
baz=175,SNR=8.5
KSU1 Kansas State U 21.98 356 P P 13 51 33.1 +1.0
baz=175,SNR=8.5
CBKS Cedar Bluff 22.05 350 P P 13 51 35.4 +2.5
baz=167
CBKS Cedar Bluff 22.05 350 P P 13 51 34.2 +1.3
baz=167
PIX Pinacate 22.16 314 P P 13 51 35.1 +1.0
PIX IAmb IAmb 13 51 55.1
comp=Z,127nm,1.0s
V55A Taylorsville 22.30 30 P P 13 51 33.8 -1.7
V55A IAmb IAmb 13 51 53.4
comp=Z,106nm,0.9s
V55A Taylorsville 22.30 30 P P 13 51 35.2 -0.3
baz=216,SNR=8.0
V55A P P 13 51 35.2 -0.3
baz=216,SNR=8.0
W18A Petrified Fore 22.30 326 P P 13 51 37.2 +1.4
baz=140
OLIL Olney 22.37 14 P P 13 51 35.0 -1.3
OLIL Olney 22.37 14 P P 13 51 36.2 0.0
baz=197
W57A Gilead 22.37 34 P P 13 51 35.8 -0.5
baz=220,SNR=9.3
W57A P P 13 51 35.8 -0.5
baz=220,SNR=9.3
WCI Wyandotte Cave 22.37 18 P P 13 51 35.5 -0.8
baz=202,SNR=19
WCI Wyandotte Cave 22.37 18 P P 13 51 35.7 -0.6
baz=202
P38A Dawn 22.48 3 P P 13 51 37.2 -0.3
P38A IAmb IAmb 13 51 57.5
comp=Z,72nm,0.6s
P38A Dawn 22.48 3 P P 13 51 37.3 -0.1
baz=183,SNR=26
P40A Paris 22.49 6 P P 13 51 37.0 -0.6
P40A IAmb IAmb 13 51 45.7
comp=Z,106nm,0.8s
P40A Paris 22.49 6 P P 13 51 37.0 -0.6
baz=187,SNR=44
SDDR Presa de Saban 22.53 82 P P 13 51 36.8 -1.5
SDDR Presa de Saban 22.53 82 *e*P **P 13 51 36.7 -1.6**
U54A Nelsons Funny 22.56 28 P P 13 51 37.5 -0.9
U54A IAmb IAmb 13 51 55.9
comp=Z,135nm,0.9s
U54A Nelsons Funny 22.56 28 P P 13 51 37.9 -0.5
baz=214,SNR=9.3
U54A P P 13 51 37.9 -0.5
baz=214,SNR=9.3
SDCO Great Sand Dun 22.59 338 P P 13 51 39.2 +0.2
SDCO IAmb IAmb 13 52 01.8
comp=Z,125nm,1.6s
SDCO Great Sand Dun 22.59 338 P P 13 51 40.0 +1.1
baz=152,SNR=42
R49A Shelbyville 22.78 20 P P 13 51 39.9 -0.7
baz=204,SNR=7.6
R49A P P 13 51 39.9 -0.7
baz=204,SNR=7.6
KSCO Kaye Shedlock' 22.86 344 P P 13 51 42.4 +0.8
baz=160
P43A Skaggs, Pawnee 22.95 11 P P 13 51 41.0 -1.3
P43A Skaggs, Pawnee 22.95 11 P P 13 51 42.3 -0.1
baz=193,SNR=9.8
R50A Paris 23.06 22 P P 13 51 41.9 -1.6
R50A IAmb IAmb 13 51 52.5
comp=Z,122nm,1.6s
R50A Paris 23.06 22 P P 13 51 42.3 -1.1
baz=206
R50A P P 13 51 42.3 -1.1
baz=206
S22A 4UR Ranch, Cre 23.09 335 P P 13 51 44.9 +0.8
S22A 4UR Ranch, Cre 23.09 335 P P 13 51 44.8 +0.6
baz=150,SNR=28
U56A King 23.10 31 P P 13 51 42.9 -1.0
U56A IAmb IAmb 13 51 59.4
comp=Z,227nm,1.4s
U56A King 23.10 31 P P 13 51 43.4 -0.5
baz=218,SNR=12
U56A P P 13 51 43.4 -0.5
baz=218,SNR=12
OTAV Otavalo 23.31 134 P P 13 51 48.5 +1.9
OTAV Otavalo 23.31 134 P P 13 51 48.5 +1.9
OTAV pmax pmax
comp=Z,580nm,1.7s
V58A Windy Hill, Pi 23.32 34 P P 13 51 45.5 -0.6
baz=221
V58A P P 13 51 45.5 -0.6
baz=221
Y14A Wickenburg 23.35 319 P P 13 51 46.7 +0.3
Y14A IAmb IAmb 13 52 08.8
comp=Z,76nm,1.2s
MVCO Mesa Verde 23.35 332 P P 13 51 48.1 +1.4
MVCO IAmb IAmb 13 52 08.9
comp=Z,177nm,1.4s
MVCO Mesa Verde 23.35 332 P P 13 51 47.6 +0.9
baz=145,SNR=27
P46A Rosedale 23.42 15 P P 13 51 46.3 -0.7
P46A IAmb IAmb 13 51 54.4
comp=Z,95nm,0.8s
P46A Rosedale 23.42 15 P P 13 51 46.6 -0.4
baz=199,SNR=22
WUAZ Wupatki 23.49 325 P P 13 51 49.8 +1.9
WUAZ IAmb IAmb 13 52 04.1
comp=Z,119nm,1.0s
WUAZ Wupatki 23.49 325 P P 13 51 49.7 +1.8
baz=137,SNR=20
Q24A Divide 23.56 340 P P 13 51 49.9 +1.3
baz=154,SNR=13
ROSC El Rosal 23.56 119 P P 13 51 48.2 -0.7
comp=Z,15nm,0.5s,baz=19,slow=6.3,SNR=8.5
ROSC LR LR 14 02 38.4
comp=Z,574nm,18.6s,baz=323,slow=41
comp=Z,15nm,0.5s
CNNC Cliffs of the 23.59 37 P P 13 51 47.8 -0.9
baz=224
N38A Joes South For 23.66 3 P P 13 51 48.8 -0.4
N38A Joes South For 23.66 3 P P 13 51 49.1 -0.1
baz=184,SNR=5.8
N33B J Bar K, Exete 23.66 355 P P 13 51 49.8 +0.6
baz=174,SNR=6.9
N33A J Bar K, Exete 23.66 355 P P 13 51 47.5 -1.7
N35A Tabor 23.69 359 P P 13 51 51.1 +1.6
baz=178,SNR=6.7
BLA Blacksburg 23.77 30 P P 13 51 49.2 -1.1

baz=216,SNR=12
BLA Blacksburg 23.77 30 P P 13 51 49.5 -0.8
baz=216,SNR=12
N41A Harden Midland 23.79 8 P P 13 51 49.4 -1.0
N41A IAmb IAmb 13 51 58.3
comp=Z,124nm,0.8s
N41A Harden Midland 23.79 8 P P 13 51 49.8 -0.6
baz=189,SNR=15
HDIL Hopedale 23.88 11 P P 13 51 50.2 -1.0
HDIL IAmb IAmb 13 51 58.6
comp=Z,111nm,0.8s
HDIL Hopedale 23.88 11 P P 13 51 50.2 -1.0
baz=193,SNR=6.4
HDIL Hopedale 23.88 11 P P 13 51 51.0 -0.2
baz=193,SNR=6.4
GLA Glamis 23.97 315 P P 13 51 53.7 +1.4
baz=126,SNR=11
R53A Hurricane 24.01 26 P P 13 51 51.4 -1.1
R53A IAmb IAmb 13 51 52.8
comp=Z,63nm,0.6s
R53A Hurricane 24.01 26 P P 13 51 51.6 -0.8
baz=212,SNR=11
R53A P P 13 51 51.6 -0.8
baz=212,SNR=11
P49A Miami Univ. Ec 24.05 20 P P 13 51 51.0 -1.8
P49A IAmb IAmb 13 51 59.7
comp=Z,64nm,0.8s
P49A Miami Univ. Ec 24.05 20 P P 13 51 51.4 -1.5
baz=204
P49A Miami Univ. Ec 24.05 20 P P 13 51 51.7 -1.2
baz=204
Q51A Peebles 24.07 23 P P 13 51 51.6 -1.4
baz=208,SNR=6.4
Q51A P P 13 51 51.6 -1.4
baz=208,SNR=6.4
ESJX Sierra Juarez 24.16 312 P P 13 51 55.0 +0.9
ESJX IAmb IAmb 13 52 16.5
comp=Z,182nm,1.7s
SFIN Lafayette 24.17 15 P P 13 51 52.5 -1.4
baz=198
T57A Hurt 24.17 32 P P 13 51 53.2 -0.7
T57A IAmb IAmb 13 51 54.9
comp=Z,59nm,0.7s
T57A Hurt 24.17 32 P P 13 51 52.9 -1.0
baz=219,SNR=14
T57A P P 13 51 52.9 -1.0
baz=219,SNR=14
PV13 Radium Mtn., P 24.28 333 P P 13 51 56.6 +1.4
PV13 IAmb IAmb 13 52 12.8
comp=Z,75nm,1.0s
PDMCI Parker Dam,Lak 24.30 318 P P 13 51 55.6 +0.4
baz=130,SNR=7.5
BGNE Belgrade 24.39 354 P P 13 51 56.2 +0.3
baz=172
SMCO Snowmass 24.39 337 P P 13 51 57.5 +1.1
SMCO IAmb IAmb 13 52 00.4
comp=Z,107nm,1.2s
Q52A Bidwell 24.43 24 P P 13 51 54.9 -1.3
Q52A IAmb IAmb 13 51 56.8
comp=Z,107nm,0.8s
Q52A Bidwell 24.43 24 P P 13 51 55.1 -1.1
baz=210,SNR=17
Q52A P P 13 51 55.1 -1.1
baz=210,SNR=17
ISCO Idaho Springs 24.46 340 P P 13 51 57.0 +0.1
ISCO Idaho Springs 24.46 340 P P 13 51 57.0 +0.1
ISCO pmax pmax
comp=Z,36nm,0.9s
ISCO Idaho Springs 24.46 340 P P 13 51 58.1 +1.2
baz=154,SNR=31
ISCO Idaho Springs 24.46 340 P P 13 51 57.3 +0.3
baz=154,SNR=31
OGNE Ogallala 24.55 347 P P 13 51 58.1 +0.6
OGNE Ogallala 24.55 347 P P 13 51 59.7 +2.2
baz=163,SNR=24
OGNE Ogallala 24.55 347 P P 13 51 57.4 0.0
baz=163,SNR=24
SWSC Sam W. Stewart 24.58 314 P P 13 51 58.6 +0.9
baz=125
P51A Williamsport 24.58 22 P P 13 51 56.2 -1.3
baz=208,SNR=7.7
P51A P P 13 51 56.2 -1.3
baz=208,SNR=7.7
O48B Farmland 24.58 18 P P 13 51 56.1 -1.5
baz=203,SNR=8.3
O48B Farmland 24.58 18 P P 13 51 55.7 -1.9
baz=203,SNR=8.3
IKP In-Ko-Pah, Jac 24.62 313 P P 13 51 59.8 +1.6
baz=124,SNR=11
BC3 Big Chuckawall 24.75 316 P P 13 52 01.0 +1.5
baz=126,SNR=49
O49A Covington 24.77 20 P P 13 51 57.9 -1.4
O49A Covington 24.77 20 P P 13 51 58.4 -1.0
baz=205,SNR=8.2
O49A P P 13 51 58.4 -1.0
baz=205,SNR=8.2
SCIA State Center 24.77 3 P P 13 51 59.0 -0.4
baz=184,SNR=5.0
SCIA State Center 24.77 3 P P 13 51 59.0 -0.4
baz=184,SNR=5.0
R55A Marlinton 24.77 29 P P 13 51 58.6 -0.9
baz=216,SNR=13
R55A P P 13 51 58.6 -0.9
baz=216,SNR=13
L34A Svendsen Farm, 24.82 357 P P 13 52 00.8 +0.9
baz=176,SNR=16
IRM Iron Mountain 24.86 317 P P 13 52 02.2 +2.0
baz=128,SNR=28
NEE2 Needles Airpor 24.90 319 P P 13 52 02.4 +1.8
baz=130
MONP2 Monument Peak 24.98 313 P P 13 52 02.9 +1.4
baz=124,SNR=10
SDV Santo Domingo 25.00 106 P P 13 52 00.1 -1.8
comp=Z,60nm,0.7s,baz=306,slow=3.9,SNR=36
SDV LR LR 14 02 39.5
comp=Z,630nm,21.8s,baz=304,slow=38
comp=Z,60nm,0.7s
SDV Santo Domingo 25.00 106 *e*P **P 13 51 59.7 -2.2**
N47A Urbana 25.00 17 P P 13 51 59.7 -1.8
N47A IAmb IAmb 13 52 18.8
comp=Z,93nm,1.1s
N47A Urbana 25.00 17 P P 13 51 59.4 -2.0
baz=201
N47A P P 13 51 59.4 -2.0
baz=201
Q54A Coxs Mills 25.03 27 P P 13 52 00.9 -0.9
baz=213,SNR=8.5
Q54A P P 13 52 00.9 -0.9
baz=213,SNR=8.5
P52A Corning 25.06 24 P P 13 52 00.1 -1.8
P52A IAmb IAmb 13 52 20.1
comp=Z,50nm,0.8s
P52A Corning 25.06 24 P P 13 52 00.3 -1.7
baz=210,SNR=6.0
L40A Anamosa 25.09 6 P P 13 52 01.8 -0.3
baz=188,SNR=12
P53A Whipple 25.23 25 P P 13 52 01.1 -2.4
P53A IAmb IAmb 13 52 32.9
comp=Z,69nm,0.9s
P53A Whipple 25.23 25 P P 13 52 02.6 -0.9
baz=212,SNR=8.7
P53A P P 13 52 02.6 -0.9
baz=212,SNR=8.7
L42A Oliver, Polo 25.23 9 P P 13 52 01.7 -1.8
L42A IAmb IAmb 13 52 12.5
comp=Z,117nm,0.9s
L42A Oliver, Polo 25.23 9 P P 13 52 02.9 -0.6
baz=192,SNR=10
ACSO Alum Creek Sta 25.27 22 P P 13 52 03.5 -0.4
baz=207
BELC Belle Mtn. Jos 25.32 316 P P 13 52 06.2 +1.5
baz=126,SNR=18
KNB Kanab 25.38 325 P P 13 52 06.9 +1.8
KNB IAmb IAmb 13 52 23.6
comp=Z,90nm,1.0s
KNB Kanab 25.38 325 P P 13 52 06.9 +1.8
KNB pmax pmax
comp=Z,90nm,1.0s
TPFO Pinon Flats 25.40 314 P P 13 52 06.5 +1.2
baz=125,SNR=12
JSRW J. Sargeant Re 25.41 33 P P 13 52 03.1 -2.0
PFO Pinyon Flats O 25.41 314 P P 13 52 07.0 +1.7
comp=Z,7.9nm,0.8s,baz=114,slow=6.0,SNR=12
PFO LR LR 14 03 15.8
comp=Z,1µm,18.1s,baz=138,slow=39
comp=Z,7.9nm,0.8s
PFO Pinyon Flats O 25.41 314 *i* P **P 13 52 07.3 +1.9**
PFO pmax pmax
comp=Z,36nm,1.0s
PFO Pinyon Flats O 25.41 314 P P 13 52 06.6 +1.2
baz=125,SNR=13
109C Camp Elliot, M 25.46 312 P P 13 52 06.8 +1.2
baz=122
K38A Parkersburg 25.53 4 P P 13 52 04.2 -2.1
K38A IAmb IAmb 13 52 13.2
comp=Z,114nm,0.8s
K38A Parkersburg 25.53 4 P P 13 52 06.0 -0.3
baz=184,SNR=5.5
N23A Red Feather La 25.56 340 P P 13 52 07.2 +0.4
baz=155
GMRC Granite Mounta 25.58 317 P P 13 52 08.1 +1.2
baz=128,SNR=25
O52A Adamsville 25.59 24 P P 13 52 05.4 -1.4
baz=210,SNR=7.4
O52A P P 13 52 05.4 -1.4
baz=210,SNR=7.4
L44A Lake County Fo 25.71 12 P P 13 52 07.5 -0.3
baz=195
O20A White River Ci 25.71 336 P P 13 52 09.2 +1.1
baz=149,SNR=8.6
MTPU Mount Pierson 25.80 327 P P 13 52 11.1 +2.0
MTPU IAmb IAmb 13 52 27.4
comp=Z,79nm,1.0s
Q56A Snyder Ridge, 25.82 29 P P 13 52 07.9 -1.0
Q56A IAmb IAmb 13 52 27.2
comp=Z,70nm,1.1s
Q56A Snyder Ridge, 25.82 29 P P 13 52 08.4 -0.5
baz=216,SNR=8.0
Q56A P P 13 52 08.4 -0.5
baz=216,SNR=8.0
MURC Murrieta 25.91 314 P P 13 52 11.1 +1.3
baz=124,SNR=5.1
MCRA Macar, Loja 25.94 144 P P 13 52 11.5 +1.3
O53A New Philadelph 25.95 24 P P 13 52 08.4 -1.6
O53A IAmb IAmb 13 52 10.0
comp=Z,57nm,0.8s
O53A New Philadelph 25.95 24 P P 13 52 08.5 -1.6
baz=211,SNR=8.8
MCWV Mont Chateau 26.02 27 P P 13 52 10.1 -0.6
baz=214
JFWS Jewell Farm 26.04 8 P P 13 52 09.9 -0.9
JFWS IAmb IAmb 13 52 18.5
comp=Z,90nm,0.7s
JFWS Jewell Farm 26.04 8 P P 13 52 09.9 -0.9
JFWS pmax pmax
comp=Z,90nm,0.7s
JFWS Jewell Farm 26.04 8 P P 13 52 10.1 -0.7
baz=190,SNR=18
JFWS Jewell Farm 26.04 8 P P 13 52 09.9 -0.9
baz=190,SNR=18
HEC Hector,Ludlow 26.04 317 P P 13 52 12.7 +1.6
baz=127,SNR=9.9
CBN Corbin Frederi 26.05 33 P P 13 52 10.3 -0.7
baz=221
BBRC Big Bear Solar 26.10 315 P P 13 52 12.1 +0.4
baz=125
TUQ Turquoise Moun 26.15 318 P P 13 52 13.6 +1.5
baz=129,SNR=13
RRX Edison Barstow 26.51 316 P P 13 52 17.0 +1.8
baz=126
N53A Lisbon 26.57 24 P P 13 52 14.2 -1.4
N53A IAmb IAmb 13 52 15.2
comp=Z,81nm,0.6s
N53A Lisbon 26.57 24 P P 13 52 14.2 -1.4
baz=211,SNR=15
N53A P P 13 52 14.2 -1.4
baz=211,SNR=15
BFSC Mount Baldy Ra 26.59 314 P P 13 52 17.2 +1.2
baz=124,SNR=7.9
ECSD EROS Data Cent 26.59 357 P P 13 52 15.4 -0.4
ECSD IAmb IAmb 13 52 49.8
comp=Z,52nm,0.9s
ECSD EROS Data Cent 26.59 357 P P 13 52 17.2 +1.4
baz=176,SNR=21
ECSD EROS Data Cent 26.59 357 P P 13 52 16.8 +1.0
baz=176,SNR=21
GSC Goldstone, Bar 26.64 317 P P 13 52 17.5 +1.1
baz=127
CIS Catalina Islan 26.66 312 P P 13 52 17.8 +1.2
baz=122,SNR=5.6
FMP Fort Macarthur 26.74 313 P P 13 52 17.8 +0.6
baz=122
DECC Green Verdugo 27.06 314 P P 13 52 20.4 +0.2
baz=123
M53A WI Miller and 27.18 24 P P 13 52 19.8 -1.3
baz=211,SNR=5.1
EDW2 Edwards Air Fo 27.18 315 P P 13 52 21.6 +0.4
baz=124,SNR=8.6
LRMC Laurel Mtn Rad 27.32 316 P P 13 52 23.8 +1.3
baz=126,SNR=8.2
TPNV Topopah Spring 27.32 321 P P 13 52 23.8 +1.1
TPNV IAmb IAmb 13 52 50.6
comp=Z,42nm,1.0s
TPNV Topopah Spring 27.32 321 P P 13 52 23.8 +1.1
TPNV pmax pmax
comp=Z,42nm,1.0s
TPNV Topopah Spring 27.32 321 P P 13 52 23.5 +0.9
baz=130,SNR=8.8
K22A Casper 27.34 341 P P 13 52 23.9 +1.2
baz=155,SNR=8.7
K22A Casper 27.34 341 P P 13 52 23.1 +0.4
baz=155,SNR=8.7
BAUV El Baul 27.37 104 P P 13 52 19.4 -3.7
BAUV IAmb IAmb 13 53 09.5
comp=Z,59nm,0.9s
FURC Furnace Creek, 27.39 319 P P 13 52 24.2 +1.1
baz=129
SJG San Juan 27.42 84 P P 13 52 18.8 -4.7
comp=Z,6.4nm,0.3s,baz=312,slow=12,SNR=4.6
SJG LR LR 14 02 11.0
comp=Z,284nm,21.5s,baz=266,slow=34
SUSD Miller 27.48 354 P P 13 52 23.8 0.0
baz=171
OSI Osito Audit: C 27.52 314 P P 13 52 25.2 +0.8
baz=123
MPMC Manual Prospec 27.54 318 P P 13 52 25.6 +1.0
baz=127,SNR=14
SPR3 Spring Creek 3 27.64 326 P P 13 52 26.2 +0.6
SPR3 IAmb IAmb 13 52 48.1
comp=Z,52nm,1.1s
CBYP Canovanas 27.69 83 P P 13 52 23.3 -2.7
DUG Dugway, Tooele 27.76 330 P P 13 52 28.1 +1.5
baz=141
SCZ2 Santa Cruz Isl 27.84 312 P P 13 52 28.0 +0.9
baz=121
R11A Troy Canyon, C 27.87 324 P P 13 52 28.9 +1.3
baz=134,SNR=12
ARVC Arvin 27.88 315 P P 13 52 28.8 +1.4
baz=124
H43A Windswept, Lux 27.95 11 P P 13 52 26.5 -1.4
ISA Isabella, Lake 27.95 316 P P 13 52 29.9 +1.7
baz=125,SNR=7.6
MTP Monte Pirata 27.98 84 P P 13 52 25.1 -3.4
ERPA Erie 28.02 24 P P 13 52 28.5 -0.2
baz=211
RSSD Black Hills 28.03 346 P P 13 52 29.2 +0.3
baz=161
GRAC Grapevine Rang 28.04 319 P P 13 52 30.2 +1.3
baz=129
SPMN Marine on St. 28.10 3 P P 13 52 29.3 0.0
baz=184
CWC Cottonwood Cre 28.15 318 P P 13 52 30.9 +0.9
baz=127
PKM Mcpherson Peak 28.43 313 P P 13 52 33.8 +1.2
baz=122,SNR=9.7
VES Vestal, Richgr 28.45 316 P P 13 52 34.4 +1.8
baz=124,SNR=10
BW06 Boulder Array 28.48 337 P P 13 52 33.5 +0.6
BW06 Boulder Array 28.48 337 P P 13 52 33.3 +0.4
baz=149
PD31 Pinedale Array 28.48 337 P P 13 52 32.7 -0.3
PDAR Pinedale Array 28.48 337 P P 13 52 33.4 +0.4
comp=Z,0.9nm,0.5s,baz=144,slow=10,SNR=12
PDAR LR LR 14 05 10.8
comp=Z,124nm,19.6s,baz=169,slow=39
comp=Z,0.9nm,0.5s
PDAR Pinedale Array 28.48 337 P P 13 52 33.8 +0.8
STVI Saint Thomas 28.54 83 P P 13 52 32.1 -1.4
BIRV Birongo 28.55 100 P P 13 52 31.5 -2.2
TIN Tinemaha, Big 28.61 319 P P 13 52 35.4 +1.3
baz=128
F36A Milaca 28.71 2 P P 13 52 33.6 -1.0
F36A IAmb IAmb 13 53 32.8
comp=Z,35nm,0.8s
SMMC Simmler 28.78 314 P P 13 52 37.2 +1.6
baz=122,SNR=9.4
HVU Hansel Valley 28.99 332 P P 13 52 38.0 +0.6
HVU Hansel Valley 28.99 332 P P 13 52 38.0 +0.6
HVU pmax pmax
comp=Z,21nm,0.9s
ATAH Atahualpa 29.09 145 P P 13 52 41.2 +2.4
comp=Z,42nm,0.9s,baz=323,slow=5.4,SNR=26
MLAC Mammoth, Mammo 29.35 319 P P 13 52 40.8 0.0
baz=127
ELK Elko 29.39 327 P P 13 52 42.6 +1.5
comp=Z,11nm,0.8s,baz=141,slow=6.8,SNR=57
ELK LR LR 14 06 52.3
comp=Z,361nm,19.2s,baz=148,slow=41
comp=Z,11nm,0.8s
NV11 Mina Array Sit 29.43 321 P P 13 52 43.2 +1.8
NV11 IAmb IAmb 13 53 06.1
comp=Z,42nm,1.1s
REDW Red Top Meadow 29.48 336 P P 13 52 42.9 +1.0
REDW IAmb IAmb 13 52 57.7
comp=Z,82nm,1.1s
NVAR Mina Array Bea 29.52 321 P P 13 52 44.3 +2.0
comp=Z,15nm,0.8s,baz=136,slow=9.2,SNR=150
NVAR ScP ScP 13 59 24.1 0.0
comp=Z,0.7nm,0.8s,baz=126,slow=5.0,SNR=4.0
NVAR LR LR 14 05 55.1
comp=Z,1µm,18.2s,baz=142,slow=39
comp=Z,15nm,0.8s
NVAR Mina Array Bea 29.52 321 P P 13 52 44.2 +1.9
LHV Little Huntoon 29.53 320 P P 13 52 44.5 +2.4
LHV IAmb IAmb 13 53 14.8
comp=Z,93nm,1.4s
E38A The Farm, Brul 29.56 5 P P 13 52 41.2 -1.1
E38A IAmb IAmb 13 52 49.6
comp=Z,69nm,0.7s
E38A The Farm, Brul 29.56 5 P P 13 52 41.5 -0.7
baz=186,SNR=18
TPAW Teton Pass 29.62 336 P P 13 52 43.6 +0.4
TPAW IAmb IAmb 13 52 58.8
comp=Z,78nm,1.1s
MOOW Moose Ponds 29.77 337 P P 13 52 45.0 +0.7
MOOW IAmb IAmb 13 53 00.0
comp=Z,38nm,1.1s
FXWY Fox Creek 29.78 336 P P 13 52 44.7 +0.2
FXWY IAmb IAmb 13 53 06.8
comp=Z,41nm,1.1s
BINY Binghamton 29.80 29 P P 13 52 42.8 -1.7
baz=218
PAL Palisades 29.92 33 P P 13 52 43.7 -1.8
baz=223
E43A Lone Tree Farm 29.93 11 P P 13 52 44.1 -1.4
E43A IAmb IAmb 13 52 54.3
comp=Z,28nm,0.7s
E43A Lone Tree Farm 29.93 11 P P 13 52 44.5 -1.0
baz=195
IMW Indian Meadow 29.96 336 P P 13 52 46.5 +0.3
PCRV Puerto La Cruz 30.18 99 LR LR 14 07 45.0
comp=Z,186nm,18.3s,slow=42
L59A Walton 30.24 30 P P 13 52 46.3 -2.1
baz=220,SNR=5.5
L59A P P 13 52 46.3 -2.1
baz=220,SNR=5.5
J56A Wolcott 30.27 27 P P 13 52 46.5 -2.0
J56A IAmb IAmb 13 52 47.8
comp=Z,38nm,0.7s
D41A Chassel 30.34 9 P P 13 52 48.3 -0.8
D41A IAmb IAmb 13 52 56.2
comp=Z,87nm,1.2s
D41A Chassel 30.34 9 P P 13 52 49.0 -0.1
baz=192
RLMT Red Lodge 30.43 340 P P 13 52 50.9 +0.7
RLMT IAmb IAmb 13 53 06.6
comp=Z,43nm,1.1s
RLMT Red Lodge 30.43 340 P P 13 52 51.1 +0.8
baz=152,SNR=9.4
YERR Yerington 30.44 321 P P 13 52 51.0 +0.7
SADO Sadowa 30.61 22 P P 13 52 50.3 -1.2
comp=Z,4.0nm,0.3s,baz=261,slow=9.8,SNR=8.1
SADO LR LR 14 08 24.2
comp=Z,231nm,19.0s,baz=194,slow=43
comp=Z,4.0nm,0.3s
PNTR Pine Nut 30.72 320 P P 13 52 53.8 +0.9
PECO Prince Edward 30.75 26 P P 13 52 50.2 -2.6
PECO IAmb IAmb 13 52 52.1
comp=Z,37nm,0.8s
J57A Williamstown 30.75 28 P P 13 52 51.1 -1.7
J57A IAmb IAmb 13 52 52.4
comp=Z,41nm,0.8s
J57A Williamstown 30.75 28 P P 13 52 51.1 -1.7
baz=217,SNR=8.2
J57A P P 13 52 51.1 -1.7
baz=217,SNR=8.2
EYMN Ely 30.90 4 P P 13 52 52.6 -1.5
EYMN Ely 30.90 4 P P 13 52 52.9 -1.1
baz=186,SNR=8.6
MDND Maddock 30.91 354 P P 13 52 54.8 +0.6
baz=171,SNR=8.1
MDND Maddock 30.91 354 P P 13 52 54.0 -0.2
baz=171,SNR=8.1
EMB Emerald Bay 30.96 320 P P 13 52 56.0 +1.0
EMB IAmb IAmb 13 53 04.4
comp=Z,45nm,1.0s
LAO LASA Array 30.97 345 P P 13 52 55.3 +0.5
baz=158
DELO Deloro Mine 30.97 24 P P 13 52 52.1 -2.6
DELO IAmb IAmb 13 52 53.8
comp=Z,36nm,0.7s
PAHR Pah Rah Range 30.98 322 P P 13 52 55.4 +0.3
AGMN Agassiz Nation 31.13 359 P P 13 52 55.9 -0.2
baz=178
HLID Hailey 31.14 332 P P 13 52 57.5 +1.0
HLID Hailey 31.14 332 P P 13 52 57.5 +1.0
baz=142,SNR=29
GCMT Greycliff 31.15 340 P P 13 52 56.8 +0.3
B35A Bob, Littlefor 31.20 2 P P 13 52 54.7 -2.0
B35A IAmb IAmb 13 53 04.0
comp=Z,39nm,0.8s
B35A Bob, Littlefor 31.20 2 P P 13 52 55.8 -0.9
baz=182,SNR=7.2
BEKR Beckworth 31.66 321 P P 13 53 02.4 +1.2
BOZ Bozeman (W) 31.67 337 P P 13 53 01.5 +0.4
BOZ Bozeman (W) 31.67 337 P P 13 53 01.5 +0.4
BOZ pmax pmax
comp=Z,36nm,1.7s
BOZ Bozeman (W) 31.67 337 P P 13 53 01.5 +0.4
baz=148,SNR=5.1
NCB Newcomb 31.99 29 P P 13 53 02.2 -1.6
LRM Limekiln Ridge 32.17 337 P P 13 53 06.3 +0.7
DGMT Dagmar 32.20 348 P P 13 53 05.4 -0.2
baz=163
LONY Lake Ozonia 32.33 28 P P 13 53 04.3 -2.4
LONY IAmb IAmb 13 53 06.5
comp=Z,29nm,0.8s
LONY Lake Ozonia 32.33 28 P P 13 53 05.3 -1.4
baz=218,SNR=10.0
TBTG Tabatinga, AM 32.51 128 *e*P **P 13 53 09.1 +0.6**
J08A Circle Bar Ran 32.94 328 P P 13 53 12.8 +0.6
ULM Lac du Bonnet 33.08 359 P P 13 53 12.0 -1.2
comp=Z,6.7nm,0.5s,baz=175,slow=10,SNR=9.3
comp=Z,6.7nm,0.5s
ULM Lac du Bonnet 33.08 359 *i* P **P 13 53 14.5 +1.3**
EGMT Eagleton 33.16 342 P P 13 53 14.6 +0.6
baz=153,SNR=6.1
LBNH Lisbon 33.28 31 P P 13 53 13.2 -1.8
LBNH IAmb IAmb 13 53 59.4
comp=Z,40nm,1.2s
LBNH Lisbon 33.28 31 P P 13 53 13.2 -1.8
LBNH pmax pmax
comp=Z,40nm,1.3s
LBNH Lisbon 33.28 31 P P 13 53 13.9 -1.2
baz=223
KCPM Cahto Peak 33.56 318 P P 13 53 16.2 -1.5
KCPM IAmb IAmb 13 53 20.9
comp=Z,24nm,1.0s
MSO Missoula 33.58 336 P P 13 53 17.6 -0.1
baz=146
NNA Nana 33.97 147 LR LR 14 05 49.6
comp=Z,91nm,19.5s,baz=330,slow=34
NNA Nana 33.97 147 *ce*P **P 13 53 23.2 +1.9**
NNA pmax pmax
comp=Z,71nm,1.3s
I07A Izee 33.98 328 P P 13 53 21.5 +0.2
YBH Yreka Blue Hor 34.22 322 P P 13 53 23.0 -0.3
comp=Z,2.4nm,0.6s,baz=100,slow=3.3,SNR=11
YBH LR LR 14 09 10.8
comp=Z,473nm,18.0s,baz=142,slow=39

comp=Z,2.4nm,0.6s
YBH Yreka Blue Hor 34.22 322 P P 13 53 23.0 -0.3
F10A Beach Ranch, E 34.27 332 P P 13 53 24.5 +0.8
L04D Klamath Falls 34.28 323 P P 13 53 23.9 0.0
baz=128
J05D Fort Rock, OR 34.36 325 P P 13 53 25.1 +0.6
baz=131
PINE Pine Mountain 34.54 326 P P 13 53 26.6 +0.4
G62A West of Eustis 34.68 31 P P 13 53 25.5 -1.6
G62A IAmb IAmb 13 53 41.4
comp=Z,54nm,1.1s
G62A West of Eustis 34.68 31 P P 13 53 25.8 -1.3
baz=224,SNR=6.1
G62A P P 13 53 25.8 -1.3
baz=224,SNR=6.1
J04D Umpqua Nationa 34.81 324 P P 13 53 29.2 +0.6
baz=130,SNR=5.5
L02F Cave Junction 34.96 321 P P 13 53 29.8 +0.2
baz=127
I05D Terrebonne, OR 35.12 326 P P 13 53 31.2 +0.2
baz=132
I04A Tendick Farm, 35.34 325 P P 13 53 33.0 +0.1
baz=130
K02D Willamette Mer 35.37 322 P P 13 53 33.5 +0.3
baz=127
KBO Bosley Butte 35.41 321 P P 13 53 34.9 +1.3
G05D Wamic, OR 35.72 327 P P 13 53 37.0 +0.9
baz=133
H04A Detroit Lake 35.80 326 P P 13 53 36.7 -0.1
H04A IAmb IAmb 13 53 52.7
comp=Z,57nm,1.2s
I03D Drain, OR 35.80 324 P P 13 53 37.2 +0.4
baz=129,SNR=9.8
J01E Myrtle Point 35.80 323 P P 13 53 37.7 +0.9
baz=127,SNR=8.4
H04D Lebanon 35.99 325 P P 13 53 38.4 0.0
baz=130,SNR=5.5
NEW Newport 36.01 335 P P 13 53 38.8 +0.3
comp=Z,3.0nm,0.6s,baz=94,slow=6.6,SNR=6.2
comp=Z,3.0nm,0.6s
NEW Newport 36.01 335 P P 13 53 37.4 -1.2
NEW Newport 36.01 335 P P 13 53 39.1 +0.5
baz=142
G65A Princeton 36.17 33 P P 13 53 38.0 -1.9
G65A IAmb IAmb 13 53 56.0
comp=Z,37nm,0.9s
COR Corvallis 36.34 325 P P 13 53 43.3 +1.9
COR Corvallis 36.34 325 P P 13 53 42.7 +1.4
COR x x 13 53 49.8
COR pP pP 13 53 56.6 +1.5
COR sP sP 13 54 02.0 +0.7
I02E Swisshome, OR 36.34 324 P P 13 53 42.7 +1.3
baz=128,SNR=6.6
G03D McMinnville, O 36.72 326 P P 13 53 45.5 +0.8
baz=130,SNR=7.2
D62A Allapoint, All 36.73 30 P P 13 53 43.0 -1.6
D62A IAmb IAmb 13 53 59.0
comp=Z,54nm,1.2s
D62A Allapoint, All 36.73 30 P P 13 53 43.5 -1.2
baz=224,SNR=5.1
D62A P P 13 53 43.5 -1.2
baz=224,SNR=5.1
BOAV Boa Vista 36.80 110 P P 13 53 41.6 -4.0
BOAV IAmb IAmb 13 53 50.8
comp=Z,12nm,0.9s
FFC Flin Flon 37.95 353 P P 13 53 55.5 +0.6
FFC IAmb IAmb 13 54 03.4
comp=Z,32nm,0.9s
FFC Flin Flon 37.95 353 P P 13 53 55.5 +0.6
FFC pmax pmax
comp=Z,32nm,0.9s
FFC Flin Flon 37.95 353 P P 13 53 55.4 +0.6
FFC pP pP 13 54 09.8 +1.1
FFC sP sP 13 54 14.7 -0.3
BATG Bathurst New B 38.34 32 P P 13 53 56.8 -1.5
BATG IAmb IAmb 13 54 14.0
comp=Z,42nm,1.0s
NLWA Neilton Lookou 38.48 328 P P 13 53 57.4 -2.0
NLWA IAmb IAmb 13 54 16.0
comp=Z,63nm,1.1s
PTGA Pitinga 38.72 114 P P 13 53 57.8 -4.1
comp=Z,7.3nm,0.6s,baz=316,slow=10,SNR=17
PTGA LR LR 14 12 06.0
comp=Z,493nm,19.7s,baz=273,slow=40
EDM Edmonton 38.84 342 P P 13 54 02.1 -0.3
EDM Edmonton 38.84 342 P P 13 54 02.1 -0.3
EDM pmax pmax
comp=Z,140nm,1.7s
ETMB Extrema 38.98 131 P P 13 54 02.6 -1.4
ETMB IAmb IAmb 13 54 04.8
comp=Z,109nm,1.2s
ETMB Extrema 38.98 131 eP P 13 54 02.9 -1.2
MACA Manacapuru-AM 39.32 118 eP P 13 54 05.0 -1.9
OZB Mount Ozzard 40.33 329 P P 13 54 16.0 +1.1
OZB IAmb IAmb 13 54 30.7
comp=Z,48nm,1.0s
SAML Samuel 40.66 127 P P 13 54 15.4 -2.6
SAML IAmb IAmb 13 54 18.2
comp=Z,76nm,0.9s
SAML Samuel 40.66 127 P P 13 54 15.4 -2.6
SAML pmax pmax
comp=Z,76nm,1.0s
SAML Samuel 40.66 127 P P 13 54 15.0 -3.0
SAML sP pP 13 54 34.4 +2.4
LPAZ La Paz 42.39 140 P P 13 54 33.0 +0.2
comp=Z,24nm,0.9s,baz=330,slow=7.6,SNR=43
LPAZ LR LR 14 11 19.1
comp=Z,124nm,18.7s,baz=320,slow=35
comp=Z,24nm,0.9s
LPAZ La Paz 42.39 140 P P 13 54 32.8 0.0
LPAZ La Paz 42.39 140 eP P 13 54 33.0 +0.2
LPAZ La Paz 42.39 140 P P 13 54 33.2 +0.4
LPAZ pP pP 13 54 47.6 +0.7
MDP Montagnes des 43.05 101 LR LR 14 15 14.2
comp=Z,262nm,19.6s,baz=284,slow=40
PB16 IPOC Station P 43.17 143 P P 13 54 40.5 +1.4
SCHQ Schefferville 43.41 23 P P 13 54 37.5 -2.4
comp=Z,4.6nm,0.7s,baz=249,slow=11,SNR=4.1
SCHQ LR LR 14 15 03.9
comp=Z,163nm,21.2s,baz=225,slow=39
comp=Z,4.6nm,0.7s
BBB Bella Bella 43.71 331 LR LR 14 16 18.5
comp=Z,300nm,19.0s,baz=154,slow=41
MALB Monte Alegre 44.28 111 eP P 13 54 44.1 -3.3
GO01 Chusmiza 44.42 144 P P 13 54 49.7 +0.7
PB02 IPOC Station P 45.37 146 P P 13 54 56.7 +0.7
VILB Vilhena 45.46 129 P P 13 54 55.8 -1.0
VILB IAmb IAmb 13 54 57.2
comp=Z,339nm,0.8s
VILB Vilhena 45.46 129 eP P 13 54 56.3 -0.5
PB07 IPOC Station P 45.71 147 P P 13 54 59.5 +0.6
PB09 IPOC Station P 46.11 146 P P 13 55 02.8 +0.9
RPN Rapa Nui 46.13 198 LR LR 14 10 02.8
comp=Z,89nm,20.2s,baz=19,slow=30
SIV San Ignacio 46.84 133 P P 13 55 07.2 -0.4
comp=Z,85nm,0.8s,baz=298,slow=7.6,SNR=111
SIV LR LR 14 15 26.6
comp=Z,156nm,21.1s,baz=298,slow=37
comp=Z,85nm,0.8s
LVC Limon Verde 46.95 146 P P 13 55 08.6 -0.1
comp=Z,12nm,0.8s,baz=310,slow=5.5,SNR=7.9
LVC LR LR 14 13 16.8
comp=Z,142nm,21.9s,baz=327,slow=34
comp=Z,12nm,0.8s
LVC Limon Verde 46.95 146 P P 13 55 08.8 0.0
LVC pP pP 13 55 20.9 -2.1
V35K Ketchikan 47.32 332 P P 13 55 11.9 +1.1
baz=129
YKA Yellowknife Ar 47.41 348 P P 13 55 11.3 -0.1
comp=Z,5.4nm,0.6s,baz=153,slow=7.3,SNR=15
comp=Z,5.4nm,0.6s
T35M Bob Quinn 47.81 335 P P 13 55 16.4 +1.8
baz=132
PTLB Pontes e Lacer 47.86 131 P P 13 55 15.1 -0.4
PTLB IAmb IAmb 13 55 16.1
comp=Z,220nm,1.0s
PTLB Pontes e Lacer 47.86 131 eP P 13 55 14.7 -0.8
DLBC Dease Lake 48.71 336 LR LR 14 19 22.2
comp=Z,323nm,18.1s,baz=134,slow=40
DLBC Dease Lake 48.71 336 P P 13 55 22.4 +0.8
DLBC Dease Lake 48.71 336 P P 13 55 23.4 +1.8
baz=133,SNR=11
GO02 Mina Guanaco 48.71 149 P P 13 55 22.3 0.0
S34M Telegraph Cree 48.79 335 P P 13 55 24.4 +2.3
baz=131,SNR=5.5
AC01 Pan de Azucar 49.05 151 P P 13 55 23.1 -1.5
WTLY Watson Lake, Y 49.42 338 P P 13 55 28.6 +1.6
baz=135
R33M Jennings River 49.72 337 P P 13 55 31.1 +1.7
baz=132,SNR=10.0
Q32M Nakina River 49.93 336 P P 13 55 33.1 +2.0
baz=130,SNR=6.1
FRB Frobisher Bay 50.00 15 LR LR 14 20 25.8
comp=Z,95nm,21.1s,baz=212,slow=40
TMAB Tom-Au,PA,Br 50.06 108 eP P 13 55 31.7 -0.8
WRGLY Wrigley 50.14 344 P P 13 55 33.9 +1.6
baz=143
AC06 Mina Casimiro 50.20 151 P P 13 55 34.0 +0.7
PRPB Parauapebas 50.20 114 eP P 13 55 32.6 -1.0
TGTN Hyland Airport 50.27 340 P P 13 55 34.9 +1.5
baz=137
AC02 Maricunga 50.33 150 P P 13 55 36.1 +1.3
SALV Santo Antonio 50.69 128 eP P 13 55 36.6 -0.6
P32M Atlin 50.90 336 P P 13 55 39.4 +1.1
baz=129
P33M Teslin, Yukon 50.96 337 P P 13 55 39.6 +0.9
P33M IAmb IAmb 13 55 56.4
comp=Z,38nm,1.4s
P33M Teslin, Yukon 50.96 337 P P 13 55 39.8 +1.1
baz=131,SNR=6.9
LCO Las Campanas 51.46 153 P P 13 55 44.1 +1.1
LCO sP sP 13 56 05.1 +1.6
AC05 El Transito 51.50 152 P P 13 55 43.7 +0.6
TAOE Nuku Hiva Isla 51.63 244 eS S 14 03 05.5 +3.5
comp=Z,80nm,29.7s
TAOE eLR LR 14 10 43.7
comp=Z,875nm,26.9s
N32M Quiet Lake 51.68 338 P P 13 55 45.5 +1.5
baz=131
SNDB Serra Nova Dou 51.88 121 eP P 13 55 45.6 -0.5
PLBC Pleasant Camp 51.89 335 P P 13 55 47.1 +1.5
baz=126
WHY Whitehorse 52.03 336 P P 13 55 47.7 +0.9
baz=129
GO04 Tololo Observa 52.42 153 P P 13 55 50.2 +0.1
GO04 PcP PcP 13 57 00.2 -0.2
GO04 IAmb IAmb 13 57 01.0
comp=Z,36nm,0.8s
FARO Faro, Yukon 52.48 338 P P 13 55 50.5 +0.5
FARO Faro, Yukon 52.48 338 P P 13 55 51.0 +1.0
baz=131
P30M Million Dollar 52.52 335 P P 13 55 52.2 +1.9
baz=126
CO01 Juntas del Tor 52.56 153 P P 13 55 51.7 +0.5
CO01 IAmb IAmb 13 56 56.7
comp=Z,18nm,0.6s
P29M Windy Craggy 52.56 334 P P 13 55 52.6 +2.0
baz=125
O30N Mendenhall 52.57 336 P P 13 55 51.9 +1.2
baz=127
M31M Drury Creek, Y 52.84 338 P P 13 55 53.6 +0.9
M31M IAmb IAmb 13 56 02.3
comp=Z,25nm,1.4s
M31M Drury Creek, Y 52.84 338 P P 13 55 53.5 +0.9
baz=130,SNR=6.9
N31M Braeburn, Yuko 52.89 337 P P 13 55 54.8 +1.8
baz=128,SNR=5.7
HYT Haines Junctio 53.16 336 P P 13 55 56.6 +1.5
baz=126
CO02 Combarbal 53.23 154 P P 13 55 56.4 +0.5
PNL Peninsula 53.27 334 P P 13 55 57.7 +1.8
baz=123
O29M Mount Kennedy 53.29 335 P P 13 55 57.3 +1.2
baz=124
N30M Aishikik Lake 53.37 336 P P 13 55 58.1 +1.5
baz=127
SMTB Santa Maria do 53.41 115 eP P 13 55 55.5 -2.0
YUK6 Outpost Mounta 53.57 335 P P 13 55 59.8 +1.6
baz=125
AQDB Aquidauana 53.61 133 P P 13 55 57.8 -1.0
AQDB Aquidauana 53.61 133 eP P 13 55 58.1 -0.7
PINM Pinnacle 53.87 334 P P 13 56 01.9 +1.6
baz=122
ROSB Rosrio 53.89 107 eP P 13 56 01.4 +0.4
M30M Minto, Yukon 53.94 338 P P 13 56 00.0 -0.7
M30M Minto, Yukon 53.94 338 P P 13 56 01.2 +0.5
baz=128,SNR=11
O28M Mount Upton 54.21 335 P P 13 56 03.9 +0.9
baz=123
VA06 Catapilco 54.30 155 P P 13 56 03.6 0.0
VA06 IAmb IAmb 13 56 04.9
comp=Z,28nm,0.7s
ANTJ Antonio Joao (54.41 134 eP P 13 56 03.9 -0.8
M29M Somme Creek 54.48 337 P P 13 56 06.0 +1.2
baz=126,SNR=23
C2SB Chapadao do Su 54.60 129 eP P 13 56 06.5 +0.4
L29M L29M 54.75 338 P P 13 56 08.0 +1.4
baz=126
ROC1 El Roble 54.78 155 P P 13 56 05.8 -1.5
ROC1 IAmb IAmb 13 56 08.9
comp=Z,16nm,0.7s
CTG Chitna Glacier 54.79 334 P P 13 56 07.5 +0.5
baz=122
MT02 Curacav 54.98 156 P P 13 56 08.7 +0.2
MT02 IAmb IAmb 13 56 15.1
comp=Z,48nm,1.3s
K29M Barlow Dome 54.98 339 P P 13 56 09.2 +0.9
baz=128,SNR=15
RPRD Ribas do Rio P 55.04 131 eP P 13 56 08.9 -0.3
BVCY Beaver Creek 55.38 336 P P 13 56 12.2 +1.1
baz=123,SNR=7.2
MCARA McCarthy VSAT 55.71 334 P P 13 56 14.9 +1.5
baz=120
M27K Edge Creek, AK 55.75 336 P P 13 56 15.1 +1.2
baz=122
DAWY Dawson 55.78 338 P P 13 56 13.8 -0.2
DAWY Dawson 55.78 338 P P 13 56 14.7 +0.7
baz=126,SNR=7.1
GLB Gilahina Butte 56.06 334 P P 13 56 17.2 +1.1
GLB IAmb IAmb 13 56 33.3
comp=Z,14nm,0.8s
BCAR Beaver Creek A 56.10 336 P P 13 56 17.2 +1.0
L27K Beaver Creek, 56.11 336 P P 13 56 17.4 +1.0
L27K IAmb IAmb 13 56 33.1
comp=Z,14nm,0.8s
L27K Beaver Creek, 56.11 336 P P 13 56 17.2 +0.9
baz=122,SNR=11
F31M Tsiigehtchic 56.16 343 P P 13 56 16.5 0.0
baz=134,SNR=5.9
BMRM Bremner River 56.17 333 P P 13 56 17.2 +0.4
baz=118
NRS Narsarsuaq 56.17 26 P P 13 56 14.7 -2.0
NRS IAmb IAmb 13 56 15.9
comp=Z,33nm,0.8s
NRS Narsarsuaq 56.17 26 P P 13 56 14.7 -2.0
NRS pmax pmax
comp=Z,33nm,0.8s
I29M Ogilvie Camp, 56.18 340 P P 13 56 17.3 +0.5
baz=128,SNR=7.8
M26K Nabesna, AK 56.22 335 P P 13 56 18.1 +0.9
baz=121,SNR=7.0
Q23K Middleton Isla 56.24 331 P P 13 56 17.3 +0.1
baz=116
EPYK Eagle Plains 56.31 341 P P 13 56 17.7 0.0
EPYK IAmb IAmb 13 56 36.1
comp=Z,16nm,1.0s
EPYK Eagle Plains 56.31 341 P P 13 56 18.2 +0.5
baz=130
EYAK Cordova Ski Ar 56.47 333 P P 13 56 19.5 +0.7
baz=117
N25K Chitina, Valde 56.47 334 P P 13 56 20.4 +1.4
N25K IAmb IAmb 13 56 36.5
comp=Z,17nm,0.9s
N25K Chitina, Valde 56.47 334 P P 13 56 20.4 +1.4
baz=119,SNR=7.0
BDFB Brasilia 56.54 123 P P 13 56 20.0 -0.1
comp=Z,88nm,0.8s,baz=296,slow=8.4,SNR=73
BDFB LR LR 14 23 19.3
comp=Z,330nm,19.0s,baz=323,slow=39
comp=Z,88nm,0.8s
BDFB Brasilia 56.54 123 P P 13 56 19.8 -0.4
BDFB Brasilia 56.54 123 eP P 13 56 20.1 -0.1
CPUP Villa Florida 56.54 139 P P 13 56 18.9 -0.9
comp=Z,4.8nm,0.7s,baz=334,slow=9.3,SNR=5.8
CPUP LR LR 14 21 38.2
comp=Z,126nm,18.7s,baz=329,slow=37
comp=Z,4.8nm,0.7s
CPUP Villa Florida 56.54 139 eP P 13 56 19.0 -0.8
CPUP Villa Florida 56.54 139 P P 13 56 18.6 -1.2
L26K Log Cabin Wild 56.68 336 P P 13 56 21.4 +1.0
baz=121
INK Inuvik 56.70 344 LR LR 14 25 01.7
comp=Z,200nm,18.1s,baz=130,slow=41
INK Inuvik 56.70 344 P P 13 56 20.6 +0.3
INK IAmb IAmb 13 56 38.1
comp=Z,27nm,0.9s
INK PcP PcP 13 57 14.5 -1.4
INK Inuvik 56.70 344 P P 13 56 20.8 +0.4
baz=134,SNR=12
K27K Chicken 56.73 337 P P 13 56 21.7 +1.1
K27K IAmb IAmb 13 56 38.4
comp=Z,68nm,1.7s
K27K Chicken 56.73 337 P P 13 56 21.9 +1.2
baz=123
EGAK Eagle 56.82 338 P P 13 56 21.2 -0.1
EGAK Eagle 56.82 338 P P 13 56 21.1 -0.1
baz=124,SNR=7.3
P23K Montague Islan 56.96 332 P P 13 56 22.4 0.0
baz=115
KLU Klutina 56.98 334 P P 13 56 23.4 +0.8
baz=117
ITRB Iturama 57.03 128 eP P 13 56 23.1 -0.3
HARP HAARP 57.09 335 P P 13 56 24.0 +0.8
baz=119
DOT Dot Lake 57.28 336 P P 13 56 25.4 +0.9
DOT IAmb IAmb 13 56 41.4
comp=Z,23nm,1.1s
TRCB Terra Rica 57.28 132 eP P 13 56 24.5 -0.7
M24K Tolsona, Glenn 57.37 334 P P 13 56 24.7 -0.6
M24K Tolsona, Glenn 57.37 334 P P 13 56 26.6 +1.3
baz=118
MCR1 Marechal Candi 57.40 135 eP P 13 56 25.5 -0.5
SCRK Sand Creek 57.42 337 P P 13 56 26.6 +0.9
baz=121,SNR=9.0
SDBA SAO DESIDERIO 57.44 117 eP P 13 56 26.2 -0.3
I27K Kandik River 57.44 339 P P 13 56 26.6 +0.9
baz=124,SNR=7.6
SFJD Kangerlussuaq 57.47 19 LR LR 14 23 40.6
comp=Z,55nm,19.8s,baz=235,slow=39
PAX Paxson 57.49 335 P P 13 56 26.6 +0.4
PAX IAmb IAmb 13 56 42.7
comp=Z,14nm,0.9s
PAX Paxson 57.49 335 P P 13 56 26.6 +0.4
PAX pmax pmax
comp=Z,14nm,0.9s
PAX Paxson 57.49 335 P P 13 56 26.9 +0.7
baz=119,SNR=7.5
PCMB Pacaembu 57.52 130 eP P 13 56 26.5 -0.4
J26L Joseph Creek 57.53 337 P P 13 56 27.1 +0.7
J26L IAmb IAmb 13 56 43.9
comp=Z,22nm,1.1s
J26L Joseph Creek 57.53 337 P P 13 56 27.2 +0.8
baz=122,SNR=13
RES Resolute Bay 57.60 0 LR LR 14 23 25.0
comp=Z,67nm,21.7s,baz=220,slow=38
RIDG Independent Ri 57.63 336 P P 13 56 28.1 +1.0
RIDG IAmb IAmb 13 56 44.5
comp=Z,38nm,1.2s
RIDG Independent Ri 57.63 336 P P 13 56 27.9 +0.8
baz=120,SNR=9.5
IPMB Ipameri, GO 57.68 125 eP P 13 56 27.8 -0.3
H27K Steamboat Moun 57.77 340 P P 13 56 29.2 +1.2
baz=125
M23K Glacier View 57.88 333 P P 13 56 29.8 +1.0
baz=116
K24K Donnelly Dome 58.02 336 P P 13 56 31.0 +1.2
baz=119
G27K Doyon Strip 58.14 340 P P 13 56 30.7 +0.1
baz=125,SNR=11
SML Sawmill 58.15 333 P P 13 56 31.1 +0.4
baz=115
O22K Cooper Landing 58.22 332 P P 13 56 31.4 +0.2
baz=113
WAT6 Susitna Watana 58.24 334 P P 13 56 31.6 +0.1
baz=116
J25K Salcha River, 58.26 337 P P 13 56 31.7 +0.2
J25K Salcha River, 58.26 337 P P 13 56 32.0 +0.5
baz=120,SNR=6.7
DHY Denali Highway 58.31 335 P P 13 56 32.5 +0.5
baz=117
PMR Palmer 58.40 333 P P 13 56 33.0 +0.6
baz=114
KDAK Kodiak Island 58.63 328 LR LR 14 20 16.0
comp=Z,180nm,21.7s,baz=137,slow=34
KDAK Kodiak Island 58.63 328 P P 13 56 34.8 +0.8
KDAK Kodiak Island 58.63 328 i P P 13 56 34.4 +0.3
KDAK pmax pmax
comp=Z,18nm,1.1s
KDAK Kodiak Island 58.63 328 P P 13 56 34.9 +0.8
baz=109
KDAK Kodiak Island 58.63 328 P P 13 56 34.6 +0.6
KDAK pP pP 13 56 49.8 +1.2
KDAK sP sP 13 56 56.3 +1.6
WAT1 Susitna Watana 58.68 334 P P 13 56 34.4 -0.1
baz=116
HDA Harding Lake 58.76 336 P P 13 56 34.3 -0.6
HDA IAmb IAmb 13 56 51.5
comp=Z,50nm,1.6s
HDA Harding Lake 58.76 336 P P 13 56 34.9 0.0
baz=118,SNR=6.8
PRP Porcupine Dome 58.77 338 P P 13 56 35.3 +0.2
PRP IAmb IAmb 13 56 36.8
comp=Z,18nm,1.0s
PRP Porcupine Dome 58.77 338 P P 13 56 35.4 +0.2
baz=120,SNR=13
Q20K Shuyak Island 58.80 329 P P 13 56 36.0 +0.7
baz=109
M22K Willow 58.90 333 P P 13 56 36.2 +0.4
baz=113
IL31 58.91 337 P P 13 56 36.1 +0.2
IL31 IAmb IAmb 13 56 52.8
comp=Z,33nm,1.2s
ILAR Eielson Array 58.91 337 P P 13 56 36.1 +0.2
comp=Z,6.7nm,1.0s,baz=122,slow=5.1,SNR=40
ILAR LR LR 14 22 04.4
comp=Z,142nm,19.8s,baz=93,slow=36
comp=Z,6.7nm,1.0s
ILAR Eielson Array 58.91 337 P P 13 56 36.3 +0.4
ILAR Eielson Array 58.91 337 P P 13 56 36.3 +0.4
PTGB Pitanga 58.92 134 eP P 13 56 35.2 -1.4
G26K Porcupine Rive 58.92 340 P P 13 56 36.2 +0.2
baz=123,SNR=10
E27K Coleen River 58.92 341 P P 13 56 36.6 +0.6
baz=126,SNR=9.6
SUA Susitna One 59.06 332 P P 13 56 37.6 +0.4
SUA Susitna One 59.06 332 P P 13 56 37.4 +0.2
baz=112
FRBT Francisco Belt 59.06 136 eP P 13 56 36.6 -1.0
CCB Clear Creek Bu 59.20 336 P P 13 56 37.1 -0.8
CCB IAmb IAmb 13 56 54.3
comp=Z,32nm,1.6s
BB19B Bebedouro 59.21 128 eP P 13 56 38.2 -0.6
CUT Chulitna 59.23 334 P P 13 56 38.3 +0.2
baz=114
MCK McKinley 59.23 335 P P 13 56 38.7 +0.5
baz=116
H25K Birch Creek 59.26 339 P P 13 56 38.6 +0.3
baz=120,SNR=10
JANB Januaria 59.26 120 eP P 13 56 38.4 -0.8
POKR Poker Flat Res 59.28 337 P P 13 56 38.5 0.0
baz=118
COLA College 59.32 337 i P P 13 56 38.5 -0.2
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 59.32 337 P P 13 56 38.8 0.0
baz=117
COLA College 59.32 337 P P 13 56 38.7 -0.1
COLA x x 13 56 45.0
COLA pP pP 13 56 53.8 +0.5
COLA sP sP 13 57 00.7 +1.3
TCOL CIGO, UAF Yank 59.33 337 P P 13 56 38.6 -0.2
baz=117
ITQB Itaqui 59.37 141 P P 13 56 39.1 -0.5
ITQB Itaqui 59.37 141 eP P 13 56 39.3 -0.2
PMNB Patos De Minas 59.38 124 eP P 13 56 39.7 -0.3
BMAR Burnt Mountain 59.44 340 P P 13 56 40.2 +0.6
F26K Sheenjek River 59.44 340 P P 13 56 40.2 +0.6
baz=123
CRSM Crissiumal (Br 59.45 138 eP P 13 56 39.3 -0.8
MDM Murphy Dome 59.50 337 P P 13 56 39.7 -0.4
Q19K Cape Douglas, 59.52 329 P P 13 56 41.0 +0.7
baz=108
SPU Mount Spurr 59.54 332 P P 13 56 40.5 +0.1
P19K Oil Pt 59.56 330 P P 13 56 41.4 +0.8
baz=109
SKT Skwentna 59.60 333 P P 13 56 41.1 +0.3
SKT IAmb IAmb 13 56 57.8
comp=Z,25nm,1.0s

SKT	Skwentna	59.60	333		P		P		13 56 41.0	+0.2	
	baz=112,SNR=5.7										
N20K	Mount Spurr	59.62	332		P		P		13 56 40.9	-0.1	
	baz=111										
SPCR	Spurr Chakacha	59.62	332		P		P		13 56 40.9	-0.1	
	baz=111										
TRF	Thorofare Moun	59.66	335		P		P		13 56 42.2	+0.8	
TRF	Thorofare Moun	59.66	335		P		P		13 56 41.7	+0.3	
	baz=114,SNR=10										
NEA2	Nenana	59.66	336		P		P		13 56 41.6	+0.4	
	baz=116										
H24K	Noodor Dome	59.78	338		P		P		13 56 42.3	+0.3	
H24K	Noodor Dome	59.78	338		P		P		13 56 42.2	+0.3	
	baz=118,SNR=9.6										
F25K	Christian Rive	59.88	340		P		P		13 56 43.8	+1.2	
	baz=121,SNR=14										
UNIS	Unistalda (Bra	59.89	140	*eP*			P		13 56 42.1	-1.1	
G24K	Hadweenzic Riv	60.05	339		P		P		13 56 44.3	+0.5	
	baz=119,SNR=8.5										
E25K	Arctic Village	60.13	340		P		P		13 56 45.1	+0.8	
	baz=121										
BPAW	Bear Paw Mtn.	60.21	335		P		P		13 56 44.9	-0.1	
	baz=114,SNR=7.3										
O19K	Port Alsworth	60.25	330		P		P		13 56 45.8	+0.6	
	baz=108										
M20K	Styx River	60.27	332		P		P		13 56 45.9	+0.4	
	baz=110										
C27K	Jago River	60.38	342		P		P		13 56 46.1	+0.1	
	baz=124										
H23K	Yukon River	60.39	337		P		P		13 56 46.1	0.0	
H23K					IAmb		IAmb		13 57 03.1		
	comp=Z,57nm,1.8s										
H23K	Yukon River	60.39	337		P		P		13 56 46.7	+0.6	
	baz=116										
MC01	Montes Claros	60.41	121	*eP*			P		13 56 46.2	-0.9	
P18K	Big Mountain,	60.44	329		P		P		13 56 46.6	0.0	
	baz=107										
MLY	Manley	60.49	336		P		P		13 56 47.2	+0.3	
MLY					IAmb		IAmb		13 57 03.7		
	comp=Z,29nm,1.0s										
MLY	Manley	60.49	336		P		P		13 56 47.0	+0.1	
	baz=114,SNR=12										
ITAB	Concordia	60.52	136		P		P		13 56 47.2	-0.3	
ITAB	Concordia	60.52	136	*eP*			P		13 56 47.0	-0.6	
N19K	Bonanza Creek	60.53	331		P		P		13 56 46.4	-0.9	
N19K	Bonanza Creek	60.53	331		P		P		13 56 47.2	-0.1	
	baz=108,SNR=5.6										
R17K	Ugashik Creek	60.54	327		P		P		13 56 47.9	+0.7	
	baz=105,SNR=5.2										
O18K	Koktuh Hills	60.57	330		P		P		13 56 47.7	+0.3	
	baz=107										
F24K	Squaw Lake	60.59	339		P		P		13 56 48.2	+0.7	
	baz=119										
RODS	Rosario do Sul	60.72	141	*eP*			P		13 56 48.5	-0.3	
RCLB	Rio Claro- Sao	60.76	129	*eP*			P		13 56 49.5	+0.2	
L20K	Farewell, AK	60.81	333		P		P		13 56 49.1	0.0	
	baz=110,SNR=7.9										
M19K	Big River Lodg	60.84	332		P		P		13 56 49.9	+0.6	
M19K					IAmb		IAmb		13 57 05.7		
	comp=Z,22nm,1.0s										
M19K	Big River Lodg	60.84	332		P		P		13 56 49.4	+0.2	
	baz=109,SNR=6.6										
Q16K	King Salmon	60.95	328		P		P		13 56 50.0	0.0	
	baz=105										
G23K	Bananza Creek	60.95	338		P		P		13 56 50.4	+0.5	
	baz=116										
P17K	Kvichak River	60.98	329		P		P		13 56 50.9	+0.7	
	baz=106										
ALGR	Alto Algre (B	60.99	138	*eP*			P		13 56 50.1	-0.7	
D25K	Kavik River	61.01	341		P		P		13 56 50.8	+0.5	
	baz=121,SNR=5.6										
I21K	Tanana	61.04	336		P		P		13 56 50.8	+0.3	
	baz=113										
E24K	Your Creek	61.05	340		P		P		13 56 51.2	+0.6	
	baz=118,SNR=5.2										
H22K	Ishtalitna Cre	61.10	337		P		P		13 56 51.0	0.0	
	baz=114,SNR=6.0										
R16K	Pilot Point	61.14	327		P		P		13 56 51.8	+0.6	
	baz=104										
L19K	White Mountain	61.14	332		P		P		13 56 51.7	+0.4	
	baz=109										
N18K	Kilae Creek	61.14	331		P		P		13 56 51.4	+0.1	
N18K					IAmb		IAmb		13 57 07.5		
	comp=Z,32nm,1.1s										
N18K	Kilae Creek	61.14	331		P		P		13 56 51.8	+0.5	
	baz=107										
K20K	Telida	61.20	334		P		P		13 56 51.6	0.0	
K20K					IAmb		IAmb		13 57 07.6		
	comp=Z,27nm,1.0s										
K20K	Telida	61.20	334		P		P		13 56 51.9	+0.2	
	baz=110,SNR=8.0										
COLD	Coldfoot	61.24	339		P		P		13 56 52.9	+1.0	
	baz=116,SNR=6.4										
CHGN	Chignik	61.29	325		P		P		13 56 52.3	0.0	
	baz=102										
E23K	Chandalar	61.42	340		P		P		13 56 53.9	+0.7	
	baz=117										
O17K	Koliganek Bris	61.46	329		P		P		13 56 53.8	+0.3	
	baz=106										
J20K	Nowinta River	61.52	335		P		P		13 56 53.7	-0.1	
J20K					IAmb		IAmb		13 57 10.3		
	comp=Z,35nm,1.1s										
J20K	Nowinta River	61.52	335		P		P		13 56 53.6	-0.1	
	baz=111,SNR=6.8										
VAO	Valinhos	61.52	129	*eP*			P		13 56 54.8	+0.3	
H21K	Melozitna Rive	61.54	336		P		P		13 56 53.6	-0.3	
H21K	Melozitna Rive	61.54	336		P		P		13 56 53.8	-0.2	
	baz=113										
G22K	Bettles	61.57	338		P		P		13 56 54.2	+0.1	
	baz=115										
TOLK	Toolik Lake Re	61.68	340		P		P		13 56 55.5	+0.7	
TOLK					IAmb		IAmb		13 57 24.2		
	comp=Z,28nm,1.4s										
TOLK	Toolik Lake Re	61.68	340		P		P		13 56 55.3	+0.5	
	baz=117										
D24K	Happy Valley	61.68	341		P		P		13 56 55.8	+1.0	
	baz=118										
PLCA	Paso Flores	61.82	159		P		P		13 56 56.5	+0.4	
	comp=Z,11nm,0.8s,baz=335,slow=8.4,SNR=22										
	comp=Z,11nm,0.8s										
PLCA	Paso Flores	61.82	159		P		P		13 56 56.3	+0.1	
PLCA					IAmb		IAmb		13 56 57.5		
	comp=Z,15nm,0.8s										
PLCA	Paso Flores	61.82	159	*eP*			P		13 56 57.1	+1.0	
PLCA	Paso Flores	61.82	159	P			P		13 56 56.4	+0.1	
PLCA				sP			sP		13 57 16.6	-0.4	
CPSB	Cacapava Do Su	61.83	140	*eP*			P		13 56 55.8	-0.6	
O16K	Kokwok River B	61.90	329		P		P		13 56 56.4	0.0	
	baz=104										
S14K	Fog Glacier	61.91	325		P		P		13 56 56.7	+0.1	
	baz=101										
PET01	Itanhaem-SP	62.05	130	*eP*			P		13 56 57.9	-0.1	
F22K	John River	62.06	339		P		P		13 56 58.1	+0.7	
	baz=114,SNR=5.9										
G21K	Allakaket	62.14	337		P		P		13 56 58.0	0.0	
	baz=112										
D23K	Nanushuk River	62.18	340		P		P		13 56 58.7	+0.5	
	baz=116										
F21K	Alatna River	62.40	338		P		P		13 57 00.3	+0.6	
	baz=113,SNR=16										
N16K	Nishlik Lake	62.45	330		P		P		13 57 00.9	+0.7	
	baz=104										
C23K	Itkillik River	62.56	341		P		P		13 57 01.1	+0.4	
	baz=117,SNR=6.0										
RCBR	Riachuelo	62.58	106		P		P		13 57 00.9	-0.9	
	comp=Z,20nm,0.8s,baz=160,slow=5.8,SNR=5.3										
RCBR					LR		LR		14 26 54.2		
	comp=Z,321nm,19.7s,baz=88,slow=39										
	comp=Z,20nm,0.8s										
RCBR	Riachuelo	62.58	106	*eP*			P		13 57 02.6	+0.8	
GDU01	Guandu, BA	62.62	116	*eP*			P		13 57 01.2	-0.7	
PLTB	Pedras Altas	62.68	141	P			P		13 57 01.2	-0.8	
PLTB	Pedras Altas	62.68	141	*eP*			P		13 57 01.2	-0.8	
PARB	Paraibuna	62.72	128	*eP*			P		13 57 03.6	+1.1	
CNLB	Canela	62.74	137	*eP*			P		13 57 02.4	-0.2	
NBLA	Lagarto - SE	62.97	112	*eP*			P		13 57 04.2	-0.1	
TRQA	Tornquist	62.98	151	P			P		13 57 03.9	0.0	
TRQA					IAmb		IAmb		13 57 04.9		
	comp=Z,29nm,1.2s										
TRQA	Tornquist	62.98	151	P			P		13 57 03.9	0.0	
TRQA					pmax		pmax				
	comp=Z,29nm,1.2s										
EUNU	Eureka	63.12	2	P			P		13 57 03.6	-0.8	
EUNU					IAmb		IAmb		13 57 37.3		
	comp=Z,56nm,1.4s										
TER01	Tubaro-SC	63.38	135	*eP*			P		13 57 07.1	+0.4	
CMC01	Camacan, BA	63.44	117	*eP*			P		13 57 07.3	0.0	
SJMB	Sao Joao De Ma	63.69	122	*eP*			P		13 57 09.4	+0.5	
NBAN	Anadia - AL	63.76	110	*eP*			P		13 57 10.0	+0.5	
GUA01	Guaratinga, BA	63.78	119	*eP*			P		13 57 10.0	+0.5	
VAS01	Vassouras-RJ	63.78	126	*eP*			P		13 57 10.5	+1.0	
PPT	Papeete	63.90	240		LR		LR		14 17 29.5		
	comp=Z,112nm,20.3s,baz=104,slow=29										
PPT2	Papeete2	63.91	240	*e*	LR		LR		14 16 24.9		
	comp=Z,693nm,26.5s										
DUB01	Friburgo-RJ	64.50	125	*eP*			P		13 57 15.7	+1.4	
RIB01	Linhares ES	64.64	122	*eP*			P		13 57 15.3	+0.1	
CAM01	Campos-RJ	64.93	125	*eP*			P		13 57 17.8	+0.8	
ALF01	Guarapari-ES	65.04	123	*eP*			P		13 57 18.3	+0.6	
UNV	Unalaska Valle	65.53	322		P		P		13 57 20.0	-0.4	
UNV	Unalaska Valle	65.53	322		P		P		13 57 21.1	+0.7	
	baz=94										
TBI	Tubuai	66.76	235	*e*	LR		LR		14 17 44.6		
	comp=Z,529nm,28.5s										
NIKH	Nikolski High	66.89	321		P		P		13 57 29.1	0.0	
	baz=92										
BORG	Borgarnes	67.67	26		LR		LR		14 27 38.2		
	comp=Z,55nm,19.1s,baz=267,slow=36										
ADK	Adak	71.70	320		P		P		13 57 58.4	-0.5	
ADK	Adak	71.70	320		P		P		13 57 58.4	-0.5	
ADK					pmax		pmax				
	comp=Z,103nm,1.2s										
JMIC	Jan Mayen	72.80	20		LR		LR		14 30 37.9		
	comp=Z,67nm,20.9s,baz=294,slow=36										
RAR	Rarotonga	74.10	241		LR		LR		14 21 58.0		
	comp=Z,92nm,19.4s,baz=90,slow=28										
BBTS	Babate	74.93	79		LR		LR		14 25 38.1		
	comp=Z,348nm,21.9s,baz=256,slow=31										
KPL	Plockton	75.39	34	*eP*			P		13 58 19.1	-1.3	
KPL					IAmb		IAmb		13 58 20.1		
	comp=Z,48nm,0.8s										
CLGH	Cloghs, Cushen	75.49	36	*eP*			P		13 58 19.9	-1.2	
KAC	Achnashellach	75.56	34	*eP*			P		13 58 20.4	-1.1	
EFI	East Falkland	75.64	157	*i* P			P		13 58 25.3	+3.5	
EFI					pmax		pmax				
	comp=Z,34nm,1.1s										
LAWE	Loch Awe, Argy	75.70	35	*eP*			P		13 58 20.8	-1.5	
LAWE					IAmb		IAmb		13 58 21.9		
	comp=Z,28nm,0.9s										
GMM	Mts of Mourne	75.71	37	*eP*			P		13 58 21.9	-0.5	
MDO	Dochfour	76.06	34	*eP*			P		13 58 22.6	-1.7	
PGBU	Glenifferbraes	76.28	36	*eP*			P		13 58 24.9	-0.7	
PGBU					IAmb		IAmb		13 58 26.6		
	comp=Z,42nm,1.1s										
EAB	Aberfoyle	76.29	35	*eP*			P		13 58 24.4	-1.2	
INVG	Invergeldie, C	76.41	35	*eP*			P		13 58 25.2	-1.1	
INVG					IAmb		IAmb		13 58 26.4		
	comp=Z,28nm,0.8s										
WIM	Isle of Man	76.47	37	*eP*			P		13 58 26.0	-0.7	
IOMK	Kirk Michael	76.51	37	*eP*			P		13 58 26.2	-0.7	
IOMK					IAmb		IAmb		13 58 33.1		
	comp=Z,51nm,0.7s										
NEWG	New Galloway	76.55	36	*eP*			P		13 58 26.3	-0.8	
NEWG					IAmb		IAmb		13 58 28.3		
	comp=Z,25nm,0.9s										
MCD	Coleburn Disti	76.63	34	*eP*			P		13 58 26.6	-0.9	
POLO	Lamas de Olo	76.78	51	*eP*			P		13 58 28.3	-0.6	
PVIS	Viseu	76.84	51	*eP*			P		13 58 28.4	-0.7	
	comp=Z,57nm,1.5s										
PNCL	Nicolau / Gran	76.86	54	*eP*			P		13 58 28.9	-0.4	
	comp=Z,33nm,1.8s										
PMTG	Montargil	76.91	53	*eP*			P		13 58 28.6	-0.9	
	comp=Z,34nm,1.7s										
MORF	Marmelete	76.93	55	*eP*			P		13 58 29.1	-0.6	
MORF					IAmb		IAmb		13 58 30.1		
	comp=Z,16nm,1.1s										
MORF	Marmelete	76.93	55	*eP*			P		13 58 29.8	+0.1	
	comp=Z,48nm,1.7s										
MORF	Marmelete	76.93	55	*eP*			P		13 58 29.1	-0.6	
EDI	Edinburgh	76.98	35	*eP*			P		13 58 28.4	-1.1	
EBL	Broad Law	77.09	35	*eP*			P		13 58 29.1	-1.1	
ESK	Eskdalemuir	77.09	36	*eP*			P		13 58 28.8	-1.3	
ESK					IAmb		IAmb		13 58 29.7		
	comp=Z,30nm,0.8s										
ESK	Eskdalemuir	77.09	36	P			P		13 58 28.7	-1.5	
ESK					IAmb		IAmb		13 58 29.9		
	comp=Z,30nm,0.8s										
ESK	Eskdalemuir	77.09	36	P			P		13 58 28.7	-1.5	
ESK					pmax		pmax				
	comp=Z,30nm,0.8s										
EKA	Eskdalemuir Ar	77.11	36		LR		LR		14 30 06.1		
	comp=Z,192nm,21.9s,baz=0.5,slow=34										
MESJ	Messejana	77.16	54	*eP*			P		13 58 30.1	-0.8	
MESJ					IAmb		IAmb		13 58 31.7		
	comp=Z,20nm,1.2s										
MESJ	Messejana	77.16	54	*eP*			P		13 58 30.4	-0.5	
MESJ	Messejana	77.16	54	*eP*			P		13 58 30.1	-0.8	
MTE	Manteigas	77.16	51	*eP*			P		13 58 30.5	-0.5	
DRUM	Mains of Drumt	77.17	34	*eP*			P		13 58 29.7	-0.9	
DRUM					IAmb		IAmb		13 58 30.3		
	comp=Z,60nm,0.6s										
SHEM	Shemya Is, Ala	77.19	321		LR		LR		14 30 21.9		
	comp=Z,60nm,19.2s,baz=100,slow=34										
ESY	Stoneypath	77.30	35	*eP*			P		13 58 30.5	-0.9	
PCBR	Castelo Branco	77.32	52	*eP*			P		13 58 31.4	-0.4	
	comp=Z,49nm,1.5s										
PCVE	Castro Verde	77.34	54	*eP*			P		13 58 32.1	+0.1	
	comp=Z,30nm,1.9s										
MVO	Moncorvo	77.39	51	*eP*			P		13 58 31.7	-0.6	
	comp=Z,50nm,1.6s										
PBEJ	Beja	77.39	54	*eP*			P		13 58 32.0	-0.3	
	comp=Z,32nm,1.5s										
PESTR	Estremoz	77.44	53	*eP*			P		13 58 31.9	-0.6	
PMRV	Marv??o	77.47	52	*eP*			P		13 58 32.2	-0.5	
	comp=Z,46nm,1.5s										
PBRG	Braganca	77.47	50	*eP*			P		13 58 32.1	-0.6	
	comp=Z,48nm,1.8s										
BILL	Bilibino	77.55	338	ǁ*eP*			P		13 58 33.6	+1.1	
BILL				*i*					13 58 42.8		
BILL					*PP		pP		13 58 49.0	+1.3	
BILL				*e*					14 09 30.6		
BILL					pmax		pmax				
	comp=Z,11nm,0.8s										
BILL					MLR		MLR				
	comp=Z,53nm,17.0s										
SPITS	Spitsbergen Ar	77.62	11		LR		LR		14 35 22.9		
	comp=Z,105nm,21.9s,baz=272,slow=38										
PVAQ	Vanzinos	77.64	55	*eP*			P		13 58 33.4	-0.2	
MCH1	Michaelchurch	77.88	39	*eP*			P		13 58 17.2	-17	
MCH1					IAmb		IAmb		13 58 18.4		
	comp=Z,45nm,1.5s										
EDMD	Edmundbyers	77.88	36	*eP*			P		13 58 33.8	-0.8	
EDMD					IAmb		IAmb		13 58 35.0		
	comp=Z,88nm,1.0s										
PBAR	Barrancos	78.00	54	*eP*			P		13 58 35.3	-0.3	
	comp=Z,39nm,1.7s										
MONM	Monmouth	78.03	39	*eP*			P		13 58 33.7	-1.7	
ROSF	Rostrenen	78.50	43	*eP*			P		13 58 37.6	-0.5	
ROSF					pmax		pmax				
	comp=Z,60nm,1.6s										
PAB	San Pablo	79.74	52	P			P		13 58 43.8	-1.5	
PAB					IAmb		IAmb		13 58 46.0		
	comp=Z,50nm,1.2s										
PAB	San Pablo	79.74	52	P			P		13 58 43.8	-1.5	
PAB					pmax		pmax				
	comp=Z,50nm,1.3s										
FOO	Floro	79.77	29	*eP*			P		13 58 44.7	-0.1	
FOO					IAmb		IAmb		13 58 45.4		
	comp=Z,21nm,0.9s										
SUE	Sulen	79.80	29	*eP*			P		13 58 44.9	0.0	
ESDC	Sonseca Array	80.00	52	P			P		13 58 46.0	-0.7	
	comp=Z,16nm,0.9s,baz=292,slow=5.6,SNR=49										
ESDC					LR		LR		14 31 14.8		
	comp=Z,197nm,18.4s,baz=292,slow=34										
	comp=Z,16nm,0.9s										
ESDC	Sonseca Array	80.00	52	P			P		13 58 45.5	-1.1	
ESDC					IAmb		IAmb		13 58 53.8		
	comp=Z,36nm,1.3s										
GRR	Gorron	80.05	42	*eP*			P		13 58 45.6	-1.0	
GRR					pmax		pmax				
	comp=Z,20nm,0.7s										
FLN	La Foliniere	80.20	42	*eP*			P		13 58 46.6	-0.8	
FLN					pmax		pmax				
	comp=Z,11nm,0.7s										
HYA	Hoyanger	80.42	29	*eP*			P		13 58 47.9	-0.5	
LDF	La Druitiere	80.47	42	*eP*			P		13 58 48.0	-0.9	
LDF					pmax		pmax				
	comp=Z,27nm,1.2s										
AKN	Aaknes	80.48	28	*eP*			P		13 58 48.7	+0.1	
AKN					IAmb		IAmb		13 58 49.2		
	comp=Z,20nm,0.9s										
ODD1	Odda	81.03	30	*eP*			P		13 58 52.2	+0.5	
ODD1					IAmb		IAmb		13 58 53.9		
	comp=Z,12nm,0.8s										
BLS5	Blasjo	81.10	30	*eP*			P		13 58 52.2	+0.1	
BLS5					IAmb		IAmb		13 58 53.2		
	comp=Z,19nm,0.9s										
SJPF	Ste Jean	81.14	48	*eP*			P		13 58 52.5	-0.1	
SJPF					pmax		pmax				
	comp=Z,50nm,1.3s										
MDT	Midelt	81.18	58	LR			LR		14 29 26.3		
	comp=Z,239nm,21.9s,baz=314,slow=32										
DOMB	Dombas	81.44	28	*eP*			P		13 58 54.3	+0.4	
DOMB					IAmb		IAmb		13 58 54.8		
	comp=Z,25nm,0.8s										
SKAR	Skarslia	81.56	29	*eP*			P		13 58 54.7	+0.2	
SKAR					IAmb		IAmb		13 58 55.3		
	comp=Z,14nm,0.7s										
ETSF	Etsaut	81.67	48	*eP*			P		13 58 55.2	-0.3	
ETSF					pmax		pmax				
	comp=Z,16nm,1.0s										
AFI	Afiamalu	81.89	253		LR		LR		14 25 34.4		
	comp=Z,105nm,21.6s,baz=160,slow=28										
RJF	Les Rejaudoux	82.44	45	*eP*			P		13 58 58.9	-0.5	
RJF					pmax		pmax				
	comp=Z,28nm,1.0s										
NC204	NORSAR Array S	82.47	28	P			P		13 58 59.1	-0.1	
NC204					IAmb		IAmb		13 59 00.3		
	comp=Z,28nm,0.9s										
NC204	NORSAR Array S	82.47	28	*eP*			P		13 58 59.1	-0.1	
NC204					IAmb		IAmb		13 59 00.1		
	comp=Z,14nm,0.8s										
HOMB	Homborsund	82.48	31	*eP*			P		13 58 59.5	+0.3	
HOMB					IAmb		IAmb		13 59 00.5		
	comp=Z,19nm,0.9s										
KONO	Kongsberg	82.53	30	*ce*P			P		13 59 00.4	+0.9	
KONO					pmax		pmax				
	comp=Z,24nm,1.0s										
KONO	Kongsberg	82.53	30	*eP*			P		13 58 60.0	+0.5	
KONO					IAmb		IAmb		13 59 00.6		
	comp=Z,24nm,1.1s										
JETT	Jettan, Norway	82.54	19	*eP*			P		13 59 00.3	+0.8	
NBO00	NORSAR Array S	82.57	28	P			P		13 58 59.5	-0.2	
NBO00	NORSAR Array S	82.57	28	*eP*			P		13 59 00.2	+0.5	
NBO00					IAmb		IAmb		13 59 01.3		
	comp=Z,32nm,0.9s										
TCF	Toulx Ste Croi	82.63	44	*eP*			P		13 58 59.8	-0.6	
TCF					pmax		pmax				
	comp=Z,28nm,1.1s										
NAO01	NORSAR Array S	82.69	28	*eP*			P		13 59 01.0	+0.6	
NAO01					IAmb		IAmb		13 59 01.9		
	comp=Z,28nm,0.9s										
NC303	NORSAR Array S	82.76	28	*eP*			P		13 59 01.1	+0.4	
NC303					IAmb		IAmb		13 59 01.7		
	comp=Z,9.3nm,0.8s										
NB2	NORSAR Subarra	82.76	28	P			P		13 59 00.8	0.0	
	comp=Z,23nm,0.8s,baz=294,slow=5.3										
NB2	NORSAR Subarra	82.76	28	P			P		13 58 57.4	-3.4	
NB2					pmax		pmax				
	comp=Z,6.0nm,0.8s										
NB2	NORSAR Subarra	82.76	28	P			P		13 59 00.8	0.0	
	baz=294,slow=5.3										
NOA	NORSAR Array B	82.76	28	P			P		13 59 01.0	+0.2	
	comp=Z,18nm,0.8s,baz=292,slow=5.2,SNR=94										
NOA					LR		LR		14 34 46.0		
	comp=Z,101nm,21.9s,baz=290,slow=35										
	comp=Z,18nm,0.8s										
BAIF	Baives	82.78	40	*eP*			P		13 59 00.4	-0.6	
BAIF					pmax		pmax				
	comp=Z,16nm,1.0s										
NB201	NORSAR Array S	82.80	28	P			P		13 59 00.6	-0.4	
NB201	NORSAR Array S	82.80	28	*eP*			P		13 59 00.9	0.0	
CAF	Calviac	82.92	45	*eP*			P		13 59 01.3	-0.7	
CAF					pmax		pmax				
	comp=Z,9.0nm,0.8s										
NC405	NORSAR Array S	82.96	28	P			P		13 59 01.4	-0.4	
NC405					IAmb		IAmb		13 59 03.5		
	comp=Z,33nm,0.9s										
BGF	Bois d'Agland	82.97	44	*eP*			P		13 59 01.7	-0.4	
BGF					pmax		pmax				
	comp=Z,35nm,0.8s										
DOU	Dourbes	83.00	40	*dP*			P		13 59 01.9	-0.2	
	comp=Z,10nm,0.9s							

PET pmax pmax
comp=Z,17nm,1.3s
MBDF Montbardon 86.16 44 *eP* **P 13 59 18.1 -0.4**
MBDF pmax pmax
comp=Z,17nm,0.8s
LMR La Mourre 86.46 46 *eP* **P 13 59 18.7 -1.1**
LMR pmax pmax
comp=Z,51nm,1.0s
PEA0B Petropavlovsk- 86.52 325 *ceP* **P 13 59 21.4 +1.6**
PETK Petropavlovsk- 86.52 325 P **P 13 59 21.0 +1.1**
comp=Z,5.3nm,0.9s,baz=58,slow=14,SNR=6.6
comp=Z,5.3nm,0.9s
PETK Petropavlovsk- 86.52 325 P **P 13 59 21.0 +1.1**
TIXI Tiksi 86.65 347 LR LR 14 40 46.2
comp=Z,73nm,21.9s,baz=0.0,slow=37
TIXI Tiksi 86.65 347 *i* P **P 13 59 20.7 +0.6**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
KOWA Kowa 86.66 76 LR LR 14 33 44.8
comp=Z,123nm,21.1s,baz=265,slow=33
KOWA Kowa 86.66 76 P **P 13 59 20.2 -1.0**
HOPE Hope Point 86.73 150 P **P 13 59 20.6 0.0**
HOPE Hope Point 86.73 150 P **P 13 59 20.6 0.0**
HOPE pmax pmax
comp=Z,33nm,0.9s
MA2 Magadan 87.08 332 LR LR 14 40 56.2
comp=Z,56nm,18.1s,baz=113,slow=37
MA2 Magadan 87.08 332 *i* P **P 13 59 23.2 +0.8**
MA2 pmax pmax
comp=Z,14nm,0.9s
DAVA Damuels 87.26 41 *i* P **P 13 59 24.3 +0.5**
comp=Z,23nm,0.9s,SNR=6.2
DAVOX Davos/Dischmat 87.45 42 LR LR 14 34 27.9
comp=Z,230nm,21.7s,baz=264,slow=33
CLL Collm 87.55 37 *i* P **P 13 59 25.4 +0.6**
CLL *eS* **S 14 10 05.0 +2.9**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 87.55 37 *i* P **P 13 59 25.4 +0.6**
comp=Z,8.0nm,0.8s
CLL *es*P **sP 13 59 46.0 -0.1**
CLL *eS* **S 14 10 05.0 +2.9**
CLL *eS*S **SS 14 15 48.0 +0.2**
NKC Novy Kostel 87.66 38 *eP* **P 13 59 26.1 +0.6**
NKC Novy Kostel 87.66 38 *eP* **P 13 59 26.1 +0.6**
RETA Reutte 87.73 41 *eP* **P 13 59 26.7 +0.7**
comp=Z,12nm,0.8s
FETA Feichten 87.89 41 *eP* **P 13 59 27.2 +0.3**
comp=Z,9.7nm,0.7s
TIC Toumodi 87.97 84⇑ *iP* **P 13 59 26.8 -0.8**
comp=Z,50nm,0.8s
MOTA Moosalm 88.00 41 *eP* **P 13 59 27.8 +0.5**
comp=Z,11nm,0.7s
LIC Lamto 88.08 84⇑ *iP* **P 13 59 27.3 -0.8**
comp=Z,115nm,0.8s
DBIC Dimbokro 88.11 84 P **P 13 59 27.8 -0.5**
comp=Z,31nm,0.6s,baz=295,slow=4.7,SNR=33
DBIC LR LR 14 36 28.7
comp=Z,47nm,20.5s,baz=306,slow=34
comp=Z,31nm,0.6s
DBIC Dimbokro 88.11 84 P **P 13 59 27.2 -1.0**
SQTA Sankt Quirin 88.12 41 *eP* **P 13 59 28.7 +0.9**
comp=Z,16nm,1.1s
BRG Berggiesshubel 88.27 37 *eP* **P 13 59 28.5 +0.2**
BRG Amp 13 59 30.9
comp=Z,5.9nm,1.0s
BRG Amp 14 34 09.0
comp=N,0.2nm,25.2s
BRG Amp 14 34 15.0
comp=Z,0.3nm,29.9s
BRG Amp 14 34 19.0
comp=E,0.2nm,25.5s
BRG Berggiesshubel 88.27 37 *eP* **P 13 59 28.4 +0.2**
BRG pmax pmax
comp=Z,6.0nm,1.0s
KIC Kosan Boka 88.31 84⇑ *iP* **P 13 59 28.6 -0.6**
comp=Z,55nm,0.6s
WTTA Wattenberg 88.37 41 *eP* **P 13 59 30.0 +0.9**
comp=Z,3.4nm,0.6s
PGF Pioggiola 88.45 46 *eP* **P 13 59 28.6 -0.9**
PGF pmax pmax
comp=Z,28nm,1.1s
KHC Kasperske Hory 88.79 39 *eP* **P 13 59 30.8 -0.1**
KHC MLR MLR
comp=Z,300nm,16.9s
KHC Kasperske Hory 88.79 39 *eP* **P 13 59 30.8 -0.1**
KHC AMS AMS 14 37 30.0
comp=Z,300nm,16.9s
FINES FINESS Array B 88.87 24 P **P 13 59 30.7 -0.2**
comp=Z,3.9nm,0.8s,baz=343,slow=10.0,SNR=7.7
comp=Z,3.9nm,0.8s
FINES FINESS Array B 88.87 24 P **P 13 59 30.8 -0.1**
FINES FINESS Array B 88.87 24 P **P 13 59 30.8 -0.1**
GERES GERESS Array B 88.98 39 P **P 13 59 31.6 -0.3**
comp=Z,3.9nm,0.8s,baz=0.0,slow=4.0,SNR=18
comp=Z,3.9nm,0.8s
PRU Pruhonice 88.99 37 *eP* **P 13 59 33.2 +1.5**
PRU MLR MLR
comp=N,200nm,18.9s
PRU Pruhonice 88.99 37 *eP* **P 13 59 33.2 +1.5**
PRU AMS AMS 14 34 10.0
ZCCA Zocca 89.10 44 P **P 13 59 32.8 +0.4**
ABTA Abfaltersbach 89.13 41 *eP* **P 13 59 32.5 0.0**
comp=N,6.5nm,1.0s
CKRC Cesky Krumlov 89.36 39 AMS AMS 14 38 50.0
comp=N,300nm,19.0s
BIOA Bad Ischl, Aus 89.43 40 *eP* **P 13 59 34.0 +0.1**
comp=N,11nm,1.1s
KBA Koelnbreinsper 89.51 40 *eP* **P 13 59 34.7 +0.3**
comp=N,5.4nm,0.7s
CHVC Chvalec 89.60 37 *eP* **P 13 59 35.1 +0.5**
UPC Upice 89.61 37 AMS AMS 14 35 00.0
comp=N,200nm,20.6s
OSTC Ostas 89.70 37 *eP* **P 13 59 35.2 +0.1**
MOA Molln 89.75 40 *eP* **P 13 59 35.2 -0.2**
comp=N,5.9nm,0.7s
TREC Trest 89.85 38 AMS AMS 14 35 00.0
comp=N,300nm,18.3s
DPC Dobruska-Polom 89.86 37 *eP* **P 13 59 35.9 +0.1**
DPC Dobruska-Polom 89.86 37 *eP* **P 13 59 35.9 +0.1**
MYKA Terra Mystica 89.88 41 *eP* **P 13 59 36.1 0.0**
comp=N,2.7nm,0.5s
KRLC Kraliky 90.25 37 *eP* **P 13 59 38.2 +0.5**
KRLC Kraliky 90.25 37 *eP* **P 13 59 38.2 +0.5**
KRLC *ex* x 13 59 44.2
KRUC Moravsky 90.48 38 *eP* **P 13 59 37.8 -0.9**
VRAC Vranov 90.49 38 LR LR 14 37 28.5
comp=N,177nm,22.0s,baz=278,slow=34
VRAC Vranov 90.49 38 *eP* **P 13 59 38.2 -0.6**
OBKA Obir 90.50 41 *eP* **P 13 59 39.0 +0.1**
comp=N,11nm,0.9s
CONA Conrad Observa 90.68 39 *eP* **P 13 59 40.1 +0.3**
comp=N,5.7nm,0.9s
SOKA Soboth 90.73 40 *iP* **P 13 59 39.7 -0.3**
comp=N,6.3nm,0.8s,SNR=6.4
ARSA Arzberg 90.78 40 *eP* **P 13 59 36.1 -4.1**
comp=N,6.5nm,1.0s
MORC Moravsky Berou 90.82 37 *eP* **P 13 59 39.7 -0.6**
RONA Rosalia, Austr 91.04 39 *eP* **P 13 59 41.7 +0.3**
comp=N,9.8nm,1.0s
KEST Kesra 91.24 52 P **P 13 59 42.2 -0.4**
comp=N,21nm,0.9s,baz=172,slow=0.9,SNR=21
KEST LR LR 14 37 08.3
comp=N,90nm,20.3s,baz=302,slow=33
comp=N,21nm,0.9s
KEST Kesra 91.24 52 P **P 13 59 41.1 -1.5**
ZST Bratislava 91.30 38 *eP* **P 13 59 43.2 +0.7**
ZST Bratislava 91.30 38 *eP* **P 13 59 43.2 +0.7**
MODS Modra-Piesok 91.32 38 *eP* **P 13 59 42.7 +0.1**
MODS pmax pmax
comp=Z,28nm,1.4s
MODS Modra-Piesok 91.32 38 *eP* **P 13 59 42.7 +0.1**
JAVC Velka Javorina 91.32 38 *eP* **P 13 59 43.2 +0.5**
SMOL Smolenice 91.34 38 *eP* **P 13 59 43.2 +0.5**
VYHS Vyhne 92.18 38 *eP* **P 13 59 46.6 0.0**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 92.18 38 *eP* **P 13 59 46.6 0.0**
LANS Liptovska Anna 92.22 37 *eP* **P 13 59 48.0 +1.2**
LANS pmax pmax
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 92.22 37 *eP* **P 13 59 48.0 +1.2**
RAO Raoul Island 92.31 240 LR LR 14 30 33.9
comp=Z,82nm,21.4s,baz=132,slow=28
TOA0 Torodi Ar. Sit 92.35 76 P **P 13 59 46.7 -1.3**
TOA0 IAmb IAmb 13 59 47.6
comp=Z,8.3nm,1.1s
TORD Torodi Ar. Bea 92.35 76 P **P 13 59 46.7 -1.3**
comp=Z,3.5nm,0.6s,baz=289,slow=4.6,SNR=17
TORD LR LR 14 36 58.5
comp=Z,119nm,21.8s,baz=205,slow=33
comp=Z,3.5nm,0.6s
MSVF Nonsavu 92.38 252 LR LR 14 31 22.9
comp=Z,256nm,21.8s,baz=189,slow=29
KOVH Kovagotottos 92.89 40 P **P 13 59 50.3 +0.4**
NACGM Naroch 92.96 29⇑ *eP* **P 13 59 49.4 -0.6**
baz=305
MORH Mrgy, Hungar 93.16 40 P **P 13 59 50.8 -0.3**
CRVS Cervenica-Dubn 93.48 36 *eP* **P 13 59 53.0 +0.4**
CRVS pmax pmax
comp=Z,11nm,1.0s
CRVS Cervenica-Dubn 93.48 36 *eP* **P 13 59 53.0 +0.4**
YAK Yakutsk 93.64 341 LR LR 14 46 08.3
comp=Z,66nm,21.4s,baz=89,slow=38
YAK Yakutsk 93.64 341 *i* P **P 13 59 56.1 +3.1**
YAK pmax pmax
comp=Z,6.0nm,0.8s
MNK Minsk 93.71 29 *i* P **P 13 59 52.0 -1.5**
MNK *i* *PP **pP 14 00 06.8 -2.2**
MNK *i* 14 03 35.2
MNK *i* PPP PPP 14 05 45.6
MNK *i* S **SKSac 14 10 21.8 -1.8**
MNK *i* *SS **SKKSac 14 10 49.6 +5.9**
MNK *i* SS **SS 14 17 15.5 -0.9**
MNK *i* SSS SSS 14 20 53.2
MNK pmax pmax
comp=Z,12nm,1.0s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=Z,155nm,25.0s
MNK MLR MLR
comp=E,16nm,19.0s
MNK Minsk 93.71 29 *i* P **P 13 59 52.0 -1.5**
comp=E,3.0nm,0.9s
MNK *i* P **P 13 59 52.0 -1.5**
MNK *i* P **P 13 59 52.0 -1.5**
comp=Z,12nm,1.0s,baz=306
MNK *i* pP **pP 14 00 06.8 -2.2**
MNK *i* PP **PP 14 03 35.2 -3.3**
MNK *i* PPP PPP 14 05 45.6
MNK *i* S **SKSac 14 10 21.8 -1.8**
MNK *i* sS **SKKSac 14 10 49.7 +5.9**
MNK *i* SS **SS 14 17 15.5 -0.9**
MNK *i* SSS SSS 14 20 53.3
MNK *i* LQ LQ 14 36 12.3
MNK *i* LR LR 14 38 36.1
MNK *i* LRM MLR 14 41 45.4
comp=Z,155nm,24.8s
MNK *i* LRM MLR 14 41 54.0
comp=E,16nm,18.8s
NRIK Noril'sk 93.78 359 LR LR 14 46 20.3
comp=E,46nm,20.6s,baz=20,slow=38
NRIK Noril'sk 93.78 359 *i* P **P 13 59 57.5 +4.0**
NRIK pmax pmax
comp=Z,2.0nm,0.6s
KOLS Kolonicke sedl 93.92 36 *eP* **P 13 59 55.3 +0.7**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 93.92 36 *eP* **P 13 59 55.3 +0.7**
KLMR Klimovskoe 94.18 21 *eP* **P 13 59 52.7 -2.8**
KLMR pmax pmax
comp=Z,24nm,1.8s
KLMR Klimovskoe 94.18 21 *eP* **P 13 59 52.7 -2.8**
KLMR AMP 14 00 01.3
comp=Z,24nm,1.8s
KLMR *eP*P **PP 14 03 34.5 -7.5**
TRPA Tarpa 94.50 37 P **P 13 59 57.8 +0.6**
TIP Timpagrande 95.20 46 P **P 13 59 59.0 -1.7**
TIP IAmb IAmb 14 00 00.4
comp=Z,9.8nm,0.9s
AKASG Malin Array Be 96.65 32 P **P 14 00 06.8 -0.2**
comp=Z,0.4nm,0.4s,baz=308,slow=3.8,SNR=5.5
AKASG LR LR 14 46 15.9
comp=Z,78nm,18.3s,baz=288,slow=37
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 96.65 32 *ceP* **P 14 00 05.0 -2.0**
AKBB Malin Array Si 96.65 32 *iP* **P 14 00 06.1 -0.9**
OBN Obninsk 97.17 26 LR LR 14 43 51.8
comp=Z,34nm,21.9s,baz=341,slow=35
OBN Obninsk 97.17 26⇓ *eP* Pdif 14 00 12.3 +3.0
OBN *i* *PP sP 14 00 27.7 -2.9
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,101nm,19.0s
YSS Yuzh-Sakhalins 97.91 324 *iP* Pdif 14 00 13.1 +0.3
YSS pmax pmax
comp=Z,19nm,1.1s
URZ Urewera 98.84 233 LR LR 14 39 52.4
comp=Z,62nm,18.1s,baz=170,slow=32
KIRV Kirov 99.09 18 LR LR 14 48 49.9
comp=Z,60nm,18.0s,baz=324,slow=38
DZM Mont Dzumac 104.04 251 *eLR* LR 14 35 00.6
comp=Z,249nm,24.3s
QSPA South Pole Qui 107.02 180 Pdif **Pdif 14 00 49.8 -3.2**
ZALV Zalesovo Beam 109.25 0 PP **PP 14 05 31.3 -3.8**
comp=Z,0.6nm,0.4s,baz=339,slow=11,SNR=2.9
KURK Kurchatov 112.25 4 *i* PKIKP **PKiKP 14 05 13.6 +1.2**
MKAR Makanchi Array 116.36 2 PKP **PKiKP 14 05 19.9 -0.6**
comp=Z,0.4nm,0.6s,baz=24,slow=4.0,SNR=2.3
WMQ Urumqi 119.34 358 *ePKP* **PKiKP 14 05 28.4 +2.0**
NJ2 Nanjing 121.39 326 *ePKP* **PKiKP 14 05 34.9 +4.3**
GTA Gaotai 122.13 347 *ePKP* **PKiKP 14 05 35.8 +3.7**
GTA sPKP 14 05 55.3
GTA PP **PP 14 07 12.9 +7.1**
MBAR Mbarara 124.08 79 *ciPKIKP* **PKiKP 14 05 37.8 +1.2**
MBAR pmax pmax
comp=Z,3.0nm,1.3s
BOSA Boshof 124.17 113 PKP **PKPdf 14 05 34.6 -1.4**
comp=Z,7.0nm,0.9s,baz=66,slow=4.3,SNR=5.6
LZH Lanzhou 124.21 342 *ePKP* **PKiKP 14 05 40.9 +4.5**
STKA Stephens Creek 127.06 243 PKP **PKPdf 14 05 41.2 -0.1**
comp=Z,6.8nm,0.8s,baz=133,slow=3.2,SNR=12
STKA Stephens Creek 127.06 243 PKPdf **PKPdf 14 05 41.6 +0.3**
STKA Stephens Creek 127.06 243 PKIKP **PKPdf 14 05 41.6 +0.3**
MAW Mawson 127.53 169 PKP **PKiKP 14 05 41.5 -0.1**
comp=Z,2.6nm,0.9s,baz=280,slow=6.0,SNR=4.2
CD2 Chengdu 129.01 339 PKP **PKPdf 14 05 45.0 -0.2**
WRAB Tennant Creek 133.34 259 *iPKIKP* **PKPdf 14 05 52.2 -1.4**
WRA Warramunga Arr 133.35 259 PKhKP PKPpre 14 05 39.9
comp=Z,0.5nm,0.9s,baz=91,slow=2.7,SNR=2.8
WRA PKP **PKPdf 14 05 53.4 -0.2**
comp=Z,3.1nm,0.7s,baz=82,slow=2.2,SNR=34
WRA SKPbc **SKPbc 14 09 17.1 -0.4**
comp=Z,2.6nm,1.1s,baz=77,slow=3.0,SNR=4.7
PZH PanZhiHua 133.74 339 PKP **PKPdf 14 05 55.0 +0.6**
ASAR Alice Springs 133.96 253 PKhKP PKPpre 14 05 39.0
comp=Z,0.5nm,0.9s,baz=108,slow=3.0,SNR=4.4
ASAR PKP **PKPdf 14 05 54.0 -0.6**
comp=Z,1.9nm,0.7s,baz=91,slow=2.2,SNR=21
QIZ Qiongzhong 136.63 325 PKP **PKPdf 14 06 00.3 +0.5**
QIZ SS SS 14 26 37.3 -2.5
QIZ LR LR
comp=Z,200nm,12.7s
QIZ LR LR
comp=Z,120nm,19.1s
QIZ LR LR
comp=Z,210nm,28.7s
CMAR Chiang Mai Arr 142.13 338 PKP **PKPdf 14 06 09.2 -0.6**
comp=Z,1.1nm,0.3s,baz=349,slow=3.3,SNR=5.1
CMAR Chiang Mai Arr 142.13 338 *ciPKIKP* **PKiKP 14 06 16.1 +3.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
VOI Vohitsoka 143.64 104 PKPdf PKPbc 14 06 09.9 -0.2
HYBB Hyderabad (bro 145.10 11 *ePKPdf* **PKPbc 14 06 14.1 -0.5**
PSA00 Pilbara Seismi 146.95 257 **PKPbc 14 06 19.1 -0.9**
PSA00 Pilbara Seismi 146.95 257 PKPbc **PKPbc 14 06 19.6 -0.5**
NWAO Narrogin (SRO) 147.05 235 PKPbc **PKPbc 14 06 20.1 +0.1**
comp=Z,22nm,0.9s,baz=172,slow=5.3,SNR=2.7
MBWA Marble Bar 147.07 257 **PKPbc 14 06 20.1 -0.3**
PSI Prapat 155.98 324 PKPab **PKPab 14 06 59.1 -0.1**
comp=Z,5.6nm,0.6s,baz=7.7,slow=4.3,SNR=4.3

IDC ***15*** *13:54:45.4±0.8,22.77S×63.73W,h525km±9km, mb3.4/12, mbtmp4.3/17, Error ellipse: s-maj=13.3km s-min=12.3km az=83.0*
VAO ***15*** *13:54:45.4±0.3,22.75S×63.72W, h518km, mb4.2*
ISC 15 13:54:45.6±0.5**, 22.81S**±0.07×**63.81W**±0.06**, h535**km**, n81,**
σ1§11/95**, mb3.7**/12**, 1C-11D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.72**	**271**	P		**P**		**13 56 12.9**	**+0.3**
	112nm,0.3s,baz=83,slow=7.1,SNR=353								
LVC				S		**S**		**13 57 21.5**	**-2.0**
	40nm,0.3s,baz=234,slow=21,SNR=18								
LVC	**Limon Verde**	**4.72**	**271**	*i*/P		**P**		**13 56 12.6**	**0.0**
LVC				*i* S		**S**		**13 57 20.9**	**-2.6**
LVC	**Limon Verde**	**4.72**	**271**	*eP*		**P**		**13 56 12.2**	**-0.5**
PB09	**IPOC Station P**	**5.13**	**280**	*i*/P		**P**		**13 56 16.6**	**+0.6**
PB09				*i* S		**S**		**13 57 28.2**	**-1.5**
PB15	**IPOC Station P**	**5.23**	**265**	*eP*		**P**		**13 56 16.5**	**-0.4**
PB15				*i* S		**S**		**13 57 29.8**	**-1.5**
PB06	**IPOC Station P**	**5.32**	**270**	*i*/P		**P**		**13 56 17.5**	**-0.1**
PB06				*i* S		**S**		**13 57 30.8**	**-1.9**
PB01	**IPOC Station P**	**5.56**	**287**	*i*/P		**P**		**13 56 20.0**	**+0.4**
PB01				*i* S		**S**		**13 57 33.7**	**-2.8**
PB07	**IPOC Station P**	**5.73**	**280**	*i*/P		**P**		**13 56 21.5**	**+0.1**
PB07				*i* S		**S**		**13 57 37.4**	**-2.1**
PB02	**IPOC Station P**	**5.84**	**284**	*i*/P		**P**		**13 56 22.5**	**+0.3**
PB02				*eS*		**S**		**13 57 38.9**	**-2.2**
PB04	**IPOC Station P**	**5.88**	**273**	*i*/P		**P**		**13 56 23.1**	**+0.4**
PB04				*eS*		**S**		**13 57 40.0**	**-1.9**
GO01	**Chusmiza**	**5.92**	**301**	*i*/P		**P**		**13 56 24.4**	**+1.0**
PATCX	**Punta Patache**	**6.22**	**287**	*i*/P		**P**		**13 56 26.4**	**+0.7**
PATCX				*i* S		**S**		**13 57 45.8**	**-1.8**
PB10	**IPOC Station P**	**6.25**	**262**	*i*/P		**P**		**13 56 26.1**	**+0.3**
TA01	**Diego Aracena**	**6.33**	**289**	*i*/P		**P**		**13 56 27.0**	**+0.3**
TA01				*i* S		**S**		**13 57 47.9**	**-1.5**
CPUP	**Villa Florida**	**6.86**	**122**	P		**P**		**13 56 31.8**	**+0.2**
	29nm,0.5s,baz=313,slow=9.7,SNR=49								
CPUP	**Villa Florida**	**6.86**	**122**	*eP*		**P**		**13 56 31.9**	**+0.2**
SIV	**San Ignacio**	**7.25**	**21**	P		**P**		**13 56 36.2**	**+0.5**
	7.8nm,0.8s,baz=203,slow=10.0,SNR=1.8								
PB12	**IPOC Station P**	**7.39**	**303**	*i*/P		**P**		**13 56 37.2**	**+0.1**
PB12				*i* S		**S**		**13 58 06.1**	**-2.2**
LPAZ	**La Paz**	**7.66**	**327**	P		**P**		**13 56 41.6**	**+1.3**
	17nm,0.4s,baz=162,slow=12,SNR=62								
LPAZ				S		**S**		**13 58 12.9**	**-1.2**
	8.0nm,0.7s,baz=72,slow=23,SNR=7.6								
PTLB	**Pontes e Lacer**	**8.55**	**32**	*eP*		**P**		**13 56 48.0**	**-0.6**
ITQB	**Itaqui**	**9.39**	**138**	*eP*		**P**		**13 56 57.0**	**0.0**
CRSM	**Crissiumal (Br**	**10.00**	**120**	*eP*		**P**		**13 57 03.7**	**+0.4**
UNIS	**Unistalda (Bra**	**10.03**	**130**	*eP*		**P**		**13 57 03.6**	**0.0**
SALV	**Santo Antonio**	**10.29**	**50**	*eP*		**P**		**13 57 05.1**	**-1.3**
FRBT	**Francisco Belt**	**10.29**	**110**	*eP*		**P**		**13 57 06.2**	**-0.2**
TRCB	**Terra Rica**	**10.31**	**92**	*eP*		**P**		**13 57 06.4**	**-0.3**
VILB	**Vilhena**	**10.38**	**20**	*eP*		**P**		**13 57 07.2**	**-0.3**
RODS	**Rosario do Sul**	**10.76**	**136**	*eP*		**P**		**13 57 10.8**	**-0.3**
PTGB	**Pitanga**	**10.92**	**102**	*eP*		**P**		**13 57 13.3**	**+0.3**
ALGR	**Alto Alegre (B**	**11.39**	**124**	*eP*		**P**		**13 57 16.4**	**-1.4**
CPSB	**Cacapava Do Su**	**11.96**	**131**	*eP*		**P**		**13 57 22.9**	**-0.8**
ITRB	**Iturama**	**12.91**	**79**	*eP*		**P**		**13 57 33.1**	**-0.7**
PDRB	**Porto dos Gac**	**13.02**	**32**	*eP*		**P**		**13 57 34.3**	**-0.7**
CNLB	**Canela**	**13.32**	**122**	*eP*		**P**		**13 57 36.4**	**-1.5**
TIJ01	**Guaruva-PR**	**13.75**	**103**	*eP*		**P**		**13 57 40.4**	**-2.2**
CLDB	**Colider**	**14.12**	**34**	*eP*		**P**		**13 57 45.5**	**-0.9**
BB19B	**Bebedouro**	**14.29**	**86**	*eP*		**P**		**13 57 46.6**	**-1.4**
TER01	**Tubaro-SC**	**14.41**	**116**	*eP*		**P**		**13 57 47.3**	**-1.8**
IPMB	**Ipameri, GO**	**15.39**	**75**	*eP*		**P**		**13 57 58.1**	**-1.5**
VAO	**Valinhos**	**15.52**	**94**	*eP*		**P**		**13 57 58.6**	**-2.3**
SNDB	**Serra Nova Dou**	**16.07**	**50**	*eP*		**P**		**13 58 04.9**	**-1.5**
BDFB	**Brasilia**	**16.52**	**67**	P		**P**		**13 58 09.6**	**-1.3**
	15nm,0.6s,baz=250,slow=11,SNR=5.8								
BDFB	**Brasilia**	**16.52**	**67**	*eP*		**P**		**13 58 09.3**	**-1.6**
PARB	**Paraibuna**	**16.75**	**95**	*eP*		**P**		**13 58 12.6**	**-0.3**
PMNB	**Patos De Minas**	**16.80**	**79**	*eP*		**P**		**13 58 12.2**	**-1.3**
CZSB	**Cruzeiro do Su**	**17.26**	**329**	*eP*		**P**		**13 58 18.4**	**+0.7**
NPGB	**Novo Progresso**	**17.66**	**29**	*eP*		**P**		**13 58 19.6**	**-1.7**
MC01	**Montes Claros**	**19.65**	**76**	*eP*		**P**		**13 58 38.9**	**-0.6**
ITTB	**Itaituba**	**19.93**	**24**	*eP*		**P**		**13 58 43.0**	**+1.1**
JANB	**Januaria**	**19.97**	**71**	*eP*		**P**		**13 58 42.4**	**-0.1**
SDBA	**SAO DESIDERIO**	**20.75**	**63**	*eP*		**P**		**13 58 49.4**	**-0.1**
SMTB	**Santa Maria do**	**20.84**	**51**	*eP*		**P**		**13 58 50.6**	**+0.3**
PRPB	**Parauapebas**	**21.35**	**41**	*eP*		**P**		**13 58 54.5**	**-0.3**
SJMB	**Sao Joao De Ma**	**21.54**	**83**	*eP*		**P**		**13 58 55.0**	**-1.5**
RIB01	**Linhares ES**	**22.12**	**85**	*eP*		**P**		**13 59 01.1**	**-0.6**
PTGA	**Pitinga**	**22.26**	**10**	P		**P**		**13 59 02.2**	**-0.9**
	2.0nm,0.3s,baz=185,slow=15,SNR=3.5								
	2.0nm,0.3s								
MALB	**Monte Alegre**	**22.80**	**25**	*eP*		**P**		**13 59 07.6**	**-0.2**
BOAV	**Boa Vista**	**25.25**	**8**	*eP*		**P**		**13 59 29.5**	**-0.1**
NBLA	**Lagarto - SE**	**27.47**	**69**	*eP*		**P**		**13 59 48.7**	**-0.5**
ROSB	**Rosrio**	**27.49**	**47**	*eP*		**P**		**13 59 49.7**	**+0.3**
NBAN	**Anadia - AL**	**29.42**	**68**	*eP*		**P**		**14 00 05.1**	**-1.0**
MDP	**Montagnes des**	**29.81**	**23**	P		**P**		**14 00 09.4**	**-0.1**
	7.7nm,0.6s,baz=183,slow=6.5,SNR=5.2								
	7.7nm,0.6s								
VNA3	**Neumayer Olymp**	**57.34**	**162**	P		**P**		**14 03 43.1**	**+0.8**
VNA1	**Neumayer--Stat**	**57.49**	**161**	P		**P**		**14 03 44.0**	**+0.7**
VNA2	**Neumayer--Watz**	**57.87**	**161**	P		**P**		**14 03 46.7**	**+0.9**
	baz=294,slow=7.8								
SNAA	**Sanae**	**59.52**	**161**	P		**P**		**14 03 57.6**	**+0.6**
SNAA	**Sanae**	**59.52**	**161**	P		**P**		**14 03 57.5**	**+0.6**
	0.9nm,0.5s,baz=313,slow=4.8,SNR=8.3								
	0.9nm,0.5s								
TROLL	**Troll, Antarti**	**61.22**	**161**	P		**P**		**14 04 08.7**	**+0.3**
TXAR	**Lajitas Array**	**64.49**	**322**	P		**P**		**14 04 31.1**	**+1.1**
	0.6nm,0.7s,baz=147,slow=8.1,SNR=5.9								
	0.6nm,0.7s								
DBIC	**Dimbokro**	**64.64**	**70**	P		**P**		**14 04 31.0**	**-0.2**
	4.9nm,0.4s,baz=259,slow=3.7,SNR=14								
	4.9nm,0.4s								
QSPA	**South Pole Qui**	**67.39**	**180**	P		**P**		**14 04 48.9**	**+1.3**
	1.3nm,0.6s,baz=229,slow=0.8,SNR=12								
	1.3nm,0.6s								
TORD	**Torodi Ar. Bea**	**73.41**	**68**	P		**P**		**14 05 23.5**	**-0.3**
	10.0nm,0.5s,baz=259,slow=6.3,SNR=82								
	10.0nm,0.5s								
PDAR	**Pinedale Array**	**77.68**	**327**	P		**P**		**14 05 48.5**	**+1.3**
	0.4nm,0.5s,baz=124,slow=7.4,SNR=5.9								
	0.4nm,0.5s								
BOSA	**Boshof**	**78.64**	**116**	P		**P**		**14 05 52.3**	**-0.5**
	3.0nm,0.8s,baz=248,slow=2.3,SNR=4.1								
	3.0nm,0.8s								
NVAR	**Mina Array Bea**	**79.50**	**319**	P		**P**		**14 05 58.4**	**+1.3**
	0.5nm,0.8s,baz=142,slow=4.6,SNR=2.3								
	0.5nm,0.8s								
MAW	**Mawson**	**81.67**	**162**	P		**P**		**14 06 08.7**	**+1.1**
	2.5nm,0.7s,baz=212,slow=8.5,SNR=4.3								
	2.5nm,0.7s								
ESDC	**Sonseca Array**	**83.53**	**42**	P		**P**		**14 06 18.1**	**+0.6**
	1.3nm,0.8s,baz=244,slow=4.8,SNR=6.2								
	1.3nm,0.8s								
ASAR	**Alice Springs**	**130.70**	**202**	PKP		**PKPdf**		**14 12 57.0**	**+0.3**
	0.2nm,0.5s,baz=134,slow=1.9,SNR=5.0								
ASAR				SKPbc		**SKPbc**		**14 15 31.2**	**+0.3**
	2.2nm,0.8s,baz=150,slow=3.5,SNR=33								
WRA	**Warramunga Arr**	**133.97**	**204**	PKP		**PKPdf**		**14 13 03.4**	**+0.5**
	0.4nm,0.9s,baz=157,slow=1.7,SNR=5.1								
WRA				SKPbc		**SKPbc**		**14 15 42.9**	**+0.8**
	1.5nm,0.8s,baz=161,slow=2.9,SNR=10								
ZALV	**Zalesovo Beam**	**140.95**	**29**	PKP		**PKPdf**		**14 13 13.9**	**-0.6**
	1.0nm,0.6s,baz=230,slow=1.1,SNR=3.8								
MKAR	**Makanchi Array**	**143.73**	**40**	PKP		PKPbc		14 13 19.4	+0.6
	1.8nm,0.5s,baz=336,slow=2.5,SNR=38								

IDC 15 14:07:28.2±1.4**, 7.12N**×**96.95E, h0**km**, mb3.5**/3**, mbtmp3.5**/4**, ML3.4**/1**, MS3.4**/2**, Error ellipse: s-maj=71.0km s-min=20.0km az=55.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.72**	**155**	Pn		Pn		14 08 42.3	+1.4
	1.5nm,0.3s,baz=342,slow=14,SNR=6.6								
PSI				Sn		Sn		14 09 38.3	+1.9
	5.8nm,0.3s,baz=196,slow=24,SNR=3.9								
PSI				Lg	

BRTR	**Keskin Array B**	**65.03**	**311**	P		P	14 18 10.6	-0.1
	0.6nm,0.7s,baz=111,slow=7.9,SNR=5.1 0.6nm,0.7s							

IDC 15 14:10:41.5±999.0, 41.30N×101.48E, h0km, Error ellipse: s-maj=613.1km s-min=147.9km az=33.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**7.39**	**27**	*i*		14 54 20.0	
	0.1nm,0.6s,baz=211,slow=329,SNR=1.1						
I45RU	**USSURIYSK INFR**	**22.52**	**72**	*i*		16 29 00.0	
	baz=272,slow=316						
I44RU	**PETROPAVLOVSK**	**39.01**	**53**	*i*		18 10 50.0	
	baz=275,slow=327,SNR=1.5						
I53US	**FAIRBANKS INFR**	**61.24**	**27**	*i*		20 41 40.0	
	baz=298,slow=320,SNR=1.5						

*NOU **15** 14:17:03.9, 40.22S×178.70E, h0km, MLv4.0/6, Off E. Coast of N. Island, N.Z.*
*WEL **15** 14:17:06.8±0.6, 40.5S±4.7×17.9E±.7, h33km, M3.1/19, ML3.4/20, MLv3.1/19, Error ellipse: s-maj=0.0km s-min=0.0km az=72.8*

ISC 15 14:17:00.8±2.2, 40.33S±0.05×179.06E±0.10, h23km±18km, n73, σ2s30/88, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**1.47**	**323**	P	**Pb**	**14 17 27.5**	**0.0**
MHGZ				S	**Sn**	**14 17 43.2**	**-1.3**
PRGZ	**Paritu Road**	**1.67**	**327**	P	**Pb**	**14 17 30.5**	**-0.4**
PRGZ				S	**Sn**	**14 17 48.6**	**-0.9**
PXZ	**Pawanui**	**1.71**	**279**	P	**Pb**	**14 17 31.4**	**-0.1**
PXZ				S	**Sn**	**14 17 49.2**	**-1.1**
KAHZ	**Kahuranaki**	**1.76**	**287**	P	**Pb**	**14 17 32.0**	**-0.4**
KAHZ				S	**Sn**	**14 17 50.9**	**-0.7**
RIGZ	**Rimuhau**	**1.91**	**328**	P	**Pn**	**14 17 33.4**	**+1.4**
RIGZ				S	**Sn**	**14 17 54.4**	**-0.8**
CNGZ	**Carnagh Statio**	**1.96**	**340**	P	**Pb**	**14 17 34.9**	**-0.9**
MCHZ	**McNeill Hill**	**2.02**	**295**	P	**Pb**	**14 17 35.9**	**-0.9**
MCHZ				S	**Sn**	**14 17 57.7**	**-0.3**
SNGZ	**Shannon Statio**	**2.04**	**319**	P	**Pn**	**14 17 35.6**	**+1.8**
SNGZ				S	**Sn**	**14 17 57.8**	**-0.8**
TKGZ	**Te Karaka**	**2.11**	**333**	P	**Pn**	**14 17 36.4**	**+1.8**
TKGZ				S	**Sn**	**14 17 57.9**	**-2.3**
NMHZ	**Naumai**	**2.13**	**305**	P	**Pb**	**14 17 37.3**	**-1.4**
NMHZ				S	**Sn**	**14 17 59.8**	**-1.1**
BFZ	**Birch Farm**	**2.17**	**260**	P	**Pn**	**14 17 37.9**	**+2.4**
BFZ	**Birch Farm**	**2.17**	**260**	P	**Pn**	**14 17 37.5**	**+2.0**
KRHZ	**Kereru**	**2.17**	**288**	P	**Pn**	**14 17 37.7**	**+2.0**
KRHZ				S	**Sn**	**14 17 59.8**	**-2.0**
KWHZ	**Kaweka Forest**	**2.22**	**293**	P	**Pn**	**14 17 38.4**	**+2.1**
KWHZ				S	**Sn**	**14 18 02.1**	**-0.9**
MTHZ	**Maungataniwha**	**2.26**	**310**	P	**Pn**	**14 17 38.5**	**+1.7**
BKZ	**Black Stump Fm**	**2.29**	**300**	P	**Pn**	**14 17 39.2**	**+1.9**
BKZ				S	**Sn**	**14 18 03.3**	**-1.6**
BKZ	**Black Stump Fm**	**2.29**	**300**	P	**Pn**	**14 17 39.2**	**+1.9**
MWZ	**Matawai**	**2.32**	**329**	P	**Pn**	**14 17 39.1**	**+1.4**
MWZ				S	**Sn**	**14 18 02.2**	**-3.3**
PUZ	**Puketiti**	**2.34**	**344**	P	**Pn**	**14 17 38.9**	**+1.0**
RTZ	**Ruatahuna**	**2.35**	**316**	P	**Pn**	**14 17 40.2**	**+2.1**
RTZ				S	**Sn**	**14 18 04.4**	**-1.8**
PRWZ	**Pori Road**	**2.36**	**264**	P	**Pn**	**14 17 40.7**	**+2.5**
BHHZ	**Black Hill Sta**	**2.45**	**289**	P	**Pn**	**14 17 41.5**	**+2.0**
BHHZ				S	**Sn**	**14 18 06.3**	**-2.4**
PKGZ	**Pakihiroa**	**2.56**	**342**	P	**Pn**	**14 17 42.5**	**+1.6**
MUGZ	**Murupara**	**2.56**	**316**	P	**Pn**	**14 17 43.0**	**+2.0**
URZ	**Urewera**	**2.56**	**323**	P	**Pn**	**14 17 42.8**	**+1.9**
URZ	**Urewera**	**2.56**	**323**	P	**Pn**	**14 17 42.8**	**+1.9**
RUGZ	**Raukumara Rang**	**2.59**	**335**	P	**Pn**	**14 17 42.5**	**+1.0**
MRZ	**Mangatainoka R**	**2.67**	**262**	P	**Pn**	**14 17 44.0**	**+1.6**
MRZ				S	**Sn**	**14 18 11.7**	**-2.4**
MOVZ	**Moawhango**	**2.70**	**289**	P	**Pn**	**14 17 45.7**	**+2.7**
HOWZ	**Holdsworth Sta**	**2.75**	**257**	P	**Pn**	**14 17 45.3**	**+1.7**
HAZ	**Te Kaha**	**2.76**	**339**	P	**Pn**	**14 17 45.4**	**+1.8**
HAZ				S	**Sn**	**14 18 14.9**	**-1.3**
MTW	**Mount Morrison**	**2.82**	**252**	P	**Pn**	**14 17 46.3**	**+1.8**
MXZ	**Matakaoa Point**	**2.83**	**348**	P	**Pn**	**14 17 47.3**	**+2.8**
TUVZ	**Tukino**	**2.83**	**291**	P	**Pn**	**14 17 48.0**	**+3.3**
ETVZ	**East Tongariro**	**2.84**	**294**	P	**Pn**	**14 17 47.8**	**+2.9**
WNVZ	**Wahianoa**	**2.84**	**290**	P	**Pn**	**14 17 48.0**	**+3.0**
TMVZ	**Te Maari**	**2.86**	**294**	P	**Pn**	**14 17 47.9**	**+2.8**
OTVZ	**Oturere**	**2.86**	**293**	P	**Pn**	**14 17 48.1**	**+2.8**
WHVZ	**Whangaehu Hut**	**2.87**	**290**	P	**Pn**	**14 17 48.5**	**+3.1**
SNVZ	**South Ngauruho**	**2.87**	**292**	P	**Pn**	**14 17 48.1**	**+2.8**
TARZ	**Mount Tarawera**	**2.88**	**316**	P	**Pn**	**14 17 48.1**	**+2.7**
NTVZ	**North Tongarir**	**2.88**	**294**	P	**Pn**	**14 17 48.2**	**+2.7**
NGZ	**Ngauruhoe**	**2.90**	**292**	P	**Pn**	**14 17 48.5**	**+2.7**
FWVZ	**Far West T-bar**	**2.91**	**291**	P	**Pn**	**14 17 48.9**	**+3.1**
KRVZ	**Karewarewa**	**2.91**	**294**	P	**Pn**	**14 17 48.5**	**+2.7**
NNVZ	**North Ngauruho**	**2.91**	**293**	P	**Pn**	**14 17 48.6**	**+2.7**
KATZ	**Kakaramea**	**2.93**	**297**	P	**Pn**	**14 17 49.5**	**+3.4**
RATZ	**Rangitukua**	**2.93**	**299**	P	**Pn**	**14 17 48.9**	**+2.9**
WTVZ	**West Tongariro**	**2.94**	**293**	P	**Pn**	**14 17 49.6**	**+3.4**
OGWZ	**Otaki Gorge**	**3.00**	**259**	P	**Pn**	**14 17 49.1**	**+2.1**
KUTZ	**Kaahu Road**	**3.11**	**305**	P	**Pn**	**14 17 50.8**	**+2.3**
CAW	**Cannon Point**	**3.13**	**254**	P	**Pn**	**14 17 50.2**	**+1.5**
PLWZ	**Palliser**	**3.13**	**246**	P	**Pn**	**14 17 51.2**	**+2.1**
WAZ	**Wanganui**	**3.18**	**279**	P	**Pn**	**14 17 53.3**	**+3.9**
KIW	**Kapiti Island**	**3.20**	**259**	P	**Pn**	**14 17 53.0**	**+3.3**
HIZ	**Hauiti**	**3.73**	**298**	P	**Pn**	**14 17 59.8**	**+2.9**
HIZ	**Hauiti**	**3.73**	**298**	P	**Pn**	**14 17 58.9**	**+2.0**
TCW	**Tory Channel**	**3.73**	**255**	P	**Pn**	**14 17 59.0**	**+2.0**
NEZ	**North Egmont**	**3.96**	**284**	P	Pb	14 18 05.9	-4.1
KHEZ	**Kahui Hut**	**4.02**	**283**	P	**Pb**	**14 18 08.4**	**-2.5**
TUWZ	**Tuamarina**	**4.03**	**253**	P	**Pn**	**14 18 03.6**	**+2.6**
PKE	**Pukeiti**	**4.07**	**285**	P	**Pn**	**14 18 05.8**	**+4.2**
NNZ	**Nelson**	**4.40**	**257**	P	**Pn**	**14 18 08.8**	**+2.6**
KHZ	**Kahutara**	**4.64**	**242**	P	**Pn**	**14 18 10.7**	**+1.2**
KHZ	**Kahutara**	**4.64**	**242**	P	**Pn**	**14 18 13.3**	**+3.8**
ETAZ	**East Tamaki Re**	**4.67**	**315**	P	**Pn**	**14 18 13.5**	**+3.6**
CTZ	**Chatham Island**	**4.69**	**138**	P	Pb	14 18 18.0	-4.2
MRNZ	**Matariki Terra**	**4.89**	**255**	P	**Pn**	**14 18 15.4**	**+2.4**
QRZ	**Quartz Range**	**4.99**	**262**	P	**Pn**	**14 18 15.8**	**+1.4**
QRZ	**Quartz Range**	**4.99**	**262**	P	**Pn**	**14 18 15.8**	**+1.4**
LTZ	**Lake Taylor**	**5.65**	**242**	P	**Pn**	**14 18 15.8**	**+2.4**
DSZ	**Denniston Nort**	**5.68**	**253**	P	Pn	14 18 29.3	+5.7
TMZ	**Timaru**	**7.21**	**233**	P	**Pn**	**14 18 47.2**	**+2.5**
TMZ				S	**Sn**	**14 20 02.2**	**-3.6**

*IDC **15** 14:17:56.7±0.9, 23.88S×69.59E, h0km, mb3.9/10, mbtmp3.9/10, MS3.6/12, Error ellipse: s-maj=35.9km s-min=20.7km az=65.0*

ISC 15 14:17:58.3±0.9, 23.9S±0.2×69.6E±0.3, h10km, n27, σ0s14/11, mb4.1/10, MS3.5/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.38**	**10**	T	T	14 38 40.5	
	baz=190,slow=76,SNR=115						
H08S2	**Diego Garcia H**	**16.38**	**10**	T	T	14 38 41.7	
	baz=190,slow=76,SNR=163						
H08S3	**Diego Garcia H**	**16.40**	**10**	T	T	14 38 41.9	
	baz=190,slow=76,SNR=188						
OPO	**Ambohidratompo**	**21.55**	**280**	LR	LR	14 28 49.7	
	comp=Z,240nm,18.8s,baz=40,slow=30						
PALK	**Pallekele**	**32.80**	**21**	LR	LR	14 34 45.7	
	comp=Z,92nm,20.0s,baz=303,slow=31						
PSI	**Prapat**	**38.95**	**51**	LR	LR	14 37 42.1	
	comp=Z,60nm,20.2s,baz=216,slow=30						
H01W2	**Cape Leeuwin H**	**40.03**	**116**	T	T	15 08 07.8	
	baz=273,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**40.03**	**116**	T	T	15 08 14.8	
	baz=273,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**40.05**	**116**	T	T	15 08 12.3	
	baz=273,slow=75,SNR=11						
LEM	**Lembang**	**40.21**	**71**	LR	LR	14 38 22.5	
	comp=Z,55nm,21.7s,baz=216,slow=30						
NWAO	**Narrogin (SRO)**	**42.55**	**113**	LR	LR	14 40 08.2	
	comp=Z,102nm,18.9s,baz=266,slow=31						
TSUM	**Tsumeb**	**48.40**	**265**	LR	LR	14 44 09.7	
	comp=Z,160nm,21.4s,baz=331,slow=32						
CMAR	**Chiang Mai Arr**	**50.89**	**37**	LR	LR	14 46 41.6	
	comp=Z,36nm,18.3s,baz=310,slow=34						
BRDH	**Bariadhala**	**50.99**	**26**	LR	LR	14 46 29.8	
	comp=Z,77nm,20.2s,baz=98,slow=34						
ASAR	**Alice Springs**	**58.35**	**104**	P	**P**	**14 27 54.2**	**0.0**
	1.2nm,0.7s,baz=253,slow=6.2,SNR=20						
ASAR				PcP	**PcP**	**14 28 44.9**	**-0.2**
	0.6nm,0.7s,baz=258,slow=3.7,SNR=5.8 1.2nm,0.7s						
WRA	**Warramunga Arr**	**59.73**	**100**	P	**P**	**14 28 03.9**	**+0.2**
	1.2nm,0.8s,baz=254,slow=7.2,SNR=7.7 1.2nm,0.8s						
DAV	**Davao City (W)**	**62.66**	**68**	LR	LR	14 54 05.3	
	comp=Z,311nm,21.9s,baz=84,slow=35						
QSPA	**South Pole Qui**	**66.24**	**180**	P	**P**	**14 28 46.4**	**0.0**
	1.7nm,0.9s,baz=285,slow=8.5,SNR=3.8 1.7nm,0.9s						
VNDA	**Vanda**	**67.35**	**166**	P	**P**	**14 28 53.2**	**+0.1**
	0.2nm,0.4s,baz=212,slow=6.2,SNR=1.8 0.2nm,0.4s						
MKAR	**Makanchi Array**	**71.27**	**9**	P	**P**	**14 29 17.8**	**+0.1**
	1.7nm,0.8s,baz=197,slow=6.3,SNR=15 1.7nm,0.8s						
BRTR	**Keskin Array B**	**71.63**	**331**	P	**P**	**14 29 20.3**	**+0.1**
	1.4nm,0.9s,baz=159,slow=7.3,SNR=6.8 1.4nm,0.9s						
ZALV	**Zalesovo Beam**	**78.61**	**9**	P	**P**	**14 29 59.8**	**-0.1**
	1.8nm,0.8s,baz=190,slow=4.4,SNR=7.2 1.8nm,0.8s						
SONM	**Songino Array**	**78.67**	**24**	P	**P**	**14 30 00.8**	**+0.1**
	0.5nm,0.5s,baz=208,slow=5.0,SNR=3.7 0.5nm,0.5s						
KSRS	**Korea Array**	**82.02**	**43**	P	**P**	**14 30 18.5**	**-0.2**
	0.7nm,0.7s,baz=227,slow=5.3,SNR=4.7						
KSRS				LR	LR	15 05 29.9	
	comp=Z,14nm,19.6s,baz=105,slow=35 0.7nm,0.7s						
AKASG	**Malin Array Be**	**82.37**	**335**	P	**P**	**14 30 20.2**	**0.0**
	0.5nm,0.5s,baz=137,slow=4.0,SNR=5.6 0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**88.26**	**49**	LR	LR	15 11 28.3	
	comp=Z,23nm,18.3s,baz=224,slow=36						
KLR	**Kul'dur**	**91.35**	**35**	LR	LR	15 10 54.7	
	comp=Z,27nm,21.6s,baz=355,slow=35						

*IDC **15** 14:21:09.1±0.5, 29.2S×61.02E, h0km, mb4.1/17, mbtmp4.1/18, ML4.6/1, Error ellipse: s-maj=19.3km s-min=15.8km az=60.0*
*NEIC **15** 14:21:11.1±1.6, 29.06S±0.10×61.0E±0.2, h10km±1km, mb4.4/7, Error ellipse: s-maj=28.2km s-min=16.3km az=259.0*

ISC 15 14:21:10.7±0.5, 29.20S±0.09×60.94E±0.10, h10km, n50, σ1s9/02/44, mb4.3/19, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**13.13**	**285**	Pn	**Pn**	**14 24 15.0**	**-2.3**
VOI	**Vohitsoka**	**14.68**	**296**	Pn	**Pn**	**14 24 38.6**	**0.0**
ABPO	**Ambohimpanom**	**16.09**	**306**	P	**P**	**14 25 00.8**	**+0.1**
ABPO				IAmb	IAmb	14 25 02.8	
	comp=Z,20nm,1.2s						
OPO	**Ambohidratompo**	**16.42**	**307**	Pn	**Pn**	**14 25 01.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=124,slow=13,SNR=8.8						
OPO				Sn	Sn	14 27 50.2	-14
	comp=Z,0.3nm,0.3s,baz=323,slow=12,SNR=12 comp=Z,2.9nm,0.3s						
H08S1	**Diego Carcia H**	**24.04**	**29**	T	T	14 51 26.3	
	baz=203,slow=76,SNR=21						
H08S2	**Diego Garcia H**	**24.04**	**29**	T	T	14 51 14.1	
	baz=203,slow=76,SNR=9.6						
H08S3	**Diego Garcia H**	**24.05**	**29**	T	T	14 51 33.2	
	baz=203,slow=76,SNR=42						
LBTB	**Lobatse**	**31.66**	**269**	P	**P**	**14 27 35.4**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=96,slow=8.2,SNR=2.0 comp=Z,1.5nm,0.6s						
LSZ	**Lusaka**	**33.20**	**288**	P	**P**	**14 27 48.3**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=125,slow=7.9,SNR=4.2 comp=Z,2.0nm,0.5s						
MAW	**Mawson**	**38.45**	**179**	P	**P**	**14 28 32.4**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=336,slow=11,SNR=1.7 comp=Z,1.0nm,0.8s						
H01W2	**Cape Leeuwin H**	**45.01**	**111**	T	T	15 17 06.9	
	baz=261,slow=75,SNR=69						
H01W3	**Cape Leeuwin H**	**45.01**	**111**	T	T	15 17 06.0	
	baz=261,slow=75,SNR=65						
H01W1	**Cape Leeuwin H**	**45.03**	**111**	T	T	15 17 05.4	
	baz=261,slow=75,SNR=68						
SNAA	**Sanae**	**54.36**	**200**	P	**P**	**14 30 40.0**	**+2.7**
SNAA	**Sanae**	**54.36**	**200**	P	**P**	**14 30 38.1**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=84,slow=8.2,SNR=7.3 comp=Z,2.2nm,0.9s						
SNAA	**Sanae**	**54.36**	**200**	P	**P**	**14 30 38.5**	**+1.2**
SNAA				IAmb	IAmb	14 30 41.9	
	comp=Z,4.0nm,1.2s						
VNA2	**Neumayer--Watz**	**55.63**	**202**	P	**P**	**14 30 46.2**	**-0.2**
	baz=70,slow=6.4						
VNA3	**Neumayer Olymp**	**56.42**	**201**	P	**P**	**14 30 51.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**59.92**	**42**	P	**P**	**14 31 18.5**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=230,slow=7.5,SNR=3.4 comp=Z,1.0nm,0.3s						
PYUN	**Piuthan**	**60.76**	**22**	*e*P	**P**	**14 31 22.6**	**-0.3**
	comp=Z,41nm,0.8s						
QSPA	**South Pole Qui**	**60.96**	**180**	P	**P**	**14 31 23.3**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=294,slow=4.0,SNR=6.3 comp=Z,2.0nm,0.9s						
QSPA	**South Pole Qui**	**60.96**	**180**	P	**P**	**14 31 25.9**	**+2.1**
QSPA				IAmb	IAmb	14 31 48.2	
	comp=Z,9.9nm,1.4s						
PKIN	**Phulchoki**	**61.12**	**25**	*e*P	**P**	**14 31 25.0**	**-0.5**
GKN	**Gorkha**	**61.23**	**24**	*e*P	**P**	**14 31 26.3**	**+0.2**
	comp=Z,28nm,0.8s						
DANN	**Dangsing**	**61.25**	**23**	*e*P	**P**	**14 31 26.2**	**-0.2**
	comp=Z,32nm,0.8s						
GUN	**Gumba**	**61.60**	**25**	*e*P	**P**	**14 31 29.7**	**+0.9**
VNDA	**Vanda**	**64.04**	**166**	P	**P**	**14 31 43.7**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=294,slow=6.4,SNR=3.7 comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**64.62**	**104**	P	**P**	**14 31 47.9**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=243,slow=6.0,SNR=20 comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**64.62**	**104**	P	**P**	**14 31 47.5**	**-1.3**
AS31	**Alice Springs**	**64.62**	**104**	P	**P**	**14 31 45.8**	**-3.0**
WRA	**Warramunga Arr**	**66.45**	**100**	P	**P**	**14 31 59.9**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=246,slow=5.7,SNR=7.5 comp=Z,1.6nm,0.9s						
TOA0	**Toroidi Ar. Sit**	**70.98**	**298**	P	**P**	**14 32 28.1**	**-0.8**
TORD	**Toroidi Ar. Bea**	**70.98**	**298**	P	**P**	**14 32 29.3**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=124,slow=5.3,SNR=21 comp=Z,5.5nm,0.8s						
KKAR	**Karatay Array**	**72.48**	**7**	P	**P**	**14 32 37.2**	**-0.1**
BRTR	**Keskin Array B**	**73.13**	**338**	P	**P**	**14 32 41.6**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=161,slow=7.7,SNR=8.2 comp=Z,1.5nm,0.8s						
KBZ	**Khabaz**	**74.43**	**347**	P	**P**	**14 32 49.4**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=196,slow=7.4,SNR=3.6 comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**78.06**	**15**	P	**P**	**14 33 09.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=186,slow=4.3,SNR=12 comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**78.06**	**15**	P	**P**	**14 33 09.3**	**-0.1**
ABKAR	**Akbulak array**	**78.11**	**359**	P	**P**	**14 33 09.2**	**-0.3**
KURK	**Kurchatov**	**81.09**	**11**	P	**P**	**14 33 25.7**	**+0.1**
KURK				IAmb	IAmb	14 33 28.7	
	comp=Z,3.7nm,1.1s						
AKASG	**Malin Array Be**	**84.35**	**340**	P	**P**	**14 33 42.2**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=148,slow=4.3,SNR=5.9 comp=Z,1.8nm,0.8s						
ZAA0	**Zalesovo Array**	**85.35**	**14**	P	**P**	**14 33 47.1**	**-0.5**
ZAA0				IAmb	IAmb	14 33 48.4	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**85.35**	**14**	P	**P**	**14 33 47.9**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=213,slow=4.6,SNR=7.9 comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**85.35**	**14**	P	**P**	**14 33 45.9**	**-1.7**
SONM	**Songino Array**	**86.87**	**29**	P	**P**	**14 33 56.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=245,slow=6.2,SNR=2.1 comp=Z,0.4nm,0.6s						
ESDC	**Sonseca Array**	**91.28**	**316**	P	**P**	**14 34 16.7**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=104,slow=3.2,SNR=9.2 comp=Z,1.9nm,0.8s						
YKA	**Yellowknife Ar**	**146.57**	**356**	PKPbc	**PKPbc**	**14 40 51.2**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=354,slow=3.4,SNR=8.6						
ULM	**Lac du Bonnet**	**152.63**	**327**	PKPbc	**PKPbc**	**14 41 06.6**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=63,slow=2.3,SNR=6.1						
PDAR	**Pinedale Array**	**164.45**	**333**	PKP	**PKPdf**	**14 41 14.7**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=98,slow=4.5,SNR=5.2						
NVAR	**Mina Array Bea**	**170.77**	**356**	PKP	**PKPdf**	**14 41 18.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=186,slow=1.5,SNR=3.8						

KRSC 15 14:28:43.0±2.5, 50.45N×157.62E, h104km±26km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.99**	**284**	*e*P	Pn	14 29 04.0	+0.5
SKR				*e*S	Sn	14 29 18.0	-1.0
PAU	**Pauzhetka**	**1.14**	**334**	*e*P	Pn	14 29 06.0	+0.9
PAU				*e*S	Sn	14 29 24.3	+2.4
KDTR	**Khodutka, Kamc**	**1.39**	**12**	*e*P	Pn	14 29 11.3	+3.3
KDTR				*e*S	Sn	14 29 30.7	+3.7
ASAK	**Asacha**	**1.94**	**5**	*e*P	Pn	14 29 17.1	+2.1
RUS	**Russkaya**	**2.06**	**15**	*e*P	Pn	14 29 18.9	+2.5
RUS				*e*S	Sn	14 29 44.1	+2.1
MTVR	**Mutnovka**	**2.06**	**10**	*e*P	Pn	14 29 18.7	+2.1
GRL	**Gorelyy**	**2.12**	**7**	*e*P	Pn	14 29 19.7	+2.4
PET	**Petropavlovsk**	**2.65**	**14**	*e*P	Pn	14 29 26.2	+2.1
DALK	**Dalny**	**2.68**	**15**	*e*P	Pn	14 29 26.6	+2.2
DALK				*e*S	Sn	14 29 57.6	+1.3
UGLR	**Uglovaya**	**2.86**	**15**	*e*P	Pn	14 29 29.9	+2.9
AVH	**Avacha**	**2.90**	**13**	*e*P	Pn	14 29 30.3	+2.8
SMAR	**Somma**	**2.91**	**14**	*e*P	Pn	14 29 30.3	+2.6
KOK	**Koryaka**	**2.91**	**12**	*e*P	Pn	14 29 30.4	+2.8
NLC	**Nalytchevo**	**2.92**	**21**	*e*P	Pn	14 29 29.5	+1.8
NLC				*e*S	Sn	14 30 01.8	-0.4
SDLR	**Sedlovina**	**2.94**	**15**	*e*P	Pn	14 29 30.3	+2.3
KRER	**Koryakskii**	**2.94**	**13**	*e*P	Pn	14 29 30.8	+2.7
KRX	**Arik**	**2.98**	**12**	*e*P	Pn	14 29 30.9	+2.3
SPN	**Mys Shipunski**	**3.04**	**28**	*e*P	Pn	14 29 32.6	+3.4
SPN				*e*S	Sn	14 30 07.0	+2.1
GNL	**Ganaly**	**3.25**	**3**	*e*P	Pn	14 29 32.8	+0.6
MKZ	**Mys Kozlova**	**4.81**	**30**	*e*P	Pn	14 29 54.9	+1.9
MKZ				*e*S	Sn	14 30 46.6	-1.0
TUMR	**Tumrok**	**5.07**	**17**	*e*P	Pn	14 29 59.4	+2.7
KBTR	**Krutoberegovo**	**6.55**	**26**	*e*P	Pn	14 30 18.2	+1.6
BKI	**Bering**	**6.94**	**44**	*e*S	Sn	14 31 37.2	-2.0

IDC 15 14:33:28.5±2.9, 6.28S×129.92E, h114km±39km, mb3.4/1, mbtmp3.6/5, MS3.6/3, Error ellipse: s-maj=73.7km s-min=21.2km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.54**	**14**	P	Pn	14 34 48.7	-0.1
	4.6nm,0.2s,baz=274,slow=23,SNR=19						
SIJI				S	Sn	14 35 46.9	-4.4
	8.1nm,0.2s,baz=209,slow=22,SNR=13						
FITZ	**Fitzroy Crossi**	**12.46**	**199**	P	Pn	14 36 22.9	+0.9
	1.2nm,0.8s,baz=32,slow=11,SNR=9.3						
FITZ				S	Sn	14 38 35.2	-4.0
	0.5nm,0.4s,baz=177,slow=21,SNR=5.6						
WRA	**Warramunga Ar**	**14.24**	**163**	P	Pn	14 36 43.7	-1.4
	0.4nm,0.3s,baz=343,slow=12,SNR=9.3						
WRA				S	Sn	14 39 11.7	-11
	0.3nm,0.4s,baz=348,slow=18,SNR=7.5						
PMG	**Port Moresby**	**17.36**	**101**	LR	LR	14 46 07.9	
	comp=Z,122nm,20.2s,baz=40,slow=44						
ASAR	**Alice Springs**	**17.70**	**168**	P	P	14 37 27.5	+0.2
	0.5nm,0.6s,baz=347,slow=10,SNR=11						
ASAR				S	S	14 40 35.3	-10
	0.9nm,1.1s,baz=358,slow=22,SNR=4.6						
CTA	**Charters Tower**	**20.98**	**132**	LR	LR	14 47 08.6	
	comp=Z,172nm,20.1s,baz=84,slow=39						
URZ	**Urewera**	**53.22**	**134**	LR	LR	15 06 17.4	
	comp=Z,98nm,20.1s,baz=330,slow=37						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	14 44 12.9	0.0
	0.3nm,0.4s,baz=128,slow=8.6,SNR=8.7 0.3nm,0.4s						

*LDG **15** 14:40:46.3±0.1, 42.78N×13.18E, h10km, Ml3.1/7, Error ellipse: s-maj=2.1km s-min=1.5km az=46.0*
*ROM **15** 14:40:47.0±0.1, 42.776N±0.004×13.133E±0.006, h8km, ML3.1/9, Error ellipse: s-maj=0.5km s-min=0.2km az=60.0*

**ISC 15 14:40:46.6±0.8, 42.79N±0.02×13.12E±0

T1215					AML	AML		
	comp=N,27100µm,1.2s							
T1215					AML	AML		
	comp=E,1340µm,0.2s							
LNSS	**Leonessa**	**0.20**	**198**		P	**Pg**	**14 40 51.5**	**+0.2**
LNSS					AML	AML		
LNSS					AML	AML		
LNSS					AML	AML		
	comp=N,11336µm,0.5s							
SMA1	**SAN MARTINO**	**0.22**	**135**	⇓P		**Pg**	**14 40 52.0**	**+0.3**
SMA1					AML	AML		
SMA1					AML	AML		
T1241	**Roccafluvione,**	**0.24**	**73**	⇑P		**Pg**	**14 40 52.4**	**+0.5**
T1241				S		**Sg**	**14 40 56.5**	**+1.1**
T1241					AML	AML		
T1241					AML	AML		
	comp=N,84400µm,1.1s							
T1241					AML	AML		
	comp=N,84100µm,1.0s							
T1241					AML	AML		
T1241					AML	AML		
	comp=E,4835µm,0.9s							
FDMO	**Fiordimonte**	**0.25**	**354**		P	**Pg**	**14 40 52.8**	**+0.7**
FDMO					AML	AML		
	comp=E,17850µm,1.0s							
FDMO					AML	AML		
	comp=N,17500µm,1.6s							
FDMO					AML	AML		
	comp=N,1616µm,0.3s							
AM05	**Amandola Campo**	**0.25**	**42**		P	**Pg**	**14 40 52.9**	**+0.7**
AM05					AML	AML		
	comp=N,8420µm,1.1s							
AM05					AML	AML		
	comp=E,36800µm,1.6s							
AM05					AML	AML		
	comp=N,34100µm,1.1s							
AM05					AML	AML		
	comp=E,9130µm,1.5s							
AM05					AML	AML		
	comp=N,8425µm,1.1s							
AM05					AML	AML		
	comp=N,34050µm,1.1s							
T1243	**Rocca Santa Ma**	**0.26**	**111**	⇓P		**Pg**	**14 40 52.5**	**+0.3**
CESI	**CESI - Serrava**	**0.27**	**323**	⇓P		**Pg**	**14 40 53.2**	**+0.7**
CESI					AML	AML		
	comp=N,28900µm,1.4s							
CESI					AML	AML		
	comp=E,31050µm,0.7s							
CESI					AML	AML		
	comp=E,3734µm,0.3s							
RM33	**Pellescritta (**	**0.29**	**167**	⇓P		**Pg**	**14 40 53.0**	**+0.2**
RM33					AML	AML		
	comp=E,66200µm,1.1s							
RM33					AML	AML		
	comp=E,65500µm,1.1s							
RM33					AML	AML		
	comp=E,66200µm,1.1s							
RM33					AML	AML		
	comp=N,63800µm,0.8s							
RM33					AML	AML		
	comp=N,63250µm,0.8s							
RM33					AML	AML		
	comp=N,8259µm,0.3s							
RM33					AML	AML		
	comp=E,6658µm,0.6s							
CSP1	**Cessapalombo**	**0.31**	**11**	P		**Pg**	**14 40 53.9**	**+0.7**
GUMA	**Gualdo di Mace**	**0.31**	**29**	⇑P		**Pg**	**14 40 53.3**	**+0.1**
GUMA					AML	AML		
	comp=E,68400µm,0.7s							
GUMA					AML	AML		
	comp=N,80150µm,0.5s							
GUMA					AML	AML		
	comp=E,74150µm,0.6s							
GUMA					AML	AML		
	comp=N,72050µm,0.6s							
GUMA					AML	AML		
	comp=E,9409µm,0.6s							
CAMP	**Campotosto**	**0.33**	**140**	⇓P		**Pg**	**14 40 53.8**	**+0.3**
CAMP					AML	AML		
	comp=E,66200µm,1.1s							
CAMP					AML	AML		
	comp=N,53650µm,0.5s							
ARRO	**Arrone**	**0.34**	**232**		P	**Pg**	**14 40 54.2**	**+0.6**
T1247	**Pizzolo (AQ)**	**0.37**	**160**		P	**Pg**	**14 40 54.6**	**+0.5**
TERO	**Teramo**	**0.39**	**115**	⇓P		**Pg**	**14 40 54.8**	**+0.2**
TERO					AML	AML		
	comp=E,35700µm,0.6s							
TERO					AML	AML		
	comp=N,44000µm,0.8s							
TERO					AML	AML		
	comp=E,37050µm,0.6s							
TERO					AML	AML		
	comp=N,45400µm,0.8s							
TERO					AML	AML		
	comp=E,1950µm,1.2s							
OFFI	**Offida**	**0.44**	**70**		P	**Pb**	**14 40 57.0**	**+0.9**
OFFI					AML	AML		
	comp=N,65650µm,0.9s							
OFFI					AML	AML		
	comp=E,47350µm,1.3s							
CESX	**Cesi**	**0.44**	**246**		P	**Pg**	**14 40 55.8**	**+0.4**
CESX					AML	AML		
	comp=N,21150µm,0.8s							
CESX					AML	AML		
	comp=E,19700µm,1.2s							
GIGS	**Gran Sasso**	**0.47**	**136**		P	**Pg**	**14 40 56.0**	**0.0**
GIGS					AML	AML		
	comp=E,9460µm,0.8s							
GIGS					AML	AML		
	comp=N,7585µm,0.8s							
GIGS					AML	AML		
	comp=N,583µm,0.3s							
SNTG	**Esanatoglia**	**0.48**	**344**		P	**Pg**	**14 40 56.9**	**+0.6**
SNTG					AML	AML		
	comp=E,940µm,0.8s							
SNTG					AML	AML		
	comp=N,892µm,0.7s							
SNTG					AML	AML		
	comp=E,7965µm,0.8s							
SNTG					AML	AML		
	comp=E,939µm,0.8s							
SNTG					AML	AML		
	comp=N,7040µm,0.8s							
FIAM	**Fiamignano**	**0.52**	**181**	⇓P		**Pg**	**14 40 57.0**	**0.0**
FIAM					AML	AML		
	comp=E,24550µm,1.0s							
FIAM					AML	AML		
	comp=N,20850µm,0.9s							
FIAM					AML	AML		
	comp=E,6413µm,0.6s							
ATCC	**AVT- Casa Cast**	**0.53**	**318**		P	**Pg**	**14 40 57.8**	**+0.6**
ATCC					AML	AML		
	comp=E,18050µm,0.9s							
ATCC					AML	AML		
	comp=N,16700µm,0.9s							
EL6	**Elcito**	**0.54**	**358**	⇑P		**Pg**	**14 40 58.0**	**+0.7**
EL6					AML	AML		
	comp=E,10690µm,1.6s							
EL6					AML	AML		
	comp=N,21900µm,0.8s							
FOSV	**Fossato di Vic**	**0.57**	**332**	⇓P		**Pg**	**14 40 58.5**	**+0.6**
FOSV					AML	AML		
	comp=E,5795µm,1.3s							
FOSV					AML	AML		
	comp=N,7960µm,1.1s							
TRTR	**Tortoreto Alta**	**0.58**	**88**		P	**Pn**	**14 41 00.1**	**-0.2**
TRTR					AML	AML		
	comp=E,40750µm,0.7s							
TRTR					AML	AML		
	comp=N,56150µm,1.0s							
CING	**Cingoli**	**0.59**	**5**	⇑P		**Pb**	**14 40 59.2**	**+0.5**
CING					AML	AML		
	comp=E,6390µm,0.6s							
CING					AML	AML		
	comp=N,4645µm,1.0s							
VCEL	**Villa Celiera**	**0.66**	**126**		P	**Pg**	**14 40 59.9**	**+0.3**
VCEL					AML	AML		
	comp=N,43650µm,1.5s							
VCEL					AML	AML		
	comp=E,38050µm,0.5s							
PP3	**Marolino**	**0.69**	**31**	⇓P		**Pn**	**14 41 02.3**	**+0.5**
PP3					AML	AML		
	comp=E,27500µm,1.4s							
PP3					AML	AML		
	comp=N,16100µm,1.2s							
PP3					AML	AML		
	comp=E,27400µm,1.4s							
PP3					AML	AML		
	comp=N,17050µm,1.3s							
SSFR	**Montelago di S**	**0.69**	**339**	⇓P		**Pb**	**14 41 00.8**	**+0.3**
SSFR					AML	AML		
	comp=E,6075µm,1.3s							
SSFR					AML	AML		
	comp=N,5235µm,0.2s							
SSFR					AML	AML		
	comp=E,6685µm,1.1s							
SSFR					AML	AML		
	comp=N,4985µm,0.2s							
ATTE	**AVT- Monte Tez**	**0.70**	**306**	⇓P		**Pb**	**14 41 01.5**	**+1.0**
ATTE					AML	AML		
	comp=E,4635µm,0.9s							
ATTE					AML	AML		
	comp=N,4360µm,1.6s							
ATFO	**Monte Foce - G**	**0.70**	**325**	⇑P		**Pb**	**14 41 01.0**	**+0.3**
ARVD	**Arcevia**	**0.72**	**349**	⇓P		**Pb**	**14 41 01.4**	**+0.5**
ARVD					AML	AML		
	comp=E,4740µm,1.1s							
ARVD					AML	AML		
	comp=N,3890µm,1.0s							
ARVD					AML	AML		
	comp=N,382µm,1.1s							
T0110	**Collepietro**	**0.74**	**139**		P	**Pg**	**14 41 00.9**	**-0.2**
T0110					AML	AML		
	comp=E,25500µm,0.6s							
T0110					AML	AML		
	comp=N,26800µm,1.2s							
T0110					AML	AML		
	comp=N,1711µm,0.5s							
MGAB	**Montegabbione**	**0.76**	**280**	⇑P		**Pb**	**14 41 02.3**	**+0.9**
MGAB					AML	AML		
	comp=E,11150µm,1.4s							
MGAB					AML	AML		
	comp=N,12400µm,0.9s							
MGAB					AML	AML		
	comp=E,12200µm,0.8s							
MGAB					AML	AML		
	comp=N,12200µm,0.9s							
MGAB					AML	AML		
	comp=N,1849µm,0.5s							
ATVO	**AVT- Monte Val**	**0.79**	**319**	⇓P		**Pg**	**14 41 02.4**	**+0.3**
ATVO					AML	AML		
	comp=E,4680µm,1.2s							
ATVO					AML	AML		
	comp=N,4725µm,1.6s							
ATMI	**Monte Miggiano**	**0.83**	**311**	⇑P		**Pn**	**14 41 04.7**	**+0.8**
ATMI					AML	AML		
	comp=E,12300µm,0.7s							
ATMI					AML	AML		
	comp=N,10205µm,1.4s							
ATPI	**Pietralunga -**	**0.85**	**322**	⇑P		**Pb**	**14 41 03.5**	**+0.5**
ATPI					AML	AML		
	comp=E,5705µm,0.9s							
ATPI					AML	AML		
	comp=N,4660µm,1.3s							
PIEI	**Pieia**	**0.86**	**330**	⇑P		**Pg**	**14 41 03.5**	**+0.2**
PIEI					AML	AML		
	comp=E,2430µm,1.0s							
PIEI					AML	AML		
	comp=N,3590µm,1.1s							
MPAG	**Monte Paganucc**	**0.88**	**342**	⇓P		**Pg**	**14 41 04.0**	**+0.3**
MPAG					AML	AML		
	comp=E,3695µm,1.6s							
MPAG					AML	AML		
	comp=N,5535µm,1.3s							
MPAG					AML	AML		
	comp=E,3560µm,1.6s							
MPAG					AML	AML		
	comp=N,5170µm,1.3s							
SACS	**San Casciano d**	**0.90**	**274**	⇓P		**Pn**	**14 41 05.4**	**+0.7**
SACS					AML	AML		
	comp=E,6430µm,1.1s							
SACS					AML	AML		
	comp=N,5540µm,1.1s							
SACS					AML	AML		
	comp=E,6460µm,1.5s							
SACS					AML	AML		
	comp=N,5030µm,1.2s							
FSSB	**Fossombrone**	**0.94**	**344**	⇓P		**Pn**	**14 41 05.7**	**+0.4**
FSSB					AML	AML		
	comp=E,9775µm,0.4s							
FSSB					AML	AML		
	comp=N,9575µm,1.4s							
BADI	**Badiali**	**0.97**	**318**	⇑P		**Pn**	**14 41 06.1**	**+0.4**
INTR	**Introdacqua**	**0.97**	**143**	⇓P		**Pg**	**14 41 04.7**	**-0.7**
INTR					AML	AML		
	comp=E,13µm,0.9s							
INTR					AML	AML		
	comp=E,12750µm,0.9s							
INTR					AML	AML		
	comp=N,13µm,0.9s							
INTR					AML	AML		
	comp=N,18950µm,0.9s							
CAFI	**Castiglion Fio**	**1.01**	**303**		P	**Pn**	**14 41 06.8**	**+0.5**
CAFI					AML	AML		
	comp=E,2465µm,1.1s							
CAFI					AML	AML		
	comp=N,3250µm,1.0s							
CAFI					AML	AML		
	comp=E,2530µm,1.1s							
CAFI					AML	AML		
	comp=N,3430µm,1.0s							
CAFI					AML	AML		
	comp=N,368µm,0.6s							
CAFI					AML	AML		
	comp=E,636µm,1.7s							
CAFI					AML	AML		
	comp=N,368µm,1.4s							
CAFI					AML	AML		
	comp=E,636µm,0.3s							
PE3	**Peglio**	**1.02**	**333**	⇑P		**Pn**	**14 41 07.3**	**+1.0**
PARC	**Parchiule**	**1.08**	**323**	⇓P		**Pn**	**14 41 08.2**	**+1.0**
PARC					AML	AML		
	comp=E,4000µm,1.1s							
PARC					AML	AML		
	comp=N,4270µm,1.6s							
DUGI	**Dugi Otok**	**1.85**	**49**	*e*Pn		**Pb**	**14 41 21.1**	**+0.9**
ZIRJ	**Zirje**	**2.04**	**64**	*e*Pn		**Pb**	**14 41 23.2**	**-0.1**
VIRC	**Vir**	**2.06**	**42**	*e*Pn		**Pn**	**14 41 22.5**	**+1.9**
MORI	**Morici**	**2.17**	**59**	*e*Pn		**Pb**	**14 41 24.9**	**-0.7**
NVLJ	**Novalja**	**2.18**	**35**	*e*Pn		**Pn**	**14 41 23.8**	**+1.4**
RABC	**Rab**	**2.30**	**31**	*e*Pn		**Pn**	**14 41 26.1**	**+2.2**
UDBI	**Udbina**	**2.59**	**47**	*e*Pn		**Pn**	**14 41 30.2**	**+2.2**
KIJV	**Kijevo**	**2.68**	**62**	*e*Pn		**Pb**	**14 41 32.5**	**-1.9**
LSTV	**Lastovo**	**2.77**	**89**	*e*Pn		**Pn**	**14 41 33.4**	**+2.9**
A050A	**Klekovaca**	**3.00**	**54**	*e*Pn		**Pn**	**14 41 36.7**	**+3.1**
RICI	**Ricice**	**3.02**	**75**	*e*Pn		**Pn**	**14 41 36.5**	**+2.6**
PGF	**Pioggiola**	**3.05**	**267**	*e*P		**Pn**	**14 41 36.8**	**+2.4**
PGF					*e*Sn	**Sn**	**14 42 08.2**	**-2.5**
MATE	**Matera**	**3.43**	**127**	⇑P		**Pb**	**14 41 48.9**	**+1.9**
OBKA	**Obir**	**3.86**	**15**	*e*Pn		**Pb**	**14 41 54.9**	**+0.5**
	comp=N,5.5nm,0.3s							
MYKA	**Terra Mystica**	**3.86**	**5**	*i* Pn		**Pb**	**14 41 54.7**	**+0.3**
	comp=N,2.6nm,0.2s,SNR=6.2							
ABTA	**Abfaltersbach**	**3.98**	**354**	*i* Pn		**Pb**	**14 41 56.6**	**+0.1**
	comp=N,56nm,0.6s,SNR=22							
SOKA	**Soboth**	**4.12**	**19**	*e*Pn		**Pb**	**14 41 58.5**	**-0.4**
	comp=N,3.4nm,0.3s							
SBF	**Sospel**	**4.29**	**286**	*e*P		**Pn**	**14 41 54.3**	**+2.9**
SBF					*e*Sn	**Sn**	**14 42 37.7**	**-3.4**
	comp=N,17nm,0.5s							
KBA	**Koelnbreinsper**	**4.29**	**2**	*i* Pn		**Pn**	**14 41 55.0**	**+3.5**
	comp=N,2.4nm,0.3s,SNR=9.2							
DRME	**Dracevica, Mon**	**4.52**	**96**	*e*Pn		**Pn**	**14 41 57.7**	**+3.2**
TIP	**Timpagrande**	**4.54**	**141**	⇓P		**Pb**	**14 42 06.7**	**+0.8**
PDG	**Podgorica**	**4.54**	**92**	⇓P		**Pb**	**14 42 04.0**	**-1.9**
FETA	**Feichten**	**4.56**	**339**	*i* Pn		**Pb**	**14 42 05.8**	**-0.7**
	comp=N,22nm,1.2s,SNR=13							
WTTA	**Wattenberg**	**4.60**	**347**	*i* Pn		**Pb**	**14 42 07.1**	**0.0**
	comp=N,27nm,0.7s,SNR=8.9							
SQTA	**Sankt Quirin**	**4.63**	**344**	*e*Pn		**Pb**	**14 42 06.9**	**-0.8**
	comp=N,9.1nm,0.3s,SNR=7.1							
WATA	**Walderalm**	**4.68**	**347**	*i* Pn		**Pb**	**14 42 08.6**	**+0.3**
	comp=N,28nm,0.7s,SNR=8.4							
ARSA	**Arzberg**	**4.77**	**20**	*e*Pn		**Pb**	**14 42 07.6**	**-2.4**
	comp=N,8.3nm,0.6s							
MOTA	**Moosalm**	**4.78**	**343**	*i* Pn		**Pb**	**14 42 09.2**	**-0.9**
	comp=N,16nm,0.7s,SNR=11							
LMR	**La Mourre**	**4.88**	**279**	*e*P		**Pn**	**14 42 02.4**	**+3.0**
LMR					*e*Sn	**Sn**	**14 42 51.8**	**-3.8**
	comp=N,2.2nm,0.3s							
BIOA	**Bad Ischl, Aus**	**4.92**	**4**	*e*Pn		**Pb**	**14 42 08.9**	**-3.5**
	comp=N,1.2nm,0.2s							
BIOA					*e*Sn	**Sn**	**14 42 58.3**	**+1.7**
	comp=N,64nm,0.8s							
RETA	**Reutte**	**4.99**	**341**	*i* Pn		**Pb**	**14 42 11.4**	**-2.2**
	comp=N,6.6nm,0.4s,SNR=11							
MBDF	**Montbardon**	**4.99**	**295**	*e*P		**Pn**	**14 42 04.4**	**+3.3**
MBDF					*e*Sn	**Sn**	**14 42 54.8**	**-3.8**
	comp=N,19nm,0.8s							
DAVA	**Damuels**	**5.05**	**334**	*i* Pn		**Pb**	**14 42 12.5**	**-2.2**
	comp=N,22nm,0.6s,SNR=15							
LPG	**La Plagne**	**5.33**	**303**	*e*Sn		**Sn**	**14 43 03.0**	**-4.0**
	comp=N,38nm,0.9s							
ORIF	**Oris-en-Rattie**	**5.65**	**295**	*e*P		**Pn**	**14 42 13.5**	**+3.3**
ORIF					*e*Sn	**Sn**	**14 43 10.5**	**-4.4**
	comp=N,12nm,0.6s							
CABF	**La Chapelle**	**6.30**	**310**	*e*P		**Pn**	**14 42 22.8**	**+3.7**
VIVF	**Saint-Julien-l**	**6.45**	**292**	*e*P		**Pn**	**14 42 24.8**	**+3.7**
VIVF					*e*Sn	**Sn**	**14 43 28.9**	**-5.6**
	comp=N,0.7nm,0.2s							
HINF	**Hinteralfeld**	**6.69**	**321**	*e*P		**Pn**	**14 42 27.8**	**+3.4**
LASF	**Ste Croix**	**6.87**	**284**	*e*P		**Pn**	**14 42 30.5**	**+3.7**
CDF	**Champ du Feu**	**6.96**	**326**	*e*P		**Pn**	**14 42 31.8**	**+3.7**
CDF					*e*Sn	**Sn**	**14 43 41.8**	**-5.1**
	comp=N,1.9nm,0.4s							
HAU	**Haudompre**	**7.07**	**320**	*e*P		**Pn**	**14 42 33.0**	**+3.5**

BGR ***15*** *14:40:45.7±1.6, 42°.03N×13°.79E, h10km, ML4.0/2, Error ellipse: s-maj=36.7km s-min=23.3km az=58.0*

LDG ***15*** *14:40:49.5±0.2, 42°.74N×13°.36E, h10km, Ml3.1/16, Error ellipse: s-maj=6.7km s-min=4.6km az=34.0*

IDC ***15*** *14:40:52.6±0.9, 42°.77N×12°.93E, h0km, mb4.0/11, mbtmp3.9/20, ML3.4/9, MS3.2/5, Error ellipse: s-maj=16.2km s-min=11.2km az=80.0*

ROM ***15*** *14:40:52.5±0.1, 42°.768N±0°.003×13°.134E±0°.005, h9km, ML3.9/38, Mw3.7, Error ellipse: s-maj=0.5km s-min=0.1km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-3.59; Mθθ-0.27; Mφφ3.86; Mrθ0.53; Mφθ0.41; Mφr-1.19; Fault plane solution: M₀3.96943×10¹⁴ NP1:φs196.00000°, δ37.00000°, λ-74.00000°. NP2:φs356.00000°, δ54.00000°, λ-102.00000°.*

MOS ***15*** *14:40:53.9±1.0, 42°.80N×13°.17E, h14km, mb4.5/19 Error ellipse: s-maj=4.8km s-min=3.9km az=109.0*

PDG ***15*** *14:40:53.6±0.6, 42°.82N×13°.23E, h4km±1km, ML4.1/11, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0*

PRU ***15*** *14:40:54.7±0.0, 42°.79N×13°.39E, h0km, M4.2*

MED_RC ***15*** *14:40:56.0±0.5, 42°.82N×13°.19E, h11km±2km, MW4.0/11, Moment Tensor Solution.Mantle waves: s11,c13; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-1.07±.24; Mθθ0.00±.14; Mφφ1.07±.19; Mrθ0.58±.28; Mθφ0.28±.10; Mθr-0.29±.23; Best double couple: M₀1.26000×10¹⁵ NP1:φs350.00000°, δ54.00000°, λ-122.00000°. NP2:φs216.00000°, δ46.00000°, λ-54.00000°. Principal axes: T 1.1500, Plg4.0000°, Azm102.0000°; N 0.2300, Plg25.0000°, Azm10.0000°; P -1.3800, Plg64.0000°, Azm201.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

ISC 15 14:40:53.9±0.7, 42°.76N±0°.01×13°.09E±0°.02, h9km±4km, n318, σ1ˢ89/371, mb4.3/23, 29C-12D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.08**	**12**	P	**Pg**	**14 40 54.4**	**-1.7**
NRCA				S	**Sg**	**14 40 55.9**	**-1.9**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1242	**Castelluccio d**	**0.11**	**49**	P	**Pg**	**14 40 54.8**	**-1.8**
T1242				S	**Sg**	**14 40 56.2**	**-2.3**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1202	**Accumoli, Fraz**	**0.11**	**118**	P	**Pg**	**14 40 55.5**	**-1.1**
T1202				S	**Sg**	**14 40 57.4**	**-1.1**
T1217	**Poggiodomo (PG**	**0.13**	**249**	P	**Pg**	**14 40 57.1**	**+0.3**
T1217				S	**Sg**	**14 40 59.8**	**+1.0**
T1217				AML	AML		
	comp=E,95250µm,1.0s						
T1217				AML	AML		
	comp=N,82650µm,0.7s						
T1217				AML	AML		
	comp=E,93600µm,1.0s						
T1217				AML	AML		
	comp=N,84650µm,0.7s						
T1217				AML	AML		
	comp=E,95200µm,1.0s						
T1217				AML	AML		
	comp=N,82700µm,0.7s						
T1217				AML	AML		
	comp=E,93550µm,1.0s						
T1217				AML	AML		
	comp=N,84700µm,0.7s						
T1217				AML	AML		
	comp=E,93400µm,1.0s						
T1217				AML	AML		
	comp=E,95150µm,1.0s						
T1217				AML	AML		
	comp=N,84850µm,0.7s						
T1216	**Preci, Frazion**	**0.14**	**338**	P	**Pg**	**14 40 56.7**	**-0.4**
T1216				S	**Sg**	**14 40 59.5**	**+0.2**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1244	**Arquata del Tr**	**0.15**	**90**	P	**Pg**	**14 40 56.1**	**-1.1**
T1244				S	**Sg**	**14 40 58.6**	**-0.9**
LNSS	**Leonessa**	**0.16**	**194**	P	**Pg**	**14 40 57.0**	**-0.3**
LNSS				S	**Sg**	**14 41 00.1**	**+0.4**
LNSS				AML	AML		
LNSS				AML	AML		
T1215	**Vallo di Nera,**	**0.17**	**285**	P	**Pg**	**14 40 57.5**	**0.0**
T1215				S	**Sg**	**14 41 00.7**	**+0.7**
T1215				AML	AML		
	comp=N,25850µm,1.3s						
T1215				AML	AML		
	comp=E,33900µm,0.9s						
T1215				AML	AML		
	comp=N,27150µm,1.3s						
T1215				AML	AML		
	comp=E,32550µm,0.8s						
T1215				AML	AML		
	comp=N,27100µm,1.3s						
T1215				AML	AML		
	comp=E,32550µm,0.7s						
T1215				AML	AML		
	comp=N,27100µm,1.2s						
T1215				AML	AML		
	comp=N,25850µm,1.2s						
T1215				AML	AML		
	comp=E,33950µm,0.9s						
MC2	**Monte Cornacci**	**0.17**	**25**	P	**Pg**	**14 40 56.9**	**-0.8**
MC2				S	**Sg**	**14 40 59.1**	**-1.1**
T1204	**Amatrice, Fraz**	**0.18**	**116**	P	**Pg**	**14 40 56.8**	**-1.0**
T1204				S	**Sg**	**14 40 59.1**	**-1.4**
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
FEMA	**Monte Fema**	**0.21**	**351**	P	**Pg**	**14 40 56.4**	**-1.8**
FEMA				S	**Sg**	**14 41 00.6**	**-0.6**
SMA1	**SAN MARTINO**	**0.22**	**125**	P	**Pg**	**14 40 58.0**	**-0.4**
SMA1				S	**Sg**	**14 41 01.7**	**+0.2**
SMA1				AML	AML		
SMA1				AML	AML		
MMO1	**Montemonaco**	**0.22**	**50**	P	**Pg**	**14 40 57.1**	**-1.4**
MMO1				S	**Sg**	**14 41 00.4**	**-1.2**
RM33	**Pellescritta (**	**0.26**	**160**	P	**Pg**	**14 40 59.0**	**-0.2**
RM33				S	**Sg**	**14 41 02.9**	**+0.1**
RM33				AML	AML		
	comp=E,66200µm,1.1s						

RM33 AML AML
comp=N,63250µm,0.8s
RM33 AML AML
comp=E,65500µm,1.1s
RM33 AML AML
comp=N,63800µm,0.8s
T1241 Roccafluvione, 0.27 68 P **Pg** **14 40 58.8 -0.5**
T1241 AML AML
T1241 AML AML
T1241 AML AML
comp=N,84400µm,1.1s
T1241 AML AML
comp=N,84100µm,1.0s
T1243 Rocca Santa Ma 0.27 103 P **Pg** **14 40 58.0 -1.4**
FDMO Fiordimonte 0.28 359 P **Pg** **14 40 58.8 -0.7**
FDMO AML AML
comp=E,17850µm,1.0s
FDMO AML AML
comp=N,17500µm,1.6s
CESI CESI - Serrava 0.28 331 P **Pg** **14 40 59.3 -0.3**
CESI S **Sg** **14 41 04.6 +1.2**
CESI AML AML
comp=E,31050µm,0.7s
CESI AML AML
comp=N,28900µm,1.4s
AM05 Amandola Campo 0.29 41 P **Pg** **14 40 58.4 -1.4**
AM05 AML AML
comp=E,9130µm,1.5s
AM05 AML AML
comp=N,8420µm,1.1s
AM05 AML AML
comp=N,34100µm,1.1s
AM05 AML AML
comp=E,36800µm,1.6s
AM05 AML AML
comp=N,34050µm,1.1s
AM05 AML AML
comp=N,8425µm,1.1s
ARRO Arrone 0.30 234 P **Pg** **14 40 59.3 -0.6**
CAMP Campotosto 0.32 133 P **Pg** **14 40 59.5 -0.8**
CAMP S **Sg** **14 41 04.2 -0.4**
CAMP AML AML
comp=N,53650µm,0.5s
CAMP AML AML
comp=E,66200µm,1.1s
T1246 Crognaleto (TE 0.34 120 ⇑P **Pg** **14 40 59.2 -1.5**
T1246 S **Sg** **14 41 04.6 -0.6**
CSP1 Cessapalombo 0.34 14 P **Pg** **14 40 59.2 -1.6**
T1247 Pizzolo (AQ) 0.35 154 P **Pg** **14 40 59.9 -0.9**
T1247 S **Sg** **14 41 05.7 +0.3**
GUMA Gualdo di Mace 0.35 30 P **Pg** **14 40 59.0 -1.9**
GUMA S **Sg** **14 41 05.0 -0.6**
GUMA AML AML
comp=E,68400µm,0.7s
GUMA AML AML
comp=E,74150µm,0.6s
GUMA AML AML
comp=N,80150µm,0.5s
GUMA AML AML
comp=N,72050µm,0.6s
TERO Teramo 0.40 109 P **Pg** **14 41 00.0 -1.7**
TERO S **Sg** **14 41 05.7 -1.4**
TERO AML AML
comp=N,44000µm,0.8s
TERO AML AML
comp=E,37050µm,0.6s
TERO AML AML
comp=N,45400µm,0.8s
TERO AML AML
comp=E,35700µm,0.6s
SEF1 Sefro 0.40 345 P **Pg** **14 41 00.7 -1.1**
CESX Cesi 0.41 249 ⇓P **Pg** **14 41 01.1 -0.8**
CESX AML AML
comp=N,21150µm,0.8s
CESX AML AML
comp=E,19700µm,1.2s
PIO1 Pioraco 0.43 349 P **Pg** **14 41 01.0 -1.3**
MDAR Monte D'Aria 0.44 5 P **Pg** **14 41 01.1 -1.4**
FIU1 Fiuminata 0.45 345 P **Pg** **14 41 01.5 -1.1**
AQU L'Aquila 0.46 150 P **Pg** **14 41 01.6 -1.3**
GIGS Gran Sasso 0.47 131 P **Pg** **14 41 01.6 -1.4**
GIGS AML AML
comp=E,9460µm,0.8s
GIGS AML AML
comp=N,7585µm,0.8s
OFFI Offida 0.47 68 ⇑P **Pg** **14 41 02.1 -0.9**
OFFI AML AML
comp=N,65650µm,0.9s
OFFI AML AML
comp=E,47350µm,1.3s
SSM1 San Severino M 0.48 7 P **Pg** **14 41 01.9 -1.2**
GAG1 Gagliole 0.48 358 P **Pg** **14 41 02.2 -1.1**
FIAM Fiamignano 0.49 178 ⇓P **Pg** **14 41 02.3 -1.1**
FIAM S **Sg** **14 41 09.3 -0.6**
FIAM AML AML
comp=E,24550µm,1.0s
FIAM AML AML
comp=N,20850µm,0.9s
SNTG Esanatoglia 0.51 347 P **Pg** **14 41 02.4 -1.5**
SNTG S **Sg** **14 41 11.1 +0.5**
SNTG AML AML
comp=E,940µm,0.8s
SNTG AML AML
comp=E,7965µm,0.8s
SNTG AML AML
comp=E,939µm,0.8s
SNTG AML AML
comp=N,892µm,0.7s
SNTG AML AML
comp=N,7040µm,0.8s
ATCC AVT- Casa Cast 0.54 322 P **Pg** **14 41 03.2 -1.2**
ATCC AML AML
comp=E,18050µm,0.9s
ATCC AML AML
comp=N,16700µm,0.9s
EL6 Elcito 0.57 1 P **Pg** **14 41 03.8 -1.3**
EL6 AML AML
comp=E,10690µm,1.6s
EL6 AML AML
comp=N,21900µm,0.8s
TRE1 Treia 0.58 16 P **Pg** **14 41 04.3 -0.8**
FOSV Fossato di Vic 0.59 336 P **Pg** **14 41 04.3 -1.0**
FOSV S **Sg** **14 41 14.0 +0.9**
FOSV AML AML
comp=E,5795µm,1.3s
FOSV AML AML
comp=N,7960µm,1.1s
TRTR Tortoreto Alta 0.61 85 ⇑P **Pg** **14 41 04.8 -0.9**
TRTR AML AML
comp=N,56150µm,1.0s
TRTR AML AML
comp=E,40750µm,0.7s
CING Cingoli 0.62 7 P **Pg** **14 41 04.7 -1.2**
CING AML AML
comp=N,4645µm,1.0s
CING AML AML
comp=E,6390µm,0.6s
VCEL Villa Celiera 0.66 123 P **Pg** **14 41 05.0 -1.7**
VCEL S **Sg** **14 41 15.6 +0.3**
VCEL AML AML
comp=N,43650µm,1.5s
VCEL AML AML
comp=E,38050µm,0.5s
SRES S.Oreste - Sor 0.67 220 P **Pg** **14 41 06.2 -0.7**
MMUR Monte Murano 0.69 354 P **Pg** **14 41 05.8 -1.4**
ATTE AVT- Monte Tez 0.70 309 AML AML
comp=E,4635µm,0.9s
ATTE AML AML
comp=N,4360µm,1.6s
SSFR Montelago di S 0.72 342 P **Pg** **14 41 06.7 -1.1**
SSFR AML AML
comp=E,6075µm,1.3s
SSFR AML AML
comp=N,4985µm,0.2s
SSFR AML AML
comp=E,6685µm,1.1s
SSFR AML AML
comp=N,5235µm,0.2s
ATFO Monte Foce - G 0.72 328 P **Pg** **14 41 06.7 -1.1**
PP3 Marolino 0.73 31 P **Pg** **14 41 07.7 -0.3**
PP3 AML AML
comp=N,16100µm,1.2s
PP3 AML AML
comp=E,27500µm,1.4s
PP3 AML AML
comp=N,17050µm,1.3s
PP3 AML AML
comp=E,27400µm,1.4s
ATSC Scheggia e Pas 0.73 336 P **Pg** **14 41 06.8 -1.2**
T0110 Collepietro 0.73 136 P **Pg** **14 41 06.5 -1.6**
T0110 AML AML
comp=N,26800µm,1.2s
T0110 AML AML
comp=E,25500µm,0.6s
MGAB Montegabbione 0.74 283 P **Pg** **14 41 07.6 -0.6**
MGAB AML AML
comp=E,11200µm,1.4s
MGAB AML AML
comp=E,11150µm,1.4s
MGAB AML AML
comp=N,12200µm,0.9s
MGAB AML AML
comp=N,12400µm,0.9s
MGAB AML AML
comp=E,12200µm,0.8s
ARVD Arcevia 0.75 352 P **Pg** **14 41 06.8 -1.6**
ARVD AML AML
comp=N,3890µm,1.0s
ARVD AML AML
comp=E,4740µm,1.1s
ATLO AVT- Montelove 0.75 318 P **Pg** **14 41 07.2 -1.2**
PTQR Pietraquaria 0.77 163 P **Pg** **14 41 06.9 -1.8**
MTCE Montecelio 0.78 200 P **Pg** **14 41 07.5 -1.4**
ATVO AVT- Monte Val 0.80 321 P **Pg** **14 41 07.8 -1.6**
ATVO AML AML
comp=N,4725µm,1.6s
ATVO AML AML
comp=E,4680µm,1.2s
FRON Frontone 0.81 341 P **Pg** **14 41 07.8 -1.6**
CERT Cerreto 0.81 186 P **Pg** **14 41 07.2 -2.3**
ATMI Monte Miggiano 0.84 314 P **Pg** **14 41 09.0 -1.0**
ATMI AML AML
comp=N,10205µm,1.4s
ATMI AML AML
comp=E,12300µm,0.7s
ATPI Pietralunga - 0.86 324 AML AML
comp=N,4660µm,1.3s
ATPI AML AML
comp=E,5705µm,0.9s
ATPC Poggio Castell 0.86 327 P **Pg** **14 41 08.9 -1.5**
SACS San Casciano d 0.88 276 P **Pg** **14 41 10.0 -0.7**
SACS AML AML
comp=N,5540µm,1.1s
SACS AML AML
comp=E,6460µm,1.5s
SACS AML AML
comp=N,5030µm,1.2s
SACS AML AML
comp=E,6430µm,1.1s
AOI Ancona 0.88 25 P **Pg** **14 41 09.9 -0.9**
PIEI Pieia 0.88 333 P **Pg** **14 41 09.3 -1.5**
PIEI AML AML
comp=N,3590µm,1.1s
PIEI AML AML
comp=E,2430µm,1.0s
MPAG Monte Paganucc 0.91 345 P **Pg** **14 41 09.9 -1.4**
MPAG AML AML
comp=N,5170µm,1.3s
MPAG AML AML
comp=E,3560µm,1.6s
MPAG AML AML
comp=N,5535µm,1.3s
MPAG AML AML
comp=E,3695µm,1.6s
RCAV Rocca di Cave 0.92 187 P **Pg** **14 41 09.0 -2.5**
INTR Introdacqua 0.96 141 P **Pg** **14 41 10.0 -2.3**
INTR AML AML
comp=N,13µm,0.9s
INTR AML AML
comp=N,18950µm,0.9s
INTR AML AML
comp=E,13µm,0.9s
INTR AML AML
comp=E,12750µm,0.9s
FSSB Fossombrone 0.96 346 P **Pg** **14 41 10.8 -1.6**
FSSB AML AML
comp=N,9575µm,1.4s
FSSB AML AML
comp=E,9775µm,0.4s
VVLD Villa Vallelon 0.97 156 P **Pg** **14 41 10.1 -2.4**
CAFI Castiglion Fio 1.00 305 P **Pg** **14 41 12.0 -1.2**
CAFI AML AML
comp=E,2530µm,1.1s
CAFI AML AML
comp=N,3430µm,1.0s
CAFI AML AML
comp=N,3250µm,1.0s
CAFI AML AML
comp=E,2465µm,1.1s
PE3 Peglio 1.03 335 P **Pg** **14 41 13.4 -0.4**
RDP Rocca di Papa 1.04 196 P **Pg** **14 41 11.8 -2.0**
MCIV Monte Civitell 1.04 272 P **Pg** **14 41 12.9 -1.0**
TOLF Tolfa 1.06 230 P **Pg** **14 41 12.9 -1.5**
LPEL Lama dei Pelig 1.07 131 P **Pg** **14 41 12.1 -2.5**
PARC Parchiule 1.09 325 P **Pg** **14 41 13.5 -1.3**
PARC AML AML
comp=E,4000µm,1.1s
PARC AML AML
comp=N,4270µm,1.6s
POFI Posta Fibreno 1.14 156 P **Pg** **14 41 13.7 -2.0**
ARCI Arcidosso 1.19 275 P **Pb** **14 41 16.4 -0.4**
GIUL Giuliano Di Ro 1.20 174 P **Pb** **14 41 15.7 -1.2**
CERA Filignano 1.35 149 P **Pn** **14 41 16.7 -2.3**
MIDA Miranda 1.41 142 P **Pn** **14 41 18.4 -1.5**
TRIV Trivento 1.47 132 P **Pn** **14 41 19.5 -1.1**
OSSC Osservatorio P 1.55 300 P **Pn** **14 41 20.8 -1.0**
RUFI Rufina 1.58 314 P **Pn** **14 41 21.6 -0.6**
BSSO Busso 1.65 137 P **Pn** **14 41 23.2 +0.1**
MODR Mondragone 1.71 160 P **Pn** **14 41 24.0 0.0**
CIGN Sant'Elia a Pi 1.74 129 P **Pn** **14 41 24.2 -0.1**
SACR S. Croce Del S 1.81 138 P **Pn** **14 41 25.3 -0.2**
MELA Melanico ??? S 1.84 124 P **Pn** **14 41 25.6 -0.1**
MPPT Montemurlo 1.89 310 P **Pn** **14 41 27.3 +0.8**
PSB1 Pescosannita 2.00 140 P **Pn** **14 41 27.0 -0.9**
MOCO Biccari - m.te 2.07 131 P **Pn** **14 41 29.7 +0.7**
PII Pisa 2.11 298 P **Pb** **14 41 31.4 -0.9**
PGF Pioggiola 3.03 267 *e*P **Pn** **14 41 42.0 -0.1**
PGF *e*Sn **Sn** **14 42 13.2 -5.4**
comp=N,4.1nm,0.3s
PGF Pioggiola 3.03 267 P **Pn** **14 41 43.6 +1.5**
CEY Cerknica 3.13 17 *e*Pn **Pn** **14 41 39.6 -3.9**
BOB Bobbio (Coli) 3.32 309 P **Pb** **14 41 52.0 -1.0**
MGRS Mrkonjic Grad 3.34 59 *e*Pn **Pn** **14 41 46.2 -0.2**
STON Ston 3.39 86 *e*Pn **Pn** **14 41 43.0 -4.0**
A051A Mrakovica 3.56 49 *e*Pn **Pn** **14 41 51.1 +1.6**
BLY Banja Luka 3.57 55 *e*Pn **Pn** **14 41 51.3 +1.8**
OBKA Obir 3.89 15 *e*Pn **Pn** **14 41 52.6 -1.4**
A052A Srbac 3.96 52 *e*Pn **Pn** **14 41 56.1 +1.2**
HCY Herceg Novi 4.00 93 *e*Pn **Pn** **14 41 55.3 -0.1**
HCY Herceg Novi 4.00 93 P **Pn** **14 41 57.3 +1.9**
BRY Bratogost 4.01 86 *e*Pn **Pn** **14 41 56.2 +0.5**
BRY Bratogost 4.01 86 P **Pn** **14 41 56.8 +1.1**
BRY Bratogost 4.01 86 ⇓*i*Pn **Pn** **14 41 56.2 +0.5**
BRY *e*Sn **Sn** **14 42 43.6 +0.7**
SBF Sospel 4.27 287 *e*P **Pn** **14 41 59.5 +0.3**
SBF *e*Sn **Sn** **14 42 42.6 -6.7**
comp=N,11nm,0.4s
UPM Unac-Piva 4.29 82 *e*Pn **Pn** **14 42 00.7 +1.1**
UPM Unac-Piva 4.29 82 ⇓*i*Pn **Pn** **14 41 59.9 +0.3**
UPM *i* Sn **Sn** **14 42 50.0 +0.2**
CEME Cevo 4.30 91 ⇓*i*Pn **Pn** **14 41 59.9 +0.3**
CEME *i* Sn **Sn** **14 42 50.4 +0.4**
BUM Brajici-Budva 4.31 94 ⇑*i*Pn **Pn** **14 42 00.1 +0.3**
BUM *e*Sn **Sn** **14 42 50.8 +0.6**
NKME Niksic 4.32 88 ⇑*i*Pn **Pn** **14 42 00.3 +0.5**
NKME *i* Sn **Sn** **14 42 51.1 +0.8**
KBA Koelnbreinsper 4.33 2 P **Pn** **14 42 00.6 +0.5**
NKY Niksic 4.34 87 *e*Pn **Pn** **14 42 00.5 +0.3**
NKY *i* Sn **Sn** **14 42 51.8 +0.7**
DRME Dracevica, Mon 4.54 95 ⇑*i*Pn **Pn** **14 42 03.8 +0.9**
DRME *i* Sn **Sn** **14 42 56.0 +0.2**
VDL Val di Lei 4.54 326 P **Pn** **14 42 04.6 +1.5**
TTG Podgorica 4.56 92 ⇑*i*Pn **Pn** **14 42 03.5 +0.4**
TTG *i* Sn **Sn** **14 42 56.7 +0.4**
DAVOX Davos/Dischmat 4.63 331 Pn **Pn** **14 42 03.2 -1.0**
comp=N,0.8nm,0.3s,baz=180,slow=20,SNR=3.9
DAVOX Sn **Sn** **14 42 58.8 +0.6**
comp=N,0.5nm,0.3s,baz=319,slow=19,SNR=0.7
comp=N,57nm,0.9s
DAVOX Davos/Dischmat 4.63 331 P **Pn** **14 42 03.2 -1.0**
DAVOX 14 42 58.8
RUDO Rudo 4.67 77 *e*Pn **Pn** **14 42 05.2 +0.6**
PZZ Stroppo 4.68 294 P **Pn** **14 42 06.3 +1.4**
KOME Kolasin 4.73 87 ⇓*i*Pn **Pn** **14 42 06.0 +0.5**
KOME *i* Sn **Sn** **14 43 00.6 +0.1**
LMR La Mourre 4.86 279 *e*P **Pn** **14 42 07.5 +0.3**
LMR *e*Sn **Sn** **14 42 56.5 -7.1**
comp=N,1.3nm,0.2s
LMR La Mourre 4.86 279 *e*P **Pn** **14 42 07.6 +0.3**
LMR pmax pmax
comp=E,23nm,0.9s
KOVH Kovagotottos 4.89 45 P **Pn** **14 42 07.1 -0.6**
ZUGS Zugspitze, Sch 4.89 343 *e*Pn **Pn** **14 42 09.6 +1.7**
ZUGS *e*Sn **Sn** **14 43 09.5 +4.6**
PART Garmisch-Parte 4.94 344 *e*Pn **Pn** **14 42 09.7 +1.3**
MBDF Montbardon 4.99 295 *e*P **Pn** **14 42 09.3 +0.2**
MBDF *e*Sn **Sn** **14 42 59.6 -7.3**
comp=Z,7.5nm,0.6s
MBDF Montbardon 4.99 295 *e*P **Pn** **14 42 09.9 +0.8**
MBDF pmax pmax
comp=Z,28nm,1.2s
RJOB Jochberg 4.99 358 *e*Pn **Pn** **14 42 09.1 +0.1**
IVA Berane 5.00 86 ⇑*i*Pn **Pn** **14 42 09.6 +0.3**
IVA *e*Sn **Sn** **14 43 07.5 +0.2**
OBER Oberstdorf 5.05 338 *e*Pn **Pn** **14 42 12.4 +2.4**
PVY Plav 5.07 90 ⇓*i*Pn **Pn** **14 42 10.4 +0.2**
PVY *i* Sn **Sn** **14 43 08.9 0.0**
BNI Bardonecchia 5.17 299 P **Pn** **14 42 15.0 +3.4**
BNI pmax pmax
comp=Z,22nm,1.1s
DIVS Divibare 5.20 73 *e*Pn **Pn** **14 42 11.0 -1.0**
TIR Tirane 5.24 103 ⇓P **Pn** **14 42 13.0 +0.6**
TIR Tirane 5.24 103 P **Pn** **14 42 13.0 +0.6**
TIR pmax pmax
comp=Z,222nm,0.5s
MORH Mrgy, Hungar 5.26 47 ⇓P **Pn** **14 42 15.8 +3.0**
MORH Mrgy, Hungar 5.26 47 P **Pn** **14 42 15.5 +2.7**
LPG La Plagne 5.32 303 *e*P **Pn** **14 42 14.3 +0.4**
LPG *e*Sn **Sn** **14 43 07.7 -7.8**
comp=Z,8.9nm,0.5s
LPG La Plagne 5.32 303 *e*P **Pn** **14 42 15.7 +1.8**
LPG pmax pmax
comp=Z,29nm,1.1s
LPL La Plagne 5.34 303 *e*P **Pn** **14 42 14.6 +0.5**
LPL *e*Sn **Sn** **14 43 08.3 -7.6**
comp=Z,6.5nm,0.5s
LPL La Plagne 5.34 303 *e*P **Pn** **14 42 16.5 +2.4**
LPL pmax pmax
comp=Z,24nm,1.0s
UBR Ueberruh 5.36 338 *e*Pn **Pn** **14 42 15.4 +1.3**
FRGS Fruska Gora 5.41 61 ⇑P **Pn** **14 42 15.8 +0.9**
FRGS Fruska Gora 5.41 61 *e*Pn **Pn** **14 42 13.9 -0.9**
RONA Rosalia, Austr 5.44 23 *e*Pn **Pn** **14 42 16.6 +1.4**
comp=Z,3.1nm,0.3s
RSL Roselend 5.49 304 P **Pn** **14 42 18.3 +2.2**
RSL pmax pmax
comp=Z,19nm,1.0s
SOP Sopron 5.50 25 P **Pn** **14 42 18.3 +2.3**
CONA Conrad Observa 5.53 20 *i* Pn **Pn** **14 42 16.6 +0.1**
comp=Z,8.3nm,0.4s,SNR=8.0
PHP Peshkopia 5.56 99 P **Pn** **14 42 17.8 +0.9**
PHP S **Sn** **14 43 19.4 -1.6**
PHP Peshkopia 5.56 99 P **Pn** **14 42 18.0 +1.1**
PHP pmax pmax
comp=Z,191nm,0.8s
ZUR Degenried 5.61 327 P **Pn** **14 42 19.9 +2.3**
ZUR pmax pmax
comp=Z,27nm,1.1s
ORIF Oris-en-Rattie 5.65 295 *e*P **Pn** **14 42 20.6 +2.5**
ORIF *e*Sn **Sn** **14 43 15.4 -7.7**
comp=Z,2.9nm,0.5s
ORIF Oris-en-Rattie 5.65 295 *e*P **Pn** **14 42 21.0 +2.9**
ORIF pmax pmax
comp=Z,8.0nm,0.5s
GRN Grenoble 5.85 298 P **Pn** **14 42 25.4 +4.4**
GRN pmax pmax
comp=Z,24nm,0.7s
KEK Kerkira 5.90 119 P **Pn** **14 42 21.8 +0.3**
SRN Sarande 5.94 117 P **Pn** **14 42 22.7 +0.6**
SLE Schleitheim 5.97 329 P **Pn** **14 42 23.7 +1.2**
SLE pmax pmax
comp=Z,19nm,0.9s
OHR Ohrid 5.98 103 P **Pn** **14 42 24.1 +1.4**
OHR pmax pmax
comp=Z,74nm,1.3s
OHR Ohrid 5.98 103 *i* Pn **Pn** **14 42 23.5 +0.8**
GEC2 GERESS Array S 6.10 4 P **Pn** **14 42 23.9 -0.5**
GEC2 pmax pmax
comp=Z,17nm,1.1s
GEC2 GERESS Array S 6.10 4 *e*Pn **Pn** **14 42 23.2 -1.2**
GERES GERESS Array B 6.10 4 Pn **Pn** **14 42 23.9 -0.5**
comp=Z,1.0nm,0.3s,baz=185,slow=13,SNR=13
GERES Sn **Sn** **14 43 33.8 -0.6**
comp=Z,2.0nm,0.3s,baz=168,slow=20,SNR=4.2
comp=Z,1.2nm,0.3s
GERES GERESS Array B 6.10 4 P **Pn** **14 42 23.9 -0.5**
GERES 14 43 33.8
CKRC Cesky Krumlov 6.12 8 *e*PN **Pn** **14 42 24.8 +0.2**
CKRC *e*SN **Sn** **14 43 31.9 -2.9**
KBN Korca 6.14 108 P **Pn** **14 42 25.4 +0.5**
KBN S **Sn** **14 43 34.6 -0.7**
KBN Korca 6.14 108 P **Pn** **14 42 25.9 +1.0**
KBN pmax pmax
comp=Z,69nm,0.9s
LSK Leskovik 6.21 112 P **Pn** **14 42 26.7 +0.8**
SKO Skopje 6.23 94 P **Pn** **14 42 27.4 +1.3**
CABF La Chapelle 6.31 310 *e*P **Pn** **14 42 27.8 +0.6**
CABF *e*Sn **Sn** **14 43 31.0 -8.4**
comp=Z,3.1nm,0.5s
CABF La Chapelle 6.31 310 *e*P **Pn** **14 42 30.0 +2.8**
CABF pmax pmax
comp=Z,21nm,1.2s
MODS Modra-Piesok 6.34 26 *e*P **Pn** **14 42 25.6 -1.9**
MODS *e* 14 43 38.5
MODS Modra-Piesok 6.34 26 *e*PN **Pn** **14 42 25.6 -1.9**
MODS *e*SN **Sn** **14 43 38.5 -1.6**
IGT Igoumenitsa 6.34 118 P **Pn** **14 42 28.2 +0.6**
IGT S **Sn** **14 43 40.3 +0.1**
BOVS Bovan 6.36 79 ⇑P **Pn** **14 42 27.9 +0.1**
KHC Kasperske Hory 6.38 3 *e*P **Pn** **14 42 27.3 -0.9**
KHC *e* 14 43 38.9
KHC Kasperske Hory 6.38 3 *e*PN **Pn** **14 42 27.3 -0.9**
KHC *ex* x 14 42 46.5
KHC *e*SN **Sn** **14 43 38.9 -2.3**
WET Wettzell 6.39 359 P **Pn** **14 42 27.2 -1.1**
WET pmax pmax
comp=Z,10.0nm,0.9s
WET Wettzell 6.39 359 *e*Pn **Pn** **14 42 27.4 -0.9**
NEST Nestorio 6.41 109 P **Pn** **14 42 30.0 +1.4**
VIVF Saint-Julien-l 6.44 292 *e*P **Pn** **14 42 29.9 +0.9**
VIVF Saint-Julien-l 6.44 292 *e*P **Pn** **14 42 31.5 +2.5**
VIVF pmax pmax
comp=Z,24nm,1.4s
BFO Black Forest 6.50 331 P **Pn** **14 42 30.2 +0.4**
BFO pmax pmax
comp=Z,20nm,1.0s
BFO Black Forest 6.50 331 *e*Pn **Pn** **14 42 29.8 +0.1**
MDVR Moldovita 6.56 69 ⇓P **Pn** **14 42 31.9 +1.3**
HINF Hinteralfeld 6.70 321 *e*P **Pn** **14 42 33.8 +1.2**
HINF *e*Sn **Sn** **14 43 40.3 -8.8**
comp=Z,111nm,1.3s
KRUC Moravsky 6.71 19 *e*PN **Pn** **14 42 31.2 -1.5**
TREC Trest 6.75 13 P **Pn** **14 42 36.1 +2.9**
TREC pmax pmax
comp=Z,14nm,0.7s
BZS Buzias 6.76 62 ⇑P **Pn** **14 42 34.7 +1.4**
BZS Buzias 6.76 62 P **Pn** **14 42 34.3 +1.0**
BZS pmax pmax
comp=Z,12nm,1.1s
LASF Ste Croix 6.85 284 *e*P **Pn** **14 42 35.4 +0.8**
ECH Echery 6.87 325 P **Pn** **14 42 34.7 -0.1**
ECH pmax pmax
comp=Z,133nm,1.0s
JAVC Velka Javorina 6.89 26 *e*PN **Pn** **14 42 35.6 +0.5**
TSLK Tsoukalades, L 6.95 122 P **Pn** **14 42 37.6 +1.6**
CDF Champ du Feu 6.97 326 *e*P **Pn** **14 42 36.9 +0.6**
CDF *e*Sn Sn 14 43 46.6 -9.2
comp=Z,1.6nm,0.3s
LKD2 Lefkada island 6.98 122 P **Pn** **14 42 37.2 +0.9**
LKD2 S **Sn** **14 43 55.9 +0.1**
VRAC Vranov 6.99 19 Pn **Pn** **14 42 39.4 +2.9**
comp=Z,0.4nm,0.3s,baz=184,slow=15,SNR=1.8
VRAC Sn **Sn** **14 43 57.5 +1.4**

comp=Z,0.3nm,0.3s,baz=122,slow=22,SNR=4.1
comp=Z,1.9nm,0.4s
VRAC Vranov 6.99 19 *e*PN **Pn** **14 42 40.3 +3.8**
VRAC Vranov 6.99 19 P **Pn** **14 42 39.4 +2.9**
VRAC 14 43 57.5
VYHS Vyhne 7.01 33 *e*P **Pn** **14 42 39.1 +2.4**
VYHS *e* 14 44 01.4
VYHS Vyhne 7.01 33 *e*PN **Pn** **14 42 39.1 +2.4**
VYHS *e*SN **Sn** **14 44 01.4 +4.9**
BLKB Belogradchik 7.06 80 ⇑P **Pn** **14 42 38.4 +1.0**
BLKB ⇑S **Sn** **14 43 55.4 -2.4**
HERR Herculane 7.07 69 ⇑P **Pn** **14 42 38.6 +1.0**
HAU Haudompre 7.08 320 *e*P **Pn** **14 42 38.4 +0.7**
HAU *e*Sn Sn 14 43 49.0 -9.2
comp=Z,19nm,0.5s
GRG Griva 7.18 101 P **Pn** **14 42 39.0 -0.1**
VAY Valandovo 7.20 98 P **Pn** **14 42 40.3 +0.9**
VAY pmax pmax
comp=Z,58nm,1.1s
VLS Valsamata 7.32 126 P **Pn** **14 42 42.0 +1.0**
THL Klokotos Trika 7.45 112 P **Pn** **14 42 43.4 +0.6**
THL S **Sn** **14 44 06.9 -0.5**
GZR Gura Zlata 7.46 66 ⇑P **Pn** **14 42 43.7 +0.8**
KKB Krupnik 7.46 93 *i*P **Pn** **14 42 44.5 +1.6**
VTS Vitosha 7.47 88 ⇑P **Pn** **14 42 44.3 +1.0**
VTS Vitosha 7.47 88 *i*P **Pn** **14 42 43.5 +0.2**
KNT Kendrikon 7.48 99 P **Pn** **14 42 43.3 +0.1**
KNT pmax pmax
comp=Z,14nm,0.9s
LIT Litokhoron 7.54 107 P **Pn** **14 42 43.9 -0.2**
KEST Kesra 7.59 204 Pn **Pn** **14 42 47.2 +2.3**
comp=Z,1.0nm,0.3s,baz=2.2,slow=5.2,SNR=7.4
PVO Paravola 7.62 120 P **Pn** **14 42 47.0 +1.8**
EVR Evrytania 7.64 117 P **Pn** **14 42 48.1 +2.6**
MORC Moravsky Berou 7.67 22 ⇓P **Pn** **14 42 49.7 +3.9**
MORC Moravsky Berou 7.67 22 *e*PN **Pn** **14 42 46.3 +0.5**
MORC Moravsky Berou 7.67 22 P **Pn** **14 42 49.6 +3.8**
MORC pmax pmax
comp=Z,6.0nm,1.1s
MAKR Makrakomi, Fth 7.80 116 P **Pn** **14 42 49.4 +1.7**
SFTF Sexfontaines 7.85 317 *e*P **Pn** **14 42 49.2 +0.9**
SOH Sokhos 7.91 101 P **Pn** **14 42 49.5 +0.4**
SOH pmax pmax
comp=Z,10.0nm,1.2s
LOR Lormes 7.94 308 *e*P **Pn** **14 42 51.5 +1.9**
baz=123
LOR *e*Sn Sn 14 44 10.1 -9.5
comp=Z,3.1nm,0.5s
LOR Lormes 7.94 308 *e*P Pn 14 42 54.5 +4.9
LOR pmax pmax
comp=Z,15nm,1.3s
MOX Moxa 7.96 353 P **Pn** **14 42 48.6 -1.1**
MOX pmax pmax
comp=Z,11nm,1.1s
EFP Efpalio 7.98 120 P **Pn** **14 42 52.6 +2.6**
MMB Musomiste 7.99 95 *i*P **Pn** **14 42 51.2 +1.0**
MTLF Montolieu 7.99 278 *e*P **Pn** **14 42 51.2 +1.0**
SRS Serrai 8.00 98 P **Pn** **14 42 51.1 +0.8**
SRS pmax pmax
comp=Z,21nm,1.2s
AVF Avril sur Loir 8.02 304 *e*P **Pn** **14 42 51.6 +1.1**
MEZF Maizieres J'vi 8.04 318 *e*P **Pn** **14 42 51.7 +0.8**
MEZF *e*Sn Sn 14 44 12.2 -10
comp=Z,6.7nm,0.3s
SSF Saint Saulge 8.05 306 *e*P **Pn** **14 42 51.7 +0.7**
SERG Sergoula 8.08 119 P **Pn** **14 42 53.8 +2.3**
SERG S **Sn** **14 44 24.7 +1.7**
NVR Nevrokopi 8.14 96 P **Pn** **14 42 52.0 -0.3**
BRG Berggiesshubel 8.14 4 *e*P Pn 14 42 58.5 +6.2
BRG Amp 14 43 01.0
comp=Z,3.3nm,0.8s
BRG *ex* x 14 43 47.0
BRG *ex* x 14 44 32.1
BRG Amp 14 45 24.7
comp=Z,41nm,1.4s
BRG Berggiesshubel 8.14 4 *e*P Pn 14 42 58.4 +6.2
BRG *e* 14 44 32.1
BRG pmax pmax
comp=Z,3.0nm,0.9s
CAF Calviac 8.26 289 *e*P **Pn** **14 42 55.1 +1.1**
CAF Calviac 8.26 289 *e*P **Pn** **14 42 56.6 +2.6**
CAF pmax pmax
comp=Z,23nm,1.4s
KLV Kalavryta, Ach 8.36 121 P **Pn** **14 42 57.3 +1.9**
TRPA Tarpa 8.54 48 P **Pn** **14 42 59.9 +2.2**
CLL Collm 8.55 360 *e*P **Pn** **14 42 58.0 +0.1**
CLL Collm 8.55 360 *e*Pn **Pn** **14 42 58.0 +0.1**
CLL *e*Sn Sn 14 44 16.0 -19
CLL *ex* x 14 44 31.0
CLL *e*Sg **Sg** **14 45 25.0 -3.3**
comp=Z,61nm,1.5s
PLD Plovdiv 8.61 90 P **Pn** **14 43 00.9 +2.2**
PLD pmax pmax
comp=Z,89nm,1.6s
RZN Rozhen 8.69 93 *i*P **Pn** **14 43 01.0 +1.0**
RJF Les Rejaudoux 8.72 291 *e*P **Pn** **14 43 02.4 +2.2**
RJF pmax pmax
comp=Z,41nm,1.6s
VOIR 9.01 69 ⇑P **Pn** **14 43 06.9 +2.6**
VOIR 9.01 69 P **Pn** **14 43 07.0 +2.7**
VOIR pmax pmax
comp=Z,7.0nm,0.8s
KDZ Kurdzhali 9.21 93 *i*P **Pn** **14 43 06.3 -0.7**
MLR Muntele Rosu 9.64 69 ⇓P **Pn** **14 43 14.3 +1.4**
MLR Muntele Rosu 9.64 69 Pn **Pn** **14 43 15.5 +2.6**
comp=Z,0.1nm,0.3s,baz=248,slow=9.0,SNR=5.3
comp=Z,5.1nm,0.9s
MLR Muntele Rosu 9.64 69 P **Pn** **14 43 15.5 +2.6**
VLI Veliai 9.68 125 P **Pn** **14 43 16.8 +3.4**
BURAR Bucovina Array 9.84 56 ⇑P **Pn** **14 43 18.7 +3.1**
KTHR Kythira 10.03 127 P **Pn** **14 43 21.1 +2.9**
KTHA Kythira Island 10.07 127 P **Pn** **14 43 21.4 +2.7**
IDI Anoyia 11.82 125 Pn **Pn** **14 43 44.0 +1.4**
comp=Z,0.7nm,0.3s,baz=318,slow=12,SNR=2.4
IDI Sn **Sn** **14 45 51.5 -3.2**
comp=Z,0.5nm,0.3s,baz=323,slow=20,SNR=2.2
comp=Z,4.2nm,0.4s
ESDC Sonseca Array 13.21 262 Pn **Pn** **14 44 00.1 -1.6**
baz=75,slow=15,SNR=2.7
ESDC LR LR 14 49 11.0
comp=Z,88nm,18.4s,baz=56,slow=38
comp=Z,1.3nm,1.1s
AKBB Malin Array Si 13.60 49 *ce*P **Pn** **14 44 07.9 +1.0**
BRTR Keskin Array B 15.75 94 Pn **Pn** **14 44 37.1 +1.1**
comp=Z,0.1nm,0.3s,baz=284,slow=8.3,SNR=3.5
comp=Z,0.7nm,0.8s
BRTR Keskin Array B 15.75 94 P **Pn** **14 44 37.1 +1.1**
EKA Eskdalemuir Ar 16.43 326 Pn **Pn** **14 44 44.4 -0.2**
baz=130,slow=13
comp=Z,0.3nm,0.4s
EKA Eskdalemuir Ar 16.43 326 P **Pn** **14 44 44.4 -0.2**
KONO Kongsberg 17.05 354 *i*P **P** **14 44 53.5 -0.7**
KONO pmax pmax
comp=Z,3.0nm,1.0s
HFS Hagfors 17.41 1 LR LR 14 51 26.7
comp=Z,38nm,20.3s,baz=318,slow=36
ANN Anapa 17.68 75 *e*P **P** **14 45 00.9 -0.3**
ANN *e*S **Sn** **14 48 19.6 +2.3**
ANN pmax pmax
comp=Z,45nm,1.2s
VSU Vasula 17.89 24 *i*P **P** **14 45 03.5 +0.1**
VSU pmax pmax
comp=Z,38nm,0.9s
NOA NORSAR Array B 18.35 357 P **Pn** **14 45 07.7 -0.8**
baz=176,slow=11,SNR=5.1
NOA LR LR 14 53 15.7
comp=Z,24nm,19.3s,baz=355,slow=40
comp=Z,0.4nm,0.6s
NOA NORSAR Array B 18.35 357 P **Pn** **14 45 07.7 -0.8**
OBN Obninsk 19.65 43 ⇑*e*P **Pn** **14 45 25.4 +1.3**
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,71nm,21.0s
MMAI Mount Meron Ar 20.07 112 P Pn 14 45 29.5 +0.1
comp=Z,4.6nm,0.7s,baz=312,slow=10.0,SNR=6.1
comp=Z,4.6nm,0.7s
FINES FINESS Array B 20.27 18 P **P** **14 45 30.3 +0.8**
comp=Z,4.5nm,0.8s,baz=210,slow=11,SNR=9.1
comp=Z,4.5nm,0.8s
FINES FINESS Array B 20.27 18 P **P** **14 45 30.3 +0.8**
MOS Moscow 20.48 42 *e*P **P** **14 45 32.2 +0.4**
MOS pmax pmax
comp=Z,42nm,1.0s

TAM Tamanrasset 20.88 200 P **P** **14 45 36.8 +0.2**
TAM pmax pmax
comp=Z,5.0nm,1.9s
KIV Kislovodsk 21.50 77 *i*P **P** **14 45 42.0 -1.1**
KIV *i* 14 46 02.9
KIV pmax pmax
comp=Z,20nm,1.4s
SHA1 Shidzhatmaz 21.51 77 *i*P **P** **14 45 43.9 +0.6**
KBZ Khabaz 21.68 77 P **P** **14 45 46.4 +1.5**
comp=Z,5.3nm,0.9s,baz=279,slow=12,SNR=6.5
comp=Z,5.3nm,0.9s
KBZ Khabaz 21.68 77 *ce*P **P** **14 45 46.4 +1.5**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KLMR Klimovskoe 24.12 32 *e*P **P** **14 46 05.2 -4.6**
KLMR pmax pmax
comp=Z,17nm,1.2s
KLMR Klimovskoe 24.12 32 AMP 14 46 14.5
comp=Z,17nm,1.2s
KLMR Klimovskoe 24.12 32 *e*P **P** **14 46 05.2 -4.6**
BELG Belogornoye 24.99 55 P **P** **14 46 18.4 +0.6**
comp=Z,26nm,0.9s,baz=106,slow=7.4,SNR=4.9
comp=Z,26nm,0.9s
BELG Belogornoye 24.99 55 *i*P **P** **14 46 18.7 +0.9**
BELG pmax pmax
comp=Z,6.0nm,0.9s
TORD Torodi Ar. Bea 31.11 202 P **P** **14 47 12.8 0.0**
comp=Z,2.7nm,0.9s,baz=14,slow=8.6,SNR=11
comp=Z,2.7nm,0.9s
ARU Arti 31.86 49 *c i*P **P** **14 47 19.3 +0.3**
ARU 14 48 18.2
ARU 14 50 14.9
ARU S **S** **14 52 30.6 +1.1**
ARU pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 38.72 54 *ce*P **P** **14 48 18.8 +0.7**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 44.22 68 *ce*P **P** **14 49 05.2 +1.6**
AAK pmax pmax
comp=Z,2.0nm,1.3s
KURK Kurchatov 44.27 56 *ce*P **P** **14 49 03.5 -0.1**
KURK pmax pmax
comp=Z,6.0nm,1.7s
NRIK Noril'sk 45.38 29 *i*P **P** **14 49 13.4 +1.2**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
KSH Kashi 46.50 72 P **P** **14 49 23.3 +1.7**
KSH pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 46.99 50 P **P** **14 49 25.8 +0.7**
comp=Z,1.0nm,0.5s,baz=292,slow=7.8,SNR=5.8
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 46.99 50 *i*P **P** **14 49 26.1 +1.0**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 47.84 60 *i*P **P** **14 49 32.7 +0.8**
MKAR Makanchi Array 47.84 60 P **P** **14 49 32.5 +0.6**
comp=Z,2.7nm,0.8s,baz=283,slow=6.8,SNR=14
comp=Z,2.7nm,0.8s
MKAR Makanchi Array 47.84 60 *i*P **P** **14 49 32.7 +0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
DGZ Jazzator, Alta 49.95 55 *i*P **P** **14 49 48.9 +0.8**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
GOMU GeErMu 61.09 66 P **P** **14 51 08.0 -0.7**
GOMU pP sP 14 51 12.9 -0.2
GOMU sP pP 14 51 14.3 +2.4
GOMU pmax pmax
comp=Z,1.0nm,0.7s
GOMU pmax pmax
comp=Z,57nm,6.1s
SONM Songino Array 61.88 50 P **P** **14 51 14.7 +1.0**
comp=Z,1.3nm,0.8s,baz=295,slow=8.3,SNR=8.8
comp=Z,1.3nm,0.8s
SONM Songino Array 61.88 50 P **P** **14 51 14.7 +1.0**
ULN Ulaanbaatar 62.23 49 *ce*P **P** **14 51 16.5 +0.4**
ULN pmax pmax
comp=Z,3.0nm,1.7s
YAK Yakutsk 63.83 28 *ce*P **P** **14 51 25.7 -0.4**
YAK pmax pmax
comp=Z,6.0nm,1.0s
YKA Yellowknife Ar 67.05 336 LR LR 15 23 13.6
comp=Z,24nm,19.0s,baz=347,slow=38
BILL Bilibino 67.70 11 ⇑*e*P **P** **14 51 51.3 +0.3**
BILL pmax pmax
comp=Z,6.0nm,1.0s
ILAR Eielson Array 71.67 351 P **P** **14 52 15.3 -0.3**
comp=Z,0.5nm,1.0s,baz=353,slow=6.7,SNR=4.4
comp=Z,0.5nm,1.0s
ILAR Eielson Array 71.67 351 P **P** **14 52 15.3 -0.3**
KLR Kul'dur 73.78 37 *ce*P **P** **14 52 28.1 -0.3**
KLR pmax pmax
comp=Z,4.0nm,1.3s
CMAR Chiang Mai Arr 74.72 79 P **P** **14 52 34.4 0.0**
comp=Z,1.0nm,0.7s,baz=306,slow=7.1,SNR=6.5
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 74.72 79 *i*P **P** **14 52 34.5 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 80.59 47 P **P** **14 53 07.4 +0.6**
comp=Z,1.3nm,0.9s,baz=315,slow=5.2,SNR=6.4
comp=Z,1.3nm,0.9s
KSRS Korea Array 80.59 47 P **P** **14 53 07.4 +0.6**
PSI Prapat 85.05 91 LR LR 15 34 57.8
comp=Z,55nm,21.4s,baz=260,slow=38

*ROM **15** 14:43:51.7±0.0, 42.°775N±0.°002×13.°130E±0.°003, h10km, ML3.7/65, Error ellipse: s-maj=0.2km s-min=0.0km az=60.0*
*LDG **15** 14:43:51.6±0.1, 42.°79N×13.°09E, h10km, Ml3.0/20, Error ellipse: s-maj=3.6km s-min=2.2km az=46.0*
ISC 15 14:43:50.5±0.8, 42.°78N±0.°01×13.°12E±0.°02, h18km±2km, n164, σ2s27/198, 12C-14D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**355**	⇑P		**Pg**		**14 43 53.8**	**-0.1**
NRCA				S		**Sg**		**14 43 55.3**	**-1.0**
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
NRCA				AML		AML			
T1242	**Castelluccio d**	**0.08**	**51**	⇑P		**Pg**		**14 43 54.1**	**0.0**
T1242				S		**Sg**		**14 43 55.9**	**-0.8**
T1242				AML		AML			
T1242				AML		AML			
T1242				AML		AML			
T1242				AML		AML			
T1242				AML		AML			
T1242				AML		AML			
T1202	**Accumoli, Fraz**	**0.11**	**135**	⇑P		**Pg**		**14 43 54.8**	**+0.4**
T1202				S		**Sg**		**14 43 56.9**	**-0.1**
T1202				AML		AML			
T1202				AML		AML			
T1244	**Arquata del Tr**	**0.13**	**100**	⇑P		**Pg**		**14 43 55.4**	**+0.7**
T1244				S		**Sg**		**14 43 58.1**	**+0.7**
T1216	**Preci, Frazion**	**0.13**	**326**	⇓P		**Pg**		**14 43 55.4**	**+0.8**
T1216				S		**Sg**		**14 43 58.1**	**+0.7**
T1216				AML		AML			
T1216				AML		AML			
	comp=E,94150μm,0.8s								
T1216				AML		AML			
T1216				AML		AML			
T1216				AML		AML			
T1216				AML		AML			
T1216				AML		AML			
	comp=E,94200μm,0.7s								
T1216				AML		AML			
MC2	**Monte Cornacci**	**0.14**	**21**	⇑P		**Pg**		**14 43 55.5**	**+0.7**
MC2				S		**Sg**		**14 43 58.7**	**+0.9**
T1217	**Poggiodomo (PG**	**0.16**	**244**	⇓P		**Pg**		**14 43 56.0**	**+1.1**
T1217				S		**Sg**		**14 43 58.5**	**+0.6**
T1217				AML		AML			
	comp=E,46000μm,0.7s								
T1217				AML		AML			
	comp=E,46700μm,0.7s								
T1217				AML		AML			
	comp=E,45950μm,0.7s								
T1217				AML		AML			
	comp=N,64450μm,0.5s								
T1217				AML		AML			
	comp=N,63150μm,0.5s								
T1217				AML		AML			
	comp=E,46650μm,0.7s								
T1204	**Amatrice, Fraz**	**0.18**	**126**	⇓P		**Pg**		**14 43 56.1**	**+0.9**
T1204				AML		AML			
	comp=E,58250μm,1.5s								
T1204				AML		AML			
	comp=N,46200μm,1.4s								
T1204				AML		AML			
	comp=N,46250μm,1.4s								
T1204				AML		AML			
	comp=E,58300μm,1.5s								
LNSS	**Leonessa**	**0.19**	**199**	⇓P		**Pg**		**14 43 56.2**	**+0.9**
LNSS				S		**Sg**		**14 43 59.5**	**+0.9**
LNSS				AML		AML			
	comp=E,75200μm,0.8s								
LNSS				AML		AML			
	comp=N,69500μm,0.6s								
T1215	**Vallo di Nera,**	**0.19**	**277**	⇓P		**Pg**		**14 43 56.5**	**+1.2**
T1215				S		**Sg**		**14 44 00.1**	**+1.5**
T1215				AML		AML			
	comp=N,21150μm,0.9s								
T1215				AML		AML			
	comp=N,23200μm,0.8s								
T1215				AML		AML			
	comp=E,27650μm,0.9s								
T1215				AML		AML			
	comp=N,21150μm,0.8s								
T1215				AML		AML			
	comp=N,23150μm,0.9s								
T1215				AML		AML			
	comp=E,30000μm,1.0s								
FEMA	**Monte Fema**	**0.19**	**344**	P		**Pg**		**14 43 56.3**	**+0.9**
FEMA				S		**Sg**		**14 43 60.0**	**+1.2**
FEMA				AML		AML			
	comp=E,45950μm,1.3s								
FEMA				AML		AML			
	comp=N,50500μm,0.5s								
FEMA				AML		AML			
	comp=E,45950μm,1.3s								
FEMA				AML		AML			
	comp=N,50550μm,0.5s								
MMO1	**Montemonaco**	**0.19**	**52**	⇑P		**Pg**		**14 43 56.2**	**+0.8**
MMO1				S		**Sg**		**14 43 59.6**	**+0.8**
SMA1	**SAN MARTINO**	**0.22**	**133**	⇓P		**Pg**		**14 43 56.8**	**+1.0**
SMA1				S		**Sg**		**14 44 00.9**	**+1.5**
SMA1				AML		AML			
	comp=E,94100μm,0.5s								
SMA1				AML		AML			
	comp=N,85200μm,1.1s								
SMA1				AML		AML			
	comp=E,94150μm,0.5s								
T1241	**Roccafluvione,**	**0.24**	**71**	⇑P		**Pb**		**14 43 57.1**	**+1.0**
T1241				S		**Sb**		**14 44 01.6**	**+1.7**
T1241				AML		AML			
	comp=E,43800μm,1.3s								
T1241				AML		AML			
	comp=E,43750μm,1.3s								
T1241				AML		AML			
	comp=E,42250μm,1.3s								
T1241				AML		AML			
	comp=N,27700μm,1.1s								
T1241				AML		AML			
	comp=N,28250μm,1.1s								
T1243	**Rocca Santa Ma**	**0.26**	**109**	⇑P		**Pb**		**14 43 57.2**	**+0.8**
T1243				S		**Sb**		**14 44 01.4**	**+0.9**
FDMO	**Fiordimonte**	**0.26**	**354**	P		**Pb**		**14 43 57.6**	**+1.1**
FDMO				S		**Sb**		**14 44 02.4**	**+1.9**
FDMO				AML		AML			
	comp=N,15850μm,1.2s								
FDMO				AML		AML			
	comp=E,13730μm,1.4s								
AM05	**Amandola Campo**	**0.26**	**41**	⇑P		**Pb**		**14 43 57.6**	**+1.1**
AM05				AML		AML			
	comp=E,22800μm,0.5s								
AM05				AML		AML			
	comp=E,5715μm,0.4s								
AM05				AML		AML			
	comp=N,4635μm,1.4s								
AM05				AML		AML			
	comp=N,18650μm,1.0s								
AM05				AML		AML			
	comp=E,22850μm,0.5s								
CESI	**CESI - Serrava**	**0.28**	**325**	⇓P		**Pb**		**14 43 58.1**	**+1.2**
CESI				S		**Sb**		**14 44 02.9**	**+1.8**
CESI				AML		AML			
	comp=E,18750μm,1.6s								
CESI				AML		AML			
	comp=N,45950μm,1.1s								
RM33	**Pellescritta (**	**0.28**	**166**	⇓P		**Pb**		**14 43 57.8**	**+0.9**
RM33				S		**Sb**		**14 44 02.3**	**+1.1**
RM33				AML		AML			
	comp=E,33550μm,1.0s								
RM33				AML		AML			
	comp=N,31950μm,0.3s								
RM33				AML		AML			
	comp=N,32250μm,0.3s								
RM33				AML		AML			
	comp=N,32000μm,0.3s								
RM33				AML		AML			
	comp=E,34050μm,1.0s								
RM33				AML		AML			
	comp=E,33500μm,1.0s								
RM33				AML		AML			
	comp=N,32200μm,0.3s								
CSP1	**Cessapalombo**	**0.32**	**11**	⇑P		**Pb**		**14 43 58.8**	**+1.1**
CSP1				S		**Sb**		**14 44 04.2**	**+1.7**
CSP1				AML		AML			
	comp=N,18250μm,1.4s								
CSP1				AML		AML			
	comp=N,18300μm,1.4s								
CSP1				AML		AML			
	comp=E,17050μm,0.7s								
GUMA	**Gualdo di Mace**	**0.32**	**29**	P		**Pb**		**14 43 58.2**	**+0.4**
GUMA				S		**Sb**		**14 44 03.7**	**+1.1**
GUMA				AML		AML			
	comp=E,47350μm,0.6s								
GUMA				AML		AML			
	comp=N,45850μm,0.4s								
GUMA				AML		AML			
	comp=N,58150μm,0.6s								
GUMA				AML		AML			
	comp=E,48900μm,0.5s								
GUMA				AML		AML			
	comp=N,45900μm,0.4s								
CAMP	**Campotosto**	**0.32**	**139**	⇓P		**Pb**		**14 43 58.5**	**+0.8**
CAMP				S		**Sb**		**14 44 03.8**	**+1.1**
CAMP				AML		AML			
	comp=E,16350μm,0.8s								
CAMP				AML		AML			
	comp=N,14650μm,1.6s								
ARRO	**Arrone**	**0.33**	**233**	P		**Pb**		**14 43 58.9**	**+1.1**
ARRO				AML		AML			
	comp=E,13650μm,1.6s								
ARRO				AML		AML			
	comp=N,15200μm,1.1s								
T1246	**Crognaleto (TE**	**0.34**	**126**	⇓P		**Pb**		**14 43 58.8**	**+0.7**
T1246				S		**Sb**		**14 44 04.1**	**+1.0**
T1247	**Pizzolo (AQ)**	**0.36**	**159**	P		**Pb**		**14 43 59.4**	**+0.9**
T1247				S		**Sb**		**14 44 05.0**	**+1.2**
T1247				AML		AML			
	comp=E,33400μm,0.3s								
T1247				AML		AML			
	comp=N,21950μm,1.2s								
SEF1	**Sefro**	**0.39**	**341**	⇑P		**Pb**		**14 43 60.0**	**+1.1**
SEF1				AML		AML			
	comp=E,16800μm,0.3s								
SEF1				AML		AML			
	comp=N,15750μm,0.6s								
SEF1				AML		AML			
	comp=N,15750μm,0.6s								
SEF1				AML		AML			
	comp=E,16750μm,0.3s								
TERO	**Teramo**	**0.39**	**114**	P		**Pb**		**14 43 59.6**	**+0.7**
TERO				S		**Sb**		**14 44 05.6**	**+1.1**
TERO				AML		AML			
	comp=N,17500μm,0.5s								
TERO				AML		AML			
	comp=E,10800μm,0.3s								
TERO				AML		AML			

TERO AML AML
comp=N,16750µm,0.5s
comp=E,10300µm,0.3s
PIO1 Pioraco 0.41 346 P **Pb** **14 44 00.7 +1.5**
PIO1 S **Sb** **14 44 07.0 +1.8**
MDAR Monte D'Aria 0.41 2 P **Pb** **14 44 00.5 +1.2**
MDAR S **Sb** **14 44 07.2 +1.9**
FIU1 Fiuminata 0.43 341 P **Pb** **14 44 00.6 +1.0**
FIU1 AML AML
comp=E,6395µm,1.5s
FIU1 AML AML
comp=N,7330µm,1.0s
FIU1 AML AML
comp=N,7335µm,1.0s
FIU1 AML AML
comp=E,6400µm,1.5s
CESX Cesi 0.43 247 ⇓P **Pb** **14 44 00.7 +1.1**
CESX AML AML
comp=N,10615µm,0.5s
CESX AML AML
comp=E,13950µm,1.5s
MNTP Montappone 0.44 36 P **Pb** **14 44 01.1 +1.4**
OFFI Offida 0.44 69 P **Pn** **14 44 01.6 -0.3**
OFFI AML AML
comp=E,16050µm,0.5s
OFFI AML AML
comp=N,21600µm,1.3s
SSM1 San Severino M 0.45 5 P **Pb** **14 44 01.0 +1.1**
GAG1 Gagliole 0.46 355 P **Pb** **14 44 01.4 +1.3**
GAG1 AML AML
comp=E,17300µm,0.8s
GAG1 AML AML
comp=N,22500µm,0.5s
GAG1 AML AML
comp=N,22550µm,0.5s
GIGS Gran Sasso 0.47 135 P **Pb** **14 44 00.8 +0.6**
GIGS S **Sb** **14 44 07.9 +1.1**
GIGS AML AML
comp=E,3440µm,1.1s
GIGS AML AML
comp=N,2125µm,1.6s
GIGS AML AML
comp=E,3445µm,1.1s
AQU L'Aquila 0.47 154 P **Pb** **14 44 01.2 +0.9**
AQU AML AML
comp=N,12300µm,1.3s
AQU AML AML
comp=N,11550µm,1.1s
AQU AML AML
comp=E,17450µm,1.0s
AQU AML AML
comp=E,17550µm,1.0s
MTL1 Matelica 0.48 350 P **Pb** **14 44 01.9 +1.4**
SNTG Esanatoglia 0.49 344 ⇓P **Pb** **14 44 01.8 +1.1**
SNTG AML AML
comp=N,578µm,1.2s
SNTG AML AML
comp=N,4840µm,0.8s
SNTG AML AML
comp=E,666µm,0.7s
SNTG AML AML
comp=N,578µm,1.2s
SNTG AML AML
comp=E,5100µm,0.7s
FIAM Fiamignano 0.51 180 ⇓P **Pb** **14 44 01.8 +0.9**
FIAM AML AML
comp=E,9355µm,1.0s
FIAM AML AML
comp=N,7410µm,1.0s
ATCC AVT- Casa Cast 0.54 319 ⇓P **Pn** **14 44 02.8 -0.5**
EL6 Elcito 0.55 359 P **Pb** **14 44 02.5 +1.0**
EL6 AML AML
comp=N,7730µm,1.1s
EL6 AML AML
comp=E,8035µm,1.5s
TRE1 Treia 0.55 15 P **Pb** **14 44 02.5 +1.0**
FOSV Fossato di Vic 0.58 333 P **Pb** **14 44 03.0 +1.0**
FOSV AML AML
comp=N,5935µm,1.2s
FOSV AML AML
comp=E,3955µm,1.3s
FOSV AML AML
comp=N,5940µm,1.2s
TRTR Tortoreto Alta 0.58 87 P **Pn** **14 44 04.7 +0.9**
TRTR AML AML
comp=N,17050µm,0.6s
TRTR AML AML
comp=E,13500µm,0.9s
CING Cingoli 0.60 5 P **Pb** **14 44 03.5 +1.1**
CING AML AML
comp=N,2985µm,0.3s
CING AML AML
comp=E,3650µm,0.4s
MURB Monte Urbino 0.65 318 P **Pn** **14 44 04.8 -0.1**
MURB AML AML
comp=N,11800µm,0.9s
MURB AML AML
comp=E,10250µm,0.9s
MURB AML AML
comp=N,12250µm,0.9s
MURB AML AML
comp=E,10400µm,1.5s
MURB AML AML
comp=N,11800µm,0.9s
VCEL Villa Celiera 0.66 126 P **Pg** **14 44 04.4 +1.0**
VCEL AML AML
comp=N,11330µm,0.9s
VCEL AML AML
comp=E,8825µm,0.5s
VCEL AML AML
comp=N,11325µm,0.9s
MMUR Monte Murano 0.67 352 P **Pn** **14 44 05.0 -0.1**
PP3 Marolino 0.70 31 P **Pn** **14 44 05.7 +0.3**
PP3 AML AML
comp=N,11250µm,1.6s
PP3 AML AML
comp=N,11300µm,1.6s
PP3 AML AML
comp=E,23200µm,0.5s
PP3 AML AML
comp=E,22750µm,0.5s
ATTE AVT- Monte Tez 0.70 307 P **Pn** **14 44 05.3 -0.2**
ATTE AML AML
comp=E,2925µm,1.1s
ATTE AML AML
comp=N,2670µm,1.2s
SSFR Montelago di S 0.70 339 P **Pn** **14 44 05.5 0.0**
SSFR AML AML
comp=E,5225µm,0.7s
SSFR AML AML
comp=N,6365µm,1.2s
SSFR AML AML
comp=N,5600µm,1.2s
SSFR AML AML
comp=E,5115µm,0.7s
SRES S.Oreste - Sor 0.71 220 P **Pn** **14 44 05.6 +0.1**
SRES AML AML
comp=E,2690µm,0.9s
SRES AML AML
comp=N,2690µm,1.3s
ATFO Monte Foce - G 0.71 326 P **Pg** **14 44 05.3 +0.8**
ATFO AML AML
comp=N,4200µm,1.2s
ATFO AML AML
comp=E,5190µm,0.9s
ATFO AML AML
comp=N,4205µm,1.2s
ATSC Scheggia e Pas 0.72 334 P **Pn** **14 44 05.7 -0.1**
ARVD Arcevia 0.73 350 P **Pn** **14 44 05.8 0.0**
T0110 Collepietro 0.74 138 ⇑P **Pg** **14 44 05.7 +0.7**
T0110 AML AML
comp=E,7485µm,0.7s
T0110 AML AML
comp=N,8365µm,0.3s
ATLO AVT- Montelove 0.75 316 P **Pn** **14 44 06.1 0.0**
MGAB Montegabbione 0.75 280 P **Pn** **14 44 06.8 +0.6**
MGAB AML AML
comp=E,6955µm,1.3s
MGAB AML AML
comp=E,7950µm,1.3s
MGAB AML AML
comp=N,6290µm,0.7s
MGAB AML AML
comp=N,6755µm,1.1s
PTQR Pietraquaria 0.79 165 P **Pn** **14 44 06.7 0.0**
PTQR AML AML
comp=N,1915µm,1.0s
PTQR AML AML
comp=E,2440µm,1.2s
TB02 Pietralunga 0.79 319 P **Pn** **14 44 07.0 +0.3**
ATVA AVT- Monte Val 0.79 309 P **Pn** **14 44 07.4 +0.7**
FRON Frontone 0.79 339 P **Pn** **14 44 06.9 +0.2**
FRON AML AML
comp=N,3160µm,1.0s
FRON AML AML
comp=E,2060µm,0.9s
ATVO AVT- Monte Val 0.80 319 P **Pn** **14 44 07.0 +0.2**
ATVO AML AML
comp=E,2535µm,0.7s
ATVO AML AML
comp=N,3330µm,0.8s
MTCE Montecelio 0.81 200 P **Pn** **14 44 07.5 +0.6**
MTCE AML AML
comp=E,4205µm,1.4s
MTCE AML AML
comp=N,3225µm,0.6s
TB03 Pietralunga 0.81 320 P **Pn** **14 44 07.3 +0.3**
ATBU Serra di Buran 0.81 329 P **Pn** **14 44 07.6 +0.5**
ATMI Monte Miggiano 0.83 312 P **Pn** **14 44 07.9 +0.6**
ATMI AML AML
comp=E,8215µm,0.9s
ATMI AML AML
comp=N,7410µm,1.0s
CERT Cerreto 0.84 187 P **Pn** **14 44 07.4 +0.1**
CERT AML AML
comp=E,7550µm,0.6s
CERT AML AML
comp=N,4870µm,0.6s
AOI Ancona 0.85 24 P **Pn** **14 44 08.4 +0.9**
ATPC Poggio Castell 0.85 325 P **Pn** **14 44 08.3 +0.7**
ATPI Pietralunga - 0.85 322 P **Pn** **14 44 07.8 +0.2**
ATPI AML AML
comp=E,2785µm,0.7s
ATPI AML AML
comp=N,2505µm,1.0s
PIEI Pieia 0.87 331 P **Pn** **14 44 08.2 +0.4**
PIEI AML AML
comp=E,1735µm,1.1s
PIEI AML AML
comp=N,2090µm,1.6s
MPAG Monte Paganucc 0.89 343 P **Pg** **14 44 08.1 +0.3**
MPAG AML AML
comp=E,2125µm,1.0s
MPAG AML AML
comp=E,2120µm,1.0s
MPAG AML AML
comp=N,2240µm,0.5s
SACS San Casciano d 0.89 275 P **Pg** **14 44 08.3 +0.4**
SACS AML AML
comp=E,4190µm,1.4s
SACS AML AML
comp=N,3160µm,0.7s
SACS AML AML
comp=E,4190µm,0.9s
SACS AML AML
comp=N,3505µm,0.8s
SENI Senigallia 0.93 5 P **Pn** **14 44 09.5 +1.0**
SENI AML AML
comp=E,6980µm,0.7s
SENI AML AML
comp=N,7055µm,1.3s
RCAV Rocca di Cave 0.94 188 P **Pn** **14 44 09.3 +0.5**
RCAV AML AML
comp=E,4860µm,1.4s
RCAV AML AML
comp=N,4470µm,0.5s
FSSB Fossombrone 0.94 345 P **Pg** **14 44 09.4 +0.5**
FSSB AML AML
comp=N,5690µm,1.2s
FSSB AML AML
comp=E,4800µm,1.3s
ATMC Monte Cedrone 0.95 315 P **Pg** **14 44 10.3 +1.3**
INTR Introdacqua 0.96 143 P **Pn** **14 44 09.2 +0.1**
INTR AML AML
comp=N,3µm,1.1s
INTR AML AML
comp=E,4170µm,1.0s
INTR AML AML
comp=E,4µm,1.0s
INTR AML AML
comp=N,5020µm,1.1s
BADI Badiali 0.97 319 P **Pn** **14 44 09.6 +0.4**
VVLD Villa Vallelon 0.98 158 P **Pg** **14 44 10.1 +0.6**
VVLD AML AML
comp=N,2295µm,1.6s
VVLD AML AML
comp=E,2980µm,1.1s
LATE Laterza 0.98 261 P **Pg** **14 44 10.8 +1.2**
CAFI Castiglion Fio 1.01 303 P **Pg** **14 44 10.7 +0.6**
CAFI AML AML
comp=E,1600µm,1.0s
CAFI AML AML
comp=N,2320µm,0.8s
CAFI AML AML
comp=E,1565µm,0.6s
CAFI AML AML
comp=N,2390µm,0.8s
RMP Rome, Mte Porz 1.02 198 P **Pg** **14 44 11.0 +0.8**
PE3 Peglio 1.02 334 P **Pg** **14 44 11.4 +1.1**
RDP Rocca di Papa 1.06 197 P **Pn** **14 44 11.0 +0.5**
SSP9 Sansepolcro 1.07 318 P **Pg** **14 44 11.6 +0.3**
LPEL Lama dei Pelig 1.07 133 P **Pg** **14 44 11.4 +0.1**
LPEL AML AML
comp=N,2400µm,1.0s
LPEL AML AML
comp=E,3125µm,0.9s
SF04 Casetta 1.08 273 P **Pg** **14 44 12.0 +0.7**
PARC Parchiule 1.08 324 P **Pg** **14 44 12.5 +1.1**
PARC AML AML
comp=N,2205µm,1.5s
PARC AML AML
comp=E,2340µm,1.3s
TOLF Tolfa 1.10 230 P **Pg** **14 44 12.1 +0.4**
TOLF AML AML
comp=E,1830µm,1.6s
TOLF AML AML
comp=N,1260µm,1.4s
POFI Posta Fibreno 1.15 157 P **Pg** **14 44 13.1 +0.4**
POFI AML AML
comp=E,2150µm,1.3s
POFI AML AML
comp=N,1253µm,0.7s
PESA Pesaro 1.18 350 P **Pg** **14 44 13.5 +0.2**
CRE Caprese Michel 1.20 315 P **Pg** **14 44 13.9 +0.2**
GIUL Giuliano Di Ro 1.23 175 P **Pg** **14 44 14.4 +0.3**
GIUL AML AML
comp=E,1385µm,1.2s
GIUL AML AML
comp=N,1480µm,0.8s
CERA Filignano 1.36 150 P **Pg** **14 44 16.3 -0.3**
FRES Fresagrandinar 1.40 125 P **Pg** **14 44 17.3 -0.2**
ASQU Asqua 1.41 317 P **Pg** **14 44 17.8 +0.2**
MIDA Miranda 1.42 143 P **Pb** **14 44 16.6 +0.2**
TRIV Trivento 1.47 133 P **Pb** **14 44 18.0 +0.8**
TRIV AML AML
comp=E,1350µm,1.2s
TRIV AML AML
comp=N,1765µm,1.4s
TRIV AML AML
comp=N,1760µm,1.5s
TRIV AML AML
comp=E,1440µm,1.1s
OSSC Osservatorio P 1.56 299 P **Pb** **14 44 19.8 +1.0**
RUFI Rufina 1.58 313 P **Pg** **14 44 20.7 -0.2**
VAGA Valle Agricola 1.60 148 P **Pb** **14 44 19.7 +0.3**
TRIF Trifonti 1.66 282 P **Pb** **14 44 20.9 +0.3**
TRIF AML AML
comp=N,362µm,1.1s
TRIF AML AML
comp=E,367µm,0.8s
CIGN Sant'Elia a Pi 1.74 130 P **Pb** **14 44 22.4 +0.6**
DUGI Dugi Otok 1.86 49 *e*Pn **Pb** **14 44 25.4 +1.5**
DUGI Sn **Sb** **14 44 47.1 +0.3**
MTCR Monte La Croce 1.99 310 P **Pb** **14 44 25.8 -0.3**
ZIRJ Zirje 2.04 64 *e*Pn **Pb** **14 44 27.7 +0.8**
VIRC Vir 2.06 42 *e*Pn **Pb** **14 44 27.1 -0.3**
MORI Morici 2.18 59 *e*Pn **Pb** **14 44 29.8 +0.5**
NVLJ Novalja 2.19 35 *e*Pn **Pb** **14 44 29.2 -0.3**
SGRT San Giovanni R 2.20 117 P **Pb** **14 44 28.8 -0.9**
SGRT AML AML
comp=E,694µm,0.9s
SGRT AML AML
comp=N,520µm,0.5s
RABC Rab 2.31 31 *e*Pn **Pb** **14 44 30.7 -0.8**
MSAG Monte S. Angel 2.33 116 P **Pn** **14 44 30.0 +2.1**
MSAG AML AML
comp=E,550µm,1.3s
MSAG AML AML
comp=N,984µm,1.3s
MSAG AML AML
comp=E,609µm,1.3s
MSAG AML AML
comp=N,1028µm,1.3s
HVAR Hvar 2.47 80 *e*Pn **Pb** **14 44 33.9 -0.5**
UDBI Udbina 2.59 47 *e*Pn **Pb** **14 44 35.9 -0.6**
KIJV Kijevo 2.69 62 *e*Pn **Pb** **14 44 37.7 -0.3**
LSTV Lastovo 2.78 89 *e*Pn **Pb** **14 44 37.7 -1.8**
MAKA Makarska 2.90 79 *e*Pn **Pb** **14 44 40.0 -1.6**
RICI Ricice 3.02 75 *e*Pn **Pb** **14 44 42.0 -1.7**
PGF Pioggiola 3.05 267 *e*P **Pb** **14 44 41.9 -2.3**
PGF *e*Sn **Sn** **14 45 12.2 -1.7**
AMUR Altamura 3.21 125 P **Pn** **14 44 42.6 +2.7**
STON Ston 3.37 87 *e*Pn **Pn** **14 44 45.4 +3.2**
STON Ston 3.37 87 P **Pn** **14 44 44.9 +2.8**
STON AML AML
comp=E,93µm,1.3s
STON AML AML
comp=N,166µm,1.2s
CTI Castel Tesino 3.43 343 P **Pn** **14 44 46.3 +3.2**
MAGA Magasa 3.49 330 P **Pn** **14 44 46.9 +3.0**
LTRZ Laterza 3.52 127 P **Pn** **14 44 47.5 +3.2**
PTCC Patocco-Chiusa 3.63 3 P **Pn** **14 44 48.8 +3.1**
PTCC AML AML
comp=E,135µm,1.0s
PTCC AML AML
comp=N,125µm,0.7s
ZONE Zone 3.68 325 AML AML
comp=N,155µm,1.0s
ZONE AML AML
comp=E,132µm,0.6s
MABI Malga Bissina 3.77 331 P **Pn** **14 44 50.3 +2.5**
MYKA Terra Mystica 3.87 5 *e*Pn **Pn** **14 44 53.8 +4.7**
comp=E,3.5nm,0.2s
ABTA Abfaltersbach 3.99 354 *e*Pn **Pb** **14 44 56.2 -4.0**
comp=E,34nm,0.7s
SBF Sospel 4.29 287 *e*P **Pn** **14 44 58.2 +3.4**
SBF *e*Sn **Sn** **14 45 41.5 -2.9**
comp=E,15nm,0.5s
KBA Koelnbreinsper 4.30 2 *e*Pn Pn 14 45 00.1 +5.0
comp=E,5.9nm,0.3s
WTTA Wattenberg 4.61 347 *e*Pn Pb 14 45 06.2 -4.6
comp=E,2.4nm,0.2s
SQTA Sankt Quirin 4.64 344 *e*Pn Pb 14 45 06.5 -4.8
comp=E,6.7nm,0.3s
WATA Walderalm 4.69 347 *e*Pn Pb 14 45 07.3 -4.8
comp=E,3.0nm,0.2s
LMR La Mourre 4.88 279 *e*P **Pn** **14 45 06.4 +3.6**
LMR *e*Sn **Sn** **14 45 55.6 -3.2**
comp=E,2.9nm,0.4s
BIOA Bad Ischl, Aus 4.92 4 *e*Pn Pn 14 45 08.6 +5.1
comp=E,2.5nm,0.2s
RETA Reutte 4.99 341 *i* Pn Pn 14 45 10.5 +6.0
comp=E,3.1nm,0.4s
MBDF Montbardon 4.99 295 *e*P **Pn** **14 45 08.3 +3.7**
MBDF *e*Sn **Sn** **14 45 58.6 -3.3**
comp=E,11nm,0.7s
DAVA Damuels 5.06 334 *e*Pn Pb 14 45 13.2 -5.3
comp=E,12nm,0.5s
LPG La Plagne 5.33 303 *e*P **Pn** **14 45 13.5 +4.2**
LPG *e*Sn **Sn** **14 46 07.0 -3.3**
comp=E,2.7nm,0.3s
LPL La Plagne 5.35 303 *e*P **Pn** **14 45 13.5 +4.0**
LPL *e*Sn **Sn** **14 46 07.2 -3.6**
comp=E,2.1nm,0.3s
CONA Conrad Observa 5.50 20 *e*Pn Pn 14 45 16.3 +4.9
comp=E,2.6nm,0.3s
ORIF Oris-en-Rattie 5.66 295 *e*P **Pn** **14 45 17.6 +4.0**
ORIF *e*Sn **Sn** **14 46 14.3 -3.8**
comp=E,4.4nm,0.5s
CABF La Chapelle 6.31 310 *e*P **Pn** **14 45 26.7 +4.1**
CABF *e*Sn **Sn** **14 46 30.0 -4.2**
CABF *e*Sg **Sg** **14 47 08.8 -4.0**
comp=E,10.0nm,0.9s
VIVF Saint-Julien-l 6.45 292 *e*P **Pn** **14 45 28.9 +4.4**
HINF Hinteralfeld 6.70 321 *e*P **Pn** **14 45 32.1 +4.2**
HINF *e*Sn **Sn** **14 46 39.2 -4.5**
comp=E,2.5nm,0.3s
LASF Ste Croix 6.87 284 *e*P **Pn** **14 45 34.6 +4.4**
LASF *e*Sn **Sn** **14 46 42.8 -5.1**
comp=E,1.2nm,0.4s
CDF Champ du Feu 6.96 326 *e*P **Pn** **14 45 35.7 +4.1**
CDF *e*Sn **Sn** **14 46 45.5 -4.8**
comp=E,9.8nm,0.6s
HAU Haudompre 7.07 320 *e*P **Pn** **14 45 37.4 +4.4**
HAU *e*Sn **Sn** **14 46 47.9 -5.0**
comp=E,6.6nm,0.4s
SMF Signal de Mont 7.66 303 *e*P Pn 14 45 45.8 +4.8
SMF *e*Sn **Sn** **14 47 01.9 -5.3**
comp=E,1.3nm,0.2s
PAGF Fort de Pagny 7.75 321 *e*P **Pn** **14 45 47.1 +4.8**
SFTF Sexfontaines 7.85 316 *e*P **Pn** **14 45 48.4 +4.7**
LOR Lormes 7.95 308 *e*P **Pn** **14 45 49.7 +4.7**
baz=123
LOR *e*Sn **Sn** **14 47 08.9 -5.5**
comp=E,2.2nm,0.4s
MTLF Montolieu 8.01 278 *e*P **Pn** **14 45 50.5 +4.7**
MTLF *e*Sn **Sn** **14 47 10.4 -5.4**
comp=E,0.7nm,0.3s
AVF Avril sur Loir 8.02 303 *e*P **Pn** **14 45 50.7 +4.7**
AVF *e*Sn **Sn** **14 47 10.8 -5.4**
comp=E,1.3nm,0.4s
MEZF Maizieres J'vi 8.04 318 *e*P **Pn** **14 45 50.9 +4.7**
BGF Bois d'Agland 8.24 301 *e*P **Pn** **14 45 53.5 +4.5**
BGF *e*Sn **Sn** **14 47 16.0 -5.5**
comp=E,6.2nm,0.5s
CAF Calviac 8.27 289 *e*P Pn 14 45 54.5 +5.0
CAF *e*Sn **Sn** **14 47 16.8 -5.7**
comp=E,1.0nm,0.3s
RJF Les Rejaudoux 8.73 291 *e*P Pn 14 46 01.3 +5.5
RJF *e*Sn **Sn** **14 47 27.8 -5.9**
comp=E,1.3nm,0.3s
GIVF Givet 9.29 325 *e*P Pn 14 46 09.6 +6.2

*LDG **15** 14:44:23.7±0.1, 42°.78N×13°.17E, h9km, Ml2.9/12, Error ellipse: s-maj=1.2km s-min=1.0km az=31.0*
*ROM **15** 14:44:24.3±0.0, 42°.776N±0°.002×13°.134E±0°.004, h8km, ML3.7/13, Error ellipse: s-maj=0.3km s-min=0.1km az=66.0*

ISC 15 14:44:24.0±0.8, **42°.77N**±0°.02×**13°.10E**±0°.02, **h14**km±4km, **n73**, σ1.**991**/122, **1C**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.06**	**8**	P		P	**Pg**	**14 44 26.3**	**-0.7**
NRCA						S	**Sg**	**14 44 27.5**	**-1.4**
NRCA						AML	AML		
NRCA						AML	AML		
NRCA						AML	AML		
NRCA						AML	AML		
NRCA						AML	AML		
NRCA						AML	AML		
T1242	**Castelluccio d**	**0.09**	**53**	⇑P		**Pg**		**14 44 26.5**	**-0.9**
T1242						S	**Sg**	**14 44 28.0**	**-1.6**
T1242						AML	AML		
T1242						AML	AML		
T1242						AML	AML		
T1242						AML	AML		
T1242						AML	AML		
T1242						AML	AML		
T1202	**Accumoli, Fraz**	**0.11**	**128**	P		**Pg**		**14 44 26.9**	**-0.7**
T1202						S	**Sg**	**14 44 29.1**	**-0.8**
T1202						AML	AML		
T1202						AML	AML		
T1202						AML	AML		
T1202						AML	AML		
T1202						AML	AML		
T1216	**Preci, Frazion**	**0.13**	**332**	P		**Pg**		**14 44 27.9**	**+0.2**
T1216						S	**Sg**	**14 44 30.4**	**+0.2**
T1216						AML	AML		
T1216						AML	AML		
T1216						AML	AML		
T1216						AML	AML		

comp=N,71950µm,1.3s
comp=E,72200µm,1.0s

T1217	**Poggiodomo (PG**	**0.14**	**244**	P		**Pb**	**14 44 28.3**	**-0.2**
T1217				S		**Sg**	**14 44 31.2**	**+0.8**
T1244	**Arquata del Tr**	**0.14**	**97**	P		**Pg**	**14 44 27.6**	**-0.3**
T1244				S		**Sg**	**14 44 30.3**	**-0.2**
MC2	**Monte Cornacci**	**0.15**	**25**	P		**Pg**	**14 44 28.1**	**0.0**
MC2				S		**Sg**	**14 44 30.9**	**0.0**
T1215	**Vallo di Nera,**	**0.17**	**279**	P		**Pb**	**14 44 29.0**	**-0.1**
T1215				S		**Sg**	**14 44 32.4**	**+1.3**
T1215				AML	AML			
	comp=N,7518μm,0.7s							
T1215				AML	AML			
	comp=E,6670μm,0.3s							
LNSS	**Leonessa**	**0.18**	**195**	P		**Pb**	**14 44 28.7**	**-0.4**
LNSS				S		**Sg**	**14 44 32.2**	**+1.0**
LNSS				AML	AML			
	comp=N,23084μm,0.4s							
LNSS				AML	AML			
	comp=E,23292μm,0.4s							
T1204	**Amatrice, Fraz**	**0.19**	**122**	P		**Pg**	**14 44 28.6**	**0.0**
T1204				S		**Sg**	**14 44 31.8**	**+0.3**
T1204				AML	AML			
	comp=E,19556μm,0.5s							
FEMA	**Monte Fema**	**0.19**	**348**	P		**Pg**	**14 44 28.9**	**+0.3**
FEMA				S		**Sg**	**14 44 32.3**	**+0.6**
FEMA				AML	AML			
	comp=E,45950μm,1.3s							
FEMA				AML	AML			
	comp=N,50500μm,0.5s							
FEMA				AML	AML			
	comp=N,50550μm,0.5s							
FEMA				AML	AML			
	comp=E,45950μm,1.3s							
MMO1	**Montemonaco**	**0.21**	**53**	P		**Pg**	**14 44 28.6**	**-0.2**
MMO1				S		**Sg**	**14 44 31.8**	**-0.3**
SMA1	**SAN MARTINO**	**0.22**	**130**	P		**Pg**	**14 44 29.3**	**+0.2**
SMA1				S		**Sg**	**14 44 33.6**	**+1.1**
SMA1				AML	AML			
	comp=N,33839μm,0.5s							
SMA1				AML	AML			
	comp=E,24625μm,0.8s							
T1241	**Roccafluvione,**	**0.26**	**71**	P		**Pg**	**14 44 29.6**	**0.0**
T1241				S		**Sg**	**14 44 33.7**	**+0.4**
FDMO	**Fiordimonte**	**0.26**	**358**	P		**Pg**	**14 44 30.0**	**+0.3**
FDMO				S		**Sg**	**14 44 34.1**	**+0.5**
T1243	**Rocca Santa Ma**	**0.27**	**107**	P		**Pg**	**14 44 29.9**	**+0.1**
T1243				S		**Sg**	**14 44 33.7**	**0.0**
CESI	**CESI - Serrava**	**0.27**	**328**	P		**Pb**	**14 44 30.5**	**-0.3**
CESI				S		**Sb**	**14 44 35.2**	**-0.1**
AM05	**Amandola Campo**	**0.27**	**42**	P		**Pg**	**14 44 30.2**	**+0.3**
AM05				S		**Sg**	**14 44 34.6**	**+0.7**
AM05				AML	AML			
	comp=E,22800μm,0.5s							
AM05				AML	AML			
	comp=N,18650μm,1.0s							
AM05				AML	AML			
	comp=E,5715μm,0.4s							
AM05				AML	AML			
	comp=E,22850μm,0.5s							
AM05				AML	AML			
	comp=N,4630μm,1.0s							
RM33	**Pellescritta (**	**0.28**	**163**	P		**Pg**	**14 44 30.2**	**+0.3**
RM33				S		**Sb**	**14 44 34.8**	**-0.6**
RM33				AML	AML			
	comp=E,9473μm,0.6s							
ARRO	**Arrone**	**0.32**	**232**	P		**Pb**	**14 44 31.6**	**+0.2**
CSP1	**Cessapalombo**	**0.33**	**13**	P		**Pb**	**14 44 31.4**	**-0.3**
CSP1				S		**Sb**	**14 44 36.5**	**-0.4**
CAMP	**Campotosto**	**0.33**	**136**	P		**Pg**	**14 44 30.9**	**+0.1**
CAMP				S		**Sb**	**14 44 36.2**	**-0.7**
GUMA	**Gualdo di Mace**	**0.34**	**31**	P		**Pg**	**14 44 30.6**	**-0.4**
GUMA				S		**Sg**	**14 44 36.1**	**+0.4**
GUMA				AML	AML			
	comp=E,47350μm,0.6s							
GUMA				AML	AML			
	comp=N,45850μm,0.4s							
GUMA				AML	AML			
	comp=N,45900μm,0.4s							
T1246	**Crognaleto (TE**	**0.34**	**123**	P		**Pg**	**14 44 31.4**	**+0.2**
T1246				S		**Sg**	**14 44 36.6**	**+0.6**
T1247	**Pizzolo (AQ)**	**0.36**	**156**	P		**Pg**	**14 44 31.8**	**+0.3**
T1247				S		**Sb**	**14 44 37.8**	**0.0**
SEF1	**Sefro**	**0.39**	**343**	P		**Pb**	**14 44 32.5**	**-0.2**
SEF1				S		**Sb**	**14 44 39.0**	**+0.4**
TERO	**Teramo**	**0.40**	**112**	P		**Pg**	**14 44 32.2**	**+0.1**
TERO				AML	AML			
	comp=N,3692μm,0.5s							
TERO				AML	AML			
	comp=E,3402μm,0.4s							
TERO				AML	AML			
	comp=E,3476μm,0.8s							
TERO				AML	AML			
	comp=N,3511μm,0.9s							
PIO1	**Pioraco**	**0.41**	**348**	P		**Pb**	**14 44 32.9**	**-0.2**
PIO1				S		**Sb**	**14 44 39.5**	**+0.2**
CESX	**Cesi**	**0.42**	**247**	P		**Pb**	**14 44 33.3**	**+0.1**
MDAR	**Monte D'Aria**	**0.42**	**4**	P		**Pg**	**14 44 32.9**	**+0.4**
MDAR				S		**Sb**	**14 44 39.4**	**-0.1**
FIU1	**Fiuminata**	**0.43**	**343**	P		**Pb**	**14 44 33.5**	**0.0**
FIU1				S		**Sb**	**14 44 40.6**	**+0.8**
MNTP	**Montappone**	**0.45**	**36**	P		**Pb**	**14 44 34.0**	**+0.2**
OFFI	**Offida**	**0.46**	**69**	P		**Pb**	**14 44 34.2**	**+0.4**
SSM1	**San Severino M**	**0.46**	**7**	P		**Pb**	**14 44 33.7**	**-0.2**
SSM1				S		**Sb**	**14 44 40.7**	**+0.2**
GAG1	**Gagliole**	**0.47**	**357**	P		**Pb**	**14 44 34.0**	**0.0**
GAG1				S		**Sb**	**14 44 41.2**	**+0.4**
GIGS	**Gran Sasso**	**0.47**	**133**	P		**Pg**	**14 44 33.5**	**+0.1**
GIGS				S		**Sg**	**14 44 40.3**	**+0.5**
MTL1	**Matelica**	**0.49**	**352**	P		**Pb**	**14 44 34.4**	**0.0**
MTL1				S		**Sb**	**14 44 42.0**	**+0.6**
SNTG	**Esanatoglia**	**0.50**	**346**	P		**Pb**	**14 44 34.5**	**0.0**
SNTG				S		**Sb**	**14 44 42.2**	**+0.5**
SNTG				AML	AML			
	comp=E,241μm,0.1s							
FIAM	**Fiamignano**	**0.51**	**179**	P		**Pb**	**14 44 34.7**	**0.0**
FIAM				S		**Sb**	**14 44 42.5**	**+0.6**
ATCC	**AVT- Casa Cast**	**0.53**	**321**	P		**Pb**	**14 44 35.1**	**-0.1**
ATCC				S		**Sb**	**14 44 43.9**	**+1.2**
EL6	**Elcito**	**0.56**	**360**	P		**Pb**	**14 44 35.5**	**-0.1**
EL6				S		**Sb**	**14 44 44.1**	**+0.7**
TRE1	**Treia**	**0.56**	**16**	P		**Pb**	**14 44 36.3**	**+0.7**
FOSV	**Fossato di Vic**	**0.58**	**334**	P		**Pb**	**14 44 35.8**	**-0.1**
FOSV				S		**Sb**	**14 44 45.2**	**+1.2**
TRTR	**Tortoreto Alta**	**0.60**	**86**	P		**Pb**	**14 44 36.7**	**+0.4**
CING	**Cingoli**	**0.60**	**6**	P		**Pb**	**14 44 36.9**	**+0.5**
MURB	**Monte Urbino**	**0.65**	**319**	P		**Pb**	**14 44 37.8**	**+0.6**
MURB				S		**Sb**	**14 44 47.5**	**+1.5**
VCEL	**Villa Celiera**	**0.66**	**125**	P		**Pb**	**14 44 37.7**	**+0.2**
MMUR	**Monte Murano**	**0.67**	**353**	P		**Pb**	**14 44 38.1**	**+0.5**
MMUR				S		**Sb**	**14 44 48.1**	**+1.4**
SSFR	**Montelago di S**	**0.70**	**341**	P		**Pb**	**14 44 38.8**	**+0.7**
ATSC	**Scheggia e Pas**	**0.72**	**335**	P		**Pb**	**14 44 38.4**	**+0.1**
ARVD	**Arcevia**	**0.73**	**351**	P		**Pb**	**14 44 38.8**	**+0.2**
ARVD				S		**Sb**	**14 44 49.6**	**+1.1**
MGAB	**Montegabbione**	**0.74**	**281**	P		**Pb**	**14 44 39.1**	**+0.4**
ATLO	**AVT- Montelove**	**0.74**	**317**	P		**Pb**	**14 44 39.0**	**+0.2**
ATVA	**AVT- Monte Val**	**0.78**	**310**	P		**Pg**	**14 44 39.2**	**-0.1**
TB03	**Pietralunga**	**0.81**	**321**	P		**Pb**	**14 44 40.2**	**+0.4**
AOI	**Ancona**	**0.86**	**25**	AML	AML			
	comp=E,2460μm,0.3s							
AOI				AML	AML			
	comp=N,2720μm,1.0s							
SACS	**San Casciano d**	**0.88**	**275**	P		**Pn**	**14 44 42.9**	**+0.9**
FSSB	**Fossombrone**	**0.95**	**346**	P		**Pg**	**14 44 41.8**	**-0.6**
PGF	**Pioggiola**	**3.04**	**267**	*eP*		**Pn**	**14 45 13.9**	**+2.2**
PGF				*eSn*		**Sn**	**14 45 45.4**	**-2.4**
	comp=N,13nm,0.6s							
SBF	**Sospel**	**4.28**	**287**	*eP*		**Pn**	**14 45 31.4**	**+2.7**
SBF				*eSn*		**Sn**	**14 46 15.0**	**-3.4**
	comp=N,25nm,0.8s							
LMR	**La Mourre**	**4.86**	**279**	*eP*		**Pn**	**14 45 39.4**	**+2.7**
LMR				*eSn*		**Sn**	**14 46 28.9**	**-3.9**
	comp=N,0.3nm,0.2s							
MBDF	**Montbardon**	**4.98**	**295**	*eP*		**Pn**	**14 45 42.9**	**+4.4**
MBDF				*eSn*		**Sn**	**14 46 31.9**	**-4.1**
	comp=N,1.2nm,0.3s							
LPG	**La Plagne**	**5.32**	**303**	*eP*		**Pn**	**14 45 46.4**	**+3.2**
LPL	**La Plagne**	**5.34**	**303**	*eP*		**Pn**	**14 45 46.5**	**+3.0**
LPL				*eSn*		**Sn**	**14 46 40.4**	**-4.4**
	comp=N,10nm,0.6s							
ORIF	**Oris-en-Rattie**	**5.65**	**295**	*eP*		**Pn**	**14 45 50.8**	**+3.3**
ORIF				*eSn*		**Sn**	**14 46 47.7**	**-4.5**
	comp=N,4.5nm,0.5s							
VIVF	**Saint-Julien-l**	**6.44**	**292**	*eP*		**Pn**	**14 46 02.0**	**+3.6**
LASF	**Ste Croix**	**6.86**	**284**	*eP*		**Pn**	**14 46 07.8**	**+3.7**
LASF				*eSn*		**Sn**	**14 47 16.5**	**-5.4**
	comp=N,0.6nm,0.3s							
CDF	**Champ du Feu**	**6.96**	**326**	*eP*		**Pn**	**14 46 09.0**	**+3.4**
CDF				*eSn*		**Sn**	**14 47 18.8**	**-5.8**
	comp=N,2.4nm,0.4s							
HAU	**Haudompre**	**7.07**	**320**	*eP*		**Pn**	**14 46 10.1**	**+3.1**
SMF	**Signal de Mont**	**7.65**	**304**	*eP*		**Pn**	**14 46 18.5**	**+3.6**
SMF				*eSn*		**Sn**	**14 47 35.3**	**-6.0**
	comp=N,1.7nm,0.2s							
MTLF	**Montolieu**	**7.99**	**278**	*eP*		**Pn**	**14 46 23.7**	**+4.0**
MEZF	**Maizieres J'vi**	**8.04**	**318**	*eP*		**Pn**	**14 46 24.1**	**+3.9**
BGF	**Bois d'Agland**	**8.23**	**301**	*eP*		**Pn**	**14 46 26.9**	**+4.0**
BGF				*eSn*		**Sn**	**14 47 49.5**	**-6.1**
	comp=N,4.1nm,0.3s							

MAN 15 14:47:45.7,8°.51N×126°.14E,h33km,mb4.2,ML3.0,MS2.7, 3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.39**	**145**	*i*P	Pn	14 47 56.0	+0.9
BIPH				*i* S	Sn	14 48 02.0	+0.7
BUTP	**Butuan**	**0.69**	**312**	*e*P	Pb	14 48 03.3	+4.0
BUTP				*e*S	Sn	14 48 47.1	+38
CDOP	**Cateel, Davao**	**0.78**	**157**	*i*P	Pb	14 48 00.9	0.0
CDOP				*i* S	Sb	14 48 11.4	+0.3
BUKP	**Musuan**	**1.23**	**240**	*i*P	Pn	14 47 59.1	-7.6
BUKP				*e*S	Sn	14 48 22.8	+0.6
CGP	**Cagayan de Oro**	**1.43**	**268**	*e*P	Pn	14 48 08.9	-0.4
CGP				*e*S	Sn	14 48 26.9	0.0
KCP	**Kidapawan**	**1.81**	**215**	*e*P	Pn	14 48 15.7	+1.0
KCP				*i* S	Sn	14 48 37.4	+0.8

MAN 15 14:56:17.7,8°.40N×126°.49E,h32km,mb4.0,ML2.8,MS2.4, 2C-6D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.25**	**211**	*e*P	Pn	14 56 26.9	+1.7
BIPH				*e*S	Sn	14 56 31.7	+1.7
CDOP	**Cateel, Davao**	**0.61**	**185**	*i*P	Pn	14 56 31.6	+1.4
CDOP				*i* S	Sb	14 56 36.6	-1.9
TASP	**Talacogon, Agu**	**0.68**	**275**	*e*P	Pn	14 56 22.6	-8.6
TASP				*i* S	Sb	14 56 27.2	-13
BUTP	**Butuan**	**1.03**	**303**	*i*P	Pn	14 56 35.9	-0.1
BUTP				*e*S	Sn	14 56 48.2	-1.1
CGP	**Cagayan de Oro**	**1.78**	**272**	*e*P	Pn	14 56 40.0	-6.2
CGP				*e*S	Sn	14 57 02.2	-5.6
KCP	**Kidapawan**	**1.96**	**225**	*i*P	Pn	14 56 46.4	-2.4
KCP				*i* S	Sn	14 57 13.1	+0.8
DDMP	**Don Marcelino,**	**2.41**	**199**	*e*P	Pb	14 57 01.2	+0.8
DDMP				*e*S	Sb	14 57 32.6	+3.0
CTBH	**Cotabato--PC H**	**2.51**	**242**	*i*P	Pn	14 56 58.4	+2.0

*IDC **15** 15:02:50.9±14.0, 15°.14S×168°.73E, h0km, mb4.0/4, mbtmp4.1/5, ML4.0/1, MS3.2/2, Error ellipse: s-maj=237.1km s-min=54.2km az=65.0*
*NOU **15** 15:02:55.3, 15°.47S×168°.43E, h0km, MLv4.5/14, Vanuatu Islands*
*NEIC **15** 15:02:57.4±1.2, 15°.48S±0°.04×168°.4E±0°.2, h10km±2km, mb4.4/11, Error ellipse: s-maj=25.7km s-min=4.4km az=102.0*

ISC 15 15:02:59.5±1.9, 15°.6S±0°.1×168°.3E±0°.2, h25km, n34, σ0s93/34, mb4.3/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.12**	**184**	P	**Pn**	**15 03 33.9**	**+0.5**
RTV	**Rentapao**	**2.19**	**178**	P	**Pn**	**15 03 33.8**	**-0.5**
LIFNC	**LIFOU**	**5.26**	**191**	Pn	**Pn**	**15 04 16.8**	**+0.2**
MARNC	**Mare, Loyalty**	**5.86**	**183**	Pn	**Pn**	**15 04 26.0**	**+1.2**
KOUNC	**Koumac, New Ca**	**6.26**	**217**		**Pn**	**15 04 31.3**	**+1.0**
KOUNC	**Koumac, New Ca**	**6.26**	**217**	P	**Pn**	**15 04 31.1**	**+0.8**
YATNC	**Mamie plateau,**	**6.58**	**192**	P	**Pn**	**15 04 34.5**	**-0.1**
DZM	**Mont Dzumac**	**6.69**	**195**	Pn	**Pn**	**15 04 36.8**	**+0.6**
	2.6nm,0.3s,baz=21,slow=19,SNR=63						
DZM				Sn	**Sn**	**15 05 50.6**	**-1.2**
	baz=271,slow=23						
	6.3nm,0.3s						
DZM	**Mont Dzumac**	**6.69**	**195**		**Pn**	**15 04 36.5**	**+0.3**
DZM	**Mont Dzumac**	**6.69**	**195**	P	**Pn**	**15 04 36.9**	**+0.6**
NOUC	**Port Laguerre**	**6.75**	**196**	P	**Pn**	**15 04 38.1**	**+1.0**
ONTNC	**Ouen Toro**	**6.91**	**195**	Pn	**Pn**	**15 04 40.4**	**+1.1**
ONTNC	**Ouen Toro**	**6.91**	**195**	P	**Pn**	**15 04 40.3**	**+1.1**
OUENC	**Ouen Island, N**	**6.94**	**192**	Pn	**Pn**	**15 04 41.0**	**+1.4**
OUENC	**Ouen Island, N**	**6.94**	**192**	P	**Pn**	**15 04 41.0**	**+1.4**
PINNC	**Pines Island,**	**7.03**	**187**	Pn	**Pn**	**15 04 42.1**	**+1.2**
PINNC	**Pines Island,**	**7.03**	**187**	P	**Pn**	**15 04 42.5**	**+1.6**
CTA	**Charters Tower**	**21.49**	**255**	P	**P**	**15 07 46.4**	**-0.2**
	2.4nm,0.8s,baz=68,slow=11,SNR=3.9						
CTA				LR	LR	15 14 46.0	
	comp=E,66nm,19.4s,baz=84,slow=32						
	2.4nm,0.8s						
CTAO	**Charters Tower**	**21.49**	**255**	P	**P**	**15 07 47.2**	**+0.6**
CTAO				IAmb	IAmb	15 07 54.0	
	comp=Z,15nm,1.5s						
URZ	**Urewera**	**23.86**	**163**	P	**P**	**15 08 10.8**	**-0.1**
URZ				IAmb	IAmb	15 08 18.7	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**29.25**	**232**	P	**P**	**15 09 00.4**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=106,slow=14,SNR=4.7						
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**29.25**	**232**	P	**P**	**15 08 59.5**	**-0.1**
WB0	**Warramunga Arr**	**32.58**	**258**	P	**P**	**15 09 28.2**	**-0.9**
WB0				IAmb	IAmb	15 09 54.2	
	comp=Z,7.9nm,1.4s						
WB2	**Warramunga Arr**	**32.62**	**257**	P	**P**	**15 09 28.3**	**-1.3**
WB2				IAmb	IAmb	15 09 32.5	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**32.64**	**257**	P	**P**	**15 09 28.6**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=86,slow=8.9,SNR=25						
	comp=Z,1.5nm,0.7s						
WRA	**Warramunga Arr**	**32.64**	**257**	P	**P**	**15 09 28.2**	**-1.4**
AS31	**Alice Springs**	**33.35**	**251**	P	**P**	**15 09 35.0**	**-1.0**
AS31				IAmb	IAmb	15 09 36.1	
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**33.35**	**251**	P	**P**	**15 09 35.5**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=78,slow=9.0,SNR=49						
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**33.35**	**251**	P	**P**	**15 09 34.6**	**-1.3**
BBOO	**Buckleboo**	**33.89**	**234**	P	**P**	**15 09 40.5**	**0.0**
GUMO	**Guam**	**37.15**	**320**	LR	LR	15 23 54.8	
	comp=Z,26nm,19.7s,baz=126,slow=34						
KNRA	**Kununurra**	**38.08**	**264**	P	**P**	**15 10 16.0**	**-0.5**
FORT	**Forrest**	**39.76**	**240**	P	**P**	**15 10 30.7**	**+0.2**
FORT				IAmb	IAmb	15 10 57.3	
	comp=Z,15nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.88**	**260**	P	**P**	**15 10 39.6**	**-0.3**
FITZ				IAmb	IAmb	15 10 40.6	
	comp=Z,6.5nm,0.8s						

MAN 15 15:08:45.0,8°.34N×125°.97E,h5km,mb4.4,ML3.3,MS3.1, 3C-6D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.20**	**304**	*i*P	Pg	15 09 49.8	+0.9
TASP				*i* S	Sg	15 08 55.0	+3.4
BIPH	**Bislig**	**0.41**	**112**	*i*P	Pb	15 08 54.0	-0.8
BIPH				*i* S	Sb	15 09 15.3	+14
CDOP	**Cateel, Davao**	**0.72**	**140**	*i*P	Pg	15 08 58.9	+0.1
CDOP				*i* S	Sb	15 09 09.8	-0.5
BUKP	**Musuan**	**1.01**	**243**	*e*P	Pg	15 09 03.8	-0.7
BUKP				*e*S	Sn	15 09 21.7	+1.1
CGP	**Cagayan de Oro**	**1.27**	**275**	*e*P	Pg	15 09 07.2	-2.2
CGP				*e*S	Sg	15 09 24.9	-1.0
KCP	**Kidapawan**	**1.59**	**214**	*e*P	Pn	15 09 13.3	-0.6
KCP				*i* S	Sb	15 09 35.4	0.0
CTBH	**Cotabato--PC H**	**2.04**	**237**	*i*P	Pn	15 09 20.9	+0.8
GHBP	**Garcia Hernand**	**2.08**	**308**	*i*P	Pb	15 09 22.0	-1.2
GHBP				*e*S	Sn	15 09 31.8	-15
DDMP	**Don Marcelino,**	**2.24**	**187**	*e*P	Pb	15 09 26.3	+0.3
DDMP				*e*S	Sb	15 09 52.5	-1.6

*NEIC **15** 15:31:06.4, 38°.11S×73°.38W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.86; $M_{\theta\theta}$0.41; $M_{\phi\phi}$-3.27; $M_{r\theta}$-0.02; $M_{\theta\phi}$-0.66; $M_{\phi r}$-6.24; Fault plane solution: $M_0$6.99000×10^{15} NP1:φ±21.86000°, δ14.01000°, λ110.32000°. NP2:φ±180.97000°, δ76.87000°, λ85.05000°. Principal axes: T 6.7621, Plg58.0000°, Azm84.0000°; N 0.4387, Plg5.0000°, Azm182.0000°; P -7.2008, Plg32.0000°, Azm275.0000°;*
*NEIC **15** 15:31:07.2±2.0, 38°.04S±0°.05×73°.4W±0°.1, h26km±5km, mb4.7/39, Mwr4.5/24, Mwr4.8(GUC) Error ellipse: s-maj=11.8km s-min=7.0km az=91.0*
*GUC **15** 15:31:07.4±0.8, 38°.09S×73°.47W, h32km±7km, ML4.8*
*VAO **15** 15:31:08.6±0.5, 37°.94S×73°.15W, h25km, mb4.9*
*IDC **15** 15:31:11.2±2.6, 38°.06S×73°.01W, h47km±23km, mb4.1/12, mbtmp4.4/14, ML4.5/2, MS3.8/28, Error ellipse: s-maj=26.8km s-min=13.3km az=87.0*

ISC 15 15:31:06.6±0.4, 38°.05S±0°.03×73°.38W±0°.07, h21km±3km, n221, σ1s20/205, mb4.7/30, MS3.9/28, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.22**	**10**	*e*P	**Pn**	**15 31 28.4**	**0.0**
CCSP				*e*S	**Sb**	**15 31 45.3**	**+1.0**
CCSP				IAML		15 31 54.1	
	comp=N,33μm,0.4s						
BI05	**Punta Hualpn**	**1.31**	**7**		**Pb**	**15 31 30.5**	**0.0**
BI05	**Punta Hualpn**	**1.31**	**7**	*e*P	**Pb**	**15 31 30.5**	**0.0**
BI05				*e*S	**Sb**	**15 31 47.0**	**+0.2**
BI05				IAML		15 31 57.1	
	comp=E,29μm,0.4s						
LR02	**Universidad Au**	**1.75**	**177**	*e*P	**Pn**	**15 31 36.0**	**+0.2**
LR02				*e*S	**Sn**	**15 31 56.3**	**-1.2**
LR03	**Panguipulli**	**1.77**	**153**		**Pn**	**15 31 37.0**	**+1.0**
LR03	**Panguipulli**	**1.77**	**153**	*e*P	**Pn**	**15 31 37.1**	**+1.0**
LR03				*e*S	**Sn**	**15 31 59.1**	**+1.1**
LR03				IAML		15 32 06.0	
	comp=N,22μm,0.6s						
LR04	**Corral**	**1.83**	**181**	Pn	**Pn**	**15 31 36.3**	**-0.5**
LR04	**Corral**	**1.83**	**181**	*e*P	**Pn**	**15 31 36.4**	**-0.4**
LR04				*e*S	**Sn**	**15 31 59.6**	**+0.4**
LR04				IAML		15 32 07.5	
	comp=E,12μm,0.3s						
GO06	**Curarrehue**	**2.14**	**136**	Pn	**Pn**	**15 31 42.5**	**+1.3**
GO06	**Curarrehue**	**2.14**	**136**	*e*P	**Pn**	**15 31 42.4**	**+1.3**
GO06				*i* S	**Sn**	**15 32 08.7**	**+1.6**
ML02	**Panimavida**	**2.77**	**35**		**Pn**	**15 31 50.9**	**+1.1**
ML02	**Panimavida**	**2.77**	**35**	*e*P	**Pn**	**15 31 51.2**	**+1.4**
ML02				*e*S	**Sn**	**15 32 25.1**	**+2.5**
LL04	**Puerto Octay**	**2.95**	**166**	Pn	**Pn**	**15 31 52.0**	**-0.3**
LL04	**Puerto Octay**	**2.95**	**166**	*e*P	**Pn**	**15 31 52.1**	**-0.2**
LL04				*i* S	**Sn**	**15 32 27.0**	**0.0**
LL03	**Petrohue**	**3.17**	**167**		**Pn**	**15 31 55.3**	**0.0**
LL05	**Los Muermos**	**3.35**	**181**		**Pn**	**15 31 57.3**	**-0.4**
PLCA	**Paso Flores**	**3.46**	**142**	P	**Pn**	**15 32 01.0**	**+1.7**
	comp=E,11nm,0.3s,baz=313,slow=14,SNR=333						
PLCA				S	**Sn**	**15 32 38.2**	**-1.6**
	comp=E,296nm,0.8s,baz=266,slow=16,SNR=4.5						
PLCA				LR	LR	15 33 32.7	
	comp=E,2μm,18.7s,baz=302,slow=43						
	comp=E,61nm,0.5s						
PLCA	**Paso Flores**	**3.46**	**142**	Pn	**Pn**	**15 32 00.9**	**+1.7**
PLCA	**Paso Flores**	**3.46**	**142**	*e*P	**Pn**	**15 32 00.6**	**+1.3**
PLCA	**Paso Flores**	**3.46**	**142**	*e*P	**Pn**	**15 32 01.0**	**+1.7**
BO03	**Pichilemu**	**3.73**	**18**	*e*P	**Pn**	**15 32 03.4**	**+0.4**
BO02	**Sierra Bellavi**	**3.87**	**34**		**Pn**	**15 32 06.1**	**+1.2**
LL01	**San Ignacio de**	**4.38**	**171**		**Pn**	**15 32 11.5**	**-0.4**
MT01	**Popeta**	**4.52**	**23**		**Pn**	**15 32 13.9**	**+0.1**
MT01	**Popeta**	**4.52**	**23**	*e*P	**Pn**	**15 32 14.1**	**+0.2**
VA05	**Santo Domingo**	**4.61**	**19**		**Pn**	**15 32 15.0**	**-0.1**
BO04	**La Punta**	**4.63**	**30**		**Pn**	**15 32 15.7**	**+0.2**
BO04	**La Punta**	**4.63**	**30**	*e*P	**Pn**	**15 32 15.6**	**+0.2**
MT09	**Talagante**	**4.69**	**25**	Pn	**Pn**	**15 32 16.5**	**+0.2**
LL07	**Hotel Espejo d**	**4.78**	**181**	Pn	**Pn**	**15 32 15.9**	**-1.3**
LMEL	**Las Melosas**	**4.92**	**33**		**Pn**	**15 32 20.9**	**+1.4**
GO07	**Milladeo Hill,**	**5.06**	**182**		**Pn**	**15 32 20.3**	**-0.9**
MT03	**Universidad Ad**	**5.11**	**28**		**Pn**	**15 32 22.1**	**0.0**
MT03	**Universidad Ad**	**5.11**	**28**	*e*P	**Pn**	**15 32 23.3**	**+0.3**
MT02	**Curacav**	**5.12**	**22**		**Pn**	**15 32 21.9**	**-0.2**
MT05	**Renca**	**5.12**	**26**	Pn	**Pn**	**15 32 22.4**	**+0.3**
MT05	**Renca**	**5.12**	**26**	*e*P	**Pn**	**15 32 22.1**	**-0.1**
VA01	**Torpederas**	**5.21**	**16**		**Pn**	**15 32 21.9**	**-1.4**
LL02	**Futaleuf**	**5.26**	**168**	Pn	**Pn**	**15 32 25.3**	**+1.3**
FCH	**Farellones**	**5.34**	**29**	*e*P	**Pn**	**15 32 25.6**	**+0.2**
PEL	**Peldehue**	**5.37**	**25**		**Pn**	**15 32 25.6**	**+0.1**
PEL	**Peldehue**	**5.37**	**25**

MCR1	**Marechal Candi**	**21.32**	**56**	*eP*	**P**	**15 35 51.8**	**-0.4**
ANTJ	**Antonio Joao (**	**21.90**	**48**	*eP*	**P**	**15 35 58.3**	**-0.1**
LPAZ	**La Paz**	**22.17**	**13**	P	**P**	**15 36 03.9**	**+1.9**
	comp=Z,1.6nm,0.4s,baz=186,slow=9.5,SNR=23						
LPAZ				LR	LR	15 45 46.1	
	comp=Z,111nm,19.8s,baz=158,slow=40						
	comp=Z,1.6nm,0.4s						
LPAZ	**La Paz**	**22.17**	**13**	P	**P**	**15 36 02.9**	**+0.9**
LPAZ				IAmb	IAmb	15 36 09.7	
	comp=Z,12nm,0.8s						
TER01	**Tubaro-SC**	**22.33**	**72**	*eP*	**P**	**15 36 00.8**	**-2.2**
PTGB	**Pitanga**	**22.47**	**60**	*eP*	**P**	**15 36 02.5**	**-2.1**
AQDB	**Aquidauana**	**23.27**	**46**	P	**P**	**15 36 09.8**	**-3.0**
AQDB				IAmb	IAmb	15 36 28.1	
	comp=Z,34nm,1.2s						
AQDB	**Aquidauana**	**23.27**	**46**	*eP*	**P**	**15 36 12.3**	**-0.4**
TRCB	**Terra Rica**	**23.40**	**55**	P	**P**	**15 36 12.0**	**-2.2**
TRCB	**Terra Rica**	**23.40**	**55**	*eP*	**P**	**15 36 13.3**	**-0.9**
SIV	**San Ignacio**	**24.51**	**30**	P	**P**	**15 36 24.6**	**0.0**
	comp=Z,13nm,0.8s,baz=210,slow=8.7,SNR=44						
SIV				LR	LR	15 47 48.1	
	comp=Z,335nm,18.6s,baz=236,slow=41						
	comp=Z,13nm,0.8s						
PCMB	**Pacaembu**	**25.14**	**56**	*eP*	**P**	**15 36 29.5**	**-0.7**
PTLB	**Pontes e Lacer**	**25.79**	**33**	P	**P**	**15 36 35.5**	**-0.7**
PTLB				IAmb	IAmb	15 36 48.8	
	comp=Z,29nm,1.0s						
PTLB	**Pontes e Lacer**	**25.79**	**33**	*eP*	**P**	**15 36 36.4**	**+0.2**
PET01	**Itanhaem-SP**	**26.11**	**66**	*eP*	**P**	**15 36 39.0**	**0.0**
C2SB	**Chapadao do Su**	**26.27**	**49**	*eP*	**P**	**15 36 40.1**	**-0.4**
SALV	**Santo Antonio**	**27.02**	**40**	*eP*	**P**	**15 36 47.2**	**-0.1**
ITRB	**Iturama**	**27.09**	**54**	*eP*	**P**	**15 36 47.5**	**-0.5**
RCLB	**Rio Claro- Sao**	**27.11**	**62**	*eP*	**P**	**15 36 47.0**	**-1.2**
VAO	**Valinhos**	**27.13**	**64**	*eP*	**P**	**15 36 47.1**	**-1.3**
PMSA	**Palmer Station**	**27.32**	**171**	LR	LR	15 47 11.3	
	comp=Z,214nm,18.2s,baz=349,slow=35						
BB19B	**Bebedouro**	**27.33**	**59**	*eP*	**P**	**15 36 49.9**	**-0.3**
VILB	**Vilhena**	**27.62**	**29**	P	**P**	**15 36 51.6**	**-1.1**
VILB				IAmb	IAmb	15 37 20.8	
	comp=Z,19nm,1.1s						
VILB	**Vilhena**	**27.62**	**29**	*eP*	**P**	**15 36 52.6**	**-0.1**
PARB	**Paraibuna**	**27.88**	**66**	*eP*	**P**	**15 36 53.9**	**-1.2**
ETMB	**Extrema**	**28.84**	**15**	P	**P**	**15 37 03.5**	**0.0**
ETMB				IAmb	IAmb	15 37 05.5	
	comp=Z,11nm,0.9s						
ETMB	**Extrema**	**28.84**	**15**	*eP*	**P**	**15 37 04.5**	**+0.9**
IPMB	**Ipameri, GO**	**29.73**	**55**	*eP*	**P**	**15 37 10.7**	**-0.9**
VAS01	**Vassouras-RJ**	**30.11**	**67**	*eP*	**P**	**15 37 15.1**	**+0.2**
PDRB	**Porto dos Gac**	**30.25**	**34**	*eP*	**P**	**15 37 16.3**	**+0.2**
SAML	**Samuel**	**30.40**	**20**	P	**P**	**15 37 16.1**	**-1.3**
SAML				IAmb	IAmb	15 37 31.5	
	comp=Z,16nm,1.6s						
PMNB	**Patos De Minas**	**30.50**	**58**	*eP*	**P**	**15 37 18.5**	**+0.2**
CLDB	**Colider**	**31.32**	**35**	*eP*	**P**	**15 37 25.6**	**+0.1**
BDFB	**Brasilia**	**31.60**	**52**	P	**P**	**15 37 26.8**	**-1.3**
	comp=Z,2.0nm,0.5s,baz=189,slow=8.2,SNR=4.0						
	comp=Z,2.0nm,0.5s						
BDFB	**Brasilia**	**31.60**	**52**	*eP*	**P**	**15 37 27.0**	**-1.1**
RPN	**Rapa Nui**	**32.01**	**279**	LR	LR	15 46 33.0	
	comp=Z,180nm,21.7s,baz=127,slow=28						
SNDB	**Serra Nova Dou**	**32.61**	**43**	*eP*	**P**	**15 37 36.4**	**-0.5**
MC01	**Montes Claros**	**33.46**	**59**	*eP*	**P**	**15 37 43.3**	**-1.1**
SJMB	**Sao Joao De Ma**	**34.02**	**65**	*eP*	**P**	**15 37 49.3**	**+0.2**
RIB01	**Linhares ES**	**34.19**	**66**	*eP*	**P**	**15 37 51.5**	**+0.9**
JANB	**Januaria**	**34.40**	**56**	*eP*	**P**	**15 37 51.7**	**-0.8**
NPGB	**Novo Progresso**	**34.92**	**32**	*eP*	**P**	**15 37 56.6**	**-0.4**
SDBA	**SAO DESIDERIO**	**36.00**	**52**	*eP*	**P**	**15 38 05.8**	**-0.5**
GUA01	**Guaratinga, BA**	**36.41**	**63**	*eP*	**P**	**15 38 08.9**	**-0.8**
MACA	**Manacapuru-AM**	**36.62**	**22**	*eP*	**P**	**15 38 11.7**	**+0.2**
CHSH	**Refugio Sur-Vo**	**36.73**	**351**	P	**P**	**15 38 11.5**	**-1.6**
CHSH				IAmb	IAmb	15 39 07.6	
	comp=Z,27nm,0.4s						
ITTB	**Itaituba**	**37.20**	**30**	*eP*	**P**	**15 38 15.9**	**-0.5**
SMTB	**Santa Maria do**	**37.21**	**45**	*eP*	**P**	**15 38 16.6**	**0.0**
CMC01	**Camacan, BA**	**37.44**	**62**	*eP*	**P**	**15 38 17.5**	**-1.0**
PRPB	**Parauapebas**	**38.28**	**40**	*eP*	**P**	**15 38 25.0**	**-0.6**
OTAV	**Otavalo**	**38.39**	**352**	P	**P**	**15 38 24.1**	**-2.9**
OTAV				IAmb	IAmb	15 38 42.4	
	comp=Z,5.8nm,0.9s						
OTAV	**Otavalo**	**38.39**	**352**	*eP*	**P**	**15 38 25.5**	**-1.5**
GDU01	**Guandu, BA**	**38.54**	**60**	*eP*	**P**	**15 38 28.4**	**+0.6**
MALB	**Monte Alegre**	**40.07**	**31**	*eP*	**P**	**15 38 39.9**	**-0.6**
BOAV	**Boa Vista**	**41.97**	**19**	P	**P**	**15 38 54.9**	**-1.2**
BOAV				IAmb	IAmb	15 40 30.7	
	comp=Z,27nm,2.0s						
BOAV	**Boa Vista**	**41.97**	**19**	*eP*	**P**	**15 38 56.1**	**-0.1**
BELA	**Belgrano 2**	**43.11**	**169**	P	**P**	**15 39 05.3**	**+0.5**
BELA				IAmb	IAmb	15 39 19.5	
	comp=Z,9.3nm,1.3s						
NBAN	**Anadia - AL**	**43.68**	**59**	*eP*	**P**	**15 39 09.3**	**-0.8**
VNA3	**Neumayer Olymp**	**46.06**	**156**	P	**P**	**15 39 29.4**	**+1.0**
VNA3	**Neumayer Olymp**	**46.06**	**156**	pP	**pP**	**15 39 35.0**	**+0.1**
VNA3				x	**PcP**	**15 41 04.1**	**-0.3**
VNA1	**Neumayer--Stat**	**46.42**	**155**	P	**P**	**15 39 32.6**	**+1.4**
VNA2	**Neumayer--Watz**	**46.74**	**156**	P	**P**	**15 39 34.8**	**+1.1**
	baz=283,slow=9.5						
VNA2	**Neumayer--Watz**	**46.74**	**156**	ScP	**ScP**	**15 44 56.2**	**-3.1**
VNA2	**Neumayer--Watz**	**46.74**	**156**	pP	pP	15 39 42.0	+1.8
BAUV	**El Baul**	**47.02**	**7**	P	**P**	**15 39 36.3**	**-0.2**
MDP	**Montagnes des**	**47.06**	**29**	P	**P**	**15 39 37.2**	**+0.4**
	comp=Z,16nm,0.7s,baz=199,slow=6.9,SNR=12						
MDP				LR	LR	16 01 10.9	
	comp=Z,126nm,19.2s,baz=181,slow=38						
	comp=Z,16nm,0.7s						
SNAA	**Sanae**	**48.28**	**156**	P	**P**	**15 39 46.8**	**+1.0**
SNAA	**Sanae**	**48.28**	**156**	LR	LR	15 59 37.5	
	comp=Z,79nm,18.7s,baz=232,slow=35						
SNAA	**Sanae**	**48.28**	**156**	P	**P**	**15 39 46.5**	**+0.7**
SNAA				IAmb	IAmb	15 40 07.7	
	comp=Z,13nm,0.9s						
BIRV	**Birongo**	**48.73**	**9**	P	**P**	**15 39 50.2**	**+0.4**
TROLL	**Troll, Antarti**	**49.97**	**157**	P	**P**	**15 39 60.0**	**+1.1**
TOSP	**Speyside**	**50.54**	**16**	P	**P**	**15 40 02.8**	**-0.7**
QSPA	**South Pole Qui**	**52.19**	**180**	P	**P**	**15 40 17.2**	**+1.6**
	comp=Z,4.7nm,1.0s,baz=144,slow=7.5,SNR=8.0						
	comp=Z,4.7nm,1.0s						
QSPA	**South Pole Qui**	**52.19**	**180**	P	**P**	**15 40 16.2**	**+0.7**
QSPA				IAmb	IAmb	15 40 28.6	
	comp=Z,15nm,0.9s						
MLPR	**Magueyes Islan**	**56.04**	**7**	P	**P**	**15 40 42.9**	**-1.0**
CMIG	**Matias Romero**	**58.45**	**336**	LR	LR	16 01 00.9	
	comp=Z,48nm,19.9s,baz=170,slow=31						
VNDA	**Vanda**	**59.92**	**192**	P	**P**	**15 41 15.1**	**+4.6**
	comp=Z,0.6nm,0.9s,baz=249,slow=8.6,SNR=3.7						
TBI	**Tubuai**	**65.39**	**259**	*e*LR	LR	16 01 29.3	
	comp=Z,201nm,25.8s						
TAOE	**Nuku Hiva Isla**	**66.32**	**277**	*e*LR	LR	16 01 48.7	
	comp=Z,192nm,24.2s						
PPT2	**Papeete2**	**68.65**	**264**	*e*LR	LR	16 02 58.0	
	comp=Z,171nm,26.2s						
PPT	**Papeete**	**68.66**	**264**	LR	LR	16 05 36.1	
	comp=Z,55nm,18.5s,baz=132,slow=30						
MAW	**Mawson**	**69.61**	**164**	P	**P**	**15 42 14.8**	**+1.1**
	comp=Z,4.1nm,0.8s,baz=180,slow=6.1,SNR=7.9						
MAW				LR	LR	16 12 15.3	
	comp=Z,105nm,19.5s,baz=224,slow=35						
	comp=Z,4.1nm,0.8s						
MAW	**Mawson**	**69.61**	**164**	P	**P**	**15 42 14.2**	**+0.5**
LPIG	**La Paz**	**70.89**	**324**	LR	LR	16 06 13.1	
	comp=Z,140nm,19.7s,baz=172,slow=30						
TXAR	**Lajitas Array**	**72.78**	**333**	P	**P**	**15 42 35.2**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=156,slow=8.6,SNR=14						
TXAR				LR	LR	16 09 51.3	
	comp=Z,65nm,18.4s,baz=150,slow=32						
	comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**72.78**	**333**	P	**P**	**15 42 31.9**	**-1.5**
TX31	**Lajitas Ar. Si**	**72.78**	**333**	P	**P**	**15 42 32.4**	**-1.0**
TX31				IAmb	IAmb	15 42 51.0	
	comp=Z,9.1nm,1.0s						
TX32	**Lajitas Array**	**72.78**	**333**	P	**P**	**15 42 32.4**	**-1.0**
W50A	**Signal Mountai**	**73.72**	**350**	P	**P**	**15 42 38.6**	**-0.2**
SWET	**Sewanee**	**73.82**	**349**	P	**P**	**15 42 39.8**	**+0.4**
SWET				IAmb	IAmb	15 42 41.1	
	comp=Z,14nm,0.9s						
SUR	**Sutherland**	**73.84**	**119**	LR	LR	16 09 09.2	
	comp=Z,87nm,20.5s,baz=194,slow=31						
V48A	**Smith Brothers**	**74.47**	**349**	P	**P**	**15 42 43.1**	**0.0**
V48A				IAmb	IAmb	15 42 54.4	
	comp=Z,9.6nm,0.7s						
CASY	**Casey**	**75.95**	**182**	P	**P**	**15 42 51.9**	**+0.5**
CASY				IAmb	IAmb	15 42 58.2	
	comp=Z,23nm,1.9s						
LIC	**Lamto**	**77.09**	**71⇑**	*eP*	**P**	**15 42 58.9**	**+0.3**
	comp=Z,21nm,0.7s						
TIC	**Toumodi**	**77.37**	**71⇑**	*eP*	**P**	**15 43 00.6**	**+0.4**
	comp=Z,34nm,0.9s						
KIC	**Kosan Boka**	**77.39**	**72⇑**	*eP*	**P**	**15 43 00.7**	**+0.3**
	comp=Z,12nm,0.6s						
CCM	**Cathedral Cave**	**77.50**	**346**	P	**P**	**15 43 00.8**	**+0.4**
CCM				IAmb	IAmb	15 43 02.4	
	comp=Z,9.6nm,0.8s						
DBIC	**Dimbokro**	**77.51**	**71**	P	**P**	**15 43 01.0**	**0.0**
	comp=Z,11nm,0.8s,baz=250,slow=5.8,SNR=7.1						
DBIC				LR	LR	16 15 40.9	
	comp=Z,56nm,18.4s,baz=216,slow=35						
	comp=Z,11nm,0.8s						
ANMO	**Albuquerque**	**78.85**	**333**	LR	LR	16 12 48.2	
	comp=Z,61nm,19.5s,baz=161,slow=32						
BOSA	**Boshof**	**79.15**	**118**	P	**P**	**15 43 09.9**	**-0.2**
	comp=Z,7.1nm,0.8s,baz=230,slow=7.9,SNR=11						
BOSA				LR	LR	16 14 18.5	
	comp=Z,49nm,19.5s,baz=194,slow=33						
	comp=Z,7.1nm,0.8s						
TSUM	**Tsumeb**	**79.16**	**106**	LR	LR	16 14 22.2	
	comp=Z,90nm,19.0s,baz=162,slow=33						
RPZ	**Rata Peaks**	**79.88**	**222**	LR	LR	16 13 03.6	
	comp=Z,98nm,18.9s,baz=58,slow=31						
LBTB	**Lobatse**	**81.58**	**115**	LR	LR	16 18 53.8	
	comp=Z,65nm,18.0s,baz=180,slow=35						
PFO	**Pinyon Flats O**	**81.78**	**325**	LR	LR	16 12 16.5	
	comp=Z,46nm,18.5s,baz=176,slow=30						
KOWA	**Kowa**	**83.29**	**66**	LR	LR	16 17 44.6	
	comp=Z,79nm,20.4s,baz=236,slow=34						
TORD	**Torodi Ar. Bea**	**86.60**	**71**	P	**P**	**15 43 48.6**	**-0.1**
	comp=Z,9.4nm,0.8s,baz=215,slow=4.9,SNR=39						
	comp=Z,9.4nm,0.8s						
NVAR	**Mina Array Bea**	**86.61**	**326**	P	**P**	**15 43 50.6**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=158,slow=5.7,SNR=2.7						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**86.91**	**334**	P	**P**	**15 43 51.4**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=165,slow=3.7,SNR=3.4						
	comp=Z,0.5nm,0.7s						
ELK	**Elko**	**87.27**	**329**	LR	LR	16 17 28.3	
	comp=Z,32nm,18.7s,baz=178,slow=32						
LSZ	**Lusaka**	**89.55**	**109**	LR	LR	16 20 10.3	
	comp=Z,73nm,19.9s,baz=263,slow=33						
SCHQ	**Schefferville**	**92.69**	**4**	LR	LR	16 28 12.5	
	comp=Z,24nm,18.6s,baz=206,slow=37						
NEW	**Newport**	**94.33**	**332**	LR	LR	16 24 00.3	
	comp=Z,34nm,19.4s,baz=168,slow=34						
ESDC	**Sonseca Array**	**100.14**	**47**	LR	LR	16 28 26.4	
	comp=Z,45nm,20.3s,baz=282,slow=34						
GERES	**GERESS Array B**	**115.74**	**47**	PKP	**PKiKP**	**15 49 47.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=193,slow=3.9,SNR=3.7						
WRA	**Warramunga Arr**	**116.70**	**209**	PKP	**PKPdf**	**15 49 49.2**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=164,slow=1.5,SNR=5.6						
BRTR	**Keskin Array B**	**124.68**	**64**	PKP	**PKiKP**	**15 50 04.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=204,slow=3.9,SNR=5.2						
AKTO	**Aktyubinsk**	**143.68**	**54**	PKP	PKPbc	15 50 37.2	+0.3
	comp=Z,1.3nm,0.5s,baz=57,slow=0.8,SNR=5.3						
NRIK	**Noril'sk**	**147.00**	**12**	PKPbc	**PKPbc**	**15 50 46.9**	**+0.3**
	comp=Z,2.3nm,0.4s,baz=91,slow=2.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**158.18**	**36**	PKP	**PKPdf**	**15 51 01.4**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=250,slow=2.6,SNR=7.0						
ZALV				PKPab	**PKPab**	**15 51 35.4**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=289,slow=4.4,SNR=4.9						
MKAR	**Makanchi Array**	**160.09**	**56**	PKP	**PKPdf**	**15 51 04.4**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=279,slow=3.1,SNR=4.5						
MKAR				PKPab	**PKPab**	**15 51 43.5**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=269,slow=3.1,SNR=11						
MKAR				PP	**PP**	**15 55 26.1**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=300,slow=3.7,SNR=3.5						
PZH	**PanZhiHua**	**167.77**	**159**	PKP	**PKPdf**	**15 51 10.4**	**-1.2**
SONM	**Songino Array**	**170.22**	**1**	PKPab	**PKPab**	**15 52 29.5**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=346,slow=3.3,SNR=4.1						

*SJA **15** 15:37:50.5±0.8,20°.34S×69°.60W,h78^{km}±4^{km}, ML4.0, MW4.1*
*NEIC **15** 15:37:51.5±1.5,20°.36S±0°.03×69°.65W±0°.05,h80^{km}±5^{km}, ML4.4(GUC),Error ellipse: s-maj=7.0km s-min=4.2km az=107.0*
*GUC **15** 15:37:52.6±0.7,20°.36S×69°.54W,h72^{km}±3^{km}, ML4.4*
*IDC **15** 15:37:53.8±1.7,20°.43S×69°.59W,h94^{km}±14^{km},mb3.8/4, mbtmp4.2/6,Error ellipse: s-maj=38.4km s-min=9.4km az=93.0*
*VAO **15** 15:37:56.4±0.5,20°.61S×68°.83W,h118^{km},mb4.0*

ISC 15 15:37:49.8±0.6,**20°.36S**±0°.03×**69°.57W**±0°.04,**h74**^{km}±6^{km}, **n98**,σ**2s64**/118,**mb4.3/3,8C-7D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.31**	**286**	**i**P		**Pn**		**15 38 03.7**	**+2.1**
HMBC				*i* S		**Sn**		**15 38 12.5**	**+2.2**
TA02	**Huaiquique**	**0.53**	**280**			**Pn**		**15 38 05.3**	**+2.0**
TA02	**Huaiquique**	**0.53**	**280**	**i**P		**Pn**		**15 38 05.5**	**+2.3**
TA02				*i* S		**Sn**		**15 38 15.9**	**+2.7**
TA02					IAML			15 38 19.2	
	comp=N,29μm,0.1s								
TA02	**Huaiquique**	**0.53**	**280**	*e*P		**Pn**		**15 38 05.5**	**+2.3**
TA02				*e*S		**Sn**		**15 38 17.4**	**+4.2**
TA02					IAML			15 38 17.9	
	comp=Z,12μm,0.1s								
TA01	**Diego Aracena**	**0.61**	**250**			**Pn**		**15 38 05.7**	**+1.7**
TA01					Sn	**Sn**		**15 38 13.5**	**-1.0**
TA01	**Diego Aracena**	**0.61**	**250**	**i**P		**Pn**		**15 38 05.9**	**+1.9**
TA01				*i* S		**Sn**		**15 38 16.5**	**+2.0**
TA01	**Diego Aracena**	**0.61**	**250**	*e*P		**Pn**		**15 38 05.9**	**+1.9**
TA01				*e*S		**Sn**		**15 38 16.8**	**+2.3**
TA01					IAML			15 38 19.9	
	comp=Z,2μm,0.5s								
PB01	**IPOC Station P**	**0.68**	**173**			**Pn**		**15 38 06.2**	**+1.3**
PB01					Sn	**Sn**		**15 38 17.8**	**+1.7**
PB01	**IPOC Station P**	**0.68**	**173**	**i**P		**Pn**		**15 38 06.8**	**+1.8**
PB01				*i* S		**Sn**		**15 38 18.2**	**+2.1**
PATCX	**Punta Patache**	**0.71**	**230**			**Pn**		**15 38 06.7**	**+1.4**
PATCX					Sn	**Sn**		**15 38 18.5**	**+1.9**
PATCX	**Punta Patache**	**0.71**	**230**	**i**P		**Pn**		**15 38 07.3**	**+2.1**
PATCX				*i* S		**Sn**		**15 38 18.9**	**+2.3**
PATCX					IAML			15 38 22.1	
	comp=E,11μm,0.4s								
PATCX	**Punta Patache**	**0.71**	**230**	*e*P		**Pn**		**15 38 07.1**	**+1.9**
PATCX				*e*P		**Pn**		**15 38 07.1**	**+1.9**
PATCX				*e*P		**Pn**		**15 38 07.3**	**+2.1**
PATCX				*e*S		**Sn**		**15 38 19.0**	**+2.4**
PATCX					IAML			15 38 22.1	
	comp=Z,4μm,0.4s								
GO01	**Chusmiza**	**0.78**	**27**			**Pn**		**15 38 08.2**	**+1.9**
GO01					Sn	**Sn**		**15 38 21.0**	**+2.4**
GO01	**Chusmiza**	**0.78**	**27**	*e*P		**Pn**		**15 38 08.3**	**+1.9**
GO01				*i* S		**Sn**		**15 38 21.1**	**+2.5**
GO01					IAML			15 38 21.8	
	comp=E,25μm,0.1s								
GO01	**Chusmiza**	**0.78**	**27**	*e*P		**Pn**		**15 38 08.5**	**+2.1**
GO01				*e*S		**Sn**		**15 38 21.2**	**+2.6**
PB02	**IPOC Station P**	**1.00**	**198**			**Pn**		**15 38 10.3**	**+1.7**
PB02					Sn	**Sn**		**15 38 24.4**	**+1.8**
PB02	**IPOC Station P**	**1.00**	**198**	**i**P		**Pn**		**15 38 10.7**	**+2.0**
PB02				*i* S		**Sn**		**15 38 24.8**	**+2.2**
PB02					IAML			15 38 28.0	
	comp=E,20μm,0.5s								
PB07	**IPOC Station P**	**1.39**	**192**			**Pn**		**15 38 16.2**	**+2.5**
PB07	**IPOC Station P**	**1.39**	**192**	**i**P		**Pn**		**15 38 16.2**	**+2.5**
PB07					IAML			15 38 40.2	
	comp=E,10μm,0.4s								
PB07	**IPOC Station P**	**1.39**	**192**	*e*P		**Pn**		**15 38 16.2**	**+2.5**
PB07				*e*S		**Sn**		**15 38 34.9**	**+3.4**
PB07					IAML			15 38 36.9	
	comp=Z,7μm,0.2s								
PB09	**IPOC Station P**	**1.46**	**168**			**Pn**		**15 38 17.1**	**+2.6**
PB09	**IPOC Station P**	**1.46**	**168**	**i**P		**Pn**		**15 38 17.1**	**+2.6**
PB09				*i* S		**Sn**		**15 38 36.6**	**+3.4**
PB09	**IPOC Station P**	**1.46**	**168**	*e*P		**Pn**		**15 38 17.1**	**+2.6**
PB09				*e*S		**Sn**		**15 38 37.1**	**+4.0**
PB09					IAML			15 38 37.8	
	comp=Z,2μm,0.8s								
PB12	**IPOC Station P**	**1.88**	**338**			**Pn**		**15 38 21.5**	**+1.4**
PB12	**IPOC Station P**	**1.88**	**338**	**i**P		**Pn**		**15 38 21.8**	**+1.8**
PB12	**IPOC Station P**	**1.88**	**338**	*e*P		**Pn**		**15 38 17.1**	**-2.9**
PB12				*e*P		**Pn**		**15 38 21.8**	**+1.8**
PB12				*e*S		**Sn**		**15 38 46.6**	**+3.6**
PB12					IAML			15 38 53.8	
	comp=Z,735nm,0.5s								
PB16	**IPOC Station P**	**2.02**	**2**			**Pn**		**15 38 25.8**	**+3.4**
PB16					Sn	**Sn**		**15 38 47.0**	**0.0**
PB16	**IPOC Station P**	**2.02**	**2**	**i**P		**Pn**		**15 38 25.7**	**+3.4**
PB16	**IPOC Station P**	**2.02**	**2**	*e*P		**Pn**		**15 38 25.8**	**+3.4**
PB16					IAML			15 38 54.4	
	comp=Z,550nm,0.6s								
PB04	**IPOC Station P**	**2.04**	**195**			**Pn**		**15 38 23.6**	**+1.4**
PB04					Sn	**Sn**		**15 38 46.9**	**+0.1**
PB04	**IPOC Station P**	**2.04**	**195**	**i**P		**Pn**		**15 38 23.9**	**+1.7**
PB04					IAML			15 38 55.4	
	comp=N,3μm,0.5s								
PB04	**IPOC Station P**	**2.04**	**195**	*e*P		**Pn**		**15 38 24.2**	**+2.0**
PB04				*e*S		**Sn**		**15 38 52.1**	**+5.3**
PB04					IAML			15 38 54.5	
	comp=Z,2μm,0.2s								
AP01	**Chacalluta**	**2.11**	**340**	Pn		**Pn**		**15 38 24.4**	**+1.3**
AP01	**Chacalluta**	**2.11**	**340**	**i**P		**Pn**		**15 38 25.4**	**+2.3**
AP01					IAML			15 39 00.3	
	comp=N,3μm,0.4s								
LVC	**Limon Verde**	**2.32**	**165**	P		**Pn**		**15 38 29.7**	**+3.5**
	comp=N,243nm,0.3s,baz=356,slow=11,SNR=197								
LVC				S		**Sn**		**15 38 58.0**	**+4.1**
	comp=N,319nm,0.3s,baz=304,slow=12,SNR=29								
LVC	**Limon Verde**	**2.32**	**165**			**Pn**		**15 38 28.4**	**+2.2**
LVC	**Limon Verde**	**2.32**	**165**	**i**P		**Pn**		**15 38 29.4**	**+3.3**
LVC				*i* S		**Sn**		**15 38 58.3**	**+4.3**
LVC	**Limon Verde**	**2.32**	**165**	*e*P		**Pn**		**15 38 29.5**	**+3.3**
LVC				*e*S		**Sn**		**15 39 00.6**	**+6.6**
LVC					IAML			15 39 05.0	
	comp=Z,477nm,0.2s								
LVC	**Limon Verde**	**2.32**	**165**	*e*P		**Pn**		**15 38 29.3**	**+3.1**
PB06	**IPOC Station P**	**2.33**	**180**			**Pn**		**15 38 28.0**	**+1.8**
PB06	**IPOC Station P**	**2.33**	**180**	**i**P		**Pn**		**15 38 28.0**	**+1.8**
PB06				*i* S		**Sn**		**15 38 55.8**	**+1.8**
PB06					IAML			15 39 02.4	
	comp=N,2μm,0.3s								
PB06	**IPOC Station P**	**2.33**	**180**	*e*P		**Pn**		**15 38 28.3**	**+2.1**
PB06				*e*S		Sn		15 38 44.1	-10
PB06					IAML			15 39 01.6	
	comp=Z,2μm,0.3s								
PB18	**Visviri**	**2.76**	**2**			**Pn**		**15 38 33.3**	**+1.0**
PB15	**IPOC Station P**	**2.83**	**178**			**Pn**		**15 38 34.5**	**+1.5**
PB15	**IPOC Station P**	**2.83**	**178**	**i**P		**Pn**		**15 38 35.0**	**+1.9**
PB15				*i* S		**Sn**		**15 39 09.5**	**+3.3**
PB15	**IPOC Station P**	**2.83**	**178**	*e*P		**Pn**		**15 38 35.0**	**+1.9**
AF01	**San Pedro de A**	**2.88**	**154**	Pn		**Pn**		**15 38 35.6**	**+1.9**
PB10	**IPOC Station P**	**3.27**	**196**			**Pn**		**15 38 40.1**	**+1.4**
PB10	**IPOC Station P**	**3.27**	**196**	*e*P		**Pn**		**15 38 37.1**	**-1.6**
PB10				*e*P		**Pn**		**15 38 40.6**	**+1.9**
PB10				*e*S		**Sn**		**15 39 17.9**	**+1.4**
PB10					IAML			15 39 32.4	
	comp=Z,281nm,0.3s								
YJA	**Yavi**	**4.19**	**116**	*e*P		Pn		15 38 57.0	+5.3
LPAZ	**La Paz**	**4.28**	**19**	P		Pn		15 38 58.9	+5.9
	comp=Z,35nm,0.6s,baz=202,slow=8.5

0.9nm,0.3s,baz=321,slow=14,SNR=36
WRA Sn Sn 15 59 32.1 -5.9
0.6nm,0.3s,baz=318,slow=24,SNR=8.0
WRA LR LR 16 02 39.3
comp=Z,25nm,19.8s,baz=229,slow=38
2.9nm,0.6s
WRA Warramunga Arr 13.73 149 Pn 15 57 03.5 -3.3
WB2 Warramunga Arr 13.73 149 Pn 15 57 03.8 -3.2
WR0 Warramunga Arr 13.85 148 Pn 15 57 05.6 -2.8
MBWA Marble Bar 14.55 207 Pn **Pn 15 57 17.2 -0.4**
PSA00 Pilbara Seismi 14.87 206 Pn **Pn 15 57 20.7 -0.8**
PSA00 Pilbara Seismi 14.87 206 Pn 15 57 22.3 +0.8
PWJI Pagerwojo 14.87 270 P **P 15 57 25.3 +0.5**
WRKA Warakurna 16.77 175 P **P 15 57 46.2 +0.4**
AS31 Alice Springs 16.78 157 Pn 15 57 44.5 -0.8
AS31 IAmb IAmb 15 58 00.7
comp=Z,4.3nm,0.5s
ASAR Alice Springs 16.78 157 Pn **Pn 15 57 45.0 -0.4**
comp=E,0.3nm,0.3s,baz=338,slow=14,SNR=26
ASAR Sn **Sn 16 00 44.7 -7.0**
comp=E,0.2nm,0.3s,baz=322,slow=20,SNR=4.9
comp=E,0.8nm,0.4s
ASAR Alice Springs 16.78 157 P 15 57 45.5 -0.4
COEN Coen 17.02 111 P 15 57 48.0 -0.7
COEN IAmb IAmb 15 58 05.8
comp=Z,27nm,1.4s
COEN Coen 17.02 111 P **P 15 57 53.1 +4.5**
QIS Mount Isa 17.40 136 P **Pn 15 57 56.0 +3.0**
MTSU Mount Surprise 19.65 122 P **Pn 15 58 23.3 +3.5**
MEEK Meekatharra 19.89 202 P **Pn 15 58 24.7 +2.2**
TNG Tangerang 20.12 275 P pP 15 58 43.7 +2.7
TNG P Pn 15 58 30.7 +5.5
SKJI Sukabumi 20.12 272 P Pn 15 58 29.7 +4.4
OOD Oodnadatta 21.18 158 P **P 15 58 39.1 +5.3**
MULG Mulgathing 22.95 164 P **P 15 58 57.9 +5.6**
QLP Quilpie 24.62 140 P P 15 59 15.1 +7.6
MKAR Makanchi Array 67.58 329 P **P 16 04 44.1 +1.9**
comp=Z,16nm,0.3s,baz=118,slow=8.1,SNR=1.8
ZALV Zalesovo Beam 71.34 335 P **P 16 05 06.8 +1.6**
comp=Z,0.7nm,0.5s,baz=121,slow=5.4,SNR=4.1
comp=Z,0.7nm,0.5s
KURBB Kurchatov Arra 71.95 330 P **P 16 05 10.7 +1.7**
comp=Z,0.5nm,0.6s,baz=133,slow=4.6,SNR=7.0
comp=Z,0.5nm,0.6s
BVAR Borovoye Array 77.46 329 P **P 16 05 42.8 +2.1**
comp=Z,0.3nm,0.4s,baz=120,slow=8.5,SNR=3.0
comp=Z,0.3nm,0.4s
BELG Belogornoye 89.93 323 LR LR 16 54 04.5
comp=Z,27nm,18.1s,baz=187,slow=40
KIRV Kirov 90.47 329 LR LR 16 50 49.4
comp=Z,59nm,21.8s,baz=253,slow=38

*NEIC **15** 15:58:19.8±2.6, 44.07N±0.05×105.32W±0.06, h0km±2km, ML3.1/56, Error ellipse: s-maj=8.0km s-min=6.9km az=165.0*
*IDC **15** 15:58:21.5±2.1, 44.00N×105.48W, h0km, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=74.8km s-min=10.3km az=148.0*
ISC 15 15:58:19.1±1.1, 44°03N±0.06×105°38W±0.05, h0km, n45, σ1s67/44, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.97**	**84**		**Pb**	**15 58 38.4**	**-0.5**
K22A	**Casper**	**1.61**	**212**		**Pn**	**15 58 49.8**	**+0.8**
K22A				IAML		15 59 17.9	
	comp=E,275nm,0.5s						
RWWY	**Rawlins**	**2.70**	**211**		**Pn**	**15 59 05.6**	**+1.6**
PHWY	**Pilot Hill**	**2.72**	**181**		**Pn**	**15 59 05.9**	**+1.5**
PHWY				IAML		15 59 49.6	
	comp=E,63nm,0.6s						
LAO	**LASA Array**	**2.73**	**348**	Pn	**Pn**	**15 59 04.3**	**+0.1**
RLMT	**Red Lodge**	**2.99**	**293**		**Pn**	**15 59 10.4**	**+2.4**
RLMT				IAML		16 00 05.9	
	comp=E,40nm,0.6s						
RLMT				IAML		16 00 10.5	
	comp=E,38nm,0.6s						
N23A	**Red Feather La**	**3.16**	**188**		**Pn**	**15 59 12.4**	**+2.1**
N23A				IAML		16 00 05.3	
	comp=E,36nm,0.6s						
N23A				IAML		16 00 10.1	
	comp=N,50nm,0.7s						
PD31	**Pinedale Array**	**3.30**	**249**		**Pn**	**15 59 15.3**	**+3.1**
PDAR	**Pinedale Array**	**3.30**	**249**	Pn	**Pb**	**15 59 16.9**	**-1.7**
	comp=N,1.6nm,0.3s,baz=72,slow=16,SNR=31						
PDAR				Lg	Lg	16 00 01.9	
	comp=N,7.2nm,0.3s,baz=78,slow=40,SNR=5.7						
	comp=N,1.8nm,0.4s						
PDAR	**Pinedale Array**	**3.30**	**249**		**Pn**	**15 59 15.4**	**+3.1**
BW06	**Boulder Array**	**3.30**	**249**		**Pn**	**15 59 13.7**	**+1.5**
BW06				IAML		16 00 08.0	
	comp=N,40nm,0.6s						
BW06				IAML		16 00 07.0	
	comp=N,40nm,0.6s						
YMP	**Mirror Lake Pl**	**3.50**	**283**		**Pn**	**15 59 16.8**	**+1.7**
YMP				IAML		16 00 23.3	
	comp=N,49nm,0.7s						
YMP				IAML		16 00 26.3	
	comp=E,57nm,0.9s						
GCMT	**Greycliff**	**3.52**	**302**		**Pn**	**15 59 18.1**	**+2.9**
LOHW	**Long Hollow**	**3.81**	**266**		**Pn**	**15 59 20.8**	**+1.6**
LOHW				IAML		16 01 29.5	
	comp=E,16nm,3.7s						
MOOW	**Moose Ponds**	**3.89**	**268**	Pn	**Pn**	**15 59 20.6**	**+0.2**
YPP	**Pitchstone Pla**	**3.92**	**275**		**Pn**	**15 59 21.7**	**+0.9**
OGNE	**Ogallala**	**3.95**	**140**		**Pn**	**15 59 20.4**	**-0.7**
YHH	**Holmes Hill**	**4.00**	**283**		**Pn**	**15 59 23.1**	**+1.2**
YHH				IAML		16 00 46.1	
	comp=N,14nm,1.2s						
IMW	**Indian Meadow**	**4.02**	**270**		**Pn**	**15 59 22.6**	**+0.4**
IMW				IAML		16 00 32.6	
	comp=N,22nm,0.8s						
IMW				IAML		16 00 35.5	
	comp=N,26nm,0.7s						
REDW	**Red Top Meadow**	**4.03**	**262**		**Pn**	**15 59 22.8**	**+0.6**
REDW				IAML		16 00 35.5	
	comp=N,29nm,0.8s						
REDW				IAML		16 00 44.5	
	comp=N,24nm,1.3s						
TPAW	**Teton Pass**	**4.07**	**264**		**Pn**	**15 59 22.0**	**-0.9**
TPAW				IAML		16 00 49.8	
	comp=N,25nm,1.1s						
FXWY	**Fox Creek**	**4.11**	**267**		**Pn**	**15 59 25.5**	**+2.1**
ISCO	**Idaho Springs**	**4.23**	**182**	Pn	**Pn**	**15 59 27.8**	**+2.7**
YHL	**Hebgen Lake**	**4.24**	**283**		**Pn**	**15 59 23.9**	**-1.3**
YHL				IAML		16 00 50.3	
	comp=N,21nm,1.0s						
YHL				IAML		16 00 58.0	
	comp=E,19nm,1.2s						
O20A	**White River Ci**	**4.43**	**210**		**Pn**	**15 59 27.0**	**-0.8**
ECR	**Eagle Creek**	**4.46**	**260**	Pn	**Pn**	**15 59 29.3**	**+1.1**
DGMT	**Dagmar**	**4.52**	**10**		**Pn**	**15 59 28.0**	**-0.9**
RDMU	**Red Mountain**	**4.65**	**223**		**Pn**	**15 59 30.4**	**-0.3**
RDMU				IAML		16 00 52.4	
	comp=E,18nm,1.2s						
RDMU				IAML		16 01 02.0	
	comp=N,20nm,1.1s						
BOZ	**Bozeman (W)**	**4.72**	**292**		**Pn**	**15 59 30.4**	**-1.3**
BOZ				IAML		16 01 00.8	
	comp=N,13nm,1.0s						
BOZ				IAML		16 01 04.1	
	comp=N,11nm,2.5s						
EGMT	**Eagleton**	**5.03**	**324**	Pn	**Pn**	**15 59 34.1**	**-1.7**
Q24A	**Divide**	**5.06**	**178**	Pn	**Pn**	**15 59 34.0**	**-2.6**
Q24A				IAML		16 01 01.6	
	comp=N,8.8nm,1.4s						
Q24A				IAML		16 01 02.0	
	comp=E,15nm,0.7s						
HWUT	**Hardware Ranch**	**5.15**	**244**	Pn	**Pn**	**15 59 39.0**	**+1.3**
HWUT				IAML		16 01 20.3	
	comp=E,15nm,1.7s						
HRY	**Holter Researc**	**5.28**	**303**		**Pn**	**15 59 41.1**	**+1.8**
TCUT	**Toone Canyon**	**5.32**	**239**	Pn	**Pn**	**15 59 38.8**	**-1.2**
LRM	**Limekiln Ridge**	**5.33**	**292**	Pn	**Pn**	**15 59 39.6**	**-0.6**
HVU	**Hansel Valley**	**5.88**	**250**	Pn	**Pn**	**15 59 47.1**	**-0.5**
P17A	**Butcher Ranch,**	**6.06**	**223**	Pn	**Pn**	**15 59 51.1**	**+0.9**
PV15	**Paradox Valley**	**6.14**	**203**	Pn	**Pn**	**15 59 51.0**	**-0.3**
SRU	**San Rafael Swe**	**6.25**	**220**	Pn	**Pn**	**15 59 54.4**	**+1.7**
SDCO	**Great Sand Dun**	**6.28**	**181**	Pn	**Pn**	**15 59 54.7**	**+1.5**
ECSD	**EROS Data Cent**	**6.34**	**90**	Pn	**Pn**	**15 59 51.8**	**-2.0**
PV13	**Radium Mtn., P**	**6.41**	**205**	Pn	**Pn**	**15 59 56.3**	**+1.3**
ULM	**Lac du Bonnet**	**8.98**	**43**	Pn	**Pn**	**16 00 31.4**	**+1.4**
	comp=E,0.4nm,0.3s,baz=225,slow=13,SNR=1.5						
ULM				Lg	Lg	16 02 59.8	
	comp=E,0.4nm,0.3s,baz=324,slow=21,SNR=4.4						
	comp=E,1.3nm,0.4s						
I56US	**NEWPORT INFRAS**	**9.19**	**302**	*i*		16 53 30.0	
	baz=113,slow=325,SNR=2.2						
NVAR	**Mina Array Bea**	**11.22**	**245**	Pn	**Pn**	**16 01 03.9**	**+2.9**
	comp=E,0.1nm,0.3s,baz=45,slow=14,SNR=2.2						
	comp=E,0.2nm,0.7s						

*NEIC **15** 16:35:57.2±1.4, 13°.56S±0°.09×168°.0E±0°.1, h10km±2km, mb4.3/9, Error ellipse: s-maj=22.6km s-min=7.4km az=48.0*
*IDC **15** 16:36:08.2±69.0, 14°.40S×166°.63E, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1171.0km s-min=111.6km az=64.0*
ISC 15 16:35:57.1±2.3, 13°.65S±0°.2×167°.9E±0°.2, h10km, n20, σ0s61/20, mb4.3/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**7.18**	**185**	Pn	**Pn**	**16 37 42.8**	**+0.6**
KOUNC	**Koumac, New Ca**	**7.74**	**206**	Pn	**Pn**	**16 37 50.0**	**+0.1**
MARNC	**Mare, Loyalty**	**7.85**	**179**	Pn	**Pn**	**16 37 51.6**	**+0.1**
DZM	**Mont Dzumac**	**8.55**	**189**	Pn	**Pn**	**16 38 00.0**	**-0.5**
ONTNC	**Ouen Toro**	**8.78**	**189**	Pn	**Pn**	**16 38 05.0**	**+0.7**
OUENC	**Ouen Island, N**	**8.84**	**186**	Pn	**Pn**	**16 38 05.8**	**+0.8**
PINNC	**Pines Island,**	**8.99**	**183**	Pn	**Pn**	**16 38 07.6**	**+0.6**
EIDS	**Eidsvold**	**19.70**	**231**	P	**P**	**16 40 26.8**	**+0.1**
EIDS				IAmb	IAmb	16 40 46.1	
	comp=Z,13nm,1.4s						
BKZ	**Black Stump Fm**	**26.59**	**165**	P	**P**	**16 41 35.1**	**-0.5**
BKZ				IAmb	IAmb	16 41 39.1	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**30.20**	**229**	P	**P**	**16 42 07.5**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=55,slow=9.3,SNR=12						
	comp=Z,2.5nm,0.5s						
STKA	**Stephens Creek**	**30.20**	**229**	P	**P**	**16 42 07.5**	**-0.4**
WB0	**Warramunga Arr**	**32.65**	**255**	P	**P**	**16 42 30.1**	**+0.5**
WB0				IAmb	IAmb	16 42 32.4	
	comp=Z,8.9nm,1.4s						
WRAB	**Tennant Creek**	**32.70**	**254**	P	**P**	**16 42 30.5**	**+0.4**
WRA	**Warramunga Arr**	**32.71**	**254**	P	**P**	**16 42 30.7**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=85,slow=9.1,SNR=3.6						
	comp=Z,1.3nm,0.3s						
AS31	**Alice Springs**	**33.66**	**248**	P	**P**	**16 42 38.1**	**-0.3**
ASAR	**Alice Springs**	**33.66**	**248**	P	**P**	**16 42 38.1**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=77,slow=9.1,SNR=20						
	comp=Z,0.7nm,0.7s						
BBOO	**Buckleboo**	**34.77**	**231**	P	**P**	**16 42 47.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**40.84**	**258**	P	**P**	**16 43 40.8**	**+1.3**
VNDA	**Vanda**	**64.01**	**181**	P	**P**	**16 46 30.1**	**-0.3**
VNDA				IAmb	IAmb	16 47 13.5	
	comp=Z,1.7nm,1.3s						
QSPA	**South Pole Qui**	**76.44**	**180**	P	**P**	**16 47 47.0**	**+0.2**
QSPA				IAmb	IAmb	16 48 28.9	
	comp=Z,5.1nm,1.4s						

*IDC **15** 16:53:43.4±0.7, 53°.72N×164°.33W, h0km, mb4.0/29, mbtmp4.0/32, ML3.9/3, Error ellipse: s-maj=19.9km s-min=11.5km az=163.0*
*NEIC **15** 16:53:47.4±2.5, 53°.59N±0°.07×164°.14W±0°.08, h43km±7km, mb3.9/22, ML4.5/39(AEIC), Error ellipse: s-maj=10.7km s-min=5.9km az=155.0*
*AEIC **15** 16:53:48.9±3.1, 53°.71N±0°.06×164°.19W±0°.08, h40km±6km, Error ellipse: s-maj=10.2km s-min=5.3km az=152.0*
ISC 15 16:53:43.2±1.8, 53°50N±0°.06×164°07W±0°04, h8km±10km, n205, σ1s49/205, mb4.2/39, 2D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**1.03**	**343**		**Pn**	**16 54 04.1**	**+0.2**
WECS	**Westdahl Cape**	**1.12**	**338**		**Pg**	**16 54 05.5**	**+0.8**
WECS					**Sb**	**16 54 17.0**	**-2.5**
AKSA	**Akutan Strait**	**1.16**	**304**		**Pg**	**16 54 06.7**	**+1.3**
AKSA					**Sb**	**16 54 20.1**	**-0.5**
BRPK	**Brown Peak**	**1.17**	**9**		**Pn**	**16 54 06.0**	**+0.1**
AKUT	**Akutan**	**1.20**	**303**		**Pg**	**16 54 07.4**	**+1.3**
AKUT				Sn	**Sb**	**16 54 20.1**	**-1.5**
SSLS	**Shishaldin Sou**	**1.22**	**2**		**Pb**	**16 54 06.8**	**+0.3**
SSLS					**Sb**	**16 54 20.6**	**-1.8**
ISLZ	**Isanotski Laza**	**1.25**	**10**		**Pn**	**16 54 07.2**	**+0.2**
AKBBA	**Akutan Broad B**	**1.26**	**299**		**Pg**	**16 54 08.5**	**+1.2**
SSBA	**Shishaldin**	**1.28**	**359**		**Pb**	**16 54 07.6**	**0.0**
AKMO	**Akutan Morgan**	**1.30**	**298**		**Pg**	**16 54 09.1**	**+1.1**
AKLV	**Akutan Long Va**	**1.30**	**302**		**Pg**	**16 54 09.0**	**+0.8**
AKLV					**Sb**	**16 54 22.7**	**-2.1**
SSLN	**Shishaldin Nor**	**1.32**	**2**		**Pg**	**16 54 09.0**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.35**	**299**		**Pg**	**16 54 09.8**	**+0.8**
ISNN	**Isanotski Nort**	**1.35**	**7**		**Pb**	**16 54 09.1**	**+0.4**
UNV	**Unalaska Valle**	**1.49**	**285**	Pn	**Pb**	**16 54 11.5**	**+0.4**
UNV	**Unalaska Valle**	**1.49**	**285**	P	**Pb**	**16 54 11.5**	**+0.4**
	baz=94						
MNAT	**Makushin Natee**	**1.60**	**285**		**Pb**	**16 54 13.4**	**+0.4**
MGOD	**Makushin Gods**	**1.70**	**281**		**Pb**	**16 54 15.1**	**+0.5**
MAPS	**Pakushin South**	**1.74**	**282**		**Pb**	**16 54 15.7**	**+0.4**
MAPS					**Sb**	**16 54 36.4**	**-0.9**
DT1	**Dutton Round H**	**1.93**	**32**		**Pb**	**16 54 17.8**	**-0.7**
HAG	**Hague Volcano**	**2.22**	**34**		**Pb**	**16 54 22.4**	**-1.1**
PS4A	**Pavlof South-4**	**2.26**	**34**		**Pn**	**16 54 22.8**	**+2.0**
PVV	**Pavlof Volcano**	**2.31**	**34**		**Pn**	**16 54 23.3**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**2.38**	**269**		**Pb**	**16 54 25.8**	**-0.5**
OKNC	**Okmok New Cone**	**2.42**	**271**		**Pb**	**16 54 26.1**	**-0.9**
OKRE	**Okmok R'deer P**	**2.44**	**272**		**Pb**	**16 54 26.9**	**-0.4**
SDPT	**Sand Point**	**2.80**	**47**	Pn	**Pn**	**16 54 30.3**	**+2.1**
SDPT	**Sand Point**	**2.80**	**47**	P	**Pn**	**16 54 30.4**	**+2.1**
	baz=234						
NIKH	**Nikolski High**	**2.92**	**262**		**Pn**	**16 54 31.6**	**+1.8**
NIKH	**Nikolski High**	**2.92**	**262**	P	**Pb**	**16 54 33.0**	**-2.5**
	baz=73						
CNBA	**Chernabura Isl**	**2.95**	**61**		**Pn**	**16 54 31.7**	**+1.4**
CLCO	**Concord Point,**	**3.48**	**260**		**Pn**	**16 54 41.1**	**+3.6**
CLES	**Cleveland East**	**3.57**	**261**	Pn	**Pn**	**16 54 38.1**	**-0.6**
S14K	**Fog Glacier**	**3.82**	**41**	P	**Pn**	**16 54 44.9**	**+2.6**
	baz=228						
VNFG	**Fog Glacier, M**	**3.82**	**41**		**Pn**	**16 54 44.9**	**+2.6**
CHGN	**Chignik**	**4.31**	**47**	Pn	**Pn**	**16 54 51.0**	**+2.1**
CHGN	**Chignik**	**4.31**	**47**	P	**Pn**	**16 54 50.8**	**+1.9**
	baz=234						
SPIA	**Saint Paul Isl**	**5.10**	**319**	Pn	**Pn**	**16 55 01.1**	**+1.3**
CHIR	**Chirikof Islan**	**5.43**	**61**	Pn	**Pn**	**16 55 05.8**	**+1.6**
CHIR	**Chirikof Islan**	**5.43**	**61**	P	**Pn**	**16 55 05.6**	**+1.3**
	baz=250						
SII	**Sitkinak Islan**	**6.46**	**58**	Pn	**Pn**	**16 55 19.5**	**+1.1**
OHAK	**Old Harbor**	**7.19**	**54**		**Pn**	**16 55 28.4**	**0.0**
P18K	**Big Mountain,**	**7.67**	**36**	Pn	**Pn**	**16 55 33.9**	**-1.2**
KDAK	**Kodiak Island**	**7.79**	**52**	Pn	**Pn**	**16 55 36.9**	**+0.2**
	1.9nm,0.3s,baz=257,slow=9.2,SNR=28						
KDAK				Sn	**Sn**	**16 57 07.9**	**+3.0**
	baz=350,slow=20						
	8.4nm,0.5s						
KDAK	**Kodiak Island**	**7.79**	**52**	Pn	**Pn**	**16 55 36.8**	**+0.2**
ADK	**Adak**	**7.83**	**263**	Pn	**Pn**	**16 55 35.1**	**-2.2**
Q19K	**Cape Douglas,**	**7.96**	**43**	Pn	**Pn**	**16 55 39.4**	**+0.3**
O18K	**Koktuh Hills**	**8.02**	**34**		**Pn**	**16 55 42.6**	**+2.7**
KIWB	**Kanaga Island**	**8.12**	**264**	Pn	**Pn**	**16 55 40.5**	**-0.8**
N18K	**Kilae Creek**	**8.46**	**28**		**Pn**	**16 55 48.3**	**+2.4**
O19K	**Port Alsworth**	**8.57**	**35**		**Pn**	**16 55 49.2**	**+1.9**
P19K	**Oil Pt**	**8.59**	**40**	Pn	**Pn**	**16 55 48.8**	**+1.2**
ILSW	**Iliamna Southw**	**8.84**	**38**	Pn	**Pn**	**16 55 51.6**	**+0.4**
SVW2	**Sparrevohn**	**8.89**	**28**		**Pn**	**16 55 53.0**	**+1.2**
N19K	**Bonanza Creek**	**8.99**	**31**		**Pn**	**16 55 55.9**	**+2.7**
CNPM	**China Poot**	**9.31**	**44**	Pn	**Pn**	**16 55 58.0**	**+0.5**
RSO	**Redoubt South**	**9.31**	**37**	Pn	**Pn**	**16 55 56.9**	**-0.8**
M19K	**Big River Lodg**	**9.88**	**28**		**Pn**	**16 56 06.7**	**+1.4**
L19K	**White Mountain**	**9.99**	**26**	Pn	**Pn**	**16 56 08.5**	**+1.7**
M20K	**Styx River**	**10.23**	**30**	Pn	**Pn**	**16 56 13.2**	**+3.1**
AMKA	**Amchitka**	**10.37**	**265**	Pn	**Pn**	**16 56 13.1**	**+1.0**
SEW	**Seward**	**10.38**	**45**	Pn	**Pn**	**16 56 11.9**	**-0.3**
SUA	**Susitna One**	**10.71**	**37**	Pn	**Pn**	**16 56 17.7**	**+0.9**
SKT	**Skwentna**	**10.81**	**39**	Pn	**Pn**	**16 56 19.6**	**+1.6**
K20K	**Telida**	**11.17**	**24**	Pn	**Pn**	**16 56 23.7**	**+0.7**
PWL	**Port Wells**	**11.26**	**43**	Pn	**Pn**	**16 56 23.7**	**-0.6**
KNK	**Knik Glacier**	**11.53**	**40**	Pn	**Pn**	**16 56 25.9**	**-2.0**
GHO	**Glory Hole Cre**	**11.58**	**38**	Pn	**Pn**	**16 56 28.6**	**+0.1**
J20K	**Nowinta River**	**11.86**	**22**	Pn	**Pn**	**16 56 33.4**	**+1.1**
FID	**Port Fidalgo**	**11.98**	**46**	Pn	**Pn**	**16 56 32.1**	**-1.9**
SCM	**Sheep Creek Mo**	**12.22**	**40**	Pn	**Pn**	**16 56 36.7**	**-0.6**
TNA	**Tin City**	**12.26**	**352**	Pn	**Pn**	**16 56 36.9**	**-0.8**
TRF	**Thorofare Moun**	**12.28**	**30**		**Pn**	**16 56 38.1**	**-0.2**
DIV	**Divide**	**12.47**	**45**	Pn	**Pn**	**16 56 40.4**	**-0.4**
KAIM	**Kayak Island**	**12.54**	**51**	Pn	**Pn**	**16 56 41.1**	**-0.5**
BPAW	**Bear Paw Mtn.**	**12.58**	**27**	Pn	**Pn**	**16 56 41.4**	**-0.7**
KLU	**Klutina**	**12.59**	**43**		**Pn**	**16 56 42.0**	**-0.4**
RND	**Reindeer**	**12.69**	**33**	Pn	**Pn**	**16 56 44.9**	**+1.1**
HMT	**Hamilton**	**12.77**	**50**	Pn	**Pn**	**16 56 44.9**	**0.0**
M24K	**Tolsona, Glenn**	**12.82**	**41**	Pn	**Pn**	**16 56 44.6**	**-0.9**
BMRM	**Bremner River**	**12.89**	**47**		**Pn**	**16 56 46.7**	**+0.2**
SUCK	**Suckling Hills**	**12.89**	**51**	Pn	**Pn**	**16 56 46.1**	**-0.4**
MCK	**McKinley**	**12.90**	**31**	Pn	**Pn**	**16 56 46.1**	**-0.5**
DHY	**Denali Highway**	**12.96**	**36**	Pn	**Pn**	**16 56 46.0**	**-1.6**
BERG	**Berg Lake**	**13.05**	**50**	Pn	**Pn**	**16 56 49.6**	**+0.9**
N25K	**Chitina, Valde**	**13.19**	**44**		**Pn**	**16 56 50.4**	**-0.2**
I21K	**Tanana**	**13.21**	**23**	Pn	**Pn**	**16 56 51.7**	**+1.0**
SNH	**Sunshine Point**	**13.37**	**52**	Pn	**Pn**	**16 56 53.7**	**+0.7**
MLY	**Manley**	**13.38**	**25**	Pn	**Pn**	**16 56 53.4**	**+0.2**
H21K	**Melozitna Rive**	**13.43**	**20**	Pn	**Pn**	**16 56 52.0**	**-1.8**
GLB	**Gilahina Butte**	**13.45**	**46**		**Pn**	**16 56 54.0**	**-0.1**
WAX	**Waxell Ridge**	**13.46**	**50**	Pn	**Pn**	**16 56 54.1**	**-0.2**
IMAR	**Indian Mountai**	**13.54**	**18**	Pn	**Pn**	**16 56 53.4**	**-1.8**
PAX	**Paxson**	**13.59**	**38**		**Pn**	**16 56 54.7**	**-1.3**
WRH	**Wood River Hil**	**13.69**	**30**	Pn	**Pn**	**16 56 56.2**	**-1.1**
ISLE	**Juniper Island**	**13.75**	**50**	Pn	**Pn**	**16 56 56.5**	**-1.8**
CCB	**Clear Creek Bu**	**13.90**	**30**		**Pn**	**16 56 59.0**	**-1.3**
YAH	**Yahtse**	**13.95**	**52**	Pn	**Pn**	**16 56 57.8**	**-3.2**
HDA	**Harding Lake**	**14.00**	**32**		**Pn**	**16 56 60.0**	**-1.6**
MDM	**Murphy Dome**	**14.01**	**29**		**Pn**	**16 57 00.9**	**-0.8**
M26K	**Nabesna, AK**	**14.24**	**43**		**Pn**	**16 57 03.9**	**-1.1**
TABL	**Table Mountain**	**14.25**	**52**		**Pn**	**16 57 04.0**	**-1.2**
IL31		**14.27**	**31**		**Pn**	**16 57 05.2**	**0.0**
ILAR	**Eielson Array**	**14.27**	**31**	Pn	**Pn**	**16 57 03.5**	**-1.8**
	0.1nm,0.3s,baz=229,slow=13,SNR=5.4						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**14.27**	**31**	Pn	**Pn**	**16 57 02.6**	**-2.7**
RIDG	**Independent Ri**	**14.27**	**36**		**Pn**	**16 57 04.2**	**-1.2**
H23K	**Yukon River**	**14.32**	**25**	Pn	**Pn**	**16 57 06.2**	**+0.2**
CTGM	**Chitina Glacie**	**14.35**	**50**		**Pn**	**16 57 06.8**	**+0.3**
LOGN	**Logan Glacier**	**14.45**	**50**		**Pn**	**16 57 07.8**	**-0.1**
DOT	**Dot Lake**	**14.50**	**38**		**Pn**	**16 57 09.3**	**+0.8**
J25K	**Salcha River,**	**14.64**	**33**		**Pn**	**16 57 09.7**	**-0.7**
M27K	**Edge Creek, AK**	**14.68**	**44**		**Pn**	**16 57 09.9**	**-1.1**
SCRK	**Sand Creek**	**14.72**	**37**		**Pn**	**16 57 10.4**	**-1.1**
H24K	**Noodor Dome**	**14.76**	**27**		**Pn**	**16 57 09.7**	**-2.3**
L27K	**Beaver Creek,**	**15.04**	**42**		**Pn**	**16 57 15.0**	**-0.7**
BCAR	**Beaver Creek A**	**15.05**	**42**	Pn	**Pn**	**16 57 15.4**	**-0.6**
J26L	**Joseph Creek**	**15.18**	**35**		**Pn**	**16 57 17.4**	**-0.2**
PRP	**Porcupine Dome**	**15.20**	**30**	Pn	**Pn**	**16 57 16.6**	**-1.4**
HYT	**Haines Junctio**	**16.08**	**52**		**Pn**	**16 57 25.4**	**-4.1**
EGAK	**Eagle**	**16.19**	**37**		**Pn**	**16 57 30.1**	**-0.6**
DAWY	**Dawson**	**16.48**	**40**		**Pn**	**16 57 32.5**	**-2.0**
DAWY				IAmb	IAmb	16 57 42.6	
	comp=Z,7.7nm,1.1s						
M30M	**Minto, Yukon**	**16.94**	**47**		**Pn**	**16 57 38.9**	**-1.4**
N31M	**Braeburn, Yuko**	**17.06**	**51**	P	**Pn**	**16 57 39.1**	**-1.9**
N31M				IAmb	IAmb	16 57 49.1	
	comp=Z,8.3nm,0.8s						
WHY	**Whitehorse**	**17.30**	**54**	P	**Pn**	**16 57 43.1**	**-1.7**
WHY				IAmb	IAmb	16 57 53.6	
	comp=Z,4.4nm,0.6s						
M31M	**Drury Creek, Y**	**17.89**	**49**	P	**Pn**	**16 57 48.9**	**-3.1**
M31M				IAmb	IAmb	16 58 00.9	
	comp=Z,8.5nm,0.9s						
P33M	**Teslin, Yukon**	**18.23**	**56**	P	**Pn**	**16 57 51.9**	**-4.5**
P33M				IAmb	IAmb	16 58 01.4	
	comp=Z,6.7nm,0.8s						
EPYK	**Eagle Plains**	**18.60**	**35**	P	**P**	**16 57 56.7**	**-3.8**
EPYK				IAmb	IAmb	16 58 04.1	
	comp=Z,11nm,1.4s						
DLBC	**Dease Lake**	**19.54**	**62**	P	**Pn**	**16 58 13.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=243,slow=10,SNR=7.5						
	comp=Z,5.1nm,0.8s					

GTA pP pwP 17 04 18.8 +5.3
KURBB **Kurchatov Arra 63.70 321** P **P** **17 04 14.5 -0.2**
comp=Z,1.2nm,0.6s,baz=38,slow=7.0,SNR=18
comp=Z,1.2nm,0.6s
FINES **FINESS Array B 65.12 355** P **P** **17 04 23.1 -0.7**
comp=Z,2.0nm,0.8s,baz=12,slow=7.5,SNR=9.9
comp=Z,2.0nm,0.8s
MKAR **Makanchi Array 65.29 316** P **P** **17 04 24.3 -0.9**
comp=Z,1.0nm,0.6s,baz=36,slow=5.8,SNR=11
comp=Z,1.0nm,0.6s
WMQ **Urumqi 65.29 311** *e*P **P** **17 04 23.8 -1.5**
WMQ pmax pmax
comp=Z,7.0nm,1.1s
NB2 **NORSAR Subarra 65.75 3** P **P** **17 04 27.0 -0.9**
comp=Z,2.1nm,0.9s,baz=0.3,slow=6.9
NOA **NORSAR Array B 65.75 3** P **P** **17 04 27.4 -0.5**
comp=Z,0.4nm,0.8s,baz=1.3,slow=7.2,SNR=2.5
comp=Z,0.4nm,0.8s
NOA **NORSAR Array B 65.75 3** P **P** **17 04 27.4 -0.5**
GOMU **GeErMu 67.77 301** P **P** **17 04 41.9 +0.3**
GOMU pP pP 17 04 45.3 +1.7
GOMU sP sP 17 04 46.4 +2.0
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU pmax pmax
comp=Z,51nm,5.8s
PZH **PanZhiHua 71.53 290** P **P** **17 05 04.3 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,6.3s
NACGM **Naroch 71.59 353**‖ *e*P **P** **17 05 04.0 -0.4**
baz=7.0
AAK **Ala-Archa 71.87 319** P **P** **17 05 07.0 +0.5**
comp=Z,4.3nm,0.7s,baz=260,slow=5.0,SNR=7.0
comp=Z,4.3nm,0.7s
KSH **Kashi 73.89 316** P **P** **17 05 22.8 +4.3**
KSH sP PcP 17 05 35.9 +1.9
KSH pmax pmax
comp=Z,7.0nm,1.0s
AKASG **Malin Array Be 75.58 351** P **P** **17 05 27.3 -0.5**
comp=Z,1.8nm,0.4s,baz=13,slow=6.0,SNR=14
comp=Z,1.8nm,0.4s
SIJI **Sorong 75.90 249** P **P** **17 05 31.4 +1.1**
comp=Z,5.7nm,0.9s,baz=337,slow=15,SNR=4.3
comp=Z,5.7nm,0.9s
KOLS **Kolonicke sedl 77.81 356** *e*P **P** **17 05 42.2 +1.6**
CRVS **Cervenica-Dubn 77.87 356** *e*P **P** **17 05 42.7 +1.8**
GERES **GERESS Array B 78.02 2** P **P** **17 05 42.0 +0.2**
comp=Z,0.1nm,0.3s,baz=356,slow=4.0,SNR=4.0
comp=Z,0.1nm,0.3s
GUN **Gumba 78.92 302** *e*P **P** **17 05 48.1 +0.6**
comp=Z,19nm,0.5s
JIRN **Jiri 78.97 302** *e*P **P** **17 05 48.3 +0.5**
comp=Z,39nm,0.5s
RAMN **Ramite 79.34 301** *e*P **P** **17 05 49.9 +0.2**
comp=Z,25nm,0.7s
CMAR **Chiang Mai Arr 79.44 287** P **P** **17 05 50.8 +0.8**
comp=Z,1.6nm,0.7s,baz=19,slow=5.9,SNR=9.7
comp=Z,1.6nm,0.7s
PKI **Pulchoki 79.44 302** *e*P **P** **17 05 50.4 +0.1**
comp=Z,6.8nm,0.5s
PKIN **Phulchoki 79.44 302** *e*P **P** **17 05 50.1 -0.1**
comp=Z,7.1nm,0.4s
GKN **Gorkha 79.47 303** *e*P **P** **17 05 50.4 +0.1**
comp=Z,17nm,0.7s
DANN **Dangsing 79.63 304** *e*P **P** **17 05 51.8 +0.5**
comp=Z,57nm,0.7s
PYUN **Piuthan 80.21 304** *e*P **P** **17 05 54.3 0.0**
comp=Z,5.3nm,0.4s
KBZ **Khabaz 80.43 341** P **P** **17 05 55.9 +1.0**
comp=Z,3.4nm,0.9s,baz=22,slow=4.9,SNR=5.0
comp=Z,3.4nm,0.9s
GEYT **Alibeck 81.91 328** P **P** **17 06 03.9 +0.9**
comp=Z,0.9nm,0.6s,baz=316,slow=6.0,SNR=2.3
comp=Z,0.9nm,0.6s
ESDC **Sonseca Array 85.62 15** P **P** **17 06 23.0 +1.0**
comp=Z,0.6nm,0.7s,baz=315,slow=4.9,SNR=1.6
comp=Z,0.6nm,0.7s
BRTR **Keskin Array B 85.90 346** P **P** **17 06 24.1 +0.6**
comp=Z,1.4nm,0.6s,baz=33,slow=5.5,SNR=13
comp=Z,1.4nm,0.6s
WRA **Warramunga Arr 90.26 236** P **P** **17 06 45.1 +0.8**
comp=Z,0.3nm,0.9s,baz=33,slow=5.7,SNR=2.2
comp=Z,0.3nm,0.9s
ASAR **Alice Springs 93.62 234** P **P** **17 07 01.1 +1.3**
comp=Z,0.2nm,0.7s,baz=35,slow=4.6,SNR=5.5
comp=Z,0.2nm,0.7s
H03N2 **Juan Fernandez 113.42 115** T T 19 16 15.0
baz=322,slow=77,SNR=73
H03N1 **Juan Fernandez 113.43 115** T T 19 16 15.2
baz=322,slow=77,SNR=140
H03N3 **Juan Fernandez 113.44 115** T T 19 16 15.5
baz=322,slow=77,SNR=95
MAW **Mawson 153.77 219** PKPab **PKPab** **17 13 55.6 +1.4**
comp=Z,0.7nm,0.5s,baz=121,slow=5.9,SNR=1.7
BOSA **Boshof 154.21 341** PKPbc **PKiKP** **17 13 44.4 +0.8**
comp=Z,2.3nm,0.9s,baz=27,slow=2.3,SNR=1.8
BOSA PKPab **PKPab** **17 13 57.2 -0.1**
comp=Z,1.1nm,0.5s,baz=337,slow=2.6,SNR=1.6
VNA1 **Neumayer--Stat 159.67 157** PKPab **PKPab** **17 14 17.3 -2.3**
VNA2 **Neumayer--Watz 159.67 158** PKPab **PKPab** **17 14 14.4 -5.2**

*IDC **15** 16:53:56.9±0.7,53.73N×164.31W,h0km,mb4.2/31, mbtmp4.2/34,ML4.2/3,Error ellipse: s-maj=18.9km s-min=11.1km az=170.0*
*AEIC **15** 16:54:02.6±1.9,53.75N±0.06×164.16W±0.05,h41km±5km, Error ellipse: s-maj=8.4km s-min=3.7km az=167.0*
*NEIC **15** 16:54:02.2±2.2,53.70N±0.06×164.15W±0.07,h37km±6km, mb4.7/98,ML4.5/14(AEIC),Error ellipse: s-maj=8.8km s-min=5.2km az=161.0*

ISC 15 16:54:00.6±0.4,53.66N±0.06×164.16W±0.03,h26km, n217,σ1§20/224,mb4.6/73,1C-1D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WECS	Westdahl Cape	0.95	338		Sb	16 54 30.6	0.0
AKSA	Akutan Strait	1.02	298		Sn	16 54 33.9	+1.1
AKUT	Akutan	1.06	297	Pn	Pb	16 54 21.5	+1.2
AKUT				Sn	Sb	16 54 34.5	+0.7
ISLZ	Isanotski Laza	1.10	14		Pn	16 54 20.6	+0.2
ISLZ					Sb	16 54 35.2	+0.3
AKLV	Akutan Long Va	1.17	296		Sb	16 54 38.1	+1.1
UNV	Unalaska Valle	1.40	279	Pn	Pn	16 54 24.7	+0.3
MAPS	Pakushin South	1.66	276		Pb	16 54 29.7	-0.7
MAPS					Sb	16 54 50.3	-0.5
DT1	Dutton Round H	1.82	36		Pn	16 54 30.9	+0.6
SDPT	Sand Point	2.74	50		Pn	16 54 44.1	+1.3
SDPT				Sn	Sn	16 55 15.7	+0.7
NIKH	Nikolski High	2.90	258	Pn	Pn	16 54 46.4	+1.5
CNBA	Chernabura Isl	2.93	65	Pn	Pn	16 54 45.8	+0.4
CLES	Cleveland East	3.54	259	Pn	Pn	16 54 55.1	+1.2
CHGN	Chignik	4.24	49	Pn	Pn	16 55 04.6	+1.2
SPIA	Saint Paul Isl	4.94	318	Pn	Pn	16 55 15.5	+2.2
CHIR	Chirikof Islan	5.40	63	Pn	Pn	16 55 19.2	-0.2
SII	Sitkinak Islan	6.42	59	Pn	Pn	16 55 33.4	0.0
OHAK	Old Harbor	7.14	56	Pn	Pn	16 55 42.1	-1.1
P18K	Big Mountain,	7.57	37	Pn	Pn	16 55 51.0	+1.8
KDAK	Kodiak Island	7.73	53	Pn	Pn	16 55 51.7	+0.3
	6.6nm,0.3s,baz=250,slow=11,SNR=8.0						
KDAK				Sn	Sn	16 57 14.8	-3.1
	0.8nm,0.3s,baz=178,slow=23,SNR=1.7						
	17nm,0.3s						
KDAK	Kodiak Island	7.73	53	Pn	Pn	16 55 51.0	-0.3
ADK	Adak	7.80	262	Pn	Pn	16 55 56.0	+3.8
Q19K	Cape Douglas,	7.88	44	Pn	Pn	16 55 55.2	+1.9
Q19K	Koktuh Hills	7.92	35	Pn	Pn	16 55 56.4	+2.5
KIWB	Kanaga Island	8.09	262	Pn	Pn	16 55 57.0	+0.9
N18K	Kilae Creek	8.35	29	Pn	Pn	16 56 00.7	+0.9
O19K	Port Alsworth	8.47	35	Pn	Pn	16 56 04.6	+3.2
P19K	Oil Pt	8.50	41	Pn	Pn	16 56 04.8	+2.9
ILSW	Iliamna Southw	8.75	39	Pn	Pn	16 56 08.0	+2.6
N19K	Bonanza Creek	8.88	32	Pn	Pn	16 56 09.1	+2.0
RSO	Redoubt South	9.22	38	Pn	Pn	16 56 10.3	-1.5
CNPM	China Poot	9.23	45	Pn	Pn	16 56 12.6	+0.6
M19K	Big River Lodg	9.76	28	Pn	Pn	16 56 20.8	+1.6
SPU	Mount Spurr	9.96	36	Pn	Pn	16 56 22.9	+1.0
M20K	Styx River	10.12	31	Pn	Pn	16 56 28.5	+4.4
SEW	Seward	10.30	45	Pn	Pn	16 56 25.9	-0.7
AMKA	Amchitka	10.33	264	Pn	Pn	16 56 27.3	+0.3
SUA	Susitna One	10.62	37	Pn	Pn	16 56 32.5	+1.5
SKT	Skwentna	10.70	34	Pn	Pn	16 56 33.4	+1.4
K20K	Telida	11.05	24	Pn	Pn	16 56 34.4	-2.3
PWL	Port Wells	11.18	44	Pn	Pn	16 56 38.0	-0.5
KNK	Knik Glacier	11.45	41	Pn	Pn	16 56 41.8	-0.4
GLI	Glacier Island	11.71	45	Pn	Pn	16 56 47.1	+1.4
J20K	Nowinta River	11.73	22	Pn	Pn	16 56 46.0	0.0
FID	Port Fidalgo	11.90	46	Pn	Pn	16 56 46.6	-1.8
TRF	Thorofare Moun	12.17	31	Pn	Pn	16 56 53.1	+1.0
DIV	Divide	12.39	46	Pn	Pn	16 56 53.8	-1.3
BPAW	Bear Paw Mtn.	12.46	28	Pn	Pn	16 56 54.4	-1.6
KAIM	Kayak Island	12.48	52	Pn	Pn	16 56 54.6	-1.7
KLU	Klutina	12.51	44	Pn	Pn	16 56 55.6	-1.1
HMT	Hamilton	12.71	50	Pn	Pn	16 56 59.3	-0.1
BMRM	Bremner River	12.82	47	Pn	Pn	16 56 59.5	-1.5
SUCK	Suckling Hills	12.84	52	Pn	Pn	16 56 59.5	-1.6
DHY	Denali Highway	12.87	36	Pn	Pn	16 57 01.3	-0.4
BWN	Browne	12.95	30	Pn	Pn	16 57 02.8	+0.1
BERG	Berg Lake	12.99	51	Pn	Pn	16 57 01.9	-1.4
N25K	Chitina, Valde	13.12	45	Pn	Pn	16 57 03.8	-1.2
MLY	Manley	13.26	25		Pn	16 57 05.7	-1.2
SNH	Sunshine Point	13.31	52	Pn	Pn	16 57 06.7	-1.0
GLB	Gilahina Butte	13.38	46	Pn	Pn	16 57 06.8	-1.7
IMAR	Indian Mountai	13.40	19		Pn	16 57 07.2	-1.5
WAX	Waxell Ridge	13.40	51	Pn	Pn	16 57 07.3	-1.6
PAX	Paxson	13.49	39	Pn	Pn	16 57 08.4	-1.8
TGL	Tana Glacier	13.53	50	Pn	Pn	16 57 09.1	-1.5
WRH	Wood River Hil	13.58	31	Pn	Pn	16 57 10.5	-0.7
MCARA	McCarthy VSAT	13.69	47	Pn	Pn	16 57 11.3	-1.5
MDM	Murphy Dome	13.89	29	Pn	Pn	16 57 11.6	-3.9
ILAR	Eielson Array	14.16	31	Pn	Pn	16 57 15.4	-3.8
	0.2nm,0.3s,baz=214,slow=11,SNR=4.4						
	0.9nm,0.7s						
M26K	Nabesna, AK	14.16	43		Pn	16 57 18.3	-1.0
TABL	Table Mountain	14.20	52	Pn	Pn	16 57 19.9	0.0
H23K	Yukon River	14.20	25	Pn	Pn	16 57 19.6	-0.1
POKR	Poker Plat Res	14.24	30	Pn	Pn	16 57 19.0	-1.2
CTGM	Chitina Glacie	14.28	50	Pn	Pn	16 57 20.4	-0.7
PCA	Pinnacle	14.52	54	Pn	Pn	16 57 23.6	-0.5
M27K	Edge Creek, AK	14.60	45	Pn	Pn	16 57 22.8	-2.6
SCRK	Sand Creek	14.62	37	Pn	Pn	16 57 25.7	+0.1
H24K	Noodor Dome	14.64	27	Pn	Pn	16 57 24.1	-1.7
BCPM	Bancas Point	14.78	55	Pn	Pn	16 57 27.4	-0.3
L27K	Beaver Creek,	14.95	42	Pn	Pn	16 57 29.4	-0.5
BCAR	Beaver Creek A	14.97	42	Pn	Pn	16 57 29.5	-0.7
COLD	Coldfoot	15.19	21	Pn	Pn	16 57 29.2	-3.9
P29M	Windy Craggy	15.65	57	Pn	Pn	16 57 36.6	-2.5
TOLK	Toolik Lake Re	16.52	19		Pn	16 57 49.6	-0.5
BMAR	Burnt Mountain	16.71	27	Pn	Pn	16 57 52.4	-0.3
BESE	Bessie Mountai	16.98	61	P	P	16 57 57.3	-0.6
N31M	Braeburn, Yuko	17.00	51	P	Pn	16 57 54.8	-1.5
JIS	Juneau Island	17.21	62	P	Pn	16 57 59.3	+0.4
JIS				IAmb	IAmb	16 58 03.5	
	comp=Z,19nm,0.6s						
WHY	Whitehorse	17.25	54	P	P	16 58 00.5	-0.3
MAYO	Mayo, Yukon	17.61	44	P	P	16 58 04.5	-0.2
MAYO				IAmb	IAmb	16 58 43.2	
	comp=Z,35nm,0.7s						
M31M	Drury Creek, Y	17.82	50	P	Pn	16 58 04.0	-2.5
P33M	Teslin, Yukon	18.18	56	P	Pn	16 58 08.3	-2.7
DLBC	Dease Lake	19.51	62	P	Pn	16 58 27.6	+0.6
	comp=Z,0.6nm,0.3s,baz=263,slow=11,SNR=6.6						
	comp=Z,8.5nm,0.8s						
GRNB	Grenville Isla	20.12	76	P	P	16 58 32.5	+0.3
GRNB				IAmb	IAmb	16 58 35.1	
	comp=Z,31nm,1.4s						
INK	Inuvik	20.55	33	P	P	16 58 37.7	+1.0
	comp=Z,3.3nm,0.3s,baz=256,slow=13,SNR=3.1						
	comp=Z,3.3nm,0.3s						
PET	Petropavlovsk	22.05	283	P	P	16 58 53.1	+0.2
PET				IAmb	IAmb	16 59 32.9	
	comp=Z,43nm,1.4s						
HOLB	Holberg	22.16	83	P	P	16 58 54.6	+0.3
PEA0B	Petropavlovsk-	22.58	284	P	P	16 58 57.1	-1.6
PEA0B				IAmb	IAmb	16 59 00.8	
	comp=Z,14nm,0.7s						
PETK	Petropavlovsk-	22.58	284	P	P	16 58 58.8	+0.1
	comp=Z,8.7nm,0.6s,baz=80,slow=13,SNR=19						
	comp=Z,8.7nm,0.6s						
PETK	Petropavlovsk-	22.58	284	P	P	16 58 57.5	-1.2
SEY	Seymchan	24.18	310	P	P	16 59 14.3	-0.1
	comp=Z,2.7nm,0.8s,baz=119,slow=10,SNR=4.3						
	comp=Z,2.7nm,0.8s						
MA2	Magadan	25.09	302	P	P	16 59 20.8	-1.8
MA2				IAmb	IAmb	16 59 50.9	
	comp=Z,32nm,1.1s						
YKA	Yellowknife Ar	27.00	51	P	P	16 59 41.2	+1.3
	comp=Z,1.5nm,0.6s,baz=272,slow=9.4,SNR=6.3						
	comp=Z,1.5nm,0.6s						
H04A	Detroit Lake	28.50	91	P	P	16 59 54.6	+1.0
H04A				IAmb	IAmb	16 59 56.5	
	comp=Z,6.5nm,0.8s						
MOD	Modoc Plateau	31.23	94	P	P	17 00 18.2	+0.3
MOD				IAmb	IAmb	17 00 34.5	
	comp=Z,4.4nm,0.7s						
HOPS	Hopland Field	31.44	101	P	P	17 00 20.8	+1.2
HOPS				IAmb	IAmb	17 00 40.0	
	comp=Z,27nm,1.4s						
J08A	Circle Bar Ran	31.46	90	P	P	17 00 21.4	+1.5
J08A				IAmb	IAmb	17 00 22.5	
	comp=Z,5.9nm,0.5s						
JTMT	Jette	31.59	80	P	P	17 00 21.3	+0.3
TIXI	Tiksi	33.28	328	P	P	17 00 35.1	-0.2
	comp=Z,1.8nm,0.4s,baz=90,slow=20,SNR=3.0						
	comp=Z,1.8nm,0.4s						
TIXI	Tiksi	33.28	328	P	P	17 00 34.7	-0.6
BMN	Battle Mountai	33.97	94	P	P	17 00 43.8	+1.9
HUH	Hualalai	34.51	166	P	P	17 00 47.6	+0.7
NVAR	Mina Array Bea	34.62	97	P	P	17 00 47.7	+0.1
	comp=Z,1.5nm,0.7s,baz=303,slow=8.4,SNR=9.8						
	comp=Z,1.5nm,0.7s						
YAK	Yakutsk	34.70	311	P	P	17 00 46.3	-1.4
	comp=Z,4.1nm,0.6s,baz=90,slow=4.0,SNR=6.5						
	comp=Z,4.1nm,0.6s						
EUNU	Eureka	35.58	17	P	P	17 00 55.5	+0.3
R11A	Troy Canyon, C	36.28	95	P	P	17 01 03.5	+1.6
S11A	Rachel	36.65	96	P	P	17 01 03.6	-1.3
S11A				IAmb	IAmb	17 01 22.1	
	comp=Z,5.4nm,0.6s						
PDAR	Pinedale Array	37.11	84	P	P	17 01 10.0	+1.2
	comp=Z,0.5nm,0.6s,baz=282,slow=4.5,SNR=2.7						
	comp=Z,0.5nm,0.6s						
PDAR	Pinedale Array	37.11	84	P	P	17 01 08.9	0.0
PSUT	Pine Spring	37.19	93	P	P	17 01 09.4	-0.1
KLR	Kul'dur	38.98	290	P	P	17 01 22.8	-1.5
	comp=Z,2.0nm,0.4s,baz=53,slow=7.3,SNR=9.9						
	comp=Z,2.0nm,0.4s						
U15A	North Rim	39.51	94	P	P	17 01 30.6	+1.4
PV13	Radium Mtn., P	40.43	89	P	P	17 01 37.2	+0.4
JMM	Marumori	40.44	270	P	P	17 01 36.2	-0.4
JMM				IAmb	IAmb	17 01 38.7	
	comp=Z,9.2nm,0.9s						
ESJX	Sierra Juarez	40.47	103	P	P	17 01 37.3	+0.2
USRK	Ussuriysk Ar.	41.67	284	P	P	17 01 45.2	-1.4
	comp=Z,0.7nm,0.4s,baz=52,slow=9.4,SNR=4.3						
	comp=Z,0.7nm,0.4s						
JSD	Sado	41.83	272	P	P	17 01 48.2	+0.2
JSD				IAmb	IAmb	17 01 48.4	
	comp=Z,11nm,0.5s						
JYT	Yasato	41.89	269	P	P	17 01 48.6	+0.2
JYT				IAmb	IAmb	17 01 49.5	
	comp=Z,19nm,0.7s						
MAJO	Matsushiro	42.86	271	P	P	17 01 56.6	+0.2
MAJO				IAmb	IAmb	17 01 57.6	
	comp=Z,17nm,1.1s						
MJAR	Matsushiro Arr	42.86	271	P	P	17 01 56.0	-0.4
	comp=Z,3.5nm,0.6s,baz=44,slow=6.4,SNR=9.0						
	comp=Z,3.5nm,0.6s						
EYMN	Ely	44.43	66	P	P	17 02 09.0	+0.1
EYMN				IAmb	IAmb	17 02 32.0	
	comp=Z,14nm,1.4s						
NRIK	Noril'sk	46.76	332	P	P	17 02 27.2	+0.2
NRIK				IAmb	IAmb	17 02 30.8	
	comp=Z,8.5nm,1.4s						
JHS	Saijyo	46.94	273	P	P	17 02 29.3	+0.4
JMN	Monobe	47.37	271	P	P	17 02 32.6	+0.3
SEHB	SEOHWA	47.60	280	P	P	17 02 34.4	+0.4
SEHB				IAmb	IAmb	17 02 35.6	
	comp=Z,13nm,1.5s						
KSRS	Korea Array	48.34	279	P	P	17 02 40.1	+0.4
	comp=Z,3.8nm,0.6s,baz=50,slow=7.0,SNR=21						
	comp=Z,3.8nm,0.6s						
KS19	Wonju Array Si	48.34	279	P	P	17 02 40.5	+0.8
KS19				IAmb	IAmb	17 02 41.6	
	comp=Z,6.4nm,0.8s						
KSAR	Wonju Array Be	48.37	279	P	P	17 02 39.3	-0.6
SPB2	Spitsbergen Ar	48.43	360	P	P	17 02 39.2	-0.6
KSBUS	Busan	49.14	276	P	P	17 02 45.9	+0.1
KSBUS				IAmb	IAmb	17 03 11.4	
	comp=Z,16nm,1.1s						
TJN	Taejon	49.40	279	P	P	17 02 48.2	+0.4
JTU	Tsushima	49.47	275	P	P	17 02 49.4	+1.0
TX31	Lajitas Ar. Si	49.64	94	P	P	17 02 49.9	0.0
TX31				IAmb	IAmb	17 02 54.4	
	comp=Z,7.0nm,1.1s						
TX32	Lajitas Array	49.64	94	P	P	17 02 49.6	-0.2
TXAR	Lajitas Array	49.64	94	P	P	17 02 51.0	+1.2
	comp=Z,1.5nm,0.6s,baz=305,slow=5.0,SNR=11						
	comp=Z,1.5nm,0.6s						
TXAR	Lajitas Array	49.64	94	P	P	17 02 50.0	+0.1
NAWB	Namwon	50.04	278	P	P	17 02 51.9	-0.8
NAWB				IAmb	IAmb	17 03 22.9	
	comp=Z,17nm,1.3s						
JSU	Suzuyama	50.97	272	P	P	17 03 00.1	+0.2
JSU				IAmb	IAmb	17 03 01.1	
	comp=Z,15nm,1.1s						
ULN	Ulaanbaatar	52.94	302		P	17 03 14.1	-0.3
ULN				IAmb	IAmb	17 03 14.9	
	comp=Z,7.0nm,0.8s						
GLAT	Glass	53.22	77	P	P	17 03 17.9	+1.5
SCO	Scoresbysund	53.22	15	P	P	17 03 16.8	+0.8
SONM	Songino Array	53.29	303	P	P	17 03 16.9	-0.1
	comp=Z,3.8nm,0.8s,baz=50,slow=7.4,SNR=13						
SONM				PcP	PcP	17 04 25.0	+0.6
	comp=Z,2.7nm,0.6s,baz=64,slow=2.4,SNR=7.4						
	comp=Z,3.8nm,0.8s						
SONM	Songino Array	53.29	303		P	17 03 15.9	-1.1
SONM				IAmb	IAmb	17 03 17.8	
	comp=Z,4.5nm,0.9s						
SONM				PcP	PcP	17 04 25.3	+0.9
735A	Kenedy	53.47	90	P	P	17 03 18.8	+0.4
HNS	HongShan	56.01	288	⇑P	P	17 03 37.9	+1.3
KEV	Kevo	56.63	355	P	P	17 03 39.7	-0.9
ARCES	ARCESS Array B	56.91	356	P	P	17 03 42.0	-0.7
	comp=Z,0.7nm,0.3s,baz=11,slow=7.5,SNR=12						
	comp=Z,0.7nm,0.3s						
ARCES	ARCESS Array B	56.91	356	P	P	17 03 42.0	-0.7
ARCES				IAmb	IAmb	17 04 00.5	
	comp=Z,16nm,1.3s						
LVZ	Lovozero	57.95	352	P	P	17 03 49.1	-1.0
ZAA0	Zalesovo Array	58.53	320	P	P	17 03 53.0	-1.2
ZALV	Zalesovo Beam	58.53	320	P	P	17 03 53.6	-0.6
	comp=Z,1.7nm,0.3s,baz=40,slow=6.9,SNR=10						
ZALV				PcP	PcP	17 04 45.2	+0.8
	comp=Z,1.3nm,0.6s,baz=23,slow=5.3,SNR=4.0						
	comp=Z,1.7nm,0.3s						
ZALV	Zalesovo Beam	58.53	320	P	P	17 03 53.5	-0.8
P61A	Hammonton	58.94	64	P	P	17 03 57.0	-0.3
WHN	Wuhan	61.16	283	⇓P	P	17 04 12.8	+0.2
XAN	Xi'an	61.68	290	P	P	17 04 16.0	-0.2
XAN				pP	sP	17 04 27.3	+0.1
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GTA	Gaotai	62.63	300	*e*P	P	17 04 22.0	-0.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LZH	Lanzhou	62.97	295	*e*P	P	17 04 25.1	+0.2
LZH				pP	pP	17 04 30.5	-2.4
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
KURK	Kurchatov	63.43	321	P	P	17 04 27.6	+0.1
KURK				IAmb	IAmb	17 04 28.1	
	comp=Z,4.7nm,0.9s						
KURBB	Kurchatov Arra	63.54	321	P	P	17 04 27.9	-0.4
	comp=Z,1.9nm,0.4s,baz=28,slow=7.3,SNR=25						
	comp=Z,1.9nm,0.4s						
ENH	Enshi	64.16	286		P	17 04 32.0	-0.7
BRVK	Borovoye	64.42	327		P	17 04 33.1	-0.9
BRVK				IAmb	IAmb	17 04 34.8	
	comp=Z,6.4nm,0.8s						
ARU	Arti	64.83	335		P	17 04 36.1	-0.6
ARU				IAmb	IAmb	17 04 36.8	
	comp=Z,5.3nm,0.6s						
FIA1	FINESS Array S	64.95	355	P	P	17 04 36.6	-0.7
FIA1				IAmb	IAmb	17 04 49.9	
	comp=Z,10nm,1.1s						
FIA0	FINESS Array S	64.96	355	P	P	17 04 36.7	-0.7
FINES	FINESS Array B	64.96	355	P	P	17 04 36.6	-0.8
	comp=Z,1.7nm,0.4s,baz=17,slow=7.0,SNR=14						
	comp=Z,1.7nm,0.4s						
FINES	FINESS Array B	64.96	355	P	P	17 04 36.5	-0.9
060A	Indiantown	65.12	78	P	P	17 04 37.7	-1.3
MK31	Makanchi Array	65.13	316	P	P	17 04 37.8	-1.0
MKAR	Makanchi Array	65.13	316	P	P	17 04 37.9	-0.9
	comp=Z,1.8nm,0.5s,baz=42,slow=7.1,SNR=16						
	comp=Z,1.8nm,0.5s						
MAKZ	Makanchi	65.25	316	P	P	17 04 38.6	-0.9
MAKZ				IAmb	IAmb	17 04 39.4	
	comp=Z,5.1nm,0.5s						
NC405	NORSAR Array S	65.53	2	P	P	17 04 40.7	-0.4
NC405				IAmb	IAmb	17 05 20.2	
	comp=Z,19nm,1.4s						
NOA	NORSAR Array B	65.59	2	P	P	17 04 40.9	-0.6
	comp=Z,0.6nm,0.6s,baz=359,slow=7.0,SNR=4.4						
	comp=Z,0.6nm,0.6s						
ABKAR	Akbulak array	70.91	331	P	P	17 05 15.3	+0.3
ABKAR	Akbulak array	70.91	331	P	P	17 05 15.3	+0.3
ABKAR				IAmb	IAmb	17 05 15.8	
	comp=Z,8.8nm,0.8s						
TARG	Taragay, Kyrgy	71.12	316	P	P	17 05 17.6	+0.6
TARG				IAmb	IAmb	17 05 18.8	
	comp=Z,5.3nm,0.5s						
BOOM	Boomskoye usch	71.25	317	P	P	17 05 17.6	+0.1
BOOM				IAmb	IAmb	17 05 18.6	
	comp=Z,7.1nm,0.8s						
AAK	Ala-Archa	71

KBZ	**Khabaz**	**80.25**	**340**	P	**P**	**17 06 09.4**	**+0.8**
	comp=Z,5.0nm,0.9s,baz=225,slow=5.7,SNR=7.4						
	comp=Z,5.0nm,0.9s						
GEYT	**Alibeck**	**81.74**	**327**	P	**P**	**17 06 16.4**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=316,slow=6.2,SNR=4.3						
	comp=Z,2.1nm,0.8s						
ESDC	**Sonseca Array**	**85.48**	**15**	P	**P**	**17 06 36.2**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=348,slow=4.4,SNR=5.0						
	comp=Z,1.1nm,0.8s						
BR131	**Keskin Array S**	**85.73**	**346**	IAmb	IAmb	17 06 38.3	
	comp=Z,15nm,1.4s						
BRTR	**Keskin Array B**	**85.73**	**346**	P	**P**	**17 06 37.6**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=6.7,slow=2.8,SNR=20						
	comp=Z,2.6nm,0.6s						
BRTR	**Keskin Array B**	**85.73**	**346**		**P**	**17 06 36.9**	**-0.3**
WRA	**Warramunga Arr**	**90.30**	**236**	P	**P**	**17 06 58.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=34,slow=5.5,SNR=5.6						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**93.67**	**234**	P	**P**	**17 07 13.8**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=31,slow=4.3,SNR=7.6						
	comp=Z,0.3nm,0.6s						

VAO 15 17:04:57.7±0.3, 5.89S×50.56W, h0km, mbR3.5, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRPB	**Parauapebas**	**0.80**	**111**	*eP*	Pg	17 05 11.5	-1.5
SMTB	**Santa Maria do**	**4.17**	**135**	*eP*	Pn	17 06 02.8	0.0
NPGB	**Novo Progresso**	**4.90**	**256**	*eP*	Pn	17 06 12.6	-0.1
ITTB	**Itaituba**	**5.37**	**286**	*eP*	Pn	17 06 19.0	-0.2
MALB	**Monte Alegre**	**5.45**	**317**	*eP*	Pn	17 06 20.6	+0.4
SNDB	**Serra Nova Dou**	**6.09**	**187**	*eP*	Pn	17 06 29.3	+0.3
ROSB	**Rosrio**	**7.08**	**65**	*eP*	Pn	17 06 43.5	+0.9
CLDB	**Colider**	**7.16**	**226**	*eP*	Pn	17 06 43.4	-0.4
PDRB	**Porto dos Gac**	**8.33**	**227**	*eP*	Pn	17 06 59.5	-0.4
SDBA	**SAO DESIDERIO**	**8.55**	**140**	*eP*	Pn	17 07 02.9	-0.1
BDFB	**Brasilia**	**10.01**	**166**	*eP*	Pn	17 07 22.7	-0.2
MACA	**Manacapuru-AM**	**10.45**	**285**	*eP*	Pn	17 07 29.0	+0.1
JANB	**Januaria**	**10.99**	**146**	*eP*	Pn	17 07 36.2	-0.1
SALV	**Santo Antonio**	**11.15**	**206**	*eP*	Pn	17 07 38.6	+0.1
VILB	**Vilhena**	**11.81**	**233**	*eP*	Pn	17 07 47.6	0.0
BOAV	**Boa Vista**	**12.91**	**309**	*eP*	Pn	17 08 01.1	-1.5
RCBR	**Riachuelo**	**14.59**	**90**	*eP*	Pn	17 08 25.8	+0.2
GUA01	**Guaratinga, BA**	**14.96**	**136**	*eP*	Pn	17 08 30.4	-0.3

IDC 15 17:05:40.5±1.8, 15.27S×176.84W, h351km±21km, mb3.1/5, mbtmp3.8/7, Error ellipse: s-maj=36.8km s-min=21.2km az=159.0

ISC 15 17:05:40.4±1.0, 15.1S±0.3×176.8W±0.2, h350km, n7, σ2.9 36/8, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.02**	**77**	P	**Pn**	**17 07 01.9**	**+1.5**
	18nm,0.6s,baz=17,slow=19,SNR=1.4						
MSVF	**Nonsavu**	**5.58**	**242**	P	**Pn**	**17 07 04.9**	**-1.6**
	3.9nm,0.5s,baz=225,slow=12,SNR=1.2						
MSVF				S	**S**	**17 08 20.6**	**+4.3**
	3.5nm,0.8s,baz=258,slow=23,SNR=0.8						
URZ	**Urewera**	**23.65**	**192**	P	**P**	**17 10 20.2**	**-1.3**
	2.3nm,0.4s,baz=359,slow=7.5,SNR=5.9						
	2.3nm,0.4s						
WRA	**Warramunga Arr**	**46.71**	**257**	P	**P**	**17 13 34.5**	**-1.3**
	0.1nm,0.3s,baz=85,slow=6.5,SNR=7.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**47.07**	**252**	P	**P**	**17 13 38.1**	**-0.5**
	3.1nm,0.3s,baz=85,slow=8.5,SNR=200						
	3.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**55.05**	**258**	P	**P**	**17 14 38.0**	**+0.6**
	1.1nm,0.7s,baz=113,slow=7.7,SNR=1.5						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**83.21**	**57**	P	**P**	**17 17 28.5**	**-0.3**
	0.1nm,0.5s,baz=214,slow=6.3,SNR=1.1						
	0.1nm,0.5s						

MAN 15 17:13:37.2, 7.38N×126.46E, h31km, mb4.0, ML2.8, MS2.4, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDOP	**Cateel, Davao**	**0.40**	**356**	↑*iP*	Pn	17 13 47.9	+1.0
CDOP				*i* S	Sn	17 13 55.5	+2.1
MATI	**Mati**	**0.48**	**205**	↑*iP*	Pn	17 13 48.4	+0.5
MATI				*eS*	Sn	17 13 56.4	+1.1
BIPH	**Bislig**	**0.81**	**353**	↓*eP*	Pn	17 13 52.2	-0.3
BIPH				*eS*	Sb	17 14 03.3	-0.1
TASP	**Talacogon, Agu**	**1.25**	**329**	↑*eP*	Pn	17 13 52.8	-5.7
TASP				*i* S	Sb	17 14 17.3	+1.4
DDMP	**Don Marcelino,**	**1.47**	**211**	↓*eP*	Pn	17 14 02.1	+0.5
DDMP				*eS*	Sb	17 14 27.0	+4.7
CGP	**Cagayan de Oro**	**2.05**	**301**	↓*eP*	Pn	17 14 10.8	+1.3
CGP				*eS*	Sn	17 14 34.6	+0.5

NEIC 15 17:19:04.2±0.9, 53.68N±0.06×164.16W±0.05, h37km±89km, Error ellipse: s-maj=9.4km s-min=4.1km az=163.0

AEIC 15 17:19:03.8±0.8, 53.71N±0.06×164.16W±0.07, h41km±10km, ML2.6/26, ML3.0/6(NEIC), Error ellipse: s-maj=9.9km s-min=2.1km az=147.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.81**	**342**		Pn	17 19 19.3	+0.5
WESP	**Westdahl Peak**	**0.85**	**337**		Pn	17 19 19.7	+0.3
WESP					Sn	17 19 32.3	+1.5
WECS	**Westdahl Cape**	**0.90**	**336**		Pn	17 19 20.5	+0.5
WECS					Sn	17 19 33.5	+1.6
AKSA	**Akutan Strait**	**1.01**	**296**		Pn	17 19 21.7	+0.3
AKSA					Sn	17 19 35.9	+1.6
AKUT	**Akutan**	**1.05**	**295**		Pn	17 19 22.6	+0.7
AKUT					Sn	17 19 36.9	+1.6
AKUT	**Akutan**	**1.05**	**295**	IAML		17 19 37.7	
	comp=E,307nm,0.4s						
ISLZ	**Isanotski Laza**	**1.05**	**14**		Pn	17 19 22.7	+0.6
SSBA	**Shishaldin**	**1.07**	**1**		Pn	17 19 22.7	+0.4
AKBBA	**Akutan Broad B**	**1.12**	**291**		Pn	17 19 23.3	+0.4
AKBBA					Sn	17 19 38.6	+1.4
ISNN	**Isanotski Nort**	**1.15**	**11**		Pn	17 19 24.5	+1.1
AKLV	**Akutan Long Va**	**1.16**	**294**		Pn	17 19 24.0	+0.6
AKMO	**Akutan Morgan**	**1.16**	**290**		Pn	17 19 24.1	+0.6
AKMO					Sn	17 19 39.5	+1.4
AKRB	**Akutan Reef Bi**	**1.21**	**291**		Pn	17 19 24.8	+0.7
UNV	**Unalaska Valle**	**1.40**	**277**		Pn	17 19 26.6	-0.2
MNAT	**Makushin Natee**	**1.51**	**278**		Pn	17 19 28.6	+0.4
MGOD	**Makushin Gods**	**1.61**	**274**		Pn	17 19 30.5	+0.8
MAPS	**Pakushin South**	**1.66**	**275**		Pn	17 19 31.1	+0.8
MAPS					Sn	17 19 51.6	+1.3
SDPT	**Sand Point**	**2.71**	**51**		Pn	17 19 45.5	+0.9
SDPT	**Sand Point**	**2.71**	**51**	IAML		17 21 20.2	
	comp=E,57nm,3.2s						
CNBA	**Chernabura Isl**	**2.90**	**66**	Pn	Pn	17 19 46.7	-0.7
CNBA				IAML		17 20 20.8	
	comp=E,48nm,2.7s						
CNBA				IAML		17 20 50.5	
	comp=N,58nm,4.0s						
NIKH	**Nikolski High**	**2.91**	**257**	Pn	Pn	17 19 47.0	-0.4

IDC 15 17:26:32.7±2.3, 1.69N×94.90E, h0km, mb3.5/3, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=62.2km s-min=27.6km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.17**	**75**	Pn	Pn	17 27 36.5	-1.3
	1.1nm,0.3s,baz=305,slow=16,SNR=1.7						
PSI				Sn	Sn	17 28 23.4	-3.9
	1.0nm,0.3s,baz=158,slow=20,SNR=1.5						
	3.7nm,0.3s						
CMAR	**Chiang Mai Arr**	**17.13**	**13**	P	P	17 30 35.6	+0.1
	0.1nm,0.3s,baz=200,slow=12,SNR=6.6						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**45.53**	**126**	P	P	17 34 54.8	+0.2
	0.2nm,0.6s,baz=296,slow=7.6,SNR=6.3						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**46.25**	**348**	P	P	17 34 60.0	+0.1
	0.7nm,0.6s,baz=160,slow=8.1,SNR=8.3						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**52.75**	**353**	P	P	17 35 48.2	-1.1
	0.3nm,0.4s,baz=179,slow=7.2,SNR=2.0						
	0.3nm,0.4s						

NEIC 15 17:27:19.0±1.2, 29.53S±0.08×60.9E±0.2, h10km±1km, mb4.3/8, Error ellipse: s-maj=29.3km s-min=13.0km az=80.0

IDC 15 17:27:20.4±0.8, 29.32S×60.98E, h0km, mb3.9/8, mbtmp4.0/9, ML4.2/1, MS3.5/1, Error ellipse: s-maj=32.6km s-min=20.7km az=13.0

ISC 15 17:27:21.1±0.6, 29.5S±0.1×61.0E±0.1, h14km, n27, σ1.9 90/23, mb4.2/12, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**13.22**	**286**	Pn	**Pn**	**17 30 25.8**	**-2.6**
VOI	**Vohitsoka**	**14.82**	**297**	Pn	**Pn**	**17 30 50.4**	**0.0**
VOI				Sn	Sn	17 33 22.1	-12
ABPO	**Ambohimpanom**	**16.26**	**307**	Pn	**Pn**	**17 31 07.8**	**-1.6**
ABPO				Sn	Sn	17 33 52.6	-17
OPO	**Ambohidratompo**	**16.59**	**308**	Pn	**Pn**	**17 31 13.1**	**-0.5**
	0.1nm,0.3s,baz=106,slow=21,SNR=6.4						
OPO				Sn	Sn	17 34 00.8	-17
	0.2nm,0.3s,baz=137,slow=11,SNR=7.1						
	1.7nm,0.3s						
BOSA	**Boshof**	**31.16**	**263**	LR	LR	17 44 32.0	
	comp=Z,70nm,18.1s,baz=140,slow=33						
TSUM	**Tsumeb**	**40.63**	**274**	P	**P**	**17 35 02.9**	**+1.9**
	0.9nm,0.4s,baz=104,slow=4.2,SNR=1.7						
	0.9nm,0.4s						
H01W2	**Cape Leeuwin H**	**44.89**	**111**	T	T	18 23 16.1	
	baz=261,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**44.90**	**111**	T	T	18 23 16.4	
	baz=261,slow=75,SNR=23						
H01W1	**Cape Leeuwin H**	**44.91**	**111**	T	T	18 23 17.4	
	baz=261,slow=75,SNR=21						
SNAA	**Sanae**	**54.14**	**201**	P	**P**	**17 36 47.9**	**+2.5**
	0.5nm,0.7s,baz=310,slow=8.9,SNR=2.1						
	0.5nm,0.7s						
RAYN	**Ar Rayn**	**54.73**	**343**	P	**P**	**17 36 47.5**	**-2.7**
RAYN				IAmb	IAmb	17 36 51.7	
	comp=Z,2.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**60.09**	**42**	P	**P**	**17 37 29.6**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=229,slow=7.6,SNR=4.7						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**63.79**	**166**	P	**P**	**17 37 50.3**	**-1.9**
VNDA				IAmb	IAmb	17 37 58.5	
	comp=Z,2.4nm,1.3s						
ASAR	**Alice Springs**	**64.54**	**104**	P	**P**	**17 37 59.9**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=240,slow=6.1,SNR=19						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**64.54**	**104**	P	**P**	**17 37 56.3**	**-1.7**
AS31	**Alice Springs**	**64.54**	**104**		**P**	**17 37 56.4**	**-1.6**
WRA	**Warramunga Arr**	**66.38**	**100**	P	**P**	**17 38 11.4**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=245,slow=5.5,SNR=4.7						
	comp=Z,1.4nm,0.9s						
WRAB	**Tennant Creek**	**66.39**	**100**	P	**P**	**17 38 07.6**	**-2.4**
WB0	**Warramunga Arr**	**66.50**	**100**	P	**P**	**17 38 09.2**	**-1.5**
WB0				IAmb	IAmb	17 38 32.5	
	comp=Z,5.4nm,1.3s						
TORD	**Torodi Ar. Bea**	**71.12**	**298**	P	**P**	**17 38 40.7**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=118,slow=5.3,SNR=13						
	comp=Z,3.0nm,0.8s						
PMSA	**Palmer Station**	**76.85**	**201**	P	**P**	**17 39 10.0**	**-2.2**
MKAR	**Makanchi Array**	**78.30**	**15**	P	**P**	**17 39 20.9**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=178,slow=5.9,SNR=3.8						
	comp=Z,0.5nm,0.9s						
ABKAR	**Akbulak array**	**78.36**	**359**	P	**P**	**17 39 19.3**	**-1.3**
ABKAR				IAmb	IAmb	17 39 21.5	
	comp=Z,1.5nm,0.7s						
ESDC	**Sonseca Array**	**91.48**	**316**	P	**P**	**17 40 29.0**	**+1.9**
	comp=Z,1.4nm,0.9s,baz=108,slow=4.4,SNR=5.9						
	comp=Z,1.4nm,0.9s						
ULM	**Lac du Bonnet**	**152.86**	**326**	PKPbc	**PKiKP**	**17 47 17.6**	**0.0**
	comp=Z,1.6nm,0.4s,baz=0.0,slow=4.0,SNR=4.3						
PDAR	**Pinedale Array**	**164.68**	**333**	PKP	**PKPdf**	**17 47 25.1**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=152,slow=2.7,SNR=2.2						
NVAR	**Mina Array Bea**	**171.02**	**356**	PKP	**PKPdf**	**17 47 32.1**	**+2.8**
	comp=Z,0.1nm,0.4s,baz=225,slow=1.1,SNR=1.6						

IDC 15 17:32:28.3±0.7, 29.22S×60.98E, h0km, mb3.9/12, mbtmp3.9/13, ML4.3/1, MS3.3/14, Error ellipse: s-maj=22.1km s-min=20.3km az=35.0

ISC 15 17:32:29.8±0.7, 29.2S±0.1×61.0E±0.1, h10km, n34, σ0.98/17, mb4.0/12, MS3.3/14, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.43**	**307**	Pn	**Pn**	**17 36 20.7**	**-0.1**
	0.1nm,0.3s,baz=109,slow=17,SNR=4.0						
OPO				Sn	Sn	17 39 06.3	-17
	baz=127,slow=15,SNR=1.1						
	2.7nm,0.4s						
H08S1	**Diego Carcia H**	**24.02**	**29**	T	T	18 02 30.1	
	baz=208,slow=75						
H08S2	**Diego Garcia H**	**24.02**	**29**	T	T	18 02 30.2	
	baz=208,slow=75						
H08S3	**Diego Garcia H**	**24.04**	**29**	T	T	18 02 31.6	
	baz=208,slow=75						
LBTB	**Lobatse**	**31.69**	**269**	LR	LR	17 50 03.4	
	comp=Z,28nm,18.9s,baz=100,slow=33						
LSZ	**Lusaka**	**33.22**	**288**	LR	LR	17 51 38.2	
	comp=Z,30nm,20.6s,baz=142,slow=35						
KMBO	**Kilima Mbogo**	**35.91**	**317**	LR	LR	17 52 17.1	
	comp=Z,51nm,18.7s,baz=91,slow=33						
TSUM	**Tsumeb**	**40.61**	**274**	P	**P**	**17 40 10.5**	**+0.3**
	0.7nm,0.3s,baz=85,slow=12,SNR=2.2						
	0.7nm,0.3s						
PALK	**Pallekele**	**40.93**	**31**	LR	LR	17 53 01.5	
	comp=Z,31nm,21.4s,baz=3.2,slow=30						
ATD	**Arta Tunnel**	**44.10**	**334**	LR	LR	17 56 01.1	
	comp=Z,35nm,21.3s,baz=142,slow=32						
H01W2	**Cape Leeuwin H**	**44.99**	**111**	T	T	18 28 24.9	
	baz=261,slow=75						
H01W3	**Cape Leeuwin H**	**45.00**	**111**	T	T	18 28 25.5	
	baz=261,slow=75						
H01W1	**Cape Leeuwin H**	**45.01**	**111**	T	T	18 28 26.2	
	baz=261,slow=75						
SNAA	**Sanae**	**54.38**	**200**	P	**P**	**17 41 55.3**	**-1.2**
	0.9nm,1.0s,baz=76,slow=8.3,SNR=11						
SNAA				LR	LR	18 03 29.7	
	comp=Z,20nm,18.2s,baz=234,slow=34						
	0.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**59.90**	**42**	P	**P**	**17 42 37.0**	**+0.8**
	2.1nm,0.9s,baz=229,slow=7.9,SNR=6.6						
CMAR				LR	LR	18 05 40.6	
	comp=Z,16nm,18.8s,baz=235,slow=33						
	2.1nm,0.9s						
QSPA	**South Pole Qui**	**60.97**	**180**	P	**P**	**17 42 44.4**	**+1.3**
	0.9nm,0.9s,baz=280,slow=8.6,SNR=1.9						
	0.9nm,0.9s						
VNDA	**Vanda**	**64.05**	**166**	LR	LR	18 08 59.3	
	comp=Z,34nm,18.8s,baz=264,slow=34						
ASAR	**Alice Springs**	**64.60**	**104**	P	**P**	**17 43 07.7**	**-0.2**
	1.9nm,0.8s,baz=242,slow=5.9,SNR=21						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**66.43**	**100**	P	**P**	**17 43 19.6**	**-0.1**
	1.8nm,0.9s,baz=248,slow=5.3,SNR=9.8						
	1.8nm,0.9s						
MMAI	**Mount Meron Ar**	**66.44**	**337**	LR	LR	18 09 11.1	
	comp=Z,18nm,18.3s,baz=166,slow=33						
GNI	**Garni**	**70.61**	**347**	LR	LR	18 13 04.7	
	comp=Z,22nm,20.2s,baz=192,slow=34						
TORD	**Torodi Ar. Bea**	**71.00**	**298**	P	**P**	**17 43 49.2**	**+1.0**
	1.5nm,0.9s,baz=124,slow=5.4,SNR=5.2						
	1.5nm,0.9s						
BRTR	**Keskin Array B**	**73.13**	**338**	P	**P**	**17 43 59.5**	**-1.0**
	0.5nm,0.8s,baz=156,slow=3.9,SNR=2.7						
	0.5nm,0.8s						
KBZ	**Khabaz**	**74.43**	**347**	LR	LR	18 16 13.8	
	comp=Z,20nm,19.1s,baz=142,slow=35						
MKAR	**Makanchi Array**	**78.05**	**15**	P	**P**	**17 44 29.1**	**+0.6**
	1.0nm,0.8s,baz=188,slow=3.3,SNR=6.7						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**82.28**	**6**	LR	LR	18 19 01.6	
	comp=Z,15nm,20.5s,baz=188,slow=34						
AKASG	**Malin Array Be**	**84.35**	**340**	P	**P**	**17 45 02.0**	**+0.2**
	1.0nm,0.7s,baz=152,slow=4.4,SNR=2.6						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**85.33**	**14**	P	**P**	**17 45 07.0**	**+0.3**
	1.3nm,0.7s,baz=210,slow=5.0,SNR=5.8						
	1.3nm,0.7s						
SONM	**Songino Array**	**86.85**	**29**	P	**P**	**17 45 13.5**	**-1.0**
	0.2nm,0.5s,baz=195,slow=4.3,SNR=2.3						
SONM				LR	LR	18 22 49.8	
	comp=Z,15nm,18.4s,baz=236,slow=35						
	0.2nm,0.5s						
MDT	**Midelt**	**87.55**	**310**	LR	LR	18 24 10.4	
	comp=Z,23nm,18.3s,baz=130,slow=35						
ILAR	**Eielson Array**	**140.33**	**18**	PKP	**PKPdf**	**17 51 58.8**	**+0.5**
	0.8nm,1.1s,baz=352,slow=4.1,SNR=3.1						
YKA	**Yellowknife Ar**	**146.56**	**356**	PKPbc	**PKPbc**	**17 52 10.3**	**-0.5**
	1.9nm,0.9s,baz=13,slow=3.8,SNR=2.0						
PDAR	**Pinedale Array**	**164.45**	**333**	PKP	**PKPdf**	**17 52 31.8**	**-2.2**
	0.1nm,0.3s,baz=103,slow=2.9,SNR=1.8						
NVAR	**Mina Array Bea**	**170.76**	**356**	PKP	**PKPdf**	**17 52 39.1**	**+0.5**
	0.3nm,0.6s,baz=90,slow=0.9,SNR=1.7						

IDC 15 17:44:33.8±51.0, 29.06S×62.87E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1271.0km s-min=63.8km az=74.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**43.49**	**111**	T	T	18 40 19.5	
	baz=261,slow=75,SNR=3.9						
H01W3	**Cape Leeuwin H**	**43.49**	**111**	T	T	18 40 17.9	
	baz=261,slow=75,SNR=4.3						
H01W1	**Cape Leeuwin H**	**43.51**	**111**	T	T	18 40 25.4	
	baz=261,slow=75,SNR=4.0						
CMAR	**Chiang Mai Arr**	**58.69**	**41**	P	P	17 54 33.4	0.0
	0.5nm,0.3s,baz=234,slow=7.7,SNR=2.3						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**63.01**	**103**	P	P	17 55 03.9	+0.9
	0.6nm,0.7s,baz=243,slow=6.4,SNR=8.0						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**64.81**	**100**	P	P	17 55 13.7	-1.2
	0.6nm,0.9s,baz=251,slow=5.3,SNR=4.1						
	0.6nm,0.9s						

IDC 15 17:52:12.8±0.9, 5.33S×150.97E, h0km, mb3.8/11, mbtmp3.9/12, ML2.3/1, MS3.2/3, Error ellipse: s-maj=40.1km s-min=17.2km az=117.0

NEIC 15 17:52:13.7±2.3, 6.14S±0.04×151.8E±0.2, h10km±2km, mb4.2/10, Error ellipse: s-maj=26.6km s-min=4.3km az=103.0

ISC 15 17:52:13.4±0.7, 6.03S±0.09×151.6E±0.1, h10km, n33, σ1.9 91/31, mb4.0/15, MS3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.91**	**17**		**Pn**	**17 52 47.8**	**+1.7**
PMG	**Port Moresby**	**5.53**	**232**	Pn	**Pn**	**17 53 36.9**	**+1.0**
	6.2nm,0.3s,baz=48,slow=8.2,SNR=23						
PMG				Sn	**Sn**	**17 54 37.8**	**-1.9**
	18nm,0.3s,baz=217,slow=18,SNR=11						
	14nm,0.4s						
PMG	**Port Moresby**	**5.53**	**232**		**Pn**	**17 53 37.5**	**+1.6**
PMG				Sn	**Sn**	**17 54 38.1**	**-1.5**
MANU	**Manus Island**	**5.79**	**313**	Pn	**Pn**	**17 53 43.3**	**+3.8**
COEN	**Coen**	**11.44**	**226**	Pn	**Pn**	**17 54 59.1**	**+2.1**
MTN	**Manton Dam**	**21.29**	**250**	P	**P**	**17 56 59.5**	**-0.8**
MTN				IAmb	IAmb	17 57 08.3	
	comp=Z,46nm,1.5s						
WB0	**Warramunga Arr**	**21.59**	**229**	P	**P**	**17 57 03.6**	**0.0**
WB0				IAmb	IAmb	17 57 28.1	
	comp=Z,6.3nm,0.9s						
WR0	**Warramunga Arr**	**21.60**	**229**	P	**P**	**17 57 05.1**	**+1.4**
WR0				IAmb	IAmb	17 57 43.0	
	comp=Z,9.0nm,1.2s						
WB2	**Warramunga Arr**	**21.73**	**229**	P	**P**	**17 57 05.4**	**+0.2**
WB2				IAmb	IAmb	17 57 24.6	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**21.74**	**229**	P	**P**	**17 57 05.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=52,slow=10,SNR=13						
WRA				PcP	**PcP**	**18 01 06.6**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=45,slow=2.4,SNR=5.4						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**21.74**	**229**	P	**P**	**17 57 05.3**	**+0.1**
KNRA	**Kununurra**	**24.37**	**245**	P	**P**	**17 57 30.8**	**-1.2**
AS31	**Alice Springs**	**24.44**	**222**	P	**P**	**17 57 33.2**	**+0.6**
ASAR	**Alice Springs**	**24.44**	**222**	P	**P**	**17 57 33.8**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=56,slow=8.7,SNR=22						
ASAR				PcP	**PcP**	**18 01 12.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=29,slow=1.9,SNR=2.3						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**24.44**	**222**	P	**P**	**17 57 31.7**	**-0.9**
STKA	**Stephens Creek**	**27.36**	**199**	P	**P**	**17 58 04.3**	**+5.4**
	comp=Z,2.4nm,1.1s,baz=18,slow=9.4,SNR=2.4						
	comp=Z,2.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.03**	**242**	P	**P**	**17 58 04.3**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=69,slow=9.3,SNR=12						
	comp=Z,2.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.03**	**242**	P	**P**	**17 58 04.0**	**-1.0**
FITZ				IAmb	IAmb	17 58 39.6	
	comp=Z,5.5nm,1.1s						
MSVF	**Nonsavu**	**28.32**	**117**	LR	LR	18 09 35.2	
	comp=Z,93nm,21.4s,baz=188,slow=36						
KAPI	**Kappang**	**31.72**	**270**	LR	LR	18 12 27.7	
	comp=Z,25nm,19.3s,baz=85,slow=39						
MBWA	**Marble Bar**	**34.33**	**241**	P	**P**	**17 59 00.7**	**+0.2**
KLR	**Kul'dur**	**57.70**	**345**	LR	LR	18 25 49.2	
	comp=Z,14nm,18.6s,baz=156,slow=36						
PETK	**Petropavlovsk-**	**59.14**	**4**	P	**P**	**18 02 11.8**	**-2.4**
	comp=Z,1.6nm,0.9s,baz=185,slow=8.2,SNR=1.7						
	comp=Z,1.6nm,0.9s						
SONM	**Songino Array**	**66.74**	**329**	P	P	18 02 59.5	-5.5
	comp=Z,0.6nm,0.5s,baz=142,slow=4.4,SNR=5.4						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**66.74**	**329**	P	**P**	**18 03 03.6**	**-1.5**
SONM				IAmb	IAmb	18 03 26.7

RSSD					Sn		18 11 40.7	+1.4
K22A	**Casper**	**1.66**	**215**	Pn	**Pn**		18 11 37.1	+0.5
K22A				IAML			18 12 01.6	
	comp=E,299nm,1.1s							
K22A				IAML			18 12 03.0	
	comp=N,262nm,0.4s							
PHWY	**Pilot Hill**	**2.71**	**184**	Pn	**Pn**		18 11 53.3	+2.1
PHWY				Sn	**Sn**		18 12 23.6	-1.3
RWWY	**Rawlins**	**2.74**	**213**	Pn	**Pn**		18 11 53.8	+2.3
RWWY				IAML			18 12 31.1	
	comp=N,104nm,1.0s							
LAO	**LASA Array**	**2.77**	**346**	Pn	**Pn**		18 11 50.7	-1.1
LAO				Sn	**Sn**		18 12 26.3	+0.4
LAO				IAML			18 12 46.2	
	comp=N,170nm,1.0s							
LAO				IAML			18 12 55.7	
	comp=N,115nm,1.0s							
RLMT	**Red Lodge**	**3.09**	**292**	Pn	**Pn**		18 11 55.8	-0.6
RLMT				IAML			18 12 56.9	
	comp=N,51nm,1.0s							
RLMT				IAML			18 12 57.1	
	comp=N,48nm,1.4s							
N23A	**Red Feather La**	**3.16**	**190**	Pn	**Pn**		18 11 59.1	+1.8
N23A				Sn	**Sn**		18 12 35.1	-0.8
N23A				IAML			18 12 42.4	
	comp=N,52nm,1.1s							
N23A				IAML			18 13 35.9	
	comp=E,56nm,1.7s							
BW06	**Boulder Array**	**3.39**	**250**	Pn	**Pn**		18 12 01.4	+0.9
BW06				IAML			18 13 30.6	
	comp=E,37nm,1.5s							
PD31	**Pinedale Array**	**3.39**	**250**	Pn	**Pn**		18 12 01.8	+1.3
PDAR	**Pinedale Array**	**3.39**	**250**	Pn	**Pn**		18 12 03.3	+2.8
	comp=E,2.4nm,0.3s,baz=69,slow=15,SNR=29							
PDAR				Lg	Lg		18 12 47.2	
	comp=E,5.0nm,0.3s,baz=62,slow=29,SNR=4.8							
PDAR	**Pinedale Array**	**3.39**	**250**	Pn	**Pn**		18 12 00.8	+0.3
YMP	**Mirror Lake Pl**	**3.61**	**283**	Pn	**Pn**		18 12 03.2	-0.3
YMP				IAML			18 13 02.8	
	comp=E,55nm,0.9s							
YMP				IAML			18 13 10.2	
	comp=N,52nm,1.5s							
GCMT	**Greycliff**	**3.62**	**301**	Pn	**Pn**		18 12 04.5	+0.9
H17A	**Grant Village**	**3.86**	**278**		**Pn**		18 12 07.9	+0.9
H17A				IAML			18 13 18.4	
	comp=E,29nm,0.9s							
H17A				IAML			18 13 25.2	
	comp=N,40nm,0.1s							
OGNE	**Ogallala**	**3.87**	**141**	Pn	**Pn**		18 12 07.7	+0.8
LOHW	**Long Hollow**	**3.91**	**266**	Pn	**Pn**		18 12 07.1	-0.5
YNR	**Norris Junctio**	**3.97**	**282**	Pn	**Pn**		18 12 08.6	+0.1
MOOW	**Moose Ponds**	**4.00**	**268**	Pn	**Pn**		18 12 10.5	+1.7
YPP	**Pitchstone Pla**	**4.02**	**276**	Pn	**Pn**		18 12 09.1	-0.1
YPP				IAML			18 13 33.5	
	comp=E,22nm,1.4s							
SNOW	**Snow King Moun**	**4.04**	**264**	Pn	**Pn**		18 12 11.1	+1.6
SNOW				IAML			18 13 24.5	
	comp=E,56nm,1.4s							
SNOW				IAML			18 14 01.0	
	comp=E,60nm,1.4s							
YFT	**Old Faithful**	**4.05**	**278**		**Pn**		18 12 10.2	+0.6
YFT				IAML			18 13 25.5	
	comp=N,26nm,1.2s							
YFT				IAML			18 13 25.8	
	comp=E,22nm,2.0s							
E28A	**Huff**	**4.10**	**50**	Pn	**Pn**		18 12 07.2	-2.8
E28A				IAML			18 14 00.2	
	comp=E,50nm,2.0s							
YHH	**Holmes Hill**	**4.10**	**283**		**Pb**		18 12 21.8	+2.4
IMW	**Indian Meadow**	**4.12**	**270**	Pg	**Pb**		18 12 21.0	+1.2
IMW				IAML			18 13 22.8	
	comp=E,28nm,1.0s							
IMW				IAML			18 13 22.8	
	comp=E,23nm,0.8s							
REDW	**Red Top Meadow**	**4.13**	**263**	Pn	**Pn**		18 12 09.5	-1.1
REDW				Pg	**Pb**		18 12 22.0	+2.2
TPAW	**Teton Pass**	**4.18**	**265**	Pn	**Pn**		18 12 11.7	+0.3
TPAW				IAML			18 13 22.6	
	comp=E,22nm,1.2s							
TPAW				IAML			18 13 30.0	
	comp=E,32nm,1.1s							
FXWY	**Fox Creek**	**4.21**	**267**	Pn	**Pn**		18 12 12.8	+1.0
ISCO	**Idaho Springs**	**4.22**	**184**		**Pn**		18 12 12.7	+0.8
ISCO				IAML			18 13 29.1	
	comp=E,22nm,1.0s							
YHL	**Hebgen Lake**	**4.35**	**283**	Pn	**Pn**		18 12 15.5	+1.8
YHL				IAML			18 13 32.0	
	comp=N,30nm,1.7s							
YHL				IAML			18 13 35.0	
	comp=E,24nm,1.2s							
AHID	**Auburn Hatcher**	**4.46**	**256**	Pn	**Pn**		18 12 17.3	+2.2
AHID				IAML			18 13 28.9	
	comp=E,32nm,1.1s							
AHID				IAML			18 13 41.1	
	comp=E,30nm,1.2s							
O20A	**White River Ci**	**4.47**	**211**	Pn	**Pn**		18 12 17.2	+1.9
QLMT	**Earthquake Lak**	**4.52**	**283**	Pn	**Pn**		18 12 15.3	-0.6
DGMT	**Dagmar**	**4.52**	**9**	Pn	**Pn**		18 12 17.9	+2.1
SUSD	**Miller**	**4.53**	**82**	Pn	**Pn**		18 12 16.0	+0.1
ECR	**Eagle Creek**	**4.57**	**260**		**Pn**		18 12 19.0	+2.4
RDMU	**Red Mountain**	**4.71**	**225**		**Pb**		18 12 32.5	+2.9
RDMU				IAML			18 13 37.9	
	comp=E,30nm,1.2s							
RDMU				IAML			18 13 38.5	
	comp=N,31nm,1.1s							
SMCO	**Snowmass**	**5.00**	**196**		**Pg**		18 12 40.7	-1.2
SMCO				IAML			18 13 55.6	
	comp=N,22nm,0.9s							
Q24A	**Divide**	**5.04**	**179**	Pn	**Pn**		18 12 23.7	+0.5
Q24A				IAML			18 13 51.0	
	comp=E,17nm,1.8s							
Q24A				IAML			18 13 59.5	
	comp=N,11nm,1.0s							
EGMT	**Eagleton**	**5.10**	**323**	Pn	**Pn**		18 12 23.3	-0.5
HWUT	**Hardware Ranch**	**5.24**	**245**		**Pb**		18 12 38.6	-0.1
HWUT				IAML			18 14 00.1	
	comp=N,25nm,1.2s							
TCUT	**Toone Canyon**	**5.40**	**240**		**Pn**		18 12 28.4	+0.2
BCYI	**Bear Canyon**	**5.89**	**276**	Pn	**Pn**		18 12 37.3	+2.5
HVU	**Hansel Valley**	**5.97**	**251**		**Pb**		18 12 52.0	+0.9
P17A	**Butcher Ranch,**	**6.13**	**224**	Pg	**Pg**		18 13 00.1	-3.3
PV07	**Paradox Valley**	**6.13**	**206**	Pn	**Pn**		18 12 37.4	-0.7
PV15	**Paradox Valley**	**6.17**	**205**	Pn	**Pn**		18 12 37.8	-0.9
MPU	**Maple Canyon**	**6.22**	**232**	Pn	**Pn**		18 12 39.0	-0.3
ECSD	**EROS Data Cent**	**6.23**	**90**	Pg	**Pg**		18 13 04.0	-1.5
SRU	**San Rafael Swe**	**6.30**	**221**	Pg	Pg		18 13 02.4	-4.4
NLU	**North Lily Min**	**6.51**	**234**	Pn	**Pn**		18 12 44.3	+1.0
ELK	**Elko**	**8.10**	**250**	Pn	**Pn**		18 13 08.7	+3.6
	comp=N,0.1nm,0.3s,baz=45,slow=14,SNR=4.4							
	comp=N,0.9nm,0.8s							
ULM	**Lac du Bonnet**	**8.92**	**42**	Pn	**Pn**		18 13 18.2	+2.1
	comp=N,0.3nm,0.3s,baz=227,slow=11,SNR=1.5							
ULM				Lg	Lg		18 15 45.2	
	comp=N,0.1nm,0.3s,baz=311,slow=22,SNR=1.8							
	comp=N,1.6nm,0.6s							
I56US	**NEWPORT INFRAS**	**9.29**	**301**	*i*			19 10 10.0	
	baz=114,slow=315,SNR=5.0							

*DDA **15** 18:33:55.8±0.0,39.°13N×29.°01E,h7km±2km,MW3.6*
*ISK **15** 18:33:55.7,39.°20N×29.°02E,h5km,ML3.7/25*
*THE **15** 18:33:56.0,39.°20N×29.°11E,h0km±1km,ML3.2/3,Error ellipse: s-maj=1.8km s-min=0.9km az=90.0*

ISC 15 18:33:56.1±1.0,**39.°20N**±0.°01×**29.°00E**±0.°01,**h4**km±8km,
n111,σ1§**04**/168,**14C-4D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SMAA	**Simav-Kutahya**	**0.10**	**189**	PG		**Pg**	**18 33 58.5**	**+0.3**
SMAA				SG		**Sg**	**18 34 00.5**	**+0.9**
DEMI	**Demirci**	**0.27**	**234**	P		**Pg**	**18 34 01.5**	**+0.1**
DEMI				S		**Sg**	**18 34 04.8**	**-0.1**
GEDZ	**Gediz**	**0.35**	**116**	PG		**Pg**	**18 34 03.2**	**+0.2**
GEDZ				SG		**Sg**	**18 34 08.2**	**+0.6**
GDZ	**Gediz**	**0.39**	**107**	P		**Pg**	**18 34 02.7**	**-1.0**
GDZ				S		**Sg**	**18 34 07.9**	**-0.8**
TVSB	**Tavsanli**	**0.43**	**55**	PG		**Pg**	**18 34 04.3**	**-0.2**
TVSB				SG		**Sg**	**18 34 10.4**	**+0.2**
USAK	**Uak-Merkez**	**0.49**	**178**	P		**Pg**	**18 34 04.9**	**-0.6**
USAK				S		**Sg**	**18 34 10.8**	**-1.0**
DST	**Dursunbey**	**0.50**	**324**	PG		**Pb**	**18 34 06.6**	**-0.9**
DST				SG		**Sg**	**18 34 13.2**	**+1.0**
DURS	**Dursunbey**	**0.57**	**315**	P		**Pb**	**18 34 08.1**	**-0.7**
DURS				S		**Sb**	**18 34 17.2**	**-0.1**
ANDZ	**Kutahya, Merke**	**0.76**	**66**	P		**Pb**	**18 34 11.1**	**-0.9**
ANDZ				S		**Sb**	**18 34 21.8**	**-1.0**
MANT	**Manisa**	**0.79**	**206**	P		**Pg**	**18 34 10.4**	**-0.9**
MANT				S		**Sg**	**18 34 19.6**	**-1.9**
ORLT	**Orhaneli**	**0.85**	**355**	PG		**Pb**	**18 34 12.9**	**-0.5**
PASA	**Karahalli, USA**	**0.93**	**156**	P		**Pb**	**18 34 14.6**	**-0.3**
PASA				S		**Sg**	**18 34 24.8**	**-1.3**
ULDT	**Uludag**	**0.94**	**6**	P		**Pb**	**18 34 14.9**	**-0.2**
ULDT				S		**Sn**	**18 34 30.1**	**-0.4**
KHL	**Karahalli**	**0.97**	**155**	PG		**Pb**	**18 34 14.6**	**-0.9**
GOMA	**Golmarmara-Man**	**0.98**	**240**	PG		**Pg**	**18 34 14.6**	**-0.3**
AKHS	**Akhisar**	**0.98**	**251**	P		**Pg**	**18 34 14.9**	**0.0**
AKHS				S		**Sg**	**18 34 27.8**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.01**	**280**	P		**Pb**	**18 34 15.9**	**-0.3**
STEP				S		**Sb**	**18 34 30.2**	**+0.3**
AUBOZ	**BOZOYUK**	**1.07**	**48**	PG		**Pg**	**18 34 16.1**	**-0.5**
AUBOZ	**BOZOYUK**	**1.07**	**48**	P		**Pg**	**18 34 16.2**	**-0.4**
AUBOZ				S		**Sb**	**18 34 31.1**	**-0.4**
IGD	**Bursa**	**1.07**	**8**	P		**Pn**	**18 34 17.6**	**-0.3**
IGD				S		**Sn**	**18 34 33.2**	**-0.1**
AFYO	**Afyonkarahisar**	**1.09**	**112**	P		**Pg**	**18 34 16.6**	**-0.5**
AFYO				S		**Sb**	**18 34 32.0**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.17**	**356**	PN		**Pn**	**18 34 18.9**	**-0.4**
BILE	**Bilecik/Merkez**	**1.17**	**35**	P		**Pn**	**18 34 19.1**	**-0.3**
BILE				S		**Sn**	**18 34 36.5**	**+0.6**
CAVI	**Cavuskoy**	**1.19**	**33**	PN		**Pg**	**18 34 18.4**	**-0.6**
BALY	**Balya**	**1.20**	**297**	P		**Pg**	**18 34 18.5**	**-0.5**
BALY				S		**Sb**	**18 34 35.0**	**-0.2**
GEMT	**Gemlik**	**1.24**	**7**	PN		**Pn**	**18 34 19.9**	**-0.3**
KZIL	**AFYON_Kizioren**	**1.30**	**136**	P		**Pg**	**18 34 20.2**	**-0.8**
KZIL				S		**Sb**	**18 34 37.3**	**-0.9**
BORA	**Eskisehir**	**1.31**	**58**	PN		**Pb**	**18 34 20.9**	**-0.5**
BORA	**Eskisehir**	**1.31**	**58**	P		**Pb**	**18 34 21.6**	**+0.2**
BORA				S		**Sn**	**18 34 39.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.32**	**310**	PN		**Pb**	**18 34 21.2**	**-0.3**
ADVT	**Abdulvahap**	**1.35**	**25**	PN		**Pb**	**18 34 21.5**	**-0.6**
ARMT	**Armutlu**	**1.37**	**356**	PN		**Pb**	**18 34 21.8**	**-0.5**
SHUT	**Suhut-Afyon**	**1.37**	**118**	PN		**Pb**	**18 34 21.7**	**-0.7**
YLV	**Yalova**	**1.39**	**12**	PN		**Pn**	**18 34 21.9**	**-0.5**
ESNK	**Esenkₜy**	**1.43**	**359**	P		**Pn**	**18 34 21.6**	**-1.2**
EDC	**Edincik**	**1.44**	**323**	PN		**Pb**	**18 34 23.2**	**-0.3**
SGAZ	**Eskisehir, Sey**	**1.46**	**76**	P		**Pg**	**18 34 23.7**	**-0.5**
SGAZ				S		**Sg**	**18 34 42.5**	**-0.5**
ESKT	**Eskisehir**	**1.47**	**77**	PN		**Pn**	**18 34 22.9**	**-0.6**
GPA	**Golpazari**	**1.48**	**42**	PN		**Pn**	**18 34 23.3**	**-0.3**
AFYN	**Afyon-Dinar-K**	**1.50**	**128**	P		**Pg**	**18 34 27.0**	**+2.2**
AFYN				S		**Sg**	**18 34 49.5**	**+5.2**
SRCK	**Saricakaya, Es**	**1.51**	**56**	PN		**Pn**	**18 34 23.6**	**-0.4**
ZEDA	**zmir-Bergama**	**1.52**	**262**	P		**Pn**	**18 34 23.0**	**-1.0**
ZEDA				S		**Sg**	**18 34 44.8**	**0.0**
BUHA	**Balikesir, Bur**	**1.52**	**282**	P		**Pn**	**18 34 23.8**	**-0.3**
BUHA				S		**Sn**	**18 34 42.7**	**-1.6**
BASM	**Basmaki-Afyon**	**1.52**	**147**	PN		**Pn**	**18 34 22.9**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**215**	PN		**Pn**	**18 34 23.7**	**-0.6**
KNL	**Balıkesir**	**1.56**	**314**	P		**Pg**	**18 34 25.8**	**-0.2**
KNL				S		**Sg**	**18 34 47.3**	**+1.1**
CIFT	**Cifteler, Eski**	**1.61**	**84**	PN		**Pb**	**18 34 25.5**	**-0.9**
GEYV	**SAKARYA_Geyve**	**1.62**	**37**	P		**Pg**	**18 34 27.4**	**+0.1**
GEYV				S		**Sg**	**18 34 51.3**	**+3.0**
DKL	**Dikili**	**1.64**	**266**	PN		**Pn**	**18 34 25.7**	**+0.1**
GULT	**Gulveren**	**1.69**	**43**	PN		**Pn**	**18 34 26.6**	**0.0**
HRT	**Hereke**	**1.70**	**17**	PN		**Pn**	**18 34 26.2**	**-0.4**
BRDR	**BURDUR-Merkez**	**1.72**	**151**	P		**Pg**	**18 34 28.4**	**-0.7**
BRDR				S		**Sg**	**18 34 51.3**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.73**	**182**	P		**Pn**	**18 34 27.3**	**+0.2**
TAVA				S		**Sb**	**18 34 50.6**	**-0.1**
APYY	**Acipayam-Deniz**	**1.74**	**172**	PN		**Pn**	**18 34 29.5**	**-0.3**
AYDN	**Tasoluk**	**1.77**	**210**	P		**Pb**	**18 34 28.4**	**-0.8**
AYDN				S		**Sg**	**18 34 52.4**	**-0.6**
AYVA	**Ayvalik**	**1.80**	**274**	P		**Pg**	**18 34 30.7**	**+0.1**
AYVA				S		**Sb**	**18 34 53.0**	**+0.5**
ISP	**Isparta**	**1.82**	**139**	PN		**Pn**	**18 34 27.9**	**-0.4**
BAGO	**Egridir - ISPA**	**1.85**	**130**	P		**Pn**	**18 34 28.2**	**-0.5**
BAGO				S		**Sg**	**18 34 56.4**	**+0.8**
ISK	**Istanbul-Kandi**	**1.86**	**1**	P		**Pn**	**18 34 28.3**	**-0.5**
ISK				S		**Sn**	**18 34 52.9**	**+0.1**
	275nm,0.9s							
BAYC	**CANAKKALE_Bayr**	**1.97**	**287**	P		**Pb**	**18 34 32.8**	**+0.1**
BAYC				S		**Sg**	**18 34 58.9**	**-0.6**
YVAC	**Isparta, Yalva**	**1.98**	**117**	P		**Pb**	**18 34 32.7**	**-0.1**
YVAC				S		**Sg**	**18 35 00.4**	**+0.6**
ELBA	**Catalca**	**1.99**	**348**	P		**Pg**	**18 34 34.5**	**+0.2**
ELBA				S		**Sg**	**18 35 00.2**	**+0.1**
GOLH	**Golhisar**	**2.01**	**167**	P		**Pn**	**18 34 30.1**	**-0.8**
GOLH				S		**Sg**	**18 35 01.8**	**+1.1**
MULA	**Mugla, Merkez-**	**2.02**	**196**	P		**Pb**	**18 34 33.0**	**-0.4**
MULA				S		**Sb**	**18 34 59.0**	**+0.1**
DGB	**zmir**	**2.02**	**236**	P		**Pb**	**18 34 32.9**	**-0.5**
DGB				S		**Sb**	**18 34 59.2**	**+0.5**
KAYN	**Sakarya, Kayna**	**2.04**	**30**	P		**Pg**	**18 34 35.5**	**+0.3**
KAYN				S		**Sg**	**18 35 00.6**	**-1.0**
SART	**Tekirdag**	**2.04**	**317**	P		**Pg**	**18 34 35.7**	**+0.5**
SART				S		**Sg**	**18 35 02.3**	**+0.6**
GCAM	**G?zelcaml?**	**2.04**	**223**	P		**Pb**	**18 34 33.8**	**0.0**
GCAM				S		**Sb**	**18 34 59.4**	**-0.1**
URLA	**Izmir**	**2.06**	**247**	P		**Pb**	**18 34 33.4**	**-0.7**
URLA				S		**Sb**	**18 34 59.9**	**-0.2**
CAEL	**Denizli, Camel**	**2.09**	**173**	P		**Pb**	**18 34 33.8**	**-0.9**
CAEL				S		**Sg**	**18 35 07.7**	**+4.4**
PRK	**Paraskevi**	**2.12**	**272**	P		**Pn**	**18 34 32.9**	**+0.6**
YER	**Yerkesik**	**2.14**	**196**	P		**Pn**	**18 34 35.2**	**-1.5**
YER				S		**Sn**	**18 35 00.0**	**+0.3**
EZN	**Ezine**	**2.16**	**288**	P		**Pn**	**18 34 32.9**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**2.18**	**245**	P		**Pg**	**18 34 37.3**	**-0.6**
ZEYE				S		**Sb**	**18 35 04.1**	**+0.8**
DDIM	**Aydin, Didim**	**2.22**	**219**	P		**Pg**	**18 34 39.9**	**+1.2**
DDIM				S		**Sg**	**18 35 08.9**	**+1.4**
BUCA	**Burdur, Bucak-**	**2.24**	**146**	P		**Pn**	**18 34 33.2**	**-0.8**
BUCA				S		**Sg**	**18 35 10.2**	**+2.3**
KOCA	**Canakkale, Ayv**	**2.24**	**279**	P		**Pg**	**18 34 38.4**	**-0.6**
KOCA				S		**Sg**	**18 35 08.0**	**-0.1**
SMG	**Samos**	**2.26**	**229**	P		**Pn**	**18 34 35.1**	**+0.8**
KESN	**Edirne-Kesan**	**2.41**	**313**	P		**Pn**	**18 34 36.1**	**-0.5**
KESN				S		**Sg**	**18 35 14.3**	**+0.7**
KORT	**Korkueli**	**2.44**	**154**	P		**Pn**	**18 34 36.6**	**-0.3**
KORT				S		**Sg**	**18 35 16.0**	**+1.4**
SIGR	**SIGRI**	**2.44**	**271**	P		**Pn**	**18 34 37.0**	**+0.2**
SIGR				S		**Sb**	**18 35 09.4**	**-1.7**
	280nm,0.8s							
BDRM	**Kayabasi**	**2.46**	**210**	P		**Pn**	**18 34 37.8**	**+0.8**
BDRM				S		**Sb**	**18 35 12.9**	**+1.4**
TURN	**Turunc**	**2.50**	**194**	P		**Pb**	**18 34 41.3**	**-0.2**
TURN				S		**Sg**	**18 35 16.3**	**+0.1**
VIZE	**Kirklareli, Vi**	**2.53**	**340**	P		**Pn**	**18 34 37.7**	**-0.3**
VIZE				S		**Sg**	**18 35 16.9**	**-0.7**
GOKA	**anakkale-Gk**	**2.58**	**293**	P		**Pb**	**18 34 41.7**	**-1.3**
ALN	**Alexandroupoli**	**2.83**	**308**	P		**Pn**	**18 34 42.1**	**0.0**
ALN				S		**Sn**	**18 35 18.3**	**+1.7**
	202nm,0.9s							
SMTH	**Samothraki Isl**	**2.96**	**296**	P		**Pn**	**18 34 43.8**	**-0.1**
ANTO	**Ankara**	**3.01**	**76**	⇑P		**Pb**	**18 34 48.6**	**-1.7**
LIA	**Limnos Island**	**3.03**	**284**	P		**Pn**	**18 34 46.2**	**+0.3**
ARG	**Arkhangelos**	**3.06**	**193**	P		**Pn**	**18 34 45.3**	**+0.1**
RDO	**Rodhopi**	**3.29**	**307**	P		**Pn**	**18 34 48.9**	**+0.5**
APE	**Apeiranthos**	**3.47**	**233**	⇑P		**Pg**	**18 35 00.6**	**-2.0**
APE				⇑S		**Sg**	**18 35 44.8**	**-2.7**
THAS	**Thassos island**	**3.58**	**294**	P		**Pn**	**18 34 52.0**	**-0.4**
KAVA	**Kavala**	**3.88**	**299**	P		**Pn**	**18 34 57.0**	**+0.5**
NVR	**Nevrokopi**	**4.48**	**300**	P		**Pn**	**18 35 05.4**	**+0.6**
RAZG	**Razgrad**	**4.75**	**338**	⇑P		**Pn**	**18 35 10.0**	**+1.6**
KNT	**Kendrikon**	**5.07**	**295**	P		**Pn**	**18 35 13.4**	**+0.5**
VTS	**Vitosha**	**5.54**	**310**	⇑P		**Pn**	**18 35 23.2**	**+3.7**
TPGR	**Topolog**	**5.67**	**356**	⇑P		**Pn**	**18 35 21.7**	**+0.6**
TLCR		**5.98**	**359**	⇓P		**Pn**	**18 35 26.1**	**+0.7**
CFR	**Carcaliu**	**6.01**	**354**	⇑P		**Pn**	**18 35 24.7**	**-1.0**
BLKB	**Belogradchik**	**6.49**	**315**	⇑P		**Pn**	**18 35 34.7**	**+2.3**
MLR	**Muntele Rosu**	**6.68**	**341**	⇑P		**Pn**	**18 35 36.5**	**+1.4**
PLOR	**Plostina**	**6.87**	**346**	⇑P		**Pn**	**18 35 38.8**	**+1.2**
VRI	**Vrincioaia**	**6.87**	**347**	⇓P		**Pn**	**18 35 38.0**	**+0.4**
COVR	**Voineasa-Covas**	**6.95**	**344**	⇑P		**Pn**	**18 35 40.1**	**+1.3**
BOVS	**Bovan**	**7.05**	**311**	⇑P		**Pn**	**18 35 41.4**	**+1.4**
DOPR	**Dopca**	**7.27**	**340**	⇑P		**Pn**	**18 35 44.3**	**+1.2**
OZUR		**7.29**	**342**	⇑P		**Pn**	**18 35 43.7**	**+0.4**
GZR	**Gura Zlata**	**7.72**	**325**	⇓P		**Pn**	**18 35 50.2**	**+1.0**
BIZ	**Bicaz**	**8.02**	**346**	⇓P		**Pn**	**18 35 54.3**	**+0.9**

*IDC **15** 18:37:21.2±2.5,49.°21N×93.°34E,h0km,mbtmp2.5/1,ML2.0/1,Error ellipse: s-maj=36.3km s-min=20.2km az=4.0*
*ASRS **15** 18:37:23.7±0.3,49.°2N×9.°3E±°,h5km,MLh3.6/24,Error ellipse: s-maj=3.8km s-min=2.0km az=165.4,confirmed*
*NNC **15** 18:38:17.3±4.3,48.°88N×90.°51E,h0km,mb3.6,mpv3.2,Error ellipse: s-maj=56.9km s-min=32.9km az=8.0*

ISC 15 18:37:23.4±1.0,**49.°23N**±0.°05×**93.°36E**±0.°03,**h10**km,**n28**,
σ1§**84**/44,**2C-4D**,**Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ERNS	**Erzin**	**1.56**	**48**	Pg		**Pg**	**18 37 53.6**	**+0.3**
ERNS				Sg		**Sg**	**18 38 15.4**	**+2.0**
KZLR	**Kyzyl**	**2.57**	**15**	Pg		**Pg**	**18 38 12.1**	**-0.5**
KZLR				Sg		**Sg**	**18 38 45.1**	**-0.9**
KNGR	**Kungurtug, Tuv**	**3.02**	**61**	Pg		**Pg**	**18 38 19.8**	**-1.4**
KNGR				Sg		**Sg**	**18 39 01.8**	**+1.5**
ARDR	**Aradan**	**3.35**	**1**	Pg		**Pg**	**18 38 25.1**	**-2.5**
ARDR				Sg		**Sg**	**18 39 10.3**	**-0.7**
CUR	**Chagan-Uzun**	**3.37**	**287**	Pn		**Pn**	**18 38 18.9**	**+2.8**
CUR				Pg		**Pg**	**18 38 26.9**	**-1.0**
CUR				Sg		**Sg**	**18 39 12.3**	**+0.9**
ULGR	**Ulagan, Altay**	**3.75**	**294**	Pg		**Pg**	**18 38 35.7**	**+0.4**
ULGR				Sg		**Sg**	**18 39 26.2**	**+2.3**
DJOS	**Djoyskaya Sosn**	**3.77**	**342**	Sg		**Sg**	**18 39 26.7**	**+2.2**
DJO	**Djoy, Khakassi**	**3.80**	**340**	Pg		**Pg**	**18 38 33.1**	**-3.0**
DJO				Sg		**Sg**	**18 39 26.5**	**+1.1**
CERR	**Cheremushki**	**3.83**	**342**	Pg		**Pg**	**18 38 36.1**	**-0.6**
CERR				Sg		**Sg**	**18 39 28.8**	**+2.6**
AKAR	**Aktash**	**3.87**	**288**	Pn		**Pn**	**18 38 22.4**	**-0.7**
AKAR				Pg		**Pg**	**18 38 38.9**	**+1.3**
AKAR				Sg		**Sg**	**18 39 27.9**	**+0.2**
DGZ	**Jazzator, Alta**	**3.89**	**279**	Pn		**Pn**	**18 38 25.5**	**+2.1**
DGZ				Pg		**Pg**	**18 38 37.2**	**-0.8**
DGZ				Sg		**Sg**	**18 39 26.8**	**-1.6**
CHBI	**Chibit, Altay**	**3.94**	**288**	Pg		**Pg**	**18 38 37.0**	**-1.9**
CHBI				Sg		**Sg**	**18 39 31.2**	**+1.2**
ARTR	**Artybash**	**4.65**	**306**	Pg		**Pg**	**18 38 50.9**	**-1.5**
ARTR				Sg		**Sg**	**18 39 53.0**	**+0.4**
TASR	**Tashtagol**	**4.94**	**318**	Pg		**Pg**	**18 38 59.2**	**+1.2**
TASR				Sg		**Sg**	**18 40 01.0**	**-0.9**
LUZB	**Luzhba, Kemero**	**5.24**	**330**	Pg		**Pg**	**18 39 01.8**	**-1.8**
LUZB				Sg		**Sg**	**18 40 11.5**	**+0.1**
GALT	**Gorno-Altaysk,**	**5.45**	**303**	Sg		**Sg**	**18 40 20.3**	**+2.0**
MOY	**Mondy**	**5.45**	**61**	Pg		**Pb**	**18 39 02.3**	**+3.6**
MOY				Sg		**Sg**	**18 40 16.9**	**-1.4**
MINR	**Mina**	**5.70**	**5**	Pg		**Pg**	**18 39 09.9**	**-2.5**
MINR				Sg		**Sg**	**18 40 28.0**	**+1.8**
UKR	**Ust'-Kan**	**5.78**	**290**	Pg		**Pg**	**18 39 12.7**	**-1.3**
UKR				Sg		**Sg**	**18 40 29.1**	**+0.2**
ELT	**Eltsov

IMAR	**Indian Mountai**	**19.89**	**34**	P	**P**	**18 46 12.3**	**-0.2**
BPAW	**Bear Paw Mtn.**	**20.05**	**41**	P	**P**	**18 46 14.3**	**-0.1**
H21K	**Melozitna Rive**	**20.05**	**36**	P	**P**	**18 46 14.3**	**-0.1**
TRF	**Thorofare Moun**	**20.10**	**43**	P	**P**	**18 46 14.7**	**-0.4**
TRF				IAmb	IAmb	18 46 37.8	
	comp=Z,8.5nm,1.4s						
GHO	**Glory Hole Cre**	**20.19**	**48**	P	**P**	**18 46 15.3**	**-0.7**
GHO				IAmb	IAmb	18 46 38.9	
	comp=Z,15nm,1.2s						
PWL	**Port Wells**	**20.27**	**51**	P	**P**	**18 46 16.5**	**-0.3**
SML	**Sawmill**	**20.48**	**48**	P	**P**	**18 46 19.3**	**+0.3**
SML				IAmb	IAmb	18 46 54.2	
	comp=Z,9.4nm,1.1s						
SCM	**Sheep Creek Mo**	**20.95**	**48**	P	**P**	**18 46 24.1**	**0.0**
FID	**Port Fidalgo**	**21.14**	**51**	P	**P**	**18 46 25.6**	**-0.5**
ILAR	**Eielson Array**	**21.96**	**41**	P	**P**	**18 46 34.3**	**-0.4**
	comp=Z,0.7nm,1.1s,baz=270,slow=10,SNR=2.0						
	comp=Z,0.7nm,1.1s						
GLB	**Gilahina Butte**	**22.53**	**50**	P	**P**	**18 46 40.7**	**0.0**
GLB				IAmb	IAmb	18 46 49.4	
	comp=Z,11nm,1.2s						
TOLK	**Toolik Lake Re**	**22.67**	**30**	P	**P**	**18 46 42.1**	**0.0**
TOLK				IAmb	IAmb	18 46 57.2	
	comp=Z,14nm,1.4s						
MENT	**Mentasta**	**22.82**	**46**	P	**P**	**18 46 45.0**	**+1.3**
MENT				IAmb	IAmb	18 47 03.2	
	comp=Z,9.9nm,1.5s						
DOT	**Dot Lake**	**22.82**	**44**	P	**P**	**18 46 44.2**	**+0.5**
J26L	**Joseph Creek**	**23.24**	**42**	P	**P**	**18 46 47.1**	**-0.7**
L27K	**Beaver Creek,**	**23.69**	**46**	P	**P**	**18 46 52.9**	**+1.1**
BCAR	**Beaver Creek A**	**23.71**	**46**	P	**P**	**18 46 52.8**	**+0.8**
LOGN	**Logan Glacier**	**23.82**	**52**	P	**P**	**18 46 53.9**	**+0.8**
LOGN				IAmb	IAmb	18 47 23.9	
	comp=Z,8.5nm,1.1s						
NRIK	**Noril'sk**	**43.10**	**329**	P	**P**	**18 49 37.3**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=49,slow=9.3,SNR=2.0						
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**44.88**	**295**	P	**P**	**18 49 54.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=47,slow=7.9,SNR=2.2						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**45.18**	**81**	P	**P**	**18 49 56.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=300,slow=6.7,SNR=5.9						
NVAR				LR	LR	19 07 54.1	
	comp=Z,29nm,18.1s,baz=94,slow=35						
	comp=Z,0.7nm,0.6s						
YHH	**Holmes Hill**	**45.83**	**70**	P	**P**	**18 50 01.0**	**-0.5**
YMR	**Madison River**	**45.83**	**70**	P	**P**	**18 50 00.3**	**-1.2**
HVU	**Hansel Valley**	**46.47**	**74**	P	**P**	**18 50 05.9**	**-0.5**
HVU				IAmb	IAmb	18 50 07.1	
	comp=Z,1.3nm,0.5s						
R11A	**Troy Canyon, C**	**46.90**	**80**	P	**P**	**18 50 09.9**	**+0.2**
PDAR	**Pinedale Array**	**47.78**	**71**	P	**P**	**18 50 15.7**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=318,slow=2.0,SNR=4.3						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**47.78**	**71**	P	**P**	**18 50 15.5**	**-1.1**
KURK	**Kurchatov**	**57.42**	**312**	P	**P**	**18 51 26.5**	**-0.8**
KURK				IAmb	IAmb	18 51 56.2	
	comp=Z,2.1nm,1.1s						
MK31	**Makanchi Array**	**58.37**	**307**	P	**P**	**18 51 34.3**	**+0.3**
MK31				IAmb	IAmb	18 51 47.5	
	comp=Z,4.4nm,1.5s						
MKAR	**Makanchi Array**	**58.37**	**307**	P	**P**	**18 51 33.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=50,slow=5.8,SNR=6.7						
	comp=Z,0.3nm,0.5s						
ANGG	**Ammassalik, Gr**	**59.61**	**16**	P	**P**	**18 51 43.1**	**+0.9**
TXAR	**Lajitas Array**	**60.26**	**79**	P	**P**	**18 51 47.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=310,slow=5.2,SNR=3.8						
	comp=Z,0.2nm,0.6s						
TXAR	**Lajitas Array**	**60.26**	**79**	P	**P**	**18 51 46.7**	**-0.6**
ABKAR	**Akbulak array**	**66.49**	**321**	P	**P**	**18 52 27.0**	**-0.9**
KKAR	**Karatay Array**	**66.77**	**311**	P	**P**	**18 52 30.5**	**+0.7**
NB201	**NORSAR Array S**	**66.95**	**353**	P	**P**	**18 52 30.8**	**+0.1**
WRA	**Warramunga Arr**	**81.22**	**221**	P	**P**	**18 53 54.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=32,slow=5.9,SNR=5.9						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**84.73**	**220**	P	**P**	**18 54 13.1**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=24,slow=5.7,SNR=9.4						
	comp=Z,0.5nm,0.8s						

*IDC **15** 19:15:30.3±0.6,29˚.22S×61˚.05E,h0km,mb4.0/14, mbtmp4.0/15,ML4.2/1,MS3.4/9,Error ellipse: s-maj=20.5km s-min=16.3km az=80.0*
*NEIC **15** 19:15:31.2±2.0,29˚.17S±0˚.07×61˚.0E±0˚.1,h10km±1km, mb4.3/6,Error ellipse: s-maj=22.2km s-min=7.3km az=294.0*

ISC 15 19:15:31.5±0.5,**29˚.17S**±0˚.08×**60˚.99E**±0˚.10,**h10**km,**n56, σ0s98/43,mb4.2**/16,**MS3.5**/9,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**9.62**	**14**	Pn	**Pn**	**19 17 49.6**	**-0.4**
FOMA	**Nahampoana Res**	**13.16**	**285**	Pn	**Pn**	**19 18 36.3**	**-2.3**
VOI	**Vohitsoka**	**14.71**	**296**	Pn	**Pn**	**19 18 59.7**	**-0.1**
ABPO	**Ambohimpanom**	**16.11**	**306**	Pn	**Pn**	**19 19 14.7**	**-3.7**
OPO	**Ambohidratompo**	**16.44**	**307**	Pn	**P**	**19 19 25.2**	**-0.1**
	0.1nm,0.3s,baz=104,slow=14,SNR=6.0						
OPO				Sn	Sn	19 22 11.9	-13
	0.2nm,0.3s,baz=326,slow=6.0,SNR=11						
	1.5nm,0.3s						
H08S1	**Diego Carcia H**	**23.99**	**29**	T	T	19 45 32.1	
	baz=204,slow=75,SNR=13						
H08S2	**Diego Garcia H**	**24.00**	**29**	T	T	19 45 31.8	
	baz=204,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**24.01**	**29**	T	T	19 45 33.1	
	baz=204,slow=75,SNR=21						
BOSA	**Boshof**	**31.22**	**262**	P	**P**	**19 21 52.4**	**+1.0**
	3.8nm,1.1s,baz=90,slow=6.1,SNR=2.1						
	3.8nm,1.1s						
LSZ	**Lusaka**	**33.24**	**287**	LR	LR	19 35 07.7	
	comp=Z,39nm,18.1s,baz=156,slow=35						
SUR	**Sutherland**	**34.53**	**254**	LR	LR	19 33 44.6	
	comp=Z,43nm,21.6s,baz=146,slow=32						
KMBO	**Kilima Mbogo**	**35.92**	**317**	LR	LR	19 34 30.7	
	comp=Z,101nm,20.0s,baz=92,slow=32						
MAW	**Mawson**	**38.48**	**179**	P	**P**	**19 22 53.8**	**+0.6**
	2.5nm,0.8s,baz=360,slow=9.4,SNR=4.9						
MAW				LR	LR	19 35 57.1	
	comp=Z,80nm,19.3s,baz=14,slow=32						
	2.5nm,0.8s						
MAW	**Mawson**	**38.48**	**179**	P	**P**	**19 22 53.6**	**+0.3**
MBAR	**Mbarara**	**40.49**	**309**	LR	LR	19 38 27.7	
	comp=Z,40nm,19.4s,baz=162,slow=34						
TSUM	**Tsumeb**	**40.63**	**274**	LR	LR	19 37 55.5	
	comp=Z,12nm,19.1s,baz=338,slow=33						
ATD	**Arta Tunnel**	**44.09**	**334**	LR	LR	19 39 45.3	
	comp=Z,63nm,18.6s,baz=24,slow=33						
H01W2	**Cape Leeuwin H**	**44.98**	**111**	T	T	20 11 51.0	
	baz=261,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**44.98**	**111**	T	T	20 11 46.0	
	baz=261,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**44.99**	**111**	T	T	20 11 52.2	
	baz=261,slow=75,SNR=17						
SNAA	**Sanae**	**54.40**	**200**	P	**P**	**19 24 58.2**	**-0.2**
SNAA	**Sanae**	**54.40**	**200**	P	**P**	**19 24 57.9**	**-0.4**
	2.3nm,0.9s,baz=113,slow=8.1,SNR=14						
SNAA				LR	LR	19 44 22.4	
	comp=Z,46nm,18.8s,baz=57,slow=32						
	2.3nm,0.9s						
SNAA	**Sanae**	**54.40**	**200**	P	**P**	**19 24 57.6**	**-0.7**
SNAA				IAmb	IAmb	19 25 01.3	
	comp=Z,3.5nm,1.0s						
VNA2	**Neumayer--Watz**	**55.67**	**202**	P	**P**	**19 25 07.5**	**+0.1**
	baz=72,slow=6.3						
VNA1	**Neumayer--Stat**	**55.91**	**202**	P	**P**	**19 25 09.3**	**+0.2**
VNA3	**Neumayer Olymp**	**56.46**	**201**	P	**P**	**19 25 12.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**59.87**	**42**	P	**P**	**19 25 38.6**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=229,slow=7.4,SNR=10.0						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**59.87**	**42**	P	**P**	**19 25 37.3**	**-0.3**
PYUN	**Piuthan**	**60.72**	**22**	*eP*	**P**	**19 25 44.0**	**+0.6**
	comp=Z,27nm,0.7s						
RAMN	**Ramite**	**60.97**	**26**	*eP*	**P**	**19 25 46.2**	**+1.0**
	comp=Z,18nm,0.7s						
QSPA	**South Pole Qui**	**60.98**	**180**	P	**P**	**19 25 44.5**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=244,slow=1.3,SNR=12						
	comp=Z,3.1nm,1.0s						
QSPA	**South Pole Qui**	**60.98**	**180**	P	**P**	**19 25 43.9**	**-0.9**
GKN	**Gorkha**	**61.19**	**24**	*eP*	**P**	**19 25 47.0**	**+0.4**
	comp=Z,19nm,0.7s						
DANN	**Dangsing**	**61.21**	**23**	*eP*	**P**	**19 25 47.0**	**+0.1**
	comp=Z,26nm,0.8s						
VNDA	**Vanda**	**64.06**	**166**	P	**P**	**19 26 05.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=267,slow=7.4,SNR=9.1						
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**64.06**	**166**	P	**P**	**19 26 04.3**	**-0.7**
VNDA				IAmb	IAmb	19 26 05.6	
	comp=Z,1.9nm,0.9s						
ASAR	**Alice Springs**	**64.58**	**104**	P	**P**	**19 26 09.6**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=243,slow=5.9,SNR=13						
	comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**64.58**	**104**	P	**P**	**19 26 08.9**	**-0.5**
WRA	**Warramunga Arr**	**66.41**	**100**	P	**P**	**19 26 21.4**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=246,slow=5.2,SNR=7.2						
	comp=Z,1.4nm,0.9s						
STKA	**Stephens Creek**	**67.89**	**115**	P	**P**	**19 26 29.1**	**-1.4**
STKA				IAmb	IAmb	19 26 31.2	
	comp=Z,2.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**71.01**	**298**	P	**P**	**19 26 50.8**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=109,slow=4.7,SNR=7.3						
	comp=Z,1.6nm,0.8s						
KK31	**Karatay Array**	**72.45**	**7**	P	**P**	**19 26 58.6**	**+0.7**
KK31				IAmb	IAmb	19 27 03.5	
	comp=Z,4.2nm,1.2s						
KKAR	**Karatay Array**	**72.45**	**7**	P	**P**	**19 26 57.9**	**0.0**
BRTR	**Keskin Array B**	**73.12**	**338**	P	**P**	**19 27 02.7**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=141,slow=8.6,SNR=4.4						
	comp=Z,0.7nm,0.8s						
KBZ	**Khabaz**	**74.42**	**346**	LR	LR	19 58 09.2	
	comp=Z,42nm,20.5s,baz=93,slow=34						
MKAR	**Makanchi Array**	**78.03**	**15**	P	**P**	**19 27 30.0**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=145,slow=4.4,SNR=6.8						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**78.03**	**15**	P	**P**	**19 27 28.1**	**-1.9**
ABKAR	**Akbulak array**	**78.08**	**359**	P	**P**	**19 27 29.5**	**-0.6**
AKASG	**Malin Array Be**	**84.34**	**340**	P	**P**	**19 28 03.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=152,slow=4.5,SNR=1.7						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**85.31**	**14**	P	**P**	**19 28 08.4**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=250,slow=4.4,SNR=5.9						
	comp=Z,0.8nm,0.5s						
ESDC	**Sonseca Array**	**91.30**	**316**	P	**P**	**19 28 39.5**	**+2.3**
	comp=Z,1.1nm,1.0s,baz=130,slow=5.2,SNR=3.7						
	comp=Z,1.1nm,1.0s						
ILAR	**Eielson Array**	**140.31**	**18**	PKP	**PKPdf**	**19 34 59.8**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=328,slow=3.2,SNR=3.2						
YKA	**Yellowknife Ar**	**146.55**	**356**	PKPbc	**PKPab**	**19 35 12.9**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=2.8,slow=2.5,SNR=1.9						
PDAR	**Pinedale Array**	**164.44**	**333**	PKP	**PKPdf**	**19 35 35.5**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=18,slow=3.2,SNR=2.1						
TXAR	**Lajitas Array**	**166.60**	**274**	PKP	**PKPdf**	**19 35 38.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=131,slow=2.5,SNR=2.6						
NVAR	**Mina Array Bea**	**170.75**	**357**	PKP	**PKPdf**	**19 35 40.2**	**0.0**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=0.9,SNR=2.0						

*KRSC **15** 19:34:57.1±0.4,56˚.10N×161˚.14E,h119km±3km,ML3.7*
*IDC **15** 19:34:59.3±4.4,55˚.68N×161˚.49E,h165km±42km,mb3.2/5, mbtmp3.6/6,Error ellipse: s-maj=79.1km s-min=47.4km az=115.0*

ISC 15 19:34:58.2±0.9,**56˚.12N**±0˚.05×**161˚.12E**±0˚.05,**h117**km±5km, **n43,σ0s71/59,mb3.5**/4,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.20**	**240**	*eP*	**Pn**	**19 35 14.8**	**+0.2**
ZLN				*e*S	**Sn**	**19 35 27.6**	**+0.7**
LGNR	**Loginova**	**0.24**	**262**	*e*S	**Sn**	**19 35 28.0**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**0.29**	**233**	*e*P	**Pn**	**19 35 14.9**	**0.0**
BZGR				*e*S	**Sn**	**19 35 28.2**	**+0.8**
KRSR	**Krestovskiy**	**0.32**	**288**	*e*P	**Pn**	**19 35 14.7**	**-0.3**
KRSR				*e*S	**Sn**	**19 35 27.5**	**-0.1**
KLY	**Klyuchi**	**0.33**	**307**	*e*P	**Pn**	**19 35 14.5**	**-0.3**
KLY				*e*S	**Sn**	**19 35 27.4**	**0.0**
BZWR	**Bezymyannyi-We**	**0.38**	**247**	*e*P	**Pn**	**19 35 15.1**	**-0.2**
BZWR				*e*S	**Sn**	**19 35 29.0**	**+0.8**
BZMR	**Bezymyannaya**	**0.40**	**243**	*e*P	**Pn**	**19 35 15.3**	**-0.1**
BDR	**Baidarnaya**	**0.46**	**6**	*e*P	**Pn**	**19 35 15.9**	**+0.3**
BDR				*e*S	**Sn**	**19 35 29.4**	**+0.6**
KIRR	**Kirishev**	**0.46**	**250**	*e*P	**Pn**	**19 35 15.4**	**-0.3**
KIRR				*e*S	**Sn**	**19 35 28.7**	**-0.2**
SMKR	**Semkarok**	**0.51**	**23**	*e*P	**Pn**	**19 35 16.2**	**+0.3**
SMKR				*e*S	**Sn**	**19 35 30.3**	**+1.0**
KPT	**Kopyto**	**0.52**	**254**	*e*P	**Pn**	**19 35 15.9**	**-0.1**
SRKR	**Sorokina**	**0.54**	**3**	*e*P	**Pn**	**19 35 16.4**	**+0.3**
SRKR				*e*S	**Sn**	**19 35 30.6**	**+0.9**
KMNR	**Kamenistaya**	**0.61**	**234**	*e*P	**Pn**	**19 35 16.5**	**-0.1**
KMNR				*e*S	**Sn**	**19 35 31.4**	**+0.8**
KOZ	**Kozyrevsk**	**0.70**	**266**	*e*P	**Pn**	**19 35 16.9**	**-0.3**
KOZ				*e*S	**Sn**	**19 35 32.2**	**+0.6**
SRDR	**Sredinnyy**	**0.81**	**285**	*e*P	**Pn**	**19 35 18.3**	**+0.1**
KBG	**Krutoberegovo**	**0.90**	**80**	*e*P	**Pn**	**19 35 19.1**	**+0.2**
KBG				*e*S	**Sn**	**19 35 35.1**	**+0.5**
KBTR	**Krutoberegovo**	**0.96**	**84**	*e*P	**Pn**	**19 35 19.4**	**-0.1**
KBTR				*e*S	**Sn**	**19 35 35.6**	**0.0**
TUMR	**Tumrok**	**1.00**	**214**	*e*P	**Pn**	**19 35 20.1**	**+0.1**
TUMR				*e*S	**Sn**	**19 35 37.0**	**+0.5**
ESO	**Esso**	**1.37**	**263**	*e*P	**Pn**	**19 35 23.9**	**0.0**
ESO				*e*S	**Sn**	**19 35 44.7**	**+1.3**
KII	**Karymskiy**	**2.29**	**205**	*e*P	**Pn**	**19 35 35.4**	**+0.2**
BKI	**Bering**	**2.90**	**106**	*e*P	**Pn**	**19 35 43.0**	**+0.1**
GNL	**Ganaly**	**3.04**	**218**	*e*P	**Pn**	**19 35 45.1**	**+0.1**
SPN	**Mys Shipunski**	**3.09**	**192**	*e*P	**Pn**	**19 35 44.7**	**-0.8**
KRX	**Arik**	**3.11**	**208**	*e*P	**Pn**	**19 35 46.6**	**+0.7**
SDLR	**Sedlovina**	**3.12**	**205**	*e*P	**Pn**	**19 35 47.1**	**+1.0**
KRER	**Koryakskii**	**3.13**	**207**	*e*P	**Pn**	**19 35 47.5**	**+1.2**
SMAR	**Somma**	**3.16**	**206**	*e*P	**Pn**	**19 35 47.5**	**+0.9**
AVH	**Avacha**	**3.17**	**207**	*e*P	**Pn**	**19 35 48.1**	**+1.4**
KOK	**Koryaka**	**3.17**	**208**	*e*P	**Pn**	**19 35 47.8**	**+1.1**
OSSR	**Ossora**	**3.31**	**18**	*e*P	**Pn**	**19 35 49.8**	**+1.5**
DALK	**Dalny**	**3.38**	**205**	*e*P	**Pn**	**19 35 50.0**	**+0.7**
DALK				*e*S	**Sn**	**19 36 29.5**	**+0.6**
PETK	**Petropavlovsk-**	**3.61**	**215**	P	**Pn**	**19 35 52.2**	**-0.2**
	3.6nm,0.6s,baz=314,slow=14,SNR=7.9						
PETK				S	Sn	19 36 48.1	+14
	2.7nm,0.8s,baz=355,slow=10,SNR=3.6						
KRMR	**Karymshinskiy**	**3.73**	**209**	*e*P	**Pn**	**19 35 54.8**	**+0.9**
APC	**Apacha**	**3.94**	**217**	*e*P	**Pn**	**19 35 57.5**	**+0.7**
GRL	**Gorelyy**	**3.99**	**208**	*e*P	**Pn**	**19 35 58.6**	**+1.0**
ASAK	**Asacha**	**4.19**	**208**	*e*P	**Pn**	**19 36 01.3**	**+1.1**
KDTR	**Khodutka, Kamc**	**4.67**	**204**	*e*P	**Pn**	**19 36 08.0**	**+1.4**
KDTR				*e*S	**Sn**	**19 36 59.7**	**-0.1**
TIXI	**Tiksi**	**20.64**	**331**	P	Pn	19 39 30.7	-0.6
	4.1nm,0.7s,baz=87,slow=22,SNR=5.2						
	4.1nm,0.7s						
KURBB	**Kurchatov Arra**	**46.79**	**300**	P	**P**	**19 43 14.8**	**-0.6**
	0.1nm,0.3s,baz=55,slow=8.2,SNR=2.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**47.43**	**294**	P	**P**	**19 43 19.8**	**-0.7**
	0.4nm,0.7s,baz=56,slow=9.4,SNR=2.5						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**57.58**	**336**	P	**P**	**19 44 33.8**	**-1.2**
	1.6nm,0.8s,baz=19,slow=6.5,SNR=5.1						
	1.6nm,0.8s						
NB2	**NORSAR Subarra**	**60.80**	**344**	P	**P**	**19 44 57.2**	**0.0**
	comp=Z,0.4nm,0.5s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**60.80**	**344**	P	**P**	**19 44 57.0**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=21,slow=6.9,SNR=4.9						
	comp=Z,0.9nm,0.8s						

*TAP **15** 19:40:04.4,24˚.90N×122˚.45E,h19km,ML2.6,D*
*JMA **15** 19:40:04.4±0.2,25˚.N±1˚×122˚.5E±0˚.6,h3km,MV2.4/6,NW OFF ISHIGAKIJIMA IS*

ISC 15 19:40:04.3±1.1,**24˚.87N**±0˚.04×**122˚.45E**±0˚.02,**h11**km±10km, **n33,σ0s51/56,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**289**	P	**Pg**	**19 40 13.5**	**+0.4**
	baz=284						
TWB1				*e*S	**Sg**	**19 40 19.8**	**+0.8**
	baz=284						
SXI1	**Grass Mountain**	**0.57**	**294**	*i* P	**Pb**	**19 40 16.0**	**-0.4**
	baz=290						
SXI1				S	**Sb**	**19 40 24.1**	**-0.5**
	baz=290						
TIPB	**Shuangxi**	**0.58**	**281**	P	**Pb**	**19 40 16.2**	**-0.3**
	baz=277						
TIPB				S	**Sb**	**19 40 24.6**	**-0.1**
	baz=277						
TWC	**Suao**	**0.60**	**245**	P	**Pg**	**19 40 16.4**	**+0.4**
	baz=241						
JYNG	**Yonagunijimaku**	**0.61**	**132**	P	**Pg**	**19 40 16.1**	**0.0**
JYNG				*e*S	**Sg**	**19 40 24.0**	**-0.2**
NWF	**Wu-fen Shan**	**0.64**	**289**	P	**Pb**	**19 40 17.4**	**-0.2**
	baz=285						
NWF				S	**Sb**	**19 40 27.0**	**+0.3**
	baz=285						
YOJ	**Yonaguni jima**	**0.65**	**128**	P	**Pg**	**19 40 16.9**	**0.0**
YOJ				*e*S	**Sg**	**19 40 25.3**	**0.0**
NDS	**Dongshan**	**0.71**	**251**	*e*P	**Pg**	**19 40 17.5**	**-0.5**
	baz=240						
TWE	**Neicheng**	**0.73**	**259**	P	**Pg**	**19 40 18.6**	**+0.2**
	baz=255						
TWE				S	**Sb**	**19 40 29.0**	**0.0**
	baz=255						
EWUT	**Wuta**	**0.74**	**236**	P	**Pg**	**19 40 17.7**	**-0.9**
	baz=233						
EWUT				S	**Sg**	**19 40 28.4**	**+0.1**
	baz=233						
ENA	**Nanau**	**0.78**	**236**	*e*P	**Pg**	**19 40 19.8**	**+0.4**
	baz=233						
ENA				*e*S	**Sb**	**19 40 30.6**	**+0.1**
	baz=233						
FUSB	**Fushanzhiwuyua**	**0.79**	**263**	*e*P	**Pb**	**19 40 20.2**	**0.0**
	baz=259						
FUSB				S	**Sb**	**19 40 30.9**	**0.0**
	baz=259						
ENTT	**Nioudou**	**0.84**	**255**	*e*P	**Pg**	**19 40 19.9**	**-0.5**
	baz=239						
ENTT				*e*S	**Sg**	**19 40 31.0**	**-0.3**
	baz=239						
NHDH	**Xindian Distri**	**0.85**	**277**	*e*P	**Pg**	**19 40 20.6**	**-0.1**
	baz=274						
NHDH				*e*S	**Sg**	**19 40 32.2**	**+0.5**
	baz=274						
YM01	**YM01**	**0.85**	**289**	*e*P	**Pg**	**19 40 20.4**	**-0.3**
	baz=287						
TWY	**Chenhua**	**0.88**	**298**	*e*P	**Pb**	**19 40 21.6**	**+0.1**
	baz=295						
TWY				*e*S	**Sb**	**19 40 33.6**	**+0.3**
	baz=295						
NDT	**Datong Townshi**	**0.89**	**253**	*e*P	**Pb**	**19 40 22.3**	**+0.4**
	baz=238						
NDT				*e*S	**Sg**	**19 40 33.1**	**-0.1**
	baz=238						
LATG	**Datong**	**0.90**	**249**	P	**Pb**	**19 40 22.4**	**+0.3**
	baz=234						
LATG				S	**Sg**	**19 40 34.1**	**+0.5**
	baz=234						
TWS1	**Kuangyinshan**	**0.97**	**284**	*e*P	**Pn**	**19 40 23.8**	**-0.1**
	baz=282						
YHNB	**Yeheng**	**1.00**	**259**	*e*P	**Pg**	**19 40 23.4**	**-0.2**
	baz=270						
YHNB				*e*S	**Sg**	**19 40 36.3**	**-0.2**
	baz=270						
NSK	**Sanguang**	**1.01**	**260**	*e*P	**Pg**	**19 40 22.5**	**-1.3**
	baz=271						
NSK				*e*S	**Sg**	**19 40 35.7**	**-1.2**
	baz=271						
NNSB	**Datong**	**1.07**	**246**	*e*P	**Pb**	**19 40 25.0**	**+0.2**
	baz=233						
NNSB				*e*S	**Sg**	**19 40 38.8**	**+0.1**
	baz=233						
NNS	**Nan Shan**	**1.07**	**247**	*e*S	**Sg**	**19 40 37.5**	**-1.4**
	baz=233						
ETLH	**Xiulin Townshi**	**1.10**	**234**	*e*P	**Pb**	**19 40 24.9**	**-0.5**
	baz=231						
NFF	**Wufeng Township**	**1.23**	**259**	*e*P	**Pg**	**19 40 28.6**	**+0.5**
	baz=257						
NFF				*e*S	**Sb**	**19 40 43.5**	**-0.2**
	baz=257						
FUSS	**Fushou**	**1.26**	**241**	*e*P	**Pb**	**19 40 28.5**	**+0.2**
	baz=239						
FUSS				*e*S	**Sg**	**19 40 45.4**	**+0.5**
	baz=239						
IRIF	**Iriomote-Funau**	**1.28**	**114**	P	**Pg**	**19 40 28.9**	**+0.1**
IRIF				S	**Sg**	**19 40 45.6**	**+0.2**
WHF	**Hehuan Shan**	**1.30**	**237**	*e*P	**Pg**	**19 40 29.4**	**+0.2**
	baz=234						
WHF				*e*S	**Sb**	**19 40 46.0**	**+0.1**
	baz=234						
TWT	**Tachien**	**1.31**	**243**	*e*P	**Pg**	**19 40 30.9**	**+1.4**
	baz=232						
TWT				*e*S	**Sn**	**19 40 46.7**	**+0.3**
	baz=232						
LIOB	**Emei**	**1.32**	**261**	*e*P	**Pn**	**19 40 28.4**	**-0.4**
	baz=258						
NSTT	**Nanjuang**	**1.34**	**260**	*

ENTT				*e*S	**Sg**	**19 44 54.3**	**+0.2**
	baz=252						
NHDH	**Xindian Distri**	**0.85 277**	P	**Pb**	**19 44 43.7**	**-0.5**
	baz=275						
NHDH				S	**Sb**	**19 44 55.0**	**-0.9**
	baz=275						
YM08	**YM08**	**0.85 293**	P	**Pb**	**19 44 43.8**	**-0.5**
	baz=291						
YM01	**YM01**	**0.85 290**	*e*P	**Pb**	**19 44 44.3**	**-0.1**
	baz=288						
YM01				*e*S	**Sb**	**19 44 55.4**	**-0.6**
	baz=288						
TAP	**Taipei**	**0.88 282**	*e*P	**Pb**	**19 44 44.7**	**-0.1**
	baz=280						
TAP				*e*S	**Sb**	**19 44 57.0**	**+0.3**
	baz=280						
TWY	**Chenhua**	**0.88 298**	*e*P	**Pb**	**19 44 44.4**	**-0.4**
	baz=297						
TWY				*e*S	**Sb**	**19 44 56.4**	**-0.3**
	baz=297						
TATO	**Taipei**	**0.89 278**	*e*P	**Pb**	**19 44 44.5**	**-0.3**
	baz=275						
TATO				*e*S	**Sb**	**19 44 56.5**	**-0.4**
	baz=275						
NDT	**Datong Townshi**	**0.89 254**	P	**Pb**	**19 44 44.7**	**-0.3**
	baz=251						
NDT				*e*S	**Sg**	**19 44 56.0**	**+0.1**
	baz=251						
LATG	**Datong**	**0.90 249**	P	**Pb**	**19 44 45.0**	**-0.3**
	baz=232						
LATG				S	**Sb**	**19 44 57.1**	**-0.4**
	baz=232						
ANP	**Anpu**	**0.91 291**	P	**Pb**	**19 44 45.1**	**-0.3**
	baz=290						
NTST	**Danshui**	**0.96 289**	*e*P	**Pn**	**19 44 47.1**	**0.0**
	baz=287						
TWS1	**Kuangyinshan**	**0.97 285**	P	**Pn**	**19 44 46.7**	**-0.6**
	baz=283						
TWS1				*e*S	**Sb**	**19 44 59.6**	**+0.3**
	baz=283						
YHNB	**Yeheng**	**1.00 259**	*e*P	**Pg**	**19 44 46.2**	**-0.1**
	baz=266						
YHNB				*e*S	**Sg**	**19 44 59.3**	**+0.1**
	baz=266						
NSK	**Sanguang**	**1.01 260**	P	**Pg**	**19 44 45.4**	**-1.1**
	baz=266						
NSK				*e*S	**Sg**	**19 44 58.4**	**-1.3**
	baz=266						
NACB	**Ninganchiao**	**1.04 229**	*e*P	**Pb**	**19 44 47.0**	**-0.4**
	baz=237						
NACB				*e*S	**Sb**	**19 45 01.1**	**-0.2**
	baz=237						
NNSB	**Datong**	**1.06 247**	*e*P	**Pg**	**19 44 47.5**	**-0.1**
	baz=233						
NNSB				*e*S	**Sb**	**19 45 01.8**	**-0.4**
	baz=233						
NNSH	**Datong**	**1.06 247**	*e*P	**Pg**	**19 44 47.2**	**-0.4**
	baz=233						
NNSH				*e*S	**Sb**	**19 45 01.5**	**-0.7**
	baz=233						
NNS	**Nan Shan**	**1.07 247**	*e*P	**Pg**	**19 44 46.9**	**-0.8**
	baz=245						
NNS				*e*S	**Sg**	**19 45 00.5**	**-1.0**
	baz=245						
ETLH	**Xiulin Townshi**	**1.10 234**	*e*P	**Pg**	**19 44 47.6**	**-0.6**
	baz=232						
ETLH				*e*S	**Sg**	**19 45 01.9**	**-0.5**
	baz=232						
TWD	**Chiawan**	**1.10 225**	*e*P	**Pn**	**19 44 48.5**	**-0.5**
	baz=231						
TWD				*e*S	**Sg**	**19 45 02.5**	**-0.1**
	baz=231						
NCU	**National Centr**	**1.16 276**	*e*P	**Pn**	**19 44 50.7**	**+0.9**
	baz=274						
NCUH	**Zhongli**	**1.16 276**	*e*P	**Pb**	**19 44 47.9**	**-1.6**
	baz=274						
NFF	**Wufeng Townshi**	**1.23 260**	*e*P	**Pg**	**19 44 51.7**	**+0.9**
	baz=270						
NFF				S	**Sb**	**19 45 06.5**	**-0.6**
	baz=270						
FUSS	**Fushou**	**1.26 241**	*e*P	**Pb**	**19 44 51.1**	**-0.3**
	baz=239						
FUSS				*e*S	**Sn**	**19 45 08.5**	**-0.3**
	baz=239						
IRIF	**Iriomote-Funau**	**1.27 114**	*e*P	**Pb**	**19 44 51.2**	**-0.3**
IRIF			*e*S	**Sb**	**19 45 07.8**	**-0.3**
WHF	**Hehuan Shan**	**1.29 237**	*e*P	**Pg**	**19 44 51.8**	**-0.2**
	baz=235						
WHF				*e*S	**Sg**	**19 45 08.8**	**0.0**
	baz=235						
TWT	**Tachien**	**1.31 243**	*e*P	**Pg**	**19 44 53.5**	**+1.2**
	baz=232						
TWT				*e*S	**Sn**	**19 45 10.8**	**+0.9**
	baz=232						
LIOB	**Emei**	**1.32 261**	*e*P	**Pg**	**19 44 53.9**	**+1.4**
	baz=260						
TDCB	**Techi**	**1.32 243**	*e*P	**Pg**	**19 44 53.4**	**+0.9**
	baz=232						
TDCB				*e*S	**Sn**	**19 45 10.9**	**+0.7**
	baz=232						
NSTT	**Nanjuang**	**1.34 261**	*e*P	**Pg**	**19 44 54.1**	**+1.2**
	baz=259						
CHGB	**Renai**	**1.41 236**	P	**Pb**	**19 44 53.7**	**-0.3**
	baz=234						
CHGB				*e*S	**Sg**	**19 45 14.4**	**+1.9**
	baz=234						
OWD	**Renai**	**1.47 233**	P	**Pb**	**19 44 54.3**	**-0.7**
	baz=238						
OWD				S	**Sg**	**19 45 14.8**	**+0.3**
	baz=238						
WCS	**Beigang Elemen**	**1.62 241**	*e*P	**Pb**	**19 44 56.8**	**-0.5**
	baz=239						
VWDT	**VWDT**	**1.62 228**	*e*P	**Pb**	**19 44 56.6**	**-0.8**
	baz=209						
SMLT	**Sun Moon Lake**	**1.72 236**	*e*P	**Pb**	**19 44 59.4**	**+0.2**
	baz=221						
SSLB	**Suanglung**	**1.73 232**	*e*P	**Pg**	**19 44 59.8**	**-0.6**
	baz=214						
TYC	**Yuchr**	**1.74 237**	*e*P	**Pb**	**19 44 58.7**	**-0.7**
	baz=236						
WHYT	**Xinyi Township**	**1.86 232**	*e*P	**Pb**	**19 45 01.2**	**-0.3**
	baz=217						
ALS	**Alishan**	**2.02 229**	*e*P	**Pn**	**19 45 02.6**	**+0.7**
	baz=210						
TWK	**Hsinying**	**2.40 229**	*e*P	**Pn**	**19 45 08.1**	**+1.2**
	baz=212						
SSD	**Sandimen**	**2.68 219**	*e*P	**Pn**	**19 45 12.8**	**+2.0**
	baz=203						
MASBT	**Mashibuluo**	**2.79 217**	*e*P	**Pn**	**19 45 13.7**	**+1.5**
	baz=204						

*BJI **15** 19:45:50.6±0.0,4˚.24S×129˚.34E,h131km,mb5.7/88, mB5.4/55*

*KLM **15** 19:45:51, 3˚.93S×129˚.41E,h100km,mb5.9*

*MOS **15** 19:45:54.4±1.0,3˚.79S×129˚.01E,h125km,mb5.5/54, MS4.1/5,Error ellipse: s-maj=7.9km s-min=4.1km az=119.5*

*NEIC **15** 19:45:54.9,3˚.87S×129˚.00E,h110km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.07; $M_{\theta\theta}$=-0.06; $M_{r\theta}$=-1.06; $M_{\phi\phi}$=0.46; $M_{\theta r}$=-0.97; Fault plane solution: M_o1.51000×10^{17} NP1:ϕ_s46.90000°, δ85.24000°,λ-91.28000°. NP2:ϕ_s241.94000°,δ4.92000°, λ-75.01000°. Principal axes: T 1.6862, Plg40.0000°, Azm138.0000°; N -0.4630, Plg1.0000°, Azm47.0000°; P -1.2232, Plg50.0000°, Azm315.0000°;*

*GCMT **15** 19:45:55.2±0.1,3˚.82S±0˚.01×129˚.07E±0˚.01,h126km±1km, MW5.4/143,Moment Tensor Solution. s118,c205; s143,c257; Duration: 1ŝ2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.15±.02; $M_{\theta\theta}$0.35±.03; $M_{\phi\phi}$-0.20±.03; $M_{r\theta}$-1.06±.02; $M_{\phi\theta}$0.23±.02; $M_{\theta r}$-0.99±.02; Best double couple: M_o1.49400×10^{17} NP1:ϕ_s46.00000°,δ86.00000°, λ-100.00000°. NP2:ϕ_s293.00000°,δ11.00000°, λ-23.00000°. Principal axes: T 1.5810, Plg40.0000°, Azm145.0000°; N -0.1740, Plg10.0000°, Azm47.0000°; P -1.4070, Plg48.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **15** 19:45:55.2±1.9,3.85S±0.06×129.00E±0.07,h114km±1km, mb5.5/192,Mwb5.4/17,Mww5.4 Error ellipse: s-maj=11.9km s-min=9.4km az=240.0*

*DJA **15** 19:45:55.4±0.1,4˚S±2˚×12˚9E±˚,h130km±2km,M5.3/91, mB5.8/75,mb5.7/91,MLv6.0/18,Mw(mB)5.3/75,*

MwMwp5.0/28,Mwp5.2/28

*IDC **15** 19:45:56.2±0.5,3˚.84S×128˚.99E,h127km±4km,mb5.2/47, mbtmp5.6/54,MS3.9/40,Error ellipse: s-maj=9.9km s-min=7.4km az=68.0*

*NEIC **15** 19:45:57,4˚.06S×129˚.10E,h130km,Moment Tensor Solution. Duration: 4ŝ0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.22; $M_{\theta\theta}$0.45; $M_{\phi\phi}$-0.23; $M_{r\theta}$-0.91; $M_{\phi\theta}$0.09; $M_{\theta r}$-1.05; Fault plane solution: M_o1.45000×10^{17} NP1: ϕ_s297.00000°,δ14.00000°,λ-16.00000°. NP2:ϕ_s43.00000°, δ86.00000°,λ-103.00000°. Principal axes: T 1.4213, Plg39.0000°, Azm145.0000°; N 0.0568, Plg14.0000°, Azm44.0000°; P -1.4781, Plg47.0000°, Azm298.0000°;*

ISC 15 19:45:54.8±0.2,3˚.83S±0˚.03×129˚.05E±0˚.03,h120km±1km, h120km:pP-P,n1077,σ1ŝ42/1225,mb5.6/261,50C-78D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.50**	**346**	P	**Pn**	**19 46 13.4**	**+0.7**
AAI	**Ambon**	**0.86**	**280**	P	**Pn**	**19 46 16.8**	**+1.3**
AAI	**Ambon**	**0.86**	**280**	P	**Pn**	**19 46 16.9**	**+1.4**
BNDI	**Bandanaira**	**1.09**	**129**	P	**Pn**	**19 46 19.5**	**+1.8**
BNDI	**Bandanaira**	**1.09**	**129**	P	**Pn**	**19 46 20.1**	**+2.4**
NLAI	**Namlea**	**2.03**	**287**	P	**Pn**	**19 46 29.6**	**+1.0**
LBMI	**Labuha**	**3.53**	**334**	P	**Pn**	**19 46 48.5**	**+0.4**
SANI	**Sanana**	**3.53**	**300**	P	**Pn**	**19 46 47.6**	**-0.5**
SANI	**Sanana**	**3.53**	**300**	P	**Pn**	**19 46 48.2**	**+0.1**
SIJI	**Sorong**	**3.69**	**37**	P	**Pn**	**19 46 50.4**	**+0.2**
	908nm,0.3s,baz=209,slow=12,SNR=2256						
SIJI				S	**Sn**	**19 47 31.2**	**-1.8**
	2µm,0.3s,baz=263,slow=21,SNR=10						
SAUI	**Saumlaki**	**4.69**	**152**	Pn	**Pn**	**19 47 04.0**	**+0.4**
SAUI	**Saumlaki**	**4.69**	**152**	P	**Pn**	**19 47 04.2**	**+0.6**
SAUI	**Saumlaki**	**4.69**	**152**	P	**Pn**	**19 47 06.5**	**+2.9**
TNTI	**Ternate**	**4.87**	**340**	Pn	**Pn**	**19 47 06.6**	**+0.6**
TNTI	**Ternate**	**4.87**	**340**	P	**Pn**	**19 47 06.7**	**+0.6**
TNTI	**Ternate**	**4.87**	**340**	P	**Pn**	**19 47 07.1**	**+1.0**
BBSI	**Bau Bau**	**6.66**	**255**	P	**Pn**	**19 47 33.7**	**+3.5**
	0.6nm1µm184nm,1.0s						
KMSI	**Cibinong**	**6.69**	**311**	P	**Pn**	**19 47 30.2**	**-0.4**
	25nm30µm3µm,0.7s						
LUWI	**Luwuk**	**6.86**	**294**		**Pn**	**19 47 33.1**	**+0.3**
LUWI	**Luwuk**	**6.86**	**294**	P	**Pn**	**19 47 33.3**	**+0.5**
	10nm5µm11µm2µm,0.7s						
LUWI	**Luwuk**	**6.86**	**294**	P	**Pn**	**19 47 33.7**	**+0.9**
	2µm,0.7s						
SRPI	**Serui, Papua**	**7.44**	**75**	P	**Pn**	**19 47 40.1**	**-0.7**
	11nm2µm7µm548nm,0.5s						
BAKI	**Biak**	**7.53**	**70**	P	**Pn**	**19 47 42.4**	**+0.5**
	3.7nm7µm564nm,0.5s						
APSI	**Ampana**	**7.94**	**291**	P	**Pn**	**19 47 49.0**	**+1.5**
	4.1nm5µm11µm956nm,0.8s						
SGSI	**Sangihe**	**8.26**	**335**	P	**Pn**	**19 47 51.9**	**+0.1**
	8µm707nm,0.5s						
MMRI	**Maumere**	**8.28**	**234**	Pn	**Pn**	**19 47 55.5**	**+3.4**
MMRI	**Maumere**	**8.28**	**234**	P	**Pn**	**19 47 54.7**	**+2.6**
	1µm5µm397nm,1.3s						
MMRI	**Maumere**	**8.28**	**234**	P	**Pn**	**19 47 55.5**	**+3.4**
	400nm,0.9s						
BATI	**Baumata**	**8.28**	**220**	P	**Pn**	**19 47 55.0**	**+2.8**
	222nm,0.9s,baz=26,slow=0.2,SNR=43						
BATI				S	**Sn**	**19 49 29.4**	**+5.3**
	162nm,0.7s,baz=141,slow=18,SNR=1.1						
BATI	**Baumata**	**8.28**	**220**	P	**Pn**	**19 47 54.9**	**+2.8**
	3µm207nm,0.6s						
MRSI	**Marisa**	**8.29**	**301**	P	**Pn**	**19 47 52.7**	**+0.4**
	4µm16µm2µm,0.9s						
EDFI	**Ende, Flores**	**8.79**	**236**	P	**Pn**	**19 48 01.8**	**+2.7**
	2µm95nm,0.8s						
BSSI	**Bau Bau, Buton**	**8.83**	**255**	P	**Pn**	**19 48 01.6**	**+2.1**
	3µm322nm,1.0s						
BKSI	**Bulukumba**	**9.02**	**260**	P	**Pn**	**19 48 04.0**	**+1.9**
	4µm233nm,0.6s						
MTN	**Manton Dam**	**9.19**	**167**	P	**Pn**	**19 48 03.7**	**-0.6**
	baz=9.2,SNR=113						
MTN	**Manton Dam**	**9.19**	**167**	Pn	**Pn**	**19 48 03.7**	**-0.6**
MTN				Sn	**Sn**	**19 49 41.4**	**-4.6**
MTN	**Manton Dam**	**9.19**	**167**	P	**Pn**	**19 48 04.4**	**+0.1**
	633nm,0.4s						
TTSI	**Tana Toraja**	**9.24**	**275**	P	**Pn**	**19 48 07.1**	**+2.0**
	3µm280nm,0.7s						
SPSI	**Sidrap Palu**	**9.26**	**269**	P	**Pn**	**19 48 07.3**	**+2.0**
	4µm4µm352nm,1.0s						
KAPI	**Kappang**	**9.34**	**262**	P	**Pn**	**19 48 07.1**	**+0.7**
	109nm,0.6s,baz=107,slow=6.5,SNR=48						
KAPI				S	**Sn**	**19 49 54.6**	**+4.8**
	46nm,0.6s,baz=269,slow=19,SNR=1.0						
KAPI	**Kappang**	**9.34**	**262**	Pn	**Pn**	**19 48 08.6**	**+2.2**
KAPI	**Kappang**	**9.34**	**262**	P	**Pn**	**19 48 08.6**	**+2.2**
KAPI	**Kappang**	**9.34**	**262**	P	**Pn**	**19 48 09.9**	**+3.5**
	245nm,0.7s						
KDU	**Kakadu**	**9.43**	**159**	P	**Pn**	**19 48 05.9**	**-1.7**
	baz=9.4,SNR=1000						
KDU	**Kakadu**	**9.43**	**159**	P	**Pn**	**19 48 06.6**	**-1.0**
SMPI	**Sarmi**	**9.82**	**80**	P	**Pn**	**19 48 13.5**	**+0.6**
	2µm117nm,0.7s						
MPSI	**Mapaga**	**10.04**	**294**	P	**Pn**	**19 48 17.2**	**+1.4**
	4µm4µm190nm,0.8s						
DDMP	**Don Marcelino,**	**10.42**	**341**	‖*e*P	**Pn**	**19 48 20.0**	**-1.0**
MATI	**Mati**	**11.06**	**345**	⇑*i*P	**Pn**	**19 48 31.1**	**+1.4**
GENI	**Genyem**	**11.17**	**84**	P	**Pn**	**19 48 30.5**	**-0.6**
	3µm217nm,0.7s						
GENI	**Genyem**	**11.17**	**84**	P	**Pn**	**19 48 32.1**	**+1.0**
	219nm,0.7s						
SKMP	**Bagumbayan, Su**	**11.22**	**336**	⇑*i*P	**Pn**	**19 48 31.1**	**-0.7**
DAV	**Davao City (W)**	**11.37**	**342**	P	**Pn**	**19 48 34.2**	**+0.5**
	212nm,0.5s,baz=241,slow=8.9,SNR=4.1						
DAV	**Davao City (W)**	**11.37**	**342**	Pn	**Pn**	**19 48 33.9**	**+0.1**
DAV	**Davao City (W)**	**11.37**	**342**	P	**Pn**	**19 48 37.6**	**+3.8**
	442nm,0.7s						
KCP	**Kidapawan**	**11.47**	**340**	‖*i*P	**Pn**	**19 48 34.2**	**-1.0**
KNRA	**Kununurra**	**11.77**	**181**	P	**Pn**	**19 48 38.6**	**-0.4**
	baz=12,SNR=207						
KNRA	**Kununurra**	**11.77**	**181**	Pn	**Pn**	**19 48 37.8**	**-1.3**
KNRA	**Kununurra**	**11.77**	**181**	P	**Pn**	**19 48 39.0**	**0.0**
	241nm,0.8s						
CDOP	**Cateel, Davao**	**11.83**	**347**	*i* S	**P**	**19 48 47.0**	**-0.9**
CDOP	**Cateel, Davao**	**11.83**	**347**	⇑*i*P	**Pn**	**19 48 39.5**	**-0.3**
CTBH	**Cotabato--PC H**	**11.98**	**336**	⇑*i*P	**Pn**	**19 48 41.5**	**-0.4**
BIPH	**Bislig**	**12.23**	**347**	‖*e*P	**Pn**	**19 48 44.5**	**-0.7**
PLAI	**Plampang**	**12.25**	**246**	P	**Pn**	**19 48 46.7**	**+1.4**
	2µm4µm505nm,0.8s						
PLAI	**Plampang**	**12.25**	**246**	P	**Pn**	**19 48 48.0**	**+2.7**
	494nm,0.9s						
SMKI	**Samarinda**	**12.30**	**286**	P	**Pn**	**19 48 48.6**	**+2.6**
	5µm8µm803nm,0.8s						
BKB	**Balikpapan**	**12.40**	**282**	Pn	**P**	**19 48 51.5**	**-2.8**
BKB	**Balikpapan**	**12.40**	**282**	P	**Pn**	**19 48 50.0**	**+2.6**
	6µm570nm,0.8s						
BKB	**Balikpapan**	**12.40**	**282**	P	**P**	**19 48 51.6**	**-2.8**
	585nm,0.8s						
PAGZ	**Pagadian**	**12.91**	**334**	‖*e*P	**Pn**	**19 48 53.7**	**-0.2**
CGP	**Cagayan de Oro**	**12.96**	**340**	‖*e*P	**Pn**	**19 48 54.8**	**+0.2**
TWSI	**Taliwang, Sumb**	**13.03**	**247**	P	**Pn**	**19 48 56.1**	**+0.5**
	2µm112nm,0.8s						
BUTP	**Butuan**	**13.17**	**345**	‖*e*P	**Pn**	**19 48 58.0**	**+0.7**
MYLDM	**Lahad Datu**	**13.83**	**310**	P	**P**	**19 49 08.5**	**-1.7**
SCPH	**Surigao**	**13.98**	**345**	*e*P	**P**	**19 49 16.4**	**+4.5**
BBKI	**Banjar Baru**	**14.18**	**271**	P	**Pn**	**19 49 12.2**	**+1.8**
	5µm479nm,0.9s						
SRBI	**Singaraja**	**14.39**	**252**	P	**Pn**	**19 49 14.0**	**+1.0**
	3µm4µm363nm,0.8s						
TBP	**Tagbilaran**	**14.39**	**339**	‖*i*P	**P**	**19 49 18.8**	**+2.3**
MTKI	**Muara Teweh, K**	**14.43**	**281**	P	**Pn**	**19 49 14.6**	**+1.1**
	2µm8µm713nm,0.8s						
MSLP	**Maasin**	**14.49**	**343**	‖*e*P	**Pn**	**19 49 15.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**14.56**	**193**	P	**Pn**	**19 49 14.3**	**-0.9**
	46nm,0.7s,baz=27,slow=9.8,SNR=93						
FITZ				S	**Sn**	**19 51 52.2**	**-4.0**
	38nm,0.8s,baz=114,slow=16,SNR=5.8						
FITZ	**Fitzroy Crossi**	**14.56**	**193**	P	**Pn**	**19 49 13.6**	**-1.6**
	baz=15,SNR=351						
FITZ	**Fitzroy Crossi**	**14.56**	**193**		**Pn**	**19 49 13.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**14.56**	**193**	P	**Pn**	**19 49 14.4**	**-0.8**
	300nm,1.1s						
DNP	**Denpasar**	**14.57**	**250**	P	**P**	**19 49 17.6**	**-0.8**
	413nm,0.4s						
IGBI	**Denpasar**	**14.67**	**250**	P	**Pn**	**19 49 17.2**	**+0.6**
	5µm310nm,0.5s						
LLP	**Lapu-Lapu**	**14.94**	**340**	*e*P	**Pn**	**19 49 19.9**	**-0.1**
CNOP	**Candoni, Negro**	**15.00**	**335**	‖*e*P	**Pn**	**19 49 21.5**	**+0.8**
KMMI	**Kalianget**	**15.35**	**257**	P	**P**	**19 49 27.4**	**+0.3**
	4µm5µm558nm,0.7s						
JAGI	**Jajag, Banyuwa**	**15.51**	**252**		**Pn**	**19 49 27.0**	**0.0**
	3µm7µm799nm,0.6s						
JAGI	**Jajag, Banyuwa**	**15.51**	**252**	P	**P**	**19 49 28.3**	**-0.6**
	805nm,0.7s						
GUIM	**Jordan**	**15.74**	**336**	‖*e*P	**P**	**19 49 30.9**	**-0.5**
BESP	**Borongan**	**15.75**	**347**	⇑*i*P	**P**	**19 49 32.1**	**+0.7**
KKM	**Kota Kinabalu**	**16.14**	**307**		**P**	**19 49 36.2**	**+0.2**
KKM	**Kota Kinabalu**	**16.14**	**307**	P	**P**	**19 49 37.2**	**+1.2**
	765nm,0.7s						
BWJI	**Bawean**	**16.45**	**262**	P	**P**	**19 49 39.3**	**0.0**
RCP	**Roxas**	**16.53**	**338**	‖*e*P	**P**	**19 49 42.1**	**+1.9**
WB0	**Warramunga Arr**	**16.67**	**162**	P	**Pn**	**19 49 38.6**	**-2.8**
CNP	**Catarman**	**16.81**	**345**	⇑*i*P	**P**	**19 49 45.3**	**+2.1**
WRAB	**Tennant Creek**	**16.82**	**163**		**Pn**	**19 49 41.4**	**-1.8**
WRAB	**Tennant Creek**	**16.82**	**163**	*ce*P	**Pn**	**19 49 40.7**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,914nm,2.5s						
WRAB	**Tennant Creek**	**16.82**	**163**	P	**Pn**	**19 49 42.3**	**-0.9**
	comp=Z,790nm,1.3s						
WRA	**Warramunga Arr**	**16.82**	**163**	P	**Pn**	**19 49 42.6**	**-0.6**
	comp=Z,283nm,0.7s,baz=338,slow=12,SNR=263						
WRA				S	Sn	**19 52 39.6**	**-11**
	comp=Z,91nm,0.9s,baz=348,slow=23,SNR=4.9						
WRA				LR	LR	19 56 16.1	
	comp=Z,1µm,20.4s,baz=0.0,slow=37						
WRA	**Warramunga Arr**	**16.82**	**163**		**Pn**	**19 49 40.1**	**-3.2**
WB2	**Warramunga Arr**	**16.83**	**163**	P	**Pn**	**19 49 41.0**	**-2.3**
BATP	**Bataraza**	**16.83**	**318**	⇑*i*P	**P**	**19 49 45.4**	**+1.9**
WR0	**Warramunga Arr**	**16.90**	**162**	P	**Pn**	**19 49 42.0**	**-2.2**
PPR	**Puerto Princes**	**16.98**	**323**	‖*e*P	**Pn**	**19 49 48.0**	**+2.8**
COEN	**Coen**	**17.19**	**127**	P	**Pn**	**19 49 48.0**	**+0.2**
	baz=17,SNR=172						
COEN	**Coen**	**17.19**	**127**	P	**Pn**	**19 49 47.8**	**0.0**
COEN	**Coen**	**17.19**	**127**	P	**Pn**	**19 49 48.3**	**+0.5**
	comp=Z,507nm,0.7s						
TBJI	**Tambak Boyo**	**17.38**	**259**	P	**P**	**19 49 49.7**	**+0.2**
	comp=Z,2µmcomp=Z,4µmcomp=Z,413nm,0.5s						
PBKI	**Pangkalan Bun**	**17.39**	**273**	P	**Pn**	**19 49 50.8**	**+0.7**
	comp=Z,7µmcomp=Z,243nm,0.5s						
PWJI	**Pagerwojo**	**17.64**	**256**	P	**P**	**19 49 52.4**	**-0.1**
	comp=Z,2µmcomp=Z,276nm,0.6s						
SBUM	**Sibu**	**17.94**	**290**	P	**Pn**	**19 49 57.9**	**+1.2**
SBUM	**Sibu**	**17.94**	**290**	P	**Pn**	**19 49 58.0**	**+1.2**
STKI	**Sintang**	**17.98**	**282**	P	**P**	**19 49 56.5**	**+0.3**
	comp=Z,3µmcomp=Z,171nm,1.3s						
PVCP	**Virac**	**17.98**	**344**	⇑*i*P	**Pn**	**19 49 58.4**	**+1.1**
BUSP	**Coron**	**18.03**	**331**	⇑*i*P	**Pn**	**19 49 59.8**	**+2.1**
PCJI	**Pacitan**	**18.29**	**255**	P	**P**	**19 49 59.1**	**-0.4**
	comp=Z,5µmcomp=Z,324nm,0.7s						
MANU	**Manus Island**	**18.38**	**85**	P	**Pn**	**19 50 03.3**	**+1.3**
BOAC	**Boac**	**18.61**	**338**	⇑*i*P	**Pn**	**19 50 05.3**	**+0.6**
SMRI	**Semarang**	**18.79**	**259**	P	**P**	**19 50 05.1**	**0.0**
SMRI	**Semarang**	**18.79**	**259**	P	**P**	**19 50 04.7**	**-0.4**
	comp=Z,469nm,0.7s						
SMRI	**Semarang**	**18.79**	**259**	P	**Pn**	**19 50 07.1**	**+0.2**
	comp=Z,468nm,0.7s						
PMG	**Port Moresby**	**18.82**	**108**	P	**P**	**19 50 06.1**	**+0.8**
	comp=Z,58nm,0.5s,baz=87,slow=1.4,SNR=7.2						
PMG				S	**S**	**19 53 29.8**	**-3.5**
	comp=Z,18nm,0.5s,baz=212,slow=22,SNR=2.0						
PMG	**Port Moresby**	**18.82**	**108**	P	**Pn**	**19 50 06.5**	**-0.7**
PMG				Pn	**Pn**	**19 50 08.2**	**+1.0**
PMG	**Port Moresby**	**18.82**	**108**	*e*P	**Pn**	**19 50 08.2**	**+1.0**
PMG				pmax	pmax		
	comp=Z,141nm,0.6s						
PMG	**Port Moresby**	**18.82**	**108**	P	**Pn**	**19 50 06.8**	**-0.4**
	comp=Z,354nm,1.0s						
PMG	**Port Moresby**	**18.82**	**108**	P	**Pn**	**19 50 06.9**	**-0.3**
	comp=Z,354nm,1.0s						
UGM	**Wanagama**	**18.86**	**257**	P	**P**	**19 50 05.4**	**-0.4**
UGM	**Wanagama**	**18.86**	**257**	P	**P**	**19 50 05.7**	**-0.2**
	comp=Z,288nm,1.0s						
UGM	**Wanagama**	**18.86**	**257**	P	**P**	**19 50 06.8**	**+0.9**
	comp=Z,290nm,1.0s						
YOGI	**Yogyakarta**	**19.07**	**257**	P	**P**	**19 50 08.8**	**+0.7**
	comp=Z,243nm,0.7s						
LQP	**Lukban**	**19.32**	**337**	‖*e*P	**P**	**19 50 11.7**	**+0.7**
MBWA	**Marble Bar**	**19.46**	**207**	P	**P**	**19 50 11.4**	**-0.8**
MBWA	**Marble Bar**	**19.46**	**207**	P	**P**	**19 50 11.6**	**-0.6**
	comp=Z,89nm,1.3s						
LUBP	**Lubang**	**19.52**	**334**	⇑*i*P	**Pn**	**19 50 14.5**	**-0.8**
LUBP	**Lubang**	**19.52**	**334**	‖*e*P	**Pn**	**19 50 15.7**	**+0.4**
QIS	**Mount Isa**	**19.55**	**149**	P	**P**	**19 50 13.8**	**+0.6**
	baz=20,SNR=1000						
QIS	**Mount Isa**	**19.55**	**149**	P	**P**	**19 50 14.2**	**+1.0**
	comp=Z,1µm,0.6s						
PSA00	**Pilbara Seismi**	**19.77**	**206**	P	**P**	**19 50 14.9**	**-0.7**
PSA00	**Pilbara Seismi**	**19.77**	**206**	P	**P**	**19 50 14.4**	**-1.2**
PSA00	**Pilbara Seismi**	**19.77**	**206**	P	**P**	**19 50 15.4**	**-0.2**
	comp=Z,117nm,0.9s						
**MACP

MNAI IAmb IAmb 19 51 58.5
comp=Z,229nm,1.0s
INKA Innaminka 26.26 156 P **P** **19 51 19.7 +0.7**
comp=Z,220nm,1.7s
MULG Mulgathing 26.73 170 P **P** **19 51 23.2 +0.1**
comp=Z,102nm,0.7s
FORT Forrest 26.82 182 P **P** **19 51 23.4 -0.5**
baz=27,SNR=38
FORT Forrest 26.82 182 P **P** **19 51 22.9 -1.0**
FORT IAmb IAmb 19 51 25.2
comp=Z,174nm,0.8s
FORT Forrest 26.82 182 P **P** **19 51 23.4 -0.5**
comp=Z,256nm,0.9s
QLP Quilpie 26.89 149 P **P** **19 51 25.1 +0.5**
baz=27,SNR=38
QLP Quilpie 26.89 149 P **P** **19 51 25.2 +0.6**
comp=Z,164nm,1.5s
KRJI Kerinci 27.60 273 P **P** **19 51 30.8 -0.5**
comp=Z,4μmcomp=Z,333nm,0.8s
TWG Pinlang 27.61 344 P **P** **19 51 29.3 -1.8**
TWG IAmb IAmb 19 51 34.5
comp=Z,44nm,0.7s
JRMM Jerantut 27.64 286 P **P** **19 51 33.0 +1.5**
SDSI Sungai Dareh 27.74 275 P **P** **19 51 31.5 -0.9**
comp=Z,777nmcomp=Z,60nm,0.9s
LCRK Leigh Creek 27.85 163 P **P** **19 51 33.8 +0.6**
comp=Z,336nm,1.4s
MORW Morawa 27.97 205 P **P** **19 51 33.3 -0.9**
baz=28,SNR=16
MORW Morawa 27.97 205 P **P** **19 51 33.6 -0.6**
MORW IAmb IAmb 19 52 09.8
comp=Z,144nm,1.9s
YULB Yu-li 28.10 345 P **P** **19 51 34.3 -1.1**
TPUB Ta-pu 28.19 343 P **P** **19 51 36.6 +0.4**
TPUB IAmb IAmb 19 51 38.7
comp=Z,91nm,1.0s
TPUB Ta-pu 28.19 343 P **P** **19 51 36.8 +0.5**
comp=Z,92nm,1.2s
BKNI Bangkinang 28.29 278 P **P** **19 51 37.6 +0.4**
BKNI Bangkinang 28.29 278 P **P** **19 51 38.1 +0.8**
comp=Z,4μmcomp=Z,448nm,1.0s
BKNI Bangkinang 28.29 278 P **P** **19 51 39.3 +2.0**
comp=Z,444nm,0.9s
RK1H Rockhampton Ha 28.42 135 P **P** **19 51 39.5 +1.2**
comp=Z,51nm,0.8s
SSLB Suanglung 28.56 344 P **P** **19 51 39.1 -0.4**
SSLB IAmb IAmb 19 51 42.2
comp=Z,116nm,1.0s
SSLB Suanglung 28.56 344 P **P** **19 51 41.5 +1.9**
comp=Z,92nm,1.0s
PDSI Padang 28.70 275 P **P** **19 51 38.7 -2.3**
comp=Z,847nmcomp=Z,911nmcomp=Z,63nm,0.5s
YOJ Yonaguni jima 28.73 349 P **P** **19 51 41.6 +0.6**
YOJ Yonaguni jima 28.73 349 P **P** **19 51 41.6 +0.6**
YOJ pmax pmax
comp=Z,286nm,0.5s
YOJ Yonaguni jima 28.73 349 P **P** **19 51 42.1 +1.1**
comp=Z,436nm,0.7s
NACB Ninganchiao 28.77 346 P **P** **19 51 39.5 -1.9**
NACB IAmb IAmb 19 51 51.9
comp=Z,201nm,1.8s
BLDU Ballidu 29.07 202 P **P** **19 51 43.1 -0.9**
baz=29,SNR=12
IPM Ipoh 29.19 286 P **P** **19 51 46.1 +0.8**
IPM Ipoh 29.19 286 P **P** **19 51 46.6 +1.3**
comp=Z,1μm,0.7s
YHNB Yeheng 29.30 346 P **P** **19 51 46.8 +0.7**
YHNB IAmb IAmb 19 51 47.5
comp=Z,85nm,0.7s
YHNB Yeheng 29.30 346 P **P** **19 51 47.1 +1.0**
comp=Z,119nm,0.7s
RMQ Roma 29.39 142 P **P** **19 51 47.3 +0.4**
baz=30,SNR=14
RMQ Roma 29.39 142 P **P** **19 51 47.8 +0.9**
comp=Z,26nm,0.8s
QIZ Qiongzhong 29.55 321 P **P** **19 51 49.7 +1.3**
QIZ IAmb IAmb 19 51 51.3
comp=Z,114nm,1.2s
QIZ Qiongzhong 29.55 321 P **P** **19 51 49.9 +1.5**
QIZ pP **pP** **19 52 15.4 +0.8**
QIZ S **S** **19 56 35.8 +1.0**
QIZ pmax pmax
comp=Z,84nm,1.0s
QIZ pmax pmax
comp=Z,260nm,4.3s
QIZ LR LR
comp=Z,900nm,18.3s
QIZ LR LR
comp=Z,490nm,17.5s
QIZ LR LR
comp=Z,630nm,22.3s
QIZ Qiongzhong 29.55 321 P **P** **19 51 49.8 +1.4**
comp=Z,94nm,1.4s
BBOO Buckleboo 29.57 168 P **P** **19 51 48.1 -0.3**
baz=30,SNR=208
BBOO Buckleboo 29.57 168 P **P** **19 51 47.7 -0.6**
BBOO Buckleboo 29.57 168 P **P** **19 51 48.6 +0.3**
comp=Z,179nm,1.0s
KLBR Kellerberrin 29.59 200 P **P** **19 51 47.5 -1.1**
baz=30,SNR=16
KLBR Kellerberrin 29.59 200 P **P** **19 51 47.8 -0.7**
comp=Z,73nm,0.7s
HKPS Hong Kong Po S 29.77 331 P **P** **19 51 51.1 +0.9**
HKPS IAmb IAmb 19 51 52.7
comp=Z,59nm,0.8s
KULM Kulim 29.78 288 P **P** **19 51 50.8 +0.4**
UBPT Khong Chiam 30.10 310 P **P** **19 51 54.1 +0.9**
UBPT IAmb IAmb 19 51 56.0
comp=Z,187nm,1.3s
EIDS Eidsvold 30.11 137 P **P** **19 51 53.5 +0.2**
baz=30,SNR=5.8
EIDS Eidsvold 30.11 137 P **P** **19 51 53.2 -0.1**
EIDS Eidsvold 30.11 137 P **P** **19 51 53.8 +0.5**
comp=Z,31nm,1.6s
WHYH Whyalla 30.12 166 P **P** **19 51 53.7 +0.5**
comp=Z,118nm,0.7s
STKA Stephens Creek 30.29 158 P **P** **19 51 55.0 +0.3**
comp=Z,43nm,0.5s,baz=333,slow=8.6,SNR=163
STKA ScP **ScP** **19 58 22.9 -1.1**
comp=Z,19nm,0.7s,baz=337,slow=8.5,SNR=6.3
STKA LR LR 20 04 51.1
comp=Z,665nm,19.9s,baz=342,slow=38
comp=Z,43nm,0.5s
STKA Stephens Creek 30.29 158 P **P** **19 51 55.1 +0.3**
baz=30,SNR=164
STKA Stephens Creek 30.29 158 P **P** **19 51 54.8 +0.1**
STKA Stephens Creek 30.29 158 *c* *i*P **P** **19 51 54.9 +0.1**
STKA Stephens Creek 30.29 158 P **P** **19 51 55.3 +0.6**
comp=Z,27nm,1.2s
QZH Quanzhou 30.36 341 ⇑ *i*P **P** **19 51 56.3 +0.9**
QZH S **S** **19 56 48.5 +1.4**
QZH pmax pmax
comp=Z,120nm,0.7s
MUN Mundaring 30.48 202 P **P** **19 51 55.2 -1.3**
baz=31,SNR=13
JOW Kunigami 30.50 359 P **P** **19 51 57.2 +0.6**
JOW Kunigami 30.50 359 P **P** **19 51 58.4 +1.8**
comp=Z,312nm,0.7s
RPSI Rantau Prapat 30.80 282 P **P** **19 51 58.9 -0.5**
RPSI Rantau Prapat 30.80 282 P **P** **19 51 59.4 -0.1**
RPSI **ScP** **19 58 24.2 -1.8**
PSI Prapat 30.82 282 P **P** **19 51 59.4 -0.4**
comp=Z,370nm,0.7s,baz=167,slow=5.3,SNR=12
PSI ScP **ScP** **19 58 24.2 -2.0**
comp=Z,18nm,0.6s,baz=72,slow=3.2,SNR=12
comp=Z,370nm,0.7s
PSI Prapat 30.82 282 P **P** **19 51 59.7 -0.1**
comp=Z,523nm,0.8s
HTT Hallett 30.86 164 P **P** **19 52 00.1 +0.3**
baz=31,SNR=32
HTT Hallett 30.86 164 P **P** **19 52 00.8 +1.0**
comp=Z,106nm,1.5s
PBSI Pulau Batu 30.97 276 P **P** **19 52 00.4 -0.6**
comp=Z,212nm,0.9s
NWAO Narrogin (SRO) 30.98 200 LR LR 20 05 13.0
comp=Z,373nm,18.8s,baz=257,slow=37
NWAO Narrogin (SRO) 30.98 200 P **P** **19 52 00.0 -0.8**
baz=31,SNR=12
NWAO P **P** **19 52 00.0 -0.8**
baz=31,SNR=12
HNR Honiara 31.18 102 P **P** **19 52 02.7 -0.1**
HNR IAmb IAmb 19 52 05.0
comp=Z,134nm,0.9s
HNR Honiara 31.18 102 P **P** **19 52 02.7 -0.1**
HNR pmax pmax
comp=Z,134nm,1.0s
TSI Tuntungan 31.32 283 P **P** **19 52 04.1 0.0**
comp=Z,5μmcomp=Z,444nm,0.8s
CMSA Cobar Meteorol 31.70 152 P **P** **19 52 07.8 +0.7**
baz=32,SNR=27
CMSA Cobar Meteorol 31.70 152 P **P** **19 52 08.8 +1.7**
comp=Z,124nm,1.2s
GSI Gunungsitoli 31.86 279 P **P** **19 52 07.1 -1.8**
GSI **PcP** **19 54 58.2 +1.1**
GSI Gunungsitoli 31.86 279 P **P** **19 52 07.7 -1.2**
comp=Z,5μmcomp=Z,411nm,1.0s
GSI Gunungsitoli 31.86 279 P **P** **19 52 08.7 -0.2**
comp=Z,411nm,1.0s
KCSI Kotacane, Aceh 32.10 283 P **P** **19 52 09.5 -1.4**
comp=Z,2μmcomp=Z,184nm,0.7s
TWOA Tennyson Woods 32.28 165 P **P** **19 52 13.3 +1.1**
comp=Z,86nm,1.2s
RKGY Rocky Gully 32.61 199 P **P** **19 52 15.5 +0.4**
baz=33,SNR=5.1
JCJ Chichijima 33.27 22 P **P** **19 52 20.6 -0.3**
comp=Z,56nm,0.4s,baz=290,slow=16,SNR=10
comp=Z,56nm,0.4s
JCJ Chichijima 33.27 22 P **P** **19 52 21.4 +0.6**
JCJ IAmb IAmb 19 52 22.9
comp=Z,143nm,1.1s
LHMI Lhok Sumawe 33.30 285 P **P** **19 52 21.5 +0.1**
LHMI Lhok Sumawe 33.30 285 P **P** **19 52 21.6 +0.2**
comp=Z,5μmcomp=Z,467nm,0.6s
LHMI Lhok Sumawe 33.30 285 P **P** **19 52 22.4 +1.0**
comp=Z,464nm,0.6s
ARMA Armidale 33.97 144 P **P** **19 52 28.7 +1.5**
baz=34,SNR=16
ARMA Armidale 33.97 144 P **P** **19 52 28.3 +1.2**
ARMA IAmb IAmb 19 52 30.9
comp=Z,208nm,1.8s
ARMA Armidale 33.97 144 P **P** **19 52 29.5 +2.4**
comp=Z,55nm,1.1s
ARPS Mount Arapiles 34.83 162 P **P** **19 52 35.1 +0.9**
baz=35,SNR=284
ARPS Mount Arapiles 34.83 162 P **P** **19 52 35.4 +1.2**
comp=Z,367nm,0.6s
JSU Suzuyama 35.17 2 P **P** **19 52 36.9 -0.4**
JSU IAmb IAmb 19 52 39.7
comp=Z,85nm,0.7s
SYDH Sydney Hard Ro 35.99 148 P **P** **19 52 46.5 +2.2**
comp=Z,42nm,1.0s
BRAT Ballarat 36.22 160 P **P** **19 52 48.1 +2.0**
comp=Z,38nm,1.0s
CAN Canberra 36.37 152 P **P** **19 52 48.6 +1.1**
CAN Canberra 36.37 152 P **P** **19 52 48.6 +1.1**
CAN pmax pmax
comp=Z,108nm,0.7s
CAN Canberra 36.37 152 P **P** **19 52 49.6 +2.0**
comp=Z,244nm,0.9s
CAN Canberra 36.37 152 P **P** **19 52 48.9 +1.3**
CAN sP **sP** **19 53 26.2 -0.6**
CAN ScP **ScP** **19 58 45.1 -0.2**
CNB Canberra Magne 36.54 152 P **P** **19 52 50.5 +1.5**
baz=37,SNR=5.2
CNB Canberra Magne 36.54 152 P **P** **19 52 51.3 +2.3**
comp=Z,80nm,1.2s
TOO Toolangi 36.80 158 P **P** **19 52 52.9 +1.8**
baz=37,SNR=62
TOO Toolangi 36.80 158 P **P** **19 52 51.3 +0.1**
TOO IAmb IAmb 19 52 54.5
comp=Z,155nm,1.4s
TOO Toolangi 36.80 158 P **P** **19 52 51.3 +0.1**
TOO pmax pmax
comp=Z,155nm,1.4s
TOO Toolangi 36.80 158 P **P** **19 52 53.2 +2.0**
comp=Z,100nm,1.9s
GEXS Deakin Univers 36.93 160 P **P** **19 52 53.9 +1.7**
comp=Z,151nm,0.9s
CRAI Chiangrai 36.94 311 P **P** **19 52 53.8 +1.3**
CRAI IAmb IAmb 19 52 55.7
comp=Z,143nm,1.1s
WHN Wuhan 36.96 339 ⇓ P **P** **19 52 53.8 +1.3**
WHN S **S** **19 58 31.1 +2.2**
WHN pmax pmax
comp=Z,350nm,1.0s
WHN LR LR
comp=Z,1μm,17.9s
NJ2 Nanjing 36.98 346 ⇓ P **P** **19 52 53.5 +0.9**
NJ2 pmax pmax
comp=Z,96nm,0.6s
NJ2 pmax pmax
comp=Z,440nm,4.7s
NJ2 LR LR
comp=Z,770nm,18.7s
NJ2 LR LR
comp=Z,930nm,21.1s
CM31 Chiang Mai Arr 37.02 308 P **P** **19 52 54.9 +1.7**
CMAR Chiang Mai Arr 37.02 308 P **P** **19 52 54.9 +1.7**
comp=Z,203nm,0.7s,baz=135,slow=7.2,SNR=715
CMAR PcP **PcP** **19 55 13.8 +1.9**
comp=Z,13nm,0.7s,baz=160,slow=2.7,SNR=7.3
CMAR ScP **ScP** **19 58 48.3 +0.4**
comp=Z,8.2nm,0.7s,baz=138,slow=2.7,SNR=19
comp=Z,203nm,0.7s
CMAR Chiang Mai Arr 37.02 308 P **P** **19 52 54.7 +1.5**
CMAR Chiang Mai Arr 37.02 308 *i* P **P** **19 52 54.9 +1.7**
CMAR pmax pmax
comp=Z,227nm,0.7s
GYA Guiyang 37.09 326 ⇑ P **P** **19 52 55.4 +1.5**
GYA sP sP 19 53 34.1 -0.3
GYA PP **PnPn** **19 54 27.4 +4.6**
GYA PcP **PcP** **19 55 13.5 +1.5**
GYA S **S** **19 58 32.3 +0.9**
GYA SS **SS** **20 01 09.4 -9.4**
GYA pmax pmax
comp=Z,95nm,0.8s
GYA LR LR
comp=Z,92nm,3.8s
GYA LR LR
comp=Z,150nm,4.0s
GYA LR LR
comp=Z,290nm,8.2s
CHTO Chiang Mai 37.22 308 P **P** **19 52 55.6 +0.7**
CHTO Chiang Mai 37.22 308 P **P** **19 52 55.6 +0.7**
CHTO pmax pmax
comp=Z,365nm,0.7s
CHTO Chiang Mai 37.22 308 P **P** **19 52 56.4 +1.5**
comp=Z,334nm,0.7s
CHTO Chiang Mai 37.22 308 ⇓ P **P** **19 52 56.4 +1.5**
CHTO sP **sP** **19 53 32.3 -3.2**
CHTO ScP **ScP** **19 58 48.7 0.0**
JMN Monobe 37.64 7 P **P** **19 52 58.9 +0.7**
JTU Tsushima 38.15 0 P **P** **19 53 03.7 +1.2**
JTU IAmb IAmb 19 53 05.2
comp=Z,58nm,1.0s
KMI Kunming 38.48 320 ⇓ P **P** **19 53 07.6 +1.9**
KMI PP **PnPn** **19 54 39.9 +0.4**
KMI PcP **PcP** **19 55 17.8 +1.3**
KMI S **S** **19 58 49.5 -3.2**
KMI ScP **ScP** **19 58 53.3 -0.3**
KMI PcS **PcS** **19 59 05.3 -0.9**
KMI SS **SS** **20 01 43.9 -3.2**
KMI pmax pmax
comp=Z,130nm,1.2s
KMI pmax pmax
comp=Z,530nm,3.5s
KMI LR LR
comp=Z,180nm,20.7s
KMI LR LR
comp=Z,280nm,20.0s
KMI LR LR
comp=Z,450nm,17.4s
KMI Kunming 38.48 320 P **P** **19 53 07.6 +1.9**
ENH Enshi 38.73 332 P **P** **19 53 07.7 +0.2**
ENH **ScP** **19 58 54.8 +0.6**
ENH Enshi 38.73 332 ⇓ P **P** **19 53 07.9 +0.4**
ENH ScP **ScP** **19 58 54.9 +0.7**
JHS Saijyo 38.81 5 P **P** **19 53 09.2 +1.1**
JHS IAmb IAmb 19 53 11.1
comp=Z,65nm,0.8s
JHS ScP **ScP** **19 58 54.0 -0.4**
KSBUS Busan 38.88 0 P **P** **19 53 09.2 +0.7**
KSBUS IAmb IAmb 19 53 11.3
comp=Z,103nm,0.8s
NAWB Namwon 39.08 358 P **P** **19 53 10.7 +0.5**
NAWB IAmb IAmb 19 53 13.1
comp=Z,136nm,0.9s
PBA Port Blair 39.25 294 P **P** **19 53 11.6 -0.3**
PBA IAmb IAmb 19 53 44.1
comp=Z,113nm,0.9s
INU Inuyama 39.69 10 P **P** **19 53 15.9 +0.7**
INU IAmb IAmb 19 53 17.9
comp=Z,65nm,0.9s
INU Inuyama 39.69 10 P **P** **19 53 17.0 +1.7**
comp=Z,86nm,0.8s
INU Inuyama 39.69 10 P **P** **19 53 16.2 +0.9**
INU pP **pP** **19 53 40.2 -2.2**
INU sP **sP** **19 53 54.7 -1.3**
INU ScP **ScP** **19 58 55.9 -1.8**
JGF Kuroka 39.99 11 P **P** **19 53 18.6 +0.8**
TJN Taejon 40.03 358 P **P** **19 53 18.5 +0.4**
TJN Taejon 40.03 358 *i* P **P** **19 53 19.3 +1.2**
TJN Taejon 40.03 358 P **P** **19 53 18.1 0.0**
comp=Z,612nm,0.8s
PZH PanZhiHua 40.09 320 P **P** **19 53 20.0 +1.1**
PZH PP **PnPn** **19 55 01.6 +3.4**
PZH S **S** **19 59 14.3 -2.2**
PZH pmax pmax
comp=Z,150nm,0.8s
PZH pmax pmax
comp=Z,240nm,6.7s
PZH LR LR
comp=Z,1μm,17.5s
PZH LR LR
comp=Z,1μm,18.6s
PZH LR LR
comp=Z,1μm,17.8s
NOUC Port Laguerre 40.41 120 P **P** **19 53 22.6 +1.1**
comp=Z,53nm,1.5s
NOUC Port Laguerre 40.41 120 ⇑ P **P** **19 53 22.4 +0.8**
KSCHJ Chungju 40.51 359 P **P** **19 53 22.8 +0.8**
KSCHJ IAmb IAmb 19 53 24.7
comp=Z,76nm,0.9s
DZM Mont Dzumac 40.53 120 P **P** **19 53 23.6 +1.0**
comp=Z,33nm,0.8s,baz=269,slow=7.2,SNR=29
comp=Z,33nm,0.8s
DZM Mont Dzumac 40.53 120 **P** **19 53 23.1 +0.6**
DZM IAmb IAmb 19 53 25.2
comp=Z,42nm,0.9s
DZM Mont Dzumac 40.53 120 P **P** **19 53 24.1 +1.5**
comp=Z,58nm,1.4s
DZM Mont Dzumac 40.53 120 ⇑ P **P** **19 53 23.6 +1.0**
DZM pP **pP** **19 53 48.1 -1.0**
DZM sP **sP** **19 54 01.1 -1.3**
ONTNC Ouen Toro 40.62 120 P **P** **19 53 24.2 +1.0**
ONTNC IAmb IAmb 19 53 26.0
comp=Z,58nm,0.7s
ONTNC Ouen Toro 40.62 120 P **P** **19 53 25.3 +2.1**
comp=Z,98nm,0.8s
YATNC Mamie plateau, 40.91 120 P **P** **19 53 28.0 +2.4**
comp=Z,88nm,1.5s
OUENC Ouen Island, N 40.99 120 P **P** **19 53 26.7 +0.4**
OUENC IAmb IAmb 19 53 29.2
comp=Z,57nm,1.1s
OUENC Ouen Island, N 40.99 120 P **P** **19 53 28.9 +2.6**
comp=Z,54nm,1.4s
MJAR Matsushiro Arr 41.07 11 P **P** **19 53 25.5 -1.2**
comp=Z,23nm,0.8s,baz=182,slow=9.0,SNR=39
MJAR PcP **PcP** **19 55 25.5 +1.3**
comp=Z,4.6nm,0.7s,baz=170,slow=4.2,SNR=4.7
MJAR ScP **ScP** **19 59 02.8 -0.4**
comp=Z,1.9nm,0.7s,baz=178,slow=5.2,SNR=5.4
comp=Z,23nm,0.8s
MAJO Matsushiro 41.07 11 P **P** **19 53 26.2 -0.4**
MAJO IAmb IAmb 19 53 28.6
comp=Z,55nm,0.8s
MAJO Matsushiro 41.07 11 *c* *i*P **P** **19 53 26.4 -0.3**
MAJO pmax pmax
comp=Z,50nm,0.7s
MAJO pmax pmax
comp=Z,59nm,0.8s
MAJO Matsushiro 41.07 11 P **P** **19 53 27.9 +1.2**
comp=Z,82nm,0.9s
MAJO Matsushiro 41.07 11 P **P** **19 53 26.3 -0.4**
MAJO pP **pP** **19 53 52.3 -1.8**
MAJO sP **sP** **19 54 04.5 -3.2**
MAJO ScP **ScP** **19 59 02.5 -0.6**
KSAR Wonju Array Be 41.08 359 P **P** **19 53 27.7 +1.0**
KSAR Wonju Array Be 41.08 359 P **P** **19 53 27.7 +1.0**
KSRS Korea Array 41.09 359 P **P** **19 53 28.1 +1.3**
comp=Z,44nm,0.7s,baz=179,slow=8.7,SNR=215
KSRS PcP **PcP** **19 55 25.0 +0.8**
comp=Z,4.4nm,0.6s,baz=182,slow=3.4,SNR=5.2
KSRS ScP **ScP** **19 59 03.4 +0.3**
comp=Z,5.8nm,0.8s,baz=180,slow=4.2,SNR=16
KSRS LR LR 20 08 20.1
comp=Z,150nm,20.5s,baz=185,slow=33
comp=Z,44nm,0.7s
KS19 Wonju Array Si 41.14 359 P **P** **19 53 27.9 +0.7**
KS19 IAmb IAmb 19 53 30.5
comp=Z,69nm,1.1s
INCN Inchon 41.17 357 P **P** **19 53 28.5 +1.1**
INCN Inchon 41.17 357 P **P** **19 53 28.5 +1.1**
INCN pmax pmax
comp=Z,189nm,1.0s
INCN Inchon 41.17 357 P **P** **19 53 28.7 +1.3**
comp=Z,237nm,0.8s
INCN Inchon 41.17 357 P **P** **19 53 28.8 +1.3**
INCN ScP **ScP** **19 59 03.7 +0.2**
JYT Yasato 41.20 14 P **P** **19 53 28.1 +0.4**
JYT IAmb IAmb 19 53 30.3
comp=Z,53nm,0.8s
LYN LuoYang 41.25 339 ⇓ *i*P **P** **19 53 27.9 -0.3**
LYN pP pP 19 53 56.4 +1.0
LYN sP sP 19 54 11.1 +2.0
LYN S **S** **19 59 29.9 -3.3**
LYN SS **SS** **20 02 44.3 +2.9**
LYN pmax pmax
comp=Z,70nm,1.0s
LYN pmax pmax
comp=Z,250nm,10.2s
TIA Tai'an 41.37 345 ⇓ P **P** **19 53 29.0 -0.1**
TIA S **S** **19 59 32.1 -2.8**
TIA pmax pmax
comp=Z,81nm,0.8s
TIA LR LR
comp=Z,180nm,7.6s
TIA LR LR
comp=Z,160nm,18.2s
TIA LR LR
comp=Z,250nm,11.5s
PINNC Pines Island, 41.59 120 P **P** **19 53 31.4 +0.3**
PINNC IAmb IAmb 19 53 34.3
comp=Z,190nm,1.3s
PINNC Pines Island, 41.59 120 P **P** **19 53 34.2 +3.1**
comp=Z,116nm,1.5s
MOO Moorlands 41.71 160 P **P** **19 53 33.6 +1.8**
baz=42,SNR=7.2
HJU Haeju 41.78 356 P **P** **19 53 33.8 +1.4**
HJU pP **pP** **19 54 03.9 +4.3**
HJU S **S** **19 59 38.1 -2.7**
HJU AmB
comp=Z,62nm,0.5s
HJU AMS AMS
comp=N,325nm,5.8s
HJU AMS AMS
comp=E,138nm,2.4s
HJU AMS AMS
comp=Z,200nm,3.5s
SEHB SEOHWA 41.90 359 P **P** **19 53 35.0 +1.6**
CD2 Chengdu 42.14 327 P **P** **19 53 36.3 +0.7**
CD2 pP pP 19 54 02.6 -0.3
CD2 sP sP 19 54 17.8 +1.3
CD2 S **S** **19 59 52.1 +5.5**
CD2 pmax pmax
comp=Z,120nm,0.6s
CD2 pmax pmax
comp=Z,390nm,5.1s
CD2 LR LR
comp=Z,400nm,17.2s
CD2 LR LR
comp=Z,440nm,11.8s
XAN Xi'an 42.19 335 P **P** **19 53 35.8 -0.1**
XAN PP **PP** **19 55 15.9 -0.1**
XAN S **S** **19 59 42.8 -4.4**
XAN pmax pmax
comp=Z,77nm,0.9s
XAN pmax pmax
comp=Z,620nm,3.5s
XAN LR LR
comp=Z,320nm,16.1s
XAN LR LR
comp=Z,270nm,13.3s
XAN LR LR
comp=Z,850nm,25.0s
XAN Xi'an 42.19 335 P **P** **19 53 35.7 -0.2**
XAN ScP **ScP** **19 59 09.0 +1.3**
JSD Sado 42.53 11 P **P** **19 53 38.8 +0.3**

JSD IAmb IAmb 19 53 40.4
comp=Z,79nm,0.7s
JMM Marumori 42.90 14 P **P** **19 53 42.3 +0.9**
DL2 Dalian 43.08 352 P **P** **19 53 43.5 +0.6**
DL2 PcP **PP** **19 55 27.8 +2.4**
DL2 S **S** **20 00 00.3 +0.4**
DL2 ScS **SS** **20 03 24.0 +6.9**
DL2 pmax pmax
comp=Z,180nm,0.7s
DL2 pmax pmax
comp=Z,140nm,4.0s
HNS HongShan 43.14 343 ⇓P **P** **19 53 43.8 +0.4**
HNS pP **pP** **19 54 12.3 +1.5**
HNS PcP **PcP** **19 55 33.3 +2.3**
HNS S **S** **19 59 58.6 -2.2**
HNS pmax pmax
comp=Z,280nm,0.8s
HNS LR LR
comp=Z,210nm,11.8s
HNS LR LR
comp=Z,250nm,18.6s
HHU Hamhung 43.57 358 P **P** **19 53 48.4 +1.6**
SUJ Sinuiju 43.92 355 P **P** **19 53 50.6 +1.0**
SUJ pP **pP** **19 54 20.9 +3.8**
SUJ S **S** **20 00 09.5 -2.7**
SUJ AmB
comp=Z,58nm,0.6s
SUJ AMS AMS
comp=N,34nm,2.3s
SUJ AMS AMS
comp=E,75nm,5.0s
SUJ AMS AMS
comp=Z,30nm,2.0s
TIY Taiyuan 44.12 341 ⇓P **P** **19 53 51.8 +0.4**
TIY S **S** **20 00 12.3 -3.1**
TIY pmax pmax
comp=Z,150nm,0.7s
TIY LR LR
comp=Z,250nm,8.3s
TIY LR LR
comp=Z,200nm,11.7s
TIY LR LR
comp=Z,170nm,19.2s
LKP Lekhapani 44.57 316 *e*P **P** **19 53 55.0 -0.1**
LKP IAmb IAmb 19 53 56.9
comp=Z,197nm,0.9s
KOHI KOHIMA 44.83 313 *e*P **P** **19 53 57.2 -0.2**
KOHI IAmb IAmb 19 53 59.0
comp=Z,632nm,0.6s
MOKO MOKOCHONG 44.89 314 *e*P **P** **19 53 57.9 +0.1**
BRDH Bariadhala 45.04 308 P **P** **19 54 00.6 +1.7**
comp=Z,206nm,0.4s,baz=123,slow=5.7,SNR=8.3
BRDH LR LR 20 15 21.1
comp=Z,241nm,18.5s,baz=108,slow=39
comp=Z,206nm,0.4s
BJT Baijiatuau 45.22 346 P **P** **19 54 00.0 +0.1**
BJT Baijiatuau 45.22 346 P **P** **19 54 00.0 +0.1**
BJT pmax pmax
comp=Z,220nm,0.6s
BJT Baijiatuau 45.22 346 P **P** **19 54 00.3 +0.4**
BJI Beijing 45.23 346 P **P** **19 54 00.3 +0.2**
BJI pmax pmax
comp=Z,300nm,0.6s
SNY Shenyang 45.72 354 ⇓P **P** **19 54 04.4 +0.6**
SNY S **S** **20 00 30.4 -7.6**
SNY pmax pmax
comp=Z,120nm,0.8s
SNY pmax pmax
comp=Z,280nm,5.5s
SNY LR LR
comp=Z,230nm,15.3s
SNY LR LR
comp=Z,280nm,17.9s
SNY LR LR
comp=Z,460nm,19.2s
JTM Tenmabayashi 45.75 13 P **P** **19 54 05.2 +1.0**
JTM IAmb IAmb 19 54 07.7
comp=Z,79nm,0.6s
ITAN ITANAGAR 45.95 314 *e*P **P** **19 54 06.7 +0.8**
ITAN IAmb IAmb 19 54 08.4
comp=Z,169nm,0.6s
AGT Agartala 45.97 309 *e*P **P** **19 54 07.9 +1.8**
AGT IAmb IAmb 19 54 09.6
comp=Z,268nm,0.7s
ZIRO ZIRO 46.09 315 *e*P **P** **19 54 07.6 +0.4**
ZIRO IAmb IAmb 19 54 09.5
comp=Z,208nm,0.6s
LZH Lanzhou 46.19 331 ⇓P **P** **19 54 09.0 +1.1**
LZH pP pP 19 54 38.5 +2.9
LZH PcP **PcP** **19 55 43.9 +2.1**
LZH PP **PP** **19 55 58.9 +0.4**
LZH pmax pmax
comp=Z,99nm,1.5s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=Z,280nm,14.8s
LZH LR LR
comp=Z,300nm,13.7s
LZH LR LR
comp=Z,460nm,15.5s
TEZP TEZPUR 46.31 313 *e*P **P** **19 54 08.7 -0.1**
VLA Vladivostok 46.81 3*d* *i*P **P** **19 54 08.3 -4.0**
VLA pmax pmax
comp=Z,95nm,1.1s
GUWA GUWAHATI 46.89 312 IAmb IAmb 19 54 15.2
comp=Z,132nm,0.6s
HHC Hu-ho-hao-te 47.26 342 *e*P **P** **19 54 16.9 +0.8**
HHC sP sP 19 55 02.3 +5.0
HHC S **S** **20 00 59.0 -1.4**
HHC pmax pmax
comp=Z,140nm,0.9s
ERM Erimo 47.40 14 P **P** **19 54 17.9 +0.9**
ERM pP **pP** **19 54 42.5 -2.5**
ERM ScP **ScP** **19 59 27.6 -1.3**
CN2 Changchun 47.53 356 *e*P **P** **19 54 18.1 +0.1**
CN2 *e*S **S** **20 01 02.5 -1.3**
CN2 SS **SS** **20 04 29.8 -3.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,7.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,100nm,10.0s
BTO Baotou 47.54 340 *e*P **P** **19 54 19.6 +1.4**
BTO LR LR
comp=Z,720nm,21.0s
BTO LR LR
comp=Z,770nm,17.1s
JEW Eniwo 47.80 12 P **P** **19 54 21.3 +1.2**
JEW IAmb IAmb 19 54 23.6
comp=Z,92nm,0.8s
USA0B Ussuriysk Arra 47.89 3 P **P** **19 54 21.3 +0.6**
USA0B Ussuriysk Arra 47.89 3 P **P** **19 54 21.3 +0.6**
USA0B pmax pmax
comp=Z,31nm,1.1s
USRK Ussuriysk Ar. 47.89 3 P **P** **19 54 21.8 +1.1**
comp=Z,79nm,0.7s,baz=183,slow=7.4,SNR=136
USRK PP **PP** **19 56 13.5 -0.3**
comp=Z,8.1nm,1.0s,baz=174,slow=7.5,SNR=4.1
USRK ScP **ScP** **19 59 30.6 -0.4**
comp=Z,3.1nm,0.7s,baz=244,slow=7.2,SNR=5.6
comp=Z,79nm,0.7s
USRK Ussuriysk Ar. 47.89 3 P **P** **19 54 21.4 +0.7**
DHUB DHUBRI 48.07 310 *e*P **P** **19 54 22.5 0.0**
DHUB IAmb IAmb 19 54 24.3
comp=Z,116nm,0.6s
MDJ Mudanjiang 48.23 1 P **P** **19 54 24.3 +1.0**
MDJ IAmb IAmb 19 54 26.4
comp=Z,135nm,1.3s
MDJ Mudanjiang 48.23 1 P **P** **19 54 24.6 +1.2**
MDJ S **S** **20 01 09.5 -4.3**
MDJ pmax pmax
comp=Z,94nm,1.0s
MDJ pmax pmax
comp=Z,370nm,3.5s
MDJ LR LR
comp=Z,440nm,24.8s
MDJ Mudanjiang 48.23 1 P **P** **19 54 25.8 +2.4**
comp=Z,94nm,1.1s
MDJ Mudanjiang 48.23 1 P **P** **19 54 24.6 +1.2**

MDJ ScP **ScP** **19 59 31.9 -0.5**
XLT XiLinHaoTe 48.93 348 ⇓*i*P **P** **19 54 29.0 +0.2**
XLT pP pP 19 54 56.8 +0.1
XLT sP sP 19 55 10.3 +0.2
XLT S **S** **20 01 22.0 -1.8**
XLT ScS **ScS** **20 04 07.4 -1.7**
XLT SS **SS** **20 04 52.6 -3.7**
XLT pmax pmax
comp=Z,200nm,0.7s
XLT pmax pmax
comp=Z,380nm,4.4s
XLT LR LR
comp=Z,370nm,15.5s
XLT LR LR
comp=Z,230nm,15.2s
TEY Ternei 49.12 7 *e*P **P** **19 54 31.0 +0.9**
LSA Lhasa 49.28 315 P **P** **19 54 32.4 +0.2**
LSA Lhasa 49.28 315 P **P** **19 54 33.3 +1.0**
LSA pmax pmax
comp=Z,220nm,0.7s
LSA Lhasa 49.28 315 P **P** **19 54 32.4 +0.2**
LSA pmax pmax
comp=Z,178nm,0.7s
LSA Lhasa 49.28 315 *i* P **P** **19 54 33.5 +1.2**
SNR=115
LSA Lhasa 49.28 315 P **P** **19 54 33.5 +1.2**
LSA pP **pP** **19 55 00.4 0.0**
BNX BinXian 49.38 358 ⇓P **P** **19 54 32.1 0.0**
BNX pP **pP** **19 55 02.1 +1.9**
BNX sP **sP** **19 55 15.6 +2.0**
BNX PP **PP** **19 56 27.3 -0.1**
BNX S **S** **20 01 29.8 0.0**
BNX pmax pmax
comp=Z,100nm,0.7s
BNX pmax pmax
comp=Z,180nm,7.0s
BNX LR LR
comp=Z,160nm,8.7s
BNX LR LR
comp=Z,55nm,4.0s
BNX LR LR
comp=Z,180nm,17.2s
PALK Pallekele 49.49 283 LR LR 20 17 11.4
comp=Z,101nm,20.8s,baz=202,slow=38
PALK Pallekele 49.49 283 P **P** **19 54 33.3 -0.3**
PALK IAmb IAmb 19 54 35.5
comp=Z,50nm,0.7s
PALK Pallekele 49.49 283 P **P** **19 54 33.3 -0.3**
PALK pmax pmax
comp=Z,50nm,0.7s
PALK Pallekele 49.49 283 P **P** **19 54 32.8 -0.8**
PALK sP **sP** **19 55 13.3 -0.6**
PALK ScP **ScP** **19 59 39.3 +0.7**
GTK Tadong 49.81 311 *e*P **P** **19 54 36.4 +0.5**
GTK IAmb IAmb 19 54 38.2
comp=Z,147nm,0.7s
MSVF Nonsavu 49.91 110 P **P** **19 54 38.9 +2.1**
comp=Z,15nn,0.6s,baz=231,slow=7.4,SNR=11
comp=Z,15nn,0.6s
MSVF Nonsavu 49.91 110 P **P** **19 54 37.7 +1.0**
MSVF IAmb IAmb 19 54 41.8
comp=Z,171nm,1.6s
MSVF Nonsavu 49.91 110 *i* P **P** **19 54 38.5 +1.7**
MSVF pmax pmax
comp=Z,104nm,1.4s
MSVF Nonsavu 49.91 110 P **P** **19 54 39.5 +2.7**
comp=Z,77nm,1.5s
ODAN Odare 50.50 310 *e*P **P** **19 54 41.6 +0.4**
TAPN Taplejung 50.50 310 *e*P **P** **19 54 41.7 +0.4**
comp=Z,420nm,0.5s
GTA Gaotai 50.76 331 ⇓P **P** **19 54 43.6 +0.7**
GTA pP pP 19 55 14.8 +3.9
GTA sP sP 19 55 25.8 +1.5
GTA ScP **ScP** **19 59 44.3 +0.8**
GTA S **S** **20 01 46.0 -3.5**
GTA ScS **ScS** **20 04 21.3 -0.6**
GTA pmax pmax
comp=Z,83nm,0.9s
GTA pmax pmax
comp=Z,380nm,5.7s
GTA LR LR
comp=Z,160nm,16.7s
GTA LR LR
comp=Z,100nm,17.8s
GTA LR LR
comp=Z,200nm,19.3s
JHSG JHARSUGUGA 51.08 302 *e*P **P** **19 54 46.0 +0.6**
GOMU GeErMu 51.08 324 P **P** **19 54 47.1 +1.5**
GOMU S **S** **20 01 54.9 +0.4**
GOMU pmax pmax
comp=Z,19nm,0.9s
GOMU pmax pmax
comp=Z,65nm,3.6s
GOMU LR LR
comp=Z,84nm,15.0s
GOMU LR LR
comp=Z,120nm,19.1s
GOMU LR LR
comp=Z,140nm,16.7s
RAMN Ramite 51.15 309 *e*P **P** **19 54 46.8 +0.7**
comp=Z,975nm,0.5s
DGTI Dogotuki 51.28 108 P **P** **19 54 49.4 +2.4**
comp=Z,152nm,1.0s
OUZ Omahuta 51.66 133 P **P** **19 54 51.8 +2.3**
OUZ IAmb IAmb 19 54 53.4
comp=Z,68nm,1.1s
JIRN Jiri 51.82 310 *e*P **P** **19 54 51.6 +0.3**
comp=Z,356nm,0.6s
VJD Vijayawada 51.92 294 *e*P **P** **19 54 52.5 +0.9**
YSS Yuzh-Sakhalins 52.00 12 P **P** **19 54 51.6 -0.1**
YSS Yuzh-Sakhalins 52.00 12 *e*P **P** **19 54 52.2 +0.5**
YSS *e*S **S** **20 02 06.9 +1.0**
YSS pmax pmax
comp=Z,80nm,0.6s
YSS Yuzh-Sakhalins 52.00 12 P **P** **19 54 53.4 +1.7**
comp=Z,74nm,0.8s
YSS Yuzh-Sakhalins 52.00 12 P **P** **19 54 52.5 +0.7**
GUN Gumba 52.19 310 *e*P **P** **19 54 54.3 +0.4**
comp=Z,1μm,0.7s
PKI Pulchoki 52.38 309 *e*P **P** **19 54 55.2 -0.1**
comp=Z,180nm,0.6s
PKIN Phulchoki 52.39 309 *e*P **P** **19 54 55.3 -0.1**
comp=Z,157nm,0.6s
KKN Kakani 52.59 310 *e*P **P** **19 54 57.0 +0.3**
BLSP Bilaspur 52.62 302 *e*P **P** **19 54 56.6 -0.2**
DMN Daman 52.63 309 *e*P **P** **19 54 57.3 +0.2**
SALM Salem 52.85 288 *e*P **P** **19 54 59.1 +0.5**
KLR Kul'dur 52.90 2 P **P** **19 54 59.3 +0.9**
comp=Z,47nm,0.9s,baz=199,slow=5.0,SNR=62
KLR ScP **ScP** **19 59 51.3 -1.1**
comp=Z,8.8nm,0.9s,baz=190,slow=3.4,SNR=9.7
KLR LR LR 20 18 39.7
comp=Z,96nm,19.0s,baz=188,slow=37
comp=Z,47nm,0.9s
KLR Kul'dur 52.90 2*d* *i*P **P** **19 54 59.2 +0.9**
KLR pmax pmax
comp=Z,115nm,1.3s
LKBA Tubou, Lakemba 52.94 110 P **P** **19 55 01.6 +2.4**
comp=Z,3.4nm,0.9s
GKN Gorkha 53.19 309 *e*P **P** **19 55 01.2 +0.1**
comp=Z,255nm,0.4s
KOD Kodaikanal 53.23 286 ⇑*e*P **P** **19 55 01.1 -0.7**
HIA Hailar 53.50 352 P **P** **19 55 03.7 +0.9**
HIA Hailar 53.50 352 P **P** **19 55 03.7 +0.9**
HIA pmax pmax
comp=Z,13nm,0.8s
HIA Hailar 53.50 352 P **P** **19 55 03.4 +0.6**
HIA ScP **ScP** **19 59 55.3 +0.3**
QRZ Quartz Range 53.65 140 P **P** **19 55 05.7 +1.6**
KOLN Koldanda 53.88 309 *e*P **P** **19 55 06.7 +0.5**
UGL Uglegorsk 53.90 11 *e*P **P** **19 55 08.0 +2.4**
UGL pmax pmax
comp=Z,130nm,0.8s
DANN Dangsing 54.03 309 *e*P **P** **19 55 07.5 +0.1**
comp=Z,957nm,0.8s
HYB Hyderabad 54.11 295 *e*P **P** **19 55 07.2 -0.6**
HYBB Hyderabad (bro 54.11 295 *e*P **P** **19 55 07.3 -0.6**
HYBB IVmB_BB 19 55 08.3
comp=Z,790nm,0.8s
LBZ Lake Benmore 54.19 144 P **P** **19 55 08.9 +0.9**
RPZ Rata Peaks 54.31 143 LR LR 20 18 05.6
comp=Z,212nm,19.0s,baz=308,slow=36
RPZ Rata Peaks 54.31 143 P **P** **19 55 10.2 +1.3**
PYUN Piuthan 54.51 309 *e*P **P** **19 55 11.1 +0.3**
comp=Z,888nm,0.8s

LTZ Lake Taylor 54.53 142 P **P** **19 55 12.0 +1.5**
LTZ IAmb IAmb 19 55 12.9
comp=Z,38nm,1.0s
OXZ Oxford 54.69 142 P **P** **19 55 12.7 +1.1**
OXZ IAmb IAmb 19 55 18.4
comp=Z,124nm,1.6s
GRNR Gornyy 54.76 6 ⇑*i*P **P** **19 55 12.9 +1.0**
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,30nm,1.0s
TUWZ Tuamarina 54.88 140 P **P** **19 55 13.4 +0.4**
NGP Nagpur 54.91 299 *e*P **P** **19 55 13.1 -0.4**
ULN Ulaanbaatar 54.98 342 P **P** **19 55 14.5 +0.8**
ULN Ulaanbaatar 54.98 342*ce*P **P** **19 55 14.7 +1.0**
ULN pmax pmax
comp=Z,301nm,1.0s
ULN Ulaanbaatar 54.98 342 P **P** **19 55 14.9 +1.2**
ULN pP **pP** **19 55 40.2 -2.0**
ULN ScP **ScP** **20 00 01.6 -0.1**
BSWZ Blackbirch Sta 54.98 140 P **P** **19 55 14.1 +0.4**
KHZ Kahutara 55.13 141 P **P** **19 55 15.3 +0.6**
KHZ IAmb IAmb 19 55 16.7
comp=Z,54nm,0.6s
KHZ Kahutara 55.13 141 P **P** **19 55 15.8 +1.1**
comp=Z,74nm,0.6s
SONM Songino Array 55.16 342 P **P** **19 55 15.9 +0.9**
comp=Z,106nm,0.9s,baz=149,slow=8.4,SNR=377
SONM ScP **ScP** **20 00 03.2 +0.8**
comp=Z,4.2nm,0.8s,baz=161,slow=5.5,SNR=5.7
SONM S **S** **20 02 47.9 -1.0**
comp=Z,0.4nm,0.8s,baz=114,slow=30,SNR=1.6
comp=Z,106nm,0.9s
SONM Songino Array 55.16 342 P **P** **19 55 15.7 +0.7**
MQZ McQueen's Vall 55.27 143 P **P** **19 55 16.7 +1.0**
MQZ IAmb IAmb 19 55 18.2
comp=Z,58nm,1.1s
SNZO South Karori 55.32 139 P **P** **19 55 17.2 +1.1**
SNZO IAmb IAmb 19 56 32.4
comp=Z,136nm,1.4s
BKZ Black Stump Fm 55.50 136 P **P** **19 55 18.0 +0.4**
BKZ Black Stump Fm 55.50 136 P **P** **19 55 18.9 +1.3**
comp=Z,608nm,0.6s
URZ Urewera 55.53 135 P **P** **19 55 17.7 0.0**
TYV Tymovskoe 55.72 10 *e*P **P** **19 55 20.4 +1.6**
TYV *e*S **S** **20 03 00.4 +4.4**
TYV pmax pmax
comp=Z,300nm,4.0s
TYV pmax pmax
comp=Z,57nm,0.8s
TYV smax smax
comp=N,500nm,5.6s
TYV smax smax
comp=E,400nm,5.6s
MSWZ Moikau Station 55.72 139 P **P** **19 55 17.9 -1.2**
BFZ Birch Farm 56.03 138 P **P** **19 55 22.1 +0.9**
BFZ IAmb IAmb 19 55 22.7
comp=Z,107nm,1.4s
MXZ Matakaoa Point 56.10 133 P **P** **19 55 22.9 +1.2**
H08S2 Diego Garcia H 56.37 263 P **P** **19 55 23.7 -0.1**
baz=47,slow=7.7,SNR=9.2
H08S3 Diego Garcia H 56.38 263 P **P** **19 55 23.6 -0.2**
baz=47,slow=7.7,SNR=12
H08S1 Diego Carcia H 56.38 263 P **P** **19 55 25.0 +1.1**
baz=47,slow=7.7,SNR=7.2
DGAR Diego Garcia 56.40 264 P **P** **19 55 24.7 +0.4**
DGAR Diego Garcia 56.40 264 P **P** **19 55 24.7 +0.4**
DGAR pmax pmax
comp=Z,89nm,0.6s
AKL Akola 56.54 298 *e*P **P** **19 55 24.6 -0.6**
JHNI Jhansi 56.96 304 *e*P **P** **19 55 26.6 -1.5**
BHPL Bhopal 57.06 301 *e*P **P** **19 55 27.3 -1.6**
BHPL IAmb IAmb 19 55 28.4
comp=Z,77nm,0.6s
MNCI Minicoy 57.12 282 P **P** **19 55 29.2 -0.1**
CIT Chita 57.18 349 *e*P **P** **19 55 30.7 +1.5**
CIT *e* 19 56 02.3
CIT pmax pmax
comp=Z,232nm,1.8s
LGTI Lohaghat 57.27 309 *e*P **P** **19 55 29.9 -0.2**
PTH Pithoragarh 57.33 309 *e*P **P** **19 55 29.4 -1.5**
ZEA Zeya 57.38 359 *e*P **P** **19 55 31.2 +0.7**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.6s
ZAK Zakamensk 58.38 341 *e*P **P** **19 55 37.9 +0.2**
ZAK pmax pmax
comp=Z,71nm,0.8s
POO Poona 58.71 294 *e*P **P** **19 55 39.6 -0.8**
IRK Irkutsk 59.69 343 *e*P **P** **19 55 46.9 +0.4**
IRK pmax pmax
comp=Z,226nm,1.8s
MOY Mondy 60.23 340 *e*P **P** **19 55 52.0 +1.6**
MOY pmax pmax
comp=Z,211nm,1.9s
WMQ Urumqi 60.24 327 ⇑P **P** **19 55 51.8 +1.2**
WMQ sP sP 19 56 33.3 +0.7
WMQ S **S** **20 03 54.3 -1.0**
WMQ ScS SKKSac 20 05 23.1 -6.6
WMQ pmax pmax
comp=Z,140nm,0.9s
WMQ pmax pmax
comp=Z,290nm,3.6s
WMQ LR LR
comp=Z,440nm,17.9s
WMQ LR LR
comp=Z,170nm,17.3s
WMQ LR LR
comp=Z,190nm,25.1s
WMQ Urumqi 60.24 327 P **P** **19 55 51.4 +0.8**
SMLA Simla 60.39 309 *e*P **P** **19 55 52.0 +0.2**
SMLA IAmb IAmb 19 55 54.0
comp=Z,267nm,0.8s
AJM Ajmer 60.59 303 *e*P **P** **19 55 52.1 -1.1**
BHK Bhakra 61.10 309 *e*P **P** **19 55 57.0 +0.4**
PEA0B Petropavlovsk- 61.65 19 P **P** **19 56 00.8 +1.0**
PEA0B IAmb IAmb 19 56 02.9
comp=Z,50nm,0.9s
PEA0B Petropavlovsk- 61.65 19 P **P** **19 56 00.8 +1.0**
PEA0B pmax pmax
comp=Z,50nm,1.0s
PETK Petropavlovsk- 61.65 19 P **P** **19 56 00.9 +1.1**
comp=Z,39nm,0.6s,baz=199,slow=7.8,SNR=64
PETK LR LR 20 20 18.2
comp=Z,104nm,21.7s,baz=196,slow=33
comp=Z,39nm,0.6s
PETK Petropavlovsk- 61.65 19 P **P** **19 56 00.5 +0.7**
PET Petropavlovsk 61.89 20 P **P** **19 56 01.7 +0.3**
PET IAmb IAmb 19 56 04.9
comp=Z,39nm,0.6s
PET Petropavlovsk 61.89 20 *e*P **P** **19 56 01.9 +0.5**
PET *e**PP **sP** **19 56 45.2 +1.5**
PET *e*S **S** **20 04 17.4 +1.7**
PET pmax pmax
comp=Z,75nm,0.7s
PET MLR MLR
comp=Z,200nm,19.0s
PET Petropavlovsk 61.89 20 P **P** **19 56 04.0 +2.6**
comp=Z,286nm,0.7s
PET Petropavlovsk 61.89 20 P **P** **19 56 01.7 +0.3**
BOD Bodaibo 62.64 351 *e*P **P** **19 56 07.1 +0.8**
BOD pmax pmax
comp=Z,140nm,1.3s
JMU Jammu 62.81 310 *e*P **P** **19 56 08.8 +0.9**
DRV Dumont d'Urvil 63.18 175 P **P** **19 56 09.3 -0.5**
DRV pP **pP** **19 56 37.6 -0.4**
CASY Casey 63.67 188 P **P** **19 56 12.3 -0.6**
CASY IAmb IAmb 19 56 49.7
comp=Z,58nm,1.6s
CASY Casey 63.67 188 P **P** **19 56 12.6 -0.4**
ZSN Zaisan 64.10 328 *e*P **P** **19 56 16.6 +0.5**
ZSN *e*S **S** **20 04 46.2 +2.7**
ZSN pmax pmax
comp=Z,26nm,1.2s
ZSN Zaisan 64.10 328 *e*P **P** **19 56 16.7 +0.5**
comp=Z,26nm,1.2s,baz=328
ZSN *e*S **S** **20 04 46.2 +2.7**
baz=328
DGZ Jazzator, Alta 64.29 331*d* *i*P **P** **19 56 18.2 +0.7**
DGZ pmax pmax
comp=Z,87nm,0.8s
NIL Nilore 64.45 310 P **P** **19 56 18.4 -0.4**

NIL IAmb IAmb 19 56 19.8
comp=Z,61nm,0.6s
NIL Nilore 64.45 310 P **P** **19 56 18.4 -0.4**
NIL pmax pmax
comp=Z,61nm,0.6s
SHLS Shalkode 64.65 322*c i*P **P** **19 56 19.0 -1.0**
SHLS *e*S **S** **20 04 49.8 -0.9**
SHLS pmax pmax
comp=Z,28nm,0.7s
SHLS Shalkode 64.65 322⇑*i*P **P** **19 56 19.0 -1.0**
comp=Z,28nm,0.7s,baz=322
SHLS *e*S **S** **20 04 49.8 -0.9**
baz=322
PDGK Podgornoye 64.73 322 P **P** **19 56 20.8 +0.3**
UZB Uzynbulak 64.92 322 *e*P **P** **19 56 22.2 +0.5**
UZB Uzynbulak 64.92 322 *e*P **P** **19 56 22.3 +0.5**
baz=322
KSH Kashi 65.06 317 P **P** **19 56 24.1 +1.4**
KSH pP PcP 19 56 57.8 +3.2
KSH pmax pmax
comp=Z,76nm,0.8s
MK31 Makanchi Array 65.08 327 P **P** **19 56 22.2 -0.3**
MK31 IAmb IAmb 19 56 24.7
comp=Z,90nm,1.1s
MK31 Makanchi Array 65.08 327 P **P** **19 56 22.9 +0.3**
MKAR Makanchi Array 65.08 327 P **P** **19 56 23.0 +0.4**
comp=Z,77nm,0.4s,baz=114,slow=8.1,SNR=1160
MKAR pP **PcP** **19 56 54.1 -0.3**
comp=Z,21nm,0.7s,baz=126,slow=6.9,SNR=3.1
MKAR LR LR 20 25 20.8
comp=Z,98nm,21.9s,baz=134,slow=36
comp=Z,77nm,0.4s
MKAR Makanchi Array 65.08 327 *i*P **P** **19 56 23.0 +0.4**
MKAR pmax pmax
comp=Z,78nm,0.4s
SATY Saty 65.25 321*d i*P **P** **19 56 24.5 +0.6**
SATY pmax pmax
comp=Z,53nm,0.7s
SATY Saty 65.25 321⇓*i*P **P** **19 56 24.6 +0.6**
comp=Z,53nm,0.7s,baz=321
MAKZ Makanchi 65.26 326 P **P** **19 56 23.7 0.0**
MAKZ Makanchi 65.26 326 P **P** **19 56 23.7 0.0**
MAKZ pmax pmax
comp=Z,83nm,0.5s
MAKZ Makanchi 65.26 326 ⇓P **P** **19 56 24.1 +0.4**
ZHN Zhinishke 65.29 322 *e*P **P** **19 56 23.7 -0.4**
ZHN Zhinishke 65.29 322 *e*P **P** **19 56 23.8 -0.4**
baz=322
KPKS Kokpek 65.30 322*d i*P **P** **19 56 24.6 +0.5**
KPKS pmax pmax
comp=Z,36nm,0.5s
KPKS Kokpek 65.30 322⇓*i*P **P** **19 56 24.6 +0.5**
comp=Z,36nm,0.5s,baz=322
MA2 Magadan 65.51 12 P **P** **19 56 26.3 +1.3**
comp=Z,20nm,0.8s,baz=189,slow=6.7,SNR=7.7
MA2 LR LR 20 22 54.0
comp=Z,65nm,21.9s,baz=132,slow=34
comp=Z,20nm,0.8s
MA2 Magadan 65.51 12 P **P** **19 56 25.0 0.0**
MA2 IAmb IAmb 19 56 27.1
comp=Z,66nm,1.2s
MA2 Magadan 65.51 12 *i*P **P** **19 56 25.9 +0.9**
MA2 pmax pmax
comp=Z,43nm,1.0s
MA2 Magadan 65.51 12 P **P** **19 56 26.2 +1.3**
YAK Yakutsk 65.68 0 P **P** **19 56 27.1 +1.0**
comp=Z,231nm,0.5s,baz=209,slow=0.6,SNR=174
YAK LR LR 20 24 49.0
comp=Z,112nm,21.9s,baz=142,slow=36
comp=Z,231nm,0.5s
YAK Yakutsk 65.68 0 P **P** **19 56 26.9 +0.9**
YAK Yakutsk 65.68 0*d i*P **P** **19 56 26.9 +0.9**
YAK *e**PP **PcP** **19 57 00.7 +4.3**
YAK *e* 19 58 52.7
YAK *e*S **S** **20 05 01.8 -0.4**
YAK *e**SS **sS** **20 05 45.3 -7.1**
YAK *e* 20 06 03.5
YAK *e*SS **SS** **20 09 21.0 +2.1**
YAK pmax pmax
comp=Z,390nm,0.8s
YAK pmax pmax
comp=N,41nm,0.8s
YAK pmax pmax
comp=E,14nm,0.7s
YAK pmax pmax
comp=Z,35nm,2.0s
YAK pmax pmax
comp=N,45nm,1.8s
YAK pmax pmax
comp=E,26nm,2.2s
YAK smax smax
comp=E,253nm,2.0s
YAK smax smax
comp=N,110nm,1.9s
YAK Yakutsk 65.68 0 P **P** **19 56 27.1 +1.0**
NRN Naryn 65.97 319 P **P** **19 56 28.6 -0.2**
NRN IAmb IAmb 19 56 30.6
comp=Z,31nm,0.8s
NRN Naryn 65.97 319 P **P** **19 56 28.6 -0.2**
NRN pmax pmax
comp=Z,31nm,0.8s
MDOK Medeo 66.16 321 *i*P **P** **19 56 30.3 +0.6**
MDOK *e*S **S** **20 05 11.2 +2.1**
MDOK Medeo 66.16 321 *i*P **P** **19 56 30.4 +0.6**
baz=321
MDOK *e*S **S** **20 05 11.3 +2.1**
baz=321
ULHL Ulahol 66.21 320 P **P** **19 56 30.1 -0.1**
SNR=7.6
ARXS Arharly 66.22 322 *i*P **P** **19 56 29.8 -0.2**
AAA Alma-Ata 66.27 321 *e*P **P** **19 56 31.0 +0.7**
AAA pmax pmax
comp=Z,22nm,0.6s
AAA Alma-Ata 66.27 321 *e*P **P** **19 56 31.0 +0.7**
comp=Z,22nm,0.6s,baz=321
TDK Taldyqorghan 66.29 323*d i*P **P** **19 56 30.9 +0.5**
TDK pmax pmax
comp=Z,39nm,0.6s
TDK Taldyqorghan 66.29 323⇓*i*P **P** **19 56 30.9 +0.5**
comp=Z,39nm,0.6s,baz=323
BOOM Boomskoye usch 66.53 320 P **P** **19 56 32.3 +0.2**
BOOM IAmb IAmb 19 56 34.4
comp=Z,37nm,0.8s
BOOM Boomskoye usch 66.53 320 P **P** **19 56 32.3 +0.2**
BOOM pmax pmax
comp=Z,37nm,0.9s
CHKK Chushkaly 66.55 322⇓*i*P **P** **19 56 32.2 +0.2**
CHKK Chushkaly 66.55 322⇓*i*P **P** **19 56 32.2 +0.2**
baz=322
TKM2 Tokmak 2 66.96 320 P **P** **19 56 35.4 +0.5**
SNR=6.5
TKM2 Tokmak 2 66.96 320 P **P** **19 56 35.1 +0.2**
KUU Kurty 66.97 321*d i*P **P** **19 56 35.2 +0.5**
KUU pmax pmax
comp=Z,104nm,0.8s
KUU Kurty 66.97 321⇓*i*P **P** **19 56 35.3 +0.5**
comp=Z,104nm,0.8s,baz=321
KBK Karagaybulak 67.25 320 P **P** **19 56 37.5 +0.8**
SNR=7.5
UCH Uchtor 67.32 319 P **P** **19 56 38.4 +0.8**
SNR=79
AAK Ala-Archa 67.53 319 P **P** **19 56 39.3 +0.8**
SNR=24
AAK Ala-Archa 67.53 319 P **P** **19 56 39.2 +0.8**
comp=Z,15nm,0.4s,baz=129,slow=5.4,SNR=48
comp=Z,15nm,0.4s
AAK Ala-Archa 67.53 319 P **P** **19 56 38.8 +0.3**
AAK IAmb IAmb 19 56 41.0
comp=Z,46nm,1.1s
AAK Ala-Archa 67.53 319*ce*P **P** **19 56 39.1 +0.6**
AAK pmax pmax
comp=Z,225nm,1.7s
AAK Ala-Archa 67.53 319 *i*P **P** **19 56 39.3 +0.8**
SNR=32
AAK Ala-Archa 67.53 319 P **P** **19 56 39.0 +0.6**
AAK pP **PcP** **19 57 05.4 +0.5**
CHMS Chumysh 67.54 320 P **P** **19 56 38.6 +0.2**
SNR=18
CHMS Chumysh 67.54 320 *i*P **P** **19 56 38.3 0.0**
AML Almayashu 67.82 319 P **P** **19 56 41.5 +0.9**
SNR=51
USP Ospenovka 67.83 320 P **P** **19 56 40.7 +0.5**
SNR=51
SGDS Sogindy 67.83 320*d i*P **P** **19 56 40.2 0.0**
SGDS Sogindy 67.83 320⇓*i*P **P** **19 56 40.3 0.0**
baz=320

SHEM Shemya Is, Ala 67.92 28 LR LR 20 23 17.5
comp=Z,135nm,19.7s,baz=138,slow=33
DRK Karamyk 67.93 315 P **P** **19 56 41.1 -0.1**
DRK IAmb IAmb 19 56 43.4
comp=Z,46nm,0.8s
EKS2 Erkin-Say 68.01 319 P **P** **19 56 42.4 +0.9**
SNR=74
KBL Kabul 68.02 310 P **P** **19 56 41.1 -0.7**
KBL IAmb IAmb 19 56 43.3
comp=Z,55nm,0.8s
KBL Kabul 68.02 310 P **P** **19 56 41.1 -0.7**
KBL pmax pmax
comp=Z,55nm,0.9s
KBL Kabul 68.02 310 P **P** **19 56 41.6 -0.1**
SNR=26
SEM Semipalatinsk 68.31 329*d i*P **P** **19 56 42.9 -0.3**
SEM Semipalatinsk 68.31 329⇓*i*P **P** **19 56 43.0 -0.3**
baz=329
ZAA0 Zalesovo Array 68.34 334 P **P** **19 56 42.3 -0.8**
ZALV Zalesovo Beam 68.34 334 P **P** **19 56 42.9 -0.2**
comp=Z,80nm,0.7s,baz=114,slow=4.9,SNR=267
ZALV pP **pP** **19 57 16.3 +3.9**
comp=Z,14nm,0.7s,baz=106,slow=5.3,SNR=1.8
ZALV LR LR 20 29 03.8
comp=Z,95nm,20.8s,baz=126,slow=38
comp=Z,80nm,0.7s
ZALV Zalesovo Beam 68.34 334 P **P** **19 56 42.6 -0.5**
GAR Garm 68.78 314 P **P** **19 56 45.9 -0.4**
GAR IAmb IAmb 19 56 47.5
comp=Z,83nm,0.6s
SEY Seymchan 68.90 11 P **P** **19 56 48.2 +1.9**
comp=Z,103nm,0.6s,baz=209,slow=5.4,SNR=25
comp=Z,103nm,0.6s
SEY Seymchan 68.90 11*d i*P **P** **19 56 48.2 +1.9**
SEY pmax pmax
comp=Z,54nm,0.8s
BTLS Baital 68.97 322*d i*P **P** **19 56 47.3 +0.1**
BTLS Baital 68.97 322⇓*i*P **P** **19 56 47.3 +0.1**
baz=322
KURBB Kurchatov Arra 69.33 328 P **P** **19 56 49.6 +0.3**
comp=Z,60nm,0.5s,baz=130,slow=5.8,SNR=527
KURBB pP **pP** **19 57 22.4 +3.7**
comp=Z,28nm,0.7s,baz=128,slow=5.8,SNR=3.8
KURBB LR LR 20 29 29.9
comp=Z,70nm,21.3s,baz=93,slow=38
comp=Z,60nm,0.5s
KURK Kurchatov 69.34 328 P **P** **19 56 49.6 +0.2**
KURK Kurchatov 69.34 328*ce*P **P** **19 56 49.5 +0.2**
KURK pmax pmax
comp=Z,255nm,1.0s
KURK Kurchatov 69.34 328 P **P** **19 56 49.8 +0.5**
KURK pwP **pP** **19 57 21.6 +2.8**
CHGR Chuyangaron 69.48 314 P **P** **19 56 50.2 -0.4**
CHGR IAmb IAmb 19 56 52.1
comp=Z,137nm,1.0s
CHGR Chuyangaron 69.48 314 P **P** **19 56 50.2 -0.4**
CHGR pmax pmax
comp=Z,137nm,1.0s
DZA Taraz 69.72 319 *e*P **P** **19 56 51.8 -0.1**
DZA pmax pmax
comp=Z,21nm,0.9s
DZA Taraz 69.72 319 *e*P **P** **19 56 51.9 -0.1**
comp=Z,21nm,0.9s,baz=318
IUG Iuzhnay 70.27 317*d i*P **P** **19 56 55.8 +0.4**
IUG Iuzhnay 70.27 317⇓*i*P **P** **19 56 55.8 +0.4**
baz=317
KK31 Karatay Array 70.35 318 P **P** **19 56 55.3 -0.4**
KK31 Karatay Array 70.35 318 *i*P **P** **19 56 55.5 -0.2**
KKAR Karatay Array 70.35 318 P **P** **19 56 55.5 -0.3**
KKAR Karatay Array 70.35 318 P **P** **19 56 55.5 -0.3**
KKAR pmax pmax
comp=Z,33nm,1.0s
TAS Tashkent 70.44 316 P **P** **19 56 56.2 -0.1**
TAS IAmb IAmb 19 56 58.5
comp=Z,124nm,1.0s
TAS Tashkent 70.44 316 P **P** **19 56 56.2 -0.1**
TAS pmax pmax
comp=Z,124nm,1.0s
CCD Concordia, Ant 71.28 182 P **P** **19 57 01.4 +0.1**
OTUK Ortayu 71.54 324 P **P** **19 57 03.1 +0.3**
BRZS Berezniki 72.18 326*d i*P **P** **19 57 07.0 +0.4**
BRZS pmax pmax
comp=Z,49nm,1.1s
BRZS Berezniki 72.18 326⇓*i*P **P** **19 57 07.0 +0.4**
comp=Z,48nm,1.1s,baz=326
HRA Herat 73.28 307 P **P** **19 57 12.9 -0.8**
WSAR Wadi Sarin 73.65 295 P **P** **19 57 15.9 +0.2**
comp=Z,25nm,0.5s,baz=162,slow=4.8,SNR=45
WSAR LR LR 20 30 46.2
comp=Z,68nm,20.7s,baz=126,slow=36
comp=Z,25nm,0.5s
MHTO MHTO 73.82 293 P **P** **19 57 17.0 +0.2**
SNR=6.6
MHTO P **P** **19 57 17.1 +0.3**
SNR=7.9
JMDO Jabal Madar 73.95 294 P **P** **19 57 19.0 +1.4**
SNR=6.8
DQM DQM 74.02 292 P **P** **19 57 17.4 -0.7**
SMDO Samad 74.14 295 P **P** **19 57 18.9 +0.2**
SNR=14
BIDO Bidbid 74.16 296 P **P** **19 57 19.3 +0.5**
SNR=16
BSY Bisya 74.84 295 P **P** **19 57 22.8 0.0**
SNR=5.6
BVA0 Borovoye Array 74.90 328 P **P** **19 57 22.5 +0.1**
BVAR Borovoye Array 74.90 328 P **P** **19 57 22.8 +0.4**
comp=Z,49nm,0.9s,baz=120,slow=8.8,SNR=182
BVAR pP **pP** **19 57 54.4 +2.2**
comp=Z,6.5nm,0.5s,baz=97,slow=7.1,SNR=1.4
comp=Z,49nm,0.9s
HOQ Hoqain 74.90 296 P **P** **19 57 23.5 +0.5**
SNR=5.3
BRVK Borovoye 74.97 328 P **P** **19 57 22.7 -0.1**
BRVK IAmb IAmb 19 57 25.1
comp=Z,85nm,0.9s
BRVK Borovoye 74.97 328*ce*P **P** **19 57 23.1 +0.3**
BRVK pmax pmax
comp=Z,124nm,1.3s
TIXI Tiksi 75.34 360 P **P** **19 57 24.8 +0.3**
comp=Z,59nm,0.5s,baz=272,slow=22,SNR=125
TIXI LR LR 20 30 39.2
comp=Z,101nm,20.6s,baz=181,slow=36
comp=Z,59nm,0.5s
TIXI Tiksi 75.34 360 P **P** **19 57 24.0 -0.5**
TIXI IAmb IAmb 19 57 26.2
comp=Z,64nm,0.6s
TIXI Tiksi 75.34 360*d i*P **P** **19 57 24.3 -0.2**
TIXI pmax pmax
comp=Z,37nm,0.9s
SHAO Shalim 75.49 290 P **P** **19 57 26.7 +0.1**
SHAO Shalim 75.49 290 *i*P **P** **19 57 26.7 +0.1**
SNR=11
ARQ Araqi 75.57 295 P **P** **19 57 27.2 +0.3**
SNR=12
VNDA Vanda 75.69 173 P **P** **19 57 26.2 -0.2**
comp=Z,6.4nm,0.5s,baz=317,slow=6.0,SNR=95
comp=Z,6.4nm,0.5s
VNDA Vanda 75.69 173 P **P** **19 57 26.0 -0.5**
DMTO DMTO 76.08 289 P **P** **19 57 29.7 -0.2**
SNR=6.7
MDH Madha 76.14 297 P **P** **19 57 30.0 -0.1**
MDH Madha 76.14 297 P **P** **19 57 29.7 -0.4**
UOSS Minazif 76.15 297 P **P** **19 57 30.0 -0.2**
UOSS IAmb IAmb 19 57 31.6
comp=Z,39nm,0.9s
UOSS Minazif 76.15 297 P **P** **19 57 30.4 +0.3**
UOSS Minazif 76.15 297 *i*P **P** **19 57 30.2 0.0**
SNR=9.5
HATD Hatta, Dubai 76.19 297 P **P** **19 57 30.6 +0.2**
SNR=6.0
HATD Hatta, Dubai 76.19 297 *i*P **P** **19 57 30.8 +0.4**
SNR=14
ASHO Ashiyiah 76.23 296 P **P** **19 57 31.1 +0.4**
SNR=6.1
ASHO Ashiyiah 76.23 296 *i*P **P** **19 57 31.0 +0.4**
SNR=12
BANOM Banah 76.25 298 P **P** **19 57 31.6 +0.8**
MSFE Esma-Masafi 76.27 297 *i*P **P** **19 57 31.7 +0.8**
SNR=18
BILL Bilibino 76.27 14⇑*i*P **P** **19 57 30.1 +0.2**
BILL 19 57 45.0
BILL *PP **pP** **19 57 58.0 -1.8**
BILL pmax pmax
comp=Z,7.0nm,0.7s
MASF Masafi 76.27 297 P **P** **19 57 32.3 +1.4**
SNR=5.7

ALNE Al Ain 76.39 296 P **P** **19 57 32.2 +0.7**
SNR=13
ALNE Al Ain 76.39 296 *i*P **P** **19 57 32.1 +0.6**
SNR=16
SHME Shamm 76.42 298 P **P** **19 57 32.4 +0.7**
SHME Shamm 76.42 298 *i*P **P** **19 57 32.2 +0.6**
SNR=6.2
SBA Scott Base 76.58 172 P **P** **19 57 32.2 +0.7**
SBA Scott Base 76.58 172 P **P** **19 57 32.2 +0.7**
SBA pmax pmax
comp=Z,14nm,1.0s
NAZ Nazwa, Dubai 76.64 297 *i*P **P** **19 57 33.3 +0.3**
SNR=10
FAQ Al Faqa, Dubai 76.66 296 P **P** **19 57 33.1 +0.1**
SNR=6.7
FAQ Al Faqa, Dubai 76.66 296 *i*P **P** **19 57 33.2 +0.1**
SNR=21
UMZA Um Al Zommool 76.69 294 P **P** **19 57 33.0 -0.2**
NIKH Nikolski High 76.73 33 P **P** **19 57 34.2 +1.3**
baz=245
RBK Rabkut 76.76 289 P **P** **19 57 33.8 +0.1**
ASUD Al Ashush, Dub 76.88 296 P **P** **19 57 34.3 +0.1**
SNR=5.4
ASUD Al Ashush, Dub 76.88 296 *i*P **P** **19 57 34.3 +0.1**
SNR=12
WHFO Wadi Hawf 77.22 289 P **P** **19 57 35.7 -0.7**
GEYT Alibeck 77.46 310 P **P** **19 57 37.2 -0.1**
comp=Z,28nm,0.8s,baz=151,slow=3.4,SNR=43
GEYT pP **pP** **19 58 08.6 +1.1**
comp=Z,9.4nm,0.8s,baz=191,slow=7.2,SNR=2.5
GEYT PP **PP** **20 00 34.7 +1.1**
comp=Z,5.9nm,0.9s,baz=134,slow=8.6,SNR=3.7
comp=Z,28nm,0.8s
GEYT Alibeck 77.46 310 P **P** **19 57 38.0 +0.7**
GEYT IAmb IAmb 19 57 39.9
comp=Z,44nm,0.9s
GYA0 ALIBECK ARRAY 77.46 310 P **P** **19 57 37.7 +0.4**
GYA0B ALIBECK ARRAY 77.46 310 P **P** **19 57 38.1 +0.8**
GYA0B IAmb IAmb 19 57 39.9
comp=Z,41nm,1.0s
MAW Mawson 77.54 201 P **P** **19 57 37.5 +0.5**
comp=Z,3.7nm,0.5s,baz=83,slow=6.5,SNR=13
MAW LR LR 20 29 25.3
comp=Z,87nm,19.8s,baz=64,slow=34
comp=Z,3.7nm,0.5s
MAW Mawson 77.54 201 P **P** **19 57 37.5 +0.5**
baz=78,SNR=6.2
MAW Mawson 77.54 201 P **P** **19 57 37.2 +0.2**
SPIA Saint Paul Isl 77.87 29 P **P** **19 57 40.2 +1.2**
baz=243
MZR Muzera 78.27 294 P **P** **19 57 42.4 +0.3**
SNR=9.1
MZR Muzera 78.27 294 *i*P **P** **19 57 42.1 0.0**
SNR=31
NRIK Noril'sk 78.28 346 P **P** **19 57 42.2 +1.1**
comp=Z,87nm,0.6s,baz=122,slow=6.0,SNR=77
NRIK LR LR 20 35 49.6
comp=Z,105nm,18.1s,baz=140,slow=38
comp=Z,87nm,0.6s
NRIK Noril'sk 78.28 346 P **P** **19 57 41.9 +0.9**
NRIK IAmb IAmb 19 57 43.8
comp=Z,104nm,0.8s
NRIK Noril'sk 78.28 346*d i*P **P** **19 57 42.1 +1.1**
NRIK pmax pmax
comp=Z,85nm,0.9s
UNV Unalaska Valle 78.37 33 P **P** **19 57 42.7 +0.8**
baz=247
GHWR Ruwais 78.97 295 P **P** **19 57 46.2 +0.3**
AB31 Akbulak array 79.45 321 *e*P **P** **19 57 48.2 +0.3**
ABKAR Akbulak array 79.45 321 P **P** **19 57 48.0 0.0**
ABKAR IAmb IAmb 19 57 49.8
comp=Z,95nm,1.0s
AKTO Aktyubinsk 81.00 322 P **P** **19 57 56.5 +0.3**
comp=Z,68nm,0.6s,baz=109,slow=6.7,SNR=158
AKTO LR LR 20 37 26.2
comp=Z,97nm,21.7s,baz=119,slow=38
comp=Z,68nm,0.6s
VOI Vohitsoka 81.40 249 P **P** **19 57 58.5 -0.6**
VOI Vohitsoka 81.40 249 P **P** **19 57 59.8 +0.7**
SDPT Sand Point 82.19 33 P **P** **19 58 03.0 +0.7**
SDPT IAmb IAmb 19 58 16.2
comp=Z,224nm,1.5s
SDPT Sand Point 82.19 33 P **P** **19 58 03.0 +0.7**
baz=252
CHNA Chernabura Isl 82.51 34 P **P** **19 58 05.3 +1.3**
baz=252
ARU Arti 82.53 328 P **P** **19 58 04.2 +0.1**
comp=Z,80nm,0.7s,baz=116,slow=1.3,SNR=135
comp=Z,80nm,0.7s
ARU Arti 82.53 328 P **P** **19 58 03.6 -0.5**
ARU IAmb IAmb 19 58 05.8
comp=Z,84nm,0.8s
ARU Arti 82.53 328*d i*P **P** **19 58 04.0 -0.1**
ARU *PP **pP** **19 58 34.2 -0.3**
ARU 20 01 14.1
ARU S **S** **20 08 11.4 +0.4**
ARU pmax pmax
comp=Z,96nm,0.8s
TNA Tin City 82.65 22 P **P** **19 58 05.9 +1.4**
baz=244
S14K Fog Glacier 82.97 32 P **P** **19 58 07.8 +1.3**
baz=252
ANM Nome 83.21 23 P **P** **19 58 09.3 +1.9**
baz=246
CHGN Chignik 83.58 32 P **P** **19 58 11.3 +1.8**
baz=253
N16K Nishlik Lake 84.63 28 P **P** **19 58 16.6 +1.8**
baz=253
O16K Kokwok River B 84.70 29 P **P** **19 58 16.7 +1.6**
baz=253
LKRN Lenkeran, Azer 84.80 309 P **P** **19 58 17.6 +1.5**
R17K Ugashik Creek 85.02 31 P **P** **19 58 18.5 +1.7**
baz=255
O17K Koliganek Bris 85.23 29 P **P** **19 58 19.0 +1.2**
baz=254
P17K Kvichak River 85.40 30 P **P** **19 58 19.5 +0.9**
baz=255
RAYN Ar Rayn 85.61 294 P **P** **19 58 20.1 -0.4**
RAYN Ar Rayn 85.61 294 P **P** **19 58 20.1 -0.4**
RAYN pmax pmax
comp=Z,127nm,0.8s
RAYN Ar Rayn 85.61 294 *i*P **P** **19 58 21.1 +0.6**
SNR=246
P18K Big Mountain, 86.05 30 P **P** **19 58 23.0 +1.1**
baz=256
N18K Kilae Creek 86.06 28 P **P** **19 58 23.3 +1.4**
N18K IAmb IAmb 19 59 10.2
comp=Z,50nm,1.5s
N18K Kilae Creek 86.06 28 P **P** **19 58 23.4 +1.5**
baz=255
QSPA South Pole Qui 86.12 180 LR LR 20 36 01.1
comp=Z,94nm,21.6s,baz=348,slow=35
O18K Koktuh Hills 86.18 29 P **P** **19 58 24.1 +1.6**
baz=256
SVW2 Sparrevohn 86.31 28 P **P** **19 58 24.7 +1.6**
SEKA Sheki 86.38 312 P **P** **19 58 25.3 +1.3**
MNGR Mingechevir, A 86.40 311 P **P** **19 58 25.4 +1.4**
MAK Makhachkala 86.41 313 *e*P P 19 58 17.4 -6.5
MAK *e**PP pP 19 58 51.1 -3.3
MAK *e**SP sP 19 59 02.9 -4.1
MAK *e* 20 01 40.6
MAK *e*PPP PPP 20 03 39.7
MAK *e* 20 08 30.7
MAK *e*SS SS 20 14 34.0 +1.2
MAK *e*SSS SSS 20 18 02.5
MAK pmax pmax
comp=Z,85nm,0.6s
OHAK Old Harbor 86.55 32 P **P** **19 58 25.3 +1.0**
OHAK IAmb IAmb 19 58 26.3
comp=Z,22nm,0.7s
OHAK Old Harbor 86.55 32 P **P** **19 58 25.4 +1.2**
baz=258
GCSA Galena City Sc 86.71 24 P **P** **19 58 26.1 +1.2**
baz=254
N19K Bonanza Creek 86.76 29 P **P** **19 58 27.0 +1.6**
N19K IAmb IAmb 19 58 29.0
comp=Z,34nm,0.8s
N19K Bonanza Creek 86.76 29 P **P** **19 58 26.7 +1.3**
baz=256
ZKTA Zakatala 86.87 312 P **P** **19 58 27.9 +1.6**
L19K White Mountain 86.92 27 P **P** **19 58 26.9 +0.8**
L19K IAmb IAmb 19 59 13.9
comp=Z,104nm,2.0s
L19K White Mountain 86.92 27 P **P** **19 58 27.5 +1.5**
baz=256
GANJ Ganja 86.96 311 P **P** **19 58 28.4 +1.6**

KDAK **Kodiak Island** 87.04 32 LR LR 20 32 14.1
comp=Z,99nm,21.9s,baz=269,slow=32
KDAK **Kodiak Island** 87.04 32 P **P** 19 58 28.3 +1.6
baz=258
ATD **Arta Tunnel** 87.04 282 LR LR 20 37 39.2
comp=Z,36nm,18.3s,baz=20,slow=36
ATD **Arta Tunnel** 87.04 282 P **P** 19 58 27.8 +0.1
ATD IAmb IAmb 19 58 31.3
comp=Z,46nm,1.0s
M19K **Big River Lodg** 87.06 27 P **P** 19 58 27.9 +1.1
M19K **Big River Lodg** 87.06 27 P **P** 19 58 28.3 +1.6
baz=256
P19K **Oil Pt** 87.10 30 P **P** 19 58 28.9 +1.9
baz=258
Q20K **Shuyak Island** 87.31 31 P **P** 19 58 29.1 +1.2
baz=258
NAX **Nakhchivan** 87.40 309 P **P** 19 58 30.8 +1.8
L20K **Farewell, AK** 87.43 27 P **P** 19 58 29.9 +1.4
baz=257
K20K **Telida** 87.55 26 P **P** 19 58 30.2 +1.2
K20K **Telida** 87.55 26 P **P** 19 58 30.0 +1.0
baz=257
M20K **Styx River** 87.64 28 P **P** 19 58 30.5 +0.9
M20K **Styx River** 87.64 28 P **P** 19 58 30.6 +0.9
baz=258
GROC **Groznyy** 87.68 313 *e*P **P** 19 58 30.6 +0.5
GROC *e**PP **pP** 19 59 02.6 +1.9
GROC *e* 20 01 57.8
GROC *e*S **SKSac** 20 08 44.5 -2.7
GROC pmax pmax
comp=Z,59nm,1.0s
J20K **Nowinta River** 87.70 25 P **P** 19 58 30.9 +1.2
J20K **Nowinta River** 87.70 25 P **P** 19 58 30.6 +0.8
baz=256
BELG **Belogornoye** 87.78 323 P **P** 19 58 30.5 +0.2
comp=Z,59nm,0.7s,baz=97,slow=1.4,SNR=25
BELG LR LR 20 42 08.5
comp=Z,43nm,20.2s,baz=130,slow=38
comp=Z,59nm,0.7s
BELG **Belogornoye** 87.78 323 *d i*P **P** 19 58 29.2 -1.1
BELG pmax pmax
comp=Z,16nm,0.9s
KIRV **Kirov** 87.85 329 P **P** 19 58 30.7 +0.2
comp=Z,50nm,0.5s,baz=153,slow=3.6,SNR=10
comp=Z,50nm,0.5s
KIRV **Kirov** 87.85 329 *i* P **P** 19 58 31.9 +1.4
HOM **Homer** 87.89 30 P **P** 19 58 31.7 +1.0
baz=259
GNI **Garni** 88.10 310 P **P** 19 58 32.8 +0.5
comp=Z,13nm,0.7s,baz=2.8,slow=4.9,SNR=12
GNI LR LR 20 48 33.2
comp=Z,17nm,18.6s,baz=104,slow=43
comp=Z,13nm,0.7s
GNI **Garni** 88.10 310 P **P** 19 58 33.5 +1.2
GNI IAmb IAmb 19 58 45.1
comp=Z,37nm,0.8s
GNI **Garni** 88.10 310 P **P** 19 58 33.5 +1.2
GNI pmax pmax
comp=Z,37nm,0.8s
GNI **Garni** 88.10 310 P **P** 19 58 33.9 +1.5
SKT **Skwentna** 88.40 28 P **P** 19 58 32.3 -0.8
SKT **Skwentna** 88.40 28 P **P** 19 58 33.4 +0.3
baz=259
G21K **Allakaket** 88.51 23 P **P** 19 58 33.8 +0.3
baz=257
H21K **Melozitna Rive** 88.60 24 P **P** 19 58 34.2 +0.3
baz=258
SUA **Susitna One** 88.67 28 P **P** 19 58 34.4 -0.1
SUA **Susitna One** 88.67 28 P **P** 19 58 34.2 -0.3
baz=260
F21K **Alatna River** 88.68 22 P **P** 19 58 34.5 +0.2
baz=257
M22K **Willow** 89.01 28 P **P** 19 58 36.0 0.0
baz=260
ZEI **Tsey** 89.01 313 *e*P **P** 19 58 36.3 -0.4
ZEI *e* 20 02 08.7
ZEI pmax pmax
comp=Z,28nm,0.7s
BPAW **Bear Paw Mtn.** 89.04 26 P **P** 19 58 36.3 +0.2
baz=259
SEW **Seward** 89.06 30 P **P** 19 58 36.5 +0.4
baz=261
RC01 **Rabbit Creek A** 89.08 29 P **P** 19 58 36.5 +0.2
baz=260
GEVA **Gevas** 89.20 308 P **P** 19 58 38.7 +1.1
H22K **Ishtalitna Cre** 89.22 24 P **P** 19 58 37.5 +0.6
baz=259
F22K **John River** 89.23 22 P **P** 19 58 37.9 +1.0
baz=258
TRF **Thorofare Moun** 89.23 26 P **P** 19 58 37.8 +0.6
baz=260
NCK **Nalchik** 89.31 313 *ce*P **P** 19 58 38.7 +0.9
MLY **Manley** 89.32 25 P **P** 19 58 36.9 -0.6
MLY **Manley** 89.32 25 P **P** 19 58 37.5 +0.1
baz=260
G22K **Bettles** 89.37 23 P **P** 19 58 38.3 +0.9
baz=259
KARS **Kars** 89.41 311 P **P** 19 58 40.1 +1.6
KARS **Kars** 89.41 311 P **P** 19 58 40.1 +1.6
KARS pmax pmax
comp=Z,119nm,1.0s
E22K **Anaktuvuk Pass** 89.49 22 P **P** 19 58 38.8 +0.7
baz=258
PWL **Port Wells** 89.72 29 P **P** 19 58 39.7 +0.3
baz=262
KNK **Knik Glacier** 89.75 28 P **P** 19 58 40.0 +0.6
baz=262
KBZ **Khabaz** 89.84 314 P **P** 19 58 41.1 +0.9
comp=Z,7.6nm,0.5s,baz=106,slow=4.0,SNR=29
KBZ LR LR 20 43 59.3
comp=Z,39nm,20.4s,baz=98,slow=39
comp=Z,7.6nm,0.5s
KBZ **Khabaz** 89.84 314 *d i*P **P** 19 58 40.2 0.0
KBZ pmax pmax
comp=Z,16nm,1.0s
GOF **Gofitskoye** 89.86 315 ⇑*e*P **P** 19 58 41.0 +0.7
RND **Reindeer** 89.86 26 P **P** 19 58 39.2 -0.8
RND **Reindeer** 89.86 26 P **P** 19 58 39.2 -0.8
RND pmax pmax
comp=Z,12nm,0.8s
SML **Sawmill** 89.86 28 P **P** 19 58 40.0 0.0
SML IAmb IAmb 19 58 43.2
comp=Z,22nm,1.0s
SML **Sawmill** 89.86 28 P **P** 19 58 39.0 -1.0
SML pmax pmax
comp=Z,22nm,1.0s
SML **Sawmill** 89.86 28 P **P** 19 58 40.0 0.0
baz=262
MCK **McKinley** 89.88 26 P **P** 19 58 39.9 -0.1
MCK **McKinley** 89.88 26 P **P** 19 58 39.9 -0.1
MCK pmax pmax
comp=Z,19nm,1.2s
MCK **McKinley** 89.88 26 P **P** 19 58 40.3 +0.3
baz=261
G23K **Bananza Creek** 89.91 23 P **P** 19 58 40.8 +0.7
baz=260,SNR=8.5
WAT1 **Susitna Watana** 89.91 27 P **P** 19 58 40.9 +0.7
baz=262
COLD **Coldfoot** 89.93 23 P **P** 19 58 40.2 +0.1
COLD **Coldfoot** 89.93 23 P **P** 19 58 40.6 +0.4
baz=260,SNR=9.6
H23K **Yukon River** 89.95 24 P **P** 19 58 40.5 +0.2
H23K **Yukon River** 89.95 24 P **P** 19 58 40.8 +0.5
baz=261,SNR=10.0
NEA2 **Nenana** 89.95 25 P **P** 19 58 40.8 +0.5
NEA2 **Nenana** 89.95 25 P **P** 19 58 40.6 +0.3
baz=261
KIV **Kislovodsk** 90.01 314 ⇑P **P** 19 58 43.1 +2.0
KIV **Kislovodsk** 90.01 314 P **P** 19 58 42.7 +1.5
KIV IAmb IAmb 19 58 49.1
comp=Z,14nm,0.7s
KIV **Kislovodsk** 90.01 314 *i* P **P** 19 58 42.0 +0.8
KIV *i* S **S** 20 09 21.4 -2.9
KIV *i* SS **SS** 20 15 22.3 -3.1
KIV pmax pmax
comp=Z,8.0nm,0.7s
KIV MLR MLR
comp=Z,63nm,18.0s
KIV **Kislovodsk** 90.01 314 P **P** 19 58 42.5 +1.3
SHA1 **Shidzhatmaz** 90.01 314 *d i*P **P** 19 58 41.4 +0.1
GURO **Guroymak-BITLI** 90.03 308 P **P** 19 58 42.2 +0.7
D23K **Nanushuk River** 90.06 21 P **P** 19 58 41.5 +0.8
baz=260,SNR=6.7
M23K **Glacier View** 90.14 28 P **P** 19 58 41.6 +0.3
baz=262
PRGR **Permogore** 90.22 332 *e*P **P** 19 58 38.7 -2.8
PRGR *e**PP **pP** 19 59 11.5 -0.6
PRGR *e* 20 02 18.0
PRGR *e*S **SKSac** 20 08 59.0 -2.4
PRGR *e* 20 09 23.5
PRGR pmax pmax
comp=Z,45nm,0.8s
C23K **Itkillik River** 90.24 20 P **P** 19 58 42.1 +0.6
baz=260,SNR=6.4
WAT6 **Susitna Watana** 90.25 27 P **P** 19 58 42.0 +0.1
baz=262
E23K **Chandalar** 90.29 22 P **P** 19 58 42.9 +1.0
baz=261
WRH **Wood River Hil** 90.35 25 P **P** 19 58 41.7 -0.5
MDM **Murphy Dome** 90.36 25 P **P** 19 58 41.6 -0.7
TOLK **Toolik Lake Re** 90.40 21 P **P** 19 58 43.3 +0.9
TOLK **Toolik Lake Re** 90.40 21 P **P** 19 58 43.1 +0.8
baz=261,SNR=6.0
DHY **Denali Highway** 90.48 27 P **P** 19 58 43.5 +0.6
DHY IAmb IAmb 19 58 46.5
comp=Z,56nm,1.9s
DHY **Denali Highway** 90.48 27 P **P** 19 58 43.2 +0.2
baz=263
CCB **Clear Creek Bu** 90.50 25 P **P** 19 58 41.9 -0.9
COLA **College** 90.51 25 *i* P **P** 19 58 44.6 +1.8
COLA pmax pmax
comp=Z,9.0nm,0.7s
H24K **Noodor Dome** 90.63 24 P **P** 19 58 44.2 +0.7
H24K **Noodor Dome** 90.63 24 P **P** 19 58 44.1 +0.7
baz=262,SNR=16
E24K **Your Creek** 90.71 22 P **P** 19 58 44.5 +0.7
baz=262,SNR=5.0
HDA **Harding Lake** 90.83 26 P **P** 19 58 43.5 -0.9
HDA **Harding Lake** 90.83 26 P **P** 19 58 43.3 -1.1
baz=263,SNR=8.2
KIBK **Kibwezi** 90.84 268 P **P** 19 58 45.8 +0.1
F24K **Squaw Lake** 90.86 22 P **P** 19 58 45.1 +0.6
baz=262,SNR=7.8
C24K **Franklin Bluff** 90.88 20 P **P** 19 58 45.4 +1.0
baz=261
ILAR **Eielson Array** 90.91 25 P **P** 19 58 44.1 -0.6
comp=Z,6.0nm,0.7s,baz=239,slow=5.2,SNR=54
ILAR pP **pwP** 19 59 17.5 -1.2
comp=Z,2.3nm,0.7s,baz=277,slow=4.8,SNR=2.8
ILAR LR LR 20 34 28.6
comp=Z,65nm,21.1s,baz=250,slow=32
comp=Z,6.0nm,0.7s
G24K **Hadweenzic Riv** 90.91 23 P **P** 19 58 45.1 +0.4
baz=262,SNR=11
MARD **Mardin** 90.92 307 P **P** 19 58 46.2 +0.6
KLU **Klutina** 90.96 29 P **P** 19 58 45.5 +0.4
baz=264
DIV **Divide** 91.00 29 P **P** 19 58 45.6 +0.3
DIV IAmb IAmb 19 59 28.4
comp=Z,16nm,1.0s
VRH **Novokhopyorsk** 91.28 321 *e*P **P** 19 58 48.4 +1.7
VRH pmax pmax
comp=Z,10.0nm,0.6s
KOPT **Kop Dagi** 91.33 310 P **P** 19 58 48.8 +1.2
KOPT IAmb IAmb 19 58 53.4
comp=Z,25nm,0.8s
PAX **Paxson** 91.33 27 P **P** 19 58 47.2 +0.4
PAX IAmb IAmb 19 58 50.3
comp=Z,40nm,1.6s
PAX **Paxson** 91.33 27 P **P** 19 58 47.2 +0.4
PAX pmax pmax
comp=Z,40nm,1.6s
PAX **Paxson** 91.33 27 P **P** 19 58 47.2 +0.4
baz=264
H25K **Birch Creek** 91.52 24 P **P** 19 58 48.0 +0.6
baz=264,SNR=11
J25K **Salcha River,** 91.54 25 P **P** 19 58 46.8 -1.0
J25K **Salcha River,** 91.54 25 P **P** 19 58 47.0 -0.7
baz=264,SNR=9.8
BMRM **Bremner River** 91.55 29 P **P** 19 58 47.6 -0.2
baz=265
PRP **Porcupine Dome** 91.56 25 P **P** 19 58 47.4 -0.6
PRP **Porcupine Dome** 91.56 25 P **P** 19 58 47.3 -0.6
baz=264
N25K **Chitina, Valde** 91.61 29 P **P** 19 58 49.0 +0.9
N25K **Chitina, Valde** 91.61 29 P **P** 19 58 48.3 +0.2
baz=265
D25K **Kavik River** 91.64 21 P **P** 19 58 48.0 -0.1
baz=264
RIDG **Independent Ri** 91.68 26 P **P** 19 58 48.5 +0.1
RIDG IAmb IAmb 19 58 50.1
comp=Z,12nm,0.8s
RIDG **Independent Ri** 91.68 26 P **P** 19 58 48.6 +0.1
baz=265,SNR=5.4
KMBO **Kilima Mbogo** 91.72 269 P **P** 19 58 50.6 +0.7
comp=Z,8.7nm,0.7s,baz=61,slow=7.2,SNR=20
comp=Z,8.7nm,0.7s
KMBO **Kilima Mbogo** 91.72 269 P **P** 19 58 50.7 +0.7
KMBO **Kilima Mbogo** 91.72 269 P **P** 19 58 50.7 +0.8
KMBO pmax pmax
comp=Z,13nm,1.0s
KMBO **Kilima Mbogo** 91.72 269 *i* P **P** 19 58 50.7 +0.8
SNR=11
F25K **Christian Rive** 91.72 22 P **P** 19 58 49.2 +0.7
baz=264
E25K **Arctic Village** 91.80 22 P **P** 19 58 49.5 +0.6
baz=264
DOT **Dot Lake** 92.02 26 P **P** 19 58 50.4 +0.4
SCRK **Sand Creek** 92.08 26 P **P** 19 58 50.4 0.0
SCRK IAmb IAmb 20 00 33.2
comp=Z,32nm,2.0s
SCRK **Sand Creek** 92.08 26 P **P** 19 58 50.4 0.0
baz=266
BMAR **Burnt Mountain** 92.11 23 P **P** 19 58 50.4 +0.1
MENT **Mentasta** 92.12 27 P **P** 19 58 51.3 +0.8
F26K **Sheenjek River** 92.30 22 P **P** 19 58 51.8 +0.6
baz=266
J26L **Joseph Creek** 92.30 26 P **P** 19 58 51.3 -0.1
J26L IAmb IAmb 19 58 53.1
comp=Z,17nm,0.6s
J26L **Joseph Creek** 92.30 26 P **P** 19 58 51.7 +0.3
baz=266,SNR=19
G26K **Porcupine Rive** 92.39 23 P **P** 19 58 52.5 +0.9
baz=266,SNR=5.4
M26K **Nabesna, AK** 92.42 28 P **P** 19 58 53.2 +1.4
M26K **Nabesna, AK** 92.42 28 P **P** 19 58 52.7 +0.8
baz=266
C27K **Jago River** 92.60 20 P **P** 19 58 53.3 +0.8
baz=266
VORR **Voronezh** 92.88 321 *e*P **P** 19 58 53.7 -0.4
VORR pmax pmax
comp=Z,30nm,0.4s
VSR **Storozhevoye** 92.89 321 *e*P **P** 19 58 52.8 -1.3
VSR pmax pmax
comp=Z,10.0nm,1.8s
K27K **Chicken** 92.92 26 P **P** 19 58 55.7 +1.7
baz=267
M27K **Edge Creek, AK** 92.94 28 P **P** 19 58 55.0 +0.7
M27K IAmb IAmb 19 58 57.3
comp=Z,10nm,0.7s
M27K **Edge Creek, AK** 92.94 28 P **P** 19 58 55.1 +0.7
baz=267,SNR=6.6
L27K **Beaver Creek,** 92.99 27 P **P** 19 58 55.1 +0.7
L27K IAmb IAmb 19 58 56.8
comp=Z,13nm,0.6s
L27K **Beaver Creek,** 92.99 27 P **P** 19 58 55.1 +0.7
baz=268,SNR=22
BCAR **Beaver Creek A** 93.01 27 P **P** 19 58 55.7 +1.1
KLMR **Klimovskoe** 93.09 331 *e*P **P** 19 58 52.3 -2.6
KLMR *e**PP **pP** 19 59 27.6 +2.1
KLMR *e* 20 02 39.3
KLMR pmax pmax
comp=Z,21nm,0.6s
KLMR **Klimovskoe** 93.09 331 *e*P **P** 19 58 52.4 -2.5
KLMR AMP 19 58 54.8
comp=Z,21nm,0.6s
KLMR *e*pP **pP** 19 59 27.6 +2.1
KLMR *e*PP **PP** 20 02 39.3 -0.2
LPSR **Galich'ya Gora** 93.09 322 *e*P **P** 19 58 53.5 -1.5
LPSR pmax pmax
comp=Z,10.0nm,0.7s
CTG **Chitna Glacier** 93.14 29 P **P** 19 58 56.0 +0.7
baz=268,SNR=6.6
CTGM **Chitina Glacie** 93.14 29 P **P** 19 58 56.5 +1.2
CTGM IAmb IAmb 19 58 58.6
comp=Z,17nm,1.0s
I27K **Kandik River** 93.19 25 P **P** 19 58 56.4 +1.0
baz=268,SNR=14
G27K **Doyon Strip** 93.22 23 P **P** 19 58 56.4 +1.0
baz=268,SNR=5.7
H27K **Steamboat Moun** 93.25 24 P **P** 19 58 56.7 +1.1
baz=268,SNR=11
E27K **Coleen River** 93.29 22 P **P** 19 58 56.2 +0.5
baz=268
EGAK **Eagle** 93.35 25 P **P** 19 58 56.4 +0.4
EGAK **Eagle** 93.35 25 P **P** 19 58 56.4 +0.4
baz=268,SNR=6.6
YUK3 **Moose Creek** 93.58 28 P **P** 19 58 57.8 +0.4
baz=269
O28M **Mount Upton** 93.69 29 P **P** 19 58 58.6 +0.6
baz=269
ANN **Anapa** 93.82 315 *e*P **P** 19 58 57.8 -0.8
ANN *e**PP **pP** 19 59 27.0 -2.4
ANN *e*S **SKSac** 20 09 21.7 -0.6
ANN pmax pmax
comp=Z,51nm,0.8s
ASF **Jabal al Asfar** 93.84 302 P **P** 19 58 59.9 +0.7
comp=Z,19nm,0.8s,baz=93,slow=3.4,SNR=42
comp=Z,19nm,0.8s
LODK **Lodwar** 93.90 273 P **P** 19 58 59.9 +0.1
MOS **Moscow** 93.94 325 *e*P **P** 19 58 56.1 -2.8
MOS *e**PP **pP** 19 59 28.5 -0.8
MOS *e* 20 02 41.6
MOS *e*S **SKSac** 20 09 20.5 -2.0
MOS pmax pmax
comp=Z,100nm,0.6s
MOS pmax pmax
comp=Z,45nm,0.6s
DAWY **Dawson** 94.11 26 P **P** 19 59 00.4 +0.8
baz=270,SNR=6.2
YUK4 **Talbot Arm** 94.45 29 P **P** 19 59 02.6 +1.2
baz=270
M29M **Somme Creek** 94.53 28 P **P** 19 59 02.5 +0.8
baz=270,SNR=12
OBN **Obninsk** 94.54 325 ⇑P **P** 19 59 00.8 -0.8
OBN **Obninsk** 94.54 325 P **P** 19 59 01.2 -0.4
comp=Z,6.8nm,0.5s,baz=179,slow=3.7,SNR=7.7
comp=Z,6.8nm,0.5s
OBN **Obninsk** 94.54 325 P **P** 19 59 00.3 -1.3
OBN **Obninsk** 94.54 325 *d i*P **P** 19 59 00.0 -1.6
OBN *PP **pP** 19 59 30.0 -2.0
OBN *SP **sP** 19 59 44.0 -0.5
OBN *i* S **SKSac** 20 09 24.3 -1.4
OBN *i* *SS **S** 20 10 04.4 +0.5
OBN pmax pmax
comp=Z,22nm,0.5s
OBN MLR MLR
comp=Z,54nm,17.0s
I29M **Ogilvie Camp,** 94.57 25 P **P** 19 59 01.3 -0.4
I29M IAmb IAmb 19 59 04.3
comp=Z,24nm,1.1s
I29M **Ogilvie Camp,** 94.57 25 P **P** 19 59 01.9 +0.3
baz=271
L29M **L29M** 94.67 27 P **P** 19 59 03.7 +1.5
baz=271
K29M **Barlow Dome** 94.94 26 P **P** 19 59 04.4 +0.9
baz=271,SNR=6.6
GHAJ **Ghor Haditha** 94.94 301 P **P** 19 59 02.6 -1.5
GHAJ IAmb IAmb 19 59 06.0
comp=Z,29nm,0.8s
HYT **Haines Junctio** 95.01 29 P **P** 19 59 04.4 +0.6
baz=271
MMAI **Mount Meron Ar** 95.12 303 P **P** 19 59 04.6 -0.4
comp=Z,4.9nm,0.5s,baz=84,slow=8.5,SNR=19
MMAI LR LR 20 48 25.9
comp=Z,39nm,20.3s,baz=348,slow=39
comp=Z,4.9nm,0.5s
LVZ **Lovozero** 95.19 338 ⇓P **P** 19 59 03.4 -1.0
EPYK **Eagle Plains** 95.19 24 P **P** 19 59 04.5 0.0
EPYK IAmb IAmb 19 59 07.4
comp=Z,30nm,1.3s
EPYK **Eagle Plains** 95.19 24 P **P** 19 59 04.9 +0.4
baz=272
N30M **Aishikik Lake** 95.19 29 P **P** 19 59 05.5 +0.9
baz=272
M30M **Minto, Yukon** 95.30 28 P **P** 19 59 06.0 +0.9
M30M **Minto, Yukon** 95.30 28 P **P** 19 59 05.8 +0.7
baz=272,SNR=8.5
EIL **Elat** 95.44 299 P **P** 19 59 07.2 +0.8
comp=Z,15nm,0.7s,baz=314,slow=4.1,SNR=11
comp=Z,15nm,0.7s
APA **Apatity** 95.68 337 ⇓*i*P **P** 19 59 05.0 -1.6
APA pmax pmax
comp=Z,6.0nm,0.8s
O30N **Mendenhall** 95.70 29 P **P** 19 59 07.7 +0.7
baz=272
N31M **Braeburn, Yuko** 95.82 29 P **P** 19 59 08.2 +0.7
baz=273
F31M **Tsiigehtchic** 96.29 23 P **P** 19 59 09.1 -0.2
baz=275
INK **Inuvik** 96.29 22 LR LR 20 40 54.7
comp=Z,56nm,19.5s,baz=163,slow=34
INK **Inuvik** 96.29 22 P **P** 19 59 08.4 -0.9
INK IAmb IAmb 19 59 09.7
comp=Z,7.8nm,0.8s
INK **Inuvik** 96.29 22 P **P** 19 59 08.4 -0.9
INK pmax pmax
comp=Z,8.0nm,0.9s
INK **Inuvik** 96.29 22 P **P** 19 59 09.1 -0.3
baz=276
BR131 **Keskin Array S** 96.59 309 P **P** 19 59 10.5 -1.1
BR131 IAmb IAmb 19 59 11.9
comp=Z,8.2nm,0.8s
BR131 **Keskin Array S** 96.59 309 P **P** 19 59 10.5 -1.1
BR131 pmax pmax
comp=Z,8.0nm,0.8s
BRTR **Keskin Array B** 96.59 309 P **P** 19 59 10.6 -1.1
comp=Z,4.9nm,0.7s,baz=126,slow=5.4,SNR=29
BRTR PP **PP** 20 02 59.8 -7.7
comp=Z,1.8nm,0.8s,baz=110,slow=7.5,SNR=4.9
BRTR PKPPKP **P'P'df** 20 24 06.7 -2.5
comp=Z,0.7nm,1.0s,baz=332,slow=10,SNR=3.6
BRTR LR LR 20 51 00.6
comp=Z,25nm,19.1s,baz=106,slow=40
comp=Z,4.9nm,0.7s
FARO **Faro, Yukon** 96.92 28 P **P** 19 59 13.1 +0.7
FARO **Faro, Yukon** 96.92 28 P **P** 19 59 12.8 +0.4
baz=275
P32M **Atlin** 96.96 31 P **P** 19 59 13.1 +0.4
baz=274
TROLL **Troll, Antarti** 96.97 195 P **P** 19 59 12.9 +0.3
BELA **Belgrano 2** 97.90 183 P Pdif 19 59 17.1 +0.5
MBAR **Mbarara** 98.25 269 LR LR 20 40 43.1
comp=Z,53nm,20.4s,baz=304,slow=34
MBAR **Mbarara** 98.25 269 P **P** 19 59 18.7 -1.0
MBAR **Mbarara** 98.25 269 P **P** 19 59 18.7 -1.0
MBAR pmax pmax
comp=Z,4.0nm,0.6s
SPITS **Spitsbergen Ar** 98.30 349 P Pdif 19 59 19.3 +1.0
comp=Z,8.5nm,0.6s,baz=81,slow=6.8,SNR=13
SPITS LR LR 20 51 53.5
comp=Z,50nm,18.8s,baz=22,slow=40
comp=Z,8.5nm,0.6s
ARA0 **ARCESS Array S** 98.30 340 *e*P **P** 19 59 18.0 -0.4
ARA0 IAmb IAmb 19 59 20.1
comp=Z,31nm,0.9s
ARCES **ARCESS Array B** 98.30 340 P **P** 19 59 17.7 -0.7
comp=Z,11nm,0.5s,baz=85,slow=6.6,SNR=77
ARCES LR LR 20 48 05.5
comp=Z,66nm,20.7s,baz=104,slow=38
comp=Z,11nm,0.5s
ARCES **ARCESS Array B** 98.30 340 P **P** 19 59 17.7 -0.7
ARCES **ARCESS Array B** 98.30 340 P **P** 19 59 17.7 -0.7
ARCES pmax pmax
comp=Z,35nm,1.1s
SNAA **Sanae** 98.50 194 PKKP **PKKPbc** 20 15 47.8 -4.1
SNAA **Sanae** 98.50 194 Pdiff Pdif 19 59 19.6 +0.2
SNAA **Sanae** 98.50 194 LR LR 20 42 42.2
comp=Z,82nm,21.1s,baz=68,slow=35
SNAA **Sanae** 98.50 194 P Pdif 19 59 19.4 0.0
SNAA IAmb IAmb 19 59 58.6
comp=Z,19nm,1.9s
SNAA **Sanae** 98.50 194 P Pdif 19 59 19.4 0.0
SNAA pmax pmax
comp=Z,19nm,1.9s
DLBC **Dease Lake** 98.97 32 LR LR 20 43 35.5
comp=Z,46nm,18.7s,baz=313,slow=35
AKASG **Malin Array Be** 99.18 321 P **Pdif** 19 59 21.9 -0.9
comp=Z,1.2nm,0.5s,baz=72,slow=4.9,SNR=8.5
AKASG PP **PP** 20 03 28.6 +1.9
comp=Z,0.4nm,0.5s,baz=77,slow=6.9,SNR=4.6
AKASG LR LR 20 49 49.4
comp=Z,18nm,20.1s,baz=70,slow=39
comp=Z,1.2nm,0.5s
AKASG **Malin Array Be** 99.18 321 *i* P **Pdif** 19 59 24.8 +2.1
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB **Malin Array Si** 99.18 321 P **Pdif** 19 59 22.5 -0.2
AKBB **Malin Array Si** 99.18 321 P **Pdif** 19 59 22.5 -0.2

AKBB					pmax	pmax			
	comp=Z,4.0nm,0.7s								
KTK1	**Kautokeino**	**99.20**	**339**	*e*P	**Pdif**	**19 59 21.7**	**-0.8**		
KTK1				IAmb	IAmb	19 59 22.4			
	comp=Z,17nm,0.7s								
LSZ	**Lusaka**	**99.44**	**254**	LR	LR	20 39 35.8			
	comp=Z,85nm,19.7s,baz=134,slow=32								
FINES	**FINESS Array B**	**99.55**	**332**	P	**Pdif**	**19 59 23.4**	**-0.8**		
	comp=Z,8.7nm,0.6s,baz=73,slow=6.4,SNR=16								
FINES				LR	LR	20 46 55.9			
	comp=Z,52nm,21.9s,baz=69,slow=37								
	comp=Z,8.7nm,0.6s								
MNK	**Minsk**	**99.59**	**325**	*i* P	**Pdif**	**19 59 23.0**	**-1.4**		
MNK				*i* *PP	**pP**	**19 59 51.8**	**-3.1**		
MNK				*i*		20 03 28.2			
MNK				*i* S	**SKSac**	**20 09 51.0**	**-0.8**		
MNK				*i* *SS	**ScS**	**20 10 43.5**	**-3.6**		
MNK				*i* SS	**SS**	**20 17 39.0**	**-1.4**		
MNK				*i* SSS	SSS	20 21 27.9			
MNK				pmax	pmax				
	comp=Z,23nm,0.8s								
MNK				pmax	pmax				
	comp=E,2.0nm,1.1s								
MNK				MLR	MLR				
	comp=E,7.0nm,18.0s								
MNK				MLR	MLR				
	comp=E,76nm,21.0s								
MNK	**Minsk**	**99.59**	**325**	*i* P	**Pdif**	**19 59 23.1**	**-1.4**		
	comp=E,2.0nm,1.1s								
MNK				*i* P	**Pdif**	**19 59 23.1**	**-1.4**		
	baz=83								
MNK				*i* P	**Pdif**	**19 59 23.1**	**-1.4**		
	comp=Z,23nm,0.8s								
MNK				*i* pP	**pP**	**19 59 51.9**	**-3.1**		
MNK				*i* PP	**PP**	**20 03 28.3**	**-1.4**		
MNK				*i* PPP	PPP	20 05 32.7			
MNK				*i* S	**SKSac**	**20 09 51.1**	**-0.8**		
MNK				*i* sS	**ScS**	**20 10 43.5**	**-3.6**		
MNK				*i* SS	**SS**	**20 17 39.1**	**-1.4**		
MNK				*i* SSS	SSS	20 21 27.9			
MNK				*i* LRM	MLR	20 45 24.9			
	comp=E,7.0nm,18.1s								
MNK				*i* LRM	MLR	20 45 29.4			
	comp=Z,76nm,20.8s								
JETT	**Jettan, Norway**	**100.03**	**340**	*e*P	**Pdif**	**19 59 25.9**	**-0.4**		
JETT				IAmb	IAmb	19 59 26.9			
	comp=Z,61nm,0.7s								
VNA2	**Neumayer--Watz**	**100.08**	**193**	PKKP	**PKKPbc**	**20 15 43.8**	**-3.6**		
VNA2	**Neumayer--Watz**	**100.08**	**193**	Pdiff	**Pdif**	**19 59 27.8**	**+1.4**		
	baz=129,slow=3.8								
NACGM	**Naroch**	**100.17**	**325**	⇓*e*P	**Pdif**	**19 59 26.0**	**-1.0**		
BOSA	**Boshof**	**100.22**	**240**	P	**Pdif**	**19 59 28.1**	**0.0**		
	comp=Z,5.6nm,0.7s,baz=98,slow=4.5,SNR=11								
VNA3	**Neumayer Olymp**	**100.35**	**193**	PKKP	**PKKPbc**	**20 15 41.9**	**-4.7**		
CFR	**Carcaliu**	**100.40**	**315**	⇓P	**Pdif**	**19 59 29.0**	**+0.7**		
CFR	**Carcaliu**	**100.40**	**315**	⇓P	**Pdif**	**19 59 29.0**	**+0.7**		
TRO	**Tromso**	**100.51**	**340**	*e*P	**Pdif**	**19 59 27.9**	**-0.3**		
TRO				IAmb	IAmb	19 59 28.4			
	comp=Z,21nm,1.0s								
TESR	**Tescani**	**101.30**	**317**	⇓P	**Pdif**	**19 59 32.0**	**-0.4**		
VRI	**Vrincioaia**	**101.32**	**316**	⇓P	**Pdif**	**19 59 34.0**	**+1.6**		
VRI	**Vrincioaia**	**101.32**	**316**	⇓P	**Pdif**	**19 59 34.0**	**+1.6**		
PLOR	**Plostina**	**101.37**	**316**	⇑P	**Pdif**	**19 59 33.2**	**+0.5**		
PLOR	**Plostina**	**101.37**	**316**	⇑P	**Pdif**	**19 59 33.2**	**+0.5**		
BIZ	**Bicaz**	**101.62**	**317**	⇓P	**Pdif**	**19 59 34.3**	**+0.5**		
NEHR	**Nehoiu**	**101.67**	**315**	⇑P	**Pdif**	**19 59 35.3**	**+1.3**		
MLR	**Muntele Rosu**	**101.91**	**316**	P	**Pdif**	**19 59 36.0**	**+0.8**		
	comp=Z,4.9nm,0.7s,baz=218,slow=6.5,SNR=11								
MLR	**Muntele Rosu**	**101.91**	**316**	P	**Pdif**	**19 59 36.0**	**+0.8**		
BURAR	**Bucovina Array**	**102.14**	**318**	⇓P	**Pdif**	**19 59 36.4**	**+0.2**		
BURAR	**Bucovina Array**	**102.14**	**318**	⇓P	**Pdif**	**19 59 36.4**	**+0.2**		
STEI	**Steigen**	**102.34**	**339**	*e*P	**Pdif**	**19 59 35.8**	**-0.6**		
STEI				IAmb	IAmb	19 59 36.7			
	comp=Z,22nm,0.6s								
FAUS	**Fauske**	**102.52**	**329**	*e*P	**Pdif**	**19 59 36.5**	**-0.7**		
FAUS				IAmb	IAmb	19 59 37.4			
	comp=Z,19nm,0.7s								
VOIR		**102.54**	**316**	⇑P	**Pdif**	**19 59 39.1**	**+1.2**		
VOIR		**102.54**	**316**	⇑P	**Pdif**	**19 59 39.1**	**+1.2**		
LVV	**L'vov**	**102.59**	**320**	*e*P	**Pdif**	**19 59 43.0**	**+5.0**		
MOR8	**Moi Rana**	**103.27**	**338**	*e*P	**Pdif**	**19 59 39.2**	**-1.4**		
MOR8				IAmb	IAmb	19 59 39.9			
	comp=Z,7.5nm,0.7s								
IDI	**Anoyia**	**103.76**	**305**	Pdiff	**Pdif**	**19 59 44.5**	**+0.9**		
	comp=Z,7.6nm,0.7s,baz=157,slow=6.2,SNR=2.4								
TRPA	**Tarpa**	**103.84**	**319**	⇓P	**Pdif**	**19 59 44.1**	**+0.6**		
TRPA	**Tarpa**	**103.84**	**319**	P	**Pdif**	**19 59 43.6**	**0.0**		
KOLS	**Kolonicke sedl**	**103.88**	**319**	*e*P	**Pdif**	**19 59 45.1**	**+1.4**		
KOLS	**Kolonicke sedl**	**103.88**	**319**	*e*PDIFF	**Pdif**	**19 59 45.1**	**+1.4**		
UZH	**Uzhgorod**	**103.92**	**319**	*e*P	**Pdif**	**19 59 42.8**	**-1.1**		
DRGR		**103.95**	**317**	⇓P	**Pdif**	**19 59 43.9**	**-0.3**		
DRGR		**103.95**	**317**	⇓P	**Pdif**	**19 59 43.9**	**-0.3**		
VTS	**Vitosha**	**104.21**	**313**	P	**Pdif**	**19 59 39.1**	**-6.4**		
CRVS	**Cervenica-Dubn**	**104.41**	**320**	*e*P	**Pdif**	**19 59 47.6**	**+1.5**		
CRVS	**Cervenica-Dubn**	**104.41**	**320**	*e*PDIFF	**Pdif**	**19 59 47.6**	**+1.5**		
BLKB	**Belogradchik**	**104.47**	**314**	⇑P	**Pdif**	**19 59 47.8**	**+1.3**		
VYHS	**Vyhne**	**106.19**	**319**	*e*P	**Pdif**	**19 59 56.3**	**+2.3**		
VYHS				*e*		20 04 19.8			
VYHS	**Vyhne**	**106.19**	**319**	*e*PDIFF	**Pdif**	**19 59 56.3**	**+2.3**		
VYHS				*e*PP	**PP**	**20 04 19.8**	**+0.6**		
NORES	**NORESS Array B**	**106.52**	**333**	P	**Pdif**	**19 59 55.2**	**0.0**		
NB2	**NORSAR Subarra**	**106.54**	**333**	P	**Pdif**	**19 59 54.0**	**-1.3**		
	comp=Z,3.8nm,0.6s,baz=71,slow=4.4								
NB2	**NORSAR Subarra**	**106.54**	**333**	P	**Pdif**	**19 59 54.0**	**-1.3**		
	baz=71,slow=4.4								
NOA	**NORSAR Array B**	**106.54**	**333**	Pdiff	**Pdif**	**19 59 53.8**	**-1.5**		
	comp=Z,3.3nm,0.7s,baz=69,slow=4.5,SNR=25								
NOA				PP	**PP**	**20 04 13.6**	**-7.7**		
	comp=Z,1.3nm,0.7s,baz=64,slow=6.4,SNR=4.6								
KONO	**Kongsberg**	**107.84**	**332**	⇓P	**Pdif**	**20 00 00.3**	**-0.7**		
AKN	**Aaknes**	**107.88**	**335**	*e*P	**Pdif**	**20 00 02.8**	**+1.5**		
CKRC	**Cesky Krumlov**	**109.01**	**321**	*e*PP	**PP**	**20 04 40.6**	**+0.8**		
CLL	**Collm**	**109.07**	**323**	*e*PKiKP	**PKiKP**	**20 04 11.0**	**+0.6**		
CLL				*e*PP	**PP**	**20 04 42.0**	**+2.0**		
	comp=Z,6.0nm,0.9s								
CLL				*e*sPP		20 05 23.0			
CLL				*e*sPPP		20 07 42.0			
CLL				*e*pSKSac	pSKSac	20 11 12.0	-6.2		
CLL				*e*x	x	20 13 36.0			
CLL				*e*PPS	PPS	20 15 06.0			
KHC	**Kasperske Hory**	**109.39**	**321**	*e*PP	**PP**	**20 04 43.6**	**+1.2**		
GERES	**GERESS Array B**	**109.39**	**321**	PKiKP	**PKiKP**	**20 04 11.3**	**+0.1**		
	comp=Z,1.3nm,0.6s,baz=68,slow=2.5,SNR=13								
GERES				PP	**PP**	**20 04 37.2**	**-5.4**		
	comp=Z,1.2nm,0.9s,baz=90,slow=5.6,SNR=4.2								
GERES				SKP		20 07 35.1			
	comp=Z,1.0nm,0.5s,baz=82,slow=2.0,SNR=8.8								
NVAR	**Mina Array Bea**	**110.05**	**50**	PKKPbc	PKKPbc	20 15 17.2	+0.8		
	comp=Z,0.6nm,0.7s,baz=134,slow=5.1,SNR=6.1								
MYKA	**Terra Mystica**	**110.07**	**318**	*e*P	**PKiKP**	**20 04 13.4**	**+0.9**		
	comp=Z,1.3nm,0.3s								
ABTA	**Abfaltersbach**	**110.78**	**319**	*e*P	**PKiKP**	**20 04 14.0**	**+0.1**		
	comp=Z,3.4nm,0.7s								
WTTA	**Wattenberg**	**111.19**	**320**	*e*P	**PKiKP**	**20 04 14.9**	**+0.1**		
	comp=Z,13nm,0.6s								
WATA	**Walderalm**	**111.21**	**320**	*e*P	**PKiKP**	**20 04 14.6**	**-0.1**		
	comp=Z,2.7nm,0.4s								
MOTA	**Moosalm**	**111.51**	**320**	*e*P	**PKiKP**	**20 04 15.2**	**-0.2**		
	comp=Z,2.4nm,0.4s								
RETA	**Reutte**	**111.68**	**320**	*e*P	**PKiKP**	**20 04 16.1**	**+0.5**		
	comp=Z,0.8nm,0.4s								
DAVA	**Damuels**	**112.31**	**320**	*e*P	**PKiKP**	**20 04 16.9**	**-0.1**		
	comp=Z,3.4nm,0.4s								
DAVOX	**Davos/Dischmat**	**112.48**	**319**	PKiKP	**PKiKP**	**20 04 17.4**	**+0.1**		
	comp=Z,3.6nm,0.5s,baz=188,slow=2.4,SNR=14								
DAVOX				SKP	**SKPdf**	**20 07 40.0**	**-1.9**		
	comp=Z,2.7nm,0.5s,baz=172,slow=1.2,SNR=5.3								
DUG	**Dugway, Tooele**	**113.78**	**48**	P	**PKiKP**	**20 04 19.5**	**-0.4**		
	baz=286								
PDAR	**Pinedale Array**	**115.32**	**44**	PKP	**PKPdf**	**20 04 23.2**	**+0.3**		
	comp=Z,0.4nm,0.4s,baz=270,slow=0.9,SNR=2.1								
PDAR				PKKPbc	**PKKPbc**	**20 14 57.6**	**-1.4**		
	comp=Z,1.0nm,0.8s,baz=126,slow=5.2,SNR=7.6								
LAO	**LASA Array**	**116.07**	**39**	P	**PKPdf**	**20 04 23.7**	**-0.3**		
	baz=294								
WUAZ	**Wupatki**	**116.12**	**52**	P	**PKPdf**	**20 04 24.4**	**-0.1**		
	baz=285								
KEST	**Kesra**	**116.16**	**308**	PKP	**PKiKP**	**20 04 25.5**	**+1.0**		
	comp=Z,1.5nm,0.5s,baz=172,slow=5.2,SNR=5.3								
O20A	**White River Ci**	**117.13**	**46**	P	**PKPdf**	**20 04 26.4**	**-0.1**		
	baz=290								
RSSD	**Black Hills**	**118.54**	**41**	P	**PKPdf**	**20 04 28.9**	**-0.1**		
	baz=295								
ANMO	**Albuquerque**	**120.14**	**52**	*c* iPKIKP	**PKiKP**	**20 04 33.7**	**+1.2**		
ANMO				pmax	pmax				
	comp=Z,7.0nm,2.5s								
ANMO	**Albuquerque**	**120.14**	**52**	P	**PKiKP**	**20 04 32.4**	**0.0**		
	baz=288								
MNTX	**Cornudas Mount**	**121.97**	**55**	PKPdf	**PKiKP**	**20 04 37.0**	**+1.1**		
MNTX	**Cornudas Mount**	**121.97**	**55**	P	**PKPdf**	**20 04 35.6**	**-0.1**		
	baz=287								
ECSD	**EROS Data Cent**	**123.45**	**38**	P	**PKPdf**	**20 04 38.1**	**-0.1**		
	baz=301								
BGNE	**Belgrade**	**123.62**	**42**	P	**PKPdf**	**20 04 38.4**	**-0.3**		
	baz=299								
EYMN	**Ely**	**123.98**	**32**	P	**PKPdf**	**20 04 38.9**	**-0.3**		
	baz=309								
TX31	**Lajitas Ar. Si**	**124.07**	**57**		**PKiKP**	**20 04 40.3**	**+0.1**		
TX32	**Lajitas Array**	**124.07**	**57**		**PKiKP**	**20 04 40.4**	**+0.1**		
TXAR	**Lajitas Array**	**124.07**	**57**	PKP	**PKiKP**	**20 04 40.5**	**+0.3**		
	comp=Z,1.3nm,0.8s,baz=234,slow=1.7,SNR=12								
TXAR				PKKPbc	**PKKPab**	**20 14 24.9**	**-0.5**		
	comp=Z,0.7nm,0.6s,baz=113,slow=8.3,SNR=8.6								
ESDC	**Sonseca Array**	**124.58**	**317**	PKP	**PKPdf**	**20 04 39.9**	**-0.7**		
	comp=Z,0.8nm,0.6s,baz=29,slow=2.1,SNR=7.8								
ESDC				PP	**PP**	**20 06 28.0**	**-0.3**		
	comp=Z,2.6nm,1.0s,baz=54,slow=7.1,SNR=5.8								
OK049	**E0420 Rd and N**	**126.50**	**47**	PKPdf	**PKiKP**	**20 04 45.2**	**+0.4**		
JCT	**Junction City**	**126.89**	**54**	PKPdf	**PKiKP**	**20 04 46.7**	**+0.9**		
JCT	**Junction City**	**126.89**	**54**	PKIKP	**PKiKP**	**20 04 46.7**	**+0.9**		
JCT	**Junction City**	**126.89**	**54**	P	**PKPdf**	**20 04 45.5**	**+0.2**		
	baz=290								
TOAO	**Torodi Ar. Sit**	**127.21**	**284**	PKPdf	**PKiKP**	**20 04 46.5**	**-0.2**		
TORD	**Torodi Ar. Bea**	**127.21**	**284**	PKP	**PKiKP**	**20 04 46.6**	**-0.1**		
	comp=Z,11nm,0.6s,baz=70,slow=1.8,SNR=54								
TORD				SKP		20 07 52.8			
	comp=Z,8.8nm,0.7s,baz=73,slow=3.7,SNR=14								
P38A	**Dawn**	**127.56**	**41**		**PKPdf**	**20 04 46.0**	**-0.2**		
S39A	**Bolivar**	**128.70**	**43**		**PKPdf**	**20 04 48.6**	**+0.2**		
R40A	**Maddies Statio**	**129.10**	**42**	PKPdf	**PKiKP**	**20 04 49.8**	**-0.1**		
HDIL	**Hopedale**	**129.74**	**38**	P	**PKPdf**	**20 04 50.6**	**+0.3**		
	baz=306								
CCM	**Cathedral Cave**	**129.91**	**42**	PKPdf	**PKPdf**	**20 04 50.5**	**-0.1**		
CCM	**Cathedral Cave**	**129.91**	**42**	PKIKP	**PKPdf**	**20 04 50.6**	**-0.1**		
CCM	**Cathedral Cave**	**129.91**	**42**	P	**PKPdf**	**20 04 51.0**	**+0.3**		
	baz=303								
MIAR	**Mount Ida**	**130.06**	**47**	P	**PKiKP**	**20 04 51.7**	**-0.3**		
	baz=298								
PLCA	**Paso Flores**	**132.16**	**160**	PKP	**PKiKP**	**20 04 56.2**	**+0.1**		
	comp=Z,2.4nm,0.9s,baz=30,slow=3.3,SNR=4.7								
PLCA				SKPbc	**SKPab**	**20 08 11.3**	**-0.4**		
	comp=Z,6.6nm,0.8s,baz=225,slow=4.8,SNR=13								
PLCA	**Paso Flores**	**132.16**	**160**	*e*P	**PKPdf**	**20 04 54.7**	**-0.4**		
KOWA	**Kowa**	**132.56**	**286**	PKPdf	**PKiKP**	**20 04 57.2**	**-0.2**		
WVT	**Waverly**	**133.25**	**42**	P	**PKiKP**	**20 04 57.7**	**-0.6**		
	baz=305								
PLAL	**Pickwick Lake**	**133.72**	**43**		**PKPdf**	**20 04 57.9**	**-0.2**		
KIC	**Kosan Boka**	**133.91**	**275**	⇑ *i* PKIKP	PKPpre	20 04 49.3			
	comp=Z,6.3nm,0.5s								
DBIC	**Dimbokro**	**134.02**	**276**	SKPbc	**SKPbc**	**20 08 16.8**	**-0.9**		
	comp=Z,16nm,0.7s,baz=111,slow=3.2,SNR=12								
TIC	**Toumodi**	**134.19**	**276**	⇓*e*PKIKP	PKPpre	20 04 49.9			
	comp=Z,18nm,0.5s								
LIC	**Lamto**	**134.20**	**275**	⇓*e*PKIKP	PKPpre	20 04 49.4			
	comp=Z,25nm,0.6s								
P52A	**Corning**	**134.54**	**34**	P	**PKPdf**	**20 04 60.0**	**+0.5**		
	baz=314								
O53A	**New Philadelph**	**134.62**	**33**	P	**PKPdf**	**20 05 00.1**	**+0.5**		
	baz=315								
LRAL	**Lakeview Retre**	**135.54**	**45**	PKPdf	**PKPdf**	**20 05 01.7**	**+0.2**		
LRAL	**Lakeview Retre**	**135.54**	**45**	P	**PKPdf**	**20 05 01.8**	**+0.2**		
	baz=303								
LBNH	**Lisbon**	**135.71**	**22**	P	**PKPdf**	**20 05 02.1**	**+0.6**		
	baz=329								
TKL	**Tuckaleechee C**	**136.17**	**40**	PKP	**PKiKP**	**20 05 04.2**	**-0.1**		
	comp=Z,4.2nm,0.6s,baz=162,slow=6.8,SNR=4.3								
TKL				SKPbc	**SKPbc**	**20 08 23.0**	**-0.8**		
	comp=Z,7.0nm,0.8s,baz=182,slow=3.4,SNR=4.3								
L61B	**Northampton**	**136.94**	**24**	P	**PKPdf**	**20 05 04.6**	**+0.8**		
	baz=327								
HRV	**Adam Dziewonsk**	**137.34**	**23**	P	**PKPdf**	**20 05 05.4**	**+0.9**		
	baz=329								
KMSC	**Kings Mountain**	**138.03**	**38**	P	**PKiKP**	**20 05 07.4**	**-0.7**		
	baz=311								
AC05	**El Transito**	**142.59**	**151**	PKPdf	**PKPdf**	**20 05 12.5**	**-2.1**		
AC06	**Mina Casimiro**	**143.77**	**150**		PKPbc	20 05 14.9	+0.4		
MATN	**Matagalpa**	**144.28**	**73**		**PKPdf**	**20 05 17.5**	**-0.4**		
PLTB	**Pedras Altas**	**144.51**	**176**	PKPdf	PKPbc	20 05 17.1	+0.5		
BOAB	**BOACO BROADBAN**	**144.63**	**74**	PKPdf	**PKPdf**	**20 05 18.5**	**+0.1**		
JTS	**Las Juntas de**	**145.68**	**77**	*c* iPKP2	**PKiKP**	**20 05 23.3**	**-1.0**		
GO02	**Mina Guanaco**	**145.97**	**149**	PKPab	**PKPab**	**20 05 22.4**	**0.0**		
PB14	**IPOC Station P**	**145.97**	**147**	PKPab	**PKPbc**	**20 05 21.5**	**-0.3**		
CNLB	**Canela**	**147.04**	**180**	*e*P	**PKPdf**	**20 05 22.2**	**-0.1**		
PB15	**IPOC Station P**	**147.61**	**147**		**PKiKP**	**20 05 27.5**	**-0.9**		
PB04	**IPOC Station P**	**147.93**	**145**		**PKPbc**	**20 05 26.3**	**-0.8**		
PB06	**IPOC Station P**	**147.96**	**146**		**PKPbc**	**20 05 28.0**	**+0.8**		
LVC	**Limon Verde**	**148.40**	**147**	PKPab	**PKiKP**	**20 05 30.3**	**+0.1**		
LVC	**Limon Verde**	**148.40**	**147**	PKP2	**PKiKP**	**20 05 30.3**	**+0.1**		
LVC	**Limon Verde**	**148.40**	**147**	*e*P	**PKPdf**	**20 05 24.9**	**-0.1**		
PB07	**IPOC Station P**	**148.55**	**145**		**PKiKP**	**20 05 29.6**	**-0.7**		
PB09	**IPOC Station P**	**148.87**	**146**		**PKiKP**	**20 05 32.2**	**+1.3**		
ITAB	**Concordia**	**149.09**	**178**	PKPab	**PKiKP**	**20 05 31.6**	**+0.6**		
PB01	**IPOC Station P**	**149.32**	**144**	PKPab	**PKiKP**	**20 05 31.8**	**0.0**		
CPUP	**Villa Florida**	**149.38**	**169**	PKPbc	**PKiKP**	**20 05 31.4**	**-0.3**		
	comp=Z,6.5nm,0.6s,baz=31,slow=0.5,SNR=12								
CPUP	**Villa Florida**	**149.38**	**169**		**PKPbc**	**20 05 30.9**	**+0.3**		
CPUP	**Villa Florida**	**149.38**	**169**	PKP2	**PKPbc**	**20 05 30.9**	**+0.3**		
GO01	**Chusmiza**	**150.55**	**143**		**PKPbc**	**20 05 33.4**	**-0.8**		
PB16	**IPOC Station P**	**151.37**	**141**		**PKPbc**	**20 05 36.8**	**+0.2**		
LPAZ	**La Paz**	**153.77**	**140**	PKP	**PKPdf**	**20 05 35.4**	**+1.7**		
	comp=Z,0.8nm,0.4s,baz=30,slow=1.3,SNR=3.9								
LPAZ				PKPbc	**PKiKP**	**20 05 43.9**	**+2.2**		
	comp=Z,0.8nm,0.4s,baz=256,slow=4.0,SNR=4.5								
LPAZ	**La Paz**	**153.77**	**140**		**PKPab**	**20 05 56.1**	**+1.4**		
LPAZ	**La Paz**	**153.77**	**140**	*e*P	**PKPdf**	**20 05 33.1**	**-0.6**		
RIB01	**Linhares ES**	**154.76**	**204**	*e*P	**PKPdf**	**20 05 33.9**	**-0.3**		
BB19B	**Bebedouro**	**155.14**	**185**	*e*P	**PKPdf**	**20 05 35.3**	**+0.5**		
C2SB	**Chapadao do Su**	**157.46**	**175**	*e*P	**PKPdf**	**20 05 38.4**	**+0.6**		
PP1B	**Ponte de Pedra**	**158.35**	**170**	*e*P	**PKPdf**	**20 05 38.9**	**0.0**		
ETMB	**Extrema**	**159.63**	**132**		**PKPab**	**20 06 20.3**	**+1.0**		
SMTB	**Santa Maria do**	**166.95**	**195**	*e*P	**PKPdf**	**20 05 46.2**	**-1.3**		

TAP 15 19:48:12.7, 23.13N×120.64E, h5km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGST	**Jiashian**	**0.07**	**229**	P	Pg	19 48 14.6	+0.2
	baz=224						
SGST				S	Sg	19 48 16.2	+0.7
	baz=224						
CHN1	**Nanshi**	**0.12**	**299**	*i* P	Pg	19 48 16.1	+0.9
	baz=301						
CHN1				S	Sg	19 48 18.2	+1.3
	baz=301						
WTP	**Ta-pu**	**0.12**	**348**	*i* P	Pg	19 48 16.1	+0.8
	baz=354						
WTP				S	Sg	19 48 18.1	+1.2
	baz=354						
STYH	**Taoyuan**	**0.13**	**71**	*i* P	Pg	19 48 16.1	+0.6
	baz=71						
STYH				S	Sg	19 48 18.7	+1.4
	baz=71						
SNST	**Tainan City**	**0.16**	**305**	*i* P	Pg	19 48 17.1	+1.2
	baz=307						
TPUB	**Ta-pu**	**0.17**	**357**	P	Pg	19 48 17.2	+1.0
	baz=359						
TPUB				*e*S	Sg	19 48 20.1	+1.6
	baz=359						
TWK	**Hsinying**	**0.20**	**315**	*i* P	Pg	19 48 17.8	+1.1
	baz=319						
TWK				S	Sg	19 48 21.1	+1.8
	baz=319						
SCST	**Cishan**	**0.28**	**209**	P	Pb	19 48 20.6	+0.4
	baz=208						
SCST				*e*S	Sb	19 48 27.5	+2.4
	baz=208						
SHHT	**Tainan City**	**0.29**	**249**	*e*P	Pb	19 48 21.0	+0.6
	baz=249						
SHHT				*e*S	Sb	19 48 28.2	+2.7
	baz=249						
WCKO	**Fanlu**	**0.31**	**354**	P	Pg	19 48 19.7	+0.9
	baz=355						
WCKO				*e*S	Sb	19 48 24.9	-1.3
	baz=355						
SSD	**Sandimen**	**0.38**	**181**	*e*P	Pb	19 48 22.3	+0.3
	baz=167						
SSD				S	Sb	19 48 28.5	+0.3
	baz=167						
ALS	**Alishan**	**0.41**	**22**	P	Pb	19 48 22.3	-0.4
	baz=23						
ALS				*e*S	Sb	19 48 28.8	-0.5
	baz=23						
CHY	**Chiayi**	**0.42**	**332**	*e*P	Pb	19 48 23.8	+1.2
	baz=334						
CHY				*e*S	Sb	19 48 29.7	+0.5
	baz=334						
TSMG	**Majia**	**0.42**	**179**	*e*P	Pb	19 48 22.6	0.0
	baz=167						
YUS	**Yu-Shan**	**0.46**	**39**	*e*P	Pb	19 48 23.1	-0.5
	baz=39						
YUS				*e*S	Sb	19 48 30.6	-0.4
	baz=39						
TWG	**Pinlang**	**0.50**	**127**	*e*P	Pb	19 48 24.3	+0.3
	baz=125						
TWGBT	**Beinan**	**0.51**	**127**	*e*P	Pb	19 48 24.5	+0.3
	baz=125						
TWGBT				*e*S	Sb	19 48 33.5	+1.6
	baz=125						
MASBT	**Mashibuluo**	**0.51**	**181**	*e*P	Pb	19 48 24.1	-0.1
	baz=170						
MASBT				*e*S	Sn	19 48 33.9	-1.9
	baz=170						
WSL	**Shuilin Townsh**	**0.55**	**316**	*e*P	Pb	19 48 24.3	-0.5
	baz=319						
WDLH	**Douliu**	**0.57**	**350**	*e*P	Pb	19 48 25.9	+0.7
	baz=352						
WDLH				*e*S	Sn	19 48 35.4	-1.8
	baz=352						
WHYT	**Xinyi Township**	**0.60**	**19**	*e*P	Pb	19 48 25.7	0.0
	baz=27						
WHYT				*e*S	Sb	19 48 34.4	-0.2
	baz=27						
WSF	**Szhu**	**0.64**	**323**	*e*S	Sb	19 48 36.5	+1.0
	baz=325						
YULB	**Yu-li**	**0.66**	**66**	*e*P	Pb	19 48 26.7	0.0
	baz=66						
EYUL	**Yuli**	**0.66**	**71**	*e*P	Pn	19 48 28.2	-0.5
	baz=70						
WNT	**Mingjian**	**0.75**	**3**	*e*P	Pn	19 48 29.3	-0.6
	baz=5.0						
WNT				*e*S	Sn	19 48 40.9	-0.8
	baz=5.0						
VWDT	**VWDT**	**0.77**	**36**	*e*P	Pb	19 48 29.0	+0.3
	baz=46						
SMLT	**Sun Moon Lake**	**0.79**	**18**	*e*P	Pn	19 48 29.9	-0.7
	baz=27						
SMLT				*e*S	Sn	19 48 42.7	-0.2
	baz=27						
TYC	**Yuchr**	**0.80**	**14**	*e*P	Pn	19 48 29.9	-0.7
	baz=16						
TYC				*e*S	Sn	19 48 42.5	-0.4
	baz=16				

SVW2	Sparrevohn	8.72	28	Pn	Pn	20 15 14.9	+1.4
N19K	Bonanza Creek	8.82	32	Pn	Pn	20 15 12.9	-2.1
M19K	Big River Lodg	9.71	28	Pn	Pn	20 15 27.3	+0.2
L19K	White Mountain	9.81	26	Pn	Pn	20 15 29.4	+0.9
M20K	Styx River	10.06	31		Pn	20 15 35.8	+3.8
SUA	Susitna One	10.55	37	Pn	Pn	20 15 38.8	+0.1
SKT	Skwentna	10.64	34	Pn	Pn	20 15 41.0	+1.1
K20K	Telida	11.00	24		Pn	20 15 46.4	+1.7
PWL	Port Wells	11.11	43	Pn	Pn	20 15 44.8	-1.4
J20K	Nowinta River	11.69	22	Pn	Pn	20 15 56.3	+2.3
SCM	Sheep Creek Mo	12.06	41	Pn	Pn	20 15 59.0	-0.3
BPAW	Bear Paw Mtn.	12.41	27	Pn	Pn	20 16 05.7	+1.8
KLU	Klutina	12.44	44		Pn	20 16 03.5	-0.9
N25K	Chitina, Valde	13.05	45	Pn	Pn	20 16 11.5	-1.2
H21K	Melozitna Rive	13.26	21	Pn	Pn	20 16 15.3	-0.1
GLB	Gilahina Butte	13.30	46	Pn	Pn	20 16 15.3	-0.9
IMAR	Indian Mountai	13.36	18	Pn	Pn	20 16 16.9	+0.1
M26K	Nabesna, AK	14.09	43	Pn	Pn	20 16 25.6	-1.3
ILAR	Eielson Array	14.10	31	Pn	Pn	20 16 28.6	+1.6
	0.1nm,0.3s,baz=223,slow=12,SNR=4.3 0.2nm,0.6s						
H23K	Yukon River	14.15	25	Pn	Pn	20 16 28.3	+0.7
DOT	Dot Lake	14.34	38	Pn	Pn	20 16 32.8	+2.5
J25K	Salcha River,	14.48	33	Pn	Pn	20 16 32.9	+0.8
M27K	Edge Creek, AK	14.54	44	Pn	Pn	20 16 34.0	+1.0
SCRK	Sand Creek	14.56	37	Pn	Pn	20 16 33.3	+0.1
BCAR	Beaver Creek A	14.90	42	Pn	Pn	20 16 38.7	+0.9
J26L	Joseph Creek	15.02	36	P	P	20 16 43.4	-0.7
COLD	Coldfoot	15.15	21	P	P	20 16 46.3	+0.8
COLD				IAmb	IAmb	20 16 58.9	
	comp=Z,12nm,1.4s						
K27K	Chicken	15.29	39	P	P	20 16 47.7	+0.7
K27K				IAmb	IAmb	20 16 58.9	
	comp=Z,6.2nm,1.4s						
M30M	Minto, Yukon	16.79	47	Pn	Pn	20 17 00.9	-1.1
M30M				IAmb	IAmb	20 17 19.9	
	comp=Z,6.6nm,1.3s						
N31M	Braeburn, Yuko	16.93	51	Pn	Pn	20 17 04.3	+0.6
N31M				IAmb	IAmb	20 17 38.7	
	comp=Z,5.8nm,0.9s						
I29M	Ogilvie Camp,	17.36	38	P	P	20 17 10.8	+0.8
M31M	Drury Creek, Y	17.75	49		Pn	20 17 14.9	+1.0
P33M	Teslin, Yukon	18.11	56	P	Pn	20 17 19.6	+1.4
FARO	Faro, Yukon	18.23	50	P	Pn	20 17 21.1	+1.4
FARO				IAmb	IAmb	20 17 36.6	
	comp=Z,4.3nm,0.9s						
PEA0B	Petropavlovsk-	22.66	284	P	P	20 18 07.3	-0.2
PETK	Petropavlovsk-	22.66	284	P	P	20 18 04.9	-2.6
	comp=Z,1.6nm,0.6s,baz=72,slow=14,SNR=8.0 comp=Z,1.6nm,0.6s						
PETK	Petropavlovsk-	22.66	284	P	P	20 18 07.5	0.0
C36M	Paulatuk	24.04	34	P	P	20 18 22.0	+1.1
WVOR	Wild Horse Val	31.82	92	P	P	20 19 33.0	+2.2
WVOR				IAmb	IAmb	20 19 51.2	
	comp=Z,2.7nm,0.8s						
LCH	Last Change Ra	35.72	98	P	P	20 20 04.5	-0.3
H11N2	WAKE ISLAND Hy	40.58	225	T	T	21 04 21.8	
	baz=26,slow=76,SNR=55						
H11N3	WAKE ISLAND Hy	40.58	225	T	T	21 04 19.3	
	baz=26,slow=76,SNR=56						
H11N1	WAKE ISLAND Hy	40.59	225	T	T	21 04 19.7	
	baz=26,slow=76,SNR=47						
ULM	Lac du Bonnet	40.68	66	LR	LR	20 35 41.1	
	comp=Z,277nm,21.9s,baz=342,slow=33						
H11S1	WAKE ISLAND Hy	41.75	224	T	T	21 05 49.2	
	baz=25,slow=76,SNR=88						
H11S2	WAKE ISLAND Hy	41.76	224	T	T	21 05 41.7	
	baz=25,slow=76,SNR=102						
H11S3	WAKE ISLAND Hy	41.77	224	T	T	21 05 38.4	
	baz=25,slow=76,SNR=84						
KSRS	Korea Array	48.42	279	P	P	20 21 48.2	+0.2
	comp=Z,0.6nm,0.6s,baz=48,slow=7.0,SNR=5.9 comp=Z,0.6nm,0.6s						
TXAR	Lajitas Array	49.56	94	P	P	20 21 58.7	+1.7
	comp=Z,0.2nm,0.6s,baz=324,slow=4.5,SNR=3.7 comp=Z,0.2nm,0.6s						
SONM	Songino Array	53.35	303	P	P	20 22 24.3	-0.9
	comp=Z,0.6nm,0.7s,baz=51,slow=6.0,SNR=4.2 comp=Z,0.6nm,0.7s						
FINES	FINESS Array B	64.95	355	P	P	20 23 44.1	-0.8
	comp=Z,2.6nm,1.0s,baz=4.8,slow=8.4,SNR=4.5 comp=Z,2.6nm,1.0s						
MKAR	Makanchi Array	65.18	316	P	P	20 23 45.3	-1.4
	comp=Z,0.2nm,0.3s,baz=43,slow=7.9,SNR=6.7 comp=Z,0.2nm,0.3s						
AKASG	Malin Array Be	75.40	351	P	P	20 24 48.7	-0.3
	comp=Z,0.5nm,0.3s,baz=15,slow=5.7,SNR=2.5 comp=Z,0.5nm,0.3s						
BRTR	Keskin Array B	85.73	346	P	P	20 25 45.2	+0.5
	comp=Z,0.4nm,0.5s,baz=352,slow=2.9,SNR=4.6 comp=Z,0.4nm,0.5s						
H03N2	Juan Fernandez	113.47	115	T	T	22 35 23.7	
	baz=322,slow=77,SNR=7.4						
H03N1	Juan Fernandez	113.48	115	T	T	22 35 23.7	
	baz=322,slow=77,SNR=11						
H03N3	Juan Fernandez	113.49	115	T	T	22 35 23.7	
	baz=322,slow=77,SNR=12						

*IDC **15** 20:21:18.9±2.0, 0˚.33N×126˚.55E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=175.8km s-min=25.2km az=65.0*

*DJA **15** 20:21:21.2±1.4, 0˚N±3˚×12˚6E±˚, h27km±13km, M3.2/7, MLv3.2/7*

ISC 15 20:21:24.1±1.1, **0˚24N**±0˚.06×**126˚32E**±0˚.06, **h50**km, **n9**, σ1§**84**/12, **mb3.2**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.17	63	P	Pn	20 21 42.9	-1.2
TNTI				S	Sn	20 21 58.5	-0.5
LBMI	Labuha	1.47	127	P	Pn	20 21 47.0	-1.1
LBMI				S	Sn	20 22 04.1	-2.1
SANI	Sanana	2.30	188	P	Pn	20 21 59.0	-0.5
SANI				S	Sn	20 22 26.9	+0.3
KMSI	Cibinong	2.37	278	P	Pn	20 21 57.0	-3.4
GTOI	Gorontalo	3.34	277	P	Pn	20 22 13.3	-0.4
NLAI	Namlea	3.54	167	P	Pn	20 22 14.8	-1.8
WRA	Warramunga Arr	21.54	159	P	P	20 26 09.7	+0.4
	0.4nm,0.4s,baz=338,slow=11,SNR=10 0.4nm,0.4s						
ASAR	Alice Springs	24.88	163	P	P	20 26 44.1	+1.7
	0.4nm,0.5s,baz=344,slow=9.2,SNR=11 0.4nm,0.5s						
MKAR	Makanchi Array	60.20	327	P	P	20 31 29.1	+2.1
	0.2nm,0.4s,baz=117,slow=7.1,SNR=7.2 0.2nm,0.4s						

*NOU **15** 20:24:42.6, 38˚.38S×175˚.45E, h208km, MLv3.6/7, North Island, New Zealand*

*WEL **15** 20:24:47.7±0.6, 38˚S±4˚×17˚6E±˚, h163km±6km, M2.8/37, MLv2.8/37, Error ellipse: s-maj=0.0km s-min=0.0km az=62.6*

ISC 15 20:24:42.6±1.8, **38˚.49S**±0˚.05×**175˚.51E**±0˚.05, **h202**km±10km, **n94**, σ1§**68**/105, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	Tolley Road	0.16	7	P	Pn	20 25 10.4	+1.2
HIZ	Hauiti	0.52	267	P	Pn	20 25 11.6	+1.7
HIZ	Hauiti	0.52	267	P	Pn	20 25 11.7	+1.7
TWVZ	Taurewa	0.59	186	P	Pn	20 25 12.1	+1.7
WTVZ	West Tongariro	0.63	175	P	Pn	20 25 12.3	+1.7
TMVZ	Te Maari	0.65	167	P	Pn	20 25 12.6	+1.9
NNVZ	North Ngauruho	0.65	173	P	Pn	20 25 12.5	+1.8
ETVZ	East Tongariro	0.67	167	P	Pn	20 25 12.8	+2.0
KMRZ	Kaimai	0.72	28	P	Pn	20 25 12.1	+1.1
TOZ	Tahuroa Road	0.75	359	P	Pn	20 25 12.4	+1.3
FWVZ	Far West T-bar	0.77	178	P	Pn	20 25 13.1	+1.7
MRHZ	Matea Rd	0.79	116	P	Pn	20 25 12.4	+1.0
MRHZ				S	Sn	20 25 31.1	-2.6
TUVZ	Tukino	0.79	172	P	Pn	20 25 13.4	+2.0
TUVZ				S	Sn	20 25 33.3	-0.7
WNVZ	Wahianoa	0.84	176	P	Pn	20 25 13.7	+1.9
MOVZ	Moawhango	0.94	169	P	Pn	20 25 13.8	+1.5
MOVZ				S	Sn	20 25 33.2	-2.3
MUGZ	Murupara	0.99	90	P	Pn	20 25 13.7	+1.2
MUGZ				S	Sn	20 25 33.4	-2.2
BKZ	Black Stump Fm	1.02	132	P	Pn	20 25 14.1	+1.4
BKZ				S	Sn	20 25 34.0	-2.3
BKZ	Black Stump Fm	1.02	132	P	Pn	20 25 14.2	+1.4
OPRZ	Ohinepanea	1.04	52	P	Pn	20 25 13.6	+0.8
BHHZ	Black Hill Sta	1.09	157	P	Pn	20 25 14.7	+1.5
BHHZ				S	Sn	20 25 34.5	-2.7
MTHZ	Maungataniwha	1.10	110	P	Pn	20 25 14.6	+1.3
MTHZ				S	Sn	20 25 34.8	-2.3
RTZ	Ruatahuna	1.16	97	P	Pn	20 25 14.9	+1.2
RTZ				S	Sn	20 25 35.5	-2.4
KWHZ	Kaweka Forest	1.18	143	P	Pn	20 25 15.7	+1.8
KWHZ				S	Sn	20 25 37.0	-1.3
NMHZ	Naumai	1.18	122	P	Pn	20 25 16.2	+2.3
NMHZ				S	Sn	20 25 40.2	+1.9
URZ	Urewera	1.28	80	P	Pn	20 25 15.2	+0.6
URZ	Urewera	1.28	80	P	Pn	20 25 15.4	+0.8
RAHZ	Arahi	1.30	110	P	Pn	20 25 16.7	+1.9
RAHZ				S	Sn	20 25 38.9	-1.0
MCHZ	McNeill Hill	1.33	136	P	Pn	20 25 17.5	+2.5
WAZ	Wanganui	1.33	198	P	Pn	20 25 17.5	+2.4
KRHZ	Kereru	1.33	150	P	Pn	20 25 17.0	+1.9
ARHZ	Aropaoanui	1.39	124	P	Pn	20 25 17.6	+2.1
MKAZ	Moumakai	1.41	348	P	Pn	20 25 17.2	+1.5
SNGZ	Shannon Statio	1.46	102	P	Pn	20 25 17.8	+1.7
WHHZ	Waihua	1.47	114	P	Pn	20 25 18.1	+1.9
PNHZ	Pukenui	1.52	160	P	Pn	20 25 18.6	+1.9
AWAZ	Awhitu Peninsu	1.58	334	P	Pn	20 25 19.2	+2.0
MWZ	Matawai	1.59	85	P	Pn	20 25 18.3	+1.0
ETAZ	East Tamaki Re	1.60	343	P	Pn	20 25 19.1	+1.7
TSZ	Takapari Road	1.61	168	P	Pn	20 25 19.4	+2.0
KAHZ	Kahuranaki	1.68	141	P	Pn	20 25 20.4	+2.3
CKHZ	Cape Kidnapper	1.69	134	P	Pn	20 25 20.4	+2.3
WPHZ	Waipukurau	1.73	156	P	Pn	20 25 20.6	+2.0
KUZ	Kuaotunu	1.75	5	P	Pn	20 25 20.2	+1.4
KNZ	Kokohu	1.77	108	P	Pn	20 25 20.6	+1.7
RIGZ	Rimuhau	1.78	98	P	Pn	20 25 20.6	+1.6
MBAZ	Motutapu North	1.78	344	P	Pn	20 25 20.9	+1.8
RUGZ	Raukumara Rang	1.78	74	P	Pn	20 25 19.3	+0.1
TKGZ	Te Karaka	1.83	89	P	Pn	20 25 21.3	+1.8
PXZ	Pawanui	1.86	146	P	Pn	20 25 21.8	+2.0
DVHZ	Dannevirke	1.88	165	P	Pn	20 25 21.7	+1.7
PRGZ	Paritu Road	1.91	104	P	Pn	20 25 21.9	+1.6
POWZ	Post Office Ro	1.91	174	P	Pn	20 25 22.1	+1.8
HAZ	Te Kaha	1.93	69	P	Pn	20 25 21.0	+0.4
TWGZ	Tauwhareparae	1.96	82	P	Pn	20 25 22.6	+1.7
PRHZ	Porangahau	1.98	154	P	Pn	20 25 22.9	+1.9
MHGZ	Mahia Peninsul	1.98	110	P	Pn	20 25 23.1	+2.0
PRWZ	Pori Road	2.10	170	P	Pn	20 25 24.1	+1.9
PKGZ	Pakihiroa	2.11	74	P	Pn	20 25 23.6	+1.2
ANWZ	Angora Road	2.11	160	P	Pn	20 25 24.4	+2.1
CNGZ	Carnagh Statio	2.11	91	P	Pn	20 25 24.3	+1.9
MRZ	Mangatainoka R	2.17	179	P	Pn	20 25 24.7	+1.8
GRZ	Great Barrier	2.23	359	P	Pn	20 25 25.5	+1.8
BFZ	Birch Farm	2.27	166	P	Pn	20 25 25.6	+1.6
BFZ	Birch Farm	2.27	166	P	Pn	20 25 25.8	+1.8
OGWZ	Otaki Gorge	2.34	186	P	Pn	20 25 26.8	+2.0
WMGZ	Waiomatatini S	2.38	75	P	Pn	20 25 26.3	+1.0
MXZ	Matakaoa Point	2.39	68	P	Pn	20 25 26.7	+1.4
HOWZ	Holdsworth Sta	2.41	180	P	Pn	20 25 25.1	-0.4
KIW	Kapiti Island	2.42	191	P	Pn	20 25 27.2	+1.5
DUWZ	D'Urville Isla	2.62	207	P	Pn	20 25 29.4	+1.4
TMWZ	Te Maipa	2.63	174	P	Pn	20 25 29.5	+1.5
CAW	Cannon Point	2.64	187	P	Pn	20 25 29.8	+1.7
MTW	Mount Morrison	2.67	180	P	Pn	20 25 29.6	+1.2
WEL	Wellington	2.85	191	P	Pn	20 25 32.1	+1.6
TCW	Tory Channel	2.88	199	P	Pn	20 25 32.4	+1.5
TRWZ	Traveller	2.91	177	P	Pn	20 25 32.7	+1.5
MSWZ	Moikau Station	2.93	184	P	Pn	20 25 32.7	+1.2
PLWZ	Palliser	3.09	184	P	Pn	20 25 34.3	+1.0
TUWZ	Tuamarina	3.18	202	P	Pn	20 25 35.8	+1.5
NNZ	Nelson	3.19	210	P	Pn	20 25 36.6	+2.2
TKNZ	Takaka Hill	3.22	217	P	Pn	20 25 36.7	+1.8
QRZ	Quartz Range	3.28	224	P	Pn	20 25 36.4	+0.8
QRZ	Quartz Range	3.28	224	P	Pn	20 25 35.9	+0.3
BSWZ	Blackbirch Sta	3.46	201	P	Pn	20 25 39.7	+1.9
MRNZ	Matariki Terra	3.60	215	P	Pn	20 25 40.7	+1.2
THZ	Tophouse	3.84	211	P	Pn	20 25 43.2	+0.8
KHZ	Kahutara	4.21	200	P	Pn	20 25 48.2	+1.4
KHZ	Kahutara	4.21	200	P	Pn	20 25 48.3	+1.4
GVZ	Greta Valley S	4.86	202	P	Pn	20 25 56.0	+0.8
LTZ	Lake Taylor	4.95	209	P	Pn	20 25 57.1	+0.8
OXZ	Oxford	5.50	207	P	Pn	20 26 03.4	0.0
MQZ	McQueen's Vall	5.64	202	P	Pn	20 26 04.8	-0.4
TMZ	Timaru	6.79	208	P	Pn	20 26 20.5	+0.4
ODZ	Otahua Downs	7.49	207	P	Pn	20 26 30.4	+1.3

*KMA **15** 20:31:09.6±0.0, 35˚.79N×129˚.18E, h13km, Error ellipse: s-maj=0.5km s-min=0.4km az=294.0*

*JMA **15** 20:31:09.4±0.5, 36˚N±2˚×12˚9E±˚, h0km, MV2.7/8, S KOREAN PENINSULA REG*

ISC 15 20:31:09.3±1.2, **35˚.78N**±0˚.02×**129˚.17E**±0˚.04, **h8**km±12km, **n42**, σ0§**61**/45, **South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	Daegu	0.23	267	P	Pg	20 31 15.1	+1.3
	SNR=832						
YOCB	Yeongcheon	0.27	317	P	Pb	20 31 15.7	-0.6
	SNR=321						
KSPHA	Pohang	0.44	21	P	Pg	20 31 18.4	+0.6
	SNR=106						
MIYA	Miryang-si	0.45	231	P	Pb	20 31 19.0	-0.5
	SNR=27						
KSDAU	Deagu-acc	0.46	283	P	Pb	20 31 19.2	-0.4
	SNR=57						
KSBUS	Busan	0.53	185	P	Pg	20 31 20.0	+0.5
	SNR=124						
KSCHR	CHANGNYEONG	0.60	247	P	Pb	20 31 21.5	-0.6
	SNR=133						
KSADO	Andong	0.66	344	P	Pg	20 31 22.2	+0.3
	SNR=248						
EUSB	Uiseong	0.70	326	P	Pg	20 31 23.0	+0.3
	SNR=149						
YODB	Yeongdeok	0.78	14	P	Pg	20 31 24.3	+0.1
	SNR=59						
YEYB	Yeongyang	0.85	355	P	Pg	20 31 25.6	+0.1
	SNR=45						
KSGUM	GUMI	0.85	303	P	Pb	20 31 25.9	-0.3
	SNR=33						
EURB	Uiryeong-eup	0.85	238	P	Pb	20 31 26.0	-0.4
	SNR=18						
ADOA	Andong Acc Bor	0.88	334	P	Pg	20 31 26.3	+0.1
	SNR=15						
KSGIC	Gimchen	0.92	289	P	Pb	20 31 27.2	-0.3
	SNR=66						
KSULJ	Uljin	0.94	12	P	Pg	20 31 27.1	-0.2
	SNR=146						
HACA	Hapcheon Acc B	0.95	248	P	Pb	20 31 28.0	0.0
	SNR=17						
KUJA	Jangpyeong	1.00	208	P	Pg	20 31 28.2	-0.4
	SNR=5.6						
KSSAJ	Sangju	1.03	308	P	Pg	20 31 29.1	0.0
	SNR=44						
DUSB	Deogyusan	1.14	276	P	Pb	20 31 31.1	-0.2
	SNR=52						
CHYB	Chungyang	1.18	350	P	Pg	20 31 31.3	-0.6
	SNR=42						
HAMB	Hamyang	1.19	257	P	Pn	20 31 32.0	-0.3
	SNR=10						
YOJB	Youngju	1.21	334	P	Pg	20 31 32.0	-0.5
	SNR=89						
OKCB	Cheongsan-myeo	1.25	297	P	Pg	20 31 33.0	-0.3
	SNR=41						
KSMGY	Mungyeong	1.25	314	P	Pb	20 31 32.7	-0.4
	SNR=60						
JTU	Tsushima	1.27	172	P	Pn	20 31 32.8	-0.5
JTU				eS	Sg	20 31 49.2	-0.8
KSTBA	Taebaek	1.35	352	P	Pn	20 31 34.5	0.0
	SNR=35						
YKDB	Yokjido	1.37	213	P	Pn	20 31 34.4	-0.3
	SNR=7.8						
JTSM	Tsushimamitsus	1.45	173	P	Pn	20 31 36.0	+0.3
JTSM				eS	Sb	20 31 54.7	-0.3
KSCHJ	Chungju	1.46	319	P	Pn	20 31 36.4	+0.5
	SNR=15						
IMWB	Imwonan-gil	1.46	5	P	Pn	20 31 36.4	+0.4
	SNR=12						
GWYB	Gwangyang	1.47	236	P	Pb	20 31 36.5	-0.4
	SNR=9.4						
KSJEO	Jeonju	1.54	276	P	Pb	20 31 38.0	0.0
	SNR=37						
JECH	Jecheon	1.59	330	P	Pn	20 31 37.1	-0.6
	SNR=13						
SUCA	Sunchang	1.71	257	P	Pb	20 31 41.0	+0.1
	SNR=7.4						
EMSB	Eumseong	1.73	314	P	Pb	20 31 41.0	-0.3
	SNR=14						
YNDB	Yeoundo	1.75	220	P	Pb	20 31 41.0	-0.7
	SNR=6.8						
KSWJU	Wonju	1.85	331	P	Pn	20 31 41.0	-0.3
	SNR=30						
KSKWJ	Gwangju	1.89	251	P	Pb	20 31 43.0	-1.0
	SNR=32						
BOSB	Boseong-gun	1.90	238	P	Pb	20 31 43.4	-0.7
	SNR=28						
JII	Iki	2.03	167	eP	Pb	20 31 45.5	-0.9
JII				eS	Sb	20 32 12.8	+0.9
JTY	Toyota	2.17	134	eS	Sn	20 32 14.7	+2.0

*NEIC **15** 20:38:27.1±2.0, 44˚.08N±0˚.02×105˚.47W±0˚.06, h0km±2km, ML3.2/75, Error ellipse: s-maj=7.5km s-min=3.7km az=284.0*

*IDC **15** 20:38:29.9±1.4, 43˚.73N×105˚.45W, h0km, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=30.2km s-min=9.4km az=150.0*

ISC 15 20:38:26.3±0.8, **43˚.91N**±0˚.05×**105˚.57W**±0˚.03, **h0**km, **n64**, σ1§**48**/64, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.13	79		Pb	20 38 49.0	+0.2
RSSD				Sn	Sb	20 39 04.4	+0.3
K22A	Casper	1.44	209		Pb	20 38 55.0	+1.0
K22A				IAML		20 39 25.7	
	comp=E,258nm,0.5s						
RWWY	Rawlins	2.53	209		Pb	20 39 12.0	-0.6
RWWY				IAML		20 39 46.7	
	comp=E,161nm,1.1s						
PHWY	Pilot Hill	2.61	178	Pn	Pn	20 39 10.9	+0.9
PHWY				IAML		20 39 44.0	
	comp=E,148nm,0.6s						
PHWY				IAML		20 39 50.4	
	comp=E,79nm,0.4s						
LAO	LASA Array	2.81	351	Pn	Pn	20 39 10.6	-2.0
LAO				IAML		20 40 21.1	
	comp=E,160nm,1.3s						
LAO				IAML		20 40 23.5	
	comp=E,127nm,0.8s						
RLMT	Red Lodge	2.91	296		Pg	20 39 23.4	+1.4
RLMT				IAML		20 40 35.0	
	comp=E,49nm,0.6s						
N23A	Red Feather La	3.03	185		Pn	20 39 17.1	+1.5
BW06	Boulder Array	3.13	250		Pb	20 39 22.0	-0.8
BW06				IAML		20 40 19.6	
	comp=E,39nm,0.8s						
BW06				IAML		20 40 24.6	
	comp=E,36nm,0.5s						
PD31	Pinedale Array	3.13	250		Pb	20 39 20.8	-2.1
PDAR	Pinedale Array	3.13	250	Pn	Pb	20 39 23.5	+0.7
	comp=E,1.9nm,0.3s,baz=76,slow=16,SNR=34						
PDAR				Lg	Lg	20 40 09.3	
	comp=E,9.9nm,0.3s,baz=72,slow=32,SNR=13 comp=E,2.4nm,0.4s						
PDAR	Pinedale Array	3.13	250		Pb	20 39 22.7	-0.2
YMP	Mirror Lake Pl	3.39	286	Pn	Pn	20 39 21.1	+0.3
YMP				Pg	Pg	20 39 30.3	-1.0
YMP				IAML		20 40 34.0	
	comp=N,62nm,0.8s						
YMP				IAML		20 40 38.5	
	comp=E,60nm,0.8s						
GCMT	Greycliff	3.47	304	Pg	Pg	20 39 31.1	-1.6
H17A	Grant Village	3.63	279	Pn	Pn	20 39 26.7	+2.7
H17A				IAML		20 41 29.0	
	comp=E,40nm,0.1s						
H17A				IAML		20 41 32.7	
	comp=N,47nm,0.1s						
YUF	Upper Falls	3.64	284	Pn	Pn	20 39 23.2	-0.8
YUF				IAML		20 40 46.3	
	comp=E,25nm,1.6s						
LOHW	Long Hollow	3.66	267		Pn	20 39 26.9	+2.6
LOHW				IAML		20 40 41.8	
	comp=E,22nm,1.6s						
LOHW				IAML		20 40 56.5	
	comp=E,22nm,1.5s						
MOOW	Moose Ponds	3.75	269		Pn	20 39 26.8	+1.3
YNR	Norris Junctio	3.75	284	Pn	Pn	20 39 26.1	+0.4
SNOW	Snow King Moun	3.79	265		Pn	20 39 28.5	+2.4
YPP	Pitchstone Pla	3.79	277		Pn	20 39 26.9	+0.7
YFT	Old Faithful	3.83	280		Pn	20 39 29.5	+2.9
YFT				IAML		20 40 52.2	
	comp=N,23nm,1.7s						
REDW	Red Top Meadow	3.87	264		Pn	20 39 29.4	+2.1
REDW				IAML		20 40 48.2	
	comp=N,53nm,1.3s						
IMW	Indian Meadow	3.88	272		Pb	20 39 36.6	+0.8
IMW				IAML		20 39 57.1	
	comp=N,38nm,0.5s						
IMW				IAML		20 41 04.2	
	comp=N,22nm,0.9s						
YHH	Holmes Hill	3.89	285		Pn	20 39 28.1	+0.5
TPAW	Teton Pass	3.92	266		Pn	20 39 29.4	+1.4
TPAW				IAML		20 40 52.3	
	comp=N,38nm,0.9s						
TPAW				IAML		20 40 52.6	
	comp=N,28nm,0.7s						
OGNE	Ogallala	3.96	137		Pn	20 39 30.1	+1.8
FXWY	Fox Creek	3.96	268		Pn	20 39 29.0	+0.5
FXWY				Pg	Pb	20 39 36.8	-0.3
ISCO	Idaho Springs	4.11	180		Pn	20 39 31.2	+0.6
ISCO				IAML		20 40 36.2	
	comp=N,28nm,1.0s						
ISCO				IAML		20 41 40.2	
	comp=N,27nm,3.9s						
YHL	Hebgen Lake	4.13	285	Pg	Pg	20 39 44.2	-1.3
YHL				IAML		20 41 08.9	
	comp=N,29nm,1.2s						
YHL				IAML		20 41 10.5	
	comp=E,24nm,1.0s						
O20A	White River Ci	4.27	209		Pn	20 39 33.2	+0.6

comp=N,0.4nm,0.3s,baz=152,slow=15,SNR=1.8
comp=N,2.2nm,0.4s

NVAR	**Mina Array Bea**	**11.05**	**245**	Pn	Pn	20 41 11.6	+5.9
	comp=N,0.1nm,0.3s,baz=58,slow=16,SNR=2.0						
	comp=N,0.2nm,0.5s						
TXAR	**Lajitas Array**	**14.63**	**173**	Pg	P	20 42 54.3	+53
	baz=4.1,slow=14,SNR=3.7						
TXAR				Lg	Lg	20 45 58.6	
	baz=357,slow=33,SNR=4.0						

NEIC ***15*** *20:48:55.6±1.4,28.˚10S±0.˚09×176.˚3W±0.˚1, h10km±1km, mb5.0/90, Error ellipse: s-maj=18.0km s-min=13.6km az=116.0*

GCMT ***15*** *20:48:56.7±0.5, 28.˚09S±0.˚04×175.˚93W±0.˚03, h28km±1km, MW5.0/63, Moment Tensor Solution. s21,c27; s63,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r3.69±.28; $M_{\theta\theta}$-0.54±.18; $M_{\phi\phi}$-3.16±.17; $M_{r\theta}$1.55±.30; $M_{\theta\phi}$0.27±.12; $M_{r\phi}$0.64±.23; Best double couple: M_o3.74300×10^{16} NP1:ϕs158.00000°,δ44.00000°,λ63.00000°. NP2: ϕs158.00000°,δ44.00000°,λ63.00000°. Principal axes: T 4.2610, Plg71.0000°, Azm343.0000°; N -1.0430, Plg18.0000°, Azm178.0000°; P -3.2250, Plg5.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***15*** *20:49:00.9±2.4,28.˚11S×176.˚48W, h54km±21km, mb4.2/18, mbtmp4.5/22, ML4.7/4, MS4.1/30 Error ellipse: s-maj=18.6km s-min=16.0km az=144.0*

ISC 15 20:48:59.0±0.4, 28.˚11S±0.˚06×176.˚49W±0.˚07, h37km, n180, σ1°34/158, mb4.9/61, MS4.2/30, 2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.69**	**227**	P	**Pn**	**20 49 28.4**	**+2.5**
	438nm,0.3s,baz=79,slow=16,SNR=14						
RAO				S	**Sn**	**20 49 48.8**	**+2.4**
	1μm,0.4s,baz=112,slow=20,SNR=11						
RAO				LR	LR	20 49 56.8	
	comp=Z,2μm,18.5s,baz=63,slow=33						
RAO	**Raoul Island**	**1.69**	**227**	Pn	**Pn**	**20 49 28.0**	**+2.0**
MXZ	**Matakaoa Point**	**10.39**	**204**	Pn	**Pn**	**20 51 23.2**	**-2.1**
NIUE	**Niue**	**10.82**	**35**	Pn	Pn	20 51 21.3	-10
OUZ	**Omahuta**	**11.02**	**228**	Pn	**Pn**	**20 51 34.6**	**+0.6**
URZ	**Urewera**	**11.45**	**206**	P	**Pn**	**20 51 43.3**	**+3.5**
	1.6nm,0.3s,baz=345,slow=10,SNR=4.1						
URZ				S	**Sn**	**20 53 40.8**	**-5.6**
	18nm,0.7s,baz=90,slow=20,SNR=7.8						
URZ				LR	LR	20 56 01.9	
	comp=Z,956nm,19.1s,baz=106,slow=37						
	4.2nm,0.4s						
URZ	**Urewera**	**11.45**	**206**	Pn	Pn	20 51 34.1	-5.7
URZ					**Sn**	**20 53 43.2**	**-3.2**
MSVF	**Nonsavu**	**11.48**	**333**	P	**Pn**	**20 51 42.9**	**+2.4**
	0.7nm,0.3s,baz=184,slow=15,SNR=3.4						
	13nm,0.9s						
MSVF	**Nonsavu**	**11.48**	**333**		**Pn**	**20 51 40.5**	**-0.1**
TUWZ	**Tuamarina**	**15.42**	**208**	P	Pn	20 52 26.7	-7.1
KHZ	**Kahutara**	**16.41**	**207**	Pn	Pn	20 52 36.0	-10
DZM	**Mont Dzumac**	**16.58**	**287**	*e*Pn	**Pn**	**20 52 46.6**	**-2.2**
	143nm,1.4s						
DZM				*e*LR	LR	20 56 39.2	
	comp=Z,992nm,27.4s						
DZM	**Mont Dzumac**	**16.58**	**287**	P	**P**	**20 52 51.1**	**+0.1**
	0.5nm,0.3s,baz=126,slow=13,SNR=8.5						
DZM				LR	LR	20 57 49.7	
	comp=Z,560nm,21.1s,baz=126,slow=32						
	7.3nm,1.0s						
DZM	**Mont Dzumac**	**16.58**	**287**		**Pn**	**20 52 45.1**	**-3.6**
RAR	**Rarotonga**	**16.67**	**69**	LR	LR	20 58 03.2	
	comp=Z,863nm,20.4s,baz=261,slow=32						
OXZ	**Oxford**	**17.78**	**208**	P	**Pn**	**20 52 57.4**	**-6.1**
RPZ	**Rata Peaks**	**18.52**	**209**	P	**P**	**20 53 11.1**	**-1.0**
	3.0nm,0.3s,baz=344,slow=4.9,SNR=3.5						
RPZ				LR	LR	21 00 41.4	
	comp=Z,390nm,19.3s,baz=28,slow=38						
	14nm,0.5s						
KOUNC	**Koumac, New Ca**	**19.05**	**289**	P	**Pn**	**20 53 21.0**	**+1.9**
KOUNC				IAmb	IAmb	20 53 25.9	
	comp=Z,154nm,1.2s						
LHI	**Lord Howe Isla**	**21.47**	**255**	P	**P**	**20 53 45.6**	**+1.4**
TBI	**Tubuai**	**24.79**	**85**	*e*LR	LR	21 00 25.1	
	comp=Z,548nm,21.2s						
PPT2	**Papeete2**	**26.87**	**73**	*e*LR	LR	21 01 22.2	
	comp=Z,442nm,21.2s						
PPT	**Papeete**	**26.88**	**73**	LR	LR	21 04 16.9	
	comp=Z,568nm,18.1s,baz=224,slow=34						
HNR	**Honiara**	**28.93**	**305**	LR	LR	21 06 15.8	
	comp=Z,4μm,18.0s,baz=180,slow=36						
CAN	**Canberra**	**30.11**	**247**	P	**P**	**20 55 06.0**	**+0.7**
TOO	**Toolangi**	**33.12**	**244**	P	**P**	**20 55 32.0**	**+0.4**
TOO				IAmb	IAmb	20 55 46.4	
	comp=Z,20nm,1.2s						
CTA	**Charters Tower**	**34.82**	**275**	P	**P**	**20 55 46.9**	**+0.3**
	comp=Z,6.1nm,0.5s,baz=98,slow=8.8,SNR=13						
CTA				LR	LR	21 09 44.5	
	comp=Z,803nm,18.6s,baz=104,slow=36						
	comp=Z,6.1nm,0.5s						
CTAO	**Charters Tower**	**34.82**	**275**	P	**P**	**20 55 46.7**	**+0.1**
CTAO				IAmb	IAmb	20 56 58.2	
	comp=Z,37nm,1.6s						
STKA	**Stephens Creek**	**36.33**	**254**	P	**P**	**20 56 00.2**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=101,slow=13,SNR=5.6						
STKA				LR	LR	21 10 43.7	
	comp=Z,330nm,18.5s,baz=64,slow=36						
	comp=Z,2.6nm,0.7s						
STKA	**Stephens Creek**	**36.33**	**254**	P	**P**	**20 55 59.2**	**-0.2**
TAOE	**Nuku Hiva Isla**	**39.21**	**68**	*e*LR	LR	21 07 04.7	
	comp=Z,436nm,22.5s						
COEN	**Coen**	**39.99**	**282**	P	**P**	**20 56 30.9**	**+0.5**
COEN				IAmb	IAmb	20 56 34.3	
	comp=Z,64nm,1.7s						
BBOO	**Buckleboo**	**40.90**	**251**	P	**P**	**20 56 38.6**	**+0.8**
AS31	**Alice Springs**	**44.60**	**264**	P	**P**	**20 57 06.7**	**-1.3**
ASAR	**Alice Springs**	**44.60**	**264**	P	**P**	**20 57 07.7**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=96,slow=7.8,SNR=33						
ASAR				LR	LR	21 16 11.4	
	comp=Z,474nm,18.2s,baz=86,slow=36						
	comp=Z,3.7nm,0.8s						
ASAR	**Alice Springs**	**44.60**	**264**	P	**P**	**20 57 07.0**	**-1.0**
WR0	**Warramunga Arr**	**45.20**	**269**	P	**P**	**20 57 12.0**	**-0.7**
WR0				IAmb	IAmb	20 57 26.0	
	comp=Z,23nm,1.5s						
WB2	**Warramunga Arr**	**45.38**	**269**	P	**P**	**20 57 13.4**	**-0.7**
WRA	**Warramunga Arr**	**45.39**	**269**	P	**P**	**20 57 13.4**	**-0.7**
	comp=Z,4.6nm,0.6s,baz=109,slow=7.4,SNR=36						
WRA				LR	LR	21 15 57.0	
	comp=Z,198nm,18.3s,baz=86,slow=36						
	comp=Z,4.6nm,0.6s						
WRA	**Warramunga Arr**	**45.39**	**269**	P	**P**	**20 57 13.6**	**-0.6**
WB0	**Warramunga Arr**	**45.40**	**269**	P	**P**	**20 57 13.6**	**-0.7**
WB0				IAmb	IAmb	20 57 16.6	
	comp=Z,19nm,1.1s						
FORT	**Forrest**	**47.94**	**253**	P	**P**	**20 57 33.3**	**-0.8**
SBA	**Scott Base**	**50.41**	**185**	P	**P**	**20 57 54.8**	**+2.5**
SBA				IAmb	IAmb	20 58 18.4	
	comp=Z,23nm,1.2s						
VNDA	**Vanda**	**50.50**	**186**	P	**P**	**20 57 57.5**	**+4.6**
	comp=Z,2.2nm,0.9s,baz=17,slow=9.2,SNR=11						
VNDA				LR	LR	21 15 36.0	
	comp=Z,134nm,20.8s,baz=24,slow=32						
VNDA	**Vanda**	**50.50**	**186**	P	**P**	**20 57 53.4**	**+0.5**
MTN	**Manton Dam**	**50.99**	**276**	P	**P**	**20 57 57.0**	**-0.4**
KNRA	**Kununurra**	**51.90**	**272**	P	**P**	**20 58 03.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.73**	**267**	P	**P**	**20 58 18.0**	**+0.2**
FITZ				IAmb	IAmb	20 58 36.8	
	comp=Z,15nm,1.2s						
GUMO	**Guam**	**55.84**	**313**	LR	LR	21 21 15.5	
	comp=Z,83nm,19.7s,baz=128,slow=35						
SIJI	**Sorong**	**56.78**	**289**	P	**P**	**20 58 40.4**	**+0.7**
	comp=Z,13nm,0.7s,baz=72,slow=4.6,SNR=9.5						
SIJI				LR	LR	21 23 05.9	
	comp=Z,115nm,20.1s,baz=140,slow=36						
	comp=Z,13nm,0.7s						
CASY	**Casey**	**57.77**	**207**	P	**P**	**20 58 46.8**	**+0.8**
MBWA	**Marble Bar**	**57.82**	**262**	P	**P**	**20 58 45.8**	**-1.3**
BATI	**Baumata**	**58.71**	**275**	LR	LR	21 25 41.6	
	comp=Z,504nm,18.2s,baz=138,slow=38						
RPN	**Rapa Nui**	**58.79**	**106**	LR	LR	21 20 10.5	
	comp=Z,207nm,18.0s,baz=294,slow=32						
QSPA	**South Pole Qu**	**61.99**	**180**	P	**P**	**20 59 15.8**	**+0.6**
KAPI	**Kappang**	**64.54**	**278**	LR	LR	21 29 28.5	
	comp=Z,71nm,18.5s,baz=116,slow=38						

DAV	**Davao City (W)**	**65.91**	**293**	LR	LR	21 27 49.9	
	comp=Z,49nm,18.6s,baz=164,slow=35						
JCJ	**Chichijima**	**67.73**	**320**	P	**P**	**20 59 53.0**	**+0.2**
SMAI	**San Martin Ant**	**71.05**	**158**	P	**P**	**21 00 13.2**	**+0.4**
SMAI				IAmb	IAmb	21 00 33.8	
	comp=Z,7.4nm,1.0s						
BELA	**Belgrano 2**	**71.86**	**172**	P	**P**	**21 00 16.1**	**-1.5**
KKM	**Kota Kinabalu**	**73.14**	**287**	P	**P**	**21 00 26.0**	**-0.3**
PMSA	**Palmer Station**	**73.80**	**156**	LR	LR	21 26 54.3	
	comp=Z,33nm,18.3s,baz=252,slow=31						
LEM	**Lembang**	**74.38**	**271**	LR	LR	21 34 45.7	
	comp=Z,145nm,18.9s,baz=187,slow=37						
MAW	**Mawson**	**74.90**	**200**	P	**P**	**21 00 40.2**	**+4.6**
	comp=Z,3.4nm,0.8s,baz=125,slow=9.9,SNR=7.0						
MAW	**Mawson**	**74.90**	**200**	P	**P**	**21 00 36.8**	**+1.2**
MJAR	**Matsushiro Arr**	**77.14**	**324**	P	**P**	**21 00 48.8**	**0.0**
	comp=Z,2.8nm,0.8s,baz=154,slow=7.3,SNR=7.4						
	comp=Z,2.8nm,0.8s						
MAJO	**Matsushiro**	**77.14**	**324**	P	**P**	**21 00 47.5**	**-1.3**
MAJO				IAmb	IAmb	21 01 03.6	
	comp=Z,14nm,1.0s						
JSU	**Suzuyama**	**77.89**	**316**	P	**P**	**21 00 52.9**	**-0.2**
JSU				IAmb	IAmb	21 01 05.0	
	comp=Z,16nm,0.9s						
JSD	**Sado**	**78.26**	**325**	P	**P**	**21 00 55.4**	**+0.5**
JSD				IAmb	IAmb	21 01 07.3	
	comp=Z,22nm,1.2s						
JHS	**Saijyo**	**78.77**	**320**	P	**P**	**21 00 57.1**	**-0.7**
JHS				IAmb	IAmb	21 01 10.3	
	comp=Z,22nm,1.1s						
TROLL	**Troll, Antarti**	**80.15**	**180**	P	**P**	**21 01 05.2**	**+0.2**
SNAA	**Sanae**	**80.39**	**178**	P	**P**	**21 01 06.4**	**+0.1**
SNAA	**Sanae**	**80.39**	**178**	P	**P**	**21 01 05.1**	**-1.2**
VNA3	**Neumayer Olymp**	**80.49**	**176**	P	**P**	**21 01 06.5**	**-0.2**
VNA2	**Neumayer--Watz**	**80.94**	**176**	P	**P**	**21 01 09.4**	**+0.2**
	comp=Z,179,slow=5.4						
VNA1	**Neumayer--Stat**	**81.16**	**176**	P	**P**	**21 01 10.5**	**+0.3**
LPIG	**La Paz**	**82.21**	**58**	LR	LR	21 31 21.9	
	comp=Z,189nm,18.5s,baz=219,slow=31						
TJN	**Taejon**	**83.09**	**318**	P	**P**	**21 01 21.9**	**+1.1**
PLCA	**Paso Flores**	**83.09**	**133**	P	**P**	**21 01 21.6**	**+0.5**
	comp=Z,5.8nm,1.1s,baz=247,slow=4.0,SNR=4.7						
PLCA				LR	LR	21 31 06.6	
	comp=Z,188nm,19.0s,baz=245,slow=30						
	comp=Z,5.8nm,1.1s						
KSRS	**Korea Array**	**83.48**	**319**	P	**P**	**21 01 23.7**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=140,slow=5.4,SNR=13						
KSRS				LR	LR	21 32 22.9	
	comp=Z,37nm,21.9s,baz=140,slow=31						
	comp=Z,3.1nm,0.9s						
KSAR	**Wonju Array Be**	**83.50**	**319**	P	**P**	**21 01 23.1**	**+0.2**
KS19	**Wonju Array Si**	**83.55**	**319**	P	**P**	**21 01 21.9**	**-1.3**
PETK	**Petropavlovsk-**	**83.95**	**345**	P	**P**	**21 01 24.8**	**0.0**
	comp=Z,1.8nm,0.7s,baz=99,slow=9.2,SNR=4.1						
	comp=Z,1.8nm,0.7s						
CMB	**Columbia Colle**	**84.18**	**41**	P	**P**	**21 01 26.4**	**0.0**
QSM	**Queen of Sheba**	**84.94**	**45**	P	**P**	**21 01 30.2**	**-0.1**
DSP	**Deep Springs**	**85.17**	**43**	P	**P**	**21 01 31.4**	**+0.1**
GWY	**Greenwater Val**	**85.20**	**45**	P	**P**	**21 01 31.5**	**-0.2**
PNTR	**Pine Nut**	**85.35**	**41**	P	**P**	**21 01 32.4**	**-0.1**
PNTR				IAmb	IAmb	21 01 33.9	
	comp=Z,7.8nm,0.8s						
YBH	**Yreka Blue Hor**	**85.42**	**37**	P	**P**	**21 01 33.2**	**+0.5**
	comp=Z,4.2nm,1.1s,baz=180,slow=1.0,SNR=5.4						
	comp=Z,4.2nm,1.1s						
YBH	**Yreka Blue Hor**	**85.42**	**37**	P	**P**	**21 01 32.7**	**0.0**
LHV	**Little Huntoon**	**85.43**	**42**	P	**P**	**21 01 34.3**	**+1.7**
LHV				IAmb	IAmb	21 03 21.7	
	comp=Z,6.5nm,0.7s						
BEKR	**Beckworth**	**85.44**	**40**	P	**P**	**21 01 32.7**	**-0.1**
GMN	**Gold Mountain**	**85.56**	**43**	P	**P**	**21 01 33.3**	**-0.3**
NVAR	**Mina Array Bea**	**85.67**	**42**	P	**P**	**21 01 33.6**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=221,slow=8.0,SNR=20						
	comp=Z,3.1nm,0.8s						
NVAR	**Mina Array Bea**	**85.67**	**42**	P	**P**	**21 01 33.9**	**-0.3**
RYN	**Ryan**	**85.67**	**42**	P	**P**	**21 01 33.9**	**-0.2**
RYN				IAmb	IAmb	21 03 54.2	
	comp=Z,7.5nm,0.5s						
NV11	**Mina Array Sit**	**85.76**	**42**	P	**P**	**21 01 34.3**	**-0.2**
NJ2	**Nanjing**	**85.78**	**310**	*e*P	**P**	**21 01 35.6**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
PAHR	**Pah Rah Range**	**85.88**	**40**	P	**P**	**21 01 35.2**	**+0.1**
HUMO	**Hull Mountain**	**85.91**	**37**	P	**P**	**21 01 35.1**	**+0.1**
HUMO				IAmb	IAmb	21 02 05.6	
	comp=Z,14nm,1.8s						
TPNV	**Topopah Spring**	**85.95**	**44**	P	**P**	**21 01 34.8**	**-0.7**
TPNV				IAmb	IAmb	21 04 38.9	
	comp=Z,11nm,1.3s						
USRK	**Ussuriysk Ar.**	**86.00**	**326**	LR	LR	21 38 13.6	
	baz=179,slow=6.8,SNR=20						
	comp=Z,66nm,18.7s,baz=218,slow=34						
TPH	**Tonopah**	**86.08**	**43**	P	**P**	**21 01 36.1**	**0.0**
KVN	**Kaiserville**	**86.19**	**42**	P	**P**	**21 01 36.2**	**-0.5**
KVN				IAmb	IAmb	21 02 59.3	
	comp=Z,5.9nm,0.6s						
PSI	**Prapat**	**86.53**	**275**	LR	LR	21 43 52.0	
	comp=Z,68nm,18.2s,baz=92,slow=38						
TUC	**Tucson**	**86.65**	**51**	P	**P**	**21 01 38.6**	**-0.3**
LMEL	**Las Melosas**	**86.92**	**127**	P	**P**	**21 01 40.3**	**-0.3**
LMEL				IAmb	IAmb	21 01 44.7	
	comp=Z,14nm,1.2s						
PRN	**Pahroc Range**	**86.98**	**44**	P	**P**	**21 01 40.7**	**+0.2**
PRN				IAmb	IAmb	21 01 42.9	
	comp=Z,8.1nm,1.0s						
K05A	**Summer Lake**	**87.08**	**38**	P	**P**	**21 01 41.5**	**+0.6**
K05A				IAmb	IAmb	21 02 22.7	
	comp=Z,16nm,1.4s						
R11A	**Troy Canyon, C**	**87.25**	**43**	P	**P**	**21 01 38.7**	**-3.1**
R11A				IAmb	IAmb	21 02 23.5	
	comp=Z,8.2nm,0.8s						
X16A	**Lo Mia Camp, P**	**87.46**	**49**	P	**P**	**21 01 42.6**	**-0.4**
LCMT	**Little Creek M**	**87.86**	**46**	P	**P**	**21 01 44.5**	**-0.3**
U15A	**North Rim**	**88.11**	**47**	P	**P**	**21 01 46.1**	**0.0**
U15A				IAmb	IAmb	21 01 48.0	
	comp=Z,8.3nm,1.0s						
KNB	**Kanab**	**88.13**	**46**	P	**P**	**21 01 46.8**	**+0.6**
KNB				IAmb	IAmb	21 01 47.9	
	comp=Z,7.6nm,1.0s						
WUAZ	**Wupatki**	**88.16**	**48**	P	**P**	**21 01 47.1**	**+0.9**
WUAZ				IAmb	IAmb	21 01 48.0	
	comp=Z,3.9nm,0.8s						
PSUT	**Pine Spring**	**88.42**	**44**	P	**P**	**21 01 45.2**	**-2.3**
I07A	**Izee**	**88.75**	**37**	P	**P**	**21 01 49.0**	**+0.2**
I07A				IAmb	IAmb	21 04 23.5	
	comp=Z,15nm,1.9s						
MTPU	**Mount Pierson**	**89.16**	**45**	P	**P**	**21 01 51.3**	**+0.1**
MTPU				IAmb	IAmb	21 01 53.9	
	comp=Z,5.8nm,1.0s						
TIA	**Tai'an**	**89.40**	**312**	⇓P	**P**	**21 01 53.4**	**+1.5**
TIA				pmax	pmax		
	comp=Z,17nm,1.2s						
KLR	**Kul'dur**	**89.74**	**329**	P	**P**	**21 01 53.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=54,slow=1.1,SNR=4.2						
KLR				LR	LR	21 40 41.0	
	comp=Z,85nm,18.5s,baz=136,slow=34						
	comp=Z,0.5nm,0.3s						
G08A	**Pilot Rock**	**89.84**	**37**	P	**P**	**21 01 53.9**	**0.0**
G08A				IAmb	IAmb	21 01 56.2	
	comp=Z,7.2nm,1.1s						
TX31	**Lajitas Ar. Si**	**90.04**	**57**	P	**P**	**21 01 54.9**	**-0.3**
TX32	**Lajitas Array**	**90.04**	**57**	P	**P**	**21 01 54.6**	**-0.5**
TX32				IAmb	IAmb	21 01 59.5	
	comp=Z,15nm,1.9s						
TXAR	**Lajitas Array**	**90.04**	**57**	P	**P**	**21 01 54.8**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=208,slow=7.2,SNR=12						
TXAR				LR	LR	21 36 09.0	
	comp=Z,126nm,18.5s,baz=250,slow=31						
	comp=Z,1.8nm,1.0s						
TXAR	**Lajitas Array**	**90.04**	**57**	P	**P**	**21 01 54.6**	**-0.5**
LENM	**Lemitar**	**90.33**	**51**	P	**P**	**21 01 56.7**	**+0.2**
TMUT	**Trail Mountain**	**90.52**	**45**	P	**P**	**21 01 57.8**	**+0.4**
TMUT				IAmb	IAmb	21 01 59.6	
	comp=Z,5.5nm,1.0s						
CMIG	**Matias Romero**	**90.78**	**71**	LR	LR	21 34 20.3	
	comp=Z,79nm,19.6s,baz=204,slow=30						
D08A	**Wollman Farm,**	**91.04**	**35**	P	**P**	**21 02 00.0**	**+0.8**
D08A				IAmb	IAmb	21 02 01.2	
	comp=Z,7.4nm,0.8s						
HVU	**Hansel Valley**	**91.07**	**42**	P	**P**	**21 01 59.9**	**+0.2**
HVU				IAmb	IAmb	21 03 58.6	
	comp=Z,4.4nm,0.6s						
E09A	**Wood Farm, Sta**	**91.08**	**36**	P	**P**	**21 01 59.1**	**-0.3**
E09A				IAmb	IAmb	21 02 01.5	
	comp=Z,9.6nm,1.2s						
ANMO	**Albuquerque**	**91.12**	**51**	P	**P**	**21 02 00.1**	**0.0**
	comp=Z,2.4nm,0.9s,baz=202,slow=5.4,SNR=5.1						

ANMO				LR	LR	21 35 30.1	
	comp=Z,208nm,20.8s,baz=246,slow=31						
	comp=Z,2.4nm,0.9s						
ANMO	**Albuquerque**	**91.12**	**51**	P	**P**	**21 01 59.7**	**-0.5**
ANMO				IAmb	IAmb	21 02 03.1	
	comp=Z,13nm,1.8s						
F10A	**Beach Ranch, E**	**91.21**	**37**		**P**	**21 01 59.0**	**-1.1**
F10A				IAmb	IAmb	21 02 01.2	
	comp=Z,11nm,1.1s						
HLID	**Hailey**	**91.22**	**40**	P	**P**	**21 01 59.5**	**-0.9**
HLID				IAmb	IAmb	21 03 20.3	
	comp=Z,4.9nm,0.6s						
ENH	**Enshi**	**91.42**	**304**	P	**P**	**21 02 01.7**	**+0.3**
HNS	**HongShan**	**91.67**	**312**	⇓P	**P**	**21 02 04.4**	**+2.1**
S22A	**4UR Ranch, Cre**	**92.43**	**48**	P	**P**	**21 02 06.5**	**+0.2**
S22A				IAmb	IAmb	21 02 08.0	
	comp=Z,3.5nm,0.8s						
REDW	**Red Top Meadow**	**93.15**	**42**	P	**P**	**21 02 09.1**	**-0.3**
REDW				IAmb	IAmb	21 02 10.6	
	comp=Z,7.3nm,1.1s						
FXWY	**Fox Creek**	**93.21**	**41**	P	**P**	**21 02 09.0**	**-0.7**
IMW	**Indian Meadow**	**93.42**	**41**	P	**P**	**21 02 10.3**	**-0.3**
IMW				IAmb	IAmb	21 02 12.6	
	comp=Z,7.0nm,1.2s						
CRAI	**Chiangrai**	**93.55**	**291**	P	**P**	**21 02 11.6**	**+0.1**
PDAR	**Pinedale Array**	**93.57**	**43**	P	**P**	**21 02 10.7**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=223,slow=3.7,SNR=7.3						
	comp=Z,1.3nm,0.8s						
ATAH	**Atahualpa**	**93.77**	**100**	LR	LR	21 35 25.9	
	comp=Z,195nm,20.6s,baz=241,slow=30						
YHL	**Hebgen Lake**	**93.84**	**40**	P	**P**	**21 02 13.3**	**+0.6**
YHL				IAmb	IAmb	21 02 15.6	
	comp=Z,8.5nm,1.1s						
LVC	**Limon Verde**	**93.86**	**118**	LR	LR	21 35 29.2	
	comp=Z,110nm,21.1s,baz=227,slow=30						
CMAR	**Chiang Mai Arr**	**93.90**	**289**	P	**P**	**21 02 14.2**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=140,slow=3.9,SNR=6.2						
	comp=Z,0.9nm,0.8s						
BOZ	**Bozeman (W)**	**94.03**	**40**	P	**P**	**21 02 12.7**	**-0.6**
BOZ				IAmb	IAmb	21 02 14.5	
	comp=Z,4.0nm,0.9s						
SEY	**Seymchan**	**94.06**	**346**	P	**P**	**21 02 11.4**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=96,slow=4.1,SNR=3.6						
	comp=Z,2.5nm,0.6s						
ILAR	**Eielson Array**	**95.41**	**12**	P	**P**	**21 02 18.2**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=226,slow=4.8,SNR=2.8						
	comp=Z,0.8nm,0.9s						
RSSD	**Black Hills**	**97.67**	**44**	P	**P**	**21 02 29.7**	**-0.3**
YAK	**Yakutsk**	**99.65**	**337**	LR	LR	21 43 49.2	
	comp=Z,39nm,21.5s,baz=89,slow=33						
GOMU	**GeErMu**	**105.03**	**303**	Pdif	**Pdif**	**21 03 01.5**	**-1.7**
GOMU				AMB	AMB		
	comp=Z,86nm,6.4s						
ZALV	**Zalesovo Beam**	**117.19**	**319**	PKP	**PKPdf**	**21 07 38.8**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=228,slow=1.7,SNR=2.6						
MKAR	**Makanchi Array**	**117.30**	**311**	PKP	**PKPdf**	**21 07 39.4**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=93,slow=1.3,SNR=7.2						
ARCES	**ARCESS Array B**	**136.62**	**349**	PKP	**PKPdf**	**21 08 15.6**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=135,slow=0.1,SNR=6.0						
KLMR	**Klimovskoe**	**139.33**	**334**	*e*PKPdf	**PKPdf**	**21 08 18.3**	**-3.2**
KLMR				AMP		21 08 34.3	
	comp=Z,12nm,1.5s						
FINES	**FINESS Array B**	**143.42**	**342**	PKP	PKPbc	21 08 25.8	-0.3
	comp=Z,2.0nm,0.9s,baz=67,slow=4.7,SNR=6.5						
KBZ	**Khabaz**	**144.86**	**307**	PKP	**PKPdf**	**21 08 31.6**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=154,slow=3.1,SNR=7.0						
MEF	**Metsahovi**	**144.90**	**342**	*e*P	**PKPab**	**21 08 29.7**	**-0.9**
VSU	**Vasula**	**145.63**	**338**	*e*P	**PKPdf**	**21 08 32.3**	**-0.5**
AKN	**Aaknes**	**145.85**	**357**	*e*PKPdf	**PKPdf**	**21 08 33.0**	**-0.1**
DOMB	**Dombas**	**145.87**	**355**	*e*PKPdf	**PKPdf**	**21 08 32.9**	**-0.2**
MTSE	**Matsula**	**146.32**	**341**	*e*P	**PKPab**	**21 08 36.3**	**+0.4**
NC303	**NORSAR Array S**	**146.47**	**353**	IAmb	IAmb	21 08 35.9	
	comp=Z,7.1nm,0.8s						
NB2	**NORSAR Subarra**	**146.67**	**353**	PKP	**PKPbc**	**21 08 35.6**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=9.8,slow=2.9	

1.1nm,0.8s
H01W1 Cape Leeuwin H 76.41 226 T T 22 36 36.7
baz=150,slow=76,SNR=50
H01W2 Cape Leeuwin H 76.41 226 T T 22 36 37.3
baz=150,slow=76,SNR=57
H01W3 Cape Leeuwin H 76.42 226 T T 22 36 42.5
baz=150,slow=76,SNR=39
ASAR Alice Springs 76.89 247 P P 21 11 08.2 -0.6
0.5nm,0.8s,baz=160,slow=5.2,SNR=5.4
0.5nm,0.8s
WRA Warramunga Arr 79.76 249 P P 21 11 25.1 +0.4
0.9nm,0.8s,baz=146,slow=4.8,SNR=7.0
0.9nm,0.8s
TXAR Lajitas Array 87.34 18 P P 21 12 02.9 -0.4
0.1nm,0.6s,baz=224,slow=6.3,SNR=1.6
0.1nm,0.6s
H11S2 WAKE ISLAND Hy 94.41 297 T T 22 56 41.6
baz=148,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 94.42 297 T T 22 56 47.8
baz=148,slow=76,SNR=26
H11S1 WAKE ISLAND Hy 94.43 297 T T 22 56 43.0
baz=148,slow=76,SNR=27
H11N3 WAKE ISLAND Hy 95.35 298 T T 22 57 51.9
baz=148,slow=76,SNR=6.7
H11N1 WAKE ISLAND Hy 95.36 298 T T 22 57 51.3
baz=148,slow=76,SNR=7.7
H11N2 WAKE ISLAND Hy 95.37 298 T T 22 57 54.0
baz=148,slow=76,SNR=7.8
SONM Songino Array 148.54 276 PKPbc PKPbc 21 19 03.1 +0.4
0.6nm,0.7s,baz=126,slow=1.9,SNR=3.0
MKAR Makanchi Array 161.06 250 PKPab PKPab 21 19 58.7 -0.6
0.1nm,0.5s,baz=131,slow=4.4,SNR=1.6

---

*IDC **15** 21:07:35.2±2.9,30°.71S×177°.43W,h0km,mb3.3/2, mbtmp3.5/3,ML3.5/1,MS4.0/4, Error ellipse: s-maj=66.9km s-min=25.2km az=105.0*

*NEIC **15** 21:07:39.2±1.5,30°.7S±0°.1×177°.3W±0°.3,h35km±18km, mb4.4/6, Error ellipse: s-maj=35.1km s-min=11.0km az=73.0*

ISC 15 21:07:38.6±1.7,30°.66S±0°.07×177°.3W±0°.2,h33km,n18, σ0s91/17,mb4.3/6,MS3.8/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.50**	**339**	Pn	Pn		**Pn**	**21 08 04.4**	**+1.2**
	363nm,0.3s,baz=282,slow=2.0,SNR=35								
RAO				Sn	Sn		**Sn**	**21 08 19.6**	**-1.9**
	432nm,0.3s,baz=47,slow=20,SNR=12								
RAO	**Raoul Island**	**1.50**	**339**	Pn	Pn		**Pn**	**21 08 04.4**	**+1.2**
RAO					Sn		**Sn**	**21 08 20.9**	**-0.6**
URZ	**Urewera**	**8.87**	**210**	Pn	Pn		**Pn**	**21 09 45.0**	**+0.5**
	0.5nm,0.3s,baz=354,slow=6.7,SNR=6.2								
URZ					Sn		**Sn**	**21 11 23.7**	**+0.4**
	0.1nm,0.3s,baz=247,slow=16,SNR=0.9								
	2.9nm,0.4s								
BSWZ	**Blackbirch Sta**	**13.12**	**210**	Pn	Pn		**Pn**	**21 10 41.4**	**-1.2**
THZ	**Tophouse**	**13.60**	**213**	Pn	Pn		**Pn**	**21 10 49.5**	**+0.3**
DZM	**Mont Dzumac**	**16.87**	**297**	LR	LR		LR	21 16 50.0	
	comp=Z,535nm,19.3s,baz=72,slow=33								
HNR	**Honiara**	**29.92**	**310**	LR	LR		LR	21 24 38.7	
	comp=Z,575nm,18.6s,baz=136,slow=34								
CTA	**Charters Tower**	**34.43**	**279**	LR	LR		LR	21 26 53.4	
	comp=Z,170nm,18.6s,baz=84,slow=34								
PMG	**Port Moresby**	**39.26**	**295**	LR	LR		LR	21 30 11.7	
	comp=Z,138nm,18.5s,baz=86,slow=35								
BBOO	**Buckleboo**	**39.48**	**254**	P	**P**		**P**	**21 15 05.3**	**-0.7**
COEN	**Coen**	**39.92**	**286**	P	**P**		**P**	**21 15 09.8**	**-0.1**
COEN				IAmb	IAmb		IAmb	21 15 24.8	
	comp=Z,11nm,1.1s								
ASAR	**Alice Springs**	**43.69**	**267**	P	**P**		**P**	**21 15 41.5**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=102,slow=7.7,SNR=1.7								
	comp=Z,0.2nm,0.5s								
WB2	**Warramunga Arr**	**44.69**	**272**	P	**P**		**P**	**21 15 49.5**	**+0.8**
WB2				IAmb	IAmb		IAmb	21 16 24.2	
	comp=Z,8.6nm,1.4s								
WRA	**Warramunga Arr**	**44.70**	**272**	P	**P**		**P**	**21 15 48.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=110,slow=8.1,SNR=9.2								
	comp=Z,0.3nm,0.4s								
WRA	**Warramunga Arr**	**44.70**	**272**	P	**P**		**P**	**21 15 48.9**	**+0.1**
WB0	**Warramunga Arr**	**44.73**	**272**	P	**P**		**P**	**21 15 49.1**	**+0.1**
WB0				IAmb	IAmb		IAmb	21 15 58.6	
	comp=Z,7.0nm,1.4s								
QSPA	**South Pole Qui**	**59.46**	**180**	P	**P**		**P**	**21 17 37.3**	**-0.7**
QSPA				IAmb	IAmb		IAmb	21 17 39.2	
	comp=Z,3.6nm,1.3s								
FINES	**FINESS Array B**	**145.59**	**340**	PKPbc	**PKPab**		**PKPab**	**21 27 13.7**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=35,slow=3.4,SNR=13								

IDC 15 21:13:02.2±5.0,19°.16S×170°.65E,h0km,mb3.4/2, mbtmp3.5/3,ML3.3/1,MS3.6/5,Error ellipse: s-maj=168.2km s-min=44.7km az=136.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.89**	**233**	*e*LR	LR		LR	21 15 33.4	
	comp=Z,981nm,24.5s								
DZM	**Mont Dzumac**	**4.89**	**233**	Pn	Pn		Pn	21 14 17.9	+0.8
	1.3nm,0.3s,baz=125,slow=14,SNR=13								
DZM					Sn		Sb	21 15 26.2	-2.1
	0.6nm,0.3s,baz=172,slow=22,SNR=1.8								
	3.1nm,0.3s								
STKA	**Stephens Creek**	**29.02**	**238**	LR	LR		LR	21 28 60.0	
	comp=Z,146nm,21.9s,baz=44,slow=33								
WRA	**Warramunga Arr**	**34.18**	**263**	P	P		P	21 19 49.1	-0.5
	0.1nm,0.3s,baz=95,slow=8.4,SNR=2.3								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**34.44**	**256**	P	P		P	21 19 51.6	-0.2
	0.8nm,0.8s,baz=81,slow=10,SNR=6.6								
	0.8nm,0.8s								
NWAO	**Narrogin (SRO)**	**49.43**	**243**	LR	LR		LR	21 41 05.0	
	comp=Z,135nm,21.1s,baz=130,slow=34								
KAPI	**Kappang**	**51.51**	**279**	LR	LR		LR	21 44 04.0	
	comp=Z,52nm,19.9s,baz=106,slow=36								
VNDA	**Vanda**	**58.56**	**182**	LR	LR		LR	21 44 55.1	
	comp=Z,33nm,18.0s,baz=12,slow=33								
PETK	**Petropavlovsk-**	**72.83**	**352**	LR	LR		LR	21 56 29.1	
	comp=Z,34nm,18.5s,baz=140,slow=36								
GERES	**GERESS Array B**	**145.03**	**333**	PKPbc	PKPbc		PKPbc	21 32 40.3	-0.7
	0.4nm,0.5s,baz=17,slow=3.6,SNR=5.2								

---

*IDC **15** 21:19:43.5±1.1,43°.10N×81°.86E,h0km,mb3.9/8, mbtmp3.9/15,ML3.3/7,MS2.6/7, Error ellipse: s-maj=17.5km s-min=15.9km az=169.0*

*SOME **15** 21:19:48.8,43°.42N×81°.63E,h0km,MS3.4*

*NNC **15** 21:19:49.2±0.7,43°.36N×81°.74E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=6.9km s-min=3.1km az=148.0*

ISC 15 21:19:48.1±1.6,43°.31N±0°.06×81°.76E±0°.05,h14km±9km, n71,σ2s25/91,mb4.0/9,MS2.8/3,12C-12D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.03**	**278**	*e*P			**Pb**	**21 20 09.0**	**+1.1**
	106nm,0.2s								
KTMS				*e*S			**Sb**	**21 20 24.4**	**+3.0**
	614nm,0.2s								
KTMS	**Ketmen**	**1.03**	**278**	P			**Pb**	**21 20 09.0**	**+1.1**
	106nm,0.2s								
KTMS				S			**Sb**	**21 20 24.3**	**+3.0**
	614nm,0.2s								
PDGK	**Podgornoye**	**1.66**	**271**	⇑Pn			**Pn**	**21 20 19.2**	**+2.3**
	104nm,0.6s								
PDGK				⇑Sn			**Sg**	**21 20 42.2**	**+0.8**
	890nm,0.5s								
SHLS	**Shalkode**	**1.69**	**266**	*e*P			**Pn**	**21 20 15.4**	**-1.9**
	149nm,0.2s								
SHLS				*e*S			**Sn**	**21 20 35.2**	**-3.5**
	2μm,0.2s								
SHLS	**Shalkode**	**1.69**	**266**	P			**Pn**	**21 20 15.4**	**-1.9**
	149nm,0.2s								
SHLS				S			**Sn**	**21 20 35.2**	**-3.5**
	997nm,0.4s								
DJR	**Jarkent**	**1.75**	**306**	*e*P			**Pb**	**21 20 20.7**	**+0.6**
	208nm,0.5s								
DJR				*e*S			**Sg**	**21 20 44.6**	**0.0**
	1μm,0.2s								
DJR	**Jarkent**	**1.75**	**306**	P			**Pb**	**21 20 20.7**	**+0.6**
	208nm,0.5s								
DJR				S			**Sg**	**21 20 44.6**	**0.0**
	927nm,0.3s								
UZB	**Uzunbulak**	**2.01**	**266**	*e*P			**Pb**	**21 20 25.7**	**+1.3**
	36nm,0.3s								
UZB						*e*S	**Sg**	**21 20 52.3**	**-0.3**
	689nm,0.1s								
UZB	**Uzunbulak**	**2.01**	**266**	Pg	Pg		**Pb**	**21 20 25.7**	**+1.3**
	36nm,0.3s								
UZB					Lg		Lg	21 20 52.3	
	383nm,0.4s								
KPKS	**Kokpek**	**2.25**	**275**	*e*P			**Pb**	**21 20 29.9**	**+1.4**
	46nm,0.2s								
KPKS						*e*S	**Sg**	**21 20 59.6**	**-0.7**
	2μm,0.4s								
KPKS	**Kokpek**	**2.25**	**275**	Pg	Pg		**Pb**	**21 20 29.9**	**+1.4**
	46nm,0.2s								
KPKS					Lg		Lg	21 20 59.6	
	2μm,0.4s								
ZHN	**Zhinishke**	**2.43**	**268**	*e*P			**Pb**	**21 20 32.9**	**+1.1**
	113nm,0.3s								
ZHN						*e*S	**Sb**	**21 21 04.9**	**+3.3**
	1μm,0.2s								
ZHN	**Zhinishke**	**2.43**	**268**	Pg	Pg		**Pb**	**21 20 32.9**	**+1.1**
	113nm,0.3s								
ZHN					Lg		Lg	21 21 04.9	
	1μm,0.2s								
SATY	**Saty**	**2.46**	**265**	*e*P			**Pb**	**21 20 34.1**	**+1.9**
	43nm,0.3s								
SATY						*e*S	**Sg**	**21 21 06.9**	**-0.4**
	936nm,0.4s								
SATY	**Saty**	**2.46**	**265**	Pg	Pg		**Pb**	**21 20 34.1**	**+1.9**
	43nm,0.3s								
SATY					Lg		Lg	21 21 06.9	
	936nm,0.4s								
KURS	**Kuram**	**2.62**	**275**	*e*P			**Pb**	**21 20 37.4**	**+2.5**
	15nm,0.7s								
KURS						*e*S	**Sg**	**21 21 12.4**	**+0.1**
	248nm,0.5s								
KURS	**Kuram**	**2.62**	**275**	Pg	Pg		**Pb**	**21 20 37.4**	**+2.5**
	15nm,0.7s								
KURS					Lg		Lg	21 21 12.4	
	248nm,0.5s								
TDK	**Taldyqorghan**	**2.95**	**306**	*e*P			**Pb**	**21 20 42.0**	**+1.6**
	88nm,0.4s								
TDK						*e*S	**Sg**	**21 21 20.1**	**-2.6**
	888nm,0.5s								
TDK	**Taldyqorghan**	**2.95**	**306**	Pg	Pg		**Pb**	**21 20 42.0**	**+1.6**
	88nm,0.4s								
TDK					Lg		Lg	21 21 20.1	
	888nm,0.5s								
ARXS	**Arharly**	**2.99**	**289**	*e*P			**Pb**	**21 20 42.5**	**+1.3**
	37nm,0.6s								
ARXS						*e*S	**Sb**	**21 21 21.4**	**+3.9**
	342nm,0.5s								
MDOK	**Medeo**	**3.44**	**269**	*e*P			**Pb**	**21 20 51.9**	**+2.9**
	64nm,0.5s								
MDOK						*e*S	**Sg**	**21 21 37.2**	**-1.6**
	216nm,0.6s								
MDOK	**Medeo**	**3.44**	**269**	⇑Pn			**Pn**	**21 20 43.6**	**+2.1**
	1.4nm,0.4s								
MDOK					Pg		**Pb**	**21 20 51.9**	**+2.9**
	64nm,0.5s								
MDOK				⇓Pg			**Pg**	**21 20 52.6**	**-1.5**
	43nm,0.5s								
MDOK				⇑Lg			Lg	21 21 36.4	
	169nm,0.5s								
MDOK					Lg		Lg	21 21 37.2	
	216nm,0.6s								
KNDC	**Almaty**	**3.50**	**270**	⇑Pn			**Pn**	**21 20 46.1**	**+3.9**
	15nm,0.3s								
KNDC				⇓Lg			Lg	21 21 37.9	
	543nm,0.7s								
MAKZ	**Makanchi**	**3.50**	**2**	⇓Pn			**Pn**	**21 20 43.7**	**+1.6**
	16nm,0.5s								
MAKZ				⇓Pg			**Pg**	**21 20 53.1**	**-2.1**
	37nm,0.5s								
MAKZ				⇓Lg			Lg	21 21 38.0	
	173nm,0.8s								
MK31	**Makanchi Array**	**3.50**	**6**	Pn			**Pn**	**21 20 43.6**	**+1.5**
	5.1nm,0.3s,baz=187,slow=13,SNR=330								
MK31				⇓Pg			**Pg**	**21 20 53.6**	**-1.6**
	6.6nm,0.2s,baz=185,slow=14,SNR=32								
MK31				Lg			Lg	21 21 38.5	
	233nm,0.7s,baz=187,slow=29,SNR=2.8								
MKAR	**Makanchi Array**	**3.50**	**6**	Pn			**Pn**	**21 20 43.8**	**+1.6**
	6.7nm,0.3s,baz=182,slow=12,SNR=224								
MKAR					Pg		**Pg**	**21 20 54.0**	**-1.2**
	20nm,0.3s,baz=190,slow=16,SNR=46								
MKAR					Sn		Sn	21 21 15.2	-8.3
	12nm,0.3s,baz=189,slow=16,SNR=8.8								
MKAR					Lg		Lg	21 21 36.5	
	27nm,0.3s,baz=188,slow=33,SNR=9.8								
MKAR					LR		LR	21 22 21.0	
	comp=Z,95nm,21.3s,baz=160,slow=42								
	13nm,0.4s								
CHKK	**Chushkaly**	**3.51**	**281**	*e*P			**Pb**	**21 20 51.0**	**+1.0**
	19nm,0.4s								
CHKK						*e*S	**Sb**	**21 21 35.9**	**+3.5**
	135nm,0.6s								
CHKK	**Chushkaly**	**3.51**	**281**	Pg	Pg		**Pb**	**21 20 51.0**	**+1.0**
	19nm,0.4s								
CHKK					Lg		Lg	21 21 35.9	
	135nm,0.6s								
AAA	**Alma-Ata**	**3.54**	**270**	*e*P			**Pb**	**21 20 53.9**	**+3.3**
	28nm,0.5s								
AAA						*e*S	**Sg**	**21 21 40.5**	**-1.2**
	349nm,0.4s								
AAA	**Alma-Ata**	**3.54**	**270**	Pg	Pg		**Pb**	**21 20 53.9**	**+3.3**
	28nm,0.5s								
AAA					Lg		Lg	21 21 40.5	
	349nm,0.4s								
KTBS	**Karatobe**	**3.71**	**278**	*e*P			**Pb**	**21 20 56.0**	**+2.5**
	18nm,0.4s								
KTBS						*e*S	**Sg**	**21 21 44.9**	**-2.5**
	353nm,0.6s								
KTBS	**Karatobe**	**3.71**	**278**	Pg	Pg		**Pb**	**21 20 56.0**	**+2.5**
	18nm,0.4s								
KTBS					Lg		Lg	21 21 44.9	
	353nm,0.6s								
MTBS	**Maitube**	**3.90**	**269**	*e*P			**Pb**	**21 21 00.2**	**+3.5**
	28nm,0.4s								
MTBS						*e*S	**Sg**	**21 21 51.5**	**-1.8**
	172nm,0.4s								
MTBS	**Maitube**	**3.90**	**269**	Pg	Pg		**Pb**	**21 21 00.2**	**+3.5**
	28nm,0.4s								
MTBS					Lg		Lg	21 21 51.5	
	172nm,0.4s								
KUU	**Kurty**	**3.98**	**280**	*e*P			**Pb**	**21 20 59.7**	**+1.7**
	9.8nm,0.6s								
KUU						*e*S	**Sb**	**21 21 50.6**	**+4.7**
	156nm,0.5s								
KUU	**Kurty**	**3.98**	**280**	Pg	Pg		**Pb**	**21 20 59.7**	**+1.7**
	9.8nm,0.6s								
KUU					Lg		Lg	21 21 50.6	
	156nm,0.5s								
KST	**Kastek**	**4.25**	**268**	*e*P			**Pg**	**21 21 08.3**	**-1.1**
	11nm,0.6s								
KST						*e*S	**Sg**	**21 22 05.4**	**+0.9**
	116nm,0.7s								
KST	**Kastek**	**4.25**	**268**	Pg	Pg		**Pg**	**21 21 08.3**	**-1.1**
	11nm,0.6s								
DGS	**Degeres**	**4.37**	**271**	*e*P			**Pb**	**21 21 09.2**	**+4.4**
	21nm,0.4s								
DGS						*e*S	**Sg**	**21 22 07.1**	**-1.4**
	160nm,0.5s								
DGS	**Degeres**	**4.37**	**271**	Pg	Pg		**Pb**	**21 21 09.2**	**+4.4**
	21nm,0.4s								
DGS					Lg		Lg	21 22 07.1	
	160nm,0.5s								
KRBS	**Karabastau**	**4.44**	**277**	*e*P			**Pb**	**21 21 10.0**	**+4.1**
	14nm,0.5s								
KRBS						*e*S	**Sg**	**21 22 08.5**	**-2.2**
	104nm,0.4s								
KRBS	**Karabastau**	**4.44**	**277**	Pg	Pg		**Pb**	**21 21 10.0**	**+4.1**
	14nm,0.5s								
KRBS					Lg		Lg	21 22 08.5	
	104nm,0.4s								
TKM2	**Tokmak 2**	**4.53**	**267**	⇓Pg			Pb	21 21 12.0	+4.5
	19nm,0.5s								
TKM2				⇓Lg			Lg	21 22 10.4	
	134nm,0.8s								
ZSN	**Zaisan**	**4.68**	**27**	*e*P			**Pb**	**21 21 11.8**	**+1.8**
	5.8nm,0.4s								
ZSN						*e*S	**Sb**	**21 22 11.9**	**+5.7**
	140nm,0.6s								
ZSN	**Zaisan**	**4.68**	**27**	Pg	Pg		**Pb**	**21 21 11.8**	**+1.8**
	5.8nm,0.4s								
CHMS	**Chumysh**	**5.14**	**269**	⇓Pg			Pb	21 21 22.6	+4.9
	9.5nm,0.6s								
CHMS				⇑Lg			Lg	21 22 31.2	
	56nm,0.7s								
AAK	**Ala-Archa**	**5.37**	**265**	Pg	Pg		**Pb**	**21 21 20.6**	**-1.2**
	0.4nm,0.3s,baz=98,slow=9.7,SNR=5.6								
AAK					Lg		Lg	21 22 36.6	
	4.2nm,0.3s,baz=290,slow=20,SNR=9.2								
AAK					LR		LR	21 23 31.2	
	comp=Z,41nm,19.9s,baz=78,slow=42								
KURBB	**Kurchatov Arra**	**7.64**	**344**	Pn	Pn		**Pn**	**21 21 38.6**	**-0.3**
	0.4nm,0.3s,baz=172,slow=12,SNR=39								
KURBB					Sn		**Sn**	**21 23 03.4**	**-1.9**
	0.6nm,0.3s,baz=158,slow=24,SNR=5.8								
KURBB					Lg		Lg	21 23 47.5	
	0.7nm,0.3s,baz=180,slow=32,SNR=5.8								
KURBB					LR		LR	21 24 54.1	
	comp=Z,60nm,21.0s,baz=247,slow=40								
	1.5nm,0.3s								
KURBB	**Kurchatov Arra**	**7.64**	**344**	⇓Pn			**Pn**	**21 21 40.7**	**+1.7**
	3.0nm,0.6s								
KURBB				⇑Lg			Lg	21 23 47.5	
	47nm,0.6s								
KURK	**Kurchatov**	**7.71**	**345**	⇓Pn			**Pn**	**21 21 41.7**	**+1.8**
	3.7nm,0.7s								
KURK				⇑Lg			Lg	21 23 50.6	
	106nm,1.2s								
KK31	**Karatay Array**	**8.22**	**272**	⇑Pg			Pb	21 22 17.6	+7.4
	1.2nm,0.5s,baz=74,slow=16,SNR=7.0								
KK31					Lg		Lg	21 24 06.8	
	11nm,0.6s,baz=76,slow=29,SNR=6.8								
OTUK	**Ortayu**	**8.23**	**310**	⇑Pn			**Pn**	**21 21 47.0**	**0.0**
	2.4nm,0.5s								
OTUK				⇑Lg			Lg	21 24 06.4	
	25nm,0.7s								
ZALV	**Zalesovo Beam**	**10.84**	**10**	Pn			**Pn**	**21 22 21.9**	**-0.7**
	0.3nm,0.3s,baz=191,slow=13,SNR=13								
ZALV					Sn		Sn	21 24 16.3	-7.3
	0.1nm,0.3s,baz=196,slow=14,SNR=1.7								
ZALV					Lg		Lg	21 25 23.2	
	0.3nm,0.3s,baz=193,slow=25,SNR=2.8								
	2.4nm,0.7s								
BVA0	**Borovoye Array**	**12.32**	**326**	⇓Lg			Lg	21 26 16.4	
	19nm,1.0s								
BVAR	**Borovoye Array**	**12.32**	**326**	Pn			**Pn**	**21 22 42.5**	**-0.4**
	0.6nm,0.3s,baz=132,slow=14,SNR=9.1								
BVAR					Lg		Lg	21 26 09.8	
	0.3nm,0.3s,baz=144,slow=26,SNR=4.4								
BVAR					LR		LR	21 27 08.4	
	comp=Z,7.9nm,22.0s,baz=157,slow=36								
	1.0nm,0.4s								
BRVK	**Borovoye**	**12.38**	**326**	⇑Lg			Lg	21 26 18.9	
	23nm,0.9s								
AKTO	**Aktyubinsk**	**17.68**	**302**	P			**Pn**	**21 23 53.8**	**0.0**
	0.3nm,0.3s,baz=100,slow=14,SNR=3.5								
	1.1nm,0.4s								
SONM	**Songino Array**	**17.80**	**67**	P			**Pn**	**21 23 54.7**	**-0.8**
	0.2nm,0.3s,baz=269,slow=11,SNR=14								
	2.0nm,0.8s								
ARU	**Arti**	**19.77**	**320**	P			**P**	**21 24 18.3**	**+0.8**
	baz=105,slow=16,SNR=3.8								
	1.1nm,0.3s								
BELG	**Belogornoye**	**24.44**	**304**	P			**P**	**21 25 05.4**	**-0.8**
	5.5nm,0.7s,baz=322,slow=1.8,SNR=4.3								
	5.5nm,0.7s								
NRIK	**Noril'sk**	**26.27**	**5**	P			**P**	**21 25 21.2**	**-1.3**
	3.1nm,0.8s,baz=196,slow=8.6,SNR=4.1								
	3.1nm,0.8s								
GNI	**Garni**	**27.66**	**276**	P			**P**	**21 25 33.7**	**-1.9**
	2.1nm,0.5s,baz=21,slow=22,SNR=1.7								
	2.1nm,0.5s								
OBN	**Obninsk**	**31.24**	**308**	LR	LR		LR	21 38 36.9	
	comp=Z,7.2nm,19.3s,baz=176,slow=36								
FINES	**FINESS Array B**	**37.14**	**319**	P			**P**	**21 26 57.5**	**-0.5**
	1.5nm,0.8s,baz=116,slow=6.3,SNR=1.7								
	1.5nm,0.8s								
MMAI	**Mount Meron Ar**	**37.45**	**270**	LR	LR		LR	21 44 18.5	
	comp=Z,24nm,20.1s,baz=187,slow=39								
ARCES	**ARCESS Array B**	**38.51**	**332**	P			**P**	**21 27 09.4**	**-0.2**
	2.7nm,0.9s,baz=75,slow=9.2,SNR=4.2								
	2.7nm,0.9s								
NB2	**NORAR Subarra**	**44.32**	**319**	P			**P**	**21 27 56.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=79,slow=7.9								
NOA	**NORSAR Array B**	**44.32**	**319**	P			**P**	**21 27 56.5**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=80,slow=7.9,SNR=5.0								
NOA					LR		LR	21 47 33.5	
	comp=Z,13nm,19.9s,baz=250,slow=38								
	comp=Z,0.5nm,0.5s								
TORD	**Torodi Ar. Bea**	**73.91**	**273**	P			P	21 31 20.9	-2.1
	comp=Z,0.6nm,0.4s,baz=42,slow=5.8,SNR=12								
	comp=Z,0.6nm,0.4s								
WRA	**Warramunga Arr**	**79.31**	**131**	P			P	21 31 49.9	-3.4
	comp=Z,0.1nm,0.5s,baz=327,slow=4.8,SNR=1.0								
	comp=Z,0.1nm,0.5s								
HNR	**Honiara**	**87.93**	**105**	P			P	21 32 34.5	-3.1
	comp=Z,1μm,0.5s,baz=286,slow=21,SNR=2.7								

---

*NEIC **15** 21:21:06.6±1.1,17°.8S±0°.2×178°.4W±0°.1,h561km±8km, mb4.4/25, Error ellipse: s-maj=24.3km s-min=12.0km az=155.0*

*IDC **15** 21:21:07.5±4.9,17°.69S×178°.55W,h575km±23km,mb3.2/3, mbtmp4.1/4,Error ellipse: s-maj=111.6km s-min=78.9km az=143.0*

ISC 15 21:21:05.1±0.7,17°.7S±0°.2×178°.4W±0°.1,h550km,n33, σ0s69/29,mb4.4/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.42**	**269**	P	P		P	21 22 26.2	+3.2
	8.5nm,0.7s,baz=351,slow=14,SNR=6.2								
MSVF	**Nonsavu**	**3.42**	**269**	P	P		**P**	21 22 25.3	+2.3
LIFNC	**LIFOU**	**13.93**	**255**	P	P		**P**	**21 24 04.1**	**+0.5**
DZM	**Mont Dzumac**	**14.93**	**251**	P	P		**P**	**21 24 14.6**	**+0.6**
CMWZ	**Cape Campbell**	**24.77**	**193**	P	P		**P**	**21 25 44.1**	**+0.4**
MLZ	**Mavora Lakes**	**29.78**	**199**	P	P		**P**	**21 26 28.0**	**+0.5**
MLZ					IAmb		IAmb	21 27 12.2	
	comp=Z,20nm,1.2s								
STKA	**Stephens Creek**	**38.75**	**241**	P	P		**P**	**21 27 42.1**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=79,slow=10,SNR=7.9								
	comp=Z

LLLB	**Lillooet**	**84.14**	**32**	P	**P**	**21 32 39.2**	**+0.8**
LLLB				IAmb	IAmb	21 32 40.4	
	comp=Z,2.6nm,0.6s						
O20A	**White River Ci**	**86.90**	**46**	P	P	21 32 53.8	+1.7

ANF 15 21:31:34.8±0.7, 42.12N×121.76W, h14km±3km, ML2.4/10, Error ellipse: s-maj=5.3km s-min=3.1km az=138.0, Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L04D	**Klamath Falls**	**0.42**	**284**	P	Pg	21 31 43.3	0.0
	baz=98,SNR=157						
L04D				S	Sg	21 31 49.5	+0.5
	baz=98						
K04D	**Chiloquin, OR**	**0.50**	**0**	P	Pg	21 31 44.8	0.0
	baz=188,SNR=13						
K04D				S	Sb	21 31 52.5	-0.2
	baz=188						
J04D	**Umpqua Nationa**	**1.15**	**347**	P	Pn	21 31 56.7	+0.1
	baz=169,SNR=24						
J04D				S	Sg	21 32 11.9	-0.1
	baz=169						
J05D	**Fort Rock, OR**	**1.23**	**18**	P	Pn	21 31 57.6	0.0
	baz=202,SNR=36						
J05D				S	Sg	21 32 15.2	+0.8
	baz=202						
L02F	**Cave Junction**	**1.35**	**271**	P	Pn	21 31 59.0	-0.1
	baz=87						
L02F				S	Sb	21 32 17.3	+0.3
	baz=87						
K02D	**Willamette Mer**	**1.53**	**293**	P	Pn	21 32 01.8	+0.2
	baz=111,SNR=6.0						
K02D				S	Sn	21 32 21.7	+0.4
	baz=111						
I04A	**Tendick Farm,**	**1.74**	**344**	Pb	Pb	21 32 06.3	-0.2
	baz=165						
J01E	**Myrtle Point**	**1.91**	**304**	Pb	Pb	21 32 10.2	+0.8
	baz=122						
J01E				Sg	Sg	21 32 38.0	+1.7
	baz=122						
J01E	**Myrtle Point**	**1.91**	**304**	P	Pb	21 32 09.9	+0.6
I03D	**Drain, OR**	**1.96**	**324**	Pb	Pb	21 32 10.8	+0.5
	baz=144						
I03D				S	Sb	21 32 33.7	-0.8
	baz=144						
H04D	**Lebanon**	**2.51**	**344**	Sb	Sb	21 32 52.7	+2.5
	baz=164						
I02E	**Swisshome, OR**	**2.51**	**323**	Sg	Sg	21 32 58.3	+2.9
	baz=142						

HEL 15 21:38:52.2±0.2, 67.64N×33.74E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.44**	**52**	PG	Pg	21 38 59.5	-1.0
LVZ				SG	Sg	21 39 06.1	-0.1
VRF	**Varrio**	**1.58**	**276**	PG	Pn	21 39 20.3	-1.1
VRF				MSG		21 39 39.6	
	comp=Z,5.2nm,0.2s						
VRF				SG	Sn	21 39 40.4	-2.2
OLKF	**Oulanka, Finla**	**2.16**	**234**	PG	Pn	21 39 30.6	+1.2
OLKF				SG	Sb	21 39 59.9	+0.6
KU6	**Riekki**	**2.22**	**225**	PG	Pb	21 39 31.7	-1.4
KU6				MSG		21 39 58.0	
	comp=Z,3.4nm,0.2s						
KU6				SG	Sb	21 40 01.1	0.0
SGF	**Sodankyl**	**2.78**	**269**	PB	Pb	21 39 40.8	-1.8
	baz=78						
RNF	**Rovaniemi**	**3.19**	**255**	PN	Pn	21 39 43.4	-0.1
KEV	**Kevo**	**3.25**	**314**	PN	Pn	21 39 44.7	+0.4
KEV				SN	Sn	21 40 23.1	-0.6
RMF	**Romuvaara**	**3.77**	**206**	PN	Pn	21 39 52.0	+0.5
	baz=26						
KLF	**Kolari**	**3.79**	**268**	PG	Pb	21 39 59.7	-0.2
HEF	**Hetta**	**3.87**	**286**	*eP*	Pb	21 39 59.9	-1.3
TOF	**Tornio**	**4.03**	**252**	PG	Pb	21 40 05.4	+1.5
TOF				SB	Sb	21 40 48.7	-4.5
ERTU	**Ertsjaerv**	**4.64**	**262**	PN	Pn	21 40 01.7	-1.7

NEIC 15 21:57:06.6±2.6, 27.95N±0.2×176.0W±0.2, h10km±2km, mb4.5/11, Error ellipse: s-maj=34.8km s-min=14.4km az=138.0
IDC 15 21:57:07.2±0.8, 27.59N×176.49W, h0km, mb3.8/8, mbtmp3.9/11, ML3.7/3, MS3.6/4, Error ellipse: s-maj=27.2km s-min=19.0km az=134.0
ISC 15 21:57:11.9±0.7, 27.69N±0.10×176.5W±0.1, h35km, n40, σ1s81/37, mb4.0/12, MS3.3/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.00**	**219**	Pn	**Pn**	**21 57 43.5**	**+0.3**
	61nm,0.3s,baz=32,slow=21,SNR=7.1						
RAO				Sn	**Sn**	**21 58 09.3**	**+2.3**
	267nm,0.3s,baz=92,slow=23,SNR=6.8						
	137nm,0.3s						
RAO	**Raoul Island**	**2.00**	**219**	Pn	**Pn**	**21 57 43.5**	**+0.3**
RAO				Sn	**Sn**	**21 58 08.8**	**+1.8**
URZ	**Urewera**	**11.82**	**205**	Pn	**Pn**	**21 59 59.1**	**+1.1**
	0.3nm,0.3s,baz=248,slow=21,SNR=2.0						
URZ				Sn	Sn	22 01 55.3	-13
	1.2nm,0.3s,baz=77,slow=22,SNR=5.1						
	2.5nm,0.6s						
HIZ	**Hauiti**	**12.99**	**212**	Pn	**Pn**	**22 00 12.1**	**-1.9**
SNZO	**South Karori**	**15.39**	**206**	P	**Pn**	**22 00 45.5**	**-0.8**
DZM	**Mont Dzumac**	**16.46**	**286**	*e*LR	LR	22 05 35.5	
	comp=Z,73nm,21.6s						
DZM	**Mont Dzumac**	**16.46**	**286**	Pn	**Pn**	**22 00 58.7**	**-1.6**
	0.1nm,0.3s,baz=336,slow=20,SNR=3.0						
	8.2nm,1.0s						
THZ	**Tophouse**	**16.50**	**209**	Pn	**Pn**	**22 00 57.1**	**-3.5**
THZ				IAmb	IAmb	22 01 17.1	
	comp=Z,37nm,1.2s						
RAR	**Rarotonga**	**16.52**	**71**	LR	LR	22 06 18.0	
	comp=Z,169nm,18.4s,baz=224,slow=33						
KHZ	**Kahutara**	**16.79**	**206**	Pn	**Pn**	**22 00 58.1**	**-6.1**
OXZ	**Oxford**	**18.15**	**208**	P	**Pn**	**22 01 16.3**	**-4.8**
OXZ				IAmb	IAmb	22 01 43.2	
	comp=Z,46nm,1.4s						
TBI	**Tubuai**	**24.75**	**86**	*e*LR	LR	22 08 53.7	
	comp=Z,110nm,25.5s						
PPT2	**Papeete2**	**26.74**	**74**	*e*LR	LR	22 09 46.7	
	comp=Z,75nm,21.5s						
CTA	**Charters Tower**	**34.80**	**274**	LR	LR	22 18 08.8	
	comp=Z,125nm,18.9s,baz=80,slow=36						
STKA	**Stephens Creek**	**36.46**	**253**	P	**P**	**22 04 14.8**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=166,slow=21,SNR=2.9						
	comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**44.65**	**264**	P	**P**	**22 05 22.4**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=92,slow=7.7,SNR=13						
	comp=Z,1.0nm,0.7s						
WR0	**Warramunga Arr**	**45.22**	**269**	P	**P**	**22 05 26.8**	**+0.9**
WR0				IAmb	IAmb	22 05 50.3	
	comp=Z,5.8nm,1.3s						
WB2	**Warramunga Arr**	**45.39**	**269**	P	**P**	**22 05 28.1**	**+0.7**
WRA	**Warramunga Arr**	**45.40**	**269**	P	**P**	**22 05 27.6**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=108,slow=7.4,SNR=8.6						
	comp=Z,2.1nm,0.9s						
WRA	**Warramunga Arr**	**45.40**	**269**	P	**P**	**22 05 27.9**	**+0.5**
WB0	**Warramunga Arr**	**45.41**	**269**	P	**P**	**22 05 27.9**	**+0.4**
WB0				IAmb	IAmb	22 05 35.6	
	comp=Z,6.6nm,1.1s						
VNDA	**Vanda**	**50.91**	**186**	P	**P**	**22 06 11.1**	**+1.9**
	comp=Z,1.1nm,1.0s,baz=11,slow=5.8,SNR=4.0						
	comp=Z,1.1nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.75**	**267**	P	**P**	**22 06 31.3**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=100,slow=6.1						
FITZ				LR	LR	22 26 43.2	
	comp=Z,25nm,19.7s,baz=74,slow=33						
	comp=Z,1.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.75**	**267**	P	**P**	**22 06 30.1**	**-0.9**
FITZ				IAmb	IAmb	22 07 12.1	
	comp=Z,10nm,1.5s						
CASY	**Casey**	**58.14**	**207**	P	**P**	**22 06 59.9**	**-1.8**
CASY				IAmb	IAmb	22 07 13.1	
	comp=Z,5.7nm,0.9s						
BATI	**Baumata**	**58.68**	**275**	LR	LR	22 33 56.2	
	comp=Z,107nm,18.3s,baz=132,slow=38						
TROLL	**Troll, Antarti**	**80.57**	**180**	P	**P**	**22 09 19.8**	**-0.6**
SNAA	**Sanae**	**80.81**	**178**	P	**P**	**22 09 20.2**	**-1.4**
SNAA	**Sanae**	**80.81**	**178**	P	**P**	**22 09 19.9**	**-1.8**
SNAA				IAmb	IAmb	22 09 23.3	
	comp=Z,6.1nm,1.1s						
VNA3	**Neumayer Olymp**	**80.90**	**176**	P	**P**	**22 09 20.6**	**-1.5**
VNA2	**Neumayer--Watz**	**81.35**	**176**	P	**P**	**22 09 24.2**	**-0.3**
	baz=174,slow=3.1						
VNA1	**Neumayer--Stat**	**81.57**	**176**	P	**P**	**22 09 26.1**	**+0.5**
KSRS	**Korea Array**	**83.17**	**319**	P	**P**	**22 09 34.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=139,slow=7.4,SNR=2.2						
	comp=Z,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**85.36**	**42**	P	**P**	**22 09 46.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=221,slow=7.7,SNR=5.2						
	comp=Z,0.5nm,0.7s						
TXAR	**Lajitas Array**	**89.81**	**57**	P	**P**	**22 10 08.1**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=212,slow=3.2,SNR=3.0						
	comp=Z,0.3nm,0.8s						
NB2	**NORSAR Subarra1**	**46.26**	**353**	PKP	**PKPab**	**22 16 49.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=9.1,slow=2.9						
NOA	**NORSAR Array B**	**146.26**	**353**	PKPbc	**PKPbc**	**22 16 48.7**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=13,slow=4.4,SNR=5.7						
AKASG	**Malin Array Be**	**149.86**	**327**	PKPbc	**PKPbc**	**22 16 58.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=46,slow=2.9,SNR=7.0						
BRTR	**Keskin Array B**	**152.35**	**303**	PKPbc	**PKiKP**	**22 17 04.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=111,slow=2.0,SNR=2.2						
BRTR				PKPab	**PKPab**	**22 17 14.0**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=88,slow=3.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**165.43**	**173**	PKPab	**PKPab**	**22 18 10.7**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=178,slow=4.2,SNR=9.8						

NORS 15 22:18:09.9±0.0, 41.55N×43.29E, h10km, MPVA3.5
TIF 15 22:18:09.0, 41.48N×43.34E, h12km
ISC 15 22:18:08.4±0.9, 41.44N±0.03×43.29E±0.03, h12km±7km, n23, σ1s75/44, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZMN	**Azmana**	**0.13**	**183**	P	**Pg**	**22 18 11.2**	**-0.5**
AZMN				S	**Sg**	**22 18 14.1**	**0.0**
AKH	**Akhalkalaki**	**0.15**	**102**	P	**Pg**	**22 18 13.0**	**+0.8**
AKH				S	**Sg**	**22 18 15.4**	**+0.7**
BKRG	**Bakuriani**	**0.36**	**28**	P	**Pg**	**22 18 15.1**	**-0.6**
BKRG				S	**Sb**	**22 18 21.0**	**-1.6**
ABS	**Abastumani**	**0.48**	**311**	P	**Pg**	**22 18 15.3**	**-2.6**
ABS				S	**Sg**	**22 18 22.7**	**-1.6**
DMNI	**Dmanisi**	**0.68**	**99**	P	**Pg**	**22 18 22.2**	**+0.5**
DMNI				S	**Sg**	**22 18 30.9**	**+0.2**
ALIG	**Mtskhetisjvari**	**0.71**	**22**	P	**Pg**	**22 18 22.2**	**0.0**
ALIG				S	**Sb**	**22 18 31.4**	**-1.3**
KZRT	**Kazreti**	**0.83**	**94**	P	**Pg**	**22 18 24.4**	**-0.2**
KZRT				S	**Sg**	**22 18 35.3**	**-0.1**
TKB	**Tkibuli**	**0.93**	**346**	P	**Pb**	**22 18 26.8**	**+0.2**
TKB				S	**Sn**	**22 18 39.8**	**-1.0**
ONI	**Oni**	**1.15**	**6**	P	**Pn**	**22 18 30.5**	**0.0**
ONI				S	**Sn**	**22 18 46.1**	**-0.2**
BTNK	**Botanikuri**	**1.15**	**78**	P	Pb	22 18 22.2	-8.2
BTNK				S	**Sb**	**22 18 36.9**	**-8.4**
BATM	**Batumi**	**1.21**	**278**	P	**Pg**	**22 18 32.8**	**+1.1**
BATM				S	**Sn**	**22 18 50.0**	**+2.3**
ZEI	**Tsey**	**1.42**	**18**	*e*Pg	**Pg**	**22 18 35.4**	**-0.3**
ZEI				*e*Sg	**Sg**	**22 18 55.3**	**+1.1**
DIGR	**Digorskoe uzhe**	**1.47**	**8**	*e*Pg	**Pg**	**22 18 36.8**	**+0.1**
DIGR				*e*Sg	**Sg**	**22 18 57.6**	**+1.8**
PNSH	**Pansheti**	**1.54**	**39**	P	**Pg**	**22 18 37.6**	**-0.5**
PNSH				S	**Sg**	**22 18 58.0**	**-0.2**
DGRG	**David-gareji**	**1.56**	**89**	P	**Pn**	**22 18 37.3**	**+1.2**
DGRG				S	**Sg**	**22 18 58.5**	**-0.2**
LACR	**Lac**	**1.57**	**28**	*e*Pg	**Pg**	**22 18 39.2**	**+0.6**
LACR				*e*Sg	**Sg**	**22 18 58.8**	**-0.2**
KORR	**Kora**	**1.74**	**19**	*e*Pg	**Pg**	**22 18 41.9**	**+0.1**
KORR				*e*Sg	**Sg**	**22 19 06.2**	**+1.8**
NEY	**Neytrino**	**1.85**	**347**	*e*Pg	**Pg**	**22 18 43.7**	**-0.3**
NEY				*e*Sg	**Sg**	**22 19 08.0**	**-0.1**
VLKR	**Vladikavkaz**	**1.90**	**32**	*e*Pg	**Pg**	**22 18 45.1**	**+0.1**
VLKR				*e*Sg	**Sg**	**22 19 10.6**	**+0.9**
STDR	**Stavd-Durt**	**2.01**	**16**	*e*Pg	**Pg**	**22 18 48.0**	**+1.1**
STDR				*e*Sg	**Sg**	**22 19 16.3**	**+3.4**
DDFL	**Dedoflistskaro**	**2.12**	**89**	P	**Pg**	**22 18 48.9**	**-0.2**
LGD	**Lagodekhi**	**2.24**	**79**	P	**Pb**	**22 18 49.0**	**+0.1**
LGD				S	**Sb**	**22 19 18.7**	**+2.0**
SHA1	**Shidzhatmaz**	**2.34**	**349**	*e*Pg	**Pg**	**22 18 53.0**	**-0.4**
SHA1				*e*Sg	**Sb**	**22 19 20.3**	**+0.6**

IDC 15 22:24:23.9±1.9, 24.34N×121.69E, h0km, mb3.2/2, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=72.0km s-min=33.0km az=70.0
TAP 15 22:24:24.4, 24.90N×122.46E, h15km, ML3.6, C
JMA 15 22:24:24.9±0.2, 24.8N±1.0×122.5E±0.5, h14km±3km, MV2.9/7, NW OFF ISHIGAKIJIMA IS
ISC 15 22:24:24.4±1.0, 24.85N±0.03×122.49E±0.02, h12km±8km, n86, σ0s77/151, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.48**	**290**	*i* P	**Pg**	**22 24 33.7**	**-0.1**
	baz=284						
TWB1				*i* S	**Sg**	**22 24 40.3**	**0.0**
	baz=284						
EGS		**0.51**	**270**	*e*P	**Pg**	**22 24 34.6**	**+0.3**
EGS				S	**Sg**	**22 24 41.9**	**+1.0**
	baz=252						
JYNG	**Yonaguni jima**	**0.57**	**133**	*i* P	**Pb**	**22 24 36.2**	**-0.1**
JYNG				S	**Sb**	**22 24 44.2**	**-0.3**
NTC	**Toucheng**	**0.60**	**271**	P	**Pg**	**22 24 36.3**	**+0.3**
	baz=278						
NTC				*e*S	**Sg**	**22 24 44.4**	**+0.4**
	baz=278						
SXI1	**Grass Mountain**	**0.61**	**294**	*i* P	**Pg**	**22 24 36.5**	**+0.2**
	baz=290						
SXI1				*i* S	**Sg**	**22 24 44.9**	**+0.6**
	baz=290						
YOJ	**Yonaguni jima**	**0.61**	**129**	*e*P	**Pb**	**22 24 36.9**	**-0.1**
	baz=122						
YOJ				*e*S	**Sb**	**22 24 45.7**	**+0.1**
	baz=122						
YOJ	**Yonaguni jima**	**0.61**	**129**	*i* P	**Pb**	**22 24 36.9**	**-0.1**
YOJ				S	**Sb**	**22 24 45.4**	**-0.2**
TIPB	**Shuangxi**	**0.61**	**282**	*i* P	**Pg**	**22 24 36.4**	**0.0**
	baz=277						
TIPB				*e*S	**Sg**	**22 24 45.1**	**+0.6**
	baz=277						
TWC	**Suao**	**0.63**	**248**	P	**Pg**	**22 24 36.6**	**+0.1**
	baz=242						
TWC				S	**Sg**	**22 24 44.8**	**-0.1**
	baz=242						
ILA	**Ilan**	**0.68**	**263**	*e*S	**Sb**	**22 24 48.1**	**+0.6**
	baz=247						
NWF	**Wu-fen Shan**	**0.68**	**289**	P	**Pg**	**22 24 37.7**	**+0.1**
	baz=285						
NWF				*i* S	**Sg**	**22 24 47.3**	**+0.8**
	baz=285						
WFSB	**Wu-fen Shan**	**0.68**	**289**	P	**Pg**	**22 24 37.7**	**+0.1**
	baz=285						
WFSB				S	**Sg**	**22 24 46.9**	**+0.3**
	baz=285						
TNOU	**National Taiwa**	**0.72**	**295**	*e*P	**Pg**	**22 24 38.1**	**-0.1**
	baz=292						
TNOU				*e*S	**Sg**	**22 24 47.5**	**-0.2**
	baz=292						
TWE	**Neicheng**	**0.76**	**261**	*e*P	**Pg**	**22 24 39.2**	**+0.2**
	baz=255						
TWE				S	**Sg**	**22 24 49.1**	**+0.2**
	baz=255						
EWUT	**Wuta**	**0.76**	**238**	*e*P	**Pg**	**22 24 38.5**	**-0.6**
	baz=233						
EWUT				*e*S	**Sg**	**22 24 48.2**	**-0.8**
	baz=233						
ENA	**Nanau**	**0.80**	**239**	*i* P	**Pb**	**22 24 40.0**	**-0.2**
	baz=234						
ENA				S	**Sb**	**22 24 50.6**	**-0.4**
	baz=234						
FUSB	**Fushanzhiwuyua**	**0.82**	**264**	*i* P	**Pg**	**22 24 40.1**	**-0.2**
	baz=260						
FUSB				S	**Sb**	**22 24 51.6**	**-0.1**
	baz=260						
NWRT	**Kuosheng**	**0.83**	**296**	P	**Pg**	**22 24 40.8**	**+0.3**
	baz=292						
NWRT				S	**Sg**	**22 24 51.5**	**+0.2**
	baz=292						
TWA	**Mucha**	**0.83**	**279**	P	**Pg**	**22 24 39.9**	**-0.6**
	baz=275						
TWA				S	**Sg**	**22 24 51.6**	**+0.2**
	baz=275						
NHY	**Taipei**	**0.85**	**283**	*e*P	**Pn**	**22 24 42.3**	**0.0**
	baz=280						
NHY				*e*S	**Sn**	**22 24 54.2**	**-0.5**
	baz=280						
ENTT	**Nioudou**	**0.86**	**256**	*e*P	**Pg**	**22 24 40.5**	**-0.6**
	baz=237						
ENTT				*e*S	**Sg**	**22 24 51.6**	**-0.7**
	baz=237						
NHDH	**Xindian Distri**	**0.88**	**278**	*e*P	**Pg**	**22 24 41.4**	**0.0**
	baz=274						
NHDH				*e*S	**Sg**	**22 24 52.1**	**-0.9**
	baz=274						
YM08	**YM08**	**0.88**	**293**	*i* P	**Pg**	**22 24 41.6**	**+0.1**
	baz=290						
YM01	**YM01**	**0.89**	**290**	P	**Pg**	**22 24 41.1**	**-0.4**
	baz=287						
YM01				S	**Sg**	**22 24 52.8**	**-0.2**
	baz=287						
TAP	**Taipei**	**0.91**	**282**	*e*P	**Pg**	**22 24 42.4**	**+0.4**
	baz=279						
TAP				S	**Sg**	**22 24 54.0**	**+0.1**
	baz=279						
TATO	**Taipei**	**0.92**	**278**	*i* P	**Pg**	**22 24 41.7**	**-0.4**
	baz=275						
TATO				*e*S	**Sg**	**22 24 53.6**	**-0.4**
	baz=275						
NDT	**Datong Townshi**	**0.92**	**255**	*e*P	**Pb**	**22 24 42.7**	**+0.4**
	baz=251						
NDT				S	**Sg**	**22 24 53.7**	**-0.4**
	baz=251						
LATG	**Datong**	**0.93**	**251**	*i* P	**Pg**	**22 24 42.3**	**0.0**
	baz=232						
LATG				*e*S	**Sb**	**22 24 55.0**	**+0.2**
	baz=232						
ANP	**Anpu**	**0.94**	**291**	*e*P	**Pg**	**22 24 42.7**	**+0.1**
	baz=289						
TWS1	**Kuangyinshan**	**1.00**	**285**	*e*P	**Pn**	**22 24 44.8**	**+0.5**
	baz=282						
TWS1				*e*S	**Sg**	**22 24 57.7**	**+0.9**
	baz=282						
YHNB	**Yeheng**	**1.03**	**260**	*e*P	**Pb**	**22 24 44.0**	**-0.2**
	baz=241						
YHNB				*e*S	**Sb**	**22 24 56.9**	**-0.7**
	baz=241						
NSK	**Sanguang**	**1.04**	**261**	*e*P	**Pb**	**22 24 42.9**	**-1.5**
	baz=241						
NSK				*e*S	**Sb**	**22 24 56.4**	**-1.7**
	baz=241						
ETL	**Fush Village**	**1.04**	**229**	*e*P	**Pg**	**22 24 44.4**	**-0.1**
	baz=237						
ETL				*e*S	**Sn**	**22 25 00.2**	**+0.7**
	baz=237						
NACB	**Ninganchiao**	**1.05**	**231**	*e*P	**Pb**	**22 24 44.4**	**-0.2**
	baz=238						
NACB				*e*S	**Sn**	**22 24 58.8**	**-0.8**
	baz=238						
NNSB	**Datong**	**1.09**	**248**	*e*P	**Pb**	**22 24 45.0**	**-0.3**
	baz=245						
NNSH	**Datong**	**1.09**	**248**	P	**Pb**	**22 24 44.9**	**-0.4**
	baz=233						
NNSH				*e*S	**Sb**	**22 24 59.3**	**-0.2**
	baz=233						
NTY	**Taoyuan**	**1.09**	**278**	*e*P	**Pg**	**22 24 46.5**	**+1.1**
	baz=261						
NTY				*e*S	**Sg**	**22 25 00.1**	**+0.4**
	baz=261						
NNS	**Nan Shan**	**1.09**	**249**	P	**Pb**	**22 24 44.3**	**-1.0**
	baz=244						
NNS				*e*S	**Sb**	**22 24 58.1**	**-1.4**
	baz=244						
TWD	**Chiawan**	**1.11**	**227**	*e*P	**Pg**	**22 24 45.9**	**+0.1**
	baz=233						
TWD				S	**Sg**	**22 25 00.1**	**-0.2**
	baz=233						
ETLH	**Xiulin Townshi**	**1.11**	**235**	*e*P	**Pb**	**22 24 45.5**	**-0.2**
	baz=232						
ETLH				S	**Sg**	**22 25 00.2**	**-0.2**
	baz=232						
NCU	**National Centr**	**1.19**	**276**	*e*P	**Pg**	**22 24 48.0**	**+0.8**
	baz=273						
NCU				*e*S	**Sn**	**22 25 04.0**	**+1.1**
	baz=273						
NCUH	**Zhongli**	**1.19**	**276**	*e*P	**Pg**	**22 24 48.7**	**+1.4**
	baz=273						
NCUH				*e*S	**Sn**	**22 25 04.1**	**+1.1**
	baz=273						
IRIF	**Iriomote-Funau**	**1.24**	**114**	*e*P	**Pg**	**22 24 48.6**	**+0.4**
ETM	**Tongmen**	**1.26**	**226**	P	**Pg**	**22 24 48.5**	**-0.2**
	baz=205						
ETM				*e*S	**Sg**	**22 25 07.2**	**+2.2**
	baz=205						
NFF	**Wufeng Townshi**	**1.26**	**261**	*e*P	**Pn**	**22 24 46.5**	**-1.4**
	baz=257						
NFF				S	**Sb**	**22 25 03.9**	**-0.6**
	baz=257						
FUSS	**Fushou**	**1.28**	**243**	P	**Pb**	**22 24 48.8**	**+0.2**
	baz=239						
FUSS				S	**Sg**	**22 25 05.8**	**+0.2**
	baz=239						
WHF	**Hehuan Shan**	**1.31**	**238**	*e*P	**Pb**	**22 24 49.4**	**+0.1**
	baz=235						
TWT	**Tachien**	**1.33**	**244**	*e*P	**Pg**	**22 24 50.7**	**+0.7**
	baz=232						
TWT				S	**Sg**	**22 25 07.8**	**+0.4**
	baz=232						
TDCB	**Techi**	**1.35**	**244**	*e*P	**Pg**	**22 24 51.6**	**+1.4**
	baz=232						
TDCB				*e*S	**Sg**	**22 25 08.8**	**+1.0**
	baz=232						
LIOB	**Emei**	**1.35**	**262**	*e*P	**Pn**	**22 24 48.8**	**-0.3**
	baz=259						
SBCB	**Hsinchu**	**1.37**	**268**	*e*P	**Pb**	**22 24 50.4**	**+0.5**
	baz=283						
NSTT	**Nanjuang**	**1.37**	**261**	*e*S	**Sg**	**22 25 09.4**	**+0.9**
	baz=258						
ESL	**Shilin**	**1.41**	**223**	P	**Pn**	**22 24 49.6**	**-0.3**
	baz=220						
CHGB	**Renai**	**1.43**	**237**	P	**Pb**	**22 24 51.2**	**+0.1**
	baz=234						
CHGB				*e*S	**Sg**	**22 25 12.5**	**+2.0**
	baz=234						
OWD	**Renai**	**1.49**	**234**	P	**Pb**	**22 24 52.0**	**-0.1**
	baz=244						
OWD				*e*S	**Sg**	**22 25 12.4**	**+0.1**
	baz=244						
JIJ	**Ishigaki jima**	**1.58**	**107**	P	**Pn**	**22 24 52.7**	**+0.4**
JIJ				*e*S	**Sb**	**22 25 13.3**	**-0.3**
TWQ1	**Liyutan**	**1.64**	**253**	*e*P	**Pg**	**22 24 56.2**	**+0.4**
	baz=249						
TWQ1				*e*S	**Sg**	**22 25 16.9**	**-0.3**
	baz=249						
WCS	**Beigang Elemen**	**1.64**	**242**	P	**Pb**	**22 24 54.3**	**-0.3**
	baz=239						
WCS				*e*S	**Sn**	**22 25 14.0**	**0.0**
	baz=239						
HGSD	**Ruisui**	**1.66**	**216**	*e*P	**Pb**	**22 24 54.1**	**-0.8**
	baz=199						
HGSD				S	**Sb**	**22 25 15.7**	**-0.1**
	baz=199						
SMLT	**Sun Mo

baz=209
WDLH Douliu 2.12 237 *e*P **Pb 22 25 02.2 -0.6**
baz=253
WDLH *e*S **Sb 22 25 30.5 +1.4**
baz=253
WRL Guolierlin Hig 2.14 244 *e*P **Pn 22 25 00.1 +0.1**
baz=242
EDH Donghe 2.16 210 *e*P **Pn 22 25 00.6 +0.4**
baz=196
EDH *e*S **Sn 22 25 27.5 +0.6**
baz=196
WCKO Fanlu 2.22 231 P **Pb 22 25 02.7 -1.8**
baz=213
WCKO S **Sb 22 25 31.6 -0.3**
baz=213
TPUB Ta-pu 2.29 228 P **Pb 22 25 04.2 -1.5**
baz=210
TPUB *e*S **Sn 22 25 31.5 +1.2**
baz=210
CHY Chiayi 2.31 235 P **Pb 22 25 04.6 -1.5**
baz=216
CHY *e*S **Sb 22 25 35.6 +0.9**
baz=216
TWGBT Beinan 2.40 213 *e*P **Pn 22 25 03.7 +0.2**
baz=211
TWGBT *e*S **Sn 22 25 33.2 +0.4**
baz=211
TWK Hsinying 2.41 230 *e*P **Pb 22 25 05.7 -2.0**
baz=212
ICHU Yijhu 2.50 234 *e*P **Pb 22 25 07.3 -2.0**
baz=233
JMJ Miyako jima 2 2.55 90 *e*P **Pb 22 25 08.6 -1.5**
baz=90
MASBT Mashibuluo 2.80 218 P **Pn 22 25 10.8 +1.8**
baz=204
PHUB P'eng-hu 2.98 244 *e*P **Pn 22 25 12.1 +0.6**
baz=242
PHUB *e*S **Sn 22 25 47.0 0.0**
baz=242
LYJJ Jianjiangzhen 2.99 305 *e*P **Pn 22 25 10.6 -1.0**
baz=302
LYJJ *e*S **Sn 22 25 46.7 -0.7**
baz=302
VCHM Qimei 3.24 240 P **Pn 22 25 16.2 +1.1**
baz=252
VCHM *e*S **Sn 22 25 53.6 +0.1**
baz=252
AXDP Jialang 4.10 272 *e*P **Pn 22 25 26.1 -0.8**
baz=269
KSRS Korea Array 13.40 19 Pn **P 22 27 45.2 +1.4**
0.1nm,0.3s,baz=198,slow=11,SNR=8.9
0.5nm,0.6s
MKAR Makanchi Array 38.70 315 P **P 22 31 48.1 -0.2**
0.3nm,0.6s,baz=97,slow=10.0,SNR=3.6
0.3nm,0.6s
WRA Warramunga Arr 45.99 164 P **P 22 32 46.8 -0.9**
0.2nm,0.8s,baz=347,slow=8.7,SNR=1.4
0.2nm,0.8s

IDC 15 22:30:29.5±2.4, 1.02N×128.54E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=178.3km s-min=26.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.60**	**165**	P	P	22 35 21.8	+0.6
	0.2nm,0.4s,baz=345,slow=9.6,SNR=10						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**25.09**	**168**	P	P	22 35 55.6	-0.4
	0.5nm,0.5s,baz=342,slow=8.9,SNR=8.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**60.79**	**325**	P	P	22 40 43.5	0.0
	0.3nm,0.4s,baz=123,slow=7.1,SNR=6.0						
	0.3nm,0.4s						

---

*NEIC **15** 22:30:30.4±1.4, 54.78N±0.06×160.58W±0.03, h30km±10km, ML3.2/10, ML2.9/18(AEIC), Error ellipse: s-maj=8.5km s-min=2.0km az=188.0*

AEIC 15 22:30:30.2±1.6, 54.76N±0.05×160.60W±0.06, h26km±8km, Error ellipse: s-maj=8.1km s-min=3.8km az=157.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNBA	**Chernabura Isl**	**0.59**	**84**		Pb	22 30 42.1	+0.3
CNBA	**Chernabura Isl**	**0.59**	**84**		Sb	22 30 50.4	+0.6
SDPT	**Sand Point**	**0.60**	**7**		Pb	22 30 42.5	+0.5
SDPT					Sb	22 30 50.9	+0.9
SDPT	**Sand Point**	**0.60**	**7**	IAML		22 30 51.2	
	comp=N,2µm,0.3s						
SDPT				IAML		22 30 51.3	
	comp=E,2µm,0.2s						
PVV	**Pavlof Volcano**	**0.92**	**312**		Pn	22 30 46.7	-0.8
PS4A	**Pavlof South-4**	**0.94**	**310**		Pn	22 30 47.0	-0.6
HAG	**Hague Volcano**	**0.94**	**307**		Pn	22 30 47.3	-0.4
DT1	**Dutton Round H**	**1.03**	**290**		Pn	22 30 48.1	-0.9
DT1					Sb	22 31 01.1	-1.5
ISLZ	**Isanotski Laza**	**1.81**	**270**		Pn	22 30 59.8	+0.2
ISNN	**Isanotski Nort**	**1.84**	**274**		Pn	22 31 01.3	+1.2
SSLS	**Shishaldin Sou**	**1.97**	**270**		Pn	22 31 02.9	+1.0
CHGN	**Chignik**	**1.98**	**38**	Pn	Pn	22 31 02.6	+0.6
CHGN				IAML		22 31 31.4	
	comp=E,98nm,0.3s						
CHGN				IAML		22 31 32.0	
	comp=N,56nm,0.1s						
WECS	**Westdahl Cape**	**2.44**	**266**		Pn	22 31 08.9	+0.6
CHIR	**Chirikof Islan**	**3.04**	**67**		Pn	22 31 17.1	+0.6
CHIR	**Chirikof Islan**	**3.04**	**67**	IAML		22 32 41.0	
	comp=E,102nm,2.1s						
CHIR				IAML		22 32 51.5	
	comp=N,91nm,1.8s						
AKSA	**Akutan Strait**	**3.04**	**260**		Pn	22 31 18.1	+1.5
AKUT	**Akutan**	**3.09**	**260**	Pn	Pn	22 31 16.0	-1.2
OHAK	**Old Harbor**	**4.79**	**56**	Pn	Pn	22 31 39.6	-1.0
KDAK	**Kodiak Island**	**5.40**	**53**	Pn	Pn	22 31 48.8	-0.1
CLES	**Cleveland East**	**5.84**	**254**	Pn	Pn	22 31 51.2	-3.8
P19K	**Oil Pt**	**6.33**	**36**	Pn	Pn	22 31 59.8	-1.9

IDC 15 22:33:50.3±2.0, 0.11S×125.75E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=188.6km s-min=27.4km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.43**	**157**	P	P	22 38 39.6	-0.7
	0.2nm,0.3s,baz=336,slow=11,SNR=9.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**24.72**	**162**	P	P	22 39 14.0	+0.5
	0.4nm,0.4s,baz=345,slow=11,SNR=7.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**60.17**	**327**	P	P	22 43 59.9	-0.1
	0.2nm,0.5s,baz=129,slow=6.8,SNR=4.0						
	0.2nm,0.5s						

---

*IDC **15** 22:34:03.9±1.0, 43.55N×105.32W, h0km, mbtmp3.3/5, ML3.5/5, Error ellipse: s-maj=22.0km s-min=8.6km az=151.0*

*NEIC **15** 22:34:06.6±1.1, 43.76N±0.05×105.28W±0.04, h0km±2km, ML3.1/72, Error ellipse: s-maj=9.3km s-min=3.6km az=333.0*

ISC 15 22:34:04.7±1.0, 43.75N±0.07×105.29W±0.06, h0km, n60, σ1.978/59, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**68**		**Pb**	**22 34 25.2**	**+0.5**
K22A	**Casper**	**1.42**	**220**		**Pn**	**22 34 31.9**	**-0.1**
PHWY	**Pilot Hill**	**2.45**	**183**		**Pn**	**22 34 48.3**	**+2.0**
PHWY				IAML		22 35 24.4	
	97nm,0.4s						
PHWY				IAML		22 35 24.4	
	84nm,0.4s						
RWWY	**Rawlins**	**2.50**	**215**		**Pn**	**22 34 48.7**	**+1.8**
RWWY				IAML		22 35 24.9	
	120nm,0.4s						
N23A	**Red Feather La**	**2.90**	**190**	Pn	**Pn**	**22 34 54.8**	**+2.5**
N23A				IAML		22 35 37.1	
	comp=N,88nm,0.6s						
N23A				IAML		22 35 40.4	
	comp=E,65nm,0.6s						
LAO	**LASA Array**	**3.01**	**348**		**Pn**	**22 34 54.6**	**+0.9**
RLMT	**Red Lodge**	**3.16**	**297**	Pn	**Pn**	**22 34 57.4**	**+1.5**
RLMT				IAML		22 35 53.5	
	comp=E,52nm,0.4s						
BW06	**Boulder Array**	**3.27**	**254**		**Pn**	**22 34 59.2**	**+1.8**
BW06				IAML		22 35 50.7	
	comp=E,55nm,0.3s						
BW06				IAML		22 35 52.2	
	comp=E,40nm,0.6s						
PD31	**Pinedale Array**	**3.27**	**254**		**Pn**	**22 34 59.0**	**+1.6**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**22 34 59.3**	**+1.9**
	comp=E,5.5nm,0.3s,baz=69,slow=16,SNR=59						
PDAR				Lg	Lg	22 35 43.0	
	comp=E,13nm,0.3s,baz=311,slow=12,SNR=2.9						
	comp=E,6.6nm,0.3s						
PDAR	**Pinedale Array**	**3.27**	**254**		**Pn**	**22 34 58.8**	**+1.4**
YMP	**Mirror Lake Pl**	**3.63**	**287**		**Pn**	**22 35 04.3**	**+1.9**
OGNE	**Ogallala**	**3.70**	**138**	Pn	**Pn**	**22 35 05.5**	**+2.3**
GCMT	**Greycliff**	**3.72**	**305**		**Pn**	**22 35 05.2**	**+1.7**
LKWY	**Lake**	**3.76**	**284**	Pn	**Pn**	**22 35 06.5**	**+2.3**
LKWY				IAML		22 35 34.5	
	comp=E,38nm,0.5s						
LKWY				IAML		22 36 09.1	
	comp=E,22nm,0.7s						
LOHW	**Long Hollow**	**3.85**	**270**		**Pn**	**22 35 07.2**	**+1.7**
MOOW	**Moose Ponds**	**3.95**	**272**	Pn	**Pn**	**22 35 08.5**	**+1.7**
ISCO	**Idaho Springs**	**3.96**	**184**	Pn	**Pn**	**22 35 09.8**	**+2.8**
SNOW	**Snow King Moun**	**3.98**	**268**	Pn	**Pn**	**22 35 09.0**	**+1.9**
SNOW				IAML		22 36 13.6	
	comp=E,31nm,0.7s						
SNOW				IAML		22 36 23.7	
	comp=E,28nm,1.0s						
YNR	**Norris Junctio**	**3.99**	**286**	Pn	**Pn**	**22 35 09.9**	**+2.6**
YPP	**Pitchstone Pla**	**4.01**	**279**	Pn	**Pn**	**22 35 09.5**	**+1.9**
REDW	**Red Top Meadow**	**4.06**	**266**	Pn	**Pn**	**22 35 09.5**	**+1.2**
REDW				IAML		22 36 16.7	
	comp=E,26nm,0.7s						
REDW				IAML		22 36 27.9	
	comp=E,30nm,0.8s						
IMW	**Indian Meadow**	**4.09**	**274**	Pn	**Pn**	**22 35 11.2**	**+2.5**
IMW				IAML		22 35 39.7	
	comp=E,32nm,0.5s						
IMW				IAML		22 36 20.0	
	comp=E,21nm,0.6s						
TPAW	**Teton Pass**	**4.12**	**268**	IAML		22 36 25.2	
	comp=E,23nm,0.9s						
TPAW				IAML		22 36 25.8	
	comp=E,16nm,0.8s						
YHH	**Holmes Hill**	**4.12**	**286**	Pn	**Pn**	**22 35 11.0**	**+1.8**
YHH				IAML		22 36 22.2	
	comp=N,18nm,0.9s						
FXWY	**Fox Creek**	**4.16**	**270**		**Pn**	**22 35 12.2**	**+2.5**
O20A	**White River Ci**	**4.23**	**212**		**Pn**	**22 35 12.4**	**+1.8**
O20A				IAML		22 36 26.4	
	comp=E,27nm,0.6s						
E28A	**Huff**	**4.30**	**47**	Pn	**Pn**	**22 35 13.0**	**+1.5**
AHID	**Auburn Hatcher**	**4.36**	**259**	Pn	**Pn**	**22 35 14.6**	**+2.3**
AHID				IAML		22 36 37.1	
	comp=E,17nm,0.4s						
AHID				IAML		22 36 37.2	
	comp=E,24nm,1.1s						
YHL	**Hebgen Lake**	**4.37**	**287**	Pn	**Pn**	**22 35 13.5**	**+0.9**
YHL				IAML		22 36 28.6	
	comp=N,24nm,1.2s						
YHL				IAML		22 36 43.4	
	comp=E,22nm,1.0s						
ECR	**Eagle Creek**	**4.48**	**263**	Pn	**Pn**	**22 35 16.1**	**+2.0**
RDMU	**Red Mountain**	**4.50**	**226**	Pn	**Pn**	**22 35 17.3**	**+3.0**
RDMU				IAML		22 36 33.0	
	comp=N,20nm,1.1s						
RDMU				IAML		22 36 47.4	
	comp=E,22nm,1.0s						
QLMT	**Earthquake Lak**	**4.54**	**286**	Pn	**Pn**	**22 35 14.5**	**-0.3**
SUSD	**Miller**	**4.62**	**79**	Pn	**Pn**	**22 35 16.9**	**+1.2**
SMCO	**Snowmass**	**4.74**	**196**	Pn	**Pn**	**22 35 19.6**	**+1.8**
SMCO				IAML		22 36 37.7	
	comp=E,18nm,0.3s						
DGMT	**Dagmar**	**4.78**	**9**		**Pn**	**22 35 17.9**	**-0.1**
Q24A	**Divide**	**4.79**	**179**	Pn	**Pn**	**22 35 19.2**	**+0.8**
Q24A				IAML		22 36 44.5	
	comp=N,12nm,0.3s						
BOZ	**Bozeman (W)**	**4.88**	**294**	Pn	**Pn**	**22 35 20.6**	**+1.2**
BOZ				IAML		22 36 43.4	
	comp=N,11nm,0.6s						
BOZ				IAML		22 36 44.5	
	comp=N,14nm,0.8s						
HWUT	**Hardware Ranch**	**5.10**	**247**	Pn	**Pn**	**22 35 24.1**	**+1.6**
HWUT				IAML		22 36 58.2	
	comp=N,16nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.14**	**156**	Pn	**Pn**	**22 35 24.0**	**+0.9**
TCUT	**Toone Canyon**	**5.24**	**242**	Pn	**Pn**	**22 35 27.2**	**+2.8**
EGMT	**Eagleton**	**5.28**	**325**	Pn	**Pn**	**22 35 26.2**	**+1.2**
MCMT	**McKenzie Canyo**	**5.53**	**284**	Pn	**Pn**	**22 35 29.8**	**+1.3**
P18A	**Preston Nutter**	**5.54**	**224**		**Pn**	**22 35 30.9**	**+2.2**
HVU	**Hansel Valley**	**5.85**	**253**	Pn	**Pn**	**22 35 33.9**	**+1.1**
PV07	**Paradox Valley**	**5.88**	**207**		**Pn**	**22 35 35.1**	**+1.7**
P17A	**Butcher Ranch,**	**5.91**	**226**	Pn	**Pn**	**22 35 35.8**	**+2.1**
PV15	**Paradox Valley**	**5.92**	**205**	Pn	**Pn**	**22 35 35.6**	**+1.8**
SDCO	**Great Sand Dun**	**6.00**	**182**	Pn	**Pn**	**22 35 36.7**	**+1.7**
MPU	**Maple Canyon**	**6.03**	**234**	Pn	**Pn**	**22 35 35.5**	**+0.2**
PV13	**Radium Mtn., P**	**6.19**	**207**	Pn	**Pn**	**22 35 38.8**	**+1.2**
TMUT	**Trail Mountain**	**6.29**	**227**		**Pn**	**22 35 40.4**	**+1.4**
MSU	**Marysvale**	**7.38**	**227**	Pn	**Pn**	**22 35 55.7**	**+1.9**
MVU	**Marysvale**	**7.40**	**227**	Pn	**Pn**	**22 35 55.8**	**+1.6**
ELK	**Elko**	**7.97**	**251**	Pn	**Pn**	**22 36 03.5**	**+1.6**
	comp=N,0.3nm,0.3s,baz=62,slow=6.8,SNR=3.4						
ELK				Lg	Lg	22 38 08.2	
	comp=N,0.1nm,0.3s,baz=160,slow=19,SNR=1.5						
	comp=N,0.5nm,0.3s						
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**22 36 17.1**	**-0.6**
	comp=N,2.9nm,0.3s,baz=226,slow=12,SNR=27						
ULM				Pg		22 36 51.1	
	comp=N,0.7nm,0.3s,baz=231,slow=15,SNR=4.0						
ULM				Lg	Lg	22 38 47.1	
	baz=306,slow=20						
	comp=N,4.6nm,0.3s						
W18A	**Petrified Fore**	**9.28**	**203**	Pn	**Pn**	**22 36 19.2**	**-0.7**
AMTX	**Amarillo**	**9.29**	**161**	Pn	**Pn**	**22 36 20.2**	**+0.2**
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**22 36 44.4**	**-1.3**
	comp=N,0.1nm,0.3s,baz=54,slow=12,SNR=1.8						
	comp=N,0.4nm,0.8s						
TXAR	**Lajitas Array**	**14.45**	**174**	Pn	**Pn**	**22 37 27.8**	**-2.8**
	baz=1.9,slow=11,SNR=1.6						
TXAR				Lg	Lg	22 41 25.8	
	baz=2.1,slow=27,SNR=1.5						
	comp=N,0.1nm,0.4s						

---

*UUSS **15** 23:17:19.4±1.3, 38.20N±0.02×112.62W±0.02, h9km±7km, ML2.7/11, ML2.6/75(NEIC), Error ellipse: s-maj=2.6km s-min=1.9km az=129.0*

NEIC 15 23:17:19.3±1.2, 38.18N±0.01×112.60W±0.02, h5km±10km, Error ellipse: s-maj=2.6km s-min=1.8km az=88.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DWU	**Dry Willow Pea**	**0.33**	**256**		Pg	23 17 25.9	+0.3
MTPU	**Mount Pierson**	**0.35**	**113**	Pg	Pg	23 17 26.1	-0.2
MTPU				IAML		23 17 33.0	
	comp=N,879nm,0.2s						
MTPU				IAML		23 17 33.2	
	comp=E,702nm,0.2s						
NMUT	**North Mineral**	**0.39**	**329**		Pg	23 17 26.8	0.0
MVU	**Marysvale**	**0.44**	**43**	Pg	Pg	23 17 28.0	+0.1
TCRU	**Three Creeks R**	**0.44**	**15**	Pg	Pg	23 17 27.8	0.0
TCRU					Sg	23 17 34.2	+0.5
TCRU				IAML		23 17 35.8	
	comp=N,509nm,0.3s						
MSU	**Marysvale**	**0.47**	**45**	Pg	Pg	23 17 28.3	0.0
BHU	**Blowhard Mount**	**0.62**	**199**		Pg	23 17 31.8	+0.5
BHU					Sg	23 17 40.6	+1.2
IMU	**Iron Mountain**	**0.63**	**316**		Pg	23 17 31.4	0.0
SZCU	**Shurtz Canyon**	**0.70**	**214**	Pg	Pg	23 17 33.0	+0.2
SZCU				IAML		23 17 44.5	
	comp=N,389nm,0.2s						
BTU	**Barney Top**	**0.71**	**126**		Pg	23 17 33.3	+0.3
PKCU	**Pink Cliffs**	**0.77**	**163**	Pg	Pg	23 17 34.1	0.0
PKCU				IAML		23 17 52.3	
	comp=N,407nm,0.5s						
ARUT	**Antelope Range**	**0.77**	**240**		Pg	23 17 34.3	+0.2
CCUT	**Cedar City**	**0.87**	**224**	Pg	Pg	23 17 36.0	-0.1
CCUT				IAML		23 17 48.1	
	comp=E,148nm,0.6s						
WCU	**Willow Creek**	**0.88**	**27**		Pg	23 17 36.1	0.0
ZNPU	**Zion National**	**0.93**	**207**		Pg	23 17 36.7	-0.3
MMU	**Miners Mountai**	**1.03**	**89**		Pg	23 17 38.2	-0.8
PSUT	**Pine Spring**	**1.05**	**290**	Pg	Pg	23 17 39.3	-0.1
PSUT				IAML		23 17 57.1	
	comp=N,99nm,0.5s						
OWUT	**Old Woman Plat**	**1.10**	**57**		Pg	23 17 39.9	-0.4
EKU	**East Kanab**	**1.11**	**176**		Pg	23 17 40.0	-0.5
KNB	**Kanab**	**1.18**	**189**		Pg	23 17 40.9	-1.0
FLU	**Fool Peak**	**1.24**	**15**		Pg	23 17 42.8	-0.3
LCMT	**Little Creek M**	**1.28**	**204**		Pg	23 17 42.9	-0.9
Q16A	**Castle Valley**	**1.34**	**56**		Pn	23 17 43.9	-1.0
HMU	**Henry Mountain**	**1.48**	**99**		Pn	23 17 46.5	-0.4
TMUT	**Trail Mountain**	**1.56**	**44**		Pn	23 17 47.4	-0.6
TMUT				IAML		23 18 09.3	
	comp=N,108nm,0.5s						
TMUT				IAML		23 18 15.8	
	comp=E,88nm,0.8s						
SPR3	**Spring Creek 3**	**1.58**	**302**		Pn	23 17 47.4	-1.0
SPR3				IAML		23 18 10.3	
	comp=E,66nm,0.2s						
SPR3				IAML		23 18 12.1	
	comp=N,87nm,0.4s						
U15A	**North Rim**	**1.77**	**172**		Pn	23 17 51.5	+0.7
U15A				IAML		23 18 17.6	
	comp=N,65nm,0.5s						
U15A				IAML		23 18 18.2	
	comp=E,59nm,0.7s						
NLU	**North Lily Min**	**1.82**	**13**	Pn	Pn	23 17 51.7	+0.2
SRU	**San Rafael Swe**	**1.87**	**60**		Pb	23 17 53.4	-0.7
SRU				IAML		23 18 18.1	
	comp=N,95nm,0.5s						
SRU				IAML		23 18 19.8	
	comp=E,62nm,0.3s						
MPU	**Maple Canyon**	**1.98**	**22**	Pn	Pb	23 17 54.8	-1.1
DUG	**Dugway, Tooele**	**2.02**	**355**	Pn	Pb	23 17 55.6	-0.9
PRN	**Pahroc Range**	**2.09**	**249**	Pn	Pn	23 17 54.9	-0.2
P18A	**Preston Nutter**	**2.33**	**51**	Pn	Pn	23 17 59.7	+1.0
P18A				IAML		23 18 33.5	
	comp=E,43nm,0.3s						
P18A				IAML		23 18 38.2	
	comp=N,26nm,0.7s						
R11A	**Troy Canyon, C**	**2.36**	**275**	Pn	Pn	23 17 57.9	-1.0
R11A				IAML		23 18 37.9	
	comp=N,22nm,0.5s						
SHPR	**Sheep Range**	**2.64**	**231**	Pn	Pn	23 18 03.0	+0.3
BGU	**Big Grassy Mou**	**2.76**	**353**	Pn	Pn	23 18 03.4	-1.0
WUAZ	**Wupatki**	**2.84**	**159**	Pn	Pn	23 18 05.3	-0.1
PV13	**Radium Mtn., P**	**2.98**	**89**	Pn	Pn	23 18 09.8	+2.4
TPNV	**Topopah Spring**	**3.15**	**248**		Pn	23 18 09.2	-0.6
TPNV				IAML		23 19 05.4	
	comp=N,17nm,0.6s						
TPNV				IAML		23 19 06.1	
	comp=N,16nm,0.9s						
ELK	**Elko**	**3.27**	**322**	Pn	Pn	23 18 11.8	+0.2
MVCO	**Mesa Verde**	**3.39**	**105**	Pn	Pn	23 18 14.9	+1.8
MVCO				IAML		23 19 13.5	
	comp=N,24nm,0.8s						
WCT	**Wildcat Mounta**	**3.49**	**248**	Pn	Pn	23 18 13.6	-0.8
WCT				IAML		23 19 12.3	
	comp=E,8.1nm,2.6s						
GMN	**Gold Mountain**	**3.80**	**258**	Pn	Pn	23 18 18.3	-0.5
GMN				IAML		23 19 26.6	
	comp=N,9.3nm,0.9s						
GMN				IAML		23 19 29.5	
	comp=E,6.3nm,3.9s						
GWY	**Greenwater Val**	**3.81**	**240**	Pn	Pn	23 18 19.0	+0.1
GWY				IAML		23 19 24.3	
	comp=N,7.8nm,0.9s						
GWY				IAML		23 19 26.7	
	comp=E,12nm,1.0s						
W18A	**Petrified Fore**	**3.83**	**142**	Pn	Pn	23 18 20.1	+1.0
QSM	**Queen of Sheba**	**4.07**	**238**	Pn	Pn	23 18 22.0	-0.3
QSM				IAML		23 19 29.0	
	comp=E,5.1nm,3.1s						
QSM				IAML		23 19 29.2	
	comp=N,5.9nm,0.9s						
LCH	**Last Change Ra**	**4.11**	**258**	Pn	Pn	23 18 21.9	-1.1
LCH				IAML		23 19 31.2	
	comp=E,6.4nm,0.6s						
LCH				IAML		23 19 33.2	
	comp=N,6.0nm,0.8s						
X18A	**Snowflake**	**4.23**	**149**	Pn	Pn	23 18 25.1	+0.6
DSP	**Deep Springs**	**4.33**	**261**	Pn	Pn	23 18 25.6	-0.2
DSP				IAML		23 19 38.9	
	comp=N,4.8nm,3.3s						
DSP				IAML		23 19 51.8	
	comp=E,4.7nm,3.8s						
KVN	**Kaiserville**	**4.40**	**283**	Pn	Pn	23 18 27.0	+0.1
KVN				IAML		23 19 39.7	
	comp=E,4.8nm,2.2s						
KVN				IAML		23 19 44.9	
	comp=N,6.7nm,1.3s						

---

*IDC **15** 23:36:58.5±0.6, 55.47S×124.19W, h0km, mb4.3/11, mbtmp4.3/11, MS4.2/41, Error ellipse: s-maj=22.7km s-min=18.0km az=143.0*

*NEIC **15** 23:37:00.9±1.6, 55.5S±0.1×124.09W±0.07, h10km±1km, mb4.7/30, Error ellipse: s-maj=21.6km s-min=3.7km az=345.0*

*GCMT **15** 23:37:04.9±0.2, 55.73S±0.02×124.33W±0.02, h22km±1km, MW5.0/120, Moment Tensor Solution. s51,c60; s120,c166; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.20±.18; Mθθ 1.08±.15; Mϕϕ -2.29±.13; Mrθ -1.59±.24; Mθϕ 3.63±.09; Mϕr -0.25±.18; Best double couple: Mo 4.41400×10^16 NP1:ϕs 286.00000°, δ 76.00000°, λ 24.00000°. NP2:ϕs 190.00000°, δ 66.00000°, λ 165.00000°. Principal axes: T 4.1480, Plg 27.0000°, Azm 150.0000°; N 0.5230, Plg 62.0000°, Azm 314.0000°; P -4.6810, Plg 7.0000°, Azm 56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 23:37:00.2±0.4, 55.47S±0.09×124.05W±0.09, h10km, n129, σ0.993/81, mb4.6/24, MS4.3/44, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAI	**San Martin Ant**	**28.53**	**139**	P	**P**	**23 42 55.6**	**+0.2**
RPN	**Rapa Nui**	**30.27**	**27**	LR	LR	23 52 31.1	
	comp=Z,245nm,20.6s,baz=206,slow=31						
VNDA	**Vanda**	**33.24**	**202**	P	**P**	**23 43 37.2**	**+0.4**
	2.1nm,0.8s,baz=97,slow=10,SNR=13						
VNDA				PcP	**PcP**	**23 46 19.3**	**+0.5**
	1.9nm,1.0s,baz=65,slow=1.4,SNR=6.9						
VNDA				LR	LR	23 53 39.8	
	comp=Z,329nm,20.9s,baz=88,slow=30						
	2.1nm,0.8s						
VNDA	**Vanda**	**33.24**	**202**	P	**P**	**23 43 38.3**	**+1.4**
QSPA	**South Pole Qui**	**34.71**	**180**	P	**P**	**23 43 50.4**	**+0.4**
	3.2nm,1.0s,baz=102,slow=7.1,SNR=7.3						
QSPA				PcP	**PcP**	**23 46 23.7**	**+0.3**
	1.8nm,1.0s,baz=83,slow=1.0,SNR=5.5						
QSPA				LR	LR	23 55 37.7	
	comp=Z,186nm,19.5s,baz=86,slow=32						
	3.2nm,1.0s						
QSPA	**South Pole Qui**	**34.71**	**180**	P	**P**	**23 43 50.4**	**+0.4**
QSPA				IAmb	IAmb	23 43 51.5	
	comp=Z,15nm,1.4s						
BELA	**Belgrano 2**	**36.42**	**159**	P	**P**	**23 44 04.5**	**+0.2**
TBI	**Tubuai**	**37.19**	**319**	*e*LR	LR	23 53 45.4	
	comp=Z,763nm,26.0s						
TBI	**Tubuai**	**37.19**	**319**	*e*T	T	00 23 25.1	
	comp=Z,56nm,0.3s						
PLCA	**Paso Flores**	**37.65**	**90**	LR	LR	23 55 41.5	
	comp=Z,366nm,20.6s,baz=232,slow=30						
H03S2	**Juan Fernandez**	**37.81**	**74**	T	T	00 24 44.3	
	baz=219						
H03S1	**Juan Fernandez**	**37.82**	**74**	T	T	00 24 45.6	
	baz=219						
H03S3	**Juan Fernandez**	**37.83**	**74**	T

comp=Z,74nm,24.2s
PPT2 eLR LR 23 56 13.6
comp=Z,836nm,25.8s
VAH Vaihoa 44.07 326 eT T 00 31 58.7
comp=Z,85nm,0.3s
VNA3 Neumayer Olymp 45.43 156 P **P** **23 45 18.4 -0.2**
VNA1 Neumayer--Stat 46.17 155 P **P** **23 45 24.8 +0.4**
VNA2 Neumayer--Watz 46.18 156 P **P** **23 45 24.8 +0.4**
baz=215,slow=9.8
SNAA Sanae 46.65 158 P **P** **23 45 28.1 -0.1**
SNAA Sanae 46.65 158 P **P** **23 45 27.4 -0.8**
comp=Z,3.0nm,0.9s,baz=212,slow=4.5,SNR=9.6
SNAA PcP **PcP** **23 47 01.2 -0.5**
comp=Z,4.2nm,1.1s,baz=199,slow=6.6,SNR=4.3
SNAA LR LR 00 05 07.8
comp=Z,265nm,18.1s,baz=238,slow=36
comp=Z,3.0nm,0.9s
SNAA Sanae 46.65 158 P **P** **23 45 27.7 -0.5**
SNAA IAmb IAmb 23 45 28.4
comp=Z,7.2nm,1.1s
TROLL Troll, Antarti 47.47 160 P **P** **23 45 35.1 +0.4**
TAOE Nuku Hiva Isla 48.22 338 eLR LR 23 58 53.6
comp=Z,739nm,26.1s
AC02 Maricunga 48.59 77 P **P** **23 45 41.4 -2.9**
AC02 IAmb IAmb 23 46 06.7
comp=Z,10nm,0.7s
CASY Casey 51.80 205 P **P** **23 46 08.1 +0.6**
CASY IAmb IAmb 23 46 09.1
comp=Z,10nm,1.0s
LVC Limon Verde 52.05 74 LR LR 00 02 23.4
comp=Z,219nm,20.2s,baz=226,slow=29
PB16 IPOC Station P 55.20 70 P **P** **23 46 34.9 +1.1**
PB16 IAmb IAmb 23 46 46.9
comp=Z,8.1nm,1.2s
CPUP Villa Florida 55.63 87 LR LR 00 07 31.6
comp=Z,226nm,18.2s,baz=228,slow=33
NNA Nana 56.76 59 LR LR 00 05 07.5
comp=Z,182nm,18.4s,baz=203,slow=30
MAW Mawson 57.13 183 P **P** **23 46 46.1 -0.1**
comp=Z,8.1nm,1.0s,baz=163,slow=7.9,SNR=9.7
MAW LR LR 00 09 39.8
comp=Z,160nm,19.9s,baz=168,slow=34
comp=Z,8.1nm,1.0s
MAW Mawson 57.13 183 P **P** **23 46 46.1 -0.1**
LPAZ La Paz 57.62 70 P **P** **23 46 52.6 +1.5**
comp=Z,6.2nm,1.1s,baz=172,slow=2.9,SNR=9.6
LPAZ LR LR 00 06 04.5
comp=Z,173nm,21.1s,baz=204,slow=30
comp=Z,6.2nm,1.1s
LPAZ La Paz 57.62 70 P **P** **23 46 51.7 +0.6**
LPAZ IAmb IAmb 23 46 55.9
comp=Z,9.8nm,1.2s
ATAH Atahualpa 60.24 55 LR LR 00 07 18.3
comp=Z,226nm,18.0s,baz=215,slow=30
DZM Mont Dzumac 60.52 274 eLR LR 00 04 39.0
comp=Z,338nm,22.2s
DZM Mont Dzumac 60.52 274 LR LR 00 07 21.5
comp=Z,211nm,21.7s,baz=203,slow=30
SIV San Ignacio 61.72 77 LR LR 00 09 28.4
comp=Z,170nm,21.1s,baz=270,slow=32
KOUNC Koumac, New Ca 62.95 273 P **P** **23 47 28.0 +1.2**
PTLB Pontes e Lacer 63.23 78 P **P** **23 47 30.0 +1.3**
PTLB IAmb IAmb 23 47 53.9
comp=Z,1.9nm,0.9s
ETMB Extrema 64.03 68 P **P** **23 47 34.7 +0.7**
ETMB IAmb IAmb 23 47 37.6
comp=Z,5.0nm,1.0s
VILB Vilhena 64.68 75 P **P** **23 47 38.3 0.0**
VILB IAmb IAmb 23 47 48.6
comp=Z,19nm,1.4s
STKA Stephens Creek 66.72 247 P **P** **23 47 51.2 0.0**
comp=Z,3.0nm,0.7s,baz=138,slow=5.0,SNR=4.5
STKA LR LR 00 12 18.5
comp=Z,249nm,18.4s,baz=187,slow=32
comp=Z,3.0nm,0.7s
OTAV Otavalo 66.74 51 P **P** **23 47 53.6 +1.6**
OTAV IAmb IAmb 23 48 04.4
comp=Z,11nm,1.4s
BDFB Brasilia 69.35 88 P **P** **23 48 07.8 -0.3**
comp=Z,5.5nm,1.2s,baz=89,slow=19,SNR=2.4
BDFB LR LR 00 15 26.7
comp=Z,256nm,20.5s,baz=191,slow=33
comp=Z,5.5nm,1.2s
ROSC El Rosal 72.67 53 LR LR 00 15 16.1
comp=Z,158nm,18.9s,baz=230,slow=32
CTA Charters Tower 73.53 259 LR LR 00 17 05.0
comp=Z,167nm,18.4s,baz=84,slow=33
CTAO Charters Tower 73.53 259 P **P** **23 48 33.7 +0.5**
CMIG Matias Romero 76.39 29 LR LR 00 15 47.3
comp=Z,59nm,20.0s,baz=188,slow=30
CCIG Comitan 76.40 31 P **P** **23 48 50.7 +0.9**
CCIG IAmb IAmb 23 49 05.2
comp=Z,8.4nm,0.9s
H01W1 Cape Leeuwin H 77.20 226 T T 01 14 21.6
baz=150,slow=76,SNR=433
H01W2 Cape Leeuwin H 77.20 226 T T 01 14 20.6
baz=150,slow=76,SNR=434
H01W3 Cape Leeuwin H 77.22 226 T T 01 14 22.8
baz=150,slow=76,SNR=310
BOAV Boa Vista 77.33 66 P **P** **23 48 55.9 +0.9**
BOAV IAmb IAmb 23 48 58.4
comp=Z,5.4nm,1.0s
ASAR Alice Springs 77.34 247 P **P** **23 48 54.1 -0.9**
comp=Z,3.1nm,0.7s,baz=145,slow=5.4,SNR=24
ASAR LR LR 00 17 41.8
comp=Z,285nm,20.3s,baz=104,slow=32
comp=Z,3.1nm,0.7s
ASAR Alice Springs 77.34 247 P **P** **23 48 53.7 -1.4**
NWAO Narrogin (SRO) 77.60 229 LR LR 00 14 15.1
comp=Z,196nm,21.7s,baz=64,slow=29
SDV Santo Domingo 77.93 54 LR LR 00 19 14.8
comp=Z,133nm,19.7s,baz=230,slow=32
HATHI Halema'uma'u T 79.17 330 P **P** **23 49 03.8 -1.3**
BAUV El Baul 79.19 57 P **P** **23 49 06.2 +1.0**
BAUV IAmb IAmb 23 49 08.0
comp=Z,28nm,1.5s
WR0 Warramunga Arr 80.03 249 P **P** **23 49 09.8 -0.1**
WR0 IAmb IAmb 23 49 13.8
comp=Z,10nm,1.2s
ZAIG Zacatecas 80.06 20 P **P** **23 49 10.9 +0.9**
LPIG La Paz 80.12 13 LR LR 00 17 13.0
comp=Z,107nm,18.5s,baz=220,slow=30
WB2 Warramunga Arr 80.15 249 P **P** **23 49 10.0 -0.5**
WB2 IAmb IAmb 23 49 11.7
comp=Z,15nm,1.2s
WRA Warramunga Arr 80.16 249 P **P** **23 49 09.8 -0.8**
comp=Z,6.3nm,0.9s,baz=145,slow=5.0,SNR=33
WRA LR LR 00 20 15.2
comp=Z,251nm,19.5s,baz=126,slow=32
comp=Z,6.3nm,0.9s
WRAB Tennant Creek 80.16 249 P **P** **23 49 10.0 -0.5**
WRAB IAmb IAmb 23 49 35.2
comp=Z,9.0nm,0.8s
WB0 Warramunga Arr 80.27 249 P **P** **23 49 11.0 -0.2**
WB0 IAmb IAmb 23 49 11.2
comp=Z,6.4nm,0.9s
PMG Port Moresby 81.64 266 LR LR 00 21 13.0
comp=Z,127nm,18.7s,baz=124,slow=32
MDP Montagnes des 83.79 72 LR LR 00 22 07.1
comp=Z,105nm,18.6s,baz=210,slow=32
RCBR Riachuelo 84.19 92 LR LR 00 25 55.5
comp=Z,90nm,18.0s,baz=332,slow=35
FITZ Fitzroy Crossi 86.22 243 LR LR 00 22 06.3
comp=Z,169nm,22.0s,baz=139,slow=31
TXAR Lajitas Array 86.25 18 P **P** **23 49 41.8 +0.1**
comp=Z,1.1nm,1.1s,baz=191,slow=3.8,SNR=7.1
comp=Z,1.1nm,1.1s
SUR Sutherland 87.47 151 LR LR 00 24 49.4
comp=Z,105nm,20.6s,baz=166,slow=33
MTN Manton Dam 87.73 251 P **P** **23 49 49.9 +0.6**
SJG San Juan 88.07 54 LR LR 00 26 04.0
comp=Z,62nm,18.1s,baz=236,slow=33
PFO Pinyon Flats O 88.97 6 LR LR 00 21 14.5
comp=Z,112nm,18.3s,baz=184,slow=30
ANMO Albuquerque 91.31 14 P **P** **23 50 07.7 +2.1**
ANMO IAmb IAmb 23 50 19.6
comp=Z,4.8nm,1.2s
BOSA Boshof 92.22 153 LR LR 00 29 50.2
comp=Z,110nm,18.0s,baz=191,slow=34
NVAR Mina Array Bea 93.67 5 P **P** **23 50 17.0 +0.5**
comp=Z,1.1nm,1.2s,baz=202,slow=6.8,SNR=2.2
NVAR LR LR 00 25 00.6
comp=Z,91nm,18.1s,baz=180,slow=31
comp=Z,1.1nm,1.2s
H11S2 WAKE ISLAND Hy 93.88 297 T T 01 34 27.9
baz=148
BATI Baumata 93.89 246 LR LR 00 28 23.6
comp=Z,291nm,19.5s,baz=161,slow=33
H11S3 WAKE ISLAND Hy 93.89 297 T T 01 34 38.6
baz=148,slow=74
H11S1 WAKE ISLAND Hy 93.89 297 T T 01 34 28.7
baz=148,slow=74
H11N3 WAKE ISLAND Hy 94.81 298 T T 01 35 39.6
baz=148,slow=76,SNR=28
H11N1 WAKE ISLAND Hy 94.81 298 T T 01 35 32.6
baz=148,slow=76,SNR=28
H11N2 WAKE ISLAND Hy 94.83 298 T T 01 35 30.7
baz=148,slow=76,SNR=27
LBTB Lobatse 95.74 153 LR LR 00 28 09.7
comp=Z,88nm,18.3s,baz=180,slow=32
ELK Elko 96.14 7 LR LR 00 25 06.2
comp=Z,62nm,18.9s,baz=196,slow=30
YBH Yreka Blue Hor 96.84 1 LR LR 00 25 02.6
comp=Z,119nm,19.0s,baz=185,slow=30
TKL Tuckaleechee C 97.09 32 LR LR 00 27 16.7
comp=Z,38nm,20.9s,baz=188,slow=31
PDAR Pinedale Array 98.64 11 LR LR 00 26 29.9
comp=Z,75nm,21.6s,baz=213,slow=30
TSUM Tsumeb 98.81 144 LR LR 00 28 31.1
comp=Z,70nm,21.1s,baz=160,slow=31
TORD Torodi Ar. Bea 120.65 113 PKP **PKPdf** **23 55 51.6 -0.6**
comp=Z,0.4nm,0.7s,baz=183,slow=1.3,SNR=1.9
CMAR Chiang Mai Arr 130.84 239 PKP **PKPdf** **23 56 11.2 -0.4**
comp=Z,2.1nm,0.4s,baz=235,slow=2.5,SNR=6.1
ESDC Sonseca Array 137.99 86 PKP **PKPdf** **23 56 24.2 -0.2**
comp=Z,1.6nm,1.1s,baz=225,slow=1.6,SNR=5.4
RAMN Ramite 143.88 231 *e*P PKPab 23 56 32.6 -0.2
JIRN Jiri 144.68 231 *e*P **PKPab** **23 56 35.9 0.0**
PKI Pulchoki 144.94 229 *e*P **PKPab** **23 56 35.4 -1.4**
PKIN Phulchoki 144.95 229 *e*P **PKPab** **23 56 35.5 -1.3**
GUN Gumba 145.03 230 *e*P **PKPab** **23 56 36.5 -0.7**
DMN Daman 145.10 229 *e*P **PKPbc** **23 56 36.6 -0.7**
KKN Kakani 145.19 229 *e*P **PKPbc** **23 56 37.0 -0.5**
GKN Gorkha 145.65 229 *e*P **PKPdf** **23 56 37.7 -0.9**
KOLN Koldanda 145.88 227 *e*P **PKPdf** **23 56 38.4 -0.7**
DANN Dangsing 146.32 228 *e*P **PKPdf** **23 56 40.0 +0.1**
PYUN Puthan 146.43 227 *e*P **PKPdf** **23 56 40.1 +0.1**
SONM Songino Array 148.40 277 PKPbc **PKPbc** **23 56 44.9 -1.2**
comp=Z,2.0nm,0.7s,baz=136,slow=2.2,SNR=9.8
DAVA Damuels 150.59 87 *e*P **PKPbc** **23 56 52.4 +0.9**
comp=Z,5.8nm,0.8s
FETA Feichten 150.92 88 *e*P **PKPbc** **23 56 53.2 +0.9**
comp=Z,5.1nm,0.7s
MOTA Moosalm 151.31 87 *e*P **PKPbc** **23 56 53.7 +0.5**
comp=Z,6.4nm,0.9s
WTTA Wattenberg 151.57 88 *e*P **PKPbc** **23 56 54.5 +0.7**
comp=Z,2.3nm,0.7s
WATA Walderalm 151.58 88 *e*P **PKiKP** **23 56 55.4 +1.2**
comp=Z,1.6nm,0.4s
ABTA Abfaltersbach 151.78 90 *e*P **PKPbc** **23 56 54.7 +0.5**
comp=Z,2.0nm,0.7s
OBKA Obir 152.81 92 *e*P **PKiKP** **23 56 57.6 +0.9**
comp=Z,4.3nm,0.7s
SOKA Soboth 153.18 92 *e*P **PKPbc** **23 56 57.4 +0.1**
comp=Z,1.0nm,0.6s
GERES GERESS Array B 153.59 87 PKPbc **PKPbc** **23 56 57.7 -0.4**
comp=Z,1.9nm,0.9s,baz=225,slow=3.4,SNR=13
NB2 NORSAR Subarra 156.21 58 PKPdf **PKPdf** **23 56 54.5 +1.0**
comp=Z,3.7nm,1.1s,baz=264,slow=1.4
NOA NORSAR Array B 156.21 58 PKP **PKPdf** **23 56 53.4 -0.1**
comp=Z,0.8nm,0.8s,baz=267,slow=1.4,SNR=3.6
BRTR Keskin Array B 158.37 127 PKP **PKPdf** **23 56 56.2 -0.8**
comp=Z,0.8nm,1.0s,baz=196,slow=2.6,SNR=2.6
BRTR PKPab **PKPab** **23 57 31.2 -0.4**
comp=Z,1.2nm,0.9s,baz=180,slow=7.0,SNR=6.4
MKAR Makanchi Array 161.42 253 PKPab **PKPab** **23 57 43.9 -0.7**
comp=Z,1.0nm,0.6s,baz=126,slow=4.4,SNR=6.6
ZALV Zalesovo Beam 163.30 277 PKPab **PKPab** **23 57 51.8 -0.8**
comp=Z,2.4nm,0.7s,baz=114,slow=4.3,SNR=9.7
AKASG Malin Array Be 163.31 95 PKP **PKPdf** **23 57 01.6 -0.3**
comp=Z,0.3nm,0.4s,baz=305,slow=0.4,SNR=6.1
AKASG PKPab **PKPab** **23 57 51.9 -0.9**
comp=Z,0.3nm,0.2s,baz=256,slow=3.8,SNR=4.1

*UPP **15** 23:37:57.5±0.1, 67.83N×20.20E, h0km, ML1.7, Explosion*
*HEL **15** 23:37:58.0±0.1, 67.82N×20.21E, h0km, ML1.9, ML1.7(UPP), Explosion*
*IDC **15** 23:38:00.2±1.0, 67.85N×20.85E, h0km, mbtmp2.8/4, ML1.9/4, Error ellipse: s-maj=17.9km s-min=6.6km az=123.0*
ISC 15 23:37:58.1±0.8, 67.82N±0.03×20.24E±0.02, h0km, n29, σ1s31/41, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**16**	P		**Pg**	**Pg**	**23 38 00.3**	**-0.4**
	baz=212								
KUA				S			**Sg**	**23 38 02.4**	**-0.2**
KUA	**Kurravaara**	**0.14**	**16**	*i* P		**Pg**	**Pg**	**23 38 00.3**	**-0.4**
KUA				*i* S			**Sg**	**23 38 02.4**	**-0.2**
RATU	**Laukkuluspa**	**0.24**	**271**	P		**Pg**	**Pg**	**23 38 02.0**	**-0.7**
RATU				S			**Sg**	**23 38 05.4**	**-0.5**
RATU	**Laukkuluspa**	**0.24**	**271**	*i* P		**Pg**	**Pg**	**23 38 02.0**	**-0.7**
RATU				*i* S			**Sg**	**23 38 05.4**	**-0.5**
KOVU	**Salmi**	**0.40**	**356**	P		**Pg**	**Pg**	**23 38 05.0**	**-0.8**
KOVU	**Salmi**	**0.40**	**356**	*i* P		**Pg**	**Pg**	**23 38 05.0**	**-0.8**
LANU	**Lannavaara**	**0.70**	**70**	P		**Pg**	**Pg**	**23 38 10.9**	**-0.6**
LANU	**Lannavaara**	**0.70**	**70**	*e*P		**Pg**	**Pg**	**23 38 10.8**	**-0.7**
LANU				*e*S			**Sg**	**23 38 20.6**	**+0.1**
MASU	**Masugnsbyn**	**0.77**	**118**	P		**Pg**	**Pg**	**23 38 12.3**	**-0.5**
MASU	**Masugnsbyn**	**0.77**	**118**	*i* P		**Pg**	**Pg**	**23 38 12.3**	**-0.5**
SALU	**Saltoluokta**	**0.80**	**237**	P		**Pg**	**Pg**	**23 38 12.4**	**-0.9**
SALU	**Saltoluokta**	**0.80**	**237**	*i* P		**Pg**	**Pg**	**23 38 12.4**	**-0.9**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P		**Pn**	**Pn**	**23 38 24.7**	**+2.6**
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*Pb		**Pb**	**Pb**	**23 38 21.1**	**-0.7**
KIF				MSG				23 38 36.4	
	comp=Z,12nm,0.2s								
KIF				*e*S			**Sg**	**23 38 36.4**	**-0.3**
HEF	**Hetta**	**1.41**	**64**	*e*P		**Pn**	**Pn**	**23 38 23.8**	**-1.2**
HEF	**Hetta**	**1.41**	**64**	*e*PG		**Pn**	**Pn**	**23 38 23.7**	**-1.2**
HEF				MSG				23 38 41.0	
	comp=Z,6.6nm,0.2s								
HEF				*e*SN			**Sn**	**23 38 46.4**	**+2.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*PG		**Pn**	**Pn**	**23 38 25.0**	**-1.0**
ERTU				*e*SN			**Sn**	**23 38 45.4**	**-0.6**
KLF	**Kolari**	**1.55**	**111**	*e*PG		**Pn**	**Pn**	**23 38 26.2**	**-0.7**
KTK1	**Kautokeino**	**1.63**	**41**	*e*PG		**Pn**	**Pn**	**23 38 27.4**	**-0.6**
KTK1				*e*SN			**Sg**	**23 38 51.9**	**+1.5**
TRO	**Tromso**	**1.88**	**346**	*e*SG		**Sb**	**Sb**	**23 38 56.9**	**-0.4**
TOF	**Tornio**	**2.38**	**136**	*e*Pb		**Pb**	**Pb**	**23 38 39.4**	**-2.2**
TOF				MSG				23 39 07.5	
	comp=Z,7.2nm,0.2s								
SGF	**Sodankyl**	**2.44**	**96**	*e*PG		**Pb**	**Pb**	**23 38 41.4**	**-1.3**
	baz=282								
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB		**Pb**	**Pb**	**23 38 42.8**	**-1.9**
RNF				*e*SG			**Sb**	**23 39 17.4**	**+0.7**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn		**Pn**	**Pn**	**23 38 40.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=225,slow=15,SNR=8.6								
ARCES				Lg		Lg		23 39 15.7	
	comp=Z,1.3nm,0.3s,baz=223,slow=26,SNR=10								
	comp=Z,0.5nm,0.2s								
KEV	**Kevo**	**3.13**	**49**	MSG				23 39 30.5	
	comp=Z,6.0nm,0.2s								
KEV				*e*SB			**Sb**	**23 39 31.5**	**-1.8**
KU6	**Riekki**	**4.21**	**111**	*e*PG		**Pb**	**Pb**	**23 39 12.9**	**+0.1**
FINES	**FINESS Array B**	**6.87**	**156**	Pn		**Pn**	**Pn**	**23 39 40.3**	**+0.4**
	baz=348,slow=13,SNR=1.4								
FINES				Sn			**Sn**	**23 41 01.1**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=345,slow=27,SNR=1.4								
FINES				Lg		Lg		23 41 32.8	
	comp=Z,0.3nm,0.3s,baz=340,slow=27,SNR=1.9								
	comp=Z,2.0nm,1.0s								
NOA	**NORSAR Array B**	**7.84**	**214**	Pn		**Pn**	**Pn**	**23 39 55.0**	**+1.8**
	baz=24,slow=12,SNR=3.7								
NOA				Sn			**Sn**	**23 41 25.4**	**+2.8**
	baz=52,slow=14,SNR=2.6								
NOA				Lg		Lg		23 42 07.6	
	baz=31,slow=22,SNR=4.1								
	comp=Z,0.2nm,0.6s								
HFS	**Hagfors**	**8.23**	**203**	Pn		**Pn**	**Pn**	**23 40 01.5**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=19,slow=13,SNR=6.7								
HFS				Lg		Lg		23 42 19.1	
	comp=Z,0.3nm,0.3s,baz=31,slow=26,SNR=4.1								
	comp=Z,1.0nm,0.7s								

*IDC **15** 23:45:26.5±2.5, 8.35N×121.41E, h0km, mb3.4/1, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=288.1km s-min=31.2km az=54.0*
*DJA **15** 23:45:43.2±0.4, 9°S×12°2E±°, h155km±4km, M3.6/8, mb3.9/1, mB4.9/1, MLv3.5/8, Mw(mB)4.2/1*
ISC 15 23:45:42.4±1.0, 8.65S±0.07×121.63E±0.06, h170km±8km, n12, σ2s10/18, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.12**	**146**	P			**Pn**	**23 46 06.1**	**+1.0**
EDFI				S			**Sn**	**23 46 21.8**	**-0.8**
MMRI	**Maumere**	**0.60**	**88**	P			**Pn**	**23 46 08.0**	**+1.5**
MMRI				S			**Sn**	**23 46 23.9**	**-1.1**
BASI	**Baing, Sumba**	**1.87**	**214**	P			**Pn**	**23 46 17.1**	**-0.3**
BASI				S			**Sn**	**23 46 43.1**	**-1.3**
BATI	**Baumata**	**2.54**	**128**	P			**Pn**	**23 46 26.5**	**+1.5**
BATI				S			**Sn**	**23 46 59.9**	**+1.8**
BSSI	**Bau Bau, Buton**	**2.74**	**336**	P			**Pn**	**23 46 26.1**	**-1.3**
BKSI	**Bulukumba**	**3.63**	**336**	P			**Pn**	**23 46 38.2**	**-0.3**
PLAI	**Plampang**	**3.81**	**267**	P			**Pn**	**23 46 42.2**	**+1.4**
PLAI				S			**Sn**	**23 47 25.5**	**-0.8**
TWSI	**Taliwang, Sumb**	**4.69**	**269**	P			**Pn**	**23 46 53.5**	**+1.3**
JAGI	**Jajag, Banyuwa**	**7.39**	**271**	P			**Pn**	**23 47 28.3**	**+0.5**
WRA	**Warramunga Arr**	**16.65**	**134**	P			**Pn**	**23 49 26.9**	**+0.7**
	0.3nm,0.3s,baz=308,slow=12,SNR=9.6								
WRA				S			**S**	**23 52 24.1**	**-6.2**
	0.5nm,0.6s,baz=240,slow=23,SNR=5.5								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**19.00**	**143**	P			**Pn**	**23 49 53.6**	**-0.4**
	0.1nm,0.3s,baz=327,slow=14,SNR=5.4								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**65.36**	**331**	P			**P**	**23 56 08.4**	**+1.9**
	0.3nm,0.6s,baz=134,slow=6.2,SNR=2.6								
	0.3nm,0.6s								

MAN 16 00:23:01.5, 8.28N×125.85E, h1km, mb4.4, ML3.2, MS2.9, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TASP	**Talacogon, Agu**	**0.17**	**347**	↑*i*P			Pg	00 23 07.5	+2.6
TASP				*i* S			Sg	00 23 13.3	+6.2
BIPH	**Bislig**	**0.52**	**101**	↓*e*P			Pg	00 23 11.4	-0.1
BIPH				*e*S			Sg	00 23 18.5	+0.3
BUTP	**Butuan**	**0.72**	**342**	↓*e*P			Pg	00 23 14.9	-0.4
BUTP				*e*S			Sb	00 23 28.2	+0.9
BUKP	**Musuan**	**0.88**	**243**	↓*e*P			Pb	00 23 19.6	+0.1
BUKP				*e*S			Sn	00 23 34.4	-0.1
CGP	**Cagayan de Oro**	**1.15**	**279**	↑*i*P			Pb	00 23 24.0	-0.3
CGP				*i* S			Sn	00 23 40.8	-0.5
KCP	**Kidapawan**	**1.47**	**211**	↑*i*P			Pb	00 23 29.6	-0.2
KCP				*i* S			Sn	00 23 51.0	+1.8
DDMP	**Don Marcelino,**	**2.17**	**184**	↓*e*P			Pn	00 23 38.8	0.0
DDMP				*e*S			Sg	00 24 13.7	+2.4

*IDC **16** 00:30:49.7±3.0, 15.22N×91.73W, h146km±31km, mb3.3/6, mbtmp3.9/8, Error ellipse: s-maj=41.3km s-min=19.3km az=55.0*
*NEIC **16** 00:30:52.9±2.0, 15.44N±0.10×91.87W±0.08, h162km±8km, mb4.4/58, Error ellipse: s-maj=15.7km s-min=9.3km az=215.0*
*MEX **16** 00:30:52.0±0.6, 15.26N×91.99W, h181km±4km, MD4.6*
*GCG **16** 00:30:53.1±0.4, 15.48N×91.87W, h149km±11km, MD4.1*
ISC 16 00:30:52.2±0.6, 15.32N±0.05×92.00W±0.04, h171km±5km, n142, σ1s48/175, mb4.4/23, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAVE	**Pavencul**	**0.21**	**234**	*i* P			**Pn**	**00 31 14.5**	**-0.9**
PAVE				*i* S			**Sn**	**00 31 32.8**	**-0.4**
CHUJ	**Union Juarez**	**0.25**	**205**	*e*P			**Pn**	**00 31 14.4**	**-1.2**
CHUJ				*e*S			**Sn**	**00 31 32.7**	**-0.7**
PATR	**El Naranjo**	**0.30**	**228**	*i* P			**Pn**	**00 31 14.4**	**-1.3**
PATR				*i* S			**Sn**	**00 31 32.5**	**-1.0**
THIG		**0.48**	**212**	*e*P			**Pn**	**00 31 15.3**	**-0.7**
THIG				*i* S			**Sn**	**00 31 33.8**	**-0.3**
HUEH	**Huehuetenango**	**0.48**	**90**				**Pn**	**00 31 15.3**	**-0.9**
STG3	**Santiaguito 3,**	**0.73**	**145**	*e*P			**Pn**	**00 31 17.2**	**-0.3**
RTAL	**Retalhuleu**	**0.84**	**159**	Pn			**Pn**	**00 31 16.8**	**-1.2**
CCIG	**Comitan**	**0.97**	**352**	Pn			**Pn**	**00 31 19.3**	**+0.2**
CCIG	**Comitan**	**0.97**	**352**	*i* P			**Pn**	**00 31 19.4**	**+0.3**
CCIG				*e*S			**Sn**	**00 31 39.4**	**-0.5**
PCIG		**1.23**	**288**	*i* P			**Pn**	**00 31 20.8**	**-0.2**
PCIG				*i* S			**Sn**	**00 31 42.9**	**-0.3**
FUG	**Fuego 3**	**1.42**	**127**	*e*P			**Pn**	**00 31 22.6**	**-0.3**
PCG	**Pacaya**	**1.63**	**124**	*e*P			**Pn**	**00 31 25.1**	**0.0**
NBG	**Las Nubes**	**1.76**	**114**	*e*P			**Pn**	**00 31 26.6**	**+0.2**
TGIG		**1.81**	**324**	*e*P			**Pn**	**00 31 26.7**	**0.0**
TGIG				*i* S			**Sn**	**00 31 52.2**	**-1.2**
CARR	**Arriaga**	**2.06**	**297**	*e*P			**Pn**	**00 31 29.3**	**-0.1**
CARR				*e*S			**Sn**	**00 31 57.1**	**-1.0**
MRL	**Marmol**	**2.25**	**96**	*e*P			**Pn**	**00 31 31.1**	**-0.7**
MRL				*e*S			**Sn**	**00 32 00.8**	**-1.5**
PETF	**Flores**	**2.60**	**52**	Pn			**Pn**	**00 31 34.1**	**-1.2**
ESQI	**Esquipulas**	**2.68**	**106**	Pn			**Pn**	**00 31 36.0**	**-0.7**
MTO3	**Montecristo**	**2.71**	**109**				**Pn**	**00 31 36.3**	**-0.9**
NILT	**Santiago Nilte**	**2.81**	**297**	*e*P			**Pn**	**00 31 37.7**	**-0.4**
NILT				*e*S			**Sn**	**00 32 12.4**	**-1.3**
UXUV	**UXUV**	**2.86**	**314**	*i* P			**Pn**	**00 31 38.6**	**-0.2**
UXUV				*e*S			**Sn**	**00 32 14.3**	**-0.8**
CMIG	**Matias Romero**	**3.28**	**303**	P			**Pn**	**00 31 43.7**	**-0.3**
	292nm,0.3s,baz=124,slow=7.1,SNR=772								
CMIG				S			**Sn**	**00 32 21.9**	**-2.5**
	559nm,0.3s,baz=30,slow=20,SNR=30								
CMIG	**Matias Romero**	**3.28**	**303**	*e*P			**Pn**	**00 31 43.5**	**-0.5**
CMIG				*i* S			**Sn**	**00 32 23.5**	**-0.8**
SCIG	**Sabancuy**	**3.71**	**12**	*i* P			**Pn**	**00 31 48.5**	**-0.9**
SCIG				*i* S			**Sn**	**00 32 32.2**	**-1.5**
HUIG	**Huatulco**	**3.98**	**277**	*e*P			**Pn**	**00 31 51.2**	**-1.6**
HUIG				*i* S			**Sn**	**00 32 38.9**	**-1.4**
NEUV	**Arroyo Zacate**	**4.35**	**304**	*e*P			**Pn**	**00 31 56.5**	**-1.2**
NEUV				*i* S			**Sn**	**00 32 47.3**	**-1.5**
TGUH	**Tegucigalpa,Un**	**4.74**	**105**	Pn			**Pn**	**00 32 01.5**	**-1.4**
OXLC	**Oaxaca**	**4.84**	**292**	*e*P			**Pn**	**00 32 05.2**	**+1.1**
OXLC				*e*S			**Sn**	**00 32 58.1**	**-2.4**
OXBJ	**Oaxaca**	**4.86**	**292**	*e*P			**Pn**	**00 32 05.3**	**+0.9**
OXBJ				*e*S			**Sn**	**00 32 59.2**	**-1.6**
VHO	**Vista Hermosa**	**4.87**	**292**	*e*P			**Pn**	**00 32 05.6**	**+1.1**
VHO				*e*S			**Sn**	**00 33 02.2**	**+1.1**
CRIN	**San Cristobal**	**5.46**	**118**	Pn			**Pn**	**00 32 11.6**	**-0.6**
YOIG	**Yosondua**	**5.54**	**287**	*e*P			**Pn**	**00 32 14.0**	**+0.5**
YOIG				*e*S			**Sn**	**00 33 15.5**	**-1.6**
TOIG	**Toxpalan**	**5.58**	**300**	*e*P			**Pn**	**00 32 14.1**	**+0.4**
TOIG				*e*S			**Sn**	**00 33 16.3**	**-1.5**
TXIG	**Tlaxiaco**	**5.86**	**290**	*i* P			**Pn**	**00 32 18.9**	**+1.2**

JTS	**Las Juntas de**	**8.50**	**125**	Pn		**Pn**	**00 32 50.8**	**-1.5**
JTS	**Las Juntas de**	**8.50**	**125**	*e*P		**Pn**	**00 32 51.5**	**-0.7**
ARIG	**Puente Sto Nin**	**8.52**	**291**	*e*P		**Pn**	**00 32 55.0**	**+2.5**
ARIG				*e*S		**Sn**	**00 34 24.7**	**-2.9**
LCR2	**La Lucha 2**	**9.57**	**124**	*e*P		**Pn**	**00 33 05.5**	**-1.1**
RIMA	**Rio Macho**	**9.67**	**124**	Pn		**Pn**	**00 33 06.2**	**-1.7**
MOIG	**Morelia**	**9.78**	**298**	Pn		**Pn**	**00 33 11.3**	**+2.1**
CDM	**Cerro de Muert**	**9.88**	**125**	*e*P		**Pn**	**00 33 09.5**	**-1.3**
PEZE	**Perez Zeledon,**	**10.04**	**125**			**Pn**	**00 33 10.8**	**-1.9**
SRBA	**San Rafael, Bu**	**10.38**	**125**	Pn		**Pn**	**00 33 14.7**	**-2.5**
DRK0	**Durika**	**10.46**	**124**	Pn		**Pn**	**00 33 17.1**	**-1.0**
BRU2	**Volcan**	**11.18**	**124**	Pn		**Pn**	**00 33 25.0**	**-2.5**
735A	**Kenedy**	**14.50**	**339**			**Pn**	**00 34 08.1**	**-1.4**
833A	**Chaparral WMA,**	**14.64**	**333**	P		**P**	**00 34 14.8**	**+1.8**
HKT	**Hockley**	**14.98**	**347**	P		**Pn**	**00 34 15.7**	**+0.3**
342A	**Flagon Creek P**	**15.99**	**359**	P		**Pn**	**00 34 26.3**	**-1.4**
435B	**Jarrell**	**16.22**	**343**	P		**P**	**00 34 30.9**	**+0.4**
435B				IAmb		IAmb	00 34 53.2	
	comp=Z,26nm,0.8s							
NATX	**Nacogdoches**	**16.55**	**352**	P		**Pn**	**00 34 35.6**	**+1.1**
NATX				IAmb		IAmb	00 34 38.0	
	comp=Z,29nm,0.8s							
JCT	**Junction City**	**16.70**	**336**	P		**Pn**	**00 34 36.7**	**+0.3**
HPIG		**17.19**	**314**	P		**Pn**	**00 34 43.1**	**+0.6**
HPIG				IAmb		IAmb	00 34 47.0	
	comp=Z,12nm,1.0s							
TXAR	**Lajitas Array**	**17.62**	**324**	P		**Pn**	**00 34 48.7**	**+1.3**
	comp=Z,4.6nm,0.7s,baz=152,slow=12,SNR=77							
TXAR	**Lajitas Array**	**17.62**	**324**	P		**Pn**	**00 34 48.3**	**+0.9**
TX31	**Lajitas Ar. Si**	**17.62**	**324**	P		**Pn**	**00 34 48.4**	**+1.0**
TX31				IAmb		IAmb	00 34 50.0	
	comp=Z,20nm,0.8s							
TX32	**Lajitas Array**	**17.62**	**324**	P		**Pn**	**00 34 48.1**	**+0.7**
Z38A	**Mt. Pleasant**	**18.07**	**352**	P		**Pn**	**00 34 52.1**	**-0.4**
Z47A	**Carrollton**	**18.16**	**11**	P		**P**	**00 34 52.6**	**+1.0**
LRAL	**Lakeview Retre**	**18.21**	**14**	P		**Pn**	**00 34 53.9**	**-0.4**
LRAL				IAmb		IAmb	00 35 00.3	
	comp=Z,19nm,1.2s							
WLAR	**White Oak Lake**	**18.32**	**357**	P		**P**	**00 34 53.6**	**+0.2**
WLAR				IAmb		IAmb	00 35 18.7	
	comp=Z,33nm,0.9s							
CCAR	**Cane Creek**	**18.52**	**1**	P		**P**	**00 34 54.9**	**-0.7**
Z35A	**Perchaven, San**	**18.55**	**346**	P		**P**	**00 34 56.1**	**+0.1**
Z35A				IAmb		IAmb	00 35 23.4	
	comp=Z,20nm,0.9s							
X37A	**Clayton**	**19.43**	**352**	P		**P**	**00 35 05.9**	**+0.5**
X37A				IAmb		IAmb	00 35 12.2	
	comp=Z,20nm,0.8s							
X48A	**Hartselle**	**19.57**	**12**	P		**P**	**00 35 06.7**	**-0.3**
X34A	**Smith Ranch, M**	**19.91**	**346**	P		**P**	**00 35 11.8**	**+1.2**
X34A				IAmb		IAmb	00 35 34.3	
	comp=Z,16nm,0.7s							
SDDR	**Presa de Saban**	**20.12**	**77**	P		**P**	**00 35 12.4**	**-0.7**
IMBA	**Imbabura, San**	**20.23**	**136**	P		Pn	00 35 16.7	-2.1
WMOK	**Wichita Mounta**	**20.28**	**344**	P		**P**	**00 35 14.4**	**-0.2**
WMOK				IAmb		IAmb	00 35 54.1	
	comp=Z,8.6nm,0.7s							
MNTX	**Cornudas Mount**	**20.37**	**325**	P		**P**	**00 35 16.8**	**+1.2**
MNTX				IAmb		IAmb	00 35 17.9	
	comp=Z,7.3nm,0.8s							
SWET	**Sewanee**	**20.55**	**14**	P		**P**	**00 35 17.4**	**-0.1**
SWET				IAmb		IAmb	00 35 19.0	
	comp=Z,8.2nm,0.6s							
SC01	**Santiago de lo**	**20.71**	**76**	P		**P**	**00 35 20.0**	**+0.7**
MSTX	**Muleshoe**	**20.96**	**334**	P		**P**	**00 35 21.6**	**-0.5**
MSTX				IAmb		IAmb	00 35 24.0	
	comp=Z,7.2nm,0.5s							
WVT	**Waverly**	**21.06**	**9**	P		**P**	**00 35 22.3**	**-0.6**
AMTX	**Amarillo**	**21.34**	**338**	P		**P**	**00 35 25.0**	**-0.9**
AMTX				IAmb		IAmb	00 35 27.1	
	comp=Z,15nm,0.7s							
TKL	**Tuckaleechee C**	**21.55**	**18**	P		**P**	**00 35 28.3**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=199,slow=12,SNR=1.8							
	comp=Z,1.2nm,0.4s							
MGMO	**Mountain Grove**	**21.75**	**359**	P		**P**	**00 35 28.9**	**-1.3**
MGMO				IAmb		IAmb	00 35 56.4	
	comp=Z,16nm,1.2s							
OK038	**West end E0370**	**21.91**	**345**	P		**P**	**00 35 32.4**	**+0.5**
OK038				IAmb		IAmb	00 36 07.4	
	comp=Z,19nm,1.0s							
T47A	**Sharon Grove**	**22.02**	**11**	P		**P**	**00 35 32.5**	**-0.4**
T47A				IAmb		IAmb	00 35 33.7	
	comp=Z,12nm,0.8s							
121A	**Cookes Peak, D**	**22.35**	**323**	P		**P**	**00 35 39.0**	**+2.6**
121A				IAmb		IAmb	00 36 16.9	
	comp=Z,11nm,0.9s							
S44A	**Carbondale**	**22.42**	**6**	P		**P**	**00 35 36.0**	**-0.7**
SIUC	**Southern Illin**	**22.45**	**6**	P		**P**	**00 35 36.0**	**-0.9**
CCM	**Cathedral Cave**	**22.66**	**2**	P		**P**	**00 35 38.3**	**-0.6**
CRNM	**Carthage**	**22.83**	**327**	P		**P**	**00 35 41.4**	**+0.7**
BNM	**Barren Site**	**22.93**	**327**	P		**P**	**00 35 41.6**	**-0.1**
WCI	**Wyandotte Cave**	**23.37**	**11**	P		**P**	**00 35 44.4**	**-0.9**
WCI				IAmb		IAmb	00 36 23.2	
	comp=Z,16nm,0.8s							
ANMO	**Albuquerque**	**23.47**	**329**	P		**P**	**00 35 47.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=155,slow=10,SNR=2.3							
	comp=Z,0.6nm,0.5s							
OLIL	**Olney**	**23.58**	**8**	P		**P**	**00 35 47.1**	**-0.2**
TUC	**Tucson**	**24.05**	**318**	P		**P**	**00 35 54.3**	**+2.6**
BAUV	**El Baul**	**24.25**	**102**	P		**P**	**00 35 55.4**	**+1.7**
BAUV				IAmb		IAmb	00 35 56.6	
	comp=Z,8.7nm,0.5s							
T25A	**Trinidad**	**24.37**	**335**	P		**P**	**00 35 56.1**	**+1.4**
T57A	**Hurt**	**24.39**	**25**	P		**P**	**00 35 54.8**	**+0.2**
T57A				IAmb		IAmb	00 35 56.6	
	comp=Z,27nm,1.5s							
CELP	**Cerrillos**	**24.50**	**80**	P		**P**	**00 35 55.7**	**-0.2**
CELP				IAmb		IAmb	00 36 15.9	
	comp=Z,11nm,1.1s							
P46A	**Rosedale**	**24.57**	**9**	P		**P**	**00 35 56.4**	**+0.1**
P46A				IAmb		IAmb	00 36 33.9	
	comp=Z,12nm,0.9s							
SFIN	**Lafayette**	**25.33**	**9**	P		**P**	**00 36 02.4**	**-0.7**
SFIN				IAmb		IAmb	00 36 24.8	
	comp=Z,12nm,1.1s							
PIX	**Pinacate**	**25.40**	**313**	P		**P**	**00 36 04.6**	**+0.8**
JSRW	**J. Sargeant Re**	**25.56**	**27**	P		**P**	**00 36 04.6**	**-0.6**
S22A	**4UR Ranch, Cre**	**25.91**	**332**	P		**P**	**00 36 08.8**	**+0.1**
Q56A	**Snyder Ridge,**	**26.18**	**23**	P		**P**	**00 36 10.8**	**0.0**
Q56A				IAmb		IAmb	00 36 53.8	
	comp=Z,23nm,1.4s							
TKX	**Tecate**	**28.18**	**312**	P		**P**	**00 36 29.3**	**+0.5**
O20A	**White River Ci**	**28.50**	**333**	P		**P**	**00 36 33.4**	**+1.7**
PMD	**Palm Desert**	**28.61**	**314**	P		**P**	**00 36 29.9**	**-2.6**
PMD				IAmb		IAmb	00 36 31.6	
	comp=Z,3.0nm,0.5s							
V12A	**Nelson**	**28.82**	**319**	P		**P**	**00 36 37.4**	**+2.9**
PDAR	**Pinedale Array**	**31.23**	**335**	P		**P**	**00 36 55.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=144,slow=9.7,SNR=2.4							
	comp=Z,0.2nm,0.4s							
E43A	**Lone Tree Farm**	**31.25**	**7**	P		**P**	**00 36 54.6**	**-0.9**
E43A				IAmb		IAmb	00 36 57.9	
	comp=Z,7.2nm,0.9s							
REDW	**Red Top Meadow**	**32.26**	**334**	P		**P**	**00 37 05.2**	**+0.3**
TPAW	**Teton Pass**	**32.41**	**334**	P		**P**	**00 37 07.1**	**+0.9**
NVAR	**Mina Array Bea**	**32.66**	**320**	P		**P**	**00 37 11.1**	**+2.8**
	comp=Z,1.9nm,0.6s,baz=130,slow=8.6,SNR=22							
	comp=Z,1.9nm,0.6s							
NVAR	**Mina Array Bea**	**32.66**	**320**	P		**P**	**00 37 10.4**	**+2.1**
LRM	**Limekiln Ridge**	**34.92**	**335**	P		**P**	**00 37 29.0**	**+1.2**
J08A	**Circle Bar Ran**	**35.94**	**326**	P		**P**	**00 37 38.7**	**+2.3**
J08A				IAmb		IAmb	00 37 39.0	
	comp=Z,3.1nm,0.6s							
H04A	**Detroit Lake**	**38.83**	**325**	P		**P**	**00 38 01.8**	**+1.2**
H04A				IAmb		IAmb	00 38 02.5	
	comp=Z,3.6nm,0.6s							
LPAZ	**La Paz**	**39.26**	**142**	P		**P**	**00 38 03.0**	**-2.1**
	comp=Z,1.2nm,0.6s,baz=320,slow=7.9,SNR=6.6							
	comp=Z,1.2nm,0.6s							
LPAZ	**La Paz**	**39.26**	**142**	P		**P**	**00 38 04.3**	**-0.8**
I02E	**Swisshome, OR**	**39.42**	**323**	P		**P**	**00 38 07.4**	**+2.0**
BMAR	**Burnt Mountain**	**62.06**	**340**	P		**P**	**00 40 55.0**	**+0.7**
COLD	**Coldfoot**	**63.91**	**338**	P		**P**	**00 41 09.0**	**+2.5**
COLD				IAmb		IAmb	00 41 18.2	
	comp=Z,8.2nm,1.3s							
ESDC	**Sonseca Array**	**78.91**	**52**	P		**P**	**00 42 36.3**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=284,slow=5.2,SNR=3.3							
	comp=Z,0.8nm,1.0s							
PZH	**PanZhiHua**	**136.34**	**342**	PKP		**PKPdf**	**00 49 54.5**	**+0.1**

*MDD **16** 00:33:13.5±0.2,37.05N×3.81W,h12km,mb_Lg2.7/21, Error ellipse: s-maj=2.2km s-min=1.2km az=164.0*

*SFS **16** 00:33:13.0,37.00N×3.80W,h12km,ML2.7,VENTAS DE HUELMA (GRANADA)*
*LDG **16** 00:33:14.0±0.2,37.01N×3.77W,h10km,Ml2.4/4, Error ellipse: s-maj=4.6km s-min=2.8km az=178.0*
*INMG **16** 00:33:14.1±1.6,37.03N×3.82W,h16km±3km,ML2.3, Error ellipse: s-maj=2.1km s-min=2.0km az=172.0*
*CNRM **16** 00:33:15.2,37.10N×3.83W,h86km,ml2.2*

ISC 16 00:33:12.1±0.9,37.09N±0.02×3.79W±0.01,h13km±7km, n63,σ1s60/141,3C,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.26**	**150**	⇑P		**Pg**		**00 33 17.9**	**+0.3**
ELGU				Sg		**Sg**		**00 33 22.3**	**+1.1**
EGOR	**Sierra Gorda,**	**0.26**	**275**	⇑P		**Pg**		**00 33 16.9**	**-0.8**
EGOR				Sg		**Sg**		**00 33 20.3**	**-1.1**
EGOR				*i* Vmb_Lg				00 33 22.1	
EQUE	**Quentar**	**0.30**	**67**	⇑P		**Pb**		**00 33 18.8**	**-0.6**
EQUE				Sg		**Sb**		**00 33 23.4**	**-0.9**
EQUE				*i* Vmb_Lg				00 33 25.2	
EMAL	**Malaga-Limoner**	**0.61**	**238**	P		**Pg**		**00 33 23.0**	**-1.0**
EMAL				S		**Sg**		**00 33 31.1**	**-1.0**
EBER	**Berja**	**0.74**	**105**	Pg		**Pb**		**00 33 27.5**	**+0.4**
EBER				Sg		**Sb**		**00 33 37.7**	**+0.6**
EBER				*i* Vmb_Lg				00 33 45.6	
EQES	**Quesada**	**0.91**	**38**	Pn		**Pn**		**00 33 31.3**	**+0.6**
EQES				Sn		**Sn**		**00 33 43.9**	**+0.1**
EQES				*i* Vmb_Lg				00 33 48.8	
EMIJ	**Mijas**	**0.95**	**237**	Pg		**Pg**		**00 33 29.0**	**-1.4**
EMIJ				Sg		**Sg**		**00 33 41.9**	**-0.9**
EMIJ				*i* Vmb_Lg				00 33 46.4	
EADA	**Adamuz**	**1.25**	**330**	Pg		**Pn**		**00 33 35.9**	**+0.7**
EADA				Sg		**Sb**		**00 33 51.7**	**+0.2**
EADA				*i* Vmb_Lg				00 33 55.4	
ENIJ	**Nijar**	**1.27**	**95**	Pg		**Pg**		**00 33 35.8**	**-0.7**
ENIJ				Sg		**Sn**		**00 33 52.3**	**-0.1**
ENIJ				*i* Vmb_Lg				00 33 59.0	
EJIF	**Jimena Fronter**	**1.49**	**245**	Pg		**Pg**		**00 33 40.2**	**-0.6**
EJIF				Sg		**Sb**		**00 33 58.9**	**+0.4**
ECAB	**El Cabril**	**1.63**	**308**	Pg		**Pn**		**00 33 41.8**	**+1.3**
ECAB				Sg		**Sb**		**00 34 03.6**	**+1.1**
ECAB				*i* Vmb_Lg				00 34 05.0	
ESPR	**Espera**	**1.67**	**263**	Pg		**Pb**		**00 33 43.0**	**+0.3**
ESPR				Sg		**Sn**		**00 34 03.3**	**+1.0**
ESPR				*i* Vmb_Lg				00 34 16.2	
TLOR	**Lorca, Murcia**	**1.77**	**71**	Pg		**Pg**		**00 33 45.7**	**-0.3**
TLOR				Sg		**Sg**		**00 34 08.1**	**-0.8**
EZAR	**Zarzadilla de**	**1.84**	**64**	Pg		**Pb**		**00 33 45.7**	**0.0**
EZAR				Sn		**Sb**		**00 34 08.1**	**-0.5**
PALE	**Palemas**	**1.87**	**184**	P		**Pn**		**00 33 44.3**	**+0.4**
PALE				S		**Sg**		**00 34 10.7**	**-1.6**
SMIR	**Smir Dam**	**1.90**	**223**	P		**Pb**		**00 33 45.9**	**-0.7**
SMIR				S		**Sn**		**00 34 09.4**	**+1.4**
EMUR	**La Murta**	**2.16**	**69**	Pn		**Pn**		**00 33 47.6**	**-0.2**
EMUR				Pg		**Pb**		**00 33 51.2**	**+0.1**
EMUR				Sn		**Sn**		**00 34 14.7**	**+0.1**
EMUR				Sg		**Sg**		**00 34 20.2**	**-1.4**
EMUR				*i* Vmb_Lg				00 34 34.1	
CART	**Cartagena**	**2.28**	**77**	P		**Pn**		**00 33 50.6**	**+1.2**
CART				S		**Sb**		**00 34 20.3**	**-0.7**
CHEFC	**Chefchaouen**	**2.34**	**213**	P		**Pn**		**00 33 52.2**	**+1.9**
CHEFC				S		**Sn**		**00 34 19.5**	**+0.4**
ETOB	**Tobarra**	**2.36**	**48**	Pn		**Pn**		**00 33 52.1**	**+1.5**
ETOB				Pg		**Pg**		**00 33 56.0**	**-1.3**
ETOB				Sn		**Sn**		**00 34 21.2**	**+1.8**
ETOB				Sg		**Sg**		**00 34 27.4**	**-0.5**
ETOB				*i* Vmb_Lg				00 34 36.7	
EMIN	**Mina Concepcio**	**2.40**	**287**	Pn		**Pn**		**00 33 50.1**	**-1.0**
EMIN				Sn		**Sn**		**00 34 19.7**	**-0.6**
EMIN				Sg		**Sb**		**00 34 26.8**	**+2.3**
EMIN				*i* Vmb_Lg				00 34 29.0	
PAB	**San Pablo**	**2.49**	**350**	Pn		**Pn**		**00 33 53.2**	**+0.8**
PAB				Sn		**Sn**		**00 34 22.2**	**-0.6**
PAB				*i* Vmb_Lg				00 34 37.1	
TAF	**Taforalt**	**2.53**	**153**	P		**Pn**		**00 33 53.9**	**+1.0**
TAF				S		**Sb**		**00 34 25.8**	**-2.6**
AKLM	**AKL**	**2.57**	**181**	P		**Pn**		**00 33 54.8**	**+1.2**
AKLM				S		**Sb**		**00 34 27.5**	**-2.3**
ESDC	**Sonseca Array**	**2.59**	**357**	Pn		**Pn**		**00 33 53.5**	**-0.2**
ESDC				Sn		**Sn**		**00 34 25.3**	**+0.3**
ESDC				Sg		**Sb**		**00 34 32.5**	**+2.4**
ESDC				*i* Vmb_Lg				00 34 38.4	
PBAR	**Barrancos**	**2.80**	**294**	*e*Pn		**Pn**		**00 33 57.0**	**+0.4**
PBAR				*e*Sn		**Sn**		**00 34 29.5**	**-0.7**
PBAR				*e*Sg		**Sg**		**00 34 40.2**	**-1.9**
PBAR				A		A		00 34 46.4	
	6.8nm,0.3s								
JBK	**JBK**	**2.92**	**160**	P		**Pn**		**00 34 00.2**	**+1.8**
JBK				S		**Sn**		**00 34 34.6**	**+1.1**
EGRO	**El Granado**	**2.98**	**280**	Pn		**Pn**		**00 33 59.2**	**+0.2**
EGRO				Sn		**Sn**		**00 34 34.0**	**-0.6**
EGRO				Sg		**Sg**		**00 34 46.5**	**-1.3**
EGRO				*i* Vmb_Lg				00 34 51.4	
EBAD	**Badajoz**	**3.05**	**304**	Pn		**Pn**		**00 33 59.8**	**-0.2**
EBAD				Pg		**Pb**		**00 34 08.1**	**+2.0**
EBAD				Sn		**Sn**		**00 34 34.3**	**-2.0**
EBAD				Sg		**Sb**		**00 34 46.7**	**+3.5**
EBAD				*i* Vmb_Lg				00 34 54.6	
PVAQ	**Vaqueiros**	**3.15**	**277**	*e*Pn		**Pn**		**00 34 01.6**	**+0.2**
PVAQ				*e*Sn		**Sn**		**00 34 39.0**	**+0.1**
PVAQ				A		A		00 35 01.3	
	4.5nm,0.5s								
PVAQ	**Vaqueiros**	**3.15**	**277**	P		**Pn**		**00 34 00.2**	**-1.2**
PVAQ				S		**Sn**		**00 34 37.5**	**-1.4**
UCM	**Universidad Co**	**3.24**	**7**	P		**Pg**		**00 34 13.5**	**-0.8**
UCM				S		**Sg**		**00 34 54.7**	**-1.6**
ECHE	**Chera**	**3.34**	**41**	Pn		**Pn**		**00 34 05.7**	**+1.6**
ECHE				Sn		**Sn**		**00 34 43.9**	**+0.3**
ECHE				*i* Vmb_Lg				00 34 54.3	
ECHE				Sg		**Sg**		**00 34 58.7**	**-0.7**
PCVE	**Castro Verde**	**3.43**	**280**	*e*Pn		**Pn**		**00 34 06.6**	**+1.3**
PCVE				*e*Sn		**Sn**		**00 34 47.0**	**+1.2**
PCVE				A		A		00 35 05.9	
	4.6nm,0.4s								
PESTR	**Estremoz**	**3.49**	**302**	*e*Pn		**Pn**		**00 34 07.3**	**+1.2**
PESTR				*e*Sn		**Sn**		**00 34 47.7**	**+0.4**
PESTR				*e*Sg		**Sg**		**00 35 01.0**	**-3.2**
PESTR				A		A		00 35 10.0	
	8.7nm,0.5s								
PESTR	**Estremoz**	**3.49**	**302**	P		**Pn**		**00 34 07.3**	**+1.2**
PESTR				S		**Sn**		**00 34 46.8**	**-0.5**
GUD	**Guadarrama**	**3.56**	**356**	Pn		**Pn**		**00 34 07.5**	**+0.3**
GUD				Sn		**Sn**		**00 34 47.7**	**-1.5**
GUD				Sg		**Sb**		**00 35 03.0**	**+4.8**
GUD				*i* Vmb_Lg				00 35 11.7	
MESJ	**Messejana**	**3.61**	**283**	*e*Pn		**Pn**		**00 34 08.6**	**+0.9**
MESJ				*e*Sn		**Sn**		**00 34 49.0**	**-1.1**
MESJ				A		A		00 35 15.1	
	5.0nm,0.6s								
PMRV	**Marv??o**	**3.67**	**311**	*e*Pn		**Pn**		**00 34 09.9**	**+1.3**
PMRV				*e*Sg		**Sg**		**00 35 07.3**	**-2.8**
PMRV				A		A		00 35 15.1	
	4.5nm,0.4s								
MORF	**Marmelete**	**3.89**	**275**	*e*Sn		**Sn**		**00 34 57.8**	**+0.6**
MORF				*e*Sg		**Sg**		**00 35 16.5**	**-0.5**
MORF				A		A		00 35 19.9	
	3.3nm,0.7s								
PNCL	**Nicolau / Gran**	**3.90**	**287**	*e*Pn		**Pn**		**00 34 11.9**	**+0.2**
PNCL				*e*Sg		**Sg**		**00 35 14.3**	**-3.1**
PNCL				A		A		00 35 25.6	
	3.3nm,0.9s								
PTEO	**Sao Teotonio**	**3.96**	**278**	*e*Pn		**Pn**		**00 34 14.7**	**+2.2**
PTEO				*e*Sn		**Sn**		**00 34 57.9**	**-1.0**
PTEO				A		A		00 35 22.0	
	5.3nm,0.6s								
ETOR	**Torete**	**3.96**	**19**	Pn		**Pn**		**00 34 13.3**	**+0.6**
ETOR				Pg		**Pb**		**00 34 24.9**	**+3.1**
ETOR				Sn		**Sn**		**00 34 58.9**	**-0.2**
ETOR				Sg		**Sg**		**00 35 17.8**	**-1.5**
ETOR				*i* Vmb_Lg				00 35 22.7	
PCBR	**Castelo Branco**	**3.99**	**315**	*e*Pn		**Pn**		**00 34 14.5**	**+1.5**
PCBR				*e*Sn		**Sn**		**00 34 58.7**	**-0.9**
PCBR				A		A		00 35 31.3	
	4.3nm,0.7s								
PMTG	**Montargil**	**4.02**	**301**	*e*Pn		**Pn**		**00 34 14.8**	**+1.4**
PMTG				*e*Sn		**Sn**		**00 34 59.0**	**-1.3**
PMTG				*e*Sg		**Sg**		**00 35 19.4**	**-1.8**
PMTG				A		A		00 35 34.8	
	5.5nm,0.6s								
PFVI	**Vila Bisbo**	**4.03**	**272**	P		**Pn**		**00 34 15.3**	**+1.8**
PFVI				S		**Sn**		**00 35 02.7**	**+2.2**
EMOS	**Mosqueruela**	**4.17**	**37**	Pn		**Pn**		**00 34 17.8**	**+2.2**
EMOS				Pg		**Pb**		**00 34 27.4**	**+1.9**
EMOS				Sn		**Sn**		**00 35 03.9**	**-0.4**
EMOS				Sg		**Sg**		**00 35 23.9**	**-2.2**
MD31	**MD31**	**4.29**	**191**	P		**Pn**		**00 34 17.8**	**+0.7**
MD31				S		**Sn**		**00 35 07.3**	**+0.3**
MDT	**Midelt**	**4.32**	**189**	P		**Pn**		**00 34 19.9**	**+2.4**
MDT				S		**Sn**		**00 35 09.0**	**+1.2**
PACT	**Alcochete**	**4.33**	**294**	*e*Pn		**Pn**		**00 34 19.4**	**+1.8**
MTE	**Manteigas**	**4.42**	**320**	*e*Pn		**Pn**		**00 34 20.7**	**+1.7**
MTE				*e*Sg		**Sg**		**00 35 31.3**	**-2.8**
MTE				A		A		00 35 38.0	
	5.5nm,0.4s								
PSBE	**So Bento**	**4.62**	**303**	*e*Pn		**Pn**		**00 34 23.7**	**+2.0**
PSBE				*e*Sn		**Sn**		**00 35 14.7**	**-0.6**
PCAS	**Casmilo, Conde**	**4.73**	**310**	*e*Sn		**Sn**		**00 35 16.4**	**-1.5**
MVO	**Moncorvo**	**4.79**	**329**	*e*Pn		**Pn**		**00 34 25.7**	**+1.7**
MVO				*e*Sn		**Sn**		**00 35 17.9**	**-1.4**
MVO				*e*Sg		**Sg**		**00 35 44.7**	**-1.1**
MVO				A		A		00 35 52.3	
	4.1nm,0.4s								
PVIS	**Viseu**	**4.83**	**320**	*e*Pn		**Pn**		**00 34 25.9**	**+1.3**
PVIS				*e*Sn		**Sn**		**00 35 18.7**	**-1.8**
PVIS				A		A		00 35 54.3	
	3.2nm,0.6s								
PVRL	**Vila Real**	**5.18**	**325**	*e*Pn		**Pn**		**00 34 30.8**	**+1.5**
PVRL				*e*Sn		**Sn**		**00 35 28.2**	**-0.7**
PVRL				*e*Sg		**Sg**		**00 35 56.1**	**-2.2**
PVRL				A		A		00 36 05.5	
	2.6nm,0.9s								
POLO	**Lamas de Olo**	**5.29**	**325**	*e*Pn		**Pn**		**00 34 32.5**	**+1.6**
PCAB	**Cabril**	**5.66**	**326**	*e*Pn		**Pn**		**00 34 38.1**	**+2.1**
PGAV	**Gavieira, Arco**	**5.98**	**326**	*e*Pn		**Pn**		**00 34 42.8**	**+2.5**
ETSF	**Etsaut**	**6.31**	**22**	*e*Pn		**Pn**		**00 34 47.2**	**+2.3**
ETSF				*e*Sn		**Sn**		**00 35 54.6**	**-2.2**
	0.3nm,0.2s								
SJPF	**Ste Jean**	**6.33**	**17**	*e*Pn		**Pn**		**00 34 47.2**	**+2.1**
SJPF				*e*Sn		**Sn**		**00 35 54.5**	**-2.8**
	0.6nm,0.3s								
EPF	**Esparros**	**6.73**	**27**	*e*Pn		**Pn**		**00 34 52.5**	**+1.9**
EPF				*e*Sn		**Sn**		**00 36 03.5**	**-3.6**
	1.7nm,0.4s								
CAF	**Calviac**	**8.99**	**28**	*e*Pn		**Pn**		**00 35 22.5**	**+0.9**
CAF				*e*Sn		**Sn**		**00 36 57.2**	**-5.5**
	0.1nm,0.2s								

ROM 16 00:49:45.7±0.1,42.774N±0.003×13.142E±0.004, h8km,ML1.8/26,13C-8D,Error ellipse: s-maj=0.4km s-min=0.0km az=63.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.06**	**341**	P		Pg		00 49 47.7	0.0
NRCA				S		Sg		00 49 48.8	-0.2
NRCA				AML		AML			
	comp=E,1080μm,0.9s								
NRCA				AML		AML			
	comp=N,980μm,0.5s								
NRCA				AML		AML			
	comp=E,1072μm,0.1s								
NRCA				AML		AML			
	comp=N,1106μm,0.8s								
NRCA				AML		AML			
	comp=N,8730μm,0.5s								
NRCA				AML		AML			
	comp=E,11950μm,0.2s								
NRCA				AML		AML			
	comp=N,9490μ

	comp=E,11900μm,0.7s						
T1216				AML	AML		
	comp=N,19100μm,0.4s						
T1216	**Preci, Frazion**	**0.15**	**322**	⇓P	Pg	00 49 49.3	+0.4
T1216				AML	AML		
	comp=E,11910μm,0.7s						
T1216				AML	AML		
	comp=N,19150μm,0.4s						
T1216				AML	AML		
	comp=E,1494μm,1.0s						
T1216				AML	AML		
	comp=N,2114μm,0.4s						
T1216				AML	AML		
	comp=E,11900μm,0.7s						
T1216				AML	AML		
	comp=N,19100μm,0.4s						
T1216				AML	AML		
	comp=E,1494μm,1.0s						
T1216				AML	AML		
	comp=N,2114μm,0.4s						
T1216				AML	AML		
	comp=E,11900μm,0.7s						
T1216				AML	AML		
	comp=E,1494μm,1.0s						
T1216				AML	AML		
	comp=N,2114μm,0.4s						
T1216				AML	AML		
	comp=N,19100μm,0.4s						
T1204	**Amatrice, Fraz**	**0.16**	**127**	P	Pg	00 49 50.1	+1.0
T1204	**Amatrice, Fraz**	**0.16**	**127**	⇑P	Pg	00 49 50.2	+1.0
T1204				AML	AML		
	comp=E,655μm,1.0s						
T1204				AML	AML		
	comp=N,390μm,0.7s						
T1204				AML	AML		
	comp=E,655μm,1.0s						
T1204				AML	AML		
	comp=N,388μm,0.7s						
T1204				AML	AML		
	comp=N,388μm,0.7s						
T1204				AML	AML		
	comp=E,655μm,1.0s						
T1217	**Poggiodomo (PG**	**0.17**	**248**	P	Pg	00 49 49.8	+0.6
T1217	**Poggiodomo (PG**	**0.17**	**248**	P	Pg	00 49 49.8	+0.6
T1217				S	Sg	00 49 53.1	+1.6
MMO1	**Montemonaco**	**0.18**	**47**	P	Pg	00 49 50.1	+0.6
MMO1				S	Sg	00 49 53.4	+1.3
LNSS	**Leonessa**	**0.19**	**204**	P	Pg	00 49 50.2	+0.7
LNSS				AML	AML		
	comp=N,716μm,0.6s						
LNSS				AML	AML		
	comp=E,655μm,0.5s						
LNSS				AML	AML		
	comp=N,716μm,0.6s						
LNSS	**Leonessa**	**0.19**	**204**	⇓P	Pg	00 49 50.3	+0.8
LNSS				AML	AML		
	comp=E,655μm,0.5s						
LNSS				AML	AML		
	comp=N,716μm,0.6s						
LNSS				AML	AML		
	comp=E,655μm,0.5s						
LNSS				AML	AML		
	comp=N,716μm,0.6s						
LNSS				AML	AML		
	comp=E,655μm,0.5s						
LNSS				AML	AML		
	comp=N,716μm,0.6s						
SMA1	**SAN MARTINO**	**0.20**	**135**	P	Pg	00 49 50.8	+1.0
SMA1				AML	AML		
	comp=E,800μm,1.4s						
SMA1				AML	AML		
	comp=N,814μm,0.5s						
SMA1				AML	AML		
	comp=N,816μm,0.5s						
SMA1				AML	AML		
	comp=E,800μm,1.4s						
SMA1	**SAN MARTINO**	**0.20**	**135**	⇑P	Pg	00 49 50.8	+1.0
SMA1				AML	AML		
	comp=E,800μm,1.4s						
SMA1				AML	AML		
	comp=N,814μm,0.5s						
SMA1				AML	AML		
	comp=E,800μm,1.4s						
SMA1				AML	AML		
	comp=N,814μm,0.5s						
SMA1				AML	AML		
	comp=E,800μm,1.4s						
SMA1				AML	AML		
	comp=N,816μm,0.5s						
T1215	**Vallo di Nera,**	**0.20**	**278**	P	Pg	00 49 50.4	+0.6
T1241	**Roccafluvione,**	**0.23**	**69**	P	Pg	00 49 51.0	+0.7
T1241				S	Sg	00 49 55.1	+1.7
T1241				AML	AML		
	comp=E,69μm,1.6s						
T1241				AML	AML		
	comp=N,76μm,0.3s						
T1241				AML	AML		
	comp=N,324μm,1.0s						
T1241				AML	AML		
	comp=E,556μm,0.8s						
T1241	**Roccafluvione,**	**0.23**	**69**	P	Pg	00 49 51.1	+0.8
T1241				S	Sg	00 49 54.9	+1.5
T1241				AML	AML		
	comp=E,568μm,1.1s						
T1241				AML	AML		
	comp=N,411μm,0.9s						
T1241				AML	AML		
	comp=E,556μm,0.8s						
T1241				AML	AML		
	comp=N,324μm,1.0s						
T1241				AML	AML		
	comp=E,556μm,0.8s						
T1241				AML	AML		
	comp=N,324μm,1.0s						
T1241				AML	AML		
	comp=E,556μm,0.8s						
T1241				AML	AML		
	comp=N,324μm,1.0s						
T1243	**Rocca Santa Ma**	**0.24**	**109**	P	Pg	00 49 51.2	+0.7
T1243				S	Sg	00 49 55.4	+1.7
T1243	**Rocca Santa Ma**	**0.24**	**109**	⇑P	Pg	00 49 51.2	+0.7
T1243				S	Sg	00 49 55.5	+1.8
AM05	**Amandola Campo**	**0.26**	**37**	P	Pg	00 49 51.4	+0.7
AM05				S	Sb	00 49 55.8	-1.4
AM05				AML	AML		
	comp=E,212μm,1.3s						
AM05				AML	AML		
	comp=N,182μm,1.3s						
AM05				AML	AML		
	comp=E,744μm,1.3s						
AM05				AML	AML		
	comp=N,628μm,0.1s						
AM05				AML	AML		
	comp=E,212μm,1.3s						
AM05				AML	AML		
	comp=N,182μm,1.3s						
AM05				AML	AML		
	comp=E,744μm,1.3s						
AM05				AML	AML		
	comp=N,628μm,0.1s						
AM05				AML	AML		
	comp=E,212μm,1.3s						
AM05				AML	AML		
	comp=E,744μm,1.3s						
AM05				AML	AML		
	comp=N,182μm,1.3s						
AM05				AML	AML		
	comp=N,628μm,0.1s						
FDMO	**Fiordimonte**	**0.27**	**351**	⇓P	Pg	00 49 51.4	+0.5
FDMO				S	Sg	00 49 55.8	+1.2
FDMO				AML	AML		
	comp=E,328μm,1.4s						
FDMO				AML	AML		
	comp=N,301μm,0.8s						
FDMO				AML	AML		
	comp=E,327μm,1.4s						
FDMO				AML	AML		
	comp=N,301μm,0.8s						
FDMO				AML	AML		
	comp=N,301μm,0.8s						
FDMO				AML	AML		
	comp=E,328μm,1.4s						
RM33	**Pellescritta (**	**0.27**	**169**	P	Pg	00 49 51.8	+0.7
RM33				S	Sb	00 49 56.4	-1.3
RM33				AML	AML		
	comp=E,372μm,0.3s						
RM33				AML	AML		
	comp=N,336μm,0.3s						
RM33				AML	AML		
	comp=E,358μm,0.3s						
RM33				AML	AML		
	comp=N,300μm,0.3s						
RM33				AML	AML		
	comp=E,372μm,0.3s						
RM33				AML	AML		
	comp=N,336μm,0.3s						
RM33				AML	AML		
	comp=E,358μm,0.3s						
RM33				AML	AML		
	comp=N,300μm,0.3s						
RM33				AML	AML		
	comp=E,358μm,0.3s						
RM33				AML	AML		
	comp=N,300μm,0.3s						
RM33				AML	AML		
	comp=N,336μm,0.3s						
RM33				AML	AML		
	comp=E,372μm,0.3s						
CESI	**CESI - Serrava**	**0.29**	**323**	⇑P	Pg	00 49 52.0	+0.6
CESI				S	Sb	00 49 57.1	-1.1
CESI				AML	AML		
	comp=E,534μm,0.3s						
CESI				AML	AML		
	comp=N,747μm,0.3s						
CESI				AML	AML		
	comp=E,534μm,0.3s						
CESI				AML	AML		
	comp=N,747μm,0.3s						
CESI				AML	AML		
	comp=E,534μm,0.3s						
CESI				AML	AML		
	comp=N,747μm,0.3s						
CESI				AML	AML		
	comp=E,534μm,0.3s						
CAMP	**Campotosto**	**0.31**	**140**	⇑P	Pg	00 49 52.6	+0.8
CAMP				S	Sb	00 49 57.6	-1.2
CAMP				AML	AML		
	comp=E,118μm,1.1s						
CAMP				AML	AML		
	comp=N,124μm,0.5s						
CAMP				AML	AML		
	comp=E,118μm,1.1s						
CAMP				AML	AML		
	comp=N,124μm,0.5s						
CAMP				AML	AML		
	comp=N,124μm,0.5s						
CAMP				AML	AML		
	comp=E,118μm,1.1s						
ARRO	**Arrone**	**0.34**	**235**	⇓P	Pb	00 49 53.4	-0.6
ARRO				AML	AML		
	comp=E,148μm,0.2s						
ARRO				AML	AML		
	comp=N,148μm,1.2s						
ARRO				AML	AML		
	comp=E,148μm,0.2s						
ARRO				AML	AML		
	comp=N,149μm,1.2s						
ARRO				AML	AML		
	comp=E,148μm,0.2s						
ARRO				AML	AML		
	comp=N,148μm,1.2s						
T1247	**Pizzolo (AQ)**	**0.35**	**161**	⇓P	Pb	00 49 53.5	-0.8
T1247				AML	AML		
	comp=E,236μm,0.4s						
T1247				AML	AML		
	comp=N,292μm,0.4s						
T1247				AML	AML		
	comp=E,236μm,0.4s						
T1247				AML	AML		
	comp=N,292μm,0.4s						
T1247				AML	AML		
	comp=N,292μm,0.4s						
T1247				AML	AML		
	comp=E,236μm,0.4s						
TERO	**Teramo**	**0.37**	**114**	⇓P	Pg	00 49 53.5	+0.5
TERO				S	Sb	00 49 59.8	-0.8
TERO				AML	AML		
	comp=E,154μm,0.5s						
TERO				AML	AML		
	comp=N,162μm,1.5s						
TERO				AML	AML		
	comp=E,154μm,0.5s						
TERO				AML	AML		
	comp=N,162μm,1.5s						
TERO				AML	AML		
	comp=N,162μm,1.5s						
TERO				AML	AML		
	comp=E,154μm,0.5s						
OFFI	**Offida**	**0.43**	**68**	P	Pb	00 49 54.8	-0.7
OFFI				AML	AML		
	comp=E,248μm,0.8s						
OFFI				AML	AML		
	comp=N,338μm,0.4s						
OFFI				AML	AML		
	comp=E,248μm,0.8s						
OFFI				AML	AML		
	comp=N,338μm,0.4s						
OFFI				AML	AML		
	comp=E,248μm,0.8s						
CESX	**Cesi**	**0.45**	**249**	S	Sb	00 50 03.0	+0.4
GIGS	**Gran Sasso**	**0.45**	**136**	P	Pg	00 49 55.1	+0.6
GIGS				S	Sb	00 50 02.1	-0.8
GIGS				AML	AML		
	comp=E,25μm,0.8s						
GIGS				AML	AML		
	comp=N,27μm,0.5s						
GIGS				AML	AML		
	comp=E,25μm,0.8s						
GIGS				AML	AML		
	comp=N,27μm,0.5s						
GIGS				AML	AML		
	comp=E,25μm,0.8s						
GIGS				AML	AML		
	comp=N,27μm,0.5s						
SNTG	**Esanatoglia**	**0.50**	**343**	⇑P	Pg	00 49 55.8	+0.3
SNTG				S	Sb	00 50 03.9	-0.4
SNTG				AML	AML		
	comp=E,103μm,0.4s						
SNTG				AML	AML		
	comp=N,91μm,0.7s						
SNTG				AML	AML		
	comp=E,103μm,0.4s						
SNTG				AML	AML		
	comp=N,91μm,0.7s						
SNTG				AML	AML		
	comp=E,103μm,0.4s						
SNTG				AML	AML		
	comp=N,91μm,0.7s						
FIAM	**Fiamignano**	**0.51**	**182**	P	Pg	00 49 55.9	+0.4
FIAM				AML	AML		
	comp=E,75μm,1.0s						
FIAM				AML	AML		
	comp=N,63μm,1.1s						
FIAM				AML	AML		
	comp=E,74μm,1.0s						
FIAM				AML	AML		
	comp=N,63μm,1.1s						
FIAM				AML	AML		
	comp=E,75μm,1.0s						
FIAM				AML	AML		
	comp=N,63μm,1.1s						
ATCC	**AVT- Casa Cast**	**0.55**	**318**	⇓P	Pg	00 49 56.6	+0.3
ATCC				AML	AML		
	comp=E,154μm,1.3s						
ATCC				AML	AML		
	comp=N,140μm,1.1s						
ATCC				AML	AML		
	comp=E,154μm,1.3s						
ATCC				AML	AML		
	comp=N,140μm,1.1s						
ATCC				AML	AML		
	comp=E,153μm,1.3s						
ATCC				AML	AML		
	comp=N,139μm,1.1s						
EL6	**Elcito**	**0.56**	**357**	⇑P	Pg	00 49 56.7	+0.2
FOSV	**Fossato di Vic**	**0.59**	**332**	⇑P	Pg	00 49 56.6	-0.5
FOSV				S	Sb	00 50 06.5	-0.4
CING	**Cingoli**	**0.60**	**4**	P	Pg	00 49 57.9	+0.5
CING				S	Sb	00 50 07.3	+0.1
CING				AML	AML		
	comp=E,102μm,0.2s						
CING				AML	AML		
	comp=N,62μm,0.3s						
CING				AML	AML		
	comp=N,62μm,0.3s						
CING				AML	AML		
	comp=E,102μm,0.2s						
VCEL	**Villa Celiera**	**0.64**	**126**	⇑P	Pb	00 49 59.1	0.0
VCEL				AML	AML		
	comp=E,108μm,0.6s						
VCEL				AML	AML		
	comp=N,132μm,0.8s						
SSFR	**Montelago di S**	**0.71**	**338**	P	Pg	00 49 59.4	0.0
SSFR				AML	AML		
	comp=E,124μm,1.6s						
SSFR				AML	AML		
	comp=N,106μm,1.3s						
SSFR				AML	AML		
	comp=E,124μm,1.6s						
SSFR				AML	AML		
	comp=N,106μm,1.3s						
T0110	**Collepietro**	**0.72**	**139**	P	Pg	00 49 59.8	+0.2
T0110				AML	AML		
	comp=E,99μm,0.5s						
T0110				AML	AML		
	comp=N,109μm,0.6s						
T0110				AML	AML		
	comp=E,99μm,0.5s						
T0110				AML	AML		
	comp=N,109μm,0.6s						
T0110				AML	AML		
	comp=E,99μm,0.5s						
T0110				AML	AML		
	comp=N,109μm,0.6s						
ARVD	**Arcevia**	**0.74**	**349**	P	Pg	00 49 60.0	+0.1
ARVD				S	Sb	00 50 11.3	+0.2
ARVD				AML	AML		
	comp=E,46μm,1.0s						
ARVD				AML	AML		
	comp=N,34μm,0.8s						
ARVD				AML	AML		
	comp=E,46μm,1.0s						
ARVD				AML	AML		
	comp=N,34μm,0.8s						
ARVD				AML	AML		
	comp=E,46μm,1.0s						
ARVD				AML	AML		
	comp=N,34μm,0.8s						
FRON	**Frontone**	**0.80**	**338**	P	Pg	00 50 00.8	-0.3
FRON				AML	AML		
	comp=E,39μm,0.8s						
FRON				AML	AML		
	comp=N,54μm,1.5s						
FRON				AML	AML		
	comp=E,39μm,0.8s						
FRON				AML	AML		
	comp=N,54μm,1.5s						
ATVO	**AVT- Monte Val**	**0.81**	**319**	⇑P	Pg	00 50 01.6	+0.3
ATVO				AML	AML		
	comp=E,33μm,1.5s						
ATVO				AML	AML		
	comp=N,34μm,1.1s						
ATVO				AML	AML		
	comp=N,34μm,1.1s						
ATVO				AML	AML		
	comp=E,33μm,1.5s						
PIEI	**Pieia**	**0.88**	**330**	⇑P	Pb	00 50 03.0	-0.3
PIEI				AML	AML		
	comp=E,35μm,0.3s						
PIEI				AML	AML		
	comp=N,28μm,1.6s						
PIEI				AML	AML		
	comp=E,35μm,0.3s						
PIEI				AML	AML		
	comp=N,28μm,1.6s						
PIEI				AML	AML		
	comp=E,35μm,0.3s						
PIEI				AML	AML		
	comp=N,28μm,1.6s						

IDC 16 00:51:21.0±7.1, 3°52S×142°62E, h0km, mb3.2/2, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=252.2km s-min=34.9km az=93.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.21**	**206**	P	P	00 55 36.6	+0.9
	0.1nm,0.3s,baz=29,slow=12,SNR=6.2						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**21.72**	**202**	P	P	00 56 13.2	-0.8
	0.3nm,0.6s,baz=29,slow=10.0,SNR=4.2						
	0.3nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**32.26**	**46**	T	T	01 30 42.5	
	baz=228,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**32.27**	**46**	T	T	01 30 43.2	
	baz=228,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**32.28**	**46**	T	T	01 30 44.5	
	baz=228,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**33.20**	**45**	T	T	01 31 55.6	
	baz=226,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**33.22**	**45**	T	T	01 31 54.1	
	baz=226,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**33.22**	**45**	T	T	01 31 54.9	
	baz=226,slow=76,SNR=6.1						
MKAR	**Makanchi Array**	**72.84**	**321**	P	P	01 02 51.8	+0.1
	0.2nm,0.6s,baz=110,slow=6.3,SNR=2.5						
	0.2nm,0.6s						

IDC 16 01:31:30.9±273.0, 64°05N×147°03W, h0km, Error ellipse: s-maj=114.2km s-min=20.5km az=157.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I53US	**FAIRBANKS INFR**	**0.90**	**337**	*i*		01 36 30.0	
	0.3nm,0.7s,baz=156,slow=320,SNR=4.4						
I56US	**NEWPORT INFRAS**	**22.64**	**120**	*i*		03 50 00.0	
	baz=327,slow=325,SNR=0.8						
I18DK	**QAANAAQ INFRAS**	**26.26**	**29**	*i*		04 12 10.0	
	baz=283,slow=326,SNR=0.8						

DJA 16 01:40:31.0±0.8, 4°S±5°×13°0E±°, h179km±6km, M3.8/6, MLv3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.45**	**115**	P	Pn	01 40 55.5	0.0
BNDI				S	Sn	01 41 15.9	+1.7
NLAI	**Namlea**	**2.63**	**294**	P	Pn	01 41 16.3	+1.1
NLAI				S	Sn	01 41 50.2	+0.7
FAKI	**Fak Fak**	**3.08**	**63**	P	Pn	01 41 20.8	+0.2
FAKI				S	Sn	01 41 58.5	-0.8
SWI	**Sorong**	**3.87**	**27**	P	Pn	01 41 31.2	+0.8
SANI	**Sanana**	**4.17**	**303**	P	Pn	01 41 33.1	-1.2
SANI				S	Sn	01 42 20.1	-3.8
LBMI	**Labuha**	**4.18**	**331**	P	Pn	01 41 33.5	-0.9
LBMI				S	Sn	01 42 22.5	-1.5
PCI	**Palu**	**10.23**	**289**	P	Pn	01 42 53.8	+0.1

*NEIC **16** 01:48:47.5±1.6, 40°33N±0°.04×125°.2W±0°.1, h18km±12km, Error ellipse: s-maj=12.0km s-min=6.3km az=89.0*
*NCEDC **16** 01:48:48.9±2.5, 40°.38N±0°.03×124°.97W±0°.05, h3km±7km, ML3.0/18, ML2.9/48(NEIC), Error ellipse: s-maj=5.4km s-min=3.8km az=75.0*

ISC 16 01:48:47.7±2.2, 40°37N±0°.04×125°2W±0°.1, h20km±6km, n68, σ0=82/68, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**0.65**	**80**		**Pb**	**01 49 01.0**	**+0.6**
KCTM					**Sb**	**01 49 10.1**	**+1.1**
KSMM	**Slide Mountain**	**0.79**	**103**		**Pb**	**01 49 02.1**	**-0.7**
KMPM	**Mount Pierce**	**0.81**	**86**		**Pg**	**01 49 03.4**	**-0.2**
KMPM					**Sb**	**01 49 13.4**	**-0.3**
JCC	**Jacoby Creek,**	**0.98**	**63**	Pg	**Pb**	**01 49 05.2**	**-0.9**
JCC				IAML		01 49 19.7	
	comp=N,348nm,0.3s						
KCRM	**Chalk Rock**	**1.04**	**86**		**Pb**	**01 49 06.6**	**-0.5**

KMRM	**Mail Ridge**	**1.14**	**97**		**Pn**	**01 49 08.0**	**-0.5**
KRPM	**Rodgers**	**1.18**	**48**		**Pn**	**01 49 08.4**	**-0.8**
KRPM	**Rodgers**	**1.18**	**48**	IAML		01 49 23.0	
	comp=N,407nm,0.8s						
KRPM				IAML		01 49 23.2	
	comp=E,392nm,0.8s						
KHMM	**Horse Mountain**	**1.21**	**65**		**Pn**	**01 49 09.1**	**-0.6**
KHMM	**Horse Mountain**	**1.21**	**65**	IAML		01 49 23.7	
	comp=N,326nm,0.6s						
KHMM				IAML		01 49 42.3	
	comp=E,276nm,0.7s						
KPPM	**Pickett Peak**	**1.39**	**90**		**Pn**	**01 49 12.1**	**0.0**
KCPM	**Cahto Peak**	**1.40**	**119**		**Pn**	**01 49 11.9**	**-0.3**
KIPM	**Iron Peak**	**1.42**	**113**		**Pn**	**01 49 12.0**	**-0.5**
KRMB	**Red Mountain**	**1.50**	**39**		**Pn**	**01 49 13.0**	**-0.6**
KHBM	**Hayfork Bally**	**1.52**	**78**		**Pn**	**01 49 13.4**	**-0.6**
KFPM	**Farley Peak**	**1.53**	**118**		**Pn**	**01 49 13.5**	**-0.5**
GTC	**Three Chop Rid**	**1.58**	**127**		**Pn**	**01 49 13.9**	**-0.7**
KBNM	**Bluenose Ridge**	**1.59**	**107**		**Pn**	**01 49 14.6**	**-0.3**
KOMM	**Orleans Mounta**	**1.60**	**55**		**Pn**	**01 49 14.3**	**-0.6**
GNAM	**Navarro Ridge**	**1.67**	**134**		**Pn**	**01 49 15.3**	**-0.5**
KSXB	**Camp Six Broad**	**1.76**	**34**		**Pn**	**01 49 16.4**	**-0.8**
KSXB	**Camp Six Broad**	**1.76**	**34**	IAML		01 49 37.4	
	comp=E,159nm,0.4s						
GHOM	**Hamilton Openi**	**1.83**	**136**		**Pn**	**01 49 17.6**	**-0.4**
GWRM	**Wonder Ranch**	**1.85**	**128**		**Pn**	**01 49 17.9**	**-0.5**
LGPM	**Granite Peak**	**1.87**	**72**		**Pn**	**01 49 18.1**	**-0.6**
GROM	**Round Mountain**	**1.98**	**102**		**Pn**	**01 49 20.4**	**+0.3**
KBO	**Bosley Butte**	**1.98**	**21**		**Pn**	**01 49 19.9**	**-0.2**
KBO	**Bosley Butte**	**1.98**	**21**	IAML		01 49 50.8	
	comp=N,84nm,0.4s						
KBO				IAML		01 50 00.9	
	comp=E,74nm,1.7s						
GGUM	**Gualala**	**1.99**	**139**		**Pn**	**01 49 20.0**	**-0.3**
GVV	**Valley View**	**2.01**	**106**		**Pn**	**01 49 20.3**	**-0.3**
LBKM	**Bonanza King**	**2.04**	**69**		**Pn**	**01 49 20.6**	**-0.5**
KTRM	**Thompson Ridge**	**2.06**	**41**		**Pn**	**01 49 20.9**	**-0.4**
HOPS	**Hopland Field**	**2.13**	**130**		**Pn**	**01 49 21.9**	**-0.2**
HOPS	**Hopland Field**	**2.13**	**130**	IAML		01 50 09.3	
	comp=N,61nm,1.5s						
HOPS				IAML		01 50 19.8	
	comp=E,64nm,1.8s						
GHLM	**Highland Sprin**	**2.13**	**128**		**Pn**	**01 49 21.9**	**-0.4**
L02F	**Cave Junction**	**2.13**	**34**	P	**Pn**	**01 49 22.4**	**+0.2**
	baz=212						
L02F				S	**Sn**	**01 49 46.2**	**-1.9**
	baz=212						
GTSM	**Trough Springs**	**2.25**	**117**		**Pn**	**01 49 23.7**	**-0.1**
GCK	**Clark Valley**	**2.26**	**110**		**Pn**	**01 49 24.6**	**+0.6**
LAMM	**Antelope Mount**	**2.30**	**56**		**Pn**	**01 49 24.6**	**0.0**
YBH	**Yreka Blue Hor**	**2.31**	**53**		**Pn**	**01 49 24.6**	**-0.1**
GCVM	**Cloverdale**	**2.31**	**133**		**Pn**	**01 49 25.4**	**+0.7**
LTCM	**Tuscan Springs**	**2.34**	**93**		**Pn**	**01 49 25.3**	**+0.2**
GSSM	**Skaggs Springs**	**2.36**	**134**		**Pn**	**01 49 25.2**	**-0.1**
GBMM	**Baldy Mountain**	**2.41**	**120**		**Pn**	**01 49 27.2**	**+1.2**
M03C	**McCloud**	**2.49**	**68**		**Pn**	**01 49 28.1**	**+0.9**
GAXM	**Alexander Vall**	**2.50**	**131**		**Pn**	**01 49 27.9**	**+0.6**
LMPM	**Military Pass**	**2.54**	**63**		**Pn**	**01 49 29.1**	**+1.1**
LHEM	**Herd Peak**	**2.57**	**60**		**Pn**	**01 49 29.1**	**+0.7**
K02D	**Willamette Mer**	**2.59**	**26**	P	**Pn**	**01 49 29.5**	**+1.0**
	baz=203						
K02D				S	**Sn**	**01 49 58.6**	**-0.9**
	baz=203						
NMTM	**Middletown**	**2.63**	**126**		**Pn**	**01 49 29.8**	**+0.8**
LBFM	**Black Fox Moun**	**2.68**	**68**		**Pn**	**01 49 31.1**	**+1.1**
OSUM	**Sutter Buttes**	**2.79**	**112**		**Pn**	**01 49 30.7**	**-0.5**
HUMO	**Hull Mountain**	**2.79**	**36**		**Pn**	**01 49 31.8**	**+0.5**
L04D	**Klamath Falls**	**2.85**	**49**		**Pn**	**01 49 33.7**	**+1.5**
L04D	**Klamath Falls**	**2.85**	**49**	P	**Pn**	**01 49 33.6**	**+1.5**
	baz=228						
L04D				S	**Sn**	**01 50 07.6**	**+1.7**
	baz=228						
ORV	**Oroville**	**2.94**	**105**		**Pn**	**01 49 33.6**	**+0.3**
ORV				IAML		01 50 08.1	
	comp=N,30nm,0.4s						
ORV				IAML		01 50 09.3	
	comp=E,33nm,0.4s						
AFDM	**Forest Hills D**	**3.54**	**112**	Pn	**Pn**	**01 49 42.1**	**+0.5**
BEKR	**Beckworth**	**3.73**	**96**	Pn	**Pn**	**01 49 45.0**	**+0.7**
BEKR				IAML		01 50 31.0	
	comp=E,30nm,0.6s						
BEKR				IAML		01 50 33.3	
	comp=N,22nm,0.6s						
K05A	**Summer Lake**	**3.99**	**52**	Pn	**Pn**	**01 49 49.1**	**+1.2**
K05A				IAML		01 51 13.9	
	comp=N,15nm,4.2s						
K05A				IAML		01 51 31.0	
	comp=E,11nm,4.2s						
MOD	**Modoc Plateau**	**3.99**	**66**	Pn	**Pn**	**01 49 47.3**	**-0.6**
J05D	**Fort Rock, OR**	**4.14**	**44**	P	**Pn**	**01 49 52.3**	**+2.3**
	baz=225						
EMB	**Emerald Bay**	**4.16**	**108**	Pn	**Pn**	**01 49 51.0**	**+0.7**
EMB				IAML		01 50 44.7	
	comp=N,17nm,0.4s						
EMB				IAML		01 50 45.5	
	comp=E,13nm,0.4s						
PNTR	**Pine Nut**	**4.49**	**105**	Pn	**Pn**	**01 49 54.7**	**-0.1**
PNTR				IAML		01 50 53.2	
	comp=E,15nm,0.7s						
PNTR				IAML		01 50 59.8	
	comp=N,12nm,0.8s						
PAHR	**Pah Rah Range**	**4.50**	**97**		**Pn**	**01 49 54.7**	**-0.1**
YERR	**Yerington**	**4.79**	**105**	Pn	**Pn**	**01 49 58.8**	**-0.1**
YERR				IAML		01 51 08.5	
	comp=E,8.9nm,0.8s						
YERR				IAML		01 51 54.1	
	comp=N,6.1nm,3.2s						
MDPB	**Devils Postpil**	**5.48**	**118**		**Pn**	**01 50 09.6**	**+1.1**
MDPB				IAML		01 53 36.4	
	comp=N,7.3nm,0.1s						
MDPB				IAML		01 53 36.5	
	comp=E,8.1nm,0.1s						
KVN	**Kaiserville**	**5.62**	**101**	Pn	**Pn**	**01 50 09.6**	**-0.7**
ISA	**Isabella, Lake**	**7.08**	**129**	Pn	**Pn**	**01 50 31.8**	**+1.6**

NEIC ***16*** *01:59:30.1±0.9, 51°.7N±0°.1×173°.1W±0°.1, h59km±18km, mb3.8/15, ML3.1(AEIC), Error ellipse: s-maj=16.7km s-min=9.0km az=170.0*

AEIC 16 01:59:29±2.9, 51°.6N±0°.1×173°.01W±0°.08, h29km±8km, Error ellipse: s-maj=15.2km s-min=7.5km az=176.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.97**	**316**		Pn	01 59 46.2	-0.5
KOSE	**Korovin Southe**	**1.00**	**320**		Pn	01 59 47.3	+0.2
KOKL	**Mount Kliuchef**	**1.04**	**316**		Pn	01 59 47.3	-0.4
GSMY	**Great Sitkin M**	**1.95**	**285**		Pn	02 00 00.5	+0.4
GSTR	**Great Sitkin T**	**1.96**	**286**	Pn	Pn	01 59 59.1	-1.2
GSTD	**Great Sitkin T**	**2.00**	**285**		Pn	02 00 00.7	-0.2
GSCK	**Great Sitkin C**	**2.00**	**284**		Pn	02 00 00.8	-0.1
GSSP	**Great Sitkin S**	**2.03**	**286**		Pn	02 00 00.9	-0.3
CLES	**Cleveland East**	**2.28**	**56**		Pn	02 00 04.6	0.0
ADK	**Adak**	**2.31**	**279**		Pn	02 00 05.0	0.0
CLCO	**Concord Point,**	**2.35**	**58**		Pn	02 00 05.9	+0.2
KIWB	**Kanaga Island**	**2.59**	**278**		Pn	02 00 08.3	-0.6
NIKH	**Nikolski High**	**2.91**	**60**		Pn	02 00 13.4	+0.2
AMKA	**Amchitka**	**4.81**	**271**	Pn	Pn	02 00 39.6	+0.2
J20K	**Nowinta River**	**16.03**	**31**	Pn	Pn	02 03 10.9	-1.1
J20K				IAmb	IAmb	02 03 12.7	
	comp=Z,9.1nm,1.5s						
TRF	**Thorofare Moun**	**16.91**	**37**		Pn	02 03 22.6	-0.8
TRF				IAmb	IAmb	02 03 34.6	
	comp=Z,10nm,1.4s						
SCM	**Sheep Creek Mo**	**17.31**	**44**	Pn	Pn	02 03 25.2	-3.1
MLY	**Manley**	**17.70**	**32**		Pn	02 03 31.0	-2.1
MLY				IAmb	IAmb	02 03 36.1	
	comp=Z,6.8nm,1.3s						
WRH	**Wood River Hil**	**18.29**	**36**		P	02 03 37.1	-3.0
HDA	**Harding Lake**	**18.67**	**37**	P	P	02 03 42.3	-2.1
H24K	**Noodor Dome**	**19.14**	**32**	P	P	02 03 47.9	-1.7
H24K				IAmb	IAmb	02 04 13.1	
	comp=Z,7.5nm,1.4s						
RIDG	**Independent Ri**	**19.16**	**40**	P	P	02 03 48.9	-0.9
RIDG				IAmb	IAmb	02 04 10.6	
	comp=Z,8.2nm,1.3s						
J25K	**Salcha River,**	**19.37**	**37**	P	P	02 03 49.7	-2.4
J25K				IAmb	IAmb	02 03 52.7	
	comp=Z,4.0nm,0.6s						
SCRK	**Sand Creek**	**19.61**	**40**	P	P	02 03 51.2	-3.6
J26L	**Joseph Creek**	**20.00**	**38**	P	P	02 03 57.1	-2.0
J26L				IAmb	IAmb	02 04 00.3	
	comp=Z,3.7nm,0.7s						
BCAR	**Beaver Creek A**	**20.16**	**43**	P	P	02 03 58.9	-1.8
K27K	**Chicken**	**20.40**	**40**	P	P	02 04 00.6	-2.6
K27K				IAmb	IAmb	02 04 37.9	
	comp=Z,5.2nm,1.3s						
I26K	**Coal Creek Min**	**20.53**	**37**	P	P	02 04 02.2	-2.4
I26K				IAmb	IAmb	02 04 38.6	
	comp=Z,4.9nm,1.1s						
EGAK	**Eagle**	**21.06**	**39**	P	P	02 04 08.5	-1.9
INK	**Inuvik**	**25.24**	**34**	P	P	02 04 49.7	-2.4

NEIC ***16*** *02:02:08.4±1.3, 34°.88S±0°.10×179°.7W±0°.2, h10km±2km, mb4.3/9, Error ellipse: s-maj=22.8km s-min=16.2km az=78.0*

WEL ***16*** *02:02:10.9±0.6, 35°.5S±5°×17°9W±1°.0, h121km±20km, M4.5/48, mB5.0/18, ML5.0/42, MLv4.8/48, Mw(mB)4.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=111.2*

IDC ***16*** *02:02:12.5±6.1, 35°.02S×179°.76W, h50km±52km, mb3.9/3, mbtmp4.2/5, ML4.1/2, MS3.7/17, Error ellipse: s-maj=40.5km s-min=35.2km az=12.0*

ISC 16 02:02:11.5±0.7, 34°.93S±0°.06×179°.58W±0°.09, h43km, n127, σ1§54/109, mb4.1/7, MS3.7/18, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.13**	**212**	Pn	**Pn**	**02 02 57.4**	**-1.0**
MXZ	**Matakaoa Point**	**3.13**	**212**	P	**Pn**	**02 02 57.5**	**-0.9**
MXZ				S	**Sn**	**02 03 35.6**	**+1.1**
WMGZ	**Waiomatatini S**	**3.31**	**209**	P	**Pn**	**02 03 02.0**	**+1.3**
WMGZ				S	**Sn**	**02 03 40.7**	**+1.9**
PKGZ	**Pakihiroa**	**3.50**	**212**	P	**Pn**	**02 03 04.0**	**+0.5**
PKGZ				S	**Sn**	**02 03 43.9**	**+0.1**
PUZ	**Puketiti**	**3.59**	**208**	P	**Pn**	**02 03 05.2**	**+0.5**
RUGZ	**Raukumara Rang**	**3.75**	**215**	P	**Pn**	**02 03 07.0**	**0.0**
RUGZ				S	**Sn**	**02 03 50.1**	**+0.2**
TWGZ	**Tauwhareparae**	**3.79**	**211**	P	**Pn**	**02 03 07.6**	**+0.2**
CNGZ	**Carnagh Statio**	**3.97**	**206**	P	**Pn**	**02 03 10.3**	**+0.4**
WHRZ	**Whale Island**	**4.03**	**223**	P	**Pn**	**02 03 11.7**	**+0.9**
TKGZ	**Te Karaka**	**4.07**	**210**	P	**Pn**	**02 03 11.7**	**+0.5**
MWZ	**Matawai**	**4.12**	**214**	P	**Pn**	**02 03 11.9**	**0.0**
KUZ	**Kuaotunu**	**4.23**	**243**	P	**Pn**	**02 03 13.4**	**0.0**
GRZ	**Great Barrier**	**4.25**	**251**	P	**Pn**	**02 03 13.2**	**-0.5**
URZ	**Urewera**	**4.26**	**218**	P	**Pn**	**02 03 13.0**	**-0.8**
	13nm,0.3s,baz=62,slow=1.5,SNR=71						
URZ				S	**Sn**	**02 03 59.6**	**-2.6**
	205nm,0.5s,baz=35,slow=5.4,SNR=10.0						
	54nm,0.3s						
URZ	**Urewera**	**4.26**	**218**	Pn	**Pn**	**02 03 13.6**	**-0.2**
URZ	**Urewera**	**4.26**	**218**	P	**Pn**	**02 03 13.5**	**-0.3**
URZ				S	**Sn**	**02 04 00.4**	**-1.8**
RAGZ	**Rawiri**	**4.30**	**213**	P	**Pn**	**02 03 15.2**	**+0.7**
RIGZ	**Rimuhau**	**4.33**	**209**	P	**Pn**	**02 03 13.5**	**-1.3**
EDRZ	**Edgecumbe**	**4.34**	**222**	P	**Pn**	**02 03 15.6**	**+0.6**
PRGZ	**Paritu Road**	**4.47**	**206**	P	**Pn**	**02 03 16.1**	**-0.7**
PRGZ				S	**Sn**	**02 04 06.4**	**-1.2**
OMRZ	**Omania**	**4.55**	**225**	P	Pn	02 03 24.6	+6.8
TARZ	**Mount Tarawera**	**4.56**	**223**	P	**Pn**	**02 03 20.1**	**+2.1**
SNGZ	**Shannon Statio**	**4.57**	**212**	P	**Pn**	**02 03 17.5**	**-0.7**
MUGZ	**Murupara**	**4.60**	**219**	P	**Pn**	**02 03 18.0**	**-0.4**
MUGZ				S	**Sn**	**02 04 08.5**	**-2.1**
RTZ	**Ruatahuna**	**4.60**	**216**	P	**Pn**	**02 03 19.5**	**+1.0**
RRRZ	**Republican Roa**	**4.63**	**222**	P	**Pn**	**02 03 19.1**	**+0.2**
KNZ	**Kokohu**	**4.64**	**208**	P	**Pn**	**02 03 17.5**	**-1.5**
KNZ				S	**Sn**	**02 04 10.3**	**-1.3**
HLRZ	**Highlands Stat**	**4.66**	**223**	P	**Pn**	**02 03 21.7**	**+2.3**
MHGZ	**Mahia Peninsul**	**4.67**	**205**	P	**Pn**	**02 03 18.5**	**-0.9**
RAHZ	**Arahi**	**4.79**	**213**	P	**Pn**	**02 03 21.6**	**+0.4**
PRRZ	**Plateau Road**	**4.81**	**221**	P	**Pn**	**02 03 22.2**	**+0.7**
MTHZ	**Maungataniwha**	**4.85**	**215**	P	**Pn**	**02 03 21.7**	**-0.4**
WHHZ	**Waihua**	**4.86**	**211**	P	**Pn**	**02 03 22.5**	**+0.4**
ALRZ	**Allen Road**	**4.88**	**221**	P	**Pn**	**02 03 23.9**	**+1.5**
MRHZ	**Matea Rd**	**5.05**	**218**	P	**Pn**	**02 03 24.6**	**-0.1**
NMHZ	**Naumai**	**5.07**	**214**	P	**Pn**	**02 03 25.0**	**0.0**
ARHZ	**Aropaoanui**	**5.12**	**211**	P	**Pn**	**02 03 24.5**	**-1.1**
BKZ	**Black Stump Fm**	**5.27**	**215**	Pn	**Pn**	**02 03 27.5**	**-0.2**
BKZ	**Black Stump Fm**	**5.27**	**215**	P	**Pn**	**02 03 26.8**	**-0.9**
WATZ	**Wairara**	**5.32**	**224**	P	**Pn**	**02 03 33.0**	**+4.5**
MCHZ	**McNeill Hill**	**5.40**	**212**	P	**Pn**	**02 03 29.4**	**-0.1**
RATZ	**Rangitukua**	**5.41**	**222**	P	**Pn**	**02 03 30.1**	**+0.3**
CKHZ	**Cape Kidnapper**	**5.42**	**208**	P	**Pn**	**02 03 29.0**	**-0.8**
RITZ	**Rihia Road**	**5.45**	**221**	P	**Pn**	**02 03 29.9**	**-0.2**
KWHZ	**Kaweka Forest**	**5.50**	**214**	P	**Pn**	**02 03 30.0**	**-1.0**
KATZ	**Kakaramea**	**5.53**	**222**	P	Pn	02 03 38.3	+6.9
OUZ	**Omahuta**	**5.61**	**265**	Pn	**Pn**	**02 03 31.7**	**-0.6**
OUZ	**Omahuta**	**5.61**	**265**	P	**Pn**	**02 03 32.0**	**-0.3**
KAHZ	**Kahuranaki**	**5.62**	**209**	P	**Pn**	**02 03 30.4**	**-2.1**
TMVZ	**Te Maari**	**5.63**	**221**	P	**Pn**	**02 03 32.2**	**-0.6**
NTVZ	**North Tongarir**	**5.63**	**221**	P	**Pn**	**02 03 33.5**	**+0.7**
ETVZ	**East Tongariro**	**5.64**	**221**	P	**Pn**	**02 03 32.6**	**-0.3**
KRVZ	**Karewarewa**	**5.65**	**221**	P	**Pn**	**02 03 37.6**	**+4.6**
NNVZ	**North Ngauruho**	**5.69**	**221**	P	**Pn**	**02 03 34.0**	**+0.3**
WTVZ	**West Tongariro**	**5.69**	**221**	P	**Pn**	**02 03 33.8**	**+0.2**
KRHZ	**Kereru**	**5.71**	**213**	P	**Pn**	**02 03 32.4**	**-1.3**
SNVZ	**South Ngauruho**	**5.71**	**221**	P	**Pn**	**02 03 37.3**	**+3.3**
HIZ	**Hauiti**	**5.72**	**230**	P	**Pn**	**02 03 34.8**	**+0.8**
BHHZ	**Black Hill Sta**	**5.73**	**216**	P	**Pn**	**02 03 32.4**	**-1.7**
NGZ	**Ngauruhoe**	**5.73**	**221**	P	Pn	02 03 41.1	+6.9
TWVZ	**Taurewa**	**5.74**	**223**	P	**Pn**	**02 03 37.0**	**+2.7**
FWVZ	**Far West T-bar**	**5.81**	**221**	P	**Pn**	**02 03 35.8**	**+0.5**
WHVZ	**Whangaehu Hut**	**5.81**	**220**	P	**Pn**	**02 03 36.2**	**+0.9**
MOVZ	**Moawhango**	**5.82**	**218**	P	**Pn**	**02 03 35.0**	**-0.3**
PXZ	**Pawanui**	**5.82**	**208**	P	**Pn**	**02 03 32.9**	**-2.4**
GLKZ	**Green Lake**	**5.83**	**14**	P	**Pn**	**02 03 34.9**	**-0.5**
GLKZ				S	**Sn**	**02 04 41.1**	**+0.2**
WNVZ	**Wahianoa**	**5.84**	**220**	P	**Pn**	**02 03 35.3**	**-0.4**
PNHZ	**Pukenui**	**6.00**	**213**	P	**Pn**	**02 03 36.0**	**-1.8**
WPHZ	**Waipukurau**	**6.02**	**211**	P	**Pn**	**02 03 36.9**	**-1.1**
TSZ	**Takapari Road**	**6.22**	**213**	P	**Pn**	**02 03 39.9**	**-1.0**
WAZ	**Wanganui**	**6.47**	**220**	P	**Pn**	**02 03 45.9**	**+1.6**
POWZ	**Post Office Ro**	**6.58**	**213**	P	**Pn**	**02 03 47.4**	**+1.7**
BFZ	**Birch Farm**	**6.62**	**209**	P	**Pn**	**02 03 43.1**	**-3.2**
MRZ	**Mangatainoka R**	**6.88**	**212**	P	**Pn**	**02 03 47.0**	**-2.9**
HOWZ	**Holdsworth Sta**	**7.11**	**212**	P	**Pn**	**02 03 49.6**	**-3.4**
OGWZ	**Otaki Gorge**	**7.19**	**214**	P	**Pn**	**02 03 51.0**	**-3.1**
TUWZ	**Tuamarina**	**8.25**	**216**	P	**Pn**	**02 04 05.7**	**-2.9**
RPZ	**Rata Peaks**	**11.38**	**217**	P	**Pn**	**02 04 49.6**	**-1.8**
	1.4nm,0.3s,baz=343,slow=20,SNR=1.5						
RPZ				S	Sn	02 06 42.4	-15
	5.3nm,0.3s,baz=139,slow=23,SNR=2.4						
	7.2nm,0.7s						
DZM	**Mont Dzumac**	**17.73**	**313**	eLR	LR	02 10 21.9	
	comp=Z,605nm,24.9s						
DZM	**Mont Dzumac**	**17.73**	**313**	LR	LR	02 11 35.4	
	comp=Z,417nm,18.5s,baz=208,slow=32						
KOUNC	**Koumac, New Ca**	**20.19**	**311**	P	**P**	**02 06 41.7**	**-0.9**
KOUNC				IAmb	IAmb	02 06 58.6	
	comp=Z,19nm,1.2s						
RAR	**Rarotonga**	**22.13**	**57**	LR	LR	02 13 53.5	
	comp=Z,83nm,21.9s,baz=240,slow=31						
ARMA	**Armidale**	**24.61**	**272**	P	**P**	**02 07 26.3**	**-1.7**
ARMA				IAmb	IAmb	02 07 44.2	
	comp=Z,16nm,1.4s						
TBI	**Tubuai**	**28.62**	**74**	eLR	LR	02 15 13.2	
	comp=Z,269nm,27.0s						
HNR	**Honiara**	**31.54**	**319**	LR	LR	02 18 27.1	
	comp=Z,857nm,19.8s,baz=73,slow=31						
PPT2	**Papeete2**	**31.80**	**65**	eLR	LR	02 16 37.0	
	comp=Z,295nm,26.2s						
PPT	**Papeete**	**31.81**	**65**	LR	LR	02 21 29.5	
	comp=Z,59nm,19.1s,baz=184,slow=36						
STKA	**Stephens Creek**	**32.42**	**264**	LR	LR	02 20 19.4	
	comp=Z,147nm,19.6s,baz=33,slow=34						
CTA	**Charters Tower**	**33.53**	**287**	LR	LR	02 21 43.1	
	comp=Z,40nm,20.6s,baz=88,slow=35						
PMG	**Port Moresby**	**39.61**	**302**	LR	LR	02 23 09.3	
	comp=Z,145nm,21.4s,baz=146,slow=32						
AS31	**Alice Springs**	**41.76**	**273**	P	**P**	**02 09 55.7**	**-1.1**
ASAR	**Alice Springs**	**41.76**	**273**	P	**P**	**02 09 56.5**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=116,slow=7.5,SNR=22						
ASAR				LR	LR	02 26 42.6	
	comp=Z,186nm,19.8s,baz=106,slow=35						
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**41.76**	**273**	P	**P**	**02 09 57.9**	**+1.1**
WB2	**Warramunga Arr**	**43.15**	**278**	P	**P**	**02 10 08.1**	**0.0**
WB2				IAmb	IAmb	02 10 13.2	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**43.16**	**278**	P	**P**	**02 10 07.0**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=117,slow=7.5,SNR=30						
WRA				LR	LR	02 28 28.9	
	comp=Z,184nm,18.1s,baz=108,slow=37						
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**43.16**	**278**	P	**P**	**02 10 07.4**	**-0.8**
CASY	**Casey**	**50.54**	**209**	P	**P**	**02 11 05.4**	**+0.3**
CASY				IAmb	IAmb	02 11 12.3	
	comp=Z,2.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.20**	**274**	LR	LR	02 32 15.4	
	comp=Z,129nm,19.9s,baz=130,slow=35						
FITZ	**Fitzroy Crossi**	**51.20**	**274**	P	**P**	**02 11 10.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**51.68**	**253**	LR	LR	02 31 27.2	
	comp=Z,49nm,20.7s,baz=40,slow=34						
QSPA	**South Pole Qui**	**55.19**	**180**	LR	LR	02 33 01.3	
	comp=Z,52nm,18.0s,baz=62,slow=34						
QSPA	**South Pole Qui**	**55.19**	**180**	P	**P**	**02 11 41.5**	**+1.8**
BATI	**Baumata**	**57.06**	**281**	LR	LR	02 37 21.1	
	comp=Z,126nm,18.7s,baz=60,slow=37						
RPN	**Rapa Nui**	**59.60**	**103**	LR	LR	02 33 23.1	
	comp=Z,39nm,20.3s,baz=318,slow=31						
KAPI	**Kappang**	**63.23**	**283**	LR	LR	02 41 23.7	
	comp=Z,49nm,19.0s,baz=121,slow=37						
DAV	**Davao City (W)**	**66.43**	**298**	LR	LR	02 42 08.5	
	comp=Z,13nm,20.5s,baz=150,slow=36						
LEM	**Lembang**	**72.03**	**274**	LR	LR	02 47 29.4	
	comp=Z,58nm,18.1s,baz=176,slow=38						
TROLL	**Troll, Antarti**	**73.34**	**181**	P	**P**	**02 13 40.6**	**+2.1**
SNAA	**Sanae**	**73.67**	**179**	P	**P**	**02 13 42.0**	**+1.8**
SNAA	**Sanae**	**73.67**	**179**	P	**P**	**02 13 42.6**	**+2.4**
SNAA				IAmb	IAmb	02 13 46.4	
	comp=Z,2.6nm,1.1s						
VNA3	**Neumayer Olymp**	**73.88**	**177**	P	**P**	**02 13 43.7**	**+2.3**
VNA2	**Neumayer--Watz**	**74.29**	**177**	P	**P**	**02 13 46.8**	**+3.0**
	baz=189,slow=3.9						
VNA1	**Neumayer--Stat**	**74.50**	**177**	P	**P**	**02 13 48.3**	**+3.1**
H03S2	**Juan Fernandez**	**79.07**	**124**	T	T	03 42 21.6	
	baz=233,SNR=15						
H03S1	**Juan Fernandez**	**79.08**	**124**	T	T	03 42 23.3	
	baz=233,SNR=15						
H03S3	**Juan Fernandez**	**79.09**	**124**	T	T	03 42 22.4	
	baz=233,SNR=13						
H03N3	**Juan Fernandez**	**79.29**	**123**	T	T	03 42 32.9	
	baz=236,slow=72,SNR=20						
H03N2	**Juan Fernandez**	**79.30**	**123**	T	T	03 42 36.4	
	baz=236,slow=72,SNR=17						
H03N1	**Juan Fernandez**	**79.31**	**123**	T	T	03 42 45.8	
	baz=236,slow=72,SNR=20						
NVAR	**Mina Array Bea**	**92.45**	**44**	P	**P**	**02 15 18.9**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=232,slow=6.4,SNR=3.0						
	comp=Z,0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**123.18**	**312**	PKP	**PKPdf**	**02 21 00.6**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=97,slow=1.5,SNR=3.4						
ARCES	**ARCESS Array B**	**142.69**	**346**	PKhKP	PKPpre	02 21 36.0	
	comp=Z,1.7nm,0.7s,baz=31,slow=2.1,SNR=3.6						
FINES	**FINESS Array B**	**148.85**	**336**	PKPbc	**PKPbc**	**02 21 53.9**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=35,slow=5.1,SNR=17						
NB2	**NORSAR Subarra**	**152.97**	**348**	PKP	**PKiKP**	**02 22 04.4**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=13,slow=2.5						
NOA	**NORSAR Array B**	**152.97**	**348**	PKPbc	**PKiKP**	**02 22 03.8**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=15,slow=4.1,SNR=5.2						
BRTR	**Keskin Array B**	**153.25**	**290**	PKPbc	**PKPbc**	**02 22 03.

baz=268
FUSS Fushou 1.27 241 P **Pb 02 04 27.1 +0.8**
baz=237
FUSS *e*S **Sn 02 04 43.8 +1.5**
baz=237
IRIF Iriomote-Funau 1.28 115 P **Pb 02 04 27.6 +1.4**
WHF Hehuan Shan 1.31 236 P **Pb 02 04 28.0 +0.9**
baz=232
WHF S **Sn 02 04 44.5 +1.0**
baz=232
LIOB Emei 1.33 260 P **Pb 02 04 29.9 +2.7**
baz=257
LIOB *e*S **Sb 02 04 45.2 +1.3**
baz=257
CHGB Renai 1.43 235 P **Pb 02 04 30.1 +1.1**
baz=232
CHGB *e*S **Sb 02 04 49.8 +3.0**
baz=232
OWD Renai 1.49 232 P **Pb 02 04 30.9 +0.9**
baz=228
OWD *e*S **Sb 02 04 48.9 +0.4**
baz=228

IDC ***16*** *02:13:11.5±0.5, 0.°93N×28.°16W, h0km, mb4.3/23, mbtmp4.3/24, ML5.0/2, MS3.9/67, Error ellipse: s-maj=18.7km s-min=10.3km az=142.0*
NEIC ***16*** *02:13:13.5±1.5, 0.°7N±0.°1×28.°05W±0.°09, h10km±1km, mb4.7/42, Error ellipse: s-maj=21.0km s-min=12.9km az=334.0*
GCMT ***16*** *02:13:16.5±0.2, 1.°08N±0.°02×28.°05W±0.°01, h16km±1km, MW4.9/108, Moment Tensor Solution. s34,c38; s108,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.40±.08; Mθθ=0.37±.10; Mφφ=0.03±.09; Mrθ=0.22±.21; Mθφ=-2.17±.08; Mφr=1.39±.28; Best double couple: M₀=2.61500×10¹⁶ NP1:ϕs=175.00000°, δ82.00000°, λ=-33.00000°. NP2:ϕs=271.00000°, δ57.00000°, λ=-170.00000°. Principal axes: T 2.6040, Plg16.0000°, Azm227.0000°; N 0.0220, Plg56.0000°, Azm342.0000°; P -2.6260, Plg29.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 02:13:13.6±0.3, 0.°91N±0.°07×28.°16W±0.°07, h17km, n209, σ1.°64/153, mb4.6/53, MS3.9/65, 1C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCBR	**Riachuelo**	**10.22**	**229**	Pn		**Pn**	**02 15 38.3**	**-1.5**
	28nm,0.3s,baz=191,slow=15,SNR=94							
RCBR				Sn		**Sn**	**02 17 26.7**	**-7.5**
	2.8nm,0.3s,baz=98,slow=19,SNR=1.8							
RCBR				LR		LR	02 18 38.9	
	comp=Z,2μm,21.3s,baz=190,slow=32							
RCBR	**Riachuelo**	**10.22**	**229**	Pn		**Pn**	**02 15 38.4**	**-1.3**
RCBR	**Riachuelo**	**10.22**	**229**	*e*P		**Pn**	**02 15 38.5**	**-1.3**
NBRF	**Rio Formoso -**	**11.79**	**216**	*e*P		**Pn**	**02 16 00.1**	**-1.0**
NBAN	**Anadia - AL**	**13.26**	**217**	*e*P		**Pn**	**02 16 20.6**	**-0.6**
SACV	**Santiago Islan**	**14.68**	**18**	Pn		**Pn**	**02 16 38.7**	**-2.0**
H10N3	**ASCENSION HYDR**	**16.16**	**123**	T		T	02 33 33.1	
	baz=301,slow=74,SNR=278							
H10N2	**ASCENSION HYDR**	**16.16**	**123**	T		T	02 33 36.5	
	baz=301,slow=74,SNR=368							
H10N1	**ASCENSION HYDR**	**16.18**	**123**	T		T	02 33 40.5	
	baz=301,slow=74,SNR=256							
ASCN	**Ascension**	**16.33**	**123**	Pn		**Pn**	**02 16 58.8**	**-3.5**
ROSB	**Rosrio**	**16.40**	**257**	*e*P		**P**	**02 17 05.6**	**-0.4**
H10S3	**ASCENSION HYDR**	**16.64**	**126**	T		T	02 34 18.0	
	baz=305,slow=74,SNR=278							
H10S2	**ASCENSION HYDR**	**16.66**	**126**	T		T	02 34 12.9	
	baz=275,slow=74,SNR=91							
MBO	**M'Bour**	**17.38**	**39**	Pn		**Pn**	**02 17 13.8**	**-1.7**
BBTS	**Babate**	**17.85**	**40**	P		**Pn**	**02 17 21.2**	**-0.2**
	2.4nm,0.3s,baz=145,slow=24,SNR=2.1							
BBTS				LR		LR	02 22 32.8	
	comp=Z,778nm,20.9s,baz=236,slow=32							
	29nm,0.7s							
GDU01	**Guandu, BA**	**18.42**	**217**	*e*P		**P**	**02 17 28.9**	**+0.6**
CMC01	**Camacan, BA**	**19.68**	**214**	*e*P		**P**	**02 17 43.1**	**+0.9**
TMAB	**Tom-Au,PA,Br**	**20.19**	**261**	*e*P		Pn	02 17 49.8	+0.1
GUA01	**Guaratinga, BA**	**20.84**	**213**	*e*P		**P**	**02 17 56.2**	**+1.5**
SDBA	**SAO DESIDERIO**	**21.24**	**231**	*e*P		**P**	**02 17 59.5**	**+0.3**
SMTB	**Santa Maria do**	**21.66**	**243**	*e*P		**P**	**02 18 04.1**	**+0.5**
NAN01	**Guarapari, ES**	**22.05**	**212**	*e*P		**P**	**02 18 08.3**	**+0.6**
JANB	**Januaria**	**22.52**	**225**	*e*P		**P**	**02 18 13.1**	**+0.2**
SJMB	**Sao Joao De Ma**	**23.32**	**213**	*e*P		**P**	**02 18 21.1**	**0.0**
MC01	**Montes Claros**	**23.43**	**221**	*e*P		**P**	**02 18 22.8**	**+0.5**
DBIC	**Dimbokro**	**23.94**	**76**	P		**P**	**02 18 27.0**	**-0.1**
	18nm,0.8s,baz=256,slow=10,SNR=15							
DBIC				LR		LR	02 26 51.0	
	comp=Z,136nm,18.0s,baz=264,slow=34							
	18nm,0.8s							
DBIC	**Dimbokro**	**23.94**	**76**	P		**P**	**02 18 26.2**	**-0.9**
DBIC				IAmb		IAmb	02 18 28.3	
	comp=Z,17nm,0.7s							
DIAM	**Diamantina, MG**	**24.44**	**218**	*e*P		**P**	**02 18 32.6**	**+0.8**
MDP	**Montagnes des**	**24.79**	**280**	P		**P**	**02 18 34.7**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=90,slow=7.1,SNR=2.4							
MDP				LR		LR	02 26 20.1	
	comp=Z,98nm,19.2s,baz=80,slow=32							
	comp=Z,4.5nm,0.7s							
BDFB	**Brasilia**	**25.60**	**229**	P		**P**	**02 18 43.0**	**+0.6**
	comp=Z,7.6nm,0.6s,baz=67,slow=9.7,SNR=12							
BDFB				LR		LR	02 27 50.1	
	comp=Z,832nm,19.7s,baz=99,slow=34							
	comp=Z,7.6nm,0.6s							
BDFB	**Brasilia**	**25.60**	**229**	*e*P		**P**	**02 18 43.2**	**+0.8**
CAM01	**Campos-RJ**	**26.16**	**209**	*e*P		**P**	**02 18 47.8**	**+0.5**
MALB	**Monte Alegre**	**26.24**	**264**	*e*P		**P**	**02 18 50.2**	**+2.0**
SNDB	**Serra Nova Dou**	**26.30**	**240**	*e*P		**P**	**02 18 49.3**	**+0.6**
PMNB	**Patos De Minas**	**26.39**	**222**	*e*P		**P**	**02 18 49.5**	**-0.1**
IPMB	**Ipameri, GO**	**27.24**	**225**	*e*P		**P**	**02 18 58.0**	**+0.9**
KOWA	**Kowa**	**27.42**	**59**	P		**P**	**02 18 58.5**	**-0.3**
	comp=Z,18nm,0.9s,baz=240,slow=8.0,SNR=27							
KOWA				LR		LR	02 28 36.9	
	comp=Z,686nm,18.8s,baz=260,slow=34							
	comp=Z,18nm,0.9s							
KOWA	**Kowa**	**27.42**	**59**	P		**P**	**02 18 58.9**	**+0.1**
KOWA				IAmb		IAmb	02 19 02.6	
	comp=Z,20nm,0.8s							
ITTB	**Itaituba**	**28.05**	**259**	*e*P		**P**	**02 19 04.5**	**+0.1**
NPGB	**Novo Progresso**	**28.26**	**253**	*e*P		**P**	**02 19 06.8**	**+0.5**
PARB	**Paraibuna**	**29.49**	**214**	*e*P		**P**	**02 19 18.0**	**+0.8**
CLDB	**Colider**	**29.87**	**246**	*e*P		**P**	**02 19 20.7**	**+0.1**
ITRB	**Iturama**	**29.90**	**226**	*e*P		**P**	**02 19 21.4**	**+0.7**
VAO	**Valinhos**	**30.00**	**216**	*e*P		**P**	**02 19 22.6**	**+0.8**
PDRB	**Porto dos Gac**	**30.99**	**245**	*e*P		**P**	**02 19 31.1**	**+0.6**
PCMB	**Pacaembu**	**31.78**	**224**	*e*P		**P**	**02 19 38.3**	**+0.9**
SALV	**Santo Antonio**	**31.91**	**237**	*e*P		**P**	**02 19 39.9**	**+1.3**
TOA0	**Torodi Ar. Sit**	**31.97**	**66**	P		**P**	**02 19 38.3**	**-0.8**
TOA0				IAmb		IAmb	02 19 40.4	
	comp=Z,14nm,0.9s							
TORD	**Torodi Ar. Bea**	**31.97**	**66**	P		**P**	**02 19 39.5**	**+0.3**
	comp=Z,16nm,0.8s,baz=254,slow=9.4,SNR=104							
TORD				LR		LR	02 30 37.2	
	comp=Z,257nm,21.0s,baz=210,slow=33							
	comp=Z,16nm,0.8s							
PP1B	**Ponte de Pedra**	**32.10**	**234**	*e*P		**P**	**02 19 42.3**	**+2.0**
BOAV	**Boa Vista**	**32.38**	**273**	P		**P**	**02 19 43.5**	**+0.7**
BOAV				IAmb		IAmb	02 19 47.3	
	comp=Z,11nm,1.0s							
BOAV	**Boa Vista**	**32.38**	**273**	*e*P		**P**	**02 19 43.4**	**+0.7**
AQDB	**Aquidauana**	**34.33**	**230**	*e*P		**P**	**02 20 00.0**	**+0.3**
VILB	**Vilhena**	**34.64**	**245**	P		**P**	**02 20 03.5**	**+1.0**
VILB				IAmb		IAmb	02 20 06.2	
	comp=Z,13nm,1.1s							
VILB	**Vilhena**	**34.64**	**245**	*e*P		**P**	**02 20 03.9**	**+1.4**
PTLB	**Pontes e Lacer**	**34.66**	**241**	P		**P**	**02 20 03.2**	**+0.6**
PTLB				IAmb		IAmb	02 20 04.9	
	comp=Z,8.0nm,1.0s							
PTLB	**Pontes e Lacer**	**34.66**	**241**	*e*P		**P**	**02 20 03.7**	**+1.1**
H05S1	**Guadeloupe/Mar**	**34.98**	**294**	T		T	02 56 55.2	
	SNR=12							
H05N1	**Guadeloupe/Mar**	**35.85**	**297**	T		T	02 57 55.2	
	SNR=6.3							
ITAB	**Concordia**	**36.26**	**218**	*e*P		**P**	**02 20 17.0**	**+0.8**
SIV	**San Ignacio**	**36.58**	**241**	P		**P**	**02 20 20.4**	**+1.2**
	comp=Z,2.8nm,0.7s,baz=85,slow=8.1,SNR=11							
SIV				LR		LR	02 34 24.5	
	comp=Z,487nm,18.4s,baz=93,slow=35							
	comp=Z,2.8nm,0.7s							
MDT	**Midelt**	**38.71**	**33**	LR		LR	02 35 58.1	
	comp=Z,277nm,18.5s,baz=241,slow=35							

CPUP	**Villa Florida**	**39.05**	**224**	P		**P**	**02 20 40.6**	**+0.7**
	comp=Z,4.5nm,1.0s,baz=58,slow=8.4,SNR=5.0							
CPUP				LR		LR	02 36 37.1	
	comp=Z,805nm,18.2s,baz=54,slow=36							
	comp=Z,4.5nm,1.0s							
CPUP	**Villa Florida**	**39.05**	**224**	*e*P		**P**	**02 20 40.8**	**+1.0**
TAM	**Tamanrasset**	**39.30**	**54**	P		P	02 20 35.2	-7.0
ETMB	**Extrema**	**39.35**	**253**	P		**P**	**02 20 42.3**	**-0.2**
ETMB				IAmb		IAmb	02 20 44.4	
	comp=Z,4.4nm,0.8s							
ETMB	**Extrema**	**39.35**	**253**	*e*P		**P**	**02 20 43.4**	**+0.8**
PLTB	**Pedras Altas**	**40.46**	**214**	*e*P		**P**	**02 20 52.1**	**+0.6**
H09N1	**TRISTAN DA CUN**	**40.55**	**160**	T		T	03 04 09.0	
	SNR=14							
H09W1	**TRISTAN DA CUN**	**40.57**	**160**	T		T	03 04 13.8	
	SNR=5.0							
ITQB	**Itaqui**	**40.78**	**219**	*e*P		**P**	**02 20 54.3**	**+0.2**
SJG	**San Juan**	**41.03**	**297**	LR		LR	02 34 24.1	
	comp=Z,138nm,21.1s,baz=98,slow=31							
LPAZ	**La Paz**	**42.99**	**245**	P		**P**	**02 21 14.4**	**+1.3**
	comp=Z,5.2nm,0.8s,baz=59,slow=5.0,SNR=26							
LPAZ				LR		LR	02 38 54.2	
	comp=Z,316nm,18.3s,baz=90,slow=36							
	comp=Z,5.2nm,0.8s							
LPAZ	**La Paz**	**42.99**	**245**	P		**P**	**02 21 13.8**	**+0.7**
LPAZ	**La Paz**	**42.99**	**245**	*e*P		**P**	**02 21 14.3**	**+1.1**
SDV	**Santo Domingo**	**43.01**	**282**	LR		LR	02 39 01.0	
	comp=Z,53nm,18.5s,baz=73,slow=36							
ESDC	**Sonseca Array**	**44.44**	**27**	P		**P**	**02 21 24.9**	**+1.1**
	comp=Z,5.0nm,1.0s,baz=224,slow=8.6,SNR=20							
ESDC				LR		LR	02 39 20.3	
	comp=Z,77nm,19.0s,baz=222,slow=35							
	comp=Z,5.0nm,1.0s							
ESDC	**Sonseca Array**	**44.44**	**27**	P		**P**	**02 21 25.0**	**+1.1**
CZSB	**Cruzeiro do Su**	**45.24**	**258**	P		**P**	**02 21 31.4**	**+0.8**
CZSB				IAmb		IAmb	02 21 36.0	
	comp=Z,19nm,1.4s							
CZSB	**Cruzeiro do Su**	**45.24**	**258**	*e*P		**P**	**02 21 32.6**	**+2.0**
LVC	**Limon Verde**	**46.06**	**237**	LR		LR	02 40 35.7	
	comp=Z,126nm,19.4s,baz=61,slow=36							
LVC	**Limon Verde**	**46.06**	**237**	*e*P		**P**	**02 21 37.5**	**+0.1**
ROSC	**El Rosal**	**46.25**	**276**	P		**P**	**02 21 39.0**	**-0.1**
	comp=Z,7.9nm,0.5s,baz=91,slow=19,SNR=4.4							
ROSC				LR		LR	02 39 33.0	
	comp=Z,178nm,18.8s,baz=151,slow=34							
	comp=Z,7.9nm,0.5s							
KEST	**Kesra**	**49.12**	**41**	P		**P**	**02 22 01.6**	**+1.0**
	comp=Z,4.8nm,0.9s,baz=248,slow=5.4,SNR=6.4							
KEST				LR		LR	02 45 11.3	
	comp=Z,153nm,18.4s,baz=211,slow=39							
	comp=Z,4.8nm,0.9s							
TSUM	**Tsumeb**	**49.14**	**116**	LR		LR	02 39 23.9	
	comp=Z,22nm,21.5s,baz=352,slow=32							
NNA	**Nana**	**50.01**	**254**	LR		LR	02 42 58.0	
	comp=Z,96nm,18.8s,baz=127,slow=36							
OTAV	**Otavalo**	**50.29**	**270**	*e*P		**P**	**02 22 10.6**	**+0.2**
BOSC	**San Juan Bosco**	**50.47**	**265**	P		**P**	**02 22 10.9**	**-0.5**
ATAH	**Atahualpa**	**50.75**	**260**	LR		LR	02 45 11.2	
	comp=Z,84nm,18.3s,baz=80,slow=38							
VAE	**Valguarnera**	**53.46**	**42**	LR		LR	02 46 48.0	
	comp=Z,188nm,18.0s,baz=190,slow=38							
AQU	**L'Aquila**	**55.59**	**37**	P		**P**	**02 22 51.1**	**+2.6**
CUC	**Castrocucco**	**55.74**	**40**	P		**P**	**02 22 50.4**	**+0.7**
CUC				IAmb		IAmb	02 22 54.2	
	comp=Z,8.3nm,1.2s							
TIP	**Timpagrande**	**55.93**	**41**	P		**P**	**02 22 51.4**	**+0.4**
DAVOX	**Davos/Dischmat**	**56.45**	**31**	P		**P**	**02 22 55.2**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=233,slow=10,SNR=5.9							
DAVOX				LR		LR	02 45 32.7	
	comp=Z,89nm,18.9s,baz=264,slow=34							
	comp=Z,1.9nm,0.6s							
GO06	**Curarrehue**	**56.48**	**219**	P		**P**	**02 22 54.5**	**-0.5**
PLCA	**Paso Flores**	**56.57**	**218**	P		**P**	**02 22 55.9**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=31,slow=6.0,SNR=5.0							
PLCA				LR		LR	02 47 16.1	
	comp=Z,191nm,19.0s,baz=54,slow=36							
	comp=Z,1.3nm,0.7s							
SUR	**Sutherland**	**56.84**	**130**	LR		LR	02 42 31.4	
	comp=Z,47nm,19.0s,baz=327,slow=31							
CTI	**Castel Tesino**	**56.89**	**32**	P		**P**	**02 22 58.1**	**+0.3**
CTI				IAmb		IAmb	02 23 01.4	
	comp=Z,11nm,1.4s							
FETA	**Feichten**	**57.05**	**31**	*e*P		**P**	**02 22 59.2**	**+0.2**
	comp=Z,6.1nm,1.0s							
RETA	**Reutte**	**57.37**	**30**	*e*P		**P**	**02 23 03.8**	**+2.7**
	comp=Z,7.8nm,1.4s							
SQTA	**Sankt Quirin**	**57.42**	**31**	*e*P		**P**	**02 23 02.2**	**+0.6**
	comp=Z,8.8nm,1.2s							
MOTA	**Moosalm**	**57.45**	**31**	*e*P		**P**	**02 23 04.2**	**+2.3**
	comp=Z,7.4nm,1.1s							
CIMO	**Cimolais**	**57.48**	**32**	IAmb		IAmb	02 23 05.8	
	comp=Z,7.6nm,1.2s							
WTTA	**Wattenberg**	**57.67**	**31**	*e*P		**P**	**02 23 04.5**	**+1.1**
	comp=Z,5.8nm,1.2s							
WATA	**Walderalm**	**57.69**	**31**	*e*P		**P**	**02 23 04.3**	**+0.8**
	comp=Z,3.3nm,0.9s							
ABTA	**Altersbach**	**57.80**	**32**	*e*P		**P**	**02 23 06.0**	**+1.9**
	comp=Z,10nm,1.3s							
CLUD	**Cludinico**	**57.81**	**32**	IAmb		IAmb	02 23 10.7	
	comp=Z,11nm,1.0s							
EKA	**Eskdalemuir Ar**	**57.94**	**17**	LR		LR	02 44 08.0	
	comp=Z,153nm,19.6s,baz=188,slow=32							
LSZ	**Lusaka**	**57.95**	**109**	LR		LR	02 43 05.4	
	comp=Z,78nm,21.4s,baz=302,slow=31							
LBTB	**Lobatse**	**58.02**	**120**	P		**P**	**02 23 06.3**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=306,slow=8.7,SNR=1.2							
LBTB				LR		LR	02 43 28.0	
	comp=Z,121nm,20.7s,baz=272,slow=31							
	comp=Z,2.2nm,0.9s							
MYKA	**Terra Mystica**	**58.33**	**33**	*e*P		**P**	**02 23 09.8**	**+2.0**
	comp=Z,7.9nm,1.0s							
KBA	**Koelnbreinsper**	**58.45**	**32**	P		**P**	**02 23 10.3**	**+1.5**
	comp=Z,2.8nm,0.6s							
BOSA	**Boshof**	**58.91**	**124**	P		**P**	**02 23 12.7**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=303,slow=7.4,SNR=6.6							
BOSA				LR		LR	02 43 34.2	
	comp=Z,124nm,21.8s,baz=335,slow=31							
	comp=Z,3.0nm,0.8s							
SOKA	**Soboth**	**59.11**	**33**	*e*P		**P**	**02 23 14.7**	**+1.4**
	comp=Z,7.1nm,1.1s							
PDG	**Podgorica**	**59.23**	**39**	P		**P**	**02 23 15.0**	**+0.9**
PDG				IAmb		IAmb	02 23 19.2	
	comp=Z,8.2nm,1.0s							
MOA	**Molln**	**59.42**	**32**	*e*P		**P**	**02 23 16.3**	**+0.9**
	comp=Z,6.7nm,1.4s							
GEC2	**GERESS Array S**	**59.75**	**31**	IAmb		IAmb	02 23 21.6	
	comp=Z,5.8nm,1.1s							
GERES	**GERESS Array B**	**59.75**	**31**	P		**P**	**02 23 17.6**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=227,slow=6.5,SNR=13							
	comp=Z,1.8nm,0.9s							
GERES	**GERESS Array B**	**59.75**	**31**	P		**P**	**02 23 18.1**	**+0.4**
KHC	**Kasperske Hory**	**59.87**	**30**	P		**P**	**02 23 19.1**	**+0.6**
KHC	**Kasperske Hory**	**59.87**	**30**	*e*P		**P**	**02 23 18.9**	**+0.4**
IDI	**Anoyia**	**59.95**	**49**	LR		LR	02 50 46.0	
	comp=Z,121nm,20.1s,baz=268,slow=38							
CKRC	**Cesky Krumlov**	**60.05**	**31**	*e*P		**P**	**02 23 20.8**	**+1.1**
LIT	**Litokhoron**	**60.24**	**43**	P		**P**	**02 23 22.4**	**+1.3**
CONA	**Conrad Observa**	**60.32**	**33**	*e*P		**P**	**02 23 23.6**	**+2.0**
	comp=Z,6.3nm,1.4s							
RONA	**Rosalia, Austr**	**60.41**	**33**	*e*P		**P**	**02 23 23.5**	**+1.3**
	comp=Z,8.7nm,1.2s							
DIVS	**Divibare**	**60.56**	**38**	P		**P**	**02 23 23.4**	**+0.1**
DIVS				IAmb		IAmb	02 23 34.6	
	comp=Z,4.1nm,1.0s							
CLL	**Collm**	**61.00**	**28**	*e*P		**P**	**02 23 28.0**	**+1.9**
CLL				*e*S		**S**	**02 31 42.0**	**-1.9**
	comp=N,100nm,22.6s							
CLL				*e*S		**S**	**02 31 42.0**	**-1.9**
	comp=E,100nm,30.1s							
CLL				*e*SSS		SSS	02 38 36.0	
CLL				LmH			02 46 00.0	
	comp=N,100nm,20.4s							
CLL				LmH			02 46 00.0	
	comp=E,100nm,18.4s							
ZST	**Bratislava**	**61.15**	**33**	*e*P		**P**	**02 23 29.3**	**+2.2**
MODS	**Modra-Piesok**	**61.34**	**33**	*e*P		**P**	**02 23 30.1**	**+1.6**
VRAC	**Vranov**	**61.53**	**32**	LR		LR	02 48 14.8	
	comp=E,48nm,20.3s,baz=242,slow=34							
VTS	**Vitosha**	**61.89**	**41**	P		**P**	**02 23 34.8**	**+2.3**
TKL	**Tuckaleechee C**	**62.03**	**310**	LR		LR	02 44 17.8	
	comp=E,91nm,22.0s,baz=138,slow=30							
KRLC	**Kraliky**	**62.09**	**31**	*e*P		**P**	**02 23 35.4**	**+1.8**
VYHS	**Vyhne**	**62.26**	**33**	*e*P		**P**	**02 23 36.1**	**+1.4**
SCHQ	**Schefferville**	**62.32**	**336**	LR		LR	02 46 54.4	
	comp=E,35nm,20.4s,baz=181,slow=32							
PSZ	**Piszkesteto**	**62.53**	**34**	P		**P**	**02 23 38.1**	**+1.5**
SADO	**Sadowa**	**62.65**	**321**	LR		LR	02 45 51.7	

	comp=E,60nm,19.5s,baz=175,slow=31							
BORG	**Borgarnes**	**63.89**	**3**	LR		LR	02 46 18.7	
	comp=E,25nm,19.5s,baz=187,slow=31							
CRVS	**Cervenica-Dubn**	**63.94**	**34**	*e*P		**P**	**02 23 49.6**	**+3.7**
MLR	**Muntele Rosu**	**64.94**	**39**	LR		LR	02 53 35.5	
	comp=E,96nm,19.3s,baz=249,slow=37							
MLR	**Muntele Rosu**	**64.94**	**39**	P		**P**	**02 23 53.9**	**+1.3**
KMBO	**Kilima Mbogo**	**65.44**	**92**	LR		LR	02 48 39.3	
	comp=E,56nm,21.1s,baz=266,slow=32							
BURAR	**Bucovina Array**	**65.47**	**37**	P		**P**	**02 23 56.9**	**+0.9**
BUR08	**Bucovina Ar. S**	**65.47**	**37**	P		**P**	**02 23 59.2**	**+3.2**
BUR08				IAmb		IAmb	02 24 08.3	
	comp=Z,7.1nm,1.4s							
VBMS	**Vicksburg**	**66.32**	**305**	P		**P**	**02 24 03.5**	**+1.9**
NB2	**NORSAR Subarra**	**67.05**	**20**	P		**P**	**02 24 06.6**	**+0.9**
	comp=Z,6.6nm,1.2s,baz=224,slow=6.5							
NOA	**NORSAR Array B**	**67.05**	**20**	P		**P**	**02 24 06.3**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=223,slow=6.2,SNR=6.0							
NOA				LR		LR	02 48 26.1	
	comp=Z,63nm,21.7s,baz=235,slow=32							
	comp=Z,2.3nm,1.0s							
HFS	**Hagfors**	**67.27**	**21**	LR		LR	02 48 45.9	
	comp=Z,74nm,21.4s,baz=229,slow=32							
ANTO	**Ankara**	**67.44**	**47**	P		**P**	**02 24 09.4**	**+0.7**
ANTO				IAmb		IAmb	02 24 14.0	
	comp=Z,9.7nm,1.2s							
MMAI	**Mount Meron Ar**	**67.51**	**55**	LR		LR	02 55 14.4	
	comp=Z,95nm,18.2s,baz=144,slow=37							
CMIG	**Matias Romero**	**67.51**	**288**	LR		LR	02 52 09.9	
	comp=Z,35nm,22.0s,baz=106,slow=35							
SFJD	**Kangerlussuaq**	**67.81**	**351**	LR		LR	02 47 48.1	
	comp=Z,65nm,18.8s,baz=166,slow=31							
BR131	**Keskin Array S**	**68.01**	**47**	P		**P**	**02 24 12.0**	**-0.4**
BR131				IAmb		IAmb	02 24 23.7	
	comp=Z,5.7nm,1.0s							
BRTR	**Keskin Array B**	**68.01**	**47**	P		**P**	**02 24 13.4**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=236,slow=6.4,SNR=14							
BRTR				LR		LR	02 54 55.6	
	comp=Z,117nm,21.2s,baz=264,slow=37							
	comp=Z,2.4nm,0.7s							
BRTR	**Keskin Array B**	**68.01**	**47**	P		**P**	**02 24 13.1**	**+0.6**
AKASG	**Malin Array Be**	**69.21**	**35**	P		**P**	**02 24 20.0**	**+0.5**
AKASG				LR		LR	02 52 26.6	
	comp=Z,39nm,21.8s,baz=193,slow=34							
	comp=Z,3.8nm,0.5s							
NACGM	**Naroch**	**69.84**	**30**	*e*P		**P**	**02 24 23.9**	**+0.6**
	baz=240							
SUMG	**Summit**	**71.85**	**357**	*i* P		**P**	**02 24 32.5**	**-3.2**
VNA1	**Neumayer--Stat**	**72.63**	**173**	P		P	02 24 45.2	+5.4
MARD	**Mardin**	**72.78**	**51**	P		**P**	**02 24 42.1**	**+0.5**
MARD				IAmb		IAmb	02 24 43.9	
	comp=Z,7.9nm,1.1s							
FINES	**FINESS Array B**	**72.86**	**24**	P		**P**	**02 24 42.3**	**+0.9**
	comp=Z,4.9nm,0.9s,baz=234,slow=12,SNR=5.8							
FINES				LR		LR	02 53 45.1	
	comp=Z,111nm,20.4s,baz=246,slow=33							
	comp=Z,4.9nm,0.9s							
VNA2	**Neumayer--Watz**	**73.00**	**173**	P		**P**	**02 24 45.8**	**+3.7**
	baz=328,slow=4.6							
VNA2	**Neumayer--Watz**	**73.00**	**173**	PcP		**PcP**	**02 25 02.0**	**+3.2**
VNA3	**Neumayer Olymp**	**73.03**	**174**	P		**P**	**02 24 46.9**	**+4.7**
GURO	**Guroymak-BITLI**	**74.01**	**50**	P		**P**	**02 24 49.6**	**+0.8**
SNAA	**Sanae**	**74.28**	**172**	P		**P**	**02 24 53.5**	**+3.9**
SNAA	**Sanae**	**74.28**	**172**	PKiKP		**PKiKP**	**02 30 42.1**	**-1.1**
SNAA	**Sanae**	**74.28**	**172**	P		**P**	**02 24 50.9**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=339,slow=4.3,SNR=8.4							
	comp=Z,1.2nm,0.9s							
RAYN	**Ar Rayn**	**74.67**	**66**	P		**P**	**02 24 53.2**	**+0.3**
RAYN				IAmb		IAmb	02 25 00.8	
	comp=Z,7.1nm,1.4s							
OBN	**Obninsk**	**75.04**	**33**	LR

YOJ				*e*S	**Sg**	**02 33 16.9**	**+0.7**	
EGS		**0.53**	**290**	*e*P	**Pg**	**02 33 08.3**	**-0.9**	
	baz=291							
TWB1	**Santiao Chiao**	**0.56**	**308**	P	**Pg**	**02 33 09.9**	**0.0**	
	baz=309							
TWB1				*e*S	**Sg**	**02 33 18.0**	**+0.8**	
	baz=309							
TWC	**Suao**	**0.57**	**265**	P	**Pg**	**02 33 10.1**	**0.0**	
	baz=264							
TWC				*e*S	**Sb**	**02 33 18.6**	**-1.0**	
	baz=264							
EWUT	**Wuta**	**0.67**	**251**	*e*P	**Pg**	**02 33 11.6**	**-0.4**	
	baz=251							
EWUT				*e*S	**Sg**	**02 33 20.8**	**+0.1**	
	baz=251							
SXI1	**Grass Mountain**	**0.69**	**308**	P	**Pg**	**02 33 12.7**	**+0.2**	
	baz=309							
ENA	**Nanau**	**0.71**	**251**	*e*P	**Pg**	**02 33 12.8**	**0.0**	
	baz=250							
TWE	**Neicheng**	**0.74**	**275**	*e*P	**Pg**	**02 33 12.8**	**-0.5**	
	baz=274							
TWE				*e*S	**Sb**	**02 33 24.1**	**-0.3**	
	baz=274							
FUSB	**Fushanzhiwuyua**	**0.81**	**277**	*e*P	**Pg**	**02 33 14.2**	**-0.5**	
	baz=277							
FUSB				*e*S	**Sb**	**02 33 26.2**	**-0.5**	
	baz=277							
ENTT	**Nioudou**	**0.83**	**269**	*e*P	**Pg**	**02 33 14.0**	**-1.0**	
	baz=268							
ENTT				*e*S	**Sb**	**02 33 26.9**	**-0.2**	
	baz=268							
LATG	**Datong**	**0.87**	**262**	*e*P	**Pg**	**02 33 15.9**	**0.0**	
	baz=261							
LATG				*e*S	**Sb**	**02 33 28.7**	**+0.2**	
	baz=261							
NDT	**Datong Townshi**	**0.88**	**266**	*e*P	**Pb**	**02 33 16.3**	**-0.3**	
	baz=266							
NDT				*e*S	**Sb**	**02 33 28.2**	**-0.3**	
	baz=266							
TWD	**Chiawan**	**0.99**	**234**	*e*P	**Pg**	**02 33 18.0**	**-0.1**	
	baz=233							
YHNB	**Yeheng**	**1.00**	**271**	*e*P	**Pg**	**02 33 18.4**	**+0.1**	
	baz=270							
YHNB				*e*S	**Sb**	**02 33 31.8**	**-0.3**	
	baz=270							
NSK	**Sanguang**	**1.02**	**271**	*e*P	**Pg**	**02 33 17.7**	**-0.9**	
	baz=270							
NNSB	**Datong**	**1.02**	**257**	*e*P	**Pb**	**02 33 19.3**	**+0.3**	
	baz=256							
NNSB				*e*S	**Sg**	**02 33 32.1**	**+0.1**	
	baz=256							
IRIF	**Iriomote-Funau**	**1.19**	**106**	*e*P	**Pb**	**02 33 21.9**	**+0.1**	
FUSS	**Fushou**	**1.20**	**250**	*e*P	**Pb**	**02 33 22.2**	**0.0**	
	baz=249							
WHF	**Hehuan Shan**	**1.22**	**245**	*e*P	**Pn**	**02 33 23.1**	**+0.3**	
	baz=244							
WHF				*e*S	**Sg**	**02 33 38.3**	**-0.1**	
	baz=244							
CHGB	**Renai**	**1.33**	**243**	*e*P	**Pg**	**02 33 24.9**	**+0.2**	
	baz=243							
CHGB				*e*S	**Sn**	**02 33 42.5**	**+0.3**	
	baz=243							
HATJ	**Hateruma jima**	**1.35**	**116**	*e*S	**Sb**	**02 33 41.9**	**-0.2**	
JIJ	**Ishigaki jima**	**1.55**	**101**	*e*P	**Pn**	**02 33 27.1**	**+0.2**	

NEIC ***16*** *02:37:39.7±2.2,6°.74N±0°.10×73°.0W±0°.1,h171km±15km, Error ellipse: s-maj=20.8km s-min=11.6km az=119.0*
IDC ***16*** *02:37:39.4±0.6,6°.79N×72°.98W,h163km±6km,mb3.4/5, mbtmp4.2/9,Error ellipse: s-maj=17.0km s-min=7.4km az=130.0*
RSNC ***16*** *02:37:40.4±1.0,6°.81N×73°.15W,h152km±3km,ML4.0, Mw4.1,Fault plane solution: NP1:φs15.00000°, δ46.00000°,λ-2.00000°.*

ISC 16 02:37:39.0±0.6,6°.84N±0°.03×73°.10W±0°.03,h161km±5km, n66,σ1§61/113,mb4.1/7,11C-11D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**199**	↓*i*P	**Pn**	**02 38 00.9**	**-0.2**
BARC				*e*S	**Sn**	**02 38 16.1**	**-1.9**
PAMC	**Pamplona, Colo**	**0.64**	**39**	↑*i*P	**Pn**	**02 38 03.7**	**+0.7**
PAMC				*e*S	**Sn**	**02 38 21.0**	**-0.3**
PAMC				IAML		02 38 23.8	
	comp=Z,1μm,0.4s						
BRRC	**Barranca, Sant**	**0.67**	**294**	↑*i*P	**Pn**	**02 38 02.7**	**+0.2**
BRRC				*e*S	**Sn**	**02 38 19.8**	**-0.7**
BRRC				IAML		02 38 23.5	
	comp=Z,2μm,0.3s						
RUSC	**La Rusia**	**0.94**	**179**	↓*i*P	**Pn**	**02 38 04.8**	**-0.2**
RUSC				*e*S	**Sn**	**02 38 23.1**	**-1.8**
RUSC				IAML		02 38 24.7	
	comp=Z,643nm,0.3s						
TAMC	**Tame, Arauca**	**1.36**	**107**	↑*i*P	**Pn**	**02 38 09.3**	**+1.2**
TAMC				*e*S	**Sn**	**02 38 30.9**	**+0.5**
TAMC				IAML		02 38 32.4	
	comp=Z,719nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	↓*i*P	**Pn**	**02 38 07.2**	**-1.0**
PTBC				*e*S	**Sn**	**02 38 28.4**	**-2.4**
PTBC				IAML		02 38 34.7	
	comp=Z,995nm,0.5s						
OCAC	**Ocana**	**1.41**	**351**	↑*i*P	**Pn**	**02 38 08.9**	**+0.2**
OCAC				*e*S	**Sn**	**02 38 31.7**	**+0.1**
OCAC				IAML		02 38 34.3	
	comp=Z,3μm,0.2s						
SPBC	**San Pablo de B**	**1.53**	**219**	*e*P	**Pn**	**02 38 09.7**	**-0.1**
SPBC				*e*S	**Sn**	**02 38 31.8**	**-1.7**
SPBC				IAML		02 38 36.3	
	comp=Z,2μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*e*P	**Pn**	**02 38 13.2**	**-0.1**
ZARC				*e*S	**Sn**	**02 38 39.1**	**-0.6**
ZARC				IAML		02 38 43.7	
	comp=Z,1μm,0.3s						
NORC	**Norcasia**	**2.17**	**234**	↑*i*P	**Pn**	**02 38 16.7**	**-0.2**
NORC				*e*S	**Sn**	**02 38 44.5**	**-1.6**
NORC				IAML		02 38 50.2	
	comp=Z,729nm,0.2s						
CHIC	**Chingaza**	**2.28**	**196**	*e*P	**Pn**	**02 38 19.1**	**+0.5**
CHIC				*e*S	**Sn**	**02 38 48.2**	**-0.9**
CHIC				IAML		02 38 58.1	
	comp=Z,629nm,0.4s						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**02 38 20.8**	**+1.8**
	comp=Z,697nm,0.4s,baz=66,slow=12,SNR=388						
ROSC				S	**Sn**	**02 38 50.4**	**+0.4**
	comp=Z,1μm,0.3s,baz=60,slow=20,SNR=7.9						
ROSC	**El Rosal**	**2.33**	**212**	Pn	**Pn**	**02 38 20.5**	**+1.5**
ROSC	**El Rosal**	**2.33**	**212**	↓*i*P	**Pn**	**02 38 20.6**	**+1.5**
ROSC				*e*S	**Sn**	**02 38 51.4**	**+1.5**
ROSC				IAML		02 38 55.4	
	comp=Z,2μm,0.5s						
HELC	**Santa Helena**	**2.50**	**255**	*e*P	**Pn**	**02 38 20.7**	**-0.3**
HELC				*e*S	**Sn**	**02 38 52.7**	**-0.8**
HELC				IAML		02 39 00.8	
	comp=Z,500nm,0.3s						
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P	**Pn**	**02 38 20.7**	**-1.0**
UREC				*e*S	**Sn**	**02 38 51.4**	**-3.3**
UREC				IAML		02 39 04.4	
	comp=Z,523nm,0.4s						
SOCV	**Socops**	**2.65**	**57**	↑*e*P	**Pn**	**02 38 23.6**	**+1.1**
SOCV				*e*S	**Sn**	**02 38 53.1**	**-3.1**
LL1C	**La Loma 1 Cana**	**2.72**	**350**	↓*i*P	**Pn**	**02 38 25.5**	**+2.1**
LL1C				*e*S	**Sn**	**02 39 00.1**	**+2.2**
GUY2C	**Guyana, Caldas**	**2.77**	**235**	*e*P	**Pn**	**02 38 24.8**	**+0.4**
GUY2C				*e*S	**Sn**	**02 38 58.2**	**-1.3**
GUY2C				IAML		02 39 13.0	
	comp=Z,674nm,0.5s						
VILC	**Villavicencio,**	**2.77**	**192**	↓*i*P	**Pn**	**02 38 24.1**	**-0.1**
VILC				*e*S	**Sn**	**02 38 58.5**	**-0.7**
VILC				IAML		02 39 03.9	
	comp=Z,1μm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	↓*i*P	**Pn**	**02 38 24.0**	**-0.3**
PTGC				*e*S	**Sn**	**02 38 57.2**	**-2.2**
PTGC				IAML		02 39 02.1	
	comp=Z,409nm,0.3s						
LL6C	**La Loma 6 Bece**	**2.88**	**357**	↑*i*P	**Pn**	**02 38 25.4**	**0.0**
LL6C				*e*S	**Sn**	**02 38 59.4**	**-2.0**
LL6C				IAML		02 39 14.5	
	comp=Z,282nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*e*P	**Pn**	**02 38 28.4**	**+0.8**
CBOC				*e*S	**Sn**	**02 39 04.8**	**-0.6**
CBOC				IAML		02 39 15.4	
	comp=Z,182nm,0.5s						
DBBC	**Dabeiba**	**3.09**	**273**	*e*P	**Pn**	**02 38 28.2**	**+0.1**
DBBC				*e*S	**Sn**	**02 39 03.9**	**-2.3**
DBBC				IAML		02 39 08.4	
	comp=Z,274nm,0.5s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**02 38 30.3**	**+1.0**
	comp=Z,364nm,0.4s,baz=234,slow=14,SNR=110						
SDV				S	**Sn**	**02 39 07.3**	**-0.9**
	comp=Z,118nm,0.4s,baz=253,slow=19,SNR=12						
ARGC	**Ariguani, Magd**	**3.21**	**339**	↓*i*P	**Pn**	**02 38 30.8**	**+1.3**
ARGC				*e*S	**Sn**	**02 39 10.5**	**+1.8**
ARGC				IAML		02 39 18.6	
	comp=Z,204nm,0.4s						
ANIL	**Santa Ana**	**3.27**	**225**	*e*P	**Pn**	**02 38 32.2**	**+1.6**
ANIL				*e*S	**Sn**	**02 39 11.2**	**+0.7**
SJCC	**San Jacinto, C**	**3.67**	**326**	↓*i*P	**Pn**	**02 38 34.5**	**-0.9**
SJCC				*e*S	**Sn**	**02 39 15.7**	**-3.6**
SJCC				IAML		02 39 30.4	
	comp=Z,279nm,0.8s						
PLMC	**San Jos del P**	**3.71**	**239**	↑*i*P	**Pn**	**02 38 36.3**	**+0.4**
PLMC				*e*S	**Sn**	**02 39 18.4**	**-1.6**
PLMC				IAML		02 39 22.3	
	comp=Z,175nm,0.5s						
LCBC	**Los crdobas,**	**3.81**	**302**	*e*P	**Pn**	**02 38 37.5**	**+0.4**
LCBC				*e*S	**Sn**	**02 39 20.1**	**-2.3**
LCBC				IAML		02 39 24.4	
	comp=Z,200nm,0.4s						
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*e*P	**Pn**	**02 38 41.1**	**-0.6**
CRJC				*e*S	**Sn**	**02 39 28.0**	**-2.8**
CRJC				IAML		02 39 36.4	
	comp=Z,306nm,0.2s						
GUVC	**San Jose del G**	**4.29**	**174**	*e*P	**Pn**	**02 38 42.6**	**-0.8**
GUVC				*e*S	**Sn**	**02 39 31.8**	**-1.8**
GUVC				IAML		02 39 38.2	
	comp=Z,178nm,0.3s						
YOTC	**Yotoco, Valle**	**4.30**	**229**	↓*e*P	**Pn**	**02 38 43.3**	**-0.3**
YOTC				*e*S	**Sn**	**02 39 29.9**	**-4.1**
SOLC	**Bahia Solano**	**4.33**	**262**	*e*S	**Sn**	**02 39 36.9**	**+2.5**
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P	**Pn**	**02 38 45.6**	**+0.3**
SMRC				*e*S	**Sn**	**02 39 34.1**	**-3.0**
SMRC				IAML		02 39 38.3	
	comp=Z,307nm,0.9s						
PTAC	**Punta Ardita,**	**4.69**	**274**	*e*P	**Pn**	**02 38 48.3**	**-0.2**
PTAC				*e*S	**Sn**	**02 39 40.7**	**-2.1**
PTAC				IAML		02 39 43.0	
	comp=Z,41nm,0.3s						
MACC	**Macarena, Meta**	**4.72**	**189**	↓*i*P	**Pn**	**02 38 47.8**	**-1.3**
MACC				*e*S	**Sn**	**02 39 39.9**	**-3.9**
MACC				IAML		02 39 44.8	
	comp=Z,235nm,0.8s						
DABV	**Dabajuro**	**4.73**	**31**	↑*e*P	**Pn**	**02 38 49.8**	**+0.6**
DABV				*e*S	**Sn**	**02 39 42.4**	**-1.5**
BETC	**Betania**	**4.74**	**210**	*e*P	**Pn**	**02 38 47.8**	**-1.6**
BETC				*e*S	**Sn**	**02 39 39.2**	**-5.1**
BETC				IAML		02 39 48.2	
	comp=Z,126nm,0.7s						
URIC	**Uribia, Colomb**	**4.95**	**13**	*e*P	**Pn**	**02 38 51.4**	**-0.7**
URIC				*e*S	**Sn**	**02 39 46.8**	**-2.4**
URIC				IAML		02 39 53.8	
	comp=Z,66nm,0.4s						
UPD2	**Meteti**	**5.16**	**290**	*e*P	**Pn**	**02 38 52.9**	**-1.9**
UPD2				*e*S	**Sn**	**02 39 50.8**	**-3.2**
UPD2				IAML		02 39 57.0	
	comp=Z,131nm,0.4s						
GARC	**Garzon, Huila**	**5.20**	**207**	*e*P	**Pn**	**02 38 54.9**	**-0.7**
GARC				↑*i*P	**Pn**	**02 38 54.9**	**-0.7**
GARC				*e*S	**Sn**	**02 39 52.0**	**-3.4**
GARC				IAML		02 39 57.4	
	comp=Z,163nm,0.5s						
BAUV	**El Baul**	**5.43**	**67**	Pn	**Pn**	**02 38 56.9**	**-1.5**
FLOC	**Florencia**	**5.81**	**206**	↑*e*P	**Pn**	**02 39 03.3**	**-0.1**
FLOC				*e*S	**Sn**	**02 40 08.0**	**-1.5**
FLOC				IAML		02 40 14.8	
	comp=Z,31nm,0.4s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	*e*P	**Pn**	**02 39 11.2**	**+0.8**
BBAC				*e*S	**Sn**	**02 40 20.2**	**-1.8**
BIRV	**Birongo**	**7.66**	**61**		**Pn**	**02 39 26.5**	**-1.4**
TULM	**Tulcn-Chalpat**	**7.67**	**218**	Pn	**Pn**	**02 39 28.5**	**0.0**
OTAV	**Otavalo**	**8.46**	**219**	Pn	**Pn**	**02 39 38.7**	**-0.2**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P	**Pn**	**02 39 44.7**	**-1.1**
	comp=Z,6.9nm,0.3s,baz=234,slow=6.6,SNR=15						
PCRV				S	**Sn**	**02 41 24.0**	**-2.0**
	comp=Z,2.1nm,0.5s,baz=83,slow=19,SNR=0.7						
SLOR	**San Lorenzo -**	**9.25**	**216**	Pn	**Pn**	**02 39 48.2**	**-1.2**
MTDJ	**Mount Denham**	**12.12**	**339**		**Pn**	**02 40 27.1**	**+0.5**
SDDR	**Presa de Saban**	**12.20**	**8**	Pn	**Pn**	**02 40 28.3**	**+0.6**
SJG	**San Juan**	**13.09**	**31**	P	**Pn**	**02 40 38.8**	**-0.3**
	comp=Z,8.3nm,0.2s,baz=178,slow=6.1,SNR=3.0						
ETMB	**Extrema**	**17.91**	**157**	P	**P**	**02 41 35.6**	**-1.0**
ETMB				IAmb	IAmb	02 41 41.5	
	comp=Z,4.0nm,0.7s						
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**02 42 35.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=347,slow=14,SNR=4.1						
LPAZ				pP	**pP**	**02 43 07.2**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=353,slow=14,SNR=5.7						
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**02 42 33.7**	**-1.5**
V48A	**Smith Brothers**	**31.40**	**338**	P	**P**	**02 43 46.4**	**+1.6**
V48A				IAmb	IAmb	02 43 48.5	
	comp=Z,5.3nm,0.7s						
P51A	**Williamsport**	**33.72**	**346**	P	**P**	**02 44 06.2**	**+1.2**
CCM	**Cathedral Cave**	**35.16**	**335**	P	**P**	**02 44 18.2**	**+0.7**
CCM				IAmb	IAmb	02 44 19.9	
	comp=Z,8.1nm,0.7s						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**02 44 30.3**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=128,slow=8.9,SNR=8.0						
TXAR				pP	**pP**	**02 45 04.1**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=116,slow=8.1,SNR=1.7						
	comp=Z,0.3nm,0.4s						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**02 45 56.0**	**0.0**
	comp=Z,3.7nm,0.5s,baz=141,slow=6.5,SNR=7.1						
	comp=Z,3.7nm,0.5s						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**02 46 04.2**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=118,slow=9.4,SNR=6.6						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**02 47 50.7**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=128,slow=7.1,SNR=5.4						
	comp=Z,1.4nm,0.5s						
PZH	**PanZhiHua**	**146.48**	**8**	PKP	**PKPdf**	**02 56 58.9**	**-1.7**
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPbc**	**02 57 09.2**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=116,slow=3.4,SNR=13						
ASAR				pPKPbc	**pPKPbc**	**02 57 53.0**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=100,slow=3.9,SNR=2.1						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**02 57 12.0**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=108,slow=2.7,SNR=24						

IDC ***16*** *02:38:37.9±1.2,27°.56S×177°.63W,h106km±10km, mb4.3/20,mbtmp4.6/23,MS3.6/42,Error ellipse: s-maj=13.3km s-min=11.8km az=84.0*
GCMT ***16*** *02:38:38.7±0.2,27°.71S±0°.02×177°.47W±0°.01, h119km±2km,MW5.1/110,Moment Tensor Solution. s58,c76; s110,c157; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.76±.15; Mθθ1.91±.18; Mφφ-3.66±.17; Mrθ-0.78±.11; Mθφ0.44±.18; Mφr-4.14±.10; Best double couple: Ms5.11400×10^16 NP1:φs195.00000°,δ76.00000°, λ108.00000°. NP2:φs321.00000°,δ23.00000°,λ39.00000°. Principal axes: T 4.3300, Plg56.0000°, Azm128.0000°; N 1.5780, Plg18.0000°, Azm10.0000°; P -5.8980, Plg28.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *02:38:39.7±1.4,27°.76S±0°.08×177°.6W±0°.1,h114km±5km, mb4.8/153 Error ellipse: s-maj=14.6km s-min=11.8km az=94.0*

ISC 16 02:38:39.5±0.5,27°.89S±0°.05×177°.71W±0°.07, h120km±4km,h120km:pP-P,n328,σ1§62/249,mb4.8/93, 1C-1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.37**	**188**	P	**Pn**	**02 39 06.3**	**+0.8**
	4μm,0.3s,baz=36,slow=8.7,SNR=84						
RAO				S	**Sn**	**02 39 29.6**	**+4.4**
	25μm,0.3s,baz=97,slow=23,SNR=11						
RAO	**Raoul Island**	**1.37**	**188**	Pn	**Pn**	**02 39 06.4**	**+0.9**
GLKZ	**Green Lake**	**1.38**	**188**	P	**Pn**	**02 39 06.7**	**+1.1**
GLKZ				S	**Sn**	**02 39 27.5**	**+2.1**
MXZ	**Matakaoa Point**	**10.21**	**198**	Pn	**Pn**	**02 41 05.7**	**+2.9**
MXZ	**Matakaoa Point**	**10.21**	**198**	S	**Sn**	**02 42 48.2**	**-7.2**
OUZ	**Omahuta**	**10.41**	**223**		**Pn**	**02 41 08.6**	**+3.2**
WMGZ	**Waiomatatini S**	**10.43**	**197**	P	Pn	02 40 58.2	-7.4
WMGZ				S	**Sn**	**02 42 55.6**	**-5.0**
PUZ	**Puketiti**	**10.71**	**197**	S	**Sn**	**02 43 02.1**	**-5.3**
MSVF	**Nonsavu**	**10.83**	**338**	P	Pn	02 41 06.4	-5.0
	14nm,1.0s,baz=150,slow=20,SNR=1.9						
MSVF	**Nonsavu**	**10.83**	**338**	Pn	**Pn**	**02 41 10.6**	**-0.8**
URZ	**Urewera**	**11.22**	**201**	P	Pn	02 41 09.4	-6.9
	3.0nm,0.7s,baz=333,slow=9.0,SNR=1.9						
URZ				S	Sn	02 43 04.3	-15
	15nm,0.4s,baz=340,slow=8.7,SNR=1.5						
URZ				LR	LR	02 45 48.1	
	comp=Z,58nm,18.4s,baz=114,slow=37						
NIUE	**Niue**	**11.30**	**41**	Pn	Pn	02 41 06.8	-11
BKZ	**Black Stump Fm**	**12.24**	**202**	Pn	**Pn**	**02 41 30.4**	**+0.5**
BFZ	**Birch Farm**	**13.70**	**200**	P	Pn	02 41 42.2	-6.5
BFZ				S	Sn	02 44 07.3	-12
HOWZ	**Holdsworth Sta**	**14.12**	**202**	P	**Pn**	**02 41 50.2**	**-4.0**
HOWZ				S	Sn	02 44 16.3	-14
PINNC	**Pines Island,**	**14.42**	**288**		**P**	**02 42 00.8**	**-0.7**
MARNC	**Mare, Loyalty**	**14.44**	**293**		**P**	**02 42 01.8**	**+0.1**
MSWZ	**Moikau Station**	**14.68**	**201**	P	**Pn**	**02 41 59.2**	**-2.1**
MSWZ				S	Sn	02 44 29.8	-14
TCW	**Tory Channel**	**14.83**	**204**	P	**Pn**	**02 41 58.9**	**-4.2**
TCW				S	Sn	02 44 34.2	-13
OUENC	**Ouen Island, N**	**15.01**	**288**		**P**	**02 42 07.8**	**-0.2**
OUENC				IAmb	IAmb	02 42 13.7	
	comp=Z,80nm,1.5s						
ONTNC	**Ouen Toro**	**15.38**	**288**		**P**	**02 42 13.0**	**+0.9**
ONTNC				IAmb	IAmb	02 42 18.1	
	comp=Z,123nm,1.4s						
DZM	**Mont Dzumac**	**15.49**	**288**	*e*Pn	**P**	**02 42 13.7**	**+0.3**
	comp=Z,176nm,1.6s						
DZM				*e*LR	LR	02 45 50.0	
	comp=Z,2μm,29.2s						
DZM	**Mont Dzumac**	**15.49**	**288**	P	**Pn**	**02 42 11.8**	**+0.2**
	comp=Z,6.5nm,1.0s,baz=102,slow=17,SNR=8.3						
DZM				LR	LR	02 46 11.8	
	comp=Z,470nm,21.5s,baz=156,slow=29						
DZM	**Mont Dzumac**	**15.49**	**288**		**P**	**02 42 13.9**	**+0.5**
DZM				IAmb	IAmb	02 42 18.4	
	comp=Z,129nm,1.5s						
CTZ	**Chatham Island**	**15.84**	**177**	P	**Pn**	**02 42 13.1**	**-2.5**
RAR	**Rarotonga**	**17.61**	**72**	P	**P**	**02 42 32.4**	**-4.3**
	comp=Z,8.7nm,0.8s,baz=225,slow=11,SNR=3.0						
RAR				S	S	02 45 32.7	-21
	comp=Z,20nm,0.5s,baz=274,slow=18,SNR=3.2						
RAR				LR	LR	02 47 56.4	
	comp=Z,226nm,21.8s,baz=266,slow=32						
KOUNC	**Koumac, New Ca**	**17.96**	**290**	P	**Pn**	**02 42 43.4**	**+1.7**
RPZ	**Rata Peaks**	**18.21**	**207**	P	**P**	**02 42 43.4**	**+0.3**
	comp=Z,8.3nm,0.9s,baz=19,slow=15,SNR=1.3						
RPZ				S	S	02 45 49.1	-16
	comp=Z,14nm,0.9s,baz=46,slow=13,SNR=1.7						
RPZ				LR	LR	02 50 20.9	
	comp=Z,56nm,19.2s,baz=34,slow=38						
TBI	**Tubuai**	**25.84**	**86**	*e*LR	LR	02 50 35.4	
	comp=Z,470nm,27.8s						
TBI	**Tubuai**	**25.84**	**86**	*e*T	T	03 10 48.7	
	comp=Z,24nm,0.3s						
PAE	**Paea**	**27.80**	**75**	*e*T	T	03 12 37.2	
	comp=Z,8.1nm,0.3s						
PPT2	**Papeete2**	**27.84**	**74**	*e*LR	LR	02 51 29.8	
	comp=Z,509nm,26.5s						
PPT2	**Papeete2**	**27.84**	**74**	*e*T	T	03 12 55.7	
	comp=Z,4.6nm,0.3s						
PPT	**Papeete**	**27.84**	**74**	LR	LR	02 52 39.6	
	comp=Z,130nm,22.0s,baz=242,slow=30						
HNR	**Honiara**	**27.93**	**307**	LR	LR	02 54 38.8	
	comp=Z,808nm,18.4s,baz=152,slow=35						
EIDS	**Eidsvold**	**27.98**	**268**	P	**P**	**02 44 19.0**	**-0.1**
EIDS				IAmb	IAmb	02 44 22.1	
	comp=Z,24nm,1.1s						
VAH	**Vaihoa**	**30.59**	**72**	*e*T	T	03 16 46.0	
	comp=Z,13nm,0.3s						
CTA	**Charters Tower**	**33.73**	**275**	P	**P**	**02 45 10.7**	**+0.9**
	comp=Z,5.1nm,0.7s,baz=115,slow=9.1,SNR=5.7						
CTA				LR	LR	02 58 45.6	
	comp=Z,172nm,19.2s,baz=98,slow=36						
	comp=Z,5.1nm,0.7s						
CTAO	**Charters Tower**	**33.73**	**275**	P	**P**	**02 45 11.8**	**+2.0**
CTAO				pP	**pwP**	**02 45 38.6**	**-0.1**
STKA	**Stephens Creek**	**35.37**	**253**	P	**P**	**02 45 25.4**	**+1.8**
	comp=Z,5.8nm,0.9s,baz=89,slow=9.4,SNR=6.2						
STKA				LR	LR	02 59 44.0	
	comp=Z,130nm,18.7s,baz=66,slow=36						
	comp=Z,5.8nm,0.9s						
STKA	**Stephens Creek**	**35.37**	**253**	P	**P**	**02 45 25.5**	**+1.8**
COEN	**Coen**	**38.90**	**283**	P	**P**	**02 45 53.3**	**-0.4**
COEN				IAmb	IAmb	02 45 59.6	
	comp=Z,45nm,1.8s						
BBOO	**Buckleboo**	**39.95**	**251**	P	**P**	**02 46 02.0**	**-0.3**
AS31	**Alice Springs**	**43.56**	**264**	P	**P**	**02 46 31.7**	**-0.1**
ASAR	**Alice Springs**	**43.56**	**264**	P	**P**	**02 46 31.4**	**-0.5**
	comp=Z,5.6nm,0.9s,baz=104,slow=8.0,SNR=26						
ASAR				ScP	**ScP**	**02 52 01.1**	**+3.1**
	comp=Z,1.0nm,1.0s,baz=101,slow=3.9,SNR=5.7						
ASAR				LR	LR	03 03 16.8	
	comp=Z,153nm,20.6s,baz=96,slow=34						
	comp=Z,5.6nm,0.9s						
ASAR	**Alice Springs**	**43.56**	**264**	P	**P**	**02 46 31.0**	**-0.8

MJAR Matsushiro Arr 76.33 325 P **P** **02 50 13.1 -2.3**
comp=Z,9.0nm,0.9s,baz=156,slow=6.1,SNR=19
comp=Z,9.0nm,0.9s
MAJO Matsushiro 76.34 325 P **P** **02 50 14.7 -0.7**
MAJO IAmb IAmb 02 50 16.6
comp=Z,26nm,1.1s
JMN Monobe 76.56 320 IAmb IAmb 02 50 18.8
comp=Z,15nm,0.9s
JSU Suzuyama 76.98 316 P **P** **02 50 19.5 +0.4**
MG05 Puerto Natales 77.32 142 P **P** **02 50 20.9 +0.1**
JSD Sado 77.47 326 P **P** **02 50 21.3 -0.3**
JSD IAmb IAmb 02 50 22.9
comp=Z,14nm,1.0s
JHS Saijyo 77.91 321 P **P** **02 50 24.4 +0.1**
JHS IAmb IAmb 02 50 26.1
comp=Z,27nm,1.0s
TROLL Troll, Antarti 80.38 180 P **P** **02 50 38.5 +1.2**
KSBUS Busan 80.39 318 P **P** **02 50 37.4 -0.3**
KSBUS IAmb IAmb 02 50 39.6
comp=Z,46nm,1.3s
COYC Coyhaique 80.58 137 P **P** **02 50 39.4 +0.7**
SHEM Shemya Is, Ala 80.59 355 LR LR 03 20 20.9
comp=Z,14nm,21.3s,baz=176,slow=31
SNAA Sanae 80.65 178 P **P** **02 50 39.4 +0.7**
SNAA Sanae 80.65 178 PKiKP **PKiKP** **02 56 01.8 -3.4**
SNAA Sanae 80.65 178 LR LR 03 25 00.3
comp=Z,26nm,19.4s,baz=258,slow=34
SNAA Sanae 80.65 178 P **P** **02 50 39.3 +0.5**
VNA3 Neumayer Olymp 80.79 176 P **P** **02 50 39.9 +0.5**
VNA3 Neumayer Olymp 80.79 176 sP sP 02 51 21.9 0.0
VNA2 Neumayer--Watz 81.23 177 P **P** **02 50 42.6 +0.8**
baz=182,slow=4.4
VNA2 Neumayer--Watz 81.23 177 sP sP 02 51 24.8 +0.5
VNA1 Neumayer--Stat 81.45 176 P **P** **02 50 43.9 +1.0**
VNA1 Neumayer--Stat 81.45 176 sP sP 02 51 25.8 +0.3
NAWB Namwon 81.53 318 P **P** **02 50 43.4 -0.3**
NAWB IAmb IAmb 02 50 45.9
comp=Z,20nm,1.0s
H03S2 Juan Fernandez 81.64 124 T T 04 20 55.9
baz=242,SNR=3.9
H03S1 Juan Fernandez 81.65 124 T T 04 20 55.4
baz=242,SNR=4.9
H03S3 Juan Fernandez 81.66 124 T T 04 20 50.7
baz=242,SNR=4.2
H03N3 Juan Fernandez 81.82 123 T T 04 21 03.6
baz=245,slow=73,SNR=16
H03N2 Juan Fernandez 81.82 123 T T 04 21 06.5
baz=245,slow=73,SNR=14
H03N1 Juan Fernandez 81.84 123 T T 04 21 04.8
baz=245,slow=73,SNR=23
LL02 Futaleuf 81.93 135 P **P** **02 50 46.5 +0.6**
LL02 IAmb IAmb 02 50 48.3
comp=Z,24nm,0.9s
SCZ2 Santa Cruz Isl 82.53 45 P **P** **02 50 50.0 +1.0**
baz=229
SCI2 San Clemente I 82.57 47 P **P** **02 50 50.0 +0.8**
baz=230
KSRS Korea Array 82.61 319 P **P** **02 50 48.5 -0.8**
comp=Z,4.9nm,0.9s,baz=143,slow=6.0,SNR=23
KSRS LR LR 03 25 56.2
comp=Z,13nm,18.3s,baz=105,slow=34
comp=Z,4.9nm,0.9s
KSAR Wonju Array Be 82.62 319 P **P** **02 50 49.9 +0.5**
KS19 Wonju Array Si 82.67 319 P **P** **02 50 49.1 -0.6**
KS19 IAmb IAmb 02 50 52.0
comp=Z,29nm,1.4s
LPIG La Paz 83.00 58 LR LR 03 20 22.4
comp=Z,51nm,18.8s,baz=203,slow=30
PKM Mcpherson Peak 83.00 45 P **P** **02 50 52.6 +0.9**
baz=229
SMMC Simmler 83.17 44 P **P** **02 50 53.3 +1.0**
baz=229
SRIG Santa Rosalia 83.42 55 P **P** **02 50 53.3 -0.5**
PETK Petropavlovsk- 83.45 345 P **P** **02 50 49.8 -3.5**
comp=Z,5.1nm,1.1s,baz=142,slow=7.3,SNR=1.5
comp=Z,5.1nm,1.1s
ARVC Arvin 83.77 45 P **P** **02 50 56.0 +0.6**
baz=230
MURC Murrieta 83.84 47 P **P** **02 50 56.4 +0.5**
baz=231
MONP2 Monument Peak 83.90 48 P **P** **02 50 56.9 +0.5**
baz=231
BFSC Mount Baldy Ra 83.94 46 P **P** **02 50 56.8 +0.3**
baz=230
IKP In-Ko-Pah, Jac 83.95 48 P **P** **02 50 57.1 +0.6**
baz=232
GO06 Curarrehue 84.03 132 P **P** **02 50 57.6 +0.6**
GO06 IAmb IAmb 02 50 59.3
comp=Z,17nm,1.1s
PLCA Paso Flores 84.03 133 P **P** **02 50 58.2 +1.3**
comp=Z,10nm,0.9s,baz=225,slow=4.6,SNR=19
PLCA LR LR 03 20 30.7
comp=Z,47nm,20.8s,baz=226,slow=30
comp=Z,10nm,0.9s
PLCA Paso Flores 84.03 133 P **P** **02 50 57.9 +0.9**
PLCA IAmb IAmb 02 50 59.4
comp=Z,17nm,0.9s
VES Vestal, Richgr 84.08 44 P **P** **02 50 57.0 +0.1**
baz=229
EDW2 Edwards Air Fo 84.14 46 P **P** **02 50 57.8 +0.5**
baz=230,SNR=8.0
SDPT Sand Point 84.21 10 P **P** **02 50 58.0 +1.0**
baz=195
PFO Pinyon Flats O 84.32 47 P **P** **02 50 55.0 -3.4**
comp=Z,4.7nm,1.0s,baz=235,slow=15,SNR=5.6
PFO LR LR 03 21 01.5
comp=Z,40nm,18.5s,baz=242,slow=30
comp=Z,4.7nm,1.0s
PFO Pinyon Flats O 84.32 47 P **P** **02 50 58.1 -0.3**
PFO IAmb IAmb 02 51 00.0
comp=Z,11nm,1.1s
PFO Pinyon Flats O 84.32 47 P **P** **02 50 58.8 +0.4**
baz=231
TPFO Pinon Flats 84.32 47 P **P** **02 50 58.6 +0.3**
baz=231
ISA Isabella, Lake 84.34 45 P **P** **02 50 58.2 -0.2**
ISA IAmb IAmb 02 51 00.1
comp=Z,19nm,1.2s
ISA Isabella, Lake 84.34 45 P **P** **02 50 58.8 +0.5**
baz=230,SNR=6.3
SWSC Sam W. Stewart 84.34 48 P **P** **02 50 58.7 +0.4**
baz=232
PMD Palm Desert 84.40 47 IAmb IAmb 02 51 00.2
comp=Z,9.5nm,1.1s
LRMC Laurel Mtn Rad 84.72 45 P **P** **02 51 00.7 +0.4**
baz=230,SNR=6.5
CMB Columbia Colle 84.73 42 IAmb IAmb 02 51 01.4
comp=Z,9.6nm,1.1s
NJ2 Nanjing 84.81 310 *e*P **P** **02 51 01.8 +1.1**
BELC Belle Mtn. Jos 84.86 47 P **P** **02 51 01.7 +0.6**
baz=231,SNR=12
AFDM Forest Hills D 84.99 41 P **P** **02 51 00.9 -0.6**
AFDM IAmb IAmb 02 51 02.7
comp=Z,10.0nm,1.1s
BC3 Big Chuckawall 85.01 48 P **P** **02 51 02.6 +0.8**
baz=232,SNR=7.5
GLA Glamis 85.05 49 P **P** **02 51 02.7 +0.8**
baz=232
CWC Cottonwood Cre 85.08 44 P **P** **02 51 02.5 +0.3**
baz=230
GSC Goldstone, Bar 85.16 46 P **P** **02 51 02.0 -0.5**
GSC IAmb IAmb 02 51 04.0
comp=Z,17nm,1.1s
GSC Goldstone, Bar 85.16 46 P **P** **02 51 02.8 +0.3**
baz=231,SNR=11
HEC Hector,Ludlow 85.16 46 P **P** **02 51 02.8 +0.3**
baz=231
MPMC Manual Prospec 85.21 45 P **P** **02 51 03.2 +0.3**
baz=230,SNR=11
USRK Ussuriysk Ar. 85.22 326 P **P** **02 51 03.0 +0.6**
comp=Z,3.4nm,0.8s,baz=134,slow=4.2,SNR=12
comp=Z,3.4nm,0.8s
USRK Ussuriysk Ar. 85.22 326 P **P** **02 51 02.4 0.0**
S14K Fog Glacier 85.25 10 P **P** **02 51 04.1 +1.7**
baz=196
HSIG 85.33 54 IAmb IAmb 02 51 04.7
comp=Z,16nm,1.2s
RPSI Rantau Prapat 85.39 275 P **P** **02 51 03.5 -0.6**
PSI Prapat 85.44 276 LR LR 03 31 46.1
comp=Z,63nm,18.1s,baz=106,slow=37
CHGN Chignik 85.45 11 P **P** **02 51 04.4 +1.2**
baz=197
CHIR Chirikof Islan 85.48 12 P **P** **02 51 05.0 +1.6**
baz=199
IRM Iron Mountain 85.52 48 P **P** **02 51 05.1 +0.9**
baz=232,SNR=12
QSM Queen of Sheba 85.54 45 IAmb IAmb 02 51 05.7
comp=Z,14nm,1.1s
GMRC Granite Mounta 85.57 47 P **P** **02 51 05.1 +0.5**
baz=232,SNR=5.2
113A Mohawk Valley, 85.59 49 IAmb IAmb 02 51 06.4
comp=Z,18nm,1.5s
BLYC Blythe 85.68 48 IAmb IAmb 02 51 06.3
comp=Z,11nm,1.1s
L02F Cave Junction 85.70 37 P **P** **02 51 05.5 +0.6**
baz=226
DSP Deep Springs 85.75 44 IAmb IAmb 02 51 06.9
comp=Z,12nm,1.3s
214A Organ Pipe Nat 85.75 51 P **P** **02 51 06.1 +0.7**
baz=233
MPK Martis Peak 85.77 41 IAmb IAmb 02 51 07.7
comp=Z,20nm,1.1s
GWY Greenwater Val 85.80 45 IAmb IAmb 02 51 07.0
comp=Z,12nm,1.2s
TUQ Turquoise Moun 85.80 46 P **P** **02 51 06.2 +0.4**
baz=231,SNR=9.3
FURC Furnace Creek, 85.86 45 P **P** **02 51 06.0 +0.3**
baz=231
LCH Last Change Ra 85.86 44 IAmb IAmb 02 51 07.2
comp=Z,11nm,1.4s
SHOC Shoshone, Teco 85.87 46 P **P** **02 51 06.2 +0.3**
baz=231,SNR=5.8
GRAC Grapevine Rang 85.88 44 IAmb IAmb 02 51 07.8
comp=Z,24nm,1.4s
GRAC Grapevine Rang 85.88 44 P **P** **02 51 06.5 +0.6**
baz=230
PNTR Pine Nut 85.89 41 IAmb IAmb 02 51 07.5
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 85.90 38 P **P** **02 51 05.8 -0.2**
comp=Z,5.1nm,1.0s,baz=257,slow=3.1,SNR=9.6
YBH LR LR 03 22 21.0
comp=Z,18nm,19.0s,baz=247,slow=31
comp=Z,5.1nm,1.0s
YBH Yreka Blue Hor 85.90 38 P **P** **02 51 06.3 +0.3**
YBH IAmb IAmb 02 51 07.7
comp=Z,8.8nm,1.1s
LHV Little Huntoon 85.99 43 IAmb IAmb 02 51 08.1
comp=Z,12nm,1.2s
YERR Yerington 86.03 42 IAmb IAmb 02 51 08.0
comp=Z,14nm,1.3s
ML02 Panimavida 86.06 129 P **P** **02 51 07.5 +0.4**
NVAR Mina Array Bea 86.22 43 P **P** **02 51 07.5 -0.4**
comp=Z,4.9nm,0.9s,baz=222,slow=7.8,SNR=30
NVAR LR LR 03 21 40.6
comp=Z,42nm,21.8s,baz=266,slow=30
comp=Z,4.9nm,0.9s
NVAR Mina Array Bea 86.22 43 P **P** **02 51 07.7 -0.2**
PDMCI Parker Dam,Lak 86.26 48 P **P** **02 51 08.5 +0.6**
baz=232,SNR=5.8
NV11 Mina Array Sit 86.32 43 IAmb IAmb 02 51 09.4
comp=Z,8.2nm,1.1s
HUMO Hull Mountain 86.37 37 IAmb IAmb 02 51 10.2
comp=Z,14nm,1.4s
L04D Klamath Falls 86.45 38 IAmb IAmb 02 51 10.1
comp=Z,15nm,1.2s
L04D Klamath Falls 86.45 38 P **P** **02 51 08.9 +0.1**
baz=227
TPNV Topopah Spring 86.54 45 IAmb IAmb 02 51 11.0
comp=Z,12nm,1.1s
TPNV Topopah Spring 86.54 45 P **P** **02 51 09.7 +0.3**
baz=231,SNR=9.6
MDJ Mudanjiang 86.71 325 P **P** **02 51 10.1 +0.3**
MDJ IAmb IAmb 02 51 12.4
comp=Z,14nm,1.2s
W13A Hualapai Mount 86.91 47 IAmb IAmb 02 51 12.5
comp=Z,12nm,1.2s
I03D Drain, OR 86.92 36 P **P** **02 51 11.2 +0.4**
baz=226
OHAK Old Harbor 87.25 13 P **P** **02 51 13.2 +1.1**
baz=201
S11A Rachel 87.29 45 IAmb IAmb 02 51 14.4
comp=Z,16nm,1.3s
TUC Tucson 87.35 51 P **P** **02 51 13.7 +0.4**
TUC IAmb IAmb 02 51 15.7
comp=Z,16nm,1.2s
TUC Tucson 87.35 51 P **P** **02 51 14.4 +1.1**
baz=235
I04A Tendick Farm, 87.47 37 P **P** **02 51 14.2 +0.6**
baz=227
PRN Pahroc Range 87.58 45 IAmb IAmb 02 51 16.4
comp=Z,17nm,1.2s
J05D Fort Rock, OR 87.76 38 P **P** **02 51 15.5 +0.4**
baz=228
H04D Lebanon 87.81 36 P **P** **02 51 15.4 +0.4**
baz=226
R11A Troy Canyon, C 87.83 44 P **P** **02 51 15.7 +0.2**
baz=232
319A Douglas 87.86 53 IAmb IAmb 02 51 18.1
comp=Z,14nm,1.1s
KDAK Kodiak Island 87.91 13 LR LR 03 22 45.5
comp=Z,34nm,21.4s,baz=222,slow=30
LMEL Las Melosas 87.92 127 P **P** **02 51 17.4 +1.2**
G03D McMinnville, O 88.01 35 P **P** **02 51 17.9 +1.9**
baz=226
BMN Battle Mountai 88.15 42 IAmb IAmb 02 51 18.1
comp=Z,7.8nm,1.2s
ZAIG Zacatecas 88.25 63 P **P** **02 51 18.1 0.0**
ZAIG IAmb IAmb 02 51 19.5
comp=Z,12nm,1.2s
PINE Pine Mountain 88.26 37 IAmb IAmb 02 51 19.1
comp=Z,8.5nm,1.1s
CN2 Changchun 88.30 323 *e*P **P** **02 51 15.8 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
U15A North Rim 88.75 47 IAmb IAmb 02 51 22.2
comp=Z,13nm,1.0s
E03A Lebam 88.79 34 P **P** **02 51 19.9 +0.3**
WUAZ Wupatki 88.81 48 P **P** **02 51 20.9 +0.6**
baz=234,SNR=11
SPR3 Spring Creek 3 89.00 44 IAmb IAmb 02 51 22.2
comp=Z,5.7nm,1.2s
KLR Kul'dur 89.00 330 LR LR 03 27 22.9
comp=Z,32nm,19.8s,baz=27,slow=33
X18A Snowflake 89.19 50 IAmb IAmb 02 51 24.2
comp=Z,14nm,1.1s
I07A Izee 89.22 38 P **P** **02 51 21.4 -0.5**
I07A IAmb IAmb 02 51 23.4
comp=Z,11nm,1.3s
NLWA Neilton Lookou 89.23 33 IAmb IAmb 02 51 23.5
comp=Z,6.7nm,1.0s
J08A Circle Bar Ran 89.31 39 IAmb IAmb 02 51 23.6
comp=Z,16nm,1.5s
N16K Nishlik Lake 89.40 9 P **P** **02 51 23.6 +1.4**
baz=197
ELK Elko 89.52 42 LR LR 03 24 14.9
comp=Z,31nm,20.2s,baz=230,slow=31
121A Cookes Peak, D 89.56 53 P **P** **02 51 23.9 +0.1**
121A IAmb IAmb 02 51 26.3
comp=Z,19nm,1.4s
121A Cookes Peak, D 89.56 53 P **P** **02 51 24.7 +0.9**
baz=236,SNR=5.4
ILSW Iliamna Southw 89.85 12 IAmb IAmb 02 51 24.8
comp=Z,22nm,1.2s
BRSE Bradley Lake S 90.10 13 P **P** **02 51 26.4 +1.0**
baz=204
CBB Campbell River 90.39 31 IAmb IAmb 02 51 28.6
comp=Z,8.3nm,1.0s
ENH Enshi 90.40 304 P **P** **02 51 28.3 +0.7**
DUG Dugway, Tooele 90.66 44 P **P** **02 51 29.7 +1.0**
baz=233
HNS HongShan 90.72 313 ⇑P **P** **02 51 30.8 +1.9**
HNS pmax pmax
comp=Z,9.0nm,0.9s
LTY Liberty 90.72 35 IAmb IAmb 02 51 29.1
comp=Z,6.1nm,1.1s
HAWA Hanford 90.73 36 IAmb IAmb 02 51 30.1
comp=Z,12nm,1.2s
BBB Bella Bella 90.77 28 LR LR 03 27 19.1
comp=Z,16nm,18.4s,baz=266,slow=32
MNTX Cornudas Mount 90.81 54 IAmb IAmb 02 51 30.9
comp=Z,8.8nm,1.1s
MNTX Cornudas Mount 90.81 54 P **P** **02 51 29.8 +0.3**
baz=238,SNR=11
TX32 Lajitas Array 90.82 57 IAmb IAmb 02 51 31.4
comp=Z,12nm,1.3s
TXAR Lajitas Array 90.82 57 P **P** **02 51 29.3 -0.4**
comp=Z,4.1nm,1.1s,baz=214,slow=6.0,SNR=26
TXAR LR LR 03 25 47.8
comp=Z,25nm,18.6s,baz=236,slow=31
comp=Z,4.1nm,1.1s
TXAR Lajitas Array 90.82 57 P **P** **02 51 29.7 0.0**
MFID Camas Ranch 90.84 40 IAmb IAmb 02 51 30.6
comp=Z,4.8nm,1.0s
BJI Beijing 91.32 315 P **P** **02 51 32.6 +1.0**
BJI pmax pmax
comp=Z,7.0nm,1.1s
CMIG Matias Romero 91.73 72 P **P** **02 51 34.3 +0.3**
comp=Z,4.8nm,0.9s,baz=214,slow=8.4,SNR=6.3
CMIG LR LR 03 23 20.7
comp=Z,25nm,20.5s,baz=250,slow=29
comp=Z,4.8nm,0.9s
HLID Hailey 91.74 41 IAmb IAmb 02 51 35.1
comp=Z,5.4nm,1.1s
HLID Hailey 91.74 41 P **P** **02 51 34.1 +0.4**
baz=232
ANMO Albuquerque 91.81 51 LR LR 03 25 22.9
comp=Z,32nm,18.8s,baz=247,slow=31
ANMO Albuquerque 91.81 51 P **P** **02 51 34.6 +0.3**
ANMO IAmb IAmb 02 51 35.9
comp=Z,6.8nm,1.1s
ANMO Albuquerque 91.81 51 P **P** **02 51 34.5 +0.3**
baz=237
PV13 Radium Mtn., P 92.00 47 IAmb IAmb 02 51 36.7
comp=Z,7.6nm,1.2s
CRAI Chiangrai 92.47 291 IAmb IAmb 02 51 41.3
comp=Z,6.4nm,1.1s
CMAR Chiang Mai Arr 92.81 289 P **P** **02 51 40.0 +0.9**
comp=Z,1.4nm,0.3s,baz=122,slow=4.4,SNR=6.3
comp=Z,1.4nm,0.3s
CHTO Chiang Mai 92.98 290 P **P** **02 51 39.1 -0.7**
GO02 Mina Guanaco 93.02 120 P **P** **02 51 40.4 0.0**
S22A 4UR Ranch, Cre 93.08 49 IAmb IAmb 02 51 41.0
comp=Z,6.1nm,1.2s
S22A 4UR Ranch, Cre 93.08 49 P **P** **02 51 40.4 +0.2**
baz=237
NEW Newport 93.19 36 LR LR 03 25 19.2
comp=Z,22nm,21.4s,baz=200,slow=30
NEW Newport 93.19 36 P **P** **02 51 41.8 +1.7**
baz=230
O20A White River Ci 93.48 46 P **P** **02 51 41.7 -0.2**
baz=236
TPAW Teton Pass 93.72 42 IAmb IAmb 02 51 43.1
comp=Z,7.8nm,1.2s
FXWY Fox Creek 93.76 42 IAmb IAmb 02 51 45.0
comp=Z,3.9nm,1.1s
SMCO Snowmass 93.77 47 P **P** **02 51 43.3 -0.1**
SMCO IAmb IAmb 02 51 44.4
comp=Z,4.8nm,1.1s
NNA Nana 93.86 106 LR LR 03 27 53.8
comp=Z,11nm,18.5s,baz=227,slow=32
IMW Indian Meadow 93.96 42 IAmb IAmb 02 51 45.3
comp=Z,5.2nm,1.1s
SDCO Great Sand Dun 93.97 49 P **P** **02 51 44.4 +0.1**
baz=238
LOHW Long Hollow 94.00 42 IAmb IAmb 02 51 45.3
comp=Z,5.9nm,1.3s
BW06 Boulder Array 94.14 43 P **P** **02 51 44.6 -0.3**
baz=235
PDAR Pinedale Array 94.14 43 P **P** **02 51 43.0 -1.8**
comp=Z,2.2nm,0.9s,baz=224,slow=3.8,SNR=14
PDAR LR LR 03 27 55.5
comp=Z,24nm,18.7s,baz=250,slow=32
comp=Z,2.2nm,0.9s
JCT Junction City 94.29 58 P **P** **02 51 44.7 -0.9**
YHL Hebgen Lake 94.37 41 IAmb IAmb 02 51 47.9
comp=Z,7.7nm,1.2s
PZH PanZhiHua 94.37 298 P **P** **02 51 47.8 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.9s
BOZ Bozeman (W) 94.55 40 P **P** **02 51 46.1 -0.5**
BOZ IAmb IAmb 02 51 47.8
comp=Z,5.3nm,1.2s
BOZ Bozeman (W) 94.55 40 P **P** **02 51 46.5 -0.1**
baz=234
HHC Hu-ho-hao-te 94.68 314 *e*P **P** **02 51 49.4 +2.2**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,140nm,6.9s
DLBC Dease Lake 94.72 23 P **P** **02 51 47.5 +0.6**
baz=221
ATAH Atahualpa 94.86 101 LR LR 03 24 06.5
comp=Z,54nm,21.3s,baz=227,slow=29
LVC Limon Verde 94.92 119 LR LR 03 25 35.0
comp=Z,25nm,20.1s,baz=234,slow=30
DOT Dot Lake 95.02 14 IAmb IAmb 02 51 48.3
comp=Z,6.1nm,1.2s
ILAR Eielson Array 95.43 13 LR LR 03 32 29.2
comp=Z,15nm,18.1s,baz=32,slow=34
J25K Salcha River, 95.59 13 P **P** **02 51 49.6 -1.2**
baz=208
K27K Chicken 95.80 15 P **P** **02 51 52.6 +1.0**
baz=211
J26L Joseph Creek 95.87 14 IAmb IAmb 02 51 53.9
comp=Z,4.2nm,0.9s
J26L Joseph Creek 95.87 14 P **P** **02 51 52.7 +0.7**
baz=210
K22A Casper 95.94 45 P **P** **02 51 52.5 -0.6**
K22A Casper 95.94 45 P **P** **02 51 52.8 -0.3**
baz=237
RSSD Black Hills 98.25 44 P **P** **02 52 03.3 -0.2**
RSSD Black Hills 98.25 44 P **P** **02 52 03.3 -0.2**
baz=239
LPAZ La Paz 98.93 114 P Pdif 02 52 07.6 -0.1
comp=Z,1.2nm,1.1s,baz=209,slow=5.3,SNR=2.8
LPAZ LR LR 03 26 19.7
comp=Z,21nm,20.2s,baz=242,slow=29
comp=Z,1.2nm,1.1s
ECSD EROS Data Cent 102.78 47 P **Pdif** **02 52 24.1 +0.7**
baz=244
NHSC New Hope 110.51 63 P **PKiKP** **02 56 57.7 -0.3**
baz=250
MKAR Makanchi Array 116.34 311 PKP **PKPdf** **02 57 06.2 -2.6**
comp=Z,1.0nm,0.9s,baz=115,slow=2.1,SNR=4.5
GEYT Allbeck 132.69 297 PKP **PKiKP** **02 57 41.5 0.0**
comp=Z,1.8nm,0.5s,baz=90,slow=1.4,SNR=3.7
KMBO Kilima Mbogo 135.74 235 PKP **PKiKP** **02 57 49.1 +0.4**
comp=Z,1.6nm,0.6s,baz=46,slow=6.6,SNR=5.3
ARCES ARCESS Array B 136.19 348 PKP **PKPdf** **02 57 44.8 -1.2**
comp=Z,2.3nm,0.8s,baz=64,slow=25,SNR=1.9
H10S3 ASCENSION HYDR 139.87 153 T T 05 34 10.6
SNR=3.3
H10S2 ASCENSION HYDR 139.87 153 T T 05 34 04.4
H10N3 ASCENSION HYDR 140.94 153 T T 05 35 30.3
baz=204,slow=75,SNR=7.2
H10N1 ASCENSION HYDR 140.95 153 T T 05 35 37.1
baz=204,slow=75,SNR=7.3
H10N2 ASCENSION HYDR 140.96 153 T T 05 35 31.7
baz=204,slow=75,SNR=7.8
FINES FINESS Array B 142.87 341 PKP **PKPdf** **02 57 55.6 -2.6**
comp=Z,0.5nm,0.3s,baz=41,slow=2.6,SNR=7.7
KARS Kars 144.28 302 PKPdf PKPbc 02 58 00.3 +0.1
GEVA Gevas 144.55 298 PKPdf **PKPdf** **02 58 01.8 -0.4**
GURG Guruymak-BITLI 145.33 298 PKPdf **PKPbc** **02 58 03.7 +0.2**
DOMB Dombas 145.55 354 *e*PKPbc **PKPdf** **02 58 02.8 -0.2**
AKN Aaknes 145.57 356 *e*PKPdf **PKPdf** **02 58 02.8 -0.2**
FOO Floro 146.24 358 *e*PKPdf **PKPdf** **02 58 04.0 0.0**
NB2 NORSAR Subarra 146.31 352 PKP **PKPdf** **02 58 04.3 0.0**
comp=Z,7.5nm,1.2s,baz=16,slow=3.2
NB2 NORSAR Subarra 146.31 352 PKP **PKPdf** **02 58 04.3 0.0**
baz=16,slow=3.2
NOA NORSAR Array B 146.31 352 PKPbc **PKPdf** **02 58 03.9 -0.4**
comp=Z,3.0nm,1.0s,baz=14,slow=4.5,SNR=14
KOPT Kop Dagi 146.32 301 PKPbc **PKPbc** **02 58 06.6 -0.1**
MARD Mardin 146.43 296 PKPbc **PKPbc** **02 58 07.1 +0.2**
NAO01 NORSAR Array S 146.54 352 PKPbc **PKPbc** **02 58 06.3 0.0**
NC602 NORSAR Array S 146.56 352 PKPbc **PKPbc** **02 58 05.8 -0.6**
NC602 NORSAR Array S 146.56 352 *e*PKPdf **PKPdf** **02 58 04.7 0.0**
SUE Sulen 146.79 358 *e*PKPbc **PKPbc** **02 58 06.1 -0.9**
SKAR Skarslia 146.96 355 *e*PKPbc **PKPbc** **02 58 06.9 -0.7**
SKAR IAmb IAmb 02 58 08.2
comp=Z,4.6nm,1.0s
ASK Askoy 147.35 357 *e*PKPbc **PKPbc** **02 58 07.9 -0.7**
OSL Oslo 147.44 352 *e*PKPbc **PKPbc** **02 58 08.6 -0.2**
BER Bergen 147.44 357 *e*PKPbc **PKPbc** **02 58 08.8 +0.1**
MNK Minsk 147.52 332 *i* PKP **PKPdf** **02 58 07.2 +0.8**
comp=E,1.0nm,1.0s
MNK *i* PKP **PKPdf** **02 58 07.2 +0.8**
MNK *i* PKP **PKPdf** **02 58 07.2 +0.8**
comp=Z,18nm,1.0s,baz=45
MNK *i* pPKP **pPKPdf** **02 58 39.6 +1.4**
MNK *i* sPKP 02 58 52.3
MNK *i* PP **PP** **03 01 36.5 +0.2**
MNK *i* PPP PPP 03 04 55.0
MNK *i* SKS **SKSdf** **03 05 04.6 +0.8**
MNK *i* SKKS **SKKSac** **03 08 05.7 -11**
MNK *i* SPP SPP 03 18 02.9
MNK *i* PPS PPS 03 18 39.0
MNK *i* SS **SS** **03 20 31.7 +2.2**
MNK *i* SSS SSS 03 25 35.8

NACGM	**Naroch**	147.68	333	*e*PKP	**PKPbc**	02 58 09.4	-0.2
	baz=43						
KONO	**Kongsberg**	147.85	353	PKPbc	**PKPbc**	02 58 09.3	-0.7
KONO	**Kongsberg**	147.85	353	*e*PKPbc	**PKPbc**	02 58 08.9	-1.1
KONO				IAmb	IAmb	02 58 10.2	
	comp=Z,6.1nm,0.9s						
BLS5	**Blasjo**	148.34	356	*e*PKPbc	**PKPbc**	02 58 10.3	-0.9
HOMB	**Homborsund**	149.32	354	*e*PKPbc	**PKPbc**	02 58 12.9	-0.7
AKASG	**Malin Array Be**	149.42	326	PKPbc	**PKPbc**	02 58 12.9	-1.3
	comp=Z,3.4nm,0.5s,baz=44,slow=3.6,SNR=18						
AKASG	**Malin Array Be**	149.42	326	PKPbc	**PKPbc**	02 58 13.8	-0.5
AKBB	**Malin Array Si**	149.42	326	PKPbc	**PKPbc**	02 58 13.2	-1.0
BRTR	**Keskin Array B**	151.54	303	PKPbc	**PKPbc**	02 58 18.9	-0.9
	comp=Z,4.4nm,1.0s,baz=51,slow=2.8,SNR=14						
BRTR				PKPab	**PKPab**	02 58 27.9	-0.9
	comp=Z,0.6nm,0.5s,baz=103,slow=6.2,SNR=9.4						
DPC	**Dobruska-Polom**	155.15	338	*e*PKPAB	**PKPab**	02 58 44.0	+0.5
KRLC	**Kraliky**	155.23	337	*e*PKPAB	**PKPab**	02 58 44.1	+0.2
KHC	**Kasperske Hory**	157.07	341	*e*PKPAB	**PKPab**	02 58 56.5	+4.7
TORD	**Torodi Ar. Bea**	165.32	178	PKP	**PKPdf**	02 58 29.4	-1.1
	comp=Z,1.5nm,0.9s,baz=271,slow=3.2,SNR=5.1						
TORD				PKPab	**PKPab**	02 58 29.0	+0.5
	comp=Z,4.1nm,0.9s,baz=172,slow=3.5,SNR=19						

KRSC 16 02:50:16.9±2.2, 54°83N×167°48E, h30km±18km, ML3.6,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.95**	**294**	*e*P	Pb	02 50 34.9	+0.2
BKI				*e*S	Sb	02 50 48.2	+1.4
KBTR	**Krutoberegovo**	**2.99**	**299**	*e*P	Pn	02 51 04.1	+1.9
MKZ	**Mys Kozlova**	**3.35**	**268**	*e*P	Pn	02 51 10.4	+3.3
MKZ				*e*S	Sn	02 51 47.9	+2.1
TUMR	**Tumrok**	**4.24**	**279**	*e*P	Pn	02 51 24.7	+5.2
TUMR				*e*S	Sn	02 52 14.7	+6.7
GNL	**Ganaly**	**5.71**	**262**	*e*P	Pn	02 51 44.7	+5.1

*NORS **16** 02:52:39.4±0.0, 42°.84N×45°.96E, h87km±2km, MPVA3.8*
*DRS **16** 02:52:40.2±0.0, 43°.12N×45°.22E, h28km*
ISC 16 02:52:41.6±1.1, 42°.88N±0°.03×45°.76E±0°.02, h13km±9km,
n32, σ1s60/61, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVE	**Vedeno**	**0.28**	**73**	*i* Pg	**Pn**	**02 52 52.5**	**+1.0**
DVE				*e*Sg	**Sn**	**02 53 01.2**	**+3.6**
GROC	**Groznyy**	**0.33**	**5**	*e*Pg	**Pn**	**02 52 53.2**	**+1.1**
GROC				*e*Sg	**Sn**	**02 53 03.1**	**+4.4**
DLMR	**Dylym**	**0.67**	**73**	*e*Pg	**Pb**	**02 52 55.0**	**-0.1**
	90nm,0.4s						
DLMR				*e*Sg	**Sn**	**02 53 06.0**	**-1.1**
	1µm,0.2s						
XNZR	**Khunzakh**	**0.77**	**115**	*i* Pg	**Pn**	**02 52 57.6**	**-0.7**
	61nm,0.1s						
XNZR				*e*Sg	**Sn**	**02 53 11.1**	**+1.2**
	152nm,0.6s						
UNCR	**Uncukul**	**0.78**	**102**	*i* Pg	**Pb**	**02 52 56.9**	**-0.1**
	78nm,0.3s						
UNCR				*e*Sg	**Sn**	**02 53 09.1**	**-0.7**
	257nm,0.4s						
DBC	**Dubki**	**0.80**	**79**	*i* Pg	**Pg**	**02 52 56.4**	**-0.7**
	79nm,0.1s						
DBC				*e*Sg	**Sn**	**02 53 08.4**	**-2.0**
VLKR	**Vladikavkaz**	**0.81**	**282**	*e*Pg	**Pn**	**02 52 58.5**	**-0.3**
VLKR				*e*Sg	**Sn**	**02 53 13.9**	**+3.2**
PNSH	**Pansheti**	**0.88**	**254**	P	**Pn**	**02 52 60.0**	**+0.2**
PNSH				S	**Sn**	**02 53 14.2**	**+1.7**
ARKR	**Arakani**	**0.95**	**106**	*e*Pg	**Pb**	**02 52 59.2**	**-0.7**
	52nm,0.2s						
ARKR				*e*Sg	**Sn**	**02 53 13.8**	**-0.3**
	393nm,0.4s						
BUJR	**Buynaksk**	**0.99**	**92**	*e*Pg	**Pb**	**02 52 59.5**	**-1.2**
	76nm,0.3s						
BUJR				*e*Sg	**Sn**	**02 53 14.0**	**-1.1**
	28nm,0.1s						
GNBR	**Gunib**	**1.01**	**118**	*i* Pg	**Pb**	**02 53 00.5**	**-0.5**
	41nm,0.1s						
GNBR				*e*Sg	**Sn**	**02 53 16.2**	**+0.5**
	395nm,0.2s						
BTKR	**Batakoyurt**	**1.02**	**299**	*e*Pg	**Pn**	**02 53 01.8**	**+0.1**
BTKR				*e*Sg	**Sn**	**02 53 17.7**	**+1.8**
LACR	**Lac**	**1.08**	**268**	*i* Pg	**Pb**	**02 53 01.9**	**-0.3**
LACR				*e*Sg	**Sn**	**02 53 17.9**	**+0.5**
LGD	**Lagodekhi**	**1.10**	**161**	P	**Pb**	**02 53 02.7**	**+0.3**
LGD				S	**Sn**	**02 53 19.1**	**+1.4**
ARNR	**Ardon**	**1.12**	**286**	*e*Pg	**Pg**	**02 53 03.0**	**-0.2**
ARNR				*e*Sg	**Sn**	**02 53 18.9**	**+0.5**
TRKR	**Terskaya**	**1.13**	**319**	*e*Pg	**Pb**	**02 53 01.9**	**-1.0**
TRKR				*e*Sg	**Sn**	**02 53 18.5**	**0.0**
KMKR	**Kumukh**	**1.24**	**126**	*i* Pg	**Pn**	**02 53 04.1**	**-0.7**
	65nm,0.1s						
KMKR				*e*Sg	**Sg**	**02 53 22.4**	**+0.9**
	78nm,0.5s						
KORR	**Kora**	**1.26**	**280**	*e*Pg	**Pn**	**02 53 03.8**	**-1.1**
KORR				*e*Sg	**Sg**	**02 53 22.7**	**+0.5**
STDR	**Stavd-Durt**	**1.34**	**292**	*e*Pg	**Pb**	**02 53 05.8**	**-0.7**
STDR				*e*Sg	**Sg**	**02 53 24.3**	**-0.3**
ZEI	**Tsey**	**1.37**	**267**	*e*Pg	**Pb**	**02 53 05.2**	**-1.4**
ZEI				*e*Sg	**Sn**	**02 53 23.9**	**-0.8**
BTNK	**Botanikuri**	**1.39**	**211**	P	Pn	02 52 58.9	-7.7
BTNK				S	**Sn**	**02 53 19.3**	**-5.6**
PRTR	**Priterechnaya**	**1.39**	**310**	*e*Pg	**Pn**	**02 53 05.9**	**-0.7**
PRTR				*e*Sg	**Sg**	**02 53 24.7**	**-1.6**
DGRG	**David-gareji**	**1.45**	**192**	P	**Pn**	**02 53 07.3**	**-0.2**
DGRG				S	**Sb**	**02 53 29.0**	**+2.1**
DDFL	**Dedoflistskaro**	**1.45**	**169**	P	**Pb**	**02 53 09.3**	**+0.8**
DDFL				S	**Sg**	**02 53 32.9**	**+4.5**
SGKR	**Sergokala**	**1.46**	**106**	*e*Pg	**Pn**	**02 53 06.9**	**-0.7**
	3.0nm,0.2s						
SGKR				*e*Sg	**Sb**	**02 53 26.7**	**-0.4**
	72nm,0.2s						
URKR	**Urkarakh**	**1.56**	**117**	*e*Pg	**Pn**	**02 53 07.9**	**-1.2**
	26nm,0.6s						
URKR				*e*Sg	**Sn**	**02 53 28.8**	**-0.4**
	63nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.60**	**272**	*e*Pg	**Pn**	**02 53 08.3**	**-1.5**
DIGR				*e*Sg	**Sn**	**02 53 28.6**	**-1.8**
ONI	**Oni**	**1.72**	**261**	P	**Pn**	**02 53 12.0**	**+0.6**
ALIG	**Mtskhetisjvari**	**1.74**	**244**	P	**Pn**	**02 53 12.2**	**+0.7**
ALIG				S	**Sg**	**02 53 37.4**	**-0.1**
DMNI	**Dmanisi**	**1.94**	**218**	P	**Pn**	**02 53 13.8**	**-0.5**
DMNI				S	**Sn**	**02 53 38.9**	**+0.3**
BKRG	**Bakuriani**	**2.00**	**237**	P	**Pn**	**02 53 16.0**	**+0.8**
AKT	**Akhty**	**2.02**	**133**	*e*Pn	**Pn**	**02 53 14.1**	**-1.4**
	28nm,0.1s						
AKT				*e*Sn	**Sn**	**02 53 39.7**	**-1.0**

*IDC **16** 02:58:24.8±1.1, 39°.21N×99°.61W, h0km, mbtmp3.5/5,*
ML2.8/4, Error ellipse: s-maj=15.0km s-min=11.7km
az=91.0
*ANF **16** 02:58:27.2±0.3, 39°.02N×99°.57W, h3km±2km, ML4.1/14,*
Error ellipse: s-maj=1.6km s-min=1.2km az=11.0
*NEIC **16** 02:58:27.7±1.3, 39°.01N±0°.03×99°.58W±0°.06, h5km±2km,*
mb_Lg3.3/124, Error ellipse: s-maj=7.5km s-min=5.3km
az=292.0
ISC 16 02:58:27.5±1.1, 39°.02N±0°.04×99°.59W±0°.03, h10km±8km,
n128, σ1s24/100, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBKS	**Cedar Bluff**	**0.24**	**209**	Pg	**Pg**	**02 58 31.8**	**-0.6**
CBKS				Sg	**Sg**	**02 58 35.3**	**-0.3**
CBKS	**Cedar Bluff**	**0.24**	**209**	P	**Pg**	**02 58 31.8**	**-0.6**
	baz=35						
CBKS				S	**Sg**	**02 58 35.4**	**-0.3**
	baz=35						
CBKS	**Cedar Bluff**	**0.24**	**209**	P	**Pg**	**02 58 31.7**	**-0.6**
	baz=35,SNR=246						
CBKS				S	**Sg**	**02 58 35.3**	**-0.3**
	baz=35						
R32A	**Long Quarter,**	**0.91**	**131**	Pg	**Pg**	**02 58 44.3**	**-0.7**
R32A	**Long Quarter,**	**0.91**	**131**	P	**Pg**	**02 58 44.3**	**-0.7**
	baz=312						
R32A				S	**Sb**	**02 58 57.5**	**-0.1**
	baz=312						
KAN16	**Harper SW Stat**	**2.16**	**146**	IAmb_Lg		02 59 36.3	
	comp=Z,174nm,1.2s						
KAN08	**Anthony NE Sta**	**2.20**	**144**	IAmb_Lg		02 59 41.6	
	comp=Z,109nm,0.9s						
KAN10	**Anthony SW Sta**	**2.23**	**148**	IAmb_Lg		02 59 43.6	
	comp=Z,170nm,1.0s						
KAN06	**Argonia West S**	**2.24**	**142**	IAmb_Lg		02 59 39.5	
	comp=Z,121nm,0.9s						
KSU1	**Kansas State U**	**2.32**	**87**		**Pn**	**02 59 06.4**	**+0.6**
KSU1				IAmb_Lg		02 59 46.6	
	comp=Z,158nm,0.8s						
KSU1	**Kansas State U**	**2.32**	**87**	P	**Pn**	**02 59 06.0**	**+0.3**
	baz=269						
KSU1				S	**Sn**	**02 59 35.8**	**+1.4**
	baz=269						
KSU1	**Kansas State U**	**2.32**	**87**	P	**Pn**	**02 59 06.2**	**+0.4**
	baz=269						
KSU1				S	**Sn**	**02 59 35.2**	**+0.8**
	baz=269						
KSCO	**Kaye Shedlock'**	**2.37**	**271**	Pn	**Pn**	**02 59 08.3**	**+1.8**
KSCO	**Kaye Shedlock'**	**2.37**	**271**	P	**Pn**	**02 59 08.0**	**+1.5**
	baz=89,SNR=16						
KSCO				S	**Sb**	**02 59 39.0**	**-0.5**
	baz=89						
N33B	**J Bar K, Exete**	**2.38**	**43**	P	**Pn**	**02 59 06.9**	**+0.4**
	baz=224						
N33A	**J Bar K, Exete**	**2.38**	**43**		**Pn**	**02 59 07.0**	**+0.5**
KS20	**Mayfield South**	**2.41**	**137**	IAmb_Lg		02 59 46.3	
	comp=Z,135nm,0.7s						
NOKA	**Waynoka**	**2.44**	**167**	IAmb_Lg		02 59 46.8	
	comp=Z,98nm,0.7s						
KAN09	**Caldwell North**	**2.44**	**140**	IAmb_Lg		02 59 43.8	
	comp=Z,87nm,0.8s						
KAN13	**South Haven SW**	**2.61**	**140**	IAmb_Lg		02 59 52.4	
	comp=Z,98nm,1.1s						
BGNE	**Belgrade**	**2.62**	**24**	Sb	**Sb**	**02 59 49.3**	**+2.4**
	baz=205						
BGNE	**Belgrade**	**2.62**	**24**	P	**Pn**	**02 59 10.4**	**+0.5**
	baz=205						
BGNE				Sb	**Sb**	**02 59 48.9**	**+2.0**
	baz=205						
OK038	**West end E0370**	**2.63**	**165**		**Pn**	**02 59 11.7**	**+1.7**
OK038				IAmb_Lg		02 59 54.1	
	comp=Z,136nm,0.9s						
U32A	**Winter Ranch,**	**2.68**	**170**		**Pn**	**02 59 11.4**	**+0.7**
OGNE	**Ogallala**	**2.68**	**316**	Pn	**Pn**	**02 59 11.8**	**+0.9**
OGNE				IAmb_Lg		02 59 54.2	
	comp=Z,106nm,0.8s						
OGNE	**Ogallala**	**2.68**	**316**	P	**Pn**	**02 59 11.8**	**+0.9**
	baz=135						
OGNE	**Ogallala**	**2.68**	**316**	P	**Pn**	**02 59 11.6**	**+0.7**
	baz=135,SNR=47						
CROK	**Carrier**	**2.82**	**153**		**Pn**	**02 59 13.8**	**+1.1**
CROK				IAmb_Lg		02 59 59.8	
	comp=Z,60nm,0.8s						
BLOK	**Blackwell**	**2.94**	**140**	IAmb_Lg		03 00 04.6	
	comp=Z,65nm,0.7s						
OK049	**E0420 Rd and N**	**3.18**	**145**		**Pn**	**02 59 19.1**	**+1.6**
T35A	**Sooner Cattle**	**3.22**	**130**		**Pn**	**02 59 18.9**	**+0.8**
T35A				IAmb_Lg		03 00 14.4	
	comp=Z,54nm,0.9s						
T35B	**Sooner Cattle**	**3.22**	**130**	P	**Pn**	**02 59 18.2**	**+0.2**
	baz=312						
OK045	**Pawnee Station**	**3.33**	**140**		**Pn**	**02 59 20.8**	**+1.2**
CSTR	**Hydro, Custer**	**3.45**	**168**	IAmb_Lg		03 00 26.8	
	comp=Z,5.2nm,0.8s						
N35A	**Tabor**	**3.55**	**58**		**Pn**	**02 59 22.8**	**+0.2**
N35A	**Tabor**	**3.55**	**58**	P	**Pn**	**02 59 23.2**	**+0.6**
	baz=240						
K31A	**O'Neill**	**3.65**	**10**	Pn	**Pn**	**02 59 25.6**	**+1.5**
K31A	**O'Neill**	**3.65**	**10**	S	**Sn**	**03 00 09.4**	**+2.2**
	baz=190						
QUOK	**Quay**	**3.65**	**140**	IAmb_Lg		03 00 30.1	
	comp=Z,20nm,0.9s						
BCOK	**Bluff Creek, N**	**3.71**	**154**	IAmb_Lg		03 00 35.3	
	comp=Z,32nm,0.7s						
OK031	**S. Brethren Rd**	**3.77**	**144**		**Pn**	**02 59 26.9**	**+1.3**
OK025	**Westminster Rd**	**3.88**	**152**	IAmb_Lg		03 00 30.8	
	comp=Z,52nm,0.7s						
DEOK	**Depew**	**4.02**	**141**	IAmb_Lg		03 00 39.0	
	comp=Z,24nm,0.7s						
T25A	**Trinidad**	**4.24**	**245**	Pn	**Pn**	**02 59 31.9**	**-0.5**
T25A	**Trinidad**	**4.24**	**245**	P	**Pn**	**02 59 32.1**	**-0.3**
	baz=62						
WMOK	**Wichita Mounta**	**4.33**	**171**		**Pn**	**02 59 33.6**	**+0.2**
WMOK	**Wichita Mounta**	**4.33**	**171**	P	**Pn**	**02 59 33.6**	**+0.2**
	baz=352,SNR=8.2						
Q24A	**Divide**	**4.33**	**271**		**Pn**	**02 59 34.2**	**+0.5**
Q24A				IAmb_Lg		03 00 50.0	
	comp=Z,62nm,0.9s						
Q24A	**Divide**	**4.33**	**271**	P	**Pn**	**02 59 33.9**	**+0.2**
	baz=88						
Q24A				S	**Sn**	**03 00 25.9**	**+1.5**
	baz=88						
TUL1	**Leonard**	**4.33**	**135**	Pn	**Pn**	**02 59 33.4**	**0.0**
TUL1				IAmb_Lg		03 00 47.6	
	comp=Z,81nm,0.9s						
TUL1	**Leonard**	**4.33**	**135**	P	**Pn**	**02 59 33.8**	**+0.4**
	baz=317						
TUL1	**Leonard**	**4.33**	**135**	P	**Pn**	**02 59 33.2**	**-0.2**
	baz=317,SNR=7.7						
AMTX	**Amarillo**	**4.46**	**203**	Pn	**Pn**	**02 59 35.7**	**+0.5**
AMTX	**Amarillo**	**4.46**	**203**	P	**Pn**	**02 59 35.6**	**+0.5**
	baz=22						
AMTX				S	**Sn**	**03 00 28.1**	**+0.9**
	baz=22						
RLO	**Rose Lookout**	**4.62**	**127**	Pn	**Pn**	**02 59 37.7**	**+0.4**
RLO				IAmb_Lg		03 00 55.6	
	comp=Z,62nm,0.8s						
X34A	**Smith Ranch, M**	**4.63**	**162**		**Pn**	**02 59 39.0**	**+1.4**
ISCO	**Idaho Springs**	**4.73**	**281**	Pn	**Pn**	**02 59 40.0**	**+0.9**
ISCO	**Idaho Springs**	**4.73**	**281**	P	**Pn**	**02 59 40.0**	**+0.9**
	baz=98						
ISCO	**Idaho Springs**	**4.73**	**281**	P	**Pn**	**02 59 40.0**	**+0.9**
	baz=98,SNR=15						
ISCO				S	**Sn**	**03 00 33.2**	**-1.0**
	baz=98						
P38A	**Dawn**	**4.74**	**81**	Pn	**Pn**	**02 59 39.6**	**+0.6**
P38A				IAmb_Lg		03 01 07.7	
	comp=Z,59nm,0.7s						
P38A	**Dawn**	**4.74**	**81**	P	**Pn**	**02 59 39.1**	**+0.2**
	baz=264						
SDCO	**Great Sand Dun**	**4.82**	**256**		**Pn**	**02 59 41.3**	**+0.9**
SDCO				IAmb_Lg		03 01 00.3	
	comp=Z,36nm,0.8s						
SDCO	**Great Sand Dun**	**4.82**	**256**	P	**Pn**	**02 59 41.4**	**+1.1**
	baz=73						
SDCO	**Great Sand Dun**	**4.82**	**256**	P	**Pn**	**02 59 41.2**	**+0.8**
	baz=73,SNR=7.0						
SDCO				Sb	**Sb**	**03 00 54.2**	**+3.9**
	baz=73						
U38A	**Gravette**	**4.87**	**120**		**Pn**	**02 59 41.7**	**+0.9**
U38A				IAmb_Lg		03 01 13.7	
	comp=Z,48nm,0.8s						
PHWY	**Pilot Hill**	**5.04**	**299**	Pn	**Pn**	**02 59 43.5**	**+0.1**
PHWY				IAmb_Lg		03 01 20.9	
	comp=Z,35nm,0.9s						
S39A	**Bolivar**	**5.10**	**103**	IAmb_Lg		03 01 16.1	
	comp=Z,58nm,0.8s						
N38A	**Joes South For**	**5.20**	**68**	IAmb_Lg		03 01 11.8	
	comp=Z,64nm,0.7s						
ECSD	**EROS Data Cent**	**5.21**	**24**	Pn	**Pn**	**02 59 45.9**	**+0.4**
ECSD				IAmb_Lg		03 01 12.8	
	comp=Z,45nm,0.9s						
ECSD	**EROS Data Cent**	**5.21**	**24**	P	**Pn**	**02 59 46.1**	**+0.6**
	baz=206						
ECSD	**EROS Data Cent**	**5.21**	**24**	P	**Pn**	**02 59 46.0**	**+0.6**
	baz=206,SNR=14						
ECSD				S	**Sn**	**03 00 45.4**	**-0.3**
	baz=206						
N23A	**Red Feather La**	**5.23**	**293**	Pn	**Pn**	**02 59 46.4**	**+0.4**
N23A	**Red Feather La**	**5.23**	**293**	P	**Pn**	**02 59 46.4**	**+0.4**
	baz=109,SNR=9.4						
N23A				S	**Sn**	**03 00 45.2**	**-1.2**
	baz=109						
HHAR	**Hobbs**	**5.25**	**120**	IAmb_Lg		03 01 23.7	
	comp=Z,31nm,0.7s						
LOOK	**Love County**	**5.38**	**158**	IAmb_Lg		03 01 27.2	
	comp=Z,62nm,0.9s						
SUSD	**Miller**	**5.44**	**5**	IAmb_Lg		03 01 30.1	
	comp=Z,61nm,0.8s						
SUSD	**Miller**	**5.44**	**5**	P	**Pn**	**02 59 49.2**	**+0.6**
	baz=185						
SUSD				S	**Sn**	**03 00 50.5**	**-0.8**
	baz=185						
X37A	**Clayton**	**5.57**	**141**	Pn	**Pn**	**02 59 51.3**	**+0.8**
X37A				IAmb_Lg		03 01 29.9	
	comp=Z,50nm,0.9s						
X37A	**Clayton**	**5.57**	**141**	P	**Pn**	**02 59 50.7**	**+0.2**
	baz=324						
SCIA	**State Center**	**5.65**	**57**	IAmb_Lg		03 01 37.3	
	comp=Z,37nm,0.8s						
SCIA	**State Center**	**5.65**	**57**	S	**Sn**	**03 00 56.4**	**-0.1**
	baz=241						
MSTX	**Muleshoe**	**5.66**	**208**	IAmb_Lg		03 01 30.0	
	comp=Z,42nm,0.7s						
SMCO	**Snowmass**	**5.75**	**274**		**Pn**	**02 59 54.3**	**+1.1**
SMCO				IAmb_Lg		03 01 41.2	
	comp=Z,52nm,0.9s						
S22A	**4UR Ranch, Cre**	**5.83**	**260**	Pn	**Pn**	**02 59 55.1**	**+0.8**
S22A				IAmb_Lg		03 01 41.3	
	comp=Z,32nm,1.1s						
S22A	**4UR Ranch, Cre**	**5.83**	**260**	P	**Pn**	**02 59 55.0**	**+0.8**
	baz=75,SNR=7.2						
Z35A	**Perchaven, San**	**5.99**	**161**	Pn	**Pn**	**02 59 56.1**	**0.0**
Z35A	**Perchaven, San**	**5.99**	**161**	P	**Pn**	**02 59 56.5**	**+0.4**
	baz=342						
MGMO	**Mountain Grove**	**6.07**	**106**	IAmb_Lg		03 01 42.1	
	comp=Z,53nm,0.8s						
RSSD	**Black Hills**	**6.09**	**328**	Pn	**Pn**	**02 59 58.6**	**+0.9**
RSSD				IAmb_Lg		03 01 53.2	
	comp=Z,29nm,0.8s						
RSSD	**Black Hills**	**6.09**	**328**	P	**Pn**	**02 59 58.7**	**+1.0**
	baz=145						
K38A	**Parkersburg**	**6.31**	**53**	IAmb_Lg		03 01 59.0	
	comp=Z,45nm,1.1s						
K22A	**Casper**	**6.38**	**307**		**Pn**	**03 00 01.8**	**0.0**
K22A	**Casper**	**6.38**	**307**	P	**Pn**	**03 00 02.3**	**+0.5**
	baz=122						
ABTX	**Abilene, Hawle**	**6.39**	**180**	IAmb_Lg		03 02 03.3	
	comp=Z,28nm,0.8s						
RWWY	**Rawlins**	**6.40**	**297**	IAmb_Lg		03 02 01.9	
	comp=Z,30nm,0.7s						
MIAR	**Mount Ida**	**6.58**	**131**		**Pn**	**03 00 04.8**	**+0.5**
MIAR				IAmb_Lg		03 02 13.1	
	comp=Z,35nm,1.0s						
MIAR	**Mount Ida**	**6.58**	**131**	P	**Pn**	**03 00 04.7**	**+0.4**
	baz=315						
MIAR	**Mount Ida**	**6.58**	**131**	P	**Pn**	**03 00 04.5**	**+0.3**
	baz=315						
CCM	**Cathedal Cave**	**6.61**	**96**	IAmb_Lg		03 02 05.5	
	comp=Z,39nm,0.7s						
FCAR	**Ozark Folk Cen**	**6.71**	**115**		**Pn**	**03 00 06.7**	**+0.6**
FCAR				IAmb_Lg		03 02 14.0	
	comp=Z,35nm,0.8s						
O20A	**White River Ci**	**6.78**	**282**	IAmb_Lg		03 02 20.5	
	comp=Z,36nm,1.0s						
I37A	**Lemond, Waseca**	**6.81**	**41**	IAmb_Lg		03 02 17.6	
	comp=Z,41nm,0.8s						
ANMO	**Albuquerque**	**6.84**	**236**	Pn	**Pn**	**03 00 08.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=55,slow=16,SNR=2.5						
ANMO				Pg	**Pb**	**03 00 29.6**	**+3.1**
	comp=Z,2.6nm,0.3s,baz=52,slow=17,SNR=39						
ANMO				Lg	Lg	03 01 59.4	
	comp=Z,1.2nm,0.3s,baz=22,slow=10,SNR=2.0						
	comp=Z,0.4nm,0.4s						
Z38A	**Mt. Pleasant**	**6.85**	**146**	IAmb_Lg		03 02 17.0	
	comp=Z,38nm,0.8s						
WHAR	**Wooly Hollow**	**6.92**	**120**	Pn	**Pn**	**03 00 08.5**	**-0.4**
WHAR				IAmb_Lg		03 02 19.8	
	comp=Z,46nm,0.8s						
PV15	**Paradox Valley**	**6.99**	**267**	IAmb_Lg		03 02 15.2	
	comp=Z,22nm,0.9s						
L40A	**Anamosa**	**7.06**	**62**	IAmb_Lg		03 02 21.7	
	comp=Z,21nm,0.7s						
PV07	**Paradox Valley**	**7.11**	**268**	IAmb_Lg		03 02 17.1	
	comp=Z,22nm,0.8s						
F33A	**5 Mile Ranch,**	**7.24**	**19**		**Pn**	**03 00 12.9**	**-0.4**
F33A				IAmb_Lg		03 02 17.9	
	comp=Z,41nm,0.8s						
PV13	**Radium Mtn., P**	**7.28**	**266**	IAmb_Lg		03 02 28.5	
	comp=Z,19nm,1.0s						
LCAR	**Lake Charles**	**7.32**	**111**	IAmb_Lg		03 02 22.3	
	comp=Z,32nm,0.8s						
WLAR	**White Oak Lake**	**7.46**	**134**	IAmb_Lg		03 02 41.2	
	comp=Z,31nm,0.9s						
237A	**Washetta, Mont**	**7.65**	**155**	IAmb_Lg		03 02 39.4	
	comp=Z,36nm,1.0s						
SPMN	**Marine on St.**	**7.99**	**37**	IAmb_Lg		03 02 38.2	
	comp=Z,20nm,0.8s						
SPMN	**Marine on St.**	**7.99**	**37**	P	**Pn**	**03 00 21.5**	**-2.1**
	baz=221						
CGM3	**Cape Girardeau**	**8.01**	**99**	IAmb_Lg		03 02 41.7	
	comp=Z,35nm,0.8s						
JFWS	**Jewell Farm**	**8.06**	**58**	IAmb_Lg		03 02 54.7	
	comp=Z,25nm,0.7s						
D32A	**Dogwood Acres,**	**8.32**	**12**	IAmb_Lg		03 03 00.3	
	comp=Z,36nm,0.9s						
PDAR	**Pinedale Array**	**8.42**	**300**	Pn	**Pn**	**03 00 28.7**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=118,slow=12,SNR=20						
PDAR				Pg	Pb	03 00 46.6	-6.9
	comp=Z,0.5nm,0.3s,baz=116,slow=14,SNR=6.8						
PDAR				Sn	**Sn**	**03 01 59.1**	**-5.9**
	comp=Z,0.3nm,0.3s,baz=101,slow=15,SNR=1.4						
PDAR				Lg	Lg	03 02 43.9	
	comp=Z,0.8nm,0.3s,baz=108,slow=35,SNR=2.4						
BW06	**Boulder Array**	**8.42**	**300**	P	**Pn**	**03 00 29.5**	**-0.3**
	baz=113						
LAO	**LASA Array**	**9.07**	**330**	IAmb_Lg		03 03 21.2	
	comp=Z,16nm,1.0s						
143A	**Socs Landing,**	**9.16**	**131**	IAmb_L

baz=31
R32A Long Quarter, 0.92 129 Pg 03 55 35.2 -0.7
R32A Sg Sb 03 55 48.7 +1.1
R32A Long Quarter, 0.92 129 P Pg 03 55 35.1 -0.7
baz=311
KAN12 Harper NE Stat 2.13 143 Pn Pn 03 55 54.9 +1.9
KAN16 Harper SW Stat 2.16 145 Pn Pn 03 55 55.3 +1.9
KAN16 IAmb_Lg 03 56 26.6
comp=Z,94nm,0.7s
KAN08 Anthony NE Sta 2.20 143 Pn Pn 03 55 55.6 +1.6
KAN08 IAmb_Lg 03 56 32.2
comp=Z,107nm,1.0s
KAN10 Anthony SW Sta 2.23 147 Pn Pn 03 55 55.8 +1.4
KAN06 Argonia West S 2.23 141 Pn Pn 03 55 55.8 +1.3
KAN05 Bluff City Nor 2.34 143 IAmb_Lg 03 56 35.9
comp=Z,80nm,0.9s
KSU1 Kansas State U 2.34 87 Pn Pn 03 55 57.2 +1.2
KSU1 IAmb_Lg 03 56 34.9
comp=Z,73nm,0.7s
KSU1 Kansas State U 2.34 87 P Pn 03 55 57.1 +1.2
baz=269
KSU1 S Sn 03 56 26.6 +2.2
baz=269
KSU1 Kansas State U 2.34 87 P Pn 03 55 56.9 +1.0
baz=269
KSU1 S Sn 03 56 26.5 +2.1
baz=269
KSCO Kaye Shedlock' 2.35 271 Pn Pn 03 55 58.5 +2.4
KSCO Kaye Shedlock' 2.35 271 P Pn 03 55 59.6 +3.4
baz=89
KSCO S Sb 03 56 30.1 +1.2
baz=89
KAN01 Argonia South 2.36 141 Pn Pn 03 55 57.8 +1.6
KAN01 IAmb_Lg 03 56 36.0
comp=Z,76nm,0.9s
N33B J Bar K, Exete 2.40 43 P Pn 03 55 57.8 +1.0
baz=224
N33A J Bar K, Exete 2.40 43 Pn 03 55 58.0 +1.2
KS20 Mayfield South 2.40 137 IAmb_Lg 03 56 35.5
comp=Z,83nm,0.7s
KAN14 Manchester OK 2.42 147 Pn Pn 03 55 58.5 +1.4
NOKA Waynoka 2.43 167 Pn Pn 03 55 59.1 +2.0
KAN09 Caldwell North 2.44 139 IAmb_Lg 03 56 34.5
comp=Z,67nm,0.8s
KAN17 Caldwell West 2.44 143 Pn Pn 03 55 59.0 +1.6
KAN17 IAmb_Lg 03 56 41.5
comp=Z,71nm,1.1s
OK032 Salt Plains WL 2.46 153 Pn 03 55 59.4 +1.8
OK032 IAmb_Lg 03 56 43.9
comp=Z,58nm,0.8s
GC02 Grant County # 2.56 147 Pn Pn 03 56 01.1 +2.2
OK038 West end E0370 2.62 164 Pn Pn 03 56 01.4 +1.7
BGNE Belgrade 2.65 25 Pn Pn 03 56 01.5 +1.3
BGNE Belgrade 2.65 25 P Pn 03 56 01.5 +1.3
baz=205
BGNE Belgrade 2.65 25 P Pn 03 56 01.4 +1.2
baz=205
BGNE S Sn 03 56 33.4 +1.4
baz=205
U32A Winter Ranch, 2.67 169 Pn 03 56 02.3 +1.9
OGNE Ogallala 2.69 317 Pn 03 56 02.3 +1.5
OGNE IAmb_Lg 03 56 45.9
comp=Z,88nm,0.7s
OGNE Ogallala 2.69 317 P Pn 03 56 02.5 +1.7
baz=135
OGNE Ogallala 2.69 317 P Pn 03 56 02.5 +1.7
baz=135,SNR=24
CROK Carrier 2.81 152 Pn Pn 03 56 04.3 +1.9
BLOK Blackwell 2.94 139 Pn Pn 03 56 05.2 +1.1
BLOK IAmb_Lg 03 56 55.9
comp=Z,51nm,0.8s
T35A Sooner Cattle 3.22 129 Pn Pn 03 56 09.6 +1.5
T35A IAmb_Lg 03 57 08.8
comp=Z,45nm,1.0s
T35B Sooner Cattle 3.22 129 P Pn 03 56 09.6 +1.5
baz=312
T35B S Sn 03 56 48.9 +2.9
baz=312
OK045 Pawnee Station 3.33 139 Pn Pn 03 56 10.6 +1.1
OK051 E0350 and S346 3.33 138 Pn Pn 03 56 10.1 +0.5
OK050 Pawnee Station 3.34 140 Pn Pn 03 56 11.0 +1.3
OK048 Pawnee Station 3.34 140 Pn Pn 03 56 10.5 +0.8
OK046 Pawnee Station 3.37 140 Pn Pn 03 56 11.5 +1.3
OK047 Pawnee, Statio 3.41 137 Pn Pn 03 56 12.0 +1.3
CSTR Hydro, Custer 3.43 167 Pn Pn 03 56 12.7 +1.7
OK044 Pawnee Station 3.45 139 Pn Pn 03 56 11.7 +0.5
N35A Tabor 3.57 57 S Sn 03 56 57.2 +2.5
baz=240
OK029 Liberty Lake 3.63 151 Pn Pn 03 56 15.2 +1.5
OK029 IAmb_Lg 03 57 14.1
comp=Z,35nm,0.7s
K31A O'Neill 3.67 10 Pn Pn 03 56 15.7 +1.4
BCOK Bluff Creek, N 3.70 154 Pn Pn 03 56 16.6 +2.0
BCOK IAmb_Lg 03 57 18.4
comp=Z,75nm,0.8s
OK031 S. Brethren Rd 3.76 143 Pn Pn 03 56 16.8 +1.4
OK034 N. Norfolk Rd. 3.78 141 Pn Pn 03 56 16.8 +1.1
OK025 Westminster Rd 3.87 151 Pn Pn 03 56 18.6 +1.7
OK025 IAmb_Lg 03 57 21.9
comp=Z,41nm,0.8s
DEOK Depew 4.01 141 Pn Pn 03 56 20.6 +1.6
DEOK IAmb_Lg 03 57 24.2
comp=Z,14nm,1.0s
FNO Franklin 4.14 154 Pn Pn 03 56 22.3 +1.7
T25A Trinidad 4.22 245 Pn 03 56 23.1 +1.1
T25A Trinidad 4.22 245 P Pn 03 56 23.1 +1.1
baz=62
WMOK Wichita Mounta 4.31 171 Pn Pn 03 56 24.3 +1.3
WMOK IAmb_Lg 03 57 36.7
comp=Z,28nm,0.9s
WMOK Wichita Mounta 4.31 171 P Pn 03 56 24.4 +1.3
baz=352,SNR=6.6
WMOK S Sn 03 57 14.3 +1.3
baz=352
Q24A Divide 4.31 271 Pn Pn 03 56 24.6 +1.3
Q24A IAmb_Lg 03 57 39.9
comp=Z,33nm,0.8s
Q24A Divide 4.31 271 P Pn 03 56 25.1 +1.8
baz=88
TUL1 Leonard 4.33 134 Pn Pn 03 56 24.7 +1.3
TUL1 IAmb_Lg 03 57 47.2
comp=Z,52nm,0.8s
TUL1 Leonard 4.33 134 P Pn 03 56 24.6 +1.2
baz=317
TUL1 Leonard 4.33 134 P Pn 03 56 24.6 +1.3
baz=317,SNR=5.8
AMTX Amarillo 4.43 203 S Sn 03 57 19.1 +3.0
baz=22
RLO Rose Lookout 4.62 126 Pn Pn 03 56 28.2 +1.0
RLO IAmb_Lg 03 57 55.6
comp=Z,46nm,0.9s
X34A Smith Ranch, M 4.62 161 Pn Pn 03 56 29.0 +1.7
ISCO Idaho Springs 4.71 282 Pn Pn 03 56 31.0 +2.2
ISCO IAmb_Lg 03 57 54.4
comp=Z,44nm,0.8s
ISCO Idaho Springs 4.71 282 P Pn 03 56 30.8 +2.0
baz=98,SNR=14
ISCO S Sn 03 57 24.4 +1.0
baz=98
P38A Dawn 4.76 81 Pn Pn 03 56 30.6 +1.4
P38A IAmb_Lg 03 57 57.0
comp=Z,46nm,0.8s
SDCO Great Sand Dun 4.79 257 Pn Pn 03 56 32.1 +2.1
SDCO IAmb_Lg 03 57 52.1
comp=Z,29nm,0.8s
SDCO Great Sand Dun 4.79 257 P Pn 03 56 32.0 +2.1
baz=73
U38A Gravette 4.87 120 Pn Pn 03 56 32.0 +1.3
U38A IAmb_Lg 03 57 53.2
comp=Z,32nm,0.8s
PHWY Pilot Hill 5.03 299 Pn Pn 03 56 34.4 +1.2
S39A Bolivar 5.12 103 IAmb_Lg 03 58 06.8
comp=Z,38nm,0.9s
N23A Red Feather La 5.22 293 Pn Pn 03 56 37.4 +1.6
N23A Red Feather La 5.22 293 P Pn 03 56 37.2 +1.4
baz=109,SNR=5.1
N23A S Sn 03 57 36.7 +1.0
baz=109
ECSD EROS Data Cent 5.24 25 Pn Pn 03 56 37.1 +1.4
ECSD IAmb_Lg 03 58 01.4
comp=Z,30nm,0.8s
ECSD EROS Data Cent 5.24 25 P Pn 03 56 36.9 +1.2
baz=206,SNR=12
ECSD S Sn 03 57 35.1 -0.6
baz=206
HHAR Hobbs 5.26 119 Pn Pn 03 56 36.5 +0.5
HHAR IAmb_Lg 03 58 10.1
comp=Z,23nm,0.8s
LOOK Love County 5.37 158 Pn Pn 03 56 38.8 +1.2
LOOK IAmb_Lg 03 58 13.8
comp=Z,51nm,0.7s
SUSD Miller 5.46 5 P Pn 03 56 39.4 +0.7
baz=185
SUSD S Sn 03 57 41.5 +0.3
baz=185
X37A Clayton 5.57 141 Pn Pn 03 56 41.6 +1.4
X37A IAmb_Lg 03 58 19.5
comp=Z,44nm,0.8s
MSTX Muleshoe 5.63 208 IAmb_Lg 03 58 28.3
comp=Z,23nm,0.8s
MSTX Muleshoe 5.63 208 S Sn 03 57 47.4 +1.6
baz=26
SCIA State Center 5.68 57 IAmb_Lg 03 58 18.7
comp=Z,28nm,0.9s
SMCO Snowmass 5.73 274 Pn Pn 03 56 44.9 +2.0
SMCO IAmb_Lg 03 58 32.5
comp=Z,34nm,0.9s
R40A Maddies Statio 5.79 95 Pn Pn 03 56 44.6 +1.2
P40A Paris 5.89 83 Pn Pn 03 56 45.8 +1.0
P40A IAmb_Lg 03 58 28.9
comp=Z,41nm,0.8s
Z35A Perchaven, San 5.97 161 Pn Pn 03 56 47.3 +1.4
MGMO Mountain Grove 6.08 105 IAmb_Lg 03 58 31.3
comp=Z,34nm,0.8s
RSSD Black Hills 6.09 328 Pn Pn 03 56 49.2 +1.5
RSSD IAmb_Lg 03 58 41.0
comp=Z,18nm,0.7s
RSSD Black Hills 6.09 328 P Pn 03 56 49.7 +2.0
baz=145
K38A Parkersburg 6.34 53 IAmb_Lg 03 58 47.8
comp=Z,20nm,0.8s
ABTX Abilene, Hawle 6.37 180 IAmb_Lg 03 58 49.8
comp=Z,22nm,0.8s
RWWY Rawlins 6.39 297 Pn Pn 03 56 52.6 +0.7
RWWY IAmb_Lg 03 58 57.2
comp=Z,18nm,0.8s
MIAR Mount Ida 6.58 131 IAmb_Lg 03 58 48.2
comp=Z,25nm,1.1s
MIAR Mount Ida 6.58 131 P Pn 03 56 55.5 +1.4
baz=315
MIAR S Sn 03 58 08.9 0.0
baz=315
CCM Cathedral Cave 6.63 96 S Sn 03 58 08.1 -2.0
baz=281
FCAR Ozark Folk Cen 6.72 115 Pn Pn 03 56 56.6 +0.5
FCAR IAmb_Lg 03 59 00.9
comp=Z,26nm,1.0s
O20A White River Ci 6.76 282 Pn Pn 03 56 59.5 +2.7
O20A IAmb_Lg 03 59 12.2
comp=Z,18nm,0.8s
Z38A Mt. Pleasant 6.85 145 IAmb_Lg 03 59 00.7
comp=Z,27nm,0.7s
WHAR Wooly Hollow 6.92 120 Pn Pn 03 57 00.2 +1.3
WHAR IAmb_Lg 03 59 10.4
comp=Z,34nm,0.7s
N41A Harden Midland 6.95 73 IAmb_Lg 03 59 07.5
comp=Z,30nm,0.8s
PV15 Paradox Valley 6.97 267 Pn Pn 03 57 01.6 +1.8
L40A Anamosa 7.08 62 IAmb_Lg 03 59 03.0
comp=Z,22nm,1.0s
PV07 Paradox Valley 7.09 268 IAmb_Lg 03 59 04.4
comp=Z,15nm,0.9s
F33A 5 Mile Ranch, 7.26 19 IAmb_Lg 03 59 13.7
comp=Z,18nm,0.9s
LCAR Lake Charles 7.33 111 IAmb_Lg 03 59 07.9
comp=Z,23nm,0.9s
WLAR White Oak Lake 7.46 133 IAmb_Lg 03 59 34.8
comp=Z,31nm,1.2s
SPMN Marine on St. 8.01 37 IAmb_Lg 03 59 29.0
comp=Z,16nm,0.9s
CGM3 Cape Girardeau 8.03 99 IAmb_Lg 03 59 32.4
comp=Z,26nm,0.8s
JFWS Jewell Farm 8.09 58 IAmb_Lg 03 59 45.1
comp=Z,22nm,0.8s
L42A Oliver, Polo 8.15 65 IAmb_Lg 03 59 38.1
comp=Z,22nm,0.8s
F36A Milaca 8.20 31 IAmb_Lg 03 59 35.5
comp=Z,18nm,1.2s
D32A Dogwood Acres, 8.35 12 IAmb_Lg 03 59 48.8
comp=Z,21nm,0.8s
PDAR Pinedale Array 8.42 300 Pn Pn 03 57 19.5 -0.1
comp=Z,0.8nm,0.3s,baz=111,slow=17,SNR=18
PDAR Sn Sn 03 58 51.6 -2.8
comp=Z,0.5nm,0.3s,baz=115,slow=17,SNR=4.0
PDAR Lg Lg 03 59 35.5
comp=Z,0.1nm,0.3s,baz=118,slow=38,SNR=1.8
BW06 Boulder Array 8.42 300 P Pn 03 57 20.3 +0.7
baz=113
MDND Maddock 8.84 0 IAmb_Lg 04 00 13.9
comp=Z,24nm,0.8s
143A Socs Landing, 9.16 131 IAmb_Lg 04 00 23.0
comp=Z,19nm,0.8s
AGMN Agassiz Nation 9.68 15 P Pn 03 57 36.3 -0.3
baz=198
TXAR Lajitas Array 10.21 200 Pn Pn 03 57 42.8 -1.4
comp=Z,0.2nm,0.4s,baz=28,slow=11,SNR=13
TXAR Pg 03 58 24.8
comp=Z,0.3nm,0.3s,baz=16,slow=15,SNR=10
TXAR Sn Sn 03 59 32.7 -5.7
comp=Z,0.2nm,0.3s,baz=27,slow=14,SNR=1.3
TXAR Lg Lg 04 00 32.4
comp=Z,0.2nm,0.3s,baz=15,slow=28,SNR=2.4
ULM Lac du Bonnet 11.55 12 Pn Pn 03 57 56.2 -6.1
comp=Z,0.1nm,0.3s,baz=176,slow=15,SNR=1.2
ULM Sn Sn 04 00 00.2 -11
baz=211,slow=15
ULM Lg Lg 04 01 15.1
comp=Z,0.3nm,0.3s,baz=180,slow=10,SNR=3.0
comp=Z,0.6nm,0.3s

*IDC **16** 05:05:52.1±1.9,9°.47S×159°.48E,h0km,mb3.7/6, mbtmp3.7/6,MS3.2/4,Error ellipse: s-maj=77.0km s-min=29.8km az=138.0*
ISC 16 05:05:56.1±1.6,9°.5S±0°.4×159°.5E±0°.3,h26km,n10, σ1°.09/6,mb3.6/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	12.15	269	LR		LR		05 13 07.6	
comp=Z,138nm,19.2s,baz=103,slow=36									
DZM	Mont Dzumac	14.17	153	LR		LR		05 13 19.3	
comp=Z,84nm,20.9s,baz=31,slow=32									
CTA	Charters Tower	16.54	229	LR		LR		05 14 55.7	
comp=Z,31nm,19.3s,baz=81,slow=33									
WRA	Warramunga Arr	26.39	244	P		P		05 11 31.1	+0.4
0.4nm,0.6s,baz=70,slow=9.3,SNR=3.3									
0.4nm,0.6s									
ASAR	Alice Springs	28.19	237	P		P		05 11 46.6	-0.3
0.2nm,0.3s,baz=61,slow=9.7,SNR=1.5									
0.2nm,0.3s									
SONM	Songino Array	73.86	326	P		P		05 17 29.6	+0.8
0.6nm,0.6s,baz=134,slow=4.2,SNR=2.8									
0.6nm,0.6s									
ILAR	Eielson Array	84.13	20	P		P		05 18 23.3	-1.3
0.5nm,0.7s,baz=248,slow=4.8,SNR=2.1									
0.5nm,0.7s									
MKAR	Makanchi Array	88.22	318	P		P		05 18 44.7	-0.4
0.4nm,0.6s,baz=108,slow=5.9,SNR=5.1									
0.4nm,0.6s									
NVAR	Mina Array Bea	89.82	51	P		P		05 18 54.0	+0.9
0.1nm,0.4s,baz=235,slow=4.3,SNR=1.8									
0.1nm,0.4s									
PFO	Pinyon Flats O	90.31	56	LR		LR		05 51 27.2	
comp=Z,23nm,21.8s,baz=224,slow=30									

*IDC **16** 05:12:23.4±1.5,37°.23N×36°.97E,h0km,mb3.4/3, mbtmp3.6/7,ML3.4/4,MS2.6/4,Error ellipse: s-maj=23.1km s-min=13.9km az=76.0*
*ISK **16** 05:12:23.5,37°.19N×36°.95E,h10km,ML3.8/17*
*DDA **16** 05:12:24.3±0.0,37°.21N×36°.90E,h8km±1km,MW4.0*
*GII **16** 05:12:26.1±0.0,37°.20N×36°.90E,h7km,Mm3.2/1*
ISC 16 05:12:24.6±1.0,37°.20N±0°.02×36°.92E±0°.02,h6km±7km, n77,σ1°.15/111,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HCB	Kahramanmara	0.14	355	P		P	Pg	05 12 27.5	-0.1
HCB				S		Sg		05 12 29.8	+0.2
KAMA	Osmaniye	0.20	265	P		P	Pg	05 12 28.5	-0.2
KAMA				S		Sg		05 12 31.7	+0.2
KMRS	Kahramanmaras	0.30	356	PG		Pg		05 12 30.4	-0.2
KMRS				SG		Sg		05 12 35.5	+0.9
KAHM	Kahramanmaras,	0.32	9	P		Pg		05 12 30.6	-0.3
KAHM				S		Sg		05 12 35.7	+0.6
KUZU	Kuzuini	0.45	164	P		Pg		05 12 33.6	+0.4
KUZU				S		Sb		05 12 40.1	-1.8
GZT	Gaziantep	0.53	73	P		Pg		05 12 34.9	-0.1
GZT				S		Sb		05 12 43.0	-1.6
ANDN	Andirin	0.59	309	P		Pg		05 12 36.0	-0.1
ANDN				S		Sg		05 12 44.1	+0.2
KOZT	Kozan	0.92	288	PG		Pg		05 12 41.7	-0.6
KOZT				SG		Sb		05 12 55.4	0.0
CEYT	Ceyhan	0.96	259	PG		Pg		05 12 43.2	+0.1
CEYT				SG		Sb		05 12 56.9	+0.3
TAHT	Tahtakopru-Hat	1.02	216	PG		Pg		05 12 43.4	-0.7
TAHT				SG		Sb		05 12 57.9	-0.4
SAIM	ADANA	1.02	319	P		Pg		05 12 43.5	-0.8
SAIM				S		Sn		05 13 00.2	-0.1
YURE	YUREGIR	1.10	250	P		Pg		05 12 45.5	-0.3
YURE				S		Sb		05 13 01.2	+0.5
ELBS	KAHRAMANMARAS	1.13	8	P		Pb		05 12 46.3	-0.4
ELBS				S		Sn		05 13 04.0	+0.9
AKO	Adana	1.21	283	P		Pb		05 12 46.9	-1.0
AKO				S		Sg		05 13 03.1	-0.3
SARI	SarD1z-Kayseri	1.27	342	PN		Pn		05 12 47.5	-1.6
YAYL	Yayladag	1.34	210	P		Pb		05 12 49.9	-0.3
YAYL				S		Sb		05 13 07.2	-0.4
AKCD	Akcadag	1.35	36	P		Pb		05 12 49.7	-0.7
AKCD				S		Sn		05 13 08.8	+0.4
SURC	SANLIURFA_SURC	1.39	103	P		Pn		05 12 49.2	-1.4
SURC				S		Sn		05 13 08.2	-1.1
DARE	Darende-Malaty	1.44	18	PN		Pn		05 12 50.9	-0.4
YAHY	KAYSERI_Yahyal	1.52	306	P		Pn		05 12 52.5	-0.1
YAHY				S		Sg		05 13 14.5	+0.8
CUGUR	Gurin_SVAS	1.54	10	P		Pb		05 12 53.4	-0.3
CUGUR				S		Sg		05 13 16.3	+2.0
CMRD	Camardi-Nigde	1.61	287	PN		Pn		05 12 52.7	-1.0
SANL	SANLIURFA_Merk	1.65	90	P		Pn		05 12 53.0	-1.2
SANL				S		Sg		05 13 17.1	-0.6
GULE	Gulek	1.71	273	P		Pn		05 12 54.1	-1.1
GULE				S		Sn		05 13 17.7	+0.1
DED	Mersin	1.72	263	P		Pn		05 12 54.4	-0.7
DED				S		Sn		05 13 17.1	-0.3
BNN	Bunyan	1.85	333	PN		Pn		05 12 56.3	-0.8
HEKM	Malatya_Hekimh	1.86	26	P		Pb		05 12 58.8	-0.4
HEKM				S		Sg		05 13 24.9	+0.4
NIDE	Nigde/Merkez-G	1.88	296	P		Pn		05 12 57.7	+0.2
NIDE				S		Sn		05 13 22.1	+0.5
MERS	Mersin	1.95	261	PN		Pn		05 12 56.6	-1.8
GUNE	Kayseri	1.98	329	P		Pg		05 13 02.1	-0.5
NIG	Nigde	2.05	297	PN		Pn		05 12 59.6	-0.3
CUAYA	Sivas-Altinyay	2.06	356	P		Pb		05 13 01.1	-1.5
CUAYA				S		Sg		05 13 32.8	+1.9
ELZG	Elazig	2.08	51	P		Pn		05 12 59.8	-0.5
ELZG				S		Sg		05 13 30.9	-0.6
CUKAN	kangal_SIVAS	2.15	11	P		Pb		05 13 02.8	-1.3
CUKAN				S		Sg		05 13 35.4	+1.5
ARPR	Arapgir-MALATY	2.19	30	PN		Pn		05 13 00.8	-1.0
KERG	Konya-Eregli	2.24	276	P		Pn		05 13 03.1	+0.6
KERG				S		Sn		05 13 30.7	+0.2
CUSAR	Sarkisla-SIVAS	2.28	347	P		Pn		05 13 02.9	0.0
CUSAR				S		Sg		05 13 36.0	-1.7
AVNS	Nevsehir-Avano	2.29	315	P		Pb		05 13 04.7	-1.8
AVNS				S		Sb		05 13 35.8	+0.7
KIZK	Mersin	2.34	253	PN		Pn		05 13 03.2	-0.5
KIZK	Mersin	2.34	253	P		Pn		05 13 03.7	0.0
KIZK				S		Sn		05 13 31.1	-1.7
KEMA	Kemaliye	2.40	30	P		Pn		05 13 04.7	+0.1
KEMA				S		Sb		05 13 39.1	+0.8
GULA	Gulagac	2.42	299	PN		Pn		05 13 04.8	0.0
SIRC	Yozgat	2.55	327	P		Pb		05 13 08.9	-2.0
SIRC				S		Sb		05 13 43.9	+1.5
SILI	Silifke-Mersin	2.55	252	PN		Pn		05 13 06.2	-0.3
KOZK	Kozakli-Nevseh	2.58	322	PN		Pn		05 13 07.0	0.0
PTK	Pertek	2.58	48	PN		Pn		05 13 06.2	-0.9
YESY	Yesilyurt	2.59	284	PN		Pn		05 13 07.7	+0.4
DYBB	Diyarbakir	2.66	73	PN		Pn		05 13 07.2	-1.0
HACI	Hacifakili, Ak	2.67	340	P		Pn		05 13 08.3	+0.1
HACI				S		Sg		05 13 48.8	-1.5
SVSK	Karacayir	2.71	1	PN		Pn		05 13 08.7	0.0
YOZ	Yozgat	2.74	333	PN		Pn		05 13 09.2	-0.1
GULN	MERSIN_Gulnar	2.90	250	P		Pn		05 13 10.9	-0.5
GULN				S		Sn		05 13 44.3	-2.2
HWQ	Hawqa	3.02	196	eP		Pn		05 13 13.8	+0.6
BHL	Bhannes	3.45	198	eP		Pn		05 13 20.4	+1.4
BRTR	Keskin Array B	3.60	315	Pn		Pn		05 13 21.8	+0.6
1.4nm,0.3s,baz=128,slow=19,SNR=24									
BRTR				Lg		Lg		05 14 19.8	
0.4nm,0.3s,baz=134,slow=28,SNR=2.3									
BRTR				LR		LR		05 15 10.3	
comp=Z,93nm,19.9s,baz=136,slow=46									
5.8nm,0.6s									
DQRL	Deir Qamar	3.66	198	eP		Pn		05 13 23.0	+1.1
CSS	Mathiatis	3.67	234	Pn		Pn		05 13 24.8	+2.8
CSS				Sn		Sn		05 13 56.5	+0.9
QRWL	Qaraoun	3.79	196	eP		Pn		05 13 24.8	+1.1
SHBL	Chebaa	3.96	194	eP		Pn		05 13 26.9	+0.7
NATI	Neve Ativ	4.05	194	Pn		Pn		05 13 28.7	+1.5
GEM	Giv'at Ha'Em	4.12	195	Pn		Pn		05 13 28.4	+0.3
KSHT	Keshet	4.31	193	Pn		Pn		05 13 32.7	+1.9
MMA0	Mount Meron ar	4.36	197	Pn		Pn		05 13 32.1	+0.6
MMAI	Mount Meron Ar	4.36	197	Pn		Pn		05 13 31.3	-0.2
2.5nm,0.3s,baz=21,slow=14,SNR=9.3									
MMAI				Lg		Lg		05 14 42.7	
7.4nm,0.3s,baz=24,slow=25,SNR=2.5									
MMAI				LR		LR		05 15 29.1	
comp=Z,79nm,19.3s,baz=232,slow=42									
5.4nm,0.5s									
MMLI	Mount Malkishu	4.91	195	Pn		Pn		05 13 40.5	+1.4
ASF	Jabal al Asfar	5.02	180	Pn		Pn		05 13 40.1	-0.5
0.7nm,0.3s,baz=356,slow=9.2,SNR=9.3									
ASF				Lg		Lg		05 15 04.1	
4.5nm,0.3s,baz=0.0,slow=20,SNR=4.4									
2.3nm,0.3s									
HMDT	Nahal Hemdat	5.07	194	Pn		Pn		05 13 43.0	+1.8
KRMI	Paran Flat	7.30	195	Pn		Pn		05 14 13.3	+1.4
MBRI	Mt Berech	7.58	193	Pn		Pn		05 14 17.1	+1.4
EIL	Elat	7.69	193	Lg		Lg		05 16 27.4	
0.6nm,0.3s,baz=286,slow=20,SNR=2.2									
IDI	Anoyia	9.91	262	Pn		Pn		05 14 46.2	-1.5
0.8nm,0.3s,baz=39,slow=20,SNR=2.2									
IDI				Sn		Sn		05 16 34.8	-4.4
0.5nm,0.3s,baz=17,slow=16,SNR=1.5									
16nm,0.6s									
CRVS	Cervenica-Dubn	16.22	321	eP		P		05 16 20.4	+4.1
VRAC	Vranov	19.05	316	LR		LR		05 25 36.0	
comp=Z,19nm,18.1s,baz=150,slow=42									
GERES	GERESS Array B	20.49	312	P		P		05 17 02.7	-0.6
0.2nm,0.2s,baz=107,slow=9.6,SNR=1.9									
0.2nm,0.2s									
KEST	Kesra	22.20	275	P		P		05 17 23.4	+1.6
5.3nm,0.9s,baz=72,slow=3.2,SNR=3.1									
5.3nm,0.9s									
NOA	NORSAR Array B	28.83	334	LR		LR		05 32 25.4	
comp=Z,10nm,19.1s,baz=265,slow=42									
MKAR	Makanchi Array	34.63	59	P		P		05 19 14.1	-0.4
0.2nm,0.4s,baz=275,slow=8.7,SNR=2.9									
0.2nm,0.4s									

*IDC **16** 05:18:43.6±0.8,12°.68N×92°.41E,h0km,mb3.9/14, mbtmp3.9/15,ML3.8/1,MS3.1/6,Error ellipse: s-maj=28.7km s-min=17.0km az=46.0*
*NEIC **16** 05:18:49.8±1.8,12°.89N±0°.06×92°.49E±0°.08,h30km±5km, mb4.3/16,Error ellipse: s-maj=12.0km s-min=8.0km az=102.0*
ISC 16 05:18:48.9±0.5,12°.85N±0°.05×92°.49E±0°.08,h31km,n50, σ0°.78/48,mb4.1/20,MS3.4/3,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.21	168			Pb		05 19 10.5	-0.8
PBA				Sn		Sb		05 19 26.8	+0.3
PBA	Port Blair	1.21	168	eP		Pb		05 19 10.4	-0.8
PBA				eS		Sb		05 19 28.5	+2.0
CMAR	Chiang Mai Arr	8.35	47	Pn		Pn		05 20 49.3	+1.4
0.3nm,0.3s,baz=238,slow=15,SNR=6.3									
CMAR				Sn		Sn		05 22 19.8	-1.4
0.6nm,0.3s,baz=211,slow=24,SNR=1.9									
CMAR				LR		LR		05 23 59.3	
comp=Z,27nm,19.0s,baz=215,slow=37									
0.9nm,0.4s									

MND	Mandalay	9.75	20	Pn	Pn	05 21 06.9	-0.2	
PSI	Prapat	11.84	147	LR	LR	05 26 08.6		
	comp=Z,66nm,18.5s,baz=266,slow=38							
PALK	Pallekele	12.86	246	LR	LR	05 27 03.5		
	comp=Z,57nm,19.2s,baz=155,slow=39							
LSA	Lhasa	16.82	356	P	Pn	05 22 41.0	-1.6	
QIZ	Qiongzhong	17.78	68	P	P	05 22 55.4	+0.6	
QIZ				IAmb	IAmb	05 23 10.0		
	comp=Z,30nm,1.4s							
MNCI	Minicoy	19.63	259	P	P	05 23 14.6	-0.5	
ENH	Enshi	23.41	40	P	P	05 23 54.8	-0.6	
ENH				IAmb	IAmb	05 24 03.6		
	comp=Z,7.3nm,0.6s							
NIL	Nilore	27.13	323	P	P	05 24 29.1	-0.3	
NIL				IAmb	IAmb	05 24 39.4		
	comp=Z,5.5nm,1.0s							
H08S3	Diego Garcia H	28.44	225	T	T	05 54 13.1		
	baz=44,slow=75,SNR=28							
H08S2	Diego Garcia H	28.45	225	T	T	05 54 13.9		
	baz=44,slow=75,SNR=21							
H08S1	Diego Garcia H	28.46	225	T	T	05 54 13.8		
	baz=44,slow=75,SNR=8.0							
TWG	Pinlang	28.91	66	P	P	05 24 44.5	-0.8	
YULB	Yu-li	29.26	65	P	P	05 24 49.6	+1.1	
GAR	Garm	32.62	327	P	P	05 25 18.8	+0.7	
BTK	Batken	33.15	329	P	P	05 25 23.9	+1.2	
BTK				IAmb	IAmb	05 25 34.6		
	comp=Z,9.1nm,1.1s							
MK31	Makanchi Array	34.91	348	P	P	05 25 38.2	+0.5	
MKAR	Makanchi Array	34.91	348	P	P	05 25 38.5	+0.7	
	comp=Z,1.6nm,0.7s,baz=163,slow=8.9,SNR=12							
MKAR				PcP	PcP	05 28 09.8	-0.2	
	comp=Z,0.5nm,0.6s,baz=172,slow=4.8,SNR=3.3							
	comp=Z,1.6nm,0.7s							
MKAR	Makanchi Array	34.91	348	P	P	05 25 38.4	+0.6	
KK31	Karatay Array	35.63	332	P	P	05 25 44.9	+1.0	
KK31				IAmb	IAmb	05 25 53.9		
	comp=Z,2.1nm,0.8s							
KKAR	Karatay Array	35.63	332	P	P	05 25 45.1	+1.1	
SONM	Songino Array	36.76	16	P	P	05 25 54.5	+0.8	
SONM				PcP	PcP	05 28 15.8	+0.2	
	comp=Z,0.5nm,0.6s,baz=196,slow=4.1,SNR=2.5							
	comp=Z,1.7nm,0.7s							
SONM	Songino Array	36.76	16	P	P	05 25 54.2	+0.4	
SONM				IAmb	IAmb	05 25 55.8		
	comp=Z,4.1nm,1.3s							
KURBB	Kurchatov Arra	39.36	346	LR	LR	05 45 16.8		
	comp=Z,34nm,18.4s,baz=17,slow=40							
GEYT	Alibeck	39.48	315	P	P	05 26 17.2	+0.5	
	comp=Z,1.3nm,0.5s,baz=116,slow=6.6,SNR=1.9							
	comp=Z,1.3nm,0.5s							
KSRS	Korea Array	39.99	46	P	P	05 26 20.5	-0.3	
	comp=Z,1.4nm,0.8s,baz=244,slow=9.7,SNR=7.5							
	comp=Z,1.4nm,0.8s							
ZAA0	Zalesovo Array	41.45	353	P	P	05 26 33.4	+0.8	
ZAA0				IAmb	IAmb	05 26 34.5		
	comp=Z,6.4nm,1.4s							
ZALV	Zalesovo Beam	41.45	353	P	P	05 26 33.6	+0.9	
	comp=Z,1.3nm,0.6s,baz=167,slow=9.1,SNR=5.7							
	comp=Z,1.3nm,0.6s							
ZALV	Zalesovo Beam	41.45	353	P	P	05 26 33.3	+0.6	
ABKAR	Akbulak array	45.12	330	P	P	05 27 02.2	-0.2	
ABKAR	Akbulak array	45.12	330	P	P	05 27 02.4	0.0	
ABKAR				IAmb	IAmb	05 27 11.9		
	comp=Z,2.8nm,1.1s							
USRK	Ussuriysk Ar.	45.99	40	LR	LR	05 47 55.8		
	comp=Z,40nm,18.7s,baz=146,slow=38							
AKTO	Aktyubinsk	46.84	330	P	P	05 27 16.5	+0.5	
	comp=Z,1.2nm,0.5s,baz=148,slow=12,SNR=3.7							
	comp=Z,1.2nm,0.5s							
WB0	Warramunga Arr	52.46	128	P	P	05 27 59.4	+0.3	
WB0				IAmb	IAmb	05 28 29.9		
	comp=Z,7.0nm,1.3s							
WRA	Warramunga Arr	52.52	128	P	P	05 27 58.6	-1.0	
	comp=Z,0.7nm,0.8s,baz=307,slow=8.2,SNR=8.8							
WRA				PcP	PcP	05 29 09.6	-0.3	
	comp=Z,0.5nm,0.7s,baz=319,slow=3.4,SNR=3.3							
	comp=Z,0.7nm,0.8s							
WRA	Warramunga Arr	52.52	128	P	P	05 27 59.1	-0.5	
ASAR	Alice Springs	54.38	132	P	P	05 28 12.4	-0.9	
	comp=Z,0.4nm,0.5s,baz=304,slow=6.3,SNR=5.9							
	comp=Z,0.4nm,0.5s							
BRTR	Keskin Array B	58.01	309	P	P	05 28 38.3	-0.9	
	comp=Z,1.1nm,0.8s,baz=101,slow=7.5,SNR=6.2							
	comp=Z,1.1nm,0.8s							
FINES	FINESS Array B	67.59	332	P	P	05 29 42.3	0.0	
	comp=Z,2.0nm,0.7s,baz=64,slow=6.3,SNR=4.8							
	comp=Z,2.0nm,0.7s							
GERES	GERESS Array B	73.07	317	P	P	05 30 16.5	+0.2	
	comp=Z,0.4nm,0.4s,baz=84,slow=9.1,SNR=5.8							
	comp=Z,0.4nm,0.4s							
HFS	Hagfors	73.37	329	P	P	05 30 17.5	-0.1	
	comp=Z,1.9nm,0.7s,baz=127,slow=4.5,SNR=4.8							
	comp=Z,1.9nm,0.7s							
NB2	NORSAR Subarra	74.63	330	P	P	05 30 24.6	-0.5	
	comp=Z,1.8nm,0.8s,baz=90,slow=5.9							
NOA	NORSAR Array B	74.63	330	P	P	05 30 24.5	-0.6	
	comp=Z,0.8nm,0.7s,baz=91,slow=5.8,SNR=5.2							
	comp=Z,0.8nm,0.7s							
TSUM	Tsumeb	80.34	248	LR	LR	06 03 21.8		
	comp=Z,22nm,18.9s,baz=355,slow=33							
ILAR	Eielson Array	90.76	22	P	P	05 31 48.5	-0.3	
	comp=Z,0.6nm,0.7s,baz=305,slow=5.1,SNR=5.3							
	comp=Z,0.6nm,0.7s							
PDAR	Pinedale Array	121.08	19	PKP	PKPdf	05 37 39.1	-0.1	
	comp=Z,0.2nm,0.7s,baz=46,slow=3.9,SNR=1.8							
NVAR	Mina Array Bea	121.42	28	PKP	PKiKP	05 37 40.2	+0.2	
	comp=Z,0.3nm,0.5s,baz=296,slow=2.9,SNR=4.5							
TXAR	Lajitas Array	135.26	20	PKP	PKiKP	05 38 07.5	-0.4	
	comp=Z,0.2nm,0.5s,baz=305,slow=3.2,SNR=4.2							

*VAO **16** 05:19:22.7±0.7, 17°.55S×69°.85W, h140km±6km, mb4.1*
*IDC **16** 05:19:25.7±1.4, 17°.52S×69°.53W, h152km±11km, mb3.4/5, mbtmp4.0/8, Error ellipse: s-maj=20.2km s-min=17.3km az=129.0*

ISC 16 05:19:24.3±0.7, **17°.54S**±0°.06×**69°.65W**±0°.06, **h152**km, **n41**, σ1**9**/**86**/45, **mb3.7**/4, **Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LPAZ	La Paz	1.92	50	P		Pn	05 20 01.5	+2.2
	279nm,0.4s,baz=243,slow=6.8,SNR=2634							
LPAZ				S		Sn	05 20 25.2	-0.8
	31nm,0.6s,baz=134,slow=20,SNR=1.4							
LVC	Limon Verde	5.09	172	P		Pn	05 20 39.9	+0.6
	16nm,0.3s,baz=0.2,slow=8.7,SNR=62							
LVC				S		Sn	05 21 33.9	-3.9
	47nm,0.3s,baz=328,slow=10,SNR=49							
LVC	Limon Verde	5.09	172	eP		Pn	05 20 38.6	-0.7
SIV	San Ignacio	8.36	81	P		Pn	05 21 20.9	-1.7
	8.3nm,0.4s,baz=266,slow=11,SNR=80							
SIV				S		Sn	05 22 49.0	-6.8
	5.0nm,0.8s,baz=307,slow=20,SNR=4.6							
ETMB	Extrema	8.37	24	eP		Pn	05 21 22.6	-0.2
NNA	Nana	8.88	307	P		Pn	05 21 30.5	+1.0
	4.2nm,0.3s,baz=127,slow=14,SNR=5.5							
NNA				S		Sn	05 23 02.7	-5.5
	2.4nm,0.3s,baz=52,slow=21,SNR=1.9							
VILB	Vilhena	10.20	65	eP		Pn	05 21 46.6	-0.5
TBTG	Tabatinga, AM	13.28	359	eP		Pn	05 22 24.9	-2.2
SALV	Santo Antonio	13.47	85	eP		Pn	05 22 31.3	+1.7
AQDB	Aquidauana	13.52	105	eP		Pn	05 22 31.1	+1.0
PDRB	Porto dos Gac	13.82	67	eP		Pn	05 22 35.5	+1.5
CLDB	Colider	14.97	66	eP		P	05 22 50.4	+0.1
TRCB	Terra Rica	16.81	111	eP		Pn	05 23 11.8	+0.9
ITQB	Itaqui	16.96	138	eP		P	05 23 13.0	+1.0
NPGB	Novo Progresso	17.42	55	eP		P	05 23 18.1	+0.8
CRSM	Crissiumal (Br	17.48	127	eP		P	05 23 18.6	+0.8
FRBT	Francisco Belt	17.53	121	eP		P	05 23 19.3	+0.8
UNIS	Unistalda (Bra	17.61	133	eP		P	05 23 19.7	+0.5
PCMB	Pacaembu	17.80	106	eP		Pn	05 23 22.9	+0.2
RODS	Rosario do Sul	18.34	137	eP		P	05 23 28.0	+0.8
ITRB	Iturama	18.41	100	eP		P	05 23 29.4	+1.3
SNDB	Serra Nova Dou	18.59	75	eP		P	05 23 30.9	+0.9
ITTB	Itaituba	18.90	48	eP		P	05 23 33.9	+0.5
ALGR	Alto Alegre (B	18.93	129	eP		P	05 23 33.5	-0.2
CPSB	Cacapava Do Su	19.55	134	eP		P	05 23 40.3	-0.1
BB19B	Bebedouro	20.24	103	eP		P	05 23 47.6	-0.3
PLTB	Pedras Altas	20.29	137	eP		P	05 23 48.0	-0.3
IPMB	Ipameri, GO	20.43	95	eP		P	05 23 51.6	+1.7
BDFB	Brasilia	20.82	88	P		P	05 23 55.5	+1.3
	1.3nm,0.3s,baz=236,slow=3.6,SNR=6.8							
	1.3nm,0.3s							
BDFB	Brasilia	20.82	88	eP		P	05 23 55.5	+1.3
TRQA	Tornquist	21.52	163	eP		P	05 24 00.7	-0.7
PMNB	Patos De Minas	22.10	96	eP		P	05 24 09.3	+1.7
PLCA	Paso Flores	23.12	182	P		P	05 24 19.2	+2.2
	1.4nm,0.8s,baz=345,slow=10,SNR=4.0							
	1.4nm,0.8s							
SMTB	Santa Maria do	23.13	71	eP		P	05 24 18.5	+1.2
SDBA	SAO DESIDERIO	24.44	81	eP		P	05 24 29.9	+0.7
JANB	Januaria	24.44	88	eP		P	05 24 30.4	+1.1
MC01	Montes Claros	24.58	92	eP		P	05 24 31.7	+1.1
DIAM	Diamantina, MG	24.73	96	eP		P	05 24 33.0	+1.0
TXAR	Lajitas Array	57.01	324	P		P	05 28 56.7	+2.3
	0.1nm,0.6s,baz=156,slow=8.9,SNR=2.3							
	0.1nm,0.6s							
DBIC	Dimbokro	68.35	75	P		P	05 30 10.1	+0.3
	2.8nm,0.5s,baz=264,slow=6.8,SNR=6.1							
	2.8nm,0.5s							
TORD	Torodi Ar. Bea	76.73	71	P		P	05 30 59.8	+0.4
	1.8nm,0.6s,baz=256,slow=5.5,SNR=12							
	1.8nm,0.6s							

*IDC **16** 05:44:27.0±1.3, 7°.45S×128°.10E, h160km±11km, mb4.0/15, mbtmp4.5/18, MS3.1/6, Error ellipse: s-maj=12.9km s-min=9.1km az=99.0*
*NEIC **16** 05:44:27.3±2.1, 7°.57S±0°.07×128°.21E±0°.05, h166km±8km, mb4.7/35, Error ellipse: s-maj=11.4km s-min=5.7km az=160.0*
*DJA **16** 05:44:27.7±0.2, 8°.S±2°×12°.8E±°, h144km±3km, M4.7/24, mb4.8/24, mB5.1/13, MLv5.1/13, Mw(mB)4.5/13, MwMwp4.5/1, Mwp4.9/1*

ISC 16 05:44:25.5±0.3, **7°.61S**±0°.04×**128°.17E**±0°.04, **h150**km, **n182**, σ2**9**/**09**/192, **mb4.5**/38, **2C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SAUI	Saumlaki	3.12	97	Pn		Pn	05 45 17.5	+3.0
SAUI	Saumlaki	3.12	97	P		Pn	05 45 18.4	+3.9
SAUI				S		Sn	05 45 52.7	+0.4
SAUI	Saumlaki	3.12	97	Pn		Pn	05 45 19.4	+4.9
BNDI	Bandanaira	3.52	29	P		Pn	05 45 22.9	+3.3
BNDI	Bandanaira	3.52	29	P		Pn	05 45 23.1	+3.5
AAI	Ambon	3.90	0	P		Pn	05 45 28.1	+3.6
AAI				S		Sn	05 46 12.4	+2.1
SOEI	Soe	4.41	241			Pn	05 45 34.1	+2.8
SOEI	Soe	4.41	241	P		Pn	05 45 34.3	+3.0
SOEI				S		Sn	05 46 23.2	+0.7
NLAI	Namlea	4.47	346	P		Pn	05 45 36.6	+4.6
BATI	Baumata	5.15	240	P		Pn	05 45 44.3	+3.3
	402nm,0.4s,baz=82,slow=7.1,SNR=45							
BATI				S		Sn	05 46 41.4	+1.5
	1μm,0.6s,baz=136,slow=4.7,SNR=14							
BATI				LR		LR	05 47 08.6	
	comp=Z,269nm,20.3s,baz=314,slow=31							
BATI	Baumata	5.15	240	P		Pn	05 45 44.0	+3.0
	3.2nm6μm307nm,0.5s							
BATI				S		Sn	05 46 40.3	+0.5
	3.2nm6μm307nm,0.5s							
SANI	Sanana	5.94	338	P		Pn	05 45 55.0	+3.6
	0.2nm623nm35nm,0.6s							
MTN	Manton Dam	5.96	151	P		Pn	05 45 54.3	+2.5
	baz=6.0,SNR=198							
MTN				S		Sn	05 46 58.1	-1.1
	baz=6.0							
MTN	Manton Dam	5.96	151	Pn		Pn	05 45 53.8	+2.0
MTN	Manton Dam	5.96	151	P		Pn	05 45 54.7	+2.9
FAKI	Fak Fak	6.18	41	Pn		Pn	05 45 55.7	+1.0
FAKI	Fak Fak	6.18	41	P		Pn	05 45 54.6	-0.1
EDFI	Ende, Flores	6.51	260	P		Pn	05 46 02.4	+3.1
	0.1nm440nm21nm,0.9s							
KDU	Kakadu	6.59	140	P		Pn	05 46 02.4	+2.3
	baz=6.6,SNR=958							
KDU	Kakadu	6.59	140	P		Pn	05 46 02.8	+2.7
SIJI	Sorong	7.37	25	P		Pn	05 46 11.5	+0.9
	39nm,0.3s,baz=177,slow=14,SNR=29							
SIJI				S		Sn	05 47 30.4	-2.7
	37nm,0.3s,baz=227,slow=12,SNR=14							
SWI	Sorong	7.37	25	P		Pn	05 46 11.9	+1.3
	0.8nm2μm2μm82nm,0.6s							
KNRA	Kununurra	8.04	176	P		Pn	05 46 21.0	+1.5
	baz=8.0,SNR=278							
KNRA				S		Sn	05 47 44.3	-4.8
	baz=8.0							
KNRA	Kununurra	8.04	176	Pn		Pn	05 46 20.4	+0.9
KNRA	Kununurra	8.04	176	P		Pn	05 46 21.4	+1.9
KAPI	Kappang	8.76	287	LR		LR	05 49 41.1	
	comp=Z,41nm,21.7s,baz=103,slow=36							
GTOI	Gorontalo	9.67	328	P		Pn	05 46 47.4	+6.1
	14nm,0.7s							
MRSI	Marisa	10.15	322	P		Pn	05 47 02.9	+15
PLAI	Plampang	10.36	263	P		Pn	05 46 50.2	-0.2
	46nm,0.7s							
PLAI	Plampang	10.36	263	P		Pn	05 46 49.6	-0.8
FITZ	Fitzroy Crossi	10.71	193	P		Pn	05 46 54.6	-0.4
	77nm,0.6s,baz=28,slow=11,SNR=169							
FITZ				S		Sn	05 48 47.0	-6.5
	99nm,0.4s,baz=85,slow=16,SNR=10							
FITZ				LR		LR	05 52 12.9	
	comp=Z,86nm,20.5s,baz=3.5,slow=43							
FITZ	Fitzroy Crossi	10.71	193	P		Pn	05 46 54.3	-0.7
	baz=11,SNR=314							
FITZ	Fitzroy Crossi	10.71	193	Pn		Pn	05 46 54.2	-0.8
FITZ	Fitzroy Crossi	10.71	193	P		Pn	05 46 54.6	-0.4
TOLI2	Tolitoli	11.37	319	Pn		P	05 47 08.3	-3.2
TOLI2	Tolitoli	11.37	319	P		Pn	05 47 04.3	+0.6
SGSI	Sangihe	11.53	347	P		P	05 47 10.2	-3.0
	5μm241nm,0.8s							
WB0	Warramunga Arr	13.51	154			Pn	05 47 30.0	-1.3
WRA	Warramunga Arr	13.64	155	P		Pn	05 47 31.7	-1.3
	52nm,0.8s,baz=327,slow=13,SNR=179							
WRA				S		Sn	05 49 56.6	-7.5
	200nm,0.9s,baz=326,slow=24,SNR=15							
BBKI	Banjar Baru	13.89	287	P		P	05 47 41.7	+2.2
	5μm43nm,0.7s							
MBWA	Marble Bar	15.75	210			P	05 47 59.5	-0.6
MBWA				IAmb		IAmb	05 48 03.2	
	comp=Z,44nm,1.1s							
MBWA	Marble Bar	15.75	210	P		P	05 47 59.8	-0.3
COEN	Coen	16.03	114	P		P	05 48 05.7	+2.4
	baz=16,SNR=16							
COEN	Coen	16.03	114			P	05 48 03.0	-0.3
COEN				IAmb		IAmb	05 48 19.8	
	comp=Z,22nm,1.1s							
COEN	Coen	16.03	114	P		P	05 48 06.1	+2.9
PSA00	Pilbara Seismi	16.04	209	P		P	05 48 03.1	-0.2
PSA00	Pilbara Seismi	16.04	209	P		Pn	05 48 02.2	-0.6
PSA00				IAmb		IAmb	05 48 05.9	
	comp=Z,27nm,1.1s							
PSA00	Pilbara Seismi	16.04	209	P		P	05 48 03.1	-0.2
AS31	Alice Springs	16.89	162	Pn		Pn	05 48 14.8	+1.6
ASAR	Alice Springs	16.89	162	P		Pn	05 48 14.2	+1.1
	comp=Z,138nm,0.6s,baz=341,slow=10,SNR=1158							
ASAR				S		S	05 51 15.7	-5.4
	comp=Z,24nm,0.6s,baz=344,slow=26,SNR=8.4							
ASAR				ScP		ScP	05 56 09.8	-2.5
	comp=Z,2.3nm,0.6s,baz=3.8,slow=5.6,SNR=2.4							
ASAR	Alice Springs	16.89	162	P		Pn	05 48 14.0	+0.8
QIS	Mount Isa	16.98	140	P		Pn	05 48 16.1	+1.9
	baz=17,SNR=32							
QIS				S		S	05 51 15.9	-7.2
	baz=17							
QIS	Mount Isa	16.98	140	P		Pn	05 48 16.4	+2.2
WRKA	Warakurna	17.33	180	P		Pn	05 48 19.7	+1.2
	baz=17,SNR=179							
WRKA				S		S	05 51 24.1	-6.5
	baz=17							
WRKA	Warakurna	17.33	180	P		Pn	05 48 20.1	+1.6
KKM	Kota Kinabalu	18.06	318	P		Pn	05 48 27.5	+0.2
KKM				IAmb		IAmb	05 48 37.9	
	comp=Z,43nm,1.0s							
KKM	Kota Kinabalu	18.06	318	P		Pn	05 48 27.3	0.0
STKI	Sintang	18.31	294	P		Pn	05 48 31.0	+0.9
	comp=Z,64nm,0.8s							
SBUM	Sibu	18.79	302	P		Pn	05 48 36.1	+0.3
SBUM				IAmb		IAmb	05 48 37.6	
	comp=Z,70nm,1.3s							
PMG	Port Moresby	18.86	97	P		Pn	05 48 37.8	+1.2
	comp=Z,13nm,0.4s,baz=255,slow=9.1,SNR=6.4							
PMG				S		S	05 51 59.5	-1.6
	comp=Z,9.7nm,0.8s,baz=144,slow=21,SNR=1.5							
PMG	Port Moresby	18.86	97	P		Pn	05 48 39.6	+3.0
MTSU	Mount Surprise	18.88	125	P		Pn	05 48 37.6	+0.7
	baz=19,SNR=17							
GIRL	Giralia	20.08	220	P		P	05 48 47.3	-0.1
	baz=20,SNR=5.3							
GIRL	Giralia	20.08	220	P		P	05 48 48.4	+0.9
MEEK	Meekatharra	20.99	205	P		P	05 48 58.5	+1.3
	baz=21,SNR=53							
MEEK	Meekatharra	20.99	205	P		P	05 48 58.4	+1.2
OOD	Oodnadatta	21.30	161	P		P	05 49 02.5	+2.0
CTA	Charters Tower	21.47	127	P		P	05 49 04.8	+2.4
	comp=Z,5.1nm,0.8s,baz=300,slow=9.2,SNR=4.3							
	comp=Z,5.1nm,0.8s							
FORT	Forrest	23.05	180	P		P	05 49 19.7	+2.0
	baz=23,SNR=15							
FORT	Forrest	23.05	180	P		P	05 49 18.8	+1.0
FORT	Forrest	23.05	180	P		P	05 49 20.0	+2.2
MULG	Mulgathing	23.22	167	P		P	05 49 21.8	+2.4
MORW	Morawa	24.21	207	P		P	05 49 31.0	+2.6
	baz=24,SNR=9.1							
MORW	Morawa	24.21	207	P		P	05 49 29.9	+1.5
MORW	Morawa	24.21	207	P		P	05 49 31.0	+2.6
QLP	Quilpie	24.27	143	P		P	05 49 31.3	+2.3
	baz=24,SNR=5.6							
QLP	Quilpie	24.27	143	P		P	05 49 32.0	+3.0
LCRK	Leigh Creek	24.59	159	P		P	05 49 34.8	+3.0
BLDU	Ballidu	25.28	204	P		P	05 49 42.0	+3.9
	baz=25,SNR=18							
BLDU	Ballidu	25.28	204	P		P	05 49 39.3	+1.2
KLBR	Kellerberrin	25.77	201	P		P	05 49 44.1	+1.7
BBOO	Buckleboo	26.12	165	P		P	05 49 47.6	+2.0
	baz=26,SNR=12							
BBOO	Buckleboo	26.12	165	P		P	05 49 48.0	+2.3
MUN	Mundaring	26.69	203	P		P	05 49 55.6	+5.0
	baz=27,SNR=5.6							
MUN	Mundaring	26.69	203	P		P	05 49 52.7	+2.0
NWAO	Narrogin (SRO)	27.16	200	P		P	05 49 56.0	+1.1
	comp=Z,8.9nm,0.7s,baz=36,slow=13,SNR=5.8							
NWAO				LR		LR	06 00 42.4	
	comp=Z,74nm,19.1s,baz=354,slow=36							
	comp=Z,8.9nm,0.7s							
NWAO	Narrogin (SRO)	27.16	200	P		P	05 49 56.4	+1.4
	baz=27,SNR=4.4							
NWAO				P		P	05 49 56.4	+1.4
	baz=27,SNR=4.4							
NWAO	Narrogin (SRO)	27.16	200	P		P	05 49 56.3	+1.4
STKA	Stephens Creek	27.20	154	P		P	05 49 56.5	+1.3
	comp=Z,5.5nm,0.6s,baz=330,slow=8.9,SNR=18							
	comp=Z,5.5nm,0.6s							
STKA	Stephens Creek	27.20	154	P		P	05 49 57.3	+2.0
	baz=27,SNR=8.0							
STKA	Stephens Creek	27.20	154	P		P	05 49 56.4	+1.2
STKA	Stephens Creek	27.20	154	P		P	05 49 57.4	+2.2
HTT	Hallett	27.56	160	P		P	05 50 01.0	+2.5
	baz=28,SNR=8.4							
HTT	Hallett	27.56	160	P		P	05 50 00.9	+2.4
CMSA	Cobar Meteorol	28.88	148	P		P	05 50 12.5	+2.2
	baz=29,SNR=51							
CMSA	Cobar Meteorol	28.88	148	P		P	05 50 12.6	+2.4
RPSI	Rantau Prapat	30.92	288	P		P	05 50 28.1	-0.4
RPSI				IAmb		IAmb	05 50 30.7	
	comp=Z,18nm,0.9s							
ARPS	Mount Arapiles	31.59	159	P		P	05 50 36.9	+3.0
	baz=32,SNR=18							
ARPS	Mount Arapiles	31.59	159	P		P	05 50 37.0	+3.0
YOJ	Yonaguni jima	32.27	351	P		P	05 50 40.4	+0.3
YOJ	Yonaguni jima	32.27	351	P		P	05 50 43.5	+3.4
CAN	Canberra	33.55	148	P		P	05 50 54.5	+3.3
CMAR	Chiang Mai Arr	38.76	312	P		P	05 51 35.5	-0.2
	comp=Z,3.6nm,0.8s,baz=142,slow=6.9,SNR=22							
CMAR				PcP		PcP	05 53 43.5	-0.8
	comp=Z,1.4nm,0.8s,baz=173,slow=3.0,SNR=6.2							
	comp=Z,3.6nm,0.8s							
CMAR	Chiang Mai Arr	38.76	312	P		P	05 51 35.8	+0.1
CRAI	Chiangrai	38.90	316	P		P	05 51 36.7	-0.1
CRAI				IAmb		IAmb	05 51 38.8	
	comp=Z,9.2nm,1.1s							
NOUC	Port Laguerre	39.44	116	P		P	05 51 44.0	+2.8
YATNC	Mamie plateau,	39.95	115	P		P	05 51 48.9	+3.4
NJ2	Nanjing	40.43	348	eP		P	05 51 53.6	+4.4
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
KMI	Kunming	40.89	324	⇓P		P	05 51 54.8	+1.4
KMI				pmax		pmax		
	comp=Z,7.0nm,1.2s							
PZH	PanZhiHua	42.52	324	P		P	05 52 11.0	+4.5
PZH				pmax		pmax		
	comp=Z,9.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,5.1s							
KSAR	Wonju Array Be	44

KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	**Makanchi Array**	**67.75**	**328**	P	**P**	**05 55 06.2**	**-0.8**
MKAR	**Makanchi Array**	**67.75**	**328**	P	**P**	**05 55 06.3**	**-0.7**
	comp=Z,2.7nm,0.4s,baz=116,slow=8.5,SNR=40						
	comp=Z,2.7nm,0.4s						
MKAR	**Makanchi Array**	**67.75**	**328**	P	**P**	**05 55 05.5**	**-1.5**
YAK	**Yakutsk**	**69.44**	**1**	P	**P**	**05 55 16.3**	**-0.8**
KBL	**Kabul**	**69.78**	**311**	P	**P**	**05 55 18.8**	**-1.3**
AAK	**Ala-Archa**	**69.85**	**321**	P	**P**	**05 55 20.1**	**-0.1**
GAR	**Garm**	**70.82**	**316**	P	**P**	**05 55 25.3**	**-0.9**
GAR				IAmb	IAmb	05 55 26.6	
	comp=Z,8.6nm,0.9s						
ZAA0	**Zalesovo Array**	**71.34**	**335**	P	**P**	**05 55 28.0**	**-0.8**
ZALV	**Zalesovo Beam**	**71.34**	**335**	P	**P**	**05 55 28.2**	**-0.5**
CHGR	**Chuyangaron**	**71.47**	**315**	P	**P**	**05 55 29.0**	**-1.1**
CHGR				IAmb	IAmb	05 55 30.0	
	comp=Z,18nm,1.0s						
VNDA	**Vanda**	**72.07**	**173**	P	**P**	**05 55 34.4**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=318,slow=8.3,SNR=6.3						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**72.10**	**329**	P	**P**	**05 55 32.7**	**-0.7**
KURK				IAmb	IAmb	05 55 33.8	
	comp=Z,17nm,0.9s						
KK31	**Karatay Array**	**72.61**	**320**	P	**P**	**05 55 36.2**	**-0.5**
KKAR	**Karatay Array**	**72.61**	**320**	P	**P**	**05 55 36.2**	**-0.5**
MAW	**Mawson**	**73.73**	**201**	P	**P**	**05 55 44.6**	**+1.9**
	comp=Z,1.2nm,0.5s,baz=65,slow=6.6,SNR=4.1						
	comp=Z,1.2nm,0.5s						
HRA	**Herat**	**74.90**	**309**	P	**P**	**05 55 49.8**	**-0.7**
HRA				IAmb	IAmb	05 55 51.1	
	comp=Z,7.8nm,0.8s						
BRVK	**Borovoye**	**77.69**	**328**	P	**P**	**05 56 04.4**	**-1.1**
BRVK				IAmb	IAmb	05 56 05.7	
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**79.09**	**0**	P	**P**	**05 56 11.0**	**-1.8**
TIXI				IAmb	IAmb	05 56 12.3	
	comp=Z,13nm,0.7s						
GEYT	**Alibeck**	**79.23**	**311**	P	**P**	**05 56 13.4**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=108,slow=4.7,SNR=2.5						
	comp=Z,1.8nm,0.4s						
NRIK	**Noril'sk**	**81.72**	**346**	P	**P**	**05 56 26.3**	**-0.5**
	comp=Z,15nm,0.9s,baz=140,slow=6.4,SNR=10						
	comp=Z,15nm,0.9s						
NRIK	**Noril'sk**	**81.72**	**346**	P	**P**	**05 56 25.8**	**-1.1**
NRIK				IAmb	IAmb	05 56 27.3	
	comp=Z,22nm,1.2s						
ABKAR	**Akbulak array**	**81.86**	**322**	P	**P**	**05 56 27.0**	**-1.1**
ARU	**Arti**	**85.27**	**328**	P	**P**	**05 56 43.4**	**-1.8**
ARU				IAmb	IAmb	05 56 45.0	
	comp=Z,8.6nm,0.7s						
SDPT	**Sand Point**	**85.81**	**33**	P	**P**	**05 56 46.5**	**-1.4**
RAYN	**Ar Rayn**	**86.33**	**294**	P	**P**	**05 56 50.2**	**-1.1**
N19K	**Bonanza Creek**	**90.47**	**29**	P	**P**	**05 57 10.3**	**+0.2**
N19K				IAmb	IAmb	05 57 16.7	
	comp=Z,18nm,1.4s						
KDAK	**Kodiak Island**	**90.69**	**32**	LR	LR	06 41 33.3	
	comp=Z,28nm,18.1s,baz=232,slow=38						
TROLL	**Troll, Antarti**	**93.12**	**195**	P	**P**	**05 57 24.5**	**+2.2**
SNAA	**Sanae**	**94.65**	**194**	P	**P**	**05 57 30.9**	**+1.7**
ILAR	**Eielson Array**	**94.67**	**25**	P	**P**	**05 57 27.3**	**-2.0**
	comp=Z,0.6nm,0.9s,baz=247,slow=4.7,SNR=3.4						
	comp=Z,0.6nm,0.9s						
BRTR	**Keskin Array B**	**98.29**	**309**	P	**P**	**05 57 44.7**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=83,slow=4.8,SNR=3.6						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**101.51**	**340**	P	**Pdif**	**05 57 59.8**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=84,slow=8.3,SNR=8.5						
ELK	**Elko**	**115.00**	**49**	PKP	PKPdf	06 02 49.2	-0.2
	comp=Z,0.7nm,0.5s,baz=353,slow=4.4,SNR=3.0						
PFO	**Pinyon Flats O**	**115.27**	**56**	PKP	**PKPdf**	**06 02 50.8**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=236,slow=11,SNR=1.8						
KEST	**Kesra**	**117.73**	**306**	PKP	**PKiKP**	**06 02 54.5**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=63,slow=2.3,SNR=1.8						
PDAR	**Pinedale Array**	**118.60**	**45**	PKP	**PKiKP**	**06 02 56.1**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=351,slow=0.7,SNR=16						
ANMO	**Albuquerque**	**123.12**	**53**	PKP	**PKiKP**	**06 03 04.9**	**-0.5**
	baz=217,slow=5.1						
ULM	**Lac du Bonnet**	**123.94**	**33**	PKP	**PKPdf**	**06 03 05.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=270,slow=2.0,SNR=3.1						
TXAR	**Lajitas Array**	**126.80**	**59**	PKP	**PKiKP**	**06 03 12.5**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=250,slow=1.8,SNR=15						
TORD	**Torodi Ar. Bea**	**127.14**	**281**	PKP	**PKPdf**	**06 03 12.5**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=62,slow=2.3,SNR=12						
CPUP	**Villa Florida**	**145.84**	**171**	PKPbc	**PKPbc**	**06 03 47.7**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=192,slow=4.3,SNR=14						
LPAZ	**La Paz**	**151.29**	**146**	PKP	**PKPdf**	**06 03 58.1**	**+1.1**
	comp=Z,2.5nm,1.2s,baz=236,slow=3.6,SNR=3.7						
LPAZ				PKPbc	**PKiKP**	**06 04 03.9**	**+0.3**
	comp=Z,3.6nm,0.4s,baz=236,slow=14,SNR=40						

NNC 16 06:16:22.6±4.9, 54.07N×86.45E, h0km, mb3.7, mpv2.9, 7C-4D, Error ellipse: s-maj=47.2km s-min=21.8km az=13.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.97**	**263**	⇓P	Pg	06 16 40.9	-0.3
ZAA0	0.4nm,0.6s			⇓S	Sb	06 16 54.7	-0.9
	27nm,1.3s						
KURK	**Kurchatov**	**5.85**	**238**	⇑Pn	Pn	06 17 52.5	+2.0
KURK	2.2nm,1.2s			⇑Lg	Lg	06 19 29.5	
	6.5nm,1.0s						
KURBB	**Kurchatov Arra**	**5.96**	**238**	⇑Pn	Pn	06 17 53.7	+1.8
KURBB	4.8nm,0.7s			⇓Lg	Lg	06 19 33.3	
	8.3nm,0.8s						
MK31	**Makanchi Array**	**7.75**	**202**	⇑Pn	Pn	06 18 20.0	+3.3
MK31	0.7nm,0.5s,baz=29,slow=12,SNR=8.9			⇑Sn	Sn	06 19 46.2	+1.0
MK31	0.2nm,0.3s,baz=34,slow=23,SNR=5.6			⇓Lg	Lg	06 20 26.6	
	2.0nm,0.8s,baz=286,slow=58,SNR=4.3						
MAKZ	**Makanchi**	**7.81**	**203**	⇑Sn	Sn	06 19 46.7	+0.1
MAKZ	1.4nm,0.8s			⇑Lg	Lg	06 20 29.2	
	7.1nm,1.3s						

*PRU **16** 06:29:14.9±0.0, 47.39N×14.71E, h6km, Schwaz*
*VIE **16** 06:29:14.2±0.2, 47.33N×11.70E, h12km, mb1.6/15, ml2.8/16, Error ellipse: s-maj=2.2km s-min=1.3km az=5.0*
2 km SSW of Schwaz felt 3 ems98 south of Schwaz / Tyrol
*BGR **16** 06:29:15.1±0.3, 47.37N×11.69E, h10km, ML2.5/15, Error ellipse: s-maj=4.4km s-min=2.2km az=167.0*
*LDG **16** 06:29:16.1±0.4, 47.20N×11.57E, h12km, Ml2.9/8, Error ellipse: s-maj=7.0km s-min=5.5km az=73.0*
*ROM **16** 06:29:16.0±0.2, 47.25N±0.02×11.70E±0.01, h7km±1km, ML2.6/14, Error ellipse: s-maj=2.3km s-min=1.0km az=356.0*

ISC 16 06:29:14.3±0.8, 47.36N±0.02×11.67E±0.01, h14km±4km, n80, σ1.38/1.25, 1C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.07**	**251**	*i* Pg	**Pg**	**06 29 16.8**	**-0.6**
WATA	155nm,0.1s,SNR=753			*i* Sg	**Sg**	**06 29 18.8**	**-0.5**
	700nm,0.1s						
WTTA	**Wattenberg**	**0.10**	**193**	*i* Pg	**Pg**	**06 29 17.2**	**-0.4**
WTTA	204nm,0.1s,SNR=1085			*i* Sg	**Sg**	**06 29 19.5**	**-0.3**
	717nm,0.2s						
WTTA	**Wattenberg**	**0.10**	**193**	⇓P	**Pg**	**06 29 17.2**	**-0.4**
WTTA				S	**Sg**	**06 29 19.5**	**-0.3**
WTTA				AML	AML		
	comp=E,2655μm,0.2s						
WTTA				AML	AML		
	comp=N,7225μm,0.3s						
WTTA	**Wattenberg**	**0.10**	**193**	*e*Pg	**Pg**	**06 29 17.3**	**-0.4**
WTTA				*e*Sg	**Sg**	**06 29 19.5**	**-0.3**
SQTA	**Sankt Quirin**	**0.34**	**247**	*i* Pg	**Pg**	**06 29 20.9**	**-0.4**
SQTA	comp=N,23nm,0.1s			*i* Sg	**Sg**	**06 29 26.8**	**+0.7**
	comp=N,236nm,0.2s						
MOTA	**Moosalm**	**0.38**	**268**	*i* Pg	**Pg**	**06 29 21.4**	**-0.7**
MOTA	comp=N,3.2nm,0.1s			*i* Sg	**Sg**	**06 29 27.7**	**+0.2**
	comp=N,120nm,0.2s						
PART	**Garmisch-Parte**	**0.40**	**291**	*e*Pg	**Pg**	**06 29 22.0**	**-0.4**
PART				*e*Sg	**Sg**	**06 29 28.5**	**+0.5**
ROSI	**Rosskopf**	**0.46**	**202**	P	**Pg**	**06 29 23.2**	**-0.4**
ROSI				S	**Sg**	**06 29 29.7**	**-0.2**
ROSI				AML	AML		
	comp=N,1205μm,0.5s						
ROSI				AML	AML		
	comp=E,1330μm,0.5s						
ZUGS	**Zugspitze, Sch**	**0.47**	**278**	*e*Pg	**Pg**	**06 29 23.9**	**+0.1**
ZUGS				*e*Sg	**Sb**	**06 29 31.5**	**-0.1**
RISI	**Rein**	**0.50**	**145**	⇓P	**Pg**	**06 29 23.7**	**-0.5**
RISI				S	**Sg**	**06 29 30.6**	**-0.2**
RISI				AML	AML		
	comp=E,1490μm,0.3s						
RISI				AML	AML		
	comp=N,2670μm,0.7s						
RETA	**Reutte**	**0.63**	**282**	*i* Pg	**Pg**	**06 29 26.2**	**-0.4**
	comp=N,3.0nm,0.1s						
RETA				*i* Sg	**Sg**	**06 29 35.2**	**+0.2**
	comp=N,40nm,0.2s						
BRES	**Bressanone**	**0.66**	**176**	AML	AML		
	comp=N,534μm,0.3s						
BRES				AML	AML		
	comp=N,536μm,0.3s						
BRES				AML	AML		
	comp=E,295μm,0.7s						
FETA	**Feichten**	**0.72**	**243**	*i* Pg	**Pg**	**06 29 27.9**	**-0.5**
	comp=E,1.1nm,0.1s						
FETA				*e*Sg	**Sg**	**06 29 37.4**	**-0.6**
	comp=E,17nm,0.3s						
ABTA	**Abfaltersbach**	**0.84**	**136**	*i* Pg	**Pg**	**06 29 30.1**	**-0.6**
	comp=E,3.5nm,0.1s						
ABTA				*i* Sg	**Sg**	**06 29 41.0**	**-0.6**
	comp=E,95nm,0.3s						
FUR	**Furstenfeldbru**	**0.85**	**342**	*e*Pg	**Pb**	**06 29 31.6**	**+0.7**
FUR				*e*Sg	**Sb**	**06 29 43.5**	**+1.3**
RJOB	**Jochberg**	**0.85**	**63**	*e*Sg	**Sn**	**06 29 44.6**	**+0.2**
KOSI	**Kohlern**	**0.92**	**193**	⇑P	**Pg**	**06 29 31.6**	**-0.4**
KOSI				S	**Sg**	**06 29 43.6**	**-0.4**
KOSI				AML	AML		
	comp=E,306μm,0.3s						
KOSI				AML	AML		
	comp=N,348μm,0.6s						
KOSI				AML	AML		
	comp=E,306μm,1.7s						
APPI	**Appiano**	**0.93**	**199**	P	**Pg**	**06 29 31.8**	**-0.5**
APPI				S	**Sg**	**06 29 44.1**	**-0.4**
APPI				AML	AML		
	comp=E,430μm,0.3s						
APPI				AML	AML		
	comp=N,372μm,0.7s						
APPI				AML	AML		
	comp=E,429μm,0.3s						
APPI				AML	AML		
	comp=N,371μm,0.7s						
OBER	**Oberstdorf**	**0.94**	**274**	*e*Sg	**Sn**	**06 29 46.9**	**+0.5**
FVI	**Forni Avoltri**	**1.08**	**135**	P	**Pb**	**06 29 34.5**	**-0.2**
AGOR	**Agordo**	**1.10**	**166**	P	**Pn**	**06 29 35.7**	**+0.3**
UBR	**Ueberruh**	**1.11**	**288**	*e*Pn	**Pb**	**06 29 35.7**	**+0.5**
UBR				*e*Sg	**Sn**	**06 29 51.0**	**+0.5**
CIMO	**Cimolais**	**1.17**	**153**	P	**Pg**	**06 29 37.1**	**+0.2**
KBA	**Koelnbreinsper**	**1.18**	**103**	*i* Pg	**Pb**	**06 29 36.0**	**-0.5**
	comp=N,1.9nm,0.2s						
KBA				*e*Sg	**Sg**	**06 29 52.1**	**-0.2**
	comp=N,38nm,0.4s						
DAVA	**Damuels**	**1.22**	**267**	*e*Pg	**Pg**	**06 29 38.0**	**+0.2**
	comp=N,11nm,0.2s						
DAVA				*i* Sg	**Sn**	**06 29 55.3**	**+1.9**
	comp=N,102nm,0.3s						
DAVA	**Damuels**	**1.22**	**267**	*e*Pn	**Pg**	**06 29 38.1**	**+0.3**
DAVA				*e*Sg	**Sn**	**06 29 54.7**	**+1.3**
CLUD	**Cludinico**	**1.23**	**137**	P	**Pb**	**06 29 37.4**	**+0.1**
BRMO	**Bormio**	**1.25**	**226**	P	**Pg**	**06 29 38.5**	**0.0**
PLRO	**Paularo**	**1.30**	**128**	P	**Pb**	**06 29 38.7**	**+0.1**
CTI	**Castel Tesino**	**1.31**	**181**	P	**Pn**	**06 29 38.4**	**+0.1**
CTI				S	**Sn**	**06 29 56.0**	**+0.4**
FUSE	**Fusea**	**1.31**	**135**	P	**Pg**	**06 29 40.0**	**+0.5**
DAVOX	**Davos/Dischmat**	**1.35**	**245**	P	**Pg**	**06 29 40.8**	**+0.4**
DAVOX				S	**Sg**	**06 30 00.1**	**+2.2**
DAVOX				AML	AML		
	comp=E,232μm,0.3s						
DAVOX				AML	AML		
	comp=N,320μm,0.5s						
DAVOX				AML	AML		
	comp=N,320μm,1.5s						
GAGG	**Gaggia**	**1.36**	**201**	P	**Pn**	**06 29 39.3**	**+0.2**
BIOA	**Bad Ischl, Aus**	**1.38**	**75**	*e*Pg	**Pg**	**06 29 41.7**	**+0.9**
	comp=N,7.3nm,0.3s						
BIOA				*e*Sg	**Sg**	**06 30 00.6**	**+1.9**
	comp=N,10nm,0.2s						
VARN	**Col Varnada, M**	**1.40**	**167**	P	**Pg**	**06 29 40.8**	**-0.4**
MPRI	**Monte Prat**	**1.44**	**140**	P	**Pb**	**06 29 41.3**	**+0.4**
BERNI	**Berninapass**	**1.47**	**231**	P	**Pg**	**06 29 43.0**	**+0.4**
CGRP	**Cima Grappa**	**1.48**	**176**	P	**Pb**	**06 29 41.6**	**-0.1**
CGRP				AML	AML		
	comp=E,238μm,0.8s						
CGRP				AML	AML		
	comp=N,214μm,0.5s						
CGRP				AML	AML		
	comp=N,214μm,0.5s						
CGRP				AML	AML		
	comp=N,200μm,0.9s						
CGRP				AML	AML		
	comp=E,236μm,1.0s						
CGRP				AML	AML		
	comp=E,238μm,0.8s						
CGRP				AML	AML		
	comp=N,214μm,1.5s						
CGRP				AML	AML		
	comp=N,200μm,1.1s						
LUSI	**Trento, Gardas**	**1.48**	**200**	P	**Pb**	**06 29 42.0**	**+0.3**
LUSI				S	**Sb**	**06 30 00.7**	**+0.2**
LUSI				AML	AML		
	comp=E,200μm,1.5s						
LUSI				AML	AML		
	comp=N,316μm,0.2s						
LUSI				AML	AML		
	comp=E,200μm,0.5s						
PTCC	**Patocco-Chiusa**	**1.50**	**129**	P	**Pb**	**06 29 42.3**	**+0.3**
PTCC				AML	AML		
	comp=E,99μm,0.6s						
PTCC				AML	AML		
	comp=N,67μm,0.5s						
ACOM	**Acomizza, Ital**	**1.50**	**122**	P	**Pb**	**06 29 42.1**	**+0.1**
ACOM				AML	AML		
	comp=N,157μm,1.4s						
ACOM				AML	AML		
	comp=N,158μm,1.4s						
ACOM				AML	AML		
	comp=N,158μm,0.6s						
ACOM				AML	AML		
	comp=N,150μm,1.4s						
ACOM				AML	AML		
	comp=E,257μm,0.4s						
ACOM				AML	AML		
	comp=E,244μm,0.4s						
DOSS	**Dosso del Somm**	**1.51**	**193**	P	**Pn**	**06 29 41.9**	**+0.8**
DOSS				S	**Sb**	**06 30 02.1**	**+0.7**
DOSS				AML	AML		
	comp=N,498μm,0.3s						
DOSS				AML	AML		
	comp=E,492μm,0.3s						
DOSS				AML	AML		
	comp=N,460μm,1.0s						
DOSS				AML	AML		
	comp=E,466μm,1.0s						
MABI	**Malga Bissina**	**1.52**	**212**	P	**Pb**	**06 29 42.7**	**+0.2**
MABI				AML	AML		
	comp=N,58μm,0.4s						
MABI				AML	AML		
	comp=E,41μm,0.8s						
NORI	**Noerdlinger Ri**	**1.53**	**333**	*e*Pn	**Pn**	**06 29 41.0**	**-0.3**
NORI				*e*Sg	**Sg**	**06 30 04.3**	**+0.6**
MYKA	**Terra Mystica**	**1.53**	**118**	*i* Pg	**Pg**	**06 29 43.9**	**+0.1**
	comp=E,2.6nm,0.3s						
MYKA				*e*Sg	**Sg**	**06 30 03.6**	**-0.1**
	comp=E,20nm,0.3s						
PLONS	**Plons/SG**	**1.59**	**260**	P	**Pb**	**06 29 44.5**	**+0.9**
PLONS				AML	AML		
	comp=N,178μm,0.4s						
PLONS				AML	AML		
	comp=E,160μm,0.3s						
PLONS				AML	AML		
	comp=N,178μm,0.4s						
ROBS	**Robic**	**1.69**	**131**	*i* Pn	**Pb**	**06 29 45.8**	**+0.7**
ROBS				*i* Sn	**Sg**	**06 30 09.6**	**+1.0**
MAGA	**Magasa**	**1.74**	**205**	P	**Pb**	**06 29 45.7**	**-0.3**
MAGA				AML	AML		
	comp=N,256μm,0.9s						
MAGA				AML	AML		
	comp=E,310μm,1.1s						
MAGA				AML	AML		
	comp=N,256μm,0.9s						
MARN	**Marana (Italy)**	**1.75**	**191**	P	**Pb**	**06 29 46.5**	**+0.3**
ROVR	**Rover Verones**	**1.76**	**194**	P	**Pb**	**06 29 46.6**	**+0.2**
CADS	**Cadrg**	**1.81**	**128**	*i* Pn	**Pb**	**06 29 47.5**	**+0.1**
CADS				*i* Sn	**Sg**	**06 30 13.2**	**+0.5**
MOA	**Molln**	**1.83**	**73**	*e*Pg	**Pg**	**06 29 48.7**	**-0.6**
	comp=N,3.4nm,0.2s						
MOA				*e*Sg	**Sg**	**06 30 12.9**	**-0.1**
	comp=N,7.8nm,0.1s						
SALO	**Salr**	**1.91**	**205**	P	**Pb**	**06 29 49.5**	**+0.5**
WET	**Wettzell**	**1.96**	**24**	*e*Pn	**Pn**	**06 29 47.0**	**-0.2**
WET				*e*Sg	**Sb**	**06 30 15.7**	**+1.5**
GEC2	**GERESS Array S**	**2.02**	**42**	*e*Pn	**Pn**	**06 29 48.2**	**+0.2**
GEC2				*e*Sg	**Sb**	**06 30 17.8**	**+1.9**
OBKA	**Obir**	**2.15**	**112**	*i* Pn	**Pb**	**06 29 53.9**	**+0.8**
	comp=N,3.6nm,0.2s						
OBKA				*e*Sg	**Sg**	**06 30 21.5**	**-1.9**
	comp=N,13nm,0.5s						
KHC	**Kasperske Hory**	**2.19**	**35**	*e*PG	**Pb**	**06 29 54.3**	**+0.6**
KHC				*e*SG	**Sb**	**06 30 22.6**	**+2.0**
	comp=N,22nm,0.2s						
CKRC	**Cesky Krumlov**	**2.30**	**49**	*e*SN	**Sn**	**06 30 19.7**	**-0.2**
CKRC				*e*SG	**Sb**	**06 30 25.8**	**+2.0**
GRF	**Grafenberg Arr**	**2.36**	**353**	*e*Sg	**Sb**	**06 30 28.1**	**+2.6**
ROTZ	**Rotzenmuhle**	**2.44**	**8**	*e*Pn	**Pn**	**06 29 52.8**	**-0.9**
ROTZ				*e*Sg	**Sg**	**06 30 31.0**	**-1.6**
NKC	**Novy Kostel**	**2.92**	**10**	*e*SG	**Sg**	**06 30 46.6**	**-1.6**
	comp=N,15nm,0.3s						
CDF	**Champ du Feu**	**3.14**	**291**	*e*Pn	**Pn**	**06 30 03.5**	**+0.1**
CDF	**Champ du Feu**	**3.14**	**291**	*e*P	**Pn**	**06 30 06.4**	**+3.0**
CDF				*e*Sn	**Sn**	**06 30 40.1**	**-0.6**
	comp=N,11nm,0.4s						
CDF				*e*Sg	**Sg**	**06 30 53.1**	**-2.0**
PRU	**Pruhonice**	**3.25**	**35**	*e*SG	**Sg**	**06 30 55.8**	**-2.9**
	comp=N,5.1nm,0.3s						
HINF	**Hinteralfeld**	**3.29**	**280**	*e*Pn	**Pn**	**06 30 05.5**	**0.0**
HINF	**Hinteralfeld**	**3.29**	**280**	*e*P	**Pn**	**06 30 08.7**	**+3.2**
HINF				*e*Sn	**Sn**	**06 30 42.2**	**-2.2**
	comp=N,9.8nm,0.4s						
HINF				*e*Sg	**Sg**	**06 30 58.1**	**-1.9**
	comp=N,9.8nm,0.4s						
ROTM	**Rocchetta Tana**	**3.41**	**224**	AML	AML		
	comp=N,2650μm,0.5s						
ROTM				AML	AML		
	comp=E,1765μm,0.1s						
TNS	**Taunus Mts**	**3.57**	**325**	*e*Pn	**Pn**	**06 30 10.0**	**+0.6**
KRUC	**Moravsky**	**3.59**	**60**	*e*SN	**Sn**	**06 30 50.7**	**-1.1**
KRUC				*e*SG	**Sg**	**06 31 05.9**	**-3.7**
HAU	**Haudompre**	**3.65**	**282**	*e*Pn	**Pn**	**06 30 10.3**	**-0.1**
HAU	**Haudompre**	**3.65**	**282**	*e*P	**Pn**	**06 30 13.8**	**+3.4**
HAU				*e*Sn	**Sn**	**06 30 51.4**	**-1.9**
	comp=E,16nm,0.4s						
HAU				*e*Sg	**Sg**	**06 31 09.3**	**-2.3**
	comp=E,16nm,0.4s						
VRAC	**Vranov**	**3.82**	**57**	*e*SN	**Sn**	**06 30 56.6**	**-0.8**
VRAC				*e*SG	**Sg**	**06 31 13.4**	**-3.6**
LPG	**La Plagne**	**3.88**	**243**	*e*Pn	**Pn**	**06 30 12.1**	**-1.6**
LPG	**La Plagne**	**3.88**	**243**	*e*P	**Pn**	**06 30 15.4**	**+1.7**
LPL	**La Plagne**	**3.88**	**243**	*e*Pn	**Pn**	**06 30 11.9**	**-1.8**
LPL	**La Plagne**	**3.88**	**243**	*e*P	**Pn**	**06 30 15.4**	**+1.7**
CABF	**La Chapelle**	**3.89**	**261**	*e*P	**Pn**	**06 30 15.7**	**+1.9**
CABF				*e*Sn	**Sn**	**06 30 56.6**	**-2.7**
	comp=E,0.6nm,0.2s						
CABF				*e*Sg	**Sg**	**06 31 15.7**	**-3.5**
	comp=E,2.6nm,0.3s						
MBDF	**Montbardon**	**4.31**	**234**	*e*P	**Pn**	**06 30 20.2**	**+0.7**
VIVF	**Saint-Julien-l**	**5.47**	**245**	*e*Pn	**Pn**	**06 30 33.5**	**-1.9**
VIVF	**Saint-Julien-l**	**5.47**	**245**	*e*P	**Pn**	**06 30 36.0**	**+0.6**
VIVF				*e*Sn	**Sn**	**06 31 31.7**	**-6.4**
	comp=E,85nm,1.8s						

ROM 16 06:31:10.4±0.0, 42.747N±0.002×13.247E±0.004, h12km, ML0.7/1, 1C-3D, Error ellipse: s-maj=0.3km s-min=0.0km az=92.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.05**	**201**	P	Pg	06 31 13.3	+0.3
T1202				S	Sg	06 31 15.1	+0.4
T1242	**Castelluccio d**	**0.09**	**339**	⇑P	Pg	06 31 13.6	+0.2
T1242				S	Sg	06 31 15.6	+0.1
NRCA	**Norcia**	**0.13**	**312**	⇓P	Pg	06 31 14.0	+0.2
NRCA				S	Sg	06 31 16.4	+0.1
T1243	**Rocca Santa Ma**	**0.16**	**109**	⇓P	Pg	06 31 14.6	+0.4
T1243				S	Sg	06 31 17.3	+0.4
MMO1	**Montemonaco**	**0.16**	**21**	P	Pg	06 31 14.7	+0.4
MMO1				S	Sg	06 31 17.8	+0.7
MC2	**Monte Cornacci**	**0.17**	**346**	⇓P	Pg	06 31 14.9	+0.4
MC2				S	Sg	06 31 18.0	+0.6
T1241	**Roccafluvione,**	**0.17**	**51**	P	Pg	06 31 14.9	+0.5
T1241				S	Sg	06 31 18.0	+0.7
T1241				AML	AML		
	comp=E,37μm,1.5s						
T1241				AML	AML		
	comp=N,46μm,0.3s						
LNSS	**Leonessa**	**0.21**	**227**	P	Pg	06 31 15.4	+0.3
LNSS				S	Sg	06 31 19.0	+0.8
RM33	**Pellescritta (**	**0.24**	**186**	P	Pg	06 31 16.0	+0.5
RM33				S	Sg	06 31 20.0	+1.0
TERO	**Teramo**	**0.29**	**115**	P	Pg	06 31 16.7	+0.3
TERO				S	Sg	06 31 21.4	+0.9
CSP1	**Cessapalombo**	**0.35**	**355**	P	Pg	06 31 17.8	+0.3
CSP1				S	Sb	06 31 23.5	-0.6

*NNC **16** 06:33:06.4±5.0, 36.72N×71.03E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=40.6km s-min=31.8km az=162.0*

ISC 16 06:33:09.4±1.1, 36.59N±0.07×71.62E±0.10, h150km, n6, σ3.09/11, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.51**	**48**	Pn	**Pn**	**06 34 16.3**	**-0.1**
KSH				Sn	**Sn**	**06 35 03.6**	**-4.9**
KSH				smax	smax		
	comp=N,78nm,0.4s	

BATI LR LR 06 39 06.9
comp=Z,198nm,18.3s,baz=128,slow=40 82nm,0.6s
SIJI Sorong 9.33 40 LR LR 06 43 12.7
comp=Z,27nm,21.8s,baz=86,slow=38
FITZ Fitzroy Crossi 9.94 178 Pn Pn 06 39 44.4 -0.8
0.5nm,0.3s,baz=359,slow=11,SNR=18
FITZ Sn Sn 06 41 28.6 -9.0
1.5nm,0.3s,baz=311,slow=20,SNR=9.5 2.3nm,0.6s
WRA Warramunga Arr 14.66 144 Pn Pn 06 40 48.9 -1.1
0.7nm,0.3s,baz=316,slow=13,SNR=14
WRA Sn Sn 06 43 31.4 -1.9
0.5nm,0.3s,baz=318,slow=23,SNR=6.1 1.9nm,0.5s
ASAR Alice Springs 17.53 153 P Pn 06 41 27.6 +0.6
0.2nm,0.3s,baz=330,slow=12,SNR=16
ASAR S Sn 06 44 36.4 -6.7
1.5nm,1.0s,baz=332,slow=25,SNR=3.1 2.2nm,0.8s
LEM Lembang 17.58 273 LR LR 06 48 32.9
comp=Z,52nm,21.2s,baz=186,slow=38
PMG Port Moresby 21.64 95 LR LR 06 50 27.4
comp=Z,36nm,20.8s,baz=10,0,slow=36
STKA Stephens Creek 28.09 150 LR LR 06 55 31.4
comp=Z,57nm,18.1s,baz=24,slow=39
CMAR Chiang Mai Arr 37.06 316 P P 06 44 32.5 -0.7
1.9nm,0.3s,baz=138,slow=6.8,SNR=5.2
CMAR LR LR 07 01 43.3
comp=Z,8.3nm,18.4s,baz=180,slow=40 1.9nm,0.3s
SONM Songino Array 58.16 345 P P 06 47 17.9 +1.1
0.3nm,0.4s,baz=160,slow=5.5,SNR=1.8 0.3nm,0.4s
MKAR Makanchi Array 66.69 329 P P 06 48 13.5 -0.4
0.8nm,0.6s,baz=127,slow=7.5,SNR=7.4 0.8nm,0.6s

IDC ***16*** *06:55:13.0±0.7, 38.87°N×23.34°E, h0km, mb4.0/15, mbtmp4.0/25, ML4.0/10, MS3.2/20, Error ellipse: s-maj=13.1km s-min=12.2km az=123.0*
ATH ***16*** *06:55:13.5, 38.89°N×23.33°E, h25km±1km, ML4.0/30, Error ellipse: s-maj=1.3km s-min=0.7km az=161.0*
PDG ***16*** *06:55:13.7±0.4, 38.93°N×23.39°E, h11km, ML4.0/13, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
ISK ***16*** *06:55:14.0, 38.93°N×23.42°E, h14km, ML4.0/33*
MED_RC ***16*** *06:55:14.0±0.7, 38.85°N×23.37°E, h12km±2km, MW4.2/15, Moment Tensor Solution. Mantle waves: s15,c20; Duration: ts0 Moment tensor: Scale 10^15 Nm; Mrr-1.65±.34; Mθθ 2.18±.23; Mϕϕ-0.52±.17; Mrθ-0.59±.34; Mθϕ 0.30±.17; Mϕr 0.62±.43; Best double couple: M◎2.16000×10^15 NP1:ϕs106.00000°, δ57.00000°, λ-61.00000°. NP2:ϕs240.00000°, δ43.00000°, λ-127.00000°. Principal axes: T 2.2800, Plg8.0000°, Azm176.0000°; N -0.2500, Plg24.0000°, Azm269.0000°; P -2.0300, Plg64.0000°, Azm69.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***16*** *06:55:14.8±1.1, 38.93°N±0.04°×23.37°E±0.06, h7km±5km Error ellipse: s-maj=7.6km s-min=5.0km az=129.0*
THE ***16*** *06:55:14.1, 38.88°N×23.35E, h3km±1km, ML4.2/19, Error ellipse: s-maj=1.2km s-min=0.4km az=202.0*
TIR ***16*** *06:55:15.2, 39.18°N×23.48E, h43km±22km, Md4.4, Ml4.4*
NEIC ***16*** *06:55:16.7, 38.95°N×23.39E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 0.09; Mθθ 0.58; Mϕϕ-0.68; Mrθ-0.32; Mθϕ 0.48; Mϕr-1.04; Fault plane solution: M◎1.35000×10^15 NP1:ϕs295.15000°, δ35.40000°, λ4.21000°. NP2:ϕs201.72000°, δ87.57000°, λ125.33000°. Principal axes: T 1.2555, Plg37.0000°, Azm143.0000°; N 0.1670, Plg35.0000°, Azm20.0000°; P -1.4225, Plg33.0000°, Azm262.0000°.*

ISC 16 06:55:13.6±1.1, 38.91N±0.02×23.36E±0.02, h5km±7km, n336, σθ95/381, mb4.1/22, MS3.1/14, 35C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.38**	**227**	P		**Pg**	**06 55 20.2**	**-0.8**
LKR				S		**Sg**	**06 55 25.1**	**-0.9**
	59μm,0.2s							
NEO	**Neokhori**	**0.41**	**345**	P		**Pb**	**06 55 22.8**	**-0.6**
NEO				S		**Sb**	**06 55 28.4**	**-1.6**
	46μm,0.3s							
NEO	**Neokhori**	**0.41**	**345**	P		**Pb**	**06 55 22.9**	**-0.6**
NEO				S		**Sb**	**06 55 29.2**	**-0.9**
NEO				AML	AML		06 55 30.8	
	comp=E,79972μm,0.3s							
NEO				AML	AML		06 55 31.1	
ALNA	**Alonissos**	**0.46**	**59**	P		**Pb**	**06 55 24.0**	**-0.3**
ALNA				S		**Sb**	**06 55 30.5**	**-1.0**
ALNA				AML	AML		06 55 31.6	
	comp=E,54738μm,0.5s							
ALNA				AML	AML		06 55 33.6	
	comp=N,55110μm,0.5s							
XOR	**Xorichti**	**0.47**	**344**	P		**Pb**	**06 55 23.9**	**-0.6**
XOR				S		**Sb**	**06 55 30.3**	**-1.6**
	comp=N,20μm,0.4s							
XOR	**Xorichti**	**0.47**	**344**	P		**Pb**	**06 55 23.9**	**-0.6**
XOR				S		**Sb**	**06 55 30.6**	**-1.3**
XOR				AML	AML		06 55 31.5	
	comp=E,29252μm,0.6s							
XOR				AML	AML		06 55 37.1	
	comp=N,38042μm,0.3s							
AXAR	**Agios Charalam**	**0.56**	**256**	P		**Pg**	**06 55 24.7**	**+0.2**
AXAR				S		**Sg**	**06 55 32.7**	**+0.9**
	comp=N,30μm,0.4s							
AXAR	**Agios Charalam**	**0.56**	**256**	P		**Pg**	**06 55 24.5**	**0.0**
AXAR				S		**Sg**	**06 55 32.8**	**+1.0**
AXAR				AML	AML		06 55 34.3	
	comp=E,52984μm,0.4s							
AXAR				AML	AML		06 55 36.2	
	comp=N,65116μm,0.4s							
KYMI	**Kymi, Euboea I**	**0.64**	**115**	P		**Pg**	**06 55 26.3**	**+0.3**
KYMI				S		**Sb**	**06 55 35.8**	**-0.8**
	comp=N,31μm,0.3s							
KYMI	**Kymi, Euboea I**	**0.64**	**115**	P		**Pg**	**06 55 26.2**	**+0.2**
KYMI				S		**Sb**	**06 55 35.9**	**-0.8**
KYMI				AML	AML		06 55 38.1	
	comp=N,42790μm,0.3s							
KYMI				AML	AML		06 55 38.3	
	comp=E,79726μm,0.3s							
VIL2	**Platees**	**0.70**	**186**	P		**Pg**	**06 55 27.4**	**+0.3**
VIL2				S		**Sb**	**06 55 38.0**	**-0.3**
VIL2				AML	AML		06 55 42.6	
	comp=N,93642μm,0.4s							
VIL2				AML	AML		06 55 43.2	
VILL	**Villia**	**0.74**	**183**	P		**Pg**	**06 55 27.4**	**-0.5**
VILL				S		**Sg**	**06 55 37.8**	**+0.2**
	comp=N,80μm,0.4s							
DLFA	**Delphi**	**0.80**	**238**	P		**Pg**	**06 55 28.5**	**-0.5**
DLFA				AML	AML		06 55 43.6	
	comp=E,14223μm,0.3s							
DLFA				AML	AML		06 55 44.4	
	comp=N,13472μm,0.5s							
SKY	**Skiros Island**	**0.93**	**92**	P		**Pb**	**06 55 32.3**	**0.0**
SKY				S		**Sn**	**06 55 45.7**	**-1.5**
	comp=N,20μm,0.3s							
SKY	**Skiros Island**	**0.93**	**92**	P		**Pb**	**06 55 32.4**	**0.0**
SKY				AML	AML		06 55 48.0	
	comp=N,38354μm,0.3s							
SKY				AML	AML		06 55 49.1	
	comp=E,41395μm,0.3s							
LTK	**Loutraki**	**0.94**	**199**	P		**Pg**	**06 55 30.7**	**-0.9**
LTK				S		**Sg**	**06 55 43.9**	**+0.2**
	comp=E,22μm,1.1s							
LTK	**Loutraki**	**0.94**	**199**	P		**Pg**	**06 55 30.8**	**-0.8**
LTK				AML	AML		06 55 46.6	
	comp=E,62072μm,0.5s							
LTK				AML	AML		06 55 51.3	
	comp=N,54812μm,0.5s							
DION	**Dionisos Attik**	**0.94**	**151**	P		**Pg**	**06 55 31.8**	**0.0**
DION				S		**Sg**	**06 55 44.5**	**+0.5**
DION	**Dionisos Attik**	**0.94**	**151**	P		**Pg**	**06 55 31.6**	**-0.1**
DION				AML	AML		06 55 48.0	
DION				AML	AML		06 55 48.4	
	comp=N,87885μm,0.5s							
PTL	**Penteli**	**0.95**	**155**	P		**Pg**	**06 55 31.6**	**-0.2**
PTL				S		**Sg**	**06 55 44.2**	**+0.1**
	comp=N,27μm,0.8s							
PTL	**Penteli**	**0.95**	**155**	P		**Pg**	**06 55 31.6**	**-0.2**
PTL				AML	AML		06 55 46.7	
	comp=N,53498μm,0.9s							
PTL				AML	AML		06 55 47.4	
	comp=E,54618μm,0.7s							
MAKR	**Makrakomi, Fth**	**0.96**	**277**	P		**Pg**	**06 55 31.8**	**-0.3**
MAKR				S		**Sn**	**06 55 46.5**	**-1.5**
	comp=E,10μm,0.5s							
MAKR	**Makrakomi, Fth**	**0.96**	**277**	P		**Pg**	**06 55 31.7**	**-0.4**
MAKR				AML	AML		06 55 46.7	
	comp=N,20637μm,0.6s							
MAKR				AML	AML		06 55 48.5	
	comp=E,21080μm,0.3s							
LOUT	**Loutraki**	**0.97**	**198**	P		**Pg**	**06 55 31.3**	**-0.9**
LOUT				S		**Sb**	**06 55 46.4**	**+0.4**
	comp=E,16μm,0.7s							
LOUT	**Loutraki**	**0.97**	**198**	P		**Pg**	**06 55 31.4**	**-0.9**
LOUT				AML	AML		06 55 48.1	
	comp=N,5327μm,0.5s							
LOUT				AML	AML		06 55 52.0	
	comp=E,5900μm,0.7s							
ATH	**Athens Observa**	**0.98**	**163**	P		**Pg**	**06 55 32.2**	**-0.2**
ATH				S		**Sg**	**06 55 45.9**	**+0.8**
	comp=E,46μm,0.4s							
ATH	**Athens Observa**	**0.98**	**163**	P		**Pg**	**06 55 32.4**	**0.0**
ATH				AML	AML		06 55 48.4	
ATH				AML	AML		06 55 50.2	
	comp=N,77226μm,0.5s							
ATHU	**Athens Univers**	**1.00**	**160**	P		**Pb**	**06 55 32.5**	**-0.9**
ATHU				S		**Sg**	**06 55 45.7**	**-0.1**
	comp=N,13μm,0.5s							
ATHU	**Athens Univers**	**1.00**	**160**	P		**Pb**	**06 55 32.6**	**-0.9**
ATHU				AML	AML		06 55 48.6	
	comp=N,28251μm,0.7s							
ATHU				AML	AML		06 55 48.6	
	comp=E,22073μm,0.3s							
THAL	**Thalero**	**1.03**	**212**	P		**Pb**	**06 55 32.6**	**-1.3**
THAL				S		**Sb**	**06 55 47.0**	**-0.7**
	comp=E,22μm,0.6s							
THAL	**Thalero**	**1.03**	**212**	P		**Pb**	**06 55 32.8**	**-1.1**
THAL				AML	AML		06 55 51.4	
	comp=E,37298μm,0.5s							
THAL				AML	AML		06 55 52.9	
	comp=N,41260μm,0.5s							
PAIG	**Paliouri**	**1.05**	**14**	P		**Pn**	**06 55 34.4**	**-0.6**
PAIG				S		**Sn**	**06 55 49.9**	**-0.1**
	comp=N,4μm,0.7s							
PAIG	**Paliouri**	**1.05**	**14**	P		**Pn**	**06 55 34.4**	**-0.6**
PAIG				AML	AML		06 55 55.9	
	comp=N,6328μm,0.6s							
PAIG				AML	AML		06 55 56.0	
	comp=E,8018μm,0.7s							
VLY	**Voula,Athens**	**1.11**	**162**	P		**Pb**	**06 55 34.7**	**-0.6**
VLY				S		**Sb**	**06 55 49.3**	**-0.8**
	comp=E,37μm,0.7s							
VLY	**Voula,Athens**	**1.11**	**162**	P		**Pb**	**06 55 34.5**	**-0.9**
VLY				AML	AML		06 55 52.4	
	comp=E,77895μm,0.5s							
VLY				AML	AML		06 55 53.0	
	comp=N,62074μm,0.7s							
SERG	**Sergoula**	**1.13**	**244**	P		**Pb**	**06 55 34.3**	**-1.4**
SERG				S		**Sn**	**06 55 51.9**	**-0.3**
	comp=N,6μm,0.5s							
SERG	**Sergoula**	**1.13**	**244**	P		**Pb**	**06 55 34.1**	**-1.6**
SERG				AML	AML		06 55 54.0	
	comp=N,19424μm,0.4s							
SERG				AML	AML		06 55 56.2	
	comp=E,10335μm,0.5s							
ALIK	**Aliki, Aigiali**	**1.17**	**237**	P		**Pg**	**06 55 36.9**	**+0.8**
ALIK				S		**Sb**	**06 55 51.9**	**0.0**
EVR	**Evrytania**	**1.21**	**271**	P		**Pn**	**06 55 36.3**	**-1.0**
EVR	**Evrytania**	**1.21**	**271**	P		**Pn**	**06 55 36.4**	**-1.0**
EVR				AML	AML		06 56 02.6	
	comp=E,4643μm,1.0s							
EVR				AML	AML		06 56 12.0	
	comp=N,4151μm,0.9s							
THL	**Klokotos Trika**	**1.23**	**303**	P		**Pn**	**06 55 36.9**	**-0.6**
THL	**Klokotos Trika**	**1.23**	**303**	P		**Pn**	**06 55 36.3**	**-1.2**
THL				AML	AML		06 55 59.6	
	comp=E,3445μm,0.5s							
THL				AML	AML		06 56 04.2	
	comp=N,4771μm,1.0s							
EFP	**Efpalio**	**1.23**	**247**	P		**Pn**	**06 55 36.3**	**-1.3**
EFP				S		**Sn**	**06 55 54.1**	**-0.5**
	comp=N,4μm,0.6s							
EFP	**Efpalio**	**1.23**	**247**	P		**Pn**	**06 55 36.5**	**-1.1**
LAKA	**Lakka**	**1.27**	**239**	P		**Pn**	**06 55 38.0**	**-0.1**
LAKA	**Lakka**	**1.27**	**239**	P		**Pn**	**06 55 37.5**	**-0.6**
KLV	**Kalavryta, Ach**	**1.28**	**228**	P		**Pn**	**06 55 37.7**	**-0.6**
KLV				S		**Sb**	**06 55 54.6**	**-0.5**
KLV	**Kalavryta, Ach**	**1.28**	**228**	P		**Pn**	**06 55 37.6**	**-0.8**
KLV				AML	AML		06 55 55.5	
	comp=N,3740μm,1.0s							
KLV				AML	AML		06 55 57.1	
	comp=E,5248μm,1.0s							
EPID	**Epidavros**	**1.31**	**188**	P		**Pn**	**06 55 37.5**	**-1.1**
EPID				S		**Sb**	**06 55 55.7**	**-0.1**
	comp=E,11μm,0.4s							
LIT	**Litokhoron**	**1.37**	**331**	P		**Pb**	**06 55 39.1**	**-0.6**
LIT	**Litokhoron**	**1.37**	**331**			**Pb**	**06 55 39.1**	**-0.6**
LIT	**Litokhoron**	**1.37**	**331**	P		**Pb**	**06 55 39.1**	**-0.6**
LIT				AML	AML		06 56 01.8	
	comp=E,4916μm,0.4s							
LIT				AML	AML		06 56 07.7	
	comp=N,6683μm,0.6s							
UPR	**University Cam**	**1.38**	**244**	P		**Pg**	**06 55 40.7**	**+0.6**
EFSA	**Agios Efstrati**	**1.42**	**63**	P		**Pb**	**06 55 39.8**	**-0.8**
EFSA				AML	AML		06 56 02.4	
	comp=E,10697μm,0.8s							
EFSA				AML	AML		06 56 02.7	
	comp=N,10482μm,0.6s							
PVO	**Paravola**	**1.46**	**259**	P		**Pn**	**06 55 40.6**	**-0.1**
OUR	**Ouranopolis**	**1.50**	**19**	P		**Pb**	**06 55 41.2**	**-0.8**
OUR	**Ouranopolis**	**1.50**	**19**	PN		**Pb**	**06 55 41.2**	**-0.8**
OUR				SN		**Sb**	**06 56 00.1**	**-1.3**
OUR	**Ouranopolis**	**1.50**	**19**	P		**Pb**	**06 55 41.2**	**-0.8**
KRND	**KRANIDI**	**1.53**	**186**	P		**Pn**	**06 55 41.1**	**-0.6**
KRND				S		**Sn**	**06 56 01.3**	**-0.7**
DRO	**Drossia**	**1.61**	**234**	P		**Pn**	**06 55 42.8**	**0.0**
DRO	**Drossia**	**1.61**	**234**	P		**Pn**	**06 55 42.8**	**0.0**
DRO				AML	AML		06 56 13.5	
	comp=N,6308μm,0.9s							
DRO				AML	AML		06 56 14.9	
	comp=E,6620μm,0.7s							
HORT	**Hortiatis**	**1.70**	**353**	P		**Pn**	**06 55 43.6**	**-0.4**
HORT	**Hortiatis**	**1.70**	**353**	PN		**Pn**	**06 55 43.6**	**-0.4**
HORT				SN		**Sn**	**06 56 05.4**	**-0.8**
HORT	**Hortiatis**	**1.70**	**353**	P		**Pn**	**06 55 43.7**	**-0.4**
HORT				AML	AML		06 56 06.9	
	comp=N,2341μm,0.4s							
HORT				AML	AML		06 56 07.7	
	comp=E,5261μm,0.7s							
RLS	**Riolos of Patr**	**1.71**	**241**	P		**Pn**	**06 55 44.7**	**+0.6**
LIA	**Limnos Island**	**1.73**	**55**	P		**Pn**	**06 55 43.5**	**-0.8**
THE	**Thessaloniki**	**1.75**	**350**	P		**Pn**	**06 55 44.0**	**-0.6**
THE	**Thessaloniki**	**1.75**	**350**	P		**Pn**	**06 55 44.0**	**-0.6**
THE				AML	AML		06 55 53.7	
	comp=N,1230μm,0.5s							
THE				AML	AML		06 56 13.9	
	comp=E,1723μm,0.9s							
KZN	**Kozani**	**1.86**	**319**	P		**Pn**	**06 55 46.4**	**+0.2**
KZN	**Kozani**	**1.86**	**319**	P		**Pn**	**06 55 46.6**	**+0.3**
KPRO	**Kipourio**	**1.86**	**305**	P		**Pn**	**06 55 46.7**	**+0.4**
SOH	**Sokhos**	**1.91**	**360**	P		**Pn**	**06 55 47.1**	**+0.2**
SOH	**Sokhos**	**1.91**	**360**	P		**Pn**	**06 55 47.1**	**+0.2**
SOH				AML	AML		06 56 13.8	
	comp=N,2846μm,0.4s							
SOH				AML	AML		06 56 20.0	
	comp=E,3494μm,0.7s							
KOKK	**Kokkinochori,**	**1.97**	**14**	P		**Pn**	**06 55 47.4**	**-0.3**
KOKK	**Kokkinochori,**	**1.97**	**14**	P		**Pn**	**06 55 47.5**	**-0.3**
THAS	**Thassos island**	**1.99**	**31**	P		**Pn**	**06 55 47.0**	**-1.0**
ITM	**Ithomi**	**2.06**	**214**	P		**Pn**	**06 55 49.8**	**+0.8**
ITM	**Ithomi**	**2.06**	**214**	PN		**Pn**	**06 55 50.1**	**+1.1**
ITM	**Ithomi**	**2.06**	**214**	Pn		**Pn**	**06 55 49.6**	**+0.6**
ITM	**Ithomi**	**2.06**	**214**	P		**Pn**	**06 55 49.3**	**+0.3**
ITM				AML	AML		06 56 24.4	
	comp=N,1754μm,0.7s							
ITM				AML	AML		06 56 28.5	
	comp=E,1953μm,0.7s							
JAN	**Janina**	**2.08**	**292**	P		**Pb**	**06 55 52.0**	**0.0**
LKD2	**Lefkada island**	**2.11**	**268**	P		**Pb**	**06 55 52.5**	**+0.1**
LKD2	**Lefkada island**	**2.11**	**268**	P		**Pb**	**06 55 52.8**	**+0.3**
LKD2	baz=261							
				S		**Sb**	**06 56 18.5**	**-0.4**
GRG	**Griva**	**2.17**	**341**	P		**Pn**	**06 55 50.3**	**-0.2**
GRG	**Griva**	**2.17**	**341**	PN		**Pn**	**06 55 50.3**	**-0.2**
GRG				SN		**Sn**	**06 56 17.6**	**-0.3**
CHOS	**Chios island**	**2.18**	**103**	P		**Pn**	**06 55 50.7**	**+0.1**
CHOS	**Chios island**	**2.18**	**103**	PN		**Pn**	**06 55 50.7**	**+0.1**
DRAG	**Dragano-Lefkad**	**2.19**	**265**	P		**Pb**	**06 55 53.1**	**-0.6**
SRS	**Serrai**	**2.21**	**5**	P		**Pn**	**06 55 50.9**	**-0.2**
SRS	**Serrai**	**2.21**	**5**	P		**Pn**	**06 55 50.9**	**-0.2**
SRS				AML	AML		06 56 19.7	
	comp=N,1173μm,0.6s							
SRS				AML	AML		06 56 23.4	
	comp=E,752μm,0.6s							
VLI	**Veliai**	**2.21**	**189**	P		**Pn**	**06 55 50.4**	**-0.6**
VLI	**Veliai**	**2.21**	**189**	P		**Pn**	**06 55 50.5**	**-0.6**
GPNR	**Gulpinar-Canak**	**2.23**	**75**	PN		**Pn**	**06 55 50.9**	**-0.3**
FSK	**Fiskardo**	**2.23**	**259**	P		**Pb**	**06 55 53.9**	**-0.6**
KAVA	**Kavala**	**2.27**	**23**	P		**Pn**	**06 55 51.2**	**-0.6**
KAVA	**Kavala**	**2.27**	**23**	P		**Pn**	**06 55 51.1**	**-0.7**
KNT	**Kendrikon**	**2.28**	**351**	P		**Pn**	**06 55 52.5**	**+0.5**
KNT	**Kendrikon**	**2.28**	**351**	PN		**Pn**	**06 55 52.5**	**+0.5**
KNT	**Kendrikon**	**2.28**	**351**	P		**Pn**	**06 55 52.7**	**+0.7**
BOZC	**Bozcaada**	**2.29**	**65**	PN		**Pn**	**06 55 51.6**	**-0.5**
SMTH	**Samothraki Isl**	**2.29**	**46**	P		**Pn**	**06 55 51.5**	**-0.6**
VLS	**Valsamata**	**2.29**	**252**	P		**Pn**	**06 55 53.7**	**+1.6**
PRK	**Paraskevi**	**2.29**	**81**	P		**Pn**	**06 55 53.0**	**+0.9**
LTHK	**Lithakia**	**2.32**	**240**	P		**Pb**	**06 55 55.4**	**-0.5**
PSDA	**Pessada-Kefalo**	**2.32**	**251**	P		**Pn**	**06 55 53.9**	**+1.5**
NEST	**Nestorio**	**2.33**	**311**	P		**Pb**	**06 55 54.1**	**-2.1**
GADA	**Gvkgeada**	**2.34**	**56**	PN		**Pn**	**06 55 52.7**	**-0.2**
MHLO	**Agia Marina, M**	**2.37**	**159**	P		**Pn**	**06 55 53.0**	**-0.1**
PYL	**PYLOS**	**2.38**	**213**	P		**Pn**	**06 55 54.6**	**+1.2**
IGT	**Igoumenitsa**	**2.43**	**286**	P		**Pb**	**06 55 56.7**	**-1.2**
IGT	**Igoumenitsa**	**2.43**	**286**	P		**Pb**	**06 55 56.5**	**-1.4**
	baz=280							
DMLN	**Damoulianata-K**	**2.43**	**255**	P		**Pn**	**06 55 55.8**	**+1.7**
LSK	**Leskovik**	**2.47**	**301**	P		**Pn**	**06 55 56.1**	**+1.5**
LSK	**Leskovik**	**2.47**	**301**	P		**Pn**	**06 55 56.1**	**+1.5**
	baz=295							
LSK				S		**Sn**	**06 56 25.2**	**+0.1**
	baz=295							
LSK				AMP				
	comp=N,6.8nm,0.8s,baz=295							
NVR	**Nevrokopi**	**2.47**	**9**	P		**Pn**	**06 55 54.2**	**-0.4**
EZN	**Ezine**	**2.48**	**67**	P		**Pn**	**06 55 54.6**	**0.0**
EZN	**Ezine**	**2.48**	**67**	PN		**Pn**	**06 55 54.6**	**0.0**
VAY	**Valandovo**	**2.48**	**346**	*i* Pn		**Pn**	**06 55 54.4**	**+0.6**
APE	**Apeiranthos**	**2.52**	**136**	⇑P		**Pn**	**06 55 55.0**	**-0.3**
APE	**Apeiranthos**	**2.52**	**136**	P		**Pn**	**06 55 55.2**	**-0.1**
APE	**Apeiranthos**	**2.52**	**136**	PN		**Pn**	**06 55 55.1**	**-0.2**
URLA	**Izmir**	**2.59**	**101**	PN		**Pn**	**06 55 55.7**	**-0.6**
KBN	**Korca**	**2.62**	**312**	P		**Pn**	**06 55 57.5**	**+0.8**
KBN	**Korca**	**2.62**	**312**			**Pn**	**06 55 57.7**	**+1.0**
KBN	**Korca**	**2.62**	**312**	P		**Pn**	**06 55 58.1**	**+1.4**
	baz=306							
KBN				S		**Sn**	**06 56 29.0**	**0.0**
	baz=306							
KBN				AMP				
	comp=N,4.9nm,1.5s,baz=306							
KTHA	**Kythira Island**	**2.66**	**185**	P		**Pn**	**06 55 56.9**	**-0.3**
KTHR	**Kythira**	**2.66**	**186**	P		**Pn**	**06 55 57.4**	**+0.2**
DKL	**Díkili**	**2.77**	**86**	PN		**Pn**	**06 55 58.6**	**-0.1**
SRN	**Sarande**	**2.77**	**291**	P		**Pn**	**06 56 00.9**	**+2.1**
SRN	**Sarande**	**2.77**	**291**	P		**Pn**	**06 56 00.9**	**+2.1**
	baz=286							
SRN				S		**Sb**	**06 56 35.9**	**-2.1**
	baz=286							
SRN				AMP				
	comp=N,1.3nm,0.6s,baz=286							
RDO	**Rodhopi**	**2.79**	**36**	P		**Pn**	**06 55 58.7**	**-0.2**
RDO	**Rodhopi**	**2.79**	**36**	PN		**Pn**	**06 55 58.8**	**-0.2**
RDO	**Rodhopi**	**2.79**	**36**	Pn		**Pn**	**06 55 59.0**	**0.0**
ENEZ	**Enez**	**2.82**	**49**	PN		**Pn**	**06 55 59.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**2.83**	**57**	PN		**Pn**	**06 55 59.2**	**-0.3**
ALN	**Alexandroupoli**	**2.87**	**45**	PN		**Pn**	**06 55 59.2**	**-0.8**
ALN	**Alexandroupoli**	**2.87**	**45**	Pn		**Pn**	**06 55 59.8**	**-0.2**
KEK	**Kerkira**	**2.88**	**287**	P		**Pn**	**06 56 01.5**	**+1.3**
KEK	**Kerkira**	**2.88**	**287**	Pn		**Pn**	**06 56 00.9**	**+0.7**
OHR	**Ohrid**	**2.95**	**319**	*i* Pn		**Pn**	**06 56 02.9**	**+1.7**
SMG	**Samos**	**2.99**	**113**	P		**Pn**	**06 56 02.1**	**+0.4**
SANT	**Santorini**	**3.03**	**146**	⇓P		**Pn**	**06 56 03.0**	**+0.6**
SANT	**Santorini**	**3.03**	**146**	PN		**Pn**	**06 56 03.0**	**+0.6**
SANT	**Santorini**	**3.03**	**146**			**Pn**	**06 56 02.8**	**+0.5**
ANKY	**Antikythira Is**	**3.04**	**181**	P		**Pn**	**06 56 02.3**	**-0.1**
KDZ	**Kurdzhali**	**3.16**	**29**	PN		**Pn**	**06 56 03.4**	**-0.7**
GCAM	**G?zelcaml?**	**3.28**	**110**	PN		**Pn**	**06 56 06.0**	**+0.3**
UKOP	**Uzunkopru-Edir**	**3.35**	**48**	PN		**Pn**	**06 56 07.0**	**+0.3**
PLD	**Plovdiv**	**3.35**	**17**	PN		**Pn**	**06 56 07.1**	**+0.4**
RODP	**Rodopos**	**3.36**	**174**	P		**Pn**	**06 56 07.5**	**+0.7**
VLO	**Vlora**	**3.36**	**299**			**Pn**	**06 56 07.5**	**+0.7**
SKO	**Skopje**	**3.39**	**335**	*i* Pn		**Pn**	**06 56 08.0**	**+0.8**
RKY	**Sarkoy-Tekirda**	**3.44**	**58**	PN		**Pn**	**06 56 08.1**	**+0.2**
IMMV	**Iera Moni Meta**	**3.48**	**172**	P		**Pn**	**06 56 08.3**	**-0.2**
GONE	**Gonen-Balikesi**	**3.54**	**70**	PN		**Pn**	**06 56 09.3**	**+0.1**
PHP	**Peshkopia**	**3.56**	**322**	P		**Pn**	**06 56 10.4**	**+0.8**
PHP	**Peshkopia**	**3.56**	**322**	P		**Pn**	**06 56 10.5**	**+0.8**
	baz=319							
PHP				S		**Sn**	**06 56 51.4**	**-0.7**
	baz=319							
BODT	**Bodrum**	**3.63**	**119**	P		**Pn**	**06 56 10.3**	**-0.2**
BODT	**Bodrum**	**3.63**	**119**	PN		**Pn**	**06 56 10.4**	**-0.1**
MRMT	**Marmara Adasi**	**3.68**	**61**	PN		**Pn**	**06 56 10.6**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**3.69**	**104**	PN		**Pn**	**

RUDO	**Rudo**	**5.58**	**329**	*e*Pn		**Pn**	**06 56 37.8**	**+0.4**
BORA	**Eskisehir**	**5.58**	**78**			**Pn**	**06 56 38.1**	**+0.7**
AKAS	**Kas**	**5.64**	**116**			**Pn**	**06 56 39.3**	**+1.1**
SRE	**Strehaia**	**5.75**	**359**	⇑P		**Pn**	**06 56 39.6**	**0.0**
DIVS	**Divibare**	**5.77**	**335**	Pn		**Pn**	**06 56 39.9**	**-0.1**
DIVS	**Divibare**	**5.77**	**335**	*e*Pn		**Pn**	**06 56 39.3**	**-0.7**
DJES	**Djerdap**	**5.79**	**354**	⇑P		**Pn**	**06 56 40.0**	**-0.1**
STON	**Ston**	**5.83**	**315**	*e*Pn		**Pn**	**06 56 39.0**	**-1.8**
STON	**Ston**	**5.83**	**315**	*e*Pn		**Pn**	**06 56 39.9**	**-0.9**
CUC	**Castrocucco**	**5.94**	**283**			**Pn**	**06 56 43.3**	**+1.0**
MDVR	**Moldovita**	**5.99**	**349**	⇑P		**Pn**	**06 56 43.3**	**+0.3**
HERR	**Herculane**	**6.01**	**354**	⇑P		**Pn**	**06 56 43.3**	**+0.2**
LSTV	**Lastovo**	**6.24**	**310**	*e*Pn		**Pn**	**06 56 45.4**	**-0.9**
MDUB	**Mudurnu**	**6.25**	**73**	Pn		**Pn**	**06 56 47.5**	**+0.9**
MTUR	**Matau**	**6.44**	**11**	⇑P		**Pn**	**06 56 50.5**	**+1.3**
MAKA	**Makarska**	**6.48**	**314**	*e*Pn		**Pn**	**06 56 49.1**	**-0.6**
ARR	**Arges**	**6.52**	**8**	⇑P		**Pn**	**06 56 50.6**	**+0.3**
LOT	**Lotru**	**6.54**	**3**	⇓P		**Pn**	**06 56 51.0**	**+0.3**
RICI	**Ricice**	**6.56**	**316**	*e*Pn		**Pn**	**06 56 51.0**	**+0.2**
ISR	**Istrita**	**6.64**	**20**	⇑P		**Pn**	**06 56 51.6**	**-0.3**
VOIR		**6.64**	**10**	⇑P		**Pn**	**06 56 52.4**	**+0.4**
TIRR	**Tirgusor**	**6.71**	**33**	⇑P		**Pn**	**06 56 53.3**	**+0.4**
HVAR	**Hvar**	**6.74**	**311**	*e*Pn		**Pn**	**06 56 52.1**	**-1.1**
FRGS	**Fruska Gora**	**6.78**	**338**	⇑P		**Pn**	**06 56 53.7**	**-0.1**
FRGS	**Fruska Gora**	**6.78**	**338**	*e*Pn		**Pn**	**06 56 54.0**	**+0.2**
BZS	**Buzias**	**6.83**	**350**	⇑P		**Pn**	**06 56 55.1**	**+0.7**
MLR	**Muntele Rosu**	**6.85**	**15**	⇑P		**Pn**	**06 56 55.2**	**+0.3**
MLR	**Muntele Rosu**	**6.85**	**15**	Pn		**Pn**	**06 56 56.6**	**+1.7**
	comp=N,3.0nm,0.3s,baz=215,slow=3.6,SNR=24							
MLR				Sn		**Sn**	**06 58 13.9**	**+0.5**
	baz=258,slow=22							
MLR				Lg		Lg	06 58 52.9	
	comp=N,0.1nm,0.3s,baz=162,slow=20,SNR=1.7							
MLR				LR		LR	06 59 56.8	
	comp=N,197nm,19.6s,baz=217,slow=41							
	comp=N,11nm,0.3s							
MLR	**Muntele Rosu**	**6.85**	**15**	Pn		**Pn**	**06 56 55.5**	**+0.6**
TPGR	**Topolog**	**7.04**	**31**	⇑P		**Pn**	**06 56 57.8**	**+0.4**
PAOL	**Paolisi**	**7.08**	**290**			**Pn**	**06 56 59.4**	**+1.5**
VAE	**Valguarnera**	**7.19**	**261**	Pn		**Pn**	**06 57 01.4**	**+1.9**
	comp=N,3.1nm,0.3s,baz=74,slow=14,SNR=1.8							
VAE				Sn		**Sn**	**06 58 26.4**	**+4.8**
	comp=N,3.7nm,0.3s,baz=90,slow=20,SNR=1.8							
	comp=N,9.1nm,0.4s							
CFR	**Carcaliu**	**7.20**	**28**	⇑P		**Pn**	**06 57 00.5**	**+1.0**
DOPR	**Dopca**	**7.21**	**11**	⇑P		**Pn**	**06 57 00.8**	**+1.1**
MGRS	**Mrkonjic Grad**	**7.23**	**322**	*e*Pn		**Pn**	**06 57 00.8**	**+0.8**
COVR	**Voineasa-Covas**	**7.24**	**16**	⇑P		**Pn**	**06 57 01.0**	**+0.8**
KIJV	**Kijevo**	**7.29**	**317**	*e*Pn		**Pn**	**06 57 00.5**	**-0.4**
RAFF	**Raffo Rosso**	**7.29**	**259**			**Pn**	**06 57 02.6**	**+1.7**
PLOR	**Plostina**	**7.35**	**18**	⇑P		**Pn**	**06 57 03.0**	**+1.3**
VRI	**Vrincioaia**	**7.38**	**19**	⇑P		**Pn**	**06 57 02.8**	**+0.7**
OZUR		**7.40**	**13**	⇑P		**Pn**	**06 57 03.6**	**+1.2**
BLY	**Banja Luka**	**7.43**	**324**	*e*Pn		**Pn**	**06 57 03.4**	**+0.6**
ZIRJ	**Zirje**	**7.50**	**312**	*e*Pn		**Pn**	**06 57 02.9**	**-0.7**
A050A	**Klekovaca**	**7.55**	**320**	*e*Pn		**Pn**	**06 57 04.6**	**+0.1**
A051A	**Mrakovica**	**7.76**	**324**	*e*Pn		**Pn**	**06 57 04.1**	**-3.2**
DRGR		**7.89**	**357**	⇑P		**Pn**	**06 57 09.1**	**-0.1**
TESR	**Tescani**	**7.97**	**17**	⇑P		**Pn**	**06 57 11.0**	**+0.8**
UDBI	**Udbina**	**7.98**	**317**	*e*Pn		**Pn**	**06 57 11.1**	**+0.7**
BR131	**Keskin Array S**	**8.01**	**81**	Pn		**Pn**	**06 57 11.0**	**+0.1**
BRTR	**Keskin Array B**	**8.01**	**81**	Pn		**Pn**	**06 57 12.8**	**+1.9**
	comp=N,0.3nm,0.3s,baz=260,slow=12,SNR=6.4							
BRTR				Sn		**Sn**	**06 58 38.0**	**-4.0**
	comp=N,0.2nm,0.3s,baz=275,slow=20,SNR=2.2							
BRTR				Lg		Lg	06 59 33.9	
	baz=287,slow=21,SNR=3.1							
	comp=N,1.5nm,0.6s							
BRTR	**Keskin Array B**	**8.01**	**81**	Pn		**Pn**	**06 57 11.4**	**+0.5**
DUGI	**Dugi Otok**	**8.04**	**312**	*e*Pn		**Pn**	**06 57 10.2**	**-0.9**
MORH	**Mrgy, Hungar**	**8.09**	**336**	⇑P		**Pn**	**06 57 12.3**	**+0.6**
MORH	**Mrgy, Hungar**	**8.09**	**336**	P		**Pn**	**06 57 12.9**	**+1.2**
KOVH	**Kovagotottos**	**8.16**	**333**	P		**Pn**	**06 57 13.6**	**+1.0**
VIRC	**Vir**	**8.22**	**314**	*e*Pn		**Pn**	**06 57 13.1**	**-0.5**
BIZ	**Bicaz**	**8.27**	**13**	⇑P		**Pn**	**06 57 14.6**	**+0.3**
CAMP	**Campotosto**	**8.38**	**299**			**Pn**	**06 57 16.2**	**+0.4**
NVLJ	**Novalja**	**8.49**	**314**	*e*Pn		**Pn**	**06 57 16.4**	**-0.8**
NRCA	**Norcia**	**8.69**	**300**			**Pn**	**06 57 20.7**	**+0.6**
FDMO	**Fiordimonte**	**8.79**	**301**			**Pn**	**06 57 21.1**	**-0.4**
BURAR	**Bucovina Array**	**8.81**	**8**	⇑P		**Pn**	**06 57 22.6**	**+1.0**
BURAR	**Bucovina Array**	**8.81**	**8**	Pn		**Pn**	**06 57 22.0**	**+0.3**
BUR08	**Bucovina Ar. S**	**8.83**	**8**			**Pn**	**06 57 22.2**	**+0.2**
KIS	**Kishinev**	**9.02**	**25**	*e*P		**Pn**	**06 57 21.3**	**-3.2**
KIS				LgM			07 00 34.0	
	comp=N,300nm,16.0s							
KIS				LRM		MLR	07 00 47.0	
	comp=N,100nm,14.0s							
MURB	**Monte Urbino**	**9.26**	**301**			**Pn**	**06 57 28.2**	**+0.3**
MPLH	**Magyarpolny**	**9.29**	**335**	P		**Pn**	**06 57 30.2**	**+2.0**
PSZ	**Piszkesteto**	**9.35**	**346**	Pn		**Pn**	**06 57 29.6**	**+0.5**
CEY	**Cerknica**	**9.50**	**319**	*e*Pn		**Pn**	**06 57 30.6**	**-0.5**
SOKA	**Soboth**	**9.88**	**324**	*e*P		**Pn**	**06 57 36.1**	**-0.3**
	comp=N,4.8nm,0.5s							
OBKA	**Obir**	**9.98**	**322**	*e*Pn		**Pn**	**06 57 35.9**	**-1.9**
CRVS	**Cervenica-Dubn**	**10.08**	**353**	*e*PN		**Pn**	**06 57 41.0**	**+1.9**
ARSA	**Arzberg**	**10.11**	**328**	*e*P		**Pn**	**06 57 40.2**	**+0.7**
	comp=N,2.7nm,0.3s							
VYHS	**Vyhne**	**10.12**	**343**	*e*PN		**Pn**	**06 57 41.9**	**+2.3**
MODS	**Modra-Piesok**	**10.43**	**337**	*e*PN		**Pn**	**06 57 46.5**	**+2.6**
TEOL	**Teolo**	**10.80**	**310**	Pn		**Pn**	**06 57 49.6**	**+0.6**
CIMO	**Cimolais**	**10.92**	**316**	Pn		**Pn**	**06 57 50.0**	**-0.6**
KBA	**Koelnbreinsper**	**10.96**	**321**	P		**Pn**	**06 57 51.0**	**-0.3**
	comp=N,1.2nm,0.3s,SNR=4.9							
BIOA	**Bad Ischl, Aus**	**11.27**	**324**	*e*P		**Pn**	**06 57 55.6**	**+0.3**
	comp=N,4.4nm,0.5s							
MMAI	**Mount Meron Ar**	**11.39**	**117**	Pn		**Pn**	**06 57 57.7**	**+0.6**
	comp=N,3.7nm,0.3s,baz=316,slow=13,SNR=2.6							
MMAI				LR		LR	07 03 19.8	
	comp=N,110nm,18.2s,baz=200,slow=43							
	comp=N,0.8nm,0.3s							
VRAC	**Vranov**	**11.47**	**337**	Pn		**Pn**	**06 57 59.2**	**+1.1**
	comp=N,0.5nm,0.3s,baz=156,slow=15,SNR=4.3							
VRAC				LR		LR	07 02 35.3	
	comp=N,35nm,21.2s,baz=173,slow=38							
	comp=N,3.7nm,0.7s							
OJC	**Ojcow**	**11.59**	**349**	Pn		**Pn**	**06 58 00.6**	**+0.9**
KEST	**Kesra**	**11.60**	**258**	LR		LR	07 04 10.4	
	comp=N,72nm,19.7s,baz=303,slow=46							
GERES	**GERESS Array B**	**12.12**	**328**	Pn		**Pn**	**06 58 07.3**	**+0.3**
	comp=N,0.6nm,0.3s,baz=147,slow=13,SNR=4.7							
	comp=N,0.8nm,0.3s							
KHC	**Kasperske Hory**	**12.39**	**329**			**Pn**	**06 58 09.9**	**-0.9**
KHC	**Kasperske Hory**	**12.39**	**329**	*e*P		**Pn**	**06 58 10.0**	**-0.7**
AKASG	**Malin Array Be**	**12.50**	**17**	Pn		**Pn**	**06 58 11.1**	**-1.0**
	comp=N,0.5nm,0.3s,baz=204,slow=11,SNR=1.8							
AKASG				LR		LR	07 03 13.1	
	comp=N,78nm,18.0s,baz=168,slow=38							
	comp=N,0.2nm,0.3s							
DAVOX	**Davos/Dischmat**	**12.62**	**313**	Pn		**Pn**	**06 58 14.4**	**+0.4**
	comp=N,0.6nm,0.3s,baz=70,slow=14,SNR=2.8							
DAVOX				LR		LR	07 03 27.4	
	comp=N,68nm,21.0s,baz=262,slow=39							
	comp=N,1.8nm,0.4s							
EIL	**Elat**	**13.29**	**130**	Pn		**Pn**	**06 58 23.2**	**+0.3**
	comp=N,0.4nm,0.3s,baz=356,slow=9.2,SNR=5.1							
	comp=N,11nm,0.9s							
SENIN	**Lac Senin/Sane**	**13.96**	**307**	Pn		**Pn**	**06 58 31.9**	**-0.3**
CLL	**Collm**	**14.37**	**333**	*e*P		**Pn**	**06 58 39.0**	**+1.3**
CLL				*e*PP		**PnPn**	**06 58 46.0**	**+0.4**
	comp=Z,6.0nm,0.8s							
CLL				Lmax			07 04 00.0	
PABE	**Paberze**	**16.61**	**1**	P		**P**	**06 59 09.8**	**+0.2**
PABE				IAmb		IAmb	06 59 13.0	
	comp=Z,29nm,1.0s							
ESBB	**Sonseca Array**	**21.13**	**281**	P		**P**	**06 59 59.9**	**+0.5**
ESDC	**Sonseca Array**	**21.13**	**281**	P		**P**	**07 00 00.0**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=75,slow=10,SNR=20							
ESDC				LR		LR	07 08 30.4	
	comp=Z,61nm,18.0s,baz=84,slow=38							
	comp=Z,4.1nm,0.8s							
ESDC	**Sonseca Array**	**21.13**	**281**	P		**P**	**06 59 59.5**	**+0.1**
PAB	**San Pablo**	**21.44**	**280**	P		**P**	**07 00 03.4**	**+0.6**
PAB				IAmb		IAmb	07 00 13.9	
	comp=Z,15nm,1.3s							
BELG	**Belogornoye**	**21.54**	**43**	P		**P**	**07 00 04.8**	**+1.3**
	comp=Z,19nm,0.9s,baz=250,slow=17,SNR=5.1							
BELG				LR		LR	07 08 08.3	
	comp=Z,24nm,19.9s,baz=338,slow=36							
	comp=Z,19nm,0.9s							
HFS	**Hagfors**	**22.11**	**347**	P		**P**	**07 00 10.9**	**+1.3**
	comp=Z,6.6nm,0.7s,baz=155,slow=11,SNR=18							
	comp=Z,6.6nm,0.7s							
KONO	**Kongsberg**	**22.53**	**342**	P		**P**	**07 00 12.6**	**-1.5**
KONO				IAmb		IAmb	07 00 21.9	
	comp=Z,12nm,0.9s							
FINES	**FINESS Array B**	**22.62**	**3**	P		**P**	**07 00 15.7**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=167,slow=9.6,SNR=4.4							
FINES				LR		LR	07 10 14.9	
	comp=Z,84nm,20.3s,baz=196,slow=40							
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**22.62**	**3**	P		**P**	**07 00 13.8**	**-1.3**
NC602	**NORSAR Array S**	**23.07**	**345**	P		**P**	**07 00 19.4**	**-0.4**
NC405	**NORSAR Array S**	**23.38**	**346**	P		**P**	**07 00 23.0**	**0.0**
NB2	**NORSAR Subarra**	**23.41**	**345**	P		**P**	**07 00 22.8**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=155,slow=12							
NOA	**NORSAR Array B**	**23.41**	**345**	P		**P**	**07 00 23.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=152,slow=11,SNR=9.2							
NOA				LR		LR	07 11 49.3	
	comp=Z,4.1nm,20.6s,baz=160,slow=42							
	comp=Z,0.9nm,0.6s							
MDT	**Midelt**	**23.41**	**264**	P		**P**	**07 00 24.3**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=40,slow=7.9,SNR=3.7							
	comp=Z,3.1nm,1.0s							
EKA	**Eskdalemuir Ar**	**24.18**	**321**	P		**P**	**07 00 30.5**	**-0.3**
	comp=Z,5.0nm,0.7s,baz=118,slow=9.8,SNR=13							
	comp=Z,5.0nm,0.7s							
RAYN	**Ar Rayn**	**24.28**	**123**	P		**P**	**07 00 33.2**	**+1.2**
RAYN				IAmb		IAmb	07 00 35.1	
	comp=Z,4.6nm,1.1s							
KIRV	**Kirov**	**25.84**	**32**	LR		LR	07 11 07.8	
	comp=Z,52nm,19.9s,baz=250,slow=37							
AKTO	**Aktyubinsk**	**26.96**	**53**	P		**P**	**07 00 56.9**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=254,slow=8.1,SNR=5.2							
	comp=Z,1.5nm,0.6s							
ABKAR	**Akbulak array**	**27.99**	**56**	P		**P**	**07 01 06.0**	**+0.8**
ARU	**Arti**	**29.04**	**41**	LR		LR	07 13 17.2	
	comp=Z,20nm,19.9s,baz=236,slow=37							
ARCES	**ARCESS Array B**	**30.71**	**1**	P		**P**	**07 01 28.6**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=185,slow=9.7,SNR=1.9							
ARCES				LR		LR	07 15 54.7	
	comp=Z,25nm,19.0s,baz=152,slow=40							
	comp=Z,1.5nm,0.8s							
TOA0	**Torodi Ar. Sit**	**32.04**	**223**	P		**P**	**07 01 41.0**	**-0.3**
TOA0				IAmb		IAmb	07 01 46.2	
	comp=Z,3.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**32.04**	**223**	P		**P**	**07 01 40.9**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=35,slow=9.6,SNR=18							
	comp=Z,2.9nm,0.6s							
BORG	**Borgarnes**	**36.58**	**330**	LR		LR	07 19 54.7	
	comp=Z,28nm,18.7s,baz=139,slow=40							
AAK	**Ala-Archa**	**38.43**	**68**	LR		LR	07 23 16.9	
	comp=Z,18nm,18.9s,baz=260,slow=44							
DBIC	**Dimbokro**	**40.97**	**226**	P		**P**	**07 02 57.0**	**-0.5**
	comp=Z,5.8nm,0.9s,baz=28,slow=7.4,SNR=4.0							
	comp=Z,5.8nm,0.9s							
DBIC	**Dimbokro**	**40.97**	**226**	P		**P**	**07 02 57.0**	**-0.5**
MK31	**Makanchi Array**	**43.02**	**60**	P		**P**	**07 03 14.6**	**+0.5**
MK31				IAmb		IAmb	07 03 15.7	
	comp=Z,4.7nm,1.4s							
MKAR	**Makanchi Array**	**43.02**	**60**	P		**P**	**07 03 14.3**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=274,slow=7.3,SNR=22							
	comp=Z,1.3nm,0.5s							
MKAR	**Makanchi Array**	**43.02**	**60**	P		**P**	**07 03 14.5**	**+0.5**
ZALV	**Zalesovo Beam**	**43.54**	**49**	P		**P**	**07 03 18.7**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=256,slow=9.6,SNR=3.8							
	comp=Z,2.2nm,0.3s							
WMQ	**Urumqi**	**47.45**	**62**	*e*P		**P**	**07 03 51.8**	**+2.4**
TSUM	**Tsumeb**	**58.06**	**186**	LR		LR	07 32 28.3	
	comp=Z,33nm,19.4s,baz=338,slow=38							
SONM	**Songino Array**	**58.27**	**52**	P		**P**	**07 05 09.5**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=296,slow=7.9,SNR=4.1							
	comp=Z,0.7nm,0.8s							
YAK	**Yakutsk**	**63.37**	**30**	LR		LR	07 33 55.3	
	comp=Z,27nm,18.0s,baz=269,slow=37							
LBTB	**Lobatse**	**63.62**	**178**	LR		LR	07 36 37.5	
	comp=Z,32nm,19.1s,baz=359,slow=39							
HHC	**Hu-ho-hao-te**	**64.78**	**57**	*e*P		**P**	**07 05 53.1**	**-0.3**
HHC				pmax		pmax		
	comp=Z,19nm,1.2s							
HHC				pmax		pmax		
	comp=Z,150nm,6.8s							
PZH	**PanZhiHua**	**65.27**	**75**	P		**P**	**07 05 58.1**	**+1.4**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,100nm,5.7s							
BOSA	**Boshof**	**67.20**	**178**	LR		LR	07 35 43.6	
	comp=Z,28nm,18.4s,baz=10.0,slow=36							
SUR	**Sutherland**	**70.97**	**182**	LR		LR	07 38 37.9	
	comp=Z,31nm,18.6s,baz=172,slow=37							
KSRS	**Korea Array**	**77.14**	**52**	P		**P**	**07 07 08.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=313,slow=6.1,SNR=4.8							
	comp=Z,0.7nm,0.6s							
WRA	**Warramunga Arr**	**118.35**	**94**	PKP		**PKPdf**	**07 14 01.4**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=340,slow=2.8,SNR=2.6							
ASAR	**Alice Springs**	**120.05**	**97**	PKP		**PKPdf**	**07 14 04.2**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=323,slow=1.6,SNR=6.5							

TAP ***16*** *07:17:33.9,24.35N×122.00E,h17km,ML3.3,C*
JMA ***16*** *07:17:33.8±0.1,24.3N±0.6×122.0E±0.3,h23km,MV2.6/8,*
TAIWAN REGION

ISC 16 07:17:33.4±0.9,24.34N±0.02×122.07E±0.02,h12km±8km,
n64,σ0s55/104,12D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.28**	**292**	⇓*i*P	**Pg**	**07 17 38.4**	**-0.8**
	baz=295						
EWUT				*i* S	**Sg**	**07 17 42.5**	**-0.6**
	baz=295						
EHP	**Heping Village**	**0.30**	**264**	P	**Pg**	**07 17 39.6**	**+0.1**
	baz=266						
EHP				*e*S	**Sg**	**07 17 44.1**	**+0.5**
	baz=266						
ENA	**Nanau**	**0.31**	**287**	⇓*i*P	**Pg**	**07 17 39.8**	**+0.1**
	baz=294						
ENA				*i* S	**Sg**	**07 17 44.2**	**+0.3**
	baz=294						
TWC	**Suao**	**0.33**	**324**	⇓*i*P	**Pg**	**07 17 40.4**	**+0.3**
	baz=333						
TWC				S	**Sg**	**07 17 44.4**	**-0.3**
	baz=333						
ETL	**Fush Village**	**0.44**	**246**	*e*P	**Pg**	**07 17 42.2**	**+0.1**
	baz=245						
NACB	**Ninganchiao**	**0.46**	**249**	⇓*i*P	**Pg**	**07 17 42.5**	**0.0**
	baz=246						
NACB				S	**Sg**	**07 17 48.6**	**0.0**
	baz=246						
TWD	**Chiawan**	**0.50**	**239**	*e*P	**Pg**	**07 17 43.4**	**+0.2**
	baz=241						
TWD				*e*S	**Sg**	**07 17 50.2**	**+0.4**
	baz=241						
ILA	**Ilan**	**0.51**	**326**	*e*P	**Pb**	**07 17 44.3**	**0.0**
	baz=326						
ILA				*e*S	**Sg**	**07 17 50.7**	**+0.4**
	baz=326						
TWE	**Neicheng**	**0.53**	**316**	⇓*i*P	**Pg**	**07 17 44.0**	**+0.4**
	baz=322						
TWE				*e*S	**Sg**	**07 17 50.6**	**0.0**
	baz=322						
LATG	**Datong**	**0.53**	**292**	⇓*i*P	**Pg**	**07 17 43.9**	**+0.1**
	baz=300						
LATG				*e*S	**Sg**	**07 17 50.9**	**+0.1**
	baz=300						
ENTT	**Nioudou**	**0.54**	**303**	⇓*i*P	**Pg**	**07 17 43.3**	**-0.7**
	baz=307						
ENTT				*e*S	**Sg**	**07 17 50.5**	**-0.8**
	baz=307						
ETLH	**Xiulin Townshi**	**0.55**	**256**	⇓*i*P	**Pg**	**07 17 44.1**	**0.0**
	baz=260						
ETLH				*e*S	**Sg**	**07 17 51.6**	**+0.2**
	baz=260						
NTC	**Toucheng**	**0.56**	**337**	*e*P	**Pb**	**07 17 45.0**	**-0.1**
	baz=343						
NTC				*e*S	**Sg**	**07 17 52.1**	**+0.5**
	baz=343						
NDT	**Datong Townshi**	**0.57**	**298**	P	**Pg**	**07 17 44.6**	**+0.1**
	baz=300						
NDT				S	**Sg**	**07 17 51.9**	**-0.1**
	baz=300						
FUSB	**Fushanzhiwuyua**	**0.60**	**314**	*e*P	**Pb**	**07 17 45.6**	**-0.2**
	baz=317						
FUSB				*e*S	**Sg**	**07 17 53.6**	**+0.4**
	baz=317						
NNSB	**Datong**	**0.63**	**278**	⇓*i*P	**Pg**	**07 17 45.8**	**+0.1**
	baz=286						
NNSB				*e*S	**Sg**	**07 17 53.6**	**-0.3**
	baz=286						
NNS	**Nan Shan**	**0.64**	**279**	⇓*i*P	**Pg**	**07 17 44.9**	**-0.9**
	baz=287						
NNS				*e*S	**Sg**	**07 17 53.1**	**-1.2**
	baz=287						
TIPB	**Shuangxi**	**0.67**	**341**	P	**Pb**	**07 17 47.0**	**+0.1**
	baz=345						
TIPB				*e*S	**Sg**	**07 17 55.6**	**+0.4**
	baz=345						
TWB1	**Santiao Chiao**	**0.67**	**354**	*e*P	**Pg**	**07 17 45.3**	**-1.1**
	baz=351						
YHNB	**Yeheng**	**0.71**	**298**	⇓*i*P	**Pb**	**07 17 47.5**	**-0.2**
	baz=304						
YHNB				S	**Sg**	**07 17 55.9**	**-0.6**
	baz=304						
NSK	**Sanguang**	**0.73**	**298**	*e*P	**Pg**	**07 17 46.8**	**-0.6**
	baz=304						
NSK				*e*S	**Sg**	**07 17 55.5**	**-1.6**
	baz=304						
FUSS	**Fushou**	**0.76**	**263**	P	**Pb**	**07 17 48.3**	**-0.3**
	baz=269						
FUSS				*e*S	**Sb**	**07 17 58.6**	**-0.3**
	baz=269						
WHF	**Hehuan Shan**	**0.76**	**255**	⇓*i*P	**Pg**	**07 17 48.1**	**0.0**
	baz=260						
WHF				*e*S	**Sg**	**07 17 57.8**	**-0.3**
	baz=260						
SXI1	**Grass Mountain**	**0.77**	**347**	*e*P	**Pb**	**07 17 48.9**	**+0.2**
	baz=357						
SXI1				*e*S	**Sg**	**07 17 59.0**	**+0.5**
	baz=357						
NWF	**Wu-fen Shan**	**0.77**	**341**	*e*P	**Pb**	**07 17 49.3**	**+0.5**
	baz=335						
NWF				*e*S	**Sb**	**07 17 59.2**	**0.0**
	baz=335						
ESL	**Shilin**	**0.78**	**228**	*e*P	**Pg**	**07 17 48.3**	**-0.2**
	baz=223						
NHDH	**Xindian Distri**	**0.79**	**322**	*e*P	**Pn**	**07 17 50.5**	**+0.1**
	baz=315						
NHDH				*e*S	**Sg**	**07 17 59.1**	**+0.1**
	baz=315						
JYNG	**Yonagunijimaku**	**0.81**	**82**	P	**Pb**	**07 17 49.5**	**+0.2**
JYNG				*e*S	**Sb**	**07 18 00.1**	**-0.2**
TWT	**Tachien**	**0.82**	**264**	*e*P	**Pb**	**07 17 49.6**	**0.0**
	baz=269						
TWT				*e*S	**Sb**	**07 18 00.3**	**-0.3**
	baz=269						
TDCB	**Techi**	**0.83**	**264**	*e*P	**Pb**	**07 17 49.6**	**-0.2**
	baz=263						
CHGB	**Renai**	**0.86**	**251**	*e*P	**Pb**	**07 17 50.2**	**-0.1**
	baz=245						
YOJ	**Yonaguni jima**	**0.87**	**82**	*e*P	**Pg**	**07 17 50.2**	**0.0**
	baz=73						
YOJ				*e*S	**Sn**	**07 18 03.5**	**-0.5**
	baz=73						
YOJ	**Yonaguni jima**	**0.87**	**82**	P	**Pb**	**07 17 50.7**	**+0.3**
YOJ				*e*S	**Sb**	**07 18 02.2**	**+0.2**
EGFH	**Guangfu**	**0.89**	**221**	*e*P	**Pn**	**07 17 51.8**	**+0.1**
	baz=218						
EGFH				*e*S	**Sn**	**07 18 04.7**	**+0.3**
	baz=218						
OWD	**Renai**	**0.90**	**245**	*e*P	**Pg**	**07 17 50.6**	**-0.2**
	baz=247						
OWD				*e*S	**Sb**	**07 18 03.1**	**+0.1**
	baz=247						
NFF	**Wufeng Townshi**	**0.91**	**289**	*e*P	**Pg**	**07 17 50.3**	**-0.6**
	baz=295						
NFF				*e*S	**Sg**	**07 18 01.6**	**-1.3**
	baz=295						
YM01	**YM01**	**0.92**	**331**	*e*P	**Pn**	**07 17 52.2**	**+0.1**
	baz=341						
YM01				*e*S	**Sg**	**07 18 03.4**	**+0.2**
	baz=341						
TWS1	**Kuangyinshan**	**0.96**

T1215				AML	AML		
	comp=N,91μm,1.6s						
T1243	**Rocca Santa Ma**	**0.24**	**115**	P	Pg	07 22 14.2	+0.4
T1243				S	Sg	07 22 18.1	+0.8
T1243				END			
FDMO	**Fiordimonte**	**0.25**	**348**	P	Pg	07 22 14.5	+0.5
FDMO				S	Sg	07 22 18.4	+0.9
RM33	**Pellescritta (**	**0.29**	**172**	P	Pg	07 22 15.4	+0.6
RM33				S	Sg	07 22 19.7	+0.9
T1246	**Crognaleto (TE**	**0.33**	**131**	P	Pg	07 22 15.7	+0.2
T1246				S	Sg	07 22 21.0	+1.1

*ISK **16** 07:23:22.8, 38°.89N×27°.68E, h6km, ML3.6/55*
*THE **16** 07:23:22.6, 38°.88N×27°.83E, h0km±1km, ML3.2/8, Error ellipse: s-maj=2.3km s-min=1.0km az=73.0*
*DDA **16** 07:23:23.1±0.0, 38°.90N×27°.74E, h22km±1km, MW3.5*

ISC 16 07:23:23.5±0.8, 38°.90N±0°.02×27°.72E±0°.01, h9km±5km, n102, σ0°82/141, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.07**	**103**	P	**Pg**	**07 23 25.7**	**+0.1**
AKHS				S	**Sg**	**07 23 27.5**	**+0.3**
AKS	**Akhisar**	**0.07**	**103**	PG	**Pg**	**07 23 25.5**	**-0.2**
AKS				SG	**Sg**	**07 23 27.4**	**+0.2**
STEP	**BALIKESIR_Sava**	**0.48**	**360**	P	**Pg**	**07 23 32.7**	**-0.2**
STEP				S	**Sb**	**07 23 40.5**	**-0.9**
STEP				*i* AML	AML	07 23 44.0	
	comp=N,5μm,0.6s						
STEP				*i* AML	AML	07 23 47.0	
	comp=E,3μm,0.7s						
ZEDA	**zmir-Bergama**	**0.51**	**278**	P	**Pb**	**07 23 34.0**	**-0.6**
ZEDA				S	**Sb**	**07 23 41.9**	**-0.1**
ZEDA				*i* AML	AML	07 23 45.0	
	comp=N,2μm,0.7s						
ZEDA				*i* AML	AML	07 23 46.0	
	comp=E,692nm,0.4s						
DKL	**Dikili**	**0.66**	**286**	PG	**Pb**	**07 23 36.9**	**-0.3**
MANT	**Manisa**	**0.77**	**121**	P	**Pb**	**07 23 39.0**	**-0.2**
MANT				S	**Sb**	**07 23 49.0**	**-0.8**
MANT				*i* AML	AML	07 23 51.0	
	comp=N,618nm,0.5s						
MANT				*i* AML	AML	07 23 51.0	
	comp=E,712nm,0.6s						
BUHA	**Balikesir, Bur**	**0.79**	**321**	P	**Pg**	**07 23 38.8**	**+0.1**
BUHA				S	**Sn**	**07 23 51.6**	**-1.0**
BUHA				*i* AML	AML	07 23 53.0	
	comp=E,1μm,0.6s						
BUHA				*i* AML	AML	07 23 55.0	
	comp=N,460nm,0.4s						
DEMI	**Demirci**	**0.79**	**79**	P	**Pg**	**07 23 38.5**	**-0.2**
DEMI				S	**Sb**	**07 23 49.4**	**-0.8**
FOCM	**Foa**	**0.80**	**257**	PG	**Pg**	**07 23 37.9**	**-0.9**
FOCM				SG	**Sg**	**07 23 49.3**	**+0.1**
BALY	**Balya**	**0.85**	**355**	P	**Pg**	**07 23 38.8**	**-1.1**
BALY				S	**Sg**	**07 23 49.8**	**-1.1**
AYVA	**Ayvalik**	**0.90**	**297**	P	**Pb**	**07 23 41.3**	**0.0**
AYVA				S	**Sb**	**07 23 53.9**	**+0.5**
DURS	**Dursunbey**	**0.92**	**39**	P	**Pg**	**07 23 40.2**	**-0.9**
DURS				S	**Sb**	**07 23 54.5**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**172**	PG	**Pg**	**07 23 41.7**	**-0.2**
AYDB				SG	**Sb**	**07 23 55.1**	**0.0**
DST	**Dursunbey**	**0.99**	**44**	PG	**Pb**	**07 23 42.8**	**-0.1**
SMAA	**Simav-Kutahya**	**1.00**	**78**	PG	**Pb**	**07 23 43.1**	**+0.1**
USAK	**Uak-Merkez**	**1.03**	**100**	P	**Pg**	**07 23 42.8**	**-0.5**
USAK				S	**Sn**	**07 23 57.9**	**-0.7**
USAK				*i* AML	AML	07 24 03.0	
	comp=E,155nm,0.5s						
USAK				*i* AML	AML	07 24 04.0	
	comp=N,168nm,1.0s						
URLA	**Izmir**	**1.03**	**239**	PG	**Pg**	**07 23 42.3**	**-1.0**
URLA				SG	**Sg**	**07 23 56.6**	**-0.1**
URLA	**Izmir**	**1.03**	**239**	P	**Pg**	**07 23 42.1**	**-1.2**
URLA				S	**Sb**	**07 23 57.1**	**-0.1**
DGB	**zmir**	**1.07**	**218**	P	**Pg**	**07 23 44.0**	**0.0**
DGB				S	**Sn**	**07 23 59.4**	**-0.1**
DGB				*i* AML	AML	07 24 00.0	
	comp=E,618nm,0.8s						
DGB				*i* AML	AML	07 24 02.0	
	comp=N,433nm,0.7s						
GONE	**Gonen-Balikesi**	**1.15**	**359**	PN	**Pb**	**07 23 45.4**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**1.16**	**236**	P	**Pb**	**07 23 45.3**	**-0.4**
ZEYE				S	**Sn**	**07 24 01.9**	**+0.2**
ZEYE				*i* AML	AML	07 24 03.0	
	comp=N,663nm,0.6s						
ZEYE				*i* AML	AML	07 24 06.0	
	comp=E,463nm,0.5s						
PRK	**Paraskevi**	**1.18**	**288**	P	**Pg**	**07 23 46.9**	**+0.7**
PRK				S	**Sn**	**07 24 03.0**	**+0.6**
	2μm,0.7s						
AYDN	**Tasoluk**	**1.24**	**174**	P	**Pn**	**07 23 46.3**	**-0.7**
AYDN				S	**Sn**	**07 24 04.8**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**1.24**	**313**	P	**Pb**	**07 23 47.1**	**0.0**
BAYC				S	**Sn**	**07 24 03.7**	**-0.2**
BAYC				*i* AML	AML	07 24 06.0	
	comp=N,542nm,0.5s						
BAYC				*i* AML	AML	07 24 06.0	
	comp=E,634nm,0.7s						
GCAM	**G?zelcaml?**	**1.25**	**198**	PN	**Pn**	**07 23 46.4**	**-0.7**
GCAM				SN	**Sn**	**07 24 03.9**	**-0.2**
GEDZ	**Gediz**	**1.32**	**83**	PN	**Pg**	**07 23 48.9**	**0.0**
GPNR	**Gulpinar-Canak**	**1.36**	**295**	PN	**Pn**	**07 23 48.6**	**0.0**
KOCA	**Canakkale, Ayv**	**1.37**	**297**	P	**Pn**	**07 23 48.9**	**+0.1**
KOCA				S	**Sn**	**07 24 07.2**	**+0.1**
KOCA				*i* AML	AML	07 24 10.0	
	comp=E,502nm,0.5s						
KOCA				*i* AML	AML	07 24 14.0	
	comp=N,486nm,0.5s						
SMG	**Samos**	**1.38**	**211**	P	**Pn**	**07 23 48.5**	**-0.3**
SMG				S	**Sg**	**07 24 08.7**	**+1.0**
	865nm,0.5s						
KNL	**Balıkesir**	**1.38**	**354**	P	**Pn**	**07 23 48.6**	**-0.3**
KNL				S	**Sg**	**07 24 07.8**	**-0.2**
KNL				*i* AML	AML	07 24 09.0	
	comp=N,723nm,0.4s						
KNL				*i* AML	AML	07 24 12.0	
	comp=E,914nm,1.0s						
GDZ	**Gediz**	**1.38**	**81**	P	**Pn**	**07 23 48.5**	**-0.6**
GDZ				S	**Sb**	**07 24 06.7**	**-0.7**
GDZ				*i* AML	AML	07 24 09.0	
	comp=E,194nm,0.4s						
GDZ				*i* AML	AML	07 24 17.0	
	comp=N,254nm,0.6s						
CHOS	**Chios island**	**1.40**	**249**	P	**Pn**	**07 23 49.3**	**0.0**
CHOS				S	**Sg**	**07 24 10.2**	**+1.6**
	1μm,0.7s						
CHOS	**Chios island**	**1.40**	**249**	PN	**Pn**	**07 23 49.3**	**0.0**
EZN	**Ezine**	**1.43**	**311**	P	**Pn**	**07 23 49.4**	**-0.1**
EZN				S	**Sg**	**07 24 10.8**	**+1.4**
	508nm,0.7s						
EZN	**Ezine**	**1.43**	**311**	PN	**Pn**	**07 23 49.6**	**+0.1**
EDC	**Edincik**	**1.45**	**4**	PN	**Pn**	**07 23 49.5**	**-0.4**
TVSB	**Tavsanli**	**1.46**	**67**	PN	**Pn**	**07 23 50.2**	**+0.1**
ORLT	**Orhaneli**	**1.47**	**38**	PN	**Pb**	**07 23 50.7**	**-0.2**
SIGR	**SIGRI**	**1.49**	**283**	P	**Pn**	**07 23 50.3**	**-0.1**
SIGR				S	**Sg**	**07 24 12.4**	**+1.1**
	1μm,0.5s						
SIGR	**SIGRI**	**1.49**	**283**	PN	**Pn**	**07 23 50.4**	**0.0**
KHL	**Karahalli**	**1.52**	**111**	PN	**Pb**	**07 23 51.9**	**0.0**
BOZC	**Bozcaada**	**1.60**	**307**	PN	**Pn**	**07 23 52.0**	**0.0**
ULDT	**Uludag**	**1.66**	**41**	P	**Pn**	**07 23 53.0**	**+0.1**
ULDT				S	**Sb**	**07 24 15.4**	**+0.1**
ULDT				*i* AML	AML	07 24 19.0	
	comp=N,420nm,0.4s						
ULDT				*i* AML	AML	07 24 20.0	
	comp=E,583nm,0.5s						
ECEA	**Canakkale, Ece**	**1.66**	**314**	P	**Pn**	**07 23 53.2**	**+0.5**
ECEA				S	**Sb**	**07 24 15.3**	**+0.2**
ECEA				*i* AML	AML	07 24 19.0	
	comp=N,832nm,0.4s						
ECEA				*i* AML	AML	07 24 19.0	
	comp=E,2μm,0.5s						
MRMT	**Marmara Adasi**	**1.71**	**357**	PN	**Pn**	**07 23 53.2**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.71**	**146**	P	**Pb**	**07 23 54.1**	**-1.0**
TAVA				S	**Sg**	**07 24 19.2**	**+0.8**
TAVA				*i* AML	AML	07 24 20.0	
	comp=E,112nm,0.6s						
TAVA				*i* AML	AML	07 24 21.0	
	comp=N,103nm,0.7s						
MDNY	**Mudanya-Bursa**	**1.72**	**31**	PN	**Pn**	**07 23 53.5**	**-0.1**
IGD	**Bursa**	**1.78**	**39**	P	**Pn**	**07 23 54.8**	**+0.4**
IGD				S	**Sg**	**07 24 20.5**	**-0.3**
IGD				*i* AML	AML	07 24 21.0	
	comp=N,129nm,0.5s						
IGD				*i* AML	AML	07 24 27.0	
	comp=E,110nm,0.4s						
GELI	**Tayfur-Gelibol**	**1.78**	**328**	PN	**Pn**	**07 23 54.8**	**+0.4**
ANDZ	**Kutahya, Merke**	**1.80**	**69**	P	**Pn**	**07 23 55.1**	**+0.3**
ANDZ				S	**Sg**	**07 24 22.2**	**+0.9**
ANDZ				*i* AML	AML	07 24 23.0	
	comp=N,347nm,0.6s						
ANDZ				*i* AML	AML	07 24 24.0	
	comp=E,407nm,0.5s						
YER	**Yerkesik**	**1.81**	**166**	P	**Pn**	**07 23 53.2**	**-1.7**
YER				S	**Sn**	**07 24 18.2**	**+0.2**
YER	**Yerkesik**	**1.81**	**166**	PN	**Pn**	**07 23 55.2**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.84**	**347**	PN	**Pn**	**07 23 55.5**	**+0.2**
BODT	**Bodrum**	**1.86**	**190**	P	**Pn**	**07 23 53.6**	**-1.9**
ARMT	**Armutlu**	**1.89**	**27**	PN	**Pn**	**07 23 55.4**	**-0.5**
APMY	**Acipayam-Deniz**	**1.89**	**138**	PN	**Pn**	**07 23 56.6**	**+0.6**
GEMT	**Gemlik**	**1.91**	**36**	PN	**Pb**	**07 23 57.7**	**-0.8**
GADA	**Gvkgeada**	**1.91**	**313**	PN	**Pn**	**07 23 56.4**	**+0.2**
IZI	**Iznik**	**1.98**	**43**	PN	**Pb**	**07 23 58.3**	**-1.3**
AUBOZ	**BOZOYUK**	**2.06**	**60**	PN	**Pb**	**07 23 59.8**	**-1.2**
BASM	**Basmaki-Afyon**	**2.07**	**117**	PN	**Pn**	**07 23 59.5**	**+1.0**
CAVI	**Cavuskoy**	**2.10**	**51**	PN	**Pn**	**07 23 59.8**	**+1.0**
TKIR	**Tekirdag**	**2.10**	**356**	PN	**Pn**	**07 23 59.6**	**+0.8**
YLV	**Yalova**	**2.10**	**37**	PN	**Pn**	**07 24 00.0**	**+1.1**
CAVK	**Edirne/Enez-Ca**	**2.16**	**327**	P	**Pn**	**07 24 00.3**	**+0.7**
CAVK				S	**Sn**	**07 24 27.5**	**+1.1**
CAVK				*i* AML	AML	07 24 33.0	
	comp=E,500nm,0.5s						
CAVK				*i* AML	AML	07 24 35.0	
	comp=N,427nm,0.6s						
TURN	**Turunc**	**2.16**	**169**	PN	**Pn**	**07 23 59.3**	**-0.3**
ADVT	**Abdulvahap**	**2.19**	**45**	PN	**Pb**	**07 24 01.4**	**-1.8**
ENEZ	**Enez**	**2.20**	**327**	P	**Pn**	**07 24 00.7**	**+0.6**
ENEZ				S	**Sb**	**07 24 29.8**	**-1.0**
ENEZ	**Enez**	**2.20**	**327**	PN	**Pn**	**07 24 00.8**	**+0.6**
DALY	**Dalyan (Mula)**	**2.20**	**160**	PN	**Pn**	**07 24 01.1**	**+0.9**
LIA	**Limnos Island**	**2.21**	**298**	P	**Pn**	**07 24 00.7**	**+0.4**
LIA				S	**Sb**	**07 24 31.1**	**+0.1**
	260nm,0.5s						
SHUT	**Suhut-Afyon**	**2.24**	**98**	PN	**Pn**	**07 24 02.0**	**+1.2**
SMTH	**Samothraki Isl**	**2.31**	**314**	P	**Pn**	**07 24 01.9**	**+0.2**
CAME	**Cameli-Denizli**	**2.31**	**147**	PN	**Pn**	**07 24 03.1**	**+1.2**
NIS1	**Nisyros Isl.**	**2.33**	**191**	PN	**Pn**	**07 24 02.6**	**+0.6**
BORA	**Eskisehir**	**2.33**	**64**	PN	**Pn**	**07 24 02.8**	**+0.7**
SLVT	**Silivri**	**2.36**	**9**	PN	**Pn**	**07 24 03.1**	**+0.7**
ALN	**Alexandroupoli**	**2.38**	**328**	P	**Pn**	**07 24 02.8**	**+0.2**
ALN				S	**Sb**	**07 24 34.1**	**-1.8**
	248nm,0.4s						
ALN	**Alexandroupoli**	**2.38**	**328**	PN	**Pn**	**07 24 02.9**	**+0.3**
UKOP	**Uzunkopru-Edir**	**2.38**	**340**	PN	**Pn**	**07 24 03.6**	**+0.9**
KAVV	**Kandilli-Istan**	**2.40**	**25**	PN	**Pn**	**07 24 04.1**	**+1.2**
ISK	**Istanbul-Kandi**	**2.40**	**25**	P	**Pn**	**07 24 01.4**	**-1.5**
ISK	**Istanbul-Kandi**	**2.40**	**25**	PN	**Pn**	**07 24 04.1**	**+1.2**
CTKS	**Kestanelik-??a**	**2.41**	**14**	PN	**Pn**	**07 24 03.1**	**0.0**
BGKT	**Bogazkoy**	**2.42**	**19**	PN	**Pn**	**07 24 04.3**	**+1.1**
GPA	**Golpazari**	**2.44**	**54**	PN	**Pn**	**07 24 04.8**	**+1.3**
HRT	**Hereke**	**2.44**	**37**	PN	**Pn**	**07 24 04.5**	**+1.0**
FETY	**Fethiye**	**2.50**	**154**	PN	**Pn**	**07 24 04.4**	**+0.1**
ESKT	**Eskisehir**	**2.51**	**75**	PN	**Pn**	**07 24 06.0**	**+1.4**
APE	**Apeiranthos**	**2.52**	**224**	PN	**Pn**	**07 24 05.1**	**+0.5**
SRCK	**Saricakaya, Es**	**2.52**	**62**	PN	**Pn**	**07 24 05.9**	**+1.3**
KLYT	**Kilyos**	**2.56**	**23**	PN	**Pn**	**07 24 06.4**	**+1.3**
CTYL	**Yalıkoy Yolu**	**2.61**	**9**	PN	**Pn**	**07 24 07.2**	**+1.4**
CIFT	**Cifteler, Eski**	**2.64**	**79**	PN	**Pn**	**07 24 07.9**	**+1.6**
GULT	**Gulveren**	**2.65**	**54**	PN	**Pn**	**07 24 07.9**	**+1.5**
BCK	**Bucak**	**2.67**	**121**	PN	**Pn**	**07 24 08.1**	**+1.3**
ARG	**Arkhangelos**	**2.69**	**173**	PN	**Pn**	**07 24 08.1**	**+1.1**
SILT	**Sile**	**2.69**	**33**	PN	**Pn**	**07 24 07.9**	**+0.9**
SAUV	**Serdivan-Sakar**	**2.72**	**47**	PN	**Pn**	**07 24 08.9**	**+1.5**
RDO	**Rodhopi**	**2.81**	**324**	P	**Pn**	**07 24 07.3**	**-1.2**
RDO				S	**Sn**	**07 24 44.5**	**+2.1**
	100nm,0.8s						
EDRB	**Edirne**	**3.04**	**346**	P	**Pn**	**07 24 11.5**	**-0.2**
NVR	**Nevrokopi**	**3.84**	**311**	P	**Pn**	**07 24 23.1**	**+0.3**

ROM 16 07:26:08.1±0.3, 42°.66N±0°.02×13°.27E±0°.02, h18km±2km, ML1.1/6, 4C-2D, Error ellipse: s-maj=1.8km s-min=0.9km az=15.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.06**	**326**	P	Pg	07 26 12.6	+0.9
T1202				S	Sg	07 26 14.3	+0.3
T1243	**Rocca Santa Ma**	**0.14**	**74**	P	Pg	07 26 12.9	+0.5
T1243				S	Sg	07 26 15.5	+0.2
RM33	**Pellescritta (**	**0.15**	**195**	⇓P	Pg	07 26 12.8	+0.2
RM33				S	Sg	07 26 15.0	-0.5
RM33				AML	AML		
	comp=N,45μm,1.6s						
RM33				AML	AML		
	comp=N,45μm,1.6s						
RM33				AML	AML		
	comp=E,51μm,0.9s						
CAMP	**Campotosto**	**0.16**	**139**	⇑P	Pb	07 26 12.2	+0.2
LNSS	**Leonessa**	**0.18**	**252**	⇑P	Pg	07 26 13.8	+1.0
LNSS				S	Sg	07 26 16.5	+0.5
LNSS				AML	AML		
	comp=N,72μm,0.3s						
LNSS				AML	AML		
	comp=E,75μm,0.2s						
LNSS				AML	AML		
	comp=N,72μm,0.3s						
T1242	**Castelluccio d**	**0.18**	**345**	⇑P	Pg	07 26 13.9	+1.0
T1242				S	Sg	07 26 16.4	+0.3
T1242				AML	AML		
	comp=E,72μm,0.1s						
T1242				AML	AML		
	comp=N,104μm,0.1s						
T1242				AML	AML		
	comp=N,104μm,0.1s						
NRCA	**Norcia**	**0.21**	**327**	P	Pg	07 26 13.6	+0.3
NRCA				S	Sb	07 26 16.4	0.0
NRCA				AML	AML		
	comp=E,172μm,0.1s						
NRCA				AML	AML		
	comp=N,124μm,0.2s						
NRCA				AML	AML		
	comp=E,173μm,0.1s						
NRCA				AML	AML		
	comp=N,125μm,0.2s						
TERO	**Teramo**	**0.25**	**98**	⇓P	Pb	07 26 14.2	+0.2
TERO				S	Sg	07 26 17.5	-0.4
TERO				AML	AML		
	comp=E,41μm,0.8s						
TERO				AML	AML		
	comp=N,29μm,0.1s						
T1217	**Poggiodomo (PG**	**0.25**	**282**	P	Pb	07 26 14.3	+0.3
T1217				S	Sg	07 26 17.6	-0.4
T1215	**Vallo di Nera,**	**0.33**	**296**	⇑P	Pb	07 26 15.5	0.0
T1215				S	Sg	07 26 19.6	-0.3
GUMA	**Gualdo di Mace**	**0.41**	**7**	P	Pn	07 26 18.6	-0.6
GUMA				AML	AML		
	comp=E,236μm,1.0s						
GUMA				AML	AML		
	comp=N,401μm,0.1s						

IDC 16 07:35:36.0±2.5, 54°.17N×86°.38E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=19.7km s-min=12.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**257**	*i*		07 42 00.0	
	baz=74,slow=317,SNR=0.5						
ZALV	**Zalesovo Beam**	**0.95**	**257**	Pg	Pg	07 35 53.6	-0.5
	1.3nm,0.3s,baz=76,slow=16,SNR=8.6						
ZALV				Lg	Lg	07 36 07.8	
	3.5nm,0.3s,baz=78,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	07 37 06.0	+0.4
	0.1nm,0.3s,baz=56,slow=14,SNR=8.6						
KURBB				Lg	Lg	07 38 44.2	
	baz=62,slow=32,SNR=2.4						
	1.4nm,0.8s						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	07 37 32.5	+1.3
	0.1nm,0.3s,baz=24,slow=12,SNR=8.7						
MKAR				Lg	Lg	07 39 44.9	
	0.1nm,0.3s,baz=25,slow=31,SNR=5.6						
	0.2nm,0.2s						

IDC 16 07:41:07.2±1.6, 30°.06S×178°.36W, h131km±17km, mb3.1/2, mbtmp3.6/3, Error ellipse: s-maj=63.2km s-min=21.5km az=108.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.89**	**26**	P	Pn	07 41 30.8	+1.5
	606nm,0.2s,baz=78,slow=20,SNR=4.7						
RAO				S	Sn	07 41 45.9	0.0
	283nm,0.3s,baz=90,slow=20,SNR=2.3						
URZ	**Urewera**	**9.00**	**203**	P	Pn	07 43 12.4	-1.6
	2.5nm,0.5s,baz=356,slow=6.0,SNR=1.5						
URZ				S	Sn	07 44 54.4	+0.8
	2.7nm,0.3s,baz=18,slow=23,SNR=11						
ASAR	**Alice Springs**	**42.82**	**267**	P	P	07 48 53.0	+0.5
	0.2nm,0.4s,baz=100,slow=7.1,SNR=5.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.77**	**272**	P	P	07 48 59.7	-0.4
	0.4nm,0.5s,baz=110,slow=8.0,SNR=8.5						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**144.72**	**340**	PKP	PKPab	08 00 26.3	-0.6
	1.4nm,0.8s,baz=58,slow=3.4,SNR=5.2						

IDC 16 07:43:22.8±18.0, 24°.89S×68°.36E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=621.4km s-min=37.0km az=51.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**17.59**	**14**	T	T	08 04 10.2	
	baz=190,slow=76						
H08S2	**Diego Garcia H**	**17.60**	**14**	T	T	08 04 10.2	
	baz=190,slow=76						
H08S3	**Diego Garcia H**	**17.61**	**14**	T	T	08 04 16.4	
	baz=190,slow=76						
ASAR	**Alice Springs**	**59.21**	**104**	P	P	07 53 26.1	-0.1
	0.5nm,0.8s,baz=258,slow=6.4,SNR=4.8						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**60.67**	**100**	P	P	07 53 36.3	0.0
	0.4nm,0.8s,baz=252,slow=6.7,SNR=2.1						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**72.45**	**10**	P	P	07 54 50.7	-0.2
	0.8nm,0.7s,baz=202,slow=6.6,SNR=7.6						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**79.79**	**10**	P	P	07 55 32.9	+0.4
	1.0nm,0.6s,baz=195,slow=4.5,SNR=4.0						
	1.0nm,0.6s						

*BJI **16** 07:50:45.5±0.0, 5°.60N×125°.59E, h217km, mb5.2/84, mB5.0/51*
*KLM **16** 07:50:45, 5°.79N×126°.09E, h207km, mb5.8*
*NEIC **16** 07:50:46.5±1.9, 5°.68N±0°.06×125°.50E±0°.08, h193km±1km, mb5.5/106, Mwb5.4/25, Mww5.4, Error ellipse: s-maj=13.1km s-min=10.7km az=82.0*
*GCMT **16** 07:50:47.5±0.1, 5°.71N±0°.01×125°.66E±0°.01, h200km, MW5.5/157, Moment Tensor Solution. s129,c220; s157,c279; Duration: 1ᵗ⁄4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.50±.02; $M_{θθ}$-0.04±.02; $M_{φφ}$-0.46±.03; $M_{rθ}$-0.74±.02; $M_{rφ}$-0.11±.02; $M_{θφ}$1.97±.02; Best double couple: $M_0$2.15700×10^{17} NP1:$φ_s$341.00000°,δ84.00000°, λ84.00000°. NP2:$φ_s$206.00000°,δ8.00000°,λ135.00000°. Principal axes: T 2.2370, Plg50.0000°, Azm244.0000°; N -0.1600, Plg6.0000°, Azm341.0000°; P -2.0770, Plg39.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **16** 07:50:47.1, 5°.74N×125°.54E, h197km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.43; $M_{θθ}$-0.08; $M_{φφ}$-0.34; $M_{rθ}$-0.50; $M_{rφ}$-0.02; $M_{θφ}$1.51; Fault plane solution: $M_0$1.64000×10^{17} NP1:$φ_s$189.67000°, δ7.29000°,λ117.07000°. NP2:$φ_s$342.41000°,δ83.51000°, λ86.67000°. Principal axes: T 1.6987, Plg51.0000°, Azm249.0000°; N -0.1194, Plg3.0000°, Azm343.0000°; P -1.5793, Plg38.0000°, Azm75.0000°;*
*DJA **16** 07:50:47.2±0.2, 6°.N±2°×12°.6E±°, h202km±2km, M5.3/116, mb5.5/116, mB5.8/95, MLv6.0/15, Mw(mB)5.4/95, MwMwp5.1/43, Mwp5.3/43*
*NEIC **16** 07:50:47, 5°.68N×125°.81E, h210km, Moment Tensor Solution. Duration: 2ᵗ⁄6 Moment tensor: Scale 10^{17}Nm; M_{rr}0.34; $M_{θθ}$-0.14; $M_{φφ}$-0.19; $M_{rθ}$-0.72; $M_{rφ}$0.10; $M_{θφ}$1.54; Fault plane solution: $M_0$1.73000×10^{17} NP1: $φ_s$138.00000°,δ5.00000°,λ74.00000°. NP2:$φ_s$334.00000°, δ85.00000°,λ91.00000°. Principal axes: T 1.7635, Plg50.0000°, Azm246.0000°; N -0.0777, Plg1.0000°, Azm154.0000°; P -1.6858, Plg40.0000°, Azm63.0000°;*
*IDC **16** 07:50:47.4±0.3, 5°.77N×125°.50E, h212km±2km, mb4.9/58, mbtmp5.4/60 Error ellipse: s-maj=7.2km s-min=4.7km az=66.0*
*MAN **16** 07:50:49.6, 5°.80N×125°.68E, h180km, mb5.8, ML4.9, MS5.3*
MAN INTENSITY III - GLAN KIAMBA MAASIM & MALAPATAN SARANGANI; GENERAL SANTOS CITY; INTENSITY II - DAVAO CITY; TUPI & POLOMOLOK SOUTH COTABATO; INTENSITY I - CAGAYAN DE ORO CITY.

ISC 16 07:50:47.1±0.2, 5.73N±0°.02×125°.56E±0°.03, h210km±1km, h211km:pP-P, n885, σ1°57/1127, mb5.3/173, 52C-14D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.70**	**301**	⇓*e*P	**Pn**	**07 51 15.8**	**-0.5**
GSPH				*i* S	**S**	**07 51 37.7**	**-1.4**
DAV	**Davao City (W)**	**1.33**	**1**	P	**Pn**	**07 51 20.8**	**+0.5**
	16μm,0.9s,baz=174,slow=1.0,SNR=436						
DAV				S	**S**	**07 51 46.3**	**+0.2**
	14μm,0.5s,baz=253,slow=20,SNR=7.6						
DAV	**Davao City (W)**	**1.33**	**1**		**Pn**	**07 51 20.3**	**0.0**
KCP	**Kidapawan**	**1.36**	**340**	⇑*i*P	**Pn**	**07 51 20.8**	**+0.2**
KCP				*i* S	**S**	**07 51 43.6**	**-2.9**
CTBH	**Cotabato--PC H**	**1.98**	**319**	⇓*i*P	**Pn**	**07 51 27.1**	**+1.0**
CTBH				*i* S	**S**	**07 51 56.9**	**+0.

MYLDM	**Lahad Datu**	**7.05**	**266**	Pn	**Pn**	**07 52 31.9**	**+3.9**
LUWI	**Luwuk**	**7.28**	**203**		**Pn**	**07 52 32.3**	**+1.3**
LUWI	**Luwuk**	**7.28**	**203**	P	**Pn**	**07 52 31.9**	**+0.9**
	7.8nm4µm15µm1µm,1.2s						
APSI	**Ampana**	**7.66**	**211**	P	**Pn**	**07 52 37.9**	**+1.9**
	2.6nm4µm7µm656nm,1.2s						
SANI	**Sanana**	**7.74**	**177**	P	**Pn**	**07 52 33.2**	**-3.7**
	17nm9µm29µm2µm,0.6s						
MPSI	**Mapaga**	**7.79**	**227**	P	**Pn**	**07 52 38.8**	**+1.2**
	1.0nm6µm2µm164nm,0.8s						
SWI	**Sorong**	**8.67**	**139**	P	**Pn**	**07 52 48.5**	**-0.6**
	3µm10µm904nm,0.6s						
SIJI	**Sorong**	**8.68**	**139**	P	**Pn**	**07 52 48.9**	**-0.4**
	148nm,0.5s,baz=330,slow=9.8,SNR=109						
SIJI				S	**S**	**07 54 22.4**	**-4.7**
	149nm,0.7s,baz=174,slow=19,SNR=1.4						
NLAI	**Namlea**	**9.04**	**170**	P	**Pn**	**07 52 51.6**	**-2.2**
	21µm655nm,0.8s						
SPMM	**Sapulut**	**9.11**	**264**	P	**Pn**	**07 52 58.0**	**+3.2**
KKM	**Kota Kinabalu**	**9.30**	**272**	Pn	**Pn**	**07 52 59.0**	**+1.6**
AAI	**Ambon**	**9.71**	**164**	P	**Pn**	**07 53 01.5**	**-1.0**
	10µm797nm,0.4s						
SMKI	**Samarinda**	**10.35**	**234**	P	**P**	**07 53 14.8**	**-3.0**
	4µm15µm1µm,1.2s						
TTSI	**Tana Toraja**	**10.43**	**213**	P	**Pn**	**07 53 14.1**	**+2.3**
	5µm16µm994nm,1.8s						
PCPH	**Palayan**	**10.71**	**336**	⇑*e*P	**P**	**07 53 23.1**	**+1.3**
FAKI	**Fak Fak**	**10.88**	**142**	Pn	**Pn**	**07 53 17.3**	**-0.3**
FAKI	**Fak Fak**	**10.88**	**142**	P	**Pn**	**07 53 17.6**	**+0.1**
	3µm6µm705nm,1.1s						
BNDI	**Bandanaira**	**11.07**	**157**	P	**Pn**	**07 53 20.3**	**+0.4**
	13µm575nm,0.9s						
BKB	**Balikpapan**	**11.09**	**232**		**Pn**	**07 53 21.8**	**+1.6**
BKB	**Balikpapan**	**11.09**	**232**	P	**Pn**	**07 53 22.7**	**+2.5**
	6µm18µm2µm,1.3s						
SPSI	**Sidrap Palu**	**11.23**	**211**	P	**Pn**	**07 53 22.9**	**+0.9**
	4µm314nm,0.9s						
BBSI	**Bau Bau**	**11.53**	**195**	P	**Pn**	**07 53 26.6**	**+0.8**
	424nm34nm,1.1s						
KAPI	**Kappang**	**12.14**	**209**	P	**Pn**	**07 53 34.4**	**+0.8**
	146nm,0.8s,baz=25,slow=8.2,SNR=35						
KAPI	**Kappang**	**12.14**	**209**	Pn	**Pn**	**07 53 33.1**	**-0.5**
BKSI	**Bulukumba**	**12.24**	**206**	P	**Pn**	**07 53 35.2**	**+0.4**
	4µm201nm,1.1s						
MTKI	**Muara Teweh, K**	**12.54**	**238**	P	**P**	**07 53 40.4**	**-1.7**
	246nm,1.4s						
BSSI	**Bau Bau, Buton**	**12.83**	**203**	P	**Pn**	**07 53 41.9**	**-0.3**
	2µm2µm110nm,1.4s						
SRPI	**Serui, Papua**	**13.07**	**125**	P	**Pn**	**07 53 45.1**	**-0.1**
	2µm460nm,0.8s						
SBUM	**Sibu**	**13.70**	**257**		**P**	**07 53 55.3**	**+0.4**
BBKI	**Banjar Baru**	**14.07**	**230**	P	**P**	**07 54 00.4**	**+1.3**
	6µm14µm614nm,1.1s						
MMRI	**Maumere**	**14.65**	**193**		**Pn**	**07 54 04.1**	**-0.6**
MMRI	**Maumere**	**14.65**	**193**	P	**Pn**	**07 54 04.4**	**-0.3**
	5µm17µm1µm,1.3s						
SAUI	**Saumlaki**	**14.77**	**157**	P	P	07 54 18.7	+12
EDFI	**Ende, Flores**	**14.89**	**195**	P	**Pn**	**07 54 07.9**	**+0.2**
	4µm309nm,1.3s						
STKI	**Sintang**	**15.14**	**249**	P	**P**	**07 54 13.9**	**+2.9**
	6µm13µm454nm,1.9s						
SMPI	**Sarmi**	**15.21**	**120**	P	**Pn**	**07 54 11.4**	**-0.1**
	3µm10µm1µm,1.3s						
SOEI	**Soe**	**15.43**	**185**	P	**Pn**	**07 54 14.6**	**+0.3**
SOEI	**Soe**	**15.43**	**185**	P	**Pn**	**07 54 15.8**	**+1.5**
	4µm9µm973nm,1.1s						
BATI	**Baumata**	**15.94**	**187**	P	**Pn**	**07 54 21.1**	**+0.7**
	816nm,0.4s,baz=50,slow=0.7,SNR=49						
BATI				S	**S**	**07 57 14.9**	**-1.7**
	164nm,0.5s,baz=229,slow=20,SNR=3.2						
BATI	**Baumata**	**15.94**	**187**	P	**Pn**	**07 54 21.6**	**+1.2**
	3µm8µm932nm,1.0s						
PBKI	**Pangkalan Bun**	**16.20**	**239**	P	**P**	**07 54 22.6**	**-0.1**
	15µm1µm,1.0s						
PLAI	**Plampang**	**16.41**	**208**	P	**Pn**	**07 54 26.0**	**+0.1**
	4µm8µm776nm,1.0s						
BASI	**Baing, Sumba**	**16.60**	**197**	P	**P**	**07 54 26.9**	**-0.1**
	2µm4µm276nm,1.0s						
GENI	**Genyem**	**16.77**	**119**	P	**Pn**	**07 54 31.0**	**+0.8**
	12µm121µm13µm,1.2s						
TWSI	**Taliwang, Sumb**	**16.77**	**211**	P	**P**	**07 54 29.6**	**+0.7**
	3µm341nm,0.7s						
SRBI	**Singaraja**	**17.17**	**217**	P	**Pn**	**07 54 34.8**	**-0.1**
	5µm11µm905nm,1.3s						
KMMI	**Kalianget**	**17.17**	**222**	P	**Pn**	**07 54 34.7**	**-0.3**
	5µm17µm1µm,1.2s						
BWJI	**Bawean**	**17.27**	**228**	P	**Pn**	**07 54 38.8**	**+2.7**
	4µm30µm2µm,1.3s						
DNP	**Denpasar**	**17.64**	**216**	P	**Pn**	**07 54 41.8**	**+1.3**
	23µm764nm,0.5s						
IGBI	**Denpasar**	**17.79**	**216**	P	**Pn**	**07 54 41.7**	**-0.5**
	14µm1µm,1.1s						
YULB	**Yu-li**	**18.04**	**347**	P	**P**	**07 54 41.4**	**-1.3**
TPUB	**Ta-pu**	**18.11**	**345**	P	**P**	**07 54 43.5**	**+0.1**
JAGI	**Jajag, Banyuwa**	**18.12**	**219**	P	**P**	**07 54 44.6**	**+1.0**
JAGI	**Jajag, Banyuwa**	**18.12**	**219**	P	**Pn**	**07 54 45.3**	**-0.8**
	4µm8µm508nm,0.7s						
SSLB	**Suanglung**	**18.50**	**347**	P	**P**	**07 54 48.0**	**+0.3**
TBJI	**Tambak Boyo**	**18.51**	**228**	P	**Pn**	**07 54 52.9**	**+2.2**
	3µm7µm407nm,0.9s						
YHNB	**Yeheng**	**19.26**	**348**	P	**P**	**07 54 55.7**	**-0.2**
MTN	**Manton Dam**	**19.26**	**163**	P	**P**	**07 54 56.4**	**+0.4**
	baz=19,SNR=39						
MTN	**Manton Dam**	**19.26**	**163**	P	**P**	**07 54 55.2**	**-0.8**
PWJI	**Pagerwojo**	**19.36**	**225**	P	**P**	**07 54 58.3**	**+1.3**
	4µm287nm,1.4s						
KDU	**Kakadu**	**19.54**	**159**	P	**P**	**07 54 59.4**	**+0.4**
	baz=20,SNR=430						
SMRI	**Semarang**	**19.71**	**230**	P	**P**	**07 55 01.2**	**+0.3**
SMRI	**Semarang**	**19.71**	**230**	P	**Pn**	**07 55 03.8**	**-1.2**
	6µm9µm772nm,1.8s						
TPI	**Tanjungpandan**	**19.77**	**245**	P	**P**	**07 55 03.2**	**+1.7**
	3µm196nm,1.7s						
PCJI	**Pacitan**	**19.93**	**226**	P	**P**	**07 55 04.5**	**+1.4**
	5µm446nm,1.0s						
UGM	**Wanagama**	**20.21**	**228**	P	**P**	**07 55 07.0**	**+0.7**
UGM	**Wanagama**	**20.21**	**228**	P	**P**	**07 55 08.3**	**+2.1**
	5µm14µm1µm,1.3s						
QIZ	**Qiongzhong**	**20.23**	**312**	P	**P**	**07 55 05.8**	**-0.6**
QIZ	**Qiongzhong**	**20.23**	**312**	P	**P**	**07 55 06.3**	**-0.1**
QIZ				S	**S**	**07 58 39.4**	**-2.3**
QIZ				pmax	pmax		
	comp=Z,70nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,700nm,5.3s						
QZH	**Quanzhou**	**20.24**	**341**	*e*P	**P**	**07 55 08.5**	**+2.1**
QZH				S	**S**	**07 58 42.1**	**+0.3**
YOGI	**Yogyakarta**	**20.32**	**229**	P	**P**	**07 55 09.7**	**+2.4**
	5µm393nm,0.8s						
GUMO	**Guam**	**20.56**	**66**	P	**P**	**07 55 10.7**	**+0.8**
	1µm,1.1s,baz=226,slow=3.1,SNR=23						
	1µm,1.1s						
GUMO	**Guam**	**20.56**	**66**	P	**P**	**07 55 09.8**	**-0.1**
PPBI	**Pangkal Pinang**	**20.92**	**249**	P	**P**	**07 55 14.9**	**+1.2**
	696nm,1.1s						
JCJI	**Jatiwangi**	**21.10**	**235**	P	**P**	**07 55 20.2**	**+4.7**
	36µm3µm,1.0s						
JOW	**Kunigami**	**21.15**	**7**	P	**P**	**07 55 17.0**	**+1.0**
	233nm,0.9s,baz=202,slow=8.2,SNR=26						
JOW				S	**S**	**07 58 55.0**	**-3.2**
	41nm,1.0s,baz=243,slow=12,SNR=2.7						
	233nm,0.9s						
JOW	**Kunigami**	**21.15**	**7**	P	**P**	**07 55 16.7**	**+0.8**
KNRA	**Kununurra**	**21.50**	**172**	P	**P**	**07 55 19.6**	**0.0**
	baz=22,SNR=167						
KNRA	**Kununurra**	**21.50**	**172**	P	**P**	**07 55 19.6**	**0.0**
TPRI	**Tanjung Pinang**	**21.53**	**258**	P	**P**	**07 55 21.7**	**+1.7**
	3µm8µm525nm,1.5s						
LEM	**Lembang**	**21.82**	**235**	P	**P**	**07 55 24.3**	**+1.2**
	1µm,1.1s,baz=62,slow=7.9,SNR=139						
	1µm,1.1s						
DSRI	**Dabo**	**21.84**	**254**	P	**P**	**07 55 24.6**	**+1.5**
	3µm8µm460nm,1.4s						
UBPT	**Khong Chiam**	**21.89**	**297**	P	**P**	**07 55 23.2**	**-0.4**
MYKOM	**Kota Tinggi**	**22.01**	**261**	P	**P**	**07 55 25.6**	**+0.9**
CBJI	**Citeko**	**22.23**	**237**	P	**P**	**07 55 29.5**	**+2.7**
	17µm2µm,1.1s						
DBJI	**Dramaga**	**22.39**	**237**	P	**P**	**07 55 30.2**	**+2.0**
	15µm809nm,1.8s						
PMBI	**Palembang**	**22.47**	**248**	P	**P**	**07 55 31.2**	**+2.2**
PMBI	**Palembang**	**22.47**	**248**	P	**P**	**07 55 31.9**	**+2.9**
	7µm33µm2µm,1.5s						
CNJI	**Cibinong**	**22.49**	**235**	P	**P**	**07 55 29.3**	**+0.2**
	10µm1µm,1.1s						
SBJI	**Serang**	**22.69**	**239**	P	**P**	**07 55 33.5**	**+2.6**
	16µm2µm,1.2s						
SKJI	**Sukabumi**	**22.79**	**237**	P	**P**	**07 55 33.4**	**+1.5**
	5µm586nm,0.7s						
JMBI	**JAMBI**	**23.08**	**252**	P	**P**	**07 55 37.8**	**+3.4**
	10µm640nm,1.4s						
BLSI	**Bandar Lampung**	**23.08**	**242**	P	**P**	**07 55 37.4**	**+2.9**
	10µm758nm,0.9s						
MANU	**Manus Island**	**23.11**	**109**	P	**P**	**07 55 35.5**	**+0.8**
KLI	**Kotabumi**	**23.20**	**243**	P	**P**	**07 55 37.0**	**+1.5**
	5µm7µm584nm,1.0s						
FITZ	**Fitzroy Crossi**	**23.67**	**180**	P	**P**	**07 55 40.2**	**+0.5**
	210nm,0.4s,baz=360,slow=7.8,SNR=1140						
FITZ				S	**S**	**07 59 37.5**	**-1.6**
	21nm,0.9s,baz=175,slow=12,SNR=5.4						
FITZ				ScP	**ScP**	**08 02 37.2**	**+0.5**
	24nm,0.9s,baz=331,slow=6.2,SNR=3.3						
	210nm,0.4s						
FITZ	**Fitzroy Crossi**	**23.67**	**180**	P	**P**	**07 55 40.2**	**+0.5**
	baz=24,SNR=1000						
FITZ	**Fitzroy Crossi**	**23.67**	**180**	P	**P**	**07 55 39.8**	**0.0**
KASI	**Kota Agung**	**23.81**	**242**	P	**P**	**07 55 42.5**	**+1.4**
	4µm290nm,1.0s						
LWLI	**Liwa**	**23.98**	**244**	P	**P**	**07 55 44.9**	**+2.1**
	3µm7µm477nm,1.3s						
GULI	**GuiLin**	**24.30**	**325**	⇑P	**P**	**07 55 44.8**	**-0.6**
GULI				S	**S**	**07 59 48.8**	**-0.1**
GULI				pmax	pmax		
	comp=Z,60nm,1.2s						
GULI				LR	LR		
	comp=N,440nm,15.9s						
GULI				LR	LR		
	comp=E,660nm,18.1s						
GULI				LR	LR		
	comp=Z,770nm,17.3s						
IPM	**Ipoh**	**24.47**	**268**	P	**P**	**07 55 47.5**	**+0.4**
MNAI	**Manna**	**24.70**	**247**	P	P	07 55 56.4	+7.2
KSI	**Kapahiang**	**24.76**	**248**	P	**P**	**07 55 51.9**	**+2.1**
	25µm947nm,1.0s						
KULM	**Kulim**	**24.80**	**270**	P	**P**	**07 55 50.3**	**+0.2**
KULM				IAmb	IAmb	07 55 54.9	
	comp=Z,248nm,1.4s						
KULM	**Kulim**	**24.80**	**270**	P	**P**	**07 55 52.0**	**+1.9**
SDSI	**Sungai Dareh**	**24.99**	**255**	P	**P**	**07 55 52.6**	**+0.8**
	comp=Z,2µmcomp=Z,4µmcomp=Z,266nm,1.8s						
BKNI	**Bangkinang**	**25.06**	**258**	P	**P**	**07 55 52.5**	**+0.1**
BKNI	**Bangkinang**	**25.06**	**258**	P	**P**	**07 55 54.0**	**+1.6**
	comp=Z,3µmcomp=Z,5µmcomp=Z,443nm,1.0s						
SSE	**Sheshan**	**25.57**	**351**	P	**P**	**07 55 58.8**	**+2.0**
SSE				S	**S**	**08 00 12.3**	**+3.5**
SSE				pmax	pmax		
	comp=Z,23nm,0.7s						
SSE				pmax	pmax		
	comp=Z,210nm,3.8s						
SSE				LR	LR		
	comp=Z,320nm,17.9s						
SSE				LR	LR		
	comp=Z,440nm,17.7s						
PDSI	**Padang**	**25.91**	**256**	P	**P**	**07 56 00.4**	**+0.2**
	comp=Z,404nm,1.1s						
JSU	**Suzuyama**	**26.05**	**10**	P	**P**	**07 56 02.6**	**+1.4**
JSU				IAmb	IAmb	07 56 45.2	
	comp=Z,269nm,1.5s						
COEN	**Coen**	**26.23**	**138**	P	**P**	**07 56 02.9**	**0.0**
	baz=26,SNR=24						
COEN	**Coen**	**26.23**	**138**	P	**P**	**07 56 02.3**	**-0.6**
COEN				IAmb	IAmb	07 56 13.3	
	comp=Z,93nm,0.7s						
PMG	**Port Moresby**	**26.25**	**125**	P	**P**	**07 56 03.1**	**0.0**
	comp=Z,140nm,0.8s,baz=309,slow=6.7,SNR=21						
PMG				ScP	**ScP**	**08 02 46.0**	**+1.9**
	comp=Z,25nm,0.9s,baz=9.6,slow=3.7,SNR=4.1						
	comp=Z,140nm,0.8s						
PMG	**Port Moresby**	**26.25**	**125**	P	**P**	**07 56 03.2**	**+0.1**
JCJ	**Chichijima**	**26.50**	**35**	P	**P**	**07 56 03.7**	**-1.5**
	comp=Z,285nm,0.5s,baz=246,slow=4.0,SNR=22						
JCJ				S	**S**	**08 00 19.0**	**-4.7**
	comp=Z,32nm,0.6s,baz=127,slow=20,SNR=1.4						
	comp=Z,285nm,0.5s						
JCJ	**Chichijima**	**26.50**	**35**	P	**P**	**07 56 05.3**	**+0.1**
PSI	**Prapat**	**26.72**	**265**	P	**P**	**07 56 07.0**	**-0.5**
	comp=Z,30nm,0.5s,baz=75,slow=3.9,SNR=38						
PSI				ScP	**ScP**	**08 02 44.5**	**-1.2**
	comp=Z,46nm,0.9s,baz=204,slow=0.8,SNR=15						
	comp=Z,30nm,0.5s						
RPSI	**Rantau Prapat**	**26.73**	**265**	P	**P**	**07 56 07.6**	**+0.1**
RPSI				IAmb	IAmb	07 56 09.6	
	comp=Z,162nm,1.3s						
WHN	**Wuhan**	**26.85**	**338**	⇑P	**P**	**07 56 09.8**	**+1.6**
WHN				sP	**sP**	**07 57 17.3**	**+2.4**
WHN				S	**S**	**08 00 31.8**	**+2.8**
WHN				ScS	**ScS**	**08 06 37.6**	**+0.9**
WHN				pmax	pmax		
	comp=Z,220nm,1.2s						
WRA	**Warramunga Arr**	**26.93**	**162**	P	**P**	**07 56 08.7**	**-0.5**
	comp=Z,39nm,0.8s,baz=329,slow=11,SNR=155						
WRA				PcP	**PcP**	**07 59 25.6**	**0.0**
	comp=Z,4.4nm,0.4s,baz=356,slow=2.3,SNR=2.5						
WRA				S	**S**	**08 00 26.4**	**-4.2**
	comp=Z,77nm,1.2s,baz=338,slow=15,SNR=12						
WRA				ScP	**ScP**	**08 02 45.6**	**-0.4**
	comp=Z,12nm,0.8s,baz=339,slow=2.7,SNR=4.4						
	comp=Z,39nm,0.8s						
WRA	**Warramunga Arr**	**26.93**	**162**	P	**P**	**07 56 07.8**	**-1.3**
NJ2	**Nanjing**	**26.93**	**347**	*e*P	**P**	**07 56 10.3**	**+1.3**
NJ2				ScP	**ScP**	**08 02 46.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,47nm,0.9s						
WB2	**Warramunga Arr**	**26.93**	**161**	P	**P**	**07 56 08.3**	**-0.8**
WB2				IAmb	IAmb	07 57 11.9	
	comp=Z,106nm,0.8s						
MBWA	**Marble Bar**	**27.32**	**192**	P	**P**	**07 56 12.6**	**0.0**
SISI	**Saibi**	**27.35**	**256**	P	**P**	**07 56 13.4**	**+0.5**
	comp=Z,4µmcomp=Z,335nm,1.3s						
GYA	**Guiyang**	**27.39**	**321**	⇓P	**P**	**07 56 15.0**	**+1.7**
GYA				pP	pP	07 56 57.4	+1.9
GYA				PcP	**PcP**	**07 59 27.9**	**+1.1**
GYA				S	**S**	**08 00 38.4**	**+0.4**
GYA				sS	sS	08 01 55.8	+2.5
GYA				ScS	**ScS**	**08 06 39.1**	**-0.5**
GYA				pmax	pmax		
	comp=Z,66nm,1.5s						
GYA				pmax	pmax		
	comp=Z,290nm,3.5s						
GYA				LR	LR		
	comp=Z,770nm,17.7s						
GYA				LR	LR		
	comp=Z,310nm,12.1s						
GYA				LR	LR		
	comp=Z,850nm,18.7s						
PSA00	**Pilbara Seismi**	**27.70**	**191**	P	**P**	**07 56 15.2**	**-0.7**
KCSI	**Kotacane, Aceh**	**27.78**	**267**	P	**P**	**07 56 16.8**	**0.0**
	comp=Z,180nm,1.4s						
GSI	**Gunungsitoli**	**28.27**	**262**	P	**P**	**07 56 20.3**	**-0.9**
GSI	**Gunungsitoli**	**28.27**	**262**	P	**P**	**07 56 20.9**	**-0.2**
	comp=Z,7µmcomp=Z,494nm,1.1s						
RABL	**Rabaul**	**28.34**	**110**	P	**P**	**07 56 21.8**	**0.0**
CRAI	**Chiangrai**	**28.40**	**303**	P	**P**	**07 56 22.5**	**+0.3**
CRAI				IAmb	IAmb	07 56 25.4	
	comp=Z,69nm,1.4s						
ENH	**Enshi**	**28.73**	**330**	P	**P**	**07 56 25.4**	**+0.4**
CM31	**Chiang Mai Arr**	**28.88**	**298**	P	**P**	**07 56 27.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**28.88**	**298**	P	**P**	**07 56 27.6**	**+1.1**
	comp=Z,5.1nm,0.5s,baz=121,slow=7.2,SNR=49						
CMAR				pP	**pP**	**07 57 07.9**	**-1.3**
	comp=Z,6.2nm,0.9s,baz=132,slow=8.2,SNR=1.8						
CMAR				PcP	**PcP**	**07 59 31.2**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=123,slow=1.9,SNR=4.8						
CMAR				ScP	**ScP**	**08 02 52.6**	**+0.5**
	comp=Z,8.6nm,1.0s,baz=144,slow=1.4,SNR=4.8						
	comp=Z,5.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**28.88**	**298**	P	**P**	**07 56 26.5**	**0.0**
JMN	**Monobe**	**28.91**	**14**	P	**P**	**07 56 26.8**	**+0.2**
CHTO	**Chiang Mai**	**29.02**	**299**	P	**P**	**07 56 28.2**	**+0.5**
KMI	**Kunming**	**29.16**	**314**	⇑P	**P**	**07 56 30.8**	**+1.7**
KMI				pP	pP	07 57 13.3	+1.6
KMI				sP	sP	07 57 35.6	-0.5
KMI				PcP	**PcP**	**07 59 33.0**	**+1.6**
KMI				S	**S**	**08 01 05.9**	**-0.1**
KMI				sS	sS	08 02 20.5	-1.0
KMI				ScP	**ScP**	**08 02 53.6**	**+0.4**
KMI				ScS	**ScS**	**08 06 47.4**	**-0.6**
KMI				pmax	pmax		
	comp=Z,56nm,1.6s						
KMI				pmax	pmax		
	comp=Z,350nm,3.5s						
KMI				LR	LR		
	comp=Z,290nm,16.7s						
KMI				LR	LR		
	comp=Z,510nm,18.3s						
KMI				LR	LR		
	comp=Z,450nm,16.5s						
QIS	**Mount Isa**	**29.54**	**153**	P	**P**	**07 56 32.7**	**+0.4**
	baz=30,SNR=32						
KSBUS	**Busan**	**29.56**	**6**	P	**P**	**07 56 33.7**	**+1.4**
NAWB	**Namwon**	**29.60**	**3**	P	**P**	**07 56 32.9**	**+0.3**
JHS	**Saijyo**	**29.95**	**12**	P	**P**	**07 56 37.1**	**+1.4**
JHS				IAmb	IAmb	07 56 38.5	
	comp=Z,45nm,0.9s						
MTSU	**Mount Surprise**	**30.08**	**142**	P	**P**	**07 56 37.4**	**+0.4**
	baz=30,SNR=32						
GIRL	**Giralia**	**30.30**	**201**	P	**P**	**07 56 40.0**	**+1.1**
	baz=30,SNR=8.0						
GIRL	**Giralia**	**30.30**	**201**	P	**P**	**07 56 39.5**	**+0.7**
JHJ	**Hachijo jima 2**	**30.30**	**24**	P	**P**	**07 56 38.0**	**-0.8**
	comp=Z,103nm,0.7s,baz=215,slow=22,SNR=4.9						
	comp=Z,103nm,0.7s						
AS31	**Alice Springs**	**30.33**	**165**	P	**P**	**07 56 39.5**	**+0.3**
ASAR	**Alice Springs**	**30.33**	**165**	P	**P**	**07 56 39.4**	**+0.2**
	comp=Z,19nm,0.4s,baz=343,slow=7.0,SNR=410						
ASAR				pP	**pP**	**07 57 23.8**	**+2.2**
	comp=Z,11nm,0.9s,baz=356,slow=14,SNR=2.3						
ASAR				PcP	**PcP**	**07 59 34.8**	**+0.6**
	comp=Z,17nm,0.3s,baz=347,slow=2.5,SNR=11						
ASAR				S	**S**	**08 01 20.8**	**-3.1**
	comp=Z,7.1nm,0.7s,baz=312,slow=12,SNR=2.9						
ASAR				ScP	**ScP**	**08 02 56.9**	**+0.2**
	comp=Z,29nm,0.9s,baz=341,slow=3.1,SNR=16						
	comp=Z,19nm,0.4s						
ASAR	**Alice Springs**	**30.33**	**165**	P	**P**	**07 56 38.8**	**-0.4**
WRKA	**Warakurna**	**30.69**	**175**	P	**P**	**07 56 42.8**	**+0.4**
	baz=31,SNR=93						
PZH	**PanZhiHua**	**30.71**	**315**	P	**P**	**07 56 43.6**	**+0.9**
PZH				S	**S**	**08 01 29.3**	**-0.7**
PZH				sS	**sS**	**08 02 48.8**	**+3.1**
PZH				ScP	**ScP**	**08 02 56.0**	**-2.1**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,130nm,5.1s						
PZH				LR	LR		
	comp=Z,2µm,19.6s						
PZH				LR	LR		
	comp=Z,1µm,18.4s						
PZH				LR	LR		
	comp=Z,1µm,19.1s						
KSCHJ	**Chungju**	**31.08**	**4**	P	**P**	**07 56 47.5**	**+1.9**
LYN	**LuoYang**	**31.14**	**339**	⇑P	**P**	**07 56 45.9**	**-0.2**
LYN				pP	pP	07 57 32.1	+3.2
LYN				PcP	**PcP**	**07 59 36.4**	**+0.3**
LYN				S	**S**	**08 01 33.9**	**-2.3**
LYN				sS	sS	08 02 55.3	+3.4
LYN				ScS	**ScS**	**08 06 57.3**	**+0.5**
LYN				pmax	pmax		
	comp=Z,50nm,1.0s						
LYN				pmax	pmax		
	comp=Z,180nm,4.4s						
TIA	**Tai'an**	**31.31**	**347**	⇑P	**P**	**07 56 48.0**	**+0.3**
TIA				S	**S**	**08 01 37.4**	**-1.5**
TIA				pmax	pmax		
	comp=Z,50nm,1.0s						
TIA				pmax	pmax		
	comp=Z,180nm,3.5s						
TIA				LR	LR		
	comp=Z,330nm,3.0s						
TIA				LR	LR		
	comp=Z,980nm,3.6s						
TIA				LR	LR		
	comp=Z,270nm,12.2s						
INU	**Inuyama**	**31.31**	**18**	P	**P**	**07 56 48.6**	**+0.9**
INU	**Inuyama**	**31.31**	**18**	P	**P**	**07 56 48.6**	**+0.9**
INU				pP	**pP**	**07 57 28.6**	**-2.1**
INU				sP	**sP**	**07 57 53.6**	**-1.4**
INU				ScP	**ScP**	**08 03 00.4**	**+0.7**
KSAR	**Wonju Array Be**	**31.64**	**4**	P	**P**	**07 56 51.9**	**+1.5**
KSRS	**Korea Array**	**31.65**	**4**	P	**P**	**07 56 52.1**	**+1.6**
	comp=Z,17nm,0.8s,baz=186,slow=10,SNR=110						
KSRS				pP	**pP**	**07 57 33.7**	**+0.3**
	comp=Z,13nm,0.9s,baz=178,slow=10,SNR=3.3						
KSRS				PcP	**PcP**	**07 59 37.8**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=181,slow=2.4,SNR=5.6						
KSRS				ScP	**ScP**	**08 03 01.1**	**+0.3**
	comp=Z,9.3nm,0.9s,baz=190,slow=2.8,SNR=14						
	comp=Z,17nm,0.8s						
KS19	**Wonju Array Si**	**31.70**	**3**	P	**P**	**07 56 51.7**	**+0.7**
XAN	**Xi'an**	**32.12**	**333**	⇑P	**P**	**07 56 54.9**	**+0.1**
XAN				pP	pP	07 57 39.8	+2.1
XAN				sP	sP	07 58 01.3	-0.6
XAN				PcP	**PcP**	**07 59 38.9**	**+0.1**
XAN				S	**S**	**08 01 48.6**	**-3.0**
XAN				ScP	**ScP**	**08 03 02.8**	**+0.2**
XAN				sS	sS	08 03 08.8	+1.3
XAN				ScS	**ScS**	**08 07 01.0**	**-0.9**
XAN				pmax	pmax		
	comp=Z,180nm,1.0s						
XAN	**Xi'an**	**32.12**	**333**	P	**P**	**07 56 54.7**	**-0.2**
XAN				sP	**sP**	**07 58 00.9**	**-1.0**
XAN				ScP	**ScP**	**08 03 02.8**	**+0.

TIY S **S** **08 02 17.0 -3.8**
TIY sS **sS** **08 03 41.6 +4.5**
JMM Marumori 34.87 21 P **P** **07 57 19.6 +1.2**
BJT Baijiatuau 35.17 347 P **P** **07 57 21.3 +0.3**
BJT IAmb IAmb 07 57 23.2
comp=Z,97nm,0.8s
BJT Baijiatuau 35.17 347 P **P** **07 57 21.4 +0.5**
BJT ScP **ScP** **08 03 14.1 +1.0**
BJI Beijing 35.19 347 P **P** **07 57 21.8 +0.7**
BJI pP **pP** **07 58 04.0 -0.8**
BJI sP **sP** **07 58 27.1 -1.9**
BJI PcP **PcP** **07 59 49.0 +1.6**
BJI S **S** **08 02 35.0 -3.6**
BJI ScP **ScP** **08 03 13.8 +0.6**
BJI sS **sS** **08 03 55.5 +0.4**
BJI ScS **ScS** **08 07 16.8 -0.8**
BJI pmax pmax
comp=Z,130nm,1.0s
BJI pmax pmax
comp=Z,150nm,4.1s
BJI LR LR
comp=Z,42nm,14.9s
BJI LR LR
comp=Z,240nm,15.5s
BJI LR LR
comp=Z,250nm,13.3s
IMP Imphal 35.77 305 *e*P **P** **07 57 26.0 -0.4**
MORW Morawa 35.79 194 P **P** **07 57 26.6 +0.3**
baz=36,SNR=32
MORW Morawa 35.79 194 P **P** **07 57 26.9 +0.6**
MORW IAmb IAmb 07 57 27.7
comp=Z,142nm,1.0s
SNY Shenyang 35.99 357 ⇑P **P** **07 57 29.3 +1.4**
SNY S **S** **08 02 50.9 +0.2**
SNY sS **sS** **08 04 11.6 +4.1**
SNY pmax pmax
comp=Z,140nm,0.9s
SNY LR LR
comp=Z,380nm,17.1s
SNY LR LR
comp=Z,340nm,18.7s
SNY LR LR
comp=Z,540nm,14.7s
MOKO MOKOCHONG 36.01 308⇑*e*P **P** **07 57 29.0 +0.5**
KOHI KOHIMA 36.05 307 *e*P **P** **07 57 28.0 -0.9**
KOHI IAmb IAmb 07 57 38.0
comp=Z,50nm,0.8s
LZH Lanzhou 36.20 330 ⇑P **P** **07 57 31.8 +1.8**
LZH pP pP 07 58 14.9 +1.3
LZH sP sP 07 58 36.5 -1.1
LZH PcP **PcP** **07 59 52.8 +2.1**
LZH S **S** **08 02 54.5 0.0**
LZH ScP **ScP** **08 03 17.9 +0.7**
LZH PcS **PcS** **08 03 39.1 +0.3**
LZH sS sS 08 04 16.9 +5.6
LZH SS **SS** **08 05 31.8 -10**
LZH ScS **ScS** **08 07 24.5 +0.7**
LZH pmax pmax
comp=Z,32nm,1.5s
LZH pmax pmax
comp=Z,250nm,4.8s
LZH LR LR
comp=Z,730nm,16.5s
LZH LR LR
comp=Z,430nm,15.8s
LZH LR LR
comp=Z,500nm,16.1s
FORT Forrest 36.38 176 P **P** **07 57 32.1 +0.8**
baz=36,SNR=140
FORT Forrest 36.38 176 P **P** **07 57 32.4 +1.1**
BRDH Bariadhala 36.81 301 ScP **ScP** **08 03 18.9 -0.6**
comp=Z,30nm,0.3s,baz=84,slow=10,SNR=8.9
QLP Quilpie 36.87 151 P **P** **07 57 35.7 +0.2**
baz=37,SNR=6.8
ITAN ITANAGAR 37.03 309 *e*P **P** **07 57 37.7 +0.8**
ITAN IAmb IAmb 07 57 40.9
comp=Z,105nm,0.7s
BLDU Ballidu 37.12 193 P **P** **07 57 37.6 +0.1**
baz=37,SNR=52
ZIRO ZIRO 37.12 309 *e*P **P** **07 57 37.4 -0.5**
HHC Hu-ho-hao-te 37.15 342 *e*P **P** **07 57 40.1 +2.2**
HHC PP **PnPn** **07 59 13.8 +3.2**
HHC S **S** **08 03 11.5 +2.9**
HHC pmax pmax
comp=Z,66nm,1.4s
HHC pmax pmax
comp=Z,290nm,7.8s
HHC LR LR
comp=Z,520nm,18.8s
HHC LR LR
comp=Z,440nm,17.5s
HHC LR LR
comp=Z,720nm,16.5s
BTO Baotou 37.42 340 *e*P **P** **07 57 36.8 -3.3**
BTO S **S** **08 03 08.1 -4.6**
BTO LR LR
comp=Z,1μm,14.7s
BTO LR LR
comp=Z,2μm,16.9s
HNR Honiara 37.43 114 P **P** **07 57 40.0 -0.5**
comp=Z,2μm,0.6s,baz=234,slow=5.0,SNR=4.3
HNR Honiara 37.43 114 P **P** **07 57 40.1 -0.3**
TEZP TEZPUR 37.51 307 *e*P **P** **07 57 40.7 -0.2**
JTM Tenmabayashi 37.57 19 P **P** **07 57 43.0 +1.7**
JTM IAmb IAmb 07 57 43.9
comp=Z,130nm,1.0s
KLBR Kellerberrin 37.85 191 P **P** **07 57 44.1 +0.4**
baz=38,SNR=154
CN2 Changchun 37.92 360 *e*P **P** **07 57 43.5 -0.6**
CN2 *e*pP pP 07 58 26.5 -1.5
CN2 *e*PP **PnPn** **07 59 18.9 -0.6**
CN2 *e*S **S** **08 03 19.6 -0.3**
CN2 *e*sS sS 08 04 35.8 -1.3
CN2 *e*SS **SS** **08 06 10.3 -5.7**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 LR LR
comp=Z,120nm,20.0s
CN2 LR LR
comp=Z,510nm,20.0s
CN2 LR LR
comp=Z,230nm,21.0s
GUWA GUWAHATI 38.20 306 *e*P **P** **07 57 47.3 +0.6**
MUN Mundaring 38.54 193 P **P** **07 57 50.0 +0.5**
baz=39,SNR=43
USRK Ussuriysk Ar. 38.73 7 P **P** **07 57 52.5 +1.6**
comp=Z,40nm,0.8s,baz=193,slow=7.7,SNR=55
USRK pP **pP** **07 58 35.2 +0.4**
comp=Z,34nm,0.9s,baz=196,slow=7.0,SNR=3.7
comp=Z,40nm,0.8s
USRK Ussuriysk Ar. 38.73 7 P **P** **07 57 51.4 +0.5**
MDJ Mudanjiang 38.90 5 P **P** **07 57 54.3 +2.1**
MDJ pP pP 07 58 37.1 +0.8
MDJ ScP **ScP** **08 03 30.0 +1.0**
MDJ S **S** **08 03 36.5 +2.0**
MDJ PcS **PcS** **08 03 51.6 +3.3**
MDJ ScS **ScS** **08 07 40.5 +2.0**
MDJ pmax pmax
comp=Z,57nm,1.2s
MDJ pmax pmax
comp=Z,120nm,7.3s
MDJ Mudanjiang 38.90 5 P **P** **07 57 53.9 +1.7**
MDJ pP **pP** **07 58 36.2 -0.1**
MDJ sP **sP** **07 59 00.8 +0.6**
XLT XiLinHaoTe 38.92 349⇑*i*P **P** **07 57 53.1 +0.5**
XLT pP pP 07 58 35.6 -1.3
XLT PcP **PcP** **08 03 32.9 +1.5**
XLT S **S** **08 03 32.9 -2.2**
XLT ScS **ScS** **08 07 39.3 +0.4**
XLT pmax pmax
comp=Z,54nm,1.1s
XLT pmax pmax
comp=Z,120nm,5.8s
XLT LR LR
comp=Z,310nm,13.9s
XLT LR LR
comp=Z,270nm,14.8s
RMQ Roma 39.13 146 P **P** **07 57 54.1 -0.3**
baz=39,SNR=8.0
NWAO Narrogin (SRO) 39.25 191 P **P** **07 57 56.1 +0.8**
comp=Z,272nm,0.8s,baz=242,slow=7.4,SNR=95
NWAO ScP **ScP** **08 03 27.4 -1.1**
comp=Z,43nm,1.1s,baz=297,slow=4.8,SNR=3.2
comp=Z,272nm,0.8s
NWAO Narrogin (SRO) 39.25 191 P **P** **07 57 56.2 +0.9**
baz=39,SNR=75
NWAO P **P** **07 57 56.2 +0.9**
baz=39,SNR=75
NWAO Narrogin (SRO) 39.25 191 P **P** **07 57 55.8 +0.5**
NWAO Narrogin (SRO) 39.25 191 P **P** **07 57 54.9 -0.4**
NWAO ScP **ScP** **08 03 28.6 +0.1**
ERM Erimo 39.38 21 P **P** **07 57 58.4 +2.2**
ERM IAmb IAmb 07 57 59.5
comp=Z,279nm,1.8s
ERM Erimo 39.38 21 P **P** **07 57 58.3 +2.0**
ERM pP **pP** **07 58 39.8 -0.8**
BBOO Buckleboo 39.60 166 P **P** **07 57 59.2 +1.0**
baz=40,SNR=568
BBOO Buckleboo 39.60 166 P **P** **07 57 58.9 +0.7**
EIDS Eidsvold 39.63 142 P **P** **07 57 58.6 0.0**
baz=40,SNR=10.0
BNX BinXian 39.89 2 ⇑P **P** **07 58 01.5 +1.1**
BNX pP **pP** **07 58 45.3 +0.6**
BNX sP **sP** **07 59 09.8 +1.2**
BNX PP **PP** **07 59 38.3 +1.5**
BNX S **S** **08 03 49.3 0.0**
BNX sS **sS** **08 05 10.5 +3.5**
BNX pmax pmax
comp=Z,15nm,0.6s
BNX pmax pmax
comp=Z,96nm,6.5s
BNX LR LR
comp=Z,120nm,3.8s
BNX LR LR
comp=Z,140nm,11.2s
BNX LR LR
comp=Z,210nm,14.2s
LSA Lhasa 40.26 310 P **P** **07 58 05.5 +1.3**
LSA Lhasa 40.26 310 *i*P **P** **07 58 05.6 +1.3**
SNR=24
LSA Lhasa 40.26 310 P **P** **07 58 06.1 +1.8**
STKA Stephens Creek 40.40 159 P **P** **07 58 05.8 +1.1**
comp=Z,26nm,0.3s,baz=335,slow=8.6,SNR=91
STKA pP **pwP** **07 58 51.1 -1.0**
comp=Z,51nm,0.8s,baz=335,slow=8.0,SNR=3.3
STKA ScP **ScP** **08 03 31.5 -1.5**
comp=Z,21nm,0.7s,baz=341,slow=5.5,SNR=6.7
STKA S **S** **08 03 55.6 -1.6**
comp=Z,20nm,1.0s,baz=90,slow=19,SNR=8.3
comp=Z,26nm,0.3s
STKA Stephens Creek 40.40 159 P **P** **07 58 05.9 +1.1**
baz=40,SNR=70
STKA Stephens Creek 40.40 159 P **P** **07 58 05.5 +0.7**
GTA Gaotai 40.80 329 ⇑P **P** **07 58 08.8 +0.7**
GTA pP pP 07 58 54.6 +2.0
GTA sP sP 07 59 17.6 +1.2
GTA PcP **PcP** **08 00 06.6 +1.6**
GTA ScP **ScP** **08 03 35.4 +0.7**
GTA PcS **PcS** **08 03 58.0 +1.7**
GTA S **S** **08 04 01.4 -1.8**
GTA sS sS 08 05 25.3 +4.2
GTA ScS **ScS** **08 07 49.3 -1.0**
GTA pmax pmax
comp=Z,83nm,1.2s
GTA pmax pmax
comp=Z,270nm,4.2s
GTA LR LR
comp=Z,500nm,18.2s
GTA LR LR
comp=Z,520nm,18.2s
GTA LR LR
comp=Z,330nm,17.5s
RKGY Rocky Gully 40.93 191 P **P** **07 58 10.9 +1.9**
baz=41,SNR=12
HTT Hallett 40.95 163 P **P** **07 58 10.8 +1.4**
baz=41,SNR=116
GTK Tadong 41.17 306 *e*P **P** **07 58 12.3 +0.8**
GTK IAmb IAmb 07 58 14.9
comp=Z,123nm,1.2s
GOMU GeErMu 41.41 321⇑*e*P **P** **07 58 14.6 +1.1**
GOMU S **S** **08 04 10.8 -1.9**
GOMU pmax pmax
comp=Z,74nm,1.3s
GOMU LR LR
comp=Z,240nm,16.1s
GOMU LR LR
comp=Z,230nm,15.5s
GOMU LR LR
comp=Z,290nm,15.7s
CMSA Cobar Meteorol 41.74 154 P **P** **07 58 16.9 +1.2**
baz=42,SNR=28
TAPN Taplejung 41.91 305 *e*P **P** **07 58 18.2 +0.6**
comp=Z,113nm,0.5s
ODAN Odare 41.98 304 *e*P **P** **07 58 18.5 +0.4**
H11N1 WAKE ISLAND Hy 42.51 67 T T 08 43 39.3
baz=257
H11N2 WAKE ISLAND Hy 42.52 67 T T 08 43 25.8
baz=257
H11N3 WAKE ISLAND Hy 42.53 67 T T 08 43 52.7
baz=257
RAMN Ramite 42.66 304 *e*P **P** **07 58 24.0 +0.4**
comp=Z,57nm,0.5s
RAGD RAYAGADA 43.11 292 *e*P **P** **07 58 28.4 +1.3**
JIRN Jiri 43.27 305 *e*P **P** **07 58 29.0 +0.4**
GUN Gumba 43.62 305 *e*P **P** **07 58 31.9 +0.5**
comp=Z,130nm,0.5s
YSS Yuzh-Sakhalins 43.66 17 P **P** **07 58 32.5 +1.6**
YSS IAmb IAmb 07 58 33.3
comp=Z,163nm,1.2s
YSS Yuzh-Sakhalins 43.66 17 P **P** **07 58 32.1 +1.2**
YSS pP **pP** **07 59 14.2 -1.7**
YSS ScP **ScP** **08 03 47.2 +1.4**
HIA Hailar 43.67 354 P **P** **07 58 32.1 +1.1**
HIA ScP **ScP** **08 03 47.3 +1.4**
KLR Kul'dur 43.67 6 P **P** **07 58 31.7 +0.7**
comp=Z,13nm,0.7s,baz=204,slow=4.7,SNR=19
KLR pP **pP** **07 59 16.2 +0.3**
comp=Z,18nm,1.0s,baz=219,slow=7.4,SNR=2.7
KLR ScP **ScP** **08 03 45.3 -0.5**
comp=Z,6.0nm,0.6s,baz=179,slow=4.2,SNR=6.8
comp=Z,13nm,0.7s
ARMA Armidale 43.76 147 P **P** **07 58 33.4 +1.3**
baz=44,SNR=13
ARMA Armidale 43.76 147 P **P** **07 58 33.1 +1.0**
PKI Pulchoki 43.88 304 *e*P **P** **07 58 33.9 +0.5**
PKIN Phulchoki 43.89 304 *e*P **P** **07 58 33.8 +0.4**
KKN Kakani 44.07 305 *e*P **P** **07 58 35.0 +0.2**
DMN Daman 44.14 304 *e*P **P** **07 58 36.1 +0.7**
PALK Pallekele 44.58 275 ScP **ScP** **08 03 49.6 -0.8**
comp=Z,8.3nm,0.7s,baz=181,slow=4.2,SNR=4.2
GKN Gorkha 44.67 305 *e*P **P** **07 58 39.8 +0.3**
comp=Z,53nm,0.5s
ULN Ulaanbaatar 44.87 342 P **P** **07 58 41.2 +0.5**
ULN pwP **pP** **07 59 29.4 +3.3**
ULN sP **sP** **07 59 46.2 -3.5**
ULN ScP **ScP** **08 03 51.9 +0.8**
ARPS Mount Arapiles 44.94 161 P **P** **07 58 42.6 +1.4**
baz=45,SNR=87
BLSP Bilaspur 44.99 296 *e*P **P** **07 58 42.2 +0.3**
SONM Songino Array 45.05 342 P **P** **07 58 41.9 -0.2**
comp=Z,16nm,0.7s,baz=159,slow=9.0,SNR=41
SONM pP **pP** **07 59 27.9 +0.4**
comp=Z,8.4nm,1.0s,baz=162,slow=9.1,SNR=1.8
SONM PcP **PcP** **08 00 19.2 0.0**
comp=Z,15nm,0.8s,baz=160,slow=3.4,SNR=6.4
SONM ScP **ScP** **08 03 51.4 -0.3**
comp=Z,13nm,0.9s,baz=158,slow=4.5,SNR=13
comp=Z,16nm,0.7s
VJD Vijayawada 45.25 288 *e*P **P** **07 58 45.2 +1.3**
KOLN Koldanda 45.44 304 *e*P **P** **07 58 46.0 +0.4**
DANN Dangsing 45.52 305 *e*P **P** **07 58 46.4 +0.1**
comp=Z,240nm,0.5s
PYUN Piuthan 46.06 304 *e*P **P** **07 58 50.8 +0.3**
comp=Z,140nm,0.4s
ALBI Allahabad 46.15 300 *e*P **P** **07 58 51.3 +0.3**
CAN Canberra 46.41 153 P **P** **07 58 54.8 +2.0**
CAN Canberra 46.41 153 P **P** **07 58 55.0 +2.2**
CAN ScP **ScP** **08 03 58.5 +1.0**
CNB Canberra Magne 46.57 153 P **P** **07 58 56.3 +2.2**
baz=47,SNR=13
TOO Toolangi 46.91 158 P **P** **07 58 58.9 +2.3**
baz=47,SNR=43
HYB Hyderabad 47.37 288 *e*P **P** **07 59 00.9 +0.4**
HYB IAmb IAmb 07 59 01.9
comp=Z,50nm,0.6s
HYBB Hyderabad (bro 47.37 288 *e*P **P** **07 59 00.7 +0.2**
HYBB IVmBBB 07 59 01.6
comp=Z,436nm,0.5s
MILA Mila 47.93 154 P **P** **07 59 06.5 +2.0**
baz=48,SNR=4.8
TRD Trivandrum 48.28 276 *e*P **P** **07 59 08.2 +0.6**
NOUC Port Laguerre 48.54 126 P **P** **07 59 09.8 +0.5**
NOUC ScP **ScP** **08 04 10.2 +3.5**
DZM Mont Dzumac 48.64 126 *e*P **P** **07 59 09.4 -0.8**
comp=Z,212nm,1.1s
DZM Mont Dzumac 48.64 126 *e*LR LR 08 13 19.4
comp=Z,342nm,25.1s
DZM Mont Dzumac 48.64 126 P **P** **07 59 11.1 +0.9**
comp=Z,66nm,0.7s,baz=282,slow=6.7,SNR=63
comp=Z,66nm,0.7s
DZM Mont Dzumac 48.64 126 P **P** **07 59 10.8 +0.6**
DZM IAmb IAmb 07 59 12.3
comp=Z,76nm,0.7s
DZM Mont Dzumac 48.64 126 P **P** **07 59 11.1 +0.9**
DZM ScP **ScP** **08 04 09.7 +2.4**
LIFNC LIFOU 48.66 124 P **P** **07 59 10.8 +0.5**
LGTI Lohaghat 48.79 304 *e*P **P** **07 59 12.2 +1.0**
PCHI Peechi 48.91 279⇑*e*P **P** **07 59 12.2 -0.1**
JHNI Jhansi 49.03 299 *e*P **P** **07 59 11.3 -1.8**
AKL Akola 49.34 292 *e*P **P** **07 59 16.0 +0.5**
BHPL Bhopal 49.48 296 *e*P **P** **07 59 14.6 -2.0**
PINNC Pines Island, 49.71 126 P **P** **07 59 19.6 +1.4**
PINNC IAmb IAmb 07 59 20.9
comp=Z,132nm,1.0s
WMQ Urumqi 50.43 325 *e*P **P** **07 59 24.4 +1.0**
WMQ pP pP 08 00 12.0 +2.4
WMQ PcP **PcP** **08 00 38.3 -0.2**
WMQ S **S** **08 06 18.4 -2.2**
WMQ sS sS 08 07 41.1 -0.2
WMQ pmax pmax
comp=Z,88nm,1.3s
WMQ pmax pmax
comp=Z,130nm,4.7s
WMQ LR LR
comp=Z,1μm,21.3s
WMQ LR LR
comp=Z,590nm,19.9s
WMQ LR LR
comp=Z,340nm,18.5s
KUDL Kundal 51.52 302 *e*P **P** **07 59 31.5 -0.2**
SMLA Simla 51.86 305 *e*P **P** **07 59 34.4 +0.3**
THN Thein Dam 53.45 306 *e*P **P** **07 59 46.0 +0.2**
PEA0B Petropavlovsk- 54.05 23 P **P** **07 59 51.2 +1.5**
PEA0B IAmb IAmb 07 59 52.6
comp=Z,219nm,1.3s
PETK Petropavlovsk- 54.05 23 P **P** **07 59 50.8 +1.1**
comp=Z,78nm,0.8s,baz=195,slow=3.0,SNR=105
PETK pP **pP** **08 00 36.0 -0.6**
comp=Z,18nm,0.9s,baz=218,slow=8.9,SNR=2.3
comp=Z,78nm,0.8s
PETK Petropavlovsk- 54.05 23 P **P** **07 59 51.2 +1.5**
ZSN Zaisan 54.21 327⇑*i*P **P** **07 59 51.0 0.0**
baz=327
PET Petropavlovsk 54.37 24 P **P** **07 59 53.1 +1.1**
PET IAmb IAmb 07 59 54.9
comp=Z,287nm,1.6s
PET Petropavlovsk 54.37 24 P **P** **07 59 53.4 +1.4**
PET x x 08 00 13.7
PET pP **pP** **08 00 37.7 -1.1**
SHLS Shalkode 55.08 320⇑*i*P **P** **07 59 56.1 -1.4**
comp=Z,68nm,1.3s,baz=320
SHLS *e*S **S** **08 07 21.4 -2.2**
baz=320
MK31 Makanchi Array 55.26 325 P **P** **07 59 58.9 +0.3**
MK31 IAmb IAmb 08 00 00.3
comp=Z,47nm,0.7s
MKAR Makanchi Array 55.26 325 P **P** **07 59 58.7 +0.1**
comp=Z,47nm,0.6s,baz=120,slow=8.4,SNR=365
MKAR pP **pP** **08 00 45.6 -0.1**
comp=Z,15nm,0.7s,baz=120,slow=8.7,SNR=2.2
MKAR ScP **ScP** **08 04 34.2 -1.2**
comp=Z,17nm,0.6s,baz=116,slow=4.6,SNR=14
MKAR S **S** **08 07 25.2 -0.6**
comp=Z,1.2nm,0.9s,baz=101,slow=11,SNR=2.5
MKAR PKPPKP P'P'df 08 29 53.1 -10
comp=Z,0.8nm,0.8s,baz=276,slow=1.1,SNR=6.1
comp=Z,47nm,0.6s
MKAR Makanchi Array 55.26 325 P **P** **07 59 58.8 +0.2**
UZB Uzynbulak 55.35 320 *i*P **P** **07 59 59.8 +0.3**
baz=320
UZB *e*S **S** **08 07 28.0 +0.6**
baz=320
MAKZ Makanchi 55.45 325 P **P** **08 00 00.3 +0.4**
MAKZ IAmb IAmb 08 00 02.2
comp=Z,231nm,1.4s
MAKZ Makanchi 55.45 325 P **P** **08 00 00.1 +0.1**
MAKZ pP **pP** **08 00 48.5 +1.5**
MAKZ sP **sP** **08 01 08.7 -1.5**
MAKZ ScP **ScP** **08 04 34.8 -1.4**
TARG Taragay, Kyrgy 55.49 318 P **P** **08 00 01.6 +0.8**
TARG IAmb IAmb 08 00 13.3
comp=Z,115nm,1.5s
SATY Saty 55.71 319⇑*i*P **P** **08 00 02.5 +0.5**
comp=Z,80nm,1.4s,baz=320
SATY *e*S **S** **08 07 33.3 +1.3**
baz=320
KPKS Kokpek 55.72 320 *e*P **P** **08 00 02.3 +0.3**
comp=Z,79nm,1.4s,baz=320
KPKS *e*S **S** **08 07 32.7 +0.6**
baz=320
ZHN Zhinishke 55.74 320 *e*P **P** **08 00 02.5 +0.2**
baz=320
NIL Nilore 55.79 307 P **P** **08 00 03.0 +0.4**
NIL IAmb IAmb 08 00 53.4
comp=Z,191nm,1.2s
KSH Kashi 55.82 315 P **P** **08 00 04.8 +2.0**
KSH pP pP 08 00 52.5 +2.5
KSH S **S** **08 07 35.5 +1.9**
KSH sS sS 08 08 58.9 +3.5
KSH pmax pmax
comp=Z,72nm,1.1s
YAK Yakutsk 56.27 2 P **P** **08 00 06.4 +1.1**
YAK pP **pP** **08 00 52.8 +0.4**
NRN Naryn 56.59 317 P **P** **08 00 08.6 +0.1**
TDK Taldyqorghan 56.64 321 *e*P **P** **08 00 08.9 +0.6**
comp=Z,80nm,0.9s,baz=322
MDOK Medeo 56.64 319 *e*P **P** **08 00 08.9 +0.3**
baz=319
MDOK *e*S **S** **08 07 44.9 +0.5**
baz=319
AAA Alma-Ata 56.75 319⇑*i*P **P** **08 00 09.7 +0.5**
comp=Z,71nm,1.2s,baz=319
ULHL Ulahol 56.77 318 P **P** **08 00 10.1 +0.5**
SNR=28
MSVF Nonsavu 56.81 115 P **P** **08 00 11.4 +1.4**
comp=Z,83nm,1.0s,baz=242,slow=4.6,SNR=15
comp=Z,83nm,1.0s
MSVF Nonsavu 56.81 115 P **P** **08 00 11.6 +1.5**
MSVF IAmb IAmb 08 00 13.2
comp=Z,180nm,1.1s
MSVF Nonsavu 56.81 115 P **P** **08 00 11.9 +1.9**
MSVF pP **pP** **08 00 56.0 -0.7**
MSVF ScP **ScP** **08 04 41.8 -1.1**
CHKK Chushkaly 56.99 320 *e*P **P** **08 00 10.9 0.0**
baz=320
BOOM Boomskoye usch 57.08 318 P **P** **08 00 11.5 -0.2**
BOOM IAmb IAmb 08 00 13.6
comp=Z,65nm,1.3s
MA2 Magadan 57.08 15 P **P** **08 00 12.1 +0.9**
comp=Z,32nm,0.7s,baz=183,slow=8.6,SNR=16
MA2 pP **pP** **08 00 58.6 +0.5**
comp=Z,23nm,0.8s,baz=192,slow=7.9,SNR=3.4
comp=Z,32nm,0.7s
MA2 Magadan 57.08 15 P **P** **08 00 12.9 +1.7**
MA2 pP **pP** **08 00 59.3 +1.2**
MA2 sP **sP** **08 01 21.3 +0.2**
MA2 ScP **ScP** **08 04 44.5 +1.4**
KUU Kurty 57.43 319⇑*i*P **P** **08 00 14.1 +0.2**
comp=Z,224nm,1.5s,baz=320
TKM2 Tokmak 2 57.49 318 P **P** **08 00 15.1 +0.4**
SNR=49
KBK Karagaybulak 57.81 318 P **P** **08 00 17.7 +0.9**
SNR=21
UCH Uchtor 57.93 317 P **P** **08 00 18.9 +0.9**
SNR=100
CHMS Chumysh 58.08 318 P **P** **08 00 18.6 0.0**
SNR=14
AAK Ala-Archa 58.11 317 P **P** **08 00 19.4 +0.6**
SNR=14
AAK Ala-Archa 58.11 317 P **P** **08 00 19.1 +0.2**
comp=Z,5.6nm,0.4s,baz=123,slow=5.7,SNR=48
AAK pP **pP** **08 01 06.4 -0.1**
comp=Z,6.9nm,0.5s,baz=152,slow=2.6,SNR=3.4
comp=Z,5.6nm,0.4s
AAK Ala-Archa 58.11 317 P **P** **08 00 19.0 +0.1**
AAK IAmb IAmb 08 00 21.0

comp=Z,103nm,1.6s
AAK Ala-Archa 58.11 317 *i* P **P 08 00 19.0 +0.2**
SNR=16
AAK Ala-Archa 58.11 317 P **P 08 00 19.6 +0.6**
AAK pP **pP 08 01 07.9 +1.4**
AAK pwP **PcP 08 01 15.7 +7.5**
AAK sP **sP 08 01 26.6 -2.9**
AAK ScP **ScP 08 04 47.3 -1.0**
ZAA0 Zalesovo Array 58.29 333 P **P 08 00 19.1 -0.6**
ZALV Zalesovo Beam 58.29 333 P **P 08 00 18.9 -0.8**
comp=Z,14nm,0.4s,baz=119,slow=6.2,SNR=40
ZALV pP **pP 08 01 06.7 -0.7**
comp=Z,16nm,0.9s,baz=116,slow=6.8,SNR=3.3
ZALV S **S 08 08 03.8 -1.2**
comp=Z,4.4nm,0.8s,baz=98,slow=18,SNR=3.5
ZALV PKP2bc **P'P'bc 08 30 05.8 -3.5**
comp=Z,2.8nm,0.8s,baz=298,slow=3.2,SNR=7.2
comp=Z,14nm,0.4s
ZALV Zalesovo Beam 58.29 333 P **P 08 00 19.0 -0.7**
SGDS Segindy 58.35 318⇑ *i*P **P 08 00 20.2 -0.3**
baz=318
USP Ospenovka 58.36 318 P **P 08 00 20.7 +0.2**
SNR=46
SEM Semipalatinsk 58.40 328 *e*P **P 08 00 19.8 -1.0**
baz=328
AML Almayashu 58.45 317 P **P 08 00 22.5 +1.0**
SNR=9.4
EKS2 Erkin-Say 58.60 317 P **P 08 00 22.6 +0.3**
SNR=30
DRK Karamyk 58.80 313 P **P 08 00 25.0 +1.1**
DRK IAmb IAmb 08 00 25.8
comp=Z,265nm,1.7s
KBL Kabul 59.40 307 P **P 08 00 28.3 +0.4**
KBL IAmb IAmb 08 00 29.0
comp=Z,103nm,1.4s
BTLS Baital 59.41 320⇑ *i*P **P 08 00 27.3 -0.2**
baz=320
KURBB Kurchatov Arra 59.44 327 P **P 08 00 27.1 -0.5**
comp=Z,36nm,0.6s,baz=128,slow=5.7,SNR=154
KURBB pP **pP 08 01 15.6 +0.1**
comp=Z,11nm,0.6s,baz=129,slow=6.2,SNR=2.2
KURBB S **S 08 08 13.5 -6.5**
comp=Z,0.4nm,0.3s,baz=327,slow=10.0,SNR=1.1
comp=Z,36nm,0.6s
KURK Kurchatov 59.44 327 P **P 08 00 27.5 -0.1**
KURK IAmb IAmb 08 00 29.8
comp=Z,104nm,0.7s
KURK Kurchatov 59.44 327 P **P 08 00 27.6 -0.1**
KURK pP **pP 08 01 16.5 +1.0**
KURK sP **sP 08 01 36.3 -2.2**
KURK ScP **ScP 08 04 55.7 +2.0**
BTK Batken 59.71 313 P **P 08 00 30.9 +1.1**
BTK IAmb IAmb 08 00 31.6
comp=Z,108nm,1.2s
GAR Garm 59.72 312 P **P 08 00 29.8 -0.2**
DZA Taraz 60.35 317⇑ *e*P **P 08 00 34.0 0.0**
baz=317
CHGR Chuyangaron 60.48 311 P **P 08 00 35.0 -0.1**
IUG Iuzhnay 60.98 315⇑ *i*P **P 08 00 38.6 +0.2**
baz=316
KK31 Karatay Array 60.99 317 P **P 08 00 38.1 -0.3**
KK31 IAmb IAmb 08 00 40.4
comp=Z,102nm,1.4s
KKAR Karatay Array 60.99 317 P **P 08 00 38.5 +0.1**
BRZS Berezniki 62.40 324⇑ *i*P **P 08 00 47.3 -0.3**
comp=Z,57nm,1.4s,baz=324
AMKA Amchitka 63.51 34 P **P 08 00 56.1 +1.3**
LBZ Lake Benmore 63.98 146 P **P 08 00 59.2 +1.1**
LBZ IAmb IAmb 08 00 60.0
comp=Z,53nm,0.8s
THZ Tophouse 63.98 142 P **P 08 00 58.2 +0.1**
THZ IAmb IAmb 08 03 15.1
comp=Z,114nm,1.6s
RPZ Rata Peaks 64.05 145 P **P 08 00 58.7 +0.2**
comp=Z,35nm,0.8s,baz=267,slow=3.3,SNR=10
comp=Z,35nm,0.8s
RPZ Rata Peaks 64.05 145 P **P 08 00 59.5 +1.0**
RPZ IAmb IAmb 08 01 03.6
comp=Z,33nm,0.8s
URZ Urewera 64.79 137 P **P 08 01 03.5 +0.2**
comp=Z,19nm,0.5s,baz=19,slow=3.9,SNR=17
comp=Z,19nm,0.5s
HRA Herat 64.83 305 P **P 08 01 03.8 -0.3**
HRA IAmb IAmb 08 01 05.2
comp=Z,141nm,1.8s
BKZ Black Stump Fm 64.84 138 P **P 08 01 04.0 +0.2**
BKZ IAmb IAmb 08 01 05.5
comp=Z,70nm,0.8s
BVAR Borovoye Array 65.02 327 P **P 08 01 04.3 -0.4**
comp=Z,9.9nm,0.4s,baz=130,slow=8.3,SNR=81
BVAR pP **pP 08 01 53.6 +0.2**
comp=Z,12nm,0.9s,baz=134,slow=9.0,SNR=1.7
BVAR S **S 08 09 28.2 -1.4**
comp=Z,0.3nm,0.4s,baz=233,slow=41,SNR=1.2
comp=Z,9.9nm,0.4s
BRVK Borovoye 65.09 327 P **P 08 01 04.9 -0.2**
BRVK pP **pP 08 01 54.2 +0.4**
BRVK sP **sP 08 02 14.9 -2.1**
AFI Afiamalu 65.16 108 P **P 08 01 06.2 -0.1**
comp=Z,86nm,1.0s,baz=126,slow=1.5,SNR=3.8
comp=Z,86nm,1.0s
TIXI Tiksi 65.88 1 S **S 08 09 36.8 -2.6**
comp=Z,7.9nm,0.9s,baz=90,slow=20,SNR=2.4
TIXI Tiksi 65.88 1 P **P 08 01 10.4 +0.6**
TIXI IAmb IAmb 08 01 11.3
comp=Z,62nm,0.8s
TIXI Tiksi 65.88 1 P **P 08 01 10.3 +0.5**
ADK Adak 65.99 35 P **P 08 01 11.6 +0.7**
WBK Wadi Bani Khal 66.22 292 P **P 08 01 13.0 0.0**
SNR=6.4
WSAR Wadi Sarin 66.57 293 P **P 08 01 14.4 -0.7**
comp=Z,15nm,0.5s,baz=126,slow=5.0,SNR=38
comp=Z,15nm,0.5s
JMDO Jabal Madar 67.01 292 P **P 08 01 17.1 -0.8**
SNR=9.1
BIDO Bidbid 67.06 293 P **P 08 01 18.0 -0.2**
SNR=18
MHTO MHTO 67.06 290 P **P 08 01 18.0 -0.2**
SNR=14
SMDO Samad 67.10 293 P **P 08 01 18.0 -0.6**
SNR=6.4
DQM DQM 67.42 289 P **P 08 01 21.0 +0.4**
SNR=24
HOQ Hoqain 67.81 293 P **P 08 01 23.0 +0.1**
SNR=11
BSY Bisya 67.86 292 P **P 08 01 24.0 +0.7**
SNR=6.7
NRIK Noril'sk 68.23 346 P **P 08 01 24.7 +0.1**
comp=Z,37nm,0.5s,baz=132,slow=6.4,SNR=68
NRIK S **S 08 10 05.3 -2.2**
comp=Z,0.9nm,0.3s,baz=72,slow=2.7,SNR=18
comp=Z,37nm,0.5s
NRIK Noril'sk 68.23 346 P **P 08 01 25.2 +0.6**
NRIK IAmb IAmb 08 01 26.0
comp=Z,191nm,1.4s
ARQ Araqi 68.52 293 P **P 08 01 28.0 +0.6**
SNR=6.7
SOHO SOHO 68.55 294 *i* P **P 08 01 26.1 -1.4**
SNR=13
GEYT Alibeck 68.75 308 P **P 08 01 28.9 +0.3**
comp=Z,24nm,1.0s,baz=134,slow=4.3,SNR=40
GEYT pP **pP 08 02 17.9 0.0**
comp=Z,12nm,0.9s,baz=151,slow=3.4,SNR=3.0
comp=Z,24nm,1.0s
MDH Madha 68.83 295 P **P 08 01 27.0 -2.2**
BANOM Banah 68.87 295 P **P 08 01 29.1 -0.4**
UOSS Minazif 68.90 294 *i* P **P 08 01 28.2 -1.4**
SNR=8.5
UOSS Minazif 68.90 294 P **P 08 01 28.1 -1.6**
HATD Hatta, Dubai 68.95 294 P **P 08 01 30.1 +0.1**
SNR=5.5
HATD Hatta, Dubai 68.95 294 *i* P **P 08 01 28.9 -1.1**
SNR=13
MSFE Esma-Masafi 68.96 295 *i* P **P 08 01 29.1 -0.9**
SNR=7.3
ASHO Ashiyiah 69.01 294 P **P 08 01 31.1 +0.7**
SNR=5.2
ASHO Ashiyiah 69.01 294 *i* P **P 08 01 29.4 -1.0**
SNR=17
SHME Shamm 69.02 296 *i* P **P 08 01 29.6 -0.8**
SNR=7.8
SHAO Shalim 69.19 287 P **P 08 01 32.1 +0.6**
SNR=7.5
SHAO Shalim 69.19 287 *i* P **P 08 01 31.2 -0.3**
SNR=18
ALNE Al Ain 69.26 293 P **P 08 01 32.2 +0.3**
SNR=16
ALNE Al Ain 69.26 293 *i* P **P 08 01 31.1 -0.8**
SNR=22
NAZ Nazwa, Dubai 69.39 294 P **P 08 01 33.0 +0.3**
SNR=6.2
NAZ Nazwa, Dubai 69.39 294 *i* P **P 08 01 31.7 -0.9**
SNR=8.1
FAQ Al Faqa, Dubai 69.44 294 P **P 08 01 33.0 0.0**
SNR=5.3
FAQ Al Faqa, Dubai 69.44 294 *i* P **P 08 01 32.1 -0.8**
SNR=14
ASUD Al Ashush, Dub 69.67 294 *i* P **P 08 01 34.0 -0.4**
SNR=7.3
ABKAR Akbulak array 69.88 321 P **P 08 01 34.6 -0.5**
ABKAR IAmb IAmb 08 01 37.0
comp=Z,80nm,1.4s
RBK Rabkut 70.54 286 P **P 08 01 40.0 +0.2**
SNR=5.9
NIKH Nikolski High 70.87 36 P **P 08 01 41.4 +0.3**
NIKH IAmb IAmb 08 01 42.5
comp=Z,119nm,0.6s
NIKH Nikolski High 70.87 36 P **P 08 01 41.4 +0.3**
baz=254
WHFO Wadi Hawf 70.95 287 P **P 08 01 42.0 -0.3**
SNR=9.7
MZR Muzera 71.30 292 P **P 08 01 44.6 +0.3**
SNR=23
MZR Muzera 71.30 292 *i* P **P 08 01 43.9 -0.3**
SNR=40
AKTO Aktyubinsk 71.38 321 P **P 08 01 43.8 -0.4**
comp=Z,6.5nm,0.4s,baz=103,slow=6.9,SNR=48
AKTO S **S 08 10 41.0 -4.0**
comp=Z,0.7nm,0.5s,baz=145,slow=12,SNR=11
comp=Z,6.5nm,0.4s
ABTO Aybut 71.40 286 P **P 08 01 45.0 -0.1**
SNR=9.9
JRN Qarnain Island 71.94 294 P **P 08 01 48.1 +0.1**
SNR=9.9
UNV Unalaska Valle 72.46 35 P **P 08 01 51.2 +0.7**
baz=255
ARU Arti 72.64 328 P **P 08 01 50.6 -0.9**
comp=Z,33nm,0.5s,baz=104,slow=3.0,SNR=38
ARU pP **pP 08 02 39.7 -1.7**
comp=Z,16nm,0.8s,baz=64,slow=5.3,SNR=1.3
ARU S **S 08 10 53.5 -5.5**
baz=90,slow=20
comp=Z,33nm,0.5s
CASY Casey 72.65 186 P **P 08 01 52.0 +0.6**
CASY IAmb IAmb 08 01 53.4
comp=Z,153nm,1.1s
AKUT Akutan 72.95 35 P **P 08 01 54.2 +0.8**
TNA Tin City 75.22 23 P **P 08 02 07.4 +1.1**
baz=251
SDPT Sand Point 76.21 34 P **P 08 02 12.8 +0.6**
SDPT Sand Point 76.21 34 P **P 08 02 12.7 +0.6**
baz=260,SNR=8.6
CHNA Chenabura Isl 76.63 35 P **P 08 02 15.4 +1.0**
baz=261
S14K Fog Glacier 76.88 34 P **P 08 02 16.7 +0.7**
baz=260
CHGN Chignik 77.51 34 P **P 08 02 19.9 +0.5**
CHGN Chignik 77.51 34 P **P 08 02 19.8 +0.5**
baz=262,SNR=5.4
HMH Humu'ula Sheep 77.72 71 P **P 08 02 23.6 +1.9**
KIRV Kirov 77.92 329 P **P 08 02 20.8 -0.7**
comp=Z,53nm,0.5s,baz=85,slow=2.5,SNR=27
KIRV pP **pP 08 03 11.6 -0.6**
comp=Z,29nm,0.7s,baz=307,slow=6.1,SNR=2.6
KIRV S **S 08 11 51.2 -5.8**
comp=Z,5.0nm,0.5s,baz=223,slow=21,SNR=6.3
comp=Z,53nm,0.5s
N16K Nishlik Lake 77.99 29 P **P 08 02 24.1 +2.2**
baz=260
BELG Belogornoye 78.12 322 P **P 08 02 21.8 -1.0**
comp=Z,50nm,0.9s,baz=78,slow=1.4,SNR=17
BELG pP **pP 08 03 13.0 -0.4**
comp=Z,76nm,0.9s,baz=140,slow=2.6,SNR=3.2
BELG S **S 08 11 52.0 -7.4**
comp=Z,7.4nm,0.8s,baz=143,slow=20,SNR=1.5
comp=Z,50nm,0.9s
O16K Kokwok River B 78.18 30 P **P 08 02 24.7 +1.7**
baz=261
RAYN Ar Rayn 78.64 293 P **P 08 02 25.4 -0.9**
RAYN IAmb IAmb 08 02 26.8
comp=Z,89nm,1.2s
RAYN Ar Rayn 78.64 293 *i* P **P 08 02 25.8 -0.5**
SNR=64
O17K Koliganek Bris 78.71 30 P **P 08 02 27.5 +1.6**
baz=262
Q16K King Salmon 78.78 31 P **P 08 02 26.6 +0.3**
baz=262
R17K Ugashik Creek 78.79 32 P **P 08 02 27.0 +0.6**
baz=263,SNR=6.9
P17K Kvichak River 78.96 31 P **P 08 02 28.6 +1.3**
baz=263
CHIR Chirikof Islan 79.00 34 P **P 08 02 28.9 +1.4**
CHIR Chirikof Islan 79.00 34 P **P 08 02 29.1 +1.6**
baz=264
GNI Garni 79.32 310 P **P 08 02 28.9 -0.9**
comp=Z,7.8nm,0.7s,baz=128,slow=0.1,SNR=15
GNI S **S 08 12 17.5 +4.6**
comp=Z,4.3nm,0.5s,baz=166,slow=17,SNR=3.1
comp=Z,7.8nm,0.7s
N18K Kilae Creek 79.43 29 P **P 08 02 31.0 +1.2**
N18K IAmb IAmb 08 02 33.1
comp=Z,88nm,1.8s
N18K Kilae Creek 79.43 29 P **P 08 02 31.4 +1.7**
baz=263
GCSA Galena City Sc 79.54 25 P **P 08 02 31.7 +1.5**
baz=261
P18K Big Mountain, 79.60 31 P **P 08 02 31.7 +0.9**
baz=264
SVW2 Sparevohn 79.63 29 P **P 08 02 32.4 +1.6**
O18K Koktuh Hills 79.67 30 P **P 08 02 32.9 +1.8**
O18K IAmb IAmb 08 02 34.0
comp=Z,383nm,1.9s
O18K Koktuh Hills 79.67 30 P **P 08 02 32.9 +1.8**
baz=264
SII Sitkinak Islan 79.88 34 P **P 08 02 33.9 +1.6**
baz=265
L19K White Mountain 80.10 28 P **P 08 02 35.2 +1.8**
baz=264
N19K Bananza Creek 80.13 29 P **P 08 02 35.6 +2.0**
baz=264,SNR=15
O19K Port Alsworth 80.14 30 P **P 08 02 35.0 +1.4**
baz=264
M19K Big River Lodg 80.29 28 P **P 08 02 36.4 +2.0**
baz=264
Q19K Cape Douglas, 80.37 31 P **P 08 02 35.3 +0.4**
baz=265
OHAK Old Harbor 80.42 33 P **P 08 02 36.4 +1.3**
baz=266,SNR=9.6
L20K Farewell, AK 80.58 28 P **P 08 02 38.0 +2.1**
baz=264,SNR=11
K20K Telida 80.59 27 P **P 08 02 37.9 +2.0**
baz=264,SNR=17
P19K Oil Pt 80.64 31 P **P 08 02 38.9 +2.6**
baz=265
J20K Nowinta River 80.64 26 P **P 08 02 38.1 +1.9**
baz=264,SNR=12
KBZ Khabaz 80.77 313 P **P 08 02 36.5 -0.7**
comp=Z,6.1nm,0.7s,baz=346,slow=5.3,SNR=16
KBZ pP **pP 08 03 29.0 +0.9**
comp=Z,14nm,1.0s,baz=143,slow=8.0,SNR=2.6
KBZ S **S 08 12 25.1 -2.4**
comp=Z,2.2nm,0.8s,baz=21,slow=19,SNR=4.1
comp=Z,6.1nm,0.7s
KDAK Kodiak Island 80.84 32 P **P 08 02 38.7 +1.4**
baz=266
M20K Styx River 80.88 28 P **P 08 02 39.7 +2.1**
baz=265,SNR=20
KIV Kislovodsk 80.93 313 *i* P **P 08 02 38.7 +0.4**
SNR=5.6
RSO Redoubt South 80.94 30 P **P 08 02 39.1 +1.0**
Q20K Shuyak Island 80.99 32 P **P 08 02 38.8 +0.7**
baz=266
G21K Allakaket 81.16 24 P **P 08 02 40.6 +1.7**
baz=264
F21K Alatna River 81.25 23 P **P 08 02 40.7 +1.4**
baz=264,SNR=5.9
N20K Mount Spurr 81.27 29 P **P 08 02 40.5 +0.8**
baz=266,SNR=5.6
SPCR Spurr Chakacha 81.27 29 P **P 08 02 40.7 +1.0**
baz=266
H21K Melozitna Rive 81.36 25 P **P 08 02 42.1 +2.1**
baz=265,SNR=12
HOM Homer 81.45 31 P **P 08 02 40.9 +0.4**
baz=267
SKT Skwentna 81.64 28 P **P 08 02 42.0 +0.4**
baz=266,SNR=24
I21K Tanana 81.66 25 P **P 08 02 43.6 +2.0**
baz=266,SNR=7.8
CAPN Captain Cook N 81.75 30 P **P 08 02 43.7 +1.7**
baz=267
ATD Arta Tunnel 81.76 281 P **P 08 02 42.8 -0.3**
comp=Z,28nm,0.9s,baz=0.0,slow=1.0,SNR=5.4
comp=Z,28nm,0.9s
VOI Vohitsoka 81.76 247 P **P 08 02 41.8 -1.3**
VOI Vohitsoka 81.76 247 P **P 08 02 42.5 -0.6**
F22K John River 81.78 23 P **P 08 02 44.4 +2.2**
baz=265
BRSE Bradley Lake S 81.91 31 P **P 08 02 43.7 +0.8**
baz=268,SNR=12
E22K Anaktuvuk Pass 81.97 22 P **P 08 02 44.9 +1.7**
baz=265
H22K Ishtalitna Cre 81.97 24 P **P 08 02 45.2 +2.1**
baz=266
SUA Susitna One 81.98 29 P **P 08 02 44.0 +0.6**
SUA IAmb IAmb 08 02 45.2
comp=Z,56nm,0.9s
SUA Susitna One 81.98 29 P **P 08 02 44.0 +0.6**
baz=267,SNR=23
G22K Bettles 81.99 23 P **P 08 02 44.8 +1.6**
baz=266
BPAW Bear Paw Mtn. 82.02 26 P **P 08 02 45.0 +1.6**
baz=267,SNR=21
MLY Manley 82.18 25 P **P 08 02 45.4 +1.1**
MLY Manley 82.18 25 P **P 08 02 45.8 +1.5**
baz=267,SNR=31
CUT Chulitna 82.25 28 P **P 08 02 45.2 +0.6**
baz=268
TRF Thorofare Moun 82.29 27 P **P 08 02 46.0 +0.9**
TRF Thorofare Moun 82.29 27 P **P 08 02 45.8 +0.8**
baz=267,SNR=16
M22K Willow 82.30 29 P **P 08 02 45.6 +0.8**
baz=268,SNR=11
O22K Cooper Landing 82.44 30 P **P 08 02 46.4 +0.8**
baz=268,SNR=11
D23K Nanushuk River 82.44 21 P **P 08 02 47.7 +2.1**
baz=266,SNR=5.5
RC01 Rabbit Creek A 82.46 29 P **P 08 02 46.5 +0.7**
baz=268,SNR=9.8
COLD Coldfoot 82.52 23 P **P 08 02 47.9 +1.9**
COLD Coldfoot 82.52 23 P **P 08 02 48.2 +2.2**
baz=267,SNR=13
C23K Itkillik River 82.53 20 P **P 08 02 47.8 +1.9**
baz=266,SNR=13
G23K Bananza Creek 82.56 24 P **P 08 02 48.3 +2.0**
baz=267,SNR=13
SEW Seward 82.57 30 P **P 08 02 47.4 +1.1**
baz=269,SNR=12
H23K Yukon River 82.72 24 P **P 08 02 49.1 +2.0**
baz=268,SNR=20
PMR Palmer 82.76 29 P **P 08 02 48.0 +0.7**
PMR Palmer 82.76 29 P **P 08 02 48.0 +0.7**
baz=269,SNR=21
E23K Chandalar 82.78 22 P **P 08 02 49.8 +2.4**
baz=267,SNR=29
TOLK Toolik Lake Re 82.83 22 P **P 08 02 49.8 +2.2**
baz=267,SNR=10
NEA2 Nenana 82.87 26 P **P 08 02 48.7 +0.8**
baz=268,SNR=38
MCK McKinley 82.91 27 P **P 08 02 48.9 +0.9**
MCK IAmb IAmb 08 02 49.9
comp=Z,63nm,0.9s
MCK McKinley 82.91 27 P **P 08 02 48.9 +0.9**
baz=268,SNR=23
WAT1 Susitna Watana 83.06 27 P **P 08 02 49.5 +0.6**
baz=269
KNK Knik Glacier 83.08 29 P **P 08 02 50.3 +1.3**
baz=269,SNR=15
KLMR Klimovskoe 83.10 331⇑ *i*P **P 08 02 48.3 -0.8**
KLMR *e*P **P 08 02 48.3 -0.8**
KLMR *e*P **P 08 02 48.3 -0.8**
KLMR AMP 08 02 50.3
comp=Z,208nm,1.3s
KLMR *e*pP **pP 08 03 38.2 -1.9**
KLMR *e*PP **PP 08 05 58.9 -4.1**
KLMR *e*S **S 08 12 45.3 -5.4**
KLMR *e*S **S 08 12 45.3 -5.4**
D24K Happy Valley 83.12 21 P **P 08 02 51.1 +2.0**
baz=268
PWL Port Wells 83.14 29 P **P 08 02 50.5 +1.3**
PWL IAmb IAmb 08 02 51.4
comp=Z,106nm,1.0s
PWL Port Wells 83.14 29 P **P 08 02 50.3 +1.0**
baz=269,SNR=17
SML Sawmill 83.15 29 P **P 08 02 50.6 +1.2**
baz=269,SNR=18
C24K Franklin Bluff 83.18 20 P **P 08 02 51.2 +1.9**
baz=268,SNR=8.1
E24K Your Creek 83.21 22 P **P 08 02 51.6 +2.0**
baz=268,SNR=11
MDM Murphy Dome 83.24 25 P **P 08 02 50.6 +0.9**
TCOL CIGO, UAF Yank 83.40 25 P **P 08 02 50.8 +0.4**
baz=269,SNR=8.0
COLA College 83.40 25 P **P 08 02 50.9 +0.4**
baz=269
H24K Noodor Dome 83.40 24 P **P 08 02 52.4 +1.8**
baz=269,SNR=21
F24K Squaw Lake 83.42 23 P **P 08 02 52.8 +2.1**
baz=269,SNR=16
WAT6 Susitna Watana 83.43 28 P **P 08 02 51.8 +0.9**
baz=270,SNR=26
M23K Glacier View 83.44 29 P **P 08 02 51.5 +0.7**
baz=270,SNR=8.7
G24K Hadweenzic Riv 83.58 24 P **P 08 02 53.6 +2.2**
baz=270,SNR=26
POKR Poker Plat Res 83.58 25 P **P 08 02 53.7 +2.3**
baz=270
P23K Montague Islan 83.60 30 P **P 08 02 53.2 +1.6**
baz=270
DHY Denali Highway 83.60 27 P **P 08 02 53.5 +1.7**
DHY Denali Highway 83.60 27 P **P 08 02 53.0 +1.2**
baz=270,SNR=7.2
SCM Sheep Creek Mo 83.62 28 P **P 08 02 53.0 +1.1**
baz=270,SNR=9.4
GLI Glacier Island 83.74 29 P **P 08 02 53.8 +1.4**
GLI IAmb IAmb 08 02 54.5
comp=Z,67nm,0.6s
GLI Glacier Island 83.74 29 P **P 08 02 53.4 +1.0**
baz=270,SNR=13
HDA Harding Lake 83.79 26 P **P 08 02 52.6 +0.1**
baz=270,SNR=31
ILAR Eielson Array 83.81 26 P **P 08 02 52.1 -0.5**
comp=Z,14nm,0.9s,baz=247,slow=4.8,SNR=85
ILAR pP **pP 08 03 42.6 -0.4**
comp=Z,4.1nm,0.8s,baz=230,slow=5.4,SNR=2.7
ILAR PKKPbc **PKKPbc 08 21 07.5 -2.9**
comp=Z,1.1nm,0.4s,baz=102,slow=1.3,SNR=25
comp=Z,14nm,0.9s
D25K Kavik River 84.00 21 P **P 08 02 55.1 +1.5**
baz=270
FID Port Fidalgo 84.05 30 P **P 08 02 54.7 +0.8**
FID IAmb IAmb 08 02 56.1
comp=Z,48nm,0.8s
Q23K Middleton Isla 84.14 31 P **P 08 02 56.2 +1.8**
baz=271
M24K Tolsona, Glenn 84.17 28 P **P 08 02 56.3 +1.8**
baz=271,SNR=7.3
H25K Birch Creek 84.24 24 P **P 08 02 57.1 +2.4**
baz=271,SNR=18
F25K Christian Rive 84.29 23 P **P 08 02 57.4 +2.4**
baz=271,SNR=14
KLU Klutina 84.30 29 P **P 08 02 56.6 +1.4**
baz=272,SNR=6.8
E25K Arctic Village 84.31 22 P **P 08 02 57.2 +2.1**
baz=271,SNR=16
K24K Donnelly Dome 84.31 26 P **P 08 02 56.1 +0.9**
baz=271,SNR=11
PRP Porcupine Dome 84.38 25 P **P 08 02 56.9 +1.2**
baz=271,SNR=6.1
EYAK Cordova Ski Ar 84.41 30 P **P 08 02 56.6 +0.9**
baz=272
J25K Salcha River, 84.47 26 P **P 08 02 56.2 +0.2**
baz=272,SNR=13
PAX Paxson 84.47 27 P **P 08 02 57.4 +1.3**
baz=272,SNR=11
HARP HAARP 84.64 28 P **P 08 02 58.5 +1.6**
baz=272
BMAR Burnt Mountain 84.70 23 P **P 08 02 59.5 +2.4**
RIDG Independent Ri 84.73 27 P **P 08 02 58.2 +0.9**
baz=272,SNR=16
OBN Obninsk 84.77 325 P **P 08 02 57.3 -0.3**
comp=Z,5.8nm,0.3s,baz=62,slow=7.7,SNR=20
comp=Z,5.8nm,0.3s

F26K Sheenjek River 84.86 23 P **P** **08 03 00.3 +2.4**
baz=272
C27K Jago River 84.93 21 P **P** **08 03 00.6 +2.4**
baz=273
N25K Chitina, Valde 84.93 29 P **P** **08 03 00.2 +1.8**
baz=273
BMRM Bremner River 84.96 29 P **P** **08 03 00.2 +1.7**
baz=273
G26K Porcupine Rive 85.03 23 P **P** **08 03 00.9 +2.3**
baz=273,SNR=11
SCRK Sand Creek 85.10 26 P **P** **08 03 00.5 +1.2**
baz=273,SNR=8.2
KAIM Kayak Island 85.10 30 P **P** **08 03 01.2 +2.1**
baz=273
MAW Mawson 85.22 200 P **P** **08 03 00.2 +0.7**
comp=Z,36nm,0.8s,baz=66,slow=5.3,SNR=102
comp=Z,36nm,0.8s
MAW Mawson 85.22 200 P **P** **08 03 00.2 +0.7**
baz=85,SNR=63
MAW Mawson 85.22 200 P **P** **08 03 00.3 +0.8**
J26L Joseph Creek 85.25 26 P **P** **08 03 00.8 +0.9**
baz=273,SNR=19
GLB Gilahina Butte 85.32 29 P **P** **08 03 01.6 +1.3**
I26K Coal Creek Min 85.38 25 P **P** **08 03 01.8 +1.4**
baz=274
L26K Log Cabin Wild 85.44 27 P **P** **08 03 02.3 +1.5**
baz=274
VNDA Vanda 85.54 173 P **P** **08 03 01.4 +0.5**
comp=Z,14nm,0.9s,baz=317,slow=6.1,SNR=55
VNDA PKKPbc **PKKPbc** **08 21 04.8 -2.3**
comp=Z,0.4nm,0.5s,baz=237,slow=2.6,SNR=6.9
comp=Z,14nm,0.9s
VNDA Vanda 85.54 173 P **P** **08 03 01.6 +0.6**
M26K Nabesna, AK 85.64 28 P **P** **08 03 03.5 +1.7**
baz=274
BGLC Bering Glacier 85.66 30 P **P** **08 03 03.3 +1.5**
baz=274
MCARA McCarthy VSAT 85.70 29 P **P** **08 03 03.4 +1.3**
baz=274
E27K Coleen River 85.79 22 P **P** **08 03 03.9 +1.5**
baz=275
WAX Waxell Ridge 85.85 30 P **P** **08 03 05.1 +2.1**
WAX IAmb IAmb 08 03 55.2
comp=Z,71nm,1.1s
ASF Jabal al Asfar 85.86 302 P **P** **08 03 03.3 -0.3**
comp=Z,7.6nm,0.6s,baz=109,slow=0.8,SNR=24
comp=Z,7.6nm,0.6s
G27K Doyon Strip 85.88 23 P **P** **08 03 04.6 +1.6**
baz=275,SNR=9.1
K27K Chicken 85.93 26 P **P** **08 03 04.8 +1.6**
baz=275
H27K Steamboat Moun 85.98 24 P **P** **08 03 05.2 +1.7**
baz=275,SNR=6.4
I27K Kandik River 86.00 25 P **P** **08 03 05.1 +1.5**
baz=275,SNR=28
L27K Beaver Creek, 86.12 27 P **P** **08 03 05.3 +1.1**
baz=275
EGAK Eagle 86.27 25 P **P** **08 03 06.1 +1.3**
baz=275
SBA Scott Base 86.46 172 P **P** **08 03 05.9 +0.5**
SBA IAmb IAmb 08 03 08.4
comp=Z,57nm,1.4s
CTG Chitna Glacier 86.55 29 P **P** **08 03 07.7 +1.3**
baz=276,SNR=7.2
CTGM Chitina Glacie 86.55 29 P **P** **08 03 07.6 +1.2**
CTGM IAmb IAmb 08 04 03.6
comp=Z,77nm,1.2s
PPT2 Papeete2 86.84 108 *e*S **S** **08 13 28.3 -0.8**
comp=Z,250nm,29.5s
PPT2 Papeete2 86.84 108 *e*LR LR 08 31 01.9
comp=Z,178nm,23.0s
YUK3 Moose Creek 86.88 28 P **P** **08 03 09.6 +1.5**
baz=276
HOPEN Hopen 86.93 347 *e*P **P** **08 03 09.0 +1.2**
MMAI Mount Meron Ar 87.05 303 P **P** **08 03 08.9 -0.5**
comp=Z,2.4nm,0.4s,baz=96,slow=8.5,SNR=11
comp=Z,2.4nm,0.4s
DAWY Dawson 87.11 26 P **P** **08 03 09.8 +0.8**
baz=277,SNR=7.6
O28M Mount Upton 87.12 29 P **P** **08 03 10.5 +1.1**
baz=276
I29M Ogilvie Camp, 87.40 25 P **P** **08 03 11.7 +1.4**
baz=278,SNR=17
TBI Tubuai 87.65 114 *e*LR LR 08 31 24.0
comp=Z,213nm,28.0s
M29M Somme Creek 87.73 28 P **P** **08 03 13.5 +1.5**
baz=278,SNR=8.1
KIBK Kibwezi 87.76 267 P **P** **08 03 13.1 0.0**
SNR=6.9
L29M L29M 87.79 27 P **P** **08 03 13.6 +1.3**
baz=278,SNR=9.1
BRTR Keskin Array B 87.86 310 P **P** **08 03 11.5 -1.7**
comp=Z,10nm,0.8s,baz=114,slow=5.5,SNR=34
BRTR pP **pP** **08 04 03.6 -1.2**
comp=Z,0.8nm,0.7s,baz=22,slow=20,SNR=1.2
comp=Z,10nm,0.8s
EPYK Eagle Plains 87.89 24 P **P** **08 03 13.0 +0.4**
baz=279
K29M Barlow Dome 87.95 26 P **P** **08 03 13.9 +0.9**
baz=279,SNR=5.0
O29M Mount Kennedy 87.97 30 P **P** **08 03 14.5 +1.3**
baz=278
ARA0 ARCESS Array S 88.18 340 *e*P **P** **08 03 13.2 -0.7**
ARA0 IAmb IAmb 08 03 13.9
comp=Z,102nm,1.4s
ARCES ARCESS Array B 88.18 340 P **P** **08 03 12.4 -1.4**
comp=Z,23nm,0.9s,baz=85,slow=5.9,SNR=45
ARCES PKiKP **PKiKP** **08 08 14.2 +0.1**
comp=Z,1.5nm,0.7s,baz=96,slow=2.4,SNR=4.2
ARCES PKKPbc **PKKPbc** **08 20 57.0 -3.1**
comp=Z,0.7nm,0.3s,baz=256,slow=3.5,SNR=19
comp=Z,23nm,0.9s
ARCES ARCESS Array B 88.18 340 P **P** **08 03 12.5 -1.4**
ARCES IAmb IAmb 08 03 14.9
comp=Z,57nm,1.1s
SPA0 Spitsbergen Ar 88.31 349 *e*P **P** **08 03 14.3 0.0**
SPA0 IAmb IAmb 08 03 15.1
comp=Z,59nm,0.8s
SPITS Spitsbergen Ar 88.31 349 P **P** **08 03 14.2 0.0**
comp=Z,14nm,0.4s,baz=91,slow=8.3,SNR=90
comp=Z,14nm,0.4s
HYT Haines Junctio 88.42 29 P **P** **08 03 16.4 +1.1**
HYT Haines Junctio 88.42 29 P **P** **08 03 16.2 +0.9**
baz=279
KMBO Kilima Mbogo 88.43 269 P **P** **08 03 15.6 -0.9**
comp=Z,9.6nm,0.8s,baz=65,slow=6.3,SNR=20
comp=Z,9.6nm,0.8s
KMBO Kilima Mbogo 88.43 269 *i* P **P** **08 03 15.8 -0.7**
SNR=11
M30M Minto, Yukon 88.48 27 P **P** **08 03 16.9 +1.5**
baz=279
P29M Windy Craggy 88.49 30 P **P** **08 03 16.7 +1.1**
baz=279
N30M Aishikik Lake 88.52 28 P **P** **08 03 16.7 +1.0**
baz=279
HAMF Hammerfest 88.56 341 *e*P **P** **08 03 14.2 -1.3**
HAMF IAmb IAmb 08 03 15.8
comp=Z,31nm,0.9s
MAYO Mayo, Yukon 88.71 26 P **P** **08 03 17.3 +0.9**
baz=280
INK Inuvik 88.74 21 P **P** **08 03 17.7 +1.2**
baz=282
P30M Million Dollar 88.80 30 P **P** **08 03 18.4 +1.4**
baz=279
F31M Tsiigehtchic 88.84 22 P **P** **08 03 18.8 +1.8**
baz=282
KBS Kingsbay 88.84 350 *e*P **P** **08 03 16.6 -0.2**
KBS IAmb IAmb 08 03 16.8
comp=Z,12nm,0.7s
KTK1 Kautokeino 89.09 339 *e*P **P** **08 03 17.1 -1.0**
KTK1 IAmb IAmb 08 03 17.7
comp=Z,60nm,1.4s
O30N Mendenhall 89.11 29 P **P** **08 03 19.6 +1.1**
baz=280
N31M Braeburn, Yuko 89.14 28 P **P** **08 03 19.7 +1.2**
baz=280
FIA1 FINESS Array S 89.53 332 P **P** **08 03 19.2 -1.1**
FIA1 IAmb IAmb 08 03 21.2
comp=Z,78nm,1.4s
FINES FINESS Array B 89.53 332 P **P** **08 03 19.0 -1.3**
comp=Z,14nm,0.5s,baz=52,slow=4.8,SNR=89
FINES PKiKP **PKiKP** **08 08 15.8 -0.7**
comp=Z,1.6nm,0.6s,baz=50,slow=3.0,SNR=3.5
comp=Z,14nm,0.5s
FINES FINESS Array B 89.53 332 P **P** **08 03 19.5 -0.8**
AKASG Malin Array Be 89.62 321 P **P** **08 03 19.2 -1.8**
comp=Z,1.2nm,0.4s,baz=67,slow=4.5,SNR=18
AKASG pP **pP** **08 04 13.7 +0.7**
comp=Z,9.2nm,1.0s,baz=65,slow=4.7,SNR=3.8
comp=Z,1.2nm,0.4s
M31M Drury Creek, Y 89.65 27 P **P** **08 03 21.8 +0.9**
baz=282
WHY Whitehorse 89.72 29 P **P** **08 03 22.8 +1.4**
WHY Whitehorse 89.72 29 P **P** **08 03 22.4 +1.0**
baz=281
MNK Minsk 89.83 325 *i* P **P** **08 03 19.5 -2.4**
comp=E,7.0nm,1.0s
MNK *i* P **P** **08 03 19.5 -2.4**
MNK *i* P **P** **08 03 19.5 -2.4**
comp=Z,26nm,1.0s,baz=81
MNK *i* pP **pP** **08 04 08.8 -5.0**
MNK *i* sP **sP** **08 04 30.0 -5.9**
MNK *i* PP **PP** **08 06 54.3 -2.9**
MNK *i* PPP PPP 08 08 52.2
MNK *i* SKS SKPbc 08 12 11.4
MNK *i* S **SKSac** **08 13 30.1 -2.3**
MNK *i* sS **pS** **08 15 00.8 -0.6**
MNK *i* PS **PnS** **08 15 40.0 +9.3**
MNK *i* SKKS 08 15 46.1
MNK *i* SS **SS** **08 19 56.8 -1.0**
MNK *i* SSS SSS 08 23 34.1
MNK *i* LRM MLR 08 47 20.0
comp=E,34nm,19.5s
MNK *i* LRM MLR 08 47 38.9
MNK *i* LRM MLR 08 47 44.3
comp=Z,129nm,19.3s
JETT Jettan, Norway 89.92 340 *e*P **P** **08 03 21.2 -0.8**
JETT IAmb IAmb 08 03 22.6
comp=Z,52nm,0.9s
FARO Faro, Yukon 90.12 27 P **P** **08 03 23.6 +0.5**
FARO Faro, Yukon 90.12 27 P **P** **08 03 24.1 +1.0**
baz=282
NACGM Naroch 90.39 325⇑ *e*P **P** **08 03 23.2 -1.2**
baz=80
TRO Tromso 90.39 340 *e*P **P** **08 03 22.9 -1.2**
TRO IAmb IAmb 08 03 23.6
comp=Z,41nm,1.2s
N32M Quiet Lake 90.48 28 P **P** **08 03 26.0 +1.2**
baz=283
P33M Teslin, Yukon 90.81 29 P **P** **08 03 27.5 +1.0**
baz=283
MMPY Sheldon Lake, 90.97 27 P **P** **08 03 28.7 +1.6**
baz=284
NOR Nord 91.01 355 *i* P **P** **08 03 26.4 -0.4**
NOR IAmb IAmb 08 03 27.2
comp=Z,14nm,0.7s
CFR Carcaliu 91.20 315⇑ P **P** **08 03 27.9 -0.5**
Q32M Nakina River 91.37 30 P **P** **08 03 30.1 +0.9**
baz=283
U33K Whale Pass 91.56 33 P **P** **08 03 31.1 +1.3**
baz=283
CRAG Craig 91.70 34 P **P** **08 03 31.8 +1.3**
baz=283
C36M Paulatuk 91.73 19 P **P** **08 03 31.9 +1.6**
baz=291
WRAK Wrangell Islan 91.92 33 P **P** **08 03 32.9 +1.4**
baz=283
R33M Jennings River 91.92 30 P **P** **08 03 32.9 +1.3**
baz=284
TESR Tecani 91.99 317⇑ P **P** **08 03 31.3 -0.8**
VRI Vrincioaia 92.06 316⇑ P **P** **08 03 32.4 0.0**
PLOR Plostina 92.11 316⇓ P **P** **08 03 31.4 -1.4**
S34M Telegraph Cree 92.20 31 ⇑ P **P** **08 03 34.3 +1.5**
baz=284
STEI Steigen 92.22 339 *e*P **P** **08 03 30.5 -2.2**
STEI IAmb IAmb 08 03 31.6
comp=Z,29nm,1.0s
FAUS Fauske 92.40 339 *e*P **P** **08 03 32.1 -1.4**
TGTN Hyland Airport 92.62 27 P **P** **08 03 36.0 +1.2**
baz=287
DLBC Dease Lake 92.64 31 P **P** **08 03 36.4 +1.5**
baz=285
MLR Muntele Rosu 92.66 316⇑ P **P** **08 03 33.1 -2.2**
MLR Muntele Rosu 92.66 316 P **P** **08 03 33.5 -1.9**
comp=Z,8.4nm,0.8s,baz=282,slow=1.8,SNR=9.5
comp=Z,8.4nm,0.8s
MLR Muntele Rosu 92.66 316 P **P** **08 03 35.2 -0.2**
BURAR Bucovina Array 92.75 318⇑ P **P** **08 03 34.9 -0.8**
T35M Bob Quinn 92.90 32 P **P** **08 03 37.6 +1.5**
baz=285
VOIR 93.29 316⇑ P **P** **08 03 37.1 -1.1**
WRGLY Wrigley 94.19 25 P **P** **08 03 43.1 +1.4**
baz=291
NSS Namsos 94.75 337 *e*P **P** **08 03 41.4 -2.9**
GZR Gura Zlata 94.86 316⇓ P **P** **08 03 44.7 -0.7**
CRVS Cervenica-Dubn 94.90 320 *e*P **P** **08 03 45.1 -0.3**
TAOE Nuku Hiva Isla 95.09 98 *e*LR LR 08 34 51.0
comp=Z,384nm,23.8s
DAG Danmarks Havn 95.13 352 *i* P **P** **08 03 44.3 -1.6**
DAG IAmb IAmb 08 03 45.9
comp=Z,28nm,0.6s
DJES Djerdap 95.21 316⇑ P **P** **08 03 46.2 -0.7**
HERR Herculane 95.23 316⇑ P **P** **08 03 44.7 -2.3**
BLKB Belogradchik 95.34 315⇑ P **P** **08 03 46.3 -1.2**
IDI Anyoja 95.38 306 P **P** **08 03 46.2 -1.7**
comp=Z,8.9nm,0.8s,baz=196,slow=19,SNR=1.7
comp=Z,8.9nm,0.8s
SIRR Siria 95.42 317⇓ P **P** **08 03 47.4 -0.5**
BZS Buzias 95.61 317⇑ P **P** **08 03 47.8 -0.9**
HFS Hagfors 95.72 332 P **P** **08 03 47.2 -1.6**
comp=Z,7.2nm,0.4s,baz=100,slow=4.5,SNR=53
HFS PKKPbc **PKKPdf** **08 20 38.0 -1.9**
comp=Z,0.9nm,0.3s,baz=175,slow=5.4,SNR=9.0
comp=Z,7.2nm,0.4s
MDVR Moldovita 95.74 316⇑ P **P** **08 03 48.1 -1.3**
BOVS Bovan 96.02 315⇑ P **P** **08 03 49.1 -1.5**
NB2 NORSAR Subarra 96.49 333 P **P** **08 03 50.4 -2.0**
comp=Z,6.2nm,0.6s,baz=67,slow=4.6
NB2 NORSAR Subarra 96.49 333 P **P** **08 03 50.4 -2.0**
baz=67,slow=4.6
NOA NORSAR Array B 96.49 333 P **P** **08 03 50.3 -2.1**
comp=Z,5.9nm,0.8s,baz=66,slow=4.5,SNR=19
comp=Z,5.9nm,0.8s
VYHS Vyhne 96.69 320 *e*PP **PP** **08 07 53.2 +2.4**
NEEM North Greenlan 96.93 359 *i* P **P** **08 03 54.1 -0.3**
NEEM IAmb IAmb 08 03 56.0
comp=Z,18nm,0.5s
MORC Moravsky Berou 97.13 322 *e*P **P** **08 03 54.2 -1.3**
MORC *e*PP **PP** **08 07 53.5 -0.7**
JAVC Velka Javorina 97.32 321 *e*P **P** **08 03 56.0 -0.5**
JAVC *e*PP **PP** **08 07 56.2 +0.5**
DBG Daneborg 97.39 351 *i* P **P** **08 03 54.9 -1.2**
DBG IAmb IAmb 08 03 56.2
comp=Z,9.5nm,0.8s
MORH Mrgy, Hungar 97.45 318 P **P** **08 03 55.4 -1.6**
AKN Aaknes 97.80 335 *e*P **P** **08 03 57.6 -0.6**
VRAC Vranov 97.86 321 *e*P **P** **08 03 58.4 -0.4**
VRAC *e*PP **PP** **08 08 00.2 +0.5**
KRUC Moravsky 98.06 321 *e*P **P** **08 03 58.8 -0.9**
KRUC *e*PP **PP** **08 08 01.5 +0.3**
YKA Yellowknife Ar 98.17 24 P **P** **08 03 57.8 -2.1**
comp=Z,4.5nm,0.9s,baz=296,slow=4.8,SNR=5.5
comp=Z,4.5nm,0.9s
GOPC GO Pecny, Ondr 98.77 322 AMS AMS 08 52 40.0
comp=Z,200nm,19.7s
PRU Pruhonice 98.90 322 AMS AMS 08 56 30.0
comp=Z,100nm,19.7s
BRG Berggiesshubel 98.95 323 *e*P **P** **08 04 03.1 -0.5**
BRG Amp 08 04 05.2
comp=Z,6.4nm,0.9s
BRG *ex* x 08 04 31.8
BRG Amp 08 04 35.9
comp=Z,5.1nm,1.1s
CLL Collm 99.35 324 *i* Pdif **Pdif** **08 04 04.5 -0.9**
comp=Z,5.0nm,0.5s
CLL *e*PP **PP** **08 08 10.0 -0.9**
CLL *ex* x 08 08 24.0
CLL *e*Sdif **S** **08 15 16.0 -2.8**
CLL *e*(SP) 08 16 45.0
CLL *e*PPS PPS 08 17 58.0
CLL *e*SS **SS** **08 22 12.0 -0.7**
CLL *es*SS 08 23 32.0
CKRC Cesky Krumlov 99.44 321 *e*SDIF **S** **08 15 17.1 -2.7**
KHC Kasperske Hory 99.78 322 pP **pP** **08 05 00.0 +0.5**
KHC *e*SDIF **S** **08 15 19.8 -2.9**
KHC AMS AMS 08 54 00.0
comp=Z,100nm,17.1s
GERES GERESS Array B 99.81 322 P **Pdif** **08 04 06.4 -1.2**
comp=Z,0.8nm,0.6s,baz=74,slow=4.7,SNR=5.6
GERES pP **pP** **08 05 00.8 +1.1**
comp=Z,1.0nm,0.7s,baz=69,slow=4.4,SNR=3.1
GERES PKiKP **PKiKP** **08 08 34.9 -0.1**
comp=Z,0.5nm,0.4s,baz=132,slow=1.5,SNR=5.7
comp=Z,0.8nm,0.6s
G03D McMinnville, O 100.60 42 P **Pdif** **08 04 11.7 +0.6**
baz=289
I03D Drain, OR 101.04 44 P **Pdif** **08 04 13.5 +0.4**
baz=289
I04A Tendick Farm, 101.65 43 P **Pdif** **08 04 16.6 +0.7**
baz=290
J04D Umpqua Nationa 102.04 44 P **Pdif** **08 04 18.1 +0.2**
baz=290
I05D Terrebonne, OR 102.19 42 P **Pdif** **08 04 19.3 +1.0**
baz=291
L04D Klamath Falls 102.25 45 P **Pdif** **08 04 19.2 +0.5**
baz=290
NEW Newport 103.38 38 P **Pdif** **08 04 24.4 +0.9**
baz=295
TROLL Troll, Antarti 105.23 196 PKiKP **PKiKP** **08 08 45.4 +1.2**
TROLL Troll, Antarti 105.23 196 Pdiff **Pdif** **08 04 33.2 +1.9**
EKA Eskdalemuir Ar 105.92 332 PKiKP **PKiKP** **08 08 45.8 +0.1**
comp=Z,1.4nm,0.8s,baz=44,slow=3.7,SNR=5.1
EKA PKKPbc **PKKPbc** **08 20 09.7 -1.5**
comp=Z,0.3nm,0.4s,baz=257,slow=2.8,SNR=4.5
NVAR Mina Array Bea 106.44 47 Pdiff **Pdif** **08 04 38.4 +0.9**
comp=Z,1.0nm,0.6s,baz=286,slow=4.6,SNR=10
NVAR SKiKP **SKiKP** **08 12 03.4 +0.5**
comp=Z,1.2nm,0.8s,baz=222,slow=1.2,SNR=4.4
NVAR PKKPbc **PKKPbc** **08 20 08.2 -1.1**
comp=Z,1.2nm,0.6s,baz=124,slow=4.4,SNR=18
NVAR PKKPab **PKKPab** **08 20 25.1 -0.6**
comp=Z,1.7nm,0.7s,baz=119,slow=4.3,SNR=9.6
SNAA Sanae 106.83 195 PKKPbc PKKPbc 08 20 06.3 -2.7
SNAA Sanae 106.83 195 PP **PP** **08 09 06.6 +0.3**
SNAA Sanae 106.83 195 Pdiff **Pdif** **08 04 40.6 +2.3**
VNA2 Neumayer--Watz 108.45 195 PKKP **PKKPab** **08 20 13.0 -2.0**
VNA2 Neumayer--Watz 108.45 195 PKKPbc PKKPbc 08 20 01.1 -2.7
VNA2 Neumayer--Watz 108.45 195 PKiKP **PKiKP** **08 08 50.1 +0.1**
VNA2 Neumayer--Watz 108.45 195 PP **PP** **08 09 18.4 +0.5**
VNA2 Neumayer--Watz 108.45 195 Pdiff **Pdif** **08 04 47.8 +2.4**
baz=133,slow=1.1
VNA3 Neumayer Olymp 108.80 194 PKKP **PKKPab** **08 20 13.4 -0.1**
VNA3 Neumayer Olymp 108.80 194 PKiKP **PKiKP** **08 08 51.3 +0.6**
VNA3 Neumayer Olymp 108.80 194 PP **PP** **08 09 20.8 +0.3**
VNA3 Neumayer Olymp 108.80 194 Pdiff **Pdif** **08 04 49.2 +2.2**
VNA1 Neumayer--Stat 108.85 195 PKKPbc PKKPbc 08 20 00.9 -1.6
VNA1 Neumayer--Stat 108.85 195 PP **PP** **08 09 20.6 -0.2**
VNA1 Neumayer--Stat 108.85 195 Pdiff **Pdif** **08 04 49.9 +2.7**
RLMT Red Lodge 109.62 38 P **PKiKP** **08 08 54.2 +0.9**
baz=300
BELC Belle Mtn. Jos 109.79 51 P **PKiKP** **08 08 54.8 +1.0**
baz=292
MONP2 Monument Peak 109.86 52 P **PKiKP** **08 08 55.0 +1.0**
baz=291
PDAR Pinedale Array 110.61 40 PKiKP **PKiKP** **08 08 55.3 0.0**
comp=Z,0.3nm,0.6s,baz=222,slow=3.4,SNR=2.5
PDAR PKKPbc **PKKPbc** **08 19 53.6 -2.7**
comp=Z,1.7nm,0.7s,baz=129,slow=4.8,SNR=14
PDAR PKKPab **PKKPab** **08 20 04.1 -3.1**
comp=Z,1.8nm,0.5s,baz=114,slow=7.1,SNR=15
PDAR PKKP **PKKPdf** **08 20 13.3 +0.7**
comp=Z,1.3nm,0.7s,baz=117,slow=5.6,SNR=4.5
S22A 4UR Ranch, Cre 114.90 44 P **PKiKP** **08 09 03.7 0.0**
baz=300
ESDC Sonseca Array 115.20 319 PKP **PKiKP** **08 09 02.8 -1.1**
comp=Z,1.2nm,0.6s,baz=8.0,slow=3.8,SNR=7.9
MVO Moncorvo 116.32 322 *e*PKPdf **PKiKP** **08 09 06.9 +0.9**
OGNE Ogallala 116.34 39 P **PKiKP** **08 09 06.7 +0.6**
baz=305
ANMO Albuquerque 116.52 46 P **PKiKP** **08 09 07.9 +1.1**
baz=299
PGAV Gavieira, Arco 116.61 323 *e*PKPdf **PKiKP** **08 09 07.2 +0.6**
PCAB Cabril 116.61 323 *e*PKPdf **PKiKP** **08 09 07.5 +1.0**
121A Cookes Peak, D 116.66 49 P **PKiKP** **08 09 07.8 +0.7**
baz=297
POLO Lamas de Olo 116.67 322 *e*PKPdf **PKiKP** **08 09 07.7 +1.0**
PVRL Vila Real 116.68 322 *e*PKPdf **PKiKP** **08 09 07.5 +0.8**
T25A Trinidad 116.86 43 P **PKiKP** **08 09 07.9 +0.5**
baz=302
MTE Manteigas 117.08 321 *e*PKPdf **PKiKP** **08 09 08.5 +1.0**
PVIS Viseu 117.12 322 *e*PKPdf **PKiKP** **08 09 08.4 +0.9**
PCBR Castelo Branco 117.36 321 *e*PKPdf **PKiKP** **08 09 08.8 +0.8**
EYMN Ely 117.42 27 P **PKiKP** **08 09 08.7 +0.8**
baz=318
PMRV Marv??o 117.54 320 *e*PKPdf **PKiKP** **08 09 08.9 +0.5**
ECSD EROS Data Cent 117.79 33 P **PKiKP** **08 09 09.6 +0.8**
baz=311
PCAS Casmilo, Conde 117.88 321 *e*PKPdf **PKiKP** **08 09 09.5 +0.5**
PESTR Estremoz 117.99 320 *e*PKPdf **PKiKP** **08 09 08.7 -0.5**
PBAR Barrancos 118.02 319 *e*PKPdf **PKiKP** **08 09 10.2 +0.9**
PMTG Montargil 118.28 320 *e*PKPdf **PKiKP** **08 09 10.1 +0.3**
PSBE So Bento 118.38 321 *e*PKPdf **PKiKP** **08 09 11.2 +1.2**
BGNE Belgrade 118.41 36 P **PKiKP** **08 09 10.6 +0.6**
baz=309
EVO Evora 118.45 320 *e*PKPdf **PKiKP** **08 09 10.8 +0.7**
PBEJ Beja 118.65 319 *e*PKPdf **PKiKP** **08 09 10.8 +0.3**
SPMN Marine on St. 118.77 30 P **PKiKP** **08 09 11.3 +0.7**
baz=315
SCHQ Schefferville 118.78 8 PKP **PKiKP** **08 09 10.9 +0.6**
comp=Z,4.6nm,0.3s,baz=25,slow=2.7,SNR=33
MNTX Cornudas Mount 118.86 49 P **PKiKP** **08 09 11.4 +0.3**
baz=298
PVAQ Vaqueiros 118.90 319 *e*PKPdf **PKiKP** **08 09 12.0 +1.0**
MESJ Messejana 118.98 319 *e*PKPdf **PKiKP** **08 09 11.9 +0.7**
MESJ Messejana 118.98 319 *e*PKPdf **PKiKP** **08 09 12.1 +0.9**
PCVE Castro Verde 118.98 319 *e*PKPdf **PKiKP** **08 09 12.0 +0.8**
PNCL Nicolau / Gran 119.03 320 *e*PKPdf **PKiKP** **08 09 12.1 +0.9**
PMST Lisbon--Monsan 119.08 321 *e*PKPdf **PKiKP** **08 09 12.6 +1.3**
MDT Midelt 119.14 313 PKP **PKiKP** **08 09 12.2 +0.4**
comp=Z,4.5nm,0.5s,baz=73,slow=0.7,SNR=21
MORF Marmelete 119.57 319 *e*PKPdf **PKiKP** **08 09 13.0 +0.6**
MORF Marmelete 119.57 319 *e*PKPdf **PKiKP** **08 09 13.5 +1.1**
MSTX Muleshoe 119.65 46 P **PKiKP** **08 09 13.4 +0.6**
baz=301
PFVI Vila Bisbo 119.78 319 *e*PKPdf **PKiKP** **08 09 13.6 +0.8**
PMSA Palmer Station 120.66 175 *e*P **PKiKP** **08 09 14.5 +0.9**
KSU1 Kansas State U 120.77 37 P **PKiKP** **08 09 15.2 +0.6**
baz=309
TORD Torodi Ar. Bea 121.18 289 PKP **PKPdf** **08 09 15.6 -0.3**
comp=Z,15nm,0.6s,baz=64,slow=2.0,SNR=138
TORD SKP **SKPdf** **08 12 31.1 -0.4**
comp=Z,4.9nm,1.0s,baz=57,slow=3.8,SNR=5.0
TORD PKKPab **PKKPab** **08 19 20.4 +0.2**
comp=Z,2.7nm,1.0s,baz=257,slow=4.1,SNR=6.8
TXAR Lajitas Array 121.27 51 PKP **PKiKP** **08 09 16.6 +0.5**
comp=Z,1.1nm,0.6s,baz=238,slow=0.5,SNR=16
TXAR pPKP **pPKPdf** **08 10 10.1 +1.0**
comp=Z,0.9nm,0.7s,baz=314,slow=1.2,SNR=2.7
TXAR SKP **SKPdf** **08 12 30.8 -0.7**
comp=Z,2.2nm,0.9s,baz=180,slow=0.6,SNR=6.5
TXAR PKKPbc **PKKPbc** **08 19 16.9 -1.7**
comp=Z,2.1nm,0.9s,baz=135,slow=3.5,SNR=8.7
JFWS Jewell Farm 121.71 30 P **PKiKP** **08 09 16.6 +0.2**
baz=317
WMOK Wichita Mounta 122.00 43 P **PKiKP** **08 09 17.9 +0.7**
baz=305
GLMI Grayling 122.86 25 P **PKiKP** **08 09 19.5 +0.9**
baz=324
TUL1 Leonard 123.27 40 P **PKiKP** **08 09 20.6 +0.9**
baz=308
JCT Junction City 123.61 48 P **PKiKP** **08 09 21.1 +0.5**
baz=302
HDIL Hopedale 123.92 32 P **PKiKP** **08 09 21.0 +0.2**
baz=317
CCM Cathedral Cave 124.62 35 P **PKiKP** **08 09 22.9 +0.6**
baz=314
833A Chaparral WMA, 125.03 50 P **PKiKP** **08 09 23.6 +0.2**
baz=301
MIAR Mount Ida 125.53 40 P **PKiKP** **08 09 24.4 +0.2**
baz=310
O48B Farmland 126.22 29 P **PKiKP** **08 09 25.7 +0.3**
baz=321
LONY Lake Ozonia 126.71 18 P **PKiKP** **08 09 26.7 +0.4**
baz=335
ERPA Erie 126.99 24 P **PKiKP** **08 09 27.1 +0.2**
baz=328
P49A Miami Univ. Ec 126.99 29 P **PKiKP** **08 09 27.1 +0.1**
baz=321
WCI Wyandotte Cave 127.20 31 P **PKiKP** **08 09 27.6 +0.2**
baz=319
ACSO Alum Creek Sta 127.26 27 P **PKiKP** **08 09 28.0 +0.5**
baz=324
M53A WI Miller and 127.28 25 P **PKiKP** **08 09 27.9 +0.4**
baz=327
PKME Peaks-Kenny Pk 127.52 13 P **PKiKP** **08 09 28.5 +0.7**
baz=341
LBNH Lisbon 127.83 16 P **PKiKP** **08 09 29.1 +0.6**
baz=338
WVT Waverly 127.91 34 P **PKiKP** **08 09 29.0 +0.1**

baz=316
O53A New Philadelph 128.04 26 P **PKiKP** **08 09 29.5 +0.5**
baz=326
P52A Corning 128.13 27 P **PKiKP** **08 09 29.3 0.0**
baz=324
OXF Oxford 128.13 37 P **PKiKP** **08 09 29.6 +0.2**
baz=314
BINY Binghamton 128.42 20 P **PKiKP** **08 09 30.1 +0.3**
baz=332
KIC Kosan Boka 128.96 283⇑*e*PKiKP **PKPdf** **08 09 30.8 -0.1**
comp=Z,18nm,0.5s
DBIC Dimbokro 129.01 283 PKP **PKPdf** **08 09 31.2 +0.3**
comp=Z,36nm,1.1s,baz=84,slow=4.3,SNR=10
SSPA Standing Stone 129.08 23 P **PKiKP** **08 09 31.4 +0.2**
baz=330
MCWV Mont Chateau 129.12 25 P **PKiKP** **08 09 31.4 +0.2**
baz=327
TIC Toumodi 129.17 283⇑*e*PKiKP **PKPdf** **08 09 31.0 -0.3**
comp=Z,16nm,0.6s
L61B Northampton 129.26 17 P **PKiKP** **08 09 32.0 +0.6**
baz=336
LIC Lamto 129.27 283⇑*e*PKiKP **PKPdf** **08 09 31.0 -0.5**
comp=Z,139nm,1.3s
TZTN Tazewell 129.89 31 P **PKiKP** **08 09 33.4 +0.5**
baz=321
PAL Palisades 130.19 19 P **PKiKP** **08 09 33.7 +0.4**
baz=334
LRAL Lakeview Retre 130.60 37 P **PKiKP** **08 09 34.6 +0.2**
baz=315
BLA Blacksburg 130.88 28 P **PKiKP** **08 09 35.4 +0.5**
baz=325
CBN Corbin Frederi 131.37 24 P **PKiKP** **08 09 36.3 +0.5**
baz=329
KMSC Kings Mountain 132.11 30 P **PKiKP** **08 09 37.6 +0.2**
baz=323
GOGA Godfrey 132.33 33 P **PKiKP** **08 09 38.3 +0.5**
baz=319
CNNC Cliffs of the 133.66 27 P **PKiKP** **08 09 41.0 +0.5**
baz=327
TIGA Tifton 133.74 35 P **PKiKP** **08 09 41.4 +0.7**
baz=318
PLCA Paso Flores 142.27 160 PKhKP PKPpre 08 09 51.2
comp=Z,4.7nm,0.5s,baz=213,slow=4.6,SNR=20
PLCA SKPbc **SKPbc** **08 13 13.5 +0.6**
comp=Z,14nm,0.9s,baz=175,slow=4.0,SNR=9.2
PLCA Paso Flores 142.27 160 *e*P **PKPdf** **08 09 55.8 +0.8**
PLTB Pedras Altas 154.09 182 *e*P **PKPdf** **08 10 15.5 +1.3**
CPSB Cacapava Do Su 155.43 182 *e*P **PKPdf** **08 10 16.4 +0.2**
ITQB Itaqui 156.09 175 *e*P **PKPdf** **08 10 17.4 +0.5**
CNLB Canela 156.29 188 *e*P **PKPdf** **08 10 18.4 +1.0**
ROSC El Rosal 157.54 63 PKP **PKPdf** **08 10 19.1 -0.7**
comp=Z,9.7nm,0.8s,baz=283,slow=18,SNR=6.1
ROSC PKPab **PKPab** **08 10 53.8 +1.0**
comp=Z,6.5nm,0.6s,baz=126,slow=14,SNR=5.7
LVC Limon Verde 158.16 142 *e*P **PKPdf** **08 10 20.6 +0.3**
SDV Santo Domingo 158.29 48 *e*P **PKPdf** **08 10 21.4 +1.0**
ITAB Concordia 158.50 186 *e*P **PKPdf** **08 10 20.7 +0.7**
CPUP Villa Florida 159.33 173 PKP **PKPdf** **08 10 21.0 -0.1**
comp=Z,9.5nm,1.0s,baz=64,slow=1.3,SNR=14
CPUP PKPab **PKPab** **08 10 59.9 +0.6**
comp=Z,18nm,0.9s,baz=188,slow=3.5,SNR=15
CPUP Villa Florida 159.33 173 *e*P **PKPdf** **08 10 21.6 +0.5**
CAM01 Campos-RJ 159.77 216 *e*P **PKPdf** **08 10 22.4 +0.7**
TIJ01 Guaruva-PR 159.83 194 *e*P **PKPdf** **08 10 22.2 +0.4**
DUB01 Friburgo-RJ 159.99 215 *e*P **PKPdf** **08 10 21.6 -0.4**
ALF01 Guarapari-ES 160.09 221 *e*P **PKPdf** **08 10 23.2 +1.1**
PET01 Itanhaem-SP 160.30 200 *e*P **PKPdf** **08 10 22.6 +0.4**
PARB Paraibuna 160.54 205 *e*P **PKPdf** **08 10 22.5 -0.1**
PTGB Pitanga 160.98 187 *e*P **PKPdf** **08 10 24.3 +1.2**
VAO Valinhos 161.37 202 *e*P **PKPdf** **08 10 24.1 +0.6**
NAN01 Guarapari, ES 161.54 228 *e*P **PKPdf** **08 10 24.4 +0.7**
RCBR Riachuelo 161.56 269 *e*P **PKPdf** **08 10 24.6 +0.6**
NBAN Anadia - AL 161.58 257 *e*P **PKPdf** **08 10 23.9 0.0**
SJMB Sao Joao De Ma 161.74 224 *e*P **PKPdf** **08 10 24.4 +0.5**
CZSB Cruzeiro do Su 161.75 97 *e*P **PKPdf** **08 10 24.8 +0.8**
GUA01 Guaratinga, BA 162.06 232 *e*P **PKPdf** **08 10 25.1 +0.9**
CMC01 Camacan, BA 162.50 236 *e*P **PKPdf** **08 10 25.2 +0.5**
TRCB Terra Rica 162.94 186 *e*P **PKPdf** **08 10 26.2 +1.1**
LPAZ La Paz 162.96 129 PKP **PKPdf** **08 10 26.8 +0.8**
comp=Z,11nm,1.1s,baz=44,slow=2.0,SNR=24
LPAZ PKPab **PKPab** **08 11 17.1 +0.7**
comp=Z,7.5nm,0.8s,baz=256,slow=2.3,SNR=7.4
LPAZ La Paz 162.96 129 *e*P **PKPdf** **08 10 26.1 +0.1**
GDU01 Guandu, BA 163.34 240 *e*P **PKPdf** **08 10 26.3 +0.8**
DIAM Diamantina, MG 163.67 219 *e*P **PKPdf** **08 10 26.3 +0.4**
BB19B Bebedouro 163.71 200 *e*P **PKPdf** **08 10 26.2 +0.4**
PCMB Pacaembu 163.91 191 *e*P **PKPdf** **08 10 26.9 +0.9**
TBTG Tabatinga, AM 164.51 85 *e*P **PKPdf** **08 10 27.4 +0.7**
MC01 Montes Claros 165.01 222 *e*P **PKPdf** **08 10 26.9 -0.2**
PMNB Patos De Minas 165.06 211 *e*P **PKPdf** **08 10 27.4 +0.3**
AQDB Aquidauana 165.29 175 *e*P **PKPdf** **08 10 27.4 +0.3**
ITRB Iturama 165.55 196 *e*P **PKPdf** **08 10 27.8 +0.4**
IPMB Ipameri, GO 166.38 206 *e*P **PKPdf** **08 10 28.2 +0.1**
JANB Januaria 166.40 226 *e*P **PKPdf** **08 10 28.4 +0.2**
ETMB Extrema 167.65 110 *e*P **PKPdf** **08 10 29.5 +0.3**
BDFB Brasilia 168.30 212 PKP **PKPdf** **08 10 30.0 +0.4**
comp=Z,17nm,1.1s,baz=92,slow=0.8,SNR=13
BDFB PKPab **PKPab** **08 11 39.5 +0.2**
comp=Z,17nm,0.9s,baz=114,slow=2.2,SNR=13
BDFB Brasilia 168.30 212 *e*P **PKPdf** **08 10 30.0 +0.4**
SDBA SAO DESIDERIO 168.48 234 *e*P **PKPdf** **08 10 29.8 0.0**
PTLB Pontes e Lacer 169.29 155 *e*P **PKPdf** **08 10 30.4 +0.3**
ROSB Rosrio 169.34 285 *e*P **PKPdf** **08 10 30.0 -0.3**
SALV Santo Antonio 169.81 173 *e*P **PKPdf** **08 10 31.1 +0.7**
BOAV Boa Vista 169.90 37 *e*P **PKPdf** **08 10 30.8 +0.2**
VILB Vilhena 170.84 142 *e*P **PKPdf** **08 10 31.8 +0.7**
SMTB Santa Maria do 172.52 245 *e*P **PKPdf** **08 10 32.1 +0.1**
TMAB Tom-Au,PA,Br 172.85 298 *e*P **PKPdf** **08 10 32.3 +0.3**
SNDB Serra Nova Dou 173.06 206 *e*P **PKPdf** **08 10 32.3 +0.2**
PDRB Porto dos Gac 173.73 159 *e*P **PKPdf** **08 10 32.3 0.0**
CLDB Colider 174.71 165 *e*P **PKPdf** **08 10 32.2 -0.5**
PRPB Parauapebas 175.38 264 *e*P **PKPdf** **08 10 32.6 -0.3**
MALB Monte Alegre 176.15 357 *e*P **PKPdf** **08 10 33.3 +0.2**
ITTB Itaituba 178.13 44 *e*P **PKPdf** **08 10 33.3 -0.1**
NPGB Novo Progresso 178.40 145 *e*P **PKPdf** **08 10 33.4 0.0**

*ISK **16** 08:02:28.5,36˚09N×31˚05E,h88km,ML2.7/26*
*NIC **16** 08:02:31.6±0.0,35˚92N×30˚78E,h33km±33km,Ml3.1/3*
*DDA **16** 08:02:31.1±0.0,36˚12N×31˚05E,h11km±1km,ML2.2*
ISC 16 08:02:28.7±1.4,**36˚02N**±0˚03×**31˚01E**±0˚03,**h7**km±11km,
n43,σ1§60/56,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.92**	**342**	PG	**Pg**	**08 02 47.5**	**+1.1**
ANTB				SG	**Sn**	**08 03 01.3**	**-0.2**
KEPZ	**Antalya-Kepez**	**1.00**	**29**	P	**Pb**	**08 02 49.1**	**+0.7**
KEPZ				S	**Sn**	**08 03 04.6**	**+1.1**
KEPZ				*i* AML	AML	08 03 06.0	
	comp=E,54nm,0.8s						
KEPZ				*i* AML	AML	08 03 09.0	
	comp=N,70nm,0.3s						
GAZI	**Gazipasa**	**1.08**	**78**	PG	**Pg**	**08 02 49.3**	**-0.2**
GAZI				SG	**Sb**	**08 03 04.5**	**+0.5**
GAZI	**Gazipasa**	**1.08**	**78**	P	**Pg**	**08 02 49.8**	**+0.4**
GAZI				*i* AML	AML	08 03 05.0	
	comp=N,138nm,0.6s						
GAZI				S	**Sn**	**08 03 05.3**	**-0.1**
GAZI				*i* AML	AML	08 03 07.0	
	comp=E,164nm,0.5s						
KORT	**Korkueli**	**1.11**	**332**	PG	**Pg**	**08 02 49.9**	**-0.1**
KORT	**Korkueli**	**1.11**	**332**	P	**Pg**	**08 02 51.3**	**+1.3**
KORT				S	**Sn**	**08 03 11.9**	**+5.5**
KORT				*i* AML	AML	08 03 14.0	
	comp=E,82nm,0.7s						
KORT				*i* AML	AML	08 03 15.0	
	comp=N,44nm,0.5s						
ELL	**Elmali**	**1.14**	**309**	PN	**Pb**	**08 02 50.5**	**-0.4**
ELL	**Elmali**	**1.14**	**309**	P	**Pb**	**08 02 49.9**	**-1.0**
AKAS	**Kas**	**1.15**	**281**	PN	**Pb**	**08 02 50.2**	**-0.9**
BUCA	**Burdur, Bucak-**	**1.35**	**345**	P	**Pg**	**08 02 55.6**	**+1.0**
BUCA				*i* AML	AML	08 03 28.0	
	comp=N,28nm,0.9s						
BUCA				*i* AML	AML	08 03 31.0	
	comp=E,35nm,0.9s						
BCK	**Bucak**	**1.47**	**347**	PN	**Pn**	**08 02 54.2**	**-1.5**
AKMS	**Akamas**	**1.48**	**132**	P	**Pn**	**08 02 55.7**	**-0.1**
AKMS				S	**Sn**	**08 03 17.1**	**+1.8**
AKMS				AML	AML	08 03 21.4	
	0.6nm,0.5s						
AKMS				AML	AML	08 03 21.4	
	0.6nm,0.5s						
AKMS				AML	AML	08 03 22.2	
	0.7nm,0.4s						
AKMS				AML	AML	08 03 22.2	
	0.7nm,0.4s						
ALFC	**Alefka**	**1.56**	**123**	P	**Pn**	**08 02 56.1**	**-0.8**
ALFC				S	**Sn**	**08 03 19.7**	**+2.4**
ALFC				AML	AML	08 03 25.5	
	0.5nm,0.3s						
ALFC				AML	AML	08 03 25.5	
	0.5nm,0.3s						
ALFC				AML	AML	08 03 27.7	
	0.6nm,0.8s						
ALFC				AML	AML	08 03 27.7	
	0.6nm,0.8s						
CAME	**Cameli-Denizli**	**1.65**	**304**	PN	**Pn**	**08 02 57.3**	**-1.0**
FETY	**Fethiye**	**1.67**	**292**	PN	**Pn**	**08 02 57.7**	**-0.7**
TEKE	**Tekeli-Mersin**	**1.71**	**85**	PN	**Pn**	**08 02 57.7**	**-1.2**
AKDN	**Akdeniz- Kıbrı**	**1.75**	**114**	PN	**Pn**	**08 02 58.4**	**-1.1**
LEF	**Lefka**	**1.78**	**120**	PN	**Pn**	**08 02 58.5**	**-1.4**
NATA	**Nata**	**1.78**	**134**	P	**Pn**	**08 03 01.3**	**+1.4**
NATA				S	**Sn**	**08 03 23.4**	**+0.6**
NATA				AML	AML	08 03 39.6	
	1.5nm,0.5s						
NATA				AML	AML	08 03 39.6	
	1.5nm,0.5s						
NATA				AML	AML	08 03 42.5	
	1.9nm,0.5s						
NATA				AML	AML	08 03 42.5	
	1.9nm,0.5s						
BERE	**Bereket-Mersin**	**1.82**	**79**	PN	**Pn**	**08 02 58.9**	**-1.7**
KKBE	**Karaman, Kazim**	**1.96**	**52**	P	**Pb**	**08 03 05.5**	**+0.7**
KKBE				S	**Sg**	**08 03 33.0**	**+1.2**
KKBE				*i* AML	AML	08 03 37.0	
	comp=N,36nm,0.5s						
KKBE				*i* AML	AML	08 03 39.0	
	comp=E,31nm,0.4s						
TEVE	**Tevekalti-Mers**	**2.01**	**78**	PN	**Pn**	**08 03 01.4**	**-1.7**
KMER	**Konya-Meram**	**2.05**	**32**	P	**Pb**	**08 03 05.9**	**-0.5**
KMER				S	**Sg**	**08 03 34.4**	**-0.4**
KMER				*i* AML	AML	08 03 35.0	
	comp=E,24nm,0.8s						
KMER				*i* AML	AML	08 03 39.0	
	comp=N,20nm,0.5s						
DALY	**Dalyan (Mula)**	**2.06**	**293**	PN	**Pn**	**08 03 02.7**	**-1.0**
AKKU	**Akkuyu-Mersin**	**2.06**	**86**	PN	**Pn**	**08 03 02.4**	**-1.4**
DOGA	**KONYA_Doganhis**	**2.14**	**14**	P	**Pb**	**08 03 07.8**	**-0.1**
DOGA				S	**Sg**	**08 03 36.6**	**-1.0**
DOGA				*i* AML	AML	08 03 38.0	
	comp=N,47nm,0.5s						
DOGA				*i* AML	AML	08 03 40.0	
	comp=E,43nm,0.5s						
KRMN	**Karaman**	**2.15**	**57**	PN	**Pn**	**08 03 03.0**	**-2.0**
CSS	**Mathiatis**	**2.17**	**119**	PN	**Pn**	**08 03 04.5**	**-0.8**
IKL	**Isikli**	**2.18**	**84**	PN	**Pn**	**08 03 03.6**	**-1.7**
LFK	**Lefkose**	**2.19**	**109**	PN	**Pn**	**08 03 04.5**	**-1.0**
KONT	**Konya--Tatoy**	**2.20**	**29**	PN	**Pn**	**08 03 03.7**	**-2.0**
KEBE	**Keben-Mersin**	**2.23**	**78**	PN	**Pn**	**08 03 04.4**	**-1.7**
YVAC	**Isparta, Yalva**	**2.25**	**5**	P	**Pn**	**08 03 08.6**	**+2.1**
YVAC				S	**Sb**	**08 03 38.2**	**+0.4**
TURN	**Turunc**	**2.35**	**289**	PN	**Pn**	**08 03 06.9**	**-0.8**
LADK	**Ladik-KONYA**	**2.43**	**26**	PN	**Pn**	**08 03 06.8**	**-2.1**
YER	**Yerkesik**	**2.46**	**298**	PN	**Pn**	**08 03 08.3**	**-1.0**
OSC1	**CSNet OBS 1**	**2.53**	**175**	P	**Pn**	**08 03 09.7**	**-0.4**
OSC1				S	**Sn**	**08 03 38.5**	**-2.6**
KIZK	**Mersin**	**2.58**	**79**	PN	**Pn**	**08 03 09.3**	**-1.5**
KIZT	**Kizilcal**	**2.93**	**13**	PN	**Pn**	**08 03 13.7**	**-2.2**
MERS	**Mersin**	**2.96**	**72**	PN	**Pn**	**08 03 13.9**	**-2.2**
OSC2	**CSNet OBS 4**	**3.12**	**160**	P	**Pn**	**08 03 18.2**	**-0.1**
KARP	**Karpathos**	**3.16**	**262**	P	**Pn**	**08 03 17.0**	**-1.9**
SVRH	**Sivrihisar-ESK**	**3.44**	**7**	PN	**Pn**	**08 03 19.1**	**-3.7**

*ISU **16** 08:12:56,39˚52N×73˚70E,h6km*
*SOME **16** 08:12:57.6,39˚55N×73˚42E,h5km*
*KRNET **16** 08:12:58.4±0.1,39˚48N×73˚44E,mb3.5*
*NNC **16** 08:13:00.4±2.0,39˚52N×73˚59E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=14.9km s-min=8.5km az=172.0
ISC 16 08:12:53.0±1.7,**39˚25N**±0˚07×**73.72E**±0˚04,**h5**km±11km,
n35,σ1§52/58,15C-7D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.47**	**331**	⇑*e*P	**Pb**	**08 13 20.5**	**-0.3**
	baz=35						
OHH				⇑*e*S	**Sn**	**08 13 36.7**	**-3.1**
	baz=35						
OHH	**Osh**	**1.47**	**331**	P	**Pn**	**08 13 20.3**	**+0.1**
OHH				S	**Sn**	**08 13 38.1**	**-1.7**
DRK	**Karamyk**	**1.51**	**280**	⇑*e*P	**Pg**	**08 13 22.8**	**+0.8**
	baz=71						
DRK				⇑*e*S	**Sn**	**08 13 40.4**	**-0.8**
	baz=71						
FRG	**Fergana**	**1.87**	**308**	P	**Pb**	**08 13 28.0**	**+0.3**
FRG				S	**Sb**	**08 13 51.4**	**0.0**
CHMI	**Chimion**	**1.98**	**302**	P	**Pg**	**08 13 30.7**	**-0.3**
CHMI				S	**Sg**	**08 13 56.3**	**-0.4**
NAM	**Namangan**	**2.36**	**318**	P	**Sg**	**08 14 08.4**	**-0.3**
BTK	**Batken**	**2.39**	**291**	⇓*e*P	**Pb**	**08 13 37.0**	**+0.5**
	baz=87						
BTK				⇓*i*S	**Sb**	**08 14 05.2**	**-1.0**
	baz=87						
BTK	**Batken**	**2.39**	**291**	P	**Pb**	**08 13 36.3**	**-0.2**
BTK				S	**Sg**	**08 14 08.4**	**-1.3**
ARLS	**Aral**	**2.65**	**10**	⇑*e*P	**Pb**	**08 13 42.0**	**+0.9**
	baz=16						
ARLS				⇑*e*S	**Sb**	**08 14 13.8**	**-0.2**
	baz=16						
GAR	**Garm**	**2.66**	**266**	⇑*i*P	**Pb**	**08 13 42.0**	**+0.8**
	baz=60						
GAR				⇑*i*S	**Sb**	**08 14 13.8**	**-0.4**
	baz=60						
TRKS	**Terek-Say**	**3.02**	**320**	⇑*e*P	**Pb**	**08 13 44.4**	**-2.9**
	baz=20						
TRKS				⇑*e*S	**Sn**	**08 14 17.9**	**-0.3**
	baz=20						
UCH	**Uchtor**	**3.04**	**11**	⇓*e*P	**Pb**	**08 13 47.7**	**-0.1**
	baz=16						
UCH				⇓*e*S	**Sb**	**08 14 23.9**	**-1.5**
	baz=16						
MRKS	**Merke**	**3.52**	**354**	*e*P	**Pb**	**08 13 57.2**	**+1.4**
	13nm,0.8s						
MRKS				*e*S	**Sb**	**08 14 40.6**	**+1.8**
	20nm,0.4s						
MRKS	**Merke**	**3.52**	**354**	Pg	**Pb**	**08 13 56.9**	**+1.1**
	13nm,0.6s						
MRKS				Lg	Lg	08 14 41.2	
	20nm,0.4s						
CHMS	**Chumysh**	**3.83**	**11**	⇓Pn	**Pb**	**08 13 58.6**	**-2.5**
	6.7nm,0.9s						
CHMS				⇓Lg	Lg	08 14 55.4	
	15nm,0.8s						
TKM2	**Tokmak 2**	**3.94**	**20**	⇑Pg	**Pg**	**08 14 08.9**	**+0.5**
	2.3nm,0.4s						
TKM2				⇑Lg	Lg	08 14 59.4	
	11nm,0.7s						
IUG	**luzhnay**	**4.04**	**317**	*e*P	**Pb**	**08 14 05.8**	**+1.2**
	170nm,0.8s						
IUG				*e*S	**Sb**	**08 14 55.4**	**+1.7**
	26nm,0.6s						
IUG	**luzhnay**	**4.04**	**317**	Pg	**Pb**	**08 14 00.7**	**-3.9**
IUG				Lg	Lg	08 14 47.4	
DZA	**Taraz**	**4.07**	**334**	*e*P	**Pb**	**08 14 06.7**	**+1.6**
	40nm,0.4s						
DZA				*e*S	**Sb**	**08 14 56.6**	**+2.0**
	88nm,0.1s						
KST	**Kastek**	**4.15**	**23**	*e*P	**Pg**	**08 14 12.9**	**+0.4**
	2.5nm,0.5s						
KST				*e*S	**Sg**	**08 15 07.2**	**+0.8**
	25nm,0.8s						
KST	**Kastek**	**4.15**	**23**	Pg	**Pg**	**08 14 12.1**	**-0.5**
	4.7nm,0.8s						
KST				Lg	Lg	08 15 07.2	
	25nm,0.8s						
DGS	**Degeres**	**4.28**	**20**	*e*P	**Pg**	**08 14 15.5**	**+0.5**
	5.7nm,0.6s						
DGS				*e*S	**Sg**	**08 15 11.2**	**+0.7**
	11nm,0.5s						
DGS	**Degeres**	**4.28**	**20**	Pg	**Pg**	**08 14 14.6**	**-0.5**
	5.7nm,0.7s						
DGS				Lg	Lg	08 15 11.2	
	11nm,0.5s						
IZV	**Izvestkoviy**	**4.37**	**29**	*e*P	**Pg**	**08 14 17.8**	**+1.0**
	73nm,0.3s						
IZV				*e*S	**Sg**	**08 15 14.9**	**+1.5**
	16nm,0.7s						
IZV	**Izvestkoviy**	**4.37**	**29**	Pg	**Pg**	**08 14 16.6**	**-0.1**
	98nm,0.3s						
IZV				Lg	Lg	08 15 14.9	
	16nm,0.7s						
CHM	**Chimkent**	**4.38**	**316**	*e*P	**Pb**	**08 14 11.9**	**+1.4**
	146nm,0.1s						
CHM				*e*S	**Sb**	**08 15 05.3**	**+1.7**
	117nm,0.2s						
MTBS	**Maitube**	**4.38**	**27**	*e*P	**Pg**	**08 14 17.6**	**+0.6**
	2.6nm,0.2s						
MTBS				*e*S	**Sg**	**08 15 14.5**	**+0.7**
	11nm,0.5s						
MTBS	**Maitube**	**4.38**	**27**	Pg	**Pg**	**08 14 16.6**	**-0.4**
	4.3nm,0.4s						
MTBS				Lg	Lg	08 15 14.4	
	11nm,0.5s						
KK31	**Karatay Array**	**4.55**	**329**	⇑Pn	Pn	08 14 07.4	+4.8
	0.7nm,0.3s,baz=146,slow=11,SNR=8.1						
KK31				⇑Pg	**Pb**	**08 14 15.5**	**+2.1**
	1.6nm,0.4s,baz=144,slow=16,SNR=12						
KK31				⇑Sn	**Sn**	**08 14 59.2**	**+3.4**
	3.6nm,0.5s,baz=147,slow=23,SNR=5.0						
KK31				⇓Lg	Lg	08 15 15.7	
	8.3nm,0.6s						
KRBS	**Karabastau**	**4.68**	**18**	*e*P	**Pg**	**08 14 21.2**	**-1.5**
	4.2nm,0.6s						
KRBS				*e*S	**Sg**	**08 15 20.8**	**-2.5**
	9.1nm,0.8s						
KRBS	**Karabastau**	**4.68**	**18**	Pg	**Pg**	**08 14 20.1**	**-2.6**
	4.2nm,0.6s						
KRBS				Lg	Lg	08 15 20.9	
	9.1nm,0.8s						
KOTS	**Kotyrbulak**	**4.73**	**32**	*e*P	**Pg**	**08 14 24.6**	**+0.9**
	1.8nm,0.5s						
KOTS				*e*S	**Sg**	**08 15 27.1**	**+2.1**
	34nm,0.6s						
KOTS	**Kotyrbulak**	**4.73**	**32**	Pg	**Pg**	**08 14 22.2**	**-1.5**
	1.8nm,0.5s						
KOTS				Lg	Lg	08 15 24.0	
	34nm,0.6s						
ARXS	**Arharly**	**5.84**	**30**	*e*P	**Pg**	**08 14 44.3**	**-0.5**
	3.2nm,0.4s						
ARXS				*e*S	**Sg**	**08 16 00.4**	**+0.1**
	7.7nm,0.6s						
ARXS	**Arharly**	**5.84**	**30**	Pg	**Pg**	**08 14 42.3**	**-2.5**
	3.2nm,0.7s						
ARXS				Lg	Lg	08 15 58.9	
	7.7nm,0.6s						

*IDC **16** 08:21:58.4±0.8,12˚50S×166˚70E,h0km,mb4.3/13,*
mbtmp4.3/13,ML6.3/1,MS3.8/41,Error ellipse:
s-maj=24.7km s-min=17.6km az=110.0
*BJI **16** 08:22:07.4±0.0,11˚76S×166˚46E,h45km,mb5.0/42,*
mB5.0/24,Ms5.0/4,Ms7 4.7/4
*NEIC **16** 08:22:08.5±1.4,12˚5S±0˚1×166˚4E±0˚1,h61km±8km,*
mb4.8/34,Error ellipse: s-maj=22.2km s-min=12.4km
az=59.0
*GCMT **16** 08:22:08.2±0.4,12˚38S±0˚04×166˚05E±0˚02,h37km,*
MW5.0/51,Moment Tensor Solution. s37,c44; s51,c62;
Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.61±.20;
Mθθ-0.85±.12; Mφφ-2.76±.12; Mrθ0.40±.13; Mrφ0.66±.08;
Mθφ0.03±.09; Best double couple: M₀3.30700×10¹⁶
NP1:φs348.00000°,δ46.00000°,λ83.00000°. NP2:
φs348.00000°,δ44.00000°,λ97.00000°. Principal axes: T
3.6460, Plg85.0000°, Azm352.0000°; N -0.6780,
Plg5.0000°, Azm162.0000°; P -2.9680, Plg1.0000°,
Azm252.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
ISC 16 08:22:06.2±0.5,**12˚47S**±0˚06×**166˚44E**±0˚09,**h50**km,**n128,**
σ1§67/94,mb4.8/39,MS3.9/40,6C-1D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.05**	**295**	Pn	**Pn**	**08 23 47.0**	**0.0**
	452nm,0.3s,baz=157,slow=1.9,SNR=8.6						
HNR				Sn	**Sn**	**08 25 01.1**	**-4.8**
	48nm,0.3s,baz=235,slow=11,SNR=1.1						
HNR				LR	LR	08 26 53.5	
	comp=Z,9μm,19.0s,baz=132,slow=40						
HNR	**Honiara**	**7.05**	**295**		**Pn**	**08 23 48.1**	**+1.1**
KOUNC	**Koumac, New Ca**	**8.29**	**194**	Pn	**Pn**	**08 24 04.2**	**+0.3**
LIFNC	**LIFOU**	**8.30**	**175**	Pn	**Pn**	**08 24 05.2**	**+1.2**
MARNC	**Mare, Loyalty**	**9.09**	**171**	Pn	**Pn**	**08 24 16.9**	**+2.1**
DZM	**Mont Dzumac**	**9.55**	**180**	*e*Pn	**Pn**	**08 24 21.2**	**0.0**
	43nm,0.8s						
DZM				*e*Sn	Sn	08 25 58.5	-8.7
DZM				*e*LR	LR	08 26 33.0	
	comp=Z,899nm,23.6s						
DZM	**Mont Dzumac**	**9.55**	**180**	Pn	**Pn**	**08 24 21.2**	**0.0**
	2.3nm,0.3s,baz=343,slow=5.6,SNR=34						
DZM				Sn	**Sn**	**08 26 03.3**	**-3.9**
	baz=317,slow=16						
DZM				LR	LR	08 26 47.8	
	comp=Z,226nm,21.0s,baz=30,slow=30						
DZM	**Mont Dzumac**	**9.55**	**180**	Pn	**Pn**	**08 24 22.2**	**+1.0**
ONTNC	**Ouen Toro**	**9.78**	**180**	Pn	**Pn**	**08 24 25.1**	**+0.8**
OUENC	**Ouen Island, N**	**9.90**	**178**	Pn	**Pn**	**08 24 25.9**	**0.0**
PINNC	**Pines Island,**	**10.13**	**175**		**Pn**	**08 24 30.8**	**+1.7**
MSVF	**Nonsavu**	**12.37**	**116**	LR	LR	08 28 59.6	
	comp=Z,1μm,18.2s,baz=317,slow=35						
PMG	**Port Moresby**	**19.17**	**277**	LR	LR	08 33 25.4	
	comp=Z,336nm,18.9s,baz=105,slow=35						
EIDS	**Eidsvold**	**19.36**	**226**	P	**P**	**08 26 29.1**	**+1.4**
CTA	**Charters Tower**	**20.79**	**246**	P	**P**	**08 26 44.9**	**+1.4**
	5.1nm,0.8s,baz=66,slow=10,SNR=6.0						
CTA				LR	LR	08 34 09.1	
	comp=Z,394nm,18.8s,baz=88,slow=35						
	5.1nm,0.8s						
CTAO	**Charters Tower**	**20.79**	**246**	P	**P**	**08 26 43.8**	**+0.4**
CTAO				IAmb	IAmb	08 27 03.9	
	comp=Z,70nm,2.0s						
AFI	**Afiamalu**	**21.26**	**96**	LR	LR	08 33 29.3	
	comp=Z,278nm,20.9s,baz=198,slow=33						
ARMA	**Armidale**	**22.52**	**215**	P	**P**	**08 27 02.4**	**+0.5**
COEN	**Coen**	**22.69**	**264**	P	**P**	**08 27 04.7**	**+0.8**
OUZ	**Omahuta**	**23.56**	**165**	P	**P**	**08 27 13.2**	**+1.0**
OUZ				IAmb	IAmb	08 27 22.2	
	comp=Z,85nm,2.0s						
URZ	**Urewera**	**27.39**	**162**	LR	LR	08 37 00

ASAR	**Alice Springs**	**32.79 246**	P	**P**	**08 28 34.7**	**-0.4**
RAR	**Rarotonga**	**33.43 110**	LR	LR	08 39 45.0	
	comp=Z,76nm,21.1s,baz=282,slow=32					
GUMO	**Guam**	**33.58 320**	LR	LR	08 42 10.5	
	comp=Z,105nm,21.0s,baz=141,slow=36					
BBOO	**Buckleboo**	**34.38 229**	P	**P**	**08 28 48.8**	**+0.1**
SIJI	**Sorong**	**36.72 286**	LR	LR	08 45 44.8	
	comp=Z,120nm,19.6s,baz=144,slow=39					
FITZ	**Fitzroy Crossi**	**39.69 257**	LR	LR	08 45 17.8	
	comp=Z,179nm,19.5s,baz=84,slow=35					
FITZ	**Fitzroy Crossi**	**39.69 257**	P	**P**	**08 29 34.0**	**0.0**
FITZ			IAmb	IAmb	08 30 09.4	
	comp=Z,32nm,1.8s					
BATI	**Baumata**	**41.97 269**	LR	LR	08 46 24.9	
	comp=Z,151nm,20.2s,baz=145,slow=35					
MCQ	**Macquarie Isla**	**42.34 186**	P	**P**	**08 29 57.0**	**+1.8**
PPT	**Papeete**	**42.71 102**	LR	LR	08 45 34.1	
	comp=Z,196nm,20.0s,baz=318,slow=33					
PPT2	**Papeete2**	**42.71 102**	*e*LR	LR	08 41 57.2	
	comp=Z,305nm,26.0s					
TBI	**Tubuai**	**43.18 111**	*e*LR	LR	08 42 09.8	
	comp=Z,184nm,32.5s					
DAV	**Davao City (W)**	**45.01 293**	LR	LR	08 46 53.2	
	comp=Z,89nm,19.7s,baz=100,slow=33					
NWAO	**Narrogin (SRO)**	**49.25 237**	LR	LR	08 51 59.6	
	comp=Z,266nm,18.5s,baz=3.5,slow=36					
NWAO	**Narrogin (SRO)**	**49.25 237**	P	**P**	**08 30 50.2**	**+0.1**
JHJ	**Hachijo jima 2**	**51.98 331**	LR	LR	08 52 21.0	
	comp=Z,444nm,19.6s,baz=87,slow=35					
JMN	**Monobe**	**55.42 327**	P	**P**	**08 31 36.2**	**+0.4**
MJAR	**Matsushiro Arr**	**55.54 332**	P	**P**	**08 31 36.1**	**-0.4**
	comp=Z,6.1nm,1.1s,baz=163,slow=6.3,SNR=9.5					
	comp=Z,6.1nm,1.1s					
JSU	**Suzuyama**	**55.70 323**	P	**P**	**08 31 38.4**	**+0.6**
JSU			IAmb	IAmb	08 31 39.7	
	comp=Z,27nm,1.0s					
JHS	**Saijyo**	**56.80 327**	P	**P**	**08 31 46.4**	**+0.8**
DRV	**Dumont d'Urvil**	**56.96 192**	P	**P**	**08 31 45.5**	**-0.7**
NAWB	**Namwon**	**60.28 324**	P	**P**	**08 32 10.7**	**+0.9**
TJN	**Taejon**	**60.97 324**	P	**P**	**08 32 14.8**	**+0.4**
KSCHJ	**Chungju**	**60.98 325**	P	**P**	**08 32 14.5**	**-0.1**
KSRS	**Korea Array**	**61.43 326**	P	**P**	**08 32 18.4**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=138,slow=7.3,SNR=30					
KSRS			LR	LR	08 57 23.6	
	comp=Z,29nm,19.4s,baz=110,slow=34					
	comp=Z,5.2nm,0.8s					
KSAR	**Wonju Array Be**	**61.44 326**	P	**P**	**08 32 18.4**	**+0.8**
KS19	**Wonju Array Si**	**61.49 326**	P	**P**	**08 32 18.5**	**+0.5**
KS19			IAmb	IAmb	08 32 19.4	
	comp=Z,9.9nm,1.0s					
VNDA	**Vanda**	**65.09 181**	P	**P**	**08 32 40.3**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=5.9,slow=6.4,SNR=9.6					
VNDA			LR	LR	08 58 02.2	
	comp=Z,52nm,19.6s,baz=332,slow=33					
	comp=Z,1.9nm,0.8s					
VNDA	**Vanda**	**65.09 181**	P	**P**	**08 32 40.9**	**-0.2**
VNDA	**Vanda**	**65.09 181**	P	**P**	**08 32 40.8**	**-0.4**
SHEM	**Shemya Is, Ala**	**65.27 5**	LR	LR	08 55 37.4	
	comp=Z,81nm,20.3s,baz=172,slow=31					
SBA	**Scott Base**	**65.38 180**	P	**P**	**08 32 44.0**	**+0.9**
SBA			IAmb	IAmb	08 32 45.2	
	comp=Z,9.7nm,1.0s					
SBA	**Scott Base**	**65.38 180**	P	**P**	**08 32 44.1**	**+1.1**
PETK	**Petropavlovsk-**	**65.74 354**	LR	LR	08 55 41.0	
	comp=Z,60nm,20.2s,baz=137,slow=31					
CCD	**Concordia, Ant**	**66.94 191**	P	**P**	**08 32 53.1**	**-0.5**
IPM	**Ipoh**	**67.14 280**	P	**P**	**08 32 55.8**	**+0.4**
CN2	**Changchun**	**67.31 329**	*e*P	**P**	**08 32 55.5**	**-0.3**
CN2			pmax	pmax		
	comp=Z,10.0nm,1.0s					
KLR	**Kul'dur**	**68.63 336**	LR	LR	08 59 23.3	
	comp=Z,56nm,21.5s,baz=146,slow=33					
ENH	**Enshi**	**69.32 309**	P	**P**	**08 33 09.2**	**+0.4**
LYN	**LuoYang**	**69.33 314**	⇑P	**P**	**08 33 08.6**	**-0.1**
LYN			pmax	pmax		
	comp=Z,10.0nm,0.9s					
HNS	**HongShan**	**69.39 318**	⇑P	**P**	**08 33 10.1**	**+1.1**
HNS			pmax	pmax		
	comp=Z,20nm,0.6s					
BJT	**Baijiatuao**	**70.00 321**	P	P	08 33 07.8	-4.9
XAN	**Xi'an**	**71.58 312**	⇑P	**P**	**08 33 23.6**	**+1.1**
XAN			pP	pP	08 33 32.4	-3.1
XAN			pmax	pmax		
	comp=Z,26nm,0.8s					
XLT	**XiLinHaoTe**	**72.41 324**	⇓*iP*	**P**	**08 33 28.8**	**+1.5**
XLT			pmax	pmax		
	comp=Z,24nm,0.8s					
XLT			pmax	pmax		
	comp=Z,71nm,5.5s					
KMI	**Kunming**	**72.44 302**	⇑P	**P**	**08 33 29.9**	**+1.8**
KMI			pP	PcP	08 33 46.0	+0.3
KMI			pmax	pmax		
	comp=Z,21nm,1.1s					
CRAI	**Chiangrai**	**72.64 296**	P	**P**	**08 33 30.0**	**+0.9**
CRAI			IAmb	IAmb	08 33 31.6	
	comp=Z,12nm,0.9s					
MA2	**Magadan**	**72.91 352**	LR	LR	09 00 46.5	
	comp=Z,68nm,21.1s,baz=168,slow=32					
CM31	**Chiang Mai Arr**	**73.30 294**	P	**P**	**08 33 34.4**	**+1.4**
CM31			IAmb	IAmb	08 33 35.6	
	comp=Z,10nm,0.8s					
CMAR	**Chiang Mai Arr**	**73.30 294**	P	**P**	**08 33 34.6**	**+1.6**
	comp=Z,6.1nm,0.7s,baz=125,slow=4.8,SNR=33					
	comp=Z,6.1nm,0.7s					
CMAR	**Chiang Mai Arr**	**73.30 294**	P	**P**	**08 33 33.5**	**+0.4**
HHC	**Hu-ho-hao-te**	**73.35 320**	*e*P	**P**	**08 33 36.0**	**+3.0**
HHC			pmax	pmax		
	comp=Z,32nm,1.2s					
HHC			pmax	pmax		
	comp=Z,240nm,7.5s					
CHTO	**Chiang Mai**	**73.42 294**	P	**P**	**08 33 34.6**	**+0.8**
CHTO			IAmb	IAmb	08 33 35.5	
	comp=Z,5.7nm,0.7s					
PZH	**PanZhiHua**	**73.81 302**	P	**P**	**08 33 38.3**	**+2.3**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,100nm,5.5s					
LZH	**Lanzhou**	**76.21 312**	⇑P	**P**	**08 33 52.0**	**+2.3**
LZH			pmax	pmax		
	comp=Z,36nm,1.4s					
QSPA	**South Pole Qui**	**77.54 180**	LR	LR	09 06 27.9	
	comp=Z,69nm,18.5s,baz=16,slow=34					
QSPA	**South Pole Qui**	**77.54 180**	P	**P**	**08 33 56.6**	**-0.1**
QSPA			IAmb	IAmb	08 33 58.5	
	comp=Z,11nm,1.1s					
KDAK	**Kodiak Island**	**77.65 21**	LR	LR	09 03 00.1	
	comp=Z,165nm,19.1s,baz=221,slow=32					
YAK	**Yakutsk**	**79.65 343**	LR	LR	09 11 02.8	
	comp=Z,66nm,18.0s,baz=89,slow=37					
SONM	**Songino Array**	**80.21 324**	P	**P**	**08 34 11.8**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=132,slow=4.3,SNR=13					
SONM			LR	LR	09 07 44.6	
	comp=Z,24nm,21.5s,baz=133,slow=34					
	comp=Z,3.0nm,0.8s					
SONM	**Songino Array**	**80.21 324**	P	**P**	**08 34 11.6**	**0.0**
GTA	**Gaotai**	**80.53 314**	⇑P	**P**	**08 34 15.3**	**+1.8**
GTA			pP	PcP	08 34 24.6	+4.3
GTA			sP	pP	08 34 28.6	+1.9
GTA			pmax	pmax		
	comp=Z,16nm,1.2s					
MAW	**Mawson**	**83.66 202**	P	**P**	**08 34 29.1**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=106,slow=4.5,SNR=8.1					
	comp=Z,4.1nm,0.8s					
ILAR	**Eielson Array**	**84.64 18**	P	**P**	**08 34 32.2**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=236,slow=5.7,SNR=6.3					
ILAR			LR	LR	09 07 30.6	
	comp=Z,66nm,19.6s,baz=174,slow=32					
	comp=Z,0.8nm,0.8s					
BBB	**Bella Bella**	**85.37 34**	LR	LR	09 09 51.2	
	comp=Z,73nm,18.2s,baz=257,slow=34					
PFO	**Pinyon Flats O**	**86.35 55**	LR	LR	09 05 14.0	
	comp=Z,66nm,21.8s,baz=284,slow=30					
NVAR	**Mina Array Bea**	**86.42 50**	P	**P**	**08 34 42.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=246,slow=6.5,SNR=2.7					
NVAR			LR	LR	09 05 17.2	
	comp=Z,115nm,22.0s,baz=262,slow=30					
	comp=Z,0.4nm,0.8s					
BELA	**Belgrano 2**	**89.02 176**	P	**P**	**08 34 54.3**	**-1.1**
BELA			IAmb	IAmb	08 38 16.8	
	comp=Z,5.6nm,0.8s					
ELK	**Elko**	**89.39 48**	LR	LR	09 10 20.3	
	comp=Z,60nm,18.1s,baz=268,slow=32					
WMQ	**Urumqi**	**90.58 315**	*e*P	**P**	**08 35 05.5**	**+2.2**
INK	**Inuvik**	**91.02 19**	LR	LR	09 13 23.5	
	comp=Z,76nm,18.3s,baz=182,slow=34					
PMSA	**Palmer Station**	**94.16 161**	LR	LR	09 10 49.0	
	comp=Z,46nm,18.8s,baz=181,slow=31					
ANMO	**Albuquerque**	**94.69 55**	LR	LR	09 13 54.1	
	comp=Z,66nm,18.0s,baz=284,slow=33					
MK31	**Makanchi Array**	**95.02 317**	P	**P**	**08 35 24.1**	**+0.5**
MK31			IAmb	IAmb	08 35 24.9	
	comp=Z,9.0nm,0.9s					
MKAR	**Makanchi Array**	**95.02 317**	P	**P**	**08 35 23.9**	**+0.3**
	comp=Z,9.8nm,0.8s,baz=100,slow=6.2,SNR=72					
MKAR			LR	LR	09 19 00.9	
	comp=Z,24nm,19.4s,baz=114,slow=36					
MKAR	**Makanchi Array**	**95.02 317**	P	**P**	**08 35 24.1**	**+0.3**
TROLL	**Troll, Antarti**	**95.03 185**	P	**P**	**08 35 22.7**	**-0.7**
TROLL	**Troll, Antarti**	**95.03 185**	PKKP	**PKKPdf**	**08 52 14.6**	**-5.1**
ZAA0	**Zalesovo Array**	**95.10 324**	P	**P**	**08 35 22.9**	**-0.9**
ZAA0			IAmb	IAmb	08 35 23.9	
	comp=Z,6.4nm,1.1s					
ZALV	**Zalesovo Beam**	**95.10 324**	P	**P**	**08 35 23.2**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=108,slow=4.8,SNR=9.5					
	comp=Z,3.6nm,0.9s					
ZALV	**Zalesovo Beam**	**95.10 324**	P	**P**	**08 35 22.9**	**-0.9**
SNAA	**Sanae**	**95.74 183**	P	P	08 35 23.6	-3.0
YKA	**Yellowknife Ar**	**95.92 27**	LR	LR	09 20 25.1	
	comp=Z,26nm,18.1s,baz=304,slow=37					
VNA3	**Neumayer Olymp**	**96.44 181**	P	**P**	**08 35 28.0**	**-1.7**
VNA2	**Neumayer--Watz**	**96.70 182**	P	**P**	**08 35 29.6**	**-1.2**
	baz=166,slow=1.9					
VNA1	**Neumayer--Stat**	**97.00 182**	P	P	08 35 28.7	-3.5
NRIK	**Noril'sk**	**97.69 339**	LR	LR	09 21 01.9	
	comp=Z,31nm,18.9s,baz=130,slow=36					
KURBB	**Kurchatov Arra**	**98.20 320**	LR	LR	09 19 51.6	
	comp=Z,35nm,20.8s,baz=92,slow=35					
ARCES	**ARCESS Array B**	**117.88 345**	PKP	**PKPdf**	**08 40 45.5**	**-1.2**
	comp=Z,2.2nm,0.9s,baz=28,slow=2.1,SNR=5.2					
AKASG	**Malin Array Be**	**128.42 327**	PKP	**PKPdf**	**08 41 07.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=59,slow=1.1,SNR=1.7					
KEST	**Kesra**	**148.95 322**	PKPbc	**PKPbc**	**08 41 49.7**	**+0.5**
	comp=Z,7.9nm,0.8s,baz=57,slow=3.2,SNR=8.5					
ESDC	**Sonseca Array**	**151.60 344**	PKPbc	**PKPbc**	**08 41 54.6**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=12,slow=2.9,SNR=8.4					
TORD	**Torodi Ar. Bea**	**165.10 274**	PKPab	**PKPab**	**08 43 03.9**	**+0.7**
	comp=Z,5.7nm,1.0s,baz=70,slow=3.9,SNR=17					

IDC 16 08:26:29.5±44.0, 17°05S×178°80W, h560km±68km, mb3.0/3, mbtmp3.8/4, Error ellipse: s-maj=833.6km s-min=110.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.09**	**257**	P	P	08 27 46.1	0.0
	9.6nm,0.7s,baz=127,slow=20,SNR=4.9						
STKA	**Stephens Creek**	**38.73**	**240**	P	P	08 33 06.0	-0.2
	1.4nm,0.6s,baz=105,slow=9.8,SNR=7.9						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**44.43**	**259**	P	P	08 33 51.0	-0.5
	0.2nm,0.3s,baz=93,slow=7.4,SNR=9.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.67**	**253**	P	P	08 33 53.4	+0.1
	4.3nm,0.7s,baz=89,slow=8.0,SNR=46						
	4.3nm,0.7s						

WEL 16 08:41:00.5±0.7, 33°S±15°×18°0E±3°8, h287km±17km, M4.0/13, mB4.5/12, ML4.6/12, MLv4.5/13, Mw(mB)3.7/12, Error ellipse: s-maj=0.1km s-min=0.0km az=111.7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.09**	**30**	S	S	08 42 56.6	-3.7
MXZ	**Matakaoa Point**	**4.85**	**194**	S	S	08 43 19.2	+3.2
WMGZ	**Waiomatatini S**	**5.08**	**192**	P	Pn	08 42 22.1	+3.8
WMGZ				S	S	08 43 23.4	+2.5
PUZ	**Puketiti**	**5.36**	**193**	P	Pn	08 42 22.8	+1.1
PUZ				S	S	08 43 28.5	+1.6
MUGZ	**Murupara**	**6.12**	**203**	P	Pn	08 42 33.0	+2.1
MUGZ				S	S	08 43 45.0	+1.4
RAHZ	**Arahi**	**6.43**	**199**	P	Pn	08 42 35.3	+0.7
RAHZ				S	S	08 43 49.6	-1.0
MTHZ	**Maungataniwha**	**6.45**	**201**	P	Pn	08 42 36.9	+2.1
MTHZ				S	S	08 43 52.3	+1.5
WHHZ	**Waihua**	**6.55**	**198**	P	Pn	08 42 37.9	+2.0
WHHZ				S	S	08 43 53.3	+0.3
MRHZ	**Matea Rd**	**6.56**	**204**	P	Pn	08 42 37.0	+0.8
NMHZ	**Naumai**	**6.68**	**200**	P	Pn	08 42 39.5	+1.8
ARHZ	**Aropaoanui**	**6.78**	**199**	P	Pn	08 42 40.2	+1.3
ARHZ				S	S	08 43 58.4	+0.2
BKZ	**Black Stump Fm**	**6.84**	**202**	P	Pn	08 42 40.1	+0.4
MCHZ	**McNeill Hill**	**7.04**	**200**	P	Pn	08 42 43.3	+1.3
KWHZ	**Kaweka Forest**	**7.10**	**202**	P	Pn	08 42 43.3	+0.5
KWHZ				S	S	08 44 05.4	0.0
BHHZ	**Black Hill Sta**	**7.27**	**203**	P	Pn	08 42 44.4	-0.6
KAHZ	**Kahuranaki**	**7.32**	**198**	P	Pn	08 42 46.3	+0.9
KAHZ				S	S	08 44 11.6	+1.4
PXZ	**Pawanui**	**7.54**	**197**	P	Pn	08 42 48.3	+0.2
PXZ				S	S	08 44 12.7	-2.5
PNHZ	**Pukenui**	**7.62**	**201**	P	Pn	08 42 48.1	-1.0
PNHZ				S	S	08 44 13.2	-3.9
WPHZ	**Waipukurau**	**7.69**	**200**	P	Pn	08 42 49.4	-0.6
WPHZ				S	S	08 44 15.5	-3.0
PRHZ	**Porangahau**	**7.82**	**198**	P	Pn	08 42 51.4	-0.3
PRHZ				S	S	08 44 16.4	-5.2
DVHZ	**Dannevirke**	**7.98**	**200**	P	Pn	08 42 52.2	-1.4
ANWZ	**Angora Road**	**8.04**	**198**	P	Pn	08 42 54.0	-0.3
ANWZ				S	S	08 44 24.1	-2.5
BFZ	**Birch Farm**	**8.31**	**199**	P	Pn	08 42 56.8	-0.9
BFZ				S	S	08 44 28.9	-3.9
MRZ	**Mangatainoka R**	**8.49**	**202**	P	Pn	08 42 57.4	-2.5
MRZ				S	S	08 44 30.1	-6.7
HOWZ	**Holdsworth Sta**	**8.73**	**202**	P	Pn	08 43 00.1	-2.8
HOWZ				S	S	08 44 34.3	-7.9
OGWZ	**Otaki Gorge**	**8.77**	**204**	P	Pn	08 43 00.7	-2.5
OGWZ				S	S	08 44 36.8	-6.2
MTW	**Mount Morrison**	**8.97**	**201**	P	Pn	08 43 03.8	-2.0
MTW				S	S	08 44 42.8	-4.8
CAW	**Cannon Point**	**9.06**	**203**	P	Pn	08 43 04.0	-3.0
PLWZ	**Palliser**	**9.42**	**201**	P	Pn	08 43 08.6	-2.8
TUWZ	**Tuamarina**	**9.74**	**207**	P	Pn	08 43 11.8	-3.5
TUWZ				S	S	08 44 57.7	-7.6

IDC 16 08:44:19.5±1.6, 39°09N×110°32E, h0km, mb3.5/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=30.5km s-min=22.1km az=71.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.19**	**343**	Pn	Pn	08 46 33.5	+0.1
	0.5nm,0.3s,baz=161,slow=14,SNR=8.5						
SONM				Sn	Sn	08 48 17.3	-0.2
	0.1nm,0.3s,baz=166,slow=24,SNR=1.7						
SONM				Lg	Lg	08 49 08.6	
	0.9nm,0.3s,baz=158,slow=28,SNR=2.0						
	2.1nm,0.8s						
MKAR	**Makanchi Array**	**21.83**	**300**	P	P	08 49 13.7	+0.4
	2.1nm,0.9s,baz=100,slow=11,SNR=12						
	2.1nm,0.9s						
MJAR	**Matsushiro Arr**	**22.15**	**88**	P	P	08 49 17.3	+0.5
	0.8nm,0.6s,baz=266,slow=9.7,SNR=2.5						
	0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**22.81**	**209**	P	P	08 49 23.3	-0.7
	3.2nm,0.9s,baz=14,slow=9.6,SNR=12						
	3.2nm,0.9s						
KURBB	**Kurchatov Arra**	**25.11**	**308**	P	P	08 49 46.5	+0.7
	0.8nm,0.8s,baz=110,slow=11,SNR=1.7						
	0.8nm,0.8s						

*IDC **16** 08:57:33.1±1.6, 54°26N×160°81E, h0km, mb3.4/4, mbtmp3.4/5, ML2.5/1, MS2.8/1, Error ellipse: s-maj=48.2km s-min=23.4km az=155.0*
*KRSC **16** 08:57:36.0±1.1, 53°71N×161°13E, h40km±18km, ML4.0*
ISC 16 08:57:32.3±1.5, 53°66N±0°04×161°26E±0°04, h10km±10km, n45, σ1s26/61, mb3.7/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.94**	**17**	*e*P	**Pn**	**08 57 54.1**	**+2.5**
MKZ				*e*S	**Sn**	**08 58 05.4**	**+0.4**
KII	**Karymskiy**	**1.14**	**290**	*e*P	**Pg**	**08 57 55.3**	**+1.1**
KII				*e*S	**Sb**	**08 58 07.4**	**-1.6**
NLC	**Nalytchevo**	**1.25**	**248**	*e*P	**Pg**	**08 57 57.5**	**+1.3**
NLC				*e*S	**Sb**	**08 58 12.2**	**+0.2**
SDLR	**Sedlovina**	**1.47**	**256**	*e*P	**Pg**	**08 58 01.2**	**+0.7**
SDLR				*e*S	**Sn**	**08 58 18.3**	**-0.1**
SMAR	**Somma**	**1.52**	**256**	*e*P	**Pg**	**08 58 02.0**	**+0.5**
SMAR				*e*S	**Sn**	**08 58 19.2**	**-0.6**
UGLR	**Uglovaya**	**1.53**	**254**	*e*P	**Pg**	**08 58 02.1**	**+0.5**
KRER	**Koryakskii**	**1.54**	**258**	*e*P	**Pg**	**08 58 02.5**	**+0.6**
KRER				*e*S	**Sn**	**08 58 20.3**	**+0.1**
AVH	**Avacha**	**1.56**	**256**	*e*P	**Pg**	**08 58 02.7**	**+0.5**
AVH				*e*S	**Sb**	**08 58 21.1**	**0.0**
KRX	**Arik**	**1.59**	**260**	*e*P	**Pg**	**08 58 02.7**	**-0.1**
KRX				*e*S	**Sn**	**08 58 20.6**	**-0.7**
KOK	**Koryaka**	**1.61**	**258**	*e*P	**Pg**	**08 58 03.2**	**0.0**
KOK				*e*S	**Sn**	**08 58 21.1**	**-0.7**
DALK	**Dalny**	**1.63**	**248**	*e*P	**Pg**	**08 58 03.4**	**-0.1**
DALK				*e*S	**Sn**	**08 58 21.9**	**-0.1**
PET	**Petropavlovsk**	**1.69**	**249**	*e*P	**Pg**	**08 58 04.2**	**-0.5**
PET				*e*S	**Sn**	**08 58 23.5**	**0.0**
TUMR	**Tumrok**	**1.75**	**339**	*e*P	**Pb**	**08 58 05.2**	**+0.6**
TUMR				*e*S	**Sn**	**08 58 24.8**	**-0.5**
GNL	**Ganaly**	**1.97**	**272**	*e*P	**Pb**	**08 58 08.1**	**-0.3**
GNL				*e*S	**Sn**	**08 58 31.3**	**+0.6**
KRMR	**Karymshinskiy**	**2.06**	**247**	*e*P	**Pb**	**08 58 09.1**	**-0.6**
KRMR				*e*S	**Sn**	**08 58 32.6**	**0.0**
RUS	**Russkaya**	**2.06**	**235**	*e*P	**Pg**	**08 58 10.8**	**-1.1**
RUS				*e*S	**Sb**	**08 58 35.1**	**-0.4**
KMNR	**Kamenistaya**	**2.18**	**345**	*e*P	**Pb**	**08 58 12.2**	**+0.3**
KMNR				*e*S	**Sb**	**08 58 38.4**	**-0.7**
MTVR	**Mutnovka**	**2.20**	**239**	*e*P	**Pg**	**08 58 13.1**	**-1.4**
MTVR				*e*S	**Sb**	**08 58 40.0**	**+0.4**
PETK	**Petropavlovsk-**	**2.20**	**257**	Pn	**Pb**	**08 58 11.7**	**-0.5**
	7.7nm,0.3s,baz=68,slow=19,SNR=156						
PETK				Sn	**Sn**	**08 58 37.5**	**+1.2**
	19nm,0.3s,baz=26,slow=14,SNR=4.3						
	13nm,0.4s						
GRL	**Gorelyy**	**2.22**	**241**	*e*P	**Pb**	**08 58 12.5**	**-0.1**
GRL				*e*S	**Sn**	**08 58 38.1**	**+1.3**
KPT	**Kopyto**	**2.39**	**346**	*e*P	**Pb**	**08 58 14.9**	**-0.5**
ASAK	**Asacha**	**2.40**	**239**	*e*P	**Pg**	**08 58 16.8**	**-1.5**
KOZ	**Kozyrevsk**	**2.53**	**342**	*e*P	**Pb**	**08 58 16.3**	**-1.6**
APC	**Apacha**	**2.57**	**255**	*e*P	**Pb**	**08 58 18.8**	**+0.3**
APC				*e*S	**Sb**	**08 58 48.9**	**-1.2**
KDTR	**Khodutka, Kamc**	**2.68**	**227**	*e*S	**Sn**	**08 58 49.7**	**+1.7**
KLY	**Klyuchi**	**2.68**	**353**	*e*P	**Pb**	**08 58 19.4**	**-1.0**
KLY				*e*S	**Sb**	**08 58 51.3**	**-2.0**
KBTR	**Krutoberegovo**	**2.71**	**19**	*e*P	**Pb**	**08 58 19.8**	**-1.0**
ESO	**Esso**	**2.71**	**328**	*e*P	**Pn**	**08 58 18.4**	**+2.5**
KBG	**Krutoberegovo**	**2.73**	**17**	*e*S	**Sb**	**08 58 54.1**	**-0.6**
SRDR	**Sredinnyy**	**2.81**	**342**	*e*P	**Pn**	**08 58 19.5**	**+2.2**
BDR	**Baidarnaya**	**2.91**	**359**	*e*P	**Pb**	**08 58 22.9**	**-1.5**
SMKR	**Semkarok**	**2.93**	**2**	*e*P	**Pb**	**08 58 23.1**	**-1.6**
SMKR				*e*S	**Sn**	**08 58 57.0**	**+2.7**
SRKR	**Sorokina**	**3.00**	**359**	*e*P	**Pb**	**08 58 23.2**	**-2.7**
BKI	**Bering**	**3.16**	**59**	*e*P	**Pb**	**08 58 27.1**	**-1.4**
BKI				*e*S	**Sn**	**08 59 01.4**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**34.15**	**171**	T	T	09 41 03.8	
	baz=354,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**34.16**	**170**	T	T	09 41 11.5	
	baz=354,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**34.16**	**171**	T	T	09 40 59.5	
	baz=354,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**35.34**	**171**	T	T	09 42 19.2	
	baz=352,slow=76						
H11S3	**WAKE ISLAND Hy**	**35.35**	**171**	T	T	09 42 12.5	
	baz=352						
H11S2	**WAKE ISLAND Hy**	**35.35**	**171**	T	T	09 41 57.8	
	baz=352,slow=76						
KURBB	**Kurchatov Arra**	**48.13**	**302**	P	**P**	**09 06 10.1**	**-1.9**
	0.3nm,0.3s,baz=57,slow=7.9,SNR=2.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**48.54**	**296**	P	**P**	**09 06 12.6**	**-2.7**
	0.2nm,0.5s,baz=65,slow=8.1,SNR=1.8						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.98**	**259**	LR	LR	09 35 28.7	
	comp=Z,8.5nm,19.6s,baz=240,slow=39						
NOA	**NORSAR Array B**	**63.19**	**344**	P	**P**	**09 07 58.9**	**-1.2**
	0.3nm,0.4s,baz=33,slow=7.4,SNR=1.5						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**69.77**	**68**	P	**P**	**09 08 45.0**	**+2.2**
	0.2nm,0.5s,baz=308,slow=4.5,SNR=5.9						
	0.2nm,0.5s						

IDC 16 09:03:45.9±2.5, 53°59N×86°84E, h0km, mbtmp3.1/2, ML2.7/1, Error ellipse: s-maj=22.8km s-min=13.9km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

SGRR			⇑S		Sn	09 11 47.9	-0.9
TLBR	**Topalu**	**1.53 137**	⇑P		**Pn**	**09 11 26.2**	**-0.2**
TLBR			⇑S		Sn	09 11 48.6	-0.6
TPGR	**Topolog**	**1.53 122**	⇑P		**Pn**	**09 11 26.5**	**0.0**
TPGR			⇓S		Sn	09 11 47.9	-1.3
HUMR	**Humele**	**1.61 225**	⇑S		**Sn**	**09 11 49.9**	**-0.9**
TLCR		**1.64 106**	⇑P		**Pn**	**09 11 28.2**	**+0.6**
TLCR			⇑S		Sn	09 11 51.0	-0.3
CVDA	**Cernavoda**	**1.69 142**	⇑P		**Pn**	**09 11 28.8**	**+0.7**
CVDA			⇑S		Sn	09 11 51.3	-0.9
TIRR	**Tirgusor**	**1.77 133**	⇓P		**Pn**	**09 11 29.4**	**+0.3**
TIRR			⇑S		Sn	09 11 52.6	-1.3
ICOR	**Ion Corvin**	**1.78 151**	⇓P		**Pn**	**09 11 29.9**	**+0.7**
ICOR			⇑S		Sn	09 11 53.0	-1.0
COPA	**Copaceanca**	**1.82 213**	⇑S		**Sn**	**09 11 54.1**	**-0.7**
LOT	**Lotru**	**1.99 265**	⇑P		**Pn**	**09 11 32.1**	**+0.4**
LOT			⇓S		Sn	09 11 59.1	+0.5
RAZG	**Razgrad**	**2.11 182**	⇑S		**Sn**	**09 11 59.4**	**-1.5**
BURAR	**Bucovina Array**	**2.16 335**	⇓P		**Pn**	**09 11 34.9**	**+1.3**
ZIMR		**2.20 204**	⇑S		**Sn**	**09 12 03.1**	**+0.5**
PSN	**Preselentsi**	**2.29 150**	P		**Pn**	**09 11 36.1**	**+0.9**
MANR	**Mangalia**	**2.34 142**	⇑P		**Pn**	**09 11 36.3**	**+0.6**
SZH	**Strazhica**	**2.45 191**	P		**Pn**	**09 11 37.3**	**+0.2**
PRD	**Provadia**	**2.54 166**	P		**Pn**	**09 11 39.3**	**+1.1**
GZR	**Gura Zlata**	**2.69 265**	⇑P		**Pn**	**09 11 41.0**	**+0.8**
HERR	**Herculane**	**3.05 256**	⇑P		**Pn**	**09 11 44.2**	**-0.3**
MPEP	**Malo Peshtene**	**3.08 222**	P		**Pn**	**09 11 45.3**	**+0.3**
BLKB	**Belogradchik**	**3.46 235**	⇓P		**Pn**	**09 11 49.2**	**-0.8**
MDVR	**Moldovita**	**3.56 257**	⇑P		**Pn**	**09 11 51.3**	**+0.2**

*NEIC **16** 09:28:36.9±1.2, 18°.45N±0°.08×145°.6E±0°.1, h185km±7km, mb4.4/65, Error ellipse: s-maj=17.1km s-min=12.1km az=90.0*
*IDC **16** 09:28:38.3±0.7, 18°.39N×145°.50E, h208km±6km, mb3.6/21, mbtmp4.2/25, Error ellipse: s-maj=14.0km s-min=8.3km az=88.0*

ISC 16 09:28:37.5±0.4, 18°.43N±0°.04×145°.58E±0°.08, h200km, n135, σ1$08/138, mb4.2/52, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**4.86 188**		P		**Pn**	**09 29 50.0**	**-0.3**
	69nm,0.4s,baz=135,slow=3.4,SNR=21							
GUMO				S		**Sn**	**09 30 45.6**	**-1.9**
	54nm,0.3s,baz=329,slow=21,SNR=2.0							
GUMO	**Guam**	**4.86 188**		Pn		**Pn**	**09 29 48.1**	**-2.1**
GUMO	**Guam**	**4.86 188**		P		**Pn**	**09 29 51.8**	**+1.5**
JCJ	**Chichijima**	**9.17 341**		P		**Pn**	**09 30 45.1**	**-0.9**
	86nm,0.9s,baz=131,slow=20,SNR=2.4							
JCJ				S		**Sn**	**09 32 24.8**	**-4.1**
	74nm,0.8s,baz=296,slow=22,SNR=2.1							
JHJ	**Hachijo jima 2**	**15.52 342**		P		**P**	**09 32 07.3**	**+1.2**
	65nm,0.8s,baz=118,slow=18,SNR=2.0							
JYT	**Yasato**	**18.36 346**		P		**P**	**09 32 37.0**	**-0.1**
JYT				IAmb		IAmb	09 32 59.9	
	comp=Z,16nm,0.6s							
INU	**Inuyama**	**18.48 337**		P		**P**	**09 32 38.0**	**-0.5**
INU				IAmb		IAmb	09 33 02.7	
	comp=Z,18nm,1.4s							
MJAR	**Matsushiro Arr**	**19.18 342**		P		**P**	**09 32 45.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=159,slow=10,SNR=1.9							
MAJO	**Matsushiro**	**19.18 342**		P		**P**	**09 32 44.9**	**-1.2**
MAJO				IAmb		IAmb	09 33 02.3	
	comp=Z,21nm,1.4s							
JNU	**Nakatsue**	**19.69 321**		P		**P**	**09 32 50.4**	**-1.3**
JMM	**Marumori**	**19.81 349**		P		**P**	**09 32 52.0**	**-0.9**
JHS	**Saijyo**	**19.87 329**		P		**P**	**09 32 52.5**	**-1.1**
JHS				IAmb		IAmb	09 33 09.5	
	comp=Z,8.2nm,1.2s							
H11S3	**WAKE ISLAND Hy 20.03**	**86**		T		T	09 54 11.3	
	baz=274,slow=75,SNR=3.2							
H11S1	**WAKE ISLAND Hy 20.04**	**86**		T		T	09 54 19.1	
	baz=274,slow=75,SNR=5.2							
H11S2	**WAKE ISLAND Hy 20.04**	**86**		T		T	09 54 07.0	
	baz=274,slow=75,SNR=6.1							
H11N1	**WAKE ISLAND Hy 20.19**	**83**		T		T	09 54 30.3	
	baz=266,slow=74,SNR=8.9							
H11N2	**WAKE ISLAND Hy 20.19**	**83**		T		T	09 54 28.4	
	baz=266,slow=74,SNR=6.2							
H11N3	**WAKE ISLAND Hy 20.20**	**83**		T		T	09 54 36.4	
	baz=266,slow=74,SNR=4.8							
MANU	**Manus Island**	**20.42 175**		P		**P**	**09 32 59.0**	**-0.5**
MANU				IAmb		IAmb	09 33 00.3	
	comp=Z,27nm,1.3s							
JSD	**Sado**	**20.55 343**		P		**P**	**09 33 01.0**	**+0.2**
JSD				IAmb		IAmb	09 33 07.1	
	comp=Z,6.6nm,1.0s							
JTM	**Tenmabayashi**	**22.62 351**		P		**P**	**09 33 21.3**	**-0.1**
YHNB	**Yeheng**	**23.33 290**		P		**P**	**09 33 28.3**	**+0.3**
RABL	**Rabaul**	**23.40 163**		P		**P**	**09 33 29.3**	**+0.6**
SSLB	**Suanglung**	**23.57 287**		P		**P**	**09 33 29.8**	**-0.4**
ERM	**Erimo**	**23.60 355**		P		**P**	**09 33 29.7**	**-0.4**
KSRS	**Korea Array**	**24.47 324**		P		**P**	**09 33 38.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=150,slow=9.3,SNR=6.0							
	comp=Z,0.5nm,0.4s							
PMG	**Port Moresby**	**27.70 177**		P		**P**	**09 34 06.3**	**-1.0**
	comp=Z,13nm,0.7s,baz=297,slow=9.0,SNR=2.2							
	comp=Z,13nm,0.7s							
PMG	**Port Moresby**	**27.70 177**		P		**P**	**09 34 06.8**	**-0.5**
LUWI	**Luwuk**	**29.62 232**		P		**P**	**09 34 25.4**	**+1.0**
TOLI2	**Tolitoli**	**29.81 238**		P		**P**	**09 34 25.8**	**-0.2**
TOLI2				IAmb		IAmb	09 34 27.7	
	comp=Z,5.4nm,0.8s							
COEN	**Coen**	**32.27 184**		P		**P**	**09 34 46.8**	**-0.8**
KLR	**Kul'dur**	**32.69 343**		P		**P**	**09 34 50.3**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=169,slow=9.2,SNR=7.9							
	comp=Z,1.6nm,0.3s							
KDU	**Kakadu**	**33.51 204**		P		**P**	**09 34 57.8**	**-0.5**
MTN	**Manton Dam**	**34.19 206**		P		**P**	**09 35 04.4**	**+0.3**
PETK	**Petropavlovsk-**	**35.88 12**		P		**P**	**09 35 19.2**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=218,slow=9.1,SNR=2.1							
	comp=Z,1.3nm,0.5s							
SBUM	**Sibu**	**36.33 248**		P		**P**	**09 35 23.9**	**+1.3**
HHC	**Hu-ho-hao-te**	**36.71 315**		*eP*		**P**	**09 35 28.5**	**+2.9**
HHC				pmax		pmax		
	comp=Z,30nm,1.0s							
HHC				pmax		pmax		
	comp=Z,190nm,6.8s							
KNRA	**Kununurra**	**37.72 207**		P		**P**	**09 35 34.1**	**0.0**
KNRA	**Kununurra**	**37.72 207**		P		**P**	**09 35 34.7**	**+0.6**
CTAO	**Charters Tower**	**38.29 179**		P		**P**	**09 35 38.8**	**-0.1**
CTAO				IAmb		IAmb	09 35 55.8	
	comp=Z,12nm,1.4s							
PLAI	**Plampang**	**38.55 228**		P		**P**	**09 35 39.9**	**-1.3**
QIS	**Mount Isa**	**39.19 189**		P		**P**	**09 35 46.1**	**-0.2**
WB0	**Warramunga Arr**	**39.52 197**		P		**P**	**09 35 47.4**	**-1.6**
WB0				IAmb		IAmb	09 35 50.1	
	comp=Z,16nm,0.9s							
WR0	**Warramunga Arr**	**39.66 196**		P		**P**	**09 35 50.3**	**+0.1**
WR0				IAmb		IAmb	09 35 51.3	
	comp=Z,8.3nm,0.7s							
WRAB	**Tennant Creek**	**39.69 197**		P		**P**	**09 35 50.5**	**0.0**
WRAB				IAmb		IAmb	09 35 52.0	
	comp=Z,19nm,1.1s							
WRAB	**Tennant Creek**	**39.69 197**		P		**P**	**09 35 50.5**	**0.0**
WB2	**Warramunga Arr**	**39.69 197**		P		**P**	**09 35 50.6**	**0.0**
WRA	**Warramunga Arr**	**39.70 197**		P		**P**	**09 35 50.4**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=12,slow=8.3,SNR=138							
WRA				PcP		**PcP**	**09 37 51.4**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=20,slow=3.6,SNR=2.7							
WRA				ScP		**ScP**	**09 41 19.8**	**-3.2**
	comp=Z,0.3nm,0.7s,baz=1.7,slow=2.8,SNR=2.1							
	comp=Z,4.3nm,0.3s							
WRA	**Warramunga Arr**	**39.70 197**		P		**P**	**09 35 50.0**	**-0.5**
PZH	**PanZhiHua**	**41.14 289**		P		P	09 36 10.3	+7.8
PZH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,100nm,5.3s							
FITZ	**Fitzroy Crossi**	**41.25 209**		P		**P**	**09 36 03.7**	**+0.5**
FITZ				IAmb		IAmb	09 36 04.7	
	comp=Z,13nm,0.8s							
FITZ	**Fitzroy Crossi**	**41.25 209**		P		**P**	**09 36 03.8**	**+0.5**
SONM	**Songino Array**	**43.28 322**		P		**P**	**09 36 19.1**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=123,slow=5.3,SNR=2.0							
SONM				PcP		**PP**	**09 38 03.8**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=134,slow=4.2,SNR=1.6							
	comp=Z,0.5nm,0.4s							
AS31	**Alice Springs**	**43.36 196**		P		**P**	**09 36 19.9**	**-0.3**
AS31				IAmb		IAmb	09 36 23.1	
	comp=Z,2.6nm,0.5s							
ASAR	**Alice Springs**	**43.37 196**		P		**P**	**09 36 20.0**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=20,slow=6.4,SNR=58							
ASAR				PcP		**PcP**	**09 38 04.3**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=14,slow=4.1,SNR=2.9							
ASAR				ScP		**ScP**	**09 41 34.3**	**-3.3**
	comp=Z,0.3nm,0.6s,baz=16,slow=4.8,SNR=2.6							
	comp=Z,2.4nm,0.5s							
ASAR	**Alice Springs**	**43.37 196**		P		**P**	**09 36 20.6**	**+0.3**
UGM	**Wanagama**	**43.38 236**		P		**P**	**09 36 20.6**	**+0.1**
UGM	**Wanagama**	**43.38 236**		P		**P**	**09 36 21.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**44.14 278**		P		**P**	**09 36 27.8**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=68,slow=6.2,SNR=14							
	comp=Z,2.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**44.14 278**		P		**P**	**09 36 28.9**	**+2.3**
SEY	**Seymchan**	**44.71 4**		P		**P**	**09 36 30.7**	**+0.3**
	comp=Z,6.0nm,0.3s,baz=195,slow=20,SNR=1.4							
	comp=Z,6.0nm,0.3s							
DZM	**Mont Dzumac**	**45.13 152**		P		**P**	**09 36 34.6**	**+0.2**
DZM				IAmb		IAmb	09 36 36.1	
	comp=Z,32nm,1.4s							
OUENC	**Ouen Island, N**	**45.62 152**		P		**P**	**09 36 37.8**	**-0.2**
OUENC				IAmb		IAmb	09 37 06.0	
	comp=Z,29nm,1.2s							
KULM	**Kulim**	**45.73 259**		P		**P**	**09 36 40.7**	**+1.5**
KULM				IAmb		IAmb	09 36 42.5	
	comp=Z,16nm,0.7s							
INKA	**Innaminka**	**46.14 186**		P		**P**	**09 36 41.2**	**-0.8**
WRKA	**Warakurna**	**46.37 202**		P		**P**	**09 36 44.4**	**+0.4**
MBWA	**Marble Bar**	**46.79 214**		P		**P**	**09 36 47.4**	**+0.2**
MBWA				IAmb		IAmb	09 36 48.2	
	comp=Z,13nm,0.6s							
MBWA	**Marble Bar**	**46.79 214**		P		**P**	**09 36 47.5**	**+0.2**
OOD	**Oodnadatta**	**46.94 192**		P		**P**	**09 36 47.6**	**-0.7**
PSA00	**Pilbara Seismi**	**47.07 214**		P		**P**	**09 36 49.7**	**+0.3**
PSA00	**Pilbara Seismi**	**47.07 214**		P		**P**	**09 36 50.0**	**+0.5**
PSA00				IAmb		IAmb	09 36 50.2	
	comp=Z,12nm,0.6s							
PSA00	**Pilbara Seismi**	**47.07 214**		P		**P**	**09 36 49.9**	**+0.5**
LCRK	**Leigh Creek**	**49.11 188**		P		**P**	**09 37 04.3**	**-0.6**
CMSA	**Cobar Meteorol**	**49.68 180**		P		**P**	**09 37 08.7**	**-0.5**
MULG	**Mulgathing**	**49.69 193**		P		**P**	**09 37 09.1**	**-0.1**
GSI	**Gunungsitoli**	**50.05 256**		P		**P**	**09 37 13.4**	**+1.1**
STKA	**Stephens Creek**	**50.17 184**		P		**P**	**09 37 11.5**	**-1.3**
	comp=Z,2.6nm,0.4s,baz=3.9,slow=7.8,SNR=29							
	comp=Z,2.6nm,0.4s							
STKA	**Stephens Creek**	**50.17 184**		P		**P**	**09 37 11.9**	**-0.9**
STKA	**Stephens Creek**	**50.17 184**		P		**P**	**09 37 11.8**	**-1.0**
GIRL	**Giralia**	**51.04 218**		P		**P**	**09 37 20.8**	**+1.3**
	comp=Z,133nm,1.5s							
MEEK	**Meekatharra**	**51.89 211**		P		**P**	**09 37 25.1**	**-0.7**
WMQ	**Urumqi**	**54.40 311**		*eP*		**P**	**09 37 47.3**	**+3.3**
MLOA	**Mauna Loa Obse**	**55.41 79**				pwP	09 38 41.0	+0.2
ZALV	**Zalesovo Beam**	**58.16 323**		P		**P**	**09 38 10.5**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=90,slow=8.6,SNR=2.4							
	comp=Z,0.8nm,0.4s							
MKAR	**Makanchi Array**	**58.56 314**		P		**P**	**09 38 13.2**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=88,slow=8.4,SNR=5.8							
MKAR				PcP		**PcP**	**09 39 00.1**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=82,slow=5.8,SNR=2.8							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**58.56 314**		P		**P**	**09 38 13.4**	**+0.1**
KDAK	**Kodiak Island**	**59.64 33**		P		**P**	**09 38 21.8**	**+1.4**
	comp=Z,8.2nm,1.0s,baz=320,slow=1.7,SNR=7.0							
	comp=Z,8.2nm,1.0s							
KURBB	**Kutov Array**	**61.44 318**		P		**P**	**09 38 32.3**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=97,slow=7.2,SNR=9.9							
KURBB				pP		**pP**	**09 39 18.6**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=95,slow=7.5,SNR=1.8							
	comp=Z,1.1nm,0.4s							
IMAR	**Indian Mountai**	**61.51 24**		P		**P**	**09 38 33.2**	**+0.3**
DHY	**Denali Highway**	**63.36 28**		P		**P**	**09 38 46.4**	**+1.0**
DHY				IAmb		IAmb	09 39 02.9	
	comp=Z,6.5nm,1.2s							
MDM	**Murphy Dome**	**63.42 26**		P		**P**	**09 38 47.7**	**+2.1**
CCB	**Clear Creek Bu**	**63.52 26**		P		**P**	**09 38 46.8**	**+0.6**
CCB				IAmb		IAmb	09 38 56.5	
	comp=Z,4.4nm,1.4s							
H24K	**Noodor Dome**	**63.77 25**		P		**P**	**09 38 47.4**	**-0.6**
H24K				IAmb		IAmb	09 38 59.0	
	comp=Z,4.9nm,1.2s							
TOLK	**Toolik Lake Re**	**63.88 22**		P		**P**	**09 38 48.4**	**-0.2**
TOLK				IAmb		IAmb	09 39 12.6	
	comp=Z,13nm,1.4s							
IL31		**63.94 26**		P		**P**	**09 38 49.4**	**+0.5**
ILAR	**Eielson Array**	**63.94 26**		P		**P**	**09 38 48.4**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=259,slow=4.9,SNR=8.7							
	comp=Z,1.1nm,0.8s							
ILAR	**Eielson Array**	**63.94 26**		P		**P**	**09 38 50.1**	**+1.1**
PAX	**Paxson**	**64.19 28**		P		**P**	**09 38 52.0**	**+1.2**
PAX				IAmb		IAmb	09 38 53.1	
	comp=Z,6.5nm,1.4s							
RIDG	**Independent Ri**	**64.61 27**		P		**P**	**09 38 54.1**	**+0.7**
RIDG				IAmb		IAmb	09 38 57.3	
	comp=Z,5.9nm,1.2s							
DOT	**Dot Lake**	**64.94 28**		P		**P**	**09 38 56.0**	**+0.5**
DOT				IAmb		IAmb	09 39 13.9	
	comp=Z,3.6nm,1.1s							
J26L	**Joseph Creek**	**65.29 27**		P		**P**	**09 38 58.3**	**+0.5**
J26L				IAmb		IAmb	09 39 02.5	
	comp=Z,4.4nm,1.1s							
BMAR	**Burnt Mountain**	**65.41 23**		P		**P**	**09 38 59.7**	**+1.3**
PLWZ	**Palliser**	**65.72 156**		P		**P**	**09 39 02.1**	**+1.4**
KHZ	**Kahutara**	**65.81 158**		P		**P**	**09 39 01.8**	**+0.6**
L27K	**Beaver Creek,**	**65.85 28**		P		**P**	**09 39 01.9**	**+0.5**
BCAR	**Beaver Creek A**	**65.87 28**		P		**P**	**09 39 01.5**	**0.0**
EGAK	**Eagle**	**66.36 27**		P		**P**	**09 39 05.1**	**+0.6**
EGAK				IAmb		IAmb	09 39 39.6	
	comp=Z,6.2nm,1.4s							
BVAR	**Borovoye Array**	**66.61 320**		P		**P**	**09 39 06.4**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=104,slow=8.2,SNR=13							
	comp=Z,2.3nm,0.6s							
KKAR	**Karatay Array**	**66.85 310**		P		**P**	**09 39 07.8**	**-0.3**
DAWY	**Dawson**	**67.04 27**		P		**P**	**09 39 09.1**	**+0.1**
DAWY				IAmb		IAmb	09 39 14.7	
	comp=Z,5.2nm,1.4s							
M30M	**Minto, Yukon**	**68.12 29**		P		**P**	**09 39 16.6**	**+0.9**
M30M				IAmb		IAmb	09 39 19.6	
	comp=Z,14nm,1.5s							
INK	**Inuk**	**69.66 23**		P		**P**	**09 39 25.5**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=254,slow=7.4,SNR=2.1							
	comp=Z,2.2nm,0.9s							
ABKAR	**Akbulak array**	**73.46 317**		P		**P**	**09 39 47.3**	**-0.7**
YKA	**Yellowknife Ar**	**78.28 28**		P		**P**	**09 40 15.0**	**0.0**
	comp=Z,1.1nm,0.6s,baz=287,slow=5.5,SNR=2.6							
	comp=Z,1.1nm,0.6s							
HUMO	**Hull Mountain**	**78.81 49**		P		**P**	**09 40 18.9**	**+0.4**
HUMO				IAmb		IAmb	09 40 28.0	
	comp=Z,11nm,1.4s							
LTY	**Liberty**	**79.18 44**		P		**P**	**09 40 20.7**	**+0.3**
PINE	**Pine Mountain**	**79.92 47**		P		**P**	**09 40 26.2**	**+1.6**
PINE				IAmb		IAmb	09 40 28.0	
	comp=Z,8.9nm,1.1s							
BEKR	**Beckworth**	**81.44 51**		P		**P**	**09 40 33.0**	**+0.3**
PNTR	**Pine Nut**	**82.23 52**		P		**P**	**09 40 37.4**	**+0.5**
PNTR				IAmb		IAmb	09 40 39.4	
	comp=Z,4.2nm,0.8s							
ARCES	**ARCESS Array B**	**82.71 342**		P		**P**	**09 40 37.7**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=60,slow=7.2,SNR=5.5							
	comp=Z,1.7nm,0.7s							
KVN	**Kaiserville**	**83.35 51**		P		**P**	**09 40 43.0**	**+0.4**
NVAR	**Mina Array Bea**	**83.39 52**		P		**P**	**09 40 43.8**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=265,slow=6.1,SNR=24							
NVAR				pP		**pwP**	**09 41 34.8**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=266,slow=6.1,SNR=11							
	comp=Z,2.6nm,0.7s							
NV11	**Mina Array Sit**	**83.50 52**		P		**P**	**09 40 44.1**	**+0.7**
MZP	**Montezuma Peak**	**84.31 52**		P		**P**	**09 40 48.6**	**+1.0**
GMN	**Gold Mountain**	**84.54 53**		P		**P**	**09 40 49.9**	**+1.1**
ELK	**Elko**	**84.88 49**		P		**P**	**09 40 51.5**	**+1.2**
BCYI	**Bear Canyon**	**84.92 45**		P		**P**	**09 40 51.4**	**+0.8**
LRM	**Limekiln Ridge**	**85.01 43**		P		**P**	**09 40 51.5**	**+0.6**
HRY	**Holter Researc**	**85.09 42**		P		**P**	**09 40 51.9**	**+0.8**
WCT	**Wildcat Mounta**	**85.18 53**		P		**P**	**09 40 53.1**	**+1.3**
TPNV	**Topopah Spring**	**85.41 53**		P		**P**	**09 40 54.4**	**+1.3**
TPNV				IAmb		IAmb	09 40 54.8	
	comp=Z,2.3nm,0.7s							
FINES	**FINESS Array B**	**87.08 335**		P		**P**	**09 40 58.0**	**-2.4**
	comp=Z,1.1nm,0.4s,baz=67,slow=5.1,SNR=14							
PDAR	**Pinedale Array**	**88.09 45**		P		**P**	**09 41 05.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=243,slow=4.0,SNR=4.3							
PDAR				pP		**pwP**	**09 41 57.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=261,slow=0.9,SNR=4.8							
	comp=Z,0.2nm,0.5s							
LPAZ	**La Paz**	**147.78 91**		PKPbc		**PKPbc**	**09 48 00.8**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=280,slow=2.6,SNR=16							
CPUP	**Villa Florida**	**157.43 114**		PKPab		**PKPab**	**09 48 43.8**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=251,slow=2.7,SNR=4.3							

*NNC **16** 09:39:27.5±2.3, 51°.62N×75°.32E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=58.6km s-min=15.3km az=25.0, Suspected Mining explosion.*
*IDC **16** 09:39:30.6±1.1, 51°.52N×75°.72E, h0km, mbtmp2.7/3, ML1.7/3, Error ellipse: s-maj=26.0km s-min=9.0km az=27.0*

ISC 16 09:39:27.3±1.0, 51°.5N±0°.1×75°.37E±0°.06, h0km, n12, σ0$72/11, 7C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KURBB	**Kurchatov Arra**	**2.19 113**		Pn		**Pn**	**09 40 05.5**	**+0.5**
	0.1nm,0.3s,baz=301,slow=18,SNR=13							
KURBB				Lg		Lg	09 40 34.6	
	0.1nm,0.3s,baz=300,slow=31,SNR=8.4							
KURBB	**Kurchatov Arra**	**2.19 113**		⇓Pn		**Pb**	**09 40 07.4**	**-0.4**
	8.4nm,0.9s							
KURBB				⇑Sn		**Sg**	**09 40 37.1**	**-0.6**
	34nm,0.7s							
KURK	**Kurchatov**	**2.21 110**		⇑Pn		**Pn**	**09 40 05.9**	**+0.7**
	2.5nm,0.7s							
KURK				⇑Sn		**Sn**	**09 40 33.8**	**+0.7**
	19nm,1.1s							
BVA0	**Borovoye Array**	**3.40 298**		⇑Pg		**Pb**	**09 40 28.8**	**+0.3**
	2.5nm,0.9s,baz=118,slow=16,SNR=4.1							
BVA0				⇑Lg		Lg	09 41 11.3	
	9.6nm,0.9s,baz=112,slow=27,SNR=13							
BVAR	**Borovoye Array**	**3.40 298**		Pn		**Pb**	**09 40 27.1**	**-1.4**
	0.1nm,0.3s,baz=108,slow=17,SNR=3.0							
BVAR				Sn		**Sb**	**09 41 10.6**	**+0.2**
	0.3nm,0.3s,baz=109,slow=27,SNR=12							
	1.2nm,0.7s							
BRVK	**Borovoye**	**3.48 298**		⇑Lg		Lg	09 41 14.8	
	12nm,1.0s							
ZALV	**Zalesovo Beam**	**6.23 63**		Pn		**Pn**	**09 41 00.5**	**0.0**
	0.2nm,0.3s,baz=251,slow=14,SNR=2.2							
ZALV				Lg		Lg	09 42 43.5	
	0.1nm,0.3s,baz=250,slow=32,SNR=2.1							
	1.0nm,0.5s							
I46RU	**ZALESOVO INFRA**	**6.23 63**		*i*			10 16 00.0	
	baz=252,slow=318,SNR=0.9							
MK31	**Makanchi Array**	**6.56 134**		⇑Lg		Lg	09 42 56.1	
	1.7nm,0.7s,baz=320,slow=29,SNR=7.4							
MKAR	**Makanchi Array**	**6.56 134**		Pn		**Pn**	**09 41 04.7**	**-0.3**
	baz=325,slow=12,SNR=2.9							
MKAR				Lg		Lg	09 42 51.4	
	0.1nm,0.3s,baz=322,slow=26,SNR=6.4							
	0.5nm,0.8s							
AAK	**Ala-Archa**	**8.91 184**		Lg		Lg	09 44 10.8	
	0.2nm,0.3s,baz=208,slow=20,SNR=1.7							
AKTO	**Aktyubinsk**	**10.99 271**		Sn		**Sn**	**09 44 09.8**	**+0.4**
	0.1nm,0.3s,baz=163,slow=20,SNR=1.6							

WEL 16 10:10:31.2±1.0, 37°S±4°×17°9E±°, h20km±9km, M3.4/36, ML3.6/43, MLv3.4/36, Error ellipse: s-maj=0.0km s-min=0.0km az=97.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.84 234**		P		Pb	10 10 46.3	-0.9
MXZ				S		Sb	10 10 57.1	-1.0
WMGZ	**Waiomatatini S**	**

KPT	**Kopyto**	**2.74**	**289**	P	**Pn**	**10 46 31.3 +1.6**
KOZ	**Kozyrevsk**	**2.96**	**290**	P	**Pn**	**10 46 34.5 +1.9**
SRDR	**Sredinnyy**	**3.12**	**294**	P	**Pn**	**10 46 36.5 +1.6**
SRDR				S	**Sn**	**10 47 13.3 +1.1**
KII	**Karymskiy**	**3.32**	**253**	P	**Pn**	**10 46 38.1 +0.5**
SPN	**Mys Shipunski**	**3.49**	**236**	P	**Pn**	**10 46 40.0 +0.1**
SPN				S	**Sn**	**10 47 17.3 -4.0**
ESO	**Esso**	**3.57**	**285**	P	**Pn**	**10 46 42.5 +1.5**
ESO				S	**Sn**	**10 47 23.4 +0.2**
NLC	**Nalytchevo**	**3.78**	**241**	P	**Pn**	**10 46 45.2 +1.3**
NLC				S	**Sn**	**10 47 26.8 -1.6**
SDLR	**Sedlovina**	**3.96**	**244**	P	**Pn**	**10 46 47.6 +1.2**
SDLR				S	**Sn**	**10 47 31.9 -1.1**
SMAR	**Somma**	**4.01**	**244**	P	**Pn**	**10 46 48.4 +1.2**
SMAR				S	**Sn**	**10 47 32.9 -1.4**
KRER	**Koryakskii**	**4.02**	**245**	P	**Pn**	**10 46 49.0 +1.7**
KRER				S	**Sn**	**10 47 34.1 -0.4**
UGLR	**Uglovaya**	**4.03**	**244**	P	**Pn**	**10 46 48.4 +1.1**
AVH	**Avacha**	**4.04**	**245**	P	**Pn**	**10 46 49.4 +1.9**
AVH				S	**Sn**	**10 47 33.7 -1.2**
KRX	**Arik**	**4.04**	**246**	P	**Pn**	**10 46 48.8 +1.2**
KRX				S	**Sn**	**10 47 33.5 -1.5**
KOK	**Koryaka**	**4.08**	**245**	P	**Pn**	**10 46 49.6 +1.5**
DALK	**Dalny**	**4.16**	**242**	P	**Pn**	**10 46 49.7 +0.7**
DALK				S	**Sn**	**10 47 36.3 -1.3**
PET	**Petropavlovsk**	**4.21**	**242**	P	**Pn**	**10 46 50.9 +1.1**
PET				S	**Sn**	**10 47 36.9 -2.1**
OSSR	**Ossora**	**4.23**	**348**	P	**Pn**	**10 46 50.5 +0.5**
OSSR				S	**Sn**	**10 47 37.6 -1.7**
GNL	**Ganaly**	**4.28**	**253**	P	**Pn**	**10 46 52.5 +1.7**
KRMR	**Karymshinskiy**	**4.58**	**242**	P	**Pn**	**10 46 55.6 +0.7**
RUS	**Russkaya**	**4.63**	**237**	P	**Pn**	**10 46 55.7 +0.2**
RUS				S	**Sn**	**10 47 46.7 -2.5**
PETK	**Petropavlovsk-** 1.9nm,0.3s,baz=76,slow=17,SNR=60	**4.66**	**247**	Pn	**Pn**	**10 46 56.7 +0.7**
PETK	0.6nm,0.3s,baz=81,slow=16,SNR=5.5			Sn	**Sn**	**10 47 50.1 -0.1**
PETK	comp=Z,108nm,21.6s,baz=51,slow=41 3.6nm,0.5s			LR	LR	10 48 56.0
MTVR	**Mutnovka**	**4.76**	**239**	P	**Pn**	**10 46 58.2 +0.8**
MTVR				S	**Sn**	**10 47 49.6 -3.0**
GRL	**Gorelyy**	**4.77**	**240**	P	**Pn**	**10 46 59.1 +1.5**
GRL				S	**Sn**	**10 47 51.4 -1.5**
ASAK	**Asacha**	**4.96**	**239**	P	**Pn**	**10 47 01.2 +1.1**
ASAK				eS	**Sn**	**10 47 55.0 -2.4**
APC	**Apacha**	**5.04**	**247**	eP	**Pn**	**10 47 03.3 +2.2**
APC				eS	**Sn**	**10 47 59.2 -0.1**
KDTR	**Khodutka, Kamc**	**5.24**	**233**	P	**Pn**	**10 47 03.8 0.0**
KDTR				S	**Sn**	**10 48 00.5 -3.7**
SHEM	**Shemya Is, Ala** comp=Z,107nm,22.0s,baz=283,slow=36	**5.99**	**110**	LR	LR	10 49 19.4
KLR	**Kul'dur** comp=Z,38nm,18.7s,baz=64,slow=36	**20.99**	**267**	LR	LR	10 58 13.5
USRK	**Ussuriysk Ar.** comp=Z,34nm,19.3s,baz=1,4,slow=35	**23.68**	**256**	LR	LR	10 59 23.4
ILAR	**Eielson Array** 1.9nm,0.8s,baz=259,slow=8.9,SNR=12 1.9nm,0.8s	**25.38**	**48**	P	**P**	**10 51 12.0 -0.5**
KSRS	**Korea Array** comp=Z,16nm,19.8s,baz=60,slow=36	**30.56**	**250**	LR	LR	11 04 00.6
H11N2	**WAKE ISLAND Hy** baz=359,slow=76,SNR=144	**35.39**	**177**	T	T	11 30 35.0
H11N3	**WAKE ISLAND Hy** baz=359,slow=76,SNR=91	**35.40**	**177**	T	T	11 30 37.1
H11N1	**WAKE ISLAND Hy** baz=359,slow=76,SNR=73	**35.41**	**177**	T	T	11 30 30.3
H11S1	**WAKE ISLAND Hy** baz=359,slow=75,SNR=4.1	**36.60**	**177**	T	T	11 32 05.7
H11S3	**WAKE ISLAND Hy** baz=359,slow=75,SNR=3.6	**36.61**	**177**	T	T	11 32 03.8
H11S2	**WAKE ISLAND Hy** baz=359,slow=75,SNR=4.8	**36.62**	**177**	T	T	11 32 03.6
ZALV	**Zalesovo Beam** comp=Z,13nm,19.4s,baz=209,slow=35	**44.00**	**303**	LR	LR	11 11 23.8
KURBB	**Kurchatov Arra** 0.9nm,0.5s,baz=54,slow=8.0,SNR=10.0 0.9nm,0.5s	**49.10**	**303**	P	**P**	**10 54 32.6 0.0**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=65,slow=9.8,SNR=4.0 0.4nm,0.6s	**49.75**	**297**	P	**P**	**10 54 37.5 -0.3**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=53,slow=8.1,SNR=2.2	**51.27**	**309**	P	**P**	**10 54 50.1 +1.0**
BVAR	comp=Z,18nm,19.2s,baz=47,slow=37 0.3nm,0.3s			LR	LR	11 17 02.5
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=302,slow=7.2,SNR=5.0 0.4nm,0.7s	**52.46**	**75**	P	**P**	**10 54 59.3 +0.8**
ARU	**Arti** comp=Z,32nm,19.4s,baz=46,slow=39	**53.74**	**319**	LR	LR	11 20 29.9
PDAR	**Pinedale Array** 0.7nm,0.9s,baz=292,slow=4.8,SNR=6.7 0.7nm,0.9s	**54.10**	**65**	P	**P**	**10 55 11.0 +0.4**
TKL	**Tuckaleechee C** comp=Z,26nm,18.3s,baz=16,slow=37	**72.26**	**53**	LR	LR	11 30 19.2
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=22,slow=6.1,SNR=4.9 0.7nm,0.8s	**79.18**	**209**	P	**P**	**10 57 50.2 -0.2**
ASAR	**Alice Springs** 1.0nm,0.9s,baz=18,slow=6.3,SNR=6.4 1.0nm,0.9s	**82.83**	**208**	P	**P**	**10 58 10.9 +1.1**

*JMA **16** 10:54:46.6±0.2,35.7N±0.8×129.9E, h1km±2km, MV2.5/4, S KOREAN PENINSULA REG*
*KMA **16** 10:54:46.8±0.0,35.76N×129.16E,h13km, Error ellipse: s-maj=0.5km s-min=0.4km az=296.0*
ISC 16 10:54:46.6±0.9,35.75N±0.03×129.19E±0.04,h10km,n35, σ0§47/37,South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu** SNR=972	**0.23**	**274**	P	**Pg**	**10 54 52.1**	**+0.7**
YOCB	**Yeongcheon** SNR=56	**0.29**	**320**	P	**Pg**	**10 54 53.0**	**+0.6**
MIYA	**Miryang-si** SNR=16	**0.44**	**234**	P	**Pg**	**10 54 55.4**	**+0.1**
KSPHA	**Pohang** SNR=115	**0.46**	**19**	P	**Pg**	**10 54 56.1**	**+0.5**
KSDAU	**Deagu-acc** SNR=82	**0.48**	**286**	P	**Pg**	**10 54 56.4**	**+0.4**
KSBUS	**Busan** SNR=67	**0.51**	**187**	P	**Pg**	**10 54 56.7**	**+0.3**
KSCHR	**CHANGNYEONG** SNR=33	**0.60**	**250**	P	**Pg**	**10 54 58.4**	**+0.1**
KSADO	**Andong** SNR=118	**0.68**	**344**	P	**Pg**	**10 54 59.8**	**0.0**
EUSB	**Uiseong** SNR=16	**0.72**	**326**	P	**Pg**	**10 55 00.6**	**0.0**
YODB	**Yeongdeok** SNR=7.6	**0.80**	**13**	P	**Pg**	**10 55 02.1**	**+0.2**
EURB	**Uiryeong-eup** SNR=10	**0.85**	**240**	P	**Pg**	**10 55 02.7**	**-0.2**
KSGUM	**GUMI** SNR=9.1	**0.87**	**304**	P	**Pg**	**10 55 03.2**	**-0.1**
YEYB	**Yeongyang** SNR=28	**0.87**	**355**	P	**Pg**	**10 55 03.2**	**-0.2**
ADOA	**Andong Acc Bor** SNR=18	**0.91**	**335**	P	**Pg**	**10 55 04.0**	**-0.1**
KSGIC	**Gimchen** SNR=71	**0.94**	**291**	P	**Pg**	**10 55 04.4**	**-0.2**
HACA	**Hapcheon Acc B** SNR=12	**0.95**	**249**	P	**Pg**	**10 55 04.3**	**-0.5**
KSULJ	**Uljin** SNR=140	**0.96**	**11**	P	**Pg**	**10 55 04.8**	**-0.3**
KSSAJ	**Sangju** SNR=12	**1.06**	**308**	P	**Pg**	**10 55 06.5**	**-0.4**
DUSB	**Deogyusan** SNR=18	**1.16**	**277**	P	**Pb**	**10 55 08.1**	**-0.5**
HAMB	**Hamyang** SNR=8.4	**1.20**	**259**	P	**Pb**	**10 55 09.0**	**-0.4**
CHYB	**Chungyang** SNR=9.1	**1.21**	**350**	P	**Pn**	**10 55 09.1**	**-0.5**
JTU	**Tsushima**	**1.24**	**172**	P	**Pn**	**10 55 09.6**	**-0.3**
JTU				eS	**Sb**	**10 55 25.8**	**-0.3**
YOJB	**Youngju** SNR=38	**1.24**	**334**	P	**Pn**	**10 55 09.6**	**-0.4**
OKCB	**Cheongsan-myeo** SNR=18	**1.27**	**298**	P	**Pn**	**10 55 10.3**	**-0.1**
KSMGY	**Mungyeong** SNR=34	**1.28**	**315**	P	**Pn**	**10 55 10.2**	**-0.3**
YKDB	**Yokjido** SNR=8.3	**1.35**	**214**	P	**Pn**	**10 55 11.3**	**-0.2**
KSTBA	**Taebaek** SNR=25	**1.38**	**352**	P	**Pn**	**10 55 12.1**	**+0.1**
JTSM	**Tsushimamitsus**	**1.42**	**173**	P	**Pn**	**10 55 12.7**	**+0.2**
JTSM				eS	**Sb**	**10 55 31.3**	**0.0**
KSCHJ	**Chungju** SNR=12	**1.48**	**319**	P	**Pn**	**10 55 14.0**	**+0.6**
IMWB	**Imwonan-gil** SNR=11	**1.49**	**5**	P	**Pn**	**10 55 14.2**	**+0.9**
NAWB	**Namwon** SNR=20	**1.50**	**258**	P	**Pb**	**10 55 14.2**	**-0.2**
JECH	**Jecheon** SNR=6.4	**1.61**	**331**	P	**Pn**	**10 55 16.0**	**+0.8**
JHGM	**Hagimishima**	**1.87**	**121**	eS	**Sb**	**10 55 44.5**	**+0.2**
KSKWJ	**Gwangju** SNR=14	**1.89**	**252**	P	**Pn**	**10 55 20.0**	**+1.1**
BOSB	**Boseong-gun** SNR=16	**1.89**	**239**	P	**Pn**	**10 55 20.0**	**+1.1**

*NEIC **16** 11:07:50.1±0.8, 7.53S±0.08×128.46E±0.09, h159km±6km, mb4.3/6, Error ellipse: s-maj=13.2km s-min=10.5km az=61.0*
*IDC **16** 11:07:51.3±1.9, 7.45S×128.13E, h159km±18km, mb3.5/2, mbtmp4.2/5, Error ellipse: s-maj=35.5km s-min=14.1km az=129.0*
ISC 16 11:07:48.8±0.7,7.67S±0.06×128.38E±0.08,h151km,n26, σ2§20/30,mb4.0/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.91**	**96**	Pn	**Pn**	**11 08 35.5**	**+0.5**
BATI	**Baumata** 36nm,0.4s,baz=309,slow=5.1,SNR=18	**5.30**	**241**	P	**Pn**	**11 09 08.9**	**+2.7**
BATI	99nm,0.4s,baz=325,slow=22,SNR=14			S	**Sn**	**11 10 06.5**	**-0.3**
MTN	**Manton Dam**	**5.81**	**152**		**Pn**	**11 09 16.1**	**+3.1**
FAKI	**Fak Fak**	**6.09**	**39**	Pn	**Pn**	**11 09 17.5**	**+0.8**
SIJI	**Sorong** 6.2nm,0.3s,baz=218,slow=17,SNR=26	**7.34**	**23**	P	**Pn**	**11 09 35.5**	**+2.0**
SIJI	3.8nm,0.3s,baz=227,slow=22,SNR=2.2			S	**Sn**	**11 10 55.2**	**-0.5**
KNRA	**Kununurra**	**7.97**	**177**		**Pn**	**11 09 44.6**	**+2.8**
FITZ	**Fitzroy Crossi** 12nm,0.6s,baz=16,slow=10,SNR=60	**10.71**	**194**	P	**Pn**	**11 10 18.3**	**+0.1**
FITZ	6.3nm,0.4s,baz=279,slow=18,SNR=3.6			S	**Sn**	**11 12 11.7**	**-4.9**
FITZ	**Fitzroy Crossi**	**10.71**	**194**		**Pn**	**11 10 18.7**	**+0.5**
WB0	**Warramunga Arr**	**13.36**	**155**		**Pn**	**11 10 53.9**	**+1.2**
WRAB	**Tennant Creek**	**13.49**	**155**		**Pn**	**11 10 56.1**	**+1.7**
WRA	**Warramunga Arr** 4.7nm,0.5s,baz=325,slow=13,SNR=61	**13.50**	**155**	P	**Pn**	**11 10 55.7**	**+1.3**
WRA	1.9nm,0.4s,baz=334,slow=21,SNR=2.8			S	Sn	11 13 15.1	-8.9
WRA	**Warramunga Arr**	**13.50**	**155**		**Pn**	**11 10 55.9**	**+1.5**
WB2	**Warramunga Arr**	**13.50**	**155**		**Pn**	**11 10 56.3**	**+1.9**
WR0	**Warramunga Arr**	**13.60**	**155**		**Pn**	**11 10 57.2**	**+1.5**
PSA00	**Pilbara Seismi**	**16.09**	**210**	P	**P**	**11 11 29.2**	**+2.1**
PSA00	comp=Z,22nm,1.4s			IAmb	IAmb	11 11 43.7	
AS31	**Alice Springs**	**16.77**	**162**		**Pn**	**11 11 37.8**	**+2.9**
AS31	comp=Z,6.1nm,0.5s			IAmb	IAmb	11 11 40.3	
ASAR	**Alice Springs** comp=Z,13nm,0.6s,baz=341,slow=11,SNR=231	**16.77**	**162**	P	**Pn**	**11 11 39.1**	**+4.2**
ASAR	comp=Z,1.3nm,0.6s,baz=202,slow=25,SNR=3.3			S	**S**	**11 14 37.4**	**-4.0**
ASAR	**Alice Springs**	**16.77**	**162**		**Pn**	**11 11 37.7**	**+2.8**
JNU	**Nakatsue**	**40.63**	**3**	P	**P**	**11 15 11.6**	**-2.5**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.4s,baz=114,slow=7.6,SNR=5.5 comp=Z,0.3nm,0.4s	**67.92**	**328**	P	**P**	**11 18 31.3**	**+0.1**
ZAA0	**Zalesovo Array**	**71.48**	**335**	P	**P**	**11 18 52.3**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.5s,baz=137,slow=7.1,SNR=5.5 comp=Z,1.0nm,0.5s	**71.48**	**335**	P	**P**	**11 18 52.0**	**-0.8**
ZALV	**Zalesovo Beam**	**71.48**	**335**	P	**P**	**11 18 52.5**	**-0.3**
KURK	**Kurchatov** comp=Z,3.3nm,0.8s	**72.26**	**329**	P	**P**	**11 18 57.3**	**-0.2**
KURK				IAmb	IAmb	11 18 58.4	
UOSS	**Minazif**	**77.31**	**298**	P	**P**	**11 19 26.1**	**-1.0**
UOSS	comp=Z,11nm,1.1s			IAmb	IAmb	11 19 34.9	
ABKAR	**Akbulak array**	**82.04**	**322**	P	**P**	**11 19 52.0**	**-0.1**

*ISK **16** 11:31:53.9, 38.05N×43.03E, h5km, ML3.0/11*
*DDA **16** 11:31:55.8±0.0, 38.08N×43.05E, h11km±2km, ML2.6*
ISC 16 11:31:55.0±1.2,38.09N±0.03×43.18E±0.04,h10km±9km, n23,σ0§97/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.24**	**337**	P	**Pg**	**11 32 00.6**	**+0.4**
GEVA	comp=N,1μm,0.3s			*i* AML	AML	11 32 04.0	
GEVA				S	**Sg**	**11 32 04.6**	**+1.0**
GEVA	comp=E,3μm,0.4s			*i* AML	AML	11 32 05.0	
AKDM	**Akdamar-Van**	**0.29**	**327**	PG	**Pg**	**11 32 01.0**	**+0.1**
AKDM				SG	**Sg**	**11 32 05.9**	**+1.0**
TVAN	**Van**	**0.47**	**22**	P	**Pn**	**11 32 06.3**	**-1.7**
TVAN	comp=N,247nm,0.6s			*i* AML	AML	11 32 18.0	
TVAN	comp=E,352nm,0.3s			*i* AML	AML	11 32 20.0	
PERV	**Siirt/Pervari-**	**0.52**	**254**	P	**Pg**	**11 32 04.2**	**-1.1**
PERV				S	**Sg**	**11 32 11.5**	**-0.7**
PERV	comp=E,3μm,0.5s			*i* AML	AML	11 32 12.0	
PERV	comp=N,3μm,0.3s			*i* AML	AML	11 32 13.0	
VANB	**Van**	**0.53**	**18**	PG	**Pb**	**11 32 05.7**	**-0.8**
VANB				SG	**Sb**	**11 32 14.3**	**0.0**
HAKT	**HAKKARI**	**0.67**	**142**	P	**Pn**	**11 32 10.3**	**-0.5**
HAKT				S	**Sn**	**11 32 23.8**	**+2.3**
HAKT	comp=N,193nm,0.5s			*i* AML	AML	11 32 26.0	
HAKT	comp=E,277nm,0.5s			*i* AML	AML	11 32 28.0	
ADCV	**BITLIS_Adilcev**	**0.80**	**334**	P	**Pg**	**11 32 10.2**	**-0.4**
ADCV				S	**Sb**	**11 32 22.2**	**0.0**
ADCV	comp=N,121nm,0.3s			*i* AML	AML	11 32 24.0	
ADCV	comp=E,145nm,0.3s			*i* AML	AML	11 32 25.0	
BLIS	**Bitlis-Merkez**	**0.90**	**292**	P	**Pg**	**11 32 10.4**	**-2.0**
BLIS	comp=E,202nm,0.3s			*i* AML	AML	11 32 26.0	
BLIS	comp=N,344nm,0.6s			*i* AML	AML	11 32 28.0	
CUKT	**Cukurca**	**0.91**	**158**	PG	**Pn**	**11 32 12.9**	**-1.0**
GURO	**Guroymak-BITLI**	**1.01**	**297**	PG	**Pg**	**11 32 12.5**	**-2.1**
MLAZ	**Malazgirt-MUS**	**1.16**	**335**	PN	**Pb**	**11 32 16.9**	**-0.4**
MUSM	**Mu-Merkez**	**1.46**	**296**	P	**Pn**	**11 32 20.4**	**-1.1**
MUSM				S	**Sn**	**11 32 40.6**	**0.0**
MUSM	comp=E,38nm,0.5s			*i* AML	AML	11 32 47.0	
MUSM	comp=N,49nm,1.0s			*i* AML	AML	11 32 48.0	
AGRB	**Hanur-Agry**	**1.49**	**354**	PN	**Pg**	**11 32 23.4**	**-0.3**
BTMN	**Batman**	**1.52**	**263**	P	**Pn**	**11 32 22.8**	**+0.5**
BTMN				S	**Sn**	**11 32 43.3**	**+1.1**
BTMN	comp=N,294nm,0.5s			*i* AML	AML	11 32 44.0	
BTMN	comp=E,284nm,0.5s			*i* AML	AML	11 32 45.0	
SVAN	**Silvan-Diyarba**	**1.56**	**273**	PN	**Pn**	**11 32 22.4**	**-0.5**
MIDY	**Mardin/Midyat-**	**1.57**	**245**	P	**Pn**	**11 32 23.5**	**+0.5**
MIDY				S	**Sb**	**11 32 44.8**	**+0.7**
MIDY	comp=N,128nm,0.3s			*i* AML	AML	11 32 47.0	
MIDY	comp=E,135nm,0.3s			*i* AML	AML	11 32 48.0	
EATA	**Eleskirt**	**1.85**	**343**	P	**Pg**	**11 32 31.0**	**+0.5**
EATA	comp=N,23nm,0.5s			*i* AML	AML	11 33 01.0	
EATA	comp=E,32nm,0.8s			*i* AML	AML	11 33 05.0	
MARD	**Mardin**	**2.06**	**249**	P	**Pb**	**11 32 32.9**	**+0.4**
MARD				S	**Sb**	**11 32 58.4**	**+0.3**
MARD	comp=E,129nm,0.3s			*i* AML	AML	11 32 59.0	
MARD	comp=N,205nm,0.7s			*i* AML	AML	11 33 04.0	
KARO	**Karliova-Bingo**	**2.06**	**307**	PN	**Pn**	**11 32 30.1**	**+0.2**
BNGB	**Bingl**	**2.16**	**295**	PN	**Pn**	**11 32 31.2**	**+0.1**
MAZI	**Mazidag**	**2.25**	**255**	PN	**Pn**	**11 32 32.2**	**-0.2**
DYBB	**Diyarbakir**	**2.41**	**268**	PN	**Pn**	**11 32 34.6**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.46**	**304**	PN	**Pn**	**11 32 35.7**	**+0.4**

*IDC **16** 11:47:04.0±1.8, 22.05S×170.45E, h0km, mb3.9/7, mbtmp3.9/8, ML3.7/1, MS3.5/13, Error ellipse: s-maj=43.5km s-min=30.8km az=34.0*
*NEIC **16** 11:47:06.0±2.0, 22.0S±0.1×170.4E±0.1, h12km±8km, mb4.5/8, Error ellipse: s-maj=25.3km s-min=7.1km az=45.0*
*NOU **16** 11:47:06.4, 22.10S×170.30E, h0km, MLv4.2/13, Southeast of Loyalty Islands*
ISC 16 11:47:05.9±0.8,22.15S±0.08×170.32E±0.09,h10km,n56, σ1§17/43,mb4.0/11,MS3.5/10,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.23**	**287**		**Pn**	**11 47 41.7**	**-1.2**
MARNC	**Mare, Loyalty**	**2.23**	**287**	P	**Pn**	**11 47 42.7**	**-0.3**
PINNC	**Pines Island,**	**2.70**	**260**		**Pn**	**11 47 50.2**	**+0.8**
PINNC	**Pines Island,**	**2.70**	**260**	P	**Pn**	**11 47 50.4**	**+1.0**
LIFNC	**LIFOU**	**3.18**	**295**	Pn	**Pn**	**11 47 56.3**	**+0.3**
LIFNC	**LIFOU**	**3.18**	**295**	P	**Pn**	**11 47 57.9**	**+1.9**
YATNC	**Mamie plateau,**	**3.18**	**271**	P	**Pn**	**11 47 56.5**	**+0.4**
OUENC	**Ouen Island, N**	**3.24**	**265**	Pn	**Pn**	**11 47 57.3**	**+0.5**
OUENC	**Ouen Island, N**	**3.24**	**265**	P	**Pn**	**11 47 59.6**	**+2.8**
ONTNC	**Ouen Toro**	**3.59**	**267**		**Pn**	**11 48 01.3**	**-0.3**
ONTNC	**Ouen Toro**	**3.59**	**267**	P	**Pn**	**11 48 03.1**	**+1.5**
DZM	**Mont Dzumac** 5.3nm,0.3s,baz=102,slow=9.7,SNR=181	**3.60**	**271**	Pn	**Pn**	**11 48 02.8**	**+1.0**
DZM	12nm,0.3s,baz=71,slow=19,SNR=13			Sn	**Sn**	**11 48 44.1**	**-0.4**
DZM	comp=Z,417nm,20.9s,baz=35,slow=37 29nm,0.4s			LR	LR	11 49 22.2	
DZM	**Mont Dzumac**	**3.60**	**271**	P	**Pn**	**11 48 03.1**	**+1.2**
NOUC	**Port Laguerre**	**3.73**	**270**	P	**Pn**	**11 48 04.7**	**+1.1**
RTV	**Rentapao**	**4.69**	**337**	P	**Pn**	**11 48 18.3**	**+1.6**
DVP	**Devils Point**	**4.84**	**335**	P	**Pn**	**11 48 19.8**	**+1.0**
KOUNC	**Koumac, New Ca**	**5.85**	**285**	Pn	**Pn**	**11 48 34.5**	**+1.8**
KOUNC	**Koumac, New Ca**	**5.85**	**285**	P	**Pn**	**11 48 34.6**	**+1.8**
MSVF	**Nonsavu** comp=Z,328nm,18.9s,baz=171,slow=34	**8.49**	**60**	LR	LR	11 51 51.1	
AFI	**Afiamalu** comp=Z,85nm,20.9s,baz=150,slow=31	**18.88**	**67**	LR	LR	11 56 40.4	
MSWZ	**Moikau Station**	**19.65**	**169**	P	**P**	**11 51 35.1**	**+0.3**
CTA	**Charters Tower** comp=Z,142nm,18.4s,baz=90,slow=37	**22.54**	**271**	LR	LR	12 01 01.0	
CTAO	**Charters Tower**	**22.54**	**271**	P	**P**	**11 52 05.1**	**-1.2**
PMG	**Port Moresby** comp=Z,99nm,19.4s,baz=102,slow=33	**25.59**	**296**	LR	LR	12 01 13.3	
STKA	**Stephens Creek** 0.5nm,0.3s,baz=56,slow=11,SNR=1.9	**27.30**	**243**	P	**P**	**11 52 51.9**	**+1.0**
STKA	comp=Z,38nm,19.2s,baz=26,slow=35 0.5nm,0.3s			LR	LR	12 03 00.3	
ASAR	**Alice Springs** 0.7nm,0.7s,baz=86,slow=9.3,SNR=11	**33.53**	**260**	P	**P**	**11 53 46.5**	**+0.5**
ASAR	comp=Z,120nm,18.3s,baz=88,slow=36 0.7nm,0.7s			LR	LR	12 07 08.8	
WB2	**Warramunga Arr**	**33.60**	**267**	P	**P**	**11 53 45.7**	**-1.0**
WB2	comp=Z,5.3nm,1.3s			IAmb	IAmb	11 54 13.2	
WRAB	**Tennant Creek**	**33.60**	**267**	P	**P**	**11 53 45.2**	**-1.4**
WRAB	comp=Z,7.9nm,1.2s			IAmb	IAmb	11 53 49.6	
WRA	**Warramunga Arr** comp=Z,0.7nm,0.6s,baz=100,slow=8.1,SNR=15	**33.61**	**267**	P	**P**	**11 53 46.5**	**-0.3**
WRA	comp=Z,120nm,18.2s,baz=101,slow=38 comp=Z,0.7nm,0.6s			LR	LR	12 08 08.2	
WRA	**Warramunga Arr**	**33.61**	**267**	P	**P**	**11 53 45.7**	**-1.0**
MTN	**Manton Dam**	**38.41**	**277**	P	**P**	**11 54 28.2**	**+0.3**
MTN	comp=Z,18nm,1.4s			IAmb	IAmb	11 54 45.2	
FAKI	**Fak Fak**	**41.60**	**292**	P	**P**	**11 54 53.9**	**-0.5**
FAKI	comp=Z,8.6nm,0.9s			IAmb	IAmb	11 55 19.2	
FITZ	**Fitzroy Crossi** comp=Z,3.1nm,1.0s,baz=121,slow=12,SNR=3.2	**42.04**	**267**	P	**P**	**11 54 59.2**	**+1.2**
FITZ	comp=Z,44nm,20.7s,baz=111,slow=34 comp=Z,3.1nm,1.0s			LR	LR	12 11 11.4	
FITZ	**Fitzroy Crossi**	**42.04**	**267**	P	**P**	**11 54 58.1**	**+0.2**
SIJI	**Sorong** comp=Z,64nm,19.4s,baz=38,slow=36	**43.49**	**294**	LR	LR	12 13 17.4	
BATI	**Baumata** comp=Z,126nm,20.1s,baz=150,slow=36	**46.19**	**277**	LR	LR	12 15 08.2	
KAPI	**Kappang** comp=Z,22nm,20.1s,baz=105,slow=36	**51.75**	**282**	LR	LR	12 18 04.5	
VNDA	**Vanda** comp=Z,0.6nm,0.7s,baz=352,slow=7.3,SNR=4.4 comp=Z,0.6nm,0.7s	**55.57**	**182**	P	**P**	**11 56 40.9**	**-0.3**
SBA	**Scott Base**	**55.78**	**181**	P	**P**	**11 56 43.9**	**+1.2**
QSPA	**South Pole Qui**	**67.92**	**180**	P	**P**	**11 58 04.6**	**-0.1**
PSI	**Prapat** comp=Z,62nm,18.1s,baz=296,slow=39	**73.91**	**280**	LR	LR	12 35 27.2	
MAW	**Mawson** comp=Z,1.9nm,0.9s,baz=135,slow=5.8,SNR=4.8 comp=Z,1.9nm,0.9s	**76.13**	**202**	P	**P**	**11 58 55.0**	**+1.4**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=132,slow=2.6,SNR=5.6 comp=Z,0.5nm,0.3s	**80.62**	**294**	P	**P**	**11 59 19.9**	**+0.5**
TROLL	**Troll, Antarti**	**85.72**	**184**	P	**P**	**11 59 43.9**	**-1.0**
SNAA	**Sanae**	**86.31**	**182**	P	**P**	**11 59 46.5**	**-1.3**
VNA3	**Neumayer Olymp**	**86.86**	**180**	P	**P**	**11 59 48.9**	**-1.5**
VNA2	**Neumayer--Watz** baz=170,slow=4.5	**87.17**	**181**	P	**P**	**11 59 50.9**	**-1.1**
VNA1	**Neumayer--Stat**	**87.45**	**180**	P	**P**	**11 59 51.9**	**-1.3**
H03S2	**Juan Fernandez** baz=238	**93.76**	**129**	T	T	13 44 09.0	
H03S1	**Juan Fernandez** baz=238	**93.78**	**129**	T	T	13 44 14.4	
H03S3	**Juan Fernandez** baz=238	**93.78**	**129**	T	T	13 44 15.4	
H03N3	**Juan Fernandez** baz=237	**93.95**	**128**	T	T	13 44 25.5	
H03N2	**Juan Fernandez** baz=237	**93.95**	**128**	T	T	13 44 24.0	
H03N1	**Juan Fernandez** baz=237	**93.97**	**128**	T	T	13 44 24.6	
CLL	**Collm** comp=Z,6.0nm,1.1s	**145.97**	**334**	*i* PKPbc	**PKPdf**	**12 06 44.8**	**-0.1**
GERES	**GERESS Array B** comp=Z,1.0nm,0.7s,baz=24,slow=3.4,SNR=5.5	**147.52**	**331**	PKPbc	**PKPbc**	**12 06 49.0**	**-1.4**

*RSPR **16** 11:57:05.9, 19.19N×67.23W, h24km±12km, MD3.1/4*
*NEIC **16** 11:57:05.4±1.7, 19.16N±0.03×67.24W±0.06, h37km±39km, Error ellipse: s-maj=9.0km s-min=1.8km az=67.0*
*OSPL **16** 11:57:07.5±1.9, 19.07N×67.34W, h16km±15km, ML2.1*
ISC 16 11:57:04.4±2.0,19.2N±0.1×67.24W±0.05,h31km±12km, n26,σ0§47/31,3C-3D,Mona Passage

| Code | Station Name

CRPR	Cabo Rojo, PR	1.16 174	⇑	*e*P		Pn	11 57 24.4	-0.1
CRPR	Cabo Rojo, PR	1.16 174				Pn	11 57 24.4	-0.1
CRPR						Sn	11 57 39.6	+0.2
CRPR	Cabo Rojo, PR	1.16 174		*i* P		Pb	11 57 26.9	+1.0
CRPR				*e*S		Sn	11 57 39.8	+0.4
CRPR				IAML			11 57 43.2	
	comp=Z,49nm,0.2s							
MLPR	Magueyes Islan	1.21 171	⇓	*e*P		Pn	11 57 25.4	+0.2
MLPR	Magueyes Islan	1.21 171		*e*S		Sn	11 57 40.2	-0.3
MLPR	Magueyes Islan	1.21 171				Pn	11 57 25.4	+0.2
MLPR						Sn	11 57 40.2	-0.3
CELP	Cerrillos	1.25 150	⇓	*e*P		Pb	11 57 26.8	-0.7
CELP	Cerrillos	1.25 150		*e*S		Sn	11 57 41.6	0.0
CELP	Cerrillos	1.25 150				Sb	11 57 43.0	-0.3
CELP				IAML			11 57 43.3	
	comp=E,71nm,0.6s							
CELP				IAML			11 57 43.3	
	comp=N,140nm,0.4s							
CELP	Cerrillos	1.25 150				Pb	11 57 26.8	-0.7
PCDR	Punta Cana, DR	1.26 239		Pn		Pb	11 57 27.2	-0.4
PCDR				IAML			11 57 44.6	
	comp=E,71nm,1.3s							
PCDR				IAML			11 57 45.0	
	comp=N,115nm,1.4s							
PCDR	Punta Cana, DR	1.26 239		*i* P		Pb	11 57 27.6	0.0
PCDR				*e*S		Sb	11 57 43.2	-0.3
PCDR				IAML			11 57 47.0	
	comp=Z,89nm,1.1s							
OBIP	Obispado Ponce	1.27 152				Sn	11 57 42.3	+0.3
SDDR	Presa de Saban	3.83 268		Pn		Pn	11 58 01.8	+0.5
SDDR				IAML			11 59 04.6	
	comp=Z,13nm,1.1s							

IDC ***16*** *12:04:37.0±0.5,54˚70S×30˚78W,h0km,mb4.9/11, mbtmp4.9/12,ML4.2/1,MS4.4/39,Error ellipse: s-maj=21.3km s-min=15.0km az=68.0*

BJI ***16*** *12:04:38.0±0.0,54˚80S×31˚00W,h10km,mB5.1/8, Ms5.4/6,Ms7 5.2/5*

NEIC ***16*** *12:04:39.7±1.4,54˚67S±0˚09×31˚0W±0˚1,h14km±3km, mb5.3/80,Ms_20 4.7/50,Error ellipse: s-maj=13.3km s-min=11.9km az=205.0*

GCMT ***16*** *12:04:42.7±0.2,54˚70S±0˚01×30˚52W±0˚03,h12km, MW5.1/139,Moment Tensor Solution. s51,c62; s139,c187; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=4.94±.08; Mθθ=4.81±.09; Mφφ=0.13±.08; Mrθ=0.87±.33; Mθφ=-0.73±.08; Mφr=1.71±.32; Best double couple: M=5.27600×1016 NP1:φ=294.00000°,δ54.00000°, λ=-71.00000°. NP2:φ=84.00000°,δ41.00000°, λ=-114.00000°. Principal axes: T 5.0520, Plg7.0000°, Azm11.0000°; N 0.4520, Plg15.0000°, Azm103.0000°; P -5.5000, Plg73.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 12:04:38.3±0.2,54.72S±0.06×31.03W±0.06,h10km,n556, σ0.93/513,mb5.2/52,MS4.7/66,4C-6D,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.21	276	Pn	Pn	12 05 28.7	-0.1
ORCD	Orcadas	9.49	225	Pn	Pn	12 06 56.5	+1.8
VNA1	Neumayer--Stat	18.88	157	P	Pn	12 08 58.7	-0.2
VNA1	Neumayer--Stat	18.88	157	PcP	PcP	12 13 22.2	-1.8
VNA1				x	x	12 09 05.2	
VNA3	Neumayer Olymp	19.01	159	P	P	12 09 00.0	+0.3
VNA3	Neumayer Olymp	19.01	159	PcP	PcP	12 13 25.1	+0.8
VNA3				x	x	12 09 06.8	
PMSA	Palmer Station	19.20	225	P	Pn	12 09 03.3	+0.5
	0.7nm,0.3s,baz=69,slow=9.2,SNR=6.7						
PMSA				LR	LR	12 15 24.5	
	comp=Z,741nm,21.5s,baz=75,slow=34						
	15nm,0.7s						
PMSA	Palmer Station	19.20	225	P	Pn	12 09 03.5	+0.7
VNA2	Neumayer--Watz	19.28	156	P	P	12 09 02.6	-0.1
	baz=312,slow=12						
VNA2	Neumayer--Watz	19.28	156	PcP	PcP	12 13 25.4	+0.6
VNA2	Neumayer--Watz	19.28	156	ScP	ScP	12 16 59.2	-1.2
SNAA	Sanae	20.86	155	P	P	12 09 19.2	-0.8
SNAA	Sanae	20.86	155	PcP	PcP	12 13 28.2	+0.4
SNAA	Sanae	20.86	155	P	P	12 09 19.2	-0.8
	28nm,0.8s,baz=308,slow=10.0,SNR=159						
SNAA				PcP	PcP	12 13 28.0	+0.3
	2.8nm,0.6s,baz=290,slow=3.5,SNR=4.6						
SNAA				LR	LR	12 16 42.9	
	comp=Z,315nm,18.2s,baz=313,slow=35						
	28nm,0.8s						
SNAA	Sanae	20.86	155	P	P	12 09 19.6	-0.5
SMAI	San Martin Ant	21.44	217	P	P	12 09 25.3	-0.8
TROLL	Troll, Antarti	22.42	153	P	P	12 09 36.1	-0.7
TROLL	Troll, Antarti	22.42	153	PcP	PcP	12 13 31.5	+0.6
BELA	Belgrano 2	23.30	182	P	P	12 09 45.2	-0.6
BELA				IAmb	IAmb	12 09 59.3	
	comp=Z,129nm,1.7s						
TRQA	Tornquist	26.78	296	P	P	12 10 18.5	+0.4
PLTB	Pedras Altas	27.99	316	P	P	12 10 29.8	+0.8
PLTB				IAmb	IAmb	12 10 30.8	
	comp=Z,27nm,0.8s						
PLTB	Pedras Altas	27.99	316	*e*P	P	12 10 29.9	+0.8
CPSB	Cacapava Do Su	29.12	317	*e*P	P	12 10 40.2	+1.0
CNLB	Canela	29.14	323	*e*P	P	12 10 40.9	+1.5
PLCA	Paso Flores	29.60	282	LR	LR	12 21 27.0	
	comp=Z,207nm,21.7s,baz=128,slow=34						
PLCA	Paso Flores	29.60	282	*e*P	P	12 10 35.5	-7.9
ITQB	Itaqui	31.07	313	P	P	12 10 56.2	-0.1
ITQB	Itaqui	31.07	313	*e*P	P	12 10 57.0	+0.6
ITAB	Concordia	31.49	322	P	P	12 11 00.7	+0.6
ITAB	Concordia	31.49	322	*e*P	P	12 11 01.4	+1.3
MRA	San Martin	33.06	298	*i* P	P	12 11 14.4	+0.4
TCA	Tanti	33.37	301	*i* P	P	12 11 16.8	+0.2
PTGB	Pitanga	33.78	324	*e*P	P	12 11 20.9	+0.6
VAO	Valinhos	33.85	333	*e*P	P	12 11 22.8	+2.0
CPUP	Villa Florida	34.30	315	P	P	12 11 25.0	+0.4
	comp=Z,58nm,0.9s,baz=151,slow=7.9,SNR=73						
CPUP				LR	LR	12 26 27.9	
	comp=Z,290nm,18.4s,baz=159,slow=38						
	comp=Z,58nm,0.9s						
CPUP	Villa Florida	34.30	315	P	P	12 11 24.4	-0.3
CPUP	Villa Florida	34.30	315	*e*P	P	12 11 25.0	+0.4
ACHE	Chepes	34.55	298	*i* P	P	12 11 26.3	-0.7
RCLB	Rio Claro- Sao	34.55	332	*e*P	P	12 11 29.2	+2.3
ASAL	Salagasta	34.55	294	*i* P	P	12 11 27.1	+0.2
MT09	Talagante	34.80	290	P	P	12 11 29.3	+0.2
MT09				IAmb	IAmb	12 11 32.4	
	comp=Z,80nm,1.4s						
ALF01	Guarapari-ES	34.83	344	*e*P	P	12 11 31.0	+1.8
MT01	Popeta	34.88	290	P	P	12 11 28.9	-0.8
MT01				IAmb	IAmb	12 11 32.5	
	comp=Z,26nm,0.8s						
APLL	PUNTA DE LOS L	35.10	299	*i* P	P	12 11 31.1	-0.5
PEL	Peldehue	35.12	291	P	P	12 11 30.2	-1.5
PEL				IAmb	IAmb	12 11 46.8	
	comp=Z,36nm,0.9s						
VA05	Santo Domingo	35.23	290	P	P	12 11 32.9	+0.3
MT02	Curacav	35.27	291	P	P	12 11 30.8	-2.2
MT02				IAmb	IAmb	12 11 56.7	
	comp=Z,113nm,1.8s						
ZON	Zonda	35.29	295	P	P	12 11 33.3	+0.1
VA03	San Esteban	35.34	292	P	P	12 11 32.2	-1.5
AVFE	Valle Fertil	35.36	298	*i* P	P	12 11 33.9	0.0
RTLS	Leoncito	35.42	294	*i* P	P	12 11 35.0	+0.3
QSPA	South Pole Qui	35.54	180	LR	LR	12 25 01.5	
	comp=Z,1μm,21.6s,baz=188,slow=34						
QSPA	South Pole Qui	35.54	180	P	P	12 11 35.5	+0.3
QSPA				IAmb	IAmb	12 11 57.4	
	comp=Z,72nm,1.1s						
QSPA	South Pole Qui	35.54	180	IAMs_20	IAMs_20	12 24 49.7	
	comp=Z,1μm,20.0s						
TRCB	Terra Rica	35.75	324	P	P	12 11 37.7	+0.5
TRCB	Terra Rica	35.75	324	*e*P	P	12 11 38.0	+0.7
VA06	Catapilco	35.90	291	P	P	12 11 38.5	+0.1
RIB01	Linhares ES	36.06	345	*e*P	P	12 11 40.9	+1.1
ACLC	CERRO LA CRUZ	36.10	300	*i* P	P	12 11 40.1	-0.2
BB19B	Bebedouro	36.11	332	*e*P	P	12 11 41.7	+1.3
ACCO	Cerro Coronel	36.25	296	*i* P	P	12 11 43.0	+1.2
PCMB	Pacaembu	36.41	327	*e*P	P	12 11 43.5	+0.6
ACDV	Cuesta del Vie	36.61	296	*i* P	P	12 11 45.9	+1.2
SJMB	Sao Joao De Ma	36.78	344	*e*P	P	12 11 46.1	+0.1
CO02	Combarbal	36.78	293	P	P	12 11 47.5	+1.4
CO02				IAmb	IAmb	12 12 08.0	
	comp=Z,47nm,1.2s						
AROD	Rodeo	36.80	296	*i* P	P	12 11 47.7	+1.3
CO01	Juntas del Tor	37.27	295	P	P	12 11 51.3	+0.9
VCA	Vinchina	37.29	299	*i* P	P	12 11 51.5	+1.0
NAN01	Guarapari, ES	37.46	346	*e*P	P	12 11 52.4	+0.6
GO04	Tololo Observa	37.49	294	P	P	12 11 52.6	+0.4
DIAM	Diamantina, MG	37.62	340	*e*P	P	12 11 54.0	+0.7
ITRB	Iturama	37.92	330	*e*P	P	12 11 56.4	+0.7
PMNB	Patos De Minas	37.99	336	*e*P	P	12 11 57.4	+1.0
AC05	El Transito	38.28	296	P	P	12 11 58.3	-0.5
AC05				IAmb	IAmb	12 12 00.9	
	comp=Z,24nm,0.8s						
LCO	Las Campanas	38.36	296	P	P	12 12 00.4	+0.8
GUA01	Guaratinga, BA	38.66	346	*e*P	P	12 12 02.5	+0.6
AQDB	Aquidauana	38.96	322	P	P	12 12 04.4	0.0
AQDB				IAmb	IAmb	12 12 17.3	
	comp=Z,61nm,1.1s						
AQDB	Aquidauana	38.96	322	*e*P	P	12 12 04.1	-0.3
IPMB	Ipameri, GO	38.97	333	*e*P	P	12 12 05.3	+0.8
AC04	Llanos de Chal	39.20	296	P	P	12 12 06.7	+0.3
AC04				IAmb	IAmb	12 12 08.5	
	comp=Z,69nm,1.5s						
MC01	Montes Claros	39.22	340	*e*P	P	12 12 06.6	-0.1
AC02	Maricunga	39.31	300	P	P	12 12 08.6	+0.7
AC06	Mina Casimiro	39.51	298	P	P	12 12 09.5	+0.5
C2SB	Chapadao do Su	39.57	326	*e*P	P	12 12 10.7	+1.2
CMC01	Camacan, BA	39.82	347	*e*P	P	12 12 12.1	+0.5
AC01	Pan de Azucar	40.62	298	P	P	12 12 19.1	+0.9
AC01				IAmb	IAmb	12 12 19.9	
	comp=Z,50nm,0.9s						
JANB	Januaria	40.90	340	*e*P	P	12 12 21.2	+0.6
GO02	Mina Guanaco	40.93	300	P	P	12 12 22.2	+1.1
GO02				IAmb	IAmb	12 12 23.3	
	comp=Z,76nm,0.8s						
BDFB	Brasilia	41.16	335	P	P	12 12 24.1	+1.2
	comp=Z,18nm,0.7s,baz=153,slow=5.7,SNR=27						
BDFB				LR	LR	12 26 49.3	
	comp=Z,580nm,21.8s,baz=153,slow=32						
	comp=Z,18nm,0.7s						
BDFB	Brasilia	41.16	335	P	P	12 12 23.1	+0.3
BDFB	Brasilia	41.16	335	*e*P	P	12 12 24.0	+1.2
GDU01	Guandu, BA	41.45	347	*e*P	P	12 12 25.7	+0.6
PB14	IPOC Station P	41.78	300	P	P	12 12 28.0	-0.1
PB14				IAmb	IAmb	12 12 29.4	
	comp=Z,31nm,0.8s						
AF01	San Pedro de A	42.09	304	P	P	12 12 31.2	+0.6
AF01				IAmb	IAmb	12 12 44.8	
	comp=Z,60nm,0.7s						
SUR	Sutherland	42.49	80	LR	LR	12 27 37.3	
	comp=Z,317nm,18.3s,baz=198,slow=33						
PB15	IPOC Station P	42.50	302	P	P	12 12 33.0	-0.9
PB15				IAmb	IAmb	12 12 47.7	
	comp=Z,59nm,1.4s						
MAW	Mawson	42.51	146	P	P	12 12 33.4	+0.2
	comp=Z,19nm,0.9s,baz=236,slow=8.8,SNR=41						
	comp=Z,19nm,0.9s						
MAW	Mawson	42.51	146	P	P	12 12 33.6	+0.4
LVC	Limon Verde	42.73	303	LR	LR	12 32 01.5	
	comp=Z,241nm,18.6s,baz=158,slow=38						
LVC	Limon Verde	42.73	303	P	P	12 12 37.0	+1.1
LVC				IAmb	IAmb	12 12 38.6	
	comp=Z,36nm,0.8s						
PB10	IPOC Station P	42.78	301	P	P	12 12 36.5	+0.6
PB06	IPOC Station P	42.98	302	P	P	12 12 37.0	-0.7
SALV	Santo Antonio	43.19	324	*e*P	P	12 12 39.6	+0.4
PB09	IPOC Station P	43.59	303	P	P	12 12 43.1	+0.5
PB09				IAmb	IAmb	12 12 57.8	
	comp=Z,61nm,1.1s						
SDBA	SAO DESIDERIO	43.60	340	*e*P	P	12 12 42.6	0.0
PB07	IPOC Station P	43.96	303	P	P	12 12 44.8	-0.9
PB07				IAmb	IAmb	12 12 47.7	
	comp=Z,40nm,1.1s						
PB02	IPOC Station P	44.31	303	P	P	12 12 47.8	-0.5
PB02				IAmb	IAmb	12 12 50.6	
	comp=Z,83nm,1.3s						
PB01	IPOC Station P	44.34	304	P	P	12 12 48.4	-0.2
PTLB	Pontes e Lacer	44.84	320	P	P	12 12 52.5	0.0
PTLB				IAmb	IAmb	12 13 05.2	
	comp=Z,62nm,1.1s						
PTLB	Pontes e Lacer	44.84	320	*e*P	P	12 12 52.6	+0.2
PATCX	Punta Patache	44.86	303	P	P	12 12 53.3	+0.6
SIV	San Ignacio	45.09	317	LR	LR	12 35 36.6	
	comp=Z,156nm,18.2s,baz=106,slow=41						
TA01	Diego Aracena	45.09	303	P	P	12 12 55.2	+0.7
TA01				IAmb	IAmb	12 12 56.5	
	comp=Z,62nm,1.3s						
NBAN	Anadia - AL	45.12	353	*e*P	P	12 12 54.1	-0.7
GO01	Chusmiza	45.38	305	P	P	12 12 58.5	+1.1
SNDB	Serra Nova Dou	45.53	332	*e*P	P	12 12 58.5	+0.5
PB16	IPOC Station P	46.68	306	P	P	12 13 07.7	0.0
PB12	IPOC Station P	46.83	305	P	P	12 13 08.5	+0.2
PB12				IAmb	IAmb	12 13 22.7	
	comp=Z,39nm,1.3s						
SBA	Scott Base	47.24	185	P	P	12 13 11.9	+1.2
H10S2	ASCENSION HYDR	47.47	22	T	T	13 04 19.3	
	baz=193,slow=7.4,SNR=7.6						
H10S3	ASCENSION HYDR	47.47	22	T	T	13 04 22.1	
	baz=27,slow=74,SNR=8.9						
VILB	Vilhena	47.52	320	P	P	12 13 13.6	0.0
VILB				IAmb	IAmb	12 13 26.1	
	comp=Z,52nm,1.1s						
VILB	Vilhena	47.52	320	*e*P	P	12 13 13.8	+0.2
PDRB	Porto dos Gac	47.53	325	*e*P	P	12 13 13.5	-0.3
SMTB	Santa Maria do	47.60	338	*e*P	P	12 13 14.9	+0.7
VNDA	Vanda	47.79	184	P	P	12 13 16.2	+1.2
	comp=Z,4.5nm,0.7s,baz=179,slow=4.4,SNR=13						
VNDA				LR	LR	12 34 17.1	
	comp=Z,190nm,18.0s,baz=158,slow=37						
	comp=Z,4.5nm,0.7s						
VNDA	Vanda	47.79	184	P	P	12 13 15.6	+0.6
LPAZ	La Paz	47.82	309	P	P	12 13 18.0	+1.3
LPAZ				LR	LR	12 33 46.1	
	comp=Z,42nm,0.7s,baz=142,slow=5.4,SNR=110						
	comp=Z,152nm,20.6s,baz=142,slow=36						
	comp=Z,42nm,0.7s						
LPAZ	La Paz	47.82	309	P	P	12 13 16.6	0.0
LPAZ	La Paz	47.82	309	*e*P	P	12 13 18.2	+1.5
BOSA	Boshof	47.84	81	P	P	12 13 14.9	-1.2
	comp=Z,15nm,1.0s,baz=237,slow=7.8,SNR=7.3						
BOSA				LR	LR	12 30 43.6	
	comp=Z,311nm,18.1s,baz=203,slow=33						
	comp=Z,15nm,1.0s						
BOSA	Boshof	47.84	81	P	P	12 13 15.7	-0.5
CLDB	Colider	47.92	326	*e*P	P	12 13 16.3	-0.5
H10N1	ASCENSION HYDR	48.59	22	T	T	13 05 51.5	
	baz=192,slow=75,SNR=12						
H10N3	ASCENSION HYDR	48.59	22	T	T	13 05 52.6	
	baz=192,slow=75,SNR=13						
H10N2	ASCENSION HYDR	48.60	22	T	T	13 05 54.0	
	baz=192,slow=75,SNR=17						
RCBR	Riachuelo	48.90	354	LR	LR	12 31 10.2	
	comp=Z,468nm,18.6s,baz=324,slow=33						
PRPB	Parauapebas	50.72	336	*e*P	P	12 13 38.8	+0.7
LBTB	Lobatse	50.79	78	LR	LR	12 32 29.7	
	comp=Z,123nm,18.2s,baz=220,slow=33						
LBTB	Lobatse	50.79	78	P	P	12 13 38.1	-0.6
TSUM	Tsumeb	51.04	66	LR	LR	12 31 30.1	
	comp=Z,134nm,18.2s,baz=151,slow=32						
TSUM	Tsumeb	51.04	66	P	P	12 13 39.8	-0.8
NPGB	Novo Progresso	51.39	328	*e*P	P	12 13 42.9	-0.2
SAML	Samuel	52.33	318	P	P	12 13 49.6	-0.5
SAML				IAmb	IAmb	12 14 02.7	
	comp=Z,39nm,1.2s						
ETMB	Extrema	52.75	314	P	P	12 13 53.6	+0.3
ETMB				IAmb	IAmb	12 14 06.0	
	comp=Z,46nm,1.6s						
ETMB	Extrema	52.75	314	*e*P	P	12 13 53.2	0.0
TMAB	Tom-Au,PA,Br	54.01	339	*e*P	P	12 14 02.5	0.0
ITTB	Itaituba	54.04	329	*e*P	P	12 14 02.7	-0.1
NNA	Nana	55.68	302	P	P	12 14 14.2	-0.5
MALB	Monte Alegre	56.01	332	*e*P	P	12 14 16.8	-0.2
MACA	Manacapuru-AM	56.77	324	P	P	12 14 21.3	-1.1
MACA				IAmb	IAmb	12 14 33.8	
	comp=Z,36nm,1.1s						
CZSB	Cruzeiro do Su	57.43	309	P	P	12 14 26.7	-0.4
CZSB				IAmb	IAmb	12 14 27.5	
	comp=Z,28nm,1.0s						
CZSB	Cruzeiro do Su	57.43	309	*e*P	P	12 14 23.6	-3.5
LSZ	Lusaka	60.01	73	LR	LR	12 38 26.4	
	comp=Z,577nm,18.2s,baz=222,slow=34						
RPN	Rapa Nui	61.69	262	LR	LR	12 37 28.2	
	comp=Z,90nm,19.5s,baz=0.5,slow=32						
BOAV	Boa Vista	61.91	326	P	P	12 14 57.0	-0.9
BOAV				IAmb	IAmb	12 14 58.2	
	comp=Z,26nm,1.6s						
BOAV	Boa Vista	61.91	326	*e*P	P	12 14 56.4	-1.5
MDP	Montagnes des	62.27	336	LR	LR	12 39 44.5	
	comp=Z,464nm,20.6s,baz=128,slow=34						
MCRA	Macar, Loja	63.78	303	P	P	12 15 10.7	+0.2
MCRA				IAmb	IAmb	12 15 12.0	
	comp=Z,16nm,0.8s						
BOSC	San Juan Bosco	64.14	305	P	P	12 15 13.2	+0.2
LIC	Lamto	64.48	29 ⇑	*e*P	P	12 15 14.0	-1.0
	comp=Z,79nm,0.6s						
ARNL	Arenillas	64.55	303	P	P	12 15 15.1	-0.4
KIC	Kosan Boka	64.69	29 ⇓	*i* P	P	12 15 15.9	-0.4
	comp=Z,13nm,0.7s						
TIC	Toumodi	64.89	29 ⇓	*i* P	P	12 15 17.1	-0.5
	comp=Z,16nm,0.4s						
DBIC	Dimbokro	64.96	29	P	P	12 15 17.6	-0.5
	comp=Z,12nm,0.8s,baz=193,slow=7.0,SNR=13						
DBIC				LR	LR	12 37 14.4	
	comp=Z,285nm,18.9s,baz=204,slow=30						
	comp=Z,12nm,0.8s						
DBIC	Dimbokro	64.96	29	P	P	12 15 18.1	+0.1
OTAV	Otavalo	67.09	307	P	P	12 15 32.4	-0.1
OTAV				IAmb	IAmb	12 15 35.1	
	comp=Z,48nm,1.6s						
OTAV	Otavalo	67.09	307	*e*P	P	12 15 26.5	-5.9
OPO	Ambohidratompo	68.27	92	LR	LR	12 40 06.9	
	comp=Z,119nm,20.4s,baz=40,slow=31						
ROSC	El Rosal	69.36	313	LR	LR	12 46 23.2	
	comp=Z,179nm,21.0s,baz=168,slow=36						
ROSC	El Rosal	69.36	313	P	P	12 15 47.1	+0.6
ROSC				IAmb	IAmb	12 16 38.5	
	comp=Z,58nm,1.8s						
BBTS	Babate	70.19	15	LR	LR	12 40 51.3	
	comp=Z,455nm,18.9s,baz=217,slow=31						
PCRV	Puerto La Cruz	70.56	325	LR	LR	12 47 04.1	
	comp=Z,315nm,19.7s,slow=36						
BAUV	El Baul	70.61	321	P	P	12 15 53.8	+0.1
BAUV				IAmb	IAmb	12 15 54.1	
	comp=Z,36nm,1.1s						
SDV	Santo Domingo	71.53	318	LR	LR	12 50 36.7	
	comp=Z,856nm,18.0s,baz=110,slow=38						
SDV	Santo Domingo	71.53	318	P	P	12 16 00.0	+0.5
SDV				IAmb	IAmb	12 16 00.6	
	comp=Z,17nm,0.8s						
SDV	Santo Domingo	71.53	318	*e*P	P	12 15 55.0	-4.5
KOWA	Kowa	72.66	27	LR	LR	12 41 08.3	
	comp=Z,455nm,21.4s,baz=222,slow=30						
KOWA	Kowa	72.66	27	P	P	12 16 05.7	-0.2
KOWA				IAmb	IAmb	12 16 19.1	
	comp=Z,41nm,1.4s						
TOA0	Torodi Ar. Sit	73.06	33	P	P	12 16 07.3	-1.1
TOA0				IAmb	IAmb	12 16 09.5	
	comp=Z,28nm,0.9s						
TORD	Torodi Ar. Bea	73.06	33	P	P	12 16 08.2	-0.2
	comp=Z,20nm,0.7s,baz=200,slow=6.5,SNR=78						
TORD				LR	LR	12 42 38.8	
	comp=Z,490nm,18.0s,baz=197,slow=31						
	comp=Z,20nm,0.7s						
MBAR	Mbarara	73.56	67	LR	LR	12 45 24.1	
	comp=Z,470nm,18.4s,baz=230,slow=33						
MBAR	Mbarara	73.56	67	P	P	12 16 11.9	+0.3
MBAR				IAmb	IAmb	12 16 26.6	
	comp=Z,36nm,1.4s						
MBAR	Mbarara	73.56	67	IAMs_20	IAMs_20	12 45 13.0	
	comp=Z,553nm,19.0s						
GDHS	Morne Mazeau,	75.39	330	P	P	12 16 22.0	0.0
KIBK	Kibwezi	76.11	74	P	P	12 16 26.6	+0.3
KIBK				IAMs_20	IAMs_20	12 47 37.9	
	comp=Z,436nm,19.0s						
KMBO	Kilima Mbogo	76.67	73	LR	LR	12 48 15.7	
	comp=Z,560nm,18.0s,baz=93,slow=34						
SRBA	San Rafael, Bu	77.28	307	P	P	12 16 31.5	-1.3
SRBA				IAmb	IAmb	12 16 34.9	
	comp=Z,19nm,1.3s						
SJG	San Juan	78.48	326	LR	LR	12 50 22.4	
	comp=Z,147nm,21.4s,baz=148,slow=35						
JTS	Las Juntas de	78.95	306	P	P	12 16 43.1	+1.1
JTS				IAmb	IAmb	12 16 43.6	
	comp=Z,34nm,1.2s						
LODK	Lodwar	79.41	69	P	P	12 16 44.0	-0.7
LODK				IAMs_20	IAMs_20	12 48 30.1	
	comp=Z,462nm,19.0s						
RPZ	Rata Peaks	80.15	196	LR	LR	12 48 21.5	
	comp=Z,222nm,20.7s,baz=138,slow=33						
ACON	Acoyapa	80.52	306	P	P	12 16 50.2	-0.2
ACON				IAmb	IAmb	12 17 02.3	
	comp=Z,28nm,0.9s						
TAM	Tamanrasset	83.31	34	IAMs_20	IAMs_20	12 46 38.8	
	comp=Z,378nm,20.0s						
URZ	Urewera	84.29	202	LR	LR	12 49 55.8	
	comp=Z,148nm,21.6s,baz=250,slow=32						
FURI	Furi	85.77	68	IAMs_20	IAMs_20	12 52 54.6	
	comp=Z,374nm,20.0s						
TBI	Tubuai	86.16	234	*e*LR	LR	12 44 33.1	
	comp=Z,177nm,28.8s						
TEIG	Tepich	89.15	308	P	P	12 17 34.2	+0.5
MDT	Midelt	90.10	22	P	P	12 17 39.5	+1.5
	comp=Z,2.7nm,0.8s,baz=246,slow=6.2,SNR=6.7						
MDT				LR	LR	12 51 52.9	
	comp=Z,594nm,21.1s,baz=184,slow=32						
	comp=Z,2.7nm,0.8s						
ATD	Arta Tun

CLL eSS SS 12 39 48.0 +15
CLL ex x 12 40 48.0
CLL e(SSS) 12 43 12.0
CLL Lm MLR 13 05 00.0
comp=Z,200nm,20.3s
S22A 4UR Ranch, Cre 112.56 304 P PKiKP 12 23 15.0 +0.5
baz=143
WUAZ Wupatki 113.06 299 P PKiKP 12 23 16.3 +0.9
baz=142
IKP In-Ko-Pah, Jac 113.29 294 P PKiKP 12 23 17.2 +1.4
baz=141
MONP2 Monument Peak 113.64 294 P PKiKP 12 23 17.7 +1.2
baz=141
BC3 Big Chuckawall 113.72 295 P PKiKP 12 23 17.7 +1.1
baz=141
IRM Iron Mountain 113.95 296 P PKiKP 12 23 18.0 +1.1
baz=141
TPFO Pinon Flats 114.21 294 P PKiKP 12 23 18.4 +0.9
baz=141
PFO Pinyon Flats O 114.22 294 P PKiKP 12 23 18.4 +0.8
baz=141
BELC Belle Mtn. Jos 114.27 295 P PKiKP 12 23 18.6 +1.0
baz=141
GMRC Granite Mounta 114.70 296 P PKiKP 12 23 19.6 +1.1
baz=141
TUQ Turquoise Moun 115.34 296 P PKiKP 12 23 20.3 +0.6
baz=140
GSC Goldstone, Bar 115.70 295 P PKiKP 12 23 21.3 +1.1
baz=140
MYKOM Kota Tinggi 115.75 128 IAMs_20 IAMs_20 13 03 55.2
comp=Z,155nm,18.0s
SHPR Sheep Range 115.76 297 PKiKP 12 23 21.7 +1.2
MVU Marysvale 115.80 301 PKiKP 12 23 21.4 +0.8
EDW2 Edwards Air Fo 116.00 294 P PKiKP 12 23 21.9 +1.0
baz=140
SCZ2 Santa Cruz Isl 116.20 292 P PKiKP 12 23 22.1 +0.9
baz=140
QSM Queen of Sheba 116.24 296 PKiKP 12 23 22.1 +0.9
RSSD Black Hills 116.29 310 P PKiKP 12 23 22.9 +1.6
baz=142
LRMC Laurel Mtn Rad 116.30 295 P PKiKP 12 23 22.7 +1.2
baz=140
GWY Greenwater Val 116.30 296 PKiKP 12 23 21.9 +0.4
PRN Pahroc Range 116.39 298 PKPdf PKiKP 12 23 22.5 +0.9
AKASG Malin Array Be 116.45 38 PKP PKPdf 12 23 19.6 -1.5
comp=Z,0.2nm,0.3s,baz=247,slow=1.2,SNR=4.3
FURC Furnace Creek, 116.62 296 P PKiKP 12 23 23.3 +1.5
baz=140
MPMC Manual Prospec 116.63 295 P PKiKP 12 23 23.5 +1.3
baz=140
TPNV Topopah Spring 116.66 297 PKiKP 12 23 23.3 +1.1
TPNV Topopah Spring 116.66 297 P PKiKP 12 23 23.2 +1.0
baz=140
WCT Wildcat Mounta 116.74 296 PKiKP 12 23 23.2 +0.9
ISA Isabella, Lake 116.85 294 PKPdf PKiKP 12 23 23.4 +0.9
ISA Isabella, Lake 116.85 294 P PKiKP 12 23 23.9 +1.4
baz=140
PKM Mcpherson Peak 116.98 293 P PKiKP 12 23 24.0 +1.1
baz=140
CWC Cottonwood Cre 117.23 295 P PKiKP 12 23 24.9 +1.5
baz=140
SPR3 Spring Creek 3 117.24 299 PKPdf PKPdf 12 23 22.9 -0.6
VES Vestal, Richgr 117.31 294 P PKiKP 12 23 24.2 +1.0
baz=139
R11A Troy Canyon, C 117.39 298 P PKiKP 12 23 24.7 +1.1
baz=140
DUG Dugway, Tooele 117.39 301 P PKiKP 12 23 24.4 +0.9
baz=140
GMN Gold Mountain 117.46 296 PKPdf PKiKP 12 23 24.7 +0.8
PDAR Pinedale Array 117.78 305 PKP PKPdf 12 23 23.2 -1.0
comp=Z,0.4nm,0.6s,baz=140,slow=4.8,SNR=4.3
PDAR PKKPbc PKKPbc 12 33 44.3 +0.1
comp=Z,0.5nm,0.9s,baz=22,slow=1.6,SNR=3.7
PDAR Pinedale Array 117.78 305 PKPdf PKPdf 12 23 22.9 -1.3
ULM Lac du Bonnet 117.78 319 PKP PKPdf 12 23 22.6 -1.1
comp=Z,1.3nm,0.5s,baz=110,slow=1.4,SNR=2.9
MZP Montezuma Peak 117.82 296 PKiKP 12 23 25.6 +1.1
HWUT Hardware Ranch 117.86 303 PKPdf PKiKP 12 23 24.7 +0.3
MDPB Devils Postpil 118.66 295 PKiKP 12 23 26.4 +0.2
NV11 Mina Array Sit 118.77 297 PKPdf 12 23 26.1 -0.1
NVAR Mina Array Bea 118.85 296 PKP PKiKP 12 23 27.4 +1.0
comp=Z,2.2nm,0.9s,baz=141,slow=2.7,SNR=11
LOHW Long Hollow 118.92 305 PKiKP 12 23 26.6 +0.2
LOHW IAMs_20 IAMs_20 13 15 24.3
comp=Z,254nm,22.0s
TPAW Teton Pass 118.99 305 PKPdf 12 23 26.1 -0.5
ELK Elko 119.02 300 PKPdf PKPdf 12 23 26.7 0.0
HRA Herat 119.03 71 PKPdf PKPdf 12 23 25.9 -1.0
MOOW Moose Ponds 119.09 305 PKiKP 12 23 26.8 +0.1
MNK Minsk 119.13 35 *i* PKP PKiKP 12 23 27.3 +1.2
comp=E,1.0nm,0.8s,baz=215
MNK *i* PKP PKiKP 12 23 27.3 +1.2
MNK *i* PKP PKiKP 12 23 27.3 +1.2
comp=Z,7.0nm,0.8s
MNK *i* PP PP 12 24 48.3 +1.1
MNK *i* PPP PPP 12 27 19.9
MNK *i* SKS SKKSac 12 31 42.1 -3.9
MNK *i* SKKS Sdif 12 32 31.7 -4.2
MNK *i* PS PS 12 34 36.8 +2.7
MNK *i* SS SS 12 41 12.1 +4.1
MNK *i* SSS SSS 12 43 30.3
MNK *i* LQ LQ 13 04 04.8
MNK *i* LR LR 13 09 33.4
MNK *i* LRM MLR 13 13 51.1
comp=E,53nm,19.4s
MNK *i* LRM MLR 13 14 03.7
comp=Z,120nm,19.1s
MNK *i* LRM MLR 13 14 38.0
FXWY Fox Creek 119.14 305 PKiKP 12 23 27.5 +0.6
KVN Kaiserville 119.21 297 PKPdf PKPdf 12 23 26.5 -0.5
LAO LASA Array 119.25 310 PKPdf PKPdf 12 23 26.6 -0.1
IMW Indian Meadow 119.29 305 PKPdf PKPdf 12 23 27.2 0.0
RLMT Red Lodge 119.44 307 P PKiKP 12 23 28.2 +0.8
baz=139
CMB Columbia Colle 119.64 295 PKiKP 12 23 28.2 +0.4
HFS Hagfors 119.92 24 PKP PKPdf 12 23 26.1 -1.4
comp=Z,1.7nm,0.7s,baz=149,slow=3.5,SNR=4.5
NB2 NORSAR Subarra 120.16 22 PKPdf PKPdf 12 23 27.9 -0.1
comp=Z,3.5nm,1.4s,baz=202,slow=1.9
NOA NORSAR Array B 120.16 22 PKP PKPdf 12 23 27.6 -0.3
comp=Z,1.3nm,0.7s,baz=208,slow=2.1,SNR=6.7
AFDM Forest Hills D 120.63 295 PKPdf PKiKP 12 23 30.1 +0.4
HLID Hailey 120.71 303 PKiKP 12 23 30.5 +0.6
HLID Hailey 120.71 303 P PKiKP 12 23 30.8 +0.9
baz=138
BOZ Bozeman (W) 120.89 306 P PKiKP 12 23 30.9 +0.8
baz=138
BEKR Beckworth 120.98 296 PKPdf PKiKP 12 23 30.8 +0.2
LRM Limekiln Ridge 121.45 306 PKPdf PKiKP 12 23 32.1 +0.7
EGMT Eagleton 121.84 309 P PKiKP 12 23 33.1 +1.2
baz=138
WVOR Wild Horse Val 121.98 299 PKiKP 12 23 33.4 +1.0
MOD Modoc Plateau 122.44 298 PKPdf PKiKP 12 23 34.3 +0.9
J08A Circle Bar Ran 122.57 300 PKPdf PKiKP 12 23 34.1 +0.6
OBN Obninsk 122.65 39 IAMs_20 IAMs_20 13 24 49.1
comp=Z,160nm,21.0s
MSO Missoula 122.89 306 PKPdf PKPdf 12 23 33.5 -0.3
MSO Missoula 122.89 306 P PKiKP 12 23 34.3 +0.3
baz=137
BMO Blue Mountains 123.07 302 PKiKP 12 23 34.8 +0.4
K05A Summer Lake 123.34 298 PKPdf PKiKP 12 23 36.0 +0.8
YBH Yreka Blue Hor 123.56 296 PKiKP 12 23 35.4 0.0
I07A Izee 123.61 300 PKPdf PKiKP 12 23 36.5 +1.0
L04D Klamath Falls 123.70 297 P PKiKP 12 23 35.9 +0.1
baz=136
J05D Fort Rock, OR 123.92 298 P PKiKP 12 23 36.4 +0.3
baz=136
G08A Pilot Rock 124.20 301 PKPdf PKiKP 12 23 37.1 +0.4
FINES FINESS Array B 124.25 29 PKP PKPdf 12 23 35.4 -0.3
comp=Z,6.8nm,0.7s,baz=174,slow=2.0,SNR=21
L02F Cave Junction 124.29 296 P PKiKP 12 23 37.2 +0.4
baz=136
J04D Umpqua Nationa 124.33 298 P PKiKP 12 23 37.2 +0.1
baz=136
E09A Wood Farm, Sta 124.67 303 PKiKP 12 23 37.3 -0.1
I05D Terrebonne, OR 124.72 299 P PKiKP 12 23 38.7 +1.1
baz=135
K02D Willamette Mer 124.75 296 P PKiKP 12 23 38.3 +0.5
baz=135
KKM Kota Kinabalu 124.78 139 IAMs_20 IAMs_20 13 08 02.0
comp=Z,166nm,19.0s
I04A Tendick Farm, 124.88 298 P PKiKP 12 23 38.6 +0.6
baz=135
J01E Myrtle Point 125.22 297 P PKiKP 12 23 39.5 +1.0
baz=135

I03D Drain, OR 125.29 297 P PKiKP 12 23 39.4 +0.8
baz=135
H04A Detroit Lake 125.39 299 PKPdf 12 23 38.6 +0.1
NEW Newport 125.42 305 P PKiKP 12 23 39.6 +0.8
baz=135
H04D Lebanon 125.56 298 P PKiKP 12 23 40.5 +1.3
baz=135
I02E Swisshome, OR 125.84 297 P PKiKP 12 23 41.5 +1.8
baz=134
PYUN Piuthan 126.17 91 *e*P PKPdf 12 23 39.9 -0.9
comp=Z,32nm,0.9s
KOLN Koldanda 126.28 92 *e*P PKPdf 12 23 39.7 -1.3
comp=Z,4.5nm,0.9s
LTY Liberty 126.43 302 PKPdf 12 23 40.6 +0.1
B08A Colville Reser 126.54 304 PKPdf PKiKP 12 23 41.0 -0.1
DANN Dangsing 126.81 92 *e*P PKPdf 12 23 41.7 -0.4
comp=Z,41nm,0.8s
SUMG Summit 127.11 357 PKiKP 12 23 42.1 +0.1
EDM Edmonton 127.17 312 PKPdf PKPdf 12 23 41.1 -0.6
PKIN Phulchoki 127.17 94 *e*P PKPdf 12 23 42.1 -0.7
comp=Z,10nm,0.7s
PKI Pulchoki 127.18 94 *e*P PKPdf 12 23 42.1 -0.8
comp=Z,16nm,0.8s
RAMN Ramite 127.40 95 *e*P PKPdf 12 23 42.7 -0.5
comp=Z,27nm,0.8s
CMAR Chiang Mai Arr 127.60 113 PKP PKiKP 12 23 44.1 +0.1
comp=Z,1.5nm,0.8s,baz=222,slow=3.5,SNR=7.9
CMAR Chiang Mai Arr 127.60 113 PKPdf 12 23 41.9 -1.6
B06A Marblemount 127.69 303 PKPdf PKiKP 12 23 43.2 -0.1
JIRN Jiri 127.70 95 *e*P PKPdf 12 23 43.6 -0.3
comp=Z,30nm,0.7s
GUN Gumba 127.71 94 *e*P PKPdf 12 23 43.6 -0.3
BTK Batken 127.84 72 PKPdf PKiKP 12 23 43.8 -0.2
KLMR Klimovskoe 128.00 36 *e*PKPdf PKPdf 12 23 40.2 -2.7
KLMR AMP 12 23 55.3
comp=Z,21nm,1.5s
KLMR *e*PP PP 12 25 50.4 +3.6
NLWA Neilton Lookou 128.11 300 PKiKP 12 23 44.9 +0.7
ABKAR Akbulak array 128.44 57 PKPdf PKPdf 12 23 44.2 +0.1
MND Mandalay 128.95 108 PKPdf 12 23 46.2 +0.2
KK31 Karatay Array 129.76 69 PKPdf PKPdf 12 23 46.8 -0.1
KKAR Karatay Array 129.76 69 PKPdf 12 23 46.8 -0.1
KSH Kashi 130.34 76 PKP PKPdf 12 23 48.3 0.0
ARCES ARCESS Array B 130.53 23 PKP PKPdf 12 23 47.6 +0.1
comp=Z,14nm,0.8s,baz=222,slow=1.6,SNR=31
AAK Ala-Archa 131.62 72 PKPdf PKiKP 12 23 51.2 -0.4
ARU Arti 132.45 49 PKPdf PKPdf 12 23 51.5 0.0
YKA Yellowknife Ar 133.73 320 PKP PKPdf 12 23 53.8 +0.1
comp=Z,5.1nm,0.6s,baz=126,slow=2.3,SNR=24
YKA Yellowknife Ar 133.73 320 PKPdf PKPdf 12 23 53.9 +0.2
PZH PanZhiHua 135.61 110 PKP PKiKP 12 23 59.6 -0.6
BRVK Borovoye 135.89 58 PKPdf PKPdf 12 23 58.6 +0.5
DLBC Dease Lake 137.77 309 P PKiKP 12 24 02.9 -0.6
baz=122
GYA Guiyang 138.21 115 ⇓PKP PKPdf 12 23 58.0 -5.4
MK31 Makanchi Array 138.55 72 PKPdf PKPdf 12 24 02.2 -1.0
MKAR Makanchi Array 138.55 72 PKhKP PKPpre 12 23 54.2
comp=Z,1.1nm,0.7s,baz=242,slow=3.6,SNR=4.1
MKAR PKP PKPdf 12 24 02.6 -0.6
comp=Z,2.4nm,0.7s,baz=267,slow=1.6,SNR=12
MKAR PP PP 12 26 55.1 +0.5
comp=Z,0.2nm,0.4s,baz=253,slow=8.9,SNR=3.3
MKAR Makanchi Array 138.55 72 PKPdf PKPdf 12 24 02.0 -1.3
R33M Jennings River 138.68 310 P PKPdf 12 24 04.0 +0.8
baz=120
KURK Kurchatov 138.83 65 PKPdf PKPdf 12 24 03.4 -0.1
GOMU GeErMu 138.91 94 PKP PKiKP 12 24 06.5 -0.4
GOMU AMB AMB
comp=Z,52nm,5.0s
WMQ Urumqi 139.80 80 *e*PKP PKiKP 12 24 07.5 -0.6
CD2 Chengdu 140.14 108 PKP PKPdf 12 24 06.4 -0.3
INK Inuvik 143.39 323 PKhKP PKPpre 12 24 08.3
comp=Z,5.1nm,0.9s,baz=152,slow=2.7,SNR=5.8
ZALV Zalesovo Beam 143.75 64 PKP PKPab 12 24 09.5 +0.3
comp=Z,5.1nm,0.6s,baz=243,slow=3.9,SNR=22
GTA Gaotai 143.99 94 ⇓PKP PKPab 12 24 10.9 +0.1
GTA pPKP PKiKP 12 24 21.1 +4.2
LZH Lanzhou 144.02 102 *e*PKP PKPab 12 24 10.1 -0.9
LZH pPKP PKiKP 12 24 17.4 +0.3
CTGM Chitina Glacie 144.02 309 PKPdf PKPbc 12 24 11.5 +0.7
DAWY Dawson 144.28 314 PKPbc 12 24 11.3 -0.1
TGL Tana Glacier 144.62 308 PKPbc 12 24 12.9 +0.3
M27K Edge Creek, AK 144.76 311 PKPbc 12 24 13.5 +0.4
M27K Edge Creek, AK 144.76 311 P PKPbc 12 24 13.2 +0.1
baz=110,SNR=14
MCARA McCarthy VSAT 144.93 309 PKPdf 12 24 14.2 0.0
MCARA McCarthy VSAT 144.93 309 P PKPbc 12 24 13.7 +0.2
baz=111
BCAR Beaver Creek A 144.96 312 PKPab 12 24 13.3 -0.3
L27K Beaver Creek, 144.98 312 PKPbc 12 24 13.6 -0.1
L27K Beaver Creek, 144.98 312 P PKPab 12 24 13.8 +0.2
baz=109,SNR=24
KAIM Kayak Island 145.05 306 P PKPdf 12 24 14.7 +0.3
baz=112
HMT Hamilton 145.13 307 PKPdf 12 24 15.0 +0.4
EGAK Eagle 145.23 315 PKPbc 12 24 14.1 -0.2
EGAK Eagle 145.23 315 P PKPbc 12 24 13.8 -0.5
baz=107,SNR=10
M26K Nabesna, AK 145.27 311 PKPbc 12 24 14.1 -0.5
M26K Nabesna, AK 145.27 311 P PKPbc 12 24 14.2 -0.4
baz=109
RAGM Ragged Mountai 145.34 307 PKPab 12 24 15.2 +0.2
XAN Xi'an 145.35 110 ⇑PKPbc PKPbc 12 24 15.8 +0.1
K27K Chicken 145.39 314 PKPbc PKPab 12 24 15.3 +0.3
K27K Chicken 145.39 314 P PKPab 12 24 15.4 +0.3
baz=108
WHN Wuhan 145.46 120 ⇓PKPbc PKPdf 12 24 15.6 -0.4
BMRM Bremner River 145.51 308 PKPab 12 24 16.4 +0.7
BMRM Bremner River 145.51 308 P PKPbc 12 24 15.5 +0.1
baz=110
L26K Log Cabin Wild 145.62 312 PKPab 12 24 16.3 +0.3
L26K Log Cabin Wild 145.62 312 P PKPbc 12 24 15.8 +0.1
baz=108,SNR=14
I27K Kandik River 145.65 316 P PKPab 12 24 16.0 -0.1
baz=106,SNR=26
N25K Chitina, Valde 145.72 309 PKPab 12 24 16.9 +0.4
N25K Chitina, Valde 145.72 309 P PKPab 12 24 16.4 -0.1
baz=109
H27K Steamboat Moun 145.78 318 P PKPbc 12 24 16.3 +0.2
baz=105,SNR=19
EYAK Cordova Ski Ar 145.89 307 PKPbc PKPab 12 24 17.3 +0.3
EYAK Cordova Ski Ar 145.89 307 P PKPab 12 24 16.9 0.0
baz=110
G27K Doyon Strip 145.98 319 P PKPbc 12 24 16.9 +0.3
baz=104,SNR=13
DIV Divide 146.10 308 PKPbc PKPab 12 24 17.8 -0.1
DOT Dot Lake 146.12 313 PKPbc PKPab 12 24 17.6 -0.3
J26L Joseph Creek 146.15 314 PKPbc PKPab 12 24 17.7 -0.3
J26L Joseph Creek 146.15 314 P PKPab 12 24 17.7 -0.3
baz=106,SNR=16
SCRK Sand Creek 146.18 313 PKPbc PKPbc 12 24 17.7 +0.2
SCRK Sand Creek 146.18 313 P PKPbc 12 24 17.6 +0.1
baz=106,SNR=10.0
I26K Coal Creek Min 146.19 316 P PKPab 12 24 17.7 -0.3
baz=105
E27K Taiwan River 146.27 321 P PKPbc 12 24 17.6 +0.1
baz=102,SNR=8.2
KLU Klutina 146.28 308 PKPab 12 24 18.9 +0.3
KLU Klutina 146.28 308 P PKPab 12 24 18.2 -0.4
baz=109,SNR=11
FID Port Fidalgo 146.30 307 PKPab 12 24 18.5 -0.1
RIDG Independent Ri 146.48 313 PKPbc PKPab 12 24 19.1 -0.1
RIDG Independent Ri 146.48 313 P PKPab 12 24 18.9 -0.4
baz=106,SNR=21
P23K Montague Islan 146.48 305 P PKPbc 12 24 18.7 +0.5
baz=110
PAX Paxson 146.53 311 PKPbc 12 24 18.3 -0.2
PAX Paxson 146.53 311 P PKPbc 12 24 18.4 -0.1
baz=107,SNR=26
M24K Tolsona, Glenn 146.59 309 PKPbc PKPab 12 24 20.0 +0.3
M24K Tolsona, Glenn 146.59 309 P PKPbc 12 24 19.1 +0.5
baz=108
GLI Glacier Island 146.63 307 PKPab 12 24 19.5 -0.3
GLI Glacier Island 146.63 307 P PKPbc 12 24 19.0 +0.3
baz=109
G26K Porcupine Rive 146.83 318 P PKPbc 12 24 19.5 +0.4
baz=102,SNR=5.7
K24K Donnelly Dome 146.89 312 P PKPbc 12 24 19.6 +0.2
baz=105,SNR=5.9
J25K Salcha River, 146.93 314 PKPbc 12 24 20.3 +0.7
J25K Salcha River, 146.93 314 P PKPbc 12 24 19.9 +0.3
baz=104,SNR=11
SCM Sheep Creek Mo 147.03 309 PKPab 12 24 21.0 -0.5
SCM Sheep Creek Mo 147.03 309 P PKPbc 12 24 20.3 +0.4
baz=107,SNR=11

F26K Sheenjek River 147.11 320 P PKPbc 12 24 20.6 +0.6
baz=101,SNR=7.3
M23K Glacier View 147.19 308 P PKPbc 12 24 20.5 +0.2
baz=107,SNR=7.9
PWL Port Wells 147.19 307 P PKPbc 12 24 20.6 +0.2
baz=108,SNR=8.6
PRP Porcupine Dome 147.21 316 P PKPbc 12 24 20.5 +0.1
baz=103,SNR=14
BMAR Burnt Mountain 147.23 319 PKPbc 12 24 21.1 +0.8
C27K Jago River 147.27 323 P PKPbc 12 24 20.7 +0.4
baz=98,SNR=6.9
DHY Denali Highway 147.40 311 P PKPbc 12 24 21.6 +0.6
baz=105,SNR=13
KNK Knik Glacier 147.42 308 PKPbc 12 24 21.1 +0.2
KNK Knik Glacier 147.42 308 P PKPbc 12 24 21.3 +0.4
baz=107
WAT6 Susitna Watana 147.42 310 P PKPbc 12 24 21.3 +0.2
baz=106,SNR=7.3
SML Sawmill 147.47 308 PKPbc 12 24 21.8 +0.6
SML Sawmill 147.47 308 P PKPbc 12 24 21.5 +0.4
baz=106,SNR=7.7
H25K Birch Creek 147.48 317 P PKPbc 12 24 21.6 +0.6
baz=102,SNR=7.9
SEW Seward 147.49 305 PKPbc 12 24 21.7 +0.7
SEW Seward 147.49 305 P PKPbc 12 24 21.3 +0.2
baz=108,SNR=7.3
HDA Harding Lake 147.54 313 PKPbc 12 24 21.6 +0.4
HDA Harding Lake 147.54 313 P PKPbc 12 24 21.1 -0.1
baz=104
ILAR Eielson Array 147.60 314 PKPbc PKPbc 12 24 21.1 -0.2
comp=Z,21nm,0.8s,baz=123,slow=1.7,SNR=114
LYN LuoYang 147.65 113 ⇓*i*PKPbc PKPbc 12 24 21.1 -1.3
LYN SS SS 12 46 57.3 +4.1
LYN LR LR
comp=Z,210nm,7.4s
F25K Christian Rive 147.66 319 P PKPbc 12 24 22.0 +0.5
baz=100,SNR=9.4
E25K Arctic Village 147.72 320 P PKPbc 12 24 22.1 +0.5
baz=93,SNR=14
C26K Camden Bay 147.72 324 P PKPbc 12 24 22.1 +0.6
baz=96
PMR Palmer 147.78 308 P PKPbc 12 24 22.0 +0.2
baz=106
WAT1 Susitna Watana 147.85 310 P PKPbc 12 24 22.0 -0.1
baz=105
POKR Poker Plat Res 147.90 315 P PKPbc 12 24 22.1 0.0
baz=102
RC01 Rabbit Creek A 147.92 307 P PKPbc 12 24 22.7 +0.4
baz=107
CCB Clear Creek Bu 147.96 314 PKPbc 12 24 22.3 0.0
BRSE Bradley Lake S 147.99 304 P PKPbc 12 24 22.8 +0.3
baz=108,SNR=5.4
COLA College 148.03 314 PKPbc 12 24 22.6 +0.2
COLA College 148.03 314 P PKPbc 12 24 22.1 -0.3
baz=102
TCOL CIGO, UAF Yank 148.03 314 P PKPbc 12 24 22.2 -0.2
baz=102,SNR=7.8
RND Reindeer 148.12 311 PKPbc 12 24 23.7 +0.8
D25K Kavik River 148.17 323 P PKPbc 12 24 22.9 +0.1
baz=96,SNR=6.1
G24K Hadweenzic Riv 148.22 317 P PKPbc 12 24 23.6 +0.7
baz=100,SNR=18
H24K Noodor Dome 148.23 316 P PKPbc 12 24 23.1 +0.1
baz=100,SNR=11
MCK McKinley 148.24 312 PKPbc 12 24 23.5 +0.4
MCK McKinley 148.24 312 P PKPbc 12 24 23.4 +0.4
baz=103,SNR=16
KDAK Kodiak Island 148.26 300 PKiKP 12 24 24.1 -0.8
KDAK Kodiak Island 148.26 300 P PKPbc 12 24 23.6 +0.4
baz=110
M22K Willow 148.28 308 P PKPbc 12 24 23.6 +0.5
baz=105,SNR=10
OHAK Old Harbor 148.42 299 PKiKP 12 24 24.7 -0.5
OHAK Old Harbor 148.42 299 P PKPbc 12 24 24.3 +0.7
baz=110,SNR=8.6
Q20K Shuyak Island 148.44 301 P PKPbc 12 24 24.2 +0.5
baz=109
NEA2 Nenana 148.48 313 PKPbc 12 24 23.4 -0.2
NEA2 Nenana 148.48 313 P PKPbc 12 24 23.2 -0.4
baz=102,SNR=26
SUA Susitna One 148.49 307 P PKPbc 12 24 24.3 +0.3
baz=105
F24K Squaw Lake 148.50 319 P PKPbc 12 24 24.3 +0.6
baz=98,SNR=12
CUT Chulitna 148.51 309 P PKPbc 12 24 24.0 +0.3
baz=104,SNR=6.3
BWN Browne 148.56 312 PKPbc 12 24 24.2 +0.3
SII Sitkinak Islan 148.64 297 P PKPbc 12 24 24.9 +0.6
baz=111
TRF Thorofare Moun 148.76 311 P PKPbc 12 24 24.6 0.0
baz=103,SNR=6.0
E24K Your Creek 148.79 320 P PKPbc 12 24 24.9 +0.4
baz=96,SNR=13
H23K Yukon River 148.90 316 P PKPbc 12 24 24.9 +0.2
baz=99,SNR=7.8
NJ2 Nanjing 148.91 124 *e*PKPbc PKPdf 12 24 21.5 -0.2
SKT Skwentna 148.98 308 P PKPbc 12 24 25.1 +0.1
baz=104,SNR=13
C24K Franklin Bluff 149.01 323 P PKPbc 12 24 25.2 +0.3
baz=94
D24K Happy Valley 149.02 322 P PKPbc 12 24 24.8 -0.1
baz=94
SPU Mount Spurr 149.02 306 PKPbc 12 24 25.5 +0.3
N20K Mount Spurr 149.10 306 P PKPbc 12 24 25.2 -0.3
baz=105
SPCR Spurr Chakacha 149.10 306 P PKPbc 12 24 25.2 -0.2
baz=105
CHIR Chirikof Islan 149.12 295 P PKPbc 12 24 25.7 +0.2
baz=112
Q19K Cape Douglas, 149.16 302 P PKPbc 12 24 25.5 -0.1
baz=108
RSO Redoubt South 149.16 305 PKPbc 12 24 26.0 +0.3
BPAW Bear Paw Mtn. 149.20 312 P PKPbc 12 24 25.5 -0.1
baz=101,SNR=40
E23K Chandalar 149.22 320 P PKPbc 12 24 25.8 +0.3
baz=96,SNR=7.2
G23K Bananza Creek 149.22 317 P PKiKP 12 24 26.6 -0.1
baz=97,SNR=22
TOLK Toolik Lake Re 149.25 321 PKPbc 12 24 26.0 +0.5
TOLK Toolik Lake Re 149.25 321 P PKPbc 12 24 26.1 +0.5
baz=94,SNR=24
MLY Manley 149.26 314 PKPbc 12 24 25.0 -0.7
MLY Manley 149.26 314 P PKPbc 12 24 25.2 -0.5
baz=100,SNR=16
NRIK Noril'sk 149.31 38 PKPbc PKPbc 12 24 25.6 0.0
comp=Z,13nm,0.9s,baz=51,slow=0.8,SNR=14
NRIK Noril'sk 149.31 38 PKPbc 12 24 26.0 +0.4
COLD Coldfoot 149.35 318 PKiKP 12 24 26.8 -0.1
COLD Coldfoot 149.35 318 P PKiKP 12 24 26.5 -0.4
baz=96,SNR=18
H22K Ishtalitna Cre 149.66 315 P PKPbc 12 24 27.1 +0.5
baz=98,SNR=16
D23K Nanushuk River 149.67 322 P PKiKP 12 24 27.1 -0.4
baz=93,SNR=5.9
C23K Itkillik River 149.69 323 P PKiKP 12 24 27.2 -0.3
baz=92
M20K Styx River 149.69 307 P PKPbc 12 24 26.7 -0.2
baz=103,SNR=14
I21K Tanana 149.81 314 P PKPbc 12 24 26.8 -0.1
baz=98,SNR=11
G22K Bettles 149.83 317 P PKPbc 12 24 27.1 +0.2
baz=96
O19K Port Alsworth 149.84 304 PKPbc 12 24 27.1 0.0
O19K Port Alsworth 149.84 304 P PKPbc 12 24 26.8 -0.3
baz=105,SNR=8.3
E22K Anaktuvuk Pass 150.04 320 P PKPbc 12 24 27.6 +0.1
baz=93
P18K Big Mountain, 150.07 302 P PKPbc 12 24 27.4 -0.3
baz=106,SNR=7.9
N19K Bonanza Creek 150.08 305 P PKPbc 12 24 27.5 -0.3
baz=104,SNR=16
R17K Ugashik Creek 150.14 298 P PKiKP 12 24 28.4 -0.3
baz=108,SNR=7.9
F22K John River 150.14 319 P PKiKP 12 24 28.6 0.0
baz=94,SNR=28
L20K Farewell, AK 150.17 308 P PKPbc 12 24 27.4 -0.5
baz=102,SNR=6.5
O18K Koktuh Hills 150.19 303 PKiKP 12 24 28.5 -0.4
O18K Koktuh Hills 150.19 303 P PKPbc 12 24 28.1 +0.1
baz=105,SNR=20
H21K Melozitna Rive 150.21 315 PKPbc PKiKP 12 24 28.5 -0.3
H21K Melozitna Rive 150.21 315 P PKiKP 12 24 28.4 -0.3
baz=97,SNR=26
M19K Big River Lodg 150.28 307 P PKPbc 12 24 28.4 +0.2
baz=102
K20K Telida 150.41 310 PKPbc 12 24 28.9 +0.4
K20K Telida 150.41 310 P PKPbc 12 24 28.6 +0.1

baz=100,SNR=16
L19K White Mountain 150.55 308 PKPbc PKPbc 12 24 29.1 +0.2
L19K White Mountain 150.55 308 P PKPbc 12 24 28.8 0.0
baz=101
J20K Nowinta River 150.58 312 PKiKP 12 24 29.4 -0.1
J20K Nowinta River 150.58 312 P PKPbc 12 24 29.0 +0.2
baz=98,SNR=7.1
G21K Allakaket 150.58 317 P PKiKP 12 24 29.4 -0.1
baz=95,SNR=14
Q16K King Salmon 150.58 300 P PKPbc 12 24 29.1 +0.1
baz=106,SNR=6.9
P17K Kvichak River 150.62 301 P PKPbc 12 24 29.0 0.0
baz=106
F21K Alatna River 150.62 318 P PKiKP 12 24 29.7 +0.2
baz=94,SNR=22
IMAR Indian Mountai 150.63 315 PKPbc **PKiKP 12 24 29.3 -0.3**
BTO Baotou 150.64 102 *e*PKPbc **PKPbc 12 24 28.0 -1.9**
N18K Kilae Creek 150.72 304 P **PKPbc 12 24 29.1 -0.2**
baz=103,SNR=5.4
CHGN Chignik 150.76 295 PKiKP 12 24 29.8 -0.3
CHGN **sPKPab 12 24 39.1 +0.7**
CHGN Chignik 150.76 295 P PKPbc 12 24 29.3 -0.2
baz=109
CNBA Chernabura Isl 150.87 292 PKPbc PKiKP 12 24 29.4 -0.3
CNBA PKPab **pPKPab 12 24 37.9 -0.5**
CHNA Chernabura Isl 150.88 292 P PKPbc 12 24 29.8 +0.1
baz=111
HNS HongShan 150.98 112 ⇑PKPbc **PKPbc 12 24 30.8 +0.2**
O17K Koliganek Bris 151.09 302 P PKPbc 12 24 30.2 +0.1
baz=104,SNR=12
S14K Fog Glacier 151.35 294 P PKiKP 12 24 31.4 -0.1
baz=109
TIA Tai'an 151.36 117 ⇑PKPbc **PKPbc 12 24 31.4 -0.2**
SDPT Sand Point 151.53 292 P PKPbc 12 24 31.3 +0.1
baz=110
O16K Kokwok River B 151.54 302 P PKiKP 12 24 31.8 +0.3
baz=104
A21K Barrow 151.62 327 P PKiKP 12 24 32.3 +0.9
baz=83
HHC Hu-ho-hao-te 151.68 104 *e*PKPbc **PKPdf 12 24 22.8 -3.2**
GCSA Galena City Sc 151.82 313 P PKiKP 12 24 32.7 +0.7
baz=95,SNR=5.3
N16K Nishlik Lake 152.06 303 P PKiKP 12 24 33.5 +0.8
baz=102,SNR=5.4
SONM Songino Array 152.84 87 PKPbc **PKPbc 12 24 34.1 -0.5**
comp=Z,9.1nm,0.6s,baz=205,slow=3.2,SNR=6.1
SONM Songino Array 152.84 87 PKPdf **PKPdf 12 24 26.4 -1.1**
SONM **PKPbc 12 24 34.5 -0.2**
SONM PKPab **PKPab 12 24 45.8 0.0**
ULN Ulaanbaatar 153.23 87 PKPdf **PKPdf 12 24 27.1 -1.0**
ULN PKPbc **PKPbc 12 24 35.4 -0.2**
ULN PKPab **PKPab 12 24 47.5 -0.1**
BJT Baijiatuau 153.66 110 PKPdf **PKPdf 12 24 29.6 +0.9**
BJT PKPbc **PKPbc 12 24 36.6 0.0**
BJT PKPab **PKPab 12 24 49.2 -0.2**
BJI Beijing 153.68 110 PKPbc **PKPdf 12 24 30.1 +1.3**
XLT XiLinHaoTe 156.20 103 *e*PKP **PKPdf 12 24 34.6 +2.4**
XLT PKPab **PKPab 12 25 00.3 +0.1**
XLT PP **PP 12 28 45.3 +7.0**
XLT AMB AMB
comp=Z,150nm,6.2s
KSAR Wonju Array Be 157.51 132 PKPdf **PKPdf 12 24 33.3 -0.7**
KSAR PKPab **PKPab 12 25 05.0 -0.8**
KSRS Korea Array 157.54 132 PKP **PKPdf 12 24 33.3 -0.7**
comp=Z,1.9nm,1.0s,baz=211,slow=1.8,SNR=8.3
KSRS PKPab **PKPab 12 25 06.0 0.0**
comp=Z,5.0nm,1.0s,baz=215,slow=4.4,SNR=14
TIXI Tiksi 160.93 19 PKPdf **PKPdf 12 24 36.3 -0.6**
TIXI PKPab **pPKPab 12 25 20.6 -0.4**
USRK Ussuriysk Ar. 164.79 127 PKPdf **PKPdf 12 24 41.1 -0.4**
USRK PKPab **PKPab 12 25 37.0 -0.5**

INET 16 12:16:34.4±0.6, 12°43N×86°62W, h6km±4km, MW2.7, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOMN	**Momotombo**	**0.08**	**103**	*e*P		Pg	12 16 37.1	+0.7
CNGN	**Cerro Negro**	**0.10**	**314**	*e*P		Pg	12 16 36.5	-0.3
CNGN				*e*S		Sg	12 16 38.4	+0.1
COPN	**Copaltepe**	**0.25**	**173**	*e*P		Pg	12 16 39.4	+0.1
TEL3	**Telica 3**	**0.26**	**304**	*e*P		Pg	12 16 40.5	+0.9
HUEN		**0.45**	**101**	*e*P		Pg	12 16 43.9	+0.8
CRIN	**San Cristobal**	**0.50**	**303**	*e*P		Pg	12 16 44.4	+0.3
MATN	**Matagalpa**	**0.84**	**54**	*e*P		Pg	12 16 50.1	-0.6
BOAB	**BOACO BROADBAN**	**0.93**	**89**	*e*P		Pg	12 16 51.7	-0.6
BOAB	**BOACO BROADBAN**	**0.93**	**89**	P		Pg	12 16 51.9	-0.5
CSGN	**Cosiguina Volc**	**1.06**	**301**	*e*P		Pg	12 16 54.3	-0.6
RCON	**San Juan de Ri**	**1.15**	**23**	*e*P		Pg	12 16 56.0	-0.5

*HVO **16** 12:27:36.8±0.9, 19°21N±0°03×155°48W±0°02, h36km±4km, Md2.5/31, ML2.6/46(NEIC), Error ellipse: s-maj=5.1km s-min=2.4km az=160.0*

NEIC 16 12:27:35.2±0.8, 19°22N±0°03×155°48W±0°02, h41km±3km, Error ellipse: s-maj=4.1km s-min=2.4km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.08**	**80**		Pn	12 27 42.4	+0.5
KHU	**Kahuku**	**0.13**	**280**		Pn	12 27 42.6	+0.2
KHU				Sn	Sn	12 27 46.9	-0.5
AIN	**Ainahou**	**0.15**	**9**		Pn	12 27 43.0	+0.5
AIN				Sn	Sn	12 27 47.5	0.0
AIN				IAML		12 27 47.7	
	comp=E,759nm,0.3s						
AIN				IAML		12 27 48.2	
	comp=N,595nm,0.2s						
HLP	**Hilina Pali**	**0.18**	**66**		Pn	12 27 43.0	+0.4
HLP				IAML		12 27 46.7	
	comp=E,444nm,2.4s						
HLP				Sn	Sn	12 27 47.6	-0.1
HLP				IAML		12 27 49.5	
	comp=N,530nm,0.9s						
SDHHI	**Sand Hill**	**0.24**	**47**		Pn	12 27 43.4	+0.3
SDHHI				Sn	Sn	12 27 48.3	-0.4
WRMHI	**West Rim**	**0.25**	**43**		Pn	12 27 43.3	+0.1
WRMHI				Sn	Sn	12 27 48.5	-0.3
UWE	**Uwekahuna**	**0.27**	**42**		Pn	12 27 43.5	+0.1
UWE					Sn	12 27 48.9	-0.2
UWE				IAML		12 27 57.5	
	comp=N,670nm,0.9s						
KKO	**Keanakako`i**	**0.27**	**50**		Sn	12 27 48.4	-0.6
KKO	**Keanakako`i**	**0.27**	**50**		Pn	12 27 43.6	+0.2
KKO				IAML		12 27 50.4	
	comp=E,523nm,1.1s						
KKO				IAML		12 27 57.8	
	comp=N,900nm,1.4s						
OBL	**Observatory Le**	**0.27**	**44**		Pn	12 27 43.5	+0.1
OBL					Sn	12 27 48.2	-0.9
UWB	**Uwekahuna B**	**0.28**	**44**		Sn	12 27 48.4	-0.9
UWB	**Uwekahuna B**	**0.28**	**44**		Pn	12 27 43.4	0.0
BYL	**Byron's Ledge**	**0.28**	**48**		Pn	12 27 43.7	+0.2
BYL					Sn	12 27 48.9	-0.3
BYL				IAML		12 27 55.9	
	comp=N,396nm,1.2s						
MWH	**Moku'aweowe**	**0.28**	**337**		Pn	12 27 44.0	0.0
MLH	**Mauna Loa**	**0.28**	**19**		Sn	12 27 49.2	-0.4
MLH				IAML		12 27 49.6	
	comp=E,437nm,0.3s						
MLH				IAML		12 27 49.8	
	comp=N,544nm,0.4s						
MLH	**Mauna Loa**	**0.28**	**19**		Pn	12 27 44.0	+0.3
SBLHI	**Steaming Bluff**	**0.29**	**45**		Sn	12 27 48.6	-0.8
SBLHI	**Steaming Bluff**	**0.29**	**45**		Pn	12 27 43.5	-0.1
SBLHI				IAML		12 27 49.0	
	comp=N,539nm,0.3s						
SBLHI				IAML		12 27 50.5	
	comp=E,387nm,1.3s						
HATHI	**Halema'uma'u T**	**0.29**	**46**		Pn	12 27 43.6	0.0
HATHI					Sn	12 27 48.8	-0.6
HATHI				IAML		12 27 49.4	
	comp=N,492nm,0.5s						
PUH	**Pauahi**	**0.29**	**59**		Pn	12 27 43.6	0.0
PUH					Sn	12 27 48.7	-0.8
RSD	**Rainshed**	**0.31**	**39**		Pn	12 27 43.9	+0.1
RSD				Sn	Sn	12 27 49.0	-0.8
RSD				IAML		12 27 50.8	
	comp=N,343nm,1.2s						
MLOA	**Mauna Loa Obse**	**0.32**	**344**	Pn	Pn	12 27 44.4	+0.1
KNHH	**Kane Nui o Ham**	**0.33**	**62**		Pn	12 27 44.1	+0.1
KNHH					Sn	12 27 49.5	-0.7
ALEP	**Alea Permanent**	**0.35**	**334**		Pn	12 27 41.9	-2.7
HMH	**Humu'ula Sheep**	**0.38**	**360**		Pn	12 27 45.3	+0.5
HMH					Sn	12 27 51.8	+0.4
HMH				IAML		12 27 51.9	
	comp=N,379nm,0.3s						
HMH				IAML		12 27 52.1	
	comp=E,406nm,0.1s						
NPOC	**North of Pu'u**	**0.39**	**64**	Pn	Pn	12 27 44.5	-0.1
NPOC				Sn	Sn	12 27 50.7	-0.6
NPOC				IAML		12 27 54.8	
	comp=E,412nm,1.1s						
NPOC				IAML		12 27 55.1	
	comp=N,554nm,0.9s						
JCUZ	**Jacuzzi**	**0.39**	**66**		Sn	12 27 50.7	-0.7
CPH	**Captain Cook**	**0.49**	**303**		Pn	12 27 45.8	-0.1
CPH					Sn	12 27 52.8	-0.6
JOKA	**Jonika Flow**	**0.50**	**65**		Pn	12 27 45.9	-0.1
JOKA					Sn	12 27 52.5	-1.2
KHLU	**Kahalu`u**	**0.53**	**314**	Pn	Pn	12 27 46.6	0.0
KHLU				Sn	Sn	12 27 53.7	-0.9
KHLU				IAML		12 27 53.8	
	comp=N,257nm,0.1s						
KHLU				IAML		12 28 08.0	
	comp=E,249nm,3.9s						
POHA	**Pohakuloa**	**0.53**	**355**	Pn	Pn	12 27 46.8	0.0
POHA				Sn	Sn	12 27 54.0	-0.8
POHA				IAML		12 27 58.8	
	comp=E,200nm,0.2s						
HUH	**Hualalai**	**0.57**	**324**		Pn	12 27 47.5	+0.3
HUH				Sn	Sn	12 27 56.1	+0.5
HUH				IAML		12 28 00.7	
	comp=E,202nm,1.6s						
HUH				IAML		12 28 01.5	
	comp=N,268nm,1.6s						
HPAH	**Hawaii Prepara**	**0.83**	**346**	Pn	Pn	12 27 50.4	-0.2
HPAH				Sn	Sn	12 28 00.0	-1.6
HPAH				IAML		12 28 00.7	
	comp=E,248nm,0.3s						
HPAH				IAML		12 28 00.8	
	comp=N,241nm,0.1s						
MHA	**Mahukona**	**1.04**	**338**	Pn	Pn	12 27 53.3	0.0

*OMAN **16** 12:34:25.0±0.1, 27°02N×53°64E, h95km±4km, mb3.8/3, ml3.2/11, Error ellipse: s-maj=4.6km s-min=1.8km az=232.0*

DSN 16 12:34:23.1±0.9, 27°01N×53°62E, h15km, ML3.0/9, Error ellipse: s-maj=11.1km s-min=7.5km az=62.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHME	**Shamm**	**2.45**	**112**	P	Pn	12 35 02.7	+0.1
SHME				S	Sn	12 35 30.0	-2.3
SHME	**Shamm**	**2.45**	**112**	P	Pn	12 35 02.4	-0.2
BANOM	**Banah**	**2.63**	**114**	P	Pn	12 35 05.1	0.0
	SNR=9.7						
BANOM				S	Sn	12 35 38.9	+2.0
BANOM	**Banah**	**2.63**	**114**	*e*P	Pn	12 35 05.1	-0.1
	SNR=9.7						
NAZ	**Nazwa, Dubai**	**2.72**	**137**	P	Pn	12 35 07.7	+1.3
NAZ				S	Sn	12 35 41.5	+2.4
NAZ	**Nazwa, Dubai**	**2.72**	**137**	P	Pn	12 35 07.6	+1.2
	SNR=6.2						
MASF	**Masafi**	**2.80**	**125**	P	Pn	12 35 08.3	+0.8
MASF				S	Sn	12 35 40.8	-0.3
ASUD	**Al Ashush, Dub**	**2.83**	**147**	P	Pn	12 35 08.9	+1.1
	SNR=10						
ASUD				S	Sn	12 35 38.2	-3.4
ASUD	**Al Ashush, Dub**	**2.83**	**147**	P	Pn	12 35 08.8	+1.0
	SNR=10						
MDH	**Madha**	**2.95**	**125**	P	Pn	12 35 06.7	-2.7
UOSS	**Minazif**	**3.10**	**131**	P	Pn	12 35 11.6	0.0
UOSS				S	Sn	12 35 47.5	-0.9
UOSS	**Minazif**	**3.10**	**131**	*i* P	Pn	12 35 11.8	+0.2
	SNR=15						
HATD	**Hatta, Dubai**	**3.13**	**133**	P	Pn	12 35 12.8	+0.7
HATD				S	Sn	12 35 49.6	+0.4
HATD	**Hatta, Dubai**	**3.13**	**133**	P	Pn	12 35 12.6	+0.5
ASHO	**Ashiyiah**	**3.19**	**136**	P	Pn	12 35 13.2	+0.4
	SNR=24						
ASHO				S	Sn	12 35 51.6	+1.0
ASHO	**Ashiyiah**	**3.19**	**136**	*i* P	Pn	12 35 13.3	+0.4
	SNR=24						
SOHO	**SOHO**	**3.88**	**137**	P	Pn	12 35 22.4	0.0
SOHO				S	Sn	12 36 08.6	+0.9
SOHO	**SOHO**	**3.88**	**137**	P	Pn	12 35 22.3	-0.1
SOHO				S	Sn	12 36 08.7	+0.9
ARQ	**Araqi**	**4.50**	**144**	P	Pn	12 35 30.7	-0.1
ARQ				S	Sn	12 36 22.7	-0.3
HOQ	**Hoqain**	**4.77**	**135**	P	Pn	12 35 34.7	+0.2
	SNR=8.3						
HOQ				S	Sn	12 36 29.0	-0.7
BSY	**Bisya**	**5.34**	**142**	P	Pn	12 35 42.7	+0.2
	SNR=8.0						
BSY				S	Sn	12 36 41.2	-2.6
SMDO	**Samad**	**5.62**	**133**	P	Pn	12 35 46.6	+0.3
	SNR=6.9						
SMDO				S	Sn	12 36 50.2	-0.5
JMDO	**Jabal Madar**	**6.16**	**138**	P	Pn	12 35 53.1	-0.5
JMDO				S	Sn	12 37 01.2	-2.7
WBK	**Wadi Bani Khal**	**6.54**	**131**	P	Pn	12 35 59.0	+0.1
	SNR=9.9						
WBK				S	Sn	12 37 12.6	-0.7

IDC 16 12:47:24.4±1.1, 49°63S×125°65E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=60.7km s-min=20.3km az=95.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.97**	**326**	T	T	13 08 37.9	
	baz=152,slow=74,SNR=44						
H01W2	**Cape Leeuwin H**	**16.98**	**326**	T	T	13 08 37.6	
	baz=152,slow=74,SNR=49						
H01W3	**Cape Leeuwin H**	**16.99**	**326**	T	T	13 08 37.6	
	baz=152,slow=74,SNR=41						
ASAR	**Alice Springs**	**26.71**	**17**	P	P	12 53 05.1	-0.2
	2.3nm,0.7s,baz=191,slow=9.1,SNR=37						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**30.42**	**16**	P	P	12 53 37.8	-0.6
	0.5nm,0.6s,baz=193,slow=8.0,SNR=6.5						
	0.5nm,0.6s						
VNDA	**Vanda**	**31.17**	**166**	P	P	12 53 45.2	+0.7
	1.2nm,0.8s,baz=306,slow=9.6,SNR=7.5						
	1.2nm,0.8s						
SNAA	**Sanae**	**53.66**	**198**	P	P	12 56 46.2	-1.0
	1.7nm,0.9s,baz=146,slow=9.5,SNR=7.2						
	1.7nm,0.9s						
H08S2	**Diego Garcia H**	**60.86**	**295**	T	T	14 03 16.3	
	baz=144,slow=75						
H08S1	**Diego Carcia H**	**60.87**	**295**	T	T	14 03 17.1	
	baz=144						
H08S3	**Diego Garcia H**	**60.88**	**295**	T	T	14 03 17.8	
	baz=144,slow=75						
CMAR	**Chiang Mai Arr**	**71.80**	**333**	P	P	12 58 49.5	+0.9
	1.1nm,0.7s,baz=182,slow=5.5,SNR=7.4						
	1.1nm,0.7s						

*IDC **16** 12:51:00.8±3.0, 3°83S×152°54E, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=118.2km s-min=28.4km az=119.0*

*NEIC **16** 12:51:05.7±1.8, 3°65S±0°3×153°7E±0°2, h122km±12km, mb4.2/10, Error ellipse: s-maj=51.1km s-min=11.8km az=158.0*

ISC 16 12:51:09.7±4.3, 3°65S±0°4×153°2E±0°8, h150km, n17, σ1s35/16, mb4.3/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.21**	**238**	Pn	**Pn**	**12 51 34.4**	**-2.1**
MTN	**Manton Dam**	**23.69**	**246**	P	**P**	**12 56 10.1**	**+2.1**
MTN				IAmb	IAmb	12 56 42.6	
	comp=Z,14nm,1.2s						
WB0	**Warramunga Arr**	**24.42**	**227**	P	**P**	**12 56 16.2**	**+1.6**
WR0	**Warramunga Arr**	**24.44**	**227**	P	**P**	**12 56 16.0**	**+1.2**
WR0				IAmb	IAmb	12 56 16.6	
	comp=Z,4.1nm,0.6s						
WRAB	**Tennant Creek**	**24.56**	**227**	P	**P**	**12 56 17.3**	**+1.4**
WRAB				IAmb	IAmb	12 56 18.2	
	comp=Z,6.7nm,0.6s						
WB2	**Warramunga Arr**	**24.57**	**227**	P	**P**	**12 56 17.3**	**+1.4**
WB2				IAmb	IAmb	12 56 17.9	
	comp=Z,6.0nm,0.6s						
WRA	**Warramunga Arr**	**24.57**	**227**	P	**P**	**12 56 17.4**	**+1.3**
	comp=Z,4.0nm,0.4s,baz=52,slow=9.6,SNR=90						
	comp=Z,4.0nm,0.4s						
WRA	**Warramunga Arr**	**24.57**	**227**	P	**P**	**12 56 16.6**	**+0.6**
KNRA	**Kununurra**	**26.89**	**242**	P	**P**	**12 56 38.6**	**+1.6**
KNRA				IAmb	IAmb	12 56 56.8	
	comp=Z,16nm,1.2s						
ASAR	**Alice Springs**	**27.34**	**221**	P	**P**	**12 56 41.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=54,slow=9.0,SNR=8.3						
	comp=Z,0.3nm,0.3s						
ASAR	**Alice Springs**	**27.34**	**221**	P	**P**	**12 56 40.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.61**	**240**	P	**P**	**12 57 10.5**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=59,slow=11,SNR=38						
	comp=Z,2.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**30.61**	**240**	P	**P**	**12 57 10.7**	**+0.7**
FITZ				IAmb	IAmb	12 57 11.7	
	comp=Z,3.9nm,0.9s						
MBWA	**Marble Bar**	**36.94**	**239**	P	**P**	**12 58 05.1**	**+0.5**
PETK	**Petropavlovsk-**	**56.58**	**3**	P	P	13 00 47.1	+10
	comp=Z,1.3nm,0.9s,baz=167,slow=6.8,SNR=0.9						
	comp=Z,1.3nm,0.9s						
KK31	**Karatay Array**	**87.07**	**313**	P	**P**	**13 03 38.3**	**-0.4**
KKAR	**Karatay Array**	**87.07**	**313**	P	**P**	**13 03 38.9**	**+0.2**

*KRNET **16** 13:00:55.6±0.1, 41°75N×77°31E, h17km, mb3.8*
*SOME **16** 13:00:56.1, 41°83N×77°32E, h10km*
*NNC **16** 13:00:57.2±0.5, 41°84N×77°34E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=3.6km s-min=2.3km az=0.0*
*KNET **16** 13:00:58.4±0.5, 41°88N×77°20E, h11km±2km, ml3.0, Error ellipse: s-maj=6.8km s-min=2.7km az=21.0*

ISC 16 13:00:55.1±1.2, 41°73N±0°04×77°26E±0°02, h6km±11km, n75, σ1s03/131, 24C-29D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.41**	**91**	⇑*i*P		**Pg**	**13 01 02.4**	**-0.8**
	baz=94						
TARG				⇑*i*S		**Sg**	**13 01 08.1**	**-0.5**
	baz=94						
ULHL	**Ulahol**	**0.91**	**304**	⇓P		**Pb**	**13 01 13.3**	**-0.1**
	33nm,0.1s						
ULHL				⇑S		**Sg**	**13 01 26.2**	**+1.7**
	86nm,0.1s						
ULHL	**Ulahol**	**0.91**	**304**	⇑*i*P		**Pb**	**13 01 13.2**	**-0.2**
	baz=2.0						
ULHL				⇑*i*S		**Sg**	**13 01 25.9**	**+1.4**
	baz=2.0						
BOOM	**Boomskoye usch**	**1.24**	**308**	⇓*i*P		**Pn**	**13 01 18.5**	**-0.5**
	baz=6.0						
BOOM				⇓*i*S		**Sn**	**13 01 35.2**	**-0.9**
	baz=6.0						
MDOK	**Medeo**	**1.44**	**354**	*e*P		**Pb**	**13 01 22.0**	**-0.3**
	159nm,0.3s						
MDOK				*e*S		**Sg**	**13 01 40.6**	**-0.7**
	204nm,0.6s						
MDOK	**Medeo**	**1.44**	**354**	⇓P		**Pb**	**13 01 22.0**	**-0.3**
	92nm,0.5s						
MDOK				⇓S		**Sg**	**13 01 40.6**	**-0.7**
	139nm,0.5s						
MDOK	**Medeo**	**1.44**	**354**	*e*P		**Pb**	**13 01 22.0**	**-0.3**
	baz=52						
MDOK				*e*S		**Sg**	**13 01 40.6**	**-0.7**
	baz=52						
AAA	**Alma-Ata**	**1.50**	**350**	*e*P		**Pg**	**13 01 23.7**	**-0.1**
	227nm,0.1s						
AAA				*e*S		**Sg**	**13 01 43.3**	**+0.1**
	248nm,0.3s						
AAA	**Alma-Ata**	**1.50**	**350**	P		**Pg**	**13 01 23.7**	**-0.1**
	227nm,0.1s						
AAA				S		**Sg**	**13 01 43.3**	**+0.1**
	248nm,0.3s						
KNDC	**Almaty**	**1.50**	**352**	⇓P		**Pg**	**13 01 23.5**	**-0.3**
	156nm,0.5s						
KNDC				⇑S		**Sg**	**13 01 43.5**	**+0.3**
	82nm,0.3s						
KOTS	**Kotyrbulak**	**1.50**	**356**	*e*P		**Pb**	**13 01 23.4**	**0.0**
	64nm,0.2s						
KOTS				*e*S		**Sg**	**13 01 43.3**	**-0.1**
	475nm,0.3s						
KOTS	**Kotyrbulak**	**1.50**	**356**	P		**Pb**	**13 01 23.4**	**0.0**
	63nm,0.3s						
KOTS				S		**Sg**	**13 01 42.8**	**-0.6**
	475nm,0.3s						
KOTS	**Kotyrbulak**	**1.50**	**356**	*e*P		**Pb**	**13 01 23.4**	**0.0**
	baz=54						
KOTS				*e*S		**Sg**	**13 01 43.3**	**-0.1**
	baz=54						
MTBS	**Maitube**	**1.52**	**337**	*e*P		**Pb**	**13 01 23.7**	**-0.1**
	144nm,0.2s						
MTBS				*e*S		**Sb**	**13 01 43.4**	**0.0**
	104nm,0.2s						
MTBS	**Maitube**	**1.52**	**337**	P		**Pb**	**13 01 23.7**	**-0.1**
	144nm,0.2s						
MTBS				S		**Sb**	**13 01 43.4**	**0.0**
	104nm,0.2s						
MTBS	**Maitube**	**1.52**	**337**	*e*P		**Pb**	**13 01 23.7**	**-0.1**
	baz=35						
MTBS				*e*S		**Sb**	**13 01 43.4**	**0.0**
	baz=35						
SATY	**Saty**	**1.57**	**32**	*e*P		**Pb**	**13 01 24.0**	**-0.7**
	43nm,0.2s						
SATY				*e*S		**Sb**	**13 01 43.9**	**-0.9**
	497nm,0.1s						
SATY	**Saty**	**1.57**	**32**	P		**Pb**	**13 01 24.0**	**-0.7**
	43nm,0.2s						
SATY				S		**Sb**	**13 01 43.9**	**-0.9**
	497nm,0.1s						
SATY	**Saty**	**1.57**	**32**	*e*P		**Pb**	**13 01 24.0**	**-0.7**
	baz=32						
SATY				*e*S		**Sb**	**13 01 43.9**	**-0.9**
	baz=32						
KST	**Kastek**	**1.62**	**324**	*e*P		**Pb**	**13 01 25.9**	**+0.5**
	84nm,0.4s						
KST				*e*S		**Sg**	**13 01 47.6**	**+0.4**
	121nm,0.3s						
KST	**Kastek**	**1.62**	**324**	P		**Pb**	**13 01 25.9**	**+0.5**
	84nm,0.4s						
KST				S		**Sg**	**13 01 47.6**	**+0.4**
	121nm,0.3s						
ZHN	**Zhinishke**	**1.68**	**31**	*e*P		**Pb**	**13 01 25.9**	**-0.5**
	59nm,0.2s						
ZHN				*e*S		**Sb**	**13 01 47.1**	**-0.7**
	1μm,0.3s						
ZHN	**Zhinishke**	**1.68**	**31**	P		**Pb**	**13 01 25.9**	**-0.5**
	59nm,0.2s						
ZHN				S		**Sb**	**13 01 47.1**	**-0.7**
	1μm,0.3s						
ZHN	**Zhinishke**	**1.68**	**31**	*e*P		**Pb**	**13 01 25.9**	**-0.5**
	baz=30						
ZHN				*e*S		**Sb**	**13 01 47.2**	**-0.7**
	baz=30						
TKM2	**Tokmak 2**	**1.71**	**314**	⇓P		**Pb**	**13 01 27.7**	**+0.7**
	83nm,0.2s,SNR=134						
TKM2				⇓S		**Sg**	**13 01 50.8**	**+0.7**
	282nm,0.2s						
TKM2	**Tokmak 2**	**1.71**	**314**	⇓P		**Pb**	**13 01 27.7**	**+0.7**
	42nm,0.3s						
TKM2				⇑S		**Sg**	**13 01 50.6**	**+0.6**
	50nm,0.3s						
TKM2	**Tokmak 2**	**1.71**	**314**	⇓*i*P		**Pb**	**13 01 27.1**	**+0.1**
	baz=13						
TKM2				⇓*i*S		**Sg**	**13 01 50.6**	**+0.6**
	baz=13						
DGS	**Degeres**	**1.86**	**324**	*e*P		**Pb**	**13 01 30.4**	**+0.8**
	44nm,0.3s						
DGS				*e*S		**Sg**	**13 01 55.5**	**+0.5**
	143nm,0.3s						
DGS	**Degeres**	**1.86**	**324**	P		**Pb**	**13 01 30.1**	**+0.5**
	44nm,0.2s						
DGS				S		**Sg**	**13 01 55.1**	**+0.1**
	143nm,0.3s						
KURS	**Kuram**	**1

UZB	**Uzynbulak**	**1.92**	**42**	*e*P	**Pb**	**13 01 29.8**	**-0.8**
	31nm,0.3s							
UZB				*e*S	**Sb**	**13 01 54.2**	**-0.7**
	294nm,0.2s							
UZB	**Uzynbulak**	**1.92**	**42**	P	**Pb**	**13 01 29.8**	**-0.8**
	31nm,0.3s							
UZB				S	**Sb**	**13 01 54.2**	**-0.7**
	294nm,0.2s							
UZB	**Uzynbulak**	**1.92**	**42**	*e*P	**Pb**	**13 01 29.8**	**-0.8**
	baz=42							
UZB				*e*S	**Sb**	**13 01 54.2**	**-0.7**
	baz=42							
KBK	**Karagaybulak**	**1.95**	**299**	⇓P	**Pg**	**13 01 32.4**	**-0.1**
	21nm,0.2s,SNR=12							
KBK				⇑S	**Sg**	**13 01 59.1**	**+1.4**
	96nm,0.2s							
KBK	**Karagaybulak**	**1.95**	**299**	⇓*e*P	**Pb**	**13 01 30.8**	**-0.2**
	baz=98							
KBK				⇓*i*S	**Sb**	**13 01 56.2**	**+0.6**
	baz=98							
KPKS	**Kokpek**	**2.03**	**31**	*e*P	**Pb**	**13 01 31.8**	**-0.6**
	38nm,0.1s							
KPKS				*e*S	**Sb**	**13 01 57.0**	**-0.8**
	802nm,0.5s							
KPKS	**Kokpek**	**2.03**	**31**	Pg	**Pb**	**13 01 31.8**	**-0.6**
	38nm,0.1s							
KPKS				Lg	Lg	13 01 57.0		
	802nm,0.5s							
KPKS	**Kokpek**	**2.03**	**31**	*e*P	**Pb**	**13 01 31.8**	**-0.6**
	baz=30							
KPKS				*e*S	**Sb**	**13 01 57.1**	**-0.8**
	baz=30							
UCH	**Uchtor**	**2.10**	**284**	⇓P	**Pb**	**13 01 35.2**	**+1.3**
	12nm,0.2s,SNR=21							
UCH				⇓S	**Sg**	**13 02 04.6**	**+1.8**
	52nm,0.5s							
UCH	**Uchtor**	**2.10**	**284**	⇑*i*P	**Pb**	**13 01 33.8**	**-0.1**
	baz=84							
UCH				⇑*i*S	**Sb**	**13 02 01.0**	**+0.6**
	baz=84							
CHKK	**Chushkaly**	**2.13**	**355**	*e*P	**Pb**	**13 01 34.3**	**+0.3**
	131nm,0.3s							
CHKK				*e*S	**Sg**	**13 02 02.2**	**-1.2**
	556nm,0.3s							
CHKK	**Chushkaly**	**2.13**	**355**	Pg	**Pb**	**13 01 34.0**	**0.0**
	136nm,0.4s							
CHKK				Lg	Lg	13 02 02.2		
	556nm,0.3s							
SHLS	**Shalkode**	**2.16**	**48**	*e*P	**Pg**	**13 01 38.5**	**+2.0**
	34nm,0.2s							
SHLS				*e*S	**Sg**	**13 02 09.2**	**+4.5**
	116nm,0.4s							
SHLS	**Shalkode**	**2.16**	**48**	Pg	**Pg**	**13 01 38.6**	**+2.0**
	34nm,0.2s							
SHLS				Lg	Lg	13 02 09.2		
	116nm,0.4s							
ARLS	**Aral**	**2.20**	**274**	⇑*i*P	**Pb**	**13 01 34.4**	**-0.9**
	baz=74							
ARLS				⇑*i*S	**Sb**	**13 02 02.3**	**-0.5**
	baz=74							
AAK	**Ala-Archa**	**2.24**	**295**	⇑P	**Pb**	**13 01 37.6**	**+1.5**
	18nm,0.2s,SNR=27							
AAK				⇓S	**Sg**	**13 02 07.2**	**+0.1**
	102nm,0.4s							
AAK	**Ala-Archa**	**2.24**	**295**	⇓*i*P	**Pb**	**13 01 34.9**	**-1.2**
	baz=94							
AAK				⇓*e*S	**Sb**	**13 02 03.7**	**-0.4**
	baz=94							
CHMS	**Chumysh**	**2.25**	**305**	⇓P	**Pb**	**13 01 36.7**	**+0.7**
	17nm,0.2s,SNR=12							
CHMS				⇑S	**Sb**	**13 02 06.0**	**+2.0**
	82nm,0.3s							
CHMS	**Chumysh**	**2.25**	**305**	⇑Pn	**Pb**	**13 01 36.5**	**+0.5**
	28nm,0.6s							
CHMS				⇑Lg	Lg	13 02 07.2		
	24nm,0.3s							
CHMS	**Chumysh**	**2.25**	**305**	⇑*i*P	**Pb**	**13 01 34.8**	**-1.2**
	baz=4.0							
CHMS				⇑*i*S	**Sb**	**13 02 03.3**	**-0.8**
	baz=4.0							
KRBS	**Karabastau**	**2.28**	**330**	*e*P	**Pg**	**13 01 38.0**	**-0.8**
	30nm,0.3s							
KRBS				*e*S	**Sg**	**13 02 07.6**	**-0.8**
	60nm,0.2s							
KRBS	**Karabastau**	**2.28**	**330**	Pg	**Pb**	**13 01 36.6**	**-0.1**
	81nm,0.4s							
KRBS				Lg	Lg	13 02 05.4		
	60nm,0.2s							
PDGK	**Podgornoye**	**2.29**	**45**	⇓Pn	**Pb**	**13 01 35.8**	**-1.2**
	26nm,0.5s							
PDGK				⇓Lg	Lg	13 02 05.7		
	126nm,0.8s							
ARXS	**Arharly**	**2.51**	**9**	*e*P	**Pb**	**13 01 40.1**	**-0.5**
	12nm,0.6s							
ARXS				*e*S	**Sb**	**13 02 11.5**	**-0.3**
	357nm,0.3s							
ARXS	**Arharly**	**2.51**	**9**	Pg	**Pb**	**13 01 40.1**	**-0.5**
	12nm,0.6s							
ARXS				Lg	Lg	13 02 11.5		
	357nm,0.3s							
USP	**Ospenovka**	**2.55**	**308**	⇑P	**Pb**	**13 01 40.8**	**-0.4**
	17nm,0.2s,SNR=12							
USP	**Ospenovka**	**2.55**	**308**	⇑*e*P	**Pn**	**13 01 38.6**	**+1.6**
	baz=7.0							
USP				⇑*i*S	**Sb**	**13 02 11.1**	**-1.7**
	baz=7.0							
EKS2	**Erkin-Say**	**2.75**	**291**	⇓*i*P	**Pb**	**13 01 42.1**	**-2.5**
	baz=90							
EKS2				⇓*i*S	**Sb**	**13 02 16.1**	**-2.5**
	baz=90							
KTMS	**Ketmen**	**2.85**	**52**	*e*P	**Pb**	**13 01 46.2**	**-0.3**
	5.4nm,0.2s							
KTMS				*e*S	**Sb**	**13 02 22.1**	**+0.4**
	22nm,0.6s							
KTMS	**Ketmen**	**2.85**	**52**	Pg	**Pb**	**13 01 46.2**	**-0.3**
	5.4nm,0.2s							
KTMS				Lg	Lg	13 02 22.1		
	22nm,0.6s							
MRKS	**Merke**	**3.16**	**290**	*e*P	**Pg**	**13 01 55.0**	**-0.6**
	9.2nm,0.3s							
MRKS				*e*S	**Sg**	**13 02 37.0**	**+0.5**
	60nm,0.2s							
MRKS	**Merke**	**3.16**	**290**	Pg	**Pg**	**13 01 55.0**	**-0.6**
	9.2nm,0.3s							
MRKS				Lg	Lg	13 02 37.0		
	60nm,0.2s							
DJR	**Jarkent**	**3.19**	**35**	*e*P	**Pb**	**13 01 51.9**	**-0.3**
	5.9nm,0.2s							
DJR				*e*S	**Sb**	**13 02 31.6**	**+0.2**
	64nm,0.3s							
DJR	**Jarkent**	**3.19**	**35**	Pg	**Pb**	**13 01 51.9**	**-0.3**
	5.9nm,0.2s							
DJR				Lg	Lg	13 02 31.6		
	64nm,0.3s							
TDK	**Taldyqorghan**	**3.37**	**14**	*e*P	**Pb**	**13 01 55.3**	**+0.1**
	69nm,0.4s							
TDK				*e*S	**Sb**	**13 02 37.6**	**+1.1**
	96nm,0.2s							
TDK	**Taldyqorghan**	**3.37**	**14**	Pg	**Pb**	**13 01 55.3**	**+0.1**
	69nm,0.4s							
TDK				Lg	Lg	13 02 37.6		
	96nm,0.2s							
BTLS	**Baital**	**4.05**	**326**	*e*P	**Pb**	**13 02 09.8**	**+3.1**
	7.6nm,0.6s							
BTLS				*e*S	**Sg**	**13 03 02.5**	**-2.6**
	14nm,0.6s							
KK31	**Karatay Array**	**5.18**	**288**	⇑Pg	**Pg**	**13 02 32.5**	**-1.7**
	1.7nm,0.5s,baz=102,slow=15,SNR=12							
KK31				⇓Lg	Lg	13 03 42.4		
	13nm,0.8s,baz=107,slow=26,SNR=31							
IUG	**luzhnay**	**5.41**	**277**	*e*P	**Pg**	**13 02 37.3**	**-1.4**
	110nm,0.5s							
IUG				*e*S	**Sg**	**13 03 49.4**	**+0.8**
	15nm,0.5s							
MAKZ	**Makanchi**	**6.10**	**32**	⇓Pn	**Pn**	**13 02 26.9**	**+1.2**
	3.7nm,1.1s							
MAKZ				⇓Lg	Lg	13 04 06.7		
	4.4nm,0.8s							
MK31	**Makanchi Array**	**6.21**	**34**	⇑Pn	**Pn**	**13 02 28.9**	**+1.6**
	0.2nm,0.2s,baz=211,slow=15,SNR=4.2							
MK31				⇑Lg	Lg	13 04 09.1		
	0.5nm,0.3s,baz=215,slow=27,SNR=5.7							
KURBB	**Kurchatov Arra**	**8.93**	**5**	⇓Lg	Lg	13 05 37.9		
	5.4nm,0.6s							
KURK	**Kurchatov**	**9.03**	**6**	⇓Lg	Lg	13 05 40.0		
	7.0nm,0.9s							

IDC 16 13:17:26.2±3.0, 6.53S×129.85E, h115km±41km, mb3.1/1, mbtmp3.5/5, Error ellipse: s-maj=71.4km s-min=22.6km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.80**	**14**	P		Pn		13 18 49.1	-0.8
	4.0nm,0.2s,baz=195,slow=20,SNR=2.7								
SIJI				S		Sn		13 19 48.6	-6.5
	16nm,0.2s,baz=228,slow=22,SNR=7.7								
FITZ	**Fitzroy Crossi**	**12.21**	**199**	P		Pn		13 20 16.5	+0.1
	1.1nm,0.3s,baz=28,slow=12,SNR=27								
FITZ				S		Sn		13 22 24.8	-6.1
	0.6nm,0.3s,baz=348,slow=22,SNR=1.7								
WRA	**Warramunga Arr**	**14.03**	**162**	P		Pn		13 20 39.1	-0.9
	0.3nm,0.4s,baz=343,slow=12,SNR=14								
WRA				S		Sn		13 22 59.6	-15
	0.4nm,0.3s,baz=342,slow=25,SNR=2.5								
ASAR	**Alice Springs**	**17.48**	**168**	P		P		13 21 22.4	-0.1
	0.2nm,0.4s,baz=346,slow=10,SNR=7.9								
ASAR				S		Sn		13 24 26.1	-12
	0.2nm,0.5s,baz=354,slow=28,SNR=2.0								
MKAR	**Makanchi Array**	**67.75**	**327**	P		P		13 28 11.7	+0.2
	0.2nm,0.4s,baz=122,slow=7.9,SNR=2.4								
	0.2nm,0.4s								

*JMA **16** 13:22:12.9±0.3, 23°N×1°×12°2E±°, h20km, MV2.9/5, TAIWAN REGION*
*TAP **16** 13:22:13.7, 23°38N×121°67E, h13km, ML3.3, C*
ISC 16 13:22:12.7±1.0, 23°34N±0°02×121°72E±0°03, h19km±2km, n100, ₙ0°70/159, 5C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.25**	**264**	⇓*i*P		**Pg**		**13 22 18.4**	**-0.1**
	baz=247								
ECBN				*i*S		**Sb**		**13 22 22.4**	**+0.1**
	baz=247								
HGSD	**Ruisui**	**0.31**	**299**	⇓*i*P		**Pg**		**13 22 19.3**	**-0.2**
	baz=296								
HGSD				*i*S		**Sg**		**13 22 23.1**	**-1.0**
	baz=296								
EYUL	**Yuli**	**0.37**	**271**	⇓*i*P		**Pb**		**13 22 21.2**	**+0.4**
	baz=264								
EYUL				*e*S		**Sb**		**13 22 26.5**	**+0.2**
	baz=264								
YULB	**Yu-li**	**0.40**	**277**	⇓*i*P		**Pb**		**13 22 21.2**	**0.0**
	baz=272								
YULB				*e*S		**Sb**		**13 22 26.5**	**-0.5**
	baz=272								
TEGC	**Jichi Village**	**0.40**	**335**	P		**Pb**		**13 22 21.6**	**+0.3**
	baz=341								
TEGC				*e*S		**Sb**		**13 22 27.4**	**+0.2**
	baz=341								
EHY	**Hungye**	**0.40**	**294**	⇓*i*P		**Pb**		**13 22 21.0**	**-0.4**
	baz=291								
EHY				*e*S		**Sb**		**13 22 27.2**	**0.0**
	baz=291								
EGFH	**Guangfu**	**0.42**	**320**	P		**Pb**		**13 22 21.6**	**-0.1**
	baz=322								
EGFH				*e*S		**Sb**		**13 22 27.5**	**-0.3**
	baz=322								
ECS	**Chishang**	**0.53**	**242**	*e*P		**Pb**		**13 22 24.3**	**+1.0**
	baz=224								
ECS				*e*S		**Sb**		**13 22 31.6**	**+1.1**
	baz=224								
EDH	**Donghe**	**0.53**	**226**	*e*P		**Pb**		**13 22 23.9**	**+0.5**
	baz=221								
EDH				*e*S		**Sb**		**13 22 31.8**	**+1.1**
	baz=221								
TEYL	**Yanliau Villag**	**0.54**	**348**	P		**Pb**		**13 22 24.3**	**+0.8**
	baz=352								
TEYL				*e*S		**Sn**		**13 22 32.8**	**-1.1**
	baz=352								
ESL	**Shilin**	**0.54**	**331**	⇑*i*P		**Pg**		**13 22 23.4**	**-0.2**
	baz=333								
ESL				S		**Sb**		**13 22 30.6**	**-0.3**
	baz=333								
ETM	**Tongmen**	**0.66**	**341**	P		**Pg**		**13 22 25.6**	**-0.1**
	baz=337								
ETM				*e*S		**Sb**		**13 22 35.3**	**+1.0**
	baz=337								
VWDT	**VWDT**	**0.67**	**308**	⇓P		**Pb**		**13 22 26.1**	**+0.3**
	baz=307								
VWDT				*e*S		**Sb**		**13 22 34.6**	**-0.2**
	baz=307								
LONT	**Longtian**	**0.70**	**232**	⇑P		**Pb**		**13 22 26.7**	**+0.4**
	baz=215								
LONT				*e*S		**Sn**		**13 22 37.1**	**-0.8**
	baz=215								
LDUT	**Ludao**	**0.71**	**199**	*e*P		**Pg**		**13 22 26.2**	**-0.4**
	baz=196								
LDUT				*e*S		**Sg**		**13 22 36.3**	**+0.3**
	baz=196								
YUS	**Yu-Shan**	**0.72**	**282**	⇑*i*P		**Pb**		**13 22 27.1**	**+0.1**
	baz=279								
YUS				*e*S		**Sb**		**13 22 36.3**	**-0.4**
	baz=279								
TWD	**Chiawan**	**0.74**	**351**	*e*P		**Pb**		**13 22 27.3**	**+0.2**
	baz=355								
TWD				*e*S		**Sg**		**13 22 36.9**	**-0.3**
	baz=355								
OWD	**Renai**	**0.79**	**321**	*e*P		**Pg**		**13 22 27.8**	**-0.4**
	baz=321								
OWD				*e*S		**Sg**		**13 22 37.2**	**-1.6**
	baz=321								
TWGBT	**Beinan**	**0.79**	**229**	⇑*i*P		**Pb**		**13 22 27.6**	**-0.2**
	baz=215								
TWGBT				*e*S		**Sg**		**13 22 38.5**	**-0.2**
	baz=215								
TWG	**Pinlang**	**0.79**	**229**	⇑*i*P		**Pb**		**13 22 27.7**	**-0.3**
	baz=215								
TWG				*e*S		**Sg**		**13 22 38.5**	**-0.3**
	baz=215								
ETL	**Fush Village**	**0.82**	**354**	*e*P		**Pb**		**13 22 28.0**	**-0.4**
	baz=356								
ETL				*e*S		**Sg**		**13 22 39.5**	**-0.1**
	baz=356								
SSLB	**Suanglung**	**0.83**	**302**	*e*P		**Pb**		**13 22 28.3**	**-0.3**
	baz=289								
SSLB				*e*S		**Sb**		**13 22 38.5**	**-1.0**
	baz=289								
NACB	**Ninganchiao**	**0.84**	**352**	P		**Pb**		**13 22 28.5**	**-0.2**
	baz=354								
NACB				*e*S		**Sb**		**13 22 39.4**	**-0.2**
	baz=354								
ALS	**Alishan**	**0.86**	**281**	⇓*i*P		**Pg**		**13 22 29.7**	**+0.1**
	baz=279								
ALS				*e*S		**Sg**		**13 22 40.7**	**-0.3**
	baz=279								
WHYT	**Xinyi Township**	**0.87**	**294**	*e*P		**Pg**		**13 22 29.6**	**-0.1**
	baz=292								
WHYT				*e*S		**Sb**		**13 22 39.9**	**-0.7**
	baz=292								
CHGB	**Renai**	**0.87**	**325**	*e*P		**Pb**		**13 22 29.6**	**+0.1**
	baz=325								
CHGB				*e*S		**Sb**		**13 22 39.4**	**-1.5**
	baz=325								
STYH	**Taoyuan**	**0.89**	**259**	P		**Pb**		**13 22 28.8**	**-0.7**
	baz=244								
STYH				*e*S		**Sb**		**13 22 39.8**	**-1.2**
	baz=244								
ETLH	**Xiulin Townshi**	**0.89**	**346**	*e*P		**Pb**		**13 22 29.6**	**0.0**
	baz=346								
ETLH				*e*S		**Sb**		**13 22 40.4**	**-0.8**
	baz=346								
WHF	**Hehuan Shan**	**0.90**	**332**	P		**Pb**		**13 22 29.7**	**-0.4**
	baz=333								
WHF				*e*S		**Sb**		**13 22 41.4**	**-0.5**
	baz=333								
STYT	**Tauyuan**	**0.91**	**259**	P		**Pg**		**13 22 30.3**	**-0.1**
	baz=243								
STYT				*e*S		**Sn**		**13 22 42.7**	**-0.4**
	baz=243								
SMLT	**Sun Moon Lake**	**0.93**	**306**	*e*P		**Pb**		**13 22 30.3**	**0.0**
	baz=304								
SMLT				*e*S		**Sn**		**13 22 42.9**	**-0.9**
	baz=304								
WPL	**Puli Township**	**0.97**	**314**	P		**Pg**		**13 22 31.4**	**-0.2**
	baz=323								
WPL				S		**Sb**		**13 22 42.0**	**-1.4**
	baz=323								
TYC	**Yuchr**	**0.97**	**305**	*e*P		**Pb**		**13 22 30.8**	**-0.1**
	baz=304								
FUSS	**Fushou**	**1.00**	**334**	*e*P		**Pb**		**13 22 31.8**	**+0.1**
	baz=334								
FUSS				*e*S		**Sb**		**13 22 44.7**	**+0.1**
	baz=334								

TPUB	**Ta-pu**	**1.01**	**268**	*e*P		**Pg**		**13 22 31.8**	**-0.5**
	baz=272								
TPUB				*e*S		**Sn**		**13 22 45.1**	**-0.5**
	baz=272								
WTP	**Ta-pu**	**1.02**	**265**	*i*P		**Pn**		**13 22 32.5**	**+0.4**
	baz=249								
WTP				*e*S		**Sn**		**13 22 46.2**	**+0.2**
	baz=249								
WCS	**Beigang Elemen**	**1.03**	**314**	*e*P		**Pb**		**13 22 31.1**	**-0.8**
	baz=313								
WJS	**Zhushan**	**1.03**	**298**	*e*P		**Pg**		**13 22 32.9**	**+0.2**
	baz=295								
WCKO	**Fanlu**	**1.03**	**276**	*e*P		**Pb**		**13 22 32.1**	**+0.1**
	baz=272								
WCKO				*e*S		**Sn**		**13 22 46.8**	**+0.6**
	baz=272								
TWT	**Tachien**	**1.04**	**331**	*e*P		**Pb**		**13 22 32.2**	**0.0**
	baz=330								
TWT				*e*S		**Sb**		**13 22 44.0**	**-1.5**
	baz=330								
SGST	**Jiashian**	**1.08**	**256**	*e*P		**Pb**		**13 22 32.5**	**-0.3**
	baz=241								
SGST				*e*S		**Sn**		**13 22 47.4**	**0.0**
	baz=241								
ENA	**Nanau**	**1.08**	**1**	*e*P		**Pb**		**13 22 32.6**	**-0.3**
	baz=19								
ENA				*e*S		**Sb**		**13 22 46.4**	**-0.2**
	baz=19								
WNT	**Mingjian**	**1.09**	**299**	*e*P		**Pg**		**13 22 34.1**	**+0.2**
	baz=297								
WNT				*e*S		**Sn**		**13 22 48.7**	**+1.0**
	baz=297								
EWUT	**Wuta**	**1.10**	**3**	*e*P		**Pb**		**13 22 32.7**	**-0.5**
	baz=3.0								
CHN1	**Nanshi**	**1.11**	**262**	*i*P		**Pg**		**13 22 34.2**	**-0.1**
	baz=248								
CHN1				*e*S		**Sn**		**13 22 49.2**	**+1.0**
	baz=248								
WNT1	**Nantou City**	**1.11**	**301**	P		**Pg**		**13 22 34.2**	**0.0**
	baz=298								
WNT1				*e*S		**Sn**		**13 22 48.9**	**+0.7**
	baz=298								
NNSB	**Datong**	**1.12**	**344**	*e*P		**Pb**		**13 22 33.1**	**-0.5**
	baz=344								
NNSB				*e*S		**Sb**		**13 22 47.4**	**-0.7**
	baz=344								
NNSH	**Datong**	**1.12**	**344**	P		**Pb**		**13 22 33.9**	**+0.2**
	baz=344								
NNSH				*e*S		**Sg**		**13 22 49.5**	**+0.1**
	baz=344								
SNST	**Tainan City**	**1.13**	**264**	*e*P		**Pg**		**13 22 34.5**	**-0.2**
	baz=261								
SNST				*e*S		**Sg**		**13 22 50.0**	**+0.4**
	baz=261								
TWK	**Hsinying**	**1.14**	**266**	P		**Pg**		**13 22 34.6**	**-0.1**
	baz=263								
TWK				*e*S		**Sg**		**13 22 49.5**	**-0.2**
	baz=263								
NNS	**Nan Shan**	**1.14**	**344**	*e*P		**Pb**		**13 22 32.7**	**-1.2**
	baz=344								
WDLH	**Douliu**	**1.14**	**288**	*e*P		**Pg**		**13 22 34.7**	**-0.1**
	baz=285								
WDLH				*e*S		**Sg**		**13 22 50.5**	**+0.6**
	baz=285								
CHN2	**Minshiung**	**1.16**	**280**	*e*P		**Pg**		**13 22 36.1**	**+0.9**
	baz=276								
CHN2				*e*S		**Sg**		**13 22 52.4**	**+2.0**
	baz=276								
SSD	**Sandimen**	**1.17**	**240**	*e*P		**Pn**		**13 22 33.9**	**-0.2**
	baz=225								
WWF	**Wufeng**	**1.17**	**307**	P		**Pg**		**13 22 34.9**	**-0.5**
	baz=305								
WWF				*e*S		**Sg**		**13 22 50.5**	**-0.2**
	baz=305								
WHP	**Taichung City**	**1.17**	**323**	*e*P		**Pg**		**13 22 34.9**	**-0.6**
	baz=322								
TSMG	**Majia**	**1.18**	**238**	*e*P		**Pn**		**13 22 33.8**	**-0.4**
	baz=222								
LATG	**Datong**	**1.20**	**351**	*e*P		**Pn**		**13 22 34.5**	**-0.2**
	baz=351								
LATG				*e*S		**Sb**		**13 22 49.8**	**-0.4**
	baz=351								
CHY	**Chiayi**	**1.20**	**278**	*e*P		**Pg**		**13 22 35.5**	**-0.5**
	baz=274								
SCST	**Cishan**	**1.22**	**248**	*e*P		**Pg**		**13 22 36.3**	**-0.1**
	baz=233								
MASBT	**Mashibuluo**	**1.24**	**234**	*e*P		**Pn**		**13 22 34.9**	**-0.2**
	baz=221								
EAST	**Anshuo**	**1.25**	**220**	*e*P		**Pn**		**13 22 34.4**	**-0.9**
	baz=218								
TCU	**Taichung**	**1.25**	**310**	*e*P		**Pg**		**13 22 36.9**	**-0.1**
	baz=308								
TAWH	**Dawu Township**	**1.26**	**218**	*e*P		**Pn**		**13 22 33.7**	**-1.7**
	baz=216								
TWC	**Suao**	**1.27**	**5**	*e*P		**Pg**		**13 22 37.4**	**+0.1**
	baz=20								
NDT	**Datong Townshi**	**1.27**	**351**	*e*P		**Pn**		**13 22 35.3**	**-0.2**
	baz=351								
CHN3	**Shinhua**	**1.28**	**258**	*e*P		**Pg**		**13 22 38.1**	**+0.7**
	baz=243								
CHN3				*e*S		**Sg**		**13 22 57.1**	**+3.0**
	baz=243								
ENTT	**Nioudou**	**1.30**	**354**	*e*P		**Pn**		**13 22 35.1**	**-0.8**
	baz=353								
SHHT	**Tainan City**	**1.30**	**256**	*e*P		**Pg**		**13 22 37.9**	**-0.1**
	baz=252								
LAY	**Lan-yu**	**1.31**	**187**	*e*P		**Pn**		**13 22 35.1**	**-1.0**
	baz=187								
TWQ1	**Liyutan**	**1.33**	**319**	*e*P		**Pg**		**13 22 37.9**	**-0.5**
	baz=331								
TWQ1				*e*S		**Sg**		**13 22 56.3**	**+0.6**
	baz=331								
ICHU	**Yijhu**	**1.33**	**271**	*e*P		**Pg**		**13 22 38.0**	**-0.4**
	baz=267								
ICHU				*e*S		**Sg**		**13 22 56.3**	**+0.6**
	baz=267								
LYUB	**Lan-yu**	**1.34**	**186**	*e*P		**Pn**		**13 22 34.3**	**-2.2**
	baz=186								
WRL	**Guolierlin Hig**	**1.35**	**295**	*e*P		**Pb**		**13 22 37.3**	**-0.2**
	baz=291								
WRL				*e*S		**Sb**		**13 22 54.7**	**+0.3**
	baz=291								
YHNB	**Yeheng**	**1.36**	**347**	*e*P		**Pn**		**13 22 37.3**	**+0.5**
	baz=345								
SSPT	**Xinbi**	**1.36**	**231**	*e*P		**Pn**		**13 22 37.6**	**+0.8**
	baz=222								
NSK	**Sanguang**	**1.37**	**346**	*e*P		**Pn**		**13 22 36.2**	**-0.7**
	baz=345								
NSK				*e*S		**Sn**		**13 22 54.0**	**-0.7**
	baz=345								
TWE	**Neicheng**	**1.37**	**358**	*e*P		**Pb**		**13 22 38.3**	**+0.5**
	baz=343								
WSL	**Shuilin Townsh**	**1.39**	**278**	*e*P		**Pn**		**13 22 37.4**	**+0.4**
	baz=274								
NFF	**Wufeng Townshi**	**1.40**	**337**	*e*P		**Pn**		**13 22 37.6**	**+0.3**
	baz=347								
SLIU	**Shizi**	**1.41**	**217**	*e*P		**Pn**		**13 22 36.7**	**-0.7**
	baz=203								
FUSB	**Fushanzhiwuyua**	**1.42**	**355**	*e*P		**Pn**		**13 22 38.2**	**+

YM01	**YM01** baz=353	**1.80**	**356**	*eP*	**Pn**	**13 22 44.3**	**+1.5**
WDGT	**Dungji** baz=263	**1.90**	**268**	*eP*	**Pn**	**13 22 43.7**	**-0.4**
PHUB	**P'eng-hu** baz=270	**1.98**	**275**	*eP*	**Pn**	**13 22 45.4**	**+0.1**
PNG	**Penghu** baz=272	**2.00**	**277**	*eP*	**Pn**	**13 22 46.2**	**+0.6**
JIJ	**Ishigaki jima**	**2.44**	**65**	P	**Pn**	**13 22 52.8**	**+1.2**
JIJ				*eS*	**Sn**	**13 23 20.1**	**-0.7**
VWUC	**VWUC** baz=305	**2.65**	**309**	*eP*	**Pn**	**13 22 54.7**	**+0.3**

IDC 16 13:27:12.1±3.7, 10.60N×140.94E, h90km±41km, mb3.4/4, mbtmp3.8/5, MS2.5/1, Error ellipse: s-maj=35.3km s-min=20.3km az=109.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 13nm,0.3s,baz=204,slow=20,SNR=8.0	**4.85**	**52**	P	Pn	13 28 22.7	-0.1
GUMO	28nm,0.5s,baz=169,slow=20,SNR=1.6			S	Sn	13 29 18.4	+0.6
GUMO	comp=Z,48nm,19.6s,baz=234,slow=34			LR	LR	13 29 57.5	
H11S3	**WAKE ISLAND Hy 26.10** baz=256,slow=75,SNR=42	**70**		T	T	14 00 58.1	
H11S1	**WAKE ISLAND Hy 26.12** baz=256,slow=75,SNR=20	**70**		T	T	14 00 54.8	
H11S2	**WAKE ISLAND Hy 26.12** baz=256,slow=75,SNR=43	**70**		T	T	14 00 55.0	
H11N1	**WAKE ISLAND Hy 26.60** baz=254,slow=75,SNR=20	**67**		T	T	14 01 29.6	
H11N2	**WAKE ISLAND Hy 26.61** baz=254,slow=75,SNR=16	**67**		T	T	14 01 28.3	
H11N3	**WAKE ISLAND Hy 26.62** baz=254,slow=75,SNR=16	**67**		T	T	14 01 31.3	
WRA	**Warramunga Arr** 1.3nm,0.8s,baz=11,slow=10,SNR=9.2 1.3nm,0.8s	**31.04**	**192**	P	P	13 33 21.1	-0.6
ASAR	**Alice Springs** 0.9nm,0.6s,baz=21,slow=11,SNR=32 0.9nm,0.6s	**34.75**	**191**	P	P	13 33 54.2	+0.3
CMAR	**Chiang Mai Arr** 1.4nm,0.9s,baz=95,slow=6.7,SNR=6.6 1.4nm,0.9s	**41.32**	**286**	P	P	13 34 49.5	+0.2
ILAR	**Eielson Array** 0.3nm,0.6s,baz=248,slow=6.2,SNR=4.5 0.3nm,0.6s	**72.89**	**25**	P	P	13 38 31.0	-0.2

KRSC 16 13:34:47.7±1.2, 60.70N×167.14E, h4km±8km, ML3.6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILK	**Tilichiki**	**0.56**	**243**	P	Pb	13 35 00.3	+0.4
TILK				S	Sb	13 35 07.1	-1.1
KMSK	**Kamenskaya**	**1.82**	**346**	P	Pb	13 35 21.1	-0.4
KMSK				S	Sn	13 35 43.9	+0.7
OSSR	**Ossora**	**2.52**	**236**	P	Pn	13 35 30.5	+1.3
OSSR				S	Sb	13 36 03.9	-0.7
PALN	**Palana**	**3.96**	**249**	P	Pb	13 35 54.4	-3.5
PALN				S	Sn	13 36 40.9	+5.1
KBTR	**Krutoberegovo**	**5.05**	**209**	P	Pn	13 36 08.1	+4.1

*JMA **16** 14:00:56.1±0.2, 43.6N±0.8×14.7E±°, h51km±3km, MV3.8/36, NEAR KUNASHIRI ISLAND*
*SKHL **16** 14:00:56.4±0.2, 43.70N×146.80E, h42km±7km, mb4.6/2*
ISC 16 14:00:54.7±2.1, 43.66N±0.08×146.86E±0.08, h26km±15km, n14, σ0°59/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.81**	**298**	*i* P	**Pb**	**14 01 10.2**	**0.0**
YUK	330nm,0.1s			AMB	AMB	14 01 13.6	
YUK				*eS*	**Sb**	**14 01 20.7**	**-0.1**
YUK	1μm,0.2s			A	A	14 01 23.5	
YUK	2μm,0.2s			A	A	14 01 23.5	
NEM2	**Nemuro 2**	**0.86**	**251**	P	**Pn**	**14 01 11.5**	**+0.4**
NEM2				*eS*	**Sn**	**14 01 22.7**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.87**	**251**	*i* P	**Pn**	**14 01 11.4**	**+0.2**
NMR				*eS*	**Sb**	**14 01 22.6**	**+0.3**
JRA	**Rausu**	**1.29**	**283**	P	**Pn**	**14 01 17.4**	**+0.4**
JRA				*eS*	**Sn**	**14 01 33.1**	**-0.2**
JNSB	**Nemuroshibetsu**	**1.35**	**276**	P	**Pb**	**14 01 18.6**	**-0.6**
JNSB				*eS*	**Sn**	**14 01 34.9**	**0.0**
JKHN	**Kushirohamanak**	**1.36**	**246**	P	**Pn**	**14 01 18.6**	**+0.6**
JKHN				*eS*	**Sn**	**14 01 34.7**	**-0.5**
JNK	**Nakash**	**1.55**	**268**	*eP*	**Pn**	**14 01 20.9**	**+0.2**
JNK				*eS*	**Sn**	**14 01 38.7**	**-1.2**
AKK	**Akkeshi**	**1.60**	**247**	*eP*	**Pn**	**14 01 21.5**	**+0.2**
JAK	**Akkeshi**	**1.71**	**248**	*eP*	**Pn**	**14 01 23.1**	**+0.3**
JAK				*eS*	**Sn**	**14 01 42.9**	**-0.8**
KUR	**Kuril'sk**	**1.74**	**24**	*eP*	**Pn**	**14 01 23.5**	**+0.3**
KUR	90nm,0.4s			AMB	AMB	14 01 24.4	
KUR				*eS*	**Sn**	**14 01 44.0**	**-0.4**
KUR	270nm,0.3s			A	A	14 01 46.7	
KUR	360nm,0.3s			A	A	14 01 46.7	
JTKR	**Abashiri--Toko**	**2.16**	**279**	*eP*	**Pn**	**14 01 29.8**	**+0.8**
JAR	**Ashorobuto**	**2.27**	**262**	*eP*	**Pn**	**14 01 31.6**	**+1.0**
JAR				*eS*	**Sn**	**14 01 57.7**	**0.0**
JOB	**Onbets**	**2.33**	**252**	*eP*	**Pn**	**14 01 32.4**	**+1.0**
JOB				*eS*	**Sn**	**14 01 59.0**	**-0.1**
JCH	**Churui**	**2.76**	**249**	*eP*	**Pn**	**14 01 37.7**	**+0.5**

*IDC **16** 14:15:12.8±1.9, 52.59N×169.57W, h0km, mb3.8/3, mbtmp3.7/6, ML3.1/3, MS3.0/1, Error ellipse: s-maj=55.2km s-min=22.3km az=166.0*
*AEIC **16** 14:15:17±1.6, 52.35N±0.05×169.4W±0.1, h14km±7km, Error ellipse: s-maj=10.8km s-min=7.2km az=106.0*
*NEIC **16** 14:15:19.2±1.1, 52.5N±0.2×169.6W±0.2, h36km±44km, ML3.2(AEIC), Error ellipse: s-maj=36.8km s-min=8.9km az=157.0*
ISC 16 14:15:18.6±1.4, 52.6N±0.2×169.61W±0.08, h40km, n29, σ1°31/22, mb3.9/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLCO	**Concord Point,**	**0.20**	**340**		**Pn**	**14 15 27.4**	**+1.5**
CLES	**Cleveland East**	**0.28**	**322**		**Pn**	**14 15 28.5**	**+1.8**
NIKH	**Nikolski High**	**0.59**	**50**		**Pn**	**14 15 31.8**	**+1.2**
OKCE	**Okmok Cone E**	**1.20**	**46**		**Pn**	**14 15 39.9**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**1.23**	**50**		**Pn**	**14 15 40.6**	**+1.3**
OKRE	**Okmok R'deer P**	**1.27**	**43**		**Pn**	**14 15 41.7**	**+1.8**
MAPS	**Pakushin South**	**2.01**	**52**		**Pn**	**14 15 51.7**	**+1.7**
MGOD	**Makushin Gods**	**2.04**	**53**		**Pn**	**14 15 52.4**	**+2.0**
MNAT	**Makushin Natee**	**2.18**	**53**		**Pn**	**14 15 54.1**	**+1.7**
UNV	**Unalaska Valle**	**2.25**	**55**		**Pn**	**14 15 54.4**	**+1.2**
AKUT	**Akutan**	**2.77**	**55**	Pn	**Pn**	**14 16 01.4**	**+1.0**
ADK	**Adak**	**4.41**	**263**	Pn	**Pn**	**14 16 23.4**	**+0.5**
KIWB	**Kanaga Island**	**4.70**	**264**	Pn	**Pn**	**14 16 27.4**	**+0.5**
SDPT	**Sand Point**	**6.05**	**59**	Pn	**Pn**	**14 16 45.6**	**+0.2**
AMKA	**Amchitka**	**6.96**	**264**	Pn	**Pn**	**14 16 57.2**	**-0.7**
CHGN	**Chignik**	**7.50**	**56**	Pn	**Pn**	**14 17 05.9**	**+0.6**
KDAK	**Kodiak Island** 0.2nm,0.3s,baz=280,slow=9.2,SNR=1.2 6.8nm,1.1s	**11.02**	**55**	Pn	**Pn**	**14 17 52.6**	**-0.8**
ILAR	**Eielson Array** baz=226,slow=11,SNR=4.6 0.2nm,0.5s	**16.84**	**35**	Pn	**Pn**	**14 19 08.8**	**-2.4**
PETK	**Petropavlovsk-** 0.4nm,0.3s,baz=92,slow=12,SNR=8.0 1.5nm,0.5s	**19.66**	**285**	P	**P**	**14 19 44.2**	**+0.3**
KLR	**Kul'dur** comp=Z,19nm,18.7s,baz=118,slow=37	**36.24**	**289**	LR	LR	14 37 50.0	
H11N2	**WAKE ISLAND Hy 37.54** baz=24	**218**		T	T	15 02 24.4	
H11N3	**WAKE ISLAND Hy 37.55** baz=24	**218**		T	T	15 03 07.3	
H11N1	**WAKE ISLAND Hy 37.56** baz=24	**218**		T	T	15 02 41.7	
H11S1	**WAKE ISLAND Hy 38.73** baz=23,slow=76,SNR=15	**218**		T	T	15 03 41.7	
H11S2	**WAKE ISLAND Hy 38.75** baz=23,slow=76,SNR=10	**218**		T	T	15 03 50.9	
H11S3	**WAKE ISLAND Hy 38.75** baz=23,slow=76,SNR=9.3	**218**		T	T	15 03 47.7	
PDAR	**Pinedale Array** 0.4nm,0.5s,baz=306,slow=4.0,SNR=4.9 0.4nm,0.5s	**40.50**	**79**	P	**P**	**14 22 53.8**	**+0.1**
FINES	**FINESS Array B** 1.3nm,0.9s,baz=32,slow=8.2,SNR=5.2 1.3nm,0.9s	**65.62**	**352**	P	**P**	**14 25 57.4**	**-0.5**
CMAR	**Chiang Mai Arr** 1.0nm,0.8s,baz=28,slow=7.5,SNR=5.1 1.0nm,0.8s	**76.42**	**283**	P	**P**	**14 27 04.2**	**+0.1**

IDC 16 14:36:16.3±2.4, 7.85S×131.17E, h0km, mb3.5/1, mbtmp3.4/3, ML3.2/2, MS2.9/3, Error ellipse: s-maj=125.0km s-min=33.1km az=71.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang** comp=Z,30nm,20.1s,baz=42,slow=37	**11.69**	**283**	LR	LR	14 43 33.0	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=349,slow=13,SNR=17	**12.41**	**166**	Pn	Pn	14 39 14.9	+0.6
WRA	0.3nm,0.3s,baz=347,slow=24,SNR=7.8 0.7nm,0.6s			Sn	Sn	14 41 29.9	-3.6
ASAR	**Alice Springs** 0.1nm,0.3s,baz=348,slow=9.4,SNR=8.7	**15.95**	**171**	Pn	Pn	14 40 01.4	-0.8
ASAR	0.1nm,0.3s,baz=2.7,slow=26,SNR=1.9 0.4nm,0.5s			Sn	Sn	14 42 55.2	-4.6
LEM	**Lembang** comp=Z,59nm,18.6s,baz=68,slow=41	**23.38**	**271**	LR	LR	14 52 11.2	
CMAR	**Chiang Mai Arr** comp=Z,11nm,18.5s,baz=85,slow=40	**41.16**	**310**	LR	LR	15 03 29.1	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=118,slow=8.2,SNR=3.7 0.3nm,0.5s	**69.56**	**326**	P	P	14 47 27.2	0.0
ASAR				PcP	PcP	14 50 27.0	-0.4
	0.4nm,0.9s,baz=114,slow=3.9,SNR=2.6 2.7nm,0.6s						

IDC 16 14:40:20.3±5.4, 18.76S×175.37W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=177.3km s-min=106.4km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 0.8nm,0.5s,baz=94,slow=15,SNR=3.0 0.8nm,0.5s	**40.78**	**243**	P	P	14 48 03.5	0.0
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=97,slow=7.5,SNR=22 1.2nm,0.7s	**47.32**	**260**	P	P	14 48 56.0	-0.2
ASAR	**Alice Springs** 2.7nm,0.6s,baz=93,slow=7.5,SNR=70	**47.34**	**255**	P	P	14 48 56.2	-0.1
ASAR	0.4nm,0.9s,baz=114,slow=3.9,SNR=2.6 2.7nm,0.6s			PcP	PcP	14 50 27.0	-0.4

*AEIC **16** 14:59:28±1.7, 54.47N±0.04×159.96W±0.09, h6km±7km, Error ellipse: s-maj=8.2km s-min=5.1km az=120.0*
*NEIC **16** 14:59:28.6±1.1, 54.50N±0.08×159.90W±0.09, h21km±12km, ML3.4/16, ML3.3(AEIC), Error ellipse: s-maj=12.9km s-min=4.4km az=149.0*
ISC 16 14:59:27.9±1.8, 54.45N±0.10×159.94W±0.06, h24km, n83, σ0°86/84, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNBA	**Chernabura Isl**	**0.42**	**29**		**Pb**	**14 59 37.0**	**+0.2**
CNBA					**Sb**	**14 59 43.0**	**+0.2**
CHNA	**Chernabura Isl** baz=211	**0.43**	**28**	P	**Pb**	**14 59 37.0**	**+0.1**
CHNA	baz=211			S	**Sb**	**14 59 43.0**	**0.0**
SDPT	**Sand Point**	**0.95**	**341**		**Pb**	**14 59 44.9**	**-0.9**
SDPT	**Sand Point** comp=E,2μm,0.7s	**0.95**	**341**	IAML		14 59 57.9	
SDPT	comp=N,1μm,0.5s			IAML		14 59 58.8	
SDPT	**Sand Point** baz=161	**0.95**	**341**	P	**Pb**	**14 59 44.9**	**-0.9**
SDPT	baz=161			S	**Sb**	**14 59 56.9**	**-1.0**
PVV	**Pavlof Volcano**	**1.41**	**312**		**Pn**	**14 59 52.6**	**+0.5**
PS4A	**Pavlof South-4**	**1.43**	**310**		**Pn**	**14 59 52.6**	**+0.3**
HAG	**Hague Volcano**	**1.43**	**308**		**Pn**	**14 59 52.8**	**+0.4**
DT1	**Dutton Round H**	**1.51**	**297**		**Pn**	**14 59 53.6**	**+0.2**
PN7A	**Pavlof North-7**	**1.54**	**310**		**Pn**	**14 59 54.6**	**+0.7**
S14K	**Fog Glacier** baz=187	**1.85**	**7**	P	**Pn**	**14 59 59.4**	**+1.2**
S14K	baz=187			S	**Sb**	**15 00 23.7**	**-0.2**
VNFG	**Fog Glacier, M**	**1.85**	**7**		**Pn**	**14 59 59.5**	**+1.2**
CHGN	**Chignik**	**2.05**	**24**		**Pn**	**15 00 01.0**	**+0.2**
CHGN	**Chignik** comp=E,256nm,0.6s	**2.05**	**24**	IAML		15 00 38.8	
CHGN	**Chignik** baz=206	**2.05**	**24**	P	**Pn**	**15 00 01.0**	**+0.2**
ISLZ	**Isanotski Laza**	**2.21**	**279**		**Pn**	**15 00 04.2**	**+1.0**
ISNN	**Isanotski Nort**	**2.27**	**281**		**Pn**	**15 00 05.6**	**+1.8**
SSLS	**Shishaldin Sou**	**2.38**	**278**		**Pn**	**15 00 07.2**	**+1.8**
SSLN	**Shishaldin Nor**	**2.39**	**280**		**Pn**	**15 00 07.8**	**+2.3**
WTUG	**Tugumak**	**2.62**	**281**		**Pn**	**15 00 10.1**	**+1.5**
ANNE	**Aniakchak Nort**	**2.69**	**23**		**Pn**	**15 00 10.0**	**+0.4**
WECS	**Westdahl Cape**	**2.83**	**274**		**Pn**	**15 00 12.2**	**+0.6**
CHIR	**Chirikof Islan**	**2.83**	**59**		**Pn**	**15 00 11.7**	**+0.2**
CHIR	**Chirikof Islan** comp=N,139nm,1.1s	**2.83**	**59**	IAML		15 01 06.0	
CHIR	**Chirikof Islan** baz=243	**2.83**	**59**	P	**Pn**	**15 00 11.7**	**+0.2**
AKSA	**Akutan Strait**	**3.39**	**267**		**Pn**	**15 00 21.1**	**+1.8**
R16K	**Pilot Point**	**3.39**	**22**		**Pn**	**15 00 19.5**	**+0.2**
R16K	**Pilot Point** baz=204	**3.39**	**22**	P	**Pn**	**15 00 19.5**	**+0.2**
AKUT	**Akutan** comp=E,76nm,3.5s	**3.43**	**267**	Pn	**Pn**	**15 00 22.0**	**+2.2**
AKUT				IAML		15 01 38.4	
R17K	**Ugashik Creek**	**3.77**	**30**		**Pn**	**15 00 25.5**	**+1.1**
R17K	**Ugashik Creek** baz=214	**3.77**	**30**	P	**Pn**	**15 00 25.5**	**+1.1**
SII	**Sitkinak Islan** comp=E,77nm,3.0s	**3.89**	**55**	Pn	**Pn**	**15 00 26.1**	**-0.1**
SII				IAML		15 01 23.4	
UNV	**Unalaska Valle**	**3.91**	**264**		**Pn**	**15 00 27.7**	**+1.3**
UNV	**Unalaska Valle** baz=78	**3.91**	**264**	P	**Pn**	**15 00 27.7**	**+1.3**
MNAT	**Makushin Natee**	**4.01**	**265**		**Pn**	**15 00 28.9**	**+1.2**
MREP	**Makushin Rep't**	**4.06**	**264**		**Pn**	**15 00 29.7**	**+1.2**
MGOD	**Makushin Gods**	**4.13**	**264**		**Pn**	**15 00 31.2**	**+1.7**
OHAK	**Old Harbor** comp=E,25nm,3.0s	**4.66**	**51**	Pn	**Pn**	**15 00 36.9**	**+0.1**
OHAK				IAML		15 03 23.1	
OHAK	comp=N,34nm,2.6s			IAML		15 03 37.6	
KAKN	**Katmai Knife C**	**4.71**	**33**		**Pn**	**15 00 38.1**	**+0.6**
P16K	**Nushagak River**	**4.71**	**12**		**Pn**	**15 00 37.8**	**+0.4**
P16K	**Nushagak River** baz=194	**4.71**	**12**	P	**Pn**	**15 00 37.8**	**+0.4**
P17K	**Kvichak River**	**5.13**	**21**		**Pn**	**15 00 43.6**	**+0.5**
P17K	**Kvichak River** baz=204	**5.13**	**21**	P	**Pn**	**15 00 43.6**	**+0.5**
O16K	**Kokwok River B**	**5.25**	**10**		**Pn**	**15 00 44.8**	**-0.1**
O16K	**Kokwok River B** baz=192	**5.25**	**10**	P	**Pn**	**15 00 44.8**	**-0.1**
KDAK	**Kodiak Island**	**5.30**	**48**		**Pn**	**15 00 44.7**	**-0.7**
KDAK	**Kodiak Island** baz=234	**5.30**	**48**	P	**Pn**	**15 00 44.7**	**-0.7**
O17K	**Koliganek Bris**	**5.56**	**15**		**Pn**	**15 00 48.9**	**-0.1**
O17K	**Koliganek Bris** baz=198	**5.56**	**15**	P	**Pn**	**15 00 48.9**	**-0.1**
Q19K	**Cape Douglas,**	**5.67**	**35**		**Pn**	**15 00 50.9**	**+0.3**
Q19K	**Cape Douglas,** baz=221	**5.67**	**35**	P	**Pn**	**15 00 50.9**	**+0.3**
Q20K	**Shuyak Island** baz=228	**5.90**	**42**	P	**Pn**	**15 00 53.5**	**-0.1**
SYI	**Shuyak Island**	**5.90**	**42**		**Pn**	**15 00 53.5**	**-0.1**
O18K	**Koktuh Hills**	**6.00**	**23**		**Pn**	**15 00 55.6**	**+0.5**
O18K	**Koktuh Hills** baz=208	**6.00**	**23**	P	**Pn**	**15 00 55.6**	**+0.5**
N16K	**Nishlik Lake**	**6.07**	**5**		**Pn**	**15 00 55.9**	**-0.2**
N16K	**Nishlik Lake** baz=187	**6.07**	**5**	P	**Pn**	**15 00 55.9**	**-0.2**
N18K	**Kilae Creek**	**6.61**	**18**	Pn	**Pn**	**15 01 04.5**	**+1.0**
CNPM	**China Poot**	**6.96**	**40**		**Pn**	**15 01 07.8**	**-0.5**
N19K	**Bonanza Creek**	**7.02**	**22**		**Pn**	**15 01 10.1**	**+1.0**
N19K	**Bonanza Creek** baz=207	**7.02**	**22**	P	**Pn**	**15 01 10.1**	**+1.0**
SVW2	**Sparrevohn**	**7.06**	**17**	Pn	**Pn**	**15 01 09.4**	**-0.2**
SEW	**Seward**	**8.02**	**41**	Pn	**Pn**	**15 01 22.8**	**+0.1**
M19K	**Big River Lodg**	**8.02**	**19**	Pn	**Pn**	**15 01 23.9**	**+1.1**
L19K	**White Mountain**	**8.20**	**17**		**Pn**	**15 01 25.4**	**+0.2**
L19K	**White Mountain** baz=201	**8.20**	**17**	P	**Pn**	**15 01 25.4**	**+0.2**
M20K	**Styx River**	**8.27**	**23**	Pn	**Pn**	**15 01 27.3**	**+1.0**
RC01	**Rabbit Creek A**	**8.59**	**35**	Pn	**Pn**	**15 01 30.5**	**-0.2**
SKT	**Skwentna**	**8.75**	**27**	Pn	**Pn**	**15 01 32.8**	**0.0**
P23K	**Montague Islan** baz=236	**8.77**	**46**	P	**Pn**	**15 01 33.2**	**+0.1**
PWL	**Port Wells**	**8.93**	**39**	Pn	**Pn**	**15 01 34.9**	**-0.4**
PWL	**Port Wells** baz=229	**8.93**	**39**	P	**Pn**	**15 01 35.2**	**-0.1**
FID	**Port Fidalgo**	**9.58**	**43**	Pn	**Pn**	**15 01 42.8**	**-1.4**
SML	**Sawmill** baz=225	**9.58**	**35**	P	**Pn**	**15 01 43.6**	**-0.6**
SCM	**Sheep Creek Mo**	**9.94**	**37**	Pn	**Pn**	**15 01 49.0**	**-0.2**
SCM	**Sheep Creek Mo** baz=228	**9.94**	**37**	P	**Pn**	**15 01 48.5**	**-0.7**
J20K	**Nowinta River**	**10.19**	**14**	Pn	**Pn**	**15 01 54.4**	**+2.0**
KLU	**Klutina**	**10.24**	**41**	Pn	**Pn**	**15 01 53.3**	**0.0**
M24K	**Tolsona, Glenn**	**10.53**	**38**	Pn	**Pn**	**15 01 58.5**	**+1.3**
RND	**Reindeer**	**10.63**	**28**	Pn	**Pn**	**15 01 58.5**	**0.0**
DHY	**Denali Highway**	**10.81**	**32**	Pn	**Pn**	**15 02 01.4**	**+0.4**
PAX	**Paxson**	**11.35**	**35**	Pn	**Pn**	**15 02 08.4**	**0.0**
RIDG	**Independent Ri**	**12.08**	**34**	Pn	**Pn**	**15 02 17.4**	**-1.0**

*NEIC **16** 15:03:45.8±2.4, 7.03S±0.08×129.5E±0.1, h118km±11km, mb4.1/10, Error ellipse: s-maj=17.0km s-min=12.0km az=89.0*
*DJA **16** 15:03:48.3±0.2, 7.5S±2°×13°0E±°, h106km±6km, M4.4/17, mB5.0/9, mb4.6/17, MLv4.5/13, Mw(mB)4.3/9*
*IDC **16** 15:03:49.2±1.8, 6.95S×129.52E, h101km±17km, mb3.6/8, mbtmp4.1/10, MS2.9/5, Error ellipse: s-maj=17.2km s-min=12.7km az=102.0*
ISC 16 15:03:47.2±0.5, 7.13S±0.05×129.59E±0.05, h100km, n95, σ2°35/82, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.89**	**117**		**Pn**	**15 04 19.3**	**+0.9**
SAUI	**Saumlaki**	**1.89**	**117**	P	**Pn**	**15 04 18.8**	**+0.4**
SAUI				S	**Sn**	**15 04 42.0**	**-0.2**
SAUI	**Saumlaki**	**1.89**	**117**	P	**Pn**	**15 04 21.0**	**+2.6**
BNDI	**Bandanaira**	**2.61**	**7**	P	**Pn**	**15 04 29.7**	**+1.9**
BNDI	**Bandanaira**	**2.61**	**7**	P	**Pn**	**15 04 30.1**	**+2.3**
AAI	**Ambon**	**3.69**	**338**	P	**Pn**	**15 04 43.6**	**+1.3**
MSAI	**Masohi**	**3.82**	**350**	P	**Pn**	**15 04 45.7**	**+1.7**
NLAI	**Namlea**	**4.59**	**327**	P	Pn	15 04 57.6	+3.1
FAKI	**Fak Fak**	**4.95**	**32**	Pn	**Pn**	**15 04 58.2**	**-1.1**
FAKI	**Fak Fak**	**4.95**	**32**	P	**Pn**	**15 04 58.1**	**-1.2**
MTN	**Manton Dam**	**5.88**	**165**	Pn	**Pn**	**15 05 12.5**	**+0.6**
MTN	**Manton Dam**	**5.88**	**165**	P	**Pn**	**15 05 13.9**	**+2.0**
SANI	**Sanana** 0.2nm1μm61nm,1.1s	**6.20**	**324**	P	Pn	15 05 19.5	+3.3
SANI	**Sanana**	**6.20**	**324**	P	Pn	15 05 21.0	+4.8
KDU	**Kakadu**	**6.21**	**153**	P	**Pn**	**15 05 16.5**	**+0.1**
SIJI	**Sorong** 30nm,0.3s,baz=212,slow=9.9,SNR=58	**6.44**	**15**	P	**Pn**	**15 05 19.8**	**+0.2**
SIJI	35nm,0.2s,baz=249,slow=23,SNR=10			S	**Sn**	**15 06 29.3**	**-2.4**
BATI	**Baumata** 127nm,0.4s,baz=112,slow=3.5,SNR=40	**6.61**	**242**	P	Pn	15 05 24.8	+2.9
BATI	98nm,0.5s,baz=61,slow=22,SNR=6.7			S	**Sn**	**15 06 38.3**	**+2.4**
BATI	comp=Z,95nm,18.2s,baz=156,slow=36			LR	LR	15 07 45.6	
BATI	**Baumata** 0.4nm1μm72nm,0.4s	**6.61**	**242**	P	**Pn**	**15 05 24.4**	**+2.5**
LBMI	**Labuha** 0.3nm1μm26nm,0.8s	**6.78**	**342**	P	Pn	15 05 27.2	+3.0
BBSI	**Bau Bau** 0.0nm13nm,1.0s	**7.17**	**283**	P	Pn	15 05 34.3	+4.8
MMRI	**Maumere** 0.2nm34nm,1.1s	**7.44**	**258**	P	Pn	15 05 35.9	+2.7
EDFI	**Ende, Flores** 234nm8.9nm,0.6s	**7.99**	**258**	P	Pn	15 05 43.9	+3.1
KNRA	**Kununurra**	**8.53**	**185**	Pn	**Pn**	**15 05 47.3**	**-0.7**
KNRA	**Kununurra**	**8.53**	**185**	P	**Pn**	**15 05 48.1**	**+0.1**
BAKI	**Biak** 3μm315nm,0.8s	**8.77**	**48**	P	**Pn**	**15 05 51.6**	**+0.3**
BKSI	**Bulukumba** 23nm,0.8s	**9.59**	**280**	P	Pn	15 06 05.6	+3.2
KAPI	**Kappang** 8.1nm,0.3s,baz=120,slow=7.1,SNR=3.6	**10.01**	**282**	P	Pn	15 06 13.6	+5.4
MRSI	**Marisa** 47nm,1.1s	**10.74**	**314**	P	Pn	15 06 22.1	+4.0
SGSI	**Sangihe** 33nm,0.5s	**11.48**	**339**	P	Pn	15 06 31.4	+3.3
FITZ	**Fitzroy Crossi** 12nm,0.4s,baz=27,slow=11,SNR=61	**11.56**	**199**	P	**Pn**	**15 06 26.9**	**-2.2**
FITZ	52nm,0.5s,baz=107,slow=12,SNR=14			S	**Sn**	**15 08 28.5**	**-7.8**
FITZ	comp=Z,45nm,19.9s,baz=104,slow=37			LR	LR	15 11 00.5	
FITZ	**Fitzroy Crossi**	**11.56**	**199**	Pn	**Pn**	**15 06 26.7**	**-2.5**
FITZ	**Fitzroy Crossi**	**11.56**	**199**	P	**Pn**	**15 06 27.8**	**-1.3**
PLAI	**Plampang**	**11.82**	**261**	P	**Pn**	**15 06 33.5**	**+0.8**
WB0	**Warramunga Arr**	**13.40**	**160**	Pn	**Pn**	**15 06 49.9**	**-3.5**
WRAB	**Tennant Creek**	**13.54**	**161**	Pn	Pn	15 06 50.6	-4.7
WRA	**Warramunga Arr** 5.8nm,0.5s,baz=350,slow=13,SNR=148	**13.54**	**161**	P	**Pn**	**15 06 51.2**	**-4.1**
WRA	16nm,0.5s,baz=334,slow=22,SNR=12			S	Sn	15 09 14.2	-10
WRA	**Warramunga Arr**	**13.54**	**161**	Pn	Pn	15 06 50.6	-4.7
WB2	**Warramunga Arr**	**13.55**	**161**	Pn	**Pn**	**15 06 51.9**	**-3.4**
WR0	**Warramunga Arr**	**13.63**	**160**	Pn	**Pn**	**15 06 52.5**	**-3.9**
DAV	**Davao City (W)** comp=Z,25nm,20.8s,baz=130,slow=39	**14.66**	**344**	LR	LR	15 13 17.1	
COEN	**Coen**	**14.97**	**118**	Pn	**Pn**	**15 07 12.6**	**-1.1**
COEN	comp=Z,7.7nm,0.7s			IAmb	IAmb	15 07 26.9	
BBKI	**Banjar Baru** comp=Z,15nm,0.8s	**15.13**	**283**	P	**P**	**15 07 21.6**	**+3.0**
MYLDM	**Lahad Datu**	**16.50**	**318**		**Pn**	**15 07 28.5**	**-4.3**
MYLDM	comp=Z,23nm,1.0s			IAmb	IAmb	15 07 46.0	
QIS	**Mount Isa**	**16.50**	**145**	P	**Pn**	**15 07 32.2**	**-0.6**

BBOO	**Buckleboo**	**26.25 168**	P	**P**	**15 09 12.0**	**-1.1**
BBOO			IAmb	IAmb	15 09 22.1	
	comp=Z,6.5nm,1.1s					
BBOO	**Buckleboo**	**26.25 168**	P	**P**	**15 09 15.2**	**+2.1**
BLDU	**Ballidu**	**26.30 206**	P	**P**	**15 09 15.9**	**+2.3**
STKA	**Stephens Creek**	**27.05 157**	P	**P**	**15 09 22.5**	**+2.2**
	comp=Z,1.1nm,0.4s,baz=357,slow=7.9,SNR=5.4					
STKA			LR	LR	15 21 26.9	
	comp=Z,78nm,19.0s,baz=218,slow=39					
	comp=Z,1.1nm,0.4s					
STKA	**Stephens Creek**	**27.05 157**	P	**P**	**15 09 17.6**	**-2.7**
STKA	**Stephens Creek**	**27.05 157**	P	**P**	**15 09 22.7**	**+2.4**
CMSA	**Cobar Meteorol**	**28.56 150**	P	**P**	**15 09 36.5**	**+2.7**
ARPS	**Mount Arapiles**	**31.55 161**	P	**P**	**15 10 03.0**	**+2.9**
CMAR	**Chiang Mai Arr**	**39.51 310**	P	**P**	**15 11 09.2**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=139,slow=6.6,SNR=7.2					
CMAR			LR	LR	15 28 13.7	
	comp=Z,9.0nm,21.4s,baz=220,slow=37					
	comp=Z,1.1nm,0.8s					
KSRS	**Korea Array**	**44.38 358**	P	**P**	**15 11 48.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=176,slow=9.8,SNR=4.6					
	comp=Z,0.3nm,0.5s					
TAPN	**Taplejung**	**53.07 312**	*eP*	**P**	**15 12 55.2**	**+0.3**
	comp=Z,19nm,0.3s					
RAMN	**Ramite**	**53.68 311**	*eP*	**P**	**15 13 00.1**	**+0.8**
	comp=Z,39nm,0.4s					
JIRN	**Jiri**	**54.37 311**	*eP*	**P**	**15 13 04.8**	**+0.3**
	comp=Z,14nm,0.3s					
GUN	**Gumba**	**54.74 311**	*eP*	**P**	**15 13 07.5**	**+0.4**
	comp=Z,26nm,0.5s					
PKI	**Pulchoki**	**54.91 311**	*eP*	**P**	**15 13 08.9**	**+0.6**
PKIN	**Phulchoki**	**54.92 311**	*eP*	**P**	**15 13 08.8**	**+0.5**
	comp=Z,7.4nm,0.3s					
DMN	**Daman**	**55.15 311**	*eP*	**P**	**15 13 11.3**	**+1.3**
GKN	**Gorkha**	**55.71 311**	*eP*	**P**	**15 13 14.0**	**+0.1**
	comp=Z,25nm,0.3s					
KOLN	**Koldanda**	**56.38 310**	*eP*	**P**	**15 13 19.6**	**+0.9**
DANN	**Dangsing**	**56.55 311**	*eP*	**P**	**15 13 20.7**	**+0.7**
PYUN	**Piuthan**	**57.01 310**	*eP*	**P**	**15 13 24.6**	**+1.5**
	comp=Z,10nm,0.3s					
SONM	**Songino Array**	**58.44 342**	P	**P**	**15 13 34.2**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=153,slow=7.0,SNR=5.1					
	comp=Z,1.0nm,0.6s					
MKAR	**Makanchi Array**	**68.11 327**	P	**P**	**15 14 37.2**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=118,slow=8.0,SNR=38					
	comp=Z,2.0nm,0.3s					
ZALV	**Zalesovo Beam**	**71.52 334**	P	**P**	**15 14 57.0**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=140,slow=5.9,SNR=7.1					
	comp=Z,1.3nm,0.5s					
MAW	**Mawson**	**74.68 201**	P	**P**	**15 15 18.5**	**+2.9**
	comp=Z,0.8nm,0.6s,baz=34,slow=3.6,SNR=2.0					
	comp=Z,0.8nm,0.6s					
QSPA	**South Pole Qui**	**82.85 180**	P	**P**	**15 15 55.7**	**-4.8**
TORD	**Torodi Ar. Bea**	**128.44 281**	PKP	**PKiKP**	**15 22 44.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=122,slow=1.6,SNR=2.4					
LPAZ	**La Paz**	**150.86 143**	PKPbc	**PKiKP**	**15 23 31.8**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=184,slow=5.6,SNR=7.4					

NEIC **16** *15:16:28.2±0.4,25°.8S±0°.1×179°.4W±0°.1, h455km±17km, mb4.2/18, Error ellipse: s-maj=23.5km s-min=6.3km az=54.0*

IDC **16** *15:16:29.6±1.6,25°.73S×179°.62W, h448km±22km, mb3.5/4, mbtmp4.4/7, Error ellipse: s-maj=32.6km s-min=25.8km az=151.0*

ISC 16 15:16:28.3±0.7,**25°.84S**±0°.08×**179°.50W**±0°.10,**h450**km, **n34**,σ0**°98**/35,**mb4.2**/13,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.67 158**		P	**P**	**15 17 42.3**	**+1.8**
	208nm,0.3s,baz=78,slow=9.9,SNR=5.1						
RAO	**Raoul Island**	**3.67 158**		P	**P**	**15 17 41.9**	**+1.3**
MSVF	**Nonsavu**	**8.39 344**		P	**P**	**15 18 28.3**	**+0.2**
	6.4nm,0.6s,baz=223,slow=22,SNR=4.0						
MSVF	**Nonsavu**	**8.39 344**		P	**P**	**15 18 27.5**	**-0.6**
NIUE	**Niue**	**11.12 55**		P	**P**	**15 18 55.7**	**-2.0**
MARNC	**Mare, Loyalty**	**12.23 288**		P	**P**	**15 19 07.8**	**-1.9**
URZ	**Urewera**	**12.71 192**		P	**P**	**15 19 13.9**	**-0.7**
	4.4nm,0.4s,baz=337,slow=4.2,SNR=13						
URZ				S	**S**	**15 21 29.8**	**-2.2**
	19nm,0.6s,baz=310,slow=23,SNR=14						
URZ	**Urewera**	**12.71 192**		P	**P**	**15 19 14.1**	**-0.6**
DZM	**Mont Dzumac**	**13.39 283**		P	**P**	**15 19 24.2**	**+1.8**
	18nm,0.7s,baz=94,slow=15,SNR=18						
DZM	**Mont Dzumac**	**13.39 283**			**P**	**15 19 22.8**	**+0.4**
THZ	**Tophouse**	**17.07 200**		P	**P**	**15 20 00.7**	**-0.6**
LTZ	**Lake Taylor**	**18.20 200**		P	**P**	**15 20 13.5**	**+0.6**
LTZ				IAmb	IAmb	15 20 19.8	
	comp=Z,7.4nm,0.9s						
ARMA	**Armidale**	**25.83 253**		P	**P**	**15 21 22.4**	**+0.1**
ARMA				IAmb	IAmb	15 21 29.4	
	comp=Z,8.1nm,1.1s						
EIDS	**Eidsvold**	**26.52 265**		P	**P**	**15 21 27.8**	**-0.4**
TOO	**Toolangi**	**31.82 240**		P	**P**	**15 22 14.6**	**+0.1**
CTAO	**Charters Tower**	**31.99 273**		P	**P**	**15 22 17.0**	**+0.9**
CTAO				IAmb	IAmb	15 22 18.4	
	comp=Z,7.4nm,0.6s						
STKA	**Stephens Creek**	**34.47 251**		P	**P**	**15 22 38.0**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=86,slow=9.7,SNR=10						
	comp=Z,2.0nm,0.5s						
STKA	**Stephens Creek**	**34.47 251**		P	**P**	**15 22 37.1**	**0.0**
COEN	**Coen**	**36.91 281**		P	**P**	**15 22 57.9**	**+0.2**
COEN				IAmb	IAmb	15 23 08.7	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**39.14 249**		P	**P**	**15 23 15.9**	**+0.1**
BBOO				IAmb	IAmb	15 23 19.5	
	comp=Z,7.2nm,1.1s						
AS31	**Alice Springs**	**42.20 263**		P	**P**	**15 23 40.4**	**-0.1**
AS31				IAmb	IAmb	15 23 42.5	
	comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**42.20 263**		P	**P**	**15 23 40.8**	**+0.2**
	comp=Z,5.5nm,0.4s,baz=90,slow=7.4,SNR=321						
	comp=Z,5.5nm,0.4s						
ASAR	**Alice Springs**	**42.20 263**		P	**P**	**15 23 40.5**	**-0.1**
WR0	**Warramunga Arr**	**42.58 268**		P	**P**	**15 23 43.1**	**-0.4**
WR0				IAmb	IAmb	15 23 44.2	
	comp=Z,4.4nm,0.5s						
WB2	**Warramunga Arr**	**42.76 268**		P	**P**	**15 23 44.5**	**-0.4**
WRAB	**Tennant Creek**	**42.76 268**		P	**P**	**15 23 44.6**	**-0.3**
WRAB				IAmb	IAmb	15 23 45.7	
	comp=Z,6.2nm,0.5s						
WRA	**Warramunga Arr**	**42.77 268**		P	**P**	**15 23 45.1**	**+0.1**
	comp=Z,4.7nm,0.4s,baz=103,slow=7.8,SNR=146						
	comp=Z,4.7nm,0.4s						
WRA	**Warramunga Arr**	**42.77 268**		P	**P**	**15 23 44.0**	**-0.9**
WB0	**Warramunga Arr**	**42.77 268**		P	**P**	**15 23 44.6**	**-0.3**
WB0				IAmb	IAmb	15 23 45.8	
	comp=Z,7.8nm,0.7s						
MTN	**Manton Dam**	**48.08 276**		P	**P**	**15 24 24.9**	**-1.0**
MTN				IAmb	IAmb	15 24 25.9	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**49.16 271**		P	**P**	**15 24 34.0**	**0.0**
FITZ	**Fitzroy Crossi**	**51.16 267**		P	**P**	**15 24 48.9**	**+0.1**
VNDA	**Vanda**	**52.49 185**		P	**P**	**15 24 57.6**	**+0.2**
NVAR	**Mina Array Bea**	**85.83 44**		P	**P**	**15 28 21.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=228,slow=8.1,SNR=2.4						
	comp=Z,0.3nm,0.7s						

IDC 16 15:43:43.8±2.3,**8°.22S**×**128°.86E**,**h0**km,**mb3.2**/1, **mbtmp3.2**/4,**ML2.9**/3,**Error ellipse: s-maj=97.4km s-min=30.5km az=74.0**,**Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.31 197**		Pn	Pn	15 46 13.6	+0.5
	0.1nm,0.3s,baz=35,slow=12,SNR=1.9						
FITZ				Sn	Sn	15 48 15.5	+6.0
	baz=208,slow=23,SNR=2.2						
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**12.81 156**		Pn	Pn	15 46 46.3	-1.0
	0.1nm,0.3s,baz=331,slow=13,SNR=9.5						
WRA				Sn	Sn	15 49 06.3	-4.4
	0.1nm,0.3s,baz=338,slow=22,SNR=2.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**16.11 163**		Pn	Pn	15 47 32.4	+0.6
	baz=336,slow=9.9,SNR=6.0						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**68.63 328**		P	P	15 54 48.8	0.0
	0.1nm,0.4s,baz=134,slow=8.2,SNR=1.9						
	0.1nm,0.4s						

IDC **16** *15:46:54.8±2.4, 7°.09S×130°.19E, h84km±27km, mb3.7/2, mbtmp4.1/7, Error ellipse: s-maj=37.2km s-min=22.3km az=92.0*

DJA **16** *15:46:55.2±1.1, 7°.2S×13°.0E±°, h21km±9km, M4.1/13, mb4.2/6, mB4.9/2, MLv4.0/13, Mw(mB)4.2/2*

ISC 16 15:46:55.2±0.7,**7°.12S**±0°.05×**130°.14E**±0°.06,**h104**km,**n22**, σ**26°60**/27,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.43 127**		P	**Pn**	**15 47 22.6**	**+1.8**
SAUI				S	**Sn**	**15 47 41.9**	**+1.6**
SAUI	**Saumlaki**	**1.43 127**		P	Pn	15 47 25.9	+5.1
BNDI	**Bandanaira**	**2.59 355**		P	**Pn**	**15 47 35.3**	**-0.4**
AAI	**Ambon**	**3.92 330**		P	**Pn**	**15 47 54.2**	**+0.8**
MSAI	**Masohi**	**3.94 342**		P	**Pn**	**15 47 53.5**	**-0.2**
MSAI				S	**Sn**	**15 48 41.1**	**+2.1**
FAKI	**Fak Fak**	**4.67 27**		P	**Pn**	**15 48 02.2**	**-1.4**
FAKI	**Fak Fak**	**4.67 27**		P	**Pn**	**15 48 03.0**	**-0.6**
NLAI	**Namlea**	**4.90 322**		P	**Pn**	**15 48 08.8**	**+2.1**
MTN	**Manton Dam**	**5.77 170**		P	**Pn**	**15 48 22.7**	**+4.3**
KDU	**Kakadu**	**5.99 158**		P	**Pn**	**15 48 24.5**	**+3.2**
SIJI	**Sorong**	**6.31 10**		P	**Pn**	**15 48 24.5**	**-1.3**
	7.5nm,0.2s,baz=184,slow=22,SNR=22						
SIJI				S	**Sn**	**15 49 31.8**	**-4.7**
	18nm,0.2s,baz=41,slow=22,SNR=12						
LBMI	**Labuha**	**6.96 338**		P	**Pn**	**15 48 32.7**	**-1.9**
	0.1nm10nm,0.8s						
BATI	**Baumata**	**7.10 244**		P	**Pn**	**15 48 38.1**	**+1.7**
	22nm,0.3s,baz=102,slow=3.6,SNR=6.6						
BATI				S	**Sn**	**15 49 55.2**	**-0.5**
	20nm,0.4s,baz=35,slow=14,SNR=2.3						
BATI	**Baumata**	**7.10 244**		P	**Pn**	**15 48 37.3**	**+0.8**
KNRA	**Kununurra**	**8.61 189**		P	**Pn**	**15 48 58.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.76 201**		P	**Pn**	**15 49 38.7**	**-0.9**
	5.0nm,0.4s,baz=36,slow=12,SNR=32						
FITZ				S	Sn	15 51 41.3	-7.7
	5.0nm,0.3s,baz=51,slow=19,SNR=7.9						
FITZ	**Fitzroy Crossi**	**11.76 201**		P	**Pn**	**15 49 38.8**	**-0.8**
WRA	**Warramunga Arr**	**13.38 163**		P	**Pn**	**15 50 01.2**	**+0.2**
	1.0nm,0.4s,baz=340,slow=13,SNR=15						
WRA				S	**Sn**	**15 52 21.9**	**-6.4**
	4.2nm,0.6s,baz=338,slow=21,SNR=11						
COEN	**Coen**	**14.50 119**		P	**P**	**15 50 20.1**	**+0.9**
ASAR	**Alice Springs**	**16.84 168**		P	**P**	**15 50 46.8**	**+1.7**
	1.4nm,0.6s,baz=354,slow=12,SNR=21						
ASAR				S	**Sn**	**15 53 46.3**	**-5.6**
	0.5nm,0.4s,baz=336,slow=19,SNR=2.6						
CMAR	**Chiang Mai Arr**	**39.92 310**		P	**P**	**15 54 20.8**	**+1.4**
	0.8nm,0.6s,baz=132,slow=7.3,SNR=6.1						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**68.40 327**		P	**P**	**15 57 47.6**	**+1.9**
	1.4nm,0.5s,baz=121,slow=8.2,SNR=22						
	1.4nm,0.5s						

IDC **16** *15:49:57.6±0.8,55°.18N×164°.86E, h0km, mb3.7/9, mbtmp3.7/10, ML3.1/1, MS3.0/11, Error ellipse: s-maj=39.5km s-min=16.0km az=158.0*

KRSC **16** *15:49:58.5±1.9,55°.07N×164°.84E, h52km±21km, ML4.5*

ISC 16 15:50:00.8±1.7,**55°.09N**±0°.04×**164°.89E**±0°.06,**h23**km±14km, **n65**,σ1**°68**/83,**mb3.8**/9,**MS3.2**/8,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.63 79**		*eP*	**Pb**	**15 50 12.7**	**-0.5**
BKI				*eS*	**Sb**	**15 50 21.8**	**+0.2**
KBTR	**Krutoberegovo**	**1.62 314**		*eP*	**Pn**	**15 50 25.1**	**-2.9**
KBTR				*eS*	**Sn**	**15 50 44.1**	**-4.0**
KBG	**Krutoberegovo**	**1.70 314**		*eP*	**Pn**	**15 50 26.2**	**-2.8**
MKZ	**Mys Kozlova**	**1.91 255**		*eP*	**Pn**	**15 50 30.9**	**-0.9**
MKZ				*eS*	**Sn**	**15 50 53.4**	**-1.7**
SMKR	**Semkarok**	**2.44 309**		*eP*	**Pn**	**15 50 38.2**	**-1.1**
SMKR				*eS*	**Sn**	**15 51 07.9**	**-0.5**
ZLN	**Zelenaya**	**2.50 293**		*eP*	**Pn**	**15 50 40.8**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.53 291**		*eP*	**Pn**	**15 50 40.8**	**+0.2**
BDR	**Baidarnaya**	**2.55 307**		*eP*	**Pn**	**15 50 40.4**	**-0.4**
BDR				*eS*	**Sn**	**15 51 11.3**	**+0.1**
SRKR	**Sorokina**	**2.62 308**		*eP*	**Pn**	**15 50 41.4**	**-0.3**
SRKR				*eS*	**Sn**	**15 51 13.7**	**+0.9**
BZWR	**Bezymyannyi-We**	**2.65 291**		*eP*	**Pn**	**15 50 42.7**	**+0.5**
KLY	**Klyuchi**	**2.69 299**		*eP*	**Pn**	**15 50 41.1**	**-1.6**
KLY				*eS*	**Sn**	**15 51 12.0**	**-2.5**
KRSR	**Krestovskiy**	**2.70 296**		*eP*	**Pn**	**15 50 42.5**	**-0.4**
KRSR				*eS*	**Sn**	**15 51 14.0**	**-0.8**
KIRR	**Kirishev**	**2.73 290**		*eP*	**Pn**	**15 50 43.1**	**-0.2**
TUMR	**Tumrok**	**2.73 276**		*eP*	**Pn**	**15 50 43.4**	**+0.1**
TUMR				*eS*	**Sn**	**15 51 15.8**	**+0.2**
KMNR	**Kamenistaya**	**2.73 286**		*eP*	**Pn**	**15 50 43.9**	**+0.5**
KMNR				*eS*	**Sn**	**15 51 16.5**	**+0.8**
KPT	**Kopyto**	**2.79 290**		*eP*	**Pn**	**15 50 44.4**	**+0.2**
KOZ	**Kozyrevsk**	**3.01 291**		*eP*	**Pn**	**15 50 47.8**	**+0.7**
SRDR	**Sredinnyy**	**3.17 295**		*eP*	**Pn**	**15 50 49.8**	**+0.4**
SRDR				*eS*	**Sn**	**15 51 27.5**	**+1.0**
KII	**Karymskiy**	**3.34 254**		*eP*	**Pn**	**15 50 51.7**	**0.0**
SPN	**Mys Shipunski**	**3.49 237**		*eP*	**Pn**	**15 50 53.0**	**-0.7**
SPN				*eS*	**Sn**	**15 51 30.4**	**-3.9**
ESO	**Esso**	**3.62 286**		*eP*	**Pn**	**15 50 56.4**	**+1.0**
NLC	**Nalytchevo**	**3.79 242**		*eP*	**Pn**	**15 50 57.7**	**0.0**
NLC				*eS*	**Sn**	**15 51 38.5**	**-3.0**
SDLR	**Sedlovina**	**3.97 245**		*eP*	**Pn**	**15 51 01.4**	**+1.1**
SDLR				*eS*	**Sn**	**15 51 45.3**	**-0.9**
SMAR	**Somma**	**4.02 245**		*eP*	**Pn**	**15 51 01.5**	**+0.4**
SMAR				*eS*	**Sn**	**15 51 46.0**	**-1.6**
KRER	**Koryakskii**	**4.03 246**		*eP*	**Pn**	**15 51 02.4**	**+1.2**
KRER				*eS*	**Sn**	**15 51 46.3**	**-1.4**
UGLR	**Uglovaya**	**4.04 245**		*eP*	**Pn**	**15 51 01.9**	**+0.7**
UGLR				*eS*	**Sn**	**15 51 46.6**	**-1.2**
AVH	**Avacha**	**4.05 246**		*eP*	**Pn**	**15 51 02.2**	**+0.8**
AVH				*eS*	**Sn**	**15 51 47.5**	**-0.7**
KRX	**Arik**	**4.05 247**		*eP*	**Pn**	**15 51 02.1**	**+0.6**
KRX				*eS*	**Sn**	**15 51 46.3**	**-2.0**
KOK	**Koryaka**	**4.09 246**		*eP*	**Pn**	**15 51 02.7**	**+0.7**
KOK				*eS*	**Sn**	**15 51 48.4**	**-0.8**
DALK	**Dalny**	**4.16 243**		*eP*	**Pn**	**15 51 03.5**	**+0.6**
DALK				*eS*	**Sn**	**15 51 48.4**	**-2.4**
PET	**Petropavlovsk**	**4.22 243**		*eP*	**Pn**	**15 51 04.0**	**+0.4**
PET				*eS*	**Sn**	**15 51 49.0**	**-3.1**
OSSR	**Ossora**	**4.29 347**		*eP*	**Pn**	**15 51 04.1**	**-0.4**
OSSR				*eS*	**Sn**	**15 51 50.7**	**-3.1**
GNL	**Ganaly**	**4.30 254**		*eP*	**Pn**	**15 51 05.9**	**+1.1**
KRMR	**Karymshinskiy**	**4.59 243**		*eP*	**Pn**	**15 51 09.8**	**+1.1**
KRMR				*eS*	**Sn**	**15 51 59.2**	**-2.1**
RUS	**Russkaya**	**4.63 237**		*eP*	**Pn**	**15 51 09.3**	**+0.1**
RUS				*eS*	**Sn**	**15 51 58.5**	**-3.7**
PETK	**Petropavlovsk-**	**4.68 248**		Pn	**Pn**	**15 51 10.2**	**+0.2**
	4.3nm,0.3s,baz=78,slow=29,SNR=143						
PETK				Sn	**Sn**	**15 52 05.1**	**+1.7**
	5.2nm,0.3s,baz=47,slow=18,SNR=10						
PETK				LR	LR	15 53 09.6	
	comp=Z,104nm,21.8s,baz=53,slow=41						
	6.5nm,0.4s						
MTVR	**Mutnovka**	**4.76 239**		*eP*	**Pn**	**15 51 11.9**	**+0.7**
MTVR				*eS*	**Sn**	**15 52 02.7**	**-3.0**
GRL	**Gorelyy**	**4.77 241**		*eP*	**Pn**	**15 51 12.8**	**+1.4**
GRL				*eS*	**Sn**	**15 52 05.0**	**-1.0**
ASAK	**Asacha**	**4.96 240**		*eP*	**Pn**	**15 51 15.3**	**+1.4**
ASAK				*eS*	**Sn**	**15 52 08.4**	**-2.1**
APC	**Apacha**	**5.05 248**		*eP*	**Pn**	**15 51 16.8**	**+1.7**
APC				*eS*	**Sn**	**15 52 13.8**	**+1.2**
KDTR	**Khodutka, Kamc**	**5.23 234**		*eP*	**Pn**	**15 51 17.3**	**-0.3**
KDTR				*eS*	**Sn**	**15 52 11.8**	**-5.3**
SKR	**Severo-Kuril's**	**6.90 234**		*eP*	**Pn**	**15 51 41.5**	**+1.0**
SKR				*eS*	**Sn**	**15 52 53.6**	**-4.6**
MA2	**Magadan**	**8.86 306**		LR	LR	15 55 54.0	
	comp=Z,47nm,20.2s,baz=87,slow=41						
YAK	**Yakutsk**	**19.43 305**		LR	LR	16 01 42.2	
	comp=Z,24nm,18.4s,baz=180,slow=36						
KLR	**Kul'dur**	**21.02 268**		LR	LR	16 02 50.4	
	comp=Z,34nm,19.4s,baz=48,slow=37						
KDAK	**Kodiak Island**	**23.38 66**		P	**P**	**15 55 05.9**	**-1.5**
	2.3nm,0.6s,baz=213,slow=2.5,SNR=7.7						
	2.3nm,0.6s						
ILAR	**Eielson Array**	**25.39 48**		P	**P**	**15 55 25.5**	**-0.5**
	1.8nm,0.8s,baz=254,slow=8.9,SNR=14						
ILAR				LR	LR	16 06 19.6	
	comp=Z,18nm,18.6s,baz=179,slow=39						
	1.8nm,0.8s						
KSRS	**Korea Array**	**30.57 250**		LR	LR	16 08 13.1	
	baz=359,slow=76,SNR=78						
H11N2	**WAKE ISLAND Hy**	**35.33 177**		T	T	16 34 48.3	
	baz=359,slow=76,SNR=78						
H11N3	**WAKE ISLAND Hy**	**35.35 177**		T	T	16 34 48.5	
	baz=359,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**35.35 177**		T	T	16 34 48.6	
	baz=359,slow=76,SNR=67						
SONM	**Songino Array**	**36.19 283**		P	**P**	**15 57 01.8**	**+0.2**
	0.3nm,0.4s,baz=57,slow=6.1,SNR=2.3						
SONM				LR	LR	16 14 10.3	
	comp=Z,39nm,18.1s,baz=97,slow=40						
	0.3nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**36.54 177**		T	T	16 36 24.3	
	baz=351,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**36.56 177**		T	T	16 36 28.2	
	baz=351						
H11S2	**WAKE ISLAND Hy**	**36.56 177**		T	T	16 36 31.9	
	baz=351						
MKAR	**Makanchi Array**	**49.80 297**		P	**P**	**15 58 51.0**	**-0.5**
	0.6nm,0.7s,baz=48,slow=7.7,SNR=3.7						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**51.33 310**		LR	LR	16 23 31.5	
	comp=Z,22nm,18.3s,baz=55,slow=39						
NVAR	**Mina Array Bea**	**52.44 75**		P	**P**	**15 59 12.2**	**+0.5**
	0.4nm,0.7s,baz=298,slow=8.1,SNR=3.8						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**54.10 65**		P	**P**	**15 59 24.5**	**+0.7**
	0.4nm,0.7s,baz=358,slow=4.5,SNR=3.7						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**61.32 261**		LR	LR	16 32 44.5	
	comp=Z,13nm,18.2s,baz=45,slow=42						
TXAR	**Lajitas Array**	**67.28 71**		P	**P**	**16 00 54.7**	**+1.1**
	0.6nm,0.6s,baz=316,slow=4.2,SNR=6.8						
	0.6nm,0.6s						
AKASG	**Malin Array Be**	**68.28 331**		LR	LR	16 32 50.0	
	comp=Z,22nm,19.2s,baz=358,slow=38						
GEYT	**Alibeck**	**68.30 305**		LR	LR	16 32 37.6	
	comp=Z,27nm,18.0s,baz=164,slow=38						
WRA	**Warramunga Arr**	**79.15 209**		P	**P**	**16 02 03.5**	**+0.1**
	0.8nm,0.8s,baz=26,slow=6.1,SNR=4.0						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**82.81 208**		P	**P**	**16 02 24.1**	**+1.3**
	1.3nm,0.9s,baz=12,slow=4.9,SNR=4.9						
	1.3nm,0.9s						

NEIC **16** *15:50:08.0±1.9,24°.78S±0°.08×177°.0W±0°.1, h120km±8km, mb4.8/34, Error ellipse: s-maj=16.8km s-min=11.9km az=88.0*

IDC **16** *15:50:10.7±0.6,24°.93S×177°.21W, h127km±5km, mb4.3/17, mbtmp4.7/21, MS3.4/12, Error ellipse: s-maj=12.6km s-min=10.4km az=108.0*

GCMT **16** *15:50:10.0±0.5,24°.88S±0°.03×176°.78W±0°.03, h165km±4km, MW5.0/78, Moment Tensor Solution. s15,c17; s78,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.86±.15; $M_{\theta\theta}$-3.64±.17; $M_{\phi\phi}$1.79±.15; $M_{r\theta}$-0.76±.13; $M_{r\phi}$-1.20±.16; $M_{\theta f}$1.18±.09; Best double couple: $M_0$3.61000×10^{16} NP1:ϕ294.00000°, δ65.00000°, λ143.00000°. NP2:ϕ41.00000°, δ57.00000°, λ30.00000°. Principal axes: T 3.2810, Plg43.0000°, Azm254.0000°; N 0.6660, Plg46.0000°, Azm85.0000°; P -3.9380, Plg5.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 15:50:11.0±0.5,**25°.07S**±0°.05×**177°.34W**±0°.07, **h132**km±3km,**h132**km:**pP-P**,**n161**,σ2**s12**/162,**mb4.7**/36,**6C**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.19 187**		P	**Pn**	**15 51 13.9**	**+0.7**
RIZ				S	**Sn**	**15 52 05.1**	**+3.4**
RAO	**Raoul Island**	**4.20 187**		P	**Pn**	**15 51 13.8**	**+0.5**
	608nm,0.3s,baz=316,slow=23,SNR=10						
RAO				S	**Sn**	**15 52 05.2**	**+3.4**
	4μm,0.4s,baz=99,slow=22,SNR=6.6						
RAO				T	T	15 56 21.4	
	379nm,0.4s,baz=303,slow=20,SNR=3.8						
RAO	**Raoul Island**	**4.20 187**		Pn	**Pn**	**15 51 13.6**	**+0.2**
GLKZ	**Green Lake**	**4.21 187**		P	**Pn**	**15 51 13.1**	**-0.4**
GLKZ				S	**Sn**	**15 52 03.8**	**+1.8**
MSVF	**Nonsavu**	**8.47 329**		P	**Pn**	**15 52 12.6**	**+1.7**
	194nm,0.8s,baz=148,slow=10,SNR=63						
MSVF	**Nonsavu**	**8.47 329**			**Pn**	**15 52 08.3**	**-2.6**
NIUE	**Niue**	**9.10 51**		Pn	Pn	15 52 10.0	-9.3
AFI	**Afiamalu**	**12.28 26**		P	Pn	15 52 50.2	-11
	211nm,0.6s,baz=44,slow=1.8,SNR=32						
AFI				S	Sn	15 54 53.3	-24
	98nm,0.6s,baz=43,slow=19,SNR=3.1						
AFI	**Afiamalu**	**12.28 26**		Pn	Pn	15 52 49.8	-12
OUZ	**Om

	comp=Z,67nm,1.1s								
TBI	**Tubuai**	**25.47**	**92**	*e*T		T		16 21 12.6	
	comp=Z,52nm,0.3s								
HNR	**Honiara**	**26.62**	**302**	LR		LR		16 03 43.2	
	comp=Z,848nm,21.7s,baz=170,slow=30								
PAE	**Paea**	**26.85**	**80**	*e*T		T		16 22 43.0	
	comp=Z,14nm,0.3s								
PPT2	**Papeete2**	**26.88**	**79**	*e*LR		LR		16 02 24.2	
	comp=Z,146nm,25.0s								
PPT2	**Papeete2**	**26.88**	**79**	*e*T		T		16 22 43.6	
	comp=Z,13nm,0.3s								
PPT	**Papeete**	**26.89**	**79**	LR		LR		16 05 58.5	
	comp=Z,61nm,18.0s,baz=323,slow=36								
MEH	**Mehetia**	**28.13**	**81**	*e*T		T		16 24 30.0	
	comp=Z,71nm,0.3s								
EIDS	**Eidsvold**	**28.53**	**263**	P		**P**		**15 55 56.4**	**+2.1**
EIDS				IAmb		IAmb		15 55 59.4	
	comp=Z,9.6nm,0.6s								
VAH	**Vaihoa**	**29.50**	**76**	*e*T		T		16 26 06.0	
	comp=Z,11nm,0.3s								
CAN	**Canberra**	**30.70**	**243**	P		**P**		**15 56 16.3**	**+2.9**
CAN	**Canberra**	**30.70**	**243**	P		**P**		**15 56 17.1**	**+3.7**
CAN				sP		**sP**		**15 56 56.5**	**+0.3**
TOO	**Toolangi**	**33.89**	**239**	P		**P**		**15 56 43.4**	**+2.1**
CTA	**Charters Tower**	**33.91**	**271**	P		**P**		**15 56 43.6**	**+2.0**
	comp=Z,38nm,0.3s,baz=101,slow=9.6,SNR=103								
CTA				LR		LR		16 09 42.2	
	comp=Z,58nm,18.1s,baz=85,slow=34								
CTAO	**Charters Tower**	**33.91**	**271**	P		**P**		**15 56 43.5**	**+2.0**
CTAO	**Charters Tower**	**33.91**	**271**	P		**P**		**15 56 43.3**	**+1.8**
TAU	**Tasmania Unive**	**33.96**	**230**	P		**P**		**15 56 41.1**	**-0.5**
TAU				IAmb		IAmb		15 56 44.2	
	comp=Z,17nm,1.1s								
STKA	**Stephens Creek**	**36.56**	**250**	P		**P**		**15 57 05.8**	**+1.7**
	comp=Z,9.1nm,0.5s,baz=96,slow=11,SNR=50								
STKA				PcP		**PcP**		**15 59 26.4**	**+1.6**
	comp=Z,5.4nm,0.7s,baz=108,slow=5.6,SNR=6.6								
	comp=Z,9.1nm,0.5s								
STKA	**Stephens Creek**	**36.56**	**250**	P		**P**		**15 57 04.8**	**+0.7**
PMG	**Port Moresby**	**37.16**	**288**	P		**P**		**15 57 09.6**	**+0.3**
	comp=Z,266nm,0.7s,baz=126,slow=7.4,SNR=8.3								
	comp=Z,266nm,0.7s								
COEN	**Coen**	**38.69**	**279**	P		**P**		**15 57 21.9**	**-0.3**
COEN				IAmb		IAmb		15 57 24.2	
	comp=Z,16nm,1.1s								
BBOO	**Buckleboo**	**41.23**	**248**	P		**P**		**15 57 43.0**	**0.0**
BBOO				IAmb		IAmb		15 57 45.1	
	comp=Z,12nm,0.8s								
AS31	**Alice Springs**	**44.24**	**261**	P		**P**		**15 58 07.4**	**0.0**
ASAR	**Alice Springs**	**44.24**	**261**	P		**P**		**15 58 07.7**	**+0.3**
	comp=Z,11nm,0.9s,baz=101,slow=8.0,SNR=51								
ASAR				PcP		**PcP**		**15 59 50.5**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=107,slow=5.0,SNR=4.2								
	comp=Z,11nm,0.9s								
ASAR	**Alice Springs**	**44.24**	**261**	P		**P**		**15 58 07.0**	**-0.5**
WR0	**Warramunga Arr**	**44.56**	**266**	P		**P**		**15 58 09.3**	**-0.7**
WR0				IAmb		IAmb		15 58 11.4	
	comp=Z,13nm0.8s								
WB2	**Warramunga Arr**	**44.73**	**266**	P		**P**		**15 58 11.1**	**-0.2**
WB2				IAmb		IAmb		15 58 12.9	
	comp=Z,25nm,0.8s								
WRAB	**Tennant Creek**	**44.74**	**266**	P		**P**		**15 58 11.3**	**-0.1**
WRAB				IAmb		IAmb		15 58 12.9	
	comp=Z,22nm,0.8s								
WRAB	**Tennant Creek**	**44.74**	**266**	P		**P**		**15 58 11.3**	**-0.1**
WB0	**Warramunga Arr**	**44.74**	**267**	P		**P**		**15 58 11.4**	**0.0**
WRA	**Warramunga Arr**	**44.74**	**266**	P		**P**		**15 58 11.3**	**-0.1**
	comp=Z,21nm,0.7s,baz=101,slow=6.8,SNR=98								
WRA				PcP		**PcP**		**15 59 52.2**	**+0.7**
	comp=Z,5.0nm,1.0s,baz=101,slow=3.7,SNR=7.8								
WRA				ScP		**ScP**		**16 03 35.1**	**+3.5**
	comp=Z,0.5nm,0.8s,baz=101,slow=3.7,SNR=2.7								
WRA				S		**S**		**16 04 35.3**	**-3.4**
	comp=Z,0.6nm,0.9s,baz=102,slow=16,SNR=3.2								
	comp=Z,21nm,0.7s								
WRA	**Warramunga Arr**	**44.74**	**266**	P		**P**		**15 58 11.3**	**-0.1**
FORT	**Forrest**	**48.18**	**250**	P		**P**		**15 58 37.4**	**-0.7**
DRV	**Dumont d'Urvil**	**49.29**	**201**	P		**P**		**15 58 46.7**	**+0.8**
MTN	**Manton Dam**	**49.95**	**274**	P		**P**		**15 58 50.6**	**-1.2**
MTN				IAmb		IAmb		15 59 01.1	
	comp=Z,9.6nm,0.9s								
KNRA	**Kununurra**	**51.10**	**270**	P		**P**		**15 59 00.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**53.15**	**266**	P		**P**		**15 59 16.4**	**+0.8**
	comp=Z,12nm,0.5s,baz=129,slow=7.3,SNR=70								
FITZ				PcP		**PcP**		**16 00 22.1**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=71,slow=1.9,SNR=4.7								
	comp=Z,12nm,0.5s								
FITZ	**Fitzroy Crossi**	**53.15**	**266**	P		**P**		**15 59 15.3**	**-0.2**
FITZ				IAmb		IAmb		15 59 17.0	
	comp=Z,6.6nm,0.8s								
SBA	**Scott Base**	**53.37**	**184**	P		**P**		**15 59 19.9**	**+3.6**
SBA	**Scott Base**	**53.37**	**184**	P		**P**		**15 59 20.0**	**+3.8**
SBA				pP		**pP**		**15 59 47.5**	**+0.7**
SBA				sP		**sP**		**16 00 02.0**	**+0.7**
VNDA	**Vanda**	**53.44**	**186**	P		**P**		**15 59 19.3**	**+2.5**
	comp=Z,3.2nm,0.7s,baz=1.8,slow=8.6,SNR=23								
	comp=Z,3.2nm,0.7s								
VNDA	**Vanda**	**53.44**	**186**	P		**P**		**15 59 18.4**	**+1.6**
VNDA	**Vanda**	**53.44**	**186**	P		**P**		**15 59 19.5**	**+2.8**
VNDA				sP		**sP**		**16 00 02.6**	**+0.8**
SIJI	**Sorong**	**55.10**	**288**	P		**P**		**15 59 29.4**	**-0.3**
	comp=Z,13nm,0.7s,baz=76,slow=6.6,SNR=15								
	comp=Z,13nm,0.7s								
NWAO	**Narrogin (SRO)**	**56.96**	**246**	LR		LR		16 23 51.3	
	comp=Z,73nm,18.4s,baz=270,slow=35								
PSA00	**Pilbara Seismi**	**57.33**	**260**	P		**P**		**15 59 44.0**	**-1.5**
MBWA	**Marble Bar**	**57.55**	**260**	P		**P**		**15 59 46.3**	**-0.7**
MBWA				IAmb		IAmb		15 59 51.6	
	comp=Z,7.3nm,0.9s								
BATI	**Baumata**	**57.72**	**274**	P		**P**		**15 59 50.1**	**+1.8**
	comp=Z,40nm,0.6s,baz=169,slow=3.6,SNR=10								
	comp=Z,40nm,0.6s								
CCD	**Concordia, Ant**	**58.22**	**195**	P		**P**		**15 59 53.2**	**+1.8**
MORW	**Morawa**	**58.75**	**250**	P		**P**		**15 59 54.4**	**-0.9**
MORW				IAmb		IAmb		16 00 08.9	
	comp=Z,12nm,1.0s								
MMRI	**Maumere**	**59.63**	**275**	P		**P**		**16 00 01.4**	**-0.2**
CASY	**Casey**	**60.13**	**206**	P		**P**		**16 00 05.1**	**+1.0**
QSPA	**South Pole Qui**	**65.02**	**180**	P		**P**		**16 00 37.7**	**+0.9**
QSPA				IAmb		IAmb		16 00 41.4	
	comp=Z,9.0nm,0.8s								
QSPA	**South Pole Qui**	**65.02**	**180**	P		**P**		**16 00 38.4**	**+1.6**
QSPA				pP		**PcP**		**16 01 09.7**	**+1.1**
KKM	**Kota Kinabalu**	**71.56**	**286**	P		**P**		**16 01 17.2**	**-1.1**
MJAR	**Matsushiro Arr**	**74.24**	**324**	LR		LR		16 35 27.7	
	comp=Z,12nm,18.1s,baz=179,slow=37								
BELA	**Belgrano 2**	**74.97**	**172**	P		**P**		**16 01 37.3**	**+0.2**
BELA				IAmb		IAmb		16 01 38.3	
	comp=Z,11nm,0.7s								
MAW	**Mawson**	**77.49**	**200**	P		**P**		**16 01 53.7**	**+2.3**
	comp=Z,17nm,0.6s,baz=136,slow=6.2,SNR=93								
	comp=Z,17nm,0.6s								
MAW	**Mawson**	**77.49**	**200**	P		**P**		**16 01 53.4**	**+1.9**
SHEM	**Shemya Is, Ala**	**77.83**	**355**	LR		LR		16 32 05.1	
	comp=Z,27nm,20.4s,baz=280,slow=32								
H06S1	**SOCORRO T**	**77.89**	**63**	T		T		17 27 30.8	
	SNR=3.7								
H06E1	**SOCORRO T-PHAS**	**77.94**	**63**	T		T		17 26 47.3	
	SNR=12								
KSRS	**Korea Array**	**80.70**	**319**	P		**P**		**16 02 09.9**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=131,slow=7.1,SNR=2.7								
KSRS				LR		LR		16 36 33.5	
	comp=Z,5.5nm,18.5s,baz=200,slow=34								
PETK	**Petropavlovsk-**	**80.82**	**345**	P		**P**		**16 02 09.7**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=133,slow=8.1,SNR=2.6								
	comp=Z,3.3nm,0.7s								
H03S2	**Juan Fernandez**	**82.93**	**124**	T		T		17 33 43.9	
	baz=244,SNR=128								
H03S1	**Juan Fernandez**	**82.94**	**124**	T		T		17 33 45.0	
	baz=244,SNR=108								
H03S3	**Juan Fernandez**	**82.95**	**124**	T		T		17 33 43.8	
	baz=244,SNR=98								
USRK	**Ussuriysk Ar.**	**83.07**	**326**	P		**P**		**16 02 23.0**	**+1.4**
	comp=Z,2.8nm,0.7s,baz=88,slow=7.2,SNR=4.1								
	comp=Z,2.8nm,0.7s								
H03N3	**Juan Fernandez**	**83.09**	**124**	T		T		17 33 38.6	
	baz=250,slow=73,SNR=60								
H03N2	**Juan Fernandez**	**83.10**	**124**	T		T		17 33 37.3	
	baz=250,slow=73,SNR=46								
H03N1	**Juan Fernandez**	**83.11**	**124**	T		T		17 33 39.7	
	baz=250,slow=73,SNR=30								
TROLL	**Troll, Antarti**	**83.18**	**180**	P		**P**		**16 02 22.7**	**+0.6**
NJ2	**Nanjing**	**83.26**	**310**	*e*P		**P**		**16 02 21.4**	**-1.4**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
SNAA	**Sanae**	**83.44**	**178**	P		**P**		**16 02 23.6**	**+0.2**
SNAA	**Sanae**	**83.44**	**178**	P		**P**		**16 02 22.8**	**-0.5**
SNAA				IAmb		IAmb		16 02 24.6	
	comp=Z,16nm,1.0s								
VNA3	**Neumayer Olymp**	**83.56**	**176**	P		**P**		**16 02 24.0**	**+0.1**
NVAR	**Mina Array Bea**	**83.94**	**43**	P		**P**		**16 02 25.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=222,slow=10,SNR=4.7								
NVAR				pP		**pP**		**16 02 58.6**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=215,slow=7.3,SNR=4.7								
	comp=Z,0.5nm,0.6s								
VNA2	**Neumayer--Watz**	**84.01**	**177**	P		**P**		**16 02 26.6**	**+0.5**
	baz=187,slow=4.6								
VNA1	**Neumayer--Stat**	**84.23**	**176**	P		**P**		**16 02 27.7**	**+0.5**
PLCA	**Paso Flores**	**85.71**	**133**	P		**P**		**16 02 35.2**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=246,slow=5.5,SNR=6.7								
	comp=Z,2.2nm,0.7s								
TXAR	**Lajitas Array**	**89.02**	**57**	P		**P**		**16 02 50.9**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=235,slow=3.2,SNR=3.1								
TXAR				pP		**pP**		**16 03 24.1**	**-0.5**
	comp=Z,1.2nm,1.0s,baz=212,slow=6.9,SNR=5.2								
	comp=Z,0.4nm,0.8s								
CMIG	**Matias Romero**	**90.53**	**71**	LR		LR		16 36 47.2	
	comp=Z,23nm,19.2s,baz=166,slow=31								
NEW	**Newport**	**90.72**	**35**	LR		LR		16 39 05.5	
	comp=Z,33nm,18.2s,baz=206,slow=32								
PDAR	**Pinedale Array**	**91.87**	**43**	P		**P**		**16 03 03.2**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=169,slow=3.0,SNR=4.9								
PDAR				pP		**pP**		**16 03 35.6**	**-2.2**
	comp=Z,1.6nm,0.9s,baz=211,slow=2.4,SNR=6.0								
	comp=Z,0.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**92.20**	**289**	P		**P**		**16 03 08.2**	**+2.0**
	comp=Z,1.3nm,0.4s,baz=144,slow=3.2,SNR=14								
	comp=Z,1.3nm,0.4s								
ILAR	**Eielson Array**	**92.62**	**13**	pP		pP		16 03 40.0	-0.6
	comp=Z,0.8nm,0.8s,baz=230,slow=5.0,SNR=4.4								
HHC	**Hu-ho-hao-te**	**92.96**	**314**	*e*P		**P**		**16 03 10.0**	**+0.7**
HHC				pmax		pmax			
	comp=Z,17nm,0.9s								
HHC				pmax		pmax			
	comp=Z,130nm,7.6s								
PZH	**PanZhiHua**	**93.36**	**298**	P		**P**		**16 03 11.8**	**+0.3**
PZH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
PZH				pmax		pmax			
	comp=Z,100nm,5.8s								
GOMU	**GeErMu**	**102.72**	**304**	Pdif		**Pdif**		**16 03 52.3**	**-1.4**
GOMU				AMB		AMB			
	comp=Z,95nm,6.4s								
ZALV	**Zalesovo Beam**	**114.39**	**320**	PKP		PKPdf		16 08 32.8	-1.9
	comp=Z,0.6nm,0.3s,baz=262,slow=1.0,SNR=4.9								
MKAR	**Makanchi Array**	**114.73**	**312**	PKP		PKPdf		16 08 34.5	-1.1
	comp=Z,1.4nm,0.6s,baz=138,slow=0.3,SNR=16								
MKAR				PKKPbc		**PKKPbc**		**16 19 13.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=260,slow=4.6,SNR=4.0								
GEYT	**Alibeck**	**131.65**	**299**	PKP		**PKPdf**		**16 09 08.7**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=243,slow=4.8,SNR=4.3								
GEYT				SKPbc		**SKPab**		**16 12 24.3**	**+1.7**
	comp=Z,4.7nm,0.9s,baz=207,slow=1.3,SNR=11								
ARCES	**ARCESS Array B**	**133.50**	**349**	PKP		**PKPdf**		**16 09 09.5**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=45,slow=2.1,SNR=11								
FINES	**FINESS Array B**	**140.30**	**343**	PKhKP		PKPpre		16 09 16.2	
	comp=Z,1.3nm,0.6s,baz=62,slow=4.5,SNR=9.7								
FINES				PKP		**PKPdf**		**16 09 23.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=62,slow=4.6,SNR=9.5								
FINES				SKPab		**SKPab**		**16 13 01.8**	**+2.2**
	comp=Z,3.0nm,1.0s,baz=57,slow=7.0,SNR=3.4								
NB2	**NORSAR Subarra**	**143.57**	**353**	PKP		PKPab		16 09 25.6	-0.7
	comp=Z,1.0nm,0.6s,baz=13,slow=3.4								
NOA	**NORSAR Array B**	**143.57**	**353**	PKhKP		PKPpre		16 09 25.8	
	comp=Z,1.9nm,0.8s,baz=16,slow=4.9,SNR=9.5								
NACGM	**Naroch**	**145.29**	**336**	*e*PKP		**PKPab**		**16 09 32.8**	**-0.1**
MARD	**Mardin**	**145.40**	**300**	PKPab		**PKPdf**		**16 09 32.7**	**-0.8**
AKASG	**Malin Array Be**	**147.25**	**328**	PKPbc		**PKPbc**		**16 09 37.5**	**-1.0**
	comp=Z,7.0nm,0.6s,baz=44,slow=4.2,SNR=33								
AKASG				pPKPbc		**pPKPab**		**16 10 13.3**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=46,slow=4.0,SNR=2.3								
AKBB	**Malin Array Si**	**147.25**	**328**	PKPab		**PKPbc**		**16 09 37.6**	**-0.9**
BRTR	**Keskin Array B**	**150.21**	**307**	PKPbc		**PKPbc**		**16 09 46.1**	**-0.5**
	comp=Z,6.3nm,0.7s,baz=135,slow=4.4,SNR=30								
BRTR				PKPab		**PKPab**		**16 09 53.3**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=76,slow=4.1,SNR=14								
BRTR	**Keskin Array B**	**150.21**	**307**	PKPab		**PKPbc**		**16 09 46.4**	**-0.3**
OJC	**Ojcow**	**151.60**	**337**	*e*PKP		**PKPbc**		**16 09 48.0**	**-1.3**
KOLS	**Kolonicke sedl**	**151.66**	**332**	*e*PKP		**PKiKP**		**16 09 50.5**	**+0.6**
CRVS	**Cervenica-Dubn**	**152.02**	**333**	*e*PKP		**PKiKP**		**16 09 50.8**	**+0.1**
NIE	**Niedzica**	**152.07**	**335**	*e*PKP		**PKPdf**		**16 09 49.3**	**+2.5**
KSP	**Ksiaz**	**152.21**	**341**	*e*PKP		**PKPbc**		**16 09 50.6**	**-0.1**
CHVC	**Chvalec**	**152.50**	**341⇑**	*e*PKP		**PKiKP**		**16 09 51.4**	**-0.3**
CHVC				*e*PKPAB		**PKPab**		**16 09 58.8**	**-3.4**
CLL	**Collm**	**152.63**	**346**	*i* PKPbc		**PKPbc**		**16 09 51.2**	**-0.4**
	comp=Z,12nm,0.8s								
CLL				*i* PKPab		**PKPab**		**16 09 59.0**	**-3.6**
	comp=Z,8.0nm,0.6s								
CLL				*e*(sPKPdf)				16 10 27.0	
DPC	**Dobruska-Polom**	**152.64**	**341⇑**	*e*PKP		**PKiKP**		**16 09 51.7**	**-0.3**
DPC				*e*PKPAB		**PKPab**		**16 09 59.2**	**-3.6**
KRLC	**Kraliky**	**152.74**	**340⇑**	*e*PKP		**PKPbc**		**16 09 51.8**	**-0.2**
KRLC				*e*PKPAB		**PKPab**		**16 09 59.2**	**-4.0**
BRG	**Berggiesshubel**	**152.81**	**344**	*i* PKP		**PKPbc**		**16 09 51.9**	**-0.1**
BRG				Amp				16 09 53.0	
	comp=Z,6.5nm,0.6s								
BRG				*ex*		x		16 09 56.3	
BRG				Amp				16 09 57.2	
	comp=Z,3.9nm,0.8s								
BRG				*ex*		x		16 09 59.7	
BRG				Amp				16 10 00.3	
	comp=Z,3.9nm,0.5s								
MAUC	**Maruska**	**153.01**	**338⇑**	*e*PKP		**PKiKP**		**16 09 52.9**	**+0.1**
MAUC				*e*PKPAB		**PKPab**		**16 09 59.7**	**-4.7**
VYHS	**Vyhne**	**153.38**	**336**	*e*PKP		**PKPbc**		**16 09 52.9**	**-0.5**
KHC	**Kasperske Hory**	**154.51**	**343⇑**	*e*PKP		**PKPbc**		**16 09 55.6**	**-0.2**
KHC				*e*PKPAB		**PKPab**		**16 10 00.0**	**-1.8**
KHC				*ex*		x		16 10 49.5	
CKRC	**Cesky Krumlov**	**154.59**	**342⇑**	*e*PKP		**PKPbc**		**16 09 55.8**	**-0.2**
GERES	**GERESS Array B**	**154.74**	**343**	PKP		**PKPdf**		**16 09 46.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=166,slow=6.2,SNR=4.2								
GERES				PKPbc		**PKPbc**		**16 09 54.9**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=29,slow=3.0,SNR=5.8								
GERES				PKPab		**PKPab**		**16 10 11.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=29,slow=3.0,SNR=4.6								
TORD	**Torodi Ar. Bea**	**168.10**	**175**	PKP		**PKPdf**		**16 10 01.1**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=207,slow=0.8,SNR=6.5								
TORD				PKPab		**PKPab**		**16 11 11.0**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=195,slow=4.0,SNR=12								

*IDC **16** 16:10:17.5±5.1,5˚48N×126˚06E,h71km±50km,mb3.4/6, mbtmp3.7/7,ML3.5/1,MS3.0/1,Error ellipse: s-maj=86.0km s-min=21.5km az=71.0*
*MAN **16** 16:10:18.4,5˚54N×126˚48E,h65km,mb4.6,ML3.5,MS3.4*
*DJA **16** 16:10:18.4±0.9,5˚N±8˚×12˚6E±˚,h131km±8km,M3.9/11, mb3.8/8,mB4.3/2,MLv4.0/11,Mw(mB)3.4/2*

ISC 16 16:10:18.3±1.0,**5˚52N**±0˚04×**126˚47E**±0˚08,**h85**km±10km, **n27**,σ2°**19**/36,**mb3.5/6,5C-5D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.95**	**307⇓**	*e*P		**Pn**	**16 10 36.9**	**-0.3**
DDMP				*e*S		**Sn**	**16 10 50.9**	**-0.4**
MATI	**Mati**	**1.43**	**351⇑**	*e*P		**Pn**	**16 10 46.3**	**-2.7**
MATI				*e*S		**Sn**	**16 11 03.9**	**+2.3**
GSPH	**General Santos**	**1.62**	**290**	*i*P		**Pn**	**16 10 44.2**	**-1.3**
DAV	**Davao City (W)**	**1.78**	**330**	S		**Sn**	**16 11 00.9**	**-8.7**
	97nm,0.4s,baz=234,slow=24,SNR=1.5							
KCP	**Kidapawan**	**2.02**	**317⇑**	*i*P		**Pn**	**16 10 51.2**	**+0.5**
KCP				*i* S		**Sn**	**16 11 17.8**	**+2.5**
SGSI	**Sangihe**	**2.05**	**207**	P		**Pn**	**16 10 51.7**	**+0.6**
SGSI				S		**Sn**	**16 11 17.9**	**+1.8**
SKMP	**Bagumbayan, Su**	**2.16**	**297⇓**	*e*P		**Pn**	**16 10 53.3**	**+0.8**
SKMP				*e*S		**Sn**	**16 11 18.6**	**0.0**
CDOP	**Cateel, Davao**	**2.25**	**359⇑**	*e*P		**Pn**	**16 10 53.2**	**-0.4**
CDOP				*i* S		**Sn**	**16 11 21.2**	**+0.5**
BIPH	**Bislig**	**2.65**	**358⇓**	*e*P		**Pn**	**16 10 58.8**	**-0.2**
BIPH				*e*S		**Sn**	**16 11 28.6**	**-1.7**
BUKP	**Musuan**	**2.73**	**329⇓**	*e*P		**Pn**	**16 11 00.3**	**+0.1**
BUKP				*e*S		**Sn**	**16 11 35.1**	**+2.8**
CTBH	**Cotabato--PC H**	**2.78**	**307⇑**	*e*P		**Pn**	**16 11 01.4**	**+0.6**
TNTI	**Ternate**	**4.80**	**169**	P		**Pn**	**16 11 28.7**	**+0.4**
TABP	**Talibon, Bohol**	**5.01**	**335⇑**	*i*P		**Pn**	**16 11 34.5**	**+3.4**
TABP				*i* S		Sn	16 12 38.8	+11
GTOI	**Gorontalo**	**5.96**	**216**	P		**Pn**	**16 11 43.9**	**-0.1**
	0.0nm4.5nm,0.6s							
GTOI				S		**Sn**	**16 12 48.4**	**-2.5**
	0.0nm4.5nm,0.6s							
LBMI	**Labuha**	**6.20**	**170**	P		**Pn**	**16 11 45.5**	**-1.9**
	0.1nm14nm,0.9s							
MRSI	**Marisa**	**6.75**	**222**	P		**Pn**	**16 11 53.9**	**-0.9**
	0.1nm334nm18nm,0.5s							
SANI	**Sanana**	**7.54**	**184**	P		**Pn**	**16 12 02.8**	**-2.8**
	0.1nm21nm,0.8s							
SIJI	**Sorong**	**7.95**	**143**	P		**Pn**	**16 12 13.0**	**+1.7**
	0.6nm,0.3s,baz=181,slow=23,SNR=8.9							
	1.8nm,0.4s							
APSI	**Ampana**	**8.00**	**217**	P		**Pn**	**16 12 11.1**	**-0.8**
	0.1nm17nm,0.9s							
NLAI	**Namlea**	**8.72**	**176**	P		**Pn**	**16 12 21.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**23.48**	**182**	P		**P**	**16 15 21.1**	**+0.4**
	1.2nm,0.8s,baz=358,slow=10,SNR=5.9							
	1.2nm,0.8s							
WRA	**Warramunga Arr**	**26.46**	**163**	P		**P**	**16 15 50.1**	**+2.5**
	0.4nm,0.4s,baz=339,slow=10,SNR=13							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**29.90**	**166**	P		**P**	**16 16 18.1**	**-0.1**
	0.2nm,0.8s,baz=345,slow=7.0,SNR=8.6							
ASAR				PcP		**PcP**	**16 19 19.8**	**+0.4**
	0.1nm,0.4s,baz=351,slow=2.5,SNR=4.2							
	0.2nm,0.8s							
MKAR	**Makanchi Array**	**55.95**	**325**	P		**P**	**16 19 47.7**	**-0.1**
	0.2nm,0.4s,baz=122,slow=8.3,SNR=3.4							
	0.2nm,0.4s							
AAK	**Ala-Archa**	**58.87**	**317**	LR		LR	16 46 45.3	
	comp=Z,13nm,18.7s,baz=164,slow=37							
KURBB	**Kurchatov Arra**	**60.10**	**327**	P		**P**	**16 20 16.2**	**-0.4**
	0.2nm,0.4s,baz=134,slow=6.7,SNR=2.5							
	0.2nm,0.4s							
ARCES	**ARCESS Array B**	**88.69**	**340**	P		**P**	**16 23 01.2**	**-0.7**
	4.8nm,1.1s,baz=87,slow=7.6,SNR=4.4							
	4.8nm,1.1s							

*INET **16** 16:21:38.6±0.9,12˚46N×86˚64W,h4km±1km,MW3.5*
*SNET **16** 16:21:40.9±0.5,12˚38N×86˚82W,h14km±3km,ML3.6*
*UCR **16** 16:21:41.0±0.8,12˚38N×86˚81W,h17km±5km,ML3.6*

ISC 16 16:21:38.8±0.9,**12˚48N**±0˚05×**86˚64W**±0˚04,**h11**km±6km, **n20**,σ0°**76**/31,**Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**0.07**	**292**	*e*P		**Pg**	**16 21 40.9**	**-0.2**
CNGN				*e*S		**Sg**	**16 21 42.6**	**-0.2**
MOMN	**Momotombo**	**0.12**	**125**	*e*P		**Pg**	**16 21 41.7**	**-0.1**
TEL3	**Telica 3**	**0.23**	**295**	*e*P		**Pg**	**16 21 44.2**	**+0.7**
TELN	**Telica**	**0.23**	**304**	*e*P		**Pg**	**16 21 44.5**	**+0.9**
COPN	**Copaltepe**	**0.30**	**172**	*e*P		**Pg**	**16 21 44.1**	**-0.7**
APYN	**Apoyeque**	**0.37**	**131**	*e*P		**Pg**	**16 21 45.5**	**-0.6**
CRIN	**San Cristobal**	**0.46**	**299**	*e*P		**Pg**	**16 21 48.4**	**+0.5**
HUEN		**

10nm,0.3s,baz=77,slow=32,SNR=12
MKAR Makanchi Array 2.33 248 Pn **Pb** **17 01 46.5 -1.7**
MKAR Pg **Pg** **17 01 48.4 -2.4**
MKAR Sg **Sg** **17 02 19.7 -1.3**
DGZ Jazzator, Alta 2.40 32 Pg **Pb** **17 01 49.3 0.0**
DGZ Sg **Sg** **17 02 20.9 -2.2**
MAKZ Makanchi 2.53 251 ⇓Pn **Pb** **17 01 51.0 -0.5**
4.2nm,0.3s
MAKZ ⇓Lg Lg 17 02 25.0
6.4nm,0.2s
MAKZ Makanchi 2.53 251 Pg **Pb** **17 01 51.2 -0.4**
MAKZ Sg **Sg** **17 02 25.9 -1.3**
CHBI Chibit, Altay 2.95 27 Pn **Pb** **17 01 57.1 -1.6**
CHBI Pg **Pg** **17 02 02.1 -0.4**
CHBI Sg **Sg** **17 02 41.2 +0.5**
AKAR Aktash 2.99 28 Pn **Pb** **17 01 56.7 -2.8**
AKAR Pg **Pg** **17 02 01.8 -1.5**
AKAR Sg **Sg** **17 02 41.8 -0.2**
CUR Chagan-Uzun 3.07 37 Pn **Pn** **17 01 56.9 +2.1**
CUR Pg **Pg** **17 02 03.4 -1.5**
CUR Sg **Sg** **17 02 42.8 -1.9**
UKR Ust'-Kan 3.27 352 Pn **Pb** **17 02 00.6 -3.7**
UKR Pg **Pg** **17 02 08.0 -0.7**
UKR Sg **Sg** **17 02 53.8 +2.6**
ULGR Ulagan, Altay 3.36 28 Pn **Pb** **17 02 02.6 -3.2**
ULGR Pg **Pg** **17 02 10.2 -0.2**
ULGR Sg **Sg** **17 02 54.4 +0.5**
ARTR Artybash 4.27 15 Pn **Pn** **17 02 13.3 +2.1**
ARTR Pg **Pg** **17 02 26.6 -1.3**
ARTR Sg **Sg** **17 03 24.0 +0.8**
SEM Semipalatinsk 4.37 310 *e*P **Pg** **17 02 29.4 -0.3**
1.7nm,0.5s
SEM *e*S **Sg** **17 03 28.4 +2.3**
21nm,0.2s
SEM Semipalatinsk 4.37 310 Pg **Pg** **17 02 27.9 -1.7**
4.0nm,0.2s
SEM Lg Lg 17 03 27.0
20nm,0.2s
DJR Jarkent 5.18 232 *e*P **Pb** **17 02 37.9 +1.1**
0.9nm,0.1s
DJR *e*S **Sb** **17 03 42.2 +3.1**
4.3nm,0.2s
DJR Jarkent 5.18 232 Pg **Pb** **17 02 38.0 +1.1**
0.9nm,0.1s
DJR Lg Lg 17 03 42.2
4.7nm,0.8s
TASR Tashtagol 5.30 16 Sg **Sg** **17 03 56.0 -0.2**
KURK Kurchatov 5.40 307 ⇑Lg Lg 17 04 06.9
8.2nm,0.4s
KURK Kurchatov 5.40 307 Sg **Sg** **17 04 00.8 +1.5**
KURBB Kurchatov Arra 5.40 305 ⇓Lg Lg 17 04 06.9
27nm,0.6s
ELT Eltsovka 5.59 5 Sg **Sg** **17 04 04.2 -1.3**
SHLS Shalkode 6.19 225 *e*P **Pb** **17 02 53.0 -1.0**
1.3nm,0.4s
SHLS *e*S **Sb** **17 04 08.7 +0.5**
5.5nm,0.8s
SHLS Shalkode 6.19 225 Pg **Pb** **17 02 53.0 -1.0**
2.1nm,0.2s
SHLS Lg Lg 17 04 08.7
6.8nm,0.9s
KPKS Kokpek 6.36 231 *e*P **Pb** **17 03 01.4 +4.6**
2.7nm,0.1s
KPKS *e*S **Sg** **17 04 22.7 -7.3**
7.8nm,0.3s
KPKS Kokpek 6.36 231 Pg **Pb** **17 03 01.4 +4.6**
2.7nm,0.1s
KPKS Lg Lg 17 04 22.7
7.8nm,0.3s

*IDC **16** 17:04:49.0±1.3,39.°80N×51.°76E,h0km,mb3.5/9, mbtmp3.8/20,ML3.7/8,MS2.8/6,Error ellipse: s-maj=22.9km s-min=10.0km az=170.0*
*TEH **16** 17:04:50.4,39.°83N×51.°72E,h10km,ML3.7*
*NEIC **16** 17:04:54.6±2.1,40.°03N±0.°09×51.°91E±0.°08,h37km±14km, mb4.1/21,Error ellipse: s-maj=13.1km s-min=8.6km az=192.0*
*AZER **16** 17:04:54.2±0.3,39.°63N×51.°74E,h47km±14km,Error ellipse: s-maj=5.0km s-min=3.3km az=267.0*
ISC 16 17:04:53.9±0.5,**39.°89N**±0.°04×**51.°90E**±0.°04,**h46km,n139,**
σ**2s24/**186,**mb3.7**/15,**2C-1D,Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALA	**Gala**	**1.44**	**292**	Pn	**Pn**	**17 05 18.5**	**+1.0**
GALA				Sn	**Sn**	**17 05 37.4**	**+2.3**
NDR	**Nardaran**	**1.62**	**296**	Pn	**Pn**	**17 05 22.4**	**+2.4**
NDR				Sn	**Sn**	**17 05 44.2**	**+4.5**
GOBA	**Gobu**	**1.74**	**288**	Pn	**Pn**	**17 05 23.9**	**+2.3**
GOBA				Sn	**Sn**	**17 05 45.6**	**+3.0**
ALIB	**Äli-Bayra**	**2.23**	**273**	Pn	**Pn**	**17 05 31.0**	**+2.7**
ALIB				Sg	**Sn**	**17 06 03.0**	**+8.4**
GBS	**Qobustan**	**2.36**	**287**	Pn	**Pn**	**17 05 32.5**	**+2.4**
GBS				Sn	**Sn**	**17 05 59.8**	**+1.9**
ATGJ	**Altiaghaj**	**2.46**	**294**	Pn	**Pn**	**17 05 33.6**	**+2.0**
ATGJ				Sn	**Sn**	**17 06 03.3**	**+2.7**
SAAT	**Saatly**	**2.68**	**271**	Pn	**Pn**	**17 05 35.7**	**+1.3**
SAAT				Sn	**Sn**	**17 06 10.8**	**+5.2**
PQL	**Pirkuli**	**2.68**	**291**	Pn	**Pn**	**17 05 36.3**	**+1.6**
PQL				Sn	**Sn**	**17 06 08.5**	**+2.4**
LKRN	**Lenkeran, Azer**	**2.69**	**245**	Pn	**Pn**	**17 05 34.1**	**-0.6**
LKRN				Sn	**Sn**	**17 06 04.2**	**-1.9**
ASTR	**Astara**	**2.75**	**242**	Pn	**Pn**	**17 05 34.2**	**-1.3**
ASTR				Sn	**Sn**	**17 06 05.3**	**-2.3**
GLBA	**Clilabad**	**2.79**	**258**	Pn	**Pn**	**17 05 36.1**	**+0.1**
GLBA				Sn	**Sn**	**17 06 08.3**	**0.0**
GAS1	**Astara - Iran**	**2.81**	**239**	*e*Pn	**Pn**	**17 05 35.0**	**-1.3**
KDMR	**Kurdemir**	**2.89**	**281**	Pn	**Pn**	**17 05 38.5**	**+1.1**
KDMR				Sn	**Sn**	**17 06 11.9**	**+0.9**
QUBA	**Quba, Azerbaij**	**2.98**	**301**	Pn	**Pn**	**17 05 41.0**	**+2.3**
QUBA				Sn	**Sn**	**17 06 15.6**	**+2.4**
IML	**Ismayilli**	**2.98**	**289**	Pn	**Pn**	**17 05 40.0**	**+1.3**
IML				Sn	**Sn**	**17 06 15.6**	**+2.3**
YRD	**Yardimli**	**3.00**	**252**	Pn	**Pn**	**17 05 37.9**	**-1.1**
YRD				Sn	**Sn**	**17 06 10.7**	**-3.2**
LRK	**Lerik**	**3.03**	**247**	Pn	**Pn**	**17 05 38.6**	**-0.9**
LRK				Sn	**Sn**	**17 06 11.5**	**-3.1**
XNQ	**Khinaliq**	**3.14**	**295**	Pn	**Pn**	**17 05 42.2**	**+1.1**
XNQ				Sn	**Sn**	**17 06 18.4**	**+1.0**
QSAR	**Qusar**	**3.21**	**302**	Pn	**Pn**	**17 05 43.4**	**+1.6**
QSAR				Sn	**Sn**	**17 06 21.9**	**+3.1**
ZRD	**Zardab**	**3.26**	**278**	Pn	**Pn**	**17 05 43.3**	**+0.8**
ZRD				Sn	**Sn**	**17 06 20.6**	**+0.6**
QBL	**Gabala**	**3.28**	**290**	Pn	**Pn**	**17 05 43.4**	**+0.6**
QBL				Sn	**Sn**	**17 06 20.7**	**+0.1**
GRMI	**Germi**	**3.29**	**252**	*e*Pn	**Pn**	**17 05 41.1**	**-1.9**
GIDE	**GİLAN DEYLAMAN**	**3.35**	**208**	*e*Pn	**Pn**	**17 05 43.3**	**-0.6**
BLQ	**Beylaqan**	**3.35**	**269**	Pn	**Pn**	**17 05 43.1**	**-0.6**
BLQ				Sn	**Sn**	**17 06 20.7**	**-1.5**
QRD	**Qoradiz**	**3.56**	**265**	Pn	**Pn**	**17 05 45.9**	**-0.7**
QRD				Sn	**Sn**	**17 06 25.4**	**-2.0**
BRDA	**Brd**	**3.64**	**277**	Pn	**Pn**	**17 05 48.7**	**+1.0**
BRDA				Sn	**Sn**	**17 06 30.3**	**+0.9**
IPRN	**Peran**	**3.66**	**174**	*e*Pn	**Pn**	**17 05 47.9**	**-0.2**
AGDM	**Agdam**	**3.69**	**275**	Pn	**Pn**	**17 05 48.4**	**0.0**
AGDM				Sn	**Sn**	**17 06 31.1**	**+0.5**
IGLO	**Ghaloghah**	**3.71**	**155**	*e*Pn	**Pn**	**17 05 49.3**	**+0.5**
IGZV	**Ghazvin**	**3.74**	**201**	*e*Pn	**Pn**	**17 05 48.9**	**-0.4**
IGZV				*e*		17 06 31.7	
	comp=Z,2μm,0.2s						
MNGR	**Mingechevir, A**	**3.79**	**285**	Pn	**Pn**	**17 05 50.9**	**+1.2**
MNGR				Sn	**Sn**	**17 06 34.1**	**+1.1**
IMND	**Minoodasht**	**3.80**	**133**	*e*Pn	**Pn**	**17 05 51.5**	**+1.6**
SEKA	**Sheki**	**3.82**	**292**	Pn	**Pn**	**17 05 51.0**	**+0.8**
SEKA				Sn	**Sn**	**17 06 33.9**	**+0.1**
ISRB	**Sarab**	**3.90**	**239**	*e*Pn	**Pn**	**17 05 50.9**	**-0.5**
ISRB				*e*		17 06 37.5	
	comp=Z,1μm,0.4s						
MRVT	**Maraveh tapeh**	**3.96**	**123**	*e*Pn	**Pn**	**17 05 54.5**	**+2.3**
MRVT				*e*		17 06 41.6	
	comp=Z,99nm,0.2s						
CHTH	**Charan**	**4.02**	**189**	*e*Pn	**Pn**	**17 05 53.6**	**+0.4**
ZNJK	**Zanjan**	**4.09**	**219**	*e*Pn	**Pn**	**17 05 52.8**	**-1.3**
IHRS	**Heris**	**4.09**	**249**	*e*Pn	**Pn**	**17 05 54.2**	**+0.1**
IHRS				*e*		17 05 55.4	
	comp=Z,2μm,0.2s						
IFIR	**Firoozkooh**	**4.29**	**171**	*e*Pn	**Pn**	**17 05 58.4**	**+1.4**
IFIR				*e*		17 06 51.2	
	comp=Z,1μm,0.4s						
IDMV	**Damavand**	**4.30**	**179**	*e*Pn	**Pn**	**17 05 59.0**	**+1.9**
IMHD	**Mahdasht**	**4.31**	**193**	*e*Pn	**Pn**	**17 05 58.5**	**+1.5**
GANJ	**Ganja**	**4.33**	**282**	Pn	**Pn**	**17 05 57.3**	**0.0**
GANJ				Sn	**Sn**	**17 06 44.0**	**-2.5**
ZKTA	**Zakatala**	**4.37**	**295**	Pn	**Pn**	**17 05 59.5**	**+1.7**
ZKTA				Sn	**Sn**	**17 06 48.8**	**+1.3**
IHSH	**Hashtrud**	**4.46**	**236**	*e*Pn	**Pn**	**17 05 58.8**	**-0.4**
IBST	**Bostanabad**	**4.48**	**242**	*e*Pn	**Pn**	**17 05 59.0**	**-0.5**
ILAS	**Lasjerd**	**4.58**	**169**	*e*Pn	**Pn**	**17 06 02.7**	**+1.9**
ILAS				*e*		17 07 01.4	
	comp=Z,725nm,0.3s						
ORD	**Ordubad**	**4.67**	**260**	Pn	**Pn**	**17 06 01.8**	**-0.2**
ORD				Sn	**Sn**	**17 06 52.3**	**-2.7**
IANJ	**Anjilo**	**4.69**	**159**	*e*Pn	**Pn**	**17 06 04.4**	**+2.0**
IANJ				*e*		17 07 03.1	
	comp=Z,499nm,0.3s						
LGD	**Lagodekhi**	**4.71**	**296**	P	**Pn**	**17 06 03.9**	**+1.5**
LGD				S	**Sn**	**17 06 55.5**	**-0.3**
IRAZ	**Razeghan**	**4.74**	**200**	*e*Pn	**Pn**	**17 06 03.3**	**+0.2**
GDB	**GEDÄBAY**	**4.77**	**282**	Pn	**Pn**	**17 06 03.3**	**-0.1**
GDB				Sn	**Sn**	**17 06 54.5**	**-3.0**
BJRD	**Bojnurd**	**4.83**	**115**	*e*Pn	**Pn**	**17 06 06.8**	**+2.7**
IVRN	**Varamin**	**4.89**	**182**	*e*Pn	**Pn**	**17 06 06.7**	**+1.8**
SBZ	**Shahbuz**	**4.92**	**266**	Pn	**Pn**	**17 06 06.4**	**+1.0**
SBZ				Sn	**Sn**	**17 07 00.5**	**-0.7**
IMRD	**Marand**	**4.95**	**258**	*e*Pn	**Pn**	**17 06 05.6**	**-0.3**
IMRD				*e*		17 07 07.7	
	comp=Z,957nm,0.3s						
NAX	**Nakhchivan**	**5.00**	**264**	Pn	**Pn**	**17 06 07.3**	**+0.8**
NAX				Sn	**Sn**	**17 06 59.7**	**-3.4**
SHRO	**Shahrood**	**5.07**	**139**	*e*Pn	**Pn**	**17 06 09.6**	**+2.1**
IQOM	**Qom**	**5.08**	**188**	*e*Pn	**Pn**	**17 06 08.1**	**+0.4**
IQOM				*e*		17 07 07.5	
	comp=Z,500nm,0.4s						
QZX	**Qazax, Azerbai**	**5.12**	**285**	Pn	**Pn**	**17 06 08.0**	**0.0**
QZX				Sn	**Sn**	**17 07 04.1**	**-1.7**
IAZR	**Azarshahr**	**5.12**	**246**	*e*Pn	**Pn**	**17 06 08.7**	**+0.3**
ISHB	**Shabestar**	**5.14**	**254**	*e*Pn	**Pn**	**17 06 07.9**	**-0.7**
DGRG	**David-gareji**	**5.20**	**290**	P	**Pn**	**17 06 09.7**	**+0.5**
GEYT	**Alibeck**	**5.23**	**110**	Pn	**Pn**	**17 06 11.2**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=276,slow=14,SNR=4.0						
GEYT				Sn	**Sn**	**17 07 05.5**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=289,slow=18,SNR=1.7						
	comp=Z,1.4nm,0.3s						
GEYT	**Alibeck**	**5.23**	**110**		**Pn**	**17 06 10.7**	**+1.2**
GEYT				Sn	**Sn**	**17 07 07.7**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**5.23**	**110**		**Pn**	**17 06 10.4**	**+0.8**
GYA0B				Sn	**Sn**	**17 07 05.8**	**-2.8**
GHVR	**GHOM**	**5.42**	**185**	*e*Pn	**Pn**	**17 06 14.0**	**+1.8**
GNI	**Garni**	**5.50**	**275**	Pn	**Pn**	**17 06 14.6**	**+1.2**
	comp=Z,6.0nm,0.4s,baz=151,slow=19,SNR=3.3						
GNI				Sn	**Sn**	**17 07 17.5**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=285,slow=18,SNR=2.0						
GNI	**Garni**	**5.50**	**275**	Pn	**Pn**	**17 06 14.7**	**+1.3**
GNI				Sn	**Sn**	**17 07 11.7**	**-3.8**
HAGD	**Aghdareh**	**5.51**	**204**	*e*Pn	**Pn**	**17 06 14.6**	**+0.9**
HAGD				*e*		17 06 15.6	
	comp=Z,220nm,0.6s						
ISFB	**Sefidab**	**5.53**	**177**	*e*Pn	**Pn**	**17 06 15.6**	**+1.8**
ASAO	**Ashtian**	**5.54**	**196**	*e*Pn	**Pn**	**17 06 14.2**	**+0.2**
ISFR	**Sfrayin**	**5.56**	**119**	*e*Pn	**Pn**	**17 06 17.3**	**+3.0**
ISFR				*e*		17 07 30.7	
	comp=Z,623nm,0.5s						
SBZV	**Sabzevar**	**5.70**	**126**	*e*Pn	**Pn**	**17 06 19.4**	**+3.2**
IEMG	**Emamgholi**	**5.83**	**113**	*e*Pn	**Pn**	**17 06 19.8**	**+1.7**
IEMG				*e*		17 07 32.6	
	comp=Z,319nm,0.3s						
KRSH	**Karshahi**	**5.91**	**178**	*e*Pn	**Pn**	**17 06 20.9**	**+1.8**
KRSH				*e*		17 07 44.5	
	comp=Z,301nm,0.7s						
SNGE	**Sanandaj**	**6.00**	**219**	*e*Pn	**Pn**	**17 06 19.7**	**-0.6**
QAMS	**Qamsar**	**6.15**	**184**	*e*Pn	**Pn**	**17 06 23.6**	**+1.1**
IAKL	**Akhelmad**	**6.31**	**119**	*e*Pn	**Pn**	**17 06 26.6**	**+1.9**
IAKL				*e*		17 07 49.8	
	comp=Z,147nm,0.3s						
IKLH	**Kolahrood**	**6.56**	**182**	*e*Pn	**Pn**	**17 06 29.3**	**+1.2**
IKRD	**Kardeh**	**6.74**	**115**	*e*Pn	**Pn**	**17 06 33.3**	**+2.8**
ONI	**Oni**	**6.92**	**296**	Pn	**Pn**	**17 06 32.5**	**-0.2**
TNSJ	**Nastanj**	**7.01**	**146**	*e*Pn	**Pn**	**17 06 36.9**	**+2.8**
TABS	**Tabas**	**7.50**	**144**	*e*Pn	**Pn**	**17 06 43.2**	**+2.4**
TKDS	**Koohdasht(Taba**	**7.53**	**145**	*e*Pn	**Pn**	**17 06 43.1**	**+1.8**
KBZ	**Khabaz**	**7.74**	**303**	Pn	**Pn**	**17 06 44.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=11,SNR=5.9						
KBZ				Sn	**Sn**	**17 08 05.0**	**-5.2**
	comp=Z,0.5nm,0.3s,baz=160,slow=22,SNR=1.9						
	comp=Z,0.6nm,0.2s						
YZKH	**Yazd**	**7.79**	**163**	*e*Pn	**Pn**	**17 06 46.7**	**+1.9**
TPRV	**Parvadeh(Tabas**	**7.86**	**149**	*e*Pn	**Pn**	**17 06 47.9**	**+2.2**
KVAR	**Kislovodsk Arr**	**7.98**	**304**	Pn	**Pn**	**17 06 47.3**	**0.0**
	baz=265,slow=23						
KVAR				Sn	**Sn**	**17 08 10.7**	**-5.5**
	baz=100,slow=20						
	comp=Z,1.3nm,0.5s						
KIV	**Kislovodsk**	**7.98**	**304**	Pn	**Pn**	**17 06 47.1**	**-0.3**
KIV				Sn	**Sn**	**17 08 10.1**	**-6.2**
AB31	**Akbulak array**	**10.97**	**29**	P	**Pn**	**17 07 27.1**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=204,slow=13,SNR=45						
AB31				⇑S	**Sn**	**17 09 22.0**	**-7.5**
	comp=Z,3.2nm,0.6s,baz=203,slow=24,SNR=5.5						
ABKAR	**Akbulak array**	**10.97**	**29**		**Pn**	**17 07 26.2**	**-1.9**
ABKAR	**Akbulak array**	**10.97**	**29**		**Pn**	**17 07 26.5**	**-1.7**
ABKAR				Sn	**Sn**	**17 09 23.1**	**-6.3**
AKTO	**Aktyubinsk**	**11.39**	**20**	Pn	**Pn**	**17 07 32.9**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=213,slow=11,SNR=27						
AKTO				Sn	**Sn**	**17 09 33.5**	**-6.1**
	comp=Z,0.6nm,0.3s,baz=178,slow=20,SNR=2.3						
AKTO				LR	LR	17 13 06.0	
	comp=Z,42nm,21.3s,baz=211,slow=43						
	comp=Z,4.0nm,0.3s						
AKTO	**Aktyubinsk**	**11.39**	**20**	⇑P	**Pn**	**17 07 34.6**	**+0.7**
	comp=Z,1.8nm,0.3s						
AKTO				⇓S	**Sn**	**17 09 38.9**	**-0.7**
	comp=Z,6.2nm,0.5s						
BELG	**Belogornoye**	**12.85**	**348**	Pn	**Pn**	**17 07 52.5**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=116,slow=23,SNR=6.5						
BELG				Sn	**Sn**	**17 10 07.6**	**-7.6**
	comp=Z,0.9nm,0.3s,baz=86,slow=22,SNR=7.4						
	comp=Z,5.2nm,0.3s						
BR131	**Keskin Array S**	**14.04**	**275**		**Pn**	**17 08 11.2**	**+0.9**
BRTR	**Keskin Array B**	**14.04**	**275**	Pn	**Pn**	**17 08 12.2**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=82,slow=11,SNR=2.1						
BRTR				Sn	**Sn**	**17 10 40.3**	**-4.4**
	baz=32,slow=30,SNR=2.0						
BRTR	**Keskin Array B**	**14.04**	**275**	Pn	**Pn**	**17 08 11.4**	**+1.1**
GAR	**Garm**	**14.26**	**88**	Pn	**Pn**	**17 08 12.4**	**-0.8**
KK31	**Karatay Array**	**14.31**	**71**	Pn	**Pn**	**17 08 12.0**	**-1.7**
KKAR	**Karatay Array**	**14.31**	**71**	Pn	**Pn**	**17 08 13.6**	**-0.2**
KKAR	**Karatay Array**	**14.31**	**71**	Pn	**Pn**	**17 08 12.0**	**-1.7**
ASF	**Jabal al Asfar**	**14.36**	**242**	Pn	**Pn**	**17 08 19.9**	**+5.4**
	comp=Z,0.3nm,0.3s,baz=55,slow=10,SNR=7.0						
ARU	**Arti**	**17.12**	**13**	Pn	**Pn**	**17 08 48.0**	**-1.6**
	baz=186,slow=7.4,SNR=14						
ARU				Sn	Sn	17 11 46.4	-13
	baz=262,slow=23,SNR=1.5						
ARU				LR	LR	17 16 13.2	
	comp=Z,21nm,20.2s,baz=207,slow=40						
	comp=Z,4.2nm,0.4s						
ARU	**Arti**	**17.12**	**13**		**Pn**	**17 08 47.6**	**-2.1**
ARU				IAmb	IAmb	17 08 53.8	
	comp=Z,10nm,0.5s						
RAYN	**Ar Rayn**	**17.19**	**200**	P	**Pn**	**17 08 52.1**	**+1.3**
RAYN				IAmb	IAmb	17 08 55.1	
	comp=Z,3.8nm,0.8s						
AAK	**Ala-Archa**	**17.20**	**73**	LR	LR	17 16 24.5	
	comp=Z,40nm,19.8s,baz=294,slow=40						
BRVK	**Borovoye**	**18.20**	**38**	P	**P**	**17 09 01.5**	**-1.2**
BVAR	**Borovoye Array**	**18.23**	**38**	P	**Pn**	**17 09 03.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=227,slow=11,SNR=26						
BVAR				S	**Sn**	**17 12 17.3**	**-8.4**
	comp=Z,0.3nm,0.4s,baz=257,slow=5,SNR=2.6						
BVAR				LR	LR	17 17 29.9	
	comp=Z,51nm,18.2s,baz=243,slow=41						
	comp=Z,2.5nm,0.4s						
BOOM	**Boomskoye usch**	**18.27**	**74**	P	**Pn**	**17 09 05.7**	**+1.7**
KIRV	**Kirov**	**18.78**	**356**	P	**P**	**17 09 09.2**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=152,slow=2.1,SNR=4.2						
	comp=Z,7.0nm,0.6s						
AKASG	**Malin Array Be**	**19.19**	**312**	P	**P**	**17 09 13.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=102,slow=9.6,SNR=9.7						
AKASG	**Malin Array Be**	**19.19**	**312**		**P**	**17 09 12.8**	**-0.8**
AKBB	**Malin Array Si**	**19.19**	**312**	P	**P**	**17 09 12.4**	**-1.2**
AKBB				IAmb	IAmb	17 09 16.9	
	comp=Z,5.0nm,0.8s						
KARP	**Karpathos**	**20.02**	**265**	P	**P**	**17 09 25.1**	**+2.3**
BURAR	**Bucovina Array**	**20.69**	**301**	P	**P**	**17 09 30.6**	**+0.4**
BUR08	**Bucovina Ar. S**	**20.71**	**301**	P	**P**	**17 09 30.6**	**+0.3**
BUR08				IAmb	IAmb	17 09 39.0	
	comp=Z,5.4nm,1.4s						
KURBB	**Kurchatov Arra**	**21.48**	**51**	P	**P**	**17 09 39.3**	**+0.9**
	comp=Z,2.1nm,0.2s,baz=249,slow=11,SNR=1.7						
	comp=Z,2.1nm,0.2s						
VTS	**Vitosha**	**21.68**	**287**	P	**P**	**17 09 41.2**	**+0.4**
VTS				IAmb	IAmb	17 09 44.4	
	comp=Z,2.3nm,0.7s						
MAKZ	**Makanchi**	**22.84**	**62**	P	**P**	**17 09 52.4**	**-0.7**
MAKZ				IAmb	IAmb	17 09 57.3	
	comp=Z,6.9nm,1.4s						
MK31	**Makanchi Array**	**23.06**	**63**	P	**P**	**17 09 56.8**	**+1.6**
MKAR	**Makanchi Array**	**23.06**	**63**	P	**P**	**17 09 56.9**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=250,slow=13,SNR=5.9						
MKAR				LR	LR	17 19 58.7	
	comp=Z,26nm,18.5s,baz=270,slow=39						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**23.06**	**63**	P	**P**	**17 09 56.3**	**+1.1**
ITM	**Ithomi**	**23.55**	**273**	P	**P**	**17 10 00.2**	**+0.1**
ITM				IAmb	IAmb	17 10 31.0	
	comp=Z,13nm,1.1s						
KEK	**Kerkira**	**24.60**	**280**	P	**P**	**17 10 10.0**	**+0.3**
KEK				IAmb	IAmb	17 10 34.0	
	comp=Z,14nm,1.2s						
ZALV	**Zalesovo Beam**	**26.23**	**47**	P	**P**	**17 10 26.4**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=264,slow=12,SNR=3.8						
ZALV				LR	LR	17 22 15.5	
	comp=Z,22nm,19.0s,baz=211,slow=40						
	comp=Z,0.7nm,0.6s						
FIA1	**FINESS Array S**	**26.75**	**332**	P	**P**	**17 10 29.2**	**+0.4**
FIA1				IAmb	IAmb	17 11 05.3	
	comp=Z,11nm,1.1s						
FINES	**FINESS Array B**	**26.75**	**332**	P	**P**	**17 10 29.8**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=136,slow=11,SNR=11						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**26.75**	**332**	P	**P**	**17 10 29.2**	**+0.3**
GERES	**GERESS Array B**	**28.48**	**301**	P	**P**	**17 10 45.2**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=84,slow=12,SNR=1.3						
	comp=Z,0.2nm,0.6s						
TEOL	**Teolo**	**29.87**	**294**	P	**P**	**17 10 57.7**	**+0.8**
HFS	**Hagfors**	**31.18**	**323**	P	**P**	**17 11 09.2**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=113,slow=11,SNR=1.5						
	comp=Z,0.9nm,0.6s						
NC405	**NORSAR Array S**	**32.45**	**324**	P	**P**	**17 11 20.0**	**+0.6**
NB201	**NORSAR Array S**	**32.62**	**324**	P	**P**	**17 11 21.4**	**+0.4**
NC303	**NORSAR Array S**	**32.65**	**324**	P	**P**	**17 11 22.8**	**+1.6**
NOA	**NORSAR Array B**	**32.65**	**324**	P	**P**	**17 11 22.9**	**+1.7**
	comp=Z,0.1nm,0.5s,baz=124,slow=7.7,SNR=1.2						
	comp=Z,0.1nm,0.5s						
ECH	**Echery**	**32.82**	**300**	P	**P**	**17 11 24.2**	**+1.3**
ECH				IAmb	IAmb	17 11 42.8	
	comp=Z,5.1nm,1.2s						
SONM	**Songino Array**	**39.37**	**60**	P	**P**	**17 12 20.9**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=292,slow=9.2,SNR=1.9						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**51.39**	**253**	P	**P**	**17 13 55.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=44,slow=6.9,SNR=1.8						
	comp=Z,0.2nm,0.4s						

*IDC **16** 17:12:29.1±0.6,34.°41N×141.°60E,h0km,mb3.9/19, mbtmp3.9/23,ML2.5/3,MS3.4/16,Error ellipse: s-maj=16.6km s-min=12.2km az=76.0*
*JMA **16** 17:12:30.4±0.7,34.°1N±2.°4×14.°2E±.°1,h26km±3km,MV3.3/28, FAR SE OFF BOSO PEN*
*NEIC **16** 17:12:31.1±2.7,34.°41N±0.°06×142.°0E±0.°1,h28km±6km, mb4.5/18,Error ellipse: s-maj=12.4km s-min=8.3km az=98.0*
ISC 16 17:12:29.8±0.5,**34.°41N**±0.°04×**141.°78E**±0.°06,**h10km,n93,**
σ**1s28/**83,**mb4.2**/29,**MS3.4**/15,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.70**	**291**	*e*P	**Pg**	**17 12 43.9**	**+0.5**
BSO3	**Boso 3**	**1.12**	**291**	P	**Pb**	**17 12 50.9**	**-0.2**
BSO4	**Boso 4**	**1.32**	**297**	P	**Pn**	**17 12 54.7**	**+0.4**
CHOJ	**Chosi**	**1.50**	**330**	*e*P	**Pn**	**17 12 56.4**	**-0.4**
CHOJ				*e*S	**Sn**	**17 13 15.2**	**-1.2**
JKUC	**kamogawauchiur**	**1.50**	**301**	P	**Pn**	**17 12 56.7**	**-0.1**
JKUC				*e*S	**Sn**	**17 13 16.0**	**-0.4**
JMKN	**Mikurajimanish**	**1.88**	**255**	*e*P	**Pn**	**17 13 01.9**

comp=Z,124nm,18.4s,baz=91,slow=41
MK31 Makanchi Array 45.80 304 P **P** **17 20 51.1 -0.7**
MKAR Makanchi Array 45.80 304 P **P** **17 20 51.6 -0.1**
comp=Z,1.6nm,0.7s,baz=90,slow=10,SNR=12
MKAR PcP **PcP** **17 22 30.0 +0.8**
comp=Z,0.5nm,0.7s,baz=96,slow=5.8,SNR=2.2
comp=Z,1.6nm,0.7s
MKAR Makanchi Array 45.80 304 P **P** **17 20 51.2 -0.5**
MAKZ Makanchi 46.02 304 P **P** **17 20 51.9 -1.5**
MAKZ IAmb IAmb 17 20 56.9
comp=Z,2.9nm,1.0s
HNR Honiara 46.88 155 P **P** **17 21 02.2 +1.8**
comp=Z,735nm,0.6s,baz=269,slow=15,SNR=1.7
HNR Honiara 46.88 155 P **P** **17 20 58.9 -1.4**
KURK Kurchatov 47.81 310 P **P** **17 21 06.9 -0.5**
KURK IAmb IAmb 17 21 28.2
comp=Z,4.5nm,0.8s
KURBB Kurchatov Arra 47.88 310 P **P** **17 21 08.0 +0.1**
comp=Z,1.8nm,0.5s,baz=85,slow=7.6,SNR=18
comp=Z,1.8nm,0.5s
MTN Manton Dam 48.06 194 P **P** **17 21 08.0 -1.6**
K20K Telida 48.35 33 P **P** **17 21 08.8 -2.5**
K20K IAmb IAmb 17 21 15.3
comp=Z,8.1nm,1.4s
KDAK Kodiak Island 48.88 40 LR LR 17 39 35.4
comp=Z,28nm,21.8s,baz=251,slow=33
KNRA Kununurra 51.32 196 P **P** **17 21 34.6 +0.3**
KNRA IAmb IAmb 17 22 02.9
comp=Z,28nm,1.4s
UGM Wanagama 51.44 221 P **P** **17 21 33.8 -1.7**
ILAR Eielson Array 51.57 31 P **P** **17 21 36.6 +0.9**
comp=Z,0.7nm,0.8s,baz=269,slow=6.5,SNR=6.2
comp=Z,0.7nm,0.8s
AAK Ala-Archa 52.03 300 LR LR 17 46 01.9
comp=Z,35nm,18.7s,baz=130,slow=39
BVAR Borovoye Array 52.58 314 P **P** **17 21 42.4 -1.1**
comp=Z,0.4nm,0.6s,baz=108,slow=9.5,SNR=5.2
BVAR PcP **PcP** **17 22 54.5 +0.9**
comp=Z,0.5nm,0.7s,baz=325,slow=1.8,SNR=3.6
comp=Z,0.4nm,0.6s
BRVK Borovoye 52.64 314 P **P** **17 21 43.4 -0.5**
FITZ Fitzroy Crossi 54.42 199 P **P** **17 21 58.0 +0.7**
comp=Z,1.4nm,0.6s,baz=27,slow=7.8,SNR=8.2
comp=Z,1.4nm,0.6s
FITZ Fitzroy Crossi 54.42 199 P **P** **17 21 58.9 +1.6**
WR0 Warramunga Arr 54.50 188 P **P** **17 21 58.0 +0.2**
WR0 IAmb IAmb 17 22 35.4
comp=Z,9.1nm,1.4s
WB2 Warramunga Arr 54.51 189 P **P** **17 21 59.1 +1.2**
WB2 IAmb IAmb 17 22 17.1
comp=Z,7.2nm,1.2s
WRA Warramunga Arr 54.51 189 P **P** **17 21 58.7 +0.8**
comp=Z,1.1nm,0.6s,baz=2.5,slow=7.6,SNR=16
comp=Z,1.1nm,0.6s
WRA Warramunga Arr 54.51 189 P **P** **17 21 58.2 +0.3**
KKAR Karatay Array 54.73 302 P **P** **17 21 57.2 -2.2**
AS31 Alice Springs 58.23 188 P **P** **17 22 23.3 -1.1**
ASAR Alice Springs 58.23 188 P **P** **17 22 24.0 -0.4**
comp=Z,0.8nm,0.7s,baz=17,slow=9.2,SNR=13
comp=Z,0.8nm,0.7s
ASAR Alice Springs 58.23 188 P **P** **17 22 22.2 -2.2**
ARU Arti 58.54 320 P **P** **17 22 26.3 0.0**
comp=Z,2.7nm,0.6s,baz=59,slow=3.4,SNR=8.1
comp=Z,2.7nm,0.6s
ARU Arti 58.54 320 P **P** **17 22 26.1 -0.1**
ARU IAmb IAmb 17 22 29.1
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 59.88 311 P **P** **17 22 35.6 0.0**
ABKAR IAmb IAmb 17 22 36.6
comp=Z,1.6nm,0.6s
AKTO Aktyubinsk 60.67 313 P **P** **17 22 40.3 -0.7**
comp=Z,1.7nm,0.6s,baz=82,slow=10,SNR=7.7
AKTO LR LR 17 51 18.3
comp=Z,40nm,18.9s,baz=66,slow=38
comp=Z,1.7nm,0.6s
KIRV Kirov 62.53 324 LR LR 17 52 46.0
comp=Z,46nm,18.2s,baz=102,slow=39
GEYT Alibeck 65.39 300 LR LR 17 54 12.8
comp=Z,27nm,18.1s,baz=134,slow=38
FORT Forrest 66.11 193 P **P** **17 23 18.4 +1.3**
ARCES ARCESS Array B 66.56 340 LR LR 17 59 20.0
comp=Z,33nm,18.6s,baz=28,slow=42
FINES FINESS Array B 71.28 333 P **P** **17 23 48.6 -0.4**
comp=Z,1.7nm,0.9s,baz=79,slow=7.2,SNR=2.9
comp=Z,1.7nm,0.9s
NVAR Mina Array Bea 76.33 53 P **P** **17 24 22.5 +3.0**
comp=Z,0.7nm,0.7s,baz=308,slow=4.4,SNR=1.4
comp=Z,0.7nm,0.7s
AKASG Malin Array Be 76.56 323 P **P** **17 24 20.8 +0.6**
comp=Z,0.2nm,0.3s,baz=45,slow=6.2,SNR=2.2
comp=Z,0.2nm,0.3s
HFS Hagfors 76.60 336 LR LR 18 02 17.2
comp=Z,65nm,18.5s,baz=18,slow=39
NB2 NORSAR Subarra 76.72 338 P **P** **17 24 21.5 +0.5**
comp=Z,0.5nm,0.6s,baz=40,slow=5.6
NOA NORSAR Array B 76.72 338 LR LR 18 02 01.8
comp=Z,44nm,18.8s,baz=35,slow=39
PDAR Pinedale Array 79.30 45 P **P** **17 24 37.4 +1.5**
comp=Z,0.5nm,0.5s,baz=330,slow=5.3,SNR=1.5
comp=Z,0.5nm,0.5s
BRTR Keskin Array B 80.82 312 P **P** **17 24 44.9 +0.8**
comp=Z,0.6nm,0.7s,baz=84,slow=2.8,SNR=4.4
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 91.48 53 P **P** **17 25 38.8 +1.9**
comp=Z,0.2nm,0.6s,baz=306,slow=3.0,SNR=1.5
comp=Z,0.2nm,0.6s
LPAZ La Paz 147.68 64 PKPbc **PKPbc** **17 32 16.4 +0.4**
comp=Z,0.8nm,0.7s,baz=13,slow=5.4,SNR=2.5

---

*ISU **16** 17:22:10,39˚.53N×73˚.69E,h9km*
*IDC **16** 17:22:11.8±0.9,39˚.35N×73˚.36E,h0km,mb3.6/12, mbtmp3.6/20,ML3.3/7,Error ellipse: s-maj=15.0km s-min=13.8km az=116.0*
*KRNET **16** 17:22:12.7±0.1,39˚.47N×73˚.36E,mb4.2*
*SOME **16** 17:22:12.0,39˚.53N×73˚.23E,h10km*
*NNC **16** 17:22:18.9±2.4,39˚.71N×73˚.46E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=19.5km s-min=10.8km az=179.0*

ISC 16 17:22:13.3±1.0,39˚.61N±0˚.04×73˚.40E±0˚.02,h8km±6km, n82,σ2≥42/120,mb3.6/12,24C-11D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.02**	**333**	⇑*e*P	**Pn**	**17 22 34.6**	**+0.6**
	baz=37						
OHH				⇑*i*S	**Sn**	**17 22 51.0**	**+2.4**
	baz=37						
OHH	**Osh**	**1.02**	**333**	P	**Pn**	**17 22 34.3**	**+0.3**
OHH				S	**Sn**	**17 22 51.3**	**+2.7**
TSTA	**Tashata**	**1.20**	**324**	P	**Pg**	**17 22 37.0**	**+0.8**
ANR	**Andizhan**	**1.39**	**325**	P	**Pg**	**17 22 42.1**	**+2.1**
ANR				S	**Sg**	**17 22 04.2**	**+6.2**
FRG	**Fergana**	**1.46**	**302**	P	**Pg**	**17 22 41.4**	**+0.2**
FRG				S	**Sg**	**17 23 04.4**	**+4.3**
CHMI	**Chimion**	**1.58**	**295**	P	**Sg**	**17 23 07.6**	**+3.4**
NAM	**Namangan**	**1.92**	**317**	P	**Pg**	**17 22 51.2**	**+1.2**
NAM				S	**Sg**	**17 23 20.5**	**+5.7**
BTK	**Batken**	**2.04**	**283**	⇓*i*P	**Pb**	**17 22 50.7**	**+0.2**
	baz=87						
BTK				⇓*i*S	**Sg**	**17 23 18.7**	**0.0**
	baz=87						
BTK	**Batken**	**2.04**	**283**	P	**Pb**	**17 22 50.2**	**-0.3**
BTK				S	**Sg**	**17 23 21.3**	**+2.6**
ARLS	**Aral**	**2.35**	**17**	⇓*i*P	**Pb**	**17 22 56.6**	**+0.6**
	baz=17						
ARLS				⇓*i*S	**Sg**	**17 23 28.7**	**-0.2**
	baz=17						
GAR	**Garm**	**2.47**	**257**	⇑*i*P	**Pn**	**17 22 55.9**	**+2.0**
	baz=60						
GAR				⇑*i*S	**Sb**	**17 23 27.1**	**-1.4**
	baz=60						
AML	**Almayashu**	**2.53**	**5**	P	**Pb**	**17 23 00.3**	**+1.2**
	SNR=52						
TRKS	**Terek-Say**	**2.57**	**319**	⇑*e*P	**Pb**	**17 22 58.2**	**-1.6**
	baz=21						
TRKS				⇑*i*S	**Sb**	**17 23 31.7**	**+0.1**
	baz=21						
UCH	**Uchtor**	**2.75**	**18**	P	**Pb**	**17 23 03.7**	**+0.9**
	SNR=57						
UCH	**Uchtor**	**2.75**	**18**	⇑*e*P	**Pb**	**17 23 02.2**	**-0.7**
	baz=17						
UCH				⇑*i*S	**Sb**	**17 23 38.7**	**+1.9**
	baz=17						
EKS2	**Erkin-Say**	**3.06**	**5**	P	**Pb**	**17 23 08.2**	**+0.2**
	SNR=37						
MRKS	**Merke**	**3.13**	**358**	*e*P	**Pg**	**17 23 11.8**	**-1.5**
	18nm,0.6s						
MRKS				*e*S	**Sg**	**17 23 55.2**	**+1.3**
	79nm,0.5s						
AAK	**Ala-Archa**	**3.13**	**15**	P	**Pb**	**17 23 09.0**	**-0.3**
	SNR=50						
AAK	**Ala-Archa**	**3.13**	**15**	Pn	**Pb**	**17 23 09.4**	**+0.1**
	9.0nm,0.3s,baz=197,slow=9.4,SNR=92						
AAK				Sn	**Sb**	**17 23 50.7**	**+3.0**
	5.6nm,0.3s,baz=131,slow=18,SNR=1.6						
	45nm,0.5s						
AAK	**Ala-Archa**	**3.13**	**15**	⇓*i*P	**Pb**	**17 23 07.9**	**-1.4**
	baz=15						
AAK				⇓*i*S	**Sb**	**17 23 47.9**	**+0.2**
	baz=15						
CHMG	**Chimgan**	**3.23**	**308**	P	**Pb**	**17 23 09.9**	**-0.9**
KBK	**Karagaybulak**	**3.26**	**21**	P	**Pb**	**17 23 11.7**	**+0.2**
	SNR=9.3						
KBK	**Karagaybulak**	**3.26**	**21**	⇑*i*P	**Pb**	**17 23 09.2**	**-2.2**
	baz=20						
KBK				⇑*i*S	**Sb**	**17 23 50.7**	**-0.6**
	baz=20						
ULHL	**Ulahol**	**3.40**	**38**	P	**Pb**	**17 23 13.5**	**-0.4**
	SNR=23						
CHGR	**Chuyangaron**	**3.43**	**255**	⇑*i*P	**Pn**	**17 23 08.8**	**+1.7**
	baz=57						
CHGR				⇑*i*S	**Sn**	**17 23 49.8**	**+1.8**
	baz=57						
BOOM	**Boomskoye usch**	**3.46**	**33**	⇑*i*P	**Pb**	**17 23 11.8**	**-3.0**
	baz=32						
BOOM				⇑*i*S	**Sb**	**17 23 55.3**	**-1.8**
	baz=32						
CHMS	**Chumysh**	**3.53**	**16**	P	**Pb**	**17 23 14.6**	**-1.4**
	SNR=19						
CHMS	**Chumysh**	**3.53**	**16**	⇑Pn	**Pb**	**17 23 14.5**	**-1.6**
	20nm,0.6s						
CHMS				⇑Lg	Lg	17 24 07.4	
	38nm,0.7s						
TAS	**Tashkent**	**3.57**	**300**	⇓*i*P	**Pn**	**17 23 12.1**	**+3.2**
	baz=2.0						
TAS				⇓*i*S	**Sb**	**17 23 55.9**	**-4.1**
	baz=2.0						
IUG	**luzhnay**	**3.59**	**316**	*e*P	**Pg**	**17 23 20.9**	**-1.2**
	1μm,0.3s						
IUG				*e*S	**Sg**	**17 24 10.8**	**+2.0**
	160nm,0.7s						
DZA	**Taraz**	**3.63**	**335**	*e*P	**Pb**	**17 23 16.6**	**-1.1**
	51nm,0.1s						
DZA				*e*S	**Sb**	**17 24 02.8**	**+1.0**
	187nm,0.3s						
DZA	**Taraz**	**3.63**	**335**	Pg	**Pb**	**17 23 13.9**	**-3.7**
	85nm,0.1s						
DZA				Lg	Lg	17 23 58.8	
	187nm,0.3s						
TKM2	**Tokmak 2**	**3.70**	**26**	P	**Pb**	**17 23 17.1**	**-1.8**
	SNR=14						
TKM2	**Tokmak 2**	**3.70**	**26**	⇑Pn	**Pb**	**17 23 16.8**	**-2.2**
	6.8nm,0.5s						
TKM2				⇑Pg	**Pg**	**17 23 25.0**	**+0.9**
	20nm,0.5s						
TKM2				⇓Lg	Lg	17 24 15.1	
	26nm,0.5s						
USP	**Ospenovka**	**3.74**	**12**	P	**Pb**	**17 23 17.1**	**-2.5**
	SNR=20						
KST	**Kastek**	**3.93**	**29**	*e*P	**Pg**	**17 23 27.2**	**-1.4**
	13nm,0.8s						
KST				*e*S	**Sg**	**17 24 22.0**	**+2.4**
	94nm,0.5s						
DGS	**Degeres**	**4.04**	**25**	*e*P	**Pg**	**17 23 28.6**	**-2.1**
	18nm,0.6s						
DGS				*e*S	**Sg**	**17 24 24.3**	**+1.3**
	53nm,0.7s						
DGS	**Degeres**	**4.04**	**25**	Pg	**Pg**	**17 23 28.9**	**-1.8**
	18nm,0.5s						
DGS				Lg	Lg	17 24 27.5	
	53nm,0.7s						
KK31	**Karatay Array**	**4.11**	**329**	Pn	Pb	17 23 21.1	-4.7
	4.5nm,0.3s,baz=135,slow=12,SNR=129						
KK31				⇑Pg	**Pg**	**17 23 30.5**	**-1.5**
	6.5nm,0.3s,baz=158,slow=17,SNR=11						
KK31				⇑Sn	**Sb**	**17 24 12.2**	**-3.4**
	25nm,0.6s,baz=136,slow=26,SNR=4.9						
KK31				⇓Lg	Lg	17 24 25.3	
	24nm,0.6s						
KKAR	**Karatay Array**	**4.11**	**329**	⇑*i*P	**Pn**	**17 23 20.6**	**+4.3**
	baz=30						
KKAR				⇑*e*S	**Sb**	**17 24 10.4**	**-5.2**
	baz=30						
MTBS	**Maitube**	**4.19**	**32**	*e*P	**Pg**	**17 23 32.4**	**-1.1**
	5.9nm,0.3s						
MTBS				*e*S	**Sg**	**17 24 30.4**	**+2.6**
	44nm,0.5s						
MTBS	**Maitube**	**4.19**	**32**	Pg	**Pb**	**17 23 30.3**	**+3.0**
	17nm,0.2s						
MTBS				Lg	Lg	17 24 30.4	
	44nm,0.5s						
MDOK	**Medeo**	**4.49**	**37**	*e*P	**Pg**	**17 23 37.8**	**-1.4**
	9.2nm,0.6s						
MDOK				*e*S	**Sg**	**17 24 40.3**	**+3.0**
	62nm,0.6s						
MDOK	**Medeo**	**4.49**	**37**	Pn	Pb	17 23 28.0	-4.3
	6.6nm,0.6s						
MDOK				Pg	**Pg**	**17 23 37.0**	**-2.2**
	8.5nm,0.5s						
MDOK				Pg	**Pg**	**17 23 40.3**	**+1.1**
	11nm,0.6s						
MDOK				Lg	Lg	17 24 39.6	
	73nm,0.8s						
MDOK				Lg	Lg	17 24 40.1	
	62nm,0.6s						
KTBS	**Karatobe**	**4.78**	**30**	*e*P	**Pg**	**17 23 43.0**	**-1.8**
	4.7nm,0.5s						
KTBS				*e*S	**Sg**	**17 24 49.0**	**+2.4**
	62nm,0.4s						
KTBS	**Karatobe**	**4.78**	**30**	Pg	**Pg**	**17 23 42.4**	**-2.3**
	6.5nm,0.5s						
KTBS				Lg	Lg	17 24 49.0	
	62nm,0.4s						
KUU	**Kurty**	**4.81**	**26**	*e*P	**Pg**	**17 23 43.2**	**-2.1**
	10nm,0.6s						
KUU				*e*S	**Sg**	**17 24 49.8**	**+2.1**
	53nm,1.2s						
KUU	**Kurty**	**4.81**	**26**	Pg	**Pg**	**17 23 44.3**	**-1.1**
	11nm,0.5s						
KUU				Lg	Lg	17 24 49.8	
	53nm,1.2s						
CHKK	**Chushkaly**	**5.02**	**31**	*e*P	**Pg**	**17 23 48.2**	**-1.2**
	5.5nm,0.5s						
CHKK				*e*S	**Sg**	**17 24 57.6**	**+3.3**
	22nm,0.8s						
CHKK	**Chushkaly**	**5.02**	**31**	Pg	**Pg**	**17 23 45.8**	**-3.5**
	5.5nm,0.5s						
CHKK				Lg	Lg	17 24 56.3	
	19nm,0.3s						
SATY	**Saty**	**5.11**	**46**	*e*P	**Pg**	**17 23 50.5**	**-0.6**
	12nm,0.5s						
SATY				*e*S	**Sg**	**17 25 01.8**	**+4.6**
	35nm,0.7s						
SATY	**Saty**	**5.11**	**46**	Pg	**Pg**	**17 23 47.8**	**-3.3**
	11nm,0.5s						
SATY				Lg	Lg	17 25 00.1	
	37nm,1.2s						
BTLS	**Baital**	**5.45**	**5**	*e*P	**Pg**	**17 23 55.4**	**-2.2**
	6.4nm,0.3s						
BTLS				*e*S	**Sg**	**17 25 09.8**	**+1.7**
	16nm,0.5s						
BTLS	**Baital**	**5.45**	**5**	Pg	Pg	17 23 53.7	-3.8
	6.4nm,0.3s						
BTLS				Lg	Lg	17 25 09.1	
	13nm,0.7s						
UZB	**Uzynbulak**	**5.51**	**48**	*e*P	**Pg**	**17 23 57.9**	**-0.9**
	6.4nm,0.5s						
UZB				*e*S	**Sg**	**17 25 13.2**	**+3.0**
	9.8nm,0.5s						
UZB	**Uzynbulak**	**5.51**	**48**	Pg	**Pg**	**17 23 56.6**	**-2.2**
	6.4nm,0.5s						
UZB				Lg	Lg	17 25 12.3	
	9.8nm,0.5s						
ARXS	**Arharly**	**5.66**	**34**	*e*P	**Pg**	**17 23 59.4**	**-2.2**
	4.6nm,0.4s						
ARXS				*e*S	**Sg**	**17 25 16.5**	**+1.6**
	32nm,0.4s						
ARXS	**Arharly**	**5.66**	**34**	Pg	**Pg**	**17 23 58.5**	**-3.2**
	6.9nm,0.5s						
ARXS				Lg	Lg	17 25 16.5	
	32nm,0.4s						
SHLS	**Shalkode**	**5.77**	**50**	*e*P	Pg	17 24 09.5	+5.7
	6.9nm,0.4s						
SHLS				*e*S	Sg	17 25 33.9	+15
	15nm,0.6s						
SHLS	**Shalkode**	**5.77**	**50**	Pg	**Pg**	**17 24 07.3**	**+3.5**
	6.4nm,0.7s						
SHLS				Lg	Lg	17 25 31.7	
	15nm,0.6s						
BLB	**Baldybastay**	**5.87**	**39**	*e*P	**Pg**	**17 24 04.0**	**-1.7**
	18nm,0.4s						
BLB				*e*S	**Sg**	**17 25 24.6**	**+2.9**
	37nm,0.7s						
BLB	**Baldybastay**	**5.87**	**39**	Pg	**Pg**	**17 24 03.5**	**-2.1**
	12nm,0.5s						
BLB				Lg	Lg	17 25 24.0	
	37nm,0.7s						
PDGK	**Podgornoye**	**5.89**	**49**	⇑Pn	**Pn**	**17 23 45.2**	**+4.3**
	4.7nm,0.7s						
PDGK				⇑Pg	**Pg**	**17 24 05.5**	**-0.6**
	6.5nm,0.7s						
PDGK				⇓Lg	Lg	17 25 23.3	
	37nm,1.1s						
MKAR	**Makanchi Array**	**9.67**	**39**	Pn	**Pn**	**17 24 36.9**	**+4.2**
	0.1nm,0.3s,baz=222,slow=14,SNR=3.3						
MKAR				Lg	Lg	17 27 19.9	
	baz=239,slow=22,SNR=2.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**11.59**	**16**	Pn	**Pn**	**17 25 01.1**	**+2.3**
	0.4nm,0.2s,baz=208,slow=12,SNR=1.2						
KURBB				Lg	Lg	17 28 17.6	
	0.1nm,0.3s,baz=201,slow=28,SNR=1.6						
GEYT	**Alibeck**	**12.05**	**267**	Pn	**Pn**	**17 25 03.5**	**-1.7**
	0.3nm,0.3s,baz=85,slow=18,SNR=2.0						
GEYT				Sn	**Sn**	**17 27 11.0**	**-8.7**
	0.1nm,0.3s,baz=34,slow=17,SNR=1.4						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**13.57**	**352**	Pn	**Pn**	**17 25 27.7**	**+1.8**
	0.3nm,0.3s,baz=164,slow=13,SNR=14						
BVAR				Sn	**Sn**	**17 27 53.3**	**-3.6**
	baz=97,slow=39						
BVAR				Lg	Lg	17 29 23.8	
	0.1nm,0.3s,baz=296,slow=31,SNR=1.8						
	1.3nm,0.6s						
AKTO	**Aktyubinsk**	**15.31**	**320**	Pn	**Pn**	**17 25 49.5**	**0.0**
	0.2nm,0.3s,baz=151,slow=14,SNR=3.6						
AKTO				Sn	**Sn**	**17 28 35.7**	**-3.4**
	0.1nm,0.3s,baz=200,slow=21,SNR=1.6						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**16.30**	**25**	Pn	**P**	**17 26 05.4**	**+0.1**
	0.3nm,0.3s,baz=215,slow=10,SNR=8.8						
ZALV				Lg	Lg	17 30 46.0	
	0.1nm,0.3s,baz=193,slow=25,SNR=1.7						
	1.7nm,0.6s						
ARU	**Arti**	**19.46**	**335**	P	**Pn**	**17 26 40.7**	**-0.6**
	baz=160,slow=17,SNR=3.2						
	1.1nm,0.3s						
SONM	**Songino Array**	**25.07**	**60**	P	**P**	**17 27 39.7**	**+1.5**
	0.5nm,0.7s,baz=255,slow=8.9,SNR=4.1						
	0.5nm,0.7s						
BRTR	**Keskin Array B**	**30.43**	**283**	P	**P**	**17 28 27.4**	**+1.2**
	0.4nm,0.5s,baz=74,slow=5.8,SNR=2.5						
	0.4nm,0.5s						
AKASG	**Malin Array Be**	**32.60**	**305**	P	**P**	**17 28 45.3**	**+0.3**
	0.1nm,0.3s,baz=78,slow=8.3,SNR=1.5						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**36.05**	**323**	P	**P**	**17 29 16.3**	**+1.5**
	0.5nm,0.3s,baz=110,slow=9.8,SNR=12						
	0.5nm,0.3s						
ARCES	**ARCESS Array B**	**39.05**	**336**	P	**P**	**17 29 42.0**	**+2.0**
	1.9nm,0.7s,baz=91,slow=6.6,SNR=5.4						
	1.9nm,0.7s						
GERES	**GERESS Array B**	**42.76**	**303**	P	**P**	**17 30 12.1**	**+1.1**
	0.2nm,0.5s,baz=65,slow=6.9,SNR=1.9						
	0.2nm,0.5s						
NOA	**NORSAR Array B**	**43.10**	**321**	P	**P**	**17 30 14.4**	**+0.9**
	0.3nm,0.6s,baz=93,slow=7.6,SNR=1.9						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**67.68**	**269**	P	**P**	**17 33 09.7**	**-1.5**
	0.5nm,0.5s,baz=44,slow=5.3,SNR=2.2						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**71.26**	**17**	P	**P**	**17 33 33.3**	**+0.7**
	0.2nm,0.5s,baz=309,slow=5.7,SNR=2.1						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**82.09**	**124**	P	**P**	**17 34 33.5**	**-0.8**
	0.7nm,1.0s,baz=231,slow=4.0,SNR=4.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**84.54**	**127**	P	**P**	**17 34 46.4**	**-0.5**
	0.4nm,1.0s,baz=312,slow=5.6,SNR=2.9						
	0.4nm,1.0s						
STKA	**Stephens Creek**	**95.14**	**128**	P	**P**	**17 35 36.4**	**-0.5**
	1.5nm,0.9s,baz=54,slow=8.7,SNR=1.7						
	1.5nm,0.9s						

IDC 16 17:22:35.8±2.2,2˚.18N×126˚.08E,h0km,mb3.1/3, mbtmp3.2/3,Error ellipse: s-maj=180.1km s-min=27.7km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.43**	**160**	P	P	17 27 46.0	-0.8
	0.5nm,0.5s,baz=339,slow=11,SNR=13						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.79**	**164**	P	P	17 28 18.6	+0.9
	0.2nm,0.4s,baz=347,slow=8.2,SNR=8.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.46**	**326**	P	P	17 32 33.4	-0.2
	0.1nm,0.6s,baz=126,slow=7.3,SNR=1.1						
	0.1nm,0.6s						

---

*IDC **16** 17:31:41.0±2.2,32˚.09N×139˚.65E,h0km,mb3.3/2, mbtmp3.1/3,ML1.9/1,Error ellipse: s-maj=102.5km s-min=33.5km az=84.0*
*JMA **16** 17:31:52.1±0.2,32˚.9N±0˚.7×14˚.0E±˚,h138km±2km, MV3.0/23,E OFF HACHIJOJIMA ISLAND*

ISC 16 17:31:51.5±1.3,32˚.73N±0˚.09×140˚.3E±0˚.2,h128km,n12, σ1≥23/11,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.51**	**312**	*e*P	**Pn**	**17 32 11.6**	**+1.2**
JHJ2	**Mitsune**	**0.52**	**316**	P	**Pn**	**17 32 11.6**	**+1.2**
JMKN	**Mikurajimanish**	**1.28**	**335**	*e*P	**Pn**	**17 32 16.9**	**-0.1**
BSO1	**Boso 1**	**2.01**	**17**	P	**Pn**	**17 32 25.4**	**+0.6**
BSO3	**Boso 3**	**2.07**	**6**	*e*P	**Pn**	**17 32 26.3**	**+0.4**
BSO3				*e*S	**Sn**	**17 32 52.3**	**-0.2**
JIM2	**Oshima 3**	**2.09**	**341**	*e*P	**Pn**	**17 32 26.2**	**-0.3**
MJAR	**Matsushiro Arr**	**4.15**	**337**	Pn	**Pn**	**17 32 51.7**	**-1.6**
	0.1nm,0.3s,baz=161,slow=27,SNR=4.2						
MJAR				Sn	**Sn**	**17 33 43.3**	**+2.1**
	baz=251,slow=32,SNR=1.3						
	0.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.10**	**112**	T	T	18 06 40.3	
	baz=304						
H11N1	**WAKE ISLAND Hy**	**27.10**	**112**	T	T	18 06 39.6	
	baz=304						
H11N3	**WAKE ISLAND Hy**	**27.11**	**112**	T	T	18 06 51.4	
	baz=304						
WRA	**Warramunga Arr**	**52.68**	**187**	P	**P**	**17 40 51.6**	**-1.2**
	0.5nm,1.1s,baz=1.7,slow=7.6,SNR=7.1						
	0.5nm,1.1s						
ASAR	**Alice Springs**	**56.41**	**187**	P	**P**	**17 41 19.5**	**-0.2**
	0.2nm,0.4s,baz=359,slow=6.3,SNR=12						
	0.2nm,0.4s						

IDC 16 17:42:28.6±2.4,6˚.22S×130˚.46E,h0km,mb3.5/1, mbtmp3.2/3,ML3.2/2,Error ellipse: s-maj=111.7km s-min=33.6km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.15**	**165**	Pn	Pn	17 45 51.5	+1.0
	0.1nm,0.3s,baz=345,slow=11,SNR=10						
WRA				Sn	Sn	17 48 13.2	-15

mb4.8/44, Error ellipse: s-maj=14.2km s-min=9.5km az=111.0

IDC **16** *17:42:33.2±1.6, 33˚55S×179˚53W, h54km±14km, mb4.1/12, mbtmp4.5/15, ML4.7/2, MS3.7/29, Error ellipse: s-maj=15.4km s-min=12.0km az=114.0*

ISC 16 17:42:31.7±0.5**, 33.77S**±0.04×**179.32W**±0.06**, h48**km±4km**, n223**, σ2°12/222**, mb4.7**/28**, MS3.7**/29**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.25**	**206**	Pn	**Pn**	**17 43 35.1**	**+1.2**
MXZ	**Matakaoa Point**	**4.25**	**206**	P	**Pn**	**17 43 35.0**	**+1.2**
MXZ				S	**Sn**	**17 44 24.2**	**+2.1**
WMGZ	**Waiomatatini S**	**4.44**	**204**	P	**Pn**	**17 43 37.7**	**+1.2**
WMGZ				S	**Sn**	**17 44 27.5**	**+0.6**
PKGZ	**Pakihiroa**	**4.62**	**207**	P	**Pn**	**17 43 39.6**	**+0.5**
PKGZ				S	**Sn**	**17 44 33.6**	**+2.2**
HAZ	**Te Kaha**	**4.62**	**210**	P	**Pn**	**17 43 40.2**	**+1.3**
GLKZ	**Green Lake**	**4.65**	**15**	P	**Pn**	**17 43 37.4**	**-2.1**
GLKZ				S	**Sn**	**17 44 30.3**	**-1.8**
RAO	**Raoul Island**	**4.66**	**15**	P	**Pn**	**17 43 37.7**	**-1.9**
RAO	47nm,0.3s,baz=118,slow=22,SNR=1.8			S	**Sn**	**17 44 29.8**	**-2.6**
	209nm,0.2s,baz=127,slow=21,SNR=1.5						
	170nm,0.4s						
RAO	**Raoul Island**	**4.66**	**15**	Pn	**Pn**	**17 43 40.6**	**+1.0**
WIZ	**White Island**	**4.70**	**216**	S	**Sn**	**17 44 33.7**	**+0.4**
PUZ	**Puketiti**	**4.72**	**204**	P	**Pn**	**17 43 40.4**	**0.0**
RUGZ	**Raukumara Rang**	**4.84**	**209**	P	**Pn**	**17 43 43.0**	**+0.9**
TWGZ	**Tauwhareparae**	**4.91**	**206**	P	**Pn**	**17 43 43.4**	**+0.4**
TWGZ				S	**Sn**	**17 44 41.0**	**+2.4**
KUZ	**Kuaotunu**	**5.03**	**232**	P	**Pn**	**17 43 47.9**	**+3.4**
CNGZ	**Carnagh Statio**	**5.11**	**202**	P	**Pn**	**17 43 46.0**	**+0.3**
CNGZ				S	**Sn**	**17 44 44.0**	**+0.6**
TKGZ	**Te Karaka**	**5.19**	**205**	P	**Pn**	**17 43 46.9**	**+0.1**
MWZ	**Matawai**	**5.22**	**208**	P	**Pn**	**17 43 47.0**	**-0.3**
MWZ				S	**Sn**	**17 44 48.5**	**+2.3**
OPRZ	**Ohinepanea**	**5.27**	**218**	P	**Pn**	**17 43 50.2**	**+2.3**
URZ	**Urewera**	**5.33**	**212**	P	**Pn**	**17 43 49.8**	**+1.0**
	16nm,0.3s,baz=341,slow=4.7,SNR=23						
URZ				S	**Sn**	**17 44 48.3**	**-0.5**
	203nm,0.6s,baz=222,slow=22,SNR=6.4						
	52nm,0.3s						
URZ	**Urewera**	**5.33**	**212**	Pn	**Pn**	**17 43 48.6**	**-0.2**
URZ	**Urewera**	**5.33**	**212**	P	**Pn**	**17 43 48.6**	**-0.2**
URZ				S	**Sn**	**17 44 47.7**	**-1.1**
RAGZ	**Rawiri**	**5.41**	**208**	P	**Pn**	**17 43 50.9**	**+1.1**
RIGZ	**Rimuhau**	**5.46**	**205**	P	**Pn**	**17 43 50.9**	**+0.4**
RIGZ				S	**Sn**	**17 44 49.4**	**-2.7**
OMRZ	**Omania**	**5.56**	**218**	P	Pn	17 43 56.6	+4.6
KARZ	**Kaharoa**	**5.56**	**219**	P	**Pn**	**17 43 55.2**	**+3.3**
KMRZ	**Kaimai**	**5.60**	**222**	P	**Pn**	**17 43 56.5**	**+4.0**
PRGZ	**Paritu Road**	**5.62**	**203**	P	**Pn**	**17 43 51.8**	**-0.8**
PRGZ				S	**Sn**	**17 44 55.0**	**-0.8**
MUGZ	**Murupara**	**5.66**	**213**	P	**Pn**	**17 43 55.3**	**+2.0**
RRRZ	**Republican Roa**	**5.67**	**215**	P	**Pn**	**17 43 56.8**	**+3.3**
SNGZ	**Shannon Statio**	**5.68**	**207**	P	**Pn**	**17 43 54.0**	**+0.4**
HLRZ	**Highlands Stat**	**5.68**	**217**	P	Pn	17 43 58.8	+5.2
KNZ	**Kokohu**	**5.77**	**204**	P	**Pn**	**17 43 54.0**	**-0.8**
MHGZ	**Mahia Peninsul**	**5.82**	**202**	P	**Pn**	**17 43 54.1**	**-1.3**
HRRZ	**Handcock Road**	**5.83**	**216**	P	Pn	17 43 60.0	+4.4
RAHZ	**Arahi**	**5.90**	**208**	P	**Pn**	**17 43 57.6**	**+1.1**
ALRZ	**Allen Road**	**5.93**	**215**	P	**Pn**	**17 43 58.5**	**+1.5**
MTHZ	**Maungataniwha**	**5.94**	**210**	P	**Pn**	**17 43 58.7**	**+1.5**
WHHZ	**Waihua**	**5.98**	**207**	P	**Pn**	**17 43 59.2**	**+1.6**
OUZ	**Omahuta**	**6.03**	**254**	Pn	**Pn**	**17 44 00.6**	**+2.3**
MRHZ	**Matea Rd**	**6.11**	**213**	P	**Pn**	**17 44 00.1**	**+0.6**
KUTZ	**Kaahu Road**	**6.13**	**218**	P	**Pn**	**17 44 03.4**	**+3.7**
NMHZ	**Naumai**	**6.17**	**209**	P	**Pn**	**17 44 01.6**	**+1.4**
ARHZ	**Aropaoanui**	**6.23**	**207**	P	**Pn**	**17 44 00.3**	**-0.8**
BKZ	**Black Stump Fm**	**6.35**	**211**	P	**Pn**	**17 44 02.4**	**-0.4**
BKZ	**Black Stump Fm**	**6.35**	**211**	P	**Pn**	**17 44 04.5**	**+1.7**
MCHZ	**McNeill Hill**	**6.50**	**208**	P	**Pn**	**17 44 04.4**	**-0.4**
CKHZ	**Cape Kidnapper**	**6.55**	**205**	P	**Pn**	**17 44 04.3**	**-1.1**
KWHZ	**Kaweka Forest**	**6.60**	**210**	P	**Pn**	**17 44 06.0**	**-0.2**
TMVZ	**Te Maari**	**6.67**	**216**	P	**Pn**	**17 44 08.3**	**+1.0**
NTVZ	**North Tongarir**	**6.67**	**216**	P	**Pn**	**17 44 08.2**	**+1.0**
HIZ	**Hauiti**	**6.68**	**223**	Pn	**Pn**	**17 44 07.7**	**+0.5**
HIZ	**Hauiti**	**6.68**	**223**	P	**Pn**	**17 44 10.6**	**+3.4**
ETVZ	**East Tongariro**	**6.69**	**215**	P	**Pn**	**17 44 08.6**	**+1.2**
OTVZ	**Oturere**	**6.73**	**215**	P	**Pn**	**17 44 08.7**	**+0.7**
WTVZ	**West Tongariro**	**6.73**	**216**	P	**Pn**	**17 44 10.6**	**+2.6**
KAHZ	**Kahuranaki**	**6.74**	**206**	P	**Pn**	**17 44 06.6**	**-1.5**
BHHZ	**Black Hill Sta**	**6.81**	**212**	P	**Pn**	**17 44 09.1**	**+0.1**
MOVZ	**Moawhango**	**6.88**	**214**	P	**Pn**	**17 44 10.4**	**+0.4**
PXZ	**Pawanui**	**6.96**	**205**	P	**Pn**	**17 44 09.9**	**-1.1**
PNHZ	**Pukenui**	**7.11**	**209**	P	**Pn**	**17 44 12.3**	**-0.8**
WPHZ	**Waipukurau**	**7.14**	**207**	P	**Pn**	**17 44 12.5**	**-1.1**
PRHZ	**Porangahau**	**7.25**	**205**	P	**Pn**	**17 44 13.6**	**-1.4**
TSZ	**Takapari Road**	**7.33**	**210**	P	**Pn**	**17 44 15.3**	**-0.8**
ANWZ	**Angora Road**	**7.47**	**206**	P	**Pn**	**17 44 16.6**	**-1.5**
ANWZ				S	**Sn**	**17 45 38.6**	**-2.8**
WAZ	**Wanganui**	**7.52**	**216**	P	**Pn**	**17 44 19.3**	**+0.5**
PRWZ	**Pori Road**	**7.74**	**208**	P	**Pn**	**17 44 22.1**	**+0.3**
BFZ	**Birch Farm**	**7.75**	**206**	Pn	**Pn**	**17 44 19.3**	**-2.6**
BFZ	**Birch Farm**	**7.75**	**206**	P	**Pn**	**17 44 20.0**	**-1.9**
HOWZ	**Holdsworth Sta**	**8.22**	**209**	P	**Pn**	**17 44 25.3**	**-3.0**
HOWZ				S	**Sn**	**17 45 53.0**	**-6.7**
TMWZ	**Te Maipa**	**8.25**	**206**	P	**Pn**	**17 44 26.3**	**-2.5**
MTW	**Mount Morrison**	**8.44**	**208**	P	**Pn**	**17 44 27.9**	**-3.5**
MTW				S	**Sn**	**17 45 59.3**	**-6.0**
MSWZ	**Moikau Station**	**8.76**	**208**	Pn	**Pn**	**17 44 31.0**	**-4.7**
MSWZ	**Moikau Station**	**8.76**	**208**	P	Pn	**17 44 33.7**	**-2.0**
PLWZ	**Palliser**	**8.89**	**207**	Pn	Pn	**17 44 34.5**	**-3.1**
SNZO	**South Karori**	**8.89**	**211**	Pn	Pn	17 44 31.5	-6.1
TCW	**Tory Channel**	**9.00**	**213**	P	**Pn**	**17 44 35.8**	**-3.2**
TUWZ	**Tuamarina**	**9.33**	**213**	Pn	Pn	**17 44 39.8**	**-3.7**
TUWZ	**Tuamarina**	**9.33**	**213**	P	Pn	**17 44 40.4**	**-3.1**
NNZ	**Nelson**	**9.43**	**216**		Pn	**17 44 42.3**	**-2.5**
NNZ	**Nelson**	**9.43**	**216**	P	Pn	**17 44 42.4**	**-2.4**
CMWZ	**Cape Campbell**	**9.46**	**211**	Pn	Pn	17 44 37.8	-7.6
TKNZ	**Takaka Hill**	**9.50**	**218**	P	**Pn**	**17 44 42.1**	**-3.8**
QRZ	**Quartz Range**	**9.58**	**220**	Pn	Pn	17 44 41.1	-5.8
BSWZ	**Blackbirch Sta**	**9.59**	**212**	Pn	**Pn**	**17 44 43.2**	**-3.8**
BSWZ	**Blackbirch Sta**	**9.59**	**212**	P	**Pn**	**17 44 44.1**	**-2.9**
BSWZ				S	**Sn**	**17 46 27.2**	**-6.1**
MRNZ	**Matariki Terra**	**9.87**	**217**	P	**Pn**	**17 44 47.4**	**-3.5**
MRNZ				S	**Sn**	**17 46 33.7**	**-6.6**
THZ	**Tophouse**	**10.07**	**215**		**Pn**	**17 44 49.5**	**-4.3**
THZ	**Tophouse**	**10.07**	**215**	P	**Pn**	**17 44 50.2**	**-3.6**
THZ				S	**Sn**	**17 46 39.4**	**-5.9**
CTZ	**Chatham Island**	**10.17**	**169**	P	**Pn**	**17 44 57.5**	**+2.5**
CTZ				S	**Sn**	**17 46 39.9**	**-7.6**
KHZ	**Kahutara**	**10.30**	**211**		Pn	17 44 50.5	-6.2
KHZ	**Kahutara**	**10.30**	**211**	P	Pn	**17 44 53.2**	**-3.5**
GVZ	**Greta Valley S**	**10.96**	**211**	P	**Pn**	**17 45 02.3**	**-3.6**
LTZ	**Lake Taylor**	**11.16**	**214**	Pn	Pn	17 45 03.1	-5.4
LTZ	**Lake Taylor**	**11.16**	**214**	P	**Pn**	**17 45 04.4**	**-4.2**
OKCZ	**Okains Bay**	**11.58**	**209**	P	**Pn**	**17 45 10.2**	**-4.0**
OXZ	**Oxford**	**11.69**	**213**		Pn	17 45 10.6	-5.2
OXZ	**Oxford**	**11.69**	**213**	P	**Pn**	**17 45 12.4**	**-3.3**
MQZ	**McQueen's Vall**	**11.73**	**210**		Pn	17 45 10.1	-6.2
MQZ	**McQueen's Vall**	**11.73**	**210**	P	Pn	17 45 10.1	-6.2
RPZ	**Rata Peaks**	**12.44**	**214**	P	Pn	17 45 20.2	-5.9
	6.6nm,0.4s,baz=14,slow=1.5,SNR=5.6						
RPZ				S	Sn	17 47 31.3	-12
	7.3nm,0.3s,baz=130,slow=22,SNR=9.6						
RPZ	**Rata Peaks**	**12.44**	**214**	P	**Pn**	**17 45 21.6**	**-4.5**
WHZ	**Wether Hill Ro**	**15.54**	**215**	Pn	**Pn**	**17 46 02.3**	**-5.2**
WHZ					IAmb	IAmb	17 46 12.2
	comp=Z,115nm,1.9s						
DCZ	**Deep Cove**	**15.63**	**218**	Pn	**Pn**	**17 46 07.8**	**-0.9**
DCZ					IAmb	IAmb	17 46 16.6
	comp=Z,104nm,2.0s						
MSVF	**Nonsavu**	**16.15**	**351**	P	**Pn**	**17 46 14.1**	**-1.4**
	comp=Z,18nm,0.9s,baz=180,slow=20,SNR=3.5						
MSVF				LR	LR	17 51 26.9	
	comp=Z,130nm,18.5s,baz=175,slow=34						
MSVF	**Nonsavu**	**16.15**	**351**		**P**	**17 46 17.1**	**-0.9**
DZM	**Mont Dzumac**	**17.13**	**309**	*e*LR	LR	17 50 38.0	
	comp=Z,750nm,26.0s						
DZM	**Mont Dzumac**	**17.13**	**309**	P	**P**	**17 46 30.4**	**+1.5**
	comp=Z,4.8nm,0.9s,baz=82,slow=11,SNR=1.7						
DZM				LR	LR	17 51 45.6	
	comp=Z,621nm,20.7s,baz=178,slow=33						
AFI	**Afiamalu**	**20.93**	**21**	P	**P**	**17 47 09.6**	**-0.8**
	comp=Z,20nm,0.7s,baz=259,slow=23,SNR=1.6						
AFI				LR	LR	17 54 55.6	
	comp=Z,42nm,19.0s,baz=176,slow=36						
	comp=Z,20nm,0.7s						
RAR	**Rarotonga**	**21.33**	**59**	LR	LR	17 57 11.5	
	comp=Z,42nm,18.0s,baz=281,slow=41						
ARMA	**Armidale**	**24.80**	**270**	P	**P**	**17 47 50.5**	**+1.0**
ARMA				IAmb	IAmb	17 48 17.7	
	comp=Z,48nm,1.9s						
CAN	**Canberra**	**26.09**	**258**	P	**P**	**17 47 59.4**	**-1.6**
CAN				IAmb	IAmb	17 48 15.6	
	comp=Z,27nm,1.4s						
EIDS	**Eidsvold**	**27.00**	**280**	P	**P**	**17 48 10.2**	**+1.0**
TBI	**Tubuai**	**28.11**	**76**	*e*LR	LR	17 55 13.5	
	comp=Z,260nm,28.2s						
TOO	**Toolangi**	**28.74**	**252**	P	**P**	**17 48 24.4**	**-0.2**
TOO				IAmb	IAmb	17 48 44.4	
	comp=Z,26nm,1.6s						
HNR	**Honiara**	**30.83**	**317**	LR	LR	17 59 52.7	
	comp=Z,699nm,18.6s,baz=180,slow=34						
PPT2	**Papeete2**	**31.12**	**66**	*e*LR	LR	17 56 34.9	
	comp=Z,240nm,26.0s						
PPT	**Papeete**	**31.14**	**66**	LR	LR	17 59 02.2	
	comp=Z,50nm,21.1s,baz=195,slow=32						
STKA	**Stephens Creek**	**32.77**	**262**	P	**P**	**17 49 00.7**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=94,slow=13,SNR=2.8						
STKA				LR	LR	18 00 47.4	
	comp=Z,231nm,20.4s,baz=49,slow=34						
	comp=Z,3.8nm,1.0s						
STKA	**Stephens Creek**	**32.77**	**262**	P	**P**	**17 48 59.7**	**-0.5**
CTA	**Charters Tower**	**33.42**	**285**	P	**P**	**17 49 06.0**	**+0.1**
	comp=Z,9.3nm,0.9s,baz=120,slow=8.5,SNR=13						
CTA				LR	LR	18 00 08.8	
	comp=Z,111nm,19.9s,baz=97,slow=32						
	comp=Z,9.3nm,0.9s						
CTAO	**Charters Tower**	**33.42**	**285**	P	**P**	**17 49 07.2**	**+1.2**
CTAO				IAmb	IAmb	17 49 10.6	
	comp=Z,14nm,1.1s						
CTAO	**Charters Tower**	**33.42**	**285**	P	**P**	**17 49 08.0**	**+2.1**
CTAO				sP	**sP**	**17 49 24.4**	**+1.0**
BBOO	**Buckleboo**	**37.09**	**259**	P	**P**	**17 49 38.4**	**+0.9**
PMG	**Port Moresby**	**39.19**	**300**	LR	LR	18 03 10.9	
	comp=Z,199nm,21.7s,baz=116,slow=32						
PMG	**Port Moresby**	**39.19**	**300**	P	**P**	**17 49 56.0**	**+0.8**
COEN	**Coen**	**39.27**	**291**	P	**P**	**17 49 56.7**	**+0.8**
RABL	**Rabaul**	**39.63**	**312**	P	**P**	**17 49 58.6**	**-0.3**
AS31	**Alice Springs**	**41.94**	**271**	P	**P**	**17 50 17.2**	**-0.7**
ASAR	**Alice Springs**	**41.94**	**271**	P	**P**	**17 50 17.2**	**-0.7**
	comp=Z,7.0nm,0.7s,baz=113,slow=7.6,SNR=60						
ASAR				PcP	**PcP**	**17 52 11.6**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=118,slow=4.2,SNR=2.6						
ASAR				ScP	**ScP**	**17 55 56.8**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=119,slow=3.5,SNR=2.2						
ASAR				S	**S**	**17 56 30.3**	**-2.9**
	comp=Z,0.8nm,1.1s,baz=113,slow=14,SNR=3.9						
ASAR				LR	LR	18 06 33.3	
	comp=Z,154nm,20.4s,baz=88,slow=34						
	comp=Z,7.0nm,0.7s						
ASAR	**Alice Springs**	**41.94**	**271**	P	**P**	**17 50 17.9**	**-0.1**
ASAR				PcP	**PcP**	**17 52 11.6**	**-1.2**
WR0	**Warramunga Arr**	**43.06**	**277**	P	**P**	**17 50 26.4**	**-0.7**
WB2	**Warramunga Arr**	**43.23**	**276**	P	**P**	**17 50 27.0**	**-1.4**
WB2				IAmb	IAmb	17 50 29.9	
	comp=Z,13nm,1.1s						
WB2				PcP	**PcP**	**17 52 15.6**	**-1.4**
WRAB	**Tennant Creek**	**43.23**	**276**	P	**P**	**17 50 27.9**	**-0.5**
WRAB				PcP	**PcP**	**17 52 16.1**	**-1.0**
WRAB	**Tennant Creek**	**43.23**	**276**	P	**P**	**17 50 28.6**	**+0.2**
WRAB				sP	**pwP**	**17 50 43.3**	**-0.2**
WRA	**Warramunga Arr**	**43.23**	**276**	P	**P**	**17 50 27.6**	**-0.9**
	comp=Z,9.7nm,0.8s,baz=117,slow=7.3,SNR=37						
WRA				PcP	**PcP**	**17 52 14.7**	**-2.4**
	comp=Z,0.9nm,0.6s,baz=122,slow=3.1,SNR=3.5						
WRA				ScP	**ScP**	**17 56 02.5**	**-1.8**
	comp=Z,1.5nm,1.1s,baz=122,slow=4.8,SNR=4.8						
WRA				S	**S**	**17 56 50.6**	**-1.7**
	comp=Z,0.4nm,0.9s,baz=117,slow=15,SNR=1.9						
WRA				LR	LR	18 06 54.7	
	comp=Z,145nm,21.1s,baz=130,slow=34						
	comp=Z,9.7nm,0.8s						
WRA	**Warramunga Arr**	**43.23**	**276**	P	**P**	**17 50 27.3**	**-1.1**
WRA				PcP	**PcP**	**17 52 15.2**	**-1.8**
WB0	**Warramunga Arr**	**43.27**	**277**	P	**P**	**17 50 27.7**	**-1.1**
WB0				IAmb	IAmb	17 50 30.7	
	comp=Z,13nm,0.8s						
FORT	**Forrest**	**44.20**	**259**	P	**P**	**17 50 36.5**	**+0.4**
SBA	**Scott Base**	**44.60**	**184**	P	**P**	**17 50 38.8**	**+0.1**
SBA				IAmb	IAmb	17 52 21.2	
	comp=Z,12nm,1.0s						
SBA	**Scott Base**	**44.60**	**184**	P	**P**	**17 50 43.2**	**+4.6**
SBA				pP	**pwP**	**17 50 54.8**	**-0.2**
SBA				sP	**sP**	**17 50 58.0**	**+2.1**
VNDA	**Vanda**	**44.64**	**186**	P	**P**	**17 50 40.9**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=119,slow=7.3,SNR=2.5						
VNDA				LR	LR	18 05 09.9	
	comp=Z,70nm,19.2s,baz=10,slow=30						
	comp=Z,0.4nm,0.6s						
VNDA	**Vanda**	**44.64**	**186**	P	**P**	**17 50 41.3**	**+2.4**
CCD	**Concordia, Ant**	**49.41**	**197**	P	**P**	**17 51 18.3**	**+1.6**
CCD				pP	**pwP**	**17 51 30.7**	**-2.3**
MTN	**Manton Dam**	**49.51**	**283**	P	**P**	**17 51 16.7**	**-1.1**
MTN				IAmb	IAmb	17 51 31.4	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**49.95**	**278**	P	**P**	**17 51 21.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.34**	**273**	LR	LR	18 12 51.7	
	comp=Z,134nm,18.1s,baz=123,slow=36						
FITZ	**Fitzroy Crossi**	**51.34**	**273**	P	**P**	**17 51 31.6**	**+0.1**
FITZ				IAmb	IAmb	17 51 32.8	
	comp=Z,27nm,1.8s						
CASY	**Casey**	**51.65**	**209**	P	**P**	**17 51 33.2**	**0.0**
CASY	**Casey**	**51.65**	**209**	P	**P**	**17 51 33.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**52.23**	**252**	P	**P**	**17 51 36.7**	**-1.3**
FAKI	**Fak Fak**	**54.55**	**293**	P	**P**	**17 51 54.8**	**-0.5**
FAKI				IAmb	IAmb	17 51 55.6	
	comp=Z,11nm,0.8s						
MORW	**Morawa**	**54.57**	**256**	P	**P**	**17 51 54.7**	**-0.6**
QSPA	**South Pole Qui**	**56.35**	**180**	P	**P**	**17 52 10.5**	**+2.9**
	comp=Z,8.8nm,0.9s,baz=321,slow=0.6,SNR=24						
QSPA				LR	LR	18 11 53.6	
	comp=Z,52nm,21.2s,baz=48,slow=31						
	comp=Z,8.8nm,0.9s						
QSPA	**South Pole Qui**	**56.35**	**180**	P	**P**	**17 52 08.5**	**+0.9**
QSPA				IAmb	IAmb	17 52 21.2	
	comp=Z,12nm,1.0s						
QSPA	**South Pole Qui**	**56.35**	**180**	P	**P**	**17 52 10.8**	**+3.2**
QSPA				pP	**pwP**	**17 52 24.0**	**-0.3**
SIJI	**Sorong**	**56.62**	**295**	LR	LR	18 14 52.0	
	comp=Z,74nm,21.5s,baz=122,slow=34						
BATI	**Baumata**	**57.06**	**280**	LR	LR	18 16 03.5	
	comp=Z,125nm,18.8s,baz=145,slow=35						
GUMO	**Guam**	**58.16**	**318**	LR	LR	18 13 37.2	
	comp=Z,26nm,21.8s,baz=166,slow=32						
MMRI	**Maumere**	**59.10**	**281**	P	**P**	**17 52 26.4**	**-1.1**
MMRI	**Maumere**	**59.10**	**281**	P	**P**	**17 52 30.0**	**+2.5**
	comp=Z,42nm,1.3s						
KAPI	**Kappang**	**63.18**	**283**	LR	LR	18 21 10.8	
	comp=Z,62nm,18.2s,baz=81,slow=37						
DAV	**Davao City (W)**	**66.09**	**297**	LR	LR	18 23 26.1	
	comp=Z,23nm,18.1s,baz=134,slow=37						
BBKI	**Banjar Baru**	**68.07**	**281**	P	P	17 53 33.2	+6.5
MAW	**Mawson**	**68.77**	**201**	P	**P**	**17 53 31.9**	**+1.8**
	comp=Z,3.1nm,0.6s,baz=144,slow=4.9,SNR=8.6						
	comp=Z,3.1nm,0.6s						
MAW	**Mawson**	**68.77**	**201**	P	**P**	**17 53 30.6**	**+0.4**
PMSA	**Palmer Station**	**69.66**	**156**	P	**P**	**17 53 37.6**	**+1.9**
PMSA				IAmb	IAmb	17 54 04.7	
	comp=Z,26nm,1.4s						
KKM	**Kota Kinabalu**	**72.59**	**290**	P	**P**	**17 53 53.1**	**-1.3**
STKI	**Sintang**	**72.84**	**282**	P	**P**	**17 53 57.0**	**+1.2**
SBUM	**Sibu**	**73.62**	**284**	P	**P**	**17 53 58.9**	**-1.5**
TROLL	**Troll, Antarti**	**74.50**	**181**	P	**P**	**17 54 06.7**	**+1.9**
MG02	**Cerro Sombrero**	**74.59**	**144**	P	**P**	**17 54 05.9**	**+0.5**
SNAA	**Sanae**	**74.82**	**179**	P	**P**	**17 54 08.0**	**+1.4**
SNAA	**Sanae**	**74.82**	**179**	P	**P**	**17 54 07.8**	**+1.2**
SNAA				IAmb	IAmb	17 54 14.2	
	comp=Z,8.4nm,0.8s						
VNA3	**Neumayer Olymp**	**75.02**	**177**	P	**P**	**17 54 09.3**	**+1.6**
VNA2	**Neumayer--Watz**	**75.44**	**177**	P	**P**	**17 54 11.2**	**+1.2**
	baz=178,slow=5.2						
VNA1	**Neumayer--Stat**	**75.68**	**177**	P	**P**	**17 54 13.4**	**+2.1**
JHJ	**Hachijo jima 2**	**76.85**	**326**	LR	LR	18 24 10.8	
	comp=Z,38nm,20.9s,baz=109,slow=33						
H03S2	**Juan Fernandez**	**79.53**	**124**	T	T	19 22 58.8	
	baz=234						
H03S1	**Juan Fernandez**	**79.55**	**124**	T	T	19 23 00.2	
	baz=234						
H03S3	**Juan Fernandez**	**79.55**	**124**	T	T	19 23 00.1	
	baz=234						
H03N3	**Juan Fernandez**	**79.75**	**123**	T	T	19 23 06.1	
	baz=238,slow=72,SNR=38						
H03N2	**Juan Fernandez**	**79.75**	**123**	T	T	19 23 07.5	
	baz=238,slow=72,SNR=38						
H03N1	**Juan Fernandez**	**79.76**	**123**	T	T	19 23 06.2	
	baz=238,slow=72,SNR=39						
PLCA	**Paso Flores**	**81.02**	**133**	LR	LR	18 23 07.3	
	comp=Z,24nm,20.7s,baz=204,slow=30						
HKPS	**Hong Kong Po S**	**84.34**	**301**	P	**P**	**17 54 57.4**	**-1.5**
GSI	**Gununungsitoli**	**84.99**	**275**	P	**P**	**17 55 01.1**	**-1.3**
KSRS	**Korea Array**	**86.21**	**321**	P	**P**	**17 55 07.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=136,slow=5.2,SNR=5.1						
	comp=Z,1.0nm,0.8s						
SHEM	**Shemya Is, Ala**	**86.33**	**356**	LR	LR	18 26 57.5	
	comp=Z,54nm,20.2s,baz=295,slow=31						
LPIG	**La Paz**	**87.25**	**59**	LR	LR	18 29 09.1	
	comp=Z,41nm,18.2s,baz=202,slow=32						
PETK	**Petropavlovsk-**	**88.80**	**346**	P	**P**	**17 55 21.1**	**+1.2**
	comp=Z,4.1nm,0.8s,baz=116,slow=6.1,SNR=6.0						
PETK				LR	LR	18 28 55.0	
	comp=Z,20nm,21.4s,baz=126,slow=31						
	comp=Z,4.1nm,0.8s						
ISA	**Isabella, Lake**	**89.47**	**45**	P	**P**	**17 55 25.2**	**+1.6**
ISA				IAmb	IAmb	17 55 27.8	
	comp=Z,5.4nm,0.9s						
CMB	**Columbia Colle**	**90.00**	**43**	P	**P**	**17 55 27.3**	**+1.3**
CMB				IAmb	IAmb	17 55 29.6	
	comp=Z,7.0nm,1.2s						
GSC	**Goldstone, Bar**	**90.22**	**47**	P	**P**	**17 55 29.7**	**+2.7**
GSC				IAmb	IAmb	17 55 31.3	
	comp=Z,10nm,1.4s						
YBH	**Yreka Blue Hor**	**91.36**	**39**	LR	LR	18 27 35.2	
	comp=Z,32nm,21.9s,baz=231,slow=30						
NVAR	**Mina Array Bea**	**91.46**	**43**	P	**P**	**17 55 34.3**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=220,slow=8.0,SNR=9.5						
	comp=Z,1.1nm,0.8s						
NVAR	**Mina Array Bea**	**91.46**	**43**	P	**P**	**17 55 33.7**	**+0.8**
PRN	**Pahroc Range**	**92.67**	**46**	P	**P**	**17 55 39.7**	**+1.2**
PRN				IAmb	IAmb	17 59 16.7	
	comp=Z,9.1nm,1.6s						
CMAR	**Chiang Mai Arr**	**93.47**	**290**	P	**P**	**17 55 42.8**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=155,slow=4.7,SNR=5.7						
	comp=Z,0.9nm,0.9s						
NNA	**Nana**	**93.55**	**107**	LR	LR	18 28 32.7	
	comp=Z,53nm,21.4s,baz=206,slow=29						
PINE	**Pine Mountain**	**93.74**	**38**	P	**P**	**17 55 45.2**	**+1.9**
PINE				IAmb	IAmb	17 55 47.1	
	comp=Z,4.2nm,0.9s						
KDAK	**Kodiak Island**	**93.94**	**14**	LR	LR	18 29 46.0	
	comp=Z,28nm,20.4s,baz=222,slow=30						
TXAR	**Lajitas Array**	**95.13**	**58**	LR	LR	18 34 41.7	
	comp=Z,26nm,18.2s,baz=211,slow=

BKSI	**Bulukumba**	**4.83**	**315**	P	**Pn**	**17 59 50.5**	**-1.0**
PLAI	**Plampang**	**5.68**	**269**	P	**Pn**	**18 00 02.9**	**+0.1**
	0.1nm19nm,0.8s						
PLAI	**Plampang**	**5.68**	**269**	P	**Pn**	**18 00 05.4**	**+2.6**
	19nm,0.8s						
TWSI	**Taliwang, Sumb**	**6.57**	**270**	P	**Pn**	**18 00 14.3**	**-0.3**
MTN	**Manton Dam**	**8.49**	**119**	P	**Pn**	**18 00 41.0**	**+0.7**
KNRA	**Kununurra**	**8.54**	**144**	P	**Pn**	**18 00 41.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**9.47**	**168**	P	**Pn**	**18 00 52.7**	**-0.7**
	1.0nm,0.5s,baz=356,slow=12,SNR=21						
FITZ				S	**Sn**	**18 02 33.8**	**-4.6**
	4.9nm,0.5s,baz=128,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**9.47**	**168**	P	**Pn**	**18 00 52.9**	**-0.5**
KDU	**Kakadu**	**9.60**	**115**	P	**Pn**	**18 00 55.4**	**+0.3**
WRA	**Warramunga Arr**	**15.24**	**138**	P	**Pn**	**18 02 09.1**	**+1.3**
	0.2nm,0.3s,baz=320,slow=13,SNR=18						
WRA				S	**Sn**	**18 04 49.5**	**-7.9**
	0.5nm,0.5s,baz=315,slow=24,SNR=4.3						
WRAB	**Tennant Creek**	**15.24**	**138**	P	**P**	**18 02 11.2**	**+1.9**
ASAR	**Alice Springs**	**17.82**	**147**	P	**P**	**18 02 39.2**	**+1.5**
	0.3nm,0.5s,baz=316,slow=11,SNR=2.5						
ASAR				S	**S**	**18 05 51.9**	**-3.0**
	0.4nm,0.9s,baz=317,slow=20,SNR=2.1						
MEEK	**Meekatharra**	**18.35**	**194**	P	**Pn**	**18 02 50.5**	**+5.2**
MKAR	**Makanchi Array**	**66.40**	**330**	P	**P**	**18 09 11.3**	**-2.0**
	0.4nm,0.6s,baz=138,slow=7.9,SNR=5.7						
	0.4nm,0.6s						

ISK ***16*** *18:03:45.7,38˚.62N×39˚.62E,h9km,ML2.8/11*
DDA ***16*** *18:03:45.4±0.0,38˚.56N×39˚.60E,h11km±1km,ML2.7*

ISC 16 18:03:45.4±1.4,38˚.60N±0˚.04×39˚.61E±0˚.03,h0km±14km, n17,σ0≥93/23,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PTK	**Pertek**	**0.34**	**330**	PG		**Pg**	**18 03 52.8**	**+0.9**
DYBB	**Diyarbakir**	**0.77**	**147**	PG		**Pb**	**18 04 01.3**	**-0.4**
DYBB				SG		**Sb**	**18 04 12.4**	**-0.3**
BNGB	**Bingl**	**0.92**	**64**	PG		**Pg**	**18 04 03.4**	**+0.3**
ARPR	**Arapgir-MALATY**	**1.11**	**297**	PN		**Pg**	**18 04 06.1**	**-0.6**
YEDI	**Yedisu-Bingol**	**1.11**	**41**	PN		**Pn**	**18 04 07.3**	**-1.1**
SLHN	**Bingol, Solhan**	**1.16**	**72**	P		**Pn**	**18 04 08.4**	**-0.6**
SLHN				S		**Sn**	**18 04 27.8**	**+2.1**
SLHN				*i* AML		AML	18 04 30.0	
	comp=N,126nm,0.4s							
SLHN				*i* AML		AML	18 04 33.0	
	comp=E,148nm,0.5s							
SVAN	**Silvan-Diyarba**	**1.33**	**109**	PN		**Pn**	**18 04 10.5**	**-0.7**
MUSM	**Mu-Merkez**	**1.50**	**85**	P		**Pn**	**18 04 13.1**	**-0.6**
MUSM				S		**Sg**	**18 04 34.8**	**+1.3**
MUSM				*i* AML		AML	18 04 39.0	
	comp=N,67nm,0.5s							
MUSM				*i* AML		AML	18 04 41.0	
	comp=E,40nm,0.8s							
SANL	**SANLIURFA_Merk**	**1.51**	**199**	P		**Pn**	**18 04 13.3**	**-0.3**
SANL				S		**Sg**	**18 04 34.7**	**+0.9**
SANL				*i* AML		AML	18 04 37.0	
	comp=N,151nm,0.4s							
SANL				*i* AML		AML	18 04 38.0	
	comp=E,133nm,0.7s							
VRTB	**Varto-Mus**	**1.55**	**68**	PN		**Pn**	**18 04 13.9**	**-0.5**
DARE	**Darende-Malaty**	**1.67**	**270**	PN		**Pb**	**18 04 16.3**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**1.84**	**13**	PN		**Pb**	**18 04 18.4**	**-1.6**
MIDY	**Mardin/Midyat-**	**1.85**	**130**	P		**Pb**	**18 04 18.9**	**-1.1**
MIDY				S		**Sb**	**18 04 43.5**	**-0.3**
MIDY				*i* AML		AML	18 04 45.0	
	comp=N,269nm,0.4s							
MIDY				*i* AML		AML	18 04 50.0	
	comp=E,231nm,0.8s							
SURC	**SANLIURFA_SURC**	**1.89**	**205**	P		**Pn**	**18 04 18.6**	**-0.4**
SURC				S		**Sg**	**18 04 46.4**	**+0.3**
SURC				*i* AML		AML	18 04 51.0	
	comp=N,55nm,0.4s							
SURC				*i* AML		AML	18 04 55.0	
	comp=E,88nm,0.7s							
GURO	**Guroymak-BITLI**	**1.90**	**91**	PN		**Pn**	**18 04 19.2**	**0.0**
ESPY	**Espiye-Giresun**	**2.41**	**344**	PN		**Pn**	**18 04 26.4**	**+0.2**
SVSK	**Karacayir**	**2.42**	**304**	PN		**Pn**	**18 04 26.7**	**+0.5**

MAN 16 18:06:02.9,11˚.21N×122˚.14E,h11km,mb4.4,ML3.3, MS3.0,5C-4D,Panay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAP	**San Jose, Anti**	**0.50**	**202⇓**	***e*P**		Pg	18 06 12.9	+0.2
JAP				***e*S**		Sg	18 06 17.6	-1.7
RCP	**Roxas**	**0.69**	**60⇑**	***e*P**		Pn	18 06 17.9	-0.7
RCP				***e*S**		Sn	18 06 29.2	-0.1
GUIM	**Jordan**	**0.73**	**143⇓**	***e*P**		Pg	18 06 16.8	-0.3
GUIM				***e*S**		Sn	18 06 31.3	+0.9
CNOP	**Candoni, Negro**	**1.46**	**160⇓**	***e*P**		Pn	18 06 28.5	-0.7
CNOP				***e*S**		Sb	18 06 48.8	0.0
BUSP	**Coron**	**2.06**	**293⇑**	***e*P**		Pn	18 06 36.1	-1.3
BUSP				***e*S**		Sn	18 07 04.0	+1.0
SNPH	**Sibulan**	**2.15**	**150⇓**	***i*P**		Pb	18 06 40.4	-1.5
SNPH				*i* S		Sg	18 07 13.0	+1.0
BOAC	**Boac**	**2.25**	**353⇑**	***e*P**		Pn	18 06 41.7	+1.6
BOAC				***e*S**		Sn	18 07 08.7	+0.8
TBP	**Tagbilaran**	**2.27**	**132⇑**	***e*P**		Pn	18 06 40.7	+0.3
TABP	**Talibon, Bohol**	**2.43**	**117⇑**	***e*P**		Pn	18 06 44.0	+1.5
TABP				*i* S		Sb	18 07 17.3	+0.8

IDC ***16*** *18:06:49.6±2.5,3˚.04N×127˚.81E,h109km±26km,mb3.5/10, mbtmp3.9/13,MS3.3/1,Error ellipse: s-maj=25.4km s-min=13.4km az=78.0*
DJA ***16*** *18:06:49.3±0.9,3˚N±3˚×12˚8E±˚,h19km±9km,M4.2/15, mb4.2/14,mB4.9/8,MLv4.2/15,Mw(mB)4.2/8,MwMwp4.3/1, Mwp4.8/1*
NEIC ***16*** *18:06:50.5±1.5,3˚.06N±0˚.08×127˚.81E±0˚.07,h109km±8km, mb4.1/18,Error ellipse: s-maj=13.2km s-min=7.6km az=217.0*

ISC 16 18:06:48.8±0.6,3˚.17N±0˚.04×127˚.79E±0˚.06,h100km,n73, σ1≥45/76,mb4.0/17,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**2.31**	**283**	P		**Pn**	**18 07 25.2**	**-0.2**
SGSI				S		**Sn**	**18 07 52.2**	**-1.3**
TNTI	**Ternate**	**2.42**	**190**			**Pn**	**18 07 27.7**	**+0.8**
TNTI					Sn	**Sn**	**18 07 55.1**	**-1.0**
TNTI	**Ternate**	**2.42**	**190**	P		**Pn**	**18 07 27.7**	**+0.8**
TNTI				S		**Sn**	**18 07 56.0**	**0.0**
TNTI	**Ternate**	**2.42**	**190**	P		**Pn**	**18 07 28.4**	**+1.5**
LBMI	**Labuha**	**3.79**	**184**	P		**Pn**	**18 07 46.6**	**+1.3**
LBMI				S		**Sn**	**18 08 30.7**	**+1.8**
KMSI	**Cibinong**	**4.59**	**236**	P		**Pn**	**18 07 56.8**	**+0.8**
KMSI				S		**Sn**	**18 08 47.3**	**-1.0**
KCP	**Kidapawan**	**4.67**	**325⇑**	***e*P**		**Pn**	**18 08 00.5**	**+3.4**
KCP				*i* S		**Sn**	**18 08 49.6**	**-0.5**
BIPH	**Bislig**	**5.18**	**344⇓**	***e*P**		**Pn**	**18 08 04.2**	**+0.2**
BIPH				***e*S**		**Sn**	**18 08 58.2**	**-4.4**
SIJI	**Sorong**	**5.31**	**139**	P		**Pn**	**18 08 06.8**	**+1.0**
	5.8nm,0.3s,baz=267,slow=22,SNR=27							
SIJI				S		**Sn**	**18 09 04.0**	**-1.8**
	4.8nm,0.3s,baz=160,slow=20,SNR=9.2							
GTOI	**Gorontalo**	**5.39**	**242**	P		**Pn**	**18 08 07.6**	**+0.7**
	0.1nm336nm28nm,0.6s							
SANI	**Sanana**	**5.49**	**199**	P		**Pn**	**18 08 06.4**	**-1.8**
SANI	**Sanana**	**5.49**	**199**	P		**Pn**	**18 08 06.6**	**-1.6**
NLAI	**Namlea**	**6.40**	**186**	P		**Pn**	**18 08 20.4**	**-0.2**
	0.2nm6µm18nm,0.5s							
MRSI	**Marisa**	**6.42**	**246**	P		**Pn**	**18 08 22.4**	**+1.5**
	0.5nm1µm128nm,0.6s							
LUWI	**Luwuk**	**6.53**	**230**			**Pn**	**18 08 21.6**	**-0.8**
LUWI					Sn	**Sn**	**18 09 35.2**	**-0.2**
LUWI	**Luwuk**	**6.53**	**230**	P		**Pn**	**18 08 23.3**	**+1.0**
	0.4nm958nm36nm,0.7s							
APSI	**Ampana**	**7.35**	**237**	P		**Pn**	**18 08 34.3**	**+0.8**
	0.1nm664nm18nm,0.6s							
FAKI	**Fak Fak**	**7.51**	**144**	Pn		**Pn**	**18 08 37.4**	**+1.6**
FAKI	**Fak Fak**	**7.51**	**144**	P		**Pn**	**18 08 36.8**	**+1.0**
	0.0nm1µm8.4nm,0.8s							
FAKI	**Fak Fak**	**7.51**	**144**	P		**Pn**	**18 08 37.7**	**+1.9**
MPSI	**Mapaga**	**8.37**	**251**	P		**Pn**	**18 08 47.5**	**+0.1**
	6.3nm,0.8s							
MYLDM	**Lahad Datu**	**9.47**	**282**	Pn		**Pn**	**18 09 05.4**	**+3.0**
BBSI	**Bau Bau**	**10.05**	**211**	P		**Pn**	**18 09 11.5**	**+1.2**
	80nm2.0nm,1.0s							
TTSI	**Tana Toraja**	**10.07**	**232**	P		**Pn**	**18 09 09.4**	**-1.2**
	8.3nm,0.7s							

SPSI	**Sidrap Palu**	**10.69**	**229**	P		**Pn**	**18 09 17.6**	**-1.5**
	13nm,0.7s							
BKSI	**Bulukumba**	**11.39**	**222**	P		**Pn**	**18 09 28.5**	**+0.1**
	10nm,1.3s							
KAPI	**Kappang**	**11.42**	**225**	P		**Pn**	**18 09 28.6**	**-0.3**
	3.4nm,0.4s,baz=59,slow=11,SNR=1.9							
KAPI	**Kappang**	**11.42**	**225**	Pn		**Pn**	**18 09 27.9**	**-0.9**
BKB	**Balikpapan**	**11.74**	**248**	P		Pn	18 09 43.7	+11
BSSI	**Bau Bau, Buton**	**11.77**	**218**	P		**Pn**	**18 09 34.0**	**+0.4**
	24nm,1.1s							
EDFI	**Ende, Flores**	**13.31**	**207**	P		**P**	**18 09 56.0**	**-4.0**
	299nm4.4nm,1.1s							
BATI	**Baumata**	**13.91**	**197**	P		**Pn**	**18 10 01.2**	**-0.5**
	12nm,0.5s,baz=105,slow=10,SNR=2.1							
PLAI	**Plampang**	**15.54**	**220**	P		**P**	**18 10 24.4**	**-0.3**
TWSI	**Taliwang, Sumb**	**16.06**	**223**	P		**P**	**18 10 31.0**	**+0.5**
MTN	**Manton Dam**	**16.25**	**168**	Pn		**Pn**	**18 10 29.4**	**-1.9**
MTN				IAmb		IAmb	18 10 33.1	
	comp=Z,19nm,1.4s							
JAGI	**Jajag, Banyuwa**	**17.85**	**230**	Pn		**Pn**	**18 10 52.8**	**+2.0**
KNRA	**Kununurra**	**18.75**	**177**			**P**	**18 10 59.2**	**-0.8**
KNRA				IAmb		IAmb	18 11 16.1	
	comp=Z,38nm,1.5s							
KNRA	**Kununurra**	**18.75**	**177**	P		**P**	**18 10 59.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.24**	**186**	P		**P**	**18 11 24.8**	**-2.2**
	comp=Z,1.4nm,0.4s,baz=19,slow=8.6,SNR=15							
	comp=Z,1.4nm,0.4s							
FITZ	**Fitzroy Crossi**	**21.24**	**186**	P		**P**	**18 11 24.7**	**-2.2**
FITZ	**Fitzroy Crossi**	**21.24**	**186**	P		**P**	**18 11 25.0**	**-1.9**
WB0	**Warramunga Arr**	**23.70**	**164**	P		**P**	**18 11 50.2**	**-1.5**
WB0				IAmb		IAmb	18 12 14.8	
	comp=Z,8.1nm,1.3s							
WRAB	**Tennant Creek**	**23.85**	**165**	P		**P**	**18 11 51.5**	**-1.5**
WRAB				IAmb		IAmb	18 11 52.6	
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**23.85**	**165**	P		**P**	**18 11 51.5**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=342,slow=10,SNR=32							
WRA				LR		LR	18 21 50.1	
	comp=Z,62nm,18.9s,baz=84,slow=38							
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**23.85**	**165**	P		**P**	**18 11 50.5**	**-2.6**
WB2	**Warramunga Arr**	**23.86**	**165**	P		**P**	**18 11 51.7**	**-1.4**
WB2				IAmb		IAmb	18 12 20.6	
	comp=Z,6.3nm,1.1s							
MBWA	**Marble Bar**	**25.43**	**198**	P		**P**	**18 12 07.4**	**0.0**
PSA00	**Pilbara Seismi**	**25.79**	**197**	P		**P**	**18 12 09.5**	**-1.1**
PSA00	**Pilbara Seismi**	**25.79**	**197**	P		**P**	**18 12 09.9**	**-0.7**
PSA00				IAmb		IAmb	18 12 34.7	
	comp=Z,3.7nm,1.0s							
QIS	**Mount Isa**	**26.28**	**154**	P		**P**	**18 12 17.5**	**+2.4**
AS31	**Alice Springs**	**27.33**	**168**	P		**P**	**18 12 24.2**	**-0.3**
ASAR	**Alice Springs**	**27.33**	**168**	P		**P**	**18 12 23.2**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=16,slow=13,SNR=8.1							
ASAR				PcP		**PcP**	**18 15 41.6**	**0.0**
	comp=Z,0.2nm,0.7s,baz=349,slow=2.4,SNR=2.0							
	comp=Z,0.2nm,0.5s							
ASAR	**Alice Springs**	**27.33**	**168**	P		**P**	**18 12 24.1**	**-0.5**
KSRS	**Korea Array**	**34.12**	**0**	P		**P**	**18 13 24.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=177,slow=11,SNR=2.0							
	comp=Z,0.4nm,0.6s							
BBOO	**Buckleboo**	**36.63**	**168**	P		**P**	**18 13 44.5**	**-1.2**
STKA	**Stephens Creek**	**37.24**	**160**	P		**P**	**18 13 49.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=322,slow=10,SNR=6.2							
	comp=Z,1.4nm,0.6s							
STKA	**Stephens Creek**	**37.24**	**160**	P		**P**	**18 13 50.1**	**-0.7**
STKA				IAmb		IAmb	18 13 54.4	
	comp=Z,3.7nm,1.5s							
H11S3	**WAKE ISLAND Hy**	**41.00**	**65**	T		T	18 57 33.1	
	baz=253							
H11S2	**WAKE ISLAND Hy**	**41.02**	**65**	T		T	18 57 39.4	
	baz=253							
H11S1	**WAKE ISLAND Hy**	**41.02**	**65**	T		T	18 57 40.6	
	baz=253							
USRK	**Ussuriysk Ar.**	**41.03**	**5**	P		**P**	**18 14 22.9**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=167,slow=6.8,SNR=2.2							
	comp=Z,1.6nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**41.55**	**64**	T		T	18 58 37.8	
	baz=251							
H11N2	**WAKE ISLAND Hy**	**41.56**	**64**	T		T	18 58 32.6	
	baz=251							
H11N3	**WAKE ISLAND Hy**	**41.57**	**64**	T		T	18 58 43.0	
	baz=251							
SONM	**Songino Array**	**48.17**	**341**	P		**P**	**18 15 19.6**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=150,slow=7.8,SNR=7.6							
	comp=Z,0.9nm,0.7s							
SONM	**Songino Array**	**48.17**	**341**	P		**P**	**18 15 20.3**	**+1.2**
PETK	**Petropavlovsk-**	**55.56**	**21**	P		**P**	**18 16 14.3**	**+0.5**
	comp=Z,2.3nm,1.0s,baz=192,slow=5.8,SNR=5.1							
	comp=Z,2.3nm,1.0s							
PETK	**Petropavlovsk-**	**55.56**	**21**	P		**P**	**18 16 14.7**	**+0.9**
MK31	**Makanchi Array**	**58.62**	**325**	P		**P**	**18 16 36.5**	**+1.1**
MK31				IAmb		IAmb	18 16 36.8	
	comp=Z,1.2nm,0.6s							
MKAR	**Makanchi Array**	**58.62**	**325**	P		**P**	**18 16 36.5**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=112,slow=7.5,SNR=40							
	comp=Z,1.5nm,0.3s							
MAKZ	**Makanchi**	**58.80**	**325**	P		**P**	**18 16 37.2**	**+0.4**
MAKZ				IAmb		IAmb	18 16 38.3	
	comp=Z,1.9nm,0.7s							
ZALV	**Zalesovo Beam**	**61.56**	**333**	P		**P**	**18 16 55.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=146,slow=6.2,SNR=2.4							
	comp=Z,0.6nm,0.4s							
KURK	**Kurchatov**	**62.78**	**327**	P		**P**	**18 17 03.8**	**+0.2**
KURK				IAmb		IAmb	18 17 04.8	
	comp=Z,3.0nm,0.7s							

MAN 16 18:13:29.6,6˚.57N×125˚.54E,h1km,mb4.2,ML3.1,MS2.8, 3C-6D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDMP	**Don Marcelino,**	**0.49**	**160⇑**	***e*P**		Pg	18 13 38.9	-0.1
DDMP				***e*S**		Sb	18 13 52.8	+4.1
KCP	**Kidapawan**	**0.63**	**314⇓**	***i*P**		Pn	18 13 47.7	+1.9
KCP				*i* S		Sn	18 14 08.3	+12
MATI	**Mati**	**0.80**	**62⇓**	***e*P**		Pg	18 13 44.9	-0.2
MATI				***e*S**		Sn	18 14 00.8	+0.1
SKMP	**Bagumbayan, Su**	**1.00**	**267⇑**	***e*P**		Pg	18 13 48.9	+0.1
SKMP				***e*S**		Sn	18 14 05.9	+0.4
BUKP	**Musuan**	**1.39**	**340⇑**	***e*P**		Pn	18 13 56.2	-0.1
BUKP				***e*S**		Sn	18 14 22.3	+7.0
CTBH	**Cotabato--PC H**	**1.44**	**297⇓**	***i*P**		Pn	18 13 55.9	-1.1
BIPH	**Bislig**	**1.80**	**27⇓**	***e*P**		Pn	18 13 56.5	-5.4
BIPH				***e*S**		Sn	18 14 21.2	-4.2
CGP	**Cagayan de Oro**	**2.06**	**336⇓**	***e*P**		Pn	18 14 05.0	-0.4
CGP				***e*S**		Sg	18 14 36.8	+0.9
TABP	**Talibon, Bohol**	**3.70**	**341⇓**	***e*P**		Pn	18 14 25.7	-2.3

IDC ***16*** *18:26:13.2±1.6,5˚.61S×147˚.52E,h192km±17km,mb3.4/5, mbtmp4.0/9,Error ellipse: s-maj=37.4km s-min=12.8km az=104.0*
DJA ***16*** *18:26:13.6±0.4,5˚.5S±5˚×14˚8E±˚,h205km±10km,M4.2/10, mB4.2/2,mb4.1/10,MLv4.3/2,Mw(mB)3.2/2*
NEIC ***16*** *18:26:14.4±2.1,5˚.66S±0˚.07×147˚.68E±0˚.04,h194km±9km, mb4.4/16,Error ellipse: s-maj=10.2km s-min=5.9km az=169.0*

ISC 16 18:26:13.6±0.6,5˚.60S±0˚.06×147˚.67E±0˚.07,h200km,n44, σ1≥44/48,mb4.4/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MANU	**Manus Island**	**3.55**	**355**	Pn		**Pn**	**18 27 10.8**	**+1.0**
PMG	**Port Moresby**	**3.81**	**188**	P		**Pn**	**18 27 12.7**	**-0.4**
	80nm,0.3s,baz=313,slow=16,SNR=216							
PMG				S		**Sn**	**18 27 57.1**	**-2.7**
	44nm,0.3s,baz=6.6,slow=4.9,SNR=6.8							
PMG	**Port Moresby**	**3.81**	**188**	P		**Pn**	**18 27 12.8**	**-0.2**
RABL	**Rabaul**	**4.69**	**73**			**Pn**	**18 27 23.5**	**-0.6**
RABL	**Rabaul**	**4.69**	**73**	P		**Pn**	**18 27 23.7**	**-0.4**
COEN	**Coen**	**9.41**	**208**	Pn		**Pn**	**18 28 27.2**	**+2.0**
COEN					Sn	**Sn**	**18 30 09.5**	**-1.1**
SMPI	**Sarmi**	**9.63**	**292**	P		**Pn**	**18 28 25.5**	**-2.6**
	17nm,1.6s							
HNR	**Honiara**	**12.75**	**108**	Pn		**Pn**	**18 29 06.1**	**-1.9**
CTA	**Charters Tower**	**14.46**	**185**	P		**P**	**18 29 30.4**	**-0.2**
	6.2nm,0.7s,baz=2.1,slow=12,SNR=11							
CTAO	**Charters Tower**	**14.46**	**185**			**P**	**18 29 31.4**	**+0.8**
FAKI	**Fak Fak**	**15.61**	**279**			**Pn**	**18 29 46.5**	**+3.2**
FAKI				IAmb		IAmb	18 30 06.7	
	comp=Z,13nm,1.2s							
PATS	**Pohnpei**	**16.30**	**41**	P		**P**	**18 29 52.2**	**+1.4**
QIS	**Mount Isa**	**16.80**	**207**	P		**Pn**	**18 29 58.4**	**+0.8**
SIJI	**Sorong**	**17.04**	**285**	P		**P**	**18 29 57.9**	**-1.1**

	comp=Z,4.7nm,0.6s,baz=86,slow=10,SNR=7.2							
BNDI	**Bandanaira**	**17.73**	**273**	P		**P**	**18 30 06.4**	**-0.2**
	comp=Z,77nm,1.1s							
MTN	**Manton Dam**	**17.83**	**245**	P		**P**	**18 30 08.1**	**+0.5**
WB0	**Warramunga Arr**	**19.11**	**221**	P		**P**	**18 30 22.4**	**+0.9**
WRAB	**Tennant Creek**	**19.25**	**221**	P		**P**	**18 30 24.0**	**+0.9**
WRAB				IAmb		IAmb	18 30 29.5	
	comp=Z,6.1nm,0.7s							
WRAB	**Tennant Creek**	**19.25**	**221**	P		**P**	**18 30 23.9**	**+0.9**
WB2	**Warramunga Arr**	**19.26**	**221**	P		**P**	**18 30 24.0**	**+0.8**
WB2				IAmb		IAmb	18 30 29.3	
	comp=Z,5.7nm,0.5s							
WRA	**Warramunga Arr**	**19.27**	**221**	P		**P**	**18 30 24.0**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=48,slow=11,SNR=44							
WRA				S		**S**	**18 33 48.6**	**-2.1**
	comp=Z,1.2nm,0.9s,baz=40,slow=21,SNR=6.6							
EIDS	**Eidsvold**	**19.92**	**171**	P		**P**	**18 30 32.2**	**+2.0**
EIDS				IAmb		IAmb	18 30 38.2	
	comp=Z,11nm,1.4s							
RMQ	**Roma**	**20.79**	**177**	P		**P**	**18 30 41.4**	**+2.0**
KNRA	**Kununurra**	**21.09**	**240**	P		**P**	**18 30 41.7**	**-0.9**
KNRA				IAmb		IAmb	18 30 48.6	
	comp=Z,24nm,1.2s							
QLP	**Quilpie**	**21.12**	**189**	P		**P**	**18 30 44.6**	**+1.7**
AS31	**Alice Springs**	**22.32**	**215**	P		**P**	**18 30 56.3**	**+1.3**
ASAR	**Alice Springs**	**22.32**	**215**	P		**P**	**18 30 56.1**	**+1.2**
	comp=Z,2.3nm,0.4s,baz=42,slow=9.0,SNR=128							
ASAR				S		**S**	**18 34 45.3**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=32,slow=23,SNR=2.6							
	comp=Z,2.3nm,0.4s							
ASAR	**Alice Springs**	**22.32**	**215**	P		**P**	**18 30 55.9**	**+0.9**
INKA	**Innaminka**	**22.98**	**196**	P		**P**	**18 31 02.6**	**+1.9**
BATI	**Baumata**	**24.21**	**258**	P		**P**	**18 31 11.5**	**-0.7**
	comp=Z,22nm,0.6s,baz=111,slow=5.3,SNR=6.6							
BATI	**Baumata**	**24.21**	**258**	P		**P**	**18 31 11.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.84**	**238**	P		**P**	**18 31 17.9**	**+0.1**
	comp=Z,3.8nm,0.3s,baz=62,slow=8.8,SNR=61							
	comp=Z,3.8nm,0.3s							
FITZ	**Fitzroy Crossi**	**24.84**	**238**	P		**P**	**18 31 18.1**	**+0.4**
FITZ				IAmb		IAmb	18 31 20.8	
	comp=Z,5.5nm,0.6s							
ARMA	**Armidale**	**24.96**	**172**	P		**P**	**18 31 20.8**	**+1.9**
ARMA				IAmb		IAmb	18 32 03.0	
	comp=Z,18nm,1.4s							
MMRI	**Maumere**	**25.41**	**262**	P		**P**	**18 31 21.6**	**-1.5**
CAN	**Canberra**	**29.60**	**178**	P		**P**	**18 31 59.9**	**-0.2**
MBWA	**Marble Bar**	**31.18**	**238**	P		**P**	**18 32 14.2**	**+0.1**
MBWA				IAmb		IAmb	18 32 56.5	
	comp=Z,8.4nm,1.0s							
CMAR	**Chiang Mai Arr**	**53.66**	**298**	P		**P**	**18 35 12.9**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=111,slow=5.8,SNR=3.0							
	comp=Z,0.4nm,0.6s							
AMKA	**Amchitka**	**62.90**	**22**	P		**P**	**18 36 21.9**	**+3.5**
SONM	**Songino Array**	**64.39**	**330**	P		**P**	**18 36 28.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=141,slow=5.7,SNR=3.7							
	comp=Z,0.4nm,0.7s							
SONM	**Songino Array**	**64.39**	**330**	P		**P**	**18 36 29.5**	**+1.1**
MKAR	**Makanchi Array**	**77.62**	**320**	P		**P**	**18 37 46.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=110,slow=6.3,SNR=3.2							
	comp=Z,0.4nm,0.7s							
QSPA	**South Pole Qui**	**84.36**	**180**	P		**P**	**18 38 23.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**145.64**	**285**	PKPbc		**PK

RM33					AML	AML		
	comp=N,541µm,1.0s							
RM33					AML	AML		
	comp=E,407µm,0.7s							
RM33					AML	AML		
	comp=E,392µm,0.7s							
CSP1	**Cessapalombo**	**0.30**	**11**	P	Pb	18 26 46.0	-0.7	
CSP1				S	Sb	18 26 51.4	-0.4	
CSP1	**Cessapalombo**	**0.30**	**11**	P	Pg	18 26 45.8	+0.6	
CSP1				S	Sb	18 26 51.4	-0.5	
CSP1				AML	AML			
	comp=E,394µm,1.3s							
CSP1				AML	AML			
	comp=N,372µm,1.3s							
GUMA	**Gualdo di Mace**	**0.31**	**30**	P	Pg	18 26 45.2	-0.1	
GUMA	**Gualdo di Mace**	**0.31**	**30**	P	Pg	18 26 45.1	-0.2	
GUMA				S	Sg	18 26 50.7	+1.2	
CAMP	**Campotosto**	**0.33**	**141**	P	Pg	18 26 46.2	+0.5	
CAMP				S	Sb	18 26 51.5	-1.1	
CAMP				AML	AML			
	comp=E,100µm,0.6s							
CAMP				AML	AML			
	comp=N,101µm,1.2s							
CAMP				AML	AML			
	comp=E,100µm,0.6s							
CAMP				AML	AML			
	comp=N,101µm,1.2s							
T1246	**Crognaleto (TE**	**0.34**	**128**	P	Pg	18 26 46.2	+0.3	
T1246				S	Sb	18 26 51.9	-1.0	
ARRO	**Arrone**	**0.34**	**231**	S	Sg	18 26 47.0	-3.4	
T1247	**Pizzolo (AQ)**	**0.37**	**160**	P	Pg	18 26 47.1	+0.6	
T1247				AML	AML			
	comp=E,274µm,0.6s							
T1247				AML	AML			
	comp=N,292µm,0.8s							
T1247				AML	AML			
	comp=N,292µm,0.8s							
T1247				AML	AML			
	comp=E,274µm,0.6s							
TERO	**Teramo**	**0.39**	**116**	P	Pg	18 26 47.0	+0.1	
TERO				S	Sb	18 26 53.4	-0.9	
TERO				AML	AML			
	comp=E,211µm,0.2s							
TERO				AML	AML			
	comp=N,227µm,1.1s							
TERO				AML	AML			
	comp=E,211µm,0.2s							
TERO				AML	AML			
	comp=N,227µm,1.1s							
TERO				AML	AML			
	comp=N,227µm,1.1s							
TERO				AML	AML			
	comp=E,211µm,0.2s							
OFFI	**Offida**	**0.43**	**71**	S	Sg	18 26 47.0	-6.3	
GIGS	**Gran Sasso**	**0.47**	**136**	P	Pg	18 26 48.7	+0.3	
GIGS				S	Sb	18 26 55.7	-1.0	
GIGS				AML	AML			
	comp=E,55µm,0.2s							
GIGS				AML	AML			
	comp=N,37µm,0.4s							
GIGS				AML	AML			
	comp=N,37µm,0.4s							
GIGS				AML	AML			
	comp=E,55µm,0.2s							
SNTG	**Esanatoglia**	**0.48**	**344**	P	Pb	18 26 49.3	-0.4	
SNTG				S	Sb	18 26 57.3	+0.4	
SNTG	**Esanatoglia**	**0.48**	**344**	S	Sb	18 26 58.0	+1.1	
FIAM	**Fiamignano**	**0.53**	**181**	P	Pg	18 26 49.7	+0.4	
FIAM				S	Sb	18 26 58.2	0.0	
FIAM	**Fiamignano**	**0.53**	**181**	P	Pg	18 26 49.4	+0.1	
ATCC	**AVT- Casa Cast**	**0.53**	**318**	⇓P	Pg	18 26 50.0	+0.5	
ATCC				S	Sb	18 26 59.0	+0.7	
ATCC				AML	AML			
	comp=E,147µm,1.4s							
ATCC				AML	AML			
	comp=N,197µm,1.5s							
ATCC				AML	AML			
	comp=E,147µm,1.4s							
ATCC				AML	AML			
	comp=N,197µm,1.5s							
EL6	**Elcito**	**0.54**	**358**	P	Pb	18 26 50.1	-0.5	
EL6				S	Sb	18 26 59.2	+0.7	
CING	**Cingoli**	**0.58**	**5**	P	Pb	18 26 51.4	-0.1	
CING				S	Sb	18 27 01.1	+1.2	
FAGN	**Fagnano**	**0.63**	**147**	P	Pg	18 26 51.7	+0.5	
FAGN				S	Sb	18 27 01.4	+0.3	
FAGN				AML	AML			
	comp=E,146µm,1.1s							
FAGN				AML	AML			
	comp=N,194µm,0.4s							
FAGN				AML	AML			
	comp=E,146µm,1.1s							
FAGN				AML	AML			
	comp=N,194µm,0.4s							
VCEL	**Villa Celiera**	**0.66**	**127**	P	Pg	18 26 52.3	+0.4	
VCEL				AML	AML			
	comp=E,146µm,1.3s							
VCEL				AML	AML			
	comp=N,153µm,1.3s							
VCEL				AML	AML			
	comp=E,146µm,1.3s							
VCEL				AML	AML			
	comp=N,153µm,1.3s							
SSFR	**Montelago di S**	**0.69**	**339**	⇑P	Pb	18 26 53.2	-0.1	
SSFR				AML	AML			
	comp=E,114µm,0.2s							
SSFR				AML	AML			
	comp=N,121µm,1.1s							
SSFR				AML	AML			
	comp=E,114µm,0.2s							
SSFR				AML	AML			
	comp=N,121µm,1.1s							
ARVD	**Arcevia**	**0.72**	**349**	S	Sb	18 27 05.0	+1.3	
T0110	**Collepietro**	**0.74**	**139**	P	Pg	18 26 53.4	-0.1	
T0110				AML	AML			
	comp=E,115µm,0.6s							
T0110				AML	AML			
	comp=N,111µm,0.3s							
T0110				AML	AML			
	comp=E,115µm,0.6s							
T0110				AML	AML			
	comp=N,111µm,0.3s							
ZCCA	**Zocca**	**2.21**	**316**	S	Sn	18 27 44.0	+0.8	

NOU ***16*** *18:34:31.2,31.72S×175.63W,h163km,mb4.6/5, Kermadec Islands Region*

NEIC ***16*** *18:35:16.6±1.3,33.7S±0.1×179.3W±0.2,h35km±8km, mb4.5/14,Error ellipse: s-maj=23.1km s-min=12.9km az=66.0*

IDC ***16*** *18:35:21.7±6.7,34.19S×179.31W,h98km±54km,mb3.7/3, mbtmp4.1/4,MS3.4/1,Error ellipse: s-maj=50.3km s-min=30.4km az=35.0*

ISC 16 18:35:17.0±0.8,33.88S±0.09×179.2W±0.1,h55km,n42, σ1§67/40,mb4.4/10,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.20**	**208**	Pn		**Pn**		**18 36 18.8**	**+0.3**
URZ	**Urewera**	**5.30**	**213**	P		**Pn**		**18 36 33.7**	**+0.2**
	19nm,0.3s,baz=352,slow=4.3,SNR=43								
URZ				S		**Sn**		**18 37 31.3**	**-1.9**
	50nm,0.7s,baz=116,slow=2.8,SNR=1.5								
URZ	**Urewera**	**5.30**	**213**	P		**Pn**		**18 36 35.4**	**+1.9**
OUZ	**Omahuta**	**6.10**	**255**	P		**Pn**		**18 36 46.3**	**+1.7**
BKZ	**Black Stump Fm**	**6.32**	**212**			**Pn**		**18 36 47.6**	**0.0**
BKZ	**Black Stump Fm**	**6.32**	**212**	P		**Pn**		**18 36 48.4**	**+0.8**
HIZ	**Hauiti**	**6.67**	**224**	Pn		**Pn**		**18 36 54.2**	**+1.8**
HIZ	**Hauiti**	**6.67**	**224**	P		**Pn**		**18 36 55.1**	**+2.7**
TUWZ	**Tuamarina**	**9.29**	**214**	Pn		**Pn**		**18 37 25.4**	**-2.9**
KHZ	**Kahutara**	**10.26**	**212**	Pn		**Pn**		**18 37 37.7**	**-3.8**
KHZ	**Kahutara**	**10.26**	**212**	P		**Pn**		**18 37 38.9**	**-2.6**
RPZ	**Rata Peaks**	**12.41**	**215**	P		Pn		18 38 03.1	-7.8
	2.3nm,0.7s,baz=120,slow=22,SNR=1.1								
RPZ				S		Sn		18 40 14.2	-13
	7.2nm,0.8s,baz=27,slow=22,SNR=2.0								
DZM	**Mont Dzumac**	**17.28**	**309**	LR		LR		18 44 41.6	
	comp=Z,118nm,19.2s,baz=246,slow=32								
CTA	**Charters Tower**	**33.55**	**285**	P		**P**		**18 41 52.5**	**+0.8**
	1.6nm,0.5s,baz=106,slow=8.2,SNR=6.5								
	1.6nm,0.5s								
CTAO	**Charters Tower**	**33.55**	**285**	P		**P**		**18 41 51.9**	**+0.2**
CTAO				IAmb		IAmb		18 42 15.9	
	comp=Z,12nm,1.4s								
COEN	**Coen**	**39.41**	**291**	P		**P**		**18 42 41.0**	**-0.7**
COEN				IAmb		IAmb		18 42 46.9	
	comp=Z,30nm,1.4s								
RABL	**Rabaul**	**39.79**	**312**	P		**P**		**18 42 44.0**	**-0.8**
AS31	**Alice Springs**	**42.05**	**271**	P		**P**		**18 43 03.4**	**-0.1**
ASAR	**Alice Springs**	**42.05**	**271**	P		**P**		**18 43 02.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=109,slow=7.4,SNR=35								
ASAR				PcP		**PcP**		**18 44 55.5**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=118,slow=4.2,SNR=1.8								
	comp=Z,1.1nm,0.6s								
ASAR	**Alice Springs**	**42.05**	**271**	P		**P**		**18 43 02.4**	**-1.1**
WR0	**Warramunga Arr**	**43.18**	**277**	P		**P**		**18 43 12.0**	**-0.6**
WR0				IAmb		IAmb		18 43 16.9	
	comp=Z,6.9nm,1.4s								
WRAB	**Tennant Creek**	**43.35**	**276**	P		**P**		**18 43 13.6**	**-0.4**
WRA	**Warramunga Arr**	**43.35**	**276**	P		**P**		**18 43 13.7**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=116,slow=7.9,SNR=36								
WRA				PcP		**PcP**		**18 45 00.3**	**-1.7**
	comp=Z,0.6nm,1.0s,baz=124,slow=3.2,SNR=2.7								
	comp=Z,1.6nm,0.6s								
WRA	**Warramunga Arr**	**43.35**	**276**	P		**P**		**18 43 13.0**	**-1.1**
WB0	**Warramunga Arr**	**43.39**	**277**	P		**P**		**18 43 13.3**	**-1.0**
WB0				IAmb		IAmb		18 43 15.0	
	comp=Z,8.1nm,1.3s								
MTN	**Manton Dam**	**49.64**	**283**	P		**P**		**18 44 03.4**	**0.0**
MTN				IAmb		IAmb		18 44 22.9	
	comp=Z,16nm,1.2s								
KNRA	**Kununurra**	**50.07**	**278**	P		**P**		**18 44 06.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.45**	**273**	P		**P**		**18 44 16.9**	**0.0**
	baz=127,slow=8.2								
FITZ	**Fitzroy Crossi**	**51.45**	**273**	P		**P**		**18 44 16.8**	**-0.2**
FITZ				IAmb		IAmb		18 44 19.2	
	comp=Z,3.8nm,1.1s								
CASY	**Casey**	**51.61**	**209**	P		**P**		**18 44 18.6**	**+1.2**
CASY				IAmb		IAmb		18 44 58.8	
	comp=Z,11nm,1.5s								
QSPA	**South Pole Qui**	**56.24**	**180**	P		**P**		**18 44 55.9**	**+4.5**
QSPA				IAmb		IAmb		18 45 04.3	
	comp=Z,3.9nm,1.1s								
SNAA	**Sanae**	**74.71**	**179**	P		**P**		**18 46 52.9**	**+2.5**
H03N3	**Juan Fernandez**	**79.60**	**123**	T		T		20 15 51.5	
	baz=238,slow=72,SNR=33								
H03N2	**Juan Fernandez**	**79.60**	**123**	T		T		20 15 50.3	
	baz=238,slow=72,SNR=22								
H03N1	**Juan Fernandez**	**79.61**	**123**	T		T		20 15 52.2	
	baz=238,slow=72,SNR=35								
ARCES	**ARCESS Array B**	**141.75**	**346**	PKP		**PKPdf**		**18 54 38.6**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=28,slow=4.1,SNR=0.9								
FINES	**FINESS Array B**	**148.01**	**337**	PKPbc		**PKPbc**		**18 54 55.0**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=40,slow=4.0,SNR=16								
NB2	**NORSAR Subarra**	**152.00**	**349**	PKP		**PKiKP**		**18 55 06.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=27,slow=2.9								
NOA	**NORSAR Array B**	**152.00**	**349**	PKPbc		**PKiKP**		**18 55 05.5**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=14,slow=4.1,SNR=6.1								
BRTR	**Keskin Array B**	**153.17**	**292**	PKPbc		**PKPbc**		**18 55 08.3**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=73,slow=5.0,SNR=2.5								
AKASG	**Malin Array Be**	**153.32**	**318**	PKPbc		**PKiKP**		**18 55 08.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=77,slow=1.2,SNR=1.4								
TORD	**Torodi Ar. Bea**	**159.34**	**182**	PKPab		**PKPab**		**18 55 45.4**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=169,slow=4.0,SNR=3.5								

BJI ***16*** *18:38:02.8±0.0,29.08S×60.51E,h12km,mb5.1/60, mB5.4/47,Ms5.3/57,Ms7 5.1/55*

IDC ***16*** *18:38:03.7±0.3,29.18S×61.03E,h0km,mb5.1/31, mbtmp5.1/32,ML5.2/1,MS4.9/78,Error ellipse: s-maj=13.8km s-min=11.2km az=36.0*

NEIC ***16*** *18:38:05±1.2,29.16S±0.08×60.92E±0.09,h10km±1km, mb5.6/193,Ms_20 5.5/241,Mwb5.5/25,Error ellipse: s-maj=13.6km s-min=12.7km az=88.0*

NEIC ***16*** *18:38:05,29.16S×60.92E,h4km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.51; Mθθ=2.20; Mφφ=0.69; Mrθ=1.15; Mrφ=0.35; Mθφ=1.12; Fault plane solution: Mo=2.55000×10¹⁷ NP1:φs=112.21000°, δ=35.38000°, λ=-40.47000°. NP2:φs=237.03000°, δ=67.93000°, λ=-118.38000°. Principal axes: T 2.6561, Plg18.0000°, Azm348.0000°; N -0.2369, Plg26.0000°, Azm249.0000°; P -2.4193, Plg57.0000°, Azm108.0000°;*

GCMT ***16*** *18:38:07.0±0.1,29.21S×60.76E,h12km,MW5.5/138, Moment Tensor Solution. s109,c197; s138,c273; Duration: 1s4 Moment tensor: Scale 10¹⁷Nm; Mrr=1.67±.02; Mθθ=2.41±.02; Mφφ=-0.73±.03; Mrθ=0.72±.05; Mrφ=0.23±.02; Mθφ=0.65±.06; Best double couple: Mo=2.31900×10¹⁷ NP1:φs=245.00000°, δ=59.00000°, λ=-117.00000°. NP2:φs=110.00000°, δ=40.00000°, λ=-52.00000°. Principal axes: T 2.5680, Plg10.0000°, Azm354.0000°; N -0.4950, Plg23.0000°, Azm259.0000°; P -2.0690, Plg64.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 18:38:06.7±0.5,29.22S±0.04×60.92E±0.04,h20km±3km, h20km:pP-P,n1142,σ1§39/1091,mb5.5/236,MS5.3/227, 48C-25D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.30**	**329**	Pn		**Pn**		**18 40 15.5**	**-4.3**
RER	**Riviere de l'E**	**9.30**	**329**	P		**Pn**		**18 40 17.5**	**-2.2**
	SNR=17								
ROCAM	**Rodrigues Isla**	**9.69**	**14**	Pn		**Pn**		**18 40 23.2**	**-1.7**
FOMA	**Nahampoana Res**	**13.12**	**286**	Pn		**Pn**		**18 41 08.4**	**-3.5**
FOMA	**Nahampoana Res**	**13.12**	**286**	P		**Pn**		**18 41 10.3**	**-1.6**
	SNR=7.6								
VOI	**Vohitsoka**	**14.68**	**297**	Pn		**Pn**		**18 41 32.2**	**-1.2**
VOI	**Vohitsoka**	**14.68**	**297**	P		**Pn**		**18 41 33.5**	**+0.1**
	SNR=18								
VOI	**Vohitsoka**	**14.68**	**297**	P		**Pn**		**18 41 33.0**	**-0.3**
ABPO	**Ambohimpanom**	**16.09**	**306**			**Pn**		**18 41 49.7**	**-2.4**
OPO	**Ambohidratompo**	**16.42**	**307**	Pn		**Pn**		**18 41 55.6**	**-0.7**
	0.8nm,0.3s,baz=119,slow=11,SNR=34								
OPO				Sn		Sn		18 44 43.7	-14
	0.7nm,0.3s,baz=278,slow=22,SNR=4.0								
OPO				LR		LR		18 47 15.0	
	comp=Z,3µm,19.6s,baz=10,slow=34								
	46nm,0.6s								
SBV	**Sambava**	**18.72**	**325**	P		**Pn**		**18 42 24.8**	**+0.2**
	SNR=5.4								
H08S1	**Diego Carcia H**	**24.07**	**29**	P		**P**		**18 43 22.5**	**+2.0**
	baz=251,slow=7.3,SNR=17								
H08S1				T		T		19 08 06.6	
	baz=204,slow=76,SNR=81								
H08S2	**Diego Garcia H**	**24.07**	**29**	P		**P**		**18 43 22.6**	**+2.0**
	baz=251,slow=7.3,SNR=26								
H08S2				T		T		19 08 07.8	
	baz=204,slow=76,SNR=46								
H08S3	**Diego Garcia H**	**24.09**	**29**	P		**P**		**18 43 22.2**	**+1.5**
	baz=251,slow=7.3,SNR=17								
H08S3				T		T		19 08 09.7	
	baz=204,slow=76,SNR=316								
DGAR	**Diego Garcia**	**24.27**	**29**	P		**P**		**18 43 19.8**	**-2.9**
DGAR				IAmb		IAmb		18 43 39.6	
	comp=Z,237nm,1.0s								
DGAR	**Diego Garcia**	**24.27**	**29**	P		**P**		**18 43 23.9**	**+1.2**
MSEY	**Mahe Island**	**24.96**	**347**	P		**P**		**18 43 27.6**	**-1.4**
MSEY	**Mahe Island**	**24.96**	**347**	P		**P**		**18 43 30.7**	**+1.7**
MSEY				P		**P**		**18 43 30.7**	**+1.7**
MSEY				P		**P**		**18 43 30.7**	**+1.7**
POGA	**Pongola**	**25.77**	**267**	P		**P**		**18 43 34.9**	**-1.3**
POGA				IAmb		IAmb		18 43 39.5	
	comp=Z,89nm,0.9s								
POGA	**Pongola**	**25.77**	**267**	*eP*		**P**		**18 43 35.6**	**-0.6**
POGA				IAmb		IAmb		18 43 39.3	
	comp=Z,78nm,0.8s								
MOPA	**Mopani**	**27.01**	**275**	*eP*		**P**		**18 43 48.5**	**+0.9**
MOPA				IAmb		IAmb		18 43 53.5	
	comp=Z,45nm,0.9s								
NWCL	**Newcastle**	**27.28**	**266**	*eP*		**P**		**18 43 50.6**	**+0.6**
NWCL				IAmb		IAmb		18 43 52.8	
	comp=Z,84nm,0.9s								
KSTD	**Kokstad**	**27.39**	**259**	*eP*		**P**		**18 43 53.3**	**+2.2**
KSTD				IAmb		IAmb		18 43 54.2	
	comp=Z,200nm,1.4s								
CRLN	**Carolina, Mapu**	**27.53**	**269**	*eP*		**P**		**18 43 53.0**	**+0.7**
CRLN				IAmb		IAmb		18 43 55.1	
	comp=Z,29nm,0.8s								
MUSN	**Musina, Limpop**	**28.76**	**277**	*eP*		**P**		**18 44 02.6**	**-0.6**
MUSN				IAmb		IAmb		18 44 05.8	
	comp=Z,226nm,2.0s								
MUSN	**Musina, Limpop**	**28.76**	**277**	*i* P		**P**		**18 44 03.7**	**+0.5**
MUSN	**Musina, Limpop**	**28.76**	**277**	*i* P		**P**		**18 44 03.7**	**+0.5**
SNKL	**Senekal, Frees**	**29.03**	**264**	*eP*		**P**		**18 44 06.3**	**+0.6**
SNKL				IAmb		IAmb		18 44 08.4	
	comp=Z,106nm,0.8s								
SLR	**Silverton**	**29.11**	**269**	*eP*		**P**		**18 44 07.2**	**+0.8**
SLR				IAmb		IAmb		18 44 15.6	
	comp=Z,71nm,1.0s								
PRYS	**Parys**	**29.65**	**266**	*eP*		**P**		**18 44 10.7**	**-0.5**
PRYS				IAmb		IAmb		18 44 13.6	
	comp=Z,113nm,0.8s								
WDLM	**Western Deep L**	**29.70**	**267**	*eP*		**P**		**18 44 12.8**	**+1.0**
WDLM				IAmb		IAmb		18 44 14.5	
	comp=Z,88nm,0.7s								
LEPH	**Lephalale, Lim**	**30.05**	**272**	*eP*		**P**		**18 44 15.3**	**+0.6**
LEPH				IAmb		IAmb		18 44 17.2	
	comp=Z,41nm,0.9s								
KSR	**Koster**	**30.30**	**268**	*eP*		**P**		**18 44 18.0**	**+1.0**
KSR				IAmb		IAmb		18 44 26.6	
	comp=Z,34nm,0.9s								
SOE	**Somerset East**	**30.43**	**254**	P		**P**		**18 44 16.8**	**-1.2**
SOE				IAmb		IAmb		18 44 22.4	
	comp=Z,135nm,1.5s								
SOE	**Somerset East**	**30.43**	**254**	*eP*		**P**		**18 44 18.8**	**+0.8**
SOE				IAmb		IAmb		18 44 22.0	
	comp=Z,137nm,1.5s								
BLWY	**Bulawayo**	**30.64**	**280**	*eP*		**P**		**18 44 20.2**	**+0.2**
BLWY				IAmb		IAmb		18 44 23.8	
	comp=Z,1µm,1.9s								
HVD	**Gariep Dam**	**30.66**	**259**	*eP*		**P**		**18 44 22.4**	**+2.2**
HVD				IAmb		IAmb		18 44 30.3	
	comp=Z,2µm,3.2s								
BOSA	**Boshof**	**31.15**	**262**	P		**P**		**18 44 24.2**	**-0.2**
	comp=Z,52nm,0.8s,baz=106,slow=8.2,SNR=42								
BOSA				LR		LR		18 55 08.0	
	comp=Z,4µm,19.3s,baz=109,slow=33								
	comp=Z,52nm,0.8s								
BOSA	**Boshof**	**31.15**	**262**	P		**P**		**18 44 24.5**	**+0.1**
BOSA				IAmb		IAmb		18 44 27.3	
	comp=Z,83nm,0.9s								
BOSA	**Boshof**	**31.15**	**262**	*eP*		**P**		**18 44 25.0**	**+0.5**
BOSA				IAmb		IAmb		18 44 27.1	
	comp=Z,85nm,0.9s								
BOSA	**Boshof**	**31.15**	**262**	*i* P		**P**		**18 44 26.2**	**+1.8**
BOSA	**Boshof**	**31.15**	**262**	*i* P		**P**		**18 44 26.2**	**+1.8**
SWZ	**Schweizer**	**31.36**	**265**	*eP*		**P**		**18 44 25.7**	**-0.6**
SWZ				IAmb		IAmb		18 44 28.6	
	comp=Z,190nm,0.7s								
GRAF	**Camdeboo Natio**	**31.36**	**255**	*eP*		**P**		**18 44 27.8**	**+1.6**
LBTB	**Lobatse**	**31.64**	**269**	LR		LR		18 55 08.8	
	comp=Z,1µm,21.2s,baz=110,slow=32								
LBTB	**Lobatse**	**31.64**	**269**	P		**P**		**18 44 27.7**	**-1.1**
LBTB				IAmb		IAmb		18 44 38.0	
	comp=Z,65nm,0.9s								
LBTB	**Lobatse**	**31.64**	**269**	*eP*		**P**		**18 44 29.1**	**+0.4**
LBTB				IAmb		IAmb		18 44 37.8	
	comp=Z,71nm,0.9s								
LBTB	**Lobatse**	**31.64**	**269**	*i* P		**P**		**18 44 28.4**	**-0.4**
LBTB	**Lobatse**	**31.64**	**269**	*i* P		**P**		**18 44 28.4**	**-0.4**
KAAM	**Kaadhehdhoo**	**31.72**	**23**	P		**P**		**18 44 30.4**	**+1.1**
BFON	**Badsfontein, M**	**32.08**	**256**	*eP*		**P**		**18 44 33.6**	**+1.0**
BFON				IAmb		IAmb		18 44 36.9	
	comp=Z,40nm,0.8s								
ROOI	**Rooidraai Farm**	**32.14**	**255**	*eP*		**P**		**18 44 32.8**	**-0.3**
ROOI				IAmb		IAmb		18 44 36.2	
	comp=Z,92nm,1.0s								
BRAK	**Brakfontein**	**32.76**	**256**	*eP*		**P**		**18 44 39.8**	**+1.3**
BRAK				IAmb		IAmb		18 44 55.3	
	comp=Z,1µm,3.0s								
PKA	**Prieska**	**33.14**	**260**	*eP*		**P**		**18 44 43.1**	**+1.3**
PKA				IAmb		IAmb		18 44 44.5	
	comp=Z,100nm,1.5s								
LSZ	**Lusaka**	**33.19**	**288**	LR		LR		18 57 14.3	
	comp=Z,2µm,18.5s,baz=120,slow=35								
FRAZ	**Fraserburg**	**34.00**	**255**	*eP*		**P**		**18 44 49.4**	**0.0**
FRAZ				IAmb		IAmb		18 45 06.9	
	comp=Z,67nm,1.0s								
SUR	**Sutherland**	**34.46**	**254**	LR		LR		18 56 40.0	
	comp=Z,2µm,18.9s,baz=102,slow=32								
SUR	**Sutherland**	**34.46**	**254**	P		**P**		**18 44 53.7**	**+0.3**
SUR				IAmb		IAmb		18 45 36.0	
	comp=Z,228nm,1.7s								
SUR	**Sutherland**	**34.46**	**254**	P		**P**		**18 44 52.9**	**-0.5**
KIBK	**Kibwezi**	**34.47**	**317**	P		**P**		**18 44 52.8**	**-0.7**
KIBK	**Kibwezi**	**34.47**	**317**	P		**P**		**18 44 54.2**	**+0.7**
	SNR=10.0								
UPI	**Upington**	**34.66**	**262**	*eP*		**P**		**18 44 55.9**	**+0.8**
UPI				IAmb		IAmb		18 45 04.9	
	comp=Z,2µm,3.7s								
KEIM	**Keimoes**	**34.84**	**261**	*eP*		**P**		**18 44 57.0**	**+0.4**
KEIM				IAmb		IAmb		18 45 07.6	
	comp=Z,148nm,1.4s								
AUGR	**Augrabies**	**35.41**	**261**	*eP*		**P**		**18 45 02.9**	**+1.5**
AUGR				IAmb		IAmb		18 45 05.0	
	comp=Z,916nm,2.2s								
CER	**Ceres**	**35.64**	**253**	*eP*		**P**		**18 45 05.6**	**+2.2**
CER				IAmb		IAmb		18 45 13.0	
	comp=Z,42nm,1.3s								
KMBO	**Kilima Mbogo**	**35.91**	**317**	P		**P**		**18 45 06.2**	**+0.1**
	comp=Z,6.5nm,0.9s,baz=118,slow=6.8,SNR=15								
KMBO				PcP		**PcP**		**18 47 34.5**	**+1.4**
	comp=Z,3.7nm,0.9s,baz=129,slow=2.7,SNR=5.5								
KMBO				LR		LR		18 56 53.3	
	comp=Z,4µm,20.5s,baz=112,slow=31								
	comp=Z,6.5nm,0.9s								
KMBO	**Kilima Mbogo**	**35.91**	**317**	P		**P**		**18 45 05.2**	**-0.9**
KMBO	**Kilima Mbogo**	**35.91**	**317**	P		**P**		**18 45 06.9**	**+0.8**
KMBO				P		**P**		**18 45 06.9**	**+0.8**
KMBO	**Kilima Mbogo**	**35.91**	**317**	*eP*		**P**		**18 45 04.5**	**-1.6**
KMBO	**Kilima Mbogo**	**35.91**	**317**	*i* P		**P**		**18 45 06.2**	**+0.1**
	SNR=12								
ARMS	**Ukamas**	**36.03**	**262**	*eP*		**P**		**18 45 07.4**	**+0.5**
ARMS				IAmb		IAmb		18 45 09.7	
	comp=Z,85nm,0.8s

ATD IAMs_20 IAMs_20 19 01 25.7
comp=Z,4µm,20.0s
ATD Arta Tunnel 44.11 334 *e*P **P 18 46 14.5 +0.6**
H01W2 Cape Leeuwin H 45.02 111 T T 19 34 01.6
baz=261,slow=75,SNR=356
H01W3 Cape Leeuwin H 45.02 111 T T 19 33 59.7
baz=261,slow=75,SNR=258
H01W1 Cape Leeuwin H 45.03 111 T T 19 34 00.7
baz=261,slow=75,SNR=290
XMIS Christmas Isla 45.69 75 P **P 18 46 24.1 -2.5**
GSI Gunungsitoli 46.36 56 P **P 18 46 30.1 -1.7**
GSI IAmb IAmb 18 46 49.5
comp=Z,52nm,1.2s
DMTO DMTO 47.02 352 P **P 18 46 37.2 +0.5**
SHAO Shalim 47.25 353 P **P 18 46 38.9 +0.3**
SHAO Shalim 47.25 353 P **P 18 46 37.9 -0.7**
WHFO Wadi Hawf 47.37 351 P **P 18 46 39.7 +0.1**
WHFO P **P 18 46 39.7 +0.1**
WHFO P **P 18 46 39.7 +0.1**
CASY Casey 47.68 155 P **P 18 46 41.2 -0.2**
CASY IAmb IAmb 18 46 43.6
comp=Z,57nm,1.1s
CASY Casey 47.68 155 IAMs_20 IAMs_20 19 04 32.8
comp=Z,3µm,18.0s
MORW Morawa 47.75 104 P **P 18 46 41.7 -0.8**
MORW IAmb IAmb 18 46 44.2
comp=Z,59nm,1.3s
NWAO Narrogin (SRO) 47.89 109 P **P 18 46 43.6 0.0**
comp=Z,30nm,1.1s,baz=103,slow=9.0,SNR=4.9
NWAO PcP **PcP 18 48 12.4 +0.5**
comp=Z,21nm,0.9s,baz=125,slow=3.5,SNR=6.3
NWAO LR LR 19 01 38.5
comp=Z,1µm,21.6s,baz=120,slow=30
comp=Z,30nm,1.1s
NWAO Narrogin (SRO) 47.89 109 P **P 18 46 43.6 0.0**
NWAO IAmb IAmb 18 46 44.9
comp=Z,71nm,1.2s
NWAO Narrogin (SRO) 47.89 109 P **P 18 46 42.2 -1.4**
BLDU Ballidu 47.95 106 P **P 18 46 44.4 +0.4**
GIRL Giralia 48.06 95 P **P 18 46 44.1 -0.8**
BKNI Bangkinang 48.27 60 P **P 18 46 45.3 -1.3**
RPSI Rantau Prapat 48.29 55 P **P 18 46 45.0 -1.8**
PSI Prapat 48.36 55 LR LR 19 03 08.3
comp=Z,800nm,20.3s,baz=224,slow=31
KLBR Kellerberrin 48.60 108 P **P 18 46 49.6 +0.5**
LHMI Lhok Sumawe 48.70 51 P **P 18 46 47.4 -2.5**
DQM DQM 48.98 356 P **P 18 46 54.1 +2.2**
SNR=7.5
DQM P **P 18 46 54.1 +2.2**
SNR=7.5
DQM P **P 18 46 54.1 +2.2**
SNR=7.5
POO Poona 49.09 16 *e*P **P 18 46 54.2 +1.4**
PMBI Palembang 49.14 66 P **P 18 46 53.2 -0.2**
LEM Lembang 49.26 73 P **P 18 46 53.7 -0.8**
comp=Z,120nm,1.1s,baz=197,slow=6.9,SNR=14
LEM LR LR 19 02 43.9
comp=Z,375nm,21.8s,baz=230,slow=30
comp=Z,120nm,1.1s
HYB Hyderabad 49.40 22 *e*P **P 18 46 55.9 +0.7**
HYB IAmb IAmb 18 46 57.3
comp=Z,38nm,0.9s
HYBB Hyderabad (bro 49.40 22 *e*P **P 18 46 56.1 +0.9**
HYBB IVmB_BB 18 46 57.9
comp=Z,541nm,2.1s
HYBB *e*S **S 18 54 03.4 +2.1**
HYBB IVMs_BB IVMs_BB 19 02 16.4
comp=Z,792nm,35.4s
MHTO MHTO 50.00 356 P **P 18 46 60.0 +0.3**
SNR=8.9
MEEK Meekatharra 50.60 102 P **P 18 47 04.7 +0.3**
PBA Port Blair 50.94 42 P **P 18 47 05.2 -1.7**
PBA IAmb IAmb 18 47 16.1
comp=Z,126nm,1.1s
IPM Ipoh 51.03 56 P **P 18 47 06.9 -0.8**
IPM IAmb IAmb 18 47 19.2
comp=Z,49nm,1.0s
IPM Ipoh 51.03 56 P **P 18 47 09.4 +1.7**
UGM Wanagama 51.13 76 P **P 18 47 07.8 -0.7**
KULM Kulim 51.32 55 P **P 18 47 08.3 -1.6**
MYKOM Kota Tinggi 51.34 61 P **P 18 47 08.8 -1.2**
PCJI Pacitan 51.54 76 P **P 18 47 13.9 +2.4**
comp=Z,150nm,1.2s
WBK Wadi Bani Khal 51.57 358 P **P 18 47 14.0 +2.5**
SNR=5.2
BSY Bisya 51.79 356 P **P 18 47 14.0 +0.8**
SNR=16
BSY P **P 18 47 14.0 +0.8**
SNR=16
AKL Akola 52.01 19 *e*P **P 18 47 16.1 +1.3**
SMDO Samad 52.05 357 P **P 18 47 16.0 +0.7**
SNR=18
PWJI Pagerwojo 52.16 77 P **P 18 47 17.6 +1.4**
comp=Z,114nm,1.2s
NGJI Ngawi 52.20 76 P **P 18 47 20.6 +4.1**
comp=Z,75nm,1.6s
WSAR Wadi Sarin 52.21 357 LR LR 19 04 13.7
comp=Z,725nm,20.6s,baz=196,slow=30
DGPR DIGLIPUR 52.27 41 *e*P **P 18 47 18.0 +1.1**
MZR Muzera 52.42 351 P **P 18 47 18.4 +0.6**
SNR=17
MZR P **P 18 47 18.4 +0.6**
SNR=17
MZR Muzera 52.42 351 *i* P **P 18 47 17.6 -0.2**
SNR=53
ARQ Araqi 52.43 355 P **P 18 47 18.6 +0.6**
SNR=16
ARQ P **P 18 47 18.6 +0.6**
SNR=16
ARQ P **P 18 47 18.6 +0.6**
SNR=16
BIDO Bidbid 52.51 357 P **P 18 47 20.1 +1.6**
SNR=22
HOQ Hoqain 52.62 356 P **P 18 47 20.0 +0.7**
SNR=15
TROLL Troll, Antarti 52.84 199 P **P 18 47 20.7 0.0**
TROLL Troll, Antarti 52.84 199 PcP **PcP 18 48 30.4 +0.8**
RAGD RAYAGADA 52.87 27 *e*P **P 18 47 22.8 +1.6**
SRIT Nakonsritamara 52.94 51 P **P 18 47 19.5 -2.4**
MZWR Madinat Zayed 53.11 352 P **P 18 47 23.9 +1.0**
MZWR P **P 18 47 23.9 +1.0**
ALNE Al Ain 53.21 354 P **P 18 47 24.8 +1.1**
SNR=10
ALNE P **P 18 47 24.8 +1.1**
SNR=10
ALNE Al Ain 53.21 354 P **P 18 47 23.3 -0.4**
PSA00 Pilbara Seismi 53.31 96 P **P 18 47 22.8 -1.8**
PSA00 Pilbara Seismi 53.31 96 P **P 18 47 22.5 -2.1**
PSA00 IAmb IAmb 18 48 33.1
comp=Z,34nm,1.1s
MBWA Marble Bar 53.36 96 P **P 18 47 23.0 -2.0**
MBWA Marble Bar 53.36 96 P **P 18 47 24.0 -1.0**
GMJI Gumukmas 53.43 78 P **P 18 47 27.8 +2.2**
comp=Z,2µmcomp=Z,88nm,1.5s
GHWR Ruwais 53.45 351 P **P 18 47 26.4 +1.1**
GHWR P **P 18 47 26.4 +1.1**
SLWR Sila 53.73 350 P **P 18 47 28.1 +0.7**
SLWR P **P 18 47 28.1 +0.7**
SLWR P **P 18 47 28.1 +0.7**
AJN Ajban 53.78 353 P **P 18 47 28.9 +1.1**
SNR=5.9
AJN P **P 18 47 28.9 +1.1**
SNR=5.9
AJN Ajban 53.78 353 *i* P **P 18 47 27.5 -0.3**
SNR=5.6
ASHO Ashiyiah 53.80 355 P **P 18 47 29.0 +0.9**
SNR=15
ASHO P **P 18 47 29.0 +0.9**
SNR=15
ASHO Ashiyiah 53.80 355 *i* P **P 18 47 27.4 -0.6**
SNR=26
ASUD Al Ashush, Dub 53.81 354 P **P 18 47 29.5 +1.5**
SNR=7.3
ASUD P **P 18 47 29.5 +1.5**
SNR=7.3
ASUD P **P 18 47 29.5 +1.5**
SNR=7.3
ASUD Al Ashush, Dub 53.81 354 *i* P **P 18 47 27.8 -0.2**
SNR=9.6
FAQ Al Faqa, Dubai 53.90 354 P **P 18 47 29.5 +0.7**
SNR=7.5
FAQ P **P 18 47 29.5 +0.7**
SNR=7.5
FAQ Al Faqa, Dubai 53.90 354 *i* P **P 18 47 28.2 -0.5**
SNR=14
HATD Hatta, Dubai 53.94 355 P **P 18 47 29.6 +0.6**
SNR=8.6
HATD P **P 18 47 29.6 +0.6**
SNR=8.6
HATD Hatta, Dubai 53.94 355 *i* P **P 18 47 28.3 -0.7**
SNR=10
JAGI Jajag, Banyuwa 53.94 79 P **P 18 47 27.8 -1.6**
JAGI Jajag, Banyuwa 53.94 79 P **P 18 47 30.6 +1.3**
comp=Z,119nm,1.4s
JAGI Jajag, Banyuwa 53.94 79 P **P 18 47 30.3 +1.0**
UOSS Minazif 54.05 355 P **P 18 47 27.8 -2.0**
UOSS Minazif 54.05 355 IAMs_20 IAMs_20 19 07 00.8
comp=Z,2µm,18.0s
UOSS Minazif 54.05 355 P **P 18 47 28.7 -1.1**
NAZ Nazwa, Dubai 54.14 354 P **P 18 47 31.0 +0.5**
SNR=16
NAZ P **P 18 47 31.0 +0.5**
SNR=16
NAZ Nazwa, Dubai 54.14 354 *i* P **P 18 47 29.9 -0.6**
SNR=12
SNAA Sanae 54.33 200 P **P 18 47 31.6 +0.1**
SNAA Sanae 54.33 200 LR LR 19 05 42.1
comp=Z,2µm,21.3s,baz=66,slow=30
SNAA Sanae 54.33 200 P **P 18 47 31.0 -0.5**
SNAA IAmb IAmb 18 47 32.8
comp=Z,49nm,1.2s
SNAA IAMs_20 IAMs_20 19 05 09.5
comp=Z,2µm,21.0s
SNAA Sanae 54.33 200 ⇓ *i* P **P 18 47 30.5 -1.0**
MDH Madha 54.39 355 P **P 18 47 34.0 +1.7**
SNR=5.2
MDH P **P 18 47 34.0 +1.7**
SNR=5.2
MDH Madha 54.39 355 *i* P **P 18 47 30.8 -1.5**
SNR=5.3
MSFE Esma-Masafi 54.46 355 *i* P **P 18 47 31.8 -1.1**
SNR=20
MASF Masafi 54.48 355 P **P 18 47 33.1 +0.2**
SNR=12
MASF P **P 18 47 33.1 +0.2**
SNR=12
KMMI Kalianget 54.49 77 P **P 18 47 38.0 +4.7**
comp=Z,2µmcomp=Z,74nm,1.2s
RAYN Ar Rayn 54.50 343 P **P 18 47 31.5 -1.7**
RAYN Ar Rayn 54.50 343 *i* P **P 18 47 33.1 -0.1**
SNR=7.4
BHPL Bhopal 54.53 19 *e*P **P 18 47 32.9 -0.5**
BHPL IAmb IAmb 18 47 35.7
comp=Z,35nm,1.1s
UMQ Umm Al-Quwin 54.67 354 P **P 18 47 36.4 +2.2**
SNR=5.2
UMQ P **P 18 47 36.4 +2.2**
SNR=5.2
UMQ Umm Al-Quwin 54.67 354 *i* P **P 18 47 34.1 -0.2**
SNR=5.6
BWNR Bhubaneshwar 54.77 29 *e*P **P 18 47 35.9 +0.8**
JASK Jask - Hormozg 54.85 357 P **P 18 47 37.0 +1.4**
SNR=5.3
BLSP Bilaspur 54.99 24 *e*P **P 18 47 37.7 +0.9**
BANOM Banah 55.01 355 P **P 18 47 38.4 +1.6**
BANOM Banah 55.01 355 P **P 18 47 34.6 -2.2**
SRBI Singaraja 55.04 79 P **P 18 47 39.4 +2.1**
comp=Z,2µmcomp=Z,108nm,1.2s
SHME Shamm 55.15 355 P **P 18 47 36.0 -1.8**
VNA2 Neumayer--Watz 55.60 202 P **P 18 47 40.9 +0.3**
baz=71,slow=6.7
VNA2 Neumayer--Watz 55.60 202 PcP **PcP 18 48 40.7 +0.7**
VNA1 Neumayer--Stat 55.84 202 P **P 18 47 42.9 +0.6**
TWSI Taliwang, Sumb 56.15 81 P P 18 47 51.9 +6.6
STKI Sintang 56.30 68 P **P 18 47 47.6 +1.2**
comp=Z,1µmcomp=Z,53nm,1.4s
VNA3 Neumayer Olymp 56.39 201 P P 18 47 46.3 +0.1
VNA3 Neumayer Olymp 56.39 201 PcP **PcP 18 48 43.5 +0.4**
PLAI Plampang 56.88 81 P P 18 47 51.5 +1.0
comp=Z,1µmcomp=Z,99nm,1.3s
PLAI Plampang 56.88 81 P **P 18 47 51.3 +0.8**
BBKI Banjar Baru 57.11 74 P **P 18 47 53.0 +0.8**
comp=Z,1µmcomp=Z,63nm,1.6s
FORT Forrest 57.34 110 P **P 18 47 52.3 -1.3**
FORT Forrest 57.34 110 P **P 18 47 54.3 +0.7**
SBUM Sibu 58.30 66 P **P 18 47 58.8 -1.7**
SBUM IAmb IAmb 18 48 02.8
comp=Z,48nm,1.3s
MTKI Muara Teweh, K 58.54 71 P **P 18 48 03.4 +1.2**
comp=Z,41nm,1.4s
KUDL Kundal 58.96 16 *e*P **P 18 48 04.7 +0.1**
WRKA Warakurna 59.37 103 P **P 18 48 08.2 +0.3**
BRDH Bariadhala 59.48 33 LR LR 19 10 09.7
comp=Z,2µm,21.9s,baz=204,slow=32
FITZ Fitzroy Crossi 59.67 95 LR LR 19 10 28.9
comp=Z,623nm,19.3s,baz=255,slow=33
FITZ Fitzroy Crossi 59.67 95 P **P 18 48 08.8 -1.2**
FITZ IAmb IAmb 18 48 10.9
comp=Z,39nm,1.1s
FITZ Fitzroy Crossi 59.67 95 P **P 18 48 09.8 -0.2**
CM31 Chiang Mai Arr 59.95 42 P **P 18 48 11.6 -0.2**
CMAR Chiang Mai Arr 59.95 42 P **P 18 48 12.1 +0.3**
comp=Z,43nm,0.8s,baz=232,slow=7.3,SNR=102
CMAR LR LR 19 12 16.8
comp=Z,704nm,18.1s,baz=225,slow=34
CMAR PKP2bc **P'P'bc 19 17 44.4 +0.8**
comp=Z,0.5nm,0.8s,baz=75,slow=1.4,SNR=2.6
comp=Z,43nm,0.8s
CMAR Chiang Mai Arr 59.95 42 P **P 18 48 11.2 -0.6**
CHTO Chiang Mai 60.23 42 P **P 18 48 12.2 -1.5**
CHTO Chiang Mai 60.23 42 P **P 18 48 14.4 +0.8**
CHTO P **P 18 48 14.4 +0.8**
CHTO Chiang Mai 60.23 42 P **P 18 48 14.5 +0.8**
EDFI Ende, Flores 60.31 83 P **P 18 48 15.3 +0.8**
comp=Z,784nmcomp=Z,34nm,1.4s
AGT Agartala 60.33 32 *e*P **P 18 48 15.5 +1.3**
AGT IAmb IAmb 18 48 19.5
comp=Z,188nm,1.1s
KAPI Kappang 60.47 78 P **P 18 48 14.6 -0.9**
comp=Z,61nm,1.1s,baz=233,slow=8.9,SNR=17
KAPI LR LR 19 11 50.1
comp=Z,323nm,18.7s,baz=239,slow=34
comp=Z,61nm,1.1s
KAPI Kappang 60.47 78 P **P 18 48 14.3 -1.2**
KAPI IAmb IAmb 18 48 16.2
comp=Z,63nm,1.0s
KAPI Kappang 60.47 78 P **P 18 48 15.4 -0.1**
BKSI Bulukumba 60.63 79 P **P 18 48 16.7 +0.1**
comp=Z,993nmcomp=Z,64nm,1.5s
KOLN Koldanda 60.69 23 *e*P **P 18 48 16.3 -0.6**
KOLN Koldanda 60.69 23 *e*P **P 18 48 16.9 0.0**
PYUN Pyuntha 60.79 22 *e*P **P 18 48 17.3 -0.3**
MMRI Maumere 60.84 83 P **P 18 48 16.7 -1.3**
MMRI Maumere 60.84 83 P **P 18 48 18.9 +0.9**
comp=Z,1µmcomp=Z,2µmcomp=Z,113nm,1.5s
MMRI Maumere 60.84 83 P **P 18 48 19.1 +1.1**
QSPA South Pole Qui 60.93 180 LR LR 19 11 54.0
comp=Z,2µm,18.5s,baz=274,slow=33
QSPA South Pole Qui 60.93 180 P **P 18 48 17.8 -0.3**
QSPA South Pole Qui 60.93 180 IAMs_20 IAMs_20 19 10 54.6
comp=Z,2µm,20.0s
SPSI Sidrap Palu 61.02 77 P **P 18 48 20.0 +0.7**
comp=Z,1µmcomp=Z,39nm,1.6s
RAMN Ramite 61.04 26 *e*P **P 18 48 19.6 +0.3**
comp=Z,247nm,1.0s
DMN Daman 61.07 25 *e*P **P 18 48 19.5 -0.1**
comp=Z,231nm,1.0s
PKI Pulchoki 61.15 25 *e*P **P 18 48 19.6 -0.6**
PKIN Phulchoki 61.15 25 *e*P **P 18 48 19.5 -0.6**
comp=Z,136nm,1.4s
LGTI Lohaghat 61.20 19 *e*P **P 18 48 18.8 -1.2**
GKN Gorkha 61.26 24 *e*P **P 18 48 20.4 -0.3**
comp=Z,324nm,1.1s
ODAN Odare 61.27 27 *e*P **P 18 48 20.5 -0.4**
DANN Dangsing 61.28 23 *e*P **P 18 48 20.5 -0.5**
comp=Z,284nm,0.9s
BATI Baumata 61.34 86 LR LR 19 14 25.0
comp=Z,432nm,18.1s,baz=249,slow=36
JIRN Jiri 61.52 26 *e*P **P 18 48 22.5 -0.2**
comp=Z,146nm,1.0s
TTSI Tana Toraja 61.54 77 P **P 18 48 23.6 +0.8**
comp=Z,1µmcomp=Z,70nm,1.2s
GUN Gumba 61.63 25 *e*P **P 18 48 23.7 +0.2**
comp=Z,291nm,1.0s
UBPT Khong Chiam 61.71 50 P **P 18 48 22.8 -1.0**
UBPT IAmb IAmb 18 48 34.5
comp=Z,55nm,1.4s
TAPN Taplejung 61.83 27 *e*P **P 18 48 24.8 0.0**
comp=Z,242nm,1.0s
SMLA Simla 61.98 16 *e*P **P 18 48 24.8 -0.5**
SMLA IAmb IAmb 18 48 37.1
comp=Z,74nm,1.3s
CRAI Chiangrai 62.17 42 P **P 18 48 26.3 -0.5**
CRAI IAmb IAmb 18 48 30.4
comp=Z,27nm,0.9s
MULG Mulgathing 62.42 111 P **P 18 48 28.2 -0.3**
GUWA GUWAHATI 62.51 31 *e*P **P 18 48 29.7 +0.7**
GUWA IAmb IAmb 18 48 31.9
comp=Z,84nm,1.1s
BELA Belgrano 2 62.81 194 P **P 18 48 30.6 +0.2**
BELA IAmb IAmb 18 48 31.8
comp=Z,30nm,1.0s
THN Thein Dam 62.91 14 *e*P **P 18 48 32.0 +0.5**
BBOO Buckleboo 63.21 114 P **P 18 48 32.8 -1.0**
BBOO IAmb IAmb 18 48 34.7
comp=Z,69nm,1.1s
KOHI KOHIMA 63.24 34 *e*P **P 18 48 34.6 +0.6**
KOHI IAmb IAmb 18 48 38.6
comp=Z,208nm,1.2s
HRA Herat 63.28 1 P **P 18 48 32.8 -1.4**
TEZP TEZPUR 63.38 32 *e*P **P 18 48 34.7 -0.1**
TEZP IAmb IAmb 18 48 37.4
comp=Z,83nm,1.1s
KNRA Kununurra 63.38 94 P **P 18 48 33.4 -1.7**
KNRA IAmb IAmb 18 48 35.9
comp=Z,78nm,1.4s
MPSI Mapaga 63.41 73 P **P 18 48 36.2 +1.0**
comp=Z,815nmcomp=Z,45nm,1.5s
EIL Elat 63.59 335 LR LR 19 13 02.6
comp=Z,2µm,19.4s,baz=156,slow=33
KBL Kabul 63.88 7 P **P 18 48 36.8 -1.4**
KBL Kabul 63.88 7 P **P 18 48 38.5 +0.3**
SNR=24
KBL P **P 18 48 38.5 +0.3**
SNR=24
MOKO MOKOCHONG 63.94 34 *e*P **P 18 48 39.9 +1.2**
MOKO IAmb IAmb 18 48 42.6
comp=Z,306nm,1.2s
VNDA Vanda 64.02 166 P **P 18 48 38.4 0.0**
comp=Z,17nm,0.9s,baz=265,slow=7.0,SNR=88
VNDA LR LR 19 14 42.8
comp=Z,3µm,18.2s,baz=254,slow=34
VNDA PKPPKP P'P'df 19 17 25.1 -11
comp=Z,0.6nm,0.7s,baz=48,slow=7.5,SNR=3.6
comp=Z,17nm,0.9s
VNDA Vanda 64.02 166 P **P 18 48 38.3 0.0**
VNDA IAmb IAmb 18 48 39.9
comp=Z,64nm,1.4s
APSI Ampana 64.21 76 P **P 18 48 41.6 +1.0**
comp=Z,2µmcomp=Z,138nm,1.2s
ITAN ITANAGAR 64.26 32 *e*P **P 18 48 41.2 +0.6**
ITAN IAmb IAmb 18 48 45.1
comp=Z,255nm,0.9s
WHYH Whyalla 64.34 115 P **P 18 48 42.1 +0.9**
OOD Oodnadatta 64.61 109 P **P 18 48 42.5 -0.5**
ASAR Alice Springs 64.63 104 P **P 18 48 42.6 -0.7**
comp=Z,36nm,0.9s,baz=243,slow=6.2,SNR=200
ASAR LR LR 19 14 15.3
comp=Z,634nm,18.3s,baz=260,slow=34
ASAR PKPPKP P'P'df 19 17 25.9 -7.9
comp=Z,0.9nm,0.9s,baz=49,slow=2.8,SNR=5.9
comp=Z,36nm,0.9s
ASAR Alice Springs 64.63 104 P **P 18 48 42.2 -1.1**
AS31 Alice Springs 64.63 104 P **P 18 48 42.4 -0.9**
ZIRO ZIRO 64.64 32 *e*P **P 18 48 43.3 0.0**
ZIRO IAmb IAmb 18 48 47.2
comp=Z,135nm,1.0s
GHAJ Ghor Haditha 64.85 336 P **P 18 48 43.8 -0.4**
GHAJ IAmb IAmb 18 48 48.3
comp=Z,44nm,1.3s
GHAJ IAMs_20 IAMs_20 19 12 57.0
comp=Z,2µm,20.0s
SBA Scott Base 64.90 167 P **P 18 48 44.5 +0.4**
SBA Scott Base 64.90 167 IAMs_20 IAMs_20 19 14 30.7
comp=Z,2µm,19.0s
MYLDM Lahad Datu 64.96 68 P **P 18 48 44.6 -0.9**
MYLDM IAmb IAmb 18 49 19.8
comp=Z,49nm,1.1s
LUWI Luwuk 65.10 76 P **P 18 48 45.5 -0.8**
LUWI Luwuk 65.10 76 P **P 18 48 47.7 +1.4**
comp=Z,2µmcomp=Z,157nm,1.2s
LUWI Luwuk 65.10 76 P **P 18 48 47.6 +1.3**
ASF Jabal al Asfar 65.19 338 LR LR 19 16 04.1
comp=Z,581nm,18.1s,baz=157,slow=35
MRSI Marisa 65.20 75 P **P 18 48 45.3 -1.7**
comp=Z,465nmcomp=Z,39nm,0.8s
LSA Lhasa 65.31 29 P **P 18 48 46.5 -1.4**
LSA IAmb IAmb 18 48 52.1
comp=Z,74nm,1.1s
LSA Lhasa 65.31 29 P **P 18 48 48.8 +0.9**
LSA S **S 18 57 29.1 -2.0**
LSA pmax pmax
comp=Z,81nm,1.6s
LSA pmax pmax
comp=Z,130nm,3.6s
LSA LR LR
comp=Z,620nm,17.1s
LSA LR LR
comp=Z,700nm,18.5s
LSA LR LR
comp=Z,2µm,19.9s
LSA Lhasa 65.31 29 P **P 18 48 48.9 +1.0**
LSA P **P 18 48 48.9 +1.0**
LSA Lhasa 65.31 29 *i* P **P 18 48 48.6 +0.7**
SNR=20
LKP Lekhapani 65.44 34 *e*P **P 18 48 48.0 -0.2**
LKP IAmb IAmb 18 48 51.7
comp=Z,98nm,0.8s
LCRK Leigh Creek 65.74 112 P **P 18 48 50.8 +0.5**
ARPS Mount Arapiles 66.40 120 P **P 18 48 55.7 +1.2**
MMAI Mount Meron Ar 66.46 337 LR LR 19 14 39.2
comp=Z,1µm,19.6s,baz=29,slow=33
WRA Warramunga Arr 66.46 100 P **P 18 48 54.8 -0.3**
comp=Z,38nm,1.0s,baz=247,slow=5.5,SNR=112
WRA LR LR 19 14 25.6
comp=Z,2µm,18.9s,baz=244,slow=33
WRA PKP2bc **P'P'df 19 17 30.1 -0.3**
comp=Z,1.9nm,1.0s,baz=56,slow=2.1,SNR=7.3
comp=Z,38nm,1.0s
WRA Warramunga Arr 66.46 100 P **P 18 48 54.2 -0.9**
WB2 Warramunga Arr 66.47 100 P **P 18 48 54.5 -0.7**
WRAB Tennant Creek 66.47 100 P **P 18 48 54.6 -0.6**
WRAB Tennant Creek 66.47 100 IAMs_20 IAMs_20 19 12 53.9
comp=Z,2µm,20.0s
WRAB Tennant Creek 66.47 100 P **P 18 48 55.3 +0.1**
WB0 Warramunga Arr 66.58 100 P **P 18 48 55.3 -0.6**
WR0 Warramunga Arr 66.63 101 P **P 18 48 55.3 -0.9**
WR0 IAmb IAmb 18 48 57.0
comp=Z,50nm,1.1s
MTN Manton Dam 66.68 92 P **P 18 48 55.7 -0.8**
MTN IAmb IAmb 18 48 57.5
comp=Z,62nm,1.4s
GEYT Alibeck 66.86 358 P **P 18 48 56.4 -0.7**
comp=Z,7.6nm,0.9s,baz=160,slow=4.7,SNR=16
GEYT PKP2bc **P'P'ab 19 17 30.5 +5.8**
comp=Z,0.6nm,0.3s,baz=316,slow=4.0,SNR=2.1
comp=Z,7.6nm,0.9s
GEYT Alibeck 66.86 358 P **P 18 48 56.2 -0.9**
GYA0B ALIBECK ARRAY 66.86 358 P **P 18 48 56.2 -0.9**
KMSI Cibinong 66.97 76 P P 18 49 03.6 +5.2
comp=Z,66nm,1.0s
QIZ Qiongzhong 67.30 51 P **P 18 48 59.2 -1.1**
QIZ IAmb IAmb 18 50 07.7
comp=Z,42nm,1.4s
QIZ Qiongzhong 67.30 51 P **P 18 49 02.1 +1.8**
QIZ S **S 18 58 02.0 +7.3**
QIZ LR LR
comp=Z,550nm,12.7s
QIZ LR LR
comp=Z,450nm,19.1s
QIZ LR LR
comp=Z,560nm,33.4s
KMI Kunming 67.33 41 ⇓ P **P 18 49 01.0 +0.3**
KMI sP pwP 18 49 10.1 -1.8
KMI S **S 18 57 57.3 +2.0**
KMI SKS **SKSac 18 58 57.0 -0.5**
KMI SS **SS 19 02 16.3 +0.5**
KMI pmax pmax
comp=Z,14nm,1.0s
KMI pmax pmax
comp=Z,240nm,4.9s
KMI LR LR
comp=Z,360nm,22.3s
KMI LR LR
comp=Z,700nm,18.8s
KMI LR LR
comp=Z,730nm,20.6s
NLAI Namlea 67.68 81 P **P 18 49 02.6 -0.3**

comp=Z,4µmcomp=Z,24nm,1.6s
BRAT Ballarat 67.71 122 P P 18 49 04.5 +1.8
PZH PanZhiHua 67.84 39 P P 18 49 03.8 +0.1
PZH pP **pP 18 49 09.6 +0.9**
PZH S **S 18 58 01.0 -0.2**
PZH pmax pmax
comp=Z,40nm,1.0s
PZH pmax pmax
comp=Z,170nm,4.9s
PZH LR LR
comp=Z,1µm,17.5s
PZH LR LR
comp=Z,1µm,17.3s
PZH LR LR
comp=Z,1µm,18.1s
KDU Kakadu 67.92 93 P P 18 49 04.3 -0.1
STKA Stephens Creek 67.93 115 P P 18 49 03.9 -0.4
comp=Z,22nm,0.9s,baz=263,slow=6.5,SNR=25
STKA LR LR 19 13 23.1
comp=Z,734nm,19.4s,baz=240,slow=31
comp=Z,22nm,0.9s
STKA Stephens Creek 67.93 115 P P 18 49 04.4 +0.1
CHGR Chuyangaron 67.97 7 P P 18 49 03.4 -0.8
AAI Ambon 68.41 82 P P 18 49 08.5 +1.0
comp=Z,35nm,1.1s
GAR Garm 68.44 8 P P 18 49 06.2 -1.0
GAR IAmb IAmb 18 49 09.7
comp=Z,57nm,1.3s
INKA Innaminka 68.79 111 P P 18 49 10.4 +0.7
MARD Mardin 68.83 343 P P 18 49 08.2 -1.5
MARD IAmb IAmb 18 49 13.0
comp=Z,32nm,1.0s
TOO Toolangi 68.86 122 P P 18 49 08.6 -1.4
TOO IAmb IAmb 18 49 12.4
comp=Z,39nm,1.1s
TOO Toolangi 68.86 122 P P 18 49 11.7 +1.6
CSS Mathiatis 68.95 336 P P 18 49 09.2 -1.2
CSS IAmb IAmb 18 49 13.9
comp=Z,35nm,0.9s
LBMI Labuha 69.34 79 P P 18 49 14.5 +1.2
comp=Z,2µmcomp=Z,178nm,1.1s
BTK Batken 69.54 8 P P 18 49 13.2 -0.8
BTK IAmb IAmb 18 49 17.7
comp=Z,79nm,1.6s
GURO Guroymak-BITLI 69.70 344 P P 18 49 15.4 +0.3
KSH Kashi 69.81 12 P P 18 49 11.8 -3.9
KSH sP sP 18 49 21.8 -0.7
KSH S S 18 58 14.4 -10
KSH SS **SS 19 02 50.3 -3.3**
KSH pmax pmax
comp=Z,86nm,1.0s
KSH LR LR
comp=Z,2µm,20.6s
KSH LR LR
comp=Z,1µm,17.2s
KSH LR LR
comp=Z,4µm,23.4s
TNTI Ternate 69.95 77 P P 18 49 16.3 -0.8
TNTI IAmb IAmb 18 49 18.0
comp=Z,44nm,1.0s
TNTI Ternate 69.95 77 P P 18 49 17.3 +0.2
comp=Z,677nmcomp=Z,49nm,1.1s
TNTI Ternate 69.95 77 P P 18 49 17.3 +0.2
GYA Guiyang 70.63 43 ⇓P P 18 49 23.0 +1.9
GYA S **S 18 58 35.9 +1.7**
GYA pmax pmax
comp=Z,35nm,1.5s
GYA pmax pmax
comp=Z,190nm,5.6s
GYA LR LR
comp=Z,490nm,9.6s
GYA LR LR
comp=Z,510nm,7.2s
GYA LR LR
comp=Z,750nm,15.5s
GNI Garni 70.64 347 LR LR 19 18 40.2
comp=Z,2µm,19.9s,baz=177,slow=34
GNI Garni 70.64 347 P P 18 49 20.2 -0.6
GNI Garni 70.64 347 IAMs_20 IAMs_20 19 18 28.2
comp=Z,2µm,20.0s
GNI Garni 70.64 347 P P 18 49 21.9 +1.0
QIS Mount Isa 70.71 103 P P 18 49 21.9 +0.2
HOPE Hope Point 70.89 218 P P 18 49 23.0 +0.9
TOA0 Torodi Ar. Sit 70.98 298 P P 18 49 21.6 -1.6
TOA0 IAmb IAmb 18 49 27.1
comp=Z,88nm,1.1s
TORD Torodi Ar. Bea 70.98 298 P P 18 49 23.8 +0.5
comp=Z,49nm,0.9s,baz=114,slow=4.4,SNR=75
TORD PP **PP 18 52 00.6 -0.3**
comp=Z,6.1nm,0.9s,baz=132,slow=9.6,SNR=5.3
TORD LR LR 19 20 09.9
comp=Z,4µm,19.6s,baz=141,slow=36
comp=Z,49nm,0.9s
TORD Torodi Ar. Bea 70.98 298 P P 18 49 22.5 -0.8
TORD IAmb IAmb 18 49 27.1
comp=Z,92nm,1.2s
CMSA Cobar Meteorol 71.29 116 P P 18 49 25.6 +0.6
KARS Kars 71.44 346 P P 18 49 24.6 -1.0
KOPT Kop Dagi 71.46 344 P P 18 49 26.1 +0.2
KOPT IAmb IAmb 18 49 36.8
comp=Z,31nm,1.0s
AKAS Kas 71.46 334 P P 18 49 24.6 -1.2
AKAS IAmb IAmb 18 49 27.9
comp=Z,61nm,1.0s
IUG Iuzhnay 71.51 7 *i* P **P 18 49 25.9 -0.1**
baz=7.0
IUG *e*S **S 18 58 45.9 +2.2**
baz=7.0
BNN Bunyan 71.66 340 P P 18 49 26.3 -0.7
BNN IAmb IAmb 18 49 29.7
comp=Z,68nm,0.9s
NRN Naryn 71.67 12 P P 18 49 26.3 -1.0
NRN IAmb IAmb 18 49 30.5
comp=Z,50nm,1.5s
ELL Elmali 71.80 334 P P 18 49 27.4 -0.5
DAV Davao City (W) 71.82 71 LR LR 19 18 37.2
comp=Z,199nm,20.1s,baz=224,slow=34
KARP Karpathos 71.85 332 P P 18 49 27.4 -0.7
AML Almayashu 71.97 10 P P 18 49 25.7 -3.4
SNR=26
QLP Quilpie 72.10 111 P P 18 49 30.2 +0.2
ORCD Orcadas 72.11 210 P P 18 49 26.8 -2.5
ORCD IAmb IAmb 18 50 48.4
comp=Z,41nm,0.5s
UCH Uchtor 72.19 11 P P 18 49 30.2 -0.3
SNR=17
KIC Kosan Boka 72.27 288⇑ *e*P **P 18 49 32.6 +1.5**
comp=Z,62nm,1.0s
FAKI Fak Fak 72.30 83 P P 18 49 31.1 -0.2
FAKI Fak Fak 72.30 83 P P 18 49 32.6 +1.3
comp=Z,1µmcomp=Z,94nm,1.5s
FAKI Fak Fak 72.30 83 P P 18 49 32.6 +1.3
TARG Taragay, Kyrgy 72.30 13 P P 18 49 30.0 -1.1
CAN Canberra 72.33 121 P P 18 49 32.4 +1.1
CAN IAmb IAmb 18 49 33.8
comp=Z,67nm,1.1s
CAN Canberra 72.33 121 P P 18 49 33.1 +1.8
CD2 Chengdu 72.38 38 P P 18 49 31.1 -0.3
CD2 S **S 18 58 57.3 +3.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,660nm,20.6s
CD2 LR LR
comp=Z,600nm,22.6s
CD2 LR LR
comp=Z,840nm,21.1s
DZA Taraz 72.40 8 *e*P **P 18 49 31.1 -0.1**
comp=Z,33nm,1.3s,baz=7.9
LIC Lamto 72.43 288⇑ *e*P **P 18 49 33.0 +0.9**
comp=Z,132nm,0.9s
HKPS Hong Kong Po S 72.44 51 P P 18 49 31.2 -0.7
SIJI Sorong 72.46 81 LR LR 19 20 20.0
comp=Z,154nm,18.1s,baz=256,slow=35
GOMU GeErMu 72.47 28 *e*P **P 18 49 32.0 -0.2**
GOMU pP pP 18 49 37.8 +0.6
GOMU sP sP 18 49 39.8 +0.8
GOMU S **S 18 58 50.5 -5.0**
GOMU pmax pmax
comp=Z,17nm,1.4s
GOMU pmax pmax
comp=Z,150nm,5.6s
GOMU LR LR
comp=Z,380nm,19.6s
GOMU LR LR
comp=Z,280nm,16.7s
GOMU LR LR
comp=Z,400nm,14.8s
EKS2 Erkin-Say 72.50 10 P P 18 49 32.6 +0.6
SNR=70
ULHL Ulahol 72.50 12 P P 18 49 33.7 +1.6
SNR=19
KK31 Karatay Array 72.51 7 P P 18 49 31.1 -0.7
KK31 IAmb IAmb 18 49 35.6
comp=Z,72nm,1.2s
KKAR Karatay Array 72.51 7 P P 18 49 31.8 0.0
KKAR Karatay Array 72.51 7 P P 18 49 31.6 -0.3
KKAR IAmb IAmb 18 49 35.6
comp=Z,72nm,1.2s
DBIC Dimbokro 72.53 288 P P 18 49 33.8 +1.1
comp=Z,51nm,0.9s,baz=136,slow=6.3,SNR=25
DBIC LR LR 19 21 05.1
comp=Z,1µm,18.5s,baz=139,slow=36
comp=Z,51nm,0.9s
DBIC Dimbokro 72.53 288 P P 18 49 31.6 -1.0
DBIC IAmb IAmb 18 49 37.1
comp=Z,87nm,1.1s
AAK Ala-Archa 72.59 10 P P 18 49 36.4 +3.8
SNR=19
AAK Ala-Archa 72.59 10 LR LR 19 18 08.6
comp=Z,1µm,21.5s,baz=201,slow=33
AAK Ala-Archa 72.59 10 P P 18 49 31.7 -0.8
AAK IAmb IAmb 18 49 36.6
comp=Z,63nm,1.2s
AAK Ala-Archa 72.59 10 P P 18 49 35.1 +2.5
AAK Ala-Archa 72.59 10 *i* **P 18 49 32.7 +0.1**
SNR=30
CNB Canberra Magne 72.60 121 P P 18 49 34.7 +1.8
IDI Anoyia 72.61 330 LR LR 19 20 11.6
comp=Z,259nm,19.8s,baz=150,slow=35
TIC Toumodi 72.65 288⇑ *e*P **P 18 49 30.5 -2.9**
comp=Z,66nm,0.9s
KBK Karagaybulak 72.68 11 P P 18 49 36.3 +3.2
SNR=11
BOOM Boomskoye usch 72.69 12 P P 18 49 31.9 -1.3
BOOM IAmb IAmb 18 49 36.7
comp=Z,49nm,1.3s
CHMS Chumysh 72.98 11 P P 18 49 36.1 +1.4
SNR=6.6
TKM2 Tokmak 2 73.05 11 P P 18 49 35.3 0.0
SNR=33
BR131 Keskin Array S 73.14 338 P P 18 49 35.4 -0.5
BR131 IAmb IAmb 18 49 38.8
comp=Z,40nm,1.0s
BRTR Keskin Array B 73.14 338 P P 18 49 36.2 +0.3
comp=Z,18nm,0.9s,baz=168,slow=4.8,SNR=56
BRTR PP **PP 18 52 20.0 +0.7**
comp=Z,1.4nm,0.9s,baz=151,slow=9.9,SNR=3.1
BRTR LR LR 19 19 03.8
comp=Z,840nm,20.0s,baz=148,slow=34
comp=Z,18nm,0.9s
BRTR Keskin Array B 73.14 338 P P 18 49 34.9 -0.9
USP Ospenovka 73.21 10 P P 18 49 36.2 +0.2
SNR=59
SANT Santorini 73.27 331 P P 18 49 35.8 -0.8
SANT IAmb IAmb 18 49 37.0
comp=Z,56nm,0.9s
SGDS Sogindy 73.41 10 *e*P **P 18 49 36.9 -0.3**
comp=Z,32nm,1.9s,baz=10
SGDS *e*S **SKiKP 18 59 06.5 -0.7**
baz=10
MDOK Medeo 73.54 12 *i* P **P 18 49 38.2 +0.1**
baz=12
MDOK *e*S **SKiKP 18 59 09.1 +1.6**
baz=12
MDOK LR LR 19 15 35.6
baz=12
ANTO Ankara 73.55 338 ⇓P P 18 49 39.7 +1.5
ANTO Ankara 73.55 338 P P 18 49 37.0 -1.1
ANTO IAmb IAmb 18 49 41.5
comp=Z,36nm,1.1s
AAA Alma-Ata 73.56 12 *e*P **P 18 49 38.3 +0.1**
comp=Z,55nm,1.3s,baz=12
AAA *e*S **SKiKP 18 59 08.8 +1.3**
baz=12
SATY Saty 73.70 13⇑ *i*P **P 18 49 39.1 +0.1**
comp=Z,44nm,1.4s,baz=13
SATY *e*S **S 18 59 09.4 +0.7**
baz=13
UZB Uzynbulak 73.91 14 *e*P **P 18 49 40.4 +0.1**
baz=14
UZB *e*S **S 18 59 11.7 +0.5**
baz=14
SHLS Shalkode 74.01 14 *e*P **P 18 49 41.7 +0.8**
comp=Z,24nm,0.9s,baz=14
KUU Kurty 74.12 12 *e*P **P 18 49 40.8 -0.5**
comp=Z,72nm,1.4s,baz=11
KUU *e*S **S 18 59 14.4 +1.2**
baz=11
KUU LR LR 19 16 55.5
baz=11
KPKS Kokpek 74.15 13 *e*P **P 18 49 41.5 -0.1**
comp=Z,32nm,1.1s,baz=13
KPKS *e*S **S 18 59 15.1 +1.4**
baz=13
CHKK Chushkaly 74.20 12 *e*P **P 18 49 42.1 +0.3**
baz=12
ILGA Ilgaz 74.33 339 P P 18 49 42.6 -0.2
ILGA IAmb IAmb 18 49 50.9
comp=Z,137nm,1.5s
BORA Eskisehir 74.36 336 P P 18 49 42.6 -0.3
DIKM Dikmen 74.40 340 ⇓P P 18 49 43.5 +0.5
KBZ Khabaz 74.45 347 P P 18 49 44.0 +0.7
comp=Z,9.0nm,0.9s,baz=139,slow=5.0,SNR=17
KBZ LR LR 19 20 40.4
comp=Z,2µm,21.6s,baz=153,slow=34
comp=Z,9.0nm,0.9s
MDUB Mudurnu 74.63 337 P P 18 49 43.7 -0.8
KVAR Kislovodsk Arr 74.71 346 LR LR 19 20 55.6
comp=Z,1µm,21.5s,baz=58,slow=34
KIV Kislovodsk 74.72 346 P P 18 49 43.3 -1.6
KIV IAmb IAmb 18 49 48.4
comp=Z,46nm,1.0s
KIV IAMs_20 IAMs_20 19 20 24.1
comp=Z,2µm,22.0s
KIV Kislovodsk 74.72 346 P P 18 49 47.2 +2.3
KIV P **P 18 49 47.2 +2.3**
KIV Kislovodsk 74.72 346 *i* **P P 18 49 44.6 -0.3**
SNR=8.1
BTLS Baital 74.87 10⇑ *i*P **P 18 49 45.3 -0.3**
comp=Z,29nm,1.2s,baz=9.5
BZK Bozkurt 75.06 340 P P 18 49 44.7 -2.1
ENH Enshi 75.12 42 P P 18 49 46.3 -1.2
ENH IAmb IAmb 18 49 51.5
comp=Z,65nm,1.1s
ITM Ithomi 75.50 329 P P 18 49 48.8 -0.8
ITM IAmb IAmb 18 49 52.6
comp=Z,138nm,1.6s
TDK Taldygorghan 75.57 13 *e*P **P 18 49 50.3 +0.6**
comp=Z,68nm,1.4s,baz=13
TDK LR LR 19 17 15.0
comp=Z,1µm,21.1s,baz=13
SMAI San Martin Ant 75.61 198 P P 18 49 50.1 +0.4
SMAI IAmb IAmb 18 49 52.2
comp=Z,59nm,0.9s
MTSU Mount Surprise 75.77 103 P P 18 49 52.6 +1.0
RMQ Roma 75.82 113 P P 18 49 52.0 +0.2
SRPI Serui, Papua 76.28 84 P P 18 49 56.1 +1.6
comp=Z,1µmcomp=Z,38nm,0.9s
ARMA Armidale 76.39 117 P P 18 49 55.2 +0.2
ARMA IAmb IAmb 18 49 57.4
comp=Z,34nm,1.0s
ARMA Armidale 76.39 117 P P 18 49 56.3 +1.2
LZH Lanzhou 76.49 35 ⇑P P 18 49 55.8 +0.5
LZH sP pwP 18 50 05.3 -1.3
LZH S S **18 59 37.0 -3.1**
LZH SS **SS 19 04 36.3 +0.5**
LZH pmax pmax
comp=Z,24nm,1.4s
LZH pmax pmax
comp=Z,190nm,4.1s
LZH LR LR
comp=Z,530nm,17.2s
LZH LR LR
comp=Z,760nm,17.5s
LZH LR LR
comp=Z,820nm,17.5s
CTA Charters Tower 76.54 106 LR LR 19 21 25.0
comp=Z,622nm,18.2s,baz=242,slow=34
CTA Charters Tower 76.54 106 P P 18 49 56.6 +0.6
CTAO Charters Tower 76.54 106 P P 18 49 55.4 -0.6
CTAO IAmb IAmb 18 49 57.5
comp=Z,42nm,1.2s
CTAO Charters Tower 76.54 106 P P 18 49 56.4 +0.4
COEN Coen 76.66 99 P P 18 49 56.0 -0.7
WMQ Urumqi 76.72 20 *e*P **P 18 49 57.6 +1.3**
WMQ sP sP 18 50 04.8 +1.6
WMQ S **S 18 59 42.1 0.0**
WMQ ScS **ScS 19 00 10.4 -1.0**
WMQ SS **SS 19 04 41.1 +2.3**
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,190nm,4.1s
WMQ LR LR
comp=Z,1µm,17.9s
WMQ LR LR
comp=Z,840nm,20.7s
WMQ LR LR
comp=Z,1µm,23.5s
ALN Alexandroupoli 76.89 334 P P 18 49 56.5 -0.7
ALN IAmb IAmb 18 50 00.2
comp=Z,34nm,1.0s
PMSA Palmer Station 77.05 201 P P 18 49 58.2 +0.3
comp=Z,14nm,0.9s,baz=121,slow=2.8,SNR=7.7
PMSA LR LR 19 16 01.6
comp=Z,906nm,20.5s,baz=134,slow=30
comp=Z,14nm,0.9s
PMSA Palmer Station 77.05 201 *e*P **P 18 49 58.9 +1.0**
GTA Gaotai 77.30 30 ⇓P P 18 50 00.0 +0.2
GTA pP PcP 18 50 09.0 -1.3
GTA sP pwP 18 50 13.6 +2.5
GTA PP **PP 18 52 51.0 -3.4**
GTA S **S 18 59 48.9 +0.2**
GTA SS **SS 19 04 47.4 -0.4**
GTA pmax pmax
comp=Z,76nm,1.1s
GTA pmax pmax
comp=Z,190nm,4.5s
GTA LR LR
comp=Z,630nm,19.6s
GTA LR LR
comp=Z,320nm,21.4s
GTA LR LR
comp=Z,730nm,20.7s
RDO Rodhopi 77.30 333 P P 18 49 59.3 -0.3
XAN Xi'an 77.58 39 ⇑P P 18 50 01.3 -0.1
XAN pP pP 18 50 05.9 -0.6
XAN sP sP 18 50 08.1 -0.2
XAN S **S 18 59 51.9 0.0**
XAN pmax pmax
comp=Z,23nm,1.0s
XAN LR LR
comp=Z,330nm,18.7s
XAN LR LR
comp=Z,600nm,19.7s
XAN LR LR
comp=Z,850nm,17.1s
LIT Litokhoron 77.67 331 P P 18 50 00.4 -1.3
KDZ Kurdzhali 77.78 334 *i* **P P 18 50 02.0 -0.3**
JMB Yambol 78.03 335 *i* **P P 18 50 00.6 -3.0**
MAKZ Makanchi 78.03 15 P P 18 50 03.1 -0.5
MAKZ IAmb IAmb 18 50 06.9
comp=Z,59nm,1.4s
RZN Rozhen 78.09 333 *i* **P P 18 50 03.7 -0.5**
MK31 Makanchi Array 78.09 15 P P 18 50 03.3 -0.6
MKAR Makanchi Array 78.09 15 P P 18 50 03.8 -0.1
comp=Z,24nm,0.9s,baz=194,slow=4.4,SNR=67
MKAR PKKPbc **PKKPbc 19 09 03.9 -2.0**
comp=Z,0.5nm,0.7s,baz=25,slow=1.7,SNR=5.4
MKAR LR LR 19 22 11.7
comp=Z,894nm,20.1s,baz=210,slow=34
comp=Z,24nm,0.9s
MKAR Makanchi Array 78.09 15 P P 18 50 03.3 -0.6
ABKAR Akbulak array 78.13 359 P P 18 50 03.5 -0.5
EIDS Eidsvold 78.19 112 P P 18 50 05.1 +0.1
EIDS IAmb IAmb 18 50 06.5
comp=Z,41nm,1.0s
EIDS Eidsvold 78.19 112 P P 18 50 05.6 +0.5
WHN Wuhan 78.25 45 ⇓P P 18 50 08.3 +3.2
WHN sP **PcP 18 50 13.8 -0.7**
PRD Provadia 78.37 336 *i* **P P 18 50 05.1 -0.3**
SMPI Sarmi 78.37 86 P P 18 50 09.3 +3.1
comp=Z,550nmcomp=Z,24nm,1.3s
MMB Musomiste 78.40 332 *i* **P P 18 50 04.5 -1.2**
PLD Plovdiv 78.44 333 *i* **P P 18 50 05.5 -0.4**
KEK Kerkira 78.53 329 P P 18 50 06.9 +0.5
KEK IAmb IAmb 18 50 10.1
comp=Z,65nm,1.1s
RK1H Rockhampton Ha 78.60 110 P P 18 50 08.4 +1.0
VAY Valandovo 78.65 332 *i* **P P 18 50 07.2 +0.2**
KKB Krupnik 78.89 332 *i* **P P 18 50 07.3 -1.1**
SZH Strazhica 78.97 335 *i* **P P 18 50 08.4 -0.4**
ICOR Ion Corvin 79.03 336 ⇑P P 18 50 09.3 +0.2
PGB Panagyurishte 79.03 333 *i* **P P 18 50 07.8 -1.4**
TIRR Tirgusor 79.11 337 ⇓P P 18 50 10.2 +0.6
TIRR Tirgusor 79.11 337 IAMs_20 IAMs_20 19 23 23.7
comp=Z,1µm,21.0s
JURR Jurilovca 79.23 337 ⇑P P 18 50 10.9 +0.8
OHR Ohrid 79.23 330 *i* **P P 18 50 06.6 -3.8**
ZSN Zaisan 79.31 16 *e*P **P 18 50 10.9 +0.3**
comp=Z,22nm,1.0s,baz=16
ZSN *e*S **S 19 00 11.3 +1.5**
baz=16
AKTO Aktyubinsk 79.35 358 LR LR 19 22 34.8
comp=Z,739nm,22.0s,baz=170,slow=34
VAE Valguarnera 79.38 324 LR LR 19 25 49.3
comp=Z,734nm,19.0s,baz=127,slow=36
PYZ Puysegur Point 79.38 137 P P 18 50 07.0 -4.3
VTS Vitosha 79.46 333 ⇓P P 18 50 12.6 +1.0
VTS Vitosha 79.46 333 *i* **P P 18 50 10.4 -1.3**
TPGR Topolog 79.46 337 ⇓P P 18 50 11.7 +0.3
HARR Harsova 79.48 337 ⇑P P 18 50 13.0 +1.5
TIP Timpagrande 79.53 327 ⇑P P 18 50 13.3 +1.2
TIP Timpagrande 79.53 327 IAmb IAmb 18 50 15.8
comp=Z,56nm,1.4s
BRZS Berezniki 79.54 8 *e*P **P 18 50 12.3 +0.5**
baz=7.6
SKO Skopje 79.66 331 *i* **P P 18 50 09.8 -2.8**
SGRR Singureni 79.77 335 ⇓P P 18 50 14.8 +1.6
TIR Tirane 79.83 330 IAmb IAmb 18 50 17.3
comp=Z,83nm,1.1s
CFR Carcaliu 79.84 337 ⇓P P 18 50 13.5 +0.1
COPA Copaceanca 79.98 335 ⇑P P 18 50 15.4 +1.2
SULR 80.06 336 ⇓P P 18 50 15.3 +0.6
WHZ Wether Hill Ro 80.28 137 P P 18 50 15.8 -0.3
ISR Istrita 80.34 336 ⇓P P 18 50 16.3 +0.1
HUMR Humele 80.40 335 ⇓P P 18 50 18.0 +1.4
VLDR Vladesti 80.44 337 ⇑P P 18 50 17.7 +1.0
BLKB Belogradchik 80.53 333 ⇑P P 18 50 17.8 +0.5
VARL Varlezi 80.57 337 ⇑P P 18 50 18.6 +1.3
ULC Ulcinj 80.60 330⇑ *i*P **P 18 50 17.6 -0.1**
PVY Plav 80.80 331⇑ *i*P **P 18 50 20.0 +1.1**
DRME Dracevica, Mon 80.81 330 *e*P **P 18 50 20.9 +2.1**
DRME Dracevica, Mon 80.81 330⇑ *i*P **P 18 50 19.2 +0.4**
KEST Kesra 80.82 320 P P 18 50 20.0 +0.9
comp=Z,9.2nm,0.9s,baz=106,slow=7.2,SNR=6.0
KEST LR LR 19 28 28.9
comp=Z,2µm,18.1s,baz=62,slow=37
comp=Z,9.2nm,0.9s
GHRR 80.86 337 ⇓P P 18 50 20.2 +1.2
MLR Muntele Rosu 80.88 336 ⇑P P 18 50 19.8 +0.6
MLR Muntele Rosu 80.88 336 LR LR 19 26 13.9
comp=Z,612nm,18.4s,baz=165,slow=36
MLR Muntele Rosu 80.88 336 IAmb IAmb 18 50 22.4
comp=Z,68nm,1.2s
VRI Vrincioaia 80.92 337 ⇑P P 18 50 19.9 +0.6
PLOR Plostina 80.94 337 ⇑P P 18 50 19.9 +0.4
PDG Podgorica 80.97 330 ⇓P P 18 50 19.9 +0.3
TTG Podgorica 80.97 330⇑ *i*P **P 18 50 19.6 0.0**
PUNG Punghina 80.97 333 ⇓P P 18 50 20.3 +0.7
KURBB Kurchatov Arra 81.01 11 LR LR 19 22 21.6
comp=Z,606nm,20.1s,baz=173,slow=33
BUM Brajici-Budva 81.03 330⇑ *i*P **P 18 50 20.5 +0.5**
IVA Berane 81.05 331⇑ *i*P **P 18 50 21.2 +1.0**
COVR Voineasa-Covas 81.09 336 ⇑P P 18 50 21.1 +0.9
SEM Semipalatinsk 81.11 12⇓ *i*P **P 18 50 20.0 -0.5**
comp=Z,44nm,1.4s,baz=12
SEM LR LR 19 20 40.1
baz=12
KURK Kurchatov 81.12 11 P P 18 50 19.6 -0.5
KURK IAmb IAmb 18 50 23.8
comp=Z,72nm,1.1s
KURK Kurchatov 81.12 11 P P 18 50 22.1 +1.9
MILM Milestii Mici 81.15 338 ⇓P P 18 50 21.6 +1.2
KOME Kolasin 81.20 331⇑ *i*P **P 18 50 21.3 +0.3**
CEME Cevo 81.21 330⇑ *i*P **P 18 50 21.1 +0.1**

KIS	**Kishinev**	**81.22**	**338**	*e*P		**P**		**18 50 20.3**	**-0.5**
KIS					LRM	MLR		19 29 29.2		
	comp=Z,200nm,15.0s									
KIS	**Kishinev**	**81.22**	**338**	*e*P		**P**		**18 50 20.0**	**-0.8**
VASR	**Vaslui**	**81.24**	**338**	⇑P		**P**		**18 50 21.4**	**+0.5**
ARR	**Arges**	**81.25**	**335**	⇑P		**P**		**18 50 21.6**	**+0.5**
HCY	**Herceg Novi**	**81.32**	**330**	*e*P		**P**		**18 50 24.4**	**+2.9**
HCY	**Herceg Novi**	**81.32**	**330**	⇑*i*P		**P**		**18 50 22.3**	**+0.8**
NKME	**Niksic**	**81.38**	**330**	⇑*i*P		**P**		**18 50 22.4**	**+0.6**
OZUR		**81.45**	**336**	⇑P		**P**		**18 50 22.4**	**+0.3**
DJES	**Djerdap**	**81.46**	**333**	⇓P		**P**		**18 50 22.9**	**+0.7**
DOPR	**Dopca**	**81.48**	**336**	⇑P		**P**		**18 50 22.6**	**+0.3**
LOT	**Lotru**	**81.64**	**335**	⇑P		**P**		**18 50 23.7**	**+0.4**
PLE	**Pljevlja**	**81.64**	**331**	⇑*i*P		**P**		**18 50 23.9**	**+0.6**
BRY	**Bratogost**	**81.66**	**330**	*e*P		**P**		**18 50 25.4**	**+1.9**
BRY	**Bratogost**	**81.66**	**330**	⇑*i*P		**P**		**18 50 24.1**	**+0.6**
HERR	**Herculane**	**81.68**	**333**	⇑P		**P**		**18 50 23.7**	**+0.4**
UPM	**Unac-Piva**	**81.75**	**330**	*e*P		**P**		**18 50 24.9**	**+0.9**
UPM	**Unac-Piva**	**81.75**	**330**	⇑*i*P		**P**		**18 50 24.6**	**+0.6**
MDVR	**Moldovita**	**81.87**	**333**	⇓P		**P**		**18 50 25.2**	**+0.7**
RUDO	**Rudo**	**81.88**	**331**	*e*P		**P**		**18 50 25.3**	**+0.8**
GZR	**Gura Zlata**	**81.97**	**334**	⇑P		**P**		**18 50 25.4**	**+0.5**
DIVS	**Divibare**	**82.01**	**332**	IAmb		IAmb		18 50 29.0		
	comp=Z,55nm,1.2s									
DIVS	**Divibare**	**82.01**	**332**	*e*P		**P**		**18 50 26.4**	**+1.2**
BIZ	**Bicaz**	**82.07**	**337**	⇑P		**P**		**18 50 25.2**	**-0.2**
NJ2	**Nanjing**	**82.09**	**47**	*e*P		**P**		**18 50 27.5**	**+1.7**
NJ2					pmax	pmax				
	comp=Z,15nm,1.0s									
BELG	**Belogornoye**	**82.10**	**352**	LR		LR		19 29 50.6		
	comp=Z,638nm,18.2s,baz=161,slow=38									
PMG	**Port Moresby**	**82.22**	**96**	LR		LR		19 25 14.5		
	comp=Z,782nm,18.1s,baz=242,slow=34									
PMG	**Port Moresby**	**82.22**	**96**	P		**P**		**18 50 25.6**	**-1.3**
PMG				IAmb		IAmb		18 50 29.2		
	comp=Z,82nm,1.2s									
PMG	**Port Moresby**	**82.22**	**96**	IAMs_20		IAMs_20		19 25 03.9		
	comp=Z,1µm,18.0s									
PMG	**Port Moresby**	**82.22**	**96**	P		**P**		**18 50 28.4**	**+1.5**
BVAR	**Borovoye Array**	**82.32**	**6**	LR		LR		19 24 37.3		
	comp=Z,2µm,21.3s,baz=203,slow=34									
ODZ	**Otahua Downs**	**82.33**	**138**	P		**P**		**18 50 26.2**	**-0.8**
ODZ				IAmb		IAmb		18 51 17.7		
	comp=Z,74nm,1.6s									
BRVK	**Borovoye**	**82.34**	**6**	P		**P**		**18 50 26.0**	**-0.6**
BRVK	**Borovoye**	**82.34**	**6**	IAMs_20		IAMs_20		19 24 24.3		
	comp=Z,2µm,21.0s									
BRVK	**Borovoye**	**82.34**	**6**	P		**P**		**18 50 28.7**	**+2.1**
BRVK				P		**P**		**18 50 28.7**	**+2.1**
LBZ	**Lake Benmore**	**82.42**	**137**	P		**P**		**18 50 26.0**	**-1.6**
LBZ				IAmb		IAmb		18 50 34.7		
	comp=Z,58nm,1.3s									
BZS	**Buzias**	**82.60**	**333**	⇓P		**P**		**18 50 29.1**	**+0.9**
ARCR	**ARCALIA**	**82.81**	**336**	⇑P		**P**		**18 50 30.5**	**+1.3**
FRGS	**Fruska Gora**	**82.95**	**332**	⇑P		**P**		**18 50 30.9**	**+0.9**
FRGS	**Fruska Gora**	**82.95**	**332**	*e*P		**P**		**18 50 30.5**	**+0.5**
BURAR	**Bucovina Array**	**82.96**	**337**	⇑P		**P**		**18 50 30.3**	**+0.2**
SSE	**Sheshan**	**82.98**	**49**	P		**P**		**18 50 31.4**	**+1.0**
SSE				S		**S**		**19 00 49.6**	**+1.1**
SSE				pmax		pmax				
	comp=Z,4.0nm,0.5s									
SSE				pmax		pmax				
	comp=Z,320nm,4.3s									
SSE				LR		LR				
	comp=Z,320nm,22.9s									
SSE				LR		LR				
	comp=Z,320nm,19.0s									
BTO	**Baotou**	**83.06**	**35**	*e*P		**P**		**18 50 30.1**	**-0.7**
BTO				S		**S**		**19 00 50.8**	**+1.5**
BTO				LR		LR				
	comp=Z,2µm,14.9s									
BTO				LR		LR				
	comp=Z,2µm,21.0s									
SIRR	**Siria**	**83.13**	**334**	⇓P		**P**		**18 50 31.0**	**+0.1**
DRGR		**83.17**	**335**	⇑P		**P**		**18 50 31.7**	**+0.6**
HNS	**HongShan**	**83.25**	**40**	⇓P		**P**		**18 50 32.4**	**+0.7**
HNS				S		**S**		**19 00 52.4**	**+1.3**
HNS				pmax		pmax				
	comp=Z,31nm,0.9s									
HNS				LR		LR				
	comp=Z,310nm,21.1s									
HNS				LR		LR				
	comp=Z,510nm,22.3s									
HNS				LR		LR				
	comp=Z,530nm,20.4s									
EFI	**East Falkland**	**83.32**	**213**	P		**P**		**18 50 30.7**	**-1.3**
RPZ	**Rata Peaks**	**83.32**	**137**	LR		LR		19 20 31.7		
	comp=Z,2µm,18.2s,baz=229,slow=31									
RPZ	**Rata Peaks**	**83.32**	**137**	P		**P**		**18 50 30.6**	**-1.7**
BLY	**Banja Luka**	**83.73**	**330**	*e*P		**P**		**18 50 35.7**	**+1.7**
A050A	**Klekovaca**	**83.80**	**330**	*e*P		**P**		**18 50 34.4**	**-0.1**
TIA	**Tai'an**	**83.83**	**43**	P		**P**		**18 50 34.4**	**-0.3**
TIA				S		**S**		**19 01 00.4**	**+3.4**
TIA				pmax		pmax				
	comp=Z,16nm,1.0s									
TIA				pmax		pmax				
	comp=Z,350nm,3.5s									
TIA				LR		LR				
	comp=Z,340nm,7.2s									
TIA				LR		LR				
	comp=Z,250nm,5.2s									
TIA				LR		LR				
	comp=Z,640nm,21.1s									
HHC	**Hu-ho-hao-te**	**84.03**	**36**	*e*P		**P**		**18 50 37.1**	**+1.3**
HHC				PP		**PP**		**18 53 53.4**	**+3.2**
HHC				S		**S**		**19 01 00.4**	**+1.4**
HHC				pmax		pmax				
	comp=Z,33nm,0.9s									
HHC				pmax		pmax				
	comp=Z,440nm,6.5s									
HHC				LR		LR				
	comp=Z,610nm,19.1s									
HHC				LR		LR				
	comp=Z,640nm,18.7s									
HHC				LR		LR				
	comp=Z,920nm,19.8s									
A051A	**Mrakovica**	**84.06**	**330**	*e*P		**P**		**18 50 36.3**	**+0.5**
OXZ	**Oxford**	**84.13**	**137**	P		**P**		**18 50 34.5**	**-1.9**
MQZ	**McQueen's Vall**	**84.28**	**137**	P		**P**		**18 50 36.6**	**-0.5**
MORH	**Mrgy, Hungar**	**84.29**	**332**	⇑P		**P**		**18 50 37.2**	**+0.4**
TRPA	**Tarpa**	**84.35**	**335**	P		**P**		**18 50 37.2**	**+0.1**
AKASG	**Malin Array Be**	**84.37**	**340**	P		**P**		**18 50 35.8**	**-1.3**
	comp=Z,16nm,1.0s,baz=156,slow=4.2,SNR=33									
AKASG				PP		**PP**		**18 53 53.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=152,slow=6.9,SNR=5.5									
AKASG				LR		LR		19 28 38.3		
	comp=Z,416nm,19.0s,baz=105,slow=36									
	comp=Z,16nm,1.0s									
AKBB	**Malin Array Si**	**84.37**	**340**	IAmb		IAmb		18 50 39.9		
	comp=Z,38nm,1.0s									
KOVH	**Kovagotottos**	**84.41**	**332**	P		**P**		**18 50 37.3**	**-0.2**
LTZ	**Lake Taylor**	**84.58**	**136**	P		**P**		**18 50 38.6**	**-0.1**
FIGM	**Figuig**	**84.90**	**311**	P		**P**		**18 50 45.0**	**+4.5**
KOLS	**Kolonicke sedl**	**85.12**	**336**	*e*P		**P**		**18 50 42.0**	**+1.0**
PSZ	**Piszkesteto**	**85.17**	**334**	P		**P**		**18 50 40.9**	**-0.5**
GCIS	**Gornji Cirnik**	**85.29**	**330**	*e*P		**P**		**18 50 43.5**	**+1.7**
CRES	**Cresnjev**	**85.33**	**330**	*e*P		**P**		**18 50 43.8**	**+1.7**
ARU	**Arti**	**85.34**	**359**	LR		LR		19 27 23.5		
	comp=Z,438nm,20.0s,baz=164,slow=35									
ARU	**Arti**	**85.34**	**359**	P		**P**		**18 50 41.1**	**-0.7**
ZAA0	**Zalesovo Array**	**85.38**	**14**	P		**P**		**18 50 41.2**	**-0.9**
ZALV	**Zalesovo Beam**	**85.38**	**14**	P		**P**		**18 50 41.8**	**-0.3**
	comp=Z,47nm,0.9s,baz=212,slow=4.6,SNR=44									
ZALV				LR		LR		19 26 07.2		
	comp=Z,802nm,20.2s,baz=206,slow=34									
	comp=Z,47nm,0.9s									
CRVS	**Cervenica-Dubn**	**85.39**	**335**	*e*P		**P**		**18 50 42.9**	**+0.6**
MPLH	**Magyarpolny**	**85.51**	**332**	P		**P**		**18 50 43.6**	**+0.7**
KHZ	**Kahutara**	**85.56**	**137**	P		**P**		**18 50 41.3**	**-2.3**
KHZ				IAmb		IAmb		18 50 45.6		
	comp=Z,62nm,1.2s									
USHA	**Ushuaia**	**85.67**	**207**	LR		LR		19 19 48.2		
	comp=Z,1µm,21.3s,baz=115,slow=29									
SRO	**Srobarova**	**85.71**	**333**	*e*P		**P**		**18 50 46.0**	**+2.1**
CEY	**Cerknica**	**85.72**	**329**	*e*P		**P**		**18 50 46.2**	**+2.2**
SKDS	**Skadanscina**	**85.75**	**329**	*e*P		**P**		**18 50 43.6**	**-0.6**
MANU	**Manus Island**	**85.91**	**90**	IAmb		IAmb		18 50 48.3		
	comp=Z,116nm,1.9s									
BJI	**Beijing**	**85.92**	**39**	P		**P**		**18 50 45.4**	**+0.3**
BJI				pP		**pP**		**18 50 50.6**	**+0.4**
BJI				sP		**sP**		**18 50 52.9**	**+0.8**
BJI				S		**S**		**19 01 17.3**	**-0.2**
BJI				pmax		pmax				
	comp=Z,9.0nm,2.4s									
BJI				pmax		pmax				
	comp=Z,150nm,5.4s									
BJI				LR		LR				
	comp=Z,95nm,16.6s									
BJI				LR		LR				
	comp=Z,340nm,15.9s									
BJI				LR		LR				
	comp=Z,480nm,18.2s									
VYHS	**Vyhne**	**86.05**	**333**	*e*P		**P**		**18 50 44.8**	**-0.8**
SOKA	**Soboth**	**86.18**	**330**	*e*P		**P**		**18 50 47.2**	**+0.8**
	comp=Z,18nm,1.2s									
OBKA	**Obir**	**86.26**	**330**	*e*P		**P**		**18 50 47.8**	**+1.0**
OBKA	**Obir**	**86.26**	**330**	*e*P		**P**		**18 50 48.0**	**+1.3**
	comp=Z,25nm,1.2s,SNR=6.1									
ZCCA	**Zocca**	**86.26**	**327**	IAmb		IAmb		18 50 53.5		
	comp=Z,44nm,1.1s									
LANS	**Liptovska Anna**	**86.34**	**334**	*e*P		**P**		**18 50 48.5**	**+1.4**
CADS	**Cadrg**	**86.40**	**329**	*e*P		**P**		**18 50 48.0**	**+0.5**
ARSA	**Arzberg**	**86.41**	**331**	*e*P		**P**		**18 50 48.2**	**+0.7**
	comp=Z,14nm,1.2s									
RONA	**Rosalia, Austr**	**86.44**	**332**	*i* P		**P**		**18 50 47.8**	**+0.2**
	comp=Z,36nm,1.5s,SNR=12									
BBTS	**Babate**	**86.47**	**289**	LR		LR		19 29 32.0		
	comp=Z,2µm,18.1s,baz=96,slow=36									
ZST	**Bratislava**	**86.50**	**332**	*e*P		**P**		**18 50 48.4**	**+0.6**
OBN	**Obninsk**	**86.56**	**346**	LR		LR		19 29 29.6		
	comp=Z,211nm,19.2s,baz=154,slow=36									
OBN	**Obninsk**	**86.56**	**346**	P		**P**		**18 50 47.8**	**-0.1**
OBN				IAMs_20		IAMs_20		19 29 26.2		
	comp=Z,968nm,19.0s									
MODS	**Modra-Piesok**	**86.57**	**333**	*e*P		**P**		**18 50 47.7**	**-0.5**
TEOL	**Teolo**	**86.69**	**328**	IAmb		IAmb		18 50 52.4		
	comp=Z,65nm,1.1s									
MYKA	**Terra Mystica**	**86.75**	**330**	*e*P		**P**		**18 50 50.3**	**+1.1**
	comp=Z,5.2nm,0.8s									
CONA	**Conrad Observa**	**86.80**	**332**	*i* P		**P**		**18 50 50.2**	**+0.8**
	comp=Z,48nm,1.4s,SNR=18									
JAVC	**Velka Javorina**	**86.81**	**333**	*e*P		**P**		**18 50 49.9**	**+0.5**
SONM	**Songino Array**	**86.90**	**29**	P		**P**		**18 50 49.9**	**-0.1**
	comp=Z,9.6nm,1.0s,baz=209,slow=4.1,SNR=31									
SONM				PP		**PP**		**18 54 14.5**	**+1.1**
	comp=Z,2.1nm,1.0s,baz=212,slow=7.9,SNR=3.6									
SONM				PKKPbc		**PKKPbc**		**19 08 42.5**	**-2.7**
	comp=Z,0.8nm,0.8s,baz=38,slow=1.4,SNR=7.0									
SONM				LR		LR		19 27 16.2		
	comp=Z,1µm,21.4s,baz=232,slow=34									
	comp=Z,9.6nm,1.0s									
SNZO	**South Karori**	**86.91**	**136**	IAMs_20		IAMs_20		19 22 55.7		
	comp=Z,2µm,18.0s									
CIMO	**Cimolais**	**87.05**	**329**	IAmb		IAmb		18 50 53.6		
	comp=Z,11nm,1.0s									
OJC	**Ojcow**	**87.09**	**335**	*e*P		**P**		**18 50 47.5**	**-3.2**
OJC	**Ojcow**	**87.09**	**335**	IAmb		IAmb		18 50 52.3		
	comp=Z,44nm,1.3s									
JBK	**JBK**	**87.12**	**312**	P		**P**		**18 50 56.0**	**+4.5**
MAUC	**Maruska**	**87.15**	**333**	*e*P		**P**		**18 50 51.9**	**+0.9**
MAUC				*ex*		x		18 51 00.2		
MAUC				AMS		AMS		19 30 00.0		
	comp=Z,800nm,22.9s									
ULN	**Ulaanbaatar**	**87.20**	**29**	P		**P**		**18 50 49.4**	**-2.0**
KBA	**Koelnbreinsper**	**87.22**	**330**	*e*P		**P**		**18 50 52.3**	**+0.7**
	comp=Z,20nm,1.4s,SNR=7.2									
TAF	**Taforalt**	**87.32**	**313**	P		P		18 50 57.1	+4.8	
ABTA	**Abfaltersbach**	**87.34**	**329**	*e*P		**P**		**18 50 53.3**	**+1.2**
	comp=Z,32nm,1.2s,SNR=8.8									
OKC	**Ostrava-Krasne**	**87.40**	**334**	AMS		AMS		19 32 00.0		
	comp=Z,300nm,19.1s									
MOA	**Molln**	**87.42**	**331**	*i* P		**P**		**18 50 53.2**	**+0.9**
	comp=Z,35nm,1.1s,SNR=11									
KRUC	**Moravsky**	**87.48**	**333**	*e*P		**P**		**18 50 51.9**	**-0.6**
MDT	**Midelt**	**87.54**	**310**	LR		LR		19 29 43.0		
	comp=Z,2µm,19.4s,baz=128,slow=35									
MDT	**Midelt**	**87.54**	**310**	P		**P**		**18 50 58.1**	**+4.7**
BIOA	**Bad Ischl, Aus**	**87.56**	**330**	*e*P		**P**		**18 50 53.6**	**+0.6**
	comp=Z,36nm,1.3s,SNR=14									
MORC	**Moravsky Berou**	**87.59**	**334**	⇑P		**P**		**18 50 52.7**	**-0.4**
MORC	**Moravsky Berou**	**87.59**	**334**	IAmb		IAmb		18 50 56.2		
	comp=Z,36nm,1.3s									
MORC	**Moravsky Berou**	**87.59**	**334**	*e*P		**P**		**18 50 52.9**	**-0.2**
VRAC	**Vranov**	**87.59**	**333**	⇑P		**P**		**18 50 52.4**	**-0.7**
VRAC	**Vranov**	**87.59**	**333**	LR		LR		19 28 42.5		
	comp=Z,308nm,21.8s,baz=160,slow=35									
VRAC	**Vranov**	**87.59**	**333**	*e*P		**P**		**18 50 52.8**	**-0.3**
GO10	**Punta Arenas**	**87.95**	**207**	P		**P**		**18 50 55.8**	**+0.7**
KIRV	**Kirov**	**88.00**	**354**	LR		LR		19 31 56.6		
	comp=Z,592nm,18.2s,baz=160,slow=37									
TREC	**Trest**	**88.03**	**332**	*e*P		**P**		**18 50 57.0**	**+1.8**
MNK	**Minsk**	**88.12**	**341**	*i* P		**P**		**18 50 55.9**	**+0.4**
	comp=E,3.0nm,1.0s									
MNK				*i* P		**P**		**18 50 55.9**	**+0.4**
MNK				*i* P		**P**		**18 50 55.9**	**+0.4**
	comp=Z,105nm,1.0s,baz=152									
MNK				*i* PP		**PP**		**18 54 22.4**	**-0.5**
MNK				*i* PPP		PPP		18 56 17.7		
MNK				*i* SKS				19 00 35.3		
MNK				*i* S		**SKSac**		**19 01 23.8**	**+1.3**
MNK				*i* PS		PnS		19 02 19.6	-23	
MNK				*i* SSS		SSS		19 14 05.4		
MNK				*i* LQ		LQ		19 24 00.9		
MNK				*i* LR		LR		19 27 13.7		
MNK				*i* LRM		MLR		19 30 41.5		
	comp=E,93nm,18.8s									
MNK				*i* LRM		MLR		19 30 42.1		
	comp=Z,585nm,18.9s									
MNK				*i* LRM		MLR		19 30 57.9		
KRLC	**Kraliky**	**88.12**	**333**	*e*P		**P**		**18 50 56.6**	**+0.9**
KRLC				*e*SKS		**SKSac**		**19 01 23.2**	**+0.3**
KRLC				AMS		AMS		19 32 30.0		
	comp=Z,300nm,19.2s									
WTTA	**Wattenberg**	**88.13**	**329**	*e*P		**P**		**18 50 57.2**	**+1.2**
	comp=Z,48nm,1.1s,SNR=13									
CKRC	**Cesky Krumlov**	**88.15**	**331**	AMS		AMS		19 33 40.0		
	comp=Z,400nm,18.0s									
CART	**Cartagena**	**88.18**	**315**	IAMs_20		IAMs_20		19 30 48.3		
	comp=Z,1µm,18.0s									
WATA	**Walderalm**	**88.21**	**329**	*e*P		**P**		**18 50 57.1**	**+0.9**
	comp=Z,43nm,1.1s,SNR=11									
BFZ	**Birch Farm**	**88.22**	**137**	IAMs_20		IAMs_20		19 22 54.4		
	comp=Z,1µm,20.0s									
DL2	**Dalian**	**88.29**	**43**	P		**P**		**18 50 56.0**	**-0.6**
DL2				PP		**PP**		**18 54 23.3**	**-1.3**
DL2				S		**S**		**19 01 38.9**	**-1.6**
DL2				pmax		pmax				
	comp=Z,21nm,1.2s									
DL2				pmax		pmax				
	comp=Z,160nm,7.1s									
DL2				LR		LR				
	comp=Z,420nm,21.9s									
DL2				LR		LR				
	comp=Z,240nm,14.5s									
DL2				LR		LR				
	comp=Z,440nm,19.5s									
SQTA	**Sankt Quirin**	**88.29**	**329**	*e*P		**P**		**18 50 57.9**	**+1.2**
	comp=Z,37nm,1.0s,SNR=12									
FETA	**Feichten**	**88.36**	**328**	*e*P		**P**		**18 50 58.6**	**+1.6**
	comp=Z,53nm,1.0s,SNR=26									
GERES	**GERESS Array B**	**88.42**	**331**	P		**P**		**18 50 57.0**	**-0.2**
	comp=Z,4.2nm,1.0s,baz=112,slow=5.9,SNR=22									
GERES				PP		**PP**		**18 54 26.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=108,slow=8.6,SNR=3.5									
GERES				LR		LR		19 30 11.0		
	comp=Z,230nm,19.4s,baz=118,slow=35									
	comp=Z,4.2nm,1.0s									
MOTA	**Moosalm**	**88.43**	**329**	*e*P		**P**		**18 50 58.4**	**+1.1**
	comp=Z,49nm,1.0s,SNR=18									
DPC	**Dobruska-Polom**	**88.52**	**333**	*e*P		**P**		**18 50 59.7**	**+2.1**
DPC				*e*SKS		**SKSac**		**19 01 23.5**	**-1.8**
DPC				AMS		AMS		19 37 30.0		
	comp=Z,400nm,20.7s									
XLT	**XiLinHaoTe**	**88.55**	**36**	*e*P		**P**		**18 50 57.8**	**-0.1**
XLT				pP		pP		18 51 01.8	-1.2	
XLT				sP		sP		18 51 06.1	+1.2	
XLT				PP		**PP**		**18 54 30.1**	**+3.4**
XLT				SKS		**SKSac**		**19 01 22.3**	**-3.5**
XLT				S		**S**		**19 01 41.8**	**-1.1**
XLT				SS		**SS**		**19 07 40.6**	**+6.0**
XLT				pmax		pmax				
	comp=Z,21nm,0.8s									
XLT				pmax		pmax				
	comp=Z,320nm,4.6s									
XLT				LR		LR				
	comp=Z,450nm,19.7s									
XLT				LR		LR				
	comp=Z,320nm,18.2s									
DAVOX	**Davos/Dischmat**	**88.58**	**328**	LR		LR		19 30 54.8		
	comp=Z,229nm,20.8s,baz=124,slow=36									
RETA	**Reutte**	**88.69**	**329**	*e*P		**P**		**18 50 59.9**	**+1.5**
	comp=Z,44nm,0.9s,SNR=11									
KHC	**Kasperske Hory**	**88.69**	**331**	IAmb		IAmb		18 51 01.0		
	comp=Z,33nm,1.4s									
KHC	**Kasperske Hory**	**88.69**	**331**	*e*P		**P**		**18 50 58.6**	**+0.2**
KHC				*ex*		x		18 51 06.2		
KHC				*e*SKS		**SKSac**		**19 01 23.9**	**-2.4**
KHC				AMS		AMS		19 29 30.0		
	comp=Z,500nm,21.7s									
OSTC	**Ostas**	**88.73**	**333**	*e*P		**P**		**18 50 59.6**	**+1.1**
OSTC				*e*SKS		**SKSac**		**19 01 25.4**	**-1.0**
OSTC				AMS		AMS		19 36 10.0		
	comp=Z,300nm,19.3s									
UPC	**Upice**	**88.77**	**333**	*e*SKS		**SKSac**		**19 01 24.0**	**-2.6**
UPC				AMS		AMS		19 33 30.0		
	comp=Z,400nm,17.7s									
NACGM	**Naroch**	**88.78**	**341**	⇑*i*P		**P**		**18 50 59.7**	**+1.2**
GOPC	**GO Pecny, Ondr**	**88.80**	**332**	*e*P		**P**		**18 50 59.5**	**+0.7**
GOPC				AMS		AMS		19 31 50.0		
	comp=Z,400nm,18.7s									
CHVC	**Chvalec**	**88.82**	**333**	*e*P		**P**		**18 51 00.3**	**+1.4**
CHVC				AMS		AMS		19 35 40.0		
	comp=Z,300nm,18.8s									
TTIG	**Tnine Tigouga,**	**88.84**	**306**	P		P		18 51 06.0	+6.3	
BNI	**Bardonecchia**	**88.89**	**325**	IAmb		IAmb		18 51 04.0		
	comp=Z,23nm,0.9s									
KSP	**Ksiaz**	**88.92**	**334**	*e*P		**P**		**18 50 60.0**	**+0.6**
KSP				*e*S		**SKSac**		**19 01 25.1**	**-2.4**
DAVA	**Damuels**	**88.95**	**328**	*e*P		**P**		**18 51 01.0**	**+1.3**
	comp=Z,55nm,1.1s,SNR=11									
PRU	**Pruhonice**	**88.95**	**332**	*e*P		**P**		**18 51 00.8**	**+1.3**
PRU				*e*SKS		**SKSac**		**19 01 27.4**	**-0.3**
PRU				AMS		AMS		19 31 50.0		
	comp=Z,300nm,16.5s									
RABL	**Rabaul**	**89.06**	**94**	P		**P**		**18 50 59.3**	**-1.8**
RABL				IAmb		IAmb		18 51 00.5		
	comp=Z,44nm,1.1s									
ZHG	**ZHG**	**89.28**	**309**	P		**P**		**18 51 06.0**	**+4.4**
BKZ	**Black Stump Fm**	**89.30**	**135**	IAMs_20		IAMs_20		19 22 52.7		
	comp=Z,2µm,20.0s									
IIGN	**Ignalina**	**89.33**	**341**	*e*P		**P**		**18 51 02.4**	**+1.3**
PVCC	**Panska Ves**	**89.36**	**332**	*e*P		**P**		**18 51 03.0**	**+1.6**
PVCC				AMS		AMS		19 46 40.0		
	comp=Z,300nm,17.7s									
ISAL	**Salakas**	**89.55**	**341**	*e*P		**P**		**18 51 03.7**	**+1.6**
MG05	**Puerto Natales**	**89.66**	**207**	P		**P**		**18 51 03.0**	**-0.1**
MG05				IAmb		IAmb		18 51 03.9		
	comp=Z,28nm,0.8s									
AVE	**Averroes**	**89.72**	**309**	IAMs_20		IAMs_20		19 32 45.5		
	comp=Z,1µm,19.0s									
ALF01	**Guarapari-ES**	**89.73**	**247**	*e*P		**P**		**18 51 05.3**	**+1.3**
SMIR	**Smir Dam**	**89.77**	**312**	P		**P**		**18 51 08.0**	**+4.2**
CAM01	**Campos-RJ**	**89.85**	**245**	*e*P		**P**		**18 51 05.7**	**+1.2**
BRG	**Berggiesshubel**	**89.88**	**332**	*e*P		**P**		**18 51 04.4**	**+0.6**
BRG				Amp				18 51 08.3		
	comp=Z,59nm,1.3s									
BRG				*ex*		x		18 51 21.5		
BRG				Amp				18 51 22.6		
	comp=Z,27nm,1.3s									
GO09	**Cerro Castillo**	**89.91**	**207**	P		**P**		**18 51 04.0**	**-0.3**
GO09				IAmb		IAmb		18 51 05.9		
	comp=Z,60nm,1.1s									
NKC	**Novy Kostel**	**90.01**	**331**	*e*P		**P**		**18 51 05.9**	**+1.4**
NKC				*ex*		x		18 51 13.6		
NKC				AMS		AMS		19 30 10.0		
	comp=Z,

PCBR	Castelo Branco	93.56	314	eP		P		18 51 26.1	+4.9	
PMTG	Montargil	93.59	313	eP		P		18 51 25.0	+3.6	
	comp=Z,38nm,1.2s									
CN2	Changchun	93.60	41	eP		P		18 51 18.8	-2.5	
CN2				ePP		PP		18 55 07.1	+0.5	
CN2				SKS		SKSac		19 01 51.4	-3.1	
CN2				eSS		SS		19 08 47.6	+0.2	
CN2				LR		LR				
	comp=Z,370nm,19.0s									
CN2				LR		LR				
	comp=Z,340nm,19.0s									
CN2				LR		LR				
	comp=Z,470nm,20.0s									
MTE	Manteigas	93.93	315	eLR		LR		19 26 31.7		
	comp=Z,1µm,20.0s									
MTE	Manteigas	93.93	315	IAMs_20		IAMs_20		19 33 21.8		
	comp=Z,1µm,20.0s									
MVO	Moncorvo	94.06	315	eP		P		18 51 28.0	+4.5	
	comp=Z,48nm,2.0s									
MVO	Moncorvo	94.06	315	eLR		LR		19 27 40.0		
	comp=Z,656nm,20.0s									
COYC	Coyhaique	94.19	211	P		P		18 51 23.9	-0.3	
COYC				IAmb		IAmb		18 51 25.7		
	comp=Z,31nm,1.0s									
PBRG	Braganca	94.25	316	eP		P		18 51 27.0	+2.6	
PVIS	Viseu	94.33	315	eP		P		18 51 30.5	+5.7	
COI	Coimbra	94.36	314	IAMs_20		IAMs_20		19 33 37.3		
	comp=Z,1µm,20.0s									
TRQA	Tornquist	94.39	222	P		P		18 51 24.7	-0.7	
POLO	Lamas de Olo	94.65	315	eP		P		18 51 31.3	+5.0	
FINES	FINESS Array B	94.66	344	P		P		18 51 24.8	-0.9	
	comp=Z,2.6nm,1.0s,baz=148,slow=8.1,SNR=2.7									
FINES				PKKPbc		PKKPbc		19 08 24.7	-0.9	
	comp=Z,3.0nm,0.8s,baz=29,slow=3.2,SNR=8.1									
FINES				LR		LR		19 34 12.2		
	comp=Z,535nm,20.9s,baz=144,slow=36 comp=Z,2.6nm,1.0s									
JANB	Januaria	95.54	249	eP		P		18 51 32.1	+1.1	
JCJ	Chichijima	95.84	62	LR		LR		19 29 04.7		
	comp=Z,155nm,21.2s,baz=260,slow=32									
HFS	Hagfors	97.09	338	LR		LR		19 36 42.3		
	comp=Z,359nm,18.2s,baz=121,slow=36									
PLCA	Paso Flores	97.13	215	P		P		18 51 37.3	-0.5	
	comp=Z,4.9nm,0.9s,baz=130,slow=5.2,SNR=7.0									
PLCA				LR		LR		19 30 55.5		
	comp=Z,403nm,18.8s,baz=139,slow=33 comp=Z,4.9nm,0.9s									
PLCA	Paso Flores	97.13	215	eP		Pdif		18 51 38.5	+0.6	
MJAR	Matsushiro Arr	97.65	52	P		P		18 51 39.1	-0.9	
	comp=Z,0.7nm,0.6s,baz=222,slow=4.3,SNR=4.4									
MJAR				PKKPbc		PKKPdf		19 08 18.5	-1.0	
	comp=Z,2.0nm,0.8s,baz=270,slow=2.0,SNR=4.7									
MJAR				LR		LR		19 36 14.9		
	comp=Z,185nm,18.5s,baz=236,slow=36 comp=Z,0.7nm,0.6s									
BDFB	Brasilia	98.23	247	P		Pdif		18 51 44.5	+1.2	
	comp=Z,1.0nm,0.4s,baz=181,slow=22,SNR=1.3									
BDFB				LR		LR		19 27 23.5		
	comp=Z,629nm,21.1s,baz=136,slow=30 comp=Z,1.0nm,0.4s									
GO06	Curarrehue	98.46	215	P		P		18 51 42.9	-1.0	
GO06				IAmb		IAmb		18 51 44.7		
	comp=Z,11nm,0.9s									
NOA	NORSAR Array B	98.58	338	LR		LR		19 36 22.7		
	comp=Z,401nm,19.6s,baz=130,slow=36									
CPUP	Villa Florida	99.03	233	P		Pdif		18 51 47.4	+0.9	
	comp=Z,1.4nm,0.7s,baz=129,slow=7.3,SNR=3.6									
CPUP				LR		LR		19 30 44.3		
	comp=Z,163nm,19.0s,baz=144,slow=32 comp=Z,1.4nm,0.7s									
CPUP	Villa Florida	99.03	233	eP		Pdif		18 51 47.3	+0.8	
RAO	Raoul Island	99.16	131	LR		LR		19 27 53.9		
	comp=Z,362nm,21.1s,baz=152,slow=30									
ARCES	ARCESS Array B	101.78	348	P		Pdif		18 51 57.9	+0.3	
	comp=Z,4.5nm,1.0s,baz=160,slow=2.9,SNR=5.1									
CMLA	Cha da Macela	104.67	305	IAMs_20		IAMs_20		19 39 30.6		
	comp=Z,1µm,19.0s									
TIXI	Tiksi	110.90	18	IAMs_20		IAMs_20		19 42 27.5		
	comp=Z,1µm,20.0s									
LPAZ	La Paz	113.17	234	PKiKP		PKiKP		18 56 45.1	+0.9	
	comp=Z,1.6nm,0.8s,baz=40,slow=12,SNR=4.7									
SAML	Samuel	114.15	244	IAMs_20		IAMs_20		19 37 52.2		
	comp=Z,760nm,21.0s									
PETK	Petropavlovsk-	116.73	42	PKP		PKiKP		18 56 49.7	+0.6	
	comp=Z,5.1nm,1.0s,baz=250,slow=3.0,SNR=4.1									
PETK				PKKPbc		PKKPab		19 07 19.1	+0.8	
	comp=Z,4.4nm,0.9s,baz=155,slow=7.8,SNR=5.2									
BILL	Bilibino	122.49	25	IAMs_20		IAMs_20		19 50 23.0		
	comp=Z,546nm,18.0s									
NRS	Narsarsuaq	122.96	326			PKPdf		18 56 59.3	-1.5	
MCRA	Macar, Loja	129.75	235	PKPdf		PKPdf		18 57 14.2	-1.2	
SDV	Santo Domingo	130.35	256	IAMs_20		IAMs_20		19 48 16.2		
	comp=Z,718nm,21.0s									
TNA	Tin City	132.92	25	P		PKPdf		18 57 20.2	+0.6	
	baz=296									
A21K	Barrow	133.09	16	IAMs_20		IAMs_20		20 01 31.8		
	comp=Z,1µm,18.0s									
A21K	Barrow	133.09	16	P		PKiKP		18 57 21.4	+0.4	
	baz=313									
RDOG	Red Dog Mine	133.40	21	IAMs_20		IAMs_20		20 09 05.5		
	comp=Z,854nm,19.0s									
BBSR	BB Station	133.60	288	IAMs_20		IAMs_20		19 48 28.6		
	comp=Z,494nm,20.0s									
ANM	Nome	134.34	26	IAMs_20		IAMs_20		19 59 44.6		
	comp=Z,888nm,18.0s									
ANM	Nome	134.34	26	P		PKiKP		18 57 23.3	-0.5	
	baz=298									
BATG	Bathurst New B	135.54	309	PKPdf		PKPdf		18 57 24.7	-0.5	
C23K	Itkillik River	135.56	15	P		PKiKP		18 57 26.2	+0.1	
	baz=319									
C24K	Franklin Bluff	136.07	14	P		PKiKP		18 57 27.4	+0.3	
	baz=322									
D23K	Nanushuk River	136.20	16	P		PKiKP		18 57 27.3	-0.2	
	baz=319									
D24K	Happy Valley	136.49	15	P		PKiKP		18 57 28.5	+0.5	
	baz=321									
EMMW	East Machias	136.68	305	IAMs_20		IAMs_20		19 54 37.7		
	comp=Z,807nm,20.0s									
C26K	Camden Bay	136.68	13	P		PKiKP		18 57 29.3	+0.9	
	baz=326									
TOLK	Toolik Lake Re	136.71	16	IAMs_20		IAMs_20		19 58 32.5		
	comp=Z,1µm,19.0s									
TOLK	Toolik Lake Re	136.71	16	P		PKiKP		18 57 28.9	+0.3	
	baz=320									
F21K	Alatna River	136.74	19	P		PKiKP		18 57 28.8	+0.2	
	baz=314									
NIKH	Nikolski High	136.74	42	P		PKiKP		18 57 28.9	-0.1	
	baz=283									
D25K	Kavik River	136.88	14	P		PKiKP		18 57 28.8	-0.1	
	baz=324									
F22K	John River	136.89	18	P		PKiKP		18 57 28.9	0.0	
	baz=316									
A36M	Sachs Harbour	137.05	3	IAMs_20		IAMs_20		19 58 12.1		
	comp=Z,766nm,22.0s									
E23K	Chandalar	137.14	16	P		PKiKP		18 57 29.6	+0.1	
	baz=319									
C27K	Jago River	137.16	12	P		PKiKP		18 57 29.3	-0.1	
	baz=328									
G21K	Allakaket	137.22	19	P		PKiKP		18 57 29.2	-0.5	
	baz=313									
E24K	Your Creek	137.41	16	P		PKiKP		18 57 30.1	0.0	
	baz=321									
G22K	Bettles	137.50	18	P		PKiKP		18 57 30.0	-0.1	
	baz=316									
IMAR	Indian Mountai	137.51	20	PKPdf		PKPdf		18 57 26.9	-1.4	
COLD	Coldfoot	137.62	17	P		PKiKP		18 57 30.6	+0.2	
	baz=318									
UNV	Unalaska Valle	137.88	41	P		PKiKP		18 57 30.6	-0.6	
	baz=286									
PKME	Peaks-Kenny Pk	137.94	306	IAMs_20		IAMs_20		19 55 31.0		
	comp=Z,1µm,19.0s									
F24K	Squaw Lake	137.98	16	P		PKiKP		18 57 30.9	-0.3	
	baz=321									
H21K	Melozitna Rive	138.02	20			PKPdf		18 57 28.8	-0.5	
H21K				IAMs_20		IAMs_20		19 57 37.4		
	comp=Z,974nm,18.0s									
H21K	Melozitna Rive	138.02	20	P		PKiKP		18 57 30.6	-0.7	
	baz=314									
G23K	Bananza Creek	138.05	18	P		PKiKP		18 57 31.8	+0.5	
	baz=318									
BCIP	Isla Barro Col	138.19	250	IAMs_20		IAMs_20		19 54 38.6		
	comp=Z,642nm,20.0s									
H22K	Ishtalitna Cre	138.27	19	P		PKiKP		18 57 32.1	+0.3	
	baz=316									
F25K	Christian Rive	138.45	15	P		PKiKP		18 57 32.5	+0.4	
	baz=324									
J20K	Nowinta River	138.59	22	IAMs_20		IAMs_20		19 57 22.7		
	comp=Z,1µm,20.0s									
J20K	Nowinta River	138.59	22	P		PKiKP		18 57 31.6	-0.8	
	baz=311									
I21K	Tanana	138.60	20	P		PKiKP		18 57 32.0	-0.4	
	baz=314									
F26K	Sheenjek River	138.69	14	P		PKiKP		18 57 32.3	-0.4	
	baz=326									
G24K	Hadweenzic Riv	138.72	17	P		PKiKP		18 57 32.7	0.0	
	baz=321									
E27K	Coleen River	138.79	13	P		PKiKP		18 57 33.6	+0.8	
	baz=330									
H23K	Yukon River	138.84	18	IAMs_20		IAMs_20		19 56 47.0		
	comp=Z,1µm,22.0s									
H23K	Yukon River	138.84	18	P		PKiKP		18 57 32.7	-0.3	
	baz=318									
N16K	Nishlik Lake	139.04	29	P		PKiKP		18 57 33.3	-0.2	
	baz=302									
MLY	Manley	139.08	20	PKPdf		PKPdf		18 57 28.0	-3.3	
MLY	Manley	139.08	20	P		PKiKP		18 57 32.7	-0.8	
	baz=316									
K20K	Telida	139.15	23	IAMs_20		IAMs_20		19 57 28.5		
	comp=Z,897nm,19.0s									
K20K	Telida	139.15	23	P		PKiKP		18 57 32.9	-0.8	
	baz=310									
H24K	Noodor Dome	139.29	18	P		PKiKP		18 57 33.2	-0.7	
	baz=320									
G26K	Porcupine Rive	139.39	15	P		PKiKP		18 57 34.3	+0.3	
	baz=326									
H25K	Birch Creek	139.47	16	P		PKiKP		18 57 34.0	-0.1	
	baz=323									
L19K	White Mountain	139.61	25	P		PKiKP		18 57 34.1	-0.6	
	baz=308									
BPAW	Bear Paw Mtn.	139.66	21	P		PKiKP		18 57 35.9	+1.2	
	baz=314									
C36M	Paulatuk	139.74	3	P		PKiKP		18 57 35.2	+0.6	
	baz=353									
HRV	Adam Dziewonsk	139.77	302	IAMs_20		IAMs_20		19 57 15.9		
	comp=Z,905nm,21.0s									
FFD	Franklin Falls	139.78	304	IAMs_20		IAMs_20		19 57 26.8		
	comp=Z,853nm,19.0s									
L20K	Farewell, AK	139.78	24	P		PKiKP		18 57 35.4	+0.4	
	baz=310									
BRYW	Bryant College	139.79	301	IAMs_20		IAMs_20		19 56 33.4		
	comp=Z,1µm,21.0s									
MDM	Murphy Dome	139.86	19	IAMs_20		IAMs_20		19 56 05.8		
	comp=Z,1µm,22.0s									
NEA2	Nenana	139.89	20	IAMs_20		IAMs_20		19 56 03.8		
	comp=Z,645nm,20.0s									
NEA2	Nenana	139.89	20	P		PKiKP		18 57 34.4	-0.7	
	baz=317									
LBNH	Lisbon	139.90	305	IAMs_20		IAMs_20		20 03 17.1		
	comp=Z,742nm,18.0s									
M19K	Big River Lodg	139.95	25	IAMs_20		IAMs_20		19 55 55.9		
	comp=Z,1µm,20.0s									
POKR	Poker Plat Res	139.96	18	P		PKiKP		18 57 35.1	-0.1	
	baz=320									
INK	Inuvik	139.96	8	PKPdf		PKPdf		18 57 31.0	-1.6	
INK	Inuvik	139.96	8	P		PKiKP		18 57 34.8	-0.3	
	baz=340									
TCOL	CIGO, UAF Yank	140.03	19	IAMs_20		IAMs_20		19 56 00.3		
	comp=Z,1µm,20.0s									
COLA	College	140.03	19	IAMs_20		IAMs_20		19 56 00.3		
	comp=Z,946nm,20.0s									
N18K	Kilae Creek	140.11	27	IAMs_20		IAMs_20		19 56 05.2		
	comp=Z,996nm,19.0s									
N18K	Kilae Creek	140.11	27	P		PKiKP		18 57 36.0	+0.3	
	baz=305									
O17K	Koliganek Bris	140.12	29	P		PKiKP		18 57 36.7	+1.0	
	baz=303									
P16K	Nushagak River	140.13	30	P		PKiKP		18 57 35.1	-0.6	
	baz=301									
PRP	Porcupine Dome	140.15	17	P		PKiKP		18 57 35.7	-0.1	
	baz=323									
CCB	Clear Creek Bu	140.21	19	IAMs_20		IAMs_20		19 55 55.3		
	comp=Z,1µm,21.0s									
WRH	Wood River Hil	140.26	19	IAMs_20		IAMs_20		19 55 42.7		
	comp=Z,1µm,21.0s									
TRF	Thorofare Moun	140.34	21	P		PKiKP		18 57 36.0	-0.2	
	baz=315									
ILAR	Eielson Array	140.37	18	PKP		PKPdf		18 57 31.3	-2.3	
	comp=Z,3.5nm,0.8s,baz=332,slow=3.3,SNR=9.4									
ILAR				PP		PP		19 00 31.1	-1.0	
	comp=Z,1.4nm,0.9s,baz=336,slow=7.3,SNR=4.3									
ILAR				SKPbc		SKPbc		19 01 09.1	+0.4	
	comp=Z,2.1nm,0.9s,baz=293,slow=3.2,SNR=4.6									
QUA2	Belchertown	140.38	302	IAMs_20		IAMs_20		19 57 03.8		
	comp=Z,934nm,20.0s									
M20K	Styx River	140.43	25	P		PKiKP		18 57 36.3	-0.1	
	baz=310									
H27K	Steamboat Moun	140.49	14	P		PKiKP		18 57 36.1	-0.3	
	baz=328									
MCK	McKinley	140.56	20	IAMs_20		IAMs_20		19 58 01.6		
	comp=Z,1µm,22.0s									
MCK	McKinley	140.56	20	P		PKiKP		18 57 36.3	-0.2	
	baz=317									
N19K	Bonanza Creek	140.59	27	IAMs_20		IAMs_20		19 55 28.8		
	comp=Z,758nm,21.0s									
L61B	Northampton	140.61	302	IAMs_20		IAMs_20		19 57 22.9		
	comp=Z,851nm,21.0s									
HDA	Harding Lake	140.63	19	IAMs_20		IAMs_20		19 55 41.4		
	comp=Z,1µm,21.0s									
F31M	Tsiigehtchic	140.75	9	P		PKiKP		18 57 36.4	-0.3	
	baz=340									
YLE	Yale	140.87	301	IAMs_20		IAMs_20		19 59 16.7		
	comp=Z,981nm,20.0s									
I26K	Coal Creek Min	140.90	16	IAMs_20		IAMs_20		19 55 49.3		
	comp=Z,1µm,19.0s									
J25K	Salcha River,	140.91	18	P		PKiKP		18 57 36.1	-1.2	
	baz=322									
SKT	Skwentna	140.94	24	IAMs_20		IAMs_20		19 55 14.8		
	comp=Z,810nm,18.0s									
I27K	Kandik River	141.00	15	P		PKiKP		18 57 36.4	-1.0	
	baz=328									
O19K	Port Alsworth	141.03	27	IAMs_20		IAMs_20		19 55 28.4		
	comp=Z,1µm,18.0s									
CUT	Chulitna	141.08	23	IAMs_20		IAMs_20		19 56 03.6		
	comp=Z,1µm,21.0s									
P18K	Big Mountain,	141.12	29	P		PKiKP		18 57 37.1	-0.7	
	baz=305									
EPYK	Eagle Plains	141.29	11	P		PKPdf		18 57 35.5	+0.3	
	baz=335									
WAT1	Susitna Watana	141.34	21	P		PKPdf		18 57 36.2	+0.8	
	baz=317									
J26L	Joseph Creek	141.46	17	P		PKPdf		18 57 37.0	+1.3	
	baz=324									
DHY	Denali Highway	141.52	20	IAMs_20		IAMs_20		19 56 02.0		
	comp=Z,728nm,20.0s									
DHY	Denali Highway	141.52	20	P		PKPdf		18 57 36.9	+1.0	
	baz=318									
SUA	Susitna One	141.56	24	IAMs_20		IAMs_20		19 55 10.4		
	comp=Z,1µm,20.0s									
SUA	Susitna One	141.56	24	P		PKPdf		18 57 37.2	+1.2	
	baz=312									
R17K	Ugashik Creek	141.57	32	P		PKiKP		18 57 37.4	-1.3	
	baz=302									
M22K	Willow	141.59	23	IAMs_20		IAMs_20		19 56 06.9		
	comp=Z,594nm,21.0s									
PAL	Palisades	141.62	300	IAMs_20		IAMs_20		19 58 47.9		
	comp=Z,1µm,20.0s									
RIDG	Independent Ri	141.74	18	P		PKiKP		18 57 38.3	-0.7	
	baz=322									
LONY	Lake Ozonia	141.75	306	IAMs_20		IAMs_20		19 59 00.7		
	comp=Z,802nm,21.0s									
LONY	Lake Ozonia	141.75	306	P		PKiKP		18 57 38.4	-1.2	
	baz=82									
O20K	Slope Mountain	141.77	27	P		PKiKP		18 57 38.7	-0.5	
	baz=309									
SCRK	Sand Creek	141.78	17	P		PKiKP		18 57 38.2	-0.9	
	baz=324									
EGAK	Eagle	141.81	15	IAMs_20		IAMs_20		19 55 01.3		
	comp=Z,1µm,21.0s									
EGAK	Eagle	141.81	15	P		PKiKP		18 57 37.9	-1.1	
	baz=328									
I29M	Ogilvie Camp,	141.91	13			PKPpre		18 57 30.6		
I29M				IAMs_20		IAMs_20		19 54 51.6		
	comp=Z,795nm,19.0s									
GHO	Glory Hole Cre	141.98	23	IAMs_20		IAMs_20		19 54 25.3		
	comp=Z,1µm,22.0s									
Q19K	Cape Douglas,	142.06	29	IAMs_20		IAMs_20		19 54 44.8		
	comp=Z,1µm,22.0s									
Q19K	Cape Douglas,	142.06	29	P		PKiKP		18 57 38.9	-0.9	
	baz=306									
SML	Sawmill	142.15	22	IAMs_20		IAMs_20		19 55 30.8		
	comp=Z,855nm,18.0s									
SML	Sawmill	142.15	22	P		PKPdf		18 57 37.9	+1.0	
	baz=316									
PAX	Paxson	142.17	19			PKPpre		18 57 32.9		
PAX	Paxson	142.17	19	P		PKiKP		18 57 38.6	-1.4	
	baz=321									
KNK	Knik Glacier	142.39	23	IAMs_20		IAMs_20		19 54 25.2		
	comp=Z,986nm,22.0s									
KNK	Knik Glacier	142.39	23	P		PKiKP		18 57 38.9	-1.5	
	baz=315									
SCM	Sheep Creek Mo	142.46	22	IAMs_20		IAMs_20		19 54 34.9		
	comp=Z,1µm,18.0s									
SCM	Sheep Creek Mo	142.46	22	P		PKPdf		18 57 38.1	+0.6	
	baz=317									
O22K	Cooper Landing	142.60	25	IAMs_20		IAMs_20		19 54 09.8		
	comp=Z,1µm,20.0s									
L26K	Log Cabin Wild	142.72	18	P		PKPdf		18 57 37.5	-0.4	
	baz=324									
J29M	Klondike Camp	142.73	14	IAMs_20		IAMs_20		19 54 17.4		
	comp=Z,944nm,19.0s									
DAWY	Dawson	142.82	15	P		PKPdf		18 57 37.5	-0.5	
	baz=330									
BINY	Binghamton	143.07	302	IAMs_20		IAMs_20		19 58 48.1		
	comp=Z,932nm,19.0s									
KLU	Klutina	143.16	21	IAMs_20		IAMs_20		19 59 20.4		
	comp=Z,854nm,19.0s									
GLI	Glacier Island	143.24	23	IAMs_20		IAMs_20		19 53 50.5		
	comp=Z,861nm,21.0s									
M26K	Nabesna, AK	143.32	18	IAMs_20		IAMs_20		19 54 22.4		
	comp=Z,886nm,19.0s									
K29M	Barlow Dome	143.41	14	P		PKPdf		18 57 37.9	-1.3	
	baz=332									
N25K	Chitina, Valde	143.49	20	PKPdf		PKPbc		18 57 37.2	+0.6	
N25K	Chitina, Valde	143.49	20	P		PKPdf		18 57 38.1	-1.2	
	baz=321									
FID	Port Fidalgo	143.54	22	IAMs_20		IAMs_20		19 53 47.8		
	comp=Z,1µm,20.0s									
PECO	Prince Edward	143.56	305			PKPpre		18 57 32.1		
M27K	Edge Creek, AK	143.66	18	P		PKPdf		18 57 38.8	-0.9	
	baz=325									
BVCY	Beaver Creek	143.88	17	P		PKPdf		18 57 39.0	-0.9	
	baz=327									
EYAK	Cordova Ski Ar	143.93	22	P		PKPdf		18 57 39.5	-0.5	
	baz=318									
SDMD	Soldier's Deli	143.95	298	PKPdf		PKPbc		18 57 38.4	-0.2	
BMRM	Bremner River	143.98	21	P		PKPdf		18 57 39.3	-0.8	
	baz=320									
MCARA	McCarthy VSAT	144.13	19	IAMs_20		IAMs_20		19 53 38.8		
	comp=Z,1µm,21.0s									
MCARA	McCarthy VSAT	144.13	19	P		PKPab		18 57 37.9	-0.1	
	baz=323									
MMNY	Mt. Morris Dam	144.41	304			PKPab		18 57 38.7	-0.9	
CBN	Corbin Frederi	144.42	296	IAMs_20		IAMs_20		19 57 16.5		
	comp=Z,673nm,20.0s									
CBN	Corbin Frederi	144.42	296	P		PKPab		18 57 38.7	-1.0	
	baz=88									
M29M	Somme Creek	144.44	15	P		PKPab		18 57 39.2	0.0	
	baz=330									
YUK3	Moose Creek	144.52	17	P		PKPab		18 57 37.4	-2.3	
	baz=327									
Q23K	Middleton Isla	144.55	24	P		PKPdf		18 57 41.5	+0.4	
	baz=316									
HMT	Hamilton	144.57	21	IAMs_20		IAMs_20		19 53 07.7		
	comp=Z,1µm,20.0s									
SSPA	Standing Stone	144.66	300	PKPdf		PKPab		18 57 39.2	-1.4	
SSPA	Standing Stone	144.66	300	P		PKPab		18 57 39.4	-1.2	
	baz=84									
TGL	Tana Glacier	144.69	20	IAMs_20		IAMs_20		19 55 11.7		
	comp=Z,868nm,18.0s									
M30M	Minto, Yukon	144.69	14	PKPdf		PKPab		18 57 39.5	-0.7	
M30M				IAMs_20		IAMs_20		19 53 13.3		
	comp=Z,1µm,22.0s									
M30M	Minto, Yukon	144.69	14	P		PKPab		18 57 39.8	-0.3	
	baz=333									
BOAB	BOACO BROADBAN	144.76	249	PKPdf		PKPab		18 57 40.2	-1.5	
R58B	Mineral	144.82	295			PKPab		18 57 40.3	-1.0	
CNNC	Cliffs of the	144.83	291	P		PKPab		18 57 40.7	-0.7	
	baz=92									
SADO	Sadowa	144.92	307	PKP		PKPab		18 57 41.3	-0.1	
	comp=Z,35nm,0.9s,baz=83,slow=2.5,SNR=17									
CTG	Chitna Glacier	144.95	19	P		PKPab		18 57 40.9	-0.4	
	baz=325									
ISLE	Juniper Island	144.96	20	IAMs_20		IAMs_20		19 53 02.7		
	comp=Z,1µm,20.0s									
BGLC	Bering Glacier	145.05	21	P		PKPbc		18 57 41.0	-0.4	
	baz=321									
YAH	Yahtse	145.32	20	IAMs_20		IAMs_20		19 53 02.5		
	comp=Z,981nm,21.0s									
YUK4	Talbot Arm	145.34	16	P		PKPbc		18 57 42.1	-0.4

ACSO				IAMs_20	IAMs_20	20 06 51.8			
	comp=Z,691nm,20.0s								
ACSO	**Alum Creek Sta**	**148.56**	**300**	P	**PKPdf**	**18 57 49.8**	**+1.3**		
	baz=81								
GLMI	**Grayling**	**148.66**	**309**	IAMs_20	IAMs_20	20 01 48.4			
	comp=Z,922nm,19.0s								
R33M	**Jennings River**	**148.76**	**12**	P	**PKPdf**	**18 57 49.9**	**+1.5**		
	baz=340								
Q32M	**Nakina River**	**148.92**	**13**	P	**PKPdf**	**18 57 50.3**	**+1.5**		
	baz=337,SNR=11								
R32K	**Eaglecrest**	**149.05**	**16**	P	**PKPbc**	**18 57 51.7**	**-1.1**		
	baz=333								
TIGA	**Tifton**	**149.37**	**283**	P	**PKPdf**	**18 57 51.8**	**+1.7**		
	baz=95								
GOGA	**Godfrey**	**149.38**	**287**	IAMs_20	IAMs_20	20 09 15.8			
	comp=Z,951nm,20.0s								
GOGA	**Godfrey**	**149.38**	**287**	P	**PKPdf**	**18 57 51.9**	**+1.9**		
	baz=92								
TZTN	**Tazewell**	**149.41**	**293**	P	**PKPdf**	**18 57 52.2**	**+2.2**		
	baz=86								
TKL	**Tuckaleechee C**	**149.63**	**291**	PKPbc	**PKPbc**	**18 57 54.5**	**-0.5**		
	comp=Z,16nm,0.9s,baz=141,slow=4.9,SNR=10								
E43A	**Lone Tree Farm**	**149.68**	**313**	PKPdf	**PKPdf**	**18 57 47.4**	**-2.7**		
E43A					**PKPbc**	**18 57 52.6**	**-2.2**		
S32K	**Killisnoo**	**149.75**	**17**	P	**PKPbc**	**18 57 53.4**	**-1.1**		
	baz=332								
DLBC	**Dease Lake**	**149.83**	**11**	P	**PKPbc**	**18 57 53.4**	**-1.4**		
	baz=341,SNR=10								
P49A	**Miami Univ. Ec**	**149.99**	**299**	IAMs_20	IAMs_20	20 03 15.7			
	comp=Z,851nm,19.0s								
P49A	**Miami Univ. Ec**	**149.99**	**299**	P	**PKPbc**	**18 57 54.7**	**-1.1**		
	baz=80								
S34M	**Telegraph Cree**	**150.12**	**13**	P	**PKPbc**	**18 57 55.7**	**+0.2**		
	baz=339,SNR=6.4								
O48B	**Farmland**	**150.20**	**301**	P	**PKPbc**	**18 57 56.1**	**-0.1**		
	baz=79								
TEIG	**Tepich**	**150.69**	**259**		**PKPbc**	**18 57 56.0**	**-2.0**		
TEIG				IAMs_20	IAMs_20	20 14 11.3			
	comp=Z,444nm,20.0s								
T35M	**Bob Quinn**	**151.16**	**13**	P	**PKPbc**	**18 57 57.5**	**-0.5**		
	baz=340								
WRAK	**Wrangell Islan**	**151.24**	**15**	IAMs_20	IAMs_20	20 18 29.5			
	comp=Z,585nm,18.0s								
WRAK	**Wrangell Islan**	**151.24**	**15**	P	**PKiKP**	**18 57 58.5**	**-0.1**		
	baz=335								
U33K	**Whale Pass**	**151.32**	**16**	P	**PKPbc**	**18 57 57.0**	**-1.3**		
	baz=334								
WCI	**Wyandotte Cave**	**151.41**	**297**	PKPdf	**PKPdf**	**18 57 51.5**	**-1.5**		
WCI					**pPKPdf**	**18 57 58.0**	**-0.4**		
WCI				PKPab	**PKPab**	**18 58 08.3**	**+0.9**		
WCI	**Wyandotte Cave**	**151.41**	**297**	P	**PKPbc**	**18 57 57.4**	**-1.7**		
	baz=81								
SFIN	**Lafayette**	**151.62**	**302**	P	**PKPbc**	**18 57 58.4**	**-1.1**		
	baz=77								
FFC	**Flin Flon**	**151.68**	**339**	PKPdf	**PKPdf**	**18 57 51.4**	**-1.6**		
FFC					**pPKPdf**	**18 57 58.5**	**+0.2**		
EYMN	**Ely**	**151.70**	**319**	P	**PKPbc**	**18 57 59.3**	**-0.2**		
	baz=58								
L44A	**Lake County Fo**	**151.75**	**306**	P	**PKiKP**	**18 57 60.0**	**-0.2**		
	baz=73								
HQIL	**Hanson Quary C**	**151.82**	**305**	IAMs_20	IAMs_20	20 04 44.3			
	comp=Z,2µm,21.0s								
CRAG	**Craig**	**151.90**	**17**	P	**PKPbc**	**18 57 59.3**	**-0.3**		
	baz=333								
M44A	**Midewin, Midew**	**152.07**	**304**	PKPdf	**PKPdf**	**18 57 52.0**	**-1.9**		
M44A				PKPbc	**sPKPdf**	**18 58 01.0**	**-0.1**		
LRAL	**Lakeview Retre**	**152.34**	**286**	IAMs_20	IAMs_20	19 58 33.0			
	comp=Z,675nm,21.0s								
LRAL	**Lakeview Retre**	**152.34**	**286**	P	**PKPbc**	**18 58 00.3**	**-1.1**		
	baz=91								
V35K	**Ketchikan**	**152.40**	**16**	P	**PKiKP**	**18 58 01.0**	**-0.1**		
	baz=336								
E38A	**The Farm, Brul**	**152.41**	**317**	PKPdf	**PKPdf**	**18 57 52.5**	**-1.8**		
E38A				PKPbc	**PKPbc**	**18 58 01.0**	**-0.1**		
E38A				PKPab	**PKPab**	**18 58 10.6**	**-0.7**		
ULM	**Lac du Bonnet**	**152.65**	**327**	PKP	**PKPdf**	**18 57 55.5**	**+1.0**		
	comp=Z,33nm,0.7s,baz=1.9,slow=2.7,SNR=12								
ULM				PKPbc	**PKPbc**	**18 58 01.4**	**-0.2**		
	comp=Z,33nm,0.7s,baz=48,slow=3.1,SNR=35								
WVT	**Waverly**	**152.89**	**293**	PKPdf	**PKPdf**	**18 57 52.8**	**-2.5**		
WVT					**pPKPdf**	**18 58 00.4**	**-0.3**		
WVT				PKPab	**PKPab**	**18 58 12.1**	**-1.6**		
WVT	**Waverly**	**152.89**	**293**	IAMs_20	IAMs_20	20 06 16.0			
	comp=Z,859nm,19.0s								
WVT	**Waverly**	**152.89**	**293**	P	**PKPbc**	**18 58 02.6**	**0.0**		
	baz=84								
JFWS	**Jewell Farm**	**153.14**	**308**	IAMs_20	IAMs_20	20 07 58.9			
	comp=Z,735nm,18.0s								
JFWS	**Jewell Farm**	**153.14**	**308**	P	**PKPbc**	**18 58 02.1**	**-0.8**		
	baz=69								
PLAL	**Pickwick Lake**	**153.18**	**290**	IAMs_20	IAMs_20	20 06 52.0			
	comp=Z,872nm,20.0s								
HDIL	**Hopedale**	**153.20**	**303**	IAMs_20	IAMs_20	20 04 38.3			
	comp=Z,1µm,20.0s								
HDIL	**Hopedale**	**153.20**	**303**	P	**PKiKP**	**18 58 03.3**	**0.0**		
	baz=74								
SPMN	**Marine on St.**	**153.84**	**315**	P	**PKPbc**	**18 58 04.3**	**-0.1**		
	baz=61								
AGMN	**Agassiz Nation**	**153.90**	**323**		**PKPdf**	**18 57 54.6**	**-1.8**		
AGMN					**PKPbc**	**18 58 04.2**	**-0.1**		
AGMN	**Agassiz Nation**	**153.90**	**323**	P	**PKiKP**	**18 58 05.1**	**+0.7**		
	baz=51								
CMIG	**Matias Romero**	**154.75**	**247**	PKP	**PKPdf**	**18 57 59.2**	**+0.7**		
	comp=Z,1.6nm,0.4s,baz=332,slow=6.1,SNR=2.2								
CMIG				PKPbc	**PKiKP**	**18 58 08.2**	**+1.1**		
	comp=Z,2.6nm,0.7s,baz=356,slow=15,SNR=1.9								
CCM	**Cathedral Cave**	**155.28**	**298**	IAMs_20	IAMs_20	20 06 16.8			
	comp=Z,987nm,20.0s								
VBMS	**Vicksburg**	**155.30**	**284**	IAMs_20	IAMs_20	20 08 00.5			
	comp=Z,663nm,20.0s								
VBMS	**Vicksburg**	**155.30**	**284**	P	PKPdf	18 58 07.4	+8.6		
	baz=90								
ECSD	**EROS Data Cent**	**156.95**	**315**	IAMs_20	IAMs_20	20 00 42.9			
	comp=Z,864nm,19.0s								
ECSD	**EROS Data Cent**	**156.95**	**315**	P	**PKPdf**	**18 57 59.9**	**-0.8**		
	baz=58								
MIAR	**Mount Ida**	**157.73**	**290**	IAMs_20	IAMs_20	20 07 03.4			
	comp=Z,1µm,21.0s								
SUSD	**Miller**	**157.95**	**319**	P	**PKPdf**	**18 58 01.4**	**-0.5**		
	baz=53								
NATX	**Nacogdoches**	**158.82**	**283**	IAMs_20	IAMs_20	20 08 13.8			
	comp=Z,568nm,21.0s								
NATX	**Nacogdoches**	**158.82**	**283**	P	**PKPdf**	**18 58 02.4**	**-0.9**		
	baz=89								
KSU1	**Kansas State U**	**159.01**	**304**	IAMs_20	IAMs_20	20 10 08.7			
	comp=Z,948nm,20.0s								
KSU1	**Kansas State U**	**159.01**	**304**	P	**PKPdf**	**18 58 03.0**	**-0.4**		
	baz=68								
BGNE	**Belgrade**	**159.10**	**311**	P	**PKPdf**	**18 58 03.1**	**-0.4**		
	baz=61								
TUL1	**Leonard**	**159.30**	**295**	IAMs_20	IAMs_20	20 11 42.5			
	comp=Z,914nm,22.0s								
HKT	**Hockley**	**159.77**	**278**	IAMs_20	IAMs_20	20 07 51.6			
	comp=Z,976nm,21.0s								
WALA	**Waterton Lakes**	**159.80**	**350**	PKPdf	**PKPdf**	**18 58 01.7**	**-2.4**		
WALA				PKPab	**PKPab**	**18 58 42.5**	**-0.5**		
LAO	**LASA Array**	**159.88**	**334**	IAMs_20	IAMs_20	20 20 07.3			
	comp=Z,759nm,19.0s								
LAO	**LASA Array**	**159.88**	**334**	P	**PKPdf**	**18 58 03.1**	**-1.1**		
	baz=34								
EGMT	**Eagleton**	**159.89**	**342**	PKPdf	**PKPdf**	**18 58 01.9**	**-2.3**		
EGMT	**Eagleton**	**159.89**	**342**	P	**PKPdf**	**18 58 03.2**	**-0.9**		
	baz=24								
OK047	**Pawnee, Statio**	**159.90**	**297**	IAMs_20	IAMs_20	20 09 58.2			
	comp=Z,784nm,20.0s								
QUOK	**Quay**	**159.96**	**296**	PKPdf	**PKPdf**	**18 58 02.0**	**-2.5**		
QUOK					**PKPab**	**18 58 43.6**	**-0.6**		
RSSD	**Black Hills**	**160.90**	**325**	P	**PKPdf**	**18 58 04.3**	**-1.3**		
	baz=44								
NEW	**Newport**	**160.93**	**356**	PKP	**PKPdf**	**18 58 05.1**	**-0.1**		
	baz=168,slow=1.4								
NEW				PKPab	**PKPab**	**18 58 48.2**	**+0.4**		
	comp=Z,8.2nm,1.1s,baz=10,slow=5.8,SNR=2.5								
NEW	**Newport**	**160.93**	**356**	PKPdf	**PKPdf**	**18 58 04.2**	**-1.1**		
NEW				PKPab	**PKPab**	**18 58 48.9**	**+1.1**		
NEW	**Newport**	**160.93**	**356**	P	**PKPdf**	**18 58 04.0**	**-1.2**		
	baz=5.2								
WHTX	**Lake Whitney,**	**161.19**	**284**	P	**PKPdf**	**18 58 05.7**	**-0.3**		
	baz=87								
435B	**Jarrell**	**161.32**	**280**	P	**PKPdf**	**18 58 05.0**	**-1.2**		
	baz=90								
CBKS	**Cedar Bluff**	**161.36**	**306**	P	**PKPdf**	**18 58 04.7**	**-1.3**		
	baz=65,SNR=5.1								
MSO	**Missoula**	**161.97**	**349**	PKPdf	**PKPdf**	**18 58 05.2**	**-1.4**		
MSO					**PKPab**	**18 58 52.2**	**-0.4**		
MSO	**Missoula**	**161.97**	**349**	P	**PKPdf**	**18 58 06.6**	**+0.1**		
	baz=14								
RLMT	**Red Lodge**	**162.33**	**337**	P	**PKPdf**	**18 58 06.6**	**-0.5**		
	baz=29,SNR=11								
BOZ	**Bozeman (W)**	**162.63**	**342**	P	**PKPdf**	**18 58 06.8**	**-0.5**		
	baz=22								
833A	**Chaparral WMA,**	**162.72**	**272**	P	**PKPdf**	**18 58 07.2**	**-0.5**		
	baz=98								
F04D	**Rainier, OR**	**162.89**	**9**	P	**PKPdf**	**18 58 07.5**	**+0.3**		
	baz=348								
ABTX	**Abilene, Hawle**	**162.98**	**286**	P	**PKPdf**	**18 58 07.9**	**0.0**		
	baz=83								
K22A	**Casper**	**163.21**	**326**	P	**PKPdf**	**18 58 07.1**	**-0.8**		
	baz=41								
JCT	**Junction City**	**163.23**	**279**	P	**PKPdf**	**18 58 08.3**	**+0.1**		
	baz=90								
KSCO	**Kaye Shedlock'**	**163.26**	**310**	P	**PKPdf**	**18 58 08.3**	**+0.2**		
	baz=59								
H17A	**Grant Village**	**163.41**	**338**	P	**PKPdf**	**18 58 07.4**	**-0.8**		
	baz=27,SNR=12								
G03D	**McMinnville, O**	**163.70**	**11**	P	**PKPdf**	**18 58 06.9**	**-1.1**		
	baz=347								
G05D	**Wamic, OR**	**163.91**	**6**	P	**PKPdf**	**18 58 07.4**	**-0.9**		
	baz=353								
G08A	**Pilot Rock**	**163.96**	**360**		**PKPdf**	**18 58 07.9**	**-0.6**		
N23A	**Red Feather La**	**164.17**	**321**	P	**PKPdf**	**18 58 07.7**	**-1.3**		
	baz=46								
AMTX	**Amarillo**	**164.21**	**295**	P	**PKPdf**	**18 58 09.3**	**+0.3**		
	baz=74								
H04D	**Lebanon**	**164.45**	**10**	P	**PKPdf**	**18 58 09.3**	**+0.6**		
	baz=348								
BW06	**Boulder Array**	**164.46**	**333**	P	**PKPdf**	**18 58 09.0**	**-0.2**		
	baz=32								
PDAR	**Pinedale Array**	**164.46**	**333**	PKP	**PKPdf**	**18 58 09.3**	**+0.1**		
	comp=Z,11nm,1.0s,baz=140,slow=2.5,SNR=25								
PDAR				PKPab	**PKPab**	**18 59 03.9**	**+0.1**		
	comp=Z,2.0nm,0.9s,baz=38,slow=3.4,SNR=1.5								
I02E	**Swisshome, OR**	**164.66**	**13**	P	**PKPdf**	**18 58 09.4**	**+0.4**		
	baz=344								
ISCO	**Idaho Springs**	**164.71**	**317**	P	**PKPdf**	**18 58 09.0**	**-0.6**		
	baz=50								
I05D	**Terrebonne, OR**	**164.81**	**6**	P	**PKPdf**	**18 58 08.6**	**-0.6**		
	baz=352								
Q24A	**Divide**	**164.93**	**314**	P	**PKPdf**	**18 58 08.4**	**-1.4**		
	baz=54								
I03D	**Drain, OR**	**165.16**	**12**	P	**PKPdf**	**18 58 09.6**	**+0.2**		
	baz=345								
I07A	**Izee**	**165.17**	**1**		**PKPdf**	**18 58 09.4**	**-0.2**		
I07A				PKPab	**PKPab**	**18 59 06.3**	**-0.3**		
HLID	**Hailey**	**165.21**	**347**	P	**PKPdf**	**18 58 09.5**	**-0.2**		
	baz=16								
I04A	**Tendick Farm,**	**165.22**	**9**	P	**PKPdf**	**18 58 09.6**	**0.0**		
	baz=349,SNR=5.3								
MSTX	**Muleshoe**	**165.32**	**293**	P	**PKPdf**	**18 58 10.1**	**+0.1**		
	baz=75								
T25A	**Trinidad**	**165.41**	**307**	P	**PKPdf**	**18 58 11.2**	**+1.1**		
	baz=61								
J01E	**Myrtle Point**	**165.55**	**14**	P	**PKPdf**	**18 58 10.3**	**+0.5**		
	baz=343								
J04D	**Umpqua Nationa**	**165.80**	**9**	P	**PKPdf**	**18 58 10.9**	**+0.6**		
	baz=349								
SDCO	**Great Sand Dun**	**165.85**	**310**	P	**PKPdf**	**18 58 11.0**	**+0.4**		
	baz=57,SNR=22								
J05D	**Fort Rock, OR**	**165.86**	**6**	P	**PKPdf**	**18 58 11.2**	**+1.0**		
	baz=352								
O20A	**White River Ci**	**165.94**	**324**	P	**PKPdf**	**18 58 10.7**	**+0.2**		
	baz=42								
K02D	**Willamette Mer**	**166.06**	**14**	P	**PKPdf**	**18 58 11.2**	**+0.9**		
	baz=343								
K04D	**Chiloquin, OR**	**166.45**	**8**	P	**PKPdf**	**18 58 11.9**	**+1.2**		
	baz=350								
TXAR	**Lajitas Array**	**166.54**	**274**	PKP	**PKPdf**	**18 58 11.6**	**+0.5**		
	comp=Z,5.1nm,1.1s,baz=132,slow=1.9,SNR=15								
TXAR				PKPab	**PKPab**	**18 59 15.2**	**+1.8**		
	comp=Z,1.9nm,1.0s,baz=110,slow=7.3,SNR=4.1								
TXAR				PP	**PP**	**19 03 04.2**	**+2.5**		
	comp=Z,0.3nm,0.5s,baz=72,slow=2.9,SNR=4.0								
L02F	**Cave Junction**	**166.63**	**15**	P	**PKPdf**	**18 58 12.0**	**+1.4**		
	baz=343								
S22A	**4UR Ranch, Cre**	**166.72**	**313**	P	**PKPdf**	**18 58 12.8**	**+1.5**		
	baz=53,SNR=26								
L04D	**Klamath Falls**	**166.77**	**11**	P	**PKPdf**	**18 58 11.7**	**+0.7**		
	baz=348								
ANMO	**Albuquerque**	**167.88**	**301**	PKP	**PKPdf**	**18 58 13.6**	**+1.6**		
	comp=Z,7.5nm,1.1s,baz=135,slow=2.2,SNR=11								
ANMO				PKPab	**PKPab**	**18 59 19.7**	**+0.5**		
	comp=Z,5.4nm,1.0s,baz=117,slow=7.5,SNR=5.9								
ANMO				PP	**PP**	**19 03 11.2**	**+3.1**		
	comp=Z,2.3nm,1.0s,baz=119,slow=4.5,SNR=9.7								
ANMO	**Albuquerque**	**167.88**	**301**	P	**PKPdf**	**18 58 14.0**	**+1.9**		
	baz=65								
DUG	**Dugway, Tooele**	**167.91**	**336**	P	**PKPdf**	**18 58 13.1**	**+1.3**		
	baz=27,SNR=6.4								
MNTX	**Cornudas Mount**	**167.93**	**285**	P	**PKPdf**	**18 58 13.0**	**+1.0**		
	baz=81,SNR=23								
ELK	**Elko**	**168.08**	**346**	PKP	**PKPdf**	**18 58 13.6**	**+1.5**		
	comp=Z,6.1nm,1.0s,baz=93,slow=0.7,SNR=5.1								
ELK				PKPab	**PKPab**	**18 59 21.2**	**+1.4**		
	comp=Z,12nm,1.0s,baz=344,slow=4.5,SNR=10								
ELK				PP	**PP**	**19 03 09.1**	**+1.3**		
	comp=Z,1.5nm,0.8s,baz=28,slow=4.8,SNR=3.9								
MVCO	**Mesa Verde**	**168.09**	**315**	P	**PKPdf**	**18 58 13.5**	**+1.3**		
	baz=51								
Y22D	**IRIS PASSCAL I**	**168.57**	**298**	P	**PKPdf**	**18 58 14.7**	**+2.1**		
	baz=68								
121A	**Cookes Peak, D**	**169.75**	**292**	P	**PKPdf**	**18 58 15.1**	**+1.8**		
	baz=74,SNR=12								
W18A	**Petrified Fore**	**170.14**	**309**	P	**PKPdf**	**18 58 14.5**	**+1.0**		
	baz=56								
R11A	**Troy Canyon, C**	**170.45**	**343**	P	**PKPdf**	**18 58 14.6**	**+1.1**		
	baz=18,SNR=9.5								
NVAR	**Mina Array Bea**	**170.79**	**356**	PKP	**PKPdf**	**18 58 15.6**	**+1.8**		
	comp=Z,7.1nm,0.9s,baz=198,slow=1.3,SNR=26								
NVAR				PKPab	**PKPab**	**18 59 34.0**	**+2.2**		
	comp=Z,3.0nm,1.0s,baz=29,slow=2.1,SNR=3.6								
NVAR				PP	**PP**	**19 03 21.8**	**+0.4**		
	comp=Z,0.2nm,0.4s,baz=343,slow=2.8,SNR=2.9								
WUAZ	**Wupatki**	**170.96**	**316**	P	**PKPdf**	**18 58 15.7**	**+1.8**		
	baz=48								
MLAC	**Mammoth, Mamm**	**171.61**	**359**	P	**PKPdf**	**18 58 15.8**	**+1.5**		
	baz=1.4								
TPNV	**Topopah Spring**	**171.94**	**344**	P	**PKPdf**	**18 58 16.3**	**+2.0**		
	baz=18								
GRAC	**Grapevine Rang**	**172.12**	**350**	P	**PKPdf**	**18 58 16.4**	**+2.1**		
	baz=11,SNR=6.0								
TIN	**Tinemaha, Big**	**172.16**	**355**	P	**PKPdf**	**18 58 16.5**	**+2.1**		
	baz=5.3								
TUC	**Tucson**	**172.23**	**295**	P	**PKPdf**	**18 58 16.8**	**+2.3**		
	baz=68								
FURC	**Furnace Creek,**	**172.54**	**346**	P	**PKPdf**	**18 58 16.7**	**+2.4**		
	baz=25,SNR=10								
CWC	**Cottonwood Cre**	**172.75**	**354**	P	**PKPdf**	**18 58 16.6**	**+1.9**		
	baz=6.8								
VOG	**Valley Oaks Go**	**172.92**	**2**	P	**PKPdf**	**18 58 16.2**	**+1.7**		
	baz=358								
SHOC	**Shoshone, Teco**	**172.94**	**341**	P	**PKPdf**	**18 58 16.4**	**+1.8**		
	baz=20								
MPMC	**Manual Prospec**	**173.06**	**349**	P	**PKPdf**	**18 58 16.5**	**+1.6**		
	baz=11								
TUQ	**Turquoise Moun**	**173.26**	**337**	P	**PKPdf**	**18 58 16.6**	**+1.7**		
	baz=24								
NEE2	**Needles Airpor**	**173.30**	**327**	P	**PKPdf**	**18 58 16.8**	**+2.1**		
	baz=35								
VES	**Vestal, Richgr**	**173.40**	**0**	P	**PKPdf**	**18 58 15.6**	**+0.9**		
	baz=360								
PDMCI	**Parker Dam,Lak**	**173.42**	**322**	P	**PKPdf**	**18 58 16.2**	**+1.4**		
	baz=40								
ISA	**Isabella, Lake**	**173.56**	**356**		**PKPdf**	**18 58 12.4**	**-2.5**		
ISA	**Isabella, Lake**	**173.56**	**356**	P	**PKPdf**	**18 58 16.7**	**+1.8**		
	baz=4.5								
GSC	**Goldstone, Bar**	**173.64**	**343**	P	**PKPdf**	**18 58 17.3**	**+2.3**		
	baz=18,SNR=9.0								
LRMC	**Laurel Mtn Rad**	**173.65**	**350**	P	**PKPdf**	**18 58 17.3**	**+2.3**		
	baz=11								
GMRC	**Granite Mounta**	**173.74**	**333**	P	**PKPdf**	**18 58 17.6**	**+2.5**		
	baz=28,SNR=26								
SMMC	**Simmler**	**173.88**	**7**	P	**PKPdf**	**18 58 17.5**	**+2.5**		
	baz=352								
HEC	**Hector,Ludlow**	**173.94**	**338**	P	**PKPdf**	**18 58 17.5**	**+2.4**		
	baz=23,SNR=16								
214A	**Organ Pipe Nat**	**173.95**	**298**	P	**PKPdf**	**18 58 17.0**	**+1.9**		
	baz=64								
IRM	**Iron Mountain**	**174.05**	**327**	P	**PKPdf**	**18 58 17.8**	**+2.7**		
	baz=35,SNR=29								
RRX	**Edison Barstow**	**174.09**	**343**	P	**PKPdf**	**18 58 17.3**	**+2.3**		
	baz=18								
ARVC	**Arvin**	**174.11**	**358**	P	**PKPdf**	**18 58 16.8**	**+1.7**		
	baz=2.0								
EDW2	**Edwards Air Fo**	**174.28**	**351**	P	**PKPdf**	**18 58 17.2**	**+2.0**		
	baz=9.3								
PKM	**Mcpherson Peak**	**174.32**	**6**	P	**PKPdf**	**18 58 17.8**	**+2.4**		
	baz=354								
BELC	**Belle Mtn. Jos**	**174.56**	**332**	P	**PKPdf**	**18 58 17.9**	**+2.5**		
	baz=29,SNR=24								
BC3	**Big Chuckawall**	**174.60**	**326**	P	**PKPdf**	**18 58 18.0**	**+2.6**		
	baz=35,SNR=36								
OSI	**Osito Audit: C**	**174.62**	**357**	P	**PKPdf**	**18 58 17.6**	**+2.4**		
	baz=3.1								
BBRC	**Big Bear Solar**	**174.65**	**340**	P	**PKPdf**	**18 58 17.6**	**+2.0**		
	baz=20								
GLA	**Glamis**	**174.72**	**317**	P	**PKPdf**	**18 58 17.4**	**+2.0**		
	baz=44								
SBC	**Santa Barbara**	**174.77**	**6**	P	**PKPdf**	**18 58 17.4**	**+2.2**		
	baz=354								
BFSC	**Mount Baldy Ra**	**174.86**	**347**	P	**PKPdf**	**18 58 17.4**	**+1.9**		
	baz=14								
DECC	**Green Verdugo**	**174.94**	**353**	P	**PKPdf**	**18 58 17.3**	**+1.9**		
	baz=7.1								
PFO	**Pinyon Flats O**	**175.09**	**334**	P	**PKPdf**	**18 58 17.9**	**+2.3**		
	baz=27								
TPFO	**Pinon Flats**	**175.09**	**333**	P	**PKPdf**	**18 58 17.4**	**+1.9**		
	baz=27,SNR=9.2								
SCZ2	**Santa Cruz Isl**	**175.22**	**6**	P	**PKPdf**	**18 58 17.1**	**+1.7**		
	baz=354								
SWSC	**Sam W. Stewart**	**175.34**	**324**	P	**PKPdf**	**18 58 18.0**	**+2.5**		
	baz=37,SNR=11								
MURC	**Murrieta**	**175.35**	**340**	P	**PKPdf**	**18 58 17.9**	**+2.4**		
	baz=20								
FMP	**Fort Macarthur**	**175.47**	**352**	P	**PKPdf**	**18 58 17.8**	**+2.4**		
	baz=8.4								
MONP2	**Monument Peak**	**175.69**	**329**	P	**PKPdf**	**18 58 18.2**	**+2.4**		
	baz=32,SNR=15								
IKP	**In-Ko-Pah, Jac**	**175.74**	**324**	P	**PKPdf**	**18 58 18.5**	**+2.8**		
	baz=37,SNR=13								
CIS	**Catalina Islan**	**175.80**	**352**	P	**PKPdf**	**18 58 17.7**	**+2.1**		
	baz=7.6								
SNCC	**San Nicolas Is**	**175.97**	**5**	P	**PKPdf**	**18 58 17.7**	**+2.0**		
	baz=354								
109C	**Camp Elliot, M**	**175.97**	**336**	P	**PKPdf**	**18 58 17.3**	**+1.7**		
	baz=25								
SCI2	**San Clemente I**	**176.23**	**353**	P	**PKPdf**	**18 58 17.6**	**+1.9**		
	baz=6.7								

*ISK **16** 18:48:00.5,38°.77N×43°.44E,h6km,ML2.6/14*
*DDA **16** 18:48:01.3±0.0,38°.78N×43°.42E,h7km±3km,ML2.2*
ISC 16 18:48:01.6±1.0,38°.79N±0°.02×43°.42E±0°.03,h11km±8km,
n23,σ1s00/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.19**	**187**	PG	**Pg**	**18 48 06.7**	**+0.9**
ERCV	**ERCIS-VAN**	**0.24**	**344**	PG	**Pg**	**18 48 06.8**	**+0.1**
TVAN	**Van**	**0.26**	**183**	P	**Pg**	**18 48 06.6**	**-0.4**
TVAN				S	**Sg**	**18 48 11.3**	**+0.6**
TVAN				*i* AML	AML	18 48 14.0	
	comp=N,873nm,0.2s						
OZAP	**Van, Ozalp-Mer**	**0.47**	**106**	P	**Pb**	**18 48 10.7**	**-1.2**
OZAP				S	**Sb**	**18 48 19.7**	**+0.8**
OZAP				*i* AML	AML	18 48 22.0	
	comp=E,191nm,0.6s						
OZAP				*i* AML	AML	18 48 24.0	
	comp=N,220nm,1.1s						
CLDR	**Caldiran**	**0.53**	**47**	PG	**Pg**	**18 48 10.4**	**-1.5**
CLDR				SG	**Sg**	**18 48

JHJ2	**Mitsune**	**2.02**	**229**	P	**Pn**	**19 13 02.5**	**-0.2**
JHJ	**Hachijo jima 2**	**2.04**	**230**	Pn	**Pn**	**19 13 02.3**	**-0.6**
	18nm,0.3s,baz=0.0,slow=20,SNR=22						
JHJ				Sn	**Sn**	**19 13 27.0**	**-0.8**
	55nm,0.3s,baz=54,slow=22,SNR=13						
	45nm,0.2s						
JOD2	**Odawara 2**	**2.25**	**292**	P	**Pn**	**19 13 06.0**	**+0.2**
JOD2				eS	**Sn**	**19 13 34.7**	**+1.7**
JIZS	**Izushimoda**	**2.29**	**277**	P	**Pn**	**19 13 05.9**	**-0.5**
MJAR	**Matsushiro Arr**	**3.49**	**308**	Pn	**Pn**	**19 13 20.8**	**-2.0**
	0.3nm,0.3s,baz=122,slow=11,SNR=15						
MJAR				Sn	**Sn**	**19 14 03.2**	**-0.4**
	0.4nm,0.3s,baz=116,slow=26,SNR=3.9						
	3.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**26.75**	**117**	T	T	19 46 12.8	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**26.76**	**117**	T	T	19 46 10.1	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**26.77**	**117**	T	T	19 46 12.8	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	19 47 00.5	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	19 47 01.4	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**27.39**	**119**	T	T	19 47 01.2	
	baz=313						
SONM	**Songino Array**	**29.44**	**308**	P	**P**	**19 18 32.7**	**+0.5**
	0.2nm,0.4s,baz=119,slow=8.2,SNR=2.4						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**43.81**	**314**	P	**P**	**19 20 33.4**	**-0.7**
	0.7nm,0.6s,baz=90,slow=8.6,SNR=2.3						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**	**19 20 49.6**	**+0.5**
	0.4nm,0.7s,baz=93,slow=11,SNR=4.3						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**51.59**	**31**	P	**P**	**19 21 34.0**	**-0.2**
	0.7nm,0.8s,baz=288,slow=5.5,SNR=5.1						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**54.54**	**188**	P	**P**	**19 21 56.7**	**+0.3**
	0.3nm,0.5s,baz=2.6,slow=7.6,SNR=8.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**58.27**	**188**	P	**P**	**19 22 23.9**	**+0.9**
	0.3nm,0.7s,baz=0.8,slow=4.7,SNR=4.8						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**76.39**	**53**	P	**P**	**19 24 19.4**	**+1.4**
	0.6nm,0.7s,baz=298,slow=5.7,SNR=6.7						
	0.6nm,0.7s						
NOA	**NORSAR Array B**	**76.63**	**338**	P	**P**	**19 24 18.3**	**-0.5**
	0.9nm,0.9s,baz=38,slow=5.6,SNR=3.4						
	0.9nm,0.9s						
PDAR	**Pinedale Array**	**79.35**	**45**	P	**P**	**19 24 34.4**	**-0.1**
	0.2nm,0.4s,baz=277,slow=3.5,SNR=2.2						
	0.2nm,0.4s						

NEIC ***16*** *19:43:03.2±1.4,5.7S±0.2×149.5E±0.2, h113km±12km, mb4.0/6, Error ellipse: s-maj=36.7km s-min=9.1km az=126.0*

IDC ***16*** *19:43:05.0±3.6,5.1S×148.9E, h115km±40km, mb3.4/4, mbtmp3.9/6, Error ellipse: s-maj=81.9km s-min=24.5km az=120.0*

ISC 16 19:43:01.9±1.0,5.6S±0.1×149.4E±0.2, h100km, n16, σ1§18/18, mb3.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.10**	**64**		**Pn**	**19 43 49.7**	**+0.7**
PMG	**Port Moresby**	**4.39**	**210**	P	**Pn**	**19 44 08.3**	**+1.8**
	34nm,0.5s,baz=41,slow=11,SNR=21						
PMG				S	**Sn**	**19 44 57.0**	**+0.4**
	68nm,0.8s,baz=7.1,slow=7.3,SNR=3.7						
PMG	**Port Moresby**	**4.39**	**210**	Pn	**Pn**	**19 44 07.9**	**+1.5**
PMG				Sn	**Sn**	**19 44 54.8**	**-1.8**
CTA	**Charters Tower**	**14.74**	**192**	P	**P**	**19 46 29.2**	**+0.3**
	4.6nm,0.9s,baz=6.8,slow=11,SNR=3.7						
EIDS	**Eidsvold**	**19.75**	**175**	P	**P**	**19 47 22.8**	**-1.1**
EIDS				IAmb	IAmb	19 47 24.2	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**20.29**	**225**		**P**	**19 47 29.6**	**-0.3**
WR0	**Warramunga Arr**	**20.31**	**224**	P	**P**	**19 47 29.9**	**-0.3**
WR0				IAmb	IAmb	19 47 50.4	
	comp=Z,8.4nm,1.4s						
WB2	**Warramunga Arr**	**20.43**	**224**	P	**P**	**19 47 31.2**	**-0.3**
WB2				IAmb	IAmb	19 48 02.4	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**20.44**	**224**	P	**P**	**19 47 31.1**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=49,slow=10,SNR=17						
	comp=Z,1.3nm,0.5s						
WRA	**Warramunga Arr**	**20.44**	**224**	P	**P**	**19 47 29.8**	**-1.7**
KNRA	**Kununurra**	**22.59**	**242**	P	**P**	**19 47 53.3**	**-1.0**
ASAR	**Alice Springs**	**23.36**	**218**	P	**P**	**19 48 01.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=50,slow=8.5,SNR=22						
	comp=Z,0.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**26.31**	**240**	P	**P**	**19 48 27.6**	**-1.0**
	comp=Z,2.6nm,1.1s,baz=75,slow=12,SNR=1.8						
	comp=Z,2.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.31**	**240**	P	**P**	**19 48 26.7**	**-1.8**
FITZ				IAmb	IAmb	19 49 08.6	
	comp=Z,8.4nm,1.4s						
PETK	**Petropavlovsk-**	**58.89**	**6**	P	**P**	**19 52 51.4**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=159,slow=6.7,SNR=6.8						
	comp=Z,0.8nm,0.5s						
PETK	**Petropavlovsk-**	**58.89**	**6**	P	**P**	**19 52 50.3**	**+0.1**

PGC ***16*** *19:46:50.9±1.6,51.4N×130.9W, h10km, mb4.3, ML4.7, MLSn4.6/42, Mw5.2/42, 211km Wsw of Bella Bella, Bc Haida Gwaii Region*

IDC ***16*** *19:46:51.6±0.6,51.5N×130.6W, h0km, mb4.2/22, mbtmp4.2/32, ML3.5/9, MS4.1/64, Error ellipse: s-maj=11.9km s-min=8.1km az=25.0*

GCMT ***16*** *19:46:52.9±0.3,51.2N±0.02×130.88W±0.03, h34km±1km, MW5.2/96, Moment Sensor Solution. s19,c24; s96,c130; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.05±.31; Mθθ=-5.30±.27; Mϕϕ=5.35±.29; Mrθ=1.09±.20; Mrϕ=3.76±.15; Mθϕ=-1.64±.20; Best double couple: M₀6.80900×10¹⁶ NP1:ϕs333.0000°,δ88.00000°,λ=-163.00000°. NP2: ϕs242.00000°,δ73.00000°,λ=-2.00000°. Principal axes: T 6.7730, Plg11.0000°, Azm106.0000°; N 0.0760, Plg73.0000°, Azm338.0000°; P -6.8460, Plg13.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***16*** *19:46:52.9±2.3,51.6N±0.04×130.65W±0.08, h10km±1km, mb4.4/154, ML4.5/20, Mwr4.7/16, Mwr4.9(OTT) Error ellipse: s-maj=10.0km s-min=5.8km az=233.0*

NEIC ***16*** *19:46:52.9,51.5N×130.67W, h11km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.12; Mθθ=0.72; Mϕϕ 0.60; Mrθ=0.54; Mϕr 1.14; Mϕr 0.00; Fault plane solution: M₀1.42000×10¹⁶ NP1:ϕs345.72000°, δ68.61000°, λ=-178.20000°. NP2:ϕs255.07000°, δ88.33000°, λ=-21.39000°. Principal axes: T 1.3177, Plg14.0000°, Azm302.0000°; N 0.1900, Plg69.0000°, Azm71.0000°; P -1.5077, Plg16.0000°, Azm208.0000°;*

NEIC ***16*** *19:46:52.8,51.4N×130.91W, h9km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.28; Mθθ=1.62; Mϕϕ 1.76; Mrθ=0.70; Mϕr 2.29; Mϕr=0.51; Fault plane solution: M₀3.00000×10¹⁶ NP1:ϕs252.00000°, δ87.00000°, λ.16.00000°. NP2:ϕs161.00000°, δ74.00000°, λ177.00000°. Principal axes: T 3.1426, Plg13.0000°, Azm118.0000°; N -0.3437, Plg74.0000°, Azm261.0000°; P -2.7989, Plg9.0000°, Azm26.0000°;*

ISC 16 19:46:51.6±0.9,51.7N±0.04×130.66W±0.03, h3km±5km, n595, σ1§53/500, mb4.5/38, MS4.2/72, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HG4B	**Hotspring**	**0.80**	**336**		**Pg**	**19 47 07.0**	**0.0**
HG4B				Sg	**Sg**	**19 47 18.4**	**+1.1**
HG4B	**Hotspring**	**0.80**	**336**	P	**Pg**	**19 47 07.0**	**0.0**
HG4B				S	**Sg**	**19 47 17.4**	**0.0**
BNB	**Barry Inlet**	**1.22**	**327**	P	**Pb**	**19 47 12.8**	**-2.5**
BNB				S	**Sb**	**19 47 28.2**	**-3.3**
HG1B	**Mitchell Dam**	**1.64**	**327**	P	**Pn**	**19 47 18.4**	**-2.9**
BBB	**Bella Bella**	**1.70**	**68**	Pn	**Pn**	**19 47 21.0**	**-1.2**
	35nm,0.3s,baz=256,slow=6.9,SNR=284						
BBB				Sn	**Sb**	**19 47 45.2**	**0.0**
	750nm,0.3s,baz=172,slow=19,SNR=27						
BBB	**Bella Bella**	**1.70**	**68**		**Pn**	**19 47 21.3**	**-0.8**
BBB				Sn	**Sn**	**19 47 42.7**	**-1.6**
BBB					IAML		19 47 54.3
	comp=E,4μm,0.7s						
BBB					IAML		19 48 00.8
	comp=N,6μm,0.8s						
BBB	**Bella Bella**	**1.70**	**68**	Pn	**Pn**	**19 47 21.7**	**-0.5**
BBB				Sn	**Sb**	**19 47 45.7**	**+0.5**
BNKB	**Banks Island**	**1.83**	**14**	Pn	**Pn**	**19 47 22.7**	**-1.3**
BNKB				Sn	**Sg**	**19 47 49.9**	**-0.5**
HOLB	**Holberg**	**1.84**	**119**	Pn	**Pn**	**19 47 21.8**	**-2.4**
HOLB	**Holberg**	**1.84**	**119**	Pn	**Pn**	**19 47 22.1**	**-2.2**
BNAB	**Bonilla**	**1.93**	**0**	Pn	**Pn**	**19 47 24.0**	**-1.4**
DIB	**Dawson Inlet,**	**1.98**	**327**	Pn	**Pn**	**19 47 23.3**	**-2.8**
DIB				Sn	**Sn**	**19 47 51.7**	**+0.3**
DIB					IAML		19 47 56.9
	comp=E,4μm,0.7s						
DIB	**Dawson Inlet,**	**1.98**	**327**	Pn	**Pn**	**19 47 23.3**	**-2.8**
DIB				Sn	**Sn**	**19 47 48.7**	**-2.7**
DIB				Sg	**Sb**	**19 47 53.3**	**-0.1**
BUTB	**Butedale**	**2.02**	**41**	Pn	**Pn**	**19 47 26.0**	**-0.7**
BUTB				Sn	**Sb**	**19 47 54.6**	**+0.1**
PHC	**Port Hardy**	**2.21**	**112**	Pn	**Pn**	**19 47 26.3**	**-2.9**
PHC				Pg	**Pb**	**19 47 32.1**	**0.0**
HWKB	**Hawksbury Isla**	**2.23**	**24**	Pn	**Pn**	**19 47 29.1**	**-0.4**
HWKB				Sn	**Sb**	**19 48 00.0**	**-0.7**
HWKB				Sg	**Sg**	**19 48 03.3**	**0.0**
PACB	**Port Alice, BC**	**2.30**	**118**	Pn	**Pn**	**19 47 28.2**	**-2.2**
BPBC	**Brooks Peninsu**	**2.31**	**127**	Pn	**Pn**	**19 47 26.8**	**-3.9**
BPBC				Pg	**Pb**	**19 47 30.3**	**-3.6**
GRNB	**Grenville Isla**	**2.32**	**10**	Pn	**Pn**	**19 47 30.0**	**-0.8**
GRNB	**Grenville Isla**	**2.32**	**10**	Pn	**Pn**	**19 47 29.8**	**-1.0**
GRNB				Sn	**Sb**	**19 48 00.9**	**-2.4**
GRNB				Sg	**Sg**	**19 48 04.9**	**-1.3**
MAYB	**Maynard**	**2.49**	**117**	Pn	**Pn**	**19 47 31.7**	**-1.6**
MBLB	**Minette Bay Lo**	**2.76**	**26**	Pn	**Pn**	**19 47 38.6**	**+1.8**
NDB	**Naden**	**2.77**	**331**	Pn	Pn	19 47 28.5	-8.4
RUBB	**Prince Rupert**	**2.77**	**5**	Pn	**Pn**	**19 47 36.2**	**-0.8**
RUBB					IAML		19 48 28.5
	comp=N,1μm,1.0s						
RUBB	**Prince Rupert**	**2.77**	**5**	Pn	**Pn**	**19 47 36.2**	**-0.8**
KITB	**Kitimat**	**2.80**	**25**	Pn	**Pn**	**19 47 36.9**	**-0.4**
EDB	**Eliza Dome**	**2.82**	**126**	Pn	**Pn**	**19 47 35.5**	**-2.0**
EDB				Pg	**Pb**	**19 47 41.4**	**-1.1**
WOSB	**Woss**	**2.95**	**117**	Pn	**Pn**	**19 47 38.0**	**-1.5**
LIB	**Langara Island**	**3.06**	**333**	Pn	**Pn**	**19 47 38.6**	**-2.2**
NCRB	**Newcastle Ridg**	**3.13**	**110**	Pn	**Pn**	**19 47 40.9**	**-1.1**
NCRB				Pg	**Pb**	**19 47 47.1**	**-1.0**
ETB	**Estevan Point**	**3.43**	**128**	Pn	**Pn**	**19 47 44.0**	**-1.9**
ETB				Pg	**Pb**	**19 47 50.4**	**-2.5**
GDR	**Gold River**	**3.44**	**119**	Pn	**Pn**	**19 47 44.8**	**-1.3**
SPLB	**Strathcona Par**	**3.60**	**116**	Pn	**Pn**	**19 47 46.9**	**-1.3**
CBB	**Campbell River**	**3.69**	**113**	Pn	**Pn**	**19 47 49.0**	**-0.6**
CBB					IAML		19 48 59.3
	comp=E,940nm,1.4s						
CBB					IAML		19 49 01.3
	comp=N,1μm,1.0s						
CBB	**Campbell River**	**3.69**	**113**	Pn	**Pn**	**19 47 48.7**	**-0.9**
NC89	**ODP888**	**3.80**	**138**	Pn	**Pn**	**19 47 49.0**	**-1.9**
V35K	**Ketchikan**	**3.81**	**352**	P	**Pn**	**19 47 50.3**	**-0.9**
	baz=171,SNR=20						
V35K					Sb	**Sg**	**19 48 50.2**	**-3.8**
	baz=171						
MWAB	**Mount Washingt**	**3.87**	**116**	Pn	**Pn**	**19 47 52.4**	**+0.2**
TOFB	**Tofino**	**3.88**	**127**	Pn	**Pn**	**19 47 50.6**	**-1.6**
BTB	**Buttle Lake**	**3.90**	**121**	Pn	**Pn**	**19 47 51.1**	**-1.5**
CRAG	**Craig**	**4.18**	**340**	Pn	**Pn**	**19 47 54.9**	**-1.3**
CRAG	**Craig**	**4.18**	**340**	P	**Pn**	**19 47 54.9**	**-1.3**
	baz=158,SNR=5.6						
CRAG					Sb	**Sg**	**19 49 01.2**	**-4.4**
	baz=158						
B012	**Ucluelet**	**4.22**	**127**	Pn	**Pn**	**19 47 55.2**	**-1.6**
B012				Pg	**Pg**	**19 48 11.0**	**-1.4**
OZB	**Mount Ozzard**	**4.22**	**126**	Pn	**Pn**	**19 47 56.3**	**-0.6**
OZB					IAML		19 49 26.0
	comp=N,526nm,1.2s						
OZB					IAML		19 49 27.4
	comp=E,590nm,1.3s						
OZB	**Mount Ozzard**	**4.22**	**126**	Pn	**Pn**	**19 47 55.3**	**-1.6**
NC27	**ODP1027**	**4.25**	**153**	Pn	**Pn**	**19 47 54.7**	**-2.2**
UBRB	**Upper Baezaeko**	**4.26**	**69**	Pn	**Pn**	**19 47 58.3**	**+0.8**
NCBC	**Barkley Canyon**	**4.27**	**136**	Pn	**Pn**	**19 47 56.9**	**-1.6**
TXB	**Texada**	**4.38**	**113**	Pn	**Pn**	**19 47 59.1**	**0.0**
B927	**Port Alberni**	**4.42**	**120**	Pn	**Pn**	**19 47 58.5**	**-1.0**
BFSB	**Bamfield**	**4.48**	**125**	Pn	**Pn**	**19 47 58.4**	**-2.0**
B928	**Bamfield**	**4.48**	**125**	Pn	**Pn**	**19 47 58.1**	**-2.2**
MGB	**Mount Grey**	**4.61**	**122**	Pn	**Pn**	**19 48 00.6**	**-1.7**
GHNB	**Nanoose**	**4.69**	**116**	Pn	**Pn**	**19 48 05.0**	**+1.8**
SHB	**Sechelt**	**4.75**	**112**	Pn	**Pn**	**19 48 03.3**	**-0.9**
U33K	**Whale Pass**	**4.78**	**343**	P	**Pn**	**19 48 03.6**	**-1.0**
	baz=161,SNR=6.9						
U33K					Sb	**Sb**	**19 49 19.3**	**+5.3**
	baz=161						
FSB	**Fort Saint Jam**	**4.81**	**50**	Pn	**Pn**	**19 48 05.5**	**+0.6**
FSJB	**Fort St James**	**4.81**	**51**	Pn	**Pn**	**19 48 05.3**	**+0.3**
NLLB	**Nanaimo Lost L**	**4.87**	**116**	Pn	**Pn**	**19 48 04.7**	**-1.1**
WRAK	**Wrangell Islan**	**4.96**	**349**		**Pn**	**19 48 06.6**	**-0.3**
WRAK	**Wrangell Islan**	**4.96**	**349**	P	**Pn**	**19 48 06.6**	**-0.3**
	baz=168,SNR=22						
WRAK					Sb	**Sg**	**19 49 26.0**	**-4.9**
	baz=168						
PFB	**Port Renfrew**	**5.00**	**124**	Pn	**Pn**	**19 48 05.5**	**-2.1**
B926	**Mesachie Lake**	**5.01**	**121**	Pn	**Pn**	**19 48 09.0**	**+1.3**
OCP	**Olym-Cheeka Pk**	**5.09**	**128**	Pn	**Pn**	**19 48 08.9**	**+0.2**
WSLR	**Whistler**	**5.11**	**103**	Pn	**Pn**	**19 48 09.7**	**+0.6**
BIB	**Bowen Island**	**5.17**	**112**	Pn	**Pn**	**19 48 10.1**	**+0.2**
GOBB	**Galiano Island**	**5.28**	**117**	Pn	**Pn**	**19 48 10.5**	**-0.9**
C03A	**Quillayute Air**	**5.36**	**130**		**Pn**	**19 48 13.1**	**+0.6**
C03A					IAML		19 50 19.5
	comp=N,285nm,2.0s						
C03A					IAML		19 50 21.9
	comp=E,338nm,1.3s						
T35M	**Bob Quinn**	**5.43**	**2**	Pn	**Pn**	**19 48 14.7**	**+1.2**
T35M	**Bob Quinn**	**5.43**	**2**	P	**Pn**	**19 48 14.6**	**+1.1**
	baz=183,SNR=26						
T35M					Sb	**Sg**	**19 49 40.2**	**-5.8**
	baz=183						
B010	**North Saanich**	**5.48**	**119**	Pn	**Pn**	**19 48 11.4**	**-2.7**
PGC	**Sidney**	**5.48**	**119**	Pn	**Pn**	**19 48 14.4**	**+0.3**
PGC	**Sidney**	**5.48**	**119**	Pn	**Pn**	**19 48 11.5**	**-2.6**
B009	**North Saanich**	**5.48**	**119**	Pn	**Pn**	**19 48 13.5**	**-0.6**
OBC	**Olympics--Boni**	**5.54**	**127**	Pn	**Pn**	**19 48 14.9**	**-0.1**
SNB	**Saturna Island**	**5.56**	**117**	Pn	**Pn**	**19 48 13.7**	**-1.6**
LLLB	**Lillooet**	**5.62**	**96**	Pn	**Pn**	**19 48 16.7**	**+0.6**
LLLB	**Lillooet**	**5.62**	**96**	Pn	**Pn**	**19 48 16.3**	**+0.2**
HNBB	**Haney**	**5.65**	**111**	Pn	**Pn**	**19 48 15.8**	**-0.7**
VGZ	**Gonzales**	**5.69**	**121**	Pn	**Pn**	**19 48 16.2**	**-0.8**
B04A	**Port Angeles**	**5.81**	**124**	Pn	**Pn**	**19 48 18.5**	**-0.2**
OSD	**Olympics--Snow**	**5.87**	**127**	Pn	**Pn**	**19 48 17.2**	**-2.5**
VDB	**Vedder Mountai**	**6.04**	**112**	Pn	**Pn**	**19 48 20.8**	**-1.1**
NLWA	**Neilton Lookou**	**6.08**	**131**		**Pn**	**19 48 23.5**	**+1.0**
SIT	**Sitka**	**6.14**	**335**	Pn	**Pn**	**19 48 22.0**	**-1.2**
SIT	**Sitka**	**6.14**	**335**	P	**Pn**	**19 48 22.4**	**-0.7**
	baz=152						
MBW	**Mount Baker**	**6.28**	**113**	Pn	**Pn**	**19 48 24.3**	**-1.0**
HOPB	**Hope**	**6.29**	**107**	Pn	**Pn**	**19 48 26.0**	**+0.8**
HDW	**Hoodsport**	**6.31**	**125**	Pn	**Pn**	**19 48 23.2**	**-2.4**
WISH	**Wishkah**	**6.33**	**132**	Pn	**Pn**	**19 48 27.6**	**+1.8**
S32K	**Killisnoo**	**6.34**	**340**	P	**Pn**	**19 48 25.2**	**-0.6**
	baz=157						
S32K					Sb	**Sb**	**19 50 05.4**	**+6.8**
	baz=157						
CMW	**Cultus Mountai**	**6.34**	**116**	Pn	**Pn**	**19 48 25.4**	**-0.6**
S34M	**Telegraph Cree**	**6.37**	**358**	Pn	**Pn**	**19 48 27.2**	**+0.9**
S34M	**Telegraph Cree**	**6.37**	**358**	P	**Pn**	**19 48 27.4**	**+1.1**
	baz=177						
GNW	**Green Mountain**	**6.48**	**125**	Pn	**Pn**	**19 48 28.9**	**+1.0**
B06A	**Marblemount**	**6.65**	**114**		**Pn**	**19 48 30.6**	**+0.4**
B06A	**Marblemount**	**6.65**	**114**	Pn	**Pn**	**19 48 29.9**	**-0.3**
RPW	**Rockport**	**6.67**	**114**	Pn	**Pn**	**19 48 30.6**	**0.0**
CPW	**Capitol Peak**	**6.73**	**130**	Pn	**Pn**	**19 48 30.7**	**-0.7**
RADR	**Rader Ridge**	**6.85**	**136**		**Pn**	**19 48 33.9**	**+1.0**
E03A	**Lebam**	**6.85**	**134**		**Pn**	**19 48 33.8**	**+0.8**
DLBC	**Dease Lake**	**6.90**	**3**	Pn	**Pn**	**19 48 35.0**	**+1.4**
	comp=E,1.9nm,0.3s,baz=201,slow=12,SNR=25						
DLBC				Lg	Lg	19 50 27.3	
	comp=E,3.5nm,0.3s,baz=1.7,slow=9.9,SNR=9.4						
DLBC				LR	LR	19 51 14.4	
	comp=E,3μm,21.4s,baz=184,slow=38						
	comp=E,26nm,0.7s						
DLBC	**Dease Lake**	**6.90**	**3**	Pn	**Pn**	**19 48 34.9**	**+1.3**
DLBC	**Dease Lake**	**6.90**	**3**	Pn	**Pn**	**19 48 35.0**	**+1.4**
DLBC	**Dease Lake**	**6.90**	**3**	P	**Pn**	**19 48 34.8**	**+1.2**
	baz=183,SNR=31						
C05A	**Tolt Reservoir**	**7.00**	**120**	Pn	**Pn**	**19 48 35.6**	**+0.6**
JIS	**Juneau Island**	**7.06**	**344**		**Pn**	**19 48 35.8**	**+0.1**
GPW	**Glacier Peak**	**7.06**	**116**	Pn	**Pn**	**19 48 36.3**	**+0.3**
R32K	**Eaglecrest**	**7.08**	**343**	P	**Pn**	**19 48 36.3**	**+0.3**
	baz=160						
BLBC	**Blue River**	**7.10**	**82**	Pn	**Pn**	**19 48 35.8**	**-0.8**
D05A	**Enumclaw**	**7.16**	**124**	Pn	**Pn**	**19 48 39.3**	**+2.2**
NBC4	**NorthernBC 4**	**7.24**	**51**	Pn	**Pn**	**19 48 37.8**	**-0.5**
PNT	**Penticton**	**7.40**	**103**	Pn	**Pn**	**19 48 38.6**	**-1.9**
BESE	**Bessie Mountai**	**7.43**	**343**	Pn	**Pn**	**19 48 37.4**	**-3.5**
BESE	**Bessie Mountai**	**7.43**	**343**	Pn	Pn	19 48 34.8	-6.1
Q32M	**Nakina River**	**7.47**	**354**	P	**Pn**	**19 48 42.3**	**+0.8**
	baz=172						
FMW	**Mount Fremont**	**7.49**	**125**	Pn	**Pn**	**19 48 40.4**	**-1.6**
NBC5	**NorthernBC 5**	**7.56**	**35**	Pn	**Pn**	**19 48 44.7**	**+2.0**
MNB	**Mounoet Dainar**	**7.63**	**80**	Pn	**Pn**	**19 48 44.6**	**+0.8**
BDMTA	**Bald Mountain**	**7.77**	**61**	Pn	**Pn**	**19 48 46.0**	**+0.4**
LTY	**Liberty**	**7.81**	**120**		**Pn**	**19 48 46.8**	**+0.6**
LTY	**Liberty**	**7.81**	**120**	Pn	**Pn**	**19 48 43.9**	**-2.3**
R33M	**Jennings River**	**7.85**	**359**	Pn	**Pn**	**19 48 46.7**	**0.0**
R33M	**Jennings River**	**7.85**	**359**	P	**Pn**	**19 48 47.6**	**+0.9**
	baz=179,SNR=13						
SLEB	**Sale Mountain**	**7.85**	**88**	Pn	**Pn**	**19 48 47.5**	**+0.6**
WTMTA	**White Mountain**	**7.95**	**54**	Pn	**Pn**	**19 48 48.7**	**+0.6**
B08A	**Colville Reser**	**7.98**	**109**	Pn	**Pn**	**19 48 49.0**	**+0.5**
B08A	**Colville Reser**	**7.98**	**109**	Pn	**Pn**	**19 48 47.3**	**-1.2**
G03D	**McMinnville, O**	**8.04**	**139**		**Pn**	**19 48 50.0**	**+0.8**
G03D	**McMinnville, O**	**8.04**	**139**	P	**Pn**	**19 48 50.9**	**+1.6**
	baz=325						
P32M	**Atlin**	**8.22**	**349**	Pn	**Pn**	**19 48 51.6**	**-0.2**
P32M	**Atlin**	**8.22**	**349**	P	**Pn**	**19 48 52.5**	**+0.6**
	baz=167						
SKAG	**Skagway**	**8.34**	**343**	P	**Pn**	**19 48 54.0**	**+0.7**
	baz=160						
FNBB	**Fort Nelson**	**8.54**	**28**	Pn	**Pn**	**19 48 55.3**	**-0.7**
PLBC	**Pleasant Camp**	**8.54**	**340**	Pn	**Pn**	**19 48 54.4**	**-1.7**
PLBC	**Pleasant Camp**	**8.54**	**340**	P	**Pn**	**19 48 56.4**	**+0.3**
	baz=155						
COR	**Corvallis**	**8.54**	**142**		**Pn**	**19 48 56.4**	**+0.2**
WTLY	**Watson Lake, Y**	**8.63**	**6**	Pn	**Pn**	**19 48 58.9**	**+1.6**
P33M	**Teslin, Yukon**	**8.75**	**353**		**Pn**	**19 48 59.9**	**+0.8**
P33M	**Teslin, Yukon**	**8.75**	**353**	Pn	**Pn**	**19 48 59.7**	**+0.7**
P33M	**Teslin, Yukon**	**8.75**	**353**	P	**Pn**	**19 48 59.8**	**+0.8**
	baz=171,SNR=6.9						
H04D	**Lebanon**	**8.82**	**140**		**Pn**	**19 49 01.2**	**+1.3**
H04D	**Lebanon**	**8.82**	**140**	P	**Pn**	**19 49 03.6**	**+3.7**
	baz=326						
NBC6	**NorthernBC 6**	**8.83**	**34**	Pn	**Pn**	**19 49 00.2**	**+0.1**
G05D	**Wamic, OR**	**8.87**	**132**	P	**Pn**	**19 49 04.3**	**+3.7**
	baz=319						
C09A	**Chrisman Ranch**	**8.87**	**110**		**Pn**	**19 49 00.9**	**+0.2**
D08A	**Wollman Farm,**	**8.90**	**116**	Pn	**Pn**	**19 49 01.8**	**+0.7**
H04A	**Detroit Lake**	**8.91**	**137**	Pn	**Pn**	**19 49 02.5**	**+1.2**
HAWA	**Hanford**	**8.96**	**121**		**Pn**	**19 49 01.8**	**-0.1**
SWHSA	**Sweathouse Loo**	**8.98**	**63**	Pn	**Pn**	**19 49 02.6**	**+0.4**
BUCK	**Buck Mountain**	**8.99**	**142**		**Pn**	**19 49 03.4**	**+1.0**
P29M	**Windy Craggy**	**9.01**	**336**	Pn	**Pn**	**19 49 02.5**	**-0.1**
P29M	**Windy Craggy**	**9.01**	**336**	P	**Pn**	**19 49 03.1**	**+0.5**
	baz=151						
F07A	**Phinny Hill Vi**	**9.08**	**124**	Pn	**Pn**	**19 49 05.3**	**+1.8**
E08A	**Dider Farm, El**	**9.15**	**119**	Pn	**Pn**	**19 49 03.9**	**-0.6**
P30M	**Million Dollar**	**9.27**	**340**	Pn	**Pn**	**19 49 05.5**	**-0.6

L29M	L29M	12.24	344	P		Pn		19 49 48.3	+1.6
	baz=158								
WVOR	Wild Horse Val	12.27	133			Pn		19 49 47.4	+0.1
EYAK	Cordova Ski Ar	12.30	323	P		Pn		19 49 48.5	+1.0
	baz=130								
WRGLY	Wrigley	12.31	15	P		Pn		19 49 51.9	+4.3
	baz=202								
KMRM	Mail Ridge	12.33	154	Pn		Pn		19 49 48.5	+0.4
OVMT	Ovando	12.37	104	Pn		Pn		19 49 47.8	-0.9
M27K	Edge Creek, AK	12.40	335	Pn		Pn		19 49 46.0	-3.0
N25K	Chitina, Valde	12.62	328	P		Pn		19 49 53.7	+1.7
	baz=136								
K29M	Barlow Dome	12.83	346	Pn		Pn		19 49 53.9	-1.0
K29M	Barlow Dome	12.83	346	P		Pn		19 49 57.0	+2.2
	baz=160								
LYMT	Lyon Mountain	12.84	104	Pn		Pn		19 49 53.6	-1.6
KCPM	Cahto Peak	12.86	155	Pn		Pn		19 49 53.5	-1.9
MFID	Camas Ranch	12.91	123			Pn		19 49 55.3	-0.7
L27K	Beaver Creek,	12.98	337	Pn		Pn		19 49 55.8	-1.0
L27K	Beaver Creek,	12.98	337	P		Pn		19 49 57.5	+0.7
	baz=147								
LRM	Limekiln Ridge	13.32	108			Pn		19 50 03.1	+1.4
PLTX	Planet X, Gerl	13.33	140			Pn		19 50 02.7	+0.9
PWL	Port Wells	13.49	320	P		Pn		19 50 03.6	-0.3
	baz=126								
HLID	Hailey	13.56	120			Pn		19 50 07.2	+2.3
HLID	Hailey	13.56	120	P		Pn		19 50 07.4	+2.5
	baz=312,SNR=21								
BEKR	Beckworth	13.72	145			Pn		19 50 07.9	+0.8
KNK	Knik Glacier	13.87	322	P		Pn		19 50 07.2	-1.8
	baz=127								
BOZ	Bozeman (W)	13.92	108			Pn		19 50 10.4	+0.5
BOZ	Bozeman (W)	13.92	108	P		Pn		19 50 11.8	+1.9
	baz=302,SNR=13								
EGMT	Eagleton	13.95	97			Pn		19 50 11.6	+1.4
EGMT	Eagleton	13.95	97	P		Pn		19 50 12.9	+2.7
	baz=293,SNR=9.3								
YKA	Yellowknife Ar	13.96	32	Pn		Pn		19 50 09.2	-0.9
	comp=E,0.2nm,0.3s,baz=222,slow=12,SNR=1.7								
YKA				Lg		Lg		19 54 07.7	
	comp=E,0.2nm,0.3s,baz=314,slow=29,SNR=4.4								
	comp=E,4.8nm,0.8s								
DOT	Dot Lake	14.04	335	Pn		Pn		19 50 09.7	-1.5
KDAK	Kodiak Island	14.09	305	Pn		Pn		19 50 11.9	0.0
	comp=E,0.2nm,0.3s,baz=91,slow=4.0,SNR=4.6								
KDAK				LR		LR		19 54 22.8	
	comp=E,2µm,21.1s,baz=57,slow=32								
	comp=E,8.6nm,0.8s								
PAHR	Pah Rah Range	14.22	142			Pn		19 50 15.4	+1.4
SCRK	Sand Creek	14.28	336	P		Pn		19 50 15.1	+0.4
	baz=144								
RIDG	Independent Ri	14.32	334			Pn		19 50 14.8	-0.4
RIDG	Independent Ri	14.32	334	P		Pn		19 50 15.5	+0.4
	baz=142								
AFDM	Forest Hills D	14.33	148			Pn		19 50 16.0	+0.7
EGAK	Eagle	14.33	342	P		Pn		19 50 15.9	+0.7
	baz=153								
MPK	Martis Peak	14.34	145	Pn		Pn		19 50 14.8	-0.9
WAT6	Susitna Watana	14.36	327	P		Pn		19 50 14.6	-1.3
	baz=132								
I29M	Ogilvie Camp,	14.38	347			Pn		19 50 14.3	-1.6
I29M	Ogilvie Camp,	14.38	347	Pn		Pn		19 50 16.4	+0.5
I29M	Ogilvie Camp,	14.38	347	P		Pn		19 50 17.2	+1.2
	baz=160,SNR=9.2								
QLMT	Earthquake Lak	14.46	110			Pn		19 50 18.2	+0.9
VCNR	Virginia City	14.48	144	Pn		Pn		19 50 19.0	+1.4
DHY	Denali Highway	14.58	329	P		Pn		19 50 18.2	-0.7
	baz=134,SNR=8.7								
J26L	Joseph Creek	14.61	337	P		Pn		19 50 18.9	-0.2
	baz=146								
K24K	Donnelly Dome	14.63	333	P		Pn		19 50 18.3	-1.1
	baz=140,SNR=5.3								
SUA	Susitna One	14.80	320	P		Pn		19 50 20.0	-1.8
	baz=123,SNR=7.0								
YHH	Holmes Hill	14.83	109			Pn		19 50 21.8	-0.6
YERR	Yerington	14.90	143			Pn		19 50 24.5	+1.2
P19K	Oil Pt	15.04	311			Pn		19 50 23.5	-1.5
ILSW	Iliamna Southw	15.13	313	IAmb		IAmb		19 50 35.2	
	comp=Z,36nm,0.8s								
I27K	Kandik River	15.15	342	Pn		Pn		19 50 23.3	-3.1
I27K	Kandik River	15.15	342	P		Pn		19 50 25.6	-0.8
	baz=153,SNR=8.2								
YPP	Pitchstone Pla	15.15	111			Pn		19 50 27.5	+0.7
YPP				IAmb		IAmb		19 51 00.2	
	comp=Z,16nm,1.2s								
J25K	Salcha River,	15.16	335	P		Pn		19 50 26.3	-0.1
	baz=143								
EPYK	Eagle Plains	15.16	351	IAmb		IAmb		19 50 35.6	
	comp=Z,22nm,0.9s								
EPYK	Eagle Plains	15.16	351	Pn		Pn		19 50 25.4	-1.1
EPYK				P		P		19 50 30.7	-1.1
EPYK	Eagle Plains	15.16	351	P		Pn		19 50 26.0	-0.4
	baz=165,SNR=6.5								
ELK	Elko	15.18	129	Pn		Pn		19 50 28.5	+1.5
	baz=326,slow=15,SNR=2.3								
ELK				LR		LR		19 56 15.9	
	comp=Z,1µm,20.9s,baz=325,slow=37								
	comp=Z,1.1nm,0.8s								
ELK	Elko	15.18	129	Pn		Pn		19 50 26.1	-0.9
ELK				IAmb		IAmb		19 50 57.5	
	comp=Z,32nm,1.5s								
I26K	Coal Creek Min	15.20	340	IAmb		IAmb		19 50 36.6	
	comp=Z,32nm,1.2s								
H17A	Grant Village	15.21	110	P		P		19 50 31.8	-0.9
	baz=305								
KVN	Kaiserville	15.29	140	IAmb		IAmb		19 50 54.1	
	comp=Z,16nm,0.9s								
IMW	Indian Meadow	15.30	112	Pn		Pn		19 50 29.9	+1.2
IMW				IAmb		IAmb		19 50 49.1	
	comp=Z,30nm,1.0s								
RND	Reindeer	15.30	328	IAmb		IAmb		19 50 51.7	
	comp=Z,13nm,1.0s								
HDA	Harding Lake	15.43	333	P		Pn		19 50 30.9	+0.9
	baz=139								
RYN	Ryan	15.49	142	IAmb		IAmb		19 50 59.0	
	comp=Z,35nm,1.5s								
MOOW	Moose Ponds	15.50	112	IAmb		IAmb		19 50 52.7	
	comp=Z,38nm,1.1s								
MCK	McKinley	15.55	329			Pn		19 50 32.4	+0.8
MCK				IAmb		IAmb		19 50 40.5	
	comp=Z,27nm,1.0s								
RLMT	Red Lodge	15.59	106	P		Pn		19 50 34.6	+2.2
	baz=302								
HVU	Hansel Valley	15.66	122			Pn		19 50 34.9	+1.6
HVU				IAmb		IAmb		19 50 43.0	
	comp=Z,62nm,1.5s								
SNOW	Snow King Moun	15.67	113	IAmb		IAmb		19 50 55.4	
	comp=Z,37nm,1.1s								
ILAR	Eielson Array	15.69	334	Pn		Pn		19 50 35.1	+1.7
	comp=Z,0.1nm,0.3s,baz=147,slow=9.8,SNR=37								
ILAR				Lg		Lg		19 55 12.2	
	baz=120,slow=25,SNR=4.8								
ILAR				LR		LR		19 56 22.3	
	comp=Z,1µm,20.2s,baz=127,slow=36								
	comp=Z,1.8nm,0.8s								
H27K	Steamboat Moun	15.70	344	P		P		19 50 40.0	+2.3
H27K	Steamboat Moun	15.70	344	P		Pn		19 50 34.5	+0.9
	baz=154,SNR=19								
NVAR	Mina Array Bea	15.75	142	Pn		Pn		19 50 36.2	+1.7
	comp=Z,0.1nm,0.3s,baz=323,slow=12,SNR=19								
NVAR				LR		LR		19 56 22.5	
	comp=Z,824nm,21.5s,baz=332,slow=36								
	comp=Z,2.1nm,0.9s								
NVAR	Mina Array Bea	15.75	142			Pn		19 50 36.0	+1.4
NV11	Mina Array Sit	15.80	141	IAmb		IAmb		19 51 08.2	
	comp=Z,35nm,1.3s								
TRF	Thorofare Moun	15.81	326	IAmb		IAmb		19 50 49.8	
	comp=Z,24nm,1.1s								
TRF	Thorofare Moun	15.81	326	P		Pn		19 50 35.5	+0.3
	baz=130								
LHV	Little Huntoon	15.82	143	IAmb		IAmb		19 51 11.1	
	comp=Z,25nm,1.1s								
Q09A	Carvers	15.85	138			Pn		19 50 34.6	-1.2
CCB	Clear Creek Bu	15.85	332	IAmb		IAmb		19 51 19.2	
	comp=Z,31nm,1.8s								
AHID	Auburn Hatcher	15.91	116	IAmb		IAmb		19 50 56.4	
	comp=Z,38nm,1.2s								
PRP	Porcupine Dome	15.93	337	P		Pn		19 50 35.7	-0.9
	baz=144,SNR=13								
M20K	Styx River	15.99	319	IAmb		IAmb		19 50 44.4	
	comp=Z,19nm,0.8s								
M20K	Styx River	15.99	319	P		Pn		19 50 36.1	-1.3
	baz=120,SNR=9.5								
BWN	Browne	16.02	329	IAmb		IAmb		19 50 47.1	
	comp=Z,18nm,0.8s								
R17K	Ugashik Creek	16.04	302	P		Pn		19 50 36.9	-1.0
	baz=101,SNR=9.7								
N19K	Bonanza Creek	16.08	314	Pn		Pn		19 50 38.2	-0.4
N19K	Bonanza Creek	16.08	314	P		Pn		19 50 36.1	-2.5
	baz=114								
BGU	Big Grassy Mou	16.14	124	IAmb		IAmb		19 50 49.0	
	comp=Z,33nm,1.6s								
MDPB	Devils Postpil	16.16	145			Pn		19 50 40.7	+0.8
SAO	San Andreas Ge	16.19	153			P		19 50 42.8	-0.5
NEA2	Nenana	16.19	331	P		Pn		19 50 38.8	-1.0
	baz=135,SNR=7.2								
G27K	Doyon Strip	16.25	344	P		P		19 50 46.5	+2.7
G27K	Doyon Strip	16.25	344	P		Pn		19 50 40.0	-0.6
	baz=155,SNR=35								
HWUT	Hardware Ranch	16.43	120	IAmb		IAmb		19 51 01.7	
	comp=Z,37nm,1.4s								
BPAW	Bear Paw Mtn.	16.47	327	P		Pn		19 50 42.3	-1.2
	baz=130,SNR=8.6								
BBGB	Big Mountain B	16.48	152			Pn		19 50 42.6	-1.2
TPH	Tonopah	16.48	140			Pn		19 50 43.5	-0.5
M19K	Big River Lodg	16.52	318			Pn		19 50 42.5	-1.7
M19K	Big River Lodg	16.52	318	P		Pn		19 50 41.0	-3.2
	baz=118,SNR=6.8								
L20K	Farewell, AK	16.60	320	P		Pn		19 50 43.7	-1.4
	baz=120,SNR=7.0								
H25K	Birch Creek	16.61	338	P		Pn		19 50 43.7	-1.5
	baz=145,SNR=15								
N18K	Kilae Creek	16.66	313	Pn		Pn		19 50 44.6	-1.3
N18K				IAmb		IAmb		19 50 52.9	
	comp=Z,19nm,0.9s								
N18K	Kilae Creek	16.66	313	P		Pn		19 50 44.9	-1.1
	baz=112								
SVW2	Sparrevohn	16.69	315	IAmb		IAmb		19 50 51.1	
	comp=Z,22nm,0.9s								
LAO	LASA Array	16.69	97	IAmb		IAmb		19 51 18.0	
	comp=Z,54nm,1.4s								
LAO	LASA Array	16.69	97	P		P		19 50 48.6	-0.3
	baz=296								
FYU	Fort Yukon	16.73	340	IAmb		IAmb		19 51 32.0	
	comp=Z,59nm,1.5s								
MZP	Montezuma Peak	16.74	141			Pn		19 50 47.5	+0.2
G26K	Porcupine Rive	16.76	342	P		Pn		19 50 47.2	+0.1
	baz=151,SNR=14								
H24K	Noodor Dome	16.77	335	IAmb		IAmb		19 50 54.1	
	comp=Z,19nm,0.9s								
H24K	Noodor Dome	16.77	335	P		Pn		19 50 45.4	-1.9
	baz=140,SNR=10								
BW06	Boulder Array	16.79	113	P		Pn		19 50 49.3	+1.5
	baz=309,SNR=22								
PD31	Pinedale Array	16.79	113	IAmb		IAmb		19 51 00.7	
	comp=Z,83nm,1.6s								
PDAR	Pinedale Array	16.79	113	Pn		P		19 50 50.7	+0.5
	comp=Z,11nm,0.8s,baz=310,slow=8.8,SNR=37								
DUG	Dugway, Tooele	16.79	126	IAmb		IAmb		19 51 05.1	
	comp=Z,34nm,1.1s								
DUG	Dugway, Tooele	16.79	126	P		Pn		19 50 49.4	+1.5
	baz=319								
L19K	White Mountain	16.85	318			Pn		19 50 45.5	-2.8
L19K				IAmb		IAmb		19 50 54.0	
	comp=Z,25nm,0.9s								
L19K	White Mountain	16.85	318	P		Pn		19 50 47.0	-1.3
	baz=118,SNR=8.2								
INK	Inuvik	16.85	356	Pn		P		19 50 49.5	-0.9
	comp=Z,0.3nm,0.3s,baz=169,slow=10,SNR=1.9								
	comp=Z,4.4nm,0.9s								
INK	Inuvik	16.85	356	Pn		Pn		19 50 46.8	-1.4
INK				P		sP		19 50 53.4	+2.6
PMPB	Monarch Peak	16.89	152			Pn		19 50 49.0	+0.1
O17K	Koliganek Bris	16.92	309	P		Pn		19 50 45.8	-3.4
	baz=107,SNR=13								
R11A	Troy Canyon, C	16.94	135	IAmb		IAmb		19 51 23.8	
	comp=Z,34nm,1.6s								
R11A	Troy Canyon, C	16.94	135	P		Pn		19 50 50.8	+1.1
	baz=326,SNR=8.8								
CTU	Camp Tracy	16.98	122	Pn		Pn		19 50 50.4	+0.2
SPR3	Spring Creek 3	16.98	131	IAmb		IAmb		19 51 18.0	
	comp=Z,33nm,1.6s								
MLY	Manley	17.01	330	P		Pn		19 50 49.1	-1.3
	baz=133,SNR=20								
K20K	Telida	17.13	323	IAmb		IAmb		19 50 57.0	
	comp=Z,22nm,1.1s								
K20K	Telida	17.13	323	P		Pn		19 50 50.8	-1.0
	baz=123,SNR=8.3								
GMN	Gold Mountain	17.13	141	IAmb		IAmb		19 51 20.0	
	comp=Z,49nm,1.9s								
JLU	Jordanelle	17.20	122	IAmb		IAmb		19 51 37.3	
	comp=Z,30nm,1.5s								
H23K	Yukon River	17.22	333	P		Pn		19 50 51.3	-1.7
	baz=137								
DGMT	Dagmar	17.25	90	IAmb		IAmb		19 51 14.7	
	comp=Z,22nm,0.9s								
G24K	Hadweenzic Riv	17.35	337	P		Pn		19 50 54.8	+0.3
	baz=143,SNR=8.0								
GRAC	Grapevine Rang	17.36	142	IAmb		IAmb		19 51 33.5	
	comp=Z,28nm,1.1s								
GRAC	Grapevine Rang	17.36	142	P		P		19 50 56.9	+0.6
	baz=331								
FFC	Flin Flon	17.44	68			Pn		19 50 55.4	-0.3
FFC				IAmb		IAmb		19 51 27.3	
	comp=Z,34nm,1.3s								
FFC	Flin Flon	17.44	68	Pn		Pn		19 50 53.8	-1.9
F26K	Sheenjek River	17.48	343	P		Pn		19 50 56.1	-0.1
	baz=151,SNR=8.9								
E27K	Coleen River	17.50	346	P		Pn		19 50 56.3	-0.1
	baz=157,SNR=7.3								
I21K	Tanana	17.50	329	P		Pn		19 50 55.8	-0.6
	baz=131,SNR=9.9								
CWC	Cottonwood Cre	17.58	144	P		Pn		19 50 58.2	+0.4
	baz=333								
J20K	Nowinta River	17.62	325	P		P		19 50 58.6	-0.3
J20K	Nowinta River	17.62	325	P		Pn		19 50 57.5	-0.3
	baz=125								
F25K	Christian Rive	17.68	341	P		Pn		19 50 59.1	+0.4
	baz=148								
H22K	Ishtalitna Cre	17.80	332	P		Pn		19 51 00.0	-0.1
	baz=134,SNR=11								
TPNV	Topopah Spring	17.84	139	IAmb		IAmb		19 51 44.2	
	comp=Z,26nm,1.2s								
TPNV	Topopah Spring	17.84	139	P		P		19 51 03.0	+1.3
	baz=330								
N16K	Nishlik Lake	17.93	311	P		Pn		19 51 00.1	-1.7
	baz=107								
G23K	Bananza Creek	18.01	335	P		Pn		19 51 01.4	-1.3
	baz=138,SNR=7.9								
FURC	Furnace Creek,	18.02	142	P		P		19 51 04.9	+1.4
	baz=331								
H21K	Melozitna Rive	18.08	330	P		P		19 51 04.0	0.0
H21K	Melozitna Rive	18.08	330	P		Pn		19 51 03.6	+0.1
	baz=131,SNR=7.4								
F24K	Squaw Lake	18.11	339	P		P		19 51 04.9	+0.5
	baz=144								
E25K	Arctic Village	18.12	342	P		P		19 51 06.2	+1.7
	baz=149								
MPMC	Manual Prospec	18.14	144	P		P		19 51 07.0	+1.9
	baz=333,SNR=6.3								
ISA	Isabella, Lake	18.14	146	IAmb		IAmb		19 51 13.6	
	comp=Z,34nm,1.6s								
ISA	Isabella, Lake	18.14	146	P		P		19 51 07.4	+2.4
	baz=335								
RDMU	Red Mountain	18.23	119	P		Pn		19 51 05.5	-0.3
GWY	Greenwater Val	18.34	142	IAmb		IAmb		19 51 14.0	
	comp=Z,32nm,1.7s								
MVU	Marysvale	18.39	128	P		Pn		19 51 08.2	+0.4
P17A	Butcher Ranch,	18.40	123	IAmb		IAmb		19 51 22.5	
	comp=Z,36nm,1.6s								
PKM	Mcpherson Peak	18.41	151	P		Pn		19 51 10.4	+2.4
	baz=338								
COLD	Coldfoot	18.44	336	P		P		19 51 05.6	-2.4
COLD	Coldfoot	18.44	336	P		Pn		19 51 08.1	+0.1
	baz=139								
QSM	Queen of Sheba	18.45	142	IAmb		IAmb		19 51 16.7	
	comp=Z,52nm,1.8s								
P18A	Preston Nutter	18.54	122	P		P		19 51 07.4	-2.2
P18A				IAmb		IAmb		19 51 44.2	
	comp=Z,18nm,1.0s								
IMAR	Indian Mountai	18.58	330			Pn		19 51 10.0	+0.2
Q16A	Castle Valley	18.59	125	IAmb		IAmb		19 51 18.6	
	comp=Z,44nm,1.5s								
K22A	Casper	18.62	109	IAmb		IAmb		19 51 25.7	
	comp=Z,48nm,1.1s								
K22A	Casper	18.62	109	P		Pn		19 51 11.5	+0.9
	baz=307,SNR=12								
SZCU	Shurtz Canyon	18.69	132	IAmb		IAmb		19 51 18.6	
	comp=Z,34nm,1.5s								
E24K	Your Creek	18.69	339	P		P		19 51 10.0	-0.8
	baz=143,SNR=5.4								
MTPU	Mount Pierson	18.76	129	IAmb		IAmb		19 51 20.6	
	comp=Z,46nm,1.7s								
SRU	San Rafael Swe	18.78	124	P		P		19 51 10.8	-1.3
SRU				IAmb		IAmb		19 51 23.6	
	comp=Z,47nm,1.6s								
RWWY	Rawlins	18.82	112	IAmb		IAmb		19 51 38.6	
	comp=Z,34nm,1.2s								
G21K	Allakaket	18.86	331	P		Pn		19 51 13.3	+0.2
	baz=131								
E23K	Chandalar	18.94	338	P		Pn		19 51 14.1	0.0
	baz=141								
GSC	Goldstone, Bar	19.06	143	IAmb		IAmb		19 51 46.8	
	comp=Z,34nm,1.4s								
GSC	Goldstone, Bar	19.06	143	P		Pn		19 51 18.2	+2.4
	baz=333								
LCMT	Little Creek M	19.09	133	IAmb		IAmb		19 51 47.1	
	comp=Z,23nm,1.3s								
PKCU	Pink Cliffs	19.17	130	IAmb		IAmb		19 51 37.1	
	comp=Z,27nm,1.2s								
O20A	White River Ci	19.27	118	IAmb		IAmb		19 51 54.6	
	comp=Z,39nm,1.1s								
O20A	White River Ci	19.27	118	P		Pn		19 51 20.6	+2.2
	baz=314								
KNB	Kanab	19.28	132	IAmb		IAmb		19 52 03.0	
	comp=Z,33nm,1.4s								
RSSD	Black Hills	19.28	102	P		P		19 51 17.3	-0.3
RSSD	Black Hills	19.28	102	P		Pn		19 51 19.3	+0.8
	baz=302								
TUQ	Turquoise Moun	19.28	141	P		Pn		19 51 18.7	+0.1
	baz=331,SNR=8.6								
D25K	Kavik River	19.31	343	P		P		19 51 16.5	-1.0
	baz=149								
F21K	Alatna River	19.33	333	P		Pn		19 51 19.2	+0.4
	baz=133								
TOLK	Toolik Lake Re	19.39	339			P		19 51 17.6	-0.8
TOLK				IAmb		IAmb		19 51 28.5	
	comp=Z,20nm,1.1s								
TOLK	Toolik Lake Re	19.39	339	P		P		19 51 18.8	+0.4
	baz=142								
HEC	Hector,Ludlow	19.66	143	P		Pn		19 51 23.6	+0.6
	baz=333,SNR=5.3								
BFSC	Mount Baldy Ra	19.71	146	P		Pn		19 51 25.4	+1.7
	baz=336								
D23K	Nanushuk River	19.89	339	P		Pn		19 51 26.0	+0.6
	baz=141								
GMRC	Granite Mounta	19.96	141	P		Pn		19 51 27.1	+0.5
	baz=332								
U15A	North Rim	20.00	132	IAmb		IAmb		19 51 34.3	
	comp=Z,61nm,1.7s								
N23A	Red Feather La	20.06	112	P		P		19 51 24.9	-1.3
N23A	Red Feather La	20.06	112	P		Pn		19 51 27.7	-0.1
	baz=311								
PHWY	Pilot Hill	20.08	111	IAmb		IAmb		19 51 41.6	
	comp=Z,28nm,1.2s								
PV07	Paradox Valley	20.26	122	IAmb		IAmb		19 52 08.8	
	comp=Z,35nm,1.4s								
W13A	Hualapai Mount	20.41	137	IAmb		IAmb		19 51 42.5	
	comp=Z,39nm,1.5s								
BELC	Belle Mtn. Jos	20.52	143	P		P		19 51 31.1	0.0
	baz=333								
C23K	Itkillik River	20.57	340	P		Pn		19 51 32.6	-0.8
	baz=143								
SCI2	San Clemente I	20.57	150	P		P		19 51 32.5	+1.1
	baz=338								
PMD	Palm Desert	20.70	144	IAmb		IAmb		19 52 04.4	
	comp=Z,20nm,1.4s								
PFO	Pinyon Flats O	20.70	145	P		Pn		19 51 35.0	-0.4
	comp=Z,2.8nm,0.7s,baz=328,slow=10,SNR=3.9								
	comp=Z,2.8nm,0.7s								
PFO	Pinyon Flats O	20.70	145	P		P		19 51 31.3	-1.7
PFO				IAmb		IAmb		19 51 46.7	
	comp=Z,53nm,2.0s								
PFO	Pinyon Flats O	20.70	145	P		P		19 51 34.5	+1.5
	baz=334								
TPFO	Pinon Flats	20.71	145	P		Pn		19 51 34.9	-0.5
	baz=334								
IRM	Iron Mountain	20.71	141	P		P		19 51 34.4	+1.3
	baz=332								
ISCO	Idaho Springs	20.97	114	P		P		19 51 35.7	-0.4
ISCO				IAmb		IAmb		19 51 48.0	
	comp=Z,48nm,1.7s								
ISCO	Idaho Springs	20.97	114	P		P		19 51 37.8	+1.7
	baz=313								
PDMCI	Parker Dam,Lak	20.99	139	P		P		19 51 38.3	+2.4
	baz=330								
BC3	Big Chuckawall	21.04	142	P		P		19 51 37.8	+1.2
	baz=333								
WUAZ	Wupatki	21.18	132	IAmb		IAmb		19 51 49.7	
	comp=Z,31nm,1.3s								
WUAZ	Wupatki	21.18	132	P		P		19 51 40.0	+1.8
	baz=325								
MVCO	Mesa Verde	21.26	124	P		P		19 51 40.8	+1.6
	baz=320								
BLYC	Blythe	21.31	140	P		P		19 51 39.2	-0.3
BLYC				IAmb		IAmb		19 51 51.1	
	comp=Z,47nm,1.6s								
MONP2	Monument Peak	21.36	145	P		P		19 51 42.3	+2.0
	baz=335,SNR=12								
BAR	Barrett	21.47	146	P		P		19 51 41.3	+0.1
BAR				IAmb		IAmb		19 51 47.4	
	comp=Z,40nm,1.6s								
SWSC	Sam W. Stewart	21.54	144	P		P		19 51 44.9	+2.9
	baz=334								
IKP	In-

comp=Z,573nm,21.2s,baz=317,slow=37
SCHQ Schefferville 37.20 59 LR LR 20 09 34.4
comp=Z,842nm,19.9s,baz=290,slow=37
M57A Sunshine Farm, 37.49 84 IAmb IAmb 19 54 06.7
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 40.46 37 LR LR 20 11 42.8
comp=Z,462nm,18.9s,baz=301,slow=37
SEY Seymchan 40.61 317 P **P 19 54 33.9 +1.7**
comp=Z,20nm,0.8s,baz=77,slow=14,SNR=26
comp=Z,20nm,0.8s
PETK Petropavlovsk- 42.11 301 P **P 19 54 46.2 +1.5**
comp=Z,8.6nm,0.8s,baz=82,slow=11,SNR=10
PETK LR LR 20 10 27.7
comp=Z,301nm,19.7s,baz=40,slow=34
comp=Z,8.6nm,0.8s
PETK Petropavlovsk- 42.11 301 P **P 19 54 45.7 +1.0**
MA2 Magadan 42.65 313 LR LR 20 10 58.8
comp=Z,313nm,21.6s,baz=48,slow=34
TIXI Tiksi 45.16 334 P **P 19 55 10.3 +1.4**
comp=Z,7.0nm,0.9s,baz=92,slow=23,SNR=3.9
TIXI LR LR 20 17 35.6
comp=Z,312nm,18.9s,baz=0.0,slow=41
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 48.96 9 LR LR 20 18 08.3
comp=Z,137nm,18.4s,baz=302,slow=38
YAK Yakutsk 50.23 323 P **P 19 55 49.4 +1.0**
comp=Z,12nm,0.8s,baz=79,slow=1.3,SNR=14
YAK LR LR 20 17 28.8
comp=Z,276nm,19.8s,baz=87,slow=36
comp=Z,12nm,0.8s
YAK Yakutsk 50.23 323 P **P 19 55 48.0 -0.4**
JMIC Jan Mayen 51.00 21 LR LR 20 18 27.2
comp=Z,140nm,21.9s,baz=330,slow=37
BORG Borgarnes 51.89 31 LR LR 20 18 29.1
comp=Z,234nm,18.6s,baz=320,slow=36
NRIK Noril'sk 56.19 345 P **P 19 56 33.1 +0.9**
comp=Z,7.6nm,0.7s,baz=38,slow=6.3,SNR=9.7
NRIK LR LR 20 24 34.6
comp=Z,98nm,18.2s,baz=43,slow=40
comp=Z,7.6nm,0.7s
NRIK Noril'sk 56.19 345 P **P 19 56 31.1 -1.1**
KLR Kul'dur 57.59 310 P **P 19 56 43.4 +1.0**
comp=Z,1.4nm,0.8s,baz=9.5,slow=6.1,SNR=3.8
KLR LR LR 20 21 42.8
comp=Z,201nm,18.2s,baz=0.0,slow=36
comp=Z,1.4nm,0.8s
H11N2 WAKE ISLAND Hy 57.71 261 T T 20 59 22.1
baz=40,slow=76,SNR=2430
H11N3 WAKE ISLAND Hy 57.71 261 T T 20 59 22.2
baz=40,slow=76,SNR=2268
H11N1 WAKE ISLAND Hy 57.73 261 T T 20 59 23.3
baz=40,slow=76,SNR=1816
ARCES ARCESS Array B 57.95 10 LR LR 20 21 35.7
comp=Z,193nm,21.2s,baz=338,slow=36
ARCES ARCESS Array B 57.95 10 P **P 19 56 44.3 -0.4**
H11S1 WAKE ISLAND Hy 58.75 260 T T 21 00 41.7
baz=40,slow=76,SNR=45
H11S2 WAKE ISLAND Hy 58.76 260 T T 21 00 42.6
baz=40,slow=76,SNR=55
H11S3 WAKE ISLAND Hy 58.77 260 T T 21 00 37.4
baz=40,slow=76,SNR=31
SJG San Juan 60.21 98 LR LR 20 23 42.3
comp=Z,128nm,21.3s,baz=318,slow=37
TAOE Nuku Hiva Isla 60.73 191 *e*LR LR 20 15 02.1
comp=Z,255nm,23.0s
TAOE Nuku Hiva Isla 60.73 191 *e*T T 21 02 39.0
comp=Z,43nm,0.3s
JSD Sado 61.96 297 P **P 19 57 11.5 -1.1**
MJAR Matsushiro Arr 63.05 295 P **P 19 57 19.2 -0.8**
comp=Z,2.4nm,0.8s,baz=43,slow=5.9,SNR=7.1
MJAR LR LR 20 22 19.2
comp=Z,74nm,21.1s,baz=52,slow=34
comp=Z,2.4nm,0.8s
MAJO Matsushiro 63.05 295 P **P 19 57 19.0 -1.0**
NB2 NORSAR Subarra 63.67 20 P **P 19 57 24.4 +0.6**
comp=Z,6.1nm,1.2s,baz=336,slow=6.9
NOA NORSAR Array B 63.67 20 P **P 19 57 23.7 -0.1**
comp=Z,2.0nm,0.8s,baz=336,slow=6.6,SNR=8.1
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 64.91 30 LR LR 20 25 16.2
comp=Z,208nm,18.6s,baz=357,slow=36
HFS Hagfors 65.00 19 LR LR 20 25 28.7
comp=Z,250nm,19.1s,baz=342,slow=36
FIA1 FINESS Array S 65.82 12 P **P 19 57 36.6 -1.0**
FINES FINESS Array B 65.82 12 P **P 19 57 38.6 +1.0**
comp=Z,6.4nm,0.9s,baz=6.7,slow=6.5,SNR=14
FINES LR LR 20 26 35.7
comp=Z,160nm,19.3s,baz=347,slow=36
comp=Z,6.4nm,0.9s
FINES FINESS Array B 65.82 12 P **P 19 57 38.4 +0.8**
JCJ Chichijima 67.57 286 LR LR 20 26 11.6
comp=Z,13nm,19.3s,baz=124,slow=35
KLMR Klimovskoe 67.65 5 *e*P **P 19 57 47.5 -1.9**
KLMR AMP 19 57 51.2
comp=Z,12nm,1.1s
KSRS Korea Array 67.99 303 P **P 19 57 52.6 +0.7**
comp=Z,1.8nm,0.8s,baz=56,slow=5.5,SNR=7.3
KSRS LR LR 20 28 45.0
comp=Z,45nm,18.2s,baz=45,slow=37
comp=Z,1.8nm,0.8s
VAH Vaihoa 68.15 198 *e*T T 21 11 53.4
comp=Z,11nm,0.4s
SONM Songino Array 69.59 323 P **P 19 58 02.7 +0.8**
comp=Z,0.7nm,0.7s,baz=56,slow=5.2,SNR=6.6
SONM LR LR 20 29 16.3
comp=Z,204nm,19.5s,baz=21,slow=36
comp=Z,0.7nm,0.7s
KIRV Kirov 70.21 360 LR LR 20 32 44.5
comp=Z,90nm,20.4s,baz=0.9,slow=39
TIAR Tiarei 70.74 199 *e*T T 21 15 15.5
comp=Z,2.8nm,0.2s
ZALV Zalesovo Beam 70.75 339 P **P 19 58 09.1 +0.4**
comp=Z,3.3nm,0.8s,baz=32,slow=5.9,SNR=12
ZALV LR LR 20 33 06.9
comp=Z,129nm,18.0s,baz=3.0,slow=39
comp=Z,3.3nm,0.8s
PPT Papeete 70.80 199 LR LR 20 22 40.0
comp=Z,119nm,20.4s,baz=1.0,slow=30
PPT2 Papeete2 70.82 199 *e*LR LR 20 19 42.0
comp=Z,228nm,27.8s
OBN Obninsk 73.16 8 LR LR 20 32 28.6
comp=Z,26nm,18.8s,baz=5.0,slow=37
ATAH Atahualpa 73.58 125 LR LR 20 30 55.1
comp=Z,143nm,18.3s,baz=348,slow=36
NKC Novy Kostel 73.84 24 AMS AMS 20 32 00.0
comp=Z,200nm,18.3s
PVCC Panska Ves 74.08 22 AMS AMS 20 32 10.0
comp=Z,200nm,16.4s
UPC Upice 74.44 21 AMS AMS 20 32 20.0
comp=Z,200nm,17.5s
OSTC Ostas 74.44 21 *e*P **P 19 58 31.6 +0.8**
OSTC AMS AMS 20 32 40.0
comp=Z,200nm,17.0s
PRU Pruhonice 74.58 22 AMS AMS 20 32 40.0
comp=Z,200nm,16.4s
DPC Dobruska-Polom 74.66 21 *e*P **P 19 58 33.2 +1.1**
DPC AMS AMS 20 32 30.0
comp=Z,200nm,16.1s
KRLC Kraliky 75.02 21 *e*P **P 19 58 34.7 +0.5**
KRLC AMS AMS 20 33 20.0
comp=Z,200nm,18.6s
KHC Kasperske Hory 75.14 23 *e*P **P 19 58 36.2 +1.3**
KHC *ex* x 19 58 44.3
KURBB Kurchatov Arra 75.21 341 P **P 19 58 35.3 +0.1**
comp=Z,3.0nm,0.9s,baz=20,slow=5.5,SNR=17
KURBB LR LR 20 35 16.5
comp=Z,97nm,19.0s,baz=355,slow=39
comp=Z,3.0nm,0.9s
GERES GERESS Array B 75.44 23 P **P 19 58 37.5 +0.9**
comp=Z,1.1nm,0.7s,baz=345,slow=4.7,SNR=12
comp=Z,1.1nm,0.7s
GERES GERESS Array B 75.44 23 P **P 19 58 37.3 +0.7**
TREC Trest 75.45 22 AMS AMS 20 33 00.0
comp=Z,200nm,20.8s
OJC Ojcow 75.53 19 P **P 19 58 36.8 -0.3**
OJC IAmb IAmb 19 58 37.8
comp=Z,3.1nm,0.8s
CKRC Cesky Krumlov 75.61 23 *e*P **P 19 58 38.6 +1.0**
VRAC Vranov 75.69 21 LR LR 20 33 41.0
comp=Z,152nm,18.3s,baz=334,slow=37
MAUC Maruska 75.92 21 *e*P **P 19 58 41.0 +1.7**
GUMO Guam 76.06 274 LR LR 20 26 03.5
comp=Z,82nm,19.5s,baz=51,slow=31
DAVOX Davos/Dischmat 76.33 27 LR LR 20 32 32.2
comp=Z,217nm,21.5s,baz=266,slow=36
TBI Tubuai 76.40 198 *e*LR LR 20 22 17.2
comp=Z,157nm,27.8s
BELG Belogornoye 76.40 1 LR LR 20 34 58.7
comp=Z,104nm,21.5s,baz=343,slow=38
AKASG Malin Array Be 76.69 13 P **P 19 58 43.9 +0.3**
comp=Z,3.5nm,0.7s,baz=349,slow=5.2,SNR=19
AKASG LR LR 20 33 12.5
comp=Z,158nm,18.5s,baz=350,slow=36
comp=Z,3.5nm,0.7s
AKBB Malin Array Si 76.69 13 P **P 19 58 42.9 -0.7**
NJ2 Nanjing 76.87 305 *e*P **P 19 58 42.3 -2.7**
NJ2 pmax pmax
comp=Z,4.0nm,0.7s
VYHS Vyhne 76.96 20 *e*P **P 19 58 45.8 +0.6**
ESDC Sonseca Array 77.94 39 P **P 19 58 52.9 +1.9**
comp=Z,1.3nm,1.1s,baz=322,slow=4.4,SNR=5.1
comp=Z,1.3nm,1.1s
MKAR Makanchi Array 78.00 338 P **P 19 58 51.1 -0.1**
comp=Z,1.2nm,0.7s,baz=31,slow=4.5,SNR=12
MKAR LR LR 20 38 26.6
comp=Z,219nm,18.0s,baz=355,slow=40
comp=Z,1.2nm,0.7s
NNA Nana 78.50 126 LR LR 20 33 07.1
comp=Z,152nm,18.6s,baz=351,slow=35
MDP Montagnes des 78.58 96 LR LR 20 33 02.5
comp=Z,107nm,21.7s,baz=67,slow=35
BURAR Bucovina Array 79.05 16 P **P 19 58 57.9 +0.9**
BURAR IAmb IAmb 19 59 00.2
comp=Z,1.8nm,0.7s
WMQ Urumqi 79.35 333 *e*P **P 19 58 59.6 +1.0**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ LR LR
comp=E,170nm,21.7s
WMQ LR LR
comp=Z,150nm,18.1s
MLR Muntele Rosu 81.23 16 LR LR 20 36 10.5
comp=Z,204nm,19.0s,baz=356,slow=36
AAK Ala-Archa 83.66 342 LR LR 20 41 28.0
comp=Z,149nm,18.5s,baz=24,slow=39
GOMU GeErMu 83.95 325 P **P 19 59 23.3 -0.2**
GOMU pP sP 19 59 29.1 +5.1
GOMU sP PcP 19 59 32.3 +4.8
GOMU pmax pmax
comp=Z,73nm,6.8s
GOMU LR LR
comp=N,110nm,13.7s
GOMU LR LR
comp=E,80nm,14.1s
GOMU LR LR
comp=Z,130nm,14.2s
KVAR Kislovodsk Arr 84.68 5 LR LR 20 39 53.6
comp=Z,51nm,20.0s,baz=287,slow=38
VAE Valguarnera 86.20 27 LR LR 20 38 24.9
comp=Z,87nm,21.4s,baz=346,slow=36
KEST Kesra 86.26 32 LR LR 20 38 28.5
comp=Z,149nm,19.7s,baz=278,slow=36
KSH Kashi 86.36 340 P **P 19 59 37.4 +2.2**
KSH pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 86.63 121 P **P 19 59 36.0 -1.2**
comp=Z,1.0nm,0.7s,baz=342,slow=4.7,SNR=4.0
LPAZ LR LR 20 41 43.6
comp=Z,54nm,18.4s,baz=307,slow=38
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 88.06 12 P **P 19 59 42.3 -1.1**
comp=Z,0.7nm,0.9s,baz=343,slow=4.5,SNR=4.1
BRTR LR LR 20 40 51.8
comp=Z,106nm,20.7s,baz=352,slow=37
comp=Z,0.7nm,0.9s
GNI Garni 88.57 4 LR LR 20 41 41.9
comp=Z,54nm,21.8s,baz=3.0,slow=37
PZH PanZhiHua 89.68 315 P **P 19 59 51.3 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.5s
SIV San Ignacio 90.26 116 LR LR 20 42 35.5
comp=Z,44nm,22.0s,baz=286,slow=37
IDI Anoyia 90.89 20 LR LR 20 42 10.6
comp=Z,66nm,18.6s,baz=328,slow=36
LVC Limon Verde 91.47 125 LR LR 20 41 43.3
comp=Z,88nm,18.4s,baz=337,slow=36
DZM Mont Dzumac 91.61 236 *e*LR LR 20 29 19.0
comp=Z,312nm,26.6s
BBTS Babate 92.89 62 LR LR 20 37 05.1
comp=Z,112nm,21.9s,baz=314,slow=32
DAV Davao City (W) 92.97 285 LR LR 20 34 27.2
comp=Z,55nm,21.8s,baz=30,slow=31
MMAI Mount Meron Ar 94.89 12 LR LR 20 45 33.2
comp=Z,70nm,21.2s,baz=144,slow=37
SIJI Sorong 95.71 276 LR LR 20 36 36.9
comp=Z,51nm,20.3s,baz=72,slow=31
ASF Jabal al Asfar 95.91 11 LR LR 20 48 15.0
comp=Z,117nm,18.1s,baz=349,slow=38
BRDH Bariadhala 97.29 321 LR LR 20 46 46.2
comp=Z,121nm,19.2s,baz=44,slow=37
RCBR Riachuelo 97.49 90 LR LR 20 40 10.1
comp=Z,131nm,21.5s,baz=125,slow=33
CMAR Chiang Mai Arr 97.94 313 LR LR 20 47 50.2
comp=Z,61nm,18.8s,baz=45,slow=37
EIL Elat 98.13 13 LR LR 20 48 12.2
comp=Z,69nm,18.2s,baz=278,slow=38
VNA3 Neumayer Olymp 147.49 149 PKPdf **PKPdf 20 06 34.3 +1.4**
VNA1 Neumayer--Stat 148.00 148 PKPdf **PKPdf 20 06 33.2 -0.5**
VNA2 Neumayer--Watz 148.26 148 PKPdf **PKPdf 20 06 34.3 +0.1**
SNAA Sanae 149.57 150 PKPdf **PKPbc 20 06 40.1 -0.9**
TROLL Troll, Antarti 151.09 152 PKPdf **PKPdf 20 06 41.9 +3.0**

*IDC **16** 19:47:49.9±0.9,54.°96S×31.°44W,h0km,mb3.9/5, mbtmp3.9/5,MS3.8/6,Error ellipse: s-maj=45.4km s-min=23.9km az=73.0*
ISC 16 19:47:51.8±0.9,54.°9S±0.°1×31.°6W±0.°3,h10km,n24,
σ1§04/14,mb4.0/4,MS3.8/5,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.80**	**156**	P	P	**Pn**	**19 52 11.7**	**+0.3**
PMSA	**Palmer Station**	**18.83**	**226**	LR	LR		19 58 00.5	
	comp=Z,303nm,20.9s,baz=52,slow=32							
VNA3	**Neumayer Olymp**	**18.91**	**158**	P	P	**Pn**	**19 52 13.0**	**+0.2**
VNA2	**Neumayer--Watz**	**19.19**	**156**	P	P	**Pn**	**19 52 18.7**	**+2.4**
SNAA	**Sanae**	**20.79**	**155**	P	P	**P**	**19 52 32.2**	**-0.6**
SNAA	**Sanae**	**20.79**	**155**	P	P	**P**	**19 52 32.4**	**-0.4**
	3.4nm,0.8s,baz=312,slow=13,SNR=11							
	3.4nm,0.8s							
TROLL	**Troll, Antarti**	**22.36**	**153**	P	P	**P**	**19 52 50.7**	**+1.0**
QSPA	**South Pole Qui**	**35.31**	**180**	P	P	**P**	**19 54 46.4**	**-0.3**
	2.7nm,1.0s,baz=198,slow=6.3,SNR=2.9							
QSPA				LR	LR		20 08 28.2	
	comp=Z,108nm,18.2s,baz=190,slow=35							
	2.7nm,1.0s							
VNDA	**Vanda**	**47.54**	**184**	P	P	**P**	**19 56 26.0**	**-0.6**
	0.6nm,0.8s,baz=185,slow=6.3,SNR=2.6							
	0.6nm,0.8s							
LPAZ	**La Paz**	**47.73**	**309**	P	P	**P**	**19 56 30.1**	**+0.6**
	2.3nm,0.8s,baz=149,slow=6.4,SNR=7.6							
	2.3nm,0.8s							
H10S2	**ASCENSION HYDR**	**47.79**	**23**	T	T		20 47 56.9	
	baz=190							
H10S3	**ASCENSION HYDR**	**47.80**	**23**	T	T		20 47 55.8	
	baz=30							
BOSA	**Boshof**	**48.17**	**81**	LR	LR		20 14 47.2	
	comp=Z,119nm,18.3s,baz=312,slow=34							
H10N1	**ASCENSION HYDR**	**48.91**	**23**	T	T		20 49 18.8	
	baz=190,slow=76							
H10N3	**ASCENSION HYDR**	**48.91**	**23**	T	T		20 49 20.9	
	baz=190,slow=76							
H10N2	**ASCENSION HYDR**	**48.92**	**23**	T	T		20 49 21.9	
	baz=190,slow=76							
TSUM	**Tsumeb**	**51.41**	**66**	LR	LR		20 12 39.2	
	comp=Z,58nm,21.4s,baz=336,slow=29							
LSZ	**Lusaka**	**60.36**	**74**	LR	LR		20 19 52.5	
	comp=Z,68nm,19.9s,baz=208,slow=32							
TORD	**Torodi Ar. Bea**	**73.41**	**34**	P	P	**P**	**19 59 24.2**	**+0.3**
	0.8nm,0.7s,baz=205,slow=7.8,SNR=2.8							
	0.8nm,0.7s							
KMBO	**Kilima Mbogo**	**77.02**	**73**	LR	LR		20 32 10.2	
	comp=Z,104nm,18.1s,baz=285,slow=35							
CMAR	**Chiang Mai Arr**	**127.78**	**114**	PKP	**PKPdf**		**20 06 57.0**	**-0.3**
	0.6nm,0.8s,baz=251,slow=2.8,SNR=2.7							
ZALV	**Zalesovo Beam**	**144.12**	**65**	PKP	**PKPdf**		**20 07 25.4**	**-1.0**
	0.5nm,0.3s,baz=248,slow=1.6,SNR=2.7							
ILAR	**Eielson Array**	**147.54**	**314**	PKPbc	**PKPdf**		**20 07 32.8**	**+0.8**
	2.0nm,1.0s,baz=100,slow=1.9,SNR=7.0							
SONM	**Songino Array**	**153.15**	**88**	PKPbc	**PKPbc**		**20 07 47.7**	**-1.2**
	0.6nm,0.7s,baz=252,slow=1.9,SNR=4.5							

*IDC **16** 19:55:15.8±1.3,2.°95S×129.°24E,h0km,mb3.5/3, mbtmp3.6/6,ML3.3/3,Error ellipse: s-maj=43.0km s-min=22.8km az=83.0*
*DJA **16** 19:55:19.3±0.4,3.°3S×12.°9E±.°,h10km,M3.2/6,MLv3.2/6*
ISC 16 19:55:18.3±0.9,2.°82S±0.°07×129.°55E±0.°07,h28km,n11,
σ1§55/12,mb3.6/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.81**	**230**	P	P	**Pb**	**19 55 33.1**	**-0.7**
AAI	**Ambon**	**1.60**	**238**	P	P	**Pn**	**19 55 46.2**	**+1.4**
NLAI	**Namlea**	**2.48**	**260**	P	P	**Pn**	**19 55 57.4**	**+0.5**
SIJI	**Sorong**	**2.59**	**42**	Pn	P	**Pb**	**19 56 03.5**	**-0.6**
	7.1nm,0.3s,baz=247,slow=7.7,SNR=26							
SIJI				Sn		**Sb**	**19 56 35.1**	**-0.4**
	6.6nm,0.3s,baz=217,slow=20,SNR=4.6							
	27nm,0.3s							
FAKI	**Fak Fak**	**2.70**	**92**	P	P	**Pb**	**19 56 05.9**	**0.0**
LBMI	**Labuha**	**2.98**	**317**	P	P	**Pn**	**19 56 03.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.66**	**194**	Pn	P	**Pn**	**19 58 53.6**	**-3.5**
	baz=6.0,slow=13,SNR=2.2							
	1.9nm,1.0s							
WRA	**Warramunga Arr**	**17.65**	**165**	P	P	**P**	**19 59 23.3**	**+0.3**
	0.1nm,0.3s,baz=350,slow=11,SNR=11							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**21.15**	**169**	P	P	**P**	**20 00 01.7**	**+0.4**
	1.4nm,0.6s,baz=349,slow=10,SNR=19							
	1.4nm,0.6s							
MKAR	**Makanchi Array**	**64.52**	**326**	P	P	**P**	**20 05 54.3**	**+1.6**
	0.3nm,0.7s,baz=106,slow=7.7,SNR=2.8							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**68.75**	**328**	P	P	**P**	**20 06 21.3**	**+1.7**
	0.6nm,0.6s,baz=128,slow=6.0,SNR=5.3							
	0.6nm,0.6s							

*NEIC **16** 20:00:19.8±0.8,29.°8S±0.°2×176.°5W±0.°1,h10km±2km, mb4.5/8,Error ellipse: s-maj=42.3km s-min=12.9km az=20.0*
*IDC **16** 20:00:26.6±2.0,30.°16S×177.°74W,h0km,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=46.2km s-min=20.9km az=106.0*
ISC 16 20:00:22.6±1.5,30.°1S±0.°2×176.°9W±0.°2,h10km,n22,
σ1§60/19,mb4.4/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**311**	Pn	P	**Pb**	**20 00 45.7**	**-0.4**
	198nm,0.3s,baz=72,slow=20,SNR=6.2							
RAO				Sn		**Sb**	**20 01 02.6**	**+0.3**
	264nm,0.3s,baz=114,slow=20,SNR=10							
RAO	**Raoul Island**	**1.24**	**311**			**Pn**	**20 00 45.1**	**-0.9**
RAO				Sn		**Sg**	**20 01 03.9**	**+1.2**
URZ	**Urewera**	**9.57**	**210**	Pn	Pn		20 02 36.7	-3.7
	0.3nm,0.3s,baz=95,slow=22,SNR=1.7							
URZ				Sn			20 04 13.7	-14
	0.3nm,0.3s,baz=207,slow=19,SNR=1.6							
URZ	**Urewera**	**9.57**	**210**	Pn	Pn		20 02 37.4	-3.0
CTA	**Charters Tower**	**34.74**	**278**	P	P	**P**	**20 07 14.7**	**+1.5**
	2.1nm,0.5s,baz=96,slow=12,SNR=1.9							
STKA	**Stephens Creek**	**35.52**	**256**	P	P	**P**	**20 07 19.6**	**-0.2**
	2.2nm,0.7s,baz=100,slow=18,SNR=3.4							
	2.2nm,0.7s							
STKA	**Stephens Creek**	**35.52**	**256**	P	P		**20 07 19.3**	**-0.4**
BBOO	**Buckleboo**	**40.02**	**254**	P	P		**20 07 57.0**	**-0.8**
ASAR	**Alice Springs**	**44.12**	**266**	P	P		**20 08 30.4**	**-1.1**
	0.4nm,0.4s,baz=102,slow=7.3,SNR=16							
	0.4nm,0.4s							
WR0	**Warramunga Arr**	**44.90**	**271**	P	P		**20 08 36.4**	**-1.3**
WR0				IAmb	IAmb		20 09 01.7	
	comp=Z,10nm,1.4s							
WB2	**Warramunga Arr**	**45.08**	**271**	P	P		**20 08 38.3**	**-0.8**
WB2				IAmb	IAmb		20 08 51.1	
	comp=Z,6.4nm,1.2s							
WRAB	**Tennant Creek**	**45.08**	**271**	P	P		**20 08 38.1**	**-1.0**
WRAB				IAmb	IAmb		20 08 51.1	
	comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**45.09**	**271**	P	P		**20 08 38.1**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=113,slow=7.9,SNR=32							
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**45.09**	**271**	P	P		**20 08 37.8**	**-1.4**
KNRA	**Kununurra**	**51.68**	**273**	P	P		**20 09 29.6**	**-0.4**
CASY	**Casey**	**55.89**	**208**	P	P		**20 10 00.9**	**+0.8**
CASY				IAmb	IAmb		20 10 15.7	
	comp=Z,7.2nm,1.4s							
H03S2	**Juan Fernandez**	**79.81**	**123**	T	T		21 41 46.2	
	baz=238							
H03S1	**Juan Fernandez**	**79.82**	**123**	T	T		21 41 49.2	
	baz=238							
H03S3	**Juan Fernandez**	**79.82**	**123**	T	T		21 41 44.3	
	baz=238							
KURBB	**Kurchatov Arra**	**121.59**	**314**	PKP	**PKiKP**		**20 19 19.8**	**+3.6**
	comp=Z,0.2nm,0.5s,baz=126,slow=2.0,SNR=1.8							
FINES	**FINESS Array B**	**145.18**	**341**	PKPbc	**PKiKP**		**20 20 04.4**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=46,slow=4.0,SNR=10							
AKASG	**Malin Array Be**	**151.64**	**324**	PKPbc	**PKPab**		**20 20 21.8**	**-3.6**
	comp=Z,0.6nm,0.5s,baz=47,slow=1.8,SNR=1.7							

*KRNET **16** 20:09:41.8±0.1,40.°31N×72.°91E,h23km,mb2.8*
*NNC **16** 20:09:44.6±3.0,40.°50N×73.°01E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=23.1km s-min=9.7km az=174.0*
*ISU **16** 20:09:45,40.°32N×72.°60E,h5km*
*SOME **16** 20:09:45.4,40.°50N×72.°87E,h5km*
ISC 16 20:09:44.3±1.2,40.°50N±0.°05×72.°92E±0.°03,h17km±7km,
n31,σ1§52/52,17C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.11**	**282**	⇑*e*P	P	**Pb**	**20 09 47.2**	**-0.8**
	baz=36							
OHH				⇑*e*S		**Sg**	**20 09 51.1**	**+0.6**
	baz=36							
OHH	**Osh**	**0.11**	**282**	P	P	**Pb**	**20 09 47.2**	**-0.8**
OHH				S		**Sg**	**20 09 51.5**	**+1.0**
TSTA	**Tashata**	**0.35**	**283**	P	P	**Pn**	**20 09 57.4**	**+2.7**
ANR	**Andizhan**	**0.50**	**301**	P	P	**Sn**	**20 10 05.7**	**+0.8**
FRG	**Fergana**	**0.88**	**262**	P	P	**Pn**	**20 10 02.1**	**+0.2**
FRG				S		**Sb**	**20 10 12.1**	**-0.5**
CHMI	**Chimion**	**1.09**	**258**	P	P	**Sg**	**20 10 19.7**	**-0.1**
ARK	**Arkit**	**1.48**	**331**	⇑*e*P	P	**Pg**	**20 10 12.1**	**-0.8**
	baz=35							
ARK				⇑*i*S		**Sg**	**20 10 34.0**	**+1.8**
	baz=35							
ARK	**Arkit**	**1.48**	**331**	P	P	**Pg**	**20 10 12.4**	**-0.5**
ARK				S		**Sg**	**20 10 33.8**	**+1.6**
TRKS	**Terek-Say**	**1.69**	**308**	⇑*e*P	P	**Pn**	**20 10 13.6**	**+0.3**
	baz=12							
TRKS				⇑*e*S		**Sb**	**20 10 36.5**	**+0.2**
	baz=12							
ARLS	**Aral**	**1.72**	**37**	⇑*e*P	P	**Pb**	**20 10 15.3**	**-0.3**
	baz=34							
ARLS				⇑*e*S		**Sg**	**20 10 39.5**	**-0.3**
	baz=34							
UCH	**Uchtor**	**2.10**	**34**	⇑*e*P	P	**Pb**	**20 10 20.7**	**-1.5**
	baz=32							
UCH				⇑*i*S		**Sb**	**20 10 49.4**	**+1.2**
	baz=32							
EKS2	**Erkin-Say**	**2.25**	**16**	⇑*e*P	P	**Pb**	**20 10 23.0**	**-1.6**
	baz=15							
EKS2				⇑*i*S		**Sb**	**20 10 53.2**	**+1.0**
	baz=15							
MRKS	**Merke**	**2.25**	**6**	*e*P	P	**Pg**	**20 10 28.7**	**+1.2**
	5.1nm,0.4s							
MRKS				*e*S		**Sg**	**20 10 59.9**	**+3.1**
	28nm,0.4s							
MRKS	**Merke**	**2.25**	**6**	Pg	P	**Pg**	**20 10 26.9**	**-0.6**
	9.3nm,0.3s							
MRKS				Lg		Lg	20 10 59.9	
	28nm,0.4s							
AAK	**Ala-Archa**	**2.44**	**28**	⇑*e*P	P	**Pb**	**20 10 25.4**	**-2.4**
	baz=27							
AAK				⇑*i*S		**Sb**	**20 10 57.3**	**-0.3**
	baz=27							
DZA	**Taraz**	**2.67**	**334**	*e*P	P	**Pg**	**20 10 34.2**	**-1.3**
	10.0nm,0.2s							
DZA				*e*S		**Sg**	**20 11 09.1**	**-1.0**
	43nm,0.2s							
IUG	**Iuzhnay**	**2.73**	**308**	*e*P	P	**Pg**	**20 10 36.2**	**-0.5**
	60nm,0.3s							
IUG				*e*S		**Sg**	**20 11 12.8**	**+0.8**
	27nm,0.2s							
IUG	**Iuzhnay**	**2.73**	**308**	Pg	P	**Pb**	**20 10 34.3**	**+1.6**
	45nm,0.3s							
IUG				Lg		Lg	20 11 12.6	
	18nm,0.3s							

CHMS	**Chumysh**	**2.84**	**28**	⇑Pg		**Pb**	**20 10 32.4**	**-2.2**
	1.4nm,0.3s							
CHMS				⇓Lg		Lg	20 11 11.0	
	5.4nm,0.7s							
CHM	**Chimkent**	**3.09**	**307**	*e*P		**Pg**	**20 10 42.7**	**-0.7**
	58nm,0.2s							
CHM				*e*S		**Sg**	**20 11 23.9**	**+0.4**
	192nm,0.4s							
TKM2	**Tokmak 2**	**3.14**	**39**	⇓Pg		**Pb**	**20 10 40.9**	**+1.1**
	1.1nm,0.5s							
TKM2				⇓Lg		Lg	20 11 20.8	
	3.2nm,0.5s							
KK31	**Karatay Array**	**3.16**	**326**	⇓Pn		**Pb**	**20 10 36.9**	**-3.2**
	0.1nm,0.3s							
KK31				Pg		**Pg**	**20 10 43.0**	**-1.9**
	0.5nm,0.3s,baz=139,slow=16,SNR=14							
KK31				⇑Sn		**Sb**	**20 11 15.9**	**-2.5**
	0.8nm,0.2s,baz=157,slow=28,SNR=4.7							
KK31				⇑Lg		Lg	20 11 25.5	
	1.0nm,0.2s,baz=138,slow=30,SNR=7.2							
KST	**Kastek**	**3.41**	**41**	*e*P		**Pg**	**20 10 48.5**	**-1.1**
	0.5nm,0.4s							
KST				*e*S		**Sg**	**20 11 33.6**	**-0.2**
	4.7nm,0.5s							
DGS	**Degeres**	**3.47**	**37**	*e*P		**Pg**	**20 10 50.4**	**-0.4**
	1.4nm,0.5s							
DGS				*e*S		**Sg**	**20 11 36.8**	**+1.2**
	8.3nm,0.5s							
DGS	**Degeres**	**3.47**	**37**	Pg		**Pg**	**20 10 49.4**	**-1.4**
	2.3nm,0.3s							
DGS				Lg		Lg	20 11 36.2	
	6.3nm,0.5s							
KRBS	**Karabastau**	**3.79**	**32**	*e*P		**Pg**	**20 10 56.5**	**-0.4**
	1.9nm,0.4s							
KRBS				*e*S		**Sg**	**20 11 47.3**	**+1.2**
	2.3nm,0.4s							
KRBS	**Karabastau**	**3.79**	**32**	Pg		**Pg**	**20 10 55.4**	**-1.5**
	1.9nm,0.4s							
KRBS				Lg		Lg	20 11 45.9	
	2.3nm,0.4s							
KUU	**Kurty**	**4.23**	**36**	*e*P		**Pg**	**20 11 03.8**	**-1.6**
	1.3nm,0.3s							
KUU				*e*S		**Sg**	**20 11 60.0**	**-0.2**
	4.5nm,0.6s							
KUU	**Kurty**	**4.23**	**36**	Pg		**Pg**	**20 11 02.2**	**-3.2**
	1.3nm,0.3s							
KUU				Lg		Lg	20 11 59.3	
	4.5nm,0.6s							
KTBS	**Karatobe**	**4.25**	**40**	*e*P		**Pg**	**20 11 03.8**	**-2.0**
	0.6nm,1.1s							
KTBS				*e*S		**Sg**	**20 12 00.4**	**-0.5**
	5.3nm,0.6s							
KTBS	**Karatobe**	**4.25**	**40**	Pg		**Pb**	**20 11 02.0**	**+3.2**
	0.5nm,0.4s							
KTBS				Lg		Lg	20 11 59.6	
	5.3nm,0.6s							

ROM ***16*** *20:15:31.6±0.2,46°.31N±0°.01×13°.253E±0°.009,h7km±1km, Md2.4/7,Error ellipse: s-maj=1.2km s-min=0.7km az=359.0*

VIE ***16*** *20:15:31.7±0.2,46°.30N×13°.26E,h10km,mb2.0/11, ml2.5/17,Error ellipse: s-maj=1.8km s-min=1.1km az=29.0 9 km ENE of Gemona*

ISC 16 20:15:32.1±0.8,46°.30N±0°.01×13°.26E±0°.01,h7km±4km, n111,σ0°93/163,11C-30D,Austria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VINO	**Villanova**	**0.04**	**161**	⇓*e*Pg		**Pg**	**20 15 33.8**	**+0.1**
VINO				*e*Sg		**Sg**	**20 15 34.9**	**+0.1**
BAD	**Bernadia**	**0.06**	**191**	⇓*e*Pg		**Pg**	**20 15 34.0**	**+0.1**
BAD				*e*Sg		**Sg**	**20 15 35.6**	**+0.3**
BOO	**Bordano**	**0.11**	**281**	⇓*e*Pg		**Pg**	**20 15 34.7**	**0.0**
BOO				*e*Sg		**Sg**	**20 15 36.6**	**+0.2**
PTCC	**Patocco-Chiusa**	**0.12**	**31**	⇑P		**Pg**	**20 15 34.8**	**-0.1**
PTCC				S		**Sg**	**20 15 36.8**	**0.0**
PTCC				END				
BUA	**Buia**	**0.12**	**230**	⇑*e*Pg		**Pg**	**20 15 35.1**	**+0.3**
BUA				*e*Sg		**Sg**	**20 15 37.4**	**+0.8**
ROBS	**Robic**	**0.18**	**107**	⇓*i*Pg		**Pg**	**20 15 35.7**	**-0.1**
ROBS				*i* Sg		**Sg**	**20 15 39.1**	**+0.8**
ROBS				IAML			20 15 39.2	
	comp=Z,165nm,0.1s							
COLI	**Coloredo**	**0.18**	**154**	⇓*e*Pg		**Pg**	**20 15 36.2**	**+0.4**
COLI				*e*Sg		**Sg**	**20 15 39.6**	**+1.3**
MPRI	**Monte Prat**	**0.20**	**253**	⇓*e*Pg		**Pg**	**20 15 36.3**	**+0.1**
MPRI				*e*Sg		**Sg**	**20 15 39.4**	**+0.5**
MPRI	**Monte Prat**	**0.20**	**253**	P		**Pg**	**20 15 36.3**	**+0.1**
MPRI				S		**Sg**	**20 15 39.9**	**+1.0**
MPRI				AML	AML			
	comp=N,926μm,1.3s							
MPRI				AML	AML			
	comp=N,1215μm,1.4s							
MPRI				AML	AML			
	comp=E,668μm,0.3s							
MPRI				AML	AML			
	comp=N,924μm,1.3s							
MPRI				AML	AML			
	comp=E,667μm,0.3s							
MPRI				AML	AML			
	comp=E,839μm,0.3s							
MPRI				END				
MPRI	**Monte Prat**	**0.20**	**253**	⇓P		**Pg**	**20 15 36.3**	**+0.1**
MPRI				AML	AML			
	comp=E,667μm,0.3s							
MPRI				AML	AML			
	comp=N,926μm,1.3s							
MPRI				AML	AML			
	comp=E,839μm,0.3s							
MPRI				AML	AML			
	comp=N,1215μm,1.4s							
MPRI				AML	AML			
	comp=E,668μm,0.3s							
MPRI				AML	AML			
	comp=N,924μm,1.3s							
MPRI				AML	AML			
	comp=E,839μm,0.3s							
MPRI				AML	AML			
	comp=N,1215μm,1.4s							
MPRI				AML	AML			
	comp=E,667μm,0.3s							
MPRI				AML	AML			
	comp=N,926μm,1.3s							
MPRI				AML	AML			
	comp=E,839μm,0.3s							
MPRI				AML	AML			
	comp=N,1215μm,1.4s							
MPRI				AML	AML			
	comp=E,839μm,0.3s							
MPRI				AML	AML			
	comp=N,1215μm,1.4s							
MPRI				AML	AML			
	comp=N,926μm,1.3s							
MPRI				AML	AML			
	comp=E,667μm,0.3s							
FUSE	**Fusea**	**0.21**	**303**	⇓*e*Pg		**Pg**	**20 15 36.3**	**-0.1**
PRED	**Cave del Predi**	**0.26**	**56**	*e*Pg		**Pg**	**20 15 37.1**	**-0.1**
LSR	**Lussari**	**0.26**	**46**	⇓*e*Pg		**Pg**	**20 15 37.3**	**0.0**
LSR				*e*Sg		**Sg**	**20 15 41.6**	**+0.9**
PLRO	**Paularo**	**0.26**	**343**	⇓*e*Pg		**Pg**	**20 15 37.4**	**0.0**
DRE	**Drenchia**	**0.29**	**115**	*e*Pg		**Pg**	**20 15 37.9**	**-0.1**
DRE				*e*Sg		**Sg**	**20 15 43.0**	**+1.2**
ACOM	**Acomizza, Ital**	**0.30**	**35**	⇑*e*Pg		**Pg**	**20 15 38.3**	**+0.1**
ACOM				*e*Sg		**Sg**	**20 15 43.1**	**+0.8**
ACOM	**Acomizza, Ital**	**0.30**	**35**	⇓P		**Pg**	**20 15 38.2**	**0.0**
ACOM				S		**Sg**	**20 15 42.9**	**+0.6**
ACOM				AML	AML			
	comp=E,1810μm,0.3s							
ACOM				AML	AML			
	comp=E,1760μm,0.3s							
ACOM				AML	AML			
	comp=E,1805μm,0.3s							
ACOM				AML	AML			
	comp=N,688μm,0.4s							
ACOM				AML	AML			
	comp=N,737μm,0.4s							
ACOM				END				
ACOM	**Acomizza, Ital**	**0.30**	**35**	⇓P		**Pg**	**20 15 38.2**	**0.0**
ACOM				AML	AML			
	comp=E,1810μm,0.3s							
ACOM				AML	AML			
	comp=N,688μm,0.4s							
ACOM				AML	AML			
	comp=E,1760μm,0.3s							
ACOM				AML	AML			
	comp=N,737μm,0.4s							
ACOM				AML	AML			
	comp=E,1760μm,0.3s							
ACOM				AML	AML			
	comp=E,1805μm,0.3s							
ACOM				AML	AML			
	comp=N,688μm,0.4s							
ACOM				AML	AML			
	comp=N,737μm,0.4s							
CLUD	**Cludinico**	**0.31**	**301**	⇓*e*Pg		**Pg**	**20 15 37.9**	**-0.3**
CLUD	**Cludinico**	**0.31**	**301**	⇓P		**Pg**	**20 15 37.9**	**-0.3**
CLUD				S		**Sg**	**20 15 42.8**	**+0.6**
CLUD				AML	AML			
	comp=E,322μm,0.5s							
CLUD				AML	AML			
	comp=N,230μm,1.2s							
CLUD				AML	AML			
	comp=E,344μm,0.5s							
CLUD				AML	AML			
	comp=N,233μm,1.0s							
CLUD				END				
CLUD	**Cludinico**	**0.31**	**301**	⇓P		**Pg**	**20 15 37.9**	**-0.3**
CLUD				AML	AML			
	comp=E,344μm,0.5s							
CLUD				AML	AML			
	comp=N,233μm,1.0s							
CLUD				AML	AML			
	comp=E,322μm,0.5s							
CLUD				AML	AML			
	comp=N,230μm,1.2s							
CLUD				AML	AML			
	comp=E,344μm,0.5s							
CLUD				AML	AML			
	comp=N,233μm,1.0s							
CLUD				AML	AML			
	comp=E,322μm,0.5s							
CLUD				AML	AML			
	comp=E,344μm,0.5s							
CLUD				AML	AML			
	comp=N,230μm,1.2s							
CLUD				AML	AML			
	comp=N,233μm,1.0s							
ZOU	**Zoufplan**	**0.33**	**322**	*e*Pg		**Pg**	**20 15 38.5**	**-0.1**
ZOU	**Zoufplan**	**0.33**	**322**	P		**Pg**	**20 15 38.5**	**-0.1**
ZOU				S		**Sb**	**20 15 44.1**	**-1.8**
ZOU				AML	AML			
	comp=N,303μm,1.2s							
ZOU				AML	AML			
	comp=E,300μm,0.3s							
ZOU				AML	AML			
	comp=N,266μm,1.2s							
ZOU				AML	AML			
	comp=E,310μm,0.8s							
ZOU				END				
ZOU	**Zoufplan**	**0.33**	**322**	P		**Pg**	**20 15 38.5**	**-0.1**
ZOU				AML	AML			
	comp=E,310μm,0.8s							
ZOU				AML	AML			
	comp=N,303μm,1.2s							
ZOU				AML	AML			
	comp=E,300μm,0.3s							
ZOU				AML	AML			
	comp=N,266μm,1.2s							
ZOU				AML	AML			
	comp=E,310μm,0.8s							
ZOU				AML	AML			
	comp=N,303μm,1.2s							
ZOU				AML	AML			
	comp=E,300μm,0.3s							
ZOU				AML	AML			
	comp=N,266μm,1.2s							
ZOU				AML	AML			
	comp=E,310μm,0.8s							
ZOU				AML	AML			
	comp=N,303μm,1.2s							
ZOU				AML	AML			
	comp=E,300μm,0.3s							
ZOU				AML	AML			
	comp=E,310μm,0.8s							
CADS	**Cadrg**	**0.34**	**102**	*i* Pg		**Pg**	**20 15 38.5**	**-0.3**
CADS				*i* Sg		**Sb**	**20 15 44.9**	**-1.2**
CADS				IAML			20 15 45.9	
	comp=Z,140nm,0.2s							
STAL	**STALIGIAL**	**0.38**	**264**	⇓P		**Pg**	**20 15 39.2**	**-0.4**
STAL				S		**Sg**	**20 15 45.4**	**+0.7**
STAL				AML	AML			
	comp=E,1130μm,0.5s							
STAL				AML	AML			
	comp=N,942μm,0.4s							
STAL				END				
STAL	**STALIGIAL**	**0.38**	**264**	⇓P		**Pg**	**20 15 39.2**	**-0.4**
STAL				AML	AML			
	comp=E,1130μm,0.5s							
STAL				AML	AML			
	comp=N,942μm,0.4s						

comp=E,123µm,0.6s
CGRP AML AML
comp=N,113µm,0.5s
CGRP AML AML
comp=E,123µm,0.6s
CGRP AML AML
comp=N,113µm,0.5s
CGRP AML AML
comp=N,113µm,0.5s
CGRP AML AML
comp=E,123µm,0.6s
BRES Bressanone 1.13 291 P **Pg 20 15 53.1 -0.7**
BRES Bressanone 1.13 291 ⇓P **Pb 20 15 53.4 -0.7**
SOKA Soboth 1.28 72 *e*Pg **Pn 20 15 55.8 -0.7**
comp=E,0.3nm,0.2s
SOKA Sg **Sn 20 16 14.1 +0.1**
comp=E,6.4nm,0.3s
RIY Rijeka 1.30 138 *e*Pg **Pb 20 15 56.4 -0.4**
RIY Sg **Sn 20 16 13.8 -0.4**
KOSI Kohlern 1.31 278 P **Pn 20 15 56.4 -0.7**
KOSI AML AML
comp=E,120µm,0.5s
KOSI AML AML
comp=N,108µm,0.3s
KOSI Kohlern 1.31 278 ⇑P **Pg 20 15 57.5 +0.1**
KOSI AML AML
comp=E,120µm,0.5s
KOSI AML AML
comp=N,108µm,0.3s
KOSI AML AML
comp=E,120µm,0.5s
KOSI AML AML
comp=N,108µm,0.3s
KOSI AML AML
comp=N,108µm,0.3s
KOSI AML AML
comp=E,120µm,0.5s
BOSI Bolzano 1.36 279 S **Sg 20 16 19.0 +3.2**
BOSI Bolzano 1.36 279 S **Sg 20 16 19.0 +3.2**
SMRN Sveta Marina 1.41 153 *e*Pn **Pb 20 15 58.3 -0.4**
BIOA Bad Ischl, Aus 1.42 10 Pg **Pg 20 15 59.6 +0.3**
comp=E,1.8nm,0.2s
BIOA Sg **Sg 20 16 19.1 +1.4**
comp=E,6.8nm,0.3s
APPI Appiano 1.42 278 P **Pg 20 15 59.0 -0.3**
APPI AML AML
comp=E,126µm,0.6s
APPI AML AML
comp=N,111µm,0.4s
APPI Appiano 1.42 278 ⇑P **Pg 20 16 00.3 +1.0**
APPI AML AML
comp=E,126µm,0.6s
APPI AML AML
comp=N,111µm,0.4s
ROSI Rosskopf 1.42 297 P **Pb 20 15 58.4 -0.6**
ROSI AML AML
comp=E,278µm,0.4s
ROSI AML AML
comp=N,300µm,1.6s
ROSI Rosskopf 1.42 297 ⇓P **Pg 20 16 00.2 +0.8**
ROSI AML AML
comp=E,278µm,0.4s
ROSI AML AML
comp=N,300µm,1.6s
ROSI AML AML
comp=E,278µm,0.4s
ROSI AML AML
comp=N,300µm,1.6s
ROSI AML AML
comp=N,300µm,1.6s
ROSI AML AML
comp=E,278µm,0.4s
BRJN Brijuni 1.44 166 *e*Pn **Pb 20 15 58.7 -0.5**
BRJN Sg **Sg 20 16 18.4 +0.1**
BRJN Brijuni 1.44 166 ⇓P **Pb 20 15 58.9 -0.2**
BRJN S **Sg 20 16 20.0 +1.8**
BRJN Brijuni 1.44 166 ⇓P **Pb 20 15 58.9 -0.2**
BRJN S **Sg 20 16 20.0 +1.8**
WTTA Wattenberg 1.48 311 *e*Pn **Pg 20 15 59.8 -0.7**
comp=E,0.6nm,0.2s,SNR=9.9
WTTA Sg **Sg 20 16 21.7 +2.1**
comp=E,5.9nm,0.4s
WTTA Wattenberg 1.48 311 P **Pb 20 15 59.4 -0.6**
WTTA AML AML
comp=E,61µm,0.4s
WTTA AML AML
comp=N,90µm,0.3s
WTTA Wattenberg 1.48 311 ⇓P **Pg 20 16 00.1 -0.4**
WTTA S **Sg 20 16 24.0 +4.4**
WTTA AML AML
comp=E,61µm,0.4s
WTTA AML AML
comp=N,90µm,0.3s
WTTA AML AML
comp=E,61µm,0.4s
WTTA AML AML
comp=N,90µm,0.3s
WTTA AML AML
comp=E,61µm,0.4s
WTTA AML AML
comp=N,90µm,0.3s
DOSS Dosso del Somm 1.50 255 P **Pb 20 16 00.1 -0.3**
DOSS AML AML
comp=E,162µm,0.8s
DOSS AML AML
comp=N,196µm,0.9s
DOSS Dosso del Somm 1.50 255 ⇑P **Pg 20 16 00.6 -0.4**
DOSS AML AML
comp=E,162µm,0.8s
DOSS AML AML
comp=N,196µm,0.9s
DOSS AML AML
comp=E,162µm,0.8s
DOSS AML AML
comp=N,196µm,0.9s
DOSS AML AML
comp=E,162µm,0.8s
DOSS AML AML
comp=N,196µm,0.9s
WATA Walderalm 1.55 312 *e*Pg **Pg 20 16 01.9 0.0**
comp=N,2.9nm,0.4s
WATA *e*Sg **Sg 20 16 25.8 +3.7**
comp=N,1.6nm,0.2s
BOJS Bojanci 1.60 119 ⇑P **Pb 20 16 01.7 -0.3**
BOJS S **Sg 20 16 25.0 +1.4**
BOJS AML AML
comp=E,232µm,0.2s
BOJS AML AML
comp=N,202µm,0.6s
BOJS Bojanci 1.60 119 ⇑P **Pb 20 16 01.7 -0.3**
BOJS S **Sg 20 16 25.0 +1.4**
BOJS AML AML
comp=E,232µm,0.2s
BOJS AML AML
comp=N,202µm,0.6s
BOJS AML AML
comp=E,232µm,0.2s
BOJS AML AML
comp=N,202µm,0.6s
BOJS AML AML
comp=E,232µm,0.2s
BOJS AML AML
comp=N,202µm,0.6s
GAGG Gaggia 1.61 263 P **Pb 20 16 01.8 -0.5**
GAGG AML AML
comp=N,94µm,0.8s
GAGG AML AML
comp=E,139µm,1.1s
GAGG AML AML
comp=N,94µm,0.8s
GAGG Gaggia 1.61 263 ⇑P **Pg 20 16 02.3 -0.8**
GAGG AML AML
comp=E,139µm,1.1s
GAGG AML AML
comp=N,94µm,0.8s
GAGG AML AML
comp=E,139µm,1.1s
GAGG AML AML
comp=N,94µm,0.8s
GAGG AML AML
comp=E,139µm,1.1s
GAGG AML AML
comp=N,94µm,0.8s
LUSI Trento, Gardas 1.65 259 P **Pb 20 16 02.2 -0.6**
LUSI Trento, Gardas 1.65 259 S **Sg 20 16 26.0 +0.9**
A250A Rusevo Krmpots 1.68 136 *e*Pn **Pb 20 16 02.9 -0.4**
OZLJ Ozalj 1.68 113 *e*Pn **Pb 20 16 03.3 -0.1**

SQTA Sankt Quirin 1.69 304 *e*Pg **Pg 20 16 03.9 -0.6**
comp=N,3.1nm,0.3s
SQTA *e*Sn **Sg 20 16 28.6 +2.3**
comp=N,7.6nm,0.2s
MOA Molln 1.70 24 Pn **Pg 20 16 04.2 -0.5**
comp=N,0.3nm,0.2s
MOA Sn **Sg 20 16 27.7 +1.0**
comp=N,6.0nm,0.3s,SNR=6.4
MOTA Moosalm 1.81 306 *e*Pg **Pg 20 16 07.0 +0.1**
comp=N,1.9nm,0.3s
MOTA *e*Sn **Sg 20 16 32.0 +1.5**
comp=N,3.6nm,0.3s
ARSA Arzberg 1.82 58 Pg **Pg 20 16 06.8 -0.3**
comp=N,0.9nm,0.3s
ARSA *e*Sn **Sg 20 16 30.7 0.0**
comp=N,1.5nm,0.5s
ARSA Arzberg 1.82 58 S **Sg 20 16 31.0 +0.3**
RABC Rab 1.88 145 *e*Pn **Pn 20 16 04.9 +0.2**
RABC Sn **Sb 20 16 29.4 -1.1**
FETA Feichten 1.89 293 *e*Pn **Pb 20 16 06.4 -0.6**
comp=N,0.7nm,0.4s
FETA *e*Sg **Sg 20 16 33.3 +0.5**
comp=N,5.2nm,0.3s
NVLJ Novalja 2.07 146 *e*Pn **Pb 20 16 08.8 -1.2**
RETA Reutte 2.08 306 *e*Sg **Sg 20 16 40.3 +1.2**
comp=N,1.1nm,0.2s
PLIT Plitvice 2.18 130 *e*Pn **Pb 20 16 10.9 -1.0**
VIRC Vir 2.37 147 *e*Pn **Pn 20 16 11.9 +0.5**
DAVA Damuels 2.52 294 Pn **Pn 20 16 14.8 +1.2**
comp=N,0.9nm,0.2s
DAVA *e*Sg **Sg 20 16 52.8 -0.4**
comp=N,7.3nm,0.5s
DUGI Dugi Otok 2.63 150 *e*Pn **Pn 20 16 16.4 +1.4**
DUGI Sn **Sn 20 16 47.5 +0.3**
COR1 Corinaldo 2.67 184 S **Sg 20 16 57.0 -1.0**
COR1 Corinaldo 2.67 184 S **Sg 20 16 57.0 -1.0**
MORI Morici 2.99 144 *e*Pn **Pn 20 16 21.6 +1.8**
MORI Sn **Sn 20 16 55.1 -0.8**
GROG Isola di Gorgo 3.74 221 ⇓P **Pg 20 16 44.5 +0.8**
GROG Isola di Gorgo 3.74 221 ⇓P **Pg 20 16 44.5 +0.8**
RICI Ricice 3.93 134 *e*Pn **Pn 20 16 33.9 +1.1**

ROM 16 20:16:24.9±0.1, 42°.675N±0°.003×13°.209E±0°.004, h13km, ML1.5/3, 13C-5D, Error ellipse: s-maj=0.3km s-min=0.1km az=87.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.03**	**22**	⇓P	Pg	20 16 27.7	+0.2
T1202	**Accumoli, Fraz**	**0.03**	**22**	⇓P	Pg	20 16 27.7	+0.2
T1202				S	Sg	20 16 29.3	+0.1
T1204	**Amatrice, Fraz**	**0.08**	**89**	P	Pg	20 16 25.6	-2.2
T1204	**Amatrice, Fraz**	**0.08**	**89**	P	Pg	20 16 28.1	+0.3
T1204				S	Sg	20 16 29.9	0.0
LNSS	**Leonessa**	**0.14**	**240**	⇑P	Pg	20 16 29.0	+0.5
LNSS				AML	AML		
	comp=E,545µm,0.4s						
LNSS				AML	AML		
	comp=N,498µm,0.7s						
LNSS	**Leonessa**	**0.14**	**240**	⇑P	Pg	20 16 29.0	+0.5
LNSS				S	Sg	20 16 31.8	+0.7
LNSS				AML	AML		
	comp=N,498µm,0.7s						
LNSS				AML	AML		
	comp=E,545µm,0.4s						
T1242	**Castelluccio d**	**0.15**	**359**	P	Pg	20 16 29.0	+0.2
T1242				AML	AML		
	comp=E,204µm,1.5s						
T1242				AML	AML		
	comp=N,288µm,1.4s						
T1242	**Castelluccio d**	**0.15**	**359**	P	Pg	20 16 29.1	+0.4
T1242				S	Sg	20 16 32.0	+0.6
T1242				AML	AML		
	comp=E,204µm,1.5s						
T1242				AML	AML		
	comp=N,288µm,1.4s						
RM33	**Pellescritta (**	**0.17**	**179**	⇑P	Pg	20 16 29.4	+0.5
RM33				AML	AML		
	comp=E,320µm,1.4s						
RM33				AML	AML		
	comp=N,221µm,0.2s						
RM33	**Pellescritta (**	**0.17**	**179**	⇑P	Pg	20 16 29.4	+0.5
RM33				S	Sg	20 16 32.3	+0.7
RM33				AML	AML		
	comp=E,320µm,1.4s						
RM33				AML	AML		
	comp=N,221µm,0.2s						
NRCA	**Norcia**	**0.17**	**336**	⇓P	Pg	20 16 29.3	+0.3
NRCA				AML	AML		
	comp=E,585µm,0.3s						
NRCA				AML	AML		
	comp=N,406µm,0.1s						
NRCA	**Norcia**	**0.17**	**336**	P	Pg	20 16 29.2	+0.3
NRCA				S	Sg	20 16 32.2	+0.3
NRCA				AML	AML		
	comp=E,585µm,0.3s						
NRCA				AML	AML		
	comp=N,406µm,0.1s						
T1243	**Rocca Santa Ma**	**0.18**	**83**	⇑P	Pg	20 16 29.4	+0.3
T1243	**Rocca Santa Ma**	**0.18**	**83**	P	Pg	20 16 29.3	+0.3
T1243				S	Sg	20 16 32.5	+0.6
T1217	**Poggiodomo (PG**	**0.21**	**280**	⇓P	Pg	20 16 29.9	+0.4
T1217	**Poggiodomo (PG**	**0.21**	**280**	P	Pg	20 16 29.9	+0.4
T1217				S	Sg	20 16 33.3	+0.6
MC2	**Monte Cornacci**	**0.24**	**357**	P	Pg	20 16 29.1	-1.0
MC2	**Monte Cornacci**	**0.24**	**357**	P	Pg	20 16 30.4	+0.3
MC2				S	Sb	20 16 35.0	-0.4
MMO1	**Montemonaco**	**0.24**	**21**	⇑P	Pg	20 16 30.4	+0.3
MMO1	**Montemonaco**	**0.24**	**21**	P	Pg	20 16 30.4	+0.3
MMO1				S	Sg	20 16 34.4	+0.8
T1241	**Roccafluvione,**	**0.24**	**42**	⇑P	Pg	20 16 30.4	+0.3
T1241	**Roccafluvione,**	**0.24**	**42**	P	Pg	20 16 30.4	+0.3
T1216	**Preci, Frazion**	**0.26**	**327**	⇑P	Pg	20 16 30.7	+0.3
T1216	**Preci, Frazion**	**0.26**	**327**	P	Pg	20 16 30.8	+0.4
T1215	**Vallo di Nera,**	**0.28**	**297**	⇑P	Pg	20 16 31.1	+0.3
T1215	**Vallo di Nera,**	**0.28**	**297**	P	Pg	20 16 31.0	+0.3
T1215				S	Sg	20 16 35.5	+0.7
TERO	**Teramo**	**0.30**	**100**	⇓P	Pg	20 16 31.1	+0.1
TERO				AML	AML		
	comp=E,83µm,1.2s						
TERO				AML	AML		
	comp=N,111µm,0.1s						
TERO	**Teramo**	**0.30**	**100**	P	Pg	20 16 31.2	+0.2
TERO				AML	AML		
	comp=E,83µm,1.2s						
TERO				AML	AML		
	comp=N,111µm,0.1s						
ARRO	**Arrone**	**0.34**	**254**	⇑P	Pb	20 16 32.3	-0.5
ARRO	**Arrone**	**0.34**	**254**	⇑P	Pb	20 16 32.3	-0.5
GIGS	**Gran Sasso**	**0.35**	**130**	P	Pb	20 16 33.0	0.0
GIGS	**Gran Sasso**	**0.35**	**130**	P	Pb	20 16 33.0	0.0
FDMO	**Fiordimonte**	**0.37**	**346**	⇑P	Pg	20 16 32.9	+0.5
FDMO	**Fiordimonte**	**0.37**	**346**	⇑P	Pg	20 16 32.9	+0.5
FIAM	**Fiamignano**	**0.41**	**190**	P	Pg	20 16 33.4	+0.3
FIAM	**Fiamignano**	**0.41**	**190**	P	Pg	20 16 33.4	+0.3

INET 16 20:31:49.4±0.6, 12°.44N×86°.65W, h7km±3km, MW3.6
SNET 16 20:31:51.5±0.5, 12°.40N×86°.76W, h16km±3km, ML3.4
ISC 16 20:31:49.6±1.1, 12°.45N±0°.05×86°.66W±0°.04, h5km±7km, n14, σ0§67/20, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.07**	**327**	*e*P	**Pg**	**20 31 50.7**	**-0.5**
CNGN				*e*S	**Sg**	**20 31 52.1**	**-0.3**
MOMN	**Momotombo**	**0.12**	**107**	*e*P	**Pg**	**20 31 52.7**	**+0.5**
MOMN				*e*S	**Sg**	**20 31 54.9**	**+0.9**
TEL3	**Telica 3**	**0.22**	**305**	*e*P	**Pg**	**20 31 55.0**	**+1.0**
TELN	**Telica**	**0.23**	**314**	*e*P	**Pg**	**20 31 55.5**	**+1.4**
COPN	**Copaltepe**	**0.27**	**165**	*e*P	**Pg**	**20 31 55.0**	**+0.1**
APYN	**Apoyeque**	**0.37**	**125**	*e*P	**Pg**	**20 31 56.3**	**-0.5**
CRIN	**San Cristobal**	**0.46**	**304**	*e*P	**Pg**	**20 31 58.9**	**+0.5**
HUEN		**0.49**	**103**	*e*P	**Pg**	**20 31 59.7**	**+0.7**
MATN	**Matagalpa**	**0.87**	**56**	*e*P	**Pg**	**20 32 05.7**	**-0.5**
CSGN	**Cosiguina Volc**	**1.02**	**301**	*e*P	**Pg**	**20 32 08.7**	**-0.5**
CNCH	**Conchagua**	**1.41**	**306**	*e*P	**Pn**	**20 32 15.5**	**-0.6**
CNCH				*e*S	**Sb**	**20 32 34.5**	**-0.2**
CNCH				IAML		20 32 42.8	
	comp=Z,543nm,0.5s						
LCND	**La Caada**	**1.47**	**306**	*e*P	**Pn**	**20 32 16.3**	**-0.5**
LCND				*e*S	**Sb**	**20 32 36.0**	**-0.5**
LCND				IAML		20 32 45.6	
	comp=Z,174nm,0.5s						
TGUH	**Tegucigalpa,Un**	**1.71**	**340**	*e*P	**Pn**	**20 32 20.4**	**+0.2**
TGUH				*e*S	**Sn**	**20 32 42.9**	**+0.4**
PACA	**Pacayal**	**1.91**	**302**	*e*P	**Pn**	**20 32 23.1**	**+0.1**
PACA				*e*S	**Sn**	**20 32 47.1**	**-0.4**
PACA				IAML		20 33 00.6	
	comp=Z,904nm,0.4s						

IDC 16 21:00:28.6±2.9, 22°.82S×175°.02W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=165.7km s-min=32.7km az=154.0
NEIC 16 21:00:30.5±1.8, 22°.4S±0°.1×174°.9W±0°.1, h15km±5km, mb4.7/20, Error ellipse: s-maj=22.2km s-min=12.7km az=143.0
ISC 16 21:00:28.9±0.7, 22°.5S±0°.1×174°.9W±0°.1, h10km, n27, σ1§48/26, mb4.4/12, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.81**	**55**	Pn	**Pn**	**21 01 53.8**	**-1.4**
MXZ	**Matakaoa Point**	**16.07**	**200**	Pn	**Pn**	**21 04 16.6**	**+1.6**
MXZ				IAmb	IAmb	21 04 51.8	
	comp=Z,127nm,1.3s						
LIFNC	**LIFOU**	**16.67**	**273**	Pn	**Pn**	**21 04 22.6**	**-0.1**
LIFNC				IAmb	IAmb	21 04 23.8	
	comp=Z,63nm,0.9s						
LHI	**Lord Howe Isla**	**24.79**	**243**	P	**P**	**21 05 50.4**	**-0.6**
WKZ	**Wanaka**	**25.84**	**207**	P	**P**	**21 05 56.6**	**-3.9**
CTA	**Charters Tower**	**36.18**	**266**	P	**P**	**21 07 32.7**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=96,slow=12,SNR=2.1						
	comp=Z,1.2nm,0.3s						
CTAO	**Charters Tower**	**36.18**	**266**	P	**P**	**21 07 32.7**	**+0.8**
CTAO				IAmb	IAmb	21 08 12.1	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**39.55**	**247**	P	**P**	**21 08 00.8**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=70,slow=12,SNR=3.6						
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**39.55**	**247**	P	**P**	**21 08 00.1**	**-0.2**
ASAR	**Alice Springs**	**46.87**	**258**	P	**P**	**21 08 59.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=102,slow=8.6,SNR=5.1						
	comp=Z,0.4nm,0.5s						
WR0	**Warramunga Arr**	**46.99**	**263**	P	**P**	**21 09 00.5**	**-0.1**
WR0				IAmb	IAmb	21 09 15.3	
	comp=Z,5.7nm,1.4s						
WB0	**Warramunga Arr**	**47.16**	**263**	P	**P**	**21 09 01.9**	**0.0**
WB0				IAmb	IAmb	21 09 06.6	
	comp=Z,3.8nm,1.1s						
WB2	**Warramunga Arr**	**47.16**	**263**	P	**P**	**21 09 01.9**	**-0.1**
WB2				IAmb	IAmb	21 09 28.8	
	comp=Z,6.6nm,1.2s						
WRAB	**Tennant Creek**	**47.17**	**263**	P	**P**	**21 09 01.7**	**-0.3**
WRAB				IAmb	IAmb	21 09 18.9	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**47.17**	**263**	P	**P**	**21 09 01.7**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=105,slow=8.2,SNR=34						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**47.17**	**263**	P	**P**	**21 09 01.7**	**-0.4**
KNRA	**Kununurra**	**53.39**	**267**	P	**P**	**21 09 49.3**	**+0.2**
FAKI	**Fak Fak**	**54.74**	**283**	P	**P**	**21 09 57.5**	**-1.6**
CASY	**Casey**	**63.37**	**206**	P	**P**	**21 10 59.6**	**+1.5**
CASY				IAmb	IAmb	21 11 12.7	
	comp=Z,11nm,1.4s						
HOPS	**Hopland Field**	**78.10**	**39**	P	**P**	**21 12 30.8**	**+2.6**
SLBS	**Sierra La Lagu**	**78.10**	**58**	P	**P**	**21 12 29.2**	**+0.7**
SLBS				IAmb	IAmb	21 12 47.7	
	comp=Z,5.1nm,1.1s						
DSP	**Deep Springs**	**80.14**	**43**	P	**P**	**21 12 39.5**	**+0.3**
NVAR	**Mina Array Bea**	**80.59**	**42**	P	**P**	**21 12 44.9**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=210,slow=6.1,SNR=2.1						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**80.59**	**42**	P	**P**	**21 12 41.1**	**-0.9**
MAW	**Mawson**	**80.61**	**199**	P	P	21 12 49.6	+8.2
X16A	**Lo Mia Camp, P**	**82.72**	**48**	P	**P**	**21 12 51.0**	**-2.3**
N18K	**Kilae Creek**	**84.35**	**9**	P	**P**	**21 13 02.0**	**+1.2**
N18K				IAmb	IAmb	21 13 08.6	
	comp=Z,14nm,1.4s						

DJA 16 21:11:53.8±0.4, 2°.N±2°.°12°.6E±°.°, h95km±11km, M4.1/10, mb4.2/3, mB5.0/2, MLv4.1/10, Mw(mB)4.4/2
IDC 16 21:11:55.2±2.2, 1°.56N×125°.93E, h130km±21km, mb3.5/7, mbtmp3.8/10, MS3.1/1, Error ellipse: s-maj=31.8km s-min=12.6km az=63.0
NEIC 16 21:11:55.1±2.1, 1°.67N±0°.08×126°.08E±0°.07, h129km±5km, mb4.1/15, Error ellipse: s-maj=12.3km s-min=8.7km az=208.0
ISC 16 21:11:52.4±0.6, 1°.65N±0°.05×126°.04E±0°.05, h100km, n41, σ2§39/49, mb3.9/15, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.58**	**123**	Pn	**Pn**	**21 12 22.9**	**+3.2**
TNTI				Sn	**Sn**	**21 12 44.7**	**+4.3**
TNTI	**Ternate**	**1.58**	**123**	P	**Pn**	**21 12 22.7**	**+3.0**
TNTI				S	**Sn**	**21 12 43.8**	**+3.4**
SGSI	**Sangihe**	**2.09**	**346**	P	**Pn**	**21 12 27.8**	**+1.6**
SGSI				S	**Sn**	**21 12 53.6**	**+1.6**
KMSI	**Cibinong**	**2.32**	**243**	P	**Sn**	**21 13 04.3**	**+6.9**
KMSI				S	**Sn**	**21 12 58.5**	**+1.1**
LBMI	**Labuha**	**2.70**	**147**	P	**Pn**	**21 12 36.9**	**+2.7**
LBMI				S	**Sn**	**21 13 08.6**	**+2.3**
GTOI	**Gorontalo**	**3.19**	**252**	P	**Pn**	**21 12 42.8**	**+2.0**
SANI	**Sanana**	**3.67**	**181**	P	**Pn**	**21 12 47.4**	**+0.2**
SANI				S	**Sn**	**21 13 24.0**	**-5.6**
LUWI	**Luwuk**	**4.22**	**231**	Pn	**Pn**	**21 12 57.4**	**+2.7**
LUWI				Sn	**Sn**	**21 13 47.9**	**+4.9**
NLAI	**Namlea**	**4.97**	**168**	P	**Pn**	**21 13 06.3**	**+1.6**
NLAI				S	**Sn**	**21 13 59.2**	**-1.8**
AAI	**Ambon**	**5.72**	**158**	P	**Pn**	**21 13 15.6**	**+0.7**
	0.2nm31nm,0.8s						
MSAI	**Masohi**	**5.74**	**150**	P	**Pn**	**21 13 18.7**	**+3.5**
MSAI				S	**Sn**	**21 14 21.2**	**+1.5**
SIJI	**Sorong**	**5.79**	**116**	P	**Pn**	**21 13 19.5**	**+3.5**
	6.2nm,0.4s,baz=291,slow=17,SNR=8.1						
FAKI	**Fak Fak**	**7.68**	**126**	Pn	**Pn**	**21 13 44.7**	**+3.0**
KAPI	**Kappang**	**9.13**	**224**	P	**Pn**	**21 14 01.8**	**+0.5**
	2.8nm,0.6s,baz=61,slow=19,SNR=2.1						
FITZ	**Fitzroy Crossi**	**19.62**	**181**	P	**P**	**21 16 12.6**	**-0.6**
	2.3nm,0.8s,baz=4.2,slow=9.7,SNR=5.7						
FITZ	**Fitzroy Crossi**	**19.62**	**181**	P	**P**	**21 16 12.7**	**-0.4**
FITZ				IAmb	IAmb	21 16 19.6	
	comp=Z,13nm,1.4s						
TPUB	**Ta-pu**	**22.16**	**347**	P	**P**	**21 16 40.4**	**+0.1**
WB0	**Warramunga Arr**	**22.80**	**159**	P	**P**	**21 16 46.2**	**-0.7**
WB0				IAmb	IAmb	21 17 25.2	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**22.94**	**160**	P	**P**	**21 16 47.7**	**-0.7**
WRAB				IAmb	IAmb	21 17 30.3	
	comp=Z,8.3nm,1.2s						
WRA	**Warramunga Arr**	**22.95**	**160**	P	**P**	**21 16 47.7**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=334,slow=11,SNR=38						
WRA				S	**S**	**21 20 48.9**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=345,slow=18,SNR=2.6						
	comp=Z,1.8nm,0.5s						
WRA	**Warramunga Arr**	**22.95**	**160**	P	**P**	**21 16 46.5**	**-1.9**
WB2	**Warramunga Arr**	**22.95**	**160**	P	**P**	**21 16 47.8**	**-0.6**
WB2				IAmb	IAmb	21 16 48.5	
	comp=Z,8.6nm,1.2s						
WR0	**Warramunga Arr**	**23.03**	**159**	P	**P**	**21 16 48.5**	**-0.7**
WR0				IAmb	IAmb	21 16 52.8	
	comp=Z,6.9nm,1.2s						
PSA00	**Pilbara Seismi**	**23.86**	**194**	P	**P**	**21 16 56.2**	**-0.5**
PSA00				IAmb	IAmb	21 16 57.0	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**26.30**	**164**	P	**P**	**21 17 18.5**	**-0.3**
ASAR	**Alice Springs**	**26.30**	**164**	P	**P**	**21 17 18.8**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=341,slow=6.9,SNR=20						
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**26.30**	**164**	P	**P**	**21 17 19.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**31.39**	**304**	P	**P**	**21 18 04.2**	**0.0**
	comp=Z,3.0nm,0.3s,baz=106,slow=13,SNR=5.9						
	comp=Z,3.0nm,0.3s						
STKA	**Stephens Creek**	**36.46**	**157**	P	**P**	**21 18 47.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=306,slow=8.7,SNR=2.1						
	comp=Z,1.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**42.70**	**6**	LR	LR	21 38 16.6	
	comp=Z,20nm,18.1s,baz=231,slow=37						
SONM	**Songino Array**	**49.05**	**343**	P	**P**	**21 20 30.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=186,slow=8.3,SNR=3.9						
	comp=Z,0.5nm,0.6s						
MK31	**Makanchi Array**	**58.88**	**326**	P	**P**	**21 21 40.8**	**-0.1**
MK31				IAmb	IAmb	21 22 04.5	
	comp=Z,2.4nm,1.4s						

MKAR	**Makanchi Array**	**58.88**	**326**	P		**P**	**21 21 39.4**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=118,slow=7.6,SNR=6.8								
	comp=Z,0.5nm,0.5s								
MKAR	**Makanchi Array**	**58.88**	**326**	P		**P**	**21 21 40.6**	**-0.4**
MAKZ	**Makanchi**	**59.06**	**326**	P		**P**	**21 21 41.5**	**-0.7**
MAKZ				IAmb		IAmb	21 22 02.0		
	comp=Z,3.9nm,1.4s								
MQZ	**McQueen's Vall**	**61.42**	**143**	P		**P**	**21 21 57.9**	**-0.4**
BFZ	**Birch Farm**	**62.09**	**139**	P		P	21 21 57.0	-5.8
KURK	**Kurchatov**	**63.13**	**328**	P		**P**	**21 22 07.9**	**-1.6**
KURK				IAmb		IAmb	21 22 10.0		
	comp=Z,2.0nm,0.8s								
KK31	**Karatay Array**	**64.29**	**318**	P		**P**	**21 22 14.4**	**-3.0**
KKAR	**Karatay Array**	**64.29**	**318**	P		**P**	**21 22 14.1**	**-3.2**
VNDA	**Vanda**	**81.46**	**173**	P		**P**	**21 23 56.6**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=330,slow=7.4,SNR=2.5								
	comp=Z,0.6nm,0.9s								

IDC ***16*** *21:11:51.8±1.7,2˚18N×96˚35E,h0km,mb3.8/5, mbtmp3.8/7,ML3.6/2,MS3.0/2,Error ellipse: s-maj=41.6km s-min=20.7km az=49.0*

NEIC ***16*** *21:11:53.6±1.0,2˚11N±0˚07×96˚3E±0˚1,h11km±7km, mb4.2/10,Error ellipse: s-maj=15.8km s-min=7.8km az=62.0*

DJA ***16*** *21:12:05.6±0.5,2˚N±4˚×9˚8E±˚,h50km,M3.3/7,MLv3.3/7*

ISC 16 21:11:54.1±1.9,2˚21N±0˚05×96˚32E±0˚07,h15km±12km, n38,σ1§31/37,mb4.2/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GSI	**Gunungsitoli**	**1.54**	**126**	Pn	**Pb**		**21 12 21.1**	**-1.3**
GSI				Sn	**Sn**		**21 12 39.8**	**-1.1**
GSI	**Gunungsitoli**	**1.54**	**126**	P	**Pn**		**21 12 20.7**	**-0.4**
GSI				S	**Sb**		**21 12 40.4**	**-1.4**
KCSI	**Kotacane, Aceh**	**1.95**	**48**	P	**Pn**		**21 12 27.8**	**+1.1**
KCSI				S	**Sn**		**21 12 51.6**	**+0.7**
TSI	**Tuntungan**	**2.58**	**60**	P	**Pn**		**21 12 31.4**	**-4.0**
RPSI	**Rantau Prapat**	**2.64**	**79**		**Pn**		**21 12 37.5**	**+1.2**
RPSI				Pg	**Pg**		**21 12 46.8**	**+1.9**
RPSI	**Rantau Prapat**	**2.64**	**79**		**Pn**		**21 12 35.5**	**-0.7**
RPSI					**Sn**		**21 13 10.0**	**+1.9**
PSI	**Prapat**	**2.66**	**77**	Pn	**Pn**		**21 12 35.5**	**-1.1**
	1.3nm,0.3s,baz=304,slow=14,SNR=5.8							
PSI				Sn	**Sn**		**21 13 10.0**	**+1.2**
	3.2nm,0.3s,baz=248,slow=3.4,SNR=6.9							
	6.4nm,0.3s							
PBSI	**Pulau Batu**	**2.98**	**139**	P	**Pn**		**21 12 43.0**	**+2.1**
LHMI	**Lhok Sumawe**	**3.06**	**12**	Pn	**Pn**		**21 12 43.3**	**+1.3**
LHMI	**Lhok Sumawe**	**3.06**	**12**	P	**Pg**		**21 12 51.8**	**-1.0**
SISI	**Saibi**	**4.47**	**142**	P	**Pn**		**21 13 02.6**	**+1.2**
IPM	**Ipoh**	**5.21**	**64**	Pn	**Pn**		**21 13 12.8**	**+1.3**
KULM	**Kulim**	**5.29**	**55**	Pn	**Pn**		**21 13 13.6**	**+0.9**
CM31	**Chiang Mai Arr**	**16.35**	**9**	Pn	**Pn**		**21 15 44.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**16.35**	**9**	Pn	**Pn**		**21 15 42.3**	**-0.9**
	0.3nm,0.3s,baz=198,slow=12,SNR=12							
CMAR				LR	LR		21 22 49.6	
	comp=Z,35nm,19.7s,baz=35,slow=40							
	2.3nm,0.8s							
H08S2	**Diego Garcia H**	**25.71**	**247**	T	T		21 43 52.6	
	baz=68,slow=75,SNR=83							
H08S3	**Diego Garcia H**	**25.71**	**247**	T	T		21 43 56.2	
	baz=68,slow=75,SNR=149							
H08S1	**Diego Garcia H**	**25.73**	**247**	T	T		21 43 55.0	
	baz=68,slow=75,SNR=44							
H01W3	**Cape Leeuwin H**	**40.51**	**157**	T	T		22 02 30.9	
	baz=332,slow=76,SNR=23							
H01W2	**Cape Leeuwin H**	**40.52**	**157**	T	T		22 02 30.4	
	baz=332,slow=76,SNR=23							
H01W1	**Cape Leeuwin H**	**40.53**	**157**	T	T		22 02 30.1	
	baz=332,slow=76,SNR=17							
TARG	**Taragay, Kyrgy**	**42.72**	**339**		**P**		**21 19 52.0**	**+0.8**
TARG				IAmb	IAmb		21 19 53.2	
	comp=Z,2.1nm,0.6s							
WB0	**Warramunga Arr**	**43.28**	**122**	P	**P**		**21 19 53.6**	**-2.0**
WB0				IAmb	IAmb		21 19 57.1	
	comp=Z,7.8nm,1.4s							
WRA	**Warramunga Arr**	**43.31**	**122**	P	**P**		**21 19 55.3**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=303,slow=9.3,SNR=4.6							
	comp=Z,0.7nm,0.9s							
WRA	**Warramunga Arr**	**43.31**	**122**	P	**P**		**21 19 54.6**	**-1.3**
WRAB	**Tennant Creek**	**43.32**	**122**	P	**P**		**21 19 55.6**	**-0.2**
WB2	**Warramunga Arr**	**43.32**	**122**	P	**P**		**21 19 55.2**	**-0.7**
WB2				IAmb	IAmb		21 19 58.8	
	comp=Z,10nm,1.4s							
WR0	**Warramunga Arr**	**43.49**	**122**	P	**P**		**21 19 56.9**	**-0.4**
WR0				IAmb	IAmb		21 20 06.7	
	comp=Z,4.2nm,1.0s							
ASAR	**Alice Springs**	**44.70**	**127**	P	**P**		**21 20 06.5**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=294,slow=8.2,SNR=4.3							
	comp=Z,0.6nm,0.9s							
KSRS	**Korea Array**	**45.53**	**36**	LR	LR		21 41 25.4	
	comp=Z,29nm,18.0s,baz=185,slow=39							
MK31	**Makanchi Array**	**46.06**	**347**	P	**P**		**21 20 17.6**	**+0.3**
MK31				IAmb	IAmb		21 20 18.3	
	comp=Z,2.3nm,0.9s							
MKAR	**Makanchi Array**	**46.06**	**347**	P	**P**		**21 20 17.7**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=159,slow=9.2,SNR=27							
	comp=Z,1.2nm,0.4s							
MKAR	**Makanchi Array**	**46.06**	**347**	P	**P**		**21 20 17.3**	**0.0**
MAKZ	**Makanchi**	**46.14**	**346**	P	**P**		**21 20 18.4**	**+0.4**
MAKZ				IAmb	IAmb		21 20 19.2	
	comp=Z,2.2nm,0.8s							
SONM	**Songino Array**	**46.27**	**9**	P	**P**		**21 20 19.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=196,slow=8.2,SNR=4.6							
	comp=Z,0.4nm,0.4s							
KKAR	**Karatay Array**	**46.77**	**334**	P	**P**		**21 20 23.0**	**0.0**
ZAA0	**Zalesovo Array**	**52.43**	**351**	P	**P**		**21 21 05.9**	**0.0**
ZALV	**Zalesovo Beam**	**52.43**	**351**	P	**P**		**21 21 06.1**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=181,slow=6.6,SNR=16							
	comp=Z,3.2nm,0.5s							

ASRS ***16*** *21:45:08.4±0.2,50˚N±1˚×89˚8E±0˚8,h8km,MLh3.6/20, Error ellipse: s-maj=2.8km s-min=1.6km az=162.1, confirmed*

SOME ***16*** *21:45:19.3,49˚40N×89˚15E,h0km*

ISC 16 21:45:12.6±0.8,49˚89N±0˚03×89˚59E±0˚02,h10km,n26, σ2§00/51,9C-3D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SLNR	**Muhor-Tarhata,**	**0.73**	**261**	⇑Pg	**Pb**		**21 45 25.7**	**-1.9**
SLNR				Sg	**Sb**		**21 45 36.3**	**-1.5**
CUR	**Chagan-Uzun**	**0.82**	**285**	⇑Pg	**Pg**		**21 45 26.9**	**-1.6**
CUR				Sg	**Sg**		**21 45 38.5**	**-0.8**
ULGR	**Ulagan, Altay**	**1.27**	**306**	⇑Pg	**Pg**		**21 45 36.0**	**-1.0**
ULGR				Sg	**Sb**		**21 45 52.4**	**-0.8**
AKAR	**Aktash**	**1.33**	**289**	Pg	**Pn**		**21 45 35.8**	**-1.6**
AKAR				Sg	**Sg**		**21 45 54.9**	**-0.7**
CHBI	**Chibit, Altay**	**1.40**	**288**	⇓Pg	**Pg**		**21 45 38.0**	**-1.6**
CHBI				Sg	**Sg**		**21 45 59.1**	**+1.3**
DGZ	**Jazzator, Alta**	**1.41**	**263**	⇑Pg	**Pg**		**21 45 37.8**	**-1.9**
DGZ				Sg	**Sg**		**21 45 57.0**	**-1.0**
ARTR	**Artybash**	**2.40**	**323**	Pg	**Pb**		**21 45 55.1**	**-0.8**
ARTR				Sg	**Sg**		**21 46 27.3**	**-2.4**
TASR	**Tashtagol**	**3.06**	**340**	Pg	**Pb**		**21 46 07.2**	**0.0**
TASR				Sg	**Sb**		**21 46 47.2**	**+2.6**
DJO	**Djoy, Khakassi**	**3.07**	**19**	Pg	**Pb**		**21 46 06.2**	**-1.1**
DJO				Sg	**Sb**		**21 46 46.8**	**+2.0**
GALT	**Gorno-Altaysk,**	**3.09**	**313**	Pg	**Pb**		**21 46 07.0**	**-0.7**
GALT				Sg	**Sg**		**21 46 48.9**	**-3.1**
DJOS	**Djoyskaya Sosn**	**3.12**	**21**	Sg	**Sb**		**21 46 47.9**	**+1.6**
CERR	**Cheremushki**	**3.18**	**20**	Pg	**Pg**		**21 46 11.7**	**-1.8**
CERR				Sg	**Sb**		**21 46 50.0**	**+2.1**
UKR	**Ust'-Kan**	**3.25**	**291**	Pg	**Pb**		**21 46 10.2**	**-0.2**
UKR				Sg	**Sg**		**21 46 54.7**	**-2.2**
KZLR	**Kyzyl**	**3.58**	**58**	Pg	**Pb**		**21 46 15.8**	**-0.2**
KZLR				Sg	**Sb**		**21 47 00.7**	**+1.1**
ERNS	**Erzin**	**3.61**	**82**	Pg	**Pb**		**21 46 14.0**	**-2.5**
ERNS				Sg	**Sb**		**21 47 00.8**	**+0.5**
ARDR	**Aradan**	**3.62**	**40**	Pg	**Pb**		**21 46 14.5**	**-2.1**
ARDR				Sg	**Sb**		**21 46 59.4**	**-1.2**
LUZB	**Luzhba, Kemero**	**3.80**	**354**	Pg	**Pb**		**21 46 19.9**	**+0.2**
LUZB				Sg	**Sb**		**21 47 08.0**	**+2.3**
ELT	**Eltsovka**	**3.96**	**330**	Pg	**Pb**		**21 46 24.1**	**+1.5**
ELT				Sg	**Sb**		**21 47 14.6**	**+4.0**
ZSN	**Zaisan**	**3.97**	**234**	*e*P	**Pg**		**21 46 28.7**	**+0.1**
	2.9nm,0.4s							
ZSN				*e*S	**Sg**		**21 47 18.6**	**-1.4**
	32nm,0.4s							
KNGR	**Kungurtug, Tuv**	**5.14**	**79**	Pn	**Pn**		**21 46 30.1**	**+0.4**
KNGR				Pg	**Pb**		**21 46 42.0**	**-0.6**
KNGR				Sg	**Sg**		**21 47 55.0**	**-2.6**
MINR	**Mina**	**5.75**	**28**	Sg	**Sg**		**21 48 12.0**	**-5.2**
MK31	**Makanchi Array**	**5.77**	**240**	⇑Pn	Pn		21 46 41.1	+2.8
	0.1nm,0.2s,baz=52,slow=14,SNR=23							
MK31				⇑Pg	**Pg**		**21 47 00.2**	**-2.8**
	0.8nm,0.3s,baz=70,slow=17,SNR=8.2							
MK31				⇓Sn	**Sn**		**21 47 46.9**	**+2.5**
	2.4nm,0.4s							
MK31				⇑Lg	Lg		21 48 14.3	
	8.1nm,0.6s,baz=64,slow=31,SNR=5.5							
MKAR	**Makanchi Array**	**5.77**	**240**	Pn	**Pn**		**21 46 40.8**	**+2.6**
MKAR				Pg	**Pg**		**21 47 03.3**	**+0.3**
MKAR				Sg	**Sg**		**21 48 16.6**	**-1.0**
MAKZ	**Makanchi**	**5.94**	**242**	⇓Pn	Pn		21 46 44.1	+3.6
	0.5nm,0.4s							
MAKZ				⇑Pg	Pg		21 47 01.1	-5.1
	1.4nm,0.5s							
MAKZ				⇑Lg	Lg		21 48 18.7	
	4.7nm,0.5s							
MAKZ	**Makanchi**	**5.94**	**242**	Pn	**Pn**		**21 46 43.2**	**+2.7**
MAKZ				Pg	**Pg**		**21 47 02.5**	**-3.8**
MAKZ				Sg	**Sg**		**21 48 20.1**	**-3.0**
SEM	**Semipalatinsk**	**6.02**	**278**	*e*P	**Pg**		**21 47 07.5**	**-0.4**
	2.0nm,0.1s							
SEM				*e*S	**Sg**		**21 48 25.6**	**-0.2**
	9.4nm,0.2s							

KNET ***16*** *22:03:21.9±0.6,42˚28N×74˚92E,h19km±4km,ml2.5,Error ellipse: s-maj=4.7km s-min=2.6km az=154.0*

KRNET ***16*** *22:03:22.4±0.1,42˚27N×74˚90E,h16km,mb3.1*

NNC ***16*** *22:03:23.8±0.6,42˚35N×74˚90E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=4.0km s-min=2.4km az=18.0*

SOME ***16*** *22:03:23.2,42˚28N×74˚88E,h15km*

ISC 16 22:03:22.8±1.0,42˚30N±0˚02×74˚87E±0˚01,h7km±9km, n73,σ1§27/136,34C-22D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
UCH	**Uchtor**	**0.28**	**254**	P	**Pg**		**22 03 28.9**	**+0.4**
	185nm,0.4s,SNR=315							
UCH				⇑S	**Sg**		**22 03 33.0**	**+0.9**
	349nm,0.2s							
UCH	**Uchtor**	**0.28**	**254**	⇑*e*P	**Pg**		**22 03 28.8**	**+0.4**
	baz=63							
UCH				⇑*e*S	**Sg**		**22 03 33.0**	**+0.9**
	baz=63							
KBK	**Karagaybulak**	**0.36**	**9**	⇓P	**Pb**		**22 03 30.8**	**-0.9**
	345nm,0.1s,SNR=91							
KBK				⇑S	**Sb**		**22 03 36.2**	**-1.5**
	3µm,0.2s							
KBK	**Karagaybulak**	**0.36**	**9**	⇓*e*P	**Pg**		**22 03 30.3**	**+0.4**
	baz=5.0							
KBK				⇓*e*S	**Sb**		**22 03 35.9**	**-1.7**
	baz=5.0							
AAK	**Ala-Archa**	**0.44**	**320**	⇑P	**Pb**		**22 03 32.1**	**-0.9**
	44nm,0.2s,SNR=60							
AAK				⇑S	**Sb**		**22 03 38.3**	**-1.5**
	240nm,0.2s							
AAK	**Ala-Archa**	**0.44**	**320**	⇑*e*P	**Pb**		**22 03 31.9**	**-1.1**
	baz=21							
AAK				⇑*e*S	**Sb**		**22 03 38.3**	**-1.5**
	baz=21							
FRU1	**Bishkek**	**0.54**	**341**	⇑*e*P	**Pb**		**22 03 33.7**	**-1.0**
	baz=40							
FRU1				⇑*e*S	**Sb**		**22 03 41.7**	**-1.0**
	baz=40							
ARLS	**Aral**	**0.60**	**223**	⇑*i*P	**Pg**		**22 03 33.9**	**-0.5**
	baz=26							
ARLS				⇑*e*S	**Sg**		**22 03 42.2**	**-0.1**
	baz=26							
CHMS	**Chumysh**	**0.70**	**353**	⇓P	**Pb**		**22 03 36.8**	**-0.7**
	30nm,0.1s,SNR=57							
CHMS				⇓S	**Sb**		**22 03 46.5**	**-0.8**
	208nm,0.1s							
CHMS	**Chumysh**	**0.70**	**353**	⇑P	**Pb**		**22 03 36.7**	**-0.7**
	12nm,0.3s							
CHMS				⇓S	**Sb**		**22 03 46.4**	**-1.0**
	34nm,0.2s							
CHMS	**Chumysh**	**0.70**	**353**	⇑*e*P	**Pg**		**22 03 36.4**	**0.0**
	baz=51							
CHMS				⇑*e*S	**Sb**		**22 03 46.3**	**-1.0**
	baz=51							
BOOM	**Boomskoye usch**	**0.81**	**76**	⇓*e*P	**Pg**		**22 03 37.4**	**-1.1**
	baz=73							
BOOM				⇓*i*S	**Sg**		**22 03 48.4**	**-0.7**
	baz=73							
TKM2	**Tokmak 2**	**0.82**	**41**	⇓P	**Pg**		**22 03 38.3**	**-0.3**
	53nm,0.2s,SNR=72							
TKM2				⇓S	**Sg**		**22 03 49.0**	**-0.3**
	109nm,0.1s							
TKM2	**Tokmak 2**	**0.82**	**41**	⇓P	**Pg**		**22 03 38.3**	**-0.3**
	13nm,0.2s							
TKM2				⇓S	**Sg**		**22 03 48.9**	**-0.3**
	48nm,0.4s							
TKM2	**Tokmak 2**	**0.82**	**41**	⇑*e*P	**Pg**		**22 03 38.1**	**-0.5**
	baz=38							
TKM2				⇑*e*S	**Sg**		**22 03 49.5**	**+0.3**
	baz=38							
EKS2	**Erkin-Say**	**0.89**	**294**	⇑P	**Pb**		**22 03 40.2**	**-0.4**
	17nm,0.2s,SNR=78							
EKS2				⇓S	**Sb**		**22 03 52.6**	**-0.1**
	53nm,0.2s							
EKS2	**Erkin-Say**	**0.89**	**294**	⇑*e*P	**Pg**		**22 03 39.6**	**-0.3**
	baz=96							
EKS2				⇑*e*S	**Sb**		**22 03 52.3**	**-0.4**
	baz=96							
AML	**Almayashu**	**0.89**	**259**	⇑P	**Pg**		**22 03 39.9**	**0.0**
	17nm,0.2s,SNR=32							
AML				⇑S	**Sb**		**22 03 52.3**	**-0.8**
	152nm,0.3s							
USP	**Ospenovka**	**1.00**	**344**	⇓P	**Pb**		**22 03 42.2**	**-0.4**
	22nm,0.1s,SNR=19							
USP				⇓S	**Sb**		**22 03 55.8**	**-0.2**
	88nm,0.2s							
USP	**Ospenovka**	**1.00**	**344**	⇑*i*P	**Pg**		**22 03 41.7**	**-0.4**
	baz=44							
USP				⇑*i*S	**Sb**		**22 03 55.7**	**-0.3**
	baz=44							
ULHL	**Ulahol**	**1.02**	**93**	⇑P	**Pg**		**22 03 41.1**	**-1.3**
	23nm,0.2s,SNR=9.7							
ULHL				⇑S	**Sg**		**22 03 54.6**	**-1.1**
	46nm,0.2s							
ULHL	**Ulahol**	**1.02**	**93**	⇓*i*P	**Pg**		**22 03 40.8**	**-1.6**
	baz=91							
ULHL				⇓*i*S	**Sg**		**22 03 54.1**	**-1.6**
	baz=91							
KST	**Kastek**	**1.09**	**47**	*e*P	**Pg**		**22 03 43.3**	**-0.6**
	14nm,0.2s							
KST				*e*S	**Sg**		**22 03 57.9**	**-0.2**
	57nm,0.3s							
KST	**Kastek**	**1.09**	**47**	P	**Pg**		**22 03 43.3**	**-0.6**
	14nm,0.2s							
KST				S	**Sg**		**22 03 57.9**	**-0.2**
	57nm,0.3s							
KST	**Kastek**	**1.09**	**47**	*e*P	**Pg**		**22 03 43.3**	**-0.6**
	baz=45							
KST				*e*S	**Sg**		**22 03 57.9**	**-0.2**
	baz=45							
DGS	**Degeres**	**1.15**	**35**	*e*P	**Pg**		**22 03 44.6**	**-0.3**
	17nm,0.3s							
DGS				*e*S	**Sb**		**22 03 59.8**	**-0.5**
	48nm,0.2s							
DGS	**Degeres**	**1.15**	**35**	P	**Pg**		**22 03 44.6**	**-0.3**
	18nm,0.2s							
DGS				S	**Sb**		**22 03 59.8**	**-0.5**
	48nm,0.2s							
DGS	**Degeres**	**1.15**	**35**	*e*P	**Pg**		**22 03 44.6**	**-0.3**
	baz=33							
DGS				*e*S	**Sb**		**22 03 59.8**	**-0.5**
	baz=33							
NRN	**Naryn**	**1.21**	**135**	⇑*e*P	**Pg**		**22 03 43.6**	**-2.5**
	baz=36							
NRN				⇑*e*S	**Sg**		**22 03 59.2**	**-2.6**
	baz=36							
MRKS	**Merke**	**1.29**	**291**	*e*P	**Pg**		**22 03 47.4**	**-0.3**
	9.1nm,0.1s							
MRKS				*e*S	**Sg**		**22 04 04.3**	**-0.1**
	50nm,0.3s							
MRKS	**Merke**	**1.29**	**291**	P	**Pg**		**22 03 47.3**	**-0.3**
	9.1nm,0.1s							
MRKS				S	**Sg**		**22 04 04.2**	**-0.1**
	50nm,0.3s							
MRKS	**Merke**	**1.29**	**291**	*e*P	**Pg**		**22 03 47.4**	**-0.3**
	baz=92							
MRKS				*e*S	**Sg**		**22 04 04.4**	**-0.1**
	baz=92							
MTBS	**Maitube**	**1.42**	**54**	*e*P	**Pb**		**22 03 49.0**	**-0.6**
	9.1nm,0.3s							
MTBS				*e*S	**Sn**		**22 04 07.6**	**-0.5**
	50nm,0.3s							
MTBS	**Maitube**	**1.42**	**54**	P	**Pb**		**22 03 49.0**	**-0.6**
	8.3nm,0.2s							
MTBS				S	**Sn**		**22 04 07.7**	**-0.4**
	35nm,0.3s							
MTBS	**Maitube**	**1.42**	**54**	*e*P	**Pb**		**22 03 49.0**	**-0.6**
	baz=52							
MTBS				*e*S	**Sn**		**22 04 07.5**	**-0.5**
	baz=52							
KRBS	**Karabastau**	**1.51**	**23**	*e*P	**Pg**		**22 03 51.2**	**-0.6**
	30nm,0.2s							
KRBS				*e*S	**Sg**		**22 04 11.5**	**+0.1**
	90nm,0.4s							
KRBS	**Karabastau**	**1.51**	**23**	P	**Pb**		**22 03 51.1**	**-0.2**
	30nm,0.2s							
KRBS				S	**Sg**		**22 04 10.8**	**-0.7**
	90nm,0.4s							
KRBS	**Karabastau**	**1.51**	**23**	*e*P	**Pg**		**22 03 51.3**	**-0.6**
	baz=21							
KRBS				*e*S	**Sg**		**22 04 11.6**	**+0.1**
	baz=21							
AAA	**Alma-Ata**	**1.76**	**58**	*e*P	**Pg**		**22 03 56.1**	**-0.4**
	27nm,0.2s							
AAA				*e*S	**Sg**		**22 04 19.3**	**0.0**
	70nm,0.3s							
AAA	**Alma-Ata**	**1.76**	**58**	P	**Pg**		**22 03 55.9**	**-0.7**
	28nm,0.2s							
AAA				S	**Sg**		**22 04 18.9**	**-0.5**
	70nm,0.3s							
KNDC	**Almaty**	**1.79**	**59**	⇓P	**Pg**		**22 03 56.3**	**-0.9**
	15nm,0.2s							
KNDC				⇑S	**Sg**		**22 04 20.6**	**+0.1**
	42nm,0.3s							
MDOK	**Medeo**	**1.82**	**61**	*e*P	**Pg**		**22 03 57.0**	**-0.7**
	20nm,0.3s							
MDOK				*e*S	**Sg**		**22 04 21.4**	**0.0**
	47nm,0.4s							
MDOK	**Medeo**	**1.82**	**61**	P	**Pb**		**22 03 56.3**	**-0.3**
	24nm,0.9s							
MDOK				Pg	**Pg**		**22 03 57.0**	**-0.7**
	20nm,0.3s							
MDOK				S	**Sg**		**22 04 20.2**	**-1.1**
	52nm,0.4s							
MDOK				Lg	Lg		22 04 21.1	
	47nm,0.4s							
KUU	**Kurty**	**1.92**	**34**	*e*P	**Pb**		**22 03 58.4**	**+0.2**
	57nm,0.3s							
KUU				*e*S	**Sg**		**22 04 23.6**	**-0.9**
	71nm,0.5s							
KUU	**Kurty**	**1.92**	**34**	P	**Pb**		**22 03 58.2**	**0.0**
	57nm,0.3s							
KUU				S	**Sg**		**22 04 23.0**	**-1.5**
	71nm,0.5s							
KTBS	**Karatobe**	**1.94**	**43**	*e*P	**Pb**		**22 03 58.6**	**+0.1**
	11nm,0.2s							
KTBS				*e*S	**Sg**		**22 04 23.9**	**-1.1**
	89nm,0.2s							
KTBS	**Karatobe**	**1.94**	**43**	P	**Pb**		**22 03 58.3**	**-0.2**
	11nm,0.2s							
KTBS				S	**Sb**		**22 04 23.5**	**+0.6**
	89nm,0.2s							
CHKK	**Chushkaly**	**2.19**	**44**	*e*P	**Pg**		**22 04 03.6**	**-1.3**
	4.0nm,0.1s							
CHKK				*e*S	**Sg**		**22 04 32.0**	**-1.3**
	68nm,0.2s							
CHKK	**Chushkaly**	**2.19**	**44**	Pg	**Pg**		**22 04 03.6**	**-1.3**
	4.0nm,0.1s							
CHKK				Lg	Lg		22 04 31.8	
	68nm,0.2s							
TARG	**Taragay, Kyrgy**	**2.26**	**104**	⇓*e*P	**Pn**		**22 04 01.0**	**0.0**
	baz=3.0							
TARG				⇓*i*S	**Sn**		**22 04 29.1**	**-0.3**
	baz=3.0							
DZA	**Taraz**	**2.68**	**284**	*e*P	**Pb**		**22 04 12.3**	**+1.1**
	14nm,0.1s							
DZA				*e*S	**Sg**		**22 04 47.3**	**-1.6**
	102nm,0.3s							
SATY	**Saty**	**2.71**	**73**	*e*P	**Pg**		**22 04 13.4**	**-1.5**
	8.7nm,0.2s							
SATY				*e*S	**Sg**		**22 04 48.7**	**-1.3**
	49nm,0.2s							
SATY	**Saty**	**2.71**	**73**	Pg	**Pg**		**22 04 13.2**	**-1.6**
	8.7nm,0.2s							
SATY				Lg	Lg		22 04 47.7	
	49nm,0.2s							
ZHN	**Zhinishke**	**2.77**	**71**	*e*P	**Pb**		**22 04 13.8**	**+1.1**
	14nm,0.3s							
ZHN				*e*S	**Sg**		**22 04 50.0**	**-1.6**
	62nm,0.1s							
ZHN	**Zhinishke**	**2.77**	**71**	Pg	**Pb**		**22 04 13.8**	**+1.1**
	9.5nm,0.2s							
ZHN				Lg	Lg		22 04 48.8	
	62nm,0.1s							
BTLS	**Baital**	**2.80**	**348**	*e*P	**Pb**		**22 04 13.8**	**+0.6**
	2.3nm,0.1s							
BTLS				*e*S	**Sg**		**22 04 50.2**	**-2.6**
	27nm,0.6s							
BTLS	**Baital**	**2.80**	**348**	Pg	**Pb**		**22 04 13.5**	**+0.3**
	2.3nm,0.1s							
BTLS				Lg	Lg		22 04 49.8	
	7.7nm,0.5s							
ARXS	**Arharly**	**2.88**	**48**	*e*P	**Pb**

MK31		⇑Sn	**Sn**	**22 06 25.7**	**+1.5**
	0.4nm,0.5s				
MK31		⇓Lg	Lg	22 06 59.8	
	0.7nm,0.6s				

IDC ***16*** *22:08:45.7±1.9, 17.°68S×178.°15W, h534km±17km, mb3.5/9, mbtmp4.4/11, Error ellipse: s-maj=43.8km s-min=14.3km az=142.0*
NEIC ***16*** *22:08:45.1±1.6, 17.°8S±0.°1×177.°9W±0.°1, h540km±10km, mb4.4/45, Error ellipse: s-maj=21.9km s-min=18.6km az=143.0*

ISC 16 22:08:45.6±0.5, 17.°8S±0.°1×177.°94W±0.°09, h550km, n65, σ1§19/68, mb4.3/29, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.82**	**271**	P	**P**	**22 10 04.9**	**-1.4**
	48nm,0.7s,baz=137,slow=17,SNR=22						
MSVF	**Nonsavu**	**3.82**	**271**	P	**P**	**22 10 05.3**	**-1.0**
AFI	**Afiamalu**	**7.09**	**58**	P	**P**	**22 10 31.4**	**-3.3**
	21nm,0.4s,baz=214,slow=7.3,SNR=2.0						
NIUE	**Niue**	**7.70**	**101**	P	**P**	**22 10 37.2**	**-3.2**
DZM	**Mont Dzumac**	**15.28**	**251**	P	**P**	**22 11 55.3**	**-2.8**
	6.3nm,0.5s,baz=112,slow=19,SNR=5.7						
DZM	**Mont Dzumac**	**15.28**	**251**	P	**P**	**22 11 59.9**	**+1.8**
DZM				IAmb	IAmb	22 12 00.5	
	comp=Z,6.5nm,0.6s						
KOUNC	**Koumac, New Ca**	**17.01**	**258**	P	**P**	**22 12 14.0**	**-0.5**
KOUNC				IAmb	IAmb	22 12 14.4	
	comp=Z,12nm,0.7s						
URZ	**Urewera**	**20.81**	**191**	P	**P**	**22 12 47.7**	**-1.2**
SNZO	**South Karori**	**24.24**	**194**	P	**P**	**22 13 19.1**	**-0.3**
QRZ	**Quartz Range**	**24.34**	**198**	P	**P**	**22 13 20.1**	**-0.3**
BSWZ	**Blackbirch Sta**	**24.82**	**195**	P	**P**	**22 13 22.8**	**-1.8**
LHI	**Lord Howe Isla**	**24.88**	**232**	P	**P**	**22 13 24.6**	**-0.7**
THZ	**Tophouse**	**25.11**	**196**	P	**P**	**22 13 27.4**	**+0.2**
KHZ	**Kahutara**	**25.56**	**195**	P	**P**	**22 13 31.1**	**0.0**
LTZ	**Lake Taylor**	**26.23**	**196**	P	**P**	**22 13 36.0**	**-1.1**
FOZ	**Fox Glacier**	**27.64**	**199**	P	**P**	**22 13 49.2**	**-0.2**
LBZ	**Lake Benmore**	**28.30**	**198**	P	**P**	**22 13 53.7**	**-1.4**
WKZ	**Wanaka**	**29.05**	**199**	P	**P**	**22 14 01.0**	**-0.7**
EIDS	**Eidsvold**	**29.71**	**250**	P	**P**	**22 14 07.4**	**-0.4**
EIDS				IAmb	IAmb	22 14 31.7	
	comp=Z,12nm,1.4s						
MLZ	**Mavora Lakes**	**29.82**	**200**	P	**P**	**22 14 09.1**	**+0.7**
MLZ				IAmb	IAmb	22 14 40.2	
	comp=Z,32nm,1.4s						
WHZ	**Wether Hill Ro**	**30.34**	**200**	P	**P**	**22 14 13.4**	**+0.5**
WHZ				IAmb	IAmb	22 14 39.2	
	comp=Z,25nm,1.4s						
ARMA	**Armidale**	**30.37**	**240**	P	**P**	**22 14 13.6**	**+0.1**
ARMA				IAmb	IAmb	22 14 14.6	
	comp=Z,10nm,0.9s						
CTAO	**Charters Tower**	**33.90**	**260**	P	**P**	**22 14 42.0**	**-1.5**
CTAO				IAmb	IAmb	22 14 43.9	
	comp=Z,16nm,1.4s						
CAN	**Canberra**	**34.11**	**233**	P	**P**	**22 14 45.4**	**+0.3**
CAN				IAmb	IAmb	22 15 09.1	
	comp=Z,23nm,1.5s						
COEN	**Coen**	**37.55**	**270**	P	**P**	**22 15 12.6**	**-1.2**
COEN				IAmb	IAmb	22 15 29.9	
	comp=Z,27nm,1.4s						
TOO	**Toolangi**	**37.57**	**231**	P	**P**	**22 15 14.4**	**+0.8**
TOO				IAmb	IAmb	22 15 15.0	
	comp=Z,7.4nm,0.7s						
STKA	**Stephens Creek**	**39.06**	**241**	P	**P**	**22 15 25.9**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=77,slow=9.1,SNR=9.9						
	comp=Z,4.2nm,0.6s						
STKA	**Stephens Creek**	**39.06**	**241**	P	**P**	**22 15 26.5**	**+0.8**
BBOO	**Buckleboo**	**43.84**	**241**	P	**P**	**22 16 03.8**	**+0.3**
BBOO				IAmb	IAmb	22 16 45.2	
	comp=Z,33nm,1.4s						
WR0	**Warramunga Arr**	**44.90**	**259**	P	**P**	**22 16 11.6**	**-0.3**
WB0	**Warramunga Arr**	**45.05**	**260**	P	**P**	**22 16 12.5**	**-0.6**
WB2	**Warramunga Arr**	**45.08**	**259**	P	**P**	**22 16 12.3**	**-0.9**
WRA	**Warramunga Arr**	**45.09**	**259**	P	**P**	**22 16 12.4**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=95,slow=6.9,SNR=38						
WRA				PcP	**PcP**	**22 17 43.1**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=94,slow=3.6,SNR=2.3						
	comp=Z,1.9nm,0.5s						
WRA	**Warramunga Arr**	**45.09**	**259**	P	**P**	**22 16 12.6**	**-0.7**
AS31	**Alice Springs**	**45.24**	**254**	P	**P**	**22 16 14.6**	**+0.1**
AS31				IAmb	IAmb	22 16 14.9	
	comp=Z,5.9nm,0.7s						
ASAR	**Alice Springs**	**45.24**	**254**	P	**P**	**22 16 14.4**	**-0.1**
	comp=Z,21nm,0.5s,baz=89,slow=8.3,SNR=472						
ASAR				PcP	**PcP**	**22 17 43.8**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=99,slow=3.7,SNR=2.8						
ASAR				ScP	**ScP**	**22 20 46.2**	**+2.9**
	comp=Z,0.5nm,1.1s,baz=108,slow=4.1,SNR=2.0						
	comp=Z,21nm,0.5s						
ASAR	**Alice Springs**	**45.24**	**254**	P	**P**	**22 16 14.6**	**+0.1**
FORT	**Forrest**	**50.45**	**245**	P	**P**	**22 16 52.7**	**-0.5**
KNRA	**Kununurra**	**50.94**	**264**	P	**P**	**22 16 57.2**	**+0.2**
KNRA				IAmb	IAmb	22 17 36.8	
	comp=Z,21nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.48**	**260**	P	**P**	**22 17 15.4**	**+0.2**
MBWA	**Marble Bar**	**58.53**	**256**	P	**P**	**22 17 49.6**	**-0.4**
MBWA				IAmb	IAmb	22 17 52.5	
	comp=Z,29nm,1.4s						
QSPA	**South Pole Qui**	**72.22**	**180**	P	**P**	**22 19 17.1**	**+2.0**
KDAK	**Kodiak Island**	**78.22**	**14**	P	**P**	**22 19 49.3**	**+1.1**
	comp=Z,7.4nm,1.0s,baz=301,slow=23,SNR=12						
	comp=Z,7.4nm,1.0s						
KDAK	**Kodiak Island**	**78.22**	**14**	P	**P**	**22 19 49.6**	**+1.4**
KDAK				IAmb	IAmb	22 19 56.7	
	comp=Z,21nm,1.2s						
NVAR	**Mina Array Bea**	**79.06**	**44**	P	**P**	**22 19 54.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=206,slow=8.0,SNR=6.6						
	comp=Z,0.6nm,0.6s						
M19K	**Big River Lodg**	**81.64**	**11**	P	**P**	**22 20 05.9**	**-0.2**
M19K				IAmb	IAmb	22 20 08.7	
	comp=Z,8.7nm,1.2s						
SUA	**Susitna One**	**81.96**	**13**	P	**P**	**22 20 08.8**	**+1.0**
SUA				IAmb	IAmb	22 20 33.1	
	comp=Z,7.5nm,1.2s						
SCM	**Sheep Creek Mo**	**83.04**	**14**	P	**P**	**22 20 14.2**	**+0.9**
SCM				IAmb	IAmb	22 20 24.1	
	comp=Z,30nm,1.5s						
K20K	**Telida**	**83.05**	**11**	P	**P**	**22 20 14.4**	**+1.2**
N25K	**Chitina, Valde**	**83.51**	**15**	P	**P**	**22 20 16.8**	**+1.2**
N25K				IAmb	IAmb	22 20 41.8	
	comp=Z,14nm,1.4s						
GLB	**Gilahina Butte**	**83.57**	**16**	P	**P**	**22 20 16.6**	**+0.7**
GLB				IAmb	IAmb	22 20 58.0	
	comp=Z,7.5nm,1.3s						
J20K	**Nowinta River**	**83.79**	**10**	P	**P**	**22 20 18.2**	**+1.4**
J20K				IAmb	IAmb	22 20 56.9	
	comp=Z,12nm,1.4s						
SEY	**Seymchan**	**83.80**	**347**	P	**P**	**22 20 17.4**	**+0.5**
	comp=Z,2.6nm,0.2s,baz=239,slow=17,SNR=1.5						
	comp=Z,2.6nm,0.2s						
LOGN	**Logan Glacier**	**83.81**	**17**	P	**P**	**22 20 18.1**	**+0.8**
LOGN				IAmb	IAmb	22 20 37.5	
	comp=Z,7.3nm,1.0s						
TRF	**Thorofare Moun**	**83.84**	**12**	P	**P**	**22 20 17.8**	**+0.5**
MAW	**Mawson**	**84.08**	**200**	P	**P**	**22 20 20.1**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=216,slow=6.4,SNR=1.3						
	comp=Z,0.5nm,0.6s						
RND	**Reindeer**	**84.09**	**13**		**P**	**22 20 19.5**	**+1.1**
DHY	**Denali Highway**	**84.12**	**13**	P	**P**	**22 20 19.3**	**+0.6**
DHY				IAmb	IAmb	22 20 35.8	
	comp=Z,8.2nm,1.5s						
BPAW	**Bear Paw Mtn.**	**84.29**	**12**	P	**P**	**22 20 19.3**	**0.0**
TXAR	**Lajitas Array**	**85.58**	**57**	P	**P**	**22 20 28.8**	**+2.3**
	comp=Z,0.8nm,0.7s,baz=221,slow=6.0,SNR=9.4						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**22 20 26.6**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=222,slow=5.5,SNR=8.3						
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**126.32**	**350**	PKP	**PKiKP**	**22 26 45.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=48,slow=1.8,SNR=5.2						
BRTR	**Keskin Array B**	**145.04**	**315**	PKP	**PKPbc**	**22 27 21.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=121,slow=4.1,SNR=7.4						
MMAI	**Mount Meron Ar**	**146.47**	**303**	PKPbc	**PKiKP**	**22 27 27.1**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=91,slow=6.7,SNR=7.2						
GERES	**GERESS Array B**	**147.65**	**346**	PKPbc	**PKiKP**	**22 27 29.3**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=11,slow=2.3,SNR=9.9						

IDC 16 22:14:44.3±4.3, 15.°61S×172.°54W, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/2, Error ellipse: s-maj=164.8km s-min=22.2km az=130.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.84**	**24**	Pn	**Pn**	22 15 15.4	-1.8
	0.8nm,0.3s,baz=163,slow=11,SNR=1.4						
AFI				Sn	Sg	22 15 43.3	-0.2
	101nm,0.3s,baz=254,slow=20,SNR=6.2						
DZM	**Mont Dzumac**	**20.89**	**249**	LR	LR	22 26 20.8	
	comp=Z,85nm,19.1s,baz=16,slow=33						
PPT	**Papeete**	**22.09**	**98**	LR	LR	22 25 05.3	
	comp=Z,3nm,21.5s,baz=348,slow=28						
H11S2	**WAKE ISLAND Hy**	**39.57**	**328**	T	T	23 04 34.6	
	baz=143						
H11S3	**WAKE ISLAND Hy**	**39.59**	**328**	T	T	23 04 52.4	
	baz=143						
H11S1	**WAKE ISLAND Hy**	**39.59**	**328**	T	T	23 04 49.7	
	baz=143						
H11N3	**WAKE ISLAND Hy**	**40.51**	**329**	T	T	23 05 46.9	
	baz=149						
H11N1	**WAKE ISLAND Hy**	**40.51**	**329**	T	T	23 05 50.5	
	baz=149						
H11N2	**WAKE ISLAND Hy**	**40.52**	**329**	T	T	23 05 47.2	
	baz=149						
WRA	**Warramunga Arr**	**50.61**	**257**	P	P	22 23 45.1	-0.4
	0.2nm,0.5s,baz=98,slow=7.1,SNR=2.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**50.84**	**252**	P	P	22 23 46.5	-0.6
	1.5nm,0.8s,baz=88,slow=8.4,SNR=16						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**82.49**	**11**	P	P	22 27 08.2	-0.2
	0.3nm,0.6s,baz=210,slow=5.2,SNR=4.5						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.84**	**322**	PKPbc	PKPab	22 34 30.1	-0.1
	0.7nm,1.0s,baz=65,slow=3.8,SNR=4.6						

IDC ***16*** *22:22:26.0±0.7, 22.°68S×38.°40E, h0km, mb3.8/13, mbtmp4.0/18, ML3.2/3, MS3.0/6, Error ellipse: s-maj=20.7km s-min=17.8km az=85.0*
PRE ***16*** *22:22:25.8±2.3, 22.°69S×38.°22E, h10km, ML3.2*
NEIC ***16*** *22:22:35.2±2.1, 22.°6S±0.°1×39.°1E±0.°1, h10km±1km, mb4.5/7, Error ellipse: s-maj=17.6km s-min=15.9km az=337.0*

ISC 16 22:22:26.4±0.5, 22.°63S±0.°05×38.°33E±0.°05, h10km, n58, σ3§25/62, mb4.0/15, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**6.45**	**261**	*e*P	**Pn**	**22 24 02.4**	**+0.9**
MOPA				*e*S	**Sn**	**22 25 10.9**	**-4.2**
MOPA				IAML		22 25 11.6	
	comp=Z,50nm,0.5s						
POGA	**Pongola**	**7.62**	**231**	*e*P	**Pn**	**22 24 15.8**	**-1.8**
ZOMB	**Zomba**	**7.74**	**338**	*i* P	**Pn**	**22 24 21.5**	**+2.2**
ZOMB				S	**Sn**	**22 25 41.7**	**-5.4**
ZOMB	**Zomba**	**7.74**	**338**	*i* P	**Pn**	**22 24 21.5**	**+2.2**
ZOMB				S	**Sn**	**22 25 41.7**	**-5.4**
MUSN	**Musina, Limpop**	**7.84**	**271**	*e*P	**Pn**	**22 24 22.0**	**+1.3**
MUSN				*e*S	**Sn**	**22 25 44.0**	**-5.6**
MUSN				IAML		22 25 48.9	
	comp=Z,24nm,0.6s						
MUSN	**Musina, Limpop**	**7.84**	**271**	*i* P	**Pn**	**22 24 23.1**	**+2.4**
MUSN	**Musina, Limpop**	**7.84**	**271**	*i* P	**Pn**	**22 24 23.1**	**+2.4**
VOI	**Vohitsoka**	**7.87**	**86**		**Pn**	**22 24 19.0**	**-2.1**
VOI				Sn	Sn	22 25 40.6	-10
FOMA	**Nahampoana Res**	**8.26**	**108**	Pn	**Pn**	**22 24 25.0**	**-1.2**
FOMA				Sn	**Sn**	**22 25 51.0**	**-8.7**
ABPO	**Ambohimpanom**	**9.06**	**68**		**Pn**	**22 24 36.1**	**-1.4**
ABPO				Sn	**Sn**	**22 26 11.1**	**-8.7**
NWCL	**Newcastle**	**9.18**	**235**	*e*P	**Pn**	**22 24 37.6**	**-1.4**
NWCL				*e*S	**Sn**	**22 26 14.3**	**-8.2**
NWCL				IAML		22 26 30.3	
	comp=Z,7.7nm,0.5s						
OPO	**Ambohidratompo**	**9.22**	**66**	Pn	**Pn**	**22 24 39.3**	**-0.5**
	comp=Z,8.7nm,0.4s,baz=236,slow=14,SNR=22						
OPO				Sn	Sn	22 26 12.3	-11
	comp=Z,0.4nm,0.3s,baz=295,slow=21,SNR=2.0						
BLWY	**Bulawayo**	**9.39**	**283**	*e*P	**Pn**	**22 24 42.7**	**+0.7**
BLWY				*e*S	Sn	22 26 20.1	-7.7
SLR	**Silverton**	**9.68**	**249**	*e*P	**Pn**	**22 24 46.7**	**+0.8**
LEPH	**Lephalale, Lim**	**9.76**	**261**	*e*P	**Pn**	**22 24 45.0**	**-2.0**
PRYS	**Parys**	**10.85**	**245**	*e*P	**Pn**	**22 25 02.5**	**+0.6**
KSTD	**Kokstad**	**11.33**	**223**	*e*P	**Pn**	**22 25 06.8**	**-1.8**
LBTB	**Lobatse**	**11.89**	**256**	Pn	**Pn**	**22 25 15.7**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=72,slow=11,SNR=15						
LBTB				Sn	Sn	22 27 19.4	-10
	comp=Z,1.2nm,0.3s,baz=26,slow=14,SNR=4.7						
LBTB				LR	LR	22 29 40.7	
	comp=Z,29nm,18.4s,baz=74,slow=36						
	comp=Z,4.7nm,0.5s						
LBTB	**Lobatse**	**11.89**	**256**	*e*P	**Pn**	**22 25 14.9**	**-1.4**
LBTB	**Lobatse**	**11.89**	**256**	*i* P	**Pn**	**22 25 15.4**	**-0.9**
LBTB	**Lobatse**	**11.89**	**256**	*i* P	**Pn**	**22 25 15.4**	**-0.9**
LSZ	**Lusaka**	**12.06**	**306**	Pn	**Pn**	**22 25 19.4**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=140,slow=12,SNR=6.6						
LSZ				Sn	Sn	22 27 25.5	-7.7
	comp=Z,1.3nm,0.3s,baz=145,slow=8.9,SNR=2.2						
LSZ				LR	LR	22 30 05.8	
	comp=Z,77nm,19.1s,baz=140,slow=38						
SWZ	**Schweizer**	**12.64**	**246**	*e*P	**Pn**	**22 25 23.8**	**-2.6**
BOSA	**Boshof**	**13.21**	**240**	Pn	**Pn**	**22 25 31.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=7.9,SNR=2.0						
BOSA				LR	LR	22 30 26.1	
	comp=Z,31nm,21.7s,baz=22,slow=36						
BOSA	**Boshof**	**13.21**	**240**	*e*P	**Pn**	**22 25 32.5**	**-1.7**
KARM1	**KARONGA**	**13.30**	**341**	*i* P	**Pn**	**22 25 36.4**	**+0.9**
KARM1				S	**Sn**	**22 27 58.4**	**-5.1**
KARM1	**KARONGA**	**13.30**	**341**	*i* P	**Pn**	**22 25 36.4**	**+0.9**
KARM1				S	**Sn**	**22 27 58.4**	**-5.1**
BFON	**Badsfontein, M**	**15.89**	**232**	*e*P	**P**	**22 26 12.2**	**-1.9**
ROOI	**Rooidraai Farm**	**16.36**	**230**	*e*P	**Pn**	**22 26 15.4**	**-1.0**
UPI	**Upington**	**16.44**	**246**	*e*P	**Pn**	**22 26 15.4**	**-2.0**
MERW	**Merweville**	**17.92**	**232**	*e*P	**P**	**22 26 38.6**	**+2.1**
SUR	**Sutherland**	**18.30**	**234**	P	**P**	**22 26 42.2**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=144,slow=7.0,SNR=1.8						
SUR				LR	LR	22 33 38.1	
	comp=Z,71nm,18.3s,baz=64,slow=37						
	comp=Z,13nm,1.0s						
TSUM	**Tsumeb**	**19.68**	**276**	P	**Pn**	**22 26 57.2**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=120,slow=20,SNR=2.6						
TSUM				LR	LR	22 34 41.8	
	comp=Z,56nm,18.4s,baz=108,slow=37						
	comp=Z,2.4nm,0.7s						
TSUM	**Tsumeb**	**19.68**	**276**	P	Pn	22 27 09.4	+12
TSUM				IAmb	IAmb	22 27 18.7	
	comp=Z,6.9nm,0.9s						
KIBK	**Kibwezi**	**20.17**	**359**	P	Pn	22 27 08.5	+5.4
KIBK				IAmb	IAmb	22 27 11.4	
	comp=Z,6.5nm,0.6s						
KMBO	**Kilima Mbogo**	**21.40**	**357**	P	**P**	**22 27 16.8**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=229,slow=18,SNR=1.8						
KMBO				S	**S**	**22 31 03.3**	**-9.2**
	comp=Z,1.0nm,0.8s,baz=239,slow=20,SNR=1.7						
	comp=Z,0.3nm,0.3s						
KMBO	**Kilima Mbogo**	**21.40**	**357**	P	P	22 27 24.4	+10
MBAR	**Mbarara**	**23.11**	**340**	P	**P**	**22 27 35.2**	**+2.3**
	comp=Z,0.8nm,0.2s,baz=100,slow=9.4,SNR=1.4						
	comp=Z,0.8nm,0.2s						
MSEY	**Mahe Island**	**24.37**	**45**	P	**P**	**22 27 49.7**	**+4.7**
MSEY				IAmb	IAmb	22 28 27.9	
	comp=Z,33nm,0.9s						
MAW	**Mawson**	**47.51**	**168**	P	**P**	**22 31 01.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=326,slow=9.2,SNR=11						
	comp=Z,1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**50.52**	**311**	P	**P**	**22 31 26.4**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=123,slow=6.9,SNR=12						
	comp=Z,2.2nm,0.8s						
CSS	**Mathiatis**	**57.47**	**355**	P	P	22 32 24.4	+8.8
CSS				IAmb	IAmb	22 32 27.0	
	comp=Z,4.8nm,0.8s						
IDI	**Anoyia**	**58.99**	**347**	LR	LR	22 56 56.6	
	comp=Z,14nm,20.2s,baz=186,slow=35						
BRTR	**Keskin Array B**	**62.18**	**356**	P	**P**	**22 32 50.0**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=172,slow=12,SNR=2.4						
	comp=Z,0.5nm,0.9s						
QSPA	**South Pole Qui**	**67.53**	**180**	P	**P**	**22 33 23.2**	**+0.5**
	comp=Z,2.0nm,1.1s,baz=230,slow=3.1,SNR=3.0						
	comp=Z,2.0nm,1.1s						
QSPA	**South Pole Qui**	**67.53**	**180**	P	P	22 33 33.7	+11
QSPA				IAmb	IAmb	22 33 39.1	
	comp=Z,11nm,1.5s						
UGM	**Wanagama**	**70.60**	**91**	P	**P**	**22 33 45.4**	**+2.9**
KKAR	**Karatay Array**	**71.81**	**24**	P	**P**	**22 33 51.5**	**+2.3**
AKASG	**Malin Array Be**	**73.45**	**354**	P	**P**	**22 33 58.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=171,slow=5.3,SNR=4.4						
	comp=Z,0.5nm,0.5s						

ESDC	**Sonseca Array**	**73.49**	**327**	P	**P**	**22 34 01.9**	**+2.6**
	comp=Z,1.3nm,0.8s,baz=139,slow=6.7,SNR=10						
	comp=Z,1.3nm,0.8s						
BVAR	**Borovoye Array**	**80.32**	**19**	P	**P**	**22 34 39.1**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=205,slow=6.6,SNR=4.3						
	comp=Z,0.8nm,0.6s						
ARU	**Arti**	**80.59**	**11**	P	**P**	**22 34 40.0**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=201,slow=4.7,SNR=3.8						
	comp=Z,1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**81.11**	**25**	P	**P**	**22 34 43.1**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=223,slow=5.9,SNR=4.1						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**85.96**	**114**	P	**P**	**22 35 08.6**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=248,slow=4.9,SNR=1.6						
	comp=Z,0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**86.13**	**25**	P	**P**	**22 35 07.8**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=249,slow=4.1,SNR=5.2						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**145.30**	**289**	PKPbc	**PKPab**	**22 42 06.4**	**+1.4**
	comp=Z,2.8nm,0.9s,baz=115,slow=5.3,SNR=29						
PDAR	**Pinedale Array**	**146.63**	**315**	PKPbc	**PKPbc**	**22 42 09.0**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=81,slow=4.7,SNR=3.9						
NVAR	**Mina Array Bea**	**154.55**	**314**	PKPbc	**PKiKP**	**22 42 31.3**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=80,slow=5.9,SNR=1.6						

IDC ***16*** *22:35:28.4±3.0, 31.°73S×178.°60W, h0km, mb3.7/2, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=68.0km s-min=36.8km az=111.0*
NEIC ***16*** *22:35:32.5±1.1, 31.°54S±0.°08×178.°8W±0.°1, h10km±2km, mb4.4/10, Error ellipse: s-maj=24.1km s-min=5.0km az=123.0*

ISC 16 22:35:39.2±1.5, 31.°7S±0.°1×179.°2W±0.°2, h61km, n25, σ1§21/19, mb4.3/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.22**	**199**	Pn	**Pn**	**22 37 07.3**	**-1.1**
URZ	**Urewera**	**7.24**	**204**	Pn	Pn	22 37 17.9	-4.3
	0.4nm,0.3s,baz=349,slow=5.2,SNR=1.2						
URZ				Sn	**Sn**	**22 38 43.0**	**0.0**
	0.3nm,0.3s,baz=88,slow=20,SNR=1.6						
	12nm,1.1s						
URZ	**Urewera**	**7.24**	**204**	Pn	**Pn**	**22 37 19.9**	**-2.3**
CMWZ	**Cape Campbell**	**11.36**	**206**	Pn	**Pn**	**22 38 18.1**	**-0.5**
FOZ	**Fox Glacier**	**14.69**	**213**	Pn	**Pn**	**22 39 03.8**	**+0.4**
LIFNC	**LIFOU**	**16.31**	**308**	Pn	**Pn**	**22 39 22.1**	**-2.2**
BBOO	**Buckleboo**	**37.67**	**256**	P	**P**	**22 42 49.2**	**+0.7**
BBOO				IAmb	IAmb	22 42 58.3	
	comp=Z,31nm,1.4s						
ASAR	**Alice Springs**	**42.06**	**269**	P	**P**	**22 43 26.2**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=106,slow=7.5,SNR=6.8						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**42.06**	**269**	P	**P**	**22 43 25.4**	**+0.3**
WR0	**Warramunga Arr**	**42.98**	**274**	P	**P**	**22 43 33.2**	**+0.6**
WR0				IAmb	IAmb	22 43 54.1	
	comp=Z,8.0nm,1.3s						
WB2	**Warramunga Arr**	**43.15**	**274**	P	**P**	**22 43 35.3**	**+1.3**
WB2				IAmb	IAmb	22 43 51.6	
	comp=Z,6.4nm,1.2s						
WRAB	**Tennant Creek**	**43.16**	**274**	P	**P**	**22 43 35.5**	**+1.4**
WRAB				IAmb	IAmb	22 43 37.3	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**43.16**	**274**	P	**P**	**22 43 34.8**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=114,slow=7.5,SNR=11						
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**43.16**	**274**	P	**P**	**22 43 35.5**	**+1.4**
WB0	**Warramunga Arr**	**43.19**	**274**	P	**P**	**22 43 35.2**	**+0.9**
VNDA	**Vanda**	**46.73**	**186**	P	**P**	**22 44 01.7**	**0.0**
VNDA				IAmb	IAmb	22 44 07.6	
	comp=Z,2.2nm,1.1s						
QSPA	**South Pole Qui**	**58.43**	**180**	P	**P**	**22 45 29.4**	**+1.0**
QSPA				IAmb	IAmb	22 46 00.5	
	comp=Z,4.2nm,1.4s						
H03S2	**Juan Fernandez**	**80.59**	**124**	T	T	00 16 16.6	
	baz=235						
H03S1	**Juan Fernandez**	**80.61**	**124**	T	T	00 16 17.3	
	baz=235						
**H03S3

TNTI S S 23 06 15.9 -5.9
MRSI Marisa 3.98 220 P Pn 23 05 25.5 -2.1
LUWI Luwuk 4.87 201 Pn Pn 23 05 36.4 -0.9
BIPH Bislig 4.97 22 *e*P Pn 23 05 34.4 -4.0
BIPH *e*S S 23 06 35.6 -6.0
LBMI Labuha 5.11 144 P Pn 23 05 37.6 -2.4
LBMI S S 23 06 37.1 -7.5
APSI Ampana 5.26 213 P Pn 23 05 42.6 +1.0
0.1nm27nm,0.8s
MPSI Mapaga 5.60 235 P Pn 23 05 43.6 -1.9
0.1nm36nm,0.8s
MYLDM Lahad Datu 6.21 285 Pn Pn 23 05 51.8 -0.7
NLAI Namlea 7.21 159 P Pn 23 06 03.8 -0.6
0.8nm2µm17nm,0.4s
KKM Kota Kinabalu 8.63 287 Pn Pn 23 06 19.4 -2.1
BNDI Bandanaira 9.65 146 P Pn 23 06 33.2 -0.5
27µm188nm,0.6s
FAKI Fak Fak 10.05 130 Pn 23 06 39.2 +0.7
FAKI Fak Fak 10.05 130 P Pn 23 06 37.9 -0.7
30nm,0.6s
SBUM Sibu 12.32 265 P Pn 23 07 05.1 -0.7
BATI Baumata 13.68 184 P Pn 23 07 23.9 +2.0
17nm,0.3s,baz=221,slow=0.4,SNR=4.5
MTN Manton Dam 17.55 158 P P 23 08 03.9 +0.8
KNRA Kununurra 19.55 168 P P 23 08 24.0 -0.4
KNRA IAmb IAmb 23 08 47.6
comp=Z,9.6nm,0.8s
TPUB Ta-pu 20.00 350 P P 23 08 28.6 -0.5
YHNB Yeheng 21.23 352 P P 23 08 40.2 -0.4
FITZ Fitzroy Crossi 21.53 177 P P 23 08 43.8 +0.5
comp=Z,5.2nm,0.4s,baz=6.3,slow=8.3,SNR=40
comp=Z,5.2nm,0.4s
FITZ Fitzroy Crossi 21.53 177 P P 23 08 43.9 +0.6
FITZ IAmb IAmb 23 08 45.3
comp=Z,5.5nm,0.5s
WB0 Warramunga Arr 25.11 158 P P 23 09 16.3 +0.5
WRAB Tennant Creek 25.25 158 P P 23 09 17.7 +0.7
WRA Warramunga Arr 25.25 158 P P 23 09 17.4 +0.3
comp=Z,8.1nm,0.4s,baz=334,slow=10,SNR=237
WRA ScP ScP 23 15 49.5 +1.5
comp=Z,0.3nm,0.7s,baz=338,slow=2.7,SNR=1.9
comp=Z,8.1nm,0.4s
WRA Warramunga Arr 25.25 158 P P 23 09 16.9 -0.1
WB2 Warramunga Arr 25.26 158 P P 23 09 17.4 +0.3
WR0 Warramunga Arr 25.34 157 P P 23 09 18.3 +0.5
WR0 IAmb IAmb 23 09 19.1
comp=Z,5.2nm,0.7s
GSI Gunungsitoli 27.00 266 P P 23 09 32.9 +0.3
AS31 Alice Springs 28.55 162 P P 23 09 47.2 +0.9
ASAR Alice Springs 28.55 162 P P 23 09 47.0 +0.8
comp=Z,1.4nm,0.4s,baz=343,slow=7.4,SNR=22
comp=Z,1.4nm,0.4s
CRAI Chiangrai 28.78 307 P P 23 09 46.6 -1.8
CMAR Chiang Mai Arr 29.08 303 P P 23 09 51.8 +0.8
comp=Z,1.3nm,0.5s,baz=117,slow=7.4,SNR=9.0
comp=Z,1.3nm,0.5s
CMAR Chiang Mai Arr 29.08 303 P P 23 09 50.7 -0.3
CHTO Chiang Mai 29.25 303 P P 23 09 52.3 -0.2
JMN Monobe 31.29 15 P P 23 10 10.6 +0.4
JMN IAmb IAmb 23 10 35.4
comp=Z,14nm,1.1s
PZH PanZhiHua 31.58 319 P P 23 10 14.8 +1.9
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.7s
CTA Charters Tower 31.74 139 P P 23 10 15.9 +1.8
comp=Z,2.0nm,0.7s,baz=339,slow=8.7,SNR=1.9
comp=Z,2.0nm,0.7s
CTAO Charters Tower 31.74 139 P P 23 10 16.0 +1.8
CTAO IAmb IAmb 23 10 41.2
comp=Z,12nm,1.3s
KSRS Korea Array 33.90 5 P P 23 10 32.5 0.0
comp=Z,0.7nm,0.6s,baz=179,slow=10,SNR=2.2
comp=Z,0.7nm,0.6s
MJAR Matsushiro Arr 35.19 19 P P 23 10 43.3 -0.3
comp=Z,0.8nm,0.4s,baz=188,slow=9.6,SNR=5.8
comp=Z,0.8nm,0.4s
BBOO Buckleboo 37.77 164 P P 23 11 06.5 +1.3
EIDS Eidsvold 38.60 140 P P 23 11 13.4 +1.1
EIDS IAmb IAmb 23 11 46.2
comp=Z,12nm,1.4s
STKA Stephens Creek 38.79 156 P P 23 11 15.6 +1.9
comp=Z,4.3nm,0.4s,baz=334,slow=8.8,SNR=16
comp=Z,4.3nm,0.4s
STKA Stephens Creek 38.79 156 P P 23 11 15.3 +1.6
GTA Gaotai 42.16 331 *e*P P 23 11 42.3 +1.2
GTA pmax pmax
comp=Z,7.0nm,1.1s
CAN Canberra 44.97 151 P P 23 12 05.4 +2.2
CAN IAmb IAmb 23 12 08.9
comp=Z,27nm,1.4s
TOO Toolangi 45.31 156 P P 23 12 07.7 +1.9
TOO IAmb IAmb 23 12 12.7
comp=Z,24nm,1.4s
ULN Ulaanbaatar 46.65 344 P P 23 12 16.9 +0.6
SONM Songino Array 46.81 343 P P 23 12 17.8 +0.3
comp=Z,3.2nm,0.8s,baz=161,slow=8.8,SNR=17
comp=Z,3.2nm,0.8s
SONM Songino Array 46.81 343 P P 23 12 18.1 +0.7
DZM Mont Dzumac 48.25 124 P P 23 12 31.1 +2.3
DZM IAmb IAmb 23 13 02.0
comp=Z,15nm,1.4s
WMQ Urumqi 51.63 326 *e*P P 23 12 56.5 +2.8
PETK Petropavlovsk- 56.46 23 P P 23 13 30.0 +2.0
comp=Z,1.2nm,0.6s,baz=210,slow=1.2,SNR=2.1
comp=Z,1.2nm,0.6s
MK31 Makanchi Array 56.47 326 P P 23 13 28.4 +0.2
MK31 IAmb IAmb 23 13 29.3
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 56.47 326 P P 23 13 28.4 +0.3
comp=Z,4.7nm,0.3s,baz=122,slow=7.8,SNR=136
MKAR PcP PcP 23 14 19.8 -0.9
comp=Z,1.4nm,0.7s,baz=123,slow=2.8,SNR=6.4
comp=Z,4.7nm,0.3s
MAKZ Makanchi 56.65 326 P P 23 13 29.7 +0.3
MAKZ IAmb IAmb 23 13 30.4
comp=Z,5.1nm,0.8s
ZALV Zalesovo Beam 59.77 334 P P 23 13 49.6 -1.1
comp=Z,2.0nm,0.5s,baz=138,slow=6.1,SNR=8.8
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 59.77 334 P P 23 13 49.8 -0.9
KBL Kabul 59.89 308 P P 23 13 51.9 -0.3
GAR Garm 60.43 313 P P 23 13 55.8 +0.1
GAR IAmb IAmb 23 13 56.5
comp=Z,12nm,0.9s
BTK Batken 60.47 315 P P 23 13 55.9 +0.1
KURK Kurchatov 60.73 328 P P 23 13 57.1 -0.1
KK31 Karatay Array 61.87 318 P P 23 14 04.8 -0.2
KK31 IAmb IAmb 23 14 06.3
comp=Z,3.4nm,0.8s
KKAR Karatay Array 61.87 318 P P 23 14 04.8 -0.2
KKAR Karatay Array 61.87 318 P P 23 14 05.1 +0.1
LBZ Lake Benmore 62.79 145 P P 23 14 12.8 +1.9
LBZ IAmb IAmb 23 14 18.9
comp=Z,14nm,1.2s
BRVK Borovoye 66.36 328 P P 23 14 33.0 -0.7
BRVK IAmb IAmb 23 14 34.9
comp=Z,6.9nm,1.0s
GEYT Alibeck 69.29 309 P P 23 14 52.4 +0.2
comp=Z,3.0nm,0.8s,baz=162,slow=0.5,SNR=7.9
comp=Z,3.0nm,0.8s
GEYT Alibeck 69.29 309 IAmb IAmb 23 14 53.5
comp=Z,5.1nm,0.9s
NRIK Noril'sk 70.10 347 P P 23 14 56.5 0.0
comp=Z,4.4nm,0.5s,baz=128,slow=7.1,SNR=11
comp=Z,4.4nm,0.5s
NRIK Noril'sk 70.10 347 P P 23 14 56.6 +0.1
NRIK IAmb IAmb 23 14 58.0
comp=Z,5.1nm,0.6s
ABKAR Akbulak array 70.90 321 P P 23 15 01.1 -0.6
ABKAR Akbulak array 70.90 321 P P 23 15 01.0 -0.6
ABKAR IAmb IAmb 23 15 02.1
comp=Z,4.3nm,0.8s
ARU Arti 73.92 328 P P 23 15 18.4 -0.8
RAYN Ar Rayn 78.52 293 P P 23 15 45.2 -0.5
RAYN IAmb IAmb 23 15 45.9
comp=Z,4.7nm,0.9s
GURO Guroymak-BITLI 81.92 308 P P 23 16 04.0 +0.5
GURO IAmb IAmb 23 16 05.6
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 88.43 310 P P 23 16 34.0 -1.5
comp=Z,0.5nm,0.5s,baz=134,slow=3.6,SNR=8.7
comp=Z,0.5nm,0.5s
ARCES ARCESS Array B 89.86 340 P P 23 16 40.3 -1.1
comp=Z,0.5nm,0.5s,baz=87,slow=7.4,SNR=6.1
comp=Z,0.5nm,0.5s
FINES FINESS Array B 90.95 332 P P 23 16 44.9 -1.6
comp=Z,1.2nm,0.5s,baz=58,slow=4.9,SNR=15
comp=Z,1.2nm,0.5s
BUR08 Bucovina Ar. S 93.67 318 P P 23 16 59.0 -0.5
BUR08 IAmb IAmb 23 17 10.0
comp=Z,3.2nm,1.2s
NOA NORSAR Array B 97.96 333 P P 23 17 17.0 -1.6
comp=Z,0.4nm,0.6s,baz=68,slow=4.6,SNR=2.1
comp=Z,0.4nm,0.6s
TORD Torodi Ar. Bea 120.87 287 PKP PKPdf 23 22 33.8 -0.3
comp=Z,0.3nm,0.3s,baz=73,slow=2.3,SNR=14
TXAR Lajitas Array 123.46 51 PKP PKiKP 23 22 40.3 +1.2
comp=Z,0.1nm,0.5s,baz=297,slow=0.2,SNR=4.2

*SKHL **16** 23:28:19.1±0.0, 48.00N×155.70E, h70km±9km, mb5.2/8*
*BJI **16** 23:28:22.4±0.0, 48.58N×155.06E, h73km, mb4.6/52, mB4.8/28, Ms4.4/18, Ms7 4.2/20*
*KRSC **16** 23:28:22.5±1.9, 48.44N×156.76E, h8km±43km, ML5.0*
*IDC **16** 23:28:24.7±2.6, 48.49N×154.76E, h58km±21km, mb3.9/23, mbtmp4.2/28, ML5.3/2, MS3.6/63, Error ellipse: s-maj=17.0km s-min=11.3km az=149.0*
*NEIC **16** 23:28:24.1±1.6, 48.40N±0.07×154.8E±0.1, h52km±7km, mb4.7/79, Error ellipse: s-maj=13.1km s-min=9.1km az=127.0*

ISC 16 23:28:22.2±0.4, **48.31N**±0.06×**155.08E**±0.05, **h43**km, **n338**, σ1§**41**/294, **mb4.7**/92, **MS3.8**/62, **22C-24D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.47**	**16**	*e*P		**Pn**		**23 28 59.6**	**-0.3**
SKR				*e*S		**Sn**		23 29 28.5	-0.2
SKR	**Severo-Kuril's**	**2.47**	**16**	*e*P		**Pn**		**23 28 59.6**	**-0.3**
SKR				AMB		AMB		23 29 05.5	
	480nm,0.5s								
SKR				*e*S		**Sn**		**23 29 30.0**	**+1.3**
SKR				A		A		23 29 36.2	
	2µm,0.5s								
SKR				A		A		23 29 36.2	
	1µm,0.5s								
PAU	**Pauzhetka**	**3.35**	**19**	*e*P		**Pn**		**23 29 12.5**	**+0.5**
PAU				*e*S		**Sn**		**23 29 50.7**	**+0.2**
PAU	**Pauzhetka**	**3.35**	**19**	*e*P		**Pn**		**23 29 12.1**	**+0.1**
PAU				AMB		AMB		23 29 14.4	
	300nm,0.6s								
PAU				*e*S		**Sn**		**23 29 51.8**	**+1.3**
PAU				A		A		23 29 52.9	
	880nm,0.6s								
PAU				A		A		23 29 52.9	
	1µm,0.6s								
KDTR	**Khodutka, Kamc**	**4.00**	**28**	*e*P		**Pn**		**23 29 20.4**	**-0.5**
KDTR				*e*S		**Sn**		**23 30 03.7**	**-2.7**
ASAK	**Asacha**	**4.46**	**23**	*e*P		**Pn**		**23 29 28.5**	**+1.2**
MTVR	**Mutnovka**	**4.62**	**24**	*e*P		**Pn**		**23 29 30.1**	**+0.5**
GRL	**Gorelyy**	**4.66**	**23**	*e*P		**Pn**		**23 29 31.3**	**+1.2**
RUS	**Russkaya**	**4.67**	**27**	*e*P		**Pn**		**23 29 29.7**	**-0.5**
RUS				*e*S		**Sn**		**23 30 19.5**	**-3.6**
APC	**Apacha**	**4.80**	**15**	*e*P		**Pn**		**23 29 34.1**	**+2.2**
KRMR	**Karymshinskiy**	**4.92**	**22**	*e*P		**Pn**		**23 29 34.7**	**+1.1**
PEA0B	**Petropavlovsk-**	**5.08**	**18**	Pn		**Pn**		**23 29 37.1**	**+1.4**
PETK	**Petropavlovsk-**	**5.08**	**18**	P		**Pn**		**23 29 36.2**	**+0.4**
	49nm,0.7s,baz=185,slow=14,SNR=92								
PETK				S		**Sn**		**23 30 33.7**	**+0.6**
	25nm,0.8s,baz=217,slow=29,SNR=1.5								
PETK				LR		LR		23 31 48.2	
	comp=Z,934nm,20.1s,baz=190,slow=41								
PETK	**Petropavlovsk-**	**5.08**	**18**	Pn		**Pn**		**23 29 36.9**	**+1.1**
PET	**Petropavlovsk**	**5.24**	**24**			**Pn**		**23 29 39.2**	**+1.4**
PET	**Petropavlovsk**	**5.24**	**24**	*e*P		**Pn**		**23 29 37.0**	**-0.9**
PET				AMB		AMB		23 29 42.5	
	2µm,0.5s								
PET				AMB		AMB		23 29 42.5	
	2µm,0.5s								
PET				AMB		AMB		23 29 42.5	
	120nm,0.5s								
PET				*e*S		**Sn**		**23 30 36.8**	**-0.1**
PET				A		A		23 30 55.5	
	500nm,0.6s								
PET				A		A		23 30 55.5	
	500nm,0.6s								
DALK	**Dalny**	**5.27**	**25**	*e*P		**Pn**		**23 29 38.9**	**+0.6**
DALK				*e*S		**Sn**		**23 30 36.0**	**-1.7**
UGLR	**Uglovaya**	**5.45**	**24**	*e*P		**Pn**		**23 29 42.3**	**+1.4**
UGLR				*e*S		**Sn**		**23 30 40.1**	**-2.2**
KOK	**Koryaka**	**5.47**	**23**	*e*P		**Pn**		**23 29 43.6**	**+2.4**
AVH	**Avacha**	**5.47**	**24**	*e*P		**Pn**		**23 29 42.9**	**+1.7**
SMAR	**Somma**	**5.49**	**24**	*e*P		**Pn**		**23 29 43.1**	**+1.5**
KRER	**Koryakskii**	**5.51**	**24**	*e*P		**Pn**		**23 29 43.7**	**+1.8**
SDLR	**Sedlovina**	**5.53**	**24**	*e*P		**Pn**		**23 29 42.6**	**+0.6**
KRX	**Arik**	**5.54**	**23**	*e*P		**Pn**		**23 29 44.0**	**+1.9**
NLC	**Nalytchevo**	**5.57**	**28**	*e*S		**Sn**		**23 30 40.6**	**-4.4**
GNL	**Ganaly**	**5.68**	**17**	*e*P		**Pn**		**23 29 45.8**	**+1.7**
SPN	**Mys Shipunski**	**5.73**	**31**	*e*P		**Pn**		**23 29 44.2**	**-0.4**
SPN				*e*S		**Sn**		**23 30 44.7**	**-4.3**
KUR	**Kuril'sk**	**5.83**	**241**	*e*P		**Pn**		**23 29 47.9**	**+1.8**
KUR				AMB		AMB		23 29 52.3	
	270nm,0.5s								
KUR				*e*S		**Sn**		**23 30 52.8**	**+1.2**
KUR				A		A		23 31 00.3	
	410nm,0.5s								
KUR				A		A		23 31 00.3	
	460nm,0.5s								
MKZ	**Mys Kozlova**	**7.50**	**31**	*e*P		**Pn**		**23 30 07.4**	**-1.6**
MKZ				*e*S		**Sn**		**23 31 27.1**	**-5.5**
TUMR	**Tumrok**	**7.65**	**22**	*e*P		**Pn**		**23 30 12.3**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**7.69**	**240**	*e*P		**Pn**		**23 30 13.1**	**+1.5**
YUK				AMB		AMB		23 30 23.7	
	220nm,0.4s								
YUK				*e*S		**Sn**		**23 31 37.2**	**-0.2**
ESO	**Esso**	**7.94**	**15**	*e*P		**Pn**		**23 30 19.3**	**+4.3**
KMNR	**Kamenistaya**	**8.10**	**21**	*e*P		**Pn**		**23 30 20.0**	**+2.7**
YSS	**Yuzh-Sakhalins**	**8.43**	**265**			**Pn**		**23 30 20.7**	**-1.0**
YSS	**Yuzh-Sakhalins**	**8.43**	**265**	*e*P		**Pn**		**23 30 24.5**	**+2.8**
YSS				AMB		AMB		23 30 27.2	
	80nm,0.8s								
YSS				*e*S		**Sn**		**23 32 00.8**	**+5.3**
TYV	**Tymovskoe**	**8.46**	**292**	*e*P		Pn		23 30 27.1	+5.0
TYV				AMB		AMB		23 30 27.9	
	40nm,0.9s								
TYV				*e*S		**Sn**		**23 32 01.5**	**+5.2**
UGL	**Uglegorsk**	**8.64**	**280**	*e*P		**Pn**		**23 30 27.1**	**+2.5**
UGL				AMB		AMB		23 30 36.5	
	130nm,0.7s								
KBTR	**Krutoberegovo**	**9.22**	**28**	*e*P		**Pn**		**23 30 31.9**	**-0.5**
ERM	**Erimo**	**10.51**	**238**	Pn		**Pn**		**23 30 50.1**	**0.0**
MA2	**Magadan**	**11.56**	**349**	P		**Pn**		**23 31 04.9**	**+0.5**
	1.7nm,0.3s,baz=164,slow=7.6,SNR=5.6								
MA2				LR		LR		23 36 04.0	
	comp=Z,332nm,18.2s,baz=168,slow=40								
	25nm,1.0s								
MA2	**Magadan**	**11.56**	**349**	Pn		**Pn**		**23 31 04.3**	**-0.2**
MA2	**Magadan**	**11.56**	**349**	*e*P		**Pn**		**23 31 05.7**	**+1.2**
JTM	**Tenmabayashi**	**12.49**	**238**	Pn		**Pn**		**23 31 13.3**	**-4.0**
SHEM	**Shemya Is, Ala**	**12.88**	**63**	LR		LR		23 36 31.9	
	comp=Z,146nm,20.7s,baz=302,slow=38								
SMY	**Shemya**	**12.88**	**63**	Pn		**Pn**		**23 31 21.8**	**-0.6**
SEY	**Seymchan**	**14.73**	**355**	P		**Pn**		**23 31 47.1**	**-0.4**
	1.4nm,0.3s,baz=162,slow=9.9,SNR=5.6								
SEY	**Seymchan**	**14.73**	**355**	*e*P		**Pn**		**23 31 47.6**	**+0.1**
KLR	**Kul'dur**	**15.40**	**282**	P		**P**		**23 31 59.2**	**-1.1**
	5.2nm,0.5s,baz=85,slow=9.8,SNR=16								
KLR				LR		LR		23 37 48.6	
	comp=Z,297nm,20.3s,baz=92,slow=37								
KLR	**Kul'dur**	**15.40**	**282**	*e*P		**Pn**		**23 31 56.5**	**+0.2**
JSD	**Sado**	**15.96**	**236**	Pn		**Pn**		**23 31 59.7**	**-3.9**
JYT	**Yasato**	**16.31**	**228**	Pn		**Pn**		**23 32 08.2**	**+0.2**
JYT				IAmb		IAmb		23 32 24.1	
	comp=Z,32nm,0.3s								
USRK	**Ussuriysk Ar.**	**16.47**	**264**	P		**Pn**		**23 32 10.2**	**+0.2**
	comp=Z,8.1nm,0.6s,baz=72,slow=9.2,SNR=15								
USRK				LR		LR		23 37 51.4	
	comp=Z,167nm,21.6s,baz=49,slow=35								
USRK	**Ussuriysk Ar.**	**16.47**	**264**	Pn		**Pn**		**23 32 09.1**	**-0.9**
MAJO	**Matsushiro**	**17.09**	**233**			**Pn**		**23 32 15.7**	**-2.1**
MJAR	**Matsushiro Arr**	**17.09**	**233**	P		**Pn**		**23 32 14.4**	**-3.4**
	comp=Z,3.9nm,0.8s,baz=35,slow=14,SNR=12								
MJAR				LR		LR		23 38 54.2	
	comp=Z,34nm,18.5s,baz=34,slow=37								
MDJ	**Mudanjiang**	**17.91**	**268**	P		**Pn**		**23 32 26.9**	**-1.1**
ZEA	**Zeya**	**18.26**	**298**	*e*P		**Pn**		**23 32 34.0**	**+1.9**
INU	**Inuyama**	**18.62**	**233**	P		**Pn**		**23 32 36.5**	**-0.1**
BNX	**BinXian**	**19.00**	**273**	⇑P		**P**		**23 32 38.4**	**-1.7**
BNX				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BNX				pmax		pmax			
	comp=Z,76nm,3.5s								
JHJ	**Hachijo jima 2**	**19.04**	**223**	LR		LR		23 43 34.5	
	comp=Z,26nm,18.1s,baz=109,slow=48								
YAK	**Yakutsk**	**19.79**	**323**	P		**P**		**23 32 48.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=207,slow=1.2,SNR=4.4								
YAK				LR		LR		23 40 25.5	
	comp=Z,141nm,18.7s,baz=89,slow=37								
	comp=Z,10nm,0.3s								
YAK	**Yakutsk**	**19.79**	**323**	P		**P**		**23 32 46.6**	**-1.9**
YAK				IAmb		IAmb		23 32 51.6	
	comp=Z,29nm,0.9s								
BILL	**Bilibino**	**20.58**	**12**	*e*P		**P**		**23 32 55.6**	**-1.4**
JHS	**Saijyo**	**21.03**	**239**	P		**P**		**23 33 01.5**	**-0.7**
SEHB	**SEOHWA**	**21.85**	**253**	P		**P**		**23 33 11.2**	**+0.1**
KSRS	**Korea Array**	**22.55**	**251**	P		**P**		**23 33 18.2**	**-0.2**
	comp=Z,17nm,0.9s,baz=44,slow=10.0,SNR=27								
KSRS				LR		LR		23 41 37.7	
	comp=Z,166nm,18.8s,baz=40,slow=35								
	comp=Z,17nm,0.9s								
KS19	**Wonju Array Si**	**22.55**	**251**	P		**P**		**23 33 18.8**	**+0.3**
KS19				IAmb		IAmb		23 33 21.0	
	comp=Z,30nm,1.1s								
KSAR	**Wonju Array Be**	**22.58**	**251**	P		**P**		**23 33 17.8**	**-0.9**
JCJ	**Chichijima**	**23.45**	**210**	LR		LR		23 45 10.1	
	comp=Z,27nm,18.0s,baz=78,slow=43								
TIXI	**Tiksi**	**26.37**	**342**	LR		LR		23 45 26.7	
	comp=Z,146nm,18.2s,baz=182,slow=39								
TIXI	**Tiksi**	**26.37**	**342**	*e*P		**P**		**23 33 52.3**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**30.07**	**157**	T		T		00 06 12.6	
	baz=345,slow=76,SNR=375								
H11N1	**WAKE ISLAND Hy**	**30.09**	**157**	T		T		00 06 11.9	
	baz=345,slow=76,SNR=699								
H11N3	**WAKE ISLAND Hy**	**30.09**	**157**	T		T		00 06 13.1	
	baz=345,slow=76,SNR=304								
H11S1	**WAKE ISLAND Hy**	**31.20**	**158**	T		T		00 07 42.7	
	baz=345,slow=76,SNR=3107								
HNS	**HongShan**	**31.20**	**265**	⇓P		**P**		**23 34 38.5**	**+1.3**
HNS				pmax		pmax			
	comp=Z,11nm,0.6s								
H11S3	**WAKE ISLAND Hy**	**31.21**	**158**	T		T		00 07 43.5	
	baz=345,slow=76,SNR=3935								
H11S2	**WAKE ISLAND Hy**	**31.22**	**158**	T		T		00 07 37.7	
	baz=345,slow=76,SNR=2766								
ULN	**Ulaanbaatar**	**31.67**	**288**	P		**P**		**23 34 40.0**	**-1.4**
ULN	**Ulaanbaatar**	**31.67**	**288**	*e*P		**P**		**23 34 39.8**	**-1.6**
SONM	**Songino Array**	**32.10**	**288**	P		**P**		**23 34 43.4**	**-1.8**
	comp=Z,1.9nm,0.9s,baz=71,slow=9.1,SNR=9.1								
SONM				PcP		**PcP**		**23 37 33.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=78,slow=2.3,SNR=3.9								
SONM				LR		LR		23 48 50.5	
	comp=Z,282nm,19.0s,baz=73,slow=38								
	comp=Z,1.9nm,0.9s								
NEA2	**Nenana**	**33.55**	**40**	P		**P**		**23 34 59.7**	**+2.1**
NEA2				IAmb		IAmb		23 35 11.0	
	comp=Z,5.0nm,0.7s								
ILAR	**Eielson Array**	**34.50**	**40**	P		**P**		**23 35 06.5**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=272,slow=7.2,SNR=9.2								
ILAR				LR		LR		23 51 52.8	
	comp=Z,41nm,18.1s,baz=252,slow=41								
	comp=Z,1.2nm,0.9s								
GUMO	**Guam**	**35.64**	**197**	LR		LR		23 47 32.4	
	comp=Z,46nm,20.2s,baz=22,slow=32								
DOT	**Dot Lake**	**35.77**	**42**	P		**P**		**23 35 19.9**	**+3.1**
L27K	**Beaver Creek,**	**36.83**	**43**	P		**P**		**23 35 30.1**	**+4.3**
L27K				IAmb		IAmb		23 35 40.0	
	comp=Z,8.2nm,1.1s								
NRIK	**Noril'sk**	**38.12**	**328**	LR		LR		23 53 04.3	
	comp=Z,88nm,18.7s,baz=34,slow=39								
LZH	**Lanzhou**	**39.18**	**271**	⇑P		**P**		**23 35 46.3**	**+0.3**
LZH				pmax		pmax			
	comp=Z,16nm,1.4s								
INK	**Inuvik**	**39.61**	**34**	P		**P**		**23 35 50.4**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=292,slow=1.8,SNR=6.6								
	comp=Z,2.8nm,0.8s								
GTA	**Gaotai**	**40.05**	**278**	*e*P		**P**		**23 35 52.8**	**-0.4**
GTA				pP		pP		23 36 08.6	+3.6
GTA				sP		sP		23 36 15.5	+5.4
GTA				pmax		pmax			
	comp=Z,5.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,97nm,5.6s								
GTA				LR		LR			
	comp=Z,180nm,16.0s								
GTA				LR		LR			
	comp=Z,160nm,16.4s								
GTA				LR		LR			
	comp=Z,230nm,15.6s								
CD2	**Chengdu**	**42.34**	**265**	*e*P		**P**		**23 36 11.8**	**-0.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.4s								
ZALV	**Zalesovo Beam**	**42.79**	**305**	P		**P**		**23 36 13.8**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=61,slow=7.0,SNR=4.6								
ZALV				PcP		**PcP**		**23 38 05.3**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=64,slow=3.4,SNR=5.9								
ZALV				LR		LR		23 54 53.3	
	comp=Z,111nm,18.4s,baz=74,slow=37								
	comp=Z,0.8nm,0.4s								
GYA	**Guiyang**	**43.35**	**258**	⇓P		**P**		**23 36 20.0**	**-0.3**
GYA				pmax		pmax			
	comp=Z,17nm,1.0s								
GOMU	**GeErMu**	**45.12**	**278**	P		**P**		**23 36 34.1**	**-0.5**
GOMU				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GOMU				pmax		pmax			
	comp=Z,49nm,6.1s								
WMQ	**Urumqi**	**45.61**	**291**	*e*P		**P**		**23 36 39.0**	**+0.9**
WMQ				LR		LR			
	comp=Z,170nm,21.1s								
PZH	**PanZhiHua**	**46.55**	**262**	P		**P**		**23 36 47.3**	**+1.5**
PZH				pmax		pmax			
	comp=Z,10.0nm,1.1s								
PZH				pmax		pmax			
	comp=Z,100nm,6.2s								
KMI	**Kunming**	**46.83**	**260**	⇑P		**P**		**23 36 47.8**	**-0.3**
KMI				pmax		pmax			
	comp=Z,12nm,0.9s								
MK31	**Makanchi Array**	**47.41**	**297**	P		**P**		**23 36 50.7**	**-1.4**
MKAR	**Makanchi Array**	**47.41**	**297**	P		**P**		**23 36 49.9**	**-2.3**
	comp=Z,5.2nm,0.9s,baz=64,slow=8.1,SNR=28								
MKAR				PcP		**PcP**		**23 38 21.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=65,slow=4.7,SNR=2.2								
MKAR				LR		LR		23 58 20.7	
	comp=Z,137nm,18.1s,baz=98,slow=38								
	comp=Z,5.2nm,0.9s								
MKAR	**Makanch

AAK	**Ala-Archa**	**54.33**	**296**	P	**P**	**23**	**37**	**44.0 -0.3**
ARU	**Arti**	**54.76**	**317**	LR	LR	00	02	15.7
	comp=Z,51nm,20.7s,baz=41,slow=37							
ARU	**Arti**	**54.76**	**317**	*e*P	**P**	**23**	**37**	**45.4 -1.6**
NEW	**Newport**	**55.17**	**54**	LR	LR	00	02	32.9
	comp=Z,22nm,18.1s,baz=324,slow=37							
KSH	**Kashi**	**55.29**	**292**	P	**P**	**23**	**37**	**54.6 +3.3**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KSH				LR	LR			
	comp=Z,180nm,12.0s							
KSH				LR	LR			
	comp=Z,92nm,11.3s							
KSH				LR	LR			
	comp=Z,140nm,11.7s							
YBH	**Yreka Blue Hor**	**55.84**	**64**	LR	LR	23	58	20.6
	comp=Z,28nm,21.4s,baz=302,slow=32							
JIRN	**Jiri**	**56.14**	**275**	*e*P	**P**	**23**	**37**	**57.6 -0.3**
GUN	**Gumba**	**56.19**	**275**	*e*P	**P**	**23**	**37**	**57.7 -0.4**
	comp=Z,16nm,0.5s							
RAMN	**Ramite**	**56.34**	**274**	*e*P	**P**	**23**	**37**	**58.7 -0.4**
	comp=Z,20nm,0.5s							
KKAR	**Karatay Array**	**56.41**	**299**	P	**P**	**23**	**37**	**57.5 -1.7**
PKI	**Pulchoki**	**56.72**	**275**	*e*P	**P**	**23**	**38**	**01.2 -0.7**
PKIN	**Phulchoki**	**56.73**	**275**	*e*P	**P**	**23**	**38**	**01.3 -0.6**
	comp=Z,9.3nm,0.4s							
ARCES	**ARCESS Array B**	**56.81**	**341**	P	**P**	**23**	**37**	**60.0 -1.6**
	comp=Z,1.6nm,0.8s,baz=36,slow=8.0,SNR=8.3							
ARCES				LR	LR	00	08	01.8
	comp=Z,129nm,18.4s,baz=54,slow=42							
	comp=Z,1.6nm,0.8s							
DMN	**Daman**	**56.90**	**276**	*e*P	**P**	**23**	**38**	**03.0 -0.1**
	comp=Z,51nm,0.7s							
GKN	**Gorkha**	**56.95**	**276**	*e*P	**P**	**23**	**38**	**03.0 -0.3**
	comp=Z,24nm,0.5s							
JTMT	**Jette**	**57.02**	**54**	P	**P**	**23**	**38**	**05.6 +2.1**
JTMT				IAmb	IAmb	23	38	23.4
	comp=Z,3.9nm,0.9s							
DANN	**Dangsing**	**57.30**	**277**	*e*P	**P**	**23**	**38**	**05.9 -0.1**
	comp=Z,69nm,0.8s							
KIRV	**Kirov**	**57.33**	**323**	LR	LR	00	04	49.1
	comp=Z,58nm,19.0s,baz=32,slow=38							
PMG	**Port Moresby**	**57.89**	**189**	LR	LR	00	04	25.2
	comp=Z,36nm,18.0s,baz=342,slow=37							
PYUN	**Piuthan**	**57.98**	**277**	*e*P	**P**	**23**	**38**	**10.3 -0.3**
BTK	**Batken**	**58.09**	**296**	P	**P**	**23**	**38**	**09.4 -1.8**
BTK				IAmb	IAmb	23	38	11.3
	comp=Z,6.6nm,1.1s							
AKTO	**Aktyubinsk**	**58.67**	**312**	LR	LR	00	06	11.6
	comp=Z,80nm,18.3s,baz=42,slow=39							
SUMG	**Summit**	**59.04**	**5**	P	**P**	**23**	**38**	**17.5 -0.1**
SUMG	**Summit**	**59.04**	**5**	*i* P	**P**	**23**	**38**	**16.9 -0.6**
SUMG				IAmb	IAmb	23	38	18.5
	comp=Z,14nm,1.0s							
GAR	**Garm**	**59.06**	**295**	P	**P**	**23**	**38**	**16.4 -1.5**
PAHR	**Pah Rah Range**	**59.08**	**64**	P	**P**	**23**	**38**	**20.8 +2.7**
PNTR	**Pine Nut**	**59.34**	**64**	P	**P**	**23**	**38**	**22.5 +2.5**
PNTR				IAmb	IAmb	23	38	37.1
	comp=Z,2.4nm,0.6s							
BOZ	**Bozeman (W)**	**59.78**	**54**	P	**P**	**23**	**38**	**25.1 +2.3**
BOZ				IAmb	IAmb	23	38	37.0
	comp=Z,3.9nm,1.0s							
CHGR	**Chuyangaron**	**59.97**	**296**	P	**P**	**23**	**38**	**22.5 -1.7**
JMIC	**Jan Mayen**	**60.42**	**354**	LR	LR	00	02	47.3
	comp=Z,31nm,21.3s,baz=348,slow=34							
NVAR	**Mina Array Bea**	**60.54**	**64**	P	**P**	**23**	**38**	**29.6 +1.4**
	comp=Z,0.2nm,0.5s,baz=296,slow=7.2,SNR=2.6							
NVAR				LR	LR	00	02	04.5
	comp=Z,21nm,19.8s,baz=300,slow=33							
	comp=Z,0.2nm,0.5s							
ELK	**Elko**	**60.86**	**60**	LR	LR	00	01	13.2
	comp=Z,20nm,21.6s,baz=302,slow=32							
RLMT	**Red Lodge**	**61.36**	**53**	P	**P**	**23**	**38**	**35.7 +2.0**
RLMT				IAmb	IAmb	23	38	51.1
	comp=Z,9.0nm,1.2s							
BELG	**Belogornoye**	**62.24**	**319**	LR	LR	00	06	37.4
	comp=Z,49nm,20.7s,baz=338,slow=37							
ICESG	**Greenland Ices**	**62.41**	**6**	*i* P	**P**	**23**	**38**	**40.4 -0.1**
ICESG				IAmb	IAmb	23	38	41.3
	comp=Z,18nm,0.7s							
DUG	**Dugway, Tooele**	**62.62**	**60**	P	**P**	**23**	**38**	**44.4 +2.2**
KBL	**Kabul**	**62.72**	**292**	P	**P**	**23**	**38**	**41.0 -1.9**
KBL				IAmb	IAmb	23	38	42.5
	comp=Z,5.3nm,1.1s							
PDAR	**Pinedale Array**	**62.76**	**56**	P	**P**	**23**	**38**	**44.3 +1.2**
	comp=Z,0.9nm,0.9s,baz=263,slow=1.2,SNR=5.6							
	comp=Z,0.9nm,0.9s							
PSUT	**Pine Spring**	**63.12**	**62**	P	**P**	**23**	**38**	**47.1 +1.6**
FRB	**Frobisher Bay**	**63.13**	**20**	LR	LR	00	07	58.9
	comp=Z,45nm,20.6s,baz=290,slow=38							
FINES	**FINESS Array B**	**63.18**	**335**	P	**P**	**23**	**38**	**43.5 -1.8**
	comp=Z,2.0nm,0.4s,baz=32,slow=7.4,SNR=36							
FINES				LR	LR	00	08	39.7
	comp=Z,146nm,18.9s,baz=29,slow=38							
	comp=Z,2.0nm,0.4s							
GSC	**Goldstone, Bar**	**63.49**	**66**	P	**P**	**23**	**38**	**48.6 +0.6**
GSC				IAmb	IAmb	23	38	50.1
	comp=Z,4.7nm,1.1s							
RDMU	**Red Mountain**	**64.22**	**57**	IAmb	IAmb	23	39	07.6
	comp=Z,4.8nm,0.9s							
DY2G	**Dye2**	**64.38**	**9**	*i* P	**P**	**23**	**38**	**53.3 -0.1**
DY2G				IAmb	IAmb	23	38	54.0
	comp=Z,5.2nm,0.7s							
SRU	**San Rafael Swe**	**64.66**	**59**	P	**P**	**23**	**38**	**57.2 +1.5**
PFO	**Pinyon Flats O**	**64.84**	**67**	LR	LR	00	01	34.4
	comp=Z,27nm,21.9s,baz=248,slow=31							
Y14A	**Wickenburg**	**66.72**	**65**	P	**P**	**23**	**39**	**08.2 -0.6**
GEYT	**Alibeck**	**66.93**	**301**	P	**P**	**23**	**39**	**09.6 -0.5**
	comp=Z,2.2nm,0.8s,baz=24,slow=1.8,SNR=4.9							
GEYT				LR	LR	00	10	33.0
	comp=Z,102nm,18.6s,baz=76,slow=38							
	comp=Z,2.2nm,0.8s							
NC204	**NORSAR Array S**	**67.05**	**342**	P	**P**	**23**	**39**	**10.1 -0.4**
NB2	**NORSAR Subarra**	**67.17**	**342**	P	**P**	**23**	**39**	**09.8 -1.4**
	comp=Z,1.0nm,0.6s,baz=25,slow=6.5							
NOA	**NORSAR Array B**	**67.17**	**342**	P	**P**	**23**	**39**	**10.2 -1.0**
	comp=Z,1.6nm,0.7s,baz=35,slow=6.0,SNR=14							
NOA				LR	LR	00	12	36.7
	comp=Z,56nm,19.5s,baz=25,slow=40							
	comp=Z,1.6nm,0.7s							
HFS	**Hagfors**	**67.45**	**340**	LR	LR	00	12	30.6
	comp=Z,67nm,18.5s,baz=24,slow=39							
CTA	**Charters Tower**	**68.54**	**189**	LR	LR	00	05	51.1
	comp=Z,42nm,21.2s,baz=257,slow=33							
AFI	**Afiamalu**	**68.60**	**145**	LR	LR	00	14	55.0
	comp=Z,15nm,18.2s,baz=72,slow=40							
ANMO	**Albuquerque**	**69.89**	**60**	LR	LR	00	07	08.5
	comp=Z,18nm,21.6s,baz=280,slow=33							
WRA	**Warramunga Arr**	**70.44**	**201**	P	**P**	**23**	**39**	**32.5 +0.6**
	comp=Z,1.3nm,0.8s,baz=18,slow=6.7,SNR=7.4							
WRA				LR	LR	00	14	37.1
	comp=Z,34nm,18.0s,baz=18,slow=39							
	comp=Z,1.3nm,0.8s							
KIV	**Kislovodsk**	**70.65**	**315**	*e*P	**P**	**23**	**39**	**32.8 -0.4**
KBZ	**Khabaz**	**70.72**	**315**	P	**P**	**23**	**39**	**33.4 -0.1**
	comp=Z,1.6nm,0.6s,baz=126,slow=5.2,SNR=5.7							
KBZ				LR	LR	00	14	08.6
	comp=Z,83nm,19.2s,baz=27,slow=39							
	comp=Z,1.6nm,0.6s							
DZM	**Mont Dzumac**	**70.80**	**169**	*e*LR	LR	00	01	18.7
	comp=Z,94nm,24.4s							
DZM	**Mont Dzumac**	**70.80**	**169**	LR	LR	00	06	52.5
	comp=Z,64nm,21.1s,baz=40,slow=32							
AKASG	**Malin Array Be**	**70.97**	**327**	P	**P**	**23**	**39**	**33.3 -1.6**
	comp=Z,1.0nm,0.4s,baz=32,slow=5.7,SNR=7.4							
AKASG				LR	LR	00	13	07.1
	comp=Z,76nm,20.0s,baz=2.0,slow=38							
	comp=Z,1.0nm,0.4s							
GNI	**Garni**	**72.52**	**311**	LR	LR	00	14	01.1
	comp=Z,77nm,21.1s,baz=52,slow=38							
ASAR	**Alice Springs**	**74.12**	**200**	P	**P**	**23**	**39**	**55.2 +1.3**
	comp=Z,0.5nm,0.5s,baz=15,slow=5.3,SNR=8.6							
	comp=Z,0.5nm,0.5s							
PALK	**Palleke**	**74.22**	**263**	LR	LR	00	17	27.5
	comp=Z,54nm,18.1s,baz=225,slow=40							
OJC	**Ojcow**	**74.58**	**332**	*e*P	**P**	**23**	**39**	**54.1 -2.2**
OJC	**Ojcow**	**74.58**	**332**	IAmb	IAmb	23	39	56.5
	comp=Z,6.8nm,0.7s							
BURAR	**Bucovina Array**	**75.00**	**327**	⇓P	**P**	**23**	**39**	**58.6 -0.3**
KSP	**Ksiaz**	**75.08**	**334**	*e*P	**P**	**23**	**39**	**59.5 +0.3**
NIE	**Niedzica**	**75.12**	**331**	*e*P	**P**	**23**	**40**	**00.2 +0.7**
CRVS	**Cervenica-Dubn**	**75.19**	**330**	*e*P	**P**	**23**	**40**	**00.2 +0.3**
BIZ	**Bicaz**	**75.25**	**327**	⇑P	**P**	**23**	**39**	**59.9 -0.3**
LPIG	**La Paz**	**75.33**	**70**	LR	LR	00	05	16.6
	comp=Z,27nm,21.2s,baz=240,slow=29							
OSTC	**Ostas**	**75.36**	**334**	*e*P	**P**	**23**	**40**	**01.3 +0.5**
CHVC	**Chvalec**	**75.38**	**334**	*e*P	**P**	**23**	**40**	**01.2 +0.3**
TESR	**Tescani**	**75.41**	**326**	⇓P	**P**	**23**	**40**	**00.8 -0.3**
VLDR	**Vladesti**	**75.42**	**325**	⇓P	**P**	**23**	**40**	**01.5 +0.3**
UPC	**Upice**	**75.46**	**334**	*e*P	**P**	**23**	**40**	**01.8 +0.4**
UPC				AMS	AMS	00	19	00.0
	comp=Z,100nm,13.1s							
TRPA	**Tarpa**	**75.50**	**329**	⇓P	**P**	**23**	**40**	**01.2 -0.3**
TRPA	**Tarpa**	**75.50**	**329**	P	**P**	**23**	**40**	**01.3 -0.3**
DPC	**Dobruska-Polom**	**75.51**	**334**	*e*P	**P**	**23**	**40**	**02.3 +0.6**
TX31	**Lajitas Ar. Si**	**75.57**	**62**	P	**P**	**23**	**40**	**04.4 +1.9**
TX31				IAmb	IAmb	23	40	16.9
	comp=Z,17nm,1.3s							
TXAR	**Lajitas Array**	**75.58**	**62**	P	**P**	**23**	**40**	**03.7 +1.2**
	comp=Z,1.2nm,0.6s,baz=302,slow=4.2,SNR=23							
	comp=Z,1.2nm,0.6s							
TXAR	**Lajitas Array**	**75.58**	**62**	P	**P**	**23**	**40**	**03.4 +0.9**
CLL	**Collm**	**75.58**	**337**	IAmb	IAmb	23	40	02.6
	comp=Z,8.6nm,0.6s							
CLL	**Collm**	**75.58**	**337**	⇑*i* P	**P**	**23**	**40**	**01.7 -0.3**
	comp=Z,9.0nm,0.6s							
CLL				*e*pP	**pP**	**23**	**40**	**18.0 +3.3**
CLL				*e*sP	**sP**	**23**	**40**	**24.0 +4.4**
LANS	**Liptovska Anna**	**75.62**	**332**	*e*P	**P**	**23**	**40**	**03.3 +0.9**
KRLC	**Kraliky**	**75.62**	**334**	*e*P	**P**	**23**	**40**	**02.7 +0.3**
MORC	**Moravsky Berou**	**75.66**	**333**	⇑P	**P**	**23**	**40**	**03.0 +0.4**
MORC	**Moravsky Berou**	**75.66**	**333**	IAmb	IAmb	23	40	04.2
	comp=Z,11nm,0.9s							
MORC	**Moravsky Berou**	**75.66**	**333**	*e*P	**P**	**23**	**40**	**02.7 +0.1**
BRG	**Berggiesshubel**	**75.72**	**336**	*e*P	**P**	**23**	**40**	**02.9 0.0**
BRG				Amp		23	40	04.2
	comp=Z,6.0nm,1.2s							
VRI	**Vrincioaia**	**75.92**	**326**	⇓P	**P**	**23**	**40**	**04.0 -0.2**
OZUR		**76.08**	**326**	⇑P	**P**	**23**	**40**	**05.5 +0.5**
TPGR	**Topolog**	**76.12**	**324**	⇓P	**P**	**23**	**40**	**04.5 -0.7**
COVR	**Voineasa-Covas**	**76.14**	**326**	⇓P	**P**	**23**	**40**	**05.8 +0.5**
CBBR	**Cluj-Bales-Bol**	**76.32**	**328**	⇑P	**P**	**23**	**40**	**06.3 +0.1**
GOPC	**GO Pecny, Ondr**	**76.34**	**335**	*e*P	**P**	**23**	**40**	**06.8 +0.3**
CJR	**Cluj-Napoca**	**76.35**	**328**	⇑P	**P**	**23**	**40**	**06.5 0.0**
PRU	**Pruhonice**	**76.35**	**335**	*e*P	**P**	**23**	**40**	**06.7 +0.3**
VRAC	**Vranov**	**76.36**	**333**	⇓P	**P**	**23**	**40**	**07.1 +0.6**
VRAC	**Vranov**	**76.36**	**333**	LR	LR	00	17	53.3
	comp=Z,100nm,18.1s,baz=20,slow=39							
VRAC	**Vranov**	**76.36**	**333**	*e*P	**P**	**23**	**40**	**07.0 +0.4**
VYHS	**Vyhne**	**76.39**	**332**	*e*P	**P**	**23**	**40**	**07.0 +0.2**
JAVC	**Velka Javorina**	**76.44**	**333**	*e*P	**P**	**23**	**40**	**08.4 +1.4**
MLR	**Muntele Rosu**	**76.53**	**326**	⇑P	**P**	**23**	**40**	**07.4 -0.4**
MLR	**Muntele Rosu**	**76.53**	**326**	LR	LR	00	16	24.6
	comp=Z,53nm,18.6s,baz=26,slow=38							
MLR	**Muntele Rosu**	**76.53**	**326**	IAmb	IAmb	23	40	09.3
	comp=Z,9.6nm,0.7s							
PSZ	**Piszkesteto**	**76.56**	**331**	⇓P	**P**	**23**	**40**	**08.2 +0.4**
BANOM	**Banah**	**76.58**	**294**	P	**P**	**23**	**40**	**08.2 0.0**
DRGR		**76.59**	**329**	⇑P	**P**	**23**	**40**	**07.2 -0.8**
ISR	**Istrita**	**76.62**	**325**	⇑P	**P**	**23**	**40**	**07.2 -1.0**
KRUC	**Moravsky**	**76.64**	**333**	*e*P	**P**	**23**	**40**	**08.4 +0.3**
MARD	**Mardin**	**76.68**	**312**	IAmb	IAmb	23	40	10.8
	comp=Z,7.3nm,0.7s							
TREC	**Trest**	**76.70**	**334**	AMS	AMS	00	19	30.0
	comp=Z,100nm,15.0s							
NKC	**Novy Kostel**	**76.70**	**336**	*e*P	**P**	**23**	**40**	**08.9 +0.4**
VOIR		**76.91**	**326**	⇓P	**P**	**23**	**40**	**09.3 -0.6**
ICOR	**Ion Corvin**	**76.98**	**324**	⇑P	**P**	**23**	**40**	**09.1 -1.0**
MODS	**Modra-Piesok**	**76.99**	**333**	*e*P	**P**	**23**	**40**	**11.2 +1.1**
FCAR	**Ozark Folk Cen**	**77.03**	**50**	P	**P**	**23**	**40**	**11.2 +0.7**
FCAR				IAmb	IAmb	23	40	11.9
	comp=Z,3.8nm,0.8s							
WSAR	**Wadi Sarin**	**77.10**	**290**	LR	LR	00	18	54.9
	comp=Z,79nm,19.7s,baz=72,slow=39							
ARR	**Arges**	**77.12**	**327**	⇓P	**P**	**23**	**40**	**11.5 +0.5**
SRO	**Srobarova**	**77.16**	**332**	*e*P	**P**	**23**	**40**	**11.4 +0.4**
ZST	**Bratislava**	**77.20**	**333**	*e*P	**P**	**23**	**40**	**12.1 +0.8**
BUD	**Budapest**	**77.22**	**331**	P	**P**	**23**	**40**	**12.2 +0.8**
UOSS	**Minazif**	**77.36**	**293**	P	**P**	**23**	**40**	**10.8 -1.8**
UOSS				IAmb	IAmb	23	40	13.3
	comp=Z,13nm,1.2s							
UOSS	**Minazif**	**77.36**	**293**	P	**P**	**23**	**40**	**11.6 -0.9**
KHC	**Kasperske Hory**	**77.39**	**335**	P	**P**	**23**	**40**	**12.7 +0.4**
KHC				IAmb	IAmb	23	40	13.8
	comp=Z,8.8nm,0.7s							
KHC	**Kasperske Hory**	**77.39**	**335**	*e*P	**P**	**23**	**40**	**12.8 +0.4**
SIRR	**Siria**	**77.41**	**329**	⇑P	**P**	**23**	**40**	**12.4 -0.1**
CKRC	**Cesky Krumlov**	**77.47**	**335**	*e*P	**P**	**23**	**40**	**13.0 +0.2**
HATD	**Hatta, Dubai**	**77.49**	**293**	P	**P**	**23**	**40**	**12.5 -0.8**
CSKK	**Cskako**	**77.58**	**332**	P	**P**	**23**	**40**	**14.1 +0.7**
GEC2	**GERESS Array S**	**77.62**	**335**	IAmb	IAmb	23	40	14.5
	comp=Z,4.9nm,0.7s							
GERES	**GERESS Array B**	**77.62**	**335**	P	**P**	**23**	**40**	**13.8 +0.1**
	comp=Z,0.0nm,0.5s,baz=36,slow=5.7,SNR=37							
	comp=Z,3.0nm,0.5s							
ASHO	**Ashiyiah**	**77.64**	**293**	P	**P**	**23**	**40**	**13.8 -0.4**
NAZ	**Nazwa, Dubai**	**77.66**	**294**	P	**P**	**23**	**40**	**14.0 -0.2**
GZR	**Gura Zlata**	**77.77**	**328**	⇑P	**P**	**23**	**40**	**13.8 -0.8**
CONA	**Conrad Observa**	**77.81**	**333**	*i* P	**P**	**23**	**40**	**15.4 +0.6**
	comp=Z,6.1nm,0.6s							
FAQ	**Al Faqa, Dubai**	**77.88**	**293**	P	**P**	**23**	**40**	**15.2 -0.2**
RONA	**Rosalia, Austr**	**77.89**	**333**	*i* P	**P**	**23**	**40**	**15.7 +0.6**
	comp=Z,10nm,0.9s							
BTNL	**Ternell**	**77.93**	**340**	*d*P	**P**	**23**	**40**	**14.9 -0.4**
	comp=Z,7.8nm,0.8s							
BTNL				*dp*P	**pP**	**23**	**40**	**30.1 +2.1**
MEM	**Membach**	**77.94**	**340**	*d*P	**P**	**23**	**40**	**15.3 0.0**
	comp=Z,12nm,1.0s							
MPLH	**Magyarpolny**	**77.97**	**332**	P	**P**	**23**	**40**	**16.2 +0.6**
BZS	**Buzias**	**77.99**	**329**	⇓P	**P**	**23**	**40**	**15.1 -0.6**
BSTI	**Sart Tilman**	**78.06**	**341**	*d*P	**P**	**23**	**40**	**16.6 +0.6**
ASUD	**Al Ashush, Dub**	**78.13**	**294**	P	**P**	**23**	**40**	**15.9 -0.9**
BR131	**Keskin Array S**	**78.14**	**318**	IAmb	IAmb	23	40	18.7
	comp=Z,12nm,1.0s							
BRTR	**Keskin Array B**	**78.14**	**318**	P	**P**	**23**	**40**	**16.6 -0.3**
	comp=Z,2.0nm,1.0s,baz=62,slow=3.3,SNR=30							
	comp=Z,7.2nm,1.0s							
BRTR	**Keskin Array B**	**78.14**	**318**	P	**P**	**23**	**40**	**16.8 -0.1**
BHOU	**Houvegnez**	**78.17**	**340**	*d*P	**P**	**23**	**40**	**17.0 +0.3**
	comp=Z,6.5nm,0.6s							
BCLA	**Clavier**	**78.27**	**341**	*d*P	**P**	**23**	**40**	**17.4 +0.3**
	comp=Z,9.2nm,1.0s							
HERR	**Herculane**	**78.34**	**328**	⇑P	**P**	**23**	**40**	**16.9 -0.8**
MOA	**Molln**	**78.36**	**334**	*i* P	**P**	**23**	**40**	**18.0 +0.3**
	comp=Z,5.0nm,0.7s							
AJN	**Ajban**	**78.39**	**294**	P	**P**	**23**	**40**	**17.2 -1.0**
MORH	**Mrgy, Hungar**	**78.47**	**331**	⇑P	**P**	**23**	**40**	**17.1 -1.2**
MORH	**Mrgy, Hungar**	**78.47**	**331**	P	**P**	**23**	**40**	**17.3 -1.0**
BMRD	**Maredsous**	**78.50**	**341**	*d*P	**P**	**23**	**40**	**18.7 +0.3**
	comp=Z,11nm,0.9s							
ARSA	**Arzberg**	**78.52**	**333**	*i* P	**P**	**23**	**40**	**18.2 -0.5**
	comp=Z,6.3nm,1.1s							
RCHB	**Rochefort**	**78.53**	**341**	*d*P	**P**	**23**	**40**	**18.7 +0.1**
	comp=Z,4.6nm,0.9s							
BIOA	**Bad Ischl, Aus**	**78.68**	**335**	*i* P	**P**	**23**	**40**	**20.1 +0.5**
	comp=Z,6.0nm,0.7s							
MDVR	**Modovita**	**78.68**	**328**	⇓P	**P**	**23**	**40**	**18.9 -0.8**
KOVH	**Kovagotottos**	**78.75**	**331**	P	**P**	**23**	**40**	**19.5 -0.4**
FRGS	**Fruska Gora**	**79.01**	**330**	⇓P	**P**	**23**	**40**	**21.1 -0.2**
SOKA	**Soboth**	**79.19**	**333**	*e*P	**P**	**23**	**40**	**22.6 +0.2**
	comp=Z,13nm,1.1s							
KBA	**Koelnbreinsper**	**79.32**	**334**	*e*P	**P**	**23**	**40**	**23.9 +0.6**
	comp=Z,31nm,1.0s,SNR=8.2							
BLKB	**Belogradchik**	**79.34**	**327**	⇑P	**P**	**23**	**40**	**21.9 -1.3**
BFO	**Black Forest**	**79.51**	**338**	P	**P**	**23**	**40**	**24.4 +0.3**
BFO				IAmb	IAmb	23	40	27.4
	comp=Z,8.0nm,1.0s							
WATA	**Walderalm**	**79.58**	**336**	*i* P	**P**	**23**	**40**	**25.2 +0.6**
	comp=Z,11nm,0.6s,SNR=6.6							
WTTA	**Wattenberg**	**79.63**	**336**	*i* P	**P**	**23**	**40**	**25.8 +0.9**
	comp=Z,33nm,1.1s,SNR=8.9							
BOVS	**Bovan**	**79.68**	**328**	⇑P	**P**	**23**	**40**	**23.6 -1.4**
MOTA	**Moosalm**	**79.70**	**336**	*i* P	**P**	**23**	**40**	**25.8 +0.5**
	comp=Z,23nm,1.0s,SNR=7.2							
SQTA	**Sankt Quirin**	**79.79**	**336**	*i* P	**P**	**23**	**40**	**26.5 +0.7**
	comp=Z,20nm,1.0s,SNR=5.7							
ABTA	**Abfaltersbach**	**79.86**	**335**	*i* P	**P**	**23**	**40**	**26.2 +0.2**
	comp=Z,4.8nm,0.7s							
DIVS	**Divibare**	**79.88**	**329**	IAmb	IAmb	23	40	26.9
	comp=Z,11nm,0.9s							
ECH	**Echery**	**79.91**	**339**	P	**P**	**23**	**40**	**25.4 -0.9**
ECH				IAmb	IAmb	23	40	27.3
	comp=Z,12nm,1.0s							
VTS	**Vitosha**	**80.00**	**326**	⇑P	**P**	**23**	**40**	**25.8 -1.2**
VTS	**Vitosha**	**80.00**	**326**	P	**P**	**23**	**40**	**26.6 -0.4**
DAVA	**Damuels**	**80.08**	**337**	*i* P	**P**	**23**	**40**	**27.5 +0.1**
	comp=Z,9.4nm,0.7s							
FETA	**Feichten**	**80.10**	**336**	*i* P	**P**	**23**	**40**	**28.1 +0.7**
	comp=Z,10nm,1.0s							
RAR	**Rarotonga**	**80.13**	**138**	LR	LR	00	12	37.9
	comp=Z,108nm,19.5s,baz=279,slow=33							
TAOE	**Nuku Hiva Isla**	**80.37**	**115**	P	**P**	**23**	**40**	**31.1 +1.9**
RDO	**Rodhopi**	**80.38**	**324**	P	**P**	**23**	**40**	**28.6 -0.2**
RDO				IAmb	IAmb	23	40	29.7
	comp=Z,14nm,1.1s							
ALN	**Alexandroupoli**	**80.39**	**323**	P	**P**	**23**	**40**	**28.2 -0.7**
ALN				IAmb	IAmb	23	40	29.4
	comp=Z,11nm,1.0s							
MZR	**Muzera**	**80.47**	**294**	P	**P**	**23**	**40**	**29.1 -0.5**
DAVOX	**Davos/Dischmat**	**80.55**	**337**	LR	LR	00	19	58.9
	comp=Z,60nm,19.8s,baz=46,slow=38							
STKA	**Stephens Creek**	**80.74**	**192**	LR	LR	00	21	13.4
	comp=Z,23nm,18.0s,baz=218,slow=39							
CTI	**Castel Tesino**	**80.74**	**335**	P	**P**	**23**	**40**	**29.7 -1.2**
CTI				IAmb	IAmb	23	40	31.0
	comp=Z,13nm,1.1s							
R55A	**Marlinton**	**80.82**	**41**	P	**P**	**23**	**40**	**32.1 +0.8**
SKO	**Skopje**	**81.22**	**327**	*i* P	**P**	**23**	**40**	**33.7 +0.3**
TKL	**Tuckaleechee C**	**81.32**	**45**	LR	LR	00	20	10.4
	comp=Z,28nm,18.6s,baz=340,slow=38							
VAY	**Valandovo**	**81.37**	**326**	*i* P	**P**	**23**	**40**	**33.9 -0.2**
M63A	**Gales Ferry**	**81.44**	**34**	P	**P**	**23**	**40**	**35.6 +1.2**
PDG	**Podgorica**	**81.60**	**329**	⇑P	**P**	**23**	**40**	**34.2 -1.1**
PDG	**Podgorica**	**81.60**	**329**	P	**P**	**23**	**40**	**34.2 -1.1**
PDG				IAmb	IAmb	23	40	35.4
	comp=Z,13nm,0.9s							
PPT	**Papeete**	**82.03**	**128**	LR	LR	00	10	27.2
	comp=Z,49nm,19.6s,baz=350,slow=31							
PPT2	**Papeete2**	**82.04**	**128**	*e*LR	LR	00	06	34.4
	comp=Z,103nm,23.0s							
CSS	**Mathiatis**	**82.17**	**315**	IAmb	IAmb	23	40	39.1
	comp=Z,9.0nm,0.7s							
OHR	**Ohrid**	**82.21**	**327**	*i* P	**P**	**23**	**40**	**38.5 -0.1**
ELL	**Elmali**	**82.26**	**318**	P	**P**	**23**	**40**	**38.6 -0.4**
TIR	**Tirane**	**82.34**	**328**	⇑P	**P**	**23**	**40**	**38.0 -1.2**
TIR	**Tirane**	**82.34**	**328**	P	**P**	**23**	**40**	**38.0 -1.2**
KBN	**Korca**	**82.64**	**327**	P	**P**	**23**	**40**	**39.4 -1.5**
KBN				IAmb	IAmb	23	40	41.9
	comp=Z,12nm,1.0s							
MMAI	**Mount Meron Ar**	**82.75**	**313**	LR	LR	00	22	14.7
	comp=Z,39nm,18.6s,baz=126,slow=39							
BNI	**Bardonecchia**	**82.98**	**338**	P	**P**	**23**	**40**	**42.5 -0.2**
BNI				IAmb	IAmb	23	40	44.7
	comp=Z,9.1nm,1.0s							
OSSC	**Osservatorio P**	**83.17**	**334**	P	**P**	**23**	**40**	**43.4 -0.1**
SSB	**Saint Sauveur**	**83.28**	**340**	P	**P**	**23**	**40**	**43.5 -0.6**
SSB				IAmb	IAmb	23	40

U32A				S	Sg	23 55 41.5	-0.8	
	baz=68							
OK032	**Salt Plains WL**	**0.52**	**50**	Pg	**Pg**	**23 55 44.2**	**+0.1**	
CROK	**Carrier**	**0.59**	**86**	Pg	**Pg**	**23 55 45.5**	**+0.2**	
ELIS	**Ellis County**	**0.70**	**235**	Pg	**Pg**	**23 55 46.2**	**-1.2**	
KAN14	**Manchester OK**	**0.77**	**51**		**Pg**	**23 55 48.7**	**-0.1**	
GC02	**Grant County #**	**0.78**	**60**	Pg	**Pg**	**23 55 48.9**	**-0.1**	
KAN10	**Anthony SW Sta**	**0.82**	**37**		**Pg**	**23 55 49.5**	**-0.2**	
CSTR	**Hydro, Custer**	**0.82**	**179**	Pg	**Pg**	**23 55 49.0**	**-0.7**	
CSTR				IAmb_Lg		23 55 59.0		
	comp=Z,36nm,0.9s							
KAN16	**Harper SW Stat**	**0.92**	**34**	Pg	**Pg**	**23 55 51.2**	**-0.4**	
KAN17	**Caldwell West**	**0.95**	**53**	Pg	**Pg**	**23 55 52.0**	**-0.3**	
KAN08	**Anthony NE Sta**	**0.96**	**38**		**Pg**	**23 55 52.1**	**-0.3**	
KAN12	**Harper NE Stat**	**1.01**	**34**	Pg	**Pg**	**23 55 52.9**	**-0.4**	
KAN01	**Argonia South**	**1.02**	**48**	Pg	**Pg**	**23 55 53.3**	**-0.4**	
KAN06	**Argonia West S**	**1.04**	**41**		**Pg**	**23 55 53.5**	**-0.3**	
KAN09	**Caldwell North**	**1.10**	**52**	Pg	**Pg**	**23 55 54.5**	**-0.6**	
KAN13	**South Haven SW**	**1.13**	**61**	Pg	**Pg**	**23 55 55.1**	**-0.6**	
OK049	**E0420 Rd and N**	**1.14**	**93**	Pg	**Pg**	**23 55 55.2**	**-0.5**	
KS21	**Milan North St**	**1.17**	**45**	Pg	**Pg**	**23 55 55.9**	**-0.5**	
KS20	**Mayfield South**	**1.20**	**50**	Pg	**Pg**	**23 55 56.3**	**-0.7**	
BCOK	**Bluff Creek, N**	**1.20**	**132**	Pg	**Pb**	**23 55 56.0**	**-1.1**	
OK029	**Liberty Lake**	**1.22**	**123**	Pg	**Pb**	**23 55 56.2**	**-1.1**	
BLOK	**Blackwell**	**1.24**	**76**	Pg	**Pn**	**23 55 56.9**	**-0.8**	
OK050	**Pawnee Station**	**1.40**	**92**		**Pn**	**23 55 59.6**	**-0.3**	
OK025	**Westminster Rd**	**1.42**	**128**	Pg	**Pn**	**23 55 59.7**	**-0.6**	
OK048	**Pawnee Station**	**1.43**	**92**		**Pn**	**23 56 00.1**	**-0.2**	
OK045	**Pawnee Station**	**1.44**	**90**		**Pn**	**23 56 00.5**	**-0.1**	
OK046	**Pawnee Station**	**1.46**	**92**		**Pn**	**23 56 00.7**	**-0.1**	
OKCSW	**OKLAHOMA CITY**	**1.48**	**135**		**Pn**	**23 56 00.2**	**-0.9**	
OK051	**E0350 and S346**	**1.51**	**88**		**Pn**	**23 56 01.6**	**+0.2**	
OK044	**Pawnee Station**	**1.55**	**93**		**Pn**	**23 56 02.1**	**+0.1**	
OK031	**S. Brethren Rd**	**1.60**	**108**	Pn	**Pn**	**23 56 02.8**	**+0.1**	
FNO	**Franklin**	**1.61**	**138**	Pn	**Pn**	**23 56 02.8**	**-0.1**	
QUOK	**Quay**	**1.64**	**100**		**Pn**	**23 56 03.6**	**+0.3**	
WMOK	**Wichita Mounta**	**1.73**	**182**	Pn	**Pn**	**23 56 03.3**	**-1.1**	
WMOK	**Wichita Mounta**	**1.73**	**182**	P	**Pn**	**23 56 03.4**	**-1.1**	
	baz=0.6,SNR=220							
WMOK				S	**Sn**	**23 56 26.5**	**-0.3**	
	baz=0.6							
WMOK	**Wichita Mounta**	**1.73**	**182**	P	**Pn**	**23 56 03.4**	**-1.1**	
	baz=0.6							
WMOK				S	**Sn**	**23 56 26.4**	**-0.4**	
	baz=0.6							
T35A	**Sooner Cattle**	**1.82**	**75**	Pn	**Pn**	**23 56 06.0**	**+0.1**	
T35A				IAmb_Lg		23 56 32.4		
	comp=Z,276nm,0.9s							
T35B	**Sooner Cattle**	**1.82**	**75**	P	**Pn**	**23 56 06.0**	**+0.2**	
	baz=256,SNR=306							
T35B				S	**Sg**	**23 56 31.8**	**-0.8**	
	baz=256							
R32A	**Long Quarter,**	**1.95**	**360**	Pn	**Pn**	**23 56 07.8**	**+0.2**	
R32A	**Long Quarter,**	**1.95**	**360**	P	**Pn**	**23 56 07.8**	**+0.2**	
	baz=181,SNR=226							
R32A				Sb	**Sg**	**23 56 35.1**	**-1.5**	
	baz=181							
X34A	**Smith Ranch, M**	**2.00**	**159**		**Pn**	**23 56 08.9**	**+0.8**	
X34A				IAmb_Lg		23 56 40.4		
	comp=Z,369nm,0.7s							
TUL1	**Leonard**	**2.42**	**102**	Pn	**Pn**	**23 56 13.8**	**-0.3**	
TUL1				IAmb_Lg		23 56 49.7		
	comp=Z,189nm,0.8s							
TUL1	**Leonard**	**2.42**	**102**	P	**Pn**	**23 56 14.2**	**+0.1**	
	baz=284,SNR=31							
TUL1				S	**Sn**	**23 56 45.4**	**+1.4**	
	baz=284							
CBKS	**Cedar Bluff**	**2.48**	**341**	Pn	**Pn**	**23 56 15.7**	**+0.8**	
CBKS	**Cedar Bluff**	**2.48**	**341**	P	**Pn**	**23 56 14.9**	**0.0**	
	baz=162							
CBKS				S	**Sb**	**23 56 49.5**	**-0.2**	
	baz=162							
CBKS	**Cedar Bluff**	**2.48**	**341**	P	**Pb**	**23 56 16.5**	**-2.4**	
	baz=162							
CBKS				S	**Sb**	**23 56 49.4**	**-0.3**	
	baz=162							
LOOK	**Love County**	**2.77**	**153**	Pn	**Pn**	**23 56 19.0**	**+0.2**	
LOOK				IAmb_Lg		23 57 08.6		
	comp=Z,93nm,0.8s							
AMTX	**Amarillo**	**2.89**	**238**	Pn	**Pn**	**23 56 20.4**	**-0.2**	
AMTX	**Amarillo**	**2.89**	**238**	P	**Pn**	**23 56 20.1**	**-0.5**	
	baz=56,SNR=22							
AMTX				Sb	**Sb**	**23 57 01.6**	**+0.1**	
	baz=56							
AMTX	**Amarillo**	**2.89**	**238**	P	**Pn**	**23 56 20.8**	**+0.3**	
	baz=56							
AMTX				Sb	**Sb**	**23 57 02.3**	**+0.7**	
	baz=56							
RLO	**Rose Lookout**	**2.99**	**95**	Pn	**Pn**	**23 56 21.9**	**0.0**	
RLO				IAmb_Lg		23 57 08.6		
	comp=Z,89nm,0.7s							
KSU1	**Kansas State U**	**3.11**	**32**		**Pn**	**23 56 23.9**	**+0.4**	
KSU1				IAmb_Lg		23 57 17.8		
	comp=Z,123nm,0.7s							
KSU1	**Kansas State U**	**3.11**	**32**	P	**Pn**	**23 56 24.5**	**+1.0**	
	baz=213,SNR=13							
KSU1	**Kansas State U**	**3.11**	**32**	P	**Pn**	**23 56 24.5**	**+1.0**	
	baz=213							
X37A	**Clayton**	**3.31**	**124**	Pn	**Pn**	**23 56 26.1**	**-0.1**	
X37A				IAmb_Lg		23 57 24.9		
	comp=Z,227nm,0.7s							
X37A	**Clayton**	**3.31**	**124**	P	**Pn**	**23 56 26.1**	**-0.1**	
	baz=305,SNR=17							
Z35A	**Perchaven, San**	**3.35**	**159**		**Pn**	**23 56 26.4**	**-0.4**	
Z35A	**Perchaven, San**	**3.35**	**159**	P	**Pn**	**23 56 27.1**	**+0.3**	
	baz=339,SNR=24							
U38A	**Gravette**	**3.49**	**89**	Pn	**Pn**	**23 56 29.0**	**+0.3**	
U38A				IAmb_Lg		23 57 25.5		
	comp=Z,121nm,0.8s							
HHAR	**Hobbs**	**3.85**	**91**		**Pn**	**23 56 34.4**	**+0.6**	
KSCO	**Kaye Shedlock'**	**4.01**	**310**		**Pn**	**23 56 35.9**	**-0.1**	
KSCO				IAmb_Lg		23 57 47.9		
	comp=Z,160nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.01**	**310**	P	**Pn**	**23 56 35.6**	**-0.4**	
	baz=129							
MSTX	**Muleshoe**	**4.16**	**234**	IAmb_Lg		23 57 49.4		
	comp=Z,94nm,0.8s							
MSTX	**Muleshoe**	**4.16**	**234**	Sb	**Sb**	**23 57 39.8**	**+1.8**	
	baz=52							
N33B	**J Bar K, Exete**	**4.38**	**13**	P	**Pn**	**23 56 40.1**	**-0.8**	
	baz=194							
N33A	**J Bar K, Exete**	**4.38**	**13**	IAmb_Lg		23 58 01.3		
	comp=Z,139nm,0.9s							
Z38A	**Mt. Pleasant**	**4.43**	**135**	IAmb_Lg		23 57 57.9		
	comp=Z,120nm,0.8s							
S39A	**Bolivar**	**4.48**	**73**		**Pn**	**23 56 42.8**	**+0.5**	
S39A				IAmb_Lg		23 57 57.6		
	comp=Z,93nm,0.8s							
WHTX	**Lake Whitney,**	**4.58**	**167**	P	**Pn**	**23 56 43.2**	**-0.6**	
	baz=347,SNR=11							
WHTX	**Lake Whitney,**	**4.58**	**167**	P	**Pn**	**23 56 43.3**	**-0.5**	
	baz=347							
MIAR	**Mount Ida**	**4.61**	**113**	IAmb_Lg		23 58 11.2		
	comp=Z,111nm,0.8s							
MIAR	**Mount Ida**	**4.61**	**113**	P	**Pn**	**23 56 44.3**	**+0.2**	
	baz=296							
MIAR				S	**Sn**	**23 57 37.2**	**-0.6**	
	baz=296							
T25A	**Trinidad**	**4.62**	**280**	P	**Pn**	**23 56 43.9**	**-0.6**	
	baz=97							
T25A				Sb	**Sb**	**23 57 55.7**	**+4.1**	
	baz=97							
BGNE	**Belgrade**	**4.95**	**5**	IAmb_Lg		23 58 12.1		
	comp=Z,111nm,0.7s							
BGNE	**Belgrade**	**4.95**	**5**	P	**Pn**	**23 56 48.5**	**-0.4**	
	baz=186,SNR=18							
N35A	**Tabor**	**5.00**	**28**	P	**Pn**	**23 56 49.1**	**-0.3**	
	baz=210,SNR=7.5							
237A	**Washetta, Mont**	**5.06**	**151**	IAmb_Lg		23 58 24.3		
	comp=Z,74nm,0.9s							
237A	**Washetta, Mont**	**5.06**	**151**	S	**Sn**	**23 57 47.4**	**-1.7**	
	baz=332							
OGNE	**Ogallala**	**5.17**	**331**		**Pn**	**23 56 52.2**	**+0.3**	
OGNE				IAmb_Lg		23 58 27.2		
	comp=Z,106nm,0.7s							
OGNE	**Ogallala**	**5.17**	**331**	P	**Pn**	**23 56 52.6**	**+0.7**	
	baz=149							
FCAR	**Ozark Folk Cen**	**5.36**	**94**	IAmb_Lg		23 58 29.0		
	comp=Z,77nm,0.7s							
WLAR	**White Oak Lake**	**5.36**	**120**	Pn	**Pn**	**23 56 55.8**	**+1.4**	
WLAR				IAmb_Lg		23 58 30.1		
	comp=Z,94nm,0.8s							
R40A	**Maddies Statio**	**5.44**	**69**	P	**Pn**	**23 56 55.1**	**-0.4**	
	baz=252							
UALR	**University of**	**5.45**	**106**	IAmb_Lg		23 58 36.0		
	comp=Z,77nm,0.7s							
SDCO	**Great Sand Dun**	**5.58**	**285**	IAmb_Lg		23 58 35.7		
	comp=Z,68nm,1.1s							
Q24A	**Divide**	**5.68**	**298**	IAmb_Lg		23 58 33.6		
	comp=Z,71nm,0.8s							
435B	**Jarrell**	**5.75**	**170**		**Pn**	**23 56 58.4**	**-1.4**	
435B				IAmb_Lg		23 58 44.5		
	comp=Z,64nm,0.8s							
NATX	**Nacogdoches**	**5.77**	**143**	IAmb_Lg		23 58 49.5		
	comp=Z,71nm,0.8s							
JCT	**Junction City**	**6.04**	**189**	IAmb_Lg		23 58 52.1		
	comp=Z,65nm,0.7s							
JCT	**Junction City**	**6.04**	**189**	P	**Pb**	**23 57 22.4**	**+2.7**	
	baz=8.0							
P40A	**Paris**	**6.08**	**58**	IAmb_Lg		23 58 47.5		
	comp=Z,105nm,0.9s							
K31A	**O'Neill**	**6.15**	**360**	IAmb_Lg		23 58 53.8		
	comp=Z,62nm,0.8s							
CCM	**Cathedral Cave**	**6.16**	**73**	IAmb_Lg		23 59 00.4		
	comp=Z,83nm,1.0s							
CCM	**Cathedral Cave**	**6.16**	**73**	P	**Pn**	**23 57 05.4**	**0.0**	
	baz=257							
CCAR	**Cane Creek**	**6.22**	**112**	IAmb_Lg		23 59 09.6		
	comp=Z,99nm,1.1s							
ISCO	**Idaho Springs**	**6.38**	**304**	IAmb_Lg		23 58 59.6		
	comp=Z,49nm,0.8s							
ANMO	**Albuquerque**	**6.48**	**259**	Pn	**Pn**	**23 57 10.3**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=80,slow=16,SNR=2.3							
ANMO				Pg	**Pb**	**23 57 28.7**	**+1.5**	
	comp=Z,1.8nm,0.3s,baz=80,slow=16,SNR=11							
ANMO				Lg	Lg	23 58 52.3		
	comp=Z,1.5nm,0.3s,baz=0.9,slow=10,SNR=3.9							
	comp=Z,0.6nm,0.3s							
FVM	**French Village**	**6.78**	**75**		**Pn**	**23 57 14.4**	**+0.5**	
SLM	**Saint Louis**	**7.07**	**70**	IAmb_Lg		23 59 17.2		
	comp=Z,65nm,0.8s							
Y22D	**IRIS PASSCAL I**	**7.13**	**253**	IAmb_Lg		23 59 38.4		
	comp=Z,85nm,1.0s							
PHWY	**Pilot Hill**	**7.14**	**315**	IAmb_Lg		23 59 19.9		
	comp=Z,69nm,0.9s							
N23A	**Red Feather La**	**7.18**	**310**	IAmb_Lg		23 59 24.6		
	comp=Z,91nm,0.8s							
MNTX	**Cornudas Mount**	**7.30**	**231**	IAmb_Lg		23 59 33.3		
	comp=Z,47nm,1.0s							
MNTX	**Cornudas Mount**	**7.30**	**231**	P	**Pn**	**23 57 20.5**	**-0.5**	
	baz=47							
MNTX	**Cornudas Mount**	**7.30**	**231**	P	**Pn**	**23 57 20.5**	**-0.5**	
	baz=47							
CGM3	**Cape Girardeau**	**7.30**	**81**	IAmb_Lg		23 59 23.9		
	comp=Z,42nm,0.7s							
ECSD	**EROS Data Cent**	**7.43**	**12**	P	**Pn**	**23 57 20.7**	**-2.1**	
	baz=193							
S44A	**Carbondale**	**7.66**	**78**	IAmb_Lg		23 59 43.0		
	comp=Z,52nm,0.9s							
SIUC	**Southern Illin**	**7.69**	**78**	IAmb_Lg		23 59 39.7		
	comp=Z,49nm,0.7s							
OXF	**Oxford**	**7.83**	**102**	IAmb_Lg		23 59 51.1		
	comp=Z,59nm,0.9s							
W45A	**Hickory Valley**	**7.85**	**97**	IAmb_Lg		23 59 56.9		
	comp=Z,84nm,0.8s							
Y45A	**Yeager Farm, C**	**7.94**	**106**	IAmb_Lg		00 00 00.3		
	comp=Z,52nm,0.8s							
VBMS	**Vicksburg**	**7.99**	**120**	IAmb_Lg		23 59 57.5		
	comp=Z,42nm,1.2s							
833A	**Chapral WMA,**	**8.14**	**184**	IAmb_Lg		00 00 07.9		
	comp=Z,48nm,1.1s							
TX31	**Lajitas Ar. Si**	**8.24**	**212**	P	**Pn**	**23 57 33.5**	**-0.7**	
	baz=29,SNR=7.4							
TXAR	**Lajitas Array**	**8.24**	**212**	Pn	**Pn**	**23 57 33.1**	**-1.0**	
	comp=Z,0.5nm,0.3s,baz=31,slow=11,SNR=28							
TXAR				Lg	Lg	23 59 45.8		
	comp=Z,1.0nm,0.3s,baz=30,slow=27,SNR=2.7							
	comp=Z,0.5nm,0.3s							
RWWY	**Rawlins**	**8.42**	**311**	IAmb_Lg		00 00 01.8		
	comp=Z,56nm,1.2s							
HDIL	**Hopedale**	**8.43**	**58**		**Pn**	**23 57 36.7**	**+0.1**	
I37A	**Lemond, Waseca**	**8.56**	**27**	IAmb_Lg		00 00 10.5		
	comp=Z,41nm,0.8s							
K22A	**Casper**	**8.63**	**318**	IAmb_Lg		00 00 15.9		
	comp=Z,53nm,0.9s							
RSSD	**Black Hills**	**8.66**	**334**	IAmb_Lg		00 00 14.0		
	comp=Z,38nm,0.8s							
JFWS	**Jewell Farm**	**9.16**	**43**	IAmb_Lg		00 00 31.4		
	comp=Z,54nm,0.7s							
F33A	**5 Mile Ranch,**	**9.54**	**10**	IAmb_Lg		00 00 40.5		
	comp=Z,31nm,1.1s							
I40A	**Norwalk**	**9.66**	**37**	IAmb_Lg		00 00 49.6		
	comp=Z,33nm,0.8s							
PDAR	**Pinedale Array**	**10.46**	**310**	Pn	**Pn**	**23 58 05.5**	**+0.9**	
	comp=Z,0.3nm,0.3s,baz=118,slow=15,SNR=4.1							
PDAR				Lg	Lg	00 00 55.8		
	comp=Z,0.6nm,0.3s,baz=118,slow=29,SNR=1.8							
	comp=Z,0.4nm,0.4s							
TKL	**Tuckaleechee C**	**12.12**	**89**	Pn	**Pn**	**23 58 27.4**	**+0.3**	
	comp=Z,0.3nm,0.3s,baz=270,slow=18,SNR=1.8							
TKL				Lg	Lg	00 01 47.6		
	comp=Z,1.2nm,0.3s,baz=354,slow=21,SNR=6.3							
	comp=Z,2.0nm,0.7s							
ULM	**Lac du Bonnet**	**13.93**	**8**	Pn	Pn	23 58 45.4	-6.3	
	comp=Z,0.3nm,0.3s,baz=189,slow=12,SNR=1.6							
ULM				Sn	Sn	00 01 14.1	-12	
	comp=Z,0.4nm,0.3s,baz=138,slow=1.0,SNR=2.1							
ULM				Lg	Lg	00 02 45.8		
	comp=Z,0.3nm,0.3s,baz=114,slow=20,SNR=2.4							
	comp=Z,1.1nm,0.4s							
SADO	**Sadowa**	**16.98**	**55**	Lg	Lg	00 04 22.9		
	comp=Z,0.2nm,0.3s,baz=273,slow=17,SNR=3.4							

*SEA **17** 00:29:39.3±1.3, 47°.94N±0°.02×123°.23W±0°.04, h41km±5km, ML2.8/121, ML2.6/30(NEIC), Error ellipse: s-maj=4.6km s-min=2.4km az=70.0*

*PNSN **17** 00:29:39.3, 47°.94N×123°.23W, h41km, MD3.0, Fault plane solution: NP1:ϕ=355.00000°, δ=90.00000°, λ=-90.00000°.*

NEIC 17 00:29:39.4±0.9, 47°.92N±0°.03×123°.27W±0°.05, h34km±8km, Error ellipse: s-maj=4.8km s-min=3.7km az=107.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B04A	**Port Angeles**	**0.21**	**312**		Pb	00 29 46.2	-0.1
B04A					Sb	00 29 51.9	+0.9
B04A	**Port Angeles**	**0.21**	**312**		Pb	00 29 46.2	-0.2
SQM	**Sequim**	**0.22**	**44**		Pb	00 29 46.2	-0.2
SQM					Sb	00 29 52.3	+1.2
B013	**Quilcene**	**0.26**	**113**		Pn	00 29 46.3	-0.2
B013	**Quilcene**	**0.26**	**113**		Pn	00 29 46.3	-0.2
C04A	**Brinnon**	**0.28**	**134**		Pn	00 29 46.8	-0.1
OSD	**Olympics--Snow**	**0.30**	**252**		Pb	00 29 47.8	+0.2
HDW	**Hoodsport**	**0.30**	**151**		Pn	00 29 47.3	-0.1
HDW					Sb	00 29 53.3	+0.4
STW	**Striped Peak**	**0.36**	**311**		Pb	00 29 47.9	-0.2
STW					Sb	00 29 54.7	+0.8
GNW	**Green Mountain**	**0.46**	**139**		Pb	00 29 49.0	-0.5
GNW					Sb	00 29 56.5	0.0
GMW	**Gold Mountain**	**0.49**	**138**		Pb	00 29 49.4	-0.6
GMW					Sn	00 29 57.5	+0.1
KITP	**Kitsap County**	**0.50**	**119**		Pn	00 29 50.4	+0.3
VGZ	**Gonzales**	**0.50**	**356**		Pb	00 29 48.7	-1.4
VGZ					Sb	00 29 56.5	-1.0
KIMR	**Kitsap County**	**0.54**	**140**		Pn	00 29 50.3	-0.3
OLQ	**Olympics--Lake**	**0.54**	**222**		Pb	00 29 50.8	+0.1
OLQ					Sn	00 29 59.7	+1.2
OBC	**Olympics--Boni**	**0.56**	**283**		Pn	00 29 51.0	0.0
SWID	**South Whidbey**	**0.58**	**81**		Pn	00 29 50.9	-0.4
P403	**Sandy Floe Qua**	**0.60**	**284**		Pn	00 29 51.3	-0.2
NLWA	**Neilton Lookou**	**0.66**	**218**		Pn	00 29 52.3	0.0
NLWA				IAML		00 30 04.0	
	290nm,0.2s						
NLWA				IAML		00 30 04.0	
	379nm,0.3s						
ALKI	**Alki Wastewate**	**0.67**	**120**		Pb	00 29 53.0	+0.2
OTR	**Olympics--Tyee**	**0.74**	**284**		Pb	00 29 54.0	0.0
B011	**North Saanich**	**0.74**	**351**		Pn	00 29 52.3	-1.2
B011					Sn	00 30 02.6	-1.0
PGC	**Sidney**	**0.74**	**351**		Pn	00 29 52.5	-1.0
SP2	**Seward Park 2**	**0.78**	**117**		Pb	00 29 54.4	-0.2
MCW	**Mount Constitu**	**0.82**	**21**		Pn	00 29 53.7	-0.9
MCW					Sn	00 30 05.1	-0.4
SNB	**Saturna Island**	**0.86**	**4**		Pn	00 29 54.5	-0.7
SNB					Sn	00 30 06.1	-0.5
WISH	**Wishkah**	**0.87**	**203**		Pn	00 29 55.0	-0.2
WISH				IAML		00 30 11.1	
	comp=N,158nm,0.1s						
WISH				IAML		00 30 14.9	
	comp=E,122nm,0.5s						
C03A	**Quillayute Air**	**0.87**	**273**		Pn	00 29 55.7	+0.5
C03A					Sb	00 30 10.3	+2.8
HTW	**Haystack Looko**	**1.02**	**96**		Pn	00 29 56.8	-0.5
RATT	**Rattlesnake La**	**1.11**	**116**		Pn	00 29 58.2	-0.3
D05A	**Enumclaw**	**1.13**	**129**		Pn	00 29 59.0	+0.1
D05A				IAML		00 30 15.9	
	comp=N,160nm,0.5s						
D05A				IAML		00 30 19.6	
	comp=E,100nm,0.4s						
B06A	**Marblemount**	**1.34**	**63**		Pn	00 30 01.3	-0.3
VDB	**Vedder Mountai**	**1.36**	**35**		Pn	00 30 01.7	-0.2
E03A	**Lebam**	**1.38**	**188**		Pn	00 30 01.9	-0.4
E03A				IAML		00 30 24.4	
	comp=E,84nm,0.4s						
E03A				IAML		00 30 24.7	
	comp=N,110nm,0.4s						
NLLB	**Nanaimo Lost L**	**1.40**	**340**		Pn	00 30 01.8	-0.7
SHUK	**Shuksan-Mt. Ba**	**1.42**	**48**		Pn	00 30 03.4	+0.5
BMW	**Boistfort Moun**	**1.44**	**179**		Pn	00 30 03.3	+0.1
RADR	**Rader Ridge**	**1.54**	**194**		Pn	00 30 04.3	-0.1
RADR				IAML		00 30 24.5	
	comp=E,85nm,0.5s						
RADR				IAML		00 30 24.7	
	comp=N,44nm,0.5s						
OZB	**Mount Ozzard**	**1.81**	**306**		Pn	00 30 08.6	+0.4
OZB				IAML		00 30 35.9	
	comp=E,50nm,0.3s						
OZB				IAML		00 30 36.9	
	comp=N,67nm,0.6s						
LTY	**Liberty**	**1.88**	**110**		Pn	00 30 09.4	+0.2
TBM	**Table Mountain**	**1.96**	**111**		Pb	00 30 12.6	-1.9
EBG	**Ellensburg**	**2.09**	**118**		Pb	00 30 14.6	-2.2
CBSW	**Chelan Butte S**	**2.18**	**92**		Pn	00 30 13.1	-0.2
KMOR	**Kings Mountain**	**2.29**	**184**		Pn	00 30 14.8	+0.1
B08A	**Colville Reser**	**2.67**	**79**	Pn	Pn	00 30 19.6	-0.5
HEBO	**Mount Hebo**	**2.72**	**187**	Pn	Pn	00 30 21.1	+0.3
HEBO				IAML		00 31 01.3	
	comp=N,30nm,1.6s						
HOOD	**Mount Hood Mea**	**2.83**	**156**	Pn	Pn	00 30 22.5	+0.2
HOOD				IAML		00 31 40.9	
	comp=E,12nm,0.8s						
LLLB	**Lillooet**	**2.85**	**18**		Pn	00 30 22.1	-0.3
HAWA	**Hanford**	**2.97**	**119**		Pn	00 30 24.1	-0.1
HAWA				IAML		00 31 14.1	
	comp=E,12nm,0.4s						
NEW	**Newport**	**4.14**	**83**	Pn	Pn	00 30 40.6	+0.5
NEW				IAML		00 31 55.3	
	comp=E,7.5nm,4.3s						
NEW				IAML		00 32 58.5	
	comp=E,7.1nm,4.4s						
I04A	**Tendick Farm,**	**4.17**	**171**		Pn	00 30 38.2	-2.4

*IDC **17** 00:38:20.2±2.6, 17°.35S×179°.30W, h558km±19km, mb2.6/4, mbtmp3.4/5, Error ellipse: s-maj=171.3km s-min=22.7km az=155.0*

ISC 17 00:38:20.8±1.3, 16°.2S±0°.6×179°.8W±0°.3, h550km, n7, σ0°42/7, mb3.0/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.57**	**234**	P	**P**	**00 39 33.6**	**+0.2**
	6.0nm,0.4s,baz=127,slow=21,SNR=6.7						
WRA	**Warramunga Arr**	**43.68**	**258**	P	**P**	**00 45 37.9**	**+0.3**
	0.2nm,0.6s,baz=90,slow=7.3,SNR=12						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**44.02**	**253**	P	**P**	**00 45 39.9**	**-0.4**
	0.8nm,0.6s,baz=89,slow=8.2,SNR=14						
	0.8nm,0.6s						
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**00 50 04.9**	**+0.2**
	0.1nm,0.5s,baz=226,slow=7.2,SNR=2.4						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**87.03**	**44**	P	**P**	**00 50 08.3**	**-0.1**
	0.2nm,0.4s,baz=212,slow=3.2,SNR=1.8						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**142.66**	**316**	PKP	**PKPdf**	**00 56 51.5**	**-0.6**
	0.4nm,0.7s,baz=86,slow=4.5,SNR=4.0						
GERES	**GERESS Array B**	**145.63**	**344**	PKPbc	**PKPab**	**00 57 00.0**	**+0.2**
	0.1nm,0.4s,baz=25,slow=3.5,SNR=5.3						

IDC 17 00:42:30.7±9.6, 1°.58N×98°.12E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=457.4km s-min=32.4km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.15**	**250**	T	T	01 14 52.7	
	baz=71,slow=75,SNR=268						
H08S3	**Diego Garcia H**	**27.16**	**250**	T	T	01 14 54.0	
	baz=71,slow=75,SNR=375		

TRQA	**Tornquist**	**14.82**	**164**		**P**	**01 05 38.8**	**-0.1**
PLCA	**Paso Flores**	**17.09**	**189**	P	**P**	**01 06 03.8**	**+0.1**
PLCA				IAmb	IAmb	01 06 45.2	
	comp=Z,5.5nm,1.4s						

IDC 17 01:08:28.1±1.8, 17.96S×177.46W, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=157.7km s-min=24.6km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.40**	**241**	P	P	01 16 00.7	+0.9
	1.4nm,0.6s,baz=52,slow=8.5,SNR=2.9						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**45.51**	**259**	P	P	01 16 49.3	-0.5
	0.4nm,0.3s,baz=97,slow=7.7,SNR=11						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**45.65**	**254**	P	P	01 16 50.4	-0.4
	0.7nm,0.4s,baz=89,slow=8.1,SNR=12						
	0.7nm,0.4s						
NVAR	**Mina Array Bea**	**78.84**	**43**	P	P	01 20 34.4	+1.0
	0.2nm,0.5s,baz=231,slow=5.7,SNR=1.8						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**85.26**	**57**	P	P	01 21 06.4	-0.8
	0.4nm,0.7s,baz=224,slow=6.3,SNR=5.8						
	0.4nm,0.7s						

*BJI **17** 01:20:10.8±0.0, 2.40S×141.22E, h10km, mb5.2/83, mB5.8/77, Ms5.7/96, Ms7 5.5/91*

*IDC **17** 01:20:15.6±0.3, 1.99S×140.66E, h0km, mb5.2/32, mbtmp5.2/37, ML5.2/5, MS5.3/65, Error ellipse: s-maj=14.0km s-min=9.4km az=84.0*

*MOS **17** 01:20:17.5±1.3, 1.99S×140.53E, h21km, mb5.6/90, MS5.5/24, Error ellipse: s-maj=7.9km s-min=4.1km az=111.3*

*NEIC **17** 01:20:17.9±1.9, 2.08S±0.07×140.57E±0.06, h9km±1km, mb5.6/257, Ms_20 5.5/371, Mwb5.9/37, Mww6.0, Error ellipse: s-maj=11.7km s-min=10.5km az=189.0*

*NEIC **17** 01:20:18.1, 2.09S×140.58E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.58; Mθθ=0.60; Mφφ=-0.02; Mrθ=0.80; Mrφ=0.01; Mθφ=0.22; Fault plane solution: M0=1.02000×10^18^ NP1:φ=100.33000°, δ=18.85000°, λ=-68.43000°. NP2:φ=257.65000°, δ=72.52000°, λ=-97.15000°. Principal axes: T 1.0213, Plg27.0000°, Azm353.0000°; N 0.0048, Plg7.0000°, Azm260.0000°; P -1.0262, Plg62.0000°, Azm157.0000°;*

*GCMT **17** 01:20:19.9±0.1, 1.92S×140.61E, h12km, MW6.0/171, Moment Tensor Solution. s161,c345; s171,c593; Duration: 2s3 Moment tensor: Scale 10^18^Nm; Mrr=0.83±.01; Mθθ=0.89±.01; Mφφ=-0.05±.01; Mrθ=0.61±.01; Mrφ=0.14±.00; Mθφ=0.06±.01; Best double couple: M0=1.06500×10^18^ NP1:φ=263.00000°, δ=63.00000°, λ=-88.00000°. NP2:φ=80.00000°, δ=27.00000°, λ=-93.00000°. Principal axes: T 1.1030, Plg18.0000°, Azm352.0000°; N -0.0750, Plg1.0000°, Azm82.0000°; P -1.0280, Plg72.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*DJA **17** 01:20:20.5±0.4, 2.2°S±2.2°×14.1E±1.1°, h25km±2km, M5.7/79, mb5.4/79, mB6.1/72, MLv5.6/7, Mw5.9/31, Mw(mB)5.8/72, MwMwp5.6/54, Mwp5.7/54*

*NEIC **17** 01:20:21, 1.81S×140.57E, h16km, Moment Tensor Solution. Duration: 6s6 Moment tensor: Scale 10^18^Nm; Mrr=0.89; Mθθ=0.90; Mφφ=-0.01; Mrθ=0.68; Mθφ=0.18; Mrφ=0.27; Fault plane solution: M0=1.17000×10^18^ NP1:φ=86.00000°, δ=26.00000°, λ=-77.00000°. NP2:φ=252.00000°, δ=64.00000°, λ=-96.00000°. Principal axes: T 1.1818, Plg19.0000°, Azm347.0000°; N -0.0319, Plg5.0000°, Azm255.0000°; P -1.1499, Plg70.0000°, Azm150.0000°;*

*KLM **17** 01:20:36, 2.07S×140.71E, h173km, mb5.4*

ISC 17 01:20:19.2±0.3, 2.07S±0.02×140.59E±0.03, h22km±2km, h22km:pP-P,n1470,σ1§82/1542, mb5.5/242, MS5.5/310, 20C-59D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.67**	**219**	P	**Pn**	**01 20 33.3**	**0.0**
GENI	**Genyem**	**0.67**	**219**	P	**Pn**	**01 20 33.8**	**+0.5**
SMPI	**Sarmi**	**1.88**	**272**	P	**Pn**	**01 20 50.5**	**+0.5**
WAMI	**Wamena**	**2.60**	**226**	P	**Pb**	**01 21 03.3**	**-1.8**
SRPI	**Serui, Papua**	**4.35**	**273**	P	**Pn**	**01 21 25.9**	**+1.9**
BAKI	**Biak**	**4.56**	**281**	P	**Pn**	**01 21 31.3**	**+4.4**
MANU	**Manus Island**	**6.78**	**90**		**Pn**	**01 21 56.9**	**-0.5**
FAKI	**Fak Fak**	**8.37**	**264**	Pn	**Pn**	**01 22 19.8**	**+0.5**
FAKI	**Fak Fak**	**8.37**	**264**	P	**Pn**	**01 22 21.2**	**+1.9**
	28µm4µm198nm,1.2s						
FAKI	**Fak Fak**	**8.37**	**264**	P	**Pn**	**01 22 22.1**	**+2.8**
	237nm,1.2s						
SIJI	**Sorong**	**9.39**	**277**	Pn	**Pn**	**01 22 37.0**	**+3.7**
	1.8nm,0.3s,baz=74,slow=12,SNR=11						
SIJI				Sn	**Sn**	**01 24 24.4**	**+6.1**
	1.7nm,0.3s,baz=163,slow=19,SNR=1.5						
SIJI				LR	LR	01 26 37.7	
	comp=Z,34µm,18.4s,baz=81,slow=40						
PMG	**Port Moresby**	**9.79**	**138**	Pn	**Pn**	**01 22 42.6**	**+3.9**
	5.8nm,0.3s,baz=308,slow=7.1,SNR=17						
PMG				Sn	**Sn**	**01 24 32.3**	**+4.2**
	1.9nm,0.3s,baz=166,slow=19,SNR=1.5						
PMG				LR	LR	01 26 56.0	
	comp=Z,37µm,19.2s,baz=307,slow=41						
PMG	**Port Moresby**	**9.79**	**138**		**Pn**	**01 22 39.0**	**+0.3**
PMG	**Port Moresby**	**9.79**	**138**	*e*P	**Pn**	**01 22 39.7**	**+0.9**
PMG				pmax	pmax		
	comp=Z,36nm,0.7s						
PMG	**Port Moresby**	**9.79**	**138**	P	**Pn**	**01 22 42.6**	**+3.9**
BNDI	**Bandanaira**	**10.94**	**257**	P	**Pn**	**01 22 56.4**	**+1.9**
	comp=Z,18µmcomp=Z,8µmcomp=Z,212nm,0.9s						
BNDI	**Bandanaira**	**10.94**	**257**	P	**Pn**	**01 22 58.8**	**+4.3**
SAUI	**Saumlaki**	**10.96**	**237**	Pn	**Pn**	**01 22 52.7**	**-2.1**
RABL	**Rabaul**	**11.75**	**101**		**Pn**	**01 23 06.0**	**+0.4**
COEN	**Coen**	**12.09**	**168**	P	**Pn**	**01 23 11.9**	**+1.6**
	baz=12,SNR=5.1						
COEN	**Coen**	**12.09**	**168**	Pn	**Pn**	**01 23 07.9**	**-2.3**
COEN	**Coen**	**12.09**	**168**	P	**Pn**	**01 23 11.8**	**+1.6**
AAI	**Ambon**	**12.48**	**262**	P	P	01 23 32.2	+5.0
LBMI	**Labuha**	**13.16**	**276**	P	Pn	01 23 29.7	+4.8
	comp=Z,9µmcomp=Z,168nm,1.3s						
KDU	**Kakadu**	**13.26**	**217**	P	**Pn**	**01 23 25.3**	**-1.0**
	baz=13,SNR=42						
KDU	**Kakadu**	**13.26**	**217**	P	**Pn**	**01 23 25.2**	**-1.0**
TNTI	**Ternate**	**13.52**	**282**	Pn	**Pn**	**01 23 28.9**	**-0.8**
TNTI	**Ternate**	**13.52**	**282**	P	**Pn**	**01 23 31.9**	**+2.2**
	comp=Z,15µmcomp=Z,8µmcomp=Z,266nm,1.6s						
NLAI	**Namlea**	**13.52**	**265**	P	**Pn**	**01 23 32.2**	**+2.4**
	comp=Z,7µmcomp=Z,85nm,2.1s						
MTN	**Manton Dam**	**14.22**	**221**	P	**Pn**	**01 23 38.8**	**-0.6**
	baz=14,SNR=5.6						
MTN	**Manton Dam**	**14.22**	**221**	Pn	**Pn**	**01 23 36.8**	**-2.6**
MTN	**Manton Dam**	**14.22**	**221**	P	**Pn**	**01 23 41.0**	**+1.6**
SANI	**Sanana**	**14.59**	**270**	P	P	01 24 00.0	+9.3
GUMO	**Guam**	**16.12**	**15**	Pn	**Pn**	**01 24 02.3**	**-2.3**
	comp=Z,6.0nm,0.3s,baz=188,slow=7.9,SNR=9.6						
GUMO				Sn	**Sn**	**01 27 08.5**	**+5.5**
	comp=Z,8.1nm,0.3s,baz=222,slow=22,SNR=1.8						
GUMO				LR	LR	01 29 46.1	
	comp=Z,11µm,19.9s,baz=214,slow=36						
	comp=Z,162nm,0.9s						
GUMO	**Guam**	**16.12**	**15**		**Pn**	**01 24 03.2**	**-1.4**
GUMO				IAmb	IAmb	01 24 12.9	
	comp=Z,730nm,1.4s						
GUMO	**Guam**	**16.12**	**15**	P	**Pn**	**01 24 03.2**	**-1.4**
GUMO				pmax	pmax		
	comp=Z,730nm,1.4s						
GUMO	**Guam**	**16.12**	**15**	P	**P**	**01 24 07.0**	**-0.7**
MTSU	**Mount Surprise**	**16.38**	**167**	P	**P**	**01 24 09.3**	**-1.4**
	baz=16,SNR=12						
MTSU	**Mount Surprise**	**16.38**	**167**	P	**P**	**01 24 11.1**	**+0.5**
KMSI	**Cibinong**	**16.81**	**279**	P	**P**	**01 24 15.6**	**+0.2**
	comp=Z,472nm,0.6s						
BIPH	**Bislig**	**17.46**	**306**	*e*P	**P**	**01 24 22.1**	**-0.5**
DAV	**Davao City (W)**	**17.51**	**301**	P	**P**	**01 24 23.4**	**+0.3**
	comp=Z,86nm,0.3s,baz=237,slow=17,SNR=2.2						
DAV				S	**S**	**01 27 46.1**	**+1.7**
	comp=Z,280nm,0.4s,baz=128,slow=19,SNR=2.7						
DAV				LR	LR	01 31 42.8	
	comp=Z,10µm,18.0s,baz=122,slow=39						
	comp=Z,220nm,0.4s						
DAV	**Davao City (W)**	**17.51**	**301**	Pn	**Pn**	**01 24 20.6**	**-1.6**
DAV				IAmb	IAmb	01 24 31.1	
	comp=Z,260nm,0.5s						
GTOI	**Gorontalo**	**17.78**	**279**	P	**P**	**01 24 29.5**	**+3.4**
	comp=Z,4µmcomp=Z,165nm,1.6s						
LUWI	**Luwuk**	**17.84**	**273**		**P**	**01 24 27.0**	**+0.2**
LUWI	**Luwuk**	**17.84**	**273**	P	**P**	**01 24 27.3**	**+0.6**
	comp=Z,10µmcomp=Z,14µmcomp=Z,616nm,1.0s						
LUWI	**Luwuk**	**17.84**	**273**	P	**P**	**01 24 27.5**	**+0.8**
KNRA	**Kununurra**	**17.85**	**220**	P	**Pn**	**01 24 26.4**	**+0.1**
	baz=18,SNR=44						
KNRA	**Kununurra**	**17.85**	**220**	Pn	**Pn**	**01 24 23.2**	**-3.1**
KNRA				IAmb	IAmb	01 24 42.4	
	comp=Z,1µm,2.0s						
KNRA	**Kununurra**	**17.85**	**220**	P	**Pn**	**01 24 26.4**	**+0.1**
KCP	**Kidapawan**	**17.90**	**300**	*e*P	**P**	**01 24 29.7**	**+2.2**
SOEI	**Soe**	**17.93**	**244**		**Pn**	**01 24 27.2**	**-0.2**
SOEI	**Soe**	**17.93**	**244**	P	**P**	**01 24 30.2**	**+2.3**
BBSI	**Bau Bau**	**18.29**	**259**	P	**P**	**01 24 35.7**	**+3.9**
	comp=Z,684nmcomp=Z,45nm,1.1s						
QIS	**Mount Isa**	**18.40**	**183**	P	**P**	**01 24 32.5**	**-0.5**
	baz=19,SNR=10.0						
QIS	**Mount Isa**	**18.40**	**183**	P	**P**	**01 24 32.2**	**-0.8**
WB0	**Warramunga Arr**	**18.60**	**199**	P	**P**	**01 24 33.6**	**-1.5**
BATI	**Baumata**	**18.66**	**244**	P	**Pn**	**01 24 37.7**	**+1.5**
	comp=Z,24nm,0.3s,baz=60,slow=1.6,SNR=37						
BATI				S	**S**	**01 28 08.0**	**+0.8**
	comp=Z,42nm,0.6s,baz=18,slow=20,SNR=1.4						
	comp=Z,538nm,0.7s						
BATI	**Baumata**	**18.66**	**244**	P	**Pn**	**01 24 37.9**	**+1.7**
	comp=Z,10µmcomp=Z,10µmcomp=Z,628nm,0.8s						
CTA	**Charters Tower**	**18.75**	**163**	P	**P**	**01 24 36.9**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=339,slow=11,SNR=41						
CTA				S	**Sn**	**01 28 06.9**	**+0.4**
	comp=Z,11nm,1.1s,baz=28,slow=17,SNR=1.6						
CTA				LR	LR	01 32 30.8	
	comp=Z,22µm,18.1s,baz=348,slow=39						
	comp=Z,62nm,0.9s						
CTA	**Charters Tower**	**18.75**	**163**	P	**Pn**	**01 24 39.1**	**+1.8**
CTAO	**Charters Tower**	**18.75**	**163**	P	**P**	**01 24 36.6**	**-0.1**
CTAO	**Charters Tower**	**18.75**	**163**	P	**P**	**01 24 36.6**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,60nm,0.9s						
CTAO	**Charters Tower**	**18.75**	**163**	P	**Pn**	**01 24 39.0**	**+1.8**
WRAB	**Tennant Creek**	**18.77**	**199**	P	**P**	**01 24 36.8**	**-0.2**
WRAB	**Tennant Creek**	**18.77**	**199**	*de*P	**P**	**01 24 36.9**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,70nm,0.7s						
WRAB	**Tennant Creek**	**18.77**	**199**	P	**Pn**	**01 24 37.3**	**-0.3**
WB2	**Warramunga Arr**	**18.78**	**199**	P	**P**	**01 24 36.8**	**-0.4**
WRA	**Warramunga Arr**	**18.79**	**199**	P	**P**	**01 24 36.7**	**-0.4**
	comp=Z,6.2nm,0.3s,baz=25,slow=12,SNR=111						
WRA				S	**Sn**	**01 28 06.3**	**-1.1**
	comp=Z,9.2nm,0.5s,baz=352,slow=24,SNR=2.1						
WRA				LR	LR	01 32 23.6	
	comp=Z,42µm,20.6s,baz=13,slow=39						
WRA				P3KPbc		01 58 55.1	
	comp=Z,0.5nm,0.7s,baz=89,slow=1.7,SNR=7.0						
	comp=Z,53nm,0.7s						
WRA	**Warramunga Arr**	**18.79**	**199**	P	**P**	**01 24 35.4**	**-1.8**
WRA	**Warramunga Arr**	**18.79**	**199**	*i*P	**P**	**01 24 36.2**	**-1.0**
WRA				pmax	pmax		
	comp=Z,27nm,0.5s						
MRSI	**Marisa**	**18.81**	**278**	P	**Pn**	**01 24 39.5**	**+1.4**
	comp=Z,11µmcomp=Z,5µmcomp=Z,259nm,0.9s						
APSI	**Ampana**	**18.97**	**273**	P	**Pn**	**01 24 42.9**	**+3.0**
	comp=Z,7µmcomp=Z,9µmcomp=Z,327nm,1.8s						
MMRI	**Maumere**	**19.39**	**250**	P	**P**	**01 24 43.9**	**+0.1**
PATS	**Pohnpei**	**19.78**	**63**	P	**P**	**01 24 47.5**	**-0.6**
	baz=20,SNR=4.8						
PATS	**Pohnpei**	**19.78**	**63**	P	**P**	**01 24 47.1**	**-1.0**
PATS				IAmb	IAmb	01 24 49.4	
	comp=Z,545nm,1.2s						
PATS	**Pohnpei**	**19.78**	**63**	P	**P**	**01 24 48.2**	**+0.1**
EDFI	**Ende, Flores**	**19.94**	**250**	P	**P**	**01 24 50.4**	**+0.4**
	comp=Z,7µmcomp=Z,2µmcomp=Z,160nm,1.0s						
TOLI2	**Tolitoli**	**20.05**	**279**	P	**P**	**01 24 51.9**	**+0.8**
TOLI2				IAmb	IAmb	01 25 08.0	
	comp=Z,299nm,1.0s						
TOLI2	**Tolitoli**	**20.05**	**279**	P	Pn	01 24 53.4	+0.5
TBP	**Tagbilaran**	**20.35**	**305**	*e*P	**P**	**01 24 53.8**	**-0.5**
BSSI	**Bau Bau, Buton**	**20.45**	**258**	P	Pn	01 24 58.8	+1.2
	comp=Z,12µmcomp=Z,8µmcomp=Z,217nm,1.3s						
HNR	**Hara**	**20.59**	**112**	P	**P**	**01 24 56.0**	**-0.9**
	comp=Z,8µm,0.8s,baz=260,slow=2.3,SNR=5.6						
HNR				S	**S**	**01 28 43.2**	**-3.2**
	comp=Z,1µm,0.4s,baz=308,slow=20,SNR=1.2						
HNR				LR	LR	01 33 05.3	
	comp=Z,139µm,20.3s,baz=308,slow=38						
HNR	**Honiara**	**20.59**	**112**	P	**P**	**01 24 57.5**	**+0.5**
HNR	**Honiara**	**20.59**	**112**	P	**P**	**01 24 57.5**	**+0.5**
HNR				pmax	pmax		
	comp=Z,5µm,2.0s						
SNPH	**Sibulan**	**20.67**	**304**	*e*P	Pn	01 24 60.0	-0.3
BKSI	**Bukumba**	**20.67**	**260**	P	Pn	01 25 00.8	+0.6
	comp=Z,13µmcomp=Z,5µmcomp=Z,175nm,1.2s						
TTSI	**Tana Toraja**	**20.77**	**267**	P	Pn	01 25 02.1	+0.8
	comp=Z,12µmcomp=Z,13µmcomp=Z,416nm,1.1s						
MPSI	**Mapaga**	**20.82**	**276**	P	**P**	**01 25 00.4**	**+1.0**
SPSI	**Sidrap Palu**	**20.87**	**264**	P	Pn	01 25 03.3	+0.8
	comp=Z,17µmcomp=Z,8µmcomp=Z,247nm,2.1s						
KAPI	**Kappang**	**21.00**	**261**	P	**P**	**01 25 01.3**	**-0.1**
	comp=Z,4.9nm,0.6s,baz=156,slow=3.9,SNR=2.2						
KAPI				S	Sn	01 29 02.3	+1.4
	comp=Z,1.7nm,0.4s,baz=101,slow=16,SNR=1.2						
KAPI				LR	LR	01 36 30.2	
	comp=Z,2µm,18.5s,baz=86,slow=46						
KAPI	**Kappang**	**21.00**	**261**	P	**P**	**01 25 02.6**	**+1.3**
KAPI	**Kappang**	**21.00**	**261**	*d*P	**P**	**01 25 02.0**	**+0.7**
KAPI				pmax	pmax		
	comp=Z,370nm,3.4s						
BASI	**Baing, Sumba**	**21.46**	**247**	P	P	01 25 19.9	+14
FITZ	**Fitzroy Crossi**	**21.65**	**222**	P	**P**	**01 25 08.5**	**+0.1**
	comp=Z,31nm,0.6s,baz=35,slow=12,SNR=86						
FITZ				S	**S**	**01 29 04.7**	**-2.6**
	comp=Z,49nm,0.9s,baz=78,slow=17,SNR=4.0						
FITZ				LR	LR	01 34 54.0	
	comp=Z,22µm,18.4s,baz=44,slow=40						
	comp=Z,31nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.65**	**222**	P	**P**	**01 25 07.7**	**-0.6**
	baz=22,SNR=97						
FITZ	**Fitzroy Crossi**	**21.65**	**222**	P	**P**	**01 25 07.2**	**-1.1**
FITZ				IAmb	IAmb	01 25 31.4	
	comp=Z,196nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.65**	**222**	P	**P**	**01 25 08.4**	**+0.1**
RCP	**Roxas**	**22.32**	**308**	*e*P	**P**	**01 25 16.1**	**+0.6**
AS31	**Alice Springs**	**22.42**	**196**	P	**P**	**01 25 16.2**	**-0.5**
ASAR	**Alice Springs**	**22.43**	**196**	P	**P**	**01 25 16.8**	**+0.2**
	comp=Z,33nm,0.6s,baz=29,slow=9.8,SNR=160						
ASAR				S	**S**	**01 29 18.6**	**-3.3**
	comp=Z,14nm,0.8s,baz=17,slow=24,SNR=4.4						
ASAR				LR	LR	01 34 37.3	
	comp=Z,38µm,19.4s,baz=22,slow=38						
ASAR				PKiKP	**PKiKP**	**01 36 55.9**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=50,slow=1.4,SNR=4.5						
	comp=Z,33nm,0.6s						
ASAR	**Alice Springs**	**22.43**	**196**	P	**P**	**01 25 15.9**	**-0.7**
SGKI	**Sangatta, Kali**	**23.03**	**273**	P	**P**	**01 25 26.0**	**+3.0**
	comp=Z,16µmcomp=Z,22µmcomp=Z,544nm,1.1s						
RK1H	**Rockhampton Ha**	**23.27**	**156**	P	**P**	**01 25 26.4**	**+1.1**
SMKI	**Samarinda**	**23.43**	**274**	P	**P**	**01 25 29.3**	**+2.2**
	comp=Z,19µmcomp=Z,21µmcomp=Z,637nm,1.9s						
PLAI	**Plampang**	**23.67**	**253**	P	P	01 25 44.0	+15
PLAI	**Plampang**	**23.67**	**253**	P	**P**	**01 25 32.1**	**+2.7**
BKB	**Balikpapan**	**23.69**	**272**	P	**P**	**01 25 31.8**	**+2.2**
BKB				IAMs_20	IAMs_20	01 31 09.8	
	comp=Z,14µm,20.0s						
BKB	**Balikpapan**	**23.69**	**272**	P	**P**	**01 25 31.7**	**+2.1**
	comp=Z,16µmcomp=Z,22µmcomp=Z,646nm,2.3s						
JCNP	**Jose Panganiba**	**24.05**	**313**	*e*P	**P**	**01 25 32.1**	**-0.9**
TWSI	**Taliwang, Sumb**	**24.50**	**253**	P	**P**	**01 25 36.7**	**-0.4**
	comp=Z,3µmcomp=Z,2µmcomp=Z,52nm,1.9s						
QLP	**Quilpie**	**24.62**	**172**	P	**P**	**01 25 38.9**	**+0.8**
	baz=25,SNR=23						
QLP	**Quilpie**	**24.62**	**172**	P	**P**	**01 25 38.9**	**+0.8**
LQP	**Lukban**	**24.80**	**311**	*e*P	**P**	**01 25 42.5**	**+2.4**
PGP	**Puerto Galera**	**24.87**	**309**	*e*P	**P**	**01 25 41.4**	**+0.9**
SPMM	**Sapulut**	**25.02**	**286**	P	**P**	**01 25 44.0**	**+2.1**
TGY	**Tagaytay City**	**25.25**	**310**	P	**P**	**01 25 43.3**	**-0.6**
	comp=Z,135nm,0.4s,baz=90,slow=20						
TGY				LR	LR	01 36 42.0	
	comp=Z,4µm,18.0s,baz=136,slow=39						
	comp=Z,135nm,0.4s						
EIDS	**Eidsvold**	**25.28**	**157**	P	**P**	**01 25 45.7**	**+1.6**
	baz=25,SNR=78						
EIDS	**Eidsvold**	**25.28**	**157**	P	**P**	**01 25 45.4**	**+1.4**
EIDS	**Eidsvold**	**25.28**	**157**	P	**P**	**01 25 45.6**	**+1.6**
RMQ	**Roma**	**25.52**	**163**	P	**P**	**01 25 48.4**	**+2.2**
	baz=26,SNR=67						
RMQ	**Roma**	**25.52**	**163**	P	**P**	**01 25 48.4**	**+2.2**
INKA	**Innaminka**	**25.53**	**180**	P	**P**	**01 25 46.8**	**+0.5**
KKM	**Kota Kinabalu**	**25.64**	**288**	P	**P**	**01 25 49.8**	**+2.2**
KKM				IAmb	IAmb	01 26 02.6	
	comp=Z,206nm,1.1s						
KKM	**Kota Kinabalu**	**25.64**	**288**	P	**P**	**01 25 51.3**	**+3.7**
MTKI	**Muara Teweh, K**	**25.70**	**272**	P	**P**	**01 25 48.3**	**+0.2**
	comp=Z,7nm,1.7s						
WRKA	**Warakurna**	**25.73**	**206**	P	**P**	**01 25 47.9**	**-0.3**
	baz=26,SNR=41						
WRKA	**Warakurna**	**25.73**	**206**	P	**P**	**01 25 47.9**	**-0.3**
BBKI	**Banjar Baru**	**25.75**	**266**	P	**P**	**01 25 48.2**	**-0.3**
	comp=Z,6µmcomp=Z,7µmcomp=Z,141nm,1.2s						
SRBI	**Singaraja**	**25.96**	**256**	P	P	01 26 02.3	+12
OOD	**Oodnadatta**	**26.01**	**190**	P	**P**	**01 25 51.1**	**+0.5**
KMMI	**Kalianget**	**26.98**	**259**	P	**P**	**01 26 03.1**	**+3.4**
	comp=Z,10µmcomp=Z,7µmcomp=Z,207nm,1.0s						
GMJI	**Gumukmas**	**27.71**	**256**	P	P	01 26 14.6	+8.4
MBWA	**Marble Bar**	**27.80**	**225**	P	**P**	**01 26 06.1**	**-0.9**
MBWA				IAmb	IAmb	01 26 19.8	
	comp=Z,77nm,0.9s						
MBWA	**Marble Bar**	**27.80**	**225**	P	**P**	**01 26 08.2**	**+1.3**
PSA00	**Pilbara Seismi**	**27.99**	**225**	P	**P**	**01 26 08.8**	**+0.2**
PSA00	**Pilbara Seismi**	**27.99**	**225**	P	**P**	**01 26 09.9**	**+1.3**
LCRK	**Leigh Creek**	**28.32**	**184**	P	**P**	**01 26 12.1**	**+0.7**
SBUM	**Sibu**	**28.71**	**279**	P	**P**	**01 26 16.9**	**+1.7**
SBUM				IAmb	IAmb	01 26 26.9	
	comp=Z,106nm,1.2s						
SBUM	**Sibu**	**28.71**	**279**	P	**P**	**01 26 18.0**	**+2.9**
MULG	**Mulgathing**	**28.74**	**192**	P	**P**	**01 26 15.3**	**+0.2**
JCJ	**Chichijima**	**29.04**	**3**	P	**P**	**01 26 17.2**	**-0.5**
	comp=Z,31nm,0.6s,baz=189,slow=13,SNR=1.5						
JCJ				S	**S**	**01 31 04.3**	**-3.7**
	comp=Z,46nm,1.0s,baz=195,slow=20,SNR=1.6						
	comp=Z,31nm,0.6s						
STKI	**Sintang**	**29.18**	**274**	P	**P**	**01 26 19.8**	**+0.5**
	comp=Z,37nm,2.1s						
PWJI	**Pagerwojo**	**29.26**	**257**	P	**P**	**01 26 20.5**	**+0.5**
	comp=Z,46nm,0.9s						
KOUNC	**Koumac, New Ca**	**29.54**	**130**	P	**P**	**01 26 22.5**	**+0.2**
KOUNC				IAMs_20	IAMs_20	01 39 36.6	
	comp=Z,11µm,18.0s						
KOUNC	**Koumac, New Ca**	**29.54**	**130**	P	**P**	**01 26 22.9**	**+0.6**
STKA	**Stephens Creek**	**29.67**	**178**	P	**P**	**01 26 23.6**	**+0.2**
	comp=Z,62nm,0.9s,baz=355,slow=9.1,SNR=48						
STKA				S	**S**	**01 31 16.6**	**-1.3**
	comp=Z,11nm,1.0s,baz=344,slow=19,SNR=2.3						
STKA				LR	LR	01 38 50.8	
	comp=Z,18µm,20.0s,baz=2.2,slow=38						
	comp=Z,62nm,0.9s						
STKA	**Stephens Creek**	**29.67**	**178**	P	**P**	**01 26 23.6**	**+0.2**
	baz=30,SNR=20						
STKA	**Stephens Creek**	**29.67**	**178**	P	**P**	**01 26 23.2**	**-0.2**
STKA	**Stephens Creek**	**29.67**	**178**	*d*P	**P**	**01 26 23.1**	**-0.2**
STKA	**Stephens Creek**	**29.67**	**178**	P	**P**	**01 26 23.3**	**-0.1**
CMSA	**Cobar Meteorol**	**29.71**	**171**	P	**P**	**01 26 25.6**	**+1.9**
	baz=30,SNR=39						
CMSA	**Cobar Meteorol**	**29.71**	**171**	P	**P**	**01 26 25.1**	**+1.4**
ARMA	**Armidale**	**30.08**	**161**	P	**P**	**01 26 28.7**	**+1.5**
	baz=30,SNR=16						
ARMA	**Armidale**	**30.08**	**161**	P	**P**	**01 26 27.9**	**+0.8**
ARMA				IAmb	IAmb	01 26 39.4	
	comp=Z,166nm,1.2s						
ARMA	**Armidale**	**30.08**	**161**	P	**P**	**01 26 28.4**	**+1.2**
BBOO	**Buckleboo**	**30.88**	**187**	P	**P**	**01 26 34.0**	**0.0**
	baz=31,SNR=33						
BBOO	**Buckleboo**	**30.88**	**187**	P	**P**	**01 26 34.1**	**0.0**
BBOO	**Buckleboo**	**30.88**	**187**	P	**P**	**01 26 34.4**	**+0.3**
FORT	**Forrest**	**30.92**	**201**	P	**P**	**01 26 34.6**	**+0.2**
	baz=31,SNR=32						
FORT	**Forrest**	**30.92**	**201**	P	**P**	**01 26 33.8**	**-0.6**
FORT	**Forrest**	**30.92**	**201**	P	**P**	**01 26 36.0**	**+1.5**
	comp

	comp=Z,119nm,1.1s							
MORW	**Morawa**	**35.60 219**		P	**P**	**01 27 15.2**	**-0.1**
TOO	**Toolangi**	**35.62 173**		P	**P**	**01 27 17.2**	**+1.8**
	baz=36,SNR=6.0							
TOO	**Toolangi**	**35.62 173**		P	**P**	**01 27 16.3**	**+0.9**
TOO	**Toolangi**	**35.62 173**		P	**P**	**01 27 16.3**	**+0.9**
TOO				pmax	pmax			
	comp=Z,290nm,1.9s							
TOO	**Toolangi**	**35.62 173**		P	**P**	**01 27 17.2**	**+1.8**
MILA	**Mila**	**35.70 168**		P	**P**	**01 27 17.5**	**+1.4**
	baz=36,SNR=6.7							
DSRI	**Dabo**	**36.03 272**		P	**P**	**01 27 21.2**	**+1.9**
	comp=Z,2µmcomp=Z,51nm,1.9s							
GEXS	**Deakin Univers**	**36.12 175**		P	**P**	**01 27 23.7**	**+4.1**
JMN	**Monobe**	**36.16 351**		IAmb	IAmb	01 27 33.9		
	comp=Z,75nm,1.0s							
TPRI	**Tanjung Pinang**	**36.18 274**		P	**P**	**01 27 20.9**	**+0.4**
	comp=Z,2µmcomp=Z,3µmcomp=Z,61nm,1.9s							
BLDU	**Ballidu**	**36.30 216**		P	**P**	**01 27 20.5**	**-0.8**
	baz=36,SNR=19							
BLDU	**Ballidu**	**36.30 216**		P	**P**	**01 27 21.3**	**0.0**
KLBR	**Kellerberrin**	**36.42 214**		P	**P**	**01 27 21.8**	**-0.5**
	baz=37,SNR=8.4							
KLBR	**Kellerberrin**	**36.42 214**		P	**P**	**01 27 23.3**	**+1.0**
QIZ	**Qiongzhong**	**36.78 306**		IAmb	IAmb	01 27 35.0		
	comp=Z,129nm,1.2s							
QIZ	**Qiongzhong**	**36.78 306**		P	**P**	**01 27 24.9**	**-0.7**
QIZ				PP	**PP**	**01 28 54.4**	**+4.8**
QIZ				S	**S**	**01 33 04.8**	**-3.8**
QIZ				pmax	pmax			
	comp=Z,45nm,1.1s							
QIZ				pmax	pmax			
	comp=Z,670nm,4.8s							
QIZ				LR	LR			
	comp=Z,5µm,15.9s							
QIZ				LR	LR			
	comp=Z,3µm,19.1s							
QIZ				LR	LR			
	comp=Z,8µm,31.9s							
QIZ	**Qiongzhong**	**36.78 306**		P	**P**	**01 27 25.6**	**0.0**
MYKOM	**Kota Tinggi**	**36.93 276**		P	**P**	**01 27 26.9**	**0.0**
MYKOM				IAmb	IAmb	01 27 51.6		
	comp=Z,205nm,1.8s							
MYKOM	**Kota Tinggi**	**36.93 276**		P	**P**	**01 27 30.0**	**+3.1**
INU	**Inuyama**	**37.37 355**		IAMs_20	IAMs_20	01 41 47.7		
	comp=Z,7µm,20.0s							
INU	**Inuyama**	**37.37 355**		P	**P**	**01 27 30.4**	**+0.1**
JHS	**Saijyo**	**37.53 350**		IAmb	IAmb	01 27 38.7		
	comp=Z,197nm,1.8s							
JGF	**Kuroka**	**37.59 356**		P	**P**	**01 27 31.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**37.72 213**		LR	LR	01 43 24.7		
	comp=Z,7µm,21.4s,baz=257,slow=37							
NWAO	**Narrogin (SRO)**	**37.72 213**		P	**P**	**01 27 33.0**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.72 213**		P	**P**	**01 27 33.0**	**-0.3**
NWAO				pmax	pmax			
	comp=Z,43nm,0.8s							
NWAO				MLR	MLR			
	comp=Z,24µm,18.0s							
NWAO	**Narrogin (SRO)**	**37.72 213**		P	**P**	**01 27 34.8**	**+1.5**
SSE	**Sheshan**	**37.80 332**		P	**P**	**01 27 35.3**	**+1.3**
SSE				S	**S**	**01 33 22.6**	**-1.1**
SSE				pmax	pmax			
	comp=Z,22nm,1.4s							
SSE				pmax	pmax			
	comp=Z,330nm,3.5s							
SSE				LR	LR			
	comp=Z,2µm,18.7s							
SSE				LR	LR			
	comp=Z,2µm,18.2s							
KSI	**Kapahiang**	**37.98 267**		P	**P**	**01 27 34.9**	**-1.0**
KSI				pP	**sP**	**01 27 44.0**	**-0.1**
MASI	**Maura Aman, Be**	**38.32 268**		P	P	01 27 53.9	+15
MJAR	**Matsushiro Arr**	**38.48 357**		P	**P**	**01 27 37.7**	**-2.0**
	comp=Z,8.9nm,0.8s,baz=175,slow=9.4,SNR=23							
MJAR				PcP	**PcP**	**01 29 52.8**	**+0.2**	
	comp=Z,5.3nm,0.8s,baz=151,slow=3.8,SNR=5.4							
	comp=Z,8.9nm,0.8s							
MAJO	**Matsushiro**	**38.48 357**		P	**P**	**01 27 38.0**	**-1.7**
MAJO	**Matsushiro**	**38.48 357**	*de*	P	**P**	**01 27 37.6**	**-2.1**
MAJO				pmax	pmax			
	comp=Z,18nm,1.0s							
MAJO	**Matsushiro**	**38.48 357**		P	**P**	**01 27 38.7**	**-1.0**
UBPT	**Khong Chiam**	**38.78 298**		P	**P**	**01 27 42.2**	**-0.3**
FUNA	**Funafuti**	**38.95 101**		P	**P**	**01 27 44.1**	**+0.2**
RKGY	**Rocky Gully**	**39.14 212**		P	**P**	**01 27 48.3**	**+3.0**
SDSI	**Sungai Dareh**	**39.16 271**		P	**P**	**01 27 46.5**	**+0.8**
	comp=Z,2µmcomp=Z,2µmcomp=Z,47nm,1.9s							
BKNI	**Bangkinang**	**39.61 273**		P	**P**	**01 27 48.6**	**-0.9**
BKNI				IAmb	IAmb	01 27 60.0		
	comp=Z,198nm,1.2s							
BKNI	**Bangkinang**	**39.61 273**		P	**P**	**01 27 51.8**	**+2.3**
	comp=Z,4µmcomp=Z,108nm,1.1s							
BKNI	**Bangkinang**	**39.61 273**		P	**P**	**01 27 51.8**	**+2.3**
	comp=Z,111nm,1.1s							
CORO	**Coronation Par**	**39.65 172**		P	**P**	**01 27 51.6**	**+2.2**
NJ2	**Nanjing**	**39.70 331**	⇑	P	**P**	**01 27 51.3**	**+1.3**
NJ2				pP	**pP**	**01 27 55.3**	**-0.5**
NJ2				sP	**sP**	**01 27 57.4**	**-0.7**
NJ2				PcS	**PcS**	**01 33 45.6**	**-1.0**
NJ2				S	**S**	**01 33 54.6**	**+2.1**
NJ2				sS	sS	01 34 10.3	+8.2
NJ2				pmax	pmax			
	comp=Z,23nm,1.0s							
NJ2				pmax	pmax			
	comp=Z,2µm,6.6s							
NJ2				LR	LR			
	comp=Z,3µm,15.6s							
NJ2				LR	LR			
	comp=Z,3µm,15.6s							
NJ2				LR	LR			
	comp=Z,5µm,22.6s							
JMM	**Marumori**	**39.73 0**		P	**P**	**01 27 49.2**	**-0.9**
MSVF	**Nonsavu**	**39.93 115**		P	**P**	**01 27 50.3**	**-1.9**
	comp=Z,18nm,0.9s,baz=309,slow=6.5,SNR=2.1							
MSVF				LR	LR	01 43 44.1		
	comp=Z,6µm,20.8s,baz=285,slow=35							
	comp=Z,18nm,0.9s							
MSVF	**Nonsavu**	**39.93 115**		P	**P**	**01 27 51.5**	**-0.7**
MSVF	**Nonsavu**	**39.93 115**	⇑ *e*	P	**P**	**01 27 53.3**	**+1.1**
MSVF	**Nonsavu**	**39.93 115**		P	**P**	**01 27 53.3**	**+1.1**
GULI	**GuiLin**	**39.96 315**		P	**P**	**01 27 51.8**	**-0.4**
GULI				pmax	pmax			
	comp=Z,40nm,1.2s							
GULI				LR	LR			
	comp=Z,5µm,21.4s							
GULI				LR	LR			
	comp=Z,5µm,21.2s							
GULI				LR	LR			
	comp=Z,5µm,16.3s							
JSD	**Sado**	**39.96 357**		IAmb	IAmb	01 28 05.7		
	comp=Z,99nm,0.9s							
IPM	**Ipoh**	**40.06 279**		P	**P**	**01 27 52.9**	**-0.4**
IPM	**Ipoh**	**40.06 279**		P	**P**	**01 27 55.0**	**+1.7**
IPM	**Ipoh**	**40.06 279**		P	**P**	**01 27 53.3**	**0.0**
PDSI	**Padang**	**40.13 271**		P	**P**	**01 27 54.0**	**+0.2**
	comp=Z,2µmcomp=Z,2µmcomp=Z,37nm,1.0s							
CNSH	**ChangSha**	**40.13 321**		P	**P**	**01 27 54.8**	**+1.2**
CNSH				S	**S**	**01 34 00.4**	**+1.4**
CNSH				pmax	pmax			
	comp=Z,29nm,1.1s							
CNSH				LR	LR			
	comp=Z,3µm,15.0s							
CNSH				LR	LR			
	comp=Z,4µm,22.3s							
CNSH				LR	LR			
	comp=Z,7µm,28.0s							
TJN	**Taejon**	**40.19 343**	⇑ *e*	P	**P**	**01 27 53.6**	**-0.3**
KSCHJ	**Chungju**	**40.48 344**		IAmb	IAmb	01 28 05.3		
	comp=Z,212nm,1.9s							
KULM	**Kulim**	**40.56 281**		P	**P**	**01 27 56.1**	**-1.2**
KULM				IAmb	IAmb	01 28 07.5		
	comp=Z,104nm,1.1s							
KULM	**Kulim**	**40.56 281**		P	**P**	**01 27 58.0**	**+0.6**
MOO	**Moorlands**	**40.63 172**		P	**P**	**01 27 59.1**	**+1.5**
	baz=41,SNR=5.2							
WHN	**Wuhan**	**40.95 324**	⇑	P	**P**	**01 28 02.3**	**+1.9**
WHN				sP	**sP**	**01 28 08.8**	**+0.1**
WHN				S	**S**	**01 34 15.0**	**+3.8**
WHN				pmax	pmax			
	comp=Z,3µm,3.8s							
WHN				LR	LR			
	comp=Z,9µm,19.3s							
WHN				LR	LR			
	comp=Z,4µm,10.4s							
WHN				LR	LR			
	comp=Z,8µm,13.1s							
KSAR	**Wonju Array Be**	**41.04 345**		P	**P**	**01 28 00.2**	**-0.7**
KSAR				PcP	**PcP**	**01 30 01.5**	**+0.9**
KSAR	**Wonju Array Be**	**41.04 345**		P	**P**	**01 28 00.2**	**-0.7**
KSAR						01 30 01.5		
KSRS	**Korea Array**	**41.04 345**		P	**P**	**01 27 59.6**	**-1.3**
	comp=Z,9.1nm,0.8s,baz=161,slow=8.6,SNR=19							
KSRS				PcP	**PcP**	**01 30 02.0**	**+1.4**	
	comp=Z,11nm,0.9s,baz=170,slow=3.6,SNR=13							
KSRS				LR	LR	01 42 13.4		
	comp=Z,5µm,21.8s,baz=165,slow=32							
	comp=Z,9.1nm,0.8s							
DGTI	**Dogotuki**	**41.04 113**		P	**P**	**01 28 01.8**	**+0.5**
TAU	**Tasmania Unive**	**41.11 172**		P	**P**	**01 28 01.4**	**-0.1**
TAU				IAmb	IAmb	01 28 14.5		
	comp=Z,183nm,1.5s							
TAU	**Tasmania Unive**	**41.11 172**		P	**P**	**01 28 01.4**	**-0.1**
TAU				pmax	pmax			
	comp=Z,183nm,1.5s							
TAU				MLR	MLR			
	comp=Z,14µm,19.0s							
TAU	**Tasmania Unive**	**41.11 172**		P	**P**	**01 28 03.3**	**+1.9**
INCN	**Inchon**	**41.43 343**		P	**P**	**01 28 03.9**	**-0.3**
INCN				IAmb	IAmb	01 28 11.8		
	comp=Z,191nm,1.6s							
INCN	**Inchon**	**41.43 343**		P	**P**	**01 28 03.9**	**-0.3**
INCN				pmax	pmax			
	comp=Z,191nm,1.7s							
INCN	**Inchon**	**41.43 343**		P	**P**	**01 28 06.2**	**+2.0**
	comp=Z,64nm,1.6s							
SISI	**Saibi**	**41.48 270**		P	**P**	**01 28 05.3**	**+0.3**
	comp=Z,2µmcomp=Z,139nm,1.1s							
SEHB	**SEOHWA**	**41.72 345**		P	**P**	**01 28 06.7**	**+0.1**
SEHB				IAmb	IAmb	01 28 07.7		
	comp=Z,215nm,1.8s							
RPSI	**Rantau Prapat**	**41.92 276**		P	**P**	**01 28 07.4**	**-1.2**
RPSI				IAmb	IAmb	01 28 18.6		
	comp=Z,142nm,1.1s							
PSI	**Prapat**	**41.93 276**		LR	LR	01 46 44.5		
	comp=Z,3µm,20.8s,baz=124,slow=38							
PSI	**Prapat**	**41.93 276**		P	**P**	**01 28 07.4**	**-1.4**
PSI				pmax	pmax			
	comp=Z,143nm,1.1s							
PSI				MLR	MLR			
	comp=Z,2µm,22.0s							
PSI	**Prapat**	**41.93 276**		P	**P**	**01 28 08.7**	**-0.1**
HJU	**Haeju**	**42.21 342**		P	**P**	**01 28 11.0**	**+0.4**
HJU				pP	**pP**	**01 28 13.8**	**-2.6**
HJU				S	**S**	**01 34 30.2**	**+0.6**
HJU				AmB				
	comp=Z,1µm,3.5s							
HJU				AMS	AMS			
	comp=N,1µm,9.0s							
HJU				AMS	AMS			
	comp=E,863nm,6.4s							
HJU				AMS	AMS			
	comp=Z,1µm,8.9s							
JTM	**Tenmabayashi**	**42.65 1**		P	**P**	**01 28 13.9**	**-0.2**
JTM				IAmb	IAmb	01 28 22.7		
	comp=Z,175nm,1.3s							
LKBA	**Tubou, Lakemba**	**42.92 115**		P	**P**	**01 28 18.3**	**+1.7**
GSI	**Gunungsitoli**	**43.13 274**		P	**P**	**01 28 18.6**	**+0.1**
	comp=Z,182nm,0.6s							
GSI	**Gunungsitoli**	**43.13 274**		P	**P**	**01 28 19.1**	**+0.6**
KCSI	**Kotacane, Aceh**	**43.15 277**		P	**P**	**01 28 18.4**	**-0.2**
	comp=Z,3µmcomp=Z,114nm,1.1s							
GYA	**Guiyang**	**43.32 313**	⇓	P	**P**	**01 28 22.6**	**+2.7**
GYA				S	**S**	**01 34 46.5**	**-0.1**
GYA				sS	sS	01 35 01.3	+4.9
GYA				SS	**SS**	**01 37 58.4**	**-2.3**
GYA				pmax	pmax			
	comp=Z,21nm,1.2s							
GYA				pmax	pmax			
	comp=Z,2µm,5.0s							
GYA				LR	LR			
	comp=Z,2µm,11.1s							
GYA				LR	LR			
	comp=Z,720nm,16.4s							
GYA				LR	LR			
	comp=Z,2µm,18.5s							
HHU	**Hamhung**	**43.47 345**		P	**P**	**01 28 21.6**	**+0.9**
HHU				pP	**pP**	**01 28 25.1**	**-1.5**
HHU				S	**S**	**01 34 50.6**	**+2.5**
HHU				AmB				
	comp=Z,1µm,3.0s							
HHU				AMS	AMS			
	comp=N,3µm,12.8s							
HHU				AMS	AMS			
	comp=E,2µm,10.3s							
HHU				AMS	AMS			
	comp=Z,1µm,6.1s							
ENH	**Enshi**	**43.75 320**		IAmb	IAmb	01 28 35.7		
	comp=Z,81nm,1.1s							
ENH				IAMs_20	IAMs_20	01 43 36.5		
	comp=Z,6µm,22.0s							
TIA	**Tai'an**	**43.92 332**	⇑	P	**P**	**01 28 23.4**	**-1.0**
TIA				S	**S**	**01 34 55.5**	**+0.7**
TIA				SS	**SS**	**01 38 14.6**	**+2.7**
TIA				pmax	pmax			
	comp=Z,20nm,1.0s							
TIA				pmax	pmax			
	comp=Z,1µm,6.1s							
TIA				LR	LR			
	comp=Z,4µm,15.8s							
TIA				LR	LR			
	comp=Z,3µm,22.2s							
TIA				LR	LR			
	comp=Z,7µm,25.7s							
LHMI	**Lhok Sumawe**	**44.19 280**		P	**P**	**01 28 26.1**	**-0.9**
DL2	**Dalian**	**44.36 339**		P	**P**	**01 28 29.3**	**+1.5**
DL2				S	**S**	**01 35 02.0**	**+1.0**
DL2				pmax	pmax			
	comp=Z,38nm,1.2s							
DL2				pmax	pmax			
	comp=Z,730nm,6.9s							
DL2				LR	LR			
	comp=Z,4µm,17.5s							
DL2				LR	LR			
	comp=Z,3µm,12.8s							
DL2				LR	LR			
	comp=Z,5µm,29.6s							
SUJ	**Sinuiju**	**44.48 342**		P	**P**	**01 28 29.4**	**+0.6**
SUJ				pP	**pP**	**01 28 32.6**	**-2.1**
SUJ				S	**S**	**01 35 03.6**	**+0.8**
SUJ				AmB				
	comp=Z,653nm,3.1s							
SUJ				AMS	AMS			
	comp=N,7µm,13.8s							
SUJ				AMS	AMS			
	comp=E,5µm,9.5s							
SUJ				AMS	AMS			
	comp=Z,7µm,13.2s							
LYN	**LuoYang**	**44.99 327**	⇓ *i*	P	**P**	**01 28 32.5**	**-0.5**
LYN				pP	pwP	01 28 43.8	+0.7	
LYN				S	**S**	**01 35 07.9**	**-2.5**
LYN				SS	**ScS**	**01 38 29.8**	**+0.5**
LYN				pmax	pmax			
	comp=Z,20nm,1.8s							
LYN				pmax	pmax			
	comp=Z,1µm,4.1s							
LYN				LR	LR			
	comp=Z,3µm,18.4s							
LYN				LR	LR			
	comp=Z,2µm,22.3s							
LYN				LR	LR			
	comp=Z,5µm,27.8s							
KMI	**Kunming**	**45.55 309**	⇓	P	**P**	**01 28 38.8**	**+0.9**
KMI				sP	sP	01 28 46.4	+0.1	
KMI				PP	**PP**	**01 30 26.5**	**+1.7**
KMI				S	**S**	**01 35 19.8**	**+0.4**
KMI				SS	**ScS**	**01 38 38.5**	**+4.7**
KMI				pmax	pmax			
	comp=Z,19nm,1.5s							
KMI				pmax	pmax			
	comp=Z,1µm,6.8s							
KMI				LR	LR			
	comp=Z,4µm,18.7s							
KMI				LR	LR			
	comp=Z,4µm,25.2s							
KMI				LR	LR			
	comp=Z,5µm,28.9s							
CM31	**Chiang Mai Arr**	**45.77 298**		P	**P**	**01 28 39.8**	**+0.3**
CM31				IAmb	IAmb	01 28 51.5		
	comp=Z,107nm,1.6s							
CMAR	**Chiang Mai Arr**	**45.77 298**		P	**P**	**01 28 39.5**	**+0.1**
	comp=Z,6.5nm,0.8s,baz=118,slow=6.4,SNR=23							
CMAR				PcP	**PcP**	**01 30 18.1**	**+1.1**
	comp=Z,4.7nm,0.9s,baz=149,slow=2.1,SNR=4.0							
CMAR				LR	LR	01 49 41.9		
	comp=Z,1µm,18.0s,baz=115,slow=39							
CMAR				P3KP		01 59 10.4		
	comp=Z,1.9nm,0.9s,baz=311,slow=3.4,SNR=5.3							
	comp=Z,6.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**45.77 298**	*i*	P	**P**	**01 28 40.2**	**+0.8**
CMAR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
CHTO	**Chiang Mai**	**45.90 299**		P	**P**	**01 28 40.4**	**-0.1**
CHTO	**Chiang Mai**	**45.90 299**		IAMs_20	IAMs_20	01 43 19.5		
	comp=Z,5µm,20.0s							
CHTO	**Chiang Mai**	**45.90 299**		P	**P**	**01 28 40.4**	**-0.1**
CHTO				pmax	pmax			
	comp=Z,2.0nm,1.3s							
CHTO	**Chiang Mai**	**45.90 299**		P	**P**	**01 28 42.4**	**+1.9**
HNS	**HongShan**	**46.02 331**	⇓	P	**P**	**01 28 41.3**	**+0.2**
HNS				pmax	pmax			
	comp=Z,38nm,1.1s							
HNS				LR	LR			
	comp=Z,3µm,20.4s							
HNS				LR	LR			
	comp=Z,5µm,19.0s							
HNS				LR	LR			
	comp=Z,5µm,19.6s							
YUK	**Yuzh-Kuril'sk**	**46.14 5**	*e*	P	**P**	**01 28 40.1**	**-1.8**
YUK			*i*			01 30 22.8		
YUK			*e*	S	**S**	**01 35 21.2**	**-5.4**
SNY	**Shenyang**	**46.34 342**	⇑	P	**P**	**01 28 44.0**	**+0.5**
SNY				S	**S**	**01 35 30.9**	**+1.3**
SNY				SS	**SS**	**01 38 49.6**	**-6.0**
SNY				pmax	pmax			
	comp=Z,20nm,0.9s							
SNY				pmax	pmax			
	comp=Z,2µm,4.1s							
SNY				LR	LR			
	comp=Z,4µm,19.2s							
SNY				LR	LR			
	comp=Z,2µm,17.3s							
SNY				LR	LR			
	comp=Z,7µm,22.6s							
XAN	**Xi'an**	**46.66 323**	⇓	P	**P**	**01 28 46.4**	**+0.1**
XAN				pP	pP	01 28 53.3	+1.1	
XAN				sP	pwP	01 28 56.3	-0.2	
XAN				S	**S**	**01 35 32.1**	**-2.5**
XAN				sS	sS	01 35 47.0	+2.7	
XAN				SS	**SS**	**01 38 57.6**	**-3.6**
XAN				pmax	pmax			
	comp=Z,60nm,1.7s							
XAN				pmax	pmax			
	comp=Z,2µm,6.7s							
XAN				LR	LR			
	comp=Z,3µm,18.4s							
XAN				LR	LR			
	comp=Z,3µm,17.5s							
XAN				LR	LR			
	comp=Z,7µm,20.6s							
USA0B	**Ussuriysk Arra**	**46.70 352**		P	**P**	**01 28 46.6**	**+0.3**
USA0B	**Ussuriysk Arra**	**46.70 352**		P	**P**	**01 28 46.6**	**+0.3**
USA0B				pmax	pmax			
	comp=Z,38nm,1.3s							
USRK	**Ussuriysk Ar.**	**46.70 352**		P	**P**	**01 28 45.8**	**-0.6**
	comp=Z,26nm,1.0s,baz=173,slow=7.4,SNR=17							
USRK				S	**S**	**01 35 28.5**	**-6.2**	
	comp=Z,0.7nm,0.5s,baz=142,slow=24,SNR=1.2							
USRK				LR	LR	01 44 50.4		
	comp=Z,6µm,21.9s,baz=243,slow=32							
	comp=Z,26nm,1.0s							
PZH	**PanZhiHua**	**47.03 310**		P	**P**	**01 28 49.3**	**-0.1**
PZH				pP	**pP**	**01 28 54.5**	**-1.0**
PZH				sP	**pwP**	**01 29 01.3**	**+2.1**
PZH				S	**S**	**01 35 37.0**	**-3.3**
PZH				SS	**SS**	**01 39 12.5**	**+4.9**
PZH				pmax	pmax			
	comp=Z,20nm,1.4s							
PZH				pmax	pmax			
	comp=Z,810nm,7.3s							
PZH				LR	LR			
	comp=Z,12µm,18.0s							
PZH				LR	LR			
	comp=Z,11µm,19.7s							
PZH				LR	LR			
	comp=Z,11µm,18.9s							
TIY	**Taiyuan**	**47.39 329**	*e*	P	**P**	**01 28 52.8**	**+0.8**
TIY				pmax	pmax			
	comp=Z,1µm,10.0s							
TIY				LR	LR			
	comp=Z,4µm,19.2s							
TIY				LR	LR			
	comp=Z,3µm,21.0s							
TIY				LR	LR			
	comp=Z,6µm,24.3s							
BJT	**Baijiatuau**	**47.48 334**		P	**P**	**01 28 52.9**	**+0.4**
BJT	**Baijiatuau**	**47.48 334**		IAMs_20	IAMs_20	01 45 54.1		
	comp=Z,6µm,22.0s							
BJT	**Baijiatuau**	**47.48 334**		P	**P**	**01 28 52.9**	**+0.4**
BJT				pmax	pmax			
	comp=Z,149nm,1.5s							
BJI	**Beijing**	**47.49 335**		P	**P**	**01 28 52.4**	**-0.2**
BJI				pP	**pP**	**01 28 56.9**	**-1.6**
BJI				sP	**sP**	**01 28 59.8**	**-1.1**
BJI				PcP	**PcP**	**01 30 22.6**	**0.0**
BJI				S	**S**	**01 35 43.1**	**-3.1**
BJI				pmax	pmax			
	comp=Z,24nm,1.3s							
BJI				pmax	pmax			
	comp=Z,1µm,6.4s							
BJI				LR	LR			
	comp=Z,810nm,23.9s							
BJI				LR	LR			
	comp=Z,3µm,24.1s							
BJI				LR	LR			
	comp=Z,6µm,22.2s							
MDJ	**Mudanjiang**	**47.51 349**		P	**P**	**01 28 52.9**	**+0.3**
MDJ				IAMs_20	IAMs_20	01 44 52.8		
	comp=Z,6µm,22.0s							
MDJ	**Mudanjiang**	**47.51 349**		P	**P**	**01 28 52.8**	**+0.2**
MDJ				pP	pP	01 28 56.3	-2.3	
MDJ				sP	sP	01 28 57.4	-3.5	
MDJ				ScP	**ScP**	**01 34 15.8**	**+0.2**
MDJ				PcS	**PcS**	**01 34 19.3**	**+1.5**
MDJ				S	**S**	**01 35 47.6**	**+1.4**
MDJ				ScS	**ScS**	**01 38 46.3**	**+1.1**
MDJ				SS	**SS**	**01 39 16.1**	**+1.7**
MDJ				pmax	pmax			
	comp=Z,37nm,2.3s							
MDJ				pmax	pmax			
	comp=Z,1µm,4.4s							
MDJ				LR	LR			
	comp=Z,4µm,22.8s							
MDJ				LR	LR			
	comp=Z,3µm,22.3s							
MDJ				LR	LR			
	comp=Z,9µm,23.0s							
MDJ	**Mudanjiang**	**47.51 349**		P	**P**	**01 28 55.0**	**+2.4**
KUR	**Kuril'sk**	**47.54**	7 *c i*	P	**P**	**01 28 53.6**	**+0.8**
KUR			*e*			01 30 37.7		
KUR			*eS*	S	**S**	**01 35 48.2**	**+1.6**
KUR				pmax	pmax			
	comp=Z,2µm,3.8s							
KUR				MLR	MLR			
	comp=Z,781nm,16.0s							
CN2	**Changchun**	**47.64 345**		P	**P**	**01 28 53.9**	**+0.2**
CN2				S	**S**	**01 35 41.4**	**-6.8**
CN2				pmax	pmax			
	comp=Z,50nm,1.1s							
CN2				pmax	pmax			
	comp=Z,1µm,9.0s							
CN2				LR	LR			
	comp=Z,3µm,21.0s							
CN2				LR	LR			
	comp=Z,3µm,21.0s							
CN2				LR	LR			
	comp=Z,5µm,21.0s							
RAO	**Raoul Island**	**47.81 129**		LR	LR	01 47 33.3		
	comp=Z,1µm,20.6s,baz=285,slow=34							
HIZ	**Hauiti**	**47.92 143**		IAMs_20	IAMs_20	01 47 04.3		
	comp=Z,7µm,22.0s							
HIZ	**Hauiti**	**47.92 143**		P	**P**	**01 28 58.0**	**+2.0**
CD2	**Chengdu**	**47.99 316**		P	**P**	**01 28 57.5**	**+0.8**
CD2				pP	pP	01 29 00.3	-2.5	
CD2				S	**S**	**01 35 55.5**	**+1.8**
CD2				pmax	pmax			
	comp=Z,40nm,0.8s							
CD2				pmax	pmax			
	comp=Z,1µm,7.2s							

CD2 LR LR
comp=Z,4μm,15.9s
CD2 LR LR
comp=Z,5μm,19.0s
CD2 LR LR
comp=Z,5μm,16.7s
AFI Afiamalu 48.51 107 LR LR 01 47 58.8
comp=Z,5μm,20.2s,baz=268,slow=34
AFI Afiamalu 48.51 107 P **P** **01 29 00.8 -0.2**
AFI Afiamalu 48.51 107 IAMs_20 IAMs_20 01 47 36.7
comp=Z,5μm,20.0s
AFI Afiamalu 48.51 107 P **P** **01 29 00.8 -0.2**
AFI pmax pmax
comp=Z,244nm,1.4s
NTVZ North Tongarir 48.79 144 P **P** **01 29 05.8 +3.0**
YSS Yuzh-Sakhalins 48.85 2⇑*eP* **P** **01 29 00.8 -2.2**
YSS *e**SP **pP** **01 29 03.8 -5.1**
YSS *e*PPP PPP 01 31 48.1
YSS *e*S **S** **01 35 58.8 -6.4**
YSS pmax pmax
comp=Z,800nm,3.2s
YSS smax smax
comp=N,3μm,16.0s
YSS MLR MLR
comp=N,2μm,13.0s
BNX BinXian 49.02 348 ⇓P **P** **01 29 03.8 -0.5**
BNX pP **sP** **01 29 13.0 +0.4**
BNX sP **pwP** **01 29 17.3 +2.9**
BNX PP **PP** **01 31 03.3 +5.3**
BNX S **S** **01 36 07.3 -0.2**
BNX pmax pmax
comp=N,36nm,1.4s
BNX pmax pmax
comp=N,1μm,3.9s
BNX LR LR
comp=N,3μm,20.9s
BNX LR LR
comp=N,2μm,15.0s
BNX LR LR
comp=N,3μm,22.0s
THZ Tophouse 49.03 148 P **P** **01 29 03.8 -0.8**
THZ IAmb IAmb 01 29 14.5
comp=Z,58nm,1.1s
THZ IAMs_20 IAMs_20 01 48 03.6
comp=Z,7μm,22.0s
URZ Urewera 49.13 142 LR LR 01 48 40.5
comp=Z,6μm,21.8s,baz=30,slow=35
URZ Urewera 49.13 142 P **P** **01 29 06.4 +1.1**
BKZ Black Stump Fm 49.32 143 IAMs_20 IAMs_20 01 48 56.3
comp=Z,6μm,21.0s
BKZ Black Stump Fm 49.32 143 P **P** **01 29 07.9 +1.1**
BKZ Black Stump Fm 49.32 143 P **P** **01 29 07.6 +0.8**
MTHZ Maungataniwha 49.34 143 P **P** **01 29 08.0 +1.1**
LTZ Lake Taylor 49.43 149 IAmb IAmb 01 29 18.8
comp=Z,113nm,1.3s
LTZ IAMs_20 IAMs_20 01 50 52.1
comp=Z,6μm,19.0s
KWHZ Kaweka Forest 49.44 143 P **P** **01 29 09.4 +1.6**
NMHZ Naumai 49.47 143 P **P** **01 29 08.9 +0.9**
RPZ Rata Peaks 49.51 151 LR LR 01 50 36.6
comp=Z,5μm,18.5s,baz=312,slow=37
RPZ Rata Peaks 49.51 151 IAMs_20 IAMs_20 01 48 51.2
comp=Z,6μm,20.0s
RAHZ Arahi 49.52 142 P **P** **01 29 08.9 +0.5**
KRHZ Kereru 49.55 144 P **P** **01 29 08.7 +0.1**
SNGZ Shannon Statio 49.60 142 P **P** **01 29 09.5 +0.6**
LBZ Lake Benmore 49.61 152 IAMs_20 IAMs_20 01 50 01.7
comp=Z,5μm,20.0s
SNZO South Karori 49.70 146 IAMs_20 IAMs_20 01 48 11.1
comp=Z,5μm,22.0s
OXZ Oxford 49.71 150 IAMs_20 IAMs_20 01 49 40.4
comp=Z,5μm,20.0s
BFZ Birch Farm 50.15 145 IAMs_20 IAMs_20 01 49 21.2
comp=Z,6μm,20.0s
BFZ Birch Farm 50.15 145 P **P** **01 29 13.6 +0.5**
HHC Hu-ho-hao-te 50.24 331 *eP* **P** **01 29 14.3 +0.4**
HHC sP sP 01 29 21.1 -1.2
HHC S **S** **01 36 23.5 -1.6**
HHC pmax pmax
comp=Z,49nm,0.9s
HHC pmax pmax
comp=Z,3μm,9.6s
HHC LR LR
comp=Z,7μm,24.1s
HHC LR LR
comp=Z,5μm,19.9s
HHC LR LR
comp=Z,12μm,22.7s
ODZ Otahua Downs 50.32 153 IAMs_20 IAMs_20 01 50 26.6
comp=Z,4μm,19.0s
MIDW Midway 50.35 50 IAMs_20 IAMs_20 01 44 39.7
comp=Z,5μm,22.0s
XLT XiLinHaoTe 50.76 337 ⇓*iP* **P** **01 29 17.0 -0.7**
XLT pP pP 01 29 21.4 -2.3
XLT sP sP 01 29 24.3 -1.7
XLT PcS **PcS** **01 34 32.3 +0.3**
XLT SS **SS** **01 40 04.6 -2.5**
XLT pmax pmax
comp=Z,21nm,0.8s
XLT pmax pmax
comp=Z,1μm,10.5s
XLT LR LR
comp=Z,360nm,22.1s
XLT LR LR
comp=Z,2μm,16.3s
XLT LR LR
comp=Z,5μm,21.9s
BTO Baotou 50.81 330 *eP* **P** **01 29 19.0 +0.9**
BTO S **S** **01 36 36.8 +3.8**
BTO LR LR
comp=Z,19μm,19.4s
BTO LR LR
comp=Z,13μm,15.7s
LZH Lanzhou 51.12 322 ⇓P **P** **01 29 21.9 +1.2**
LZH sP sP 01 29 29.1 0.0
LZH pmax pmax
comp=Z,98nm,1.5s
LZH pmax pmax
comp=Z,1μm,4.5s
LZH LR LR
comp=Z,2μm,17.2s
LZH LR LR
comp=Z,4μm,18.5s
LZH LR LR
comp=Z,5μm,17.2s
KLR Kul'dur 51.66 353 P **P** **01 29 24.0 -0.3**
comp=Z,14nm,0.7s,baz=191,slow=2.6,SNR=40
KLR S **S** **01 36 43.4 -0.9**
comp=Z,0.5nm,0.4s,baz=134,slow=8.7,SNR=1.5
KLR LR LR 01 48 51.4
comp=Z,4μm,20.1s,baz=164,slow=33
comp=Z,14nm,0.7s
KLR Kul'dur 51.66 353*ceP* **P** **01 29 24.3 0.0**
KLR pmax pmax
comp=Z,43nm,1.7s
LKP Lekhapani 52.04 307 *eP* **P** **01 29 26.5 -1.0**
IMP Imphal 52.52 304 *eP* **P** **01 29 29.7 -1.5**
MOKO MOKOCHONG 52.67 306 *eP* **P** **01 29 30.5 -1.9**
KOHI KOHIMA 52.75 305 *eP* **P** **01 29 31.7 -1.3**
GRNR Gornyy 52.76 357 ⇓*iP* **P** **01 29 32.1 -0.3**
GRNR *e* 01 31 36.9
GRNR *e*S **S** **01 37 03.4 +4.2**
GRNR pmax pmax
comp=N,6.0nm,1.3s
GRNR pmax pmax
comp=Z,9.0nm,1.0s
GRNR smax smax
comp=N,5.0nm,1.2s
TYV Tymovskoe 52.76 2 *eP* **P** **01 29 32.1 -0.2**
TYV *e*S **S** **01 37 01.6 +2.4**
TYV pmax pmax
comp=Z,34nm,1.3s
TYV pmax pmax
comp=Z,1μm,3.1s
TYV smax smax
comp=N,4μm,8.5s
TYV smax smax
comp=E,1μm,8.5s
ITAN ITANAGAR 53.66 306 *eP* **P** **01 29 39.6 +0.2**
BRDH Bariadhala 53.67 300 LR LR 01 54 31.5
comp=E,915nm,19.5s,baz=120,slow=38
ZIRO ZIRO 53.72 307 *eP* **P** **01 29 39.6 -0.5**
TEZP TEZPUR 54.19 305 *eP* **P** **01 29 40.4 -2.9**
SKR Severo-Kuril's 54.21 12*di P* **P** **01 29 40.6 -2.3**
SKR *e* 01 31 45.1
SKR *i* S **S** **01 37 20.5 +1.7**
SKR pmax pmax
comp=Z,33nm,1.2s
SKR pmax pmax
comp=Z,800nm,8.4s
SKR MLR MLR
comp=Z,700nm,19.0s
HIA Hailar 54.22 343 P **P** **01 29 43.5 +0.4**
HIA IAmb IAmb 01 29 51.0
comp=Z,84nm,1.4s
HIA Hailar 54.22 343 IAMs_20 IAMs_20 01 50 02.2
comp=Z,5μm,22.0s
HIA Hailar 54.22 343*deP* **P** **01 29 42.6 -0.6**
HIA pmax pmax
comp=Z,33nm,1.2s
GUWA GUWAHATI 54.93 304 *eP* **P** **01 29 48.0 -0.7**
GTA Gaotai 55.69 322 ⇓P **P** **01 29 54.8 +0.6**
GTA pP sP 01 30 02.3 -0.3
GTA sP pwP 01 30 06.5 +2.5
GTA S **S** **01 37 40.6 +1.1**
GTA sS sS 01 37 53.3 +3.8
GTA SS **SS** **01 41 28.3 +3.1**
GTA pmax pmax
comp=Z,33nm,1.4s
GTA pmax pmax
comp=Z,1μm,8.0s
GTA LR LR
comp=Z,1μm,17.8s
GTA LR LR
comp=Z,1μm,18.9s
GTA LR LR
comp=Z,2μm,18.5s
ZEA Zeya 56.71 351 *eP* **P** **01 30 00.5 -0.5**
ZEA *e* 01 32 03.5
ZEA *e*S **S** **01 37 53.9 +1.6**
ZEA *e*SS **SS** **01 41 40.3 -0.2**
ZEA pmax pmax
comp=E,200nm,8.9s
ZEA pmax pmax
comp=N,400nm,4.8s
ZEA pmax pmax
comp=Z,800nm,10.4s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA pmax pmax
comp=E,200nm,9.1s
ZEA pmax pmax
comp=N,300nm,7.5s
ZEA pmax pmax
comp=Z,400nm,8.0s
ZEA smax smax
comp=E,600nm,8.6s
ZEA smax smax
comp=N,900nm,9.1s
LSA Lhasa 56.79 308 P **P** **01 30 02.7 +0.1**
LSA IAmb IAmb 01 30 17.4
comp=Z,70nm,1.4s
LSA Lhasa 56.79 308 P **P** **01 30 04.0 +1.4**
LSA S **S** **01 37 50.5 -4.6**
LSA pmax pmax
comp=Z,16nm,1.4s
LSA pmax pmax
comp=Z,980nm,5.0s
LSA LR LR
comp=Z,2μm,27.1s
LSA LR LR
comp=Z,2μm,21.4s
LSA LR LR
comp=Z,5μm,25.6s
LSA Lhasa 56.79 308 P **P** **01 30 02.7 +0.1**
LSA pmax pmax
comp=Z,70nm,1.4s
LSA Lhasa 56.79 308 P **P** **01 30 03.2 +0.7**
PEA0B Petropavlovsk- 56.82 12⇑*eP* **P** **01 30 01.6 -0.2**
PETK Petropavlovsk- 56.82 12 P **P** **01 30 01.6 -0.2**
comp=Z,11nm,0.9s,baz=198,slow=9.3,SNR=11
PETK PcP **PcP** **01 30 57.6 +0.2**
comp=Z,5.5nm,0.8s,baz=168,slow=3.0,SNR=4.2
PETK LR LR 01 51 03.2
comp=Z,3μm,21.7s,baz=196,slow=33
comp=Z,11nm,0.9s
PETK Petropavlovsk- 56.82 12 P **P** **01 30 01.4 -0.4**
PET Petropavlovsk 56.95 13*ci P* **P** **01 30 04.4 +1.7**
PET *e* 01 30 59.7
PET *e* 01 32 13.0
PET *e*PPP PPP 01 33 26.0
PET *e*S **S** **01 37 55.3 -0.1**
PET *e*SS **SS** **01 41 43.7 -0.5**
PET pmax pmax
comp=Z,2μm,12.9s
PET pmax pmax
comp=Z,39nm,1.4s
PET pmax pmax
comp=Z,2μm,10.3s
PET MLR MLR
comp=Z,2μm,14.0s
PET MLR MLR
comp=Z,2μm,16.0s
GOMU GeErMu 57.13 316 P **P** **01 30 06.4 +1.6**
GOMU pP pP 01 30 10.3 -0.6
GOMU sP sP 01 30 11.3 -1.9
GOMU PP **PP** **01 32 15.3 +3.5**
GOMU SS **SS** **01 41 53.5 +5.1**
GOMU pmax pmax
comp=Z,11nm,0.8s
GOMU pmax pmax
comp=Z,730nm,3.7s
GOMU LR LR
comp=Z,1μm,17.6s
GOMU LR LR
comp=Z,2μm,19.4s
GOMU LR LR
comp=Z,2μm,18.6s
ULN Ulaanbaatar 57.70 334 P **P** **01 30 08.6 +0.4**
ULN Ulaanbaatar 57.70 334 IAMs_20 IAMs_20 01 53 09.6
comp=Z,4μm,20.0s
ULN Ulaanbaatar 57.70 334*deP* **P** **01 30 08.4 +0.1**
ULN pmax pmax
comp=Z,17nm,0.8s
GTK Tadong 57.91 304 *eP* **P** **01 30 09.6 -0.6**
SONM Songino Array 57.96 333 P **P** **01 30 10.4 +0.3**
comp=Z,2.9nm,0.7s,baz=154,slow=9.1,SNR=24
SONM S **S** **01 38 10.2 +0.9**
comp=Z,0.3nm,0.4s,baz=115,slow=24,SNR=1.6
SONM LR LR 01 53 21.6
comp=Z,4μm,21.6s,baz=144,slow=34
SONM PKPPKP **P'P'df** **01 59 53.2 +0.8**
comp=Z,0.2nm,0.3s,baz=357,slow=5.8,SNR=2.7
SONM PKP2bc 02 00 05.2
comp=Z,2.3nm,0.9s,baz=205,slow=2.8,SNR=4.0
comp=Z,2.9nm,0.7s
SONM Songino Array 57.96 333 P **P** **01 30 10.3 +0.2**
CIT Chita 58.54 341 *eP* **P** **01 30 14.5 +0.5**
CIT *e* 01 38 20.5
CIT pmax pmax
comp=Z,477nm,3.4s
TAPN Taplejung 58.66 304 *eP* **P** **01 30 15.3 -0.3**
comp=Z,34nm,0.9s
BOK Bokaro 59.03 299 *eP* **P** **01 30 18.3 +0.5**
BOK IAmb IAmb 01 30 36.6
comp=Z,22nm,1.1s
RAMN Ramite 59.45 303 *eP* **P** **01 30 19.7 -1.3**
comp=Z,112nm,1.2s
JIRN Jiri 60.03 304 *eP* **P** **01 30 25.2 0.0**
comp=Z,44nm,0.9s
GUN Gumba 60.38 304 *eP* **P** **01 30 28.0 +0.5**
comp=Z,173nm,1.1s
PALK Pallekele 60.47 279 P **P** **01 30 27.9 -0.1**
PALK IAmb IAmb 01 30 45.1
comp=Z,78nm,1.6s
PALK Pallekele 60.47 279*di P* **P** **01 30 27.8 -0.1**
PALK pmax pmax
comp=Z,29nm,1.1s
PKI Pulchoki 60.65 303 *eP* **P** **01 30 29.1 -0.3**
comp=Z,119nm,1.6s
PKIN Phulchoki 60.67 303 *eP* **P** **01 30 28.9 -0.5**
DMN Daman 60.92 303 *eP* **P** **01 30 31.3 +0.2**
comp=Z,96nm,0.9s
RAR Rarotonga 61.04 113 LR LR 01 54 58.3
comp=Z,1μm,21.2s,baz=278,slow=34
ZAK Zakamensk 61.23 334 *eP* **P** **01 30 32.6 +0.1**
ZAK pmax pmax
comp=Z,43nm,1.4s
SHEM Shemya Is, Ala 61.43 22 LR LR 01 52 20.1
comp=Z,3μm,21.9s,baz=234,slow=31
GKN Gorkha 61.44 303 *eP* **P** **01 30 34.9 +0.4**
comp=Z,79nm,0.9s
MA2 Magadan 61.98 6 P **P** **01 30 37.0 -0.3**
comp=Z,15nm,0.8s,baz=163,slow=5.5,SNR=7.7
MA2 S **S** **01 38 58.7 -1.5**
comp=Z,5.1nm,0.7s,baz=180,slow=20,SNR=1.7
MA2 LR LR 01 55 06.5
comp=Z,1μm,21.8s,baz=190,slow=34
comp=Z,15nm,0.8s
MA2 Magadan 61.98 6 P **P** **01 30 37.3 0.0**
MA2 IAmb IAmb 01 30 46.6
comp=Z,59nm,1.2s
MA2 Magadan 61.98 6*ceP* **P** **01 30 38.6 +1.3**
MA2 pmax pmax
comp=Z,16nm,0.9s
IRK Irkutsk 62.17 336 *eP* **P** **01 30 38.8 +0.1**
IRK pmax pmax
comp=Z,229nm,3.4s
DANN Dangsing 62.29 304 *eP* **P** **01 30 40.6 +0.2**
comp=Z,94nm,1.0s
PYUN Piuthan 62.85 303 *eP* **P** **01 30 43.9 -0.1**
comp=Z,200nm,0.9s
MOY Mondy 63.16 334 *eP* **P** **01 30 45.9 +0.4**
MOY pmax pmax
comp=Z,196nm,3.4s
BOD Bodaibo 63.38 344 *eP* **P** **01 30 46.3 -0.4**
BOD pmax pmax
comp=Z,59nm,2.2s
JBP Jabalpur 64.06 297 *eP* **P** **01 30 50.9 -0.9**
HYB Hyderabad 64.10 290 *eP* **P** **01 30 51.5 -0.8**
HYB IAmb IAmb 01 31 06.0
comp=Z,15nm,0.9s
HYBB Hyderabad (bro 64.10 290 *eP* **P** **01 30 50.9 -1.4**
HYBB IVmB_BB 01 30 54.6
comp=Z,601nm,6.1s
HYBB *e*S **S** **01 39 30.1 +1.7**
YAK Yakutsk 64.47 354 P **P** **01 30 53.9 +0.2**
comp=Z,42nm,0.8s,baz=175,slow=2.2,SNR=18
YAK S **S** **01 39 31.9 +0.8**
comp=Z,6.6nm,0.3s,baz=112,slow=1.9,SNR=2.0
YAK LR LR 01 59 00.3
comp=Z,1μm,18.0s,baz=180,slow=36
comp=Z,42nm,0.8s
YAK Yakutsk 64.47 354 P **P** **01 30 53.7 0.0**
YAK Yakutsk 64.47 354 *eP* **P** **01 30 52.5 -1.2**
YAK *e**PP **pwP** **01 31 03.9 0.0**
YAK *e* 01 31 28.6
YAK *e*S **S** **01 39 30.2 -1.0**
YAK *e**SS **sS** **01 39 45.8 +4.6**
YAK *e*SSS SSS 01 46 35.3
YAK pmax pmax
comp=Z,133nm,1.0s
YAK pmax pmax
comp=N,48nm,1.2s
YAK pmax pmax
comp=E,11nm,1.0s
YAK smax smax
comp=N,1μm,4.1s
YAK smax smax
comp=E,865nm,6.3s
ADK Adak 64.73 28 IAMs_20 IAMs_20 01 54 48.9
comp=Z,4μm,21.0s
PCHI Peechi 65.13 283⇓*eP* **P** **01 30 58.5 -0.5**
PCHI *e*S **S** **01 39 41.1 +0.1**
SEY Seymchan 65.44 6 P **P** **01 30 59.6 -0.4**
comp=Z,10nm,0.7s,baz=201,slow=3.2,SNR=20
SEY S **S** **01 39 44.9 +1.8**
comp=Z,3.1nm,0.2s,baz=198,slow=20,SNR=1.3
SEY LR LR 01 57 04.9
comp=Z,1μm,21.8s,baz=169,slow=34
comp=Z,10nm,0.7s
SEY Seymchan 65.44 6⇑*eP* **P** **01 31 00.0 0.0**
SEY pmax pmax
comp=Z,55nm,2.5s
WMQ Urumqi 65.69 321 ⇓P **P** **01 31 02.8 +0.6**
WMQ pP sP 01 31 10.3 -0.4
WMQ S **S** **01 39 49.3 +2.2**
WMQ SS **SS** **01 44 08.0 +6.3**
WMQ pmax pmax
comp=Z,44nm,1.5s
WMQ pmax pmax
comp=Z,830nm,4.9s
WMQ LR LR
comp=Z,2μm,19.9s
WMQ LR LR
comp=Z,1μm,22.1s
WMQ LR LR
comp=Z,2μm,22.1s
BHPL Bhopal 66.36 296 *eP* **P** **01 31 05.5 -1.3**
BHPL IAmb IAmb 01 31 09.0
comp=Z,28nm,0.9s
CASY Casey 67.50 193 P **P** **01 31 13.4 +0.3**
CASY IAmb IAmb 01 31 15.8
comp=Z,47nm,0.9s
CASY Casey 67.50 193 IAMs_20 IAMs_20 01 57 57.4
comp=Z,3μm,22.0s
DGAR Diego Garcia 68.05 263 P **P** **01 31 16.5 -1.2**
DGAR Diego Garcia 68.05 263 P **P** **01 31 16.5 -1.2**
DGAR pmax pmax
comp=Z,159nm,1.1s
SMLA Simla 68.59 305 *eP* **P** **01 31 21.1 +0.4**
SMLA IAmb IAmb 01 31 30.9
comp=Z,141nm,1.2s
DGZ Jazzator, Alta 68.79 326*di P* **P** **01 31 22.1 +0.3**
DGZ pmax pmax
comp=Z,18nm,1.0s
ZSN Zaisan 69.16 323*di P* **P** **01 31 24.1 +0.1**
ZSN *e*S **S** **01 40 30.0 +1.4**
ZSN pmax pmax
comp=Z,103nm,2.9s
ZSN Zaisan 69.16 323 ⇓*iP* **P** **01 31 24.2 +0.2**
comp=Z,103nm,2.9s,baz=323
ZSN *e*S **S** **01 40 30.1 +1.4**
baz=323
PPT Papeete 70.16 108 LR LR 01 58 38.4
comp=Z,2μm,20.7s,baz=266,slow=33
PPT2 Papeete2 70.16 108 *eP* **P** **01 31 32.9 +2.1**
comp=Z,333nm,23.2s
PPT2 *e*S **S** **01 40 43.4 +1.9**
comp=Z,995nm,27.5s
PPT2 Papeete2 70.16 108 *e*LR LR 01 52 48.7
comp=Z,3μm,21.8s
MK31 Makanchi Array 70.44 322 IAmb IAmb 01 31 33.8
comp=Z,50nm,1.2s
MK31 Makanchi Array 70.44 322*di P* **P** **01 31 31.6 -0.3**
MK31 pmax pmax
comp=Z,65nm,1.1s
MKAR Makanchi Array 70.44 322 P **P** **01 31 31.9 0.0**
comp=Z,21nm,0.8s,baz=110,slow=7.0,SNR=106
MKAR S **S** **01 40 45.0 +1.4**
comp=Z,0.8nm,0.9s,baz=197,slow=28,SNR=2.1
MKAR PKPPKP 01 59 28.1
comp=Z,1.5nm,0.9s,baz=349,slow=5.2,SNR=3.2
MKAR LR LR 02 00 01.1
comp=Z,1μm,21.9s,baz=106,slow=34
comp=Z,21nm,0.8s
MKAR Makanchi Array 70.44 322 P **P** **01 31 31.6 -0.3**
MAKZ Makanchi 70.64 322 P **P** **01 31 33.2 +0.1**
MAKZ IAmb IAmb 01 31 46.5
comp=Z,53nm,0.8s
MAKZ Makanchi 70.64 322 P **P** **01 31 33.2 +0.1**
MAKZ pmax pmax
comp=Z,53nm,0.9s
TBI Tubuai 70.79 114 *eP* **P** **01 31 36.6 +2.1**
comp=Z,285nm,35.2s
TBI *e*S **S** **01 40 50.3 +1.8**
comp=Z,1μm,30.5s
TBI *e*SS **SS** **01 45 23.6 +2.4**
comp=Z,1μm,28.5s
TBI *e*LR LR 01 53 05.6
comp=Z,3μm,26.2s
SHLS Shalkode 70.81 317*di P* **P** **01 31 32.6 -1.7**
SHLS *e*S **S** **01 40 46.5 -1.8**
SHLS pmax pmax
comp=Z,36nm,1.2s
SHLS Shalkode 70.81 317 ⇓*iP* **P** **01 31 32.6 -1.7**
comp=Z,36nm,1.2s,baz=317
SHLS *e*S **S** **01 40 46.6 -1.8**
baz=317
UNV Unalaska Valle 70.84 30 P **P** **01 31 31.7 -2.4**
baz=238
UNV S **S** **01 40 53.1 +5.2**
baz=238
PDGK Podgornoye 70.85 317 P **P** **01 31 34.2 -0.4**

SPIA Saint Paul Isl 70.98 26 P **P 01 31 34.2 -0.7**
baz=233
UZB Uzynbulak 71.10 317 *i* P **P 01 31 36.3 +0.1**
UZB pmax pmax
comp=Z,26nm,1.4s
UZB Uzynbulak 71.10 317 *i* P **P 01 31 36.3 +0.1**
comp=Z,26nm,1.4s,baz=317
TARG Taragay, Kyrgy 71.44 315 IAmb IAmb 01 31 55.3
comp=Z,56nm,1.1s
KPKS Kokpek 71.45 317 *d* iP **P 01 31 38.5 +0.3**
KPKS *e*S **S 01 40 57.2 +1.6**
KPKS pmax pmax
comp=Z,72nm,1.7s
KPKS Kokpek 71.45 317 ⇓ iP **P 01 31 38.5 +0.3**
comp=Z,72nm,1.7s,baz=317
KPKS *e*S **S 01 40 57.3 +1.6**
baz=317
SATY Saty 71.49 317 *d* iP **P 01 31 38.6 +0.1**
SATY *e*S **S 01 40 57.9 +1.7**
SATY pmax pmax
comp=Z,65nm,1.3s
SATY Saty 71.49 317 ⇓ iP **P 01 31 38.6 +0.1**
comp=Z,65nm,1.3s,baz=317
SATY *e*S **S 01 40 58.0 +1.7**
baz=317
ZHN Zhinishke 71.51 317 *e*P **P 01 31 38.0 -0.6**
ZHN Zhinishke 71.51 317 *e*P **P 01 31 38.1 -0.6**
baz=317
KSH Kashi 72.02 313 P **P 01 31 43.1 +1.4**
KSH sP pwP 01 31 53.4 +1.5
KSH PcP **PcP 01 32 01.0 +0.8**
KSH S **S 01 41 07.0 +4.6**
KSH SS **SS 01 45 46.4 +6.7**
KSH pmax pmax
comp=Z,49nm,1.3s
KSH pmax pmax
comp=Z,1μm,6.5s
KSH LR LR
comp=Z,1μm,21.3s
KSH LR LR
comp=Z,2μm,23.4s
KSH LR LR
comp=Z,3μm,26.8s
TDK Taldyqorghan 72.20 319 *e*P **P 01 31 42.6 0.0**
TDK *e*S **S 01 41 05.8 +1.7**
TDK pmax pmax
comp=Z,80nm,1.2s
TDK Taldyqorghan 72.20 319 *e*P **P 01 31 42.6 0.0**
comp=Z,80nm,1.2s,baz=319
TDK *e*S **S 01 41 05.9 +1.7**
baz=319
TDK LR LR 01 58 57.1
comp=Z,1μm,20.1s,baz=319
BILL Bilibino 72.21 10 ⇓ *e*P **P 01 31 43.1 +1.0**
BILL *e* 01 32 00.1
BILL *e* 01 34 20.5
BILL *e*PPP PPP 01 36 06.9
BILL *e*S **S 01 41 01.5 -1.8**
BILL *e*SS **SS 01 45 48.4 +7.2**
BILL *e*SSS SSS 01 48 50.3
BILL pmax pmax
comp=Z,18nm,0.5s
BILL MLR MLR
comp=Z,845nm,20.0s
ZAA0 Zalesovo Array 72.34 329 P **P 01 31 42.2 -1.0**
ZALV Zalesovo Beam 72.34 329 P **P 01 31 42.5 -0.6**
comp=Z,14nm,0.8s,baz=106,slow=5.3,SNR=25
ZALV PKPPKP 01 59 30.4
comp=Z,1.4nm,0.7s,baz=305,slow=5.2,SNR=4.0
ZALV LR LR 02 04 32.8
comp=Z,2μm,19.1s,baz=124,slow=37
comp=Z,14nm,0.8s
MDOK Medeo 72.46 317 *i* P **P 01 31 44.0 -0.3**
MDOK *e*S **S 01 41 08.9 +1.5**
MDOK Medeo 72.46 317 *i* P **P 01 31 44.1 -0.3**
baz=317
MDOK *e*S **S 01 41 09.0 +1.5**
baz=317
MDOK LR LR 01 59 36.4
baz=317
AAA Alma-Ata 72.56 317 *e*P **P 01 31 44.6 -0.2**
AAA pmax pmax
comp=Z,60nm,1.1s
AAA Alma-Ata 72.56 317 *e*P **P 01 31 44.7 -0.2**
comp=Z,60nm,1.1s,baz=317
ULHL Ulahol 72.71 315 P **P 01 31 47.1 +1.2**
SNR=8.9
CHKK Chushkaly 72.74 317 *e*P **P 01 31 45.8 0.0**
CHKK Chushkaly 72.74 317 *e*P **P 01 31 45.8 0.0**
baz=317
BOOM Boomskoye usch 73.00 316 P **P 01 31 47.8 +0.2**
BOOM IAmb IAmb 01 31 58.4
comp=Z,63nm,0.9s
BOOM Boomskoye usch 73.00 316 P **P 01 31 47.8 +0.2**
BOOM pmax pmax
comp=Z,63nm,0.9s
KUU Kurty 73.19 317 *e*P **P 01 31 48.7 +0.2**
KUU *e*S **S 01 41 16.8 +1.4**
KUU pmax pmax
comp=Z,59nm,1.3s
KUU Kurty 73.19 317 *e*P **P 01 31 48.8 +0.2**
comp=Z,58nm,1.3s,baz=317
KUU *e*S **S 01 41 16.9 +1.4**
baz=317
SEM Semipalatinsk 73.21 324 *e*P **P 01 31 47.6 -1.1**
SEM Semipalatinsk 73.21 324 *e*P **P 01 31 47.7 -1.1**
baz=324
TKM2 Tokmak 2 73.38 316 P **P 01 31 49.9 0.0**
SNR=52
TKM2 Tokmak 2 73.38 316 *i* P **P 01 31 49.6 -0.3**
TKM2 pmax pmax
comp=Z,57nm,1.3s
KBK Karagaybulak 73.75 316 P **P 01 31 53.3 +1.3**
SNR=24
UCH Uchtor 73.92 315 P **P 01 31 53.9 +0.6**
SNR=86
TIXI Tiksi 73.98 356 P **P 01 31 50.9 -1.6**
comp=Z,7.3nm,0.6s,baz=90,slow=20,SNR=6.6
TIXI S **S 01 41 27.7 +4.4**
comp=Z,4.8nm,0.3s,baz=90,slow=20,SNR=3.1
TIXI LR LR 02 03 19.4
comp=Z,2μm,20.8s,baz=180,slow=35
comp=Z,7.3nm,0.6s
TIXI Tiksi 73.98 356 P **P 01 31 53.4 +0.9**
TIXI IAMs_20 IAMs_20 02 02 58.4
comp=Z,2μm,20.0s
TIXI Tiksi 73.98 356 ⇓ *e*P **P 01 31 53.2 +0.7**
TIXI pmax pmax
comp=Z,44nm,1.9s
CHMS Chumysh 73.99 316 P **P 01 31 54.3 +1.0**
SNR=22
CHMS Chumysh 73.99 316 *i* P **P 01 31 52.7 -0.5**
CHMS pmax pmax
comp=Z,78nm,1.2s
AAK Ala-Archa 74.06 315 P **P 01 31 54.6 +0.8**
SNR=14
AAK Ala-Archa 74.06 315 LR LR 02 04 43.6
comp=Z,1μm,21.8s,baz=100,slow=36
AAK Ala-Archa 74.06 315 P **P 01 31 53.9 +0.1**
AAK Ala-Archa 74.06 315 *de*P **P 01 31 54.6 +0.8**
AAK pmax pmax
comp=Z,41nm,1.3s
AAK Ala-Archa 74.06 315 *i* P **P 01 31 54.2 +0.4**
SNR=20
SGDS Sogindy 74.22 316 *d* iP **P 01 31 54.6 0.0**
SGDS *e*S **S 01 41 29.0 +1.9**
SGDS Sogindy 74.22 316 ⇓ iP **P 01 31 54.6 0.0**
baz=316
SGDS *e*S **S 01 41 29.1 +1.9**
baz=316
USP Ospenovka 74.25 316 P **P 01 31 54.7 -0.1**
SNR=62
KURK Kurchatov 74.28 324 P **P 01 31 54.5 -0.2**
KURK IAmb IAmb 01 31 56.0
comp=Z,85nm,1.3s
KURK Kurchatov 74.28 324 *d* iP **P 01 31 53.8 -0.9**
KURK pmax pmax
comp=Z,98nm,1.7s
KURBB Kurchatov Arra 74.30 324 LR LR 02 04 56.3
comp=Z,2μm,21.0s,baz=65,slow=36
KURBB Kurchatov Arra 74.30 324 P **P 01 31 53.3 -1.5**
AML Almayashu 74.47 315 P **P 01 31 57.0 +0.5**
SNR=68
EKS2 Erkin-Say 74.57 315 P **P 01 31 57.2 +0.5**
SNR=49
SDPT Sand Point 74.63 30 P **P 01 31 55.3 -1.2**
baz=242
CNBA Chernabura Isl 74.84 31 IAMs_20 IAMs_20 02 00 21.3
comp=Z,2μm,20.0s
CHNA Chernabura Isl 74.85 31 S **S 01 41 34.1 +0.6**
baz=243
BTLS Baital 75.12 318 *d* iP **P 01 31 59.4 -0.3**
BTLS pmax pmax
comp=Z,53nm,1.5s
BTLS Baital 75.12 318 ⇓ iP **P 01 31 59.5 -0.3**
comp=Z,53nm,1.5s,baz=318
S14K Fog Glacier 75.52 30 P **P 01 32 01.0 -0.8**
baz=243
S14K S **S 01 41 43.0 +1.8**
baz=243
BTK Batken 75.98 312 IAmb IAmb 01 32 27.6
comp=Z,43nm,1.1s
KBL Kabul 76.06 306 P **P 01 32 04.7 -0.9**
KBL IAmb IAmb 01 32 15.3
comp=Z,43nm,0.8s
KBL Kabul 76.06 306 P **P 01 32 04.7 -0.9**
KBL pmax pmax
comp=Z,43nm,0.8s
KBL Kabul 76.06 306 P **P 01 32 05.7 +0.1**
SNR=21
KBL P **P 01 32 05.7 +0.1**
SNR=21
VNDA Vanda 76.26 175 P **P 01 32 06.0 +0.4**
comp=Z,38nm,0.7s,baz=324,slow=6.2,SNR=143
VNDA S **S 01 41 48.2 -0.2**
comp=Z,0.2nm,0.5s,baz=16,slow=7.4,SNR=1.2
VNDA LR LR 02 05 40.2
comp=Z,3μm,19.4s,baz=348,slow=36
comp=Z,38nm,0.7s
VNDA Vanda 76.26 175 P **P 01 32 05.3 -0.3**
VNDA IAmb IAmb 01 32 08.7
comp=Z,38nm,0.7s
DZA Taraz 76.36 315 *e*P **P 01 32 06.5 -0.3**
DZA pmax pmax
comp=Z,27nm,1.1s
DZA Taraz 76.36 315 *e*P **P 01 32 06.6 -0.3**
comp=Z,27nm,1.1s,baz=315
TNA Tin City 76.92 20 P **P 01 32 08.5 -1.0**
baz=233
TNA S **S 01 41 58.5 +2.5**
baz=233
KK31 Karatay Array 77.00 315 P **P 01 32 10.1 -0.3**
KK31 IAmb IAmb 01 32 12.2
comp=Z,76nm,1.4s
KK31 Karatay Array 77.00 315 *i* P **P 01 32 10.0 -0.5**
KKAR Karatay Array 77.00 315 P **P 01 32 10.1 -0.4**
KKAR IAmb IAmb 01 32 12.2
comp=Z,76nm,1.4s
KKAR Karatay Array 77.00 315 P **P 01 32 10.1 -0.4**
KKAR pmax pmax
comp=Z,76nm,1.4s
SBA Scott Base 77.00 174 P **P 01 32 11.2 +1.4**
SBA Scott Base 77.00 174 IAMs_20 IAMs_20 02 07 43.3
comp=Z,3μm,18.0s
SBA Scott Base 77.00 174 P **P 01 32 11.2 +1.4**
SBA pmax pmax
comp=Z,126nm,1.5s
SBA MLR MLR
comp=Z,3μm,18.0s
IUG Iuzhnay 77.09 314 *i* P **P 01 32 11.3 +0.2**
IUG *e*S **S 01 42 00.9 +1.9**
IUG Iuzhnay 77.09 314 *i* P **P 01 32 11.3 +0.2**
baz=314
IUG *e*S **S 01 42 00.9 +1.9**
baz=314
ANM Nome 77.23 21 P **P 01 32 11.0 -0.3**
baz=236
ANM S **S 01 42 00.8 +1.3**
baz=236
CHIR Chirikof Islan 77.32 31 IAMs_20 IAMs_20 01 56 19.8
comp=Z,2μm,20.0s
CHIR Chirikof Islan 77.32 31 P **P 01 32 11.1 -0.9**
baz=247
TAS Tashkent 77.42 313 P **P 01 32 13.6 +0.7**
TAS Tashkent 77.42 313 P **P 01 32 13.6 +0.7**
TAS pmax pmax
comp=Z,103nm,0.8s
P16K Nushagak River 77.50 28 P **P 01 32 11.8 -1.0**
baz=244
P16K S **S 01 42 04.0 +1.5**
baz=244
BRZS Berezniki 77.57 322 *d* iP **P 01 32 13.3 -0.2**
BRZS *e*S **S 01 42 04.3 +0.6**
BRZS pmax pmax
comp=Z,26nm,1.2s
BRZS Berezniki 77.57 322 ⇓ iP **P 01 32 13.3 -0.2**
comp=Z,26nm,1.2s,baz=322
BRZS *e*S **S 01 42 04.4 +0.7**
baz=322
R17K Ugashik Creek 77.67 29 P **P 01 32 13.1 -0.7**
baz=246
R17K S **S 01 42 05.0 +0.5**
baz=246
O16K Kokwok River B 77.70 27 P **P 01 32 13.6 -0.3**
baz=244
O16K S **S 01 42 06.6 +2.0**
baz=244
N16K Nishlik Lake 77.79 26 P **P 01 32 14.8 +0.3**
baz=243
N16K S **S 01 42 09.2 +3.5**
baz=243
Q16K King Salmon 77.97 28 P **P 01 32 14.1 -1.4**
baz=245
O17K Koliganek Bris 78.23 27 P **P 01 32 16.9 0.0**
baz=245
O17K S **S 01 42 12.9 +2.5**
baz=245
P17K Kvichak River 78.29 28 P **P 01 32 16.2 -1.0**
baz=245
SII Sitkinak Islan 78.35 31 P **P 01 32 17.7 0.0**
baz=248
SII S **S 01 42 12.6 +0.7**
baz=248
P18K Big Mountain, 78.94 28 IAMs_20 IAMs_20 02 04 13.7
comp=Z,3μm,20.0s
P18K Big Mountain, 78.94 28 P **P 01 32 19.2 -1.7**
baz=246
P18K S **S 01 42 16.4 -1.7**
baz=246
OHAK Old Harbor 79.05 30 P **P 01 32 21.3 -0.2**
OHAK IAmb IAmb 01 32 22.7
comp=Z,80nm,1.2s
OHAK Old Harbor 79.05 30 P **P 01 32 21.3 -0.2**
baz=248
OHAK S **S 01 42 18.8 -0.4**
baz=248
TAOE Nuku Hiva Isla 79.08 99 *e*P **P 01 32 24.7 +2.0**
comp=Z,287nm,22.1s
TAOE *e*S **S 01 42 22.4 +0.9**
comp=Z,388nm,24.4s
TAOE *e*SS **SS 01 47 29.3 +1.5**
comp=Z,764nm,29.0s
TAOE *e*LR LR 01 56 56.9
comp=Z,2μm,23.8s
N18K Kilae Creek 79.16 27 IAMs_20 IAMs_20 01 59 54.2
comp=Z,2μm,22.0s
N18K Kilae Creek 79.16 27 P **P 01 32 22.5 +0.4**
baz=246
N18K S **S 01 42 23.3 +2.9**
baz=246
Q19K Cape Douglas, 79.51 29 IAMs_20 IAMs_20 02 01 22.5
comp=Z,3μm,22.0s
Q19K Cape Douglas, 79.51 29 P **P 01 32 22.5 -1.5**
baz=248
Q19K S **S 01 42 22.8 -1.4**
baz=248
KDAK Kodiak Island 79.61 30 P **P 01 32 23.6 -0.9**
comp=Z,61nm,1.2s,baz=292,slow=2.9,SNR=11
KDAK S **S 01 42 25.8 +0.6**
comp=Z,6.8nm,1.0s,baz=329,slow=8.1,SNR=2.1
KDAK LR LR 02 02 40.1
comp=Z,4μm,21.7s,baz=263,slow=32
comp=Z,61nm,1.2s
KDAK Kodiak Island 79.61 30 P **P 01 32 24.1 -0.4**
KDAK IAmb IAmb 01 32 29.9
comp=Z,79nm,1.1s
KDAK Kodiak Island 79.61 30 *de*P **P 01 32 24.0 -0.5**
KDAK pmax pmax
comp=Z,115nm,1.3s
KDAK Kodiak Island 79.61 30 P **P 01 32 24.3 -0.2**
baz=249
KDAK S **S 01 42 27.2 +2.0**
baz=249
NRIK Noril'sk 79.64 343 P **P 01 32 24.2 -0.3**
comp=Z,48nm,1.1s,baz=125,slow=5.7,SNR=44
NRIK S **S 01 42 22.9 -2.3**
comp=Z,1.0nm,0.4s,baz=80,slow=6.1,SNR=1.0
NRIK LR LR 02 07 38.4
comp=Z,3μm,20.5s,baz=118,slow=36
comp=Z,48nm,1.1s
NRIK Noril'sk 79.64 343 IAmb IAmb 01 32 30.0
comp=Z,62nm,1.1s
NRIK Noril'sk 79.64 343 *de*P **P 01 32 23.5 -1.0**
NRIK pmax pmax
comp=Z,75nm,1.3s
N19K Bonanza Creek 79.84 27 IAmb IAmb 01 32 27.3
comp=Z,72nm,1.1s
N19K IAMs_20 IAMs_20 02 03 25.3
comp=Z,2μm,20.0s
N19K Bonanza Creek 79.84 27 P **P 01 32 25.7 -0.2**
baz=247
N19K S **S 01 42 30.9 +3.1**
baz=247
BVA0 Borovoye Array 79.87 325 *i* P **P 01 32 25.2 -0.9**
BVAR Borovoye Array 79.87 325 LR LR 02 08 32.6
comp=Z,941nm,20.2s,baz=91,slow=36
BRVK Borovoye 79.94 325 P **P 01 32 26.6 +0.2**
BRVK IAmb IAmb 01 32 28.0
comp=Z,71nm,1.2s
BRVK Borovoye 79.94 325 *d* iP **P 01 32 25.7 -0.7**
BRVK pmax pmax
comp=Z,59nm,1.2s
P19K Oil Pt 79.98 28 P **P 01 32 24.7 -1.9**
baz=248
P19K S **S 01 42 29.2 +0.1**
baz=248
Q20K Shuyak Island 80.00 29 P **P 01 32 26.0 -0.7**
baz=249
Q20K S **S 01 42 30.2 +0.9**
baz=249
L19K White Mountain 80.23 25 IAmb IAmb 01 32 29.3
comp=Z,57nm,1.0s
L19K White Mountain 80.23 25 P **P 01 32 28.0 +0.1**
baz=246,SNR=25
L19K S **S 01 42 34.2 +2.5**
baz=246
M19K Big River Lodg 80.32 26 P **P 01 32 28.4 0.0**
baz=247,SNR=12
M19K S **S 01 42 36.4 +3.8**
baz=247
O20K Slope Mountain 80.42 28 P **P 01 32 27.5 -1.5**
baz=249
O20K S **S 01 42 32.5 -1.4**
baz=249
GCSA Galena City Sc 80.48 23 P **P 01 32 28.6 -0.5**
baz=244
GCSA S **S 01 42 34.9 +0.8**
baz=244
HOM Homer 80.73 28 IAMs_20 IAMs_20 02 02 00.7
comp=Z,3μm,22.0s
HOM Homer 80.73 28 P **P 01 32 29.9 -0.7**
baz=250
HOM S **S 01 42 36.8 -0.1**
baz=250
L20K Farewell, AK 80.76 25 P **P 01 32 31.0 +0.2**
baz=247,SNR=19
L20K S **S 01 42 40.0 +2.7**
baz=247
M20K Styx River 80.86 26 P **P 01 32 30.3 -1.0**
M20K IAmb IAmb 01 32 32.8
comp=Z,64nm,1.1s
M20K Styx River 80.86 26 P **P 01 32 31.4 0.0**
baz=248
M20K S **S 01 42 42.0 +3.6**
baz=248
CNPM China Poot 80.88 29 IAmb IAmb 01 32 32.1
comp=Z,110nm,1.2s
N20K Mount Spurr 81.02 27 P **P 01 32 30.7 -1.5**
baz=249
N20K S **S 01 42 39.2 -0.8**
baz=249
SPCR Spurr Chakacha 81.02 27 P **P 01 32 30.8 -1.3**
baz=249
SPCR S **S 01 42 39.2 -0.8**
baz=249
K20K Telida 81.03 25 IAmb IAmb 01 32 33.7
comp=Z,62nm,1.1s
K20K IAMs_20 IAMs_20 02 02 27.5
comp=Z,3μm,22.0s
K20K Telida 81.03 25 P **P 01 32 32.4 +0.3**
baz=247,SNR=30
K20K S **S 01 42 43.8 +3.8**
baz=247
BRLK Bradley Lake 81.13 28 IAmb IAmb 01 32 33.1
comp=Z,139nm,1.6s
BRLK IAMs_20 IAMs_20 02 02 26.0
comp=Z,3μm,22.0s
BRSE Bradley Lake S 81.19 29 P **P 01 32 32.2 -0.9**
baz=250
BRSE S **S 01 42 41.6 -0.2**
baz=250
J20K Nowinta River 81.32 24 IAmb IAmb 01 32 35.3
comp=Z,69nm,1.1s
J20K IAMs_20 IAMs_20 02 04 29.2
comp=Z,2μm,21.0s
J20K Nowinta River 81.32 24 P **P 01 32 33.8 +0.2**
baz=247,SNR=40
J20K S **S 01 42 45.0 +2.1**
baz=247
HRA Herat 81.56 305 P **P 01 32 35.0 -0.8**
SKT Skwentna 81.60 26 IAMs_20 IAMs_20 02 04 34.1
comp=Z,3μm,22.0s
SKT Skwentna 81.60 26 P **P 01 32 33.0 -2.2**
baz=249,SNR=8.4
SKT S **S 01 42 43.8 -2.2**
baz=249
SUA Susitna One 81.77 27 P **P 01 32 34.6 -1.7**
baz=250
SUA S **S 01 42 45.3 -2.7**
baz=250
O22K Cooper Landing 81.92 28 IAMs_20 IAMs_20 02 07 10.1
comp=Z,2μm,20.0s
O22K Cooper Landing 81.92 28 P **P 01 32 35.0 -1.8**
baz=251
O22K S **S 01 42 48.7 -0.4**
baz=251
SEW Seward 81.92 28 IAmb IAmb 01 32 37.4
comp=Z,59nm,1.1s
SEW Seward 81.92 28 P **P 01 32 35.8 -1.0**
baz=251,SNR=5.7
SEW S **S 01 42 50.0 +0.7**
baz=251
RC01 Rabbit Creek A 82.11 27 P **P 01 32 36.2 -1.6**
baz=251,SNR=6.3
RC01 S **S 01 42 50.3 -0.8**
baz=251
M22K Willow 82.15 27 IAmb IAmb 01 32 38.4
comp=Z,60nm,0.9s
M22K Willow 82.15 27 P **P 01 32 36.5 -1.5**
baz=251,SNR=8.9
M22K S **S 01 42 48.8 -2.7**
baz=251
CUT Chulitna 82.30 26 IAmb IAmb 01 32 38.5
comp=Z,56nm,1.0s
CUT Chulitna 82.30 26 P **P 01 32 36.8 -2.0**
baz=250
CUT S **S 01 42 51.7 -1.4**
baz=250
H21K Melozitna Rive 82.42 23 IAMs_20 IAMs_20 02 02 22.3
comp=Z,3μm,22.0s
H21K Melozitna Rive 82.42 23 P **P 01 32 39.0 -0.4**
baz=248,SNR=16
H21K S **S 01 42 55.3 +1.0**
baz=248
G21K Allakaket 82.49 22 P **P 01 32 39.1 -0.6**
baz=247,SNR=8.5
G21K S **S 01 42 55.7 +0.7**
baz=247
PMR Palmer 82.54 27 IAmb IAmb 01 32 40.1
comp=Z,51nm,1.0s
PMR Palmer 82.54 27 P **P 01 32 38.8 -1.3**
baz=252,SNR=6.8
I21K Tanana 82.56 23 IAmb IAmb 01 32 40.9
comp=Z,50nm,1.2s
I21K Tanana 82.56 23 P **P 01 32 40.2 +0.1**
baz=248,SNR=17
I21K S **S 01 42 57.2 +1.5**
baz=248
BPAW Bear Paw Mtn. 82.58 24 IAmb IAmb 01 33 03.8
comp=Z,53nm,1.4s
BPAW IAMs_20 IAMs_20 02 03 14.9

comp=Z,3µm,22.0s
BPAW Bear Paw Mtn. 82.58 24 P **P** **01 32 38.9 -1.4**
baz=250,SNR=14
BPAW S **S** **01 42 55.2 -0.8**
baz=250
TRF Thorofare Moun 82.64 25 P **P** **01 32 39.7 -1.1**
TRF IAmb IAmb 01 32 44.3
comp=Z,27nm,0.9s
TRF Thorofare Moun 82.64 25 P **P** **01 32 39.0 -1.8**
baz=250,SNR=18
TRF S **S** **01 42 55.2 -1.7**
baz=250
PWL Port Wells 82.68 28 P **P** **01 32 39.5 -1.4**
baz=252,SNR=8.0
PWL S **S** **01 42 55.4 -1.7**
baz=252
GHO Glory Hole Cre 82.69 27 IAmb IAmb 01 33 06.5
comp=Z,41nm,1.0s
GHO IAMs_20 IAMs_20 02 06 38.6
comp=Z,3µm,21.0s
F21K Alatna River 82.78 21 P **P** **01 32 40.6 -0.6**
baz=247
F21K S **S** **01 42 59.2 +1.3**
baz=247
KNK Knik Glacier 82.80 27 IAMs_20 IAMs_20 02 04 45.3
comp=Z,3µm,20.0s
KNK Knik Glacier 82.80 27 P **P** **01 32 40.7 -0.8**
baz=252,SNR=15
KNK S **S** **01 42 58.7 +0.4**
baz=252
P23K Montague Islan 82.87 29 P **P** **01 32 41.1 -0.8**
baz=253
SML Sawmill 82.97 27 P **P** **01 32 41.3 -1.2**
baz=252,SNR=16
SML S **S** **01 43 00.8 +0.7**
baz=252
MLY Manley 83.00 23 IAmb IAmb 01 33 06.4
comp=Z,56nm,1.3s
MLY IAMs_20 IAMs_20 02 05 49.6
comp=Z,2µm,20.0s
MLY Manley 83.00 23 P **P** **01 32 42.0 -0.5**
baz=250,SNR=30
MLY S **S** **01 43 00.1 -0.3**
baz=250
H22K Ishtalitna Cre 83.06 23 P **P** **01 32 42.3 -0.5**
baz=249,SNR=11
H22K S **S** **01 43 01.6 +0.8**
baz=249
WAT1 Susitna Watana 83.19 26 P **P** **01 32 42.3 -1.2**
baz=252
WAT1 S **S** **01 43 00.7 -1.6**
baz=252
Q23K Middleton Isla 83.22 29 P **P** **01 32 41.0 -2.7**
baz=254
M23K Glacier View 83.24 27 P **P** **01 32 43.1 -0.7**
baz=253,SNR=7.8
M23K S **S** **01 43 02.2 -0.6**
baz=253
GLI Glacier Island 83.27 28 P **P** **01 32 42.9 -1.0**
baz=253
GLI S **S** **01 43 02.3 -0.8**
baz=253
MCK McKinley 83.31 25 P **P** **01 32 42.4 -1.7**
baz=252,SNR=18
MCK S **S** **01 43 00.4 -3.0**
baz=252
F22K John River 83.36 21 P **P** **01 32 44.5 +0.3**
baz=248
F22K S **S** **01 43 05.5 +1.7**
baz=248
G22K Bettles 83.38 22 P **P** **01 32 43.8 -0.5**
baz=249
G22K S **S** **01 43 04.1 +0.2**
baz=249
MAW Mawson 83.42 202 P **P** **01 32 45.6 +1.1**
comp=Z,46nm,1.1s,baz=70,slow=5.8,SNR=38
MAW S **S** **01 43 00.7 -3.6**
comp=Z,1.4nm,1.1s,baz=85,slow=4.0,SNR=1.9
MAW LR LR 02 08 27.4
comp=Z,4µm,18.1s,baz=72,slow=35
comp=Z,46nm,1.1s
MAW Mawson 83.42 202 P **P** **01 32 45.4 +0.9**
baz=84,SNR=22
MAW Mawson 83.42 202 P **P** **01 32 45.6 +1.1**
MAW Mawson 83.42 202 P **P** **01 32 45.6 +1.1**
MAW pmax pmax
comp=Z,18nm,1.2s
WSAR Wadi Sarin 83.42 294 LR LR 02 13 31.2
comp=Z,324nm,18.8s,baz=114,slow=38
SCM Sheep Creek Mo 83.44 27 IAMs_20 IAMs_20 02 07 09.7
comp=Z,3µm,20.0s
SCM Sheep Creek Mo 83.44 27 P **P** **01 32 44.0 -0.9**
baz=253,SNR=18
SCM S **S** **01 43 04.7 -0.2**
baz=253
WAT6 Susitna Watana 83.47 26 P **P** **01 32 43.7 -1.4**
baz=253,SNR=17
WAT6 S **S** **01 43 04.8 -0.5**
baz=253
A21K Barrow 83.50 17 P **P** **01 32 44.4 -0.4**
baz=243
FID Port Fidalgo 83.52 28 IAMs_20 IAMs_20 02 06 36.4
comp=Z,3µm,20.0s
NEA2 Nenana 83.53 24 IAmb IAmb 01 32 45.3
comp=Z,41nm,1.3s
NEA2 IAMs_20 IAMs_20 02 03 54.6
comp=Z,2µm,21.0s
NEA2 Nenana 83.53 24 P **P** **01 32 43.6 -1.6**
baz=251,SNR=12
NEA2 S **S** **01 43 05.5 -0.1**
baz=251
E22K Anaktuvuk Pass 83.72 20 P **P** **01 32 45.8 -0.4**
baz=248
E22K S **S** **01 43 07.6 +0.2**
baz=248
H23K Yukon River 83.74 23 IAMs_20 IAMs_20 02 03 02.2
comp=Z,2µm,22.0s
H23K Yukon River 83.74 23 P **P** **01 32 46.1 -0.1**
baz=251,SNR=12
H23K S **S** **01 43 08.0 +0.3**
baz=251
DHY Denali Highway 83.78 26 P **P** **01 32 45.6 -1.1**
baz=253,SNR=37
DHY S **S** **01 43 10.0 +1.5**
baz=253
EYAK Cordova Ski Ar 83.81 28 P **P** **01 32 46.3 -0.3**
baz=255
JMDO Jabal Madar 83.83 293 P **P** **01 32 49.0 +1.3**
SNR=5.4
MHTO MHTO 83.84 291 P **P** **01 32 48.3 +0.7**
SNR=9.8
G23K Bananza Creek 83.86 22 P **P** **01 32 46.6 -0.3**
baz=250,SNR=16
G23K S **S** **01 43 10.7 +1.8**
baz=250
WRH Wood River Hil 83.89 24 IAmb IAmb 01 32 46.8
comp=Z,53nm,1.1s
BIDO Bidbid 83.91 294 P **P** **01 32 49.0 +1.1**
SNR=13
SMDO Samad 83.94 293 P **P** **01 32 49.1 +0.8**
SNR=9.3
COLD Coldfoot 83.97 21 P **P** **01 32 47.3 -0.1**
baz=250,SNR=11
COLD S **S** **01 43 11.0 +1.1**
baz=250
KLU Klutina 83.98 28 P **P** **01 32 46.9 -0.8**
baz=254,SNR=14
KLU S **S** **01 43 11.3 +0.9**
baz=254
MDM Murphy Dome 83.99 24 IAmb IAmb 01 32 55.9
comp=Z,85nm,2.0s
MDM IAMs_20 IAMs_20 02 04 19.7
comp=Z,2µm,21.0s
M24K Tolsona, Glenn 84.04 27 IAMs_20 IAMs_20 02 03 27.1
comp=Z,2µm,22.0s
M24K Tolsona, Glenn 84.04 27 P **P** **01 32 47.1 -0.8**
baz=254,SNR=11
M24K S **S** **01 43 11.6 +0.7**
baz=254
CCB Clear Creek Bu 84.06 24 IAmb IAmb 01 32 47.5
comp=Z,52nm,1.0s
CCB IAMs_20 IAMs_20 02 04 12.2
comp=Z,2µm,22.0s
TCOL CIGO, UAF Yank 84.11 24 IAmb IAmb 01 32 51.4
comp=Z,24nm,0.8s
TCOL IAMs_20 IAMs_20 02 04 12.0
comp=Z,3µm,22.0s
TCOL CIGO, UAF Yank 84.11 24 P **P** **01 32 46.3 -1.8**
baz=252
COLA College 84.11 24 P **P** **01 32 46.9 -1.2**
COLA IAmb IAmb 01 32 51.4
comp=Z,24nm,0.8s
COLA College 84.11 24 IAMs_20 IAMs_20 02 04 12.0
comp=Z,2µm,22.0s
COLA College 84.11 24 P **P** **01 32 46.5 -1.6**
COLA pmax pmax
comp=Z,35nm,1.2s
COLA College 84.11 24 P **P** **01 32 46.2 -1.9**
baz=252
RAGM Ragged Mountai 84.29 29 IAMs_20 IAMs_20 02 10 57.3
comp=Z,2µm,18.0s
JASK Jask - Hormozg 84.34 296 P **P** **01 32 52.5 +2.3**
SNR=6.0
HDA Harding Lake 84.35 25 IAmb IAmb 01 32 49.5
comp=Z,32nm,0.9s
HDA Harding Lake 84.35 25 P **P** **01 32 46.9 -2.5**
baz=253,SNR=22
HDA S **S** **01 43 09.6 -4.2**
baz=253
HDA S **S** **01 43 09.6 -4.2**
baz=253
POKR Poker Plat Res 84.36 24 IAMs_20 IAMs_20 02 04 31.5
comp=Z,3µm,22.0s
POKR Poker Plat Res 84.36 24 P **P** **01 32 47.2 -2.2**
baz=253
POKR S **S** **01 43 09.6 -4.2**
baz=253
H24K Noodor Dome 84.40 23 IAmb IAmb 01 32 52.6
comp=Z,42nm,1.1s
H24K IAMs_20 IAMs_20 02 04 57.5
comp=Z,2µm,22.0s
H24K Noodor Dome 84.40 23 P **P** **01 32 48.6 -1.0**
baz=252,SNR=21
H24K S **S** **01 43 13.7 -0.6**
baz=252
D23K Nanushuk River 84.41 20 P **P** **01 32 49.8 +0.3**
baz=249,SNR=8.5
D23K S **S** **01 43 14.7 +0.4**
baz=249
RER Riviere de l'E 84.45 249 P **P** **01 32 51.0 +0.1**
E23K Chandalar 84.46 21 P **P** **01 32 49.8 -0.2**
baz=250,SNR=11
E23K S **S** **01 43 15.0 0.0**
baz=250
BMRM Bremner River 84.47 28 IAmb IAmb 01 32 50.9
comp=Z,49nm,1.0s
BMRM Bremner River 84.47 28 P **P** **01 32 49.3 -0.8**
baz=256,SNR=11
BMRM S **S** **01 43 14.3 -0.9**
baz=256
ILAR Eielson Array 84.48 24 P **P** **01 32 48.2 -1.8**
comp=Z,17nm,0.8s,baz=256,slow=4.8,SNR=114
ILAR LR LR 02 04 46.1
comp=Z,1µm,21.8s,baz=240,slow=32
comp=Z,17nm,0.8s
HARP HAARP 84.57 27 P **P** **01 32 49.7 -0.8**
baz=255,SNR=6.4
HARP S **S** **01 43 15.8 -0.4**
baz=255
PAX Paxson 84.58 26 P **P** **01 32 49.7 -1.0**
baz=255,SNR=9.5
PAX S **S** **01 43 14.9 -1.4**
baz=255
N25K Chitina, Valde 84.63 28 IAmb IAmb 01 33 14.6
comp=Z,47nm,1.3s
N25K Chitina, Valde 84.63 28 P **P** **01 32 50.6 -0.4**
baz=256,SNR=7.0
N25K S **S** **01 43 16.4 -0.5**
baz=256
HOQ Hoqain 84.66 294 P **P** **01 32 53.0 +1.1**
SNR=17
HOQ P **P** **01 32 53.0 +1.1**
SNR=17
K24K Donnelly Dome 84.67 25 P **P** **01 32 50.2 -0.8**
baz=254,SNR=13
K24K S **S** **01 43 16.3 -0.8**
baz=254
TOLK Toolik Lake Re 84.67 20 IAmb IAmb 01 32 53.2
comp=Z,42nm,1.1s
TOLK IAMs_20 IAMs_20 02 05 54.7
comp=Z,2µm,21.0s
TOLK Toolik Lake Re 84.67 20 P **P** **01 32 50.8 -0.2**
baz=250,SNR=9.1
TOLK S **S** **01 43 17.2 +0.2**
baz=250
C23K Itkillik River 84.74 19 P **P** **01 32 50.9 -0.3**
baz=249,SNR=8.0
C23K S **S** **01 43 16.1 -1.4**
baz=249
BERG Berg Lake 84.76 29 P **P** **01 32 51.3 -0.3**
G24K Hadweenzic Riv 84.81 22 P **P** **01 32 51.7 +0.1**
baz=252,SNR=19
G24K S **S** **01 43 18.5 +0.1**
baz=252
E24K Your Creek 84.87 21 P **P** **01 32 51.7 -0.3**
baz=252
E24K S **S** **01 43 17.9 -1.1**
baz=252
BGLC Bering Glacier 84.90 29 P **P** **01 32 51.3 -0.8**
baz=257
F24K Squaw Lake 84.91 21 P **P** **01 32 52.6 +0.4**
baz=252,SNR=15
F24K S **S** **01 43 18.1 -1.3**
baz=252
GLB Gilahina Butte 84.95 28 IAmb IAmb 01 32 53.2
comp=Z,46nm,1.0s
GLB IAMs_20 IAMs_20 02 08 56.8
comp=Z,2µm,20.0s
RIDG Independent Ri 85.06 25 P **P** **01 32 51.6 -1.4**
baz=255
RIDG S **S** **01 43 19.1 -1.9**
baz=255
J25K Salcha River, 85.06 25 IAmb IAmb 01 32 55.0
comp=Z,37nm,1.1s
J25K Salcha River, 85.06 25 P **P** **01 32 51.3 -1.8**
baz=255,SNR=26
D24K Happy Valley 85.10 20 P **P** **01 32 53.5 +0.5**
baz=251
SNH Sunshine Point 85.13 29 IAMs_20 IAMs_20 02 04 56.6
comp=Z,2µm,19.0s
WAX Waxell Ridge 85.18 29 IAMs_20 IAMs_20 02 09 59.0
comp=Z,2µm,20.0s
PRP Porcupine Dome 85.24 24 P **P** **01 32 51.4 -2.6**
baz=254,SNR=7.6
TGL Tana Glacier 85.26 29 IAMs_20 IAMs_20 02 03 44.6
comp=Z,3µm,22.0s
MCARA McCarthy VSAT 85.31 28 IAmb IAmb 01 33 10.0
comp=Z,43nm,1.0s
MCARA IAMs_20 IAMs_20 02 09 17.8
comp=Z,2µm,20.0s
MCARA McCarthy VSAT 85.31 28 P **P** **01 32 53.5 -0.8**
baz=257,SNR=5.1
GEYT Alibeck 85.32 308 P **P** **01 32 55.6 +0.7**
comp=Z,50nm,1.1s,baz=180,slow=0.1,SNR=83
GEYT S **S** **01 43 17.9 -6.7**
comp=Z,0.7nm,0.7s,baz=353,slow=10,SNR=1.0
GEYT LR LR 02 14 03.4
comp=Z,1µm,20.3s,baz=98,slow=38
comp=Z,50nm,1.1s
GEYT Alibeck 85.32 308 P **P** **01 32 55.2 +0.3**
GYA0 ALIBECK ARRAY 85.32 308 P **P** **01 32 54.6 -0.3**
C24K Franklin Bluff 85.33 19 P **P** **01 32 54.2 0.0**
baz=251
H25K Birch Creek 85.33 23 P **P** **01 32 53.0 -1.2**
baz=254,SNR=12
MENT Mentasta 85.35 26 IAmb IAmb 01 33 03.6
comp=Z,34nm,0.9s
ARQ Araqi 85.36 293 P **P** **01 32 56.1 +0.8**
SNR=11
DOT Dot Lake 85.37 26 IAmb IAmb 01 32 55.1
comp=Z,54nm,1.0s
AB31 Akbulak array 85.45 320 *i* P **P** **01 32 53.9 -1.3**
ABKAR Akbulak array 85.45 320 P **P** **01 32 54.1 -1.1**
ISLE Juniper Island 85.46 29 IAMs_20 IAMs_20 02 08 47.4
comp=Z,2µm,22.0s
SCRK Sand Creek 85.48 25 IAMs_20 IAMs_20 02 05 06.7
comp=Z,2µm,21.0s
SCRK Sand Creek 85.48 25 P **P** **01 32 54.1 -1.1**
baz=256
L26K Log Cabin Wild 85.53 26 IAmb IAmb 01 32 56.3
comp=Z,31nm,0.9s
L26K IAMs_20 IAMs_20 02 06 56.7
comp=Z,3µm,22.0s
L26K Log Cabin Wild 85.53 26 P **P** **01 32 54.5 -0.9**
baz=257,SNR=5.8
M26K Nabesna, AK 85.55 27 P **P** **01 32 54.8 -0.7**
baz=257
MESA MESA 85.56 29 IAMs_20 IAMs_20 02 08 49.1
comp=Z,2µm,20.0s
MESA MESA 85.56 29 P **P** **01 32 55.0 -0.8**
baz=258
FYU Fort Yukon 85.64 23 IAMs_20 IAMs_20 02 05 44.6
comp=Z,2µm,21.0s
YAH Yahtse 85.70 29 IAmb IAmb 01 32 57.7
comp=Z,52nm,1.1s
YAH IAMs_20 IAMs_20 02 08 54.6
comp=Z,2µm,20.0s
MDH Madha 85.71 295 *i* P **P** **01 32 55.6 -1.5**
SNR=10
BANOM Banah 85.76 296 P **P** **01 32 59.0 +1.7**
SNR=7.0
BANOM Banah 85.76 296 *i* P **P** **01 32 56.7 -0.6**
SNR=14
F25K Christian Rive 85.76 22 P **P** **01 32 56.6 +0.2**
baz=254,SNR=13
UOSS Minazif 85.77 295 P **P** **01 32 55.9 -1.4**
UOSS Minazif 85.77 295 *i* P **P** **01 32 56.2 -1.1**
SNR=11
J26L Joseph Creek 85.79 25 IAmb IAmb 01 33 03.7
comp=Z,66nm,1.4s
J26L IAMs_20 IAMs_20 02 05 16.4
comp=Z,2µm,22.0s
J26L Joseph Creek 85.79 25 P **P** **01 32 55.8 -0.9**
baz=256,SNR=28
HATD Hatta, Dubai 85.83 295 P **P** **01 32 59.0 +1.3**
SNR=8.7
HATD Hatta, Dubai 85.83 295 *i* P **P** **01 32 57.2 -0.4**
SNR=12
MSFE Esma-Masafi 85.84 295 *i* P **P** **01 32 56.8 -1.0**
SNR=15
MASF Masafi 85.84 295 P **P** **01 32 58.7 +0.9**
SNR=9.4
MASF P **P** **01 32 58.7 +0.9**
SNR=9.4
ASHO Ashiyiah 85.88 295 P **P** **01 32 59.0 +1.0**
SNR=7.4
ASHO Ashiyiah 85.88 295 *i* P **P** **01 32 56.8 -1.2**
SNR=11
SHME Shamm 85.91 296 P **P** **01 32 59.7 +1.7**
SNR=7.4
SHME Shamm 85.91 296 *i* P **P** **01 32 57.3 -0.7**
SNR=18
E25K Arctic Village 85.93 21 P **P** **01 32 57.3 0.0**
baz=254,SNR=10
D25K Kavik River 85.98 20 P **P** **01 32 57.2 -0.3**
baz=253
TABL Table Mountain 86.01 29 IAmb IAmb 01 32 59.1
comp=Z,60nm,1.0s
TABL IAMs_20 IAMs_20 02 09 03.8
comp=Z,3µm,21.0s
CTG Chitna Glacier 86.02 29 P **P** **01 32 57.7 -0.3**
baz=258,SNR=20
CTGM Chitina Glacie 86.02 29 IAMs_20 IAMs_20 02 04 09.0
comp=Z,2µm,22.0s
M27K Edge Creek, AK 86.05 27 P **P** **01 32 57.8 -0.3**
baz=258,SNR=35
ALNE Al Ain 86.12 294 P **P** **01 32 59.8 +0.7**
SNR=17
ALNE Al Ain 86.12 294 *i* P **P** **01 32 58.5 -0.6**
SNR=18
I26K Coal Creek Min 86.15 24 P **P** **01 32 57.0 -1.4**
baz=257
LOGN Logan Glacier 86.15 29 P **P** **01 32 57.9 -0.7**
LOGN IAmb IAmb 01 32 59.9
comp=Z,44nm,1.0s
LOGN IAMs_20 IAMs_20 02 10 11.6
comp=Z,2µm,20.0s
L27K Beaver Creek, 86.22 26 IAmb IAmb 01 32 60.0
comp=Z,40nm,1.1s
L27K IAMs_20 IAMs_20 02 10 29.8
comp=Z,3µm,20.0s
L27K Beaver Creek, 86.22 26 P **P** **01 32 58.3 -0.5**
baz=258,SNR=34
NAZ Nazwa, Dubai 86.26 295 P **P** **01 33 01.0 +1.2**
SNR=7.0
NAZ P **P** **01 33 01.0 +1.2**
SNR=7.0
NAZ Nazwa, Dubai 86.26 295 *i* P **P** **01 32 58.7 -1.0**
SNR=11
G26K Porcupine Rive 86.29 22 P **P** **01 32 59.2 +0.3**
baz=256,SNR=26
FAQ Al Faqa, Dubai 86.31 295 P **P** **01 33 01.0 +1.0**
SNR=11
FAQ Al Faqa, Dubai 86.31 295 *i* P **P** **01 32 59.0 -1.1**
SNR=9.2
K27K Chicken 86.31 25 IAmb IAmb 01 33 00.9
comp=Z,51nm,1.0s
K27K Chicken 86.31 25 P **P** **01 32 59.4 +0.2**
baz=258
F26K Sheenjek River 86.34 22 P **P** **01 32 59.8 +0.6**
baz=256,SNR=26
F26K S **S** **01 43 40.4 +7.0**
baz=256
PCA Pinnacle 86.38 30 IAmb IAmb 01 33 05.5
comp=Z,52nm,1.0s
PINM Pinnacle 86.38 30 P **P** **01 32 58.4 -1.3**
baz=260
BVCY Beaver Creek 86.53 27 P **P** **01 33 00.0 -0.3**
baz=259,SNR=13
BVCY S **S** **01 43 39.5 +4.1**
baz=259
O28M Mount Upton 86.53 29 P **P** **01 32 60.0 -0.7**
baz=260,SNR=14
O28M S **S** **01 43 39.8 +3.7**
baz=260
ASUD Al Ashush, Dub 86.54 295 P **P** **01 33 03.0 +1.8**
SNR=5.8
ASUD Al Ashush, Dub 86.54 295 *i* P **P** **01 33 00.5 -0.7**
SNR=11
YUK3 Moose Creek 86.59 28 P **P** **01 33 00.3 -0.5**
baz=259,SNR=34
YUK3 S **S** **01 43 40.1 +3.6**
baz=259
C26K Camden Bay 86.64 19 P **P** **01 33 00.8 +0.2**
baz=255
C26K S **S** **01 43 40.4 +4.2**
baz=255
BCPM Bancas Point 86.66 30 IAMs_20 IAMs_20 02 06 34.1
comp=Z,2µm,21.0s
PNL Peninsula 86.73 30 P **P** **01 33 00.4 -0.9**
baz=260
PNL S **S** **01 43 41.3 +3.9**
baz=260
I27K Kandik River 86.84 24 P **P** **01 33 01.9 0.0**
baz=258,SNR=23
I27K S **S** **01 43 38.9 +0.5**
baz=258
AKTO Aktyubinsk 86.84 321 LR LR 02 11 57.0
comp=Z,958nm,21.6s,baz=87,slow=36
AKTO Aktyubinsk 86.84 321 P **P** **01 33 00.4 -1.7**
AJN Ajban 86.85 295 P **P** **01 33 02.9 +0.2**
SNR=5.7
AJN P **P** **01 33 02.9 +0.2**
SNR=5.7
AJN Ajban 86.85 295 *i* P **P** **01 33 01.7 -1.0**
SNR=13
EGAK Eagle 86.86 25 IAmb IAmb 01 33 02.1
comp=Z,42nm,1.3s
EGAK IAMs_20 IAMs_20 02 09 23.7
comp=Z,2µm,20.0s
EGAK Eagle 86.86 25 P **P** **01 33 01.4 -0.4**
baz=258,SNR=12
EGAK S **S** **01 43 40.2 +1.7**
baz=258
C27K Jago River 86.97 20 P **P** **01 33 02.3 0.0**
baz=256,SNR=10
C27K S **S** **01 43 40.8 +1.3**
baz=256
H27K Steamboat Moun 87.01 23 P **P** **01 33 02.5 -0.1**
baz=258,SNR=32
H27K S **S** **01 43 41.2 +1.2**
baz=258
G27K Doyon Strip 87.08 23 P **P** **01 33 02.8 -0.1**
baz=258,SNR=12
G27K S **S** **01 43 43.3 +2.8**
baz=258
O29M Mount Kennedy 87.24 29 P **P** **01 33 03.5 -0.5**
baz=261,SNR=9.3
O29M S **S** **01 43 44.1 +1.5**
baz=261
ARU Arti 87.29 327 LR LR 02 14 01.2
comp=Z,1µm,19.8s,baz=84,slow=37
ARU Arti 87.29 327 P **P** **01 33 02.6 -1.5**
ARU IAMs_20 IAMs_20 02 14 52.9

comp=Z,2µm,18.0s
ARU Arti 87.29 327 *de*P **P 01 33 02.4 -1.7**
ARU pmax pmax
comp=Z,17nm,1.0s
YUK4 Talbot Arm 87.37 28 P **P 01 33 04.7 +0.1**
baz=261,SNR=14
YUK4 S **S 01 43 45.6 +1.6**
baz=261
E27K Coleen River 87.39 21 P **P 01 33 04.3 -0.1**
baz=258,SNR=35
E27K S **S 01 43 45.1 +1.6**
baz=258
YUK6 Outpost Mounta 87.44 29 P **P 01 33 04.6 -0.5**
baz=261
YUK6 S **S 01 43 44.5 -0.3**
baz=261
DAWY Dawson 87.48 26 P **P 01 33 04.5 -0.4**
baz=260,SNR=43
DAWY S **S 01 43 45.3 +0.7**
baz=260
P29M Windy Craggy 87.56 30 IAMs_20 IAMs_20 02 07 02.3
comp=Z,2µm,21.0s
P29M Windy Craggy 87.56 30 P **P 01 33 05.2 -0.1**
baz=262,SNR=7.7
P29M S **S 01 43 46.8 +1.3**
baz=262
M29M Somme Creek 87.63 27 P **P 01 33 05.7 -0.1**
baz=261,SNR=43
M29M S **S 01 43 46.0 -0.3**
baz=261
HYT Haines Junctio 87.84 29 P **P 01 33 06.6 -0.3**
baz=262,SNR=28
HYT S **S 01 43 48.2 -0.2**
baz=262
QSPA South Pole Qui 87.87 180 LR LR 02 12 41.7
comp=Z,5µm,19.2s,baz=7.0,slow=36
QSPA South Pole Qui 87.87 180 P **P 01 33 06.8 -0.1**
L29M L29M 87.88 27 P **P 01 33 06.7 -0.2**
baz=261,SNR=35
L29M S **S 01 43 48.7 +0.2**
baz=261
P30M Million Dollar 88.01 30 P **P 01 33 07.8 +0.3**
baz=262
P30M S **S 01 43 49.0 -0.9**
baz=262
J29M Klondike Camp 88.05 25 P **P 01 33 07.3 -0.3**
baz=261
N30M Aishikik Lake 88.13 28 P **P 01 33 07.6 -0.5**
baz=262,SNR=17
N30M S **S 01 43 52.2 +1.3**
baz=262
MZR Muzera 88.14 293 P **P 01 33 09.9 +1.0**
SNR=10.0
MZR P **P 01 33 09.9 +1.0**
SNR=10.0
MZR Muzera 88.14 293 *i* P **P 01 33 08.1 -0.8**
SNR=15
I29M Ogilvie Camp, 88.15 24 P **P 01 33 07.5 -0.6**
baz=261,SNR=33
I29M S **S 01 43 50.8 -0.1**
baz=261
PLBC Pleasant Camp 88.23 30 P **P 01 33 07.6 -0.9**
baz=263,SNR=9.2
PLBC S **S 01 43 50.6 -1.2**
baz=263
K29M Barlow Dome 88.26 26 P **P 01 33 08.4 -0.3**
baz=262,SNR=46
K29M S **S 01 43 52.2 0.0**
baz=262
M30M Minto, Yukon 88.42 27 IAmb IAmb 01 33 10.8
comp=Z,33nm,1.1s
M30M IAMs_20 IAMs_20 02 10 09.3
comp=Z,3µm,20.0s
M30M Minto, Yukon 88.42 27 P **P 01 33 08.8 -0.6**
baz=262,SNR=14
M30M S **S 01 43 53.6 0.0**
baz=262
SIT Sitka 88.50 33 P **P 01 33 09.6 -0.1**
baz=264
SIT S **S 01 43 56.0 +1.7**
baz=264
O30N Mendenhall 88.52 29 P **P 01 33 09.7 -0.3**
baz=263,SNR=11
O30N S **S 01 43 56.1 +1.5**
baz=263
SKAG Skagway 88.75 31 P **P 01 33 10.3 -0.7**
baz=264,SNR=9.5
SKAG S **S 01 43 58.4 +1.7**
baz=264
N31M Braeburn, Yuko 88.75 28 IAmb IAmb 01 33 12.4
comp=Z,47nm,1.0s
N31M IAMs_20 IAMs_20 02 07 24.4
comp=Z,3µm,22.0s
N31M Braeburn, Yuko 88.75 28 P **P 01 33 10.9 -0.2**
baz=263,SNR=10
N31M S **S 01 43 57.5 +0.7**
baz=263
BESE Bessie Mountai 88.91 31 P **P 01 33 11.3 -0.5**
BESE IAmb IAmb 01 33 13.0
comp=Z,49nm,1.1s
EPYK Eagle Plains 88.94 24 P **P 01 33 11.4 -0.4**
baz=262
EPYK S **S 01 43 57.5 -0.9**
baz=262
S32K Killisnoo 88.94 33 P **P 01 33 11.3 -0.6**
baz=264
S32K S **S 01 43 59.6 +1.1**
baz=264
MAYO Mayo, Yukon 88.95 26 P **P 01 33 11.5 -0.3**
baz=263
R32K Eaglecrest 89.05 32 P **P 01 33 11.7 -0.8**
baz=265
WHY Whitehorse 89.10 29 IAmb IAmb 01 33 13.3
comp=Z,50nm,1.2s
WHY Whitehorse 89.10 29 P **P 01 33 12.2 -0.5**
baz=264,SNR=15
WHY S **S 01 44 00.6 +0.4**
baz=264
JIS Juneau Island 89.12 32 IAmb IAmb 01 33 13.2
comp=Z,33nm,1.3s
JIS IAMs_20 IAMs_20 02 09 01.3
comp=Z,2µm,20.0s
M31M Drury Creek, Y 89.48 28 P **P 01 33 13.4 -1.1**
baz=265,SNR=11
M31M S **S 01 44 03.0 -0.6**
baz=265
CRAG Craig 89.58 35 P **P 01 33 14.8 -0.1**
baz=266
CRAG S **S 01 44 06.1 +1.6**
baz=266
P32M Atlin 89.58 30 P **P 01 33 14.7 -0.2**
baz=265
P32M S **S 01 44 06.2 +1.5**
baz=265
U33K Whale Pass 89.63 34 P **P 01 33 14.5 -0.7**
baz=266
U33K S **S 01 44 04.0 -1.0**
baz=266
T33K Petersburg 89.77 33 P **P 01 33 15.5 -0.3**
baz=266
FARO Faro, Yukon 89.97 28 IAmb IAmb 01 33 17.6
comp=Z,45nm,1.0s
FARO Faro, Yukon 89.97 28 P **P 01 33 16.2 -0.5**
baz=266,SNR=23
N32M Quiet Lake 90.02 29 P **P 01 33 16.4 -0.6**
baz=266
N32M S **S 01 44 08.8 +0.1**
baz=266
WRAK Wrangell Islan 90.08 34 IAmb IAmb 01 33 18.3
comp=Z,32nm,1.1s
WRAK Wrangell Islan 90.08 34 IAMs_20 IAMs_20 02 09 20.3
comp=Z,2µm,20.0s
WRAK Wrangell Islan 90.08 34 P **P 01 33 16.9 -0.3**
baz=266,SNR=5.8
WRAK S **S 01 44 10.6 +1.4**
baz=266
P33M Teslin, Yukon 90.08 30 P **P 01 33 16.4 -1.0**
baz=266,SNR=8.3
P33M S **S 01 44 09.4 0.0**
baz=266
F31M Tsiigehtchic 90.23 23 P **P 01 33 16.5 -1.2**
baz=265
F31M S **S 01 44 09.5 -0.7**
baz=265
Q32M Nakina River 90.28 31 P **P 01 33 18.1 -0.4**
baz=266
Q32M S **S 01 44 12.7 +1.2**
baz=266

INK Inuvik 90.38 22 P **P 01 33 17.2 -1.2**
comp=Z,21nm,1.0s,baz=267,slow=5.4,SNR=20
INK S **SKSac 01 43 45.1 -3.0**
comp=Z,1.5nm,0.8s,baz=210,slow=4.7,SNR=1.9
INK LR LR 02 09 18.8
comp=Z,1µm,22.0s,baz=243,slow=33
comp=Z,21nm,1.0s
INK Inuvik 90.38 22 IAmb IAmb 01 33 18.6
comp=Z,35nm,1.1s
INK Inuvik 90.38 22 P **P 01 33 17.1 -1.3**
baz=265
INK S **S 01 44 10.8 -0.7**
baz=265
V35K Ketchikan 90.43 35 P **P 01 33 18.2 -0.7**
baz=267
V35K S **S 01 44 13.1 +0.6**
baz=267
S34M Telegraph Cree 90.82 32 P **P 01 33 20.1 -0.6**
baz=267,SNR=6.5
S34M S **S 01 44 15.5 -0.5**
baz=267
MMPY Sheldon Lake, 90.97 28 P **P 01 33 21.0 -0.4**
baz=267,SNR=13
MMPY S **S 01 44 16.5 -0.9**
baz=267
R33M Jennings River 90.97 31 P **P 01 33 20.5 -1.1**
baz=268,SNR=9.9
R33M S **S 01 44 18.9 +1.2**
baz=268
T35M Bob Quinn 91.26 33 P **P 01 33 21.3 -1.5**
baz=268
DLBC Dease Lake 91.42 32 P **P 01 33 23.2 -0.4**
comp=Z,11nm,0.9s,baz=275,slow=4.4,SNR=17
DLBC LR LR 02 10 23.5
comp=Z,2µm,20.2s,baz=283,slow=33
comp=Z,11nm,0.9s
DLBC Dease Lake 91.42 32 P **P 01 33 23.3 -0.3**
DLBC Dease Lake 91.42 32 P **P 01 33 22.7 -0.9**
baz=268,SNR=7.3
DLBC S **S 01 44 24.2 +2.6**
baz=268
WTLY Watson Lake, Y 92.09 30 IAmb IAmb 01 33 27.6
comp=Z,27nm,0.9s
WTLY Watson Lake, Y 92.09 30 P **P 01 33 25.8 -0.8**
baz=270
TGTN Hyland Airport 92.35 29 P **P 01 33 27.3 -0.5**
baz=270,SNR=8.3
TGTN S **S 01 44 33.0 +3.1**
baz=270
KIRV Kirov 92.36 328 LR LR 02 16 24.6
comp=Z,2µm,20.8s,baz=91,slow=36
BBB Bella Bella 92.42 38 LR LR 02 07 55.9
comp=Z,1µm,20.6s,baz=271,slow=31
VOI Vohitsoka 92.76 248 P **P 01 33 29.9 -0.8**
VOI IAmb IAmb 01 33 31.4
comp=Z,46nm,1.4s
VOI Vohitsoka 92.76 248 P **P 01 33 32.5 +1.9**
A36M Sachs Harbour 93.25 18 P **P 01 33 32.6 +1.0**
baz=273
BELG Belogornoye 93.44 322 LR LR 02 17 12.0
comp=Z,1µm,20.7s,baz=76,slow=37
BELG Belogornoye 93.44 322 *d* P **P 01 33 31.2 -1.7**
BELG pmax pmax
comp=Z,12nm,1.0s
MAK Makhachkala 93.66 313 *e*P P 01 33 28.6 -5.5
MAK *e* 01 37 15.7
MAK *e* 01 44 00.1
MAK *e*SS SS 01 50 59.7 -0.4
MAK *e*SSS SSS 01 54 35.8
MAK pmax pmax
comp=Z,76nm,1.2s
C36M Paulatuk 93.81 21 P **P 01 33 34.3 0.0**
baz=274
PRGR Permogore 94.17 332 *e*P **P 01 33 32.6 -3.5**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
WRGLY Wrigley 94.53 27 P **P 01 33 36.6 -1.0**
baz=274
FLDN Fort Liard 94.74 30 P **P 01 33 38.3 -0.4**
baz=274
C03A Quillayute Air 94.78 42 IAmb IAmb 01 33 41.0
comp=Z,42nm,1.2s
GROC Groznyy 94.90 313 *e*P **P 01 33 37.8 -2.1**
GROC *e* 01 37 29.7
GROC *e*S **SKSac 01 44 12.4 -2.0**
GROC pmax pmax
comp=Z,40nm,1.0s
NLWA Neilton Lookou 95.27 43 P **P 01 33 40.3 -1.3**
NLWA IAmb IAmb 01 33 42.9
comp=Z,26nm,1.1s
WISH Wishkah 95.35 43 IAmb IAmb 01 33 47.9
comp=Z,36nm,1.1s
RADR Rader Ridge 95.37 44 IAmb IAmb 01 33 43.4
comp=Z,45nm,1.1s
J01E Myrtle Point 95.41 47 IAMs_20 IAMs_20 02 07 34.9
comp=Z,2µm,21.0s
J01E Myrtle Point 95.41 47 P **P 01 33 41.8 -0.4**
baz=272
JCC Jacoby Creek, 95.42 49 IAMs_20 IAMs_20 02 12 44.7
comp=Z,1µm,19.0s
I02E Swisshome, OR 95.43 46 IAMs_20 IAMs_20 02 18 37.4
comp=Z,1µm,18.0s
I02E Swisshome, OR 95.43 46 P **P 01 33 41.4 -0.9**
baz=272
RAYN Ar Rayn 95.48 293 P **P 01 33 41.9 -1.1**
RAYN Ar Rayn 95.48 293 P **P 01 33 41.9 -1.1**
RAYN pmax pmax
comp=Z,28nm,2.0s
RAYN Ar Rayn 95.48 293 P **P 01 33 41.8 -1.2**
E03A Lebam 95.52 44 P **P 01 33 42.9 +0.3**
K02D Willamette Mer 95.62 47 P **P 01 33 42.7 -0.6**
baz=272
KHMM Horse Mountain 95.65 49 IAmb IAmb 01 33 45.3
comp=Z,21nm,1.0s
L02F Cave Junction 95.72 48 P **P 01 33 43.0 -0.6**
baz=272
L02F S **S 01 45 03.5 +3.4**
baz=272
G03D McMinnville, O 95.80 45 IAmb IAmb 01 33 45.1
comp=Z,23nm,1.1s
G03D McMinnville, O 95.80 45 P **P 01 33 43.8 -0.1**
baz=273
GNI Garni 95.80 310 LR LR 02 20 46.8
comp=Z,566nm,21.6s,baz=88,slow=38
I03D Drain, OR 95.81 46 P **P 01 33 43.7 -0.3**
baz=273
F04D Rainier, OR 95.93 44 P **P 01 33 44.0 -0.5**
baz=273
HUMO Hull Mountain 96.15 48 P **P 01 33 45.5 -0.1**
HUMO IAMs_20 IAMs_20 02 13 26.5
comp=Z,2µm,20.0s
H04D Lebanon 96.21 46 P **P 01 33 45.5 -0.3**
baz=273,SNR=5.1
HOPS Hopland Field 96.23 51 IAMs_20 IAMs_20 02 17 04.8
comp=Z,2µm,20.0s
ZEI Tsey 96.31 313 *e*P **P 01 33 44.6 -2.0**
ZEI pmax pmax
comp=Z,12nm,1.0s
YBH Yreka Blue Hor 96.38 48 P **P 01 33 47.2 +0.4**
comp=Z,6.2nm,0.9s,baz=188,slow=2.8,SNR=12
YBH LR LR 02 08 41.8
comp=Z,2µm,22.0s,baz=284,slow=30
comp=Z,6.2nm,0.9s
YBH Yreka Blue Hor 96.38 48 IAmb IAmb 01 33 52.6
comp=Z,20nm,1.2s
MCCM Marconi Confer 96.41 52 IAMs_20 IAMs_20 02 17 40.8
comp=Z,1µm,18.0s
I04A Tendick Farm, 96.48 46 P **P 01 33 46.4 -0.8**
baz=273
H04A Detroit Lake 96.59 45 IAmb IAmb 01 33 53.9
comp=Z,28nm,1.8s
L04D Klamath Falls 96.65 48 IAmb IAmb 01 33 56.9
comp=Z,28nm,1.4s
L04D IAMs_20 IAMs_20 02 08 26.8
comp=Z,2µm,22.0s
L04D Klamath Falls 96.65 48 P **P 01 33 47.6 -0.5**
baz=273
J04D Umpqua Nationa 96.74 47 IAmb IAmb 01 33 49.5
comp=Z,20nm,0.8s
J04D Umpqua Nationa 96.74 47 P **P 01 33 48.2 -0.3**
baz=274
GOF Gofitskoye 96.79 315 ⇓ *e*P **P 01 33 46.2 -2.2**
B06A Marblemount 96.80 42 IAmb IAmb 01 33 49.1
comp=Z,18nm,1.1s
KBZ Khabaz 96.99 314 P **P 01 33 47.7 -1.6**
comp=Z,2.6nm,0.8s,baz=130,slow=3.9,SNR=5.9
KBZ S **SKSac 01 44 25.2 -0.1**

comp=Z,0.9nm,0.8s,baz=357,slow=13,SNR=1.4
KBZ PKKP **PKKPbc 01 50 29.8 -1.8**
comp=Z,1.8nm,0.9s,baz=264,slow=7.8,SNR=3.9
KBZ LR LR 02 21 21.9
comp=Z,363nm,20.2s,baz=58,slow=38
comp=Z,2.6nm,0.8s
KBZ Khabaz 96.99 314 ⇓ *e*P **P 01 33 47.3 -2.0**
KBZ pmax pmax
comp=Z,8.0nm,1.4s
K04D Chiloquin, OR 97.04 47 P **P 01 33 49.2 -0.6**
baz=274
KARS Kars 97.04 311 P **P 01 33 49.3 -0.6**
KARS Kars 97.04 311 P **P 01 33 49.3 -0.6**
KARS pmax pmax
comp=Z,252nm,2.0s
KVAR Kislovodsk Arr 97.12 314 LR LR 02 20 25.1
comp=Z,307nm,20.4s,baz=289,slow=37
KIV Kislovodsk 97.12 314 *i* P **P 01 33 48.7 -1.4**
KIV *i* 01 37 47.5
KIV *i* S **S 01 45 04.6 -7.7**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,1µm,24.0s
VRH Novokhopyorsk 97.17 321 *e*P **P 01 33 46.8 -3.1**
VRH *e* 01 37 48.5
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,2µm,21.0s
KLMR Klimovskoe 97.19 331 *e*P **P 01 33 46.5 -3.3**
KLMR *e* 01 37 41.1
KLMR S **SKSac 01 44 22.9 -2.7**
KLMR PS PS 01 46 27.9 -8.5
KLMR SS **SS 01 51 42.6 -6.6**
KLMR pmax pmax
comp=Z,9.0nm,1.2s
KLMR MLR MLR
comp=Z,2µm,19.0s
KLMR Klimovskoe 97.19 331 *e*P **P 01 33 46.5 -3.3**
KLMR *e*P **P 01 33 46.5 -3.3**
KLMR *e*P **P 01 33 46.5 -3.3**
KLMR AMP 01 33 59.0
comp=Z,9.0nm,1.2s
KLMR *e*PP **PP 01 37 41.2 -4.8**
KLMR S **SKSac 01 44 22.9 -2.7**
KLMR *S* **SKSac 01 44 22.9 -2.7**
KLMR PS **PS 01 46 28.0 -8.4**
KLMR PS **PS 01 46 28.0 -8.4**
KLMR *e*PKKP **PKKPbc 01 50 29.2 -2.5**
KLMR SS **SS 01 51 42.7 -6.5**
KLMR SS **SS 01 51 42.7 -6.5**
KLMR LQ LQ 02 06 28.0
KLMR LQ LQ 02 06 28.0
KLMR LR LR 02 07 20.8
KLMR AMP 02 19 11.4
comp=Z,2µm,19.1s
I05D Terrebonne, OR 97.22 46 P **P 01 33 50.0 -0.5**
baz=274
J05D Fort Rock, OR 97.37 47 P **P 01 33 51.0 -0.3**
baz=274,SNR=10
ORV Oroville 97.42 51 IAmb IAmb 01 33 52.0
comp=Z,13nm,1.0s
PINE Pine Mountain 97.55 46 IAmb IAmb 01 33 57.9
comp=Z,16nm,1.0s
SAO San Andreas Ge 97.62 53 IAMs_20 IAMs_20 02 10 12.9
comp=Z,2µm,20.0s
K05A Summer Lake 97.66 47 IAmb IAmb 01 33 54.6
comp=Z,16nm,0.9s
AFDM Forest Hills D 97.86 51 IAmb IAmb 01 33 54.3
comp=Z,12nm,0.9s
MOD Modoc Plateau 98.16 48 IAmb IAmb 01 33 55.3
comp=Z,17nm,1.2s
MOD IAMs_20 IAMs_20 02 09 27.8
comp=Z,2µm,22.0s
B08A Colville Reser 98.24 42 IAmb IAmb 01 33 55.3
comp=Z,12nm,1.0s
BEKR Beckworth 98.28 50 IAmb IAmb 01 33 56.2
comp=Z,11nm,0.9s
HAWA Hanford 98.31 44 P **P 01 33 54.9 -0.4**
APA Apatity 98.42 338 ⇓ *i* P 01 33 49.4 -5.8
APA *i* 01 37 53.0
APA *i* 01 44 28.0
APA pmax pmax
comp=Z,5.0nm,0.8s
I07A Izee 98.56 46 IAmb IAmb 01 34 03.7
comp=Z,25nm,1.8s
YKA Yellowknife Ar 98.65 27 P **P 01 33 55.6 -0.8**
comp=Z,8.6nm,0.9s,baz=279,slow=4.7,SNR=18
YKA LR LR 02 14 07.2
comp=Z,2µm,21.8s,baz=286,slow=33
comp=Z,8.6nm,0.9s
D08A Wollman Farm, 98.66 43 IAmb IAmb 01 33 56.8
comp=Z,19nm,1.5s
VORR Voronezh 98.67 322 *e*P **P 01 33 55.0 -1.7**
VORR *e* 01 38 05.1
VORR pmax pmax
comp=Z,10.0nm,0.4s
SPITS Spitsbergen Ar 98.68 350 LR LR 02 18 21.7
comp=Z,3µm,20.2s,baz=14,slow=35
LPSR Galich'ya Gora 98.72 323 *e*P **P 01 33 53.0 -3.9**
LPSR *e* 01 37 58.8
LPSR pmax pmax
comp=Z,20nm,1.2s
LPSR MLR MLR
comp=Z,640nm,16.0s
VSR Storozhevoye 98.76 321 *e*P **P 01 33 54.4 -2.7**
VSR *e* 01 37 55.1
VSR pmax pmax
comp=Z,20nm,1.4s
VSR MLR MLR
comp=Z,1µm,19.0s
G08A Pilot Rock 98.82 45 IAmb IAmb 01 33 57.9
comp=Z,16nm,1.6s
VCNR Virginia City 98.86 51 IAmb IAmb 01 33 58.7
comp=Z,10nm,1.0s
SMMC Simmler 98.88 55 P **P 01 33 57.5 -0.7**
baz=274
PNTR Pine Nut 98.92 51 IAmb IAmb 01 33 59.6
comp=Z,13nm,1.0s
MOS Moscow 98.99 326 *e*P **P 01 33 54.7 -3.4**
MOS *i* 01 38 03.2
MARD Mardin 99.05 307 P **Pdif 01 33 56.9 -2.0**
KOPT Kop Dagi 99.06 310 IAmb IAmb 01 34 08.6
comp=Z,16nm,0.9s
PKM Mcpherson Peak 99.06 55 P **Pdif 01 33 58.5 -0.6**
baz=274
SOC Sochi 99.30 314 *e*P **Pdif 01 33 56.2 -3.5**
SOC *e* 01 37 59.2
SOC *e*PPP PPP 01 40 05.5
SOC *e*S **SKSac 01 44 34.4 -2.7**
SOC MLR MLR
comp=Z,1µm,21.0s
WVOR Wild Horse Val 99.35 47 IAmb IAmb 01 34 02.0
comp=Z,12nm,0.8s
WVOR IAMs_20 IAMs_20 02 15 59.1
comp=Z,2µm,19.0s
J08A Circle Bar Ran 99.37 47 IAmb IAmb 01 34 02.3
comp=Z,13nm,1.1s
SNCC San Nicolas Is 99.40 57 P **Pdif 01 33 59.9 -0.6**
baz=274
OBN Obninsk 99.69 326 LR LR 02 21 18.5
comp=Z,333nm,20.1s,baz=68,slow=37
OBN Obninsk 99.69 326 *de*P **Pdif 01 33 58.9 -2.3**
OBN *e* 01 38 04.9
OBN *e*PPP PPP 01 40 12.1
OBN *i* S **SKSac 01 44 39.6 +1.1**
OBN *e*SS **SS 01 52 26.4 +1.8**
OBN *e*SSS SSS 01 56 15.5
OBN pmax pmax
comp=Z,20nm,1.3s
NEW Newport 99.72 41 P **Pdif 01 34 01.0 -0.5**
comp=Z,2.4nm,0.7s,baz=236,slow=8.3,SNR=5.3
NEW LR LR 02 18 18.8
comp=Z,1µm,18.1s,baz=290,slow=35
comp=Z,2.4nm,0.7s
NEW Newport 99.72 41 IAMs_20 IAMs_20 02 19 01.4
comp=Z,2µm,19.0s
NEW Newport 99.72 41 P **Pdif 01 34 00.8 -0.7**
baz=278
LHV Little Huntoon 99.85 52 Pdif **Pdif 01 34 02.4 +0.1**
KEV Kevo 99.95 341 IAMs_20 IAMs_20 02 23 43.9
comp=Z,2µm,20.0s
NVAR Mina Array Bea 99.99 51 P **Pdif 01 34 03.2 -0.1**
comp=Z,5.8nm,0.9s,baz=257,slow=6.3,SNR=39
NVAR PP **PP 01 38 10.2 +1.8**

comp=Z,0.3nm,0.7s,baz=260,slow=8.8,SNR=3.5
NVAR LR LR 02 15 02.9
comp=Z,1µm,18.8s,baz=274,slow=33
comp=Z,5.8nm,0.9s
NV11 Mina Array Sit 100.10 51 Pdif **Pdif 01 34 03.3 -0.4**
CIS Catalina Islan 100.32 57 P **Pdif 01 34 03.4 -1.2**
baz=274
CWC Cottonwood Cre 100.34 53 P **Pdif 01 34 03.7 -1.1**
baz=275
PASC Pasadena Art C 100.45 56 IAMs_20 IAMs_20 02 11 22.0
comp=Z,2µm,21.0s
ARCES ARCESS Array B 100.52 341 P **Pdif 01 34 02.9 -1.8**
comp=Z,2.1nm,0.6s,baz=64,slow=5.5,SNR=9.0
ARCES PKiKP **PKiKP 01 38 31.0 0.0**
comp=Z,1.6nm,0.8s,baz=355,slow=1.9,SNR=5.8
ARCES PKKPbc **PKKPbc 01 50 20.5 -2.1**
comp=Z,2.2nm,1.0s,baz=325,slow=1.1,SNR=4.9
EDW2 Edwards Air Fo 100.55 55 P **Pdif 01 34 04.4 -1.2**
baz=275
LRMC Laurel Mtn Rad 100.75 54 P **Pdif 01 34 06.0 -0.6**
baz=275
MPMC Manual Prospec 100.86 54 P **Pdif 01 34 06.2 -0.9**
baz=275
GRAC Grapevine Rang 100.86 53 P **Pdif 01 34 06.0 -0.9**
baz=276
TPH Tonopah 100.87 52 Pdif **Pdif 01 34 06.4 -0.7**
TPH Tonopah 100.87 52 P **Pdif 01 34 06.4 -0.7**
BFSC Mount Baldy Ra 100.88 56 P **Pdif 01 34 05.9 -1.3**
baz=275
FURC Furnace Creek, 101.32 53 P **Pdif 01 34 08.2 -0.7**
baz=276
MURC Murrieta 101.32 56 P **Pdif 01 34 07.9 -1.1**
baz=275
TROLL Troll, Antarti 101.36 192 Pdiff **Pdif 01 34 09.7 +1.2**
109C Camp Elliot, M 101.46 57 IAMs_20 IAMs_20 02 15 37.7
comp=Z,1µm,20.0s
GSC Goldstone, Bar 101.48 55 P **Pdif 01 34 08.9 -0.9**
baz=276
TPNV Topopah Spring 101.76 53 Pdif **Pdif 01 34 10.6 -0.5**
TPNV Topopah Spring 101.76 53 P **Pdif 01 34 10.6 -0.5**
TPNV Topopah Spring 101.76 53 P **Pdif 01 34 09.9 -1.2**
baz=276
SHOC Shoshone, Teco 101.85 54 P **Pdif 01 34 10.6 -0.7**
baz=276
PFO Pinyon Flats O 101.93 56 IAMs_20 IAMs_20 02 11 40.3
comp=Z,2µm,21.0s
PFO Pinyon Flats O 101.93 56 P **Pdif 01 34 10.5 -1.3**
baz=276
TPFO Pinon Flats 101.93 56 P **Pdif 01 34 10.3 -1.6**
baz=276
MONP2 Monument Peak 102.03 57 P **Pdif 01 34 11.5 -0.9**
baz=275
MSO Missoula 102.07 43 P **Pdif 01 34 11.7 -0.5**
baz=280
ELK Elko 102.08 49 P **Pdif 01 34 12.3 -0.2**
comp=Z,1.6nm,0.8s,baz=253,slow=1.5,SNR=6.1
ELK Elko 102.08 49 Pdif **Pdif 01 34 12.8 +0.3**
ELK IAMs_20 IAMs_20 02 15 06.5
comp=Z,1µm,19.0s
ELK Elko 102.08 49 P **Pdif 01 34 12.8 +0.3**
R11A Troy Canyon, C 102.12 51 P **Pdif 01 34 12.3 -0.4**
baz=277
TUQ Turquoise Moun 102.18 54 P **Pdif 01 34 12.2 -0.7**
baz=276
BELC Belle Mtn. Jos 102.27 56 P **Pdif 01 34 12.5 -0.9**
baz=276
HLID Hailey 102.28 46 P **Pdif 01 34 13.2 -0.1**
baz=279
IKP In-Ko-Pah, Jac 102.31 57 P **Pdif 01 34 12.5 -1.1**
baz=276
GMRC Granite Mounta 102.47 55 P **Pdif 01 34 13.6 -0.6**
baz=276
SWSC Sam W. Stewart 102.54 57 P **Pdif 01 34 13.6 -0.8**
baz=276
SNAA Sanae 102.70 191 Pdiff **Pdif 01 34 15.3 +1.0**
SNAA Sanae 102.70 191 Pdif **Pdif 01 34 15.3 +1.0**
SNAA Sanae 102.70 191 P **Pdif 01 34 15.4 +1.0**
SNAA MLR MLR
comp=Z,5µm,19.0s
BC3 Big Chuckawall 102.76 56 P **Pdif 01 34 14.8 -0.7**
baz=276
IRM Iron Mountain 102.96 56 P **Pdif 01 34 15.9 -0.4**
baz=276
FINES FINESS Array B 103.33 333 Pdiff **Pdif 01 34 15.6 -1.7**
comp=Z,2.4nm,0.7s,baz=83,slow=4.3,SNR=10
FINES PKiKP **PKiKP 01 38 34.8 -1.5**
comp=Z,2.0nm,0.8s,baz=116,slow=6.3,SNR=4.0
FINES PKKPbc **PKKPbc 01 50 12.7 -1.4**
comp=Z,2.0nm,0.8s,baz=198,slow=8.6,SNR=4.0
PDMCI Parker Dam,Lak 103.77 55 P **Pdif 01 34 19.3 -0.6**
baz=277
BOZ Bozeman (W) 103.88 44 P **Pdif 01 34 19.6 -0.7**
baz=281
DUG Dugway, Tooele 103.99 49 P **Pdif 01 34 20.7 -0.2**
baz=279
LCMT Little Creek M 104.14 52 Pdif **Pdif 01 34 20.9 -0.7**
BRTR Keskin Array B 104.33 310 Pdiff **Pdif 01 34 20.7 -1.7**
comp=Z,1.2nm,0.8s,baz=125,slow=5.3,SNR=9.6
BRTR PKiKP **PP 01 38 40.0 -1.0**
comp=Z,0.8nm,0.8s,baz=101,slow=6.4,SNR=2.4
BRTR PKKPbc **PKKPbc 01 50 10.3 -0.3**
comp=Z,0.6nm,0.9s,baz=132,slow=1.8,SNR=4.6
EGMT Eagleton 104.61 41 IAMs_20 IAMs_20 02 22 23.8
comp=Z,1µm,19.0s
HWUT Hardware Ranch 104.68 48 IAMs_20 IAMs_20 02 13 26.2
comp=Z,2µm,22.0s
MNK Minsk 104.72 326 *i* P **Pdif 01 34 22.8 -0.7**
MNK *i* 01 38 38.5
MNK *i* 01 45 48.9
MNK *i* PS **PS 01 47 51.2 -5.8**
MNK *i* SS SS 01 53 28.9 -5.1
MNK *i* SSS SSS 01 57 26.5
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK MLR MLR
comp=Z,999nm,17.0s
MNK MLR MLR
comp=E,111nm,17.0s
MNK Minsk 104.72 326 *i* P **Pdif 01 34 22.8 -0.7**
comp=E,2.0nm,0.9s
MNK *i* P **Pdif 01 34 22.8 -0.7**
MNK *i* P **Pdif 01 34 22.8 -0.7**
comp=Z,10.0nm,0.9s,baz=73
MNK *i* PP **PKiKP 01 38 38.5 -0.5**
MNK *i* PPP PPP 01 40 50.4
MNK *i* SKS 01 45 48.9
MNK *i* PS **PS 01 47 51.2 -5.8**
MNK *i* SS **SS 01 53 28.9 -5.1**
MNK *i* SSS SSS 01 57 26.5
MNK *i* LQ LQ 02 11 08.2
MNK *i* LR LR 02 15 32.5
MNK *i* LRM MLR 02 21 38.5
comp=Z,999nm,17.2s
MNK *i* LRM MLR 02 21 53.1
comp=E,111nm,17.2s
AHID Auburn Hatcher 104.80 46 IAMs_20 IAMs_20 02 24 33.4
comp=Z,1µm,19.0s
MTPU Mount Pierson 104.82 51 Pdif **Pdif 01 34 25.8 +0.9**
AKASG Malin Array Be 105.02 322 Pdiff **Pdif 01 34 24.7 -0.3**
comp=Z,0.2nm,0.3s,baz=64,slow=5.8,SNR=7.5
AKASG PKiKP **PKiKP 01 38 40.6 +0.9**
comp=Z,1.0nm,0.7s,baz=50,slow=2.3,SNR=4.3
AKASG PKKPbc **PKKPbc 01 50 07.0 -1.7**
comp=Z,2.7nm,0.9s,baz=268,slow=2.8,SNR=9.9
NACGM Naroch 105.20 327 PP **PKiKP 01 38 36.3 -3.6**
baz=71
TMUT Trail Mountain 105.36 50 Pdif **Pdif 01 34 27.7 +0.5**
WUAZ Wupatki 105.86 54 IAMs_20 IAMs_20 02 12 59.9
comp=Z,1µm,21.0s
BW06 Boulder Array 105.92 46 IAMs_20 IAMs_20 02 18 08.8
comp=Z,1µm,20.0s
PDAR Pinedale Array 105.92 46 Pdiff **Pdif 01 34 29.4 -0.1**
comp=Z,1.6nm,1.0s,baz=251,slow=2.8,SNR=7.5
PDAR PKiKP **PKiKP 01 38 42.9 +0.9**
comp=Z,0.2nm,0.4s,baz=291,slow=2.7,SNR=2.5
PDAR PKKPbc **PKKPbc 01 50 04.7 -1.3**
comp=Z,0.5nm,0.8s,baz=92,slow=3.6,SNR=4.1
KIS Kishinev 106.25 319 *e*P **Pdif 01 34 44.0 +13**
KIS Kishinev 106.25 319 *e*PS PS 01 48 10.0 -3.2
KIS LQM 02 23 18.3
comp=Z,500nm,20.0s
KIS LRM MLR 02 23 34.0
comp=Z,400nm,18.3s
KIS Kishinev 106.25 319 *e*P **Pdif 01 34 17.0 -14**
KIS Kishinev 106.25 319 *e*PP **PP 01 38 53.0 -1.6**
KIS Kishinev 106.25 319 *e*PS PS 01 48 11.0 -2.2
KIS LRM MLR 02 23 26.0
comp=Z,900nm,18.0s
KIS Kishinev 106.25 319 *e*P **Pdif 01 34 43.8 +13**
KIS *e* 01 38 53.3
KIS *e*PS **PS 01 48 10.0 -3.2**
RDMU Red Mountain 106.36 48 Pdif **Pdif 01 34 32.1 +0.6**
TUC Tucson 106.82 57 IAMs_20 IAMs_20 02 15 58.8
comp=Z,1µm,21.0s
LAO LASA Array 107.27 42 IAMs_20 IAMs_20 02 20 29.2
comp=Z,1µm,20.0s
LAO LASA Array 107.27 42 P **PKiKP 01 38 44.4 +0.3**
baz=286
MVCO Mesa Verde 107.84 52 IAMs_20 IAMs_20 02 17 05.5
comp=Z,1µm,21.0s
MVCO Mesa Verde 107.84 52 P **PKiKP 01 38 44.5 -1.2**
baz=281
RWWY Rawlins 107.86 47 IAMs_20 IAMs_20 02 15 53.2
comp=Z,1µm,22.0s
DGMT Dagmar 108.07 39 IAMs_20 IAMs_20 02 16 10.0
comp=Z,1µm,21.0s
MLR Muntele Rosu 108.58 318 IAMs_20 IAMs_20 02 27 57.4
comp=Z,2µm,22.0s
SLBS Sierra La Lagu 108.64 66 IAMs_20 IAMs_20 02 15 32.8
comp=Z,2µm,22.0s
RSSD Black Hills 109.47 44 IAMs_20 IAMs_20 02 28 13.6
comp=Z,1µm,19.0s
RSSD Black Hills 109.47 44 P **PKiKP 01 38 48.0 -0.5**
baz=287
RSSD Black Hills 109.47 44 P **PKiKP 01 38 47.5 -1.0**
baz=287
ISCO Idaho Springs 109.48 48 IAMs_20 IAMs_20 02 23 19.5
comp=Z,2µm,21.0s
NB2 NORSAR Subarra 109.87 336 PKKP 01 49 51.7
comp=Z,17nm,2.0s,baz=235,slow=4.4
NB2 NORSAR Subarra 109.87 336 PKKP 01 49 51.7
baz=235,slow=4.4
NOA NORSAR Array B 109.87 336 PKiKP **PKiKP 01 38 48.4 -0.1**
comp=Z,0.7nm,0.8s,baz=50,slow=2.1,SNR=3.4
NOA PKKPbc **PKKPbc 01 49 52.6 -1.3**
comp=Z,1.3nm,0.9s,baz=55,slow=3.2,SNR=5.5
NOA PKKPab **PKKPab 01 50 04.1 +0.5**
comp=Z,0.6nm,0.6s,baz=244,slow=6.1,SNR=4.3
ANMO Albuquerque 109.92 54 PKKPab PKKPab 01 50 04.1 +0.3
comp=Z,3.4nm,1.0s,baz=130,slow=6.0,SNR=8.2
ANMO Albuquerque 109.92 54 IAMs_20 IAMs_20 02 19 21.4
comp=Z,1µm,21.0s
SDCO Great Sand Dun 110.06 50 IAMs_20 IAMs_20 02 26 58.9
comp=Z,1µm,21.0s
CRVS Cervenica-Dubn 110.36 322 *e*P **Pdif 01 34 49.2 +0.4**
CRVS Cervenica-Dubn 110.36 322 *e*PDIFF **Pdif 01 34 49.2 +0.4**
EPT El Paso 110.49 57 IAMs_20 IAMs_20 02 18 26.0
comp=Z,2µm,21.0s
SCO Scoresbysund 110.74 354 IAMs_20 IAMs_20 02 20 35.9
comp=Z,2µm,22.0s
KONO Kongsberg 111.33 336 ⇓ *i*PKIKP **PKiKP 01 38 53.1 +1.9**
KONO pmax pmax
comp=Z,37nm,2.5s
MNTX Cornudas Mount 111.45 57 P **PKiKP 01 38 52.7 +0.4**
baz=281
MNTX Cornudas Mount 111.45 57 P **PKiKP 01 38 51.5 -0.9**
baz=281
PSZ Piszkesteto 111.69 321 IAMs_20 IAMs_20 02 27 50.5
comp=Z,2µm,21.0s
OGNE Ogallala 111.81 46 IAMs_20 IAMs_20 02 30 03.9
comp=Z,1µm,19.0s
OKC Ostrava-Krasne 111.99 324 *e*PP PP 01 39 45.2 +9.1
OKC *e*PS **PS 01 49 05.2 -4.5**
OKC AMS AMS 02 26 20.0
comp=Z,1µm,24.0s
VYHS Vyhne 112.12 322 *e*P **Pdif 01 34 56.9 +0.2**
VYHS Vyhne 112.12 322 *e*PDIFF **Pdif 01 34 56.9 +0.2**
MORC Moravsky Berou 112.37 324 *e*PP **PP 01 39 39.5 +0.6**
MAUC Maruska 112.37 324 *e*PKP **PKiKP 01 38 54.6 +1.0**
MAUC *e*PP PP 01 39 48.4 +9.4
MAUC *e*PS **PS 01 49 09.7 -3.7**
MAUC AMS AMS 02 30 00.0
comp=Z,3µm,19.3s
ILULI Ilulissat 112.51 4 IAMs_20 IAMs_20 02 25 51.8
comp=Z,1µm,21.0s
KRLC Kraliky 112.68 325 *e*PKIKP **PKiKP 01 38 54.7 +0.5**
KRLC *e* 01 39 06.3
KRLC *e* 01 39 42.0
KRLC *e* 01 49 11.2
KRLC MLR MLR
comp=Z,1µm,20.7s
KRLC Kraliky 112.68 325 *e*PKP **PKiKP 01 38 54.7 +0.5**
KRLC *ex* x 01 39 06.3
KRLC *e*PP **PP 01 39 42.0 +0.8**
KRLC *e*PS **PS 01 49 11.2 -5.0**
KRLC AMS AMS 02 24 50.0
comp=Z,1µm,20.7s
OSTC Ostas 112.80 325 *e*PP **PP 01 39 42.8 +0.9**
OSTC *e*PS **PS 01 49 12.8 -4.4**
OSTC AMS AMS 02 26 40.0
comp=Z,2µm,20.5s
DPC Dobruska-Polom 112.83 325 *e*PKIKP **PKiKP 01 38 55.4 +0.9**
DPC *e* 01 39 42.8
DPC *e* 01 49 14.7
DPC MLR MLR
comp=Z,1µm,18.8s
DPC Dobruska-Polom 112.83 325 *e*PKP **PKiKP 01 38 55.4 +0.9**
DPC *ex* x 01 39 12.0
DPC *e*PP **PP 01 39 42.8 +0.6**
DPC *e*PS **PS 01 49 14.7 -2.8**
DPC AMS AMS 02 24 50.0
comp=Z,1µm,18.8s
CHVC Chvalec 112.88 325 *e*PP **PP 01 39 41.2 -1.3**
CHVC *e*PKKP PKKPbc 01 49 14.5 -29
CHVC AMS AMS 02 26 20.0
comp=Z,2µm,22.3s
UPC Upice 112.94 325 *e*PP **PP 01 39 43.6 +0.7**
UPC *e*PS PKKPbc 01 49 12.4 -31
UPC AMS AMS 02 26 20.0
comp=Z,2µm,22.8s
MSTX Muleshoe 113.10 54 P **PKiKP 01 38 54.3 -1.3**
baz=284
VRAC Vranov 113.13 324 *e*PP **PP 01 39 45.0 +0.7**
AGMN Agassiz Nation 113.30 37 P **PKiKP 01 38 54.2 -1.1**
baz=295
AGMN Agassiz Nation 113.30 37 P **PKiKP 01 38 53.8 -1.5**
baz=295
KRUC Moravsky 113.35 324 *e*PP **PP 01 39 43.7 -2.2**
TX31 Lajitas Ar. Si 113.36 59 P **PKiKP 01 38 55.6 -0.6**
baz=281
TXAR Lajitas Array 113.36 59 PKiKP **PKiKP 01 38 55.6 -0.6**
comp=Z,1.5nm,0.9s,baz=206,slow=2.3,SNR=13
TXAR PKKPbc **PKKPbc 01 49 42.3 +0.8**
comp=Z,0.3nm,0.5s,baz=122,slow=6.2,SNR=4.0
TXAR PKKPab **PKKPab 01 49 49.4 +0.9**
comp=Z,2.6nm,0.9s,baz=120,slow=5.3,SNR=14
PVCC Panska Ves 113.74 326 *e*PP **PP 01 39 54.1 +5.5**
PVCC *e*PS **PS 01 49 22.9 -2.9**
PVCC AMS AMS 02 31 00.0
comp=Z,2µm,19.1s
AMTX Amarillo 113.75 53 IAMs_20 IAMs_20 02 18 27.8
comp=Z,1µm,21.0s
AMTX Amarillo 113.75 53 P **PKiKP 01 38 55.9 -0.9**
baz=285
TREC Trest 113.78 324 *e*PP **PP 01 39 51.7 +2.7**
TREC *e*PS **PS 01 49 17.4 -8.9**
TREC AMS AMS 02 25 30.0
comp=Z,2µm,23.5s
GOPC GO Pecny, Ondr 113.91 325 *e*PP **PP 01 39 55.7 +5.9**
GOPC *e*PS **PS 01 49 24.6 -2.8**
GOPC AMS AMS 02 27 20.0
comp=Z,2µm,23.0s
BRG Berggiesshubel 113.93 326 *e*PKP **PKiKP 01 38 57.0 +0.5**
BRG Amp 01 38 58.3
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 113.93 326 PP **PP 01 39 54.0 +4.1**
BRG Berggiesshubel 113.93 326 SS SS 01 55 50.0 +12
BRG Amp 02 27 56.0
comp=Z,2.4nm,21.2s
BRG Amp 02 28 01.0
comp=E,1.7nm,22.6s
BRG Amp 02 28 03.0
comp=N,1.4nm,24.5s
BRG Berggiesshubel 113.93 326 *e*PKIKP **PKiKP 01 38 56.9 +0.5**
BRG 01 39 54.0
BRG PS **PS 01 49 27.0 -0.5**
BRG SS SS 01 55 50.0 +12
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG MLR MLR
comp=E,2µm,22.6s
BRG MLR MLR
comp=N,1µm,24.5s
PRU Pruhonice 114.01 325 *e*PKIKP **PKiKP 01 38 57.0 +0.3**
PRU *e* 01 39 46.8
PRU *e* 01 49 21.8
PRU MLR MLR
comp=Z,2µm,23.1s
PRU Pruhonice 114.01 325 *e*PKP **PKiKP 01 38 57.0 +0.3**
PRU *e*PP **PP 01 39 46.8 -3.7**
PRU *e*PS **PS 01 49 21.8 -6.5**
PRU AMS AMS 02 27 30.0
comp=Z,2µm,23.1s
F33A 5 Mile Ranch, 114.04 40 P PKPdf 01 38 55.8 -1.0
baz=294
TIR Tirane 114.08 315 IAMs_20 IAMs_20 02 31 29.2
comp=Z,1µm,22.0s
PDG Podgorica 114.13 316 IAMs_20 IAMs_20 02 31 36.3
comp=Z,1µm,22.0s
CBKS Cedar Bluff 114.14 48 IAMs_20 IAMs_20 02 24 50.6
comp=Z,1µm,20.0s
CBKS Cedar Bluff 114.14 48 P PKPdf 01 38 55.9 -1.4
baz=288
CLL Collm 114.24 327 *e*P **Pdif 01 35 05.0 -1.0**
CLL *e* 01 38 57.0
CLL pmax pmax
comp=Z,4.0nm,1.1s
CLL MLR MLR
comp=Z,3µm,18.8s
CLL Collm 114.24 327 *e*Pdif **Pdif 01 35 05.0 -1.0**
CLL *e*PKiKP PKPdf 01 38 57.0 0.0
comp=Z,4.0nm,1.1s
CLL *e*PP **PP 01 39 51.0 -1.0**
CLL *e*PPP PPP 01 42 18.0
CLL *e*SKKSac SKKSac 01 46 51.0 -1.9
CLL *e*Sdif **Sdif 01 47 42.0 +7.1**
CLL *e*PS **PS 01 49 26.0 -4.3**
CLL *e*PPS PPS 01 50 36.0
CLL *ex* x 01 51 06.0
CLL *e*SS **SS 01 55 46.0 +4.2**
CLL *e*SSS SSS 02 00 00.0
CLL *ex* x 02 01 00.0
CLL *e*SSSS 02 03 24.0
CLL LmV 02 33 00.0
CLL Lmax 02 34 00.0
BGNE Belgrade 114.44 45 P PKPdf 01 38 57.0 -0.8
baz=290
ECSD EROS Data Cent 114.65 42 IAMs_20 IAMs_20 02 25 09.6
comp=Z,1µm,21.0s
ECSD EROS Data Cent 114.65 42 P **PKiKP 01 38 57.1 -1.0**
baz=292
CKRC Cesky Krumlov 114.69 324 *e*PKP PKPdf 01 38 58.2 +0.2
CKRC *ex* x 01 39 09.9
CKRC *e*PP **PP 01 39 51.7 -3.7**
CKRC *e*PKKP PKKPbc 01 49 27.9 -10
SFJD Kangerlussuaq 114.72 5 IAMs_20 IAMs_20 02 21 22.3
comp=Z,2µm,22.0s
KHC Kasperske Hory 114.97 325 *e*PKIKP PKPdf 01 38 58.8 +0.2
KHC *e* 01 39 55.1
KHC *e* 01 49 33.7
KHC MLR MLR
comp=Z,2µm,23.7s
KHC Kasperske Hory 114.97 325 *e*PKP PKPdf 01 38 58.8 +0.2
KHC *e*PP **PP 01 39 55.1 -2.2**
KHC *e*PS **PKKPbc 01 49 33.7 -2.8**
KHC AMS AMS 02 27 50.0
comp=Z,2µm,23.7s
GERES GERESS Array B 115.03 324 PKP **PKiKP 01 38 58.1 -0.7**
comp=Z,1.5nm,0.6s,baz=105,slow=1.9,SNR=17
NKC Novy Kostel 115.08 326 *e*PP **PP 01 39 55.7 -2.3**
NKC *e*PS **PKKPbc 01 49 36.6 +0.4**
NKC AMS AMS 02 30 00.0
comp=Z,3µm,19.1s
MOA Molln 115.16 323 *i* P **PKPdf 01 38 59.4 +0.5**
comp=Z,5.6nm,1.2s
OK038 West end E0370 115.60 50 IAMs_20 IAMs_20 02 23 04.6
comp=Z,1µm,21.0s
F36A Milaca 115.79 39 **PKiKP 01 38 59.3 -0.9**
F36A Milaca 115.79 39 P **PKiKP 01 38 59.0 -1.2**
baz=296
LJU Ljubljana 115.81 321 *e*SP SP 01 49 39.6 -1.8
OK032 Salt Plains WL 115.91 50 IAMs_20 IAMs_20 02 20 47.7
comp=Z,1µm,21.0s
EYMN Ely 116.07 36 P **PKiKP 01 38 59.4 -1.3**
baz=299
KBA Koelnbreinsper 116.07 323 *i* P **PKPdf 01 39 01.1 +0.1**
comp=Z,6.0nm,0.9s
WMOK Wichita Mounta 116.08 52 IAMs_20 IAMs_20 02 26 34.6
comp=Z,1µm,19.0s
MYKA Terra Mystica 116.10 322 *e*P **PKiKP 01 39 00.2 -0.7**
comp=Z,6.3nm,1.0s
KSU1 Kansas State U 116.35 47 IAMs_20 IAMs_20 02 25 41.9
comp=Z,1µm,20.0s
KSU1 Kansas State U 116.35 47 P **PKPdf 01 39 00.7 -0.8**
baz=290
JCT Junction City 116.38 57 **PKPdf 01 39 01.0 -0.9**
JCT IAMs_20 IAMs_20 02 26 36.0
comp=Z,1µm,20.0s
JCT Junction City 116.38 57 PKIKP **PKPdf 01 39 01.0 -0.9**
JCT MLR MLR
comp=Z,1µm,20.0s
JCT Junction City 116.38 57 P **PKPdf 01 39 01.4 -0.5**
baz=284,SNR=5.8
JCT Junction City 116.38 57 P **PKPdf 01 39 00.9 -0.9**
baz=284
SPMN Marine on St. 116.52 39 P **PKPdf 01 39 00.5 -1.1**
baz=296
ANGG Ammassalik, Gr 116.57 359 IAMs_20 IAMs_20 02 29 10.0
comp=Z,1µm,18.0s
I37B Waseca 116.66 41 P **PKPdf 01 39 00.7 -1.3**
baz=295
E38A The Farm, Brul 116.67 38 P **PKPdf 01 39 00.4 -1.5**
baz=298
OK049 E0420 Rd and N 116.72 50 IAMs_20 IAMs_20 02 28 13.3
comp=Z,1µm,20.0s
ABTA Abfaltersbach 116.73 323 *i* P **PKPdf 01 39 01.4 -0.8**
comp=Z,2.1nm,1.3s
OK050 Pawnee Station 116.97 50 IAMs_20 IAMs_20 02 28 30.1
comp=Z,1µm,18.0s
OK045 Pawnee Station 117.00 50 IAMs_20 IAMs_20 02 28 22.6
comp=Z,1µm,20.0s
WATA Walderalm 117.01 324 *i* P **PKPdf 01 39 02.6 -0.1**
comp=Z,8.8nm,1.1s
WTTA Wattenberg 117.01 324 *i* P **PKPdf 01 39 02.5 -0.3**
comp=Z,1.3nm,1.1s
OK046 Pawnee Station 117.03 50 IAMs_20 IAMs_20 02 28 23.4
comp=Z,1µm,20.0s
OK051 E0350 and S346 117.05 50 IAMs_20 IAMs_20 02 31 04.9
comp=Z,1µm,19.0s
TIP Timpagrande 117.06 314 IAMs_20 IAMs_20 02 33 25.3
comp=Z,1µm,21.0s
OK033 Mehan 117.12 50 IAMs_20 IAMs_20 02 28 22.8
comp=Z,1µm,19.0s
OK044 Pawnee Station 117.12 50 IAMs_20 IAMs_20 02 28 31.9
comp=Z,1µm,18.0s
OK047 Pawnee, Statio 117.15 50 IAMs_20 IAMs_20 02 28 33.5
comp=Z,1µm,19.0s
OK030 Cody Creek RV 117.28 50 IAMs_20 IAMs_20 02 28 28.0
comp=Z,1µm,20.0s
MOTA Moosalm 117.28 324 *i* P **PKPdf 01 39 03.1 -0.1**
comp=Z,7.2nm,0.6s
SQTA Sankt Quirin 117.28 324 *e*P **PKPdf 01 39 03.1 -0.1**
comp=Z,9.4nm,0.9s
OK034 N. Norfolk Rd. 117.31 50 IAMs_20 IAMs_20 02 28 28.7
comp=Z,1µm,20.0s
RETA Reutte 117.41 324 *e*P **PKiKP 01 39 04.3 +0.9**
comp=Z,3.7nm,0.9s
FETA Feichten 117.67 324 *e*P **PKiKP 01 39 04.2 +0.1**
comp=Z,10nm,1.1s
SCIA State Center 117.67 43 IAMs_20 IAMs_20 02 20 42.6
comp=Z,1µm,21.0s
DAVA Damuels 118.03 324 *i* P **PKPdf 01 39 03.9 -0.8**
comp=Z,7.8nm,0.6s
TUL1 Leonard 118.04 50 IAMs_20 IAMs_20 02 29 29.2
comp=Z,1µm,18.0s
TUL1 Leonard 118.04 50 P **PKPdf 01 39 03.4 -1.5**
baz=290
G40A Rib Lake 118.13 38 P **PKPdf 01 39 03.9 -0.9**
baz=299
435B Jarrell 118.15 56 IAMs_20 IAMs_20 02 27 32.8
comp=Z,1µm,20.0s
MEM Membach 118.33 329 *d*PKPdf **PKiKP 01 39 05.7 +0.8**
MEM *d*PP **PP 01 40 20.8 +0.2**
P38A Dawn 118.37 45 P **PKPdf 01 39 04.3 -1.1**
baz=293

COWI	**Conover**	**118.38**	**37**	P	**PKPdf**	**01 39 04.8**	**-0.4**		
	baz=300								
CDF	**Champ du Feu**	**118.91**	**326**	*e*PKIKP	**PKPdf**	**01 39 06.2**	**-0.1**		
CDF				pmax	pmax				
	comp=Z,9.0nm,1.2s								
U38A	**Gravette**	**118.93**	**49**	PKPdf	**PKPdf**	**01 39 05.8**	**-0.8**		
U38A	**Gravette**	**118.93**	**49**	P	**PKPdf**	**01 39 05.6**	**-1.0**		
	baz=291,SNR=5.7								
L40A	**Anamosa**	**118.95**	**42**	P	**PKPdf**	**01 39 05.6**	**-0.8**		
	baz=296								
ECH	**Echery**	**119.09**	**326**	IAMs_20	IAMs_20	02 32 13.7			
	comp=Z,1µm,20.0s								
BMRD	**Maredsous**	**119.15**	**329**	*d*PKP	**PKiKP**	**01 39 06.8**	**+0.2**		
JFWS	**Jewell Farm**	**119.21**	**41**	IAMs_20	IAMs_20	02 31 03.0			
	comp=Z,1µm,20.0s								
JFWS	**Jewell Farm**	**119.21**	**41**	P	**PKPdf**	**01 39 05.7**	**-1.1**		
	baz=298								
JFWS	**Jewell Farm**	**119.21**	**41**	P	**PKPdf**	**01 39 05.1**	**-1.8**		
	baz=298								
GIVF	**Givet**	**119.24**	**329**	*e*PKIKP	**PKiKP**	**01 39 07.6**	**+0.8**		
GIVF				pmax	pmax				
	comp=Z,29nm,1.3s								
S39A	**Bolivar**	**119.26**	**47**	P	**PKPdf**	**01 39 06.5**	**-0.7**		
	baz=292,SNR=6.0								
DOU	**Dourbes**	**119.36**	**329**	*d*PKP	**PKiKP**	**01 39 07.3**	**+0.3**		
P40A	**Paris**	**119.46**	**45**	P	**PKPdf**	**01 39 06.8**	**-0.7**		
	baz=294								
HINF	**Hinteralfeld**	**119.48**	**326**	*e*PKIKP	**PKiKP**	**01 39 07.5**	**+0.1**		
HINF				pmax	pmax				
	comp=Z,5.0nm,0.7s								
HAU	**Haudompre**	**119.65**	**326**	*e*PKIKP	**PKiKP**	**01 39 08.0**	**+0.3**		
HAU				pmax	pmax				
	comp=Z,6.0nm,0.6s								
R40A	**Maddies Statio**	**119.80**	**46**	P	**PKPdf**	**01 39 07.1**	**-1.0**		
	baz=293,SNR=8.9								
HKT	**Hockley**	**119.84**	**56**	*d i*PKIKP	**PKPdf**	**01 39 08.2**	**-0.2**		
HKT	**Hockley**	**119.84**	**56**	P	**PKiKP**	**01 39 08.5**	**0.0**		
	baz=286								
L42A	**Oliver, Polo**	**120.01**	**41**	P	**PKPdf**	**01 39 07.6**	**-0.8**		
	baz=298								
MIAR	**Mount Ida**	**120.21**	**51**	P	**PKPdf**	**01 39 09.1**	**0.0**		
	baz=290								
MIAR	**Mount Ida**	**120.21**	**51**	P	**PKPdf**	**01 39 07.9**	**-1.2**		
	baz=290								
NATX	**Nacogdoches**	**120.27**	**54**	IAMs_20	IAMs_20	02 27 27.6			
	comp=Z,1µm,20.0s								
CABF	**La Chapelle**	**120.59**	**325**	*e*PKIKP	**PKiKP**	**01 39 10.4**	**+0.7**		
CABF				pmax	pmax				
	comp=Z,13nm,0.8s								
CCM	**Cathedral Cave**	**120.63**	**46**	PKPdf	**PKPdf**	**01 39 08.6**	**-1.2**		
CCM	**Cathedral Cave**	**120.63**	**46**	IAMs_20	IAMs_20	02 29 00.3			
	comp=Z,1µm,21.0s								
CCM	**Cathedral Cave**	**120.63**	**46**	PKIKP	**PKPdf**	**01 39 08.6**	**-1.2**		
CCM				MLR	MLR				
	comp=Z,1µm,21.0s								
CCM	**Cathedral Cave**	**120.63**	**46**	P	**PKPdf**	**01 39 08.3**	**-1.4**		
	baz=294								
CCM	**Cathedral Cave**	**120.63**	**46**	P	**PKPdf**	**01 39 08.1**	**-1.7**		
	baz=294								
LPG	**La Plagne**	**120.82**	**324**	*e*PKIKP	**PKiKP**	**01 39 10.8**	**+0.4**		
LPG				pmax	pmax				
	comp=Z,6.0nm,0.8s								
LPL	**La Plagne**	**120.82**	**324**	*e*PKIKP	**PKiKP**	**01 39 10.7**	**+0.4**		
LPL				pmax	pmax				
	comp=Z,8.0nm,0.9s								
NRS	**Narsarsuaq**	**120.88**	**3**	IAMs_20	IAMs_20	02 27 32.0			
	comp=Z,2µm,21.0s								
HDIL	**Hopedale**	**120.92**	**43**	IAMs_20	IAMs_20	02 32 26.6			
	comp=Z,1µm,20.0s								
HDIL	**Hopedale**	**120.92**	**43**	P	**PKPdf**	**01 39 09.9**	**-0.4**		
	baz=297								
HDIL	**Hopedale**	**120.92**	**43**	P	**PKPdf**	**01 39 08.7**	**-1.5**		
	baz=297								
E46A	**Sault Ste Mari**	**121.07**	**35**	PKPdf	**PKPdf**	**01 39 10.0**	**-0.3**		
L44A	**Lake County Fo**	**121.08**	**41**	IAMs_20	IAMs_20	02 29 50.4			
	comp=Z,1µm,20.0s								
L44A	**Lake County Fo**	**121.08**	**41**	P	**PKPdf**	**01 39 10.0**	**-0.5**		
	baz=299								
P43A	**Skaggs, Pawnee**	**121.18**	**44**	P	**PKiKP**	**01 39 10.9**	**0.0**		
	baz=296								
MBDF	**Montbardon**	**121.22**	**323**	*e*PKIKP	**PKiKP**	**01 39 12.0**	**+1.0**		
MBDF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
FVM	**French Village**	**121.25**	**46**	P	**PKPdf**	**01 39 10.6**	**-0.3**		
	baz=295								
M44A	**Midewin, Midew**	**121.37**	**41**	P	**PKPdf**	**01 39 10.8**	**-0.3**		
	baz=299								
LOR	**Lormes**	**121.45**	**327**	*e*PKIKP	**PKiKP**	**01 39 11.7**	**+0.5**		
LOR				pmax	pmax				
	comp=Z,13nm,1.2s								
ORIF	**Oris-en-Rattie**	**121.65**	**324**	*e*PKIKP	**PKiKP**	**01 39 12.7**	**+0.9**		
ORIF				pmax	pmax				
	comp=Z,4.0nm,0.6s								
SSF	**Saint Saulge**	**121.77**	**327**	*e*PKIKP	**PKPdf**	**01 39 11.4**	**-0.3**		
SSF				pmax	pmax				
	comp=Z,48nm,1.8s								
SMF	**Signal de Mont**	**121.83**	**326**	*e*PKIKP	**PKiKP**	**01 39 12.3**	**+0.3**		
SMF				pmax	pmax				
	comp=Z,27nm,1.3s								
AVF	**Avril sur Loir**	**122.02**	**327**	*e*PKIKP	**PKPdf**	**01 39 11.6**	**-0.6**		
AVF				pmax	pmax				
	comp=Z,50nm,1.8s								
L46A	**Eue Claire**	**122.20**	**40**	P	**PKPdf**	**01 39 12.3**	**-0.4**		
	baz=300								
L46A				P	**PKPdf**	**01 39 12.3**	**-0.4**		
	baz=300								
S44A	**Carbondale**	**122.21**	**46**	P	**PKPdf**	**01 39 12.4**	**-0.4**		
	baz=296								
SSB	**Saint Sauveur**	**122.23**	**325**		**PKiKP**	**01 39 12.8**	**0.0**		
SSB	**Saint Sauveur**	**122.23**	**325**	IAMs_20	IAMs_20	02 33 24.0			
	comp=Z,2µm,22.0s								
SSB	**Saint Sauveur**	**122.23**	**325**	PKIKP	**PKiKP**	**01 39 12.8**	**0.0**		
SSB				MLR	MLR				
	comp=Z,2µm,22.0s								
BGF	**Bois d'Agland**	**122.43**	**327**	*e*PKIKP	**PKiKP**	**01 39 13.8**	**+0.6**		
BGF				pmax	pmax				
	comp=Z,18nm,0.9s								
SFIN	**Lafayette**	**122.49**	**42**	P	**PKPdf**	**01 39 13.2**	**0.0**		
	baz=299								
SFIN	**Lafayette**	**122.49**	**42**	P	**PKPdf**	**01 39 12.5**	**-0.8**		
	baz=299								
J47A	**Sunmer**	**122.49**	**38**	P	**PKPdf**	**01 39 13.0**	**-0.2**		
	baz=302								
J47A				P	**PKPdf**	**01 39 13.0**	**-0.2**		
	baz=302								
OLIL	**Olney**	**122.57**	**44**	P	**PKPdf**	**01 39 12.6**	**-0.9**		
	baz=297								
FLN	**La Foliniere**	**122.77**	**330**	*e*PKIKP	**PKiKP**	**01 39 14.1**	**+0.4**		
FLN				pmax	pmax				
	comp=Z,66nm,1.6s								
P46A	**Rosedale**	**122.78**	**43**	P	**PKPdf**	**01 39 13.6**	**-0.2**		
	baz=298,SNR=9.7								
SCHQ	**Schefferville**	**122.85**	**18**	PKP	**PKPdf**	**01 39 12.7**	**-0.9**		
	comp=Z,5.2nm,0.6s,baz=150,slow=0.9,SNR=5.1								
TCF	**Toulx Ste Croi**	**122.95**	**327**	*e*PKIKP	**PKPdf**	**01 39 13.8**	**-0.2**		
TCF				pmax	pmax				
	comp=Z,15nm,0.8s								
N47A	**Urbana**	**123.17**	**41**	P	**PKPdf**	**01 39 13.5**	**-1.1**		
	baz=300,SNR=5.8								
N47A				P	**PKPdf**	**01 39 13.5**	**-1.1**		
	baz=300,SNR=5.8								
GRR	**Gorron**	**123.21**	**330**	*e*PKIKP	**PKiKP**	**01 39 15.1**	**+0.5**		
GRR				pmax	pmax				
	comp=Z,81nm,1.6s								
OXF	**Oxford**	**123.42**	**49**	IAMs_20	IAMs_20	02 24 37.3			
	comp=Z,2µm,22.0s								
OXF	**Oxford**	**123.42**	**49**	P	**PKPdf**	**01 39 12.9**	**-2.3**		
	baz=294								
L48A	**N Adams**	**123.43**	**39**	P	**PKPdf**	**01 39 13.9**	**-1.2**		
	baz=302								
L48A				P	**PKPdf**	**01 39 13.9**	**-1.2**		
	baz=302								
VBMS	**Vicksburg**	**123.43**	**52**	IAMs_20	IAMs_20	02 25 22.1			
	comp=Z,2µm,22.0s								
VBMS	**Vicksburg**	**123.43**	**52**	P	**PKPdf**	**01 39 13.7**	**-1.6**		
	baz=291								
CMIG	**Matias Romero**	**123.52**	**71**	PKP	**PKPdf**	**01 39 15.6**	**-0.3**		
	comp=Z,2.5nm,0.6s,baz=96,slow=0.7,SNR=6.9								
AAM	**Ann Arbor**	**123.72**	**38**	P	**PKPdf**	**01 39 14.1**	**-1.4**		
	baz=303								
O48B	**Farmland**	**123.84**	**41**	P	**PKPdf**	**01 39 14.9**	**-0.9**		
	baz=301,SNR=9.9								
O48B	**Farmland**	**123.84**	**41**	P	**PKPdf**	**01 39 14.7**	**-1.1**		
	baz=301								
KEST	**Kesra**	**123.84**	**313**	PKP	**PKiKP**	**01 39 16.4**	**+0.1**		
	comp=Z,7.0nm,0.8s,baz=252,slow=2.7,SNR=4.8								
CAF	**Calviac**	**123.86**	**325**	*e*PKIKP	**PKiKP**	**01 39 16.9**	**+0.8**		
CAF				pmax	pmax				
	comp=Z,11nm,1.0s								
WVT	**Waverly**	**123.92**	**47**	PKPdf	**PKPdf**	**01 39 15.0**	**-1.1**		
WVT	**Waverly**	**123.92**	**47**	PKIKP	**PKPdf**	**01 39 15.0**	**-1.1**		
WVT				MLR	MLR				
	comp=Z,2µm,19.0s								
WVT	**Waverly**	**123.92**	**47**	P	**PKPdf**	**01 39 15.0**	**-1.1**		
	baz=296								
WVT	**Waverly**	**123.92**	**47**	P	**PKPdf**	**01 39 14.3**	**-1.8**		
	baz=296								
MFF	**Saint Martin d**	**124.02**	**328**	*e*PKIKP	**PKiKP**	**01 39 16.7**	**+0.4**		
MFF				pmax	pmax				
	comp=Z,34nm,1.3s								
P48A	**Milroy**	**124.06**	**42**	P	**PKPdf**	**01 39 15.9**	**-0.4**		
	baz=300								
P48A				P	**PKPdf**	**01 39 15.9**	**-0.4**		
	baz=300								
WCI	**Wyandotte Cave**	**124.06**	**44**	PKPdf	**PKPdf**	**01 39 15.2**	**-1.1**		
WCI	**Wyandotte Cave**	**124.06**	**44**	IAMs_20	IAMs_20	02 32 25.8			
	comp=Z,1µm,21.0s								
WCI	**Wyandotte Cave**	**124.06**	**44**	PKIKP	**PKPdf**	**01 39 15.2**	**-1.1**		
WCI				MLR	MLR				
	comp=Z,2µm,21.0s								
WCI	**Wyandotte Cave**	**124.06**	**44**	P	**PKPdf**	**01 39 16.0**	**-0.3**		
	baz=298								
WCI	**Wyandotte Cave**	**124.06**	**44**	P	**PKPdf**	**01 39 15.4**	**-1.0**		
	baz=298								
T47A	**Sharon Grove**	**124.06**	**46**	P	**PKPdf**	**01 39 16.2**	**-0.2**		
	baz=297								
N49A	**Columbus Grove**	**124.13**	**40**	P	**PKPdf**	**01 39 16.0**	**-0.4**		
	baz=302,SNR=8.6								
N49A				P	**PKPdf**	**01 39 16.0**	**-0.4**		
	baz=302,SNR=8.6								
O49A	**Covington**	**124.41**	**41**	P	**PKPdf**	**01 39 16.5**	**-0.5**		
	baz=301,SNR=9.8								
O49A				P	**PKPdf**	**01 39 16.5**	**-0.5**		
	baz=301,SNR=9.8								
ROSF	**Rostrenen**	**124.42**	**332**	*e*PKIKP	**PKiKP**	**01 39 17.2**	**+0.2**		
ROSF				pmax	pmax				
	comp=Z,65nm,1.3s								
COYC	**Coyhaique**	**124.43**	**153**	PKPdf	**PKiKP**	**01 39 17.2**	**+0.1**		
P49A	**Miami Univ. Ec**	**124.49**	**42**	IAMs_20	IAMs_20	02 27 20.0			
	comp=Z,996nm,21.0s								
P49A	**Miami Univ. Ec**	**124.49**	**42**	P	**PKPdf**	**01 39 16.4**	**-0.8**		
	baz=300								
P49A	**Miami Univ. Ec**	**124.49**	**42**	P	**PKPdf**	**01 39 16.1**	**-1.1**		
	baz=300								
LFF	**La Frestale**	**124.59**	**326**	*e*PKIKP	**PKiKP**	**01 39 18.2**	**+0.7**		
LFF				pmax	pmax				
	comp=Z,64nm,1.8s								
V48A	**Smith Brothers**	**124.82**	**47**	P	**PKPdf**	**01 39 14.7**	**-3.2**		
	baz=296								
SADO	**Sadowa**	**124.93**	**34**	PKPdf	**PKPdf**	**01 39 16.6**	**-1.2**		
ACSO	**Alum Creek Sta**	**125.27**	**40**	IAMs_20	IAMs_20	02 30 20.3			
	comp=Z,1µm,20.0s								
ACSO	**Alum Creek Sta**	**125.27**	**40**	P	**PKPdf**	**01 39 18.6**	**0.0**		
	baz=303								
ACSO	**Alum Creek Sta**	**125.27**	**40**	P	**PKPdf**	**01 39 17.4**	**-1.2**		
	baz=303								
N51A	**Ashland**	**125.28**	**39**	P	**PKPdf**	**01 39 17.5**	**-1.1**		
	baz=304								
N51A				P	**PKPdf**	**01 39 17.5**	**-1.1**		
	baz=304								
R50A	**Paris**	**125.39**	**43**	P	**PKPdf**	**01 39 18.3**	**-0.6**		
	baz=300								
R50A				P	**PKPdf**	**01 39 18.3**	**-0.6**		
	baz=300								
P51A	**Williamsport**	**125.62**	**41**	P	**PKPdf**	**01 39 18.7**	**-0.6**		
	baz=302								
P51A				P	**PKPdf**	**01 39 18.7**	**-0.6**		
	baz=302								
Q51A	**Peebles**	**125.67**	**42**	P	**PKPdf**	**01 39 18.6**	**-0.9**		
	baz=302								
Q51A				P	**PKPdf**	**01 39 18.6**	**-0.9**		
	baz=302								
LRAL	**Lakeview Retre**	**125.85**	**50**	PKPdf	**PKPdf**	**01 39 18.9**	**-1.0**		
LRAL				IAMs_20	IAMs_20	02 27 12.9			
	comp=Z,1µm,21.0s								
LRAL	**Lakeview Retre**	**125.85**	**50**	P	**PKPdf**	**01 39 19.6**	**-0.3**		
	baz=294								
LRAL	**Lakeview Retre**	**125.85**	**50**	P	**PKPdf**	**01 39 18.7**	**-1.2**		
	baz=294								
M53A	**WI Miller and**	**126.05**	**38**	P	**PKPdf**	**01 39 18.6**	**-1.5**		
	baz=306								
ERPA	**Erie**	**126.06**	**37**	P	**PKPdf**	**01 39 18.5**	**-1.6**		
	baz=307								
O52A	**Adamsville**	**126.07**	**40**	P	**PKPdf**	**01 39 19.4**	**-0.8**		
	baz=304								
O52A				P	**PKPdf**	**01 39 19.4**	**-0.8**		
	baz=304								
P52A	**Corning**	**126.14**	**40**	IAMs_20	IAMs_20	02 35 32.3			
	comp=Z,1µm,20.0s								
P52A	**Corning**	**126.14**	**40**	P	**PKPdf**	**01 39 18.4**	**-1.9**		
	baz=303								
W50A	**Signal Mountai**	**126.17**	**47**	P	**PKPdf**	**01 39 20.1**	**-0.4**		
	baz=297								
S51A	**Beattyville**	**126.21**	**43**	P	**PKPdf**	**01 39 19.7**	**-0.8**		
	baz=300								
S51A				P	**PKPdf**	**01 39 19.7**	**-0.8**		
	baz=300								
N53A	**Lisbon**	**126.31**	**39**	P	**PKPdf**	**01 39 20.1**	**-0.5**		
	baz=305,SNR=6.9								
N53A				P	**PKPdf**	**01 39 20.1**	**-0.5**		
	baz=305,SNR=6.9								
LL02	**Futaleuf**	**126.33**	**151**	PKPdf	**PKPdf**	**01 39 20.5**	**-0.1**		
O53A	**New Philadelph**	**126.39**	**39**	IAMs_20	IAMs_20	02 25 24.9			
	comp=Z,1µm,21.0s								
O53A	**New Philadelph**	**126.39**	**39**	P	**PKPdf**	**01 39 19.4**	**-1.3**		
	baz=304								
Q52A	**Bidwell**	**126.41**	**41**	P	**PKPdf**	**01 39 18.5**	**-2.3**		
	baz=302								
Q52A				P	**PKPdf**	**01 39 18.5**	**-2.3**		
	baz=302								
BRAL	**Brewton**	**126.56**	**52**	P	**PKPdf**	**01 39 19.9**	**-1.4**		
	baz=293								
P53A	**Whipple**	**126.70**	**40**	P	**PKPdf**	**01 39 20.5**	**-0.9**		
	baz=304								
P53A				P	**PKPdf**	**01 39 20.5**	**-0.9**		
	baz=304								
TZTN	**Tazewell**	**126.79**	**44**	IAMs_20	IAMs_20	02 36 06.0			
	comp=Z,1µm,21.0s								
TZTN	**Tazewell**	**126.79**	**44**	P	**PKPdf**	**01 39 21.1**	**-0.5**		
	baz=300								
O54A	**Avella**	**126.95**	**39**	P	**PKPdf**	**01 39 21.7**	**-0.2**		
	baz=305,SNR=7.5								
O54A				P	**PKPdf**	**01 39 21.7**	**-0.2**		
	baz=305,SNR=7.5								
TKL	**Tuckaleechee C**	**127.06**	**46**	PKP	**PKPdf**	**01 39 22.2**	**0.0**		
	comp=Z,14nm,0.9s,baz=181,slow=4.1,SNR=4.8								
TKL	**Tuckaleechee C**	**127.06**	**46**		**PKPdf**	**01 39 21.6**	**-0.6**		
TKL	**Tuckaleechee C**	**127.06**	**46**	P	**PKiKP**	**01 39 22.5**	**-0.2**		
	baz=299								
V52A	**Sevierville**	**127.10**	**45**	P	**PKPdf**	**01 39 22.1**	**-0.2**		
	baz=299								
J56A	**Wolcott**	**127.16**	**34**	P	**PKPdf**	**01 39 21.7**	**-0.4**		
	baz=310								
J56A				P	**PKPdf**	**01 39 21.7**	**-0.4**		
	baz=310								
Q54A	**Coxs Mills**	**127.34**	**40**	P	**PKPdf**	**01 39 22.0**	**-0.6**		
	baz=304								
Q54A				P	**PKPdf**	**01 39 22.0**	**-0.6**		
	baz=304								
WCNY	**West Carthage**	**127.35**	**32**	P	**PKPdf**	**01 39 22.1**	**-0.4**		
	baz=312								
PSDB	**Penn State Uni**	**127.40**	**37**	P	**PKPdf**	**01 39 22.3**	**-0.4**		
	baz=307								
LONY	**Lake Ozonia**	**127.48**	**31**	PKPdf	**PKPdf**	**01 39 19.8**	**-2.9**		
MCWV	**Mont Chateau**	**127.59**	**39**	IAMs_20	IAMs_20	02 47 00.6			
	comp=Z,1µm,19.0s								
MCWV	**Mont Chateau**	**127.59**	**39**	P	**PKPdf**	**01 39 22.6**	**-0.4**		
	baz=305								
S54A	**Dingess, Beckl**	**127.67**	**42**	P	**PKPdf**	**01 39 22.9**	**-0.5**		
	baz=303								
S54A				P	**PKPdf**	**01 39 22.9**	**-0.5**		
	baz=303								
Y52A	**Lilburn**	**127.70**	**48**	P	**PKPdf**	**01 39 23.5**	**0.0**		
	baz=298								
Y52A				P	**PKPdf**	**01 39 23.5**	**0.0**		
	baz=298								
K57A	**Scipio Center**	**127.70**	**34**	P	**PKPdf**	**01 39 22.6**	**-0.6**		
	baz=310								
V53A	**Saluda**	**127.74**	**45**	P	**PKPdf**	**01 39 23.7**	**+0.1**		
	baz=300								
V53A				P	**PKPdf**	**01 39 23.7**	**+0.1**		
	baz=300								
152A	**Waverly Hall**	**127.74**	**49**	P	**PKPdf**	**01 39 23.5**	**-0.1**		
	baz=296								
J58A	**Remsen**	**127.96**	**33**	P	**PKPdf**	**01 39 23.5**	**-0.2**		
	baz=312								
J58A				P	**PKPdf**	**01 39 23.5**	**-0.2**		
	baz=312								
352A	**Blakely**	**128.09**	**51**	P	**PKPdf**	**01 39 24.3**	**0.0**		
	baz=295								
NCB	**Newcomb**	**128.11**	**32**	P	**PKPdf**	**01 39 23.8**	**-0.2**		
	baz=314								
R55A	**Marlinton**	**128.19**	**41**	P	**PKPdf**	**01 39 23.3**	**-1.0**		
	baz=304								
R55A				P	**PKPdf**	**01 39 23.3**	**-1.0**		
	baz=304								
SSPA	**Standing Stone**	**128.22**	**37**	PKPdf	**PKPdf**	**01 39 23.9**	**-0.4**		
SSPA	**Standing Stone**	**128.22**	**37**	P	**PKPdf**	**01 39 23.8**	**-0.4**		
	baz=308,SNR=6.6								
SSPA	**Standing Stone**	**128.22**	**37**	P	**PKPdf**	**01 39 23.0**	**-1.2**		
	baz=308								
D62A	**Allapoint, All**	**128.30**	**26**	P	**PKPdf**	**01 39 23.8**	**-0.4**		
	baz=321								
D62A				P	**PKPdf**	**01 39 23.8**	**-0.4**		
	baz=321								
J59A	**Piesco**	**128.31**	**32**	P	**PKPdf**	**01 39 24.1**	**-0.3**		
	baz=313								
J59A				P	**PKPdf**	**01 39 24.1**	**-0.3**		
	baz=313								
BINY	**Binghamton**	**128.34**	**34**	P	**PKPdf**	**01 39 24.3**	**-0.2**		
	baz=311								
BINY	**Binghamton**	**128.34**	**34**	P	**PKPdf**	**01 39 23.5**	**-1.0**		
	baz=311								
GOGA	**Godfrey**	**128.34**	**48**	IAMs_20	IAMs_20	02 36 01.7			
	comp=Z,1µm,19.0s								
GOGA	**Godfrey**	**128.34**	**48**	P	**PKPdf**	**01 39 24.4**	**-0.2**		
	baz=298								
GOGA	**Godfrey**	**128.34**	**48**	P	**PKPdf**	**01 39 23.4**	**-1.3**		
	baz=298								
BLA	**Blacksburg**	**128.58**	**42**	IAMs_20	IAMs_20	02 36 54.3			
	comp=Z,1µm,20.0s								
BLA	**Blacksburg**	**128.58**	**42**	P	**PKPdf**	**01 39 24.8**	**-0.3**		
	baz=303								
BLA	**Blacksburg**	**128.58**	**42**	P	**PKPdf**	**01 39 23.8**	**-1.3**		
	baz=303								
N58A	**Sunbury**	**128.79**	**36**	P	**PKPdf**	**01 39 24.8**	**-0.5**		
	baz=309,SNR=6.0								
N58A				P	**PKPdf**	**01 39 24.8**	**-0.5**		
	baz=309,SNR=6.0								
PLCA	**Paso Flores**	**128.81**	**150**	PKP	**PKiKP**	**01 39 26.6**	**+0.4**		
	comp=Z,14nm,0.9s,baz=197,slow=4.7,SNR=22								
PLCA	**Paso Flores**	**128.81**	**150**	PKPdf	**PKiKP**	**01 39 25.8**	**-0.3**		
PLCA	**Paso Flores**	**128.81**	**150**	*e*P	**PKiKP**	**01 39 26.6**	**+0.4**		
KMSC	**Kings Mountain**	**129.05**	**45**	P	**PKPdf**	**01 39 24.6**	**-1.4**		
	baz=301								
GO06	**Curarrehue**	**129.18**	**148**	PKPdf	**PKPdf**	**01 39 26.0**	**-0.3**		
SNET	**Serv Nac Est T**	**129.43**	**74**	IAMs_20	IAMs_20	02 30 31.1			
	comp=Z,808nm,19.0s								
T57A	**Hurt**	**129.48**	**42**	P	**PKPdf**	**01 39 26.5**	**-0.2**		
	baz=304								
T57A				P	**PKPdf**	**01 39 26.5**	**-0.2**		
	baz=304								
PKME	**Peaks-Kenny Pk**	**129.59**	**27**	P	**PKPdf**	**01 39 25.8**	**-0.9**		
	baz=320								
L61B	**Northampton**	**129.98**	**32**	P	**PKPdf**	**01 39 27.0**	**-0.5**		
	baz=314								
CBN	**Corbin Frederi**	**130.00**	**39**	IAMs_20	IAMs_20	02 29 59.5			
	comp=Z,1µm,22.0s								
CBN	**Corbin Frederi**	**130.00**	**39**	P	**PKPdf**	**01 39 26.5**	**-1.2**		
	baz=307								
PSUB	**Penn St. - Bra**	**130.12**	**36**	P	**PKiKP**	**01 39 28.3**	**-0.3**		
	baz=310								
PAL	**Palisades**	**130.30**	**34**	P	**PKPdf**	**01 39 27.4**	**-0.8**		
	baz=312								
HRV	**Adam Dziewonsk**	**130.53**	**31**	P	**PKPdf**	**01 39 28.2**	**-0.3**		
	baz=316								
ESDC	**Sonseca Array**	**130.62**	**324**	PKP	**PKiKP**	**01 39 29.4**	**-0.3**		
	comp=Z,1.3nm,1.0s,baz=4.5,slow=3.2,SNR=5.6								
ESDC				PP	**PP**	**01 41 43.9**	**+0.6**		
	comp=Z,1.2nm,1.0s,baz=33,slow=6.0,SNR=4.2								
ESDC	**Sonseca Array**	**130.62**	**324**		**PKPdf**	**01 39 28.5**	**-0.4**		
NHSC	**New Hope**	**130.90**	**46**	IAMs_20	IAMs_20	02 33 32.3			
	comp=Z,1µm,20.0s								
MVO	**Moncorvo**	**131.35**	**327**	*e*SS	SS	01 59 36.2	+17		
MVO	**Moncorvo**	**131.35**	**327**	*e*LR	LR	02 24 06.6			
	comp=Z,2µm,20.0s								
CNNC	**Cliffs of the**	**131.38**	**43**	IAMs_20	IAMs_20	02 29 31.3			
	comp=Z,1µm,22.0s								
PGAV	**Gavieira, Arco**	**131.43**	**329**	*e*SS	SS	02 00 01.6	+41		

DBIC	**Dimbokro**	**145.25**	**279**	PKPbc	**PKPbc**	**01 39 55.8**	**-0.2**
	comp=Z,44nm,1.0s,baz=86,slow=3.3,SNR=25						
DBIC	**Dimbokro**	**145.25**	**279**	PKPbc	**PKPbc**	**01 39 55.3**	**-0.7**
CZSB	**Cruzeiro do Su**	**145.39**	**107**	*eP*	**PKPab**	**01 39 57.2**	**+0.6**
UNIS	**Unistalda (Bra**	**145.59**	**155**	*eP*	**PKPab**	**01 39 57.2**	**+0.3**
UNIS	**Unistalda (Bra**	**145.59**	**155**	*eP*	**PKPab**	**01 39 57.5**	**+0.6**
LPAZ	**La Paz**	**146.28**	**124**	PKPbc	**PKPbc**	**01 40 00.1**	**+0.3**
	comp=Z,78nm,0.9s,baz=302,slow=1.4,SNR=150						
LPAZ	**La Paz**	**146.28**	**124**	PKPbc	**PKPdf**	**01 39 58.9**	**+0.1**
LPAZ	**La Paz**	**146.28**	**124**	*eP*	**PKPbc**	**01 40 00.2**	**+0.3**
ALGR	**Alto Alegre (B**	**146.65**	**158**	*eP*	**PKPbc**	**01 40 00.4**	**+0.5**
ALGR	**Alto Alegre (B**	**146.65**	**158**	*eP*	**PKPbc**	**01 40 00.2**	**+0.3**
CPUP	**Villa Florida**	**146.88**	**150**	PKPbc	**PKPdf**	**01 39 59.5**	**+0.7**
	comp=Z,75nm,0.9s,baz=231,slow=2.8,SNR=80						
CPUP	**Villa Florida**	**146.88**	**150**	*eP*	**PKPbc**	**01 40 00.2**	**-0.4**
CNLB	**Canela**	**146.93**	**161**	*eP*	**PKPbc**	**01 40 00.2**	**-0.5**
CNLB	**Canela**	**146.93**	**161**	*eP*	**PKPab**	**01 40 02.0**	**0.0**
CRSM	**Crissiumal (Br**	**147.41**	**155**	*eP*	**PKPbc**	**01 40 02.0**	**0.0**
CRSM	**Crissiumal (Br**	**147.41**	**155**	*eP*	**PKPdf**	**01 40 00.6**	**+0.9**
TER01	**Tubaro-SC**	**148.18**	**164**	*eP*	**PKPbc**	**01 40 03.6**	**-0.5**
TER01	**Tubaro-SC**	**148.18**	**164**	*eP*	**PKiKP**	**01 40 05.2**	**-0.7**
SDV	**Santo Domingo**	**148.21**	**76**	PKPbc	**PKPbc**	**01 40 04.2**	**-0.6**
	comp=Z,137nm,0.9s,baz=280,slow=1.7,SNR=42						
SDV	**Santo Domingo**	**148.21**	**76**		**PKPbc**	**01 40 03.5**	**-1.4**
SDV	**Santo Domingo**	**148.21**	**76**	IAMs_20	IAMs_20	02 41 20.0	
	comp=Z,656nm,19.0s						
SDV	**Santo Domingo**	**148.21**	**76**	*eP*	**PKPdf**	**01 40 02.7**	**+1.2**
ITAB	**Concordia**	**148.39**	**158**	*eP*	**PKPdf**	**01 40 02.0**	**+0.8**
ITAB	**Concordia**	**148.39**	**158**	*eP*	**PKPdf**	**01 40 02.2**	**+0.9**
AOPR	**Arecibo Observ**	**148.69**	**57**		**PKPbc**	**01 40 03.9**	**-1.9**
TBTG	**Tabatinga, AM**	**148.90**	**102**	*eP*	**PKPdf**	**01 40 03.4**	**+0.9**
FRBT	**Francisco Belt**	**149.15**	**156**	*eP*	**PKPbc**	**01 40 05.2**	**-1.6**
FRBT	**Francisco Belt**	**149.15**	**156**	*eP*	**PKPbc**	**01 40 07.0**	**+0.3**
SJG	**San Juan**	**149.31**	**57**	PKP	**PKPdf**	**01 40 01.8**	**-1.1**
	comp=Z,29nm,0.9s,baz=97,slow=6.4,SNR=5.0						
SJG				PKPbc	**PKPbc**	**01 40 06.7**	**-0.5**
	comp=Z,61nm,0.9s,baz=15,slow=5.3,SNR=20						
SJG	**San Juan**	**149.31**	**57**		**PKPdf**	**01 39 59.9**	**-3.0**
SJG				PKPbc	**PKPbc**	**01 40 06.8**	**-0.4**
SJG	**San Juan**	**149.31**	**57**	IAMs_20	IAMs_20	02 53 10.1	
	comp=Z,732nm,20.0s						
CBYP	**Canovanas**	**149.48**	**56**	PKPbc	**PKPbc**	**01 40 07.9**	**+0.1**
MCR1	**Marechal Candi**	**150.05**	**153**	*eP*	**PKPdf**	**01 40 05.4**	**+1.4**
MCR1	**Marechal Candi**	**150.05**	**153**	*eP*	**PKPdf**	**01 39 58.3**	**-5.7**
PTGB	**Pitanga**	**150.68**	**156**	*eP*	**PKPdf**	**01 40 07.0**	**+1.9**
PTGB	**Pitanga**	**150.68**	**156**	*eP*	**PKPdf**	**01 40 06.3**	**+1.2**
BAUV	**El Baul**	**150.72**	**75**	PKPdf	**PKPdf**	**01 40 03.6**	**-1.7**
ETMB	**Extrema**	**150.81**	**114**	PKPdf	**PKPdf**	**01 40 04.2**	**-1.3**
ETMB	**Extrema**	**150.81**	**114**	*eP*	**PKPdf**	**01 40 08.2**	**+2.7**
ANTJ	**Antonio Joao (**	**151.10**	**147**	*eP*	**PKPdf**	**01 40 07.7**	**+2.0**
ANTJ	**Antonio Joao (**	**151.10**	**147**	*eP*	**PKPdf**	**01 40 03.0**	**-2.7**
TIJ01	**Guaruva-PR**	**151.23**	**162**	*eP*	**PKPdf**	**01 40 08.1**	**+2.1**
TIJ01	**Guaruva-PR**	**151.23**	**162**	*eP*	**PKPbc**	**01 40 11.6**	**-0.2**
SMRT	**St. Maarten**	**151.87**	**54**	*eP*	**PKPdf**	**01 40 05.2**	**-1.8**
SIV	**San Ignacio**	**152.07**	**131**	PKP	**PKPdf**	**01 40 07.1**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=218,slow=2.0,SNR=12						
SIV				PKPbc	**pPKPdf**	**01 40 13.5**	**-0.3**
	comp=Z,42nm,0.8s,baz=232,slow=1.9,SNR=86						
TRCB	**Terra Rica**	**152.13**	**153**		**PKPbc**	**01 40 12.7**	**-1.2**
TRCB	**Terra Rica**	**152.13**	**153**	*eP*	**PKPdf**	**01 40 10.4**	**+3.1**
TRCB	**Terra Rica**	**152.13**	**153**	*eP*	**PKPdf**	**01 40 08.6**	**+1.3**
AQDB	**Aquidauana**	**152.49**	**145**	*eP*	**PKPdf**	**01 40 09.5**	**+1.7**
AQDB	**Aquidauana**	**152.49**	**145**	*eP*	**PKPdf**	**01 40 08.4**	**+0.6**
PET01	**Itanhaem-SP**	**152.71**	**164**	*eP*	**PKPdf**	**01 40 10.4**	**+2.4**
ANWB	**Willy Bob**	**153.11**	**53**	IAMs_20	IAMs_20	02 54 32.5	
	comp=Z,1µm,21.0s						
ANWB	**Willy Bob**	**153.11**	**53**	*eP*	**PKPdf**	**01 40 01.7**	**-7.1**
MLYT	**Lee's Yard**	**153.28**	**56**	*eP*	**PKPdf**	**01 40 07.8**	**-1.3**
ANBD	**Bethesda, Anti**	**153.46**	**55**	*eP*	**PKPdf**	**01 40 06.5**	**-2.7**
RPRD	**Ribas do Rio P**	**153.57**	**149**	*eP*	**PKPdf**	**01 40 12.5**	**+3.1**
RPRD	**Ribas do Rio P**	**153.57**	**149**	*eP*	**PKiKP**	**01 40 18.3**	**+1.1**
PCMB	**Pacaembu**	**153.77**	**154**	*eP*	**PKPdf**	**01 40 12.7**	**+3.0**
PCMB	**Pacaembu**	**153.77**	**154**	*eP*	**PKPdf**	**01 40 10.9**	**+1.2**
PTLB	**Pontes e Lacer**	**153.85**	**132**	*eP*	**PKPdf**	**01 40 11.8**	**+1.9**
VAO	**Valinhos**	**154.02**	**164**	*eP*	**PKPdf**	**01 40 13.9**	**+3.9**
CBE	**Ff, Capester**	**154.09**	**56**	*eP*	**PKPdf**	**01 40 03.7**	**-6.6**
TDBA	**Terre de Bas,**	**154.18**	**57**	IAMs_20	IAMs_20	02 44 22.0	
	comp=Z,952nm,22.0s						
TDBA	**Terre de Bas,**	**154.18**	**57**	*eP*	**PKPdf**	**01 40 08.0**	**-2.3**
RCLB	**Rio Claro- Sao**	**154.41**	**162**	*eP*	**PKPdf**	**01 40 13.7**	**+3.1**
GDSD	**La Dsirade Is**	**154.41**	**55**	PKPdf	**PKPdf**	**01 40 10.0**	**-0.7**
GDSD					**PKPab**	**01 40 32.1**	**-1.0**
GDSD				IAMs_20	IAMs_20	02 45 54.1	
	comp=Z,886nm,22.0s						
MAGL	**Barre de l'ile**	**154.42**	**56**	IAMs_20	IAMs_20	02 59 39.4	
	comp=Z,778nm,20.0s						
MAGL	**Barre de l'ile**	**154.42**	**56**	*eP*	PKPdf	01 40 02.6	-8.1
DSLB	**Salisbury**	**154.56**	**57**	*eP*	PKPdf	01 40 02.6	-8.3
MDN	**Morne-Daniel**	**154.64**	**57**	*eP*	**PKPdf**	**01 40 09.2**	**-1.7**
DLPL	**La Plaine**	**154.75**	**57**	*eP*	**PKPdf**	**01 40 11.6**	**+0.4**
SVN	**Savane Anatole**	**155.06**	**58**	IAMs_20	IAMs_20	02 45 06.6	
	comp=Z,770nm,22.0s						
FDF	**Fort de France**	**155.12**	**58**	IAMs_20	IAMs_20	02 45 10.5	
	comp=Z,828nm,22.0s						
FDF	**Fort de France**	**155.12**	**58**	*eP*	**PKPdf**	**01 40 08.6**	**-3.1**
BIM	**Bigot**	**155.29**	**59**	IAMs_20	IAMs_20	02 43 56.0	
	comp=Z,813nm,22.0s						
BIM	**Bigot**	**155.29**	**59**	*eP*	**PKPdf**	**01 40 09.2**	**-2.8**
ILAM	**Ilet Lapin Mar**	**155.34**	**58**	IAMs_20	IAMs_20	02 45 24.0	
	comp=Z,706nm,21.0s						
ILAM	**Ilet Lapin Mar**	**155.34**	**58**	*eP*	PKPdf	01 40 03.6	-8.4
C2SB	**Chapadao do Su**	**155.44**	**148**	*eP*	**PKPdf**	**01 40 15.1**	**+3.1**
MPOM	**Morne Pois Mar**	**155.51**	**59**	IAMs_20	IAMs_20	02 56 12.6	
	comp=Z,756nm,20.0s						
MPOM	**Morne Pois Mar**	**155.51**	**59**	*eP*	**PKPdf**	**01 40 09.4**	**-2.8**
SLBI	**Saint Lucia, B**	**155.60**	**60**	*eP*	**PKPdf**	**01 40 06.9**	**-5.4**
SVB	**Belmont**	**155.69**	**62**	*eP*	**PKPdf**	**01 40 10.1**	**-2.4**
MCLT	**Moule a Chique**	**155.77**	**60**	*eP*	**PKPdf**	**01 40 08.8**	**-3.8**
GRGR	**Grenville**	**155.80**	**65**	IAMs_20	IAMs_20	02 47 23.0	
	comp=Z,676nm,19.0s						
GRGR	**Grenville**	**155.80**	**65**	*eP*	**PKPdf**	**01 40 06.8**	**-5.8**
GCMP	**Grenada, Carri**	**155.86**	**64**	*eP*	**PKPdf**	**01 40 06.4**	**-6.3**
SALV	**Santo Antonio**	**155.96**	**139**	*eP*	**PKPdf**	**01 40 15.6**	**+2.8**
CAM01	**Campos-RJ**	**156.15**	**175**	*eP*	**PKPdf**	**01 40 16.2**	**+3.3**
TRN	**Trinidad (W)**	**156.56**	**68**	*eP*	**PKPab**	**01 40 39.5**	**-3.0**
TPP	**Pointe-a-Pierr**	**156.63**	**69**	*eP*	**PKPab**	**01 40 38.6**	**-4.2**
TOSP	**Speyside**	**157.13**	**65**	PKPdf	**PKPdf**	**01 40 13.3**	**-1.0**
TOSP				PKPab	**PKPab**	**01 40 42.8**	**-2.1**
TOSP	**Speyside**	**157.13**	**65**	*eP*	**PKPdf**	**01 40 09.1**	**-5.2**
BBGH	**Gun Hill**	**157.23**	**60**	*eP*	**PKPdf**	**01 40 13.8**	**-0.7**
ALF01	**Guarapari-ES**	**157.42**	**177**	*eP*	**PKPdf**	**01 40 17.1**	**+2.6**
MACA	**Manacapuru-AM**	**158.11**	**104**	*eP*	**PKPdf**	**01 40 17.5**	**+1.9**
RIB01	**Linhares ES**	**158.73**	**177**	*eP*	**PKPdf**	**01 40 19.2**	**+3.0**
SJMB	**Sao Joao De Ma**	**159.29**	**175**	*eP*	**PKPdf**	**01 40 19.4**	**+2.5**
NAN01	**Guarapari, ES**	**160.20**	**178**	*eP*	**PKPdf**	**01 40 21.2**	**+3.3**
BDFB	**Brasilia**	**160.46**	**154**	PKP	**PKPdf**	**01 40 19.1**	**+0.7**
	comp=Z,17nm,0.9s,baz=14,slow=1.1,SNR=19						
BDFB				PKPab	**PKPab**	**01 40 59.2**	**0.0**
	comp=Z,13nm,0.8s,baz=178,slow=6.6,SNR=7.7						
GUA01	**Guaratinga, BA**	**161.46**	**179**	*eP*	**PKPdf**	**01 40 20.4**	**+1.1**
NPGB	**Novo Progresso**	**161.69**	**120**	*eP*	**PKPdf**	**01 40 21.8**	**+2.1**
ITTB	**Itaituba**	**162.48**	**111**	*eP*	**PKPdf**	**01 40 23.7**	**+3.3**
CMC01	**Camacan, BA**	**162.68**	**180**	*eP*	**PKPdf**	**01 40 22.4**	**+1.8**
GDU01	**Guandu, BA**	**164.31**	**179**	*eP*	**PKPdf**	**01 40 22.8**	**+0.7**
MALB	**Monte Alegre**	**164.65**	**105**	*eP*	**PKPdf**	**01 40 23.0**	**+0.5**
SMTB	**Santa Maria do**	**166.43**	**143**	*eP*	**PKPdf**	**01 40 24.2**	**+0.2**
MDP	**Montagnes des**	**166.46**	**77**	PKPab	**PKPab**	**01 41 26.0**	**+0.2**
	comp=Z,26nm,1.2s,baz=345,slow=7.3,SNR=4.6						
PRPB	**Parauapebas**	**166.78**	**128**	*eP*	**PKPdf**	**01 40 24.6**	**+0.4**
NBAN	**Anadia - AL**	**167.93**	**195**	*eP*	**PKPdf**	**01 40 27.6**	**+2.5**
NBRF	**Rio Formoso -**	**168.50**	**202**	*eP*	**PKPdf**	**01 40 27.8**	**+2.4**
TMAB	**Tom-Au,PA,Br**	**170.26**	**117**	*eP*	**PKPdf**	**01 40 27.1**	**+0.6**

IDC 17 01:33:12.8±5.3, 1°.61S×141°.26E, h0km, mb3.3/1, mbtmp3.3/2, ML3.3/1, Error ellipse: s-maj=168.3km s-min=72.2km az=97.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.44**	**200**	P	P	01 37 40.3	-0.7
	0.1nm,0.3s,baz=23,slow=12,SNR=2.2 1.1nm,1.0s						
ASAR	**Alice Springs**	**23.06**	**197**	P	P	01 38 20.5	+0.5
	0.7nm,0.6s,baz=26,slow=11,SNR=5.1 0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**138.37**	**288**	PKP	PKPdf	01 52 40.8	-0.5
	0.6nm,0.7s,baz=80,slow=2.3,SNR=5.6						

IDC 17 01:39:20.3±5.3, 12°.18N×88°.63W, h0km, mb3.8/7, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=98.5km s-min=42.3km az=4.0
SNET 17 01:39:26.8±0.8, 12°.43N×89°.05W, h18km, ML4.0
UCR 17 01:39:27.4±1.4, 12°.46N×89°.07W, h19km±10km, mb4.5(NEIC)
INET 17 01:39:28.9±0.5, 12°.40N×88°.93W, h15km, MW4.1
NEIC 17 01:39:29.3±1.6, 12°.59N±0°.08×88°.94W±0°.04, h41km±18km, mb4.5/53, Md4.0(SNET), Error ellipse: s-maj=12.2km s-min=5.0km az=198.0

ISC 17 01:39:29.0±0.8, 12°.49N±0°.06×89°.04W±0°.05, h40km, n87, σ1s16/80, mb4.4/21, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJTE	**Alcalda de S**	**1.12**	**2**	*eP*	**Pn**	**01 39 47.9**	**-0.4**
SJTE	**Alcalda de S**	**1.12**	**2**	*eP*	**Pn**	**01 39 47.9**	**-0.4**
COEB	**Comit de Eme**	**1.12**	**26**	*eP*	**Pn**	**01 39 47.7**	**-0.6**
COEB				*eS*	**Sn**	**01 40 04.7**	**+2.0**
COEB	**Comit de Eme**	**1.12**	**26**	*eP*	**Pn**	**01 39 47.7**	**-0.6**
COEB				*eS*	**Sn**	**01 40 04.7**	**+2.0**
LFRS	**El Faro**	**1.13**	**359**	⇑*iP*	**Pn**	**01 39 48.1**	**-0.4**
LFRS	**El Faro**	**1.13**	**359**	⇑*iP*	**Pn**	**01 39 48.1**	**-0.4**
COEG	**Centro de Oper**	**1.14**	**8**	*eP*	**Pn**	**01 39 48.0**	**-0.6**
COEG	**Centro de Oper**	**1.14**	**8**	*eP*	**Pn**	**01 39 48.0**	**-0.6**
PACA	**Pacayal**	**1.20**	**36**	*eP*	**Pn**	**01 39 49.9**	**+0.5**
PACA				*eS*	**Sn**	**01 40 07.0**	**+2.3**
PACA	**Pacayal**	**1.20**	**36**	*eP*	**Pn**	**01 39 49.9**	**+0.5**
PACA				*eS*	**Sn**	**01 40 07.0**	**+2.3**
SNET	**Serv Nac Est T**	**1.21**	**351**		**Pn**	**01 39 48.4**	**-1.1**
LFU	**La Fuente**	**1.26**	**357**	*eP*	**Pn**	**01 39 50.1**	**-0.1**
LFU	**La Fuente**	**1.26**	**357**	*eP*	**Pn**	**01 39 50.1**	**-0.1**
BOQS	**Boqueron**	**1.26**	**349**	*eP*	**Pn**	**01 39 50.3**	**-0.1**
BOQS	**Boqueron**	**1.26**	**349**	*eP*	**Pn**	**01 39 50.3**	**-0.1**
LCND	**La Caada**	**1.39**	**54**	*eP*	**Pn**	**01 39 51.2**	**-0.8**
LCND	**La Caada**	**1.39**	**54**	*eP*	**Pn**	**01 39 51.2**	**-0.8**
CNCH	**Conchagua**	**1.42**	**56**	*eP*	**Pn**	**01 39 52.3**	**-0.1**
CNCH	**Conchagua**	**1.42**	**56**	*eP*	**Pn**	**01 39 52.3**	**-0.1**
CEVE	**Cerro Verde**	**1.45**	**337**	*eP*	**Pn**	**01 39 53.8**	**+0.8**
CEVE	**Cerro Verde**	**1.45**	**337**	*eP*	**Pn**	**01 39 53.8**	**+0.8**
CAHU	**Cacacuatique**	**1.51**	**32**	*eP*	**Pn**	**01 39 54.2**	**+0.4**
CAHU	**Cacacuatique**	**1.51**	**32**	*eP*	**Pn**	**01 39 54.2**	**+0.4**
P5NO	**Presa 5 de nov**	**1.52**	**10**	*eP*	**Pn**	**01 39 53.7**	**+0.1**
RTR	**El Retiro**	**1.52**	**337**	*eP*	**Pn**	**01 39 54.0**	**+0.1**
RTR	**El Retiro**	**1.52**	**337**	*eP*	**Pn**	**01 39 54.0**	**+0.1**
CSGN	**Cosiguina Volc**	**1.53**	**71**	*eP*	**Pn**	**01 39 53.6**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.69**	**335**	*eP*	**Pn**	**01 39 56.7**	**+0.6**
MTO3	**Montecristo**	**1.93**	**351**		**Pn**	**01 39 59.4**	**-0.1**
CRIN	**San Cristobal**	**1.96**	**84**		**Pn**	**01 39 58.9**	**-0.9**
CRIN	**San Cristobal**	**1.96**	**84**	*eP*	**Pn**	**01 39 59.2**	**-0.6**
CRIN				*e*		01 39 59.2	
CRIN				*eS*	**Sn**	**01 40 26.1**	**+2.9**
TELN	**Telica**	**2.16**	**87**	*eP*	**Pn**	**01 40 02.0**	**-0.6**
CNGN	**Cerro Negro**	**2.29**	**89**		**Pn**	**01 40 02.5**	**-1.9**
TGUH	**Tegucigalpa,Un**	**2.33**	**48**	Pn	**Pn**	**01 40 04.6**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.33**	**48**	*eP*	**Pn**	**01 40 05.3**	**+0.4**
COPN	**Copaltepe**	**2.42**	**97**	*eP*	**Pn**	**01 40 04.2**	**-1.8**
TISN	**Laguna Tiscapa**	**2.73**	**97**	*eP*	**Pn**	**01 40 09.9**	**-0.5**
MATN	**Matagalpa**	**3.07**	**81**		**Pn**	**01 40 13.3**	**-1.8**
MATN	**Matagalpa**	**3.07**	**81**	*eP*	**Pn**	**01 40 14.4**	**-0.8**
BOAB	**BOACO BROADBAN**	**3.30**	**90**	Pn	**Pn**	**01 40 16.5**	**-1.6**
BOAB	**BOACO BROADBAN**	**3.30**	**90**	*eP*	**Pn**	**01 40 16.5**	**-1.6**
BOAB				*i*		01 42 20.5	
ACON	**Acoyapa**	**3.82**	**97**		**Pn**	**01 40 25.0**	**-0.3**
ACON	**Acoyapa**	**3.82**	**97**	*eP*	**Pn**	**01 40 24.8**	**-0.5**
ORTG	**Ortega, Santa**	**4.10**	**121**		**Pn**	**01 40 30.0**	**+0.8**
CUI	**Cuipilapa**	**4.21**	**115**	*eP*	**Pn**	**01 40 31.3**	**+0.5**
DUNO	**Dulce Nombre,**	**4.22**	**124**		**Pn**	**01 40 29.8**	**-1.1**
DUNO	**Dulce Nombre,**	**4.22**	**124**	*eP*	**Pn**	**01 40 30.8**	**-0.1**
PETF	**Flores**	**4.48**	**350**		**Pn**	**01 40 32.1**	**-2.2**
JTS	**Las Juntas de**	**4.56**	**118**		**Pn**	**01 40 35.6**	**0.0**
LAFE	**Finca La Fe, P**	**4.85**	**123**	*eP*	**Pn**	**01 40 38.8**	**-0.7**
COVE	**Coope Vega, Sa**	**4.87**	**111**	Pn	**Pn**	**01 40 40.3**	**+0.5**
LCR2	**La Lucha 2**	**5.65**	**118**	*eP*	**Pn**	**01 40 52.6**	**+2.0**
RIMA	**Rio Macho**	**5.76**	**117**		**Pn**	**01 40 52.0**	**-0.2**
PEZE	**Perez Zeledon,**	**6.10**	**120**		**Pn**	**01 40 56.0**	**-0.8**
SRBA	**San Rafael, Bu**	**6.45**	**120**	Pn	**Pn**	**01 41 00.8**	**-0.8**
CMIG	**Matias Romero**	**7.27**	**310**	Pn	**Pn**	**01 41 13.0**	**+0.2**
	0.3nm,0.3s,baz=158,slow=5.9,SNR=2.6						
CMIG				Sn	Sn	01 42 46.7	+13
	0.5nm,0.3s,baz=111,slow=22,SNR=1.6 1.2nm,0.3s						
VBMS	**Vicksburg**	**19.69**	**356**	P	**P**	**01 43 54.5**	**-0.3**
VBMS				IAmb	IAmb	01 44 02.4	
	comp=Z,28nm,1.1s						
NATX	**Nacogdoches**	**19.87**	**346**	P	**P**	**01 43 55.4**	**-1.4**
JCT	**Junction City**	**20.49**	**333**	P	**P**	**01 44 01.9**	**-1.8**
WHTX	**Lake Whitney,**	**20.90**	**340**	P	**P**	**01 44 07.0**	**-1.0**
WHTX				IAmb	IAmb	01 44 08.9	
	comp=Z,25nm,1.2s						
HPIG		**21.21**	**315**	P	**P**	**01 44 08.0**	**-3.6**
CCAR	**Cane Creek**	**21.48**	**354**	P	**P**	**01 44 12.9**	**-1.2**
TXAR	**Lajitas Array**	**21.59**	**323**	P	**P**	**01 44 17.4**	**+1.9**
	comp=Z,4.7nm,0.6s,baz=142,slow=10,SNR=63 comp=Z,4.7nm,0.6s						
TXAR	**Lajitas Array**	**21.59**	**323**	P	**P**	**01 44 15.1**	**-0.4**
TX31	**Lajitas Ar. Si**	**21.59**	**323**	IAmb	IAmb	01 44 18.1	
	comp=Z,16nm,0.7s						
MIAR	**Mount Ida**	**22.34**	**350**	P	**P**	**01 44 23.0**	**-0.5**
X37A	**Clayton**	**22.74**	**346**	IAmb	IAmb	01 44 31.1	
	comp=Z,23nm,1.3s						
X34A	**Smith Ranch, M**	**23.42**	**342**	IAmb	IAmb	01 44 37.1	
	comp=Z,12nm,0.8s						
TKL	**Tuckaleechee C**	**23.56**	**11**	P	**P**	**01 44 35.7**	**-0.1**
	comp=Z,7.7nm,0.9s,baz=180,slow=10,SNR=7.1 comp=Z,7.7nm,0.9s						
CLTN	**Cedars of Leba**	**23.63**	**5**	P	**P**	**01 44 36.0**	**-0.6**
T47A	**Sharon Grove**	**24.46**	**4**	P	**P**	**01 44 42.8**	**-1.4**
T47A				IAmb	IAmb	01 44 44.0	
	comp=Z,10nm,0.7s						
MSTX	**Muleshoe**	**24.78**	**332**	IAmb	IAmb	01 44 47.7	
	comp=Z,14nm,1.2s						
OK044	**Pawnee Station**	**24.79**	**345**	IAmb	IAmb	01 44 47.3	
	comp=Z,13nm,0.9s						
OK047	**Pawnee, Statio**	**24.86**	**345**	IAmb	IAmb	01 44 50.2	
	comp=Z,10nm,0.8s						
AMTX	**Amarillo**	**25.07**	**335**	IAmb	IAmb	01 45 01.5	
	comp=Z,8.1nm,0.7s						
BLOK	**Blackwell**	**25.26**	**344**	IAmb	IAmb	01 44 51.6	
	comp=Z,12nm,0.8s						
KAN17	**Caldwell West**	**25.68**	**344**	IAmb	IAmb	01 45 00.6	
	comp=Z,11nm,0.8s						
R40A	**Maddies Stadio**	**25.86**	**354**	IAmb	IAmb	01 44 59.8	
	comp=Z,10nm,0.8s						
KSU1	**Kansas State U**	**27.35**	**347**	IAmb	IAmb	01 45 15.4	
	comp=Z,8.8nm,0.8s						
ESJX	**Sierra Juarez**	**31.43**	**313**	P	**P**	**01 45 48.2**	**+1.4**
ESJX				IAmb	IAmb	01 45 58.1	
	comp=Z,5.1nm,0.6s						
F33A	**5 Mile Ranch,**	**33.81**	**351**	IAmb	IAmb	01 46 11.9	
	comp=Z,5.9nm,0.9s						
PDAR	**Pinedale Array**	**35.02**	**333**	P	**P**	**01 46 18.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=131,slow=9.7,SNR=2.1 comp=Z,0.2nm,0.3s						
REDW	**Red Top Meadow**	**36.07**	**333**	P	**P**	**01 46 25.8**	**-1.3**
REDW				IAmb	IAmb	01 46 30.5	
	comp=Z,5.0nm,0.9s						
NVAR	**Mina Array Bea**	**36.66**	**320**	P	**P**	**01 46 34.2**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=138,slow=9.6,SNR=4.4 comp=Z,0.5nm,0.7s						
ULM	**Lac du Bonnet**	**38.07**	**353**	P	**P**	**01 46 42.1**	**-1.6**
	comp=Z,3.3nm,0.6s,baz=148,slow=12,SNR=4.3 comp=Z,3.3nm,0.6s						
YKA	**Yellowknife Ar**	**53.18**	**346**	P	**P**	**01 48 42.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=137,slow=8.3,SNR=2.1 comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**65.36**	**336**	P	**P**	**01 50 07.5**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=101,slow=4.7,SNR=3.0 comp=Z,0.4nm,0.8s						

IDC 17 01:46:40.8±1.1, 2°.29S×140°.72E, h0km, mb3.9/6, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=44.8km s-min=23.0km az=88.0
DJA 17 01:46:45.8±1.3, 2°.5S±5°×14°.1E±°, h10km, M4.2/4, MLv4.2/4

ISC 17 01:46:45.7±1.0, 2°.26S±0°.09×140°.80E±0°.10, h35km, n13, σ1s52/16, mb3.9/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.71**	**243**	P	**Pn**	**01 46 56.5**	**-2.7**
GENI				S	**Sn**	**01 47 07.5**	**-1.4**
SMPI	**Sarmi**	**2.10**	**277**	P	**Pn**	**01 47 18.6**	**+0.2**
SMPI				S	**Sn**	**01 47 43.5**	**+0.1**
WAMI	**Wamena**	**2.63**	**232**	P	**Pn**	**01 47 27.9**	**+2.2**
WAMI				S	**Sn**	**01 47 59.9**	**+3.5**
SRPI	**Serui, Papua**	**4.57**	**275**	P	**Pn**	**01 47 52.8**	**+0.4**
WRA	**Warramunga Arr**	**18.67**	**199**	P	**Pn**	**01 51 00.6**	**-0.9**
	0.4nm,0.3s,baz=25,slow=12,SNR=34 4.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.65**	**222**	P	**P**	**01 51 32.1**	**-1.1**
	2.7nm,0.7s,baz=37,slow=9.6,SNR=9.3 2.7nm,0.7s						
ASAR	**Alice Springs**	**22.30**	**197**	P	**P**	**01 51 39.8**	**-0.5**
	3.9nm,0.8s,baz=29,slow=10,SNR=37 3.9nm,0.8s						
STKA	**Stephens Creek**	**29.47**	**179**	P	**P**	**01 52 46.3**	**-0.1**
	2.8nm,0.8s,baz=6.2,slow=15,SNR=3.8 2.8nm,0.8s						
MKAR	**Makanchi Array**	**70.72**	**322**	P	**P**	**01 57 59.3**	**+1.1**
	0.7nm,0.9s,baz=134,slow=5.2,SNR=3.7 0.7nm,0.9s						
VNDA	**Vanda**	**76.05**	**175**	P	**P**	**01 58 29.1**	**+0.1**
	1.1nm,0.6s,baz=329,slow=7.4,SNR=14 1.1nm,0.6s						
BVAR	**Borovoye Array**	**80.15**	**325**	P	**P**	**01 58 51.9**	**-0.3**
	0.4nm,0.7s,baz=137,slow=9.3,SNR=3.6 0.4nm,0.7s						
LPAZ	**La Paz**	**145.99**	**124**	PKPbc	**PKPab**	**02 06 24.1**	**+0.1**
	2.0nm

7.5nm,0.9s
TORD Torodi Ar. Bea 73.02 30 P **P** **02 17 16.2 +0.7**
4.4nm,0.6s,baz=196,slow=6.5,SNR=41
4.4nm,0.6s
CMIG Matias Romero 91.94 298 P **P** **02 18 57.7 +3.9**
1.0nm,0.3s,baz=153,slow=4.5,SNR=4.7
ILAR Eielson Array 149.87 312 PKPbc **PKPbc** **02 25 32.8 -0.9**
3.3nm,0.7s,baz=122,slow=3.3,SNR=18
SONM Songino Array 150.91 86 PKPbc **PKPbc** **02 25 35.5 -1.4**
2.8nm,0.5s,baz=223,slow=3.5,SNR=13

BJI ***17*** *02:06:32.9±0.0,2.1°S×140.7°E,h14km,mb4.9/61, mB5.3/28,Ms4.8/21,Ms7 4.6/20*
IDC ***17*** *02:06:33.2±0.5,2.0°S×140.7°E,h0km,mb4.6/18, mbtmp4.6/22,ML4.6/3,MS4.5/24,Error ellipse: s-maj=18.3km s-min=11.3km az=83.0*
MOS ***17*** *02:06:34.2±0.9,2.0°S×140.6°E,h19km,mb5.1/42,Error ellipse: s-maj=10.5km s-min=5.0km az=109.6*
NEIC ***17*** *02:06:35.8±1.5,2.0°S±0.8°×140.5°E±0.0°,h10km±1km, mb5.2/106,Error ellipse: s-maj=13.4km s-min=11.5km az=209.0*
GCMT ***17*** *02:06:37.8±0.2,1.8°S±0.0°×140.5°E±0.0°,h13km, MW5.2/99,Moment Tensor Solution. s58,c81; s99,c168; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.67±.03; $M_{\theta\theta}$0.73±.02; $M_{\phi\phi}$-0.06±.02; $M_{r\theta}$0.54±.06; $M_{\theta\phi}$0.05±.01; $M_{r\phi}$0.02±.05; Best double couple: $M_0$0.88300×10^{17} NP1:ϕ_s267.00000°,δ64.00000°, λ-89.00000°. NP2:ϕ_s86.00000°,δ26.00000°,λ-92.00000°. Principal axes: T 0.9180, Plg19.0000°, Azm357.0000°; N -0.0690, Plg1.0000°, Azm87.0000°; P -0.8490, Plg71.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***17*** *02:06:38.9±0.9,2.5°S×14.1°E±°,h29km±5km,M5.1/42, mB5.6/20,mb5.0/42,MLv5.2/4,Mw(mB)5.1/20*
ISC 17 02:06:38.6±0.3,2.1°S±0.0°×140.6°E±0.0°,h35km,n401, σ1♦43/385,mb5.0/122,MS4.5/27,19C-7D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**0.70**	**227**	P		**Pn**	**02 06 51.1**	**-1.0**
GENI				S		**Sn**	**02 07 03.2**	**+1.6**
GENI	**Genyem**	**0.70**	**227**	P		**Pn**	**02 06 52.2**	**+0.1**
SMPI	**Sarmi**	**1.97**	**273**	P		**Pn**	**02 07 07.4**	**-2.1**
WAMI	**Wamena**	**2.64**	**228**	P		**Pn**	**02 07 22.5**	**+3.8**
BAKI	**Biak**	**4.66**	**281**	P		**Pn**	**02 07 42.9**	**-3.6**
MANU	**Manus Island**	**6.69**	**90**	Pn		**Pn**	**02 08 15.1**	**+0.7**
FAKI	**Fak Fak**	**8.46**	**264**	Pn		**Pn**	**02 08 36.4**	**-2.3**
FAKI	**Fak Fak**	**8.46**	**264**	P		**Pn**	**02 08 37.8**	**-1.0**
	80nm,0.8s							
FAKI	**Fak Fak**	**8.46**	**264**	P		**Pn**	**02 08 39.4**	**+0.6**
SIJI	**Sorong**	**9.49**	**277**	Pn		**Pn**	**02 08 54.1**	**+1.2**
	1.6nm,0.3s,baz=58,slow=13,SNR=8.8							
SIJI						**Sn**	**02 10 42.6**	**+4.2**
	1.9nm,0.3s,baz=181,slow=22,SNR=1.3							
SIJI					LR	LR	02 12 54.8	
	comp=Z,2μm,19.1s,baz=54,slow=40							
	26nm,0.9s							
PMG	**Port Moresby**	**9.70**	**139**	Pn		**Pn**	**02 08 56.2**	**+0.4**
	4.9nm,0.4s,baz=291,slow=9.6,SNR=1.5							
PMG					LR	LR	02 13 14.0	
	comp=Z,3μm,19.9s,baz=307,slow=41							
PMG	**Port Moresby**	**9.70**	**139**	Pn		**Pn**	**02 08 56.7**	**+0.9**
PMG	**Port Moresby**	**9.70**	**139**	*eP*		**Pn**	**02 08 55.9**	**+0.1**
PMG					pmax	pmax		
	comp=Z,11nm,0.9s							
MSAI	**Masohi**	**11.80**	**264**	P		**Pn**	**02 09 25.2**	**+0.6**
LBMI	**Labuha**	**13.25**	**276**	P		P	02 09 58.7	+4.9
KDU	**Kakadu**	**13.28**	**217**	P		**Pn**	**02 09 42.8**	**-2.0**
	baz=13,SNR=21							
KDU	**Kakadu**	**13.28**	**217**	P		**Pn**	**02 09 43.0**	**-1.8**
TNTI	**Ternate**	**13.61**	**282**	Pn		**Pn**	**02 09 45.4**	**-3.9**
TNTI	**Ternate**	**13.61**	**282**	P		**P**	**02 09 55.7**	**-2.1**
MTN	**Manton Dam**	**14.25**	**221**	P		**Pn**	**02 09 56.0**	**-2.0**
	baz=14,SNR=13							
MTN	**Manton Dam**	**14.25**	**221**	Pn		**Pn**	**02 09 55.2**	**-2.9**
MTN	**Manton Dam**	**14.25**	**221**	P		**Pn**	**02 09 56.6**	**-1.4**
GUMO	**Guam**	**16.14**	**15**	LR		LR	02 16 01.5	
	comp=Z,2μm,19.2s,baz=212,slow=35							
GUMO	**Guam**	**16.14**	**15**	Pn		**Pn**	**02 10 21.3**	**-1.7**
GUMO	**Guam**	**16.14**	**15**	P		**Pn**	**02 10 21.3**	**-1.7**
GUMO					pmax	pmax		
	comp=Z,87nm,1.1s							
KMSI	**Cibinong**	**16.90**	**279**	P		**P**	**02 10 40.9**	**+6.5**
DAV	**Davao City (W)**	**17.61**	**301**	LR		LR	02 18 07.0	
	comp=Z,817nm,19.3s,baz=148,slow=39							
GTOI	**Gorontalo**	**17.87**	**279**	P		**P**	**02 10 45.2**	**+0.1**
	comp=Z,1μmcomp=Z,105nm,1.5s							
KNRA	**Kununurra**	**17.88**	**220**	P		**Pn**	**02 10 44.1**	**-0.6**
	baz=18,SNR=19							
KNRA	**Kununurra**	**17.88**	**220**			**Pn**	**02 10 43.5**	**-1.2**
KNRA	**Kununurra**	**17.88**	**220**	P		**Pn**	**02 10 44.8**	**+0.1**
LUWI	**Luwuk**	**17.93**	**273**	Pn		**Pn**	**02 10 42.1**	**-3.3**
LUWI				IAmb		IAmb	02 10 48.0	
	comp=Z,207nm,0.9s							
LUWI	**Luwuk**	**17.93**	**273**	P		**Pn**	**02 10 43.9**	**-1.5**
	comp=Z,9μmcomp=Z,258nm,1.1s							
SOEI	**Soe**	**17.99**	**244**			**Pn**	**02 10 44.5**	**-1.8**
QIS	**Mount Isa**	**18.37**	**183**	P		**P**	**02 10 50.6**	**+0.1**
	baz=18,SNR=6.9							
QIS	**Mount Isa**	**18.37**	**183**	P		**Pn**	**02 10 50.9**	**+0.2**
BBSI	**Bau Bau**	**18.37**	**259**	P		**Pn**	**02 10 56.9**	**+6.1**
WB0	**Warramunga Arr**	**18.59**	**199**	P		**P**	**02 10 52.0**	**-1.0**
CTA	**Charters Tower**	**18.68**	**163**	P		**Pn**	**02 10 55.2**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=346,slow=11,SNR=15							
CTA					LR	LR	02 18 47.5	
	comp=Z,2μm,19.4s,baz=350,slow=39							
	comp=Z,5.8nm,0.4s							
CTA	**Charters Tower**	**18.68**	**163**	P		**Pn**	**02 10 56.7**	**+2.2**
CTA					pmax	pmax		
	comp=Z,15nm,1.3s							
CTA	**Charters Tower**	**18.68**	**163**	P		**Pn**	**02 10 57.9**	**+3.4**
CTAO	**Charters Tower**	**18.68**	**163**	P		**P**	**02 10 53.3**	**-0.7**
CTAO	**Charters Tower**	**18.68**	**163**	P		**P**	**02 10 53.3**	**-0.7**
CTAO					pmax	pmax		
	comp=Z,18nm,1.1s							
CTAO	**Charters Tower**	**18.68**	**163**	P		**Pn**	**02 10 57.9**	**+3.4**
BATI	**Baumata**	**18.72**	**244**	P		**Pn**	**02 10 55.1**	**+0.1**
	comp=Z,399nm,0.8s,baz=20,slow=7.7,SNR=32							
BATI	**Baumata**	**18.72**	**244**	P		**Pn**	**02 10 55.7**	**+0.7**
	comp=Z,3μmcomp=Z,299nm,0.8s							
WR0	**Warramunga Arr**	**18.73**	**198**	P		**P**	**02 10 54.3**	**-0.2**
WRAB	**Tennant Creek**	**18.76**	**199**	P		**P**	**02 10 53.3**	**-1.6**
WRAB	**Tennant Creek**	**18.76**	**199**	*ce*P		**P**	**02 10 55.2**	**+0.3**
WRAB					pmax	pmax		
	comp=Z,86nm,1.3s							
WRAB	**Tennant Creek**	**18.76**	**199**	P		**P**	**02 10 55.0**	**+0.1**
WB2	**Warramunga Arr**	**18.77**	**199**	P		**P**	**02 10 54.0**	**-1.0**
WRA	**Warramunga Arr**	**18.78**	**199**	P		**P**	**02 10 55.0**	**0.0**
	comp=Z,2.9nm,0.3s,baz=25,slow=12,SNR=84							
WRA				S		**Sn**	**02 14 16.3**	**-8.5**
	comp=Z,4.2nm,0.5s,baz=15,slow=22,SNR=4.6							
WRA					LR	LR	02 19 02.3	
	comp=Z,4μm,20.1s,baz=17,slow=40							
	comp=Z,36nm,0.8s							
WRA	**Warramunga Arr**	**18.78**	**199**	P		**P**	**02 10 53.3**	**-1.7**
WRA	**Warramunga Arr**	**18.78**	**199**	*i* P		**P**	**02 10 53.4**	**-1.6**
WRA					pmax	pmax		
	comp=Z,21nm,0.8s							
MRSI	**Marisa**	**18.91**	**278**	P		**P**	**02 10 56.6**	**+0.1**
	comp=Z,2μmcomp=Z,85nm,0.7s							
APSI	**Ampana**	**19.06**	**273**	P		**Pn**	**02 10 59.6**	**+0.5**
	comp=Z,2μmcomp=Z,136nm,1.2s							
EDFI	**Ende, Flores**	**20.01**	**250**	P		**P**	**02 11 07.6**	**-1.1**
	comp=Z,29nm,1.0s							
TOLI2	**Tolitoli**	**20.15**	**279**	P		**P**	**02 11 09.3**	**-0.7**
TOLI2					IAmb	IAmb	02 11 15.9	
	comp=Z,81nm,0.8s							
HNR	**Honiara**	**20.50**	**112**	LR		LR	02 19 10.4	
	comp=Z,8μm,19.2s,baz=326,slow=37							
BKSI	**Bulukumba**	**20.75**	**261**	P		**P**	**02 11 17.3**	**+0.7**
	comp=Z,936nmcomp=Z,60nm,1.2s							
TTSI	**Tana Toraja**	**20.86**	**267**	P		**P**	**02 11 18.1**	**+0.4**
	comp=Z,3μmcomp=Z,166nm,1.2s							
MPSI	**Mapaga**	**20.91**	**276**	P		Pn	02 11 20.0	-1.0
	comp=Z,2μmcomp=Z,97nm,1.1s							
SPSI	**Sidrap Palu**	**20.96**	**264**	P		**P**	**02 11 20.0**	**+1.2**
	comp=Z,1μmcomp=Z,73nm,0.8s							
KAPI	**Kappang**	**21.08**	**262**	P		**P**	**02 11 21.0**	**+0.8**
	comp=Z,14nm,0.3s,baz=100,slow=8.3,SNR=5.4							
KAPI					LR	LR	02 19 44.4	
	comp=Z,261nm,21.1s,baz=86,slow=37							
	comp=Z,14nm,0.3s							
KAPI	**Kappang**	**21.08**	**262**	P		**P**	**02 11 18.5**	**-1.6**
KAPI	**Kappang**	**21.08**	**262**	*ie*P		**P**	**02 11 21.0**	**+0.8**
KAPI					pmax	pmax		
	comp=Z,50nm,1.8s							
FITZ	**Fitzroy Crossi**	**21.68**	**222**	P		**P**	**02 11 26.0**	**-0.5**
	comp=Z,22nm,0.8s,baz=29,slow=12,SNR=36							
FITZ					S	**S**	**02 15 23.5**	**-1.4**
	comp=Z,25nm,0.9s,baz=252,slow=18,SNR=9.0							
FITZ					LR	LR	02 20 52.3	
	comp=Z,2μm,18.3s,baz=48,slow=39							
	comp=Z,22nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.68**	**222**	P		**P**	**02 11 25.8**	**-0.8**
	baz=22,SNR=49							
FITZ	**Fitzroy Crossi**	**21.68**	**222**	P		**P**	**02 11 24.3**	**-2.2**
FITZ	**Fitzroy Crossi**	**21.68**	**222**	P		**P**	**02 11 26.2**	**-0.3**
AS31	**Alice Springs**	**22.41**	**196**	P		**P**	**02 11 33.7**	**-0.7**
ASAR	**Alice Springs**	**22.41**	**196**	P		**P**	**02 11 34.5**	**0.0**
	comp=Z,26nm,0.8s,baz=28,slow=11,SNR=94							
ASAR					S	**S**	**02 15 38.8**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=14,slow=25,SNR=3.1							
ASAR					LR	LR	02 21 16.5	
	comp=Z,4μm,19.2s,baz=24,slow=39							
	comp=Z,26nm,0.8s							
ASAR	**Alice Springs**	**22.41**	**196**	P		**P**	**02 11 33.6**	**-0.8**
MYLDM	**Lahad Datu**	**23.31**	**288**	P		**P**	**02 11 44.4**	**+0.6**
BKB	**Balikpapan**	**23.78**	**272**	P		**P**	**02 11 49.5**	**+1.1**
BKB	**Balikpapan**	**23.78**	**272**	P		**P**	**02 11 49.8**	**+1.5**
	comp=Z,148nm,0.5s							
QLP	**Quilpie**	**24.57**	**172**	P		**P**	**02 11 56.9**	**+1.4**
	baz=25,SNR=7.4							
QLP	**Quilpie**	**24.57**	**172**	P		**P**	**02 11 57.5**	**+2.1**
EIDS	**Eidsvold**	**25.21**	**157**	P		**P**	**02 12 03.0**	**+1.8**
	baz=26,SNR=25							
EIDS	**Eidsvold**	**25.21**	**157**	P		**P**	**02 12 02.1**	**+0.9**
EIDS	**Eidsvold**	**25.21**	**157**	P		**P**	**02 12 04.4**	**+3.2**
RMQ	**Roma**	**25.45**	**163**	P		**P**	**02 12 05.1**	**+1.7**
	baz=26,SNR=21							
RMQ	**Roma**	**25.45**	**163**	P		**P**	**02 12 06.7**	**+3.3**
INKA	**Innaminka**	**25.49**	**180**	P		**P**	**02 12 05.9**	**+2.2**
WRKA	**Warakurna**	**25.73**	**207**	P		**P**	**02 12 05.6**	**-0.5**
	baz=26,SNR=37							
WRKA	**Warakurna**	**25.73**	**207**	P		**P**	**02 12 06.1**	**0.0**
MTKI	**Muara Teweh, K**	**25.80**	**272**	P		**P**	**02 12 04.9**	**-1.8**
BBKI	**Banjar Baru**	**25.84**	**266**	P		**P**	**02 12 08.3**	**+1.2**
	comp=Z,61nm,1.4s							
OOD	**Oodnadatta**	**25.98**	**190**	P		**P**	**02 12 09.1**	**+0.9**
MBWA	**Marble Bar**	**27.84**	**226**	P		**P**	**02 12 24.1**	**-1.0**
MBWA					IAmb	IAmb	02 12 25.7	
	comp=Z,31nm,0.9s							
MBWA	**Marble Bar**	**27.84**	**226**	P		**P**	**02 12 24.4**	**-0.6**
LCRK	**Leigh Creek**	**28.28**	**184**	P		**P**	**02 12 30.0**	**+1.2**
MULG	**Mulgathing**	**28.71**	**192**	P		**P**	**02 12 32.5**	**-0.2**
SBUM	**Sibu**	**28.81**	**279**	P		**P**	**02 12 32.5**	**-1.2**
SBUM					IAmb	IAmb	02 12 35.8	
	comp=Z,87nm,1.6s							
STKA	**Stephens Creek**	**29.62**	**178**	P		**P**	**02 12 40.8**	**+0.1**
	comp=Z,25nm,1.1s,baz=346,slow=10,SNR=13							
STKA					LR	LR	02 24 57.3	
	comp=Z,2μm,21.5s,baz=2.2,slow=37							
	comp=Z,25nm,1.1s							
STKA	**Stephens Creek**	**29.62**	**178**	P		**P**	**02 12 40.9**	**+0.1**
	baz=30,SNR=6.4							
STKA	**Stephens Creek**	**29.62**	**178**	P		**P**	**02 12 41.1**	**+0.4**
STKA	**Stephens Creek**	**29.62**	**178**	*ie*P		**P**	**02 12 41.5**	**+0.8**
STKA	**Stephens Creek**	**29.62**	**178**	P		**P**	**02 12 41.0**	**+0.3**
CMSA	**Cobar Meteorol**	**29.65**	**171**	P		**P**	**02 12 42.3**	**+1.3**
	baz=30,SNR=12							
CMSA	**Cobar Meteorol**	**29.65**	**171**	P		**P**	**02 12 43.5**	**+2.5**
ARMA	**Armidale**	**30.01**	**161**	P		**P**	**02 12 46.2**	**+1.9**
	baz=30,SNR=6.0							
ARMA	**Armidale**	**30.01**	**161**	P		**P**	**02 12 45.6**	**+1.3**
ARMA					IAmb	IAmb	02 12 48.1	
	comp=Z,70nm,1.5s							
ARMA	**Armidale**	**30.01**	**161**	P		**P**	**02 12 46.1**	**+1.8**
BBOO	**Buckleboo**	**30.85**	**188**	P		**P**	**02 12 51.5**	**-0.1**
	baz=31,SNR=8.0							
BBOO	**Buckleboo**	**30.85**	**188**	P		**P**	**02 12 51.6**	**0.0**
FORT	**Forrest**	**30.92**	**201**	P		**P**	**02 12 52.4**	**+0.2**
	baz=31,SNR=6.4							
FORT	**Forrest**	**30.92**	**201**	P		**P**	**02 12 52.4**	**+0.2**
JOW	**Lunigami**	**31.16**	**338**	LR		LR	02 22 47.5	
	comp=Z,959nm,21.7s,baz=208,slow=31							
HTT	**Hallett**	**31.20**	**183**	P		**P**	**02 12 55.7**	**+0.9**
	baz=31,SNR=7.5							
HTT	**Hallett**	**31.20**	**183**	P		**P**	**02 12 55.6**	**+0.9**
DZM	**Mont Dzumac**	**31.96**	**130**	P		**P**	**02 13 01.6**	**+0.1**
DZM					IAmb	IAmb	02 13 10.0	
	comp=Z,35nm,1.4s							
MEEK	**Meekatharra**	**32.30**	**219**	P		**P**	**02 13 03.9**	**-0.6**
	baz=32,SNR=6.3							
MEEK	**Meekatharra**	**32.30**	**219**	P		**P**	**02 13 04.0**	**-0.5**
MARNC	**Mare, Loyalty**	**32.86**	**128**	P		**P**	**02 13 10.6**	**+1.2**
TPI	**Tanjungpandan**	**33.00**	**268**	P		**P**	**02 13 11.3**	**+0.6**
	comp=Z,459nmcomp=Z,38nm,1.3s							
H11N1	**WAKE ISLAND Hy**	**33.66**	**49**	T		T	02 49 06.8	
	baz=229,slow=76,SNR=12							
H11N2	**WAKE ISLAND Hy**	**33.67**	**49**	T		T	02 49 13.9	
	baz=229,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**33.67**	**49**	T		T	02 49 18.9	
	baz=229,slow=76,SNR=9.8							
CAN	**Canberra**	**33.94**	**168**	P		**P**	**02 13 19.2**	**+0.5**
CAN					IAmb	IAmb	02 13 21.7	
	comp=Z,61nm,1.4s							
CAN	**Canberra**	**33.94**	**168**	P		**P**	**02 13 19.2**	**+0.5**
CAN					pmax	pmax		
	comp=Z,61nm,1.4s							
CAN	**Canberra**	**33.94**	**168**	P		**P**	**02 13 20.8**	**+2.1**
CNB	**Canberra Magne**	**34.01**	**167**	P		**P**	**02 13 21.9**	**+2.6**
	baz=34,SNR=4.7							
CNB	**Canberra Magne**	**34.01**	**167**	P		**P**	**02 13 23.2**	**+3.8**
ARPS	**Mount Arapiles**	**34.51**	**178**	P		**P**	**02 13 25.5**	**+2.0**
	baz=35,SNR=9.9							
ARPS	**Mount Arapiles**	**34.51**	**178**	P		**P**	**02 13 23.9**	**+0.4**
JHJ	**Hachijo jima 2**	**35.05**	**359**	LR		LR	02 24 28.7	
	comp=Z,2μm,20.9s,baz=108,slow=31							
TOO	**Toolangi**	**35.57**	**173**	P		**P**	**02 13 35.7**	**+2.9**
	baz=36,SNR=5.0							
TOO	**Toolangi**	**35.57**	**173**	P		**P**	**02 13 33.7**	**+1.0**
TOO					IAmb	IAmb	02 13 36.1	
	comp=Z,37nm,1.3s							
TOO	**Toolangi**	**35.57**	**173**	P		**P**	**02 13 33.7**	**+1.0**
TOO					pmax	pmax		
	comp=Z,37nm,1.3s							
MORW	**Morawa**	**35.62**	**219**	P		**P**	**02 13 32.7**	**-0.5**
	baz=36,SNR=4.4							
MORW	**Morawa**	**35.62**	**219**	P		**P**	**02 13 32.5**	**-0.8**
MORW					IAmb	IAmb	02 13 34.2	
	comp=Z,41nm,1.1s							
DSRI	**Dabo**	**36.12**	**272**	P		**P**	**02 13 38.1**	**+0.3**
	comp=Z,19nm,1.4s							
JMN	**Monobe**	**36.22**	**350**	P		**P**	**02 13 37.5**	**-0.9**
JMN					IAmb	IAmb	02 13 46.0	
	comp=Z,47nm,1.2s							
BLDU	**Ballidu**	**36.32**	**216**	P		**P**	**02 13 39.6**	**+0.4**
	baz=36,SNR=6.4							
BLDU	**Ballidu**	**36.32**	**216**	P		**P**	**02 13 38.8**	**-0.4**
	comp=Z,38nm,1.5s							
KLBR	**Kellerberrin**	**36.44**	**214**	P		**P**	**02 13 41.1**	**+0.9**
QIZ	**Qiongzhong**	**36.88**	**306**	P		**P**	**02 13 42.7**	**-1.4**
QIZ					IAmb	IAmb	02 13 44.7	
	comp=Z,66nm,1.5s							
QIZ	**Qiongzhong**	**36.88**	**306**	P		**P**	**02 13 43.0**	**-1.1**
QIZ					S	**S**	**02 19 25.8**	**-0.9**
QIZ					pmax	pmax		
	comp=Z,26nm,1.4s							
QIZ					LR	LR		
	comp=Z,680nm,22.3s							
QIZ					LR	LR		
	comp=Z,310nm,17.5s							
QIZ					LR	LR		
	comp=Z,670nm,24.7s							
MYKOM	**Kota Tinggi**	**37.02**	**276**	P		**P**	**02 13 45.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**37.73**	**213**	LR		LR	02 31 05.8	
	comp=Z,2μm,18.9s,baz=263,slow=39							
MASI	**Maura Aman, Be**	**38.41**	**268**	P		**P**	**02 13 57.9**	**+0.7**
	comp=Z,77nm,1.1s							
MJAR	**Matsushiro Arr**	**38.52**	**357**	P		**P**	**02 13 56.7**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=180,slow=11,SNR=5.3							
MJAR					LR	LR	02 27 50.6	
	comp=Z,372nm,18.8s,baz=158,slow=33							
	comp=Z,0.9nm,0.3s							
MAJO	**Matsushiro**	**38.52**	**357**	P		**P**	**02 13 57.1**	**-0.6**
MAJO	**Matsushiro**	**38.52**	**357**	*ie*P		**P**	**02 13 57.2**	**-0.6**
MAJO					pmax	pmax		
	comp=Z,18nm,1.5s							
UBPT	**Khong Chiam**	**38.88**	**298**	P		**P**	**02 13 59.4**	**-1.7**
SDSI	**Sungai Dareh**	**39.25**	**271**	P		**P**	**02 14 03.8**	**-0.4**
	comp=Z,613nmcomp=Z,36nm,1.5s							
BKNI	**Bangkinang**	**39.70**	**273**	P		**P**	**02 14 06.8**	**-1.3**
JMM	**Marumori**	**39.77**	**0**	P		**P**	**02 14 09.0**	**+0.8**
JMM					IAmb	IAmb	02 14 14.6	
	comp=Z,62nm,1.4s							
NJ2	**Nanjing**	**39.78**	**330**	*e*P		**P**	**02 14 10.6**	**+2.3**
NJ2					pmax	pmax		
	comp=Z,15nm,0.7s							
JSD	**Sado**	**40.01**	**357**	P		**P**	**02 14 08.5**	**-1.7**
JSD					IAmb	IAmb	02 14 16.6	
	comp=Z,35nm,1.0s							
GULI	**GuiLin**	**40.05**	**315**	P		**P**	**02 14 09.3**	**-1.4**
IPM	**Ipoh**	**40.16**	**279**	P		**P**	**02 14 10.0**	**-1.8**
IPM					IAmb	IAmb	02 14 12.2	
	comp=Z,93nm,1.7s							
PDSI	**Padang**	**40.22**	**271**	P		**P**	**02 14 11.0**	**-1.3**
	comp=Z,2μmcomp=Z,38nm,1.2s							
KULM	**Kulim**	**40.65**	**281**	P		**P**	**02 14 14.1**	**-1.8**
KULM					IAmb	IAmb	02 14 16.2	
	comp=Z,68nm,1.3s							
KSAR	**Wonju Array Be**	**41.10**	**344**	P		**P**	**02 14 18.1**	**-1.1**
KSAR	**Wonju Array Be**	**41.10**	**344**	P		**P**	**02 14 18.1**	**-1.1**
KSRS	**Korea Array**	**41.10**	**345**	P		**P**	**02 14 19.2**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=163,slow=8.7,SNR=10							
KSRS					PcP	**PcP**	**02 16 18.8**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=154,slow=4.0,SNR=4.4							
KSRS					LR	LR	02 28 29.7	
	comp=Z,534nm,21.6s,baz=165,slow=32							
	comp=Z,3.7nm,0.9s							
SISI	**Saibi**	**41.57**	**270**	P		**P**	**02 14 22.6**	**-0.9**
	comp=Z,95nm,1.0s							
RPSI	**Rantau Prapat**	**42.01**	**276**	P		**P**	**02 14 25.5**	**-1.5**
RPSI					IAmb	IAmb	02 14 27.3	
	comp=Z,53nm,0.9s							
PSI	**Prapat**	**42.02**	**276**	P		**P**	**02 14 25.5**	**-1.8**
PSI					pmax	pmax		
	comp=Z,53nm,0.9s							
SRIT	**Nakonsritamara**	**42.30**	**285**	P		**P**	**02 14 28.2**	**-1.2**
SRIT					IAmb	IAmb	02 14 29.9	
	comp=Z,51nm,1.1s							
GSI	**Gunungsitoli**	**43.23**	**274**	P		**P**	**02 14 35.4**	**-1.5**
GSI	**Gunungsitoli**	**43.23**	**274**	P		**P**	**02 14 36.1**	**-0.8**
	comp=Z,10μmcomp=Z,96nm,1.1s							
KCSI	**Kotacane, Aceh**	**43.25**	**277**	P		**P**	**02 14 35.8**	**-1.3**
	comp=Z,2μmcomp=Z,45nm,1.1s							
GYA	**Guiyang**	**43.41**	**313**	⇓P		**P**	**02 14 39.5**	**+1.1**
GYA					pmax	pmax		
	comp=Z,20nm,1.6s							
ENH	**Enshi**	**43.84**	**320**	P		**P**	**02 14 40.8**	**-0.8**
ENH					IAmb	IAmb	02 14 48.8	
	comp=Z,35nm,1.2s							
TIA	**Tai'an**	**44.00**	**332**	P		**P**	**02 14 42.4**	**-0.4**
TIA					pmax	pmax		
	comp=Z,21nm,1.7s							
LYN	**LuoYang**	**45.07**	**327**	⇑*i*P		**P**	**02 14 50.0**	**-1.4**
LYN					S	**S**	**02 21 31.4**	**+3.2**
LYN					pmax	pmax		
	comp=Z,20nm,1.3s							
LYN					pmax	pmax		
	comp=Z,180nm,8.8s							
LYN					LR	LR		
	comp=Z,560nm,18.1s							
LYN					LR	LR		
	comp=Z,560nm,13.6s							
LYN					LR	LR		
	comp=Z,760nm,18.5s							
KMI	**Kunming**	**45.65**	**309**	⇑P		**P**	**02 14 56.8**	**+0.4**
KMI					pP	pP	02 15 00.3	-5.6
KMI					S	**S**	**02 21 40.0**	**+2.7**
KMI					pmax	pmax		
	comp=Z,17nm,1.1s							
KMI					LR	LR		
	comp=Z,450nm,18.7s							
KMI					LR	LR		
	comp=Z,500nm,15.1s							
KMI					LR	LR		
	comp=Z,500nm,19.8s							
CM31	**Chiang Mai Arr**	**45.86**	**298**	P		**P**	**02 14 57.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**45.86**	**298**	P		**P**	**02 14 57.7**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=116,slow=6.2,SNR=20		

BTO					S	**S**	**02 22 55.3**	**+4.7**	
BTO					LR	LR			
	comp=Z,2µm,19.0s								
BTO					LR	LR			
	comp=Z,2µm,13.1s								
LZH	**Lanzhou**	**51.21**	**321**	⇑P		**P**	**02 15 39.8**	**+0.8**	
LZH					sP	pP	02 15 46.4	-2.1	
LZH					pmax	pmax			
	comp=Z,47nm,1.5s								
KLR	**Kul'dur**	**51.72**	**353**	P		**P**	**02 15 41.5**	**-0.8**	
	comp=Z,6.1nm,0.9s,baz=173,slow=8.1,SNR=9.2								
KLR					LR	LR	02 34 57.6		
	comp=Z,380nm,20.5s,baz=162,slow=33								
	comp=Z,6.1nm,0.9s								
KLR	**Kul'dur**	**51.72**	**353**	⇑*eP*		**P**	**02 15 43.0**	**+0.7**	
KLR					pmax	pmax			
	comp=Z,18nm,1.3s								
HIA	**Hailar**	**54.28**	**343**	P		**P**	**02 16 01.0**	**-0.3**	
HIA					IAmb	IAmb	02 16 08.3		
	comp=Z,22nm,1.3s								
HIA	**Hailar**	**54.28**	**343**	⇑*eP*		**P**	**02 16 01.3**	**0.0**	
HIA					pmax	pmax			
	comp=Z,9.0nm,1.0s								
GTA	**Gaotai**	**55.78**	**322**	⇑P		**P**	**02 16 12.8**	**+0.4**	
GTA					pP	pP	02 16 19.3	-2.7	
GTA					sP	sP	02 16 22.6	-3.1	
GTA					pmax	pmax			
	comp=Z,13nm,2.0s								
GTA					pmax	pmax			
	comp=Z,160nm,5.8s								
GTA					LR	LR			
	comp=Z,230nm,20.0s								
GTA					LR	LR			
	comp=Z,290nm,20.4s								
GTA					LR	LR			
	comp=Z,450nm,20.7s								
ZEA	**Zeya**	**56.77**	**351**	*eP*		**P**	**02 16 18.6**	**-0.4**	
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
PETK	**Petropavlovsk-**	**56.84**	**12**	LR		LR	02 37 30.2		
	comp=Z,277nm,21.9s,baz=225,slow=33								
PETK	**Petropavlovsk-**	**56.84**	**12**	P		**P**	**02 16 19.8**	**+0.2**	
PETK	**Petropavlovsk-**	**56.84**	**12**	P		**P**	**02 16 19.8**	**+0.2**	
LSA	**Lhasa**	**56.88**	**308**	P		**P**	**02 16 20.8**	**-0.1**	
LSA					IAmb	IAmb	02 16 22.8		
	comp=Z,55nm,1.9s								
LSA	**Lhasa**	**56.88**	**308**	P		**P**	**02 16 20.8**	**-0.1**	
LSA					pmax	pmax			
	comp=Z,55nm,1.9s								
GOMU	**GeErMu**	**57.22**	**316**	P		**P**	**02 16 26.3**	**+3.2**	
GOMU					pP	pP	02 16 31.0	-1.7	
GOMU					sP	sP	02 16 32.0	-4.5	
GOMU					pmax	pmax			
	comp=Z,8.0nm,0.3s								
ULN	**Ulaanbaatar**	**57.77**	**334**	P		**P**	**02 16 26.4**	**0.0**	
ULN	**Ulaanbaatar**	**57.77**	**334**	*ceP*		**P**	**02 16 26.5**	**0.0**	
ULN					pmax	pmax			
	comp=Z,12nm,1.7s								
SONM	**Songino Array**	**58.04**	**333**	P		**P**	**02 16 28.4**	**+0.1**	
	comp=Z,0.9nm,0.6s,baz=158,slow=9.3,SNR=9.5								
SONM					LR	LR	02 40 30.8		
	comp=Z,398nm,20.8s,baz=136,slow=35								
	comp=Z,0.9nm,0.6s								
SONM	**Songino Array**	**58.04**	**333**	P		**P**	**02 16 28.1**	**-0.2**	
CIT	**Chita**	**58.61**	**341**	*eP*		**P**	**02 16 31.4**	**-0.7**	
CIT				*e*			02 16 38.8		
ZAK	**Zakamensk**	**61.30**	**334**	*eP*		**P**	**02 16 49.8**	**-0.9**	
ZAK					pmax	pmax			
	comp=Z,15nm,1.3s								
ZAK					pmax	pmax			
	comp=Z,5.0nm,1.1s								
MA2	**Magadan**	**62.01**	**6**	LR		LR	02 41 25.1		
	comp=Z,166nm,22.0s,baz=171,slow=34								
MOY	**Mondy**	**63.23**	**334**	*eP*		**P**	**02 17 03.7**	**+0.1**	
MOY					pmax	pmax			
	comp=Z,40nm,2.1s								
BOD	**Bodaibo**	**63.45**	**344**	*eP*		**P**	**02 17 03.4**	**-1.3**	
BOD					pmax	pmax			
	comp=Z,22nm,1.7s								
YAK	**Yakutsk**	**64.52**	**354**	LR		LR	02 42 42.9		
	comp=Z,276nm,21.7s,baz=263,slow=34								
YAK	**Yakutsk**	**64.52**	**354**	P		**P**	**02 17 12.1**	**+0.5**	
YAK	**Yakutsk**	**64.52**	**354**	*eP*		**P**	**02 17 10.9**	**-0.7**	
YAK					pmax	pmax			
	comp=Z,30nm,1.0s								
YAK					pmax	pmax			
	comp=N,14nm,1.3s								
YAK					pmax	pmax			
	comp=E,4.0nm,1.1s								
SEY	**Seymchan**	**65.47**	**6**	LR		LR	02 43 19.3		
	comp=E,266nm,20.7s,baz=158,slow=34								
SEY	**Seymchan**	**65.47**	**6**	‖*eP*		**P**	**02 17 15.8**	**-2.1**	
SEY					pmax	pmax			
	comp=Z,15nm,1.7s								
WMQ	**Urumqi**	**65.78**	**321**	*eP*		**P**	**02 17 20.0**	**-0.4**	
WMQ					pP	pP	02 17 25.5	-4.7	
WMQ					pmax	pmax			
	comp=Z,27nm,1.1s								
CASY	**Casey**	**67.48**	**193**	P		**P**	**02 17 30.4**	**-0.3**	
DGZ	**Jazzator, Alta**	**68.87**	**326**	⇑*eP*		**P**	**02 17 39.1**	**-0.8**	
DGZ					pmax	pmax			
	comp=Z,7.0nm,1.4s								
ZSN	**Zaisan**	**69.25**	**323**	*eP*		**P**	**02 17 41.4**	**-0.7**	
ZSN	**Zaisan**	**69.25**	**323**	*eP*		**P**	**02 17 41.5**	**-0.7**	
	baz=323								
ZSN				*i* S		**S**	**02 26 48.2**	**+2.2**	
	baz=323								
MK31	**Makanchi Array**	**70.53**	**322**	P		**P**	**02 17 50.0**	**0.0**	
MK31					IAmb	IAmb	02 17 51.0		
	comp=Z,21nm,1.3s								
MK31	**Makanchi Array**	**70.53**	**322**	*d iP*		**P**	**02 17 49.4**	**-0.6**	
MK31					pmax	pmax			
	comp=Z,23nm,1.2s								
MKAR	**Makanchi Array**	**70.53**	**322**	P		**P**	**02 17 49.8**	**-0.2**	
	comp=Z,5.7nm,0.9s,baz=113,slow=8.0,SNR=37								
	comp=Z,5.7nm,0.9s								
MKAR	**Makanchi Array**	**70.53**	**322**	*ceP*		**P**	**02 17 50.0**	**0.0**	
MKAR					pmax	pmax			
	comp=Z,6.0nm,0.9s								
MAKZ	**Makanchi**	**70.73**	**322**	P		**P**	**02 17 51.2**	**0.0**	
MAKZ					IAmb	IAmb	02 17 52.1		
	comp=Z,18nm,1.1s								
MAKZ	**Makanchi**	**70.73**	**322**	P		**P**	**02 17 51.2**	**0.0**	
MAKZ					pmax	pmax			
	comp=Z,18nm,1.1s								
SHLS	**Shalkode**	**70.90**	**317**	*eP*		**P**	**02 17 50.4**	**-2.1**	
SHLS					pmax	pmax			
	comp=Z,18nm,1.5s								
SHLS	**Shalkode**	**70.90**	**317**	*eP*		**P**	**02 17 50.4**	**-2.1**	
	comp=Z,18nm,1.5s,baz=317								
PDGK	**Podgornoye**	**70.94**	**317**	P		**P**	**02 17 51.8**	**-1.0**	
UZB	**Uzynbulak**	**71.19**	**317**	*eP*		**P**	**02 17 53.5**	**-0.8**	
UZB	**Uzynbulak**	**71.19**	**317**	*eP*		**P**	**02 17 53.5**	**-0.8**	
	baz=317								
TARG	**Taragay, Kyrgy**	**71.53**	**315**	IAmb		IAmb	02 18 05.4		
	comp=Z,14nm,1.1s								
KPKS	**Kokpek**	**71.54**	**317**	*eP*		**P**	**02 17 55.5**	**-0.8**	
KPKS					pmax	pmax			
	comp=Z,18nm,1.4s								
KPKS	**Kokpek**	**71.54**	**317**	*eP*		**P**	**02 17 55.6**	**-0.8**	
	comp=Z,18nm,1.4s,baz=317								
SATY	**Saty**	**71.58**	**317**	*eP*		**P**	**02 17 56.2**	**-0.4**	
SATY					pmax	pmax			
	comp=Z,11nm,1.1s								
SATY	**Saty**	**71.58**	**317**	*eP*		**P**	**02 17 56.2**	**-0.4**	
	comp=Z,11nm,1.1s,baz=317								
KSH	**Kashi**	**72.11**	**313**	P		**P**	**02 18 01.8**	**+1.9**	
KSH					pP	pP	02 18 04.3	-5.6	
KSH					pmax	pmax			
	comp=Z,20nm,1.0s								
BILL	**Bilibino**	**72.23**	**10**	*eP*		**P**	**02 17 58.5**	**-1.4**	
BILL				*e*			02 18 17.7		
BILL				*e*			02 20 38.7		
BILL					pmax	pmax			
	comp=Z,10.0nm,1.2s								
TDK	**Taldyqorghan**	**72.29**	**319**	*eP*		**P**	**02 18 01.0**	**+0.3**	
TDK	**Taldyqorghan**	**72.29**	**319**	*eP*		**P**	**02 18 01.1**	**+0.3**	
	baz=319								
ZAA0	**Zalesovo Array**	**72.42**	**329**	P		**P**	**02 18 00.1**	**-1.1**	
ZALV	**Zalesovo Beam**	**72.42**	**329**	P		**P**	**02 18 00.7**	**-0.5**	
	comp=Z,3.9nm,0.9s,baz=120,slow=5.3,SNR=7.2								
ZALV					LR	LR	02 49 06.2		
	comp=Z,244nm,20.1s,baz=145,slow=35								
	comp=Z,3.9nm,0.9s								
ZALV	**Zalesovo Beam**	**72.42**	**329**	*i* P		**P**	**02 18 00.0**	**-1.2**	
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.9s								
MDOK	**Medeo**	**72.55**	**317**	*eP*		**P**	**02 18 02.0**	**-0.5**	
MDOK	**Medeo**	**72.55**	**317**	*eP*		**P**	**02 18 02.0**	**-0.5**	
	baz=317								
AAA	**Alma-Ata**	**72.66**	**317**	*eP*		**P**	**02 18 03.1**	**+0.1**	
AAA	**Alma-Ata**	**72.66**	**317**	*eP*		**P**	**02 18 03.1**	**+0.1**	
	baz=317								
CHKK	**Chushkaly**	**72.83**	**317**	*eP*		**P**	**02 18 02.6**	**-1.3**	
CHKK	**Chushkaly**	**72.83**	**317**	*eP*		**P**	**02 18 02.6**	**-1.3**	
	baz=317								
BOOM	**Boomskoye usch**	**73.09**	**316**	P		**P**	**02 18 06.0**	**+0.2**	
BOOM					IAmb	IAmb	02 18 07.0		
	comp=Z,17nm,0.9s								
BOOM	**Boomskoye usch**	**73.09**	**316**	P		**P**	**02 18 06.0**	**+0.2**	
BOOM					pmax	pmax			
	comp=Z,17nm,1.0s								
KUU	**Kurty**	**73.28**	**317**	*eP*		**P**	**02 18 05.9**	**-0.7**	
KUU	**Kurty**	**73.28**	**317**	*eP*		**P**	**02 18 05.9**	**-0.7**	
	baz=317								
SEM	**Semipalatinsk**	**73.29**	**324**	*eP*		**P**	**02 18 04.8**	**-2.0**	
SEM	**Semipalatinsk**	**73.29**	**324**	*eP*		**P**	**02 18 04.9**	**-2.0**	
	baz=324								
TKM2	**Tokmak 2**	**73.47**	**316**	P		**P**	**02 18 08.1**	**+0.1**	
	SNR=13								
TKM2	**Tokmak 2**	**73.47**	**316**	*i* P		**P**	**02 18 07.3**	**-0.7**	
TKM2					pmax	pmax			
	comp=Z,17nm,1.0s								
UCH	**Uchtor**	**74.01**	**315**	P		**P**	**02 18 12.3**	**+0.8**	
	SNR=21								
CHMS	**Chumysh**	**74.08**	**316**	P		**P**	**02 18 11.2**	**-0.2**	
	SNR=5.7								
AAK	**Ala-Archa**	**74.15**	**315**	P		**P**	**02 18 11.7**	**-0.3**	
AAK					IAmb	IAmb	02 18 13.3		
	comp=Z,23nm,1.4s								
AAK	**Ala-Archa**	**74.15**	**315**	*d iP*		**P**	**02 18 11.8**	**-0.1**	
AAK					pmax	pmax			
	comp=Z,19nm,1.5s								
SGDS	**Sogindy**	**74.31**	**316**	*eP*		**P**	**02 18 12.0**	**-0.7**	
SGDS	**Sogindy**	**74.31**	**316**	*eP*		**P**	**02 18 12.0**	**-0.7**	
	baz=316								
USP	**Ospenovka**	**74.34**	**316**	P		**P**	**02 18 13.2**	**+0.4**	
	SNR=16								
KURK	**Kurchatov**	**74.37**	**324**	P		**P**	**02 18 12.3**	**-0.5**	
KURK					IAmb	IAmb	02 18 13.3		
	comp=Z,35nm,1.4s								
KURK	**Kurchatov**	**74.37**	**324**	*de*P		**P**	**02 18 11.6**	**-1.2**	
KURK					pmax	pmax			
	comp=Z,30nm,1.5s								
AML	**Almayashu**	**74.56**	**315**	P		**P**	**02 18 15.3**	**+0.7**	
	SNR=18								
EKS2	**Erkin-Say**	**74.66**	**315**	P		**P**	**02 18 15.3**	**+0.5**	
	SNR=9.8								
BTLS	**Baital**	**75.21**	**318**	*eP*		**P**	**02 18 17.1**	**-0.7**	
BTLS					pmax	pmax			
	comp=Z,16nm,1.5s								
BTLS	**Baital**	**75.21**	**318**	*eP*		**P**	**02 18 17.1**	**-0.7**	
	comp=Z,16nm,1.5s,baz=318								
BTK	**Batken**	**76.07**	**312**	IAmb		IAmb	02 18 24.0		
	comp=Z,32nm,1.6s								
KBL	**Kabul**	**76.15**	**306**	P		**P**	**02 18 23.1**	**-0.6**	
KBL					IAmb	IAmb	02 18 23.8		
	comp=Z,14nm,0.8s								
KBL	**Kabul**	**76.15**	**306**	P		**P**	**02 18 23.1**	**-0.6**	
KBL					pmax	pmax			
	comp=Z,14nm,0.9s								
KBL	**Kabul**	**76.15**	**306**	P		**P**	**02 18 23.5**	**-0.2**	
	SNR=6.6								
VNDA	**Vanda**	**76.21**	**175**	P		**P**	**02 18 23.6**	**+0.7**	
	comp=Z,6.8nm,0.8s,baz=321,slow=5.9,SNR=40								
	comp=Z,6.8nm,0.8s								
VNDA	**Vanda**	**76.21**	**175**	P		**P**	**02 18 23.6**	**+0.7**	
VNDA					IAmb	IAmb	02 18 25.3		
	comp=Z,16nm,1.1s								
VNDA	**Vanda**	**76.21**	**175**	P		**P**	**02 18 23.6**	**+0.7**	
VNDA					pmax	pmax			
	comp=Z,16nm,1.2s								
DZA	**Taraz**	**76.45**	**315**	*eP*		**P**	**02 18 24.6**	**-0.4**	
DZA	**Taraz**	**76.45**	**315**	*eP*		**P**	**02 18 24.7**	**-0.4**	
	baz=315								
SBA	**Scott Base**	**76.95**	**175**	P		**P**	**02 18 28.8**	**+1.7**	
SBA					IAmb	IAmb	02 18 38.0		
	comp=Z,49nm,1.8s								
SBA	**Scott Base**	**76.95**	**175**	P		**P**	**02 18 28.8**	**+1.7**	
SBA					pmax	pmax			
	comp=Z,49nm,1.8s								
KK31	**Karatay Array**	**77.09**	**315**	P		**P**	**02 18 28.6**	**0.0**	
KK31					IAmb	IAmb	02 18 29.5		
	comp=Z,34nm,1.5s								
KK31	**Karatay Array**	**77.09**	**315**	*i* P		**P**	**02 18 28.1**	**-0.5**	
KKAR	**Karatay Array**	**77.09**	**315**	P		**P**	**02 18 27.4**	**-1.2**	
KKAR					IAmb	IAmb	02 18 29.5		
	comp=Z,34nm,1.5s								
KKAR	**Karatay Array**	**77.09**	**315**	P		**P**	**02 18 27.4**	**-1.2**	
KKAR					pmax	pmax			
	comp=Z,34nm,1.5s								
IUG	**Iuzhnay**	**77.18**	**314**	*eP*		**P**	**02 18 28.8**	**-0.4**	
IUG	**Iuzhnay**	**77.18**	**314**	*eP*		**P**	**02 18 28.8**	**-0.4**	
	baz=314								
TAS	**Tashkent**	**77.51**	**313**	P		**P**	**02 18 31.3**	**+0.3**	
TAS	**Tashkent**	**77.51**	**313**	P		**P**	**02 18 31.3**	**+0.3**	
TAS					pmax	pmax			
	comp=Z,86nm,0.3s								
BRZS	**Berezniki**	**77.66**	**322**	*eP*		**P**	**02 18 30.8**	**-0.8**	
BRZS					pmax	pmax			
	comp=Z,15nm,1.6s								
BRZS	**Berezniki**	**77.66**	**322**	*eP*		**P**	**02 18 30.8**	**-0.8**	
	comp=Z,15nm,1.6s,baz=322								
NRIK	**Noril'sk**	**79.71**	**343**	P		**P**	**02 18 42.2**	**-0.2**	
	comp=Z,16nm,1.3s,baz=121,slow=6.3,SNR=11								
	comp=Z,16nm,1.3s								
NRIK	**Noril'sk**	**79.71**	**343**	IAmb		IAmb	02 18 50.5		
	comp=Z,50nm,1.5s								
NRIK	**Noril'sk**	**79.71**	**343**	*ce*P		**P**	**02 18 41.9**	**-0.5**	
NRIK					pmax	pmax			
	comp=Z,43nm,1.9s								
BVA0	**Borovoye Array**	**79.95**	**325**	*i* P		**P**	**02 18 43.2**	**-0.9**	
BRVK	**Borovoye**	**80.02**	**325**	P		**P**	**02 18 43.7**	**-0.8**	
BRVK	**Borovoye**	**80.02**	**325**	*d iP*		**P**	**02 18 43.5**	**-1.0**	
BRVK					pmax	pmax			
	comp=Z,22nm,1.3s								
L19K	**White Mountain**	**80.22**	**25**	P		**P**	**02 18 46.0**	**+0.5**	
	baz=246								
GCSA	**Galena City Sc**	**80.48**	**23**	P		**P**	**02 18 47.3**	**+0.7**	
	baz=244								
M20K	**Styx River**	**80.86**	**26**	IAmb		IAmb	02 18 56.7		
	comp=Z,32nm,1.4s								
M20K	**Styx River**	**80.86**	**26**	P		**P**	**02 18 48.7**	**-0.2**	
	baz=248								
K20K	**Telida**	**81.03**	**24**	IAmb		IAmb	02 18 53.8		
	comp=Z,28nm,1.5s								
K20K	**Telida**	**81.03**	**24**	P		**P**	**02 18 50.4**	**+0.7**	
	baz=247								
J20K	**Nowinta River**	**81.32**	**24**	IAmb		IAmb	02 18 55.5		
	comp=Z,47nm,1.6s								
J20K	**Nowinta River**	**81.32**	**24**	P		**P**	**02 18 51.2**	**0.0**	
	baz=247								
HRA	**Herat**	**81.65**	**305**	P		**P**	**02 18 53.6**	**-0.3**	
HRA					IAmb	IAmb	02 18 54.4		
	comp=Z,37nm,1.9s								
H21K	**Melozitna Rive**	**82.43**	**23**	IAmb		IAmb	02 19 00.8		
	comp=Z,26nm,1.6s								
H21K	**Melozitna Rive**	**82.43**	**23**	P		**P**	**02 18 57.9**	**+0.9**	
	baz=248								
I21K	**Tanana**	**82.57**	**23**	IAmb		IAmb	02 19 01.7		
	comp=Z,37nm,1.6s								
SML	**Sawmill**	**82.97**	**27**	P		**P**	**02 18 59.2**	**-0.8**	
	baz=252								
MLY	**Manley**	**83.00**	**23**	P		**P**	**02 19 00.1**	**0.0**	
MLY					IAmb	IAmb	02 19 03.6		
	comp=Z,24nm,1.6s								
RND	**Reindeer**	**83.24**	**25**	IAmb		IAmb	02 19 03.7		
	comp=Z,30nm,1.4s								
MCK	**McKinley**	**83.31**	**25**	P		**P**	**02 19 00.8**	**-0.8**	
MCK	**McKinley**	**83.31**	**25**	P		**P**	**02 19 00.8**	**-0.8**	
MCK					pmax	pmax			
	comp=Z,58nm,1.6s								
MCK	**McKinley**	**83.31**	**25**	P		**P**	**02 19 01.0**	**-0.7**	
	baz=252								
F22K	**John River**	**83.36**	**21**	P		**P**	**02 19 02.2**	**+0.3**	
	baz=248								
MAW	**Mawson**	**83.42**	**202**	P		**P**	**02 19 02.2**	**+0.2**	
	comp=Z,12nm,1.1s,baz=70,slow=5.9,SNR=14								
	comp=Z,12nm,1.1s								
MAW	**Mawson**	**83.42**	**202**	P		**P**	**02 19 02.8**	**+0.7**	
	baz=83,SNR=8.0								
MAW	**Mawson**	**83.42**	**202**	P		**P**	**02 19 02.8**	**+0.7**	
MAW					pmax	pmax			
	comp=Z,5.0nm,1.2s								
SCM	**Sheep Creek Mo**	**83.43**	**27**	P		**P**	**02 19 02.5**	**+0.1**	
	baz=253								
NEA2	**Nenana**	**83.53**	**24**	IAmb		IAmb	02 19 07.2		
	comp=Z,25nm,1.7s								
DHY	**Denali Highway**	**83.78**	**26**	P		**P**	**02 19 04.1**	**-0.1**	
	baz=253								
WRH	**Wood River Hil**	**83.89**	**24**	P		**P**	**02 19 03.5**	**-1.1**	
MHTO	**MHTO**	**83.94**	**291**	P		**P**	**02 19 05.7**	**0.0**	
BIDO	**Bidbid**	**84.00**	**294**	P		**P**	**02 19 07.0**	**+0.9**	
	SNR=6.9								
SMDO	**Samad**	**84.04**	**293**	P		**P**	**02 19 05.3**	**-1.0**	
COLA	**College**	**84.11**	**24**	⇑*eP*		**P**	**02 19 06.8**	**+1.1**	
COLA					pmax	pmax			
	comp=Z,6.0nm,1.1s								
H24K	**Noodor Dome**	**84.40**	**23**	IAmb		IAmb	02 19 15.4		
	comp=Z,24nm,1.6s								
H24K	**Noodor Dome**	**84.40**	**23**	P		**P**	**02 19 07.7**	**+0.5**	
	baz=252								
IL31		**84.48**	**24**	P		**P**	**02 19 07.7**	**+0.1**	
IL31					IAmb	IAmb	02 19 13.8		
	comp=Z,19nm,1.6s								
ILAR	**Eielson Array**	**84.48**	**24**	P		**P**	**02 19 05.3**	**-2.3**	
	comp=Z,1.2nm,0.6s,baz=252,slow=4.9,SNR=12								
	comp=Z,1.2nm,0.6s								
RER	**Riviere de l'E**	**84.52**	**249**	P		**P**	**02 19 10.8**	**+2.0**	
HOQ	**Hoqain**	**84.76**	**294**	P		**P**	**02 19 11.0**	**+1.1**	
	SNR=8.7								
BSY	**Bisya**	**84.79**	**293**	P		**P**	**02 19 09.6**	**-0.5**	
G24K	**Hadweenzic Riv**	**84.82**	**22**	P		**P**	**02 19 09.6**	**+0.4**	
	baz=253								
RIDG	**Independent Ri**	**85.05**	**25**	P		**P**	**02 19 10.5**	**-0.1**	
	baz=255								
J25K	**Salcha River,**	**85.06**	**25**	IAmb		IAmb	02 19 13.8		
	comp=Z,23nm,1.6s								
J25K	**Salcha River,**	**85.06**	**25**	P		**P**	**02 19 09.6**	**-1.0**	
	baz=255								
DOT	**Dot Lake**	**85.37**	**26**	IAmb		IAmb	02 19 15.3		
	comp=Z,15nm,1.3s								
GEYT	**Alibeck**	**85.41**	**308**	P		**P**	**02 19 13.6**	**+0.7**	
	comp=Z,12nm,0.9s,baz=270,slow=0.1,SNR=38								
	comp=Z,12nm,0.9s								
GEYT	**Alibeck**	**85.41**	**308**	P		**P**	**02 19 12.2**	**-0.7**	
ARQ	**Araqi**	**85.46**	**293**	P		**P**	**02 19 12.9**	**-0.5**	
AB31	**Akbulak array**	**85.54**	**320**	*i* P		**P**	**02 19 11.5**	**-1.7**	
ABKAR	**Akbulak array**	**85.54**	**320**	P		**P**	**02 19 12.2**	**-0.9**	
FYU	**Fort Yukon**	**85.64**	**23**	IAmb		IAmb	02 19 18.0		
	comp=Z,28nm,1.3s								
J26L	**Joseph Creek**	**85.79**	**25**	P		**P**	**02 19 14.2**	**-0.1**	
	baz=256								
UOSS	**Minazif**	**85.87**	**295**	P		**P**	**02 19 14.4**	**-1.0**	
UOSS	**Minazif**	**85.87**	**295**	P		**P**	**02 19 14.2**	**-1.2**	
MASF	**Masafi**	**85.94**	**295**	P		**P**	**02 19 15.2**	**-0.6**	
CTG	**Chitna Glacier**	**86.01**	**29**	P		**P**	**02 19 16.3**	**+0.8**	
	baz=259								
M27K	**Edge Creek, AK**	**86.05**	**27**	IAmb		IAmb	02 19 24.2		
	comp=Z,26nm,1.4s								
M27K	**Edge Creek, AK**	**86.05**	**27**	P		**P**	**02 19 16.2**	**+0.6**	
	baz=258								
ALNE	**Al Ain**	**86.22**	**294**	P		**P**	**02 19 17.4**	**+0.3**	
	SNR=7.6								
L27K	**Beaver Creek,**	**86.22**	**26**	IAmb		IAmb	02 19 28.9		
	comp=Z,20nm,1.6s								
L27K	**Beaver Creek,**	**86.22**	**26**	P		**P**	**02 19 16.7**	**+0.4**	
	baz=258								
K27K	**Chicken**	**86.31**	**25**	IAmb		IAmb	02 19 21.0		
	comp=Z,16nm,1.4s								
K27K	**Chicken**	**86.31**	**25**	P		**P**	**02 19 17.4**	**+0.6**	
	baz=258								
F26K	**Sheenjek River**	**86.34**	**22**	P		**P**	**02 19 17.2**	**+0.4**	
	baz=256								
YUK3	**Moose Creek**	**86.58**	**28**	P		**P**	**02 19 18.9**	**+0.5**	
	baz=259								
ASUD	**Al Ashush, Dub**	**86.64**	**295**	P		**P**	**02 19 18.9**	**-0.3**	
AKTO	**Aktyubinsk**	**86.93**	**321**	*i* P		**P**	**02 19 18.1**	**-2.0**	
AKTO					pmax	pmax			
	comp=Z,4.0nm,1.1s								
ARU	**Arti**	**87.38**	**327**	P		**P**	**02 19 20.9**	**-1.1**	
ARU	**Arti**	**87.38**	**327**	*c iP*		**P**	**02 19 20.7**	**-1.4**	
ARU							02 22 43.1		
ARU					S	**SKSac**	**02 29 47.8**	**+0.8**	
ARU					pmax	pmax			
	comp=Z,7.0nm,1.4s								
ARU					MLR	MLR			
	comp=Z,401nm,17.0s								
E27K	**Coleen River**	**87.39**	**21**	P		**P**	**02 19 22.7**	**+0.8**	
	baz=258								
DAWY	**Dawson**	**87.48**	**26**	IAmb		IAmb	02 19 26.3		
	comp=Z,21nm,1.4s								
DAWY	**Dawson**	**87.48**	**26**	P		**P**	**02 19 23.0**	**+0.5**	
	baz=260								
M29M	**Somme Creek**	**87.62**	**27**	P		**P**	**02 19 22.5**	**-0.8**	
	baz=261								
QSPA	**South Pole Qui**	**87.83**	**180**	P		**P**	**02 19 24.8**	**+0.6**	
I29M	**Ogilvie Camp,**	**88.15**	**24**	P		**P**	**02 19 25.9**	**+0.3**	
	baz=261								
K29M	**Barlow Dome**	**88.26**	**26**	P		**P**	**02 19 26.7**	**+0.4**	
	baz=262

6.4nm,0.7s,baz=28,slow=10,SNR=4.8
6.4nm,0.7s
STKA **Stephens Creek 29.74 178** P **P** 02 15 33.6 -0.6
2.5nm,0.4s,baz=337,slow=7.9,SNR=2.4
2.5nm,0.4s
MKAR **Makanchi Array 70.40 322** P **P** 02 20 42.6 +1.0
0.9nm,0.8s,baz=96,slow=8.1,SNR=5.4
0.9nm,0.8s
VNDA **Vanda 76.33 175** P **P** 02 21 16.4 +0.5
2.9nm,0.6s,baz=326,slow=7.3,SNR=10
2.9nm,0.6s
MAW **Mawson 83.50 202** P **P** 02 21 55.7 +0.8
1.9nm,0.8s,baz=87,slow=10,SNR=3.2
1.9nm,0.8s
ILAR **Eielson Array 84.40 24** P **P** 02 21 58.9 -0.7
0.7nm,0.7s,baz=262,slow=5.1,SNR=3.6
0.7nm,0.7s
TORD **Torodi Ar. Bea 137.87 287** PKhKP PKPpre 02 28 48.6
1.3nm,1.0s,baz=112,slow=1.6,SNR=3.8
LPAZ **La Paz 146.29 124** PKPbc **PKPab** 02 29 10.1 -0.5
3.1nm,0.9s,baz=316,slow=1.9,SNR=3.7
CPUP **Villa Florida 146.93 150** PKPbc **PKPbc** 02 29 09.8 -0.9
3.1nm,1.0s,baz=252,slow=3.2,SNR=3.9
SIV **San Ignacio 152.09 131** PKPbc **PKPbc** 02 29 23.7 -0.2
0.7nm,0.7s,baz=281,slow=4.7,SNR=4.1

---

*IDC **17** 02:12:31.1±4.2,1°.98S×140°.78E,h16^{km}±26^{km},mb4.3/11, mbtmp4.4/15,ML4.6/4,Error ellipse: s-maj=22.8km s-min=12.0km az=90.0*
*NEIC **17** 02:12:32.0±1.6,2°.03S±0°.10×140°.61E±0°.08,h17^{km}±3^{km}, mb4.7/38,Error ellipse: s-maj=14.4km s-min=11.0km az=190.0*
*DJA **17** 02:12:32.2±0.5,2°S±3°×14°.1E±°,h10^{km},M4.8/7,mB5.6/2, mb4.8/7,MLv4.8/5,Mw(mB)5.1/2*
ISC 17 02:12:33.6±0.4,2°.01S±0°.05×140°.67E±0°.06,h35^{km},n100, σ1^{s}73/101,mb4.5/25,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.77**	**221**	P	**Pn**	**02 12 47.1**	**-0.8**
GENI				S	**Sn**	**02 12 59.0**	**+0.8**
SMPI	**Sarmi**	**1.96**	**271**	P	**Pn**	**02 13 04.3**	**0.0**
SMPI				S	**Sn**	**02 13 29.0**	**+1.3**
WAMI	**Wamena**	**2.70**	**226**	P	**Pn**	**02 13 17.1**	**+2.6**
WAMI				S	**Sn**	**02 13 51.5**	**+5.5**
SRPI	**Serui, Papua**	**4.43**	**272**	P	**Pn**	**02 13 37.9**	**-0.4**
MANU	**Manus Island**	**6.69**	**90**	Pn	**Pn**	**02 14 13.9**	**+4.5**
FAKI	**Fak Fak**	**8.46**	**264**	P	**Pn**	**02 14 32.8**	**-1.0**
	30nm,0.9s						
SIJI	**Sorong**	**9.47**	**277**	Pn	**Pn**	**02 14 49.5**	**+2.0**
	1.3nm,0.3s,baz=36,slow=8.7,SNR=1.9						
	6.3nm,0.5s						
PMG	**Port Moresby**	**9.78**	**139**	Pn	**Pn**	**02 14 50.8**	**-1.1**
	9.3nm,0.7s,baz=336,slow=18,SNR=2.1						
MSAI	**Masohi**	**11.80**	**263**	P	**Pn**	**02 15 19.3**	**-0.3**
LBMI	**Labuha**	**13.23**	**276**	P	**Pn**	**02 15 39.7**	**+0.5**
	28nm,0.5s						
MTN	**Manton Dam**	**14.32**	**221**	Pn	**Pn**	**02 15 52.9**	**-1.1**
LUWI	**Luwuk**	**17.92**	**273**	P	Pn	02 16 29.5	-11
KNRA	**Kununurra**	**17.95**	**220**		**Pn**	**02 16 38.9**	**-1.6**
KNRA				IAmb	IAmb	02 16 56.2	
	comp=Z,89nm,1.2s						
KNRA	**Kununurra**	**17.95**	**220**	P	**P**	**02 16 40.4**	**-0.5**
SOEI	**Soe**	**18.03**	**244**		**P**	**02 16 40.5**	**-1.4**
SOEI	**Soe**	**18.03**	**244**	P	**P**	**02 16 43.7**	**+1.8**
	comp=Z,6µmcomp=Z,114nm,0.8s						
BATI	**Baumata**	**18.75**	**244**	P	**Pn**	**02 16 52.1**	**+1.7**
	comp=Z,10nm,0.3s,baz=124,slow=7.3,SNR=4.2						
CTA	**Charters Tower**	**18.78**	**163**	P	**Pn**	**02 16 50.6**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=338,slow=12,SNR=7.1						
	comp=Z,3.5nm,0.5s						
CTA	**Charters Tower**	**18.78**	**163**	P	**Pn**	**02 16 53.8**	**+3.1**
CTAO	**Charters Tower**	**18.78**	**163**	P	**P**	**02 16 49.4**	**-0.6**
CTAO	**Charters Tower**	**18.78**	**163**	P	**Pn**	**02 16 53.7**	**+3.1**
WRAB	**Tennant Creek**	**18.85**	**199**	P	**P**	**02 16 49.3**	**-1.6**
WRAB				IAmb	IAmb	02 16 51.0	
	comp=Z,80nm,1.3s						
WRAB	**Tennant Creek**	**18.85**	**199**	P	**Pn**	**02 16 50.7**	**-0.9**
WB2	**Warramunga Arr**	**18.86**	**199**	P	**Pn**	**02 16 50.5**	**-1.2**
WB2				IAmb	IAmb	02 16 51.2	
	comp=Z,56nm,1.2s						
WRA	**Warramunga Arr**	**18.87**	**199**	P	**Pn**	**02 16 50.6**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=23,slow=12,SNR=14						
WRA				S	**Sn**	**02 20 12.8**	**-9.2**
	comp=Z,5.0nm,0.9s,baz=16,slow=25,SNR=5.3						
	comp=Z,12nm,0.5s						
WRA	**Warramunga Arr**	**18.87**	**199**	P	**P**	**02 16 48.9**	**-2.1**
APSI	**Ampana**	**19.05**	**273**	P	**Pn**	**02 16 53.5**	**-0.4**
TOLI2	**Tolitoli**	**20.12**	**279**	P	Pn	02 17 04.2	-2.6
TOLI2				IAmb	IAmb	02 17 19.1	
	comp=Z,20nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.75**	**222**	P	**P**	**02 17 22.1**	**-0.2**
	comp=Z,20nm,0.8s,baz=50,slow=13,SNR=6.6						
FITZ				S	**S**	**02 21 19.9**	**-1.3**
	comp=Z,6.7nm,0.7s,baz=135,slow=13,SNR=3.2						
	comp=Z,20nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.75**	**222**	P	**P**	**02 17 21.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.75**	**222**	P	**P**	**02 17 22.9**	**+0.7**
AS31	**Alice Springs**	**22.50**	**196**	P	**P**	**02 17 30.5**	**+0.2**
ASAR	**Alice Springs**	**22.50**	**196**	P	**P**	**02 17 30.1**	**-0.3**
	comp=Z,12nm,0.7s,baz=26,slow=11,SNR=18						
ASAR				S	**S**	**02 21 38.5**	**+3.2**
	comp=Z,3.2nm,0.8s,baz=15,slow=26,SNR=5.6						
	comp=Z,12nm,0.7s						
ASAR	**Alice Springs**	**22.50**	**196**	P	**P**	**02 17 30.5**	**+0.2**
QLP	**Quilpie**	**24.67**	**172**	P	**P**	**02 17 52.7**	**+1.4**
EIDS	**Eidsvold**	**25.30**	**158**	P	**P**	**02 17 58.5**	**+1.5**
EIDS	**Eidsvold**	**25.30**	**158**	P	**P**	**02 17 59.7**	**+2.7**
RMQ	**Roma**	**25.55**	**163**	P	**P**	**02 18 02.3**	**+3.0**
INKA	**Innaminka**	**25.59**	**180**	P	**P**	**02 18 00.4**	**+0.9**
WRKA	**Warakurna**	**25.82**	**207**	P	**P**	**02 18 01.8**	**0.0**
MBWA	**Marble Bar**	**27.90**	**225**	P	**P**	**02 18 20.9**	**+0.3**
MBWA				IAmb	IAmb	02 18 32.3	
	comp=Z,31nm,1.4s						
PSA00	**Pilbara Seismi**	**28.09**	**225**	P	**P**	**02 18 22.0**	**-0.2**
LCRK	**Leigh Creek**	**28.38**	**184**	P	**P**	**02 18 25.7**	**+1.0**
STKA	**Stephens Creek**	**29.72**	**178**	P	**P**	**02 18 36.6**	**0.0**
	comp=Z,9.7nm,0.8s,baz=343,slow=9.2,SNR=8.8						
	comp=Z,9.7nm,0.8s						
STKA	**Stephens Creek**	**29.72**	**178**	P	**P**	**02 18 37.0**	**+0.4**
BBOO	**Buckleboo**	**30.94**	**188**	P	**P**	**02 18 46.7**	**-0.7**
FORT	**Forrest**	**31.00**	**201**	P	**P**	**02 18 48.1**	**+0.1**
DZM	**Mont Dzumac**	**32.03**	**130**	P	**P**	**02 18 56.2**	**-1.0**
DZM				IAmb	IAmb	02 18 59.4	
	comp=Z,18nm,1.3s						
ONTNC	**Ouen Toro**	**32.17**	**131**	P	**P**	**02 18 56.5**	**-1.8**
H11S3	**WAKE ISLAND Hy**	**32.72**	**50**	T	T	02 53 51.2	
	baz=233						
H11S2	**WAKE ISLAND Hy**	**32.73**	**50**	T	T	02 53 51.8	
	baz=233						
H11S1	**WAKE ISLAND Hy**	**32.74**	**50**	T	T	02 53 53.8	
	baz=233						
MJAR	**Matsushiro Arr**	**38.42**	**357**	P	**P**	**02 19 50.6**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=179,slow=10.0,SNR=5.7						
	comp=Z,1.8nm,0.7s						
MAJO	**Matsushiro**	**38.42**	**357**	P	**P**	**02 19 53.9**	**+2.0**
JSD	**Sado**	**39.91**	**357**	P	**P**	**02 20 02.9**	**-1.3**
JSD				IAmb	IAmb	02 20 12.0	
	comp=Z,15nm,1.1s						
KSAR	**Wonju Array Be**	**41.01**	**344**	P	**P**	**02 20 13.5**	**+0.2**
KSRS	**Korea Array**	**41.01**	**344**	P	**P**	**02 20 13.0**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=161,slow=9.6,SNR=5.6						
	comp=Z,0.8nm,0.5s						
RPSI	**Rantau Prapat**	**41.99**	**276**	P	**P**	**02 20 20.7**	**-1.1**
RPSI				IAmb	IAmb	02 20 22.4	
	comp=Z,16nm,0.9s						
CMAR	**Chiang Mai Arr**	**45.81**	**298**	P	**P**	**02 20 53.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=120,slow=6.6,SNR=4.6						
	comp=Z,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**45.81**	**298**	P	**P**	**02 20 52.9**	**+0.4**
USRK	**Usuriysk Ar.**	**46.66**	**351**	P	**P**	**02 20 59.7**	**+1.1**
MK31	**Makanchi Array**	**70.44**	**322**	P	**P**	**02 23 44.9**	**+0.3**
MK31				IAmb	IAmb	02 23 51.3	
	comp=Z,4.7nm,1.1s						
MKAR	**Makanchi Array**	**70.44**	**322**	P	**P**	**02 23 45.2**	**+0.7**
	comp=Z,3.7nm,1.0s,baz=111,slow=8.6,SNR=11						
	comp=Z,3.7nm,1.0s						
MKAR	**Makanchi Array**	**70.44**	**322**	P	**P**	**02 23 44.8**	**+0.3**
ZAA0	**Zalesovo Array**	**72.33**	**329**	P	**P**	**02 23 56.5**	**+0.8**
ZAA0				IAmb	IAmb	02 24 06.2	
	comp=Z,3.2nm,0.5s						
ZALV	**Zalesovo Beam**	**72.33**	**329**	P	**P**	**02 23 54.6**	**-1.0**
NIL	**Nilore**	**72.49**	**306**	P	**P**	**02 23 56.6**	**-0.5**
NRN	**Naryn**	**72.63**	**315**	P	**P**	**02 23 58.7**	**+0.5**
BOOM	**Boomskoye usch**	**73.02**	**316**	P	**P**	**02 24 00.3**	**+0.1**
BOOM				IAmb	IAmb	02 24 02.1	
	comp=Z,6.6nm,0.9s						
AAK	**Ala-Archa**	**74.07**	**315**	P	**P**	**02 24 06.5**	**+0.1**
AAK				IAmb	IAmb	02 24 27.2	
	comp=Z,4.9nm,1.1s						
KURK	**Kurchatov**	**74.28**	**324**	P	**P**	**02 24 07.0**	**-0.3**
BTK	**Batken**	**76.00**	**312**	P	**P**	**02 24 17.7**	**+0.1**
BTK				IAmb	IAmb	02 24 19.1	
	comp=Z,8.0nm,1.4s						
KBL	**Kabul**	**76.09**	**306**	P	**P**	**02 24 16.3**	**-2.0**
KBL				IAmb	IAmb	02 24 18.9	
	comp=Z,7.1nm,1.1s						
GAR	**Garm**	**76.11**	**311**	P	**P**	**02 24 18.6**	**+0.3**
VNDA	**Vanda**	**76.31**	**175**	P	**P**	**02 24 19.4**	**+1.0**
	comp=Z,7.0nm,0.7s,baz=319,slow=7.0,SNR=37						
	comp=Z,7.0nm,0.7s						
VNDA	**Vanda**	**76.31**	**175**	P	**P**	**02 24 19.5**	**+1.0**
VNDA				IAmb	IAmb	02 24 20.3	
	comp=Z,7.5nm,0.7s						
KK31	**Karatay Array**	**77.01**	**315**	P	**P**	**02 24 23.9**	**+0.8**
KKAR	**Karatay Array**	**77.01**	**315**	P	**P**	**02 24 23.4**	**+0.3**
SBA	**Scott Base**	**77.05**	**175**	P	**P**	**02 24 24.7**	**+2.1**
SBA				IAmb	IAmb	02 24 25.2	
	comp=Z,5.7nm,1.0s						
NRIK	**Noril'sk**	**79.61**	**343**	P	**P**	**02 24 39.1**	**+2.3**
	comp=Z,2.9nm,0.6s,baz=148,slow=5.2,SNR=5.5						
	comp=Z,2.9nm,0.6s						
NRIK	**Noril'sk**	**79.61**	**343**	P	**P**	**02 24 37.2**	**+0.4**
NRIK				IAmb	IAmb	02 24 41.2	
	comp=Z,6.8nm,0.9s						
BRVK	**Borovoye**	**79.94**	**325**	P	**P**	**02 24 38.8**	**-0.2**
BRVK				IAmb	IAmb	02 24 45.6	
	comp=Z,5.8nm,1.1s						
MAW	**Mawson**	**83.50**	**202**	P	**P**	**02 24 58.5**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=97,slow=6.1,SNR=8.7						
	comp=Z,3.0nm,0.9s						
MAW	**Mawson**	**83.50**	**202**	P	**P**	**02 24 58.1**	**+0.6**
CCB	**Clear Creek Bu**	**83.98**	**24**	P	**P**	**02 25 00.3**	**+0.3**
CCB				IAmb	IAmb	02 25 05.5	
	comp=Z,3.8nm,1.0s						
IL31		**84.39**	**24**	P	**P**	**02 25 02.9**	**+0.9**
IL31				IAmb	IAmb	02 25 04.7	
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**84.39**	**24**	P	**P**	**02 25 00.7**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=254,slow=5.4,SNR=9.0						
	comp=Z,1.4nm,0.8s						
ABKAR	**Akbulak array**	**85.46**	**320**	P	**P**	**02 25 07.4**	**-0.3**
BCAR	**Beaver Creek A**	**86.15**	**26**	P	**P**	**02 25 12.0**	**+1.0**
QSPA	**South Pole Qui**	**87.93**	**180**	P	**P**	**02 25 20.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**137.93**	**287**	PKP	**PKiKP**	**02 31 55.3**	**-2.3**
	comp=Z,1.3nm,1.0s,baz=11,slow=1.5,SNR=4.1						
PB16	**IPOC Station P**	**144.07**	**126**	PKPdf	**PKPdf**	**02 32 06.6**	**-0.7**
ROSC	**El Rosal**	**144.97**	**84**	PKPdf	**PKPdf**	**02 32 09.0**	**+0.2**
DBIC	**Dimbokro**	**145.32**	**279**	PKPbc	**PKPdf**	**02 32 08.7**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=111,slow=5.3,SNR=4.7						
CZSB	**Cruzeiro do Su**	**145.33**	**107**	PKPbc	**PKiKP**	**02 32 09.9**	**-2.9**
LPAZ	**La Paz**	**146.24**	**124**	PKPbc	**PKPab**	**02 32 12.3**	**-0.7**
	comp=Z,7.3nm,0.9s,baz=307,slow=1.7,SNR=18						
LPAZ	**La Paz**	**146.24**	**124**	PKPbc	**PKPab**	**02 32 12.4**	**-0.5**
CPUP	**Villa Florida**	**146.89**	**149**	PKPbc	**PKPab**	**02 32 13.1**	**-1.3**
	comp=Z,5.5nm,0.8s,baz=247,slow=2.8,SNR=13						
SDV	**Santo Domingo**	**148.12**	**76**	PKPbc	**PKPbc**	**02 32 16.4**	**-0.7**
HUMP	**Col San Antoni**	**149.44**	**57**	PKPbc	**PKPbc**	**02 32 18.2**	**-1.8**

---

*KLM **17** 02:30:53,4°.92S×102°.44E,h25^{km},mb5.6*
*GCMT **17** 02:30:55.8±0.5,4°.82S±0°.03×102°.52E±0°.03,h51^{km}±1^{km}, MW5.2/60,Moment Tensor Solution. s29,c33; s60,c71; Duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.95±.07; $M_{\theta\theta}$-0.55±.04; $M_{\phi\phi}$-0.40±.04; $M_{r\theta}$0.32±.03; $M_{\theta\phi}$0.23±.02; $M_{\phi r}$-0.23±.03; Best double couple: $M_0$0.92100×10^{17} NP1:ϕ_s126.00000°,δ58.00000°, λ90.00000°. NP2:ϕ_s307.00000°,δ32.00000°,λ90.00000°. Principal axes: T 1.0370, Plg77.0000°, Azm35.0000°; N -0.2330, Plg0.0000°, Azm126.0000°; P -0.8050, Plg13.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **17** 02:30:55.2±0.2,5°S±2°×10°3E±°,h56^{km}±2^{km},M5.1/84, mB5.6/44,mb5.3/84,MLv5.5/28,Mw(mB)5.0/44, MwMwp5.7/2,Mwp5.8/2*
*MOS **17** 02:30:56.1±0.8,4°.40S×102°.75E,h55^{km},mb5.7/72,Error ellipse: s-maj=8.0km s-min=4.2km az=118.3*
*BJI **17** 02:30:56.0±0.0,4°.50S×102°.70E,h67^{km},mb5.5/68, mB5.2/39,Ms4.8/21,Ms7 4.6/21*
*NEIC **17** 02:30:56.8±1.6,4°.44S±0°.08×102°.75E±0°.07,h59^{km}±4^{km}, mb5.5/145,Error ellipse: s-maj=12.3km s-min=9.0km az=220.0*
*IDC **17** 02:30:57.3±1.3,4°.48S×102°.80E,h69^{km}±11^{km},mb5.0/44, mbtmp5.2/46,MS4.2/5,Error ellipse: s-maj=9.8km s-min=6.9km az=47.0*
ISC 17 02:30:55.9±0.3,4°.53S±0°.03×102°.69E±0°.03,h60^{km}±1^{km}, h60^{km}:pP-P,n1229,σ1^{s}15/1282,mb5.5/218,116C-35D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.31**	**58**		**Pn**	**02 31 06.5**	**+0.5**
MNAI	**Manna**	**0.31**	**58**	P	**Pn**	**02 31 06.6**	**+0.5**
MNAI				S	**Sn**	**02 31 14.1**	**+0.5**
MNAI	**Manna**	**0.31**	**58**	P	**Pn**	**02 31 06.6**	**+0.5**
KSI	**Kapahiang**	**0.88**	**354**	P	**Pn**	**02 31 13.7**	**+1.3**
KSI				S	**Sn**	**02 31 26.3**	**+1.7**
LWLI	**Liwa**	**1.45**	**110**	P	**Pn**	**02 31 20.4**	**+0.4**
LWLI				S	**Sn**	**02 31 39.3**	**+1.2**
KASI	**Kota Agung**	**2.05**	**119**	P	**Pn**	**02 31 28.2**	**+0.1**
KASI				S	**Sn**	**02 31 51.3**	**-1.3**
KLI	**Kotabumi**	**2.19**	**99**	P	**Pn**	**02 31 31.5**	**+1.6**
KLI	**Kotabumi**	**2.19**	**99**	P	**Pn**	**02 31 31.3**	**+1.4**
KLI				S	**Sn**	**02 31 59.3**	**+3.5**
PMBI	**Palembang**	**2.62**	**53**		**Pn**	**02 31 38.1**	**+2.3**
PMBI	**Palembang**	**2.62**	**53**	P	**Pn**	**02 31 37.0**	**+1.2**
PMBI	**Palembang**	**2.62**	**53**	P	**Pn**	**02 31 38.8**	**+3.0**
BLSI	**Bandar Lampung**	**2.68**	**108**	P	**Pn**	**02 31 37.5**	**+0.9**
KRJI	**Kerinci**	**2.71**	**333**	P	**Pn**	**02 31 39.7**	**+2.5**
JMBI	**JAMBI**	**3.03**	**18**	P	**Pn**	**02 31 44.6**	**+3.2**
PPSI	**Pulau Pagai**	**3.20**	**303**	P	**Pn**	**02 31 44.4**	**+0.7**
PPSI				S	**Sn**	**02 32 19.4**	**-1.2**
SBJI	**Serang**	**3.77**	**115**	P	**Pn**	**02 31 52.1**	**+0.5**
SBJI				S	**Sn**	**02 32 37.2**	**+2.5**
SDSI	**Sungai Dareh**	**3.79**	**341**	P	**Pn**	**02 31 53.8**	**+2.0**
PPBI	**Pangkal Pinang**	**4.17**	**56**	P	**Pn**	**02 31 59.2**	**+2.2**
PDSI	**Padang**	**4.23**	**328**	P	**Pn**	**02 31 58.6**	**+0.8**
PDSI				S	**Sn**	**02 32 47.2**	**+1.3**
TNG	**Tangerang**	**4.26**	**113**	P	**Pn**	**02 31 59.1**	**+0.8**
TNG				P	**Pn**	**02 32 00.5**	**+2.2**
DSRI	**Dabo**	**4.44**	**25**	P	**Pn**	**02 32 03.9**	**+3.1**
DBJI	**Dramaga**	**4.51**	**117**	P	**Pn**	**02 32 03.9**	**+2.2**
SKJI	**Sukabumi**	**4.57**	**123**	P	**Pn**	**02 32 01.8**	**-0.7**
SKJI				S	**Sn**	**02 32 54.5**	**+0.2**
SISI	**Saibi**	**4.80**	**311**	P	**Pn**	**02 32 06.0**	**+0.3**
SISI				S	**Sn**	**02 32 59.3**	**-0.7**
BKNI	**Bangkinang**	**5.10**	**341**		**Pn**	**02 32 11.4**	**+1.7**
BKNI	**Bangkinang**	**5.10**	**341**	P	**Pn**	**02 32 11.4**	**+1.7**
	7.6nm16µm2µm,1.0s						
BKNI	**Bangkinang**	**5.10**	**341**	P	**Pn**	**02 32 12.5**	**+2.8**
CNJI	**Cibinong**	**5.21**	**122**	P	**Pn**	**02 32 11.0**	**-0.2**
	4.1nm8µm646nm,0.9s						
TPI	**Tanjungpandan**	**5.26**	**71**	P	**Pn**	**02 32 13.5**	**+1.6**
	1.4nm1µm99nm,0.8s						
LEM	**Lembang**	**5.41**	**115**	P	**Pn**	**02 32 17.6**	**+3.4**
	578nm,0.7s,baz=304,slow=5.1,SNR=34						
LEM				S	**Sn**	**02 33 16.1**	**+0.9**
	587nm,1.0s,baz=312,slow=19,SNR=2.2						
LEM				LR	LR	02 34 44.2	
	comp=Z,2µm,19.9s,baz=288,slow=43						
LEM	**Lembang**	**5.41**	**115**	P	**Pn**	**02 32 17.5**	**+3.4**
LEM				pmax	pmax		
	comp=Z,760nm,0.8s						
LEM	**Lembang**	**5.41**	**115**	P	**Pn**	**02 32 14.9**	**+0.8**
	comp=Z,1.6nmcomp=Z,4µmcomp=Z,479nm,0.8s						
TPRI	**Tanjung Pinang**	**5.71**	**19**	P	**Pn**	**02 32 21.4**	**+3.2**
	comp=Z,1.4nmcomp=Z,3µmcomp=Z,5µmcomp=Z,241nm,0.6s						
JCJI	**Jatiwangi**	**5.89**	**110**	P	**Pn**	**02 32 24.1**	**+3.6**
	comp=Z,3.8nmcomp=Z,596nm,0.9s						
PBSI	**Pulau Batu**	**6.26**	**315**	P	**Pn**	**02 32 25.2**	**-0.4**
	comp=Z,6.0nmcomp=Z,10µmcomp=Z,715nm,0.8s						
MYKOM	**Kota Tinggi**	**6.38**	**10**		**Pn**	**02 32 28.5**	**+1.2**
XMI	**Christmas Isla**	**6.59**	**153**	P	Pn	02 32 24.0	-6.2
XMIS	**Christmas Isla**	**6.60**	**154**	Pn	Pn	02 32 24.4	-6.0
XMIS	**Christmas Isla**	**6.60**	**154**	P	Pn	02 32 24.7	-5.7
GSI	**Gunungsitoli**	**7.72**	**318**	Pn	**Pn**	**02 32 44.4**	**-1.4**
GSI	**Gunungsitoli**	**7.72**	**318**	P	**Pn**	**02 32 44.1**	**-1.7**
	comp=Z,2.0nmcomp=Z,7µmcomp=Z,456nm,0.7s						
GSI	**Gunungsitoli**	**7.72**	**318**	P	**Pn**	**02 32 45.6**	**-0.2**
RPSI	**Rantau Prapat**	**8.10**	**332**	Pn	**Pn**	**02 32 50.2**	**-0.7**
RPSI	**Rantau Prapat**	**8.10**	**332**		**Pn**	**02 32 51.0**	**+0.1**
SMRI	**Semarang**	**8.11**	**108**		**Pn**	**02 32 49.5**	**-1.5**
SMRI	**Semarang**	**8.11**	**108**	P	**Pn**	**02 32 52.5**	**+1.5**
	comp=Z,280nm,1.0s						
PSI	**Prapat**	**8.20**	**333**	P	**Pn**	**02 32 51.0**	**-1.3**
	comp=Z,13nm,0.3s,baz=165,slow=15						
PSI				LR	LR	02 36 23.2	
	comp=Z,2µm,19.8s,baz=145,slow=40						
PSI	**Prapat**	**8.20**	**333**	P	**Pn**	**02 32 51.0**	**-1.3**
JRMM	**Jerantut**	**8.36**	**359**	P	**Pn**	**02 32 58.0**	**+3.5**
UGM	**Wanagama**	**8.48**	**114**	Pn	**Pn**	**02 32 55.1**	**-1.0**
UGM	**Wanagama**	**8.48**	**114**	P	**Pn**	**02 32 56.9**	**+0.8**
	comp=Z,253nm,1.4s						
UGM	**Wanagama**	**8.48**	**114**	P	**Pn**	**02 32 55.9**	**-0.2**
IPM	**Ipoh**	**9.10**	**349**	Pn	**Pn**	**02 33 03.4**	**-1.2**
IPM	**Ipoh**	**9.10**	**349**	P	**Pn**	**02 33 08.0**	**+3.4**
IPM	**Ipoh**	**9.10**	**349**	P	**Pn**	**02 33 07.7**	**+3.1**
NGJI	**Ngawi**	**9.17**	**108**	P	**Pn**	**02 33 06.3**	**+0.8**
PCJI	**Pacitan**	**9.19**	**114**	P	**Pn**	**02 33 06.0**	**+0.3**
	comp=Z,134nm,1.2s						
KCSI	**Kotacane, Aceh**	**9.39**	**328**	P	**Pn**	**02 33 08.3**	**-0.2**
	comp=Z,1µmcomp=Z,76nm,0.6s						
PWJI	**Pagerwojo**	**9.70**	**111**	P	**Pn**	**02 33 13.3**	**+0.5**
	comp=Z,2µmcomp=Z,110nm,1.1s						
STKI	**Sintang**	**9.89**	**63**	P	**Pn**	**02 33 18.1**	**+2.7**
	comp=Z,112nm,0.9s						
KULM	**Kulim**	**9.96**	**348**	Pn	**Pn**	**02 33 16.6**	**+0.2**
KULM	**Kulim**	**9.96**	**348**	P	**Pn**	**02 33 18.0**	**+1.6**
LHMI	**Lhok Sumawe**	**11.26**	**329**	P	**Pn**	**02 33 30.5**	**-3.6**
	comp=Z,89nm,0.6s						
BLJI	**Banyuglugur**	**11.30**	**107**	P	**Pn**	**02 33 35.9**	**+1.2**
GMJI	**Gumukmas**	**11.31**	**110**	P	**Pn**	**02 33 35.3**	**+0.5**
KMMI	**Kalianget**	**11.49**	**103**	P	**Pn**	**02 33 38.1**	**+0.8**
	comp=Z,158nm,0.9s						
SBUM	**Sibu**	**11.78**	**54**		**Pn**	**02 33 45.0**	**+3.8**
ABJI	**Asem Bagus**	**11.93**	**106**	P	**Pn**	**02 33 44.5**	**+1.3**
	comp=Z,5µmcomp=Z,287nm,1.0s						
JAGI	**Jajag, Banyuwa**	**12.04**	**110**	Pn	**Pn**	**02 33 43.9**	**-0.9**
JAGI	**Jajag, Banyuwa**	**12.04**	**110**	P	**Pn**	**02 33 45.2**	**+0.4**
	comp=Z,3µmcomp=Z,256nm,0.9s						
JAGI	**Jajag, Banyuwa**	**12.04**	**110**	P	**Pn**	**02 33 44.2**	**-0.6**
BBKI	**Banjar Baru**	**12.17**	**85**	P	**Pn**	**02 33 48.9**	**+2.4**
	comp=Z,4µmcomp=Z,112nm,1.1s						
MTKI	**Muara Teweh, K**	**12.70**	**74**	P	**Pn**	**02 33 56.8**	**+3.0**
	comp=Z,6µmcomp=Z,318nm,0.9s						
SRBI	**Singaraja**	**12.94**	**106**	P	**Pn**	**02 33 58.1**	**+1.1**
	comp=Z,2µmcomp=Z,249nm,0.8s						
IGBI	**Denpasar**	**13.08**	**110**	P	**Pn**	**02 33 58.0**	**-1.0**
	comp=Z,124nm,0.7s						
DNP	**Denpasar**	**13.10**	**109**	P	**Pn**	**02 34 00.2**	**+1.0**
SRIT	**Nakonsritamara**	**13.40**	**347**	Pn	**Pn**	**02 34 01.9**	**-1.4**
BKB	**Balikpapan**	**14.55**	**78**	P	**P**	**02 34 22.6**	**-1.0**
	comp=Z,314nm,0.8s						
TWSI	**Taliwang, Sumb**	**14.70**	**107**	P	**Pn**	**02 34 20.8**	**+0.2**
	comp=Z,950nmcomp=Z,

QIZ	**Qiongzhong**	**24.45**	**17**	P	**P**	**02 36 08.9**	**-0.2**
QIZ	**Qiongzhong**	**24.45**	**17**	P	**P**	**02 36 10.1**	**+0.9**
QIZ				S	**S**	**02 40 26.3**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,23nm,0.7s						
CRAI	**Chiangrai**	**24.71**	**355**	P	**P**	**02 36 11.0**	**-0.6**
CRAI				IAmb	IAmb	02 36 14.4	
	comp=Z,128nm,0.9s						
CRAI					**PcP**	**02 39 48.4**	**+0.8**
PALK	**Pallekele**	**24.88**	**298**	P	**P**	**02 36 15.4**	**+2.1**
	comp=Z,22nm,0.9s,baz=236,slow=8.7,SNR=5.6						
PALK				LR	LR	02 46 15.2	
	comp=Z,428nm,18.1s,baz=228,slow=37						
	comp=Z,22nm,0.9s						
PALK	**Pallekele**	**24.88**	**298**	P	**P**	**02 36 12.9**	**-0.4**
PALK	**Pallekele**	**24.88**	**298**	*ceP*	**P**	**02 36 16.0**	**+2.7**
PALK				pmax	pmax		
	comp=Z,42nm,1.0s						
PALK	**Pallekele**	**24.88**	**298**	P	**P**	**02 36 16.9**	**+3.6**
LBMI	**Labuha**	**25.08**	**82**	P	**P**	**02 36 16.3**	**+1.2**
	comp=Z,3µmcomp=Z,403nm,0.9s						
TNTI	**Ternate**	**25.21**	**79**	P	**P**	**02 36 17.6**	**+1.3**
	comp=Z,53nm,0.9s						
DAV	**Davao City (W)**	**25.59**	**63**	P	**P**	**02 36 24.3**	**+4.7**
	comp=Z,451nm,0.8s,baz=115,slow=3.0,SNR=9.5						
DAV				S	**S**	**02 40 44.0**	**+0.4**
	comp=Z,198nm,0.4s,baz=217,slow=22,SNR=3.7						
TGY	**Tagaytay City**	**25.89**	**44**	P	**P**	**02 36 24.4**	**+2.0**
	baz=270,slow=4.3						
FITZ	**Fitzroy Crossi**	**26.19**	**123**	P	**P**	**02 36 25.1**	**+0.1**
	comp=Z,57nm,0.8s,baz=316,slow=7.8,SNR=69						
	comp=Z,57nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.19**	**123**	P	**P**	**02 36 25.1**	**+0.1**
	baz=26,SNR=91						
FITZ	**Fitzroy Crossi**	**26.19**	**123**	P	**P**	**02 36 24.4**	**-0.6**
FITZ				IAmb	IAmb	02 36 42.6	
	comp=Z,95nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.19**	**123**	P	**P**	**02 36 24.9**	**-0.1**
MSAI	**Masohi**	**26.20**	**88**	P	**P**	**02 36 27.1**	**+1.9**
	comp=Z,689nmcomp=Z,12nm,0.7s						
MEEK	**Meekatharra**	**26.74**	**147**	P	**P**	**02 36 30.4**	**+0.4**
	baz=27,SNR=5.2						
MEEK	**Meekatharra**	**26.74**	**147**	P	**P**	**02 36 30.5**	**+0.5**
KNRA	**Kununurra**	**27.91**	**115**	P	**P**	**02 36 39.8**	**-0.8**
	baz=28,SNR=23						
KNRA	**Kununurra**	**27.91**	**115**	IAmb	IAmb	02 36 45.2	
	comp=Z,97nm,1.1s						
KNRA	**Kununurra**	**27.91**	**115**	P	**P**	**02 36 40.1**	**-0.5**
SIJI	**Sorong**	**28.77**	**84**	P	**P**	**02 36 47.4**	**-0.8**
	comp=Z,16nm,0.7s,baz=240,slow=9.1,SNR=6.6						
	comp=Z,16nm,0.7s						
BRDH	**Bariadhala**	**29.12**	**339**	P	**P**	**02 36 52.0**	**+0.9**
	comp=Z,47nm,0.4s,baz=130,slow=7.8,SNR=5.1						
BRDH				LR	LR	02 50 34.2	
	comp=Z,634nm,19.0s,baz=200,slow=40						
	comp=Z,47nm,0.4s						
MTN	**Manton Dam**	**29.28**	**108**	P	**P**	**02 36 49.8**	**-2.9**
	baz=29,SNR=19						
MTN	**Manton Dam**	**29.28**	**108**	P	**P**	**02 36 51.3**	**-1.5**
MTN				IAmb	IAmb	02 36 59.9	
	comp=Z,45nm,0.6s						
KMI	**Kunming**	**29.48**	**0**	⇑P	**P**	**02 36 56.0**	**+1.4**
KMI				pmax	pmax		
	comp=Z,35nm,0.8s						
FAKI	**Fak Fak**	**29.54**	**88**	P	**P**	**02 36 52.6**	**-2.5**
	comp=Z,39nm,0.8s						
H08S2	**Diego Garcia H**	**30.18**	**263**	T	T	03 07 29.8	
	baz=85,slow=75,SNR=40						
H08S3	**Diego Garcia H**	**30.19**	**263**	T	T	03 07 31.1	
	baz=85,slow=75,SNR=97						
H08S1	**Diego Carcia H**	**30.20**	**263**	T	T	03 07 40.5	
	baz=85,slow=75,SNR=22						
KLBR	**Kellerberrin**	**30.41**	**154**	P	**P**	**02 37 03.6**	**+1.0**
	baz=30,SNR=4.8						
KDU	**Kakadu**	**30.51**	**107**	P	**P**	**02 37 01.7**	**-1.9**
	baz=30,SNR=10.0						
PZH	**PanZhiHua**	**30.86**	**358**	P	**P**	**02 37 09.5**	**+2.8**
PZH				S	**S**	**02 42 07.9**	**+1.4**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,240nm,4.7s						
PZH				LR	LR		
	comp=Z,1µm,21.7s						
PZH				LR	LR		
	comp=Z,810nm,21.0s						
PZH				LR	LR		
	comp=Z,1µm,20.9s						
GYA	**Guiyang**	**31.04**	**7**	⇓P	**P**	**02 37 09.5**	**+1.2**
GYA				pP	pP	02 37 24.4	+1.1
GYA				S	**S**	**02 42 07.4**	**-2.0**
GYA				pmax	pmax		
	comp=Z,72nm,1.0s						
GYA				pmax	pmax		
	comp=Z,360nm,5.5s						
GYA				LR	LR		
	comp=Z,200nm,5.1s						
GYA				LR	LR		
	comp=Z,360nm,8.8s						
GYA				LR	LR		
	comp=Z,150nm,5.8s						
NWAO	**Narrogin (SRO)**	**31.35**	**156**	P	**P**	**02 37 11.1**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=8.1,slow=7.1,SNR=1.7						
	comp=Z,5.4nm,0.6s						
NWAO	**Narrogin (SRO)**	**31.35**	**156**	P	**P**	**02 37 11.2**	**+0.4**
	baz=32,SNR=4.4						
NWAO				P	**P**	**02 37 11.2**	**+0.4**
	baz=32,SNR=4.4						
WRKA	**Warakurna**	**31.95**	**132**	P	**P**	**02 37 17.2**	**+1.0**
	baz=32,SNR=11						
WRKA	**Warakurna**	**31.95**	**132**	P	**P**	**02 37 17.3**	**+1.0**
H01W3	**Cape Leeuwin H**	**32.01**	**162**	T	T	03 11 08.5	
	baz=339						
H01W2	**Cape Leeuwin H**	**32.02**	**162**	T	T	03 11 06.0	
	baz=339,SNR=144						
H01W1	**Cape Leeuwin H**	**32.03**	**162**	T	T	03 11 06.2	
	baz=339						
HYBB	**Hyderabad (bro**	**32.30**	**313**	*e*P	**P**	**02 37 20.2**	**+0.8**
WB0	**Warramunga Arr**	**34.40**	**119**	P	**P**	**02 37 37.2**	**-0.4**
WB0				IAmb	IAmb	02 37 38.5	
	comp=Z,52nm,1.2s						
WRA	**Warramunga Arr**	**34.41**	**119**	P	**P**	**02 37 37.5**	**-0.2**
	comp=Z,20nm,0.8s,baz=300,slow=8.9,SNR=181						
WRA				PcP	**PcP**	**02 40 12.8**	**+0.4**
	comp=Z,8.2nm,0.5s,baz=302,slow=1.8,SNR=6.0						
WRA				S	**S**	**02 42 59.4**	**-2.4**
	comp=Z,2.9nm,0.8s,baz=296,slow=18,SNR=3.0						
WRA				P3KPbc		03 08 38.1	
	comp=Z,0.4nm,0.7s,baz=106,slow=4.1,SNR=7.1						
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**34.42**	**119**	P	**P**	**02 37 37.6**	**-0.2**
WRAB				IAmb	IAmb	02 37 38.8	
	comp=Z,40nm,0.9s						
WRAB	**Tennant Creek**	**34.42**	**119**	*c i*P	**P**	**02 37 37.4**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,37nm,0.9s						
WRAB	**Tennant Creek**	**34.42**	**119**	P	**P**	**02 37 37.8**	**0.0**
WRAB	**Tennant Creek**	**34.42**	**119**	P	**P**	**02 37 37.7**	**-0.2**
WRAB				pP	**pP**	**02 37 51.1**	**-1.6**
WRAB				sP	**sP**	**02 37 58.0**	**-1.8**
WB2	**Warramunga Arr**	**34.42**	**119**	IAmb	IAmb	02 37 38.8	
	comp=Z,38nm,0.9s						
WR0	**Warramunga Arr**	**34.60**	**119**	IAmb	IAmb	02 37 54.5	
	comp=Z,41nm,0.9s						
TAPN	**Taplejung**	**34.84**	**336**	*e*P	**P**	**02 37 42.4**	**+0.8**
	comp=Z,472nm,0.9s						
RAMN	**Ramite**	**34.95**	**334**	*e*P	**P**	**02 37 43.2**	**+0.7**
	comp=Z,92nm,0.4s						
ENH	**Enshi**	**35.21**	**10**	P	**P**	**02 37 44.2**	**-0.3**
ENH	**Enshi**	**35.21**	**10**	P	**P**	**02 37 44.7**	**+0.2**
CD2	**Chengdu**	**35.26**	**2**	P	**P**	**02 37 44.9**	**0.0**
CD2				pmax	pmax		
	comp=Z,80nm,0.8s						
FORT	**Forrest**	**35.39**	**140**	P	**P**	**02 37 46.7**	**+0.7**
ASAR	**Alice Springs**	**35.61**	**125**	P	**P**	**02 37 48.4**	**+0.4**
	comp=Z,41nm,0.9s,baz=302,slow=8.0,SNR=254						
ASAR				PcP	**PcP**	**02 40 16.6**	**+0.7**
	comp=Z,12nm,0.6s,baz=310,slow=2.4,SNR=5.8						
ASAR				S	**S**	**02 43 16.8**	**-3.4**
	comp=Z,6.7nm,0.9s,baz=298,slow=17,SNR=6.7						
ASAR				P3KPbc		03 08 32.0	
	comp=Z,0.6nm,0.6s,baz=114,slow=4.1,SNR=8.1						
	comp=Z,41nm,0.9s						
ASAR	**Alice Springs**	**35.61**	**125**	P	**P**	**02 37 48.2**	**+0.2**
JIRN	**Jiri**	**35.74**	**334**	*e*P	**P**	**02 37 50.3**	**+0.8**
	comp=Z,653nm,0.9s						
LSA	**Lhasa**	**35.79**	**343**	P	**P**	**02 37 50.0**	**0.0**
LSA				IAmb	IAmb	02 37 51.6	
	comp=Z,60nm,1.0s						
LSA	**Lhasa**	**35.79**	**343**	P	**P**	**02 37 50.0**	**0.0**
LSA				pmax	pmax		
	comp=Z,60nm,1.0s						
LSA	**Lhasa**	**35.79**	**343**	P	**P**	**02 37 51.1**	**+1.1**
LSA	**Lhasa**	**35.79**	**343**	P	**P**	**02 37 50.3**	**+0.4**
LSA	**Lhasa**	**35.79**	**343**	P	**P**	**02 37 50.5**	**+0.5**
LSA				pP	**pP**	**02 38 04.7**	**-0.4**
PKI	**Pulchoki**	**36.01**	**333**	*e*P	**P**	**02 37 52.1**	**+0.4**
	comp=Z,124nm,0.7s						
PKIN	**Phulchoki**	**36.02**	**333**	*e*P	**P**	**02 37 52.1**	**+0.3**
	comp=Z,79nm,0.5s						
SMPI	**Sarmi**	**36.05**	**87**	P	**P**	**02 37 51.3**	**-0.6**
	comp=Z,70nm,1.4s						
GUN	**Gumba**	**36.10**	**334**	*e*P	**P**	**02 37 53.2**	**+0.7**
	comp=Z,520nm,0.7s						
DMN	**Daman**	**36.18**	**333**	*e*P	**P**	**02 37 53.6**	**+0.5**
	comp=Z,329nm,1.1s						
GKN	**Gorkha**	**36.73**	**333**	*e*P	**P**	**02 37 58.4**	**+0.7**
	comp=Z,566nm,0.9s						
DANN	**Dangsing**	**37.43**	**332**	*e*P	**P**	**02 38 04.4**	**+0.6**
	comp=Z,435nm,0.6s						
GENI	**Genyem**	**37.45**	**88**	P	**P**	**02 38 01.5**	**-2.3**
	comp=Z,63nm,0.6s						
PYUN	**Piuthan**	**37.59**	**331**	*e*P	**P**	**02 38 05.6**	**+0.6**
	comp=Z,732nm,1.1s						
XAN	**Xi'an**	**38.81**	**8**	⇑P	**P**	**02 38 15.3**	**+0.3**
XAN				pP	pP	02 38 28.8	-1.4
XAN				PcP	**PcP**	**02 40 25.3**	**0.0**
XAN				pmax	pmax		
	comp=Z,190nm,1.0s						
XAN	**Xi'an**	**38.81**	**8**	P	**P**	**02 38 15.1**	**+0.1**
XAN				pP	**pP**	**02 38 29.3**	**-0.9**
MULG	**Mulgathing**	**39.13**	**134**	P	**P**	**02 38 18.4**	**+0.6**
NJ2	**Nanjing**	**39.50**	**22**	*e*P	**P**	**02 38 21.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
SSE	**Sheshan**	**39.58**	**25**	P	**P**	**02 38 23.1**	**+1.7**
SSE				pmax	pmax		
	comp=Z,32nm,0.8s						
JOW	**Kunigami**	**39.80**	**37**	P	**P**	**02 38 26.4**	**+3.0**
	comp=Z,65nm,1.0s						
LYN	**LuoYang**	**39.95**	**13**	⇑*i*P	**P**	**02 38 24.3**	**-0.1**
LYN				PcP	**PcP**	**02 40 28.8**	**-0.1**
LYN				pmax	pmax		
	comp=Z,70nm,1.1s						
LYN				pmax	pmax		
	comp=Z,220nm,7.3s						
LYN				LR	LR		
	comp=Z,580nm,14.6s						
LYN				LR	LR		
	comp=Z,430nm,16.9s						
LYN				LR	LR		
	comp=Z,800nm,13.5s						
LZH	**Lanzhou**	**40.42**	**1**	⇑P	**P**	**02 38 29.3**	**+0.8**
LZH				pP	sP	02 38 47.6	-3.2
LZH				sP	pP	02 38 58.6	+15
LZH				PcP	**PcP**	**02 40 31.8**	**+1.2**
LZH				pmax	pmax		
	comp=Z,120nm,1.5s						
GOMU	**GeErMu**	**41.18**	**350**	P	**P**	**02 38 35.3**	**+0.3**
GOMU				S	**S**	**02 44 37.5**	**-7.0**
GOMU				pmax	pmax		
	comp=Z,26nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,200nm,8.9s						
GOMU				LR	LR		
	comp=Z,660nm,13.0s						
GOMU				LR	LR		
	comp=Z,840nm,12.6s						
GOMU				LR	LR		
	comp=Z,280nm,14.3s						
TIA	**Tai'an**	**42.72**	**17**	⇓P	**P**	**02 38 47.3**	**+0.2**
TIA				pmax	pmax		
	comp=Z,32nm,0.9s						
MTSU	**Mount Surprise**	**42.87**	**112**	P	**P**	**02 38 49.5**	**+0.8**
	baz=43,SNR=4.7						
TIY	**Taiyuan**	**42.99**	**11**	*e*P	**P**	**02 38 50.3**	**+0.9**
TIY				pmax	pmax		
	comp=Z,41nm,0.7s						
HNS	**HongShan**	**43.19**	**14**	⇑P	**P**	**02 38 51.4**	**+0.5**
HNS				pmax	pmax		
	comp=Z,41nm,0.8s						
GTA	**Gaotai**	**43.80**	**357**	⇑P	**P**	**02 38 56.5**	**+0.5**
GTA				pP	pP	02 39 12.8	+1.4
GTA				sP	sP	02 39 21.5	+3.1
GTA				PcP	**PcP**	**02 40 42.5**	**+0.8**
GTA				pmax	pmax		
	comp=Z,56nm,1.3s						
GTA				pmax	pmax		
	comp=Z,94nm,5.6s						
GTA				LR	LR		
	comp=Z,470nm,18.9s						
GTA				LR	LR		
	comp=Z,420nm,20.7s						
GTA				LR	LR		
	comp=Z,800nm,18.2s						
HTT	**Hallett**	**44.32**	**135**	P	**P**	**02 39 01.2**	**+1.0**
PMG	**Port Moresby**	**44.38**	**99**	P	**P**	**02 39 00.8**	**0.0**
	comp=Z,58nm,0.9s,baz=267,slow=5.7,SNR=3.2						
	comp=Z,58nm,0.9s						
PMG	**Port Moresby**	**44.38**	**99**	P	**P**	**02 39 00.6**	**-0.2**
PMG				pP	**pP**	**02 39 13.8**	**-2.5**
PMG				sP	**sP**	**02 39 21.0**	**-2.3**
JSU	**Suzuyama**	**44.55**	**35**	IAmb	IAmb	02 39 03.5	
	comp=Z,68nm,0.9s						
CTA	**Charters Tower**	**45.11**	**114**	P	**P**	**02 39 07.0**	**+0.4**
	comp=Z,113nm,0.9s,baz=281,slow=9.6,SNR=8.8						
	comp=Z,113nm,0.9s						
CTA	**Charters Tower**	**45.11**	**114**	P	**P**	**02 39 07.0**	**+0.4**
CTAO	**Charters Tower**	**45.11**	**114**	P	**P**	**02 39 07.0**	**+0.4**
CTAO	**Charters Tower**	**45.11**	**114**	P	**P**	**02 39 07.0**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,141nm,1.0s						
CTAO	**Charters Tower**	**45.11**	**114**	P	**P**	**02 39 07.1**	**+0.5**
CTAO				x	x	02 39 13.8	
CTAO				pP	**pP**	**02 39 22.0**	**-0.1**
CTAO				sP	**sP**	**02 39 28.5**	**-0.6**
QLP	**Quilpie**	**45.33**	**123**	P	**P**	**02 39 09.5**	**+1.3**
	baz=45,SNR=3.5						
BTO	**Baotou**	**45.42**	**8**	*e*P	**P**	**02 39 06.6**	**-2.2**
STKA	**Stephens Creek**	**45.47**	**131**	P	**P**	**02 39 10.3**	**+1.0**
	comp=Z,81nm,0.8s,baz=304,slow=8.3,SNR=12						
STKA				PcP	**PcP**	**02 40 47.8**	**+0.3**
	comp=Z,14nm,0.5s,baz=60,slow=2.3,SNR=2.9						
	comp=Z,81nm,0.8s						
STKA	**Stephens Creek**	**45.47**	**131**	P	**P**	**02 39 10.4**	**+1.1**
	baz=46,SNR=10						
STKA	**Stephens Creek**	**45.47**	**131**	*ce*P	**P**	**02 39 09.9**	**+0.6**
STKA	**Stephens Creek**	**45.47**	**131**	P	**P**	**02 39 10.1**	**+0.8**
GUMO	**Guam**	**45.57**	**66**	P	**P**	**02 39 08.0**	**-2.3**
HHC	**Hu-ho-hao-te**	**45.88**	**9**	*e*P	**P**	**02 39 13.6**	**+1.1**
HHC				pmax	pmax		
	comp=Z,150nm,1.0s						
HHC				pmax	pmax		
	comp=Z,430nm,6.2s						
BJT	**Baijiatuau**	**46.03**	**14**	P	**P**	**02 39 13.3**	**-0.2**
BJT				IAmb	IAmb	02 39 15.1	
	comp=Z,48nm,0.7s						
BJT	**Baijiatuau**	**46.03**	**14**	P	**P**	**02 39 13.3**	**-0.2**
BJT				pmax	pmax		
	comp=Z,48nm,0.7s						
BJT	**Baijiatuau**	**46.03**	**14**	P	**P**	**02 39 14.1**	**+0.6**
BJT				pP	**pP**	**02 39 29.6**	**+0.6**
BJI	**Beijing**	**46.05**	**14**	P	**P**	**02 39 14.1**	**+0.5**
BJI				PcP	**PcP**	**02 40 50.1**	**+0.9**
BJI				pmax	pmax		
	comp=Z,66nm,0.7s						
TJN	**Taejon**	**46.78**	**28**	⇑*e*P	**P**	**02 39 18.7**	**-0.7**
NIL	**Nilore**	**47.08**	**326**	P	**P**	**02 39 21.9**	**0.0**
NIL	**Nilore**	**47.08**	**326**	P	**P**	**02 39 21.9**	**0.0**
NIL				pmax	pmax		
	comp=Z,189nm,0.8s						
NIL	**Nilore**	**47.08**	**326**	P	**P**	**02 39 22.8**	**+0.9**
NIL	**Nilore**	**47.08**	**326**	P	**P**	**02 39 21.8**	**0.0**
NIL				pP	**pP**	**02 39 38.6**	**+1.1**
KSCHJ	**Chungju**	**47.47**	**28**	IAmb	IAmb	02 39 26.4	
	comp=Z,42nm,1.0s						
KSAR	**Wonju Array Be**	**47.89**	**27**	P	**P**	**02 39 28.3**	**+0.3**
KSAR				PcP	**PcP**	**02 40 56.4**	**+0.6**
KSAR	**Wonju Array Be**	**47.89**	**27**	P	**P**	**02 39 28.3**	**+0.3**
KSAR						02 40 56.4	
KSRS	**Korea Array**	**47.92**	**27**	P	**P**	**02 39 28.6**	**+0.3**
	comp=Z,33nm,0.9s,baz=227,slow=7.2,SNR=83						
KSRS				PcP	**PcP**	**02 40 55.9**	**0.0**
	comp=Z,7,6nm,0.9s,baz=218,slow=3.1,SNR=7.2						
	comp=Z,33nm,0.9s						
KS19	**Wonju Array Si**	**47.94**	**27**	IAmb	IAmb	02 39 30.7	
	comp=Z,31nm,0.9s						
CMSA	**Cobar Meteorol**	**48.44**	**129**	P	**P**	**02 39 33.8**	**+1.3**
	baz=48,SNR=8.9						
CMSA	**Cobar Meteorol**	**48.44**	**129**	P	**P**	**02 39 33.8**	**+1.3**
JHS	**Saijyo**	**48.63**	**34**	IAmb	IAmb	02 39 35.1	
	comp=Z,51nm,0.8s						
SEHB	**SEOHWA**	**48.74**	**27**	IAmb	IAmb	02 39 35.9	
	comp=Z,58nm,1.0s						
JCJ	**Chichijima**	**49.44**	**48**	P	**P**	**02 39 38.3**	**-1.8**
XLT	**XiLinHaoTe**	**49.70**	**13**	⇑*i*P	**P**	**02 39 42.3**	**+0.4**
XLT				pP	pP	02 39 59.3	+1.6
XLT				PcP	**PcP**	**02 41 02.8**	**+0.5**
XLT				pmax	pmax		
	comp=Z,85nm,1.0s						
XLT				pmax	pmax		
	comp=Z,430nm,9.4s						
WMQ	**Urumqi**	**49.99**	**346**	⇑P	**P**	**02 39 45.1**	**+0.9**
WMQ				pP	pP	02 39 59.3	-0.6
WMQ				PcP	**PcP**	**02 41 05.8**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,160nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,590nm,3.9s						
WMQ	**Urumqi**	**49.99**	**346**	P	**P**	**02 39 45.0**	**+0.9**
WMQ				pP	**pP**	**02 39 59.8**	**0.0**
KBL	**Kabul**	**50.15**	**323**	P	**P**	**02 39 45.5**	**-0.2**
KBL				IAmb	IAmb	02 39 46.6	
	comp=Z,45nm,1.1s						
KBL	**Kabul**	**50.15**	**323**	P	**P**	**02 39 45.5**	**-0.2**
KBL				pmax	pmax		
	comp=Z,45nm,1.2s						
KBL	**Kabul**	**50.15**	**323**	P	**P**	**02 39 45.7**	**+0.1**
	SNR=15						
KSH	**Kashi**	**50.27**	**333**	P	**P**	**02 39 45.3**	**-1.1**
KSH				pP	pP	02 39 59.6	-2.5
KSH				S	**S**	**02 46 51.4**	**-3.3**
KSH				pmax	pmax		
	comp=Z,83nm,1.0s						
WBK	**Wadi Bani Khal**	**50.52**	**304**	P	**P**	**02 39 50.0**	**+1.5**
DQM	**DQM**	**50.59**	**300**	P	**P**	**02 39 51.2**	**+2.3**
MHTO	**MHTO**	**50.66**	**302**	P	**P**	**02 39 51.0**	**+1.5**
	SNR=6.7						
EIDS	**Eidsvold**	**50.78**	**119**	P	**P**	**02 39 50.1**	**-0.2**
EIDS	**Eidsvold**	**50.78**	**119**	P	**P**	**02 39 51.2**	**+0.8**
WSAR	**Wadi Sarin**	**51.08**	**305**	P	**P**	**02 39 54.3**	**+1.6**
	comp=Z,22nm,1.0s,baz=132,slow=7.8,SNR=4.4						
	comp=Z,22nm,1.0s						
INU	**Inuyama**	**51.11**	**36**	IAmb	IAmb	02 39 55.0	
	comp=Z,25nm,0.9s						
INU	**Inuyama**	**51.11**	**36**	P	**P**	**02 39 51.1**	**-1.5**
JMDO	**Jabal Madar**	**51.13**	**303**	P	**P**	**02 39 54.6**	**+1.5**
SOCY	**Socotra**	**51.18**	**289**	P	**P**	**02 39 55.8**	**+2.2**
TARG	**Taragay, Kyrgy**	**51.32**	**336**	IAmb	IAmb	02 40 05.1	
	comp=Z,40nm,0.7s						
SMDO	**Samad**	**51.48**	**304**	P	**P**	**02 39 58.0**	**+2.2**
	SNR=6.6						
SHAO	**Shalim**	**51.53**	**297**	P	**P**	**02 39 57.6**	**+1.5**
SHAO	**Shalim**	**51.53**	**297**	P	**P**	**02 39 57.6**	**+1.5**
BIDO	**Bidbid**	**51.62**	**305**	P	**P**	**02 39 59.0**	**+2.3**
	SNR=10						
SHLS	**Shalkode**	**51.91**	**338**	*c i*P	**P**	**02 39 58.4**	**-0.2**
SHLS				*e*S	**S**	**02 47 16.4**	**-0.8**
SHLS				pmax	pmax		
	comp=Z,41nm,0.7s						
SHLS	**Shalkode**	**51.91**	**338**	⇑*i*P	**P**	**02 39 58.5**	**-0.2**
	comp=Z,41nm,0.7s,baz=339						
SHLS				*e*S	**S**	**02 47 16.4**	**-0.8**
	baz=339						
DMTO	**DMTO**	**52.03**	**297**	P	**P**	**02 40 01.2**	**+1.4**
BSY	**Bisya**	**52.05**	**303**	P	**P**	**02 40 03.0**	**+3.1**
	SNR=7.5						
PDGK	**Podgornoye**	**52.05**	**339**	P	**P**	**02 39 59.3**	**-0.3**
UZB	**Uzynbulak**	**52.06**	**338**	*i* P	**P**	**02 40 00.4**	**+0.7**
UZB				*e*S	**S**	**02 47 19.8**	**+0.5**
UZB	**Uzynbulak**	**52.06**	**338**	*i* P	**P**	**02 40 00.5**	**+0.7**
	baz=338						
UZB				*e*S	**S**	**02 47 19.9**	**+0.5**
	baz=338						
SATY	**Saty**	**52.22**	**338**	*c i*P	**P**	**02 40 01.5**	**+0.6**
SATY				*e*S	**S**	**02 47 22.3**	**+0.9**
SATY				pmax	pmax		
	comp=Z,31nm,0.7s						
SATY	**Saty**	**52.22**	**338**	⇑*i*P	**P**	**02 40 01.6**	**+0.6**
	comp=Z,31nm,0.7s,baz=338						
SATY				*e*S	**S**	**02 47 22.4**	**+0.9**
	baz=338						
SONM	**Songino Array**	**52.24**	**3**	P	**P**	**02 40 02.1**	**+1.1**
	comp=Z,163nm,0.9s,baz=182,slow=8.8,SNR=563						
SONM				PcP	**PcP**	**02 41 12.0**	**+0.3**
	comp=Z,20nm,0.6s,baz=185,slow=4.1,SNR=12						
	comp=Z,163nm,0.9s						
SONM	**Songino Array**	**52.24**	**3**	P	**P**	**02 40 01.5**	**+0.5**
CN2	**Changchun**	**52.30**	**21**	P	**P**	**02 40 00.6**	**-0.7**
CN2				PcP	**PcP**	**02 41 11.9**	**0.0**
CN2				pmax	pmax		
	comp=Z,110nm,0.9s						
ULN	**Ulaanbaatar**	**52.31**	**4**	P	**P**	**02 40 02.0**	**+0.5**
ULN	**Ulaanbaatar**	**52.31**	**4**	*c i*P	**P**	**02 40 02.2**	**+0.6**
ULN				pmax	pmax		
	comp=Z,94nm,1.0s						
ULN	**Ulaanbaatar**	**52.31**	**4**	P	**P**	**02 40 02.9**	**+1.3**
ULN	**Ulaanbaatar**	**52.31**	**4**	P	**P**	**02 40 02.4**	**+0.9**
ULN				pP	**pP**	**02 40 20.3**	**+2.9**
HOQ	**Hoqain**	**52.32**	**304**	P	**P**	**02 40 04.0**	**+2.1**
	SNR=8.2						
ULHL	**Ulahol**	**52.40**	**335**	P	**P**	**02 40 02.6**	**+0.3**
	SNR=21						
KPKS	**Kokpek**	**52.46**	**338**	*c i*P	**P**	**02 40 02.9**	**+0.2**
KPKS				pmax	pmax		
	comp=Z,28nm,0.7s						
KPKS	**Kokpek**	**52.46**	**338**	⇑*i*P	**P**	**02 40 02.9**	**+0.2**
	comp=Z,28nm,0.7s,baz=338						
CAN	**

AML Almayashu 53.40 333 P P 02 40 10.7 +0.7
SNR=8.6
ARXS Arharly 53.42 338 *e*P P 02 40 09.2 -0.5
CHKK Chushkaly 53.44 337 *e*P P 02 40 09.1 -0.7
CHKK Chushkaly 53.44 337 *e*P P 02 40 09.1 -0.7
baz=337
AAK Ala-Archa 53.46 334 P P 02 40 10.7 +0.5
SNR=20
AAK Ala-Archa 53.46 334 P P 02 40 10.6 +0.5
AAK IAmb IAmb 02 40 13.1
comp=Z,33nm,1.0s
AAK PcP **PcP** 02 41 16.8 +0.3
AAK Ala-Archa 53.46 334*c* *i*P P 02 40 10.0 -0.1
AAK pmax pmax
comp=Z,29nm,0.9s
AAK Ala-Archa 53.46 334 P P 02 40 11.6 +1.5
AAK Ala-Archa 53.46 334 *i* P P 02 40 10.5 +0.4
SNR=23
AAK Ala-Archa 53.46 334 P P 02 40 10.5 +0.4
CHMS Chumysh 53.64 335 P P 02 40 11.3 0.0
SNR=18
CHMS Chumysh 53.64 335 *i* P P 02 40 10.7 -0.6
CHMS pmax pmax
comp=Z,55nm,1.1s
JSD Sado 53.69 35 IAmb IAmb 02 40 13.1
comp=Z,38nm,0.8s
KUU Kurty 53.73 337*c* *i*P P 02 40 11.5 -0.4
KUU pmax pmax
comp=Z,99nm,0.9s
KUU Kurty 53.73 337⇑ *i*P P 02 40 11.6 -0.4
comp=Z,99nm,0.9s,baz=336
EKS2 Erkin-Say 53.79 334 P P 02 40 13.2 +0.7
SNR=144
ALNE Al Ain 53.81 304 P P 02 40 14.5 +1.6
SNR=14
ALNE Al Ain 53.81 304 *i* P P 02 40 14.2 +1.4
SNR=7.4
UOSS Minazif 53.83 305 P P 02 40 13.2 +0.2
UOSS IAmb IAmb 02 40 14.8
comp=Z,42nm,1.4s
UOSS Minazif 53.83 305 P P 02 40 14.1 +1.2
UOSS Minazif 53.83 305 *i* P P 02 40 13.5 +0.6
SNR=6.0
UOSS Minazif 53.83 305 P P 02 40 13.3 +0.4
UOSS pP **pP** 02 40 30.2 +1.4
ASHO Ashiyiah 53.83 305 P P 02 40 15.0 +2.0
SNR=5.0
ASHO Ashiyiah 53.83 305 *i* P P 02 40 14.2 +1.2
SNR=12
HATD Hatta, Dubai 53.83 305 P P 02 40 15.1 +2.1
SNR=7.1
HATD Hatta, Dubai 53.83 305 *i* P P 02 40 14.4 +1.4
SNR=11
MDH Madha 53.91 306 P P 02 40 14.2 +0.7
MDH Madha 53.91 306 *i* P P 02 40 13.7 +0.1
SNR=6.0
USP Ospenovka 53.97 335 P P 02 40 13.7 0.0
SNR=24
MSFE Esma-Masafi 54.05 306 *i* P P 02 40 16.2 +1.6
SNR=11
MASF Masafi 54.05 306 P P 02 40 17.2 +2.6
SNR=5.7
SGDS Sogindy 54.06 335*c* *i*P P 02 40 14.1 -0.3
SGDS Sogindy 54.06 335⇑ *i*P P 02 40 14.1 -0.3
baz=335
ZSN Zaisan 54.09 345*c* *i*P P 02 40 15.1 +0.7
ZSN pmax pmax
comp=Z,50nm,0.8s
ZSN Zaisan 54.09 345⇑ *i*P P 02 40 15.2 +0.7
comp=Z,50nm,0.8s,baz=345
BANOM Banah 54.19 306 P P 02 40 17.1 +1.5
MK31 Makanchi Array 54.20 343 P P 02 40 15.2 -0.1
MK31 Makanchi Array 54.20 343*c* *i*P P 02 40 14.8 -0.5
MK31 pmax pmax
comp=Z,64nm,0.6s
MKAR Makanchi Array 54.20 343 P P 02 40 15.5 +0.3
comp=Z,91nm,0.7s,baz=147,slow=7.7,SNR=664
comp=Z,91nm,0.7s
MKAR Makanchi Array 54.20 343 *i* P P 02 40 15.1 -0.2
MKAR pmax pmax
comp=Z,93nm,0.7s
FAQ Al Faqa, Dubai 54.24 305 P P 02 40 18.0 +2.0
SNR=11
FAQ Al Faqa, Dubai 54.24 305 *i* P P 02 40 17.3 +1.4
SNR=22
NAZ Nazwa, Dubai 54.29 305 P P 02 40 18.1 +1.8
SNR=7.5
NAZ Nazwa, Dubai 54.29 305 *i* P P 02 40 17.8 +1.5
SNR=18
MAKZ Makanchi 54.30 343 P P 02 40 15.4 -0.6
MAKZ IAmb IAmb 02 40 16.8
comp=Z,42nm,0.9s
MAKZ Makanchi 54.30 343 ⇑P P 02 40 15.8 -0.2
MAKZ Makanchi 54.30 343 P P 02 40 15.6 -0.5
HRA Herat 54.31 319 P P 02 40 16.5 -0.1
HRA PcP **PcP** 02 41 19.9 -0.1
SHME Shamm 54.37 307 *i* P P 02 40 18.3 +1.4
SNR=7.2
ASUD Al Ashush, Dub 54.40 305 P P 02 40 20.0 +2.9
SNR=6.0
ASUD Al Ashush, Dub 54.40 305 *i* P P 02 40 19.0 +1.9
SNR=14
MDJ Mudanjiang 54.55 23 P P 02 40 17.7 -0.1
MDJ IAmb IAmb 02 40 19.3
comp=Z,34nm,0.9s
MDJ Mudanjiang 54.55 23 P P 02 40 18.0 +0.2
MDJ pP pP 02 40 32.3 -1.4
MDJ sP sP 02 40 40.3 -0.3
MDJ ScP **ScP** 02 45 13.0 -0.8
MDJ S **S** 02 47 54.8 +2.1
MDJ ScS **ScS** 02 49 58.6 -3.1
MDJ pmax pmax
comp=Z,47nm,0.9s
MDJ pmax pmax
comp=Z,170nm,4.2s
MDJ LR LR
comp=Z,960nm,19.4s
MDJ LR LR
comp=Z,830nm,19.1s
MDJ LR LR
comp=Z,2µm,24.3s
MDJ Mudanjiang 54.55 23 P P 02 40 17.9 +0.2
BNX BinXian 54.67 21 ⇑P P 02 40 18.9 +0.2
BNX pmax pmax
comp=Z,250nm,1.0s
BNX pmax pmax
comp=Z,180nm,5.3s
ZAK Zakamensk 54.69 0 *e*P P 02 40 18.9 0.0
ZAK pmax pmax
comp=Z,36nm,1.0s
TAS Tashkent 54.88 330 P P 02 40 19.9 -0.4
TAS Tashkent 54.88 330 P P 02 40 19.9 -0.4
TAS pmax pmax
comp=Z,130nm,0.8s
JMM Marumori 55.05 37 IAmb IAmb 02 40 21.7
comp=Z,41nm,0.7s
DZA Taraz 55.08 332 *e*P P 02 40 21.0 -0.7
DZA pmax pmax
comp=Z,21nm,0.9s
DZA Taraz 55.08 332 *e*P P 02 40 21.0 -0.7
comp=Z,21nm,0.9s,baz=332
IUG Iuzhnay 55.13 331*c* *i*P P 02 40 22.2 0.0
IUG Iuzhnay 55.13 331⇑ *i*P P 02 40 22.2 0.0
baz=331
USRK Uesuriysk Ar. 55.19 25 P P 02 40 22.6 +0.1
comp=Z,138nm,0.8s,baz=211,slow=5.5,SNR=131
comp=Z,138nm,0.8s
MZR Muzera 55.28 302 P P 02 40 25.3 +1.8
SNR=14
MZR Muzera 55.28 302 *i* P P 02 40 25.1 +1.7
SNR=24
HIA Hailar 55.59 13 P P 02 40 24.9 -0.5
HIA IAmb IAmb 02 40 25.8
comp=Z,34nm,0.8s
HIA Hailar 55.59 13*c* *i*P P 02 40 24.8 -0.5
HIA pmax pmax
comp=Z,39nm,1.0s
HIA Hailar 55.59 13 P P 02 40 25.0 -0.3
BTLS Baital 55.60 336*c* *i*P P 02 40 24.6 -0.8
BTLS Baital 55.60 336⇑ *i*P P 02 40 24.7 -0.8
baz=336
DGZ Jazzator, Alta 55.61 348*c* *i*P P 02 40 26.1 +0.5
DGZ pmax pmax
comp=Z,143nm,0.9s
KK31 Karatay Array 55.63 332 P P 02 40 25.0 -0.7
KK31 Karatay Array 55.63 332 *i* P P 02 40 24.4 -1.3

OPO Ambohidratompo 55.91 251 P P 02 40 29.8 +1.4
comp=Z,5.2nm,0.8s,baz=94,slow=12,SNR=6.7
comp=Z,5.2nm,0.8s
ABPO Ambohimpanom 55.93 250 P P 02 40 30.1 +1.6
ABPO pP **pP** 02 40 44.0 -0.2
MOY Mondy 56.00 359 *e*P P 02 40 29.5 +1.2
MOY pmax pmax
comp=Z,46nm,2.0s
IRK Irkutsk 56.57 1 *e*P P 02 40 32.6 +0.4
IRK pmax pmax
comp=Z,64nm,2.0s
JRN Qarnain Island 56.58 304 P P 02 40 34.1 +1.4
VOI Vohitsoka 56.76 247 P P 02 40 35.7 +1.4
HNR Honiara 56.99 98 LR LR 03 09 11.6
comp=Z,13µm,18.6s,baz=320,slow=40
SLWR Sila 57.20 302 P P 02 40 38.5 +1.4
SHMA Al-Shehemyia 58.51 304 P P 02 40 47.1 +0.8
KURBB Kurchatov Arra 58.74 342 P P 02 40 46.8 -0.6
KURK Kurchatov 58.80 342 P P 02 40 47.3 -0.5
KURK Kurchatov 58.80 342*c* *i*P P 02 40 47.7 -0.1
KURK pmax pmax
comp=Z,123nm,0.9s
KURK Kurchatov 58.80 342 P P 02 40 48.2 +0.4
KURK Kurchatov 58.80 342 P P 02 40 47.8 -0.1
KURK pP **pP** 02 41 05.8 +1.9
GEYT Alibeck 59.10 320 P P 02 40 50.5 +0.3
comp=Z,46nm,0.8s,baz=163,slow=6.2,SNR=92
comp=Z,46nm,0.8s
GEYT Alibeck 59.10 320 IAmb IAmb 02 40 51.5
comp=Z,65nm,1.0s
GYA0 ALIBECK ARRAY 59.10 320 P P 02 40 49.9 -0.4
GYA0B ALIBECK ARRAY 59.10 320 P P 02 40 50.1 -0.1
GYA0B IAmb IAmb 02 40 51.5
comp=Z,59nm,1.0s
ERM Erimo 59.15 34 P P 02 40 50.7 +0.4
ERM Erimo 59.15 34*de*P P 02 40 50.8 +0.4
ERM pmax pmax
comp=Z,70nm,0.9s
ERM Erimo 59.15 34 P P 02 40 50.8 +0.4
KLR Kul'dur 59.20 22*c* *i*P P 02 40 50.2 -0.5
KLR pmax pmax
comp=Z,74nm,0.9s
ZAA0 Zalesovo Array 60.16 348 P P 02 40 56.1 -1.0
ZALV Zalesovo Beam 60.16 348 P P 02 40 57.1 0.0
comp=Z,144nm,0.5s,baz=163,slow=5.9,SNR=438
comp=Z,144nm,0.5s
ZALV Zalesovo Beam 60.16 348 *i* P P 02 40 56.9 -0.2
ZALV pmax pmax
comp=Z,147nm,0.5s
BRZS Berezniki 60.17 338*c* *i*P P 02 40 56.9 -0.5
BRZS *e*S **S** 02 49 06.4 0.0
BRZS Berezniki 60.17 338⇑ *i*P P 02 40 56.9 -0.5
baz=338
BRZS *e*S **S** 02 49 06.4 0.0
baz=338
ZEA Zeya 61.60 16 *e*P P 02 41 07.9 +0.9
ZEA pmax pmax
comp=E,40nm,0.6s
ZEA pmax pmax
comp=N,50nm,0.9s
ZEA pmax pmax
comp=Z,110nm,1.0s
CASY Casey 61.88 176 P P 02 41 10.5 +1.8
CASY Casey 61.88 176 P P 02 41 10.0 +1.3
CASY pP **pP** 02 41 24.0 -0.5
CASY sP **sP** 02 41 31.9 +0.8
YSS Yuzh-Sakhalins 62.26 30 P P 02 41 11.6 +0.2
YSS Yuzh-Sakhalins 62.26 30 *e*P P 02 41 11.6 +0.2
YSS pmax pmax
comp=Z,130nm,1.1s
YSS Yuzh-Sakhalins 62.26 30 P P 02 41 11.7 +0.2
RAYN Ar Rayn 62.31 299 P P 02 41 12.7 +0.3
RAYN Ar Rayn 62.31 299 P P 02 41 12.7 +0.3
RAYN pmax pmax
comp=Z,15nm,0.8s
RAYN Ar Rayn 62.31 299 P P 02 41 13.2 +0.8
RAYN Ar Rayn 62.31 299 *i* P P 02 41 13.1 +0.8
SNR=20
RAYN Ar Rayn 62.31 299 P P 02 41 13.0 +0.7
BOD Bodaibo 62.81 7 *e*P P 02 41 14.5 -0.5
BOD pmax pmax
comp=Z,71nm,1.0s
BVA0 Borovoye Array 63.48 339 *i* P P 02 41 18.4 -1.1
BRVK Borovoye 63.55 339 P P 02 41 19.0 -0.9
BRVK IAmb IAmb 02 41 20.9
comp=Z,42nm,0.8s
BRVK Borovoye 63.55 339*c* *i*P P 02 41 19.1 -0.9
BRVK pmax pmax
comp=Z,47nm,1.0s
BRVK Borovoye 63.55 339 P P 02 41 19.3 -0.6
BRVK pP **pP** 02 41 35.0 -1.2
BRVK sP **sP** 02 41 42.8 -0.2
NOUC Port Laguerre 63.88 112 P P 02 41 23.1 +0.3
NOUC sP **sP** 02 41 45.8 +0.1
DZM Mont Dzumac 64.01 112 P P 02 41 24.1 +0.4
DZM sP **sP** 02 41 45.4 -1.3
KIBK Kibwezi 64.55 270 P P 02 41 28.0 +0.6
KIBK Kibwezi 64.55 270 P P 02 41 29.4 +2.0
AB31 Akbulak array 65.14 331 *i* P P 02 41 29.8 -0.6
ABKAR Akbulak array 65.14 331 P P 02 41 29.8 -0.6
KMBO Kilima Mbogo 65.43 271 P P 02 41 34.5 +1.2
comp=Z,3.2nm,0.7s,baz=55,slow=7.2,SNR=10.0
comp=Z,3.2nm,0.7s
KMBO Kilima Mbogo 65.43 271 P P 02 41 34.5 +1.2
KMBO Kilima Mbogo 65.43 271 P P 02 41 34.6 +1.2
KMBO Kilima Mbogo 65.43 271 P P 02 41 34.8 +1.5
KMBO Kilima Mbogo 65.43 271 P P 02 41 34.6 +1.3
KMBO pP **pP** 02 41 51.2 +1.7
LODK Lodwar 67.73 276 P P 02 41 48.7 +0.9
LODK Lodwar 67.73 276 P P 02 41 49.7 +1.9
MAW Mawson 68.54 195 P P 02 41 53.0 +1.3
comp=Z,6.5nm,0.8s,baz=34,slow=4.5,SNR=17
comp=Z,6.5nm,0.8s
MAW Mawson 68.54 195 P P 02 41 50.9 -0.8
baz=69,SNR=11
MAW Mawson 68.54 195 P P 02 41 54.0 +2.3
MAW Mawson 68.54 195 P P 02 41 54.0 +2.3
MAW pmax pmax
comp=Z,3.0nm,1.1s
GNI Garni 69.20 316 P P 02 41 56.6 0.0
GNI Garni 69.20 316*c* *i*P P 02 41 56.8 +0.2
GNI pmax pmax
comp=Z,24nm,1.1s
GNI Garni 69.20 316 P P 02 41 58.0 +1.4
GNI Garni 69.20 316 P P 02 41 57.5 +0.9
GNI Garni 69.20 316 P P 02 41 57.1 +0.6
GNI pP **pP** 02 42 13.8 +0.8
GNI sP **PcP** 02 42 20.2 +0.1
YAK Yakutsk 69.54 13 P P 02 41 57.4 -0.6
comp=Z,61nm,0.5s,baz=16,slow=2.5,SNR=6.8
comp=Z,61nm,0.5s
YAK Yakutsk 69.54 13 P P 02 41 56.7 -1.3
YAK Yakutsk 69.54 13 *e*P P 02 41 56.5 -1.4
YAK pmax pmax
comp=Z,173nm,1.1s
YAK pmax pmax
comp=N,40nm,1.1s
YAK pmax pmax
comp=E,24nm,1.0s
YAK Yakutsk 69.54 13 P P 02 41 56.9 -1.1
YAK pP **pP** 02 42 13.1 -1.3
GROC Groznyy 69.84 319 *e*P P 02 42 00.7 +0.5
GROC *e* 02 44 36.2
GROC pmax pmax
comp=Z,338nm,0.9s
GURO Guroymak-BITLI 70.47 314 P P 02 42 05.0 +0.6
ARU Arti 70.59 336 P P 02 42 03.8 -0.7
ARU IAmb IAmb 02 42 05.4
comp=Z,80nm,1.2s
ARU Arti 70.59 336*c* *i*P P 02 42 04.1 -0.4
ARU pmax pmax
comp=Z,70nm,1.1s
ARU Arti 70.59 336 P P 02 42 04.3 -0.2
ZEI Tsey 70.90 318 *e*P P 02 42 06.6 -0.4
ZEI pmax pmax
comp=Z,55nm,1.0s
RPZ Rata Peaks 71.30 135 P P 02 42 09.5 +0.2
comp=Z,8.6nm,0.6s,baz=290,slow=4.3,SNR=5.1
comp=Z,8.6nm,0.6s
NCK Nalchik 71.41 319⇓ *e*P P 02 42 10.7 +0.9
NCK pmax pmax
comp=Z,41nm,0.9s
CCD Concordia, Ant 71.51 174 P P 02 42 11.7 +1.3
NEY Neytrino 71.88 318*de*P P 02 42 14.2 +1.3

NEY pmax pmax
comp=Z,9.0nm,0.8s
OXZ Oxford 71.93 134 P P 02 42 13.0 +0.1
MBAR Mbarara 71.96 271 P P 02 42 14.1 +0.1
MBAR Mbarara 71.96 271 P P 02 42 14.1 +0.1
MBAR pmax pmax
comp=Z,8.0nm,0.9s
MBAR Mbarara 71.96 271 P P 02 42 15.7 +1.7
KBZ Khabaz 71.97 319 P P 02 42 13.6 +0.5
comp=Z,41nm,0.8s,baz=117,slow=4.5,SNR=80
comp=Z,41nm,0.8s
KIV Kislovodsk 72.20 319 ⇓P P 02 42 15.0 +0.4
KIV Kislovodsk 72.20 319 P P 02 42 15.0 +0.4
KIV IAmb IAmb 02 42 16.6
comp=Z,34nm,0.9s
KIV Kislovodsk 72.20 319*c* *i*P P 02 42 14.6 -0.1
KIV *i* 02 42 33.2
KIV *e* 02 44 54.2
KIV pmax pmax
comp=Z,39nm,1.0s
KIV Kislovodsk 72.20 319 P P 02 42 16.1 +1.4
KIV Kislovodsk 72.20 319 *i* P P 02 42 15.1 +0.4
SNR=16
ASF Jabal al Asfar 72.24 306 P P 02 42 16.9 +1.8
baz=108,slow=7.8
THZ Tophouse 72.27 132 P P 02 42 14.4 -0.8
THZ IAmb IAmb 02 42 16.9
comp=Z,41nm,0.8s
GOF Gofitskoye 72.44 320⇑ *e*P P 02 42 16.5 +0.6
GOF pmax pmax
comp=Z,76nm,1.1s
GHAJ Ghor Haditha 73.07 304 P P 02 42 20.5 +0.5
GHAJ IAmb IAmb 02 42 22.4
comp=Z,65nm,0.9s
EIL Elat 73.14 303 P P 02 42 21.6 +1.2
baz=108,slow=5.3
BELG Belogornoye 73.27 328*c* *i*P P 02 42 20.1 -0.5
BELG pmax pmax
comp=Z,21nm,1.0s
PETK Petropavlovsk- 73.62 31 P P 02 42 22.1 -0.6
comp=Z,11nm,0.7s,baz=213,slow=5.1,SNR=14
comp=Z,11nm,0.7s
PETK Petropavlovsk- 73.62 31 P P 02 42 22.4 -0.3
PETK Petropavlovsk- 73.62 31 P P 02 42 22.4 -0.3
VSLR Vesyoloye 73.76 318*de*P P 02 42 23.7 -0.1
LSZ Lusaka 73.88 255 P P 02 42 26.1 +0.9
comp=Z,4.3nm,0.6s,baz=99,slow=3.3,SNR=11
comp=Z,4.3nm,0.6s
SOC Sochi 74.02 318 *e*P P 02 42 24.0 -1.3
SOC *e* 02 45 06.2
SOC *e*PPP PPP 02 47 00.3
SOC *e*S S 02 51 51.7 -1.6
SOC *e*SSS SSS 02 59 54.2
SOC pmax pmax
comp=Z,50nm,0.7s
PET Petropavlovsk 74.06 31 P P 02 42 24.9 -0.4
PET Petropavlovsk 74.06 31 *e*P P 02 42 25.2 -0.1
PET *e* 02 45 14.4
PET *e*S S 02 51 51.8 -1.6
PET *e**SS sS 02 52 20.7 -1.4
PET *e*SS SS 02 56 38.1 -1.4
PET pmax pmax
comp=Z,115nm,0.5s
PET pmax pmax
comp=Z,500nm,14.1s
MA2 Magadan 74.25 23 P P 02 42 26.5 +0.2
comp=Z,16nm,0.6s,baz=194,slow=9.1,SNR=7.3
comp=Z,16nm,0.6s
MA2 Magadan 74.25 23 P P 02 42 26.6 +0.3
MA2 Magadan 74.25 23*ce*P P 02 42 26.2 -0.1
MA2 pmax pmax
comp=Z,19nm,0.8s
NRIK Noril'sk 74.44 354 P P 02 42 26.6 -0.5
comp=Z,62nm,0.9s,baz=157,slow=4.7,SNR=52
comp=Z,62nm,0.9s
NRIK Noril'sk 74.44 354 IAmb IAmb 02 42 28.1
comp=Z,53nm,0.8s
NRIK Noril'sk 74.44 354*c* *i*P P 02 42 26.4 -0.8
NRIK pmax pmax
comp=Z,60nm,0.9s
BKZ Black Stump Fm 74.60 129 P P 02 42 29.0 +0.1
URZ Urewera 74.98 128 P P 02 42 31.0 0.0
comp=Z,7.8nm,0.6s,baz=328,slow=4.9,SNR=1.4
comp=Z,7.8nm,0.6s
KIRV Kirov 75.79 334*c* *i*P P 02 42 35.3 +0.2
CSS Mathiatis 75.88 308 P P 02 42 36.5 +0.2
VRH Novokhopyorsk 75.91 325 *e*P P 02 42 35.3 -0.7
VRH pmax pmax
comp=Z,140nm,0.8s
ANN Anapa 76.00 318 *e*P P 02 42 34.0 -2.6
ANN pmax pmax
comp=Z,42nm,0.7s
LBTB Lobatse 76.41 245 P P 02 42 40.4 +0.8
comp=Z,5.0nm,0.8s,baz=108,slow=6.6,SNR=6.0
comp=Z,5.0nm,0.8s
BOSA Boshof 76.82 242 P P 02 42 42.1 +0.3
comp=Z,6.2nm,0.8s,baz=112,slow=6.3,SNR=7.5
comp=Z,6.2nm,0.8s
SEY Seymchan 76.98 21 P P 02 42 41.4 -0.5
comp=Z,16nm,0.6s,baz=240,slow=6.5,SNR=11
comp=Z,16nm,0.6s
SEY Seymchan 76.98 21⇑ *i*P P 02 42 41.8 0.0
SEY pmax pmax
comp=Z,18nm,0.8s
BR131 Keskin Array S 77.00 312 IAmb IAmb 02 42 43.3
comp=Z,49nm,0.8s
BR131 Keskin Array S 77.00 312*c* *i*P P 02 42 42.1 -0.5
BRTR Keskin Array B 77.00 312 P P 02 42 42.2 -0.4
comp=Z,27nm,0.8s,baz=134,slow=7.2,SNR=201
comp=Z,27nm,0.8s
VSR Storozhevoye 77.38 325 *e*P P 02 42 43.7 -0.6
VSR pmax pmax
comp=Z,100nm,0.9s
BZK Bozkurt 77.41 315 ⇑P P 02 42 43.7 -0.9
VORR Voronezh 77.54 325 *e*P P 02 42 44.8 -0.4
VORR pmax pmax
comp=Z,110nm,1.0s
ANTO Ankara 77.66 312 P P 02 42 46.1 -0.1
ANTO IAmb IAmb 02 42 47.4
comp=Z,40nm,0.9s
ANTO Ankara 77.66 312 P P 02 42 46.1 -0.1
ANTO pmax pmax
comp=Z,40nm,0.9s
ANTO Ankara 77.66 312 P P 02 42 47.3 +1.0
BR231 Keskin MP Arra 77.67 312 IAmb IAmb 02 42 47.5
comp=Z,37nm,0.8s
TIXI Tiksi 77.94 8 P P 02 42 46.0 -0.9
TIXI Tiksi 77.94 8*de*P P 02 42 45.7 -1.3
TIXI pmax pmax
comp=Z,15nm,0.8s
TIXI MLR MLR
comp=Z,1µm,22.0s
LPSR Galich'ya Gora 78.07 326 *e*P P 02 42 47.9 -0.2
LPSR pmax pmax
comp=Z,100nm,0.8s
SIM Simferopol' 78.27 318 *e*P P 02 42 49.0 -0.4
SIM *e* 02 42 58.0
SIM pmax pmax
comp=Z,72nm,0.8s
PRGR Permogore 79.05 336⇑ *i*P P 02 42 53.4 +0.1
PRGR *e* 02 45 55.6
PRGR pmax pmax
comp=Z,84nm,0.8s
MOS Moscow 80.04 329 *e*P P 02 42 57.9 -0.9
MOS *e**PP pP 02 43 11.0 -4.6
MOS *e**SP sP 02 43 17.7 -4.5
MOS *e* 02 45 56.1
MOS *e*S S 02 52 54.4 -3.8
MOS pmax pmax
comp=Z,200nm,0.8s
MOS pmax pmax
comp=Z,130nm,0.8s
ARG Arkhangelos 80.30 308 IAmb IAmb 02 43 03.0
comp=Z,107nm,1.0s
OBN Obninsk 80.35 328 P P 02 43 00.1 -0.4
OBN Obninsk 80.35 328*c* *i*P P 02 43 00.5 +0.1
OBN *e* 02 46 00.0
OBN pmax pmax
comp=Z,84nm,0.9s
MANT Manisa 80.49 310 P P 02 43 01.3 -0.6
ISK Istanbul-Kandi 80.73 313 P P 02 43 02.9 +0.1
KARP Karpathos 80.92 307 P P 02 43 04.9 +0.8
BODT Bodrum 81.13 308 P P 02 43 03.8 -1.3
KLMR Klimovskoe 81.27 334 *e*P P 02 43 03.6 -1.6
KLMR *e* 02 46 10.7

KLMR pmax pmax
comp=Z,101nm,1.1s
KLMR Klimovskoe 81.27 334 *e*P **P** **02 43 03.7 -1.5**
KLMR AMP 02 43 06.6
comp=Z,101nm,1.1s
KLMR *e*PP **PP** **02 46 10.8 -0.7**
SMG Samos 81.64 309 P **P** **02 43 08.5 +0.7**
TLCR 81.93 317 ⇑P **P** **02 43 08.0 -1.1**
TLCR 81.93 317 ⇑P **P** **02 43 08.0 -1.1**
TIRR Tirgusor 82.03 316 ⇑P **P** **02 43 09.6 0.0**
TIRR Tirgusor 82.03 316 ⇑P **P** **02 43 09.6 0.0**
TPGR Topolog 82.12 316 ⇑P **P** **02 43 10.4 +0.3**
ICOR Ion Corvin 82.37 315 ⇑P **P** **02 43 12.2 +0.7**
MILM Milestii Mici 82.38 318 ⇓P **P** **02 43 10.9 -0.5**
MILM Milestii Mici 82.38 318 *e*P **P** **02 43 08.0 -3.4**
MILM pmax pmax
comp=Z,500nm,10.3s
CHOS Chios island 82.38 310 P **P** **02 43 12.9 +1.2**
KIS Kishinev 82.39 318 *e*P **P** **02 43 08.0 -3.5**
KIS LQM 02 49 43.0
comp=Z,500nm,25.0s
KIS LRM MLR 02 50 21.0
comp=Z,600nm,22.0s
KIS M M 02 54 41.0
comp=Z,500nm,10.3s
PRK Paraskevi 82.39 310 P **P** **02 43 13.2 +1.5**
CFR Carcaliu 82.39 317 ⇓P **P** **02 43 11.7 +0.2**
CFR Carcaliu 82.39 317 ⇓P **P** **02 43 11.7 +0.2**
HARR Harsova 82.42 316 ⇑P **P** **02 43 12.5 +0.8**
HARR Harsova 82.42 316 ⇑P **P** **02 43 12.5 +0.8**
PRD Provadia 82.44 314 *i* P **P** **02 43 12.3 +0.5**
SANT Santorini 82.44 307 ⇓P **P** **02 43 11.7 -0.3**
EZN Ezine 82.47 311 P **P** **02 43 12.5 +0.4**
APE Apeiranthos 82.52 308 ⇓P **P** **02 43 12.2 -0.3**
APE Apeiranthos 82.52 308 ⇓P **P** **02 43 12.2 -0.3**
EDRB Edirne 82.60 313 P **P** **02 43 12.6 -0.1**
LEOM Leova 82.64 318 ⇓P **P** **02 43 13.3 +0.5**
LEOM Leova 82.64 318 ⇓P **P** **02 43 13.3 +0.5**
SIGR SIGRI 82.70 310 P **P** **02 43 13.6 +0.3**
ENEZ Enez 82.80 312 P **P** **02 43 14.2 +0.5**
JMB Yambol 82.86 314 *i* P **P** **02 43 11.8 -2.2**
ALN Alexandroupoli 82.91 312 P **P** **02 43 14.3 0.0**
ALN Alexandroupoli 82.91 312 IAmb IAmb 02 43 15.7
comp=Z,34nm,0.9s
VASR Vaslui 82.99 318 ⇓P **P** **02 43 15.3 +0.7**
PRNS Prines Rethymn 83.02 306 P **P** **02 43 16.6 +1.6**
GHRR 83.10 317 ⇓P **P** **02 43 16.5 +1.3**
AKASG Malin Array Be 83.11 322 P **P** **02 43 14.8 -0.3**
comp=Z,12nm,0.7s,baz=84,slow=5.2,SNR=66
AKASG PP **PP** **02 46 25.0 -2.0**
comp=Z,2.9nm,0.8s,baz=92,slow=6.5,SNR=4.6
comp=Z,12nm,0.7s
AKASG Malin Array Be 83.11 322 *i* P **P** **02 43 14.8 -0.3**
AKASG pmax pmax
comp=Z,16nm,0.6s
AKBB Malin Array Si 83.11 322 P **P** **02 43 14.9 -0.2**
AKBB IAmb IAmb 02 43 15.8
comp=Z,30nm,0.9s
AKBB Malin Array Si 83.11 322*c i*P **P** **02 43 14.4 -0.7**
RAZG Razgrad 83.15 315 ⇑P **P** **02 43 16.1 +0.5**
SMTH Samothraki Isl 83.20 311 P **P** **02 43 15.7 -0.2**
GVDS Gavdos 83.25 306 P **P** **02 43 16.4 +0.2**
GVD Gavdhos 83.25 306 P **P** **02 43 16.7 +0.4**
ODBI Odobesti 83.27 317 ⇑P **P** **02 43 17.7 +1.6**
RDO Rodhopi 83.34 312 P **P** **02 43 16.4 -0.1**
LIA Limnos Island 83.35 311 P **P** **02 43 16.4 -0.2**
ISR Istrita 83.48 316 ⇑P **P** **02 43 19.0 +1.8**
ISR Istrita 83.48 316 ⇑P **P** **02 43 19.0 +1.8**
SZH Strazhica 83.50 314 *i* P **P** **02 43 17.6 +0.3**
VRI Vrincioaia 83.52 317 ⇑P **P** **02 43 18.7 +1.3**
VRI Vrincioaia 83.52 317 ⇑P **P** **02 43 18.7 +1.3**
DIM Dimitrovgrad 83.53 313 *i* P **P** **02 43 18.0 +0.5**
KDZ Kurdzhali 83.53 313 *i* P **P** **02 43 17.9 +0.3**
PLOR Plostina 83.57 317 ⇑P **P** **02 43 18.6 +0.9**
PLOR Plostina 83.57 317 ⇑P **P** **02 43 18.6 +0.9**
KNDR Palaiochora Ch 83.65 306 P **P** **02 43 19.4 +1.2**
TESR Tescani 83.72 318 ⇑P **P** **02 43 19.4 +0.9**
THAS Thassos island 83.84 312 P **P** **02 43 18.9 -0.2**
COVR Voineasa-Covas 83.87 317 ⇓P **P** **02 43 19.6 +0.4**
TSUM Tsumeb 83.91 251 P **P** **02 43 20.7 +0.6**
comp=Z,4.8nm,0.7s,baz=157,slow=6.7,SNR=4.8
comp=Z,4.8nm,0.7s
KYMI Kymi, Euboea I 83.93 309 P **P** **02 43 19.3 -0.4**
DION Dionisos Attik 83.96 309 P **P** **02 43 19.8 0.0**
MLR Muntele Rosu 83.97 316 ⇑P **P** **02 43 20.8 +0.9**
MLR Muntele Rosu 83.97 316 IAmb IAmb 02 43 22.5
comp=Z,80nm,1.0s
MLR Muntele Rosu 83.97 316 ⇑P **P** **02 43 20.8 +0.9**
PTL Penteli 84.01 309 P **P** **02 43 20.0 -0.1**
VLY Voula,Athens 84.03 309 P **P** **02 43 19.8 -0.4**
RZN Rozhen 84.05 313 *i* P **P** **02 43 20.9 +0.5**
ATHU Athens Univers 84.06 309 P **P** **02 43 20.3 -0.3**
ANKY Antikythira Is 84.07 307 P **P** **02 43 21.3 +0.9**
ATH Athens Observa 84.11 309 P **P** **02 43 20.3 -0.2**
DRBR Darabani 84.14 319 ⇑P **P** **02 43 20.8 +0.4**
PLD Plovdiv 84.14 313 *i* P **P** **02 43 20.8 +0.2**
BIZ Bicaz 84.18 318 ⇓P **P** **02 43 21.7 +1.0**
OZUR 84.21 317 ⇑P **P** **02 43 21.0 0.0**
KTHA Kythira Island 84.33 307 P **P** **02 43 21.5 -0.2**
OUR Ouranopolis 84.34 311 P **P** **02 43 22.0 +0.4**
KTHR Kythira 84.37 307 P **P** **02 43 22.3 +0.4**
KOKK Kokkinochori, 84.42 312 P **P** **02 43 22.2 +0.1**
KRND KRANIDI 84.45 308 P **P** **02 43 21.7 -0.6**
DOPR Dopca 84.45 317 ⇓P **P** **02 43 22.9 +0.8**
VILL Villia 84.46 309 P **P** **02 43 21.7 -0.7**
PAIG Paliouri 84.49 311 P **P** **02 43 22.5 +0.1**
VLI Veliai 84.50 307 P **P** **02 43 22.0 -0.6**
EPID Epidavros 84.51 308 P **P** **02 43 22.1 -0.5**
VOIR 84.58 316 ⇑P **P** **02 43 22.9 0.0**
VOIR 84.58 316 ⇑P **P** **02 43 22.9 0.0**
BILL Bilibino 84.60 20 *e*P **P** **02 43 22.8 +0.4**
BILL *e* 02 46 33.0
BILL *e*PPP PPP 02 48 31.1
BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL MLR MLR
comp=Z,314nm,20.0s
NVR Nevrokopi 84.62 312 P **P** **02 43 23.1 0.0**
PGB Panagyurishte 84.62 313 *i* P **P** **02 43 23.0 -0.1**
LOUT Loutraki 84.69 309 P **P** **02 43 22.6 -0.9**
LTK Loutraki 84.70 309 P **P** **02 43 22.6 -1.0**
MMB Musomiste 84.76 312 *i* P **P** **02 43 26.7 +2.9**
XOR Xorichti 84.76 310 P **P** **02 43 23.1 -0.8**
SRS Serrai 84.77 312 P **P** **02 43 23.6 -0.3**
ARR Arges 84.85 316 ⇓P **P** **02 43 24.6 +0.3**
SOH Sokhos 84.90 312 P **P** **02 43 24.3 -0.3**
MNK Minsk 84.91 326 *i* P **P** **02 43 24.3 +0.1**
MNK *i* *PP **pP** **02 43 41.2 +0.1**
MNK *i* 02 46 40.7
MNK *i* PPP PPP 02 48 33.5
MNK *i* S **S** **02 53 42.5 -5.6**
MNK *i* SS **SS** **02 59 14.7 -7.2**
MNK *i* SSS SSS 03 02 55.8
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=Z,114nm,0.8s
MNK MLR MLR
comp=Z,165nm,15.0s
MNK MLR MLR
comp=E,23nm,16.0s
MNK Minsk 84.91 326 *i* P **P** **02 43 24.4 +0.1**
comp=E,5.0nm,0.8s
MNK *i* P **P** **02 43 24.4 +0.1**
MNK *i* P **P** **02 43 24.4 +0.1**
comp=Z,114nm,0.8s,baz=105
MNK *i* pP **pP** **02 43 41.2 +0.1**
MNK *i* PP **PP** **02 46 40.8 -0.8**
MNK *i* PPP PPP 02 48 33.5
MNK *i* S **S** **02 53 42.5 -5.6**
MNK *i* SS **SS** **02 59 14.7 -7.2**
MNK *i* SSS SSS 03 02 55.8
MNK *i* LQ LQ 03 12 37.2
MNK *i* LR LR 03 19 11.3
MNK *i* LRM MLR 03 24 03.9
comp=Z,165nm,15.2s
MNK *i* LRM MLR 03 24 32.3
comp=E,23nm,16.3s
BURAR Bucovina Array 84.92 318 ⇑P **P** **02 43 26.2 +1.6**
BURAR Bucovina Array 84.92 318 IAmb IAmb 02 43 27.0
comp=Z,45nm,0.7s
BURAR Bucovina Array 84.92 318 ⇑P **P** **02 43 26.2 +1.6**
BUR08 Bucovina Ar. S 84.94 318 P **P** **02 43 25.4 +0.7**
BUR08 IAmb IAmb 02 43 27.2
comp=Z,45nm,0.9s
HORT Hortiatis 85.05 311 P **P** **02 43 24.8 -0.6**
AXAR Agios Charalam 85.07 309 P **P** **02 43 24.8 -0.6**
VTS Vitosha 85.31 313 ⇓P **P** **02 43 27.3 +0.6**
VTS Vitosha 85.31 313 IAmb IAmb 02 43 28.2
comp=Z,36nm,0.9s
VTS Vitosha 85.31 313 ⇓P **P** **02 43 27.3 +0.6**
KLV Kalavryta, Ach 85.34 309 P **P** **02 43 27.5 +0.7**
ITM Ithomi 85.38 308 IAmb IAmb 02 43 28.4
comp=Z,68nm,1.4s
QSPA South Pole Qui 85.45 180 P **P** **02 43 27.3 +0.4**
comp=Z,15nm,0.7s,baz=304,slow=2.9,SNR=17
comp=Z,15nm,0.7s
LOT Lotru 85.46 316 ⇑P **P** **02 43 27.4 +0.1**
SERG Sergoula 85.47 309 P **P** **02 43 27.2 -0.3**
PYL PYLOS 85.48 307 P **P** **02 43 27.3 -0.2**
LAKA Lakka 85.51 309 P **P** **02 43 27.6 0.0**
MAKR Makrakomi, Fth 85.51 310 P **P** **02 43 27.2 -0.4**
VAY Valandovo 85.57 312 *i* P **P** **02 43 27.6 -0.2**
NACGM Naroch 85.63 326 *e*P **P** **02 43 28.5 +0.7**
GRG Griva 85.63 312 P **P** **02 43 27.9 -0.3**
DRO Drossia 85.67 308 P **P** **02 43 29.3 +0.9**
EVR Evrytania 85.75 309 P **P** **02 43 29.0 +0.1**
CJR Cluj-Napoca 85.82 317 ⇓P **P** **02 43 30.7 +1.7**
CJR Cluj-Napoca 85.82 317 ⇓P **P** **02 43 30.7 +1.7**
CBBR Cluj-Babes-Bol 85.86 317 ⇑P **P** **02 43 30.5 +1.3**
RLS Riolos of Patr 85.88 309 P **P** **02 43 30.4 +1.0**
BLKB Belogradchik 85.89 314 ⇑P **P** **02 43 29.8 +0.4**
PVO Paravola 85.92 309 P **P** **02 43 30.6 +1.0**
NVL N'lazarevskaya 86.04 199 *e*P P 02 43 47.5 +18
NVL pmax pmax
comp=Z,14nm,1.0s
IIGN Ignalina 86.05 326 *e*P **P** **02 43 30.8 +0.9**
BMR Baia Mare 86.07 318 ⇑P **P** **02 43 31.4 +1.3**
BMR Baia Mare 86.07 318 ⇑P **P** **02 43 31.4 +1.3**
LVZ Lovozero 86.07 339 P **P** **02 43 30.2 +0.4**
LVZ IAmb IAmb 02 43 33.4
comp=Z,28nm,0.9s
LVZ Lovozero 86.07 339*de*P **P** **02 43 29.6 -0.2**
LVZ pmax pmax
comp=Z,34nm,0.9s
GZR Gura Zlata 86.14 316 ⇑P **P** **02 43 31.2 +0.5**
GZR Gura Zlata 86.14 316 ⇑P **P** **02 43 31.2 +0.5**
DEV Deva 86.14 316 ⇑P **P** **02 43 32.1 +1.6**
DEV Deva 86.14 316 ⇑P **P** **02 43 32.1 +1.6**
LVV L'vov 86.14 320 *e*P **P** **02 43 30.8 +0.3**
ISAL Salakas 86.16 326 *e*P **P** **02 43 31.3 +0.9**
MESR Meseneni 86.34 318 ⇑P **P** **02 43 33.2 +1.7**
APA Apatity 86.39 339 ⇓*i*P P 02 43 36.3 +5.0
APA pmax pmax
comp=Z,8.0nm,0.9s
DRGR 86.43 317 ⇑P **P** **02 43 32.2 +0.1**
DRGR 86.43 317 ⇑P **P** **02 43 32.2 +0.1**
SKO Skopje 86.51 312 *i* P **P** **02 43 32.0 -0.4**
VSU Vasula 86.53 329*c i*P **P** **02 43 32.3 +0.2**
VSU pmax pmax
comp=Z,173nm,0.9s
VSU Vasula 86.53 329 *e*P **P** **02 43 32.5 +0.4**
VLS Valsamata 86.58 309 P **P** **02 43 33.3 +0.4**
BOVS Bovan 86.59 314 ⇑P **P** **02 43 32.0 -0.8**
JAN Janina 86.59 310 P **P** **02 43 32.5 -0.5**
LKD2 Lefkada island 86.61 309 P **P** **02 43 33.2 +0.1**
FSK Fiskardo 86.64 309 P **P** **02 43 34.1 +0.9**
KEF4 Livadi, Kephal 86.72 309 P **P** **02 43 34.0 +0.5**
MDVR Moldovita 86.77 315 ⇑P **P** **02 43 34.6 +0.8**
TRPA Tarpa 86.79 319 ⇑P **P** **02 43 34.2 +0.5**
TRPA Tarpa 86.79 319 P **P** **02 43 34.3 +0.7**
OHR Ohrid 86.85 311 *i* P **P** **02 43 34.4 +0.2**
LSK Leskovik 86.86 311 P **P** **02 43 34.5 +0.2**
IGT Igoumenitsa 86.97 310 P **P** **02 43 35.2 +0.4**
BZS Buzias 86.98 316 ⇑P **P** **02 43 35.5 +0.8**
BZS Buzias 86.98 316 ⇑P **P** **02 43 35.5 +0.8**
UZH Uzhgorod 87.04 319 ⇓*i*P **P** **02 43 34.6 -0.3**
UZH *i* 02 43 49.3
SIRR Siria 87.06 317 ⇑P **P** **02 43 35.7 +0.7**
LTVH Ltavrtes, Hu 87.08 318 P **P** **02 43 36.5 +1.4**
PHP Peshkopia 87.21 312 P **P** **02 43 35.1 -0.8**
SRN Sarande 87.28 310 P **P** **02 43 36.3 +0.1**
PABE Paberze 87.34 326 *e*P **P** **02 43 36.4 +0.2**
KEK Kerkira 87.41 310 P **P** **02 43 37.5 +0.6**
VSVD Vaisvydziai 87.46 327 *e*P **P** **02 43 37.1 +0.4**
FIA1 FINESS Array S 87.58 332 IAmb IAmb 02 43 38.5
comp=Z,61nm,1.1s
FINES FINESS Array B 87.59 332 P **P** **02 43 37.5 +0.4**
comp=Z,28nm,0.7s,baz=103,slow=5.3,SNR=183
comp=Z,28nm,0.7s
CRVS Cervenica-Dubn 87.63 319 *e*P **P** **02 43 38.6 +0.9**
CRVS pmax pmax
comp=Z,26nm,1.0s
CRVS Cervenica-Dubn 87.63 319 *e*P **P** **02 43 38.6 +0.9**
DIVS Divibare 87.89 314 IAmb IAmb 02 43 41.3
comp=Z,57nm,1.3s
DIVS Divibare 87.89 314⇑*i*P **P** **02 43 39.7 +0.5**
MTSE Matsula 88.08 329 *e*P **P** **02 43 39.7 +0.1**
MEF Metsahovi 88.11 331 *e*P **P** **02 43 40.0 +0.4**
FRGS Fruska Gora 88.17 315 ⇓P **P** **02 43 40.7 +0.3**
FRGS Fruska Gora 88.17 315⇑*i*P **P** **02 43 40.6 +0.2**
PDG Podgorica 88.19 313 ⇑P **P** **02 43 39.0 -1.5**
PDG Podgorica 88.19 313 IAmb IAmb 02 43 42.0
comp=Z,33nm,0.9s
RUDO Rudo 88.26 314 *e*P **P** **02 43 41.1 +0.2**
NIE Niedzica 88.46 320 *e*P **P** **02 43 43.0 +1.3**
NIE Niedzica 88.46 320 P **P** **02 43 42.9 +1.2**
PSZ Piszkesteto 88.51 318 ⇓P **P** **02 43 42.5 +0.5**
PSZ Piszkesteto 88.51 318 IAmb IAmb 02 43 43.9
comp=Z,36nm,1.0s
PSZ Piszkesteto 88.51 318 ⇓P **P** **02 43 42.5 +0.5**
PSZ Piszkesteto 88.51 318 P **P** **02 43 42.6 +0.5**
BEL Belsk 88.53 322 *e*P **P** **02 43 43.2 +1.4**
BEL Belsk 88.53 322 P **P** **02 43 43.4 +1.5**
UPM Unac-Piva 88.54 313 *e*P **P** **02 43 40.8 -1.6**
PBUR Paburge 88.57 326 *e*P **P** **02 43 42.5 +0.6**
BRY Bratogost 88.77 313 *e*P **P** **02 43 43.6 +0.1**
TROLL Troll, Antarti 88.86 198 P **P** **02 43 44.5 +1.2**
OJC Ojcow 88.90 320 *e*P **P** **02 43 43.4 -0.3**
OJC Ojcow 88.90 320 IAmb IAmb 02 43 44.6
comp=Z,35nm,1.2s
OJC Ojcow 88.90 320 P **P** **02 43 43.3 -0.4**
LANS Liptovska Anna 88.96 319 *e*P **P** **02 43 45.4 +1.3**
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 88.96 319 *e*P **P** **02 43 45.4 +1.3**
BUD Budapest 89.03 318 P **P** **02 43 46.7 +2.4**
BUD Budapest 89.03 318 P **P** **02 43 45.9 +1.5**
MORH Mrgy, Hungar 89.12 316 ⇑P **P** **02 43 45.4 +0.7**
MORH Mrgy, Hungar 89.12 316 P **P** **02 43 45.1 +0.3**
VYHS Vyhne 89.29 319 *e*P **P** **02 43 46.2 +0.6**
VYHS pmax pmax
comp=Z,28nm,1.2s
VYHS Vyhne 89.29 319 *e*P **P** **02 43 46.2 +0.6**
KEV Kevo 89.30 340 P **P** **02 43 45.3 +0.2**
KEV Kevo 89.30 340 P **P** **02 43 45.3 +0.2**
KEV pmax pmax
comp=Z,12nm,0.9s
STON Ston 89.38 313⇑*i*P **P** **02 43 45.2 -0.9**
KOVH Kovagotottos 89.48 316 P **P** **02 43 47.4 +0.9**
CSKK Cskako 89.53 317 P **P** **02 43 47.7 +1.0**
RAF Rauma 89.54 331 *e*P **P** **02 43 47.3 +0.9**
SRO Srobarova 89.55 318 *e*P **P** **02 43 48.3 +1.5**
SRO pmax pmax
comp=Z,45nm,0.9s
SRO Srobarova 89.55 318 *e*P **P** **02 43 48.3 +1.5**
TIP Timpagrande 89.68 309 ⇓P **P** **02 43 48.8 +1.1**
TIP Timpagrande 89.68 309 IAmb IAmb 02 43 50.4
comp=Z,45nm,1.3s
TIH Tihany 89.72 317 P **P** **02 43 48.2 +0.6**
ARA0 ARCESS Array S 89.75 340 *e*P **P** **02 43 47.5 +0.3**
ARA0 IAmb IAmb 02 43 47.8
comp=Z,22nm,1.0s
ARCES ARCESS Array B 89.75 340 P **P** **02 43 47.3 0.0**
comp=Z,14nm,0.8s,baz=102,slow=5.1,SNR=29
ARCES PP **PP** **02 47 22.5 +2.4**
comp=Z,5.7nm,1.0s,baz=116,slow=8.5,SNR=5.0
comp=Z,14nm,0.8s
ARCES ARCESS Array B 89.75 340 IAmb IAmb 02 43 48.1
comp=Z,20nm,1.0s
A052A Srbac 89.77 315⇑*i*P **P** **02 43 48.5 +0.6**
MATE Matera 89.87 311 ⇑P **P** **02 43 49.6 +1.1**
OKC Ostrava-Krasne 89.91 320 *e*P **P** **02 43 49.1 +0.7**
OKC Ostrava-Krasne 89.91 320 *e*P **P** **02 43 49.1 +0.7**
BLY Banja Luka 89.96 315⇑*i*P **P** **02 43 49.9 +1.1**
MPLH Magyarpolny 89.99 317 P **P** **02 43 49.8 +0.9**
MGRS Mrkonjic Grad 90.00 314 *e*P **P** **02 43 49.9 +0.9**
MAUC Maruska 90.06 319 *e*P **P** **02 43 50.0 +0.8**
JAVC Velka Javorina 90.10 319 *e*P **P** **02 43 51.0 +1.6**
EGYH Egyhazaskeszo 90.16 317 P **P** **02 43 50.8 +1.2**
A051A Mrakovica 90.19 315⇑*i*P **P** **02 43 50.3 +0.4**
SMOL Smolenice 90.22 318 *e*P **P** **02 43 50.6 +0.7**
SMOL pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 90.29 320 ⇑P **P** **02 43 51.1 +0.8**
MORC Moravsky Berou 90.29 320 IAmb IAmb 02 43 52.5
comp=Z,29nm,0.9s
MORC Moravsky Berou 90.29 320 *e*P **P** **02 43 51.2 +0.9**
MORC Moravsky Berou 90.29 320 ⇑P **P** **02 43 51.1 +0.8**
MODS Modra-Piesok 90.30 318 *e*P **P** **02 43 51.3 +1.0**
MODS pmax pmax
comp=Z,70nm,1.1s
MODS Modra-Piesok 90.30 318 *e*P **P** **02 43 51.3 +1.0**
A050A Klekovaca 90.40 314 *e*P **P** **02 43 50.6 -0.4**
ZST Bratislava 90.40 318 *e*P **P** **02 43 51.9 +1.2**
ZST pmax pmax
comp=Z,88nm,1.2s
ZST Bratislava 90.40 318 *e*P **P** **02 43 51.9 +1.2**
KTK1 Kautokeino 90.43 339 *e*P **P** **02 43 50.3 -0.1**
SNAA Sanae 90.57 198 P **P** **02 43 53.0 +1.7**
SNAA Sanae 90.57 198 P **P** **02 43 52.6 +1.3**
comp=Z,6.0nm,1.1s,baz=85,slow=5.9,SNR=10
comp=Z,6.0nm,1.1s
SNAA Sanae 90.57 198 P **P** **02 43 53.0 +1.7**
SNAA Sanae 90.57 198⇑*e*P **P** **02 43 52.9 +1.7**
SNAA pmax pmax
comp=Z,16nm,1.4s
SOP Sopron 90.71 318 P **P** **02 43 53.5 +1.3**
SOP Sopron 90.71 318 P **P** **02 43 52.2 0.0**
KOGS Kog 90.79 316 *i* P **P** **02 43 53.6 +1.0**
KRLC Kraliky 90.81 320 *e*P **P** **02 43 53.5 +0.8**
KRLC Kraliky 90.81 320 *e*P **P** **02 43 53.5 +0.8**
VRAC Vranov 90.85 319 ⇑P **P** **02 43 53.4 +0.5**
VRAC Vranov 90.85 319 *e*P **P** **02 43 53.4 +0.5**
VRAC Vranov 90.85 319 ⇑P **P** **02 43 53.4 +0.5**
GKP Gorka Klasztor 90.87 323 *e*P **P** **02 43 53.3 +0.5**
GKP Gorka Klasztor 90.87 323 *e*P **P** **02 43 53.6 +0.8**
RONA Rosalia, Austr 90.89 318 *i* P **P** **02 43 53.5 +0.4**
comp=Z,12nm,1.2s
KRUC Moravsky 90.96 319 *e*P **P** **02 43 54.2 +0.9**
DPC Dobruska-Polom 91.13 320 *e*P **P** **02 43 54.9 +0.7**
DPC Dobruska-Polom 91.13 320 *e*P **P** **02 43 54.9 +0.7**
CONA Conrad Observa 91.20 318 *i* P **P** **02 43 55.1 +0.5**
comp=Z,8.9nm,1.0s
KSP Ksiaz 91.20 321 *e*P **P** **02 43 55.9 +1.4**
KSP Ksiaz 91.20 321 P **P** **02 43 55.6 +1.2**
OSTC Ostas 91.22 320 *e*P **P** **02 43 55.2 +0.6**
CHVC Chvalec 91.33 320 *e*P **P** **02 43 55.9 +0.8**
UPC Upice 91.34 320 *e*P **P** **02 43 56.2 +1.1**
UPC Upice 91.34 320 *e*P **P** **02 43 56.2 +1.1**
ARSA Arzberg 91.37 317 *e*P **P** **02 43 56.3 +1.0**
comp=Z,15nm,0.8s,SNR=5.1
BOJS Bojanci 91.40 315 *e*P **P** **02 43 56.4 +0.9**
JETT Jettan, Norway 91.51 340 *e*P **P** **02 43 55.7 +0.2**
JETT IAmb IAmb 02 43 56.2
comp=Z,56nm,1.6s
TREC Trest 91.57 319 *e*P **P** **02 43 56.8 +0.6**
TREC Trest 91.57 319 *e*P **P** **02 43 56.8 +0.6**
SOKA Soboth 91.65 317 *i* P **P** **02 43 57.8 +1.1**
comp=Z,37nm,1.1s
LJU Ljubljana 91.95 316 *i* P **P** **02 43 59.1 +1.1**
OBKA Obir 91.97 316⇑*i*P **P** **02 43 58.9 +0.7**
OBKA Obir 91.97 316 *i* P **P** **02 43 59.1 +0.9**
comp=Z,8.8nm,0.8s
SPIA Saint Paul Isl 92.18 33 P **P** **02 43 59.2 +0.5**
baz=265
VNA2 Neumayer--Watz 92.20 198 P **P** **02 44 00.4 +1.7**
baz=92,slow=4.0
PRU Pruhonice 92.24 320 *e*P **P** **02 43 59.8 +0.5**
PRU *e* 02 44 14.7
PRU Pruhonice 92.24 320 *e*P **P** **02 43 59.8 +0.5**
PRU *e*pP **pP** **02 44 14.7 -1.6**
MOA Molln 92.26 318 *i* P **P** **02 43 59.8 +0.4**
comp=Z,5.4nm,0.8s
PVCC Panska Ves 92.27 320 *e*P **P** **02 44 00.1 +0.7**
PVCC Panska Ves 92.27 320 *e*P **P** **02 44 00.1 +0.7**
CKRC Cesky Krumlov 92.31 319 *e*P **P** **02 44 00.4 +0.8**
GORS Gorjuse 92.34 316 *i* P **P** **02 44 00.4 +0.5**
AQU L'Aquila 92.49 312 IAmb IAmb 02 44 02.9
comp=Z,23nm,0.9s
VNA1 Neumayer--Stat 92.57 198 P **P** **02 44 02.9 +2.6**
BJO1 Bjornoya 92.64 344 *e*P **P** **02 44 00.6 0.0**
NIKH Nikolski High 92.65 37 P **P** **02 44 00.9 -0.2**
baz=266
BIOA Bad Ischl, Aus 92.68 317 *i* P **P** **02 44 01.5 +0.1**
comp=Z,6.3nm,0.7s
BRG Berggiesshubel 92.69 321 *i* P **P** **02 44 02.3 +0.9**
BRG Amp 02 44 03.2
comp=Z,15nm,0.8s
BRG *ex* x 02 44 17.2
BRG Amp 02 44 17.8
comp=Z,6.0nm,0.7s
BRG *ex* x 02 47 45.1
BRG Amp 02 47 45.8
comp=Z,7.1nm,1.0s
BRG *ex* x 02 50 36.3
BRG Amp 02 50 39.1
comp=Z,19nm,1.9s
BRG Berggiesshubel 92.69 321 *i* P **P** **02 44 02.2 +0.9**
BRG *e* 02 44 17.2
BRG *e* 02 47 45.0
BRG pmax pmax
comp=Z,15nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,1.0s
GEC2 GERESS Array S 92.71 319 P **P** **02 44 01.1 -0.5**
GEC2 IAmb IAmb 02 44 03.5
comp=Z,29nm,1.4s
GERES GERESS Array B 92.71 319 P **P** **02 44 02.3 +0.7**
comp=Z,4.1nm,0.6s,baz=104,slow=4.4,SNR=41
comp=Z,4.1nm,0.6s
KHC Kasperske Hory 92.81 319 *e*P **P** **02 44 02.1 +0.1**
KHC *e* 02 44 15.8
KHC Kasperske Hory 92.81 319 *e*P **P** **02 44 02.1 +0.1**
KHC *ex* x 02 44 15.8
KBA Koelnbreinsper 92.84 317 *i* P **P** **02 44 02.1 -0.2**
comp=Z,11nm,1.3s
RUE Ruedersdorf 92.89 322 *e*P **P** **02 44 03.3 +1.1**
CLUD Cludinico 93.12 316 IAmb IAmb 02 44 04.8
comp=Z,28nm,0.9s
FAUS Fauske 93.14 337 *e*P **P** **02 44 02.9 -0.1**
FAUS IAmb IAmb 02 44 03.8
comp=Z,20nm,0.9s
STEI Steigen 93.20 338 *e*P **P** **02 44 03.2 -0.1**
STEI IAmb IAmb 02 44 03.9
comp=Z,31nm,0.9s
STAL STALIGIAL 93.22 316 IAmb IAmb 02 44 05.4
comp=Z,28nm,1.0s
CLL Collm 93.31 321⇑*i*P **P** **02 44 04.1 0.0**
CLL *eS* **S** **02 55 03.0 -3.8**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 93.31 321⇑*i*P **P** **02 44 04.1 0.0**
comp=Z,11nm,1.0s
CLL *es*P **sP** **02 44 30.0 +2.2**
CLL *e*Sx Sx 02 55 03.0
CLL *e*PS **PS** **02 56 29.0 +1.5**
ABTA Abfaltersbach 93.39 316 *i* P **P** **02 44 04.7 -0.1**
comp=Z,8.8nm,0.9s
MOR8 Moi Rana 93.40 336 *e*P **P** **02 44 04.0 -0.3**
CIMO Cimolais 93.41 316 IAmb IAmb 02 44 06.4
comp=Z,35nm,1.0s
NKC Novy Kostel 93.60 320 *e*P **P** **02 44 06.7 +1.1**
NKC Novy Kostel 93.60 320 *e*P **P** **02 44 06.7 +1.1**
CTI Castel Tesino 93.95 316 IAmb IAmb 02 44 09.2
comp=Z,23nm,0.9s
WTTA Wattenberg 94.01 317 *i* P **P** **02 44 07.6 -0.1**
comp=Z,15nm,1.1s
WATA Walderalm 94.05 317 *i* P **P** **02 44 07.6 -0.3**
comp=Z,6.0nm,0.6s
SQTA Sankt Quirin 94.30 317 *i* P **P** **02 44 09.0 0.0**
comp=Z,6.8nm,0.5s
NSS Namsos 94.37 334 *e*P **P** **02 44 08.8 +0.1**
NSS IAmb IAmb 02 44 09.3
comp=Z,17nm,0.9s
GRA1 Grafenberg Arr 94.37 319 IAmb IAmb 02 44 11.1

comp=Z,19nm,1.0s
GRFO **Grafenberg** 94.37 319 P P 02 44 10.2 +1.1
GRFO IAmb IAmb 02 44 11.0
comp=Z,18nm,1.0s
GRFO **Grafenberg** 94.37 319 P P 02 44 10.2 +1.1
GRFO pmax pmax
comp=Z,18nm,1.0s
MOTA Moosalm 94.37 317 *i* P P 02 44 09.4 +0.1
comp=Z,17nm,1.0s
NC602 NORSAR Array S 94.48 330 *eP* P 02 44 07.3 -2.0
NORES NORESS Array B 94.48 330 P P 02 44 12.2 +2.9
RETA Reutte 94.61 317 *eP* P 02 44 10.6 +0.2
comp=Z,14nm,1.2s
FETA Feichten 94.62 317 *i* P P 02 44 10.5 0.0
comp=Z,9.6nm,1.1s
NB2 NORSAR Subarra 94.65 331 P P 02 44 09.8 -0.3
comp=Z,3.2nm,0.7s,baz=92,slow=4.6
NB2 NORSAR Subarra 94.65 331 P P 02 44 07.5 -2.6
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 94.65 331 P P 02 44 09.8 -0.3
baz=92,slow=4.6
NOA NORSAR Array B 94.65 331 P P 02 44 09.9 -0.2
comp=Z,5.9nm,0.8s,baz=95,slow=5.0,SNR=29
NOA PP PP 02 47 58.0 -0.8
comp=Z,3.0nm,0.9s,baz=91,slow=7.2,SNR=5.5
comp=Z,5.9nm,0.8s
OSL Oslo 94.88 330 *eP* P 02 44 11.7 +0.6
TBLU Trondheim 95.11 333 *eP* P 02 44 11.4 -0.8
DAVA Damuels 95.20 317 *i* P P 02 44 13.4 +0.2
comp=Z,14nm,0.9s
KEST Kesra 95.33 305 P P 02 44 15.2 +1.3
comp=Z,9.2nm,0.9s,baz=284,slow=7.7,SNR=6.1
comp=Z,9.2nm,0.9s
A21K Barrow 97.69 19 P Pdif 02 44 24.3 +0.5
baz=279
N16K Nishlik Lake 98.13 30 P Pdif 02 44 26.5 +0.5
baz=275
RCHB Rochefort 98.24 320 *dP* Pdif 02 44 26.8 +0.2
comp=Z,4.8nm,1.2s
O16K Kokwok River B 98.56 31 P Pdif 02 44 28.2 +0.4
baz=276
F21K Alatna River 99.50 23 P **Pdif** 02 44 32.4 +0.5
baz=281
E22K Anaktuvuk Pass 99.93 21 P **Pdif** 02 44 33.8 -0.1
baz=283
F22K John River 99.94 22 P **Pdif** 02 44 34.1 +0.3
baz=282
C23K Itkillik River 99.96 20 P **Pdif** 02 44 34.5 +0.6
baz=284
D23K Nanushuk River 100.15 21 P **Pdif** 02 44 35.6 +0.9
baz=284
TOLK Toolik Lake Re 100.62 21 P **Pdif** 02 44 37.4 +0.5
baz=285
E23K Chandalar 100.75 21 P **Pdif** 02 44 37.9 +0.3
baz=285
D25K Kavik River 101.53 20 P **Pdif** 02 44 41.3 +0.4
baz=288
TORD Torodi Ar. Bea 101.71 282 P **Pdif** 02 44 43.4 +0.5
comp=Z,1.3nm,1.0s,baz=93,slow=5.8,SNR=5.0
TORD PKiKP **PKiKP** 02 49 05.3 -1.0
comp=Z,1.8nm,1.2s,baz=99,slow=2.3,SNR=4.9
TORD PKKPbc **PKKPbc** 03 00 48.3 -0.8
comp=Z,0.9nm,0.7s,baz=300,slow=4.2,SNR=5.6
ILAR Eielson Array 102.71 24 PKKPbc PKKPbc 03 00 45.4 -2.4
comp=Z,0.6nm,0.9s,baz=117,slow=2.6,SNR=4.3
I29M Ogilvie Camp, 105.89 22 P **PKiKP** 02 49 13.5 +0.9
baz=295
DAWY Dawson 106.00 24 P **PKiKP** 02 49 13.6 +0.7
baz=294
BVCY Beaver Creek 106.03 26 P **PKiKP** 02 49 13.6 +0.7
baz=292
EPYK Eagle Plains 106.04 21 P **PKiKP** 02 49 13.3 +0.5
baz=297
INK Inuvik 106.20 19 PKiKP **PKiKP** 02 49 12.7 -0.3
comp=Z,3.7nm,1.0s,baz=290,slow=3.3,SNR=5.1
INK Inuvik 106.20 19 P **PKiKP** 02 49 13.9 +1.0
baz=300
N30M Aishikik Lake 108.05 26 P **PKiKP** 02 49 17.8 +1.1
baz=295
HYT Haines Junctio 108.13 27 P **PKiKP** 02 49 17.9 +1.0
baz=294
N31M Braeburn, Yuko 108.60 26 P **PKiKP** 02 49 18.9 +1.2
baz=296
P30M Million Dollar 108.67 27 P **PKiKP** 02 49 18.8 +0.9
baz=295
O30N Mendenhall 108.78 26 P **PKiKP** 02 49 19.0 +0.9
baz=296
P32M Atlin 110.38 27 P **PKiKP** 02 49 21.7 +0.6
baz=298
P33M Teslin, Yukon 110.48 26 P **PKiKP** 02 49 22.0 +0.7
baz=299
S32K Killisnoo 110.93 29 P **PKiKP** 02 49 22.8 +0.7
baz=296
Q32M Nakina River 111.33 27 P **PKiKP** 02 49 24.0 +0.8
baz=299
R33M Jennings River 111.70 26 P **PKiKP** 02 49 24.7 +0.9
baz=300
TGTN Hyland Airport 111.70 24 P **PKiKP** 02 49 24.3 +0.7
baz=304
WTLY Watson Lake, Y 112.26 25 P **PKiKP** 02 49 25.4 +0.7
baz=302
S34M Telegraph Cree 112.36 28 P **PKiKP** 02 49 25.9 +1.1
baz=300
WRGLY Wrigley 112.50 21 P **PKiKP** 02 49 26.0 +1.0
baz=309
DLBC Dease Lake 112.60 27 P **PKiKP** 02 49 26.2 +0.8
baz=301
T35M Bob Quinn 113.24 28 P **PKiKP** 02 49 27.5 +0.9
baz=300
YKA Yellowknife Ar 115.96 18 PKP **PKiKP** 02 49 31.3 -0.3
comp=Z,5.0nm,0.9s,baz=305,slow=2.3,SNR=6.6
YKA Yellowknife Ar 115.96 18 **PKiKP** 02 49 31.1 -0.5
G03D McMinnville, O 123.05 37 P **PKiKP** 02 49 46.2 +0.2
baz=301
I02E Swisshome, OR 123.26 39 P **PKiKP** 02 49 46.4 -0.1
baz=300
J01E Myrtle Point 123.67 40 P **PKiKP** 02 49 47.5 +0.2
baz=300,SNR=8.2
H04D Lebanon 123.73 38 P **PKiKP** 02 49 47.9 +0.5
baz=301,SNR=23
I03D Drain, OR 123.78 39 P **PKiKP** 02 49 47.7 +0.2
baz=300
HOOD Mount Hood Mea 123.96 36 **PKiKP** 02 49 48.0 -0.1
K02D Willamette Mer 124.07 40 P **PKiKP** 02 49 48.4 +0.2
baz=300,SNR=7.2
G05D Wamic, OR 124.20 36 P **PKiKP** 02 49 48.5 +0.2
baz=303
I04A Tendick Farm, 124.31 38 P **PKPdf** 02 49 48.1 -0.2
baz=301,SNR=19
L02F Cave Junction 124.42 41 P **PKiKP** 02 49 48.9 +0.1
baz=299,SNR=5.9
I05D Terrebonne, OR 124.68 37 P **PKPdf** 02 49 49.1 0.0
baz=303,SNR=8.7
NEW Newport 124.75 31 P **PKiKP** 02 49 49.4 +0.1
baz=309,SNR=8.5
J04D Umpqua Nationa 124.78 39 P **PKiKP** 02 49 49.9 +0.1
baz=301,SNR=32
YBH Yreka Blue Hor 125.17 41 PKPdf **PKPdf** 02 49 49.6 -0.5
YBH Yreka Blue Hor 125.17 41 PKiKP **PKPdf** 02 49 49.6 -0.5
L04D Klamath Falls 125.19 40 P **PKiKP** 02 49 50.4 -0.1
baz=300
J05D Fort Rock, OR 125.31 38 P **PKiKP** 02 49 51.1 +0.3
baz=302,SNR=16
K04D Chiloquin, OR 125.33 39 P **PKiKP** 02 49 50.8 0.0
baz=301
FFC Flin Flon 126.12 17 PKPdf **PKPdf** 02 49 51.0 -0.4
FFC Flin Flon 126.12 17 PKiKP **PKPdf** 02 49 51.0 -0.4
ORV Oroville 127.04 42 **PKPdf** 02 49 53.2 -0.4
ORV Oroville 127.04 42 PKiKP **PKPdf** 02 49 53.2 -0.4
MSO Missoula 127.33 31 P **PKiKP** 02 49 54.8 +0.2
baz=312
AFDM Forest Hills D 127.70 43 PKPdf **PKiKP** 02 49 55.5 0.0
EGMT Eagleton 128.53 27 P **PKiKP** 02 49 56.8 -0.1
baz=317
SCHQ Schefferville 129.13 352 PKP **PKPdf** 02 49 56.8 -0.4
comp=Z,7.4nm,0.6s,baz=28,slow=2.3,SNR=14
HLID Hailey 129.19 34 P **PKiKP** 02 49 58.4 -0.1
baz=309
BOZ Bozeman (W) 129.34 31 P **PKiKP** 02 49 58.7 -0.1
baz=313
NVAR Mina Array Bea 129.76 42 PKhKP PKPpre 02 49 51.4
comp=Z,0.5nm,0.3s,baz=273,slow=1.7,SNR=7.8
NVAR PKP **PKiKP** 02 50 00.1 +0.2
comp=Z,8.6nm,0.7s,baz=313,slow=2.4,SNR=30
NVAR SKPbc SKPbc 02 53 17.1 +0.7
comp=Z,1.1nm,0.7s,baz=276,slow=4.3,SNR=4.8
NVAR Mina Array Bea 129.76 42 **PKPdf** 02 49 58.7 -0.4

PKM Mcpherson Peak 130.46 47 P **PKiKP** 02 50 01.0 -0.4
baz=298
VES Vestal, Richgr 130.53 45 P **PKPdf** 02 50 00.4 0.0
baz=299
DGMT Dagmar 130.56 23 P **PKPdf** 02 50 00.4 +0.3
baz=324
RLMT Red Lodge 130.86 30 P **PKPdf** 02 50 01.1 +0.1
baz=316
CWC Cottonwood Cre 130.94 44 P **PKPdf** 02 50 01.3 -0.1
baz=300
SCZ2 Santa Cruz Isl 131.00 48 P **PKPdf** 02 50 01.5 +0.2
baz=297
ISA Isabella, Lake 131.05 45 P **PKPdf** 02 50 01.7 +0.3
baz=300
ARVC Arvin 131.05 46 P **PKiKP** 02 50 01.8 -0.5
baz=299
LAO LASA Array 131.12 26 P **PKiKP** 02 50 02.6 +0.4
baz=320
LAO LASA Array 131.12 26 P **PKiKP** 02 50 01.8 -0.4
baz=320
GRAC Grapevine Rang 131.14 43 P **PKiKP** 02 50 02.7 +0.2
baz=302
MPMC Manual Prospec 131.54 44 P **PKiKP** 02 50 03.1 -0.4
baz=301
R11A Troy Canyon, C 131.59 41 P **PKiKP** 02 50 03.8 +0.3
baz=304,SNR=12
LRMC Laurel Mtn Rad 131.70 45 P **PKiKP** 02 50 03.9 +0.1
baz=300
EDW2 Edwards Air Fo 131.77 46 P **PKiKP** 02 50 03.9 +0.1
baz=299
ULM Lac du Bonnet 131.82 16 SKPbc **SKPbc** 02 53 21.5 -1.7
comp=Z,3.3nm,0.7s,baz=12,slow=3.2,SNR=5.1
ULM Lac du Bonnet 131.82 16 PKPdf **PKPdf** 02 50 01.4 -1.0
ULM Lac du Bonnet 131.82 16 PKiKP **PKPdf** 02 50 01.4 -1.0
TPNV Topopah Spring 131.92 43 P **PKiKP** 02 50 04.1 -0.2
baz=303
CIS Catalina Islan 132.17 48 P **PKiKP** 02 50 05.4 +0.7
baz=298
DUG Dugway, Tooele 132.23 37 P **PKiKP** 02 50 05.1 +0.4
baz=309,SNR=6.3
BFSC Mount Baldy Ra 132.33 47 P **PKPdf** 02 50 04.5 +0.5
baz=299
BW06 Boulder Array 132.37 32 P **PKPdf** 02 50 04.3 +0.3
baz=314
PDAR Pinedale Array 132.37 32 PKP **PKPdf** 02 50 03.9 -0.1
comp=Z,2.2nm,0.5s,baz=136,slow=1.8,SNR=20
PDAR SKPbc **SKPbc** 02 53 25.3 -0.4
comp=Z,3.4nm,0.9s,baz=267,slow=1.0,SNR=8.3
GSC Goldstone, Bar 132.41 45 P **PKPdf** 02 50 04.5 +0.4
baz=301,SNR=11
SHOC Shoshone, Teco 132.47 44 P **PKPdf** 02 50 04.5 +0.4
baz=302
RRX Edison Barstow 132.49 45 P **PKiKP** 02 50 04.8 -0.5
baz=300
MDND Maddock 132.79 20 P **PKPdf** 02 50 04.2 -0.1
baz=329
MDND Maddock 132.79 20 P **PKPdf** 02 50 04.7 +0.4
baz=329
BBRC Big Bear Solar 132.85 46 P **PKPdf** 02 50 05.3 +0.2
baz=300
TUQ Turquoise Moun 132.95 44 P **PKiKP** 02 50 05.8 -0.6
baz=302
MURC Murrieta 132.97 47 P **PKiKP** 02 50 06.5 +0.2
baz=299
HEC Hector,Ludlow 132.98 45 P **PKiKP** 02 50 05.8 -0.5
baz=301
109C Camp Elliot, M 133.38 48 P **PKiKP** 02 50 06.9 -0.1
baz=299
GMRC Granite Mounta 133.48 45 P **PKiKP** 02 50 07.0 -0.4
baz=302,SNR=29
PFO Pinyon Flats O 133.50 47 P **PKiKP** 02 50 07.5 0.0
baz=300,SNR=8.6
TPFO Pinon Flats 133.51 47 P **PKiKP** 02 50 07.8 +0.4
baz=300,SNR=9.8
AGMN Agassiz Nation 133.59 17 **PKPdf** 02 50 04.4 -1.3
AGMN Agassiz Nation 133.59 17 P **PKPdf** 02 50 04.8 -0.9
baz=334
AGMN Agassiz Nation 133.59 17 P **PKiKP** 02 50 07.2 +0.2
baz=334
BELC Belle Mtn. Jos 133.64 46 P **PKiKP** 02 50 08.0 +0.3
baz=301,SNR=12
MONP2 Monument Peak 133.88 47 P **PKiKP** 02 50 08.2 -0.1
baz=299,SNR=8.1
K22A Casper 134.02 30 P **PKPdf** 02 50 07.1 +0.1
baz=317
K22A Casper 134.02 30 P **PKiKP** 02 50 07.8 -0.5
baz=317
RSSD Black Hills 134.08 27 P **PKPdf** 02 50 06.9 -0.2
baz=321
RSSD Black Hills 134.08 27 P **PKiKP** 02 50 07.8 -0.6
baz=321
B35A Bob, Littlefor 134.12 15 P **PKPdf** 02 50 06.4 -0.4
baz=337
IRM Iron Mountain 134.17 45 P **PKiKP** 02 50 08.6 -0.1
baz=302,SNR=11
BC3 Big Chuckawall 134.21 46 P **PKiKP** 02 50 08.6 -0.3
baz=301,SNR=9.2
IKP In-Ko-Pah, Jac 134.23 48 P **PKiKP** 02 50 08.6 -0.3
baz=299,SNR=7.8
D32B Dogwood Acres, 134.27 19 P **PKPdf** 02 50 07.1 0.0
baz=332
SWSC Sam W. Stewart 134.31 47 P **PKiKP** 02 50 08.4 -0.5
baz=300,SNR=7.9
PLCA Paso Flores 134.53 187 PKP **PKiKP** 02 50 08.8 -0.6
comp=Z,1.7nm,0.7s,baz=292,slow=1.0,SNR=6.8
PLCA Paso Flores 134.53 187 *eP* **PKiKP** 02 50 08.7 -0.6
PDMCI Parker Dam,Lak 134.79 44 P **PKiKP** 02 50 09.5 -0.3
baz=303,SNR=5.7
O20A White River Ci 134.91 34 P **PKiKP** 02 50 10.0 -0.3
baz=314
GLA Glamis 134.97 46 P **PKPdf** 02 50 09.5 +0.6
baz=301
EYMN Ely 135.06 13 P **PKPdf** 02 50 08.9 +0.3
baz=340
EYMN Ely 135.06 13 P **PKiKP** 02 50 09.6 -0.4
baz=340
TRQA Tornquist 135.30 197 **PKPdf** 02 50 08.5 -0.9
TRQA Tornquist 135.30 197 PKIKP **PKPdf** 02 50 08.5 -0.9
TRQA Tornquist 135.30 197 *eP* **PKiKP** 02 50 10.8 -0.1
N23A Red Feather La 135.60 31 P **PKPdf** 02 50 10.9 +0.7
baz=317
F33A 5 Mile Ranch, 135.65 19 P **PKPdf** 02 50 09.5 -0.2
baz=332
SUSD Miller 135.93 22 P **PKiKP** 02 50 11.3 -0.6
baz=328
NBRF Rio Formoso - 135.94 253 *eP* **PKiKP** 02 50 12.3 -0.4
WUAZ Wupatki 135.98 41 P **PKiKP** 02 50 11.7 -0.8
baz=307,SNR=8.5
ALF01 Guarapari-ES 136.25 234 *eP* **PKPdf** 02 50 11.7 +0.2
BATG Bathurst New B 136.32 349 PKPdf **PKPdf** 02 50 10.3 -0.6
CAM01 Campos-RJ 136.36 232 *eP* **PKiKP** 02 50 12.9 -0.5
F36A Milaca 136.47 16 P **PKPdf** 02 50 10.6 -0.6
baz=336
ISCO Idaho Springs 136.57 32 P **PKiKP** 02 50 12.9 -0.9
baz=317
RIB01 Linhares ES 136.63 236 *eP* **PKiKP** 02 50 13.8 -0.2
MVCO Mesa Verde 136.73 37 P **PKiKP** 02 50 13.2 -0.8
baz=311
NBAN Anadia - AL 136.75 251 *eP* **PKiKP** 02 50 14.1 -0.3
DUB01 Friburgo-RJ 136.78 231 *eP* **PKiKP** 02 50 14.4 +0.1
214A Organ Pipe Nat 136.99 46 P **PKiKP** 02 50 13.9 -0.5
baz=302
NAN01 Guarapari, ES 137.11 238 *eP* **PKiKP** 02 50 15.3 +0.3
LATQ La Tuque 137.13 355 **PKPdf** 02 50 11.2 -1.2
W18A Petrified Fore 137.29 40 P **PKiKP** 02 50 14.4 -0.8
baz=308
S22A 4UR Ranch, Cre 137.35 35 P **PKiKP** 02 50 14.9 -0.5
baz=314
ECSD EROS Data Cent 137.40 21 P **PKPdf** 02 50 12.5 -0.5
baz=331
ECSD EROS Data Cent 137.40 21 P **PKiKP** 02 50 14.4 -0.5
baz=331
GUA01 Guaratinga, BA 137.40 240 *eP* **PKiKP** 02 50 15.3 -0.3
Q24A Divide 137.42 33 P **PKPdf** 02 50 14.3 +0.7
baz=316
VAS01 Vassouras-RJ 137.49 230 *eP* **PKPdf** 02 50 14.7 +0.9
K31A O'Neill 137.54 24 P **PKPdf** 02 50 12.7 -0.7
baz=327
E63A Oxbow 137.56 351 P **PKPdf** 02 50 12.5 -0.7
baz=13
E63A P **PKPdf** 02 50 12.5 -0.7
baz=13
SJMB Sao Joao De Ma 137.58 236 *eP* **PKPdf** 02 50 14.4 +0.4
E46A Sault Ste Mari 137.88 7 PKPdf **PKPdf** 02 50 13.4 -0.4
SDCO Great Sand Dun 138.10 34 P **PKiKP** 02 50 16.3 -0.6
baz=315
I37B Waseca 138.19 17 P **PKPdf** 02 50 14.3 -0.2

baz=335
TUC Tucson 138.24 45 P **PKiKP** 02 50 16.5 -0.6
baz=304
GDU01 Guandu, BA 138.39 244 *eP* **PKPdf** 02 50 15.0 -0.6
CPSB Cacapava Do Su 138.43 212 *eP* **PKiKP** 02 50 16.5 -0.9
KSCO Kaye Shedlock' 138.70 30 P **PKiKP** 02 50 17.0 -0.9
baz=320
BGNE Belgrade 138.81 24 P **PKPdf** 02 50 15.3 -0.4
baz=327
BGNE Belgrade 138.81 24 P **PKiKP** 02 50 17.2 -0.7
baz=327,SNR=6.6
PKME Peaks-Kenny Pk 138.82 351 P **PKiKP** 02 50 17.0 -0.8
baz=12
PET01 Itanhaem-SP 139.06 224 *eP* **PKiKP** 02 50 18.3 -0.6
T25A Trinidad 139.14 34 P **PKPdf** 02 50 17.4 +0.6
baz=316
GLMI Grayling 139.36 8 P **PKiKP** 02 50 18.5 -0.4
baz=349
ANMO Albuquerque 139.46 38 P **PKPdf** 02 50 18.3 +1.0
baz=312,SNR=6.4
ANMO Albuquerque 139.46 38 P **PKPdf** 02 50 18.4 +1.1
baz=312
WVL Waterville 139.56 352 PKPdf **PKPdf** 02 50 15.7 -1.3
K38A Parkersburg 139.63 18 **PKPdf** 02 50 15.8 -1.3
BMNY Brushton-Moira 139.78 357 P **PKPdf** 02 50 17.2 -0.1
baz=4.1
JFWS Jewell Farm 140.09 15 P **PKPdf** 02 50 17.0 -1.0
baz=340
121A Cookes Peak, D 140.15 42 P **PKPdf** 02 50 19.1 +0.4
baz=308
121A Cookes Peak, D 140.15 42 P **PKiKP** 02 50 20.4 -0.7
baz=308
L40A Anamosa 140.62 16 P **PKPdf** 02 50 18.4 -0.6
baz=338
ITQB Itaqui 140.63 209 *eP* **PKiKP** 02 50 21.0 -0.9
R32A Long Quarter, 141.04 27 P PKPpre 02 50 13.4
baz=325,SNR=8.1
J58A Remsen 141.29 358 **PKPdf** 02 50 19.1 -1.0
P38A Dawn 142.10 21 P PKPpre 02 50 16.4
baz=333
L48A N Adams 142.21 9 P PKPpre 02 50 16.6
baz=348
L48A P PKPpre 02 50 16.6
baz=348
MNTX Cornudas Mount 142.26 41 P PKPpre 02 50 18.9
baz=310,SNR=6.3
MNTX Cornudas Mount 142.26 41 P **PKPdf** 02 50 23.7 +1.4
baz=310
AMTX Amarillo 142.30 34 P PKPpre 02 50 18.9
baz=318
AMTX Amarillo 142.30 34 P **PKiKP** 02 50 24.5 -0.8
baz=318
MSTX Muleshoe 142.34 36 P **PKPdf** 02 50 22.3 -0.1
baz=316
VA03 San Esteban 142.36 189 **PKPdf** 02 50 21.1 -1.4
BINY Binghamton 142.47 358 **PKPdf** 02 50 21.2 -1.1
BINY Binghamton 142.47 358 P **PKPdf** 02 50 22.1 -0.2
baz=1.9
P40A Paris 142.69 19 P PKPpre 02 50 18.1
baz=335,SNR=6.2
M50A Fremont 142.93 7 P PKPpre 02 50 19.2
baz=350
M50A P PKPpre 02 50 19.2
baz=350
M52A Chesterland 142.97 5 P PKPpre 02 50 18.9
baz=353
M52A P PKPpre 02 50 18.9
baz=353
KSPA Keystone Colle 143.11 358 P PKPab 02 50 19.5 +0.6
baz=2.3
ZON Zonda 143.19 192 PKPbc 02 50 22.4 +1.4
ZON Zonda 143.19 192 PKIKP PKPbc 02 50 22.4 +1.4
SFIN Lafayette 143.24 13 P PKPbc 02 50 20.3 -0.4
baz=343
N49A Columbus Grove 143.25 9 P PKPbc 02 50 20.2 -0.5
baz=348
N49A P PKPbc 02 50 20.2 -0.5
baz=348
T35B Sooner Cattle 143.27 26 P PKPbc 02 50 20.7 -0.3
baz=327
P43A Skaggs, Pawnee 143.34 16 P PKPbc 02 50 20.6 -0.4
baz=339
M57A Sunshine Farm, 143.35 360 P PKPbc 02 50 20.7 -0.3
baz=0.1
M57A P PKPbc 02 50 20.7 -0.3
baz=0.1
N51A Ashland 143.49 6 P PKPab 02 50 20.8 +0.4
baz=351
N51A P PKPab 02 50 20.8 +0.4
baz=351
PSDB Penn State Uni 143.54 2 P PKPab 02 50 20.8 +0.2
baz=357
CPUP Villa Florida 143.73 211 PKP PKPbc 02 50 23.4 +0.8
comp=Z,9.5nm,1.0s,baz=131,slow=3.0,SNR=14
CPUP Villa Florida 143.73 211 PKPdf PKPbc 02 50 22.8 +0.2
O48B Farmland 143.73 10 P PKPab 02 50 21.4 +0.1
baz=346,SNR=8.4
R40A Maddies Statio 143.74 20 P PKPab 02 50 21.6 +0.1
baz=334,SNR=17
N53A Lisbon 143.74 5 P PKPbc 02 50 21.8 -0.4
baz=354,SNR=8.7
N53A P PKPbc 02 50 21.8 -0.4
baz=354,SNR=8.7
QUOK Quay 143.80 27 PKPbc 02 50 22.4 0.0
N58A Sunbury 143.85 359 PKPab 02 50 21.9 +0.1
N58A Sunbury 143.85 359 P PKPab 02 50 21.4 -0.4
baz=0.7,SNR=8.2
N58A P PKPab 02 50 21.4 -0.4
baz=0.7,SNR=8.2
S39A Bolivar 143.89 22 P PKPab 02 50 22.2 +0.1
baz=332,SNR=9.4
O49A Covington 143.94 9 P PKPab 02 50 22.1 0.0
baz=348,SNR=8.6
O49A P PKPab 02 50 22.1 0.0
baz=348,SNR=8.6
WMOK Wichita Mounta 143.95 31 P PKPab 02 50 22.4 -0.1
baz=322,SNR=18
SSPA Standing Stone 144.05 1 PKPdf PKPbc 02 50 23.2 +0.1
SSPA Standing Stone 144.05 1 P PKPbc 02 50 22.8 -0.2
baz=359,SNR=7.5
ACSO Alum Creek Sta 144.09 7 P **PKPab** 02 50 22.9 +0.1
baz=350,SNR=20
UPAO U. Pittsburgh 144.12 4 P PKPbc 02 50 23.3 -0.1
baz=355
CCM Cathedral Cave 144.29 19 **PKPab** 02 50 23.2 -0.3
CCM Cathedral Cave 144.29 19 PKHKP PKPpre 02 50 23.2
CCM Cathedral Cave 144.29 19 P **PKPab** 02 50 23.4 -0.2
baz=336,SNR=21
O52A Adamsville 144.34 6 P **PKPab** 02 50 23.4 -0.2
baz=352,SNR=12
O52A P **PKPab** 02 50 23.4 -0.2
baz=352,SNR=12
O54A Avella 144.40 4 P **PKPab** 02 50 24.0 +0.1
baz=354,SNR=14
O54A P **PKPab** 02 50 24.0 +0.1
baz=354,SNR=14
TUL1 Leonard 144.43 26 P **PKPab** 02 50 24.2 +0.1
baz=327
P48A Milroy 144.46 11 P **PKPab** 02 50 23.7 -0.4
baz=346,SNR=17
P48A P **PKPab** 02 50 23.7 -0.4
baz=346,SNR=17
TUPA Temple Univers 144.47 357 P **PKPab** 02 50 24.0 -0.1
baz=3.4,SNR=9.8
P49A Miami Univ. Ec 144.51 10 P **PKPab** 02 50 23.8 -0.5
baz=347,SNR=28
X34A Smith Ranch, M 144.54 30 PKPbc 02 50 24.8 0.0
OLIL Olney 144.57 15 P **PKPab** 02 50 24.2 -0.3
baz=341,SNR=25
U38A Gravette 144.57 24 P **PKPab** 02 50 24.4 -0.3
baz=330,SNR=48
FVM French Village 144.62 18 P **PKPab** 02 50 24.4 -0.3
baz=337,SNR=13
MVL Millersville 144.68 359 PKPbc 02 50 25.1 0.0
PSUB Penn St. - Bra 144.72 358 P **PKPab** 02 50 24.4 -0.6
baz=2.9
BDFB Brasilia 144.75 235 PKP **PKPdf** 02 50 27.0 -0.1
comp=Z,12nm,0.5s,baz=128,slow=3.1,SNR=29
BDFB Brasilia 144.75 235 PKPdf **PKPab** 02 50 25.8 -0.2
P52A Corning 144.78 6 P **PKPab** 02 50 24.9 -0.4
baz=351
P51A Williamsport 144.82 8 P **PKPab** 02 50 24.8 -0.7
baz=350,SNR=32
P51A P **PKPab** 02 50 24.8 -0.7
baz=350,SNR=32
GEDE Greenville 144.84 358 P **PKPab** 02 50 25.0 -0.5
baz=2.6,SNR=15

HHAR	**Hobbs** baz=330	**144.89**	**24**	P		**PKPab**	02 50 25.2	**-0.6**
TX31	**Lajitas Ar. Si**	**144.91**	**42**			**PKPab**	02 50 26.2	**-0.1**
TX31	**Lajitas Ar. Si** baz=310	**144.91**	**42**	P		**PKPdf**	02 50 27.3	**+0.3**
TXAR	**Lajitas Array** comp=Z,44nm,0.7s,baz=284,slow=0.7,SNR=388	**144.91**	**42**	PKP		**PKPdf**	02 50 27.1	**+0.1**
TXAR				SKPbc		**SKPbc**	02 54 01.5	**0.0**
TXAR	**Lajitas Array** comp=Z,1.1nm,0.6s,baz=200,slow=1.4,SNR=3.8	**144.91**	**42**	PKPdf		**PKPab**	02 50 25.9	**-0.3**
P61A	**Hammonton** baz=4.1	**144.94**	**357**	P		**PKPab**	02 50 24.7	**-1.1**
P61A	baz=4.1			P		**PKPab**	02 50 24.7	**-1.1**
HPIG		**144.94**	**48**	PKPdf		**PKPab**	02 50 26.5	**0.0**
MCWV	**Mont Chateau** baz=355,SNR=37	**144.96**	**3**	P		PKPbc	02 50 26.0	0.0
MCWV	**Mont Chateau** baz=355	**144.96**	**3**	P		**PKPab**	02 50 25.7	**-0.2**
P53A	**Whipple** baz=353,SNR=52	**145.00**	**6**	P		**PKPbc**	02 50 26.0	**-0.2**
P53A	baz=353,SNR=52			P		**PKPbc**	02 50 26.0	**-0.2**
ABTX	**Abilene, Hawle** baz=318,SNR=7.0	**145.11**	**34**	P		**PKPbc**	02 50 26.3	**-0.4**
ABTX	**Abilene, Hawle** baz=318,SNR=7.0	**145.11**	**34**	P		**PKPbc**	02 50 26.5	**-0.3**
P57A	**Homestead Farm** baz=358,SNR=45	**145.20**	**1**	P		**PKPbc**	02 50 26.6	**-0.2**
P57A	baz=358,SNR=45			P		**PKPbc**	02 50 26.6	**-0.2**
Q51A	**Peebles** baz=349,SNR=84	**145.23**	**8**	P		**PKPbc**	02 50 26.5	**-0.4**
Q51A	baz=349,SNR=84			P		**PKPbc**	02 50 26.5	**-0.4**
S44A	**Carbondale** baz=339,SNR=55	**145.23**	**17**	P		**PKPbc**	02 50 26.7	**-0.2**
SDMD	**Soldier's Deli**	**145.28**	**359**			**PKPbc**	02 50 25.9	**-1.0**
SDMD	**Soldier's Deli** baz=0.6,SNR=28	**145.28**	**359**	P		**PKPbc**	02 50 26.0	**-1.0**
Q52A	**Bidwell** baz=351,SNR=57	**145.43**	**7**	P		**PKPbc**	02 50 27.1	**-0.4**
Q52A	baz=351,SNR=57			P		**PKPbc**	02 50 27.1	**-0.4**
WCI	**Wyandotte Cave**	**145.47**	**13**			**PKPdf**	02 50 26.7	**-0.9**
WCI	**Wyandotte Cave**	**145.47**	**13**	PKP2		**PKPdf**	02 50 26.7	**-0.9**
WCI	**Wyandotte Cave** baz=344,SNR=83	**145.47**	**13**	P		**PKPdf**	02 50 27.5	**-0.1**
WCI	**Wyandotte Cave** baz=344	**145.47**	**13**	P		**PKPdf**	02 50 27.4	**-0.2**
Q54A	**Coxs Mills** baz=354,SNR=45	**145.56**	**5**	P		**PKPdf**	02 50 27.6	**-0.1**
Q54A	baz=354,SNR=45			P		**PKPdf**	02 50 27.6	**-0.1**
Q56A	**Snyder Ridge,** baz=356,SNR=26	**145.60**	**3**	P		**PKPdf**	02 50 27.9	**0.0**
Q56A	baz=356,SNR=26			P		**PKPdf**	02 50 27.9	**0.0**
R49A	**Shelbyville** baz=346,SNR=58	**145.64**	**11**	P		**PKPdf**	02 50 27.9	**0.0**
R49A	baz=346,SNR=58			P		**PKPdf**	02 50 27.9	**0.0**
PBMO	**Poplar Bluff** baz=336,SNR=13	**145.72**	**19**	P		**PKPdf**	02 50 28.0	**0.0**
X37A	**Clayton** baz=327,SNR=18	**145.72**	**27**	P		**PKPdf**	02 50 28.2	**+0.1**
R50A	**Paris** baz=347,SNR=31	**145.80**	**10**	P		**PKPdf**	02 50 27.9	**-0.2**
R50A	baz=347,SNR=31			P		**PKPdf**	02 50 27.9	**-0.2**
Z35A	**Perchaven, San** baz=323,SNR=22	**145.84**	**31**	P		**PKPbc**	02 50 28.9	**-0.1**
T45B	**Paducah** baz=339,SNR=14	**146.04**	**16**	P		**PKPbc**	02 50 29.6	**+0.2**
R53A	**Hurricane** baz=352,SNR=53	**146.09**	**7**	P		**PKPdf**	02 50 28.8	**+0.1**
R53A	baz=352,SNR=53			P		**PKPdf**	02 50 28.8	**+0.1**
AC05	**El Transito**	**146.14**	**191**			**PKPbc**	02 50 30.0	**-0.2**
R55A	**Marlinton** baz=355,SNR=11	**146.31**	**4**	P		**PKPdf**	02 50 29.1	**-0.1**
R55A	baz=355,SNR=11			P		**PKPdf**	02 50 29.1	**-0.1**
T47A	**Sharon Grove** baz=342,SNR=17	**146.47**	**14**	P		**PKPdf**	02 50 29.7	**+0.3**
CBN	**Corbin Frederi** baz=360,SNR=11	**146.48**	**0**	P		**PKPbc**	02 50 30.2	**-0.5**
CBN	**Corbin Frederi** baz=360	**146.48**	**0**	P		**PKPbc**	02 50 30.5	**-0.3**
MIAR	**Mount Ida**	**146.54**	**25**			**PKPdf**	02 50 30.1	**+0.5**
MIAR	**Mount Ida**	**146.54**	**25**	PKIKP		**PKPdf**	02 50 30.1	**+0.5**
MIAR	**Mount Ida** baz=330,SNR=77	**146.54**	**25**	P		**PKPbc**	02 50 30.5	**-0.5**
MIAR	**Mount Ida** baz=330	**146.54**	**25**	P		**PKPbc**	02 50 30.6	**-0.4**
S51A	**Beattyville** baz=348,SNR=34	**146.55**	**9**	P		**PKPdf**	02 50 29.7	**+0.2**
S51A	baz=348,SNR=34			P		**PKPdf**	02 50 29.7	**+0.2**
JCT	**Junction City** baz=316,SNR=82	**146.59**	**37**	P		**PKPdf**	02 50 30.4	**+0.6**
JCT	**Junction City** baz=316,SNR=82	**146.59**	**37**	P		**PKPbc**	02 50 31.3	**0.0**
S54A	**Dingess, Beckl** baz=352,SNR=13	**146.68**	**6**	P		**PKPbc**	02 50 31.0	**-0.4**
S54A	baz=352,SNR=13			P		**PKPbc**	02 50 31.0	**-0.4**
R58B	**Mineral** baz=359,SNR=17	**146.72**	**1**	P		**PKPbc**	02 50 30.8	**-0.6**
R58B	baz=359,SNR=17			P		**PKPbc**	02 50 30.8	**-0.6**
WHTX	**Lake Whitney,** baz=321	**146.79**	**32**	P		**PKPdf**	02 50 30.9	**+0.8**
WHTX	**Lake Whitney,** baz=321	**146.79**	**32**	P		**PKPbc**	02 50 31.8	**-0.1**
S57A	**Dark Hollow, R** baz=357,SNR=18	**146.89**	**2**	P		**PKPdf**	02 50 30.4	**+0.4**
S57A	baz=357,SNR=18			P		**PKPdf**	02 50 30.4	**+0.4**
Z38A	**Mt. Pleasant** baz=326,SNR=10	**147.00**	**28**	P		**PKPdf**	02 50 30.8	**+0.5**
WVT	**Waverly**	**147.09**	**16**			**PKPdf**	02 50 30.6	**+0.2**
WVT	**Waverly**	**147.09**	**16**	PKIKP		**PKPdf**	02 50 30.6	**+0.2**
WVT	**Waverly** baz=340,SNR=65	**147.09**	**16**	P		**PKPdf**	02 50 30.6	**+0.2**
WVT	**Waverly** baz=340	**147.09**	**16**	P		**PKPbc**	02 50 31.9	**-0.6**
U49A	**Red Boiling Sp** baz=344,SNR=41	**147.23**	**13**	P		**PKPdf**	02 50 30.2	**-0.4**
AQDB	**Aquidauana**	**147.32**	**220**			**PKPdf**	02 50 31.9	**+0.7**
AQDB	**Aquidauana**	**147.32**	**220**	*e*P		**PKPdf**	02 50 32.4	**+1.1**
BLA	**Blacksburg** baz=354,SNR=5.5	**147.35**	**5**	P		**PKPdf**	02 50 30.8	**-0.1**
BLA	**Blacksburg** baz=354	**147.35**	**5**	P		**PKPbc**	02 50 32.2	**-1.1**
AC06	**Mina Casimiro**	**147.60**	**192**	PKPbc		**PKPbc**	02 50 34.5	**+0.2**
TZTN	**Tazewell** baz=348	**147.63**	**9**	P		**PKPdf**	02 50 31.9	**+0.6**
TZTN	**Tazewell** baz=348,SNR=18	**147.63**	**9**	P		**PKPbc**	02 50 33.4	**-0.6**
237A	**Washetta, Mont** baz=324,SNR=14	**147.63**	**30**	P		**PKPdf**	02 50 32.8	**+1.3**
T57A	**Hurt** baz=356,SNR=8.3	**147.64**	**3**	P		**PKPdf**	02 50 31.4	**+0.1**
T57A	baz=356,SNR=8.3			P		**PKPdf**	02 50 31.4	**+0.1**
435B	**Jarrell** baz=320	**147.65**	**34**	P		**PKPdf**	02 50 32.4	**+0.8**
435B	**Jarrell** baz=320	**147.65**	**34**	P		**PKPbc**	02 50 34.2	**-0.1**
T59A	**Double "B" Far** baz=359,SNR=27	**147.71**	**0**	P		**PKPdf**	02 50 32.3	**+0.9**
T59A	baz=359,SNR=27			P		**PKPdf**	02 50 32.3	**+0.9**
V48A	**Smith Brothers** baz=342,SNR=24	**147.72**	**15**	P		**PKPdf**	02 50 31.5	**0.0**
U54A	**Nelsons Funny** baz=351,SNR=6.8	**147.89**	**7**	P		**PKPbc**	02 50 34.4	**-0.5**
U54A	baz=351,SNR=6.8			P		**PKPbc**	02 50 34.4	**-0.5**
OXF	**Oxford** baz=337	**148.12**	**19**	P		**PKPbc**	02 50 34.7	**-0.7**
V51A	**Loudon** baz=346,SNR=13	**148.21**	**11**	P		**PKPdf**	02 50 32.3	**0.0**
U56A	**King** baz=354,SNR=11	**148.21**	**5**	P		**PKPdf**	02 50 32.9	**+0.6**
U56A	baz=354,SNR=11			P		**PKPdf**	02 50 32.9	**+0.6**
V52A	**Sevierville** baz=348	**148.31**	**10**	P		**PKPdf**	02 50 32.8	**+0.3**
U59A	**Littleton** baz=359	**148.33**	**1**	P		**PKPdf**	02 50 33.1	**+0.6**
U59A	baz=359			P		**PKPdf**	02 50 33.1	**+0.6**
833A	**Chaparral WMA,** baz=314	**148.37**	**39**	P		**PKPdf**	02 50 33.1	**+0.3**
833A	**Chaparral WMA,** baz=314,SNR=24	**148.37**	**39**	P		**PKPbc**	02 50 36.7	**+0.4**
NATX	**Nacogdoches** baz=325	**148.39**	**29**	P		**PKPbc**	02 50 36.2	**0.0**
SWET	**Sewanee**	**148.44**	**14**			**PKPdf**	02 50 32.5	**-0.3**
W50A	**Signal Mountai** baz=344,SNR=11	**148.59**	**13**	P		**PKPdf**	02 50 33.5	**+0.5**
V53A	**Saluda** baz=349,SNR=30	**148.60**	**9**	P		**PKPdf**	02 50 32.7	**-0.4**
V53A	baz=349,SNR=30			P		**PKPdf**	02 50 32.7	**-0.4**
V55A	**Taylorsville** baz=352,SNR=13	**148.62**	**6**	P		**PKPdf**	02 50 33.3	**+0.4**
V55A	baz=352,SNR=13			P		**PKPdf**	02 50 33.3	**+0.4**
Y45A	**Yeager Farm, C** baz=336,SNR=12	**148.67**	**20**	P		**PKPdf**	02 50 33.2	**+0.1**
V58A	**Windy Hill, Pi**	**148.84**	**3**			**PKPbc**	02 50 35.7	**-1.5**
V58A	**Windy Hill, Pi** baz=356,SNR=8.0	**148.84**	**3**	P		**PKPdf**	02 50 34.0	**+0.7**
V58A	baz=356,SNR=8.0			P		**PKPdf**	02 50 34.0	**+0.7**
V61A	**Roper** baz=1.1,SNR=6.4	**148.88**	**359**	P		**PKPdf**	02 50 33.9	**+0.6**
V61A	baz=1.1,SNR=6.4			P		**PKPdf**	02 50 33.9	**+0.6**
X48A	**Hartselle** baz=341,SNR=18	**148.88**	**16**	P		**PKPdf**	02 50 33.1	**-0.3**
X51A	**Calhoun** baz=345	**149.30**	**12**	P		**PKPdf**	02 50 34.4	**+0.3**
X51A	baz=345			P		**PKPdf**	02 50 34.4	**+0.3**
KMSC	**Kings Mountain** baz=352,SNR=22	**149.31**	**6**	P		**PKPdf**	02 50 34.5	**+0.4**
KMSC	**Kings Mountain** baz=352	**149.31**	**6**	P		**PKPbc**	02 50 38.1	**-0.4**
W57A	**Gilead** baz=354,SNR=11	**149.43**	**4**	P		**PKPdf**	02 50 35.7	**+1.5**
W57A	baz=354,SNR=11			P		**PKPdf**	02 50 35.7	**+1.5**
CNNC	**Cliffs of the** baz=359	**149.44**	**1**	P		**PKPbc**	02 50 38.6	**-0.1**
PAULI	**Pauline** baz=351,SNR=16	**149.57**	**7**	P		**PKPdf**	02 50 34.8	**+0.3**
ZAIG	**Zacatecas**	**149.59**	**51**			**PKPdf**	02 50 37.2	**+1.9**
Y49A	**Blount Mountai** baz=342,SNR=19	**149.61**	**15**	P		**PKPdf**	02 50 34.4	**-0.3**
Z47A	**Carrollton** baz=338,SNR=18	**149.76**	**18**	P		**PKPbc**	02 50 38.3	**-1.3**
VBMS	**Vicksburg** baz=333,SNR=10.0	**149.80**	**23**	P		**PKPbc**	02 50 40.1	**+0.4**
VBMS	**Vicksburg** baz=333	**149.80**	**23**	P		**PKPbc**	02 50 39.8	**+0.1**
BIRD	**Birdtown, Kers** baz=354,SNR=9.2	**149.89**	**5**	P		**PKPbc**	02 50 39.8	**-0.1**
146A	**Union** baz=336,SNR=16	**149.96**	**20**	P		**PKPbc**	02 50 40.5	**+0.4**
X58A	**Rowland** baz=356,SNR=7.4	**150.06**	**3**	P		**PKPdf**	02 50 34.7	**-0.5**
X58A	baz=356,SNR=7.4			P		**PKPdf**	02 50 34.7	**-0.5**
HODGE	**Hodges**	**150.09**	**8**			**PKPdf**	02 50 36.0	**+0.6**
HODGE	**Hodges** baz=350,SNR=11	**150.09**	**8**	P		**PKPdf**	02 50 35.7	**+0.3**
Y52A	**Lilburn** baz=346,SNR=19	**150.14**	**11**	P		**PKPdf**	02 50 36.5	**+1.1**
Y52A	baz=346,SNR=19			P		**PKPdf**	02 50 36.5	**+1.1**
JSC	**Jenkinsville** baz=352,SNR=12	**150.17**	**7**	P		**PKPdf**	02 50 36.1	**+0.6**
LRAL	**Lakeview Retre** baz=340	**150.23**	**17**	P		**PKPdf**	02 50 35.8	**+0.2**
LRAL	**Lakeview Retre** baz=340	**150.23**	**17**	P		**PKPbc**	02 50 40.9	**+0.2**
344A	**Westbrook Farm** baz=332,SNR=15	**150.40**	**24**	P		**PKPdf**	02 50 37.7	**+1.8**
Y57A	**Sumter** baz=354,SNR=13	**150.52**	**5**	P		**PKPbc**	02 50 40.9	**-0.5**
Y57A	baz=354,SNR=13			P		**PKPbc**	02 50 40.9	**-0.5**
Y59A	**Loris** baz=356,SNR=7.4	**150.65**	**3**	P		**PKPbc**	02 50 41.0	**-0.7**
Y59A	baz=356,SNR=7.4			P		**PKPbc**	02 50 41.0	**-0.7**
Y58A	**Scranton** baz=355,SNR=7.7	**150.69**	**4**	P		**PKPbc**	02 50 41.4	**-0.4**
Y58A	baz=355,SNR=7.7			P		**PKPbc**	02 50 41.4	**-0.4**
GOGA	**Godfrey** baz=347,SNR=7.8	**150.70**	**11**	P		**PKPbc**	02 50 41.8	**0.0**
GOGA	**Godfrey** baz=347,SNR=7.8	**150.70**	**11**	P		**PKPbc**	02 50 41.7	**-0.2**
346A	**Big Creek Wild** baz=334,SNR=11	**150.94**	**22**	P		**PKPbc**	02 50 42.6	**+0.2**
HAW	**Hawthorne Fire** baz=351,SNR=12	**151.04**	**7**	P		**PKPdf**	02 50 36.5	**-0.3**
152A	**Waverly Hall** baz=344,SNR=22	**151.16**	**13**	P		**PKPdf**	02 50 37.5	**+0.5**
250A	**Grady** baz=341,SNR=8.0	**151.43**	**16**	P		**PKPdf**	02 50 38.3	**+0.8**
NHSC	**New Hope** baz=354	**151.44**	**5**	P		**PKPbc**	02 50 43.4	**-0.1**
154A	**Montrose**	**151.54**	**10**			**PKPab**	02 50 51.6	**-0.6**
LVC	**Limon Verde** comp=Z,21nm,0.8s,baz=273,slow=1.3,SNR=15	**151.80**	**197**	PKPbc		**PKiKP**	02 50 46.8	**+1.2**
BRAL	**Brewton** baz=339,SNR=7.7	**151.96**	**18**	P		**PKPdf**	02 50 39.4	**+1.1**
BRAL	**Brewton** baz=339	**151.96**	**18**	P		**PKiKP**	02 50 45.4	**+0.2**
352A	**Blakely** baz=343,SNR=8.2	**152.25**	**14**	P		**PKPdf**	02 50 40.0	**+1.3**
TIGA	**Tifton** baz=346,SNR=6.3	**152.59**	**12**	P		**PKPdf**	02 50 40.3	**+1.0**
TIGA	**Tifton** baz=346,SNR=6.3	**152.59**	**12**	P		**PKPbc**	02 50 46.1	**-0.1**
SIV	**San Ignacio** comp=Z,3.4nm,0.9s,baz=114,slow=3.1,SNR=16	**154.04**	**218**	PKP		**PKPdf**	02 50 41.7	**0.0**
SIV	comp=Z,4.1nm,0.7s,baz=97,slow=2.8,SNR=14			PKPbc		**PKiKP**	02 50 50.9	**+1.0**
CMIG	**Matias Romero** comp=Z,4.9nm,0.9s,baz=230,slow=4.0,SNR=5.2	**158.73**	**53**	PKP		**PKPdf**	02 50 47.8	**0.0**
SJG	**San Juan** comp=Z,43nm,0.8s,baz=306,slow=2.0,SNR=15	**162.64**	**322**	PKP		**PKPdf**	02 50 59.1	**+7.1**
OBIP	**Obispado Ponce**	**162.97**	**323**			**PKPdf**	02 50 49.7	**-2.7**
BAUV	**El Baul**	**169.81**	**296**	PKPdf		**PKPdf**	02 50 54.6	**-3.2**
OTAV	**Otavalo**	**175.59**	**165**	*e*P		**PKPdf**	02 51 01.1	**+0.3**

BJI ***17*** *02:31:56.1±0.0, 15°.40S×167°.62E, h18km, mb5.7/84, mB5.9/57, Ms5.5/78, Ms7 5.3/74*

IDC ***17*** *02:31:56.2±1.1, 15°.91S×167°.59E, h21km±6km, mb5.4/36, mbtmp5.5/37, ML6.0/2, MS5.2/55, Error ellipse: s-maj=11.6km s-min=9.5km az=85.0*

MOS ***17*** *02:31:58.9±0.7, 15°.96S×167°.47E, h55km, mb6.1/51, MS5.3/42, Error ellipse: s-maj=9.3km s-min=7.5km az=26.3*

NEIC ***17*** *02:31:58.8±2.3, 16°.06S±0°.07×167°.49E±0°.08, h31km±1km, mb5.8/275, Ms_20 5.5/329, Mwb5.8/32, Mww5.8, Error ellipse: s-maj=12.7km s-min=11.2km az=78.0*

NOU ***17*** *02:31:58.8, 15°.92S×167°.41E, h24km, ML5.8/122, Vanuatu Islands*

NEIC ***17*** *02:31:59.7, 16°.02S×167°.40E, h25km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.09; $M_{\theta\theta}$-1.29; $M_{\phi\phi}$-3.80; $M_{r\theta}$-1.17; $M_{\theta\phi}$3.60; $M_{\phi r}$-0.31; Fault plane solution: $M_0$5.95000×10^{17} NP1:ϕ_s159.62000°, δ44.89000°, λ111.93000°. NP2:ϕ_s310.01000°, δ49.10000°, λ69.59000°. Principal axes: T 5.4117, Plg75.0000°, Azm152.0000°; N 0.9618, Plg15.0000°, Azm324.0000°; P -6.3735, Plg2.0000°, Azm54.0000°;*

GCMT ***17*** *02:32:00.8±0.1, 15°.93S±0°.01×167°.31E, h42km, MW5.8/158, Moment Tensor Solution. s158,c315; s158,c449; Duration: 2^{s}0 Moment tensor: Scale 10^{17} Nm; M_{rr}6.70±.07; $M_{\theta\theta}$-0.61±.05; $M_{\phi\phi}$-6.09±.05; $M_{r\theta}$-1.67±.06; $M_{\theta\phi}$3.31±.04; $M_{\phi r}$0.46±.06; Best double couple: $M_0$7.40300×10^{17} NP1:ϕ_s323.00000°, δ51.00000°, λ74.00000°. NP2:ϕ_s167.00000°, δ42.00000°, λ108.00000°. Principal axes: T 7.0690, Plg77.0000°, Azm174.0000°; N 0.6650, Plg12.0000°, Azm333.0000°; P -7.7370, Plg5.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *02:32:03, 15°.81S×167°.22E, h40km, Moment Tensor Solution. Duration: 7^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}6.74; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$-6.05; $M_{r\theta}$-0.30; $M_{\theta\phi}$3.69; $M_{\phi r}$-1.07; Fault plane solution: $M_0$7.49000×10^{17} NP1: ϕ_s325.00000°, δ42.00000°, λ79.00000°. NP2: ϕ_s160.00000°, δ49.00000°, λ100.00000°. Principal axes: T 6.8808, Plg82.0000°, Azm130.0000°; N 1.0908, Plg8.0000°, Azm334.0000°; P -7.9716, Plg3.0000°, Azm243.0000°;*

ISC 17 02:31:58.9±0.3, 15°.96S±0°.03×167°.45E±0°.03, h40km±2km, h40km:pP-P,n1591,σ1^{s}63/1414,mb5.8/251,MS5.5/268, 92C-37D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.90**	**158**	P	**Pn**	**02 32 30.4**	**+1.6**
RTV	**Rentapao**	**2.05**	**153**	P	**Pn**	**02 32 30.8**	**-0.1**
LIFNC	**LIFOU**	**4.80**	**182**	Pn	**Pn**	**02 33 07.5**	**-1.2**
LIFNC	**LIFOU**	**4.80**	**182**	P	**Pn**	**02 33 07.9**	**-0.8**
KOUNC	**Koumac, New Ca**	**5.47**	**213**		**Pn**	**02 33 17.5**	**-0.4**
KOUNC	**Koumac, New Ca**	**5.47**	**213**	P	**Pn**	**02 33 19.9**	**+2.0**
MARNC	**Mare, Loyalty**	**5.52**	**174**		**Pn**	**02 33 16.6**	**-2.0**
MARNC	**Mare, Loyalty**	**5.52**	**174**	P	**Pn**	**02 33 17.8**	**-0.8**
YATNC	**Mamie plateau,**	**6.09**	**185**	P	**Pn**	**02 33 27.1**	**+0.6**
DZM	**Mont Dzumac** 1μm,0.7s	**6.16**	**189**	*e*Pn	**Pn**	**02 33 26.3**	**-1.1**
DZM	3μm,0.8s			*e*Sn	**Sn**	**02 34 32.4**	**-4.3**
DZM	comp=Z,76μm,25.1s			*e*LR	LR	02 34 48.6	
DZM	**Mont Dzumac** 97nm,0.3s,baz=7.2,slow=18,SNR=237	**6.16**	**189**	Pn	**Pn**	**02 33 27.2**	**-0.2**
DZM	244nm,0.3s,baz=321,slow=22,SNR=8.2			Sn	**Sn**	**02 34 35.8**	**-0.9**
DZM	comp=Z,5μm,21.4s,baz=1.5,slow=26 496nm,0.3s			LR	LR	02 34 40.4	
DZM	**Mont Dzumac**	**6.16**	**189**		**Pn**	**02 33 26.7**	**-0.7**
DZM	**Mont Dzumac**	**6.16**	**189**	P	**Pn**	**02 33 28.7**	**+1.3**
NOUC	**Port Laguerre**	**6.21**	**190**	P	**Pn**	**02 33 28.7**	**+0.6**
ONTNC	**Ouen Toro**	**6.39**	**188**		**Pn**	**02 33 30.4**	**-0.1**
ONTNC	**Ouen Toro**	**6.39**	**188**	P	**Pn**	**02 33 31.6**	**+1.1**
PINNC	**Pines Island,**	**6.62**	**180**		**Pn**	**02 33 34.4**	**+0.7**
PINNC	**Pines Island,**	**6.62**	**180**	P	**Pn**	**02 33 35.1**	**+1.4**
HNR	**Honiara** 604nm,0.3s,baz=172,slow=6.5,SNR=1.3	**9.78**	**311**	Pn	**Pn**	**02 34 17.1**	**0.0**
HNR	769nm,0.3s,baz=192,slow=20,SNR=1.4			Sn	**Sn**	**02 36 07.9**	**+2.3**
HNR	comp=Z,299μm,22.0s,baz=149,slow=36			LR	LR	02 37 45.5	
HNR	**Honiara**	**9.78**	**311**		**Pn**	**02 34 19.1**	**+2.1**
HNR	**Honiara**	**9.78**	**311**	P	**Pn**	**02 34 19.1**	**+2.1**
MSVF	**Nonsavu** 5.8nm,0.3s,baz=271,slow=12,SNR=45	**10.30**	**101**	Pn	**Pn**	**02 34 28.3**	**+3.9**
MSVF	comp=Z,48μm,18.1s,baz=284,slow=34			LR	LR	02 37 38.6	
MSVF	**Nonsavu**	**10.30**	**101**	Pn	**Pn**	**02 34 27.2**	**+2.9**
MSVF	**Nonsavu**	**10.30**	**101**	P	**Pn**	**02 34 27.2**	**+2.9**
MSVF	**Nonsavu**	**10.30**	**101**	P	**Pn**	**02 34 28.7**	**+4.4**
DGTI	**Dogotuki**	**11.81**	**93**	P	**Pn**	**02 34 47.9**	**+2.9**
TAVE	**Taveuni** 804nm,1.8s	**12.16**	**95**	P	Pn	02 34 54.7	+5.0
NFK	**Norfolk Island** baz=13,SNR=4.1	**13.03**	**178**	P	**P**	**02 35 08.0**	**-3.1**
FUNA	**Funafuti**	**13.65**	**59**	Pn	**Pn**	**02 35 10.6**	**+0.6**
FUNA	**Funafuti**	**13.65**	**59**	P	**Pn**	**02 35 11.5**	**+1.5**
LHI	**Lord Howe Isla** baz=18,SNR=3.2	**17.28**	**205**	P	**P**	**02 36 03.6**	**+5.4**
LHI	**Lord Howe Isla**	**17.28**	**205**		**Pn**	**02 35 56.5**	**-0.7**
RK1H	**Rockhampton Ha**	**17.59**	**242**	P	**P**	**02 36 05.1**	**+3.4**
EIDS	**Eidsvold** baz=18,SNR=30	**17.93**	**236**	P	**P**	**02 36 08.8**	**+3.1**
EIDS	**Eidsvold**	**17.93**	**236**		**P**	**02 36 06.3**	**+0.8**
EIDS	comp=Z,1μm,1.7s			IAmb	IAmb	02 36 23.5	
EIDS	**Eidsvold**	**17.93**	**236**	P	**P**	**02 36 08.7**	**+3.1**
TARA	**Tarawa**	**18.03**	**18**	P	**P**	**02 36 09.2**	**+2.5**
TARA	comp=Z,2μm,1.4s			IAmb	IAmb	02 36 11.6	
TARA	**Tarawa**	**18.03**	**18**	P	**P**	**02 36 08.6**	**+1.9**
RAO	**Raoul Island** comp=Z,187nm,0.3s,baz=220,slow=12,SNR=6.0	**18.88**	**137**	P	**Pn**	**02 36 19.3**	**+2.5**
RAO	**Raoul Island**	**18.88**	**137**	P	**P**	**02 36 15.8**	**-0.2**
RAO	comp=Z,2μm,1.6s			IAmb	IAmb	02 36 24.1	
RAO	**Raoul Island**	**18.88**	**137**	P	**P**	**02 36 15.8**	**-0.2**
RAO	comp=Z,2μm,1.6s			pmax	pmax		
RABL	**Rabaul**	**19.04**	**306**	P	**P**	**02 36 17.9**	**+0.2**
RABL	comp=Z,406nm,1.1s			IAmb	IAmb	02 36 31.8	
RABL	**Rabaul**	**19.04**	**306**	P	**Pn**	**02 36 19.1**	**+0.3**
OUZ	**Omahuta**	**19.96**	**165**	P	**Pn**	**02 36 28.8**	**-0.8**
AFI	**Afiamalu** comp=Z,229nm,1.0s,baz=318,slow=6.5,SNR=6.6	**20.18**	**87**	P	**P**	**02 36 31.1**	**+0.8**
AFI	comp=Z,8μm,19.6s,baz=274,slow=31			LR	LR	02 42 25.2	
AFI	**Afiamalu**	**20.18**	**87**	P	Pn	02 36 32.0	-0.4
AFI	comp=Z,481nm,1.2s			IAmb	IAmb	02 36 38.6	
AFI	**Afiamalu**	**20.18**	**87**	P	Pn	02 36 32.0	-0.4
AFI	comp=Z,481nm,1.3s			pmax	pmax		
AFI	**Afiamalu**	**20.18**	**87**	P	Pn	02 36 33.1	+0.7
RMQ	**Roma** baz=20,SNR=74	**20.30**	**236**	P	Pn	02 36 34.0	+0.3
RMQ	**Roma** comp=Z,245nm,1.1s	**20.30**	**236**	P	Pn	02 36 34.8	+1.0
ARMA	**Armidale** baz=21,SNR=33	**20.43**	**222**	P	Pn	02 36 35.7	+0.5
ARMA	**Armidale**	**20.43**	**222**	P	Pn	02 36 34.5	-0.7
ARMA	comp=Z,895nm,1.9s			IAmb	IAmb	02 36 48.6	
ARMA	**Armidale**	**20.43**	**222**	P	Pn	02 36 36.2	+1.0
CTA	**Charters Tower** comp=Z,46nm,0.7s,baz=84,slow=12,SNR=46	**20.57**	**255**	P	Pn	02 36 36.7	-0.1
CTA	comp=Z,17nm,0.9s,baz=316,slow=2.8,SNR=2.8			PcP	**PcP**	**02 40 44.6**	**0.0**
CTA	comp=Z,9μm,21.0s,baz=89,slow=33			LR	LR	02 43 21.9	
CTA	comp=Z,12nm,0.8s,baz=110,slow=3.6,SNR=8.8 comp=Z,46nm,0.7s			ScP	**ScP**	**02 44 19.6**	**+1.4**
CTA	**Charters Tower**	**20.57**	**255**	P	Pn	02 36 37.6	+0.7
CTAO	**Charters Tower**	**20.57**	**255**	P	Pn	02 36 35.7	-1.1
CTAO	**Charters Tower**	**20.57**	**255**	P

MTSU	**Mount Surprise**	**22.22**	**261**	P	**P**	**02 36 54.9**	**+2.6**
MGCD	**Mangrove Creek**	**22.66**	**218**	P	**P**	**02 37 00.0**	**+3.3**
	baz=23,SNR=20						
MGCD	**Mangrove Creek**	**22.66**	**218**	P	**P**	**02 37 00.1**	**+3.3**
TOZ	**Tahuroa Road**	**22.83**	**163**	P	**P**	**02 37 01.1**	**+2.6**
RIV	**Riverview**	**23.07**	**217**	P	**P**	**02 37 04.6**	**+3.6**
	baz=23,SNR=11						
RIV	**Riverview**	**23.07**	**217**	P	**P**	**02 37 04.3**	**+3.3**
RIV				pmax	pmax		
	comp=Z,486nm,1.3s						
SYDH	**Sydney Hard Ro**	**23.27**	**217**	P	**P**	**02 37 05.6**	**+2.6**
HIZ	**Hauiti**	**23.40**	**165**	P	**P**	**02 37 06.1**	**+2.0**
COEN	**Coen**	**23.53**	**272**	P	**P**	**02 37 06.0**	**+0.3**
	baz=24,SNR=8.8						
COEN	**Coen**	**23.53**	**272**	P	**P**	**02 37 06.1**	**+0.3**
COEN	**Coen**	**23.53**	**272**	P	**P**	**02 37 07.7**	**+2.0**
HAZ	**Te Kaha**	**23.56**	**159**	P	**P**	**02 37 06.4**	**+0.7**
MXZ	**Matakaoa Point**	**23.57**	**158**	IAMs_20	IAMs_20	02 44 32.0	
	comp=Z,14µm,22.0s						
PKGZ	**Pakihiroa**	**23.78**	**159**	P	**P**	**02 37 09.8**	**+1.9**
URZ	**Urewera**	**23.79**	**161**	P	**P**	**02 37 08.6**	**+0.7**
	comp=Z,96nm,1.0s,baz=167,slow=1.5,SNR=14						
URZ				LR	LR	02 45 30.8	
	comp=Z,16µm,20.3s,baz=70,slow=34						
	comp=Z,96nm,1.0s						
URZ	**Urewera**	**23.79**	**161**	IAMs_20	IAMs_20	02 45 19.9	
	comp=Z,16µm,20.0s						
URZ	**Urewera**	**23.79**	**161**	P	**P**	**02 37 08.9**	**+0.9**
WMGZ	**Waiomatatini S**	**23.84**	**158**	P	**P**	**02 37 07.9**	**-0.5**
TWGZ	**Tauwhareparae**	**24.00**	**159**	P	**P**	**02 37 11.9**	**+1.9**
PUZ	**Puketiti**	**24.00**	**159**	P	**P**	**02 37 09.7**	**-0.2**
QLP	**Quilpie**	**24.04**	**240**	P	**P**	**02 37 11.5**	**+1.1**
	baz=24,SNR=42						
QLP	**Quilpie**	**24.04**	**240**	P	**P**	**02 37 11.8**	**+1.4**
NTVZ	**North Tongarir**	**24.16**	**164**	P	**P**	**02 37 13.2**	**+1.8**
OTVZ	**Oturere**	**24.22**	**164**	P	**P**	**02 37 14.5**	**+2.4**
SNGZ	**Shannon Statio**	**24.34**	**161**	P	**P**	**02 37 11.5**	**-1.5**
PATS	**Pohnpei**	**24.39**	**338**	P	**P**	**02 37 14.0**	**+0.4**
	baz=24,SNR=14						
PATS	**Pohnpei**	**24.39**	**338**	P	**P**	**02 37 13.8**	**+0.2**
PATS	**Pohnpei**	**24.39**	**338**	P	**P**	**02 37 14.1**	**+0.5**
RIGZ	**Rimuhau**	**24.41**	**160**	P	**P**	**02 37 14.1**	**+0.4**
BKZ	**Black Stump Fm**	**24.44**	**163**	P	**P**	**02 37 15.4**	**+1.4**
	comp=Z,988nm,1.5s						
CMSA	**Cobar Meteorol**	**25.17**	**228**	P	**P**	**02 37 21.6**	**+1.0**
	baz=25,SNR=94						
CMSA	**Cobar Meteorol**	**25.17**	**228**	P	**P**	**02 37 22.3**	**+1.7**
CNB	**Canberra Magne**	**25.17**	**217**	P	**P**	**02 37 22.3**	**+1.6**
	baz=25,SNR=50						
CNB	**Canberra Magne**	**25.17**	**217**	P	**P**	**02 37 22.8**	**+2.1**
CAN	**Canberra**	**25.38**	**217**	P	**P**	**02 37 22.9**	**+0.4**
CAN				IAMs_20	IAMs_20	02 45 27.5	
	comp=Z,15µm,22.0s						
CAN	**Canberra**	**25.38**	**217**	P	**P**	**02 37 23.0**	**+0.4**
CAN				pmax	pmax		
	comp=Z,119nm,1.3s						
CAN				MLR	MLR		
	comp=Z,15µm,22.0s						
CAN	**Canberra**	**25.38**	**217**	P	**P**	**02 37 23.9**	**+1.3**
BFZ	**Birch Farm**	**25.80**	**164**	IAMs_20	IAMs_20	02 47 02.8	
	comp=Z,15µm,19.0s						
BFZ	**Birch Farm**	**25.80**	**164**	P	**P**	**02 37 26.4**	**+0.2**
MILA	**Mila**	**26.54**	**214**	P	**P**	**02 37 34.5**	**+1.4**
	baz=27,SNR=3.2						
QIS	**Mount Isa**	**26.82**	**256**	P	**P**	**02 37 37.1**	**+1.4**
	baz=27,SNR=29						
QIS	**Mount Isa**	**26.82**	**256**	P	**P**	**02 37 37.5**	**+1.8**
KHZ	**Kahutara**	**26.88**	**170**	P	**P**	**02 37 35.9**	**-0.1**
KHZ				IAmb	IAmb	02 37 43.0	
	comp=Z,359nm,1.5s						
INKA	**Innaminka**	**27.35**	**240**	P	**P**	**02 37 41.9**	**+1.5**
FOZ	**Fox Glacier**	**27.56**	**176**	IAMs_20	IAMs_20	02 47 11.6	
	comp=Z,10µm,20.0s						
RPZ	**Rata Peaks**	**27.84**	**174**	P	**P**	**02 37 45.4**	**+0.9**
	comp=Z,52nm,0.7s,baz=313,slow=1.6,SNR=30						
RPZ				ScP	**ScP**	**02 44 39.6**	**+1.9**
	comp=Z,23nm,0.9s,baz=21,slow=7.7,SNR=7.1						
RPZ				LR	LR	02 47 45.8	
	comp=Z,12µm,21.6s,baz=351,slow=34						
	comp=Z,52nm,0.7s						
RPZ	**Rata Peaks**	**27.84**	**174**	IAMs_20	IAMs_20	02 47 23.9	
	comp=Z,13µm,21.0s						
STKA	**Stephens Creek**	**28.35**	**231**	P	**P**	**02 37 50.8**	**+1.5**
	comp=Z,62nm,1.1s,baz=68,slow=9.7,SNR=18						
STKA				PcP	**PcP**	**02 41 01.5**	**+0.1**
	comp=Z,21nm,0.6s,baz=28,slow=5.6,SNR=3.2						
STKA				ScP	**ScP**	**02 44 41.8**	**+2.3**
	comp=Z,50nm,0.9s,baz=39,slow=4.5,SNR=21						
STKA				LR	LR	02 48 17.2	
	comp=Z,11µm,20.6s,baz=101,slow=34						
	comp=Z,62nm,1.1s						
STKA	**Stephens Creek**	**28.35**	**231**	P	**P**	**02 37 51.0**	**+1.7**
	baz=28,SNR=22						
STKA	**Stephens Creek**	**28.35**	**231**	P	**P**	**02 37 49.6**	**+0.4**
STKA	**Stephens Creek**	**28.35**	**231**	*c iP*	**P**	**02 37 49.9**	**+0.6**
STKA	**Stephens Creek**	**28.35**	**231**	P	**P**	**02 37 50.9**	**+1.7**
LBZ	**Lake Benmore**	**28.43**	**176**	IAMs_20	IAMs_20	02 47 39.9	
	comp=Z,11µm,21.0s						
WKZ	**Wanaka**	**28.81**	**178**	IAmb	IAmb	02 38 07.3	
	comp=Z,352nm,1.6s						
WKZ				IAMs_20	IAMs_20	02 47 49.9	
	comp=Z,11µm,21.0s						
TOO	**Toolangi**	**28.98**	**218**	P	**P**	**02 37 56.2**	**+1.4**
	baz=29,SNR=16						
TOO	**Toolangi**	**28.98**	**218**	P	**P**	**02 37 55.8**	**+0.9**
TOO	**Toolangi**	**28.98**	**218**	P	**P**	**02 37 55.8**	**+0.9**
TOO				pmax	pmax		
	comp=Z,90nm,1.1s						
TOO	**Toolangi**	**28.98**	**218**	P	**P**	**02 37 56.7**	**+1.8**
MLZ	**Mavora Lakes**	**29.32**	**179**	IAmb	IAmb	02 38 00.0	
	comp=Z,247nm,1.8s						
BRAT	**Ballarat**	**29.91**	**220**	P	**P**	**02 38 05.1**	**+2.1**
GEXS	**Deakin Univers**	**30.11**	**218**	P	**P**	**02 38 06.5**	**+1.7**
LCRK	**Leigh Creek**	**30.38**	**236**	P	**P**	**02 38 09.2**	**+1.9**
ARPS	**Mount Arapiles**	**30.75**	**223**	P	**P**	**02 38 12.6**	**+2.1**
	baz=31,SNR=5.8						
ARPS	**Mount Arapiles**	**30.75**	**223**	P	**P**	**02 38 12.3**	**+1.8**
CORO	**Coronation Par**	**30.87**	**211**	P	**P**	**02 38 14.1**	**+2.7**
	comp=Z,39nm,0.5s						
HTT	**Hallett**	**31.07**	**231**	P	**P**	**02 38 15.0**	**+1.6**
	baz=31,SNR=13						
HTT	**Hallett**	**31.07**	**231**	P	**P**	**02 38 15.1**	**+1.7**
SMPI	**Sarmi**	**31.53**	**293**	P	**P**	**02 38 21.1**	**+3.6**
	comp=Z,98nm,1.3s						
MOO	**Moorlands**	**31.60**	**209**	P	**P**	**02 38 19.5**	**+1.6**
	baz=32,SNR=7.3						
MOO	**Moorlands**	**31.60**	**209**	P	**P**	**02 38 19.9**	**+2.0**
OOD	**Oodnadatta**	**31.64**	**243**	P	**P**	**02 38 17.4**	**-1.1**
WB0	**Warramunga Arr**	**31.66**	**258**	P	**P**	**02 38 17.8**	**-1.0**
WB0				IAmb	IAmb	02 38 23.3	
	comp=Z,242nm,1.9s						
WRAB	**Tennant Creek**	**31.70**	**258**	P	**P**	**02 38 19.1**	**0.0**
WRAB	**Tennant Creek**	**31.70**	**258**	IAMs_20	IAMs_20	02 49 58.0	
	comp=Z,8µm,19.0s						
WRAB	**Tennant Creek**	**31.70**	**258**	*eP*	**P**	**02 38 20.0**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,49nm,1.0s						
WRAB				MLR	MLR		
	comp=Z,9µm,20.0s						
WRAB	**Tennant Creek**	**31.70**	**258**	P	**P**	**02 38 20.8**	**+1.7**
WRAB				pP	**pP**	**02 38 32.2**	**+2.0**
WRAB				ScP	**ScP**	**02 44 54.2**	**+3.6**
WRA	**Warramunga Arr**	**31.72**	**258**	P	**P**	**02 38 19.6**	**+0.3**
	comp=Z,19nm,0.7s,baz=87,slow=8.8,SNR=15						
WRA				PcP	**PcP**	**02 41 10.8**	**+0.5**
	comp=Z,8.2nm,0.9s,baz=83,slow=3.4,SNR=3.6						
WRA				S	**S**	**02 43 23.4**	**-3.1**
	comp=Z,2.8nm,1.0s,baz=94,slow=13,SNR=4.8						
WRA				ScP	**ScP**	**02 44 53.5**	**+2.8**
	comp=Z,71nm,1.0s,baz=84,slow=3.8,SNR=40						
WRA				PKiKP	**PKiKP**	**02 48 37.9**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=7.9,slow=0.5,SNR=19						
WRA				LR	LR	02 49 59.6	
	comp=Z,9µm,21.5s,baz=98,slow=34						
	comp=Z,19nm,0.7s						
WRA	**Warramunga Arr**	**31.72**	**258**	P	**P**	**02 38 18.5**	**-0.7**
TAU	**Tasmania Unive**	**31.91**	**209**	IAMs_20	IAMs_20	02 49 15.7	
	comp=Z,10µm,19.0s						
WHYH	**Whyalla**	**31.91**	**232**	P	**P**	**02 38 22.7**	**+2.0**
ASAR	**Alice Springs**	**32.42**	**251**	P	**P**	**02 38 26.5**	**+1.1**
	comp=Z,96nm,0.8s,baz=80,slow=7.7,SNR=7.3						
ASAR				PcP	**PcP**	**02 41 13.8**	**+1.6**
	comp=Z,15nm,0.8s,baz=88,slow=3.0,SNR=4.8						
ASAR				ScP	**ScP**	**02 44 54.9**	**+1.8**
	comp=Z,121nm,1.1s,baz=89,slow=3.2,SNR=57						
ASAR				PKiKP	**PKiKP**	**02 48 38.1**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=91,slow=1.3,SNR=8.5						
ASAR				LR	LR	02 50 56.1	
	comp=Z,11µm,19.0s,baz=98,slow=35						
	comp=Z,96nm,0.8s						
ASAR	**Alice Springs**	**32.42**	**251**	P	**P**	**02 38 25.7**	**+0.3**
BBOO	**Buckleboo**	**32.98**	**234**	P	**P**	**02 38 32.6**	**+2.5**
	baz=33,SNR=16						
BBOO	**Buckleboo**	**32.98**	**234**	P	**P**	**02 38 31.1**	**+0.9**
BBOO	**Buckleboo**	**32.98**	**234**	P	**P**	**02 38 32.0**	**+1.9**
KDU	**Kakadu**	**34.02**	**271**	P	**P**	**02 38 40.3**	**+1.0**
BAKI	**Biak**	**34.20**	**292**	P	**P**	02 38 51.2	+10
MTN	**Manton Dam**	**35.28**	**270**	P	**P**	**02 38 50.2**	**-0.1**
MTN	**Manton Dam**	**35.28**	**270**	P	P	02 38 55.3	+5.0
GUMO	**Guam**	**36.88**	**322**	LR	LR	02 54 22.9	
	comp=Z,2µm,18.1s,baz=146,slow=36						
GUMO	**Guam**	**36.88**	**322**	P	**P**	**02 39 03.4**	**-0.5**
GUMO	**Guam**	**36.88**	**322**	P	**P**	**02 39 03.4**	**-0.5**
GUMO				pmax	pmax		
	comp=Z,157nm,0.6s						
GUMO				MLR	MLR		
	comp=Z,3µm,22.0s						
GUMO	**Guam**	**36.88**	**322**	P	**P**	**02 39 05.4**	**+1.5**
GUMO	**Guam**	**36.88**	**322**	P	**P**	**02 39 04.0**	**+0.2**
GUMO				pP	**pP**	**02 39 14.5**	**-0.5**
FAKI	**Fak Fak**	**36.98**	**287**	P	**P**	**02 39 05.1**	**+0.3**
FAKI				IAmb	IAmb	02 39 15.8	
	comp=Z,160nm,1.0s						
FAKI	**Fak Fak**	**36.98**	**287**	P	**P**	**02 39 06.0**	**+1.2**
	comp=Z,3µmcomp=Z,162nm,1.1s						
FAKI	**Fak Fak**	**36.98**	**287**	P	**P**	**02 39 05.4**	**+0.6**
KNRA	**Kununurra**	**37.19**	**265**	P	**P**	**02 39 07.6**	**+1.1**
	baz=37,SNR=7.4						
KNRA	**Kununurra**	**37.19**	**265**	P	**P**	**02 39 06.7**	**+0.2**
KNRA				IAmb	IAmb	02 39 14.7	
	comp=Z,178nm,1.1s						
KNRA	**Kununurra**	**37.19**	**265**	P	**P**	**02 39 07.6**	**+1.1**
WRKA	**Warakurna**	**37.66**	**250**	P	**P**	**02 39 12.1**	**+1.6**
	baz=38,SNR=6.6						
WRKA	**Warakurna**	**37.66**	**250**	P	**P**	**02 39 12.1**	**+1.6**
BNDI	**Bandanaira**	**38.58**	**283**	P	P	02 39 23.8	+5.5
	comp=Z,13µmcomp=Z,624nm,1.3s						
BNDI	**Bandanaira**	**38.58**	**283**	P	**P**	**02 39 22.5**	**+4.2**
SIJI	**Sorong**	**38.70**	**289**	P	**P**	**02 39 19.9**	**+0.6**
	comp=Z,82nm,0.8s,baz=74,slow=6.9,SNR=19						
SIJI				S	**S**	**02 45 16.3**	**+2.5**
	comp=Z,7.1nm,0.4s,baz=203,slow=21,SNR=5.6						
SIJI				LR	LR	02 56 49.4	
	comp=Z,6µm,18.0s,baz=116,slow=38						
	comp=Z,82nm,0.8s						
SWI	**Sorong**	**38.70**	**289**	P	**P**	**02 39 20.2**	**+0.8**
SWI				pmax	pmax		
	comp=Z,245nm,1.1s						
SWI	**Sorong**	**38.70**	**289**	P	**P**	**02 39 20.6**	**+1.2**
	comp=Z,3µmcomp=Z,244nm,1.1s						
FORT	**Forrest**	**38.83**	**241**	P	**P**	**02 39 22.2**	**+2.0**
	baz=39,SNR=12						
FORT	**Forrest**	**38.83**	**241**	P	**P**	**02 39 21.2**	**+1.0**
FORT	**Forrest**	**38.83**	**241**	P	**P**	**02 39 22.3**	**+2.0**
JOHN	**Johnston Islan**	**39.63**	**36**	P	**P**	**02 39 27.9**	**+1.0**
MSAI	**Masohi**	**39.90**	**284**	P	P	02 39 40.4	+11
FITZ	**Fitzroy Crossi**	**39.97**	**261**	P	**P**	**02 39 30.4**	**+0.5**
	comp=Z,44nm,0.7s,baz=92,slow=8.1,SNR=14						
FITZ				ScP	**ScP**	**02 45 24.3**	**+3.5**
	comp=Z,30nm,1.1s,baz=76,slow=5.0,SNR=15						
FITZ				LR	LR	02 56 01.3	
	comp=Z,12µm,18.1s,baz=88,slow=36						
	comp=Z,44nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.97**	**261**	P	**P**	**02 39 30.8**	**+0.8**
	baz=40,SNR=16						
FITZ	**Fitzroy Crossi**	**39.97**	**261**	P	**P**	**02 39 29.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**39.97**	**261**	P	**P**	**02 39 31.3**	**+1.4**
AAI	**Ambon**	**40.46**	**283**	P	**P**	**02 39 34.8**	**+0.8**
AAI				pmax	pmax		
	comp=Z,87nm,1.2s						
PPT2	**Papeete2**	**41.12**	**99**	*eP*	**P**	**02 39 40.3**	**+0.8**
	comp=Z,149nm,1.2s						
PPT2				*eS*	**S**	**02 45 51.6**	**+1.5**
	comp=Z,3µm,29.0s						
PPT2				*e*SS	**SS**	**02 48 55.7**	**+1.9**
	comp=Z,6µm,27.2s						
PPT2				*e*LR	LR	02 51 02.5	
	comp=Z,9µm,25.8s						
TBI	**Tubuai**	**41.12**	**107**	*eP*	**P**	**02 39 41.2**	**+1.8**
	comp=Z,753nm,27.0s						
TBI				*eS*	**S**	**02 45 51.5**	**+1.6**
	comp=Z,2µm,29.5s						
TBI				*e*SS	**SS**	**02 48 55.9**	**+2.3**
	comp=Z,3µm,30.5s						
PPTF	**Pamatai, Papee**	**41.13**	**99**	P	**P**	**02 39 40.5**	**+1.0**
PPTF				IAmb	IAmb	02 39 45.4	
	comp=Z,179nm,1.1s						
PPTF	**Pamatai, Papee**	**41.13**	**99**	P	**P**	**02 39 41.1**	**+1.5**
PPTF	**Pamatai, Papee**	**41.13**	**99**	P	**P**	**02 39 40.6**	**+1.0**
NLAI	**Namlea**	**41.64**	**283**	P	**P**	**02 39 45.6**	**+1.9**
	comp=Z,133nm,1.1s						
SOEI	**Soe**	**42.49**	**273**	IAMs_20	IAMs_20	02 56 08.5	
	comp=Z,6µm,22.0s						
MEH	**Mehetia**	**42.53**	**99**	*eP*	**P**	**02 39 52.3**	**+1.3**
	comp=Z,79nm,1.2s						
TNTI	**Ternate**	**42.92**	**289**	P	**P**	**02 39 55.0**	**+0.9**
TNTI				IAmb	IAmb	02 40 07.6	
	comp=Z,206nm,1.5s						
BATI	**Baumata**	**42.97**	**272**	ScP	**ScP**	**02 45 39.0**	**+6.2**
	comp=Z,36nm,0.2s,baz=156,slow=1.8,SNR=7.5						
BATI				LR	LR	02 57 26.7	
	comp=Z,7µm,21.1s,baz=122,slow=36						
PMOR	**Pomariorio Ree**	**42.99**	**95**	*eP*	**P**	**02 39 55.6**	**+1.0**
	comp=Z,394nm,1.3s						
SANI	**Sanana**	**43.10**	**284**	P	**P**	**02 40 00.1**	**+4.5**
	comp=Z,5µmcomp=Z,3µmcomp=Z,109nm,0.8s						
SANI	**Sanana**	**43.10**	**284**	P	**P**	**02 39 56.9**	**+1.3**
EDFI	**Ende, Flores**	**45.19**	**273**	P	P	02 40 18.5	+6.0
BBSI	**Bau Bau**	**45.21**	**278**	P	P	02 40 20.9	+8.4
PSA00	**Pilbara Seismi**	**45.28**	**255**	P	**P**	**02 40 14.0**	**+0.9**
PSA00				IAmb	IAmb	02 40 15.3	
	comp=Z,172nm,1.2s						
PSA00	**Pilbara Seismi**	**45.28**	**255**	P	**P**	**02 40 14.4**	**+1.4**
MBWA	**Marble Bar**	**45.40**	**256**	P	**P**	**02 40 14.1**	**+0.1**
MBWA				IAmb	IAmb	02 40 16.2	
	comp=Z,144nm,1.1s						
MBWA	**Marble Bar**	**45.40**	**256**	P	**P**	**02 40 14.9**	**+1.0**
MBWA				P	**P**	**02 40 14.9**	**+1.0**
MBWA	**Marble Bar**	**45.40**	**256**	P	**P**	**02 40 15.3**	**+1.3**
MBWA	**Marble Bar**	**45.40**	**256**	P	**P**	**02 40 14.8**	**+0.8**
MBWA				ScP	**ScP**	**02 45 45.8**	**+3.1**
SGSI	**Sangihe**	**45.82**	**292**	P	**P**	**02 40 22.1**	**+4.7**
	comp=Z,183nm,1.0s						
MIDW	**Midway**	**46.31**	**19**	P	**P**	**02 40 21.6**	**+0.8**
MIDW				IAmb	IAmb	02 40 34.2	
	comp=Z,154nm,1.3s						
MIDW				IAMs_20	IAMs_20	02 55 18.3	
	comp=Z,6µm,20.0s						
LUWI	**Luwuk**	**46.46**	**284**	P	**P**	**02 40 26.0**	**+3.6**
	comp=Z,160nm,1.2s						
MEEK	**Meekatharra**	**46.48**	**248**	P	**P**	**02 40 23.5**	**+1.1**
	baz=47,SNR=15						
MEEK	**Meekatharra**	**46.48**	**248**	P	**P**	**02 40 23.6**	**+1.1**
DAV	**Davao City (W)**	**47.35**	**296**	ScP	**ScP**	**02 45 56.0**	**+5.2**
	comp=Z,230nm,0.4s,baz=71,slow=4.4,SNR=5.1						
DAV				LR	LR	02 59 55.7	
	comp=Z,877nm,18.8s,baz=114,slow=35						
APSI	**Ampana**	**47.55**	**284**	P	**P**	**02 40 33.4**	**+2.5**
	comp=Z,1µmcomp=Z,98nm,1.3s						
BKSI	**Bulukumba**	**47.59**	**277**	P	**P**	**02 40 32.6**	**+1.4**
	comp=Z,1µmcomp=Z,86nm,1.1s						
KLBR	**Kellerberrin**	**47.67**	**242**	P	**P**	**02 40 31.9**	**+0.3**
	baz=48,SNR=25						
KLBR	**Kellerberrin**	**47.67**	**242**	P	**P**	**02 40 31.9**	**+0.3**
MRSI	**Marisa**	**47.79**	**286**	P	P	02 40 46.0	+13
KAPI	**Kappang**	**48.03**	**278**	ScP	**ScP**	**02 45 58.4**	**+4.6**
	comp=Z,19nm,0.9s,baz=149,slow=6.4,SNR=7.2						
KAPI				LR	LR	03 00 24.6	
	comp=Z,2µm,21.4s,baz=86,slow=36						
KAPI	**Kappang**	**48.03**	**278**	P	**P**	**02 40 34.6**	**0.0**
KAPI	**Kappang**	**48.03**	**278**	*c iP*	**P**	**02 40 34.7**	**+0.1**
KAPI				pmax	pmax		
	comp=Z,144nm,1.1s						
KAPI				MLR	MLR		
	comp=Z,3µm,21.0s						
KAPI	**Kappang**	**48.03**	**278**	P	**P**	**02 40 35.6**	**+0.9**
KAPI				P	**P**	**02 40 35.6**	**+0.9**
KAPI	**Kappang**	**48.03**	**278**	P	**P**	**02 40 36.1**	**+1.5**
KAPI	**Kappang**	**48.03**	**278**	P	**P**	**02 40 35.5**	**+0.9**
KAPI				pP	**pP**	**02 40 45.7**	**-0.5**
KAPI				ScP	**ScP**	**02 45 58.9**	**+5.1**
NWAO	**Narrogin (SRO)**	**48.28**	**240**	P	**P**	**02 40 36.8**	**+0.5**
	comp=Z,189nm,1.0s,baz=310,slow=6.9,SNR=30						
NWAO				LR	LR	03 01 28.7	
	comp=Z,11µm,18.3s,baz=303,slow=37						
	comp=Z,189nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.28**	**240**	P	**P**	**02 40 36.8**	**+0.5**
	baz=48,SNR=18						
NWAO				P	**P**	**02 40 36.8**	**+0.5**
	baz=48,SNR=18						
NWAO	**Narrogin (SRO)**	**48.28**	**240**	P	**P**	**02 40 36.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**48.28**	**240**	P	**P**	**02 40 36.7**	**+0.3**
NWAO				P	**P**	**02 40 36.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**48.28**	**240**	P	**P**	**02 40 37.2**	**+0.9**
NWAO	**Narrogin (SRO)**	**48.28**	**240**	P	**P**	**02 40 36.3**	**0.0**
NWAO				sP	**pP**	**02 40 50.0**	**+2.2**
SPSI	**Sidrap Palu**	**48.33**	**279**	P	**P**	**02 40 37.5**	**+0.6**
	comp=Z,1µmcomp=Z,81nm,1.3s						
BLDU	**Balliduj**	**48.45**	**243**	P	**P**	**02 40 38.4**	**+0.7**
	baz=49,SNR=9.3						
BLDU	**Balliduj**	**48.45**	**243**	P	**P**	**02 40 38.4**	**+0.7**
TTSI	**Tana Toraja**	**48.56**	**280**	P	**P**	**02 40 41.3**	**+2.6**
	comp=Z,84nm,1.4s						
RKGY	**Rocky Gully**	**48.74**	**238**	P	**P**	**02 40 41.0**	**+1.1**
	baz=49,SNR=8.6						
RKGY	**Rocky Gully**	**48.74**	**238**	P	**P**	**02 40 41.5**	**+1.7**
MORW	**Morawa**	**48.90**	**245**	P	**P**	**02 40 41.8**	**+0.6**
	baz=49,SNR=42						
MORW	**Morawa**	**48.90**	**245**	P	**P**	**02 40 41.4**	**+0.2**
MORW	**Morawa**	**48.90**	**245**	P	**P**	**02 40 42.4**	**+1.2**
PLAI	**Plampang**	**48.94**	**272**	P	P	02 40 48.6	+7.0
PLAI	**Plampang**	**48.94**	**272**	P	**P**	**02 40 43.1**	**+1.5**
MUN	**Mundaring**	**49.02**	**241**	P	**P**	**02 40 42.5**	**+0.5**
	baz=49,SNR=6.4						
MUN	**Mundaring**	**49.02**	**241**	P	**P**	**02 40 42.9**	**+0.9**
TOLI2	**Tolitoli**	**49.10**	**286**	P	**P**	**02 40 42.6**	**-0.2**
TOLI2				IAmb	IAmb	02 40 58.5	
	comp=Z,73nm,1.1s						
TOLI2	**Tolitoli**	**49.10**	**286**	P	**P**	**02 40 43.0**	**+0.2**
CBIJ	**Chichi jima**	**49.33**	**330**	P	**P**	**02 40 43.8**	**-0.4**
JCJ	**Chichijima**	**49.33**	**330**	P	**P**	**02 40 43.9**	**-0.3**
JCJ	**Chichijima**	**49.33**	**330**	P	**P**	**02 40 44.1**	**-0.2**
MPSI	**Mapaga**	**49.63**	**284**	P	**P**	**02 40 47.8**	**+0.9**
	comp=Z,2µmcomp=Z,167nm,1.0s						
TWSI	**Taliwang, Sumb**	**49.81**	**272**	P	**P**	**02 40 49.4**	**+1.1**
	comp=Z,3µmcomp=Z,288nm,1.2s						
KIP	**Kipapa**	**50.27**	**43**	P	**P**	**02 40 52.2**	**+0.6**
KIP				IAmb	IAmb	02 40 53.9	
	comp=Z,180nm,1.1s						
KIP	**Kipapa**	**50.27**	**43**	*de*P	**P**	**02 40 52.6**	**+1.0**
KIP				pmax	pmax		
	comp=Z,178nm,1.7s						
KIP	**Kipapa**	**50.27**	**43**	P	**P**	**02 40 52.8**	**+1.2**
KIP	**Kipapa**	**50.27**	**43**	P	**P**	**02 40 52.5**	**+1.0**
OPA	**Opana**	**50.46**	**43**	P	**P**	**02 40 54.3**	**+1.3**
OPA	**Opana**	**50.46**	**43**	P	**P**	**02 40 54.3**	**+1.3**
OPA				pmax	pmax		
	comp=Z,294nm,1.0s						
HMH	**Humu'ula Sheep**	**50.77**	**47**	P	**P**	**02 40 56.1**	**+0.4**
POHA	**Pohakuloa**	**50.83**	**47**	P	**P**	**02 40 57.4**	**+1.3**
POHA				IAmb	IAmb	02 41 19.4	
	comp=Z,131nm,0.8s						
POHA	**Pohakuloa**	**50.83**	**47**	P	**P**	**02 40 59.0**	**+2.9**
DNP	**Denpasar**	**51.44**	**272**	P	**P**	**02 41 02.2**	**+1.7**
DNP				pmax	pmax		
	comp=Z,584nm,1.0s						
DNP	**Denpasar**	**51.44**	**272**	P	**P**	**02 41 03.5**	**+3.0**
	comp=Z,473nm,1.1s						
IGBI	**Denpasar**	**51.47**	**271**	P	**P**	**02 41 02.2**	**+1.4**
	comp=Z,5µmcomp=Z,496nm,1.1s						
TAOE	**Nuku Hiva Isla**	**51.55**	**89**	*eP*	**P**	**02 41 03.8**	**+2.2**
	comp=Z,523nm,25.0s						
TAOE				*eS*	**S**	**02

JHS	**Saijyo**	**60.25 328**	P	**P**	**02 42 03.5 +0.1**
JSD	**Sado**	**60.30 334**	P	**P**	**02 42 03.4 -0.2**
JOM	**Ohasama**	**60.31 337**	P	**P**	**02 42 02.1 -1.4**
YHNB	**Yeheng**	**60.41 311**	IAMs_20	IAMs_20	03 03 13.7
	comp=Z,3μm,22.0s				
YHNB	**Yeheng**	**60.41 311**	P	**P**	**02 42 05.5 +0.8**
TATO	**Taipei**	**60.52 311**	P	**P**	**02 42 06.0 +0.7**
TATO	**Taipei**	**60.52 311**	P	**P**	**02 42 06.2 +0.9**
TATO			P	**P**	**02 42 06.2 +0.9**
TATO	**Taipei**	**60.52 311**	P	**P**	**02 42 05.5 +0.2**
JTM	**Tenmabayashi**	**61.54 337**	P	**P**	**02 42 12.3 +0.4**
VNDA	**Vanda**	**61.65 181**	P	**P**	**02 42 12.2 0.0**
	comp=Z,16nm,1.1s,baz=353,slow=7.5,SNR=46				
VNDA			LR	LR	03 05 52.1
	comp=Z,1μm,20.5s,baz=12,slow=33				
VNDA			PKP2bc		03 11 18.5
	comp=Z,1.9nm,0.9s,baz=186,slow=0.7,SNR=6.9				
	comp=Z,16nm,1.1s				
VNDA	**Vanda**	**61.65 181**	P	**P**	**02 42 12.2 0.0**
VNDA			IAmb	IAmb	02 42 14.2
	comp=Z,168nm,1.6s				
VNDA	**Vanda**	**61.65 181**	P	**P**	**02 42 12.3 +0.1**
VNDA			pmax	pmax	
	comp=Z,168nm,1.7s				
VNDA	**Vanda**	**61.65 181**	P	**P**	**02 42 12.2 +0.1**
VNDA			x	x	02 42 19.5
VNDA			sP	**sP**	**02 42 26.7 -1.9**
VNDA			ScP	**ScP**	**02 46 56.4 +4.4**
ERM	**Erimo**	**61.89 340**	P	**P**	**02 42 15.1 +0.9**
ERM			IAmb	IAmb	02 42 17.6
	comp=Z,79nm,0.9s				
ERM	**Erimo**	**61.89 340**	IAMs_20	IAMs_20	03 03 46.3
	comp=Z,3μm,22.0s				
ERM	**Erimo**	**61.89 340**⇑	*e*P	**P**	**02 42 14.4 +0.2**
ERM			pmax	pmax	
	comp=Z,72nm,0.8s				
ERM			MLR	MLR	
	comp=Z,2μm,19.0s				
ERM	**Erimo**	**61.89 340**	P	**P**	**02 42 15.9 +1.7**
ERM	**Erimo**	**61.89 340**	P	**P**	**02 42 13.9 -0.3**
ERM			sP	**pP**	**02 42 27.0 +1.1**
JEM	**Erimo**	**61.89 340**	P	**P**	**02 42 14.0 -0.2**
SBA	**Scott Base**	**61.92 180**	P	**P**	**02 42 14.8 +0.8**
SBA	**Scott Base**	**61.92 180**	P	**P**	**02 42 14.8 +0.8**
SBA			pmax	pmax	
	comp=Z,202nm,1.4s				
SBA	**Scott Base**	**61.92 180**	P	**P**	**02 42 14.9 +1.0**
SBA			x	x	02 42 20.8
SBA			sP	**sP**	**02 42 29.7 -0.8**
JOT	**Ohata**	**62.06 338**	P	**P**	**02 42 15.3 -0.1**
CASY	**Casey**	**62.47 202**	P	**P**	**02 42 17.9 +0.1**
CASY	**Casey**	**62.47 202**	IAMs_20	IAMs_20	03 04 31.8
	comp=Z,3μm,20.0s				
CASY	**Casey**	**62.47 202**	P	**P**	**02 42 17.6 -0.2**
CASY			x	x	02 42 23.4
CASY			pP	**pP**	**02 42 29.8 +0.2**
KASI	**Kota Agung**	**62.51 272**	P	**P**	**02 42 19.3 +0.3**
	comp=Z,129nm,1.1s				
QZH	**Quanzhou**	**62.61 310**⇓	*i*P	**P**	**02 42 20.8 +1.4**
QZH			S	**S**	**02 50 48.3 +3.4**
QZH			pmax	pmax	
	comp=Z,76nm,1.0s				
QZH			pmax	pmax	
	comp=Z,1μm,6.3s				
QZH			LR	LR	
	comp=Z,1μm,18.0s				
QZH			LR	LR	
	comp=Z,2μm,17.1s				
JEW	**Eniwo**	**63.20 339**	P	**P**	**02 42 21.4 -1.6**
KUR	**Kuril'sk**	**63.44 345**⇑	*e*P	**P**	**02 42 25.3 +0.8**
KUR			pmax	pmax	
	comp=Z,254nm,1.1s				
KUR			MLR	MLR	
	comp=Z,1μm,18.0s				
JSH	**Shimam**	**63.53 338**	P	**P**	**02 42 25.3 +0.2**
JMP	**Maruseppu**	**63.61 341**	P	**P**	**02 42 26.3 +0.7**
CCD	**Concordia, Ant**	**63.74 192**	P	**P**	**02 42 26.6 0.0**
DSRI	**Dabo**	**63.84 277**	P	**P**	**02 42 29.0 +1.2**
	comp=Z,2μmcomp=Z,48nm,1.4s				
ASAJ	**Asahikawa**	**63.95 340**	P	**P**	**02 42 28.8 +0.9**
TPRI	**Tanjung Pinang**	**64.31 279**	P	**P**	**02 42 33.4 +2.5**
TJN	**Taejon**	**64.36 325**	*ce*P	**P**	**02 42 32.3 +1.5**
TJN	**Taejon**	**64.36 325**	P	**P**	**02 42 31.9 +1.1**
KSCHJ	**Chungju**	**64.39 326**	IAmb	IAmb	02 42 33.2
	comp=Z,61nm,0.7s				
SSE	**Sheshan**	**64.53 317**	P	**P**	**02 42 32.3 +0.4**
SSE			S	**S**	**02 51 12.6 +4.1**
SSE			pmax	pmax	
	comp=Z,35nm,1.4s				
SSE			pmax	pmax	
	comp=Z,250nm,8.1s				
SSE			LR	LR	
	comp=Z,470nm,17.9s				
SSE			LR	LR	
	comp=Z,680nm,22.0s				
KSI	**Kapahiang**	**64.84 273**	P	**P**	**02 42 36.8 +2.3**
	comp=Z,83nm,0.9s				
KSRS	**Korea Array**	**64.85 326**	P	**P**	**02 42 34.4 +0.5**
	comp=Z,23nm,0.9s,baz=142,slow=6.9,SNR=36				
KSRS			LR	LR	03 09 06.4
	comp=Z,808nm,20.6s,baz=140,slow=34				
	comp=Z,23nm,0.9s				
KSAR	**Wonju Array Be**	**64.86 326**	P	**P**	**02 42 33.9 -0.1**
KSAR	**Wonju Array Be**	**64.86 326**	P	**P**	**02 42 33.9 -0.1**
MYKOM	**Kota Tinggi**	**65.22 280**	P	**P**	**02 42 37.0 +0.1**
JWK2	**Keihoku**	**65.24 340**	P	**P**	**02 42 38.0 +1.7**
SEHB	**SEOHWA**	**65.27 327**	IAmb	IAmb	02 42 38.6
	comp=Z,61nm,1.2s				
INCN	**Inchon**	**65.57 325**	P	**P**	**02 42 39.0 +0.4**
INCN	**Inchon**	**65.57 325**	P	**P**	**02 42 39.0 +0.4**
INCN			pmax	pmax	
	comp=Z,274nm,1.9s				
INCN	**Inchon**	**65.57 325**	P	**P**	**02 42 39.8 +1.2**
INCN	**Inchon**	**65.57 325**	P	**P**	**02 42 38.6 0.0**
GZH	**Guangzhou**	**65.62 305**	P	**P**	**02 42 40.8 +1.6**
YSS	**Yuzh-Sakhalins**	**66.44 342**	P	**P**	**02 42 45.3 +1.4**
YSS			IAMs_20	IAMs_20	03 05 50.9
	comp=Z,4μm,22.0s				
YSS	**Yuzh-Sakhalins**	**66.44 342**	*ce*P	**P**	**02 42 45.0 +1.0**
YSS			*e**SP	**sP**	**02 43 04.6 +4.3**
YSS			*e*		02 43 12.7
YSS			*e*S	**S**	**02 51 30.0 -1.3**
YSS			*e*PPS	PPS	02 52 00.9
YSS			pmax	pmax	
	comp=Z,1μm,3.9s				
YSS			pmax	pmax	
	comp=N,400nm,2.4s				
YSS			pmax	pmax	
	comp=Z,240nm,0.9s				
YSS			smax	smax	
	comp=N,800nm,5.0s				
YSS	**Yuzh-Sakhalins**	**66.44 342**	P	**P**	**02 42 45.8 +1.8**
YSS	**Yuzh-Sakhalins**	**66.44 342**	P	**P**	**02 42 44.9 +1.0**
YSS			pP	**pP**	**02 42 54.6 -1.1**
QIZ	**Qiongzhong**	**66.48 299**	IAmb	IAmb	02 42 47.6
	comp=Z,173nm,1.3s				
QIZ	**Qiongzhong**	**66.48 299**	P	**P**	**02 42 45.9 +1.0**
QIZ			sP	**pP**	**02 42 58.6 +1.9**
QIZ			S	**S**	**02 51 25.9 -7.1**
QIZ			pmax	pmax	
	comp=Z,98nm,1.3s				
QIZ			LR	LR	
	comp=Z,690nm,31.9s				
QIZ			LR	LR	
	comp=Z,820nm,27.1s				
QIZ			LR	LR	
	comp=Z,2μm,27.9s				
QIZ	**Qiongzhong**	**66.48 299**	P	**P**	**02 42 46.5 +1.6**
QIZ	**Qiongzhong**	**66.48 299**	P	**P**	**02 42 46.1 +1.3**
NJ2	**Nanjing**	**66.67 316**	⇑P	**P**	**02 42 46.3 +0.5**
NJ2			pP	**pP**	**02 42 55.8 -1.7**
NJ2			sP	**sP**	**02 43 00.0 -2.0**
NJ2			S	**S**	**02 51 39.3 +4.6**
NJ2			pmax	pmax	
	comp=Z,120nm,1.2s				
NJ2			pmax	pmax	
	comp=Z,1μm,3.9s				
NJ2			LR	LR	
	comp=Z,2μm,21.8s				
NJ2			LR	LR	
	comp=Z,1μm,19.4s				
NJ2			LR	LR	
	comp=Z,3μm,21.8s				
SDSI	**Sungai Dareh**	**66.71 276**	P	**P**	**02 42 46.4 -0.1**
	comp=Z,750nmcomp=Z,30nm,1.5s				
SKR	**Severo-Kuril's**	**67.09 352**	*e*P	**P**	**02 42 47.8 -0.2**
SKR			pmax	pmax	
	comp=Z,79nm,1.1s				
BKNI	**Bangkinang**	**67.45 277**	P	**P**	**02 42 51.2 0.0**
BKNI	**Bangkinang**	**67.45 277**	P	**P**	**02 42 53.1 +1.9**
	comp=Z,4μmcomp=Z,120nm,0.9s				
BKNI	**Bangkinang**	**67.45 277**	P	**P**	**02 42 53.5 +2.3**
PPSI	**Pulau Pagai**	**67.56 274**	P	P	02 42 59.3 +7.5
PDSI	**Padang**	**67.64 276**	P	**P**	**02 42 53.3 +0.9**
	comp=Z,5μmcomp=Z,19nm,1.0s				
USRK	**Ussuriysk Ar.**	**68.05 333**	P	**P**	**02 42 55.4 +1.1**
	comp=Z,222nm,1.0s,baz=139,slow=5.0,SNR=58				
USRK			LR	LR	03 10 28.0
	comp=Z,390nm,20.5s,baz=240,slow=34				
USRK			PKP2bc		03 11 12.1
	comp=Z,2.0nm,1.0s,baz=307,slow=6.9,SNR=6.4				
	comp=Z,222nm,1.0s				
USA0B	**Ussuriysk Arra**	**68.05 333**	P	**P**	**02 42 55.1 +0.8**
USA0B			IAmb	IAmb	02 42 59.6
	comp=Z,129nm,1.2s				
USA0B	**Ussuriysk Arra**	**68.05 333**	P	**P**	**02 42 55.1 +0.8**
USA0B			pmax	pmax	
	comp=Z,129nm,1.2s				
UGL	**Uglegorsk**	**68.55 342**	*e*P	**P**	**02 42 58.5 +1.2**
UGL			*e*S	**S**	**02 51 59.6 +3.0**
UGL			pmax	pmax	
	comp=E,150nm,0.9s				
UGL			pmax	pmax	
	comp=N,120nm,0.8s				
UGL			pmax	pmax	
	comp=Z,320nm,1.0s				
UBPT	**Khong Chiam**	**68.62 294**	IAmb	IAmb	02 43 00.9
	comp=Z,112nm,1.2s				
SHEM	**Shemya Is, Ala**	**68.64 4**	P	**P**	**02 42 58.9 +1.2**
	comp=Z,87nm,0.9s,baz=262,slow=19,SNR=3.1				
SHEM			LR	LR	03 07 34.1
	comp=Z,3μm,21.0s,baz=150,slow=31				
	comp=Z,87nm,0.9s				
IPM	**Ipoh**	**68.75 281**	IAmb	IAmb	02 43 00.9
	comp=Z,104nm,1.2s				
IPM	**Ipoh**	**68.75 281**	P	**P**	**02 43 00.2 +0.9**
SISI	**Šaibi**	**68.84 275**	P	**P**	**02 43 02.1 +2.2**
	comp=Z,43nm,1.1s				
WHN	**Wuhan**	**68.89 312**	⇑P	**P**	**02 43 00.1 +0.3**
WHN			pP	**pP**	**02 43 09.6 -1.9**
WHN			S	**S**	**02 52 03.3 +2.0**
WHN			pmax	pmax	
	comp=Z,300nm,1.1s				
WHN			LR	LR	
	comp=Z,2μm,13.9s				
WHN			LR	LR	
	comp=Z,4μm,20.8s				
WHN			LR	LR	
	comp=Z,6μm,23.4s				
GULI	**GuiLin**	**69.07 306**	⇑P	**P**	**02 43 00.5 -0.6**
GULI			S	**S**	**02 52 04.5 +0.7**
GULI			LR	LR	
	comp=Z,880nm,21.7s				
GULI			LR	LR	
	comp=Z,1μm,20.6s				
GULI			LR	LR	
	comp=Z,250nm,1.2s				
PET	**Petropavlovsk**	**69.11 354**	P	**P**	**02 43 00.7 +0.1**
PET			IAmb	IAmb	02 43 01.8
	comp=Z,156nm,1.2s				
PET	**Petropavlovsk**	**69.11 354**	⇓*i*P	**P**	**02 43 00.8 +0.1**
PET			*e*S	**S**	**02 52 04.1 +1.0**
PET			*e*PPS	PPS	02 52 40.5
PET			*e*		02 52 55.7
PET			*e*SS	**SS**	**02 56 34.1 +3.9**
PET			pmax	pmax	
	comp=Z,160nm,1.2s				
PET			pmax	pmax	
	comp=Z,800nm,12.9s				
PET	**Petropavlovsk**	**69.11 354**	P	**P**	**02 43 01.2 +0.6**
PET	**Petropavlovsk**	**69.11 354**	P	**P**	**02 43 00.4 -0.3**
PEA0B	**Petropavlovsk-**	**69.29 354**	*c i*P	**P**	**02 43 01.8 0.0**
PETK	**Petropavlovsk-**	**69.29 354**	P	**P**	**02 43 02.1 +0.3**
	comp=Z,90nm,0.9s,baz=178,slow=10,SNR=52				
PETK			LR	LR	03 08 56.4
	comp=Z,1μm,20.4s,baz=166,slow=32				
	comp=Z,90nm,0.9s				
KULM	**Kulim**	**69.37 282**	IAmb	IAmb	02 43 04.7
	comp=Z,98nm,1.2s				
DL2	**Dalian**	**69.38 323**	P	**P**	**02 43 02.9 +0.3**
DL2			S	**S**	**02 52 06.3 -0.5**
DL2			pmax	pmax	
	comp=Z,250nm,1.1s				
DL2			pmax	pmax	
	comp=Z,430nm,6.7s				
DL2			LR	LR	
	comp=Z,810nm,21.3s				
DL2			LR	LR	
	comp=Z,1μm,28.4s				
DL2			LR	LR	
	comp=Z,2μm,27.1s				
MDJ	**Mudanjiang**	**69.44 332**	P	**P**	**02 43 03.3 +0.4**
MDJ	**Mudanjiang**	**69.44 332**	P	**P**	**02 43 03.8 +0.9**
MDJ			pP	pP	02 43 14.8 +0.1
MDJ			S	**S**	**02 52 10.9 +3.6**
MDJ			ScS	**ScS**	**02 53 01.6 +0.6**
MDJ			pmax	pmax	
	comp=Z,370nm,1.1s				
MDJ			pmax	pmax	
	comp=Z,920nm,3.5s				
MDJ			LR	LR	
	comp=Z,1μm,18.8s				
MDJ			LR	LR	
	comp=Z,770nm,19.2s				
MDJ			LR	LR	
	comp=Z,2μm,22.2s				
MDJ	**Mudanjiang**	**69.44 332**	P	**P**	**02 43 04.1 +1.2**
MDJ	**Mudanjiang**	**69.44 332**	P	**P**	**02 43 03.6 +0.7**
PBSI	**Pulau Batu**	**69.98 276**	P	**P**	**02 43 10.8 +3.9**
	comp=Z,120nm,2.2s				
TYV	**Tymovskoe**	**70.00 344**	*e*P	**P**	**02 43 07.0 +0.8**
TYV			*e*S	**S**	**02 52 16.6 +3.0**
TYV			pmax	pmax	
	comp=Z,900nm,4.2s				
TYV			pmax	pmax	
	comp=Z,92nm,1.0s				
TYV			smax	smax	
	comp=N,800nm,4.7s				
TYV			smax	smax	
	comp=E,400nm,4.7s				
RPSI	**Rantau Prapat**	**70.18 279**	P	**P**	**02 43 07.5 -0.7**
RPSI			IAmb	IAmb	02 43 09.1
	comp=Z,114nm,1.2s				
PSI	**Prapat**	**70.21 279**	P	**P**	**02 43 07.5 -1.0**
PSI			pmax	pmax	
	comp=Z,114nm,1.2s				
PSI	**Prapat**	**70.21 279**	P	**P**	**02 43 08.1 -0.4**
SNY	**Shenyang**	**70.32 327**	⇑P	**P**	**02 43 07.5 -0.8**
SNY			S	**S**	**02 52 12.1 -5.6**
SNY			pmax	pmax	
	comp=Z,34nm,1.2s				
SNY			pmax	pmax	
	comp=Z,730nm,4.0s				
SNY			LR	LR	
	comp=Z,890nm,19.0s				
SNY			LR	LR	
	comp=Z,1μm,19.0s				
SNY			LR	LR	
	comp=Z,2μm,23.3s				
TIA	**Tai'an**	**70.37 319**	⇑P	**P**	**02 43 08.5 -0.3**
TIA			S	**S**	**02 52 16.8 -1.8**
TIA			pmax	pmax	
	comp=Z,97nm,1.2s				
TIA			pmax	pmax	
	comp=Z,450nm,4.5s				
TIA			LR	LR	
	comp=Z,640nm,23.5s				
TIA			LR	LR	
	comp=Z,1μm,22.6s				
TIA			LR	LR	
	comp=Z,2μm,23.1s				
CN2	**Changchun**	**70.78 329**	P	**P**	**02 43 11.3 +0.2**
CN2			S	**S**	**02 52 17.8 -5.3**
CN2			pmax	pmax	
	comp=Z,160nm,1.0s				
CN2			pmax	pmax	
	comp=Z,800nm,4.0s				
CN2			LR	LR	
	comp=Z,1μm,20.0s				
CN2			LR	LR	
	comp=Z,600nm,20.0s				
CN2			LR	LR	
	comp=Z,1μm,23.0s				
GSI	**Gunungsitoli**	**71.05 277**	P	**P**	**02 43 13.7 +0.2**
GSI	**Gunungsitoli**	**71.05 277**	P	**P**	**02 43 14.4 +1.0**
	comp=Z,135μmcomp=Z,38μmcomp=Z,166nm,1.5s				
GSI	**Gunungsitoli**	**71.05 277**	P	**P**	**02 43 14.5 +1.0**
BNX	**BinXian**	**71.29 332**	⇑P	**P**	**02 43 13.6 -0.6**
BNX			pP	**pP**	**02 43 23.5 -2.6**
BNX			sP	**sP**	**02 43 28.8 -1.9**
BNX			PP	**PP**	**02 45 58.5 +5.5**
BNX			S	**S**	**02 52 27.6 -1.3**
BNX			sS	**pS**	**02 52 44.4 +0.9**
BNX			pmax	pmax	
	comp=Z,130nm,1.0s				
BNX			pmax	pmax	
	comp=Z,890nm,3.6s				
BNX			LR	LR	
	comp=Z,380nm,17.3s				
BNX			LR	LR	
	comp=Z,560nm,20.8s				
BNX			LR	LR	
	comp=Z,540nm,22.1s				
SRIT	**Nakonsritamara**	**71.45 285**	IAmb	IAmb	02 43 18.4
	comp=Z,182nm,1.6s				
KCSI	**Kotacane, Aceh**	**71.53 279**	P	**P**	**02 43 16.2 -0.2**
	comp=Z,822nmcomp=Z,49nm,1.5s				
GRNR	**Gornyy**	**71.80 340**⇑	*i*P	**P**	**02 43 18.3 +1.2**
GRNR			*e*S	**S**	**02 52 40.5 +5.9**
GRNR			pmax	pmax	
	comp=E,50nm,0.8s				
GRNR			pmax	pmax	
	comp=N,50nm,1.0s				
GRNR			pmax	pmax	
	comp=Z,190nm,0.9s				
GRNR			smax	smax	
	comp=N,8.0nm,0.9s				
KLR	**Kul'dur**	**72.19 336**	P	**P**	**02 43 20.1 +0.6**
	comp=N,206nm,1.1s,baz=123,slow=3.6,SNR=35				
KLR			LR	LR	03 11 48.3
	comp=N,1μm,21.5s,baz=147,slow=33				
	comp=N,206nm,1.1s				
KLR	**Kul'dur**	**72.19 336**	*c i*P	**P**	**02 43 19.7 +0.2**
KLR			pmax	pmax	
	comp=Z,322nm,1.3s				
ENH	**Enshi**	**72.28 310**	P	**P**	**02 43 20.1 -0.4**
LYN	**LuoYang**	**72.46 315**⇑	*i*P	**P**	**02 43 21.0 -0.5**
LYN			pP	pP	02 43 34.5 +1.2
LYN			PP	**PP**	**02 46 02.5 -0.7**
LYN			S	**S**	**02 52 41.8 -1.0**
LYN			pmax	pmax	
	comp=Z,130nm,1.3s				
LYN			pmax	pmax	
	comp=Z,720nm,2.9s				
LYN			LR	LR	
	comp=Z,2μm,19.8s				
LYN			LR	LR	
	comp=Z,1μm,22.3s				
LYN			LR	LR	
	comp=Z,3μm,22.7s				
GYA	**Guiyang**	**72.55 305**	⇓P	**P**	**02 43 23.5 +1.1**
GYA			PP	**PP**	**02 46 00.1 -4.2**
GYA			S	**S**	**02 52 45.4 +1.0**
GYA			SS	**SS**	**02 57 24.9 +0.5**
GYA			pmax	pmax	
	comp=Z,160nm,1.2s				
GYA			pmax	pmax	
	comp=Z,1μm,7.6s				
GYA			LR	LR	
	comp=Z,810nm,22.6s				
GYA			LR	LR	
	comp=Z,770nm,22.4s				
GYA			LR	LR	
	comp=Z,1μm,23.8s				
HNS	**HongShan**	**72.63 318**	⇑P	**P**	**02 43 23.0 +0.6**
HNS			pP	**pP**	**02 43 34.5 +0.3**
HNS			S	**S**	**02 52 45.6 +1.0**
HNS			pmax	pmax	
	comp=Z,170nm,1.2s				
HNS			LR	LR	
	comp=Z,700nm,20.8s				
HNS			LR	LR	
	comp=Z,2μm,19.9s				
HNS			LR	LR	
	comp=Z,2μm,24.9s				
BJT	**Baijiatuau**	**73.31 321**	P	**P**	**02 43 27.4 +1.0**
BJT			IAmb	IAmb	02 43 29.0
	comp=Z,144nm,1.1s				
BJT	**Baijiatuau**	**73.31 321**	P	**P**	**02 43 27.4 +1.0**
BJT			pmax	pmax	
	comp=Z,144nm,1.1s				
BJI	**Beijing**	**73.32 321**	P	**P**	**02 43 26.6 +0.2**
BJI			S	**S**	**02 52 51.3 -1.1**
BJI			pmax	pmax	
	comp=Z,120nm,1.2s				
BJI			pmax	pmax	
	comp=Z,780nm,3.9s				
BJI			LR	LR	
	comp=Z,360nm,21.6s				
BJI			LR	LR	
	comp=Z,1μm,22.8s				
BJI			LR	LR	
	comp=Z,3μm,23.3s				
QSPA	**South Pole Qui**	**74.08 180**	LR	LR	03 13 33.6
	comp=Z,2μm,19.6s,baz=32,slow=34				
QSPA	**South Pole Qui**	**74.08 180**	P	**P**	**02 43 30.2 -0.6**
QSPA			IAmb	IAmb	02 43 36.8
	comp=Z,125nm,0.8s				
QSPA	**South Pole Qui**	**74.08 180**	IAMs_20	IAMs_20	03 13 23.5
	comp=Z,2μm,20.0s				
TIY	**Taiyuan**	**74.28 318**	*e*P	**P**	**02 43 33.3 +1.1**
TIY			S	**S**	**02 53 02.5 -0.9**
TIY			pmax	pmax	
	comp=Z,900nm,6.3s				
TIY			LR	LR	
	comp=Z,1μm,23.0s				
XAN	**Xi'an**	**74.64 313**	⇑P	**P**	**02 43 34.6 +0.2**
XAN			pP	pP	02 43 42.8 -3.5
XAN			sP	PcP	02 43 46.5 -2.0
XAN			S	**S**	**02 53 08.4 +0.8**
XAN			pmax	pmax	
	comp=Z,91nm,1.4s				
XAN			LR	LR	
	comp=Z,1μm,20.9s				
XAN			LR	LR	
	comp=Z,2μm,20.6s				
XAN			LR	LR	
	comp=Z,4μm,21.6s				
CRAI	**Chiangrai**	**75.05 296**	IAmb	IAmb	02 43 39.5
	comp=Z,176nm,1.1s				
KMI	**Kunming**	**75.10 302**	⇑P	**P**	**02 43 38.5 +1.1**
KMI			pP	PcP	02 43 51.6 +0.7
KMI			S	**S**	**02 53 14.1 +0.7**
KMI			SKS	**SKSac**	**02 53 39.0 -5.0**
KMI			pmax	pmax	
	comp=Z,210nm,1.2s				
KMI			LR	LR	
	comp=Z,740nm,26.4s				
KMI			LR	LR	
	comp=Z,1μm,25.9s				
KMI			LR	LR	
	comp=Z,2μm,26.7s				
CM31	**Chiang Mai Arr**	**75.61 294**	IAmb	IAmb	02 43 43.0
	comp=Z,109nm,1.1s				
CMAR	**Chiang Mai Arr**	**75.61 294**	P	**P**	**02 43 41.4 +1.2**
	comp=Z,29nm,0.9s,baz=124,slow=4.2,SNR=76				
CMAR			PKPPKP	**P'P'df**	**03 11 00.8 -0.6**
	comp=Z,1.4nm,0.4s,baz=258,slow=4.2,SNR=1.7				
CMAR			LR	LR	03 17 38.7
	comp=Z,495nm,19.9s,baz=110,slow=36				
	comp=Z,29nm,0.9s				
CMAR	**Chiang Mai Arr**	**75.61 294**	*ce*P	**P**	**02 43 41.4 +1.2**
CMAR			pmax	pmax	
	comp=Z,32nm,0.9s				
CHTO	**Chiang Mai**	**75.74 295**	P	**P**	**02 43 41.9 +0.9**
CHTO	**Chiang Mai**	**75.74 295**	P	**P**	**02 43 41.9 +0.9**
CHTO			pmax	pmax	
	comp=Z,2.0nm,0.8s				
CHTO	**Chiang Mai**	**75.74 295**	P	**P**	**02 43 42.9 +2.0**
CHTO			P	**P**	**02 43 42.9 +2.0**
CHTO	**Chiang Mai**	**75.74 295**	P	**P**	**02 43 42.0 +1.0**
XLT	**XiLinHaoTe**	**75.80 324**⇑	*i*P	**P**	**02 43 41.0 +0.1**
XLT			pP	PcP	02 43 53.3 0.0
XLT			sP	pP	02 43 54.8 +2.0
XLT			S	**S**	**02 53 19.4 -0.7**
XLT			sS	sS	02 53 37.6 -2.4

XLT SKS **SKSac** **02 53 46.0 -2.1**
XLT SS **SS** **02 58 16.3 +3.2**
XLT pmax pmax
comp=Z,190nm,1.2s
XLT pmax pmax
comp=Z,780nm,4.1s
XLT LR LR
comp=Z,830nm,18.6s
XLT LR LR
comp=Z,1µm,20.4s
CHNA Chernabura Isl **75.87 19** P **P** **02 43 37.7 -3.1**
baz=213
SDPT Sand Point **76.04 18** P **P** **02 43 38.5 -3.3**
baz=212
MA2 Magadan **76.48 351** P **P** **02 43 43.6 -0.6**
comp=Z,54nm,0.8s,baz=150,slow=5.3,SNR=18
MA2 LR LR 03 12 49.1
comp=Z,2µm,21.9s,baz=180,slow=32
comp=Z,54nm,0.8s
MA2 Magadan **76.48 351** P **P** **02 43 44.0 -0.3**
MA2 IAmb IAmb 02 43 44.9
comp=Z,74nm,0.9s
MA2 IAMs_20 IAMs_20 03 12 05.2
comp=Z,3µm,22.0s
MA2 Magadan **76.48 351** *c i* P **P** **02 43 43.1 -1.1**
MA2 pmax pmax
comp=Z,76nm,0.7s
MA2 MLR MLR
comp=Z,748nm,18.0s
PZH PanZhiHua **76.50 303** ⇑P **P** **02 43 45.6 +0.3**
PZH pP **pP** **02 43 57.9 +0.7**
PZH S **S** **02 53 29.8 +1.1**
PZH SS **SS** **02 58 22.5 -2.0**
PZH pmax pmax
comp=Z,70nm,1.3s
PZH pmax pmax
comp=Z,670nm,5.3s
PZH LR LR
comp=Z,2µm,20.9s
PZH LR LR
comp=Z,3µm,19.8s
PZH LR LR
comp=Z,2µm,20.1s
HHC Hu-ho-hao-te **76.63 320** *e* P **P** **02 43 46.6 +0.9**
HHC pmax pmax
comp=Z,230nm,1.2s
HHC pmax pmax
comp=Z,2µm,10.3s
HHC LR LR
comp=Z,1µm,22.0s
HHC LR LR
comp=Z,1µm,22.7s
HHC LR LR
comp=Z,4µm,22.7s
CD2 Chengdu **76.89 308** P **P** **02 43 47.8 +0.5**
CD2 S **S** **02 53 34.3 +1.7**
CD2 pmax pmax
comp=Z,120nm,0.9s
CD2 pmax pmax
comp=Z,450nm,5.2s
CD2 LR LR
comp=Z,1µm,21.4s
CD2 LR LR
comp=Z,2µm,20.4s
CD2 LR LR
comp=Z,2µm,19.6s
RPN Rapa Nui **76.99 115** LR LR 03 13 32.8
comp=Z,265nm,18.0s,baz=254,slow=32
S14K Fog Glacier **77.11 18** P **P** **02 43 44.5 -3.5**
baz=212
HIA Hailar **77.43 330** P **P** **02 43 50.5 +0.6**
HIA IAmb IAmb 02 43 52.4
comp=Z,158nm,1.1s
HIA Hailar **77.43 330** *c i* P **P** **02 43 49.5 -0.4**
HIA pmax pmax
comp=Z,159nm,1.1s
HIA MLR MLR
comp=Z,1µm,21.0s
BTO Baotou **77.46 319** *e* P **P** **02 43 51.6 +1.3**
BTO S **S** **02 53 41.0 +2.6**
BTO LR LR
comp=Z,3µm,19.8s
BTO LR LR
comp=Z,3µm,18.3s
ZEA Zeya **77.48 337** *e* P **P** **02 43 50.7 +0.7**
ZEA *e*S **S** **02 53 40.2 +2.3**
ZEA pmax pmax
comp=E,200nm,2.8s
ZEA pmax pmax
comp=N,300nm,2.5s
ZEA pmax pmax
comp=Z,500nm,2.4s
ZEA pmax pmax
comp=N,80nm,1.0s
ZEA pmax pmax
comp=E,40nm,1.0s
ZEA pmax pmax
comp=Z,180nm,1.1s
ZEA smax smax
comp=N,400nm,12.9s
ZEA smax smax
comp=E,400nm,6.5s
CHIR Chirikof Islan **77.97 20** IAMs_20 IAMs_20 03 09 26.4
comp=Z,2µm,22.0s
SII Sitkinak Island **79.04 20** IAMs_20 IAMs_20 03 17 37.8
comp=Z,2µm,19.0s
R17K Ugashik Creek **79.20 19** P **P** **02 43 57.8 -1.6**
baz=215
LZH Lanzhou **79.27 312** ⇑P **P** **02 44 02.0 +1.5**
LZH sP sP 02 44 15.8 -1.2
LZH S **S** **02 53 57.8 -0.4**
LZH sS SKKSac 02 54 16.3 +1.0
LZH pmax pmax
comp=Z,170nm,1.5s
LZH pmax pmax
comp=Z,740nm,4.8s
LZH LR LR
comp=Z,1µm,18.2s
LZH LR LR
comp=Z,1µm,17.2s
LZH LR LR
comp=Z,2µm,17.2s
SEY Seymchan **79.51 353** P **P** **02 44 00.9 -0.1**
comp=Z,62nm,0.9s,baz=158,slow=5.3,SNR=32
comp=Z,62nm,0.9s
SEY Seymchan **79.51 353** *c e* P **P** **02 44 00.8 -0.2**
SEY pmax pmax
comp=Z,226nm,1.7s
OHAK Old Harbor **79.87 20** IAmb IAmb 02 44 21.7
comp=Z,132nm,1.4s
OHAK Old Harbor **79.87 20** P **P** **02 44 01.8 -1.3**
baz=218
Q16K King Salmon **79.97 18** P **P** **02 44 01.6 -1.9**
baz=215
O16K Kokwok River B **80.31 17** P **P** **02 44 02.8 -2.6**
baz=214
P17K Kvichak River **80.46 18** P **P** **02 44 04.0 -2.2**
baz=215
KDAK Kodiak Island **80.55 20** P **P** **02 44 06.7 +0.1**
comp=Z,12nm,1.0s,baz=255,slow=8.6,SNR=4.0
KDAK LR LR 03 18 03.7
comp=Z,1µm,18.2s,baz=231,slow=34
comp=Z,12nm,1.0s
KDAK Kodiak Island **80.55 20** P **P** **02 44 06.5 -0.1**
KDAK IAmb IAmb 02 44 27.5
comp=Z,137nm,1.9s
KDAK Kodiak Island **80.55 20** IAMs_20 IAMs_20 03 18 09.6
comp=Z,2µm,18.0s
KDAK Kodiak Island **80.55 20** ⇑ *e* P **P** **02 44 06.0 -0.7**
KDAK pmax pmax
comp=Z,53nm,1.3s
KDAK Kodiak Island **80.55 20** P **P** **02 44 05.0 -1.7**
baz=219
O17K Koliganek Bris **80.75 17** P **P** **02 44 06.0 -1.7**
baz=214
MAW Mawson **80.82 202** P **P** **02 44 08.8 +0.7**
comp=Z,34nm,1.0s,baz=102,slow=6.7,SNR=28
MAW LR LR 03 15 37.2
comp=Z,2µm,20.2s,baz=82,slow=32
comp=Z,34nm,1.0s
MAW Mawson **80.82 202** P **P** **02 44 08.7 +0.5**
baz=81,SNR=33
MAW Mawson **80.82 202** P **P** **02 44 08.6 +0.5**
N16K Nishlik Lake **80.87 16** P **P** **02 44 07.5 -1.0**
baz=213
P18K Big Mountain, **80.98 18** IAmb IAmb 02 44 11.0
comp=Z,175nm,1.6s
P18K IAMs_20 IAMs_20 03 12 49.9
comp=Z,2µm,21.0s
P18K Big Mountain, **80.98 18** P **P** **02 44 07.1 -1.9**
baz=216
Q19K Cape Douglas, **81.10 19** IAMs_20 IAMs_20 03 12 31.1
comp=Z,2µm,22.0s
Q19K Cape Douglas, **81.10 19** P **P** **02 44 08.2 -1.5**
baz=218
Q20K Shuyak Island **81.25 20** P **P** **02 44 09.0 -1.4**
baz=219
P19K Oil Pt **81.81 19** P **P** **02 44 12.1 -1.3**
baz=218
N18K Kilae Creek **81.84 17** P **P** **02 44 13.7 +0.1**
N18K Kilae Creek **81.84 17** P **P** **02 44 12.2 -1.3**
baz=215
O19K Port Alsworth **81.90 18** P **P** **02 44 11.7 -2.1**
baz=217
CIT Chita **82.21 330** *e* P **P** **02 44 15.6 -0.2**
CIT *e* 02 44 31.4
CIT *e* 02 44 35.8
CIT *e*S **S** **02 54 28.0 0.0**
CIT pmax pmax
comp=Z,703nm,1.6s
HOM Homer **82.31 20** IAMs_20 IAMs_20 03 12 56.2
comp=Z,2µm,22.0s
HOM Homer **82.31 20** P **P** **02 44 13.6 -2.4**
baz=219
O20K Slope Mountain **82.33 19** P **P** **02 44 13.7 -2.5**
baz=216
CNPM China Poot **82.34 20** IAMs_20 IAMs_20 03 14 24.1
comp=Z,2µm,22.0s
N19K Bonanza Creek **82.35 18** P **P** **02 44 14.2 -2.1**
baz=217
BRLK Bradley Lake **82.64 20** IAmb IAmb 02 44 38.6
comp=Z,102nm,1.2s
BRSE Bradley Lake S **82.67 20** P **P** **02 44 16.8 -1.2**
baz=220,SNR=11
ANM Nome **82.93 11** IAMs_20 IAMs_20 03 14 44.2
comp=Z,2µm,21.0s
ULN Ulaanbaatar **83.22 324** P **P** **02 44 21.6 +0.3**
ULN Ulaanbaatar **83.22 324** *c e* P **P** **02 44 21.5 +0.3**
ULN pmax pmax
comp=Z,492nm,1.3s
ULN Ulaanbaatar **83.22 324** P **P** **02 44 23.2 +2.0**
YAK Yakutsk **83.25 343** P **P** **02 44 21.1 +0.3**
comp=Z,143nm,0.9s,baz=112,slow=1.0,SNR=23
YAK LR LR 03 16 57.5
comp=Z,2µm,21.9s,baz=98,slow=32
comp=Z,143nm,0.9s
YAK Yakutsk **83.25 343** P **P** **02 44 20.6 -0.2**
YAK IAMs_20 IAMs_20 03 15 49.2
comp=Z,2µm,22.0s
YAK Yakutsk **83.25 343** *c i* P **P** **02 44 20.5 -0.3**
YAK *e**PP **pP** **02 44 31.2 -1.8**
YAK *e*S **S** **02 54 35.6 -2.4**
YAK *e*SSS SSS 03 03 22.7
YAK pmax pmax
comp=Z,227nm,0.9s
YAK pmax pmax
comp=E,11nm,0.8s
YAK pmax pmax
comp=N,38nm,1.1s
YAK smax smax
comp=E,209nm,1.5s
YAK smax smax
comp=N,377nm,1.7s
M19K Big River Lodg **83.25 17** IAmb IAmb 02 44 24.2
comp=Z,91nm,1.4s
M19K Big River Lodg **83.25 17** P **P** **02 44 19.6 -1.3**
baz=217,SNR=15
N20K Mount Spurr **83.34 18** P **P** **02 44 19.1 -2.3**
baz=219,SNR=6.5
SPCR Spurr Chakacha **83.34 18** P **P** **02 44 19.1 -2.3**
baz=219
L19K White Mountain **83.35 17** P **P** **02 44 20.0 -1.4**
baz=216,SNR=34
SEW Seward **83.37 20** IAmb IAmb 02 44 44.1
comp=Z,158nm,1.5s
SEW Seward **83.37 20** P **P** **02 44 19.7 -1.8**
baz=221,SNR=5.0
TNA Tin City **83.38 10** P **P** **02 44 21.1 -0.3**
baz=204
BRDH Bariadhala **83.50 296** P **P** **02 44 24.0 +1.0**
comp=Z,43nm,0.3s,baz=63,slow=9.2,SNR=6.9
comp=Z,43nm,0.3s
O22K Cooper Landing **83.57 20** P **P** **02 44 21.1 -1.3**
baz=221
SONM Songino Array **83.58 324** P **P** **02 44 23.5 +0.5**
comp=Z,165nm,1.0s,baz=136,slow=2.9,SNR=126
SONM PKKPbc **PKKPbc** **03 02 40.8 -2.3**
comp=Z,1.1nm,0.9s,baz=302,slow=3.3,SNR=5.1
SONM PKPPKP **P'P'df** **03 10 44.4 0.0**
comp=Z,0.2nm,0.4s,baz=228,slow=3.7,SNR=4.3
SONM LR LR 03 19 23.1
comp=Z,884nm,22.0s,baz=124,slow=34
comp=Z,165nm,1.0s
SONM Songino Array **83.58 324** P **P** **02 44 23.2 +0.2**
M20K Styx River **83.60 18** P **P** **02 44 20.9 -1.9**
baz=218
GTA Gaotai **83.64 314** ⇑P **P** **02 44 24.1 +0.6**
GTA pP pP 02 44 34.4 -1.2
GTA sP sP 02 44 38.3 -1.8
GTA PP **PP** **02 47 36.8 -0.1**
GTA S **S** **02 54 42.3 -0.9**
GTA sS pS 02 54 59.9 +1.4
GTA pmax pmax
comp=Z,130nm,1.6s
GTA pmax pmax
comp=Z,790nm,4.9s
GTA LR LR
comp=Z,750nm,21.4s
GTA LR LR
comp=Z,1µm,23.3s
GTA LR LR
comp=Z,2µm,22.2s
BILL Bilibino **83.76 360** P **P** **02 44 23.7 +0.4**
BILL Bilibino **83.76 360** *d i* P **P** **02 44 22.3 -1.1**
BILL *e* 02 47 44.8
BILL *e*PPP PPP 02 49 33.7
BILL pmax pmax
comp=Z,229nm,1.7s
L20K Farewell, AK **83.86 17** P **P** **02 44 23.6 -0.5**
baz=217,SNR=55
SUA Susitna One **83.99 19** P **P** **02 44 21.9 -2.9**
baz=220
RC01 Rabbit Creek A **84.02 19** IAMs_20 IAMs_20 03 14 24.4
comp=Z,2µm,22.0s
RC01 Rabbit Creek A **84.02 19** P **P** **02 44 22.1 -2.7**
baz=221,SNR=9.8
SKT Skwentna **84.15 18** IAMs_20 IAMs_20 03 14 40.8
comp=Z,2µm,22.0s
SKT Skwentna **84.15 18** P **P** **02 44 22.3 -3.2**
baz=219,SNR=7.4
PWL Port Wells **84.31 20** P **P** **02 44 25.6 -0.7**
PWL Port Wells **84.31 20** P **P** **02 44 22.4 -3.9**
baz=222,SNR=6.6
M22K Willow **84.41 19** P **P** **02 44 25.1 -1.6**
baz=221,SNR=8.4
K20K Telida **84.51 16** IAmb IAmb 02 44 30.4
comp=Z,95nm,1.4s
K20K Telida **84.51 16** P **P** **02 44 26.5 -0.8**
baz=217,SNR=28
MCCM Marconi Confer **84.52 48** IAMs_20 IAMs_20 03 13 47.7
comp=Z,2µm,20.0s
HIN Hinchinbrook I **84.59 21** IAMs_20 IAMs_20 03 17 28.4
comp=Z,2µm,20.0s
PMR Palmer **84.59 19** P **P** **02 44 26.3 -1.4**
baz=222,SNR=13
KNK Knik Glacier **84.68 20** IAmb IAmb 02 44 47.0
comp=Z,128nm,1.4s
KNK Knik Glacier **84.68 20** P **P** **02 44 26.9 -1.2**
baz=222
GLI Glacier Island **84.73 20** P **P** **02 44 26.1 -2.4**
baz=224
GHO Glory Hole Cre **84.80 19** IAMs_20 IAMs_20 03 15 53.8
comp=Z,2µm,21.0s
CUT Chulitna **84.86 18** IAMs_20 IAMs_20 03 15 05.5
comp=Z,2µm,22.0s
CUT Chulitna **84.86 18** P **P** **02 44 26.5 -2.5**
baz=220
GDXM Geysers **84.86 47** P **P** **02 44 30.2 +0.5**
JCC Jacoby Creek, **84.87 45** IAMs_20 IAMs_20 03 14 16.8
comp=Z,2µm,20.0s
GCSA Galena City Sc **84.93 15** P **P** **02 44 28.2 -1.1**
baz=214,SNR=9.9
SML Sawmill **85.01 19** P **P** **02 44 28.6 -1.3**
baz=222
J20K Nowinta River **85.15 16** IAmb IAmb 02 44 33.5
comp=Z,65nm,1.2s
J20K Nowinta River **85.15 16** P **P** **02 44 29.9 -0.5**
baz=217,SNR=32
M23K Glacier View **85.19 20** P **P** **02 44 28.6 -2.1**
baz=223
HMT Hamilton **85.33 22** IAMs_20 IAMs_20 03 18 37.2
comp=Z,2µm,19.0s
SCM Sheep Creek Mo **85.35 20** IAmb IAmb 02 45 00.6
comp=Z,117nm,1.4s
SCM Sheep Creek Mo **85.35 20** P **P** **02 44 29.2 -2.5**
baz=223
DIV Divide **85.36 21** IAmb IAmb 02 44 50.3
comp=Z,53nm,1.3s
PKM Mcpherson Peak **85.46 52** P **P** **02 44 32.0 -1.0**
baz=247
BELA Belgrano 2 **85.49 175** P **P** **02 44 32.0 -0.1**
KLU Klutina **85.57 20** P **P** **02 44 32.0 -0.7**
baz=224
BERG Berg Lake **85.57 22** IAMs_20 IAMs_20 03 18 34.6
comp=Z,2µm,20.0s
TRF Thorofare Moun **85.65 18** P **P** **02 44 31.1 -2.1**
baz=220,SNR=8.8
BOD Bodaibo **85.65 334** *e* P **P** **02 44 31.8 -1.3**
BOD pmax pmax
comp=Z,170nm,1.6s
BMRM Bremner River **85.65 21** P **P** **02 44 31.3 -1.8**
baz=226
WAT1 Susitna Watana **85.70 19** P **P** **02 44 31.6 -1.7**
baz=222
SNH Sunshine Point **85.74 22** IAMs_20 IAMs_20 03 18 29.0
comp=Z,2µm,20.0s
L02F Cave Junction **85.75 44** P **P** **02 44 32.6 -1.4**
baz=244
WAT6 Susitna Watana **85.77 19** P **P** **02 44 32.3 -1.4**
baz=223
BCW Bitter Crk WRg **85.79 52** IAmb IAmb 02 45 01.9
comp=Z,54nm,1.1s
GOMU GeErMu **85.89 309** P **P** **02 44 35.4 +0.1**
GOMU pP PcP 02 44 39.9 +1.9
GOMU sP pP 02 44 42.3 -5.1
GOMU pmax pmax
comp=Z,10.0nm,1.2s
GOMU pmax pmax
comp=Z,560nm,6.2s
GOMU LR LR
comp=Z,620nm,21.4s
GOMU LR LR
comp=Z,1µm,20.4s
GOMU LR LR
comp=Z,2µm,22.0s
WAX Waxell Ridge **85.92 22** IAMs_20 IAMs_20 03 18 15.7
comp=Z,2µm,20.0s
M24K Tolsona, Glenn **85.93 20** IAmb IAmb 02 44 53.9
comp=Z,80nm,1.3s
M24K Tolsona, Glenn **85.93 20** P **P** **02 44 32.2 -2.2**
baz=224
K02D Willamette Mer **85.94 44** P **P** **02 44 33.8 -1.2**
baz=244
BPAW Bear Paw Mtn. **85.95 17** P **P** **02 44 30.8 -3.7**
baz=220,SNR=8.8
J01E Myrtle Point **85.96 43** P **P** **02 44 33.0 -2.0**
baz=244
RND Reindeer **86.04 18** P **P** **02 44 34.2 -0.8**
RND IAmb IAmb 02 44 53.5
comp=Z,108nm,1.4s
RND IAMs_20 IAMs_20 03 15 41.7
comp=Z,3µm,22.0s
RND Reindeer **86.04 18** P **P** **02 44 34.2 -0.8**
RND pmax pmax
comp=Z,109nm,1.4s
MESA MESA **86.07 23** IAMs_20 IAMs_20 03 17 20.7
comp=Z,2µm,20.0s
MESA MESA **86.07 23** P **P** **02 44 33.8 -1.6**
baz=228
ORV Oroville **86.09 47** IAMs_20 IAMs_20 03 14 59.1
comp=Z,2µm,21.0s
N25K Chitina, Valde **86.10 21** P **P** **02 44 33.3 -2.1**
baz=226
TGL Tana Glacier **86.14 22** IAMs_20 IAMs_20 03 17 55.4
comp=Z,1µm,19.0s
YBH Yreka Blue Hor **86.16 45** LR LR 03 14 30.5
comp=Z,2µm,22.0s,baz=250,slow=30
FMP Fort Macarthur **86.18 54** P **P** **02 44 33.9 -2.4**
baz=248
OSI Osito Audit: C **86.19 53** P **P** **02 44 34.4 -2.0**
baz=248
ISLE Juniper Island **86.21 22** IAMs_20 IAMs_20 03 18 06.4
comp=Z,2µm,20.0s
AFDM Forest Hills D **86.22 48** IAmb IAmb 02 45 03.1
comp=Z,48nm,1.1s
DHY Denali Highway **86.25 19** IAMs_20 IAMs_20 03 15 47.2
comp=Z,2µm,22.0s
DHY Denali Highway **86.25 19** P **P** **02 44 34.9 -1.2**
baz=223
GLB Gilahina Butte **86.26 21** IAMs_20 IAMs_20 03 17 29.6
comp=Z,1µm,20.0s
MCK McKinley **86.26 18** IAmb IAmb 02 44 59.1
comp=Z,90nm,1.4s
MCK IAMs_20 IAMs_20 03 16 00.5
comp=Z,2µm,22.0s
MCK McKinley **86.26 18** P **P** **02 44 33.9 -2.2**
baz=222,SNR=9.5
YAH Yahtse **86.27 23** IAMs_20 IAMs_20 03 17 17.8
comp=Z,2µm,20.0s
CMB Columbia Colle **86.27 49** IAmb IAmb 02 45 03.9
comp=Z,45nm,1.2s
CMB IAMs_20 IAMs_20 03 14 55.0
comp=Z,2µm,20.0s
ARVC Arvin **86.30 52** P **P** **02 44 34.5 -2.3**
baz=248
VOG Valley Oaks Go **86.34 51** P **P** **02 44 35.0 -2.0**
baz=247
DECC Green Verdugo **86.35 53** P **P** **02 44 34.1 -3.1**
baz=248
LSA Lhasa **86.36 302** P **P** **02 44 38.2 +0.4**
LSA IAmb IAmb 02 44 39.7
comp=Z,48nm,1.1s
LSA Lhasa **86.36 302** P **P** **02 44 38.2 +0.4**
LSA pmax pmax
comp=Z,48nm,1.1s
LSA MLR MLR
comp=Z,600nm,20.0s
HUMO Hull Mountain **86.37 44** IAmb IAmb 02 45 04.1
comp=Z,40nm,1.1s
HUMO IAMs_20 IAMs_20 03 14 57.5
comp=Z,2µm,21.0s
VES Vestal, Richgr **86.38 51** P **P** **02 44 35.6 -1.6**
baz=247
PASC Pasadena Art C **86.43 53** P **P** **02 44 39.6 +2.1**
I02E Swisshome, OR **86.44 42** P **P** **02 44 36.0 -1.3**
baz=244
BWN Browne **86.44 17** IAMs_20 IAMs_20 03 16 26.5
comp=Z,3µm,22.0s
HARP HAARP **86.47 20** P **P** **02 44 34.9 -2.2**
baz=225
MCARA McCarthy VSAT **86.49 22** IAmb IAmb 02 44 56.6
comp=Z,57nm,1.5s
MCARA McCarthy VSAT **86.49 22** P **P** **02 44 36.1 -1.1**
baz=227
RDOG Red Dog Mine **86.50 11** P **P** **02 44 36.2 -0.9**
baz=208
I21K Tanana **86.52 16** P **P** **02 44 36.0 -1.2**
baz=219,SNR=21
TABL Table Mountain **86.55 23** IAMs_20 IAMs_20 03 17 17.2
comp=Z,2µm,20.0s
I03D Drain, OR **86.58 43** P **P** **02 44 37.2 -0.8**
baz=244
L04D Klamath Falls **86.64 44** IAmb IAmb 02 45 04.7
comp=Z,69nm,1.2s
L04D IAMs_20 IAMs_20 03 14 45.4
comp=Z,2µm,22.0s
L04D Klamath Falls **86.64 44** P **P** **02 44 37.4 -1.1**
baz=245
ZAK Zakamensk **86.65 325** *e* P **P** **02 44 37.9 -0.4**
ZAK *e* 02 54 51.1
ZAK pmax pmax
comp=Z,135nm,1.2s
PINM Pinnacle **86.66 23** P **P** **02 44 36.0 -2.1**
baz=230
H21K Melozitna Rive **86.68 15** P **P** **02 44 38.0 -0.1**
H21K IAmb IAmb 02 45 01.5
comp=Z,91nm,1.8s
H21K Melozitna Rive **86.68 15** P **P** **02 44 36.6 -1.4**
baz=218,SNR=12
MLY Manley **86.73 16** P **P** **02 44 36.2 -2.2**
baz=220,SNR=10
ISA Isabella, Lake **86.77 52** IAmb IAmb 02 45 07.7

comp=Z,74nm,1.4s
ISA Isabella, Lake 86.77 52 P P 02 44 38.2 -1.1
baz=248,SNR=8.4
PAX Paxson 86.77 20 P P 02 44 36.6 -2.1
baz=225
BCPM Bancas Point 86.80 24 IAMs_20 IAMs_20 03 17 32.1
comp=Z,1µm,21.0s
109C Camp Elliot, M 86.81 55 P P 02 44 37.8 -1.5
baz=249
SIT Sitka 86.81 27 P P 02 44 37.8 -1.0
baz=234
CTG Chitna Glacier 86.82 22 P P 02 44 37.0 -2.0
baz=229
CTGM Chitina Glacie 86.82 22 IAMs_20 IAMs_20 03 18 45.5
comp=Z,2µm,20.0s
ELS Elsinore Mount 86.83 54 IAmb IAmb 02 45 00.6
comp=Z,95nm,1.9s
EDW2 Edwards Air Fo 86.84 53 P P 02 44 38.3 -1.3
baz=248
LOGN Logan Glacier 86.85 23 IAMs_20 IAMs_20 03 18 35.3
comp=Z,2µm,20.0s
BFSC Mount Baldy Ra 86.86 53 P P 02 44 38.4 -1.5
baz=248
NEA2 Nenana 86.87 17 IAmb IAmb 02 44 58.0
comp=Z,53nm,1.4s
NEA2 IAMs_20 IAMs_20 03 16 36.6
comp=Z,2µm,22.0s
NEA2 Nenana 86.87 17 P P 02 44 35.9 -3.0
baz=222,SNR=12
BEKR Beckworth 87.02 47 IAmb IAmb 02 44 59.9
comp=Z,84nm,1.7s
BUCK Buck Mountain 87.03 42 IAmb IAmb 02 45 07.3
comp=Z,46nm,1.2s
IRK Irkutsk 87.05 327 eP P 02 44 37.2 -2.9
IRK eS S 02 55 16.4 +0.3
IRK pmax pmax
comp=Z,103nm,1.6s
MDPB Devils Postpil 87.07 50 IAmb IAmb 02 45 07.9
comp=Z,46nm,1.1s
TKX Tecate 87.08 55 P P 02 44 42.2 +1.5
O28M Mount Upton 87.12 23 P P 02 44 38.0 -2.6
baz=230
OMMB Old Mammoth Mi 87.12 50 IAmb IAmb 02 45 09.6
comp=Z,89nm,1.7s
K04D Chiloquin, OR 87.18 44 P P 02 44 39.6 -1.6
baz=245
G21K Allakaket 87.19 15 P P 02 44 38.8 -1.7
baz=217
M26K Nabesna, AK 87.20 21 P P 02 44 37.2 -3.4
baz=227,SNR=8.7
J04D Umpqua Nationa 87.20 44 IAmb IAmb 02 45 07.5
comp=Z,47nm,1.0s
J04D IAMs_20 IAMs_20 03 15 33.5
comp=Z,2µm,21.0s
J04D Umpqua Nationa 87.20 44 P P 02 44 41.9 +0.6
baz=245
H22K Ishtalitna Cre 87.23 16 P P 02 44 39.2 -1.5
baz=219,SNR=7.1
I04A Tendick Farm, 87.23 43 P P 02 44 39.9 -1.4
baz=245
MLAC Mammoth, Mammo 87.25 50 P P 02 44 41.1 -0.6
baz=248
PNTR Pine Nut 87.25 48 IAmb IAmb 02 45 09.4
comp=Z,37nm,1.0s
K24K Donnelly Dome 87.27 19 P P 02 44 39.8 -1.1
baz=224
CCB Clear Creek Bu 87.27 18 IAMs_20 IAMs_20 03 16 40.3
comp=Z,2µm,22.0s
G03D McMinnville, O 87.29 41 IAmb IAmb 02 45 01.1
comp=Z,89nm,1.4s
G03D McMinnville, O 87.29 41 P P 02 44 39.7 -1.7
baz=244
VCNR Virginia City 87.30 48 IAmb IAmb 02 45 03.0
comp=Z,97nm,2.0s
LRMC Laurel Mtn Rad 87.30 52 P P 02 44 40.3 -1.7
baz=248
H04D Lebanon 87.33 42 IAmb IAmb 02 45 01.4
comp=Z,106nm,1.7s
H04D Lebanon 87.33 42 P P 02 44 40.8 -0.9
baz=245
MONP2 Monument Peak 87.34 55 P P 02 44 41.3 -1.0
baz=249
P29M Windy Craggy 87.34 25 IAMs_20 IAMs_20 03 16 57.5
comp=Z,2µm,20.0s
P29M Windy Craggy 87.34 25 P P 02 44 39.7 -1.7
baz=232
HDA Harding Lake 87.35 18 P P 02 44 40.1 -1.2
baz=223,SNR=16
CWC Cottonwood Cre 87.36 51 P P 02 44 41.0 -1.2
baz=248
MDM Murphy Dome 87.38 17 IAMs_20 IAMs_20 03 17 14.2
comp=Z,2µm,22.0s
TCOL CIGO, UAF Yank 87.42 17 IAMs_20 IAMs_20 03 16 54.3
comp=Z,2µm,21.0s
TCOL CIGO, UAF Yank 87.42 17 P P 02 44 38.8 -2.8
baz=223
COLA College 87.43 17 P P 02 44 41.0 -0.5
COLA College 87.43 17 IAMs_20 IAMs_20 03 16 54.3
comp=Z,2µm,21.0s
COLA College 87.43 17 P P 02 44 41.1 -0.5
COLA College 87.43 17 iP P 02 44 39.3 -2.3
COLA College 87.43 17 P P 02 44 38.3 -3.3
baz=223
COLA College 87.43 17 pmax pmax
comp=Z,21nm,0.7s
SMAI San Martin Ant 87.46 162 P P 02 44 41.7 -0.2
IKP In-Ko-Pah, Jac 87.50 55 P P 02 44 41.2 -1.7
baz=249
RIDG Independent Ri 87.52 19 P P 02 44 40.1 -2.1
baz=225,SNR=8.9
V35K Ketchikan 87.54 30 P P 02 44 39.0 -3.3
baz=237
M27K Edge Creek, AK 87.56 21 P P 02 44 38.9 -3.6
baz=228
PFO Pinyon Flats O 87.57 54 LR LR 03 15 26.9
comp=Z,3µm,20.8s,baz=252,slow=30
PFO Pinyon Flats O 87.57 54 P P 02 44 44.6 +1.4
PFO IAmb IAmb 02 45 04.3
comp=Z,81nm,1.9s
PFO Pinyon Flats O 87.57 54⇑ eP P 02 44 44.2 +1.0
PFO pmax pmax
comp=Z,87nm,3.0s
PFO Pinyon Flats O 87.57 54 P P 02 44 41.7 -1.5
baz=249
TPFO Pinon Flats 87.57 54 P P 02 44 41.9 -1.3
baz=249
ILAR Eielson Array 87.63 18 P P 02 44 40.5 -2.2
comp=Z,11nm,0.7s,baz=236,slow=5.1,SNR=30
ILAR PKKPbc PKKPbc 03 02 31.8 -2.1
comp=Z,0.3nm,0.5s,baz=329,slow=1.8,SNR=5.0
ILAR LR LR 03 17 36.5
comp=Z,2µm,21.9s,baz=226,slow=31
comp=Z,11nm,0.7s
PMD Palm Desert 87.64 54 IAmb IAmb 02 45 00.5
comp=Z,20nm,1.2s
PAHR Pah Rah Range 87.65 48 IAmb IAmb 02 45 10.6
comp=Z,51nm,1.2s
YUH Yuha Desert 87.65 55 IAmb IAmb 02 45 13.3
comp=Z,115nm,2.0s
MPMC Manual Prospec 87.66 52 P P 02 44 41.5 -2.2
baz=248,SNR=10
H23K Yukon River 87.67 16 P P 02 44 40.2 -2.7
baz=221
YUK3 Moose Creek 87.67 22 P P 02 44 40.8 -2.3
baz=229,SNR=7.7
E03A Lebam 87.69 40 IAmb IAmb 02 45 09.0
comp=Z,54nm,1.0s
BBB Bella Bella 87.69 34 LR LR 03 15 23.6
comp=Z,2µm,21.7s,baz=235,slow=30
LHV Little Humtoon 87.72 49 IAmb IAmb 02 45 11.2
comp=Z,63nm,1.2s
POKR Poker Plat Res 87.73 17 IAMs_20 IAMs_20 03 17 14.3
comp=Z,2µm,21.0s
POKR Poker Plat Res 87.73 17 P P 02 44 40.2 -2.9
baz=223
F21K Alatna River 87.75 14 P P 02 44 41.5 -1.7
baz=217
H04A Detroit Lake 87.76 42 P P 02 44 43.6 -0.2
H04A IAmb IAmb 02 45 10.1
comp=Z,38nm,1.2s
DSP Deep Springs 87.78 50 IAmb IAmb 02 45 12.0
comp=Z,58nm,1.3s
PLBC Pleasant Camp 87.79 25 P P 02 44 41.4 -2.1
baz=233
WRAK Wrangell Islan 87.79 29 IAMs_20 IAMs_20 03 20 49.6
comp=Z,1µm,18.0s
WRAK Wrangell Islan 87.79 29 P P 02 44 41.8 -1.7
baz=237

J05D Fort Rock, OR 87.80 44 P P 02 44 41.9 -2.3
baz=246
K05A Summer Lake 87.80 44 IAmb IAmb 02 45 10.7
comp=Z,85nm,1.2s
F04D Rainier, OR 87.83 41 P P 02 44 42.3 -1.7
baz=244
SWSC Sam W. Stewart 87.85 55 P P 02 44 41.7 -2.7
baz=249
RYN Ryan 87.85 49 IAmb IAmb 02 45 11.5
comp=Z,43nm,1.3s
MOD Modoc Plateau 87.87 45 IAmb IAmb 02 45 12.8
comp=Z,128nm,1.9s
MOD IAMs_20 IAMs_20 03 18 13.3
comp=Z,2µm,20.0s
R32K Eaglecrest 87.87 27 P P 02 44 43.1 -0.8
baz=235
NLWA Neilton Lookou 87.87 39 IAmb IAmb 02 45 04.0
comp=Z,110nm,1.9s
BESE Bessie Mountai 87.90 26 IAmb IAmb 02 44 45.8
comp=Z,54nm,1.5s
GSC Goldstone, Bar 87.90 52 IAmb IAmb 02 45 06.9
comp=Z,102nm,1.9s
GSC Goldstone, Bar 87.90 52 P P 02 44 44.0 -0.7
baz=249
YUK6 Outpost Mounta 87.92 23 P P 02 44 41.7 -2.6
baz=231
NVAR Mina Array Bea 87.94 49 P P 02 44 44.6 -0.4
comp=Z,10.0nm,1.3s,baz=230,slow=5.0,SNR=20
NVAR PKKPbc PKKPbc 03 02 32.1 -0.2
comp=Z,1.0nm,0.7s,baz=90,slow=2.7,SNR=7.9
NVAR SKKPbc SKKPbc 03 06 11.1 +2.1
comp=Z,0.5nm,0.8s,baz=85,slow=7.2,SNR=3.9
NVAR PKPPKP P'P'df 03 10 39.0 +1.2
comp=Z,2.7nm,1.1s,baz=102,slow=3.9,SNR=12
NVAR LR LR 03 15 53.8
comp=Z,2µm,21.6s,baz=256,slow=30
comp=Z,10.0nm,1.3s
NVAR Mina Array Bea 87.94 49 P P 02 44 44.1 -0.9
BVCY Beaver Creek 87.95 21 P P 02 44 42.6 -1.7
baz=229
SFX San Felipe 87.95 57 P P 02 44 45.6 +0.7
SFX IAmb IAmb 02 45 14.5
comp=Z,65nm,2.0s
P30M Million Dollar 87.96 24 P P 02 44 41.0 -3.3
baz=232
SCRK Sand Creek 87.96 19 P P 02 44 41.5 -2.9
baz=226,SNR=16
J25K Salcha River, 87.97 18 P P 02 44 42.6 -1.8
baz=225,SNR=15
LCH Last Change Ra 87.97 50 IAmb IAmb 02 45 06.1
comp=Z,52nm,1.7s
G22K Bettles 88.00 15 P P 02 44 41.9 -2.4
baz=219
L27K Beaver Creek, 88.04 21 P P 02 44 41.7 -3.0
baz=228
NV11 Mina Array Sit 88.05 49 IAmb IAmb 02 45 06.5
comp=Z,130nm,1.9s
YUK4 Talbot Arm 88.06 23 P P 02 44 43.8 -1.3
baz=231,SNR=6.6
BELC Belle Mtn. Jos 88.06 54 P P 02 44 42.5 -3.1
baz=249,SNR=12
GRAC Grapevine Rang 88.10 51 IAmb IAmb 02 45 12.3
comp=Z,54nm,1.1s
GRAC Grapevine Rang 88.10 51 P P 02 44 44.3 -1.3
baz=248
HEC Hector,Ludlow 88.10 53 P P 02 44 43.3 -2.3
baz=249
H24K Noodor Dome 88.13 17 P P 02 44 43.9 -1.1
baz=223
I05D Terrebonne, OR 88.16 43 P P 02 44 44.7 -1.0
baz=246
HYT Haines Junctio 88.17 24 P P 02 44 44.3 -1.1
baz=232
PINE Pine Mountain 88.20 43 IAmb IAmb 02 45 12.7
comp=Z,50nm,1.2s
G23K Bananza Creek 88.21 16 P P 02 44 44.5 -0.9
baz=221
SKAG Skagway 88.22 25 P P 02 44 46.2 +0.7
SKAG Skagway 88.22 25 P P 02 44 44.3 -1.2
baz=234
FURC Furnace Creek, 88.28 51 P P 02 44 45.1 -1.2
baz=249,SNR=13
F22K John River 88.29 14 P P 02 44 44.9 -0.8
baz=218
KVN Kaiserville 88.32 49 IAmb IAmb 02 45 14.3
comp=Z,68nm,1.6s
BC3 Big Chuckawall 88.37 54 P P 02 44 43.7 -3.3
baz=250
HOOD Mount Hood Mea 88.37 42 IAmb IAmb 02 45 06.1
comp=Z,74nm,1.6s
J26L Joseph Creek 88.45 19 P P 02 44 45.4 -1.3
baz=233,SNR=9.0
SHOC Shoshone, Teco 88.52 52 P P 02 44 46.0 -1.6
baz=249
MOY Mondy 88.53 325 eP P 02 44 46.5 -0.9
MOY pmax pmax
comp=Z,70nm,1.6s
G05D Wamic, OR 88.55 42 P P 02 44 45.6 -1.9
baz=246
COLD Coldfoot 88.56 15 P P 02 44 46.9 -0.1
baz=220
PRP Porcupine Dome 88.57 18 P P 02 44 44.2 -3.1
baz=225
WCT Wildcat Mounta 88.58 51 IAmb IAmb 02 45 15.7
comp=Z,44nm,1.2s
GMRC Granite Mounta 88.60 53 P P 02 44 46.4 -1.7
baz=250
K27K Chicken 88.61 20 P P 02 44 45.7 -1.6
baz=228
TUQ Turquoise Moun 88.63 53 P P 02 44 47.2 -1.1
baz=249
GLA Glamis 88.66 55 P P 02 44 48.4 +0.1
GLA IAmb IAmb 02 45 06.9
comp=Z,100nm,1.6s
GLA Glamis 88.66 55 P P 02 44 48.4 +0.1
GLA pmax pmax
comp=Z,100nm,1.7s
GLA Glamis 88.66 55 P P 02 44 46.6 -1.7
baz=250
O30N Mendenhall 88.69 24 P P 02 44 46.3 -1.5
baz=248
N30M Aishikik Lake 88.72 23 P P 02 44 46.0 -2.0
baz=232
IRM Iron Mountain 88.78 54 P P 02 44 47.9 -1.0
baz=250,SNR=11
M29M Somme Creek 88.82 22 P P 02 44 46.9 -1.6
baz=231
PALK Pallekele 88.86 278 P P 02 44 50.7 +1.0
comp=Z,12nm,0.8s,baz=172,slow=3.1,SNR=2.9
PALK LR LR 03 26 23.8
comp=Z,1µm,19.4s,baz=218,slow=37
comp=Z,12nm,0.8s
PALK Pallekele 88.86 278 IAMs_20 IAMs_20 03 26 13.0
comp=Z,1µm,20.0s
PALK Pallekele 88.86 278 ceP P 02 44 50.0 +0.3
PALK pmax pmax
comp=Z,89nm,1.8s
PALK MLR MLR
comp=Z,2µm,20.0s
E22K Anaktuvuk Pass 88.87 14 P P 02 44 48.1 -0.4
baz=219
G24K Hadweenzic Riv 88.88 16 P P 02 44 46.3 -2.2
baz=223,SNR=6.9
TPNV Topopah Spring 88.91 51 IAmb IAmb 02 45 06.8
comp=Z,103nm,1.7s
TPNV IAMs_20 IAMs_20 03 21 55.4
comp=Z,1µm,18.0s
TPNV Topopah Spring 88.91 51 P P 02 44 48.5 -1.0
baz=249,SNR=14
P32M Atlin 88.97 26 P P 02 44 47.3 -1.8
baz=235
T35M Bob Quinn 89.07 29 P P 02 44 47.5 -2.1
baz=238
BLYC Blythe 89.13 55 IAmb IAmb 02 45 17.3
comp=Z,43nm,1.3s
I26K Coal Creek Min 89.14 19 P P 02 44 47.5 -2.2
baz=227
S34M Telegraph Cree 89.16 28 P P 02 44 47.1 -2.9
baz=238
WVOR Wild Horse Val 89.22 45 IAmb IAmb 02 45 19.6
comp=Z,120nm,1.7s
WVOR Wild Horse Val 89.22 45 P P 02 44 50.8 0.0
WVOR pmax pmax
comp=Z,39nm,1.6s
Q32M Nakina River 89.23 27 P P 02 44 47.4 -3.2
baz=237
N31M Braeburn, Yuko 89.24 24 IAMs_20 IAMs_20 03 18 19.6
comp=Z,1µm,20.0s

N31M Braeburn, Yuko 89.24 24 P P 02 44 47.9 -2.4
baz=234
I07A Izee 89.27 44 IAmb IAmb 02 45 10.8
comp=Z,90nm,1.7s
E23K Chandalar 89.34 15 P P 02 44 50.0 -0.7
baz=221
F24K Squaw Lake 89.37 16 P P 02 44 47.9 -2.9
baz=222
113A Mohawk Valley, 89.40 56 IAmb IAmb 02 45 10.1
comp=Z,64nm,1.7s
FYU Fort Yukon 89.40 17 IAMs_20 IAMs_20 03 17 32.6
comp=Z,2µm,22.0s
EGAK Eagle 89.41 20 IAMs_20 IAMs_20 03 21 17.8
comp=Z,2µm,20.0s
EGAK Eagle 89.41 20 P P 02 44 48.3 -2.7
baz=229
BMN Battle Mountai 89.46 48 IAmb IAmb 02 45 20.5
comp=Z,121nm,1.7s
M30M Minto, Yukon 89.52 23 P P 02 44 50.1 -1.5
M30M IAMs_20 IAMs_20 03 20 02.8
comp=Z,2µm,20.0s
M30M Minto, Yukon 89.52 23 P P 02 44 49.2 -2.4
baz=233,SNR=11
DAWY Dawson 89.53 21 P P 02 44 49.3 -2.4
baz=230
S11A Rachel 89.53 51 IAmb IAmb 02 45 15.7
comp=Z,99nm,1.5s
LPIG La Paz 89.56 65 LR LR 03 18 39.3
comp=Z,1µm,18.1s,baz=254,slow=31
PDMCI Parker Dam,Lak 89.61 54 P P 02 44 48.6 -4.1
baz=250,SNR=11
E24K Your Creek 89.63 15 P P 02 44 50.5 -1.6
baz=222
P33M Teslin, Yukon 89.69 26 P P 02 44 49.1 -3.4
baz=236
D23K Nanushuk River 89.78 14 P P 02 44 50.7 -2.0
baz=220
LTY Liberty 89.78 40 IAmb IAmb 02 45 12.6
comp=Z,84nm,1.6s
TOLK Toolik Lake Re 89.79 14 P P 02 44 52.1 -0.7
baz=221
I27K Kandik River 89.81 19 P P 02 44 51.7 -1.2
baz=228
R11A Troy Canyon, C 89.90 50 P P 02 44 52.0 -2.2
baz=250
214A Organ Pipe Nat 89.90 57 P P 02 44 51.7 -2.4
baz=251
DLBC Dease Lake 89.94 28 LR LR 03 17 46.2
comp=Z,1µm,21.4s,baz=242,slow=31
DLBC Dease Lake 89.94 28 P P 02 44 52.4 -1.4
DLBC Dease Lake 89.94 28 P P 02 44 52.5 -1.2
baz=238
PRN Pahroc Range 89.97 51 IAmb IAmb 02 45 20.6
comp=Z,64nm,1.2s
KNGR Kungurtug, Tuv 90.01 323⇓ eP P 02 44 54.3 0.0
KNGR pmax pmax
comp=Z,88nm,1.0s
KNGR MLR MLR
comp=Z,825nm,20.0s
F25K Christian Rive 90.02 16 P P 02 44 50.7 -3.2
baz=225
R33M Jennings River 90.03 27 P P 02 44 52.7 -1.5
baz=238
K29M Barlow Dome 90.03 21 P P 02 44 53.0 -1.1
baz=232
W13A Hualapai Mount 90.08 54 IAmb IAmb 02 45 17.8
comp=Z,83nm,2.0s
G26K Porcupine Rive 90.08 17 P P 02 44 51.7 -2.4
baz=226,SNR=19
G08A Pilot Rock 90.10 43 IAmb IAmb 02 45 22.2
comp=Z,55nm,1.1s
N32M Quiet Lake 90.11 25 P P 02 44 51.3 -3.2
baz=236
HAWA Hanford 90.16 41 IAmb IAmb 02 45 14.7
comp=Z,106nm,1.6s
M31M Drury Creek, Y 90.19 23 IAMs_20 IAMs_20 03 19 21.8
comp=Z,2µm,20.0s
H27K Steamboat Moun 90.26 18 P P 02 44 54.0 -1.1
baz=228,SNR=10
D24K Happy Valley 90.36 14 P P 02 44 54.5 -0.8
baz=222
E25K Arctic Village 90.42 16 P P 02 44 54.6 -1.2
baz=225
A21K Barrow 90.44 11 IAMs_20 IAMs_20 03 19 24.8
comp=Z,2µm,22.0s
C23K Itkillik River 90.47 13 P P 02 44 55.7 -0.1
baz=220
F26K Sheenjek River 90.50 17 P P 02 44 55.4 -0.7
baz=226
HSIG 90.50 60 P P 02 44 55.8 -1.2
PMSA Palmer Station 90.56 160 P P 02 44 56.6 +0.1
comp=Z,69nm,0.9s,baz=230,slow=5.2,SNR=11
PMSA LR LR 03 19 52.3
comp=Z,1µm,20.5s,baz=235,slow=32
comp=Z,69nm,0.9s
PMSA Palmer Station 90.56 160 P P 02 44 56.5 -0.1
PMSA Palmer Station 90.56 160 eP P 02 44 57.2 +0.7
G27K Doyon Strip 90.61 18 P P 02 44 51.6 -5.0
baz=228
FARO Faro, Yukon 90.61 24 P P 02 44 55.0 -1.8
baz=236
I29M Ogilvie Camp, 90.71 20 IAMs_20 IAMs_20 03 21 47.3
comp=Z,1µm,20.0s
I29M Ogilvie Camp, 90.71 20 P P 02 44 53.2 -3.9
baz=231,SNR=6.8
D08A Wollman Farm, 90.80 41 IAmb IAmb 02 45 17.6
comp=Z,82nm,1.5s
C24K Franklin Bluff 90.81 14 P P 02 44 57.1 -0.4
baz=222
ELK Elko 90.98 48 LR LR 03 18 14.5
comp=Z,2µm,20.6s,baz=240,slow=31
ELK Elko 90.98 48 IAMs_20 IAMs_20 03 17 53.1
comp=Z,2µm,20.0s
BMO Blue Mountains 91.02 43 IAmb IAmb 02 45 18.5
comp=Z,56nm,1.6s
BMO IAMs_20 IAMs_20 03 18 04.5
comp=Z,1µm,20.0s
SPR3 Spring Creek 3 91.04 50 IAmb IAmb 02 45 28.0
comp=Z,42nm,1.3s
B08A Colville Reser 91.05 40 IAmb IAmb 02 45 18.3
comp=Z,77nm,1.6s
D25K Kavik River 91.08 15 P P 02 44 56.9 -1.9
baz=224
E09A Wood Farm, Sta 91.09 42 IAmb IAmb 02 45 18.8
comp=Z,55nm,1.4s
LCMT Little Creek M 91.20 52 IAmb IAmb 02 45 26.9
comp=Z,30nm,1.1s
TIXI Tiksi 91.20 349 P P 02 44 58.3 -0.9
comp=Z,27nm,0.9s,baz=89,slow=23,SNR=7.6
TIXI LR LR 03 24 23.8
comp=Z,1µm,19.8s,baz=179,slow=34
comp=Z,27nm,0.9s
TIXI Tiksi 91.20 349 P P 02 44 58.4 -0.8
TIXI IAmb IAmb 02 45 02.7
comp=Z,36nm,1.0s
TIXI Tiksi 91.20 349 ceP P 02 44 57.9 -1.3
TIXI pmax pmax
comp=Z,30nm,1.0s
TIXI MLR MLR
comp=Z,1µm,20.0s
PSUT Pine Spring 91.24 50 IAmb IAmb 02 45 29.2
comp=Z,76nm,2.0s
CCUT Cedar City 91.28 51 IAmb IAmb 02 45 27.0
comp=Z,39nm,1.3s
WTLY Watson Lake, Y 91.34 27 P P 02 44 58.3 -1.9
baz=240
SZCU Shurtz Canyon 91.50 51 IAmb IAmb 02 45 24.4
comp=Z,80nm,1.8s
KNB Kanab 91.52 52 IAmb IAmb 02 45 20.2
comp=Z,71nm,1.5s
E27K Coleen River 91.54 17 P P 02 45 00.4 -0.5
baz=228
MMPY Sheldon Lake, 91.64 24 P P 02 45 00.6 -1.0
baz=238
TUC Tucson 91.64 57 P P 02 45 02.1 -0.2
TUC Tucson 91.64 57 IAMs_20 IAMs_20 03 17 04.9
comp=Z,2µm,21.0s
TUC Tucson 91.64 57 P P 02 45 02.1 -0.2
TUC pmax pmax
comp=Z,22nm,1.3s
TUC Tucson 91.64 57 P P 02 45 00.9 -1.4
baz=252
TROLL Troll, Antarti 91.66 185 P P 02 45 00.7 -1.1
U15A North Rim 91.73 53 IAmb IAmb 02 45 29.8
comp=Z,36nm,1.2s
EPYK Eagle Plains 91.85 19 IAMs_20 IAMs_20 03 19 16.3
comp=Z,2µm,22.0s
EPYK Eagle Plains 91.85 19 P P 02 45 00.9 -1.5

baz=233
C26K Camden Bay 91.86 15 P P 02 45 00.1 -2.2
baz=225
NVL N'lazarevskaya 91.87 188 *e*P P 02 45 02.3 -0.2
NVL *e*S **SKSac** 02 55 33.4 +1.4
NVL pmax pmax
comp=Z,23nm,0.7s
NVL MLR MLR
comp=Z,1µm,20.0s
C27K Jago River 91.96 15 P P 02 45 02.5 -0.3
baz=226
WUAZ Wupatki 92.16 54 IAmb IAmb 02 45 30.9
comp=Z,40nm,1.4s
WUAZ Wupatki 92.16 54 P P 02 45 03.5 -1.2
baz=252
SNAA Sanae 92.34 183 P P 02 45 03.4 -1.4
SNAA Sanae 92.34 183 P P 02 45 03.8 -1.0
comp=Z,16nm,0.8s,baz=210,slow=8.9,SNR=11
SNAA PKiKP **PKiKP** 02 49 53.0 -0.8
comp=Z,0.6nm,0.4s,baz=241,slow=4.6,SNR=6.2
SNAA LR LR 03 26 10.5
comp=Z,2µm,18.5s,baz=174,slow=35
comp=Z,16nm,0.8s
SNAA Sanae 92.34 183 P P 02 45 04.0 -0.8
SNAA IAmb IAmb 02 45 10.7
comp=Z,45nm,1.2s
SNAA Sanae 92.34 183 *ce*P P 02 45 03.3 -1.5
SNAA pmax pmax
comp=Z,43nm,1.2s
SNAA MLR MLR
comp=Z,2µm,18.0s
NEW Newport 92.38 40 LR LR 03 21 11.3
comp=Z,705nm,18.9s,baz=184,slow=32
NEW Newport 92.38 40 P P 02 45 08.0 +2.7
NEW Newport 92.38 40 P P 02 45 06.2 +0.9
baz=249
HLID Hailey 92.51 45 IAMs_20 IAMs_20 03 17 53.2
comp=Z,2µm,22.0s
HLID Hailey 92.51 45 P P 02 45 08.0 +1.8
baz=250,SNR=6.0
DUG Dugway, Tooele 92.54 49 IAMs_20 IAMs_20 03 19 17.5
comp=Z,2µm,20.0s
DUG Dugway, Tooele 92.54 49 P P 02 45 08.2 +1.8
DUG pmax pmax
comp=Z,13nm,1.9s
DUG Dugway, Tooele 92.54 49 P P 02 45 05.8 -0.5
baz=251
VNA3 Neumayer Olymp 93.00 181 P P 02 45 06.7 -1.1
VNA2 Neumayer--Watz 93.27 182 P P 02 45 08.3 -0.7
baz=180,slow=5.0
W18A Petrified Fore 93.31 55 P P 02 45 08.4 -1.7
baz=253
F31M Tsiigehtchic 93.43 19 P P 02 45 07.7 -1.9
baz=236
BCYI Bear Canyon 93.45 45 P P 02 45 11.8 +1.2
VNA1 Neumayer--Stat 93.56 181 P P 02 45 09.1 -1.3
HYBB Hyderabad (bro 93.65 287 *e*P P 02 45 12.3 +0.5
HYBB *e*S **SKSac** 02 55 43.2 -0.6
WMQ Urumqi 93.71 314 ⇓P P 02 45 12.0 +0.5
WMQ SKS **SKSac** 02 55 41.4 -1.7
WMQ S **S** 02 56 15.8 -2.1
WMQ pmax pmax
comp=Z,79nm,1.5s
WMQ pmax pmax
comp=Z,640nm,4.7s
WMQ LR LR
comp=Z,660nm,22.3s
WMQ LR LR
comp=Z,1µm,20.7s
WMQ LR LR
comp=Z,2µm,21.7s
INK Inuvik 93.99 19 P P 02 45 12.3 +0.2
comp=Z,4.2nm,1.1s,baz=245,slow=4.0,SNR=3.8
INK LR LR 03 21 35.8
comp=Z,2µm,21.7s,baz=202,slow=32
comp=Z,4.2nm,1.1s
AHID Auburn Hatcher 94.56 47 IAMs_20 IAMs_20 03 18 55.4
comp=Z,2µm,22.0s
FXWY Fox Creek 94.87 46 IAMs_20 IAMs_20 03 19 20.6
comp=Z,2µm,22.0s
MVCO Mesa Verde 94.87 53 P P 02 45 18.3 +1.0
TPAW Teton Pass 94.88 46 IAMs_20 IAMs_20 03 19 18.8
comp=Z,2µm,22.0s
REDW Red Top Meadow 94.91 46 IAMs_20 IAMs_20 03 19 30.7
comp=Z,2µm,21.0s
MG05 Puerto Natales 94.94 147 P P 02 45 17.1 +0.1
MG05 IAmb IAmb 02 45 21.5
comp=Z,26nm,0.9s
SNOW Snow King Moun 95.01 46 IAMs_20 IAMs_20 03 19 24.3
comp=Z,2µm,22.0s
IMW Indian Meadow 95.01 46 IAMs_20 IAMs_20 03 19 47.2
comp=Z,2µm,21.0s
BOZ Bozeman (W) 95.05 44 IAMs_20 IAMs_20 03 20 04.2
comp=Z,1µm,21.0s
MOOW Moose Ponds 95.10 46 IAMs_20 IAMs_20 03 19 15.7
comp=Z,2µm,22.0s
LOHW Long Hollow 95.16 46 IAMs_20 IAMs_20 03 19 40.2
comp=Z,2µm,21.0s
Y22D IRIS PASSCAL I 95.25 56 IAMs_20 IAMs_20 03 20 05.5
comp=Z,2µm,21.0s
GO09 Cerro Castillo 95.25 147 P P 02 45 18.3 -0.2
GO09 IAmb IAmb 02 45 19.5
comp=Z,71nm,1.4s
PDAR Pinedale Array 95.65 47 P P 02 45 21.1 +0.4
comp=Z,0.2nm,0.4s,baz=222,slow=1.2,SNR=3.6
PDAR PP PP 02 49 03.9 -8.8
comp=Z,2.5nm,1.1s,baz=256,slow=6.0,SNR=6.4
PDAR PKKPbc **PKKPbc** 03 02 11.6 -1.0
comp=Z,1.1nm,0.7s,baz=94,slow=4.4,SNR=11
PDAR PKPPKP **P'P'df** 03 10 21.9 -1.3
comp=Z,0.9nm,0.9s,baz=90,slow=1.8,SNR=5.5
PDAR LR LR 03 20 56.6
comp=Z,953nm,21.4s,baz=243,slow=31
PDAR Pinedale Array 95.65 47 P P 02 45 20.8 +0.1
DGZ Jazzator, Alta 95.71 320 *ce*P P 02 45 19.8 -0.9
DGZ pmax pmax
comp=Z,37nm,1.0s
DGZ MLR MLR
comp=Z,1µm,20.0s
ANMO Albuquerque 95.85 55 LR LR 03 20 26.1
comp=Z,2µm,20.8s,baz=260,slow=30
ANMO Albuquerque 95.85 55 P P 02 45 22.0 +0.2
ANMO Albuquerque 95.85 55 IAMs_20 IAMs_20 03 20 14.4
comp=Z,2µm,21.0s
ANMO Albuquerque 95.85 55⇓ *e*P P 02 45 21.7 -0.1
ANMO pmax pmax
comp=Z,5.0nm,1.4s
ANMO MLR MLR
comp=Z,772nm,17.0s
MNTX Cornudas Mount 95.88 59 IAMs_20 IAMs_20 03 21 55.1
comp=Z,1µm,20.0s
ZSN Zaisan 96.68 317 *e*P P 02 45 24.3 -0.7
ZSN *e* 02 49 18.6
ZSN *e*S **SKSac** 02 55 58.3 -0.4
ZSN pmax pmax
comp=Z,26nm,1.5s
ZSN Zaisan 96.68 317 *e*P P 02 45 24.3 -0.7
comp=Z,26nm,1.5s,baz=317
ZSN *e*PP **PP** 02 49 18.7 -1.6
baz=317
ZSN *e*S **SKSac** 02 55 58.4 -0.4
baz=317
TXAR Lajitas Array 96.71 62 P P 02 45 25.4 -0.3
comp=Z,0.3nm,0.5s,baz=219,slow=5.7,SNR=12
TXAR PP PP 02 49 18.9 -2.1
comp=Z,2.0nm,1.1s,baz=224,slow=5.2,SNR=5.4
TXAR PKKPbc **PKKPdf** 03 02 10.3 -0.5
comp=Z,0.5nm,0.6s,baz=110,slow=3.8,SNR=5.7
TXAR PKPPKP **P'P'df** 03 10 24.9 +2.5
comp=Z,0.8nm,1.0s,baz=112,slow=3.4,SNR=4.8
TXAR LR LR 03 22 10.1
comp=Z,1µm,18.6s,baz=258,slow=31
TXAR Lajitas Array 96.71 62 P P 02 45 25.3 -0.4
RWWY Rawlins 97.04 49 IAMs_20 IAMs_20 03 22 12.4
comp=Z,1µm,20.0s
C36M Paulatuk 97.48 19 IAMs_20 IAMs_20 03 22 01.2
comp=Z,1µm,22.0s
ISCO Idaho Springs 97.73 51 IAMs_20 IAMs_20 03 23 51.9
comp=Z,1µm,20.0s
MK31 Makanchi Array 98.20 316 P Pdif 02 45 32.3 +0.4
MK31 IAmb IAmb 02 45 34.4
comp=Z,26nm,1.1s
MK31 Makanchi Array 98.20 316 *ce*P P 02 45 31.1 -0.8
MKAR Makanchi Array 98.20 316 P Pdif 02 45 32.2 +0.2
comp=Z,11nm,0.8s,baz=95,slow=5.4,SNR=21
MKAR PP PP 02 49 29.7 -2.3
comp=Z,4.8nm,0.9s,baz=104,slow=10,SNR=4.7
MKAR PKiKP **PKiKP** 02 50 04.7 +0.2
comp=Z,4.1nm,0.9s,baz=149,slow=1.2,SNR=5.0
MKAR PKKPbc **PKKPbc** 03 02 02.1 -3.4
comp=Z,1.5nm,0.6s,baz=244,slow=5.7,SNR=9.5
MKAR LR LR 03 32 52.3
comp=Z,333nm,18.6s,baz=98,slow=37
comp=Z,11nm,0.8s
MKAR Makanchi Array 98.20 316 *ce*P P 02 45 31.7 -0.2
MKAR pmax pmax
comp=Z,9.0nm,0.7s
A36M Sachs Harbour 98.29 17 IAMs_20 IAMs_20 03 24 16.4
comp=Z,2µm,22.0s
MAKZ Makanchi 98.42 316 P P 02 45 32.8 -0.1
MAKZ IAmb IAmb 02 45 36.0
comp=Z,45nm,1.3s
MAKZ Makanchi 98.42 316 P P 02 45 32.8 -0.1
MAKZ pmax pmax
comp=Z,45nm,1.3s
MAKZ MLR MLR
comp=Z,800nm,20.0s
ZAA0 Zalesovo Array 98.48 324 P P 02 45 31.9 -0.9
ZALV Zalesovo Beam 98.48 324 P Pdif 02 45 32.9 0.0
comp=Z,30nm,0.9s,baz=108,slow=4.8,SNR=31
ZALV LR LR 03 29 44.1
comp=Z,581nm,21.2s,baz=101,slow=35
comp=Z,30nm,0.9s
ZALV Zalesovo Beam 98.48 324 *i* P P 02 45 31.8 -1.1
ZALV pmax pmax
comp=Z,30nm,0.9s
YKA Yellowknife Ar 98.55 27 P P 02 45 31.9 -1.1
comp=Z,12nm,1.1s,baz=254,slow=4.6,SNR=12
YKA LR LR 03 28 16.3
comp=Z,720nm,18.1s,baz=220,slow=34
comp=Z,12nm,1.1s
SHLS Shalkode 99.29 312 *e*P **Pdif** 02 45 35.1 -1.8
SHLS *e* 02 49 37.3
SHLS *e*S **SKSac** 02 56 10.8 -1.6
SHLS Shalkode 99.29 312 *e*P **Pdif** 02 45 35.2 -1.8
baz=312
SHLS *e*PP **PP** 02 49 37.4 -3.1
baz=312
SHLS *e*S **SKSac** 02 56 10.8 -1.6
baz=312
UZB Uzunbulak 99.60 312 *e*P **Pdif** 02 45 37.2 -1.2
UZB *e* 02 49 40.5
UZB *e*S **SKSac** 02 56 13.1 -0.9
UZB Uzunbulak 99.60 312 *e*P **Pdif** 02 45 37.2 -1.2
baz=312
UZB *e*PP **PP** 02 49 40.6 -2.3
baz=312
UZB *e*S **SKSac** 02 56 13.2 -0.9
baz=312
AMTX Amarillo 99.65 56 IAMs_20 IAMs_20 03 22 13.8
comp=Z,1µm,19.0s
RSSD Black Hills 99.88 47 IAMs_20 IAMs_20 03 25 30.2
comp=Z,1µm,20.0s
KPKS Kokpek 99.91 312 *e*P **Pdif** 02 45 38.5 -1.2
KPKS *i* S **SKSac** 02 56 14.8 -0.6
KPKS Kokpek 99.91 312 *e*P **Pdif** 02 45 38.6 -1.2
baz=312
KPKS *i* S **SKSac** 02 56 14.9 -0.6
baz=312
SATY Saty 100.03 312 *e*PP **PP** 02 49 43.6 -2.5
baz=312
SATY *e*S **SKSac** 02 56 14.9 -1.2
baz=312
JCT Junction City 100.24 61 IAMs_20 IAMs_20 03 24 21.8
comp=Z,1µm,20.0s
SEM Semipalatinsk 100.36 319 *e*P **Pdif** 02 45 40.0 -1.7
SEM *e* 02 49 45.6
SEM Semipalatinsk 100.36 319 *e*P **Pdif** 02 45 40.0 -1.7
baz=320
SEM *e*PP **PP** 02 49 45.6 -2.9
baz=320
TDK Taldyqorghan 100.44 314 *e*PP **PP** 02 49 47.2 -1.8
baz=314
OGNE Ogallala 100.66 50 IAMs_20 IAMs_20 03 22 26.3
comp=Z,1µm,22.0s
DGMT Dagmar 100.69 43 IAMs_20 IAMs_20 03 25 51.4
comp=Z,1µm,21.0s
MDOK Medeo 101.02 312 *i* P **Pdif** 02 45 42.2 -2.5
baz=312
MDOK *e*PP **PP** 02 49 52.0 -1.7
baz=312
MDOK *e*S **SKSac** 02 56 19.6 -1.4
baz=312
NRIK Noril'sk 101.27 339 P **Pdif** 02 45 44.8 -0.2
comp=Z,26nm,0.8s,baz=98,slow=4.8,SNR=9.6
NRIK Noril'sk 101.27 339 *ce*P **Pdif** 02 45 44.0 -1.0
NRIK pmax pmax
comp=Z,32nm,0.9s
KURK Kurchatov 101.44 320⇑ *e*P **Pdif** 02 45 46.2 0.0
KURK pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 101.44 320 P **Pdif** 02 45 48.1 +1.9
KURBB Kurchatov Arra 101.48 319 P **Pdif** 02 45 46.4 +0.1
comp=Z,7.4nm,1.1s,baz=107,slow=3.6,SNR=4.5
KURBB PP **PP** 02 49 50.9 -5.8
comp=Z,8.3nm,1.1s,baz=104,slow=8.0,SNR=8.6
KURBB PKKPbc **PKKPbc** 03 01 53.7 -2.4
comp=Z,1.7nm,0.2s,baz=281,slow=3.7,SNR=8.7
KUU Kurty 101.67 312 *e*PP **PP** 02 49 55.9 -2.4
baz=312
KUU *e*S **SKSac** 02 56 22.9 -0.9
baz=312
CMIG Matias Romero 101.69 75 PP **PP** 02 49 57.6 -1.5
comp=Z,2.1nm,0.8s,baz=211,slow=5.2,SNR=3.7
WMOK Wichita Mounta 101.95 57 IAMs_20 IAMs_20 03 32 24.9
comp=Z,1µm,19.0s
CBKS Cedar Bluff 101.97 53 IAMs_20 IAMs_20 03 25 21.3
comp=Z,2µm,20.0s
435B Jarrell 102.17 61 IAMs_20 IAMs_20 03 23 04.0
comp=Z,1µm,21.0s
OK038 West end E0370 102.31 55 IAMs_20 IAMs_20 03 25 14.4
comp=Z,2µm,20.0s
OK035 E0210 Rd and N 102.38 55 IAMs_20 IAMs_20 03 25 39.2
comp=Z,2µm,20.0s
AAK Ala-Archa 102.77 311 PKKPbc PKKPbc 03 01 50.7 -1.6
comp=Z,1.5nm,0.5s,baz=240,slow=4.7,SNR=6.0
OK032 Salt Plains WL 102.79 55 IAMs_20 IAMs_20 03 25 45.1
comp=Z,1µm,20.0s
SGDS Sogindy 102.81 312 *e*PP **PP** 02 50 04.7 -2.3
baz=312
SGDS *e*S **SKSac** 02 56 28.0 -1.3
baz=312
FFC Flin Flon 103.19 37 IAMs_20 IAMs_20 03 26 17.0
comp=Z,1µm,20.0s
OK029 Liberty Lake 103.21 56 IAMs_20 IAMs_20 03 24 39.2
comp=Z,2µm,21.0s
OK025 Westminster Rd 103.27 57 IAMs_20 IAMs_20 03 24 29.7
comp=Z,2µm,20.0s
OK049 E0420 Rd and N 103.44 56 IAMs_20 IAMs_20 03 25 26.2
comp=Z,1µm,20.0s
BTLS Baital 103.48 313 *e*PP **PP** 02 50 09.3 -2.5
baz=313
OK033 Mehan 103.67 56 IAMs_20 IAMs_20 03 25 44.3
comp=Z,2µm,21.0s
OK050 Pawnee Station 103.69 56 IAMs_20 IAMs_20 03 25 04.1
comp=Z,2µm,20.0s
OK048 Pawnee Station 103.73 56 IAMs_20 IAMs_20 03 24 58.9
comp=Z,2µm,22.0s
OK045 Pawnee Station 103.75 56 IAMs_20 IAMs_20 03 25 16.4
comp=Z,2µm,20.0s
OK046 Pawnee Station 103.75 56 IAMs_20 IAMs_20 03 25 04.5
comp=Z,2µm,21.0s
OK030 Cody Creek RV 103.77 56 IAMs_20 IAMs_20 03 25 46.1
comp=Z,2µm,21.0s
OK051 E0350 and S346 103.83 56 IAMs_20 IAMs_20 03 25 47.5
comp=Z,1µm,20.0s
OK044 Pawnee Station 103.84 56 IAMs_20 IAMs_20 03 26 00.8
comp=Z,1µm,20.0s
OK047 Pawnee, Statio 103.91 56 IAMs_20 IAMs_20 03 25 08.7
comp=Z,1µm,21.0s
KSU1 Kansas State U 104.42 53 IAMs_20 IAMs_20 03 24 30.2
comp=Z,2µm,21.0s
TUL1 Leonard 104.56 56 IAMs_20 IAMs_20 03 25 20.0
comp=Z,2µm,21.0s
NATX Nacogdoches 104.81 61 IAMs_20 IAMs_20 03 25 38.7
comp=Z,2µm,21.0s
BRZS Berezniki 105.09 318 *e*PKiKP **PKiKP** 02 50 14.8 -2.1
baz=318
BRZS *e*PP **PP** 02 50 21.6 -2.1
baz=318
DZA Taraz 105.11 311 *e*PKiKP **PKiKP** 02 50 15.2 -2.0
baz=311
DZA *e*PP **PP** 02 50 21.5 -2.6
baz=311
IUG luzhnay 105.96 310 *e*PKiKP **PKiKP** 02 50 17.4 -1.5
baz=310
MIAR Mount Ida 106.15 58 IAMs_20 IAMs_20 03 29 10.1
comp=Z,1µm,20.0s
AGMN Agassiz Nation 106.15 44 IAMs_20 IAMs_20 03 28 13.9
comp=Z,1µm,21.0s
BVAR Borovoye Array 106.81 321 PP **PKiKP** 02 50 19.3 -0.7
comp=Z,1.6nm,0.7s,baz=163,slow=6.0,SNR=6.1
CCM Cathedral Cave 108.46 55 IAMs_20 IAMs_20 03 27 43.0
comp=Z,1µm,22.0s
TEIG Tepich 108.46 74 IAMs_20 IAMs_20 03 27 36.6
comp=Z,2µm,20.0s
EYMN Ely 109.04 44 IAMs_20 IAMs_20 03 29 18.4
comp=Z,1µm,21.0s
OXF Oxford 109.55 59 IAMs_20 IAMs_20 03 33 47.9
comp=Z,1µm,19.0s
JTS Las Juntas de 109.56 85 IAMs_20 IAMs_20 03 25 01.4
comp=Z,2µm,21.0s
VOI Vohitsoka 110.74 239 P **PKiKP** 02 50 27.8 -0.7
WVT Waverly 110.99 57 IAMs_20 IAMs_20 03 29 28.3
comp=Z,1µm,21.0s
HQIL Hanson Quary C 111.34 51 IAMs_20 IAMs_20 03 32 26.0
comp=Z,2µm,22.0s
LRAL Lakeview Retre 111.40 60 IAMs_20 IAMs_20 03 29 08.3
comp=Z,1µm,20.0s
SBV Sambava 111.68 248 P **PKiKP** 02 50 30.5 +0.3
WCI Wyandotte Cave 112.36 55 IAMs_20 IAMs_20 03 29 32.4
comp=Z,2µm,22.0s
LVC Limon Verde 112.83 123 PKKPbc PKKPbc 03 01 19.6 -0.7
comp=Z,4.2nm,0.8s,baz=27,slow=2.3,SNR=3.1
TULEG Thule 113.00 12 IAMs_20 IAMs_20 03 34 18.9
comp=Z,1µm,22.0s
MHTO MHTO 113.39 286 P **PKiKP** 02 50 33.3 0.0
SNR=5.4
JMDO Jabal Madar 113.47 288 P **PKiKP** 02 50 34.9 +1.5
ARU Arti 113.59 325 PKiKP **PKiKP** 02 50 32.0 -0.6
comp=Z,14nm,0.5s,baz=105,slow=2.5,SNR=25
ARU Arti 113.59 325 IAMs_20 IAMs_20 03 39 15.0
comp=Z,1µm,21.0s
ARU Arti 113.59 325 *i* PKiKP **PKiKP** 02 50 31.6 -1.0
ARU 02 51 25.6
ARU PPP PPP 02 53 49.5
ARU 02 57 41.0
ARU SP SP 03 00 57.8 +1.7
ARU SS **SS** 03 07 03.6 -5.9
ARU MLR MLR
comp=Z,1µm,21.0s
SMDO Samad 113.62 289 P **PKiKP** 02 50 35.5 +1.7
DQM DQM 113.63 285 P **PKiKP** 02 50 33.7 -0.1
GLMI Grayling 113.75 48 IAMs_20 IAMs_20 03 35 37.6
comp=Z,1µm,19.0s
BSY Bisya 114.35 288 P PKPdf 02 50 34.6 -0.6
HOQ Hoqain 114.36 289 P **PKiKP** 02 50 35.1 0.0
AKTO Aktyubinsk 114.50 318 PKP PKPdf 02 50 34.1 -0.4
comp=Z,9.3nm,0.6s,baz=322,slow=2.6,SNR=25
GEYT Alibeck 114.77 305 PKP PKPdf 02 50 35.5 0.0
comp=Z,9.4nm,0.8s,baz=253,slow=2.5,SNR=20
GEYT PP **PP** 02 51 26.4 -7.8
comp=Z,6.6nm,1.0s,baz=46,slow=11,SNR=4.6
ARQ Araqi 115.05 289 P **PKPdf** 02 50 35.8 -0.7
SHAO Shalim 115.11 283 P **PKiKP** 02 50 37.6 +0.9
MDH Madha 115.49 291 P **PKPdf** 02 50 36.7 -0.4
UOSS Minazif 115.53 290 **PKPdf** 02 50 35.3 -2.0
UOSS Minazif 115.53 290 P **PKPdf** 02 50 36.7 -0.6
UOSS Minazif 115.53 290 *i* PKPdf **PKPdf** 02 50 36.7 -0.6
SNR=8.8
NEEM North Greenlan 115.55 9 *i* P **PKPdf** 02 50 37.0 +0.8
BANOM Banah 115.55 291 P **PKPdf** 02 50 36.7 -0.7
BANOM Banah 115.55 291 PKPdf **PKPdf** 02 50 36.1 -1.3
SOCY Socotra 115.58 276 IAMs_20 IAMs_20 03 40 06.7
comp=Z,1µm,20.0s
HATD Hatta, Dubai 115.58 290 P **PKiKP** 02 50 37.5 +0.1
HATD Hatta, Dubai 115.58 290 *i* PKPdf **PKPdf** 02 50 36.9 -0.5
SNR=10
MSFE Esma-Masafi 115.62 291 *i* PKPdf **PKPdf** 02 50 37.1 -0.4
SNR=7.5
MASF Masafi 115.62 291 P **PKiKP** 02 50 37.5 0.0
ASHO Ashiyiah 115.63 290 P **PKPdf** 02 50 37.1 -0.4
SNR=5.2
ASHO Ashiyiah 115.63 290 *i* PKPdf **PKPdf** 02 50 37.0 -0.5
SNR=8.9
DMTO DMTO 115.69 282 P **PKPdf** 02 50 37.4 -0.3
SHME Shamm 115.71 292 P **PKPdf** 02 50 37.2 -0.4
SHME Shamm 115.71 292 PKPdf **PKPdf** 02 50 36.5 -1.1
ALNE Al Ain 115.84 289 P **PKiKP** 02 50 38.5 +0.5
SNR=5.2
NAZ Nazwa, Dubai 116.03 290 P **PKPdf** 02 50 37.7 -0.6
SNR=5.6
NAZ Nazwa, Dubai 116.03 290 *i* PKPdf **PKPdf** 02 50 37.2 -1.0
SNR=9.6
FAQ Al Faqa, Dubai 116.06 290 PKPdf **PKPdf** 02 50 37.7 -0.7
JSC Jenkinsville 116.26 59 PKPdf **PKiKP** 02 50 39.2 +0.8
JSC Jenkinsville 116.26 59 PKiKP **PKiKP** 02 50 39.2 +0.8
ASUD Al Ashush, Dub 116.29 290 P **PKiKP** 02 50 40.0 +1.2
ASUD Al Ashush, Dub 116.29 290 *i* PKPdf **PKiKP** 02 50 38.8 +0.1
SNR=5.4
RBK Rabkut 116.36 282 P **PKiKP** 02 50 39.4 +0.3
LPAZ La Paz 116.49 118 PKP **PKPdf** 02 50 39.1 -1.1
comp=Z,1.2nm,0.7s,baz=116,slow=1.0,SNR=6.1
LPAZ PKKPbc **PKKPbc** 03 01 07.1 -0.8
comp=Z,2.4nm,0.9s,baz=107,slow=4.7,SNR=5.3
LPAZ La Paz 116.49 118 PKPdf **PKPdf** 02 50 38.7 -1.5
M53A WI Miller and 116.72 51 IAMs_20 IAMs_20 03 34 36.4
comp=Z,1µm,20.0s
WHFO Wadi Hawf 116.83 282 P **PKPdf** 02 50 38.9 -1.1
BLA Blacksburg 116.99 56 IAMs_20 IAMs_20 03 35 06.0
comp=Z,1µm,21.0s
ABTO Aybut 117.19 282 P **PKPdf** 02 50 40.1 -0.7
MZR Muzera 117.79 288 P **PKiKP** 02 50 41.7 0.0
SNR=8.2
MZR Muzera 117.79 288 *i* PKPdf **PKiKP** 02 50 41.6 0.0
SNR=7.2
KIRV Kirov 118.00 328 PKP **PKPdf** 02 50 40.0 -0.9
comp=Z,22nm,0.5s,baz=82,slow=2.8,SNR=12
KIRV Kirov 118.00 328 *i* PKiKP **PKPdf** 02 50 39.8 -1.2
ROSC El Rosal 118.45 93 PKP **PKPdf** 02 50 43.0 -0.7
comp=Z,6.0nm,0.5s,baz=323,slow=20,SNR=2.0
JRN Qarnain Island 118.56 290 P **PKiKP** 02 50 43.3 +0.2
PRGR Permogore 118.83 332 *e*PKiKP **PKiKP** 02 50 40.6 -1.9
PRGR pmax pmax
comp=Z,48nm,1.0s
CPUP Villa Florida 119.49 133 PKKPbc PKKPbc 03 00 56.1 -0.6
comp=Z,4.1nm,1.1s,baz=37,slow=3.5,SNR=4.7
LVZ Lovozero 120.01 341 IAMs_20 IAMs_20 03 42 22.9
comp=Z,1µm,21.0s
LVZ Lovozero 120.01 341⇑ *i* PKiKP **PKPdf** 02 50 42.7 -2.0
LVZ pmax pmax
comp=Z,22nm,1.0s
LVZ MLR MLR
comp=Z,1µm,22.0s
SHMA Al-Shehemyia 120.33 291 P **PKiKP** 02 50 47.1 +0.6
APA Apatity 120.59 341⇓ *i* PKiKP **PKPdf** 02 50 43.0 -2.8
APA pmax pmax
comp=Z,21nm,0.9s
BELG Belogornoye 120.60 322 *c i* PKiKP **PKPdf** 02 50 45.4 -0.8
BELG MLR MLR
comp=Z,115nm,22.0s
ALGR Alto Alegre (B 120.75 138 *e*P **PKPdf** 02 50 46.9 -0.6
KEV Kevo 120.95 345 PKPdf **PKPdf** 02 50 45.5 -0.8
KEV Kevo 120.95 345 PKiKP **PKPdf** 02 50 45.5 -0.8
KEV MLR MLR
comp=Z,2µm,21.0s
CRSM Crissiumal (Br 120.97 137 *e*P **PKPdf** 02 50 47.6 -0.2
ETMB Extrema 121.03 112 PKPdf **PKPdf** 02 50 46.1 -2.1
ETMB Extrema 121.03 112 *e*P **PKPdf** 02 50 46.0 -2.2
SUMG Summit 121.41 9 PKPdf **PKPdf** 02 50 46.9 -0.9
SUMG Summit 121.41 9 PKiKP **PKPdf** 02 50 46.9 -0.9
SUMG Summit 121.41 9 *i* P **PKPdf** 02 50 46.0 -1.8
ARA0 ARCESS Array S 121.48 345 *e*P **PKPdf** 02 50 46.5 -0.9
ARA0 IAmb IAmb 02 50 47.3
comp=Z,32nm,0.8s
ARCES ARCESS Array B 121.48 345 PKP **PKPdf** 02 50 46.5 -0.9
comp=Z,8.4nm,0.4s,baz=85,slow=2.0,SNR=128
ARCES PKKPbc **PKKPab** 03 00 48.2 +0.5
comp=Z,6.0nm,0.9s,baz=228,slow=2.7,SNR=15
CNLB Canela 121.75 140 *e*P **PKPdf** 02 50 48.2 -1.1
PAL Palisades 121.84 51 IAMs_20 IAMs_20 03 36 07.9
comp=Z,1µm,22.0s
KLMR Klimovskoe 121.85 333 *c i* PKiKP **PKPdf** 02 50 46.9 -1.4
KLMR pmax pmax
comp=Z,139nm,1.4s
KLMR MLR MLR
comp=Z,1µm,22.0s
KLMR Klimovskoe 121.85 333⇑ *i* PKPdf **PKPdf** 02 50 47.0 -1.4
KLMR ⇑ *i* PKPdf **PKPdf** 02 50 47.0 -1.4
KLMR ⇓ *i* PKPdf **PKPdf** 02 50 47.0 -1.4

KLMR AMP 02 50 49.2
comp=Z,139nm,1.4s
KLMR ePP PP 02 52 10.4 -12
KLMR eSKP 02 54 20.4
KLMR eSKKPbc SKKPbc 03 04 40.2 +4.1
KLMR LQ LQ 03 29 13.2
KLMR LQ LQ 03 29 13.2
KLMR LR LR 03 34 35.9
KLMR AMP 03 41 19.4
comp=Z,1μm,22.0s
SUR Sutherland 122.29 213 PKP **PKPdf 02 50 50.4 -0.1**
comp=Z,26nm,1.0s,baz=130,slow=5.7,SNR=7.1
SUR Sutherland 122.29 213 P **PKPdf 02 50 50.5 0.0**
ITAB Concordia 122.40 138 eP **PKPdf 02 50 49.5 -1.0**
KTK1 Kautokeino 122.41 346 eP **PKPdf 02 50 47.7 -1.6**
KTK1 IAmb IAmb 02 50 48.4
comp=Z,46nm,1.6s
MAK Makhachkala 122.55 311 eP **Pdif 02 47 18.5 -1.7**
MAK i 02 50 49.4
MAK e 02 52 24.2
MAK ePPP PPP 02 55 03.1
MAK e 02 57 44.5
MAK eSS SS 03 09 05.0 -1.4
MAK eSSS SSS 03 13 35.0
MAK pmax pmax
comp=Z,147nm,1.1s
BOSA Boshof 122.55 220 PKP **PKPdf 02 50 51.0 0.0**
comp=Z,28nm,0.9s,baz=126,slow=2.5,SNR=19
BOSA Boshof 122.55 220 PKPdf **PKPdf 02 50 50.8 -0.2**
FRBT Francisco Belt 122.64 136 eP **PKPdf 02 50 50.6 -0.5**
JETT Jettan, Norway 122.64 347 eP **PKPdf 02 50 47.9 -1.9**
SGF Sodankyl 122.69 343 PKIKP **PKPdf 02 50 48.4 -1.4**
TRO Tromso 122.90 347 eP **PKPdf 02 50 48.5 -1.6**
TRO IAmb IAmb 02 50 49.4
comp=Z,48nm,1.1s
MSF Maaselka 122.98 341 PKIKP **PKPdf 02 50 49.4 -1.0**
SDV Santo Domingo 122.99 90 PKPdf **PKPdf 02 50 50.2 -2.0**
SDV Santo Domingo 122.99 90 eP **PKPdf 02 50 51.4 -0.8**
ANTJ Antonio Joao (123.12 130 eP **PKPdf 02 50 51.1 -1.0**
SCHQ Schefferville 123.21 34 PKP **PKiKP 02 50 51.3 -0.1**
comp=Z,5.4nm,0.9s,baz=221,slow=0.3,SNR=3.7
GROC Groznyy 123.74 312 *i* PKIKP **PKiKP 02 50 52.8 0.0**
GROC e 02 52 34.9
GROC pmax pmax
comp=Z,123nm,0.8s
SDDR Presa de Saban 124.11 78 IAMs_20 IAMs_20 03 33 58.2
comp=Z,1μm,22.0s
PTGB Pitanga 124.15 136 eP **PKPdf 02 50 52.6 -1.4**
AQDB Aquidauana 124.27 129 eP **PKPdf 02 50 54.1 -0.2**
PTLB Pontes e Lacer 124.42 122 eP **PKPdf 02 50 52.9 -1.8**
VRH Novokhopyorsk 124.45 322 ePKIKP **PKPdf 02 50 52.0 -1.6**
VRH pmax pmax
comp=Z,80nm,0.6s
OUL Oulu 124.51 341 PKIKP **PKPdf 02 50 52.4 -0.9**
VILB Vilhena 124.81 119 eP **PKPdf 02 50 54.0 -1.5**
DY2G Dye2 124.85 16 *i* P **PKPdf 02 50 52.9 -1.4**
LBTB Lobatse 124.85 223 PKP **PKiKP 02 50 56.0 +0.2**
comp=Z,17nm,0.9s,baz=149,slow=2.4,SNR=13
LBTB Lobatse 124.85 223 **PKPdf 02 50 55.2 -0.2**
LBTB Lobatse 124.85 223 PKIKP **PKiKP 02 50 56.0 +0.2**
MOS Moscow 125.01 328 *i* PKIKP **PKPdf 02 50 52.1 -2.4**
MOS e 02 51 06.8
MOS e 02 52 41.3
MOS pmax pmax
comp=Z,99nm,1.2s
MOS MLR MLR 02 50 55.7
comp=Z,1μm,23.0s
GNI Garni 125.02 308 PKP **PKiKP 02 50 55.7 +0.1**
comp=Z,29nm,0.8s,baz=346,slow=6.2,SNR=21
GNI Garni 125.02 308 PKPdf **PKPdf 02 50 55.2 -0.2**
GNI Garni 125.02 308 *d* PKIKP **PKiKP 02 50 55.8 +0.1**
GNI pmax pmax
comp=Z,104nm,1.7s
GNI MLR MLR
comp=Z,505nm,21.0s
GNI Garni 125.02 308 P **PKiKP 02 50 55.8 +0.1**
GNI Garni 125.02 308 PKiKP **PKiKP 02 50 55.8 +0.1**
TRCB Terra Rica 125.03 133 **PKPdf 02 50 54.3 -1.5**
TRCB Terra Rica 125.03 133 eP **PKPdf 02 50 53.8 -2.0**
STEI Steigen 125.07 348 eP **PKPdf 02 50 52.9 -1.4**
STEI IAmb IAmb 02 50 53.9
comp=Z,80nm,1.2s
RAYN Ar Rayn 125.14 288 PKPdf **PKPdf 02 50 55.5 -0.4**
RAYN Ar Rayn 125.14 288 PKIKP **PKPdf 02 50 55.5 -0.4**
RAYN Ar Rayn 125.14 288 P **PKiKP 02 50 56.0 +0.1**
RAYN Ar Rayn 125.14 288 *i* PKPdf **PKPdf 02 50 55.7 -0.2**
SNR=50
ZEI Tsey 125.19 311 *i* PKIKP **PKPdf 02 50 54.5 -1.1**
ZEI pmax pmax
comp=Z,35nm,1.0s
LOF Lofoten 125.24 348 eP **PKPdf 02 50 53.1 -1.5**
NCK Nalchik 125.26 312 ⇓ *i* PKIKP **PKiKP 02 50 55.8 -0.1**
GOF Gofitskoye 125.31 314 ⇑ ePKIKP **PKPdf 02 50 55.6 +0.1**
GOF pmax pmax
comp=Z,70nm,0.9s
FAUS Fauske 125.52 347 eP **PKPdf 02 50 53.3 -1.9**
FAUS IAmb IAmb 02 50 54.6
comp=Z,58nm,1.4s
LPSR Galich'ya Gora 125.58 324 ePKIKP **PKPdf 02 50 54.8 -1.0**
LPSR pmax pmax
comp=Z,130nm,1.1s
KBZ Khabaz 125.71 313 PKP **PKPdf 02 50 56.2 -0.1**
comp=Z,19nm,0.9s,baz=133,slow=2.4,SNR=23
KBZ Khabaz 125.71 313 *c i* PKIKP **PKPdf 02 50 55.5 -0.8**
KBZ MLR MLR
comp=Z,929nm,23.0s
RPRD Ribas do Rio P 125.74 131 eP **PKPdf 02 50 56.5 -0.6**
VORR Voronezh 125.77 323 ⇓ *i* PKIKP **PKPdf 02 50 56.3 +0.2**
VORR pmax pmax
comp=Z,264nm,1.7s
KVAR Kislovodsk Arr 125.80 313 PKP **PKiKP 02 50 57.5 +0.5**
comp=Z,13nm,1.0s,baz=90,slow=20,SNR=4.4
KIV Kislovodsk 125.81 313 ⇑P **PKiKP 02 50 57.0 -0.1**
KIV Kislovodsk 125.81 313 PKPdf **PKPdf 02 50 56.0 -0.6**
KIV Kislovodsk 125.81 313 *i* PKIKP **PKPdf 02 50 55.7 -0.9**
KIV e 02 52 48.4
KIV ePS **PS 03 02 50.4 -1.8**
KIV eSS SS 03 09 48.1 +0.5
KIV pmax pmax
comp=Z,51nm,1.1s
KIV MLR MLR
comp=Z,415nm,23.0s
KIV Kislovodsk 125.81 313 P **PKiKP 02 50 57.6 +0.6**
KIV Kislovodsk 125.81 313 *i* PKPdf **PKPdf 02 50 56.5 -0.2**
SNR=12
OBN Obninsk 125.83 328 ⇑P **PKPdf 02 50 55.1 -1.1**
OBN Obninsk 125.83 328 PKPdf **PKPdf 02 50 55.3 -0.8**
OBN IAMs_20 IAMs_20 03 48 01.4
comp=Z,901nm,20.0s
OBN Obninsk 125.83 328 *c i* PKIKP **PKPdf 02 50 55.0 -1.1**
OBN e 02 52 49.5
OBN ePPP PPP 02 55 33.6
OBN pmax pmax
comp=Z,174nm,1.7s
OBN MLR MLR
comp=Z,876nm,20.0s
NEY Neytrino 125.94 312 *d* PKIKP **PKiKP 02 50 57.8 +0.4**
VSR Storozhevoye 125.96 322 ePKIKP **PKPdf 02 50 55.1 -1.4**
VSR pmax pmax
comp=Z,100nm,1.1s
BATG Bathurst New B 126.13 43 PKPdf **PKiKP 02 50 57.9 +0.4**
ATD Arta Tunnel 126.13 273 PKP **PKPdf 02 50 57.8 -0.2**
comp=Z,30nm,1.1s,baz=0.8,slow=3.2,SNR=6.9
MOR8 Moi Rana 126.72 347 eP **PKPdf 02 50 56.2 -1.4**
MOR8 IAmb IAmb 02 50 56.4
comp=Z,51nm,1.3s
KONS Konsvik 126.72 347 eP **PKPdf 02 50 57.1 -0.4**
KONS IAmb IAmb 02 50 57.3
comp=Z,56nm,1.5s
PCMB Pacaembu 126.76 133 eP **PKPdf 02 50 58.0 -1.1**
KIBK Kibwezi 126.80 255 IAMs_20 IAMs_20 03 41 02.7
comp=Z,1μm,21.0s
KIBK Kibwezi 126.80 255 P **PKiKP 02 50 59.8 -0.1**
FINES FINESS Array B 126.92 338 PKhKP PKPpre 02 50 50.9
comp=Z,8.9nm,1.0s,baz=69,slow=2.7,SNR=4.3
FINES PKP **PKPdf 02 50 57.5 -0.6**
comp=Z,29nm,0.8s,baz=69,slow=1.7,SNR=45
FINES SKPbc SKPbc 02 54 15.4
comp=Z,5.0nm,0.9s,baz=64,slow=4.4,SNR=3.6
FINES PKKPbc **PKKPbc 03 00 28.3 -0.8**
comp=Z,0.7nm,0.7s,baz=197,slow=2.9,SNR=4.4
FINES FINESS Array B 126.92 338 *c i* PKIKP **PKPdf 02 50 57.2 -0.8**
FINES pmax pmax
comp=Z,29nm,0.8s
comp=Z,2.0nm,1.0s,baz=123,slow=4.4,SNR=7.4
BRTR PKP **PKPdf 02 51 11.0 -0.3**
comp=Z,16nm,0.9s,baz=134,slow=1.3,SNR=37
BRTR PP **PP 02 53 36.9 -2.5**
comp=Z,6.3nm,1.1s,baz=131,slow=3.4,SNR=6.8
BRTR SKPbc **SKPab 02 54 38.5 -0.2**
comp=Z,11nm,1.0s,baz=92,slow=1.1,SNR=12
BRTR Keskin Array B 133.43 310 *c i* PKIKP **PKPdf 02 51 10.6 -0.7**
BRTR pmax pmax
comp=Z,16nm,0.9s
KONO Kongsberg 133.46 345 IAMs_20 IAMs_20 03 55 02.1
comp=Z,895nm,21.0s
PURM Purcari 133.46 320 ⇑P **PKPdf 02 51 10.9 0.0**
STRU Stroemstad 133.56 343 *i* P **PKPdf 02 51 10.2 -0.5**
MMAI Mount Meron Ar 133.59 301 PKhKP PKPpre 02 50 59.6
comp=Z,3.0nm,0.9s,baz=58,slow=4.1,SNR=2.7
MMAI PKP **PKPdf 02 51 12.0 +0.3**
comp=Z,22nm,0.8s,baz=81,slow=5.2,SNR=30
MMAI SKPbc **SKPab 02 54 39.5 0.0**
comp=Z,66nm,1.2s,baz=45,slow=3.8,SNR=15
GHAJ Ghor Haditha 133.71 298 IAMs_20 IAMs_20 03 55 54.0
comp=Z,882nm,20.0s
ODD1 Odda 133.93 347 eP **PKPdf 02 51 10.9 -0.5**
MILM Milestii Mici 133.93 321 ⇓P **PKPdf 02 51 11.3 -0.5**
ANTO Ankara 134.01 310 **PKPdf 02 51 12.2 -0.1**
ANTO Ankara 134.01 310 PKIKP **PKPdf 02 51 12.2 -0.1**
ANTO Ankara 134.01 310 P **PKiKP 02 51 13.2 -0.4**
TSUM Tsumeb 134.18 221 PKP **PKPdf 02 51 13.1 -0.2**
comp=Z,6.1nm,0.7s,baz=175,slow=1.9,SNR=4.9
TSUM SKPbc **SKPab 02 54 41.3 -1.3**
comp=Z,12nm,0.9s,baz=127,slow=5.2,SNR=10.0
TSUM Tsumeb 134.18 221 **PKPdf 02 51 13.7 +0.4**
DIAM Diamantina, MG 134.20 137 eP **PKPdf 02 51 12.2 -1.2**
MBAR Mbarara 134.21 253 PKP **PKPdf 02 51 14.1 +0.5**
comp=Z,14nm,0.9s,baz=67,slow=1.9,SNR=10
MBAR Mbarara 134.21 253 **PKPdf 02 51 12.5 -1.1**
MBAR Mbarara 134.21 253 *c i* PKIKP **PKiKP 02 51 14.4 -0.5**
MBAR pmax pmax
comp=Z,28nm,1.3s
MBAR Mbarara 134.21 253 P **PKPdf 02 51 13.9 +0.3**
BORU Boraas 134.27 341 *i* P **PKPdf 02 51 10.8 -1.2**
ALF01 Guarapari-ES 134.32 142 eP **PKPdf 02 51 13.1 -0.3**
BLS5 Blasjo 134.41 347 eP **PKPdf 02 51 13.0 +0.6**
EIL Elat 134.44 296 PKP **PKPdf 02 51 13.4 +0.1**
comp=Z,44nm,1.1s,baz=38,slow=1.9,SNR=19
EIL PP **PP 02 53 46.9 +0.8**
comp=Z,9.5nm,1.0s,baz=147,slow=5.4,SNR=3.6
EIL SKPbc **SKPab 02 54 43.3 0.0**
comp=Z,53nm,1.1s,baz=132,slow=1.4,SNR=14
VASR Vaslui 134.68 321 ⇑P **PKPdf 02 51 12.3 -0.9**
TLCR 134.72 319 ⇑P **PKiKP 02 51 14.2 -0.5**
FABU Falkenberg 134.80 341 *i* P **PKPdf 02 51 11.2 -1.9**
DEL Delary 134.86 340 *i* P **PKPdf 02 51 12.2 -1.0**
VLDI Vladesti 134.88 320 ⇑P **PKPdf 02 51 14.0 +0.3**
LVV L'vov 135.11 327 ePKIKP **PKPdf 02 51 13.1 -0.8**
LVV MLR MLR
comp=Z,600nm,24.0s
TPGR Topolog 135.12 319 ⇑P **PKPdf 02 51 14.7 +0.5**
MC01 Montes Claros 135.14 135 eP **PKPdf 02 51 14.4 -0.7**
MALB Monte Alegre 135.15 109 eP **PKPdf 02 51 13.5 -1.6**
CFR Carcaliu 135.16 319 ⇑P **PKPdf 02 51 13.8 -0.3**
CFR Carcaliu 135.16 319 PKIKP **PKPdf 02 51 14.2 +0.1**
GHRR 135.19 321 ⇓P **PKPdf 02 51 14.3 +0.1**
SNART Snartemo 135.20 345 *i* P **PKPdf 02 51 14.4 +0.6**
SNART Snartemo 135.20 345 eP **PKPdf 02 51 14.0 +0.2**
BJUU Bjuv 135.46 340 *i* P **PKPdf 02 51 13.4 -1.0**
BEL Belsk 135.47 331 ePKPdf **PKPdf 02 51 15.0 +0.5**
BEL Belsk 135.47 331 PKIKP **PKPdf 02 51 15.1 +0.5**
SJMB Sao Joao De Ma 135.50 140 eP **PKPdf 02 51 14.7 -1.0**
TLBR Topalu 135.50 318 ⇑P **PKiKP 02 51 16.4 0.0**
HARR Harsova 135.51 319 ⇑P **PKiKP 02 51 16.5 +0.2**
RIB01 Linhares ES 135.52 141 eP **PKPdf 02 51 15.1 -0.6**
BIZ Bicaz 135.54 322 ⇑P **PKPdf 02 51 14.6 -0.3**
LUNU Lund 135.67 339 *i* P **PKPdf 02 51 13.2 -1.6**
BUR08 Bucovina Ar. S 135.69 324 PKPdf **PKPdf 02 51 15.9 +0.7**
BURAR Bucovina Array 135.70 324 ⇑P **PKiKP 02 51 16.7 -0.1**
VRI Vrincioaia 135.70 321 ⇑P **PKPdf 02 51 12.4 -2.8**
VRI Vrincioaia 135.70 321 PKIKP **PKPdf 02 51 14.9 -0.3**
JANB Januaria 136.03 133 eP **PKPdf 02 51 15.8 -1.0**
GKP Gorka Klasztor 136.04 335 ePKPdf **PKPdf 02 51 16.1 +0.6**
GKP Gorka Klasztor 136.04 335 PKIKP **PKPdf 02 51 15.4 -0.1**
GKP Gorka Klasztor 136.04 335 eP **PKPdf 02 51 14.7 -0.8**
OZUR 136.16 321 ⇑P **PKPdf 02 51 16.6 +0.5**
ISR Istrita 136.18 320 PKIKP **PKPdf 02 51 15.6 -0.6**
ISK Istanbul-Kandi 136.27 313 P PKPpre 02 51 15.1
MLR Muntele Rosu 136.37 321 ⇓P PKPpre 02 51 06.7
MLR Muntele Rosu 136.37 321 IAMs_20 IAMs_20 03 58 56.8
comp=Z,39nm,19.0s
MLR Muntele Rosu 136.37 321 PKIKP **PKPdf 02 51 15.8 -0.8**
DOPR Dopca 136.46 321 ⇑P **PKPdf 02 51 14.5 -2.1**
SECR 136.51 320 ⇑P **PKPdf 02 51 15.2 -1.6**
PRD Provadia 136.52 317 *i* P **PKPdf 02 51 16.2 -0.5**
UZH Uzhgorod 136.73 326 ePKHKP PKPpre 02 51 08.8
UZH *i* 02 51 15.8
UZH *i* 02 51 26.2
NAN01 Guarapari, ES 136.80 140 eP **PKPdf 02 51 16.9 -1.2**
TRPA Tarpa 136.90 326 ⇑P **PKPdf 02 51 17.4 +0.1**
TRPA Tarpa 136.90 326 PKP **PKPdf 02 51 13.7 -3.6**
RAZG Razgrad 136.93 318 ⇑P PKPpre 02 51 05.9
VOIR 136.94 321 ⇓P **PKiKP 02 51 19.5 +0.1**
OJC Ojcow 137.00 330 ePKPdf **PKPdf 02 51 15.9 -1.6**
CRVS Cervenica-Dubn 137.01 327 ePKIKP **PKPdf 02 51 18.2 +0.7**
CRVS Cervenica-Dubn 137.01 327 ePKIKP **PKPdf 02 51 18.2 +0.7**
CRVS eSKPDF 02 54 49.7
CBBR Cluj-Babes-Bol 137.11 323 ⇑P **PKPdf 02 51 18.0 +0.3**
CJR Cluj-Napoca 137.12 323 ⇓P **PKPdf 02 51 18.2 +0.3**
ARR Arges 137.22 321 ⇑P **PKPdf 02 51 18.9 +0.8**
NIE Niedzica 137.28 329 ePKPdf **PKPdf 02 51 18.8 +0.8**
NIE Niedzica 137.28 329 PKIKP **PKPdf 02 51 17.8 -0.2**
SDBA SAO DESIDERIO 137.36 129 eP **PKiKP 02 51 20.2 -0.9**
JMB Yambol 137.38 316 *i* P PKPpre 02 51 14.3
HUMR Humele 137.44 320 ⇑P **PKPdf 02 51 16.9 -1.5**
SZH Strazhica 137.44 318 *i* P **PKPdf 02 51 17.6 -0.9**
COPA Copaceanca 137.49 319 ⇑P **PKPdf 02 51 18.6 +0.1**
EDRB Edirne 137.54 315 P **PKPdf 02 51 16.1 -2.6**
MANT Manisa 137.57 310 PKPdf **PKPdf 02 51 18.9 -0.3**
DRGR 137.58 324 ⇑P PKPpre 02 51 14.5
LTVH Ltavrtes, Hu 137.69 325 PKP **PKPdf 02 51 19.7 +0.9**
LOT Lotru 137.70 322 ⇑P **PKPdf 02 51 18.5 -0.5**
LANS Liptovska Anna 137.87 329 ePKIKP **PKiKP 02 51 20.3 -0.8**
LANS Liptovska Anna 137.87 329 ePKP **PKiKP 02 51 20.3 -0.8**
LANS eSKPDF 02 54 52.6
DEV Deva 137.97 323 ⇑P **PKPdf 02 51 18.6 -0.8**
DEV Deva 137.97 323 PKIKP **PKPdf 02 51 18.8 -0.6**
RUE Ruedersdorf 138.03 336 eP **PKPdf 02 51 19.9 +0.7**
OKC Ostrava-Krasne 138.05 330 ePKIKP **PKPdf 02 51 20.2 +0.8**
OKC MLR MLR
comp=Z,2μm,22.8s
OKC Ostrava-Krasne 138.05 330 ePKPDF **PKPdf 02 51 20.2 +0.8**
OKC AMS AMS 03 49 10.0
comp=Z,2μm,22.8s
BSEG Bad Segeberg 138.11 340 PKIKP **PKPdf 02 51 19.3 0.0**
KSP Ksiaz 138.20 333 ePKPdf **PKPdf 02 51 20.0 +0.3**
KSP Ksiaz 138.20 333 PKHKP PKPpre 02 51 19.0
YER Yerkesik 138.23 308 P **PKPdf 02 51 19.5 -0.7**
DIM Dimitrovgrad 138.26 316 *i* P **PKPdf 02 51 19.4 -0.6**
GZR Gura Zlata 138.32 322 ⇓P PKPpre 02 51 16.5
MORC Moravsky Berou 138.38 331 ⇑P PKPpre 02 51 15.2
MORC Moravsky Berou 138.38 331 PKPdf **PKPdf 02 51 20.4 +0.3**
MORC Moravsky Berou 138.38 331 ePKP **PKPdf 02 51 20.0 -0.1**
MORC ePP **PP 02 54 10.7 +1.1**
MORC Moravsky Berou 138.38 331 PKIKP **PKPdf 02 51 20.4 +0.3**
ENEZ Enez 138.42 314 P **PKPdf 02 51 18.8 -1.5**
ALN Alexandroupoli 138.43 315 P **PKPdf 02 51 17.3 -3.0**
PSZ Piszkesteto 138.44 327 ⇓P **PKPdf 02 51 17.8 -2.5**
PSZ Piszkesteto 138.44 327 PKP **PKPdf 02 51 20.3 +0.1**
OSTC Ostas 138.44 332 ePKPpre PKPpre 02 51 10.1
OSTC ePKPDF **PKPdf 02 51 19.6 -0.5**
OSTC eSKP 02 54 52.7
OSTC AMS AMS 03 46 40.0
comp=Z,2μm,27.0s
SIRR Siria 138.47 324 ⇑P **PKPdf 02 51 19.7 -0.6**
CHVC Chvalec 138.49 333 ePKPDF **PKPdf 02 51 20.4 +0.2**
CHVC eSKP 02 54 53.4
CHVC AMS AMS 03 46 30.0
comp=Z,2μm,25.5s
KDZ Kurdzhali 138.52 316 *i* P **PKPdf 02 51 18.9 -1.6**
MAUC Maruska 138.53 330 ePKPDF **PKPdf 02 51 19.6 -0.7**
MAUC eSKP 02 54 53.5
MAUC AMS AMS 03 49 30.0
comp=Z,3μm,22.9s
KRLC Kraliky 138.53 332 ePKHKP PKPpre 02 51 10.0

SALV Santo Antonio 126.94 125 eP **PKPdf 02 50 58.6 -0.8**
BIRV Birongo 127.53 89 PKPdf **PKPdf 02 51 00.2 -0.4**
PET01 Itanhaem-SP 127.57 139 eP **PKPdf 02 51 00.2 -0.3**
KMBO Kilima Mbogo 127.98 256 PKP **PKiKP 02 51 02.4 -0.1**
comp=Z,36nm,1.2s,baz=73,slow=1.7,SNR=22
KMBO Kilima Mbogo 127.98 256 PKPdf **PKPdf 02 51 00.9 -0.9**
KMBO Kilima Mbogo 127.98 256 P **PKPdf 02 51 01.7 -0.2**
KMBO Kilima Mbogo 127.98 256 PKiKP **PKiKP 02 51 02.4 -0.1**
SOC Sochi 127.99 313 *i* PKIKP **PKPdf 02 50 59.4 -1.2**
SOC ePPP PPP 02 55 45.6
SOC e 02 57 59.0
SOC ePS **PS 03 02 58.7 -12**
SOC pmax pmax
comp=Z,34nm,0.9s
SOC MLR MLR
comp=Z,492nm,19.0s
MEF Metsahovi 128.35 338 eP **PKPdf 02 51 00.3 -0.5**
PDRB Porto dos Gac 128.41 119 eP **PKPdf 02 51 01.1 -1.3**
VSU Vasula 128.59 335 ⇓ *i* PKIKP **PKPdf 02 51 01.1 -0.2**
VSU MLR MLR
comp=Z,3μm,23.0s
VSU Vasula 128.59 335 eP **PKPdf 02 51 01.1 -0.2**
ITRB Iturama 128.65 132 eP **PKPdf 02 51 02.4 -0.3**
NSS Namsos 128.67 347 eP **PKPdf 02 51 00.6 -0.7**
NSS IAmb IAmb 02 51 00.9
comp=Z,103nm,1.5s
VAO Valinhos 128.69 138 eP **PKPdf 02 51 02.0 -0.8**
RAF Rauma 128.72 339 eP **PKPdf 02 51 01.3 -0.2**
RCLB Rio Claro- Sao 128.74 137 eP **PKPdf 02 51 02.2 -0.7**
MACA Manacapuru-AM 128.76 108 eP **PKPdf 02 51 00.4 -2.6**
SJG San Juan 128.85 79 PKP **PKiKP 02 51 03.5 -0.2**
comp=Z,43nm,0.7s,baz=36,slow=2.0,SNR=12
SJG SKPbc SKPbc 02 54 19.5
comp=Z,27nm,1.1s,baz=314,slow=4.6,SNR=5.7
SJG San Juan 128.85 79 **PKPdf 02 51 01.5 -1.5**
SJG San Juan 128.85 79 PKIKP **PKPdf 02 51 01.5 -1.5**
BB19B Bebedouro 129.01 135 eP **PKPdf 02 51 02.6 -0.8**
LSZ Lusaka 129.19 234 PKP **PKiKP 02 51 04.4 -0.3**
comp=Z,11nm,0.6s,baz=170,slow=3.0,SNR=20
LSZ PP **PP 02 53 09.8 -2.2**
comp=Z,1.3nm,0.3s,baz=103,slow=6.9,SNR=5.1
LSZ SKPbc SKPbc 02 54 24.9 +2.6
comp=Z,43nm,1.0s,baz=133,slow=2.8,SNR=25
ANN Anapa 129.21 315 *i* PKIKP **PKPdf 02 51 02.2 -0.7**
ANN pmax pmax
comp=Z,58nm,0.9s
ANN MLR MLR
comp=E,2μm,18.0s
ANN MLR MLR
comp=N,1μm,25.0s
ANN MLR MLR
comp=Z,1μm,25.0s
CLDB Colider 129.58 119 eP **PKPdf 02 51 03.5 -1.0**
FURI Furi 129.58 268 PKPdf **PKPdf 02 51 04.9 0.0**
MTSE Matsula 129.59 336 eP **PKPdf 02 51 03.1 -0.1**
TBLU Trondheim 130.16 347 eP **PKPdf 02 51 03.3 -0.9**
MNK Minsk 130.46 330 *i* PKIKP **PKPdf 02 51 04.7 -0.3**
MNK *i* 02 53 19.7
MNK *i* PPP PPP 02 56 08.0
MNK *i* 02 58 06.6
MNK *i* SS SS 03 10 46.4 +2.4
MNK pmax pmax
comp=Z,42nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK MLR MLR
comp=Z,856nm,20.0s
MNK MLR MLR
comp=E,103nm,20.0s
MNK Minsk 130.46 330 *i* PKP **PKPdf 02 51 04.7 -0.3**
comp=E,3.0nm,1.0s
MNK *i* PKP **PKPdf 02 51 04.7 -0.3**
MNK *i* PKP **PKPdf 02 51 04.7 -0.3**
comp=Z,42nm,1.0s,baz=55
MNK *i* PP **PP 02 53 19.8 +0.5**
MNK *i* PPP PPP 02 56 08.0
MNK *i* SKS **SKSdf 02 58 06.6 -6.7**
MNK *i* SS **SS 03 10 46.4 +2.4**
MNK *i* SSS SSS 03 15 06.8
MNK *i* LR LR 03 44 24.0
MNK *i* LRM MLR 03 49 33.2
comp=Z,856nm,20.1s
MNK *i* LRM MLR 03 49 38.3
comp=E,103nm,20.1s
ISAL Salakas 130.65 332 eP **PKiKP 02 51 06.0 -0.1**
IIGN Ignalina 130.74 332 eP **PKiKP 02 51 06.6 +0.2**
NACGM Naroch 130.75 331 ⇑ *i* PKP **PKPdf 02 51 05.0 -0.6**
comp=Z,102nm,1.5s,baz=54
BOAV Boa Vista 130.91 101 eP **PKPdf 02 51 06.0 -1.1**
LODK Lodwar 131.29 260 **PKPdf 02 51 08.3 +0.4**
LODK IAMs_20 IAMs_20 03 46 27.3
comp=Z,971nm,19.0s
LODK Lodwar 131.29 260 P **PKiKP 02 51 08.7 -0.2**
IPMB Ipameri, GO 131.30 132 eP **PKPdf 02 51 07.1 -0.7**
MOL Molde 131.34 348 eP **PKPdf 02 51 06.3 -0.1**
VSVD Vaisvydziai 131.35 334 eP **PKPdf 02 51 06.9 +0.3**
SIM Simferopol' 131.38 316 ePKIKP **PKPdf 02 51 05.8 -1.3**
SIM pmax pmax
comp=Z,37nm,0.9s
VAS01 Vassouras-RJ 131.42 141 eP **PKPdf 02 51 08.2 +0.3**
DOMB Dombas 131.49 347 eP **PKPdf 02 51 06.8 0.0**
DOMB IAmb IAmb 02 51 07.1
comp=Z,76nm,1.5s
PABE Paberze 131.64 333 PKPdf **PKPdf 02 51 06.9 -0.2**
PABE Paberze 131.64 333 eP **PKiKP 02 51 07.7 -0.5**
DIKM Dikmen 131.69 312 ⇓P **PKiKP 02 51 08.5 -0.3**
AKN Aaknes 131.80 348 eP **PKPdf 02 51 07.8 +0.4**
AKN IAmb IAmb 02 51 08.8
comp=Z,47nm,1.1s
AKASG Malin Array Be 131.84 325 *c i* PKIKP **PKPdf 02 51 07.0 -0.7**
AKASG pmax pmax
comp=Z,12nm,0.6s
AKBB Malin Array Si 131.84 325 *c i* PKIKP **PKPdf 02 51 06.4 -1.3**
NB2 NORSAR Subarra 131.85 345 PKPdf **PKPdf 02 51 05.9 -1.6**
comp=Z,93nm,2.0s,baz=31,slow=1.9
NB2 NORSAR Subarra 131.85 345 PKPdf **PKPdf 02 51 05.9 -1.6**
baz=31,slow=1.9
NOA NORSAR Array B 131.85 345 PKP **PKPdf 02 51 07.5 0.0**
comp=Z,4.3nm,0.6s,baz=33,slow=2.0,SNR=21
NOA PP **PP 02 53 22.3 -5.6**
comp=Z,2.9nm,1.2s,baz=34,slow=6.3,SNR=3.4
NOA SKPbc **SKPbc 02 54 30.5 +0.2**
comp=Z,15nm,1.1s,baz=33,slow=2.8,SNR=13
NPGB Novo Progresso 131.85 115 eP **PKPdf 02 51 07.1 -1.8**
NORES NORESS Array B 132.02 344 PKIKP **PKPdf 02 51 07.7 -0.1**
NC602 NORSAR Array S 132.02 344 eP **PKPdf 02 51 07.9 +0.1**
PBUR Paburge 132.16 335 eP **PKiKP 02 51 09.7 +0.5**
PMNB Patos De Minas 132.17 134 eP **PKPdf 02 51 08.9 -0.6**
ASF Jabal al Asfar 132.47 299 PKP **PKPdf 02 51 09.7 +0.1**
comp=Z,24nm,0.9s,baz=135,slow=1.3,SNR=36
ASF PP **PP 02 53 33.7 +0.2**
comp=Z,7.2nm,1.1s,baz=149,slow=5.1,SNR=3.8
ASF SKPbc **SKPab 02 54 35.2 +0.4**
comp=Z,27nm,1.0s,baz=113,slow=2.0,SNR=10
SNDB Serra Nova Dou 132.68 124 eP **PKPdf 02 51 08.7 -1.8**
FOO Floro 132.72 349 eP **PKiKP 02 51 10.2 0.0**
FOO IAmb IAmb 02 51 10.4
comp=Z,32nm,1.1s
ITTB Itaituba 132.75 112 eP **PKPdf 02 51 09.3 -1.3**
CAM01 Campos-RJ 132.84 142 eP **PKPdf 02 51 10.4 -0.1**
SKAR Skarslia 132.86 346 eP **PKiKP 02 51 10.8 +0.1**
SKAR IAmb IAmb 02 51 11.2
comp=Z,12nm,0.9s
TDBA Terre de Bas, 132.88 83 IAMs_20 IAMs_20 03 38 56.7
comp=Z,861nm,22.0s
HYA Hoyanger 132.89 348 eP **PKiKP 02 51 10.0 -0.5**
BDFB Brasilia 132.97 130 PKP **PKPdf 02 51 10.1 -1.0**
comp=Z,11nm,0.8s,baz=120,slow=4.1,SNR=4.7
BDFB SKPbc **SKPab 02 54 37.3 -0.1**
comp=Z,12nm,0.9s,baz=235,slow=6.3,SNR=7.7
BDFB Brasilia 132.97 130 PKPdf **PKPdf 02 51 10.4 -0.6**
BDFB Brasilia 132.97 130 PKIKP **PKPdf 02 51 10.5 -0.6**
BDFB Brasilia 132.97 130 eP **PKPdf 02 51 09.8 -1.3**
FDF Fort de France 133.20 85 **PKPdf 02 51 10.7 -0.7**
FDF IAMs_20 IAMs_20 03 39 04.1
comp=Z,763nm,22.0s
FDF Fort de France 133.20 85 PKIKP **PKPdf 02 51 10.7 -0.7**
BRTR Keskin Array B 133.43 310 PKhKP PKPpre 02 51 01.1

KRLC *e* 02 51 19.8
KRLC MLR MLR
comp=Z,2µm,23.5s
KRLC Kraliky 138.53 332 *e*PKPpre PKPpre 02 51 10.0
KRLC *e*PKPDF **PKPdf 02 51 19.8 -0.5**
KRLC *e*SKP 02 54 53.1
KRLC AMS AMS 03 51 10.0
comp=Z,2µm,23.5s
DPC Dobruska-Polom 138.54 332 *e*PKHKP PKPpre 02 51 10.3
DPC *e* 02 51 20.4
DPC MLR MLR
comp=Z,2µm,26.4s
DPC Dobruska-Polom 138.54 332 *e*PKPpre PKPpre 02 51 10.3
DPC *e*PKPDF **PKPdf 02 51 20.4 +0.1**
DPC *e*SKP 02 54 53.6
DPC AMS AMS 03 47 10.0
comp=Z,2µm,26.4s
UPC Upice 138.57 333 *e*PKIKP **PKPdf 02 51 19.4 -0.9**
UPC Upice 138.57 333 *e*PKPDF **PKPdf 02 51 19.4 -0.9**
UPC *e*SKP 02 54 53.6
UPC AMS AMS 03 46 30.0
comp=Z,2µm,28.1s
VYHS Vyhne 138.61 328 *e*PKIKP **PKPdf 02 51 19.6 -0.9**
VYHS *e* 02 54 11.8
VYHS Vyhne 138.61 328 *e*PKP **PKPdf 02 51 19.6 -0.9**
VYHS *e*PP **PP 02 54 11.8 +0.8**
VYHS *e*SKPDF 02 54 54.0
ARG Arkhangelos 138.65 307 P **PKiKP 02 51 23.8 +0.7**
RDO Rodhopi 138.66 315 P **PKPdf 02 51 18.7 -2.1**
EZN Ezine 138.68 313 P PKPpre 02 51 16.1
PLD Plovdiv 138.79 317 *i* P **PKPdf 02 51 19.6 -1.4**
HERR Herculane 138.81 322 ⇓P PKPpre 02 51 15.7
BZS Buzias 138.87 323 ⇓P **PKPdf 02 51 19.7 -1.3**
BZS Buzias 138.87 323 PKIKP **PKPdf 02 51 20.0 -1.0**
PGB Panagyurishte 138.93 318 *i* P **PKPdf 02 51 18.3 -3.0**
JAVC Velka Javorina 138.95 330 *e*PKP **PKPdf 02 51 22.0 +0.8**
PRK Paraskevi 138.95 312 P PKPpre 02 51 16.9
SMTH Samothraki Isl 138.96 314 P PKPpre 02 51 11.5
RZN Rozhen 138.97 316 *i* P **PKPdf 02 51 20.1 -1.5**
BOT Bodrum 138.99 309 P **PKPdf 02 51 21.8 +0.3**
VRAC Vranov 139.15 331 *e*PKP **PKPdf 02 51 21.5 0.0**
VRAC Vranov 139.15 331 PKIKP **PKPdf 02 51 21.9 +0.4**
BUD Budapest 139.17 327 PKIKP **PKPdf 02 51 20.7 -0.8**
PVCC Panska Ves 139.18 334 *e*PKIKP **PKPdf 02 51 21.6 +0.2**
PVCC MLR MLR
comp=Z,1µm,22.2s
PVCC Panska Ves 139.18 334 *e*PKPDF **PKPdf 02 51 21.6 +0.2**
PVCC *e*SKP 02 54 55.2
PVCC AMS AMS 03 48 50.0
comp=Z,1µm,22.2s
BRG Berggiesshubel 139.19 334 *i* PKP PKPpre 02 51 17.1
BRG Amp 02 51 17.7
comp=Z,11nm,1.0s
BRG *i* x x 02 51 21.6
BRG Amp 02 51 25.0
comp=Z,79nm,1.2s
BRG *ex* x 02 51 35.3
BRG Amp 02 51 37.9
comp=Z,51nm,1.4s
BRG PP PP 02 53 48.5 -26
BRG Amp 02 53 51.2
comp=Z,16nm,1.6s
BRG *ex* x 02 54 15.7
BRG Amp 02 54 16.6
comp=Z,21nm,1.5s
BRG SKP 02 54 55.4
BRG Amp 02 54 56.6
comp=Z,46nm,1.3s
BRG Berggiesshubel 139.19 334 *i* PKIKP **PKPdf 02 51 17.0 -4.4**
BRG *e* 02 51 35.3
BRG *e* 02 54 15.6
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,51nm,1.4s
BRG pmax pmax
comp=Z,21nm,1.5s
BRG MLR MLR
comp=Z,1µm,24.5s
BRG MLR MLR
comp=N,791nm,24.0s
BRG MLR MLR
comp=E,730nm,22.2s
MDP Montagnes des 139.22 101 PKP **PKPdf 02 51 21.2 -1.4**
comp=E,9.5nm,0.8s,baz=335,slow=2.4,SNR=4.4
CLL Collm 139.24 336 IAMs_20 IAMs_20 03 55 05.5
comp=Z,832nm,21.0s
CLL Collm 139.24 336 *i* PKIKP **PKPdf 02 51 20.3 -1.2**
CLL *e* 02 51 35.0
CLL pmax pmax
comp=Z,63nm,1.3s
CLL Collm 139.24 336 *e*PKPpre PKPpre 02 51 12.0
comp=Z,8.0nm,0.9s
CLL *i* PKPdf **PKPdf 02 51 20.3 -1.2**
comp=Z,63nm,1.3s
CLL *i* PKiKP **PKiKP 02 51 25.3 +1.5**
comp=Z,76nm,1.6s
CLL *ep*PKPdf pPKPdf 02 51 35.0 +1.0
CLL *ex* x 02 53 59.0
CLL *e*PP **PP 02 54 14.0 -0.6**
CLL *i* SKPdf **SKPbc 02 54 54.7 +1.0**
comp=Z,35nm,1.2s
CLL *e*PKSdf **PKSdf 02 54 59.0 +1.6**
CLL *ep*PKSdf 02 55 05.0
CLL *es*SKPdf 02 55 15.0
CLL *e*(PPP) 02 57 30.0
CLL *e*(SKSdf) 02 58 18.0
CLL *e*SKSac **SKSac 02 58 35.0 +1.4**
CLL *ex* x 03 00 10.0
CLL *e*PKKPdf **PKKPdf 03 00 52.0 +1.5**
CLL *e*Sdif **Sdif 03 02 38.0 -0.7**
CLL *ex* x 03 06 12.0
CLL *e*SSS SSS 03 17 42.0
CLL Lmax 03 55 00.0
SIGR SIGRI 139.26 312 P PKPpre 02 51 15.7
MDVR Moldovita 139.28 322 ⇑P **PKPdf 02 51 19.4 -2.5**
SMOL Smolenice 139.30 329 *e*PKIKP **PKPdf 02 51 22.5 +0.8**
SRO Srobarova 139.32 328 *e*PKIKP **PKPdf 02 51 22.7 +0.9**
SRO Srobarova 139.32 328 *e*PKP **PKPdf 02 51 22.7 +0.9**
BLKB Belogradchik 139.33 320 ⇓P PKPpre 02 51 14.6
KRUC Moravsky 139.42 331 *e*PKP **PKPdf 02 51 21.1 -0.8**
KRUC *e*PP **PP 02 54 17.5 +1.6**
CHOS Chios island 139.44 311 P PKPpre 02 51 18.6
LIA Limnos Island 139.45 314 P PKPpre 02 51 18.8
THAS Thassos island 139.46 315 P **PKPdf 02 51 20.3 -1.9**
MODS Modra-Piesok 139.47 329 *e*PKIKP **PKPdf 02 51 23.0 +0.9**
MODS Modra-Piesok 139.47 329 *e*PKP **PKPdf 02 51 23.0 +0.9**
MODS *e*SKPDF 02 54 56.3
VTS Vitosha 139.49 318 ⇓P **PKPdf 02 51 19.3 -3.2**
VTS Vitosha 139.49 318 PKPdf **PKPdf 02 51 21.9 -0.6**
VTS Vitosha 139.49 318 PKIKP **PKPdf 02 51 21.9 -0.6**
VTS Vitosha 139.49 318 *i* P **PKPdf 02 51 21.7 -0.8**
GOPC GO Pecny, Ondr 139.54 333 *e*SKP 02 54 56.3
GOPC AMS AMS 03 52 00.0
comp=Z,2µm,24.4s
PRU Pruhonice 139.59 333 *e*PKIKP PKPpre 02 51 15.9
PRU MLR MLR
comp=Z,2µm,22.8s
PRU Pruhonice 139.59 333 *e*PKPpre PKPpre 02 51 15.9
PRU *e*PKPDF **PKPdf 02 51 22.1 -0.1**
PRU *e*SKP 02 54 56.6
PRU AMS AMS 03 52 10.0
comp=Z,2µm,22.8s
CSKK Cskako 139.64 327 PKP PKPpre 02 51 19.2
MMB Musomiste 139.67 317 *i* P **PKPdf 02 51 21.7 -1.0**
ZST Bratislava 139.67 329 *e*PKIKP **PKPdf 02 51 22.6 +0.2**
ZST Bratislava 139.67 329 *e*PKP **PKPdf 02 51 22.6 +0.2**
ZST *e*SKPDF 02 54 57.5
TREC Trest 139.67 332 *e*PKIKP **PKPdf 02 51 21.7 -0.7**
TREC MLR MLR
comp=Z,2µm,22.9s
TREC Trest 139.67 332 *e*PKPDF **PKPdf 02 51 21.7 -0.7**
TREC *e*SKP 02 54 56.6
TREC AMS AMS 03 52 50.0
comp=Z,2µm,22.9s
NVR Nevrokopi 139.70 316 P PKPpre 02 51 13.3
KOKK Kokkinochori, 139.85 315 P **PKPdf 02 51 20.7 -2.3**
BOVS Bovan 139.92 321 ⇓P **PKPdf 02 51 20.3 -2.7**
KKB Krupnik 139.96 317 *i* P **PKPdf 02 51 21.7 -1.5**
SRS Serrai 139.99 316 P PKPpre 02 51 11.2
EKA Eskdalemuir Ar 140.04 352 PKIKP **PKPdf 02 51 20.6 -2.2**
OUR Ouranopolis 140.08 315 P PKPpre 02 51 14.2
MPLH Magyarpolny 140.14 328 PKP PKPpre 02 51 18.9

GDU01 Guandu, BA 140.21 136 *e*P **PKPdf 02 51 22.9 -1.5**
SOH Sokhos 140.28 316 P **PKPdf 02 51 21.5 -2.3**
SOP Sopron 140.29 329 PKIKP **PKPdf 02 51 23.2 -0.3**
SOP Sopron 140.29 329 PKP **PKPdf 02 51 23.6 +0.1**
NKC Novy Kostel 140.29 335 *e*PKHKP PKPpre 02 51 16.7
NKC MLR MLR
comp=Z,1µm,22.7s
NKC Novy Kostel 140.29 335 *e*PKPpre PKPpre 02 51 16.7
NKC *e*SKP 02 54 58.0
NKC AMS AMS 03 51 50.0
comp=Z,1µm,22.7s
RONA Rosalia, Austr 140.41 329 *i* P **PKPdf 02 51 21.2 -2.6**
comp=Z,54nm,1.3s,SNR=11
RONA *e*S **SKiKP 02 54 58.7 -0.7**
comp=Z,22nm,1.1s
KNT Kendrikon 140.43 317 P PKPpre 02 51 13.9
TMAB Tom-Au,PA,Br 140.43 114 *e*P **PKPdf 02 51 25.8 +0.9**
CONA Conrad Observa 140.46 330 *i* P PKPpre 02 51 20.2
comp=Z,34nm,1.2s,SNR=10
CONA *i* P **PP 02 54 24.6 +2.1**
comp=Z,30nm,1.3s
CONA *e*S **SKiKP 02 54 59.2 -0.5**
comp=Z,25nm,1.3s
PAIG Paliouri 140.47 314 P PKPpre 02 51 16.0
PAIG Paliouri 140.47 314 PKIKP **PKPdf 02 51 22.4 -1.7**
CKRC Cesky Krumlov 140.55 332 *e*PKPpre PKPpre 02 51 16.1
CKRC *e*PKPDF **PKPdf 02 51 23.0 -1.0**
CKRC *e*SKP 02 54 58.1
HORT Hortiatis 140.56 316 P **PKPdf 02 51 22.2 -2.2**
VAY Valandovo 140.56 317 *i* P PKPpre 02 51 16.0
THE Thessaloniki 140.63 316 P **PKPdf 02 51 22.3 -2.1**
KHC Kasperske Hory 140.65 333 PKPdf **PKPdf 02 51 24.2 0.0**
KHC Kasperske Hory 140.65 333 *e*PKHKP PKPpre 02 51 17.5
KHC *e* 02 51 21.1
KHC *e* 02 51 34.5
KHC *e* 02 54 23.0
KHC MLR MLR
comp=Z,1µm,24.7s
KHC Kasperske Hory 140.65 333 *e*PKPpre PKPpre 02 51 17.5
KHC *e*PKPDF **PKPdf 02 51 21.1 -3.1**
KHC *ep*PKP pPKPdf 02 51 34.5 -2.2
KHC *e*PP **PP 02 54 23.0 -0.5**
KHC *e*SKP 02 54 59.7
KHC *ex* x 02 55 09.0
KHC AMS AMS 03 51 10.0
comp=Z,1µm,24.7s
KYMI Kymi, Euboea I 140.74 312 P **PKPdf 02 51 22.4 -2.3**
GERES GERESS Array B 140.81 332 PKhKP PKPpre 02 51 18.0
comp=Z,2.3nm,0.7s,baz=11,slow=2.7,SNR=10
GERES SKPbc **SKiKP 02 54 59.5 -0.9**
comp=Z,13nm,1.0s,baz=64,slow=3.1,SNR=11
GRG Griva 140.85 317 P **PKPdf 02 51 22.5 -2.3**
SKO Skopje 140.97 319 *i* P PKPpre 02 51 18.5
XOR Xorichti 141.06 314 P PKPpre 02 51 16.5
NEO Neokhori 141.07 314 P PKPpre 02 51 18.6
DION Dionisos Attik 141.09 312 P **PKPdf 02 51 23.2 -2.1**
ARSA Arzberg 141.10 329 *e*P PKPpre 02 51 19.8
comp=Z,19nm,1.2s
PTL Penteli 141.15 312 P **PKPdf 02 51 22.9 -2.6**
LIT Litokhoron 141.21 315 P PKPpre 02 51 16.3
GRA1 Grafenberg Arr 141.21 335 IAMs_20 IAMs_20 03 56 22.7
comp=Z,825nm,21.0s
GRFO Grafenberg 141.21 335 IAMs_20 IAMs_20 03 56 22.8
comp=Z,825nm,20.0s
ATHU Athens Univers 141.25 312 P **PKPdf 02 51 23.1 -2.5**
MOA Molln 141.28 331 *e*P PKPpre 02 51 20.4
comp=Z,14nm,0.8s
MOA *e*S **SKPbc 02 54 58.5 -0.8**
comp=Z,17nm,1.2s
VLY Voula,Athens 141.28 311 P **PKPdf 02 51 23.8 -1.9**
ATH Athens Observa 141.29 312 P **PKPdf 02 51 23.8 -1.8**
IDI Anoyia 141.44 307 PKhKP PKPpre 02 51 19.8
comp=Z,4.8nm,0.3s,baz=180,slow=3.1,SNR=17
IDI Anoyia 141.44 307 P PKPpre 02 51 19.9
ATAL Atalanti 141.48 313 P PKPpre 02 51 18.3
VILL Villia 141.50 312 P **PKPdf 02 51 23.7 -2.4**
LKR Lokris 141.51 313 P PKPpre 02 51 19.0
KZN Kozani 141.59 316 P **PKPdf 02 51 24.2 -2.0**
BIOA Bad Ischl, Aus 141.68 331 *e*P PKPpre 02 51 21.4
comp=Z,36nm,1.4s
BIOA *e*P **PP 02 54 29.9 +0.1**
comp=Z,20nm,1.4s
AXAR Agios Charalam 141.70 313 P **PKPdf 02 51 24.9 -1.5**
SOKA Soboth 141.74 329 *e*P PKPpre 02 51 21.6
comp=Z,46nm,1.2s
SOKA *e*P **PP 02 54 31.1 +0.8**
comp=Z,26nm,1.6s
SOKA *i* S **SKiKP 02 55 01.5 -0.8**
comp=Z,24nm,1.3s
THL Klokotos Trika 141.78 315 P **PKPdf 02 51 24.1 -2.4**
LTK Loutraki 141.81 312 P PKPpre 02 51 20.5
LOUT Loutraki 141.82 312 P PKPpre 02 51 20.4
OHR Ohrid 141.82 318 *i* P **PKPdf 02 51 21.2 -5.4**
EPID Epidavros 141.87 311 P **PKPdf 02 51 24.6 -2.2**
KRND KRANIDI 141.94 311 P PKPpre 02 51 22.6
MAKR Makrakomi, Fth 141.96 314 P **PKPdf 02 51 24.1 -2.8**
NEST Nestorio 142.02 317 P PKPpre 02 51 21.6
THAL Thalero 142.02 312 P PKPpre 02 51 20.4
KPRO Kipourio 142.03 316 P **PKPdf 02 51 25.2 -1.8**
KBN Korca 142.08 317 P PKPpre 02 51 21.9
OBKA Obir 142.09 329 *e*P PKPpre 02 51 22.1
comp=Z,19nm,1.1s
OBKA *i* P **PP 02 54 31.8 -0.6**
comp=Z,23nm,1.6s
OBKA *e*S **SKPbc 02 55 00.5 -1.0**
comp=Z,15nm,1.3s
GVDS Gavdos 142.21 307 P PKPpre 02 51 24.2
EVR Evrytania 142.22 314 P PKPpre 02 51 23.8
KBA Koelnbreinsper 142.27 331 *i* P PKPpre 02 51 22.7
comp=Z,37nm,1.1s,SNR=8.0
KBA *e*P **PP 02 54 35.0 +1.5**
comp=Z,25nm,1.2s
KBA *e*S **SKPbc 02 55 02.6 +0.6**
comp=Z,24nm,1.2s
SERG Sergoula 142.28 313 P **PKPdf 02 51 25.6 -1.9**
BTNL Ternell 142.32 340 *d*PKPdf **PKPdf 02 51 27.0 -0.1**
MEM Membach 142.34 341 *d*PKPdf **PKPdf 02 51 26.5 -0.6**
VLI Veliai 142.37 310 P PKPpre 02 51 21.6
KLV Kalavryta, Ach 142.38 313 P PKPpre 02 51 21.1
KNDR Palaiochora Ch 142.38 308 P PKPpre 02 51 23.4
EFP Efpalio 142.38 313 P PKPpre 02 51 23.9
ANKY Antikythira Is 142.44 309 P PKPpre 02 51 24.0
LSK Leskovik 142.44 317 P PKPpre 02 51 21.2
MYKA Terra Mystica 142.45 330 *e*P PKPpre 02 51 23.0
comp=Z,14nm,1.1s
KTHA Kythira Island 142.46 309 P PKPpre 02 51 23.1
BSTI Sart Tilman 142.50 341 *d*PKP PKPpre 02 51 21.6
KTHR Kythira 142.50 309 P PKPpre 02 51 20.1
TRIP Tripoli 142.52 312 P PKPpre 02 51 18.0
JAN Janina 142.52 316 P PKPpre 02 51 22.1
BHOU Houvegnez 142.56 340 *d*PKP PKPpre 02 51 22.9
PVO Paravola 142.56 314 P PKPpre 02 51 21.8
BCLA Clavier 142.72 341 *d*PKPdf **PKPdf 02 51 27.4 -0.5**
DRO Drossia 142.73 313 P PKPpre 02 51 20.8
STU Stuttgart 142.75 336 IAMs_20 IAMs_20 03 53 00.3
comp=Z,777nm,22.0s
RLS Riolos of Patr 142.86 313 P PKPpre 02 51 22.7
WATA Walderalm 142.88 333 *i* P PKPpre 02 51 23.2
comp=Z,51nm,1.2s,SNR=14
WATA *e*S **SKiKP 02 55 04.9 +0.2**
comp=Z,34nm,1.4s
ABTA Abfaltersbach 142.90 331 *i* P PKPpre 02 51 24.6
comp=Z,102nm,1.4s,SNR=20
ABTA *e*S **SKPbc 02 55 03.3 -0.2**
comp=Z,21nm,1.3s
WTTA Wattenberg 142.91 332 *i* P PKPpre 02 51 23.9
comp=Z,101nm,1.4s,SNR=28
WTTA *e*S **SKiKP 02 55 04.6 -0.2**
comp=Z,43nm,1.2s,SNR=4.6
ITM Ithomi 142.91 311 P PKPpre 02 51 22.4
IGT Igoumenitsa 142.93 316 P PKPpre 02 51 22.2
RCHB Rochefort 142.98 341 *d*PKPdf **PKPdf 02 51 27.8 -0.4**
SRN Sarande 142.98 317 P PKPpre 02 51 20.7
BMRD Maredsous 142.99 342 *d*PKPdf **PKPdf 02 51 27.7 -0.6**
TSLK Tsoukalades, L 143.06 315 P PKPab 02 51 23.6 -0.6
LKD2 Lefkada island 143.08 315 P PKPab 02 51 22.0 -2.3
MOTA Moosalm 143.08 333 *i* P PKPab 02 51 24.2 0.0
comp=Z,90nm,1.1s,SNR=30
MOTA *e*S **SKiKP 02 55 05.1 -0.1**
comp=Z,27nm,1.1s,SNR=6.7
WLF Walferdange 143.10 340 *d*PKP PKPbc 02 51 25.8 +0.3
RETA Reutte 143.12 333 *e*P PKPbc 02 51 25.1 -0.6
comp=Z,63nm,1.4s

RETA *e*S **SKiKP 02 55 07.3 +2.1**
comp=Z,18nm,1.7s
SQTA Sankt Quirin 143.13 333 *i* P PKPab 02 51 24.8 +0.5
comp=Z,92nm,1.4s,SNR=22
SQTA *e*P **PP 02 54 43.7 +5.0**
comp=Z,23nm,1.4s
SQTA *e*S **SKiKP 02 55 05.7 +0.4**
comp=Z,24nm,1.0s,SNR=4.7
EVGI Lefkada island 143.16 314 P PKPab 02 51 23.0 -1.6
PYL PYLOS 143.17 311 P PKPab 02 51 22.9 -1.8
KEK Kerkira 143.20 316 P PKPab 02 51 23.7 -1.0
DOU Dourbes 143.22 342 *d*PKP PKPbc 02 51 26.1 +0.3
VLS Valsamata 143.41 314 P PKPab 02 51 24.4 -1.2
BFO Black Forest 143.44 336 PKPdf PKPbc 02 51 27.4 +0.9
BFO IAMs_20 IAMs_20 04 01 53.6
comp=Z,759nm,20.0s
BFO Black Forest 143.44 336 PKIKP PKPbc 02 51 27.4 +0.9
PSDA Pessada-Kefalo 143.45 314 P PKPab 02 51 23.3 -2.4
KEF4 Livadi, Kephal 143.49 314 P PKPab 02 51 24.0 -1.9
FETA Feichten 143.50 333 *i* P PKPbc 02 51 26.4 -0.4
comp=Z,105nm,1.0s,SNR=36
FETA *e*S **SKiKP 02 55 07.1 +1.1**
comp=Z,30nm,1.2s
DMLN Damoulianata-K 143.53 314 P PKPbc 02 51 26.9 -0.1
KEF3 Kipouria, Keph 143.57 314 P PKPab 02 51 25.4 -0.8
ROSB Rosrio 143.59 118 *e*P **PKPdf 02 51 29.8 -0.7**
DAVA Damuels 143.65 334 *i* P PKPbc 02 51 27.2 -0.1
comp=Z,138nm,1.2s,SNR=32
SLE Schleitheim 143.84 336 PKIKP PKPbc 02 51 27.3 -0.3
SCTE Santa Cesarea 143.88 318 PKPdf PKPbc 02 51 28.6 +0.7
ECH Echery 143.98 337 IAMs_20 IAMs_20 04 00 27.7
comp=Z,669nm,20.0s
NBAN Anadia - AL 145.36 136 *e*P **PKPbc 02 51 32.0 -1.4**
SENIN Lac Senin/Sane 145.45 336 IAMs_20 IAMs_20 04 04 21.9
comp=Z,795nm,20.0s
TIP Timpagrande 145.47 318 **PKPdf 02 51 32.5 -0.6**
TIP IAMs_20 IAMs_20 04 02 19.0
comp=Z,770nm,21.0s
AQU L'Aquila 145.54 325 IAMs_20 IAMs_20 03 56 43.1
comp=Z,987nm,22.0s
AQU L'Aquila 145.54 325 PKP2 **PKPab 02 51 33.8 +0.3**
LOR Lormes 145.94 340 PKP2 **PKPdf 02 51 33.6 0.0**
BNI Bardonecchia 146.78 335 PKP2 **PKPdf 02 51 35.5 +0.3**
ROSF Rostrenen 146.82 349 PKP2 **PKPbc 02 51 37.0 +0.2**
NBRF Rio Formoso - 146.85 136 *e*P **PKPdf 02 51 36.2 0.0**
ORIF Oris-en-Rattie 147.21 335 PKP2 **PKPdf 02 51 35.9 0.0**
SSB Saint Sauveur 147.42 337 PKPbc **PKPbc 02 51 39.0 +0.3**
SSB Saint Sauveur 147.42 337 PKP2 **PKPbc 02 51 39.0 +0.3**
PGF Pioggiola 147.70 329 PKP2 **PKPbc 02 51 39.3 -0.3**
MFF Saint Martin d 147.74 344 PKIKP **PKPdf 02 51 36.8 +0.2**
RAFF Raffo Rosso 148.13 317 PKPbc **PKPbc 02 51 41.2 +0.4**
RCBR Riachuelo 148.33 131 PKPbc **PKPdf 02 51 38.2 -0.4**
RCBR Riachuelo 148.33 131 PKIKP **PKPdf 02 51 38.2 -0.4**
RCBR Riachuelo 148.33 131 *e*P **PKPdf 02 51 39.1 +0.5**
MAHO Mahon 152.00 332 IAMs_20 IAMs_20 04 06 06.5
comp=Z,696nm,20.0s
KEST Kesra 152.25 319 PKP **PKPdf 02 51 43.8 -0.3**
comp=Z,19nm,1.3s,baz=26,slow=23,SNR=5.3
KEST PKPbc **PKPbc 02 51 51.0 +0.1**
comp=Z,90nm,0.8s,baz=250,slow=1.2,SNR=55
PBRG Braganca 153.76 350 *e*PKPbc **PKPbc 02 51 53.9 -0.1**
PBRG Braganca 153.76 350 *e*PKPab **PKPab 02 52 07.0 +0.2**
PGAV Gavieira, Arco 153.82 353 *e*PKPdf **PKPdf 02 51 45.7 -0.5**
PGAV Gavieira, Arco 153.82 353 *e*PKPbc **PKPbc 02 51 54.0 -0.2**
PGAV Gavieira, Arco 153.82 353 *e*PKPab **PKPab 02 52 07.6 +0.5**
PCAB Cabril 154.04 352 *e*PKPdf **PKPdf 02 51 46.2 -0.3**
PCAB Cabril 154.04 352 *e*PKPab **PKPab 02 52 08.1 +0.2**
PCAB Cabril 154.04 352 *e*PP **PP 02 55 44.0 +2.4**
SET Setif 154.27 325 P **PKPdf 02 51 47.0 -0.1**
POLO Lamas de Olo 154.34 352 *e*PKPdf **PKPdf 02 51 46.6 -0.4**
POLO Lamas de Olo 154.34 352 *e*PKPbc **PKPbc 02 51 55.0 -0.3**
POLO Lamas de Olo 154.34 352 *e*PKPab **PKPab 02 52 09.4 +0.1**
PVRL Vila Real 154.43 352 *e*PKPbc **PKiKP 02 51 58.4 +3.0**
PVRL Vila Real 154.43 352 *e*PKPab **PKPab 02 52 09.4 -0.2**
MVO Moncorvo 154.43 350 *e*PKPdf **PKPdf 02 51 46.9 -0.2**
MVO Moncorvo 154.43 350 *e*PKPab **PKPab 02 52 08.1 -1.6**
MVO Moncorvo 154.43 350 *e*LR LR 03 49 00.5
comp=Z,1µm,20.0s
PVIS Viseu 155.00 352 *e*PKPdf **PKPdf 02 51 48.0 +0.1**
PVIS Viseu 155.00 352 *e*PKPab **PKPab 02 52 12.5 +0.4**
ESDC Sonseca Array 155.21 344 PKP **PKPdf 02 51 47.8 -0.4**
comp=Z,7.3nm,1.2s,baz=7.3,slow=2.7,SNR=15
ESDC PKPab **PKPab 02 52 12.3 -0.7**
comp=Z,11nm,0.8s,baz=8.5,slow=3.9,SNR=6.1
ESDC PP **PP 02 55 42.7 -5.6**
comp=Z,4.8nm,0.9s,baz=20,slow=6.5,SNR=7.8
MTE Manteigas 155.26 351 *e*PKPdf **PKPdf 02 51 47.4 -0.8**
MTE Manteigas 155.26 351 *e*PKPab **PKPab 02 52 13.2 0.0**
MTE Manteigas 155.26 351 *e*LR LR 03 49 28.2
comp=Z,728nm,20.0s
PAB San Pablo 155.43 345 PKPdf **PKPdf 02 51 47.5 -1.0**
PAB San Pablo 155.43 345 PKIKP **PKPdf 02 51 47.5 -1.0**
PAB San Pablo 155.43 345 P **PKPdf 02 51 48.2 -0.4**
PCAS Casmilo, Conde 155.73 352 *e*PKPab **PKPab 02 52 15.0 -0.2**
PCBR Castelo Branco 155.79 350 *e*PKPdf **PKPdf 02 51 48.4 -0.5**
PCBR Castelo Branco 155.79 350 *e*PKPab **PKPab 02 52 15.6 +0.2**
CART Cartagena 156.16 337 IAMs_20 IAMs_20 04 06 26.1
comp=Z,708nm,19.0s
PMRV Marv??o 156.18 350 *e*PKPdf **PKPdf 02 51 49.4 -0.1**
PMRV Marv??o 156.18 350 *e*PKPab **PKPab 02 52 20.4 +3.3**
PMRV Marv??o 156.18 350 *e*PP **PP 02 55 55.0 +1.4**
PMRV Marv??o 156.18 350 *e*LR LR 03 49 47.2
comp=Z,601nm,20.0s
PSBE So Bento 156.30 353 *e*PKPab **PKPab 02 52 18.4 +0.8**
PMTG Montargil 156.66 351 *e*PKPdf **PKPdf 02 51 49.3 -0.7**
PMTG Montargil 156.66 351 *e*PKPab **PKPab 02 52 19.4 +0.2**
PMTG Montargil 156.66 351 *e*PP **PP 02 55 57.3 +1.1**
PESTR Estremoz 156.76 350 *e*PKPdf **PKPdf 02 51 49.3 -0.9**
PESTR Estremoz 156.76 350 *e*PP **PP 02 55 58.1 +1.3**
PESTR Estremoz 156.76 350 A A 04 11 13.9
comp=Z,845nm,18.0s
PESTR Estremoz 156.76 350 PKPdf **PKPdf 02 51 50.2 0.0**
PESTR PKPab **PKPab 02 52 19.7 +0.1**
PMAFR Mafra 156.91 353 *e*PKPab **PKPab 02 52 21.0 +0.8**
EVO Evora 157.16 351 *e*PKPdf **PKPdf 02 51 50.6 -0.1**
EVO Evora 157.16 351 *e*PKPab **PKPab 02 52 21.6 +0.3**
EVO Evora 157.16 351 *e*PP **PP 02 56 00.4 +1.5**
PBAR Barrancos 157.34 349 *e*PKPdf **PKPdf 02 51 50.5 -0.4**
PBAR Barrancos 157.34 349 *e*PKPab **PKPab 02 52 22.1 0.0**
PBAR Barrancos 157.34 349 *e*PP **PP 02 56 00.8 +0.9**
PBEJ Beja 157.63 350 *e*PKPdf **PKPdf 02 51 50.1 -1.2**
PBEJ Beja 157.63 350 *e*PKPab **PKPab 02 52 23.8 +0.4**
PBEJ Beja 157.63 350 *e*PP **PP 02 56 02.9 +1.4**
PNCL Nicolau / Gran 157.65 352 *e*PKPdf **PKPdf 02 51 51.3 0.0**
PNCL Nicolau / Gran 157.65 352 *e*PKPab **PKPab 02 52 23.0 -0.4**
PNCL Nicolau / Gran 157.65 352 *e*PP **PP 02 56 03.2 +1.6**
MESJ Messejana 157.87 351 *e*PKPdf **PKPdf 02 51 51.1 -0.5**
MESJ Messejana 157.87 351 *e*PKPab **PKPab 02 52 24.4 0.0**
PCVE Castro Verde 158.04 350 *e*PKPdf **PKPdf 02 51 51.3 -0.5**
PCVE Castro Verde 158.04 350 *e*PKPab **PKPab 02 52 25.0 +0.7**
PCVE Castro Verde 158.04 350 *e*PP **PP 02 56 05.6 +1.8**
PVAQ Vaqueiros 158.21 350 *e*PKPdf **PKPdf 02 51 50.4 -1.6**
PVAQ Vaqueiros 158.21 350 *e*PKPab **PKPab 02 52 26.8 +0.9**
PVAQ Vaqueiros 158.21 350 *e*PP **PP 02 56 06.5 +1.8**
PVAQ Vaqueiros 158.21 350 *e*LR LR 03 47 37.5
comp=Z,922nm,20.0s
PTEO Sao Teotonio 158.23 352 *e*PKPab **PKPab 02 52 24.7 -1.2**
MORF Marmelete 158.46 352 *e*PKPdf **PKPdf 02 51 51.6 -0.8**
MORF Marmelete 158.46 352 *e*PKPab **PKPab 02 52 26.6 -0.4**
PFVI Vila Bisbo 158.65 352 *e*PKPab **PKPab 02 52 28.2 +0.4**
TAF Taforalt 159.13 336 P **PKPdf 02 51 54.0 +0.6**
PALE Palemas 159.32 340 P **PKPdf 02 51 53.0 -0.5**
JBK JBK 159.61 336 P **PKPdf 02 51 54.0 -0.1**
FIGM Figuig 160.90 329 P **PKPdf 02 51 56.0 +0.5**
LCRM LCR 161.03 340 P **PKPdf 02 51 57.0 +1.4**
CZD Col de Zad 161.59 340 P **PKPdf 02 51 58.0 +1.5**
MDT Midelt 161.74 338 P **PKPdf 02 51 57.2 +0.9**
OUK Oukaimeden 164.23 345 P **PKPdf 02 51 60.0 +0.9**
TOA0 Torodi Ar. Sit 165.93 260 **PKPdf 02 51 58.7 -1.8**
TOA0 PKPab **PKPab 02 52 59.7 -0.8**
TORD Torodi Ar. Bea 165.93 260 PKP **PKPdf 02 51 59.5 -1.0**
comp=Z,9.2nm,0.7s,baz=12,slow=1.1,SNR=35
TORD PKPab **PKPab 02 53 00.2 -0.3**
comp=Z,15nm,0.9s,baz=104,slow=4.0,SNR=7.6
TORD PP **PP 02 56 43.8 -4.4**
comp=Z,19nm,1.4s,baz=80,slow=3.3,SNR=8.9
TORD Torodi Ar. Bea 165.93 260 **PKPdf 02 51 59.2 -1.3**
TORD PKPab **PKPab 02 53 00.0 -0.5**
KIC Kosan Boka 167.77 220⇑ *e*PKP1 **PKPab 02 53 08.1 -0.4**
comp=Z,12nm,0.7s
KIC Kosan Boka 167.77 220⇑ *e*PKP1 **PKPab 02 53 08.2 -0.3**
comp=Z,16nm,0.7s

LIC	**Lamto**	**167.84**	**218**	⇑*e*PKP1	**PKPab**	**02 53 08.1**	**-0.7**
	comp=Z,48nm,0.8s							
LIC	**Lamto**	**167.84**	**218**	⇑*e*PKP1	**PKPab**	**02 53 08.0**	**-0.7**
	comp=Z,103nm,1.3s							
DBIC	**Dimbokro**	**168.08**	**220**	PKP	**PKPdf**	**02 52 01.4**	**-0.7**
	comp=Z,29nm,1.1s,baz=256,slow=0.9,SNR=11							
DBIC				PKPab	**PKPab**	**02 53 09.9**	**0.0**
	comp=Z,31nm,1.2s,baz=158,slow=4.4,SNR=6.2							
DBIC	**Dimbokro**	**168.08**	**220**		**PKPdf**	**02 51 59.5**	**-2.6**
DBIC				PKPab	**PKPab**	**02 53 08.6**	**-1.3**
TIC	**Toumodi**	**168.16**	**219**	⇑*e*PKP1	**PKPab**	**02 53 07.0**	**-3.2**
	comp=Z,41nm,1.1s							
TIC	**Toumodi**	**168.16**	**219**	⇑*e*PKP1	**PKPab**	**02 53 07.0**	**-3.2**
	comp=Z,42nm,1.1s							

SNET ***17*** *02:43:31.9±1.0, 12°.37N×89°.11W, h0km±9km, ML3.8*
UCR ***17*** *02:43:32.3±1.1, 12°.33N×89°.12W, h5km, ML3.8*
ISC 17 02:43:30.7±3.2, 12°.3N±0°.1×89°.10W±0°.07, h3km±12km, n20, σ0s75/30, 3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**1.33**	**25**	*e*P		**Pg**	**02 43 55.6**	**-0.7**
COEB				*e*S		**Sn**	**02 44 14.4**	**-0.3**
COEB	**Comit de Eme**	**1.33**	**25**	*e*P		**Pg**	**02 43 55.6**	**-0.7**
COEB				*e*S		**Sn**	**02 44 14.4**	**-0.3**
LFRS	**El Faro**	**1.34**	**2**	*e*P		**Pg**	**02 43 55.6**	**-0.7**
LFRS	**El Faro**	**1.34**	**2**	*e*P		**Pg**	**02 43 55.6**	**-0.7**
COEG	**Centro de Oper**	**1.35**	**9**	⇓*i*P		**Pg**	**02 43 55.7**	**-0.9**
COEG				*e*S		**Sb**	**02 44 14.1**	**-0.4**
COEG	**Centro de Oper**	**1.35**	**9**	⇓*i*P		**Pg**	**02 43 55.7**	**-0.9**
COEG				*e*S		**Sb**	**02 44 14.1**	**-0.4**
PACA	**Pacayal**	**1.41**	**32**	*e*P		**Pg**	**02 43 57.2**	**-0.5**
PACA				*e*S		**Sn**	**02 44 16.8**	**+0.3**
PACA	**Pacayal**	**1.41**	**32**	*e*P		**Pg**	**02 43 57.2**	**-0.5**
PACA				*e*S		**Sn**	**02 44 16.8**	**+0.3**
PAVA	**Las Pavas**	**1.44**	**6**	*e*P		**Pg**	**02 43 57.2**	**-1.0**
PAVA	**Las Pavas**	**1.44**	**6**	*e*P		**Pg**	**02 43 57.2**	**-1.0**
BOQS	**Boqueron**	**1.46**	**353**	*e*P		**Pg**	**02 43 58.0**	**-0.7**
BOQS	**Boqueron**	**1.46**	**353**	*e*P		**Pg**	**02 43 58.0**	**-0.7**
LCND	**La Caada**	**1.56**	**49**	*e*P		**Pn**	**02 43 59.1**	**-0.3**
LCND				*e*S		**Sg**	**02 44 22.0**	**+1.0**
LCND				IAML			02 44 30.4	
	comp=Z,970nm,0.5s							
LCND	**La Caada**	**1.56**	**49**	*e*P		**Pn**	**02 43 59.1**	**-0.3**
LCND				*e*S		**Sg**	**02 44 22.0**	**+1.0**
LCND				IAML			02 44 30.4	
	comp=Z,970nm,0.5s							
CNCH	**Conchagua**	**1.58**	**51**	*e*P		**Pn**	**02 43 59.8**	**-0.1**
CNCH				*e*S		**Sg**	**02 44 22.8**	**+1.2**
CNCH				IAML			02 44 28.3	
	comp=Z,2μm,0.4s							
CNCH	**Conchagua**	**1.58**	**51**	*e*P		**Pn**	**02 43 59.8**	**-0.1**
CNCH				*e*S		**Sg**	**02 44 22.8**	**+1.2**
CNCH				IAML			02 44 28.3	
	comp=Z,2μm,0.4s							
RTR	**El Retiro**	**1.69**	**342**	*e*P		**Pn**	**02 44 01.9**	**+0.5**
RTR	**El Retiro**	**1.69**	**342**	*e*P		**Pn**	**02 44 01.9**	**+0.5**
P5NO	**Presa 5 de nov**	**1.73**	**11**	⇓*i*P		**Pn**	**02 44 01.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.86**	**339**	*e*P		**Pn**	**02 44 04.7**	**+1.1**

IDC ***17*** *02:46:23.9±2.7, 24°.25N×93°.84E, h79km±28km, mb3.9/10, mbtmp4.1/12, Error ellipse: s-maj=23.0km s-min=13.4km az=52.0*
NEIC ***17*** *02:46:23.3±1.8, 24°.37N±0°.07×93°.92E±0°.06, h63km±7km, mb4.3/9, Error ellipse: s-maj=11.2km s-min=5.9km az=216.0*
NDI ***17*** *02:46:24.1±2.8, 24°.44N×93°.82E, h50km, ML4.1, mb4.3(NEIC)*
ISC 17 02:46:22.5±0.9, 24°.40N±0°.05×93°.79E±0°.05, h66km±8km, n47, σ2s15/67, mb4.2/13, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.46**	**19**	*e*P		**Pn**	**02 46 35.2**	**+0.5**
IMP				*e*S		**Sn**	**02 46 42.9**	**-0.6**
IMP				IAML			02 46 44.6	
	comp=N,6μm,0.2s							
SILR	**SILCHAR**	**0.97**	**293**	*e*P		**Pn**	**02 46 42.5**	**+2.1**
SILR				*e*S		**Sn**	**02 46 57.9**	**+4.2**
SILR				IAML			02 46 59.5	
	comp=E,5μm,0.3s							
SILR				IAML			02 47 00.0	
	comp=N,5μm,0.2s							
MOKO	**MOKOCHONG**	**2.03**	**19**	*e*P		**Pn**	**02 46 55.6**	**+1.0**
MOKO				*e*S		**Sn**	**02 47 19.6**	**+0.6**
MOKO				IAML			02 47 21.0	
	comp=N,934nm,0.2s							
MOKO				IAML			02 47 23.8	
	comp=E,1μm,0.3s							
JORH	**JORHAT**	**2.38**	**10**	*e*P		**Pn**	**02 46 59.6**	**+0.5**
JORH				*e*S		**Sn**	**02 47 27.4**	**+0.2**
TEZP	**TEZPUR**	**2.38**	**338**	*e*P		**Pn**	**02 46 59.0**	**-0.3**
TEZP				*e*S		**Sn**	**02 47 25.8**	**-1.6**
TEZP				IAML			02 47 27.9	
	comp=E,2μm,0.2s							
TEZP				IAML			02 47 28.1	
	comp=N,2μm,0.1s							
BRDH	**Bariadhala**	**2.61**	**229**	P		**Pn**	**02 47 03.2**	**+0.9**
	comp=N,27nm,0.3s,baz=270,slow=20,SNR=1.2							
BRDH				S		**Sn**	**02 47 34.1**	**+1.2**
	comp=N,340nm,0.4s,baz=274,slow=19,SNR=7.0							
GUWA	**GUWAHATI**	**2.61**	**314**	*e*P		**Pn**	**02 47 02.1**	**-0.2**
GUWA				*e*S		**Sn**	**02 47 31.2**	**-1.6**
GUWA				IAML			02 47 34.1	
	comp=N,2μm,0.1s							
ITAN	**ITANAGAR**	**2.74**	**359**	*e*P		**Pn**	**02 47 04.5**	**+0.4**
ITAN				*e*S		**Sn**	**02 47 34.4**	**-1.6**
ITAN				IAML			02 47 39.5	
	comp=N,3μm,0.2s							
ZIRO	**ZIRO**	**3.12**	**1**	*e*P		**Pn**	**02 47 09.4**	**0.0**
ZIRO				*e*S		**Sn**	**02 47 43.8**	**-1.8**
ZIRO				IAML			02 47 48.6	
	comp=N,3μm,0.3s							
MND	**Mandalay**	**3.19**	**137**			**Pn**	**02 47 09.2**	**-1.1**
DIBR	**DIBRUGARH**	**3.22**	**18**	*e*P		**Pn**	**02 47 10.2**	**-0.5**
DIBR				*e*S		**Sn**	**02 47 46.3**	**-1.6**
DIBR				IAML			02 47 48.2	
	comp=N,2μm,0.2s							
DIBR				IAML			02 47 48.9	
	comp=E,772nm,0.2s							
LSA	**Lhasa**	**5.78**	**337**			**Pn**	**02 47 48.4**	**+2.3**
TAPN	**Taplejung**	**6.21**	**300**	*e*Pn		**Pn**	**02 47 53.5**	**+1.6**
TAPN				*e*Sn		**Sn**	**02 49 01.8**	**+0.1**
	comp=E,250nm,0.3s							
RAMN	**Ramite**	**6.96**	**293**	*e*Pn		**Pn**	**02 48 03.4**	**+1.3**
RAMN				*e*Sn		**Sn**	**02 49 16.0**	**-4.0**
	comp=E,90nm,0.3s							
CRAI	**Chiangrai**	**7.37**	**123**	Pn		**Pn**	**02 48 06.0**	**-1.6**
JIRN	**Jiri**	**7.57**	**297**	*e*Pn		**Pn**	**02 48 12.0**	**+1.5**
JIRN				*e*Sn		**Sn**	**02 49 32.2**	**-2.8**
	comp=E,88nm,0.2s							
CM31	**Chiang Mai Arr**	**7.61**	**140**	Pn		**Pn**	**02 48 09.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**7.61**	**140**	P		**Pn**	**02 48 10.2**	**-0.6**
	comp=E,1.4nm,0.5s,baz=318,slow=13,SNR=1.9							
GUN	**Gumba**	**7.92**	**298**	*e*Pn		**Pn**	**02 48 16.6**	**+1.3**
GUN				*e*Sn		**Sn**	**02 49 40.6**	**-3.0**
	comp=E,233nm,0.4s							
PKI	**Pulchoki**	**8.17**	**295**	*e*Pn		**Pn**	**02 48 19.1**	**+0.4**
PKI				*e*Sn		**Sn**	**02 49 45.2**	**-4.6**
	comp=E,106nm,0.5s							
PKIN	**Phulchoki**	**8.19**	**295**	*e*Pn		**Pn**	**02 48 19.4**	**+0.6**
PKIN				*e*Sn		**Sn**	**02 49 45.6**	**-4.4**
	comp=E,88nm,0.3s							
DMN	**Daman**	**8.44**	**294**	*e*Pn		**Pn**	**02 48 22.2**	**-0.1**
DMN				*e*Sn		**Sn**	**02 49 52.1**	**-4.1**
	comp=E,88nm,0.3s							
GKN	**Gorkha**	**8.97**	**296**	*e*Pn		**Pn**	**02 48 29.8**	**+0.4**
GKN				*e*Sn		**Sn**	**02 50 04.9**	**-4.1**
	comp=E,183nm,0.3s							
DANN	**Dangsing**	**9.81**	**296**	*e*Pn		**Pn**	**02 48 40.7**	**-0.4**
DANN				*e*Sn		**Sn**	**02 50 26.0**	**-3.9**
	comp=E,36nm,0.3s							
PYUN	**Piuthan**	**10.37**	**293**	*e*Pn		**Pn**	**02 48 47.7**	**-0.9**
PYUN				*e*Sn		**Sn**	**02 50 35.3**	**-8.0**
	comp=E,44nm,0.5s							
ENH	**Enshi**	**15.12**	**64**	Pn		**Pn**	**02 49 51.0**	**-1.3**
ENH				IAmb		IAmb	02 49 51.7	
	comp=Z,8.9nm,0.5s							
BOOM	**Boomskoye usch**	**23.31**	**325**	P		**P**	**02 51 27.3**	**+2.3**
BOOM				IAmb		IAmb	02 51 29.3	
	comp=Z,16nm,1.4s							
MK31	**Makanchi Array**	**24.17**	**340**	P		**P**	**02 51 34.5**	**+1.9**
MKAR	**Makanchi Array**	**24.17**	**340**	P		**P**	**02 51 34.3**	**+1.7**
	comp=Z,1.3nm,0.5s,baz=144,slow=12,SNR=13							
	comp=Z,1.3nm,0.5s							
MKAR	**Makanchi Array**	**24.17**	**340**	P		**P**	**02 51 34.5**	**+1.9**
MAKZ	**Makanchi**	**24.28**	**340**	P		**P**	**02 51 34.9**	**+1.3**
MAKZ				IAmb		IAmb	02 51 37.1	
	comp=Z,3.8nm,0.6s							
SONM	**Songino Array**	**25.45**	**20**	P		**P**	**02 51 45.5**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=196,slow=10,SNR=5.5							
	comp=Z,3.1nm,0.9s							
KURBB	**Kurchatov Arra**	**28.73**	**340**	P		**P**	**02 52 15.3**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=154,slow=8.2,SNR=2.8							
	comp=Z,0.3nm,0.3s							
ABKAR	**Akbulak array**	**36.25**	**322**	P		**P**	**02 53 21.1**	**+1.9**
KNRA	**Kunumurra**	**52.46**	**136**	P		**P**	**02 55 27.8**	**-1.0**
AKASG	**Malin Array Be**	**55.53**	**316**	P		**P**	**02 55 51.2**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=88,slow=7.7,SNR=4.8							
	comp=Z,0.5nm,0.4s							
FIA1	**FINESS Array S**	**58.24**	**328**	P		**P**	**02 56 10.2**	**+0.4**
FINES	**FINESS Array B**	**58.24**	**328**	P		**P**	**02 56 10.8**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=83,slow=7.9,SNR=4.4							
	comp=Z,1.7nm,0.6s							
FINES	**FINESS Array B**	**58.24**	**328**	P		**P**	**02 56 11.2**	**+1.5**
WRA	**Warramunga Arr**	**59.17**	**135**	P		**P**	**02 56 15.7**	**-1.1**
	comp=Z,6.2nm,0.6s,baz=323,slow=7.4,SNR=86							
	comp=Z,6.2nm,0.6s							
WRA	**Warramunga Arr**	**59.17**	**135**	P		**P**	**02 56 14.7**	**-2.1**
ARCES	**ARCESS Array B**	**59.79**	**338**	P		**P**	**02 56 21.4**	**+0.9**
	comp=Z,2.8nm,1.0s,baz=99,slow=7.5,SNR=3.6							
	comp=Z,2.8nm,1.0s							
AS31	**Alice Springs**	**61.62**	**138**	P		**P**	**02 56 32.5**	**-1.0**
AS31				IAmb		IAmb	02 56 33.2	
	comp=Z,2.2nm,0.6s							
ASAR	**Alice Springs**	**61.62**	**138**	P		**P**	**02 56 32.6**	**-0.8**
	comp=Z,4.2nm,0.5s,baz=321,slow=6.8,SNR=63							
	comp=Z,4.2nm,0.5s							
ASAR	**Alice Springs**	**61.62**	**138**	P		**P**	**02 56 32.2**	**-1.2**
GERES	**GERESS Array B**	**65.67**	**314**	P		**P**	**02 57 01.1**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=72,slow=6.9,SNR=7.5							
	comp=Z,1.0nm,0.6s							
CTA	**Charters Tower**	**67.55**	**126**	P		**P**	**02 57 11.4**	**-0.8**
	comp=Z,4.8nm,1.0s,baz=0.0,slow=5.1,SNR=2.7							
	comp=Z,4.8nm,1.0s							

MAN ***17*** *03:17:35.6, 10°.63N×125°.70E, h21km, mb4.2, ML3.0, MS2.7*
IDC ***17*** *03:18:34.0±2.9, 3°.64N×127°.85E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=235.5km s-min=27.5km az=67.0*
ISC 17 03:17:33.2±1.1, 10°.64N±0°.04×125°.87E±0°.09, h22km±8km, n13, σ2s05/21, 6C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.93**	**204**	⇓*e*P		**Pn**	**03 17 51.0**	**0.0**
SCPH				*e*S		**Sb**	**03 18 01.3**	**-1.3**
BESP	**Borongan**	**1.04**	**336**	⇓*e*P		**Pn**	**03 17 52.9**	**+0.4**
BESP				*e*S		**Sb**	**03 18 05.6**	**-0.2**
MSLP	**Maasin**	**1.11**	**243**	⇓*e*P		**Pb**	**03 17 53.4**	**-0.4**
MSLP				*e*S		**Sb**	**03 18 05.8**	**-2.1**
BUTP	**Butuan**	**1.68**	**188**	⇑*e*P		**Pn**	**03 18 01.7**	**+0.4**
BUTP				*e*S		**Sb**	**03 18 28.8**	**+4.7**
GHBP	**Garcia Hernand**	**1.82**	**237**	⇓*i*P		**Pb**	**03 18 07.1**	**+1.2**
GHBP				*i* S		**Sn**	**03 18 25.5**	**-0.2**
CNP	**Catarman**	**2.20**	**328**	⇑*e*P		**Pn**	**03 18 10.4**	**+1.9**
CNP				*e*S		**Sn**	**03 18 36.9**	**+1.9**
CGP	**Cagayan de Oro**	**2.46**	**208**	⇑*e*P		**Pn**	**03 18 14.0**	**+1.9**
CGP				*e*S		**Sn**	**03 18 43.0**	**+1.5**
BUKP	**Musuan**	**2.86**	**196**	⇑*i*P		**Pb**	**03 18 22.1**	**-1.5**
BUKP				*e*S		**Sn**	**03 18 53.4**	**+2.0**
RCP	**Roxas**	**3.20**	**287**	⇑*e*P		**Pn**	**03 18 23.8**	**+1.6**
KCP	**Kidapawan**	**3.69**	**192**	⇑*e*P		Pb	03 18 44.0	+6.2
KCP				*i* S		**Sb**	**03 19 20.4**	**-1.7**
WRA	**Warramunga Arr**	**31.52**	**165**	P		**P**	**03 23 53.3**	**-0.5**
	0.2nm,0.6s,baz=345,slow=9.4,SNR=1.7							
	0.2nm,0.6s							
ASAR	**Alice Springs**	**34.99**	**167**	P		**P**	**03 24 24.5**	**+0.3**
	0.2nm,0.5s,baz=351,slow=7.1,SNR=5.7							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**51.49**	**323**	P		**PP**	**03 28 30.6**	**-4.0**
	0.5nm,0.8s,baz=113,slow=5.5,SNR=5.2							
	0.5nm,0.8s							

SOME ***17*** *03:38:04.8, 39°.80N×72°.63E, h15km*
IDC ***17*** *03:38:04.2±2.4, 39°.54N×72°.80E, h0km, mb3.8/3, mbtmp3.7/8, ML3.2/5, Error ellipse: s-maj=54.5km s-min=13.8km az=137.0*
ISU ***17*** *03:38:05, 39°.82N×72°.47E, h6km*
KRNET ***17*** *03:38:05.4±0.1, 39°.79N×72°.58E, h14km, mb3.8*
NNC ***17*** *03:38:11.4±1.2, 40°.13N×72°.52E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=9.5km s-min=4.5km az=7.0*
ISC 17 03:38:05.6±1.3, 39°.92N±0°.04×72°.67E±0°.02, h3km±9km, n85, σ1s85/132, mb3.8/3, 36C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.61**	**8**	⇑*i*P		**Pb**	**03 38 19.8**	**+0.8**
	baz=12							
OHH				⇑*i*S		**Sn**	**03 38 30.3**	**-1.4**
	baz=12							
OHH	**Osh**	**0.61**	**8**	P		**Pb**	**03 38 19.3**	**+0.3**
OHH				S		**Sn**	**03 38 30.9**	**-0.8**
TSTA	**Tashata**	**0.67**	**347**	P		**Pb**	**03 38 20.3**	**+0.2**
TSTA				S		**Sn**	**03 38 31.3**	**-2.0**
FRG	**Fergana**	**0.82**	**304**	P		**Pg**	**03 38 21.5**	**+0.2**
FRG				S		**Sg**	**03 38 32.4**	**+0.5**
ANR	**Andizhan**	**0.87**	**344**	P		**Pn**	**03 38 24.8**	**0.0**
ANR				S		**Sn**	**03 38 39.3**	**+1.3**
CHMI	**Chimion**	**0.95**	**292**	P		**Pg**	**03 38 23.8**	**0.0**
CHMI				S		**Sg**	**03 38 36.2**	**+0.2**
BTK	**Batken**	**1.43**	**276**	⇓*i*P		**Pn**	**03 38 31.2**	**-1.4**
	baz=82							
BTK				⇓*i*S		**Sb**	**03 38 50.7**	**-0.9**
	baz=82							
TRKS	**Terek-Say**	**1.98**	**325**	⇑*i*P		**Pb**	**03 38 42.3**	**-0.2**
	baz=28							
TRKS				⇑*i*S		**Sg**	**03 39 09.1**	**-0.3**
	baz=28							
GAR	**Garm**	**2.04**	**244**	⇓*i*P		**Pn**	**03 38 41.2**	**+0.2**
	baz=46							
GAR				⇓*i*S		**Sn**	**03 39 07.1**	**+0.1**
	baz=46							
ARLS	**Aral**	**2.31**	**32**	⇓*i*P		**Pb**	**03 38 48.6**	**+0.6**
	baz=32							
ARLS				⇓*i*S		**Sg**	**03 39 20.3**	**+0.5**
	baz=32							
AML	**Almayashu**	**2.34**	**19**	P		**Pg**	**03 38 51.3**	**+0.8**
	SNR=70							
UCH	**Uchtor**	**2.69**	**31**	P		**Pg**	**03 38 57.4**	**+0.1**
	SNR=38							
UCH	**Uchtor**	**2.69**	**31**	⇑*i*P		**Pb**	**03 38 54.1**	**-0.7**
	baz=30							
UCH				⇑*i*S		**Sb**	**03 39 29.4**	**+1.0**
	baz=30							
MRKS	**Merke**	**2.85**	**8**	*e*P		**Pg**	**03 39 00.0**	**-0.3**
	39nm,0.5s							
MRKS				*e*S		**Sg**	**03 39 39.1**	**+1.8**
	102nm,0.3s							
MRKS	**Merke**	**2.85**	**8**	Pg		**Pb**	**03 38 59.0**	**+1.7**
	39nm,0.5s							
MRKS				Lg		Lg	03 39 35.5	
	102nm,0.3s							
EKS2	**Erkin-Say**	**2.86**	**17**	P		**Pg**	**03 39 00.3**	**-0.2**
	SNR=27							
EKS2	**Erkin-Say**	**2.86**	**17**	⇑*e*P		**Pb**	**03 38 56.6**	**-0.8**
	baz=17							
EKS2				⇑*i*S		**Sb**	**03 39 33.4**	**+0.4**
	baz=17							
NRN	**Naryn**	**2.95**	**58**	⇑*i*P		**Pb**	**03 38 56.8**	**-2.2**
	baz=57							
NRN				⇑*i*S		**Sb**	**03 39 34.7**	**-0.9**
	baz=57							
IUG	**Iuzhnay**	**2.99**	**319**	*e*P		**Pg**	**03 39 01.4**	**-1.5**
	506nm,0.4s							
IUG				*e*S		**Sg**	**03 39 42.3**	**+0.7**
	146nm,0.4s							
IUG	**Iuzhnay**	**2.99**	**319**	Pg		**Pb**	**03 38 59.0**	**-0.6**
	506nm,0.4s							
IUG				Lg		Lg	03 39 35.2	
	146nm,0.4s							
CHGR	**Chuyangaron**	**3.00**	**246**	⇓*i*P		**Pn**	**03 38 54.9**	**+0.7**
	baz=48							
CHGR				⇓*i*S		**Sn**	**03 39 30.6**	**-0.1**
	baz=48							
AAK	**Ala-Archa**	**3.04**	**26**	P		**Pb**	**03 39 02.4**	**+1.9**
	SNR=27							
AAK	**Ala-Archa**	**3.04**	**26**	Pn		**Pb**	**03 39 01.9**	**+1.4**
	9.1nm,0.3s,baz=199,slow=7.8,SNR=49							
AAK				Sn		**Sg**	**03 39 42.9**	**-0.5**
	15nm,0.3s,baz=83,slow=19,SNR=13							
	25nm,0.4s							
AAK	**Ala-Archa**	**3.04**	**26**	⇑*i*P		**Pb**	**03 38 58.9**	**-1.6**
	baz=26							
AAK				⇑*i*S		**Sb**	**03 39 38.1**	**-0.1**
	baz=26							
DZA	**Taraz**	**3.14**	**342**	Pg		**Pb**	**03 39 02.3**	**+0.3**
	74nm,0.1s							
DZA				Lg		Lg	03 39 41.0	
	182nm,0.1s							
KBK	**Karagaybulak**	**3.23**	**31**	P		**Pb**	**03 39 05.4**	**+1.7**
	SNR=6.9							
KBK	**Karagaybulak**	**3.23**	**31**	⇑*e*P		**Pb**	**03 39 01.4**	**-2.3**
	baz=31							
KBK				⇑*i*S		**Sb**	**03 39 42.4**	**-1.1**
	baz=31							
FRU1	**Bishkek**	**3.24**	**26**	⇑*i*P		**Pb**	**03 39 01.9**	**-2.0**
	baz=26							
FRU1				⇑*i*S		**Sb**	**03 39 43.1**	**-0.7**
	baz=26							
CHM	**Chimkent**	**3.33**	**317**	*e*P		**Pb**	**03 39 07.3**	**+1.9**
	7.4nm,0.4s							
CHM				*e*S		**Sg**	**03 39 52.1**	**-0.6**
	257nm,0.5s							
CHMS	**Chumysh**	**3.45**	**26**	P		**Pb**	**03 39 07.7**	**+0.3**
	SNR=8.2							
CHMS	**Chumysh**	**3.45**	**26**	⇓Pn		**Pb**	**03 39 05.2**	**-2.2**
	21nm,0.6s							
CHMS				Pg		Pn	03 39 05.3	+5.0
	7.4nm,0.4s							
CHMS				Lg		Lg	03 39 46.1	
	257nm,0.5s							
CHMS				⇓Lg		Lg	03 39 57.5	
	37nm,0.7s							
CHMS	**Chumysh**	**3.45**	**26**	⇑*i*P		**Pb**	**03 39 04.7**	**-2.7**
	baz=26							
CHMS				⇑*i*S		**Sb**	**03 39 47.6**	**-2.2**
	baz=26							
ULHL	**Ulahol**	**3.56**	**48**	P		**Pb**	**03 39 08.4**	**-0.9**
	SNR=10							
ULHL	**Ulahol**	**3.56**	**48**	⇑*e*P		**Pb**	**03 39 05.9**	**-3.5**
	baz=47							
ULHL				⇑*i*S		**Sb**	**03 39 50.3**	**-2.8**
	baz=47							
KK31	**Karatay Array**	**3.57**	**334**	⇓Pn		**Pn**	**03 39 05.0**	**+3.1**
	2.1nm,0.3s,baz=140,slow=12,SNR=23							
KK31				⇑Pg		**Pg**	**03 39 13.4**	**-0.7**
	2.0nm,0.2s,baz=40,slow=58,SNR=12							
KK31				⇑Sn		**Sn**	**03 39 47.3**	**+2.7**
	16nm,0.5s,baz=143,slow=30,SNR=8.3							
KK31				⇑Lg		Lg	03 39 59.0	
	17nm,0.4s							
KKAR	**Karatay Array**	**3.57**	**334**	⇑*i*P		**Pn**	**03 39 05.1**	**+3.2**
	baz=36							
KKAR				⇑*i*S		**Sb**	**03 39 49.1**	**-4.1**
	baz=36							
USP	**Ospenovka**	**3.62**	**22**	P		**Pb**	**03 39 09.6**	**-0.6**
	SNR=14							
USP	**Ospenovka**	**3.62**	**22**	⇑*i*P		**Pb**	**03 39 06.9**	**-3.3**
	baz=22							
USP				⇑*i*S		**Sb**	**03 39 51.4**	**-3.1**
	baz=22							
TKM2	**Tokmak 2**	**3.72**	**35**	P		**Pb**	**03 39 09.2**	**-2.9**
	SNR=9.6							
TKM2	**Tokmak 2**	**3.72**	**35**	⇓Pn		**Pb**	**03 39 09.0**	**-3.0**
TKM2				⇑Pg		**Pg**	**03 39 19.1**	**+2.2**
	6.2nm,0.5s							
TKM2				⇑Lg		Lg	03 40 07.9	
	23nm,0.7s							
TKM2	**Tokmak 2**	**3.72**	**35**	⇑*i*P		**Pb**	**03 39 08.6**	**-3.5**
	baz=35							
TKM2				⇑*i*S		**Sb**	**03 39 54.4**	**-3.2**
	baz=35							
SGDS	**Sogindy**	**3.82**	**22**	*e*P		**Pg**	**03 39 17.1**	**-1.8**
	14nm,0.9s							
SGDS				*e*S		**Sg**	**03 40 09.4**	**+1.0**
	26nm,0.2s							
SGDS	**Sogindy**	**3.82**	**22**	Pg		**Pg**	**03 39 17.1**	**-1.8**
	14nm,0.9s							
SGDS				Lg		Lg	03 40 06.3	
	26nm,0.2s							
KST	**Kastek**	**3.98**	**37**	*e*P		**Pg**	**03 39 20.8**	**-1.1**
	4.8nm,0.5s							
KST				*e*S		**Sg**	**03 40 15.3**	**+1.8**
	32nm,1.0s							
KST	**Kastek**	**3.98**	**37**	Pg		**Pg**	**03 39 21.0**	**-0.9**
	4.8nm,0.5s							
KST				Lg		Lg	03 40 13.1	
	32nm,1.0s							
DGS	**Degeres**	**4.05**	**34**	*e*P		**Pg**	**03

BTLS					*e*S		**Sg**	**03 40 51.5**	**-1.6**
	12nm,0.6s								
BTLS	**Baital**	**5.22**	**11**		Pg		**Pg**	**03 39 42.5**	**-3.1**
	4.4nm,0.3s								
BTLS					Lg		Lg	03 40 50.1	
	12nm,0.6s								
KURS	**Kuram**	**5.45**	**47**		*e*P		**Pg**	**03 39 47.6**	**-2.3**
	5.2nm,0.6s								
KURS					*e*S		**Sg**	**03 41 02.2**	**+1.7**
	11nm,1.0s								
KPKS	**Kokpek**	**5.73**	**50**		*e*P		**Pg**	**03 39 53.2**	**-2.2**
	4.0nm,0.3s								
KPKS					*e*S		**Sg**	**03 41 10.7**	**+1.1**
	15nm,0.6s								
KPKS	**Kokpek**	**5.73**	**50**		Pg		**Pg**	**03 39 54.7**	**-0.6**
	4.0nm,0.3s								
KPKS					Lg		Lg	03 41 10.7	
	15nm,0.6s								
UZB	**Uzynbulak**	**5.75**	**54**		*e*P		**Pg**	**03 39 52.5**	**-3.4**
	2.3nm,0.3s								
UZB					*e*S		**Sg**	**03 41 09.2**	**-1.2**
	7.5nm,0.4s								
UZB	**Uzynbulak**	**5.75**	**54**		Pg		**Pg**	**03 39 56.4**	**+0.6**
	2.3nm,0.3s								
UZB					Lg		Lg	03 41 13.8	
	7.5nm,0.4s								
ARXS	**Arharly**	**5.75**	**40**		*e*P		**Pg**	**03 39 52.2**	**-3.6**
	5.9nm,0.8s								
ARXS					*e*S		**Sg**	**03 41 09.9**	**-0.5**
	13nm,0.3s								
ARXS	**Arharly**	**5.75**	**40**		Pg		**Pg**	**03 39 54.5**	**-1.4**
	5.9nm,0.8s								
ARXS					Lg		Lg	03 41 10.5	
	13nm,0.3s								
BLB	**Baldybastay**	**6.01**	**44**		*e*P		**Pg**	**03 39 57.2**	**-3.6**
	4.7nm,0.3s								
BLB					*e*S		**Sg**	**03 41 17.5**	**-1.1**
	10nm,0.2s								
BLB	**Baldybastay**	**6.01**	**44**		Pg		**Pg**	**03 40 00.2**	**-0.5**
	4.7nm,0.3s								
BLB					Lg		Lg	03 41 20.6	
	10nm,0.2s								
SHLS	**Shalkode**	**6.04**	**55**		*e*P		**Pg**	**03 40 01.5**	**+0.3**
	2.5nm,0.5s								
SHLS					*e*S		**Sg**	**03 41 25.5**	**+6.1**
	8.3nm,0.6s								
SHLS	**Shalkode**	**6.04**	**55**		Pg		Pg	03 40 06.6	+5.4
	4.1nm,0.4s								
SHLS					Lg		Lg	03 41 31.6	
	8.3nm,0.6s								
PDGK	**Podgornoye**	**6.14**	**54**		⇓Pn		Pn	03 39 44.0	+6.6
	2.8nm,0.8s								
PDGK					⇑Pg		**Pg**	**03 40 04.2**	**+0.9**
	5.3nm,1.1s								
PDGK					⇓Lg		Lg	03 41 27.1	
	14nm,0.9s								
DJR	**Jarkent**	**6.89**	**48**		*e*P		Pg	03 40 13.4	-4.1
	1.6nm,0.3s								
DJR					*e*S		**Sg**	**03 41 45.3**	**-1.4**
	4.2nm,0.2s								
DJR	**Jarkent**	**6.89**	**48**		Pg		**Pg**	**03 40 16.5**	**-1.0**
	1.6nm,0.3s								
DJR					Lg		Lg	03 41 48.6	
	4.2nm,0.2s								
MKAR	**Makanchi Array**	**9.81**	**42**		Pn		**Pn**	**03 40 29.8**	**+2.3**
	baz=227,slow=15,SNR=2.1								
MKAR					Lg		Lg	03 43 16.6	
	0.1nm,0.3s,baz=245,slow=24,SNR=2.4								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**11.47**	**19**		Pn		**Pn**	**03 40 53.3**	**+3.1**
	0.1nm,0.3s,baz=210,slow=13,SNR=1.6								
	1.0nm,0.2s								
GEYT	**Alibeck**	**11.51**	**265**		Pn		**Pn**	**03 40 50.1**	**-0.8**
	0.4nm,0.3s,baz=78,slow=11,SNR=3.6								
	1.5nm,0.5s								
AB31	**Akbulak array**	**13.00**	**320**		⇑Pn		**Pn**	**03 41 09.3**	**-1.8**
	1.0nm,0.8s,baz=132,slow=13,SNR=10								
AB31					⇓Sn		**Sn**	**03 43 33.4**	**-2.8**
	0.6nm,0.6s,baz=132,slow=24,SNR=4.6								
ZALV	**Zalesovo Beam**	**16.27**	**26**		Pn		**P**	**03 41 57.7**	**-0.3**
	0.3nm,0.3s,baz=219,slow=11,SNR=5.8								
	1.4nm,0.5s								
BRTR	**Keskin Array B**	**29.82**	**282**		P		**P**	**03 44 15.5**	**+1.5**
	0.5nm,0.8s,baz=95,slow=7.9,SNR=4.1								
	0.5nm,0.8s								
FINES	**FINESS Array B**	**35.46**	**323**		P		**P**	**03 45 04.0**	**+1.1**
	1.3nm,0.8s,baz=126,slow=9.3,SNR=3.6								
	1.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**67.13**	**268**		P		**P**	**03 49 00.5**	**-0.4**
	1.0nm,0.4s,baz=52,slow=5.7,SNR=25								
	1.0nm,0.4s								

IDC ***17*** *03:42:25.4±1.0,26˚.12N×99˚.57E,h0km,mb3.6/7, mbtmp3.6/8,ML4.1/1,MS3.7/2,Error ellipse: s-maj=35.3km s-min=16.0km az=79.0*

ISC 17 03:42:27.0±0.8,26˚.24N±0˚.09×99˚.4E±0˚.1,h10km,n14, σ1§87/12,mb3.8/7,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
CMAR	**Chiang Mai Arr**	**7.76**	**183**		Pn		**03 44 18.4**		**-1.7**
	0.7nm,0.3s,baz=359,slow=12,SNR=9.5								
CMAR					Pg		**Pb**	**03 44 44.8**	**+3.1**
	0.9nm,0.3s,baz=103,slow=32,SNR=6.3								
CMAR					Lg		Lg	03 46 28.6	
	1.2nm,0.3s,baz=5.9,slow=31,SNR=7.2								
CMAR					LR		LR	03 47 16.1	
	comp=Z,94nm,20.4s,baz=335,slow=38								
	1.8nm,0.4s								
RAMN	**Ramite**	**11.49**	**276**	*e*P			**Pn**	**03 45 11.3**	**-0.2**
	25nm,0.6s								
PKI	**Pulchoki**	**12.57**	**279**	*e*P			**Pn**	**03 45 24.6**	**-1.7**
	8.5nm,0.3s								
PKIN	**Phulchoki**	**12.58**	**279**	*e*P			**Pn**	**03 45 24.6**	**-1.8**
	6.6nm,0.4s								
DANN	**Dangsing**	**14.08**	**282**	*e*P			Pn	03 45 42.4	-4.5
	17nm,0.5s								
PYUN	**Piuthan**	**14.74**	**281**	*e*P			Pn	03 45 49.4	-6.4
	12nm,0.7s								
SONM	**Songino Array**	**22.24**	**12**	P			**P**	**03 47 24.7**	**+0.7**
	0.3nm,0.4s,baz=205,slow=6.4,SNR=1.6								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**24.60**	**331**	P			**P**	**03 47 48.3**	**+0.9**
	1.8nm,0.7s,baz=134,slow=9.9,SNR=13								
	1.8nm,0.7s								
KSRS	**Korea Array**	**26.57**	**58**	P			**P**	**03 48 04.7**	**-0.6**
	0.4nm,0.5s,baz=262,slow=9.9,SNR=2.5								
	0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**29.13**	**332**	P			**P**	**03 48 29.9**	**+1.9**
	0.4nm,0.2s,baz=150,slow=9.6,SNR=1.6								
	0.4nm,0.2s								
ZALV	**Zalesovo Beam**	**29.72**	**343**	P			**P**	**03 48 34.8**	**+1.6**
	0.7nm,0.4s,baz=170,slow=8.8,SNR=1.9								
	0.7nm,0.4s								
WRA	**Warramunga Arr**	**57.07**	**140**	P			**P**	**03 52 11.9**	**-1.7**
	0.6nm,0.7s,baz=329,slow=7.5,SNR=5.3								
	0.6nm,0.7s								
ASAR	**Alice Springs**	**59.79**	**143**	P			**P**	**03 52 31.1**	**-1.5**
	0.2nm,0.5s,baz=322,slow=5.9,SNR=1.7								
	0.2nm,0.5s								
VRAC	**Vranov**	**66.05**	**315**	LR			LR	04 26 17.5	
	comp=Z,278nm,18.9s,baz=230,slow=40								

IDC ***17*** *03:43:37.5±1.1,1˚.99S×140˚.94E,h0km,mb3.8/6, mbtmp3.8/7,ML3.4/1,Error ellipse: s-maj=55.3km s-min=20.2km az=104.0*

ISC 17 03:43:40.7±1.0,2˚.0S±0˚.2×140˚.9E±0˚.3,h20km,n10, σ0§60/7,mb3.8/6,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
WRA	**Warramunga Arr**	**18.93**	**199**	P			**Pn**	**03 48 00.7**	**-0.7**
	0.1nm,0.3s,baz=24,slow=12,SNR=8.8								
	1.0nm,0.6s								
FITZ	**Fitzroy Crossi**	**21.90**	**222**	P			**P**	**03 48 33.0**	**+0.2**
	1.8nm,0.7s,baz=32,slow=6.6,SNR=5.8								
	1.8nm,0.7s								
ASAR	**Alice Springs**	**22.56**	**197**	P			**P**	**03 48 40.6**	**+0.7**
	1.2nm,0.7s,baz=29,slow=11,SNR=12								
	1.2nm,0.7s								
H11S3	**WAKE ISLAND Hy**	**32.55**	**50**	T			T	04 25 01.6	
	baz=231								
H11S2	**WAKE ISLAND Hy**	**32.56**	**50**	T			T	04 25 00.6	
	baz=231								
H11S1	**WAKE ISLAND Hy**	**32.56**	**50**	T			T	04 25 05.8	
	baz=231								
PETK	**Petropavlovsk-**	**56.71**	**12**	P			**P**	**03 53 22.5**	**-0.3**
	7.1nm,1.1s,baz=160,slow=9.0,SNR=3.8								
	7.1nm,1.1s								
MKAR	**Makanchi Array**	**70.60**	**322**	P			**P**	**03 54 54.6**	**-0.1**
	1.0nm,1.0s,baz=112,slow=8.2,SNR=4.8								
	1.0nm,1.0s								
VNDA	**Vanda**	**76.28**	**175**	P			**P**	**03 55 27.3**	**-0.3**
	0.8nm,0.7s,baz=310,slow=7.3,SNR=5.0								
	0.8nm,0.7s								
ILAR	**Eielson Array**	**84.31**	**24**	P			**P**	**03 56 11.5**	**+0.5**
	0.5nm,0.8s,baz=256,slow=4.7,SNR=4.5								
	0.5nm,0.8s								

SJA ***17*** *03:55:50.6±0.7,37˚.25S×74˚.25W,h15km,ML4.9,MW4.9*
IDC ***17*** *03:55:55.9±0.6,37˚.27S×73˚.47W,h0km,mb4.4/11, mbtmp4.3/13,ML4.3/2,MS3.8/6,Error ellipse: s-maj=23.4km s-min=13.7km az=75.0*
NEIC ***17*** *03:55:55.5,37˚.29S×73˚.77W,h21km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.80; Mθθ-0.26; Mϕϕ-2.54; Mrθ0.21; Mrϕ-1.25; Mθr-5.47; Fault plane solution: M0 6.22000×10¹⁵ NP1:ϕ181.42000°, δ76.83000°, λ78.52000°. NP2:ϕ43.14000°, δ17.41000°, λ130.39000°. Principal axes: T 6.3244, Plg57.0000°, Azm77.0000°; N -0.2079, Plg11.0000°, Azm184.0000°; P -6.1165, Plg31.0000°, Azm281.0000°;*
NEIC ***17*** *03:55:57.0±1.8,37˚.28S±0˚.05×73˚.72W±0˚.09,h14km±3km, mb4.7/56,Mwr4.5/64,Mwr4.9(GUC) Error ellipse: s-maj=10.6km s-min=6.7km az=96.0*
GUC ***17*** *03:55:57.6±0.4,37˚.28S×73˚.89W,h42km±3km,ML5.1*
VAO ***17*** *03:55:58.9±0.4,37˚.25S×73˚.28W,h10km,mb4.8*

ISC 17 03:55:58.2±1.4,37˚.25S±0˚.03×73˚.86W±0˚.04,h23km±10km, n209,σ1§68/216,mb4.6/35,MS4.2/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
CCSP	**San Pedro de C**	**0.72**	**56**	*e*P		**Pb**	**03 56 11.6**		**-0.5**
CCSP				*i* S		**Sb**	**03 56 22.1**		**+0.5**
CCSP				IAML			03 56 23.7		
	comp=E,136μm,0.5s								
BI05	**Punta Hualpn**	**0.73**	**47**			**Pb**	**03 56 12.0**		**-0.2**
BI05	**Punta Hualpn**	**0.73**	**47**	*i* P		**Pb**	**03 56 11.9**		**-0.3**
BI05				*i* S		**Sb**	**03 56 22.6**		**+0.8**
BI05				IAML			03 56 26.6		
	comp=N,50μm,0.4s								
ML02	**Panimavida**	**2.46**	**54**			**Pn**	**03 56 36.6**		**-0.3**
ML02	**Panimavida**	**2.46**	**54**	*e*P		**Pn**	**03 56 36.5**		**-0.5**
ML02				IAML			03 57 19.6		
	comp=E,10μm,0.5s								
LR02	**Universidad Au**	**2.60**	**170**	*e*P		**Pn**	**03 56 37.1**		**-1.7**
LR04	**Corral**	**2.65**	**173**			**Pn**	**03 56 37.7**		**-1.8**
LR04	**Corral**	**2.65**	**173**	*e*P		**Pn**	**03 56 37.6**		**-1.8**
LR03	**Panguipulli**	**2.66**	**154**			**Pn**	**03 56 38.8**		**-0.9**
LR03	**Panguipulli**	**2.66**	**154**	*e*P		**Pn**	**03 56 38.7**		**-1.0**
LR03				*i* S		**Sn**	**03 57 08.9**		**-2.3**
GO06	**Curarrehue**	**2.99**	**142**			**Pn**	**03 56 43.5**		**-0.8**
GO06	**Curarrehue**	**2.99**	**142**	*e*P		**Pn**	**03 56 43.2**		**-1.1**
GO06				*i* S		**Sn**	**03 57 17.9**		**-1.7**
GO06	**Curarrehue**	**2.99**	**142**	*e*P		**Pn**	**03 56 43.6**		**-0.8**
GO06				*e*S		**Sn**	**03 57 21.6**		**+2.0**
BO02	**Sierra Bellavi**	**3.50**	**46**	Pn		**Pn**	**03 56 51.3**		**+0.1**
BO02	**Sierra Bellavi**	**3.50**	**46**	*e*P		**Pn**	**03 56 51.4**		**+0.1**
BO02				*e*S		**Sn**	**03 57 29.6**		**-2.4**
BO02				IAML			03 57 51.1		
	comp=Z,2μm,0.9s								
LL04	**Puerto Octay**	**3.83**	**163**			**Pn**	**03 56 54.1**		**-1.6**
MT01	**Popeta**	**3.99**	**33**			**Pn**	**03 56 57.2**		**-0.7**
MT01	**Popeta**	**3.99**	**33**	*e*P		**Pn**	**03 56 57.0**		**-0.9**
MT01				*e*S		**Sb**	**03 57 57.1**		**+1.5**
MT01				IAML			03 58 10.8		
	comp=Z,1μm,0.8s								
VA05	**Santo Domingo**	**4.02**	**28**			**Pn**	**03 56 57.1**		**-1.2**
VA05	**Santo Domingo**	**4.02**	**28**	*e*P		**Pn**	**03 56 57.4**		**-1.0**
LL03	**Petrohue**	**4.05**	**164**			**Pn**	**03 56 57.9**		**-0.8**
LL05	**Los Muermos**	**4.16**	**176**			**Pn**	**03 56 59.1**		**-1.2**
LL05	**Los Muermos**	**4.16**	**176**	*e*P		**Pn**	**03 56 58.8**		**-1.5**
MT09	**Talagante**	**4.18**	**35**	Pn		**Pn**	**03 57 00.2**		**-0.5**
MT09	**Talagante**	**4.18**	**35**	*e*P		**Pn**	**03 57 00.3**		**-0.3**
BO04	**La Punta**	**4.19**	**40**			**Pn**	**03 57 00.2**		**-0.6**
BO04	**La Punta**	**4.19**	**40**	*e*P		**Pn**	**03 57 00.1**		**-0.7**
PLCA	**Paso Flores**	**4.33**	**144**	Pn		**Pn**	**03 57 02.1**		**-0.6**
	comp=Z,4.4nm,0.3s,baz=325,slow=12,SNR=156								
PLCA				Pg		Pn	03 57 10.7		+8.0
	comp=Z,19nm,0.3s,baz=321,slow=14,SNR=25								
PLCA				LR		LR	03 58 03.0		
	comp=Z,168nm,18.4s,baz=304,slow=31								
PLCA				Lg		Lg	03 58 07.8		
	comp=Z,23nm,0.3s,baz=335,slow=18,SNR=3.5								
	comp=Z,15nm,0.5s								
PLCA	**Paso Flores**	**4.33**	**144**			**Pn**	**03 57 01.2**		**-1.4**
PLCA	**Paso Flores**	**4.33**	**144**	*e*P		Pn	03 56 57.1		-5.6
PLCA				*e*P		**Pn**	**03 57 02.2**		**-0.6**
PLCA				*e*P		**Pn**	**03 57 06.6**		**+3.9**
PLCA				*e*S		**Sb**	**03 58 10.1**		**+4.6**
PLCA	**Paso Flores**	**4.33**	**144**	*e*P		**Pn**	**03 57 02.1**		**-0.6**
LMEL	**Las Melosas**	**4.51**	**42**			**Pn**	**03 57 04.6**		**-0.7**
MT02	**Curacav**	**4.56**	**30**			**Pn**	**03 57 04.0**		**-1.8**
MT02	**Curacav**	**4.56**	**30**	*e*P		**Pn**	**03 57 04.8**		**-1.0**
MT02	**Curacav**	**4.56**	**30**	*e*P		**Pn**	**03 57 04.6**		**-1.1**
MT02				*e*S		**Sb**	**03 58 12.6**		**+0.6**
MT02				IAML			03 58 38.3		
	comp=Z,499nm,1.0s								
MT05	**Renca**	**4.62**	**34**	Pn		**Pn**	**03 57 05.7**		**-0.9**
MT05	**Renca**	**4.62**	**34**	*e*P		**Pn**	**03 57 05.9**		**-0.6**
MT05	**Renca**	**4.62**	**34**	*e*P		**Pn**	**03 57 06.0**		**-0.6**
MT05				IAML			03 58 28.9		
	comp=Z,1μm,0.8s								
MT03	**Universidad Ad**	**4.64**	**37**			**Pn**	**03 57 05.7**		**-1.3**
MT03	**Universidad Ad**	**4.64**	**37**	*e*P		**Pn**	**03 57 06.6**		**-0.4**
MT03				*e*S		**Sn**	**03 58 03.8**		**+3.7**
MT03				IAML			03 58 30.2		
	comp=Z,2μm,1.3s								
PEL	**Peldehue**	**4.85**	**33**	*e*P		**Pn**	**03 57 09.1**		**-0.8**
PEL	**Peldehue**	**4.85**	**33**	*e*P		**Pn**	**03 57 09.0**		**-0.8**
PEL				*e*P		**Pn**	**03 57 09.3**		**-0.5**
PEL				*e*S		**Sb**	**03 58 26.1**		**+5.7**
ROC1	**El Roble**	**4.86**	**30**			**Pn**	**03 57 09.6**		**-0.5**
ROC1	**El Roble**	**4.86**	**30**	*e*P		**Pn**	**03 57 09.0**		**-1.1**
ROC1				*e*S		**Sb**	**03 58 25.6**		**+4.8**
ROCH	**El Roble**	**4.86**	**30**	*e*P		**Pn**	**03 57 09.5**		**-0.7**
ROCH				*i* S		**Sn**	**03 58 07.2**		**+1.3**
RFA	**San Rafael**	**5.02**	**62**	*e*P		**Pn**	**03 57 13.3**		**+1.1**
RFA				*e*S		**Sb**	**03 58 25.6**		**+0.3**
RFA				*e*S		**Sb**	**03 58 26.1**		**+0.8**
RFA				*e*S		**Sb**	**03 58 29.6**		**+4.3**
RFA				IAML			03 58 36.9		
	comp=Z,417nm,0.8s								
VA06	**Catapilco**	**5.13**	**25**	Pn		**Pn**	**03 57 12.3**		**-1.2**
VA06	**Catapilco**	**5.13**	**25**	*e*P		**Pn**	**03 57 12.6**		**-1.0**
VA03	**San Esteban**	**5.23**	**32**			**Pn**	**03 57 14.4**		**-0.7**
VA03	**San Esteban**	**5.23**	**32**	*e*P		**Pn**	**03 57 14.5**		**-0.7**
VA03				IAML			03 58 55.3		
	comp=Z,660nm,0.7s								
LL01	**San Ignacio de**	**5.25**	**168**	*e*P		**Pn**	**03 57 15.0**		**-0.1**
H03S1	**Juan Fernandez**	**5.33**	**308**	Pn		**Pn**	**03 57 17.0**		**+0.8**
H03S1				Sn		**Sn**	**03 58 14.2**		**-2.6**
H03S1				T		T	04 02 52.8		
	baz=135								
H03S3	**Juan Fernandez**	**5.35**	**308**	Pn		**Pn**	**03 57 18.4**		**+2.0**
H03S3				Sn		**Sn**	**03 58 15.0**		**-2.1**
H03S3				T		T	04 02 52.4		
	baz=135								
H03S2	**Juan Fernandez**	**5.35**	**308**	Pn		**Pn**	**03 57 17.2**		**+0.8**
H03S2				Sn		**Sn**	**03 58 13.8**		**-3.3**
H03S2				T		T	04 02 50.6		
	baz=135								
VA04	**Juan Fernndez**	**5.42**	**310**	Pn		**Pn**	**03 57 18.6**		**+1.0**
LL07	**Hotel Espejo d**	**5.59**	**177**	Pn		**Pn**	**03 57 17.7**		**-2.2**
H03N3	**Juan Fernandez**	**5.61**	**311**	Pn		**Pn**	**03 57 21.7**		**+1.8**
	baz=148,slow=26								
H03N3				Sn		**Sn**	**03 58 23.1**		**-0.5**
H03N3				T		T	04 03 12.1		
	baz=138,slow=73,SNR=120								
H03N1	**Juan Fernandez**	**5.61**	**311**	Pn		**Pn**	**03 57 21.4**		**+1.5**
	baz=148,slow=26								
H03N1				Sn		**Sn**	**03 58 23.1**		**-0.5**
H03N1				T		T	04 03 23.3		
	baz=138,slow=73,SNR=105								
H03N2	**Juan Fernandez**	**5.62**	**311**	Pn		**Pn**	**03 57 21.7**		**+1.6**
	baz=148,slow=26								
H03N2				Sn		**Sn**	**03 58 19.5**		**-4.3**
H03N2				T		T	04 03 23.4		
	baz=138,slow=73,SNR=89								
LCO	**Las Campanas**	**8.63**	**19**			**Pn**	**03 58 01.3**		**-0.6**
TRQA	**Tornquist**	**9.46**	**99**	Pn		**Pn**	**03 58 11.6**		**-1.4**
TRQA	**Tornquist**	**9.46**	**99**	*e*P		**Pn**	**03 58 09.2**		**-3.9**
AC06	**Mina Casimiro**	**10.30**	**18**	Pn		**Pn**	**03 58 23.5**		**-1.0**
AC02	**Maricunga**	**11.13**	**22**	Pn		**Pn**	**03 58 35.1**		**-1.3**
LVC	**Limon Verde**	**15.20**	**18**	Pn		**P**	**03 59 34.7**		**-1.9**
	comp=Z,0.2nm,0.3s,baz=198,slow=13,SNR=4.7								
LVC					LR	LR	04 04 30.8		
	comp=Z,238nm,20.1s,baz=177,slow=34								
LVC	**Limon Verde**	**15.20**	**18**	Pn		**Pn**	**03 59 31.3**		**-0.5**
LVC	**Limon Verde**	**15.20**	**18**	*e*P		**Pn**	**03 59 32.8**		**+1.0**
PB09	**IPOC Station P**	**15.91**	**16**	Pn		**Pn**	**03 59 39.2**		**-1.6**
PB09				IAmb		IAmb	03 59 48.0		
	comp=Z,38nm,1.1s								
ITQB	**Itaqui**	**16.23**	**67**	Pn		**Pn**	**03 59 40.4**		**-4.4**
ITQB	**Itaqui**	**16.23**	**67**	*e*P		**Pn**	**03 59 42.9**		**-1.9**
RODS	**Rosario do Sul**	**16.96**	**72**	*e*P		**Pn**	**03 59 50.7**		**-3.2**
PLTB	**Pedras Altas**	**17.56**	**78**	Pn		**Pn**	**03 59 58.9**		**-2.6**
PLTB	**Pedras Altas**	**17.56**	**78**	*e*P		**Pn**	**03 59 57.8**		**-3.7**
UNIS	**Unistalda (Bra**	**17.70**	**68**	*e*P		**Pn**	**03 59 58.7**		**-4.5**
CPUP	**Villa Florida**	**17.75**	**57**	P		**Pn**	**04 00 02.6**		**-1.2**
	comp=Z,0.3nm,0.3s,baz=229,slow=10,SNR=12								
CPUP					LR	LR	04 07 13.4		
	comp=Z,266nm,21.0s,baz=232,slow=39								
	comp=Z,4.0nm,0.7s								
CPUP	**Villa Florida**	**17.75**	**57**	Pn		**Pn**	**04 00 01.4**		**-2.4**
CPUP	**Villa Florida**	**17.75**	**57**	*e*P		**Pn**	**04 00 01.8**		**-2.0**
CPSB	**Cacapava Do Su**	**18.27**	**74**	*e*P		**Pn**	**04 00 06.2**		**-4.0**
PB12	**IPOC Station P**	**18.82**	**10**	P		**P**	**04 00 13.5**		**-3.0**
PB16	**IPOC Station P**	**19.23**	**13**	P		**P**	**04 00 20.3**		**-1.1**
PB16				IAmb		IAmb	04 00 25.7		
	comp=Z,36nm,1.1s								
CRSM	**Crissiumal (Br**	**19.33**	**66**	*e*P		**P**	**04 00 18.4**		**-3.4**
ALGR	**Alto Alegre (B**	**19.37**	**70**	*e*P		**P**	**04 00 19.0**		**-3.3**
CNLB	**Canela**	**20.76**	**74**	*e*P		**P**	**04 00 34.8**		**-2.7**
ITAB	**Concordia**	**20.87**	**68**	P		**P**	**04 00 36.6**		**-2.1**
ITAB	**Concordia**	**20.87**	**68**	*e*P		**P**	**04 00 36.8**		**-1.9**
FRBT	**Francisco Belt**	**20.93**	**63**	*e*P		**P**	**04 00 37.7**		**-1.6**
MCR1	**Marechal Candi**	**21.21**	**59**	*e*P		**P**	**04 00 41.2**		**-1.2**
LPAZ	**La Paz**	**21.48**	**15**	P		**P**	**04 00 46.7**		**+0.8**
	comp=Z,7.6nm,0.7s,baz=187,slow=6.0,SNR=29								
	comp=Z,7.6nm,0.7s								
LPAZ	**La Paz**	**21.48**	**15**	*e*P		**P**	**04 00 47.2**		**+1.3**
ANTJ	**Antonio Joao (**	**21.66**	**50**	*e*P		**P**	**04 00 46.1**		**-1.1**
PTGB	**Pitanga**	**22.41**	**62**	*e*P		**P**	**04 00 51.8**		**-3.6**
TER01	**Tubaro-SC**	**22.46**	**74**	*e*P		**P**	**04 00 54.1**		**-1.6**
AQDB	**Aquidauana**	**23.00**	**48**	P		**P**	**04 00 59.7**		**-1.8**
AQDB				IAmb		IAmb	04 01 07.9		
	comp=Z,35nm,1.2s								
AQDB	**Aquidauana**	**23.00**	**48**	*e*P		**P**	**04 00 59.9**		**-1.5**
TRCB	**Terra Rica**	**23.28**	**58**	P		**P**	**04 01 02.4**		**-1.8**
TRCB	**Terra Rica**	**23.28**	**58**	*e*P		**P**	**04 01 03.4**		**-0.9**
SIV	**San Ignacio**	**24.01**	**32**	P		**P**	**04 01 11.5**		**+0.1**
	comp=Z,13nm,0.8s,baz=214,slow=9.2,SNR=63								
	comp=Z,13nm,0.8s								
RPRD	**Ribas do Rio P**	**24.22**	**52**	*e*P		**P**	**04 01 13.0**		**-0.3**
TIJ01	**Guaruva-PR**	**24.26**	**68**	*e*P		**P**	**04 01 08.9**		**-4.8**
PCMB	**Pacaembu**	**25.01**	**58**	*e*P		**P**	**04 01 19.0**		**-1.5**
PTLB	**Pontes e Lacer**	**25.34**	**35**	IAmb		IAmb	04 01 25.1		
	comp=Z,19nm,0.9s								
PTLB	**Pontes e Lacer**	**25.34**	**35**	*e*P		**P**	**04 01 23.5**		**+0.1**
PET01	**Itanhaem-SP**	**26.14**	**68**	*e*P		**P**	**04 01 30.3**		**-0.4**
SALV	**Santo Antonio**	**26.66**	**42**	*e*P		**P**	**04

comp=Z,9.0nm,0.6s,baz=225,slow=3.8,SNR=17
comp=Z,9.0nm,0.6s

ANMO	Albuquerque	77.96	333	P	P	04 07 56.1	+1.6
T25A	Trinidad	79.23	336	P	P	04 08 02.1	+0.5
T25A				IAmb	IAmb	04 08 05.4	

comp=Z,6.6nm,0.9s

N38A	Joes South For	79.67	345	P	P	04 08 03.8	+0.3
N38A				IAmb	IAmb	04 08 05.5	

comp=Z,12nm,0.8s

BOSA	Boshof	79.86	118	P	P	04 08 05.3	-0.1

comp=Z,5.3nm,0.9s,baz=238,slow=4.7,SNR=7.3
comp=Z,5.3nm,0.9s

PV13	Radium Mtn., P	81.68	333	P	P	04 08 16.3	+1.6
PV13				IAmb	IAmb	04 08 18.0	

comp=Z,4.0nm,0.9s

SMCO	Snowmass	81.93	335	IAmb	IAmb	04 08 28.6	

comp=Z,10nm,1.3s

ECSD	EROS Data Cent	83.21	344	P	P	04 08 23.4	+1.1
ECSD				IAmb	IAmb	04 08 24.6	

comp=Z,8.4nm,1.0s

Q16A	Castle Valley	83.22	332	IAmb	IAmb	04 08 26.4	

comp=Z,3.3nm,0.8s

P18A	Preston Nutter	83.50	333	IAmb	IAmb	04 08 38.4	

comp=Z,6.8nm,1.2s

TMUT	Trail Mountain	83.56	332	IAmb	IAmb	04 08 35.0	

comp=Z,3.4nm,0.9s

PSUT	Pine Spring	83.94	330	IAmb	IAmb	04 08 37.4	

comp=Z,2.7nm,0.9s

SPR3	Spring Creek 3	84.53	329	P	P	04 08 31.0	+1.5
SPR3				IAmb	IAmb	04 08 33.0	

comp=Z,1.9nm,0.8s

DUG	Dugway, Tooele	84.96	331	P	P	04 08 33.2	+1.8
DUG				IAmb	IAmb	04 08 41.3	

comp=Z,6.2nm,1.4s

HWUT	Hardware Ranch	85.71	333	IAmb	IAmb	04 08 44.0	

comp=Z,4.2nm,1.0s

NVAR	Mina Array Bea	85.73	327	P	P	04 08 38.4	+3.0

comp=Z,1.0nm,0.7s,baz=155,slow=6.3,SNR=11
comp=Z,1.0nm,0.7s

NVAR	Mina Array Bea	85.73	327	P	P	04 08 37.6	+2.2
PDAR	Pinedale Array	86.02	334	P	P	04 08 39.0	+2.3

comp=Z,0.6nm,0.7s,baz=133,slow=6.5,SNR=6.9
comp=Z,0.6nm,0.7s

PDAR	Pinedale Array	86.02	334	P	P	04 08 38.7	+1.9
TORD	Torodi Ar. Bea	86.69	71	P	P	04 08 40.3	-0.1

comp=Z,2.7nm,0.9s,baz=215,slow=5.9,SNR=15
comp=Z,2.7nm,0.9s

AFI	Afiamalu	87.87	254	LR	LR	04 39 06.9	

comp=Z,101nm,21.3s,baz=221,slow=29

J08A	Circle Bar Ran	89.88	329	IAmb	IAmb	04 08 58.9	

comp=Z,3.2nm,0.8s

ASAR	Alice Springs	114.01	208	PKKPbc	PKKPbc	04 25 17.1	+0.8

comp=Z,0.2nm,0.4s,baz=339,slow=2.9,SNR=4.3

WRA	Warramunga Arr	117.21	210	PKP	PKiKP	04 14 42.2	+0.2

comp=Z,0.5nm,0.8s,baz=208,slow=1.8,SNR=6.3

H11S2	WAKE ISLAND Hyd	24.20	268	T	T	06 31 48.9	

baz=126,slow=75,SNR=13

H11S1	WAKE ISLAND Hyd	24.22	268	T	T	06 31 44.1	

baz=126,slow=75,SNR=11

H11S3	WAKE ISLAND Hyd	24.22	268	T	T	06 31 43.0	

baz=126,slow=75,SNR=7.2

BRTR	Keskin Array B	124.66	63	PKP	PKiKP	04 14 56.2	+0.1

comp=Z,1.5nm,0.7s,baz=199,slow=2.9,SNR=11

H11N3	WAKE ISLAND Hyd	24.70	269	T	T	06 32 23.4	

baz=121

H11N1	WAKE ISLAND Hyd	24.71	269	T	T	06 32 17.6	

baz=121

H11N2	WAKE ISLAND Hyd	24.71	269	T	T	06 32 36.9	

baz=121

AKASG	Malin Array Be	125.45	49	PKP	PKiKP	04 14 57.0	-0.1

comp=Z,0.4nm,0.4s,baz=257,slow=2.1,SNR=4.1

HRA	Herat	144.53	81	PKPdf	PKPab	04 15 31.3	-0.1
ABKAR	Akbulak array	144.81	55	PKPdf	PKPdf	04 15 32.4	-0.2
RPSI	Rantau Prapat	144.98	167	PKPdf	PKPdf	04 15 34.0	-0.2
NRIK	Noril'sk	146.29	12	PKPbc	PKPab	04 15 36.2	-0.4
KBL	Kabul	149.95	84	PKPbc	PKPbc	04 15 46.0	-0.9
BVAR	Borovoye Array	150.63	46	PKPbc	PKiKP	04 15 48.6	+0.2

comp=Z,3.8nm,0.7s,baz=308,slow=3.4,SNR=23

ZALV	Zalesovo Beam	157.75	35	PKP	PKPdf	04 15 52.8	+0.7

comp=Z,2.0nm,0.8s,baz=264,slow=1.5,SNR=8.2

MKAR	Makanchi Array	159.94	54	PKP	PKPdf	04 15 55.7	+0.7

comp=Z,1.8nm,1.0s,baz=340,slow=3.2,SNR=7.8

MKAR				PKPab	PKPab	04 16 34.5	-0.1

comp=Z,2.0nm,0.8s,baz=298,slow=2.6,SNR=9.0

MKAR				PP	PP	04 20 16.4	-0.5

comp=Z,2.0nm,0.4s,baz=294,slow=1.2,SNR=3.9

WMQ	Urumqi	164.53	59	*eP*	PKPdf	04 16 00.3	+0.5
PZH	PanZhiHua	168.66	160	PKP	PKPdf	04 16 02.8	-0.7
SONM	Songino Array	169.42	359	PKPab	PKPab	04 17 17.8	+1.6

comp=Z,0.1nm,0.3s,baz=345,slow=4.9,SNR=3.8

HHC	Hu-ho-hao-te	174.45	312	*eP*	PKPdf	04 16 03.8	-2.1

IDC 17 04:24:39.9±4.9, 22.75°S×178.52°W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=177.7km s-min=65.1km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.44	247	P	P	04 31 46.8	+0.2

1.6nm,0.7s,baz=61,slow=13,SNR=3.7
1.6nm,0.7s

ASAR	Alice Springs	43.59	259	P	P	04 32 46.1	0.0

1.7nm,0.8s,baz=99,slow=7.2,SNR=22
1.7nm,0.8s

WRA	Warramunga Arr	43.86	264	P	P	04 32 48.2	-0.2

1.3nm,0.5s,baz=102,slow=8.4,SNR=41
1.3nm,0.5s

FITZ	Fitzroy Crossi	52.29	264	P	P	04 33 52.8	-0.7

0.9nm,0.4s,baz=94,slow=9.0,SNR=2.0
0.9nm,0.4s

BRTR	Keskin Array B	147.91	309	PKPbc	PKPbc	04 44 26.8	-0.6

0.3nm,0.5s,baz=85,slow=1.7,SNR=2.2

IDC 17 05:01:09.4±8.3, 20.12°S×177.71°W, h535km±75km, mb2.9/3, mbtmp3.7/4, Error ellipse: s-maj=247.5km s-min=30.2km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.66	300	P	P	05 02 35.7	0.0

2.8nm,0.4s,baz=131,slow=20,SNR=5.1

ASAR	Alice Springs	44.87	256	P	P	05 08 36.5	+0.1

1.7nm,0.6s,baz=96,slow=8.0,SNR=24
1.7nm,0.6s

WRA	Warramunga Arr	44.92	262	P	P	05 08 36.5	-0.4

1.1nm,0.7s,baz=98,slow=8.5,SNR=48
1.1nm,0.7s

TXAR	Lajitas Array	86.62	57	P	P	05 12 56.5	-0.1

0.2nm,0.7s,baz=242,slow=5.7,SNR=2.7
0.2nm,0.7s

SKO 17 05:01:17.5, 41.03°N×20.09°E, h10km
THE 17 05:01:17.3, 41.08°N×20.18°E, h0km±3km, ML2.5/5, Error ellipse: s-maj=4.0km s-min=1.1km az=45.0
BEO 17 05:01:19.8±0.6, 41.13°N×20.20°E, h0km, ML2.5/6

ISC 17 05:01:17.4±1.1, 41.06°N±0.02°×20.17°E±0.03, h2km±11km, n29, σ1°s13°/44, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.36	322	P	Pg	05 01 23.3	-1.2
TIR				S	Sg	05 01 30.3	+1.1

808nm,0.8s

TIR	Tirane	0.36	322	*eP*g	Pg	05 01 23.9	-0.5
TIR				*eS*g	Sg	05 01 30.8	+1.6
TIR	Tirane	0.36	322	*i* Pg	Pg	05 01 23.2	-1.2
TIR				*i* Sg	Sg	05 01 30.8	+1.6
OHR	Ohrid	0.48	84	*eP*g	Pg	05 01 26.8	+0.1
OHR				*eS*g	Sb	05 01 35.2	-1.0
OHR	Ohrid	0.48	84	*i* Pg	Pg	05 01 26.7	+0.1
OHR				*i* Sg	Sb	05 01 35.0	-1.2

comp=N,188nm,0.5s

OHR				eLg	Lg	05 01 35.2	
OHR				eLg	Lg	05 01 35.4	

comp=E,282nm,0.6s

KBN	Korca	0.64	133	P	Pg	05 01 28.2	-1.6
KBN				S	Sg	05 01 39.7	+1.6

comp=E,1μm,0.6s

PHP	Peshkopia	0.66	18	P	Pg	05 01 28.8	-1.2
PHP				S	Sb	05 01 39.8	-1.5
ULC	Ulcinj	1.14	323	*i* Pg	Pg	05 01 38.2	-1.0
SRN	Sarande	1.19	186	P	Pg	05 01 39.9	-0.2
SRN				S	Sn	05 01 58.2	+0.5

comp=E,225nm,0.6s

SKO	Skopje	1.32	46	*i* Pg	Pn	05 01 43.5	+0.6
SKO				*i* Sg	Sn	05 02 00.9	-0.1
SKO				eLg	Lg	05 02 03.6	

comp=N,9.0nm,0.4s

SKO				eLg	Lg	05 02 03.8	

comp=E,10nm,0.9s

KEK	Kerkira	1.38	192	P	Pg	05 01 43.0	-0.8
KEK				S	Sn	05 02 03.0	+0.6

comp=E,160nm,0.7s

PDG	Podgorica	1.53	334	*eP*g	Pb	05 01 46.3	-0.1
PDG				*eS*g	Sg	05 02 06.3	-0.2
PDG	Podgorica	1.53	334	*i* Pg	Pb	05 01 46.3	-0.1
IGT	Igoumenitsa	1.53	175	P	Pn	05 01 44.7	-1.1
IGT				S	Sg	05 02 07.6	+1.0

comp=E,148nm,0.6s

IGT	Igoumenitsa	1.53	175	*i* Pg	Pn	05 01 46.4	+0.6
GRG	Griva	1.70	93	*i* Pg	Pn	05 01 48.7	+0.7
GRG				*i* Sg	Sg	05 02 13.5	+1.6
LIT	Litokhoron	2.01	118	*i* Pg	Pb	05 01 54.4	-0.4
BARS	Barje	2.14	35	*e*Pn	Pb	05 01 56.3	-0.6
SJES	Sjenica	2.20	356	*e*Pg	Pb	05 01 58.4	+0.4
SJES				*eS*g	Sg	05 02 27.0	-1.2
BOSS	Bosilegrad	2.25	50	*e*Pn	Pb	05 01 57.5	-1.2
SELS	Selova	2.27	18	*e*Pn	Pn	05 01 57.2	+1.2
IVAS	Ivanjica	2.51	360	*e*Pn	Pn	05 02 01.0	+1.7
STON	Ston	2.58	315	*e*Pn	Pb	05 02 03.3	-1.0
STON				*eS*g	Sg	05 02 42.1	+1.8
BOVS	Bovan	2.81	23	*e*Pn	Pn	05 02 04.2	+0.8
BBLS	Lazići	2.86	349	*e*Pn	Pn	05 02 05.4	+1.3
ZAPS	Zavoj	2.87	39	*e*Pn	Pn	05 02 05.7	+1.5
DIVS	Divibare	3.04	358	*e*Pn	Pn	05 02 08.0	+1.4
ZAGS	Zajecar	3.15	28	*e*Pn	Pn	05 02 09.1	+1.1
TRUS	Trudelj	3.17	3	*e*Pn	Pn	05 02 09.5	+1.3

NOU 17 05:10:21.2, 37.58°S×176.19°E, h290km, MLv3.9/8, North Island, New Zealand
WEL 17 05:10:26.8±0.6, 38.5°S±5.1°×17.6°E±1.4°, h247km±5km, M3.0/30, MLv3.0/30, Error ellipse: s-maj=0.0km s-min=0.0km az=123.9

ISC 17 05:10:20.9±2.1, 37.73°S±0.08°×176.32°E±0.07, h288km±12km, n91, σ1°s72°/118, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	Tahuroa Road	0.65	270	P	Pn	05 11 00.9	+2.3
URZ	Urewera	0.82	131	P	Pn	05 11 00.3	+1.2
URZ				S	S	05 11 26.6	-2.9
URZ	Urewera	0.82	131	P	Pn	05 11 00.4	+1.2
MUGZ	Murupara	0.82	155	P	Pn	05 11 00.1	+0.9
MUGZ				S	S	05 11 27.2	-2.4
TLZ	Tolley Road	0.86	226	P	Pn	05 11 01.7	+2.2
RTZ	Ruatahuna	1.02	150	P	Pn	05 11 01.8	+1.6
RTZ				S	S	05 11 29.5	-1.9
KUZ	Kuaotunu	1.09	334	P	Pn	05 11 02.5	+1.9
RUGZ	Raukumara Rang	1.10	103	P	Pn	05 11 01.3	+0.6
MRHZ	Matea Rd	1.10	176	P	Pn	05 11 02.3	+1.7
MKAZ	Moumakai	1.12	304	P	Pn	05 11 03.1	+2.5
MWZ	Matawai	1.13	123	P	Pn	05 11 02.2	+1.5
MWZ				S	S	05 11 30.0	-2.3
RAWZ	Rawiri	1.15	132	P	Pn	05 11 02.7	+1.9
RAGZ				S	S	05 11 30.9	-1.6
HAZ	Te Kaha	1.16	92	P	Pn	05 11 01.8	+1.0
HAZ				S	S	05 11 29.2	-3.3
MTHZ	Maungataniwha	1.19	160	P	Pn	05 11 02.8	+1.8
MTHZ				S	S	05 11 31.0	-1.9
SNGZ	Shannon Statio	1.32	143	P	Pn	05 11 03.4	+1.6
SNGZ				S	S	05 11 32.4	-1.8
RAHZ	Arahi	1.33	153	P	Pn	05 11 03.9	+2.1
RAHZ				S	S	05 11 32.9	-1.4
TWGZ	Tauwhareparae	1.38	109	P	Pn	05 11 04.2	+2.0
TWGZ				S	S	05 11 34.2	-0.8
TKGZ	Te Karaka	1.40	121	P	Pn	05 11 04.0	+1.9
TKGZ				S	S	05 11 33.1	-1.9
PKGZ	Pakihiroa	1.40	97	P	Pn	05 11 04.1	+1.8
PKGZ				S	S	05 11 33.0	-2.2
NMHZ	Naumai	1.42	165	P	Pn	05 11 05.0	+2.5
BKZ	Black Stump Fm	1.44	175	P	Pn	05 11 04.3	+1.8
BKZ				S	S	05 11 33.7	-1.9
BKZ	Black Stump Fm	1.44	175	P	Pn	05 11 04.3	+1.8
RIGZ	Rimuhau	1.49	131	P	Pn	05 11 04.9	+2.0
RIGZ				S	S	05 11 34.9	-1.3
SNVZ	South Ngauruho	1.55	200	P	Pn	05 11 05.8	+2.3
PUZ	Puketiti	1.57	103	P	Pn	05 11 05.0	+1.6
PUZ				S	S	05 11 35.6	-1.6
MXZ	Matakaoa Point	1.58	85	P	Pn	05 11 05.3	+1.8
MXZ				S	S	05 11 35.3	-1.9
ARHZ	Aropaoanui	1.62	161	P	Pn	05 11 05.9	+2.2
ARHZ				S	S	05 11 36.8	-0.9
WMGZ	Waiomatatini S	1.66	94	P	Pn	05 11 05.7	+1.7
WMGZ				S	S	05 11 36.5	-1.7
KNZ	Kokohu	1.67	141	P	Pn	05 11 05.7	+1.7
KNZ				S	S	05 11 36.5	-1.7
KWHZ	Kaweka Forest	1.69	177	P	Pn	05 11 06.2	+1.9
KWHZ				S	S	05 11 37.6	-1.2
PRGZ	Paritu Road	1.71	135	P	Pn	05 11 06.3	+1.9
MOVZ	Moawhango	1.73	195	P	Pn	05 11 06.2	+1.6
MOVZ				S	S	05 11 37.4	-2.0
MCHZ	McNeill Hill	1.74	170	P	Pn	05 11 06.9	+2.4
MCHZ				S	S	05 11 38.7	-0.5
BHHZ	Black Hill Sta	1.77	187	P	Pn	05 11 06.7	+1.9
BHHZ				S	S	05 11 37.9	-1.8
MHGZ	Mahia Peninsul	1.89	139	P	Pn	05 11 07.8	+2.2
MHGZ				S	S	05 11 40.8	-0.5
KRHZ	Kereru	1.91	179	P	Pn	05 11 07.7	+1.8
KRHZ				S	S	05 11 40.3	-1.4
KAHZ	Kahuranaki	2.11	168	P	Pn	05 11 09.8	+2.3
PNHZ	Pukenui	2.18	182	P	Pn	05 11 09.9	+1.8
WAZ	Wanganui	2.28	207	P	Pn	05 11 11.8	+2.9
WPHZ	Waipukurau	2.33	178	P	Pn	05 11 11.8	+2.4
TSZ	Takapari Road	2.34	187	P	Pn	05 11 11.2	+1.7
PRHZ	Porangahau	2.54	175	P	Pn	05 11 13.3	+1.9
PRHZ				S	S	05 11 51.5	0.0
DVHZ	Dannevirke	2.57	183	P	Pn	05 11 13.6	+2.0
DVHZ				S	S	05 11 50.4	-1.6
ANWZ	Angora Road	2.73	178	P	Pn	05 11 15.6	+2.5
PRWZ	Pori Road	2.83	185	P	Pn	05 11 16.6	+2.5
BFZ	Birch Farm	2.95	181	P	Pn	05 11 17.0	+1.8
BFZ	Birch Farm	2.95	181	P	Pn	05 11 17.3	+2.1
MRZ	Mangatainoka R	2.98	191	P	Pn	05 11 17.0	+1.4
TIWZ	Tintock	3.06	186	P	Pn	05 11 18.4	+1.9
HOWZ	Holdsworth Sta	3.22	191	P	Pn	05 11 20.0	+1.9
KIW	Kapiti Island	3.31	199	P	Pn	05 11 20.4	+1.4
OUZ	Omahuta	3.33	318	P	Pn	05 11 22.2	+2.9
TMWZ	Te Maipa	3.39	186	P	Pn	05 11 21.6	+1.8
MTW	Mount Morrison	3.48	190	P	Pn	05 11 21.8	+1.1
CAW	Cannon Point	3.51	196	P	Pn	05 11 22.4	+1.3
DUWZ	D'Urville Isla	3.59	211	P	Pn	05 11 23.2	+1.3
TRWZ	Traveller	3.70	187	P	Pn	05 11 24.8	+1.7
WEL	Wellington	3.75	198	P	Pn	05 11 25.2	+1.6
MSWZ	Moikau Station	3.77	192	P	Pn	05 11 25.1	+1.2
SNZO	South Karori	3.79	199	P	Pn	05 11 25.3	+1.3
TCW	Tory Channel	3.82	204	P	Pn	05 11 25.9	+1.5
PLWZ	Palliser	3.92	192	P	Pn	05 11 26.6	+1.0
TUWZ	Tuamarina	4.13	206	P	Pn	05 11 29.3	+1.5
NNZ	Nelson	4.16	212	P	Pn	05 11 29.1	+0.9
TKNZ	Takaka Hill	4.20	217	P	Pn	05 11 29.2	+0.5
QRZ	Quartz Range	4.27	222	P	Pn	05 11 30.6	+1.1
QRZ	Quartz Range	4.27	222	P	Pn	05 11 30.7	+1.2
BSWZ	Blackbirch Sta	4.40	205	P	Pn	05 11 32.7	+1.7
MRNZ	Matariki Terra	4.58	216	P	Pn	05 11 34.2	+1.1
THZ	Tophouse	4.81	212	P	Pn	05 11 37.0	+1.3
KHZ	Kahutara	5.14	204	P	Pn	05 11 41.4	+1.8
KHZ	Kahutara	5.14	204	P	Pn	05 11 41.4	+1.8
DSZ	Denniston Nort	5.31	220	P	Pn	05 11 42.2	+0.6
GVZ	Greta Valley S	5.80	205	P	Pn	05 11 48.6	+1.2
LTZ	Lake Taylor	5.92	210	P	Pn	05 11 49.8	+0.9
INZ	Inchbonnie	6.23	215	P	Pn	05 11 53.3	+0.7
OXZ	Oxford	6.47	209	P	Pn	05 11 55.8	+0.3
OKCZ	Okains Bay	6.48	201	P	Pn	05 11 57.0	+1.4
MQZ	McQueen's Vall	6.59	204	P	Pn	05 11 57.3	+0.4
RACZ	Rakaia	6.78	207	P	Pn	05 11 59.7	+0.5
WVZ	Waitaha Valley	6.83	217	P	Pn	05 12 00.4	+0.6
WACZ	Wakanui South	7.08	207	P	Pn	05 12 03.9	+1.1
RPZ	Rata Peaks	7.19	212	P	Pn	05 12 04.5	+0.2
ARCZ	Arundel	7.33	211	P	Pn	05 12 06.7	+0.6
FOZ	Fox Glacier	7.62	218	P	Pn	05 12 09.7	+0.2
TMZ	Timaru	7.76	209	P	Pn	05 12 12.5	+1.1
LBZ	Lake Benmore	8.10	213	P	Pn	05 12 16.2	+0.6
ODZ	Otahua Downs	8.46	208	P	Pn	05 12 22.0	+2.1
ODZ	Otahua Downs	8.46	208	P	Pn	05 12 22.0	+2.1
JCZ	Jackson Bay	8.53	220	P	Pn	05 12 21.6	+0.8
WKZ	Wanaka	8.97	215	P	Pn	05 12 26.6	+0.3

IDC 17 05:31:57.9±1.9, 1.85°N×127.65°E, h0km, mb4.1/4, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=95.8km s-min=26.0km az=68.0
DJA 17 05:31:59.0±3.2, 3.7°N×127.7°E±1°, h25km±37km, M4.3/12, mb4.8/5, mB5.0/4, MLv4.2/12, Mw(mB)4.3/4
NEIC 17 05:32:03.9±1.1, 2.2°N±0.1°×127.20°E±0.03, h85km±10km, mb4.3/13, Error ellipse: s-maj=14.9km s-min=4.4km az=185.0

ISC 17 05:31:57.9±0.9, 2.55°N±0.07°×127.19°E±0.09, h50km, n35, σ1°s78°/35, mb4.5/9, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.77	174	P	Pn	05 32 28.0	+1.8
TNTI	Ternate	1.77	174	P	Pn	05 32 28.3	+2.1
SGSI	Sangihe	2.01	304	P	Pn	05 32 29.6	+0.3
LBMI	Labuha	3.18	174	P	Pn	05 32 47.6	+2.1
KMSI	Cibinong	3.76	239	P	Pn	05 32 54.7	+1.3
GTOI	Gorontalo	4.59	246	P	Pn	05 33 05.8	+1.0
SANI	Sanana	4.72	195	P	Pn	05 33 07.7	+1.1
MRSI	Marisa	5.63	249	P	Pn	05 33 21.5	+2.4

0.7nm2μm206nm,0.7s

LUWI	Luwuk	5.68	231	Pn	Pn	05 33 22.4	+2.7
LUWI	Luwuk	5.68	231	P	Pn	05 33 20.8	+1.1

0.5nm2μm99nm,0.4s

BUKP	Musuan	5.70	338	*i* P	Pn	05 33 23.1	+2.9
BUKP				*i* S	Sn	05 34 23.1	-1.3
NLAI	Namlea	5.75	181	P	Pn	05 33 22.8	+2.1

0.1nm22nm,0.8s

APSI	Ampana	6.52	238	P	Pn	05 33 32.2	+0.9
TOLI2	Tolitoli	6.56	258	Pn	Pn	05 33 31.7	-0.2
SBUM	Sibu	14.96	270	Pn	P	05 35 31.0	+0.1
JAGI	Jajag, Banyuwa	16.99	230		Pn	05 35 53.1	+0.9
KNRA	Kununurra	18.18	175	P	P	05 36 05.1	-1.4
KNRA				IAmb	IAmb	05 36 09.1	

comp=Z,8.2nm,0.7s

SMRI	Semarang	19.24	240	P	P	05 36 17.9	-0.4
FITZ	Fitzroy Crossi	20.57	184	P	P	05 36 31.6	-1.0

comp=Z,0.2nm,0.3s,baz=7.7,slow=8.2,SNR=10
comp=Z,3.3nm,0.8s

FITZ	Fitzroy Crossi	20.57	184	P	P	05 36 31.3	-1.3
FITZ				IAmb	IAmb	05 36 37.2	

comp=Z,15nm,1.4s

WB0	Warramunga Arr	23.28	163	P	P	05 36 59.8	-1.6
WB0				IAmb	IAmb	05 37 00.6	

comp=Z,11nm,0.6s

WRA	Warramunga Arr	23.43	163	P	P	05 37 01.2	-1.6

comp=Z,9.3nm,0.4s,baz=342,slow=11,SNR=104
comp=Z,9.3nm,0.4s

WRA	Warramunga Arr	23.43	163	P	P	05 37 00.2	-2.6
WB2	Warramunga Arr	23.43	163	P	P	05 37 00.5	-2.3
WB2				IAmb	IAmb	05 37 02.2	

comp=Z,13nm,0.6s

MBWA	Marble Bar	24.67	197	P	P	05 37 13.0	-1.2
MBWA				IAmb	IAmb	05 37 41.4	

comp=Z,32nm,1.4s

PSA00	Pilbara Seismi	25.03	196	P	P	05 37 16.6	-0.8
PSA00				IAmb	IAmb	05 37 25.9	

comp=Z,27nm,1.4s

AS31	Alice Springs	26.86	166	P	P	05 37 32.5	-1.6
ASAR	Alice Springs	26.86	166	P	P	05 37 32.9	-1.3

comp=Z

T1241	**Roccafluvione,**	**0.20**	**31**	⇑P		Pg	05 45 53.5	+0.7
T1241				S		Sg	05 45 56.9	+1.3
T1241				AML		AML		
	comp=E,270μm,0.2s							
T1241				AML		AML		
	comp=N,175μm,0.3s							
LNSS	**Leonessa**	**0.20**	**246**	⇓P		Pg	05 45 53.4	+0.6
LNSS				S		Sg	05 45 57.1	+1.4
LNSS				AML		AML		
	comp=E,1238μm,0.4s							
LNSS				AML		AML		
	comp=N,928μm,0.2s							
LNSS				AML		AML		
	comp=E,1238μm,0.4s							
MMO1	**Montemonaco**	**0.22**	**7**	P		Pg	05 45 53.9	+0.8
MMO1				S		Sg	05 45 57.6	+1.5
MC2	**Monte Cornacci**	**0.24**	**342**	P		Pg	05 45 54.5	+0.9
MC2				S		Sg	05 45 58.8	+1.9
TERO	**Teramo**	**0.24**	**105**	⇑P		Pg	05 45 54.1	+0.6
TERO				S		Sg	05 45 58.0	+1.3
TERO				AML		AML		
	comp=E,434μm,0.7s							
TERO				AML		AML		
	comp=N,426μm,0.1s							
TERO				AML		AML		
	comp=E,435μm,0.7s							
TERO				AML		AML		
	comp=N,425μm,0.1s							
T1247	**Pizzolo (AQ)**	**0.24**	**179**	P		Pg	05 45 55.6	+2.1
T1247				AML		AML		
	comp=E,461μm,0.4s							
T1247				AML		AML		
	comp=N,424μm,0.4s							
T1217	**Poggiodomo (PG**	**0.27**	**276**	P		Pg	05 45 54.4	+0.4
T1217				S		Sb	05 45 59.0	-1.2
T1217				AML		AML		
	comp=E,150μm,0.7s							
T1217				AML		AML		
	comp=N,180μm,0.3s							
T1217				AML		AML		
	comp=N,180μm,0.3s							
T1217				AML		AML		
	comp=E,150μm,0.7s							
T1216	**Preci, Frazion**	**0.29**	**316**	⇓P		Pb	05 45 55.3	-0.6
T1216				S		Sb	05 45 59.5	-1.3
T1216				AML		AML		
	comp=E,396μm,1.0s							
T1216				AML		AML		
	comp=N,444μm,1.6s							
GIGS	**Gran Sasso**	**0.31**	**139**	P		Pg	05 45 55.3	+0.5
GIGS				S		Sb	05 46 00.6	-1.0
T1215	**Vallo di Nera,**	**0.33**	**291**	P		Pg	05 45 55.6	+0.4
T1215				S		Sg	05 46 00.8	+1.2
FDMO	**Fiordimonte**	**0.38**	**337**	P		Pg	05 45 56.8	+0.7
FDMO				S		Sb	05 46 03.0	-0.6
FDMO				AML		AML		
	comp=N,191μm,0.9s							
FDMO				AML		AML		
	comp=E,124μm,0.2s							
ARRO	**Arrone**	**0.40**	**255**	⇓P		Pg	05 45 57.1	+0.6
FIAM	**Fiamignano**	**0.44**	**197**	⇑P		Pg	05 45 57.5	+0.4
SNTG	**Esanatoglia**	**0.62**	**336**	S		Sb	05 46 11.0	+0.5

*GEN **17** 05:46:44.9,44˚.62N×7˚.22E, h10km±1km, MI1.8*
*STR **17** 05:46:45.0±0.4, 45˚N±2˚×±˚, h2km, MLv2.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=74.3, preliminary*
*LDG **17** 05:46:45.2±0.1, 44˚.61N×7˚.26E, h10km, Md2.5/1, Ml2.5/14, Error ellipse: s-maj=2.2km s-min=1.4km az=59.0*
ROM 17 05:46:44.8±0.1, 44˚.611N±0˚.003×7˚.224E±0˚.005, h11km, ML2.2/5, 10C-2D, Error ellipse: s-maj=0.4km s-min=0.2km az=240.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.13**	**217**	P	Pb	05 46 48.8	-0.6
PZZ				S	Sg	05 46 50.9	+0.5
PZZ	**Stroppo**	**0.13**	**217**	⇑P	Pb	05 46 48.8	-0.6
PZZ	**Stroppo**	**0.13**	**217**	P	Pb	05 46 48.8	-0.6
PZZ				S	Sg	05 46 51.1	+0.7
BHB	**Bricherasio**	**0.23**	**7**	P	Pg	05 46 49.8	+0.1
BHB				S	Sg	05 46 52.9	-0.1
BHB	**Bricherasio**	**0.23**	**7**	⇑P	Pg	05 46 49.8	+0.1
BHB	**Bricherasio**	**0.23**	**7**	P	Pg	05 46 49.8	+0.1
BHB				S	Sg	05 46 53.8	+0.8
SURF	**Saint Ours**	**0.32**	**246**	P	Pg	05 46 51.9	+0.6
SURF				S	Sg	05 46 56.8	+1.0
SURF	**Saint Ours**	**0.32**	**246**	Pg	Pg	05 46 51.9	+0.6
SURF				Sg	Sg	05 46 56.8	+1.0
MBDF	**Montbardon**	**0.34**	**290**	*e*Pg	Pg	05 46 52.1	+0.4
MBDF				*e*Sg	Sg	05 46 56.2	-0.2
	96nm,0.2s						
STV	**Sant Anna di V**	**0.37**	**169**	P	Pg	05 46 52.6	+0.4
STV				S	Sg	05 46 57.8	+0.6
STV	**Sant Anna di V**	**0.37**	**169**	⇑P	Pg	05 46 52.6	+0.4
STV				AML	AML		
	comp=E,387μm,0.4s						
STV				AML	AML		
	comp=N,189μm,0.1s						
STV				AML	AML		
	comp=E,387μm,0.4s						
STV				AML	AML		
	comp=N,189μm,0.1s						
STV	**Sant Anna di V**	**0.37**	**169**	P	Pg	05 46 52.7	+0.4
STV				S	Sg	05 46 57.9	+0.7
ENR	**Entracque**	**0.41**	**160**	P	Pg	05 46 53.0	+0.1
ENR				S	Sg	05 46 58.7	+0.3
ENR	**Entracque**	**0.41**	**160**	⇑P	Pg	05 46 53.0	+0.1
ENR	**Entracque**	**0.41**	**160**	⇑P	Pg	05 46 53.1	+0.2
ENR				S	Sg	05 46 59.2	+0.8
RRL	**Rocca Remolon**	**0.44**	**315**	P	Pg	05 46 53.8	+0.3
RRL				S	Sg	05 46 59.5	+0.2
RRL	**Rocca Remolon**	**0.44**	**315**	⇑P	Pg	05 46 53.9	+0.4
RRL				AML	AML		
	comp=E,254μm,1.4s						
RRL				AML	AML		
	comp=N,280μm,0.9s						
RRL				AML	AML		
	comp=N,280μm,0.9s						
RRL				AML	AML		
	comp=E,254μm,1.4s						
RRL	**Rocca Remolon**	**0.44**	**315**	P	Pg	05 46 53.8	+0.4
RRL				S	Sg	05 46 59.8	+0.5
ISO	**Isola**	**0.45**	**196**	P	Pb	05 46 54.3	-0.4
ISO				S	Sg	05 47 00.1	+0.7
ISO	**Isola**	**0.45**	**196**	Pg	Pb	05 46 54.3	-0.4
ISO				Sg	Sg	05 46 59.9	+0.4
OGAG	**Argentiere**	**0.51**	**252**	P	Pb	05 46 55.4	-0.5
OGAG				S	Sg	05 47 02.5	+0.8
OGAG	**Argentiere**	**0.51**	**252**	Pg	Pb	05 46 55.4	-0.5
OGAG				Sg	Sg	05 47 02.2	+0.6
SPIF	**crte de Spivo**	**0.56**	**179**	Pg	Pg	05 46 55.9	+0.2
SPIF				Sg	Sg	05 47 03.1	+0.1
BNI	**Bardonecchia**	**0.59**	**319**	P	Pg	05 46 56.4	+0.2
BNI				S	Sg	05 47 03.4	-0.7
BNI	**Bardonecchia**	**0.59**	**319**	⇓P	Pg	05 46 56.5	+0.3
BNI	**Bardonecchia**	**0.59**	**319**	⇑P	Pg	05 46 56.5	+0.2
BNI				S	Sg	05 47 04.5	+0.4
ENAUX	**Enaux**	**0.60**	**213**	Pg	Pb	05 46 57.3	0.0
ENAUX				Sg	Sb	05 47 05.1	-0.7
TURF	**col de Turini**	**0.65**	**169**	P	Pg	05 46 57.2	-0.2
TURF				S	Sg	05 47 05.7	-0.2
TURF	**col de Turini**	**0.65**	**169**	Pg	Pg	05 46 57.2	-0.2
TURF				Sg	Sg	05 47 05.7	-0.2
SAOF	**Saorge**	**0.67**	**159**	P	Pg	05 46 57.4	-0.4
SAOF				S	Sg	05 47 06.0	-0.5
SAOF	**Saorge**	**0.67**	**159**	⇓P	Pg	05 46 57.5	-0.3
SAOF	**Saorge**	**0.67**	**159**	Pg	Pg	05 46 57.4	-0.4
SAOF				Sg	Sg	05 47 06.2	-0.3
MONC	**Moncucco Torin**	**0.68**	**47**	P	Pg	05 46 57.8	-0.2
MGRO	**Montegrosso**	**0.71**	**143**	P	Pg	05 46 58.2	-0.3
MGRO				S	Sg	05 47 07.6	-0.2
MGRO	**Montegrosso**	**0.71**	**143**	P	Pg	05 46 58.3	-0.2
MGRO				S	Sg	05 47 08.1	+0.3
OGMO	**Fort Saint-Gob**	**0.71**	**328**	P	Pg	05 46 58.8	+0.2
OGMO				S	Sg	05 47 07.2	-0.7
OGMO	**Fort Saint-Gob**	**0.71**	**328**	Pg	Pb	05 46 59.0	-0.3
OGMO				Sg	Sb	05 47 08.6	-0.4
MVIF	**Mont Vial**	**0.72**	**184**	S	Sb	05 47 09.6	+0.4
SBF	**Sospel**	**0.76**	**168**	*e*Pg	Pg	05 46 59.0	-0.5
SBF	**Sospel**	**0.76**	**168**	*e*Pn	Pb	05 47 00.8	+0.7
SBF				*e*Sg	Sg	05 47 08.7	-0.8
	comp=E,42nm,0.2s						
RORO	**Rocca Rossa**	**0.78**	**129**	P	Pg	05 46 59.6	-0.3
RORO				S	Sg	05 47 09.4	-0.8
RORO	**Rocca Rossa**	**0.78**	**129**	P	Pg	05 46 59.6	-0.3
RORO				S	Sg	05 47 09.9	-0.2
RORO				AML	AML		
	comp=E,156μm,1.4s						
RORO				AML	AML		
	comp=N,160μm,0.2s						
ESCA	**l'Escarene**	**0.79**	**172**	P	Pg	05 47 00.2	+0.2
ESCA				S	Sb	05 47 11.8	+0.6
ESCA	**l'Escarene**	**0.79**	**172**	Pg	Pg	05 46 59.7	-0.3
ESCA				Sg	Sb	05 47 10.8	-0.3
CANO	**Canova, Maglio**	**0.83**	**119**	P	Pg	05 47 00.6	-0.3
CANO				S	Sg	05 47 11.2	-0.5
CANO	**Canova, Maglio**	**0.83**	**119**	P	Pg	05 47 00.7	-0.1
CANO				S	Sg	05 47 11.8	+0.1
CANO				AML	AML		
	comp=N,308μm,0.5s						
CANO				AML	AML		
	comp=E,286μm,0.4s						
OGDI	**Digne**	**0.83**	**233**	P	Pn	05 47 03.2	+0.7
OGDI	**Digne**	**0.83**	**233**	Pg	Pn	05 47 02.3	-0.1
ROTM	**Rocchetta Tana**	**0.84**	**73**	P	Pb	05 47 01.5	+0.1
ROTM				S	Sb	05 47 13.6	+1.0
ROTM	**Rocchetta Tana**	**0.84**	**73**	P	Pg	05 47 00.7	-0.3
ROTM				S	Sg	05 47 11.8	-0.1
ROTM				AML	AML		
	comp=E,416μm,2.9s						
ROTM				AML	AML		
	comp=N,545μm,3.8s						
IMI	**Imperia**	**0.85**	**145**	P	Pg	05 47 00.7	-0.5
IMI				S	Sg	05 47 11.6	-0.7
IMI	**Imperia**	**0.85**	**145**	⇑P	Pg	05 47 00.6	-0.5
IMI				S	Sg	05 47 11.9	-0.4
IMI				AML	AML		
	comp=E,114μm,2.4s						
IMI				AML	AML		
	comp=N,133μm,4.1s						
LSD	**Lago del Serru**	**0.85**	**356**	P	Pg	05 47 01.4	+0.2
LSD				S	Sg	05 47 11.9	-0.5
LSD	**Lago del Serru**	**0.85**	**356**	P	Pb	05 47 01.6	-0.2
QLNO	**Quiliano**	**0.85**	**109**	P	Pg	05 47 01.0	-0.3
QLNO				S	Sg	05 47 11.8	-0.5
QLNO	**Quiliano**	**0.85**	**109**	P	Pg	05 47 01.0	-0.2
QLNO				S	Sb	05 47 12.7	-0.3
QLNO				AML	AML		
	comp=E,120μm,0.3s						
QLNO				AML	AML		
	comp=N,109μm,1.4s						
CALF	**Calern**	**0.89**	**194**	Pg	Pb	05 47 02.2	0.0
CALF				Sg	Sb	05 47 14.1	0.0
PCP	**Piancastagn**	**0.95**	**94**	P	Pg	05 47 02.5	-0.5
PCP				S	Sg	05 47 14.8	-0.5
PCP	**Piancastagn**	**0.95**	**94**	P	Pg	05 47 02.5	-0.5
PCP				S	Sg	05 47 15.5	+0.1
PCP				AML	AML		
	comp=E,82μm,1.5s						
PCP				AML	AML		
	comp=N,93μm,0.2s						
PCP				AML	AML		
	comp=E,82μm,1.5s						
PCP				AML	AML		
	comp=N,94μm,0.2s						
PCP				AML	AML		
	comp=E,75μm,1.9s						
LPG	**La Plagne**	**0.95**	**339**	*e*Pg	Pg	05 47 02.8	-0.3
LPG	**La Plagne**	**0.95**	**339**	*e*Pn	Pb	05 47 03.5	+0.1
LPG				*e*Sg	Sg	05 47 14.0	-1.5
	comp=E,24nm,0.2s						
LPL	**La Plagne**	**0.97**	**339**	*e*Pg	Pg	05 47 03.0	-0.5
LPL	**La Plagne**	**0.97**	**339**	*e*Pn	Pb	05 47 04.0	+0.3
LPL				*e*Sg	Sg	05 47 14.0	-2.2
	comp=E,18nm,0.2s						
TRAV	**Traversella**	**0.97**	**22**	⇑P	Pg	05 47 01.6	-1.9
ORIF	**Oris-en-Rattie**	**1.01**	**288**	*e*Pg	Pg	05 47 03.9	-0.3
ORIF	**Oris-en-Rattie**	**1.01**	**288**	*e*Pn	Pn	05 47 04.6	-0.3
ORIF				*e*Sg	Sg	05 47 16.2	-1.1
	comp=E,25nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.01**	**288**	Pg	Pb	05 47 04.2	0.0
ORIF				Sg	Sg	05 47 16.6	-0.6
TRIGF	**Trigance**	**1.04**	**215**	Pg	Pn	05 47 05.4	0.0
BLAF	**les Blancs**	**1.07**	**232**	Pg	Pn	05 47 06.7	+0.9
RSL	**Roselend**	**1.16**	**339**	Pg	Pg	05 47 07.2	+0.2
MRGE	**Morge**	**1.16**	**354**	P	Pb	05 47 06.6	-0.5
MRGE	**Morge**	**1.16**	**354**	⇑P	Pg	05 47 07.3	+0.1
MLYF	**Mely**	**1.22**	**240**	Pg	Pg	05 47 09.2	+1.0
MLYF				Sg	Sn	05 47 25.6	+1.3
GRN	**Grenoble**	**1.23**	**302**	Pg	Pg	05 47 09.0	+0.6
GRN				Sg	Sn	05 47 25.1	+0.5
SATI	**Passo dei Sala**	**1.34**	**20**	P	Pn	05 47 07.0	-2.8
BSTF	**la Bastide-des**	**1.35**	**238**	Pg	Pg	05 47 11.9	+1.2
BSTF				Sg	Sg	05 47 31.1	+2.9
LMR	**La Mourre**	**1.38**	**202**	*e*Pn	Pn	05 47 09.8	-0.1
LMR	**La Mourre**	**1.38**	**202**	*e*Pg	Pg	05 47 11.0	-0.2
LMR				*e*Sn	Sn	05 47 26.2	-1.9
LMR				*e*Sg	Sb	05 47 28.5	+0.4
	comp=E,45nm,0.3s						
FLAF	**Flassans-sur-I**	**1.41**	**210**	Pn	Pg	05 47 11.9	0.0
FLAF				Sn	Sg	05 47 31.2	+0.9
RUSF	**Rustrel**	**1.42**	**242**	Pn	Pg	05 47 12.3	+0.3
RUSF				Pg	Pb	05 47 12.6	+1.3
RUSF				Sg	Sg	05 47 31.3	+0.9
ARTF	**Artigues**	**1.45**	**225**	Pn	Pb	05 47 12.1	+0.4
ARTF				Sn	Sg	05 47 32.2	+0.9
OGSM	**Saint Maurice**	**1.47**	**313**	Pn	Pg	05 47 13.7	+0.7
OGSM				Sn	Sg	05 47 32.9	+0.8
SAUF	**chteau de Sau**	**1.66**	**247**	Pn	Pb	05 47 15.5	+0.1
VIVF	**Saint-Julien-l**	**1.83**	**279**	*e*Pn	Pn	05 47 16.6	+0.3
VIVF	**Saint-Julien-l**	**1.83**	**279**	*e*P	Pb	05 47 17.6	-0.8
VIVF				*e*Sn	Sb	05 47 40.6	-0.7
	comp=E,5.3nm,0.3s						
OG35	**Corcelles**	**1.85**	**321**	Pn	Pb	05 47 18.5	-0.1
CABF	**La Chapelle**	**2.15**	**339**	*e*Pn	Pn	05 47 22.1	+1.4
CABF				*e*Sn	Sn	05 47 47.7	+0.3
	comp=E,3.2nm,0.3s						
PGF	**Pioggiola**	**2.43**	**147**	*e*Pn	Pn	05 47 23.2	-1.3
PGF				*e*Sn	Sn	05 47 51.8	-2.5
PGF	**Pioggiola**	**2.43**	**147**	Pn	Pn	05 47 23.2	-1.3
LASF	**Ste Croix**	**2.47**	**259**	*e*Pn	Pn	05 47 25.1	+0.1
LASF				*e*Sn	Sn	05 47 54.3	-0.9
	comp=E,1.2nm,0.3s						
SMF	**Signal de Mont**	**3.13**	**312**	*e*Pn	Pn	05 47 35.1	+1.1
SMF				*e*Sn	Sn	05 48 09.9	-1.4
	comp=E,1.4nm,0.3s						
SMF				*e*Sg	Sg	05 48 23.5	-1.7
	comp=E,4.2nm,0.3s						
HINF	**Hinteralfeld**	**3.22**	**356**	*e*Pn	Pn	05 47 34.5	-0.8
HINF				*e*Sn	Sn	05 48 10.4	-3.2
	comp=E,1.6nm,0.3s						
HAU	**Haudompre**	**3.45**	**350**	*e*Pn	Pn	05 47 37.2	-1.2
HAU				*e*Sn	Sn	05 48 15.5	-3.8
	comp=E,1.7nm,0.2s						
LOR	**Lormes**	**3.55**	**320**	*e*Pn	Pn	05 47 40.5	+0.7
LOR				*e*Sn	Sn	05 48 19.8	-1.9
BGF	**Bois d'Agland**	**3.64**	**304**	*e*Pn	Pn	05 47 40.1	-0.9
BGF				*e*Sn	Sn	05 48 20.8	-3.1
	comp=E,4.5nm,0.4s						
CAF	**Calviac**	**3.69**	**277**	*e*Pn	Pn	05 47 41.7	0.0
T1242	**Castelluccio d**	**4.69**	**110**	AML	AML		
	comp=N,3060μm,0.6s						
T1242				AML	AML		
	comp=N,3140μm,0.6s						
T1242				AML	AML		
	comp=E,1429μm,1.0s						
T1242				AML	AML		
	comp=E,1405μm,0.7s						

*TRN **17** 05:51:27.6, 9˚.27N×62˚.12W, h31km, MD3.8*
*FUNV **17** 05:51:27.2, 9˚.09N×61˚.90W, h33km, MW4.0*
ISC 17 05:51:28.4±1.9, 9˚.3N±0˚.1×62˚.11W±0˚.07, h35km, n26, σ1°41/38, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.21**	**32**	*e*P	**Pn**	**05 51 52.2**	**+3.3**
TRN	**Trinidad (W)**	**1.52**	**27**	*e*P	**Pn**	**05 51 53.9**	**+0.8**
COAV	**Cumanacoa**	**1.90**	**297**	*e*P	**Pn**	**05 52 01.6**	**+3.2**
TOSP	**Speyside**	**2.53**	**38**	*e*P	**Pn**	**05 52 06.8**	**-0.2**
TOSP				*e*S	**Sn**	**05 52 35.8**	**+0.9**
PRGV	**PARIAGUAN**	**2.56**	**258**	*e*P	**Pn**	**05 52 08.1**	**+0.7**
PRGV				*e*S	**Sn**	**05 52 38.7**	**+1.3**
PCRV	**Puerto La Cruz**	**2.64**	**290**	*e*P	**Pn**	**05 52 09.8**	**+1.2**
PCRV				*e*S	**Sn**	**05 52 40.4**	**+1.0**
GRFF	**Grenada Fort F**	**2.77**	**8**	*e*P	**Pn**	**05 52 11.3**	**+1.0**
GRFF				*e*S	**Sn**	**05 52 42.3**	**-0.3**
GRGR	**Grenville**	**2.86**	**9**	*e*P	**Pn**	**05 52 11.3**	**-0.3**
GRGR				*e*S	**Sn**	**05 52 45.0**	**+0.1**
GCMP	**Grenada, Carri**	**3.25**	**12**	*e*P	**Pn**	**05 52 16.8**	**-0.1**
GCMP				*e*S	**Sn**	**05 52 54.1**	**-0.3**
SVB	**Belmont**	**4.05**	**12**	*e*P	**Pn**	**05 52 28.9**	**+1.0**
SVB				*e*S	**Sn**	**05 53 13.0**	**-1.2**
MERV	**Las Mercedes**	**4.13**	**270**	*e*P	**Pn**	**05 52 29.4**	**+0.4**
MERV				*e*S	**Sn**	**05 53 15.1**	**-1.1**
BIRV	**Birongo**	**4.26**	**286**	*e*P	**Pn**	**05 52 32.2**	**+1.4**
BIRV				*e*S	**Sn**	**05 53 20.5**	**+1.1**
MCLT	**Moule a Chique**	**4.54**	**15**	*e*P	**Pn**	**05 52 35.0**	**+0.3**
MCLT	**Moule a Chique**	**4.54**	**15**	*e*S	**Sn**	**05 53 25.3**	**-1.1**
BBGH	**Gun Hill**	**4.58**	**33**	*e*P	**Pn**	**05 52 36.4**	**+1.1**
BBGH	**Gun Hill**	**4.58**	**33**	*e*S	**Sn**	**05 53 27.0**	**-0.2**
CACV	**CAICARA DEL OR**	**4.70**	**249**	*e*P	Pn	05 52 30.1	-6.9
CACV				*e*S	Sn	05 53 15.4	-15
SLBI	**Saint Lucia, B**	**4.84**	**13**	*e*P	**Pn**	**05 52 39.6**	**+0.8**
SLBI	**Saint Lucia, B**	**4.84**	**13**	*e*S	**Sn**	**05 53 31.1**	**-2.4**
TACV	**Tcata**	**4.92**	**280**	*e*P	**Pn**	**05 52 40.2**	**+0.3**
TACV				*e*S	**Sn**	**05 53 34.5**	**-1.2**
MPOM	**Morne Pois Mar**	**5.27**	**13**	*e*P	**Pn**	**05 52 46.0**	**+1.2**
MPOM	**Morne Pois Mar**	**5.27**	**13**	*e*S	**Sn**	**05 53 42.9**	**-1.4**
BENV	**Beln**	**5.45**	**278**	*e*P	**Pn**	**05 52 47.1**	**-0.2**
BENV				*e*S	**Sn**	**05 53 46.9**	**-2.0**
BAUV	**El Baul**	**5.87**	**267**	*e*P	**Pn**	**05 52 53.4**	**+0.5**
BAUV	**El Baul**	**5.87**	**267**	*e*P	**Pn**	**05 52 52.0**	**-0.9**
BAUV				*e*S	**Sn**	**05 53 56.9**	**-2.1**
MAPV	**Macapo**	**6.28**	**275**	*e*P	**Pn**	**05 52 58.4**	**-0.2**
MAPV				*e*S	**Sn**	**05 54 06.0**	**-3.4**

*IDC **17** 05:53:29.6±9.9, 2˚.88S×140˚.1E±0˚.3, h156km±88km, mb3.4/6, mbtmp3.9/8, Error ellipse: s-maj=60.9km s-min=24.7km az=61.0*
ISC 17 05:53:29.0±1.5, 2˚.9S±0˚.2×140˚.1E±0˚.3, h150km, n8, σ0°26/8, mb3.7/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.86**	**198**	P	**P**	**05 57 27.3**	**+0.4**
	2.3nm,0.6s,baz=21,slow=12,SNR=34						
CTA	**Charters Tower**	**18.15**	**161**	P	**P**	**05 57 30.2**	**+0.3**
	4.3nm,1.0s,baz=319,slow=11,SNR=2.5						
FITZ	**Fitzroy Crossi**	**20.71**	**222**	P	**P**	**05 57 57.7**	**0.0**
	1.8nm,0.6s,baz=49,slow=15,SNR=7.5						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**21.52**	**196**	P	**P**	**05 58 06.4**	**+0.1**
	2.4nm,0.6s,baz=27,slow=11,SNR=37						
	2.4nm,0.6s						
STKA	**Stephens Creek**	**28.89**	**177**	P	**P**	**05 59 13.5**	**-0.3**
	1.9nm,0.7s,baz=346,slow=8.3,SNR=2.0						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**70.75**	**322**	P	**P**	**06 04 29.1**	**+0.2**
	0.2nm,0.4s,baz=123,slow=5.3,SNR=3.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**74.64**	**324**	P	**P**	**06 04 51.8**	**0.0**
	0.3nm,0.4s,baz=101,slow=4.8,SNR=3.1						
	0.3nm,0.4s						
VNDA	**Vanda**	**75.50**	**175**	P	**P**	**06 04 56.1**	**-0.1**
	1.1nm,0.7s,baz=324,slow=5.0,SNR=10						
	1.1nm,0.7s						

*SOME **17** 06:06:24.5, 43˚.10N×85˚.28E, h10km*
*IDC **17** 06:06:28.7±1.2, 42˚.59N×85˚.24E, h0km, mb3.6/8, mbtmp3.6/13, ML3.1/5, MS2.8/3, Error ellipse: s-maj=24.7km s-min=14.6km az=52.0*
*NNC **17** 06:06:31.4±1.4, 42˚.54N×84˚.74E, h4km±6km, mb4.3, mpv4.1, Error ellipse: s-maj=9.6km s-min=7.7km az=130.0*
ISC 17 06:06:29.6±0.8, 42˚.53N±0˚.05×84˚.87E±0˚.04, h10km, n71, σ2°62/83, mb3.5/8, 13C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.44**	**287**	*e*P	**Pb**	**06 07 31.5**	**+0.8**
	15nm,0.2s						
KTMS				*e*S	**Sg**	**06 08 19.0**	**-1.1**
	92nm,0.3s						
KTMS	**Ketmen**	**3.44**	**287**	Pg	**Pb**	**06 07 31.5**	**+0.8**
	15nm,0.2s						
KTMS				Lg	Lg	06 08 19.0	
	92nm,0.3s						
SHLS	**Shalkode**	**4.03**	**281**	*e*P	**Pb**	**06 07 37.9**	**-2.7**
	29nm,0.1s						
SHLS				*e*S	**Sb**	**06 08 29.9**	**+0.5**
	405nm,0.5s						
SHLS	**Shalkode**	**4.03**	**281**	Pg	**Pb**	**06 07 37.9**	**-2.7**
	29nm,0.1s						
SHLS				Lg	Lg	06 08 30.0	
	405nm,0.5s						
PDGK	**Podgornoye**	**4.03**	**283**	⇑Pn	**Pn**	**06 07 32.8**	**+1.3**
	2.3nm,0.3s						
PDGK				⇓Pg	**Pg**	**06 07 44.6**	**-2.2**
	29nm,0.6s						
PDGK				⇑Lg	Lg	06 08 37.4	
	327nm,1.1s						
DJR	**Jarkent**	**4.12**	**298**	*e*P	**Pb**	**06 07 42.0**	**-0.1**
	13nm,0.3s						
DJR				*e*S	**Sg**	**06 08 37.0**	**-4.7**
	86nm,0.2s						
DJR	**Jarkent**	**4.12**	**298**	Pg	**Pb**	**06 07 42.0**	**-0.1**
	13nm,0.3s						
DJR				Lg	Lg	06 08 37.0	
	86nm,0.2s						
UZB	**Uzynbulak**	**4.34**	**280**	*e*P	**Pb**	**06 07 47.9**	**+1.8**
	9.4nm,0.3s						
UZB				*e*S	**Sg**	**06 08 47.2**	**-1.9**
	108nm,0.5s						
UZB	**Uzynbulak**	**4.34**	**280**	Pg	**Pb**	**06 07 47.9**	**+1.8**
	9.4nm,0.3s						
UZB				Lg	Lg	06 08 47.2	
	108nm,0.5s						
KPKS	**Kokpek**	**4.63**	**284**	*e*P	**Pb**	**06 07 52.8**	**+1.8**
	16

	82nm,0.4s						
BLB	**Baldybastay**	**4.92**	**291**	*e*P	**Pb**	**06 07 56.9**	**+1.0**
	26nm,0.3s						
BLB				*e*S	**Sg**	**06 09 02.9**	**-4.7**
	155nm,0.3s						
BLB	**Baldybastay**	**4.92**	**291**	Pg	**Pb**	**06 07 56.9**	**+1.0**
	26nm,0.3s						
BLB				Lg	Lg	06 09 02.9	
	155nm,0.3s						
ZSN	**Zaisan**	**4.92**	**360**	*e*P	Pn	06 07 49.9	+6.2
	11nm,0.2s						
ZSN				*e*S	**Sb**	**06 08 50.0**	**-5.1**
	36nm,0.4s						
ZSN	**Zaisan**	**4.92**	**360**	Pg	Pn	06 07 49.5	+5.9
	11nm,0.2s						
ZSN				Lg	Lg	06 08 50.0	
	36nm,0.4s						
KURS	**Kuram**	**5.01**	**283**	*e*P	**Pb**	**06 08 01.3**	**+3.9**
	6.0nm,0.3s						
KURS				*e*S	**Sg**	**06 09 09.7**	**-0.6**
	65nm,0.7s						
TDK	**Taldyqorghan**	**5.29**	**300**	*e*P	**Pb**	**06 08 02.8**	**+0.6**
	75nm,0.2s						
TDK				*e*S	**Sg**	**06 09 13.3**	**-6.2**
	167nm,0.8s						
TDK	**Taldyqorghan**	**5.29**	**300**	Pg	**Pb**	**06 08 02.8**	**+0.6**
	75nm,0.2s						
TDK				Lg	Lg	06 09 13.3	
	167nm,0.8s						
ARXS	**Arharly**	**5.40**	**291**	*e*P	**Pb**	**06 08 08.3**	**+4.2**
	14nm,0.3s						
ARXS				*e*S	**Sg**	**06 09 22.4**	**-0.6**
	77nm,0.4s						
ARXS	**Arharly**	**5.40**	**291**	Pg	**Pb**	**06 08 08.3**	**+4.2**
	14nm,0.3s						
ARXS				Lg	Lg	06 09 22.4	
	77nm,0.4s						
KOTS	**Kotyrbulak**	**5.74**	**280**	*e*P	**Pg**	**06 08 15.3**	**-4.3**
	4.8nm,0.3s						
KOTS				*e*S	**Sg**	**06 09 34.3**	**+0.4**
	156nm,0.4s						
KOTS	**Kotyrbulak**	**5.74**	**280**	Pg	**Pg**	**06 08 15.3**	**-4.3**
	4.8nm,0.3s						
KOTS				Lg	Lg	06 09 34.3	
	156nm,0.4s						
MDOK	**Medeo**	**5.79**	**279**	⇑*e*P	**Pg**	**06 08 16.3**	**-4.1**
	10nm,0.5s						
MDOK				*e*S	**Sg**	**06 09 36.1**	**+0.8**
	53nm,0.5s						
MDOK	**Medeo**	**5.79**	**279**	⇓Pn	**Pn**	**06 07 57.3**	**+1.7**
	3.3nm,0.4s						
MDOK				⇑Pg	**Pb**	**06 08 14.5**	**+3.9**
	6.8nm,0.5s						
MDOK				Pg	**Pg**	**06 08 16.3**	**-4.1**
	10nm,0.5s						
MDOK				⇓Sn	**Sn**	**06 09 03.7**	**+1.6**
	21nm,0.8s						
MDOK				⇑Lg	Lg	06 09 32.5	
	67nm,0.9s						
MDOK				Lg	Lg	06 09 36.1	
	53nm,0.5s						
KNDC	**Almaty**	**5.85**	**279**	⇓Lg	Lg	06 09 34.3	
	109nm,0.6s						
CHKK	**Chushkaly**	**5.91**	**286**	*e*P	**Pb**	**06 08 17.2**	**+4.4**
	5.0nm,0.4s						
CHKK				*e*S	**Sg**	**06 09 37.9**	**-1.5**
	44nm,0.3s						
CHKK	**Chushkaly**	**5.91**	**286**	Pg	**Pb**	**06 08 17.2**	**+4.4**
	5.0nm,0.4s						
CHKK				Lg	Lg	06 09 37.8	
	44nm,0.3s						
MTBS	**Maitube**	**6.24**	**278**	*e*P	Pb	06 08 23.4	+5.1
	6.1nm,0.2s						
MTBS				*e*S	**Sg**	**06 09 48.4**	**-1.4**
	43nm,0.3s						
MTBS	**Maitube**	**6.24**	**278**	Pg	Pb	06 08 23.4	+5.1
	6.1nm,0.2s						
MTBS				Lg	Lg	06 09 48.4	
	43nm,0.3s						
KUU	**Kurty**	**6.38**	**285**	*e*P	Pg	06 08 26.8	-5.0
	3.1nm,0.3s						
KUU				*e*S	**Sg**	**06 09 54.4**	**0.0**
	46nm,0.9s						
KUU	**Kurty**	**6.38**	**285**	Pg	Pg	06 08 26.8	-5.0
	3.1nm,0.3s						
KUU				Lg	Lg	06 09 54.4	
	46nm,0.9s						
KST	**Kastek**	**6.57**	**277**	*e*P	Pg	06 08 29.9	-5.5
	6.9nm,0.4s						
KST				*e*S	**Sg**	**06 09 59.5**	**-1.0**
	60nm,0.6s						
KST	**Kastek**	**6.57**	**277**	Pg	Pg	06 08 29.9	-5.5
	6.9nm,0.4s						
KST				Lg	Lg	06 09 59.5	
	60nm,0.6s						
DGS	**Degeres**	**6.72**	**279**	*e*P	**Pg**	**06 08 33.7**	**-4.6**
	6.2nm,0.4s						
DGS				*e*S	**Sg**	**06 10 06.0**	**+0.7**
	36nm,0.8s						
DGS	**Degeres**	**6.72**	**279**	Pg	**Pg**	**06 08 33.7**	**-4.6**
	6.2nm,0.4s						
DGS				Lg	Lg	06 10 06.0	
	36nm,0.8s						
KRBS	**Karabastau**	**6.83**	**283**	*e*P	Pg	06 08 34.5	-5.8
	4.4nm,0.5s						
KRBS				*e*S	**Sg**	**06 10 07.1**	**-1.7**
	22nm,0.4s						
KRBS	**Karabastau**	**6.83**	**283**	Pg	Pg	06 08 34.5	-5.8
	4.4nm,0.5s						
KRBS				Lg	Lg	06 10 07.1	
	22nm,0.4s						
TKM2	**Tokmak 2**	**6.84**	**276**	⇑Pn	**Pn**	**06 08 10.9**	**+0.7**
	5.7nm,0.6s						
TKM2				⇑Lg	Lg	06 10 03.8	
	59nm,0.8s						
CHMS	**Chumysh**	**7.46**	**277**	⇓Lg	Lg	06 10 25.1	
	20nm,0.7s						
SGDS	**Sogindy**	**7.57**	**280**	*e*P	Pg	06 08 48.6	-5.8
	1.8nm,0.3s						
SGDS				*e*S	**Sg**	**06 10 31.7**	**-0.6**
	20nm,0.7s						
SGDS	**Sogindy**	**7.57**	**280**	Pg	Pg	06 08 48.6	-5.8
	1.8nm,0.3s						
SGDS				Lg	Lg	06 10 31.7	
	20nm,0.7s						
AAK	**Ala-Archa**	**7.66**	**274**	Pn	Pn	06 08 28.1	+6.7
	0.4nm,0.3s,baz=150,slow=8.1,SNR=1.8						
AAK				Pg	Pg	06 08 50.2	-6.0
	0.6nm,0.3s,baz=95,slow=12,SNR=3.6						
AAK				Lg	Lg	06 10 31.4	
	1.1nm,0.3s,baz=270,slow=16,SNR=2.4						
	0.9nm,0.4s						
BTLS	**Baital**	**8.22**	**291**	*e*P	Pb	06 08 58.9	+6.8
	3.4nm,0.4s						
BTLS				*e*S	**Sg**	**06 10 49.1**	**-4.3**
	3.8nm,0.5s						
BTLS	**Baital**	**8.22**	**291**	Pg	Pb	06 08 58.9	+6.8
	3.4nm,0.4s						
BTLS				Lg	Lg	06 10 49.1	
	3.8nm,0.5s						
MRKS	**Merke**	**8.59**	**275**	*e*P	Pg	06 09 08.1	-5.9
	3.9nm,0.3s						
MRKS				*e*S	**Sg**	**06 11 05.2**	**+0.1**
	9.6nm,0.7s						
MRKS	**Merke**	**8.59**	**275**	Pg	Pg	06 09 08.1	-5.9
	3.9nm,0.3s						
MRKS				Lg	Lg	06 11 05.2	
	9.6nm,0.7s						
KURBB	**Kurchatov Arra**	**9.20**	**334**	Pn	**Pn**	**06 08 44.1**	**+1.9**
	0.1nm,0.3s,baz=146,slow=12,SNR=4.1						
KURBB				Sn	**Sn**	**06 10 26.1**	**+0.5**
	0.1nm,0.3s,baz=143,slow=18,SNR=1.5						
KURBB				Lg	Lg	06 11 22.4	
	0.2nm,0.3s,baz=152,slow=29,SNR=2.3						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**9.20**	**334**	⇓Pn	**Pn**	**06 08 45.2**	**+3.0**
	2.0nm,0.7s						
KURBB				⇑Lg	Lg	06 11 25.1	
	50nm,0.6s						
KURK	**Kurchatov**	**9.25**	**334**	⇑Lg	Lg	06 11 25.5	
	28nm,0.6s						
KK31	**Karatay Array**	**10.57**	**278**	⇑Lg	Lg	06 12 03.5	
	2.5nm,0.5s,baz=80,slow=29,SNR=3.9						
ZALV	**Zalesovo Beam**	**11.43**	**360**	Pn	**Pn**	**06 09 12.2**	**-0.6**
	0.6nm,0.3s,baz=183,slow=15,SNR=6.2						
ZALV				Sn	**Sn**	**06 11 19.7**	**-0.7**
	0.6nm,0.3s,baz=166,slow=25,SNR=3.0						
ZALV				Lg	Lg	06 12 36.7	
	baz=176,slow=22						
ZALV				LR	LR	06 14 09.7	
	comp=Z,44nm,18.4s,baz=250,slow=40						
	1.7nm,0.3s						
BVAR	**Borovoye Array**	**14.29**	**322**	Pn	**Pn**	**06 09 51.2**	**-0.7**
	0.3nm,0.3s,baz=123,slow=13,SNR=6.4						
BVAR				Lg	Lg	06 14 01.6	
	0.1nm,0.3s,baz=134,slow=29,SNR=1.5						
	0.7nm,0.5s						
SONM	**Songino Array**	**16.06**	**63**	Pn	**Pn**	**06 10 15.5**	**0.0**
	0.2nm,0.3s,baz=250,slow=12,SNR=10						
AKTO	**Aktyubinsk**	**20.03**	**303**	P	**Pn**	**06 11 05.7**	**+1.4**
	0.5nm,0.4s,baz=79,slow=10,SNR=2.1						
	0.5nm,0.4s						
ARU	**Arti**	**21.86**	**319**	P	**P**	**06 11 23.6**	**+1.4**
	2.0nm,0.4s,baz=158,slow=19,SNR=3.1						
	2.0nm,0.4s						
GNI	**Garni**	**30.03**	**279**	LR	LR	06 25 06.3	
	comp=Z,17nm,21.2s,baz=176,slow=37						
KLR	**Kul'dur**	**32.88**	**62**	P	**P**	**06 13 02.6**	**-1.0**
	1.1nm,0.5s,baz=291,slow=16,SNR=2.6						
	1.1nm,0.5s						
FINES	**FINESS Array B**	**39.23**	**319**	P	**P**	**06 13 59.1**	**+1.4**
	1.4nm,0.9s,baz=93,slow=10,SNR=1.7						
	1.4nm,0.9s						
ARCES	**ARCESS Array B**	**40.28**	**332**	P	**P**	**06 14 06.7**	**+0.3**
	0.6nm,0.7s,baz=93,slow=7.9,SNR=4.7						
	0.6nm,0.7s						
NOA	**NORSAR Array B**	**46.40**	**320**	P	**P**	**06 14 55.0**	**-0.9**
	0.4nm,0.9s,baz=77,slow=8.6,SNR=1.7						
GERES	**GERESS Array B**	**48.45**	**303**	P	**P**	**06 15 14.4**	**+2.3**
	0.1nm,0.3s,baz=37,slow=9.0,SNR=4.0						
	0.1nm,0.3s						
INK	**Inuvik**	**65.81**	**15**	P	**P**	**06 17 13.6**	**-0.9**
	0.8nm,0.8s,baz=323,slow=5.1,SNR=1.2						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**77.08**	**133**	P	**P**	**06 18 23.0**	**-0.1**
	0.3nm,0.8s,baz=330,slow=5.7,SNR=1.6						
	0.3nm,0.8s						
KOWA	**Kowa**	**79.55**	**280**	LR	LR	06 57 22.1	
	comp=Z,222nm,21.7s,baz=116,slow=38						

TUL ***17*** *06:08:07.7±0.4, 36°.87N±0°.01×98°.35W±0°.01, h6km±5km, ML3.5, mb_Lg3.2/87(NEIC), Error ellipse: s-maj=2.3km s-min=0.6km az=143.0*

ANF ***17*** *06:08:08.4±0.4, 36°.85N×98°.35W, h6km, ML3.8/15, Error ellipse: s-maj=4.2km s-min=3.6km az=121.0*

NEIC ***17*** *06:08:08.6±0.3, 36°.86N±0°.01×98°.34W±0°.02, h2km±5km, Error ellipse: s-maj=2.0km s-min=1.4km az=124.0*

IDC ***17*** *06:08:08.3±1.1, 36°.90N×98°.39W, h0km, mbtmp3.3/5, ML3.0/5, Error ellipse: s-maj=13.9km s-min=11.5km az=122.0*

ISC 17 06:08:08.1±0.9, 36°.86N±0°.02×98°.35W±0°.02, h9km±7km, n104, σ0s98/84, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.12**	**118**	Pg		**Pg**	**06 08 10.8**	**-0.1**
OK032				Sg		**Sg**	**06 08 12.9**	**0.0**
KAN14	**Manchester OK**	**0.32**	**73**			**Pg**	**06 08 14.4**	**-0.1**
KAN14				Sg		**Sg**	**06 08 19.0**	**+0.2**
OK035	**E0210 Rd and N**	**0.33**	**242**	Pg		**Pg**	**06 08 14.6**	**0.0**
OK035				Sg		**Sg**	**06 08 19.5**	**+0.6**
KAN10	**Anthony SW Sta**	**0.33**	**38**	Pg		**Pg**	**06 08 14.6**	**0.0**
KAN10				Sg		**Sg**	**06 08 19.2**	**+0.2**
GC02	**Grant County #**	**0.39**	**91**	Pg		**Pg**	**06 08 15.7**	**-0.1**
GC02				Sg		**Sg**	**06 08 21.0**	**+0.1**
KAN16	**Harper SW Stat**	**0.43**	**32**	Pg		**Pg**	**06 08 16.4**	**0.0**
KAN16				Sg		**Sg**	**06 08 22.2**	**+0.2**
CROK	**Carrier**	**0.46**	**141**	Pg		**Pg**	**06 08 17.0**	**-0.1**
CROK				Sg		**Sg**	**06 08 23.3**	**+0.2**
KAN08	**Anthony NE Sta**	**0.47**	**40**			**Pg**	**06 08 17.3**	**0.0**
OK038	**West end E0370**	**0.50**	**220**			**Pg**	**06 08 17.7**	**-0.1**
OK038				Sg		**Sg**	**06 08 24.9**	**+0.6**
KAN17	**Caldwell West**	**0.50**	**69**	Pg		**Pg**	**06 08 17.8**	**-0.1**
KAN12	**Harper NE Stat**	**0.52**	**33**	Pg		**Pg**	**06 08 18.0**	**-0.1**
KAN06	**Argonia West S**	**0.55**	**45**			**Pg**	**06 08 18.7**	**0.0**
KAN01	**Argonia South**	**0.55**	**58**	Pg		**Pg**	**06 08 18.7**	**-0.1**
KAN09	**Caldwell North**	**0.65**	**65**	Pg		**Pg**	**06 08 20.3**	**-0.2**
KS21	**Milan North St**	**0.69**	**52**			**Pg**	**06 08 21.3**	**-0.1**
KAN13	**South Haven SW**	**0.71**	**78**	Pg		**Pg**	**06 08 21.5**	**-0.3**
U32A	**Winter Ranch,**	**0.71**	**228**	Pg		**Pg**	**06 08 21.7**	**-0.1**
U32A	**Winter Ranch,**	**0.71**	**228**	P		**Pg**	**06 08 21.5**	**-0.3**
	baz=47							
U32A				S		**Sg**	**06 08 31.4**	**+0.2**
	baz=47							
BLOK	**Blackwell**	**0.92**	**96**	Pg		**Pg**	**06 08 25.0**	**-0.6**
OK049	**E0420 Rd and N**	**0.95**	**118**	Pg		**Pg**	**06 08 25.9**	**-0.6**
OK048	**Pawnee Station**	**1.21**	**111**	Pg		**Pg**	**06 08 30.4**	**-1.0**
OK045	**Pawnee Station**	**1.22**	**109**			**Pg**	**06 08 30.4**	**-1.0**
CSTR	**Hydro, Custer**	**1.25**	**193**			**Pg**	**06 08 31.2**	**-0.7**
CSTR				IAmb_Lg			06 08 46.2	
	comp=Z,6.4nm,0.8s							
OK046	**Pawnee Station**	**1.25**	**111**			**Pg**	**06 08 31.0**	**-1.0**
OK051	**E0350 and S346**	**1.27**	**106**	Pg		**Pg**	**06 08 31.3**	**-1.1**
OK033	**Mehan**	**1.40**	**125**	Pg		**Pn**	**06 08 33.7**	**-0.1**
T35A	**Sooner Cattle**	**1.47**	**87**			**Pn**	**06 08 34.8**	**0.0**
T35B	**Sooner Cattle**	**1.47**	**87**	P		**Pn**	**06 08 35.0**	**+0.1**
	baz=269,SNR=320							
T35B				S		**Sn**	**06 08 54.8**	**+0.6**
	baz=269							
QUOK	**Quay**	**1.49**	**117**			**Pn**	**06 08 35.1**	**+0.1**
OK025	**Westminster Rd**	**1.52**	**147**	Pg		**Pn**	**06 08 35.7**	**+0.3**
OK031	**S. Brethren Rd**	**1.52**	**126**			**Pn**	**06 08 35.5**	**+0.1**
OK030	**Cody Creek RV**	**1.57**	**126**			**Pn**	**06 08 36.4**	**+0.3**
OK034	**N. Norfolk Rd.**	**1.57**	**122**			**Pn**	**06 08 36.3**	**+0.2**
R32A	**Long Quarter,**	**1.58**	**350**	Pg		**Pn**	**06 08 37.1**	**+0.8**
R32A	**Long Quarter,**	**1.58**	**350**	P		**Pn**	**06 08 37.2**	**+0.8**
	baz=169							
R32A				S		**Sb**	**06 08 58.5**	**+0.8**
	baz=169							
FNO	**Franklin**	**1.78**	**154**			**Pn**	**06 08 40.0**	**+1.0**
DEOK	**Depew**	**1.81**	**124**	Pn		**Pn**	**06 08 40.2**	**+0.8**
WMOK	**Wichita Mounta**	**2.15**	**190**	Pn		**Pn**	**06 08 45.5**	**+1.4**
WMOK	**Wichita Mounta**	**2.15**	**190**	P		**Pn**	**06 08 44.3**	**+0.2**
	baz=9.2,SNR=95							
CBKS	**Cedar Bluff**	**2.24**	**331**	Pn		**Pn**	**06 08 46.9**	**+1.5**
CBKS				IAmb_Lg			06 09 21.9	
	comp=Z,111nm,0.7s							
CBKS	**Cedar Bluff**	**2.24**	**331**	P		**Pn**	**06 08 46.5**	**+1.1**
	baz=150							
CBKS				S		**Sb**	**06 09 17.5**	**+1.0**
	baz=150							
TUL1	**Leonard**	**2.27**	**114**	Pn		**Pn**	**06 08 47.0**	**+1.3**
TUL1				IAmb_Lg			06 09 25.6	
	comp=Z,110nm,1.1s							
TUL1	**Leonard**	**2.27**	**114**	P		**Pn**	**06 08 46.3**	**+0.6**
	baz=296,SNR=77							
TUL1				S		**Sb**	**06 09 18.2**	**+0.8**
	baz=296							
X34A	**Smith Ranch, M**	**2.29**	**169**	IAmb_Lg			06 09 24.6	
	comp=Z,102nm,0.7s							
KSU1	**Kansas State U**	**2.62**	**31**	IAmb_Lg			06 09 37.0	
	comp=Z,104nm,1.1s							
KSU1	**Kansas State U**	**2.62**	**31**	S		**Sb**	**06 09 28.3**	**+0.8**
	baz=212							
LOOK	**Love County**	**3.02**	**161**	IAmb_Lg			06 09 51.2	
	comp=Z,51nm,0.7s							
U38A	**Gravette**	**3.21**	**96**	P		**Pn**	**06 08 59.4**	**+0.7**
	baz=279,SNR=31							
X37A	**Clayton**	**3.32**	**132**	Pn		**Pn**	**06 09 00.9**	**+0.7**
X37A				IAmb_Lg			06 10 01.8	
	comp=Z,106nm,0.7s							
X37A	**Clayton**	**3.32**	**132**	P		**Pn**	**06 09 00.7**	**+0.6**
	baz=314,SNR=29							
X37A				S		**Sn**	**06 09 41.0**	**+1.3**
	baz=314							
AMTX	**Amarillo**	**3.35**	**235**	P		**Pn**	**06 09 03.4**	**+2.7**
	baz=53,SNR=8.4							
AMTX				S		**Sn**	**06 09 41.6**	**+1.0**
	baz=53							
HHAR	**Hobbs**	**3.59**	**98**	Pn		**Pn**	**06 09 04.8**	**+0.8**
HHAR				IAmb_Lg			06 10 09.0	
	comp=Z,47nm,0.8s							
HHAR	**Hobbs**	**3.59**	**98**	P		**Pn**	**06 09 04.8**	**+0.8**
	baz=281							
Z35A	**Perchaven, San**	**3.64**	**165**	S		**Sn**	**06 09 49.1**	**+1.5**
	baz=346							
N33B	**J Bar K, Exete**	**3.93**	**10**	P		**Pn**	**06 09 08.3**	**-0.3**
	baz=190							
N33B				S		**Sn**	**06 09 55.1**	**+0.2**
	baz=190							
N33A	**J Bar K, Exete**	**3.93**	**10**	IAmb_Lg			06 10 23.1	
	comp=Z,43nm,0.8s							
S39A	**Bolivar**	**4.09**	**77**	IAmb_Lg			06 10 21.2	
	comp=Z,49nm,0.7s							
MIAR	**Mount Ida**	**4.52**	**119**	Pn		**Pn**	**06 09 17.2**	**+0.6**
MIAR				IAmb_Lg			06 10 31.7	
	comp=Z,34nm,0.8s							
MIAR	**Mount Ida**	**4.52**	**119**	P		**Pn**	**06 09 17.7**	**+1.1**
	baz=302,SNR=13							
Z38A	**Mt. Pleasant**	**4.53**	**142**	IAmb_Lg			06 10 34.4	
	comp=Z,46nm,0.8s							
BGNE	**Belgrade**	**4.54**	**2**	IAmb_Lg			06 10 40.3	
	comp=Z,68nm,0.8s							
MSTX	**Muleshoe**	**4.62**	**233**	Pn		**Pn**	**06 09 19.7**	**+1.5**
MSTX				IAmb_Lg			06 10 42.4	
	comp=Z,35nm,0.8s							
P38A	**Dawn**	**4.69**	**53**	Pn		**Pn**	**06 09 19.2**	**+0.2**
P38A				IAmb_Lg			06 10 39.7	
	comp=Z,49nm,0.7s							
P38A	**Dawn**	**4.69**	**53**	P		**Pn**	**06 09 19.3**	**+0.4**
	baz=235,SNR=9.5							
T25A	**Trinidad**	**4.86**	**275**	IAmb_Lg			06 10 45.3	
	comp=Z,45nm,0.9s							
MGMO	**Mountain Grove**	**4.87**	**85**	Pn		**Pn**	**06 09 22.2**	**+0.7**
MGMO				IAmb_Lg			06 10 47.2	
	comp=Z,37nm,0.8s							
OGNE	**Ogallala**	**4.99**	**326**	Pn		**Pn**	**06 09 25.5**	**+2.4**
R40A	**Maddies Statio**	**5.04**	**72**	IAmb_Lg			06 10 59.1	
	comp=Z,50nm,1.1s							
R40A	**Maddies Statio**	**5.04**	**72**	P		**Pn**	**06 09 23.9**	**+0.1**
	baz=255,SNR=18							
FCAR	**Ozark Folk Cen**	**5.12**	**99**	IAmb_Lg			06 10 49.6	
	comp=Z,30nm,0.7s							
WHAR	**Wooly Hollow**	**5.15**	**106**	IAmb_Lg			06 10 52.3	
	comp=Z,34nm,0.7s							
237A	**Washetta, Mont**	**5.28**	**156**	IAmb_Lg			06 11 08.1	
	comp=Z,28nm,0.9s							
UALR	**University of**	**5.30**	**111**	IAmb_Lg			06 11 09.5	
	comp=Z,33nm,0.8s							
L34A	**Svendsen Farm,**	**5.32**	**16**	IAmb_Lg			06 11 03.9	
	comp=Z,62nm,0.8s							
WLAR	**White Oak Lake**	**5.33**	**125**	IAmb_Lg			06 11 04.6	
	comp=Z,33nm,0.7s							
K31A	**O'Neill**	**5.76**	**357**	IAmb_Lg			06 11 25.1	
	comp=Z,51nm,1.0s							
CCM	**Cathedral Cave**	**5.78**	**76**	IAmb_Lg			06 11 13.1	
	comp=Z,35nm,0.9s							
NATX	**Nacogdoches**	**5.93**	**148**	IAmb_Lg			06 11 26.3	
	comp=Z,25nm,0.9s							
435B	**Jarrell**	**6.10**	**174**	IAmb_Lg			06 11 36.9	
	comp=Z,26nm,0.8s							
CCAR	**Cane Creek**	**6.12**	**117**	IAmb_Lg			06 11 33.4	
	comp=Z,33nm,0.8s							
SCIA	**State Center**	**6.42**	**37**	IAmb_Lg			06 11 37.0	
	comp=Z,50nm,0.9s							
ANMO	**Albuquerque**	**6.85**	**256**	Pn		**Pn**	**06 09 51.3**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=76,slow=16,SNR=3.6							
ANMO				Pg		**Pg**	**06 10 15.5**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=66,slow=16,SNR=3.8							
ANMO				Lg		Lg	06 11 41.9	
	comp=Z,0.9nm,0.3s,baz=149,slow=22,SNR=6.3							
	comp=Z,0.2nm,0.3s							
CGM3	**Cape Girardeau**	**6.96**	**84**	IAmb_Lg			06 11 55.7	
	comp=Z,24nm,1.0s							
143A	**Socs Landing,**	**7.06**	**124**	IAmb_Lg			06 12 01.9	
	comp=Z,27nm,1.0s							
PHWY	**Pilot Hill**	**7.09**	**311**	IAmb_Lg			06 12 05.6	
	comp=Z,20nm,0.9s							
N23A	**Red Feather La**	**7.16**	**307**	IAmb_Lg			06 12 01.2	
	comp=Z,28nm,0.7s							
S44A	**Carbondale**	**7.30**	**81**	IAmb_Lg			06 12 14.1	
	comp=Z,31nm,0.8s							
SIUC	**Southern Illin**	**7.33**	**81**	IAmb_Lg			06 12 00.7	
	comp=Z,26nm,0.8s							
L40A	**Anamosa**	**7.57**	**45**	IAmb_Lg			06 12 11.5	
	comp=Z,38nm,0.9s							
SUSD	**Miller**	**7.59**	**357**	IAmb_Lg			06 12 28.7	
	comp=Z,20nm,0.8s							
W45A	**Hickory Valley**	**7.62**	**100**	IAmb_Lg			06 12 08.6	
	comp=Z,37nm,0.8s							
OXF	**Oxford**	**7.64**	**105**	IAmb_Lg			06 12 25.4	
	comp=Z,25nm,0.9s							
Y45A	**Yeager Farm, C**	**7.79**	**110**	IAmb_Lg			06 12 18.8	
	comp=Z,32nm,0.9s							
HDIL	**Hopedale**	**7.98**	**60**	P		**Pn**	**06 10 04.7**	**+0.5**
	baz=245							
I37A	**Lemond, Waseca**	**8.08**	**26**	IAmb_Lg			06 12 27.1	
	comp=Z,19nm,0.9s							
RWWY	**Rawlins**	**8.39**	**308**	IAmb_Lg			06 12 44.3	
	comp=Z,14nm,0.7s							
L42A	**Oliver, Polo**	**8.45**	**50**	IAmb_Lg			06 12 43.4	
	comp=Z,30nm,0.8s							
JFWS	**Jewell Farm**	**8.67**	**43**	IAmb_Lg			06 12 47.8	
	comp=Z,28nm,0.9s							
TX31	**Lajitas Ar. Si**	**8.73**	**212**	P		**Pn**	**06 10 14.7**	**+0.1**
	baz=29							
TXAR	**Lajitas Array**	**8.73**	**212**	Pn		**Pn**	**06 10 14.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=39,slow=11,SNR=15							
TXAR				Pg		Pg	06 10 45.9	-9.4
	comp=Z,0.4nm,0.3s,baz=32,slow=16,SNR=5.3							
TXAR				Lg		Lg	06 12 40.1	
	comp=Z,0.9nm,0.3s,baz=34,slow=29,SNR=14							
	comp=Z,0.3nm,0.3s							
I40A	**Norwalk**	**9.17**	**38**	IAmb_Lg			06 13 11.2	
	comp=Z,16nm,0.8s							
PDAR	**Pinedale Array**	**10.44**	**308**	Pn		**Pn**	**06 10 39.1**	**+1.0**
	baz=113,slow=14,SNR=2.0							
PDAR				Pg			06 11 21.7	
	comp=Z,0.2nm,0.3s,baz=118,slow=18,SNR=5.6							
PDAR

KAN01	**Argonia South**	**0.47**	**358**	Pg	**Pg**	**06 19 02.4**	**-0.2**
KAN10	**Anthony SW Sta**	**0.52**	**327**	Pg	**Pg**	**06 19 03.4**	**-0.2**
KS20	**Mayfield South**	**0.56**	**15**	Pg	**Pg**	**06 19 04.2**	**-0.3**
KAN06	**Argonia West S**	**0.57**	**351**		**Pg**	**06 19 04.3**	**-0.3**
KAN08	**Anthony NE Sta**	**0.57**	**341**		**Pg**	**06 19 04.3**	**-0.3**
KAN16	**Harper SW Stat**	**0.60**	**334**	Pg	**Pg**	**06 19 04.8**	**-0.3**
KS21	**Milan North St**	**0.60**	**6**	Pg	**Pg**	**06 19 04.9**	**-0.4**
KAN12	**Harper NE Stat**	**0.64**	**341**	Pg	**Pg**	**06 19 05.6**	**-0.4**
OK050	**Pawnee Station**	**0.68**	**115**		**Pg**	**06 19 06.5**	**-0.2**
OK048	**Pawnee Station**	**0.70**	**113**	Pg	**Pg**	**06 19 06.8**	**-0.3**
OK045	**Pawnee Station**	**0.70**	**110**		**Pg**	**06 19 06.9**	**-0.2**
OK046	**Pawnee Station**	**0.73**	**113**		**Pg**	**06 19 07.4**	**-0.3**
OK051	**E0350 and S346**	**0.75**	**104**	Pg	**Pg**	**06 19 07.7**	**-0.3**
OK035	**E0210 Rd and N**	**0.78**	**272**	Pg	**Pg**	**06 19 08.2**	**-0.4**
OK044	**Pawnee Station**	**0.82**	**112**	Pg	**Pg**	**06 19 09.1**	**-0.4**
OK038	**West end E0370**	**0.83**	**256**		**Pg**	**06 19 09.2**	**-0.4**
OK047	**Pawnee, Statio**	**0.85**	**105**	Pg	**Pg**	**06 19 09.5**	**-0.4**
OK033	**Mehan**	**0.91**	**134**	Pg	**Pg**	**06 19 10.8**	**-0.3**
OK029	**Liberty Lake**	**0.92**	**165**	Pg	**Pg**	**06 19 11.0**	**-0.3**
QUOK	**Quay**	**0.98**	**121**	Pg	**Pg**	**06 19 12.0**	**-0.4**
T35A	**Sooner Cattle**	**1.01**	**77**	Pg	**Pg**	**06 19 12.4**	**-0.7**
T35B	**Sooner Cattle** baz=258	**1.01**	**77**	P	**Pg**	**06 19 12.3**	**-0.8**
T35B				S	**Sg**	**06 19 25.6**	**-0.6**
baz=258							
OK031	**S. Brethren Rd**	**1.03**	**135**	Pg	**Pg**	**06 19 13.0**	**-0.5**
BCOK	**Bluff Creek, N**	**1.03**	**174**	Pg	**Pg**	**06 19 13.0**	**-0.4**
U32A	**Winter Ranch,**	**1.06**	**253**	Pg	**Pg**	**06 19 13.2**	**-0.7**
U32A	**Winter Ranch,** baz=72,SNR=112	**1.06**	**253**	P	**Pg**	**06 19 13.3**	**-0.7**
OK034	**N. Norfolk Rd.**	**1.07**	**129**	Pg	**Pg**	**06 19 13.7**	**-0.5**
OK030	**Cody Creek RV**	**1.08**	**134**	Pg	**Pg**	**06 19 13.9**	**-0.5**
OK025	**Westminster Rd**	**1.15**	**163**	Pg	**Pg**	**06 19 15.2**	**-0.5**
CSTR	**Hydro, Custer**	**1.29**	**217**	Pg	**Pn**	**06 19 17.7**	**-0.2**
CSTR	comp=Z,3.0nm,0.7s			IAmb_Lg		06 19 33.6	
OKCSW	**OKLAHOMA CITY**	**1.30**	**169**		**Pn**	**06 19 17.9**	**-0.2**
DEOK	**Depew**	**1.31**	**130**		**Pn**	**06 19 17.7**	**-0.4**
FNO	**Franklin**	**1.45**	**169**		**Pn**	**06 19 20.3**	**+0.2**
TUL1	**Leonard**	**1.76**	**116**		**Pn**	**06 19 24.9**	**+0.7**
TUL1	comp=Z,87nm,0.9s			IAmb_Lg		06 19 50.8	
TUL1	**Leonard** baz=297,SNR=77	**1.76**	**116**	P	**Pn**	**06 19 24.6**	**+0.4**
TUL1	baz=297			S	**Sb**	**06 19 48.9**	**+0.7**
R32A	**Long Quarter,** baz=156	**1.90**	**336**	P	**Pn**	**06 19 26.8**	**+0.6**
R32A	baz=156			S	**Sb**	**06 19 52.0**	**-0.2**
WMOK	**Wichita Mounta** baz=23,SNR=137	**2.12**	**204**	P	**Pn**	**06 19 30.0**	**+0.7**
U38A	**Gravette** baz=277,SNR=38	**2.71**	**94**	P	**Pn**	**06 19 38.2**	**+0.7**
LOOK	**Love County** comp=Z,21nm,1.1s	**2.73**	**170**	IAmb_Lg		06 20 26.8	
X37A	**Clayton** comp=Z,48nm,1.0s	**2.85**	**137**	IAmb_Lg		06 20 30.5	
X37A	**Clayton** baz=318,SNR=31	**2.85**	**137**	P	**Pn**	**06 19 40.2**	**+0.9**
Z35A	**Perchaven, San** comp=Z,29nm,1.2s	**3.37**	**173**	IAmb_Lg		06 20 45.1	
S39A	**Bolivar** comp=Z,42nm,1.0s	**3.67**	**73**	IAmb_Lg		06 20 51.1	
S39A	**Bolivar** baz=256	**3.67**	**73**	P	**Pn**	**06 19 51.6**	**+1.0**
MIAR	**Mount Ida** comp=Z,22nm,0.7s	**4.01**	**121**	IAmb_Lg		06 21 03.5	
N33A	**J Bar K, Exete** comp=Z,27nm,0.7s	**4.05**	**3**	IAmb_Lg		06 21 07.5	
MGMO	**Mountain Grove** comp=Z,21nm,0.9s	**4.41**	**82**	IAmb_Lg		06 21 10.7	
P38A	**Dawn** comp=Z,28nm,0.9s	**4.43**	**47**	IAmb_Lg		06 21 26.2	
N35A	**Tabor** baz=202,SNR=6.3	**4.48**	**21**	P	**Pn**	**06 20 02.4**	**+0.7**
KSCO	**Kaye Shedlock'** baz=119	**4.51**	**302**	P	**Pn**	**06 20 02.9**	**+0.7**
FCAR	**Ozark Folk Cen** comp=Z,15nm,0.9s	**4.61**	**98**	IAmb_Lg		06 21 22.2	
WHAR	**Wooly Hollow** comp=Z,18nm,0.9s	**4.64**	**106**	IAmb_Lg		06 21 20.9	
R40A	**Maddies Statio** comp=Z,16nm,0.9s	**4.64**	**68**	IAmb_Lg		06 21 29.1	
R40A	**Maddies Statio** baz=252,SNR=43	**4.64**	**68**	P	**Pn**	**06 20 04.2**	**+0.3**
WHTX	**Lake Whitney,** baz=357,SNR=11	**4.69**	**177**	P	**Pn**	**06 20 05.1**	**+0.5**
BGNE	**Belgrade** baz=176,SNR=16	**4.72**	**356**	P	**Pn**	**06 20 04.9**	**-0.2**
237A	**Washetta, Mont** comp=Z,22nm,0.9s	**4.94**	**161**	IAmb_Lg		06 21 38.1	
P40A	**Paris** comp=Z,22nm,0.7s	**5.31**	**56**	IAmb_Lg		06 21 43.3	
CCM	**Cathedral Cave** comp=Z,27nm,0.8s	**5.35**	**73**	IAmb_Lg		06 21 49.6	
T25A	**Trinidad** comp=Z,17nm,1.0s	**5.36**	**277**	IAmb_Lg		06 21 48.5	
L34A	**Svendsen Farm,** comp=Z,17nm,0.7s	**5.38**	**11**	IAmb_Lg		06 21 44.0	
N38A	**Joes South For** comp=Z,23nm,0.8s	**5.41**	**39**	IAmb_Lg		06 21 49.0	
435B	**Jarrell** comp=Z,16nm,0.8s	**5.89**	**179**	IAmb_Lg		06 22 02.9	
SCIA	**State Center** comp=Z,22nm,1.0s	**6.28**	**33**	IAmb_Lg		06 22 23.0	
JCT	**Junction City** comp=Z,23nm,1.1s	**6.43**	**196**	IAmb_Lg		06 22 25.0	
CGM3	**Cape Girardeau** comp=Z,16nm,0.8s	**6.50**	**82**	IAmb_Lg		06 22 17.2	
N41A	**Harden Midland** comp=Z,20nm,0.8s	**6.72**	**51**	IAmb_Lg		06 22 34.4	
S44A	**Carbondale** comp=Z,17nm,0.7s	**6.85**	**79**	IAmb_Lg		06 22 28.6	
SIUC	**Southern Illin** comp=Z,20nm,0.7s	**6.88**	**79**	IAmb_Lg		06 22 28.1	
ECSD	**EROS Data Cent** baz=187,SNR=5.8	**7.09**	**7**	P	**Pn**	**06 20 36.2**	**-1.3**
W45A	**Hickory Valley** comp=Z,16nm,0.8s	**7.11**	**100**	IAmb_Lg		06 22 37.8	
T45A	**Paducah** comp=Z,9.6nm,0.7s	**7.30**	**85**	IAmb_Lg		06 22 58.2	
N23A	**Red Feather La** comp=Z,12nm,0.8s	**7.66**	**306**	IAmb_Lg		06 22 58.0	
SUSD	**Miller** comp=Z,12nm,0.8s	**7.80**	**354**	IAmb_Lg		06 23 16.8	
O44A	**Mansfield** comp=Z,17nm,0.7s	**8.06**	**62**	IAmb_Lg		06 23 11.7	
JFWS	**Jewell Farm** comp=Z,10nm,0.8s	**8.48**	**41**	IAmb_Lg		06 23 30.7	
SPMN	**Marine on St.** comp=Z,5.8nm,0.8s	**9.31**	**22**	IAmb_Lg		06 23 56.6	

BJI ***17*** *06:23:10.9±0.0,2˚.26S×141˚.03E, h20km, mb4.9/38, mB5.0/16, Ms4.9/4, Ms7 4.5/4*

NEIC ***17*** *06:23:14.2±1.0,2˚.06S±0˚.08×140˚.59E±0˚.08, h10km±1km, mb4.9/57, Error ellipse: s-maj=13.9km s-min=12.3km az=211.0*

DJA ***17*** *06:23:16.4±1.5,2˚S±5˚×14˚1E±˚, h24km±9km, M4.7/26, mb4.7/26, mB5.4/6, MLv4.6/3, Mw(mB)4.8/6, MwMwp5.2/1, Mwp5.5/1*

IDC ***17*** *06:23:17.8±3.0,2˚.15S×140˚.37E, h33km±22km, mb4.1/14, mbtmp4.3/17, ML4.1/3, MS3.5/32, Error ellipse: s-maj=17.9km s-min=9.7km az=93.0*

ISC 17 06:23:17.0±1.4,2˚.09S±0˚.05×140˚.57E±0˚.06,h31km±9km, n165,σ1s07/147,mb4.8/53,MS3.6/28,5C-1D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.64**	**219**	P	**Pb**	**06 23 29.8**	**0.0**
GENI	**Genyem**	**0.64**	**219**	P	**Pn**	**06 23 30.1**	**+0.2**
SMPI	**Sarmi**	**1.86**	**273**	P	**Pn**	**06 23 46.6**	**-0.1**
WAMI	**Wamena**	**2.57**	**226**	P	**Pn**	**06 23 58.2**	**+1.7**
MANU	**Manus Island**	**6.79**	**90**	Pn	**Pn**	**06 24 53.6**	**-1.0**
FAKI	**Fak Fak**	**8.35**	**264**		**Pn**	**06 25 16.2**	**+0.2**
FAKI	**Fak Fak** 18nm,0.6s	**8.35**	**264**	P	**Pn**	**06 25 16.5**	**+0.5**
SIJI	**Sorong** 1.5nm,0.3s,baz=170,slow=12,SNR=1.6	**9.38**	**277**	Pn	**Pn**	**06 25 29.0**	**-1.1**
SIJI	comp=Z,194nm,18.2s,baz=146,slow=43 4.7nm,0.4s			LR	LR	06 29 52.3	
PMG	**Port Moresby**	**9.79**	**138**	Pn	**Pn**	**06 25 34.5**	**-1.2**
KDU	**Kakadu**	**13.23**	**217**	P	**Pn**	**06 26 21.4**	**-1.4**
TNTI	**Ternate**	**13.50**	**282**	Pn	**Pn**	**06 26 24.4**	**-2.2**
MTN	**Manton Dam**	**14.19**	**221**	Pn	**Pn**	**06 26 34.3**	**-1.6**
MTN	**Manton Dam**	**14.19**	**221**	P	**Pn**	**06 26 35.1**	**-0.9**
GUMO	**Guam** comp=Z,99nm,18.6s,baz=202,slow=34	**16.15**	**15**	LR	LR	06 32 28.8	
GUMO	**Guam**	**16.15**	**15**	Pn	**Pn**	**06 27 00.7**	**-1.2**
GUMO	comp=Z,100nm,1.2s			IAmb	IAmb	06 27 07.6	
DAV	**Davao City (W)** comp=Z,83nm,20.0s,baz=118,slow=34	**17.51**	**301**	LR	LR	06 33 16.5	
LUWI	**Luwuk**	**17.82**	**273**		**Pn**	**06 27 23.0**	**+0.3**
LUWI	comp=Z,134nm,1.3s			IAmb	IAmb	06 27 26.8	
KNRA	**Kununurra**	**17.82**	**220**	P	**Pn**	**06 27 22.4**	**-0.4**
KNRA	**Kununurra**	**17.82**	**220**	P	**P**	**06 27 23.4**	**+0.1**
SOEI	**Soe**	**17.90**	**244**		**Pn**	**06 27 23.1**	**-0.8**
SOEI	comp=Z,70nm,0.7s			IAmb	IAmb	06 27 30.6	
SOEI	**Soe** comp=Z,6μmcomp=Z,96nm,0.8s	**17.90**	**244**	P	**P**	**06 27 24.3**	**0.0**
SOEI	**Soe**	**17.90**	**244**	P	**Pn**	**06 27 23.3**	**-0.6**
QIS	**Mount Isa**	**18.38**	**183**	P	**P**	**06 27 29.4**	**0.0**
WB0	**Warramunga Arr**	**18.58**	**199**	P	**Pn**	**06 27 32.1**	**+0.1**
BATI	**Baumata** comp=Z,9.9nm,0.3s,baz=115,slow=2.9,SNR=12	**18.63**	**244**	Pn	**Pn**	**06 27 33.9**	**+1.2**
BATI	**Baumata** comp=Z,88nm,0.7s	**18.63**	**244**	P	**Pn**	**06 27 34.4**	**+1.7**
CTA	**Charters Tower** comp=Z,0.2nm,0.3s,baz=346,slow=13,SNR=2.1	**18.73**	**163**	P	**P**	**06 27 33.0**	**-0.2**
CTA	comp=Z,152nm,21.0s,baz=331,slow=40 comp=Z,1.8nm,0.5s			LR	LR	06 35 44.4	
WRAB	**Tennant Creek**	**18.75**	**198**	P	**P**	**06 27 32.7**	**-0.8**
WRAB	**Tennant Creek**	**18.75**	**198**	P	**P**	**06 27 33.6**	**+0.1**
WB2	**Warramunga Arr**	**18.75**	**198**	P	**P**	**06 27 33.2**	**-0.3**
WRA	**Warramunga Arr** comp=Z,1.1nm,0.3s,baz=28,slow=12,SNR=88	**18.76**	**199**	P	**P**	**06 27 33.7**	**+0.1**
WRA	comp=Z,7.9nm,1.0s,baz=12,slow=22,SNR=5.6			S	Sn	06 30 50.3	-13
WRA	comp=Z,382nm,20.6s,baz=17,slow=39 comp=Z,7.6nm,0.7s			LR	LR	06 35 18.4	
WRA	**Warramunga Arr**	**18.76**	**199**	P	**P**	**06 27 33.0**	**-0.6**
MRSI	**Marisa** comp=Z,44nm,0.6s	**18.80**	**278**	P	**P**	**06 27 32.9**	**-1.2**
APSI	**Ampana** comp=Z,675nmcomp=Z,30nm,0.8s	**18.95**	**273**	P	**Pn**	**06 27 36.8**	**+0.3**
TOLI2	**Tolitoli**	**20.04**	**279**		**P**	**06 27 48.3**	**+0.7**
TOLI2	comp=Z,31nm,0.7s			IAmb	IAmb	06 27 49.5	
BKSI	**Bulukumba** comp=Z,17nm,0.8s	**20.65**	**260**	P	Pn	06 27 55.9	-0.8
TTSI	**Tana Toraja** comp=Z,4μmcomp=Z,41nm,1.2s	**20.75**	**267**	P	Pn	06 27 57.5	-0.4
MPSI	**Mapaga** comp=Z,22nm,1.1s	**20.81**	**276**	P	**P**	**06 27 55.5**	**-0.5**
SPSI	**Sidrap Palu** comp=Z,22nm,0.7s	**20.85**	**264**	P	Pn	06 27 58.5	-0.6
KAPI	**Kappang** comp=Z,6.4nm,0.8s,baz=60,slow=14,SNR=2.8	**20.98**	**261**	P	Pn	06 27 59.3	-1.2
FITZ	**Fitzroy Crossi** comp=Z,5.2nm,0.6s,baz=46,slow=9.0,SNR=17	**21.62**	**222**	P	**P**	**06 28 03.5**	**-1.2**
FITZ	comp=Z,8.3nm,0.9s,baz=113,slow=9.1,SNR=5.0			S	**S**	**06 31 58.3**	**-4.4**
FITZ	comp=Z,111nm,18.4s,baz=36,slow=39 comp=Z,5.2nm,0.6s			LR	LR	06 37 18.5	
FITZ	**Fitzroy Crossi**	**21.62**	**222**	P	**P**	**06 28 04.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.62**	**222**	P	**P**	**06 28 04.6**	**-0.1**
AS31	**Alice Springs**	**22.40**	**196**	P	**P**	**06 28 12.8**	**-0.3**
ASAR	**Alice Springs** comp=Z,4.7nm,0.5s,baz=28,slow=10,SNR=52	**22.40**	**196**	P	**P**	**06 28 13.1**	**0.0**
ASAR	comp=Z,2.9nm,0.8s,baz=11,slow=27,SNR=4.9			S	**S**	**06 32 17.0**	**-0.5**
ASAR	comp=Z,365nm,19.6s,baz=71,slow=39 comp=Z,4.7nm,0.5s			LR	LR	06 37 55.1	
ASAR	**Alice Springs**	**22.40**	**196**	P	**P**	**06 28 12.8**	**-0.3**
MYLDM	**Lahad Datu**	**23.20**	**288**	P	**P**	**06 28 22.6**	**+1.2**
MYLDM	comp=Z,53nm,1.2s			IAmb	IAmb	06 28 26.4	
RK1H	**Rockhampton Ha** comp=Z,28nm,1.1s	**23.25**	**156**	P	**P**	**06 28 24.5**	**+2.6**
BKB	**Balikpapan**	**23.68**	**272**	P	**P**	**06 28 28.1**	**+2.0**
QLP	**Quilpie**	**24.61**	**172**	P	**P**	**06 28 36.3**	**+1.7**
EIDS	**Eidsvold**	**25.27**	**157**	P	**P**	**06 28 42.0**	**+1.4**
EIDS	comp=Z,41nm,1.2s			IAmb	IAmb	06 28 52.3	
EIDS	**Eidsvold**	**25.27**	**157**	P	**P**	**06 28 42.8**	**+2.2**
RMQ	**Roma** comp=Z,11nm,0.8s	**25.50**	**163**	P	**P**	**06 28 46.2**	**+3.5**
INKA	**Innaminka**	**25.51**	**180**	P	**P**	**06 28 44.5**	**+1.8**
KKM	**Kota Kinabalu**	**25.63**	**289**	P	**P**	**06 28 45.6**	**+1.5**
KKM	comp=Z,35nm,1.0s			IAmb	IAmb	06 28 46.9	
WRKA	**Warakurna**	**25.70**	**206**	P	**P**	**06 28 44.3**	**-0.3**
OOD	**Oodnadatta**	**25.98**	**190**	P	**P**	**06 28 47.9**	**+0.9**
MBWA	**Marble Bar**	**27.78**	**225**	P	**P**	**06 29 02.8**	**-0.5**
MBWA	comp=Z,14nm,0.9s			IAmb	IAmb	06 29 18.6	
PSA00	**Pilbara Seismi**	**27.96**	**225**	P	**P**	**06 29 04.0**	**-0.9**
MULG	**Mulgathing**	**28.71**	**192**	P	**P**	**06 29 12.5**	**+1.0**
STKA	**Stephens Creek** comp=Z,3.4nm,0.8s,baz=358,slow=11,SNR=5.6	**29.64**	**178**	P	**P**	**06 29 19.9**	**+0.1**
STKA	comp=Z,162nm,20.9s,baz=9.7,slow=35 comp=Z,3.4nm,0.8s			LR	LR	06 40 41.5	
STKA	**Stephens Creek**	**29.64**	**178**	P	**P**	**06 29 19.7**	**-0.1**
CMSA	**Cobar Meteorol**	**29.69**	**171**	P	**P**	**06 29 21.9**	**+1.8**
ARMA	**Armidale**	**30.06**	**161**	P	**P**	**06 29 24.1**	**+0.5**
BBOO	**Buckleboo**	**30.85**	**187**	P	**P**	**06 29 29.7**	**-0.7**
FORT	**Forrest**	**30.89**	**201**	P	**P**	**06 29 30.7**	**-0.2**
JOW	**Kunigami** comp=Z,91nm,20.6s,baz=220,slow=30	**31.11**	**338**	LR	LR	06 38 50.3	
DZM	**Mont D'zumac** comp=Z,124nm,19.3s,baz=350,slow=34	**32.05**	**130**	LR	LR	06 41 17.0	
H11S3	**WAKE ISLAND Hy** baz=232,slow=75,SNR=28	**32.85**	**50**	T	T	07 05 16.7	
H11S2	**WAKE ISLAND Hy** baz=232,slow=75,SNR=13	**32.86**	**50**	T	T	07 05 22.1	
H11S1	**WAKE ISLAND Hy** baz=232,slow=75,SNR=17	**32.87**	**50**	T	T	07 05 21.2	
H11N1	**WAKE ISLAND Hy** baz=237	**33.73**	**49**	T	T	07 06 11.1	
H11N2	**WAKE ISLAND Hy** baz=237	**33.74**	**49**	T	T	07 06 06.3	
H11N3	**WAKE ISLAND Hy** baz=237	**33.74**	**49**	T	T	07 06 16.6	
CAN	**Canberra**	**33.98**	**168**	P	**P**	**06 29 58.9**	**+1.0**
CAN	comp=Z,26nm,1.3s			IAmb	IAmb	06 30 00.9	
PPBI	**Pangkal Pinang**	**34.41**	**269**	P	**P**	**06 30 02.1**	**+0.3**
JHJ	**Hachijo jima 2** comp=Z,117nm,21.7s,baz=50,slow=31	**35.03**	**359**	LR	LR	06 41 25.0	
MORW	**Morawa**	**35.57**	**219**	P	**P**	**06 30 11.3**	**-0.4**
QIZ	**Qiongzhong**	**36.78**	**306**	P	**P**	**06 30 21.7**	**-0.4**
JHS	**Saijyo**	**37.55**	**350**	P	**P**	**06 30 27.5**	**-1.0**
MJAR	**Matsushiro Arr** comp=Z,2.0nm,0.6s,baz=172,slow=11,SNR=6.4	**38.50**	**357**	P	**P**	**06 30 34.0**	**-2.4**
MJAR	comp=Z,48nm,21.6s,baz=180,slow=31			LR	LR	06 43 12.0	
SDSI	**Sungai Dareh** comp=Z,6μmcomp=Z,8.5nm,1.4s	**39.14**	**271**	P	**P**	**06 30 42.3**	**+0.1**
NJ2	**Nanjing**	**39.71**	**331**	*eP*	**P**	**06 30 46.8**	**+0.2**
NJ2	comp=Z,7.0nm,0.8s			pmax	pmax		
JSD	**Sado**	**39.98**	**357**	P	**P**	**06 30 47.7**	**-1.1**
JSD	comp=Z,27nm,1.0s			IAmb	IAmb	06 30 48.2	
KSRS	**Korea Array** comp=Z,0.7nm,0.6s,baz=165,slow=10,SNR=4.5	**41.06**	**345**	P	**P**	**06 30 57.0**	**-0.6**
KSRS	comp=Z,58nm,21.3s,baz=165,slow=32 comp=Z,0.7nm,0.6s			LR	LR	06 45 05.6	
RPSI	**Rantau Prapat**	**41.90**	**276**	P	**P**	**06 31 04.3**	**-0.7**
RPSI	comp=Z,25nm,1.0s			IAmb	IAmb	06 31 05.6	
PSI	**Prapat**	**41.91**	**276**	P	**P**	**06 31 05.0**	**-0.2**
GSI	**Gunungsitoli**	**43.12**	**274**	P	**P**	**06 31 14.3**	**-0.6**
GYA	**Guiyang**	**43.32**	**313**	⇑P	**P**	**06 31 17.8**	**+1.3**
GYA	comp=Z,25nm,0.7s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.3s,baz=122,slow=6.4,SNR=15	**45.76**	**298**	P	**P**	**06 31 35.6**	**-0.3**
CMAR	comp=Z,0.9nm,0.3s,baz=87,slow=2.0,SNR=4.3			PcP	**PcP**	**06 33 13.8**	**+0.4**
CMAR	comp=Z,0.7nm,0.3s,baz=100,slow=20,SNR=2.4			S	**S**	**06 38 18.3**	**+0.5**
CMAR	comp=Z,6.8nm,20.6s,baz=105,slow=36 comp=Z,1.6nm,0.3s			LR	LR	06 50 22.5	
HNS	**HongShan**	**46.03**	**331**	⇑P	**P**	**06 31 37.6**	**-0.1**
HNS	comp=Z,17nm,0.7s			pmax	pmax		
XAN	**Xi'an**	**46.66**	**323**	⇑P	**P**	**06 31 42.8**	**-0.1**
XAN				pP	pP	06 31 47.3	-4.0
XAN				sP	sP	06 31 50.0	-4.8
XAN	comp=Z,14nm,0.8s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,1.8nm,0.8s,baz=171,slow=10,SNR=2.9	**46.72**	**352**	P	**P**	**06 31 43.0**	**0.0**
USRK	comp=Z,64nm,20.9s,baz=223,slow=31 comp=Z,1.8nm,0.8s			LR	LR	06 47 43.5	
PZH	**PanZhiHua**	**47.03**	**310**	P	**P**	**06 31 48.3**	**+2.3**
PZH	comp=Z,10.0nm,1.2s			pmax	pmax		
PZH	comp=Z,110nm,4.8s			pmax	pmax		
MDJ	**Mudanjiang**	**47.52**	**349**	P	**P**	**06 31 49.0**	**-0.3**
MDJ				pP	pP	06 31 59.8	+2.0
MDJ				sP	pwP	06 32 05.1	+3.2
MDJ				ScP	**ScP**	**06 37 09.4**	**-1.7**
MDJ				S	S	**06 38 43.1**	**+0.9**
MDJ				ScS	**ScS**	**06 41 38.8**	**-2.0**
MDJ	comp=Z,17nm,2.3s			pmax	pmax		
MDJ	comp=Z,190nm,4.9s			pmax	pmax		
MDJ	comp=Z,660nm,18.5s			LR	LR		
MDJ	comp=Z,480nm,15.0s			LR	LR		
MDJ	comp=Z,1μm,17.3s			LR	LR		
CD2	**Chengdu**	**48.00**	**316**	P	**P**	**06 31 53.4**	**+0.1**
BNX	**BinXian**	**49.03**	**348**	⇑P	**P**	**06 32 00.3**	**-0.6**
BNX	comp=Z,15nm,1.4s			pmax	pmax		
BNX	comp=Z,120nm,5.3s			pmax	pmax		
URZ	**Urewera** comp=Z,70nm,18.2s,baz=40,slow=36	**49.13**	**142**	LR	LR	06 53 01.0	
RPZ	**Rata Peaks** comp=Z,77nm,18.1s,baz=288,slow=36	**49.50**	**151**	LR	LR	06 52 56.5	
LZH	**Lanzhou**	**51.13**	**322**	⇓P	**P**	**06 32 18.0**	**+0.7**
LZH				sP	pP	06 32 27.4	+1.6
LZH	comp=Z,35nm,1.5s			pmax	pmax		
KLR	**Kul'dur** comp=Z,35nm,21.4s,baz=168,slow=32	**51.68**	**353**	LR	LR	06 50 37.9	
GTA	**Gaotai**	**55.70**	**322**	⇑P	**P**	**06 32 51.4**	**+0.7**
GTA				pP	pP	06 33 00.8	+1.5
GTA				sP	pwP	06 33 05.8	+2.3
GTA				PcP	**PcP**	**06 33 51.3**	**+1.4**
GTA	comp=Z,11nm,0.8s			pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,1.5nm,0.7s,baz=202,slow=8.7,SNR=1.9	**56.85**	**12**	P	**P**	**06 33 01.2**	**+2.7**
PETK	comp=Z,5.1nm,1.0s,baz=192,slow=5.5,SNR=3.7			PcP	**PcP**	**06 33 53.4**	**-0.5**
PETK	comp=Z,22nm,21.6s,baz=212,slow=33 comp=Z,1.5nm,0.7s			LR	LR	06 54 59.7	
ULN	**Ulaanbaatar**	**57.71**	**334**	P	**P**	**06 33 04.9**	**0.0**
SONM	**Songino Array** comp=Z,0.8nm,0.6s,baz=160,slow=9.2,SNR=5.8	**57.98**	**333**	P	**P**	**06 33 06.9**	**+0.2**
SONM	comp=Z,0.8nm,0.6s,baz=141,slow=3.0,SNR=2.2			PcP	**PcP**	**06 33 58.6**	**0.0**
SONM	comp=Z,55nm,21.1s,baz=96,slow=34 comp=Z,0.8nm,0.6s			LR	LR	06 56 23.8	
MA2	**Magadan** comp=Z,18nm,22.0s,baz=180,slow=33	**62.01**	**6**	LR	LR	06 57 38.6	
WMQ	**Urumqi**	**65.69**	**321**	*eP*	**P**	**06 34 00.8**	**+2.1**
WMQ	comp=Z,22nm,0.9s			pmax	pmax		
MK31	**Makanchi Array**	**70.45**	**322**	P	**P**	**06 34 28.1**	**-0.3**
MK31	comp=Z,8.9nm,1.1s			IAmb	IAmb	06 34 29.8	
MKAR	**Makanchi Array** comp=Z,7.6nm,0.9s,baz=113,slow=8.0,SNR=41 comp=Z,7.6nm,0.9s	**70.45**	**322**	P	**P**	**06 34 28.6**	**+0.2**
MKAR	**Makanchi Array**	**70.45**	**322**	P	**P**	**06 34 28.2**	**-0.2**
TARG	**Taragay, Kyrgy**	**71.44**	**315**	P	**P**	**06 34 34.9**	**-0.2**
TARG	comp=Z,9.5nm,1.2s			IAmb	IAmb	06 34 46.4	
KSH	**Kashi**	**72.02**	**313**	P	**P**	**06 34 40.0**	**+1.8**
KSH	comp=Z,8.0nm,0.8s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,2.1nm,0.8s,baz=114,slow=7.3,SNR=6.6	**72.35**	**329**	P	**P**	**06 34 38.7**	**-1.0**
ZALV	comp=Z,28nm,19.5s,baz=136,slow=36 comp=Z,2.1nm,0.8s			LR	LR	07 06 56.4	
ZALV	**Zalesovo Beam**	**72.35**	**329**	P	**P**	**06 34 38.4**	**-1.3**
NIL	**Nilore**	**72.45**	**306**	P	**P**	**06 34 41.0**	**+0.1**
BOOM	**Boomskoye usch**	**73.00**	**316**	P	**P**	**06 34 43.9**	**-0.2**
BOOM	comp=Z,9.4nm,0.8s			IAmb	IAmb	06 34 45.6	
TIXI	**Tiksi** comp=Z,30nm,21.3s,baz=181,slow=34	**74.00**	**356**	LR	LR	07 05 49.4	
TIXI	**Tiksi** comp=Z,7.5nm,0.8s	**74.00**	**356**	P	**P**	**06 34 50.3**	**+1.2**
TIXI				IAmb	IAmb	06 35 22.4	
AAK	**Ala-Archa** comp=Z,6.8nm,19.1s,baz=62,slow=38	**74.06**	**315**	LR	LR	07 09 54.5	
AAK	**Ala-Archa**	**74.06**	**315**	P	**P**	**06 34 50.0**	**-0.3**
KURK	**Kurchatov**	**74.29**	**324**	P	**P**	**06 34 50.7**	**-0.5**
KURK	comp=Z,18nm,1.4s			IAmb	IAmb	06 34 52.0	
KBL	**Kabul**	**76.06**	**306**	P	**P**	**06 35 01.5**	**-0.6**
KBL	comp=Z,8.4nm,0.8s			IAmb	IAmb	06 35 02.5	
GAR	**Garm**	**76.09**	**311**	P	**P**	**06 35 02.1**	**+0.1**
VNDA	**Vanda** comp=Z,2.4nm,0.7s,baz=326,slow=7.1,SNR=21	**76.24**	**175**	P	**P**	**06 35 02.7**	**+0.8**
VNDA	comp=Z,56nm,18.5s,baz=340,slow=36 comp=Z,2.4nm,0.7s			LR	LR	07 09 04.1	
VNDA	**Vanda**	**76.24**	**175**	P	**P**

GYA0B	**ALIBECK ARRAY**	**85.32**	**308**	P	**P**	**06 35 51.4**	**+0.1**
GYA0B				IAmb	IAmb	06 35 53.1	
	comp=Z,10nm,1.0s						
ABKAR	**Akbulak array**	**85.45**	**320**	P	**P**	**06 35 50.8**	**-0.8**
ABKAR				IAmb	IAmb	06 35 52.5	
	comp=Z,9.5nm,0.8s						
ABKAR	**Akbulak array**	**85.45**	**320**	P	**P**	**06 35 51.3**	**-0.4**
L26K	**Log Cabin Wild**	**85.56**	**26**	P	**P**	**06 35 51.8**	**-0.1**
BMAR	**Burnt Mountain**	**86.14**	**22**	P	**P**	**06 35 54.2**	**-0.5**
BCAR	**Beaver Creek A**	**86.27**	**26**	P	**P**	**06 35 55.3**	**-0.2**
K27K	**Chicken**	**86.34**	**25**	P	**P**	**06 35 55.4**	**-0.4**
DAWY	**Dawson**	**87.51**	**26**	P	**P**	**06 36 01.7**	**+0.1**
DAWY				IAmb	IAmb	06 36 03.1	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**87.85**	**180**	LR	LR	07 15 31.2	
	comp=Z,30nm,18.5s,baz=8.0,slow=36						
QSPA	**South Pole Qui**	**87.85**	**180**	P	**P**	**06 36 02.9**	**-0.3**
HYT	**Haines Junctio**	**87.87**	**29**	P	**P**	**06 36 03.2**	**-0.2**
M30M	**Minto, Yukon**	**88.44**	**27**	P	**P**	**06 36 06.1**	**+0.1**
M30M				IAmb	IAmb	06 36 06.9	
	comp=Z,6.1nm,1.2s						
KIRV	**Kirov**	**92.37**	**328**	LR	LR	07 19 04.2	
	comp=Z,31nm,20.2s,baz=57,slow=36						
BELG	**Belogornoye**	**93.44**	**322**	LR	LR	07 20 14.5	
	comp=Z,23nm,20.0s,baz=152,slow=37						
YBH	**Yreka Blue Hor**	**96.41**	**48**	LR	LR	07 17 25.3	
	comp=Z,21nm,18.1s,baz=326,slow=34						
YKA	**Yellowknife Ar**	**98.67**	**27**	LR	LR	07 17 00.1	
	comp=Z,35nm,20.3s,baz=312,slow=33						
SPITS	**Spitsbergen Ar**	**98.70**	**350**	LR	LR	07 20 34.4	
	comp=Z,31nm,20.4s,baz=338,slow=35						
NVAR	**Mina Array Bea**	**100.02**	**51**	P	**Pdif**	**06 36 60.0**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=234,slow=6.0,SNR=4.8						
TXAR	**Lajitas Array**	**113.39**	**59**	PKKPab	PKKPab	06 52 45.8	+1.0
	comp=Z,0.4nm,0.8s,baz=104,slow=5.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**137.86**	**287**	PKP	**PKPdf**	**06 42 38.8**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=42,slow=2.4,SNR=3.7						
ROSC	**El Rosal**	**145.07**	**85**	PKPbc	**PKPab**	**06 42 52.5**	**+0.1**
	comp=Z,2.6nm,0.3s,baz=94,slow=2.7,SNR=3.6						
DBIC	**Dimbokro**	**145.24**	**279**	PKPbc	**PKPbc**	**06 42 51.1**	**-1.2**
	comp=Z,7.0nm,0.8s,baz=131,slow=2.2,SNR=6.1						
LPAZ	**La Paz**	**146.28**	**124**	PKPbc	**PKPbc**	**06 42 56.0**	**-0.2**
	comp=Z,6.9nm,1.0s,baz=277,slow=4.3,SNR=18						
CPUP	**Villa Florida**	**146.87**	**150**	PKPbc	**PKPbc**	**06 42 57.3**	**+0.3**
	comp=Z,6.4nm,0.9s,baz=237,slow=3.3,SNR=16						

IDC 17 06:30:55.8±4.0, 2.05S×141.50E, h0km, mb3.5/3, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=126.2km s-min=30.3km az=93.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.11**	**201**	P	P	06 35 20.4	0.0
	0.1nm,0.3s,baz=25,slow=12,SNR=5.9						
	0.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.28**	**223**	P	P	06 35 54.1	-0.7
	3.6nm,0.9s,baz=56,slow=7.3,SNR=2.1						
	3.6nm,0.9s						
ASAR	**Alice Springs**	**22.71**	**198**	P	P	06 36 00.1	+0.6
	0.3nm,0.3s,baz=28,slow=11,SNR=6.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**71.00**	**321**	P	P	06 42 15.5	0.0
	0.7nm,0.8s,baz=103,slow=6.7,SNR=4.2						
	0.7nm,0.8s						

KRNET 17 06:37:08.4±0.1, 41.53N×73.92E, h14km, mb2.5
SOME 17 06:37:08.1, 41.50N×73.88E, h10km
NNC 17 06:37:10.7±2.1, 41.62N×73.82E, h0km, mb2.5, mpv2.8, Error ellipse: s-maj=15.7km s-min=9.6km az=2.0

ISC 17 06:37:08.0±1.4, 41.52N±0.05×73.88E±0.03, h8km±11km, n20, σ0.55/37, 11C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.48**	**44**	⇑*i*P	**Pg**	**06 37 17.1**	**-0.2**
	baz=44						
ARLS				⇑*i*S	**Sg**	**06 37 23.8**	**+0.2**
	baz=44						
UCH	**Uchtor**	**0.85**	**34**	⇓*i*P	**Pg**	**06 37 24.5**	**+0.1**
	baz=32						
UCH				⇓*i*S	**Sg**	**06 37 36.1**	**+0.6**
	baz=32						
EKS2	**Erkin-Say**	**1.14**	**356**	⇑*i*P	**Pb**	**06 37 30.1**	**0.0**
	baz=55						
EKS2				⇑*i*S	**Sn**	**06 37 46.3**	**0.0**
	baz=55						
AAK	**Ala-Archa**	**1.21**	**22**	⇓*i*P	**Pb**	**06 37 30.9**	**-0.3**
	baz=21						
AAK				⇓*i*S	**Sn**	**06 37 47.5**	**-0.5**
	baz=21						
MRKS	**Merke**	**1.31**	**339**	*e*P	**Pn**	**06 37 32.7**	**0.0**
	1.8nm,0.1s						
MRKS				*e*S	**Sg**	**06 37 50.5**	**+0.2**
	5.0nm,0.1s						
MRKS	**Merke**	**1.31**	**339**	P	**Pg**	**06 37 33.7**	**+0.5**
	1.8nm,0.1s						
MRKS				S	**Sb**	**06 37 49.5**	**-0.6**
	5.0nm,0.1s						
NRN	**Naryn**	**1.60**	**92**	⇑*i*P	**Pb**	**06 37 37.7**	**-0.2**
	baz=93						
NRN				⇑*i*S	**Sb**	**06 37 59.0**	**+0.6**
	baz=93						
USP	**Ospenovka**	**1.81**	**15**	⇓*i*P	**Pb**	**06 37 41.7**	**+0.4**
	baz=14						
USP				⇓*i*S	**Sg**	**06 38 06.0**	**0.0**
	baz=14						
BOOM	**Boomskoye usch**	**1.82**	**57**	⇓*i*P	**Pb**	**06 37 42.0**	**+0.4**
	baz=57						
BOOM				⇓*i*S	**Sg**	**06 38 06.5**	**+0.1**
	baz=57						
TKM2	**Tokmak 2**	**1.90**	**42**	⇓Pn	**Pg**	**06 37 44.4**	**+0.1**
	0.5nm,0.2s						
TKM2				⇑Sn	**Sg**	**06 38 08.8**	**-0.1**
	0.7nm,0.2s						
TKM2	**Tokmak 2**	**1.90**	**42**	⇑*i*P	**Pb**	**06 37 43.3**	**+0.4**
	baz=41						
TKM2				⇑*i*S	**Sg**	**06 38 08.4**	**-0.5**
	baz=41						
ULHL	**Ulahol**	**1.91**	**67**	⇓*i*P	**Pb**	**06 37 43.6**	**+0.4**
	baz=67						
ULHL				⇓*i*S	**Sg**	**06 38 09.1**	**-0.2**
	baz=67						
SGDS	**Sogindy**	**2.01**	**16**	*e*P	**Pb**	**06 37 45.6**	**+0.8**
	1.4nm,0.2s						
SGDS				*e*S	**Sg**	**06 38 12.7**	**+0.1**
	2.5nm,0.2s						
SGDS	**Sogindy**	**2.01**	**16**	P	**Pg**	**06 37 46.0**	**-0.4**
	1.4nm,0.2s						
SGDS				S	**Sb**	**06 38 10.8**	**+0.8**
	2.5nm,0.2s						
TRKS	**Terek-Say**	**2.05**	**271**	⇑*i*P	**Pb**	**06 37 46.3**	**+0.7**
	baz=69						
TRKS				⇑*i*S	**Sg**	**06 38 14.3**	**+0.3**
	baz=69						
KST	**Kastek**	**2.17**	**45**	*e*P	**Pg**	**06 37 48.8**	**-0.8**
	4.1nm,0.1s						
KST				*e*S	**Sg**	**06 38 18.2**	**+0.5**
	6.6nm,0.5s						
KST	**Kastek**	**2.17**	**45**	Pg	**Pg**	**06 37 49.3**	**-0.2**
	4.1nm,0.1s						
KST				Lg	Lg	06 38 16.3	
	6.6nm,0.5s						
KRBS	**Karabastau**	**2.55**	**31**	*e*P	**Pb**	**06 37 54.8**	**+0.8**
	3.5nm,0.3s						
KRBS				*e*S	**Sg**	**06 38 28.6**	**-1.2**
	3.1nm,0.1s						
KRBS	**Karabastau**	**2.55**	**31**	Pg	**Pg**	**06 37 55.9**	**-0.9**
	3.5nm,0.3s						
KRBS				Lg	Lg	06 38 27.6	
	3.1nm,0.1s						
KK31	**Karatay Array**	**2.95**	**303**	Pg	**Pg**	**06 38 03.4**	**-1.2**
	0.3nm,0.3s,baz=122,slow=17,SNR=10						
KK31				Lg	Lg	06 38 42.9	
	0.5nm,0.3s,baz=125,slow=29,SNR=5.3						

KRNET 17 06:40:11.9±0.1, 40.22N×73.08E, h14km, mb2.3
SOME 17 06:40:14.8, 40.35N×72.58E, h0km
NNC 17 06:40:15.7±6.8, 40.30N×72.65E, h0km, mb3.5, mpv3.6, Error ellipse: s-maj=48.0km s-min=30.3km az=168.0

ISC 17 06:40:13.7±1.6, 40.29N±0.05×72.92E±0.06, h10km±13km, n13, σ1.1/22, 12C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.25**	**337**	⇑*i*P	**Pg**	**06 40 19.0**	**0.0**
	baz=24						
OHH				⇑*i*S	**Sb**	**06 40 24.7**	**-0.2**
	baz=24						
DRK	**Karamyk**	**1.18**	**227**	⇑*i*P	**Pb**	**06 40 35.3**	**-1.1**
	baz=33						
DRK				⇑*i*S	**Sb**	**06 40 51.8**	**0.0**
	baz=33						
BTK	**Batken**	**1.62**	**262**	⇓*i*P	**Pb**	**06 40 44.2**	**+0.4**
	baz=65						
BTK				⇓*i*S	**Sg**	**06 41 07.8**	**+1.8**
	baz=65						
TRKS	**Terek-Say**	**1.83**	**313**	⇑*i*P	**Pb**	**06 40 47.4**	**0.0**
	baz=11						
TRKS				⇑*i*S	**Sg**	**06 41 12.8**	**+0.2**
	baz=11						
ARLS	**Aral**	**1.89**	**34**	⇑*i*P	**Pn**	**06 40 46.9**	**+0.6**
	baz=30						
ARLS				⇑*i*S	**Sb**	**06 41 12.1**	**-0.1**
	baz=30						
UCH	**Uchtor**	**2.28**	**31**	⇑*i*P	**Pn**	**06 40 52.4**	**+0.6**
	baz=28						
UCH				⇑*i*S	**Sb**	**06 41 22.4**	**-1.2**
	baz=28						
MRKS	**Merke**	**2.46**	**5**	*e*P	**Pg**	**06 41 00.6**	**-0.3**
	3.7nm,0.3s						
MRKS				*e*S	**Sg**	**06 41 33.2**	**+0.4**
	8.9nm,0.3s						
MRKS	**Merke**	**2.46**	**5**	Pg	**Pg**	**06 41 00.6**	**-0.3**
	3.7nm,0.3s						
MRKS				Lg	Lg	06 41 33.2	
	8.9nm,0.3s						
DZA	**Taraz**	**2.86**	**336**	*e*P	**Pb**	**06 41 06.1**	**+1.3**
	68nm,0.1s						
DZA				*e*S	**Sg**	**06 41 42.7**	**-2.8**
	148nm,0.1s						
DZA	**Taraz**	**2.86**	**336**	Pg	**Pb**	**06 41 06.1**	**+1.3**
	68nm,0.1s						
DZA				Lg	Lg	06 41 42.7	
	148nm,0.1s						
IUG	**luzhnay**	**2.86**	**311**	*e*P	**Pb**	**06 41 04.0**	**-0.9**
	73nm,0.3s						
IUG				*e*S	**Sb**	**06 41 39.1**	**-0.8**
	6.2nm,0.1s						
IUG	**luzhnay**	**2.86**	**311**	Pg	**Pb**	**06 41 04.0**	**-0.9**
	73nm,0.3s						
IUG				Lg	Lg	06 41 39.1	
	6.2nm,0.1s						
KK31	**Karatay Array**	**3.34**	**328**	⇑Pg	**Pb**	**06 41 14.1**	**+1.1**
	0.2nm,0.3s						
KK31				⇑Lg	Lg	06 41 57.7	
	0.3nm,0.3s,baz=160,slow=30,SNR=3.6						

IDC 17 06:41:43.4±3.0, 9.62N×104.82W, h0km, mb3.7/2, mbtmp3.5/3, ML3.2/1, MS3.4/14, Error ellipse: s-maj=126.1km s-min=32.8km az=58.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**12.19**	**51**	LR	LR	06 47 46.1	
	comp=Z,123nm,20.6s,baz=218,slow=30						
LPIG	**La Paz**	**15.32**	**341**	LR	LR	06 49 35.0	
	comp=Z,156nm,18.8s,baz=171,slow=31						
TXAR	**Lajitas Array**	**19.64**	**3**	P	P	06 46 14.0	+0.1
	baz=178,slow=12,SNR=4.8						
TXAR				LR	LR	06 52 18.4	
	comp=Z,57nm,21.8s,baz=178,slow=32						
	0.7nm,1.1s						
PFO	**Pinyon Flats O**	**26.17**	**338**	LR	LR	06 56 00.3	
	comp=Z,39nm,18.2s,baz=152,slow=33						
ROSC	**El Rosal**	**30.62**	**97**	LR	LR	06 56 50.6	
	comp=Z,80nm,19.8s,baz=348,slow=30						
ATAH	**Atahualpa**	**31.15**	**121**	LR	LR	06 57 43.1	
	comp=Z,201nm,21.8s,baz=310,slow=31						
TKL	**Tuckaleechee C**	**32.23**	**33**	LR	LR	07 01 56.0	
	comp=Z,24nm,20.3s,baz=188,slow=38						
SDV	**Santo Domingo**	**33.74**	**88**	LR	LR	07 00 04.7	
	comp=Z,45nm,20.5s,baz=340,slow=33						
SADO	**Sadowa**	**41.44**	**28**	LR	LR	07 07 16.2	
	comp=Z,20nm,18.0s,baz=202,slow=37						
LPAZ	**La Paz**	**44.51**	**125**	P	P	06 49 57.7	-0.1
	1.0nm,0.8s,baz=304,slow=9.4,SNR=2.6						
LPAZ				LR	LR	07 06 40.5	
	comp=Z,38nm,18.7s,baz=298,slow=34						
	1.0nm,0.8s						
LVC	**Limon Verde**	**47.58**	**133**	LR	LR	07 05 49.1	
	comp=Z,40nm,19.3s,baz=243,slow=30						
H03N2	**Juan Fernandez**	**49.41**	**151**	T	T	07 43 46.5	
	baz=329,slow=77,SNR=5.7						
H03N1	**Juan Fernandez**	**49.42**	**151**	T	T	07 43 46.9	
	baz=329,slow=77,SNR=8.9						
H03N3	**Juan Fernandez**	**49.42**	**151**	T	T	07 43 46.7	
	baz=329,slow=77,SNR=5.7						
SIV	**San Ignacio**	**50.23**	**120**	LR	LR	07 09 38.4	
	comp=Z,92nm,18.1s,baz=279,slow=33						
CPUP	**Villa Florida**	**58.35**	**129**	LR	LR	07 14 40.6	
	comp=Z,42nm,18.9s,baz=4.0,slow=34						
ILAR	**Eielson Array**	**62.37**	**341**	P	P	06 52 07.5	-0.1
	0.7nm,0.8s,baz=152,slow=5.3,SNR=7.5						
	0.7nm,0.7s						
ESDC	**Sonseca Array**	**92.16**	**49**	LR	LR	07 30 12.9	
	comp=Z,21nm,20.0s,baz=346,slow=32						

AUST 17 07:01:36.6±1.2, 26.52S×132.59E, h0km, Error ellipse: s-maj=16.5km s-min=11.4km az=81.0
IDC 17 07:01:38.7±3.5, 26.34S×132.79E, h0km, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=30.8km s-min=21.5km az=68.0

ISC 17 07:01:38.8±1.1, 26.50S±0.05×132.65E±0.06, h10km, n9, σ1.62/17, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OOD	**Oodnadatta**	**2.99**	**116**	P	**Pn**	**07 02 26.6**	**+0.2**
	baz=3.0						
OOD				S	**Sn**	**07 03 04.4**	**+2.1**
	baz=3.0						
ASPA	**Alice Springs**	**3.04**	**22**	P	**Pn**	**07 02 26.9**	**-0.2**
	baz=3.1						
ASPA				S	**Sn**	**07 03 05.7**	**+2.2**
	baz=3.1						
ASAR	**Alice Springs**	**3.04**	**22**	Pn	**Pn**	**07 02 26.6**	**-0.5**
	0.2nm,0.3s,baz=200,slow=13,SNR=13						
ASAR				Pg	**Pb**	**07 02 31.9**	**-1.2**
	0.5nm,0.3s,baz=198,slow=16,SNR=14						
ASAR				Sn	**Sn**	**07 03 03.1**	**-0.6**
	0.9nm,0.3s,baz=196,slow=22,SNR=5.5						
ASAR				Lg	Lg	07 03 07.8	
	2.1nm,0.3s,baz=204,slow=29,SNR=7.0						
	0.4nm,0.4s						
MULG	**Mulgathing**	**3.96**	**162**	P	**Pn**	**07 02 38.3**	**-1.3**
	baz=4.0						
MULG				S	**Sn**	**07 03 26.9**	**+0.6**
	baz=4.0						
WRKA	**Warakurna**	**4.19**	**289**	P	**Pn**	**07 02 42.4**	**-0.5**
	baz=4.1						
WRKA				S	**Sn**	**07 03 33.7**	**+1.7**
	baz=4.1						
FORT	**Forrest**	**5.87**	**222**	P	**Pn**	**07 03 03.8**	**-2.1**
	baz=5.8						
WRA	**Warramunga Arr**	**6.71**	**14**	Pn	**Pn**	**07 03 16.1**	**-1.4**
	0.3nm,0.3s,baz=187,slow=14,SNR=29						
WRA				Pg	**Pb**	**07 03 38.5**	**+2.8**
	0.1nm,0.3s,baz=196,slow=19,SNR=4.6						
WRA				Sn	**Sn**	**07 04 32.2**	**-1.9**
	0.7nm,0.3s,baz=192,slow=23,SNR=6.7						
WRA				Lg	Lg	07 05 02.7	
	0.4nm,0.3s,baz=195,slow=29,SNR=5.0						
	0.4nm,0.4s						
WB2	**Warramunga Arr**	**6.71**	**14**	P	**Pn**	**07 03 16.0**	**-1.6**
	baz=6.8						
STKA	**Stephens Creek**	**9.47**	**127**	Pn	**Pn**	**07 03 54.6**	**-0.7**
	0.2nm,0.3s,baz=320,slow=16,SNR=1.5						
	0.6nm,0.3s						

IDC 17 07:02:24.7±3.4, 26.57S×132.98E, h0km, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=29.4km s-min=18.7km az=62.0

ISC 17 07:02:26.3±1.1, 26.52S±0.06×133.0E±0.1, h10km, n5, σ1.66/9, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**2.97**	**17**	Pn	**Pn**	**07 03 12.4**	**-1.2**
	2.1nm,0.3s,baz=191,slow=25,SNR=3.7						
ASAR				Pg	**Pb**	**07 03 21.0**	**+1.6**
	1.8nm,0.3s,baz=194,slow=24,SNR=3.1						
ASAR				Sn	**Sb**	**07 03 53.5**	**-2.3**
	1.6nm,0.3s,baz=197,slow=20,SNR=1.8						
ASAR				Lg	Lg	07 04 00.3	
	2.3nm,0.3s,baz=193,slow=25,SNR=7.3						
	1.5nm,0.3s						
FORT	**Forrest**	**6.04**	**224**	S	**Pn**	**07 03 54.8**	**-1.0**
	baz=5.8						
WRA	**Warramunga Arr**	**6.67**	**11**	Pn	**Pn**	**07 04 05.0**	**+0.5**
	0.6nm,0.3s,baz=193,slow=14,SNR=13						
WRA				Sn	**Sn**	**07 05 21.5**	**+0.9**
	1.5nm,0.3s,baz=192,slow=24,SNR=8.0						
WRA				Lg	Lg	07 05 56.5	
	0.2nm,0.3s,baz=196,slow=29,SNR=1.5						
	0.6nm,0.4s						
WB2	**Warramunga Arr**	**6.67**	**11**	S	**Pn**	**07 04 04.8**	**+0.3**
	baz=6.8						
STKA	**Stephens Creek**	**9.25**	**127**	Pn	**Pn**	**07 04 38.3**	**-1.5**
	0.1nm,0.3s,baz=293,slow=15,SNR=1.5						
STKA				Sn	**Sn**	**07 06 25.7**	**+1.8**
	0.6nm,0.3s,baz=339,slow=17,SNR=2.5						
	0.5nm,0.2s						

BJI 17 07:09:43.0±0.0, 6.83S×146.88E, h133km, mb4.8/41, mB5.0/19
IDC 17 07:09:43.7±0.5, 6.64S×146.72E, h110km±4km, mb4.2/18, mbtmp4.6/21, MS3.3/6, Error ellipse: s-maj=16.6km s-min=7.2km az=87.0
DJA 17 07:09:44.5±0.4, 7.3S×147.7E±, h112km±5km, M4.7/30, mB5.2/8, mb4.8/30, MLv4.7/3, Mw(mB)4.5/8
NEIC 17 07:09:44.6±1.6, 6.69S±0.07×146.6E±0.1, h113km±7km, mb4.7/57, Error ellipse: s-maj=14.9km s-min=9.6km az=91.0

ISC 17 07:09:44.1±0.4, 6.69S±0.04×146.58E±0.07, h10km, n142, σ1.20/151, mb4.7/58, 1C-3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.76**	**168**	P	**Pn**	**07 10 27.5**	**+0.6**
	234nm,0.3s,baz=334,slow=6.5,SNR=172						
PMG				S	**Sn**	**07 10 59.7**	**-0.1**
	2µm,0.5s,baz=319,slow=20,SNR=29						
PMG				LR	LR	07 11 28.2	
	comp=Z,698nm,21.6s,baz=17,slow=38						
PMG	**Port Moresby**	**2.76**	**168**	Pn	**Pn**	**07 10 27.2**	**+0.3**
PMG	**Port Moresby**	**2.76**	**168**	P	**Pn**	**07 10 27.5**	**+0.6**
MANU	**Manus Island**	**4.68**	**10**		**Pn**	**07 10 53.2**	**+0.5**
RABL	**Rabaul**	**6.08**	**66**		**Pn**	**07 11 11.9**	**+0.2**
RABL	**Rabaul**	**6.08**	**66**	P	**Pn**	**07 11 12.1**	**+0.4**
COEN	**Coen**	**7.96**	**205**	Pn	**Pn**	**07 11 38.1**	**+1.0**
COEN	**Coen**	**7.96**	**205**	P	**Pn**	**07 11 38.8**	**+1.7**
MTSU	**Mount Surprise**	**11.59**	**191**	P	**Pn**	**07 12 28.5**	**+2.3**
CTA	**Charters Tower**	**13.32**	**181**	P	**P**	**07 12 53.7**	**-0.9**
	30nm,0.5s,baz=1.8,slow=13,SNR=95						
CTA				S	**Sn**	**07 15 13.7**	**-2.0**
	4.9nm,0.5s,baz=77,slow=20,SNR=2.9						
CTA				LR	LR	07 17 25.4	
	comp=Z,129nm,19.8s,baz=64,slow=34						
FAKI	**Fak Fak**	**14.77**	**284**	Pn	**Pn**	**07 13 08.1**	**+0.5**
FAKI	**Fak Fak**	**14.77**	**284**	P	**Pn**	**07 13 08.2**	**+0.6**
	776nm50nm,1.0s						
QIS	**Mount Isa**	**15.35**	**205**	P	**P**	**07 13 17.5**	**+0.3**
SIJI	**Sorong**	**16.34**	**290**	P	**Pn**	**07 13 27.9**	**+0.7**
	45nm,0.6s,baz=94,slow=8.4,SNR=17						
SWI	**Sorong**	**16.34**	**290**	P	**Pn**	**07 13 26.3**	**-1.0**
	105nm,0.9s						
MTN	**Manton Dam**	**16.40**	**247**		**Pn**	**07 13 28.6**	**+0.6**
MTN				IAmb	IAmb	07 14 04.8	
	comp=Z,18nm,0.6s						
WB0	**Warramunga Arr**	**17.58**	**221**	P	**P**	**07 13 42.0**	**+0.2**
WRAB	**Tennant Creek**	**17.73**	**221**	P	**P**	**07 13 44.1**	**+0.7**
WRA	**Warramunga Arr**	**17.74**	**221**	P	**P**	**07 13 44.0**	**+0.4**
	comp=Z,7.4nm,0.5s,baz=43,slow=12,SNR=70						
WRA				S	**S**	**07 16 56.8**	**-5.5**
	comp=Z,1.9nm,0.6s,baz=42,slow=24,SNR=3.9						
WRA				LR	LR	07 20 50.1	
	comp=Z,86nm,18.6s,baz=20,slow=37						
WRA	**Warramunga Arr**	**17.74**	**221**	P	**P**	**07 13 43.4**	**-0.2**
EIDS	**Eidsvold**	**19.06**	**167**	P	**Pn**	**07 14 00.1**	**+0.1**
EIDS				IAmb	IAmb	07 14 04.3	
	comp=Z,28nm,0.8s						
EIDS	**Eidsvold**	**19.06**	**167**	P	**Pn**	**07 13 59.9**	**0.0**
KNRA	**Kununurra**	**19.61**	**241**	P	**P**	**07 14 03.3**	**-0.7**
KNRA				IAmb	IAmb	07 14 43.1	
	comp=Z,20nm,0.6s						
QLP	**Quilpie**	**19.91**	**186**	P	**Pn**	**07 14 09.4**	**-0.3**
GUMO	**Guam**	**20.22**	**355**	P	**P**	**07 14 09.4**	**-1.1**
	comp=Z,24nm,0.5s,baz=166,slow=13,SNR=2.1						
GUMO				LR	LR	07 21 51.1	
	comp=Z,41nm,18.4s,baz=178,slow=36						
	comp=Z,24nm,0.5s						
AS31	**Alice Springs**	**20.82**	**214**	P	**P**	**07 14 17.6**	**+0.7**
ASAR	**Alice Springs**	**20.82**	**214**	P	**P**	**07 14 17.7**	**+0.7**
	comp=Z,17nm,0.6s,baz=56,slow=9.0,SNR=142						
ASAR				S	**S**	**07 18 05.8**	**+2.5**
	comp=Z,1.2nm,0.7s,baz=29,slow=23,SNR=4.5						
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**20.82**	**214**	P	**P**	**07 14 18.2**	**+1.2**
SANI	**Sanana**	**21.04**	**282**	P	**P**	**07 14 21.2**	**+1.8**
	comp=Z,46nm,0.8s						
INKA	**Innaminka**	**21.66**	**194**	P	**P**	**07 14 27.9**	**+2.1**
FITZ	**Fitzroy Crossi**	**23.35**	**239**	P	**P**	**07 14 42.7**	**-0.2**
	comp=Z,13nm,0.8s,baz=44,slow=7.5,SNR=53						
FITZ				S	**S**	**07 18 43.8**	**-3.8**
	comp=Z,1.0nm,0.6s,baz=56,slow=18,SNR=1.3						
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.35**	**239**	P	**P**	**07 14 43.0**	**0.0**
FITZ	**Fitzroy Crossi**	**23.35**	**239**	P	**P**	**07 14 43.8**	**+0.8**
OOD	**Oodnadatta**	**23.39**	**205**	P	**P**	**07 14 44.3**	**+1.1**
ARMA	**Armidale**	**24.07**	**169**	P	**P**	**07 14 51.0**	**+1.6**
ARMA	**Armidale**	**24.07**	**169**	P	**P**	**07 14 50.9**	**+1.4**
DZM	**Mont Dzumac**	**24.52**	**131**	P	**P**	**07 14 53.4**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=312,slow=14,SNR=3.3						
DZM				LR	LR	07 24 08.7	
	comp=Z,58nm,18.2s,baz=18,slow=35						
	comp=Z,5.4nm,0.9s						
CMSA	**Cobar Meteorol**	**24.73**	**182**	P	**P**	**07 14 58.0**	**+2.7**
EDFI	**Ende, Flores**	**24.75**	**264**	P	**P**	**07 14 54.3**	**-1.5**
	comp=Z,19nm,0.7s						
LCRK	**Leigh Creek**	**24.90**	**197**	P	**P**	**07 14 58.0**	**+1.1**
STKA	**Stephens Creek**	**25.49**	**190**	P	**P**	**07 15 02.7**	**+0.6**
	comp=Z,15nm,0.5s,baz=356,slow=8.8,SNR=44						

comp=Z,10nm,0.9s
NJ2 Nanjing 46.73 327 eP P 07 18 03.3 +1.1
NJ2 pmax pmax
comp=Z,11nm,0.5s
KSRS Korea Array 47.25 340 P P 07 18 05.2 -1.0
comp=Z,6.1nm,0.7s,baz=158,slow=8.8,SNR=19
comp=Z,6.1nm,0.7s
GYA Guiyang 50.83 312 ⇓P P 07 18 35.5 +1.6
GYA pmax pmax
comp=Z,31nm,0.9s
USRK Ussuriysk Ar. 52.34 347 P P 07 18 43.9 -0.8
comp=Z,2.9nm,0.5s,baz=164,slow=7.9,SNR=13
comp=Z,2.9nm,0.5s
KMI Kunming 53.09 308 ⇓P P 07 18 52.3 +1.5
KMI pmax pmax
comp=Z,26nm,0.9s
CM31 Chiang Mai Arr 53.22 299 P P 07 18 51.9 +0.3
CMAR Chiang Mai Arr 53.22 299 P P 07 18 52.9 +1.3
comp=Z,11nm,0.6s,baz=125,slow=5.8,SNR=43
comp=Z,11nm,0.6s
CMAR Chiang Mai Arr 53.22 299 P P 07 18 52.0 +0.4
MDJ Mudanjiang 53.32 345 P P 07 18 53.6 +1.8
MDJ pmax pmax
comp=Z,14nm,2.8s
MDJ pmax pmax
comp=Z,260nm,4.0s
CHTO Chiang Mai 53.36 299 P P 07 18 53.2 +0.6
XAN Xi'an 53.95 321 ⇓P P 07 18 55.6 -1.2
XAN pmax pmax
comp=Z,17nm,0.9s
PZH PanZhiHua 54.57 309 P P 07 19 04.3 +2.9
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.1s
HHC Hu-ho-hao-te 57.20 329 eP P 07 19 22.6 +2.6
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,170nm,6.2s
LZH Lanzhou 58.47 320 ⇑P P 07 19 30.1 +1.2
LZH pmax pmax
comp=Z,20nm,1.4s
PETK Petropavlovsk- 60.31 8 P P 07 19 40.7 -0.4
comp=Z,4.1nm,0.8s,baz=153,slow=5.0,SNR=6.9
comp=Z,4.1nm,0.8s
LSA Lhasa 64.33 307 P P 07 20 09.4 +0.5
CASY Casey 64.48 195 P P 07 20 09.0 +0.3
CASY IAmb IAmb 07 20 37.6
comp=Z,3.4nm,0.6s
GOMU GeErMu 64.59 315 P P 07 20 11.0 +0.6
GOMU pmax pmax
comp=Z,4.0nm,0.8s
GOMU pmax pmax
comp=Z,61nm,6.0s
SONM Songino Array 64.81 331 P P 07 20 10.7 -0.6
comp=Z,0.7nm,0.4s,baz=153,slow=6.2,SNR=6.3
comp=Z,0.7nm,0.4s
SONM Songino Array 64.81 331 P P 07 20 11.2 -0.1
TAPN Taplejung 66.18 304 eP P 07 20 21.4 +0.6
comp=Z,40nm,0.7s
RAMN Ramite 66.96 303 eP P 07 20 26.1 +0.4
comp=Z,13nm,0.6s
JIRN Jiri 67.55 303 eP P 07 20 30.1 +0.6
comp=Z,30nm,0.6s
GUN Gumba 67.90 304 eP P 07 20 32.3 +0.6
comp=Z,85nm,0.7s
PKI Pulchoki 68.17 303 eP P 07 20 33.4 0.0
comp=Z,39nm,0.9s
PKIN Phulchoki 68.18 303 eP P 07 20 33.5 +0.1
comp=Z,31nm,0.8s
DMN Daman 68.44 303 eP P 07 20 35.5 +0.6
comp=Z,90nm,0.9s
GKN Gorkha 68.96 303 eP P 07 20 38.2 +0.1
comp=Z,64nm,0.8s
DANN Dangsing 69.81 303 eP P 07 20 43.5 +0.1
comp=Z,63nm,0.8s
PYUN Piuthan 70.37 303 eP P 07 20 46.8 0.0
comp=Z,88nm,0.8s
VNDA Vanda 71.25 177 P P 07 20 51.6 +0.7
comp=Z,2.0nm,0.8s,baz=322,slow=6.5,SNR=13
VNDA pP **pP 07 21 18.4 -0.5**
comp=Z,3.0nm,1.1s,baz=332,slow=6.4,SNR=5.4
comp=Z,2.0nm,0.8s
VNDA Vanda 71.25 177 P P 07 20 51.4 +0.5
SBA Scott Base 71.90 176 P P 07 20 56.5 +1.6
WMQ Urumqi 73.05 320 eP P 07 21 03.3 +1.0
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ LR LR
comp=Z,330nm,17.9s
WMQ LR LR
comp=Z,110nm,19.7s
MK31 Makanchi Array 77.77 321 P P 07 21 28.7 -0.5
MKAR Makanchi Array 77.77 321 P P 07 21 28.8 -0.4
comp=Z,4.6nm,0.8s,baz=113,slow=5.8,SNR=36
MKAR pP **pP 07 21 59.0 +1.6**
comp=Z,0.7nm,0.5s,baz=124,slow=7.7,SNR=1.8
comp=Z,4.6nm,0.8s
TARG Taragay, Kyrgy 78.91 315 P P 07 21 35.9 -0.2
ZAA0 Zalesovo Array 79.37 328 P P 07 21 36.4 -1.4
ZALV Zalesovo Beam 79.37 328 P P 07 21 36.6 -1.2
comp=Z,3.7nm,0.6s,baz=106,slow=5.3,SNR=14
comp=Z,3.7nm,0.6s
ZALV Zalesovo Beam 79.37 328 P P 07 21 36.2 -1.6
KSH Kashi 79.53 312 P P 07 21 41.3 +2.1
KSH pmax pmax
comp=Z,11nm,0.6s
NIL Nilore 79.99 306 P P 07 21 41.6 -0.1
OHAK Old Harbor 80.10 29 P P 07 21 41.4 -0.2
BOOM Boomskoye usch 80.47 315 P P 07 21 44.9 +0.7
BOOM IAmb IAmb 07 21 45.7
comp=Z,9.3nm,0.6s
TKM2 Tokmak 2 80.84 315 P P 07 21 46.3 0.0
SNR=7.7
UCH Uchtor 81.40 314 P P 07 21 50.6 +1.1
SNR=16
MAW Mawson 81.45 203 P P 07 21 49.3 +0.6
comp=Z,1.4nm,0.6s,baz=101,slow=9.9,SNR=3.7
MAW pP **pP 07 22 16.8 -0.5**
comp=Z,2.1nm,0.6s,baz=114,slow=8.1,SNR=3.5
comp=Z,1.4nm,0.6s
KURK Kurchatov 81.52 323 P P 07 21 48.6 -0.7
AAK Ala-Archa 81.53 315 P P 07 21 50.2 +0.4
AAK IAmb IAmb 07 21 51.2
comp=Z,7.5nm,1.1s
USP Ospenovka 81.71 315 P P 07 21 51.0 +0.4
SNR=5.1
AML Almayashu 81.95 314 P P 07 21 53.5 +1.2
SNR=9.6
EKS2 Erkin-Say 82.04 315 P P 07 21 53.4 +0.9
SNR=8.4
CNPM China Poot 82.14 27 P P 07 21 51.7 -0.8
M20K Styx River 82.45 25 P P 07 21 53.9 -0.3
M20K IAmb IAmb 07 22 25.7
comp=Z,13nm,1.4s
K20K Telida 82.82 23 P P 07 21 55.6 -0.3
K20K IAmb IAmb 07 21 56.8
comp=Z,5.0nm,0.9s
SUA Susitna One 83.26 25 P P 07 21 57.0 -1.3
SUA IAmb IAmb 07 22 26.8
comp=Z,11nm,1.0s
QSPA South Pole Qui 83.28 180 P P 07 21 57.8 -0.6
QSPA IAmb IAmb 07 22 27.6
comp=Z,6.5nm,0.7s
RC01 Rabbit Creek A 83.52 26 P P 07 21 59.1 -0.4
RC01 IAmb IAmb 07 22 18.3
comp=Z,15nm,1.0s
KBL Kabul 83.59 306 P P 07 22 00.4 -0.3
KBL IAmb IAmb 07 22 00.8
comp=Z,9.4nm,0.9s
GHO Glory Hole Cre 84.17 26 P P 07 22 02.0 -1.0
IMAR Indian Mountai 84.28 21 P P 07 22 03.1 -0.2
CHGR Chuyangaron 84.42 310 P P 07 22 05.0 +0.3
KK31 Karatay Array 84.47 314 P P 07 22 04.9 +0.1
KK31 IAmb IAmb 07 22 05.7
comp=Z,21nm,1.4s
KKAR Karatay Array 84.47 314 P P 07 22 04.1 -0.7
KKAR Karatay Array 84.47 314 P P 07 22 04.9 +0.1
KKAR IAmb IAmb 07 22 05.7
comp=Z,21nm,1.4s
MLY Manley 84.91 22 P P 07 22 05.7 -0.9
MLY IAmb IAmb 07 22 06.8
comp=Z,6.6nm,0.7s
DHY Denali Highway 85.38 25 P P 07 22 08.6 -0.5
DHY IAmb IAmb 07 22 09.6
comp=Z,5.5nm,0.8s

H23K Yukon River 85.72 22 P P 07 22 09.7 -0.8
H23K IAmb IAmb 07 22 11.4
comp=Z,3.5nm,0.7s
NRIK Noril'sk 85.80 342 P P 07 22 10.0 -0.8
comp=Z,3.8nm,0.6s,baz=169,slow=3.4,SNR=6.9
comp=Z,3.8nm,0.6s
CCB Clear Creek Bu 85.86 23 P P 07 22 09.3 -1.9
CCB IAmb IAmb 07 22 10.3
comp=Z,5.5nm,0.6s
COLD Coldfoot 86.12 20 P P 07 22 12.2 -0.2
COLD IAmb IAmb 07 22 13.8
comp=Z,8.6nm,1.2s
IL31 86.28 23 P P 07 22 11.1 -2.1
IL31 IAmb IAmb 07 22 12.4
comp=Z,7.5nm,0.7s
ILAR Eielson Array 86.28 23 P P 07 22 11.7 -1.6
comp=Z,6.2nm,0.7s,baz=252,slow=5.0,SNR=61
ILAR pP **pP 07 22 40.6 -1.5**
comp=Z,1.3nm,0.6s,baz=252,slow=5.0,SNR=2.9
comp=Z,6.2nm,0.7s
ILAR Eielson Array 86.28 23 P P 07 22 11.5 -1.8
J25K Salcha River, 86.81 24 P P 07 22 14.9 -1.0
J25K IAmb IAmb 07 22 15.8
comp=Z,9.2nm,0.7s
ABKAR Akbulak array 92.83 319 P P 07 22 43.1 -1.2
ABKAR IAmb IAmb 07 22 43.8
comp=Z,4.1nm,0.8s
GEYT Alibeck 92.86 308 P P 07 22 44.7 -0.2
comp=Z,4.2nm,0.9s,baz=204,slow=3.3,SNR=6.7
comp=Z,4.2nm,0.9s
GERES GERESS Array B 122.24 325 PKP PKPdf 07 28 25.9 -0.5
comp=Z,0.7nm,0.6s,baz=94,slow=4.3,SNR=7.9
SIV San Ignacio 144.54 130 PKP PKPbc 07 29 07.9 +0.3
comp=Z,1.0nm,0.7s,baz=237,slow=5.6,SNR=3.9
SIV pPKP pPKPdf 07 29 36.1 -3.1
comp=Z,0.8nm,0.5s,baz=215,slow=4.0,SNR=3.4
TORD Torodi Ar. Bea 144.85 283 PKP PKPbc 07 29 08.8 +0.2
comp=Z,11nm,0.7s,baz=72,slow=3.5,SNR=50
TORD pPKP pPKPdf 07 29 38.6 -0.7
comp=Z,4.6nm,0.6s,baz=69,slow=3.6,SNR=5.9
DBIC Dimbokro 151.63 272 PKPbc PKPbc 07 29 27.3 +0.6
comp=Z,5.5nm,0.8s,baz=111,slow=3.6,SNR=4.5
DBIC pPKPbc **pPKPbc 07 29 56.8 +0.2**
comp=Z,6.2nm,0.8s,baz=145,slow=3.3,SNR=3.2
BDFB Brasilia 153.51 147 PKPbc PKPbc 07 29 30.7 -0.3
comp=Z,0.9nm,0.6s,baz=191,slow=5.2,SNR=1.3
BDFB pPKPbc **pPKPbc 07 30 00.5 -0.6**
comp=Z,1.1nm,0.4s,baz=178,slow=4.6,SNR=2.6

NNC 17 07:26:28.3±0.4, 49°.98N×78°.68E, h0km, mb3.6, mpv3.2, 18C-8D, Error ellipse: s-maj=4.3km s-min=1.8km az=73.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.61**	**351**	⇓P	Pg	07 26 40.3	+0.3
KUR07				⇑S	Sg	07 26 49.3	+1.3
KUR06	**Kurchatov Arra**	**0.63**	**351**	⇑P	Pg	07 26 40.7	+0.3
KUR06				⇑S	Sg	07 26 49.5	+0.9
KUR14	**Kurchatov Arra**	**0.64**	**355**	⇓P	Pg	07 26 40.7	+0.1
KUR14				⇑S	Sg	07 26 49.7	+0.9
KUR15	**Kurchatov Arra**	**0.64**	**354**	⇑P	Pg	07 26 40.9	+0.3
KUR15				⇑S	Sg	07 26 49.9	+0.9
KURBB	**Kurchatov Arra**	**0.65**	**352**	⇑P	Pg	07 26 41.0	+0.3
	11nm,0.2s						
KURBB				⇑S	Sb	07 26 50.8	-1.4
	138nm,0.8s						
KUR16	**Kurchatov Arra**	**0.66**	**350**	⇑P	Pg	07 26 41.1	+0.2
KUR16				⇓S	Sg	07 26 50.1	+0.6
KUR17	**Kurchatov Arra**	**0.67**	**349**	⇑P	Pg	07 26 41.3	+0.2
KUR17				⇓S	Sg	07 26 50.4	+0.6
KUR05	**Kurchatov Arra**	**0.67**	**352**	⇓P	Pg	07 26 41.3	+0.1
KUR05				⇑S	Sg	07 26 50.5	+0.6
KUR04	**Kurchatov Arra**	**0.69**	**353**	⇑P	Pg	07 26 41.7	+0.2
KUR04				⇓S	Sg	07 26 50.8	+0.4
KURK	**Kurchatov**	**0.74**	**357**	⇑P	Pg	07 26 42.3	-0.1
	5.4nm,0.3s						
KURK				⇓S	Sg	07 26 52.6	+0.6
	32nm,0.8s						
SEM	**Semipalatinsk**	**1.10**	**66**	P	Pg	07 26 47.7	-1.7
	4.7nm,0.1s						
SEM				S	Sb	07 27 05.0	-0.3
	35nm,0.1s						
MAKZ	**Makanchi**	**3.86**	**144**	⇑Pn	Pn	07 27 29.7	+0.7
	1.7nm,0.8s						
MAKZ				⇑Pg	Pg	07 27 40.1	-2.2
	3.6nm,1.0s						
MAKZ				⇑Lg	Lg	07 28 31.0	
	9.2nm,0.6s						
BRZS	**Berezniki**	**3.87**	**272**	Pg	Pn	07 27 33.2	+4.2
	2.4nm,0.1s						
BRZS				Lg	Lg	07 28 23.4	
	5.0nm,0.2s						
MK31	**Makanchi Array**	**4.00**	**142**	⇓Pn	Pn	07 27 32.5	+1.7
	0.1nm,0.1s,baz=281,slow=6.5,SNR=25						
MK31				⇑Pg	Pb	07 27 41.8	+2.3
	0.2nm,0.2s,baz=326,slow=14,SNR=13						
MK31				Lg	Lg	07 28 35.7	
	7.3nm,0.6s,baz=333,slow=24,SNR=22						
ZSN	**Zaisan**	**4.82**	**119**	Pg	Pb	07 27 52.7	-0.8
	4.4nm,0.3s						
ZSN				Lg	Lg	07 28 56.4	
	4.5nm,0.2s						
ARXS	**Arharly**	**5.80**	**186**	Pg	Pb	07 28 13.5	+3.2
	0.6nm,0.2s						
ARXS				Lg	Lg	07 29 32.1	
	13nm,0.6s						
BTLS	**Baital**	**5.85**	**214**	Pg	Pb	07 28 12.9	+1.8
	1.6nm,0.3s						
BTLS				Lg	Lg	07 29 31.4	
	2.3nm,0.3s						
BLB	**Baldybastay**	**5.89**	**181**	Pg	Pb	07 28 15.5	+3.6
	7.2nm,0.3s						
BLB				Lg	Lg	07 29 35.6	
	18nm,0.7s						
BVA0	**Borovoye Array**	**6.01**	**304**	Sn	Sn	07 29 10.7	+2.9
	3.0nm,0.9s,baz=108,slow=24,SNR=7.8						
BVA0				⇑Lg	Lg	07 29 40.6	
	1.9nm,0.6s						
CHKK	**Chushkaly**	**6.24**	**191**	Pg	Pb	07 28 21.4	+3.7
	1.7nm,0.4s						
CHKK				Lg	Lg	07 29 45.8	
	6.8nm,0.2s						
KUU	**Kurty**	**6.29**	**196**	Pg	Pb	07 28 22.0	+3.3
	1.4nm,0.2s						
KUU				Lg	Lg	07 29 46.9	
	7.3nm,0.5s						
KRBS	**Karabastau**	**6.61**	**199**	Pg	Pb	07 28 27.9	+3.8
	0.7nm,0.4s						
KRBS				Lg	Lg	07 29 56.5	
	3.9nm,0.3s						
DGS	**Degeres**	**7.03**	**198**	Pg	Pb	07 28 35.9	+4.6
	1.3nm,0.4s						
DGS				Lg	Lg	07 30 10.6	
	6.0nm,0.6s						

SOME 17 07:34:38.1, 38°.92N×71°.17E, h20km
NNC 17 07:34:46.0±4.9, 39°.03N×70°.09E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=38.7km s-min=29.6km az=27.0
ISC 17 07:34:45.2±2.7, 39°.1N±0°.1×70°.74E±0°.06, h17km, n25, σ3°.07/32, 2C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**3.07**	**350**	*eP*	**Pb**	**07 35 38.3**	**-1.1**
	401nm,0.2s						
IUG				*eS*	**Sb**	**07 36 21.5**	**+4.9**
	116nm,0.3s						
IUG	**Iuzhnay**	**3.07**	**350**	Pg	**Pb**	**07 35 38.3**	**-1.1**
	401nm,0.2s						
IUG				Lg	Lg	07 36 21.5	
	116nm,0.3s						
AML	**Almayashu**	**3.75**	**36**	P	**Pb**	**07 35 50.9**	**-0.3**
	SNR=11						
DZA	**Taraz**	**3.79**	**7**	*eP*	**Pb**	**07 35 49.2**	**-2.5**
	179nm,0.1s						
DZA				*eS*	**Sb**	**07 36 40.3**	**+2.9**
	211nm,0.2s						
DZA	**Taraz**	**3.79**	**7**	Pg	**Pb**	**07 35 49.2**	**-2.5**
	179nm,0.1s						
DZA				Lg	Lg	07 36 40.3	
	211nm,0.2s						
KK31	**Karatay Array**	**3.98**	**358**	Pn	**Pb**	**07 35 51.8**	**-3.1**
	1.4nm,0.4s,baz=183,slow=12,SNR=18						
KK31				⇑Sn	**Sb**	**07 36 41.7**	**-1.0**
	1.1nm,0.3s,baz=190,slow=25,SNR=4.3						
KK31				⇓Lg	Lg	07 36 55.8	
	3.8nm,0.4s						
MRKS	**Merke**	**4.08**	**27**	*eP*	**Pb**	**07 35 53.4**	**-3.2**
	3.1nm,0.2s						
MRKS				*eS*	**Sb**	**07 36 47.7**	**+2.0**
	10nm,0.3s						
MRKS	**Merke**	**4.08**	**27**	Pg	**Pb**	**07 35 53.4**	**-3.2**
	3.1nm,0.2s						
MRKS				Lg	Lg	07 36 47.7	
	10nm,0.3s						
EKS2	**Erkin-Say**	**4.22**	**32**	P	**Pb**	**07 35 57.6**	**-1.4**
	SNR=5.4						
UCH	**Uchtor**	**4.22**	**42**	P	**Pb**	**07 35 57.8**	**-1.5**
	SNR=21						
AAK	**Ala-Archa**	**4.52**	**38**	P	**Pb**	**07 36 01.5**	**-2.6**
	SNR=12						
KBK	**Karagaybulak**	**4.76**	**41**	P	**Pb**	**07 36 06.0**	**-2.2**
	SNR=10						
CHMS	**Chumysh**	**4.92**	**37**	⇑Pn	**Pb**	**07 36 06.8**	**-4.1**
	4.4nm,0.4s						
USP	**Ospenovka**	**5.02**	**33**	P	Pb	07 36 07.5	-5.1
	SNR=5.8						
SGDS	**Sogindy**	**5.22**	**33**	*eP*	**Pb**	**07 36 13.8**	**-2.3**
	2.3nm,0.3s						
SGDS				*eS*	**Sb**	**07 37 22.6**	**+4.1**
	3.8nm,0.4s						
SGDS	**Sogindy**	**5.22**	**33**	Pg	**Pb**	**07 36 13.8**	**-2.3**
	2.3nm,0.3s						
SGDS				Lg	Lg	07 37 22.6	
	3.8nm,0.4s						
TKM2	**Tokmak 2**	**5.28**	**43**	P	Pb	07 36 12.4	-4.8
	SNR=8.3						
TKM2	**Tokmak 2**	**5.28**	**43**	⇓Pn	Pb	07 36 11.2	-5.9
	10nm,1.1s						
TKM2				⇓Sn	**Sb**	**07 37 19.2**	**-1.1**
	3.2nm,0.5s						
KST	**Kastek**	**5.56**	**44**	*eP*	**Pb**	**07 36 20.0**	**-1.8**
	2.7nm,0.3s						
KST				*eS*	**Sb**	**07 37 33.4**	**+5.1**
	2.8nm,0.3s						
KST	**Kastek**	**5.56**	**44**	Pg	**Pb**	**07 36 20.0**	**-1.8**
	2.7nm,0.3s						
KST				Lg	Lg	07 37 33.4	
	2.8nm,0.3s						
KRBS	**Karabastau**	**5.88**	**37**	*eP*	**Pb**	**07 36 26.9**	**-0.4**
	2.5nm,0.2s						
KRBS				*eS*	**Sb**	**07 37 45.0**	**+7.4**
	1.8nm,0.5s						
KRBS	**Karabastau**	**5.88**	**37**	Pg	**Pb**	**07 36 26.9**	**-0.4**
	2.5nm,0.2s						
KRBS				Lg	Lg	07 37 45.0	
	1.8nm,0.5s						
BTLS	**Baital**	**6.40**	**21**	*eP*	**Pb**	**07 36 38.5**	**+2.4**
	1.5nm,0.4s						
BTLS				*eS*	**Sg**	**07 38 05.1**	**-5.5**
	1.4nm,0.3s						
BTLS	**Baital**	**6.40**	**21**	Pg	**Pb**	**07 36 38.5**	**+2.4**
	1.5nm,0.4s						
BTLS				Lg	Lg	07 38 05.1	
	1.4nm,0.3s						
AB31	**Akbulak array**	**12.74**	**326**	⇓Pn	**Pn**	**07 37 46.0**	**+0.5**
	0.5nm,0.4s,baz=145,slow=10,SNR=26						
AB31				⇓Sn	**Sn**	**07 40 07.6**	**+0.8**
	0.7nm,0.6s,baz=160,slow=23,SNR=7.3						

ROM 17 07:35:21.9±0.1, 42°.844N×0°.004×13°.233E×0°.006, h10km, ML3.4/38, Error ellipse: s-maj=0.5km s-min=0.3km az=266.0
LDG 17 07:35:21.9±0.1, 42°.77N×13°.25E, h11km, Ml3.3/10, Error ellipse: s-maj=3.8km s-min=2.3km az=46.0
IDC 17 07:35:22.1±1.9, 42°.91N×13°.52E, h0km, mb3.2/2, mbtmp3.4/4, ML3.5/2, MS2.8/2, Error ellipse: s-maj=51.8km s-min=17.6km az=97.0
PRU 17 07:35:24.4±0.0, 42°.98N×13°.56E, h0km
ISC 17 07:35:22.4±0.7, 42°.82N±0°.01×13°.21E±0°.02, h10km±4km, n147, σ1°.71/206, 40C-22D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.01**	**338**	⇓P	**Pg**	**07 35 24.0**	**-0.4**
T1242				S	**Sg**	**07 35 25.0**	**-0.9**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
NRCA	**Norcia**	**0.07**	**280**	⇑P	**Pg**	**07 35 24.8**	**+0.1**
NRCA				S	**Sg**	**07 35 26.5**	**0.0**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
MC2	**Monte Cornacci**	**0.09**	**352**	P	**Pg**	**07 35 24.8**	**-0.4**
MC2				S	**Sg**	**07 35 26.5**	**-0.7**
MMO1	**Montemonaco**	**0.12**	**48**	⇑P	**Pg**	**07 35 24.9**	**-0.5**
MMO1				S	**Sg**	**07 35 26.6**	**-0.9**
T1202	**Accumoli, Fraz**	**0.12**	**174**	P	**Pg**	**07 35 25.8**	**+0.4**
T1202				S	**Sg**	**07 35 28.6**	**+1.1**
T1202				AML	AML		
	comp=E,26100μm,1.0s						
T1202				AML	AML		
	comp=E,26150μm,1.0s						
T1202				AML	AML		
	comp=N,53950μm,0.7s						
T1216	**Preci, Frazion**	**0.16**	**297**	P	**Pg**	**07 35 26.2**	**+0.2**
T1216				S	**Sg**	**07 35 29.0**	**+0.6**
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,33250μm,0.1s						
T1216				AML	AML		
	comp=N,64900μm,0.1s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,33250μm,0.1s						
T1216				AML	AML		
	comp=N,64950μm,0.2s						
T1204	**Amatrice, Fraz**	**0.17**	**151**	⇑P	**Pg**	**07 35 26.4**	**+0.3**
T1204				S	**Sg**	**07 35 29.5**	**+0.8**
T1204				AML	AML		
	comp=E,18400μm,1.3s						
T1204				AML	AML		
	comp=N,11400μm,0.8s						
T1204				AML	AML		
	comp=E,18350μm,1.3s						
T1241	**Roccafluvione,**	**0.17**	**78**	P	**Pg**	**07 35 25.9**	**-0.2**
T1241				S	**Sg**	**07 35 28.5**	**-0.1**
T1241				AML	AML		
	comp=N,19000μm,0.5s						
T1241				AML	AML		
	comp=E,32000μm,0.6s						
FEMA	**Monte Fema**	**0.18**	**320**	⇓P	**Pg**	**07 35 26.6**	**+0.1**
FEMA				S	**Sg**	**07 35 29.9**	**+0.6**
FEMA				AML	AML		
	comp=E,42650μm,0.5s						
FEMA				AML	AML		
	comp=N,32250μm,0.6s						
FEMA				AML	AML		
	comp=E,42600μm,0.5s						
FEMA				AML	AML		
	comp=E,42650μm,0.5s						
FEMA				AML	AML		
	comp=N,32200μm,0.5s						
AM05	**Amandola Campo**	**0.19**	**34**	⇑P	**Pg**	**07 35 26.3**	**-0.2**
AM05				S	**Sg**	**07 35 29.1**	**-0.1**
AM05				AML	AML		
	comp=N,9135μm,0.6s						
AM05				AML	AML		
	comp=N,9140μm,0.6s						
AM05				AML	AML		
	comp=N,36600μm,0.6s						
AM05				AML	AML		
	comp=E,7495μm,0.4s						
AM05				AML	AML		
	comp=E,29350μm,0.4s						
AM05				AML	AML		
	comp=N,9170μm,0.6s						
T1217	**Poggiodomo (PG**	**0.23**	**242**	P	**Pg**	**07 35 27.7**	**+0.5**
T1217				AML	AML		

	comp=E,8665µm,0.5s								
T1217					AML	AML			
	comp=E,8325µm,0.3s								
T1217					AML	AML			
	comp=N,13650µm,0.3s								
T1217					AML	AML			
	comp=N,13250µm,0.3s								
T1217					AML	AML			
	comp=E,8665µm,0.4s								
FDMO	**Fiordimonte**	**0.23**	**338**	P		**Pg**	**07 35 27.1**	**-0.1**	
FDMO				S		**Sg**	**07 35 30.9**	**+0.4**	
LNSS	**Leonessa**	**0.25**	**210**	⇑P		**Pg**	**07 35 28.2**	**+0.6**	
LNSS				S		**Sb**	**07 35 33.0**	**-0.5**	
LNSS				AML	AML				
	comp=N,32350µm,0.4s								
LNSS				AML	AML				
	comp=E,25950µm,0.2s								
T1215	**Vallo di Nera,**	**0.25**	**266**	⇑P		**Pg**	**07 35 28.1**	**+0.5**	
T1215				AML	AML				
	comp=E,8640µm,0.4s								
T1215				AML	AML				
	comp=N,10800µm,0.2s								
T1215				AML	AML				
	comp=E,9325µm,0.4s								
T1215				AML	AML				
	comp=N,11300µm,0.4s								
T1215				AML	AML				
	comp=E,8610µm,0.4s								
T1215				AML	AML				
	comp=N,10785µm,0.2s								
T1215				AML	AML				
	comp=N,11250µm,0.4s								
T1215				AML	AML				
	comp=E,9360µm,0.4s								
GUMA	**Gualdo di Mace**	**0.26**	**21**	⇑P		**Pg**	**07 35 26.3**	**-1.5**	
GUMA				S		**Sg**	**07 35 30.6**	**-0.7**	
GUMA				AML	AML				
	comp=E,32600µm,0.8s								
GUMA				AML	AML				
	comp=N,35550µm,0.7s								
GUMA				AML	AML				
	comp=N,41950µm,0.6s								
GUMA				AML	AML				
	comp=E,32500µm,0.6s								
CSP1	**Cessapalombo**	**0.27**	**359**	P		**Pg**	**07 35 27.8**	**-0.2**	
CSP1				S		**Sg**	**07 35 32.1**	**+0.4**	
CSP1				AML	AML				
	comp=N,26550µm,0.5s								
CSP1				AML	AML				
	comp=E,23250µm,0.2s								
CSP1				AML	AML				
	comp=N,26600µm,0.5s								
CESI	**CESI - Serrava**	**0.29**	**310**	⇓P		**Pg**	**07 35 28.5**	**+0.2**	
CESI				AML	AML				
	comp=N,19050µm,0.6s								
CESI				AML	AML				
	comp=E,8130µm,1.6s								
RM33	**Pellescritta (**	**0.31**	**179**	⇑P		**Pg**	**07 35 29.1**	**+0.4**	
RM33				S		**Sb**	**07 35 34.6**	**-0.7**	
RM33				AML	AML				
	comp=N,6580µm,0.4s								
RM33				AML	AML				
	comp=E,6450µm,1.2s								
RM33				AML	AML				
	comp=N,6420µm,0.4s								
RM33				AML	AML				
	comp=E,6455µm,1.2s								
CAMP	**Campotosto**	**0.32**	**153**	⇓P		**Pg**	**07 35 29.0**	**+0.1**	
CAMP				S		**Sg**	**07 35 34.2**	**+1.1**	
CAMP				AML	AML				
	comp=E,4120µm,0.6s								
CAMP				AML	AML				
	comp=N,5660µm,0.6s								
TERO	**Teramo**	**0.35**	**124**	⇓P		**Pg**	**07 35 29.2**	**-0.2**	
TERO				AML	AML				
	comp=N,4185µm,0.6s								
TERO				AML	AML				
	comp=E,4165µm,0.4s								
TERO				AML	AML				
	comp=E,4350µm,0.4s								
TERO				AML	AML				
	comp=E,4345µm,0.4s								
TERO				AML	AML				
	comp=N,3940µm,0.6s								
OFFI	**Offida**	**0.37**	**72**	⇑P		**Pb**	**07 35 30.4**	**-0.6**	
MNTP	**Montappone**	**0.37**	**31**	⇓P		**Pg**	**07 35 30.2**	**+0.4**	
MNTP				AML	AML				
	comp=E,13550µm,0.6s								
MNTP				AML	AML				
	comp=N,10500µm,0.6s								
MNTP				AML	AML				
	comp=E,13550µm,0.6s								
SEF1	**Sefro**	**0.38**	**330**	⇓P		**Pg**	**07 35 29.9**	**0.0**	
SEF1				AML	AML				
	comp=E,17900µm,0.3s								
SEF1				AML	AML				
	comp=E,17950µm,0.3s								
SEF1				AML	AML				
	comp=N,12700µm,1.2s								
T1247	**Pizzolo (AQ)**	**0.39**	**170**	⇑P		**Pg**	**07 35 30.3**	**+0.3**	
T1247				S		**Sb**	**07 35 36.8**	**-0.5**	
T1247				AML	AML				
	comp=N,7210µm,1.0s								
T1247				AML	AML				
	comp=E,6955µm,0.6s								
PIO1	**Pioraco**	**0.39**	**335**	⇓P		**Pg**	**07 35 30.4**	**+0.2**	
PIO1				AML	AML				
	comp=E,5620µm,0.3s								
PIO1				AML	AML				
	comp=N,7665µm,0.9s								
PIO1				AML	AML				
	comp=E,5620µm,0.3s								
PIO1				AML	AML				
	comp=N,7690µm,0.9s								
ARRO	**Arrone**	**0.41**	**234**	⇑P		**Pg**	**07 35 30.8**	**+0.4**	
ARRO				AML	AML				
	comp=E,4780µm,0.2s								
ARRO				AML	AML				
	comp=N,5240µm,0.7s								
ARRO				AML	AML				
	comp=E,4785µm,0.2s								
ARRO				AML	AML				
	comp=N,5245µm,0.7s								
SSM1	**San Severino M**	**0.41**	**357**	⇑P		**Pg**	**07 35 30.5**	**0.0**	
FIU1	**Fiuminata**	**0.42**	**331**	⇑P		**Pg**	**07 35 30.7**	**0.0**	
FIU1				AML	AML				
	comp=E,4840µm,1.5s								
FIU1				AML	AML				
	comp=N,5590µm,1.0s								
FIU1				AML	AML				
	comp=E,4835µm,1.5s								
FIU1				AML	AML				
	comp=N,5585µm,1.0s								
GAG1	**Gagliole**	**0.43**	**346**	⇑P		**Pg**	**07 35 30.9**	**0.0**	
GAG1				AML	AML				
	comp=E,23200µm,0.4s								
GAG1				AML	AML				
	comp=N,19300µm,0.3s								
GAG1				AML	AML				
	comp=N,19350µm,0.3s								
GIGS	**Gran Sasso**	**0.46**	**144**	P		**Pg**	**07 35 31.1**	**-0.2**	
GIGS				AML	AML				
	comp=N,782µm,0.9s								
GIGS				AML	AML				
	comp=E,783µm,0.3s								
GIGS				AML	AML				
	comp=N,783µm,0.9s								
SNTG	**Esanatoglia**	**0.48**	**336**	P		**Pg**	**07 35 30.9**	**-0.8**	
SNTG				S		**Sb**	**07 35 40.0**	**0.0**	
SNTG				AML	AML				
	comp=E,404µm,1.2s								
SNTG				AML	AML				
	comp=N,514µm,0.2s								
SNTG				AML	AML				
	comp=N,4505µm,0.2s								
SNTG				AML	AML				
	comp=E,3080µm,0.7s								
SNTG				AML	AML				
	comp=N,514µm,0.2s								
SNTG				AML	AML				
	comp=E,404µm,1.2s								
AQU	**L'Aquila**	**0.49**	**163**	⇑P		**Pg**	**07 35 32.0**	**+0.1**	
AQU				AML	AML				
	comp=N,2650µm,0.9s								
AQU				AML	AML				
	comp=E,2525µm,1.0s								
AQU				AML	AML				
	comp=N,2605µm,0.9s								
AQU				AML	AML				
	comp=N,2645µm,0.9s								
AQU				AML	AML				
	comp=E,2515µm,1.0s								
TRE1	**Treia**	**0.50**	**9**	⇓P		**Pg**	**07 35 32.5**	**+0.4**	
TRE1				AML	AML				
	comp=E,14845µm,0.7s								
TRE1				AML	AML				
	comp=N,10300µm,1.6s								
TRE1				AML	AML				
	comp=E,14845µm,0.7s								
TRE1				AML	AML				
	comp=N,10305µm,1.6s								
CESX	**Cesi**	**0.51**	**246**	⇑P		**Pg**	**07 35 32.5**	**+0.1**	
CESX				S		**Sb**	**07 35 41.0**	**+0.2**	
CESX				AML	AML				
	comp=E,3075µm,0.3s								
CESX				AML	AML				
	comp=N,4050µm,0.5s								
EL6	**Elcito**	**0.51**	**351**	⇑P		**Pg**	**07 35 32.1**	**-0.4**	
EL6				S		**Sb**	**07 35 41.0**	**-0.1**	
EL6				AML	AML				
	comp=E,8375µm,0.3s								
EL6				AML	AML				
	comp=N,9460µm,0.3s								
EL6				AML	AML				
	comp=N,9465µm,0.3s								
TRTR	**Tortoreto Alta**	**0.52**	**91**	⇑P		**Pb**	**07 35 33.6**	**0.0**	
TRTR				AML	AML				
	comp=N,9055µm,0.5s								
TRTR				AML	AML				
	comp=E,8640µm,0.5s								
ATCC	**AVT- Casa Cast**	**0.55**	**311**	⇑P		**Pg**	**07 35 33.2**	**0.0**	
ATCC				S		**Sb**	**07 35 43.0**	**+0.8**	
ATCC				AML	AML				
	comp=E,3540µm,0.2s								
ATCC				AML	AML				
	comp=N,3230µm,0.4s								
ATCC				AML	AML				
	comp=E,3545µm,0.2s								
ATCC				AML	AML				
	comp=N,3225µm,0.4s								
CING	**Cingoli**	**0.56**	**359**	⇑P		**Pg**	**07 35 32.7**	**-0.5**	
CING				AML	AML				
	comp=E,6660µm,0.5s								
CING				AML	AML				
	comp=N,3225µm,0.7s								
FIAM	**Fiamignano**	**0.56**	**187**	⇑P		**Pg**	**07 35 33.2**	**0.0**	
FIAM				AML	AML				
	comp=E,2140µm,0.9s								
FIAM				AML	AML				
	comp=N,2425µm,1.2s								
FOSV	**Fossato di Vic**	**0.58**	**325**	⇑P		**Pg**	**07 35 33.4**	**-0.2**	
FOSV				S		**Sb**	**07 35 43.0**	**+0.2**	
FOSV				AML	AML				
	comp=N,8540µm,0.3s								
FOSV				AML	AML				
	comp=E,5140µm,0.3s								
FAGN	**Fagnano**	**0.62**	**153**	⇓P		**Pg**	**07 35 34.4**	**0.0**	
FAGN				S		**Sn**	**07 35 46.0**	**-1.3**	
FAGN				AML	AML				
	comp=N,6550µm,1.5s								
FAGN				AML	AML				
	comp=E,5800µm,0.4s								
PP3	**Marolino**	**0.63**	**28**	⇑P		**Pg**	**07 35 34.9**	**+0.3**	
PP3				AML	AML				
	comp=E,9430µm,1.2s								
PP3				AML	AML				
	comp=E,8985µm,1.2s								
PP3				AML	AML				
	comp=N,8635µm,1.0s								
PP3				AML	AML				
	comp=E,9400µm,1.2s								
PP3				AML	AML				
	comp=N,8405µm,1.0s								
PP3				AML	AML				
	comp=E,9010µm,1.2s								
PP3				AML	AML				
	comp=E,8990µm,1.2s								
PP3				AML	AML				
	comp=E,9425µm,1.2s								
VCEL	**Villa Celiera**	**0.63**	**132**	⇓P		**Pg**	**07 35 34.6**	**-0.1**	
VCEL				AML	AML				
	comp=E,1975µm,0.7s								
VCEL				AML	AML				
	comp=N,2615µm,1.2s								
VCEL				AML	AML				
	comp=N,2610µm,1.2s								
MURB	**Monte Urbino**	**0.67**	**312**	⇓P		**Pg**	**07 35 35.3**	**0.0**	
MURB				AML	AML				
	comp=E,5240µm,0.2s								
MURB				AML	AML				
	comp=N,4895µm,0.3s								
MURB				AML	AML				
	comp=N,6180µm,0.3s								
MURB				AML	AML				
	comp=N,4890µm,0.3s								
MURB				AML	AML				
	comp=E,6210µm,0.2s								
SSFR	**Montelago di S**	**0.69**	**333**	⇑P		**Pg**	**07 35 35.3**	**-0.5**	
SSFR				S		**Sb**	**07 35 47.0**	**+0.9**	
SSFR				AML	AML				
	comp=E,8255µm,1.1s								
SSFR				AML	AML				
	comp=N,6780µm,0.2s								
SSFR				AML	AML				
	comp=E,8375µm,1.1s								
SSFR				AML	AML				
	comp=N,6500µm,1.1s								
ARVD	**Arcevia**	**0.70**	**344**	⇑P		**Pg**	**07 35 35.5**	**-0.6**	
ARVD				S		**Sb**	**07 35 47.0**	**+0.5**	
ARVD				AML	AML				
	comp=E,2335µm,0.3s								
ARVD				AML	AML				
	comp=N,1695µm,0.6s								
ATFO	**Monte Foce - G**	**0.72**	**320**	⇑P		**Pg**	**07 35 36.0**	**-0.3**	
ATFO				S		**Sb**	**07 35 48.0**	**+1.0**	
ATFO				AML	AML				
	comp=E,1910µm,0.3s								
ATFO				AML	AML				
	comp=N,1385µm,1.3s								
T0110	**Collepietro**	**0.73**	**144**	⇓P		**Pg**	**07 35 35.9**	**-0.5**	
T0110				AML	AML				
	comp=E,3015µm,0.4s								
T0110				AML	AML				
	comp=N,3850µm,0.6s								
ATTE	**AVT- Monte Tez**	**0.73**	**301**	⇑P		**Pg**	**07 35 36.5**	**0.0**	
ATTE				AML	AML				
	comp=E,795µm,1.5s								
ATTE				AML	AML				
	comp=N,955µm,1.6s								
ATTE				AML	AML				
	comp=N,950µm,1.6s								
FRON	**Frontone**	**0.78**	**333**	⇑P		**Pg**	**07 35 36.9**	**-0.6**	
FRON				AML	AML				
	comp=E,1795µm,0.8s								
FRON				AML	AML				
	comp=N,1950µm,1.1s								
AOI	**Ancona**	**0.78**	**21**	⇓P		**Pg**	**07 35 37.3**	**-0.3**	
AOI				AML	AML				
	comp=E,2085µm,0.5s								
AOI				AML	AML				
	comp=N,2470µm,0.3s								
MGAB	**Montegabbione**	**0.81**	**277**	P		**Pg**	**07 35 38.0**	**-0.1**	
MGAB				AML	AML				
	comp=E,2155µm,1.5s								
MGAB				AML	AML				
	comp=N,2235µm,0.4s								
MGAB				AML	AML				
	comp=E,2200µm,1.5s								
MGAB				AML	AML				
	comp=N,2375µm,0.4s								
ATVO	**AVT- Monte Val**	**0.81**	**314**	⇑P		**Pg**	**07 35 37.6**	**-0.5**	
ATVO				AML	AML				
	comp=E,816µm,0.4s								
ATVO				AML	AML				
	comp=N,880µm,0.4s								
ATVO				AML	AML				
	comp=N,880µm,0.4s								
COR1	**Corinaldo**	**0.82**	**349**	⇑P		**Pb**	**07 35 39.0**	**+0.2**	
COR1				AML	AML				
	comp=E,2065µm,0.4s								
COR1				AML	AML				
	comp=N,2917µm,0.4s								
COR1				AML	AML				
	comp=E,2066µm,0.4s								
COR1				AML	AML				
	comp=N,2918µm,0.4s								
ATMI	**Monte Miggiano**	**0.86**	**307**	⇑P		**Pb**	**07 35 39.3**	**-0.1**	
ATMI				AML	AML				
	comp=E,2250µm,0.3s								
ATMI				AML	AML				
	comp=N,2150µm,0.6s								
ATPI	**Pietralunga -**	**0.86**	**317**	⇑P		**Pg**	**07 35 38.1**	**-1.0**	
ATPI				S		**Sn**	**07 35 53.0**	**-0.3**	
MTCE	**Montecelio**	**0.87**	**204**	P		**Pg**	**07 35 39.1**	**0.0**	
MTCE				AML	AML				
	comp=E,1262µm,1.6s								
MTCE				AML	AML				
	comp=N,824µm,1.2s								
MTCE				AML	AML				
	comp=N,824µm,1.2s								
PIEI	**Pieia**	**0.87**	**326**	⇑P		**Pg**	**07 35 38.4**	**-0.8**	
PIEI				S		**Sn**	**07 35 53.0**	**-0.4**	
PIEI				AML	AML				
	comp=E,1485µm,0.3s								
PIEI				AML	AML				
	comp=N,1168µm,0.3s								
MPAG	**Monte Paganucc**	**0.87**	**338**	⇓P		**Pg**	**07 35 39.0**	**-0.2**	
MPAG				S		**Sn**	**07 35 53.0**	**-0.6**	
MPAG				AML	AML				
	comp=E,1565µm,0.5s								
MPAG				AML	AML				
	comp=N,1885µm,0.8s								
SENI	**Senigallia**	**0.88**	**1**	⇓P		**Pb**	**07 35 39.7**	**-0.1**	
CERT	**Cerreto**	**0.89**	**191**	⇓P		**Pg**	**07 35 38.8**	**-0.7**	
CERT				AML	AML				
	comp=E,1905µm,0.8s								
CERT				AML	AML				
	comp=N,1460µm,0.4s								
NARO	**Abbazia di Nar**	**0.91**	**330**	⇓P		**Pg**	**07 35 39.2**	**-0.8**	
NARO				S		**Sn**	**07 35 54.0**	**-0.5**	
NARO				AML	AML				
	comp=E,1140µm,1.6s								
NARO				AML	AML				
	comp=N,880µm,1.0s								
FSSB	**Fossombrone**	**0.93**	**340**	⇑P		**Pg**	**07 35 39.8**	**-0.5**	
FSSB				S		**Sn**	**07 35 55.0**	**+0.2**	
FSSB				AML	AML				
	comp=E,4490µm,0.4s								
FSSB				AML	AML				
	comp=N,5615µm,0.4s								
APEC	**Apecchio**	**0.94**	**322**	⇑P		**Pb**	**07 35 40.9**	**+0.1**	
SACS	**San Casciano d**	**0.96**	**272**	⇑P		**Pn**	**07 35 42.1**	**+0.3**	
INTR	**Introdacqua**	**0.96**	**147**	⇑P		**Pg**	**07 35 39.6**	**-1.2**	
INTR				AML	AML				
	comp=E,984nm,1.0s								
INTR				AML	AML				
	comp=N,1µm,0.8s								
INTR				AML	AML				
	comp=E,932µm,1.1s								
INTR				AML	AML				
	comp=N,1695µm,0.7s								
BADI	**Badiali**	**0.99**	**315**	⇑P		**Pg**	**07 35 41.0**	**-0.3**	
PE3	**Peglio**	**1.02**	**329**	⇑P		**Pg**	**07 35 41.7**	**-0.3**	
PE3				AML	AML				
	comp=E,12µm,1.1s								
PE3				AML	AML				
	comp=N,12µm,1.1s								
CAFI	**Castiglion Fio**	**1.04**	**300**	⇑P		**Pg**	**07 35 42.1**	**-0.3**	
CAFI				AML	AML				
	comp=E,566µm,0.5s								
CAFI				AML	AML				
	comp=N,504µm,0.7s								
LPEL	**Lama dei Pelig**	**1.06**	**137**	P		**Pg**	**07 35 41.7**	**-1.1**	
LPEL				S		**Sn**	**07 35 58.0**	**-0.1**	
LPEL				AML	AML				
	comp=E,834µm,0.9s								
LPEL				AML	AML				
	comp=N,666µm,0.6s								
PARC	**Parchiule**	**1.09**	**320**	⇓P		**Pn**	**07 35 44.2**	**+0.5**	
PESA	**Pesaro**	**1.15**	**347**	⇓P		**Pn**	**07 35 44.9**	**+0.4**	
TOLF	**Tolfa**	**1.17**	**230**	⇓P		**Pb**	**07 35 43.6**	**-1.1**	
TOLF				AML	AML				
	comp=E,620µm,0.5s								
TOLF				AML	AML				
	comp=N,550µm,0.6s								
SF01	**Poggio Pratacc**	**1.21**	**270**	⇓P		**Pg**	**07 35 46.5**	**+0.8**	
RUFI	**Rufina**	**1.60**	**310**	P		**Pb**	**07 35 52.5**	**+0.5**	
DUGI	**Dugi Otok**	**1.79**	**48**	*e*Pn		**Pn**	**07 35 53.2**	**0.0**	
ZIRJ	**Zirje**	**1.96**	**64**	*e*Pn		**Pn**	**07 35 55.4**	**-0.3**	
VIRC	**Vir**	**1.99**	**42**	*e*Pn		**Pn**	**07 35 55.8**	**-0.2**	
MORI	**Morici**	**2.10**	**59**	*e*Pn		**Pn**	**07 35 57.7**	**+0.1**	
NVLJ	**Novalja**	**2.12**	**34**	*e*Pn		**Pn**	**07 35 57.5**	**-0.2**	
BRJN	**Brijuni**	**2.12**	**10**	*e*Pn		**Pn**	**07 35 57.5**	**-0.3**	
RABC	**Rab**	**2.24**	**30**	*e*Pn		**Pn**	**07 35 59.5**	**0.0**	
SMRN	**Sveta Marina**	**2.32**	**17**	*e*Pn		**Pn**	**07 36 00.0**	**-0.5**	
HVAR	**Hvar**	**2.40**	**80**	*e*Pn		**Pn**	**07 36 02.4**	**+0.7**	
A253A	**Karojba, Istri**	**2.51**	**10**	*e*Pn		**Pn**	**07 36 02.4**	**-0.8**	
UDBI	**Udbina**	**2.52**	**46**	*e*Pn		**Pn**	**07 36 04.4**	**+1.0**	
A250A	**Rusevo Krmpots**	**2.58**	**28**	*e*Pn		**Pn**	**07 36 04.1**	**-0.1**	
KIJV	**Kijevo**	**2.61**	**62**	*e*Pn		**Pn**	**07 36 05.4**	**+0.8**	
PLIT	**Plitvice**	**2.70**	**40**	*e*Pn		**Pn**	**07 36 05.7**	**-0.1**	
LSTV	**Lastovo**	**2.71**	**90**	*e*Pn		**Pn**	**07 36 06.2**	**+0.2**	
SKDS	**Skadanscina**	**2.79**	**12**	*i* Pn		**Pn**	**07 36 06.8**	**-0.2**	
SKDS				*e*Sn		**Sn**	**07 36 40.7**	**0.0**	
MAKA	**Makarska**	**2.83**	**79**	*e*Pn		**Pn**	**07 36 09.5**	**+1.9**	
RICI	**Ricice**	**2.95**	**75**	*e*Pn		**Pn**	**07 36 10.2**	**+1.0**	
PGF	**Pioggiola**	**3.12**	**266**	*e*P		**Pn**	**07 36 13.2**	**+1.6**	
PGF				*e*Sn		**Sn**	**07 36 45.9**	**-3.0**	
	comp=N,114nm,1.2s								
OZLJ	**Ozalj**	**3.23**	**29**	*e*Pn		**Pn**	**07 36 13.4**	**+0.3**	
GBAS	**Gorenja Brezov**	**3.24**	**15**	*i* Pn		**Pn**	**07 36 13.8**	**+0.6**	
STON	**Ston**	**3.30**	**88**	*e*Pn		**Pn**	**07 36 14.2**	**+0.1**	
OBKA	**Obir**	**3.81**	**14**	*i* Pn		**Pn**	**07 36 21.9**	**+0.7**	
	comp=N,2.3nm,0.3s								
OBKA				*i* Sn		**Sn**	**07 37 06.5**	**+0.5**	
	comp=N,9.9nm,0.3s								
MYKA	**Terra Mystica**	**3.82**	**4**	*i* Pn		**Pn**	**07 36 21.1**	**-0.2**	
	comp=N,3.1nm,0.2s								
MYKA				*i* Sn		**Sn**	**07 37 06.5**	**+0.2**	
	comp=N,8.5nm,0.4s								
ABTA	**Abfaltersbach**	**3.96**	**353**	*i* Pn		**Pn**	**07 36 24.2**	**+1.0**	
	comp=N,27nm,0.5s								
ABTA				*e*Sn		**Sn**	**07 37 11.0**	**+1.4**	
	comp=N,7.5nm,0.3s								
SOKA	**Soboth**	**4.07**	**18**	*i* Pn		**Pn**	**07 36 26.3**	**+1.6**	
	comp=N,1.1nm,0.2s								
SOKA				*i* Sn		**Sn**	**07 37 11.8**	**-0.6**	
	comp=N,3.3nm,0.3s								
KBA	**Koelnbreinsper**	**4.26**	**1**	*i* Pn		**Pn**	**07 36 28.2**	**+0.8**	
	comp=N,3.3nm,0.2s								
KBA				*e*Sn		**Sn**	**07 37 16.2**	**-1.0**	
	comp=N,16nm,0.5s								
SBF	**Sospel**	**4.34**	**286**	*e*Pn		**Pn**	**07 36 26.6**	**-1.8**	
SBF	**Sospel**	**4.34**	**286**	*e*P		**Pn**	**07 36 29.8**	**+1.4**	
SBF				*e*Sn		**Sn**	**07 37 15.4**	**-3.6**	
	comp=N,30nm,0.7s								
FETA	**Feichten**	**4.55**	**338**	*e*Pn		**Pn**	**07 36 34.1**	**+2.7**	
	comp=N,3.4nm,0.4s								
FETA				*e*Sn		**Sn**	**07 37 27.4**	**+3.0**	
	comp=N,3.2nm,0.3s								
WTTA	**Wattenberg**	**4.58**	**346**	*i* Pn		**Pn**	**07 36 34.1**	**+2.3**	
	comp=N,2.1nm,0.2s								
WTTA				*i* Sn		**Sn**	**07 37 27.2**	**+2.0**	
	comp=N,16nm,0.5s								
DAVOX	**Davos/Dischmat**	**4.61**	**330**	Pn		**Pn**	**07 36 35.3**	**+3.1**	
	comp=N,2.1nm,0.3s,baz=147,slow=17,SNR=15								
DAVOX				Sn		**Sn**	**07 37 29.7**	**+3.8**	
	comp=N,1.0nm,0.3s,baz=106,slow=23,SNR=2.2								
	comp=N,4.2nm,0.3s								
SQTA	**Sankt Quirin**	**4.62**	**343**	*e*Pn		**Pn**	**07 36 34.3**	**+1.9**	
	comp=N,7.4nm,0.3s								
SQTA				*i* Sn		**Sn**	**07 37 27.6**	**+1.5**	
	comp=N,7.7nm,0.3s								
WATA	**Walderalm**	**4.66**	**346**	*i* Pn		**Pn**	**07 36 35.1**	**+2.3**	
	comp=N,2.7nm,0.2s								
ARSA	**Arzberg**	**4.72**	**20**	*e*Sn		**Sn**	**07 37 25.6**	**-2.8**	
	comp=N,3.4nm,0.3s								
MOTA	**Moosalm**	**4.76**	**342**	*i* Pn		**Pn**	**07 36 36.3**	**+2.0**	
	comp=N,1.6nm,0.2s								
MOTA				*i* Sn		**Sn**	**07 37 33.8**	**+4.2**	
	comp=N,4.8nm,0.2s								
BIOA	**Bad Ischl, Aus**	**4.88**	**3**	*e*Pn		**Pn**	**07 36 36.5**	**+0.7**	
	comp=N,9.5nm,0.3s								
BIOA				*e*Sn		**Sn**	**07 37 33.0**	**+0.7**	
	comp=N,12nm,0.4s								
LMR	**La Mourre**	**4.93**	**278**	*e*P		**Pn**	**07 36 38.3**	**+1.8**	
RETA	**Reutte**	**4.98**	**341**	*i* Pn		**Pn**	**07 36 39.5**	**+2.3**	
	comp=N,1.4nm,0.2s								
RETA				*e*Sn		**Sn**	**07 37 36.5**	**+1.8**	

comp=N,3.1nm,0.2s
MBDF Montbardon 5.04 294 *e*Pn **Pn 07 36 35.9 -2.1**
MBDF Montbardon 5.04 294 *e*P **Pn 07 36 40.0 +2.0**
MBDF *e*Sn **Sn 07 37 32.4 -3.9**
comp=N,16nm,0.9s
DAVA Damuels 5.05 333 *i* Pn **Pn 07 36 40.0 +1.8**
comp=N,4.3nm,0.4s
DAVA *e*Sn **Sn 07 37 38.4 +1.7**
comp=N,7.2nm,0.4s
MOA Mollin 5.08 8 *i* Pn **Pn 07 36 39.3 +0.7**
comp=N,1.3nm,0.2s
MOA *e*Sn **Sn 07 37 36.1 -1.2**
comp=N,5.5nm,0.3s
RONA Rosalia, Austr 5.34 23 *i* Pn **Pn 07 36 42.8 +0.6**
comp=N,0.5nm,0.1s
LPG La Plagne 5.36 302 *e*P **Pn 07 36 44.9 +2.3**
LPG *e*Sn **Sn 07 37 39.4 -5.1**
comp=N,6.1nm,0.6s
LPL La Plagne 5.38 302 *e*Pn **Pn 07 36 40.5 -2.4**
LPL La Plagne 5.38 302 *e*P **Pn 07 36 44.4 +1.5**
LPL *e*Sn **Sn 07 37 40.8 -4.1**
comp=N,5.3nm,0.5s
CONA Conrad Observa 5.44 19 *i* Pn **Pn 07 36 43.9 +0.4**
comp=N,1.0nm,0.2s
CONA *i* Sn **Sn 07 37 45.3 -0.8**
comp=N,2.1nm,0.3s
ORIF Oris-en-Rattie 5.70 294 *e*P **Pn 07 36 50.1 +3.0**
ORIF *e*Sn **Sn 07 37 47.7 -4.8**
comp=N,5.6nm,0.7s
GERES GERESS Array B 6.04 3 Pn **Pn 07 36 51.3 -0.4**
comp=N,0.6nm,0.3s,baz=174,slow=13,SNR=16
GERES Sn **Sn 07 37 59.7 -1.2**
comp=N,1.4nm,0.3s,baz=178,slow=25,SNR=7.4
comp=N,1.2nm,0.4s
CKRC Cesky Krumlov 6.05 7 *e*PN **Pn 07 36 51.4 -0.4**
CKRC *e*SN **Sn 07 37 57.3 -3.8**
KHC Kasperske Hory 6.32 2 *e*PN **Pn 07 36 54.8 -0.7**
KHC *e*SN **Sn 07 38 04.3 -3.4**
CABF La Chapelle 6.33 309 *e*Pn **Pn 07 36 54.2 -1.6**
HINF Hinteralfeld 6.71 320 *e*Pn **Pn 07 36 59.6 -1.3**
HINF Hinteralfeld 6.71 320 *e*P **Pn 07 37 04.3 +3.4**
HINF *e*Sn **Sn 07 38 12.0 -5.4**
comp=N,9.6nm,0.5s
CDF Champ du Feu 6.97 325 *e*Pn **Pn 07 37 04.0 -0.5**
CDF Champ du Feu 6.97 325 *e*P **Pn 07 37 07.9 +3.4**
CDF *e*Sn **Sn 07 38 18.0 -5.8**
comp=N,5.8nm,0.5s
HAU Haudompre 7.08 319 *e*Pn **Pn 07 37 04.8 -1.2**
HAU Haudompre 7.08 319 *e*P **Pn 07 37 08.9 +2.9**
HAU *e*Sn **Sn 07 38 20.7 -5.8**
comp=N,16nm,0.6s
SMF Signal de Mont 7.69 303 *e*Pn **Pn 07 37 11.9 -2.4**
SMF Signal de Mont 7.69 303 *e*P **Pn 07 37 18.3 +4.0**
PAGF Fort de Pagny 7.76 320 *e*Pn **Pn 07 37 14.3 -1.1**
baz=142
SFTF Sexfontaines 7.87 316 *e*Pn **Pn 07 37 15.4 -1.3**
baz=141
SFTF *e*Sn **Sn 07 38 39.9 -5.9**
comp=N,5.9nm,0.5s
LOR Lormes 7.97 307 *e*Pn **Pn 07 37 16.0 -2.2**
baz=125
LOR *e*Sn **Sn 07 38 42.5 -5.9**
AVF Avril sur Loir 8.05 303 *e*Pn **Pn 07 37 17.0 -2.3**
AVF Avril sur Loir 8.05 303 *e*P **Pn 07 37 22.4 +3.1**
SSF Saint Saulge 8.08 305 *e*Pn **Pn 07 37 18.5 -1.2**
TCF Toulx Ste Croi 8.58 298 *e*Pn **Pn 07 37 24.4 -2.2**
NOA NORSAR Array B 18.29 357 LR LR 07 47 53.2
comp=N,8.1nm,18.9s,baz=175,slow=41
FINES FINESS Array B 20.18 18 P Pn 07 39 57.9 -0.7
comp=N,0.8nm,0.8s,baz=224,slow=11,SNR=3.4
comp=N,0.8nm,0.8s
KIRV Kirov 27.39 42 LR LR 07 52 26.4
comp=N,57nm,18.4s,baz=253,slow=38
TORD Torodi Ar. Bea 31.20 202 P **P 07 41 44.4 +2.6**
comp=N,0.2nm,0.5s,baz=20,slow=8.4,SNR=1.2
comp=N,0.2nm,0.5s

BJI ***17*** *07:35:50.0±0.0,35°.61N×141°.26E,h20km,mb4.6/49, mB4.9/29,Ms4.4/32,Ms7 4.2/32*
IDC ***17*** *07:35:50.8±0.4,35°.51N×140°.88E,h0km,mb4.5/41, mbtmp4.5/45,ML3.1/4,MS3.9/56,Error ellipse: s-maj=13.7km s-min=10.8km az=78.0*
MOS ***17*** *07:35:51.8±1.1,35°.57N×140°.97E,h16km,mb4.9/48, MS4.3/5,Error ellipse: s-maj=9.2km s-min=5.2km az=113.9*
JMA ***17*** *07:35:52.8±0.2,35°.6N±0°.5×141°.1E±1°.0,h17km±1km, MD4.7/36,MW4.6/36,NEAR CHOSHI CITY*
JMA Felt III J1 at NEAR CHOSHI CITY .
NIED ***17*** *07:35:52.8,35°.62N×141°.07E,h17km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=7.27; Mθθ=2.42; Mφφ=9.69; Mrθ=-1.64; Mθφ=-1.26; Mφr=4.06; Fault plane solution: M₀9.71000×10¹⁵ NP1: φs155.00000°,δ36.00000°,λ-120.00000°. NP2: φs10.00000°,δ60.00000°,λ-70.00000°.*
NEIC ***17*** *07:35:53.1,35°.60N×141°.02E,h16km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=6.46; Mθθ-0.45; Mφφ 6.91; Mrθ-0.81; Mθφ-0.70; Mφr-4.57; Fault plane solution: M₀8.18000×10¹⁵ NP1:φs164.89000°, δ28.84000°,λ-106.58000°. NP2:φs3.66000°,δ62.46000°, λ-81.07000°. Principal axes: T 8.3439, Plg17.0000°, Azm87.0000°; N -0.3420, Plg8.0000°, Azm180.0000°; P -8.0019, Plg71.0000°, Azm294.0000°;*
NEIC ***17*** *07:35:53.0±2.1,35°.58N±0°.04×141°.02E±0°.06,h10km±1km, mb4.7/79,Mwr4.5/20 Error ellipse: s-maj=9.7km s-min=6.1km az=56.0*
GCMT ***17*** *07:35:56.0±0.5,35°.60N±0°.05×141°.04E±0°.03,h20km±1km, MW4.7/67,Moment Tensor Solution. s17,c17; s67,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.69±.13; Mθθ0.34±.08; Mφφ 1.34±.08; Mrθ-0.09±.18; Mθφ-0.18±.05; Mφr-0.61±.13; Best double couple: M₀1.64900×10¹⁶ NP1:φs356.00000°,δ56.00000°,λ-84.00000°. NP2: φs166.00000°,δ35.00000°,λ-98.00000°. Principal axes: T 1.4820, Plg11.0000°, Azm82.0000°; N 0.3300, Plg5.0000°, Azm173.0000°; P -1.8170, Plg78.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 07:35:53.4±0.9,35°.59N±0°.03×141°.08E±0°.04,h18km±4km, n562,σ1§66/505,mb4.7/133,MS4.1/67,15C-21D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.21**	**301**	*i* P	**Pg**	**07 35 57.5**	**-1.0**
CHOJ				S	**Sg**	**07 36 00.7**	**-1.3**
CHOJ	**Chosi**	**0.21**	**301**	A	A	07 35 57.5	
comp=E,236nm,1.8s,comp=E,153nm,2.4s							
JSMT	**Sammumatsuo**	**0.52**	**276**	*i* P	**Pg**	**07 36 03.1**	**-0.7**
JSMT				S	**Sg**	**07 36 11.1**	**+0.3**
JSMT	**Sammumatsuo**	**0.52**	**276**	A	A	07 36 03.1	
comp=E,238nm,1.1s,comp=E,205nm,0.9s							
JIHU	**Itakohorinouch**	**0.59**	**310**	*i* P	**Pg**	**07 36 04.4**	**-0.7**
JIHU				S	**Sg**	**07 36 12.9**	**0.0**
JIHU	**Itakohorinouch**	**0.59**	**310**	A	A	07 36 04.4	
comp=E,186nm,1.5s,comp=E,192nm,4.6s							
JCN	**Nagara**	**0.74**	**257**	*i* P	**Pb**	**07 36 07.4**	**-0.3**
JCN	**Nagara**	**0.74**	**257**	A	A	07 36 07.4	
comp=E,231nm,5.3s,comp=E,153nm,2.2s							
KTR	**Katsuura**	**0.77**	**235**	*i* P	**Pb**	**07 36 07.4**	**-0.8**
KTR				S	**Sb**	**07 36 17.7**	**-0.6**
JKUC	**kamogawauchiur**	**0.84**	**240**	A	A	07 36 08.6	
comp=E,78nm,1.7s,comp=E,105nm,2.7s							
JHYU	**Hitachinakayam**	**0.85**	**332**	A	A	07 36 08.2	
comp=E,35nm,1.4s,comp=E,55nm,0.3s							
BSO4	**Boso 4**	**0.85**	**226**	‖*i*P	**Pb**	**07 36 09.7**	**0.0**
BSO3	**Boso 3**	**0.92**	**211**	‖*i*P	**Pb**	**07 36 10.1**	**-0.4**
BSO1	**Boso 1**	**0.94**	**185**	‖*i*P	**Pb**	**07 36 10.0**	**-0.8**
JYT	**Yasato**	**0.96**	**312**		**Pb**	**07 36 10.6**	**-0.9**
JYT				Sg	**Sb**	**07 36 21.7**	**-2.3**
JYT	**Yasato**	**0.96**	**312**	*i* P	**Pb**	**07 36 09.6**	**-1.9**
JYT				S	**Sb**	**07 36 22.4**	**-1.5**
JYT	**Yasato**	**0.96**	**312**	A	A	07 36 09.6	
comp=E,28nm,2.0s,comp=E,27nm,0.3s							
TOK	**Tokyo**	**1.08**	**275**	A	A	07 36 12.4	
comp=E,84nm,3.5s,comp=E,85nm,1.1s							
JHO	**Hitachi**	**1.10**	**338**	*i* P	**Pb**	**07 36 12.0**	**-1.9**
JHO				*e*S	**Sb**	**07 36 26.4**	**-1.5**
JHO	**Hitachi**	**1.10**	**338**	A	A	07 36 12.0	
comp=E,12nm,1.4s,comp=E,8.0nm,3.1s							
JYO	**Yokosk**	**1.22**	**253**	A	A	07 36 14.7	
comp=E,92nm,1.1s,comp=E,73nm,1.3s							
JHU	**Hanno**	**1.49**	**281**	A	A	07 36 18.8	
comp=E,24nm,1.1s,comp=E,18nm,4.2s							
JSGW	**Sagamiharawaka**	**1.53**	**271**	A	A	07 36 19.4	
comp=E,17nm,10.0s,comp=E,17nm,1.8s							
JFFD	**Fukushimafurud**	**1.56**	**344**	A	A	07 36 19.6	
comp=E,6.0nm,1.7s,comp=E,6.0nm,2.8s							
JAG	**Ashikaga**	**1.56**	**303**	A	A	07 36 19.8	
comp=E,7.0nm,5.0s,comp=E,8.0nm,4.8s							
JIM2	**Oshima 3**	**1.61**	**238**	A	A	07 36 20.9	
comp=E,24nm,1.7s,comp=E,38nm,1.8s							
JOD2	**Odawara 2**	**1.66**	**259**	A	A	07 36 21.6	
comp=E,26nm,1.7s,comp=E,32nm,2.4s							
JSB	**Shiboa**	**1.67**	**326**	A	A	07 36 21.3	
comp=E,23nm,3.1s,comp=E,27nm,2.7s							
JFK	**Kawauchi**	**1.78**	**355**	A	A	07 36 23.1	
comp=E,4.0nm,1.2s,comp=E,3.0nm,1.7s							
JHTM	**Izuhatsuma**	**1.81**	**250**	A	A	07 36 23.8	
comp=E,27nm,1.3s,comp=E,40nm,1.5s							
JTHY	**Toshimahigashi**	**1.82**	**235**	A	A	07 36 24.0	
comp=E,19nm,2.4s,comp=E,14nm,2.8s							
JRY	**Ryogami san**	**1.82**	**284**	A	A	07 36 23.8	
comp=E,10.0nm,1.3s,comp=E,12nm,1.7s							
JKT	**Katashina**	**1.89**	**309**	A	A	07 36 24.7	
comp=E,13nm,1.2s,comp=E,11nm,0.3s							
JNIO	**Niijimaoohara**	**1.93**	**231**	A	A	07 36 25.7	
comp=E,22nm,2.3s,comp=E,19nm,2.2s							
JSKK	**Shikinejimakit**	**1.98**	**231**	A	A	07 36 26.5	
comp=E,13nm,1.6s,comp=E,8.0nm,1.6s							
JFNN	**Fujinakano**	**2.00**	**259**	A	A	07 36 26.5	
comp=E,19nm,2.7s,comp=E,28nm,4.4s							
JIZS	**Izushimoda**	**2.01**	**245**	A	A	07 36 26.7	
comp=E,7.0nm,7.3s,comp=E,7.0nm,2.1s							
JGK	**Kuni**	**2.21**	**297**	A	A	07 36 29.3	
comp=E,8.0nm,5.7s,comp=E,8.0nm,2.6s							
JMM	**Marumori**	**2.28**	**354**	Pn	**Pn**	**07 36 29.1**	**-1.1**
SHZ3	**Shizuoka 3**	**2.41**	**258**	A	A	07 36 32.4	
comp=E,9.0nm,3.2s,comp=E,9.0nm,1.3s							
JNT	**Takato**	**2.41**	**278**	A	A	07 36 32.4	
comp=E,7.0nm,2.8s,comp=E,9.0nm,4.9s							
JYAR	**Yonezawaarcadi**	**2.44**	**342**	A	A	07 36 32.5	
comp=E,9.0nm,1.2s,comp=E,9.0nm,1.1s							
MJAR	**Matsushiro Arr**	**2.52**	**293**	Pn	**Pn**	**07 36 32.1**	**-1.3**
3.0nm,0.3s,baz=96,slow=12,SNR=79							
MJAR				LR	LR	07 37 01.9	
comp=Z,1μm,18.2s,baz=41,slow=30							
MJAR				Sn	**Sb**	**07 37 09.0**	**+0.3**
6.2nm,0.3s,baz=111,slow=14,SNR=3.3							
36nm,0.5s							
MAJO	**Matsushiro**	**2.52**	**293**		**Pn**	**07 36 33.3**	**-0.1**
MAJO	**Matsushiro**	**2.52**	**293**	*c iP*	**Pn**	**07 36 32.9**	**-0.5**
JNG	**Nsakai**	**2.55**	**289**	A	A	07 36 34.3	
comp=E,7.0nm,2.9s,comp=E,6.0nm,1.2s							
JNY	**Yasuok**	**2.64**	**266**	A	A	07 36 35.7	
comp=E,9.0nm,1.4s,comp=E,9.0nm,1.1s							
JHJ2	**Mitsune**	**2.69**	**203**		**Pn**	**07 36 34.5**	**-1.2**
JHJ	**Hachijo jima 2**	**2.69**	**204**	Pn	**Pn**	**07 36 34.4**	**-1.4**
32nm,0.3s,baz=108,slow=22,SNR=21							
JHJ				Sn	**Sn**	**07 37 04.3**	**-3.6**
160nm,0.3s,baz=68,slow=22,SNR=6.9							
JHJ				LR	LR	07 37 40.6	
comp=Z,1μm,19.8s,baz=68,slow=43							
JIZZ	**Izumozaki**	**2.72**	**316**	A	A	07 36 36.6	
comp=E,14nm,3.7s,comp=E,19nm,3.1s							
JYS	**Shirataka**	**2.75**	**343**	A	A	07 36 37.0	
comp=E,9.0nm,1.7s,comp=E,6.0nm,2.3s							
JOU	**Okura**	**2.79**	**353**	A	A	07 36 37.6	
comp=E,6.0nm,1.2s,comp=E,7.0nm,1.6s							
JJN	**Nakama**	**2.80**	**303**	A	A	07 36 37.8	
comp=E,8.0nm,3.0s,comp=E,7.0nm,3.6s							
JGF	**Kuroka**	**3.04**	**271**		**Pn**	**07 36 41.7**	**+1.1**
JAO	**Obara**	**3.14**	**265**	A	A	07 36 42.9	
comp=E,4.0nm,1.4s,comp=E,6.0nm,4.0s							
JYA	**Atsumi**	**3.19**	**340**	A	A	07 36 43.3	
comp=E,7.0nm,2.1s,comp=E,5.0nm,1.2s							
INU	**Inuyama**	**3.33**	**267**		**Pn**	**07 36 45.4**	**+0.8**
JSD	**Sado**	**3.33**	**318**		**Pn**	**07 36 45.2**	**+0.6**
JTM	**Tenmabayashi**	**5.19**	**360**	Pn	**Pn**	**07 37 10.6**	**+0.5**
JMN	**Monobe**	**6.22**	**255**	Pn	**Pn**	**07 37 26.0**	**+1.6**
JHS	**Saijyo**	**6.54**	**267**		**Pn**	**07 37 30.9**	**+2.2**
ERM	**Erimo**	**6.62**	**14**	Pn	**Pn**	**07 37 27.8**	**-1.9**
ERM	**Erimo**	**6.62**	**14**	‖*e*P	**Pn**	**07 37 28.9**	**-0.8**
JCJ	**Chichijima**	**8.52**	**173**	Pn	**Pn**	**07 37 53.6**	**-2.3**
77nm,0.3s,baz=272,slow=22,SNR=8							
JCJ				Sn	**Sn**	**07 39 24.4**	**-7.3**
8.5nm,0.3s,baz=266,slow=22,SNR=1.9							
JCJ	**Chichijima**	**8.52**	**173**		**Pn**	**07 37 53.8**	**-2.1**
KSRS	**Korea Array**	**10.76**	**284**	Pn	**Pn**	**07 38 30.5**	**+4.1**
0.2nm,0.3s,baz=102,slow=14,SNR=15							
KSRS				LR	LR	07 42 34.3	
comp=Z,1μm,19.7s,baz=95,slow=38							
KSAR	**Wonju Array Be**	**10.78**	**284**	Pn	**Pn**	**07 38 29.5**	**+2.6**
KSAR	**Wonju Array Be**	**10.78**	**284**	P	**Pn**	**07 38 29.5**	**+2.6**
USRK	**Ussuriysk Ar.**	**11.07**	**324**	Pn	**Pn**	**07 38 31.8**	**+1.0**
0.2nm,0.3s,baz=139,slow=12,SNR=5.2							
USRK				LR	LR	07 42 39.6	
comp=Z,844nm,19.0s,baz=231,slow=37							
6.5nm,0.9s							
USRK	**Ussuriysk Ar.**	**11.07**	**324**		**Pn**	**07 38 32.2**	**+1.4**
USRK	**Ussuriysk Ar.**	**11.07**	**324**	P	**Pn**	**07 38 32.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**11.42**	**6**	*e*P	**Pn**	**07 38 34.0**	**-1.5**
YSS				*e*S	**Sn**	**07 40 38.5**	**-4.1**
YSS				pmax	pmax		
comp=Z,20nm,0.7s							
YSS				MLR	MLR		
comp=Z,1μm,15.0s							
YSS				MLR	MLR		
comp=N,800nm,16.0s							
MDJ	**Mudanjiang**	**12.59**	**319**	P	**Pn**	**07 38 51.9**	**+0.4**
MDJ				pP	P	07 38 59.9	-3.0
MDJ				sP		07 39 04.8	
MDJ				S	**Sn**	**07 41 11.9**	**+0.8**
MDJ				PcS	**PcS**	**07 48 02.4**	**-1.1**
MDJ				ScS	**ScS**	**07 51 31.8**	**-5.9**
MDJ				pmax	pmax		
comp=N,9.0nm,2.3s							
MDJ				pmax	pmax		
comp=N,99nm,4.1s							
MDJ				LR	LR		
comp=N,660nm,19.4s							
MDJ				LR	LR		
comp=N,480nm,14.6s							
MDJ				LR	LR		
comp=N,1μm,19.7s							
JMZ	**Minamidaito 2**	**12.91**	**224**	Pn	**Pn**	**07 38 54.2**	**-1.8**
JOW	**Kunigami**	**14.00**	**235**	LR	LR	07 44 47.5	
comp=N,238nm,18.7s,baz=232,slow=39							
BNX	**BinXian**	**14.49**	**319**	‖P	**Pn**	**07 39 20.5**	**+3.0**
BNX				pP	**P**	**07 39 23.8**	**-0.3**
BNX				sP		07 39 25.6	
BNX				PP	**PnPn**	**07 39 29.1**	**+3.7**
BNX				S	**Sn**	**07 42 05.5**	**+7.9**
BNX				sS	**S**	**07 42 11.8**	**-5.3**
BNX				pmax	pmax		
comp=N,6.0nm,0.8s							
BNX				pmax	pmax		
comp=N,120nm,4.2s							
BNX				LR	LR		
comp=N,500nm,12.2s							
BNX				LR	LR		
comp=N,430nm,12.2s							
BNX				LR	LR		
comp=N,700nm,13.3s							
CN2	**Changchun**	**14.55**	**309**	P	**P**	**07 39 22.4**	**-2.3**
CN2				pmax	pmax		
comp=N,10.0nm,0.5s							
CN2				LR	LR		
comp=N,700nm,12.0s							
CN2				LR	LR		
comp=N,700nm,12.0s							
CN2				LR	LR		
comp=N,600nm,12.0s							
KLR	**Kul'dur**	**15.26**	**336**	Pn	**Pn**	**07 39 28.1**	**+0.3**
comp=N,0.3nm,0.3s,baz=148,slow=9.8,SNR=3.3							
comp=N,1.1nm,0.6s							
NJ2	**Nanjing**	**18.80**	**266**	*e*P	**P**	**07 40 11.1**	**-0.7**
NJ2				pmax	pmax		
comp=N,9.0nm,0.5s							
ZEA	**Zeya**	**20.57**	**336**	*e*P	Pn	07 40 34.3	+1.0
PETK	**Petropavlovsk-**	**21.07**	**29**	P	**P**	**07 40 38.7**	**+2.2**
comp=N,9.7nm,0.9s,baz=224,slow=12,SNR=6.7							
PETK				LR	LR	07 48 39.2	
comp=N,174nm,20.5s,baz=217,slow=36							
comp=N,9.7nm,0.9s							
PETK	**Petropavlovsk-**	**21.07**	**29**	P	**P**	**07 40 35.3**	**-1.2**
HNS	**HongShan**	**21.26**	**283**	⇑P	**P**	**07 40 35.5**	**-3.1**
HNS				*e*S	**S**	**07 44 26.3**	**-7.9**
HNS				pmax	pmax		
comp=N,25nm,1.0s							
HNS				LR	LR		
comp=N,340nm,14.6s							
HNS				LR	LR		
comp=N,510nm,14.6s							
HNS				LR	LR		
comp=N,460nm,15.4s							
PET	**Petropavlovsk**	**21.39**	**30**	P	**P**	**07 40 37.8**	**-2.0**
PET				IAmb	IAmb	07 40 58.7	
comp=Z,29nm,0.9s							
GUMO	**Guam**	**22.17**	**170**	P	**P**	**07 40 48.3**	**-0.2**
comp=Z,55nm,1.1s,baz=315,slow=20,SNR=1.8							
comp=Z,55nm,1.1s							
LYN	**LuoYang**	**23.41**	**276**	‖*e*P	**P**	**07 41 04.1**	**+2.7**
LYN				S	**S**	**07 45 13.5**	**-0.3**
LYN				SS	**SnSn**	**07 45 59.8**	**+10**
LYN				pmax	pmax		
comp=Z,10.0nm,0.6s							
LYN				pmax	pmax		
comp=Z,270nm,4.6s							
LYN				LR	LR		
comp=Z,480nm,13.6s							
LYN				LR	LR		
comp=Z,1μm,19.1s							
LYN				LR	LR		
comp=Z,850nm,19.0s							
HHC	**Hu-ho-hao-te**	**23.72**	**292**	*e*P	**P**	**07 41 02.0**	**-2.4**
HHC				pmax	pmax		
comp=Z,22nm,0.8s							
HHC				pmax	pmax		
comp=Z,300nm,6.9s							
HHC				LR	LR		
comp=Z,450nm,8.2s							
HHC				LR	LR		
comp=Z,520nm,9.6s							
HHC				LR	LR		
comp=Z,760nm,8.9s							
MA2	**Magadan**	**24.82**	**12**	P	**P**	**07 41 15.5**	**+1.2**
MA2				LR	LR	07 51 14.8	
comp=Z,4.6nm,0.6s,baz=183,slow=12,SNR=3.6							
comp=Z,177nm,20.6s,baz=190,slow=37							
comp=Z,4.6nm,0.6s							
MA2	**Magadan**	**24.82**	**12**	P	**P**	**07 41 15.0**	**+0.7**
MA2				IAmb	IAmb	07 41 23.2	
comp=Z,16nm,0.8s							
MA2	**Magadan**	**24.82**	**12**	⇑*i*P	**P**	**07 41 15.7**	**+1.4**
MA2				pmax	pmax		
comp=Z,21nm,0.8s							
XAN	**Xi'an**	**26.39**	**276**	⇑P	**P**	**07 41 26.9**	**-2.0**
XAN				pP	pP	07 41 33.0	-1.2
XAN				pmax	pmax		
comp=Z,8.0nm,1.2s							
XAN				pmax	pmax		
comp=Z,270nm,5.2s							
XAN				LR	LR		
comp=Z,820nm,15.9s							
XAN				LR	LR		
comp=Z,870nm,14.9s							
XAN				LR	LR		
comp=Z,1μm,16.2s							
YAK	**Yakutsk**	**27.42**	**348**	P	**P**	**07 41 37.4**	**-0.3**
comp=Z,7.9nm,0.4s,baz=254,slow=1.3,SNR=1.7							
comp=Z,7.9nm,0.4s							
YAK	**Yakutsk**	**27.42**	**348**	P	**P**	**07 41 36.5**	**-1.2**
YAK	**Yakutsk**	**27.42**	**348**	*e*P	**P**	**07 41 37.5**	**-0.3**
YAK				pmax	pmax		
comp=Z,21nm,1.1s							
YAK				pmax	pmax		
comp=N,11nm,1.4s							
YAK				MLR	MLR		
comp=Z,501nm,16.0s							
YAK				MLR	MLR		
comp=N,196nm,13.0s							
YAK				MLR	MLR		
comp=E,90nm,12.0s							
H11N2	**WAKE ISLAND Hy**	**27.67**	**118**	T	T	08 10 38.7	
baz=310,slow=75,SNR=2149							
H11N1	**WAKE ISLAND Hy**	**27.68**	**118**	T	T	08 10 42.0	
baz=310,slow=75,SNR=1785							
H11N3	**WAKE ISLAND Hy**	**27.69**	**118**	T	T	08 10 45.8	
baz=310,slow=75,SNR=1646							
ULN	**Ulaanbaatar**	**27.97**	**307**	P	**P**	**07 41 43.0**	**0.0**
ULN	**Ulaanbaatar**	**27.97**	**307**	‖*e*P	**P**	**07 41 44.0**	**+1.0**
ULN				pmax	pmax		
comp=Z,8.0nm,1.2s							
SEY	**Seymchan**	**28.25**	**11**	P	**P**	**07 41 46.5**	**+1.3**
comp=Z,3.3nm,0.7s,baz=180,slow=1.4,SNR=4.2							
comp=Z,3.3nm,0.7s							
SEY	**Seymchan**	**28.25**	**11**	‖*e*P	**P**	**07 41 45.9**	**+0.7**
SEY				pmax	pmax		
comp=Z,12nm,1.1s							
H11S1	**WAKE ISLAND Hy**	**28.33**	**120**	T	T	08 11 23.4	
baz=312,slow=76,SNR=9165							
H11S3	**WAKE ISLAND Hy**	**28.33**	**120**	T	T	08 11 23.0	
baz=312,slow=76,SNR=6180							
H11S2	**WAKE ISLAND Hy**	**28.35**	**120**	T	T	08 11 24.6	
baz=312,slow=76,SNR=6110							
SONM	**Songino Array**	**28.40**	**306**	P	**P**	**07 41 46.4**	**-0.4**
comp=Z,2.3nm,0.6s,baz=113,slow=10,SNR=7.8							
SONM				LR	LR	07 53 27.5	
comp=Z,307nm,18.0s,baz=84,slow=37							
comp=Z,2.3nm,0.6s							
SONM	**Songino Array**	**28.40**	**306**	P	**P**	**07 41 46.1**	**-0.7**
BOD	**Bodaibo**	**28.62**	**329**	*e*P	**P**	**07 41 47.1**	**-1.4**
BOD				pmax	pmax		
comp=Z,125nm,1.4s							
LZH	**Lanzhou**	**30.08**	**282**	*e*P	**P**	**07 42 00.8**	**-1.1**
LZH				pP	pP	07 42 07.3	0.0
LZH				sP	sP	07 42 13.5	+4.0
LZH				pmax	pmax		
comp=Z,24nm,1.5s							
LZH				LR	LR		
comp=Z,430nm,10.0s							
LZH				LR	LR		
comp=Z,440nm,10.6s							
LZH				LR	LR		
comp=Z,360nm,10.7s							
GYA	**Guiyang**	**30.74**	**262**	⇑P	**P**	**07 42 10.6**	**+2.8**
GYA				pmax	pmax		
comp=Z,27nm,0.7s							
CD2	**Chengdu**	**31.44**	**272**	P	**P**	**07 42 13.1**	**-0.7**
CD2				S	**S**	**07 47 21.5**	**+0.7**
CD2				pmax	pmax		
comp=Z,20nm,0.4s							
CD2				LR	LR		
comp=Z,1μm,13.5s							
CD2				LR	LR		
comp=Z,1μm,16.5s							
DAV	**Davao City (W)**	**31.75**	**210**	LR	LR	07 54 23.1	
comp=Z,171nm,20.9s,baz=10.0,slow=35							
QIZ	**Qiongzhong**	**32.11**	**247**	P	**P**	**07 42 22.6**	**+2.9**
QIZ				S	**S**	**07 47 35.9**	**+4.5**
QIZ				LR	LR		
comp=Z,260nm,13.1s							
QIZ				LR	LR		
comp=Z,340nm,14.3s							
QIZ				LR	LR		
comp=Z,270nm,15.9s							
GTA	**Gaotai**	**32.76**	**289**	*e*P	**P**	**07 42 29.1**	**+3.7**
GTA				pmax	pmax		
comp=Z,5.0nm,1.1s							
GTA				pmax	pmax		
comp=Z,140nm

comp=Z,214nm,18.1s,baz=180,slow=39
TIXI Tiksi 36.69 354⇑ eP P 07 42 59.0 +0.2
TIXI pmax pmax
comp=Z,10.0nm,0.8s
GOMU GeErMu 37.21 285 P P 07 43 04.0 -0.1
GOMU pP pP 07 43 08.0 -1.6
GOMU sP sP 07 43 09.3 -2.5
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU pmax pmax
comp=Z,130nm,5.5s
GOMU LR LR
comp=Z,180nm,16.5s
GOMU LR LR
comp=Z,97nm,17.3s
GOMU LR LR
comp=Z,140nm,13.7s
FAKI Fak Fak 39.19 194 P P 07 43 18.9 -1.6
FAKI lAmb lAmb 07 43 21.1
comp=Z,15nm,0.9s
FAKI Fak Fak 39.19 194 P P 07 43 20.0 -0.5
comp=Z,19nm,0.6s
CMAR Chiang Mai Arr 40.89 257 P P 07 43 32.9 -1.7
comp=Z,1.2nm,0.3s,baz=52,slow=6.5,SNR=7.1
CMAR LR LR 08 02 23.3
comp=Z,343nm,18.3s,baz=50,slow=39
comp=Z,1.2nm,0.3s
CMAR Chiang Mai Arr 40.89 257 *i* P P 07 43 36.0 +1.4
CMAR pmax pmax
comp=Z,1.0nm,0.3s
DGZ Jazzator, Alta 41.04 307 *d i* P P 07 43 36.3 +0.6
DGZ pmax pmax
comp=Z,29nm,0.8s
WMQ Urumqi 41.27 298 *e* P P 07 43 39.6 +2.0
WMQ LR LR
comp=Z,330nm,19.9s
WMQ LR LR
comp=Z,130nm,21.1s
ZAA0 Zalesovo Array 42.70 314 P P 07 43 48.0 -1.0
ZAA0 lAmb lAmb 07 43 55.4
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 42.70 314 P P 07 43 48.7 -0.3
comp=Z,6.6nm,0.7s,baz=90,slow=6.8,SNR=21
ZALV PcP PcP 07 45 40.4 -0.1
comp=Z,1.1nm,0.5s,baz=118,slow=5.3,SNR=2.0
ZALV LR LR 08 02 20.8
comp=Z,101nm,18.5s,baz=72,slow=37
comp=Z,6.6nm,0.7s
ZALV Zalesovo Beam 42.70 314 P P 07 43 48.0 -1.0
ZALV Zalesovo Beam 42.70 314 *i* P P 07 43 49.0 0.0
ZALV pmax pmax
comp=Z,7.0nm,0.7s
NRIK Noril'sk 44.47 336 P P 07 44 03.2 +0.1
comp=Z,2.1nm,0.5s,baz=104,slow=11,SNR=5.6
NRIK LR LR 08 04 21.9
comp=Z,242nm,18.1s,baz=112,slow=38
comp=Z,2.1nm,0.5s
NRIK Noril'sk 44.47 336 P P 07 44 02.5 -0.6
NRIK Noril'sk 44.47 336⇓ eP P 07 44 02.8 -0.3
NRIK pmax pmax
comp=Z,11nm,1.2s
BRDH Bariadhala 44.64 267 LR LR 08 04 22.1
comp=Z,217nm,19.0s,baz=85,slow=38
MK31 Makanchi Array 44.67 303 P P 07 44 04.1 -1.0
MK31 lAmb lAmb 07 44 05.9
comp=Z,9.1nm,0.9s
MK31 Makanchi Array 44.67 303 *d i* P P 07 44 04.7 -0.4
MKAR Makanchi Array 44.67 303 P P 07 44 04.8 -0.3
comp=Z,7.3nm,0.8s,baz=91,slow=9.8,SNR=60
MKAR LR LR 08 03 22.2
comp=Z,156nm,18.7s,baz=95,slow=37
comp=Z,7.3nm,0.8s
MKAR Makanchi Array 44.67 303 P P 07 44 04.1 -1.0
MKAR Makanchi Array 44.67 303 *i* P P 07 44 04.8 -0.3
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 44.88 303 P P 07 44 05.8 -1.0
MAKZ lAmb lAmb 07 44 13.0
comp=Z,12nm,1.0s
MAKZ Makanchi 44.88 303 P P 07 44 05.8 -1.0
MAKZ pmax pmax
comp=Z,12nm,1.0s
N16K Nishlik Lake 45.23 37 P P 07 44 09.8 +0.5
baz=265
O16K Kokwok River B 45.50 39 P P 07 44 13.5 +2.1
baz=266
O17K Koliganek Bris 46.01 38 P P 07 44 17.7 +2.2
baz=267
Q16K King Salmon 46.19 40 P P 07 44 18.5 +1.7
baz=268
R17K Ugashik Creek 46.32 41 P P 07 44 19.3 +1.4
baz=270
KURK Kurchatov 46.62 309 P P 07 44 19.5 -0.9
KURK Kurchatov 46.62 309 *d i* P P 07 44 19.8 -0.6
KURK pmax pmax
comp=Z,27nm,1.0s
N18K Kilae Creek 46.66 37 P P 07 44 22.4 +1.8
baz=267
RAMN Ramite 46.86 275 *e* P P 07 44 21.8 -1.0
comp=Z,37nm,0.8s
JIRN Jiri 46.90 276 *e* P P 07 44 22.9 -0.4
comp=Z,42nm,0.9s
P18K Big Mountain, 46.95 39 P P 07 44 24.3 +1.5
baz=269
O18K Koktuh Hills 46.97 38 P P 07 44 24.8 +1.8
baz=268
GUN Gumba 47.05 277 *e* P P 07 44 23.7 -0.7
comp=Z,23nm,0.7s
L19K White Mountain 47.24 35 P P 07 44 27.2 +2.2
baz=267
N19K Bonanza Creek 47.36 37 P P 07 44 27.8 +1.7
baz=268
O19K Port Alsworth 47.42 38 P P 07 44 28.7 +2.2
baz=269
SII Sitkinak Islan 47.54 43 P P 07 44 28.6 +1.1
baz=272
PKI Pulchoki 47.57 277 *e* P P 07 44 27.5 -1.0
comp=Z,10nm,0.7s
PKIN Phulchoki 47.57 277 *e* P P 07 44 27.5 -0.9
comp=Z,5.1nm,0.5s
K20K Telida 47.67 34 P P 07 44 29.2 +0.8
K20K lAmb lAmb 07 44 32.1
comp=Z,9.2nm,1.0s
K20K Telida 47.67 34 P P 07 44 30.0 +1.6
baz=266,SNR=5.8
J20K Nowinta River 47.70 32 P P 07 44 30.1 +1.6
J20K lAmb lAmb 07 44 31.6
comp=Z,11nm,1.1s
J20K Nowinta River 47.70 32 P P 07 44 30.8 +2.2
baz=266,SNR=5.1
L20K Farewell, AK 47.71 35 P P 07 44 30.9 +2.1
baz=267
EDFI Ende, Flores 47.75 206 P P 07 44 28.1 -1.5
comp=Z,6.8nm,0.7s
OHAK Old Harbor 48.00 42 P P 07 44 31.4 +0.5
OHAK Old Harbor 48.00 42 P P 07 44 32.0 +1.1
baz=273
GKN Gorkha 48.02 278 *e* P P 07 44 31.9 +0.2
comp=Z,40nm,0.8s
G21K Allakaket 48.18 29 P P 07 44 33.7 +1.4
baz=264
HNR Honiara 48.19 155 LR LR 08 03 18.6
comp=Z,2µm,20.7s,baz=334,slow=34
F21K Alatna River 48.27 28 P P 07 44 34.8 +1.8
baz=263
KDAK Kodiak Island 48.35 41 P P 07 44 33.0 -0.7
KDAK Kodiak Island 48.35 41 P P 07 44 33.0 -0.7
KDAK pmax pmax
comp=Z,16nm,0.9s
KDAK Kodiak Island 48.35 41 P P 07 44 34.3 +0.6
baz=273
H21K Melozitna Rive 48.39 30 P P 07 44 35.4 +1.5
baz=265
Q20K Shuyak Island 48.42 40 P P 07 44 35.7 +1.5
baz=272
N20K Mount Spurr 48.47 36 P P 07 44 36.4 +1.7
baz=270
SPCR Spurr Chakacha 48.47 36 P P 07 44 36.3 +1.6
baz=270
DANN Dangsing 48.58 278 *e* P P 07 44 35.7 -0.6
comp=Z,89nm,0.8s
I21K Tanana 48.70 31 P P 07 44 38.1 +1.9
baz=267
SKT Skwentna 48.80 35 P P 07 44 38.9 +1.8
baz=270
F22K John River 48.80 28 P P 07 44 39.4 +2.3
baz=264

TARG Taragay, Kyrgy 48.81 297 P P 07 44 38.0 0.0
TARG lAmb lAmb 07 45 09.3
comp=Z,9.9nm,0.9s
TARG Taragay, Kyrgy 48.81 297 P P 07 44 38.0 0.0
TARG pmax pmax
comp=Z,10.0nm,0.9s
H22K Ishtalitna Cre 48.99 30 P P 07 44 40.1 +1.6
baz=267
G22K Bettles 49.01 29 P P 07 44 40.9 +2.2
baz=266
BPAW Bear Paw Mtn. 49.08 33 P P 07 44 41.2 +1.9
baz=268
MLY Manley 49.22 31 P P 07 44 42.0 +1.6
MLY lAmb lAmb 07 44 43.9
comp=Z,12nm,1.0s
MLY Manley 49.22 31 P P 07 44 41.9 +1.6
baz=268,SNR=8.3
PYUN Piuthan 49.30 278 *e* P P 07 44 41.2 -0.5
comp=Z,59nm,0.9s
M22K Willow 49.47 36 P P 07 44 44.3 +2.1
baz=271
G23K Bananza Creek 49.58 29 P P 07 44 44.9 +1.8
baz=267
C23K Itkillik River 49.61 25 P P 07 44 45.6 +2.5
baz=264
RC01 Rabbit Creek A 49.67 37 P P 07 44 44.7 +0.9
baz=272
O22K Cooper Landing 49.70 37 P P 07 44 45.5 +1.5
baz=273
H23K Yukon River 49.74 30 P P 07 44 46.1 +1.8
baz=268,SNR=9.1
E23K Chandalar 49.82 27 P P 07 44 46.7 +1.7
baz=266,SNR=6.0
SEW Seward 49.86 38 P P 07 44 46.5 +1.4
baz=273
TOLK Toolik Lake Re 49.88 27 P P 07 44 47.0 +1.7
baz=266
NEA2 Nenana 49.92 32 P P 07 44 47.7 +2.0
baz=270,SNR=11
PMR Palmer 49.94 36 P P 07 44 47.8 +2.0
baz=272
MCK McKinley 49.98 33 P P 07 44 46.4 +0.3
baz=271
RND Reindeer 50.02 34 P P 07 44 47.7 +1.2
RND lAmb lAmb 07 44 55.4
comp=Z,7.6nm,1.0s
RND Reindeer 50.02 34 P P 07 44 47.7 +1.2
RND pmax pmax
comp=Z,8.0nm,1.0s
GHO Glory Hole Cre 50.03 36 P P 07 44 48.3 +1.7
WAT1 Susitna Watana 50.17 34 P P 07 44 48.5 +0.8
baz=272
D24K Happy Valley 50.18 26 P P 07 44 48.7 +1.2
baz=266
E24K Your Creek 50.24 27 P P 07 44 50.3 +2.2
baz=267
C24K Franklin Bluff 50.27 25 P P 07 44 49.9 +1.8
baz=266
KNK Knik Glacier 50.27 36 P P 07 44 49.5 +1.1
baz=273
MDM Murphy Dome 50.28 31 P P 07 44 50.2 +1.8
SML Sawmill 50.31 36 P P 07 44 50.0 +1.3
baz=273
WRH Wood River Hil 50.34 32 P P 07 44 49.6 +0.7
WRH lAmb lAmb 07 45 05.8
comp=Z,13nm,1.3s
H24K Noodor Dome 50.43 30 P P 07 44 51.2 +1.6
baz=270,SNR=5.7
TCOL CIGO, UAF Yank 50.44 32 P P 07 44 51.2 +1.7
baz=271
COLA College 50.44 32⇑ eP P 07 44 49.9 +0.4
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA College 50.44 32 P P 07 44 51.4 +1.8
baz=271
F24K Squaw Lake 50.45 28 P P 07 44 51.4 +1.8
baz=268
WAT6 Susitna Watana 50.56 35 P P 07 44 51.5 +0.8
baz=273
G24K Hadweenzic Riv 50.60 29 P P 07 44 52.6 +1.9
baz=270
M23K Glacier View 50.60 36 P P 07 44 53.3 +2.4
baz=273
POKR Poker Plat Res 50.62 31 P P 07 44 52.9 +2.0
baz=271,SNR=5.1
DHY Denali Highway 50.70 34 P P 07 44 53.1 +1.4
baz=273
SCM Sheep Creek Mo 50.79 36 P P 07 44 52.9 +0.5
baz=274
PSI Prapat 50.83 240 LR LR 08 06 10.4
comp=Z,59nm,18.0s,baz=4.0,slow=36
HDA Harding Lake 50.84 32 P P 07 44 53.2 +0.7
baz=272,SNR=6.5
ILAR Eielson Array 50.86 32 P P 07 44 54.0 +1.3
comp=Z,5.9nm,0.8s,baz=270,slow=6.3,SNR=52
ILAR LR LR 08 07 27.3
comp=Z,55nm,20.2s,baz=260,slow=37
comp=Z,5.9nm,0.8s
ILAR Eielson Array 50.86 32 P P 07 44 54.3 +1.6
ILAR Eielson Array 50.86 32 P P 07 44 54.3 +1.6
AAK Ala-Archa 50.95 299 LR LR 08 07 20.6
comp=Z,239nm,20.3s,baz=80,slow=37
AAK Ala-Archa 50.95 299⇑ eP P 07 44 54.2 +0.2
AAK pmax pmax
comp=Z,5.0nm,0.9s
D25K Kavik River 51.06 26 P P 07 44 55.1 +0.8
baz=268
H25K Birch Creek 51.26 30 P P 07 44 57.1 +1.4
baz=271
F25K Christian Rive 51.31 28 P P 07 44 58.2 +2.1
baz=270
M24K Tolsona, Glenn 51.31 35 P P 07 44 58.2 +1.9
baz=274
E25K Arctic Village 51.34 27 P P 07 44 58.7 +2.3
baz=270
BVAR Borovoye Array 51.35 313 P P 07 44 56.5 -0.1
comp=Z,3.1nm,0.8s,baz=87,slow=7.6,SNR=19
BVAR LR LR 08 06 43.9
comp=Z,112nm,20.3s,baz=72,slow=36
comp=Z,3.1nm,0.8s
PRP Porcupine Dome 51.41 31 P P 07 44 59.4 +2.4
PRP Porcupine Dome 51.41 31 P P 07 44 58.4 +1.4
baz=272
BRVK Borovoye 51.41 313 *d i* P P 07 44 56.8 -0.2
BRVK pmax pmax
comp=Z,9.0nm,1.0s
KLU Klutina 51.48 36 P P 07 44 59.4 +1.8
KLU lAmb lAmb 07 45 08.5
comp=Z,9.1nm,1.0s
KLU Klutina 51.48 36 P P 07 44 58.1 +0.5
baz=275
J25K Salcha River, 51.51 32 P P 07 44 58.9 +1.1
baz=273
PAX Paxson 51.58 34 P P 07 44 59.0 +0.7
baz=274
EYAK Cordova Ski Ar 51.66 37 P P 07 45 00.1 +1.3
baz=276
BMAR Burnt Mountain 51.73 28 P P 07 45 01.8 +2.6
HARP HAARP 51.77 35 P P 07 45 00.4 +0.8
baz=275
RIDG Independent Ri 51.80 33 P P 07 45 00.8 +0.9
baz=274
F26K Sheenjek River 51.88 28 P P 07 45 01.1 +0.7
baz=272,SNR=7.8
G26K Porcupine Rive 52.05 29 P P 07 45 02.3 +0.7
baz=273,SNR=6.1
N25K Chitina, Valde 52.10 36 P P 07 45 03.6 +1.4
baz=276
SCRK Sand Creek 52.16 33 P P 07 45 03.6 +1.0
SCRK lAmb lAmb 07 45 05.1
comp=Z,12nm,1.0s
SCRK Sand Creek 52.16 33 P P 07 45 03.2 +0.6
baz=275,SNR=8.3
BMRM Bremner River 52.17 36 P P 07 45 03.0 +0.3
baz=277
J26L Joseph Creek 52.30 32 P P 07 45 04.2 +0.6
J26L lAmb lAmb 07 45 05.7
comp=Z,7.5nm,1.1s
J26L Joseph Creek 52.30 32 P P 07 45 03.8 +0.2
baz=275
KNRA Kununurra 52.31 195 P P 07 45 03.5 -0.5
L26K Log Cabin Wild 52.53 34 P P 07 45 06.9 +1.6
baz=276,SNR=6.6
LEM Lembang 52.65 224 LR LR 08 07 06.3
comp=Z,56nm,18.9s,baz=46,slow=36
M26K Nabesna, AK 52.77 35 P P 07 45 08.0 +1.0
baz=277

E27K Coleen River 52.82 27 P P 07 45 09.2 +1.8
baz=274,SNR=5.8
MCARA McCarthy VSAT 52.88 36 P P 07 45 09.2 +1.4
baz=278
K27K Chicken 52.99 32 P P 07 45 10.4 +1.8
baz=276
H27K Steamboat Moun 53.00 30 P P 07 45 10.8 +2.0
baz=275,SNR=7.1
I27K Kandik River 53.02 30 P P 07 45 10.5 +1.6
baz=276
L27K Beaver Creek, 53.22 34 P P 07 45 11.4 +1.1
L27K lAmb lAmb 07 45 13.9
comp=Z,10nm,1.0s
L27K Beaver Creek, 53.22 34 P P 07 45 12.2 +1.8
baz=277,SNR=5.8
BCAR Beaver Creek A 53.24 34 P P 07 45 13.1 +2.6
M27K Edge Creek, AK 53.29 35 P P 07 45 13.1 +2.1
M27K lAmb lAmb 07 45 20.9
comp=Z,14nm,1.1s
M27K Edge Creek, AK 53.29 35 P P 07 45 12.9 +1.9
baz=278
EGAK Eagle 53.30 31 P P 07 45 12.2 +1.3
EGAK lAmb lAmb 07 45 17.1
comp=Z,8.7nm,1.4s
EGAK Eagle 53.30 31 P P 07 45 11.4 +0.5
baz=277
KKAR Karatay Array 53.63 301 P P 07 45 13.7 +0.1
KKAR Karatay Array 53.63 301 P P 07 45 13.7 +0.1
CTG Chitna Glacier 53.75 36 P P 07 45 15.5 +1.1
baz=279
YUK3 Moose Creek 54.04 35 P P 07 45 17.8 +1.2
baz=279
DAWY Dawson 54.16 32 P P 07 45 19.5 +2.2
baz=279
I29M Ogilvie Camp, 54.42 31 P P 07 45 20.7 +1.6
baz=279,SNR=8.2
NIL Nilore 54.82 289 P P 07 45 22.6 +0.1
NIL lAmb lAmb 07 45 23.0
comp=Z,11nm,1.0s
NIL Nilore 54.82 289 P P 07 45 22.6 +0.1
NIL pmax pmax
comp=Z,11nm,1.0s
M29M Somme Creek 54.84 34 P P 07 45 24.7 +2.4
baz=281,SNR=9.2
L29M L29M 54.87 33 P P 07 45 24.9 +2.4
baz=280,SNR=11
EPYK Eagle Plains 54.91 29 P P 07 45 25.1 +2.4
EPYK Eagle Plains 54.91 29 P P 07 45 24.6 +1.9
baz=279,SNR=12
YUK4 Talbot Arm 54.97 35 P P 07 45 25.8 +2.5
baz=281
K29M Barlow Dome 55.01 32 P P 07 45 25.6 +2.1
baz=280
YUK6 Outpost Mounta 55.18 36 P P 07 45 26.8 +1.9
baz=282
O29M Mount Kennedy 55.21 37 P P 07 45 26.7 +1.6
baz=282
FITZ Fitzroy Crossi 55.37 198 P P 07 45 26.1 -0.3
FITZ lAmb lAmb 07 45 33.5
comp=Z,15nm,1.1s
WB0 Warramunga Arr 55.42 188 P P 07 45 26.1 -0.6
M30M Minto, Yukon 55.58 34 P P 07 45 30.2 +2.6
M30M Minto, Yukon 55.58 34 P P 07 45 29.3 +1.8
baz=282
WRAB Tennant Creek 55.59 188 *de* P P 07 45 26.7 -1.2
WRAB pmax pmax
comp=Z,20nm,1.0s
CTA Charters Tower 55.59 174 P P 07 45 29.1 +1.2
comp=Z,3.6nm,0.9s,baz=328,slow=11,SNR=2.7
CTA LR LR 08 09 01.3
comp=Z,56nm,18.8s,baz=264,slow=36
comp=Z,3.6nm,0.9s
WR0 Warramunga Arr 55.59 187 P P 07 45 27.1 -0.9
WR0 lAmb lAmb 07 45 34.9
comp=Z,11nm,0.8s
WB2 Warramunga Arr 55.60 188 P P 07 45 26.9 -1.1
WB2 lAmb lAmb 07 45 30.8
comp=Z,12nm,0.8s
WRA Warramunga Arr 55.60 188 P P 07 45 27.1 -1.0
comp=Z,8.8nm,0.7s,baz=3.0,slow=7.5,SNR=76
WRA LR LR 08 08 27.0
comp=Z,55nm,20.7s,baz=0.5,slow=35
comp=Z,8.8nm,0.7s
WRA Warramunga Arr 55.60 188 P P 07 45 27.0 -1.0
HYT Haines Junctio 55.62 36 P P 07 45 29.9 +2.0
baz=282
N30M Aishikik Lake 55.68 35 P P 07 45 30.5 +2.2
baz=282
P29M Windy Craggy 55.77 37 P P 07 45 30.5 +1.5
baz=283
MAYO Mayo, Yukon 55.77 32 P P 07 45 30.4 +1.6
baz=282
INK Inuvik 55.79 27 P P 07 45 30.0 +1.2
INK lAmb lAmb 07 45 31.6
comp=Z,5.5nm,0.9s
INK Inuvik 55.79 27 P P 07 45 30.0 +1.2
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 55.79 27 P P 07 45 30.5 +1.7
baz=281
F31M Tsiigehtchic 55.88 28 P P 07 45 31.1 +1.6
baz=281
P30M Million Dollar 56.04 37 P P 07 45 32.4 +1.5
baz=283
CHGR Chuyangaron 56.05 296 P P 07 45 31.3 -0.1
CHGR Chuyangaron 56.05 296 P P 07 45 31.3 -0.1
CHGR pmax pmax
comp=Z,19nm,0.8s
N31M Braeburn, Yuko 56.28 35 P P 07 45 34.3 +1.7
baz=283
O30N Mendenhall 56.30 36 P P 07 45 34.7 +2.0
baz=284
PLBC Pleasant Camp 56.49 37 P P 07 45 36.0 +2.0
baz=284
M31M Drury Creek, Y 56.75 34 P P 07 45 38.0 +2.1
baz=284
WHY Whitehorse 56.91 36 P P 07 45 39.1 +2.0
baz=285
FARO Faro, Yukon 57.22 34 P P 07 45 41.0 +1.8
FARO lAmb lAmb 07 45 42.5
comp=Z,5.1nm,0.9s
FARO Faro, Yukon 57.22 34 P P 07 45 41.0 +1.8
baz=285
ARU Arti 57.27 319 P P 07 45 39.5 -0.1
comp=Z,12nm,0.9s,baz=74,slow=3.3,SNR=16
ARU LR LR 08 12 27.9
comp=Z,92nm,19.1s,baz=200,slow=38
comp=Z,12nm,0.9s
ARU Arti 57.27 319 *c i* P P 07 45 38.9 -0.7
ARU 07 46 33.4
ARU S S 07 53 36.6 +2.0
ARU SS SS 07 57 18.6 -4.7
ARU pmax pmax
comp=Z,19nm,1.0s
ARU MLR MLR
comp=Z,192nm,17.0s
A36M Sachs Harbour 57.70 22 P P 07 45 44.7 +2.3
baz=286
P32M Atlin 57.76 37 P P 07 45 45.0 +1.9
baz=286
P33M Teslin, Yukon 58.02 36 P P 07 45 47.2 +2.3
P33M lAmb lAmb 07 45 52.2
comp=Z,16nm,1.5s
P33M Teslin, Yukon 58.02 36 P P 07 45 46.8 +1.9
baz=287
MMPY Sheldon Lake, 58.05 33 P P 07 45 47.0 +1.9
baz=286
ABKAR Akbulak array 58.67 311 P P 07 45 49.1 -0.4
ABKAR Akbulak array 58.67 311 P P 07 45 49.4 -0.1
ABKAR lAmb lAmb 07 45 50.2
comp=Z,13nm,1.2s
U33K Whale Pass 59.10 41 P P 07 45 54.3 +1.9
baz=289
AS31 Alice Springs 59.32 188 P P 07 45 54.4 +0.1
ASAR Alice Springs 59.33 188 P P 07 45 53.8 -0.5
comp=Z,1.6nm,0.8s,baz=7.8,slow=7.5,SNR=17
comp=Z,1.6nm,0.8s
ASAR Alice Springs 59.33 188 P P 07 45 52.7 -1.6
AKTO Aktyubinsk 59.45 313 P P 07 45 54.4 -0.6
comp=Z,4.6nm,0.9s,baz=89,slow=8.7,SNR=13
AKTO LR LR 08 12 38.2
comp=Z,101nm,19.1s,baz=74,slow=37
comp=Z,4.6nm,0.9s
S34M Telegraph Cree 59.55 38 P P 07 45 57.4 +1.9
baz=289
TGTN Hyland Airport 59.73 34 P P 07 45 58.4 +1.7
baz=289

DLBC **Dease Lake** 59.93 37 P P 07 45 59.7 +1.5
baz=290
WTLY **Watson Lake, Y** 59.96 35 P P 07 46 00.0 +1.7
baz=290
T35M **Bob Quinn** 60.31 39 P P 07 46 03.0 +2.2
baz=290
WRGLY **Wrigley** 61.22 31 P P 07 46 08.7 +1.9
baz=292
KIRV **Kirov** 61.24 323 P P 07 46 06.5 -0.5
comp=Z,11nm,0.6s,baz=114,slow=5.4,SNR=6.9
KIRV LR LR 08 14 42.7
comp=Z,231nm,19.2s,baz=68,slow=38
comp=Z,11nm,0.6s
KIRV **Kirov** 61.24 323 *d* iP P 07 46 07.1 +0.1
EIDS **Eidsvold** 61.36 170 P P 07 46 10.6 +2.5
EIDS IAmb IAmb 07 46 22.2
comp=Z,15nm,1.5s
PALK **Pallekele** 61.80 258 LR LR 08 15 18.6
comp=Z,94nm,18.5s,baz=157,slow=38
PRGR **Permogore** 61.83 327 *e* P P 07 46 16.2 +5.3
PRGR pmax pmax
comp=Z,4.0nm,0.5s
SPITS **Spitsbergen Ar** 61.88 349 LR LR 08 16 34.3
comp=Z,117nm,18.2s,baz=18,slow=40
DZM **Mont Dzumac** 62.18 153 *e* LR LR 08 04 42.2
comp=Z,162nm,21.9s
BBB **Bella Bella** 63.29 44 LR LR 08 10 48.4
comp=Z,56nm,20.4s,baz=283,slow=33
MSVF **Nonsavu** 63.56 140 LR LR 08 09 29.1
comp=Z,56nm,19.9s,baz=37,slow=32
RES **Resolute Bay** 64.06 14 LR LR 08 16 09.1
comp=Z,54nm,19.7s,baz=32,slow=38
GEYT **Alibeck** 64.31 299 P P 07 46 28.0 +0.1
comp=Z,5.3nm,1.1s,baz=41,slow=4.6,SNR=5.8
comp=Z,5.3nm,1.1s
GYA0B **ALIBECK ARRAY** 64.31 299 P P 07 46 27.8 0.0
GYA0B IAmb IAmb 07 46 31.6
comp=Z,7.5nm,1.1s
BELG **Belogornoye** 64.68 317 P P 07 46 29.7 -0.2
comp=Z,18nm,0.8s,baz=216,slow=2.3,SNR=6.9
comp=Z,18nm,0.8s
BELG **Belogornoye** 64.68 317 *d* iP P 07 46 29.5 -0.4
BELG pmax pmax
comp=Z,4.0nm,0.9s
KLMR **Klimovskoe** 64.83 328 *e* P P 07 46 29.6 -1.2
KLMR pmax pmax
comp=Z,25nm,1.6s
KLMR **Klimovskoe** 64.83 328 *e* P P 07 46 29.7 -1.1
KLMR AMP 07 46 31.9
comp=Z,25nm,1.6s
YKA **Yellowknife Ar** 65.19 30 P P 07 46 34.4 +1.2
comp=Z,3.7nm,0.8s,baz=288,slow=6.4,SNR=3.8
comp=Z,3.7nm,0.8s
YKA **Yellowknife A** 65.19 30 *i* P P 07 46 36.0 +2.9
YKA pmax pmax
comp=Z,1.0nm,0.7s
ARCES **ARCESS Array B** 65.25 340 LR LR 08 18 10.1
comp=Z,180nm,20.4s,baz=48,slow=39
NEEM **North Greenlan** 66.98 3 *i* P P 07 46 43.4 -1.4
NEEM IAmb IAmb 07 46 45.8
comp=Z,6.1nm,0.9s
STKA **Stephens Creek** 67.11 180 P P 07 46 44.7 -1.0
comp=Z,4.2nm,0.8s,baz=290,slow=12,SNR=1.4
comp=Z,4.2nm,0.8s
STKA **Stephens Creek** 67.11 180 ‖ *e* P P 07 46 48.2 +2.5
FORT **Forrest** 67.14 192 P P 07 46 45.8 -0.1
MAK **Makhachkala** 69.14 308 *e* P P 07 46 51.8 -6.7
MAK *e* S S 07 55 54.5 -8.8
MAK *e* SS SS 08 00 25.2 -3.7
MAK pmax pmax
comp=Z,29nm,0.3s
MAK MLR MLR
comp=Z,308nm,16.0s
PUL **Pulkovo** 69.29 330 ⇑ *e* P P 07 47 00.6 +1.4
FINES **FINESS Array B** 69.97 332 P P 07 47 03.3 0.0
comp=Z,4.8nm,0.8s,baz=65,slow=7.8,SNR=15
FINES LR LR 08 19 51.9
comp=Z,134nm,19.0s,baz=46,slow=38
comp=Z,4.8nm,0.8s
FINES **FINESS Array B** 69.97 332 *i* P P 07 47 03.4 +0.1
FINES pmax pmax
comp=Z,5.0nm,0.8s
I03D **Drain, OR** 70.03 50 P P 07 47 05.7 +1.6
baz=300
GROC **Groznyy** 70.11 309 *e* P P 07 47 05.3 +0.8
K02D **Willamette Mer** 70.34 51 P P 07 47 07.9 +1.8
baz=301
I04A **Tendick Farm,** 70.57 50 P P 07 47 08.9 +1.5
baz=301
L02F **Cave Junction** 70.69 52 P P 07 47 09.7 +1.6
baz=301
I05D **Terrebonne, OR** 70.95 49 P P 07 47 11.2 +1.5
baz=301
WSAR **Wadi Sarin** 70.99 285 LR LR 08 22 04.8
comp=Z,65nm,18.3s,baz=88,slow=39
J04D **Umpqua Nationa** 71.04 50 P P 07 47 11.8 +1.3
baz=301
NCK **Nalchik** 71.33 310 ‖ *e* P P 07 47 12.7 +0.7
NEW **Newport** 71.35 44 P P 07 47 13.5 +1.4
baz=303
L04D **Klamath Falls** 71.45 51 P P 07 47 14.4 +1.5
baz=302
PINE **Pine Mountain** 71.48 49 P P 07 47 15.0 +1.9
PINE IAmb IAmb 07 47 16.6
comp=Z,8.7nm,0.9s
ZEI **Tsey** 71.51 310 *e* P P 07 47 11.6 -1.7
ZEI pmax pmax
comp=Z,4.0nm,0.6s
J05D **Fort Rock, OR** 71.56 50 P P 07 47 14.9 +1.3
baz=302
VSU **Vasula** 71.56 330 *de* P P 07 47 13.1 0.0
VSU pmax pmax
comp=Z,44nm,1.0s
KBZ **Khabaz** 71.64 311 P P 07 47 13.9 +0.1
comp=Z,7.2nm,0.8s,baz=325,slow=1.4,SNR=10
KBZ LR LR 08 20 40.1
comp=Z,81nm,18.1s,baz=41,slow=38
comp=Z,7.2nm,0.8s
KBZ **Khabaz** 71.64 311 *de* P P 07 47 14.1 +0.3
KBZ pmax pmax
comp=Z,13nm,1.0s
KVAR **Kislovodsk Arr** 71.65 311 P P 07 47 14.4 +0.4
comp=Z,5.9nm,0.7s,baz=135,slow=7.1,SNR=1.1
comp=Z,5.9nm,0.7s
KIV **Kislovodsk** 71.65 311 *e* P P 07 47 14.9 +0.9
KIV pmax pmax
comp=Z,13nm,1.0s
K05A **Summer Lake** 72.07 50 P P 07 47 18.8 +2.1
K05A IAmb IAmb 07 47 20.2
comp=Z,16nm,1.2s
SUMG **Summit** 72.12 360 P P 07 47 18.4 +1.6
SUMG **Summit** 72.12 360 P P 07 47 18.4 +1.6
SUMG pmax pmax
comp=Z,16nm,1.0s
SUMG **Summit** 72.12 360 *i* P P 07 47 17.0 +0.3
SUMG IAmb IAmb 07 47 19.0
comp=Z,5.3nm,0.8s
GNI **Garni** 72.36 307 P P 07 47 19.0 +0.6
comp=Z,4.8nm,0.6s,baz=114,slow=13,SNR=1.7
GNI LR LR 08 21 45.6
comp=Z,142nm,18.0s,baz=78,slow=38
comp=Z,4.8nm,0.6s
GNI **Garni** 72.36 307 ‖ *e* P P 07 47 20.1 +1.7
GNI pmax pmax
comp=Z,15nm,1.0s
MOD **Modoc Plateau** 72.88 51 P P 07 47 23.2 +1.8
MSO **Missoula** 73.94 44 P P 07 47 28.4 +0.8
baz=305
BEKR **Beckworth** 73.94 52 P P 07 47 28.5 +0.7
BEKR IAmb IAmb 07 47 30.4
comp=Z,5.4nm,0.9s
HRY **Holter Researc** 75.19 43 P P 07 47 36.3 +1.4
NC405 **NORSAR Array S** 75.20 337 P P 07 47 35.1 +0.6
AKASG **Malin Array Be** 75.28 322 P P 07 47 34.6 -0.4
comp=Z,3.9nm,0.7s,baz=47,slow=6.4,SNR=21
AKASG LR LR 08 23 13.7
comp=Z,252nm,19.5s,baz=53,slow=38
comp=Z,3.9nm,0.7s
AKBB **Malin Array Si** 75.28 322 *d* iP P 07 47 34.6 -0.5
AKBB pmax pmax
comp=Z,11nm,1.0s
HFS **Hagfors** 75.29 336 P P 07 47 35.1 +0.1
comp=Z,3.3nm,0.8s,baz=199,slow=3.1,SNR=8.0
HFS LR LR 08 23 13.6
comp=Z,257nm,19.6s,baz=32,slow=38
comp=Z,3.3nm,0.8s
LRM **Limekiln Ridge** 75.37 44 P P 07 47 37.0 +1.0

NB2 **NORSAR Subarra** 75.41 337 P P 07 47 36.2 +0.4
comp=Z,3.1nm,0.8s,baz=40,slow=5.9
NOA **NORSAR Array B** 75.41 337 P P 07 47 35.9 +0.1
comp=Z,4.1nm,0.7s,baz=39,slow=5.8,SNR=28
NOA LR LR 08 23 50.4
comp=Z,166nm,19.2s,baz=45,slow=38
comp=Z,4.1nm,0.7s
EGMT **Eagleton** 75.53 41 P P 07 47 36.9 +0.2
baz=307
HLID **Hailey** 75.55 47 P P 07 47 36.9 -0.2
baz=306
NBO00 **NORSAR Array S** 75.56 337 P P 07 47 37.1 +0.5
ICESG **Greenland Ices** 75.63 0 *i* P P 07 47 38.2 +1.0
ICESG IAmb IAmb 07 47 40.2
comp=Z,5.0nm,0.9s
KVN **Kaiserville** 75.85 52 P P 07 47 39.4 +0.5
KVN IAmb IAmb 07 47 41.9
comp=Z,7.5nm,1.0s
KVN **Kaiserville** 75.85 52 P P 07 47 39.4 +0.5
KVN pmax pmax
comp=Z,8.0nm,1.0s
BOZ **Bozeman (W)** 75.96 44 P P 07 47 41.0 +1.6
BOZ IAmb IAmb 07 47 42.0
comp=Z,6.4nm,1.1s
BOZ **Bozeman (W)** 75.96 44 P P 07 47 41.0 +1.6
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BOZ **Bozeman (W)** 75.96 44 P P 07 47 40.1 +0.8
baz=307
LHV **Little Huntoon** 76.04 53 P P 07 47 41.9 +2.2
LHV IAmb IAmb 07 47 43.3
comp=Z,9.1nm,1.0s
NVAR **Mina Array Bea** 76.07 53 P P 07 47 42.4 +2.2
comp=Z,3.2nm,0.8s,baz=281,slow=6.0,SNR=27
comp=Z,3.2nm,0.8s
YHL **Hebgen Lake** 76.66 44 P P 07 47 45.1 +1.6
YHL IAmb IAmb 07 47 46.6
comp=Z,7.1nm,1.2s
H17A **Grant Village** 77.28 44 P P 07 47 50.2 +3.2
baz=308
CWC **Cottonwood Cre** 77.34 54 P P 07 47 48.5 +1.2
baz=305
SFJD **Kangerlussuaq** 77.34 5 LR LR 08 25 04.1
comp=Z,44nm,18.2s,baz=342,slow=38
GRAC **Grapevine Rang** 77.50 53 P P 07 47 49.1 +1.1
baz=305
RLMT **Red Lodge** 77.58 43 P P 07 47 49.3 +0.8
baz=308
HVU **Hansel Valley** 77.58 47 P P 07 47 50.3 +1.7
HVU **Hansel Valley** 77.58 47 P P 07 47 50.3 +1.7
HVU pmax pmax
comp=Z,4.0nm,0.9s
TPAW **Teton Pass** 77.62 45 P P 07 47 50.1 +1.2
R11A **Troy Canyon, C** 77.86 51 P P 07 47 51.3 +1.1
R11A **Troy Canyon, C** 77.86 51 P P 07 47 51.3 +1.1
baz=306
DY2G **Dye2** 78.10 3 *i* P P 07 47 50.0 -1.1
DY2G IAmb IAmb 07 47 52.5
comp=Z,4.7nm,0.7s
FURC **Furnace Creek,** 78.13 54 P P 07 47 53.1 +1.7
baz=306
DGMT **Dagmar** 78.13 38 P P 07 47 52.7 +1.3
baz=311
LRMC **Laurel Mtn Rad** 78.16 55 P P 07 47 53.2 +1.3
baz=305
SNCC **San Nicolas Is** 78.19 58 P P 07 47 52.5 +0.6
baz=305
FRB **Frobisher Bay** 78.24 13 LR LR 08 25 09.6
comp=Z,45nm,20.0s,baz=12,slow=38
LAO **LASA Array** 78.24 40 P P 07 47 53.4 +1.4
baz=310
TPNV **Topopah Spring** 78.25 53 P P 07 47 53.1 +0.7
baz=306
EDW2 **Edwards Air Fo** 78.29 56 P P 07 47 53.5 +1.0
baz=305
DUG **Dugway, Tooele** 78.50 49 P P 07 47 54.9 +1.2
DUG pmax pmax
comp=Z,6.0nm,1.2s
DUG **Dugway, Tooele** 78.50 49 P P 07 47 54.9 +1.2
baz=307
GSC **Goldstone, Bar** 78.84 55 P P 07 47 56.1 +0.5
baz=306
CIS **Catalina Islan** 78.86 57 P P 07 47 56.8 +1.2
baz=305
BW06 **Boulder Array** 78.87 45 P P 07 47 56.6 +0.8
baz=308
PD31 **Pinedale Array** 78.87 45 P P 07 47 56.6 +0.8
PDAR **Pinedale Array** 78.87 45 P P 07 47 57.0 +1.2
comp=Z,1.4nm,0.6s,baz=256,slow=2.3,SNR=19
PDAR LR LR 08 19 45.4
comp=Z,23nm,20.9s,baz=318,slow=33
comp=Z,1.4nm,0.6s
PDAR **Pinedale Array** 78.87 45 P P 07 47 56.7 +0.9
TUQ **Turquoise Moun** 79.35 54 P P 07 47 59.3 +0.9
baz=306
HEC **Hector,Ludlow** 79.43 55 P P 07 47 59.4 +0.6
baz=306
MURC **Murrieta** 79.57 56 P P 07 48 00.8 +1.3
baz=306
BR131 **Keskin Array S** 79.61 312 ‖ *i* P P 07 48 00.7 +0.9
BRTR **Keskin Array B** 79.61 312 P P 07 47 59.7 -0.1
comp=Z,3.3nm,1.0s,baz=128,slow=3.6,SNR=11
comp=Z,3.3nm,1.0s
BRTR **Keskin Array B** 79.61 312 P P 07 47 59.2 -0.6
BRTR **Keskin Array B** 79.61 312 *i* P P 07 47 59.7 -0.1
BRTR pmax pmax
comp=Z,4.0nm,1.0s
GMRC **Granite Mounta** 79.91 54 P P 07 48 03.1 +1.7
baz=306
PFO **Pinyon Flats O** 80.06 56 LR LR 08 19 08.6
comp=Z,112nm,20.4s,baz=294,slow=32
PFO **Pinyon Flats O** 80.06 56 P P 07 48 03.6 +1.2
PFO IAmb IAmb 07 48 04.9
comp=Z,6.1nm,1.0s
PFO **Pinyon Flats O** 80.06 56 ⇑ *i* P P 07 48 04.1 +1.8
PFO pmax pmax
comp=Z,11nm,1.0s
PFO **Pinyon Flats O** 80.06 56 P P 07 48 03.7 +1.4
baz=306
TPFO **Pinon Flats** 80.07 56 P P 07 48 03.8 +1.5
baz=306
PMD **Palm Desert** 80.10 56 P P 07 48 03.9 +1.5
PMD IAmb IAmb 07 48 04.9
comp=Z,5.1nm,0.9s
BELC **Belle Mtn. Jos** 80.15 55 P P 07 48 03.9 +1.1
baz=306
LCMT **Little Creek M** 80.15 51 P P 07 48 04.3 +1.5
MLR **Muntele Rosu** 80.31 320 LR LR 08 26 16.3
comp=Z,198nm,19.8s,baz=50,slow=38
P18A **Preston Nutter** 80.41 48 P P 07 48 05.3 +0.9
NIE **Niedzica** 80.42 325 P P 07 48 00.8 -3.0
BAR **Barrett** 80.47 57 P P 07 48 05.4 +1.0
MONP2 **Monument Peak** 80.51 56 P P 07 48 05.3 +0.5
baz=306
IRM **Iron Mountain** 80.62 55 P P 07 48 07.1 +1.9
baz=307
CBX **Cerro Bola** 80.69 57 P P 07 48 06.9 +1.2
BC3 **Big Chuckawall** 80.72 55 P P 07 48 07.2 +1.4
baz=307
MDND **Maddock** 80.82 37 P P 07 48 07.4 +1.4
baz=314
ULM **Lac du Bonnet** 80.85 33 P P 07 48 06.6 +0.5
comp=Z,4.9nm,0.9s,baz=316,slow=2.9,SNR=4.9
comp=Z,4.9nm,0.9s
IKP **In-Ko-Pah, Jac** 80.87 56 P P 07 48 08.1 +1.5
baz=306
SWSC **Sam W. Stewart** 80.90 56 P P 07 48 07.8 +1.1
baz=307
RAYN **Ar Rayn** 80.96 292 P P 07 48 06.4 -0.8
RAYN IAmb IAmb 07 48 07.6
comp=Z,7.6nm,0.8s
RAYN **Ar Rayn** 80.96 292 P P 07 48 06.4 -0.8
RAYN pmax pmax
comp=Z,8.0nm,0.8s
RSSD **Black Hills** 81.08 41 P P 07 48 07.9 +0.2
baz=312
U15A **North Rim** 81.11 51 P P 07 48 09.7 +1.6
PDMCI **Parker Dam,Lak** 81.20 54 P P 07 48 09.5 +1.3
baz=307
BLYC **Blythe** 81.28 55 P P 07 48 09.1 +0.4
BLYC IAmb IAmb 07 48 11.6
comp=Z,5.7nm,0.9s
O20A **White River Ci** 81.29 47 P P 07 48 09.8 +0.9
baz=310
ESJX **Sierra Juarez** 81.36 57 P P 07 48 10.5 +1.1
ESJX IAmb IAmb 07 48 12.3
comp=Z,9.1nm,1.1s

GLA **Glamis** 81.50 55 P P 07 48 11.3 +1.5
baz=307
DPC **Dobruska-Polom** 81.54 328 *e* P P 07 48 10.7 +0.9
DPC **Dobruska-Polom** 81.54 328 *e* P P 07 48 10.7 +0.9
VYHS **Vyhne** 81.76 325 *e* P P 07 48 11.7 +0.7
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS **Vyhne** 81.76 325 *e* P P 07 48 11.7 +0.7
ASF **Jabal al Asfar** 82.09 304 P P 07 48 13.1 0.0
comp=Z,3.1nm,0.8s,baz=132,slow=5.6,SNR=3.9
comp=Z,3.1nm,0.8s
N23A **Red Feather La** 82.14 45 P P 07 48 14.7 +1.3
baz=311
BRG **Berggiesshubel** 82.16 329 *e* P P 07 48 13.3 +0.3
BRG Amp 07 48 14.4
comp=Z,2.9nm,0.8s
BRG Amp 08 28 20.0
comp=E,0.1nm,15.4s
BRG Amp 08 28 24.0
comp=Z,0.2nm,16.6s
BRG Amp 08 28 29.0
comp=N,0.2nm,13.6s
BRG **Berggiesshubel** 82.16 329 *e* P P 07 48 13.2 +0.3
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=E,148nm,15.4s
BRG MLR MLR
comp=Z,238nm,16.6s
BRG MLR MLR
comp=N,157nm,13.6s
VRAC **Vranov** 82.19 327 P P 07 48 13.6 +0.5
comp=N,2.2nm,0.5s,baz=158,slow=1.7,SNR=3.8
VRAC LR LR 08 27 08.3
comp=N,74nm,20.0s,baz=42,slow=38
comp=N,2.2nm,0.5s
CLL **Collm** 82.21 330 *i* P P 07 48 13.2 0.0
CLL *e* *PP PcP 07 48 16.0 -2.6
CLL pmax pmax
comp=Z,13nm,1.0s
CLL **Collm** 82.21 330 *i* P P 07 48 13.2 0.0
comp=Z,13nm,1.0s
CLL *ep* P PcP 07 48 16.0 -2.6
CLL LmH 08 26 00.0
comp=N,100nm,18.3s
CLL LmH 08 26 00.0
comp=E,100nm,18.9s
WUAZ **Wupatki** 82.26 52 P P 07 48 15.4 +1.4
baz=308
AGMN **Agassiz Nation** 82.27 34 P P 07 48 14.0 +0.4
baz=316
PRU **Pruhonice** 82.57 328 *e* P P 07 48 15.9 +0.8
PRU **Pruhonice** 82.57 328 *e* P P 07 48 15.9 +0.8
MMAI **Mount Meron Ar** 82.58 305 LR LR 08 28 45.7
comp=E,90nm,18.8s,baz=266,slow=38
MVCO **Mesa Verde** 83.00 49 P P 07 48 18.8 +0.8
baz=310
ISCO **Idaho Springs** 83.05 45 P P 07 48 19.5 +1.2
baz=311
PIX **Pinacate** 83.32 56 P P 07 48 20.7 +1.4
PIX IAmb IAmb 07 48 21.9
comp=Z,8.3nm,1.2s
RONA **Rosalia, Austr** 83.50 326 *e* P P 07 48 21.4 +1.3
comp=Z,10nm,1.3s
214A **Organ Pipe Nat** 83.51 55 P P 07 48 21.6 +1.2
baz=308
RPZ **Rata Peaks** 83.51 159 LR LR 08 22 52.8
comp=Z,23nm,19.7s,baz=294,slow=34
CONA **Conrad Observa** 83.53 326 *e* P P 07 48 21.4 +1.1
comp=Z,12nm,1.8s
CKRC **Cesky Krumlov** 83.55 328 *e* P P 07 48 20.4 +0.1
KHC **Kasperske Hory** 83.63 328 *e* P P 07 48 20.9 +0.2
KHC **Kasperske Hory** 83.63 328 *e* P P 07 48 20.9 +0.2
S22A **4UR Ranch, Cre** 83.67 48 P P 07 48 22.9 +1.5
baz=311
VTS **Vitosha** 83.69 319 P P 07 48 21.7 +0.4
VTS pmax pmax
comp=Z,7.0nm,1.0s
GERES **GERESS Array B** 83.80 328 P P 07 48 21.8 +0.2
comp=Z,1.3nm,0.8s,baz=43,slow=4.5,SNR=8.9
comp=Z,1.3nm,0.8s
F33A **5 Mile Ranch,** 83.85 36 P P 07 48 22.4 +0.6
PMOR **Pomariorio Ree** 83.85 113 *e* T T 09 20 39.8
comp=Z,24nm,0.2s
ARSA **Arzberg** 84.19 326 *e* P P 07 48 24.6 +1.0
comp=Z,7.7nm,1.2s
PPT **Papeete** 84.23 116 LR LR 08 19 01.3
comp=Z,73nm,19.7s,baz=302,slow=31
PPT2 **Papeete2** 84.25 116 *e* LR LR 08 14 55.3
comp=Z,130nm,24.5s
PPT2 *e* LR LR 08 14 55.8
comp=Z,117nm,21.5s
PPT2 **Papeete2** 84.25 116 *e* T T 09 21 11.8
comp=Z,3.7nm,0.3s
MOA **Molln** 84.30 327 *e* P P 07 48 24.4 +0.2
comp=Z,9.3nm,1.3s
TIAR **Tiarei** 84.39 116 *e* T T 09 21 19.4
comp=Z,1.7nm,0.2s
EKA **Eskdalemuir Ar** 84.40 340 P P 07 48 25.1 +0.6
comp=Z,1.3nm,0.7s,baz=52,slow=5.4,SNR=4.1
EKA LR LR 08 29 59.3
comp=Z,118nm,18.2s,baz=30,slow=38
comp=Z,1.3nm,0.7s
SDCO **Great Sand Dun** 84.47 47 P P 07 48 26.7 +1.2
SDCO IAmb IAmb 07 48 28.6
comp=Z,5.1nm,1.1s
SDCO **Great Sand Dun** 84.47 47 P P 07 48 27.1 +1.6
baz=311
EYMN **Ely** 84.50 32 P P 07 48 24.9 -0.2
baz=320
TUC **Tucson** 84.64 54 P P 07 48 28.1 +1.9
TUC pmax pmax
comp=Z,6.0nm,1.3s
TUC **Tucson** 84.64 54 P P 07 48 27.5 +1.3
baz=309
BIOA **Bad Ischl, Aus** 84.70 327 *i* P P 07 48 26.9 +0.7
comp=Z,9.8nm,1.2s
SOKA **Soboth** 84.84 326 *e* P P 07 48 27.5 +0.6
comp=Z,13nm,1.3s
EIL **Elat** 84.94 303 P P 07 48 27.4 -0.2
comp=Z,8.2nm,1.0s,baz=124,slow=3.6,SNR=4.1
comp=Z,8.2nm,1.0s
OBKA **Obir** 85.19 326 *i* P P 07 48 27.6 -1.1
comp=Z,17nm,1.8s
ECSD **EROS Data Cent** 85.22 38 P P 07 48 29.1 +0.3
baz=316
KSCO **Kaye Shedlock'** 85.30 44 P P 07 48 30.1 +0.6
baz=313
T25A **Trinidad** 85.52 47 P P 07 48 31.7 +1.0
baz=312
MEH **Mehetia** 85.53 116 *e* T T 09 22 48.9
comp=Z,32nm,0.2s
ANMO **Albuquerque** 85.72 50 LR LR 08 20 56.7
comp=Z,25nm,20.0s,baz=312,slow=32
ANMO **Albuquerque** 85.72 50 P P 07 48 33.6 +1.8
ANMO **Albuquerque** 85.72 50 ‖ *e* P P 07 48 33.4 +1.7
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO **Albuquerque** 85.72 50 P P 07 48 32.5 +0.8
baz=311
BGNE **Belgrade** 86.09 40 P P 07 48 33.7 +0.5
baz=316
RETA **Reutte** 86.10 329 *i* P P 07 48 32.1 -1.1
comp=Z,5.9nm,0.9s
SQTA **Sankt Quirin** 86.11 328 *i* P P 07 48 33.3 0.0
comp=Z,9.3nm,1.2s
121A **Cookes Peak, D** 86.45 52 P P 07 48 36.1 +0.8
baz=310
DAVA **Damuels** 86.62 329 *e* P P 07 48 36.0 +0.1
comp=Z,9.0nm,1.0s
SCHQ **Schefferville** 86.80 16 P P 07 48 37.5 +1.1
comp=Z,6.1nm,0.8s,baz=23,slow=8.1,SNR=3.0
comp=Z,6.1nm,0.8s
DAVOX **Davos/Dischmat** 87.02 329 P P 07 48 38.2 +0.3
comp=Z,1.3nm,0.6s,baz=345,slow=9.9,SNR=2.5
DAVOX LR LR 08 31 01.5
comp=Z,141nm,18.7s,baz=42,slow=38
comp=Z,1.3nm,0.6s
IDI **Anoyia** 87.77 313 LR LR 08 31 55.9
comp=Z,25nm,19.9s,baz=82,slow=38
TBI **Tubuai** 88.02 121 *e* LR LR 08 16 40.6
comp=Z,156nm,23.5s
TBI *e* LR LR 08 16 40.8
comp=Z,3μm,23.2s
TBI **Tubuai** 88.02 121 *e* T T 09 25 55.0
comp=Z,17nm,0.3s
MNTX **Cornudas Mount** 88.53 51 P P 07 48 46.0 +0.8
baz=312

KSU1	Kansas State U	88.57	41	P		P	07 48 45.5	+0.3
KSU1	Kansas State U	88.57	41	P		P	07 48 45.5	+0.3
	baz=317							
JFWS	Jewell Farm	88.91	35	P		P	07 48 47.4	+0.7
	baz=321							
GLMI	Grayling	89.89	31	P		P	07 48 52.3	+1.1
	baz=324							
LPIG	La Paz	90.14	60	LR		LR	08 30 25.3	
	comp=Z,28nm,18.0s,baz=290,slow=36							
TX31	Lajitas Ar. Si	91.21	52	P		P	07 48 58.4	+0.6
TXAR	Lajitas Array	91.21	52	P		P	07 48 59.5	+1.6
	comp=Z,2.3nm,1.0s,baz=304,slow=3.8,SNR=11							
TXAR				LR		LR	08 26 46.1	
	comp=Z,66nm,18.3s,baz=294,slow=33							
	comp=Z,2.3nm,1.0s							
TUL1	Leonard	91.33	43	P		P	07 48 58.4	+0.3
	baz=317							
VAE	Valguarnera	92.08	320	LR		LR	08 34 06.9	
	comp=Z,94nm,18.2s,baz=142,slow=38							
SADO	Sadowa	92.10	27	LR		LR	08 33 56.0	
	comp=Z,31nm,19.4s,baz=16,slow=38							
CCM	Cathedral Cave	92.15	39	P		P	07 49 02.0	+0.1
	baz=320							
Z35A	Perchaven, San	92.37	45	P		P	07 49 03.5	+0.5
WHTX	Lake Whitney,	93.21	47	P		P	07 49 07.7	+0.8
	baz=316							
O48B	Farmland	93.35	34	P		P	07 49 08.2	+0.8
	baz=324							
MIAR	Mount Ida	93.56	42	P		P	07 49 09.7	+1.2
	baz=318							
ESDC	Sonseca Array	98.46	333	LR		LR	08 37 42.7	
	comp=Z,96nm,20.0s,baz=15,slow=38							
TORD	Torodi Ar. Bea	118.15	314	PKP		PKPdf	07 54 39.5	-0.4
	comp=Z,0.7nm,0.7s,baz=54,slow=2.5,SNR=3.1							
H03N2	Juan Fernandez	147.11	98	T		T	10 39 58.5	
	baz=289,slow=76,SNR=336							
H03N3	Juan Fernandez	147.12	98	T		T	10 39 56.3	
	baz=289,slow=76,SNR=345							
H03N1	Juan Fernandez	147.13	98	T		T	10 39 59.7	
	baz=289,slow=76,SNR=366							
LPAZ	La Paz	147.64	61	PKPbc		PKPbc	07 55 39.1	+1.2
	comp=Z,5.1nm,0.9s,baz=354,slow=3.6,SNR=17							

IDC ***17*** *07:36:59.0±10.0, 12°.80S×166°.79E, h146km±90km, mb3.5/4, mbtmp3.9/5, Error ellipse: s-maj=89.9km s-min=41.8km az=175.0*

ISC 17 07:37:02.9±2.4, 13°.1S±0°.2×166°.8E±0°.3, h180km, n6, σ1s02/7, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.92	182	P		Pn	07 39 08.9	+0.6
	2.7nm,0.7s,baz=323,slow=20,SNR=6.2							
DZM				S		Sn	07 40 47.1	-0.9
	2.3nm,0.9s,baz=75,slow=20,SNR=1.0							
CTA	Charters Tower	20.86	248	P		P	07 41 29.9	-1.1
	5.1nm,1.1s,baz=85,slow=12,SNR=2.9							
	5.1nm,1.1s							
STKA	Stephens Creek	29.73	227	P		P	07 42 53.4	+1.0
	2.2nm,0.6s,baz=36,slow=8.7,SNR=5.6							
	2.2nm,0.6s							
WRA	Warramunga Arr	31.81	253	P		P	07 43 11.0	+0.2
	1.1nm,0.8s,baz=85,slow=8.8,SNR=8.4							
	1.1nm,0.8s							
ASAR	Alice Springs	32.86	247	P		P	07 43 20.0	+0.1
	0.8nm,0.5s,baz=75,slow=9.1,SNR=27							
	0.8nm,0.5s							
ARCES	ARCESS Array B	118.58	345	PKP		PKPdf	07 55 28.0	-0.8
	2.0nm,0.9s,baz=20,slow=3.9,SNR=4.8							

HEL ***17*** *07:44:28.5±0.2, 67°.62N×33°.82E, h0km, ML1.8, Explosion*

KOLA 17 07:44:28.2, 67°.62N×33°.81E, h0km, ML1.9, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
APA	Apatity	0.17	251	P		Pg	07 44 31.1	-0.2
APA				S		Sg	07 44 33.6	+0.1
APA0	Apatity Array	0.32	267	P		Pg	07 44 33.3	-0.9
APA0				S		Sg	07 44 37.5	-0.8
LVZ	Lovozero	0.42	49	P		Pg	07 44 35.9	-0.4
LVZ				S		Sg	07 44 41.6	-0.1
LVZ	Lovozero	0.42	49	PG		Pg	07 44 35.5	-0.8
	baz=225							
LVZ				SG		Sg	07 44 41.9	+0.2
VRF	Varrio	1.61	276	PG		Pn	07 44 56.6	-1.2
VRF				SG		Sn	07 45 16.5	-2.8
VRF				MSG			07 45 16.7	
	comp=Z,7.8nm,0.2s							
TERR	Teriberka	1.66	16	P		Pn	07 44 57.2	-1.3
TERR				S		Sn	07 45 18.5	-1.9
TERR	Teriberka	1.66	16	P		Pn	07 44 57.1	-1.3
TERR				S		Sn	07 45 18.4	-2.0
OLKF	Oulanka, Finla	2.17	235	PG		Pn	07 45 06.6	+1.1
	baz=53							
OLKF				SG		Sb	07 45 36.0	+0.2
KU6	Riekki	2.23	226	PG		Pb	07 45 08.0	-1.4
KU6				MSG			07 45 34.6	
	comp=Z,3.5nm,0.2s							
KU6				SG		Sb	07 45 37.2	-0.2
MSF	Maaselka	2.56	230	PG		Pb	07 45 12.9	-2.0
MSF				SG		Sb	07 45 47.6	+0.8
SGF	Sodankyl	2.81	270	PG		Pb	07 45 17.0	-2.1
SGF				SB		Sb	07 45 52.3	-1.6
RNF	Rovaniemi	3.21	255	PN		Pn	07 45 19.6	-0.3
	baz=68							
RNF				SN		Sn	07 45 58.8	0.0
KEV	Kevo	3.28	314	PN		Pn	07 45 20.6	-0.2
KEV				SN		Sn	07 45 59.2	-1.2
ARCES	ARCESS Array B	3.60	306	P		Pn	07 45 25.3	+0.1
ARCES				S		Sn	07 46 07.8	-0.6
RMF	Romuvaara	3.77	207	PN		Pn	07 45 27.4	-0.1
	baz=26							
KLF	Kolari	3.82	269	PG		Pb	07 45 36.1	-0.3
KLF				SG		Sb	07 46 25.6	+2.5
HEF	Hetta	3.90	286	PG		Pb	07 45 38.2	+0.4
	baz=97							
HEF				SN		Sn	07 46 13.0	-2.7
TOF	Tornio	4.05	252	PG		Pb	07 45 41.5	+1.2
TOF				SG		Sg	07 46 34.2	-4.1
OUL	Oulu	4.08	235	PB		Pb	07 45 37.1	-3.7
	baz=45							
OUL				SN		Sn	07 46 19.1	-1.0
KTK1	Kautokeino	4.17	294	SG		Sb	07 46 36.7	+3.7
PAJU	Pajala	4.19	267	PG		Pb	07 45 42.2	-0.5
	baz=73							
PAJU				SN		Sn	07 46 21.7	-1.2
LANU	Lannavaara	4.50	281	PN		Pn	07 45 36.2	-1.4
LANU				SG		Sg	07 46 47.7	-4.9

IDC ***17*** *07:59:16.2±2.5, 27°.01N×53°.42E, h0km, mb3.8/5, mbtmp3.8/6, ML3.6/1, MS3.0/1, Error ellipse: s-maj=54.8km s-min=26.6km az=28.0*

TEH ***17*** *07:59:18.4, 27°.02N×53°.56E, h17km, ML3.5*

DSN ***17*** *07:59:19.6±1.6, 27°.01N×53°.62E, h10km, ML3.4/9, Error ellipse: s-maj=20.3km s-min=6.6km az=173.0*

OMAN ***17*** *07:59:20.6±0.1, 26°.92N×53°.61E, h10km, mb4.4/3, ml3.4/14, Error ellipse: s-maj=2.2km s-min=1.2km az=4.0*

SGS ***17*** *07:59:21.9, 27°.48N×53°.15E, h19km, Ml3.6*

ISC 17 07:59:18.5±1.6, 27°.01N±0°.04×53°.56E±0°.04, h11km±12km, n78, σ1s43/93, mb3.6/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.48	313	*e*Pg		Pg	07 59 27.5	-0.4
LMD1				*e*			07 59 37.7	
	comp=Z,23μm,0.8s							
LAR1	LAR	0.97	48	*e*Pg		Pg	07 59 36.2	-1.1
JHRM	Jahrom	1.48	1	*e*Pg		Pn	07 59 46.6	+1.3
JHRM				*e*			08 00 20.7	
	comp=Z,18μm,0.5s							
QIR1	Qir	1.53	343	*e*Pg		Pb	07 59 47.7	+0.8
ESRB	Sir Abu	1.89	161	*e*Pn		Pn	07 59 52.3	+1.6
JRN	Qarnain Island	2.16	197	*e*Pn		Pn	07 59 56.4	+1.9
JRN	Qarnain Island	2.16	197	P		Pn	07 59 55.7	+1.2
JRN				S		Sb	08 00 26.5	+2.1
GENO	Geno	2.36	80	*e*Pn		Pn	07 59 58.2	+0.8
GENO				*e*			08 00 51.5	
	comp=Z,1μm,1.5s							
SHME	Shamm	2.50	112	*e*Pn		Pn	07 59 58.8	-0.4
SHME	Shamm	2.50	112	P		Pn	07 59 59.6	+0.4
SHME				S		Sn	08 00 30.8	+1.1
BANOM	Banah	2.68	113	*e*Pn		Pn	08 00 02.8	+1.1
BANOM	Banah	2.68	113	P		Pn	08 00 02.5	+0.8
	SNR=9.5							
BANOM				S		Sn	08 00 35.2	+1.0
BANOM	Banah	2.68	113	*e*P		Pn	08 00 01.7	0.0
	SNR=9.5							
BANOM				S		Sn	08 00 35.1	+0.8
AHBU	AHRAM	2.72	313	*e*Pn		Pn	08 00 02.4	+0.2
AHBU				*e*			08 01 03.9	
	comp=Z,99nm,0.8s							
NAZ	Nazwa, Dubai	2.77	136	*e*Pn		Pn	08 00 04.7	+1.9
NAZ	Nazwa, Dubai	2.77	136	P		Pn	08 00 04.7	+1.9
	SNR=6.0							
NAZ				S		Sn	08 00 37.6	+1.3
NAZ	Nazwa, Dubai	2.77	136	*e*P		Pn	08 00 04.1	+1.3
	SNR=6.0							
MASF	Masafi	2.85	124	P		Pn	08 00 05.3	+1.3
MASF				S		Sn	08 00 39.4	+1.0
MSFE	Esma-Masafi	2.86	125	*e*Pn		Pn	08 00 05.8	+1.7
MSFE	Esma-Masafi	2.86	125	P		Pn	08 00 04.7	+0.6
ASUD	Al Ashush, Dub	2.86	146	*e*Pn		Pn	08 00 06.3	+2.2
ASUD	Al Ashush, Dub	2.86	146	P		Pn	08 00 05.8	+1.6
	SNR=12							
ASUD				S		Sn	08 00 40.5	+1.9
ASUD	Al Ashush, Dub	2.86	146	*e*P		Pn	08 00 05.8	+1.6
	SNR=12							
FAQ	Al Faqa, Dubai	2.91	141	*e*Pn		Pn	08 00 06.4	+1.6
FAQ	Al Faqa, Dubai	2.91	141	P		Pn	08 00 06.1	+1.3
FAQ				S		Sn	08 00 41.4	+1.6
FAQ	Al Faqa, Dubai	2.91	141	P		Pn	08 00 05.7	+0.9
MDH	Madha	3.00	124	*e*Pn		Pn	08 00 07.2	+1.2
MDH	Madha	3.00	124	P		Pn	08 00 07.1	+1.1
MDH				S		Sn	08 00 42.8	+0.9
GHWR	Ruwais	3.10	192	*e*Pn		Pn	08 00 09.1	+1.7
UOSS	Minazif	3.15	130	*e*Pn		Pn	08 00 08.8	+0.8
UOSS	Minazif	3.15	130	*i* P		Pn	08 00 08.9	+0.8
	SNR=9.2							
HATD	Hatta, Dubai	3.18	133	*e*Pn		Pn	08 00 09.9	+1.4
HATD	Hatta, Dubai	3.18	133	P		Pn	08 00 09.7	+1.1
	SNR=9.8							
HATD				S		Sn	08 00 46.7	+0.2
HATD	Hatta, Dubai	3.18	133	*i* P		Pn	08 00 09.6	+1.1
	SNR=9.8							
ASHO	Ashiyiah	3.23	135	*e*Pn		Pn	08 00 10.3	+1.0
ASHO	Ashiyiah	3.23	135	P		Pn	08 00 10.2	+1.0
	SNR=15							
ASHO				S		Sn	08 00 47.9	+0.1
ASHO	Ashiyiah	3.23	135	*i* P		Pn	08 00 10.1	+0.8
	SNR=15							
MZWR	Madinat Zayed	3.25	175	*e*Pn		Pn	08 00 10.3	+0.8
SLWR	Sila	3.38	210	*e*Pn		Pn	08 00 11.9	+0.6
ALNE	Al Ain	3.55	146	*e*Pn		Pn	08 00 14.1	+0.5
SOHO	SOHO	3.93	136	*e*Pn		Pn	08 00 19.7	+0.9
SOHO	SOHO	3.93	136	P		Pn	08 00 19.3	+0.5
SOHO				S		Sn	08 01 05.5	+0.5
SOHO	SOHO	3.93	136	*i* P		Pn	08 00 19.0	+0.2
	SNR=8.0							
MZR	Muzera	4.00	181	*e*Pn		Pn	08 00 20.3	+0.5
JASK	Jask - Hormozg	4.03	106	*e*Pn		Pn	08 00 20.6	+0.5
KRBR	Kerman	4.08	43	*e*Pn		Pn	08 00 23.9	+2.7
TVBK	TV Kerman	4.09	43	*e*Pn		Pn	08 00 22.8	+1.5
TVBK				*e*			08 00 59.1	
	comp=Z,668nm,0.3s							
KHGB	Koh Gabri	4.22	37	*e*Pn		Pn	08 00 23.3	+0.3
KHGB				*e*			08 00 50.8	
	comp=Z,285nm,0.2s							
KLNJ	Kolanjah	4.34	337	*e*Pn		Pn	08 00 27.0	+2.2
IMEH	Mehriz	4.46	12	*e*Pn		Pn	08 00 28.1	+1.8
CHMN	Cheshme madani	4.51	50	*e*Pn		Pn	08 00 28.4	+1.3
CHMN				*e*			08 01 29.1	
	comp=Z,236nm,0.4s							
UMZA	Um Al Zommool	4.52	161	*e*Pn		Pn	08 00 27.5	+0.5
ARQ	Arqi	4.54	143	P		Pn	08 00 27.8	+0.6
	SNR=6.8							
ARQ				S		Sn	08 01 18.2	-1.8
HOQ	Hoqain	4.82	134	P		Pn	08 00 31.9	+0.9
	SNR=12							
HOQ				S		Sn	08 01 25.7	-1.2
ISAD	Sadrabad	4.88	1	*e*Pn		Pn	08 00 34.5	+2.3
IBAF	Bafgh	4.88	21	*e*Pn		Pn	08 00 34.0	+1.9
IRAM	Rameshen	4.89	348	*e*Pn		Pn	08 00 34.3	+2.1
ICHK	Chekchek	5.26	8	*e*Pn		Pn	08 00 39.1	+1.7
BSY	Bisya	5.38	141	P		Pn	08 00 39.7	+0.8
	SNR=13							
BSY				S		Sn	08 01 39.3	-1.6
YZKH	Yazd	5.43	9	*e*Pn		Pn	08 00 41.6	+2.0
SMDO	Samad	5.66	133	P		Pn	08 00 43.7	+0.9
	SNR=10.0							
SMDO				S		Sn	08 01 46.9	-1.0
NASN	Na'in	5.80	354	*e*Pn		Pn	08 00 46.0	+1.1
WSAR	Wadi Sarin	5.94	128	Pn		Pn	08 00 47.0	+0.6
	comp=Z,1.7nm,0.3s,baz=303,slow=12,SNR=9.3							
WSAR				Sn		Sn	08 01 51.6	-2.9
	comp=Z,2.0nm,0.3s,baz=4.3,slow=23,SNR=14							
	comp=Z,4.1nm,0.4s							
QYSM	Um Kedad	6.00	280	P		Pn	08 00 42.0	-5.3
IPIR	Pirpir	6.11	338	*e*Pn		Pn	08 00 51.3	+2.3
ANAR	Anarak	6.16	1	*e*Pn		Pn	08 00 50.2	+0.6
IKLH	Kolahrood	6.51	345	*e*Pn		Pn	08 00 57.7	+3.1
WBK	Wadi Bani Khal	6.58	131	P		Pn	08 00 55.3	-0.1
	SNR=9.7							
BSRN	Basiran	6.92	43	*e*Pn		Pn	08 01 03.0	+3.0
MHTO	MHTO	7.23	145	P		Pn	08 01 04.2	0.0
	SNR=14							
TABS	Tabas	7.29	24	*e*Pn		Pn	08 01 07.4	+2.3
DMTO	DMTO	9.34	172	P		Pn	08 01 30.3	-2.9
ATD	Arta Tunnel	18.41	215	LR		LR	08 11 57.2	
	comp=Z,44nm,18.9s,baz=170,slow=42							
BRTR	Keskin Array B	20.86	312	P		P	08 03 59.4	-1.3
	comp=Z,1.7nm,0.8s,baz=132,slow=14,SNR=9.0							
	comp=Z,1.7nm,0.8s							
MKAR	Makanchi Array	30.03	41	P		P	08 05 27.8	+0.3
	comp=Z,0.5nm,0.5s,baz=230,slow=9.7,SNR=6.7							
	comp=Z,0.5nm,0.5s							
AKASG	Malin Array Be	30.05	328	P		P	08 05 26.0	-1.5
	comp=Z,0.4nm,0.4s,baz=133,slow=7.8,SNR=4.5							
	comp=Z,0.4nm,0.4s							
ZALV	Zalesovo Beam	35.39	32	P		P	08 06 13.8	-0.3
	comp=Z,1.3nm,0.4s,baz=252,slow=8.7,SNR=4.7							
	comp=Z,1.3nm,0.4s							
FINES	FINESS Array B	39.06	339	P		P	08 06 44.1	-1.1
	comp=Z,1.4nm,0.9s,baz=139,slow=11,SNR=4.5							
	comp=Z,1.4nm,0.9s							

IDC 17 08:15:48.9±2.0, 2°.29S×140°.80E, h0km, mb3.5/4, mbtmp3.5/5, ML3.4/1, MS3.2/1, Error ellipse: s-maj=65.2km s-min=31.0km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	18.48	164	LR		LR	08 26 52.8	
	comp=Z,79nm,20.4s,baz=81,slow=36							
WRA	Warramunga Arr	18.65	199	P		Pn	08 20 08.7	0.0
	0.1nm,0.3s,baz=24,slow=12,SNR=10							
	1.2nm,0.8s							
FITZ	Fitzroy Crossi	21.63	222	P		P	08 20 40.3	-0.7
	1.2nm,0.8s,baz=30,slow=8.1,SNR=1.6							
	1.2nm,0.8s							
ASAR	Alice Springs	22.28	197	P		P	08 20 47.8	0.0
	0.8nm,0.6s,baz=27,slow=11,SNR=16							
	0.8nm,0.6s							
MKAR	Makanchi Array	70.74	322	P		P	08 27 06.9	-0.1
	0.5nm,0.9s,baz=107,slow=7.7,SNR=2.5							
	0.5nm,0.9s							
VNDA	Vanda	76.03	175	P		P	08 27 37.9	+0.3
	0.7nm,0.7s,baz=328,slow=6.6,SNR=8.5							
	0.7nm,0.7s							

IDC ***17*** *08:27:55.4±4.1, 5°.41S×148°.26E, h159km±38km, mb3.5/5, mbtmp4.0/7, Error ellipse: s-maj=32.1km s-min=23.3km az=162.0*

NEIC ***17*** *08:27:56.9±1.0, 5°.42S±0°.08×148°.2E±0°.1, h169km±8km, mb4.3/11, Error ellipse: s-maj=18.2km s-min=9.6km az=115.0*

ISC 17 08:27:56.6±0.7, 5°.52S±0°.09×148°.2E±0°.1, h167km, n24, σ0s78/25, mb4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.99	195	P		Pn	08 28 57.7	+0.5
	14nm,0.6s,baz=0.0,slow=8.1,SNR=6.3							
PMG				S		Sn	08 29 42.9	-1.7
	37nm,0.6s,baz=211,slow=19,SNR=6.5							
PMG	Port Moresby	3.99	195			Pn	08 28 57.4	+0.2
RABL	Rabaul	4.17	72			Pn	08 28 59.5	0.0
COEN	Coen	9.73	210	Pn		Pn	08 30 14.3	+1.5
MTN	Manton Dam	18.34	245	P		P	08 31 58.8	+0.3
MTN				IAmb		IAmb	08 32 27.7	
	comp=Z,29nm,1.4s							
WB0	Warramunga Arr	19.52	222	P		P	08 32 11.4	+0.2
WB0				IAmb		IAmb	08 32 15.7	
	comp=Z,6.5nm,0.8s							
WRA	Warramunga Arr	19.68	222	P		P	08 32 13.5	+0.5
	comp=Z,4.6nm,0.4s,baz=50,slow=11,SNR=85							
WRA	Warramunga Arr	19.68	222	P		P	08 32 11.7	-1.2
KNRA	Kununurra	21.58	241	P		P	08 32 32.0	-1.2
KNRA				IAmb		IAmb	08 32 35.5	
	comp=Z,11nm,0.8s							
AS31	Alice Springs	22.69	216	P		P	08 32 44.3	+0.2
ASAR	Alice Springs	22.69	216	P		P	08 32 44.9	+0.8
	comp=Z,1.6nm,0.6s,baz=50,slow=8.7,SNR=43							
	comp=Z,1.6nm,0.6s							
ASAR	Alice Springs	22.69	216	P		P	08 32 44.5	+0.3
DZM	Mont Dzumac	24.13	135	P		P	08 32 57.5	+0.2
	comp=Z,2.0nm,0.6s,baz=319,slow=9.3,SNR=5.9							
	comp=Z,2.0nm,0.6s							
DZM	Mont Dzumac	24.13	135	P		P	08 32 57.5	+0.2
DZM				IAmb		IAmb	08 33 28.6	
	comp=Z,20nm,1.4s							
FITZ	Fitzroy Crossi	25.33	239	P		P	08 33 08.4	+0.3
	comp=Z,9.8nm,0.4s,baz=57,slow=11,SNR=57							
	comp=Z,9.8nm,0.4s							
FITZ	Fitzroy Crossi	25.33	239	P		P	08 33 08.0	-0.1
BKZ	Black Stump Fm	42.14	147	P		P	08 35 32.5	-0.1
BKZ				IAmb		IAmb	08 36 06.0	
	comp=Z,24nm,1.3s							
RPZ	Rata Peaks	43.03	156	P		P	08 35 40.6	+0.9
VNDA	Vanda	72.32	177	P		P	08 39 03.8	+0.4
VNDA				IAmb		IAmb	08 39 46.7	
	comp=Z,4.5nm,1.2s							
ANM	Nome	77.87	19	P		P	08 39 34.8	-0.6
MKAR	Makanchi Array	77.89	320	P		P	08 39 36.1	+0.1
	comp=Z,0.2nm,0.4s,baz=106,slow=7.3,SNR=2.5							
	comp=Z,0.2nm,0.4s							
QSPA	South Pole Qui	84.44	180	P		P	08 40 09.6	-0.6
QSPA				IAmb		IAmb	08 40 10.3	
	comp=Z,1.5nm,0.8s							
ILAR	Eielson Array	84.58	23	P		P	08 40 09.3	-1.5
	comp=Z,0.6nm,0.8s,baz=251,slow=5.1,SNR=6.9							
	comp=Z,0.6nm,0.8s							
TORD	Torodi Ar. Bea	146.12	285	PKPbc		PKPdf	08 47 16.9	0.0
	comp=Z,0.6nm,0.7s,baz=67,slow=3.3,SNR=4.2							

IDC ***17*** *08:28:52.1±0.5, 54°.82S×30°.46W, h0km, mb4.5/10, mbtmp4.6/11, ML4.6/1, MS3.7/20, Error ellipse: s-maj=20.7km s-min=15.5km az=60.0*

NEIC ***17*** *08:28:54.3±1.4, 54°.85S±0°.09×30°.5W±0°.2, h10km±1km, mb4.9/51, Error ellipse: s-maj=16.2km s-min=14.9km az=53.0*

ISC 17 08:28:53.9±0.4, 54°.85S±0°.06×30°.60W±0°.07, h10km, n187, σ0s75/171, mb4.9/31, MS3.7/19, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.48	277	Pn		Pn	08 29 47.0	-0.9
ORCD	Orcadas	9.57	226	Pn		Pn	08 31 11.3	-0.2
EFI	East Falkland	16.69	270	P		P	08 32 49.7	-0.2
VNA1	Neumayer--Stat	18.65	157	P		Pn	08 33 11.6	-0.1
VNA1	Neumayer--Stat	18.65	157	PcP		PcP	08 37 39.8	+0.6
VNA3	Neumayer Olymp	18.79	159	P		Pn	08 33 14.0	+0.5
VNA3	Neumayer Olymp	18.79	159	PcP		PcP	08 37 40.1	+0.6
VNA2	Neumayer--Watz	19.05	157	P		P	08 33 15.6	-0.2
	baz=307,slow=12							
VNA2	Neumayer--Watz	19.05	157	PcP		PcP	08 37 40.7	+0.8
PMSA	Palmer Station	19.28	226	P		Pn	08 33 20.2	+0.8
	1.8nm,0.3s,baz=66,slow=9.4,SNR=25							
PMSA				S		Sn	08 36 51.9	-3.4
	5.8nm,0.7s,baz=156,slow=21,SNR=5.5							
PMSA				LR		LR	08 40 12.1	
	comp=Z,110nm,18.1s,baz=61,slow=35							
	69nm,0.8s							
PMSA	Palmer Station	19.28	226	P		Pn	08 33 19.5	+0.2
PMSA				IAmb		IAmb	08 33 22.0	
	comp=Z,64nm,0.8s							
SNAA	Sanae	20.64	155	P		P	08 33 31.9	-1.3
SNAA	Sanae	20.64	155	PcP		PcP	08 37 42.0	-1.0
SNAA	Sanae	20.64	155	P		P	08 33 32.5	-0.7
	comp=Z,12nm,0.8s,baz=312,slow=9.9,SNR=41							
SNAA				PcP		PcP	08 37 43.0	+0.1
	comp=Z,2.6nm,0.7s,baz=258,slow=3.1,SNR=9.6							
SNAA				LR		LR	08 39 54.1	
	comp=Z,183nm,20.9s,baz=265,slow=32							
	comp=Z,12nm,0.8s							
SNAA	Sanae	20.64	155	P		P	08 33 32.9	-0.3
MG01	Puerto William	21.14	254	P		P	08 33 39.8	+1.1
MG01				IAmb		IAmb	08 33 41.0	
	comp=Z,42nm,0.8s							
SMAI	San Martin Ant	21.48	217	P		P	08 33 41.6	-0.5
SMAI				IAmb		IAmb	08 33 46.1	
	comp=Z,73nm,1.6s							
USHA	Ushuaia	21.62	254	P		P	08 33 44.6	+0.9
	comp=Z,40nm,0.8s,baz=88,slow=9.2,SNR=4.1							
	comp=Z,40nm,0.8s							
TROLL	Troll, Antarti	22.19	153	P		P	08 33 48.7	-1.3
TROLL	Troll, Antarti	22.19	153	PcP		PcP	08 37 45.5	-0.5
MG02	Cerro Sombrero	22.70	259	P		P	08 33 55

comp=Z,2.9nm,0.7s
PB14 IPOC Station P 42.06 300 P P 08 36 45.4 -0.6
MAW Mawson 42.26 145 P P 08 36 46.1 -0.6
comp=Z,9.2nm,0.8s,baz=244,slow=10,SNR=17
MAW LR LR 08 52 13.0
comp=Z,73nm,19.1s,baz=260,slow=33
comp=Z,9.2nm,0.8s
MAW Mawson 42.26 145 P P 08 36 47.3 +0.6
LVC Limon Verde 43.02 303 LR LR 08 53 47.5
comp=Z,40nm,21.8s,baz=169,slow=35
LVC Limon Verde 43.02 303 P P 08 36 54.9 +1.0
PB09 IPOC Station P 43.87 303 P P 08 37 02.0 +1.5
PB09 IAmb IAmb 08 37 15.8
comp=Z,27nm,1.1s
PB01 IPOC Station P 44.63 303 P P 08 37 07.0 +0.5
PB01 IAmb IAmb 08 37 08.0
comp=Z,13nm,0.7s
PTLB Pontes e Lacer 45.10 319 P P 08 37 10.6 +0.4
PTLB IAmb IAmb 08 37 51.4
comp=Z,11nm,1.2s
SIV San Ignacio 45.35 317 LR LR 08 54 07.8
comp=Z,81nm,20.7s,baz=98,slow=33
GO01 Chusmiza 45.66 305 P P 08 37 15.6 +0.5
GO01 IAmb IAmb 08 37 16.8
comp=Z,10.0nm,0.8s
SBA Scott Base 47.12 185 P P 08 37 27.4 +1.9
SBA IAmb IAmb 08 37 29.5
comp=Z,15nm,1.1s
VNDA Vanda 47.67 184 P P 08 37 30.8 +1.2
comp=Z,10nm,0.8s,baz=180,slow=5.6,SNR=59
VNDA LR LR 08 56 21.7
comp=Z,58nm,18.3s,baz=186,slow=35
comp=Z,10nm,0.8s
VNDA Vanda 47.67 184 P P 08 37 30.9 +1.2
VNDA IAmb IAmb 08 37 32.0
comp=Z,13nm,0.9s
LPAZ La Paz 48.10 308 P P 08 37 35.1 +0.7
comp=Z,3.0nm,0.7s,baz=147,slow=7.6,SNR=14
comp=Z,3.0nm,0.7s
LPAZ La Paz 48.10 308 P P 08 37 34.7 +0.3
H10N1 ASCENSION HYDR 48.62 22 T T 09 29 55.5
baz=191,slow=75,SNR=7.4
H10N3 ASCENSION HYDR 48.62 21 T T 09 29 56.2
baz=191,slow=75,SNR=8.1
H10N2 ASCENSION HYDR 48.63 21 T T 09 29 57.0
baz=191,slow=75,SNR=8.0
RCBR Riachuelo 49.07 353 LR LR 08 55 20.9
comp=Z,79nm,19.3s,baz=316,slow=32
LBTB Lobatse 50.58 77 P P 08 37 52.0 -0.7
LBTB IAmb IAmb 08 37 55.9
comp=Z,39nm,1.6s
CASY Casey 55.67 162 P P 08 38 29.8 +0.3
CASY IAmb IAmb 08 38 45.8
comp=Z,15nm,0.6s
ATAH Atahualpa 60.91 303 LR LR 09 07 07.9
comp=Z,33nm,19.2s,baz=108,slow=38
BOAV Boa Vista 62.17 326 P P 08 39 14.7 -0.6
BOAV IAmb IAmb 08 40 06.1
comp=Z,9.9nm,1.4s
MDP Montagnes des 62.49 335 LR LR 09 04 04.6
comp=Z,84nm,21.3s,baz=170,slow=34
MCRA Macar, Loja 64.06 303 P P 08 39 28.0 0.0
MCRA IAmb IAmb 08 40 01.6
comp=Z,9.0nm,1.4s
DBIC Dimbokro 64.96 28 P P 08 39 33.4 -0.2
CHSH Refugio Sur-Vo 66.05 305 P P 08 39 42.5 +1.0
CHSH IAmb IAmb 08 40 48.6
comp=Z,5.4nm,0.7s
OTAV Otavalo 67.38 307 P P 08 39 50.5 +0.7
OTAV IAmb IAmb 08 39 52.3
comp=Z,16nm,1.6s
ROSC El Rosal 69.63 313 LR LR 09 10 43.8
comp=Z,49nm,21.2s,baz=69,slow=36
SACV Santiago Islan 69.80 7 P P 08 40 05.1 +0.9
BBTS Babate 70.26 14 LR LR 09 04 39.4
comp=Z,93nm,20.6s,baz=206,slow=31
MCQ Macquarie Isla 70.73 186 P P 08 40 10.6 +1.1
SDV Santo Domingo 71.80 318 LR LR 09 12 42.4
comp=Z,148nm,19.7s,baz=92,slow=37
TOA0 Torodi Ar. Sit 73.03 33 P P 08 40 23.6 -0.2
TOA0 IAmb IAmb 08 40 25.9
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 73.03 33 P P 08 40 23.7 -0.1
comp=Z,8.3nm,0.8s,baz=200,slow=5.9,SNR=28
comp=Z,8.3nm,0.8s
KMBO Kilima Mbogo 76.47 72 LR LR 09 12 15.1
comp=Z,61nm,19.0s,baz=94,slow=34
WHZ Wether Hill Ro 78.41 193 P P 08 40 54.6 +0.3
SJG San Juan 78.73 326 LR LR 09 18 47.1
comp=Z,23nm,19.1s,baz=155,slow=38
MQZ McQueen's Vall 79.84 197 P P 08 41 01.8 -0.4
RPZ Rata Peaks 80.09 196 P P 08 41 03.1 -0.4
comp=Z,15nm,0.9s,baz=297,slow=2.3
comp=Z,15nm,0.9s
MDT Midelt 90.13 22 LR LR 09 15 48.5
comp=Z,96nm,21.3s,baz=205,slow=31
KEST Kesra 96.52 32 LR LR 09 21 28.9
comp=Z,70nm,19.0s,baz=256,slow=33
ESDC Sonseca Array 96.88 20 LR LR 09 20 58.9
comp=Z,92nm,20.1s,baz=176,slow=32
ASAR Alice Springs 100.68 166 P Pdif 08 42 40.5 -1.8
comp=Z,0.8nm,1.0s,baz=186,slow=5.0,SNR=3.6
NVAR Mina Array Bea 119.13 296 PKP PKPdf 08 47 40.4 -2.2
comp=Z,0.1nm,0.3s,baz=184,slow=2.7,SNR=1.6
FINES FINESS Array B 124.25 29 PKP PKPdf 08 47 50.8 -0.5
comp=Z,0.6nm,0.5s,baz=209,slow=2.0,SNR=8.6
ARCES ARCESS Array B 130.56 23 PKP PKPdf 08 48 01.7 -1.4
comp=Z,1.6nm,0.8s,baz=270,slow=0.9,SNR=4.1
YKA Yellowknife Ar 133.99 320 PKP PKPdf 08 48 07.5 -2.2
comp=Z,1.2nm,0.6s,baz=127,slow=2.9,SNR=5.4
PZH PanZhiHua 135.33 110 PKP PKiKP 08 48 14.8 -0.4
MKAR Makanchi Array 138.36 72 PKP PKPdf 08 48 17.9 -0.5
comp=Z,0.7nm,0.7s,baz=264,slow=1.7,SNR=7.1
N31M Braeburn, Yuko 142.04 311 P PKiKP 08 48 29.3 +1.6
baz=115
A36M Sachs Harbour 142.18 330 P PKiKP 08 48 29.7 +2.1
baz=110
HYT Haines Junctio 142.52 310 P PKiKP 08 48 30.7 +1.9
baz=115
PINM Pinnacle 143.46 308 P PKiKP 08 48 32.3 +1.7
baz=114
ZALV Zalesovo Beam 143.59 64 PKhKP PKPpre 08 48 23.9
comp=Z,2.1nm,0.5s,baz=223,slow=4.6,SNR=9.2
LZH Lanzhou 143.75 102 *e*PKP PKPab 08 48 25.4 -0.2
LZH pPKP PKiKP 08 48 33.8 +1.6
LZH sPKP 08 48 39.8
EPYK Eagle Plains 144.23 319 P PKiKP 08 48 33.6 +1.6
baz=108
XAN Xi'an 145.07 110 ⇑PKPbc **PKPab 08 48 30.3 -0.1**
XAN pPKP PKiKP 08 48 40.8 +6.0
I27K Kandik River 145.92 316 P PKPbc 08 48 32.2 0.0
baz=106,SNR=6.1
N25K Chitina, Valde 146.00 309 P PKPbc 08 48 32.5 0.0
baz=109
H27K Steamboat Moun 146.05 317 P PKPbc 08 48 32.3 -0.2
baz=105
EYAK Cordova Ski Ar 146.17 307 P PKPbc 08 48 33.0 +0.1
baz=110
G27K Doyon Strip 146.24 318 P PKPab 08 48 33.7 -0.1
baz=104
J26L Joseph Creek 146.42 314 P PKPbc 08 48 33.2 -0.5
baz=106,SNR=5.5
SCRK Sand Creek 146.45 313 P PKPbc 08 48 34.0 +0.1
baz=106
I26K Coal Creek Min 146.46 315 P PKPbc 08 48 33.4 -0.3
baz=105
HARP HAARP 146.50 310 P PKPbc 08 48 34.0 +0.1
baz=108
E27K Coleen River 146.53 321 P PKPbc 08 48 33.5 -0.3
baz=102
KLU Klutina 146.56 308 P PKPbc 08 48 33.9 -0.3
baz=108
RIDG Independent Ri 146.75 312 P PKPbc 08 48 34.7 0.0
baz=106,SNR=6.7
PAX Paxson 146.81 311 P PKPbc 08 48 35.0 +0.1
baz=107
G26K Porcupine Rive 147.09 318 P PKPbc 08 48 35.0 -0.4
baz=102
J25K Salcha River, 147.20 314 P PKPbc 08 48 35.9 0.0
baz=104
SCM Sheep Creek Mo 147.30 308 P PKPbc 08 48 35.7 -0.6
baz=107
LYN LuoYang 147.37 113 ⇓*e*PKPbc **PKPdf 08 48 35.6 +0.9**
F26K Sheenjek River 147.38 320 P PKPbc 08 48 36.1 -0.2
baz=100
M23K Glacier View 147.47 308 P PKPbc 08 48 36.0 -0.7
baz=107
PWL Port Wells 147.47 306 P PKPbc 08 48 36.0 -0.7
baz=108
PRP Porcupine Dome 147.48 315 P PKPbc 08 48 36.3 -0.4
baz=103
C27K Jago River 147.53 323 P PKPbc 08 48 36.1 -0.5
baz=98
DHY Denali Highway 147.67 311 P PKPbc 08 48 36.9 -0.5
baz=105
KNK Knik Glacier 147.70 307 P PKPbc 08 48 36.9 -0.4
baz=107
WAT6 Susitna Watana 147.70 310 P PKPbc 08 48 36.9 -0.5
baz=106
H25K Birch Creek 147.75 317 P PKPbc 08 48 37.5 +0.2
baz=101
SML Sawmill 147.75 308 P PKPbc 08 48 37.1 -0.4
baz=106
SEW Seward 147.77 305 P PKPbc 08 48 37.0 -0.4
baz=108
HDA Harding Lake 147.82 313 P PKPbc 08 48 37.0 -0.5
baz=103
ILAR Eielson Array 147.87 314 PKPbc **PKPbc 08 48 37.0 -0.6**
comp=Z,8.2nm,0.7s,baz=126,slow=1.9,SNR=63
F25K Christian Rive 147.92 319 P PKPbc 08 48 38.0 +0.2
baz=99
E25K Arctic Village 147.98 320 P PKPbc 08 48 38.2 +0.3
baz=99
WAT1 Susitna Watana 148.13 310 P PKPbc 08 48 38.3 -0.1
baz=105
POKR Poker Plat Res 148.18 314 P PKPbc 08 48 38.3 -0.2
baz=102
COLA College 148.30 314 P PKPbc 08 48 38.4 -0.3
baz=102
TCOL CIGO, UAF Yank 148.30 314 P PKPbc 08 48 38.5 -0.3
baz=102
D25K Kavik River 148.43 322 P PKPbc 08 48 38.7 -0.4
baz=96
G24K Hadweenzic Riv 148.48 317 P PKPbc 08 48 39.3 +0.1
baz=99
H24K Noodor Dome 148.50 316 P PKPbc 08 48 39.7 +0.4
baz=100
MCK McKinley 148.51 311 P PKPbc 08 48 39.4 0.0
baz=103
KDAK Kodiak Island 148.54 299 P PKPbc 08 48 39.5 0.0
baz=110
M22K Willow 148.56 307 P PKPbc 08 48 40.0 +0.6
baz=105
OHAK Old Harbor 148.70 298 P PKPbc 08 48 40.5 +0.5
baz=110
NEA2 Nenana 148.75 313 P PKPbc 08 48 39.8 -0.2
baz=102,SNR=10
F24K Squaw Lake 148.76 319 P PKPbc 08 48 40.5 +0.5
baz=98
TRF Thorofare Moun 149.04 311 P PKPbc 08 48 41.1 +0.2
baz=102
E24K Your Creek 149.06 320 P PKPbc 08 48 41.1 +0.5
baz=96
H23K Yukon River 149.17 315 P PKPbc 08 48 41.1 +0.1
baz=99
SKT Skwentna 149.26 308 P PKPbc 08 48 41.2 -0.1
baz=104
NRIK Noril'sk 149.27 38 PKPbc **PKiKP 08 48 42.1 -0.1**
comp=Z,1.4nm,0.6s,baz=83,slow=2.0,SNR=4.4
C24K Franklin Bluff 149.27 323 P PKiKP 08 48 41.6 -0.6
baz=93
D24K Happy Valley 149.28 322 P PKPbc 08 48 41.4 +0.3
baz=94
Q19K Cape Douglas, 149.44 301 P PKPbc 08 48 41.7 -0.1
baz=108
P19K Oil Pt 149.45 303 P PKPbc 08 48 42.3 +0.5
baz=107
BPAW Bear Paw Mtn. 149.48 312 P PKPbc 08 48 41.5 -0.3
baz=101,SNR=16
G23K Bananza Creek 149.49 317 P PKPbc 08 48 41.8 +0.1
baz=97,SNR=12
TOLK Toolik Lake Re 149.51 321 P PKPbc 08 48 41.7 0.0
baz=94
MLY Manley 149.53 314 P PKPbc 08 48 41.5 -0.4
baz=100,SNR=6.1
COLD Coldfoot 149.62 318 P PKPbc 08 48 41.7 -0.3
baz=96,SNR=6.8
H22K Ishtalitna Cre 149.93 315 P PKPbc 08 48 41.8 -1.0
baz=98,SNR=6.5
D23K Nanushuk River 149.93 321 P PKPbc 08 48 42.4 -0.3
baz=93
C23K Itkillik River 149.94 323 P PKiKP 08 48 43.1 -0.5
baz=91
M20K Styx River 149.97 307 P PKPbc 08 48 43.1 0.0
baz=103
I21K Tanana 150.08 314 P PKPbc 08 48 43.2 0.0
baz=98
G22K Bettles 150.10 317 P PKPbc 08 48 42.5 -0.6
baz=96,SNR=8.6
O19K Port Alsworth 150.12 303 P PKPbc 08 48 42.4 -1.0
baz=105
P18K Big Mountain, 150.35 302 P PKPbc 08 48 42.7 -1.3
baz=106
N19K Bonanza Creek 150.36 305 P PKPbc 08 48 43.3 -0.8
baz=104
F22K John River 150.41 318 P PKPbc 08 48 43.9 0.0
baz=94,SNR=8.5
R17K Ugashik Creek 150.42 298 P PKPbc 08 48 43.8 -0.4
baz=108
L20K Farewell, AK 150.44 308 P PKPbc 08 48 43.8 -0.4
baz=102
O18K Koktuh Hills 150.47 303 P PKPbc 08 48 43.8 -0.5
baz=105
H21K Melozitna Rive 150.48 315 P PKPbc 08 48 43.6 -0.6
baz=97,SNR=11
M19K Big River Lodg 150.56 307 P PKPbc 08 48 44.2 -0.3
baz=102
K20K Telida 150.69 310 P PKPbc 08 48 44.6 -0.1
baz=100
G21K Allakaket 150.85 316 P PKPbc 08 48 45.1 +0.1
baz=95
J20K Nowinta River 150.85 311 P PKiKP 08 48 45.6 0.0
baz=98
Q16K King Salmon 150.86 300 P PKiKP 08 48 45.7 -0.1
baz=106
F21K Alatna River 150.89 318 P PKiKP 08 48 45.7 0.0
baz=93
N18K Kilae Creek 151.00 304 P PKiKP 08 48 46.3 +0.2
baz=103
SONM Songino Array 152.60 87 PKPbc **PKPbc 08 48 49.2 -0.5**
comp=Z,4.2nm,0.7s,baz=219,slow=3.9,SNR=20
SONM PKPab **PKPab 08 48 59.5 -0.9**
comp=Z,2.6nm,0.5s,baz=220,slow=3.4,SNR=9.5
KSRS Korea Array 157.26 131 PKPab **PKPab 08 49 19.6 -0.7**
comp=Z,0.9nm,0.5s,baz=233,slow=4.1,SNR=4.4

ISK 17 08:31:01.9,38.78N×43.53E,h5km,ML2.9/13
DDA 17 08:31:02.5±0.0,38.76N×43.55E,h7km,2km,ML2.7
ISC 17 08:31:02.9±1.2, 38.78N±0.03×43.53E±0.03, h11km±10km, n21, σ0.79/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.22**	**210**	PG	**Pg**	**08 31 08.7**	**+1.3**
ERCV	**ERCIS-VAN**	**0.28**	**328**	PG	**Pg**	**08 31 07.8**	**-0.8**
OZAP	**Van, Ozalp-Mer**	**0.38**	**108**	P	**Pb**	**08 31 11.4**	**-0.5**
CLDR	**Caldiran**	**0.47**	**40**	PG	**Pg**	**08 31 12.2**	**0.0**
CLDR				SG	**Sb**	**08 31 20.0**	**-0.5**
AKDM	**Akdamar-Van**	**0.62**	**224**	PG	**Pb**	**08 31 14.9**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.63**	**273**	P	**Pb**	**08 31 15.3**	**-0.7**
ADCV				S	**Sb**	**08 31 25.0**	**+0.1**
ADCV				*i* AML	AML	08 31 28.0	
	comp=E,351nm,0.6s						
MLAZ	**Malazgirt-MUS**	**0.84**	**296**	PG	**Pb**	**08 31 19.5**	**-0.2**
MLAZ				SG	**Sb**	**08 31 32.1**	**+1.0**
AGRB	**Hanur-Agry**	**0.90**	**332**	PG	**Pb**	**08 31 20.5**	**-0.1**
AGRB				SG	**Sb**	**08 31 33.8**	**+1.2**
KOTA	**Agri, Merkez-K**	**1.05**	**346**	P	**Pg**	**08 31 22.9**	**-0.2**
PERV	**Siirt/Pervari-**	**1.14**	**223**	P	**Pn**	**08 31 25.9**	**+1.0**
BLIS	**Bitlis-Merkez**	**1.17**	**252**	P	**Pg**	**08 31 24.3**	**-1.0**
BLIS				S	**Sg**	**08 31 40.1**	**-0.4**
BLIS				*i* AML	AML	08 31 42.0	
	comp=N,253nm,0.6s						
BLIS				*i* AML	AML	08 31 42.0	
	comp=E,146nm,0.6s						
IGDI	**IGDIR**	**1.17**	**21**	P	**Pn**	**08 31 25.4**	**+0.1**
GURO	**Guroymak-BITLI**	**1.19**	**259**	PN	**Pg**	**08 31 24.9**	**-0.9**
TASB	**TASBURUN-IGDIR**	**1.32**	**24**	PN	**Pg**	**08 31 28.3**	**0.0**
YOVA	**Hakkari_Yksek**	**1.34**	**153**	P	**Pn**	**08 31 27.3**	**-0.4**
YOVA				S	**Sn**	**08 31 45.8**	**+0.2**
MUSM	**Mu-Merkez**	**1.58**	**269**	P	**Pb**	**08 31 31.6**	**-0.5**
GNI	**Garni**	**1.66**	**34**	PN	**Pb**	**08 31 33.5**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.77**	**313**	PN	**Pb**	**08 31 34.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.93**	**252**	PN	**Pb**	**08 31 37.3**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.00**	**333**	PN	**Pb**	**08 31 38.6**	**-0.8**
BNGB	**Bingl**	**2.23**	**276**	PN	**Pn**	**08 31 41.5**	**+1.5**

MAN 17 08:40:54.0, 13.75N×122.94E, h1km, mb4.2, ML3.1, MS2.8, 6C-6D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.50**	**211**	⇓*e*P	Pg	08 41 04.0	+0.5
AUQP				*e*S	Sb	08 41 16.3	+3.0
GQP	**Guinayangan**	**0.50**	**288**	⇓*e*P	Pg	08 41 04.0	+0.4
GQP				*i* S	Sg	08 41 11.2	+1.1
BOAC	**Boac**	**1.10**	**255**	⇓*e*P	Pg	08 41 15.2	0.0
BOAC				*e*S	Sn	08 41 32.3	-0.1
PVCP	**Virac**	**1.19**	**97**	⇑*e*P	Pb	08 41 17.2	-0.2
PVCP				*e*S	Sn	08 41 34.6	-0.1
LQP	**Lukban**	**1.41**	**285**	⇓*e*P	Pb	08 41 21.3	+0.2
LQP				*i* S	Sg	08 41 37.0	-2.2
TGY	**Tagaytay City**	**1.97**	**280**	⇑*e*P	Pb	08 41 30.4	-0.4
TGY				*i* S	Sg	08 41 58.5	+1.1
CNP	**Catarman**	**2.08**	**126**	⇓*e*P	Pg	08 41 34.4	+0.4
CNP				*e*S	Sg	08 42 00.6	-0.4
RCP	**Roxas**	**2.19**	**185**	⇑*e*P	Pn	08 41 31.9	+0.4
SJMP	**San Jose**	**2.19**	**234**	⇑*e*P	Pn	08 41 32.5	+1.0
SJMP				*e*S	Sb	08 42 01.4	-0.7
BALP	**Baler**	**2.38**	**326**	⇑*e*P	Pn	08 41 33.5	-0.6
BALP				*e*S	Sb	08 42 06.4	-1.1
PCPH	**Palayan**	**2.53**	**315**	⇓*e*P	Pn	08 41 37.0	+0.8
PCPH				*e*S	Sb	08 42 13.5	+1.5
LUBP	**Lubang**	**2.62**	**270**	⇑*e*P	Pn	08 41 34.1	-3.3
LUBP				*e*S	Sn	08 42 11.2	+1.3

IDC 17 08:46:52.7±1.2, 11.24S×161.56E, h0km, mb3.8/6, mbtmp3.9/8, ML4.2/2, MS3.1/3, Error ellipse: s-maj=28.1km s-min=25.2km az=93.0
ISC 17 08:46:57.0±0.9, 11.2S±0.1×161.6E±0.1, h28km, n15, σ0.94/10, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.44**	**317**	Pn	**Pn**	**08 47 34.3**	**-0.6**
	186nm,0.3s,baz=185,slow=2.4,SNR=2.3						
HNR				Sn	**Sn**	**08 48 04.1**	**+0.3**
	1µm,0.3s,baz=156,slow=9.9,SNR=5.9						
	2µm,0.7s						
DZM	**Mont Dzumac**	**11.72**	**157**	Pn	**Pn**	**08 49 42.1**	**-0.5**
	0.5nm,0.3s,baz=24,slow=8.3,SNR=17						
DZM				Sn	Sn	08 51 43.9	-8.7
	0.2nm,0.3s,baz=259,slow=19,SNR=1.7						
DZM				LR	LR	08 53 11.0	
	comp=Z,35nm,21.2s,baz=0.5,slow=32						
	2.7nm,0.5s						
CTA	**Charters Tower**	**17.20**	**237**	P	**P**	**08 50 58.6**	**+1.7**
	4.0nm,0.5s,baz=70,slow=13,SNR=10.0						
CTA				LR	LR	08 56 26.8	
	comp=Z,111nm,19.9s,baz=82,slow=34						
WRA	**Warramunga Arr**	**27.63**	**248**	P	**P**	**08 52 42.0**	**-0.5**
	3.0nm,1.0s,baz=76,slow=10,SNR=17						
WRA				LR	LR	09 03 14.1	
	comp=Z,82nm,19.2s,baz=56,slow=36						
	3.0nm,1.0s						
ASAR	**Alice Springs**	**29.12**	**241**	P	**P**	**08 52 54.9**	**-0.9**
	1.6nm,0.7s,baz=71,slow=9.9,SNR=18						
	1.6nm,0.7s						
H11S2	**WAKE ISLAND Hy 29.96**	**10**		T	T	09 23 56.4	
	baz=188,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy 29.96**	**10**		T	T	09 23 56.6	
	baz=188,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy 29.98**	**10**		T	T	09 23 57.7	
	baz=188,slow=75,SNR=6.1						
H11N1	**WAKE ISLAND Hy 31.19**	**10**		T	T	09 25 28.9	
	baz=190,slow=76						
H11N3	**WAKE ISLAND Hy 31.20**	**10**		T	T	09 25 29.3	
	baz=190,slow=76						
H11N2	**WAKE ISLAND Hy 31.21**	**10**		T	T	09 25 32.6	
	baz=190,slow=76						
SONM	**Songino Array**	**76.47**	**325**	P	**P**	**08 58 43.9**	**-0.5**
	0.4nm,0.5s,baz=124,slow=5.1,SNR=2.8						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**85.02**	**20**	P	**P**	**08 59 29.3**	**-0.3**
	0.4nm,0.8s,baz=231,slow=5.6,SNR=2.0						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**89.26**	**51**	P	**P**	**08 59 52.0**	**+1.0**
	0.5nm,0.9s,baz=221,slow=3.6,SNR=1.9						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**90.91**	**318**	P	**P**	**08 59 58.7**	**+0.4**
	0.1nm,0.3s,baz=107,slow=4.8,SNR=1.5						
	0.1nm,0.3s						

IDC 17 08:47:07.7±3.1, 14.55N×123.35E, h0km, mb3.5/3, mbtmp3.5/3, MS3.4/3, Error ellipse: s-maj=251.8km s-min=29.0km az=63.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.94**	**162**	P	P	08 54 09.0	-1.1
	1.6nm,0.9s,baz=342,slow=11,SNR=8.4						
	1.6nm,0.9s						
SONM	**Songino Array**	**36.05**	**340**	LR	LR	09 11 18.1	
	comp=Z,20nm,18.5s,baz=251,slow=40						
ASAR	**Alice Springs**	**39.35**	**165**	P	P	08 54 40.5	+1.4
	0.1nm,0.3s,baz=345,slow=12,SNR=1.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**46.92**	**322**	P	P	08 55 39.9	-0.2
	0.3nm,0.6s,baz=120,slow=8.5,SNR=3.7						
	0.3nm,0.6s						
MSVF	**Nonsavu**	**62.76**	**119**	LR	LR	09 21 05.2	
	comp=Z,43nm,20.7s,baz=155,slow=32						
FINES	**FINESS Array B**	**80.80**	**331**	LR	LR	09 37 58.4	
	comp=Z,42nm,18.4s,baz=226,slow=38						

IDC 17 08:49:59.1±0.8, 55.15N×165.02E, h0km, mb3.6/12, mbtmp3.6/13, ML3.0/1, MS2.9/4, Error ellipse: s-maj=32.6km s-min=15.1km az=158.0
KRSC 17 08:50:00.1±1.3, 55.11N×164.81E, h51km±20km, ML4.1
ISC 17 08:50:00.6±0.6, 55.15N±0.04×164.84E±0.05, h10km, n55, σ1.53/76, mb3.6/12, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.65**	**85**	*e*P	**Pg**	**08 50 14.0**	**+0.8**
BKI				*e*S	**Sg**	**08 50 23.1**	**+1.3**
KBTR	**Krutoberegovo**	**1.56**	**314**	*e*P	**Pn**	**08 50 26.4**	**-2.0**
KBTR				*e*S	**Sn**	**08 50 45.7**	**-3.0**
KBG	**Krutoberegovo**	**1.64**	**313**	*e*P	**Pn**	**08 50 27.7**	**-1.8**
KBG				*e*S	**Sn**	**08 50 48.4**	**-2.2**
MKZ	**Mys Kozlova**	**1.89**	**253**	*e*P	**Pn**	**08 50 32.5**	**-0.4**
MKZ				*e*S	**Sn**	**08 50 54.9**	**-1.9**
SMKR	**Semkarok**	**2.38**	**309**	*e*P	**Pn**	**08 50 39.8**	**0.0**
SMKR				S	**Sn**	**08 51 07.2**	**-1.9**
BZGR	**Bezymyannyi-Gr**	**2.48**	**290**	*e*P	**Pn**	**08 50 42.1**	**+0.9**
BDR	**Baidarnaya**	**2.49**	**306**	*e*P	**Pn**	**08 50 41.6**	**+0.3**
BDR				S	**Sn**	**08 51 10.7**	**-1.1**
SRKR	**Sorokina**	**2.56**	**308**	*e*P	**Pn**	**08 50 42.3**	**+0.1**
SRKR				S	**Sn**	**08 51 13.0**	**-0.4**
BZMR	**Bezymyannaya**	**2.59**	**290**	*e*P	**Pn**	**08 50 43.8**	**+1.1**
KLY	**Klyuchi**	**2.64**	**298**	*e*P	**Pn**	**08 50 42.5**	**-0.7**
KLY				*e*S	**Sn**	**08 51 12.8**	**-2.5**
KMNR	**Kamenistaya**	**2.69**	**285**	*e*P	**Pn**	**08 50 45.6**	**+1.6**
TUMR	**Tumrok**	**2.69**	**275**	*e*P	**Pn**	**08 50 45.0**	**+0.9**
TUMR				S	**Sn**	**08 51 16.7**	**0.0**
KPT	**Kopyto**	**2.75**	**289**	*e*P	**Pn**	**08 50 46.1**	**+1.3**
KOZ	**Kozyrevsk**	**2.96**	**290**	P	**Pn**	**08 50 48.5**	**+0.8**
SRDR	**Sredinnyy**	**3.12**	**294**	*e*P	**Pn**	**08 50 51.2**	**+1.3**
SRDR				*e*S	**Sn**	**08 51 28.2**	**+0.9**
KII	**Karymskiy**	**3.33**	**253**	P	**Pn**	**08 50 53.4**	**+0.7**
SPN	**Mys Shipunski**	**3.50**	**236**	*e*P	**Pn**	**08 50 54.2**	**-0.8**
SPN				*e*S	**Sn**	**08 51 32.7**	**-3.7**
ESO	**Esso**	**3.57**	**285**	*e*P	**Pn**	**08 50 57.0**	**+0.9**
NLC	**Nalytchevo**	**3.79**	**241**	*e*P	**Pn**	**08 50 59.0**	**0.0**
NLC				*e*S	**Sn**	**08 51 40.9**	**-2.6**
SDLR	**Sedlovina**	**3.97**	**244**	*e*P	**Pn**	**08 51 02.3**	**+0.7**
SDLR				*e*S	**Sn**	**08 51 46.6**	**-1.5**
SMAR	**Somma**	**4.02**	**244**	*e*P	**Pn**	**08 51 03.5**	**+1.2**
SMAR				*e*S	**Sn**	**08 51 48.0**	**-1.5**
KRER	**Koryakskii**	**4.02**	**245**	*e*P	**Pn**	**08 51 03.6**	**+1.2**
KRER				S	**Sn**	**08 51 48.3**	**-1.4**
UGLR	**Uglovaya**	**4.03**	**244**	*e*P	**Pn**	**08 51 03.7**	**+1.2**
UGLR				*e*S	**Sn**	**08 51 48.6**	**-1.2**
AVH	**Avacha**	**4.05**	**245**	*e*P	**Pn**	**08 51 03.9**	**+1.3**

AVH eS **Sn** **08 51 49.3 -0.8**
KRX Arik **4.05 246** eP **Pn** **08 51 04.0 +1.3**
KOK Koryaka **4.09 245** eP **Pn** **08 51 04.5 +1.3**
KOK eS **Sn** **08 51 49.6 -1.5**
DALK Dalny **4.16 242** P **Pn** **08 51 04.1 0.0**
DALK S **Sn** **08 51 49.8 -3.0**
PET Petropavlovsk **4.22 242** eP **Pn** **08 51 05.6 +0.7**
PET eS **Sn** **08 51 51.9 -2.2**
OSSR Ossora **4.23 348** eP **Pn** **08 51 05.1 +0.1**
OSSR S **Sn** **08 51 52.8 -1.5**
GNL Ganaly **4.28 253** eP **Pn** **08 51 07.6 +1.7**
KRMR Karymshinskiy **4.59 242** eP **Pn** **08 51 09.5 -0.5**
KRMR eS **Sn** **08 52 01.0 -2.3**
RUS Russkaya **4.63 237** eP **Pn** **08 51 10.4 -0.2**
RUS S **Sn** **08 52 00.8 -3.5**
PETK Petropavlovsk- **4.67 247** Pn **Pn** **08 51 11.9 +0.8**
3.6nm,0.3s,baz=75,slow=16,SNR=80
PETK Sn **Sn** **08 52 06.0 +0.7**
1.6nm,0.3s,baz=46,slow=19,SNR=2.0
PETK LR LR 08 53 28.3
comp=Z,56nm,18.5s,baz=51,slow=44
6.6nm,0.4s
MTVR Mutnovka **4.76 239** eP **Pn** **08 51 13.1 +0.6**
MTVR eS **Sn** **08 52 04.6 -3.2**
GRL Gorelyy **4.78 240** eP **Pn** **08 51 13.8 +1.1**
GRL eS **Sn** **08 52 07.3 -0.8**
ASAK Asacha **4.96 239** eP **Pn** **08 51 16.4 +1.2**
ASAK eS **Sn** **08 52 09.6 -3.0**
KDTR Khodutka, Kamc **5.24 233** eP **Pn** **08 51 18.6 -0.3**
SHEM Shemya Is, Ala **5.98 110** LR LR 08 53 21.2
comp=Z,68nm,21.8s,baz=122,slow=34
KLR Kul'dur **20.99 267** LR LR 09 03 02.4
comp=Z,24nm,18.6s,baz=42,slow=37
KDAK Kodiak Island **23.38 66** P **P** **08 55 07.6 -1.5**
5.4nm,0.9s,baz=179,slow=2.4,SNR=8.4
5.4nm,0.9s
ILAR Eielson Array **25.37 48** P **P** **08 55 27.2 -0.3**
1.0nm,0.7s,baz=264,slow=8.1,SNR=10
1.0nm,0.7s
MJAR Matsushiro Arr **26.02 235** P **P** **08 55 35.7 +2.1**
0.5nm,0.4s,baz=32,slow=10.0,SNR=1.6
0.5nm,0.4s
INK Inuvik **30.51 40** P **P** **08 56 13.4 +0.1**
2.3nm,1.1s,baz=262,slow=6.7,SNR=1.7
2.3nm,1.1s
H11N2 WAKE ISLAND Hy **35.39 177** T T 09 35 01.7
baz=359,slow=76,SNR=46
H11N3 WAKE ISLAND Hy **35.41 177** T T 09 34 51.2
baz=359,slow=76,SNR=33
H11N1 WAKE ISLAND Hy **35.41 177** T T 09 34 59.2
baz=359,slow=76,SNR=38
SONM Songino Array **36.15 283** P **P** **08 57 05.3 +2.4**
0.3nm,0.6s,baz=72,slow=9.3,SNR=2.3
0.3nm,0.6s
KURBB Kurchatov Arra **49.10 303** P **P** **08 58 47.5 -0.2**
0.4nm,0.3s,baz=55,slow=8.1,SNR=4.9
0.4nm,0.3s
MKAR Makanchi Array **49.75 297** P **P** **08 58 52.5 -0.4**
0.2nm,0.5s,baz=106,slow=4.3,SNR=2.6
0.2nm,0.5s
NVAR Mina Array Bea **52.46 75** P **P** **08 59 12.8 -0.8**
0.3nm,0.6s,baz=305,slow=9.8,SNR=1.7
0.3nm,0.6s
PDAR Pinedale Array **54.10 65** P **P** **08 59 23.7 -1.9**
0.2nm,0.7s,baz=325,slow=7.8,SNR=2.1
0.2nm,0.7s
SCHQ Schefferville **62.49 31** LR LR 09 30 35.6
comp=Z,36nm,19.2s,baz=151,slow=39
TXAR Lajitas Array **67.29 71** P **P** **09 00 55.9 +0.4**
0.4nm,0.7s,baz=291,slow=3.9,SNR=5.0
0.4nm,0.7s
WRA Warramunga Arr **79.18 209** P **P** **09 02 04.7 -0.7**
0.5nm,0.8s,baz=23,slow=5.7,SNR=2.6
0.5nm,0.8s
ASAR Alice Springs **82.84 208** P **P** **09 02 25.6 +0.6**
0.4nm,0.7s,baz=18,slow=6.4,SNR=5.5
0.4nm,0.7s

IDC ***17*** *09:00:06.4±0.6,43˚.89N×87˚.05E,h0km,mb4.1/16, mbtmp4.0/22,ML3.3/6,MS3.2/10,Error ellipse: s-maj=17.2km s-min=9.7km az=46.0*
MOS ***17*** *09:00:07.1±1.0,43˚.91N×86˚.95E,h15km,mb4.4/13,Error ellipse: s-maj=6.3km s-min=4.7km az=29.7*
NEIC ***17*** *09:00:07.9±1.1,43˚.89N±0˚.09×87˚.06E±0˚.09,h10km±1km, mb4.3/14,Error ellipse: s-maj=15.6km s-min=9.9km az=154.0*
BJI ***17*** *09:00:09.1±0.0,43˚.88N×87˚.03E,h22km,mb4.4/21, mB4.6/14,ML4.2/9,Ms3.9/12,Ms7 3.6/13*
NNC ***17*** *09:00:11.1±2.6,44˚.01N×86˚.81E,h17km±11km,mb4.4, mpv4.3,Error ellipse: s-maj=18.6km s-min=11.3km az=112.0*

ISC 17 09:00:08.2±0.4,43˚92N±0˚.04×86˚.97E±0˚.03,h10km,n171, σ1s55/175,mb4.2/32,MS3.4/9,24C-14D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.54**	**100**	⇓*i*Pg		**Pb**		**09 00 19.0**	**-0.7**
WMQ						Sg	**Sb**	**09 00 27.6**	**0.0**
WMQ						smax	smax		
	comp=N,32μm,0.7s								
WMQ						smax	smax		
	comp=E,17μm,0.9s								
ZSN	**Zaisan**	**3.82**	**338**	e*i*P		**Pn**		**09 01 09.2**	**+2.1**
ZSN	**Zaisan**	**3.82**	**338**	e*i*Pn		**Pn**		**09 01 09.3**	**+2.1**
	baz=338								
ZSN				*i*Pg		**Pg**		**09 01 20.1**	**-1.3**
	baz=338								
ZSN	**Zaisan**	**3.82**	**338**	Pg		**Pg**		**09 01 21.0**	**-0.4**
	183nm,0.5s								
ZSN				Lg		Lg		09 02 17.4	
	644nm,0.9s								
MK31	**Makanchi Array**	**4.37**	**313**	Pn		**Pn**		**09 01 16.8**	**+2.1**
MK31	**Makanchi Array**	**4.37**	**313**	c*e*P		**Pn**		**09 01 17.0**	**+2.3**
MK31	**Makanchi Array**	**4.37**	**313**	cPn		**Pn**		**09 01 15.9**	**+1.2**
	3.6nm,0.3s,baz=127,slow=14,SNR=266								
MK31				⇑Pg		**Pg**		**09 01 29.5**	**-2.4**
	8.9nm,0.3s,baz=135,slow=13,SNR=7.8								
MK31				⇑Lg		Lg		09 02 27.5	
	129nm,0.7s,baz=115,slow=30,SNR=6.1								
MKAR	**Makanchi Array**	**4.37**	**313**	Pn		**Pn**		**09 01 16.8**	**+2.1**
	3.2nm,0.3s,baz=128,slow=14,SNR=130								
MKAR						Sn	**Sn**	**09 02 08.7**	**+3.1**
	15nm,0.3s,baz=111,slow=13,SNR=8.2								
MKAR						Lg	Lg	09 02 28.4	
	26nm,0.3s,baz=128,slow=28,SNR=6.0								
	4.7nm,0.3s								
MAKZ	**Makanchi**	**4.55**	**311**			**Pn**		**09 01 19.4**	**+2.3**
MAKZ	**Makanchi**	**4.55**	**311**	P		**Pn**		**09 01 19.4**	**+2.3**
MAKZ	**Makanchi**	**4.55**	**311**	⇑Pn		**Pn**		**09 01 17.7**	**+0.7**
	8.7nm,0.3s								
MAKZ				⇑Lg		Lg		09 02 32.2	
	70nm,0.6s								
KTMS	**Ketmen**	**4.82**	**267**	Pg		**Pb**		**09 01 33.4**	**+0.6**
	30nm,0.7s								
KTMS				Lg		Lg		09 02 39.4	
	75nm,0.7s								
DJR	**Jarkent**	**5.18**	**277**	Pg		**Pb**		**09 01 41.0**	**+2.1**
	14nm,0.3s								
DJR				Lg		Lg		09 02 51.6	
	95nm,0.8s								
PDGK	**Podgornoye**	**5.46**	**266**	P		**Pn**		**09 01 31.1**	**+1.4**
PDGK	**Podgornoye**	**5.46**	**266**	⇑Pn		**Pn**		**09 01 31.1**	**+1.4**
	29nm,1.1s								
PDGK				⇑Pg		**Pg**		**09 01 51.0**	**-1.7**
	100nm,1.1s								
PDGK				⇑Lg		Lg		09 03 04.5	
	242nm,1.1s								
SHLS	**Shalkode**	**5.51**	**265**	e*P*		**Pn**		**09 01 27.0**	**-3.4**
SHLS	**Shalkode**	**5.51**	**265**	e*P*n		Pn		09 01 26.1	-4.3
	baz=264								
SHLS				e*P*g		**Pb**		**09 01 43.7**	**-0.8**
	baz=264								
SHLS				e*L*g		Lg		09 02 54.7	
	baz=264								
DGZ	**Jazzator, Alta**	**5.79**	**3**	d*i*P		**Pn**		**09 01 37.0**	**+2.7**
UZB	**Uzynbulak**	**5.83**	**265**	e*P*		**Pn**		**09 01 35.4**	**+0.6**
UZB					pmax	pmax			
	comp=Z,2.0nm,0.6s								
UZB	**Uzynbulak**	**5.83**	**265**	e*P*n		**Pn**		**09 01 35.4**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=265								
UZB				e*L*g		Lg		09 03 14.4	
	baz=265								
KPKS	**Kokpek**	**6.02**	**269**	*i*P		**Pn**		**09 01 38.1**	**+0.7**
KPKS					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KPKS	**Kokpek**	**6.02**	**269**	*i*Pn		**Pn**		**09 01 38.1**	**+0.7**
	comp=Z,5.5nm,0.8s,baz=268								
KPKS				e*P*g		Pb		09 01 59.0	+5.7
	baz=268								
KPKS	**Kokpek**	**6.02**	**269**	Pg		**Pb**		**09 01 54.2**	**+0.9**
	comp=Z,15nm,0.3s								
KPKS				Lg		Lg		09 03 14.0	
	comp=Z,66nm,0.7s								
TDK	**Taldyqorghan**	**6.22**	**283**	e*P*		**Pn**		**09 01 40.7**	**+0.7**
TDK	**Taldyqorghan**	**6.22**	**283**	e*P*n		**Pn**		**09 01 40.8**	**+0.7**
	baz=283								
TDK				e*P*g		Pb		09 02 02.4	+5.8
	baz=283								
TDK	**Taldyqorghan**	**6.22**	**283**	Pg		**Pg**		**09 02 03.6**	**-3.7**
	comp=Z,103nm,0.3s								
TDK				Lg		Lg		09 03 29.8	
	comp=Z,414nm,1.2s								
SATY	**Saty**	**6.29**	**265**	e*P*		**Pn**		**09 01 41.9**	**+0.8**
SATY					pmax	pmax			
	comp=Z,5.0nm,0.7s								
SATY	**Saty**	**6.29**	**265**	e*P*n		**Pn**		**09 01 41.9**	**+0.8**
	comp=Z,5.2nm,0.7s,baz=265								
SATY				e*P*g		Pb		09 02 03.5	+5.7
	baz=265								
SATY	**Saty**	**6.29**	**265**	Pg		**Pb**		**09 01 59.8**	**+2.1**
	comp=Z,13nm,0.7s								
SATY				Lg		Lg		09 03 24.4	
	comp=Z,85nm,1.0s								
ARXS	**Arharly**	**6.59**	**276**	Pg		**Pb**		**09 02 06.4**	**+3.5**
	comp=Z,39nm,0.8s								
ARXS				Lg		Lg		09 03 35.5	
	comp=Z,129nm,0.8s								
TARG	**Taragay, Kyrgy**	**7.08**	**255**	Pn		**Pn**		**09 01 54.2**	**+1.9**
TARG	**Taragay, Kyrgy**	**7.08**	**255**	P		**Pn**		**09 01 54.2**	**+1.9**
CHKK	**Chushkaly**	**7.21**	**273**	e*P*		**Pn**		**09 01 53.8**	**+0.2**
CHKK	**Chushkaly**	**7.21**	**273**	e*P*n		**Pn**		**09 01 53.8**	**+0.2**
	baz=273								
CHKK				e*P*g		Pb		09 02 20.0	+6.6
	baz=273								
MDOK	**Medeo**	**7.25**	**267**	*i*P		**Pn**		**09 01 55.1**	**+0.9**
MDOK	**Medeo**	**7.25**	**267**	*i*Pn		**Pn**		**09 01 55.2**	**+0.9**
	baz=267								
MDOK				e*P*g		Pg		09 02 21.9	-5.0
	baz=267								
MDOK	**Medeo**	**7.25**	**267**	Pg		Pg		09 02 23.0	-3.9
	comp=Z,15nm,0.7s								
MDOK					Pg	Pb		09 02 24.2	+10
	comp=Z,22nm,0.6s								
MDOK				Lg		Lg		09 03 59.5	
	comp=Z,130nm,1.2s								
MDOK				Lg		Lg		09 04 03.0	
	comp=Z,40nm,0.7s								
KUU	**Kurty**	**7.68**	**273**	e*P*		**Pn**		**09 02 00.4**	**+0.4**
KUU					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KUU	**Kurty**	**7.68**	**273**	e*P*n		**Pn**		**09 02 00.4**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=273								
KUU				e*P*g		Pb		09 02 28.6	+7.2
	baz=273								
KUU	**Kurty**	**7.68**	**273**	Pg		Pb		09 02 26.9	+5.6
	comp=Z,8.7nm,0.8s								
KUU				Lg		Lg		09 04 09.9	
	comp=Z,62nm,0.8s								
SEM	**Semipalatinsk**	**7.94**	**327**	e*P*		**Pn**		**09 02 03.3**	**-0.5**
SEM					pmax	pmax			
	comp=Z,1.0nm,0.5s								
SEM	**Semipalatinsk**	**7.94**	**327**	e*P*n		**Pn**		**09 02 03.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=327								
SEM				e*P*g		Pb		09 02 33.0	+7.1
	baz=327								
BOOM	**Boomskoye usch**	**8.18**	**264**			**Pn**		**09 02 07.2**	**+0.1**
BOOM	**Boomskoye usch**	**8.18**	**264**	P		**Pn**		**09 02 07.2**	**+0.1**
TKM2	**Tokmak 2**	**8.34**	**267**	*i*P		**Pn**		**09 02 10.9**	**+1.7**
TKM2					pmax	pmax			
	comp=Z,7.0nm,0.9s								
TKM2	**Tokmak 2**	**8.34**	**267**	⇑Pn		**Pn**		**09 02 11.0**	**+1.7**
	comp=Z,7.4nm,0.9s								
TKM2				⇑Pg		**Pg**		**09 02 44.1**	**-3.7**
	comp=Z,35nm,1.6s								
TKM2				⇑Lg		Lg		09 04 34.8	
	comp=Z,107nm,1.5s								
NRN	**Naryn**	**8.45**	**257**	Pn		**Pn**		**09 02 11.5**	**+0.5**
NRN	**Naryn**	**8.45**	**257**	P		**Pn**		**09 02 11.5**	**+0.5**
KURBB	**Kurchatov Arra**	**8.82**	**322**	Pn		**Pn**		**09 02 16.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=133,slow=12,SNR=15								
KURBB						Sn	**Sn**	**09 03 53.7**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=125,slow=31,SNR=6.1								
KURBB						Lg	Lg	09 04 45.1	
	comp=Z,0.4nm,0.3s,baz=142,slow=33,SNR=6.4								
KURBB						LR	LR	09 06 12.7	
	comp=Z,122nm,21.6s,baz=50,slow=41								
	comp=Z,2.1nm,0.3s								
KURBB	**Kurchatov Arra**	**8.82**	**322**		P	**Pn**		**09 02 16.1**	**+0.5**
KURBB					S	**Sn**		**09 03 52.4**	**-2.6**
KURBB	**Kurchatov Arra**	**8.82**	**322**	⇓Pn		**Pn**		**09 02 16.1**	**+0.5**
	comp=Z,9.0nm,0.7s								
KURBB				⇑Sn		**Sn**		**09 03 52.4**	**-2.6**
	comp=Z,52nm,0.8s								
KURBB				⇑Lg		Lg		09 04 48.4	
	comp=Z,134nm,0.8s								
KURK	**Kurchatov**	**8.85**	**323**	Pn		**Pn**		**09 02 16.4**	**+0.4**
KURK	**Kurchatov**	**8.85**	**323**	c*e*P		**Pn**		**09 02 15.9**	**-0.1**
CHMS	**Chumysh**	**8.93**	**268**	⇑Pg		Pn		09 02 55.8	+39
	comp=Z,19nm,1.2s								
CHMS				⇓Lg		Lg		09 04 54.7	
	comp=Z,31nm,0.9s								
SGDS	**Sogindy**	**8.95**	**271**	e*P*		**Pn**		**09 02 18.8**	**+1.2**
SGDS	**Sogindy**	**8.95**	**271**	e*P*n		**Pn**		**09 02 18.8**	**+1.2**
	baz=271								
AAK	**Ala-Archa**	**9.19**	**266**	Pn		**Pn**		**09 02 23.5**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=70,slow=5.1,SNR=1.7								
AAK					Lg	Lg		09 04 59.3	
	comp=Z,0.6nm,0.3s,baz=184,slow=18,SNR=1.7								
AAK					LR	LR		09 05 38.9	
	comp=Z,23nm,19.8s,baz=88,slow=36								
	comp=Z,1.1nm,0.4s								
AAK	**Ala-Archa**	**9.19**	**266**	Pn		**Pn**		**09 02 20.9**	**0.0**
BTLS	**Baital**	**9.31**	**281**	e*P*		**Pn**		**09 02 22.1**	**-0.2**
BTLS	**Baital**	**9.31**	**281**	e*P*n		**Pn**		**09 02 22.1**	**-0.2**
	baz=281								
KSH	**Kashi**	**9.32**	**246**	P		Pn		09 02 32.0	+9.3
KSH					S	Sn		09 04 21.6	+14
KSH					smax	smax			
	comp=Z,37nm,0.9s								
KSH					smax	smax			
	comp=Z,45nm,1.8s								
KSH					LR	LR			
	comp=Z,570nm,11.0s								
GOMU	**GeErMu**	**9.78**	**139**	P		**Pn**		**09 02 29.4**	**+0.2**
GOMU					pP			09 02 33.1	
GOMU					S	**Sn**		**09 04 21.1**	**+1.9**
GOMU					pmax	pmax			
	comp=Z,12nm,0.6s								
GOMU					pmax	pmax			
	comp=Z,90nm,6.8s								
GOMU					LR	LR			
	comp=Z,270nm,9.7s								
GOMU					LR	LR			
	comp=Z,190nm,9.5s								
GOMU					LR	LR			
	comp=Z,250nm,10.6s								
KNGR	**Kungurtug, Tuv**	**9.80**	**43**	d*e*P		**Pn**		**09 02 30.7**	**+1.5**
ZAA0	**Zalesovo Array**	**10.13**	**353**	Pn		**Pn**		**09 02 33.0**	**-0.7**
ZAA0	**Zalesovo Array**	**10.13**	**353**	⇓Pn		**Pn**		**09 02 32.4**	**-1.2**
	comp=Z,1.5nm,0.8s								
ZAA0					⇑Sn	**Sn**		**09 04 24.5**	**-2.7**
	comp=Z,4.2nm,0.8s								
ZAA0					⇓Lg	Lg		09 05 28.8	
	comp=Z,5.7nm,0.9s								
ZALV	**Zalesovo Beam**	**10.13**	**353**	Pn		**Pn**		**09 02 32.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=172,slow=14,SNR=35								
ZALV					Sn	**Sn**		**09 04 22.1**	**-5.2**
	comp=Z,1.3nm,0.3s,baz=172,slow=22,SNR=9.9								
ZALV					Lg	Lg		09 05 32.4	
	comp=Z,0.3nm,0.3s,baz=177,slow=28,SNR=1.2								
ZALV					LR	LR		09 06 27.9	
	comp=Z,38nm,19.5s,baz=186,slow=38								
	comp=Z,8.1nm,0.6s								
GTA	**Gaotai**	**10.61**	**111**	e*P*		**Pn**		**09 02 40.6**	**+0.2**
GTA					pP			09 02 45.1	
GTA					pmax	pmax			
	comp=Z,6.0nm,1.0s								
GTA					pmax	pmax			
	comp=Z,76nm,4.7s								
GTA					LR	LR			
	comp=Z,290nm,8.2s								
GTA					LR	LR			
	comp=Z,220nm,8.4s								
GTA					LR	LR			
	comp=Z,110nm,12.4s								
BRZS	**Berezniki**	**11.49**	**307**	e*P*		**Pn**		**09 02 52.7**	**+0.6**
BRZS	**Berezniki**	**11.49**	**307**	e*P*n		**Pn**		**09 02 52.8**	**+0.6**
	baz=307								
TRKS	**Terek-Say**	**11.88**	**264**	P		**Pn**		**09 03 02.6**	**+4.8**
TRKS					pmax	pmax			
	comp=Z,8.0nm,1.0s								
KK31	**Karatay Array**	**11.98**	**272**	Pn		**Pn**		**09 02 59.2**	**+0.3**
KK31	**Karatay Array**	**11.98**	**272**	*i*P		**Pn**		**09 03 00.3**	**+1.3**
KK31	**Karatay Array**	**11.98**	**272**	⇑Pn		**Pn**		**09 03 01.0**	**+2.1**
	comp=Z,2.8nm,0.8s,baz=76,slow=13,SNR=22								
KK31				⇓Lg		Lg		09 06 31.4	
	comp=Z,14nm,0.9s,baz=70,slow=27,SNR=5.8								
KKAR	**Karatay Array**	**11.98**	**272**	Pn		**Pn**		**09 02 59.2**	**+0.3**
KKAR	**Karatay Array**	**11.98**	**272**			**Pn**		**09 02 59.2**	**+0.3**
KKAR	**Karatay Array**	**11.98**	**272**	P		**Pn**		**09 02 59.2**	**+0.3**
DRK	**Karamyk**	**12.17**	**254**	Pn		**Pn**		**09 03 02.5**	**+0.6**
IUG	**luzhnay**	**12.52**	**268**	e*P*		**Pn**		**09 03 07.1**	**+0.7**
IUG	**luzhnay**	**12.52**	**268**	e*P*n		**Pn**		**09 03 07.1**	**+0.7**
	baz=268								
BTK	**Batken**	**12.62**	**258**	Pn		**Pn**		**09 03 07.6**	**-0.2**
BTK	**Batken**	**12.62**	**258**	P		**Pn**		**09 03 07.6**	**-0.2**
GAR	**Garm**	**13.41**	**254**	Pn		**Pn**		**09 03 18.0**	**-0.7**
SONM	**Songino Array**	**14.08**	**67**	Pn		**Pn**		**09 03 26.0**	**-1.8**
	baz=252,slow=15,SNR=1.4								
SONM					Lg	Lg		09 07 20.4	
	comp=Z,0.1nm,0.3s,baz=267,slow=28,SNR=2.4								
	comp=Z,1.6nm,0.8s								
SONM	**Songino Array**	**14.08**	**67**	Pn		**Pn**		**09 03 26.6**	**-1.2**
SONM	**Songino Array**	**14.08**	**67**	P		**Pn**		**09 03 26.6**	**-1.2**
BVA0	**Borovoye Array**	**14.25**	**316**	P		**Pn**		**09 03 28.4**	**-1.5**
BVA0					S	**Sn**		**09 06 04.2**	**-3.7**
BVA0	**Borovoye Array**	**14.25**	**316**	⇑Pn		**Pn**		**09 03 28.4**	**-1.5**
	comp=Z,4.6nm,0.8s,baz=124,slow=13,SNR=8.0								
BVA0					⇑Sn	**Sn**		**09 06 04.0**	**-3.8**
	comp=Z,6.5nm,1.0s,baz=108,slow=19,SNR=6.2								
BVA0					⇓Lg	Lg		09 07 38.8	
	comp=Z,22nm,1.2s,baz=116,slow=20,SNR=3.8								
BVAR	**Borovoye Array**	**14.25**	**316**	Pn		**Pn**		**09 03 29.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=94,slow=15,SNR=6.0								
BVAR					Sn	Sn		09 05 59.8	-8.1
	comp=Z,0.4nm,0.3s,baz=109,slow=25,SNR=6.5								
BVAR					Lg	Lg		09 07 35.5	
	baz=124,slow=25								
BVAR					LR	LR		09 09 34.4	
	comp=Z,48nm,21.2s,baz=108,slow=40								
	comp=Z,0.5nm,0.3s								
BRVK	**Borovoye**	**14.32**	**316**			**Pn**		**09 03 31.1**	**+0.2**
BRVK	**Borovoye**	**14.32**	**316**	e*P*		**Pn**		**09 03 30.1**	**-0.7**
BRVK	**Borovoye**	**14.32**	**316**	⇑Pn		**Pn**		**09 03 30.7**	**-0.1**
	comp=Z,9.4nm,1.2s								
BRVK				⇓Sn		**Sn**		**09 06 06.4**	**-3.2**
	comp=Z,5.9nm,0.9s								
BRVK				⇓Lg		Lg		09 07 42.1	
	comp=Z,31nm,1.1s								
CHGR	**Chuyangaron**	**14.38**	**255**			**Pn**		**09 03 32.0**	**+0.2**
CHGR	**Chuyangaron**	**14.38**	**255**	P		**Pn**		**09 03 32.0**	**+0.2**
ULN	**Ulaanbaatar**	**14.53**	**67**	⇓e*P*		**Pn**		**09 03 34.3**	**+0.4**
CHCP	**Chirah Chowk**	**14.78**	**231**	P		**Pn**		**09 03 36.0**	**-1.3**
NIL	**Nilore**	**14.80**	**231**	Pn		**Pn**		**09 03 35.9**	**-1.6**
NIL	**Nilore**	**14.80**	**231**	P		**Pn**		**09 03 35.9**	**-1.6**
CEP	**Cherat**	**15.44**	**234**	P		**Pn**		**09 03 45.8**	**-0.4**
DANN	**Dangsing**	**15.75**	**190**	e*P*		**P**		**09 03 55.0**	**+0.6**
	comp=Z,24nm,0.5s								
GKN	**Gorkha**	**15.99**	**187**	e*P*		**P**		**09 03 57.0**	**+0.1**
	comp=Z,16nm,0.4s								
GUN	**Gumba**	**16.00**	**183**	e*P*		**P**		**09 03 57.9**	**+0.7**
	comp=Z,95nm,0.8s								
PYUN	**Piuthan**	**16.11**	**193**	e*P*		**Pn**		**09 03 55.9**	**+1.0**
	comp=Z,31nm,0.9s								
JIRN	**Jiri**	**16.24**	**182**	e*P*		**P**		**09 04 00.9**	**+1.0**
	comp=Z,64nm,0.9s								
PKIN	**Phulchoki**	**16.36**	**185**	e*P*		**P**		**09 04 01.4**	**+0.3**
	comp=Z,90nm,0.7s								
PKI	**Pulchoki**	**16.36**	**185**	e*P*		**P**		**09 04 01.2**	**0.0**
	comp=Z,94nm,0.8s								
TAPN	**Taplejung**	**16.55**	**178**	e*P*		**P**		**09 04 02.7**	**-0.5**
	comp=Z,46nm,0.7s								
KBL	**Kabul**	**16.72**	**242**			**Pn**		**09 04 01.4**	**-1.3**
KBL					IAmb	IAmb		09 04 10.7	
	comp=Z,17nm,1.1s								
KBL	**Kabul**	**16.72**	**242**	P		**Pn**		**09 04 01.4**	**-1.3**
KBL					pmax	pmax			
	comp=Z,17nm,1.1s								
RAMN	**Ramite**	**16.94**	**181**	e*P*		**Pn**		**09 04 05.4**	**-0.1**
	comp=Z,43nm,0.9s								
HHC	**Hu-ho-hao-te**	**18.41**	**91**	e*P*		**P**		**09 04 24.4**	**+0.9**
HHC					pmax	pmax			
	comp=Z,31nm,0.7s								
HHC					pmax	pmax			
	comp=Z,170nm,5.5s								
AB31	**Akbulak array**	**19.27**	**296**	P		**Pn**		**09 04 35.4**	**+1.6**
AB31	**Akbulak array**	**19.27**	**296**	⇑Pn		**Pn**		**09 04 35.4**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=94,slow=11,SNR=15								
ABKAR	**Akbulak array**	**19.27**	**296**	P		**P**		**09 04 32.4**	**-0.4**
XAN	**Xi'an**	**19.66**	**113**	⇑P		Pn		09 04 50.0	+11
XAN					pmax	pmax			
	comp=Z,10.0nm,1.1s								
AKTO	**Aktyubinsk**	**20.64**	**299**	P		Pn		09 04 51.5	+1.4
	comp=Z,1.3nm,0.6s,baz=125,slow=8.7,SNR=2.8								
AKTO					Lg	Lg		09 11 08.7	
	comp=Z,0.2nm,0.3s,baz=2.0,slow=3.5,SNR=4.2	

KIV					pmax	pmax		
	comp=Z,5.0nm,1.0s							
KIV					MLR	MLR		
	comp=Z,56nm,15.0s							
OBN	**Obninsk**	**33.86**	**307**	*eP*	**P**		**09 06 52.8**	**+2.3**
OBN					pmax	pmax		
	comp=Z,7.0nm,1.0s							
PALK	**Pallekele**	**36.91**	**190**	LR	LR		09 23 14.3	
	comp=Z,42nm,18.5s,baz=321,slow=38							
AKASG	**Malin Array Be**	**38.85**	**301**	P	**P**		**09 07 33.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=64,slow=8.4,SNR=2.3							
	comp=Z,0.7nm,0.5s							
KIEV	**Kiev**	**38.87**	**301**	P	**P**		**09 07 33.0**	**-0.4**
FINES	**FINESS Array B**	**39.18**	**318**	P	**P**		**09 07 36.5**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=81,slow=8.6,SNR=2.1							
	comp=Z,0.8nm,0.5s							
BRTR	**Keskin Array B**	**39.39**	**283**	P	**P**		**09 07 39.1**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=67,slow=5.6,SNR=3.6							
	comp=Z,0.5nm,0.6s							
BRTR	**Keskin Array B**	**39.39**	**283**	*ce*P	**P**		**09 07 41.2**	**+3.1**
ARCES	**ARCESS Array B**	**39.78**	**331**	P	**P**		**09 07 41.3**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=86,slow=7.1,SNR=10							
	comp=Z,1.9nm,0.7s							
ARCES	**ARCESS Array B**	**39.78**	**331**	P	**P**		**09 07 40.9**	**+0.1**
MA2	**Magadan**	**40.77**	**44**	LR	LR		09 24 04.6	
	comp=Z,34nm,18.2s,baz=112,slow=35							
KMPD	**K-Podol'skiy**	**41.15**	**299**	P	**P**		**09 07 53.0**	**+0.7**
BURAR	**Bucovina Array**	**42.23**	**298**	P	**P**		**09 08 00.0**	**-1.4**
BURAR	**Bucovina Array**	**42.23**	**298**	P	**P**		**09 08 00.0**	**-1.4**
BURAR					pmax	pmax		
	comp=Z,3.0nm,1.2s							
NIE	**Niedzica**	**44.73**	**302**	P	**P**		**09 08 21.1**	**-0.3**
NIE					pmax	pmax		
	comp=Z,3.0nm,0.9s							
PETK	**Petropavlovsk-**	**45.95**	**52**	LR	LR		09 29 21.4	
	comp=Z,51nm,18.6s,baz=271,slow=38							
NC602	**NORSAR Array S**	**46.26**	**319**	P	**P**		**09 08 32.7**	**-0.6**
BILL	**Bilibino**	**46.30**	**31**	*eP*	**P**		**09 08 36.1**	**+2.6**
BILL				*e*			09 10 12.1	
BILL				*e*			09 10 23.8	
BILL					pmax	pmax		
	comp=Z,7.0nm,1.0s							
NB2	**NORSAR Subarra**	**46.34**	**319**	P	**P**		**09 08 33.8**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=76,slow=7.9							
NOA	**NORSAR Array B**	**46.34**	**319**	P	**P**		**09 08 33.7**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=77,slow=7.8,SNR=4.2							
	comp=Z,1.6nm,0.7s							
DPC	**Dobruska-Polom**	**46.83**	**304**	P	**P**		**09 08 39.9**	**+1.9**
DPC					pmax	pmax		
	comp=Z,5.0nm,1.5s							
CLL	**Collm**	**48.44**	**306**	*eP*	**P**		**09 08 51.0**	**+0.6**
CLL					pmax	pmax		
	comp=Z,2.0nm,0.7s							
CLL	**Collm**	**48.44**	**306**	*eP*	**P**		**09 08 51.0**	**+0.6**
KHC	**Kasperske Hory**	**48.94**	**303**	P	**P**		**09 08 53.1**	**-1.2**
KHC					pmax	pmax		
	comp=Z,4.0nm,2.7s							
IMAR	**Indian Mountai**	**60.92**	**24**	P	**P**		**09 10 20.4**	**-0.4**
COLD	**Coldfoot**	**61.04**	**22**	P	**P**		**09 10 21.4**	**-0.1**
COLD					IAmb	IAmb	09 10 29.7	
	comp=Z,5.2nm,1.0s							
ILAR	**Eielson Array**	**63.78**	**23**	P	**P**		**09 10 39.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=303,slow=5.7,SNR=4.8							
	comp=Z,0.9nm,0.7s							
ESDC	**Sonseca Array**	**64.50**	**301**	P	**P**		**09 10 45.3**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=53,slow=6.0,SNR=4.7							
	comp=Z,1.3nm,1.0s							
DLBC	**Dease Lake**	**73.48**	**19**	LR	LR		09 50 17.9	
	comp=Z,56nm,18.6s,baz=128,slow=41							
WRAB	**Tennant Creek**	**76.94**	**135**	P	**P**		**09 11 59.8**	**-1.0**
WRAB					pmax	pmax		
	comp=Z,7.0nm,0.8s							
WRA	**Warramunga Arr**	**76.94**	**135**	P	**P**		**09 11 59.2**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=336,slow=5.6,SNR=5.6							
	comp=Z,2.3nm,0.8s							
WRA	**Warramunga Arr**	**76.94**	**135**	*i* P	**P**		**09 12 01.6**	**+0.8**
WRA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.63**	**276**	P	**P**		**09 12 04.7**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=45,slow=5.3,SNR=9.4							
	comp=Z,2.3nm,0.6s							
BBB	**Bella Bella**	**79.60**	**21**	LR	LR		09 51 35.9	
	comp=Z,58nm,18.9s,baz=154,slow=39							
ASAR	**Alice Springs**	**79.83**	**137**	P	**P**		**09 12 15.8**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=322,slow=5.3,SNR=4.6							
	comp=Z,1.2nm,0.7s							
DBIC	**Dimbokro**	**86.74**	**276**	P	**P**		**09 12 52.3**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=246,slow=7.9,SNR=1.7							
	comp=Z,3.1nm,0.7s							
LPAZ	**La Paz**	**145.30**	**315**	PKPbc	**PKPbc**		**09 19 44.9**	**-2.0**
	comp=Z,3.6nm,1.0s,baz=76,slow=5.8,SNR=7.1							
CPUP	**Villa Florida**	**146.26**	**289**	PKPbc	**PKPdf**		**09 19 47.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=351,slow=4.1,SNR=4.1							

IDC ***17*** *09:02:42.4±2.0, 6.74S×128.76E, h0km, mb3.8/1, mbtmp3.9/3, ML3.8/2, MS3.6/2, Error ellipse: s-maj=120.6km s-min=30.7km az=67.0*
NEIC ***17*** *09:02:56.7±2.4, 7.18S±0.09×128.38E±0.1, h149km±21km, mb4.1/4, Error ellipse: s-maj=20.5km s-min=13.0km az=103.0*

ISC 17 09:02:57.6±1.1, 7.30S±0.08×128.8E±0.1, h150km, n28, σ2.8s19/28, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.58**	**105**	Pn	**Pn**	**09 03 39.0**	**-0.7**
FAKI	**Fak Fak**	**5.55**	**39**	Pn	**Pn**	**09 04 16.8**	**-1.5**
MTN	**Manton Dam**	**5.97**	**157**		**Pn**	**09 04 25.9**	**+1.9**
MTN	**Manton Dam**	**5.97**	**157**	P	**Pn**	**09 04 26.8**	**+2.8**
KDU	**Kakadu**	**6.47**	**146**	P	**Pn**	**09 04 33.0**	**+2.5**
KNRA	**Kununurra**	**8.33**	**180**	Pn	**Pn**	**09 04 57.7**	**+2.3**
KNRA	**Kununurra**	**8.33**	**180**	P	**Pn**	**09 04 57.5**	**+2.1**
FITZ	**Fitzroy Crossi**	**11.16**	**196**		**Pn**	**09 05 33.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.16**	**196**	P	**Pn**	**09 05 32.7**	**-0.3**
WB0	**Warramunga Arr**	**13.53**	**157**	Pn	**Pn**	**09 06 03.2**	**-0.5**
WRAB	**Tennant Creek**	**13.67**	**157**	Pn	**Pn**	**09 06 05.3**	**0.0**
WRA	**Warramunga Arr**	**13.67**	**157**	Pn	**Pn**	**09 06 04.8**	**-0.6**
	0.3nm,0.3s,baz=337,slow=13,SNR=27						
WRA				Sn	**Sn**	**09 08 31.9**	**-5.0**
	1.3nm,0.3s,baz=330,slow=22,SNR=8.7						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**13.67**	**157**	Pn	**Pn**	**09 06 03.7**	**-1.7**
WB2	**Warramunga Arr**	**13.68**	**157**	Pn	**Pn**	**09 06 05.3**	**-0.2**
WR0	**Warramunga Arr**	**13.77**	**157**	Pn	**Pn**	**09 06 06.2**	**-0.4**
COEN	**Coen**	**15.60**	**116**		**Pn**	**09 06 29.8**	**+0.2**
COEN				IAmb	IAmb	09 06 33.6	
	comp=Z,7.7nm,0.7s						
COEN	**Coen**	**15.60**	**116**	P	**P**	**09 06 32.3**	**+1.7**
MBWA	**Marble Bar**	**16.33**	**212**	Pn	**Pn**	**09 06 35.7**	**-2.7**
PSA00	**Pilbara Seismi**	**16.61**	**210**	Pn	**Pn**	**09 06 43.5**	**+1.6**
PSA00				IAmb	IAmb	09 07 02.0	
	comp=Z,10nm,1.4s						
QIS	**Mount Isa**	**16.84**	**143**	P	**Pn**	**09 06 46.9**	**+2.3**
AS31	**Alice Springs**	**17.00**	**164**		**Pn**	**09 06 47.9**	**+1.3**
ASAR	**Alice Springs**	**17.00**	**164**	P	**Pn**	**09 06 48.6**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=336,slow=9.6,SNR=60						
ASAR				S	**S**	**09 09 51.6**	**-4.0**
	comp=Z,1.5nm,0.7s,baz=340,slow=22,SNR=7.4						
	comp=Z,4.4nm,0.7s						
ASAR	**Alice Springs**	**17.00**	**164**	Pn	**Pn**	**09 06 47.7**	**+1.2**
WRKA	**Warakurna**	**17.65**	**181**	P	**Pn**	**09 06 56.8**	**+2.5**
OOD	**Oodnadatta**	**21.41**	**163**	P	**P**	**09 07 37.2**	**+3.6**
	comp=Z,12nm,1.7s						
URZ	**Urewera**	**53.34**	**133**	LR	LR	09 37 56.5	
	comp=Z,72nm,18.5s,baz=38,slow=39						
MKAR	**Makanchi Array**	**67.82**	**327**	P	**P**	**09 13 39.3**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=133,slow=7.8,SNR=8.6						
	comp=Z,0.4nm,0.4s						
KMBO	**Kilima Mbogo**	**91.39**	**269**	LR	LR	09 54 05.2	
	comp=Z,21nm,18.6s,baz=91,slow=34						

IDC ***17*** *09:19:08.0±14.0, 14.46S×166.31E, h0km, mb3.4/3, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=241.0km s-min=38.5km az=60.0*
NOU ***17*** *09:19:18.5, 14.94S×167.05E, h82km, MLv4.2/7, Vanuatu Islands*

ISC 17 09:19:09.8±3.2, 14.3S±0.2×166.9E±0.2, h35km, n8, σ1.8s0/7, mb3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.61**	**160**	P	**Pn**	**09 20 05.1**	**+1.9**
KOUNC	**Koumac, New Ca**	**6.68**	**201**	P	**Pn**	**09 20 47.9**	**+2.5**
YATNC	**Mamie plateau,**	**7.70**	**180**	P	**Pn**	**09 20 58.0**	**-1.5**
DZM	**Mont Dzumac**	**7.72**	**183**	Pn	**Pn**	**09 20 59.7**	**-0.2**
	1.3nm,0.3s,baz=30,slow=11,SNR=23						
DZM				Sn	**Sn**	**09 22 25.9**	**-0.3**
	0.4nm,0.3s,baz=97,slow=22,SNR=2.4						
	4.2nm,0.5s						
DZM	**Mont Dzumac**	**7.72**	**183**	P	**Pn**	**09 20 59.5**	**-0.4**
STKA	**Stephens Creek**	**28.99**	**229**	P	**P**	**09 25 05.3**	**-1.0**
	0.9nm,0.4s,baz=57,slow=9.1,SNR=3.6						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**31.57**	**255**	P	P	09 25 27.5	-1.8
	0.1nm,0.6s,baz=85,slow=9.3,SNR=4.7						
	0.1nm,0.6s						
ASAR	**Alice Springs**	**32.48**	**248**	P	P	09 25 35.3	-2.0
	0.2nm,0.5s,baz=76,slow=9.6,SNR=5.9						
	0.2nm,0.5s						

IDC ***17*** *09:23:40.8±3.0, 6.56S×129.52E, h141km±41km, mb3.5/1, mbtmp3.5/5, Error ellipse: s-maj=74.3km s-min=21.3km az=89.0*

ISC 17 09:23:39.9±1.0, 6.57S±0.08×129.6E±0.3, h150km, n5, σ3.9s67/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.91**	**17**	P	**Pn**	**09 25 06.5**	**+1.1**
	3.9nm,0.3s,baz=141,slow=22,SNR=2.3						
SIJI				S	**Sn**	**09 26 07.8**	**-4.5**
	9.2nm,0.6s,baz=111,slow=24,SNR=6.5						
FITZ	**Fitzroy Crossi**	**12.09**	**198**	P	**Pn**	**09 26 28.6**	**+1.3**
	0.3nm,0.3s,baz=21,slow=11,SNR=9.6						
FITZ				S	**Sn**	**09 28 35.9**	**-5.1**
	1.6nm,0.3s,baz=264,slow=16,SNR=8.3						
WRA	**Warramunga Arr**	**14.07**	**161**	P	**Pn**	**09 26 53.4**	**+0.6**
	0.2nm,0.4s,baz=337,slow=14,SNR=15						
WRA				S	Sn	09 29 17.2	-12
	0.5nm,0.3s,baz=337,slow=22,SNR=7.2						
ASAR	**Alice Springs**	**17.50**	**167**	P	**Pn**	**09 27 36.2**	**+1.4**
	0.2nm,0.5s,baz=344,slow=9.8,SNR=6.0						
MKAR	**Makanchi Array**	**67.64**	**327**	P	**P**	**09 34 22.2**	**+1.6**
	0.6nm,0.5s,baz=128,slow=6.4,SNR=9.1						
	0.6nm,0.5s						

BJI ***17*** *09:29:49.5±0.0, 0.16N×99.21E, h109km, mb4.7/22, mB5.0/13*
IDC ***17*** *09:29:52.9±0.5, 0.58N×99.60E, h103km±3km, mb4.2/25, mbtmp4.5/28, MS3.2/10, Error ellipse: s-maj=13.6km s-min=8.7km az=65.0*
DJA ***17*** *09:29:53.4±0.2, 0.1°N±2.9°×99.9°E±°, h95km±3km, M4.7/22, mb4.8/20, mB5.2/7, MLv4.7/22, Mw(mB)4.5/7*
NEIC ***17*** *09:29:54.1±2.1, 0.51N±0.07°×99.43E±0.05, h109km±6km, mb4.7/53, Error ellipse: s-maj=10.8km s-min=6.0km az=211.0*

ISC 17 09:29:52.7±0.3, 0.53N±0.04×99.43E±0.04, h100km, n198, σ1.8s35/211, mb4.7/55, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**1.28**	**243**	P	**Pn**	**09 30 17.5**	**+1.2**
PBSI				S	**Sn**	**09 30 35.5**	**+1.3**
BKNI	**Bangkinang**	**1.63**	**97**		**Pn**	**09 30 21.9**	**+1.4**
BKNI	**Bangkinang**	**1.63**	**97**	P	**Pn**	**09 30 21.7**	**+1.2**
BKNI	**Bangkinang**	**1.63**	**97**	P	**Pn**	**09 30 21.9**	**+1.4**
PDSI	**Padang**	**1.77**	**144**	P	**Pn**	**09 30 23.5**	**+1.2**
SISI	**Saibi**	**1.87**	**190**	P	**Pn**	**09 30 23.4**	**-0.3**
GSI	**Gunungsitoli**	**2.00**	**293**	Pn	**Pn**	**09 30 26.4**	**+1.1**
GSI				Sn	**Sn**	**09 30 50.9**	**+0.7**
GSI	**Gunungsitoli**	**2.00**	**293**	P	**Pn**	**09 30 25.9**	**+0.6**
GSI	**Gunungsitoli**	**2.00**	**293**	P	**Pn**	**09 30 26.7**	**+1.4**
RPSI	**Rantau Prapat**	**2.21**	**347**	Pn	**Pn**	**09 30 29.4**	**+1.4**
RPSI	**Rantau Prapat**	**2.21**	**347**		**Pn**	**09 30 29.4**	**+1.4**
PSI	**Prapat**	**2.31**	**347**	P	**Pn**	**09 30 29.4**	**0.0**
	548nm,0.4s,baz=191,slow=4.6,SNR=417						
PSI				S	**Sn**	**09 30 53.0**	**-4.6**
	241nm,0.6s,baz=163,slow=15,SNR=16						
PSI	**Prapat**	**2.31**	**347**	P	**Pn**	**09 30 29.5**	**0.0**
SDSI	**Sungai Dareh**	**2.47**	**126**	P	**Pn**	**09 30 32.6**	**+1.2**
TSI	**Tuntungan**	**3.08**	**344**	P	**Pn**	**09 30 41.0**	**+1.6**
KRJI	**Kerinci**	**3.30**	**142**	P	**Pn**	**09 30 42.7**	**+0.1**
PPSI	**Pulau Pagai**	**3.32**	**170**	P	**Pn**	**09 30 41.4**	**-1.4**
KCSI	**Kotacane, Aceh**	**3.40**	**331**	P	**Pn**	**09 30 44.0**	**+0.2**
IPM	**Ipoh**	**4.24**	**22**	Pn	**Pn**	**09 30 57.3**	**+2.2**
IPM	**Ipoh**	**4.24**	**22**	P	**Pn**	**09 30 57.8**	**+2.7**
MYKOM	**Kota Tinggi**	**4.60**	**74**	Pn	**Pn**	**09 31 01.3**	**+1.3**
MASI	**Maura Aman, Be**	**4.61**	**142**	P	**Pn**	**09 31 01.7**	**+1.6**
KULM	**Kulim**	**4.88**	**14**	Pn	**Pn**	**09 31 05.8**	**+2.0**
TPRI	**Tanjung Pinang**	**5.12**	**86**	P	**Pn**	**09 31 08.0**	**+1.0**
KSI	**Kapahiang**	**5.22**	**143**	P	**Pn**	**09 31 08.8**	**+0.3**
	1.3nm22µm138nm,0.7s						
DSRI	**Dabo**	**5.25**	**101**	P	**Pn**	**09 31 09.4**	**+0.6**
	0.2nm2µm46nm,0.9s						
LHMI	**Lhok Sumawe**	**5.28**	**332**	Pn	**Pn**	**09 31 10.4**	**+1.1**
LHMI	**Lhok Sumawe**	**5.28**	**332**	P	**Pn**	**09 31 10.1**	**+0.8**
	1.0nm160nm,0.8s						
MNAI	**Manna**	**6.00**	**144**	Pn	**Pn**	**09 31 18.8**	**-0.3**
MNAI	**Manna**	**6.00**	**144**	P	**Pn**	**09 31 18.7**	**-0.3**
	3.1nm158nm,1.1s						
MNAI	**Manna**	**6.00**	**144**	P	**Pn**	**09 31 18.7**	**-0.3**
KASI	**Kota Agung**	**7.86**	**140**	P	**Pn**	**09 31 43.0**	**-1.3**
	0.4nm45nm,0.5s						
SBUM	**Sibu**	**12.93**	**81**	Pn	**Pn**	**09 32 54.1**	**+1.3**
UGM	**Wanagama**	**13.88**	**127**	Pn	**Pn**	**09 33 02.6**	**-2.6**
UGM	**Wanagama**	**13.88**	**127**	P	**Pn**	**09 33 02.8**	**-2.4**
	206nm,1.8s						
UGM	**Wanagama**	**13.88**	**127**	P	**Pn**	**09 33 03.3**	**-1.9**
PCJI	**Pacitan**	**14.57**	**127**	P	**Pn**	**09 33 10.9**	**-3.1**
	58nm,1.7s						
UBPT	**Khong Chiam**	**15.83**	**22**	Pn	**Pn**	**09 33 30.1**	**+0.2**
BBKI	**Banjar Baru**	**15.91**	**105**	P	**P**	**09 33 32.7**	**+0.1**
	66nm,0.8s						
KKM	**Kota Kinabalu**	**17.63**	**72**		**Pn**	**09 33 53.4**	**+1.3**
KKM				IAmb	IAmb	09 33 57.3	
	comp=Z,28nm,0.8s						
CM31	**Chiang Mai Arr**	**17.82**	**359**	P	**Pn**	**09 33 55.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**17.82**	**359**	P	**Pn**	**09 33 54.4**	**0.0**
	comp=Z,1.3nm,0.5s,baz=187,slow=11,SNR=7.9						
CMAR				LR	LR	09 40 33.1	
	comp=Z,58nm,18.1s,baz=195,slow=36						
MYLDM	**Lahad Datu**	**19.60**	**76**	P	**Pn**	**09 34 15.2**	**-0.2**
MYLDM				IAmb	IAmb	09 34 27.1	
	comp=Z,32nm,1.0s						
PALK	**Pallekele**	**19.84**	**290**	P	**Pn**	**09 34 18.7**	**+0.4**
	comp=Z,27nm,0.8s,baz=211,slow=9.0,SNR=12						
PALK				S	**S**	**09 37 51.2**	**-2.7**
	comp=Z,5.0nm,0.4s,baz=144,slow=22,SNR=5.8						
PALK				LR	LR	09 42 22.4	
	comp=Z,37nm,19.6s,baz=213,slow=38						
PALK	**Pallekele**	**19.84**	**290**	P	**Pn**	**09 34 18.5**	**+0.2**
PALK				IAmb	IAmb	09 34 19.2	
	comp=Z,22nm,0.7s						
MPSI	**Mapaga**	**20.47**	**90**	P	Pn	09 34 24.3	-1.4
	comp=Z,51nm,0.9s						
PLAI	**Plampang**	**20.51**	**117**	P	**P**	**09 34 21.9**	**-1.1**
TTSI	**Tana Toraja**	**20.69**	**100**	P	**P**	**09 34 26.3**	**+1.3**
SPSI	**Sidrap Palu**	**20.81**	**103**	P	**P**	**09 34 26.9**	**+0.6**
	comp=Z,19nm,0.9s						
KAPI	**Kappang**	**21.04**	**105**	P	**P**	**09 34 27.8**	**-0.9**
	comp=Z,7.5nm,0.5s,baz=190,slow=9.0,SNR=1.5						
KAPI				LR	LR	09 43 20.8	
	comp=Z,36nm,18.7s,baz=278,slow=39						
	comp=Z,7.5nm,0.5s						
BKSI	**Bulukumba**	**21.47**	**106**	P	**P**	**09 34 33.9**	**+0.6**
	comp=Z,31nm,1.0s						
BSSI	**Bau Bau, Buton**	**22.05**	**108**	P	**P**	**09 34 39.7**	**+0.2**
	comp=Z,529nmcomp=Z,40nm,0.9s						
MRSI	**Marisa**	**22.51**	**90**	P	**P**	**09 34 44.8**	**+0.5**
	comp=Z,1µmcomp=Z,129nm,0.8s						
LUWI	**Luwuk**	**23.40**	**94**	P	**P**	**09 34 54.3**	**+1.3**
LUWI	**Luwuk**	**23.40**	**94**	P	**P**	**09 34 53.5**	**+0.6**
	comp=Z,4µmcomp=Z,257nm,0.8s						
GTOI	**Gorontalo**	**23.58**	**90**	P	**P**	**09 34 54.1**	**-0.5**
	comp=Z,372nmcomp=Z,53nm,0.8s						
EDFI	**Ende, Flores**	**24.02**	**113**	P	**P**	**09 34 57.5**	**-1.2**
PZH	**PanZhiHua**	**25.92**	**5**	P	**P**	**09 35 18.6**	**+2.8**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
MBWA	**Marble Bar**	**29.30**	**139**	P	**P**	**09 35 45.6**	**-0.3**
MBWA				IAmb	IAmb	09 36 13.6	
	comp=Z,25nm,1.4s						
PSA00	**Pilbara Seismi**	**29.67**	**139**	P	**P**	**09 35 49.0**	**-0.1**
PSA00				IAmb	IAmb	09 35 49.5	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	**29.67**	**139**	P	**P**	**09 35 49.1**	**0.0**
PSA00				IAmb	IAmb	09 36 14.3	
	comp=Z,6.6nm,1.4s						
PSA00	**Pilbara Seismi**	**29.67**	**139**	P	**P**	**09 35 48.8**	**-0.3**
CD2	**Chengdu**	**30.49**	**7**	*eP*	**P**	**09 36 00.0**	**+3.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**31.74**	**127**	P	**P**	**09 36 05.0**	**-2.4**
	baz=32,SNR=5.9						
FITZ	**Fitzroy Crossi**	**31.74**	**127**	P	**P**	**09 36 05.1**	**-2.3**
FITZ	**Fitzroy Crossi**	**31.74**	**127**	P	**P**	**09 36 05.1**	**-2.3**
MEEK	**Meekatharra**	**32.73**	**147**	P	**P**	**09 36 16.5**	**+0.5**
	baz=33,SNR=7.8						
MEEK	**Meekatharra**	**32.73**	**147**	P	**P**	**09 36 16.7**	**+0.6**
	comp=Z,26nm,1.2s						
FAKI	**Fak Fak**	**32.99**	**96**	P	**P**	**09 36 17.8**	**-0.6**
FAKI				IAmb	IAmb	09 36 18.7	
	comp=Z,20nm,0.8s						
KNRA	**Kununurra**	**33.15**	**120**	P	**P**	**09 36 22.3**	**+2.6**
	baz=33,SNR=5.8						
KNRA	**Kununurra**	**33.15**	**120**	P	**P**	**09 36 17.8**	**-2.0**
KNRA				IAmb	IAmb	09 36 37.6	
	comp=Z,22nm,1.5s						
KNRA	**Kununurra**	**33.15**	**120**	P	**P**	**09 36 21.0**	**+1.2**
MORW	**Morawa**	**33.45**	**153**	P	**P**	**09 36 23.5**	**+1.3**
	baz=34,SNR=5.4						
MORW	**Morawa**	**33.45**	**153**	P	**P**	**09 36 23.5**	**+1.3**
MORW				IAmb	IAmb	09 36 24.5	
	comp=Z,12nm,0.9s						
MORW	**Morawa**	**33.45**	**153**	P	**P**	**09 36 23.8**	**+1.6**
XAN	**Xi'an**	**34.50**	**14**	P	**P**	**09 36 29.8**	**-1.5**
XAN				sP	sP	09 37 06.4	+0.7
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BLDU	**Ballidu**	**35.07**	**154**	P	**P**	**09 36 36.6**	**+0.4**
MUN	**Mundaring**	**36.02**	**155**	P	**P**	**09 36 46.0**	**+1.7**
	baz=36,SNR=7.2						
MUN	**Mundaring**	**36.02**	**155**	P	**P**	**09 36 46.1**	**+1.7**
NJ2	**Nanjing**	**36.33**	**28**	*eP*	**P**	**09 36 51.4**	**+4.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KLBR	**Kellerberrin**	**36.37**	**153**	P	**P**	**09 36 48.4**	**+1.1**
	baz=36,SNR=18						
KLBR	**Kellerberrin**	**36.37**	**153**	P	**P**	**09 36 48.4**	**+1.1**
NWAO	**Narrogin (SRO)**	**37.28**	**155**	P	**P**	**09 36 54.0**	**-0.9**
	comp=Z,9.6nm,0.8s,baz=202,slow=4.5,SNR=6.6						
	comp=Z,9.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.28**	**155**	P	**P**	**09 36 56.4**	**+1.4**
	baz=37,SNR=4.6						
NWAO				P	**P**	**09 36 56.4**	**+1.4**
	baz=37,SNR=4.6						
NWAO	**Narrogin (SRO)**	**37.28**	**155**	P	**P**	**09 36 56.8**	**+1.8**
WRKA	**Warakurna**	**37.77**	**134**	P	**P**	**09 36 58.3**	**-1.0**
	baz=38,SNR=7.6						
WB0	**Warramunga Arr**	**39.77**	**122**	P	**P**	**09 37 14.1**	**-2.0**
WB0				IAmb	IAmb	09 37 14.9	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**39.80**	**123**	P	**P**	**09 37 14.1**	**-2.2**
	comp=Z,10nm,0.7s,baz=302,slow=9.0,SNR=86						
WRA				pP	**pP**	**09 37 40.6**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=304,slow=8.8,SNR=1.6						
WRA				PcP	**PcP**	**09 39 20.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=315,slow=2.5,SNR=9.6						
WRA				ScP	**ScP**	**09 42 58.7**	**-2.1**
	comp=Z,0.8nm,0.9s,baz=316,slow=2.4,SNR=3.6						
WRA				LR	LR	09 53 55.5	
	comp=Z,60nm,19.0s,baz=189,slow=36						
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**39.80**	**123**	P	**P**	**09 37 14.2**	**-2.1**
WRAB	**Tennant Creek**	**39.80**	**123**	P	**P**	**09 37 14.2**	**-2.1**
WRAB				IAmb	IAmb	09 37 15.4	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**39.80**	**123**	P	**P**	**09 37 14.3**	**-2.1**
WB2	**Warramunga Arr**	**39.81**	**123**	P	**P**	**09 37 14.4**	**-2.0**
WB2

comp=Z,13nm,0.7s,baz=309,slow=7.1,SNR=37
comp=Z,13nm,0.7s
STKA Stephens Creek 51.27 133 P **P** **09 38 45.5 -1.1**
baz=51,SNR=23
STKA Stephens Creek 51.27 133 P **P** **09 38 45.7 -0.9**
STKA Stephens Creek 51.27 133 P **P** **09 38 45.5 -1.1**
USRK Ussuriysk Ar. 52.23 29 P **P** **09 38 53.3 -0.2**
comp=Z,10nm,0.6s,baz=246,slow=3.1,SNR=20
comp=Z,10nm,0.6s
GEYT Alibeck 53.16 319 P **P** **09 39 00.6 0.0**
comp=Z,1.1nm,0.4s,baz=193,slow=6.1,SNR=4.0
comp=Z,1.1nm,0.4s
ARPS Mount Arapiles 54.03 138 P **P** **09 39 07.6 +0.7**
baz=54,SNR=6.3
ARPS Mount Arapiles 54.03 138 P **P** **09 39 07.8 +0.9**
CMSA Cobar Meteorol 54.16 130 P **P** **09 39 07.5 -0.4**
baz=54,SNR=9.9
CMSA Cobar Meteorol 54.16 130 P **P** **09 39 07.3 -0.6**
RMQ Roma 54.55 123 P **P** **09 39 10.8 -0.1**
baz=54,SNR=5.5
ZAA0 Zalesovo Array 54.59 349 P **P** **09 39 10.6 0.0**
ZAA0 IAmb IAmb 09 39 36.5
comp=Z,20nm,1.1s
ZALV Zalesovo Beam 54.59 349 P **P** **09 39 10.5 -0.1**
comp=Z,9.0nm,0.4s,baz=163,slow=6.6,SNR=32
ZALV pP **pP** **09 39 34.6 -0.3**
comp=Z,8.2nm,0.5s,baz=165,slow=6.2,SNR=5.8
comp=Z,9.0nm,0.4s
ZALV Zalesovo Beam 54.59 349 P **P** **09 39 10.9 +0.3**
KLR Kul'dur 55.88 25 P **P** **09 39 18.7 -1.3**
comp=Z,6.5nm,0.5s,baz=238,slow=7.0,SNR=18
comp=Z,6.5nm,0.5s
EIDS Eidsvold 56.13 121 P **P** **09 39 21.6 -0.6**
baz=56,SNR=11
EIDS Eidsvold 56.13 121 P **P** **09 39 21.7 -0.5**
EIDS Eidsvold 56.13 121 P **P** **09 39 21.6 -0.6**
TOO Toolangi 56.93 137 P **P** **09 39 29.9 +2.2**
CAN Canberra 58.33 133 P **P** **09 39 37.4 -0.1**
CAN IAmb IAmb 09 39 38.6
comp=Z,9.8nm,0.7s
CAN Canberra 58.33 133 P **P** **09 39 37.6 0.0**
ARMA Armidale 58.35 127 P **P** **09 39 38.6 +0.7**
baz=58,SNR=8.4
ARMA Armidale 58.35 127 P **P** **09 39 38.5 +0.7**
ARMA Armidale 58.35 127 P **P** **09 39 38.5 +0.7**
ABKAR Akbulak array 59.16 331 P **P** **09 39 43.0 +0.1**
ABKAR IAmb IAmb 09 40 08.2
comp=Z,7.1nm,0.8s
KMBO Kilima Mbogo 62.19 268 P **P** **09 40 05.8 +1.3**
comp=Z,1.6nm,0.3s,baz=51,slow=10,SNR=4.0
KMBO pP **pP** **09 40 31.3 +1.9**
comp=Z,4.7nm,0.2s,baz=54,slow=9.0,SNR=1.5
comp=Z,1.6nm,0.3s
GNI Garni 63.32 316 LR LR 10 09 56.8
comp=Z,12nm,20.1s,baz=126,slow=38
KOUNC Koumac, New Ca 66.74 113 P **P** **09 40 33.9 +0.2**
KOUNC Koumac, New Ca 66.74 113 P **P** **09 40 34.5 +0.8**
CASY Casey 67.14 175 P **P** **09 40 37.0 +1.7**
CASY IAmb IAmb 09 40 37.5
comp=Z,7.2nm,1.1s
DZM Mont Dzumac 68.98 114 P **P** **09 40 47.7 -0.2**
DZM IAmb IAmb 09 40 48.8
comp=Z,12nm,0.9s
DZM Mont Dzumac 68.98 114 P **P** **09 40 48.1 +0.2**
NRIK Noril'sk 69.15 356 P **P** **09 40 47.2 -0.7**
comp=Z,4.4nm,0.6s,baz=157,slow=6.3,SNR=5.4
comp=Z,4.4nm,0.6s
MA2 Magadan 70.99 25 P **P** **09 40 58.0 -1.3**
comp=Z,4.9nm,0.6s,baz=232,slow=12,SNR=3.2
comp=Z,4.9nm,0.6s
MA2 Magadan 70.99 25 P **P** **09 40 58.8 -0.5**
MA2 IAmb IAmb 09 41 21.9
comp=Z,16nm,1.3s
PEA0B Petropavlovsk- 71.07 33 P **P** **09 40 58.9 -1.0**
PETK Petropavlovsk- 71.07 33 P **P** **09 40 58.3 -1.7**
comp=Z,1.8nm,0.6s,baz=182,slow=10,SNR=9.5
comp=Z,1.8nm,0.6s
PETK Petropavlovsk- 71.07 33 P **P** **09 40 58.8 -1.2**
BRTR Keskin Array B 71.21 312 P **P** **09 41 00.6 -0.7**
comp=Z,0.8nm,0.8s,baz=123,slow=9.0,SNR=5.0
BRTR pP **pP** **09 41 25.9 -0.8**
comp=Z,2.4nm,0.7s,baz=130,slow=7.0,SNR=9.6
comp=Z,0.8nm,0.8s
BRTR Keskin Array B 71.21 312 P **P** **09 40 59.8 -1.5**
PET Petropavlovsk 71.56 33 P **P** **09 41 02.0 -0.9**
LSZ Lusaka 72.06 254 LR LR 10 07 57.9
comp=Z,27nm,21.2s,baz=175,slow=32
MAW Mawson 72.58 194 P **P** **09 41 10.4 +1.7**
comp=Z,4.9nm,1.0s,baz=325,slow=8.3,SNR=6.3
comp=Z,4.9nm,1.0s
MAW Mawson 72.58 194 P **P** **09 41 11.3 +2.7**
baz=73,SNR=4.8
TIXI Tiksi 73.47 9 P **P** **09 41 12.4 -1.5**
comp=Z,3.9nm,0.3s,baz=88,slow=23,SNR=3.0
comp=Z,3.9nm,0.3s
TIXI Tiksi 73.47 9 P **P** **09 41 12.8 -1.0**
TIXI IAmb IAmb 09 41 13.2
comp=Z,12nm,1.2s
SEY Seymchan 73.52 22 P **P** **09 41 12.6 -1.6**
comp=Z,2.6nm,0.5s,baz=184,slow=23,SNR=3.7
comp=Z,2.6nm,0.5s
LBTB Lobatse 75.59 244 LR LR 10 12 20.4
comp=Z,22nm,19.6s,baz=134,slow=34
THZ Tophouse 78.07 133 P **P** **09 41 41.5 +0.7**
FIA1 FINESS Array S 81.62 332 P **P** **09 41 59.4 0.0**
FIA1 IAmb IAmb 09 42 26.2
comp=Z,9.4nm,1.2s
FINES FINESS Array B 81.62 332 P **P** **09 41 59.4 0.0**
comp=Z,1.2nm,0.5s,baz=98,slow=5.5,SNR=13
FINES pP **pP** **09 42 25.3 -0.3**
comp=Z,2.3nm,0.7s,baz=119,slow=7.2,SNR=3.6
comp=Z,1.2nm,0.5s
ARCES ARCESS Array B 83.92 340 P **P** **09 42 11.3 +0.1**
comp=Z,1.8nm,0.4s,baz=111,slow=4.6,SNR=48
comp=Z,1.8nm,0.4s
ARCES ARCESS Array B 83.92 340 P **P** **09 42 11.3 +0.1**
ARCES IAmb IAmb 09 42 16.6
comp=Z,17nm,1.4s
VNDA Vanda 84.74 169 P **P** **09 42 15.4 +0.3**
comp=Z,1.4nm,0.7s,baz=311,slow=6.7,SNR=15
comp=Z,1.4nm,0.7s
VNDA Vanda 84.74 169 P **P** **09 42 16.1 +1.0**
SBA Scott Base 85.83 169 P **P** **09 42 22.5 +2.0**
SBA IAmb IAmb 09 42 23.3
comp=Z,5.4nm,0.9s
GERES GERESS Array B 86.78 319 P **P** **09 42 26.3 +0.4**
comp=Z,0.2nm,0.3s,baz=91,slow=8.3,SNR=2.2
comp=Z,0.2nm,0.3s
SPB2 Spitsbergen Ar 88.05 348 P **P** **09 42 31.2 -0.1**
QSPA South Pole Qui 90.47 180 P **P** **09 42 44.5 +1.4**
QSPA IAmb IAmb 09 42 44.8
comp=Z,2.8nm,0.6s
ULM Lac du Bonnet 127.75 12 PKP **PKPdf** **09 48 45.4 -1.1**
comp=Z,2.8nm,0.6s,baz=280,slow=3.9,SNR=5.6
NVAR Mina Array Bea 127.99 38 PKP **PKiKP** **09 48 48.3 0.0**
comp=Z,1.2nm,0.6s,baz=298,slow=1.2,SNR=8.6
PDAR Pinedale Array 129.64 28 PKP **PKPdf** **09 48 49.1 -1.6**
comp=Z,0.7nm,0.6s,baz=186,slow=1.5,SNR=8.2
TXAR Lajitas Array 143.01 35 PKP **PKPdf** **09 49 12.3 -3.3**
comp=Z,1.8nm,0.7s,baz=350,slow=0.2,SNR=15
BDFB Brasilia 144.53 243 PKP PKPbc 09 49 17.9 +0.4
comp=Z,2.7nm,0.5s,baz=120,slow=3.4,SNR=4.9
BDFB pPKP pPKPdf 09 49 45.3 -0.9
comp=Z,1.2nm,0.4s,baz=210,slow=2.2,SNR=2.5
CPUP Villa Florida 145.96 219 PKPbc **PKPdf** **09 49 21.2 +0.6**
comp=Z,5.8nm,0.8s,baz=148,slow=2.7,SNR=14
CPUP pPKPbc pPKPbc 09 49 48.9 +0.2
comp=Z,2.7nm,0.6s,baz=92,slow=1.2,SNR=4.2
LPAZ La Paz 160.11 217 PKP **PKPdf** **09 49 41.6 -0.5**
comp=Z,0.3nm,0.4s,baz=118,slow=5.8,SNR=3.5

ANF ***17*** *09:41:52.8±0.4, 36.°04N×120.°04W, h19km±2km, ML3.3/32, Error ellipse: s-maj=3.5km s-min=1.5km az=123.0*
NCEDC ***17*** *09:41:52.8±1.8, 36.°05N±0.°02×120.°09W±0.°02, h18km±3km, ML3.2/25, ML3.2/80(NEIC), Error ellipse: s-maj=2.8km s-min=2.3km az=220.0*
NEIC ***17*** *09:41:52.7±1.9, 36.°06N±0.°02×120.°06W±0.°02, h21km±5km, Error ellipse: s-maj=3.4km s-min=2.4km az=154.0*
ISC 17 09:41:53.3±0.9, 36.°05N±0.°02×120.°09W±0.°02, h28km±7km**, n198, σ1s18/220, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTM	**Castle Mountai**	**0.23**	**239**		**Pb**	**09 41 58.8**	**-1.0**
PSRM	**Scobie Ranch**	**0.24**	**218**		**Pb**	**09 41 59.1**	**-0.8**
PMRM	**Maxey Ranch**	**0.29**	**204**		**Pb**	**09 41 59.9**	**-0.5**
PHFM	**Heflinger Ranc**	**0.30**	**236**		**Pb**	**09 41 59.9**	**-0.7**
PHFM					**Sb**	**09 42 06.0**	**+0.4**
GHC	**Gold Hill**	**0.30**	**224**		**Pb**	**09 41 59.7**	**-0.9**
PSNM	**Stone Corral**	**0.31**	**212**		**Pb**	**09 41 60.0**	**-0.7**
PHAM	**Harlan Ranch**	**0.33**	**229**		**Pb**	**09 42 00.3**	**-0.6**
PKLM	**Kerr Lake**	**0.34**	**216**		**Pb**	**09 42 00.6**	**-0.6**
PAGB	**Antelope Grade**	**0.34**	**202**		**Pb**	**09 42 00.5**	**-0.7**
PAGB					**Sb**	**09 42 06.5**	**0.0**
PAGB				IAML		09 42 08.9	
	comp=E,3μm,0.7s						
PAGB				IAML		09 42 11.1	
	comp=N,3μm,0.8s						
THIS	**South End of C**	**0.34**	**199**		**Pb**	**09 42 00.8**	**-0.4**
THIS					**Sn**	**09 42 08.0**	**-0.5**
PCMM	**Cholame Hills**	**0.35**	**227**		**Pb**	**09 42 00.8**	**-0.6**
PSTM	**Stockdale Moun**	**0.36**	**250**		**Pb**	**09 42 01.0**	**-0.5**
PDRM	**Domengine Ranc**	**0.36**	**322**		**Pb**	**09 42 01.1**	**-0.4**
PKD	**Bear Valley Ra**	**0.38**	**254**		**Pb**	**09 42 01.2**	**-0.5**
PKD					**Sn**	**09 42 08.8**	**-0.5**
PVCM	**Vineyard Canyo**	**0.38**	**251**		**Pb**	**09 42 01.2**	**-0.6**
PWMM	**Westland Maint**	**0.39**	**346**		**Pb**	**09 42 02.0**	**0.0**
PMCM	**McMillan Canyo**	**0.40**	**215**		**Pb**	**09 42 01.5**	**-0.5**
TRAM	**Private Proper**	**0.40**	**201**		**Pb**	**09 42 01.8**	**-0.3**
PTRM	**Twissleman Ran**	**0.41**	**194**		**Pb**	**09 42 02.0**	**-0.2**
PSMM	**Smith Mountain**	**0.41**	**273**		**Pb**	**09 42 02.0**	**-0.2**
PWKM	**Work Ranch**	**0.41**	**235**		**Pb**	**09 42 01.8**	**-0.5**
PHPM	**Hope Ranch**	**0.42**	**261**		**Pb**	**09 42 02.0**	**-0.4**
TCHL	**Shandon**	**0.44**	**215**		**Pb**	**09 42 02.4**	**-0.3**
PJUM	**Juniper Ridge**	**0.44**	**294**		**Pb**	**09 42 02.2**	**-0.6**
PPO	**Portuguese Can**	**0.46**	**247**		**Pb**	**09 42 02.7**	**-0.3**
TRAY	**Twisselman Ran**	**0.50**	**183**		**Pb**	**09 42 03.4**	**-0.2**
TRAY					**Sn**	**09 42 11.7**	**-0.6**
PPTM	**Peach Tree Val**	**0.51**	**277**		**Pb**	**09 42 03.3**	**-0.5**
TSCN	**Private Proper**	**0.55**	**202**		**Pb**	**09 42 04.4**	**0.0**
TCAS	**Cass Winery, P**	**0.58**	**221**		**Pb**	**09 42 04.4**	**-0.5**
PMPB	**Monarch Peak**	**0.60**	**286**		**Pb**	**09 42 04.5**	**-0.8**
PMPB				IAML		09 42 17.6	
	comp=N,1μm,0.5s						
PMPB				IAML		09 42 21.2	
	comp=E,1μm,0.8s						
VOG	**Valley Oaks Go**	**0.64**	**65**		**Pb**	**09 42 04.8**	**-1.0**
VOG	**Valley Oaks Go**	**0.64**	**65**	P	**Pb**	**09 42 04.9**	**-1.0**
	baz=245,SNR=21						
VOG				S	**Sb**	**09 42 13.5**	**-0.9**
	baz=245						
TSCS	**Shell Creek So**	**0.64**	**199**		**Pb**	**09 42 05.5**	**-0.5**
PSAM	**San Ardo**	**0.65**	**268**		**Pb**	**09 42 05.3**	**-0.7**
PANM	**San Antonio Re**	**0.71**	**248**		**Pb**	**09 42 06.7**	**-0.5**
RCTC	**Rector, Farmer**	**0.73**	**69**		**Pb**	**09 42 06.3**	**-1.2**
SMMC	**Simmler**	**0.74**	**174**		**Pb**	**09 42 07.1**	**-0.5**
SMMC	**Simmler**	**0.74**	**174**	P	**Pb**	**09 42 07.0**	**-0.5**
	baz=354,SNR=119						
SMMC				S	**Sb**	**09 42 17.2**	**-0.1**
	baz=354						
RAMR	**Ramage Ranch**	**0.75**	**237**		**Pb**	**09 42 07.4**	**-0.5**
CARC	**Carrizo Plain**	**0.77**	**165**		**Pb**	**09 42 07.5**	**-0.6**
PHSB	**Hesperia Broad**	**0.81**	**254**		**Pb**	**09 42 08.2**	**-0.6**
PTAM	**Tassajara Cree**	**0.82**	**218**		**Pb**	**09 42 08.8**	**-0.3**
BMSM	**Mercy Hot Spri**	**0.83**	**317**		**Pb**	**09 42 08.7**	**-0.5**
LRV	**Little Rabbit**	**0.84**	**297**		**Pb**	**09 42 08.6**	**-0.6**
BLDC	**Black Mountain**	**0.84**	**232**		**Pb**	**09 42 08.8**	**-0.4**
BLDC	**Black Mountain**	**0.84**	**232**		**Pb**	**09 42 08.9**	**-0.4**
VES	**Vestal, Richgr**	**0.84**	**104**		**Pb**	**09 42 08.3**	**-1.1**
VES	**Vestal, Richgr**	**0.84**	**104**	P	**Pb**	**09 42 08.1**	**-1.2**
	baz=285,SNR=30						
VES				S	**Sb**	**09 42 19.4**	**-0.9**
	baz=285						
MRHM	**Rocky Hill**	**0.85**	**73**		**Pb**	**09 42 08.0**	**-1.4**
CRGC	**Crocker Grade**	**0.86**	**159**		**Pb**	**09 42 09.3**	**-0.4**
PCCM	**Crazy Canyon**	**0.87**	**273**		**Pb**	**09 42 09.0**	**-0.8**
EFD	**Emergency Oper**	**0.89**	**215**		**Pb**	**09 42 09.6**	**-0.5**
ARDC	**Alexander Ranc**	**0.93**	**231**		**Pb**	**09 42 10.0**	**-0.7**
BBGB	**Big Mountain B**	**0.93**	**305**		**Pb**	**09 42 10.3**	**-0.5**
PHCM	**Hearst Castle**	**0.94**	**247**		**Pb**	**09 42 10.2**	**-0.7**
BAVM	**Antelope Valle**	**0.96**	**308**		**Pb**	**09 42 10.7**	**-0.7**
LSDC	**Los Osos Digit**	**0.97**	**219**		**Pb**	**09 42 11.1**	**-0.4**
BPIM	**Pinnacles**	**0.97**	**297**		**Pb**	**09 42 10.4**	**-1.1**
DPD	**Davis Peak**	**0.99**	**215**		**Pb**	**09 42 11.5**	**-0.3**
BSGM	**Shirttail Gulc**	**1.01**	**292**		**Pb**	**09 42 11.0**	**-1.0**
BEMM	**Emmet**	**1.01**	**307**		**Pn**	**09 42 13.6**	**+1.9**
VPDC	**Valencia Peak**	**1.02**	**218**		**Pb**	**09 42 11.9**	**-0.5**
BVL	**Bear Valley**	**1.03**	**301**		**Pb**	**09 42 11.7**	**-0.8**
DCD	**Diablo Creek**	**1.03**	**216**		**Pn**	**09 42 11.7**	**-0.2**
PAPM	**Alder Peak**	**1.04**	**263**		**Pn**	**09 42 11.2**	**-0.8**
MHDM	**Hidden Dam**	**1.08**	**8**		**Pn**	**09 42 11.6**	**-0.9**
SPG2	**Springville 2**	**1.08**	**82**		**Pb**	**09 42 11.8**	**-1.6**
BSMM	**Soledad Missio**	**1.13**	**288**		**Pn**	**09 42 12.6**	**-0.7**
BLRM	**Lewis Ranch**	**1.13**	**303**		**Pb**	**09 42 14.7**	**+0.5**
BJOM	**Mount Johnson**	**1.14**	**301**		**Pn**	**09 42 13.2**	**-0.2**
BJCM	**Johnson Can.**	**1.16**	**296**		**Pn**	**09 42 13.1**	**-0.6**
PKM	**Mcpherson Peak**	**1.18**	**169**	P	**Pn**	**09 42 13.8**	**-0.3**
	baz=349,SNR=31						
PKM				S	**Sn**	**09 42 29.7**	**+0.4**
	baz=349						
SCZ	**Santa Cruz**	**1.19**	**298**		**Pn**	**09 42 14.2**	**+0.2**
HAST	**Hastings Reser**	**1.23**	**286**		**Pn**	**09 42 13.8**	**-0.8**
PMLM	**Mount Lospe**	**1.23**	**200**		**Pn**	**09 42 14.8**	**+0.2**
BCW	**Bitter Crk WRg**	**1.24**	**153**		**Pn**	**09 42 14.6**	**-0.2**
BCW				IAML		09 42 41.1	
	comp=E,740nm,0.6s						
BCW				IAML		09 42 41.9	
	comp=N,601nm,0.7s						
BSLM	**Silva Ranch**	**1.25**	**306**		**Pn**	**09 42 15.2**	**+0.4**
BSRM	**Salinas Radio**	**1.30**	**299**		**Pb**	**09 42 16.5**	**-0.6**
SAO	**San Andreas Ge**	**1.30**	**304**	Pn	**Pn**	**09 42 16.0**	**+0.3**
FRP	**Fremont Peak**	**1.33**	**302**		**Pn**	**09 42 15.7**	**-0.3**
BPCNC	**Pine Canyon**	**1.34**	**293**		**Pn**	**09 42 15.8**	**-0.4**
MYLM	**Yosemite Lake**	**1.36**	**349**		**Pn**	**09 42 16.2**	**-0.1**
HSFM	**Saint Francis**	**1.37**	**304**		**Pb**	**09 42 17.8**	**-0.4**
BPOM	**Post Ranch**	**1.37**	**278**		**Pn**	**09 42 15.4**	**-1.1**
SLD	**San Luis Dam**	**1.37**	**319**		**Pn**	**09 42 16.3**	**-0.2**
ISA	**Isabella, Lake**	**1.37**	**106**		**Pn**	**09 42 16.7**	**+0.1**
ISA	**Isabella, Lake**	**1.37**	**106**		**Pn**	**09 42 16.8**	**+0.2**
ISA				IAML		09 42 36.1	
	comp=N,361nm,0.8s						
ISA				IAML		09 42 40.9	
	comp=E,276nm,0.3s						
ISA	**Isabella, Lake**	**1.37**	**106**	P	**Pn**	**09 42 16.4**	**-0.2**
	baz=287,SNR=70						
ISA				S	**Sn**	**09 42 33.8**	**-0.1**
	baz=287						
ARVC	**Arvin**	**1.38**	**131**		**Pn**	**09 42 16.5**	**-0.2**
ARVC	**Arvin**	**1.38**	**131**	P	**Pn**	**09 42 16.4**	**-0.2**
	baz=312,SNR=20						
ARVC				S	**Sb**	**09 42 34.3**	**-1.3**
	baz=312						
HPCM	**Pacheco Lake**	**1.39**	**317**		**Pn**	**09 42 16.7**	**-0.1**
MMIM	**Miami Mountain**	**1.40**	**11**		**Pn**	**09 42 17.2**	**+0.2**
TEJ	**El Tejon**	**1.41**	**125**		**Pn**	**09 42 17.1**	**+0.1**
HFEM	**San Felipe**	**1.41**	**312**		**Pn**	**09 42 16.9**	**-0.1**
KCC	**Kaiser Creek**	**1.42**	**26**		**Pb**	**09 42 17.6**	**-1.5**
WLHM	**Little Horse**	**1.45**	**85**		**Pb**	**09 42 18.3**	**-1.4**
ANZ	**Anzar Road**	**1.47**	**305**		**Pb**	**09 42 19.8**	**-0.1**
HTUM	**Tustin Road**	**1.47**	**302**		**Pn**	**09 42 18.0**	**+0.1**
MBUM	**Mount Bullion**	**1.51**	**1**		**Pn**	**09 42 18.9**	**+0.4**
HCOM	**Corn Cob Canyo**	**1.55**	**303**		**Pn**	**09 42 18.9**	**0.0**
HMOM	**Monterey**	**1.57**	**291**		**Pn**	**09 42 18.8**	**-0.5**
SBC	**Santa Barbara**	**1.63**	**169**	P	**Pn**	**09 42 20.6**	**+0.4**
	baz=349						
SBC				Sb	**Sb**	**09 42 44.1**	**+1.2**
	baz=349						
CWC	**Cottonwood Cre**	**1.67**	**76**		**Pb**	**09 42 22.2**	**-1.3**
CWC	**Cottonwood Cre**	**1.67**	**76**	Pb	**Pb**	**09 42 22.1**	**-1.3**
	baz=257						
CWC				Sb	**Sb**	**09 42 43.7**	**-0.6**
	baz=257						
SCHCA	**Scheelite**	**1.73**	**40**		**Pb**	**09 42 23.1**	**-1.4**
CCOB	**Coe Ranch Numb**	**1.75**	**314**		**Pn**	**09 42 21.9**	**+0.1**
MRDM	**Red Cones**	**1.75**	**28**		**Pb**	**09 42 23.4**	**-1.6**
MDPB	**Devils Postpil**	**1.78**	**27**		**Pb**	**09 42 23.6**	**-1.8**
MMPM	**Mammoth Pass**	**1.78**	**28**		**Pb**	**09 42 23.9**	**-1.5**
WNMM	**Nine Mile Cany**	**1.79**	**96**		**Pb**	**09 42 24.2**	**-1.2**
MTUM	**Tungsten Hills**	**1.79**	**43**		**Pb**	**09 42 24.3**	**-1.3**
OMMB	**Old Mammoth Mi**	**1.79**	**29**		**Pb**	**09 42 23.9**	**-1.7**
OMMB				IAML		09 42 47.0	
	comp=N,382nm,0.4s						
OMMB				IAML		09 42 48.0	
	comp=E,324nm,0.4s						
MHC	**Mount Hamilton**	**1.79**	**316**		**Pn**	**09 42 22.4**	**-0.1**
MMSM	**Mammoth Summit**	**1.79**	**28**		**Pb**	**09 42 24.2**	**-1.5**
CMMM	**Mount Mocho**	**1.80**	**322**		**Pn**	**09 42 23.3**	**+0.7**
MINS	**Minaret Summit**	**1.80**	**27**		**Pb**	**09 42 24.1**	**-1.7**
MLIM	**Lincoln Peak**	**1.80**	**28**		**Pb**	**09 42 24.7**	**-1.2**
TIN	**Tinemaha, Big**	**1.81**	**56**		**Pb**	**09 42 24.5**	**-1.2**
TIN	**Tinemaha, Big**	**1.81**	**56**	Pb	**Pb**	**09 42 24.5**	**-1.2**
	baz=237,SNR=47						
TIN				Sb	**Sb**	**09 42 47.9**	**0.0**
	baz=237						
WMD		**1.81**	**40**		**Pb**	**09 42 24.0**	**-1.8**
OSI	**Osito Audit: C**	**1.82**	**142**	Pb	**Pb**	**09 42 24.8**	**-1.1**
	baz=322						
OSI				S	**Sn**	**09 42 46.1**	**+1.2**
	baz=322						
MLCM	**Laurel Creek C**	**1.82**	**31**		**Pb**	**09 42 24.6**	**-1.5**
MDYM	**Dry Creek**	**1.82**	**28**		**Pb**	**09 42 24.9**	**-1.3**
MMLB	**Mammoth Lakes**	**1.84**	**29**		**Pb**	**09 42 25.1**	**-1.3**
MGPM	**Gravel Pit**	**1.84**	**31**		**Pb**	**09 42 25.0**	**-1.4**
MCVM	**Convict Lake**	**1.84**	**33**		**Pb**	**09 42 25.0**	**-1.5**
MCBM	**Casa Benchmark**	**1.86**	**31**		**Pb**	**09 42 25.5**	**-1.2**
MDCM	**Deadman Creek**	**1.86**	**27**		**Pb**	**09 42 25.1**	**-1.7**
MEMM	**East Mammoth H**	**1.86**	**29**		**Pb**	**09 42 25.5**	**-1.3**
MCSM	**Casa Diablo Ho**	**1.86**	**30**		**Pb**	**09 42 25.6**	**-1.3**
MLAC	**Mammoth, Mammo**	**1.87**	**32**	Pb	**Pb**	**09 42 25.6**	**-1.3**
	baz=213,SNR=176						
MLAC				Sb	**Sb**	**09 42 50.3**	**+0.2**
	baz=213						
MDRNC	**Doe Ridge**	**1.88**	**32**		**Pb**	**09 42 25.9**	**-1.2**
WCSM	**Coso Springs S**	**1.89**	**90**		**Pb**	**09 42 26.1**	**-1.0**
JJOM	**Saint Joseph's**	**1.91**	**308**		**Pn**	**09 42 23.8**	**-0.1**
CCAC	**Calif City Air**	**1.91**	**117**		**Pn**	**09 42 24.7**	**+0.6**
CCAC				IAML		09 42 54.7	
	comp=N,288nm,1.0s						
CCAC				IAML		09 43 22.6	
	comp=E,206nm,1.1s						
CGO	**Cerro Gordo**	**1.92**	**74**		**Pb**	**09 42 26.6**	**-1.1**
MFBM	**Five Bridges**	**1.92**	**44**		**Pb**	**09 42 26.6**	**-1.1**
ORC	**Owens River**	**1.96**	**36**		**Pb**	**09 42 27.0**	**-1.4**
MCUB	**Copperopolis B**	**1.97**	**348**		**Pn**	**09 42 25.1**	**+0.3**
CMB	**Columbia Colle**	**2.00**	**353**		**Pn**	**09 42 26.2**	**+1.0**
CMB	**Columbia Colle**	**2.00**	**353**	Pn	**Pn**	**09 42 25.7**	**+0.5**
CMB	**Columbia Colle**	**2.00**	**353**	IAML		09 42 54.5	
	comp=E,120nm,0.8s						
CMB				IAML		09 42 58.2	
	comp=N,174nm,0.7s						
MCDM	**Chidago Canyon**	**2.00**	**41**		**Pb**	**09 42 27.9**	**-1.2**
LRMC	**Laurel Mtn Rad**	**2.04**	**105**	Pb	**Pb**	**09 42 28.6**	**-1.2**
	baz=287,SNR=25						
LRMC				Sb	**Sb**	**09 42 54.3**	**-0.5**
	baz=287						
JSCM	**Stevens Creek**	**2.05**	**308**		**Pn**	**09 42 26.7**	**+0.9**
MRCM	**Red Rock Canyo**	**2.06**	**38**		**Pb**	**09 42 28.5**	**-1.6**
BENR	**Benton**	**2.06**	**36**		**Pb**	**09 42 28.5**	**-1.7**
EDW2	**Edwards Air Fo**	**2.07**	**124**	P	**Pn**	**09 42 26.5**	**+0.3**
	baz=305,SNR=24						
SCZ2	**Santa Cruz Isl**	**2.08**	**169**	P	**Pn**	**09 42 26.5**	**+0.2**
	baz=350						
MLNR	**Milner Canyon**	**2.08**	**42**		**Pb**	**09 42 28.9**	**-1.6**
MPMC	**Manual Prospec**	**2.11**	**89**	Pb	**Pb**	**09 42 29.9**	**-1.0**
	baz=271,SNR=70						
MPMC				Sb	**Sb**	**09 42 57.0**	**+0.2**
	baz=271						
LUL	**Lundy Lake**	**2.13**	**20**		**Pb**	**09 42 29.5**	**-1.8**
LCH	**Last Change Ra**	**2.30**	**58**		**Pb**	**09 42 31.5**	**-2.6**
LCH				IAML		09 43 08.2	
	comp=N,121nm,0.5s						
GRAC	**Grapevine Rang**	**2.39**	**66**		**Pb**	**09 42 32.7**	**-2.9**
GRAC	**Grapevine Rang**	**2.39**	**66**	Pb	**Pb**	**09 42 35.4**	**-0.3**
	baz=248,SNR=55						
GRAC				Sb	**Sb**	**09 43 05.8**	**+1.1**
	baz=248						
PASC	**Pasadena Art C**	**2.44**	**140**		**Pn**	**09 42 32.5**	**+1.3**
LHV	**Little Huntoon**	**2.54**	**30**		**Pb**	**09 42 35.4**	**-2.7**
LHV				IAML		09 43 33.0	
	comp=E,165nm,1.3s						
LHV				IAML		09 43 33.9	
	comp=N,125nm,1.2s						
GMN	**Gold Mountain**	**2.60**	**60**		**Pn**	**09 42 35.6**	**+2.0**
GMN				IAML		09 43 26.3	
	comp=N,116nm,0.5s						
GMN				IAML		09 43 27.2	
	comp=E,53nm,0.6s						
QSM	**Queen of Sheba**	**2.62**	**91**		**Pn**	**09 42 34.9**	**+1.2**
QSM				IAML		09 43 18.4	
	comp=E,62nm,0.6s						
QSM				IAML		09 43 21.1	
	comp=N,112nm,0.6s						
FURC	**Furnace Creek,**	**2.64**	**80**	Sb	**Sb**	**09 43 14.1**	**+2.2**
	baz=262						
BFSC	**Mount Baldy Ra**	**2.69**	**131**	P	**Pn**	**09 42 35.2**	**+0.4**
	baz=313,SNR=14						
BFSC				S	**Sn**	**09 43 07.3**	**+0.8**
	baz=313						
FLSC	**Flash Two Peak**	**2.71**	**112**		**Pn**	**09 42 35.2**	**+0.1**
MZP	**Montezuma Peak**	**2.73**	**52**		**Pn**	**09 42 36.5**	**+1.0**
NVAR	**Mina Array Bea**	**2.77**	**30**		**Pn**	**09 42 36.6**	**+0.6**
GSC	**Goldstone, Bar**	**2.78**	**105**	Pn	**Pn**	**

SHPR	Sheep Range	4.01	82	Pn	Pn	09 42 56.3	+3.3
R11A	Troy Canyon, C	4.27	56	P	Pn	09 42 58.0	+1.4
	baz=239						
PRN	Pahroc Range	4.27	70		Pb	09 43 01.9	-5.8
PRN				IAML		09 44 12.4	
	comp=N,41nm,0.7s						
MONP2	Monument Peak	4.37	135	P	Pn	09 42 57.9	-0.1
	baz=317						
IRM	Iron Mountain	4.47	114	P	Pn	09 42 59.0	-0.3
	baz=296						
BC3	Big Chuckawall	4.50	121	P	Pn	09 42 59.4	-0.2
	baz=304						
W13A	Hualapai Mount	5.15	99		Pn	09 43 11.1	+2.5

KRNET ***17*** *10:12:30.7±0.1, 42°.79N×71°.81E, h9km, mb3.5*
NNC ***17*** *10:12:30.3±0.4, 42°.83N×71°.81E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=5.6km s-min=2.2km az=178.0*
SOME ***17*** *10:12:30.6, 42°.90N×71°.82E, h5km*

ISC 17 10:12:30.4±0.8, 42°.84N±0°.04×71°.85E±0°.02, h10km, n36, σ1§47/60, 18C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	1.02	286	⇑P	Pg	10 12 49.1	-0.9
	1.2nm,0.2s,baz=110,slow=15,SNR=333						
KK31				⇑S	Sb	10 13 03.0	-0.6
	6.5nm,0.2s,baz=108,slow=20,SNR=5.9						
KKAR	Karatay Array	1.02	286	⇓iP	Pg	10 12 49.4	-0.6
	baz=89						
KKAR				⇓iS	Sb	10 13 03.4	-0.2
	baz=89						
MRKS	Merke	1.02	95	eP	Pn	10 12 50.7	-0.2
	5.0nm,0.1s						
MRKS				eS	Sb	10 13 04.4	+0.7
	45nm,0.2s						
MRKS	Merke	1.02	95	P	Pn	10 12 50.7	-0.2
	5.0nm,0.1s						
MRKS				S	Sb	10 13 04.4	+0.7
	45nm,0.2s						
MRKS	Merke	1.02	95	eP	Pn	10 12 50.7	-0.2
	baz=92						
MRKS				eS	Sb	10 13 04.5	+0.7
	baz=92						
TRKS	Terek-Say	1.41	202	⇑iP	Pb	10 12 56.6	-0.3
	baz=0.0						
TRKS				⇑iS	Sg	10 13 15.7	-0.1
	baz=0.0						
EKS2	Erkin-Say	1.43	96	⇑iP	Pg	10 12 58.1	+0.2
	baz=94						
EKS2				⇑iS	Sg	10 13 17.7	+1.2
	baz=94						
IUG	Iuzhnay	1.51	243	eP	Pg	10 12 59.0	-0.5
	121nm,0.1s						
IUG				eS	Sg	10 13 18.5	-0.5
	180nm,0.3s						
IUG	Iuzhnay	1.51	243	P	Pg	10 12 59.0	-0.5
	121nm,0.1s						
IUG				S	Sg	10 13 18.5	-0.5
	180nm,0.3s						
IUG	Iuzhnay	1.51	243	eP	Pg	10 12 59.0	-0.5
	baz=45						
IUG				eS	Sg	10 13 18.5	-0.5
	baz=45						
AAK	Ala-Archa	1.96	95	⇓iP	Pb	10 13 07.0	+0.7
	baz=93						
AAK				⇓iS	Sg	10 13 33.8	+0.4
	baz=93						
USP	Ospenovka	1.99	77	⇓iP	Pb	10 13 07.3	+0.5
	baz=75						
USP				⇓iS	Sg	10 13 34.2	-0.2
	baz=75						
UCH	Uchtor	2.06	106	⇓iP	Pb	10 13 08.8	+0.6
	baz=5.0						
UCH				⇓iS	Sg	10 13 35.9	-0.9
	baz=5.0						
ARLS	Aral	2.08	117	⇑iP	Pb	10 13 08.5	+0.2
	baz=16						
ARLS				⇑iS	Sb	10 13 35.9	+1.6
	baz=16						
SGDS	Sogindy	2.13	72	eP	Pb	10 13 08.6	-0.6
	1.7nm,0.2s						
SGDS				eS	Sb	10 13 35.6	0.0
	68nm,0.5s						
SGDS	Sogindy	2.13	72	Pg	Pb	10 13 08.6	-0.6
	1.7nm,0.2s						
SGDS				Lg	Lg	10 13 35.6	
	68nm,0.5s						
CHMS	Chumysh	2.14	85	⇑Pg	Pb	10 13 09.6	+0.3
	3.8nm,0.6s						
CHMS				⇑Lg	Lg	10 13 38.6	
	26nm,0.6s						
CHMS	Chumysh	2.14	85	⇑iP	Pb	10 13 09.5	+0.2
	baz=83						
CHMS				⇑iS	Sg	10 13 37.9	-1.3
	baz=83						
KBK	Karagaybulak	2.29	94	⇑iP	Pb	10 13 11.7	-0.3
	baz=92						
KBK				⇑iS	Sb	10 13 41.8	+1.4
	baz=92						
BTLS	Baital	2.71	35	eP	Pg	10 13 21.2	-1.2
	2.5nm,0.2s						
BTLS				eS	Sg	10 13 56.8	-0.8
	10nm,0.2s						
BTLS	Baital	2.71	35	Pg	Pg	10 13 21.2	-1.2
	2.5nm,0.2s						
BTLS				Lg	Lg	10 13 56.8	
	10nm,0.2s						
TKM2	Tokmak 2	2.76	87	⇑Pg	Pg	10 13 21.6	-1.7
	1.6nm,0.5s						
TKM2				⇑Lg	Lg	10 13 58.3	
	5.3nm,0.3s						
DGS	Degeres	2.91	81	eP	Pb	10 13 24.0	+1.6
	2.2nm,0.4s						
DGS				eS	Sg	10 14 01.4	-2.4
	20nm,0.5s						
KRBS	Karabastau	2.92	72	eP	Pb	10 13 24.3	+1.6
	1.2nm,0.2s						
KRBS				eS	Sg	10 14 02.1	-2.2
	11nm,0.2s						
KRBS	Karabastau	2.92	72	Pg	Pb	10 13 24.3	+1.6
	1.2nm,0.2s						
KRBS				Lg	Lg	10 14 02.1	
	11nm,0.2s						
BOOM	Boomskoye usch	3.04	95	⇓iP	Pb	10 13 22.3	-2.4
	baz=94						
BOOM				⇓iS	Sb	10 13 59.7	-2.2
	baz=94						
KUU	Kurty	3.44	71	eP	Pb	10 13 33.7	+2.2
	1.4nm,0.1s						
KUU				eS	Sg	10 14 18.0	-2.9
	11nm,0.2s						
KUU	Kurty	3.44	71	Pg	Pb	10 13 33.7	+2.2
	1.4nm,0.1s						
KUU				Lg	Lg	10 14 18.0	
	11nm,0.2s						
MDOK	Medeo	3.83	83	eP	Pg	10 13 43.3	-0.4
	3.5nm,0.4s						
MDOK				eS	Sg	10 14 34.5	+1.2
	12nm,0.5s						
MDOK	Medeo	3.83	83	Pg	Pg	10 13 41.3	-2.5
	3.6nm,0.6s						
MDOK				Pg	Pb	10 13 43.3	+5.2
	3.5nm,0.4s						
MDOK				⇓Lg	Lg	10 14 33.8	
	10nm,0.6s						
MDOK				Lg	Lg	10 14 34.5	
	12nm,0.5s						
KOTS	Kotyrbulak	3.88	82	eP	Pg	10 13 41.8	-2.9
	2.1nm,0.4s						
KOTS				eS	Sg	10 14 32.3	-2.7
	9.3nm,0.4s						
KOTS	Kotyrbulak	3.88	82	Pg	Pg	10 13 41.8	-2.9
	2.1nm,0.4s						
KOTS				Lg	Lg	10 14 32.3	
	9.3nm,0.4s						
CHKK	Chushkaly	3.88	73	eP	Pg	10 13 44.1	-0.8
	3.5nm,0.2s						
CHKK				eS	Sg	10 14 35.9	+0.7
	18nm,0.2s						
CHKK	Chushkaly	3.88	73	Pg	Pg	10 13 44.1	-0.8
	3.5nm,0.2s						
CHKK				Lg	Lg	10 14 35.9	
	18nm,0.2s						
PDGK	Podgornoye	5.62	82	⇑Lg	Lg	10 15 30.3	
	6.6nm,1.1s						
MK31	Makanchi Array	8.41	58	⇑Sn	Sn	10 16 11.8	+4.5
	0.4nm,0.5s,baz=236,slow=25,SNR=4.1						
MK31				⇓Lg	Lg	10 16 59.7	
	1.3nm,0.7s,baz=243,slow=27,SNR=3.7						

IDC ***17*** *10:30:06.2±2.3, 12°.76N×88°.35W, h0km, mb3.8/4, mbtmp3.8/5, ML3.4/1, MS3.4/19, Error ellipse: s-maj=81.0km s-min=42.4km az=43.0*
INET ***17*** *10:30:08.8±1.1, 12°.30N×88°.98W, h14km±12km, MW3.9*
SNET ***17*** *10:30:08.1±0.9, 12°.38N×88°.98W, h10km, ML4.0*
UCR ***17*** *10:30:09.7±1.6, 12°.47N×88°.98W, h11km±13km, MW3.6, mb4.4(NEIC)*
NEIC ***17*** *10:30:11.7±1.6, 12°.50N±0°.07×88°.77W±0°.04, h35km±2km, mb4.4/68, Md4.0(SNET), Error ellipse: s-maj=11.9km s-min=6.1km az=183.0*

ISC 17 10:30:07.9±0.7, 12°.44N±0°.05×88°.88W±0°.05, h10km, n161, σ1§51/133, mb4.5/35, MS3.4/19, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEB	Comit de Eme	1.11	18	eP	Pn	10 30 30.0	+0.4
COEB	Comit de Eme	1.11	18	eP	Pn	10 30 30.0	+0.4
PACA	Pacayal	1.16	28	eP	Pn	10 30 31.5	+1.2
PACA	Pacayal	1.16	28	eP	Pn	10 30 31.5	+1.2
PACA	Pacayal	1.16	28	eP	Pn	10 30 31.5	+1.2
PACA				eS	Sb	10 30 49.8	+4.5
COEG	Centro de Oper	1.18	0	eP	Pn	10 30 30.1	-0.3
COEG	Centro de Oper	1.18	0	eP	Pn	10 30 30.1	-0.3
SJTE	Alcalda de S	1.18	354	eP	Pn	10 30 30.4	-0.1
SJTE	Alcalda de S	1.18	354	eP	Pn	10 30 30.4	-0.1
PAVA	Las Pavas	1.27	358	eP	Pn	10 30 31.9	+0.1
PAVA	Las Pavas	1.27	358	eP	Pn	10 30 31.9	+0.1
SNET	Serv Nac Est T	1.29	345		Pn	10 30 31.3	-0.7
SNET	Serv Nac Est T	1.29	345	eP	Pn	10 30 32.4	+0.4
LCND	La Caada	1.30	48	eP	Pn	10 30 32.7	+0.6
LCND	La Caada	1.30	48	eP	Pn	10 30 32.7	+0.6
LBRS	Las Brisas	1.30	353	eP	Pn	10 30 32.5	+0.2
LBRS	Las Brisas	1.30	353	eP	Pn	10 30 32.5	+0.2
UEES	Universidad Ev	1.32	345	eP	Pn	10 30 32.1	-0.3
UEES	Universidad Ev	1.32	345	eP	Pn	10 30 32.1	-0.3
CNCH	Conchagua	1.32	51	eP	Pn	10 30 33.4	+0.9
CNCH	Conchagua	1.32	51	eP	Pn	10 30 33.4	+0.9
LFU	La Fuente	1.32	350	eP	Pn	10 30 32.6	+0.1
LFU	La Fuente	1.32	350	eP	Pn	10 30 32.6	+0.1
BOQS	Boqueron	1.35	343	eP	Pn	10 30 33.1	+0.1
BOQS	Boqueron	1.35	343	eP	Pn	10 30 33.1	+0.1
CSGN	Cosiguina Volc	1.40	67	eP	Pn	10 30 34.1	+0.6
CAHU	Cacacuatique	1.48	26	eP	Pn	10 30 36.4	+1.6
CAHU	Cacacuatique	1.48	26	eP	Pn	10 30 36.4	+1.6
P5NO	Presa 5 de nov	1.54	4	eP	Pn	10 30 36.4	+0.9
CEVE	Cerro Verde	1.56	333	eP	Pn	10 30 36.2	+0.3
CEVE	Cerro Verde	1.56	333	eP	Pn	10 30 36.2	+0.3
SNJE	San Jose	1.59	334	eP	Pn	10 30 36.1	-0.1
SNJE	San Jose	1.59	334	eP	Pn	10 30 36.1	-0.1
RTR	El Retiro	1.63	333	eP	Pn	10 30 37.5	+0.7
RTR	El Retiro	1.63	333	eP	Pn	10 30 37.5	+0.7
NUBE	Las Nubes	1.70	329	eP	Pn	10 30 37.7	0.0
NUBE	Las Nubes	1.70	329	eP	Pn	10 30 37.7	0.0
SLOZ	Alcaldia de Sa	1.81	331	eP	Pn	10 30 39.6	+0.5
CRIN	San Cristobal	1.81	81		Pn	10 30 40.7	+1.5
CRIN				Sn	Sn	10 30 58.6	-3.6
CRIN	San Cristobal	1.81	81	eP	Pn	10 30 40.7	+1.5
TEL3	Telica 3	2.00	86	eP	Pn	10 30 42.7	+1.0
MTO3	Montecristo	2.00	347		Pn	10 30 42.7	+0.8
MTO3	Montecristo	2.00	347	⇑iP	Pn	10 30 42.8	+0.8
MTO3				eS	Sn	10 31 09.0	+1.7
MTO3	Montecristo	2.00	347	⇑iP	Pn	10 30 42.8	+0.8
MTO3				eS	Sn	10 31 09.0	+1.7
MTO3	Montecristo	2.00	347	eP	Pn	10 30 43.1	+1.1
MTO3				eS	Sn	10 31 10.3	+3.0
TELN	Telica	2.01	85	eP	Pn	10 30 43.7	+1.7
CNGN	Cerro Negro	2.13	88		Pn	10 30 43.4	-0.3
CNGN	Cerro Negro	2.13	88	eP	Pn	10 30 43.1	-0.5
TGUH	Tegucigalpa,Un	2.25	44	Pn	Pn	10 30 47.0	+1.8
TGUH	Tegucigalpa,Un	2.25	44	eP	Pn	10 30 47.0	+1.8
TGUH	Tegucigalpa,Un	2.25	44	eP	Pn	10 30 47.0	+1.8
TGUH	Tegucigalpa,Un	2.25	44	eP	Pn	10 30 47.1	+1.8
COPN	Copaltepe	2.25	96	eP	Pn	10 30 45.3	+0.1
TISN	Laguna Tiscapa	2.57	96	eP	Pn	10 30 49.1	-0.5
MATN	Matagalpa	2.93	80		Pn	10 30 54.8	+0.2
MATN	Matagalpa	2.93	80	eP	Pn	10 30 55.4	+0.8
BOAB	BOACO BROADBAN	3.14	89	Pn	Pn	10 30 57.8	+0.3
RTAL	Retalhuleu	3.43	308	Pn	Pn	10 31 02.7	+1.2
HZTE	Horizontes, Gu	3.65	118	Pn	Pn	10 31 06.3	+1.8
ACON	Acoyapa	3.66	97		Pn	10 31 05.6	+1.0
ACON	Acoyapa	3.66	97	eP	Pn	10 31 04.6	+0.1
HUEH	Huehuetenango	3.83	319		Pn	10 31 09.7	+2.5
SAJU	San Juanillo,	3.90	127	eP	Pn	10 31 08.3	+0.4
ORTG	Ortega, Santa	3.94	121		Pn	10 31 10.2	+1.7
DUNO	Dulce Nombre,	4.07	125		Pn	10 31 11.6	+1.4
JTS	Las Juntas de	4.41	119	Pn	Pn	10 31 16.7	+1.8
PETF	Flores	4.55	348		Pn	10 31 18.2	+1.3
LAFE	Finca La Fe, P	4.69	123	eP	Pn	10 31 19.7	+0.9
LCH2	La Lucha 2	5.49	119	eP	Pn	10 31 34.5	+4.7
RIMA	Rio Macho	5.59	118		Pn	10 31 33.8	+2.4
RIMA	Rio Macho	5.59	118	eP	Pn	10 31 35.6	+4.2
CDM	Cerro de Muert	5.79	119	eP	Pn	10 31 37.5	+3.2
PEZE	Perez Zeledon,	5.95	120		Pn	10 31 38.6	+2.5
PEZE	Perez Zeledon,	5.95	120	eP	Pn	10 31 40.1	+4.0
SRBA	San Rafael, Bu	6.29	120	Pn	Pn	10 31 43.2	+2.4
SRBA	San Rafael, Bu	6.29	120	eP	Pn	10 31 44.0	+3.1
DRK0	Durika	6.37	119	Pn	Pn	10 31 45.7	+3.7
CDITO	Canoas	7.05	122	Pn	Pn	10 31 53.5	+2.4
CMIG	Matias Romero	7.42	309	Pn	Pn	10 31 57.1	+0.8
	0.5nm,0.3s,baz=127,slow=13,SNR=2.5						
CMIG				Sn	Sn	10 33 18.4	-2.2
	0.4nm,0.3s,baz=56,slow=9.8,SNR=1.6						
	1.4nm,0.4s						
BCIP	Isla Barro Col	9.46	109	Pn	Pn	10 32 24.1	-0.3
TLIG	Tlapa	10.65	300	Pn	Pn	10 32 42.0	+1.3
060A	Indiantown	16.58	28	Pn	Pn	10 33 57.8	-2.8
833A	Chaparral WMA,	18.61	330	P	P	10 34 25.6	+0.2
344A	Westbrook Farm	19.00	355	P	P	10 34 28.9	-0.9
435B	Jarrell	19.95	338		P	10 34 40.5	+0.3
JCT	Junction City	20.61	332	P	P	10 34 47.7	+0.3
JCT				IAmb	IAmb	10 34 47.9	
	comp=Z,12nm,0.7s						
Z47A	Carrollton	20.68	2	P	P	10 34 49.2	+1.2
BAUV	El Baul	20.77	98	P	P	10 34 47.6	-1.6
BAUV				IAmb	IAmb	10 34 50.0	
	comp=Z,20nm,1.5s						
WHTX	Lake Whitney,	21.00	339	P	P	10 34 51.4	-0.2
WHTX				IAmb	IAmb	10 34 51.9	
	comp=Z,11nm,0.7s						
HPIG		21.36	315		P	10 34 56.7	+1.0
Y49A	Blount Mountai	21.44	6	P	P	10 34 56.9	+0.6
GOGA	Godfrey	21.46	12	P	P	10 34 57.5	+1.1
WLAR	White Oak Lake	21.50	350	P	P	10 34 58.6	+1.7
WLAR				IAmb	IAmb	10 35 00.8	
	comp=Z,12nm,0.7s						
TXAR	Lajitas Array	21.72	323	P	P	10 35 00.1	+0.6
	comp=Z,5.0nm,0.7s,baz=146,slow=12,SNR=32						
	comp=Z,5.0nm,0.7s						
TX31	Lajitas Ar. Si	21.72	323	IAmb	IAmb	10 35 01.6	
	comp=Z,14nm,0.7s						
ATAH	Atahualpa	22.06	151	LR	LR	10 42 33.6	
	comp=Z,53nm,19.2s,baz=343,slow=34						
MIAR	Mount Ida	22.42	350	P	P	10 35 06.4	-0.4
MIAR				IAmb	IAmb	10 35 09.4	
	comp=Z,14nm,0.7s						
UALR	University of	22.46	353	P	P	10 35 06.5	-0.7
UALR				IAmb	IAmb	10 35 09.9	
	comp=Z,14nm,0.8s						
WHAR	Wooly Hollow	22.96	353	IAmb	IAmb	10 35 14.0	
	comp=Z,8.2nm,0.8s						
X34A	Smith Ranch, M	23.52	341		P	10 35 17.8	-0.3
FCAR	Ozark Folk Cen	23.53	353	P	P	10 35 17.3	-1.0
FCAR				IAmb	IAmb	10 35 19.1	
	comp=Z,12nm,0.8s						
TKL	Tuckaleechee C	23.58	10	P	P	10 35 17.8	-0.9
	comp=Z,4.9nm,0.7s,baz=186,slow=12,SNR=6.8						
TKL				LR	LR	10 45 15.3	
	comp=Z,50nm,19.6s,baz=202,slow=39						
LCAR	Lake Charles	23.62	355	P	P	10 35 17.9	-1.2
LCAR				IAmb	IAmb	10 35 19.1	
	comp=Z,7.7nm,0.6s						
STVI	Saint Thomas	23.80	73	P	P	10 35 19.1	-1.9
WMOK	Wichita Mounta	23.95	340		P	10 35 21.2	-1.2
FNO	Franklin	24.00	343		P	10 35 22.2	-0.6
U49A	Red Boiling Sp	24.14	6	P	P	10 35 23.1	-0.9
HHAR	Hobbs	24.18	350	P	P	10 35 23.7	-0.8
HHAR				IAmb	IAmb	10 35 25.6	
	comp=Z,7.9nm,0.7s						
TUL1	Leonard	24.19	346		P	10 35 23.6	-1.0
TUL1				IAmb	IAmb	10 35 27.6	
	comp=Z,6.4nm,0.8s						
OK025	Westminster Rd	24.28	343	IAmb	IAmb	10 35 27.6	
	comp=Z,10nm,0.7s						
DEOK	Depew	24.30	345	P	P	10 35 24.1	-1.5
DEOK				IAmb	IAmb	10 35 24.8	
	comp=Z,7.5nm,0.9s						
U38A	Gravette	24.41	349	P	P	10 35 25.4	-1.2
OK030	Cody Creek RV	24.45	344		P	10 35 25.0	-2.0
OK030				IAmb	IAmb	10 35 26.2	
	comp=Z,12nm,0.8s						
OK031	S. Brethren Rd	24.49	344	IAmb	IAmb	10 35 26.5	
	comp=Z,12nm,0.7s						
T47A	Sharon Grove	24.50	3	P	P	10 35 25.9	-1.4
T47A				IAmb	IAmb	10 35 26.9	
	comp=Z,10.0nm,0.6s						
OK029	Liberty Lake	24.51	343	IAmb	IAmb	10 35 26.8	
	comp=Z,14nm,0.7s						
QUOK	Quay	24.66	345	IAmb	IAmb	10 35 28.1	
	comp=Z,16nm,0.7s						
CSTR	Hydro, Custer	24.75	341		P	10 35 29.0	-0.7
CSTR				IAmb	IAmb	10 35 30.6	
	comp=Z,3.2nm,1.4s						
MGMO	Mountain Grove	24.80	354	P	P	10 35 28.9	-1.3
OK044	Pawnee Station	24.88	345	IAmb	IAmb	10 35 30.1	
	comp=Z,10nm,0.7s						
MSTX	Muleshoe	24.89	332	P	P	10 35 29.9	-1.3
MSTX				IAmb	IAmb	10 35 35.5	
	comp=Z,8.0nm,0.9s						
OK046	Pawnee Station	24.93	345	IAmb	IAmb	10 35 30.6	
	comp=Z,11nm,0.7s						
OK050	Pawnee Station	24.95	344	IAmb	IAmb	10 35 30.8	
	comp=Z,10nm,0.7s						
OK047	Pawnee, Statio	24.95	345	IAmb	IAmb	10 35 33.1	
	comp=Z,8.9nm,0.7s						
OK051	E0350 and S346	25.01	345	IAmb	IAmb	10 35 31.9	
	comp=Z,9.1nm,0.6s						
AMTX	Amarillo	25.18	335	IAmb	IAmb	10 35 42.9	
	comp=Z,7.8nm,0.8s						
CROK	Carrier	25.33	343	IAmb	IAmb	10 35 36.4	
	comp=Z,9.9nm,1.1s						
ELIS	Ellis County	25.37	340	IAmb	IAmb	10 35 36.6	
	comp=Z,9.8nm,0.6s						
CCM	Cathedral Cave	25.60	356	P	P	10 35 35.8	-1.5
OK032	Salt Plains WL	25.67	343	IAmb	IAmb	10 35 41.8	
	comp=Z,9.2nm,1.0s						
KAN17	Caldwell West	25.77	343	IAmb	IAmb	10 35 38.0	
	comp=Z,14nm,0.8s						
KS20	Mayfield South	25.88	344	P	P	10 35 38.8	-1.2
ANMO	Albuquerque	27.50	328	LR	LR	10 48 12.0	
	comp=Z,45nm,18.7s,baz=136,slow=40						
ETMB	Extrema	31.56	133	P	P	10 36 29.7	-1.1
ETMB				IAmb	IAmb	10 36 35.3	
	comp=Z,4.9nm,0.7s						
SPMN	Marine on St.	32.85	355	P	P	10 36 39.5	-2.3
SADO	Sadowa	33.28	13	LR	LR	10 49 47.5	
	comp=Z,48nm,19.1s,baz=184,slow=36						
RSSD	Black Hills	34.16	340	P	P	10 36 53.6	+0.1
RSSD				IAmb	IAmb	10 36 57.4	
	comp=Z,3.1nm,0.9s						
PDAR	Pinedale Array	35.14	333	P	P	10 37 01.5	-0.5
	comp=Z,0.3nm,0.6s,baz=137,slow=11,SNR=3.6						
PDAR				PcP	PcP	10 39 33.8	+0.4
	comp=Z,0.2nm,0.5s,baz=122,slow=3.4,SNR=2.3						
	comp=Z,0.3nm,0.6s						
LPAZ	La Paz	35.15	144	LR	LR	10 50 41.2	
	comp=Z,46nm,20.6s,baz=10,slow=35						
REDW	Red Top Meadow	36.19	332	IAmb	IAmb	10 37 17.4	
	comp=Z,3.8nm,0.8s						
SNOW	Snow King Moun	36.22	333	P	P	10 37 10.8	-0.5
SNOW				IAmb	IAmb	10 37 15.0	
	comp=Z,3.8nm,0.6s						
TPAW	Teton Pass	36.33	333	P	P	10 37 11.6	-0.6
MDND	Maddock	36.42	348	P	P	10 37 11.8	-0.9
NVAR	Mina Array Bea	36.80	320	P	P	10 37 17.4	+1.1
	comp=Z,0.5nm,0.8s,baz=138,slow=6.1,SNR=5.5						
NVAR				PcP	PcP	10 39 39.1	+0.7
	comp=Z,0.4nm,0.7s,baz=151,slow=2.1,SNR=5.2						
NVAR				LR	LR	10 54 19.8	
	comp=Z,67nm,20.5s,baz=116,slow=40						
	comp=Z,0.5nm,0.8s						
ULM	Lac du Bonnet	38.14	353	P	P	10 37 24.6	-2.6
	comp=Z,3.7nm,0.8s,baz=166,slow=8.3,SNR=4.2						
ULM				LR	LR	10 55 05.3	
	comp=Z,52nm,19.1s,baz=203,slow=40						
	comp=Z,3.7nm,0.8s						
YBH	Yreka Blue Hor	41.47	321	LR	LR	10 59 18.2	
	comp=Z,47nm,18.7s,baz=152,slow=42						
SCHQ	Schefferville	45.70	18	LR	LR	10 57 27.8	
	comp=Z,52nm,18.8s,baz=216,slow=36						
H03N2	Juan Fernandez	46.60	169	T	T	11 28 37.7	
	baz=348,slow=76						
H03N1	Juan Fernandez	46.60	169	T	T	11 28 41.9	
	baz=348,slow=76						
H03N3	Juan Fernandez	46.61	169	T	T	11 28 39.3	
	baz=348,slow=76						
FRB	Frobisher Bay	53.20	11	LR	LR	11 02 03.6	
	comp=Z,34nm,18.9s,baz=214,slow=36						
RCBR	Riachuelo	55.70	106	LR	LR	11 06 42.0	
	comp=Z,48nm,18.2s,baz=140,slow=40						
SFJD	Kangerlussuaq	60.12	16	LR	LR	11 05 44.0	
	comp=Z,32nm,18.2s,baz=310,slow=36						
RES	Resolute Bay	62.33	358	LR	LR	11 09 58.6	
	comp=Z,36nm,18.0s,baz=251,slow=39						
JMIC	Jan Mayen	75.19	20	LR	LR	11 14 06.7	
	comp=Z,11nm,20.3s,baz=250,slow=35						
MDT	Midelt	78.61	59	LR	LR	11 10 35.3	
	comp=Z,24nm,19.3s,baz=288,slow=31						
NOA	NORSAR Array B	84.06	29	LR	LR	11 16 07.1	
	comp=Z,12nm,21.5s,baz=280,slow=33						
VRAC	Vranov	90.51	39	LR	LR	11 23 18.7	
	comp=Z,23nm,18.1s,baz=282,slow=36						
VAE	Valguarnera	92.81	51	LR	LR	11 19 44.1	
	comp=Z,40nm,18.9s,baz=327,slow=32						
YAK	Yakutsk	99.87	343	LR	LR	11 34 11.2	

comp=Z,10nm,1.1s
WB2 Warramunga Arr 18.93 198 P P 10 37 55.8 -0.2
WB2 IAmb IAmb 10 37 56.4
comp=Z,12nm,0.5s
WRA Warramunga Arr 18.93 198 P P 10 37 55.4 -0.7
comp=Z,1.6nm,0.3s,baz=22,slow=12,SNR=137
comp=Z,5.4nm,0.5s
WRA Warramunga Arr 18.93 198 P P 10 37 54.3 -1.8
CTA Charters Tower 19.02 163 P P 10 37 56.8 -0.2
comp=Z,0.4nm,0.3s,baz=350,slow=12,SNR=2.5
CTA LR LR 10 46 45.8
comp=Z,82nm,18.0s,baz=70,slow=42
comp=Z,3.4nm,0.8s
CTAO Charters Tower 19.02 163 P P 10 37 57.5 +0.6
CTAO IAmb IAmb 10 38 06.1
comp=Z,8.2nm,1.2s
FITZ Fitzroy Crossi 21.69 221 P P 10 38 26.8 +0.8
comp=Z,2.4nm,0.5s,baz=58,slow=14,SNR=16
FITZ S S 10 42 22.1 -2.2
comp=Z,2.8nm,0.8s,baz=103,slow=19,SNR=3.8
comp=Z,2.4nm,0.5s
FITZ Fitzroy Crossi 21.69 221 P P 10 38 27.0 +1.0
FITZ IAmb IAmb 10 38 43.1
comp=Z,4.2nm,0.8s
FITZ Fitzroy Crossi 21.69 221 P P 10 38 27.4 +1.4
AS31 Alice Springs 22.58 196 P P 10 38 35.8 +0.2
AS31 IAmb IAmb 10 38 36.7
comp=Z,4.8nm,0.3s
ASAR Alice Springs 22.58 196 P P 10 38 34.9 -0.7
comp=Z,5.2nm,0.6s,baz=25,slow=11,SNR=96
ASAR LR LR 10 48 11.0
comp=Z,120nm,20.8s,baz=58,slow=39
comp=Z,5.2nm,0.6s
EIDS Eidsvold 25.56 157 P P 10 39 04.7 +0.9
EIDS IAmb IAmb 10 39 06.0
comp=Z,14nm,0.9s
INKA Innaminka 25.75 179 P P 10 39 06.0 +0.6
RMQ Roma 25.79 163 P P 10 39 07.0 +1.2
WRKA Warakurna 25.84 206 P P 10 39 06.7 +0.3
LCRK Leigh Creek 28.52 184 P P 10 39 30.8 +0.5
comp=Z,17nm,2.3s
MULG Mulgathing 28.91 191 P P 10 39 34.0 +0.2
STKA Stephens Creek 29.89 178 P P 10 39 41.2 -1.3
comp=Z,0.8nm,0.3s,baz=22,slow=9.8,SNR=7.0
comp=Z,0.8nm,0.3s
STKA Stephens Creek 29.89 178 P P 10 39 41.9 -0.5
STKA Stephens Creek 29.89 178 P P 10 39 41.7 -0.8
FORT Forrest 31.06 201 P P 10 39 53.4 +0.6
FORT Forrest 31.06 201 P P 10 39 53.6 +0.8
BBOO Buckleboo 31.07 187 P P 10 39 52.5 -0.4
CAN Canberra 34.26 167 P P 10 40 20.7 -0.1
CAN IAmb IAmb 10 40 30.1
comp=Z,9.7nm,1.4s
JHJ Hachijo jima 2 34.78 359 LR LR 10 52 11.3
comp=Z,58nm,19.0s,baz=78,slow=32
MORW Morawa 35.65 218 P P 10 40 33.0 +0.2
KSRS Korea Array 40.78 345 LR LR 10 57 01.0
comp=Z,16nm,20.4s,baz=185,slow=34
PETK Petropavlovsk- 56.65 12 LR LR 11 08 18.2
comp=Z,8.4nm,19.0s,baz=143,slow=37
SONM Songino Array 57.68 334 LR LR 11 08 28.8
comp=Z,18nm,20.0s,baz=112,slow=36
MKAR Makanchi Array 70.14 322 P P 10 44 49.5 +2.4
comp=Z,0.4nm,0.6s,baz=105,slow=7.2,SNR=5.1
comp=Z,0.4nm,0.6s
VNDA Vanda 76.49 175 P P 10 45 24.1 +0.2
comp=Z,0.7nm,0.7s,baz=337,slow=6.1,SNR=9.0
comp=Z,0.7nm,0.7s
ILAR Eielson Array 84.36 24 P P 10 46 05.1 -1.2
comp=Z,0.5nm,0.8s,baz=247,slow=6.5,SNR=2.5
comp=Z,0.5nm,0.8s
LPAZ La Paz 146.56 124 PKPbc PKPab 10 53 18.0 -0.6
comp=Z,0.7nm,0.7s,baz=252,slow=6.4,SNR=2.7

NNC 17 10:33:41.4±1.5, 38°22N×73°68E, h1km±5km, mb3.6, mpv3.2, 7C-5D, Error ellipse: s-maj=12.6km s-min=8.2km az=160.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.92**	**17**	⇑Pn	Pn	10 34 56.7	0.0
	1.0nm,0.3s						
TKM2				⇓Pg	Pb	10 35 10.3	+1.9
	5.4nm,1.0s						
TKM2				⇓Sn	Sn	10 35 55.3	+1.0
	8.8nm,0.8s						
TKM2				⇑Lg	Lg	10 36 19.0	
	7.4nm,0.8s						
KK31	**Karatay Array**	**5.44**	**335**	⇑Pn	Pn	10 35 04.0	+0.4
	0.7nm,0.3s,baz=141,slow=12,SNR=16						
KK31				⇓Pg	Pb	10 35 20.6	+3.4
	1.2nm,0.5s						
KK31				⇑Sn	Sn	10 36 07.8	+0.9
	2.7nm,0.9s,baz=145,slow=16,SNR=4.3						
KK31				⇑Lg	Lg	10 36 34.0	
	2.7nm,0.7s,baz=162,slow=26,SNR=3.5						
MDOK	**Medeo**	**5.56**	**26**	⇑Pg	Pb	10 35 23.4	+4.0
	7.5nm,1.2s						
MDOK				⇓Lg	Lg	10 36 39.2	
	9.7nm,0.8s						
PDGK	**Podgornoye**	**6.75**	**39**	⇑Pg	Pb	10 35 44.1	+4.6
	1.9nm,0.7s						
PDGK				⇓Lg	Lg	10 37 15.7	
	8.6nm,0.9s						

*NORS **17** 10:35:04.2±0.0, 42°.79N×45°.69E, h14km, MPVA3.8*
*DRS **17** 10:35:07.6±0.0, 42°.87N×45°.55E, h16km*
ISC 17 10:35:06.5±1.0, 42°.86N±0°.03×45°.62E±0°.02, h16km±8km, n23, σ1§16/44, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.36**	**20**	*e*Pg	**Pb**	**10 35 15.1**	**+0.5**
	116nm,0.3s						
GROC				*e*Sg	**Sb**	**10 35 21.0**	**+0.8**
	141nm,0.4s						
DVE	**Vedeno**	**0.38**	**75**	*e*Pg	**Pg**	**10 35 13.5**	**-0.8**
DVE				*e*Sg	**Sg**	**10 35 19.6**	**-0.1**
VLKR	**Vladikavkaz**	**0.72**	**285**	*e*Pg	**Pn**	**10 35 21.8**	**-0.4**
VLKR				*e*Sg	**Sn**	**10 35 33.8**	**+0.9**
DLMR	**Dylym**	**0.77**	**74**	*e*Pg	**Pn**	**10 35 22.0**	**-0.7**
	141nm,0.4s						
DLMR				*e*Sg	**Sb**	**10 35 32.5**	**+0.7**
	173nm,0.5s						
PNSH	**Pansheti**	**0.78**	**253**	P	**Pg**	**10 35 20.7**	**-1.0**
XNZR	**Khunzakh**	**0.86**	**111**	*e*Pg	**Pn**	**10 35 23.9**	**-0.2**
	17nm,0.4s						
XNZR				*e*Sg	**Sn**	**10 35 35.8**	**-0.7**
	34nm,0.3s						
UNCR	**Uncukul**	**0.87**	**99**	*e*Pg	**Pn**	**10 35 24.0**	**-0.3**
	20nm,0.2s						
UNCR				*e*Sg	**Sn**	**10 35 35.8**	**-0.9**
	94nm,0.4s						
DBC	**Dubki**	**0.90**	**79**	*e*Pg	**Pn**	**10 35 23.9**	**-0.7**
	14nm,0.2s						
DBC				*e*Sg	**Sg**	**10 35 35.8**	**0.0**
	64nm,0.3s						
LACR	**Lac**	**0.98**	**268**	*e*Pg	**Pn**	**10 35 25.1**	**-0.6**
LACR				*e*Sg	**Sn**	**10 35 39.5**	**+0.2**
ARKR	**Arakani**	**1.04**	**104**	*e*Pg	**Pg**	**10 35 26.7**	**0.0**
	9.0nm,0.3s						
ARKR				*e*Sg	**Sn**	**10 35 40.5**	**-0.4**
	142nm,0.6s						
BUJR	**Buynaksk**	**1.09**	**91**	*e*Pg	**Pg**	**10 35 27.8**	**+0.2**
	68nm,0.3s						
BUJR				*e*Sg	**Sn**	**10 35 42.3**	**+0.3**
	54nm,0.3s						
GNBR	**Gunib**	**1.10**	**115**	*e*Pg	**Pg**	**10 35 28.2**	**+0.5**
	19nm,0.2s						
GNBR				*e*Sg	**Sn**	**10 35 43.2**	**+1.1**
	98nm,0.4s						
LGD	**Lagodekhi**	**1.12**	**156**	P	**Pg**	**10 35 27.4**	**-0.8**
LGD				S	**Sn**	**10 35 42.4**	**-0.4**
KORR	**Kora**	**1.16**	**282**	*e*Pg	**Pg**	**10 35 29.4**	**+0.4**
KORR				*e*Sg	**Sg**	**10 35 47.1**	**+2.8**
STDR	**Stavd-Durt**	**1.25**	**294**	*e*Pg	**Pg**	**10 35 31.2**	**+0.6**
STDR				*e*Sg	**Sg**	**10 35 50.8**	**+3.9**
ZEI	**Tsey**	**1.27**	**267**	*e*Pg	**Pg**	**10 35 30.1**	**-1.0**
ZEI				*e*Sg	**Sg**	**10 35 48.2**	**+0.6**
KMKR	**Kumukh**	**1.31**	**123**	*e*Pg	**Pg**	**10 35 31.1**	**-0.7**
	32nm,0.3s						
KMKR				*e*Sg	**Sg**	**10 35 49.0**	**0.0**
DGRG	**David-gareji**	**1.42**	**188**	P	**Pg**	**10 35 33.5**	**-0.4**
DGRG				S	**Sg**	**10 35 54.8**	**+2.4**
DDFL	**Dedoflistskaro**	**1.46**	**165**	P	**Pg**	**10 35 36.4**	**+1.7**
DDFL				S	Sg	10 36 02.2	+8.6
DIGR	**Digorskoe uzhe**	**1.50**	**272**	*e*Pg	**Pb**	**10 35 34.0**	**-0.2**
DIGR				*e*Sg	**Sg**	**10 35 54.8**	**-0.2**
ONI	**Oni**	**1.62**	**261**	P	**Pn**	**10 35 34.6**	**+0.1**
ONI				S	**Sg**	**10 35 57.1**	**-1.7**
NEY	**Neytrino**	**2.16**	**281**	*e*Pg	**Pb**	**10 35 44.6**	**-0.9**
NEY				*e*Sg	**Sg**	**10 36 14.3**	**-1.8**
SHA1	**Shidzhatmaz**	**2.34**	**293**	*e*Pn	**Pb**	**10 35 48.1**	**-0.4**
SHA1				*e*Sn	**Sg**	**10 36 19.7**	**-1.9**

*IDC **17** 10:42:02.7±4.0, 44°.90S×167°.53E, h127km±37km, mb3.3/4, mbtmp3.9/6, Error ellipse: s-maj=52.4km s-min=21.0km az=23.0*
*NEIC **17** 10:42:02.1±1.6, 45°.05S±0°.1×167°.4E±0°.2, h123km±11km, Error ellipse: s-maj=26.8km s-min=9.3km az=141.0*
*WEL **17** 10:42:03.3±0.8, 45°.S±4°×16°.8E±°, h111km±6km, M4.3/12, MLv4.3/12, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9*
*NOU **17** 10:42:11.4, 44°.85S×168°.54E, h134km, MLv4.5/10, South Island, New Zealand*
ISC 17 10:42:02.4±0.8, 45°.07S±0°.05×167°.55E±0°.05, h129km±5km, n141, σ1§32/164, mb3.6/4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.48**	**215**	P	**Pn**	**10 42 20.4**	**-0.8**
DCZ				Sn	**Sn**	**10 42 32.8**	**-2.5**
DCZ	**Deep Cove**	**0.48**	**215**	P	**Pn**	**10 42 20.2**	**-0.9**
DCZ				S	**Sn**	**10 42 33.0**	**-2.3**
MSZ	**Milford Sound**	**0.48**	**34**	P	**Pn**	**10 42 22.1**	**+1.0**
MSZ				S	**Sn**	**10 42 36.1**	**+0.8**
MLZ	**Mavora Lakes**	**0.50**	**126**	Pn	**Pn**	**10 42 21.8**	**+0.5**
MLZ				Sn	**Sn**	**10 42 35.7**	**0.0**
MLZ	**Mavora Lakes**	**0.50**	**126**	P	**Pn**	**10 42 21.8**	**+0.5**
MLZ				S	**Sn**	**10 42 35.7**	**0.0**
WHZ	**Wether Hill Ro**	**0.86**	**161**	Pn	**Pn**	**10 42 23.9**	**0.0**
WHZ	**Wether Hill Ro**	**0.86**	**161**	P	**Pn**	**10 42 23.9**	**0.0**
WHZ				S	**Sn**	**10 42 39.5**	**-0.8**
WKZ	**Wanaka**	**1.07**	**77**	Pn	**Pn**	**10 42 27.5**	**+1.6**
WKZ	**Wanaka**	**1.07**	**77**	P	**Pn**	**10 42 27.5**	**+1.6**
WKZ				S	**Sn**	**10 42 45.3**	**+1.6**
PYZ	**Puysegur Point**	**1.25**	**209**	Pn	**Pn**	**10 42 26.5**	**-1.1**
PYZ	**Puysegur Point**	**1.25**	**209**	P	**Pn**	**10 42 26.5**	**-1.1**
PYZ				S	**Sn**	**10 42 44.2**	**-2.7**
EAZ	**Earnscleugh**	**1.25**	**98**	P	**Pn**	**10 42 29.0**	**+1.3**
EAZ				S	**Sn**	**10 42 47.3**	**+0.3**
JCZ	**Jackson Bay**	**1.33**	**42**	P	**Pn**	**10 42 29.8**	**+1.2**
JCZ				S	**Sn**	**10 42 49.4**	**+0.8**
TUZ	**Tuapeka**	**1.71**	**122**	P	**Pn**	**10 42 33.8**	**+1.1**
TUZ				S	**Sn**	**10 42 54.9**	**-1.0**
APZ	**The Paps**	**1.78**	**170**	P	**Pn**	**10 42 33.2**	**-0.5**
APZ				S	**Sn**	**10 42 56.2**	**-1.4**
SYZ	**Scrubby Hill**	**1.84**	**143**	P	**Pn**	**10 42 34.8**	**+0.6**
SYZ				S	**Sn**	**10 42 57.6**	**-1.0**
LBZ	**Lake Benmore**	**2.00**	**71**		**Pn**	**10 42 36.8**	**+0.5**
LBZ	**Lake Benmore**	**2.00**	**71**	P	**Pn**	**10 42 36.8**	**+0.5**
LBZ				S	**Sn**	**10 43 01.9**	**-0.4**
ODZ	**Otahua Downs**	**2.19**	**90**		**Pn**	**10 42 39.3**	**+0.7**
ODZ	**Otahua Downs**	**2.19**	**90**	P	**Pn**	**10 42 39.4**	**+0.7**
ODZ				S	**Sn**	**10 43 05.9**	**-0.5**
ODZ	**Otahua Downs**	**2.19**	**90**	P	**Pn**	**10 42 39.7**	**+1.1**
FOZ	**Fox Glacier**	**2.24**	**47**		**Pn**	**10 42 39.5**	**+0.3**
FOZ	**Fox Glacier**	**2.24**	**47**	P	**Pn**	**10 42 39.3**	**+0.1**
FOZ				S	**Sn**	**10 43 07.6**	**+0.2**
HHSZ	**Highcliff Hill**	**2.29**	**112**	P	**Pn**	**10 42 40.9**	**+1.1**
HHSZ				S	**Sn**	**10 43 08.0**	**-0.7**
TMZ	**Timaru**	**2.56**	**76**	P	**Pn**	**10 42 43.5**	**+0.3**
TMZ				S	**Sn**	**10 43 13.8**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.66**	**50**	P	**Pn**	**10 42 44.3**	**-0.2**
GCSZ				S	**Sn**	**10 43 16.5**	**-0.5**
ARCZ	**Arundel**	**2.83**	**68**	P	**Pn**	**10 42 46.6**	**-0.2**
ARCZ				S	**Sn**	**10 43 20.2**	**-0.7**
RPZ	**Rata Peaks**	**2.86**	**63**	P	**Pn**	**10 42 47.1**	**0.0**
	115nm,0.4s,baz=229,slow=6.5,SNR=196						
RPZ				S	**Sn**	**10 43 20.7**	**-0.8**
	460nm,0.3s,baz=113,slow=19,SNR=12						
RPZ	**Rata Peaks**	**2.86**	**63**	P	**Pn**	**10 42 47.1**	**0.0**
RPZ				S	**Sn**	**10 43 20.7**	**-0.8**
RPZ	**Rata Peaks**	**2.86**	**63**	P	**Pn**	**10 42 47.4**	**+0.3**
WVZ	**Waitaha Valley**	**3.04**	**50**	P	**Pn**	**10 42 49.1**	**-0.4**
WVZ				S	**Sn**	**10 43 24.7**	**-1.1**
WACZ	**Wakanui South**	**3.27**	**71**	P	**Pn**	**10 42 52.6**	**+0.2**
WACZ				S	**Sn**	**10 43 30.1**	**-1.0**
RACZ	**Rakaia**	**3.56**	**69**	P	**Pn**	**10 42 57.2**	**+1.0**
INZ	**Inchbonnie**	**3.67**	**52**	P	**Pn**	**10 42 57.4**	**-0.2**
OXZ	**Oxford**	**3.67**	**63**		**Pn**	**10 42 58.8**	**+1.0**
OXZ	**Oxford**	**3.67**	**63**	P	**Pn**	**10 42 56.9**	**-0.9**
MQZ	**McQueen's Vall**	**3.91**	**71**		**Pn**	**10 43 01.0**	**+0.2**
MQZ	**McQueen's Vall**	**3.91**	**71**	P	**Pn**	**10 43 00.8**	**-0.0**
AKCZ	**Akaroa Harbour**	**4.02**	**74**	P	**Pn**	**10 43 03.0**	**+0.7**
LTZ	**Lake Taylor**	**4.11**	**58**		**Pn**	**10 43 03.1**	**-0.5**
LTZ	**Lake Taylor**	**4.11**	**58**	P	**Pn**	**10 43 02.9**	**-0.7**
AMCZ	**Amberley**	**4.13**	**64**	P	**Pn**	**10 43 03.8**	**-0.1**
OKCZ	**Okains Bay**	**4.17**	**73**	P	**Pn**	**10 43 05.5**	**+1.1**
GVZ	**Greta Valley S**	**4.48**	**64**	P	**Pn**	**10 43 08.3**	**-0.2**
DSZ	**Denniston Nort**	**4.55**	**44**	P	**Pn**	**10 43 08.9**	**-0.5**
KHZ	**Kahutara**	**5.09**	**61**		**Pn**	**10 43 16.9**	**+0.3**
KHZ	**Kahutara**	**5.09**	**61**	P	**Pn**	**10 43 16.1**	**-0.4**
KHZ	**Kahutara**	**5.09**	**61**	P	**Pn**	**10 43 16.9**	**+0.3**
THZ	**Tophouse**	**5.12**	**52**		**Pn**	**10 43 16.3**	**-0.7**
THZ	**Tophouse**	**5.12**	**52**	P	**Pn**	**10 43 16.3**	**-0.7**
MRNZ	**Matariki Terra**	**5.29**	**48**	P	**Pn**	**10 43 18.9**	**-0.4**
QRZ	**Quartz Range**	**5.60**	**42**		**Pn**	**10 43 23.4**	**-0.1**
QRZ	**Quartz Range**	**5.60**	**42**	P	**Pn**	**10 43 23.2**	**-0.2**
QRZ	**Quartz Range**	**5.60**	**42**	P	**Pn**	**10 43 23.3**	**-0.2**
TKNZ	**Takaka Hill**	**5.66**	**46**	P	**Pn**	**10 43 24.0**	**-0.3**
BSWZ	**Blackbirch Sta**	**5.70**	**56**		**Pn**	**10 43 24.7**	**-0.1**
BSWZ	**Blackbirch Sta**	**5.70**	**56**	P	**Pn**	**10 43 25.3**	**+0.4**
NNZ	**Nelson**	**5.75**	**50**	Pn	**Pn**	**10 43 26.5**	**+1.0**
NNZ	**Nelson**	**5.75**	**50**	P	**Pn**	**10 43 25.3**	**-0.2**
CMWZ	**Cape Campbell**	**5.88**	**58**	Pn	**Pn**	**10 43 28.5**	**+1.2**
CMWZ	**Cape Campbell**	**5.88**	**58**	P	**Pn**	**10 43 29.3**	**+2.0**
TUWZ	**Tuamarina**	**5.92**	**54**	P	**Pn**	**10 43 27.1**	**-0.6**
TCW	**Tory Channel**	**6.25**	**54**	P	**Pn**	**10 43 32.1**	**-0.2**
DUWZ	**D'Urville Isla**	**6.33**	**50**	P	**Pn**	**10 43 33.5**	**+0.1**
SNZO	**South Karori**	**6.44**	**57**	Pn	**Pn**	**10 43 35.1**	**+0.4**
SNZO	**South Karori**	**6.44**	**57**	P	**Pn**	**10 43 35.1**	**+0.4**
WEL	**Wellington**	**6.50**	**57**	P	**Pn**	**10 43 35.8**	**+0.3**
PLWZ	**Palliser**	**6.62**	**61**		**Pn**	**10 43 37.0**	**-0.3**
PLWZ	**Palliser**	**6.62**	**61**	P	**Pn**	**10 43 37.0**	**-0.3**
MSWZ	**Moikau Station**	**6.71**	**60**		**Pn**	**10 43 38.2**	**-0.2**
MSWZ	**Moikau Station**	**6.71**	**60**	P	**Pn**	**10 43 37.6**	**-0.8**
CAW	**Cannon Point**	**6.78**	**57**	P	**Pn**	**10 43 37.2**	**-2.2**
PAWZ	**Paruwai Farm**	**6.83**	**60**	P	**Pn**	**10 43 39.7**	**-0.4**
KIW	**Kapiti Island**	**6.84**	**55**	P	**Pn**	**10 43 39.0**	**-1.3**
TRWZ	**Traveller**	**6.99**	**61**	P	**Pn**	**10 43 42.5**	**+0.4**
MTW	**Mount Morrison**	**7.01**	**59**	P	**Pn**	**10 43 40.5**	**-1.9**
OGWZ	**Otaki Gorge**	**7.03**	**55**	P	**Pn**	**10 43 40.8**	**-1.9**
HOWZ	**Holdsworth Sta**	**7.18**	**57**	P	**Pn**	**10 43 44.0**	**-0.8**
TMWZ	**Te Maipa**	**7.28**	**60**	P	**Pn**	**10 43 45.0**	**-1.1**
NMEZ	**Namu Road**	**7.35**	**42**	P	**Pn**	**10 43 47.8**	**+0.8**
MRZ	**Mangatainoka R**	**7.36**	**56**	P	**Pn**	**10 43 46.1**	**-1.1**
NBEZ	**Newall Road No**	**7.46**	**41**	P	**Pn**	**10 43 49.5**	**+1.0**
TIWZ	**Tintock**	**7.47**	**58**	P	**Pn**	**10 43 47.8**	**-0.9**
KHEZ	**Kahui Hut**	**7.51**	**42**	P	**Pn**	**10 43 50.0**	**+0.8**
PREZ	**Palmer Road**	**7.54**	**43**	P	**Pn**	**10 43 51.2**	**+1.6**
NEZ	**North Egmont**	**7.57**	**42**	P	**Pn**	**10 43 51.4**	**+1.4**
LREZ	**Lake Rotokare**	**7.57**	**45**	P	**Pn**	**10 43 51.8**	**+1.9**
PKE	**Pukeiti**	**7.58**	**41**	P	**Pn**	**10 43 51.2**	**+1.0**
WAZ	**Wanganui**	**7.65**	**49**	P	**Pn**	**10 43 52.2**	**+1.1**
PRWZ	**Pori Road**	**7.66**	**57**	P	**Pn**	**10 43 50.4**	**-0.8**
DREZ	**Durham Road**	**7.68**	**42**	P	**Pn**	**10 43 52.4**	**+0.9**
BFZ	**Birch Farm**	**7.75**	**59**	Pn	**Pn**	**10 43 51.5**	**-0.9**
BFZ	**Birch Farm**	**7.75**	**59**	P	**Pn**	**10 43 51.0**	**-1.4**
BFZ	**Birch Farm**	**7.75**	**59**	P	**Pn**	**10 43 51.2**	**-1.2**
DVHZ	**Dannevirke**	**7.94**	**56**	P	**Pn**	**10 43 54.0**	**-1.0**
TSZ	**Takapari Road**	**7.98**	**54**	P	**Pn**	**10 43 54.5**	**-1.0**
ANWZ	**Angora Road**	**8.02**	**58**	P	**Pn**	**10 43 55.8**	**-0.3**
PNHZ	**Pukenui**	**8.21**	**54**	P	**Pn**	**10 43 56.9**	**-1.8**
PRHZ	**Porangahau**	**8.24**	**57**	P	**Pn**	**10 43 57.1**	**-1.9**
TRVZ	**Turoa**	**8.28**	**49**	P	**Pn**	**10 44 02.0**	**+2.3**
WNVZ	**Wahianoa**	**8.28**	**49**	P	**Pn**	**10 43 59.2**	**-0.6**
MOVZ	**Moawhango**	**8.31**	**50**	P	**Pn**	**10 44 00.1**	**0.0**
NGZ	**Ngauruhoe**	**8.40**	**48**	P	**Pn**	**10 44 02.4**	**+1.1**
BHHZ	**Black Hill Sta**	**8.42**	**51**	P	**Pn**	**10 44 00.5**	**-1.0**
OTVZ	**Oturere**	**8.44**	**48**	P	**Pn**	**10 44 03.2**	**+1.3**
NTVZ	**North Tongarir**	**8.49**	**48**	P	**Pn**	**10 44 06.4**	**+3.9**
PXZ	**Pawanui**	**8.52**	**57**	P	**Pn**	**10 44 01.2**	**-1.6**
HIZ	**Hauiti**	**8.53**	**42**	Pn	**Pn**	**10 44 02.2**	**-0.8**
HIZ	**Hauiti**	**8.53**	**42**	P	**Pn**	**10 44 02.3**	**-0.6**
HIZ	**Hauiti**	**8.53**	**42**	P	**Pn**	**10 44 02.1**	**-0.8**
KWHZ	**Kaweka Forest**	**8.67**	**52**	P	**Pn**	**10 44 05.0**	**+0.1**
KAHZ	**Kahuranaki**	**8.68**	**56**	P	**Pn**	**10 44 04.0**	**-1.0**
BKZ	**Black Stump Fm**	**8.89**	**51**	Pn	**Pn**	**10 44 08.2**	**+0.4**
BKZ	**Black Stump Fm**	**8.89**	**51**	P	**Pn**	**10 44 08.4**	**+0.6**
TLZ	**Tolley Road**	**9.00**	**44**	P	**Pn**	**10 44 08.8**	**-0.5**
AWAZ	**Awhitu Peninsu**	**9.62**	**36**	P	**Pn**	**10 44 21.5**	**+3.8**
MHGZ	**Mahia Peninsul**	**9.70**	**56**	P	**Pn**	**10 44 17.5**	**-1.3**
WTAZ	**Waiatarua**	**9.71**	**36**	P	**Pn**	**10 44 21.4**	**+2.6**
MKAZ	**Moumakai**	**9.81**	**38**	P	**Pn**	**10 44 21.2**	**+1.0**
URZ	**Urewera**	**9.87**	**50**	P	**Pn**	**10 44 19.4**	**-1.5**
	18nm,0.8s,baz=229,slow=11,SNR=6.1						
URZ				S	**Sn**	**10 46 02.0**	**-7.9**
	7.4nm,0.4s,baz=268,slow=18,SNR=6.0						
URZ	**Urewera**	**9.87**	**50**	Pn	**Pn**	**10 44 19.7**	**-1.3**
URZ	**Urewera**	**9.87**	**50**	P	**Pn**	**10 44 19.7**	**-1.3**
URZ	**Urewera**	**9.87**	**50**	P	**Pn**	**10 44 19.6**	**-1.3**
MWZ	**Matawai**	**10.04**	**51**	P	**Pn**	**10 44 22.0**	**-1.4**
TWGZ	**Tauwhareparae**	**10.41**	**52**	P	**Pn**	**10 44 26.9**	**-1.3**
WCZ	**Waipu Caves**	**10.48**	**32**	P	**Pn**	**10 44 32.2**	**+3.1**
OUZ	**Omahuta**	**10.87**	**27**	Pn	**Pn**	**10 44 36.1**	**+1.7**
OUZ	**Omahuta**	**10.87**	**27**	P	**Pn**	**10 44 37.3**	**+3.0**
OUZ	**Omahuta**	**10.87**	**27**	P	**Pn**	**10 44 37.5**	**+3.1**
ASAR	**Alice Springs**	**34.66**	**297**	P	**P**	**10 48 38.2**	**-1.4**
	0.4nm,0.8s,baz=135,slow=6.3,SNR=2.1						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**37.16**	**301**	P	**P**	**10 49 00.7**	**-0.2**
	0.4nm,0.7s,baz=137,slow=7.8,SNR=7.6						
WRA				PcP	**PcP**	**10 51 18.1**	**-0.2**
	0.4nm,1.0s,baz=180,slow=13,SNR=1.2						
	0.4nm,0.7s						
H01W1	**Cape Leeuwin H**	**41.48**	**265**	T	T	11 33 29.4	
	baz=120,slow=75						
H01W2	**Cape Leeuwin H**	**41.49**	**265**	T	T	11 33 32.4	
	baz=120,slow=75						
H01W3	**Cape Leeuwin H**	**41.50**	**265**	T	T	11 33 34.9	
	baz=120,slow=75						
FITZ	**Fitzroy Crossi**	**43.99**	**294**	P	**P**	**10 49 57.1**	**+0.1**
	1.7nm,0.7s,baz=120,slow=8.7,SNR=2.2						
	1.7nm,0.7s						
TROLL	**Troll, Antarti**	**62.74**	**185**	P	**P**	**10 52 14.3**	**+0.9**
SNAA	**Sanae**	**63.36**	**183**	P	**P**	**10 52 17.9**	**+0.5**
PLCA	**Paso Flores**	**79.97**	**139**	P	**P**	**10 53 58.6**	**+1.4**
	1.2nm,0.7s,baz=226,slow=11,SNR=3.5						
	1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**145.97**	**205**	PKPbc	**PKPdf**	**11 01 27.2**	**+0.9**
	3.6nm,0.7s,baz=181,slow=1.7,SNR=17						
ARCES	**ARCESS Array B**	**148.99**	**335**	PKPbc	**PKPbc**	**11 01 33.4**	**-0.4**
	1.0nm,0.8s,baz=72,slow=2.9,SNR=4.1						
FINES	**FINESS Array B**	**152.28**	**320**	PKPbc	**PKPbc**	**11 01 42.2**	**+0.4**
	1.2nm,0.7s,baz=75,slow=1.6,SNR=5.7						

*NOU **17** 11:02:47.1, 18°.62S×177°.58W, h639km, mb4.8/66, Fiji Islands Region*
*IDC **17** 11:02:47.7±0.9, 18°.54S×177°.77W, h627km±9km, mb3.5/13, mbtmp4.5/16, Error ellipse: s-maj=14.8km s-min=10.9km az=137.0*
*NEIC **17** 11:02:48.0±1.8, 18°.6S±0°.1×177°.7W±0°.1, h629km±8km, mb4.7/45, Error ellipse: s-maj=20.3km s-min=16.6km az=130.0*
ISC 17 11:02:48.8±0.4, 18°.53S±0°.07×177°.69W±0°.07, h650km, n168, σ1§39/178, mb4.6/40, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**1.11**	**285**	P	**P**	**11 04 03.0**	**-2.1**
TAVE	**Taveuni**	**2.78**	**310**	P	**P**	**11 04 09.8**	**-1.3**
MSVF	**Nonsavu**	**4.13**	**280**	P	**P**	**11 04 17.1**	**-1.7**
	16nm,0.8s,baz=109,slow=9.1,SNR=6.4						
MSVF				S	**S**	**11 05 28.7**	**-3.6**
	14nm,0.9s,baz=162,slow=20,SNR=1.7						
MSVF	**Nonsavu**	**4.13**	**280**	P	**P**	**11 04 17.4**	**-1.4**
**

STKA	**Stephens Creek**	**38.94**	**242**	P		**P**	**11 09 22.2**	**+0.4**
INKA	**Innaminka**	**39.15**	**249**	P		**P**	**11 09 24.3**	**+0.7**
QIS	**Mount Isa**	**40.22**	**260**	P		**P**	**11 09 32.2**	**0.0**
HTT	**Hallett**	**41.43**	**240**	P		**P**	**11 09 41.1**	**-0.5**
LCRK	**Leigh Creek**	**41.61**	**245**	P		**P**	**11 09 43.1**	**+0.2**
OOD	**Oodnadatta**	**43.63**	**249**	P		**P**	**11 09 59.3**	**+0.7**
BBOO	**Buckleboo**	**43.71**	**242**	P		**P**	**11 09 59.3**	**+0.2**
BBOO				IAmb		IAmb	11 09 59.5	
	comp=Z,37nm,0.7s							
BBOO	**Buckleboo**	**43.71**	**242**	P		**P**	**11 09 58.9**	**-0.3**
WR0	**Warramunga Arr**	**45.01**	**260**	P		**P**	**11 10 08.4**	**-0.9**
WR0				IAmb		IAmb	11 10 10.1	
	comp=Z,35nm,1.1s							
WB0	**Warramunga Arr**	**45.16**	**260**	P		**P**	**11 10 09.8**	**-0.7**
MULG	**Mulgathing**	**45.17**	**245**	P		**P**	**11 10 10.0**	**-0.4**
WB2	**Warramunga Arr**	**45.18**	**260**	P		**P**	**11 10 09.9**	**-0.7**
WRAB	**Tennant Creek**	**45.19**	**260**	P		**P**	**11 10 09.8**	**-0.9**
WRAB				IAmb		IAmb	11 10 10.7	
	comp=Z,59nm,1.1s							
WRAB	**Tennant Creek**	**45.19**	**260**	P		**P**	**11 10 10.0**	**-0.6**
WRA	**Warramunga Arr**	**45.20**	**260**	P		**P**	**11 10 09.8**	**-0.9**
	comp=Z,35nm,0.6s,baz=96,slow=7.7,SNR=893							
WRA				PcP		**PcP**	**11 11 36.8**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=95,slow=3.3,SNR=4.6							
	comp=Z,35nm,0.6s							
WRA	**Warramunga Arr**	**45.20**	**260**	P		**P**	**11 10 10.4**	**-0.3**
AS31	**Alice Springs**	**45.28**	**255**	P		**P**	**11 10 11.2**	**-0.2**
AS31				IAmb		IAmb	11 10 12.5	
	comp=Z,21nm,1.1s							
ASAR	**Alice Springs**	**45.28**	**255**	P		**P**	**11 10 11.1**	**-0.3**
	comp=Z,52nm,0.7s,baz=89,slow=7.9,SNR=780							
ASAR				PcP		**PcP**	**11 11 37.2**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=100,slow=3.9,SNR=7.5							
ASAR				ScP		**ScP**	**11 14 33.4**	**+4.6**
	comp=Z,1.3nm,1.0s,baz=94,slow=4.7,SNR=4.5							
ASAR				S		**S**	**11 16 06.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=90,slow=16,SNR=5.5							
	comp=Z,52nm,0.7s							
ASAR	**Alice Springs**	**45.28**	**255**	P		**P**	**11 10 11.4**	**+0.1**
KDU	**Kakadu**	**48.23**	**269**	P		**P**	**11 10 33.1**	**-0.3**
MTN	**Manton Dam**	**49.47**	**269**	P		**P**	**11 10 41.9**	**-0.6**
MTN				IAmb		IAmb	11 10 42.4	
	comp=Z,27nm,0.7s							
MTN	**Manton Dam**	**49.47**	**269**	P		**P**	**11 10 41.9**	**-0.6**
WRKA	**Warakurna**	**50.31**	**253**	P		**P**	**11 10 48.2**	**-0.3**
FORT	**Forrest**	**50.37**	**245**	P		**P**	**11 10 48.3**	**-0.5**
FORT	**Forrest**	**50.37**	**245**	P		**P**	**11 10 48.2**	**-0.6**
KNRA	**Kununurra**	**51.11**	**265**	P		**P**	**11 10 53.8**	**-0.5**
KNRA				IAmb		IAmb	11 10 54.8	
	comp=Z,43nm,0.8s							
KNRA	**Kununurra**	**51.11**	**265**	P		**P**	**11 10 54.0**	**-0.3**
FAKI	**Fak Fak**	**51.37**	**281**	P		**P**	**11 10 56.1**	**-0.2**
FAKI				IAmb		IAmb	11 10 57.7	
	comp=Z,15nm,1.0s							
FITZ	**Fitzroy Crossi**	**53.60**	**261**	P		**P**	**11 11 12.0**	**0.0**
FITZ	**Fitzroy Crossi**	**53.60**	**261**	P		**P**	**11 11 12.0**	**0.0**
PSA00	**Pilbara Seismi**	**58.42**	**256**	P		**P**	**11 11 44.2**	**-0.8**
PSA00				IAmb		IAmb	11 11 45.4	
	comp=Z,31nm,0.9s							
PSA00	**Pilbara Seismi**	**58.42**	**256**	P		**P**	**11 11 44.7**	**-0.2**
MBWA	**Marble Bar**	**58.59**	**256**	P		**P**	**11 11 45.5**	**-0.5**
MBWA				IAmb		IAmb	11 11 46.5	
	comp=Z,22nm,1.1s							
MBWA	**Marble Bar**	**58.59**	**256**	P		**P**	**11 11 45.8**	**-0.3**
MEEK	**Meekatharra**	**58.86**	**250**	P		**P**	**11 11 47.3**	**-0.5**
KLBR	**Kellerberrin**	**59.17**	**244**	P		**P**	**11 11 49.6**	**-0.2**
EDFI	**Ende, Flores**	**59.48**	**271**	P		**P**	**11 11 52.3**	**+0.1**
	comp=Z,22nm,0.8s							
NWAO	**Narrogin (SRO)**	**59.53**	**242**	P		**P**	**11 11 52.0**	**-0.1**
NWAO				IAmb		IAmb	11 12 18.7	
	comp=Z,44nm,1.4s							
NWAO	**Narrogin (SRO)**	**59.53**	**242**	P		**P**	**11 11 52.2**	**+0.1**
SBA	**Scott Base**	**59.85**	**184**	P		**P**	**11 11 55.2**	**+1.8**
VNDA	**Vanda**	**59.89**	**185**	P		**P**	**11 11 55.1**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=4.2,slow=6.5,SNR=7.3							
	comp=Z,0.7nm,0.7s							
VNDA	**Vanda**	**59.89**	**185**	P		**P**	**11 11 54.6**	**+0.9**
BLDU	**Ballidu**	**60.14**	**245**	P		**P**	**11 11 55.9**	**-0.3**
MUN	**Mundaring**	**60.45**	**243**	P		**P**	**11 11 58.2**	**0.0**
MORW	**Morawa**	**60.86**	**247**	P		**P**	**11 12 00.8**	**-0.1**
MORW	**Morawa**	**60.86**	**247**	P		**P**	**11 12 00.5**	**-0.4**
PLAI	**Plampang**	**63.17**	**269**	P		**P**	**11 12 16.3**	**+0.3**
GIRL	**Giralia**	**63.37**	**253**	P		**P**	**11 12 18.2**	**+1.0**
GIRL	**Giralia**	**63.37**	**253**	P		**P**	**11 12 18.2**	**+1.0**
TWSI	**Taliwang, Sumb**	**64.04**	**269**	P		**P**	**11 12 21.6**	**+0.1**
	comp=Z,533nmcomp=Z,44nm,1.3s							
MPSI	**Mapaga**	**64.05**	**280**	P		**P**	**11 12 21.5**	**-0.1**
	comp=Z,23nm,0.8s							
JAGI	**Jajag, Banyuwa**	**66.71**	**269**	P		**P**	**11 12 36.6**	**-1.5**
JAGI				IAmb		IAmb	11 12 37.8	
	comp=Z,36nm,0.8s							
UGM	**Wanagama**	**70.31**	**268**	P		**P**	**11 13 00.1**	**+0.4**
UGM	**Wanagama**	**70.31**	**268**	P		**P**	**11 13 00.1**	**+0.4**
QSPA	**South Pole Qui**	**71.53**	**180**	P		**P**	**11 13 07.1**	**+1.1**
	comp=Z,6.1nm,0.8s,baz=37,slow=3.3,SNR=27							
	comp=Z,6.1nm,0.8s							
QSPA	**South Pole Qui**	**71.53**	**180**	P		**P**	**11 13 06.8**	**+0.8**
PETK	**Petropavlovsk-**	**74.45**	**345**	P		**P**	**11 13 23.1**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=125,slow=7.2,SNR=2.3							
	comp=Z,2.3nm,0.8s							
PETK	**Petropavlovsk-**	**74.45**	**345**	P		**P**	**11 13 22.9**	**+0.5**
NJ2	**Nanjing**	**78.86**	**309**	*e*P		**P**	**11 13 48.4**	**+1.6**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
PNTR	**Pine Nut**	**78.93**	**42**	P		**P**	**11 13 50.2**	**+2.8**
NVAR	**Mina Array Bea**	**79.40**	**43**	P		**P**	**11 13 51.6**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=225,slow=8.6,SNR=12							
	comp=Z,0.9nm,0.7s							
MOD	**Modoc Plateau**	**80.12**	**40**	P		**P**	**11 13 55.7**	**+2.2**
K05A	**Summer Lake**	**80.25**	**39**	P		**P**	**11 13 56.4**	**+2.3**
K05A				IAmb		IAmb	11 13 57.3	
	comp=Z,16nm,1.4s							
BELA	**Belgrano 2**	**81.47**	**173**	P		**P**	**11 14 00.1**	**+0.5**
BKNI	**Bangkinang**	**81.82**	**273**	P		**P**	**11 14 01.4**	**-1.2**
MAW	**Mawson**	**83.51**	**200**	P		**P**	**11 14 11.2**	**+1.3**
	comp=Z,2.0nm,0.5s,baz=91,slow=3.9,SNR=9.4							
	comp=Z,2.0nm,0.5s							
TXAR	**Lajitas Array**	**85.75**	**57**	P		**P**	**11 14 24.3**	**+2.7**
	comp=Z,0.4nm,0.8s,baz=215,slow=7.7,SNR=5.3							
	comp=Z,0.4nm,0.8s							
IL31		**86.33**	**13**	P		**P**	**11 14 24.1**	**+0.7**
ILAR	**Eielson Array**	**86.33**	**13**	P		**P**	**11 14 23.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=226,slow=4.9,SNR=28							
ILAR				PP		**PP**	**11 17 51.6**	**-6.1**
	comp=Z,0.7nm,0.9s,baz=219,slow=7.0,SNR=3.6							
	comp=Z,0.7nm,0.5s							
ILAR	**Eielson Array**	**86.33**	**13**	P		**P**	**11 14 24.1**	**+0.7**
XAN	**Xi'an**	**87.17**	**307**	⇑P		**P**	**11 14 29.9**	**+1.8**
XAN				pmax		pmax		
	comp=Z,11nm,1.0s							
PDAR	**Pinedale Array**	**87.33**	**43**	P		**P**	**11 14 30.1**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=218,slow=3.1,SNR=6.7							
	comp=Z,0.6nm,0.6s							
HHC	**Hu-ho-hao-te**	**88.19**	**314**	*e*P		**P**	**11 14 31.9**	**-0.9**
HHC				pmax		pmax		
	comp=Z,31nm,0.7s							
HHC				pmax		pmax		
	comp=Z,230nm,5.5s							
TROLL	**Troll, Antarti**	**89.70**	**180**	P		**P**	**11 14 39.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**89.73**	**289**	P		**P**	**11 14 42.1**	**+1.8**
	comp=Z,3.4nm,0.9s,baz=111,slow=2.6,SNR=18							
	comp=Z,3.4nm,0.9s							
SNAA	**Sanae**	**89.97**	**178**	P		**P**	**11 14 40.4**	**0.0**
SNAA	**Sanae**	**89.97**	**178**	P		**P**	**11 14 40.5**	**+0.1**
SNAA				IAmb		IAmb	11 14 42.1	
	comp=Z,5.4nm,1.3s							
PZH	**PanZhiHua**	**90.05**	**298**	P		**P**	**11 14 43.3**	**+1.6**
PZH				pmax		pmax		
	comp=Z,8.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
VNA3	**Neumayer Olymp**	**90.08**	**176**	P		**P**	**11 14 41.4**	**+0.4**
VNA2	**Neumayer--Watz**	**90.53**	**177**	P		**P**	**11 14 43.9**	**+0.9**
	baz=177,slow=4.0							
VNA1	**Neumayer--Stat**	**90.75**	**176**	P		**P**	**11 14 45.2**	**+1.3**
MKAR	**Makanchi Array**	**110.05**	**314**	PKiKP		**PKiKP**	**11 20 07.5**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=240,slow=0.8,SNR=9.3							
KURBB	**Kurchatov Arra**	**112.79**	**318**	PKiKP		**PKiKP**	**11 20 12.9**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=94,slow=1.9,SNR=8.3							
ARCES	**ARCESS Array B**	**127.04**	**350**	PKP		**PKiKP**	**11 20 40.6**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=2.7,slow=1.1,SNR=18							
FINES	**FINESS Array B**	**133.96**	**344**	PKP		**PKiKP**	**11 20 54.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=58,slow=3.4,SNR=6.0							
NOA	**NORSAR Array B**	**137.06**	**354**	PKP		**PKiKP**	**11 21 01.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=14,slow=3.7,SNR=1.8							

AKASG	**Malin Array Be**	**141.42**	**333**	PKhKP		PKPpre	11 21 02.7	
	comp=Z,0.9nm,0.4s,baz=42,slow=4.2,SNR=6.1							
BRTR	**Keskin Array B**	**145.70**	**315**	PKPbc		**PKPbc**	**11 21 17.2**	**0.0**
	comp=Z,3.1nm,0.8s,baz=111,slow=3.2,SNR=14							
BRTR				SKPbc		**SKiKP**	**11 23 59.4**	**+3.7**
	comp=Z,0.7nm,0.6s,baz=48,slow=2.1,SNR=3.8							
BRTR	**Keskin Array B**	**145.70**	**315**			**PKPbc**	**11 21 17.6**	**+0.3**
CLL	**Collm**	**146.21**	**348**			**PKiKP**	**11 21 19.1**	**-1.1**
CLL	**Collm**	**146.21**	**348**	⇓*i*	PKPbc	**PKiKP**	**11 21 19.2**	**-1.1**
	comp=Z,8.0nm,1.0s							
CLL				*e*	PKPab	**PKPab**	**11 21 21.0**	**+0.3**
BRG	**Berggiesshubel**	**146.42**	**347**	*e*	PKP	**PKiKP**	**11 21 19.8**	**-0.8**
BRG					Amp		11 21 22.6	
	comp=Z,3.8nm,0.9s							
LANS	**Liptovska Anna**	**146.46**	**339**	*e*	PKP	**PKiKP**	**11 21 19.4**	**-1.5**
VYHS	**Vyhne**	**147.23**	**340**	*e*	PKP	**PKiKP**	**11 21 22.4**	**-0.1**
GRA1	**Grafenberg Arr**	**148.09**	**349**			**PKPdf**	**11 21 20.2**	**+1.4**
GERES	**GERESS Array B**	**148.38**	**346**		PKPbc	**PKiKP**	**11 21 24.2**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=20,slow=4.3,SNR=11							
CONA	**Conrad Observa**	**148.66**	**342**	*e*	P	**PKiKP**	**11 21 26.1**	**+0.6**
	comp=Z,5.1nm,1.0s							
RONA	**Rosalia, Austr**	**148.74**	**342**	*i*	P	**PKiKP**	**11 21 26.3**	**+0.7**
	comp=Z,4.5nm,0.7s							
SOKA	**Soboth**	**150.03**	**342**	*e*	P	**PKiKP**	**11 21 28.5**	**+0.2**
	comp=Z,4.7nm,1.2s							
KBA	**Koelnbreinsper**	**150.11**	**345**	*i*	P	**PKiKP**	**11 21 29.6**	**+1.0**
	comp=Z,4.6nm,0.7s							
WATA	**Walderalm**	**150.28**	**347**	*i*	P	**PKiKP**	**11 21 29.4**	**+0.5**
	comp=Z,3.4nm,0.5s							
RETA	**Reutte**	**150.30**	**348**	*i*	P	**PKiKP**	**11 21 29.4**	**+0.5**
	comp=Z,2.2nm,0.8s							
WTTA	**Wattenberg**	**150.33**	**347**	*i*	P	**PKiKP**	**11 21 29.8**	**+0.7**
	comp=Z,7.7nm,0.5s							
MOTA	**Moosalm**	**150.37**	**348**	*i*	P	**PKiKP**	**11 21 29.6**	**+0.5**
	comp=Z,6.1nm,0.8s							
MYKA	**Terra Mystica**	**150.46**	**344**	*e*	P	**PKiKP**	**11 21 29.1**	**-0.1**
	comp=Z,3.1nm,0.5s							
SQTA	**Sankt Quirin**	**150.46**	**348**	*i*	P	**PKiKP**	**11 21 30.0**	**+0.7**
	comp=Z,6.0nm,0.6s							
ABTA	**Abfaltersbach**	**150.62**	**346**	*i*	P	**PKiKP**	**11 21 29.8**	**+0.2**
	comp=Z,7.4nm,0.5s							
DAVA	**Damuels**	**150.65**	**349**	*e*	P	**PKiKP**	**11 21 30.8**	**+1.1**
	comp=Z,2.7nm,0.6s							
FETA	**Feichten**	**150.75**	**348**	*i*	P	**PKiKP**	**11 21 30.8**	**+0.8**
	comp=Z,3.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**174.62**	**174**		PKP	**PKPdf**	**11 21 46.0**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=183,slow=0.9,SNR=3.6							
TORD					PKPab	**PKPab**	**11 23 25.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=191,slow=3.7,SNR=3.3							

*DMN **17** 11:17:55.3±0.5, 27°.73N×90°.73E, h30km, Ml4.5/11, Error ellipse: s-maj=15.9km s-min=8.4km az=4.0*
*NDI **17** 11:17:56.0±2.6, 27°.13N×90°.02E, h10km, ML4.5*
*IDC **17** 11:18:01.9±2.5, 27°.00N×90°.25E, h60km±27km, mb3.3/12, mbtmp3.6/13, ML4.3/2, MS3.4/2, Error ellipse: s-maj=33.7km s-min=13.9km az=64.0*

ISC 17 11:17:57.3±1.8, 27°.14N±0°.05×90°.21E±0°.03, h16km±12km, n39,σ1s70/50, mb3.5/11, Bhutan

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
					Op				
DHUB	**DHUBRI**	**1.13**	**190**	*e*P			**Pn**	**11 18 17.9**	**-0.6**
DHUB				*e*S			**Sb**	**11 18 32.6**	**-0.4**
DHUB				IAML				11 18 34.4	
	comp=N,6μm,0.1s								
DHUB				IAML				11 18 35.5	
	comp=E,6μm,0.2s								
GTK	**Tadong**	**1.44**	**277**	*e*P			**Pn**	**11 18 21.0**	**-1.9**
GTK				*e*S			**Sn**	**11 18 37.6**	**-4.0**
GTK				IAML				11 18 42.1	
	comp=E,82μm,0.3s								
TAWA	**Tawang**	**1.54**	**73**	*e*P			**Pg**	**11 18 26.7**	**-0.4**
TAWA				IAML				11 18 50.8	
	comp=E,4μm,0.4s								
TAWA				IAML				11 18 52.0	
	comp=N,6μm,0.3s								
GUWA	**GUWAHATI**	**1.63**	**125**	*e*P			**Pb**	**11 18 26.9**	**0.0**
GUWA				*e*S			**Sb**	**11 18 48.7**	**+1.5**
GUWA				IAML				11 18 50.5	
	comp=E,37μm,0.2s								
GUWA				IAML				11 18 51.0	
	comp=N,29μm,0.3s								
TAPN	**Taplejung**	**2.23**	**276**	*e*Pg			**Pn**	**11 18 34.7**	**+0.7**
TAPN				*e*Sg			**Sb**	**11 19 05.8**	**+0.7**
	comp=N,3μm,0.6s								
TEZP	**TEZPUR**	**2.37**	**102**	*e*P			**Pn**	**11 18 36.5**	**+0.9**
TEZP				*e*S			**Sb**	**11 19 10.8**	**+2.2**
TEZP				IAML				11 19 14.8	
	comp=N,2μm,0.3s								
ODAN	**Odare**	**2.53**	**264**	*e*Pg			**Pn**	**11 18 41.0**	**+3.0**
ODAN	**Odare**	**2.53**	**264**	*e*Pg			**Pn**	**11 18 41.2**	**+3.2**
ODAN	**Odare**	**2.53**	**264**	*e*Pg			**Pn**	**11 18 41.6**	**+3.6**
ODAN				*e*Sg			**Sb**	**11 19 14.1**	**+0.6**
	comp=N,2μm,0.7s								
ITAN	**ITANAGAR**	**3.13**	**89**	*e*P			**Pn**	**11 18 47.2**	**+1.3**
ITAN				IAML				11 19 40.4	
	comp=N,2μm,0.5s								
ITAN				IAML				11 19 41.1	
	comp=E,3μm,0.5s								
RAMN	**Ramite**	**3.23**	**267**	*e*Pn			**Pn**	**11 18 49.3**	**+1.8**
RAMN				*e*Sn			**Sn**	**11 19 30.5**	**+4.8**
	comp=E,953nm,0.6s								
ZIRO	**ZIRO**	**3.26**	**82**	IAML				11 19 43.5	
	comp=N,16μm,0.5s								
ZIRO				IAML				11 19 44.8	
	comp=E,12μm,0.4s								
JIRN	**Jiri**	**3.61**	**279**	*e*Pn			**Pn**	**11 18 53.7**	**+0.8**
JIRN				*e*Sn			**Sn**	**11 19 37.1**	**+1.7**
	comp=E,260nm,0.4s								
KOHI	**KOHIMA**	**3.77**	**111**	*e*P			**Pn**	**11 18 55.9**	**+0.9**
KOHI				IAML				11 20 00.6	
	comp=E,824nm,0.9s								
GUN	**Gumba**	**3.92**	**282**	*e*Pn			**Pn**	**11 18 58.1**	**+0.9**
GUN				*e*Sn			**Sn**	**11 19 43.4**	**+0.3**
	comp=E,308nm,0.6s								
MOKO	**MOKOCHONG**	**3.94**	**101**	*e*P			**Pn**	**11 18 57.7**	**+0.4**
MOKO				IAML				11 20 05.1	
	comp=E,888nm,0.7s								
MOKO				IAML				11 20 06.5	
	comp=N,580nm,0.5s								
DIBR	**DIBRUGARH**	**4.20**	**84**	IAML				11 20 18.9	
	comp=N,1μm,0.6s								
DIBR				IAML				11 20 19.9	
	comp=E,1μm,0.7s								
PKI	**Pulchoki**	**4.29**	**277**	*e*Pn			**Pn**	**11 19 02.6**	**+0.3**
PKI				*e*Sn			**Sn**	**11 19 54.0**	**+1.8**
	comp=E,136nm,0.6s								
PKIN	**Phulchoki**	**4.30**	**277**	*e*Pn			**Pn**	**11 19 03.1**	**+0.7**
PKIN				*e*Sn			**Sn**	**11 19 54.3**	**+1.9**
	comp=E,94nm,0.3s								
DMN	**Daman**	**4.56**	**277**	*e*Pn			**Pn**	**11 19 07.2**	**+1.3**
DMN				*e*Sn			**Sn**	**11 19 59.7**	**+0.9**
	comp=E,88nm,0.3s								
BRDH	**Bariadhala**	**4.63**	**163**	P			**Pn**	**11 19 07.7**	**+1.1**
	comp=E,33nm,0.3s,baz=270,slow=21,SNR=6.9								
BRDH				S			**Sn**	**11 19 59.0**	**-1.1**
	comp=E,210nm,0.4s,baz=269,slow=22,SNR=9.6								
GKN	**Gorkha**	**5.02**	**281**	*e*Pn			**Pn**	**11 19 12.8**	**+0.7**
GKN				*e*Sn			**Sn**	**11 20 09.0**	**-0.9**
	comp=E,122nm,0.3s								
LKP	**Lekhapani**	**5.02**	**87**	IAML				11 20 37.5	
	comp=E,827nm,0.7s								
LKP				IAML				11 20 38.1	
	comp=N,909nm,0.5s								
DANN	**Dangsing**	**5.84**	**283**	*e*Pn			**Pn**	**11 19 22.3**	**-1.2**
DANN				*e*Sn			**Sn**	**11 20 28.8**	**-1.5**
	comp=N,51nm,0.4s								
PYUN	**Piuthan**	**6.48**	**280**	*e*Pn			**Pn**	**11 19 32.1**	**-0.1**
PYUN				*e*Sn			**Sn**	**11 20 44.7**	**-1.2**
	comp=N,59nm,0.4s								
CMAR	**Chiang Mai Arr**	**11.81**	**135**	P			**Pn**	**11 20 45.6**	**+0.4**
	comp=N,0.3nm,0.3s,baz=322,slow=13,SNR=4.6								
	comp=N,0.7nm,0.5s								
MKAR	**Makanchi Array**	**20.59**	**344**	P			Pn	11 22 37.4	-0.5
	comp=N,0.8nm,0.6s,baz=159,slow=9.6,SNR=7.4								
	comp=N,0.8nm,0.6s								
SONM	**Songino Array**	**24.23**	**27**	P			**P**	**11 23 12.6**	**-0.9**
	comp=N,0.4nm,0.6s,baz=206,slow=9.6,SNR=3.1								
	comp=N,0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**25.09**	**342**	P			**P**	**11 23 22.4**	**+1.4**
	comp=N,0.4nm,0.4s,baz=159,slow=8.0,SNR=4.3								
	comp=N,0.4nm,0.4s								
ZALV	**Zalesovo Beam**	**27.07**	**353**	P			**P**	**11 23 39.1**	**+0.2**
	comp=N,0.4nm,0.3s,baz=194,slow=10,SNR=1.5								
	comp=N,0.4nm,0.3s								

KLR	**Kul'dur**	**38.75**	**44**	LR		LR	11 42 48.4	
	comp=N,49nm,20.8s,baz=308,slow=38							
FINES	**FINESS Array B**	**54.21**	**328**	P		**P**	**11 27 22.5**	**+0.6**
	comp=N,1.4nm,0.8s,baz=78,slow=13,SNR=2.2							
	comp=N,1.4nm,0.8s							
PETK	**Petropavlovsk-**	**55.41**	**43**	P		**P**	**11 27 30.6**	**-0.2**
	comp=N,3.0nm,1.0s,baz=165,slow=15,SNR=5.5							
PETK				LR		LR	11 53 20.4	
	comp=N,33nm,18.3s,baz=106,slow=38							
	comp=N,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**56.03**	**337**	P		**P**	**11 27 36.5**	**+1.6**
	comp=N,0.6nm,0.6s,baz=108,slow=9.0,SNR=1.4							
	comp=N,0.6nm,0.6s							
NOA	**NORSAR Array B**	**61.37**	**327**	P		**P**	**11 28 11.7**	**-0.6**
	comp=N,0.3nm,0.7s,baz=86,slow=6.7,SNR=2.2							
	comp=N,0.3nm,0.7s							
GERES	**GERESS Array B**	**61.45**	**313**	P		**P**	**11 28 11.5**	**-1.5**
	comp=N,0.1nm,0.3s,baz=100,slow=5.4,SNR=2.6							
	comp=N,0.1nm,0.3s							
WRA	**Warramunga Arr**	**63.39**	**133**	P		**P**	**11 28 24.2**	**-2.0**
	comp=N,0.5nm,0.5s,baz=324,slow=7.0,SNR=9.4							
	comp=N,0.5nm,0.5s							
ASAR	**Alice Springs**	**65.82**	**136**	P		**P**	**11 28 40.0**	**-2.1**
	comp=N,0.4nm,0.7s,baz=310,slow=6.1,SNR=5.3							
	comp=N,0.4nm,0.7s							
ILAR	**Eielson Array**	**78.32**	**22**	P		**P**	**11 29 57.8**	**+1.5**
	comp=N,0.4nm,1.1s,baz=330,slow=5.3,SNR=2.1							
	comp=N,0.4nm,1.1s							

*SSNC **17** 11:20:31.1±2.2, 19°.71N×73°.11W, h68km±38km, MD3.4, ML2.3, MW3.3*
*OSPL **17** 11:20:33.2±3.6, 19°.96N×73°.13W, h29km±62km, ML2.7*

ISC 17 11:20:30.9±1.9, 19°.9N±0°.1×73°.16W±0°.06, h72km±28km, n8, σ0s92/14, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
					Op				
MASC	**Masc**	**1.04**	**283**	*e*P			**Pn**	**11 20 50.2**	**+0.3**
MASC				*e*S			**Sn**	**11 21 04.2**	**0.0**
MASC				IAML				11 21 07.5	
	comp=E,164nm,0.1s								
MASC				IAML				11 21 07.8	
	comp=N,196nm,0.2s								
MASC	**Masc**	**1.04**	**283**	*i*	P		**Pn**	**11 20 50.3**	**+0.3**
MASC				*e*S			**Sn**	**11 21 04.0**	**-0.1**
MASC				IAML				11 21 07.9	
	comp=Z,155nm,0.3s								
LODA1	**ITESIL, Dajabo**	**1.42**	**106**	*i*	P		**Pn**	**11 20 55.3**	**+0.4**
LODA1				*e*S			**Sn**	**11 21 11.5**	**-1.4**
LODA1				IAML				11 21 13.1	
	comp=Z,1μm,4.1s								
PAPH	**Port-au-Prince**	**1.62**	**150**	*i*	P		**Pn**	**11 20 58.0**	**+0.4**
PAPH				*e*S			**Sn**	**11 21 17.3**	**-0.4**
PAPH				IAML				11 21 25.2	
	comp=Z,24nm,0.3s								
SDDR	**Presa de Saban**	**2.00**	**118**	*i*	P		**Pn**	**11 21 03.6**	**+0.9**
SDD

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHBP	**Garcia Hernand**	**0.23**	**150**	⇑*iP*	Pn	11 27 40.1	+1.3
GHBP				*i* S	Sn	11 27 45.7	+2.2
TBP	**Tagbilaran**	**0.36**	**248**	⇓*iP*	Pn	11 27 41.6	+0.9
TBP				*i* S	Sn	11 27 48.4	+1.6
LLP	**Lapu-Lapu**	**0.54**	**334**	⇓*iP*	Pb	11 27 39.4	-3.3
LLP				*i* S	Sb	11 27 45.0	-5.2
MSLP	**Maasin**	**0.71**	**65**	⇓*eP*	Pn	11 27 45.2	-0.3
MSLP				*e*S	Sn	11 27 56.2	+0.8
LSIP	**Lazi, Siquijor**	**0.90**	**219**	⇑*iP*	Pb	11 27 52.0	+3.4
LSIP				*i* S	Sb	11 28 06.4	+6.2
OCLP	**Ormoc**	**1.28**	**18**	⇓*eP*	Pn	11 27 52.2	-1.1
OCLP				*e*S	Sb	11 28 10.6	-0.5
CNOP	**Candoni, Negro**	**1.54**	**270**	⇓*iP*	Pb	11 28 00.5	+1.0
CNOP				*i* S	Sb	11 28 22.3	+3.6

MAN 17 11:34:17.2, 16.79N×119.83E, h31km, mb3.9, ML2.7, MS2.3, 5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.41**	**169**	⇓*eP*	Pn	11 34 27.4	+0.5
BOLP				*e*S	Sn	11 34 35.0	+1.4
SMPP	**San Manuel, Pa**	**1.03**	**128**	⇓*eP*	Pn	11 34 35.8	+0.3
SMPP				*e*S	Sb	11 34 49.6	-0.1
SAMP	**Sagada Mountai**	**1.06**	**74**	⇓*eP*	Pn	11 34 35.6	-0.4
SAMP				*e*S	Sn	11 34 48.1	-1.6
APYP	**Conner**	**1.72**	**51**	⇓*eP*	Pn	11 34 46.0	+1.0
APYP				*e*S	Sb	11 35 08.4	-1.0
BALP	**Baler**	**1.97**	**122**	⇓*eP*	Pb	11 34 52.0	-0.4
BALP				*e*S	Sb	11 35 16.9	+0.4

JMA 17 11:53:32.5±0.1, 28.9N±0.9×14.1E±., h149km, MV3.6/17, NEAR CHICHIJIMA ISLAND, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.95**	**160**	P	Pn	11 54 07.3	+0.3
CBIJ				S	Sn	11 54 33.8	+0.3
JHH2	**Haha-jima-NKT2**	**2.39**	**164**	*eP*	Pn	11 54 12.5	+0.3
JHH2				S	Sn	11 54 43.2	+0.4
BSO1	**Boso 1**	**5.71**	**356**	*eP*	Pn	11 54 56.3	+1.6
BSO1				*e*S	Sn	11 56 01.6	+2.4
BSO3	**Boso 3**	**5.90**	**353**	*e*S	Sn	11 56 06.0	+1.9
BSO4	**Boso 4**	**6.10**	**351**	*e*S	Sn	11 56 11.5	+2.2
JRY	**Ryogami san**	**7.37**	**344**	*eP*	Pn	11 55 18.4	+0.8
JAG	**Ashikaga**	**7.65**	**348**	P	Pn	11 55 20.5	-0.6
JHO	**Hitachi**	**7.68**	**355**	*eP*	Pn	11 55 21.8	+0.2

IDC 17 12:04:42.4±4.0, 2.96S×140.55E, h0km, mb3.3/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=122.7km s-min=31.7km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.94**	**199**	P	P	12 08 54.5	+0.3
	0.1nm,0.3s,baz=28,slow=12,SNR=7.5						
	0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.98**	**223**	P	P	12 09 25.8	-1.6
	1.0nm,0.5s,baz=45,slow=1.4,SNR=1.9						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**21.57**	**197**	P	P	12 09 34.4	+0.6
	0.5nm,0.5s,baz=27,slow=11,SNR=13						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**71.11**	**322**	P	P	12 16 02.9	+0.1
	0.2nm,0.4s,baz=134,slow=6.2,SNR=1.9						
	0.2nm,0.4s						

*IDC **17** 12:17:27.9±2.1, 2.31N×122.99E, h437km±27km, mb3.1/13, mbtmp4.0/14, Error ellipse: s-maj=27.8km s-min=11.5km az=75.0*
*DJA **17** 12:17:28.4±0.5, 2.1N±6.6×12.3E±., h433km±5km, M4.1/12, mb4.1/8, mB4.5/5, MLv4.3/12, Mw(mB)3.6/5*
*NEIC **17** 12:17:29.1±1.5, 2.3N±0.1×123.0E±0.2, h447km±13km, mb4.2/8, Error ellipse: s-maj=26.6km s-min=17.5km az=59.0*

ISC 17 12:17:28.9±0.6, 2.29N±0.07×123.03E±0.09, h450km, n56, σ1s21/57, mb3.6/14, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.64**	**181**	P	**P**	**12 18 25.1**	**-2.6**
MRSI	**Marisa**	**2.10**	**211**	P	**P**	**12 18 28.6**	**-1.5**
SGSI	**Sangihe**	**2.86**	**61**	P	**P**	**12 18 33.5**	**-1.5**
LUWI	**Luwuk**	**3.32**	**184**	P	**P**	**12 18 36.0**	**-2.5**
LUWI	**Luwuk**	**3.32**	**184**	P	**P**	**12 18 36.0**	**-2.5**
LUWI	**Luwuk**	**3.32**	**184**	P	**P**	**12 18 36.4**	**-2.1**
APSI	**Ampana**	**3.47**	**203**	P	**P**	**12 18 38.3**	**-1.3**
MPSI	**Mapaga**	**3.68**	**238**	P	**P**	**12 18 39.8**	**-1.6**
TNTI	**Ternate**	**4.59**	**109**	P	**P**	**12 18 47.9**	**-1.6**
TNTI	**Ternate**	**4.59**	**109**	P	**P**	**12 18 48.2**	**-1.3**
TNTI	**Ternate**	**4.59**	**109**	P	**P**	**12 18 47.5**	**-2.0**
SANI	**Sanana**	**5.23**	**145**	P	**P**	**12 18 52.7**	**-2.8**
	0.6nm2µm102nm,0.7s						
SANI	**Sanana**	**5.23**	**145**	P	**P**	**12 18 52.8**	**-2.8**
LBMI	**Labuha**	**5.34**	**123**	P	**P**	**12 18 55.7**	**-0.9**
	0.8nm1µm28nm,0.5s						
MYLDM	**Lahad Datu**	**5.35**	**303**	P	**P**	**12 18 57.6**	**+0.8**
BIPH	**Bislig**	**6.73**	**29**	⇓*eP*	**P**	**12 19 09.9**	**-0.9**
KKM	**Kota Kinabalu**	**7.75**	**299**	P	**P**	**12 19 20.9**	**-0.9**
KKM	**Kota Kinabalu**	**7.75**	**299**	P	**P**	**12 19 21.2**	**-0.6**
MSAI	**Masohi**	**8.13**	**133**	P	**P**	**12 19 25.7**	**-0.2**
	618nm10.0nm,0.8s						
SIJI	**Sorong**	**8.82**	**111**	P	**P**	**12 19 34.0**	**+0.8**
	8.1nm,0.4s,baz=336,slow=13,SNR=7.7						
FAKI	**Fak Fak**	**10.57**	**119**	P	**P**	**12 19 53.1**	**+0.8**
FAKI	**Fak Fak**	**10.57**	**119**	P	**P**	**12 19 53.0**	**+0.6**
	523nm29nm,0.7s						
FAKI	**Fak Fak**	**10.57**	**119**	P	**P**	**12 19 53.2**	**+0.8**
PLAI	**Plampang**	**12.22**	**205**	P	**P**	**12 20 11.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**13.88**	**220**	P	**P**	**12 20 29.8**	**+1.6**
PCJI	**Pacitan**	**15.75**	**228**	P	**P**	**12 20 48.9**	**+0.7**
	88nm,1.3s						
MTN	**Manton Dam**	**17.05**	**152**	P	**P**	**12 21 02.8**	**+0.9**
MTN				IAmb	IAmb	12 21 20.4	
	comp=Z,14nm,1.3s						
MTN	**Manton Dam**	**17.05**	**152**	P	**P**	**12 21 03.3**	**+1.4**
KDU	**Kakadu**	**17.59**	**148**	P	**P**	**12 21 07.1**	**-0.5**
KNRA	**Kununurra**	**18.73**	**163**	P	**P**	**12 21 18.9**	**+0.2**
KNRA	**Kununurra**	**18.73**	**163**	P	**P**	**12 21 18.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.42**	**173**	P	**P**	**12 21 34.3**	**0.0**
	comp=Z,2.5nm,0.5s,baz=5.7,slow=9.3,SNR=13						
	comp=Z,2.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.42**	**173**	P	**P**	**12 21 34.6**	**+0.4**
FITZ				IAmb	IAmb	12 21 35.1	
	comp=Z,3.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.42**	**173**	P	**P**	**12 21 34.4**	**+0.1**
PSA00	**Pilbara Seismi**	**23.92**	**187**	P	**P**	**12 22 05.6**	**-0.2**
PSA00	**Pilbara Seismi**	**23.92**	**187**	P	**P**	**12 22 05.6**	**-0.2**
WB0	**Warramunga Arr**	**24.60**	**154**	P	**P**	**12 22 11.2**	**-0.7**
WB0				IAmb	IAmb	12 22 19.1	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**24.73**	**154**	P	**P**	**12 22 12.3**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=335,slow=9.8,SNR=2.3						
	comp=Z,0.4nm,0.6s						
WRKA	**Warakurna**	**27.64**	**170**	P	**P**	**12 22 39.2**	**+0.3**
ASAR	**Alice Springs**	**27.89**	**158**	P	**P**	**12 22 40.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=340,slow=6.6,SNR=6.7						
ASAR				ScP	**ScP**	**12 28 42.5**	**+1.7**
	comp=Z,1.4nm,1.1s,baz=353,slow=3.0,SNR=6.4						
	comp=Z,0.3nm,0.5s						
MJAR	**Matsushiro Arr**	**36.86**	**21**	P	**P**	**12 23 56.0**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=188,slow=8.8,SNR=5.1						
	comp=Z,1.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**42.48**	**10**	P	**P**	**12 24 43.2**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=201,slow=10,SNR=2.7						
	comp=Z,1.8nm,0.6s						
KLR	**Kul'dur**	**47.36**	**8**	P	**P**	**12 25 20.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=212,slow=9.5,SNR=1.9						
	comp=Z,0.4nm,0.3s						
SONM	**Songino Array**	**47.59**	**345**	P	**P**	**12 25 22.3**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=160,slow=9.7,SNR=10						
	comp=Z,1.8nm,0.7s						
SONM	**Songino Array**	**47.59**	**345**	P	**P**	**12 25 21.9**	**-0.7**
MK31	**Makanchi Array**	**56.70**	**328**	P	**P**	**12 26 28.6**	**+0.3**
MKAR	**Makanchi Array**	**56.70**	**328**	P	**P**	**12 26 28.6**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=122,slow=8.5,SNR=24						
	comp=Z,1.6nm,0.4s						
MKAR	**Makanchi Array**	**56.70**	**328**	P	**P**	**12 26 28.2**	**-0.2**
PETK	**Petropavlovsk-**	**58.19**	**24**	P	**P**	**12 26 38.9**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=217,slow=4.5,SNR=2.0						
	comp=Z,3.1nm,0.9s						
PETK	**Petropavlovsk-**	**58.19**	**24**	P	**P**	**12 26 39.0**	**+0.5**
ZALV	**Zalesovo Beam**	**60.26**	**335**	P	**P**	**12 26 51.4**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=143,slow=5.2,SNR=3.5						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**61.01**	**329**	P	**P**	**12 26 57.2**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=130,slow=6.0,SNR=24						
	comp=Z,1.5nm,0.6s						
KURK	**Kurchatov**	**61.02**	**329**	P	**P**	**12 26 57.5**	**0.0**
KURK				IAmb	IAmb	12 26 57.9	
	comp=Z,4.8nm,0.6s						
BVAR	**Borovoye Array**	**66.55**	**328**	P	**P**	**12 27 32.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=157,slow=7.8,SNR=2.2						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**70.95**	**322**	P	**P**	**12 27 59.1**	**-0.6**
AKTO	**Aktyubinsk**	**72.51**	**323**	P	**P**	**12 28 08.5**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=111,slow=7.4,SNR=6.1						
	comp=Z,0.8nm,0.4s						

*IDC **17** 12:32:53.1±0.8, 38.09N×109.76E, h0km, mb3.9/12, mbtmp3.9/13, ML3.3/1, Error ellipse: s-maj=30.2km s-min=14.4km az=61.0*
*MOS **17** 12:32:54.4±1.5, 37.96N×109.50E, h13km, mb4.4/11, Error ellipse: s-maj=12.6km s-min=8.3km az=117.5*
*NEIC **17** 12:32:57.4±1.3, 38.0N±0.1×109.5E±0.1, h14km±5km, mb4.1/15, Error ellipse: s-maj=18.0km s-min=14.1km az=48.0*

ISC 17 12:32:56.4±0.5, 38.03N±0.05×109.45E±0.04, h10km, n74, σ1s74/82, mb4.2/25, 5C-6D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**2.61**	**10**	*e*Pg	**Pn**	**12 33 41.1**	**+2.4**
BTO				Sg	**Sb**	**12 34 14.9**	**-0.5**
BTO				smax	smax		
	comp=N,850nm,0.7s						
BTO				smax	smax		
	comp=E,760nm,0.7s						
XAN	**Xi'an**	**4.01**	**186**	⇑P	**Pn**	**12 33 58.3**	**+0.4**
XAN				pP	Pb	12 34 08.3	+1.1
XAN				sP	Pg	12 34 12.8	-0.4
XAN				pmax	pmax		
	comp=Z,40nm,1.1s						
HNS	**HongShan**	**4.22**	**97**	⇑Pn	**Pn**	**12 34 00.5**	**-0.3**
HNS				Pg	**Pb**	**12 34 09.8**	**-0.9**
HNS				Sg	**Sb**	**12 35 05.3**	**+3.6**
HNS				smax	smax		
	comp=N,310nm,0.9s						
HNS				smax	smax		
	comp=E,160nm,0.9s						
LZH	**Lanzhou**	**4.88**	**248**	Pg	**Pb**	**12 34 22.6**	**+0.5**
LZH				Sg	**Sg**	**12 35 29.0**	**-4.2**
LZH				smax	smax		
	comp=N,68nm,1.6s						
LZH				smax	smax		
	comp=E,72nm,1.6s						
BJT	**Baijiatuao**	**5.60**	**67**		**Pn**	**12 34 19.9**	**+0.2**
BJT	**Baijiatuao**	**5.60**	**67**	P	**Pn**	**12 34 19.9**	**+0.2**
BJI	**Beijing**	**5.61**	**67**	Pg	**Pb**	**12 34 38.8**	**+4.4**
BJI				Sg	**Sg**	**12 35 50.4**	**-6.1**
BJI				smax	smax		
	comp=N,13nm,1.1s						
BJI				smax	smax		
	comp=E,35nm,1.1s						
TIA	**Tai'an**	**6.40**	**104**	Pg	Pg	12 34 53.8	-5.2
TIA				Sg	**Sg**	**12 36 21.0**	**-0.8**
TIA				smax	smax		
	comp=N,32nm,1.0s						
TIA				smax	smax		
	comp=E,30nm,1.0s						
GTA	**Gaotai**	**7.65**	**283**	*e*P	**Pn**	**12 34 47.8**	**-0.3**
GTA				pP	Pb	12 34 52.5	-17
GTA				sP	Pg	12 34 54.9	-28
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ULN	**Ulaanbaatar**	**9.98**	**351**	P	**Pn**	**12 35 20.4**	**+0.4**
ULN	**Ulaanbaatar**	**9.98**	**351**	⇓*eP*	**Pn**	**12 35 20.9**	**+0.9**
SONM	**Songino Array**	**10.05**	**348**	Pn	**Pn**	**12 35 18.2**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=171,slow=14,SNR=10.0						
SONM				Sn	**Sn**	**12 37 08.3**	**-5.4**
	baz=176,slow=23						
SONM				Lg	Lg	12 38 11.7	
	baz=182,slow=26						
	comp=Z,2.2nm,0.8s						
SONM	**Songino Array**	**10.05**	**348**	Pn	**Pn**	**12 35 22.6**	**+1.7**
SONM	**Songino Array**	**10.05**	**348**	*eP*	**Pn**	**12 35 22.1**	**+1.2**
GOMU	**GeErMu**	**11.82**	**266**	P	**Pn**	**12 35 42.3**	**-3.2**
GOMU				pP		12 35 46.3	
GOMU				sP		12 35 47.8	
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,45nm,4.8s						
WMQ	**Urumqi**	**17.40**	**296**	*eP*	**P**	**12 37 01.9**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
CRAI	**Chiangrai**	**19.41**	**206**	P	**Pn**	**12 37 24.4**	**+0.5**
DGZ	**Jazzator, Alta**	**19.61**	**314**	⇑*eP*	**Pn**	**12 37 28.0**	**+1.7**
DGZ				pmax	pmax		
	comp=Z,9.0nm,2.8s						
ZEA	**Zeya**	**19.92**	**32**	⇓*eP*	**Pn**	**12 37 32.1**	**+2.4**
CHTO	**Chiang Mai**	**21.23**	**208**		**P**	**12 37 42.9**	**+0.3**
CHTO	**Chiang Mai**	**21.23**	**208**	P	**P**	**12 37 42.9**	**+0.3**
CM31	**Chiang Mai Arr**	**21.56**	**208**	P	**P**	**12 37 46.4**	**+0.3**
CM31				IAmb	IAmb	12 37 48.0	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.56**	**208**	P	**P**	**12 37 46.3**	**+0.2**
	comp=Z,7.1nm,0.8s,baz=13,slow=9.5,SNR=50						
	comp=Z,7.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.56**	**208**	P	**P**	**12 37 46.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**21.56**	**208**	*eP*	**P**	**12 37 46.5**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MK31	**Makanchi Array**	**21.79**	**302**	P	**P**	**12 37 48.6**	**+0.2**
MK31				IAmb	IAmb	12 37 50.0	
	comp=Z,3.6nm,0.8s						
MK31	**Makanchi Array**	**21.79**	**302**	*de*P	**P**	**12 37 48.7**	**+0.2**
MKAR	**Makanchi Array**	**21.79**	**302**	P	**P**	**12 37 48.5**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=102,slow=13,SNR=34						
	comp=Z,3.4nm,0.8s						
MKAR	**Makanchi Array**	**21.79**	**302**	P	**P**	**12 37 48.2**	**-0.2**
MAKZ	**Makanchi**	**22.00**	**302**	P	**P**	**12 37 50.7**	**0.0**
MAKZ				IAmb	IAmb	12 37 52.5	
	comp=Z,8.2nm,0.8s						
MAKZ	**Makanchi**	**22.00**	**302**	P	**P**	**12 37 50.7**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZAA0	**Zalesovo Array**	**23.19**	**321**	P	**P**	**12 38 03.5**	**+0.3**
ZAA0				IAmb	IAmb	12 38 04.6	
	comp=Z,4.9nm,1.1s						
ZALV	**Zalesovo Beam**	**23.19**	**321**	P	**P**	**12 38 03.3**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=120,slow=8.8,SNR=9.4						
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**23.19**	**321**	P	**P**	**12 38 03.7**	**+0.6**
ZALV	**Zalesovo Beam**	**23.19**	**321**	*eP*	**P**	**12 38 04.4**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TARG	**Taragay, Kyrgy**	**24.48**	**289**	P	**P**	**12 38 16.6**	**+0.4**
TARG				IAmb	IAmb	12 38 21.5	
	comp=Z,4.9nm,0.8s						
TARG	**Taragay, Kyrgy**	**24.48**	**289**	P	**P**	**12 38 16.6**	**+0.4**
TARG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**25.22**	**310**	P	**P**	**12 38 22.5**	**+0.3**
KURK				IAmb	IAmb	12 38 24.4	
	comp=Z,4.8nm,0.9s						
KURK	**Kurchatov**	**25.22**	**310**	⇓*eP*	**P**	**12 38 23.2**	**+1.0**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KURBB	**Kurchatov Arra**	**25.24**	**310**	P	**P**	**12 38 22.8**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=112,slow=10,SNR=17						
	comp=Z,3.4nm,0.8s						
AAK	**Ala-Archa**	**26.91**	**291**	⇓*eP*	**P**	**12 38 38.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,4.0s						
NIL	**Nilore**	**29.54**	**273**	P	**P**	**12 39 00.9**	**-0.3**
NIL	**Nilore**	**29.54**	**273**	P	**P**	**12 39 00.9**	**-0.3**
NIL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KKAR	**Karatay Array**	**29.82**	**292**	P	**P**	**12 39 03.1**	**-0.4**
KKAR	**Karatay Array**	**29.82**	**292**	P	**P**	**12 39 03.1**	**-0.4**
ABKAR	**Akbulak array**	**36.92**	**304**	P	**P**	**12 40 05.6**	**+0.4**
ABKAR	**Akbulak array**	**36.92**	**304**	P	**P**	**12 40 06.2**	**+0.9**
ABKAR				IAmb	IAmb	12 40 07.0	
	comp=Z,1.9nm,0.9s						
ARU	**Arti**	**38.10**	**316**	*d*iP	**P**	**12 40 15.6**	**+0.4**
ARU						12 41 41.2	
ARU				S	**S**	**12 46 12.2**	**+4.4**
ARU				SS	**SnSn**	**12 48 49.5**	**-1.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL	**Bilibino**	**43.03**	**27**	*eP*	**P**	**12 40 55.8**	**0.0**
BILL				*e*		12 42 40.3	
BILL				*e*PPP	PPP	12 43 14.4	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**	**49.50**	**299**	*i* P	**P**	**12 41 45.0**	**-2.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	**Obninsk**	**50.52**	**315**	*eP*	**P**	**12 41 55.5**	**+1.0**
OBN				*e*		12 43 51.4	
OBN				*e*PPP	PPP	12 44 47.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**56.03**	**311**	P	**P**	**12 42 35.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=63,slow=5.7,SNR=4.6						
	comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**56.03**	**311**	*eP*	**P**	**12 42 35.5**	**+0.4**
BR131	**Keskin Array S**	**57.32**	**297**	P	**P**	**12 42 44.3**	**-0.4**
BR131				IAmb	IAmb	12 42 47.0	
	comp=Z,3.8nm,0.9s						
BR131	**Keskin Array S**	**57.32**	**297**	⇑*eP*	**P**	**12 42 46.0**	**+1.3**
BRTR	**Keskin Array B**	**57.32**	**297**	P	**P**	**12 42 44.0**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=94,slow=6.3,SNR=8.5						
	comp=Z,2.2nm,1.0s						
BRTR	**Keskin Array B**	**57.32**	**297**	P	**P**	**12 42 44.7**	**0.0**
BRTR	**Keskin Array B**	**57.32**	**297**	*eP*	**P**	**12 42 46.1**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASF	**Jabal al Asfar**	**58.27**	**288**	P	**P**	**12 42 49.1**	**-2.2**
	comp=Z,1.8nm,0.7s,baz=56,slow=3.6,SNR=1.7						
	comp=Z,1.8nm,0.7s						
H21K	**Melozitna Rive**	**59.05**	**29**	P	**P**	**12 42 56.5**	**+0.3**
BMAR	**Burnt Mountain**	**61.18**	**25**	P	**P**	**12 43 11.7**	**+0.9**
NB2	**NORSAR Subarra**	**61.25**	**327**	P	**P**	**12 43 11.4**	**0.0**
	comp=Z,2.5nm,1.0s,baz=63,slow=6.9						
NOA	**NORSAR Array B**	**61.25**	**327**	P	**P**	**12 43 08.7**	**-2.7**
	comp=Z,1.2nm,0.8s,baz=63,slow=6.7,SNR=4.7						
	comp=Z,1.2nm,0.8s						
NOA	**NORSAR Array B**	**61.25**	**327**	*eP*	**P**	**12 43 11.3**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**61.68**	**28**	P	**P**	**12 43 11.5**	**-2.7**
	comp=Z,0.5nm,0.9s,baz=292,slow=4.8,SNR=3.2						
	comp=Z,0.5nm,0.9s						
WRA	**Warramunga Arr**	**62.24**	**153**	P	**P**	**12 43 15.8**	**-2.6**
	comp=Z,2.9nm,0.8s,baz=347,slow=7.2,SNR=23						
	comp=Z,2.9nm,0.8s						
WRA	**Warramunga Arr**	**62.24**	**153**	P	**P**	**12 43 17.4**	**-1.0**
WRA	**Warramunga Arr**	**62.24**	**153**	*eP*	**P**	**12 43 17.3**	**-1.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WB2	**Warramunga Arr**	**62.24**	**153**	P	**P**	**12 43 17.8**	**-0.7**
ASAR	**Alice Springs**	**65.53**	**155**	P	**P**	**12 43 38.5**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=335,slow=6.0,SNR=20						
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**65.53**	**155**	P	**P**	**12 43 38.9**	**-1.2**
ASAR	**Alice Springs**	**65.53**	**155**	P	**P**	**12 43 38.9**	**-1.2**
MBAR	**Mbarara**	**81.48**	**263**	*ce*P	**P**	**12 45 17.3**	**+2.8**
MBAR				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ESDC	**Sonseca Array**	**81.49**	**314**	P	**P**	**12 45 13.7**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=22,slow=7.8,SNR=2.2						
	comp=Z,0.5nm,0.8s						

*SOF **17** 12:43:11.8, 44.59N×28.11E, h9km, MD3.8*
*SIGU **17** 12:43:12.3, 44.59N×28.20E, h5km, mb3.1*
*BUC **17** 12:43:12.7±0.1, 44.62N×28.21E, h5km±1km, ml3.2/48, Error ellipse: s-maj=1.3km s-min=1.0km az=96.0*
*IDC **17** 12:43:13.7±1.2, 44.89N×28.14E, h0km, mb3.4/1, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=12.6km s-min=11.2km az=24.0*

ISC 17 12:43:13.0±0.9, 44.62N±0.01×28.25E±0.02, h10km±6km, n85, σ1s27/139, 56C-49D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLBR	**Topalu**	**0.16**	**244**	⇓P	**Pg**	**12 43 16.3**	**-0.2**
TLBR				⇑S	Sg	**12 43 18.7**	**-0.2**
TIRR	**Tirgusor**	**0.19**	**144**	⇓P	**Pg**	**12 43 17.6**	**+0.6**
TIRR				⇑S	Sg	**12 43 20.8**	**+1.0**
HARR	**Harsova**	**0.24**	**288**	⇓P	**Pg**	**12 43 17.4**	**-0.6**
TPGR	**Topolog**	**0.27**	**26**	⇑P	**Pg**	**12 43 19.4**	**-0.6**
TPGR				⇓S	Sg	**12 43 22.3**	**+0.2**
CVDA	**Cernavoda**	**0.32**	**209**	⇑P	**Pg**	**12 43 19.1**	**-0.3**
CVDA				⇑S	Sg	**12 43 22.9**	**-0.7**
TSCT	**Constanta Port**	**0.54**	**147**	⇑P	**Pg**	**12 43 22.8**	**-0.6**
TSCT				⇓S	Sg	**12 43 30.9**	**+0.4**
CFR	**Carcaliu**	**

SGRR				⇓S		**Sb**	**12 44 04.1**	**-1.1**
BIR	**Birlad**	**1.71**	**345**	⇓P		**Pn**	**12 43 43.4**	**+0.5**
BIR				⇑S		**Sb**	**12 44 06.5**	**+0.4**
MLR	**Muntele Rosu**	**1.86**	**299**	⇓P		**Pn**	**12 43 44.8**	**-0.1**
MLR				⇑S		**Sb**	**12 44 10.4**	**0.0**
MLR	**Muntele Rosu**	**1.86**	**299**	Pg		**Pb**	**12 43 45.6**	**-1.4**
	1.8nm,0.3s,baz=108,slow=6.4,SNR=18							
MLR				Lg		Lg	12 44 06.2	
	3.6nm,0.3s,baz=68,slow=19,SNR=6.1							
LEOM	**Leova**	**1.86**	**360**	⇑P		**Pn**	**12 43 45.8**	**+1.0**
LEOM				⇑S		**Sb**	**12 44 10.4**	**0.0**
LEOM	**Leova**	**1.86**	**360**	Pn		**Pn**	**12 43 45.8**	**+1.0**
LEOM				Sn		**Sb**	**12 44 10.3**	**0.0**
COVR	**Voineasa-Covas**	**1.90**	**311**	⇑P		**Pn**	**12 43 44.7**	**-0.8**
COVR				⇑S		**Sn**	**12 44 09.7**	**+0.2**
VASR	**Vaslui**	**2.05**	**351**	⇓P		**Pn**	**12 43 48.0**	**+0.5**
VASR				⇑S		**Sb**	**12 44 15.5**	**-0.4**
SZH	**Strazhica**	**2.15**	**232**	*i* P		**Pn**	**12 43 48.9**	**0.0**
TESR	**Tescani**	**2.21**	**330**	⇓P		**Pn**	**12 43 48.8**	**-0.9**
TESR				⇓S		**Sn**	**12 44 16.1**	**-0.9**
COPA	**Copaceanca**	**2.23**	**259**	⇑P		**Pn**	**12 43 50.3**	**+0.3**
COPA				⇓S		**Sb**	**12 44 19.9**	**-1.1**
MILM	**Milestii Mici**	**2.34**	**9**	⇑P		**Pn**	**12 43 51.3**	**-0.2**
MILM	**Milestii Mici**	**2.34**	**9**	*e*Pn		**Pn**	**12 43 51.0**	**-0.4**
MILM				*e*Sn		**Sn**	**12 44 17.0**	**-3.2**
MILM				Sm			12 44 17.2	
MILM				Pm			12 44 28.0	
MILM				m			12 44 28.0	
HUMR	**Humele**	**2.34**	**269**	⇓P		**Pn**	**12 43 52.2**	**+0.7**
STFAR	**Stefanesti-Arg**	**2.36**	**277**	⇑P		**Pn**	**12 43 51.6**	**-0.2**
KIS	**Kishinev**	**2.42**	**9**	*e*P		**Pn**	**12 43 51.0**	**-1.5**
KIS				*e*S		**Sn**	**12 44 17.0**	**-5.1**
	230nm,0.3s							
VOIR		**2.42**	**291**	⇓P		**Pn**	**12 43 53.1**	**+0.5**
VOIR				⇓S		**Sn**	**12 44 22.5**	**+0.2**
DOPR	**Dopca**	**2.43**	**305**	⇑P		**Pn**	**12 43 52.8**	**0.0**
PVL	**Pavlikeni**	**2.53**	**237**	*i* P		**Pb**	**12 43 59.2**	**+0.7**
IAS	**Iasi**	**2.62**	**350**	⇑S		**Sn**	**12 44 28.3**	**+1.1**
ARR	**Arges**	**2.68**	**288**	⇑P		**Pn**	**12 43 55.3**	**-0.8**
ARR				⇑S		**Sn**	**12 44 29.0**	**+0.3**
BIZ	**Bicaz**	**2.77**	**328**	⇑P		**Pn**	**12 43 57.0**	**-0.4**
BIZ				⇓S		**Sn**	**12 44 32.1**	**+1.3**
BUR01	**Bucovina Ar. S**	**3.67**	**326**	⇓P		**Pn**	**12 44 09.5**	**-0.3**
BURAR	**Bucovina Array**	**3.67**	**326**	⇓P		**Pn**	**12 44 09.5**	**-0.3**
SEV	**Sevastopol'**	**3.87**	**89**	*e*P		**Pn**	**12 44 12.0**	**-0.5**
SEV				Pm			12 44 19.8	
	comp=Z,5.0nm,0.1s							
SEV				*e*S		**Sn**	**12 44 55.9**	**-2.1**
SEV				Sm			12 45 04.1	
	comp=N,8.0nm,0.3s							
SEV				Sm			12 45 04.1	
	comp=E,12nm,0.2s							
SEV	**Sevastopol'**	**3.87**	**89**	*e*Pn		**Pn**	**12 44 12.0**	**-0.5**
SEV				Pm			12 44 19.8	
SEV				*e*Sn		**Sn**	**12 44 55.9**	**-2.1**
SEV				Sm			12 45 04.1	
GZR	**Gura Zlata**	**3.96**	**283**	⇓P		**Pn**	**12 44 13.8**	**0.0**
NDNU	**Novodnistrovsk**	**4.03**	**352**	*e*Pn		**Pn**	**12 44 16.6**	**+1.9**
NDNU				*i* Sn		**Sn**	**12 45 05.3**	**+3.4**
KDZE	**Karadeniz Ereo**	**4.05**	**144**	⇓P		**Pn**	**12 44 15.4**	**+0.5**
BLKB	**Belogradchik**	**4.14**	**258**	⇑P		**Pn**	**12 44 16.3**	**+0.1**
KMPD	**K-Podol'skiy**	**4.14**	**343**	*e*Pn		**Pn**	**12 44 19.0**	**+2.8**
KMPD				*e*Sn		**Sn**	**12 45 07.6**	**+3.0**
HERR	**Herculane**	**4.17**	**276**	⇓P		**Pn**	**12 44 16.5**	**-0.1**
RAKU	**Rahkiv**	**4.43**	**322**	*e*Pn		**Pn**	**12 44 22.4**	**+2.1**
RAKU				*i* Sn		**Sn**	**12 45 15.0**	**+3.1**
DRGR		**4.45**	**301**	⇓P		**Pn**	**12 44 19.8**	**-0.8**
HORU	**Horodok**	**4.77**	**345**	*e*Pn		**Pn**	**12 44 27.2**	**+2.4**
HORU				*i* Sn		**Sn**	**12 45 21.2**	**+1.1**
SUDU	**Sudak**	**4.81**	**84**	*e*P		**Pn**	**12 44 25.5**	**0.0**
SUDU				Pm			12 44 33.7	
	comp=Z,18nm,0.2s							
SUDU				*e*S		**Sn**	**12 45 19.7**	**-1.5**
SUDU				Sm			12 45 26.5	
	comp=N,6.0nm,0.3s							
SUDU				Sm			12 45 26.6	
	comp=E,20nm,0.4s							
SUDU	**Sudak**	**4.81**	**84**	*e*Pn		**Pn**	**12 44 24.5**	**-1.0**
SUDU				Pm			12 44 31.0	
SUDU				*e*Sn		**Sn**	**12 45 18.7**	**-2.5**
SUDU				Sm			12 45 26.5	
STNU	**Starunia**	**4.84**	**329**	*e*Pn		**Pn**	**12 44 28.2**	**+2.3**
STNU				*i* Sn		**Sn**	**12 45 25.9**	**+3.9**
AKASG	**Malin Array Be**	**6.12**	**6**	Pn		**Pn**	**12 44 41.8**	**-1.7**
	comp=E,2.3nm,0.3s,baz=187,slow=11,SNR=13							
AKASG				Sn		**Sn**	**12 45 48.0**	**-5.5**
	comp=E,3.6nm,0.3s,baz=191,slow=20,SNR=9.0							
AKASG				Lg		Lg	12 46 19.5	
	comp=E,6.3nm,0.3s,baz=184,slow=30,SNR=6.9							
	comp=E,1.0nm,0.4s							
BRTR	**Keskin Array B**	**6.31**	**139**	Pn		Pn	12 44 53.1	+6.9
	comp=E,0.1nm,0.3s,baz=330,slow=15,SNR=1.8							
	comp=E,0.4nm,0.5s							
FINES	**FINESS Array B**	**16.91**	**356**	Pn		Pn	12 47 02.0	-7.4
	comp=E,0.1nm,0.3s,baz=170,slow=12,SNR=1.6							
	comp=E,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**38.69**	**224**	P		**P**	**12 50 39.6**	**+2.6**
	comp=E,0.6nm,1.1s,baz=28,slow=8.9,SNR=1.9							
	comp=E,0.6nm,1.1s							

*ATH **17** 12:53:32.1,38°.89N×27°.88E,h24km±10km,ML3.5/6,Error ellipse: s-maj=11.7km s-min=3.4km az=72.0*
*ISK **17** 12:53:33.8,38°.90N×27°.73E,h11km,ML3.8/29*
*DDA **17** 12:53:33.7±0.0,38°.89N×27°.75E,h7km±3km,MW3.7*
*THE **17** 12:53:33.3,38°.88N×27°.87E,h2km±2km,ML3.6/7,Error ellipse: s-maj=2.7km s-min=1.0km az=104.0*
*IDC **17** 12:53:34.4±1.1,38°.89N×27°.78E,h0km,mb3.4/5, mbtmp3.4/10,ML3.5/5,MS2.7/3,Error ellipse: s-maj=17.2km s-min=14.8km az=140.0*

ISC 17 12:53:34.7±0.8,38°.90N±0°.02×27°.76E±0°.02,h10km±5km, n107,σ1°42/137,mb3.5/5,16C-12D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AKS	**Akhisar**	**0.05**	**116**	PG		**Pg**	**12 53 36.4**	**-0.3**
AKS				SG		**Sg**	**12 53 38.3**	**+0.1**
GOMA	**Golmarmara-Man**	**0.23**	**147**	PG		**Pg**	**12 53 39.3**	**-0.1**
GOMA				SG		**Sg**	**12 53 43.4**	**+0.8**
STEP	**BALIKESIR_Sava**	**0.48**	**356**	P		**Pg**	**12 53 43.3**	**-0.7**
STEP				S		**Sg**	**12 53 50.5**	**+0.2**
STEP				*i* AML		AML	12 53 51.0	
	comp=E,5μm,0.5s							
STEP				*i* AML		AML	12 53 52.0	
	comp=N,1μm,0.5s							
ZEDA	**zmir-Bergama**	**0.54**	**277**	P		**Pg**	**12 53 44.6**	**-0.5**
ZEDA				*i* AML		AML	12 53 52.0	
	comp=N,2μm,0.6s							
ZEDA				S		**Sg**	**12 53 52.1**	**-0.1**
DKL	**Dikili**	**0.69**	**285**	PG		**Pg**	**12 53 47.7**	**-0.3**
DKL				SG		**Sg**	**12 53 56.9**	**-0.1**
MANT	**Manisa**	**0.75**	**123**	P		**Pb**	**12 53 48.8**	**-1.1**
MANT				S		**Sb**	**12 53 58.7**	**-1.5**
MANT				*i* AML		AML	12 54 01.0	
	comp=N,2μm,0.3s							
MANT				*i* AML		AML	12 54 02.0	
	comp=E,2μm,0.5s							
BUHA	**Balikesir, Bur**	**0.80**	**319**	P		**Pg**	**12 53 49.5**	**-0.7**
BUHA				S		**Sb**	**12 54 02.3**	**+0.8**
BUHA				*i* AML		AML	12 54 03.0	
	comp=E,3μm,0.7s							
BUHA				*i* AML		AML	12 54 03.0	
	comp=N,3μm,0.6s							
FOCM	**Foa**	**0.82**	**257**	PG		**Pg**	**12 53 50.0**	**-0.6**
FOCM				SG		**Sb**	**12 54 01.4**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**174**	PG		**Pb**	**12 53 52.9**	**-0.5**
AYDB				SG		**Sb**	**12 54 06.1**	**0.0**
DST	**Dursunbey**	**0.97**	**43**	PG		**Pb**	**12 53 52.9**	**-0.7**
DST				SG		**Sn**	**12 54 07.2**	**-1.0**
SMAA	**Simav-Kutahya**	**0.97**	**78**	PG		**Pb**	**12 53 53.2**	**-0.4**
DGB	**zmir**	**1.09**	**219**	P		**Pg**	**12 53 54.1**	**-1.5**
DGB				S		**Sb**	**12 54 09.4**	**-0.4**
DGB				*i* AML		AML	12 54 10.0	
	comp=N,1μm,0.4s							
DGB				*i* AML		AML	12 54 11.0	
	comp=E,2μm,1.0s							
GONE	**Gonen-Balikesi**	**1.15**	**357**	PN		**Pg**	**12 53 55.9**	**-0.8**
ZEYE	**Izmir, Urla-Ze**	**1.19**	**237**	P		**Pg**	**12 53 55.8**	**-1.6**
ZEYE				S		**Sg**	**12 54 11.8**	**-1.0**
ZEYE				*i* AML		AML	12 54 12.0	
	comp=E,2μm,0.6s							
ZEYE				*i* AML		AML	12 54 13.0	
	comp=N,2μm,0.6s							
ZEYE				*i* AML		AML	12 54 14.0	
	comp=Z,4μm,0.6s							
PRK	**Paraskevi**	**1.21**	**287**	P		**Pn**	**12 53 57.8**	**+0.2**
PRK				S		**Sn**	**12 54 15.9**	**+1.9**
	3μm,0.8s							
PRK	**Paraskevi**	**1.21**	**287**	P		**Pn**	**12 53 57.7**	**+0.2**
PRK				AML		AML	12 54 19.4	
	comp=E,6018μm,0.9s							
PRK				AML		AML	12 54 21.9	
	comp=N,4818μm,0.8s							
BAYC	**CANAKKALE_Bayr**	**1.26**	**312**	P		**Pn**	**12 53 57.4**	**-1.0**
BAYC				S		**Sb**	**12 54 13.6**	**-1.2**
BAYC				*i* AML		AML	12 54 16.0	
	comp=N,2μm,0.5s							
GEDZ	**Gediz**	**1.29**	**83**	PN		**Pg**	**12 53 59.4**	**-0.1**
GPNR	**Gulpinar-Canak**	**1.38**	**294**	PN		**Pn**	**12 53 59.2**	**-0.7**
KNL	**Balıkesir**	**1.38**	**353**	P		**Pn**	**12 53 59.2**	**-0.8**
KNL				S		**Sb**	**12 54 17.7**	**-0.5**
KNL				*i* AML		AML	12 54 19.0	
	comp=N,2μm,0.6s							
SMG	**Samos**	**1.39**	**212**	P		**Pn**	**12 53 58.5**	**-1.6**
SMG				S		**Sg**	**12 54 18.9**	**-0.6**
	comp=N,2μm,0.5s							
SMG	**Samos**	**1.39**	**212**	P		**Pn**	**12 53 58.2**	**-2.0**
SMG				AML		AML	12 54 21.7	
	comp=N,3523μm,0.5s							
SMG				AML		AML	12 54 22.6	
	comp=E,4161μm,0.6s							
KOCA	**Canakkale, Ayv**	**1.40**	**296**	P		**Pn**	**12 53 59.3**	**-0.9**
KOCA				S		**Sb**	**12 54 16.9**	**-1.8**
KOCA				*i* AML		AML	12 54 21.0	
	comp=E,634nm,0.8s							
CHOS	**Chios island**	**1.43**	**250**	P		**Pn**	**12 53 59.9**	**-0.8**
CHOS				S		**Sg**	**12 54 21.2**	**+0.5**
	comp=E,3μm,0.5s							
CHOS	**Chios island**	**1.43**	**250**	PN		**Pn**	**12 54 00.0**	**-0.8**
CHOS	**Chios island**	**1.43**	**250**	P		**Pn**	**12 53 59.8**	**-0.8**
CHOS				S		**Sg**	**12 54 20.4**	**-0.3**
CHOS				AML		AML	12 54 24.3	
	comp=N,4908μm,0.5s							
CHOS				AML		AML	12 54 25.7	
	comp=E,5484μm,0.5s							
TVSB	**Tavsanli**	**1.43**	**67**	PN		**Pb**	**12 54 00.7**	**-0.8**
ORLT	**Orhaneli**	**1.44**	**37**	PN		**Pn**	**12 54 00.6**	**-0.3**
EZN	**Ezine**	**1.45**	**310**	PN		**Pn**	**12 54 00.3**	**-0.5**
EDC	**Edincik**	**1.45**	**3**	PN		**Pn**	**12 54 00.6**	**-0.3**
DDIM	**Aydin, Didim**	**1.50**	**196**	P		**Pg**	**12 54 02.8**	**-0.6**
KHL	**Karahalli**	**1.50**	**112**	PN		**Pb**	**12 54 01.8**	**-0.8**
SIGR	**SIGRI**	**1.52**	**282**	P		**Pn**	**12 54 00.7**	**-1.1**
SIGR				S		**Sg**	**12 54 22.7**	**-0.7**
	comp=E,1μm,0.6s							
SIGR	**SIGRI**	**1.52**	**282**	PN		**Pn**	**12 54 01.1**	**-0.7**
SIGR	**SIGRI**	**1.52**	**282**	P		**Pn**	**12 54 00.5**	**-1.3**
SIGR				AML		AML	12 54 25.9	
	comp=E,2317μm,0.5s							
SIGR				AML		AML	12 54 28.4	
	comp=N,3003μm,0.6s							
ULDT	**Uludag**	**1.64**	**40**	P		**Pb**	**12 54 04.1**	**-0.9**
ULDT				S		**Sn**	**12 54 24.1**	**-0.7**
ULDT				*i* AML		AML	12 54 32.0	
	comp=N,887nm,0.4s							
ECEA	**Canakkale, Ece**	**1.68**	**313**	P		**Pn**	**12 54 03.7**	**-0.3**
ECEA				S		**Sg**	**12 54 27.8**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.71**	**30**	PN		**Pn**	**12 54 04.3**	**-0.1**
IGD	**Bursa**	**1.76**	**39**	P		**Pb**	**12 54 06.1**	**-0.9**
ANDZ	**Kutahya, Merke**	**1.77**	**69**	P		**Pg**	**12 54 07.8**	**-0.9**
ANDZ				S		**Sg**	**12 54 31.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.79**	**327**	PN		**Pn**	**12 54 05.4**	**-0.3**
YER	**Yerkesik**	**1.81**	**167**	PN		**Pn**	**12 54 05.4**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.84**	**346**	PN		**Pn**	**12 54 06.1**	**-0.2**
ARMT	**Armutlu**	**1.87**	**27**	PN		**Pn**	**12 54 06.9**	**+0.2**
BODT	**Bodrum**	**1.87**	**191**	P		**Pn**	**12 54 04.2**	**-2.5**
BODT	**Bodrum**	**1.87**	**191**	PN		**Pn**	**12 54 06.2**	**-0.5**
APMY	**Acipayam-Deniz**	**1.87**	**139**	PN		**Pn**	**12 54 06.9**	**+0.1**
GEMT	**Gemlik**	**1.89**	**35**	PN		**Pn**	**12 54 07.3**	**+0.3**
GOKA	**anakkale-Gk**	**1.93**	**313**	P		**Pn**	**12 54 07.1**	**-0.3**
GADA	**Gvkgeada**	**1.93**	**312**	PN		**Pn**	**12 54 07.1**	**-0.4**
BASM	**Basmaki-Afyon**	**2.05**	**118**	PN		**Pn**	**12 54 09.5**	**+0.3**
BILE	**Bilecik/Merkez**	**2.06**	**52**	P		**Pg**	**12 54 12.9**	**-1.4**
CAVI	**Cavuskoy**	**2.07**	**50**	PN		**Pn**	**12 54 09.8**	**+0.3**
YLV	**Yalova**	**2.08**	**36**	PN		**Pn**	**12 54 09.8**	**+0.2**
CAEL	**Denizli, Camel**	**2.16**	**145**	P		**Pg**	**12 54 14.9**	**-1.2**
ADVT	**Abdulvahap**	**2.16**	**44**	PN		**Pn**	**12 54 11.1**	**+0.4**
DALY	**Dalyan (Mula)**	**2.20**	**161**	PN		**Pn**	**12 54 11.8**	**+0.7**
SHUT	**Suhut-Afyon**	**2.21**	**98**	PN		**Pn**	**12 54 11.9**	**+0.4**
ENEZ	**Enez**	**2.21**	**327**	P		**Pn**	**12 54 11.2**	**-0.2**
ENEZ				S		**Sn**	**12 54 39.7**	**+0.9**
	comp=N,3μm,0.7s							
LIA	**Limnos Island**	**2.23**	**297**	P		**Pn**	**12 54 11.1**	**-0.5**
LIA				S		**Sn**	**12 54 40.4**	**+1.2**
	comp=N,268nm,0.7s							
LIA	**Limnos Island**	**2.23**	**297**	P		**Pn**	**12 54 10.8**	**-0.9**
LIA				AML		AML	12 54 48.4	
	comp=E,571μm,0.7s							
LIA				AML		AML	12 54 49.8	
	comp=N,498μm,0.7s							
SMTH	**Samothraki Isl**	**2.33**	**313**	P		**Pn**	**12 54 12.3**	**-0.7**
SMTH	**Samothraki Isl**	**2.33**	**313**	P		**Pn**	**12 54 12.4**	**-0.7**
ISK	**Istanbul-Kandi**	**2.38**	**24**	P		**Pn**	**12 54 12.8**	**-0.9**
ISK				S		**Sn**	**12 54 41.8**	**-1.2**
	comp=N,428nm,0.8s							
ALN	**Alexandroupoli**	**2.39**	**327**	P		**Pn**	**12 54 13.2**	**-0.6**
SGAZ	**Eskisehir, Sey**	**2.47**	**74**	P		**Pg**	**12 54 23.0**	**+0.9**
APE	**Apeiranthos**	**2.54**	**225**	⇓P		**Pg**	**12 54 24.3**	**+1.0**
APE				⇑S		**Sg**	**12 54 58.5**	**+2.3**
RDO	**Rodhopi**	**2.82**	**323**	P		**Pn**	**12 54 19.4**	**-0.3**
RDO	**Rodhopi**	**2.82**	**323**	P		**Pn**	**12 54 19.4**	**-0.3**
RDO				AML		AML	12 55 06.3	
	comp=E,345μm,0.5s							
RDO				AML		AML	12 55 06.3	
	comp=N,363μm,0.9s							
EDRB	**Edirne**	**3.04**	**346**	P		**Pn**	**12 54 21.1**	**-1.7**
SANT	**Santorini**	**3.12**	**217**	⇑P		**Pg**	**12 54 34.3**	**0.0**
SANT				⇓S		**Sg**	**12 55 13.8**	**-0.9**
KARP	**Karpathos**	**3.38**	**188**	P		**Pn**	**12 54 27.0**	**-0.5**
SEDI	**Konya, Seydise**	**3.46**	**113**	P		**Pn**	**12 54 29.3**	**+0.6**
KIBS	**BOLU**	**3.50**	**63**	P		**Pg**	**12 54 39.7**	**-2.1**
KDZE	**Karadeniz Ereo**	**3.71**	**48**	⇑P		**Pg**	**12 54 46.5**	**+0.7**
KDZE				⇓S		**Sg**	**12 55 33.1**	**-0.8**
ANTO	**Ankara**	**4.02**	**74**	⇓P		**Pg**	**12 54 53.3**	**+1.6**
IDI	**Anoyia**	**4.27**	**213**	Pn		**Pn**	**12 54 39.1**	**-0.7**
	comp=N,0.5nm,0.3s,baz=16,slow=14,SNR=5.6							
IDI				Sn		**Sn**	**12 55 26.3**	**-3.5**
	comp=N,1.7nm,0.3s,baz=323,slow=12,SNR=2.4							
IDI				Lg		Lg	12 55 52.4	
	comp=N,0.5nm,0.3s,baz=140,slow=23,SNR=1.5							
IDI				LR		LR	12 56 34.2	
	comp=N,43nm,18.5s,baz=94,slow=42							
	comp=N,4.7nm,0.7s							
BRTR	**Keskin Array B**	**4.63**	**78**	Pn		**Pn**	**12 54 45.6**	**+0.8**
	comp=N,0.8nm,0.3s,baz=255,slow=13,SNR=16							
BRTR				Lg		Lg	12 56 04.0	
	comp=N,0.6nm,0.3s,baz=262,slow=25,SNR=7.1							
	comp=N,2.4nm,0.5s							
VTS	**Vitosha**	**5.06**	**319**	⇑P		**Pn**	**12 54 49.2**	**-1.4**
TIRR	**Tirgusor**	**5.58**	**5**	⇑P		Pn	12 55 02.8	+5.3
TPGR	**Topolog**	**5.97**	**5**	⇑P		Pn	12 55 08.5	+5.4
BLKB	**Belogradchik**	**6.08**	**323**	⇑P		**Pn**	**12 55 04.1**	**-0.5**
BLKB				⇑S		Sn	12 56 04.1	-10
DIKM	**Dikmen**	**6.36**	**62**	⇑P		**Pb**	**12 55 23.8**	**-1.5**
BOVS	**Bovan**	**6.57**	**318**	⇓P		**Pn**	**12 55 10.8**	**-0.5**
MLR	**Muntele Rosu**	**6.72**	**349**	⇑P		**Pn**	**12 55 16.0**	**+2.5**
MLR	**Muntele Rosu**	**6.72**	**349**	Pn		**Pn**	**12 55 16.2**	**+2.7**
	comp=N,0.5nm,0.3s,baz=180,slow=3.0,SNR=5.0							
MLR				Sn		**Sn**	**12 56 24.5**	**-5.6**
	comp=N,0.3nm,0.3s,baz=202,slow=2.0,SNR=3.2							
MLR				Lg		Lg	12 57 15.5	
	comp=N,0.2nm,0.3s,baz=238,slow=17,SNR=4.3							
	comp=N,4.9nm,0.9s							
VOIR		**6.83**	**344**	⇑P		**Pn**	**12 55 16.0**	**+1.0**
PLOR	**Plostina**	**7.00**	**354**	⇑P		**Pn**	**12 55 20.9**	**+3.7**
VRI	**Vrincioaia**	**7.00**	**354**	⇓P		**Pn**	**12 55 20.5**	**+3.2**
COVR	**Voineasa-Covas**	**7.04**	**351**	⇑P		**Pn**	**12 55 20.7**	**+3.0**
COVR				⇓S		**Sn**	**12 56 37.1**	**-0.6**
HERR	**Herculane**	**7.18**	**328**	⇓P		**Pn**	**12 55 18.4**	**-1.2**
DOPR	**Dopca**	**7.28**	**347**	⇓P		**Pn**	**12 55 23.0**	**+2.0**
OZUR		**7.34**	**349**	⇓P		**Pn**	**12 55 23.7**	**+1.8**
MDVR	**Moldovita**	**7.41**	**324**	⇑P		**Pn**	**12 55 22.1**	**-0.7**
GZR	**Gura Zlata**	**7.47**	**332**	⇓P		**Pn**	**12 55 22.8**	**-0.8**
BIZ	**Bicaz**	**8.13**	**352**	⇓P		**Pn**	**12 55 34.7**	**+2.1**
BIZ				⇑S		**Sn**	**12 57 02.2**	**-2.3**
MMAI	**Mount Meron Ar**	**8.53**	**131**	Pn		**Pn**	**12 55 38.1**	**-0.3**
	comp=N,0.4nm,0.3s,baz=317,slow=12,SNR=2.3							
MMAI				Sn		**Sn**	**12 57 07.7**	**-7.0**
	comp=N,0.8nm,0.3s,baz=321,slow=25,SNR=1.4							
	comp=N,0.4nm,0.3s							
DRGR		**8.71**	**336**	⇑P		**Pn**	**12 55 40.8**	**+0.1**
VYHS	**Vyhne**	**11.55**	**329**	*e*Pn		**Pn**	**12 56 20.7**	**+1.1**
AKASG	**Malin Array Be**	**11.85**	**5**	LR		LR	13 01 43.8	
	comp=N,20nm,20.5s,baz=288,slow=41							
GERES	**GERESS Array B**	**14.18**	**319**	Pn		**Pn**	**12 56 56.5**	**+1.0**
	comp=N,0.2nm,0.3s,baz=220,slow=24,SNR=2.0							
	comp=N,0.2nm,0.3s							
FINES	**FINESS Array B**	**22.59**	**358**	P		**P**	**12 58 37.1**	**+2.1**
	comp=N,1.4nm,0.7s,baz=168,slow=15,SNR=3.6							
	comp=N,1.4nm,0.7s							
HFS	**Hagfors**	**23.04**	**342**	P		**P**	**12 58 41.1**	**+1.5**
	comp=N,0.9nm,0.5s,baz=90,slow=5.8,SNR=6.5							
	comp=N,0.9nm,0.5s							
ESDC	**Sonseca Array**	**24.50**	**282**	P		**P**	**12 58 54.5**	**+0.3**
	comp=N,0.2nm,0.5s,baz=70,slow=1.5,SNR=1.7							
	comp=N,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**34.50**	**229**	P		**P**	**13 00 25.4**	**+2.4**
	comp=N,0.8nm,1.2s,baz=47,slow=11,SNR=1.8							
	comp=N,0.8nm,1.2s							
JMIC	**Jan Mayen**	**37.15**	**341**	LR		LR	13 15 43.8	
	comp=N,29nm,18.9s,baz=65,slow=36							
MKAR	**Makanchi Array**	**40.05**	**60**	P		**P**	**13 01 11.4**	**+1.6**
	comp=N,0.1nm,0.3s,baz=267,slow=9.7,SNR=2.7							
	comp=N,0.1nm,0.3s							

*IDC **17** 12:55:47.2±3.2,9°.74S×75°.47W,h0km,mb3.5/2, mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=141.9km s-min=33.5km az=42.0*
*ARE **17** 12:55:52±4.6,11°.28S±0°.07×76°.61W±0°.07,h121km±7km, Error ellipse: s-maj=0.0km s-min=0.0km az=133.0*
*NEIC **17** 12:55:53.7±2.4,11°.28S±0°.08×76°.5W±0°.1,h96km±7km, mb4.1/5,ML4.1(ARE),Error ellipse: s-maj=16.8km s-min=10.5km az=108.0*

ISC 17 12:55:53.2±0.8,11°.26S±0°.09×76°.5W±0°.1,h100km,n16, σ1°37/16,mb3.7/4,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NNA	**Nana**	**0.80**	**204**	Pn		**Pn**	**12 56 12.2**	**+0.6**
CZSB	**Cruzeiro do Su**	**5.13**	**47**	Pn		**Pn**	**12 57 07.4**	**-0.4**
MCRA	**Macar, Loja**	**7.64**	**333**	Pn		**Pn**	**12 57 40.2**	**-1.7**
BOSC	**San Juan Bosco**	**8.29**	**346**			**Pn**	**12 57 47.7**	**-3.1**
LPAZ	**La Paz**	**9.55**	**123**	Pn		**Pn**	**12 58 08.3**	**-0.1**
	0.1nm,0.3s,baz=311,slow=14,SNR=5.9							
	1.3nm,0.6s							
LPAZ	**La Paz**	**9.55**	**123**	Pn		**Pn**	**12 58 09.0**	**+0.6**
CHSH	**Refugio Sur-Vo**	**9.98**	**346**			**Pn**	**12 58 13.6**	**-0.5**
PORT	**Chimborazo Vol**	**9.98**	**347**	Pn		**Pn**	**12 58 16.7**	**+2.4**
SLOR	**San Lorenzo -**	**10.64**	**349**			**Pn**	**12 58 24.0**	**+0.8**
PATCX	**Punta Patache**	**11.30**	**148**	Pn		**Pn**	**12 58 31.0**	**-0.7**
BOAV	**Boa Vista**	**20.90**	**50**	P		**P**	**13 00 26.7**	**-1.0**
BOAV	

0.6nm,0.3s,baz=324,slow=19,SNR=2.1
1.3nm,0.3s
H08S3 Diego Garcia H 24.80 239 T T 13 44 57.2
baz=59,slow=74
H08S2 Diego Garcia H 24.80 239 T T 13 44 58.6
baz=59,slow=74
H08S1 Diego Garcia H 24.82 239 T T 13 44 56.7
baz=59
MKAR Makanchi Array 42.72 348 P **P** **13 21 32.2 +0.9**
0.5nm,0.4s,baz=159,slow=8.9,SNR=6.5
0.5nm,0.4s
SONM Songino Array 43.91 12 P **P** **13 21 40.1 -0.9**
0.3nm,0.6s,baz=205,slow=6.4,SNR=2.0
0.3nm,0.6s
WRA Warramunga Arr 46.93 123 P **P** **13 22 04.9 -0.5**
0.2nm,0.3s,baz=300,slow=9.7,SNR=6.5
0.2nm,0.3s
ASAR Alice Springs 48.40 128 P **P** **13 22 16.3 -0.4**
0.3nm,0.7s,baz=304,slow=8.0,SNR=5.3
0.3nm,0.7s
ZALV Zalesovo Beam 49.25 353 P **P** **13 22 23.2 +0.5**
0.6nm,0.4s,baz=186,slow=6.8,SNR=1.7
0.6nm,0.4s

WEL 17 13:15:41.1, 39°S ± 4° × 17°5E ± °, h8km ± 5km, M2.6/24, ML2.9/35, MLv2.6/24, Error ellipse: s-maj=0.0km s-min=0.0km az=58.4, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.17**	**94**	P			Pg	13 15 46.3	+1.7
WTVZ				S			Sg	13 15 49.5	+2.5
PKVZ	**Pokaka**	**0.19**	**187**	P			Pg	13 15 45.5	+0.6
NGZ	**Ngauruhoe**	**0.19**	**112**	P			Pg	13 15 46.4	+1.4
NGZ				S			Sg	13 15 50.0	+2.3
NNVZ	**North Ngauruho**	**0.19**	**98**	P			Pg	13 15 46.6	+1.6
FWVZ	**Far West T-bar**	**0.20**	**137**	P			Pg	13 15 46.3	+1.0
FWVZ				S			Sg	13 15 49.5	+1.3
KRVZ	**Karewarewa**	**0.21**	**87**	P			Pg	13 15 46.9	+1.6
SNVZ	**South Ngauruho**	**0.22**	**112**	P			Pg	13 15 47.0	+1.4
DRZ	**Dome Shelter**	**0.22**	**139**	P			Pg	13 15 46.8	+1.1
OTVZ	**Oturere**	**0.23**	**105**	P			Pg	13 15 47.3	+1.5
NTVZ	**North Tongarir**	**0.23**	**89**	P			Pg	13 15 47.4	+1.6
TRVZ	**Turoa**	**0.24**	**145**	P			Pg	13 15 46.7	+0.8
WHVZ	**Whangaehu Hut**	**0.24**	**137**	P			Pg	13 15 46.8	+0.8
TMVZ	**Te Maari**	**0.26**	**93**	P			Pb	13 15 47.8	-0.3
ETVZ	**East Tongariro**	**0.26**	**97**	P			Pb	13 15 47.8	-0.3
TUVZ	**Tukino**	**0.27**	**127**	P			Pb	13 15 47.7	-0.6
KATZ	**Kakaramea**	**0.28**	**63**	P			Pb	13 15 48.4	0.0
WNVZ	**Wahianoa**	**0.28**	**142**	P			Pg	13 15 47.6	+0.8
MTVZ	**Mangateitei**	**0.29**	**165**	P			Pg	13 15 47.1	+0.3
RATZ	**Rangitukua**	**0.39**	**53**	P			Pb	13 15 50.4	+0.1
RITZ	**Rihia Road**	**0.40**	**71**	P			Pb	13 15 50.6	+0.2
MOVZ	**Moawhango**	**0.42**	**136**	P			Pg	13 15 49.8	+0.5
WATZ	**Wairara**	**0.48**	**35**	P			Pb	13 15 52.0	+0.1
BHHZ	**Black Hill Sta**	**0.66**	**126**	P			Pg	13 15 54.2	+0.5
KUTZ	**Kaahu Road**	**0.71**	**30**	P			Pb	13 15 55.7	+0.1
WAZ	**Wanganui**	**0.72**	**205**	P			Pg	13 15 54.7	-0.2
HIZ	**Hauiti**	**0.72**	**325**	P			Pb	13 15 55.9	+0.1
TLZ	**Tolley Road**	**0.79**	**9**	P			Pg	13 15 56.3	+0.1
LREZ	**Lake Rotokare**	**0.83**	**245**	P			Pb	13 15 57.7	-0.1
WPRZ	**Whakapapatarin**	**0.85**	**47**	P			Pn	13 15 58.9	-0.5
MRHZ	**Matea Rd**	**0.86**	**72**	P			Pb	13 15 58.7	+0.5
BKZ	**Black Stump Fm**	**0.87**	**94**	P			Pb	13 15 58.9	+0.4
KWHZ	**Kaweka Forest**	**0.87**	**112**	P			Pb	13 15 59.0	+0.4
KRHZ	**Kereru**	**0.94**	**125**	P			Pb	13 15 59.8	+0.1
PREZ	**Palmer Road**	**0.97**	**256**	P			Pb	13 16 00.6	+0.3
NEZ	**North Egmont**	**1.01**	**260**	P			Pb	13 16 01.2	+0.4
PNHZ	**Pukenui**	**1.03**	**142**	P			Pb	13 16 01.0	-0.1
TSZ	**Takapari Road**	**1.05**	**155**	P			Pg	13 16 01.2	-0.1
KHEZ	**Kahui Hut**	**1.07**	**259**	P			Pn	13 16 02.3	-0.2
MCHZ	**McNeill Hill**	**1.08**	**109**	P			Pn	13 16 03.9	+1.4
PKE	**Pukeiti**	**1.08**	**265**	P			Pn	13 16 02.5	-0.1
OHWZ	**Ohakea**	**1.10**	**182**	P			Pg	13 16 01.6	-0.7
UTU	**Utuhina**	**1.13**	**35**	P			Pn	13 16 04.0	+0.8
NGRZ	**Ngongotaha**	**1.19**	**33**	P			Pn	13 16 05.0	+1.0
WPHZ	**Waipukurau**	**1.26**	**140**	P			Pg	13 16 06.0	+0.6
POWZ	**Post Office Ro**	**1.32**	**167**	P			Pn	13 16 05.9	0.0
DVHZ	**Dannevirke**	**1.34**	**153**	P			Pg	13 16 06.9	+0.1
KAHZ	**Kahuranaki**	**1.35**	**121**	P			Pg	13 16 08.1	+1.1
TOZ	**Tahuroa Road**	**1.38**	**4**	P			Pn	13 16 06.2	-0.3
PRHZ	**Porangahau**	**1.51**	**140**	P			Pg	13 16 10.1	0.0
PRWZ	**Pori Road**	**1.52**	**163**	P			Pg	13 16 10.1	-0.2
TGRZ	**Tauranga**	**1.54**	**27**	P			Pg	13 16 10.9	+0.3
MRZ	**Mangatainoka R**	**1.56**	**174**	P			Pb	13 16 10.1	-0.2
ANWZ	**Angora Road**	**1.60**	**148**	P			Pg	13 16 12.1	+0.4
BFZ	**Birch Farm**	**1.71**	**157**	P			Pg	13 16 13.4	-0.5
TIWZ	**Tintock**	**1.71**	**167**	P			Pb	13 16 13.4	+0.5
HOWZ	**Holdsworth Sta**	**1.79**	**177**	P			Pb	13 16 13.7	-0.4
MKAZ	**Moumakai**	**2.00**	**355**	P			Pn	13 16 15.1	-0.1
CAW	**Cannon Point**	**2.01**	**187**	P			Pn	13 16 16.5	+1.2
DUWZ	**D'Urville Isla**	**2.03**	**213**	P			Pn	13 16 15.8	+0.2
TMWZ	**Te Maipa**	**2.04**	**169**	P			Pb	13 16 19.0	+0.7
MTW	**Mount Morrison**	**2.05**	**177**	P			Pn	13 16 16.5	+0.6
ETAZ	**East Tamaki Re**	**2.18**	**351**	P			Pn	13 16 18.6	+1.0
TCW	**Tory Channel**	**2.27**	**201**	P			Pn	13 16 20.1	+1.3
MSWZ	**Moikau Station**	**2.31**	**182**	P			Pb	13 16 22.0	-1.0
RVAZ	**Riverhead Bore**	**2.41**	**345**	P			Pn	13 16 21.2	+0.4
TUWZ	**Tuamarina**	**2.57**	**205**	P			Pn	13 16 24.3	+1.4
NNZ	**Nelson**	**2.61**	**215**	P			Pn	13 16 25.2	+1.7
BSWZ	**Blackbirch Sta**	**2.85**	**203**	P			Pb	13 16 31.3	-0.9
MRNZ	**Matariki Terra**	**3.04**	**220**	P			Pn	13 16 32.0	+2.5
THZ	**Tophouse**	**3.26**	**215**	P			Pn	13 16 34.7	+2.2
KHZ	**Kahutara**	**3.59**	**202**	P			Pb	13 16 45.0	+0.3

IDC 17 13:33:53.0 ± 10.0, 15°80S × 176°20W, h324km ± 273km, mb3.4/3, mbtmp4.1/4, Error ellipse: s-maj=272.5km s-min=133.7km az=94.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.67**	**67**	P			Pn	13 35 08.7	+0.8
	13nm,0.4s,baz=270,slow=20,SNR=7.2								
AFI				S			S	13 36 08.2	-0.1
	6.3nm,0.4s,baz=118,slow=24,SNR=1.0								
STKA	**Stephens Creek**	**41.50**	**240**	P			P	13 41 09.3	-0.2
	0.9nm,0.3s,baz=76,slow=8.3,SNR=2.2								
	0.9nm,0.3s								
WRA	**Warramunga Arr**	**47.12**	**257**	P			P	13 41 53.7	-0.2
	0.5nm,0.4s,baz=93,slow=7.6,SNR=12								
	0.5nm,0.4s								
ASAR	**Alice Springs**	**47.42**	**252**	P			P	13 41 56.0	-0.1
	2.3nm,0.3s,baz=87,slow=8.0,SNR=72								
	2.3nm,0.3s								

---

*IDC **17** 13:38:10.0 ± 2.4, 14°18S × 167°32E, h174km ± 18km, mb3.8/13, mbtmp4.3/13, MS3.6/1, Error ellipse: s-maj=31.5km s-min=16.1km az=127.0*

*NEIC **17** 13:38:11.7 ± 1.5, 14°0S ± 0°2 × 167°6E ± 0°2, h223km ± 15km, mb4.2/23, Error ellipse: s-maj=28.1km s-min=21.5km az=210.0*

ISC 17 13:38:12.4 ± 0.5, 14°23S ± 0°07 × 167°3E ± 0°1, h200km, n54, σ1§34/59, mb4.2/23, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**6.91**	**204**	Pn			**Pn**	**13 39 53.4**	**+2.0**
DZM	**Mont Dzumac**	**7.84**	**186**	P			**Pn**	**13 40 06.7**	**+3.1**
	2.1nm,0.6s,baz=49,slow=13,SNR=2.2								
DZM				S			**Sn**	**13 41 33.6**	**+1.4**
	4.7nm,0.8s,baz=307,slow=20,SNR=1.9								
ONTNC	**Ouen Toro**	**8.07**	**186**	Pn			**Pn**	**13 40 08.8**	**+2.2**
PINNC	**Pines Island,**	**8.34**	**179**	Pn			**Pn**	**13 40 12.2**	**+2.2**
EIDS	**Eidsvold**	**18.83**	**232**	P			**Pn**	**13 42 19.6**	**-0.7**
EIDS					IAmb	IAmb		13 42 20.3	
	comp=Z,8.4nm,0.9s								
CTA	**Charters Tower**	**20.93**	**251**	P			**P**	**13 42 41.0**	**+1.3**
	comp=Z,5.5nm,0.9s,baz=61,slow=12,SNR=5.0								
	comp=Z,5.5nm,0.9s								
CTAO	**Charters Tower**	**20.93**	**251**	P			**P**	**13 42 41.3**	**+1.5**
CTAO					IAmb	IAmb		13 42 42.1	
	comp=Z,6.5nm,1.0s								
ARMA	**Armidale**	**21.63**	**219**	P			**P**	**13 42 48.6**	**+1.5**
ARMA					IAmb	IAmb		13 42 48.9	
	comp=Z,3.0nm,0.8s								
OUZ	**Omahuta**	**21.65**	**166**	P			**P**	**13 42 45.0**	**-2.1**
OUZ					IAmb	IAmb		13 42 53.6	
	comp=Z,12nm,1.1s								
COEN	**Coen**	**23.40**	**268**	P			**P**	**13 43 02.3**	**-1.2**
COEN					IAmb	IAmb		13 43 14.1	
	comp=Z,11nm,1.1s								
URZ	**Urewera**	**25.46**	**162**	P			**P**	**13 43 20.8**	**-1.1**
CAN	**Canberra**	**26.68**	**215**	P			**P**	**13 43 32.8**	**-0.3**
CAN					IAmb	IAmb		13 43 47.9	
	comp=Z,7.1nm,1.1s								
STKA	**Stephens Creek**	**29.34**	**229**	P			**P**	**13 43 57.9**	**+1.3**
	comp=Z,4.1nm,0.5s,baz=54,slow=9.5,SNR=20								
	comp=Z,4.1nm,0.5s								
STKA	**Stephens Creek**	**29.34**	**229**	P			**P**	**13 43 57.4**	**+0.8**
TOO	**Toolangi**	**30.27**	**216**	P			**P**	**13 44 04.3**	**-0.4**
TOO					IAmb	IAmb		13 44 20.9	
	comp=Z,3.2nm,1.1s								
WR0	**Warramunga Arr**	**31.79**	**255**	P			**P**	**13 44 17.5**	**-0.8**
WR0					IAmb	IAmb		13 44 18.7	
	comp=Z,6.9nm,1.1s								
WB0	**Warramunga Arr**	**31.91**	**255**	P			**P**	**13 44 19.0**	**-0.4**
WB2	**Warramunga Arr**	**31.97**	**255**	P			**P**	**13 44 19.2**	**-0.6**
WRA	**Warramunga Arr**	**31.98**	**255**	P			**P**	**13 44 19.0**	**-0.9**
	comp=Z,3.1nm,0.5s,baz=86,slow=9.6,SNR=55								
WRA					PcP		**PcP**	**13 47 05.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=82,slow=3.2,SNR=3.5								
	comp=Z,3.1nm,0.5s								
WRA	**Warramunga Arr**	**31.98**	**255**	P			**P**	**13 44 17.9**	**-2.0**
AS31	**Alice Springs**	**32.88**	**248**				**P**	**13 44 27.1**	**-0.7**
AS31					IAmb	IAmb		13 44 28.5	
	comp=Z,1.9nm,0.6s								
ASAR	**Alice Springs**	**32.88**	**248**	P			**P**	**13 44 27.3**	**-0.5**
	comp=Z,4.0nm,0.4s,baz=76,slow=9.4,SNR=86								
ASAR					PcP		**PcP**	**13 47 07.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=78,slow=3.2,SNR=1.4								
	comp=Z,4.0nm,0.4s								
ASAR	**Alice Springs**	**32.88**	**248**	P			**P**	**13 44 27.1**	**-0.7**
BBOO	**Buckleboo**	**33.91**	**232**	P			**P**	**13 44 37.1**	**+0.6**
KNRA	**Kununurra**	**37.23**	**263**	P			**P**	**13 45 03.8**	**-1.1**
FORT	**Forrest**	**39.58**	**239**	P			**P**	**13 45 24.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.14**	**259**	LR			LR	14 02 04.9	
	comp=Z,81nn,18.0s,baz=90,slow=36								
FITZ	**Fitzroy Crossi**	**40.14**	**259**	P			**P**	**13 45 28.1**	**-1.1**
NWAO	**Narrogin (SRO)**	**49.03**	**239**	P			**P**	**13 46 37.5**	**-1.8**
NWAO					IAmb	IAmb		13 46 40.0	
	comp=Z,14nm,1.1s								
MORW	**Morawa**	**49.51**	**244**	P			**P**	**13 46 40.5**	**-2.4**
MORW					IAmb	IAmb		13 46 43.9	
	comp=Z,11nm,1.0s								
MJAR	**Matsushiro Arr**	**57.48**	**332**	P			**P**	**13 47 39.8**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=166,slow=9.3,SNR=7.2								
	comp=Z,1.8nm,0.9s								
VNDA	**Vanda**	**63.35**	**181**	P			**P**	**13 48 17.1**	**-2.7**
PETK	**Petropavlovsk-**	**67.58**	**354**	P			**P**	**13 48 47.7**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=167,slow=7.2,SNR=3.9								
	comp=Z,3.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**74.78**	**294**	P			**P**	**13 49 32.5**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=122,slow=4.9,SNR=5.3								
	comp=Z,1.1nm,0.6s								
QSPA	**South Pole Qui**	**75.79**	**180**	P			**P**	**13 49 35.3**	**-0.8**
QSPA					IAmb	IAmb		13 49 37.3	
	comp=Z,4.3nm,1.1s								
SONM	**Songino Array**	**82.12**	**324**	P			**P**	**13 50 11.7**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=138,slow=5.6,SNR=6.6								
	comp=Z,0.7nm,0.4s								
MAW	**Mawson**	**82.35**	**202**	P			**P**	**13 50 12.5**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=120,slow=8.7,SNR=2.9								
	comp=Z,2.0nm,0.8s								
ILAR	**Eielson Array**	**86.05**	**18**	P			**P**	**13 50 29.6**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=236,slow=5.3,SNR=4.2								
	comp=Z,1.0nm,0.7s								
NVAR	**Mina Array Bea**	**86.93**	**49**	P			**P**	**13 50 35.6**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=237,slow=5.0,SNR=3.5								
	comp=Z,0.3nm,0.7s								
TROLL	**Troll, Antarti**	**93.36**	**185**	P			**P**	**13 51 04.0**	**-0.5**
SNAA	**Sanae**	**94.04**	**183**	P			**P**	**13 51 05.3**	**-2.3**
SNAA	**Sanae**	**94.04**	**183**	P			**P**	**13 51 05.8**	**-1.7**
SNAA					IAmb	IAmb		13 51 11.0	
	comp=Z,2.0nm,1.1s								
VNA3	**Neumayer Olymp**	**94.71**	**181**	P			**P**	**13 51 09.3**	**-1.2**
VNA2	**Neumayer--Watz**	**94.97**	**182**	P			**P**	**13 51 11.0**	**-0.7**
	baz=188,slow=3.0								
MKAR	**Makanchi Array**	**96.87**	**316**	P			**P**	**13 51 21.6**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=104,slow=5.6,SNR=7.1								
	comp=Z,1.8nm,0.7s								
ZALV	**Zalesovo Beam**	**97.01**	**324**	P			**P**	**13 51 20.8**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=112,slow=3.4,SNR=2.9								
	comp=Z,1.1nm,0.6s								
ARCES	**ARCESS Array B**	**119.78**	**345**	PKP			**PKPdf**	**13 56 38.0**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=54,slow=2.1,SNR=9.6								
FINES	**FINESS Array B**	**125.28**	**338**	PKP			**PKPdf**	**13 56 48.6**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=342,slow=4.2,SNR=4.7								
NOA	**NORSAR Array B**	**130.16**	**345**	SKPbc			**SKPab**	**14 00 04.7**	**+2.3**
	comp=Z,0.8nm,0.7s,baz=31,slow=3.2,SNR=5.0								
AKASG	**Malin Array Be**	**130.34**	**326**	PKP			**PKPdf**	**13 56 59.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=59,slow=2.5,SNR=1.6								
AKASG					SKPbc		**SKPab**	**14 00 05.6**	**+2.1**
	comp=Z,0.3nm,0.4s,baz=49,slow=5.1,SNR=4.2								
BRTR	**Keskin Array B**	**132.21**	**311**	PKP			**PKiKP**	**13 57 03.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=104,slow=3.0,SNR=3.7								
GERES	**GERESS Array B**	**139.22**	**333**	PKP			**PKPdf**	**13 57 15.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=102,slow=1.4,SNR=5.7								
GERES					SKPbc		**SKiKP**	**14 00 34.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=46,slow=3.9,SNR=7.7								
KEST	**Kesra**	**150.85**	**321**	PKPbc			**PKiKP**	**13 57 43.0**	**+0.7**
	comp=Z,12nm,1.0s,baz=94,slow=1.1,SNR=9.1								
ESDC	**Sonseca Array**	**153.52**	**345**	PKPbc			**PKiKP**	**13 57 48.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=0.2,slow=4.9,SNR=2.8								
ESDC					PKPab		**PKPab**	**13 58 01.7**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=4.3,slow=5.9,SNR=4.7								

---

*BJI **17** 13:39:43.6 ± 0.0, 38°59N × 142°20E, h40km, mb4.7/48, mB5.0/28, Ms4.1/14, Ms7 3.9/16*

*MOS **17** 13:39:43.4 ± 1.1, 38°72N × 142°29E, h36km, mb4.8/34, Error ellipse: s-maj=8.4km s-min=4.9km az=106.8*

*JMA **17** 13:39:45.4 ± 0.1, 38°7N ± 0°3 × 142°2E ± 0°7, h40km ± 1km, MD4.6/35, MV5.1/35, E OFF MIYAGI PREF*

JMA Felt III J1 at E OFF MIYAGI PREF .

*NIED **17** 13:39:45.4, 38°72N × 142°22E, h40km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.74; $M_{\theta\theta}$1.16; $M_{\phi\phi}$-2.89; $M_{r\theta}$2.37; $M_{\theta\phi}$0.03; $M_{\phi r}$4.08; Fault plane solution: $M_0$5.35000×10^{15} NP1: ϕ_s147.00000°, δ21.00000°, λ31.00000°. NP2:ϕ_s28.00000°, δ79.00000°, λ109.00000°.*

*NEIC **17** 13:39:45.3 ± 1.8, 38°65N ± 0°05 × 142°28E ± 0°10, h38km ± 7km, mb4.6/26 Error ellipse: s-maj=11.8km s-min=7.0km az=112.0*

*IDC **17** 13:39:46.0 ± 0.6, 38°70N × 142°13E, h43km ± 5km, mb4.2/26, mbtmp4.4/28, ML3.9/3, MS3.6/39, Error ellipse: s-maj=12.9km s-min=10.3km az=90.0*

ISC 17 13:39:43.9 ± 0.5, 38°67N ± 0°04 × 142°35E ± 0°04, h32km ± 2km, h33km:pP-P, n323, σ1§56/275, mb4.6/80, MS3.7/38, 25C-32D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.67**	**307**	⇓P			**Pn**	**13 39 57.1**	**-0.1**
OFUJ				⇓S			**Sb**	**13 40 05.2**	**-1.2**
OFUJ	**Ofunato**	**0.67**	**307**	A			A	13 39 57.1	
	comp=E,27nm,0.6s,comp=E,60nm,0.7s								
JKMT	**Kesennumamotoy**	**0.70**	**282**	⇓P			**Pn**	**13 39 57.4**	**-0.1**
JKMT				⇓S			**Sb**	**13 40 05.6**	**-1.6**
JKMT	**Kesennumamotoy**	**0.70**	**282**	A			A	13 39 57.4	
	comp=E,42nm,0.6s,comp=E,28nm,0.2s								
JIKH	**Ishinomakikobu**	**0.79**	**243**	⇓iP			**Pn**	**13 39 59.0**	**+0.3**
JIKH				⇓S			**Sb**	**13 40 08.4**	**-1.1**
JIKH	**Ishinomakikobu**	**0.79**	**243**	A			A	13 39 59.0	
	comp=E,48nm,0.9s,comp=E,37nm,0.3s								
JIO	**Ouri**	**0.82**	**255**	⇓iP			**Pn**	**13 39 59.2**	**0.0**
JIO				⇓S			**Sb**	**13 40 08.6**	**-1.8**
JIO	**Ouri**	**0.82**	**255**	A			A	13 39 59.2	
	comp=E,13nm,0.5s,comp=E,20nm,0.6s								
JMK	**Ichinoseki**	**0.93**	**288**	⇓iP			**Pb**	**13 40 00.7**	**-0.8**
JMK				⇓S			**Sb**	**13 40 11.4**	**-2.1**
JMK	**Ichinoseki**	**0.93**	**288**	A			A	13 40 00.7	
	comp=E,28nm,0.3s,comp=E,57nm,0.3s								
MIYJ	**Miyakonagasawa**	**0.99**	**335**	A			A	13 40 02.0	
	comp=E,24nm,0.9s,comp=E,23nm,0.3s								
JOFO	**Osakifurukawao**	**1.13**	**267**	A			A	13 40 03.7	
	comp=E,64nm,0.7s,comp=E,67nm,0.3s								
JOM	**Ohasama**	**1.15**	**314**	⇓iP			**Pn**	**13 40 04.1**	**+0.4**
JOM				⇓S			**Sn**	**13 40 17.4**	**-0.9**
JOM	**Ohasama**	**1.15**	**314**	A			A	13 40 04.1	
	comp=E,171nm,0.3s,comp=E,97nm,0.4s								
JTH	**Tanohata**	**1.32**	**343**	⇓iP			**Pn**	**13 40 06.4**	**+0.3**
JTH	**Tanohata**	**1.32**	**343**	A			A	13 40 06.4	
	comp=E,15nm,0.9s,comp=E,12nm,0.6s								
JOU	**Okura**	**1.36**	**257**	⇓iP			**Pn**	**13 40 07.1**	**+0.5**
JOU				⇓S			**Sn**	**13 40 23.8**	**+0.2**
JOU	**Okura**	**1.36**	**257**	A			A	13 40 07.1	
	comp=E,25nm,0.5s,comp=E,27nm,0.7s								
JMM	**Marumori**	**1.47**	**237**				**Pn**	**13 40 08.3**	**+0.2**
JMM					Sn		**Sn**	**13 40 25.4**	**-0.8**
JMM	**Marumori**	**1.47**	**237**	A			A	13 40 09.3	
	comp=E,13nm,0.9s,comp=E,12nm,1.6s								
JMST	**Minamisoumatoc**	**1.49**	**231**	A			A	13 40 09.8	
	comp=E,11nm,0.7s,comp=E,11nm,0.6s								
JRG	**Rokugo**	**1.52**	**299**	A			A	13 40 09.3	
	comp=E,26nm,0.5s,comp=E,22nm,0.7s								
JSZI	**Iwateshizukuis**	**1.52**	**315**	A			A	13 40 09.4	
	comp=E,25nm,2.0s,comp=E,29nm,0.5s								
JKZ	**Kuzumaki**	**1.53**	**329**	A			A	13 40 09.8	
	comp=E,26nm,1.2s,comp=E,17nm,3.2s								
JYK	**Kaneyama**	**1.58**	**280**	A			A	13 40 10.2	
	comp=E,8.0nm,1.0s,comp=E,6.0nm,2.6s								
JKEN	**Kujiedanarisaw**	**1.61**	**342**	A			A	13 40 11.2	
	comp=E,29nm,0.5s,comp=E,30nm,0.7s								
JFK	**Kawauchi**	**1.75**	**222**	A			A	13 40 13.7	
	comp=E,6.0nm,0.3s,comp=E,5.0nm,0.4s								
JANG	**Nango**	**1.82**	**339**	A			A	13 40 14.1	
	comp=E,10.0nm,1.5s,comp=E,9.0nm,0.6s								
JYS	**Shirataka**	**1.85**	**257**	A			A	13 40 14.4	
	comp=E,13nm,1.9s,comp=E,10.0nm,1.4s								
JYW	**Yuwa**	**1.88**	**298**	A			A	13 40 14.5	
	comp=E,28nm,1.1s,comp=E,27nm,1.2s								
JYAR	**Yonezawaarcadi**	**1.90**	**247**	A			A	13 40 15.2	
	comp=E,36nm,1.1s,comp=E,33nm,1.0s								
JYYZ	**Yamagatayuza**	**1.92**	**281**	A			A	13 40 15.1	
	comp=E,17nm,5.2s,comp=E,13nm,1.1s								
JAH	**Hinai**	**2.01**	**319**	A			A	13 40 16.6	
	comp=E,9.0nm,0.8s,comp=E,9.0nm,0.9s								
JYA	**Atsumi**	**2.07**	**269**	A			A	13 40 17.4	
	comp=E,10.0nm,0.5s,comp=E,9.0nm,0.6s								
JNTW	**Noshirotokiwa**	**2.33**	**314**	A			A	13 40 21.0	
	comp=E,33nm,1.8s,comp=E,38nm,2.3s								
JTM	**Tennabayashi**	**2.33**	**335**	Pn			**Pn**	**13 40 21.1**	**+1.1**
JARK	**Aomorirokkasho**	**2.45**	**342**	A			A	13 40 23.2	
	comp=E,6.0nm,2.1s,comp=E,8.0nm,0.6s								
JHHS	**Hirosakihyakuz**	**2.50**	**323**	A			A	13 40 23.6	
	comp=E,16nm,1.1s,comp=E,29nm,1.1s								
JSB	**Shiboa**	**2.57**	**229**	A			A	13 40 25.3	
	comp=E,8.0nm,0.9s,comp=E,9.0nm,1.5s								
JIW	**Iwasaki**	**2.64**	**317**	A			A	13 40 25.5	
	comp=E,8.0nm,1.0s,comp=E,10.0nm,1.6s								
JAHD	**Aomorihigashid**	**2.70**	**344**	A			A	13 40 26.9	
	comp=E,17nm,0.6s,comp=E,16nm,0.5s								
JSI2	**Shiura 2**	**2.81**	**329**	A			A	13 40 28.2	
	comp=E,14nm,2.7s,comp=E,12nm,2.2s								
JOG3	**Oga3**	**2.83**	**297**	A			A	13 40 21.0

comp=Z,4.0nm,0.9s
BNX BinXian 13.13 307 ⇑P **Pn 13 42 50.3 +2.3**
BNX pmax pmax
comp=Z,6.0nm,0.9s
BNX pmax pmax
comp=Z,140nm,3.8s
CN2 Changchun 13.71 297 P **P 13 43 00.3 -3.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
PETK Petropavlovsk- 17.90 31 LR LR 13 51 19.9
comp=Z,95nm,18.4s,baz=215,slow=39
ZEA Zeya 18.28 330 *eP* **Pn 13 43 52.8 -2.0**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA MLR MLR
comp=E,100nm,15.0s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
TIA Tai'an 20.17 271 *eP* **P 13 44 14.9 -0.7**
TIA pmax pmax
comp=Z,17nm,0.9s
NJ2 Nanjing 20.24 258 *eP* **P 13 44 16.0 -0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
BJI Beijing 20.27 282 P **P 13 44 17.8 +1.2**
BJI pP **sP 13 44 26.5 -2.6**
BJI sP **pP 13 44 31.0 +5.9**
BJI pmax pmax
comp=Z,12nm,0.7s
BJT Baijiatuau 20.28 282 P **P 13 44 14.2 -2.5**
BJT Baijiatuau 20.28 282 P **P 13 44 14.2 -2.5**
BJT pmax pmax
comp=Z,9.0nm,0.6s
XLT XiLinHaoTe 20.38 293 ⇓*i*P Pn 13 44 19.8 -0.3
XLT pP sP 13 44 27.8 -2.6
XLT sP pP 13 44 33.5 +7.1
XLT pmax pmax
comp=Z,35nm,0.7s
XLT pmax pmax
comp=Z,140nm,4.0s
MA2 Magadan 21.60 12 P **P 13 44 31.8 +1.0**
comp=Z,20nm,1.0s,baz=200,slow=14,SNR=5.6
MA2 LR LR 13 53 00.1
comp=Z,49nm,18.6s,baz=185,slow=37
comp=Z,20nm,1.0s
MA2 Magadan 21.60 12*c i*P **P 13 44 31.1 +0.3**
MA2 pmax pmax
comp=Z,23nm,1.0s
YOJ Yonaguni jima 21.67 235 P **P 13 44 29.1 -2.8**
YOJ Yonaguni jima 21.67 235 P **P 13 44 29.1 -2.8**
YOJ pmax pmax
comp=Z,263nm,1.2s
NACB Ninganchiao 22.79 237 P **P 13 44 41.4 -2.4**
NACB lAmb lAmb 13 45 10.5
comp=Z,40nm,1.1s
HHC Hu-ho-hao-te 23.71 285 *eP* **P 13 44 54.6 +1.6**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,190nm,6.2s
HHC LR LR
comp=Z,310nm,8.9s
HHC LR LR
comp=Z,510nm,13.7s
HHC LR LR
comp=Z,770nm,13.7s
YAK Yakutsk 24.65 346 P **P 13 44 59.9 -1.4**
comp=Z,5.6nm,0.3s,baz=116,slow=2.5,SNR=4.1
YAK LR LR 13 55 02.4
comp=Z,59nm,19.8s,baz=264,slow=37
comp=Z,5.6nm,0.3s
YAK Yakutsk 24.65 346 P **P 13 44 59.5 -1.8**
YAK Yakutsk 24.65 346 *eP* **P 13 45 00.3 -1.0**
YAK *eS* **S 13 49 17.8 -2.6**
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK smax smax
comp=E,12nm,1.3s
YAK smax smax
comp=N,30nm,1.9s
SEY Seymchan 25.04 11 P **P 13 45 06.2 +1.4**
comp=N,13nm,0.9s,baz=208,slow=7.3,SNR=16
comp=N,13nm,0.9s
SEY Seymchan 25.04 11 ⇓*i*P **P 13 45 07.2 +2.4**
SEY pmax pmax
comp=Z,14nm,0.8s
GUMO Guam 25.08 174 LR LR 13 54 43.1
comp=Z,44nm,21.8s,baz=334,slow=36
SHEM Shemya Is, Ala 26.00 47 LR LR 13 56 26.0
comp=Z,29nm,20.2s,baz=246,slow=38
BOD Bodaibo 26.57 325 *eP* **P 13 45 17.9 -0.9**
BOD pmax pmax
comp=Z,12nm,1.3s
ULN Ulaanbaatar 27.09 301 ⇑*eP* **P 13 45 24.9 +1.1**
ULN pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 27.53 301 P **P 13 45 27.7 0.0**
comp=Z,1.8nm,0.4s,baz=97,slow=8.8,SNR=14
SONM LR LR 13 56 48.3
comp=Z,143nm,18.5s,baz=108,slow=37
comp=Z,1.8nm,0.4s
SONM Songino Array 27.53 301 P **P 13 45 27.3 -0.4**
ENH Enshi 28.25 263 P **P 13 45 32.6 -1.4**
H11N2 WAKE ISLAND Hy 28.41 125 T T 14 15 55.4
baz=317,slow=75,SNR=4844
H11N1 WAKE ISLAND Hy 28.42 125 T T 14 15 56.8
baz=317,slow=75,SNR=5885
H11N3 WAKE ISLAND Hy 28.43 125 T T 14 16 08.3
baz=317,slow=75,SNR=5492
H11S1 WAKE ISLAND Hy 29.18 127 T T 14 16 55.8
baz=318,slow=76,SNR=1683
H11S3 WAKE ISLAND Hy 29.18 127 T T 14 16 56.0
baz=318,slow=76,SNR=1868
H11S2 WAKE ISLAND Hy 29.20 127 T T 14 16 54.8
baz=318,slow=76,SNR=950
ZAK Zakamensk 29.87 306 *eP* **P 13 45 44.9 -3.5**
ZAK pmax pmax
comp=Z,11nm,1.0s
LZH Lanzhou 30.56 277 ⇑P **P 13 45 57.4 +2.7**
LZH pP sP 13 46 06.3 -1.5
LZH sP pP 13 46 09.6 +5.6
LZH pmax pmax
comp=Z,18nm,1.4s
MOY Mondy 31.48 308 *eP* **P 13 46 02.6 0.0**
BILL Bilibino 32.25 17 *eP* **P 13 46 10.4 +1.4**
BILL pmax pmax
comp=Z,6.0nm,1.0s
GYA Guiyang 32.25 259 ⇓P **P 13 46 10.5 +0.9**
GYA pmax pmax
comp=Z,18nm,0.9s
CD2 Chengdu 32.44 268 P **P 13 46 10.1 -1.1**
GTA Gaotai 32.83 285 *eP* **P 13 46 15.0 +0.4**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,150nm,4.4s
GTA LR LR
comp=Z,110nm,18.2s
GTA LR LR
comp=Z,250nm,17.1s
GTA LR LR
comp=Z,310nm,17.8s
TIXI Tiksi 33.76 352 LR LR 14 01 33.7
comp=Z,82nm,19.1s,baz=182,slow=39
TIXI Tiksi 33.76 352 ⇑*eP* **P 13 46 22.9 +0.8**
TIXI pmax pmax
comp=Z,11nm,1.1s
PZH PanZhiHua 36.03 263 P **P 13 46 42.3 -0.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,4.8s
GOMU GeErMu 37.50 281 P **P 13 46 55.4 +0.3**
GOMU pmax pmax
comp=Z,12nm,0.7s
GOMU pmax pmax
comp=Z,34nm,4.1s

DGZ Jazzator, Alta 40.06 304*c i*P **P 13 47 17.0 +0.8**
DGZ pmax pmax
comp=Z,21nm,0.8s
WMQ Urumqi 40.79 295 *e*P **P 13 47 22.9 +0.7**
WMQ pP sP 13 47 34.9 -0.4
WMQ PP **PnPn 13 49 01.9 +1.3**
WMQ pmax pmax
comp=Z,26nm,1.1s
ZAA0 Zalesovo Array 41.38 311 P **P 13 47 24.6 -2.2**
ZAA0 lAmb lAmb 13 47 27.3
comp=Z,8.4nm,0.6s
ZALV Zalesovo Beam 41.38 311 P **P 13 47 26.7 -0.1**
comp=Z,9.9nm,0.5s,baz=89,slow=8.1,SNR=41
comp=Z,9.9nm,0.5s
ZALV Zalesovo Beam 41.38 311 P **P 13 47 26.3 -0.5**
NRIK Noril'sk 42.10 334 P **P 13 47 32.3 -0.2**
comp=Z,2.5nm,0.3s,baz=103,slow=7.0,SNR=3.6
comp=Z,2.5nm,0.3s
CMAR Chiang Mai Arr 42.64 254 P **P 13 47 37.1 -0.4**
comp=Z,0.5nm,0.5s,baz=42,slow=6.4,SNR=4.5
CMAR LR LR 14 05 07.2
comp=Z,28nm,19.1s,baz=45,slow=36
comp=Z,0.5nm,0.5s
N18K Kilae Creek 43.61 39 P **P 13 47 45.1 +0.2**
N18K lAmb lAmb 13 47 55.4
comp=Z,9.5nm,1.1s
MK31 Makanchi Array 43.90 301 P **P 13 47 47.2 -0.2**
MK31 Makanchi Array 43.90 301*c i*P **P 13 47 47.2 -0.2**
MKAR Makanchi Array 43.90 301 P **P 13 47 47.3 -0.1**
comp=Z,7.3nm,0.7s,baz=85,slow=9.9,SNR=65
comp=Z,7.3nm,0.7s
MKAR Makanchi Array 43.90 301 P **P 13 47 46.8 -0.6**
MAKZ Makanchi 44.11 301 P **P 13 47 49.0 0.0**
MAKZ lAmb lAmb 13 47 54.5
comp=Z,8.0nm,0.8s
MAKZ Makanchi 44.11 301 P **P 13 47 49.0 0.0**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
K20K Telida 44.56 35 P **P 13 47 53.8 +1.4**
K20K lAmb lAmb 13 48 02.1
comp=Z,13nm,1.4s
IMAR Indian Mountai 44.87 31 P **P 13 47 56.0 +1.2**
KDAK Kodiak Island 45.39 43 P **P 13 48 00.2 +1.2**
comp=Z,3.2nm,0.4s,baz=303,slow=8.6,SNR=7.3
KDAK LR LR 14 06 50.6
comp=Z,39nm,20.7s,baz=240,slow=36
comp=Z,3.2nm,0.4s
KURK Kurchatov 45.52 307 P **P 13 47 59.8 -0.4**
KURK Kurchatov 45.52 307*c i*P **P 13 47 59.8 -0.4**
KURK pmax pmax
comp=Z,37nm,1.0s
KURBB Kurchatov Arra 45.60 307 P **P 13 48 00.5 -0.3**
comp=Z,21nm,0.6s,baz=82,slow=8.3,SNR=177
KURBB LR LR 14 07 36.3
comp=Z,84nm,20.0s,baz=26,slow=37
comp=Z,21nm,0.6s
BPAW Bear Paw Mtn. 45.95 34 P **P 13 48 03.0 -0.5**
H23K Yukon River 46.58 32 P **P 13 48 09.6 +1.2**
H23K lAmb lAmb 13 48 25.9
comp=Z,6.6nm,1.0s
TAPN Taplejung 46.58 273 *eP* **P 13 48 09.4 +0.2**
comp=Z,9.9nm,0.6s
PDGK Podgornoye 46.68 297 P **P 13 48 10.3 +0.7**
MDM Murphy Dome 47.13 33 P **P 13 48 14.1 +1.4**
MDM lAmb lAmb 13 48 29.8
comp=Z,6.3nm,1.1s
H24K Noodor Dome 47.27 32 P **P 13 48 15.2 +1.4**
JIRN Jiri 47.62 274 *eP* **P 13 48 18.2 +0.8**
comp=Z,16nm,0.6s
RAMN Ramite 47.64 273 *eP* **P 13 48 17.4 0.0**
comp=Z,26nm,0.7s
ILAR Eielson Array 47.72 33 P **P 13 48 18.9 +1.6**
comp=Z,1.3nm,0.6s,baz=265,slow=6.3,SNR=23
comp=Z,1.3nm,0.6s
ILAR Eielson Array 47.72 33 P **P 13 48 17.5 +0.3**
GUN Gumba 47.75 275 *eP* **P 13 48 19.5 +1.1**
comp=Z,26nm,0.4s
PKI Pulchoki 48.28 275 *eP* **P 13 48 22.9 +0.5**
comp=Z,3.5nm,0.3s
PKIN Phulchoki 48.28 275 *eP* **P 13 48 22.0 -0.4**
comp=Z,6.9nm,0.5s
TARG Taragay, Kyrgy 48.36 295 P **P 13 48 21.0 -2.0**
TARG lAmb lAmb 13 48 27.2
comp=Z,4.3nm,0.6s
TARG Taragay, Kyrgy 48.36 295 P **P 13 48 21.0 -2.0**
TARG pmax pmax
comp=Z,4.0nm,0.6s
MDOK Medeo 48.43 297 P **P 13 48 23.0 -0.3**
BMAR Burnt Mountain 48.54 30 P **P 13 48 24.5 +0.9**
SCRK Sand Creek 49.03 34 P **P 13 48 28.8 +1.3**
SCRK lAmb lAmb 13 48 43.6
comp=Z,7.6nm,1.2s
DANN Dangsing 49.19 276 *eP* **P 13 48 29.7 +0.3**
comp=Z,94nm,0.8s
TKM2 Tokmak 2 49.52 297 *i*P **P 13 48 31.9 +0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
PYUN Piuthan 49.91 276 *eP* **P 13 48 34.8 0.0**
comp=Z,76nm,1.0s
BVA0 Borovoye Array 50.03 311 *i*P **P 13 48 34.7 -0.4**
BVAR Borovoye Array 50.03 311 LR LR 14 10 39.2
comp=Z,85nm,20.0s,baz=82,slow=37
BRVK Borovoye 50.09 312 P **P 13 48 34.4 -1.1**
BRVK lAmb lAmb 13 48 36.8
comp=Z,6.6nm,0.6s
BRVK Borovoye 50.09 312*c i*P **P 13 48 35.3 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 50.38 297 LR LR 14 11 24.5
comp=Z,60nm,20.5s,baz=78,slow=38
AAK Ala-Archa 50.38 297⇓*e*P **P 13 48 38.8 +0.7**
AAK pmax pmax
comp=Z,3.0nm,1.0s
KSH Kashi 50.43 293 P P 13 48 44.6 +6.1
KSH sP sP 13 49 00.3 +8.5
KSH pmax pmax
comp=Z,3.0nm,0.7s
HNR Honiara 50.59 157 LR LR 14 08 46.2
comp=Z,709nm,20.8s,baz=302,slow=34
INK Inuvik 52.59 28 P **P 13 48 55.9 +1.8**
comp=Z,1.4nm,0.6s,baz=309,slow=6.8,SNR=7.6
comp=Z,1.4nm,0.6s
KK31 Karatay Array 52.96 299 *i*P **P 13 48 56.6 -0.6**
KKAR Karatay Array 52.96 299 P **P 13 48 56.5 -0.7**
KKAR Karatay Array 52.96 299 P **P 13 48 56.5 -0.7**
PSI Prapat 53.27 239 LR LR 14 13 36.0
comp=Z,56nm,18.3s,baz=32,slow=38
KNRA Kununurra 55.54 196 P **P 13 49 16.3 +0.2**
KNRA lAmb lAmb 13 49 35.7
comp=Z,14nm,1.0s
C36M Paulatuk 55.63 25 P **P 13 49 17.6 +1.4**
ARU Arti 55.63 318 LR LR 14 15 27.4
comp=Z,175nm,18.6s,baz=116,slow=39
ARU Arti 55.63 318*d i*P **P 13 49 16.2 -0.2**
ARU *PP **pP 13 49 24.9 -1.2**
ARU 13 50 12.7
ARU 13 51 15.8
ARU S **S 13 57 01.8 +1.8**
ARU SS **SS 14 00 46.6 +1.8**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU MLR MLR
comp=Z,168nm,18.0s
CHGR Chuyangaron 55.64 295 P **P 13 49 16.8 -0.1**
CHGR pmax pmax
comp=Z,16nm,0.9s
AB31 Akbulak array 57.46 310 *eP* **P 13 49 28.9 -0.6**
ABKAR Akbulak array 57.46 310 P **P 13 49 28.9 -0.6**
CTA Charters Tower 58.56 176 P **P 13 49 39.0 +1.5**
comp=Z,1.9nm,0.7s,baz=16,slow=8.6,SNR=1.5
comp=Z,1.9nm,0.7s
CTA Charters Tower 58.56 176 P **P 13 49 39.0 +1.5**
FITZ Fitzroy Crossi 58.61 199 P **P 13 49 39.0 +1.2**
baz=34,slow=3.6
WB0 Warramunga Arr 58.61 189 P **P 13 49 38.0 +0.2**
WRAB Tennant Creek 58.78 189⇑*e*P **P 13 49 39.5 +0.6**
WRAB pmax pmax
comp=Z,21nm,2.5s
WRA Warramunga Arr 58.79 189 P **P 13 49 39.3 +0.3**
comp=Z,2.8nm,0.6s,baz=7.4,slow=7.0,SNR=42
WRA pP **sP 13 49 52.6 +0.3**
comp=Z,4.0nm,0.5s,baz=6.0,slow=7.2,SNR=9.7
WRA LR LR 14 15 20.5
comp=Z,55nm,18.1s,baz=314,slow=36
comp=Z,2.8nm,0.6s
WRA Warramunga Arr 58.79 189 *i*P **P 13 49 39.2 +0.2**
WRA pmax pmax
comp=Z,3.0nm,0.6s
KIRV Kirov 59.40 323 LR LR 14 18 08.1
comp=Z,45nm,18.2s,baz=61,slow=39
KIRV Kirov 59.40 323*c i*P **P 13 49 42.9 +0.1**
NOR Nord 59.46 356 *i*P **P 13 49 41.7 -1.3**
NOR lAmb lAmb 13 49 44.2
comp=Z,1.7nm,0.6s
ASAR Alice Springs 62.52 189 P **P 13 50 05.1 +0.7**
comp=Z,2.3nm,0.8s,baz=9.3,slow=5.2,SNR=32
ASAR pP **sP 13 50 16.9 -0.9**
comp=Z,3.1nm,0.7s,baz=9.5,slow=5.5,SNR=12
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 62.73 339 P **P 13 50 05.3 0.0**
comp=Z,1.7nm,0.8s,baz=52,slow=7.7,SNR=14
ARCES LR LR 14 19 41.3
comp=Z,45nm,21.6s,baz=291,slow=38
comp=Z,1.7nm,0.8s
BELG Belogornoye 63.11 317 LR LR 14 19 39.6
comp=Z,105nm,18.7s,baz=33,slow=38
BELG Belogornoye 63.11 317*d i*P **P 13 50 08.3 +0.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
GEYT Alibeck 63.70 299 P **P 13 50 11.9 -0.3**
comp=Z,4.5nm,0.8s,baz=50,slow=2.3,SNR=9.0
GEYT LR LR 14 19 02.2
comp=Z,52nm,21.9s,baz=29,slow=37
comp=Z,4.5nm,0.8s
NEEM North Greenlan 63.85 3 *i*P **P 13 50 13.3 +0.3**
NEEM lAmb lAmb 13 50 14.7
comp=Z,2.4nm,0.8s
DAG Danmarks Havn 64.21 355 *i*P **P 13 50 14.5 -0.4**
DAG lAmb lAmb 13 50 17.0
comp=Z,5.7nm,0.8s
DZM Mont Dzumac 64.51 155 LR LR 14 16 41.8
comp=Z,63nm,20.2s,baz=27,slow=34
OBN Obninsk 67.23 323 *eP* **P 13 50 34.8 +0.1**
OBN *e* 13 51 03.2
OBN pmax pmax
comp=Z,5.0nm,0.8s
AFI Afiamalu 67.63 131 LR LR 14 13 09.6
comp=Z,48nm,21.6s,baz=135,slow=30
FIA1 FINESS Array S 67.71 332 P **P 13 50 36.3 -1.4**
FIA1 lAmb lAmb 13 50 39.3
comp=Z,11nm,0.9s
FINES FINESS Array B 67.71 332 P **P 13 50 37.4 -0.2**
comp=Z,6.0nm,0.8s,baz=51,slow=7.6,SNR=18
FINES LR LR 14 22 13.6
comp=Z,64nm,18.3s,baz=42,slow=38
comp=Z,6.0nm,0.8s
FINES FINESS Array B 67.71 332 P **P 13 50 37.6 -0.1**
FINES FINESS Array B 67.71 332 *i*P **P 13 50 37.5 -0.2**
FINES pmax pmax
comp=Z,5.0nm,0.7s
SUMG Summit 69.05 0 *i*P **P 13 50 46.0 -0.4**
SUMG lAmb lAmb 13 50 49.3
comp=Z,2.5nm,0.9s
VSU Vasula 69.42 330⇑*e*P **P 13 50 49.2 +0.8**
ZEI Tsey 70.33 309 *e*P **P 13 50 53.0 -1.6**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 70.40 311 *i*P **P 13 50 55.2 +0.4**
KIV *e* 13 51 06.5
KIV *i* 13 51 19.4
KIV pmax pmax
comp=Z,12nm,0.8s
KIV MLR MLR
comp=Z,24nm,16.0s
KBZ Khabaz 70.40 311 P **P 13 50 55.1 +0.5**
comp=Z,6.8nm,0.8s,baz=61,slow=5.0,SNR=12
KBZ LR LR 14 26 33.0
comp=Z,39nm,18.3s,baz=42,slow=40
comp=Z,6.8nm,0.8s
KBZ Khabaz 70.40 311*d i*P **P 13 50 55.4 +0.7**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
NEY Neytrino 70.78 310⇓*i*P **P 13 50 57.5 +0.2**
NEY pmax pmax
comp=Z,3.0nm,0.8s
GNI Garni 71.32 307 LR LR 14 25 31.3
comp=Z,63nm,18.5s,baz=79,slow=39
NACGM Naroch 71.76 327⇓*e*P **P 13 51 03.2 +0.5**
baz=48
HFS Hagfors 72.90 336 LR LR 14 26 07.2
comp=Z,99nm,18.6s,baz=34,slow=38
NB2 NORSAR Subarra 72.96 337 P **P 13 51 09.7 -0.2**
comp=Z,0.8nm,0.5s,baz=36,slow=6.5
NOA NORSAR Array B 72.96 337 P **P 13 51 09.9 0.0**
comp=Z,1.6nm,0.6s,baz=39,slow=5.9,SNR=10
NOA pP **sP 13 51 22.7 -0.8**
comp=Z,1.3nm,0.6s,baz=39,slow=6.0,SNR=4.7
NOA LR LR 14 26 00.6
comp=Z,65nm,21.4s,baz=40,slow=38
comp=Z,1.6nm,0.6s
NORES NORESS Array B 73.10 337 P **P 13 51 11.8 +1.2**
NVAR Mina Array Bea 73.42 54 P **P 13 51 15.2 +2.0**
comp=Z,1.9nm,0.9s,baz=290,slow=6.2,SNR=13
comp=Z,1.9nm,0.9s
AKASG Malin Array Be 73.45 322 P **P 13 51 12.6 -0.3**
comp=Z,6.4nm,0.8s,baz=46,slow=6.1,SNR=21
AKASG LR LR 14 26 15.5
comp=Z,74nm,19.5s,baz=45,slow=38
comp=Z,6.4nm,0.8s
AKBB Malin Array Si 73.45 322*de*P **P 13 51 11.8 -1.1**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
SFJD Kangerlussuaq 74.19 5 LR LR 14 24 32.6
comp=Z,37nm,20.6s,baz=18,slow=36
DUG Dugway, Tooele 75.73 50 P **P 13 51 27.4 +0.9**
DUG lAmb lAmb 13 51 29.7
comp=Z,7.3nm,1.3s
DUG Dugway, Tooele 75.73 50 P **P 13 51 27.4 +0.9**
DUG pmax pmax
comp=Z,7.0nm,1.3s
PDAR Pinedale Array 75.99 46 P **P 13 51 29.6 +1.6**
comp=Z,1.6nm,0.5s,baz=271,slow=1.8,SNR=16
comp=Z,1.6nm,0.5s
TATR Tatarca 77.47 319 P **P 13 51 37.4 +1.4**
BUR08 Bucovina Ar. S 77.47 322 P **P 13 51 35.6 -0.5**
BURAR Bucovina Array 77.48 322 ⇓P **P 13 51 36.9 +0.7**
BURAR Bucovina Array 77.48 322 P **P 13 51 34.5 -1.7**
BURAR lAmb lAmb 13 51 38.2
comp=Z,3.4nm,0.8s
BIZ Bicaz 77.52 321 ⇑P **P 13 51 36.9 +0.6**
TPGR Topolog 77.78 318 ⇑P **P 13 51 38.4 +0.6**
OZUR 78.27 321 P **P 13 51 41.8 +1.3**
BR131 Keskin Array S 78.32 312 ⇓*i*P **P 13 51 41.4 +0.4**
BRTR Keskin Array B 78.32 312 P **P 13 51 41.0 0.0**
comp=Z,1.6nm,0.4s,baz=118,slow=3.3,SNR=22
comp=Z,1.6nm,0.4s
BRTR Keskin Array B 78.32 312 P **P 13 51 39.9 -1.1**
BRTR Keskin Array B 78.32 312 *i*P **P 13 51 41.4 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.4s
CRVS Cervenica-Dubn 78.32 325 *e*P P 13 51 45.7 +5.0
CRVS Cervenica-Dubn 78.32 325 *e*P **P** 13 51 45.7 +5.0
ISR Istrita 78.57 319 ⇓P **P 13 51 43.7 +1.4**
ISR Istrita 78.57 319 P **P 13 51 43.6 +1.4**
MLR Muntele Rosu 78.61 320 P **P 13 51 43.2 +0.6**
MLR Muntele Rosu 78.61 320 LR LR 14 29 15.9
comp=Z,74nm,19.9s,baz=59,slow=38
MLR Muntele Rosu 78.61 320 P **P 13 51 43.1 +0.6**
KECS Kecovo 79.07 325 *e*P **P 13 51 46.3 +1.5**
KECS Kecovo 79.07 325 *e*P **P 13 51 46.3 +1.5**
VOIR 79.10 320 ⇑P **P 13 51 46.4 +1.2**
VOIR 79.10 320 P **P 13 51 46.3 +1.2**
ARR Arges 79.36 321 ⇑P **P 13 51 47.9 +1.4**
MORC Moravsky Berou 79.39 327 ⇑P **P 13 51 47.3 +0.6**
MORC Moravsky Berou 79.39 327 *e*P **P 13 51 47.2 +0.6**
MORC Moravsky Berou 79.39 327 P **P 13 51 47.2 +0.6**
CHVC Chvalec 79.39 328 *e*P **P 13 51 46.6 0.0**
DPC Dobruska-Polom 79.46 328 *e*P **P 13 51 47.3 +0.3**
DPC *e* 13 52 00.5
DPC Dobruska-Polom 79.46 328 *e*P **P 13 51 47.3 +0.3**
DPC *e*P **sP 13 52 00.5 -0.2**
KRLC Kraliky 79.48 328 *e*P P 13 51 59.6 +2.5
PSZ Piszkesteto 79.75 325 ⇓P **P 13 51 49.6 +1.0**
PSZ Piszkesteto 79.75 325 P **P 13 51 49.6 +1.0**
VYHS Vyhne 79.80 326 *e*P **P 13 51 49.5 +0.7**
VYHS Vyhne 79.80 326 *e*P **P 13 51 49.5 +0.7**
BRG Berggiesshubel 80.02 330 *e*P **P 13 51 50.6 +0.7**
BRG Amp 13 51 52.1
comp=Z,3.5nm,0.8s
BRG Berggiesshubel 80.02 330 *e*P **P 13 51 50.6 +0.7**
BRG pmax pmax
comp=Z,4.0nm,0.8s

JAVC	**Velka Javorina**	**80.03**	**327**	*e*P		**P**	**13 51 51.9**	**+1.8**
CLL	**Collm**	**80.04**	**330**	⇑*i*P		**P**	**13 51 50.1**	**+0.1**
CLL				*i* *PP		**pP**	**13 52 03.0**	**+3.0**
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CLL	**Collm**	**80.04**	**330**	*e*S		**S**	**14 01 48.0**	**-3.8**
CLL	**Collm**	**80.04**	**330**	⇑*i*P		**P**	**13 51 50.1**	**+0.1**
	comp=Z,8.0nm,0.9s							
CLL	**Collm**	**80.04**	**330**	*i* x		x	13 51 55.3	
CLL	**Collm**	**80.04**	**330**	*i* pP		pP	13 52 03.0	+3.0
CLL	**Collm**	**80.04**	**330**	e(PP)			13 54 42.0	
VRAC	**Vranov**	**80.15**	**327**	⇑P		**P**	**13 51 51.5**	**+0.8**
VRAC	**Vranov**	**80.15**	**327**	LR		LR	14 30 10.1	
	comp=Z,61nm,18.7s,baz=39,slow=38							
VRAC	**Vranov**	**80.15**	**327**	*e*P		**P**	**13 51 51.2**	**+0.5**
VRAC	**Vranov**	**80.15**	**327**	P		**P**	**13 51 51.5**	**+0.8**
GZR	**Gura Zlata**	**80.25**	**322**	⇓P		**P**	**13 51 51.9**	**+0.5**
GZR	**Gura Zlata**	**80.25**	**322**	P		**P**	**13 51 51.9**	**+0.5**
KRUC	**Moravsky**	**80.42**	**327**	*e*P		**P**	**13 51 52.7**	**+0.6**
PRU	**Pruhonice**	**80.47**	**329**	*e*P		**P**	**13 51 53.5**	**+1.1**
PRU	**Pruhonice**	**80.47**	**329**	*e*P		**P**	**13 51 53.5**	**+1.1**
MODS	**Modra-Piesok**	**80.57**	**326**	*e*P		**P**	**13 51 55.7**	**+2.7**
MODS	**Modra-Piesok**	**80.57**	**326**	*e*P		**P**	**13 51 55.7**	**+2.7**
RAYN	**Ar Rayn**	**80.72**	**293**	P		**P**	**13 51 54.9**	**+0.7**
MDVR	**Moldovita**	**81.21**	**322**	⇓P		**P**	**13 51 56.5**	**0.0**
CKRC	**Cesky Krmlov**	**81.48**	**328**	*e*P		**P**	**13 51 58.9**	**+1.1**
RONA	**Rosalia, Austr**	**81.51**	**326**	*i* P		**P**	**13 51 59.3**	**+1.3**
	comp=Z,6.5nm,0.8s							
CONA	**Conrad Observa**	**81.52**	**327**	*e*P		**P**	**13 51 59.5**	**+1.4**
	comp=Z,5.6nm,1.1s							
KHC	**Kasperske Hory**	**81.53**	**329**	*e*P		**P**	**13 51 58.7**	**+0.6**
KHC				*e*			13 52 11.0	
KHC	**Kasperske Hory**	**81.53**	**329**	*e*P		**P**	**13 51 58.7**	**+0.6**
KHC				*e*pP		**sP**	**13 52 11.0**	**-0.8**
GERES	**GERESS Array B**	**81.71**	**329**	P		**P**	**13 51 59.0**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=35,slow=4.9,SNR=8.9							
	comp=Z,1.8nm,0.9s							
EKA	**Eskdalemuir Ar**	**81.83**	**341**	LR		LR	14 32 25.4	
	comp=Z,46nm,18.8s,baz=38,slow=39							
FRGS	**Fruska Gora**	**81.84**	**323**	P		**P**	**13 52 00.4**	**+0.5**
VTS	**Vitosha**	**82.03**	**319**	⇑P		**P**	**13 52 02.2**	**+1.1**
VTS	**Vitosha**	**82.03**	**319**	P		**P**	**13 52 02.1**	**+1.1**
BOVS	**Bovan**	**82.06**	**321**	⇑P		**P**	**13 52 01.6**	**+0.7**
BIOA	**Bad Ischl, Aus**	**82.64**	**328**	*e*P		**P**	**13 52 04.9**	**+1.0**
	comp=Z,3.8nm,0.8s							
SOKA	**Soboth**	**82.84**	**327**	*e*P		**P**	**13 52 05.8**	**+0.7**
	comp=Z,7.5nm,1.0s							
ANMO	**Albuquerque**	**82.97**	**51**	⇑*i*P		**P**	**13 52 08.6**	**+2.5**
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.3s							
RETA	**Reutte**	**83.98**	**329**	*i* P		**P**	**13 52 11.7**	**+0.8**
	comp=Z,6.0nm,1.1s							
FETA	**Feichten**	**84.37**	**329**	*e*P		**P**	**13 52 13.5**	**+0.5**
	comp=Z,4.1nm,0.8s							
DAVA	**Damuels**	**84.49**	**330**	*e*P		**P**	**13 52 14.4**	**+0.8**
	comp=Z,4.0nm,0.9s							
PPT	**Papeete**	**84.71**	**117**	LR		LR	14 21 45.7	
	comp=Z,48nm,20.9s,baz=312,slow=30							
DAVOX	**Davos/Dischmat**	**84.90**	**329**	LR		LR	14 33 24.4	
	comp=Z,65nm,20.4s,baz=80,slow=38							
LPIG	**La Paz**	**87.73**	**61**	LR		LR	14 30 46.4	
	comp=Z,19nm,18.8s,baz=230,slow=35							
TXAR	**Lajitas Array**	**88.54**	**53**	P		**P**	**13 52 34.9**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=300,slow=3.1,SNR=18							
TXAR				pP		**sP**	**13 52 48.4**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=314,slow=2.6,SNR=9.9							
	comp=Z,0.9nm,0.6s							
ESDC	**Sonseca Array**	**96.14**	**334**	LR		LR	14 40 57.4	
	comp=Z,43nm,18.3s,baz=359,slow=38							
TROLL	**Troll, Antarti**	**141.02**	**199**	PKPdf		**PKPdf**	**13 59 04.2**	**-5.6**
SNAA	**Sanae**	**142.53**	**197**	PKPdf		**PKPdf**	**13 59 07.8**	**-4.6**
VNA2	**Neumayer--Watz**	**144.10**	**196**	PKPdf		**PKPab**	**13 59 12.8**	**+0.1**
	baz=108,slow=2.0							
VNA3	**Neumayer Olymp**	**144.34**	**195**	PKPdf		**PKPab**	**13 59 13.7**	**0.0**
VNA1	**Neumayer--Stat**	**144.50**	**196**	PKPdf		**PKPab**	**13 59 14.6**	**+0.4**
LPAZ	**La Paz**	**145.21**	**59**	PKPbc		**PKPdf**	**13 59 19.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=293,slow=5.7,SNR=4.8							
H03N2	**Juan Fernandez**	**146.43**	**94**	T		T	16 43 59.0	
	baz=292,slow=74							
H03N3	**Juan Fernandez**	**146.44**	**94**	T		T	16 44 06.7	
	baz=292,slow=74							
H03N1	**Juan Fernandez**	**146.44**	**94**	T		T	16 44 01.1	
	baz=292							
PLCA	**Paso Flores**	**154.68**	**105**	PKPab		**PKPab**	**13 59 57.1**	**+0.7**
	comp=Z,2.6nm,1.0s,baz=256,slow=5.5,SNR=3.7							

*IDC **17** 13:41:34.4±1.6,38.°17N×33.°73E,h0km,mb3.8/2,*
mbtmp3.8/2,Error ellipse: s-maj=22.9km s-min=14.9km
az=87.0
*DDA **17** 13:41:35.7±0.0,38.°15N×33.°53E,h12km±2km,ML3.5*
*ISK **17** 13:41:35.8,38.°16N×33.°53E,h5km,ML3.5/27*

ISC 17 13:41:35.9±0.9, 38.°15N±0.°02×33.°55E±0.°02, h7km±6km, n64, σ0s76/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULT	**Sultanhani-AKS**	**0.05**	**330**	PG	**Pg**	**13 41 37.5**	**-0.2**
SULT				SG	**Sg**	**13 41 39.3**	**+0.3**
AKSY	**AKSARAY - Alti**	**0.52**	**18**	P	**Pg**	**13 41 46.2**	**+0.2**
ALIN	**Konya, Altinte**	**0.55**	**286**	P	**Pg**	**13 41 45.9**	**-0.6**
ALIN				S	**Sg**	**13 41 52.3**	**-1.4**
GULA	**Gulagac**	**0.57**	**70**	PG	**Pg**	**13 41 47.3**	**+0.3**
GULA				SG	**Sb**	**13 41 56.3**	**-0.5**
CHBY	**Cihanbeyli**	**0.67**	**310**	PG	**Pg**	**13 41 48.6**	**-0.3**
CHBY				SG	**Sb**	**13 41 58.5**	**-1.1**
SERE	**Sereflikochisa**	**0.79**	**1**	PG	**Pg**	**13 41 51.3**	**+0.1**
SERE				SG	**Sb**	**13 42 02.7**	**-0.4**
KERG	**Konya-Eregli**	**0.87**	**148**	P	**Pg**	**13 41 52.9**	**+0.3**
LADK	**Ladik-KONYA**	**0.94**	**273**	PG	**Pg**	**13 41 52.2**	**-1.7**
LADK				SG	**Sb**	**13 42 07.2**	**0.0**
KONT	**Konya--Tatoy**	**0.96**	**258**	PG	**Pg**	**13 41 54.2**	**-0.2**
KONT				SG	**Sb**	**13 42 08.2**	**+0.4**
NIDE	**Nigde/Merkez-G**	**0.98**	**99**	P	**Pb**	**13 41 55.2**	**-0.2**
NIDE				S	**Sb**	**13 42 08.6**	**+0.1**
NIDE				*i* AML	AML	13 42 10.0	
	comp=N,1μm,0.3s						
NIDE				*i* AML	AML	13 42 11.0	
	comp=E,1μm,0.3s						
KRMN	**Karaman**	**1.00**	**193**	PG	**Pb**	**13 41 55.7**	**0.0**
KRMN				SG	**Sb**	**13 42 09.9**	**+0.8**
KMER	**Konya-Meram**	**1.01**	**248**	P	**Pg**	**13 41 55.1**	**-0.2**
KMER				S	**Sb**	**13 42 09.9**	**+0.6**
KMER				*i* AML	AML	13 42 14.0	
	comp=N,954nm,0.4s						
KIRS	**Kirsehir-Merke**	**1.02**	**16**	P	**Pg**	**13 41 55.0**	**-0.5**
KKBE	**Karaman, Kazim**	**1.05**	**208**	P	**Pg**	**13 41 55.6**	**-0.5**
KKBE				S	**Sb**	**13 42 10.1**	**-0.3**
KDHN	**Kadinhani**	**1.19**	**289**	P	**Pg**	**13 41 57.6**	**-1.1**
KDHN				S	**Sb**	**13 42 13.8**	**-0.6**
AVNS	**Nevsehir-Avano**	**1.21**	**57**	P	**Pg**	**13 41 58.4**	**-0.8**
AVNS				S	**Sn**	**13 42 16.1**	**0.0**
AVNS				*i* AML	AML	13 42 21.0	
	comp=N,979nm,0.6s						
AVNS				*i* AML	AML	13 42 22.0	
	comp=E,1μm,0.5s						
KAMT	**Kaman**	**1.22**	**6**	PN	**Pn**	**13 41 59.6**	**+0.1**
CMRD	**Camardi-Nigde**	**1.24**	**113**	PN	**Pg**	**13 41 59.4**	**-0.3**
GULE	**Gulek**	**1.30**	**131**	P	**Pn**	**13 42 00.8**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**1.43**	**92**	P	**Pn**	**13 42 02.8**	**+0.4**
YAHY				S	**Sg**	**13 42 23.2**	**+1.3**
KOZK	**Kozakli-Nevseh**	**1.48**	**44**	PN	**Pg**	**13 42 03.9**	**-0.4**
DOGA	**KONYA_Doganhis**	**1.48**	**269**	P	**Pg**	**13 42 04.1**	**-0.3**
DOGA				S	**Sg**	**13 42 24.5**	**+0.8**
DOGA				*i* AML	AML	13 42 32.0	
	comp=N,500nm,0.6s						
KIZT	**Kizilcal**	**1.50**	**300**	PN	**Pb**	**13 42 03.5**	**-0.6**
MERS	**Mersin**	**1.50**	**149**	PN	**Pn**	**13 42 02.9**	**-0.4**
SEYD	**Seydisehir-KON**	**1.55**	**242**	PN	**Pb**	**13 42 04.7**	**-0.3**
BRTR	**Keskin Array B**	**1.57**	**3**	Pg	**Pn**	**13 42 04.5**	**+0.1**
	41nm,0.3s,baz=173,slow=18,SNR=159						
BRTR				Lg	Lg	13 42 25.8	
	32nm,0.3s,baz=175,slow=28,SNR=4.4						
SEDI	**Konya, Seydise**	**1.58**	**244**	P	**Pb**	**13 42 05.4**	**-0.2**
SEDI				S	**Sg**	**13 42 28.0**	**+1.1**
SEDI				*i* AML	AML	13 42 30.0	
	comp=N,539nm,0.6s						
SEDI				*i* AML	AML	13 42 30.0	
	comp=E,928nm,0.6s						
ERMK	**Ermenek**	**1.59**	**199**	P	**Pb**	**13 42 05.9**	**+0.1**
CDAG	**Cicekdag**	**1.60**	**23**	P	**Pn**	**13 42 05.0**	**+0.2**
CDAG				S	**Sb**	**13 42 26.3**	**-0.1**
CDAG				*i* AML	AML	13 42 31.0	
	comp=N,818nm,0.5s						
CDAG				*i* AML	AML	13 42 37.0	
	comp=E,784nm,0.5s						
AKO	**Adana**	**1.65**	**114**	P	**Pn**	**13 42 04.8**	**-0.5**
KEBE	**Keben-Mersin**	**1.71**	**176**	PN	**Pb**	**13 42 07.2**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.72**	**183**	PN	**Pb**	**13 42 07.2**	**-0.6**
SIRC	**Yozgat**	**1.72**	**46**	P	**Pn**	**13 42 06.6**	**+0.3**
SIRC				S	**Sg**	**13 42 32.6**	**+1.4**
SIRC				*i* AML	AML	13 42 41.0	
	comp=N,456nm,0.6s						
SIRC				*i* AML	AML	13 42 41.0	
	comp=E,300nm,0.5s						
GUNE	**Kayseri**	**1.79**	**65**	P	**Pg**	**13 42 10.2**	**-0.1**
SILI	**Silifke-Mersin**	**1.81**	**170**	PN	**Pb**	**13 42 08.6**	**-0.7**
ANTO	**Ankara**	**1.81**	**341**	PN	**Pn**	**13 42 08.3**	**+0.7**
BERE	**Bereket-Mersin**	**1.82**	**188**	PN	**Pn**	**13 42 08.5**	**+0.7**
YVAC	**Isparta, Yalva**	**1.82**	**274**	P	**Pb**	**13 42 09.1**	**-0.6**
LOD	**Lodumlu**	**1.84**	**341**	PN	**Pn**	**13 42 08.6**	**+0.6**
IKL	**Isikli**	**1.91**	**177**	PN	**Pb**	**13 42 10.2**	**-0.9**
KOZT	**Kozan**	**1.92**	**110**	PN	**Pb**	**13 42 10.6**	**-0.7**
BNN	**Bunyan**	**1.93**	**68**	PN	**Pn**	**13 42 10.4**	**+1.1**
OREN	**Orenkoy-Mersin**	**1.94**	**182**	PN	**Pb**	**13 42 10.6**	**-1.0**
KARG	**Kargicak-Mersi**	**1.95**	**176**	PN	**Pb**	**13 42 10.7**	**-1.1**
GULN	**MERSIN_Gulnar**	**1.97**	**180**	P	**Pg**	**13 42 12.9**	**-0.7**
GULN				S	**Sb**	**13 42 37.3**	**+0.6**
KEPZ	**Antalya-Kepez**	**1.99**	**232**	P	**Pb**	**13 42 11.7**	**-0.8**
AKKU	**Akkuyu-Mersin**	**1.99**	**180**	PN	**Pb**	**13 42 11.8**	**-0.6**
TISA	**Tisan-Mersin**	**1.99**	**177**	PN	**Pn**	**13 42 11.2**	**+1.3**
SAIM	**ADANA**	**2.01**	**94**	P	**Pb**	**13 42 11.8**	**-0.9**
YOZ	**Yozgat**	**2.03**	**42**	PN	**Pn**	**13 42 11.4**	**+0.8**
AUSIV	**SIVRIHISAR**	**2.03**	**310**	PN	**Pn**	**13 42 11.3**	**+0.7**
AUSIV	**SIVRIHISAR**	**2.03**	**310**	P	**Pn**	**13 42 11.4**	**+0.7**
TEKE	**Tekeli-Mersin**	**2.04**	**190**	PN	**Pb**	**13 42 12.2**	**-1.0**
SVRH	**Sivrihisar-ESK**	**2.04**	**310**	PN	**Pn**	**13 42 11.6**	**+0.8**
CEYT	**Ceyhan**	**2.09**	**122**	PN	**Pb**	**13 42 13.0**	**-1.1**
YURE	**YUREGIR**	**2.12**	**128**	P	**Pg**	**13 42 15.8**	**-0.8**
GAZI	**Gazipasa**	**2.15**	**208**	PN	**Pn**	**13 42 13.7**	**+1.5**
GAZI	**Gazipasa**	**2.15**	**208**	P	**Pb**	**13 42 14.0**	**-1.3**
CORM	**Corum**	**2.19**	**22**	PN	**Pn**	**13 42 12.8**	**-0.1**
CIFT	**Cifteler, Eski**	**2.29**	**303**	PN	**Pn**	**13 42 14.8**	**+0.6**
KIBS	**BOLU**	**2.62**	**330**	P	**Pg**	**13 42 27.9**	**+1.8**
KZIL	**AFYON_Kizioren**	**2.69**	**273**	P	**Pn**	**13 42 21.2**	**+1.6**
TORD	**Torodi Ar. Bea**	**37.69**	**237**	P	**P**	**13 48 52.1**	**0.0**
	0.2nm,0.5s,baz=32,slow=8.5,SNR=1.8						
	0.2nm,0.5s						
CMAR	**Chiang Mai Ar**	**59.66**	**90**	P	**P**	**13 51 40.6**	**-0.4**
	1.1nm,0.3s,baz=295,slow=8.8,SNR=5.5						
	1.1nm,0.3s						

ROM 17 13:49:21.7±0.1, 42.°848N±0.°003×13.°240E±0.°006, h14km, ML1.2/2, 1C-4D, Error ellipse: s-maj=0.4km s-min=0.3km az=274.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.03**	**234**	P	Pg	13 49 24.5	+0.1
T1242				S	Sg	13 49 26.2	0.0
T1242				AML	AML		
	comp=E,122μm,1.5s						
T1242				AML	AML		
	comp=N,250μm,0.2s						
T1242				AML	AML		
	comp=N,250μm,0.2s						
MC2	**Monte Cornacci**	**0.07**	**330**	P	Pg	13 49 24.9	+0.1
MC2				S	Sg	13 49 27.2	+0.3
MMO1	**Montemonaco**	**0.08**	**51**	P	Pg	13 49 25.0	+0.2
MMO1				S	Sg	13 49 27.3	+0.4
T1241	**Roccafluvione,**	**0.14**	**87**	⇓P	Pg	13 49 25.7	+0.3
T1241				S	Sb	13 49 28.6	-0.5
T1202	**Accumoli, Fraz**	**0.14**	**184**	P	Pg	13 49 25.4	-0.2
T1202				S	Sb	13 49 29.1	-0.2
T1216	**Preci, Frazion**	**0.17**	**285**	P	Pg	13 49 26.1	+0.4
T1216				S	Sb	13 49 29.4	-0.5
T1204	**Amatrice, Fraz**	**0.18**	**162**	P	Pb	13 49 26.5	-0.4
T1204				S	Sg	13 49 29.5	+0.5
FDMO	**Fiordimonte**	**0.22**	**329**	P	Pg	13 49 26.7	+0.1
FDMO				S	Sg	13 49 30.4	+0.5
SMA1	**SAN MARTINO**	**0.23**	**162**	⇓P	Pg	13 49 27.0	+0.2
SMA1				S	Sg	13 49 30.7	+0.5
CSP1	**Cessapalombo**	**0.24**	**354**	⇑P	Pg	13 49 27.2	+0.2
CSP1				S	Sb	13 49 31.5	-0.7
T1217	**Poggiodomo (PG**	**0.27**	**239**	P	Pg	13 49 27.5	+0.2
T1215	**Vallo di Nera,**	**0.28**	**261**	P	Pg	13 49 26.7	-0.8
T1215				AML	AML		
	comp=E,80μm,1.6s						
T1215				AML	AML		
	comp=N,75μm,1.6s						
LNSS	**Leonessa**	**0.29**	**211**	⇓P	Pg	13 49 27.9	+0.1
LNSS				S	Sb	13 49 32.8	-0.5
RM33	**Pellescritta (**	**0.34**	**183**	⇓P	Pg	13 49 28.9	+0.2
RM33				S	Sb	13 49 34.5	-0.4
TERO	**Teramo**	**0.35**	**130**	P	Pg	13 49 29.0	+0.1

*DJA **17** 13:52:24.5±0.6,0.°5S×6.°1×12.°3E±.°, h109km±10km, M4.1/11,*
mb4.5/2,mB4.6/1,MLv3.9/11,Mw(mB)3.8/1
*IDC **17** 13:52:25.1±3.3,0.°18S×122.°92E,h122km±29km, mb3.1/6,*
mbtmp3.6/8,Error ellipse: s-maj=36.4km s-min=18.6km
az=69.0

ISC 17 13:52:23.7±0.8, 0.°19S±0.°05×122.°99E±0.°05, h100km, n19, σ2s06/22, mb3.3/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.82**	**2**	P	**Pn**	**13 52 44.9**	**+2.7**
GTOI				S	**Sn**	**13 53 00.3**	**+4.2**
LUWI	**Luwuk**	**0.88**	**194**	P	**Pn**	**13 52 45.6**	**+2.8**
MRSI	**Marisa**	**1.24**	**302**	P	**Pn**	**13 52 47.2**	**+0.4**
KMSI	**Cibinong**	**1.25**	**53**	P	**Pn**	**13 52 49.3**	**+2.4**
APSI	**Ampana**	**1.52**	**242**	P	**Pn**	**13 52 52.0**	**+1.8**
MPSI	**Mapaga**	**3.13**	**280**	P	**Pn**	**13 53 11.8**	**+0.6**
SANI	**Sanana**	**3.52**	**122**	P	**Pn**	**13 53 16.7**	**+0.2**
TTSI	**Tana Toraja**	**4.25**	**228**	P	**Pn**	**13 53 28.3**	**+2.0**
LBMI	**Labuha**	**4.54**	**96**	P	**Pn**	**13 53 31.1**	**+1.0**
SPSI	**Sidrap Palu**	**4.94**	**221**	P	**Pn**	**13 53 38.1**	**+2.5**
	0.2nm755nm29nm,0.4s						
NLAI	**Namlea**	**5.11**	**126**	P	**Pn**	**13 53 39.6**	**+1.7**
KAPI	**Kappang**	**5.78**	**214**	P	**Pn**	**13 53 48.9**	**+1.8**
	9.2nm,0.4s,baz=8.0,slow=8.3,SNR=4.4						
KAPI				S	**Sn**	**13 54 53.2**	**+1.2**
	5.4nm,0.4s,baz=238,slow=23,SNR=1.2						
FITZ	**Fitzroy Crossi**	**17.99**	**172**	P	**P**	**13 56 27.5**	**+1.0**
	0.7nm,0.3s,baz=14,slow=8.0,SNR=5.5						
WRA	**Warramunga Arr**	**22.56**	**151**	P	**P**	**13 57 14.9**	**-0.9**
	0.8nm,0.5s,baz=332,slow=10,SNR=10						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.63**	**156**	P	**P**	**13 57 44.5**	**+0.4**
	0.2nm,0.5s,baz=345,slow=14,SNR=5.3						
ASAR				ScP	**ScP**	**14 04 39.7**	**-3.4**
	0.2nm,0.6s,baz=331,slow=3.4,SNR=2.4						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**36.10**	**153**	P	**P**	**13 59 15.8**	**-0.2**
	0.7nm,0.4s,baz=356,slow=14,SNR=1.0						
	0.7nm,0.4s						
SONM	**Songino Array**	**49.96**	**345**	P	**P**	**14 01 06.4**	**-1.2**
	0.2nm,0.4s,baz=154,slow=8.9,SNR=2.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.77**	**328**	P	**P**	**14 02 10.1**	**-1.2**
	0.1nm,0.4s,baz=131,slow=6.6,SNR=1.9						
	0.1nm,0.4s						
VNDA	**Vanda**	**80.06**	**172**	P	**P**	**14 04 19.9**	**-1.9**
	0.3nm,0.5s,baz=326,slow=7.5,SNR=1.6						
	0.3nm,0.5s						

*IDC **17** 14:04:55.3±1.5,8.°14S×31.°94E,h0km,mb3.4/2,*
mbtmp4.0/5,ML2.3/1,MS2.9/4,Error ellipse: s-maj=60.7km
s-min=19.1km az=118.0

ISC 17 14:04:55.9±0.8, 8.°09S±0.°05×31.°67E±0.°07, h10km, n10, σ2s40/16, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARM1	**KARONGA**	**2.88**	**130**	*i* P	**Pn**	**14 05 42.9**	**+1.1**
KARM1				S	**Sb**	**14 06 22.7**	**+0.1**
KARM1	**KARONGA**	**2.88**	**130**	*i* P	**Pn**	**14 05 42.9**	**+1.1**
KARM1				S	**Sb**	**14 06 22.7**	**+0.1**
MBAR	**Mbarara**	**7.50**	**353**	Pn	**Pn**	**14 06 47.4**	**+1.9**
	45nm,0.3s,baz=177,slow=19,SNR=60						
MBAR				Sn	**Sn**	**14 08 06.8**	**-4.0**
	64nm,0.3s,baz=43,slow=22,SNR=8.4						
MBAR				Lg	Lg	14 08 49.7	
	15nm,0.3s,baz=268,slow=23,SNR=6.9						
MBAR				LR	LR	14 09 45.7	
	comp=Z,68nm,19.6s,baz=51,slow=38						
MBAR	**Mbarara**	**7.50**	**353**	*e*P	**Pn**	**14 06 47.9**	**+2.3**
MBAR				*e*S	**Sn**	**14 08 08.5**	**-2.3**
LSZ	**Lusaka**	**7.91**	**205**	Pn	**Pn**	**14 06 53.1**	**+2.0**
	7.2nm,0.3s,baz=32,slow=12,SNR=9.3						
LSZ				Sn	**Sn**	**14 08 16.2**	**-4.7**
	6.3nm,0.3s,baz=291,slow=24,SNR=7.1						
LSZ				Lg	Lg	14 09 02.0	
	3.7nm,0.3s,baz=114,slow=20,SNR=4.1						
LSZ				LR	LR	14 10 09.3	
	comp=Z,76nm,19.2s,baz=86,slow=39						
KMBO	**Kilima Mbogo**	**8.88**	**39**	Pn	**Pn**	**14 07 04.8**	**+0.3**
	11nm,0.2s,baz=219,slow=18,SNR=23						
KMBO				Sn	Sn	14 08 35.6	-9.4
	9.5nm,0.3s,baz=86,slow=22,SNR=12						
KMBO				Lg	Lg	14 09 30.9	
	baz=264,slow=19						
TSUM	**Tsumeb**	**17.57**	**230**	P	**Pn**	**14 09 03.6**	**+2.4**
	0.5nm,0.3s,baz=75,slow=12,SNR=2.1						
TSUM				S	**Sn**	**14 12 17.0**	**0.0**
	6.6nm,1.0s,baz=307,slow=20,SNR=2.9						
	1.4nm,0.3s						
LBTB	**Lobatse**	**17.80**	**198**	P	**Pn**	**14 09 00.9**	**-3.0**
	2.1nm,0.6s,baz=11,slow=16,SNR=2.3						
LBTB				LR	LR	14 16 01.9	
	comp=Z,61nm,20.9s,baz=48,slow=37						
BOSA	**Boshof**	**21.29**	**196**	P	**P**	**14 09 44.2**	**+1.3**
	1.7nm,0.7s,baz=21,slow=13,SNR=1.6						
BOSA				LR	LR	14 17 39.9	
	comp=Z,42nm,18.6s,baz=10.0,slow=36						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**70.73**	**34**	P	**P**	**14 16 12.5**	**+0.2**
	0.2nm,0.5s,baz=236,slow=6.7,SNR=2.3						
	0.2nm,0.5s						

*IDC **17** 14:19:01.9±0.8,8.°72N×122.°43E,h0km,mb3.9/9,*
mbtmp3.9/9,MS3.4/6,Error ellipse: s-maj=30.5km
s-min=14.2km az=53.0
*MAN **17** 14:19:03.9,8.°81N×122.°13E,h32km,mb5.1,ML4.1,MS4.2*
*NEIC **17** 14:19:04.5±1.4,9.°1N±0.°1×122.°1E±0.°1, h59km±14km,*
mb4.3/15,Error ellipse: s-maj=19.7km s-min=16.5km
az=53.0

ISC 17 14:19:02.2±1.4, 8.°80N±0.°03×122.°14E±0.°03, h14km±9km, n56, σ2s16/66, mb4.2/17, MS3.4/4, 12C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**1.13**	**26**	⇑*e*P	**Pg**	**14 19 23.6**	**-0.5**
CNOP				*e*S	**Sg**	**14 19 37.9**	**-1.0**
SNPH	**Sibulan**	**1.21**	**64**	⇑*i*P	**Pn**	**14 19 24.7**	**-0.3**
SNPH				*i* S	**Sn**	**14 19 40.5**	**-0.5**
DCPH	**Dipolog City**	**1.22**	**100**	⇓*e*P	**Pn**	**14 19 24.4**	**-0.4**
LSIP	**Lazi, Siquijor**	**1.51**	**77**	⇑*e*P	**Pn**	**14 19 28.5**	**-0.3**
LSIP				*i* S	**Sn**	**14 19 48.0**	**-0.4**
PAGZ	**Pagadian**	**1.56**	**128**	⇑*e*P	**Pn**	**14 19 29.9**	**+0.4**
PAGZ				*e*S	**Sn**	**14 19 48.9**	**-0.5**
ZCP	**Zamboanga City**	**1.86**	**182**	⇑*e*P	**Pn**	**14 19 34.7**	**+1.0**
ZCP				*e*S	**Sn**	**14 19 56.6**	**-0.3**
GUIM	**Jordan**	**1.86**	**14**	⇓*e*P	**Pn**	**14 19 34.4**	**+0.7**
GUIM				*e*S	**Sn**	**14 19 56.9**	**-0.1**
TBP	**Tagbilaran**	**1.92**	**63**	⇑*e*P	**Pn**	**14 19 34.9**	**+0.4**
TBP				*i* S	**Sb**	**14 20 01.3**	**+0.5**
GHBP	**Garcia Hernand**	**2.31**	**69**	⇑*e*P	**Pn**	**14 19 40.0**	**+0.2**
GHBP				*i* S	**Sb**	**14 20 10.8**	**-1.3**
CUYO	**Cuyo Island**	**2.31**	**332**	⇑*e*P	**Pn**	**

AAK	**Ala-Archa**	**53.56**	**317**	LR	LR	14 53 19.6	
	comp=Z,44nm,21.7s,baz=81,slow=38						
VNDA	**Vanda**	**89.03**	**172**	P	**P**	**14 31 57.4**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=323,slow=3.5,SNR=4.9						
	comp=Z,0.8nm,0.8s						

IDC ***17*** *14:26:54.9±2.5, 22°.86N×94°.42E, h111km±26km, mb3.5/10, mbtmp3.9/12, MS3.9/1, Error ellipse: s-maj=32.4km s-min=12.9km az=45.0*

ISC 17 14:26:53.4±0.8, 22°.9N±0°.1×94°.52E±0°.10, h105km, n23, σ1§44/24, mb3.9/10, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**2.67**	**267**	P	**Pn**	**14 27 35.2**	**+0.4**
	101nm,0.3s,baz=90,slow=20,SNR=1.6						
BRDH				S	**Sn**	**14 28 06.8**	**+0.1**
	279nm,0.3s,baz=320,slow=21,SNR=21						
CMAR	**Chiang Mai Arr**	**6.03**	**136**	P	**Pn**	**14 28 21.2**	**+1.0**
	1.3nm,0.4s,baz=310,slow=14,SNR=4.5						
CMAR				S	**Sn**	**14 29 25.0**	**-2.9**
	1.0nm,0.6s,baz=310,slow=24,SNR=1.3						
TAPN	**Taplejung**	**7.62**	**307**	*e*P	**Pn**	**14 28 40.7**	**-1.3**
	8.4nm,0.2s						
RAMN	**Ramite**	**8.26**	**301**	*e*P	**Pn**	**14 28 50.2**	**-0.5**
	78nm,0.5s						
JIRN	**Jiri**	**8.93**	**304**	*e*P	**Pn**	**14 28 58.4**	**-1.4**
	25nm,0.2s						
GUN	**Gumba**	**9.29**	**305**	*e*P	**Pn**	**14 29 03.6**	**-1.2**
	22nm,0.2s						
PKI	**Pulchoki**	**9.49**	**301**	*e*P	**Pn**	**14 29 05.8**	**-1.6**
	21nm,0.4s						
PKIN	**Phulchoki**	**9.50**	**301**	*e*P	**Pn**	**14 29 06.3**	**-1.3**
	19nm,0.2s						
DMN	**Daman**	**9.74**	**301**	*e*P	**Pn**	**14 29 09.6**	**-1.3**
	11nm,0.2s						
GKN	**Gorkha**	**10.29**	**302**	*e*P	**Pn**	**14 29 16.3**	**-1.9**
	52nm,0.4s						
DANN	**Dangsing**	**11.14**	**302**	*e*P	**Pn**	**14 29 27.7**	**-2.1**
	15nm,0.2s						
PYUN	**Piuthan**	**11.65**	**299**	*e*P	**Pn**	**14 29 34.2**	**-2.3**
	13nm,0.2s						
MKAR	**Makanchi Array**	**25.84**	**340**	P	**P**	**14 32 16.3**	**+1.3**
	1.5nm,0.7s,baz=149,slow=10,SNR=18						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**30.39**	**340**	P	**P**	**14 32 56.2**	**+0.8**
	0.5nm,0.5s,baz=150,slow=8.9,SNR=2.9						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**31.89**	**349**	P	**P**	**14 33 09.5**	**+0.9**
	0.6nm,0.5s,baz=164,slow=10,SNR=2.9						
	0.6nm,0.5s						
KAPI	**Kappang**	**37.09**	**135**	LR	LR	14 51 41.2	
	comp=Z,169nm,19.2s,baz=82,slow=40						
AKASG	**Malin Array Be**	**57.09**	**317**	P	**P**	**14 36 27.7**	**-1.0**
	0.3nm,0.4s,baz=81,slow=6.1,SNR=2.4						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**57.62**	**134**	P	**P**	**14 36 34.1**	**+1.3**
	0.7nm,0.3s,baz=323,slow=7.4,SNR=12						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**59.89**	**329**	P	**P**	**14 36 48.2**	**+0.3**
	1.7nm,0.8s,baz=91,slow=7.6,SNR=4.2						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**60.03**	**138**	P	**P**	**14 36 51.1**	**+1.6**
	0.7nm,0.5s,baz=321,slow=7.0,SNR=6.9						
	0.7nm,0.5s						
ARCES	**ARCESS Array B**	**61.46**	**338**	P	**P**	**14 36 59.0**	**+0.5**
	2.7nm,1.0s,baz=89,slow=5.6,SNR=2.8						
	2.7nm,1.0s						
HFS	**Hagfors**	**65.92**	**327**	P	**P**	**14 37 28.3**	**+0.4**
	1.4nm,0.7s,baz=101,slow=6.0,SNR=5.1						
	1.4nm,0.7s						
NOA	**NORSAR Array B**	**67.06**	**328**	P	**P**	**14 37 35.2**	**-0.1**
	0.4nm,0.7s,baz=94,slow=5.4,SNR=2.5						
	0.4nm,0.7s						

NAO ***17*** *14:27:07.5±1.5, 77°.20N×7°.50E, ML3.3*
IDC ***17*** *14:27:10.0±0.9, 77°.16N×7°.71E, h0km, mb3.7/15, mbtmp3.7/18, ML3.1/3, MS3.0/9, Error ellipse: s-maj=18.0km s-min=14.0km az=74.0*
IEPN ***17*** *14:27:11.0, 77°.31N×8°.19E, h10km*
BER ***17*** *14:27:12.0±4.3, 77°.23N×7°.88E, h24km±57km, ML2.4, ML3.3(NAO), Confirmed Earthquake*

ISC 17 14:27:09.9±0.6, 77°.26N±0°.05×7°.98E±0°.05, h10km, n61, σ2§76/64, mb3.8/15, MS3.0/5, 1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRBB	**Barentsburg B**	**1.58**	**55**	Pn	**Pn**	**14 27 36.7**	**-1.2**
BRBB	**Barentsburg B**	**1.58**	**55**	*e*P	**Pb**	**14 27 36.9**	**-2.3**
HSPB	**Hornsund (broa**	**1.71**	**95**	Pn	**Pn**	**14 27 38.0**	**-1.7**
HSPB	**Hornsund (broa**	**1.71**	**95**	*e*P	**Pn**	**14 27 38.1**	**-1.6**
HSPB	**Hornsund (broa**	**1.71**	**95**	*e*P	**Pn**	**14 27 37.6**	**-2.1**
HSPB				*e*S	**Sn**	**14 27 56.7**	**-4.8**
KBS	**Kingsbay**	**1.87**	**24**	Pn	**Pb**	**14 27 42.1**	**-2.0**
KBS				Sn	**Sn**	**14 28 03.7**	**-1.8**
KBS	**Kingsbay**	**1.87**	**24**	*e*P	**Pb**	**14 27 41.4**	**-2.7**
KBS				*e*S	**Sn**	**14 28 02.4**	**-3.0**
SPA0	**Spitsbergen Ar**	**2.02**	**59**	Pn	**Pb**	**14 27 44.0**	**-2.7**
	baz=238,slow=12						
SPA0				Sn	**Sn**	**14 28 08.2**	**-1.0**
	baz=229,slow=28						
SPA0	**Spitsbergen Ar**	**2.02**	**59**	Pn	**Pb**	**14 27 44.0**	**-2.7**
	baz=238,slow=12						
SPA0				Sn	**Sn**	**14 28 08.2**	**-1.0**
	baz=229,slow=28						
SPA0	**Spitsbergen Ar**	**2.02**	**59**	*i*P	**Pb**	**14 27 43.7**	**-2.9**
SPA0				*i* S	**Sn**	**14 28 08.1**	**-1.2**
SPITS	**Spitsbergen Ar**	**2.02**	**59**	Pn	**Pb**	**14 27 43.9**	**-2.7**
	baz=228,slow=13						
SPITS				Sn	**Sn**	**14 28 07.9**	**-1.4**
	baz=236,slow=31						
	30nm,0.3s						
BJO1	**Bjornoya**	**3.86**	**130**	Pn	**Pn**	**14 28 07.1**	**-2.2**
BJO1				Sn	**Sn**	**14 28 47.0**	**-7.6**
HOPEN	**Hopen**	**3.95**	**93**	Pn	**Pn**	**14 28 09.5**	**-0.9**
HOPEN				Sn	**Sn**	**14 28 51.9**	**-4.7**
HOPEN	**Hopen**	**3.95**	**93**	*e*P	**Pn**	**14 28 09.5**	**-0.9**
HOPEN				*e*S	**Sn**	**14 28 52.4**	**-4.3**
HOPEN				IAML		14 29 01.7	
	comp=Z,18nm,0.6s						
DAG	**Danmarks Havn**	**5.99**	**278**	*i* P	**Pn**	**14 28 36.0**	**-2.4**
DAG				*i* S	Sn	14 29 36.5	-10
NOR	**Nord**	**6.22**	**326**	Pn	**Pn**	**14 28 39.5**	**-2.1**
NOR	**Nord**	**6.22**	**326**	*e*P	**Pn**	**14 28 39.4**	**-2.2**
NOR	**Nord**	**6.22**	**326**	*e*P	**Pn**	**14 28 39.5**	**-2.1**
DBG	**Daneborg**	**7.48**	**261**	Pn	**Pn**	**14 28 56.1**	**-2.7**
DBG	**Daneborg**	**7.48**	**261**	Pn	**Pn**	**14 28 56.1**	**-2.7**
HAMF	**Hammerfest**	**7.90**	**139**	Pn	**Pn**	**14 29 01.9**	**-2.7**
HAMF	**Hammerfest**	**7.90**	**139**	Pn	**Pn**	**14 29 01.9**	**-2.7**
ZFI	**Zemlya Franca-**	**8.18**	**46**	*e*P	**Pn**	**14 29 08.3**	**-0.1**
ZFI				*e*S	**Sn**	**14 30 33.8**	**-6.9**
	comp=Z,34nm,1.4s						
JETT	**Jettan, Norway**	**8.49**	**149**	*e*P	**Pn**	**14 29 10.0**	**-2.7**
KIF	**Kilpisjarvi**	**9.06**	**149**	Pn	**Pn**	**14 29 17.9**	**-2.5**
KIF				Sn	Sn	14 30 51.7	-11
KIF	**Kilpisjarvi**	**9.06**	**149**	*e*P	**Pn**	**14 29 17.4**	**-3.1**
KIF				Sn	Sn	14 30 51.7	-11
ARCES	**ARCESS Array B**	**9.18**	**138**	Pn	**Pn**	**14 29 20.4**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=314,slow=9.9,SNR=16						
ARCES				Sn	Sn	14 30 51.2	-14
	comp=Z,0.4nm,0.3s,baz=335,slow=23,SNR=5.7						
ARCES				LR	LR	14 32 48.4	
	comp=Z,54nm,20.2s,baz=292,slow=37						
	comp=Z,1.1nm,0.3s						
ARA0	**ARCESS Array S**	**9.18**	**138**	Pn	**Pn**	**14 29 20.7**	**-1.4**
	baz=321,slow=14						
ARA0				Sn	Sn	14 30 51.9	-13
	baz=333,slow=37						
ARA0	**ARCESS Array S**	**9.18**	**138**	Pn	**Pn**	**14 29 20.7**	**-1.4**
	baz=321,slow=14						
KEV	**Kevo**	**9.21**	**135**	Pn	**Pn**	**14 29 22.3**	**-0.2**
KEV	**Kevo**	**9.21**	**135**	Pn	**Pn**	**14 29 22.3**	**-0.2**
LOF	**Lofoten**	**9.32**	**167**	*e*P	**Pn**	**14 29 21.8**	**-2.2**
STEI	**Steigen**	**9.61**	**163**	*e*P	**Pn**	**14 29 26.2**	**-1.9**
FAUS	**Fauske**	**10.16**	**164**	*e*P	**Pn**	**14 29 34.5**	**-1.1**
KONS	**Konsvik**	**10.93**	**169**	*e*P	**Pn**	**14 29 44.8**	**-1.2**
NEEM	**North Greenlan**	**12.47**	**300**	*e*P	**Pn**	**14 30 02.8**	**-4.6**
SUMG	**Summit**	**12.62**	**272**	*i* P	**Pn**	**14 30 07.0**	**-2.5**
BORG	**Borgarnes**	**15.46**	**232**	LR	LR	14 35 05.3	
	comp=Z,50nm,18.9s,baz=8.6,slow=31						
NOA	**NORSAR Array B**	**16.33**	**174**	LR	LR	14 36 14.7	
	comp=Z,21nm,20.4s,baz=0.0,slow=34						
FINES	**FINESS Array B**	**16.96**	**149**	Pn	**Pn**	**14 31 04.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=2.9,slow=12,SNR=5.4						
	comp=Z,0.8nm,0.6s						
KLMR	**Klimovskoe**	**19.46**	**130**	*e*P	**Pn**	**14 31 41.6**	**+4.1**
	comp=Z,19nm,1.4s						
SFJD	**Kangerlussuaq**	**19.60**	**271**	LR	LR	14 38 52.4	
	comp=Z,46nm,20.6s,baz=68,slow=36						
PRGR	**Permogore**	**19.84**	**121**	*e*P	**P**	**14 31 38.9**	**-1.5**
NRIK	**Norilsk**	**22.21**	**67**	P	**P**	**14 32 09.1**	**+3.2**
	comp=Z,6.1nm,0.6s,baz=336,slow=5.2,SNR=4.0						
	comp=Z,6.1nm,0.6s						
FRB	**Frobisher Bay**	**26.32**	**283**	LR	LR	14 43 49.0	
	comp=Z,61nm,18.2s,baz=335,slow=38						
ARU	**Arti**	**27.25**	**110**	P	**P**	**14 32 56.6**	**+2.9**
	comp=Z,1.4nm,0.4s,baz=346,slow=11,SNR=1.6						
ARU				LR	LR	14 44 43.9	
	comp=Z,20nm,19.7s,baz=180,slow=39						
	comp=Z,1.4nm,0.4s						
AKASG	**Malin Array Be**	**27.86**	**150**	P	**P**	**14 33 02.1**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=349,slow=9.5,SNR=1.4						
AKASG				LR	LR	14 43 30.0	
	comp=Z,29nm,21.9s,baz=290,slow=35						
	comp=Z,0.1nm,0.3s						
BELG	**Belogornoye**	**28.92**	**126**	LR	LR	14 44 50.3	
	comp=Z,37nm,19.0s,baz=320,slow=37						
AKTO	**Akbinsk**	**32.78**	**115**	P	**P**	**14 33 45.5**	**+2.9**
	comp=Z,1.0nm,0.6s,baz=352,slow=12,SNR=1.7						
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**32.95**	**100**	P	**P**	**14 33 46.2**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=350,slow=7.6,SNR=1.5						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**35.28**	**85**	P	P	14 34 07.4	+3.1
	comp=Z,0.9nm,0.7s,baz=346,slow=10,SNR=1.6						
	comp=Z,0.9nm,0.7s						
KBZ	**Khabaz**	**36.53**	**136**	P	**P**	**14 34 17.3**	**+2.3**
	comp=Z,1.3nm,0.6s,baz=266,slow=5.5,SNR=3.5						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**36.99**	**93**	P	**P**	**14 34 21.2**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=347,slow=7.6,SNR=2.7						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**37.36**	**343**	P	P	14 34 25.1	+3.1
	comp=Z,0.7nm,0.9s,baz=15,slow=5.5,SNR=6.8						
	comp=Z,0.7nm,0.9s						
BRTR	**Keskin Array B**	**39.20**	**148**	P	**P**	**14 34 39.9**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=5.7,slow=7.2,SNR=2.0						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**41.44**	**92**	P	**P**	**14 34 58.0**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=357,slow=7.7,SNR=8.5						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**45.68**	**69**	P	**P**	**14 35 32.8**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=327,slow=10,SNR=1.7						
	comp=Z,0.3nm,0.7s						
SADO	**Sadowa**	**46.19**	**280**	LR	LR	14 54 26.6	
	comp=Z,42nm,19.2s,baz=334,slow=36						
MJAR	**Matsushiro Arr**	**62.45**	**44**	P	**P**	**14 37 35.0**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=357,slow=7.4,SNR=3.5						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**64.19**	**187**	P	**P**	**14 37 44.0**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=352,slow=6.7,SNR=3.1						
	comp=Z,0.7nm,0.9s						
TXAR	**Lajitas Array**	**66.19**	**297**	P	**P**	**14 37 58.3**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=39,slow=3.5,SNR=5.7						
	comp=Z,0.5nm,0.8s						

IDC 17 14:29:31.8±1.6, 1°.94N×126°.05E, h0km, mb3.6/4, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=120.6km s-min=20.2km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.92**	**181**	P	P	14 34 04.8	-0.4
	0.1nm,0.3s,baz=14,slow=8.3,SNR=1.9						
	0.1nm,0.7s						
WRA	**Warramunga Arr**	**23.22**	**160**	P	P	14 34 39.8	-0.9
	1.4nm,0.4s,baz=339,slow=10.0,SNR=24						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**26.58**	**164**	P	P	14 35 11.4	-0.5
	0.5nm,0.6s,baz=341,slow=7.8,SNR=13						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**58.64**	**326**	P	P	14 39 31.6	+0.6
	0.3nm,0.6s,baz=124,slow=7.8,SNR=4.8						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**62.88**	**328**	P	P	14 40 00.5	+0.8
	0.4nm,0.5s,baz=125,slow=5.8,SNR=2.3						
	0.4nm,0.5s						

IDC ***17*** *14:30:31.5±0.8, 2°.02S×140°.50E, h0km, mb4.0/12, mbtmp4.1/14, ML4.0/2, Error ellipse: s-maj=32.5km s-min=15.5km az=82.0*
DJA ***17*** *14:30:34.8±1.3, 2°.5S×14°.1E±°, h10km, M4.0/4, MLv4.0/4*

ISC 17 14:30:36.9±0.7, 1°.99S±0°.07×140°.60E±0°.09, h35km, n35, σ0§93/34, mb4.0/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.74**	**215**	P	**Pn**	**14 30 49.2**	**-1.7**
GENI				S	**Sn**	**14 31 00.7**	**-0.2**
SMPI	**Sarmi**	**1.89**	**270**	P	**Pn**	**14 31 06.0**	**-0.6**
SMPI				S	**Sn**	**14 31 30.5**	**+1.3**
WAMI	**Wamena**	**2.67**	**225**	P	**Pn**	**14 31 19.4**	**+2.0**
BAKI	**Biak**	**4.56**	**280**	P	**Pn**	**14 31 42.4**	**-1.0**
MTN	**Manton Dam**	**14.29**	**221**	P	**P**	**14 34 03.7**	**+0.1**
BATI	**Baumata**	**18.70**	**243**	P	**Pn**	**14 34 54.2**	**+1.1**
	24nm,0.5s,baz=66,slow=1.3,SNR=5.5						
CTA	**Charters Tower**	**18.82**	**163**	P	**P**	**14 34 54.2**	**+0.5**
	0.1nm,0.3s,baz=340,slow=8.7,SNR=4.2						
	4.3nm,0.8s						
WRAB	**Tennant Creek**	**18.86**	**198**	P	**P**	**14 34 53.5**	**-0.6**
WRA	**Warramunga Arr**	**18.87**	**198**	P	**P**	**14 34 52.8**	**-1.5**
	0.7nm,0.3s,baz=26,slow=12,SNR=21						
	3.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.72**	**222**	P	**P**	**14 35 23.5**	**-1.7**
	5.4nm,0.9s,baz=60,slow=10,SNR=9.0						
	5.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.72**	**222**	P	**P**	**14 35 24.5**	**-0.7**
ASAR	**Alice Springs**	**22.51**	**196**	P	**P**	**14 35 32.2**	**-1.4**
	3.8nm,0.6s,baz=26,slow=10.0,SNR=27						
	3.8nm,0.6s						
RK1H	**Rockhampton Ha**	**23.34**	**157**	P	**P**	**14 35 43.5**	**+1.4**
	30nm,1.1s						
QLP	**Quilpie**	**24.70**	**172**	P	**P**	**14 35 55.4**	**+0.5**
EIDS	**Eidsvold**	**25.35**	**157**	P	**P**	**14 36 01.5**	**+0.8**
RMQ	**Roma**	**25.59**	**163**	P	**P**	**14 36 03.8**	**+0.9**
INKA	**Innaminka**	**25.61**	**180**	P	**P**	**14 36 03.0**	**-0.1**
WRKA	**Wakurna**	**25.81**	**206**	P	**P**	**14 36 04.3**	**-0.7**
OOD	**Oodnadatta**	**26.09**	**190**	P	**P**	**14 36 07.4**	**0.0**
STKA	**Stephens Creek**	**29.75**	**178**	P	**P**	**14 36 38.8**	**-1.3**
	4.6nm,0.8s,baz=28,slow=6.0,SNR=5.0						
	4.6nm,0.8s						
CMSA	**Cobar Meteorol**	**29.79**	**171**	P	**P**	**14 36 41.0**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**33.63**	**49**	T	T	15 12 54.3	
	baz=235						
H11N2	**WAKE ISLAND Hy**	**33.65**	**49**	T	T	15 13 05.4	
	baz=235						
H11N3	**WAKE ISLAND Hy**	**33.65**	**49**	T	T	15 13 06.6	
	baz=235						
CMAR	**Chiang Mai Arr**	**45.74**	**298**	P	**P**	**14 38 54.4**	**-0.8**
	0.4nm,0.3s,baz=117,slow=7.0,SNR=5.0						
	0.4nm,0.3s						
YAK	**Yakutsk**	**64.39**	**354**	P	**P**	**14 41 09.4**	**+0.3**
	2.4nm,0.4s,baz=158,slow=2.2,SNR=1.8						
	2.4nm,0.4s						
MKAR	**Makanchi Array**	**70.38**	**322**	P	**P**	**14 41 47.7**	**+0.3**
	0.6nm,0.8s,baz=107,slow=8.0,SNR=5.8						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**74.24**	**324**	P	**P**	**14 42 09.9**	**-0.3**
	0.6nm,0.8s,baz=129,slow=5.0,SNR=6.7						
	0.6nm,0.8s						
VNDA	**Vanda**	**76.34**	**175**	P	**P**	**14 42 21.8**	**-0.1**
	2.9nm,0.8s,baz=322,slow=6.5,SNR=11						
	2.9nm,0.8s						
BVAR	**Borovoye Array**	**79.81**	**325**	P	**P**	**14 42 41.5**	**-0.1**
	0.6nm,0.6s,baz=123,slow=5.5,SNR=4.2						
	0.6nm,0.6s						
MAW	**Mawson**	**83.50**	**202**	P	**P**	**14 43 00.7**	**-0.1**
	1.9nm,0.8s,baz=84,slow=9.2,SNR=2.3						
	1.9nm,0.8s						
ILAR	**Eielson Array**	**84.40**	**24**	P	**P**	**14 43 05.8**	**+0.3**
	0.5nm,0.6s,baz=246,slow=6.6,SNR=0.9						
	0.5nm,0.6s						
GEYT	**Alibeck**	**85.28**	**308**	P	**P**	**14 43 10.7**	**+0.3**
	1.0nm,0.6s,baz=50,slow=2.3,SNR=1.8						
	1.0nm,0.6s						
LPAZ	**La Paz**	**146.31**	**124**	PKPbc	**PKPdf**	**14 50 15.2**	**+0.7**
	3.3nm,0.8s,baz=279,slow=1.4,SNR=11						
CPUP	**Villa Florida**	**146.95**	**150**	PKPbc	**PKPbc**	**14 50 16.5**	**-0.1**
	4.2nm,0.9s,baz=214,slow=4.7,SNR=6.7						

IDC ***17*** *14:32:04.3±1.9, 12°.60N×48°.46E, h0km, mb3.7/5, mbtmp3.7/6, ML3.8/1, MS3.4/8, Error ellipse: s-maj=58.4km s-min=24.5km az=164.0*

ISC 17 14:32:05.7±1.6, 12°.6N±0°.3×48°.4E±0°.2, h10km, n14, σ0§32/6, mb3.7/5, MS3.3/8, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**5.58**	**260**	Pn	**Pn**	**14 33 28.6**	**-0.2**
	3.0nm,0.3s,baz=83,slow=16,SNR=8.8						
	10.0nm,0.4s						
MMAI	**Mount Meron Ar**	**23.57**	**332**	LR	LR	14 46 54.3	
	comp=Z,62nm,19.9s,baz=114,slow=38						
GNI	**Garni**	**27.65**	**354**	LR	LR	14 50 22.5	
	comp=Z,62nm,21.2s,baz=148,slow=40						
KBZ	**Khabaz**	**31.39**	**352**	LR	LR	14 53 03.5	
	comp=Z,24nm,21.4s,baz=178,slow=40						
LSZ	**Lusaka**	**34.19**	**216**	LR	LR	14 53 02.9	
	comp=Z,61nm,18.2s,baz=111,slow=37						
AKTO	**Aktyubinsk**	**38.55**	**10**	LR	LR	15 01 21.2	
	comp=Z,49nm,18.3s,baz=156,slow=46						
LBTB	**Lobatse**	**43.52**	**211**	LR	LR	14 57 54.8	
	comp=Z,21nm,18.3s,baz=78,slow=36						
MKAR	**Makanchi Array**	**44.40**	**33**	P	**P**	**14 40 16.6**	**0.0**
	0.4nm,0.8s,baz=220,slow=8.8,SNR=5.5						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**45.17**	**27**	P	**P**	**14 40 22.2**	**-0.4**
	0.2nm,0.4s,baz=229,slow=8.1,SNR=1.9						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**45.53**	**276**	P	**P**	**14 40 26.2**	**+0.3**
	0.6nm,0.6s,baz=88,slow=7.1,SNR=3.6						
	0.6nm,0.6s						
KIRV	**Kirov**	**45.91**	**1**	LR	LR	15 03 33.5	
	comp=Z,49nm,18.2s,baz=174,slow=41						
CMAR	**Chiang Mai Arr**	**48.88**	**76**	P	**P**	**14 40 52.2**	**+0.1**
	1.0nm,0.3s,baz=265,slow=8.7,SNR=6.4						
	1.0nm,0.3s						
FINES	**FINESS Array B**	**51.41**	**346**	P	**P**	**14 41 10.8**	**+0.2**
	1.9nm,0.8s,baz=142,slow=7.2,SNR=3.3						
	1.9nm,0.8s						
RES	**Resolute Bay**	**89.96**	**351**	LR	LR	15 29 57.5	
	comp=Z,74nm,20.0s,baz=13,slow=39						

BJI ***17*** *14:34:04.4±0.0, 2°.29S×140°.95E, h20km, mb4.7/54, mB5.3/29, Ms4.7/14, Ms7 4.4/16*
IDC ***17*** *14:34:05.2±0.4, 2°.01S×140°.66E, h0km, mb4.6/30, mbtmp4.7/35, ML4.5/3, MS4.2/40, Error ellipse: s-maj=15.6km s-min=9.7km az=80.0*
NEIC ***17*** *14:34:07.2±1.6, 2°.04S±0°.08×140°.63E±0°.06, h10km±1km, mb5.1/59, Error ellipse: s-maj=13.5km s-min=9.5km az=163.0*
GCMT ***17*** *14:34:09.2±0.2, 1°.88S±0°.01×140°.64E±0°.02, h12km, MW5.0/109, Moment Tensor Solution. s38,c44; s109,c173; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.06±.14; Mθθ2.92±.09; Mϕϕ0.14±.09; Mrθ1.97±.25; Mϕθ0.11±.06; Mϕr-0.50±.28; Best double couple: Mo3.61500×10¹⁶ NP1:ϕs277.00000°, δ62.00000°, λ-82.00000°. NP2:ϕs80.00000°, δ29.00000°, λ-105.00000°. Principal axes: T 3.5110, Plg17.0000°, Azm1.0000°; N 0.2110, Plg7.0000°, Azm93.0000°; P -3.7190, Plg72.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=4Os. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***17*** *14:34:11.1±0.5, 2°.5S×14°.1E±°, h33km±5km, M4.8/54, mb4.9/54, mB5.3/27, MLv4.8/6, Mw(mB)4.7/27, MwMwp4.6/2, Mwp5.0/2*

ISC 17 14:34:08.5±0.9, 2°.14S±0°.04×140°.62E±0°.05, h19km±3km, n339, σ1§43/324, mb4.9/83, MS4.2/41, 8C-2D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.63**	**225**	P	**Pn**	**14 34 23.4**	**+1.0**
SMPI	**Sarmi**	**1.91**	**275**	P	**Pn**	**14 34 40.3**	**+0.3**
WAMI	**Wamena**	**2.57**	**228**	P	**Pb**	**14 34 53.8**	**-0.2**
SRPI	**Serui, Papua**	**4.38**	**273**	P	**Pn**	**14 35 16.4**	**+2.4**
BAKI	**Biak**	**4.61**	**282**	P	**Pn**	**14 35 16.7**	**-0.4**
MANU	**Manus Island**	**6.75**	**89**	Pn	**Pn**	**14 35 46.5**	**0.0**
FAKI	**Fak Fak**	**8.39**	**265**	Pn	**Pn**	**14 36 09.2**	**0.0**
FAKI	**Fak Fak**	**8.39**	**265**	P	**Pn**	**14 36 10.8**	**+1.6**
	677nm71nm,1.0s						

WB2 Warramunga Arr 18.72 199 P **Pn** **14 38 26.4 -0.1**
WB2 lAmb lAmb 14 38 49.7
comp=Z,90nm,1.2s
WRA Warramunga Arr 18.72 199 P **Pn** **14 38 26.9 +0.3**
comp=Z,2.1nm,0.3s,baz=16,slow=12,SNR=46
WRA S **Sn** **14 41 48.9 -6.8**
comp=Z,12nm,1.0s,baz=11,slow=22,SNR=9.8
WRA LR LR 14 46 34.1
comp=Z,2µm,19.1s,baz=26,slow=40
comp=Z,28nm,0.9s
WRA Warramunga Arr 18.72 199 P **P** **14 38 25.5 -0.6**
MRSI Marisa 18.85 278 P **Pn** **14 38 28.3 +0.1**
comp=Z,952nmcomp=Z,90nm,0.9s
APSI Ampana 19.00 273 P **Pn** **14 38 30.2 +0.2**
comp=Z,2µmcomp=Z,122nm,1.8s
EDFI Ende, Flores 19.94 250 P **P** **14 38 39.4 -0.2**
comp=Z,22nm,0.9s
BSSI Bau Bau, Buton 20.46 258 P Pn 14 38 47.2 -0.2
comp=Z,972nmcomp=Z,61nm,1.1s
HNR Honiara 20.54 111 P **P** **14 38 45.1 -0.9**
comp=Z,2µm,0.8s,baz=270,slow=4.0,SNR=4.9
HNR LR LR 14 46 52.0
comp=Z,5µm,19.5s,baz=326,slow=37
BKSI Bulukumba 20.69 261 P Pn 14 38 49.0 -1.1
comp=Z,501nmcomp=Z,38nm,0.9s
TTSI Tana Toraja 20.80 267 P Pn 14 38 51.4 +0.1
comp=Z,2µmcomp=Z,135nm,1.6s
MPSI Mapaga 20.86 277 P **P** **14 38 50.4 +0.9**
comp=Z,1µmcomp=Z,68nm,1.1s
SPSI Sidrap Palu 20.90 265 P Pn 14 38 51.9 -0.6
comp=Z,1µmcomp=Z,55nm,1.5s
KAPI Kappang 21.02 262 P **P** **14 38 52.1 +0.9**
comp=Z,6.0nm,0.7s,baz=42,slow=13,SNR=1.4
comp=Z,6.0nm,0.7s
KAPI Kappang 21.02 262 P **P** **14 38 55.2 +4.0**
FITZ Fitzroy Crossi 21.62 222 P **P** **14 38 57.9 +0.3**
comp=Z,31nm,0.8s,baz=37,slow=11,SNR=37
FITZ S **S** **14 42 52.9 -3.6**
comp=Z,13nm,1.0s,baz=317,slow=22,SNR=5.1
FITZ LR LR 14 48 24.0
comp=Z,875nm,19.2s,baz=42,slow=40
comp=Z,31nm,0.8s
FITZ Fitzroy Crossi 21.62 222 P **P** **14 38 58.0 +0.3**
baz=22,SNR=37
FITZ Fitzroy Crossi 21.62 222 P **P** **14 38 58.1 +0.5**
FITZ lAmb lAmb 14 39 02.7
comp=Z,43nm,0.9s
FITZ Fitzroy Crossi 21.62 222 P **P** **14 38 58.3 +0.7**
AS31 Alice Springs 22.36 196 P **P** **14 39 06.4 +0.8**
ASAR Alice Springs 22.36 196 P **P** **14 39 06.0 +0.3**
comp=Z,18nm,0.6s,baz=29,slow=11,SNR=69
ASAR PcP **PcP** **14 43 01.0 +0.2**
comp=Z,2.2nm,0.9s,baz=8.7,slow=1.2,SNR=4.0
ASAR S **S** **14 43 09.5 -1.2**
comp=Z,7.5nm,1.3s,baz=13,slow=21,SNR=3.6
ASAR LR LR 14 48 26.9
comp=Z,2µm,21.6s,baz=70,slow=38
comp=Z,18nm,0.6s
ASAR Alice Springs 22.36 196 P **P** **14 39 06.1 +0.5**
RK1H Rockhampton Ha 23.19 156 P **P** **14 39 16.2 +2.0**
MYLDM Lahad Datu 23.26 288 P **P** **14 39 14.8 -0.3**
BKB Balikpapan 23.73 272 P **P** **14 39 22.0 +2.3**
comp=Z,3µmcomp=Z,192nm,1.6s
BKB Balikpapan 23.73 272 P **P** **14 39 23.5 +3.8**
comp=Z,188nm,1.7s
QLP Quilpie 24.55 172 P **P** **14 39 26.0 -1.1**
baz=24,SNR=24
QLP Quilpie 24.55 172 P **P** **14 39 28.8 +1.7**
EIDS Eidsvold 25.20 157 P **P** **14 39 34.9 +1.9**
baz=25,SNR=61
EIDS Eidsvold 25.20 157 P **P** **14 39 35.2 +2.2**
EIDS Eidsvold 25.20 157 P **P** **14 39 35.2 +2.2**
RMQ Roma 25.43 163 P **P** **14 39 37.9 +2.8**
baz=25,SNR=34
RMQ Roma 25.43 163 P **P** **14 39 38.0 +2.8**
INKA Innaminka 25.45 180 P **P** **14 39 36.8 +1.5**
WRKA Warakurna 25.68 207 P **P** **14 39 38.1 +0.6**
baz=26,SNR=84
WRKA Warakurna 25.68 207 P **P** **14 39 38.1 +0.6**
KKM Kota Kinabalu 25.69 289 P **P** **14 39 41.1 +3.3**
comp=Z,37nm,1.7s
MTKI Muara Teweh, K 25.74 272 P **P** **14 39 38.9 +0.8**
comp=Z,29nm,0.9s
BBKI Banjar Baru 25.78 267 P **P** **14 39 40.2 +1.7**
comp=Z,2µmcomp=Z,29nm,1.1s
OOD Oodnadatta 25.94 190 P **P** **14 39 40.8 +1.1**
KMMI Kalianget 27.00 259 P **P** **14 39 50.6 +1.1**
comp=Z,96nm,1.5s
MBWA Marble Bar 27.77 226 P **P** **14 39 56.2 -0.2**
MBWA lAmb lAmb 14 40 06.5
comp=Z,19nm,0.7s
MBWA Marble Bar 27.77 226 P **P** **14 39 56.6 +0.2**
PSA00 Pilbara Seismi 27.96 225 P **P** **14 39 55.3 -2.7**
PSA00 Pilbara Seismi 27.96 225 P **P** **14 39 58.5 +0.5**
LCRK Leigh Creek 28.24 184 P **P** **14 40 02.1 +1.7**
MULG Mulgathing 28.67 192 P **P** **14 40 05.7 +1.5**
STKI Sintang 29.22 274 P **P** **14 40 10.7 +1.4**
STKA Stephens Creek 29.59 178 P **P** **14 40 13.2 +0.9**
comp=Z,24nm,0.9s,baz=345,slow=8.9,SNR=23
comp=Z,24nm,0.9s
STKA Stephens Creek 29.59 178 P **P** **14 40 13.3 +0.9**
baz=30,SNR=6.7
STKA Stephens Creek 29.59 178 P **P** **14 40 13.1 +0.7**
STKA Stephens Creek 29.59 178 P **P** **14 40 13.3 +0.9**
CMSA Cobar Meteorol 29.63 171 P **P** **14 40 14.5 +1.8**
baz=30,SNR=18
CMSA Cobar Meteorol 29.63 171 P **P** **14 40 14.7 +2.0**
ARMA Armidale 30.00 161 P **P** **14 40 18.6 +2.5**
baz=30,SNR=7.2
ARMA Armidale 30.00 161 P **P** **14 40 17.0 +0.9**
ARMA lAmb lAmb 14 40 20.2
comp=Z,61nm,1.3s
ARMA Armidale 30.00 161 P **P** **14 40 17.9 +1.8**
BBOO Buckleboo 30.80 188 P **P** **14 40 24.0 +0.9**
baz=31,SNR=11
BBOO Buckleboo 30.80 188 P **P** **14 40 22.9 -0.2**
BBOO Buckleboo 30.80 188 P **P** **14 40 24.0 +0.9**
FORT Forrest 30.86 201 P **P** **14 40 25.0 +1.3**
baz=31,SNR=11
FORT Forrest 30.86 201 P **P** **14 40 24.4 +0.8**
FORT Forrest 30.86 201 P **P** **14 40 24.8 +1.2**
HTT Hallett 31.16 183 P **P** **14 40 27.7 +1.4**
baz=31,SNR=8.3
HTT Hallett 31.16 183 P **P** **14 40 27.8 +1.4**
JOW Kunigami 31.17 338 LR LR 14 49 56.2
comp=Z,525nm,21.9s,baz=151,slow=31
NOUC Port Laguerre 31.89 130 P **P** **14 40 32.8 0.0**
LIFNC LIFOU 31.89 127 P **P** **14 40 32.2 -0.6**
LIFNC PcP **PcP** **14 43 21.4 -2.0**
DZM Mont Dzumac 31.98 130 *eP* **P** **14 40 32.2 -1.5**
comp=Z,83nm,1.2s
DZM *e*LR LR 14 49 00.7
comp=Z,705nm,23.2s
DZM Mont Dzumac 31.98 130 LR LR 14 53 30.7
comp=Z,418nm,19.6s,baz=354,slow=36
DZM Mont Dzumac 31.98 130 P **P** **14 40 33.7 0.0**
DZM lAmb lAmb 14 40 35.1
comp=Z,28nm,0.9s
DZM Mont Dzumac 31.98 130 P **P** **14 40 34.3 +0.6**
MEEK Meekatharra 32.23 219 P **P** **14 40 36.2 +0.4**
baz=32,SNR=6.9
MEEK Meekatharra 32.23 219 P **P** **14 40 36.4 +0.5**
YATNC Mamie plateau, 32.31 130 P **P** **14 40 37.6 +1.0**
MARNC Mare, Loyalty 32.89 128 P **P** **14 40 39.6 -1.9**
MARNC Mare, Loyalty 32.89 128 P **P** **14 40 42.8 +1.2**
PINNC Pines Island, 33.05 130 P **P** **14 40 42.9 -0.1**
LEM Lembang 33.22 261 LR LR 14 56 30.6
comp=Z,215nm,18.6s,baz=78,slow=40
H11N1 WAKE ISLAND Hy 33.72 49 T T 15 16 45.4
baz=229,slow=75
H11N2 WAKE ISLAND Hy 33.74 49 T T 15 17 20.4
baz=229,slow=75
H11N3 WAKE ISLAND Hy 33.74 49 T T 15 17 20.7
baz=229,slow=75
CAN Canberra 33.92 168 P **P** **14 40 51.7 +1.2**
CAN Canberra 33.92 168 P **P** **14 40 52.8 +2.4**
CNB Canberra Magne 33.99 167 P **P** **14 40 53.1 +2.0**
baz=34,SNR=7.8
CNB Canberra Magne 33.99 167 P **P** **14 40 52.8 +1.7**
PPBI Pangkal Pinang 34.46 269 P **P** **14 40 56.1 +0.7**
comp=Z,26nm,0.7s
ARPS Mount Arapiles 34.47 178 P **P** **14 40 57.0 +1.8**
baz=34,SNR=12
ARPS Mount Arapiles 34.47 178 P **P** **14 40 57.0 +1.8**
BRAT Ballarat 35.37 175 P **P** **14 41 05.6 +2.8**
TOO Toolangi 35.54 173 P **P** **14 41 05.7 +1.2**
baz=36,SNR=6.3
TOO Toolangi 35.54 173 P **P** **14 41 05.1 +0.7**
TOO lAmb lAmb 14 41 08.0
comp=Z,33nm,1.1s
TOO Toolangi 35.54 173 P **P** **14 41 06.8 +2.4**
MORW Morawa 35.56 219 P **P** **14 41 05.2 +0.5**
baz=36,SNR=8.7
MORW Morawa 35.56 219 P **P** **14 41 04.6 -0.1**
MORW lAmb lAmb 14 41 06.1
comp=Z,57nm,1.2s
MORW PcP **PcP** **14 43 32.2 -1.4**
MORW Morawa 35.56 219 P **P** **14 41 05.0 +0.3**
GEXS Deakin Univers 36.04 175 P **P** **14 41 12.1 +3.5**
DSRI Dabo 36.07 272 P **P** **14 41 09.9 +0.7**
comp=Z,4.9nm,1.2s
BLDU Ballidu 36.25 216 P **P** **14 41 10.7 +0.1**
baz=36,SNR=11
BLDU Ballidu 36.25 216 P **P** **14 41 12.0 +1.4**
KLBR Kellerberrin 36.37 214 P **P** **14 41 11.4 -0.3**
baz=36,SNR=7.0
KLBR Kellerberrin 36.37 214 P **P** **14 41 11.7 +0.1**
QIZ Qiongzhong 36.85 306 P **P** **14 41 14.3 -1.5**
QIZ pP **sP** **14 41 21.6 -1.6**
QIZ S **S** **14 47 01.3 +1.6**
QIZ pmax pmax
comp=Z,20nm,1.0s
QIZ LR LR
comp=Z,410nm,14.3s
QIZ LR LR
comp=Z,240nm,15.9s
QIZ LR LR
comp=Z,440nm,27.1s
QIZ Qiongzhong 36.85 306 P **P** **14 41 14.6 -1.2**
INU Inuyama 37.45 355 P P 14 41 26.9 +6.2
comp=Z,24nm,1.2s
NWAO Narrogin (SRO) 37.67 213 LR LR 14 58 19.9
comp=Z,1µm,18.9s,baz=293,slow=38
NWAO Narrogin (SRO) 37.67 213 P **P** **14 41 22.5 -0.1**
NWAO lAmb lAmb 14 41 23.5
comp=Z,29nm,1.1s
MJAR Matsushiro Arr 38.55 357 P **P** **14 41 29.0 -1.0**
comp=Z,2.6nm,0.7s,baz=176,slow=9.1,SNR=10
MJAR LR LR 14 56 10.0
comp=Z,186nm,20.4s,baz=156,slow=34
comp=Z,2.6nm,0.7s
MAJO Matsushiro 38.55 357 P **P** **14 41 30.0 -0.1**
MAJO Matsushiro 38.55 357 P **P** **14 41 33.4 +3.4**
NJ2 Nanjing 39.78 331 *eP* **P** **14 41 42.8 +2.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
JMM Marumori 39.81 0 P **P** **14 41 39.3 -1.2**
JMM lAmb lAmb 14 41 45.7
comp=Z,36nm,1.1s
MSVF Nonsavu 39.87 115 LR LR 14 57 32.8
comp=Z,295nm,18.8s,baz=200,slow=35
JSD Sado 40.04 357 P **P** **14 41 42.6 +0.2**
JSD lAmb lAmb 14 41 48.3
comp=Z,45nm,0.8s
IPM Ipoh 40.10 279 P **P** **14 41 41.9 -1.5**
IPM lAmb lAmb 14 41 44.1
comp=Z,53nm,1.5s
IPM Ipoh 40.10 279 P **P** **14 41 43.2 -0.2**
KSRS Korea Array 41.12 345 P **P** **14 41 51.1 -0.2**
comp=Z,1.8nm,0.8s,baz=163,slow=9.5,SNR=10
KSRS LR LR 14 56 00.4
comp=Z,312nm,21.7s,baz=165,slow=32
comp=Z,1.8nm,0.8s
SEHB SEOHWA 41.80 345 P **P** **14 41 54.9 -2.1**
SEHB lAmb lAmb 14 42 22.0
comp=Z,42nm,1.4s
PSI Prapat 41.97 277 P **P** **14 41 58.2 -0.6**
comp=Z,18nm,0.7s,baz=77,slow=5.0,SNR=19
PSI LR LR 15 00 51.3
comp=Z,118nm,18.3s,baz=128,slow=38
comp=Z,18nm,0.7s
PSI Prapat 41.97 277 P **P** **14 41 58.2 -0.6**
GSI Gunungsitoli 43.17 274 P **P** **14 42 06.7 -1.8**
GSI Gunungsitoli 43.17 274 P **P** **14 42 07.8 -0.7**
LYN LuoYang 45.07 327 ⇑ *i*P **P** **14 42 27.8 +4.5**
LYN pmax pmax
comp=Z,20nm,1.1s
KMI Kunming 45.63 309 ⇑ P **P** **14 42 28.9 +0.7**
KMI pP sP 14 42 35.6 -0.1
KMI pmax pmax
comp=Z,13nm,1.3s
CMAR Chiang Mai Arr 45.83 298 P **P** **14 42 28.9 -0.7**
comp=Z,2.4nm,0.8s,baz=110,slow=5.9,SNR=13
CMAR PcP **PcP** **14 44 06.9 -0.1**
comp=Z,1.4nm,0.8s,baz=134,slow=2.6,SNR=2.0
comp=Z,2.4nm,0.8s
CHTO Chiang Mai 45.96 299 P **P** **14 42 31.9 +1.2**
comp=Z,4.8nm,1.4s
HNS HongShan 46.10 331 ⇓ P **P** **14 42 31.8 +0.3**
HNS pmax pmax
comp=Z,30nm,1.0s
XAN Xi'an 46.74 323 ⇑ P **P** **14 42 36.3 -0.3**
XAN pP sP 14 42 42.8 -1.3
XAN sP pwP 14 42 46.6 +0.8
XAN pmax pmax
comp=Z,20nm,1.1s
USRK Ussuriysk Ar. 46.78 351 P **P** **14 42 35.7 -1.0**
comp=Z,14nm,1.2s,baz=166,slow=9.2,SNR=11
USRK LR LR 14 58 48.2
comp=Z,378nm,21.5s,baz=241,slow=32
comp=Z,14nm,1.2s
PZH PanZhiHua 47.10 310 P **P** **14 42 41.6 +1.9**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.2s
BJI Beijing 47.58 335 P **P** **14 42 41.8 -1.1**
BJI pmax pmax
comp=Z,10.0nm,1.7s
BJI pmax pmax
comp=Z,130nm,5.1s
MDJ Mudanjiang 47.59 349 P **P** **14 42 43.5 +0.5**
MDJ pP pwP 14 42 52.1 0.0
MDJ sP sP 14 42 55.8 +5.5
MDJ ScP **ScP** **14 48 03.0 -3.1**
MDJ S **S** **14 49 41.8 +4.5**
MDJ sS sS 14 49 55.4 +8.1
MDJ pmax pmax
comp=Z,12nm,1.3s
MDJ pmax pmax
comp=Z,180nm,4.6s
MDJ LR LR
comp=Z,320nm,15.6s
MDJ LR LR
comp=Z,230nm,6.6s
MDJ LR LR
comp=Z,530nm,23.5s
MDJ Mudanjiang 47.59 349 P P 14 42 48.9 +5.9
comp=Z,19nm,1.1s
CN2 Changchun 47.72 345 *eP* **P** **14 42 44.5 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,500nm,21.0s
RAO Raoul Island 47.74 129 LR LR 15 01 09.6
comp=Z,71nm,20.3s,baz=32,slow=34
AFI Afiamalu 48.46 107 LR LR 15 01 58.0
comp=Z,204nm,20.3s,baz=266,slow=34
DCZ Deep Cove 49.04 155 P **P** **14 42 54.9 +0.7**
URZ Urewera 49.05 142 LR LR 15 04 04.8
comp=Z,240nm,18.0s,baz=36,slow=37
BNX BinXian 49.10 348 ⇑ P **P** **14 42 53.3 -1.3**
BNX pmax pmax
comp=Z,10.0nm,1.1s
BNX pmax pmax
comp=Z,160nm,3.6s
BKZ Black Stump Fm 49.24 143 P **P** **14 42 55.3 -0.7**
BKZ lAmb lAmb 14 42 57.5
comp=Z,18nm,0.8s
TUWZ Tuamarina 49.28 147 P **P** **14 42 55.3 -0.8**
RPZ Rata Peaks 49.43 151 P **P** **14 42 57.9 +0.7**
comp=Z,36nm,0.9s,baz=333,slow=3.6,SNR=13
RPZ LR LR 15 04 25.6
comp=Z,326nm,18.5s,baz=308,slow=37
comp=Z,36nm,0.9s
RPZ Rata Peaks 49.43 151 P **P** **14 42 57.8 +0.5**
HHC Hu-ho-hao-te 50.32 331 *eP* **P** **14 43 05.4 +1.2**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,240nm,5.5s
BTO Baotou 50.89 330 *eP* **P** **14 43 08.0 -0.5**
BTO S **S** **14 50 25.6 +1.5**
BTO LR LR
comp=Z,780nm,5.5s
LZH Lanzhou 51.20 322 ⇑ P **P** **14 43 11.6 +0.6**
LZH pP sP 14 43 17.9 -0.6
LZH sP pwP 14 43 26.6 +6.8
LZH pmax pmax
comp=Z,26nm,1.5s
KLR Kul'dur 51.74 353 P **P** **14 43 14.4 -0.2**
comp=Z,6.7nm,1.0s,baz=166,slow=6.0,SNR=9.0
KLR LR LR 15 02 28.7
comp=Z,197nm,20.1s,baz=162,slow=33
comp=Z,6.7nm,1.0s
BRDH Bariadhala 53.73 300 LR LR 15 08 40.2
comp=Z,46nm,19.1s,baz=96,slow=39
GTA Gaotai 55.77 322 ⇑ P **P** **14 43 44.8 +0.4**
GTA pP sP 14 43 50.8 -1.0
GTA sP pwP 14 43 53.8 +0.5
GTA pmax pmax
comp=Z,9.0nm,1.2s
PETK Petropavlovsk- 56.89 12 P **P** **14 43 50.6 -1.4**
comp=Z,3.4nm,0.9s,baz=172,slow=12,SNR=7.4
PETK LR LR 15 04 49.8
comp=Z,173nm,21.7s,baz=201,slow=32
comp=Z,3.4nm,0.9s
GOMU GeÉrMu 57.20 316 P **P** **14 43 55.8 +0.8**
GOMU pP pP 14 43 59.8 -0.5
GOMU S **S** **14 51 48.8 -1.4**
GOMU pmax pmax
comp=Z,4.0nm,0.5s
GOMU pmax pmax
comp=Z,78nm,3.5s
SONM Songino Array 58.05 333 P **P** **14 43 59.7 -0.7**
comp=Z,0.7nm,0.6s,baz=141,slow=5.4,SNR=7.1
SONM LR LR 15 07 09.1
comp=Z,208nm,21.5s,baz=142,slow=34
comp=Z,0.7nm,0.6s
SONM Songino Array 58.05 333 P **P** **14 43 59.8 -0.6**
PALK Pallekele 60.51 280 P **P** **14 44 18.1 +0.2**
comp=Z,8.2nm,0.8s,baz=115,slow=4.0,SNR=3.7
comp=Z,8.2nm,0.8s
MA2 Magadan 62.05 6 LR LR 15 08 53.2
comp=Z,74nm,21.8s,baz=192,slow=34
YAK Yakutsk 64.55 354 P **P** **14 44 43.0 -1.0**
comp=Z,3.7nm,0.5s,baz=138,slow=7.0,SNR=7.1
YAK LR LR 15 11 01.0
comp=Z,49nm,21.8s,baz=256,slow=34
comp=Z,3.7nm,0.5s
SEY Seymchan 65.51 6 P **P** **14 44 49.2 -1.0**
comp=Z,2.6nm,0.8s,baz=188,slow=5.0,SNR=3.9
comp=Z,2.6nm,0.8s
WMQ Urumqi 65.77 321 *eP* **P** **14 44 52.8 +0.4**
WMQ pP sP 14 44 59.5 -0.3
WMQ pmax pmax
comp=Z,15nm,1.5s
WMQ pmax pmax
comp=Z,190nm,5.1s
WMQ LR LR
comp=Z,120nm,21.1s
CASY Casey 67.43 193 P **P** **14 45 00.9 -1.6**
PPT Papeete 70.11 108 LR LR 15 12 27.0
comp=Z,83nm,21.0s,baz=287,slow=33
PPT2 Papeete2 70.11 108 *e*LR LR 15 06 40.8
comp=Z,35nm,22.0s
MK31 Makanchi Array 70.52 322 P **P** **14 45 19.6 -2.5**
MK31 lAmb lAmb 14 45 29.7
comp=Z,14nm,1.1s
MKAR Makanchi Array 70.52 322 P **P** **14 45 21.8 -0.3**
comp=Z,5.6nm,1.0s,baz=108,slow=7.8,SNR=32
MKAR LR LR 15 19 08.9
comp=Z,64nm,18.0s,baz=114,slow=38
comp=Z,5.6nm,1.0s
MAKZ Makanchi 70.72 322 P **P** **14 45 22.8 -0.5**
MAKZ lAmb lAmb 14 45 30.8
comp=Z,20nm,0.9s
TBI Tubuai 70.73 114 *e*LR LR 15 06 57.8
comp=Z,105nm,25.5s
KSH Kashi 72.09 313 P **P** **14 45 33.5 +1.6**
KSH pP pwP 14 45 40.4 -0.6
KSH PcP **PcP** **14 45 51.3 +1.0**
KSH pmax pmax
comp=Z,17nm,1.1s
ZALV Zalesovo Beam 72.42 329 P **P** **14 45 31.6 -1.7**
comp=Z,3.0nm,0.8s,baz=88,slow=3.4,SNR=7.4
ZALV LR LR 15 18 00.2
comp=Z,136nm,19.2s,baz=103,slow=36
comp=Z,3.0nm,0.8s
BOOM Boomskoye usch 73.07 316 P **P** **14 45 37.2 -0.6**
BOOM lAmb lAmb 14 45 41.1
comp=Z,15nm,0.9s
TKM2 Tokmak 2 73.45 316 P **P** **14 45 40.5 +0.4**
SNR=10.0
UCH Uchtor 73.99 315 P **P** **14 45 44.1 +0.6**
SNR=21
TIXI Tiksi 74.06 356 LR LR 15 17 06.1
comp=Z,101nm,21.2s,baz=181,slow=35
CHMS Chumysh 74.07 316 P **P** **14 45 42.6 -0.8**
SNR=6.9
AAK Ala-Archa 74.13 315 P **P** **14 45 42.7 -1.2**
comp=Z,2.4nm,0.6s,baz=116,slow=7.9,SNR=12
comp=Z,2.4nm,0.6s
USP Ospenovka 74.33 316 P **P** **14 45 44.9 -0.1**
SNR=14
KURK Kurchatov 74.36 324 P **P** **14 45 44.6 -0.2**
KURK lAmb lAmb 14 45 46.2
comp=Z,23nm,1.4s
KURBB Kurchatov Arra 74.38 324 P **P** **14 45 44.2 -0.8**
comp=Z,8.2nm,1.3s,baz=123,slow=5.1,SNR=24
comp=Z,8.2nm,1.3s
AML Almayashu 74.54 315 P **P** **14 45 47.2 +0.6**
SNR=13
EKS2 Erkin-Say 74.64 315 P **P** **14 45 47.1 +0.2**
SNR=9.6
GAR Garm 76.16 311 P **P** **14 45 55.3 -0.4**
VNDA Vanda 76.18 175 P **P** **14 45 56.0 +1.2**
comp=Z,11nm,0.7s,baz=325,slow=6.5,SNR=85
comp=Z,11nm,0.7s
VNDA Vanda 76.18 175 P **P** **14 45 56.1 +1.2**
VNDA lAmb lAmb 14 45 56.7
comp=Z,15nm,0.8s
SBA Scott Base 76.92 175 P **P** **14 46 00.1 +1.1**
SBA lAmb lAmb 14 46 02.0
comp=Z,19nm,1.1s
KK31 Karatay Array 77.07 315 P **P** **14 45 59.4 -1.3**
KK31 lAmb lAmb 14 46 08.2
comp=Z,23nm,1.4s
KKAR Karatay Array 77.07 315 P **P** **14 46 00.7 +0.1**
KKAR Karatay Array 77.07 315 P **P** **14 45 59.4 -1.3**
KKAR lAmb lAmb 14 46 08.2
comp=Z,23nm,1.4s
NRIK Noril'sk 79.72 343 P **P** **14 46 13.9 -0.8**
comp=Z,8.2nm,0.9s,baz=151,slow=4.9,SNR=9.8
NRIK LR LR 15 21 24.7
comp=Z,175nm,20.2s,baz=126,slow=36
comp=Z,8.2nm,0.9s
N19K Bonanza Creek 79.90 27 P **P** **14 46 15.5 -0.4**
N19K lAmb lAmb 14 46 23.2
comp=Z,23nm,1.4s
BVAR Borovoye Array 79.95 325 P **P** **14 46 15.6 -0.7**
comp=Z,6.8nm,1.0s,baz=116,slow=6.9,SNR=17
comp=Z,6.8nm,1.0s
BRVK Borovoye 80.02 325 P **P** **14 46 15.9 -0.7**
BRVK lAmb lAmb 14 46 23.9
comp=Z,25nm,1.2s
L19K White Mountain 80.28 25 P **P** **14 46 16.4 -1.5**
L19K lAmb lAmb 14 46 25.0
comp=Z,19nm,1.1s
L19K White Mountain 80.28 25 P **P** **14 46 17.6 -0.3**
baz=246
M19K Big River Lodg 80.37 26 P **P** **14 46 20.6 +2.2**
baz=247
GCSA Galena City Sc 80.54 23 P **P** **14 46 18.7 -0.4**
baz=244
L20K Farewell, AK 80.82 25 P **P** **14 46 20.9 +0.1**
baz=247
M20K Styx River 80.91 26 P **P** **14 46 21.3 -0.1**
baz=248
K20K Telida 81.08 24 P **P** **14 46 22.0 -0.1**
K20K Telida 81.08 24 P **P** **14 46 22.2 0.0**
baz=247
J20K Nowinta River 81.38 24 P **P** **14 46 23.4 -0.3**
J20K lAmb lAmb 14 46 25.3
comp=Z,17nm,1.1s

J20K	**Nowinta River**	**81.38**	**24**	P		**P**	**14 46 23.8 +0.1**
	baz=247						
IMAR	**Indian Mountai**	**82.25**	**22**	P		**P**	**14 46 27.5 -0.8**
H21K	**Melozitna Rive**	**82.48**	**23**	P		**P**	**14 46 28.7 -0.7**
H21K	**Melozitna Rive**	**82.48**	**23**	P		**P**	**14 46 28.8 -0.7**
	baz=248						
PMR	**Palmer**	**82.60**	**27**	P		**P**	**14 46 28.8 -1.3**
PMR				IAmb		IAmb	14 46 31.7
	comp=Z,12nm,1.0s						
BPAW	**Bear Paw Mtn.**	**82.63**	**24**	P		**P**	**14 46 28.7 -1.6**
TRF	**Thorofare Moun**	**82.70**	**25**	P		**P**	**14 46 29.8 -1.0**
	baz=250						
PWL	**Port Wells**	**82.74**	**28**	P		**P**	**14 46 29.9 -1.0**
	baz=252						
KNK	**Knik Glacier**	**82.85**	**27**	P		**P**	**14 46 30.7 -0.8**
	baz=252						
SML	**Sawmill**	**83.03**	**27**	P		**P**	**14 46 30.1 -2.3**
SML	**Sawmill**	**83.03**	**27**	P		**P**	**14 46 31.3 -1.2**
	baz=252						
MLY	**Manley**	**83.06**	**23**	P		**P**	**14 46 31.1 -1.5**
MLY				IAmb		IAmb	14 46 32.8
	comp=Z,12nm,1.4s						
MLY	**Manley**	**83.06**	**23**	P		**P**	**14 46 31.8 -0.8**
	baz=250						
H22K	**Ishtalitna Cre**	**83.12**	**23**	P		**P**	**14 46 32.4 -0.4**
	baz=249						
MAW	**Mawson**	**83.36**	**202**	P		**P**	**14 46 35.3 +1.3**
	comp=Z,12nm,1.0s,baz=78,slow=4.9,SNR=12						
MAW				LR		LR	15 22 08.3
	comp=Z,234nm,18.4s,baz=57,slow=34						
	comp=Z,12nm,1.0s						
MAW	**Mawson**	**83.36**	**202**	P		**P**	**14 46 35.4 +1.4**
	baz=83,SNR=9.0						
MCK	**McKinley**	**83.37**	**25**	P		**P**	**14 46 32.6 -1.5**
	baz=252						
SCM	**Sheep Creek Mo**	**83.49**	**27**	P		**P**	**14 46 34.3 -0.6**
	baz=253						
WAT6	**Susitna Watana**	**83.53**	**26**	P		**P**	**14 46 34.1 -1.0**
	baz=253						
H23K	**Yukon River**	**83.80**	**23**	P		**P**	**14 46 34.2 -2.1**
H23K	**Yukon River**	**83.80**	**23**	P		**P**	**14 46 35.7 -0.6**
	baz=251						
DHY	**Denali Highway**	**83.83**	**26**	P		**P**	**14 46 35.1 -1.6**
DHY				IAmb		IAmb	14 46 38.8
	comp=Z,12nm,0.8s						
DHY	**Denali Highway**	**83.83**	**26**	P		**P**	**14 46 35.7 -1.0**
	baz=253						
KLU	**Klutina**	**84.04**	**28**	P		**P**	**14 46 37.9 +0.2**
	baz=254						
CCB	**Clear Creek Bu**	**84.12**	**24**	P		**P**	**14 46 36.2 -1.7**
CCB				IAmb		IAmb	14 46 39.1
	comp=Z,14nm,0.9s						
HDA	**Harding Lake**	**84.41**	**25**	P		**P**	**14 46 39.5 +0.1**
	baz=253						
H24K	**Noodor Dome**	**84.46**	**23**	P		**P**	**14 46 38.4 -1.3**
	baz=252						
E23K	**Chandalar**	**84.52**	**21**	P		**P**	**14 46 40.0 -0.1**
	baz=250						
ILAR	**Eielson Array**	**84.53**	**24**	P		**P**	**14 46 37.4 -2.7**
	comp=Z,3.8nm,0.8s,baz=252,slow=4.7,SNR=14						
	comp=Z,3.8nm,0.8s						
PAX	**Paxson**	**84.64**	**26**	P		**P**	**14 46 40.2 -0.6**
	baz=255						
C23K	**Itkillik River**	**84.80**	**19**	P		**P**	**14 46 42.1 +0.8**
	baz=249						
G24K	**Hadweenzic Riv**	**84.87**	**22**	P		**P**	**14 46 41.1 -0.6**
	baz=252						
F24K	**Squaw Lake**	**84.97**	**21**	P		**P**	**14 46 43.4 +1.1**
	baz=252						
RIDG	**Independent Ri**	**85.11**	**25**	P		**P**	**14 46 41.8 -1.2**
	baz=255						
J25K	**Salcha River,**	**85.12**	**25**	P		**P**	**14 46 41.1 -1.9**
	baz=255						
H25K	**Birch Creek**	**85.39**	**23**	P		**P**	**14 46 43.7 -0.5**
	baz=254						
GEYT	**Alibeck**	**85.39**	**308**	P		**P**	**14 46 45.6 +0.6**
	comp=Z,18nm,1.1s,baz=90,slow=1.5,SNR=28						
GEYT				LR		LR	15 26 50.8
	comp=Z,64nm,20.3s,baz=184,slow=37						
	comp=Z,18nm,1.1s						
ABKAR	**Akbulak array**	**85.53**	**320**	P		**P**	**14 46 42.8 -2.5**
ABKAR	**Akbulak array**	**85.53**	**320**	P		**P**	**14 46 44.2 -1.1**
ABKAR				IAmb		IAmb	14 46 52.4
	comp=Z,11nm,0.8s						
L26K	**Log Cabin Wild**	**85.59**	**26**	P		**P**	**14 46 44.6 -0.8**
	baz=257						
F25K	**Christian Rive**	**85.82**	**22**	P		**P**	**14 46 45.9 -0.6**
	baz=254						
J26L	**Joseph Creek**	**85.84**	**25**	P		**P**	**14 46 45.8 -1.0**
	baz=256						
CTG	**Chitna Glacier**	**86.07**	**29**	P		**P**	**14 46 47.6 -0.4**
	baz=258						
M27K	**Edge Creek, AK**	**86.10**	**27**	P		**P**	**14 46 47.6 -0.5**
	baz=258						
BMAR	**Burnt Mountain**	**86.17**	**22**	P		**P**	**14 46 48.1 -0.1**
L27K	**Beaver Creek,**	**86.27**	**26**	P		**P**	**14 46 48.3 -0.6**
	baz=258						
BCAR	**Beaver Creek A**	**86.29**	**26**	P		**P**	**14 46 47.5 -1.4**
G26K	**Porcupine Rive**	**86.35**	**22**	P		**P**	**14 46 49.4 +0.4**
	baz=256						
K27K	**Chicken**	**86.37**	**25**	P		**P**	**14 46 49.2 0.0**
	baz=258						
F26K	**Sheenjek River**	**86.40**	**22**	P		**P**	**14 46 49.6 +0.3**
	baz=256						
YUK3	**Moose Creek**	**86.64**	**28**	P		**P**	**14 46 50.5 -0.3**
	baz=259						
AKTO	**Aktyubinsk**	**86.92**	**321**	P		**P**	**14 46 50.3 -1.9**
	comp=Z,2.0nm,0.5s,baz=94,slow=6.3,SNR=4.4						
	comp=Z,2.0nm,0.5s						
H27K	**Steamboat Moun**	**87.06**	**23**	P		**P**	**14 46 52.7 +0.1**
	baz=258						
ARU	**Arti**	**87.37**	**327**	P		**P**	**14 46 51.3 -2.9**
	comp=Z,0.9nm,0.3s,baz=98,slow=11,SNR=3.8						
ARU				LR		LR	15 27 46.3
	comp=Z,78nm,19.8s,baz=145,slow=37						
E27K	**Coleen River**	**87.45**	**21**	P		**P**	**14 46 54.7 +0.3**
	baz=258						
DAWY	**Dawson**	**87.54**	**26**	P		**P**	**14 46 54.6 -0.4**
	baz=260						
M29M	**Somme Creek**	**87.68**	**27**	P		**P**	**14 46 55.4 -0.3**
	baz=261						
QSPA	**South Pole Qui**	**87.80**	**180**	LR		LR	15 26 32.2
	comp=Z,222nm,19.3s,baz=7.0,slow=36						
QSPA	**South Pole Qui**	**87.80**	**180**	P		**P**	**14 46 56.8 +0.5**
HYT	**Haines Junctio**	**87.89**	**29**	P		**P**	**14 46 56.2 -0.6**
	baz=262						
L29M	**L29M**	**87.94**	**27**	P		**P**	**14 46 57.1 +0.2**
	baz=261						
N30M	**Aishikik Lake**	**88.18**	**28**	P		**P**	**14 46 58.1 0.0**
	baz=262						
I29M	**Ogilvie Camp,**	**88.21**	**24**	P		**P**	**14 46 57.3 -0.8**
	baz=261						
K29M	**Barlow Dome**	**88.32**	**26**	P		**P**	**14 46 58.5 -0.3**
	baz=262						
SKAG	**Skagway**	**88.80**	**31**	P		**P**	**14 47 01.5 +0.5**
	baz=264						
EPYK	**Eagle Plains**	**89.00**	**24**	P		**P**	**14 47 00.9 -0.9**
	baz=262						
FARO	**Faro, Yukon**	**90.03**	**28**	P		**P**	**14 47 05.9 -0.8**
	baz=266						
INK	**Inuvik**	**90.44**	**22**	P		**P**	**14 47 07.7 -0.7**
	comp=Z,1.7nm,0.8s,baz=238,slow=5.3,SNR=2.0						
	comp=Z,1.7nm,0.8s						
BELG	**Belogornoye**	**93.52**	**322**	P		**P**	**14 47 21.0 -2.0**
	comp=Z,7.6nm,0.6s,baz=84,slow=6.3,SNR=4.5						
BELG				LR		LR	15 30 58.5
	comp=Z,82nm,20.5s,baz=82,slow=36						
	comp=Z,7.6nm,0.6s						
YBH	**Yreka Blue Hor**	**96.41**	**48**	LR		LR	15 21 20.0
	comp=Z,133nm,21.9s,baz=292,slow=29						
SPITS	**Spitsbergen Ar**	**98.76**	**350**	LR		LR	15 31 58.7
	comp=Z,177nm,20.4s,baz=5.5,slow=35						
NEW	**Newport**	**99.75**	**41**	LR		LR	15 31 56.1
	comp=Z,43nm,18.0s,baz=288,slow=35						
NVAR	**Mina Array Bea**	**100.01**	**52**	P		**Pdif**	**14 47 51.7 -1.4**
	comp=Z,0.5nm,0.8s,baz=255,slow=6.4,SNR=3.9						
	comp=Z,0.5nm,0.8s						
FINES	**FINESS Array B**	**103.42**	**333**	Pdiff		**Pdif**	**14 48 05.3 -2.1**
	comp=Z,1.4nm,0.8s,baz=47,slow=8.4,SNR=2.9						
VYHS	**Vyhne**	**112.20**	**322**	*e*PP		**PP**	**14 53 24.8 -2.7**
TXAR	**Lajitas Array**	**113.37**	**59**	PKKPab		PKKPab	15 03 38.7 +0.5
	comp=Z,0.8nm,0.9s,baz=132,slow=2.7,SNR=6.7						
GERES	**GERESS Array B**	**115.11**	**324**	PKP		**PKiKP**	**14 52 48.1 -0.6**
	comp=Z,0.4nm,0.6s,baz=76,slow=4.1,SNR=2.4						
PLCA	**Paso Flores**	**128.73**	**150**	PKP		**PKiKP**	**14 53 15.8 0.0**
	comp=Z,2.0nm,1.0s,baz=243,slow=2.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**137.92**	**287**	PKP		**PKPdf**	**14 53 32.3 -0.6**
	comp=Z,1.9nm,1.1s,baz=48,slow=1.1,SNR=5.0						

PLTB	**Pedras Altas**	**143.67**	**159**	PKPdf		**PKPdf**	**14 53 41.8 -1.2**
PB16	**IPOC Station P**	**144.03**	**126**	PKPdf		**PKPdf**	**14 53 43.8 -0.8**
ROSC	**El Rosal**	**145.03**	**85**	PKP		**PKPbc**	**14 53 45.0 -0.6**
	comp=Z,6.4nm,0.3s,baz=297,slow=3.7,SNR=8.2						
KIC	**Kosan Boka**	**145.21**	**278**	*e*PKP2		**PKPbc**	**14 53 45.5 -0.2**
	comp=Z,5.9nm,0.6s						
DBIC	**Dimbokro**	**145.29**	**279**	PKPbc		**PKPbc**	**14 53 45.8 -0.1**
	comp=Z,13nm,1.0s,baz=79,slow=5.1,SNR=9.1						
TIC	**Toumodi**	**145.46**	**279**	*e*PKP2		**PKPbc**	**14 53 45.8 -0.7**
	comp=Z,29nm,1.0s						
LIC	**Lamto**	**145.51**	**278**	*e*PKP2		**PKPdf**	**14 53 44.4 -2.1**
	comp=Z,29nm,1.0s						
LPAZ	**La Paz**	**146.21**	**124**	PKPbc		**PKPdf**	**14 53 48.9 +0.5**
	comp=Z,23nm,1.1s,baz=286,slow=1.4,SNR=38						
LPAZ	**La Paz**	**146.21**	**124**			**PKPab**	**14 53 50.3 +0.2**
CPUP	**Villa Florida**	**146.80**	**150**	PKPbc		**PKPdf**	**14 53 49.1 +0.7**
	comp=Z,20nm,1.0s,baz=246,slow=2.7,SNR=27						
BDFB	**Brasilia**	**160.38**	**155**	PKP		**PKPdf**	**14 54 07.7 -0.4**
	comp=Z,1.6nm,0.3s,baz=144,slow=6.1,SNR=4.6						
BDFB				PKPab		**PKPab**	**14 54 48.7 +0.1**
	comp=Z,1.3nm,0.3s,baz=194,slow=12,SNR=4.3						

*ATH **17** 14:36:19.5,37.°30N×20.°25E,h11km±1km, ML3.2/7, Error ellipse: s-maj=3.4km s-min=1.1km az=57.0*
*THE **17** 14:36:19.8,37.°33N×20.°18E,h1km±2km, ML3.3/4, Error ellipse: s-maj=3.6km s-min=1.0km az=253.0*
*IDC **17** 14:36:19.1±1.5,37.°38N×20.°33E,h0km, mb3.4/4, mbtmp3.4/6, ML3.8/2, MS2.7/1, Error ellipse: s-maj=30.4km s-min=25.5km az=57.0*

ISC 17 14:36:19.0±1.7, 37.°32N±0.°04×20.°23E±0.°05, h2km±10km, n66, σ0.°89/79, mb3.4/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LTHK	**Lithakia**	**0.62**	**51**	P		**Pg**	**14 36 31.9**	**+0.9**
LTHK	**Lithakia**	**0.62**	**51**	P		**Pg**	**14 36 31.9**	**+0.9**
LTHK				S		**Sb**	**14 36 40.5**	**-1.3**
PSDA	**Pessada-Kefalo**	**0.85**	**19**	P		**Pg**	**14 36 35.6**	**+0.4**
PSDA				S		**Sb**	**14 36 47.4**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.85**	**19**	P		**Pg**	**14 36 35.6**	**+0.4**
PSDA				S		**Sg**	**14 36 47.2**	**+1.0**
KEF3	**Kipouria, Keph**	**0.89**	**6**	P		**Pg**	**14 36 36.0**	**-0.1**
KEF3				S		**Sb**	**14 36 50.0**	**+0.4**
	7μm,0.5s							
KEF3	**Kipouria, Keph**	**0.89**	**6**	P		**Pg**	**14 36 36.2**	**+0.1**
KEF3				S		**Sb**	**14 36 50.3**	**+0.7**
VLS	**Valsamata**	**0.91**	**18**	P		**Pg**	**14 36 36.5**	**+0.1**
VLS				S		**Sb**	**14 36 49.3**	**-0.7**
	1μm,0.4s							
VLS	**Valsamata**	**0.91**	**18**	P		**Pg**	**14 36 36.2**	**-0.2**
VLS				S		**Sb**	**14 36 49.5**	**-0.5**
VLS				AML		AML	14 36 54.5	
	comp=E,2725μm,0.5s							
VLS				AML		AML	14 36 58.0	
	comp=N,2828μm,0.4s							
DMLN	**Damoulianata-K**	**0.93**	**7**	P		**Pg**	**14 36 37.4**	**+0.6**
KEF4	**Livadi, Kephal**	**0.95**	**9**	P		**Pg**	**14 36 37.5**	**+0.2**
KEF4				S		**Sb**	**14 36 51.4**	**+0.1**
KEF4	**Livadi, Kephal**	**0.95**	**9**	P		**Pg**	**14 36 37.4**	**0.0**
KEF4				S		**Sb**	**14 36 51.1**	**-0.3**
FSK	**Fiskardo**	**1.17**	**13**	P		**Pb**	**14 36 42.2**	**+0.2**
FSK				AML		AML	14 37 06.3	
	comp=E,2225μm,0.5s							
FSK				AML		AML	14 37 06.8	
	comp=N,2038μm,0.6s							
RLS	**Riolos of Patr**	**1.23**	**53**	P		**Pg**	**14 36 42.6**	**0.0**
RLS				S		**Sn**	**14 37 02.4**	**+2.0**
	comp=N,820nm,0.5s							
RLS	**Riolos of Patr**	**1.23**	**53**	P		**Pg**	**14 36 42.5**	**0.0**
RLS				AML		AML	14 37 09.2	
	comp=N,1613μm,0.5s							
RLS				AML		AML	14 37 11.7	
	comp=E,1659μm,0.5s							
PYL	**PYLOS**	**1.28**	**109**	P		**Pg**	**14 36 43.9**	**+0.3**
PYL	**PYLOS**	**1.28**	**109**	P		**Pg**	**14 36 43.8**	**+0.3**
PYL				S		**Sg**	**14 36 59.7**	**-0.4**
PYL				AML		AML	14 37 02.5	
	comp=N,2347μm,0.8s							
PYL				AML		AML	14 37 07.1	
	comp=E,2190μm,0.5s							
DRO	**Drossia**	**1.34**	**61**	P		**Pn**	**14 36 45.5**	**+0.8**
DRO	**Drossia**	**1.34**	**61**	P		**Pg**	**14 36 44.9**	**+0.3**
DRO				AML		AML	14 37 10.8	
	comp=N,2298μm,0.4s							
DRO				AML		AML	14 37 19.1	
	comp=E,3228μm,0.7s							
EVGl	**Lefkada island**	**1.35**	**14**	P		**Pg**	**14 36 44.6**	**-0.2**
EVGl	**Lefkada island**	**1.35**	**14**	P		**Pg**	**14 36 44.7**	**-0.2**
ITM	**Ithomi**	**1.36**	**95**	P		**Pn**	**14 36 45.5**	**+0.4**
ITM				S		**Sn**	**14 37 04.8**	**+1.1**
	comp=E,922nm,0.4s							
ITM	**Ithomi**	**1.36**	**95**	P		**Pg**	**14 36 45.2**	**+0.1**
ITM				S		**Sg**	**14 37 02.4**	**-0.4**
ITM				AML		AML	14 37 05.4	
	comp=N,1840μm,0.3s							
ITM				AML		AML	14 37 05.7	
	comp=E,1844μm,0.4s							
DRAG	**Dragano-Lefkad**	**1.39**	**11**	P		**Pg**	**14 36 45.4**	**-0.3**
LKD2	**Lefkada island**	**1.51**	**13**	P		**Pg**	**14 36 48.6**	**+0.7**
LKD2				AML		AML	14 37 16.6	
	comp=E,1458μm,0.4s							
LKD2				AML		AML	14 37 17.6	
	comp=N,1342μm,0.5s							
PVO	**Paravola**	**1.66**	**38**	P		**Pg**	**14 36 50.9**	**+0.2**
LAKA	**Lakka**	**1.67**	**56**	P		**Pg**	**14 36 51.1**	**+0.2**
KLV	**Kalavryta, Ach**	**1.69**	**64**	P		**Pb**	**14 36 50.9**	**0.0**
KLV	**Kalavryta, Ach**	**1.69**	**64**	P		**Pb**	**14 36 50.7**	**-0.2**
EFP	**Efpalio**	**1.73**	**50**	P		**Pb**	**14 36 51.7**	**+0.1**
EFP	**Efpalio**	**1.73**	**50**	P		**Pb**	**14 36 51.6**	**+0.1**
SERG	**Sergoula**	**1.81**	**52**	P		**Pn**	**14 36 52.4**	**+1.1**
SERG	**Sergoula**	**1.81**	**52**	P		**Pb**	**14 36 52.9**	**-0.1**
EVR	**Evrytania**	**2.03**	**37**	P		**Pb**	**14 36 56.4**	**-0.2**
IGT	**Igoumenitsa**	**2.21**	**2**	P		**Pn**	**14 36 57.0**	**+0.2**
VLI	**Veliai**	**2.25**	**105**	P		**Pn**	**14 36 59.2**	**+2.0**
VLI	**Veliai**	**2.25**	**105**	P		**Pn**	**14 36 59.0**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.26**	**41**	P		**Pb**	**14 36 59.9**	**-0.7**
LTK	**Loutraki**	**2.29**	**71**	P		**Pn**	**14 36 58.5**	**+0.7**
LTK	**Loutraki**	**2.29**	**71**	P		**Pn**	**14 36 58.3**	**+0.6**
AXAR	**Agios Charalam**	**2.41**	**52**	P		**Pb**	**14 37 02.4**	**-0.6**
KTHR	**Kythira**	**2.46**	**114**	P		**Pn**	**14 37 01.9**	**+1.7**
KTHA	**Kythira Island**	**2.51**	**114**	P		**Pn**	**14 37 02.6**	**+1.8**
ATAL	**Atalanti**	**2.60**	**57**	P		**Pn**	**14 37 03.4**	**+1.3**
ATAL	**Atalanti**	**2.60**	**57**	P		**Pn**	**14 37 03.0**	**+0.9**
THL	**Klokotos Trika**	**2.65**	**31**	P		**Pn**	**14 37 04.2**	**+1.5**
THL	**Klokotos Trika**	**2.65**	**31**	P		**Pn**	**14 37 04.3**	**+1.6**
ANKY	**Antikythira Is**	**2.87**	**119**	P		**Pn**	**14 37 07.4**	**+1.7**
ANKY	**Antikythira Is**	**2.87**	**119**	P		**Pn**	**14 37 07.3**	**+1.7**
DION	**Dionisos Attik**	**3.04**	**74**	P		**Pn**	**14 37 08.6**	**+0.5**
DION	**Dionisos Attik**	**3.04**	**74**	P		**Pn**	**14 37 08.7**	**+0.6**
IDI	**Anoyia**	**4.27**	**117**	Pn		**Pn**	**14 37 26.5**	**+1.4**
	comp=N,2.7nm,0.3s,baz=297,slow=11,SNR=21							
IDI				Sn		**Sn**	**14 38 14.7**	**-1.0**
	comp=N,2.1nm,0.3s,baz=54,slow=22,SNR=2.0							
	comp=N,6.1nm,0.3s							
IDI	**Anoyia**	**4.27**	**117**	P		**Pn**	**14 37 25.9**	**+0.7**
DBRK	**Dubrovnik**	**5.58**	**344**	*e*Pn		**Pn**	**14 37 42.0**	**-1.0**
STON	**Ston**	**5.88**	**342**	*e*Pn		**Pn**	**14 37 45.4**	**-1.7**
LSTV	**Lastovo**	**6.02**	**336**	*e*Pn		**Pn**	**14 37 48.4**	**-0.6**
MAKA	**Makarska**	**6.45**	**339**	*e*Pn		**Pn**	**14 37 55.7**	**+0.7**
HVAR	**Hvar**	**6.53**	**335**	*e*Pn		**Pn**	**14 37 55.9**	**-0.2**
RICI	**Ricice**	**6.61**	**340**	*e*Pn		**Pn**	**14 37 56.5**	**-0.6**
ZIRJ	**Zirje**	**7.23**	**333**	*e*Pn		**Pn**	**14 38 05.8**	**+0.2**
KIJV	**Kijevo**	**7.29**	**338**	*e*Pn		**Pn**	**14 38 07.0**	**+0.5**
DAVOX	**Davos/Dischmat**	**12.18**	**324**	LR		LR	14 44 54.1	
	comp=N,30nm,18.6s,baz=82,slow=42							
MMAI	**Mount Meron Ar**	**13.13**	**105**	Pn		**Pn**	**14 39 24.4**	**-2.2**
	comp=N,1.0nm,0.3s,baz=302,slow=12,SNR=1.9							
	comp=N,0.3nm,0.3s							
HFS	**Hagfors**	**23.22**	**352**	P		**P**	**14 41 26.7**	**-0.4**
	comp=N,0.6nm,0.6s,baz=161,slow=14,SNR=1.3							
	comp=N,0.6nm,0.6s							
FINES	**FINESS Array B**	**24.43**	**7**	P		**P**	**14 41 38.8**	**0.0**
	comp=N,0.9nm,0.8s,baz=180,slow=9.7,SNR=1.4							
	comp=N,0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.21**	**219**	P		**P**	**14 42 23.3**	**+1.2**
	comp=N,0.7nm,1.0s,baz=29,slow=9.4,SNR=2.4							
	comp=N,0.7nm,1.0s							
MKAR	**Makanchi Array**	**45.95**	**58**	P		**P**	**14 44 42.7**	**-0.7**
	comp=N,0.1nm,0.4s,baz=277,slow=7.8,SNR=1.5							
	comp=N,0.1nm,0.4s							

*IDC **17** 14:42:35.9±4.9, 12.°30N×90.°64W, h0km, mb3.3/2, mbtmp3.4/2, Error ellipse: s-maj=442.0km s-min=69.5km az=48.0*
*SNET **17** 14:42:39.8±0.8, 12.°73N×90.°53W, h15km±4km, ML4.0*
*UCR **17** 14:42:39.6±0.9, 12.°74N×90.°58W, h19km±5km, ML3.8*
*GCG **17** 14:42:40.1±0.3, 13.°15N×90.°75W, h168km±34km, MD3.8*

ISC 17 14:42:38.6±2.8, 12.°74N±0.°08×90.°59W±0.°05, h10km±15km, n44, σ0.°48/58, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NUBE	**Las Nubes**	**1.40**	**34**	*e*P		**Pn**	**14 43 04.0**	**-0.4**
NUBE				*e*S		**Sn**	**14 43 22.1**	**-1.0**
NUBE	**Las Nubes**	**1.40**	**34**	*e*P		**Pn**	**14 43 04.0**	**-0.4**
NUBE				*e*S		**Sn**	**14 43 22.1**	**-1.0**
CEVE	**Cerro Verde**	**1.43**	**41**	*e*P		**Pn**	**14 43 04.8**	**-0.1**
CEVE				*e*S		**Sg**	**14 43 25.1**	**+0.2**
CEVE				IAML			14 43 29.4	
	comp=Z,1μm,0.3s							
CEVE	**Cerro Verde**	**1.43**	**41**	*e*P		**Pn**	**14 43 04.8**	**-0.1**
CEVE				*e*S		**Sg**	**14 43 25.1**	**+0.2**
CEVE				IAML			14 43 29.4	
	comp=Z,1μm,0.3s							
SBLS	**San Blas**	**1.44**	**40**	*e*P		**Pn**	**14 43 05.0**	**-0.1**
SBLS	**San Blas**	**1.44**	**40**	*e*P		**Pn**	**14 43 05.0**	**-0.1**
RTR	**El Retiro**	**1.47**	**38**	*e*P		**Pn**	**14 43 05.5**	**0.0**
RTR	**El Retiro**	**1.47**	**38**	*e*P		**Pn**	**14 43 05.5**	**0.0**
SNJE	**San Jose**	**1.48**	**40**	*e*P		**Pn**	**14 43 05.5**	**0.0**
SNJE	**San Jose**	**1.48**	**40**	*e*P		**Pn**	**14 43 05.5**	**0.0**
LOAL	**Lomas de Alarc**	**1.48**	**32**	*e*P		**Pn**	**14 43 05.3**	**-0.1**
LOAL				*e*S		**Sb**	**14 43 25.1**	**-0.1**
LOAL	**Lomas de Alarc**	**1.48**	**32**	*e*P		**Pn**	**14 43 05.3**	**-0.1**
LOAL				*e*S		**Sb**	**14 43 25.1**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.50**	**31**	*e*P		**Pn**	**14 43 05.2**	**-0.5**
SLOZ				*e*S		**Sb**	**14 43 25.9**	**0.0**
PMON	**Piamonte**	**1.57**	**52**	*e*P		**Pn**	**14 43 06.5**	**-0.2**
PMON	**Piamonte**	**1.57**	**52**	*e*P		**Pn**	**14 43 06.5**	**-0.2**
BOQS	**Boqueron**	**1.61**	**52**	*e*P		**Pn**	**14 43 07.4**	**0.0**
BOQS				*e*S		**Sb**	**14 43 29.0**	**-0.2**
BOQS	**Boqueron**	**1.61**	**52**	*e*P		**Pn**	**14 43 07.4**	**0.0**
BOQS				*e*S		**Sb**	**14 43 29.0**	**-0.2**
FUG	**Fuego 3**	**1.72**	**352**	*e*P		**Pb**	**14 43 10.1**	**-0.4**
LFRS	**El Faro**	**1.73**	**59**	*e*P		**Pn**	**14 43 08.4**	**-0.5**
LFRS				*e*S		**Sn**	**14 43 31.1**	**0.0**
LFRS	**El Faro**	**1.73**	**59**	*e*P		**Pn**	**14 43 08.4**	**-0.5**
LFRS				*e*S		**Sn**	**14 43 31.1**	**0.0**
LFU	**La Fuente**	**1.75**	**55**	*e*P		**Pn**	**14 43 09.3**	**+0.2**
LFU				*e*S		**Sn**	**14 43 31.9**	**+0.2**
LFU	**La Fuente**	**1.75**	**55**	*e*P		**Pn**	**14 43 09.3**	**+0.2**
LFU				*e*S		**Sn**	**14 43 31.9**	**+0.2**
SJTE	**Alcalda de S**	**1.77**	**60**	*e*P		**Pn**	**14 43 08.9**	**-0.5**
SJTE	**Alcalda de S**	**1.77**	**60**	*e*P		**Pn**	**14 43 08.9**	**-0.5**
NBG	**Las Nubes**	**1.85**	**7**	*e*P		**Pb**	**14 43 12.3**	**-0.5**
NBG				*e*S		**Sb**	**14 43 37.3**	**+1.0**
PAVA	**Las Pavas**	**1.88**	**59**	*e*P		**Pn**	**14 43 11.3**	**+0.4**
PAVA	**Las Pavas**	**1.88**	**59**	*e*P		**Pn**	**14 43 11.3**	**+0.4**
COEG	**Centro de Oper**	**1.88**	**62**	*e*P		**Pn**	**14 43 10.6**	**-0.3**
COEG				IAML			14 43 11.7	
	comp=Z,728nm,0.3s							
COEG	**Centro de Oper**	**1.88**	**62**	*e*P		**Pn**	**14 43 10.6**	**-0.3**
COEG				IAML			14 43 11.7	
	comp=Z,728nm,0.3s							
MTO3	**Montecristo**	**2.04**	**36**	*e*P		**Pn**	**14 43 13.7**	**+0.4**
MTO3	**Montecristo**	**2.04**	**36**	*e*P		**Pn**	**14 43 13.7**	**+0.4**
P5NO	**Presa 5 de nov**	**2.17**	**55**	*e*P		**Pn**	**14 43 14.9**	**0.0**
STG3	**Santiaguito 3,**	**2.18**	**334**	*e*P		**Pn**	**14 43 14.

KEF4	Livadi, Kephal	0.94	7	P		Pg		14 51 10.6	-0.4
FSK	Fiskardo	1.15	11	P		Pb		14 51 14.7	-0.3
FSK				S		Sn		14 51 30.7	-0.4
	comp=N,912nm,0.8s								
FSK	Fiskardo	1.15	11	P		Pb		14 51 14.7	-0.3
RLS	Riolos of Patr	1.20	52	P		Pb		14 51 15.2	-0.6
RLS	Riolos of Patr	1.20	52	P		Pb		14 51 15.4	-0.4
PYL	PYLOS	1.25	110	P		Pn		14 51 16.6	0.0
PYL				S		Sn		14 51 34.5	+0.9
	comp=N,735nm,0.6s								
PYL	PYLOS	1.25	110	P		Pn		14 51 16.6	0.0
PYL				AML	AML			14 51 35.2	
	comp=N,1570μm,0.7s								
PYL				AML	AML			14 51 39.8	
	comp=E,1366μm,0.6s								
DRO	Drossia	1.30	61	P		Pg		14 51 18.2	+0.2
DRO	Drossia	1.30	61	P		Pg		14 51 18.1	+0.1
DRO				AML	AML			14 51 43.5	
	comp=N,1379μm,0.4s								
DRO				AML	AML			14 51 51.8	
	comp=E,2134μm,0.7s								
EVGI	Lefkada island	1.33	13	P		Pn		14 51 17.4	-0.3
EVGI	Lefkada island	1.33	13	P		Pn		14 51 17.3	-0.3
ITM	Ithomi	1.33	96	P		Pn		14 51 18.1	+0.4
ITM				S		Sg		14 51 36.5	+0.7
	comp=E,582nm,0.4s								
ITM	Ithomi	1.33	96	P		Pn		14 51 18.1	+0.4
ITM				AML	AML			14 51 37.9	
	comp=E,1243μm,0.6s								
ITM				AML	AML			14 51 38.1	
	comp=N,1085μm,0.3s								
LKD2	Lefkada island	1.49	12	P		Pb		14 51 21.5	+0.7
LKD2				S		Sg		14 51 42.2	+1.3
	comp=N,518nm,0.5s								
LKD2	Lefkada island	1.49	12	P		Pn		14 51 20.6	+0.6
LKD2				S		Sg		14 51 41.6	+0.7
TSLK	Tsoukalades, L	1.52	11	P		Pg		14 51 22.3	+0.1
TSLK	Tsoukalades, L	1.52	11	P		Pb		14 51 21.6	+0.2
PVO	Paravola	1.62	37	P		Pb		14 51 23.5	+0.4
LAKA	Lakka	1.63	56	P		Pg		14 51 23.8	-0.4
KLV	Kalavryta, Ach	1.65	64	P		Pb		14 51 23.6	0.0
KLV	Kalavryta, Ach	1.65	64	P		Pb		14 51 23.5	-0.2
EFP	Efpalio	1.70	49	P		Pb		14 51 24.6	+0.3
SERG	Sergoula	1.78	52	P		Pb		14 51 25.5	-0.3
SERG	Sergoula	1.78	52	P		Pb		14 51 25.5	-0.3
EVR	Evrytania	2.00	37	P		Pb		14 51 28.5	-1.0
EVR	Evrytania	2.00	37	P		Pb		14 51 29.6	+0.1
IGT	Igoumenitsa	2.20	1	P		Pn		14 51 31.6	+1.9
MAKR	Makrakomi, Fth	2.23	41	P		Pb		14 51 32.8	-0.6
LTK	Loutraki	2.25	71	P		Pn		14 51 31.0	+0.6
AXAR	Agios Charalam	2.37	52	P		Pn		14 51 33.4	+1.4
KEK	Kerkira	2.41	351	P		Pn		14 51 33.7	+1.1
KTHR	Kythira	2.44	115	P		Pn		14 51 35.0	+2.0
KTHA	Kythira Island	2.48	115	P		Pn		14 51 35.3	+1.7
THL	Klokotos Trika	2.62	31	P		Pn		14 51 37.2	+1.8
IDI	Anoyia	4.25	117	Pn		Pn		14 51 58.0	+0.1
	comp=N,0.5nm,0.3s,baz=296,slow=13,SNR=1.3								
IDI				Sn		Sn		14 52 47.1	-0.5
	comp=N,1.1nm,0.3s,baz=317,slow=21,SNR=1.7								
	comp=N,4.6nm,0.4s								
STON	Ston	5.88	341	*e*Pn		Pn		14 52 17.9	-2.2
LSTV	Lastovo	6.02	336	*e*Pn		Pn		14 52 20.8	-1.4
MAKA	Makarska	6.45	338	*e*Pn		Pn		14 52 28.6	+0.6
RICI	Ricice	6.61	340	*e*Pn		Pn		14 52 29.8	-0.4
ZIRJ	Zirje	7.24	332	*e*Pn		Pn		14 52 37.7	-1.1
KIJV	Kijevo	7.29	337	*e*Pn		Pn		14 52 39.5	-0.1
MMAI	Mount Meron Ar	13.11	105	Pn		Pn		14 53 56.6	-2.7
	comp=N,0.3nm,0.3s,baz=288,slow=10.0,SNR=1.6								
	comp=N,0.5nm,0.4s								
FINES	FINESS Array B	24.41	7	P		P		14 56 10.9	-0.5
	comp=N,0.4nm,0.5s,baz=179,slow=11,SNR=1.2								
	comp=N,0.4nm,0.5s								
TORD	Torodi Ar. Bea	29.25	219	P		P		14 56 56.6	+1.3
	comp=N,1.4nm,1.1s,baz=34,slow=8.5,SNR=2.7								
	comp=N,1.4nm,1.1s								
MKAR	Makanchi Array	45.92	58	P		P		14 59 16.5	+0.6
	comp=N,0.2nm,0.8s,baz=277,slow=6.9,SNR=2.2								
	comp=N,0.2nm,0.8s								

IDC ***17*** *15:28:25.5±0.9,2.˚08S×141.˚43E, h0km, mb4.0/7, mbtmp4.1/10, ML4.2/2, MS3.2/12, Error ellipse: s-maj=32.9km s-min=19.2km az=96.0*
NEIC ***17*** *15:28:26.1±2.0,2.˚1S±0.˚2×141.˚33E±0.˚10, h10 km±2km, mb4.3/12, Error ellipse: s-maj=35.8km s-min=10.9km az=338.0*

ISC 17 15:28:26.7±0.7,2.˚1S±0.˚1×141.˚4E±0.˚1, h10km, n54, σ1§16/39, mb4.2/12, MS3.1/9, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	5.98	89	Pn	Pn	15 29 54.8	-0.6
PMG	Port Moresby	9.23	142	LR	LR	15 34 46.3	
	comp=Z,78nm,19.8s,baz=289,slow=41						
COEN	Coen	11.88	171	P	Pn	15 31 24.3	+8.0
KDU	Kakadu	13.70	220	P	Pn	15 31 40.3	-0.9
MTN	Manton Dam	14.70	223		Pn	15 31 52.6	-2.3
MTN	Manton Dam	14.70	223	P	Pn	15 31 53.6	-1.3
GUMO	Guam	16.00	12	LR	LR	15 37 39.6	
	comp=Z,87nm,19.7s,baz=202,slow=35						
KNRA	Kununurra	18.32	222	P	Pn	15 32 39.9	-1.3
KNRA	Kununurra	18.32	222	P	P	15 32 41.9	+0.7
QIS	Mount Isa	18.39	185	P	Pn	15 32 42.8	+0.8
CTA	Charters Tower	18.47	165	P	Pn	15 32 44.4	+1.4
	0.1nm,0.3s,baz=346,slow=12,SNR=1.8						
CTA				LR	LR	15 40 05.1	
	comp=Z,79nm,20.4s,baz=290,slow=38						
	1.8nm,0.7s						
WB0	Warramunga Arr	18.80	201	P	Pn	15 32 46.9	-0.2
WB0				IAmb	IAmb	15 32 49.9	
	comp=Z,16nm,0.8s						
WR0	Warramunga Arr	18.93	200	P	P	15 32 47.8	-0.2
WR0				IAmb	IAmb	15 32 50.9	
	comp=Z,16nm,0.7s						
WRAB	Tennant Creek	18.97	201	P	P	15 32 48.3	-0.2
WRAB				IAmb	IAmb	15 32 51.8	
	comp=Z,22nm,0.8s						
WRAB	Tennant Creek	18.97	201	P	Pn	15 32 49.0	-0.1
WB2	Warramunga Arr	18.98	201	P	P	15 32 48.7	+0.2
WRA	Warramunga Arr	18.99	201	P	P	15 32 48.7	+0.1
	comp=Z,1nm,0.3s,baz=24,slow=11,SNR=93						
	comp=Z,18nm,0.8s						
WRA	Warramunga Arr	18.99	201	P	P	15 32 47.1	-1.5
BATI	Baumata	19.34	245	P	Pn	15 32 54.7	+1.1
	comp=Z,24nm,0.6s,baz=88,slow=3.4,SNR=1.4						
FITZ	Fitzroy Crossi	22.14	223	P	P	15 33 22.8	+0.1
	comp=Z,5.5nm,0.6s,baz=43,slow=11,SNR=18						
FITZ				LR	LR	15 42 54.1	
	comp=Z,130nm,19.9s,baz=42,slow=39						
	comp=Z,5.5nm,0.6s						
FITZ	Fitzroy Crossi	22.14	223	P	P	15 33 22.9	+0.1
FITZ				IAmb	IAmb	15 33 32.9	
	comp=Z,5.3nm,0.7s						
FITZ	Fitzroy Crossi	22.14	223	P	P	15 33 23.1	+0.3
AS31	Alice Springs	22.59	198	P	P	15 33 28.0	+0.3
AS31				IAmb	IAmb	15 33 29.6	
	comp=Z,5.6nm,0.6s						
ASAR	Alice Springs	22.59	198	P	P	15 33 27.9	+0.2
	comp=Z,13nm,0.7s,baz=30,slow=11,SNR=126						
ASAR				LR	LR	15 42 27.6	
	comp=Z,161nm,20.9s,baz=88,slow=37						
	comp=Z,13nm,0.7s						
ASAR	Alice Springs	22.59	198	P	P	15 33 27.3	-0.3
RMQ	Roma	25.23	164	P	P	15 33 56.2	+3.3
INKA	Innaminka	25.47	181	P	P	15 33 56.5	+1.4
WRKA	Warakurna	26.03	208	P	P	15 34 01.0	+0.7
OOD	Oodnadatta	26.09	192	P	P	15 34 01.9	+1.2
MULG	Mulgathing	28.84	193	P	P	15 34 26.8	+1.4
STKA	Stephens Creek	29.58	180	P	P	15 34 32.3	+0.3
	comp=Z,2.4nm,0.8s,baz=11,slow=16,SNR=2.8						
	comp=Z,2.4nm,0.8s						
STKA	Stephens Creek	29.58	180	P	P	15 34 29.3	-2.7
H11S3	WAKE ISLAND Hy	32.26	49	T	T	16 08 56.5	
	baz=232,slow=75,SNR=4.5						
H11S2	WAKE ISLAND Hy	32.27	49	T	T	16 08 51.6	
	baz=232,slow=75,SNR=2.6						
H11S1	WAKE ISLAND Hy	32.28	49	T	T	16 08 51.1	
	baz=232,slow=75,SNR=2.6						
CAN	Canberra	33.77	169	P	P	15 35 08.0	-0.8
CAN				IAmb	IAmb	15 35 14.2	
	comp=Z,6.5nm,1.0s						
TOO	Toolangi	35.46	174	P	P	15 35 22.4	-1.1
MJAR	Matsushiro Arr	38.59	356	LR	LR	15 48 54.8	
	comp=Z,23nm,19.0s,baz=161,slow=32						
KSRS	Korea Array	41.32	344	LR	LR	15 50 32.0	
	comp=Z,18nm,21.4s,baz=165,slow=32						
CMAR	Chiang Mai Arr	46.50	298	LR	LR	15 59 16.8	
	comp=Z,8.8nm,18.4s,baz=200,slow=40						
PZH	PanZhiHua	47.69	309	P	P	15 37 11.0	+7.0
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
HHC	Hu-ho-hao-te	50.68	331	*e*P	P	15 37 35.3	+8.7
HHC				pmax	pmax		
	comp=Z,53nm,0.8s						
HHC				pmax	pmax		
	comp=Z,290nm,5.5s						
KLR	Kul'dur	51.84	352	LR	LR	15 55 48.0	
	comp=Z,22nm,21.8s,baz=146,slow=32						
PETK	Petropavlovsk-	56.73	12	LR	LR	15 58 20.5	
	comp=Z,15nm,21.8s,baz=161,slow=32						
MA2	Magadan	61.97	5	LR	LR	16 00 24.7	
	comp=Z,20nm,21.9s,baz=134,slow=31						
WMQ	Urumqi	66.25	320	*e*P	P	15 39 23.3	+8.1
WMQ				sP	PcP	15 39 36.9	-8.4
WMQ				pmax	pmax		
	comp=Z,15nm,1.3s						
MKAR	Makanchi Array	70.99	321	P	P	15 39 45.4	+0.6
	comp=Z,0.4nm,0.6s,baz=110,slow=7.0,SNR=4.0						
	comp=Z,0.4nm,0.6s						
VNDA	Vanda	76.12	176	P	P	15 40 15.6	+1.2
	comp=Z,0.6nm,0.8s,baz=321,slow=8.5,SNR=3.9						
	comp=Z,0.6nm,0.8s						
BVAR	Borovoye Array	80.38	325	P	P	15 40 39.0	+0.6
	comp=Z,0.4nm,0.5s,baz=130,slow=8.8,SNR=4.4						
	comp=Z,0.4nm,0.5s						
ILAR	Eielson Array	84.22	24	P	P	15 40 56.5	-1.7
	comp=Z,0.7nm,0.7s,baz=262,slow=4.3,SNR=6.0						
ILAR				LR	LR	16 11 45.1	
	comp=Z,26nm,20.6s,baz=186,slow=31						
	comp=Z,0.7nm,0.7s						
QSPA	South Pole Qui	87.80	180	P	P	15 41 15.7	-0.4
LPAZ	La Paz	145.58	123	PKPbc	PKPab	15 48 07.9	+0.4
	comp=Z,1.2nm,0.6s,baz=238,slow=2.9,SNR=4.8						
DBIC	Dimbokro	146.04	279	PKPbc	PKPab	15 48 08.5	-0.1
	comp=Z,2.5nm,0.6s,baz=135,slow=5.6,SNR=4.5						
CPUP	Villa Florida	146.42	149	PKPbc	PKPab	15 48 09.1	-0.5
	comp=Z,1.0nm,0.6s,baz=161,slow=6.2,SNR=2.9						

MOS ***17*** *15:31:14.8±0.9,26.˚84N×53.˚43E, h10km, mb4.3/10, Error ellipse: s-maj=11.0km s-min=7.5km az=92.0*
IDC ***17*** *15:31:15.6±0.8,26.˚90N×53.˚46E, h0km, mb4.0/24, mbtmp4.0/27, ML3.8/3, MS2.9/6, Error ellipse: s-maj=18.4km s-min=13.2km az=10.0*
DSN ***17*** *15:31:16.7±1.8,27.˚16N×53.˚51E, h10km, ML3.7/11, Error ellipse: s-maj=26.8km s-min=5.9km az=2.0*
NEIC ***17*** *15:31:17.0±1.7,27.˚1N±0.˚1×53.˚50E±0.˚02, h10km±2km, Error ellipse: s-maj=21.3km s-min=3.6km az=358.0*
TEH ***17*** *15:31:18.2,26.˚99N×53.˚46E, h20km, ML4.0*

ISC 17 15:31:17.3±0.5,26.˚93N±0.˚05×53.˚45E±0.˚05, h10km, n154, σ1§43/154, mb4.1/38, MS3.0/3, 6C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.48	328	*e*Pg	Pg	15 31 26.6	-0.2
LMD1				*e*Sg	Sg	15 31 34.1	+0.9
LMD1				*e*		15 31 37.6	
	comp=Z,22μm,0.7s						
LAR1	LAR	1.10	48	*e*Pg	Pb	15 31 38.9	+0.3
LAR1				*e*		15 32 02.2	
	comp=Z,77μm,0.4s						
JHRM	Jahrom	1.57	4	*e*Pg	Pn	15 31 47.3	+1.9
QIR1	Qir	1.58	347	*e*Pg	Pn	15 31 46.8	+1.3
QIR1				*e*		15 32 23.7	
	comp=Z,33μm,0.4s						
ESRB	Sir Abu	1.84	157	*e*Pn	Pn	15 31 50.9	+1.9
UMQ	Umm Al-Quwin	2.43	125	*e*Pn	Pn	15 31 58.9	+1.8
GENO	Geno	2.47	78	*e*Pn	Pn	15 31 58.3	+0.5
SHME	Shamm	2.56	109	*e*Pn	Pn	15 31 59.1	+0.2
AHBU	AHRAM	2.71	316	*e*Pn	Pn	15 32 02.4	+1.4
AJN	Ajban	2.73	149	*e*Pn	Pn	15 32 03.7	+2.4
AJN	Ajban	2.73	149	*e*P	Pn	15 32 03.9	+2.6
	SNR=11						
BANOM	Banah	2.74	111	*e*Pn	Pn	15 32 02.0	+0.6
BANOM	Banah	2.74	111	*e*P	Pn	15 32 01.8	+0.4
	SNR=24						
BANOM				S	Sn	15 32 34.0	-0.7
NAZ	Nazwa, Dubai	2.77	134	*e*Pn	Pn	15 32 04.3	+2.5
NAZ	Nazwa, Dubai	2.77	134	*e*P	Pn	15 32 04.3	+2.5
	SNR=23						
IBND	Bandar-abas	2.80	79	*e*Pn	Pn	15 32 03.2	+1.0
IBND				*e*		15 33 10.4	
	comp=Z,5μm,0.5s						
SHI	Shiraz	2.83	343	*e*Pn	Pn	15 32 02.6	-0.1
SHI				*e*		15 33 06.3	
	comp=Z,4μm,1.1s						
ASUD	Al Ashush, Dub	2.85	143	*e*Pn	Pn	15 32 05.6	+2.7
ASUD	Al Ashush, Dub	2.85	143	*i* P	Pn	15 32 05.6	+2.7
	SNR=69						
MSFE	Esma-Masafi	2.89	122	*e*Pn	Pn	15 32 04.8	+1.3
MSFE	Esma-Masafi	2.89	122	*e*P	Pn	15 32 04.8	+1.3
	SNR=12						
FAQ	Al Faqa, Dubai	2.91	138	*e*Pn	Pn	15 32 05.8	+2.1
FAQ	Al Faqa, Dubai	2.91	138	*i* P	Pn	15 32 05.8	+2.1
	SNR=7.8						
GHWR	Ruwais	3.00	190	*e*Pn	Pn	15 32 07.0	+2.1
MDH	Madha	3.03	122	*e*Pn	Pn	15 32 06.5	+1.1
MDH	Madha	3.03	122	*i* P	Pn	15 32 06.6	+1.3
	SNR=10						
UOSS	Minazif	3.17	128	Pn	Pn	15 32 07.8	+0.5
UOSS				Sn	Sn	15 32 45.1	-0.1
UOSS	Minazif	3.17	128	*e*Pn	Pn	15 32 08.6	+1.3
UOSS	Minazif	3.17	128	*i* P	Pn	15 32 08.5	+1.3
	SNR=40						
MZWR	Madinat Zayed	3.18	173	*e*Pn	Pn	15 32 10.0	+2.6
HATD	Hatta, Dubai	3.20	130	*e*Pn	Pn	15 32 09.5	+1.8
HATD	Hatta, Dubai	3.20	130	*i* P	Pn	15 32 09.3	+1.6
	SNR=17						
ASHO	Ashiyiah	3.24	133	*e*Pn	Pn	15 32 10.1	+1.7
ASHO	Ashiyiah	3.24	133	*i* P	Pn	15 32 10.1	+1.7
	SNR=55						
SLWR	Sila	3.26	210	*e*Pn	Pn	15 32 11.4	+2.9
ALNE	Al Ain	3.54	144	*e*Pn	Pn	15 32 14.2	+1.9
MZR	Muzera	3.91	180	*e*Pn	Pn	15 32 19.5	+2.0
NGRK	Negar Kerman	3.96	46	*e*Pn	Pn	15 32 19.3	+0.8
NGRK				*e*		15 32 29.9	
	comp=Z,984nm,0.2s						
JASK	Jask - Hormozg	4.10	104	*e*Pn	Pn	15 32 20.3	+0.2
KRBR	Kerman	4.21	43	*e*Pn	Pn	15 32 23.9	+2.0
TVBK	TV Kerman	4.21	43	*e*Pn	Pn	15 32 23.2	+1.2
TVBK				*e*		15 32 38.8	
	comp=Z,2μm,0.4s						
KHGB	Koh Gabri	4.34	37	*e*Pn	Pn	15 32 25.1	+1.5
KLNJ	Kolanjah	4.38	339	*e*Pn	Pn	15 32 24.3	+0.1
UMZA	Um Al Zommool	4.47	159	*e*Pn	Pn	15 32 27.1	+1.9
IMEH	Mehriz	4.56	13	*e*Pn	Pn	15 32 28.1	+1.5
IMEH				*e*		15 32 29.9	
	comp=Z,1μm,0.2s						
CHMN	Cheshme madani	4.64	50	*e*Pn	Pn	15 32 29.0	+1.2
CHMN				*e*		15 33 28.5	
	comp=Z,784nm,0.4s						
KBAM	BAM	4.94	62	*e*Pn	Pn	15 32 33.1	+1.4
KBAM				*e*		15 32 34.6	
	comp=Z,2μm,0.3s						
IRAM	Ramesheh	4.95	349	*e*Pn	Pn	15 32 32.7	+0.7
ISAD	Sadrabad	4.97	2	*e*Pn	Pn	15 32 33.8	+1.5
ISAD				*e*		15 32 41.2	
	comp=Z,1μm,0.3s						
IBAF	Bafgh	5.00	21	*e*Pn	Pn	15 32 33.0	+0.4
ICHK	Chekchek	5.36	9	*e*Pn	Pn	15 32 38.6	+1.0
BIDO	Bidbid	5.42	128	*e*Pn	Pn	15 32 38.8	+0.5
YZKH	Yazd	5.53	10	*e*Pn	Pn	15 32 40.8	+1.0
NASN	Na'in	5.88	355	*e*Pn	Pn	15 32 45.2	+0.4
AMIS	Naft Sefid	5.96	323	*e*Pn	Pn	15 32 46.7	+1.1
WSAR	Wadi Sarin	5.96	127	Pn	Pn	15 32 46.2	+0.5
	comp=Z,4.6nm,0.3s,baz=319,slow=11,SNR=69						
WSAR				Sn	Sn	15 33 51.0	-3.0
	comp=Z,5.5nm,0.3s,baz=168,slow=24,SNR=15						
WSAR				LR	LR	15 35 31.5	
	comp=Z,54nm,21.7s,baz=300,slow=43						
	comp=Z,9.9nm,0.4s						
IZEF	Zefreh	6.03	351	*e*Pn	Pn	15 32 47.0	+0.2
IPIR	Pirpir	6.15	339	*e*Pn	Pn	15 32 48.9	+0.3
ANAR	Anarak	6.24	2	*e*Pn	Pn	15 32 50.2	+0.5
CHBR	Chabahar	6.45	100	*e*Pn	Pn	15 32 53.4	+1.0
IKLH	Kolahrood	6.57	346	*e*Pn	Pn	15 32 54.9	+0.6
TPRV	Parvadeh(Tabas	6.69	24	*e*Pn	Pn	15 32 56.4	+0.6
ZHDN	Zahedan	6.95	68	*e*Pn	Pn	15 33 00.2	+0.9
ZHSF	Zahedan	6.99	66	*e*Pn	Pn	15 33 00.9	+1.0
BSRN	Basiran	7.04	43	*e*Pn	Pn	15 33 01.6	+0.9
KRSH	Karshahi	7.11	351	*e*Pn	Pn	15 33 02.1	+0.5
TKDS	Koohdasht(Taba	7.38	25	*e*Pn	Pn	15 33 05.6	+0.4
TABS	Tabas	7.41	24	*e*Pn	Pn	15 33 06.4	+0.8
KHMZ	Khomeyn	7.43	337	*e*Pn	Pn	15 33 06.5	+0.5
ISFB	Sefidab	7.47	352	*e*Pn	Pn	15 33 06.5	0.0
TNSJ	Nastanj	7.52	20	*e*Pn	Pn	15 33 07.4	+0.2
RAYN	Ar Rayn	7.96	246	Pn	Pn	15 33 13.4	+0.3
RAYN	Ar Rayn	7.96	246	P	Pn	15 33 13.4	+0.3
RAYN	Ar Rayn	7.96	246	P	P	15 33 13.5	+0.3
SRVN	Saravan	7.98	85	*e*Pn	Pn	15 33 14.8	+1.2
ASAO	Ashtian	8.15	340	*e*Pn	Pn	15 33 15.9	0.0
IVRN	Varamin	8.18	350	*e*Pn	Pn	15 33 16.2	+0.1
SHRT	Shahrakht	8.93	40	*e*Pn	Pn	15 33 27.8	+1.3
IRAZ	Razeghan	8.97	341	*e*Pn	Pn	15 33 27.8	+0.6
CHTH	Charan	9.17	348	*e*Pn	Pn	15 33 30.7	+0.8
SHRO	Shahrood	9.29	13	*e*Pn	Pn	15 33 32.5	+1.0
IGLO	Ghaloghah	9.55	2	*e*Pn	Pn	15 33 36.4	+1.3
SNGE	Sanandaj	9.67	329	*e*Pn	Pn	15 33 37.3	+0.5
IDHR	Dehrash	9.84	324	*e*Pn	Pn	15 33 39.9	+0.8
GEYT	Alibeck	11.65	19	LR	LR	15 39 37.5	
	comp=Z,68nm,19.3s,baz=218,slow=43						
MMAI	Mount Meron Ar	16.77	296	Pn	Pn	15 35 12.8	+0.4
	comp=Z,0.3nm,0.3s,baz=102,slow=12,SNR=2.4						
	comp=Z,2.8nm,0.7s						
ZEI	Tsey	17.64	336	*e*P	Pn	15 35 26.3	+3.0
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ATD	Arta Tunnel	18.28	215	LR	LR	15 43 44.0	
	comp=Z,50nm,18.6s,baz=172,slow=41						
KBZ	Khabaz	18.82	336	Pn	P	15 35 38.8	+1.7
	comp=Z,0.1nm,0.3s,baz=152,slow=6.7,SNR=6.5						
	comp=Z,3.1nm,0.8s						
KBZ	Khabaz	18.82	336	*e*P	P	15 35 38.6	+1.6
KIV	Kislovodsk	19.09	336	*i* P	P	15 35 42.0	+1.8
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BTK	Batken	19.48	43	P	P	15 35 40.4	-4.1
BTK	Batken	19.48	43	P	P	15 35 40.4	-4.1
BTK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BR131	Keskin Array S	20.85	313	P	P	15 35 56.1	-3.4
BR131				IAmb	IAmb	15 36 01.4	
	comp=Z,6.7nm,0.8s						
BR131	Keskin Array S	20.85	313	*d* iP	P	15 36 00.5	+1.0
BRTR	Keskin Array B	20.85	313	P	P	15 36 00.5	+1.0
	comp=Z,3.3nm,0.8s,baz=131,slow=13,SNR=26						
	comp=Z,3.3nm,0.8s						
BRTR	Keskin Array B	20.85	313	P	P	15 35 57.1	-2.3
KK31	Karatay Array	21.28	36	P	P	15 35 59.6	-4.3
KK31	Karatay Array	21.28	36	P	P	15 36 01.0	-2.9
KK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KKAR	Karatay Array	21.28	36	P	P	15 35 59.2	-4.7
KKAR	Karatay Array	21.28	36	P	P	15 36 02.4	-1.5
ANTO	Ankara	21.48	312	P	P	15 36 04.8	-1.4
ANTO				IAmb	IAmb	15 36 15.8	
	comp=Z,9.8nm,0.8s						
ANTO	Ankara	21.48	312	P	P	15 36 04.8	-1.4
ANTO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ELL	Elmali	22.22	302	P	P	15 36 13.1	-1.1
ELL	Elmali	22.22	302	P	P	15 36 13.1	-1.1
ELL				pmax	pmax		
	comp=Z,40nm,0.8s						
ABKAR	Akbulak array	22.85	11	P	P	15 36 18.5	-2.1
ABKAR	Akbulak array	22.85	11	P	P	15 36 18.7	-1.9
ABKAR				IAmb	IAmb	15 36 25.9	
	comp=Z,11nm,1.4s						
AAK	Ala-Archa	23.23	42	P	P	15 36 25.7	+0.8
	comp=Z,0.7nm,0.3s,baz=256,slow=8.3,SNR=1.8						
AAK				LR	LR	15 46 21.8	
	comp=Z,32nm,20.1s,baz=243,slow=39						
	comp=Z,0.7nm,0.3s						
AAK	Ala-Archa	23.23	42	*e*P	P	15 36 25.2	+0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AKTO	Aktyubinsk	23.73	7	P	P	15 36 30.0	+0.5
	comp=Z,1.6nm,0.6s,baz=189,slow=12,SNR=6.3						
	comp=Z,1.6nm,0.6s						
BOO

NB2	**NORSAR Subarra**	**44.34**	**332**	P	**P**	**15 39 26.4**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=121,slow=8.6						
NOA	**NORSAR Array B**	**44.34**	**332**	P	**P**	**15 39 26.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=121,slow=8.2,SNR=4.2						
	comp=Z,0.7nm,0.8s						
NOA	**NORSAR Array B**	**44.34**	**332**	*e*P	**P**	**15 39 26.8**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**45.65**	**347**	P	**P**	**15 39 37.3**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=137,slow=11,SNR=5.6						
	comp=Z,1.1nm,0.6s						
ARCES	**ARCESS Array B**	**45.65**	**347**	*e*P	**P**	**15 39 37.6**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**45.94**	**48**	P	**P**	**15 39 40.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=265,slow=8.7,SNR=2.1						
	comp=Z,0.3nm,0.4s						
ESDC	**Sonseca Array**	**48.89**	**300**	P	**P**	**15 40 03.7**	**+0.3**
	comp=Z,1.3nm,1.1s,baz=78,slow=8.0,SNR=3.2						
	comp=Z,1.3nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.36**	**58**	*e*P	**P**	**15 40 08.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,29nm,0.8s						
HHC				pmax	pmax		
	comp=Z,98nm,6.2s						
EKA	**Eskdalemuir Ar**	**49.43**	**321**	P	**P**	**15 40 06.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=110,slow=7.0,SNR=4.4						
	comp=Z,0.3nm,0.4s						
MDT	**Midelt**	**50.16**	**291**	P	**P**	**15 40 13.6**	**+0.3**
	comp=Z,3.2nm,1.0s,baz=53,slow=7.1,SNR=4.5						
	comp=Z,3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**50.20**	**265**	P	**P**	**15 40 13.2**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=60,slow=8.3,SNR=5.9						
	comp=Z,1.4nm,0.9s						
LBTB	**Lobatse**	**58.22**	**210**	P	**P**	**15 41 11.3**	**-0.7**
LBTB				pmax	pmax		
	comp=Z,17nm,1.5s						
DBIC	**Dimbokro**	**58.81**	**261**	P	**P**	**15 41 16.2**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=68,slow=5.9,SNR=8.8						
	comp=Z,2.3nm,0.4s						
KSRS	**Korea Array**	**62.42**	**60**	P	**P**	**15 41 39.0**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=282,slow=7.2,SNR=4.9						
	comp=Z,0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**83.07**	**114**	P	**P**	**15 43 43.2**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=288,slow=3.2,SNR=7.4						
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**92.52**	**115**	P	**P**	**15 44 28.0**	**-1.2**
	comp=Z,0.6nm,1.1s,baz=305,slow=5.1,SNR=2.7						
	comp=Z,0.6nm,1.1s						

IDC ***17*** *15:47:00.7±1.6,22.2°26S×170.2°43E,h0km,mb4.2/10, mbtmp4.2/11,ML4.1/1,MS3.4/10,Error ellipse: s-maj=52.4km s-min=22.1km az=148.0*
NEIC ***17*** *15:47:01.8±0.7,22.3°S±0.1°×170.4°E±0.04,h10km±2km, mb4.5/11,Error ellipse: s-maj=21.4km s-min=5.5km az=7.0*
NOU ***17*** *15:47:05.6,22.2°26S×170.2°18E,h13km,MLv4.7/13, Southeast of Loyalty Islands*
ISC 17 15:47:01.7±0.6,22.42S±0.08×170.40E±0.08,h10km,n78, σ0s86/73,mb4.4/16,MS3.4/8,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.39**	**293**		**Pn**	**15 47 40.3**	**-0.6**
MARNC	**Mare, Loyalty**	**2.39**	**293**	P	**Pn**	**15 47 40.5**	**-0.4**
PINNC	**Pines Island,**	**2.73**	**266**		**Pn**	**15 47 45.8**	**+0.1**
PINNC	**Pines Island,**	**2.73**	**266**	P	**Pn**	**15 47 46.3**	**+0.7**
YATNC	**Mamie plateau,**	**3.27**	**276**	P	**Pn**	**15 47 52.8**	**-0.2**
LIFNC	**LIFOU**	**3.36**	**299**		**Pn**	**15 47 53.9**	**-0.4**
LIFNC	**LIFOU**	**3.36**	**299**	P	**Pn**	**15 47 54.0**	**-0.3**
ONTNC	**Ouen Toro**	**3.65**	**271**		**Pn**	**15 47 58.5**	**+0.2**
ONTNC	**Ouen Toro**	**3.65**	**271**	P	**Pn**	**15 47 59.6**	**+1.3**
DZM	**Mont Dzumac**	**3.68**	**275**	Pn	**Pn**	**15 47 59.2**	**+0.4**
	15nm,0.3s,baz=122,slow=13,SNR=799						
DZM				Sn	**Sn**	**15 48 40.4**	**-1.8**
	36nm,0.3s,baz=241,slow=21,SNR=14						
	46nm,0.4s						
DZM	**Mont Dzumac**	**3.68**	**275**		**Pn**	**15 47 58.8**	**+0.1**
DZM	**Mont Dzumac**	**3.68**	**275**	P	**Pn**	**15 47 59.6**	**+0.9**
NOUC	**Port Laguerre**	**3.81**	**274**	P	**Pn**	**15 48 01.2**	**+0.8**
RTV	**Rentapao**	**4.97**	**338**	P	**Pn**	**15 48 17.4**	**+1.1**
DVP	**Devils Point**	**5.12**	**336**	P	**Pn**	**15 48 18.7**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.99**	**287**		**Pn**	**15 48 31.4**	**+1.0**
KOUNC	**Koumac, New Ca**	**5.99**	**287**	P	**Pn**	**15 48 31.8**	**+1.4**
	78nm,0.7s						
URZ	**Urewera**	**16.80**	**161**	LR	LR	15 56 14.9	
	comp=Z,170nm,19.2s,baz=58,slow=33						
BKZ	**Black Stump Fm**	**17.48**	**164**	Pn	**Pn**	**15 51 03.9**	**-1.8**
AFI	**Afiamalu**	**18.92**	**66**	LR	LR	15 58 10.6	
	comp=Z,57nm,20.8s,baz=220,slow=36						
RPZ	**Rata Peaks**	**21.24**	**179**	LR	LR	15 58 38.0	
	comp=Z,123nm,19.9s,baz=326,slow=33						
CTA	**Charters Tower**	**22.61**	**271**	P	**P**	**15 52 04.6**	**+1.8**
	4.4nm,0.9s,baz=116,slow=12,SNR=6.9						
CTA				LR	LR	15 58 59.0	
	comp=Z,65nm,20.9s,baz=84,slow=32						
	4.4nm,0.9s						
CTAO	**Charters Tower**	**22.61**	**271**	P	**P**	**15 52 02.8**	**-0.1**
CTAO				IAmb	IAmb	15 52 44.8	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**27.23**	**244**	P	**P**	**15 52 48.4**	**+2.4**
	comp=Z,2.3nm,0.5s,baz=90,slow=9.1,SNR=1.3						
STKA				LR	LR	16 02 56.6	
	comp=Z,87nm,19.5s,baz=29,slow=35						
	comp=Z,2.3nm,0.5s						
WR0	**Warramunga Arr**	**33.47**	**267**	P	**P**	**15 53 40.2**	**-1.1**
WR0				IAmb	IAmb	15 54 09.1	
	comp=Z,8.8nm,1.3s						
AS31	**Alice Springs**	**33.55**	**261**	P	**P**	**15 53 41.7**	**-0.2**
ASAR	**Alice Springs**	**33.55**	**261**	P	**P**	**15 53 41.4**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=82,slow=9.5,SNR=18						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**33.55**	**261**	P	**P**	**15 53 40.5**	**-1.5**
WB0	**Warramunga Arr**	**33.65**	**268**	P	**P**	**15 53 41.3**	**-1.6**
WB0				IAmb	IAmb	15 53 48.4	
	comp=Z,8.6nm,1.3s						
WB2	**Warramunga Arr**	**33.65**	**267**	P	**P**	**15 53 42.2**	**-0.7**
WB2				IAmb	IAmb	15 54 00.5	
	comp=Z,3.9nm,0.9s						
WRAB	**Tennant Creek**	**33.65**	**267**	P	**P**	**15 53 42.1**	**-0.8**
WRA	**Warramunga Arr**	**33.66**	**267**	P	**P**	**15 53 42.3**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=90,slow=8.5,SNR=6.5						
	comp=Z,1.0nm,0.8s						
MTN	**Manton Dam**	**38.51**	**278**	P	**P**	**15 54 23.2**	**-1.3**
MTN				IAmb	IAmb	15 54 27.1	
	comp=Z,35nm,1.4s						
GUMO	**Guam**	**43.67**	**323**	LR	LR	16 11 29.2	
	comp=Z,40nm,18.7s,baz=144,slow=34						
MBWA	**Marble Bar**	**46.88**	**262**	P	**P**	**15 55 32.0**	**-0.5**
MBWA				IAmb	IAmb	15 55 47.0	
	comp=Z,9.5nm,1.1s						
VNDA	**Vanda**	**55.30**	**182**	LR	LR	16 16 25.9	
	comp=Z,41nm,20.0s,baz=338,slow=32						
LEM	**Lembang**	**62.28**	**274**	LR	LR	16 24 30.7	
	comp=Z,48nm,18.0s,baz=190,slow=36						
MJAR	**Matsushiro Arr**	**66.06**	**332**	P	**P**	**15 57 47.6**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=166,slow=7.3,SNR=16						
	comp=Z,1.7nm,0.5s						
MAJO	**Matsushiro**	**66.06**	**332**	P	**P**	**15 57 47.9**	**-0.9**
QSPA	**South Pole Qui**	**67.65**	**180**	P	**P**	**15 57 59.5**	**+0.8**
QSPA				IAmb	IAmb	15 58 40.7	
	comp=Z,4.8nm,1.3s						
KSRS	**Korea Array**	**71.73**	**326**	P	**P**	**15 58 24.4**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=138,slow=6.3,SNR=8.6						
	comp=Z,2.7nm,0.8s						
PETK	**Petropavlovsk-**	**76.02**	**352**	P	**P**	**15 58 48.9**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=125,slow=4.4,SNR=4.6						
PETK				LR	LR	16 25 35.3	
	comp=Z,34nm,20.6s,baz=109,slow=30						
	comp=Z,3.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**80.79**	**294**	P	**P**	**15 59 18.2**	**+2.2**
	comp=Z,2.5nm,0.7s,baz=138,slow=4.5,SNR=18						
	comp=Z,2.5nm,0.7s						
MA2	**Magadan**	**83.28**	**350**	LR	LR	16 31 39.9	
	comp=Z,26nm,19.2s,baz=143,slow=32						
SNAA	**Sanae**	**86.04**	**182**	P	**P**	**15 59 41.2**	**-1.0**
VNA3	**Neumayer Olymp**	**86.59**	**180**	P	**P**	**15 59 44.3**	**-0.6**
VNA2	**Neumayer--Watz**	**86.89**	**181**	P	**P**	**15 59 46.0**	**-0.4**
	baz=185,slow=5.0						
VNA1	**Neumayer--Stat**	**87.18**	**180**	P	**P**	**15 59 47.7**	**0.0**
SONM	**Songino Array**	**90.40**	**323**	P	**P**	**16 00 03.4**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=143,slow=5.4,SNR=5.6						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**92.94**	**17**	P	**P**	**16 00 13.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=232,slow=4.4,SNR=5.4						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**104.75**	**315**	Pdiff	**Pdiff**	**16 01 08.7**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=96,slow=5.9,SNR=2.3						
ARCES	**ARCESS Array B**	**128.41**	**345**	PKP	**PKPdf**	**16 06 07.7**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=90,slow=2.2,SNR=4.1						
MORC	**Moravsky Berou**	**145.34**	**329**	*e*PKP	**PKPdf**	**16 06 40.8**	**+1.0**
OSTC	**Ostas**	**145.43**	**331**	*e*PKP	**PKPbc**	**16 06 39.7**	**-0.1**
CHVC	**Chvalec**	**145.47**	**331**	*e*PKP	**PKPbc**	**16 06 39.5**	**-0.4**
MAUC	**Maruska**	**145.48**	**328**	*e*PKP	**PKPab**	**16 06 40.6**	**+0.4**
KRLC	**Kraliky**	**145.50**	**330**	*e*PKP	**PKPab**	**16 06 40.5**	**+0.2**
DPC	**Dobruska-Polom**	**145.52**	**330**	*e*PKP	**PKPab**	**16 06 40.3**	**-0.1**
UPC	**Upice**	**145.55**	**331**	*e*PKP	**PKPab**	**16 06 40.7**	**+0.3**
JAVC	**Velka Javorina**	**145.89**	**327**	*e*PKP	**PKPab**	**16 06 43.0**	**+1.2**
VRAC	**Vranov**	**146.11**	**329**	PKPbc	**PKPbc**	**16 06 42.1**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=18,slow=3.1,SNR=6.4						
VRAC	**Vranov**	**146.11**	**329**	*e*PKP	**PKPab**	**16 06 43.0**	**+0.4**
CLL	**Collm**	**146.25**	**334**	*i* PKPbc	**PKPbc**	**16 06 42.3**	**+0.1**
	comp=Z,6.0nm,0.5s						
CLL				*i* PKiKP	**PKiKP**	**16 06 45.9**	**+0.5**
CLL				*i* x	x	16 06 49.8	
CLL				*i* x	x	16 06 56.5	
KRUC	**Moravsky**	**146.38**	**329**	*e*PKP	**PKPab**	**16 06 43.3**	**-0.3**
PRU	**Pruhonice**	**146.58**	**331**	*e*PKP	**PKPab**	**16 06 43.8**	**-0.5**
NKC	**Novy Kostel**	**147.30**	**333**	*e*PKP	**PKPbc**	**16 06 45.9**	**+0.5**
RONA	**Rosalia, Austr**	**147.34**	**327**	*i* P	**PKPab**	**16 06 46.9**	**-0.6**
	comp=Z,2.6nm,0.6s						
IDI	**Anoyia**	**147.35**	**301**	PKPbc	**PKPbc**	**16 06 46.2**	**+0.1**
	comp=Z,7.2nm,0.8s,baz=54,slow=2.2,SNR=2.2						
CONA	**Conrad Observa**	**147.41**	**328**	*e*P	**PKPab**	**16 06 47.6**	**-0.1**
	comp=Z,2.6nm,0.8s						
CKRC	**Cesky Krumlov**	**147.53**	**330**	*e*PKP	**PKPbc**	**16 06 46.4**	**+0.3**
KHC	**Kasperske Hory**	**147.64**	**331**	*e*PKP	**PKPab**	**16 06 47.7**	**-0.8**
GERES	**GERESS Array B**	**147.79**	**331**	PKPbc	**PKPbc**	**16 06 46.7**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=35,slow=3.3,SNR=15						
ABTA	**Abfaltersbach**	**149.86**	**329**	*e*P	**PKPbc**	**16 06 51.7**	**-0.5**
	comp=Z,2.1nm,0.6s						
WATA	**Walderalm**	**149.87**	**331**	*i* P	**PKPbc**	**16 06 52.5**	**+0.2**
	comp=Z,2.3nm,0.6s						
WTTA	**Wattenberg**	**149.89**	**331**	*e*P	**PKiKP**	**16 06 52.9**	**-0.4**
	comp=Z,5.8nm,0.9s						
RETA	**Reutte**	**150.12**	**332**	*e*P	**PKPbc**	**16 06 53.1**	**+0.3**
	comp=Z,1.2nm,0.5s						
SQTA	**Sankt Quirin**	**150.12**	**331**	*e*P	**PKPbc**	**16 06 52.0**	**-0.9**
	comp=Z,3.0nm,0.5s						
DAVOX	**Davos/Dischmat**	**151.04**	**332**	PKPbc	**PKPbc**	**16 06 54.8**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=35,slow=12,SNR=8.4						

IDC ***17*** *15:49:39.2±6.1,11.8°S×166.6°E±0.5,h250km,n9, σ1s68/7,mb3.5/5,Santa Cruz Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.18**	**181**	P	**Pn**	**15 52 01.9**	**+1.3**
	5.3nm,0.3s,baz=324,slow=19,SNR=2.1						
DZM				S	**S**	**15 53 52.3**	**-2.7**
	baz=131,slow=19						
PMG	**Port Moresby**	**19.23**	**275**	LR	LR	16 02 05.7	
	comp=Z,91nm,18.1s,baz=95,slow=38						
URZ	**Urewera**	**27.95**	**152**	LR	LR	16 04 49.4	
	comp=Z,49nm,18.1s,baz=316,slow=32						
RPZ	**Rata Peaks**	**32.00**	**174**	P	**P**	**15 55 43.4**	**+0.8**
	4.7nm,0.6s,baz=353,slow=5.8,SNR=2.8						
	4.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**39.97**	**256**	LR	LR	16 12 03.4	
	comp=Z,45nm,18.6s,baz=120,slow=34						
VNDA	**Vanda**	**65.72**	**181**	P	**P**	**15 59 57.9**	**+0.7**
	0.5nm,0.7s,baz=0.5,slow=6.1,SNR=2.4						
	0.5nm,0.6s						
SONM	**Songino Array**	**79.78**	**324**	P	**P**	**16 01 20.1**	**-0.2**
	0.3nm,0.3s,baz=129,slow=4.4,SNR=2.1						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**84.00**	**18**	P	**P**	**16 01 40.6**	**-1.1**
	0.4nm,0.6s,baz=224,slow=5.0,SNR=3.4						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**94.65**	**317**	P	**P**	**16 02 32.2**	**-0.1**
	0.5nm,0.6s,baz=100,slow=3.2,SNR=7.1						
	0.5nm,0.6s						

TEH ***17*** *15:57:10.2,26.9°S×53.4°E,h7km,ML3.4*
IDC ***17*** *15:57:13.1±23.0,27.66°N×53.50E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=459.3km s-min=33.2km az=3.0*
ISC 17 15:57:10.0±0.8,26.93N±0.05×53.44E±0.06,h10km,n31, σ1s75/32,mb3.6/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.47**	**329**	*e*Pg	**Pg**	**15 57 19.6**	**+0.3**
LMD1				*e*Sg	**Sb**	**15 57 26.5**	**-1.0**
LMD1				*e*		15 57 30.0	
	comp=Z,91μm,0.3s						
LAR1	**LAR**	**1.11**	**48**	*e*Pg	**Pb**	**15 57 31.5**	**+0.1**
LAR1				*e*		15 57 54.8	
	comp=Z,8μm,0.4s						
JHRM	**Jahrom**	**1.57**	**4**	*e*Pg	**Pb**	**15 57 39.7**	**+0.4**
JHRM				*e*		15 58 11.1	
	comp=Z,13μm,0.4s						
QIR1	**Qir**	**1.58**	**347**	*e*Pg	**Pg**	**15 57 40.1**	**-0.2**
ESRB	**Sir Abu**	**1.85**	**157**	*e*Pn	**Pn**	**15 57 44.2**	**+2.5**
GENO	**Geno**	**2.48**	**79**	*e*Pn	**Pn**	**15 57 53.2**	**+2.6**
SHME	**Shamm**	**2.58**	**109**	*e*Pn	**Pn**	**15 57 52.6**	**+0.8**
AHBU	**AHRAM**	**2.70**	**316**	*e*Pn	**Pb**	**15 57 56.5**	**-1.9**
AHBU				*e*		15 58 55.9	
	comp=Z,99nm,0.7s						
BANOM	**Banah**	**2.76**	**111**	*e*Pn	**Pn**	**15 57 55.0**	**+0.7**
SHI	**Shiraz**	**2.82**	**343**	*e*Pn	**Pn**	**15 57 58.0**	**+2.7**
SHI				*e*		15 58 58.3	
	comp=Z,1μm,1.1s						
ASUD	**Al Ashush, Dub**	**2.86**	**143**	*e*Pn	**Pn**	**15 57 57.5**	**+1.8**
MSFE	**Esma-Masafi**	**2.91**	**122**	*e*Pn	**Pn**	**15 57 56.6**	**+0.3**
FAQ	**Al Faqa, Dubai**	**2.92**	**138**	*e*Pn	**Pn**	**15 57 57.8**	**+1.3**
MDH	**Madha**	**3.04**	**122**	*e*Pn	**Pn**	**15 57 59.5**	**+1.3**
UOSS	**Minazif**	**3.18**	**128**	*e*Pn	**Pn**	**15 58 00.9**	**+0.8**
MZWR	**Madinat Zayed**	**3.18**	**173**	*e*Pn	**Pn**	**15 58 02.6**	**+2.5**
HATD	**Hatta, Dubai**	**3.21**	**130**	*e*Pn	**Pn**	**15 58 01.7**	**+1.2**
ASHO	**Ashiyiah**	**3.25**	**133**	*e*Pn	**Pn**	**15 58 02.2**	**+1.1**
ALNE	**Al Ain**	**3.54**	**143**	*e*Pn	**Pn**	**15 58 07.1**	**+2.0**
MZR	**Muzera**	**3.91**	**179**	*e*Pn	**Pn**	**15 58 14.2**	**+4.0**
IMEH	**Mehriz**	**4.56**	**13**	*e*Pn	**Pn**	**15 58 21.1**	**+1.8**
IMEH				*e*		15 59 23.2	
	comp=Z,293nm,0.8s						
IRAM	**Ramesheh**	**4.95**	**350**	*e*Pn	**Pn**	**15 58 27.9**	**+3.3**
ISAD	**Sadrabad**	**4.97**	**2**	*e*Pn	**Pn**	**15 58 26.9**	**+1.9**
ISAD				*e*		15 58 34.8	
	comp=Z,183nm,0.6s						
IBAF	**Bafgh**	**5.00**	**21**	*e*Pn	**Pn**	**15 58 27.2**	**+1.9**
ICHK	**Chekchek**	**5.36**	**9**	*e*Pn	**Pn**	**15 58 31.4**	**+1.1**
ANAR	**Anarak**	**6.24**	**2**	*e*Pn	**Pn**	**15 58 42.2**	**-0.1**
BRTR	**Keskin Array B**	**20.84**	**313**	P	**P**	**16 01 52.5**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=128,slow=13,SNR=11						
	comp=Z,1.4nm,0.8s						
AKASG	**Malin Array Be**	**30.06**	**329**	P	**P**	**16 03 18.2**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=118,slow=7.3,SNR=4.9						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**30.16**	**41**	P	**P**	**16 03 20.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=230,slow=9.0,SNR=5.5						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**35.52**	**32**	P	**P**	**16 04 06.0**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=231,slow=9.1,SNR=5.0						
	comp=Z,0.9nm,0.5s						
FINES	**FINESS Array B**	**39.10**	**340**	P	**P**	**16 04 36.0**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=146,slow=7.9,SNR=3.3						
	comp=Z,1.1nm,0.8s						

IDC ***17*** *16:07:08.0±2.2,23.8°S×179.8°W,h514km±21km,mb3.3/8, mbtmp4.2/10,Error ellipse: s-maj=49.3km s-min=14.9km az=163.0*
ISC 17 16:07:08.1±1.0,23.9S±0.2×179.8W±0.1,h518km,n12, σ0s74/13,mb3.6/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.42**	**342**	P	**P**	**16 08 49.6**	**+0.1**
	4.8nm,0.7s,baz=179,slow=21,SNR=2.3						
RAR	**Rarotonga**	**18.72**	**86**	P	**P**	**16 10 54.1**	**-0.1**
	29nm,0.7s,baz=211,slow=20,SNR=4.4						
CTA	**Charters Tower**	**31.63**	**270**	P	**P**	**16 12 49.1**	**+0.5**
	11nm,0.4s,baz=96,slow=10,SNR=63						
	11nm,0.4s						
ASAR	**Alice Springs**	**42.19**	**261**	P	**P**	**16 14 15.6**	**+0.2**
	2.5nm,0.5s,baz=95,slow=7.3,SNR=97						
ASAR				ScP	**ScP**	**16 18 59.8**	**+0.8**
	0.6nm,0.7s,baz=104,slow=4.8,SNR=8.1						
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**16 14 17.8**	**-0.5**
	3.9nm,0.5s,baz=90,slow=8.3,SNR=183						
	3.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.98**	**266**	P	**P**	**16 15 21.6**	**-0.4**
	1.5nm,0.5s,baz=96,slow=7.5,SNR=9.5						
	1.5nm,0.5s						
NVAR	**Mina Array Bea**	**84.63**	**44**	P	**P**	**16 18 46.7**	**-0.4**
	0.2nm,0.5s,baz=215,slow=5.5,SNR=1.5						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**16 19 11.1**	**0.0**
	0.2nm,0.3s,baz=72,slow=2.9,SNR=1.7						
	0.2nm,0.3s						
TXAR	**Lajitas Array**	**90.29**	**58**	P	**P**	**16 19 15.0**	**+1.1**
	0.3nm,0.7s,baz=202,slow=6.8,SNR=6.2						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**91.97**	**13**	P	**P**	**16 19 20.4**	**-0.3**
	0.3nm,0.7s,baz=208,slow=6.9,SNR=1.8						
	0.3nm,0.7s						
AKASG	**Malin Array Be**	**145.03**	**327**	PKPbc	**PKPdf**	**16 25 44.4**	**-1.6**
	0.3nm,0.3s,baz=48,slow=4.0,SNR=4.3						
BRTR	**Keskin Array B**	**147.68**	**307**	PKPbc	**PKiKP**	**16 25 56.2**	**+0.1**
	0.4nm,0.5s,baz=88,slow=3.1,SNR=3.1						

IDC ***17*** *16:27:45.1±0.6,13.0°N×88.5°W,h49km±4km,mb4.2/28, mbtmp4.4/30,MS4.0/61,Error ellipse: s-maj=17.4km s-min=8.3km az=53.0*
UCR ***17*** *16:27:45.9±1.5,12.2°N×88.9°W,h33km±3km, mb4.9(NEIC)*
GCMT ***17*** *16:27:46.3±0.3,12.7°4N±0.0°2×89.0°8W±0.0°3,h47km, MW5.0/77,Moment Tensor Solution. s73,c90; s77,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.87±.14; Mθθ-3.18±.10; Mφφ-0.69±.11; Mrθ0.56±.09; Mrφ1.35±.09; Mθφ-0.39±.09; Best double couple: Mw3.88100×10^16 NP1:θs116.00000°,δ50.00000°,λ92.00000°. NP2: φs292.00000°,δ40.00000°,λ87.00000°. Principal axes: T 3.9320, Plg85.0000°, Azm44.0000°; N -0.1040, Plg2.0000°, Azm294.0000°; P -3.8300, Plg5.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***17*** *16:27:47.3±2.2,12.9°7N±0.0°5×88.7°4W±0.0°6,h62km±6km, mb4.9/94,Md5.2(SNET) Error ellipse: s-maj=8.2km s-min=6.9km az=65.0*
INET ***17*** *16:27:54.5±0.7,12.8°8N×88.1°7W,h22km,MW4.8*
ISC 17 16:27:44.9±0.4,12.92N±0.04×88.87W±0.03,h53km±3km, h53km:pP-P,n596,σ1s28/621,mb4.8/69,MS4.0/64,6C-28D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COEB	**Comit de Eme**	**0.67**	**30**	*e*P	**Pn**	**16 27 59.4**	**+0.9**
COEB				*e*S	**Sn**	**16 28 10.1**	**+1.8**
COEB	**Comit de Eme**	**0.67**	**30**	*e*P	**Pn**	**16 27 59.4**	**+0.9**
COEB				*e*S	**Sn**	**16 28 10.1**	**+1.8**
SNVI	**San Vicente**	**0.69**	**2**	*e*P	**Pn**	**16 27 59.5**	**+0.6**
SNVI	**San Vicente**	**0.69**	**2**	*e*P	**Pn**	**16 27 59.5**	**+0.6**
COEG	**Centro de Oper**	**0.70**	**359**	*e*P	**Pn**	**16 27 59.4**	**+0.5**
COEG				*e*S	**Sn**	**16 28 10.2**	**+1.2**
COEG	**Centro de Oper**	**0.70**	**359**	*e*P	**Pn**	**16 27 59.4**	**+0.5**
COEG				*e*S	**Sn**	**16 28 10.2**	**+1.2**
SJTE	**Alcalda de S**	**0.71**	**349**	*e*P	**Pn**	**16 27 59.1**	**+0.1**
SJTE				*e*S	**Sn**	**16 28 09.8**	**+0.5**
SJTE	**Alcalda de S**	**0.71**	**349**	*e*P	**Pn**	**16 27 59.1**	**+0.1**
SJTE				*e*S	**Sn**	**16 28 09.8**	**+0.5**
UESV	**Universidad de**	**0.72**	**6**	*e*P	**Pn**	**16 28 00.1**	**+0.9**
UESV				*e*S	**Sn**	**16 28 11.2**	**+1.7**

MTO3	**Montecristo**	**1.55**	**342**	‖*eP*		**Pn**	**16 28 11.8**	**+1.4**
CRIN	**San Cristobal**	**1.79**	**97**	Pn		**Pn**	**16 28 14.2**	**+0.8**
CRIN				Sn		**Sn**	**16 28 36.5**	**+1.5**
CRIN	**San Cristobal**	**1.79**	**97**	*eP*		**Pn**	**16 28 14.2**	**+0.8**
TGUH	**Tegucigalpa,Un**	**1.92**	**54**			**Pn**	**16 28 16.4**	**+1.0**
TGUH	**Tegucigalpa,Un**	**1.92**	**54**	‖*eP*		**Pn**	**16 28 17.2**	**+1.9**
TGUH	**Tegucigalpa,Un**	**1.92**	**54**	‖*eP*		**Pn**	**16 28 17.2**	**+1.9**
TELN	**Telica**	**2.01**	**99**	*eP*		**Pn**	**16 28 17.0**	**+0.4**
TELN				*eP*		**Pn**	**16 28 17.2**	**+0.7**
CNGN	**Cerro Negro**	**2.16**	**101**	Pn		**Pn**	**16 28 17.2**	**-1.3**
CNGN	**Cerro Negro**	**2.16**	**101**	*eP*		**Pn**	**16 28 18.4**	**-0.1**
MOMN	**Momotombo**	**2.33**	**102**	*eP*		**Pn**	**16 28 20.7**	**-0.1**
COPN	**Copaltepe**	**2.34**	**108**	*eP*		**Pn**	**16 28 20.0**	**-0.9**
BRAN	**Las Pilas**	**2.46**	**94**	*eP*		**Pn**	**16 28 24.6**	**+2.0**
MGAN	**Managua**	**2.67**	**106**	*eP*		**Pn**	**16 28 25.4**	**0.0**
MGAN				*eP*		**Pn**	**16 28 25.7**	**+0.3**
HUEN		**2.69**	**102**	*eP*		**Pn**	**16 28 25.8**	**+0.1**
MATN	**Matagalpa**	**2.87**	**89**	Pn		**Pn**	**16 28 28.4**	**+0.2**
MATN	**Matagalpa**	**2.87**	**89**	*eP*		**Pn**	**16 28 28.7**	**+0.4**
BOAB	**BOACO BROADBAN**	**3.16**	**98**	Pn		**Pn**	**16 28 31.7**	**-0.4**
BOAB	**BOACO BROADBAN**	**3.16**	**98**	*eP*		**Pn**	**16 28 32.0**	**-0.2**
RTAL	**Retalhuleu**	**3.18**	**301**	Pn		**Pn**	**16 28 35.5**	**+3.0**
ACON	**Acoyapa**	**3.73**	**104**	Pn		**Pn**	**16 28 39.4**	**-0.6**
ACON	**Acoyapa**	**3.73**	**104**	*eP*		**Pn**	**16 28 39.4**	**-0.6**
HZTE	**Horizontes, Gu**	**3.88**	**124**	Pn		**Pn**	**16 28 43.8**	**+1.7**
HZTE	**Horizontes, Gu**	**3.88**	**124**	*eP*		**Pn**	**16 28 44.0**	**+1.9**
GBS3	**Finca Las Img**	**3.96**	**122**	*eP*		**Pn**	**16 28 44.7**	**+1.5**
LAPC	**Finca la Perla**	**3.98**	**122**	*eP*		**Pn**	**16 28 45.3**	**+1.8**
GB1A	**Borinquen Arri**	**3.98**	**121**	*eP*		**Pn**	**16 28 45.0**	**+1.4**
BUEV	**Buena Vista**	**3.99**	**121**	*eP*		**Pn**	**16 28 45.8**	**+2.1**
BUAI	**Buenos Aires**	**4.01**	**120**	*eP*		**Pn**	**16 28 44.5**	**+0.7**
GPS3	**Bodega del ICE**	**4.05**	**122**	*eP*		**Pn**	**16 28 46.6**	**+2.2**
GPS1	**Guardaparques**	**4.05**	**121**	*eP*		**Pn**	**16 28 47.6**	**+3.2**
GPS2	**Hotel Rincn d**	**4.06**	**122**	*eP*		**Pn**	**16 28 45.9**	**+1.3**
PETF	**Flores**	**4.09**	**346**	Pn		**Pn**	**16 28 47.2**	**+2.2**
PETF	**Flores**	**4.09**	**346**	*eP*		**Pn**	**16 28 46.2**	**+1.2**
PETF	**Flores**	**4.09**	**346**	*eP*		**Pn**	**16 28 46.2**	**+1.2**
LIM1	**Limonal**	**4.17**	**122**	*eP*		**Pn**	**16 28 48.2**	**+2.1**
GUAB	**Guayabo de Bag**	**4.18**	**121**	*eP*		**Pn**	**16 28 48.2**	**+1.9**
ORTG	**Ortega, Santa**	**4.19**	**127**			**Pn**	**16 28 48.2**	**+1.7**
ORTG	**Ortega, Santa**	**4.19**	**127**	*eP*		**Pn**	**16 28 48.5**	**+2.0**
HORNC	**Hornillas**	**4.22**	**121**	*eP*		**Pn**	**16 28 48.1**	**+1.2**
COLC	**Colonia**	**4.23**	**122**	*eP*		**Pn**	**16 28 49.0**	**+2.1**
CUI	**Cuipilapa**	**4.26**	**121**	*eP*		**Pn**	**16 28 49.2**	**+1.8**
DUNO	**Dulce Nombre,**	**4.34**	**130**	Pn		**Pn**	**16 28 49.6**	**+1.2**
DUNO	**Dulce Nombre,**	**4.34**	**130**	*eP*		**Pn**	**16 28 50.1**	**+1.6**
PTEN	**Parque Tenorio**	**4.38**	**120**	*eP*		**Pn**	**16 28 50.3**	**+1.3**
ACAL	**Aguas Claras**	**4.38**	**121**	*eP*		**Pn**	**16 28 50.2**	**+1.1**
CCIG	**Comitan**	**4.61**	**317**	Pn		**Pn**	**16 28 54.9**	**+2.7**
JTS	**Las Juntas de**	**4.64**	**124**	Pn		**Pn**	**16 28 54.3**	**+1.8**
JTS	**Las Juntas de**	**4.64**	**124**	*eP*		**Pn**	**16 28 55.0**	**+2.5**
LAFE	**Finca La Fe, P**	**4.96**	**128**	*eP*		**Pn**	**16 28 58.4**	**+1.6**
HDC	**Heredia**	**5.49**	**121**	Pn		**Pn**	**16 29 06.2**	**+1.9**
HDC	**Heredia**	**5.49**	**121**	*eP*		**Pn**	**16 29 08.6**	**+4.4**
HDC3	**Heredia 3**	**5.49**	**121**	*eP*		**Pn**	**16 29 08.5**	**+4.2**
HDC3	**Heredia 3**	**5.49**	**121**	*eP*		**Pn**	**16 29 06.6**	**+2.3**
RIFO	**Rio Frio, Sara**	**5.49**	**118**	*eP*		**Pn**	**16 29 07.9**	**+3.7**
OCM	**Ochomogo**	**5.67**	**121**	*eP*		**Pn**	**16 29 09.6**	**+2.7**
LCR2	**La Lucha 2**	**5.72**	**123**	*eP*		**Pn**	**16 29 10.3**	**+2.8**
RAFA	**San Farael, Vo**	**5.76**	**120**	*eP*		**Pn**	**16 29 11.5**	**+3.3**
RIMA	**Rio Macho**	**5.82**	**122**	Pn		**Pn**	**16 29 10.5**	**+1.6**
RIMA	**Rio Macho**	**5.82**	**122**	*eP*		**Pn**	**16 29 11.6**	**+2.7**
RIMA	**Rio Macho**	**5.82**	**122**	*eP*		**Pn**	**16 29 11.7**	**+2.8**
CDM	**Cerro de Muert**	**6.02**	**123**	‖*iP*		**Pn**	**16 29 14.9**	**+3.1**
CDM	**Cerro de Muert**	**6.02**	**123**	*eP*		**Pn**	**16 29 15.0**	**+3.1**
EDDO	**Dominical**	**6.11**	**126**	*eP*		**Pn**	**16 29 15.6**	**+2.9**
MRVA	**Moravia de Chi**	**6.14**	**119**	*eP*		**Pn**	**16 29 15.4**	**+2.2**
PEZE	**Perez Zeledon,**	**6.19**	**124**	Pn		**Pn**	**16 29 16.3**	**+2.5**
PEZE	**Perez Zeledon,**	**6.19**	**124**	*eP*		**Pn**	**16 29 16.5**	**+2.7**
SRBA	**San Rafael, Bu**	**6.53**	**124**	Pn		**Pn**	**16 29 20.8**	**+2.3**
SRBA	**San Rafael, Bu**	**6.53**	**124**	*eP*		**Pn**	**16 29 20.8**	**+2.3**
DRK0	**Durika**	**6.61**	**123**	Pn		**Pn**	**16 29 22.2**	**+2.6**
DRK0	**Durika**	**6.61**	**123**	*eP*		**Pn**	**16 29 23.2**	**+3.5**
EDPN	**Palmar Norte**	**6.61**	**126**	*eP*		**Pn**	**16 29 23.0**	**+3.5**
EDBA	**Buenos Aires**	**6.64**	**124**	*eP*		**Pn**	**16 29 22.3**	**+2.4**
POTG	**Potrero Grande**	**6.83**	**124**	*eP*		**Pn**	**16 29 25.4**	**+2.9**
PTJ1	**Puerto Jimnez**	**6.99**	**128**	*eP*		**Pn**	**16 29 28.6**	**+3.9**
EDSV	**San Vito**	**7.08**	**125**	*eP*		Pn	16 29 31.2	+5.1
CMIG	**Matias Romero** 20nm,0.6s,baz=108,slow=9.9,SNR=17	**7.14**	**306**	P		**Pn**	**16 29 29.1**	**+2.3**
CMIG				S		**Sn**	**16 30 46.7**	**+0.1**
	25nm,0.7s,baz=125,slow=16,SNR=1.2							
TEIG	**Tepich**	**7.29**	**4**	Pn		**Pn**	**16 29 31.6**	**+2.7**
CDITO	**Canoas**	**7.30**	**126**	Pn		**Pn**	**16 29 32.0**	**+3.0**
BRU2	**Volcan**	**7.32**	**123**	Pn		**Pn**	**16 29 31.4**	**+2.0**
BRU2	**Volcan**	**7.32**	**123**	*eP*		**Pn**	**16 29 31.9**	**+2.5**
CCOL	**Caracol de Cor**	**7.32**	**127**	*eP*		**Pn**	**16 29 33.2**	**+3.9**
BCIP	**Isla Barro Col**	**9.62**	**112**	Pn		**Pn**	**16 30 00.9**	**+0.2**
MTDJ	**Mount Denham**	**12.13**	**63**	Pn		**Pn**	**16 30 37.7**	**+2.6**
PAYG	**Puerto Ayora**	**13.57**	**186**	Pn		**Pn**	**16 30 57.9**	**+3.1**
OTAV	**Otavalo**	**16.29**	**140**	*eP*		**P**	**16 31 35.9**	**+3.0**
ROSC	**El Rosal** 11nm,0.4s,baz=108,slow=19,SNR=2.5	**16.45**	**118**	P		**P**	**16 31 34.4**	**-0.3**
ROSC				LR		LR	16 39 52.8	
	comp=Z,352nm,18.8s,baz=38,slow=45							
DWPF	**Disney Wildern** baz=206	**16.64**	**24**	P		**P**	**16 31 36.8**	**+0.6**
656A	**Willston**	**17.40**	**19**			**Pn**	**16 31 44.2**	**+0.2**
656A				IAmb		IAmb	16 31 52.0	
	comp=Z,162nm,1.4s							
833A	**Chaparral WMA,**	**18.20**	**329**	P		**Pn**	**16 31 54.9**	**+1.0**
833A				IAmb		IAmb	16 31 57.3	
	comp=Z,53nm,1.0s							
833A	**Chaparral WMA,** baz=145,SNR=18	**18.20**	**329**	P		**Pn**	**16 31 55.7**	**+1.8**
SDV	**Santo Domingo**	**18.35**	**101**	P		**P**	**16 31 54.7**	**-0.7**
	comp=Z,54nm,0.8s,baz=282,slow=4.2,SNR=28							
SDV				LR		LR	16 40 19.0	
	comp=Z,85nm,21.2s,baz=284,slow=42							
SDV	**Santo Domingo**	**18.35**	**101**	P		**P**	**16 31 55.6**	**+0.2**
SDV				IAmb		IAmb	16 31 56.8	
	comp=Z,49nm,0.8s							
SDV	**Santo Domingo**	**18.35**	**101**	*eP*		**P**	**16 31 54.5**	**-0.9**
344A	**Westbrook Farm**	**18.53**	**355**	P		**P**	**16 31 54.6**	**-2.5**
TIGA	**Tifton**	**19.07**	**14**	P		**Pn**	**16 32 06.0**	**+1.8**
TIGA				IAmb		IAmb	16 32 10.0	
	comp=Z,70nm,0.8s							
TIGA	**Tifton** baz=196,SNR=11	**19.07**	**14**	P		**Pn**	**16 32 04.3**	**+0.1**
VBMS	**Vicksburg** baz=175,SNR=8.6	**19.27**	**356**	P		**P**	**16 32 05.8**	**+0.6**
NATX	**Nacogdoches**	**19.50**	**345**	P		**Pn**	**16 32 10.6**	**+1.3**
NATX				IAmb		IAmb	16 32 23.8	
	comp=Z,80nm,1.1s							
NATX	**Nacogdoches** baz=163,SNR=5.6	**19.50**	**345**	P		**Pn**	**16 32 09.3**	**0.0**
435B	**Jarrell**	**19.52**	**337**	P		**Pn**	**16 32 09.7**	**+0.1**
435B				IAmb		IAmb	16 32 10.9	
	comp=Z,35nm,0.8s							
435B	**Jarrell** baz=154	**19.52**	**337**	P		**Pn**	**16 32 09.6**	**0.0**
255A	**Hazlehurst**	**19.81**	**16**	P		**P**	**16 32 11.3**	**+0.2**
LRAL	**Lakeview Retre**	**20.10**	**5**	P		Pn	16 32 16.9	+0.4
LRAL	**Lakeview Retre** baz=185,SNR=11	**20.10**	**5**	P		Pn	16 32 16.8	+0.4
JCT	**Junction City**	**20.19**	**332**	P		**P**	**16 32 16.3**	**+1.0**
JCT				IAmb		IAmb	16 32 31.8	
	comp=Z,45nm,1.1s							
JCT	**Junction City** baz=147,SNR=17	**20.19**	**332**	P		Pn	16 32 16.8	-0.8
WHTX	**Lake Whitney,**	**20.56**	**339**	P		**P**	**16 32 20.5**	**+1.3**
WHTX				IAmb		IAmb	16 32 34.1	
	comp=Z,90nm,1.1s							
WHTX	**Lake Whitney,** baz=155,SNR=8.1	**20.56**	**339**	P		Pn	16 32 20.8	-1.1
BAUV	**El Baul**	**20.82**	**99**	P		**P**	**16 32 20.5**	**-1.7**
GOGA	**Godfrey**	**20.99**	**13**	P		Pn	16 32 26.1	-0.9
GOGA				IAmb		IAmb	16 32 41.5	
	comp=Z,88nm,1.0s							
GOGA	**Godfrey** baz=194,SNR=26	**20.99**	**13**	P		**P**	**16 32 24.9**	**+1.1**
Y52A	**Lilburn**	**21.31**	**11**	P		**P**	**16 32 28.0**	**+0.7**
Y52A				IAmb		IAmb	16 32 32.7	
	comp=Z,32nm,0.7s							
TX32	**Lajitas Array**	**21.35**	**322**	P		**P**	**16 32 30.1**	**+2.2**
TX32				IAmb		IAmb	16 32 31.8	
	comp=Z,107nm,2.0s							
TXAR	**Lajitas Array**	**21.35**	**322**	P		**P**	**16 32 30.0**	**+2.2**
	comp=Z,8.4nm,0.6s,baz=144,slow=11,SNR=119							
TXAR				PcP		**PcP**	**16 36 32.4**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=159,slow=3.8,SNR=5.5							
TXAR				LR		LR	16 42 22.9	
	comp=Z,150nm,21.1s,baz=130,slow=41							
	comp=Z,8.4nm,0.6s							
TXAR	**Lajitas Array**	**21.35**	**322**	P		**P**	**16 32 30.2**	**+2.4**
TX31	**Lajitas Ar. Si**	**21.35**	**322**	P		**P**	**16 32 28.9**	**+1.0**
OXF	**Oxford**	**21.51**	**359**	P		**P**	**16 32 29.6**	**+0.3**
OXF	**Oxford** baz=178	**21.51**	**359**	P		**P**	**16 32 30.2**	**+0.9**
NHSC	**New Hope** baz=203	**21.61**	**20**	P		**P**	**16 32 31.5**	**+1.0**
MLPR	**Magueyes Islan**	**21.62**	**74**	P		**P**	**16 32 29.5**	**-1.2**
FPAL	**Fort Paine**	**21.73**	**7**	P		**P**	**16 32 33.2**	**+1.3**
MIAR	**Mount Ida**	**21.95**	**350**	P		**P**	**16 32 35.6**	**+1.4**
MIAR				IAmb		IAmb	16 32 51.4	
	comp=Z,40nm,0.8s							
MIAR	**Mount Ida** baz=167,SNR=25	**21.95**	**350**	P		**P**	**16 32 36.1**	**+2.0**
ABTX	**Abilene, Hawle** baz=151	**21.96**	**335**	P		**P**	**16 32 36.5**	**+2.2**
CELP	**Cerrillos**	**22.07**	**74**	P		**P**	**16 32 33.0**	**-2.6**
BIRV	**Birongo**	**22.26**	**94**	P		**P**	**16 32 35.7**	**-2.0**
X37A	**Clayton**	**22.37**	**346**	P		**P**	**16 32 40.6**	**+1.9**
X37A				IAmb		IAmb	16 33 03.7	
	comp=Z,83nm,1.2s							
ATAH	**Atahualpa**	**22.47**	**152**	P		**P**	**16 32 41.5**	**+1.1**
	comp=Z,7.7nm,0.8s,baz=348,slow=6.4,SNR=6.0							
ATAH				LR		LR	16 40 26.0	
	comp=Z,488nm,21.6s,baz=342,slow=34							
	comp=Z,7.7nm,0.8s							
SJG	**San Juan**	**22.48**	**74**	P		**P**	**16 32 39.0**	**-1.1**
	comp=Z,9.1nm,0.6s,baz=205,slow=3.7,SNR=4.1							
SJG				LR		LR	16 42 17.7	
	comp=Z,507nm,18.6s,baz=266,slow=39							
	comp=Z,9.1nm,0.6s							
WHAR	**Wooly Hollow**	**22.49**	**353**	P		**P**	**16 32 40.8**	**+0.8**
PDPR	**Patillas Dam,**	**22.59**	**74**	P		**P**	**16 32 40.5**	**-0.7**
PDPR				IAmb		IAmb	16 32 55.2	
	comp=Z,20nm,0.6s							
BG3	**Lake Jocassee**	**22.63**	**13**	P		**P**	**16 32 41.2**	**-0.2**
BG3				IAmb		IAmb	16 33 03.0	
	comp=Z,64nm,1.2s							
PAULI	**Pauline**	**22.73**	**15**	P		**P**	**16 32 43.7**	**+1.2**
PAULI				IAmb		IAmb	16 33 00.5	
	comp=Z,72nm,1.1s							
CPCT	**Cooper Cave**	**22.78**	**9**	P		**P**	**16 32 43.2**	**+0.3**
MTP	**Monte Pirata**	**23.04**	**74**	P		**P**	**16 32 44.4**	**-1.4**
MTP				IAmb		IAmb	16 32 58.5	
	comp=Z,30nm,0.6s							
FCAR	**Ozark Folk Cen**	**23.06**	**353**	P		**P**	**16 32 45.9**	**0.0**
X34A	**Smith Ranch, M**	**23.07**	**341**	P		**P**	**16 32 48.1**	**+2.1**
TKL	**Tuckaleechee C**	**23.11**	**11**	P		**P**	**16 32 47.3**	**+1.0**
	comp=Z,16nm,0.8s,baz=184,slow=12,SNR=16							
TKL				LR		LR	16 42 10.5	
	comp=Z,312nm,22.0s,baz=198,slow=38							
TKL	**Tuckaleechee C**	**23.11**	**11**	P		**P**	**16 32 47.2**	**+0.9**
WVT	**Waverly**	**23.14**	**2**	P		**P**	**16 32 47.2**	**+0.7**
WVT	**Waverly** baz=182	**23.14**	**2**	P		**P**	**16 32 46.9**	**+0.4**
LPIG	**La Paz**	**23.14**	**302**	LR		LR	16 42 44.1	
	comp=Z,186nm,20.3s,baz=120,slow=39							
LCAR	**Lake Charles**	**23.15**	**355**	P		**P**	**16 32 47.8**	**+1.2**
LCAR				IAmb		IAmb	16 33 02.5	
	comp=Z,56nm,1.2s							
KMSC	**Kings Mountain**	**23.16**	**16**			**P**	**16 32 47.8**	**+1.0**
KMSC				IAmb		IAmb	16 33 03.9	
	comp=Z,58nm,1.1s							
KMSC	**Kings Mountain** baz=199,SNR=8.4	**23.16**	**16**	P		**P**	**16 32 47.4**	**+0.6**
V53A	**Saluda**	**23.31**	**13**	P		**P**	**16 32 49.6**	**+1.3**
V53A				IAmb		IAmb	16 33 12.2	
	comp=Z,46nm,0.9s							
CUPR	**Culebra, Puert**	**23.33**	**74**	P		**P**	**16 32 47.3**	**-1.3**
WMOK	**Wichita Mounta**	**23.51**	**339**	P		**P**	**16 32 50.6**	**+0.3**
WMOK	**Wichita Mounta** baz=155,SNR=12	**23.51**	**339**	P		**P**	**16 32 51.5**	**+1.3**
FNO	**Franklin**	**23.55**	**342**	P		**P**	**16 32 49.7**	**-0.8**
W57A	**Gilead**	**23.55**	**18**	P		**P**	**16 32 51.3**	**+0.7**
W57A				IAmb		IAmb	16 33 14.3	
	comp=Z,30nm,0.9s							
STVI	**Saint Thomas**	**23.64**	**74**	P		**P**	**16 32 50.2**	**-1.4**
U49A	**Red Boiling Sp**	**23.66**	**6**	P		**P**	**16 32 51.1**	**-0.5**
U49A				IAmb		IAmb	16 33 10.0	
	comp=Z,41nm,1.4s							
HTMS	**Hat Mesa**	**23.71**	**328**	P		**P**	**16 32 52.5**	**+0.3**
HHAR	**Hobbs**	**23.71**	**350**	P		**P**	**16 32 52.9**	**+0.9**
HHAR				IAmb		IAmb	16 33 08.2	
	comp=Z,79nm,1.8s							
TUL1	**Leonard** baz=163	**23.73**	**346**	P		**P**	**16 32 52.6**	**+0.3**
RLO	**Rose Lookout**	**23.80**	**348**	P		**P**	**16 32 52.9**	**0.0**
RLO				IAmb		IAmb	16 32 57.3	
	comp=Z,19nm,0.7s							
V55A	**Taylorsville**	**23.86**	**16**	P		**P**	**16 32 54.1**	**+0.7**
V55A				IAmb		IAmb	16 33 18.1	
	comp=Z,26nm,0.9s							
PCRV	**Puerto La Cruz**	**23.89**	**94**	P		**P**	**16 32 54.0**	**0.0**
	comp=Z,10nm,0.6s,baz=263,slow=6.8,SNR=5.9							
PCRV				LR		LR	16 44 36.4	
	comp=Z,146nm,18.9s,slow=43							
	comp=Z,10nm,0.6s							
TZTN	**Tazewell**	**24.01**	**11**	P		**P**	**16 32 54.0**	**-0.8**
TZTN				IAmb		IAmb	16 33 21.7	
	comp=Z,41nm,1.1s							
TZTN	**Tazewell** baz=193	**24.01**	**11**	P		**P**	**16 32 55.5**	**+0.7**
T47A	**Sharon Grove**	**24.02**	**3**	P		**P**	**16 32 53.4**	**-1.5**
T47A				IAmb		IAmb	16 33 12.6	
	comp=Z,33nm,0.8s							
OK034	**N. Norfolk Rd.**	**24.06**	**344**			**P**	**16 32 55.4**	**+0.2**
OK034				IAmb		IAmb	16 32 56.6	
	comp=Z,35nm,0.9s							
MNTX	**Cornudas Mount**	**24.08**	**324**	P		**P**	**16 32 55.5**	**0.0**
MNTX	**Cornudas Mount** baz=137,SNR=12	**24.08**	**324**	P		**P**	**16 32 56.5**	**+0.9**
MGMO	**Mountain Grove**	**24.33**	**353**	P		**P**	**16 32 58.5**	**+0.8**
V58A	**Windy Hill, Pi**	**24.42**	**19**	P		**P**	**16 32 59.3**	**+0.8**
MSTX	**Muleshoe**	**24.48**	**331**	P		**P**	**16 32 58.7**	**-0.6**
MSTX				IAmb		IAmb	16 33 01.9	
	comp=Z,45nm,0.8s							
MSTX	**Muleshoe** baz=145,SNR=47	**24.48**	**331**	P		**P**	**16 32 59.8**	**+0.5**
AMTX	**Amarillo**	**24.76**	**334**			**P**	**16 33 02.6**	**+0.8**
AMTX	**Amarillo** baz=149	**24.76**	**334**	P		**P**	**16 33 02.6**	**+0.8**
ELIS	**Ellis County**	**24.93**	**339**	P		**P**	**16 33 04.6**	**+1.3**
ELIS				IAmb		IAmb	16 33 18.7	
	comp=Z,68nm,1.3s							
CCM	**Cathedral Cave**	**25.13**	**356**	P		**P**	**16 33 05.4**	**+0.4**
CCM				IAmb		IAmb	16 33 38.5	
	comp=Z,34nm,0.8s							
CCM	**Cathedral Cave** baz=174	**25.13**	**356**	P		**P**	**16 33 05.6**	**+0.7**
KAN13	**South Haven SW**	**25.21**	**344**	P		**P**	**16 33 05.0**	**-0.7**
KAN13				IAmb		IAmb	16 33 19.3	
	comp=Z,23nm,0.6s							
WCI	**Wyandotte Cave**	**25.32**	**5**	P		**P**	**16 33 06.0**	**-0.6**
WCI				IAmb		IAmb	16 33 26.0	
	comp=Z,92nm,1.7s							
WCI	**Wyandotte Cave** baz=186	**25.32**	**5**	P		**P**	**16 33 06.4**	**-0.2**
BLA	**Blacksburg** baz=199	**25.35**	**16**	P		**P**	**16 33 06.9**	**-0.1**
TBTG	**Tabatinga, AM**	**25.36**	**131**	*eP*		**P**	**16 33 08.1**	**+0.8**
R40A	**Maddies Statio**	**25.45**	**354**	P		**P**	**16 33 08.2**	**+0.3**
R40A				IAmb		IAmb	16 33 24.2	
	comp=Z,29nm,0.9s							
T57A	**Hurt**	**25.48**	**18**	P		**P**	**16 33 08.7**	**+0.5**
T57A				IAmb		IAmb	16 33 25.1	
	comp=Z,34nm,0.9s							
S54A	**Dingess, Beckl**	**25.68**	**14**	P		**P**	**16 33 10.4**	**+0.3**
CZSB	**Cruzeiro do Su**	**26.05**	**141**	*eP*		**P**	**16 33 16.5**	**+3.0**
121A	**Cookes Peak, D** baz=134	**26.10**	**322**	P		**P**	**16 33 15.9**	**+1.8**
R55A	**Marlinton**	**26.44**	**16**	P		**P**	**16 33 16.6**	**-0.3**
R55A				IAmb		IAmb	16 33 37.0	
	comp=Z,89nm,1.7s							
CRNM	**Carthage**	**26.51**	**325**	P		**P**	**16 33 18.0**	**+0.3**
P49A	**Miami Univ. Ec** baz=189	**26.77**	**7**	P		**P**	**16 33 19.7**	**0.0**
KSU1	**Kansas State U** baz=163	**26.97**	**347**	P		**P**	**16 33 21.1**	**-0.5**
ANMO	**Albuquerque**	**27.11**	**327**	P		**P**	**16 33 23.7**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=146,slow=10,SNR=5.9							
ANMO				PcP		**PcP**	**16 36 44.1**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=147,slow=6.8,SNR=6.4							
ANMO				LR		LR	16 46 20.9	
	comp=Z,135nm,20.7s,baz=138,slow=41							
	comp=Z,1.4nm,0.6s							
ANMO	**Albuquerque**	**27.11**	**327**	P		**P**	**16 33 24.1**	**+1.0**
ANMO	**Albuquerque** baz=140	**27.11**	**327**	P		**P**	**16 33 24.4**	**+1.3**
CBN	**Corbin Frederi** baz=205	**27.19**	**20**	P		**P**	**16 33 23.3**	**-0.2**
P52A	**Corning** baz=194	**27.27**	**11**	P		**P**	**16 33 24.2**	**-0.1**
P53A	**Whipple**	**27.28**	**13**	P		**P**	**16 33 22.7**	**-1.6**
P53A				IAmb		IAmb	16 33 42.5	
	comp=Z,41nm,1.2s							
Q56A	**Snyder Ridge,**	**27.40**	**17**	P		**P**	**16 33 25.4**	**0.0**
O48B	**Farmland** baz=188	**27.43**	**6**	P		**P**	**16 33 24.9**	**-0.8**
NNA	**Nana**	**27.47**	**154**	LR		LR	16 44 37.1	
	comp=Z,31nm,18.1s,baz=336,slow=37							
HDIL	**Hopedale** baz=179	**27.54**	**359**	P		**P**	**16 33 26.3**	**-0.3**
CBKS	**Cedar Bluff** baz=156	**27.54**	**341**	P		**P**	**16 33 27.2**	**+0.5**
ACSO	**Alum Creek Sta** baz=192	**27.70**	**10**	P		**P**	**16 33 28.0**	**-0.1**
T25A	**Trinidad** baz=146,SNR=12	**27.85**	**333**	P		**P**	**16 33 31.2**	**+1.4**
O53A	**New Philadelph** baz=196,SNR=5.5	**28.05**	**13**	P		**P**	**16 33 31.3**	**+0.1**
KSCO	**Kaye Shedlock'** baz=151	**28.71**	**337**	P		**P**	**16 33 38.1**	**+0.8**
SDCO	**Great Sand Dun** baz=144,SNR=9.3	**28.84**	**332**	P		**P**	**16 33 40.1**	**+1.5**
214A	**Organ Pipe Nat** baz=125	**29.02**	**315**	P		**P**	**16 33 42.1**	**+2.1**
SSPA	**Standing Stone** baz=202	**29.25**	**17**	P		**P**	**16 33 42.3**	**+0.4**
M53A	**WI Miller and** baz=196	**29.31**	**13**	P		**P**	**16 33 42.6**	**+0.2**
S22A	**4UR Ranch, Cre**	**29.47**	**330**	P		**P**	**16 33 45.2**	**+0.9**
S22A				PcP		**PcP**	**16 36 50.4**	**+1.5**
S22A	**4UR Ranch, Cre** baz=142,SNR=22	**29.47**	**330**	P		**P**	**16 33 45.2**	**+0.9**
Q24A	**Divide** baz=146	**29.69**	**334**	P		**P**	**16 33 46.5**	**+0.3**
MVCO	**Mesa Verde** baz=139	**29.90**	**327**	P		**P**	**16 33 49.7**	**+1.8**
JFWS	**Jewell Farm** baz=177	**29.91**	**358**	P		**P**	**16 33 48.6**	**+0.8**
BOAV	**Boa Vista**	**29.93**	**108**	P		**P**	**16 33 46.0**	**-2.2**
BOAV				IAmb		IAmb	16 33 47.2	
	comp=Z,6.5nm,0.7s							
BOAV	**Boa Vista**	**29.93**	**108**	*eP*		**P**	**16 33 46.0**	**-2.2**
OGNE	**Ogallala** baz=154	**30.21**	**340**	P		**P**	**16 33 51.1**	**+0.5**
WUAZ	**Wupatki** baz=132	**30.31**	**322**	P		**P**	**16 33 52.8**	**+1.2**
ISCO	**Idaho Springs** baz=146,SNR=11	**30.58**	**334**	P		**P**	**16 33 55.5**	**+1.5**
PAL	**Palisades** baz=209	**30.90**	**22**	P		**P**	**16 33 56.0**	**-0.5**
GLA	**Glamis** baz=124	**31.04**	**315**	P		**P**	**16 33 59.4**	**+1.5**
BINY	**Binghamton** baz=204	**31.25**	**19**	P		**P**	**16 33 60.0**	**+0.4**
PDMCI	**Parker Dam,Lak** baz=127	**31.30**	**317**

baz=124
R11A Troy Canyon, C 34.71 322 P P 16 34 31.6 +1.5
baz=130
BW06 Boulder Array 34.72 333 P P 16 34 30.9 +0.7
baz=143,SNR=6.0
PDAR Pinedale Array 34.72 333 P P 16 34 30.9 +0.8
comp=Z,2.9nm,0.7s,baz=125,slow=11,SNR=28
PDAR pP **pP 16 34 43.9 +0.1**
comp=Z,2.5nm,0.6s,baz=133,slow=12,SNR=10.0
PDAR PcP **PcP 16 37 03.3 +0.3**
comp=Z,2.8nm,0.6s,baz=147,slow=5.1,SNR=14
PDAR ScP **ScP 16 40 46.0 +1.8**
comp=Z,0.3nm,0.8s,baz=156,slow=4.9,SNR=2.7
PDAR LR LR 16 51 37.7
comp=Z,163nm,20.3s,baz=148,slow=41
comp=Z,2.9nm,0.7s
PDAR Pinedale Array 34.72 333 P P 16 34 30.0 -0.1
PDAR PcP **PcP 16 37 03.3 +0.3**
ARVC Arvin 34.95 314 P P 16 34 33.8 +1.8
baz=122
EYMN Ely 34.99 357 P P 16 34 31.9 -0.2
baz=175
ISA Isabella, Lake 34.99 315 P P 16 34 34.1 +1.7
baz=123
GRAC Grapevine Rang 35.01 318 P P 16 34 32.9 +0.5
baz=126
CWC Cottonwood Cre 35.16 317 P P 16 34 35.2 +1.3
baz=124
VES Vestal, Richgr 35.51 315 P P 16 34 37.6 +0.9
baz=122
PKM Mcpherson Peak 35.52 313 P P 16 34 37.8 +0.7
baz=120
LPAZ La Paz 35.53 144 P P 16 34 38.6 +0.9
comp=Z,5.4nm,0.6s,baz=326,slow=6.3,SNR=28
LPAZ PcP **PcP 16 37 06.8 +0.5**
comp=Z,1.5nm,0.8s,baz=354,slow=16,SNR=2.5
LPAZ LR LR 16 49 32.9
comp=Z,283nm,20.4s,baz=305,slow=37
comp=Z,5.4nm,0.6s
LPAZ La Paz 35.53 144 P P 16 34 37.6 -0.1
LPAZ La Paz 35.53 144 *e*P **P 16 34 38.6 +0.9**
LPAZ La Paz 35.53 144 P P 16 34 38.4 +0.6
LPAZ sP **sP 16 34 58.4 +0.8**
REDW Red Top Meadow 35.77 332 P P 16 34 40.5 +1.4
MDND Maddock 35.96 348 P P 16 34 41.1 +0.6
baz=162,SNR=6.5
MOOW Moose Ponds 36.03 333 P P 16 34 42.7 +1.3
MOOW PcP **PcP 16 37 07.6 +0.8**
ELK Elko 36.09 325 LR LR 16 51 05.9
comp=Z,169nm,21.3s,baz=146,slow=39
NVAR Mina Array Bea 36.45 319 P P 16 34 46.9 +1.9
comp=Z,2.3nm,0.7s,baz=129,slow=7.2,SNR=18
NVAR pP **pP 16 34 59.8 +1.1**
comp=Z,2.4nm,0.7s,baz=133,slow=8.7,SNR=9.2
NVAR PcP **PcP 16 37 09.9 +1.7**
comp=Z,6.9nm,0.7s,baz=135,slow=4.3,SNR=24
NVAR ScP **ScP 16 40 51.9 +1.4**
comp=Z,0.9nm,0.8s,baz=111,slow=4.9,SNR=4.8
NVAR LR LR 16 51 41.5
comp=Z,325nm,20.8s,baz=136,slow=39
comp=Z,2.3nm,0.7s
PB16 IPOC Station P 36.45 148 P P 16 34 46.2 +0.7
PB16 IAmb IAmb 16 35 11.3
comp=Z,8.9nm,0.8s
RLMT Red Lodge 36.50 335 P P 16 34 47.0 +1.6
RLMT IAmb IAmb 16 34 48.8
comp=Z,14nm,0.8s
RLMT Red Lodge 36.50 335 P P 16 34 46.2 +0.8
baz=145,SNR=6.2
MDP Montagnes des 36.58 99 PcP **PcP 16 37 09.7 +1.0**
comp=Z,9.3nm,0.9s,baz=229,slow=3.5,SNR=4.3
MDP LR LR 16 51 20.6
comp=Z,228nm,18.9s,baz=276,slow=39
LAO LASA Array 36.70 340 P P 16 34 47.9 +1.0
baz=151
YHL Hebgen Lake 37.09 333 P P 16 34 52.1 +1.7
YHL IAmb IAmb 16 35 07.6
comp=Z,8.9nm,0.8s
ITTB Itaituba 37.12 115 *e*P **P 16 34 48.4 -2.4**
MALB Monte Alegre 37.34 111 *e*P **P 16 34 51.7 -0.9**
HLID Hailey 37.63 329 P P 16 34 56.0 +1.1
baz=136
DGMT Dagmar 37.67 343 P P 16 34 55.8 +0.8
baz=155,SNR=11
ULM Lac du Bonnet 37.67 353 P P 16 34 53.5 -1.4
comp=Z,14nm,1.0s
comp=Z,14nm,1.0s
ULM Lac du Bonnet 37.67 353 P P 16 34 53.5 -1.4
ULM IAmb IAmb 16 34 55.1
comp=Z,13nm,1.0s
BOZ Bozeman (W) 37.87 334 P P 16 34 57.9 +1.0
BOZ Bozeman (W) 37.87 334 P P 16 34 58.0 +1.1
baz=142,SNR=10
ViLB Vilhena 38.32 131 *e*P **P 16 35 01.2 +0.4**
NPGB Novo Progresso 38.75 119 *e*P **P 16 35 01.7 -2.8**
EGMT Eagleton 39.09 338 P P 16 35 08.3 +1.3
EGMT Eagleton 39.09 338 P P 16 35 08.3 +1.3
baz=146,SNR=14
SIV San Ignacio 39.76 135 P P 16 35 13.2 +0.4
comp=Z,18nm,0.8s,baz=310,slow=9.4,SNR=67
SIV PcP **PcP 16 37 19.3 +0.8**
comp=Z,6.9nm,0.7s,baz=282,slow=4.4,SNR=6.6
SIV LR LR 16 51 10.6
comp=Z,347nm,20.8s,baz=278,slow=35
comp=Z,18nm,0.8s
MSO Missoula 39.84 333 P P 16 35 14.5 +1.2
baz=140
PDRB Porto dos Gac 40.13 126 *e*P **P 16 35 14.5 -1.5**
LVC Limon Verde 40.36 151 P P 16 35 18.4 +0.3
comp=Z,3.9nm,0.9s,baz=266,slow=4.9,SNR=2.6
LVC PcP **PcP 16 37 21.9 +1.1**
comp=Z,3.2nm,0.7s,baz=355,slow=6.7,SNR=2.6
LVC LR LR 16 51 23.9
comp=Z,159nm,20.4s,baz=308,slow=35
comp=Z,3.9nm,0.9s
CLDB Colider 40.45 124 *e*P **P 16 35 17.2 -1.4**
I07A Izee 40.66 326 P P 16 35 21.6 +1.5
I07A PcP **PcP 16 37 23.2 +2.0**
PTLB Pontes e Lacer 40.74 133 *e*P **P 16 35 20.7 -0.2**
YBH Yreka Blue Hor 41.11 321 P P 16 35 24.0 +0.1
comp=Z,1.3nm,0.6s,baz=82,slow=3.6,SNR=5.4
YBH PcP **PcP 16 37 22.9 +0.3**
comp=Z,2.4nm,0.8s,baz=78,slow=4.3,SNR=5.9
YBH LR LR 16 53 46.7
comp=Z,266nm,21.5s,baz=144,slow=38
comp=Z,1.3nm,0.6s
L04D Klamath Falls 41.14 322 P P 16 35 25.6 +1.4
baz=125
I04A Tendick Farm, 42.13 323 P P 16 35 32.8 +0.7
baz=126
K02D Willamette Mer 42.24 321 P P 16 35 35.0 +1.9
baz=124
NEW Newport 42.34 332 PcP **PcP 16 37 26.3 -0.1**
comp=Z,2.7nm,0.6s,baz=134,slow=9.5,SNR=3.9
NEW LR LR 16 58 09.5
comp=Z,195nm,18.7s,baz=129,slow=43
NEW Newport 42.34 332 P P 16 35 35.4 +1.6
baz=137
I03D Drain, OR 42.62 323 P P 16 35 37.9 +1.9
baz=125
FFC Flin Flon 42.97 349 P P 16 35 38.1 -0.6
FFC IAmb IAmb 16 35 39.9
comp=Z,58nm,1.7s
FFC Flin Flon 42.97 349 P P 16 35 39.1 +0.5
FFC pP **pP 16 35 51.4 -1.2**
SALV Santo Antonio 43.55 130 *e*P **P 16 35 43.9 +0.1**
RPN Rapa Nui 44.49 206 LR LR 16 49 40.3
comp=Z,267nm,21.8s,baz=58,slow=29
EDM Edmonton 44.68 339 P P 16 35 52.6 +0.1
SNDB Serra Nova Dou 44.73 122 *e*P **P 16 35 53.0 -0.4**
PP1B Ponte de Pedra 45.23 131 *e*P **P 16 35 57.3 +0.1**
SCHQ Schefferville 45.25 18 P P 16 35 55.7 -1.2
comp=Z,11nm,0.7s,baz=210,slow=6.8,SNR=13
SCHQ pP **pP 16 36 09.6 -1.4**
comp=Z,18nm,1.0s,baz=164,slow=7.2,SNR=5.2
SCHQ PcP **PcP 16 37 35.2 -0.9**
comp=Z,4.3nm,0.5s,baz=213,slow=2.7,SNR=5.5
SCHQ LR LR 16 55 51.4
comp=Z,218nm,18.4s,baz=192,slow=38
comp=Z,11nm,0.7s
SMTB Santa Maria do 46.36 116 *e*P **P 16 36 05.5 -0.8**
AQDB Aquidauana 46.53 135 *e*P **P 16 36 07.9 +0.5**
H03N2 Juan Fernandez 47.06 169 T T 17 26 18.8
baz=347,slow=76,SNR=97
H03N1 Juan Fernandez 47.06 169 T T 17 26 18.7
baz=347,slow=76,SNR=106
H03N3 Juan Fernandez 47.08 169 T T 17 26 16.1
baz=347,slow=76,SNR=107
BDFB Brasilia 49.38 124 P P 16 36 28.9 -0.8
comp=Z,12nm,0.7s,baz=295,slow=8.8,SNR=16
BDFB LR LR 16 58 53.1
comp=Z,83nm,20.3s,baz=322,slow=38
comp=Z,12nm,0.7s
BDFB Brasilia 49.38 124 P P 16 36 27.7 -2.0
BDFB IAmb IAmb 16 36 30.3
comp=Z,16nm,0.8s
BDFB Brasilia 49.38 124 *e*P **P 16 36 29.1 -0.7**
CPUP Villa Florida 49.62 142 P P 16 36 30.9 -0.4
comp=Z,6.6nm,0.8s,baz=336,slow=8.4,SNR=12
CPUP LR LR 16 58 54.7
comp=Z,143nm,19.9s,baz=327,slow=38
comp=Z,6.6nm,0.8s
CPUP Villa Florida 49.62 142 P P 16 36 30.9 -0.4
CPUP Villa Florida 49.62 142 P P 16 36 30.7 -0.5
CPUP pP **pP 16 36 43.4 -2.0**
ITRB Iturama 49.88 130 *e*P **P 16 36 33.2 -0.1**
BBB Bella Bella 50.22 330 LR LR 17 01 50.8
comp=Z,238nm,18.4s,baz=138,slow=41
PCMB Pacaembu 50.39 133 *e*P **P 16 36 36.9 -0.4**
IPMB Ipameri, GO 50.52 127 *e*P **P 16 36 36.5 -1.8**
BB19B Bebedouro 52.07 130 *e*P **P 16 36 49.1 -0.7**
ITQB Itaqui 52.53 144 P P 16 36 51.8 -1.2
ITQB Itaqui 52.53 144 *e*P **P 16 36 52.5 -0.6**
FRB Frobisher Bay 52.73 11 LR LR 16 59 19.3
comp=Z,256nm,21.6s,baz=214,slow=36
YKA Yellowknife Ar 52.81 345 P P 16 36 54.5 -0.2
comp=Z,12nm,0.7s,baz=140,slow=7.7,SNR=30
YKA pP **pP 16 37 07.8 -1.1**
comp=Z,15nm,0.9s,baz=139,slow=7.4,SNR=12
YKA PcP **PcP 16 38 03.0 -0.3**
comp=Z,2.1nm,0.6s,baz=145,slow=3.7,SNR=5.3
YKA LR LR 17 01 47.7
comp=Z,242nm,20.8s,baz=138,slow=39
comp=Z,12nm,0.7s
ITAB Concordia 53.51 139 P P 16 36 59.5 -0.8
ITAB Concordia 53.51 139 *e*P **P 16 36 58.9 -1.4**
T35M Bob Quinn 54.10 333 P P 16 37 05.3 +1.0
baz=127
DIAM Diamantina, MG 54.30 124 *e*P **P 16 37 05.8 -0.7**
WRAK Wrangell Islan 54.70 332 P P 16 37 09.5 +0.9
baz=125
DLBC Dease Lake 54.90 335 LR LR 17 04 13.6
comp=Z,126nm,20.2s,baz=118,slow=40
DLBC Dease Lake 54.90 335 P P 16 37 10.7 +0.6
baz=128
CPSB Cacapava Do Su 54.93 142 *e*P **P 16 37 10.2 -0.4**
TAOE Nuku Hiva Isla 55.34 250 *e*LR LR 16 53 29.0
comp=Z,207nm,21.5s
WTLY Watson Lake, Y 55.48 337 P P 16 37 14.5 +0.4
baz=130
RCBR Riachuelo 55.82 106 P P 16 37 15.1 -2.2
comp=Z,9.6nm,0.9s,baz=210,slow=8.3,SNR=1.8
RCBR LR LR 17 03 58.6
comp=Z,157nm,18.9s,baz=92,slow=39
comp=Z,9.6nm,0.9s
PLTB Pedras Altas 55.82 144 P P 16 37 15.8 -1.2
PLTB IAmb IAmb 16 37 30.8
comp=Z,14nm,0.9s
PLTB Pedras Altas 55.82 144 *e*P **P 16 37 16.2 -0.8**
PLCA Paso Flores 56.01 163 P P 16 37 19.2 +0.9
comp=Z,3.0nm,0.8s,baz=348,slow=8.3,SNR=8.8
PLCA PcP **PcP 16 38 16.8 +0.7**
comp=Z,2.4nm,0.9s,baz=339,slow=4.4,SNR=5.1
PLCA LR LR 16 55 49.8
comp=Z,152nm,20.9s,baz=355,slow=30
comp=Z,3.0nm,0.8s
PLCA Paso Flores 56.01 163 P P 16 37 19.1 +0.8
TGTN Hyland Airport 56.22 339 P P 16 37 20.0 +0.5
baz=132
P33M Teslin, Yukon 57.12 336 P P 16 37 26.4 +0.5
baz=126
P32M Atlin 57.12 335 P P 16 37 25.8 -0.1
baz=125
NUUK Nuuk 57.31 18 *i* P **P 16 37 26.0 -1.0**
NUUK IAmb IAmb 16 37 27.4
comp=Z,12nm,0.8s
SKAG Skagway 57.73 334 P P 16 37 30.5 +0.4
baz=123
MMPY Sheldon Lake, 58.01 338 P P 16 37 32.6 +0.6
baz=129
O30N Mendenhall 58.77 335 P P 16 37 38.0 +0.6
baz=123
P29M Windy Craggy 58.86 333 P P 16 37 38.6 +0.5
baz=121
M31M Dry Creek, Y 58.91 337 P P 16 37 38.7 +0.4
baz=126
N31M Braeburn, Yuko 59.04 336 P P 16 37 40.2 +1.0
baz=124
HYT Haines Junctio 59.38 335 P P 16 37 41.0 -0.8
baz=122
N30M Aishikik Lake 59.55 335 P P 16 37 43.2 +0.3
baz=122
O29M Mount Kennedy 59.56 334 P P 16 37 43.0 0.0
baz=120
SFJD Kangerlussuaq 59.66 16 LR LR 17 02 48.4
comp=Z,113nm,21.0s,baz=214,slow=35
M30M Minto, Yukon 60.04 337 P P 16 37 45.7 -0.5
baz=123
YUK4 Talbot Arm 60.13 335 P P 16 37 46.5 -0.5
baz=121
DY2G Dye2 60.56 18 *i* P **P 16 37 47.6 -2.3**
DY2G IAmb IAmb 16 37 48.9
comp=Z,3.9nm,0.7s
M29M Somme Creek 60.62 336 P P 16 37 50.3 +0.1
baz=122
L29M L29M 60.85 337 P P 16 37 51.6 -0.1
baz=122
K29M Barlow Dome 61.02 338 P P 16 37 52.5 -0.4
baz=123
DAWY Dawson 61.83 337 P P 16 37 58.7 +0.4
baz=121
RES Resolute Bay 61.85 358 LR LR 17 06 14.0
comp=Z,141nm,20.7s,baz=182,slow=37
F31M Tsiigehtchic 61.87 342 P P 16 37 58.1 -0.3
baz=129
M27K Edge Creek, AK 61.96 335 P P 16 37 59.7 +0.4
baz=118
I29M Ogilvie Camp, 62.13 339 P P 16 38 00.3 0.0
baz=123
EPYK Eagle Plains 62.16 340 P P 16 38 00.4 0.0
baz=125
L27K Beaver Creek, 62.28 336 P P 16 38 01.3 0.0
baz=118
INK Inuvik 62.35 343 P P 16 38 01.4 -0.1
comp=Z,10nm,0.6s,baz=120,slow=8.3,SNR=26
INK LR LR 17 08 46.9
comp=Z,139nm,20.4s,baz=120,slow=40
comp=Z,10nm,0.6s
INK Inuvik 62.35 343 P P 16 38 02.0 +0.5
INK Inuvik 62.35 343 P P 16 38 01.6 0.0
baz=129,SNR=7.6
BMRM Bremner River 62.51 333 P P 16 38 03.2 +0.3
baz=115
N25K Chitina, Valde 62.77 334 P P 16 38 05.3 +0.6
baz=115
K27K Chicken 62.84 337 P P 16 38 05.7 +0.7
baz=118
EGAK Eagle 62.86 338 P P 16 38 05.2 +0.2
baz=120
KLU Klutina 63.30 333 P P 16 38 08.3 +0.1
baz=114
I27K Kandik River 63.44 338 P P 16 38 09.3 +0.3
baz=120
SCRK Sand Creek 63.56 336 P P 16 38 10.2 +0.4
baz=117
J26L Joseph Creek 63.63 337 P P 16 38 10.1 -0.2
baz=117
M24K Tolsona, Glenn 63.66 334 P P 16 38 11.0 +0.5
baz=114
PAX Paxon 63.72 335 P P 16 38 10.3 -0.6
baz=115
H27K Steamboat Mouth 63.72 339 P P 16 38 11.0 +0.2
baz=120,SNR=5.6
RIDG Independent Ri 63.80 336 P P 16 38 11.0 -0.4
baz=116
I26K Coal Creek Min 63.86 338 P P 16 38 11.7 0.0
baz=118
SCM Sheep Creek Mo 64.06 333 P P 16 38 12.1 -1.0
baz=112
G27K Doyon Strip 64.06 339 P P 16 38 12.7 -0.3
baz=120
PWL Port Wells 64.14 332 P P 16 38 14.1 +0.4
baz=111
ICESG Greenland Ices 64.16 18 *i* P **P 16 38 12.7 -1.3**
ICESG IAmb IAmb 16 38 13.7
comp=Z,6.9nm,0.7s
K24K Donnelly Dome 64.20 336 P P 16 38 14.0 0.0
baz=115
M23K Glacier View 64.22 333 P P 16 38 14.9 +0.8
baz=112
J25K Salcha River, 64.38 337 P P 16 38 15.1 -0.1
baz=116
KNK Knik Glacier 64.40 333 P P 16 38 15.3 -0.1
baz=111
SEW Seward 64.40 331 P P 16 38 16.0 +0.7
baz=110
WAT6 Susitna Watana 64.52 334 P P 16 38 16.1 -0.1
baz=112
O22K Cooper Landing 64.65 331 P P 16 38 16.9 0.0
baz=110
E27K Coleen River 64.74 341 P P 16 38 17.8 +0.3
baz=121
PRP Porcupine Dome 64.84 337 P P 16 38 18.1 -0.2
baz=116
G26K Porcupine Rive 64.86 339 P P 16 38 18.4 +0.3
baz=118
HDA Harding Lake 64.92 336 P P 16 38 18.0 -0.6
baz=114
ILAR Eielson Array 65.04 336 P P 16 38 18.5 -0.9
comp=Z,2.4nm,1.0s,baz=159,slow=4.7,SNR=15
ILAR pP **pP 16 38 32.4 -1.7**
comp=Z,5.0nm,1.0s,baz=141,slow=5.4,SNR=10.0
ILAR LR LR 17 09 26.5
comp=Z,162nm,21.0s,baz=90,slow=38
comp=Z,2.4nm,1.0s
KDAK Kodiak Island 65.24 328 LR LR 17 07 02.0
comp=Z,119nm,21.2s,baz=134,slow=36
H25K Birch Creek 65.27 338 P P 16 38 21.2 +0.4
baz=116
F26K Sheenjek River 65.34 340 P P 16 38 21.5 +0.1
baz=118
BMAR Burnt Mountain 65.36 339 P P 16 38 21.9 +0.4
SUA Susitna One 65.45 332 P P 16 38 21.9 -0.3
baz=109
F25K Christian Rive 65.80 339 P P 16 38 24.6 +0.2
baz=116,SNR=6.2
NEA2 Nenana 65.83 336 P P 16 38 24.3 -0.2
baz=112
H24K Noodoo Dome 65.86 337 P P 16 38 24.5 -0.2
baz=114
O20K Slope Mountain 65.90 330 P P 16 38 25.6 +0.4
baz=107
TRF Thorofare Moun 65.92 334 P P 16 38 25.5 +0.1
baz=110
SKT Skwentna 65.97 333 P P 16 38 25.4 -0.1
baz=108
E25K Arctic Village 66.01 340 P P 16 38 25.8 +0.1
baz=117
N20K Mount Spurr 66.04 332 P P 16 38 26.6 +0.6
baz=107
SPCR Spurr Chakacha 66.04 332 P P 16 38 26.5 +0.5
baz=107
G24K Hadweenzic Riv 66.06 338 P P 16 38 26.7 +0.8
baz=114
P19K Oil Pt 66.08 330 P P 16 38 26.4 +0.2
baz=106
C27K Jago River 66.13 342 P P 16 38 26.4 0.0
baz=119
BPAW Bear Paw Mtn. 66.44 335 P P 16 38 28.1 -0.4
BPAW Bear Paw Mtn. 66.44 335 P P 16 38 27.9 -0.5
baz=110
SUMG Summit 66.49 15 *i* P **P 16 38 27.0 -2.1**
SUMG IAmb IAmb 16 38 29.0
comp=Z,3.0nm,0.7s
F24K Squaw Lake 66.55 339 P P 16 38 29.0 -0.1
baz=114
C26K Camden Bay 66.64 342 P P 16 38 29.3 -0.3
baz=118
MLY Manley 66.66 336 P P 16 38 29.9 0.0
baz=110,SNR=5.1
M20K Styx River 66.66 332 P P 16 38 29.6 -0.4
baz=107
D25K Kavik River 66.82 341 P P 16 38 30.8 -0.1
baz=116
E24K Your Creek 66.98 339 P P 16 38 31.7 -0.2
baz=114
N19K Bonanza Creek 66.99 331 P P 16 38 31.6 -0.5
baz=105
P18K Big Mountain, 66.99 329 P P 16 38 31.4 -0.7
baz=104
G23K Bananza Creek 67.00 338 P P 16 38 31.5 -0.5
baz=112
O18K Koktuh Hills 67.09 330 P P 16 38 32.4 -0.3
baz=104
PPT Papeete 67.14 245 LR LR 16 59 39.0
comp=Z,16nm,20.4s,baz=104,slow=28
PPT2 Papeete2 67.15 245 *e*LR LR 16 58 56.7
comp=Z,203nm,22.0s
PPT2 *e*LR LR 16 58 56.8
comp=Z,329nm,24.0s
L20K Farewell, AK 67.17 333 P P 16 38 32.9 -0.2
baz=106
I21K Tanana 67.20 336 P P 16 38 33.1 -0.1
baz=109,SNR=10
M19K Big River Lodg 67.24 332 P P 16 38 33.9 +0.3
baz=106
COLD Coldfoot 67.25 338 P P 16 38 33.6 0.0
baz=112
NEEM North Greenlan 67.34 8 *i* P **P 16 38 33.1 -1.3**
NEEM IAmb IAmb 16 38 33.7
comp=Z,4.3nm,0.8s
E23K Chandalar 67.36 339 P P 16 38 34.4 0.0
baz=113,SNR=6.2
K20K Telida 67.50 334 P P 16 38 34.7 -0.5
baz=106
L19K White Mountain 67.53 332 P P 16 38 35.0 -0.4
baz=105
TOLK Toolik Lake Re 67.58 340 P P 16 38 35.2 -0.4
baz=113
H21K Melozitna Rive 67.69 336 P P 16 38 36.2 -0.1
baz=109
C24K Franklin Bluff 67.73 341 P P 16 38 36.8 +0.3
baz=114
J20K Nowinta River 67.78 335 P P 16 38 36.9 0.0
baz=107
R16K Pilot Point 67.80 327 P P 16 38 36.7 -0.4
baz=101
O17K Koliganek Bris 68.00 330 P P 16 38 39.2 +0.8
baz=102
CHGN Chignik 68.02 326 P P 16 38 38.5 0.0
baz=100
F22K John River 68.07 338 P P 16 38 38.7 0.0
baz=110
G21K Allakaket 68.23 337 P P 16 38 39.9 +0.1
baz=108
C23K Itkillik River 68.39 341 P P 16 38 41.0 +0.4
baz=112
F21K Alatna River 68.45 338 P P 16 38 41.9 +0.8
baz=109,SNR=6.6
BORG Borgarnes 68.88 25 LR LR 17 09 14.3
comp=Z,36nm,18.4s,baz=263,slow=36
TBI Tubuai 69.36 239 *e*LR LR 16 59 58.2
comp=Z,4µm,24.0s
TBI *e*LR LR 16 59 58.5
BBTS Babate 69.99 79 LR LR 17 03 33.5
comp=Z,149nm,21.5s,baz=260,slow=31
EKA Eskdalemuir Ar 77.06 36 LR LR 17 08 11.4
comp=Z,68nm,21.2s,baz=258,slow=32
RAR Rarotonga 77.42 245 LR LR 17 05 43.3
comp=Z,172nm,19.3s,baz=92,slow=29
ESDC Sonseca Array 77.99 52 P P 16 39 35.5 -2.5
comp=Z,0.8nm,0.6s,baz=281,slow=5.1,SNR=7.5
ESDC LR LR 17 08 47.0
comp=Z,104nm,20.2s,baz=290,slow=32
comp=Z,0.8nm,0.6s
MDT Midelt 78.35 59 LR LR 17 08 26.3
comp=Z,97nm,20.7s,baz=330,slow=31
PMSA Palmer Station 79.71 169 LR LR 17 08 11.6
comp=Z,157nm,19.3s,baz=14,slow=30
SPITS Spitsbergen Ar 80.53 12 LR LR 17 16 07.6
comp=Z,98nm,19.3s,baz=244,slow=36
DBIC Dimbokro 82.72 85 LR LR 17 13 09.7
comp=Z,61nm,19.5s,baz=310,slow=33
NB2 NORSAR Subarra 83.63 29 P P 16 40 07.6 0.0
comp=Z,1.8nm,1.0s,baz=287,slow=5.3
NOA NORSAR Array B 83.63 29 P P 16 40 05.9 -1.7
comp=Z,0.8nm,0.8s,baz=287,slow=5.1,SNR=4.8
NOA LR LR 17 13 32.8
comp=Z,66nm,21.5s,baz=275,slow=33
comp=Z,0.8nm,0.8s
HFS Hagfors 85.06 29 LR LR 17 15 04.0
comp=Z,67nm,20.9s,baz=292,slow=34
ARCES ARCESS Array B 86.19 19 P P 16 40 20.2 0.0

comp=Z,1.7nm,0.9s,baz=10,slow=7.4,SNR=6.0
ARCES LR LR 17 19 13.4
comp=Z,34nm,18.5s,baz=307,slow=36
comp=Z,1.7nm,0.9s
AFI Afiamalu 86.34 255 LR LR 17 08 58.5
comp=Z,50nm,21.7s,baz=121,slow=28
DAVOX Davos/Dischmat 86.59 43 LR LR 17 12 45.5
comp=Z,112nm,21.8s,baz=263,slow=31
CLL Collm 87.31 38 *e*P **P 16 40 25.0 -1.0**
TORD Torodi Ar. Bea 87.66 77 P **P 16 40 26.2 -2.2**
comp=Z,0.3nm,0.5s,baz=306,slow=6.9,SNR=1.6
TORD LR LR 17 18 49.4
comp=Z,39nm,18.9s,baz=212,slow=35
comp=Z,0.3nm,0.5s
KHC Kasperske Hory 88.31 40 *e*P **P 16 40 32.5 +1.5**
GERES GERESS Array B 88.48 40 P **P 16 40 31.0 -0.8**
comp=Z,0.4nm,0.7s,baz=311,slow=4.5,SNR=2.1
comp=Z,0.4nm,0.7s
KEST Kesra 89.10 54 LR LR 17 14 25.2
comp=Z,68nm,21.2s,baz=266,slow=32
VRAC Vranov 90.13 39 LR LR 17 16 40.5
comp=Z,109nm,21.1s,baz=283,slow=33
SEY Seymchan 90.98 336 P **P 16 40 43.2 +0.2**
comp=Z,3.3nm,0.7s,baz=55,slow=5.5,SNR=7.9
comp=Z,3.3nm,0.7s
TIXI Tiksi 91.93 349 LR LR 17 24 48.9
comp=Z,100nm,21.9s,baz=358,slow=37
VAE Valguarnera 92.50 51 LR LR 17 17 10.9
comp=Z,135nm,20.8s,baz=324,slow=32
PETK Petropavlovsk- 93.24 326 LR LR 17 22 15.8
comp=Z,25nm,21.9s,baz=63,slow=35
MA2 Magadan 93.42 334 LR LR 17 29 09.8
comp=Z,37nm,18.9s,baz=31,slow=40
AKASG Malin Array Be 96.93 34 LR LR 17 22 31.7
comp=Z,52nm,19.1s,baz=307,slow=34
NRIK Noril'sk 97.92 1 LR LR 17 26 53.0
comp=Z,171nm,21.8s,baz=12,slow=36
YAK Yakutsk 99.42 343 LR LR 17 31 05.6
comp=Z,66nm,21.8s,baz=89,slow=38
DZM Mont Dzumac 108.20 251 *e*LR LR 17 17 58.1
comp=Z,121nm,23.1s
ZALV Zalesovo Beam 113.19 4 PKiKP **PKiKP 16 46 16.0 -0.5**
comp=Z,1.1nm,0.5s,baz=298,slow=1.6,SNR=6.3
BOSA Boshof 117.14 116 PKP **PKiKP 16 46 25.3 +0.4**
comp=Z,2.4nm,0.9s,baz=57,slow=19,SNR=1.7
SONM Songino Array 118.01 348 PKP **PKPdf 16 46 25.5 -0.6**
comp=Z,1.6nm,0.6s,baz=341,slow=1.8,SNR=8.1
SONM pPKP **pPKPdf 16 46 40.4 -1.6**
comp=Z,1.7nm,0.7s,baz=1.0,slow=1.6,SNR=6.3
SONM PKKPbc **PKKPbc 16 56 45.9 -1.6**
comp=Z,0.7nm,0.6s,baz=206,slow=5.2,SNR=4.4
KSRS Korea Array 119.14 327 PKP **PKiKP 16 46 29.1 +0.7**
comp=Z,2.2nm,0.8s,baz=349,slow=2.6,SNR=6.1
KSRS pPKP **pPKPdf 16 46 43.2 -1.1**
comp=Z,2.5nm,0.9s,baz=358,slow=0.3,SNR=5.2
MKAR Makanchi Array 120.04 7 PKP **PKPdf 16 46 29.2 -0.7**
comp=Z,0.9nm,0.7s,baz=357,slow=2.6,SNR=10
MAW Mawson 122.29 168 PKP **PKiKP 16 46 33.9 +0.3**
comp=Z,1.9nm,0.5s,baz=88,slow=2.7,SNR=6.1
HHC Hu-ho-hao-te 123.26 342 *e*P **PKPdf 16 46 32.8 -3.6**
WMQ Urumqi 123.45 3 *e*P **PKiKP 16 46 37.3 +0.4**
WMQ LR LR
comp=E,170nm,23.9s
WMQ LR LR
comp=Z,130nm,23.1s
GTA Gaotai 127.32 352 *e*P **PKiKP 16 46 44.8 0.0**
GTA sP pPKPdf 16 46 58.6 -1.5
GTA pmax pmax
comp=Z,6.0nm,0.9s
NJ2 Nanjing 128.00 330 *e*P **PKPdf 16 46 45.1 -0.4**
NJ2 pmax pmax
comp=Z,48nm,1.2s
STKA Stephens Creek 130.15 239 PKP **PKiKP 16 46 50.0 -0.4**
comp=Z,3.4nm,1.0s,baz=146,slow=3.6,SNR=3.0
WRA Warramunga Arr 138.06 255 PKP **PKiKP 16 47 06.0 -0.8**
comp=Z,5.0nm,0.9s,baz=90,slow=1.6,SNR=20
ASAR Alice Springs 138.15 249 PKhKP PKPpre 16 46 55.5
comp=Z,0.6nm,0.8s,baz=106,slow=3.5,SNR=9.3
PZH PanZhiHua 139.48 345 PKP **PKPdf 16 47 07.9 +0.5**
CRAI Chiangrai 145.83 344 PKPdf **PKPbc 16 47 19.0 -0.1**
FITZ Fitzroy Crossi 146.38 257 **PKPab 16 47 21.6 -0.2**
LUWI Luwuk 146.51 288 **PKPab 16 47 22.6 +0.2**
HYBB Hyderabad (bro 147.40 23 *e*PKPdf **PKPdf 16 47 21.0 -0.4**
HYBB *e*PKPbc **PKPbc 16 47 23.2 -0.6**
CMAR Chiang Mai Arr 147.89 346 PKPbc **PKPbc 16 47 23.8 -1.3**
comp=Z,6.3nm,0.7s,baz=337,slow=3.2,SNR=36
CMAR Chiang Mai Arr 147.89 346 **PKPbc 16 47 25.3 +0.2**
UBPT Khong Chiam 148.60 333 **PKiKP 16 47 28.1 -0.4**

NOU ***17*** *16:31:16.9,36.95S×179.34W,h52km,MLv4.4/6, East of North Island, N.Z.*
WEL ***17*** *16:31:31.2±1.0,37.5S±.5°×179.9E±.°,h19km±6km,M3.5/30, ML3.9/41,MLv3.5/30,Error ellipse: s-maj=0.0km s-min=0.0km az=101.3*
ISC 17 16:31:29.7±2.8,37.13S±0.08×179.1E±0.1,h25km±14km, n60,σ1s40/71,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.78**	**236**	P	**Pb**	**16 31 44.4**	**-0.2**
MXZ				S	**Sb**	**16 31 52.2**	**-2.5**
WMGZ	**Waiomatatini S**	**0.89**	**219**	P	**Pb**	**16 31 48.3**	**+1.8**
WMGZ				S	**Sn**	**16 32 00.5**	**+1.8**
PKGZ	**Pakihiroa**	**1.12**	**227**	P	**Pb**	**16 31 50.4**	**0.0**
PKGZ				S	**Sb**	**16 32 05.8**	**+1.1**
PUZ	**Puketiti**	**1.16**	**216**	P	**Pb**	**16 31 52.0**	**+0.9**
PUZ				S	**Sb**	**16 32 06.7**	**+0.9**
HAZ	**Te Kaha**	**1.23**	**239**	P	**Pn**	**16 31 51.1**	**-0.3**
TWGZ	**Tauwhareparae**	**1.38**	**221**	P	**Pb**	**16 31 55.2**	**+0.4**
RUGZ	**Raukumara Rang**	**1.42**	**234**	P	**Pb**	**16 31 55.5**	**-0.1**
RUGZ				S	**Sb**	**16 32 13.7**	**+0.5**
CNGZ	**Carnagh Statio**	**1.53**	**208**	P	**Pb**	**16 31 57.8**	**+0.4**
WIZ	**White Island**	**1.59**	**255**	P	**Pn**	**16 31 57.4**	**+1.2**
TKGZ	**Te Karaka**	**1.65**	**217**	P	**Pb**	**16 31 58.3**	**-1.2**
TKGZ				S	**Sb**	**16 32 19.2**	**-0.5**
MWZ	**Matawai**	**1.74**	**226**	P	**Pb**	**16 31 59.9**	**-1.2**
MWZ				S	**Sn**	**16 32 19.8**	**0.0**
RIGZ	**Rimuhau**	**1.90**	**214**	P	**Pn**	**16 32 01.7**	**+1.1**
RIGZ				S	**Sn**	**16 32 25.3**	**+1.5**
URZ	**Urewera**	**1.95**	**234**	P	**Pn**	**16 32 02.9**	**+1.7**
URZ				S	**Sn**	**16 32 24.3**	**-0.6**
URZ	**Urewera**	**1.95**	**234**	P	**Pb**	**16 32 03.2**	**-1.4**
PRGZ	**Paritu Road**	**2.04**	**208**	P	**Pb**	**16 32 03.9**	**-2.1**
OPRZ	**Ohinepanea**	**2.16**	**250**	P	**Pn**	**16 32 05.2**	**+1.1**
SNGZ	**Shannon Statio**	**2.17**	**220**	P	**Pn**	**16 32 05.7**	**+1.5**
SNGZ				S	**Sn**	**16 32 30.4**	**+0.1**
KNZ	**Kokohu**	**2.20**	**211**	P	**Pn**	**16 32 05.4**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.23**	**205**	P	**Pn**	**16 32 06.4**	**+1.2**
RTZ	**Ruatahuna**	**2.25**	**228**	P	**Pn**	**16 32 07.3**	**+1.9**
MUGZ	**Murupara**	**2.29**	**233**	P	**Pn**	**16 32 07.3**	**+1.3**
TGRZ	**Tauranga**	**2.35**	**254**	P	**Pn**	**16 32 08.2**	**+1.5**
RAHZ	**Arahi**	**2.40**	**221**	P	**Pn**	**16 32 08.8**	**+1.3**
WHHZ	**Waihua**	**2.44**	**217**	P	**Pn**	**16 32 09.1**	**+1.0**
MTHZ	**Maungataniwha**	**2.49**	**226**	P	**Pn**	**16 32 10.3**	**+1.7**
NMHZ	**Naumai**	**2.68**	**222**	P	**Pn**	**16 32 12.8**	**+1.5**
ARHZ	**Aropaoanui**	**2.71**	**218**	P	**Pn**	**16 32 12.6**	**+1.0**
MRHZ	**Matea Rd**	**2.73**	**231**	P	**Pn**	**16 32 13.6**	**+1.6**
KUZ	**Kuaotunu**	**2.75**	**277**	P	**Pn**	**16 32 11.8**	**-0.4**
BKZ	**Black Stump Fm**	**2.90**	**225**	P	**Pn**	**16 32 15.4**	**+1.0**
BKZ	**Black Stump Fm**	**2.90**	**225**	P	**Pn**	**16 32 15.4**	**+1.0**
TOZ	**Tahuroa Road**	**2.94**	**257**	P	**Pn**	**16 32 14.9**	**0.0**
MCHZ	**McNeill Hill**	**2.99**	**219**	P	**Pn**	**16 32 16.2**	**+0.6**
GRZ	**Great Barrier**	**3.07**	**286**	P	**Pn**	**16 32 18.7**	**+2.1**
KWHZ	**Kaweka Forest**	**3.12**	**222**	P	**Pn**	**16 32 17.8**	**+0.4**
MKAZ	**Moumakai**	**3.16**	**269**	P	**Pn**	**16 32 17.9**	**0.0**
MKAZ				S	**Sn**	**16 32 50.3**	**-4.5**
KAHZ	**Kahuranaki**	**3.19**	**213**	P	**Pn**	**16 32 18.2**	**-0.1**
KRHZ	**Kereru**	**3.31**	**220**	P	**Pn**	**16 32 19.8**	**-0.2**
TMVZ	**Te Maari**	**3.34**	**233**	P	**Pn**	**16 32 22.0**	**+1.5**
ETVZ	**East Tongariro**	**3.35**	**232**	P	**Pn**	**16 32 22.0**	**+1.4**
NTVZ	**North Tongarir**	**3.35**	**233**	P	**Pn**	**16 32 22.0**	**+1.4**
ETAZ	**East Tamaki Re**	**3.36**	**272**	P	**Pn**	**16 32 21.4**	**+0.8**
BHHZ	**Black Hill Sta**	**3.36**	**225**	P	**Pn**	**16 32 21.3**	**+0.6**
PXZ	**Pawanui**	**3.39**	**211**	P	**Pn**	**16 32 20.4**	**-0.7**
OTVZ	**Oturere**	**3.39**	**232**	P	**Pn**	**16 32 22.7**	**+1.4**
NNVZ	**North Ngauruho**	**3.41**	**233**	P	**Pn**	**16 32 23.4**	**+1.9**
MOVZ	**Moawhango**	**3.49**	**228**	P	**Pn**	**16 32 23.4**	**+0.9**
WPHZ	**Waipukurau**	**3.60**	**215**	P	**Pn**	**16 32 23.5**	**-0.5**
HIZ	**Hauiti**	**3.65**	**247**	P	**Pn**	**16 32 27.4**	**+2.9**
HIZ	**Hauiti**	**3.65**	**247**	P	**Pn**	**16 32 27.5**	**+2.9**
MTVZ	**Mangateitei**	**3.65**	**231**	P	**Pn**	**16 32 25.8**	**+1.1**
RVAZ	**Riverhead Bore**	**3.65**	**274**	P	**Pn**	**16 32 25.6**	**+0.9**
PRHZ	**Porangahau**	**3.68**	**211**	P	**Pn**	**16 32 24.1**	**-1.0**
TSZ	**Takapari Road**	**3.83**	**219**	P	**Pn**	**16 32 26.0**	**-1.1**
DVHZ	**Dannevirke**	**3.91**	**215**	P	**Pn**	**16 32 27.4**	**-0.9**
WAZ	**Wanganui**	**4.17**	**230**	P	**Pn**	**16 32 33.2**	**+1.4**
BFZ	**Birch Farm**	**4.19**	**211**	P	**Pn**	**16 32 30.3**	**-1.8**
TIWZ	**Tintock**	**4.42**	**214**	P	**Pn**	**16 32 34.9**	**-0.5**
OUZ	**Omahuta**	**4.86**	**291**	P	**Pn**	**16 32 42.8**	**+1.6**
ODZ	**Otahua Downs**	**10.16**	**216**	P	**Pn**	**16 33 52.3**	**-1.7**

ROM 17 16:32:04.0±0.1,42.862N±0.003×13.254E±0.003, h5km,Md1.0/3,3C-1D,Error ellipse: s-maj=0.3km s-min=0.2km az=318.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.05**	**228**	⇑P	Pg	16 32 05.4	0.0
T1242				S	Sg	16 32 06.5	+0.1
T1242				END			
MMO1	**Montemonaco**	**0.07**	**55**	P	Pg	16 32 05.7	+0.1
MMO1				S	Sg	16 32 07.0	+0.3
MMO1				END			
MC2	**Monte Cornacci**	**0.07**	**318**	⇑P	Pg	16 32 05.9	+0.2
MC2				END			
T1241	**Roccafluvione,**	**0.13**	**92**	P	Pg	16 32 07.1	+0.5
T1241				AML	AML		
	comp=E,2965μm,1.0s						
T1241				AML	AML		
	comp=N,2055μm,0.4s						
T1241				AML	AML		
	comp=E,3025μm,1.0s						
T1241				AML	AML		
	comp=N,1965μm,0.4s						
AM05	**Amandola Campo**	**0.14**	**32**	P	Pg	16 32 07.9	+1.1
AM05				AML	AML		
	comp=E,328μm,0.1s						
AM05				AML	AML		
	comp=N,261μm,1.1s						
AM05				AML	AML		
	comp=E,644μm,0.1s						
AM05				AML	AML		
	comp=N,478μm,0.1s						
AM05				AML	AML		
	comp=E,2535μm,0.1s						
AM05				AML	AML		
	comp=N,1970μm,0.8s						
T1202	**Accumoli, Fraz**	**0.16**	**188**	P	Pg	16 32 07.7	+0.5
T1202				AML	AML		
	comp=E,25550μm,0.3s						
T1202				AML	AML		
	comp=N,25400μm,0.3s						
FDMO	**Fiordimonte**	**0.21**	**325**	⇓P	Pg	16 32 08.7	+0.5
FDMO				AML	AML		
	comp=E,421μm,0.5s						
FDMO				AML	AML		
	comp=N,489μm,1.4s						
CSP1	**Cessapalombo**	**0.23**	**351**	⇑P	Pg	16 32 09.2	+0.6
PP3	**Marolino**	**0.58**	**27**	AML	AML		
	comp=N,1395μm,0.4s						
PP3				AML	AML		
	comp=E,1510μm,0.5s						
PP3				AML	AML		
	comp=E,1505μm,0.5s						
PP3				AML	AML		
	comp=N,1330μm,0.4s						

ROM 17 16:32:45.7±0.1,42.677N±0.005×13.210E±0.006, h12km,ML2.6/26,15C-1D,Error ellipse: s-maj=0.6km s-min=0.3km az=55.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.03**	**23**	P	Pg	16 32 48.3	+0.3
T1202				S	Sg	16 32 50.0	+0.4
T1202				AML	AML		
	comp=N,25350μm,0.3s						
T1202				AML	AML		
	comp=E,25550μm,0.3s						
T1202				AML	AML		
	comp=N,25400μm,0.3s						
T1202				AML	AML		
	comp=E,25600μm,0.3s						
T1204	**Amatrice, Fraz**	**0.08**	**91**	P	Pg	16 32 48.7	+0.3
T1204				S	Sg	16 32 50.5	+0.1
T1204				AML	AML		
	comp=E,20950μm,1.0s						
T1204				AML	AML		
	comp=N,10285μm,0.5s						
T1204				AML	AML		
	comp=E,21000μm,1.0s						
T1204				AML	AML		
	comp=N,10270μm,0.5s						
SMA1	**SAN MARTINO**	**0.10**	**117**	⇑P	Pg	16 32 49.0	+0.4
SMA1				S	Sg	16 32 51.2	+0.4
SMA1				AML	AML		
	comp=N,12470μm,1.6s						
SMA1				AML	AML		
	comp=E,27250μm,0.3s						
SMA1				AML	AML		
	comp=N,12480μm,1.6s						
LNSS	**Leonessa**	**0.14**	**239**	P	Pg	16 32 49.6	+0.4
LNSS				S	Sg	16 32 52.4	+0.7
LNSS				AML	AML		
	comp=N,6965μm,0.4s						
LNSS				AML	AML		
	comp=E,6655μm,1.2s						
T1242	**Castelluccio d**	**0.15**	**359**	P	Pg	16 32 49.8	+0.4
T1242				S	Sg	16 32 52.7	+0.7
T1242				AML	AML		
	comp=N,10470μm,1.2s						
T1242				AML	AML		
	comp=E,6730μm,0.4s						
T1242				AML	AML		
	comp=N,10475μm,1.2s						
T1242				AML	AML		
	comp=E,6730μm,0.4s						
T1242				AML	AML		
	comp=N,10480μm,1.2s						
T1242				AML	AML		
	comp=E,6680μm,0.4s						
T1242				AML	AML		
	comp=N,10340μm,1.2s						
RM33	**Pellescritta (**	**0.17**	**179**	⇑P	Pg	16 32 50.0	+0.4
RM33				AML	AML		
	comp=E,5345μm,0.3s						
RM33				AML	AML		
	comp=N,3985μm,0.8s						
RM33				AML	AML		
	comp=E,5175μm,0.3s						
RM33				AML	AML		
	comp=N,4110μm,0.8s						
RM33				AML	AML		
	comp=E,5170μm,0.3s						
RM33				AML	AML		
	comp=N,4115μm,0.8s						
NRCA	**Norcia**	**0.17**	**336**	P	Pg	16 32 50.0	+0.4
NRCA				S	Sg	16 32 52.8	+0.4
NRCA				AML	AML		
	comp=E,7450μm,1.3s						
NRCA				AML	AML		
	comp=N,4065μm,0.1s						
NRCA				AML	AML		
	comp=E,7455μm,1.3s						
NRCA				AML	AML		
	comp=N,4475μm,0.1s						
NRCA				AML	AML		
	comp=E,8145μm,1.3s						
CAMP	**Campotosto**	**0.20**	**134**	P	Pg	16 32 50.5	+0.3
CAMP				AML	AML		
	comp=E,1297μm,1.2s						
CAMP				AML	AML		
	comp=N,814μm,0.5s						
T1217	**Poggiodomo (PG**	**0.21**	**280**	⇑P	Pg	16 32 50.6	+0.3
T1217				S	Sg	16 32 54.2	+0.8
T1217				AML	AML		
	comp=E,2080μm,0.3s						
T1217				AML	AML		
	comp=E,1970μm,0.3s						
T1217				AML	AML		
	comp=N,3975μm,0.3s						
T1217				AML	AML		
	comp=E,2080μm,0.3s						
T1217				AML	AML		
	comp=E,1967μm,0.3s						
T1217				AML	AML		
	comp=N,3980μm,0.3s						
T1217				AML	AML		
	comp=N,4085μm,0.3s						
MC2	**Monte Cornacci**	**0.24**	**357**	P	Pg	16 32 51.2	+0.4
MC2				S	Sg	16 32 55.7	+1.5
T1241	**Roccafluvione,**	**0.24**	**42**	P	Pg	16 32 51.1	+0.3
T1241				S	Sg	16 32 55.1	+0.8
T1241				AML	AML		
	comp=N,2050μm,0.4s						
T1241				AML	AML		
	comp=E,2965μm,1.0s						
T1241				AML	AML		
	comp=N,2055μm,0.4s						
T1241				AML	AML		
	comp=E,3025μm,1.0s						
T1241				AML	AML		
	comp=N,1965μm,0.4s						
T1247	**Pizzolo (AQ)**	**0.24**	**164**	P	Pg	16 32 51.2	+0.4
T1247				AML	AML		
	comp=E,1635μm,1.0s						
T1247				AML	AML		
	comp=N,1795μm,0.8s						
T1216	**Preci, Frazion**	**0.26**	**327**	P	Pg	16 32 51.4	+0.4
T1216				S	Sg	16 32 55.0	+0.4
T1216				AML	AML		
	comp=E,13900μm,0.5s						
T1216				AML	AML		
	comp=N,9615μm,1.3s						
T1216				AML	AML		
	comp=E,1745μm,0.5s						
T1216				AML	AML		
	comp=N,1248μm,0.8s						
T1216				AML	AML		
	comp=N,9595μm,1.3s						
T1216				AML	AML		
	comp=E,13850μm,0.5s						
T1216				AML	AML		
	comp=N,9635μm,1.2s						
T1215	**Vallo di Nera,**	**0.28**	**297**	⇑P	Pg	16 32 49.0	-2.5
T1215				AML	AML		
	comp=N,1101μm,0.7s						
T1215				AML	AML		
	comp=E,952μm,0.3s						
T1215				AML	AML		
	comp=N,1121μm,0.7s						
T1215				AML	AML		
	comp=E,896μm,0.3s						
T1215				AML	AML		
	comp=N,1100μm,0.6s						
TERO	**Teramo**	**0.30**	**100**	⇑P	Pg	16 32 51.8	+0.1
TERO				AML	AML		
	comp=N,2285μm,0.6s						
TERO				AML	AML		
	comp=E,1990μm,0.6s						
TERO				AML	AML		
	comp=N,2490μm,0.6s						
TERO				AML	AML		
	comp=N,2280μm,0.6s						
TERO				AML	AML		
	comp=E,1835μm,0.6s						
ARRO	**Arrone**	**0.34**	**254**	⇑P	Pg	16 32 52.8	+0.2
ARRO				AML	AML		
	comp=E,924μm,0.8s						
ARRO				AML	AML		
	comp=N,633μm,0.7s						
GIGS	**Gran Sasso**	**0.35**	**130**	⇑P	Pg	16 32 52.7	-0.1
GIGS				AML	AML		
	comp=N,301μm,0.5s						
GIGS				AML	AML		
	comp=E,286μm,1.5s						
FDMO	**Fiordimonte**	**0.37**	**346**	P	Pg	16 32 53.5	+0.3
FDMO				S	Sb	16 32 59.3	-0.8
FDMO				AML	AML		
	comp=N,489μm,1.4s						
FDMO				AML	AML		
	comp=E,421μm,0.5s						
CESI	**CESI - Serrava**	**0.40**	**326**	P	Pg	16 32 53.9	+0.3
CESI				S	Sb	16 33 00.4	-0.5
CSP1	**Cessapalombo**	**0.41**	**360**	P	Pg	16 32 54.2	+0.2
CSP1				S	Sb	16 33 00.8	-0.6
CSP1				AML	AML		
	comp=E,810μm,1.4s						
CSP1				AML	AML		
	comp=N,1222μm,0.4s						
FIAM	**Fiamignano**	**0.41**	**190**	⇑P	Pg	16 32 54.0	0.0
FIAM				AML	AML		
	comp=N,544μm,1.2s						
FIAM				AML	AML		
	comp=E,1066μm,0.5s						
OFFI	**Offida**	**0.43**	**54**	S	Sg	16 32 56.0	-4.1
CESX	**Cesi**	**0.47**	**262**	⇑P	Pg	16 32 54.8	-0.1
CESX				AML	AML		
	comp=E,434μm,0.3s						
CESX				AML	AML		
	comp=N,588μm,0.3s						
FAGN	**Fagnano**	**0.50**	**146**	⇓P	Pg	16 32 55.4	0.0
FAGN				AML	AML		
	comp=E,675μm,0.6s						
FAGN				AML	AML		
	comp=N,716μm,0.3s						
VCEL	**Villa Celiera**	**0.55**	**121**	⇑P	Pg	16 32 56.6	+0.2
VCEL				AML	AML		
	comp=N,1075μm,0.8s						
VCEL				AML	AML		
	comp=E,1285μm,0.3s						
SNTG	**Esanatoglia**	**0.61**	**341**	S	Sg	16 32 58.0	-7.7
T0110	**Collepietro**	**0.62**	**137**	⇑P	Pg	16 32 57.5	-0.3
T0110				AML	AML		
	comp=N,498μm,0.3s						
T0110				AML	AML		
	comp=E,526μm,0.4s						
EL6	**Elcito**	**0.66**	**353**	S	Sg	16 32 59.0	-8.2
ATCC	**AVT- Casa Cast**	**0.66**	**321**	S	Sg	16 32 59.0	-8.2
CING	**Cingoli**	**0.70**	**359**	S	Sg	16 32 60.0	-8.5
FOSV	**Fossato di Vic**	**0.70**	**332**	S	Sg	16 33 01.0	-7.5
MTCE	**Montecelio**	**0.74**	**208**	⇑P	Pb	16 33 01.1	+0.5
MTCE				AML	AML		
	comp=N,127μm,0.8s						
MTCE				AML	AML		
	comp=E,242μm,0.4s						
CERT	**Cerreto**	**0.75**	**193**	⇑P	Pg	16 32 59.6	-0.6
CERT				AML	AML		
	comp=E,332μm,1.2s						
CERT				AML	AML		
	comp=N,192μm,0.4s						
PP3	**Marolino**	**0.76**	**23**	S	Sg	16 33 02.0	-8.4
INTR	**Introdacqua**	**0.84**	**142**	⇑P	Pg	16 33 01.2	-0.8
INTR				AML	AML		
	comp=E,199μm,0.7s						
INTR				AML	AML		
	comp=N,372μm,0.9s						
LPEL	**Lama dei Pelig**	**0.96**	**131**	⇑P	Pg	16 33 02.8	-1.3
LPEL				AML	AML		
	comp=N,156μm,1.5s						
LPEL				AML	AML		
	comp=E,175μm,0.8s						

KRNET ***17*** *16:39:16.1±0.1,39.83N×72.54E,h14km,mb3.4*
SOME ***17*** *16:39:17.2,39.93N×72.58E,h0km*
ISU ***17*** *16:39:18,39.85N×72.51E,h11km*
NNC ***17*** *16:39:19.7±1.7,39.98N×72.63E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=13.0km s-min=6.7km az=1.0*
IDC ***17*** *16:39:26.2±3.9,41.56N×70.00E,h0km,mb3.7/1, mbtmp3.3/3,ML2.3/2,MS3.6/3,Error ellipse: s-maj=196.0km s-min=24.3km az=153.0*
ISC 17 16:39:15.3±0.9,39.82N±0.04×72.66E±0.02,h10km,n58, σ1s96/81,MS4.1/3,15C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.71**	**8**	⇑*i*P	**Pb**	**16 39 30.2**	**+0.3**
	baz=15						
OHH				⇑*i*S	**Sb**	**16 39 40.1**	**+0.2**
	baz=15						
OHH	**Osh**	**0.71**	**8**	P	**Pb**	**16 39 29.6**	**-0.3**
OHH				S	**Sb**	**16 39 40.2**	**+0.3**
OHH	**Osh**	**0.71**	**8**	P	**Pb**	**16 39 30.0**	**0.0**
FRG	**Fergana**	**0.87**	**310**	P	**Pb**	**16 39 31.4**	**-1.2**
FRG				S	**Sg**	**16 39 42.6**	**-0.9**
ANR	**Andizhan**	**0.97**	**347**	P	**Pn**	**16 39 35.5**	**+0.5**
ANR				S	**Sn**	**16 39 49.2**	**+0.4**
CHMI	**Chimion**	**0.98**	**298**	P	**Sg**	**16 39 45.9**	**-1.1**

NAM	**Namangan**	**1.40**	**327**	P		**Sg**	**16 40 05.9**	**+5.5**
BTK	**Batken**	**1.43**	**280**	⇓*i*P		**Pg**	**16 39 41.5**	**-1.4**
	baz=80							
BTK				⇓*i*S		**Sg**	**16 40 00.6**	**-0.9**
	baz=80							
BTK	**Batken**	**1.43**	**280**	P		**Pb**	**16 39 41.0**	**-1.2**
BTK				S		**Sb**	**16 39 59.4**	**-1.2**
BTK	**Batken**	**1.43**	**280**	P		**Pg**	**16 39 41.6**	**-1.2**
GAR	**Garm**	**1.99**	**247**	⇑*i*P		**Pg**	**16 39 51.9**	**-1.5**
	baz=45							
GAR				⇑*i*S		**Sg**	**16 40 17.9**	**-1.3**
	baz=45							
ARK	**Arkit**	**2.05**	**345**	⇑*i*P		**Pg**	**16 39 53.5**	**-1.1**
	baz=48							
ARK				⇑*i*S		**Sg**	**16 40 20.6**	**-0.6**
	baz=48							
ARK	**Arkit**	**2.05**	**345**	P		**Pg**	**16 39 53.2**	**-1.4**
TRKS	**Terek-Say**	**2.06**	**327**	⇑*i*P		**Pb**	**16 39 52.3**	**-0.7**
	baz=28							
TRKS				⇑*i*S		**Sb**	**16 40 18.4**	**-0.4**
	baz=28							
ARLS	**Aral**	**2.40**	**31**	⇑*i*P		**Pb**	**16 39 59.4**	**+0.6**
	baz=33							
ARLS				⇑*i*S		**Sg**	**16 40 31.1**	**-1.5**
	baz=33							
ARLS	**Aral**	**2.40**	**31**	P		**Pg**	**16 40 00.7**	**-0.7**
AML	**Almayashu**	**2.44**	**18**	P		**Pb**	**16 40 00.3**	**+0.7**
	SNR=53							
CHMG	**Chimgan**	**2.66**	**312**	P		**Pg**	**16 40 05.1**	**-1.1**
CHMG				S		**Sg**	**16 40 39.1**	**-1.6**
UCH	**Uchtor**	**2.79**	**30**	P		**Pg**	**16 40 07.2**	**-1.6**
	SNR=28							
UCH	**Uchtor**	**2.79**	**30**	⇑*i*P		**Pb**	**16 40 05.2**	**-0.3**
	baz=31							
UCH				⇑*i*S		**Sb**	**16 40 40.5**	**+0.6**
	baz=31							
CHGR	**Chuyangaron**	**2.95**	**248**	P		**Pg**	**16 40 09.7**	**-2.2**
MRKS	**Merke**	**2.96**	**8**	*e*P		**Pg**	**16 40 09.8**	**-2.3**
	15nm,0.6s							
MRKS				*e*S		**Sg**	**16 40 48.0**	**-2.4**
	44nm,0.4s							
MRKS	**Merke**	**2.96**	**8**	Pg		**Pg**	**16 40 09.8**	**-2.3**
	15nm,0.6s							
MRKS				Lg		Lg	16 40 48.7	
	44nm,0.4s							
EKS2	**Erkin-Say**	**2.97**	**16**	P		**Pg**	**16 40 11.0**	**-1.2**
	SNR=7.8							
IUG	**Iuzhnay**	**3.06**	**320**	*e*P		**Pg**	**16 40 11.4**	**-2.6**
	173nm,0.4s							
IUG				*e*S		**Sg**	**16 40 50.8**	**-2.8**
	120nm,0.7s							
IUG	**Iuzhnay**	**3.06**	**320**	Pg		**Pg**	**16 40 11.4**	**-2.6**
	173nm,0.4s							
IUG				Lg		Lg	16 40 50.8	
	120nm,0.7s							
AAK	**Ala-Archa**	**3.14**	**26**	P		**Pb**	**16 40 12.6**	**+1.2**
	SNR=11							
AAK	**Ala-Archa**	**3.14**	**26**	P		**Pb**	**16 40 10.9**	**-0.5**
ASAI	**AK-SAY(Kyrgyzs**	**3.15**	**68**	P		**Pb**	**16 40 12.0**	**+0.4**
DZA	**Taraz**	**3.23**	**342**	*e*P		**Pb**	**16 40 14.1**	**+1.2**
	72nm,0.1s							
DZA				*e*S		**Sg**	**16 40 55.4**	**-3.8**
	134nm,0.3s							
DZA	**Taraz**	**3.23**	**342**	Pg		**Pb**	**16 40 14.1**	**+1.2**
	72nm,0.1s							
DZA				Lg		Lg	16 40 55.9	
	134nm,0.3s							
KBK	**Karagaybulak**	**3.32**	**31**	P		**Pb**	**16 40 15.6**	**+1.1**
	SNR=5.1							
CHM	**Chimkent**	**3.40**	**318**	*e*P		**Pg**	**16 40 18.7**	**-1.8**
	2.4nm,0.4s							
CHM				*e*S		**Sg**	**16 41 03.2**	**-1.4**
	126nm,0.4s							
CHMS	**Chumysh**	**3.55**	**26**	P		**Pb**	**16 40 18.0**	**-0.3**
	SNR=8.0							
CHMS	**Chumysh**	**3.55**	**26**	⇑Pn		**Pb**	**16 40 15.7**	**-2.5**
	9.4nm,0.6s							
CHMS				Pg		**Pg**	**16 40 18.7**	**-4.6**
	2.4nm,0.4s							
CHMS				Lg		Lg	16 41 03.2	
	126nm,0.4s							
CHMS				⇓Lg		Lg	16 41 08.8	
	15nm,0.6s							
ULHL	**Ulahol**	**3.64**	**47**	P		**Pb**	**16 40 18.5**	**-1.4**
	SNR=5.9							
KK31	**Karatay Array**	**3.66**	**335**	Pn		**Pn**	**16 40 14.9**	**+2.9**
	0.7nm,0.3s,baz=143,slow=12,SNR=68							
KK31				⇓Pg		**Pg**	**16 40 24.6**	**-0.8**
	3.6nm,0.5s,baz=144,slow=12,SNR=28							
KK31				⇑Sn		**Sn**	**16 40 58.7**	**+3.4**
	3.4nm,0.4s,baz=144,slow=25,SNR=5.2							
KK31				Lg		Lg	16 41 10.8	
	5.5nm,0.4s,baz=148,slow=27,SNR=4.6							
KKAR	**Karatay Array**	**3.66**	**335**	P		**Pn**	**16 40 15.0**	**+3.0**
USP	**Ospenovka**	**3.72**	**21**	P		**Pb**	**16 40 19.9**	**-1.2**
	SNR=8.4							
TKM2	**Tokmak 2**	**3.81**	**35**	⇑Pg		**Pg**	**16 40 26.9**	**-1.4**
	3.9nm,0.6s							
TKM2				⇓Lg		Lg	16 41 17.1	
	7.7nm,0.6s							
SGDS	**Sogindy**	**3.92**	**22**	*e*P		**Pg**	**16 40 28.0**	**-2.5**
	5.8nm,0.5s							
SGDS				*e*S		**Sg**	**16 41 19.7**	**-1.6**
	7.2nm,0.5s							
SGDS	**Sogindy**	**3.92**	**22**	Pg		**Pg**	**16 40 28.0**	**-2.5**
	5.8nm,0.5s							
SGDS				Lg		Lg	16 41 19.7	
	7.2nm,0.5s							
KST	**Kastek**	**4.07**	**37**	*e*P		**Pg**	**16 40 31.9**	**-1.4**
	2.2nm,0.4s							
KST				*e*S		**Sg**	**16 41 26.2**	**+0.2**
	13nm,0.7s							
KST	**Kastek**	**4.07**	**37**	Pg		**Pg**	**16 40 31.9**	**-1.4**
	2.2nm,0.4s							
KST				Lg		Lg	16 41 26.2	
	13nm,0.7s							
DGS	**Degeres**	**4.15**	**33**	*e*P		**Pg**	**16 40 33.2**	**-1.5**
	4.0nm,0.6s							
DGS				*e*S		**Sg**	**16 41 28.2**	**-0.2**
	8.9nm,0.5s							
DGS	**Degeres**	**4.15**	**33**	Pg		**Pg**	**16 40 33.2**	**-1.5**
	4.0nm,0.6s							
DGS				Lg		Lg	16 41 28.2	
	8.9nm,0.5s							
MTBS	**Maitube**	**4.36**	**39**	*e*P		**Pg**	**16 40 37.5**	**-1.3**
	1.4nm,0.1s							
MTBS				*e*S		**Sg**	**16 41 35.2**	**0.0**
	6.7nm,0.4s							
KRBS	**Karabastau**	**4.49**	**29**	*e*P		**Pg**	**16 40 38.6**	**-2.6**
	1.8nm,0.4s							
KRBS				*e*S		**Sg**	**16 41 37.7**	**-1.7**
	7.1nm,0.4s							
KRBS	**Karabastau**	**4.49**	**29**	Pg		**Pg**	**16 40 38.6**	**-2.6**
	1.8nm,0.4s							
KRBS				Lg		Lg	16 41 37.7	
	7.1nm,0.4s							
MDOK	**Medeo**	**4.70**	**43**	*e*P		**Pg**	**16 40 43.4**	**-1.9**
	1.7nm,0.5s							
MDOK				*e*S		**Sg**	**16 41 45.4**	**-0.7**
	6.7nm,0.6s							
BTLS	**Baital**	**5.32**	**11**	*e*P		**Pg**	**16 40 53.0**	**-4.2**
	1.0nm,0.3s							
BTLS				*e*S		**Sg**	**16 42 01.8**	**-4.3**
	9.2nm,0.7s							
ARXS	**Arharly**	**5.84**	**40**	*e*P		**Pg**	**16 41 03.8**	**-3.4**
	1.2nm,0.5s							
ARXS				*e*S		**Sg**	**16 42 20.2**	**-2.6**
	5.4nm,0.5s							
MKAR	**Makanchi Array**	**9.89**	**42**	Pn		Pn	16 41 54.2	+17
	baz=247,slow=17,SNR=1.9							
	0.1nm,0.4s							
ZALV	**Zalesovo Beam**	**16.36**	**26**	Pn		**P**	**16 43 10.7**	**+2.8**
	baz=224,slow=12,SNR=2.5							
	0.7nm,0.5s							
KBZ	**Khabaz**	**22.48**	**290**	LR		LR	16 52 45.0	
	comp=Z,26nm,18.8s,baz=48,slow=40							
TORD	**Torodi Ar. Bea**	**67.11**	**268**	P		**P**	**16 50 09.5**	**+0.1**
	0.5nm,0.5s,baz=53,slow=6.4,SNR=4.5							
	0.5nm,0.5s							
TSUM	**Tsumeb**	**77.98**	**232**	LR		LR	17 28 16.5	
	comp=Z,93nm,20.1s,baz=315,slow=38							
SUR	**Sutherland**	**86.41**	**222**	LR		LR	17 31 20.6	
	comp=Z,91nm,21.3s,baz=284,slow=36							

*IDC **17** 16:39:18.4±1.1,52.43N×169.27W,h0km,mb3.7/14, mbtmp3.8/16,ML3.5/2,MS3.3/3,Error ellipse: s-maj=32.2km s-min=17.7km az=177.0*

*NEIC **17** 16:39:23.1±2.6,53.0N±0.1×169.91W±0.07,h10km±1km, mb3.8/4,Error ellipse: s-maj=21.1km s-min=7.0km az=354.0*

ISC 17 16:39:22.2±0.8,53.0N±0.1×169.58W±0.07,h10km,n50, σ1ᵗ95/41,mb3.8/14,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UNV	**Unalaska Valle**	**2.03**	**64**	Pn		**Pb**	**16 39 59.7**	**+0.6**
AKUT	**Akutan**	**2.55**	**62**	Pn		**Pn**	**16 40 05.7**	**+2.2**
GSTR	**Great Sitkin T**	**4.05**	**260**	Pn		**Pn**	**16 40 23.3**	**-1.0**
SPIA	**Saint Paul Isl**	**4.21**	**355**	Pn		**Pn**	**16 40 22.7**	**-3.7**
ADK	**Adak**	**4.49**	**259**			**Pn**	**16 40 27.4**	**-2.7**
KIWB	**Kanaga Island**	**4.77**	**259**	Pn		**Pn**	**16 40 35.3**	**+1.2**
SDPT	**Sand Point**	**5.85**	**63**	Pn		**Pn**	**16 40 49.8**	**+1.0**
CNBA	**Chernabura Isl**	**6.18**	**69**	Pn		**Pn**	**16 40 55.1**	**+1.7**
AMKA	**Amchitka**	**7.02**	**261**	Pn		**Pn**	**16 41 03.0**	**-2.0**
CHGN	**Chignik**	**7.28**	**58**	Pn		**Pn**	**16 41 11.5**	**+3.1**
SMY	**Shemya**	**9.88**	**275**	Pn		**Pn**	**16 41 42.1**	**-2.0**
OHAK	**Old Harbor**	**10.25**	**59**	Pn		**Pn**	**16 41 49.9**	**+0.8**
KDAK	**Kodiak Island**	**10.78**	**57**	Pn		**Pn**	**16 41 57.7**	**+1.2**
	0.3nm,0.3s,baz=144,slow=22,SNR=1.6							
KDAK				Sn		**Sn**	**16 43 54.7**	**-2.4**
	0.2nm,0.3s,baz=55,slow=15,SNR=1.7							
	3.9nm,0.7s							
KDAK	**Kodiak Island**	**10.78**	**57**	Pn		**Pn**	**16 41 55.3**	**-1.2**
RSO	**Redoubt South**	**11.87**	**44**	Pn		Pn	16 42 04.5	-6.9
SEW	**Seward**	**13.15**	**49**	Pn		**Pn**	**16 42 29.6**	**+0.8**
PWL	**Port Wells**	**13.97**	**47**	Pn		**Pn**	**16 42 42.2**	**+2.2**
GLI	**Glacier Island**	**14.53**	**48**	Pn		**Pn**	**16 42 48.1**	**+0.4**
HIN	**Hinchinbrook I**	**14.63**	**50**	Pn		**Pn**	**16 42 51.1**	**+2.1**
FID	**Port Fidalgo**	**14.76**	**49**	Pn		**Pn**	**16 42 51.4**	**+0.5**
SCM	**Sheep Creek Mo**	**14.83**	**45**	Pn		**Pn**	**16 42 50.6**	**-1.2**
KLU	**Klutina**	**15.30**	**47**	Pn		**Pn**	**16 42 57.2**	**-0.9**
WRH	**Wood River Hil**	**15.92**	**35**	Pn		**Pn**	**16 43 01.2**	**-4.8**
N25K	**Chitina, Valde**	**15.93**	**47**	Pn		**Pn**	**16 43 05.9**	**-0.3**
N25K						IAmb	IAmb	16 43 18.4
	comp=Z,14nm,1.4s							
GLB	**Gilahina Butte**	**16.22**	**48**			**P**	**16 43 12.2**	**-0.9**
GLB						IAmb	IAmb	16 43 30.6
	comp=Z,6.8nm,1.1s							
ILAR	**Eielson Array**	**16.52**	**36**	Pn		**P**	**16 43 16.3**	**0.0**
	baz=232,slow=10							
PETK	**Petropavlovsk-**	**19.58**	**284**	P		**Pn**	**16 43 51.9**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=88,slow=13,SNR=39							
PETK				LR		LR	16 51 39.8	
	comp=Z,35nm,19.1s,baz=77,slow=37							
	comp=Z,3.6nm,0.5s							
SEY	**Seymchan**	**22.16**	**312**	P		**P**	**16 44 20.7**	**+2.8**
	comp=Z,1.1nm,0.6s,baz=327,slow=17,SNR=1.9							
	comp=Z,1.1nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**37.86**	**218**	T		T	17 26 54.4	
	baz=24,slow=76,SNR=4.9							
H11N3	**WAKE ISLAND Hy**	**37.87**	**218**	T		T	17 26 54.7	
	baz=24,slow=76,SNR=6.1							
H11N1	**WAKE ISLAND Hy**	**37.88**	**218**	T		T	17 27 03.9	
	baz=24,slow=76,SNR=4.8							
H11S1	**WAKE ISLAND Hy**	**39.05**	**217**	T		T	17 28 29.4	
	baz=23,slow=76,SNR=28							
H11S2	**WAKE ISLAND Hy**	**39.07**	**217**	T		T	17 28 30.6	
	baz=23,slow=76,SNR=28							
H11S3	**WAKE ISLAND Hy**	**39.07**	**217**	T		T	17 28 30.7	
	baz=23,slow=76,SNR=21							
PDAR	**Pinedale Array**	**40.42**	**80**	P		**P**	**16 46 58.5**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=312,slow=3.5,SNR=3.8							
	comp=Z,0.3nm,0.5s							
KSRS	**Korea Array**	**45.21**	**276**	P		**P**	**16 47 39.5**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=59,slow=6.2,SNR=3.5							
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**50.87**	**300**	P		**P**	**16 48 23.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=69,slow=7.9,SNR=2.2							
	comp=Z,0.5nm,0.6s							
TXAR	**Lajitas Array**	**52.87**	**89**	P		P	16 48 34.2	-3.9
	comp=Z,0.4nm,0.6s,baz=297,slow=6.3,SNR=6.0							
	comp=Z,0.4nm,0.6s							
ARCES	**ARCESS Array B**	**57.29**	**354**	P		**P**	**16 49 11.6**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=25,slow=9.9,SNR=4.8							
	comp=Z,0.4nm,0.4s							
MKAR	**Makanchi Array**	**63.28**	**313**	P		**P**	**16 49 51.7**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=32,slow=5.8,SNR=4.1							
	comp=Z,0.6nm,0.8s							
FINES	**FINESS Array B**	**65.23**	**352**	P		**P**	**16 50 05.2**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=20,slow=7.7,SNR=9.2							
	comp=Z,3.0nm,0.9s							
NB2	**NORSAR Subarra**	**66.32**	**360**	P		**P**	**16 50 12.9**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=360,slow=6.2							
NOA	**NORSAR Array B**	**66.32**	**360**	P		**P**	**16 50 12.7**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=1.2,slow=6.5,SNR=5.5							
	comp=Z,0.7nm,0.7s							
AKASG	**Malin Array Be**	**75.47**	**348**	P		**P**	**16 51 06.8**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=15,slow=5.8,SNR=4.8							
	comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**76.36**	**282**	P		**P**	**16 51 10.7**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=23,slow=6.6,SNR=6.2							
	comp=Z,0.9nm,0.7s							
GERES	**GERESS Array B**	**78.50**	**358**	P		**P**	**16 51 24.7**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=11,slow=7.0,SNR=2.5							
	comp=Z,0.4nm,0.5s							
KBZ	**Khabaz**	**79.69**	**337**	LR		LR	17 33 15.6	
	comp=Z,35nm,18.1s,baz=314,slow=40							
GNI	**Garni**	**82.59**	**334**	LR		LR	17 32 29.4	
	comp=Z,21nm,21.3s,baz=324,slow=38							
ESDC	**Sonseca Array**	**86.87**	**11**	P		**P**	**16 52 07.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=12,slow=6.6,SNR=2.6							
	comp=Z,0.4nm,0.6s							
ASAR	**Alice Springs**	**90.69**	**230**	P		**P**	**16 52 21.7**	**-3.3**
	comp=Z,0.3nm,1.0s,baz=25,slow=4.6,SNR=1.8							
	comp=Z,0.3nm,1.0s							

*KRNET **17** 16:40:00.2±0.1,40.02N×72.68E,h35km,mb3.4*

ISC 17 16:40:02.8±2.2,40.1N±0.1×72.64E±0.07,h35km,n7, σ0ᵗ72/10,4C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**0.41**	**16**	⇑*i*P		**Pn**	**16 40 11.6**	**-0.7**
	baz=9.0							
OHH				⇑*e*S		**Sn**	**16 40 19.9**	**+1.0**
	baz=9.0							
NAM	**Namangan**	**1.14**	**320**	S		**Sn**	**16 40 36.0**	**-0.7**
BTK	**Batken**	**1.40**	**268**	⇑*i*P		**Pn**	**16 40 25.4**	**-0.5**
	baz=72							
BTK				⇑*e*S		**Sn**	**16 40 43.7**	**+0.6**
	baz=72							
TRKS	**Terek-Say**	**1.81**	**321**	⇓*e*P		**Pn**	**16 40 31.1**	**-0.5**
	baz=22							
TRKS				⇓*e*S		**Sn**	**16 40 53.6**	**+0.3**
	baz=22							
ARLS	**Aral**	**2.15**	**36**	⇓*e*P		**Pn**	**16 40 36.1**	**-0.2**
	baz=34							
ARLS				⇓*e*S		**Sn**	**16 41 02.4**	**+0.5**
	baz=34							
CHRV	**Charvak**	**2.54**	**307**	P		**Pn**	**16 40 42.2**	**+0.7**
NZBK	**Nazarbek**	**2.89**	**293**	P		Pn	16 40 53.4	+7.0

*AEIC **17** 16:49:15±2.6,68.56N±0.02×144.69W±0.08,h16km±6km, ML3.4,ML3.4/50(NEIC),Error ellipse: s-maj=4.1km s-min=2.6km az=90.0*

*NEIC **17** 16:49:15.7±1.6,68.57N±0.02×144.6W±0.1,h1km±6km, Error ellipse: s-maj=6.1km s-min=2.2km az=73.0*

*IDC **17** 16:49:16.4±1.0,68.69N×144.90W,h0km,mb3.6/6, mbtmp3.6/9,ML3.5/3,MS3.4/4,Error ellipse: s-maj=25.4km s-min=15.1km az=89.0*

ISC 17 16:49:15.9±1.2,68.58N±0.02×144.73W±0.03,h2km±9km, n159,σ0ᵗ93/159,mb3.7/6,MS3.6/4,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
E25K	**Arctic Village**	**0.56**	**214**			**Pg**	**16 49 26.0**	**-0.5**
E25K						**Sg**	**16 49 34.6**	**+0.9**
E25K	**Arctic Village**	**0.56**	**214**	P		**Pg**	**16 49 26.0**	**-0.5**
	baz=37							
E25K				S		**Sg**	**16 49 34.6**	**+0.9**
	baz=37							
F26K	**Sheenjek River**	**0.92**	**166**			**Pg**	**16 49 33.1**	**-0.3**
F26K	**Sheenjek River**	**0.92**	**166**	P		**Pg**	**16 49 33.1**	**-0.3**
	baz=347							
D25K	**Kavik River**	**0.95**	**322**			**Pg**	**16 49 33.6**	**-0.5**
D25K						**Sg**	**16 49 47.3**	**+0.8**
D25K	**Kavik River**	**0.95**	**322**	P		**Pg**	**16 49 33.6**	**-0.5**
	baz=141							
D25K				S		**Sg**	**16 49 47.3**	**+0.8**
	baz=141							

F25K	**Christian Rive**	**1.05**	**199**			**Pg**	**16 49 35.1**	**-0.8**
F25K						**Sb**	**16 49 50.6**	**-0.4**
F25K	**Christian Rive**	**1.05**	**199**	P		**Pg**	**16 49 35.1**	**-0.8**
	baz=20							
F25K				S		**Sb**	**16 49 50.6**	**-0.4**
	baz=20							
C27K	**Jago River**	**1.11**	**19**			**Pg**	**16 49 36.9**	**-0.3**
C27K						**Sb**	**16 49 53.3**	**+0.5**
C27K	**Jago River**	**1.11**	**19**	P		**Pg**	**16 49 36.9**	**-0.3**
	baz=198							
C27K				S		**Sb**	**16 49 53.3**	**+0.5**
	baz=198							
BMAR	**Burnt Mountain**	**1.16**	**177**	Pn		**Pg**	**16 49 37.5**	**-0.5**
E27K	**Coleen River**	**1.23**	**107**			**Pg**	**16 49 38.5**	**-0.9**
E27K						**Sb**	**16 49 55.8**	**-0.3**
E27K	**Coleen River**	**1.23**	**107**	P		**Pg**	**16 49 38.5**	**-0.9**
	baz=289							
E27K				S		**Sb**	**16 49 55.8**	**-0.3**
	baz=289							
C26K	**Camden Bay**	**1.35**	**357**			**Pn**	**16 49 41.8**	**+0.1**
C26K	**Camden Bay**	**1.35**	**357**	P		**Pn**	**16 49 41.8**	**+0.1**
	baz=176							
E24K	**Your Creek**	**1.48**	**252**			**Pn**	**16 49 42.6**	**-1.1**
E24K	**Your Creek**	**1.48**	**252**	P		**Pn**	**16 49 42.6**	**-1.1**
	baz=70							
D24K	**Happy Valley**	**1.59**	**293**			**Pb**	**16 49 45.8**	**-0.2**
D24K	**Happy Valley**	**1.59**	**293**	P		**Pb**	**16 49 45.8**	**-0.2**
	baz=110							
F24K	**Squaw Lake**	**1.59**	**230**			**Pn**	**16 49 43.9**	**-1.3**
F24K						**Sn**	**16 50 06.2**	**-0.1**
F24K	**Squaw Lake**	**1.59**	**230**	P		**Pn**	**16 49 43.9**	**-1.3**
	baz=48							
F24K				S		**Sn**	**16 50 06.2**	**-0.1**
	baz=48							
G26K	**Porcupine Rive**	**1.68**	**167**			**Pn**	**16 49 45.3**	**-0.9**
G26K	**Porcupine Rive**	**1.68**	**167**	P		**Pn**	**16 49 45.3**	**-0.9**
	baz=348							
PS04	**TAPS Pump Stn4**	**1.71**	**267**			**Pb**	**16 49 48.3**	**+0.2**
PS04						**Sg**	**16 50 12.6**	**+1.8**
TOLK	**Toolik Lake Re**	**1.78**	**274**			**Pb**	**16 49 48.9**	**-0.3**
TOLK	**Toolik Lake Re**	**1.78**	**274**	IAML			16 50 20.0	
	comp=N,448nm,0.7s							
TOLK	**Toolik Lake Re**	**1.78**	**274**	P		**Pb**	**16 49 48.9**	**-0.3**
	baz=90							
E23K	**Chandalar**	**1.89**	**256**	P		**Pb**	**16 49 50.2**	**-0.9**
	baz=73							
E23K				S		**Sg**	**16 50 16.8**	**+0.3**
	baz=73							
G27K	**Doyon Strip**	**2.13**	**145**			**Pn**	**16 49 52.4**	**-0.1**
G27K	**Doyon Strip**	**2.13**	**145**	P		**Pn**	**16 49 52.4**	**-0.1**
	baz=328							
G24K	**Hadweenzic Riv**	**2.16**	**210**			**Pn**	**16 49 52.1**	**-0.8**
G24K	**Hadweenzic Riv**	**2.16**	**210**	P		**Pn**	**16 49 52.1**	**-0.8**
	baz=29							
PS01	**TAPS Pump Stn**	**2.17**	**323**			**Pn**	**16 49 54.4**	**+1.4**
D23K	**Nanushuk River**	**2.20**	**283**			**Pn**	**16 49 54.7**	**+1.3**
D23K	**Nanushuk River**	**2.20**	**283**	P		**Pn**	**16 49 54.7**	**+1.3**
	baz=98							
H25K	**Birch Creek**	**2.36**	**191**			**Pn**	**16 49 55.4**	**-0.2**
H25K	**Birch Creek**	**2.36**	**191**	P		**Pn**	**16 49 55.4**	**-0.2**
	baz=10							
C23K	**Itkillik River**	**2.45**	**304**			**Pn**	**16 49 57.9**	**+1.0**
C23K	**Itkillik River**	**2.45**	**304**	P		**Pn**	**16 49 57.9**	**+1.0**
	baz=118							
COLD	**Coldfoot**	**2.47**	**239**			**Pn**	**16 49 57.5**	**+0.3**
COLD	**Coldfoot**	**2.47**	**239**	P		**Pn**	**16 49 57.5**	**+0.3**
	baz=55							
H27K	**Steamboat Moun**	**2.67**	**151**			**Pn**	**16 49 60.0**	**+0.1**
H27K	**Steamboat Moun**	**2.67**	**151**	P		**Pn**	**16 49 60.0**	**+0.1**
	baz=334							
G23K	**Bananza Creek**	**2.76**	**230**			**Pn**	**16 50 00.6**	**-0.6**
G23K	**Bananza Creek**	**2.76**	**230**	P		**Pn**	**16 50 00.6**	**-0.6**
	baz=45							
F22K	**John River**	**3.00**	**252**			**Pn**	**16 50 05.2**	**+0.8**
F22K	**John River**	**3.00**	**252**	P		**Pn**	**16 50 05.2**	**+0.8**
	baz=66							
H24K	**Noodor Dome**	**3.02**	**205**			**Pn**	**16 50 03.7**	**-1.0**
H24K	**Noodor Dome**	**3.02**	**205**	IAML			16 50 57.4	
	comp=E,95nm,1.0s							
H24K	**Noodor Dome**	**3.02**	**205**	P		**Pn**	**16 50 03.7**	**-1.0**
	baz=23							
PRP	**Porcupine Dome**	**3.09**	**186**			**Pn**	**16 50 05.9**	**0.0**
PRP	**Porcupine Dome**	**3.09**	**186**	IAML			16 51 00.1	
	comp=N,114nm,0.8s							
PRP	**Porcupine Dome**	**3.09**	**186**	P		**Pn**	**16 50 05.9**	**0.0**
	baz=5.8							
I27K	**Kandik River**	**3.23**	**156**			**Pn**	**16 50 07.0**	**-0.7**
I27K	**Kandik River**	**3.23**	**156**	P		**Pn**	**16 50 07.0**	**-0.7**
	baz=339							
H23K	**Yukon River**	**3.34**	**216**			**Pn**	**16 50 08.7**	**-0.4**
H23K				IAML			16 51 08.4	
	comp=E,105nm,0.7s							

H21K	**Melozitna Rive**	**4.31 231**	P		**Pn**	**16 50 21.9**	**-0.5**
	baz=44						
WRH	**Wood River Hil**	**4.34 200**			**Pn**	**16 50 22.7**	**-0.1**
WRH	**Wood River Hil**	**4.34 200**	IAML			16 51 45.0	
	comp=N,48nm,0.9s						
IMAR	**Indian Mountai**	**4.36 238**	Pn		**Pn**	**16 50 23.1**	**0.0**
NEA2	**Nenana**	**4.36 205**			**Pn**	**16 50 23.2**	**+0.1**
NEA2	**Nenana**	**4.36 205**	P		**Pn**	**16 50 23.2**	**+0.1**
	baz=22						
I21K	**Tanana**	**4.45 223**			**Pn**	**16 50 23.2**	**-1.2**
I21K	**Tanana**	**4.45 223**	P		**Pn**	**16 50 23.9**	**-0.5**
	baz=37						
SCRK	**Sand Creek**	**4.63 176**			**Pn**	**16 50 27.5**	**+0.5**
SCRK	**Sand Creek**	**4.63 176**	IAML			16 51 51.5	
	comp=E,39nm,0.7s						
SCRK			IAML			16 51 56.7	
	comp=N,29nm,0.8s						
SCRK	**Sand Creek**	**4.63 176**	P		**Pn**	**16 50 27.5**	**+0.5**
	baz=357						
K24K	**Donnelly Dome**	**4.82 186**			**Pn**	**16 50 30.2**	**+0.8**
K24K	**Donnelly Dome**	**4.82 186**	P		**Pn**	**16 50 30.2**	**+0.8**
	baz=4.8						
RIDG	**Independent Ri**	**4.86 181**			**Pn**	**16 50 30.8**	**+0.8**
RIDG	**Independent Ri**	**4.86 181**	P		**Pn**	**16 50 30.8**	**+0.8**
	baz=0.7						
DOT	**Dot Lake**	**4.96 177**			**Pn**	**16 50 32.3**	**+1.0**
DAWY	**Dawson**	**5.02 152**			**Pn**	**16 50 33.3**	**+1.1**
DAWY	**Dawson**	**5.02 152**	IAML			16 52 01.0	
	comp=E,23nm,1.0s						
DAWY			IAML			16 52 11.4	
	comp=N,23nm,1.0s						
DAWY	**Dawson**	**5.02 152**	P		**Pn**	**16 50 33.3**	**+1.1**
	baz=337						
BPAW	**Bear Paw Mtn.**	**5.16 212**			**Pn**	**16 50 33.9**	**-0.1**
BPAW	**Bear Paw Mtn.**	**5.16 212**	IAML			16 52 13.4	
	comp=N,24nm,1.2s						
BPAW			IAML			16 52 17.5	
	comp=E,24nm,1.6s						
BPAW	**Bear Paw Mtn.**	**5.16 212**	P		**Pn**	**16 50 33.9**	**-0.1**
	baz=27						
MCK	**McKinley**	**5.16 201**	Pn		**Pn**	**16 50 31.7**	**-2.4**
MCK			IAML			16 52 05.9	
	comp=N,24nm,0.7s						
MCK			IAML			16 52 06.4	
	comp=E,20nm,1.1s						
RND	**Reindeer**	**5.46 200**			**Pn**	**16 50 38.5**	**+0.2**
K29M	**Barlow Dome**	**5.58 145**			**Pn**	**16 50 39.9**	**0.0**
K29M	**Barlow Dome**	**5.58 145**	P		**Pn**	**16 50 39.9**	**0.0**
	baz=332						
TRF	**Thorofare Moun**	**5.63 206**	Pn		**Pn**	**16 50 37.5**	**-3.1**
DHY	**Denali Highway**	**5.63 192**			**Pn**	**16 50 42.0**	**+1.2**
DHY	**Denali Highway**	**5.63 192**	P		**Pn**	**16 50 42.0**	**+1.2**
	baz=10						
PAX	**Paxson**	**5.64 183**			**Pn**	**16 50 41.8**	**+1.0**
PAX	**Paxson**	**5.64 183**	P		**Pn**	**16 50 41.8**	**+1.0**
	baz=3.0						
BCAR	**Beaver Creek A**	**5.67 166**	Pn		**Pn**	**16 50 40.5**	**-0.6**
L27K	**Beaver Creek,**	**5.67 166**			**Pn**	**16 50 41.2**	**+0.1**
L27K	**Beaver Creek,**	**5.67 166**	P		**Pn**	**16 50 41.2**	**+0.1**
	baz=349						
MENT	**Mentasta**	**5.68 175**			**Pn**	**16 50 40.5**	**-0.8**
J20K	**Nowinta River**	**5.81 225**			**Pn**	**16 50 42.5**	**-0.6**
J20K	**Nowinta River**	**5.81 225**	P		**Pn**	**16 50 42.5**	**-0.6**
	baz=37						
WAT7	**Susitna Watana**	**6.01 198**			**Pn**	**16 50 46.6**	**+0.7**
WAT6	**Susitna Watana**	**6.15 193**			**Pn**	**16 50 48.8**	**+0.9**
WAT6	**Susitna Watana**	**6.15 193**	P		**Pn**	**16 50 48.7**	**+0.9**
	baz=11						
HARP	**HAARP**	**6.21 182**			**Pn**	**16 50 48.4**	**-0.2**
HARP	**HAARP**	**6.21 182**	P		**Pn**	**16 50 48.3**	**-0.2**
	baz=1.6						
M26K	**Nabesna, AK**	**6.25 173**			**Pn**	**16 50 46.4**	**-2.7**
M27K	**Edge Creek, AK**	**6.36 168**			**Pn**	**16 50 51.2**	**+0.6**
M27K	**Edge Creek, AK**	**6.36 168**	P		**Pn**	**16 50 51.2**	**+0.6**
	baz=351						
M29M	**Somme Creek**	**6.69 154**			**Pn**	**16 50 55.6**	**+0.5**
M29M	**Somme Creek**	**6.69 154**	P		**Pn**	**16 50 55.6**	**+0.5**
	baz=340						
M30M	**Minto, Yukon**	**6.86 148**			**Pn**	**16 50 57.2**	**-0.3**
M30M	**Minto, Yukon**	**6.86 148**	P		**Pn**	**16 50 57.2**	**-0.3**
	baz=335						
YUK2	**White River**	**7.01 165**			**Pn**	**16 51 00.1**	**+0.5**
A36M	**Sachs Harbour**	**7.40 54**			**Pn**	**16 51 03.8**	**-0.9**
A36M	**Sachs Harbour**	**7.40 54**	P		**Pn**	**16 51 04.9**	**+0.2**
	baz=252						
C36M	**Paulatuk**	**7.46 75**	Pn		**Pn**	**16 51 03.6**	**-2.0**
M20K	**Styx River**	**7.58 212**			**Pn**	**16 51 05.7**	**-1.7**
L19K	**White Mountain**	**7.68 218**	Pn		**Pn**	**16 51 06.4**	**-2.2**
M19K	**Big River Lodg**	**7.82 216**	Pn		**Pn**	**16 51 08.5**	**-2.1**
N30M	**Aishikik Lake**	**7.84 152**			**Pn**	**16 51 11.3**	**+0.4**
N30M	**Aishikik Lake**	**7.84 152**	P		**Pn**	**16 51 11.3**	**+0.4**
	baz=339						
FARO	**Faro, Yukon**	**7.94 138**	Pn		**Pn**	**16 51 11.0**	**-1.2**
MMPY	**Sheldon Lake,**	**8.16 131**	P		**Pn**	**16 51 15.5**	**+0.2**
	baz=323						
YKA	**Yellowknife Ar**	**13.77 102**	Pn		**Pn**	**16 52 29.5**	**-2.3**
	comp=E,0.3nm,0.3s,baz=302,slow=16,SNR=4.2						
	comp=E,1.1nm,0.5s						
PDAR	**Pinedale Array**	**31.75 126**	P		**P**	**16 55 43.6**	**+2.3**
	comp=E,0.9nm,0.8s,baz=6.7,slow=8.5,SNR=8.2						
	comp=E,0.9nm,0.8s						
NRIK	**Noril'sk**	**37.83 333**	P		**P**	**16 56 33.4**	**+0.2**
	comp=E,0.8nm,0.5s,baz=133,slow=10,SNR=2.2						
	comp=E,0.8nm,0.5s						
TXAR	**Lajitas Array**	**45.96 127**	P		**P**	**16 57 41.7**	**+1.6**
	comp=E,0.1nm,0.5s,baz=335,slow=6.3,SNR=2.4						
	comp=E,0.1nm,0.5s						
FINES	**FINESS Array B**	**50.10 6**	P		**P**	**16 58 11.5**	**-0.1**
	comp=E,0.5nm,0.5s,baz=9.9,slow=8.9,SNR=7.1						
	comp=E,0.5nm,0.5s						
BELG	**Belogornoye**	**59.00 351**	LR		LR	17 26 43.2	
	comp=E,63nm,22.0s,baz=331,slow=38						
AKASG	**Malin Array Be**	**60.95 4**	P		**P**	**16 59 29.3**	**-0.5**
	comp=E,0.3nm,0.4s,baz=354,slow=6.5,SNR=1.5						
	comp=E,0.3nm,0.4s						
GUMO	**Guam**	**70.31 257**	LR		LR	17 28 25.9	
	comp=E,16nm,21.9s,baz=81,slow=33						
BRTR	**Keskin Array B**	**72.01 1**	P		**P**	**17 00 40.8**	**-0.1**
	comp=E,0.2nm,0.4s,baz=0.0,slow=9.2,SNR=1.5						
	comp=E,0.2nm,0.4s						
DAV	**Davao City (W)**	**83.36 272**	LR		LR	17 41 24.9	
	comp=E,20nm,20.2s,baz=90,slow=38						
WSAR	**Wadi Sarin**	**86.86 339**	LR		LR	17 45 42.5	
	comp=E,25nm,20.0s,baz=326,slow=39						

INET ***17*** *16:55:10.9±0.9, 12.°92N×87.°16W, h2km, MW2.5*
SNET ***17*** *16:55:11.5±0.7, 12.°96N×87.°30W, h4km, ML2.7*

ISC 17 16:55:10.7±0.9, 12°94N±0.°06×87°22W±0.°05, h13km, n12, σ0 77/16, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.29**	**146**	***e*P**	**Pg**	**16 55 17.5**	**+0.8**
CRIN				*e*S	**Sg**	**16 55 22.6**	**+1.7**
CSGN	**Cosiguina Volc**	**0.34**	**276**	***e*P**	**Pg**	**16 55 17.8**	**+0.2**
TELN	**Telica**	**0.50**	**132**	***e*P**	**Pg**	**16 55 21.0**	**+0.4**
TEL3	**Telica 3**	**0.52**	**136**	***e*P**	**Pg**	**16 55 20.8**	**0.0**
CNCH	**Conchagua**	**0.69**	**299**	***e*P**	**Pg**	**16 55 24.2**	**+0.1**
CNCH				*e*S	**Sg**	**16 55 33.7**	**+0.5**
CNCH				IAML		16 55 37.0	
	comp=Z,787nm,0.2s						
LCND	**La Caada**	**0.75**	**299**	***e*P**	**Pg**	**16 55 25.0**	**-0.3**
LCND				*e*S	**Sg**	**16 55 35.8**	**+0.7**
LCND				IAML		16 55 40.5	
	comp=Z,163nm,0.2s						
MOMN	**Momotombo**	**0.85**	**129**	***e*P**	**Pg**	**16 55 26.8**	**-0.3**
COPN	**Copaltepe**	**0.97**	**141**	***e*P**	**Pb**	**16 55 27.9**	**-1.5**
TGUH	**Tegucigalpa,Un**	**1.11**	**357**	***e*P**	**Pb**	**16 55 31.6**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.11**	**357**	***e*P**	**Pb**	**16 55 31.6**	**-0.2**
MATN	**Matagalpa**	**1.26**	**90**	***e*P**	**Pn**	**16 55 33.5**	**-0.5**
MATN				*e*S	**Sb**	**16 55 50.4**	**-0.1**
BOAB	**BOACO BROADBAN**	**1.59**	**108**	***e*P**	**Pn**	**16 55 39.0**	**+0.4**

IDC ***17*** *17:34:58.8±0.6, 29.°34S×60.°99E, h0km, mb4.1/15, mbtmp4.1/16, ML4.0/1, MS3.2/8, Error ellipse: s-maj=20.9km s-min=17.8km az=27.0*
NEIC ***17*** *17:34:59.7±1.1, 29.°28S±0.°05×60.°8E±0.°1, h10km±1km, mb4.5/10, Error ellipse: s-maj=21.3km s-min=6.3km az=256.0*

ISC 17 17:35:00.6±0.5, 29°3S±0.°1×60°84E±0.°10, h14km, n47, σ1 9 05/34, mb4.3/17, MS3.2/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOMA	**Nahampoana Res**	**13.09**	**286**	Pn	**Pn**	**17 38 03.6**	**-2.5**
VOI	**Vohitsoka**	**14.67**	**297**	Pn	**Pn**	**17 38 29.0**	**+1.2**
ABPO	**Ambohimpanom**	**16.11**	**307**	Pn	**Pn**	**17 38 44.3**	**-2.6**
OPO	**Ambohidratompo**	**16.44**	**308**	Pn	**Pn**	**17 38 51.4**	**+0.4**
	0.1nm,0.3s,baz=269,slow=22,SNR=3.6						
OPO				Sn	Sn	17 41 40.2	-13
	0.1nm,0.3s,baz=316,slow=2.2,SNR=2.1						
	2.8nm,0.4s						
H08S1	**Diego Carcia H**	**24.20**	**29**	T	T	18 05 00.5	
	baz=204,slow=76,SNR=3.4						
H08S2	**Diego Garcia H**	**24.21**	**29**	T	T	18 05 00.9	
	baz=204,slow=76,SNR=2.9						
H08S3	**Diego Garcia H**	**24.22**	**29**	T	T	18 05 15.9	
	baz=204,slow=76,SNR=15						
BOSA	**Boshof**	**31.07**	**262**	P	**P**	**17 41 20.1**	**+1.6**
	6.8nm,1.1s,baz=144,slow=8.6,SNR=3.0						
BOSA				LR	LR	17 52 30.8	
	comp=Z,46nm,18.5s,baz=142,slow=34						
	6.8nm,1.1s						
LBTB	**Lobatse**	**31.58**	**269**	LR	LR	17 53 15.7	
	comp=Z,16nm,18.5s,baz=133,slow=35						
KMBO	**Kilima Mbogo**	**35.95**	**317**	LR	LR	17 53 50.5	
	comp=Z,61nm,21.3s,baz=93,slow=31						
MBAR	**Mbarara**	**40.50**	**309**	LR	LR	17 58 04.9	
	comp=Z,31nm,20.1s,baz=21,slow=34						
TSUM	**Tsumeb**	**40.51**	**274**	LR	LR	17 57 50.4	
	comp=Z,38nm,19.9s,baz=110,slow=34						
ATD	**Arta Tunnel**	**44.19**	**334**	LR	LR	17 58 53.5	
	comp=Z,36nm,20.1s,baz=152,slow=32						
H01W2	**Cape Leeuwin H**	**45.04**	**111**	T	T	18 30 58.1	
	baz=261,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**45.04**	**111**	T	T	18 30 54.7	
	baz=261,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**45.05**	**111**	T	T	18 30 58.8	
	baz=261,slow=75,SNR=13						
SNAA	**Sanae**	**54.20**	**200**	P	**P**	**17 44 24.9**	**-0.5**
	0.9nm,0.9s,baz=2.8,slow=20,SNR=2.1						
	0.9nm,0.9s						
SNAA	**Sanae**	**54.20**	**200**	P	**P**	**17 44 25.1**	**-0.3**
SNAA				IAmb	IAmb	17 44 46.9	
	comp=Z,4.7nm,1.2s						
FITZ	**Fitzroy Crossi**	**59.72**	**95**	P	**P**	**17 45 04.3**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=294,slow=12,SNR=2.8						
	comp=Z,2.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**59.72**	**95**	P	**P**	**17 45 05.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.08**	**43**	P	**P**	**17 45 07.2**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=227,slow=6.6,SNR=7.7						
	comp=Z,0.9nm,0.3s						
QSPA	**South Pole Qui**	**60.82**	**180**	P	**P**	**17 45 13.1**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=142,slow=8.8,SNR=2.1						
	comp=Z,0.7nm,0.6s						
QSPA	**South Pole Qui**	**60.82**	**180**	P	**P**	**17 45 13.1**	**+1.0**
QSPA				IAmb	IAmb	17 45 32.0	
	comp=Z,5.7nm,1.2s						
SHEL	**Horse Pasture**	**62.17**	**267**	P	**P**	**17 45 20.4**	**-1.5**
KNRA	**Kununurra**	**63.44**	**94**	P	**P**	**17 45 29.2**	**-1.1**
VNDA	**Vanda**	**63.92**	**166**	P	**P**	**17 45 33.3**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=260,slow=7.3,SNR=4.0						
	comp=Z,0.5nm,0.8s						
VNDA	**Vanda**	**63.92**	**166**	P	**P**	**17 45 32.3**	**-0.3**
VNDA				IAmb	IAmb	17 45 39.2	
	comp=Z,4.0nm,1.5s						
ASAR	**Alice Springs**	**64.67**	**104**	P	**P**	**17 45 38.2**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=245,slow=6.3,SNR=32						
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**64.67**	**104**	P	**P**	**17 45 37.9**	**-0.5**
AS31	**Alice Springs**	**64.67**	**104**	P	**P**	**17 45 37.7**	**-0.7**
WRA	**Warramunga Arr**	**66.51**	**100**	P	**P**	**17 45 50.0**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=246,slow=5.6,SNR=13						
	comp=Z,2.7nm,0.9s						
WB0	**Warramunga Arr**	**66.62**	**100**	P	**P**	**17 45 50.5**	**-0.5**
WB0				IAmb	IAmb	17 46 01.8	
	comp=Z,6.0nm,1.1s						
WR0	**Warramunga Arr**	**66.67**	**101**	P	**P**	**17 45 51.1**	**-0.3**
WR0				IAmb	IAmb	17 45 52.9	
	comp=Z,3.5nm,1.1s						
GNI	**Garni**	**70.74**	**347**	LR	LR	18 14 34.5	
	comp=Z,16nm,21.7s,baz=150,slow=34						
TORD	**Torodi Ar. Bea**	**70.97**	**298**	P	**P**	**17 46 19.4**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=121,slow=4.7,SNR=7.9						
	comp=Z,2.1nm,0.9s						
DBIC	**Dimbolo**	**72.50**	**288**	P	**P**	**17 46 26.1**	**-1.2**
SIJI	**Sorong**	**72.55**	**81**	P	**P**	**17 46 27.0**	**-0.7**
	comp=Z,12nm,0.8s,baz=254,slow=3.1,SNR=5.9						
	comp=Z,12nm,0.8s						
BRTR	**Keskin Array B**	**73.23**	**338**	P	**P**	**17 46 33.0**	**+1.8**
	comp=Z,1.1nm,1.0s,baz=132,slow=1.8,SNR=4.9						
	comp=Z,1.1nm,1.0s						
KBZ	**Khabaz**	**74.55**	**347**	LR	LR	18 17 02.2	
	comp=Z,29nm,21.8s,baz=150,slow=34						
MKAR	**Manchi Array**	**78.22**	**15**	P	**P**	**17 46 59.7**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=188,slow=3.7,SNR=9.7						
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**78.22**	**15**	P	**P**	**17 46 58.8**	**-0.7**
ABKAR	**Akbulak array**	**78.25**	**359**	P	**P**	**17 46 58.9**	**-0.6**
ZALV	**Zalesovo Beam**	**85.50**	**14**	P	**P**	**17 47 38.1**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=211,slow=5.2,SNR=7.3						
	comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**87.04**	**29**	P	**P**	**17 47 45.6**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=204,slow=3.2,SNR=2.6						
	comp=Z,0.4nm,0.7s						
ESDC	**Sonseca Array**	**91.33**	**316**	P	**P**	**17 48 06.4**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=85,slow=3.2,SNR=2.1						
	comp=Z,0.7nm,0.8s						
ULM	**Lac du Bonnet**	**152.71**	**326**	PKPbc	**PKiKP**	**17 54 56.4**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=31,slow=2.2,SNR=3.2						
PDAR	**Pinedale Array**	**164.53**	**333**	PKP	**PKPdf**	**17 55 04.6**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=225,slow=1.9,SNR=4.1						

UCR 17 17:42:59.0±1.8, 10°20N×84°21W, h5km, MW4.2, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRPO	**Crater poas**	**0.01**	**256**	***i*eP**	**Pg**	**17 42 59.4**	**-0.9**
CRPO				*e*S	Sg	17 43 00.5	-0.8
HDC	**Heredia**	**0.22**	**154**	***e*P**	**Pg**	**17 43 04.2**	**+0.9**
RIFO	**Rio Frio, Sara**	**0.31**	**67**	***e*P**	**Pg**	**17 43 05.2**	**+0.2**
RIFO				*e*S	Sb	17 43 11.2	-1.2
OCM	**Ochomogo**	**0.39**	**141**	***e*P**	**Pg**	**17 43 07.2**	**+0.5**
RIMA	**Rio Macho**	**0.55**	**141**	***e*P**	**Pg**	**17 43 10.3**	**+0.7**
COVE	**Coope Vega, Sa**	**0.55**	**340**	***e*P**	**Pg**	**17 43 09.0**	**-0.6**
JTS	**Las Juntas de**	**0.74**	**277**	***e*P**	**Pg**	**17 43 12.5**	**-0.6**
CDM	**Cerro de Muert**	**0.78**	**145**	***e*P**	**Pg**	**17 43 14.1**	**+0.1**
LAFE	**Finca La Fe, P**	**0.79**	**241**	***e*P**	**Pg**	**17 43 14.3**	**+0.1**
MRVA	**Moravia de Chi**	**0.84**	**116**	***e*P**	**Pg**	**17 43 15.5**	**+0.3**
ACAL	**Aguas Claras**	**0.92**	**298**	***e*P**	**Pg**	**17 43 16.5**	**-0.1**
PTEN	**Parque Tenorio**	**0.92**	**304**	***e*P**	**Pg**	**17 43 15.2**	**-1.4**
CUI	**Cuipilapa**	**1.04**	**296**	***e*P**	**Pg**	**17 43 18.0**	**-1.0**
HORNC	**Hornillas**	**1.08**	**298**	***e*P**	**Pg**	**17 43 19.9**	**+0.2**
COLC	**Colonia**	**1.08**	**325**	***e*P**	**Pb**	**17 43 20.2**	**0.0**
VMAR	**Armenia, Volca**	**1.08**	**304**	***e*P**	**Pg**	**17 43 19.5**	**-0.3**
NICO	**Nicoya**	**1.22**	**267**	***e*P**	**Pg**	**17 43 21.2**	**-1.2**
GPS2	**Hotel Rincn d**	**1.25**	**296**	***e*P**	**Pg**	**17 43 22.8**	**-0.2**
GPS1	**Guardaparques**	**1.26**	**297**	***e*P**	**Pg**	**17 43 23.0**	**-0.2**
BUAI	**Buenos Aires**	**1.29**	**302**	***e*P**	**Pn**	**17 43 22.7**	**-1.1**
INDI	**Punta indio, G**	**1.31**	**256**	***e*P**	**Pn**	**17 43 22.6**	**-1.5**
BUEV	**Buena Vista**	**1.32**	**297**	***e*P**	**Pn**	**17 43 23.8**	**-0.4**
GB1A	**Borinquen Arri**	**1.32**	**298**	***e*P**	**Pn**	**17 43 24.0**	**-0.2**
LAPC	**Finca la Perla**	**1.33**	**295**	***e*P**	**Pn**	**17 43 23.3**	**-0.9**
GBS3	**Finca Las Img**	**1.35**	**295**	***e*P**	**Pn**	**17 43 23.6**	**-1.0**
GRZA	**Playa Garza**	**1.43**	**259**	***e*P**	**Pn**	**17 43 24.7**	**-1.0**
SAJU	**San Juanillo,**	**1.48**	**265**	***e*P**	**Pn**	**17 43 25.7**	**-0.7**
ACON	**Acoyapa**	**2.00**	**332**	***e*P**	**Pn**	**17 43 32.9**	**-0.5**

IDC ***17*** *17:54:49.5±2.0, 32.°93N×139.°26E, h0km, mb3.2/2, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=76.4km s-min=31.5km az=85.0*
JMA ***17*** *17:54:52.0±0.1, 33.°5N±0.°4×140.°0E±.°, h48km±3km, MV3.4/30, E OFF HACHIJOJIMA ISLAND*

ISC 17 17:54:52.1±1.2, 33°46N±0.°04×140°48E±0.°07, h48km±15km, n23, σ0 89/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.66**	**238**	P	**Pn**	**17 55 05.5**	**+0.3**
JHJ2				S	**Sn**	**17 55 14.6**	**0.0**
JHCJ	**Hachijojimakas**	**0.69**	**236**	P	**Pn**	**17 55 05.8**	**+0.2**
JHCJ				S	**Sn**	**17 55 14.9**	**-0.5**
JMKN	**Mikurajimanish**	**0.86**	**300**	***i*P**	**Pn**	**17 55 07.7**	**-0.1**
JAOM	**Aogashimamukai**	**1.16**	**211**	P	**Pn**	**17 55 12.3**	**+0.3**
JAOM				S	**Sn**	**17 55 27.4**	**+0.6**
BSO1	**Boso 1**	**1.26**	**19**	***i*P**	**Pn**	**17 55 12.8**	**+0.1**
BSO1				*e*S	**Sn**	**17 55 28.6**	**+0.3**
BSO3	**Boso 3**	**1.34**	**1**	***i*P**	**Pn**	**17 55 14.6**	**+0.5**
JTHY	**Toshimahigashi**	**1.45**	**317**	P	**Pn**	**17 55 16.3**	**+0.5**
JTHY				S	**Sn**	**17 55 33.3**	**-0.4**
JIM2	**Oshima 3**	**1.52**	**325**	S	**Sn**	**17 55 34.0**	**-1.6**
BSO4	**Boso 4**	**1.53**	**356**	P	**Pn**	**17 55 17.6**	**+0.7**
JIZS	**Izushimoda**	**1.83**	**314**	P	**Pn**	**17 55 21.6**	**+0.6**
JIZS				S	**Sn**	**17 55 42.3**	**-0.6**
KTJ3	**Kamata3**	**1.88**	**322**	P	**Pn**	**17 55 21.9**	**+0.2**
KTJ3				S	**Sn**	**17 55 42.9**	**-1.3**
JOD2	**Odawara 2**	**2.13**	**328**	P	**Pn**	**17 55 25.5**	**+0.3**
TK02	**Tokai 2**	**2.32**	**283**	P	**Pn**	**17 55 28.6**	**+1.1**
TK04	**Tokai 4**	**2.35**	**294**	P	**Pn**	**17 55 29.4**	**+1.3**
MJAR	**Matsushiro Arr**	**3.59**	**329**	Pn	**Pn**	**17 55 47.7**	**+2.4**
	0.3nm,0.3s,baz=168,slow=31,SNR=29						
MJAR				Sn	**Sn**	**17 56 26.9**	**+0.4**
	0.3nm,0.3s,baz=194,slow=16,SNR=9.3						
	1.7nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.20**	**114**	T	T	18 29 24.6	
	baz=306,slow=75,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**27.20**	**114**	T	T	18 29 23.4	
	baz=306,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**27.22**	**114**	T	T	18 29 24.0	
	baz=306,slow=75,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**27.77**	**116**	T	T	18 30 18.8	
	baz=307						
H11S1	**WAKE ISLAND Hy**	**27.77**	**116**	T	T	18 29 54.5	
	baz=307						
H11S2	**WAKE ISLAND Hy**	**27.79**	**116**	T	T	18 30 02.4	
	baz=307						
WRA	**Warramunga Arr**	**53.43**	**187**	P	**P**	**18 04 06.5**	**-0.7**
	0.1nm,0.3s,baz=7.5,slow=7.5,SNR=1.9						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**57.16**	**187**	P	**P**	**18 04 33.6**	**-0.4**
	0.1nm,0.4s,baz=1.1,slow=5.6,SNR=6.8						
	0.1nm,0.4s						

MOS ***17*** *18:00:35.3±1.5, 55.°15S×31.°41W, h19km, mb5.4/8, Error ellipse: s-maj=17.8km s-min=10.5km az=116.6*
NEIC ***17*** *18:00:35.0±2.1, 55.°24S±0.°07×31.°5W±0.°1, h10km±1km, mb5.2/100, Error ellipse: s-maj=12.7km s-min=11.7km az=18.0*
IDC ***17*** *18:00:36.9±4.3, 55.°11S×31.°11W, h21km±26km, mb4.6/15, mbtmp4.8/16, ML4.4/1, MS4.3/41, Error ellipse: s-maj=16.9km s-min=13.9km az=47.0*
GCMT ***17*** *18:00:39.0±0.2, 55.°17S±0.°01×31.°01W±0.°02, h16km±1km, MW5.1/121, Moment Tensor Solution. s60,c78; s121,c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.34±.13; $M_{\theta\theta}$1.05±.13; $M_{\phi\phi}$-2.39±.13; $M_{r\theta}$0.64±.34; $M_{\theta\phi}$-4.11±.10; $M_{\phi r}$-4.24±.49; Best double couple: $M_0$6.27300×10^{16} NP1:ϕ_s174.00000°, δ82.00000°, λ46.00000°. NP2:ϕ_s76.00000°, δ45.00000°, λ169.00000°. Principal axes: T 5.9970, Plg37.0000°, Azm46.0000°; N 0.5520, Plg44.0000°, Azm182.0000°; P -6.5490, Plg24.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 18:00:34.7±0.2, 55°25S±0.°05×31°39W±0.°05, h10km, n472, σ1 9 10/450, mb5.2/67, MS4.3/46, 12C-10D, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.10**	**286**		**Pn**	**18 01 23.6**	**-0.1**
HOPE				Sn	**Sn**	**18 01 57.1**	**-3.7**
HOPE	**Hope Point**	**3.10**	**286**	P	**Pn**	**18 01 23.6**	**-0.1**
HOPE						18 01 57.1

FRBT Francisco Belt 33.26 323 *e*P P **18 07 13.5 +1.3**
ML02 Panimavida 33.52 289 P P **18 07 13.4 -0.9**
ML02 IAmb IAmb 18 08 14.4
comp=Z,52nm,1.4s
PARB Paraibuna 33.58 336 *e*P P **18 07 16.7 +1.8**
BI05 Punta Hualpn 33.77 286 P P **18 07 13.2 -3.3**
BO02 Sierra Bellavi 33.91 291 P P **18 07 16.4 -1.4**
BO02 IAmb IAmb 18 08 24.6
comp=Z,18nm,0.6s
PTGB Pitanga 34.09 325 *e*P P **18 07 20.8 +1.4**
VAO Valinhos 34.23 334 *e*P P **18 07 22.2 +1.6**
LMEL Las Melosas 34.32 292 P P **18 07 20.4 -1.1**
LMEL IAmb IAmb 18 07 29.2
comp=Z,28nm,1.2s
BO04 La Punta 34.43 292 P P **18 07 21.2 -1.1**
CPUP Villa Florida 34.53 316 P P **18 07 23.4 +0.3**
comp=Z,14nm,0.7s,baz=153,slow=7.5,SNR=33
CPUP LR LR 18 21 54.9
comp=Z,348nm,19.4s,baz=164,slow=37
comp=Z,14nm,0.7s
CPUP Villa Florida 34.53 316 P P **18 07 21.8 -1.3**
CPUP IAmb IAmb 18 07 32.8
comp=Z,39nm,1.4s
CPUP Villa Florida 34.53 316 P P **18 07 21.8 -1.3**
CPUP pmax pmax
comp=Z,39nm,1.4s
MT03 Universidad Ad 34.76 292 P P **18 07 24.4 -0.8**
MT03 IAmb IAmb 18 07 32.4
comp=Z,41nm,0.9s
MT09 Talagante 34.80 292 P P **18 07 25.6 +0.1**
MT09 IAmb IAmb 18 07 30.4
comp=Z,36nm,0.7s
MT01 Popeta 34.87 291 P P **18 07 25.4 -0.6**
MT01 IAmb IAmb 18 07 34.9
comp=Z,28nm,0.9s
MT05 Renca 34.96 292 P P **18 07 26.7 -0.1**
MT05 IAmb IAmb 18 07 33.5
comp=Z,30nm,0.8s
QSPA South Pole Qui 35.01 180 LR LR 18 20 50.2
comp=Z,466nm,20.5s,baz=188,slow=34
QSPA South Pole Qui 35.01 180 P P **18 07 28.0 +0.9**
QSPA IAmb IAmb 18 07 41.3
comp=Z,56nm,1.2s
PEL Peldehue 35.12 293 P P **18 07 27.2 -1.0**
PEL Peldehue 35.12 293 P P **18 07 27.2 -1.0**
PEL pmax pmax
comp=Z,60nm,0.8s
VA05 Santo Domingo 35.22 291 P P **18 07 27.5 -1.5**
MT02 Curacav 35.27 292 P P **18 07 29.4 -0.1**
MT02 IAmb IAmb 18 07 39.9
comp=Z,24nm,0.8s
ZON Zonda 35.33 297 P P **18 07 29.0 -1.0**
ZON Zonda 35.33 297 P P **18 07 29.0 -1.0**
ZON pmax pmax
comp=Z,20nm,0.8s
VA03 San Esteban 35.34 293 P P **18 07 29.2 -1.0**
VA03 IAmb IAmb 18 07 53.6
comp=Z,43nm,0.8s
ROC1 El Roble 35.43 292 P P **18 07 30.1 -1.0**
VA06 Catapilco 35.90 292 P P **18 07 35.8 +1.0**
TRCB Terra Rica 36.06 325 P P **18 07 35.2 -1.2**
BB19B Bebedouro 36.48 332 *e*P P **18 07 41.5 +1.6**
PCMB Pacaembu 36.74 328 *e*P P **18 07 44.3 +2.1**
CO02 Combarbal 36.80 294 P P **18 07 43.4 +0.6**
SJMB Sao Joao De Ma 37.23 345 *e*P P **18 07 47.6 +1.3**
CO01 Juntas del Tor 37.31 296 P P **18 07 47.7 +0.5**
CO01 IAmb IAmb 18 07 53.5
comp=Z,34nm,0.8s
GO04 Tololo Observa 37.52 295 P P **18 07 48.2 -0.7**
GO04 IAmb IAmb 18 07 54.3
comp=Z,56nm,1.2s
CO06 Fray Jorge 37.56 294 P P **18 07 47.9 -1.1**
CO06 IAmb IAmb 18 08 08.9
comp=Z,80nm,1.6s
NAN01 Guarapari, ES 37.92 346 *e*P P **18 07 52.8 +0.6**
CO05 La Serena 37.95 295 P P **18 07 50.0 -2.3**
DIAM Diamantina, MG 38.05 341 *e*P P **18 07 53.9 +0.5**
ITRB Iturama 38.28 330 *e*P P **18 07 57.0 +1.8**
AC05 El Transito 38.33 297 P P **18 07 55.7 0.0**
AC05 IAmb IAmb 18 08 00.9
comp=Z,30nm,0.8s
PMNB Patos De Minas 38.40 337 *e*P P **18 07 58.3 +2.1**
LCO Las Campanas 38.40 297 P P **18 07 59.5 +3.0**
AC04 Llanos de Chal 39.25 297 P P **18 08 02.0 -1.2**
AC04 IAmb IAmb 18 08 13.4
comp=Z,84nm,0.9s
AQDB Aquidauana 39.25 322 P P **18 08 03.6 +0.3**
AQDB Aquidauana 39.25 322 *e*P P **18 08 03.7 +0.5**
IPMB Ipameri, GO 39.35 334 *e*P P **18 08 06.5 +2.3**
AC02 Maricunga 39.40 301 P P **18 08 04.7 -0.4**
AC06 Mina Casimiro 39.58 299 P P **18 08 05.5 -0.5**
MC01 Montes Claros 39.66 341 *e*P P **18 08 07.7 +1.0**
C2SB Chapadao do Su 39.90 327 *e*P P **18 08 10.1 +1.4**
AC01 Pan de Azucar 40.70 299 P P **18 08 14.8 -0.4**
AC01 IAmb IAmb 18 09 10.1
comp=Z,92nm,1.5s
GO02 Mina Guanaco 41.02 301 P P **18 08 17.5 -0.8**
GO02 IAmb IAmb 18 08 23.6
comp=Z,48nm,0.7s
JANB Januaria 41.33 341 *e*P P **18 08 22.4 +1.8**
BDFB Brasilia 41.55 335 P P **18 08 22.5 0.0**
comp=Z,3.6nm,0.8s,baz=146,slow=11,SNR=8.9
BDFB PcP **PcP 18 10 19.8 0.0**
comp=Z,4.5nm,0.9s,baz=212,slow=13,SNR=2.7
comp=Z,3.6nm,0.8s
BDFB Brasilia 41.55 335 P P **18 08 21.8 -0.7**
BDFB Brasilia 41.55 335 P P **18 08 21.8 -0.7**
BDFB pmax pmax
comp=Z,8.0nm,0.9s
BDFB Brasilia 41.55 335 *e*P P **18 08 23.5 +1.0**
PB14 IPOC Station P 41.87 301 P P **18 08 21.5 -3.8**
PB14 IAmb IAmb 18 09 29.0
comp=Z,71nm,1.6s
MAW Mawson 42.19 145 P P **18 08 27.9 +0.9**
comp=Z,9.2nm,0.9s,baz=232,slow=8.3,SNR=10
MAW LR LR 18 23 20.1
comp=Z,432nm,20.7s,baz=240,slow=32
comp=Z,9.2nm,0.9s
MAW Mawson 42.19 145 P P **18 08 26.9 -0.1**
MAW Mawson 42.19 145 P P **18 08 27.0 -0.1**
MAW pmax pmax
comp=Z,4.0nm,1.2s
PB15 IPOC Station P 42.61 303 P P **18 08 30.9 -0.4**
SUR Sutherland 42.79 80 P P **18 08 31.2 -1.4**
comp=Z,11nm,1.1s,baz=212,slow=14,SNR=2.0
SUR LR LR 18 22 12.2
comp=Z,392nm,18.6s,baz=216,slow=30
comp=Z,11nm,1.1s
LVC Limon Verde 42.85 304 LR LR 18 29 31.8
comp=Z,320nm,18.0s,baz=173,slow=40
LVC Limon Verde 42.85 304 P P **18 08 31.9 -1.5**
LVC Limon Verde 42.85 304 P P **18 08 31.9 -1.5**
LVC pmax pmax
comp=Z,26nm,0.9s
LVC Limon Verde 42.85 304 *e*P P **18 08 32.5 -0.8**
PB06 IPOC Station P 43.09 303 P P **18 08 34.4 -0.6**
SALV Santo Antonio 43.50 325 *e*P P **18 08 39.3 +1.1**
PB04 IPOC Station P 43.68 303 P P **18 08 37.2 -2.6**
PB04 IAmb IAmb 18 08 56.6
comp=Z,69nm,1.2s
PB09 IPOC Station P 43.71 304 P P **18 08 39.4 -0.6**
SHEL Horse Pasture 43.90 37 P P **18 08 42.0 +0.6**
SHEL Horse Pasture 43.90 37 P P **18 08 42.0 +0.6**
SHEL pmax pmax
comp=Z,919nm,1.9s
SDBA SAO DESIDERIO 44.03 341 *e*P P **18 08 44.1 +1.6**
PB07 IPOC Station P 44.07 304 P P **18 08 41.9 -1.1**
PB07 IAmb IAmb 18 08 48.6
comp=Z,41nm,1.2s
PB02 IPOC Station P 44.42 304 P P **18 08 46.6 +0.9**
PB02 IAmb IAmb 18 09 00.3
comp=Z,91nm,1.6s
PB01 IPOC Station P 44.47 305 P P **18 08 47.0 +1.0**
PB01 IAmb IAmb 18 08 51.6
comp=Z,46nm,0.8s
PTET Porto Estrela 44.48 323 *e*P P **18 08 46.1 +0.1**
PATCX Punta Patache 44.97 304 P P **18 08 50.0 -0.1**
PATCX IAmb IAmb 18 08 55.4
comp=Z,39nm,0.9s
NBRS Nobres 45.00 326 *e*P P **18 08 51.0 +0.7**
PTLB Pontes e Lacer 45.11 321 P P **18 08 51.0 0.0**
PTLB IAmb IAmb 18 08 53.9
comp=Z,30nm,0.8s
PTLB Pontes e Lacer 45.11 321 *e*P P **18 08 51.4 +0.3**

SIV San Ignacio 45.33 318 LR LR 18 28 23.1
comp=Z,270nm,20.2s,baz=144,slow=37
TA02 Huaiquique 45.44 304 P P **18 08 51.1 -2.6**
TA02 IAmb IAmb 18 09 41.6
comp=Z,30nm,1.0s
GO01 Chusmiza 45.52 306 P P **18 08 55.3 +0.4**
GO01 IAmb IAmb 18 08 58.7
comp=Z,35nm,0.8s
NBAN Anadia - AL 45.62 353 *e*P P **18 08 55.0 -0.1**
SNDB Seca Nova Dou 45.90 332 *e*P P **18 08 58.4 +1.0**
VBST Vila Bela da S 46.27 320 *e*P P **18 09 00.4 +0.1**
SBA Scott Base 46.69 185 P P **18 09 03.8 +0.9**
SBA Scott Base 46.69 185 P P **18 09 03.8 +0.9**
SBA pmax pmax
comp=Z,11nm,1.1s
PB16 IPOC Station P 46.82 306 P P **18 09 05.0 -0.2**
PB16 IAmb IAmb 18 09 18.6
comp=Z,30nm,1.4s
VNDA Vanda 47.24 184 P P **18 09 08.9 +1.7**
comp=Z,4.0nm,0.9s,baz=185,slow=7.1,SNR=16
VNDA LR LR 18 26 43.5
comp=Z,174nm,20.6s,baz=164,slow=33
comp=Z,4.0nm,0.9s
VNDA Vanda 47.24 184 P P **18 09 08.5 +1.3**
VNDA Vanda 47.24 184 P P **18 09 08.5 +1.3**
VNDA pmax pmax
comp=Z,25nm,1.8s
VILB Vilhena 47.80 321 P P **18 09 12.5 +0.3**
VILB IAmb IAmb 18 09 14.7
comp=Z,29nm,0.8s
VILB Vilhena 47.80 321 *e*P P **18 09 12.4 +0.1**
PDRB Porto dos Gac 47.85 326 *e*P P **18 09 12.7 +0.1**
LPAZ La Paz 47.99 309 P P **18 09 16.1 +1.6**
comp=Z,38nm,0.5s,baz=140,slow=3.6,SNR=36
LPAZ LR LR 18 31 58.5
comp=Z,211nm,19.2s,baz=162,slow=39
comp=Z,38nm,0.5s
LPAZ La Paz 47.99 309 P P **18 09 14.9 +0.5**
LPAZ La Paz 47.99 309 P P **18 09 14.9 +0.5**
LPAZ pmax pmax
comp=Z,49nm,0.6s
SMTB Santa Maria do 48.02 338 *e*P P **18 09 15.6 +1.7**
H10S2 ASCENSION HYDR 48.04 23 T T 19 01 25.4
baz=193,slow=74,SNR=52
H10S3 ASCENSION HYDR 48.04 22 T T 19 01 25.6
baz=27,slow=74,SNR=93
BOSA Boshof 48.13 80 P P **18 09 13.6 -1.3**
comp=Z,10nm,1.0s,baz=225,slow=6.7,SNR=7.3
BOSA LR LR 18 25 56.4
comp=Z,372nm,18.5s,baz=222,slow=32
comp=Z,10nm,1.0s
BOSA Boshof 48.13 80 P P **18 09 14.5 -0.4**
BOSA Boshof 48.13 80 P P **18 09 14.5 -0.4**
BOSA pmax pmax
comp=Z,62nm,1.6s
CLDB Colider 48.25 327 *e*P P **18 09 15.9 +0.2**
H10N1 ASCENSION HYDR 49.16 22 T T 19 02 50.3
baz=192,slow=76,SNR=95
H10N3 ASCENSION HYDR 49.16 22 T T 19 02 47.9
baz=192,slow=76,SNR=103
H10N2 ASCENSION HYDR 49.17 22 T T 19 02 34.8
baz=192,slow=76,SNR=124
RCBR Riachuelo 49.41 354 LR LR 18 29 18.3
comp=Z,240nm,18.0s,baz=326,slow=35
LBTB Lobatse 51.11 78 LR LR 18 28 58.9
comp=Z,186nm,18.1s,baz=211,slow=33
LBTB Lobatse 51.11 78 P P **18 09 36.8 -0.8**
LBTB IAmb IAmb 18 09 48.1
comp=Z,78nm,1.8s
LBTB Lobatse 51.11 78 P P **18 09 36.8 -0.8**
LBTB pmax pmax
comp=Z,78nm,1.8s
PRPB Parauapebas 51.12 336 *e*P P **18 09 38.7 +1.2**
TSUM Tsumeb 51.45 66 LR LR 18 26 18.8
comp=Z,191nm,20.9s,baz=209,slow=30
TSUM Tsumeb 51.45 66 P P **18 09 39.5 -0.7**
NPGB Novo Progresso 51.74 329 *e*P P **18 09 42.5 +0.3**
SAML Samuel 52.59 319 P P **18 09 47.9 -0.6**
SAML IAmb IAmb 18 09 51.2
comp=Z,22nm,0.8s
SAML Samuel 52.59 319 P P **18 09 47.9 -0.6**
SAML pmax pmax
comp=Z,22nm,0.9s
POGA Pongola 52.77 85 P P **18 09 49.8 0.0**
POGA IAmb IAmb 18 11 32.3
comp=Z,35nm,1.3s
ETMB Extrema 52.97 315 P P **18 09 51.4 0.0**
ETMB IAmb IAmb 18 11 13.1
comp=Z,148nm,1.2s
ETMB Extrema 52.97 315 *e*P P **18 09 52.1 +0.7**
ITTB Itaituba 54.39 330 *e*P P **18 10 01.9 +0.2**
CASY Casey 55.44 162 P P **18 10 09.6 +0.9**
CASY IAmb IAmb 18 10 22.3
comp=Z,64nm,1.6s
NNA Nana 55.79 303 LR LR 18 35 57.2
comp=Z,136nm,19.1s,baz=146,slow=38
MALB Monte Alegre 56.38 332 *e*P P **18 10 15.8 -0.2**
MACA Manacapuru-AM 57.07 324 P P **18 10 19.9 -1.1**
MACA IAmb IAmb 18 10 22.4
comp=Z,28nm,0.7s
MACA Manacapuru-AM 57.07 324 *e*P P **18 10 21.4 +0.4**
LSZ Lusaka 60.36 73 LR LR 18 34 30.5
comp=Z,420nm,18.2s,baz=217,slow=34
ATAH Atahualpa 60.74 304 LR LR 18 36 55.7
comp=Z,136nm,21.8s,baz=158,slow=36
RPN Rapa Nui 61.42 263 LR LR 18 33 08.4
comp=Z,172nm,19.2s,baz=209,slow=32
BOAV Boa Vista 62.24 327 P P **18 10 55.7 -0.9**
BOAV IAmb IAmb 18 10 58.3
comp=Z,14nm,1.0s
BOAV Boa Vista 62.24 327 *e*P P **18 10 56.5 -0.1**
MDP Montagnes des 62.66 336 LR LR 18 38 48.5
comp=Z,175nm,18.0s,baz=125,slow=37
FOMA Nahampoana Res 63.32 96 P P **18 11 03.4 -0.3**
LIC Lamto 65.05 29⇑ *e*P P **18 11 14.1 -1.0**
comp=Z,41nm,0.7s
KIC Kosan Boka 65.26 29⇑ *e*P P **18 11 15.5 -1.0**
comp=Z,6.5nm,0.7s
TIC Toumodi 65.45 29⇑ *e*P P **18 11 16.5 -1.2**
comp=Z,35nm,0.9s
DBIC Dimbokro 65.52 29 P P **18 11 16.9 -1.2**
comp=Z,10.0nm,0.8s,baz=200,slow=6.7,SNR=12
DBIC LR LR 18 34 56.1
comp=Z,146nm,18.4s,baz=200,slow=32
comp=Z,10.0nm,0.8s
DBIC Dimbokro 65.52 29 P P **18 11 17.7 -0.5**
DBIC IAmb IAmb 18 11 19.5
comp=Z,13nm,0.9s
DBIC Dimbokro 65.52 29 P P **18 11 17.7 -0.5**
DBIC pmax pmax
comp=Z,13nm,0.9s
IMBA Imbabura, San 67.17 308 P P **18 11 29.3 0.0**
OTAV Otavalo 67.25 307 P P **18 11 31.2 +1.4**
OTAV IAmb IAmb 18 11 38.2
comp=Z,16nm,1.1s
OTAV Otavalo 67.25 307 P P **18 11 31.2 +1.4**
OTAV pmax pmax
comp=Z,16nm,1.1s
OTAV Otavalo 67.25 307 *e*P P **18 11 26.3 -3.5**
TULM Tulcn-Chalpat 67.37 308 P P **18 11 32.3 +1.7**
TULM IAmb IAmb 18 11 37.7
comp=Z,27nm,0.9s
OPO Ambohidratompo 68.47 92 LR LR 18 35 29.0
comp=Z,235nm,20.8s,baz=6.5,slow=31
ROSC El Rosal 69.57 314 P P **18 11 44.5 +0.3**
comp=Z,6.3nm,0.3s,baz=218,slow=22,SNR=1.7
ROSC LR LR 18 43 47.9
comp=Z,224nm,19.4s,baz=226,slow=37
comp=Z,6.3nm,0.3s
BBTS Babate 70.76 15 LR LR 18 37 52.0
comp=Z,230nm,18.8s,baz=204,slow=32
PCRV Puerto La Cruz 70.88 325 LR LR 18 42 21.1
comp=Z,344nm,21.9s,slow=35
BAUV El Baul 70.89 321 P P **18 11 52.5 +0.6**
BIRV Birongo 71.70 324 P P **18 11 57.9 +1.2**
SDV Santo Domingo 71.79 319 LR LR 18 46 28.7
comp=Z,576nm,18.0s,baz=144,slow=38
SDV Santo Domingo 71.79 319 P P **18 11 56.9 -0.6**
SDV Santo Domingo 71.79 319 *e*P P **18 11 56.6 -0.9**
TOA0 Torodi Ar. Sit 73.61 34 P P **18 12 07.5 -0.5**
TOA0 IAmb IAmb 18 12 09.9
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 73.61 34 P P **18 12 07.3 -0.7**
comp=Z,11nm,0.8s,baz=196,slow=5.7,SNR=34
TORD LR LR 18 37 37.7
comp=Z,462nm,20.8s,baz=206,slow=30
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 73.61 34 P P **18 12 07.8 -0.3**
MBAR Mbarara 73.97 67 LR LR 18 41 36.5
comp=Z,309nm,18.2s,baz=212,slow=33
MBAR Mbarara 73.97 67*c* *i*P P **18 12 12.0 +1.5**
MBAR pmax pmax
comp=Z,19nm,1.4s
KIBK Kibwezi 76.45 74 P P **18 12 26.1 +1.4**
KIBK IAmb IAmb 18 12 29.4
comp=Z,28nm,1.5s
KMBO Kilima Mbogo 77.03 73 LR LR 18 43 27.2
comp=Z,354nm,19.5s,baz=96,slow=34
KMBO Kilima Mbogo 77.03 73⇑ *e*P P **18 12 31.0 +2.9**
WHZ Wether Hill Ro 77.92 194 P P **18 12 32.3 -0.2**
SJG San Juan 78.81 326 LR LR 18 49 34.5
comp=Z,154nm,18.9s,baz=74,slow=37
JTS Las Juntas de 79.09 306⇑ *e*P P **18 12 41.7 +2.5**
JTS pmax pmax
comp=Z,25nm,1.1s
RPZ Rata Peaks 79.59 196 LR LR 18 43 48.5
comp=Z,191nm,20.4s,baz=171,slow=32
LODK Lodwar 79.80 69 P P **18 12 44.3 +1.0**
LTZ Lake Taylor 80.29 197 P P **18 12 45.6 0.0**
TUWZ Tuamarina 81.30 199 P P **18 12 49.9 -1.1**
BOAB BOACO BROADBAN 81.31 307 P P **18 12 51.3 +0.2**
SC01 Santiago de lo 81.55 323 P P **18 12 51.1 -1.2**
MATN Matagalpa 81.85 307 P P **18 12 53.5 -0.6**
URZ Urewera 83.72 202 LR LR 18 46 49.6
comp=Z,107nm,19.6s,baz=234,slow=33
MTO3 Montecristo 84.74 304 P P **18 13 09.4 +0.2**
TBI Tubuai 85.67 234 *e*LR LR 18 40 17.6
comp=Z,159nm,28.5s
NWAO Narrogin (SRO) 88.15 154 LR LR 18 48 07.6
comp=Z,112nm,18.8s,baz=17,slow=32
TEIG Tepich 89.31 308 P P **18 13 31.2 +0.3**
CMIG Matias Romero 89.71 301 LR LR 18 49 08.9
comp=Z,74nm,22.0s,baz=182,slow=32
ATD Arta Tunnel 90.59 71 LR LR 18 52 41.5
comp=Z,221nm,18.2s,baz=176,slow=35
MDT Midelt 90.67 22 LR LR 18 48 26.3
comp=Z,298nm,20.7s,baz=198,slow=32
PPT2 Papeete2 90.67 237 *e*LR LR 18 42 37.2
comp=Z,128nm,21.2s
PPT Papeete 90.69 237 LR LR 18 45 46.4
comp=Z,132nm,20.0s,baz=128,slow=30
RAR Rarotonga 92.11 227 LR LR 18 52 55.8
comp=Z,140nm,18.3s,baz=272,slow=34
STKA Stephens Creek 93.02 174 P P **18 13 49.1 +0.8**
comp=Z,2.3nm,1.0s,baz=180,slow=4.0,SNR=2.3
STKA LR LR 18 52 52.5
comp=Z,329nm,21.0s,baz=193,slow=34
comp=Z,2.3nm,1.0s
LHI Lord Howe Isla 93.12 189 P P **18 13 48.0 -0.7**
KEST Kesra 97.10 32 LR LR 18 53 26.6
comp=Z,421nm,19.5s,baz=190,slow=33
ESDC Sonseca Array 97.41 21 P Pdif 18 14 08.1 +0.2
comp=Z,1.2nm,0.9s,baz=192,slow=4.6,SNR=6.4
ESDC LR LR 18 53 24.8
comp=Z,238nm,19.7s,baz=182,slow=33
comp=Z,1.2nm,0.9s
ASAR Alice Springs 100.41 166 P **Pdif 18 14 20.3 -1.6**
comp=Z,0.6nm,0.6s,baz=180,slow=3.8,SNR=6.4
ASAR PP **PP 18 18 28.6 +1.3**
comp=Z,3.2nm,1.1s,baz=186,slow=7.1,SNR=7.6
ASAR PKKP **PKKPdf 18 30 37.2 -1.4**
comp=Z,0.4nm,0.8s,baz=360,slow=2.6,SNR=6.1
DZM Mont Dzumac 101.50 197 *e*LR LR 18 47 39.1
comp=Z,542nm,26.1s
WRA Warramunga Arr 104.13 166 Pdiff **Pdif 18 14 38.2 -0.3**
comp=Z,0.3nm,0.7s,baz=187,slow=4.0,SNR=2.3
WRA PP **PKiKP 18 18 57.2 +1.7**
comp=Z,1.2nm,1.0s,baz=188,slow=6.3,SNR=3.6
WRA PKKPbc **PKKPbc 18 30 24.1 -0.3**
comp=Z,0.5nm,0.9s,baz=352,slow=3.0,SNR=2.9
TXAR Lajitas Array 104.32 301 PP **PP 18 18 58.9 +1.0**
comp=Z,0.2nm,0.8s,baz=175,slow=4.5,SNR=2.1
CLL Collm 112.42 28 *e*PS PS 18 29 34.0 +4.5
CLL *e*PPS PPS 18 30 48.0
CLL *e*SS SS 18 35 54.0 +17
CLL Lm MLR 19 00 00.0
comp=Z,100nm,21.8s
IRM Iron Mountain 113.98 296 P **PKiKP 18 19 15.2 +1.8**
baz=142
GSC Goldstone, Bar 115.73 295 P **PKiKP 18 19 18.7 +1.9**
baz=141
EDW2 Edwards Air Fo 116.03 294 P **PKiKP 18 19 19.0 +1.7**
baz=141
FURC Furnace Creek, 116.66 296 P **PKiKP 18 19 20.5 +2.1**
baz=140
MPMC Manual Prospec 116.67 295 P **PKiKP 18 19 20.5 +1.8**
baz=140
TPNV Topopah Spring 116.71 297 PKPdf **PKiKP 18 19 19.6 +0.8**
TPNV Topopah Spring 116.71 297 PKiKP **PKiKP 18 19 19.6 +0.8**
TPNV Topopah Spring 116.71 297 P **PKiKP 18 19 20.4 +1.7**
baz=140
KIV Kislovodsk 116.97 51 *i* PKiKP **PKiKP 18 19 19.3 +0.4**
KIV pmax pmax
comp=Z,4.0nm,1.0s
PKM Mcpherson Peak 116.99 293 P **PKiKP 18 19 21.1 +1.7**
baz=140
AKASG Malin Array Be 117.00 38 PKP **PKPdf 18 19 17.9 -0.7**
comp=Z,0.2nm,0.4s,baz=236,slow=0.2,SNR=1.8
CWC Cottonwood Cre 117.27 295 P **PKiKP 18 19 21.8 +1.9**
baz=140
R11A Troy Canyon, C 117.45 298 P **PKiKP 18 19 21.6 +1.4**
baz=140
DUG Dugway, Tooele 117.49 301 P **PKiKP 18 19 21.2 +1.1**
baz=140
PDAR Pinedale Array 117.91 305 PKP **PKiKP 18 19 21.1 +0.1**
comp=Z,0.2nm,0.3s,baz=104,slow=3.8,SNR=2.8
NVAR Mina Array Bea 118.89 296 PKP **PKiKP 18 19 23.7 +0.7**
comp=Z,0.6nm,0.6s,baz=132,slow=2.2,SNR=6.6
MOOW Moose Ponds 119.22 305 PKPdf **PKPdf 18 19 23.0 -0.4**
MNK Minsk 119.69 35 *i* PKiKP **PKPdf 18 19 23.6 0.0**
MNK *i* 18 20 47.4
MNK *i* PPP PPP 18 23 20.3
MNK *i* 18 26 37.0
MNK *i* PS **PS 18 30 36.5 +0.9**
MNK *i* SS SS 18 37 11.4 -0.2
MNK *i* SSS SSS 18 41 35.0
MNK MLR MLR
comp=Z,77nm,18.0s
MNK MLR MLR
comp=E,36nm,16.0s
MNK Minsk 119.69 35 *i* PKP **PKPdf 18 19 23.6 0.0**
comp=E,1.0nm,9.2s
MNK *i* PKP **PKPdf 18 19 23.6 0.0**
MNK *i* PKP **PKPdf 18 19 23.6 0.0**
comp=Z,27nm,9.2s,baz=214
MNK *i* PP **PP 18 20 47.5 -0.1**
MNK *i* PPP PPP 18 23 20.4
MNK *i* SKS **SKSdf 18 26 37.0 +2.0**
MNK *i* PS **PS 18 30 36.5 +0.9**
MNK *i* SS **SS 18 37 11.4 -0.2**
MNK *i* SSS SSS 18 41 35.0
MNK *i* LQ LQ 18 57 43.0
MNK *i* LR LR 19 04 16.2
MNK *i* LRM MLR 19 07 49.0
comp=Z,77nm,17.9s
MNK *i* LRM MLR 19 09 20.9
comp=E,36nm,15.8s
NOA NORSAR Array B 120.73 23 PKP **PKPdf 18 19 24.9 -0.6**
comp=E,0.5nm,0.8s,baz=206,slow=2.0,SNR=3.5
HLID Hailey 120.82 303 P **PKiKP 18 19 27.9 +1.3**
baz=139
MOD Modoc Plateau 122.50 298 PKPdf **PKiKP 18 19 30.7 +0.8**
MSO Missoula 123.03 306 **PKPdf 18 19 30.4 0.0**
MSO Missoula 123.03 306 P **PKiKP 18 19 32.0 +1.3**
baz=138
OBN Obninsk 123.20 40 *e*PKiKP **PKiKP 18 19 30.7 +0.2**
OBN *e*PPP PPP 18 23 49.6
OBN pmax pmax
comp=Z,7.0nm,1.3s
K05A Summer Lake 123.40 298 PKPdf **PKPdf 18 19 31.0 -0.4**
L04D Klamath Falls 123.75 297 P **PKiKP 18 19 33.6 +1.3**
baz=137
J05D Fort Rock, OR 123.98 298 P **PKiKP 18 19 34.3 +1.5**
baz=136
G08A Pilot Rock 124.30 301 PKPdf **PKPdf 18 19 32.0 -1.0**
L02F Cave Junction 124.33 296 P **PKiKP 18 19 34.8 +1.5**
baz=136
J04D Umpqua Nationa 124.39 298 P **PKiKP 18 19 35.2 +1.5**
baz=136
I05D Terrebonne, OR 124.79 299 P **PKiKP 18 19 35.3 +1.1**
baz=136
K02D Willamette Mer 124.79 296 P **PKiKP 18 19 35.4 +1.1**

baz=136
FINES **FINESS Array B** 124.82 30 PKP PKPdf 18 19 32.3 -0.9
comp=Z,3.8nm,0.8s,baz=189,slow=2.2,SNR=21
I04A **Tendick Farm,** 124.94 298 P PKiKP 18 19 35.6 +1.2
baz=136
J01E **Myrtle Point** 125.26 296 P PKiKP 18 19 36.7 +1.6
baz=136
H04D **Lebanon** 125.63 298 P PKiKP 18 19 37.1 +1.3
baz=135
G03D **McMinnville, O** 126.38 299 P PKiKP 18 19 38.8 +1.6
baz=135
GAR **Garm** 127.18 73 PKPdf PKPdf 18 19 38.5 -0.2
CMAR **Chiang Mai Arr** 127.58 114 PKP PKPdf 18 19 39.4 -0.5
comp=Z,5.1nm,1.0s,baz=237,slow=3.7,SNR=21
CMAR **Chiang Mai Arr** 127.58 114 PKPdf PKPdf 18 19 38.8 -1.1
CMAR **Chiang Mai Arr** 127.58 114 PKIKP PKPdf 18 19 38.8 -1.1
CHTO **Chiang Mai** 127.87 114 PKPdf PKPdf 18 19 39.7 -0.8
CHTO **Chiang Mai** 127.87 114 PKIKP PKPdf 18 19 39.7 -0.8
KLMR **Klimovskoe** 128.55 36 *e*PKIKP PKPdf 18 19 38.7 -1.6
KLMR pmax pmax
comp=Z,10.0nm,1.2s
KLMR **Klimovskoe** 128.55 36 *e*PKPdf PKPdf 18 19 38.8 -1.6
KLMR AMP 18 19 40.5
comp=Z,10.0nm,1.2s
ABKAR **Akbulak array** 128.91 57 PKPdf PKPdf 18 19 40.3 -1.2
ABKAR **Akbulak array** 128.91 57 PKPdf PKPdf 18 19 40.6 -0.8
MND **Mandalay** 128.98 109 PKPdf PKPdf 18 19 41.4 -1.1
KK31 **Karatay Array** 130.14 70 PKPdf PKPdf 18 19 41.9 -2.2
KK31 **Karatay Array** 130.14 70 PKIKP PKPdf 18 19 41.9 -2.2
KKAR **Karatay Array** 130.14 70 PKPdf PKPdf 18 19 41.8 -2.3
KKAR **Karatay Array** 130.14 70 PKIKP PKPdf 18 19 41.8 -2.3
KSH **Kashi** 130.68 77 PKP PKPdf 18 19 45.0 -0.3
ARCES **ARCESS Array B** 131.10 23 PKP PKPdf 18 19 44.8 -0.3
comp=Z,4.6nm,1.0s,baz=191,slow=1.9,SNR=13
PRGR **Permogore** 131.21 38 *e*PKIKP PKPdf 18 19 42.9 -2.5
PRGR pmax pmax
comp=Z,24nm,1.5s
AAK **Ala-Archa** 131.99 73 PKPdf PKPdf 18 19 47.4 -0.3
AAK **Ala-Archa** 131.99 73 ∥ *i* PKIKP PKPdf 18 19 48.1 +0.3
LVZ **Lovozero** 132.13 28 *de*PKIKP PKPdf 18 19 46.8 -0.3
ARU **Arti** 132.95 49 PKPdf PKPdf 18 19 48.3 -0.6
ARU **Arti** 132.95 49 *i* PKIKP PKiKP 18 19 49.7 -0.4
ARU 18 22 14.9
ARU SS SS 18 39 50.8 -6.7
YKA **Yellowknife Ar** 134.00 320 PKP PKiKP 18 19 51.4 -0.6
comp=Z,1.6nm,0.6s,baz=125,slow=2.4,SNR=6.3
PZH **PanZhiHua** 135.62 111 PKP PKiKP 18 19 57.1 +0.5
BRVK **Borovoye** 136.35 59 PKPdf PKPdf 18 19 52.6 -2.7
BRVK **Borovoye** 136.35 59 *de*PKIKP PKPdf 18 19 55.5 +0.1
U33K **Whale Pass** 138.10 305 P PKiKP 18 20 00.1 -0.4
baz=123
MK31 **Makanchi Array** 138.91 73 *de*PKIKP PKiKP 18 20 01.7 -0.9
MKAR **Makanchi Array** 138.91 73 PKhKP PKPpre 18 19 51.1
comp=Z,0.3nm,0.5s,baz=209,slow=2.2,SNR=5.8
MKAR PKP PKPdf 18 20 01.0 +0.6
comp=Z,0.9nm,0.8s,baz=242,slow=2.6,SNR=6.7
MKAR **Makanchi Array** 138.91 73 PKPpre 18 19 48.7
MKAR **Makanchi Array** 138.91 73 PKHKP PKPpre 18 19 48.7
GOMU **GeErMu** 139.08 95 PKP PKiKP 18 20 02.9 -0.8
GOMU sPKP 18 20 17.1
GOMU AMB AMB
comp=Z,64nm,4.8s
KURK **Kurchatov** 139.24 66 ⇑ *e*PKIKP PKiKP 18 20 02.0 -1.0
S32K **Killisnoo** 139.50 306 P PKiKP 18 20 02.8 -0.5
baz=121
SIT **Sitka** 139.64 305 P PKiKP 18 20 03.5 -0.1
baz=121
WMQ **Urumqi** 140.10 80 *e*PKP PKiKP 18 20 05.8 +0.7
CD2 **Chengdu** 140.17 109 PKP PKPdf 18 20 04.5 +1.3
MMPY **Sheldon Lake,** 140.56 314 P PKiKP 18 20 04.8 -0.7
baz=118
M30M **Minto, Yukon** 142.85 312 PKPpre 18 20 01.7
DGZ **Jazzator, Alta** 143.39 73 ∥ *e*PKIKP PKPbc 18 20 06.1 +0.4
INK **Inuvik** 143.69 322 PKPdf PKPbc 18 20 05.8 0.0
INK **Inuvik** 143.69 322 PKIKP PKPbc 18 20 05.8 0.0
LZH **Lanzhou** 144.10 103 ∥ PKP PKPbc 18 20 09.0 +0.7
LZH pPKP PKiKP 18 20 19.8 +6.0
GTA **Gaotai** 144.16 96 ⇑ PKP PKPab 18 20 07.9 0.0
GTA pPKP PKiKP 18 20 20.3 +6.6
GTA sPKP 18 20 25.3
ZAA0 **Zalesovo Array** 144.17 65 PKPdf PKPab 18 20 06.9 -0.3
ZALV **Zalesovo Beam** 144.17 65 PKP PKPab 18 20 07.3 +0.1
comp=Z,4.5nm,0.5s,baz=236,slow=3.8,SNR=23
ZALV **Zalesovo Beam** 144.17 65 PKPdf PKPab 18 20 07.0 -0.2
ZALV **Zalesovo Beam** 144.17 65 PKIKP PKPab 18 20 07.0 -0.2
XAN **Xi'an** 145.36 111 ⇑ PKPbc PKPbc 18 20 11.8 -0.4
K27K **Chicken** 145.60 313 P PKPab 18 20 13.3 +1.0
baz=109
BMRM **Bremner River** 145.66 307 P PKPab 18 20 13.5 +0.8
baz=111,SNR=14
L26K **Log Cabin Wild** 145.81 311 P PKPab 18 20 13.7 +0.5
baz=109
N25K **Chitina, Valde** 145.89 308 PKPdf PKPbc 18 20 12.8 -0.3
N25K **Chitina, Valde** 145.89 308 P PKPab 18 20 13.6 +0.1
baz=110
I27K **Kandik River** 145.89 316 P PKPab 18 20 13.2 -0.2
baz=107,SNR=28
H27K **Steamboat Moun** 146.03 317 P PKPab 18 20 13.8 -0.1
baz=106,SNR=19
EYAK **Cordova Ski Ar** 146.04 306 PKPdf PKPbc 18 20 13.2 -0.2
EYAK **Cordova Ski Ar** 146.04 306 P PKPab 18 20 14.0 0.0
baz=111,SNR=6.9
G27K **Doyon Strip** 146.23 318 P PKPab 18 20 14.5 -0.2
baz=105,SNR=9.0
DIV **Divide** 146.25 307 PKPdf PKPbc 18 20 13.9 -0.3
J26L **Joseph Creek** 146.36 314 P PKPab 18 20 15.0 -0.3
baz=107,SNR=17
SCRK **Sand Creek** 146.38 313 PKPdf PKPdf 18 20 13.2 0.0
SCRK **Sand Creek** 146.38 313 P PKPbc 18 20 14.7 +0.2
baz=107,SNR=9.2
I26K **Coal Creek Min** 146.42 315 P PKPab 18 20 14.9 -0.5
baz=106,SNR=18
KLU **Klutina** 146.44 308 P PKPab 18 20 15.5 -0.2
baz=110,SNR=12
E27K **Coleen River** 146.54 320 P PKPab 18 20 16.4 +0.6
baz=103
P23K **Montague Islan** 146.61 305 P PKPab 18 20 15.9 -0.4
baz=111
RIDG **Independent Ri** 146.68 312 P PKPab 18 20 16.2 -0.3
baz=107,SNR=23
PAX **Paxson** 146.72 311 PKPdf PKPdf 18 20 14.2 +0.5
PAX **Paxson** 146.72 311 PKP2 PKPdf 18 20 14.2 +0.5
PAX **Paxson** 146.72 311 P PKPbc 18 20 15.6 +0.1
baz=108,SNR=32
M24K **Tolsona, Glenn** 146.76 309 PKPdf PKPbc 18 20 15.3 -0.2
M24K **Tolsona, Glenn** 146.76 309 P PKPab 18 20 16.2 -0.6
baz=109,SNR=10
GLI **Glacier Island** 146.77 306 P PKPab 18 20 16.2 -0.6
baz=110,SNR=6.9
G26K **Porcupine Rive** 147.08 318 P PKPab 18 20 17.4 -0.5
baz=103,SNR=8.5
K24K **Donnelly Dome** 147.09 312 P PKPbc 18 20 17.0 +0.6
baz=106,SNR=6.1
J25K **Salcha River,** 147.14 313 P PKPbc 18 20 16.9 +0.3
baz=106,SNR=14
SCM **Sheep Creek Mo** 147.19 308 P PKPbc 18 20 17.3 +0.5
baz=108,SNR=7.2
PWL **Port Wells** 147.34 306 P PKPbc 18 20 17.6 +0.4
baz=109,SNR=7.6
M23K **Glacier View** 147.36 308 P PKPbc 18 20 17.8 +0.6
baz=108,SNR=9.0
F26K **Sheenjek River** 147.38 319 P PKPbc 18 20 17.7 +0.6
baz=102,SNR=13
PRP **Porcupine Dome** 147.44 315 P PKPbc 18 20 17.7 +0.2
baz=104,SNR=13
BMAR **Burnt Mountain** 147.49 319 PKPbc 18 20 18.0 +0.5
FYU **Fort Yukon** 147.56 317 PKPbc 18 20 17.2 -0.4
C27K **Jago River** 147.57 323 P PKPbc 18 20 18.2 +0.6
baz=99,SNR=7.2
KNK **Knik Glacier** 147.57 307 P PKPbc 18 20 17.8 0.0
baz=108
DHY **Denali Highway** 147.58 310 PKPdf PKPbc 18 20 17.2 -0.8
DHY **Denali Highway** 147.58 310 P PKPbc 18 20 18.4 +0.4
baz=106,SNR=16
WAT6 **Susitna Watana** 147.60 309 P PKPbc 18 20 18.3 +0.3
baz=107,SNR=11
SEW **Seward** 147.61 304 P PKPbc 18 20 18.6 +0.8
baz=110,SNR=8.2
LYN **LuoYang** 147.62 115 ∥ *i* PKPbc PKPbc 18 20 17.6 -1.1
SML **Sawmill** 147.63 308 P PKPbc 18 20 18.2 +0.2
baz=108,SNR=11
H25K **Birch Creek** 147.72 316 P PKiKP 18 20 19.2 -0.8
baz=103
HDA **Harding Lake** 147.75 313 P PKPbc 18 20 19.0 +0.8
baz=105
ILAR **Eielson Array** 147.81 313 PKPbc PKPbc 18 20 18.5 +0.2
comp=Z,10nm,0.7s,baz=128,slow=1.7,SNR=25
F25K **Christian Rive** 147.92 319 P PKPbc 18 20 19.1 +0.4
baz=101,SNR=7.1
PMR **Palmer** 147.93 307 P PKPbc 18 20 18.9 +0.2
baz=108
E25K **Arctic Village** 147.99 320 P PKPbc 18 20 19.3 +0.5
baz=100,SNR=14
C26K **Camden Bay** 148.02 323 P PKPbc 18 20 18.7 0.0
baz=98
WAT1 **Susitna Watana** 148.03 310 P PKPbc 18 20 19.1 +0.1
baz=106
RC01 **Rabbit Creek A** 148.06 306 PKPdf PKPbc 18 20 17.7 -1.4
RC01 **Rabbit Creek A** 148.06 306 P PKPbc 18 20 19.0 -0.1
baz=108
BRSE **Bradley Lake S** 148.11 303 P PKPbc 18 20 18.8 -0.5
baz=109
POKR **Poker Flat Res** 148.12 314 P PKPbc 18 20 18.9 -0.2
baz=103
COLA **College** 148.24 313 *c* PKP2 PKPbc 18 20 18.7 -0.7
COLA **College** 148.24 313 P PKPbc 18 20 19.0 -0.4
baz=103
TCOL **CIGO, UAF Yank** 148.24 313 P PKPbc 18 20 19.5 0.0
baz=103
KDAK **Kodiak Island** 148.33 299 P PKPbc 18 20 19.8 -0.1
baz=111
MDM **Murphy Dome** 148.42 314 PKPdf PKPbc 18 20 18.7 -1.3
MCK **McKinley** 148.43 311 PKPdf PKPbc 18 20 18.6 -1.4
MCK **McKinley** 148.43 311 PKP2 PKPbc 18 20 18.6 -1.4
MCK **McKinley** 148.43 311 P PKPbc 18 20 20.2 +0.2
baz=104,SNR=11
M22K **Willow** 148.43 307 P PKPbc 18 20 19.9 -0.1
baz=107
D25K **Kavik River** 148.46 322 P PKPbc 18 20 19.8 -0.1
baz=97,SNR=10
H24K **Noodor Dome** 148.46 315 PKPdf PKPdf 18 20 18.2 +1.7
H24K **Noodor Dome** 148.46 315 P PKPbc 18 20 20.4 +0.4
baz=102,SNR=11
G24K **Hadweenzic Riv** 148.46 317 P PKiKP 18 20 20.9 -0.7
baz=101,SNR=14
OHAK **Old Harbor** 148.48 298 PKPdf PKPbc 18 20 18.8 -1.5
OHAK **Old Harbor** 148.48 298 P PKPbc 18 20 20.1 -0.1
baz=112
Q20K **Shuyak Island** 148.53 301 P PKPbc 18 20 20.3 0.0
baz=110
CAPN **Captain Cook N** 148.62 305 P PKPbc 18 20 21.1 +0.6
baz=108
SUA **Susitna One** 148.64 306 PKPdf PKPbc 18 20 18.9 -1.8
CUT **Chulitna** 148.68 308 P PKPbc 18 20 20.9 +0.3
baz=106
NEA2 **Nenana** 148.69 313 P PKPbc 18 20 20.4 -0.2
baz=103,SNR=14
F24K **Squaw Lake** 148.76 318 P PKiKP 18 20 21.7 -0.5
baz=99,SNR=7.5
NJ2 **Nanjing** 148.77 126 *e*PKPbc PKPdf 18 20 19.3 +1.3
TRF **Thorofare Moun** 148.95 310 PKPdf PKPdf 18 20 19.1 +1.6
TRF **Thorofare Moun** 148.95 310 P PKPbc 18 20 21.6 +0.1
baz=104,SNR=6.1
E24K **Your Creek** 149.06 319 P PKPbc 18 20 22.0 +0.5
baz=98,SNR=16
H23K **Yukon River** 149.13 315 P PKPbc 18 20 22.1 +0.4
baz=100
SKT **Skwentna** 149.14 307 PKPbc 18 20 20.6 -1.3
SKT **Skwentna** 149.14 307 P PKPbc 18 20 22.0 +0.1
baz=105,SNR=15
N20K **Mount Spurr** 149.24 306 P PKPbc 18 20 21.8 -0.4
baz=106
SPCR **Spurr Chakacha** 149.24 306 P PKPbc 18 20 21.8 -0.4
baz=96
D24K **Happy Valley** 149.31 322 P PKPbc 18 20 22.1 +0.1
baz=96
C24K **Franklin Bluff** 149.31 323 P PKPbc 18 20 22.1 +0.1
baz=95
BPAW **Bear Paw Mtn.** 149.40 311 PKPdf PKPdf 18 20 17.5 -0.5
BPAW PKPbc 18 20 22.4 -0.1
BPAW **Bear Paw Mtn.** 149.40 311 P PKPbc 18 20 22.3 -0.1
baz=102,SNR=31
G23K **Bananza Creek** 149.46 317 P PKiKP 18 20 23.1 -0.5
baz=98,SNR=22
MLY **Manley** 149.47 313 PKPbc 18 20 22.5 -0.1
MLY **Manley** 149.47 313 P PKiKP 18 20 23.5 -0.2
baz=101,SNR=12
E23K **Chandalar** 149.48 319 P PKPbc 18 20 22.8 +0.2
baz=97,SNR=7.3
TOLK **Toolik Lake Re** 149.53 320 PKPbc 18 20 22.6 -0.1
TOLK **Toolik Lake Re** 149.53 320 P PKPbc 18 20 23.1 +0.4
baz=96,SNR=20
COLD **Coldfoot** 149.60 318 PKPbc 18 20 23.3 +0.5
COLD **Coldfoot** 149.60 318 P PKPbc 18 20 23.1 +0.3
baz=98,SNR=11
M20K **Styx River** 149.85 307 P PKPbc 18 20 23.5 -0.2
baz=104,SNR=9.4
NRIK **Noril'sk** 149.86 38 PKP PKPdf 18 20 18.0 -0.6
comp=Z,0.9nm,0.4s,baz=101,slow=2.6,SNR=1.5
NRIK PKPbc PKPbc 18 20 23.5 +0.1
comp=Z,6.1nm,1.0s,baz=153,slow=1.9,SNR=6.7
NRIK **Noril'sk** 149.86 38 PKPbc 18 20 23.1 -0.2
NRIK **Noril'sk** 149.86 38 *c* PKP2 PKPbc 18 20 23.2 -0.2
H22K **Ishtalina Cre** 149.88 315 P PKPbc 18 20 23.9 +0.3
baz=99,SNR=14
D23K **Nanushuk River** 149.96 321 P PKiKP 18 20 24.6 0.0
baz=94
C23K **Itkillik River** 149.98 323 P PKiKP 18 20 24.3 -0.3
baz=93,SNR=11
I21K **Tanana** 150.02 313 P PKPbc 18 20 23.9 0.0
baz=100
G22K **Bettles** 150.07 317 P PKPbc 18 20 24.3 +0.3
baz=97
P18K **Big Mountain,** 150.17 301 P PKPbc 18 20 24.5 0.0
baz=107
R17K **Ugashik Creek** 150.20 298 P PKPbc 18 20 24.8 +0.2
baz=110
N19K **Bonanza Creek** 150.21 304 PKPdf PKPdf 18 20 20.4 +0.9
N19K PKPbc 18 20 23.8 -0.8
N19K **Bonanza Creek** 150.21 304 P PKPbc 18 20 24.1 -0.5
baz=105,SNR=8.8
O18K **Koktuh Hills** 150.29 302 P PKPbc 18 20 24.7 0.0
baz=106,SNR=6.4
L20K **Farewell, AK** 150.33 308 P PKPbc 18 20 24.8 0.0
baz=103
F22K **John River** 150.40 318 P PKPbc 18 20 25.1 +0.4
baz=95
M19K **Big River Lodg** 150.43 306 P PKPbc 18 20 24.6 -0.4
baz=104
H21K **Melozitna Rive** 150.43 314 P PKPbc 18 20 25.1 +0.2
baz=98,SNR=16
K20K **Telida** 150.59 309 PKPdf PKPdf 18 20 21.3 +1.4
K20K **Telida** 150.59 309 P PKPbc 18 20 25.3 0.0
baz=101,SNR=13
Q16K **King Salmon** 150.66 299 P PKPbc 18 20 25.5 -0.1
baz=108
L19K **White Mountain** 150.71 307 P PKPbc 18 20 25.8 +0.1
baz=103
P17K **Kvichak River** 150.71 301 P PKPbc 18 20 25.6 -0.1
baz=107,SNR=5.5
BTO **Baotou** 150.73 104 *e*PKPbc PKPbc 18 20 26.0 -0.5
J20K **Nowinta River** 150.77 311 PKPdf PKPdf 18 20 21.8 +1.7
J20K **Nowinta River** 150.77 311 P PKPbc 18 20 25.9 +0.2
baz=100,SNR=5.7
CHGN **Chignik** 150.79 294 P PKiKP 18 20 26.5 -0.1
baz=111
G21K **Allakaket** 150.82 316 P PKiKP 18 20 26.6 +0.2
baz=96,SNR=9.0
N18K **Kilae Creek** 150.84 304 P PKPbc 18 20 25.9 -0.1
baz=105
IMAR **Indian Mountai** 150.86 315 PKPdf PKPdf 18 20 21.4 +1.2
CHNA **Chernabura Isl** 150.87 291 P PKPbc 18 20 26.0 -0.2
baz=103
F21K **Alatna River** 150.87 317 P PKiKP 18 20 26.6 0.0
baz=95,SNR=12
HNS **HongShan** 150.97 114 PKPbc PKPbc 18 20 27.3 +0.3
O17K **Koliganek Bris** 151.19 302 P PKiKP 18 20 27.1 -0.2
baz=105,SNR=6.3
SDPT **Sand Point** 151.54 292 P PKPbc 18 20 27.4 -0.3
baz=111
O16K **Kokwok River B** 151.63 301 P PKPbc 18 20 27.9 +0.1
baz=105
HHC **Hu-ho-hao-te** 151.75 105 *e*PKPbc PKPdf 18 20 24.6 +2.1
MOY **Mondy** 151.86 77 *e*PKIKP PKiKP 18 20 29.2 0.0
MOY pmax pmax
comp=Z,42nm,1.7s
ZAK **Zakamensk** 152.56 81 *e*PKIKP PKPbc 18 20 27.1 -3.3
ZAK pmax pmax
comp=Z,14nm,1.6s
SONM **Songino Array** 153.07 88 PKP PKPdf 18 20 24.0 -0.3
comp=Z,0.8nm,0.8s,baz=232,slow=1.7,SNR=6.4
SONM PKPbc PKPbc 18 20 31.2 -0.4
comp=Z,3.7nm,0.6s,baz=218,slow=3.2,SNR=23
SONM **Songino Array** 153.07 88 PKPdf 18 20 23.0 -1.3
SONM PKPbc 18 20 31.0 -0.7
SONM **Songino Array** 153.07 88 PKIKP PKPdf 18 20 23.0 -1.3
SONM 18 20 31.0
ULN **Ulaanbaatar** 153.46 89 PKPdf PKPdf 18 20 23.4 -1.5
ULN **Ulaanbaatar** 153.46 89 ∥ *e*PKIKP PKPdf 18 20 24.6 -0.3
KSRS **Korea Array** 157.34 133 PKPab PKPab 18 21 01.1 -0.4
comp=Z,2.5nm,1.0s,baz=211,slow=6.6,SNR=4.8
BOD **Bodaibo** 160.87 68 *e*PKP2 PKPab 18 21 15.4 -1.0
BOD pmax pmax
comp=Z,11nm,1.9s
MDJ **Mudanjiang** 163.84 123 PKP PKPdf 18 20 37.3 +0.2
MDJ AMB AMB
comp=Z,420nm,4.4s
MDJ LR LR
comp=Z,110nm,5.2s
BILL **Bilibino** 164.76 334 *e*PKIKP PKPdf 18 20 38.4 +1.2
BILL pmax pmax
comp=Z,5.0nm,1.0s
KLR **Kul'dur** 168.06 113 ∥ *e*PKIKP PKPdf 18 20 40.2 -0.1

MAN 17 18:00:53.0, 9.77N×125.29E, h8km, mb4.5, ML3.4, MS3.2, 5C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	0.20	87	*i* P	Pg		Pg	18 00 59.6	+2.5
SCPH				*i* S	Sg		Sg	18 01 04.2	+4.4
MSLP	**Maasin**	0.56	310 ⇑	*e* P	Pg		Pg	18 01 04.3	+0.5
MSLP				*e* S	Sn		Sn	18 01 15.0	-1.8
GHBP	**Garcia Hernand**	0.97	262 ⇑	*e* P	Pg		Pg	18 01 11.0	-0.7
GHBP				*e* S	Sb		Sb	18 01 25.5	+0.5
TBP	**Tagbilaran**	1.41	267 ∥	*i* P	Pn		Pn	18 01 19.1	0.0
TBP				*i* S	Sb		Sb	18 01 37.6	-0.2
LLP	**Lapu-Lapu**	1.41	293 ∥	*e* P	Pn		Pn	18 01 19.0	-0.1
LLP				*i* S	Sg		Sg	18 01 38.6	+0.1
CGP	**Cagayan de Oro**	1.44	204 ∥	*e* P	Pn		Pn	18 01 18.6	-0.8
CGP				*e* S	Sn		Sn	18 01 35.5	-3.0
LSIP	**Lazi, Siquijor**	1.76	249 ⇑	*e* P	Pn		Pn	18 01 23.6	-0.3
LSIP				*e* S	Sn		Sn	18 01 46.3	-0.1
BESP	**Borongan**	1.82	5 ∥	*e* P	Pn		Pn	18 01 24.8	+0.1
BESP				*e* S	Sn		Sn	18 01 47.7	-0.3
BUKP	**Musuan**	1.90	187 ⇑	*e* P	Pn		Pn	18 01 20.4	-5.4
BUKP				*e* S	Sb		Sb	18 01 52.2	+0.4
BIPH	**Bislig**	1.90	146 ⇑	*e* P	Pn		Pn	18 01 26.8	+1.0
BIPH				*e* S	Sg		Sg	18 01 53.2	-1.0
CNOP	**Candoni, Negro**	2.61	271 ∥	*i* P	Pn		Pn	18 01 36.4	+0.8
CNOP				*i* S	Sn		Sn	18 02 07.6	0.0
CNP	**Catarman**	2.79	347 ∥	*e* P	Pb		Pb	18 01 42.4	-0.8
CNP				*e* S	Sb		Sb	18 02 18.2	+0.7

IDC 17 18:41:34.2±1.7, 0.03S×128.59E, h0km, mb3.1/3, mbtmp3.1/4, Error ellipse: s-maj=43.0km s-min=26.0km az=45.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	2.80	107	P	Pn		Pn	18 42 20.4	0.0
	1.9nm,0.2s,baz=42,slow=12								
SIJI				S	Sn		Sn	18 42 54.2	-0.7
	0.2nm,0.3s,baz=260,slow=22,SNR=1.5								
WRA	**Warramunga Arr**	20.57	164	P	P		P	18 46 14.7	-0.1
	0.4nm,0.7s,baz=343,slow=11,SNR=2.9								
	0.4nm,0.7s								
ASAR	**Alice Springs**	24.05	168	P	P		P	18 46 51.6	+0.3
	0.7nm,0.8s,baz=349,slow=10,SNR=8.2								
	0.7nm,0.8s								
MKAR	**Makanchi Array**	61.69	326	P	P		P	18 51 54.1	-0.1
	0.1nm,0.4s,baz=116,slow=8.6,SNR=1.8								
	0.1nm,0.4s								

IDC **17** *18:42:32.0±0.7, 18.15N×147.44E, h0km, mb3.6/12, mbtmp3.7/13, ML4.4/1, Error ellipse: s-maj=26.7km s-min=16.5km az=98.0*

NEIC **17** *18:42:34.1±2.7, 18.08N±0.07×147.7E±0.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=20.4km s-min=12.1km az=99.0*

ISC 17 18:42:38.8±0.6, 18.07N±0.06×147.5E±0.1, h53km, n41, σ1§36/39, mb4.1/20, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	5.13	210	P	Pn		**Pn**	**18 43 52.7**	**-0.4**
	13nm,0.3s,baz=92,slow=1.9,SNR=13								
GUMO				S	Sn		**Sn**	**18 44 51.7**	**+0.6**
	15nm,0.3s,baz=351,slow=24,SNR=2.4								
	28nm,0.3s								
GUMO	**Guam**	5.13	210	Pn			**Pn**	**18 43 53.0**	**-0.2**
GUMO				Sn			**Sn**	**18 44 50.2**	**-0.9**
JCJ	**Chichijima**	10.24	332	Pn			**Pn**	**18 45 02.2**	**-0.8**
PATS	**Pohnpei**	15.35	135	Pn			**Pn**	**18 46 08.1**	**-4.0**
H11S3	**WAKE ISLAND Hy**	18.22	86	T	T		T	19 05 39.7	
	baz=264,slow=78,SNR=20								
H11S1	**WAKE ISLAND Hy**	18.23	86	T	T		T	19 05 42.6	
	baz=264,slow=78,SNR=12								
H11S2	**WAKE ISLAND Hy**	18.23	86	T	T		T	19 05 48.9	
	baz=264,slow=78,SNR=14								
H11N1	**WAKE ISLAND Hy**	18.41	82	T	T		T	19 05 49.0	
	baz=267,slow=74,SNR=6.3								
H11N2	**WAKE ISLAND Hy**	18.42	82	T	T		T	19 05 55.8	
	baz=267,slow=74,SNR=6.5								
H11N3	**WAKE ISLAND Hy**	18.43	82	T	T		T	19 05 57.6	
	baz=267,slow=74,SNR=5.7								
INU	**Inuyama**	19.57	334	P	**P**		**P**	**18 47 01.5**	**-0.9**
MJAR	**Matsushiro Arr**	20.15	338	P	**P**		**P**	**18 47 07.2**	**-1.5**
	0.6nm,0.5s,baz=280,slow=9.0,SNR=6.7								
	0.6nm,0.5s								
MAJO	**Matsushiro**	20.15	338	P	**P**		**P**	**18 47 08.6**	**0.0**
JHS	**Saijyo**	21.17	326	P	**P**		**P**	**18 47 21.4**	**+1.7**
JHS				IAmb	IAmb		IAmb	18 47 56.9	
	comp=Z,82nm,1.5s								
KSRS	**Korea Array**	25.85	322	P	**P**		**P**	**18 48 04.7**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=145,slow=8.4,SNR=2.8								
	comp=Z,1.1nm,0.8s								
KNRA	**Kununurra**	38.29	210	P	**P**		**P**	**18 49 56.1**	**+1.8**
KNRA				IAmb	IAmb		IAmb	18 50 37.1	
	comp=Z,11nm,1.1s								
WB0	**Warramunga Arr**	39.75	200	P	**P**		**P**	**18 50 07.1**	**+0.5**
WB0				IAmb	IAmb		IAmb	18 50 11.4	
	comp=Z,9.2nm,1.4s								
WR0	**Warramunga Arr**	39.88	199	P	**P**		**P**	**18 50 07.8**	**+0.2**
WR0				IAmb	IAmb		IAmb	18 50 50.6	
	comp=Z,12nm,1.4s								
WB2	**Warramunga Arr**	39.93	199	P	**P**		**P**	**18 50 05.9**	**-2.1**
WB2				IAmb	IAmb		IAmb	18 50 20.3	
	comp=Z,8.6nm,1.4s								
WRA	**Warramunga Arr**	39.93	200	P	**P**		**P**	**18 50 08.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=24,slow=8.8,SNR=7.5								
WRA				PcP	**PcP**		**PcP**	**18 52 13.8**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=22,slow=3.6,SNR=1.5								
	comp=Z,0.3nm,0.5s								
WRA	**Warramunga Arr**	39.93	200	P	**P**		**P**	**18 50 06.9**	**-1.1**
FITZ	**Fitzroy Crossi**	41.89	212	P	**P**		**P**	**18 50 24.7**	**+0.6**
FITZ				IAmb	IAmb		IAmb	18 50 50.6	
	comp=Z,6.7nm,1.2s								
AS31	**Alice Springs**	43.56	198	P	**P**		**P**	**18 50 38.6**	**+0.9**
ASAR	**Alice Springs**	43.56	198	P	**P**		**P**	**18 50 38.1**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=25,slow=7.0,SNR=7.0								
ASAR				PcP	**PcP**		**PcP**	**18 52 24.8**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=24,slow=2.5,SNR=3.1								
	comp=Z,0.4nm,0.7s								
ASAR	**Alice Springs**	43.56	198	P	**P**		**P**	**18 50 40.1**	**+2.4**
SONM	**Songino Array**	44.71	321	P	**P**		**P**	**18 50 44.1**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=134,slow=8.3,SNR=1.8								
	comp=Z,0.2nm,0.3s								
ARMA	**Armidale**	48.37	175	P	**P**		**P**	**18 51 18.0**	**+2.5**
ARMA				IAmb	IAmb		IAmb	18 51 46.2	
	comp=Z,20nm,1.5s								
GSI	**Gunungsitoli**	51.75	257	P	**P**		**P**	**18 51 41.8**	**+0.4**
BBOO	**Buckleboo**	51.77	192	P	**P**		**P**	**18 51 40.6**	**-0.5**
GIRL	**Giralia**	51.93	220	P	**P**		**P**	**18 51 41.5**	**-1.0**
ZALV	**Zalesovo Beam**	59.56	322	P	**P**		**P**	**18 52 36.7**	**-0.1**
	comp=Z,2.1nm,1.1s,baz=90,slow=8.6,SNR=1.4								
	comp=Z,2.1nm,1.1s								
K20K	**Telida**	60.01	26	P	**P**		**P**	**18 52 39.7**	**-0.1**
K20K				IAmb	IAmb		IAmb	18 52 45.1	
	comp=Z,10nm,1.5s								
MKAR	**Makanchi Array**	60.13	314	P	**P**		**P**	**18 52 41.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=84,slow=9.0,SNR=4.9								
	comp=Z,0.4nm,0.6s								
MKAR	**Makanchi Array**	60.13	314	P	**P**		**P**	**18 52 42.2**	**+1.3**

MAKZ	**Makanchi**	**60.35**	**314**	P	**P**	**18 52 43.6**	**+1.2**
MAKZ				IAmb	IAmb	18 53 05.8	
	comp=Z,1.4nm,1.1s						
ILAR	**Eielson Array**	**63.45**	**26**	P	**P**	**18 53 02.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=248,slow=4.8,SNR=2.5						
	comp=Z,0.3nm,0.6s						
NEW	**Newport**	**80.21**	**42**	P	**P**	**18 54 45.3**	**+1.5**
	comp=Z,1.8nm,0.9s,baz=121,slow=22,SNR=2.3						
	comp=Z,1.8nm,0.9s						
NVAR	**Mina Array Bea**	**82.16**	**52**	P	**P**	**18 54 55.9**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=263,slow=6.2,SNR=8.8						
	comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**87.03**	**46**	P	**P**	**18 55 20.3**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=298,slow=4.0,SNR=2.1						
	comp=Z,0.2nm,0.6s						
FINES	**FINESS Array B**	**88.17**	**336**	P	**P**	**18 55 24.9**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=117,slow=6.6,SNR=5.3						
	comp=Z,0.7nm,0.6s						
LPAZ	**La Paz**	**145.93**	**93**	PKPbc	**PKPdf**	**19 02 13.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=95,slow=9.7,SNR=2.1						

MAN 17 18:47:01.1, 9.79N×125.81E, h9km, mb4.0, ML2.8, MS2.5, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.31**	**268**	⇑*eP*	Pg	18 47 07.9	+0.6
SCPH				*eS*	Sb	18 47 13.2	-0.8
BUTP	**Butuan**	**0.84**	**193**	⇓*eP*	Pg	18 47 15.2	-2.0
BUTP				*eS*	Sb	18 47 30.3	+1.1
MSLP	**Maasin**	**0.99**	**290**	⇓*eP*	Pg	18 47 18.6	-1.5
MSLP				*eS*	Sb	18 47 34.4	+0.8
BIPH	**Bislig**	**1.69**	**161**	⇑*eP*	Pn	18 47 30.1	-0.7
BIPH				*eS*	Sb	18 47 53.9	+0.2
CGP	**Cagayan de Oro**	**1.72**	**220**	⇑*eP*	Pn	18 47 31.3	+0.1
CGP				*eS*	Sn	18 47 53.4	0.0
BESP	**Borongan**	**1.83**	**349**	⇑*eP*	Pn	18 47 25.8	-7.0
BESP				*eS*	Sn	18 47 55.5	-0.6

IDC 17 18:50:39.9±1.6, 3.17S×130.78E, h0km, mb3.4/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=70.7km s-min=21.7km az=89.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.34**	**12**	Pn	Pn	18 51 20.2	+0.6
	5.7nm,0.3s,baz=197,slow=14,SNR=40						
SIJI				Sn	Sn	18 51 48.3	-0.8
	5.5nm,0.3s,baz=268,slow=23,SNR=12						
	17nm,0.2s						
WRA	**Warramunga Arr**	**17.03**	**168**	P	Pn	18 54 40.3	+0.7
	0.2nm,0.3s,baz=348,slow=11,SNR=8.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**20.60**	**172**	P	P	18 55 20.2	-0.6
	1.8nm,0.3s,baz=350,slow=10,SNR=7.7						
	1.8nm,0.3s						
MKAR	**Makanchi Array**	**65.49**	**326**	P	P	19 01 25.1	+0.1
	0.1nm,0.5s,baz=111,slow=7.9,SNR=1.9						
	0.1nm,0.5s						

*CNRM **17** 19:24:56.8, 36.58N×7.46W, h47km, ml3.4*
*MDD **17** 19:24:57.9±0.3, 36.66N×7.45W, h37km±8km, mb_Lg3.7/35, Error ellipse: s-maj=3.4km s-min=1.7km az=42.0*
*LDG **17** 19:24:57.4±0.4, 36.71N×7.24W, h38km, Ml3.6/8, Error ellipse: s-maj=8.0km s-min=4.2km az=17.0*
*IGIL **17** 19:24:58.4, 36.68N×7.43W, h27km, ML3.5*
*INMG **17** 19:24:58.8±2.0, 36.69N×7.44W, h29km±5km, MD3.2, ML3.4, Error ellipse: s-maj=3.1km s-min=2.4km az=45.0*
*SFS **17** 19:24:58.0, 36.60N×7.40W, h39km, ML3.8, GOLFO DE CADIZ*

ISC 17 19:24:55.7±0.9, 36.69N±0.03×7.40W±0.02, h51km±13km, n150, σ1.88/256, 5C-21D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTAV	**Tavira**	**0.47**	**335**	⇓*i*Pg	**Pn**	**19 25 08.0**	**+1.3**
PTAV				*e*Sg	**Sn**	**19 25 15.0**	**+0.3**
PTAV				A	A	19 25 16.9	
	845nm,0.3s						
PFARO	**Faro**	**0.53**	**309**	*e*Pg	**Pn**	**19 25 08.7**	**+1.3**
PFARO				*e*Sg	**Sn**	**19 25 16.5**	**+0.7**
PFARO				A	A	19 25 17.1	
	3μm,0.8s						
PBDV	**Barranco-do-Ve**	**0.69**	**322**	⇓*e*P	**Pn**	**19 25 10.6**	**+1.2**
PBDV				*e*S	**Sn**	**19 25 19.7**	**+0.3**
PBDV				A	A	19 25 22.0	
	606nm,0.1s						
PVAQ	**Vaqueiros**	**0.75**	**341**	⇓*i*P	**Pn**	**19 25 11.9**	**+1.7**
PVAQ				*i* S	**Sn**	**19 25 21.6**	**+0.9**
PVAQ				A	A	19 25 22.6	
	1μm,0.2s						
PVAQ	**Vaqueiros**	**0.75**	**341**	P	**Pn**	**19 25 11.8**	**+1.7**
PVAQ				S	**Sn**	**19 25 23.7**	**+3.0**
PALBU	**Albufeira**	**0.79**	**301**	*e*P	**Pn**	**19 25 12.1**	**+1.5**
PALBU				*e*S	**Sn**	**19 25 22.5**	**+1.0**
PALBU				A	A	19 25 23.5	
	1μm,0.3s						
EGRO	**El Granado**	**0.84**	**356**	⇓P	**Pn**	**19 25 13.4**	**+2.0**
EGRO				S	**Sn**	**19 25 24.1**	**+1.3**
PPOR	**Portimao**	**1.01**	**296**	*e*P	**Pn**	**19 25 15.2**	**+1.7**
PPOR				*e*S	**Sn**	**19 25 27.3**	**+0.6**
PPOR				A	A	19 25 35.1	
	729nm,0.3s						
PCVE	**Castro Verde**	**1.06**	**332**	⇓*e*P	**Pn**	**19 25 16.3**	**+2.0**
PCVE				*e*S	**Sn**	**19 25 29.4**	**+1.3**
PCVE				A	A	19 25 30.1	
	646nm,0.2s						
PLAGO	**Lagos**	**1.11**	**292**	*e*S	**Sn**	**19 25 29.8**	**+0.8**
PLAGO				A	A	19 25 41.7	
	723nm,0.6s						
CNIL	**Conil**	**1.13**	**106**	P	**Pn**	**19 25 17.2**	**+2.0**
MORF	**Marmelete**	**1.17**	**302**	*e*P	**Pn**	**19 25 17.3**	**+1.5**
MORF				*e*S	**Sn**	**19 25 31.3**	**+0.5**
MORF				IAML		19 25 32.7	
	comp=N,1μm,0.2s						
MORF	**Marmelete**	**1.17**	**302**	⇓*e*P	**Pn**	**19 25 17.3**	**+1.5**
MORF				*e*S	**Sn**	**19 25 31.6**	**+0.8**
MORF				A	A	19 25 32.5	
	comp=N,757nm,0.1s						
EMIN	**Mina Concepcio**	**1.22**	**28**	P	**Pn**	**19 25 18.1**	**+1.7**
EMIN				S	**Sn**	**19 25 32.5**	**+0.6**
EMIN				*i* Vmb_Lg		19 25 35.6	
PFVI	**Vila Bisbo**	**1.22**	**291**	⇓*e*P	**Pn**	**19 25 17.4**	**+1.5**
PFVI				*e*S	**Sn**	**19 25 32.6**	**+0.7**
PFVI				A	A	19 25 45.0	
	comp=N,452nm,0.4s						
PFVI	**Vila Bisbo**	**1.22**	**291**	P	**Pn**	**19 25 18.0**	**+1.5**
PFVI				S	**Sn**	**19 25 32.8**	**+0.9**
ESPR	**Espera**	**1.25**	**82**	⇑P	**Pn**	**19 25 18.8**	**+1.9**
ESPR				S	**Sn**	**19 25 33.8**	**+1.1**
ESPR				*i* Vmb_Lg		19 25 35.6	
PALJ	**Aljezur**	**1.28**	**300**	*e*P	**Pn**	**19 25 19.0**	**+1.8**
PALJ				*e*S	**Sn**	**19 25 34.0**	**+0.8**
PALJ				A	A	19 25 36.1	
	comp=N,727nm,0.3s						
MESJ	**Messejana**	**1.32**	**331**	*e*P	**Pn**	**19 25 19.8**	**+2.1**
MESJ				*e*S	**Sn**	**19 25 35.0**	**+0.8**
MESJ				IAML		19 25 37.6	
	comp=N,485nm,0.2s						
MESJ	**Messejana**	**1.32**	**331**	⇓*i*P	**Pn**	**19 25 19.9**	**+2.1**
MESJ				*e*S	**Sn**	**19 25 35.0**	**+0.8**
MESJ				A	A	19 25 38.1	
	comp=N,361nm,0.3s						
PTEO	**Sao Teotonio**	**1.36**	**309**	⇓*i*P	**Pn**	**19 25 20.3**	**+2.0**
PTEO				*e*S	**Sn**	**19 25 36.2**	**+1.1**
PTEO				A	A	19 25 38.4	
	comp=N,268nm,0.4s						
PBEJ	**Beja**	**1.38**	**345**	⇓*e*P	**Pn**	**19 25 20.6**	**+2.0**
PBEJ				A	A	19 25 41.1	
	comp=N,182nm,0.1s						
PBAR	**Barrancos**	**1.51**	**11**	⇓*i*P	**Pn**	**19 25 22.4**	**+2.1**
PBAR				*e*S	**Sn**	**19 25 39.7**	**+0.9**
PBAR				A	A	19 25 46.7	
	comp=N,274nm,0.3s						
EJIF	**Jimena Fronter**	**1.58**	**98**	P	**Pn**	**19 25 24.1**	**+2.9**
EJIF				S	**Sn**	**19 25 43.9**	**+3.4**
LIJA	**Lijar**	**1.62**	**82**	P	**Pn**	**19 25 23.4**	**+1.4**
LIJA				S	**Sn**	**19 25 42.8**	**+1.1**
PNCL	**Nicolau / Gran**	**1.68**	**328**	⇓*i*P	**Pn**	**19 25 24.7**	**+2.1**
PNCL				*e*S	**Sn**	**19 25 44.1**	**+1.2**
PNCL				A	A	19 25 55.3	
	comp=N,195nm,0.2s						
PSINE	**Sines**	**1.72**	**318**	*e*P	**Pn**	**19 25 25.5**	**+2.3**
PSINE				*e*S	**Sn**	**19 25 45.1**	**+1.2**
PSINE				A	A	19 25 55.8	
	comp=N,507nm,0.6s						
ECEU	**Ceuta**	**1.82**	**115**	P	**Pn**	**19 25 27.2**	**+2.6**
ECEU				S	**Sn**	**19 25 48.1**	**+1.6**
CEU	**Ceuta**	**1.82**	**115**	P	**Pn**	**19 25 27.8**	**+3.2**
CEU				S	**Sn**	**19 25 49.9**	**+3.4**
EVO	**Evora**	**1.90**	**345**	P	**Pn**	**19 25 27.9**	**+2.3**
EVO				S	**Sn**	**19 25 48.6**	**+0.2**
EVO	**Evora**	**1.90**	**345**	⇓*i*Pn	**Pn**	**19 25 27.9**	**+2.3**
EVO				*e*Sn	**Sn**	**19 25 48.9**	**+0.5**
EVO				A	A	19 25 59.1	
	comp=N,166nm,0.2s						
SMIR	**Smir Dam**	**1.92**	**121**	P	**Pn**	**19 25 28.5**	**+2.5**
SMIR				S	**Sn**	**19 25 49.9**	**+1.0**
EBAD	**Badajoz**	**2.08**	**8**	⇓P	**Pn**	**19 25 30.1**	**+1.9**
EBAD				S	**Sn**	**19 25 54.0**	**+1.1**
EBAD				*i* Vmb_Lg		19 26 03.4	
ECAB	**El Cabril**	**2.10**	**48**	P	**Pn**	**19 25 29.5**	**+1.0**
ECAB				S	**Sn**	**19 25 53.6**	**+0.3**
ECAB				*i* Vmb_Lg		19 26 04.4	
EMIJ	**Mijas**	**2.12**	**93**	P	**Pn**	**19 25 30.9**	**+2.2**
EMIJ				S	**Sn**	**19 25 54.1**	**+0.2**
PESTR	**Estremoz**	**2.17**	**356**	⇓*e*Pn	**Pn**	**19 25 31.4**	**+1.9**
PESTR				*e*Sn	**Sn**	**19 25 57.0**	**+1.8**
PESTR				A	A	19 26 09.0	
	comp=N,131nm,0.6s						
PESTR	**Estremoz**	**2.17**	**356**	P	**Pn**	**19 25 30.9**	**+1.5**
PESTR				S	**Sn**	**19 25 59.0**	**+3.8**
RSA	**Sarsar**	**2.22**	**144**	P	**Pn**	**19 25 30.1**	**0.0**
RSA				S	**Sn**	**19 25 57.4**	**+1.1**
CHEFC	**Chefchaouen**	**2.31**	**133**	P	**Pn**	**19 25 34.2**	**+2.9**
CHEFC				S	**Sn**	**19 25 57.7**	**-0.8**
PACT	**Alcochete**	**2.36**	**332**	*e*Pn	**Pn**	**19 25 34.8**	**+2.8**
PACT				*e*Sn	**Sn**	**19 26 02.3**	**+2.6**
PACT				A	A	19 26 14.4	
	comp=N,125nm,0.7s						
EMAL	**Malaga-Limoner**	**2.39**	**87**	P	**Pn**	**19 25 35.2**	**+2.8**
EMAL				S	**Sn**	**19 26 02.1**	**+1.6**
LIS	**Lisbon**	**2.45**	**326**	*e*S	**Sn**	**19 26 02.1**	**+0.3**
LIS				IAML		19 26 06.5	
	comp=N,197nm,0.3s						
LIS	**Lisbon**	**2.45**	**326**	*e*Sn	**Sn**	**19 26 05.1**	**+3.2**
PMTG	**Montargil**	**2.46**	**345**	⇓*e*Pn	**Pn**	**19 25 35.6**	**+2.3**
PMTG				*e*Sn	**Sn**	**19 26 03.1**	**+0.9**
PMTG				A	A	19 26 04.7	
	comp=N,122nm,0.1s						
PMST	**Lisbon--Monsan**	**2.48**	**326**	*e*Pn	**Pn**	**19 25 36.2**	**+2.6**
PMST				*e*Sn	**Sn**	**19 26 05.8**	**+3.1**
EGOR	**Sierra Gorda,**	**2.67**	**80**	⇑P	**Pn**	**19 25 38.9**	**+2.5**
EGOR				S	**Sn**	**19 26 09.4**	**+1.8**
EGOR				*i* Vmb_Lg		19 26 11.5	
EADA	**Adamuz**	**2.69**	**56**	P	**Pn**	**19 25 38.5**	**+2.0**
EADA				S	**Sn**	**19 26 08.3**	**+0.5**
EADA				*i* Vmb_Lg		19 26 11.3	
PMAFR	**Mafra**	**2.70**	**327**	⇓*e*Pn	**Pn**	**19 25 39.3**	**+2.6**
PMAFR				*e*Sn	**Sn**	**19 26 08.3**	**+0.1**
PMAFR				A	A	19 26 11.6	
	comp=N,315nm,0.2s						
PMRV	**Marv??o**	**2.73**	**0**	⇓*e*Pn	**Pn**	**19 25 39.2**	**+2.1**
PMRV				*e*Sn	**Sn**	**19 26 08.9**	**0.0**
PMRV				A	A	19 26 26.8	
	comp=N,98nm,0.6s						
PVLZ	**Peæn de**	**2.94**	**120**	P	**Pn**	**19 25 41.2**	**+1.3**
PVLZ				S	**Sn**	**19 26 14.4**	**+0.5**
PSSE	**So Bento**	**3.02**	**339**	⇓*e*Pn	**Pn**	**19 25 43.8**	**+2.7**
PSBE				*e*Sn	**Sn**	**19 26 17.2**	**+1.1**
PSBE				A	A	19 26 39.8	
	comp=N,58nm,0.9s						
ELGU	**Los Guajares,**	**3.04**	**86**	P	**Pn**	**19 25 43.9**	**+2.6**
ELGU				S	**Sn**	**19 26 18.0**	**+1.5**
ELGU				*i* Vmb_Lg		19 26 24.8	
PCBR	**Castelo Branco**	**3.14**	**359**	⇓*e*Pn	**Pn**	**19 25 44.9**	**+2.2**
PCBR				*e*Sn	**Sn**	**19 26 19.3**	**+0.4**
PCBR				A	A	19 26 21.1	
	comp=N,97nm,0.1s						
PALE	**Palemas**	**3.17**	**117**	P	**Pn**	**19 25 44.5**	**+1.3**
PALE				S	**Sn**	**19 26 21.3**	**+1.5**
EQUE	**Quentar**	**3.21**	**80**	P	**Pn**	**19 25 46.5**	**+2.7**
EQUE				S	**Sn**	**19 26 22.1**	**+1.2**
EQUE				*i* Vmb_Lg		19 26 25.5	
ZHG	**ZHG**	**3.30**	**169**	P	**Pn**	**19 25 46.0**	**+1.0**
ZHG	**ZHG**	**3.30**	**169**	P	**Pn**	**19 25 45.9**	**+1.0**
ZHG				S	**Sn**	**19 26 25.6**	**+2.6**
AVE	**Averroes**	**3.39**	**180**	P	**Pn**	**19 25 48.2**	**+2.1**
AVE				S	**Sn**	**19 26 25.1**	**+0.1**
AVE	**Averroes**	**3.39**	**180**	P	**Pn**	**19 25 46.8**	**+0.8**
AVE				S	**Sn**	**19 26 22.8**	**-2.2**
PCAS	**Casmilo, Conde**	**3.46**	**346**	*e*Pn	**Pn**	**19 25 49.4**	**+2.3**
PCAS				*e*Sn	**Sn**	**19 26 26.4**	**-0.4**
PCAS				A	A	19 26 49.8	
	comp=N,47nm,0.5s						
COI	**Coimbra**	**3.60**	**348**	*e*Pn	**Pn**	**19 25 51.4**	**+2.5**
COI				*e*Sn	**Sn**	**19 26 30.4**	**+0.3**
COI				A	A	19 26 31.4	
	comp=N,102nm,0.3s						
EBER	**Berja**	**3.63**	**85**	P	**Pn**	**19 25 52.2**	**+2.7**
EBER				S	**Sn**	**19 26 30.4**	**-0.7**
EBER				*i* Vmb_Lg		19 26 38.0	
EQES	**Quesada**	**3.63**	**71**	P	**Pn**	**19 25 51.2**	**+1.7**
EQES				S	**Sn**	**19 26 30.8**	**-0.3**
EQES				*i* Vmb_Lg		19 26 44.9	
LCRM	**LCR**	**3.65**	**144**	P	**Pn**	**19 25 52.0**	**+2.1**
LCRM	**LCR**	**3.65**	**144**	P	**Pn**	**19 25 50.5**	**+0.6**
LCRM				S	**Sn**	**19 26 32.6**	**+0.8**
MTE	**Manteigas**	**3.70**	**358**	*e*Pn	**Pn**	**19 25 52.5**	**+2.1**
MTE				*e*Sn	**Sn**	**19 26 32.8**	**0.0**
MTE				A	A	19 26 34.3	
	comp=N,84nm,0.5s						
PAB	**San Pablo**	**3.73**	**39**	P	**Pn**	**19 25 52.8**	**+2.0**
PAB				S	**Sn**	**19 26 31.6**	**-1.9**
PAB				*i* Vmb_Lg		19 26 32.1	
GOG	**Mont Gurugu**	**3.87**	**111**	P	**Pn**	**19 25 53.8**	**+1.1**
GOG				S	**Sn**	**19 26 38.2**	**+1.3**
ESDC	**Sonseca Array**	**4.02**	**41**	⇑P	**Pn**	**19 25 57.1**	**+2.3**
ESDC				S	**Sn**	**19 26 38.4**	**-2.4**
ESDC				*i* Vmb_Lg		19 26 40.4	
PVIS	**Viseu**	**4.03**	**355**	*e*Pn	**Pn**	**19 25 57.0**	**+2.0**
PVIS				*e*Sn	**Sn**	**19 26 40.9**	**-0.1**
PVIS				A	A	19 26 42.7	
	comp=N,69nm,0.2s						
CZD	**Col de Zad**	**4.14**	**151**	P	**Pn**	**19 25 58.0**	**+1.4**
CZD	**Col de Zad**	**4.14**	**151**	P	**Pn**	**19 25 58.1**	**+1.4**
CZD				S	**Sn**	**19 26 43.8**	**-0.1**
ENIJ	**Nijar**	**4.18**	**85**	P	**Pn**	**19 25 59.3**	**+2.4**
ENIJ				S	**Sn**	**19 26 43.6**	**-2.2**
ENIJ				*i* Vmb_Lg		19 26 48.4	
SRHM	**Skhour des Reh**	**4.23**	**186**	P	**Pn**	**19 25 60.0**	**+2.2**
SRHM	**Skhour des Reh**	**4.23**	**186**	P	**Pn**	**19 25 59.4**	**+1.6**
SRHM				S	**Sn**	**19 26 50.1**	**+4.2**
CHAS	**Isla Isabel II**	**4.31**	**109**	P	**Pn**	**19 26 01.1**	**+2.5**
CHAS				S	**Sn**	**19 26 45.8**	**-1.8**
MD31	**MD31**	**4.39**	**150**	P	**Pn**	**19 26 01.3**	**+1.3**
MD31				S	**Sn**	**19 26 50.0**	**+0.1**
TAF	**Taforalt**	**4.47**	**113**	P	**Pn**	**19 26 03.0**	**+2.0**
TAF				S	**Sn**	**19 26 52.8**	**+1.1**
MVO	**Moncorvo**	**4.47**	**4**	*e*Pn	**Pn**	**19 26 03.0**	**+2.0**
MVO				*e*Sn	**Sn**	**19 26 50.5**	**-1.3**
MVO				A	A	19 26 53.2	
	comp=N,89nm,0.2s						
MDT	**Midelt**	**4.50**	**148**	P	**Pn**	**19 26 02.5**	**+1.0**
MDT	**Midelt**	**4.50**	**148**	P	**Pn**	**19 26 02.5**	**+1.0**
MDT				S	**Sn**	**19 26 51.4**	**-1.2**
PTO	**Porto**	**4.54**	**348**	*e*Pn	**Pn**	**19 26 04.1**	**+2.3**
PTO				*e*Sn	**Sn**	**19 26 52.2**	**-1.0**
PVRL	**Vila Real**	**4.58**	**357**	*e*Pn	**Pn**	**19 26 04.4**	**+1.9**
PVRL				*e*Sn	**Sn**	**19 26 53.5**	**-0.9**
PVRL				A	A	19 26 56.4	
	comp=N,70nm,0.1s						
JBK	**JBK**	**4.59**	**119**	P	**Pn**	**19 26 04.0**	**+1.2**
JBK	**JBK**	**4.59**	**119**	P	**Pn**	**19 26 04.0**	**+1.2**
JBK				S	**Sn**	**19 26 53.7**	**-1.3**
POLO	**Lamas de Olo**	**4.68**	**356**	⇓*e*Pn	**Pn**	**19 26 05.9**	**+2.0**
POLO				*e*Sn	**Sn**	**19 26 55.6**	**-1.4**
POLO				A	A	19 26 58.7	
	comp=N,18nm,0.3s						
GUD	**Guadarrama**	**4.69**	**32**	P	**Pn**	**19 26 06.5**	**+2.4**
GUD				S	**Sn**	**19 26 56.2**	**-1.0**
GUD				*i* Vmb_Lg		19 26 58.2	
EZAR	**Zarzadilla de**	**4.70**	**74**	P	**Pn**	**19 26 05.4**	**+1.2**
EZAR				S	**Sn**	**19 26 55.8**	**-1.7**
UCM	**Universidad Co**	**4.86**	**41**	P	**Pn**	**19 26 09.2**	**+2.8**
UCM				S	**Sn**	**19 27 01.0**	**-0.4**
PCAB	**Cabril**	**5.03**	**355**	*e*Pn	**Pn**	**19 26 10.7**	**+2.1**
PCAB				*e*Sn	**Sn**	**19 27 04.1**	**-1.4**
PCAB				A	A	19 27 08.3	
	comp=N,38nm,0.1s						
ETOB	**Tobarra**	**5.04**	**65**	⇑P	**Pn**	**19 26 10.0**	**+1.2**
ETOB				S	**Sn**	**19 27 03.7**	**-2.0**
ETOB				*i* Vmb_Lg		19 27 05.7	
EMUR	**La Murta**	**5.05**	**75**	P	**Pn**	**19 26 10.3**	**+1.9**
EMUR				S	**Sn**	**19 27 03.1**	**-2.8**
EMUR				*i* Vmb_Lg		19 27 07.9	
PBRG	**Braganca**	**5.13**	**6**	*e*Pn	**Pn**	**19 26 11.8**	**+1.8**
PBRG				*e*Sn	**Sn**	**19 27 06.8**	**-1.1**
PBRG				A	A	19 27 08.8	
	comp=N,31nm,0.1s						
CART	**Cartagena**	**5.19**	**78**	P	**Pn**	**19 26 12.8**	**+2.0**
CART				S	**Sn**	**19 27 07.7**	**-1.6**
CART	**Cartagena**	**5.19**	**78**	P	**Pn**	**19 26 12.7**	**+1.9**
CART	**Cartagena**	**5.19**	**78**	P	**Pn**	**19 26 12.7**	**+1.9**
CART				S	**Sn**	**19 27 12.3**	**+2.9**
ELOB	**Lobios**	**5.19**	**355**	P	**Pn**	**19 26 12.9**	**+2.0**
ELOB				S	**Sn**	**19 27 07.4**	**-2.0**
ELOB				*i* Vmb_Lg		19 27 11.7	
ECAL	**Calabor**	**5.27**	**5**	P	**Pn**	**19 26 13.9**	**+2.0**
ECAL				S	**Sn**	**19 27 09.5**	**-1.7**
ECAL				*i* Vmb_Lg		19 27 13.1	
PGAV	**Gavieira, Arco**	**5.31**	**353**	*e*Pn	**Pn**	**19 26 14.5**	**+2.0**
PGAV				*e*Sn	**Sn**	**19 27 10.1**	**-2.2**
PGAV				A	A	19 27 14.4	
	comp=N,41nm,0.1s						
EAH	**EAH**	**5.35**	**200**	P	**Pn**	**19 26 13.0**	**0.0**
EAH				S	**Sn**	**19 27 12.7**	**-0.5**
OUK	**Oukaimeden**	**5.49**	**184**	P	**Pn**	**19 26 15.0**	**-0.2**
OUK				S	**Sn**	**19 27 16.4**	**-0.8**
EZAM	**Zamans**	**5.54**	**350**	P	**Pn**	**19 26 17.8**	**+2.3**
EZAM				S	**Sn**	**19 27 16.0**	**-1.9**
EZAM				*i* Vmb_Lg		19 27 20.2	
AFON	**Font Roja**	**5.79**	**68**	⇑P	**Pn**	**19 26 20.3**	**+1.2**
AFON				S	**Sn**	**19 27 23.6**	**-0.6**
AFON				*i* Vmb_Lg		19 27 25.6	
ETOR	**Torete**	**5.87**	**44**	P	**Pn**	**19 26 22.5**	**+2.3**
ETOR				S	**Sn**	**19 27 24.3**	**-1.8**
ETOR				*i* Vmb_Lg		19 27 28.3	
EAGO	**Agolada(Pontev**	**6.12**	**355**	P	**Pn**	**19 26 25.6**	**+2.0**
EAGO				S	**Sn**	**19 27 29.7**	**-2.5**
EAGO				*i* Vmb_Lg		19 27 33.7	
TTIG	**Tnine Tigouga,**	**6.19**	**188**	P	**Pn**	**19 26 23.0**	**-1.7**
TTIG	**Tnine Tigouga,**	**6.19**	**188**	P	**Pn**	**19 26 22.8**	**-1.9**
TTIG				S	**Sn**	**19 27 33.1**	**-1.1**
EMAZ	**Mazaricos**	**6.36**	**350**	P	**Pn**	**19 26 29.1**	**+2.2**
EMAZ				S	**Sn**	**19 27 36.2**	**-1.9**
EMAZ				*i* Vmb_Lg		19 27 40.9	
CGR	**Cap Guir**	**6.39**	**200**	S	**Sn**	**19 27 38.0**	**-0.9**
CGR	**Cap Guir**	**6.39**	**200**	P	**Pn**	**19 26 26.2**	**-1.1**
CGR				S	**Sn**	**19 27 38.0**	**-0.9**
EMOS	**Mosqueruela**	**6.55**	**54**	P	**Pn**	**19 26 32.3**	**+2.7**
EMOS				S	**Sn**	**19 27 42.3**	**-0.7**
EMOS				*i* Vmb_Lg		19 27 48.4	
EPON	**Pontenova**	**6.63**	**2**	P	**Pn**	**19 26 33.0**	**+2.5**
EPON				S	**Sn**	**19 27 42.6**	**-2.0**
EPON				*i* Vmb_Lg		19 28 36.9	
EARI	**Arriondas**	**6.81**	**14**	P	**Pn**	**19 26 35.3**	**+2.3**
EARI				S	**Sn**	**19 27 46.5**	**-2.7**
EARI				*i* Vmb_Lg		19 28 59.4	
FIGM	**Figuig**	**6.81**	**130**	P	**Pn**	**19 26 35.0**	**+1.8**
FIGM	**Figuig**	**6.81**	**130**	P	**Pn**	**19 26 35.0**	**+1.8**
FIGM				S	**Sn**	**19 27 48.8**	**-0.7**
ELAN	**Lanestosa**	**7.21**	**24**	P	**Pn**	**19 26 40.6**	**+2.2**
ELAN				S	**Sn**	**19 27 54.7**	**-4.2**
ELAN				*i* Vmb_Lg		19 28 05.2	
EIBI	**Ibiza**	**7.30**	**69**	P	**Pn**	**19 26 40.5**	**+0.8**
EIBI				S	**Sn**	**19 27 56.9**	**-4.3**
EIBI				*i* Vmb_Lg		19 28 00.8	
ERTA	**Horta de San J**	**7.39**	**52**	P	**Pn**	**19 26 44.0**	**+3.1**
EARA	**Aranguren**	**7.55**	**35**	P	**Pn**	**19 26 45.8**	**+2.8**
EARA				*i* Vmb_Lg		19 28 11.2	
SFNM	**Sidi Ifni**	**7.70**	**198**	P	**Pn**	**19 26 47.5**	**-0.2**
SFNM				S	**Sn**	**19 28 08.2**	**-2.8**
EORO	**Oroz-Betelu**	**7.76**	**35**	P	**Pn**	**19 26 48.7**	**+2.5**
EORO				S	**Sn**	**19 28 09.3**	**-3.4**
EORO				*i* Vmb_Lg		19 28 12.6	
EALK	**Alkurruntz**	**7.93**	**33**	P	**Pn**	**19 26 51.0**	**+2.5**
EALK				S	**Sn**	**19 28 13.1**	**-3.7**

DGRG				S	**Sb**	**19 32 21.6**	**-2.2**
ABS	**Abastumani**	**1.07**	**289**	P	**Pb**	**19 32 11.7**	**-3.3**
ABS				S	**Sb**	**19 32 27.5**	**-1.3**
PNSH	**Pansheti**	**1.27**	**15**	P	**Pn**	**19 32 17.8**	**-0.1**
TKB	**Tkibuli**	**1.28**	**317**	P	**Pb**	**19 32 19.1**	**+0.6**
TKB				S	**Sg**	**19 32 36.5**	**+0.1**
ONI	**Oni**	**1.29**	**336**	P	**Pn**	**19 32 18.6**	**+0.5**
ONI				S	**Sg**	**19 32 36.8**	**+0.1**
LACR	**Lac**	**1.42**	**4**	*e*Pg	**Pb**	**19 32 20.9**	**0.0**
LACR				*e*Sg	**Sg**	**19 32 40.1**	**-0.5**
DDFL	**Dedoflistskaro**	**1.46**	**88**	P	**Pb**	**19 32 22.3**	**+0.7**
DDFL				S	**Sg**	**19 32 45.7**	**+3.6**
DIGR	**Digorskoe uzhe**	**1.55**	**344**	*e*Pg	**Pg**	**19 32 24.1**	**-0.5**
DIGR				*e*Sg	**Sg**	**19 32 46.0**	**+1.2**
LGD	**Lagodekhi**	**1.61**	**74**	P	**Pn**	**19 32 23.2**	**+0.8**
LGD				S	**Sb**	**19 32 45.1**	**+1.1**
KORR	**Kora**	**1.67**	**357**	*e*Pg	**Pg**	**19 32 26.6**	**-0.4**
KORR				*e*Sg	**Sg**	**19 32 49.6**	**+0.8**
BATM	**Batumi**	**1.87**	**277**	S	**Sg**	**19 32 55.0**	**0.0**
NEY	**Neytrino**	**2.13**	**330**	*e*Pg	**Pb**	**19 32 33.5**	**+0.6**
NEY				*e*Sg	**Sg**	**19 33 01.6**	**-1.6**

IDC 17 19:35:17.0±3.6, 7.57S×148.50E, h0km, mb3.4/2, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=106.6km s-min=35.7km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.26**	**216**	Pn		Pn	19 35 56.6	+1.0
	38nm,0.3s,baz=38,slow=15,SNR=70							
PMG				Sn		Sn	19 36 25.5	+1.3
	22nm,0.3s,baz=316,slow=20,SNR=10							
WRA	**Warramunga Arr**	**18.43**	**227**	P		Pn	19 39 33.5	-0.6
	0.2nm,0.3s,baz=54,slow=11,SNR=18							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**21.27**	**220**	P		P	19 40 04.3	-0.9
	0.6nm,0.8s,baz=50,slow=9.0,SNR=9.4							
	0.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**24.59**	**243**	P		P	19 40 38.8	-0.2
	1.1nm,0.3s,baz=64,slow=11,SNR=20							
	1.1nm,0.3s							
TORD	**Torodi Ar. Bea**	**146.90**	**282**	PKPbc		PKPbc	19 55 02.4	-0.1
	0.7nm,0.8s,baz=57,slow=3.5,SNR=3.1							

KRNET ***17*** *19:46:22.4±0.1, 41.52N×80.70E, mb2.8*
NNC ***17*** *19:46:24.9±0.9, 41.84N×80.20E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=6.3km s-min=4.2km az=153.0*
SOME ***17*** *19:46:24.2, 41.80N×80.17E, h20km*
ISC 17 19:46:26.5±1.6, 41.90N±0.06×80.20E±0.05, h10km, n47, σ1§45/82, 17C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.37**	**337**	*e*P		**Pn**	**19 46 50.2**	**-1.7**
	46nm,0.3s							
SHLS				*e*S		**Sn**	**19 47 09.2**	**-0.9**
	47nm,0.4s							
SHLS	**Shalkode**	**1.37**	**337**	P		**Pn**	**19 46 50.2**	**-1.7**
	46nm,0.3s							
SHLS				S		**Sn**	**19 47 09.6**	**-0.5**
	47nm,0.4s							
UZB	**Uzynbulak**	**1.52**	**326**	*e*P		**Pb**	**19 46 53.9**	**-1.1**
	6.7nm,0.3s							
UZB				*e*S		**Sg**	**19 47 15.7**	**+0.2**
	236nm,0.4s							
UZB	**Uzynbulak**	**1.52**	**326**	P		**Pb**	**19 46 53.9**	**-1.1**
	6.7nm,0.3s							
UZB				S		**Sg**	**19 47 15.7**	**+0.2**
	236nm,0.4s							
PDGK	**Podgornoye**	**1.52**	**340**	⇑P		**Pn**	**19 46 53.6**	**-0.4**
	7.3nm,0.5s							
PDGK				⇑S		**Sg**	**19 47 16.2**	**+0.7**
	117nm,0.6s							
KTMS	**Ketmen**	**1.55**	**4**	*e*P		**Pb**	**19 46 54.1**	**-1.3**
	14nm,0.3s							
KTMS				*e*S		**Sg**	**19 47 16.1**	**-0.3**
	57nm,0.4s							
KTMS	**Ketmen**	**1.55**	**4**	P		**Pb**	**19 46 54.1**	**-1.3**
	14nm,0.3s							
KTMS				S		**Sg**	**19 47 16.1**	**-0.3**
	57nm,0.4s							
SATY	**Saty**	**1.76**	**312**	*e*P		**Pb**	**19 46 57.9**	**-1.1**
	8.0nm,0.4s							
SATY				*e*S		**Sb**	**19 47 22.4**	**+1.1**
	109nm,0.6s							
SATY	**Saty**	**1.76**	**312**	P		**Pb**	**19 46 57.9**	**-1.1**
	8.0nm,0.4s							
SATY				S		**Sb**	**19 47 22.4**	**+1.1**
	109nm,0.6s							
TARG	**Taragay, Kyrgy**	**1.80**	**265**	⇓*i*P		**Pn**	**19 46 58.1**	**+0.1**
	baz=76							
TARG				⇓*i*S		**Sg**	**19 47 24.4**	**+0.1**
	baz=76							
ZHN	**Zhinishke**	**1.82**	**315**	*e*P		**Pb**	**19 46 59.6**	**-0.3**
	63nm,0.2s							
ZHN				*e*S		**Sg**	**19 47 25.2**	**+0.2**
	137nm,0.2s							
ZHN	**Zhinishke**	**1.82**	**315**	Pg		**Pb**	**19 46 59.7**	**-0.3**
	63nm,0.2s							
ZHN				Lg		Lg	19 47 25.2	
	137nm,0.2s							
KPKS	**Kokpek**	**1.92**	**325**	*e*P		**Pb**	**19 47 01.0**	**-0.7**
	8.9nm,0.4s							
KPKS				*e*S		**Sg**	**19 47 27.7**	**-0.6**
	151nm,0.5s							
KPKS	**Kokpek**	**1.92**	**325**	Pg		**Pb**	**19 47 01.0**	**-0.7**
	8.9nm,0.4s							
KPKS				Lg		Lg	19 47 27.7	
	151nm,0.5s							
ANVS	**Anan'yevo**	**2.08**	**296**	⇑*i*P		**Pb**	**19 47 03.8**	**-0.6**
	baz=0.0							
ANVS				⇑*i*S		**Sg**	**19 47 34.0**	**+0.8**
	baz=0.0							
KURS	**Kuram**	**2.18**	**317**	*e*P		**Pb**	**19 47 05.8**	**-0.3**
	8.8nm,0.4s							
KURS				*e*S		**Sg**	**19 47 35.5**	**-1.1**
	41nm,0.3s							
DJR	**Jarkent**	**2.45**	**353**	*e*P		**Pb**	**19 47 10.4**	**-0.4**
	4.7nm,0.3s							
DJR				*e*S		**Sg**	**19 47 43.8**	**-1.4**
	30nm,0.5s							
DJR	**Jarkent**	**2.45**	**353**	Pg		**Pb**	**19 47 10.4**	**-0.4**
	4.7nm,0.3s							
DJR				Lg		Lg	19 47 43.8	
	30nm,0.5s							
BLB	**Baldybastay**	**2.54**	**331**	*e*P		**Pb**	**19 47 11.8**	**-0.3**
	23nm,0.3s							
BLB				*e*S		**Sg**	**19 47 46.3**	**-1.6**
	121nm,0.3s							
BLB	**Baldybastay**	**2.54**	**331**	Pg		**Pb**	**19 47 11.8**	**-0.3**
	23nm,0.3s							
BLB				Lg		Lg	19 47 46.3	
	121nm,0.3s							
KOTS	**Kotyrbulak**	**2.64**	**301**	*e*P		**Pb**	**19 47 13.9**	**-0.1**
	1.4nm,0.2s							
KOTS				*e*S		**Sg**	**19 47 49.7**	**-1.7**
	31nm,0.5s							
KOTS	**Kotyrbulak**	**2.64**	**301**	Pg		**Pb**	**19 47 13.9**	**-0.1**
	1.4nm,0.2s							
KOTS				Lg		Lg	19 47 49.7	
	31nm,0.5s							
MDOK	**Medeo**	**2.65**	**300**	*e*P		**Pb**	**19 47 13.1**	**-1.1**
	4.7nm,0.5s							
MDOK				*e*S		**Sb**	**19 47 48.3**	**+1.6**
	17nm,0.4s							
MDOK	**Medeo**	**2.65**	**300**	Pn		**Pn**	**19 47 09.9**	**+0.5**
	4.2nm,0.4s							
MDOK				Pg		**Pb**	**19 47 13.1**	**-1.1**
	4.7nm,0.5s							
MDOK				⇑Sn		**Sb**	**19 47 44.6**	**-2.1**
	13nm,0.5s							
MDOK				Lg		Lg	19 47 48.3	
	17nm,0.4s							
AAA	**Alma-Ata**	**2.76**	**299**	*e*P		**Pb**	**19 47 16.4**	**+0.4**
	15nm,0.1s							
AAA				*e*S		**Sg**	**19 47 53.7**	**-1.4**
	39nm,0.4s							
ARXS	**Arharly**	**2.89**	**324**	*e*P		**Pb**	**19 47 17.8**	**-0.5**
	4.4nm,0.3s							
ARXS				*e*S		**Sb**	**19 47 56.5**	**+2.7**
	27nm,0.5s							
ARXS	**Arharly**	**2.89**	**324**	Pg		**Pb**	**19 47 17.8**	**-0.5**
	4.4nm,0.3s							
ARXS				Lg		Lg	19 47 56.4	
	27nm,0.5s							

ULHL	**Ulahol**	**2.97**	**278**	⇑*i*P		**Pn**	**19 47 15.6**	**+1.8**
	baz=84							
ULHL				⇑*i*S		**Sb**	**19 47 54.1**	**-1.9**
	baz=84							
MTBS	**Maitube**	**3.05**	**295**	*e*P		**Pb**	**19 47 20.4**	**-0.5**
	1.9nm,0.1s							
MTBS				*e*S		**Sb**	**19 48 00.8**	**+2.6**
	14nm,0.5s							
MTBS	**Maitube**	**3.05**	**295**	Pg		**Pb**	**19 47 20.4**	**-0.5**
	1.9nm,0.1s							
MTBS				Lg		Lg	19 48 00.8	
	14nm,0.5s							
CHKK	**Chushkaly**	**3.06**	**311**	*e*P		**Pb**	**19 47 21.0**	**-0.1**
	2.1nm,0.2s							
CHKK				*e*S		**Sb**	**19 48 01.7**	**+3.1**
	32nm,0.2s							
NRN	**Naryn**	**3.18**	**263**	⇑*i*P		**Pn**	**19 47 17.4**	**+0.5**
	baz=70							
NRN				⇑*i*S		**Sn**	**19 47 57.0**	**+2.0**
	baz=70							
BOOM	**Boomskoye usch**	**3.22**	**282**	⇑*i*P		**Pn**	**19 47 19.0**	**+1.7**
	baz=87							
BOOM				⇑*i*S		**Sb**	**19 48 00.2**	**-3.0**
	baz=87							
KST	**Kastek**	**3.34**	**291**	*e*P		**Pb**	**19 47 24.8**	**-1.1**
	2.1nm,0.3s							
KST				*e*S		**Sb**	**19 48 08.2**	**+1.7**
	16nm,0.7s							
KST	**Kastek**	**3.34**	**291**	Pg		**Pb**	**19 47 24.8**	**-1.1**
	2.1nm,0.3s							
KST				Lg		Lg	19 48 08.2	
	16nm,0.7s							
TDK	**Taldyqorghan**	**3.37**	**338**	*e*P		**Pg**	**19 47 28.9**	**-2.1**
	12nm,0.2s							
TDK				*e*S		**Sg**	**19 48 15.3**	**+0.7**
	53nm,0.6s							
KUU	**Kurty**	**3.47**	**306**	*e*P		**Pb**	**19 47 27.9**	**-0.1**
	1.4nm,0.3s							
KUU				*e*S		**Sb**	**19 48 13.7**	**+3.5**
	10.0nm,0.3s							
KUU	**Kurty**	**3.47**	**306**	Pg		**Pb**	**19 47 27.9**	**-0.1**
	1.4nm,0.3s							
KUU				Lg		Lg	19 48 13.7	
	10.0nm,0.3s							
DGS	**Degeres**	**3.54**	**294**	*e*P		**Pb**	**19 47 27.2**	**-2.0**
	1.9nm,0.4s							
DGS				*e*S		**Sb**	**19 48 12.3**	**+0.1**
	14nm,0.4s							
TKM2	**Tokmak 2**	**3.56**	**288**	⇑Pn		**Pn**	**19 47 22.4**	**+0.4**
	2.9nm,0.7s							
TKM2				⇑Lg		Lg	19 48 19.5	
	8.9nm,0.6s							
TKM2	**Tokmak 2**	**3.56**	**288**	⇑*i*P		**Pn**	**19 47 24.1**	**+2.1**
	baz=92							
TKM2				⇑*i*S		**Sb**	**19 48 09.6**	**-3.4**
	baz=92							
KRBS	**Karabastau**	**3.78**	**300**	*e*P		**Pb**	**19 47 33.0**	**-0.5**
	0.9nm,0.3s							
KRBS				*e*S		**Sb**	**19 48 22.3**	**+3.0**
	8.5nm,0.6s							
KRBS	**Karabastau**	**3.78**	**300**	Pg		**Pb**	**19 47 32.9**	**-0.5**
	0.9nm,0.3s							
KRBS				Lg		Lg	19 48 22.3	
	8.5nm,0.6s							
SGDS	**Sogindy**	**4.39**	**293**	*e*P		**Pb**	**19 47 43.4**	**-0.4**
	1.5nm,0.5s							
SGDS				*e*S		**Sb**	**19 48 40.0**	**+3.2**
	4.3nm,0.3s							
MAKZ	**Makanchi**	**5.07**	**14**	⇑Pn		**Pn**	**19 47 43.6**	**+1.1**
	1.7nm,0.6s							
MAKZ				⇑Sn		**Sn**	**19 48 44.0**	**+2.8**
	2.6nm,0.8s							
MK31	**Makanchi Array**	**5.12**	**16**	Pn		**Pn**	**19 47 44.2**	**+1.0**
	0.6nm,0.3s,baz=195,slow=13,SNR=65							
MK31				Sn		**Sn**	**19 48 44.4**	**+2.0**
	2.6nm,0.6s,baz=191,slow=22,SNR=10							
KK31	**Karatay Array**	**7.26**	**283**	⇓Pg		Pg	19 48 38.8	-6.7
	0.2nm,0.5s							
KK31				⇓Lg		Lg	19 50 17.7	
	0.2nm,0.3s,baz=97,slow=27,SNR=4.1							

BJI ***17*** *20:00:42.6±0.0, 2.50S×141.19E, h15km, mb4.7/46, mB5.1/24, Ms4.6/23, Ms7 4.5/27*
IDC ***17*** *20:00:46.6±0.4, 1.97S×140.70E, h0km, mb4.6/21, mbtmp4.6/26, ML4.2/4, MS4.2/49, Error ellipse: s-maj=17.3km s-min=10.6km az=78.0*
NEIC ***17*** *20:00:49.2±1.4, 1.99S±0.07×140.63E±0.07, h12km±3km, mb5.0/100, Error ellipse: s-maj=12.0km s-min=8.7km az=216.0*
GCMT ***17*** *20:00:52.2±0.1, 1.91S±0.01×140.52E±0.02, h12km, MW5.1/123, Moment Tensor Solution. s75,c102; s123,c200; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.81±.08; Mθθ4.21±.06; Mϕϕ-0.39±.08; Mrθ2.47±.21; Mθϕ0.66±.07; Mϕr1.09±.28; Best double couple: M=4.88000×10^16 NP1=ϕ=253.00000°, δ=62.00000°, λ=-100.00000°. NP2=ϕ=93.00000°, δ=30.00000°, λ=-72.00000°. Principal axes: T 5.0710, Plg16.0000°, Azm350.0000°; N -0.3810, Plg9.0000°, Azm257.0000°; P -4.6890, Plg71.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***17*** *20:00:53.6±0.4, 2.3S±4.4×14.1E±, h41km±3km, M4.7/50, mb4.9/50, mB5.2/23, MLv4.9/7, Mw(mB)4.6/23, MwMwp4.8/2, Mwp5.1/2*
MOS ***17*** *20:00:53.7±0.8, 2.09S×140.59E, h16km, mb5.0/24, Error ellipse: s-maj=10.7km s-min=5.9km az=113.4*
ISC 17 20:00:50.6±1.2, 2.07S±0.04×140.57E±0.04, h24km±8km, n446, σ1§38/420, mb4.9/119, MS4.3/62, 15C-14D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.66**	**217**	P		**Pn**	**20 01 04.9**	**+0.4**
SMPI	**Sarmi**	**1.86**	**272**	P		**Pn**	**20 01 21.4**	**+0.4**
WAMI	**Wamena**	**2.59**	**226**	P		**Pb**	**20 01 34.8**	**-1.6**
SRPI	**Serui, Papua**	**4.33**	**272**	P		**Pn**	**20 01 56.1**	**+1.1**
BAKI	**Biak**	**4.54**	**281**	P		**Pn**	**20 01 58.6**	**+0.7**
FAKI	**Fak Fak**	**8.36**	**264**	Pn		**Pn**	**20 02 52.0**	**+1.7**
FAKI				Sn		**Sn**	**20 04 25.5**	**+1.5**
FAKI	**Fak Fak**	**8.36**	**264**	P		**Pn**	**20 02 52.7**	**+2.4**
	618nm47nm,1.1s							
SIJI	**Sorong**	**9.38**	**277**	Pn		**Pn**	**20 03 04.4**	**+0.1**
	0.3nm,0.3s,baz=61,slow=19,SNR=2.0							
	5.6nm,0.9s							
PMG	**Port Moresby**	**9.80**	**138**	Pn		**Pn**	**20 03 09.3**	**-0.9**
	7.1nm,0.9s,baz=308,slow=19,SNR=3.2							
PMG				LR		LR	20 07 27.9	
	comp=Z,2μm,20.8s,baz=310,slow=41							
PMG	**Port Moresby**	**9.80**	**138**	Pn		**Pn**	**20 03 11.7**	**+1.5**
PMG	**Port Moresby**	**9.80**	**138**	⇓*e*P		Pn	20 03 15.3	+5.1
BNDI	**Bandanaira**	**10.92**	**257**	P		**Pn**	**20 03 27.4**	**+1.9**
	2μm70nm,0.9s							
BNDI	**Bandanaira**	**10.92**	**257**	P		Pn	20 03 31.1	+5.6
MSAI	**Masohi**	**11.70**	**264**	P		**Pn**	**20 03 39.7**	**+3.6**
	226nm5.6nm,0.8s							
RABL	**Rabaul**	**11.77**	**101**	Pn		**Pn**	**20 03 36.6**	**-0.5**
COEN	**Coen**	**12.09**	**168**	Pn		**Pn**	**20 03 43.0**	**+1.5**
AAI	**Ambon**	**12.46**	**262**	P		Pn	20 03 51.7	+5.1
AAI				pmax		pmax		
	comp=Z,33nm,0.8s							
AAI	**Ambon**	**12.46**	**262**	P		**Pn**	**20 03 46.0**	**-0.6**
	comp=Z,32nm,0.9s							
LBMI	**Labuha**	**13.14**	**276**	P		**Pn**	**20 03 59.6**	**+3.7**
	comp=Z,33nm,1.0s							
KDU	**Kakadu**	**13.25**	**217**	P		**Pn**	**20 03 56.1**	**-1.3**
	baz=13,SNR=20							
TNTI	**Ternate**	**13.50**	**282**	Pn		**Pn**	**20 04 01.5**	**+0.7**
TNTI	**Ternate**	**13.50**	**282**	P		**Pn**	**20 04 05.2**	**+4.4**
	comp=Z,882nmcomp=Z,75nm,1.2s							
MTN	**Manton Dam**	**14.21**	**221**	P		**Pn**	**20 04 09.6**	**-0.9**
	baz=14,SNR=7.3							
MTN	**Manton Dam**	**14.21**	**221**	Pn		**Pn**	**20 04 09.3**	**-1.2**
SANI	**Sanana**	**14.57**	**270**	P		**Pn**	**20 04 16.2**	**+0.8**
	comp=Z,32nm,1.0s							
GUMO	**Guam**	**16.13**	**15**	Pn		**Pn**	**20 04 35.4**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=198,slow=19,SNR=1.7							
	comp=Z,51nm,0.9s							
MTSU	**Mount Surprise**	**16.39**	**167**	P		**P**	**20 04 42.4**	**+0.5**
	baz=16,SNR=4.1							
MTSU	**Mount Surprise**	**16.39**	**167**	P		**P**	**20 04 44.7**	**+2.8**
KMSI	**Cibinong**	**16.79**	**279**	P		**P**	**20 04 47.5**	**+1.1**
	comp=Z,1μmcomp=Z,132nm,1.0s							

GTOI	**Gorontalo**	**17.76**	**279**	P		**P**	**20 04 58.9**	**+1.8**
	comp=Z,724nmcomp=Z,54nm,1.0s							
LUWI	**Luwuk**	**17.82**	**273**			**Pn**	**20 04 56.6**	**-0.6**
LUWI				IAmb		IAmb	20 05 02.8	
	comp=Z,198nm,1.3s							
LUWI	**Luwuk**	**17.82**	**273**	P		**P**	**20 04 57.7**	**-0.1**
	comp=Z,2μmcomp=Z,160nm,1.0s							
LUWI	**Luwuk**	**17.82**	**273**	P		**P**	**20 05 01.6**	**+3.9**
KNRA	**Kununurra**	**17.84**	**220**	P		**P**	**20 04 57.8**	**-0.1**
	baz=18,SNR=25							
KNRA	**Kununurra**	**17.84**	**220**			**Pn**	**20 04 56.9**	**-0.5**
KNRA	**Kununurra**	**17.84**	**220**	P		**P**	**20 04 58.9**	**+0.9**
QIS	**Mount Isa**	**18.40**	**183**	P		**Pn**	**20 05 04.6**	**+0.3**
	baz=18,SNR=6.1							
QIS	**Mount Isa**	**18.40**	**183**	P		**Pn**	**20 05 05.1**	**+0.8**
WB0	**Warramunga Arr**	**18.60**	**199**	P		**P**	**20 05 06.5**	**+0.1**
BATI	**Baumata**	**18.64**	**244**	Pn		**Pn**	**20 05 08.6**	**+1.3**
	comp=Z,9.1nm,0.3s,baz=46,slow=2.4,SNR=40							
BATI				Sn		**Sn**	**20 08 36.5**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=90,slow=18,SNR=1.3							
BATI	**Baumata**	**18.64**	**244**	P		**Pn**	**20 05 08.6**	**+1.3**
	comp=Z,2μmcomp=Z,172nm,0.8s							
WR0	**Warramunga Arr**	**18.74**	**198**	P		**P**	**20 05 07.8**	**0.0**
CTA	**Charters Tower**	**18.75**	**163**	Pn		**Pn**	**20 05 08.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=335,slow=11,SNR=8.5							
CTA				LR		LR	20 13 01.7	
	comp=Z,1μm,18.6s,baz=348,slow=39							
	comp=Z,13nm,0.9s							
CTA	**Charters Tower**	**18.75**	**163**	P		**Pn**	**20 05 11.7**	**+3.2**
CTA				pmax		pmax		
	comp=Z,22nm,1.2s							
CTA	**Charters Tower**	**18.75**	**163**	P		**Pn**	**20 05 11.6**	**+3.1**
CTAO	**Charters Tower**	**18.75**	**163**	P		**P**	**20 05 07.8**	**-0.2**
CTAO	**Charters Tower**	**18.75**	**163**	P		**P**	**20 05 07.8**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,31nm,1.3s							
CTAO	**Charters Tower**	**18.75**	**163**	P		**Pn**	**20 05 10.7**	**+2.2**
WRAB	**Tennant Creek**	**18.77**	**198**	P		**P**	**20 05 07.6**	**-0.6**
WRAB	**Tennant Creek**	**18.77**	**198**	⇓*e*P		**Pn**	**20 05 08.6**	**-0.2**
WRAB				pmax		pmax		
	comp=Z,52nm,1.0s							
WRAB	**Tennant Creek**	**18.77**	**198**	P		**Pn**	**20 05 08.5**	**-0.2**
WB2	**Warramunga Arr**	**18.78**	**198**	P		**P**	**20 05 08.1**	**-0.2**
WRA	**Warramunga Arr**	**18.78**	**198**	P		**Pn**	**20 05 08.7**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=24,slow=12,SNR=46							
WRA				S		**Sn**	**20 08 33.9**	**-4.6**
	comp=Z,5.9nm,0.8s,baz=27,slow=24,SNR=4.6							
WRA				LR		LR	20 13 16.2	
	comp=Z,2μm,20.2s,baz=20,slow=40							
	comp=Z,46nm,1.1s							
WRA	**Warramunga Arr**	**18.78**	**198**	P		**P**	**20 05 08.2**	**-0.1**
WRA	**Warramunga Arr**	**18.78**	**198**	*i* P		**P**	**20 05 08.3**	**-0.1**
WRA				pmax		pmax		
	comp=Z,25nm,0.9s							
MRSI	**Marisa**	**18.80**	**278**	P		**Pn**	**20 05 09.6**	**+0.5**
	comp=Z,711nmcomp=Z,74nm,0.9s							
APSI	**Ampana**	**18.95**	**273**	P		**Pn**	**20 05 12.0**	**+1.1**
	comp=Z,905nmcomp=Z,85nm,1.1s							
MMRI	**Maumere**	**19.38**	**250**	P		**Pn**	**20 05 15.7**	**-0.4**
EDFI	**Ende, Flores**	**19.92**	**250**	P		**P**	**20 05 21.8**	**+0.8**
	comp=Z,262nmcomp=Z,17nm,0.8s							
HNR	**Honiara**	**20.61**	**112**	LR		LR	20 13 34.7	
	comp=Z,μm,19.7s,baz=344,slow=37							
HNR	**Honiara**	**20.61**	**112**	P		Pn	20 05 41.2	+11
	comp=Z,236nm,1.1s							
BKSI	**Bulukumba**	**20.66**	**260**	P		**P**	**20 05 29.6**	**+0.8**
	comp=Z,638nmcomp=Z,48nm,0.9s							
TTSI	**Tana Toraja**	**20.75**	**267**	P		Pn	20 05 31.9	-0.4
	comp=Z,2μmcomp=Z,137nm,1.0s							
MPSI	**Mapaga**	**20.80**	**276**	P		Pn	20 05 32.4	-0.6
	comp=Z,1μmcomp=Z,84nm,1.0s							
SPSI	**Sidrap Palu**	**20.86**	**264**	P		Pn	20 05 32.8	-0.7
	comp=Z,697nmcomp=Z,56nm,0.9s							
KAPI	**Kappang**	**20.98**	**261**	P		**P**	**20 05 33.0**	**+0.6**
	comp=Z,7.6nm,0.9s,baz=134,slow=7.8,SNR=6.9							
	comp=Z,7.6nm,0.9s							
KAPI	**Kappang**	**20.98**	**261**	P		**P**	**20 05 33.2**	**+0.9**
KAPI	**Kappang**	**20.98**	**261**	⇑*e*P		Pn	20 05 34.3	-0.7
KAPI				pmax		pmax		
	comp=Z,16nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.64**	**222**	P		**P**	**20 05 39.9**	**+0.5**
	comp=Z,21nm,0.9s,baz=42,slow=12,SNR=24							
FITZ				S		**S**	**20 09 36.0**	**-2.1**
	comp=Z,5.9nm,0.9s,baz=60,slow=16,SNR=2.7							
FITZ				LR		LR	20 15 15.4	
	comp=Z,1μm,19.1s,baz=44,slow=40							
	comp=Z,21nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.64**	**222**	P		**P**	**20 05 40.0**	**+0.6**
	baz=21,SNR=15							
FITZ	**Fitzroy Crossi**	**21.64**	**222**	P		**P**	**20 05 39.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.64**	**222**	P		**P**	**20 05 40.0**	**+0.6**
AS31	**Alice Springs**	**22.42**	**196**	P		**P**	**20 05 48.4**	**+0.7**
ASAR	**Alice Springs**	**22.42**	**196**	P		**P**	**20 05 47.9**	**+0.1**
	comp=Z,14nm,0.8s,baz=28,slow=9.6,SNR=65							
ASAR				S		**S**	**20 09 51.3**	**-1.6**
	comp=Z,4.0nm,1.0s,baz=24,slow=20,SNR=4.9							
ASAR				LR		LR	20 15 08.9	
	comp=Z,2μm,21.2s,baz=26,slow=38							
	comp=Z,14nm,0.8s							
ASAR	**Alice Springs**	**22.42**	**196**	P		**P**	**20 05 47.3**	**-0.5**
ASAR	**Alice Springs**	**22.42**	**196**	P		**P**	**20 05 47.3**	**-0.5**
MYLDM	**Lahad Datu**

comp=Z,23nm,1.1s
ARMA Armidale 30.09 161 P **P** **20 07 02.6 +4.2**
BBOO Buckleboo 30.88 187 P **P** **20 07 04.6 -0.7**
FORT Forrest 30.92 201 P **P** **20 07 04.9 -0.7**
baz=31,SNR=6.1
FORT Forrest 30.92 201 P **P** **20 07 05.9 +0.3**
JOW Kunigami 31.08 338 LR LR 20 16 49.3
comp=Z,655nm,21.7s,baz=123,slow=31
HTT Hallett 31.24 183 P **P** **20 07 09.4 +0.9**
baz=31,SNR=3.9
HTT Hallett 31.24 183 P **P** **20 07 10.3 +1.8**
DZM Mont Dzumac 32.06 130 *e*P **P** **20 07 15.0 -1.0**
comp=Z,67nm,1.1s
DZM *e*S **S** **20 12 28.2 +1.3**
comp=Z,202nm,27.7s
DZM *e*LR LR 20 15 40.0
comp=Z,1µm,23.4s
DZM Mont Dzumac 32.06 130 P **P** **20 07 15.0 -1.0**
comp=Z,32nm,1.1s,baz=271,slow=12,SNR=10
DZM LR LR 20 20 13.5
comp=Z,541nm,19.9s,baz=330,slow=36
comp=Z,32nm,1.1s
DZM Mont Dzumac 32.06 130 P **P** **20 07 14.9 -1.0**
MEEK Meekatharra 32.27 219 P **P** **20 07 17.9 +0.3**
baz=32,SNR=6.7
MEEK Meekatharra 32.27 219 P **P** **20 07 17.7 +0.1**
MARNC Mare, Loyalty 32.97 128 P **P** **20 07 23.4 -0.3**
H11N1 WAKE ISLAND Hy 33.71 49 T T 20 43 08.1
baz=233,slow=76
H11N2 WAKE ISLAND Hy 33.72 49 T T 20 43 23.2
baz=233,slow=76
H11N3 WAKE ISLAND Hy 33.72 49 T T 20 43 19.7
baz=233,slow=76,SNR=7.5
CAN Canberra 34.00 168 P **P** **20 07 33.1 +0.5**
CAN Canberra 34.00 168 P **P** **20 07 33.1 +0.5**
CAN pmax pmax
comp=Z,39nm,1.1s
CAN Canberra 34.00 168 P **P** **20 07 34.9 +2.2**
CNB Canberra Magne 34.08 167 P **P** **20 07 35.6 +2.3**
baz=34,SNR=7.6
CNB Canberra Magne 34.08 167 P **P** **20 07 35.0 +1.7**
ARPS Mount Arapiles 34.55 178 P **P** **20 07 39.0 +1.6**
baz=34,SNR=6.9
ARPS Mount Arapiles 34.55 178 P **P** **20 07 38.9 +1.6**
JHJ Hachijo jima 2 35.00 359 LR LR 20 18 42.0
comp=Z,860nm,20.8s,baz=122,slow=31
BRAT Ballarat 35.45 175 P **P** **20 07 48.0 +3.0**
comp=Z,23nm,1.0s
MORW Morawa 35.59 219 P **P** **20 07 45.3 -1.1**
baz=35,SNR=4.9
MORW Morawa 35.59 219 P **P** **20 07 46.3 -0.1**
MORW IAmb IAmb 20 07 48.6
comp=Z,37nm,1.1s
MORW Morawa 35.59 219 P **P** **20 07 47.2 +0.8**
TOO Toolangi 35.62 173 P **P** **20 07 49.4 +2.8**
baz=36,SNR=4.4
TOO Toolangi 35.62 173 P **P** **20 07 46.7 +0.1**
TOO IAmb IAmb 20 07 50.6
comp=Z,25nm,1.1s
TOO Toolangi 35.62 173 P **P** **20 07 46.7 +0.1**
TOO pmax pmax
comp=Z,25nm,1.1s
TOO Toolangi 35.62 173 P **P** **20 07 50.5 +3.9**
BLDU Ballidu 36.29 216 P **P** **20 07 50.5 -1.9**
baz=36,SNR=7.0
BLDU Ballidu 36.29 216 P **P** **20 07 53.8 +1.4**
KLBR Kellerberrin 36.41 214 P **P** **20 07 52.1 -1.4**
baz=36,SNR=4.6
QIZ Qiongzhong 36.77 306 P **P** **20 07 57.3 +0.7**
QIZ S **S** **20 13 38.6 -0.8**
QIZ SS **SS** **20 16 20.3 -0.4**
QIZ pmax pmax
comp=Z,26nm,1.1s
QIZ LR LR
comp=Z,420nm,12.7s
QIZ LR LR
comp=Z,350nm,23.1s
QIZ LR LR
comp=Z,410nm,25.5s
NWAO Narrogin (SRO) 37.71 213 LR LR 20 25 11.0
comp=Z,1µm,18.1s,baz=255,slow=39
MASI Maura Aman, Be 38.30 268 P **P** **20 08 11.2 +1.4**
comp=Z,50nm,1.1s
MJAR Matsushiro Arr 38.47 357 P **P** **20 08 08.9 -1.9**
comp=Z,3.3nm,0.7s,baz=176,slow=9.2,SNR=5.0
MJAR PcP **PcP** **20 10 20.5 -3.2**
comp=Z,1.4nm,0.9s,baz=196,slow=2.7,SNR=4.3
MJAR LR LR 20 23 02.9
comp=Z,167nm,19.2s,baz=156,slow=35
comp=Z,3.3nm,0.7s
KRJI Kerinci 39.08 269 P **P** **20 08 17.2 +0.8**
comp=Z,79nm,1.1s
SDSI Sungai Dareh 39.14 271 P **P** **20 08 16.9 +0.1**
comp=Z,384nmcomp=Z,22nm,1.2s
BKNI Bangkinang 39.59 273 P **P** **20 08 21.3 +0.8**
NJ2 Nanjing 39.69 331 *e*P P 20 08 27.6 +6.6
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
JMM Marumori 39.73 0 P **P** **20 08 19.5 -1.7**
MSVF Nonsavu 39.94 115 LR LR 20 23 00.0
comp=Z,257nm,21.4s,baz=254,slow=33
JSD Sado 39.96 357 P **P** **20 08 21.8 -1.4**
JSD IAmb IAmb 20 08 30.3
comp=Z,38nm,0.9s
IPM Ipoh 40.05 279 P **P** **20 08 24.5 +0.2**
IPM IAmb IAmb 20 09 56.5
comp=Z,35nm,0.6s
PDSI Padang 40.11 271 P **P** **20 08 24.1 -0.8**
comp=Z,21nm,1.1s
KULM Kulim 40.54 281 P **P** **20 08 26.8 -1.6**
KULM IAmb IAmb 20 09 54.4
comp=Z,22nm,0.6s
KSAR Wonju Array Be 41.03 345 P **P** **20 08 32.2 +0.2**
KSAR Wonju Array Be 41.03 345 P **P** **20 08 32.2 +0.2**
KSRS Korea Array 41.03 345 P **P** **20 08 31.8 -0.2**
comp=Z,3.2nm,0.9s,baz=157,slow=7.7,SNR=6.0
KSRS PcP **PcP** **20 10 33.6 +1.9**
comp=Z,2.5nm,0.9s,baz=166,slow=4.9,SNR=4.8
comp=Z,3.2nm,0.9s
SISI Saibi 41.47 270 P **P** **20 08 36.0 0.0**
comp=Z,57nm,1.0s
RPSI Rantau Prapat 41.90 276 P **P** **20 08 39.6 0.0**
RPSI IAmb IAmb 20 08 41.6
comp=Z,44nm,1.0s
PSI Prapat 41.91 276 P **P** **20 08 39.6 -0.2**
PSI pmax pmax
comp=Z,44nm,1.0s
GSI Gunungsitoli 43.12 274 P **P** **20 08 48.1 -1.3**
GSI IAmb IAmb 20 08 50.6
comp=Z,39nm,0.8s
GSI Gunungsitoli 43.12 274 P **P** **20 08 48.6 -0.9**
comp=Z,64nm,1.0s
KCSI Kotacane, Aceh 43.14 277 P **P** **20 08 48.6 -1.1**
comp=Z,37nm,0.9s
GYA Guiyang 43.31 313 ⇓P **P** **20 08 53.8 +2.8**
GYA pmax pmax
comp=Z,13nm,0.9s
TIA Tai'an 43.91 332 ⇑P P 20 09 02.9 +7.4
TIA pmax pmax
comp=Z,19nm,0.9s
LYN LuoYang 44.98 327⇑ *i*P **P** **20 09 04.6 +0.6**
KMI Kunming 45.54 309 ⇓P **P** **20 09 12.0 +3.0**
KMI pmax pmax
comp=Z,11nm,1.4s
CMAR Chiang Mai Arr 45.75 298 P **P** **20 09 10.8 +0.4**
comp=Z,2.2nm,0.4s,baz=116,slow=6.2,SNR=14
CMAR PcP **PcP** **20 10 49.6 +1.5**
comp=Z,1.9nm,0.4s,baz=123,slow=3.3,SNR=5.0
comp=Z,2.2nm,0.4s
CMAR Chiang Mai Arr 45.75 298 P **P** **20 09 10.6 +0.1**
CMAR Chiang Mai Arr 45.75 298 *i* P **P** **20 09 11.3 +0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CHTO Chiang Mai 45.88 299 P **P** **20 09 15.5 +4.0**
HNS HongShan 46.01 331 ⇑P **P** **20 09 13.3 +1.1**
HNS pmax pmax
comp=Z,27nm,1.1s
XAN Xi'an 46.65 323 ⇑P **P** **20 09 18.6 +1.3**
XAN pP sP 20 09 25.3 -1.0
XAN pmax pmax
comp=Z,17nm,1.0s
USRK Ussuriysk Ar. 46.70 352 P **P** **20 09 17.1 -0.3**
comp=Z,5.2nm,0.9s,baz=159,slow=9.3,SNR=6.0
USRK LR LR 20 25 30.6
comp=Z,462nm,21.3s,baz=240,slow=32
comp=Z,5.2nm,0.9s
USRK Ussuriysk Ar. 46.70 352 P **P** **20 09 17.9 +0.4**
USRK Ussuriysk Ar. 46.70 352 P **P** **20 09 17.9 +0.4**
PZH PanZhiHua 47.02 310 P **P** **20 09 22.8 +2.3**
PZH pmax pmax
comp=Z,9.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.8s
BJT Baijiatuau 47.47 334 P **P** **20 09 24.5 +0.9**
BJT IAmb IAmb 20 09 33.8
comp=Z,26nm,1.3s
BJT Baijiatuau 47.47 334 P **P** **20 09 24.5 +0.9**
BJT pmax pmax
comp=Z,26nm,1.3s
BJI Beijing 47.48 335 P **P** **20 09 25.0 +1.3**
BJI S **S** **20 16 19.0 +2.0**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI pmax pmax
comp=Z,78nm,4.5s
BJI LR LR
comp=Z,91nm,19.6s
BJI LR LR
comp=Z,220nm,19.8s
BJI LR LR
comp=Z,490nm,20.8s
MDJ Mudanjiang 47.50 349 P **P** **20 09 23.4 -0.3**
MDJ IAmb IAmb 20 09 31.8
comp=Z,17nm,1.2s
MDJ Mudanjiang 47.50 349 P **P** **20 09 23.8 +0.1**
MDJ pP pP 20 09 28.3 -1.9
MDJ sP sP 20 09 30.6 -2.2
MDJ S **S** **20 16 21.8 +4.7**
MDJ sS sS 20 16 28.3 +0.7
MDJ ScS **ScS** **20 19 18.4 +2.3**
MDJ pmax pmax
comp=Z,11nm,1.5s
MDJ pmax pmax
comp=Z,110nm,5.0s
MDJ LR LR
comp=Z,320nm,16.8s
MDJ LR LR
comp=Z,300nm,17.6s
MDJ LR LR
comp=Z,570nm,20.5s
CN2 Changchun 47.63 345 *e*P **P** **20 09 25.3 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
BNX BinXian 49.01 348 ⇓P **P** **20 09 36.4 +1.0**
BNX pmax pmax
comp=Z,20nm,1.0s
BNX pmax pmax
comp=Z,310nm,4.0s
URZ Urewera 49.14 142 LR LR 20 30 48.3
comp=Z,334nm,18.2s,baz=32,slow=37
BKZ Black Stump Fm 49.33 143 P **P** **20 09 37.7 -0.4**
RPZ Rata Peaks 49.52 151 LR LR 20 31 08.1
comp=Z,295nm,18.5s,baz=310,slow=37
RPZ Rata Peaks 49.52 151 P **P** **20 09 39.1 -0.3**
HHC Hu-ho-hao-te 50.23 331 *e*P **P** **20 09 46.5 +1.6**
HHC S **S** **20 16 57.6 +1.7**
HHC pmax pmax
comp=Z,47nm,0.9s
HHC pmax pmax
comp=Z,280nm,6.2s
HHC LR LR
comp=Z,590nm,13.7s
HHC LR LR
comp=Z,380nm,14.4s
HHC LR LR
comp=Z,550nm,17.2s
BTO Baotou 50.80 330 *e*P **P** **20 09 45.1 -4.1**
BTO S **S** **20 16 58.8 -5.0**
BTO LR LR
comp=N,1µm,15.9s
BTO LR LR
comp=E,860nm,6.3s
LZH Lanzhou 51.11 322 ⇑P **P** **20 09 53.3 +1.6**
LZH sP sP 20 10 00.3 -0.4
LZH sS sS 20 17 24.4 +5.2
LZH pmax pmax
comp=E,34nm,1.5s
LZH LR LR
comp=E,260nm,11.7s
LZH LR LR
comp=E,220nm,12.4s
LZH LR LR
comp=E,300nm,13.4s
KLR Kul'dur 51.66 353 P **P** **20 09 54.1 -1.2**
comp=E,5.2nm,0.9s,baz=172,slow=6.1,SNR=8.2
comp=E,5.2nm,0.9s
KLR Kul'dur 51.66 353 *de*P **P** **20 09 55.7 +0.3**
KLR pmax pmax
comp=Z,19nm,1.4s
HIA Hailar 54.21 343 P **P** **20 10 13.9 -0.4**
HIA IAmb IAmb 20 10 22.6
comp=Z,14nm,1.2s
HIA Hailar 54.21 343 P **P** **20 10 13.9 -0.4**
HIA pmax pmax
comp=Z,14nm,1.2s
GTA Gaotai 55.68 322 ⇓P **P** **20 10 25.9 +0.7**
GTA pP pP 20 10 31.9 +0.2
GTA sP pwP 20 10 35.3 -0.8
GTA S **S** **20 18 13.9 +3.6**
GTA sS sS 20 18 25.0 +3.8
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,97nm,5.3s
GTA LR LR
comp=Z,200nm,19.6s
GTA LR LR
comp=Z,160nm,22.5s
GTA LR LR
comp=Z,220nm,22.9s
ZEA Zeya 56.71 351⇑ *e*P **P** **20 10 32.8 +0.7**
LSA Lhasa 56.77 308 P **P** **20 10 33.1 -0.5**
LSA Lhasa 56.77 308 P **P** **20 10 33.1 -0.5**
LSA pmax pmax
comp=Z,6.0nm,1.0s
PETK Petropavlovsk- 56.82 12 P **P** **20 10 31.9 -1.1**
comp=Z,5.0nm,1.1s,baz=188,slow=4.4,SNR=2.5
comp=Z,5.0nm,1.1s
GOMU GeErMu 57.12 316 P **P** **20 10 36.5 +0.7**
GOMU sP pP 20 10 41.5 -1.0
GOMU S **S** **20 18 23.6 -6.4**
GOMU pmax pmax
comp=Z,5.0nm,0.9s
GOMU LR LR
comp=Z,79nm,17.3s
GOMU LR LR
comp=Z,160nm,14.6s
GOMU LR LR
comp=Z,170nm,21.0s
ULN Ulaanbaatar 57.69 334 P **P** **20 10 38.4 -1.0**
ULN Ulaanbaatar 57.69 334⇑ *e*P **P** **20 10 39.9 +0.6**
ULN pmax pmax
comp=Z,9.0nm,1.3s
SONM Songino Array 57.95 333 P **P** **20 10 40.1 -1.1**
comp=Z,0.6nm,0.4s,baz=141,slow=7.1,SNR=4.6
SONM LR LR 20 33 50.8
comp=Z,291nm,21.6s,baz=134,slow=34
comp=Z,0.6nm,0.4s
SONM Songino Array 57.95 333 P **P** **20 10 40.8 -0.4**
SONM Songino Array 57.95 333 P **P** **20 10 40.8 -0.4**
SONM pmax pmax
comp=Z,18nm,1.9s
RAR Rarotonga 61.06 113 LR LR 20 36 10.5
comp=Z,138nm,18.8s,baz=286,slow=35
ZAK Zakamensk 61.22 334 *e*P **P** **20 11 03.4 -0.2**
ZAK pmax pmax
comp=Z,11nm,1.2s
SHEM Shemya Is, Ala 61.43 22 LR LR 20 32 38.9
comp=Z,234nm,21.9s,baz=272,slow=31
MA2 Magadan 61.98 6 LR LR 20 35 14.1
comp=Z,129nm,22.0s,baz=183,slow=33
MOY Mondy 63.15 334 *e*P **P** **20 11 17.5 +1.0**
MOY pmax pmax
comp=Z,27nm,1.8s
YAK Yakutsk 64.46 354 LR LR 20 36 55.5
comp=Z,146nm,21.9s,baz=260,slow=34
YAK Yakutsk 64.46 354 P **P** **20 11 24.5 -0.3**
YAK Yakutsk 64.46 354 *e*P **P** **20 11 24.7 -0.1**
YAK pmax pmax
comp=E,7.0nm,1.2s
SEY Seymchan 65.44 6⇓ *e*P **P** **20 11 31.5 +0.3**
SEY pmax pmax
comp=Z,10.0nm,1.4s
WMQ Urumqi 65.68 321 *e*P **P** **20 11 34.3 +1.1**
WMQ sP sP 20 11 42.1 -0.4
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ LR LR
comp=Z,140nm,23.1s
CASY Casey 67.50 193 P **P** **20 11 45.1 +0.9**
DGZ Jazzator, Alta 68.78 326⇓ *e*P **P** **20 11 53.1 +0.2**
DGZ pmax pmax
comp=Z,9.0nm,1.5s
PPT Papeete 70.18 108 LR LR 20 38 58.9
comp=Z,142nm,20.6s,baz=256,slow=33
PPT2 Papeete2 70.18 108 *e*LR LR 20 33 19.8
comp=Z,170nm,21.5s
MK31 Makanchi Array 70.43 322 P **P** **20 12 02.7 -0.2**
MK31 IAmb IAmb 20 12 05.5
comp=Z,10nm,1.1s
MK31 Makanchi Array 70.43 322 *d* i P **P** **20 12 03.5 +0.5**
MKAR Makanchi Array 70.43 322 P **P** **20 12 03.2 +0.2**
comp=Z,8.0nm,0.8s,baz=114,slow=7.7,SNR=39
MKAR LR LR 20 45 42.1
comp=Z,66nm,18.1s,baz=127,slow=38
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 70.43 322 P **P** **20 12 02.8 -0.1**
MKAR Makanchi Array 70.43 322 *i* P **P** **20 12 03.5 +0.5**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 70.63 322 P **P** **20 12 03.6 -0.6**
MAKZ IAmb IAmb 20 12 06.1
comp=Z,12nm,0.9s
MAKZ Makanchi 70.63 322 P **P** **20 12 03.6 -0.6**
MAKZ pmax pmax
comp=Z,12nm,0.9s
SHLS Shalkode 70.80 317 *e*P **P** **20 12 04.5 -0.9**
SHLS pmax pmax
comp=Z,10.0nm,1.2s
TBI Tubuai 70.81 114 *e*LR LR 20 33 36.8
comp=Z,155nm,25.2s
KPKS Kokpek 71.44 317 *e*P **P** **20 12 09.9 +0.6**
KPKS pmax pmax
comp=Z,10.0nm,1.1s
KSH Kashi 72.00 313 P **P** **20 12 15.0 +2.2**
KSH sP sP 20 12 22.3 +0.1
KSH PcP **PcP** **20 12 30.1 -1.2**
KSH S **S** **20 21 36.8 +3.6**
KSH pmax pmax
comp=Z,17nm,1.0s
KSH LR LR
comp=Z,240nm,17.9s
KSH LR LR
comp=Z,130nm,18.6s
KSH LR LR
comp=Z,220nm,16.5s
BILL Bilibino 72.21 10 *e*P **P** **20 12 13.8 +0.6**
BILL *e* 20 12 28.3
BILL *e* 20 14 49.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
ARXS Arharly 72.29 318 *e*P **P** **20 12 14.8 +0.5**
ZAA0 Zalesovo Array 72.33 329 P **P** **20 12 13.4 -0.8**
ZALV Zalesovo Beam 72.33 329 P **P** **20 12 13.3 -0.9**
comp=Z,5.9nm,1.0s,baz=108,slow=6.5,SNR=14
ZALV LR LR 20 44 51.9
comp=Z,166nm,19.1s,baz=126,slow=37
comp=Z,5.9nm,1.0s
ZALV Zalesovo Beam 72.33 329 *i* P **P** **20 12 14.1 -0.1**
ZALV pmax pmax
comp=Z,6.0nm,1.0s
NIL Nilore 72.44 306 P **P** **20 12 15.5 +0.1**
NIL Nilore 72.44 306 P **P** **20 12 15.5 +0.1**
NIL pmax pmax
comp=Z,32nm,0.8s
NRN Naryn 72.60 315 P **P** **20 12 16.7 +0.1**
NRN IAmb IAmb 20 12 19.1
comp=Z,10nm,1.0s
NRN Naryn 72.60 315 P **P** **20 12 16.7 +0.1**
NRN pmax pmax
comp=Z,10.0nm,1.0s
BOOM Boomskoye usch 72.98 316 P **P** **20 12 18.9 +0.3**
BOOM IAmb IAmb 20 12 21.5
comp=Z,18nm,1.1s
BOOM Boomskoye usch 72.98 316 P **P** **20 12 18.9 +0.3**
BOOM pmax pmax
comp=Z,18nm,1.1s
TKM2 Tokmak 2 73.36 316 P **P** **20 12 21.3 +0.4**
SNR=11
UCH Uchtor 73.90 315 P **P** **20 12 25.9 +1.5**
SNR=21
CHMS Chumnysh 73.98 316 P **P** **20 12 25.0 +0.7**
SNR=10
TIXI Tiksi 73.98 356 LR LR 20 43 48.4
comp=Z,152nm,20.6s,baz=180,slow=35
AAK Ala-Archa 74.04 315 LR LR 20 45 02.1
comp=Z,66nm,21.4s,baz=102,slow=36
AAK Ala-Archa 74.04 315 P **P** **20 12 24.8 -0.1**
AAK Ala-Archa 74.04 315⇓ *e*P **P** **20 12 25.7 +0.8**
AAK pmax pmax
comp=Z,11nm,1.4s
USP Ospenovka 74.24 316 P **P** **20 12 26.5 +0.7**
SNR=18
KURK Kurchatov 74.27 324 P **P** **20 12 25.5 -0.3**
KURK IAmb IAmb 20 12 36.0
comp=Z,16nm,1.3s
KURK Kurchatov 74.27 324 *ce*P **P** **20 12 26.2 +0.5**
KURK pmax pmax
comp=Z,16nm,1.3s
KURBB Kurchatov Arra 74.28 324 P **P** **20 12 25.6 -0.3**
comp=Z,5.0nm,0.9s,baz=112,slow=5.9,SNR=24
KURBB LR LR 20 45 24.7
comp=Z,113nm,20.6s,baz=43,slow=36
comp=Z,5.0nm,0.9s
AML Almayashu 74.45 315 P **P** **20 12 29.2 +1.7**
SNR=20
EKS2 Erkin-Say 74.56 315 P **P** **20 12 29.3 +1.5**
SNR=19
BTLS Baital 75.11 318 *e*P **P** **20 12 31.2 +0.4**
BTLS pmax pmax
comp=Z,6.0nm,1.0s
BTK Batken 75.97 312 P **P** **20 12 35.3 -0.6**
BTK Batken 75.97 312 P **P** **20 12 35.3 -0.6**
BTK pmax pmax
comp=Z,8.0nm,1.1s
KBL Kabul 76.04 306 P **P** **20 12 36.3 -0.3**
KBL IAmb IAmb 20 12 38.2
comp=Z,17nm,1.0s
KBL Kabul 76.04 306 P **P** **20 12 36.3 -0.3**
KBL pmax pmax
comp=Z,17nm,1.0s
GAR Garm 76.07 311 P **P** **20 12 36.4 -0.2**
VNDA Vanda 76.26 175 P **P** **20 12 37.8 +1.1**
comp=Z,9.1nm,0.8s,baz=320,slow=6.0,SNR=55
VNDA LR LR 20 46 09.4
comp=Z,187nm,19.2s,baz=344,slow=36
comp=Z,9.1nm,0.8s
VNDA Vanda 76.26 175 P **P** **20 12 37.3 +0.6**
VNDA IAmb IAmb 20 12 39.2
comp=Z,10nm,0.8s
VNDA Vanda 76.26 175 P **P** **20 12 37.3 +0.6**
VNDA pmax pmax
comp=Z,10.0nm,0.8s
CHGR Chuyangaron 76.87 310 P **P** **20 12 41.5 +0.4**
CHGR Chuyangaron 76.87 310 P **P** **20 12 41.5 +0.4**
CHGR pmax pmax
comp=Z,60nm,1.0s
KK31 Karatay Array 76.98 315 P **P** **20 12 41.6 +0.1**
KK31 IAmb IAmb 20 12 44.0
comp=Z,11nm,1.1s
KK31 Karatay Array 76.98 315 P **P** **20 12 41.6 +0.1**
KK31 pmax pmax
comp=Z,11nm,1.1s
KKAR Karatay Array 76.98 315 P **P** **20 12 41.6 +0.1**
KKAR IAmb IAmb 20 12 44.0
comp=Z,11nm,1.1s
KKAR Karatay Array 76.98 315 P **P** **20 12 41.5 +0.1**
KKAR Karatay Array 76.98 315 P **P** **20 12 41.6 +0.1**
KKAR pmax pmax
comp=Z,11nm,1.1s
SBA Scott Base 77.00 174 P **P** **20 12 41.0 +0.1**
SBA IAmb IAmb 20 12 44.2

comp=Z,9.7nm,1.0s
SBA **Scott Base** **77.00** **174** P **P** **20 12 41.0 +0.1**
SBA pmax pmax
comp=Z,10.0nm,1.0s
IUG **Iuzhnay** **77.08** **314** *e*P **P** **20 12 42.9 +0.7**
IUG pmax pmax
comp=Z,8.0nm,1.0s
TAS **Tashkent** **77.40** **313** P **P** **20 12 44.2 +0.3**
TAS **Tashkent** **77.40** **313** P **P** **20 12 44.2 +0.3**
TAS pmax pmax
comp=Z,81nm,0.3s
BRZS **Berezniki** **77.56** **322** *e*P **P** **20 12 44.5 -0.1**
BRZS pmax pmax
comp=Z,3.0nm,1.0s
O17K **Koliganek Bris** **78.24** **27** P **P** **20 12 50.2 +2.1**
baz=245
TAOE **Nuku Hiva Isla** **79.10** **99** *e*LR LR 20 37 26.8
comp=Z,410nm,25.9s
N18K **Kilae Creek** **79.16** **27** P **P** **20 12 54.4 +1.1**
baz=246
KDAK **Kodiak Island** **79.61** **30** LR LR 20 43 20.8
comp=Z,237nm,20.6s,baz=258,slow=32
NRIK **Noril'sk** **79.64** **343** P **P** **20 12 55.7 +0.1**
comp=Z,7.2nm,0.8s,baz=106,slow=4.5,SNR=8.8
NRIK LR LR 20 48 07.6
comp=Z,234nm,20.4s,baz=128,slow=36
comp=Z,7.2nm,0.8s
NRIK **Noril'sk** **79.64** **343** P **P** **20 12 56.0 +0.4**
NRIK IAmb IAmb 20 12 57.4
comp=Z,22nm,1.2s
NRIK **Noril'sk** **79.64** **343** *d*P **P** **20 12 56.0 +0.4**
NRIK pmax pmax
comp=Z,25nm,1.5s
N19K **Bonanza Creek** **79.85** **27** P **P** **20 12 57.1 +0.1**
baz=247
BVAR **Borovoye Array** **79.86** **325** LR LR 20 48 51.5
comp=Z,52nm,20.2s,baz=92,slow=36
BRVK **Borovoye** **79.93** **325** P **P** **20 12 57.2 -0.3**
BRVK IAmb IAmb 20 12 59.7
comp=Z,16nm,1.1s
BRVK **Borovoye** **79.93** **325** *d*P **P** **20 12 57.7 +0.2**
BRVK pmax pmax
comp=Z,15nm,1.0s
L19K **White Mountain** **80.23** **25** P **P** **20 12 59.9 +0.9**
baz=246
L20K **Farewell, AK** **80.77** **25** P **P** **20 13 03.2 +1.3**
baz=247
M20K **Styx River** **80.86** **26** P **P** **20 13 02.0 -0.5**
M20K IAmb IAmb 20 13 17.6
comp=Z,16nm,1.2s
M20K **Styx River** **80.86** **26** P **P** **20 13 02.5 0.0**
baz=248
K20K **Telida** **81.03** **25** P **P** **20 13 04.1 +0.9**
baz=247
J20K **Nowinta River** **81.33** **24** P **P** **20 13 04.5 -0.3**
J20K IAmb IAmb 20 13 07.8
comp=Z,16nm,1.1s
J20K **Nowinta River** **81.33** **24** P **P** **20 13 05.3 +0.5**
baz=247
HRA **Herat** **81.54** **305** P **P** **20 13 06.5 -0.4**
SKT **Skwentna** **81.60** **26** P **P** **20 13 05.7 -0.7**
baz=249
SUA **Susitna One** **81.78** **27** P **P** **20 13 07.0 -0.4**
baz=250
RC01 **Rabbit Creek A** **82.11** **27** P **P** **20 13 09.0 0.0**
baz=251
M22K **Willow** **82.16** **27** P **P** **20 13 09.1 0.0**
baz=251
IMAR **Indian Mountai** **82.20** **22** P **P** **20 13 08.7 -0.6**
H21K **Melozitna Rive** **82.43** **23** P **P** **20 13 10.3 -0.3**
H21K **Melozitna Rive** **82.43** **23** P **P** **20 13 10.8 +0.2**
baz=248
PMR **Palmer** **82.55** **27** P **P** **20 13 10.3 -0.9**
PMR IAmb IAmb 20 13 11.9
comp=Z,18nm,1.2s
PMR **Palmer** **82.55** **27** P **P** **20 13 10.3 -0.9**
PMR pmax pmax
comp=Z,18nm,1.2s
PMR **Palmer** **82.55** **27** P **P** **20 13 10.7 -0.5**
baz=252
I21K **Tanana** **82.57** **23** P **P** **20 13 11.7 +0.4**
baz=248
BPAW **Bear Paw Mtn.** **82.58** **24** P **P** **20 13 11.7 +0.2**
baz=250
PWL **Port Wells** **82.69** **28** P **P** **20 13 12.0 -0.1**
baz=252
KNK **Knik Glacier** **82.80** **27** P **P** **20 13 12.1 -0.5**
SML **Sawmill** **82.98** **27** P **P** **20 13 13.3 -0.3**
SML **Sawmill** **82.98** **27** P **P** **20 13 13.3 -0.3**
SML pmax pmax
comp=Z,20nm,0.9s
SML **Sawmill** **82.98** **27** P **P** **20 13 13.5 -0.1**
baz=252
MLY **Manley** **83.01** **23** P **P** **20 13 13.2 -0.4**
MLY **Manley** **83.01** **23** P **P** **20 13 13.3 -0.4**
baz=250
WAT1 **Susitna Watana** **83.20** **26** P **P** **20 13 14.5 -0.2**
baz=252
RND **Reindeer** **83.25** **25** P **P** **20 13 14.0 -1.0**
RND IAmb IAmb 20 13 14.9
comp=Z,13nm,1.0s
RND **Reindeer** **83.25** **25** P **P** **20 13 14.0 -1.0**
RND pmax pmax
comp=Z,13nm,1.0s
M23K **Glacier View** **83.25** **27** P **P** **20 13 14.4 -0.5**
baz=253
MCK **McKinley** **83.31** **25** P **P** **20 13 14.6 -0.6**
baz=252
WSAR **Wadi Sarin** **83.41** **294** LR LR 20 54 31.6
comp=Z,23nm,18.6s,baz=116,slow=39
MAW **Mawson** **83.42** **202** P **P** **20 13 16.4 +0.8**
comp=Z,13nm,1.1s,baz=76,slow=6.7,SNR=11
MAW LR LR 20 48 59.1
comp=Z,261nm,18.2s,baz=61,slow=35
comp=Z,13nm,1.1s
MAW **Mawson** **83.42** **202** P **P** **20 13 17.4 +1.8**
baz=83,SNR=7.6
MAW **Mawson** **83.42** **202** P **P** **20 13 16.2 +0.6**
MAW **Mawson** **83.42** **202** P **P** **20 13 16.2 +0.6**
MAW pmax pmax
comp=Z,5.0nm,1.3s
SCM **Sheep Creek Mo** **83.44** **27** P **P** **20 13 16.3 +0.3**
baz=253
WAT6 **Susitna Watana** **83.48** **26** P **P** **20 13 16.0 -0.3**
baz=253
NEA2 **Nenana** **83.53** **24** P **P** **20 13 16.3 -0.1**
baz=251
H23K **Yukon River** **83.75** **23** P **P** **20 13 17.7 +0.3**
baz=251
DHY **Denali Highway** **83.78** **26** P **P** **20 13 16.9 -0.9**
DHY IAmb IAmb 20 13 19.0
comp=Z,13nm,0.9s
DHY **Denali Highway** **83.78** **26** P **P** **20 13 17.7 -0.1**
baz=253
G23K **Bananza Creek** **83.86** **22** P **P** **20 13 18.8 +0.7**
baz=250
WRH **Wood River Hil** **83.90** **24** P **P** **20 13 17.5 -0.7**
WRH IAmb IAmb 20 13 24.1
comp=Z,15nm,1.2s
DIV **Divide** **83.96** **28** P **P** **20 13 18.7 0.0**
KLU **Klutina** **83.99** **28** P **P** **20 13 19.0 +0.2**
KLU IAmb IAmb 20 13 20.9
comp=Z,19nm,1.2s
KLU **Klutina** **83.99** **28** P **P** **20 13 19.6 +0.8**
baz=254
M24K **Tolsona, Glenn** **84.04** **27** P **P** **20 13 19.7 +0.7**
baz=254
CCB **Clear Creek Bu** **84.07** **24** P **P** **20 13 17.2 -1.8**
CCB IAmb IAmb 20 13 22.1
comp=Z,9.1nm,1.0s
COLA **College** **84.12** **24** *e*P **P** **20 13 19.0 -0.3**
COLA pmax pmax
comp=Z,7.0nm,0.9s
H24K **Noodor Dome** **84.40** **23** P **P** **20 13 20.6 -0.2**
H24K IAmb IAmb 20 13 31.0
comp=Z,9.6nm,1.1s
H24K **Noodor Dome** **84.40** **23** P **P** **20 13 21.5 +0.7**
baz=252
BMRM **Bremner River** **84.47** **28** P **P** **20 13 21.9 +0.6**
baz=256
IL31 **84.48** **24** P **P** **20 13 19.1 -2.0**
IL31 IAmb IAmb 20 13 20.9
comp=Z,8.6nm,1.1s
ILAR **Eielson Array** **84.48** **24** P **P** **20 13 18.9 -2.2**
comp=Z,4.2nm,0.9s,baz=256,slow=5.3,SNR=19
ILAR LR LR 20 45 28.0
comp=Z,58nm,20.1s,baz=246,slow=32
comp=Z,4.2nm,0.9s
ILAR **Eielson Array** **84.48** **24** P **P** **20 13 19.1 -2.0**
ILAR **Eielson Array** **84.48** **24** P **P** **20 13 19.1 -2.0**
K24K **Donnelly Dome** **84.68** **25** P **P** **20 13 23.0 +0.8**
baz=254
GLB **Gilahina Butte** **84.96** **28** P **P** **20 13 23.4 -0.3**
RIDG **Independent Ri** **85.06** **25** P **P** **20 13 23.8 -0.4**
RIDG IAmb IAmb 20 13 25.2
comp=Z,15nm,1.1s
RIDG **Independent Ri** **85.06** **25** P **P** **20 13 24.0 -0.1**
baz=255
J25K **Salcha River,** **85.07** **25** P **P** **20 13 23.3 -0.9**
J25K IAmb IAmb 20 13 26.2
comp=Z,8.7nm,1.1s
J25K **Salcha River,** **85.07** **25** P **P** **20 13 23.6 -0.6**
baz=255
GEYT **Alibeck** **85.30** **308** P **P** **20 13 26.4 +0.5**
comp=Z,17nm,1.0s,baz=111,slow=3.7,SNR=30
GEYT LR LR 20 53 13.0
comp=Z,97nm,21.3s,baz=142,slow=37
comp=Z,17nm,1.0s
GEYT **Alibeck** **85.30** **308** P **P** **20 13 26.8 +0.8**
GYA0B **ALIBECK ARRAY** **85.30** **308** P **P** **20 13 26.9 +1.0**
DOT **Dot Lake** **85.38** **26** P **P** **20 13 24.7 -1.0**
DOT IAmb IAmb 20 13 26.9
comp=Z,12nm,1.1s
ABKAR **Akbulak array** **85.43** **320** P **P** **20 13 25.8 -0.4**
ABKAR IAmb IAmb 20 13 28.3
comp=Z,14nm,1.1s
ABKAR **Akbulak array** **85.43** **320** P **P** **20 13 25.5 -0.7**
L26K **Log Cabin Wild** **85.54** **26** P **P** **20 13 26.7 +0.2**
L26K IAmb IAmb 20 13 28.1
comp=Z,10nm,1.1s
L26K **Log Cabin Wild** **85.54** **26** P **P** **20 13 27.0 +0.5**
baz=257
F25K **Christian Rive** **85.76** **22** P **P** **20 13 28.6 +1.0**
baz=254
J26L **Joseph Creek** **85.79** **25** P **P** **20 13 27.6 -0.3**
J26L IAmb IAmb 20 13 31.1
comp=Z,7.8nm,1.1s
D25K **Kavik River** **85.99** **20** P **P** **20 13 29.4 +0.7**
baz=253
CTG **Chitna Glacier** **86.02** **29** P **P** **20 13 30.0 +0.8**
baz=259
M27K **Edge Creek, AK** **86.06** **27** P **P** **20 13 28.6 -0.7**
M27K IAmb IAmb 20 13 30.6
comp=Z,12nm,0.9s
M27K **Edge Creek, AK** **86.06** **27** P **P** **20 13 29.7 +0.4**
baz=258
BMAR **Burnt Mountain** **86.11** **22** P **P** **20 13 29.7 +0.4**
L27K **Beaver Creek,** **86.22** **26** P **P** **20 13 30.4 +0.5**
baz=258
BCAR **Beaver Creek A** **86.24** **26** P **P** **20 13 30.1 +0.1**
G26K **Porcupine Rive** **86.29** **22** P **P** **20 13 31.1 +0.9**
baz=256
K27K **Chicken** **86.32** **25** P **P** **20 13 31.1 +0.7**
baz=258
F26K **Sheenjek River** **86.34** **22** P **P** **20 13 31.2 +0.8**
baz=256
YUK3 **Moose Creek** **86.59** **28** P **P** **20 13 32.5 +0.4**
baz=259
AKTO **Aktyubinsk** **86.83** **321** LR LR 20 52 37.0
comp=Z,86nm,21.8s,baz=87,slow=36
H27K **Steamboat Moun** **87.01** **23** P **P** **20 13 34.4 +0.6**
baz=258
ARU **Arti** **87.28** **327** LR LR 20 54 19.5
comp=Z,107nm,19.9s,baz=88,slow=37
ARU **Arti** **87.28** **327** P **P** **20 13 34.6 -0.5**
ARU **Arti** **87.28** **327** *e*P **P** **20 13 34.2 -1.0**
ARU pmax pmax
comp=Z,7.0nm,1.2s
E27K **Coleen River** **87.39** **21** P **P** **20 13 36.3 +0.8**
baz=258
DAWY **Dawson** **87.49** **26** P **P** **20 13 36.0 -0.1**
DAWY IAmb IAmb 20 13 38.7
comp=Z,14nm,1.1s
DAWY **Dawson** **87.49** **26** P **P** **20 13 36.8 +0.7**
baz=260
M29M **Somme Creek** **87.64** **27** P **P** **20 13 37.3 +0.4**
baz=261
HYT **Haines Junctio** **87.85** **29** P **P** **20 13 37.0 -1.0**
HYT IAmb IAmb 20 13 39.9
comp=Z,12nm,1.0s
HYT **Haines Junctio** **87.85** **29** P **P** **20 13 38.4 +0.4**
baz=262
QSPA **South Pole Qui** **87.88** **180** LR LR 20 51 55.5
comp=Z,326nm,20.9s,baz=358,slow=35
QSPA **South Pole Qui** **87.88** **180** P **P** **20 13 38.3 +0.3**
L29M **L29M** **87.89** **27** P **P** **20 13 38.7 +0.7**
baz=261
N30M **Aishikik Lake** **88.13** **28** P **P** **20 13 40.1 +0.9**
baz=262
I29M **Ogilvie Camp,** **88.16** **24** P **P** **20 13 39.2 0.0**
I29M **Ogilvie Camp,** **88.16** **24** P **P** **20 13 40.3 +1.0**
baz=261
K29M **Barlow Dome** **88.27** **26** P **P** **20 13 40.8 +0.9**
baz=262
M30M **Minto, Yukon** **88.42** **27** P **P** **20 13 40.7 +0.1**
baz=262
EPYK **Eagle Plains** **88.95** **24** P **P** **20 13 43.1 +0.1**
baz=262
WHY **Whitehorse** **89.11** **29** P **P** **20 13 44.2 +0.3**
baz=264
FARO **Faro, Yukon** **89.98** **28** P **P** **20 13 48.4 +0.5**
baz=266
INK **Inuvik** **90.38** **22** LR LR 20 49 16.0
comp=Z,86nm,21.1s,baz=203,slow=32
INK **Inuvik** **90.38** **22** P **P** **20 13 49.6 0.0**
baz=265
DLBC **Dease Lake** **91.43** **32** LR LR 20 50 33.6
comp=Z,112nm,19.6s,baz=288,slow=33
KIRV **Kirov** **92.35** **328** LR LR 20 56 11.3
comp=Z,189nm,21.0s,baz=87,slow=36
BBB **Bella Bella** **92.43** **38** LR LR 20 48 56.7
comp=Z,106nm,19.1s,baz=262,slow=31
BELG **Belogornoye** **93.43** **322** LR LR 20 57 41.1
comp=Z,107nm,20.8s,baz=54,slow=36
BELG **Belogornoye** **93.43** **322** *d*P **P** **20 14 02.1 -1.9**
BELG pmax pmax
comp=Z,4.0nm,1.0s
GNI **Garni** **95.78** **310** LR LR 21 01 39.7
comp=Z,26nm,21.9s,baz=88,slow=38
YBH **Yreka Blue Hor** **96.39** **48** LR LR 20 49 12.0
comp=Z,169nm,21.8s,baz=298,slow=30
KBZ **Khabaz** **96.97** **314** LR LR 20 59 58.6
comp=Z,36nm,22.0s,baz=64,slow=37
KVAR **Kislovodsk Arr** **97.10** **314** LR LR 21 00 54.4
comp=Z,27nm,21.5s,baz=307,slow=37
KIV **Kislovodsk** **97.11** **314** *e*P **P** **20 14 19.3 -1.9**
KIV pmax pmax
comp=Z,5.0nm,1.1s
VORR **Voronezh** **98.66** **322** *e*P **P** **20 14 26.8 -1.0**
VORR pmax pmax
comp=Z,40nm,0.4s
SPITS **Spitsbergen Ar** **98.68** **350** LR LR 20 58 41.1
comp=Z,206nm,20.4s,baz=6.0,slow=35
SOC **Sochi** **99.28** **314** *e*P **Pdif** **20 14 27.2 -3.6**
SOC *e* 20 18 31.1
SOC *e*S **SKSac** **20 25 04.8 -3.1**
SOC *e*SS **SS** **20 32 48.3 -2.3**
SOC *e*SSS SSS 20 36 36.6
SOC MLR MLR
comp=Z,113nm,22.0s
OBN **Obninsk** **99.68** **326** *e*P **Pdif** **20 14 31.3 -1.0**
OBN *e* 20 18 37.0
OBN pmax pmax
comp=Z,4.0nm,1.3s
NEW **Newport** **99.73** **41** LR LR 20 58 21.0
comp=Z,78nm,18.0s,baz=292,slow=35
NVAR **Mina Array Bea** **100.00** **51** P **Pdif** **20 14 33.9 -0.5**
comp=Z,1.2nm,0.9s,baz=269,slow=4.5,SNR=7.5
comp=Z,1.2nm,0.9s
CLL **Collm** **114.22** **327** *e*PS PS 20 29 59.0 -2.3
CLL *e*PPS PPS 20 31 12.0
CLL *e*SS SS 20 36 12.0 -0.6
CLL *ex* x 20 38 00.0
CLL *e*SSS SSS 20 40 36.0
CLL Lm MLR 21 10 00.0
comp=Z,200nm,20.8s
GERES **GERESS Array B** **115.02** **324** PKP **PKiKP** **20 19 28.9 -0.9**
comp=Z,0.2nm,0.4s,baz=83,slow=3.1,SNR=4.0
MIAR **Mount Ida** **120.22** **51** P **PKiKP** **20 19 41.1 +0.8**
baz=290
O48B **Farmland** **123.84** **41** P **PKiKP** **20 19 47.1 -0.2**
baz=301
P49A **Miami Univ. Ec** **124.50** **42** P **PKPdf** **20 19 48.4 +0.1**
baz=301
PLCA **Paso Flores** **128.82** **150** PKP **PKPdf** **20 19 56.0 -0.7**
comp=Z,4.2nm,0.9s,baz=225,slow=4.7,SNR=6.9
TORD **Torodi Ar. Bea** **137.85** **287** PKP **PKPdf** **20 20 13.3 -0.9**
comp=Z,1.6nm,0.9s,baz=80,slow=3.1,SNR=5.3
PB16 **IPOC Station P** **144.12** **126** PKPdf PKPbc 20 20 24.6 +0.5
ITQB **Itaqui** **144.41** **154** PKPdf **PKPdf** **20 20 24.7 -0.8**
SDDR **Presa de Saban** **144.57** **59** PKPdf **PKPab** **20 20 24.0 -0.7**
ROSC **El Rosal** **145.07** **85** PKP **PKPbc** **20 20 26.4 -0.7**
comp=Z,7.1nm,0.5s,baz=334,slow=12,SNR=4.3
KIC **Kosan Boka** **145.15** **278** ‖ *e*PKP1 **PKPab** **20 20 27.0 +0.1**
comp=Z,12nm,0.8s
DBIC **Dimbokro** **145.24** **279** PKPbc **PKPbc** **20 20 27.0 -0.1**
comp=Z,14nm,0.9s,baz=81,slow=9.4,SNR=13
DBIC **Dimbokro** **145.24** **279** **PKPbc** **20 20 25.5 -1.6**
DBIC **Dimbokro** **145.24** **279** PKIKP **PKPbc** **20 20 25.5 -1.6**
TIC **Toumodi** **145.40** **279** ‖ *e*PKP1 **PKPab** **20 20 27.9 +0.1**
comp=Z,21nm,0.9s
CZSB **Cruzeiro do Su** **145.41** **107** PKPab **PKPbc** **20 20 27.1 -0.5**
LIC **Lamto** **145.45** **278** ‖ *e*PKP1 **PKPbc** **20 20 26.6 -1.2**
comp=Z,22nm,0.9s
LPAZ **La Paz** **146.29** **124** PKPbc **PKPab** **20 20 31.4 -0.3**
comp=Z,24nm,1.0s,baz=279,slow=2.4,SNR=46
LPAZ **La Paz** **146.29** **124** **PKPbc** **20 20 30.5 -0.5**
LPAZ **La Paz** **146.29** **124** PKP2 **PKPbc** **20 20 30.5 -0.5**
CPUP **Villa Florida** **146.89** **150** PKPbc **PKPbc** **20 20 31.1 -0.7**
comp=Z,22nm,0.9s,baz=216,slow=3.1,SNR=34
CPUP **Villa Florida** **146.89** **150** **PKPbc** **20 20 31.6 -0.1**
CPUP **Villa Florida** **146.89** **150** PKP2 **PKPbc** **20 20 31.7 -0.1**
ITAB **Concordia** **148.40** **158** PKPab **PKiKP** **20 20 36.8 -0.7**
BDFB **Brasilia** **160.47** **155** PKP **PKPdf** **20 20 49.0 -0.5**
comp=Z,4.6nm,0.8s,baz=174,slow=19,SNR=6.1
BDFB PKPab **PKPab** **20 21 30.3 -0.1**
comp=Z,1.5nm,0.6s,baz=162,slow=19,SNR=4.0

NOU 17 20:01:38.2, 13°.53S × 167°.68E, h0^{km}, MLv5.1/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**4.20**	**173**	P		20 02 43.4	-0.1
KOUNC	**Koumac, New Ca**	**7.70**	**204**	P		20 03 31.5	-0.1
YATNC	**Mamie plateau,**	**8.52**	**185**	P		20 03 43.5	+0.6
NOUC	**Port Laguerre**	**8.62**	**189**	P		20 03 44.6	+0.2

*JMA **17** 20:03:06.6±0.2, 29°.8N±0°.7 × 12°.9E±°, h193^{km}±1^{km}, MD4.0/36, MV4.4/36, NEAR TOKARA ISLANDS*
JMA Felt I J1 at NEAR TOKARA ISLANDS .
*NEIC **17** 20:03:06.5±1.5, 29°.82N±0°.07 × 129°.2E±0°.1, h193^{km}±7^{km}, mb4.6/46, Error ellipse: s-maj=13.4km s-min=8.9km az=109.0*
*IDC **17** 20:03:06.7±1.6, 29°.95N × 129°.16E, h207^{km}±15^{km}, mb3.5/21, mbtmp4.0/25, Error ellipse: s-maj=15.4km s-min=9.0km az=82.0*
*NIED **17** 20:03:06.6, 29°.80N × 129°.45E, h193^{km}, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.99; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$-0.30; $M_{r\theta}$-1.25; $M_{\theta\phi}$0.32; $M_{\phi r}$1.67; Fault plane solution: M_o2.27000×10^{15} NP1: ϕ_s110.00000°, δ13.00000°, λ60.00000°. NP2: ϕ_s321.00000°, δ79.00000°, λ97.00000°.*

ISC 17 20:03:06.2±0.5, 29°.80N±0°.04 × 129°.27E±0°.05, h197^{km}±5^{km}, n254, σ0^{s}96/265, mb4.3/41, 6C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.53**	**85**	P	**Pn**	**20 03 32.8**	**-0.3**
JNN				S	**Sn**	**20 03 53.6**	**-0.2**
JNN	**Nakanoshima**	**0.53**	**85**	A	A	20 03 32.8	
comp=E,5.0nm,1.2s,comp=E,3.0nm,4.5s							
JTAJ	**Takarajima**	**0.64**	**185**	*i* P	**Pn**	**20 03 33.9**	**+0.4**
JTAJ				S	**Sn**	**20 03 55.0**	**+0.3**
JKC	**Kuchinoerabu**	**1.04**	**50**	P	**Pn**	**20 03 35.5**	**-0.4**
JYAK	**Yakushimahirau**	**1.16**	**67**	P	**Pn**	**20 03 35.5**	**-1.2**
JYAK				S	**Sn**	**20 03 57.6**	**-2.8**
JAM	**Amami Oshima**	**1.41**	**168**	P	**Pn**	**20 03 39.1**	**+0.2**
JAM				S	**Sn**	**20 04 02.8**	**-1.4**
JAM	**Amami Oshima**	**1.41**	**168**	A	A	20 03 39.1	
comp=E,3.0nm,0.8s,comp=E,5.0nm,0.3s							
JMTN	**Minamitane**	**1.54**	**67**	P	**Pn**	**20 03 38.7**	**-1.2**
JMTN				*e*S	**Sn**	**20 04 04.4**	**-1.7**
JAMN	**Amaminishikomi**	**1.55**	**183**	P	**Pn**	**20 03 40.2**	**+0.2**
JAMN				S	**Sn**	**20 04 05.6**	**-0.7**
JAMN	**Amaminishikomi**	**1.55**	**183**	A	A	20 03 40.2	
comp=E,4.0nm,0.2s,comp=E,4.0nm,0.9s							
JZK	**Kikaishima**	**1.60**	**157**	P	**Pn**	**20 03 41.7**	**+1.2**
JZK				S	**Sn**	**20 04 08.7**	**+1.6**
JZK	**Kikaishima**	**1.60**	**157**	A	A	20 03 41.7	
comp=E,13nm,0.3s,comp=E,15nm,0.3s							
JSJ	**Shimokoshiki**	**1.92**	**12**	P	**Pn**	**20 03 43.0**	**-0.6**
JSJ				S	**Sn**	**20 04 11.2**	**-1.6**
JSU	**Suzuyama**	**1.99**	**31**	Pn	**Pn**	**20 03 44.0**	**-0.3**
JSU				Sn	**Sn**	**20 04 14.5**	**+0.3**
JSU	**Suzuyama**	**1.99**	**31**	P	**Pn**	**20 03 44.1**	**-0.3**
JTK	**Tokunoshima**	**2.02**	**188**	P	**Pn**	**20 03 45.1**	**+0.4**
JTK				S	**Sn**	**20 04 14.0**	**-0.7**
JTK	**Tokunoshima**	**2.02**	**188**	A	A	20 03 45.1	
comp=E,2.0nm,3.6s,comp=E,2.0nm,4.9s							
JNAR	**Kushima--Naru**	**2.44**	**45**	A	A	20 03 48.4	
comp=E,3.0nm,2.5s,comp=E,3.0nm,1.1s							
JOKE	**Okinoerabujima**	**2.50**	**194**	P	**Pn**	**20 03 49.9**	**-0.1**
JOKE				S	**Sn**	**20 04 23.0**	**-1.0**
JTZ	**Takazaki**	**2.62**	**36**	P	**Pn**	**20 03 50.5**	**-0.7**
JTZ				*e*S	**Sn**	**20 04 23.6**	**-2.8**
JIH	**Iheya**	**2.98**	**203**	*i* P	**Pn**	**20 03 55.0**	**-0.5**
JIH				S	**Sn**	**20 04 32.0**	**-1.9**
JIU3	**Izumi3**	**3.05**	**25**	*i* P	**Pn**	**20 03 56.6**	**+0.5**
JIU3				S	**Sn**	**20 04 34.2**	**-1.2**
JOW	**Kunigami**	**3.08**	**197**	P	**Pn**	**20 03 56.0**	**-0.7**
316nm,0.3s,baz=354,slow=10,SNR=380							
JOW				S	**Sn**	**20 04 32.4**	**-3.7**
184nm,0.4s,baz=112,slow=27,SNR=8.0							
JOW	**Kunigami**	**3.08**	**197**		**Pn**	**20 03 55.8**	**-0.9**
JOW	**Kunigami**	**3.08**	**197**	*i* P	**Pn**	**20 03 56.0**	**-0.7**
JTU	**Tsushima**	**4.72**	**1**	Pn	**Pn**	**20 04 17.2**	**+0.4**
KSBUS	**Busan**	**5.44**	**359**		**Pn**	**20 04 26.3**	**+0.3**
JMN	**Monobe**	**5.55**	**44**	Pn	**Pn**	**20 04 26.4**	**-1.1**
NAWB	**Namwon**	**5.83**	**345**	Pn	**Pn**	**20 04 29.9**	**-1.2**
TJN	**Taejon**	**6.75**	**347**	Pn	**Pn**	**20 04 42.7**	**-0.4**
KSCHJ	**Chungju**	**7.14**	**352**	Pn	**Pn**	**20 04 47.9**	**-0.2**
KSAR	**Wonju Array Be**	**7.71**	**352**		**Pn**	**20 04 55.7**	**+0.2**
KSRS	**Korea Array**	**7.72**	**352**	P	**Pn**	**20 04 55.9**	**+0.2**
14nm,0.7s,baz=174,slow=13,SNR=37							
KS19	**Wonju Array Si**	**7.77**	**352**		**Pn**	**20 04 56.0**	**-0.5**
SEHB	**SEOHWA**	**8.49**	**355**	Pn	**Pn**	**20 05 06.2**	**+0.4**
INU	**Inuyama**	**8.57**	**48**	Pn	**Pn**	**20 05 07.7**	**+0.9**
SSLB	**Suanglung**	**9.54**	**233**	Pn	**Pn**	**20 05 19.2**	**-0.4**
JHJ	**Hachijo jima 2**	**9.57**	**67**	P	Pn	20 05 25.6	+5.8
117nm,0.3s,baz=244,slow=18,SNR=36							
JHJ				S	**Sn**	**20 07 09.3**	**+2.4**
64nm,0.8s,baz=101,slow=18,SNR=1.9							
MJAR	**Matsushiro Arr**	**10.07**	**46**	P	**Pn**	**20 05 26.0**	**-0.3**
1.3nm,0.6s,baz=230,slow=13,SNR=12							
MJAR				S	Sn	20 07 07.4	-11
1.3nm,0.6s,baz=217,slow=16,SNR=2.7							
JMM	**Marumori**	**12.51**	**47**	Pn	**Pn**	**20 05 57.5**	**0.0**
SNY	**Shenyang**	**12.86**	**341**	⇑P	**Pn**	**20 06 03.6**	**+1.8**
SNY				pmax	pmax		
comp=Z,21nm,1.0s							
HNS	**HongShan**	**14.30**	**306**	⇓P	**P**	**20 06 22.6**	**+1.2**
HNS				pmax	pmax		
comp=Z,26nm,0.8s							
CN2	**Changchun**	**14.31**	**349**	*e*P	**P**	**20 06 22.6**	**+1.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**14.54**	**8**	P	**Pn**	**20 06 23.0**	**+0.3**
comp=Z,2.1nm,0.5s,baz=186,slow=12,SNR=5.5							
USRK	**Ussuriysk Ar.**	**14.54**	**8**		**P**	**20 06 23.7**	**-0.3**
MDJ	**Mudanjiang**	**14.80**	**1**	P	**Pn**	**20 06 25.4**	**-0.5**
MDJ				sP	P	20 07 12.9	+46
MDJ				S	**S**	**20 09 10.8**	**+0.3**
MDJ				PcS	**PcS**	**20 14 57.3**	**-0.3**
MDJ				pmax	pmax		
comp=Z,6.0nm,1.9s							
MDJ				pmax	pmax		
comp=Z,210nm,4.6s							
BJT	**Baijiatuau**	**14.80**	**317**	P	**P**	**20 06 26.9**	**0.0**
BJI	**Beijing**	**14.81**	**317**	P	**P**	**20 06 27.8**	**+0.8**
BJI				pmax	pmax		
comp=Z,19nm,0.9s							
LYN	**LuoYang**	**14.99**	**293**	⇓*i*P	**P**	**20 06 29.4**	**+0.3**
BNX	**BinXian**	**15.98**	**355**	⇑P	**Pn**	**20 06 41.3**	**+1.0**

BNX					pmax	pmax			
	comp=Z,13nm,1.4s								
BNX					pmax	pmax			
	comp=Z,240nm,4.2s								
ERM	**Erimo**	**16.57**	**39**	P	**P**	**20 06 44.7**	**-1.7**		
ENH	**Enshi**	**17.14**	**277**	P	**P**	**20 06 53.6**	**+0.7**		
XAN	**Xi'an**	**17.78**	**289**	⇑P	**P**	**20 06 59.9**	**+0.1**		
XAN					pmax	pmax			
	comp=Z,29nm,0.8s								
HHC	**Hu-ho-hao-te**	**18.14**	**312**	*e*P	**Pn**	**20 07 06.5**	**+0.5**		
HHC					pmax	pmax			
	comp=Z,26nm,0.7s								
HHC					pmax	pmax			
	comp=Z,140nm,6.2s								
KLR	**Kul'dur**	**19.50**	**5**	P	**P**	**20 07 15.7**	**-2.5**		
	comp=Z,1.7nm,0.3s,baz=202,slow=5.4,SNR=9.2								
YSS	**Yuzh-Sakhalins**	**20.08**	**28**	P	**P**	**20 07 25.0**	**+0.5**		
YSS				IAmb	IAmb	20 07 27.6			
	comp=Z,18nm,0.8s								
GYA	**Guiyang**	**20.20**	**266**	⇑P	**P**	**20 07 27.8**	**+1.6**		
GYA				pmax	pmax				
	comp=Z,20nm,0.9s								
LZH	**Lanzhou**	**22.21**	**293**	⇑P	**P**	**20 07 46.3**	**-0.5**		
LZH				sP	sP	20 08 48.4	+2.7		
LZH				pmax	pmax				
	comp=Z,17nm,1.3s								
LZH				LR	LR				
	comp=N,360nm,9.6s								
LZH				LR	LR				
	comp=E,200nm,10.3s								
LZH				LR	LR				
	comp=Z,220nm,10.7s								
PZH	**PanZhiHua**	**24.47**	**269**	P	**P**	**20 08 08.6**	**+1.2**		
PZH				pmax	pmax				
	comp=Z,10.0nm,1.1s								
PZH				pmax	pmax				
	comp=Z,100nm,4.9s								
SONM	**Songino Array**	**25.18**	**322**	P	**P**	**20 08 13.6**	**-0.1**		
	comp=Z,1.0nm,0.8s,baz=126,slow=7.3,SNR=5.6								
	comp=Z,1.0nm,0.8s								
GTA	**Gaotai**	**25.98**	**300**	⇑P	**P**	**20 08 22.5**	**+1.7**		
GTA				pP	pP	20 08 59.9	-0.4		
GTA				pmax	pmax				
	comp=Z,16nm,0.7s								
UBPT	**Khong Chiam**	**26.23**	**242**	P	**P**	**20 08 23.7**	**+0.5**		
UBPT				IAmb	IAmb	20 08 31.1			
	comp=Z,13nm,1.2s								
CHTO	**Chiang Mai**	**29.63**	**255**	P	**P**	**20 08 53.5**	**+0.1**		
CMAR	**Chiang Mai Arr**	**29.80**	**255**	P	**P**	**20 08 54.2**	**-0.6**		
	comp=Z,2.1nm,0.4s,baz=55,slow=11,SNR=2.3								
	comp=Z,2.1nm,0.4s								
PETK	**Petropavlovsk-**	**31.21**	**34**	P	**P**	**20 09 05.1**	**-1.8**		
	comp=Z,5.2nm,1.0s,baz=227,slow=5.7,SNR=6.4								
	comp=Z,5.2nm,1.0s								
PETK	**Petropavlovsk-**	**31.21**	**34**	P	**P**	**20 09 06.8**	**0.0**		
FAKI	**Fak Fak**	**32.66**	**174**	P	**P**	**20 09 20.7**	**+0.9**		
FAKI				IAmb	IAmb	20 09 22.1			
	comp=Z,9.3nm,0.8s								
SRIT	**Nakonsritamara**	**34.88**	**239**	P	**P**	**20 09 40.7**	**+1.7**		
SRIT				IAmb	IAmb	20 09 41.9			
	comp=Z,18nm,1.0s								
WMQ	**Urumqi**	**35.73**	**305**	*e*P	**P**	**20 09 48.8**	**+2.7**		
KULM	**Kulim**	**36.38**	**234**	P	**P**	**20 09 53.6**	**+1.8**		
TAPN	**Taplejung**	**36.44**	**277**	*e*P	P	20 10 03.4	+11		
	comp=Z,16nm,0.8s								
IPM	**Ipoh**	**36.70**	**232**	P	**P**	**20 09 55.3**	**+0.8**		
RAMN	**Ramite**	**37.50**	**276**	*e*P	**P**	**20 10 02.0**	**+0.6**		
	comp=Z,6.0nm,0.5s								
PKI	**Pulchoki**	**38.37**	**278**	*e*P	**P**	**20 10 08.7**	**-0.1**		
	comp=Z,5.9nm,0.4s								
PKIN	**Phulchoki**	**38.38**	**278**	*e*P	**P**	**20 10 10.1**	**+1.3**		
	comp=Z,8.7nm,0.4s								
DMN	**Daman**	**38.62**	**278**	*e*P	**P**	**20 10 10.3**	**-0.6**		
	comp=Z,4.5nm,0.3s								
GKN	**Gorkha**	**38.93**	**279**	*e*P	**P**	**20 10 13.9**	**+0.6**		
	comp=Z,6.3nm,0.3s								
RPSI	**Rantau Prapat**	**39.43**	**233**	P	**P**	**20 10 18.1**	**+0.8**		
RPSI				IAmb	IAmb	20 10 19.4			
	comp=Z,12nm,0.6s								
DANN	**Dangsing**	**39.60**	**280**	*e*P	**P**	**20 10 19.1**	**+0.1**		
	comp=Z,20nm,0.7s								
MK31	**Makanchi Array**	**39.94**	**309**	P	**P**	**20 10 22.4**	**+1.2**		
MKAR	**Makanchi Array**	**39.94**	**309**	P	**P**	**20 10 18.2**	**-3.1**		
	comp=Z,0.3nm,0.5s,baz=94,slow=6.2,SNR=4.1								
MKAR				ScP	**ScP**	**20 15 51.1**	**-1.7**		
	comp=Z,0.7nm,0.7s,baz=102,slow=4.1,SNR=3.9								
	comp=Z,0.3nm,0.5s								
MKAR	**Makanchi Array**	**39.94**	**309**	P	**P**	**20 10 21.4**	**+0.1**		
ZALV	**Zalesovo Beam**	**40.04**	**320**	P	**P**	**20 10 18.2**	**-3.7**		
	comp=Z,0.3nm,0.3s,baz=115,slow=13,SNR=2.3								
ZALV				ScP	**ScP**	**20 15 50.4**	**-2.6**		
	comp=Z,1.1nm,0.6s,baz=122,slow=4.7,SNR=3.8								
	comp=Z,0.3nm,0.3s								
GSI	**Gunungsitoli**	**41.36**	**233**	P	**P**	**20 10 33.4**	**+0.3**		
MTN	**Manton Dam**	**42.43**	**177**	P	**P**	**20 10 41.7**	**+0.1**		
MTN				IAmb	IAmb	20 10 47.1			
	comp=Z,27nm,1.2s								
KURBB	**Kurchatov Arra**	**42.98**	**314**	P	**P**	**20 10 43.9**	**-1.9**		
	comp=Z,0.4nm,0.5s,baz=97,slow=9.0,SNR=4.2								
	comp=Z,0.4nm,0.5s								
KNRA	**Kununurra**	**45.21**	**181**	P	**P**	**20 11 04.7**	**+0.9**		
KNRA				IAmb	IAmb	20 11 06.2			
	comp=Z,23nm,0.9s								
FITZ	**Fitzroy Crossi**	**47.74**	**185**	P	**P**	**20 11 24.5**	**+1.1**		
	comp=Z,10nm,0.9s,baz=11,slow=4.5,SNR=10								
	comp=Z,10nm,0.9s								
KKAR	**Karatay Array**	**48.18**	**303**	P	**P**	**20 11 27.1**	**+0.4**		
BRVK	**Borovoye**	**48.35**	**316**	P	**P**	**20 11 26.9**	**-0.9**		
WRA	**Warramunga Arr**	**49.69**	**174**	P	**P**	**20 11 38.5**	**+0.2**		
	comp=Z,3.3nm,0.7s,baz=352,slow=7.8,SNR=5.5								
	comp=Z,3.3nm,0.7s								
MBWA	**Marble Bar**	**51.48**	**191**	P	**P**	**20 11 52.0**	**+0.4**		
MBWA				IAmb	IAmb	20 12 14.5			
	comp=Z,23nm,1.2s								
PSA00	**Pilbara Seismi**	**51.87**	**191**	P	**P**	**20 11 55.3**	**+0.8**		
PSA00				IAmb	IAmb	20 11 55.8			
	comp=Z,8.4nm,0.6s								
CTA	**Charters Tower**	**52.23**	**160**	P	**P**	**20 11 58.0**	**+0.8**		
	comp=Z,4.4nm,0.9s,baz=329,slow=5.9,SNR=1.4								
	comp=Z,4.4nm,0.9s								
CTAO	**Charters Tower**	**52.23**	**160**	P	**P**	**20 11 57.8**	**+0.6**		
CTAO				IAmb	IAmb	20 12 01.7			
	comp=Z,14nm,1.4s								
ANM	**Nome**	**52.96**	**29**	P	**P**	**20 12 02.6**	**+0.6**		
	baz=262								
AS31	**Alice Springs**	**53.34**	**175**	P	**P**	**20 12 06.5**	**+1.2**		
ASAR	**Alice Springs**	**53.34**	**175**	P	**P**	**20 12 05.6**	**+0.3**		
	comp=Z,2.1nm,0.5s,baz=358,slow=6.4,SNR=18								
	comp=Z,2.1nm,0.5s								
ABKAR	**Akbulak array**	**54.93**	**311**	P	**P**	**20 12 15.7**	**-0.8**		
ABKAR	**Akbulak array**	**54.93**	**311**		**P**	**20 12 15.7**	**-0.8**		
SDPT	**Sand Point**	**55.00**	**41**	P	**P**	**20 12 17.3**	**+0.4**		
	baz=273								
O16K	**Kokwok River B**	**56.11**	**36**	P	**P**	**20 12 25.5**	**+0.7**		
	baz=272								
A21K	**Barrow**	**57.00**	**22**	P	**P**	**20 12 32.8**	**+2.0**		
	baz=266								
O18K	**Koktuh Hills**	**57.56**	**35**	P	**P**	**20 12 35.8**	**+0.8**		
	baz=274								
P18K	**Big Mountain,**	**57.58**	**36**	P	**P**	**20 12 35.4**	**+0.2**		
	baz=274								
J20K	**Nowinta River**	**57.81**	**30**	P	**P**	**20 12 37.3**	**+0.7**		
	baz=272								
K20K	**Telida**	**57.88**	**31**	P	**P**	**20 12 38.1**	**+1.0**		
	baz=273								
IMAR	**Indian Mountai**	**57.91**	**28**	P	**P**	**20 12 37.5**	**+0.2**		
F21K	**Alatna River**	**57.99**	**27**	P	**P**	**20 12 38.0**	**+0.1**		
	baz=271								
G21K	**Allakaket**	**58.00**	**27**	P	**P**	**20 12 38.7**	**+0.8**		
	baz=272								
H21K	**Melozitna Rive**	**58.31**	**28**	P	**P**	**20 12 40.9**	**+0.8**		
H21K	**Melozitna Rive**	**58.31**	**28**	P	**P**	**20 12 40.9**	**+0.8**		
	baz=273								
M20K	**Styx River**	**58.41**	**33**	P	**P**	**20 12 41.5**	**+0.5**		
	baz=275								
F22K	**John River**	**58.49**	**26**	P	**P**	**20 12 42.2**	**+0.9**		
	baz=272								
I21K	**Tanana**	**58.68**	**29**	P	**P**	**20 12 43.6**	**+1.0**		
I21K				IAmb	IAmb	20 12 44.5			
	comp=Z,6.1nm,0.8s								
I21K	**Tanana**	**58.68**	**29**	P	**P**	**20 12 43.4**	**+0.8**		
	baz=274								
G22K	**Bettles**	**58.77**	**27**	P	**P**	**20 12 43.3**	**+0.1**		
	baz=273								
OHAK	**Old Harbor**	**58.83**	**38**	P	**P**	**20 12 43.8**	**0.0**		
	baz=278								
H22K	**Ishtalitna Cre**	**58.89**	**28**	P	**P**	**20 12 45.0**	**+0.9**		
	baz=274,SNR=7.1								
N20K	**Mount Spurr**	**58.91**	**34**	P	**P**	**20 12 44.2**	**-0.2**		
	baz=276								
SPCR	**Spurr Chakacha**	**58.91**	**34**	P	**P**	**20 12 44.7**	**+0.3**		
	baz=276								
D23K	**Nanushuk River**	**58.98**	**25**	P	**P**	**20 12 45.3**	**+0.6**		
	baz=273								
KDAK	**Kodiak Island**	**59.13**	**38**	P	**P**	**20 12 45.5**	**-0.3**		
KDAK	**Kodiak Island**	**59.13**	**38**	P	**P**	**20 12 45.5**	**-0.3**		
KDAK	**Kodiak Island**	**59.13**	**38**	P	**P**	**20 12 45.7**	**-0.1**		
	baz=278								
KDAK	**Kodiak Island**	**59.13**	**38**	pmax	pmax				
	comp=Z,77nm,1.5s								
SKT	**Skwentna**	**59.16**	**33**	P	**P**	**20 12 46.1**	**+0.2**		
	baz=276								
BPAW	**Bear Paw Mtn.**	**59.20**	**30**	P	**P**	**20 12 46.5**	**+0.3**		
	baz=275								
MLY	**Manley**	**59.22**	**29**	P	**P**	**20 12 47.0**	**+0.6**		
MLY	**Manley**	**59.22**	**29**	P	**P**	**20 12 47.0**	**+0.6**		
	baz=275								
G23K	**Bananza Creek**	**59.37**	**27**	P	**P**	**20 12 47.8**	**+0.4**		
	baz=275								
TOLK	**Toolik Lake Re**	**59.41**	**25**	P	**P**	**20 12 48.3**	**+0.7**		
	baz=274								
E23K	**Chandalar**	**59.43**	**26**	P	**P**	**20 12 48.3**	**+0.5**		
	baz=274								
SUA	**Susitna One**	**59.59**	**33**	P	**P**	**20 12 48.8**	**-0.2**		
SUA	**Susitna One**	**59.59**	**33**	P	**P**	**20 12 49.3**	**+0.3**		
	baz=277								
D24K	**Happy Valley**	**59.64**	**24**	P	**P**	**20 12 49.6**	**+0.4**		
	baz=274								
H23K	**Yukon River**	**59.65**	**28**	P	**P**	**20 12 50.3**	**+1.0**		
	baz=276,SNR=6.2								
CUT	**Chulitna**	**59.70**	**32**	P	**P**	**20 12 50.0**	**+0.4**		
	baz=277								
BRSE	**Bradley Lake S**	**59.81**	**35**	P	**P**	**20 12 50.7**	**+0.2**		
	baz=278								
M22K	**Willow**	**59.85**	**33**	P	**P**	**20 12 51.0**	**+0.3**		
	baz=277								
E24K	**Your Creek**	**59.85**	**25**	P	**P**	**20 12 51.2**	**+0.5**		
	baz=275								
NEA2	**Nenana**	**59.97**	**30**	P	**P**	**20 12 51.8**	**+0.3**		
NEA2				IAmb	IAmb	20 12 52.8			
	comp=Z,12nm,0.9s								
NEA2	**Nenana**	**59.97**	**30**	P	**P**	**20 12 52.2**	**+0.7**		
	baz=277								
RC01	**Rabbit Creek A**	**60.12**	**34**	P	**P**	**20 12 52.3**	**-0.2**		
	baz=278								
F24K	**Squaw Lake**	**60.13**	**26**	P	**P**	**20 12 53.2**	**+0.7**		
	baz=276								
MCK	**McKinley**	**60.14**	**31**	P	**P**	**20 12 52.7**	**0.0**		
	baz=277								
RND	**Reindeer**	**60.22**	**31**	P	**P**	**20 12 53.1**	**-0.1**		
MDM	**Murphy Dome**	**60.29**	**29**	P	**P**	**20 12 54.1**	**+0.4**		
H24K	**Noodor Dome**	**60.33**	**28**	P	**P**	**20 12 54.9**	**+1.0**		
	baz=277								
PMR	**Palmer**	**60.34**	**33**	P	**P**	**20 12 54.2**	**+0.2**		
	baz=278								
G24K	**Hadweenzic Riv**	**60.38**	**27**	P	**P**	**20 12 55.0**	**+0.8**		
	baz=277								
SEW	**Seward**	**60.40**	**35**	P	**P**	**20 12 54.1**	**-0.4**		
	baz=279								
WRH	**Wood River Hil**	**60.41**	**30**	P	**P**	**20 12 54.9**	**+0.5**		
D25K	**Kavik River**	**60.49**	**24**	P	**P**	**20 12 55.2**	**+0.2**		
	baz=276								
CCB	**Clear Creek Bu**	**60.51**	**29**	P	**P**	**20 12 55.2**	**+0.1**		
POKR	**Poker Flat Res**	**60.60**	**29**	P	**P**	**20 12 56.3**	**+0.5**		
	baz=278								
SML	**Sawmill**	**60.68**	**33**	P	**P**	**20 12 56.1**	**-0.3**		
	baz=279								
KNK	**Knik Glacier**	**60.68**	**33**	P	**P**	**20 12 56.1**	**-0.3**		
	baz=279								
PWL	**Port Wells**	**60.83**	**34**	P	**P**	**20 12 57.2**	**-0.2**		
	baz=279								
WAT6	**Susitna Watana**	**60.84**	**32**	P	**P**	**20 12 57.2**	**-0.4**		
	baz=279								
ILAR	**Eielson Array**	**60.88**	**29**	P	**P**	**20 12 56.4**	**-1.2**		
	comp=Z,1.9nm,0.7s,baz=274,slow=6.1,SNR=20								
	comp=Z,1.9nm,0.7s								
ILAR	**Eielson Array**	**60.88**	**29**	P	**P**	**20 12 57.4**	**-0.2**		
HDA	**Harding Lake**	**60.91**	**30**	P	**P**	**20 12 57.6**	**-0.3**		
	baz=279								
DHY	**Denali Highway**	**60.92**	**31**	P	**P**	**20 12 57.7**	**-0.4**		
F25K	**Christian Rive**	**60.98**	**26**	P	**P**	**20 12 58.9**	**+0.6**		
	baz=278								
H25K	**Bin Creek**	**61.10**	**27**	P	**P**	**20 12 59.8**	**+0.7**		
	baz=279								
SCM	**Sheep Creek Mo**	**61.15**	**33**	P	**P**	**20 12 59.6**	**+0.1**		
	baz=280								
PRP	**Porcupine Dome**	**61.34**	**28**	P	**P**	**20 13 01.6**	**+0.7**		
	baz=279								
C27K	**Jago River**	**61.39**	**23**	P	**P**	**20 13 01.3**	**+0.3**		
	baz=279								
BMAR	**Burnt Mountain**	**61.41**	**26**	P	**P**	**20 13 02.4**	**+1.2**		
P23K	**Montague Islan**	**61.43**	**35**	P	**P**	**20 13 01.5**	**+0.1**		
	baz=281								
K24K	**Donnelly Dome**	**61.51**	**30**	P	**P**	**20 13 01.5**	**-0.4**		
	baz=280								
F26K	**Sheenjek River**	**61.53**	**26**	P	**P**	**20 13 02.6**	**+0.6**		
	baz=279								
J25K	**Salcha River,**	**61.55**	**29**	P	**P**	**20 13 01.8**	**-0.4**		
	baz=280								
M24K	**Tolsona, Glenn**	**61.63**	**32**	P	**P**	**20 13 02.9**	**+0.1**		
	baz=280								
G26K	**Porcupine Rive**	**61.79**	**26**	P	**P**	**20 13 04.3**	**+0.7**		
	baz=280								
PAX	**Paxson**	**61.80**	**31**	P	**P**	**20 13 03.9**	**0.0**		
	baz=281								
KLU	**Klutina**	**61.87**	**33**	P	**P**	**20 13 04.3**	**-0.1**		
	baz=281								
RIDG	**Independent Ri**	**61.93**	**30**	P	**P**	**20 13 04.7**	**-0.1**		
	baz=281								
HARP	**HAARP**	**62.05**	**32**	P	**P**	**20 13 05.6**	**+0.1**		
	baz=281								
SCRK	**Sand Creek**	**62.26**	**30**	P	**P**	**20 13 06.8**	**-0.2**		
SCRK				IAmb	IAmb	20 13 07.5			
	comp=Z,10nm,1.2s								
SCRK	**Sand Creek**	**62.26**	**30**	P	**P**	**20 13 06.7**	**-0.4**		
	baz=281,SNR=8.4								
DOT	**Dot Lake**	**62.29**	**30**	P	**P**	**20 13 06.8**	**-0.4**		
J26L	**Joseph Creek**	**62.34**	**29**	P	**P**	**20 13 06.8**	**-0.7**		
	baz=282,SNR=7.4								
I26K	**Coal Creek Min**	**62.35**	**28**	P	**P**	**20 13 07.3**	**-0.1**		
	baz=281								
E27K	**Coleen River**	**62.39**	**25**	P	**P**	**20 13 07.8**	**+0.1**		
	baz=281,SNR=7.3								
STKA	**Stephens Creek**	**62.44**	**168**	P	**P**	**20 13 09.1**	**+0.7**		
	comp=Z,1.9nm,0.5s,baz=358,slow=7.3,SNR=8.1								
	comp=Z,1.9nm,0.5s								
STKA	**Stephens Creek**	**62.44**	**168**	P	**P**	**20 13 09.1**	**+0.7**		
N25K	**Chitina, Valde**	**62.47**	**33**	P	**P**	**20 13 08.7**	**+0.3**		
	baz=282								
BBOO	**Buckleboo**	**62.60**	**174**	P	**P**	**20 13 09.6**	**+0.3**		
BMRM	**Bremner River**	**62.60**	**33**	P	**P**	**20 13 09.6**	**+0.4**		
	baz=282								
G27K	**Doyon Strip**	**62.65**	**26**	P	**P**	**20 13 09.8**	**+0.4**		
	baz=282								
L26K	**Log Cabin Wild**	**62.74**	**31**	P	**P**	**20 13 10.5**	**+0.5**		
	baz=282								
H27K	**Steamboat Moun**	**62.82**	**27**	P	**P**	**20 13 11.4**	**+0.8**		
	baz=282								
I27K	**Kandik River**	**62.92**	**28**	P	**P**	**20 13 12.0**	**+0.8**		
	baz=283								
M26K	**Nabesna, AK**	**63.03**	**31**	P	**P**	**20 13 12.7**	**+0.6**		
M26K				IAmb	IAmb	20 13 13.5			
	comp=Z,12nm,1.1s								
M26K	**Nabesna, AK**	**63.03**	**31**	P	**P**	**20 13 12.6**	**+0.6**		
	baz=283,SNR=6.4								
K27K	**Chicken**	**63.07**	**30**	P	**P**	**20 13 12.8**	**+0.6**		
K27K				IAmb	IAmb	20 13 32.2			
	comp=Z,8.0nm,0.9s								
K27K	**Chicken**	**63.07**	**30**	P	**P**	**20 13 13.1**	**+0.9**		
	baz=283								
MCARA	**McCarthy VSAT**	**63.25**	**33**	P	**P**	**20 13 14.2**	**+0.7**		
	baz=284								
EGAK	**Eagle**	**63.29**	**29**	P	**P**	**20 13 13.5**	**-0.1**		
	baz=283								
L27K	**Beaver Creek,**	**63.40**	**31**	P	**P**	**20 13 15.1**	**+0.7**		
	baz=284								
M27K	**Edge Creek, AK**	**63.55**	**31**	P	**P**	**20 13 16.0**	**+0.4**		
	baz=284								
CTG	**Chitna Glacier**	**64.15**	**33**	P	**P**	**20 13 19.9**	**+0.5**		
	baz=285,SNR=6.8								
DAWY	**Dawson**	**64.21**	**29**	P	**P**	**20 13 20.1**	**+0.4**		
	baz=285,SNR=7.0								
I29M	**Ogilvie Camp,**	**64.31**	**28**	P	**P**	**20 13 20.8**	**+0.5**		
	baz=286,SNR=5.9								
YUK3	**Moose Creek**	**64.34**	**32**	P	**P**	**20 13 21.5**	**+0.7**		
	baz=285,SNR=6.5								
EPYK	**Eagle Plains**	**64.66**	**26**	P	**P**	**20 13 22.9**	**+0.3**		
EPYK	**Eagle Plains**	**64.66**	**26**	P	**P**	**20 13 23.1**	**+0.5**		
	baz=286								
O28M	**Mount Upton**	**64.74**	**33**	P	**P**	**20 13 24.3**	**+0.8**		
	baz=286								
PINM	**Pinnacle**	**64.90**	**34**	P	**P**	**20 13 25.0**	**+0.8**		
	baz=286								
L29M	**L29M**	**65.02**	**30**	P	**P**	**20 13 26.4**	**+1.4**		
	baz=287								
M29M	**Somme Creek**	**65.06**	**31**	P	**P**	**20 13 26.3**	**+1.0**		
	baz=287,SNR=6.7								
K29M	**Barlow Dome**	**65.06**	**29**	P	**P**	**20 13 26.1**	**+0.8**		
	baz=287,SNR=9.6								
INK	**Inuvik**	**65.27**	**24**	P	**P**	**20 13 26.4**	**+0.1**		
	baz=288								
YUK4	**Talbot Arm**	**65.30**	**32**	P	**P**	**20 13 27.8**	**+0.8**		
	baz=287								
PNL	**Peninsula**	**65.44**	**34**	P	**P**	**20 13 27.9**	**+0.3**		
	baz=287								
YUK6	**Outpost Mounta**	**65.55**	**32**	P	**P**	**20 13 29.4**	**+0.8**		
	baz=288								
M30M	**Minto, Yukon**	**65.76**	**30**	P	**P**	**20 13 30.6**	**+0.9**		
	baz=288								
N30M	**Aishikik Lake**	**65.98**	**32**	P	**P**	**20 13 32.1**	**+0.9**		
	baz=288								
HYT	**Haines Junctio**	**65.98**	**32**	P	**P**	**20 13 32.2**	**+1.0**		
	baz=288								
P29M	**Windy Craggy**	**66.25**	**34**	P	**P**	**20 13 33.3**	**+0.4**		
	baz=289								
N31M	**Braeburn, Yuko**	**66.56**	**31**	P	**P**	**20 13 35.5**	**+0.6**		
	baz=289								
M31M	**Drury Creek, Y**	**66.94**	**30**	P	**P**	**20 13 37.5**	**+0.3**		
	baz=290								
PLBC	**Pleasant Camp**	**66.97**	**34**	P	**P**	**20 13 38.0**	**+0.7**		
	baz=290								
ARCES	**ARCESS Array B**	**67.04**	**338**	P	**P**	**20 13 37.4**	**-0.3**		
	comp=Z,2.7nm,0.9s,baz=70,slow=8.0,SNR=5.2								
	comp=Z,2.7nm,0.9s								
ARCES	**ARCESS Array B**	**67.04**	**338**	P	**P**	**20 13 38.4**	**+0.7**		
ARCES				IAmb	IAmb	20 13 55.6			
	comp=Z,22nm,1.4s								
WHY	**Whitehorse**	**67.25**	**32**	P	**P**	**20 13 39.8**	**+0.5**		
	baz=290								
CAN	**Canberra**	**67.39**	**163**	P	**P**	**20 13 42.2**	**+1.9**		
CAN				IAmb	IAmb	20 14 17.3			
	comp=Z,21nm,1.5s								
FARO	**Faro, Yukon**	**67.39**	**30**	P	**P**	**20 13 40.8**	**+0.8**		
FARO				IAmb	IAmb	20 13 49.4			
	comp=Z,12nm,1.1s								
FARO	**Faro, Yukon**	**67.39**	**30**	P	**P**	**20 13 40.9**	**+0.8**		
	baz=291								
N32M	**Quiet Lake**	**67.90**	**31**	P	**P**	**20 13 42.9**	**-0.3**		
	baz=292								
C36M	**Paulatuk**	**68.05**	**21**	P	**P**	**20 13 44.2**	**+0.2**		
	baz=296								
MMPY	**Sheldon Lake,**	**68.14**	**29**	P	**P**	**20 13 45.6**	**+0.8**		
	baz=293								
R33M	**Jennings River**	**69.55**	**33**	P	**P**	**20 13 53.3**	**-0.3**		
	baz=294								
FIA1	**FINESS Array S**	**70.23**	**330**	P	**P**	**20 13 57.3**	**-0.1**		
FIA1				IAmb	IAmb	20 14 17.9			
	comp=Z,9.7nm,1.2s								
FINES	**FINESS Array B**	**70.23**	**330**	P	**P**	**20 13 55.8**	**-1.6**		
	comp=Z,0.9nm,0.4s,baz=75,slow=5.9,SNR=16								
	comp=Z,0.9nm,0.4s								
FINES	**FINESS Array B**	**70.23**	**330**	P	**P**	**20 13 56.3**	**-1.2**		
AKASG	**Malin Array Be**	**73.43**	**319**	P	**P**	**20 14 13.2**	**-3.5**		
	comp=Z,0.4nm,0.3s,baz=61,slow=6.3,SNR=3.0								
	comp=Z,0.4nm,0.3s								
YKA	**Yellowknife Ar**	**74.92**	**26**	P	**P**	**20 14 23.8**	**-1.3**		
	comp=Z,1.0nm,0.5s,baz=295,slow=5.2,SNR=5.7								
	comp=Z,1.0nm,0.5s								
YKA	**Yellowknife Ar**	**74.92**	**26**	P	**P**	**20 14 23.8**	**-1.3**		
BRTR	**Keskin Array B**	**75.58**	**308**	P	**P**	**20 14 28.4**	**-1.1**		
	comp=Z,0.4nm,0.8s,baz=59,slow=9.2,SNR=2.4								
	comp=Z,0.4nm,0.8s								
BRTR	**Keskin Array B**	**75.58**	**308**	P	**P**	**20 14 28.9**	**-0.7**		
NOA	**NORSAR Array B**	**76.53**	**334**	P	**P**	**20 14 32.5**	**-1.8**		
	comp=Z,0.3nm,0.6s,baz=50,slow=5.4,SNR=3.4								
	comp=Z,0.3nm,0.6s								
BURAR	**Bucovina Array**	**77.22**	**318**	P	**P**	**20 14 38.5**	**0.0**		
GERES	**GERESS Array B**	**82.91**	**323**	P	**P**	**20 15 07.5**	**-1.5**		
	comp=Z,0.6nm,0.7s,baz

HCY	Herceg Novi	1.87	318	⇑*i*	Pn	Pb	20 06 04.4 -0.4
HCY				*i*	Sn	Sg	20 06 29.9 -0.3
NKME	Niksic	1.93	332	⇓*i*	Pn	Pb	20 06 05.3 -0.6
NKME				*i*	Sn	Sg	20 06 31.9 -0.3
BARS	Barje	2.13	34	*e*	Pg	Pg	20 06 10.6 -0.4
SJES	Sjenica	2.20	356	*e*	Pg	Pg	20 06 12.0 -0.3
SJES				*e*	Sg	Sg	20 06 42.2 +1.4
BRY	Bratogost	2.20	327	⇑*i*	Pn	Pb	20 06 09.4 -1.2
BRY				*i*	Sn	Sb	20 06 38.1 -0.1
BOSS	Bosilegrad	2.24	50	*e*	Pg	Pb	20 06 11.0 -0.1
PLE	Pljevlja	2.34	346	⇓*i*	Pn	Pb	20 06 11.7 -1.1
PLE				*i*	Sn	Sb	20 06 42.0 -0.1
IVAS	Ivanjica	2.51	360	*e*	Pg	Pb	20 06 15.2 -0.5
BBLS	Lazići	2.86	349	*e*	Pg	Pb	20 06 22.3 +0.6
BBLS				*e*	Sg	Sg	20 07 00.1 -1.8
ZAPS	Zavoj	2.86	39	*e*	Pg	Pb	20 06 20.1 -1.7
ZAGS	Zajecar	3.14	28	*e*	Pg	Pb	20 06 24.2 -2.2

IDC ***17*** *20:15:53.8±3.1, 36°.74S×178°.79E, h0km, mb4.0/2, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=69.0km s-min=31.4km az=117.0*
NEIC ***17*** *20:15:54.8±0.6, 36°.86S±0°.05×178°.91E±0°.10, h10km±1km, mb4.2/5, Error ellipse: s-maj=14.0km s-min=6.4km az=292.0*
WEL ***17*** *20:15:55.3±0.7, 37°S±4°×17°9E±°, h25km, M3.7/31, ML4.0/36, MLv3.7/31, Error ellipse: s-maj=0.0km s-min=0.0km az=108.8*

ISC 17 20:15:56.5±2.3, 37°.04S±0°.07×179°.23E±0°.09, h31km±13km, n74, σ1§21/92, mb3.9/5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.90	235	P	Pn	Pn	20 16 11.2	-1.9
MXZ						Sn	20 16 21.9	-3.1
MXZ	Matakaoa Point	0.90	235	P	Pn	Pn	20 16 11.2	-1.9
WMGZ	Waiomatatini S	1.01	220	P	Pb	Pb	20 16 15.2	-0.3
WMGZ				S	Sb	Sb	20 16 29.9	+1.4
PKQZ	Pakihiroa	1.25	227	P	Pn	Pn	20 16 17.7	-0.2
PKQZ				S	Sb	Sb	20 16 35.0	-0.3
PUZ	Puketiti	1.29	217	P	Pn	Pn	20 16 18.7	+0.3
PUZ				S	Sb	Sb	20 16 36.9	+0.5
HAZ	Te Kaha	1.36	238	P	Pn	Pn	20 16 17.8	-1.5
HAZ				S	Sb	Sb	20 16 38.7	+0.4
TWGZ	Tauwhareparae	1.51	221	P	Pn	Pn	20 16 22.2	+0.8
TWGZ				S	Sb	Sb	20 16 42.0	-0.7
RUGZ	Raukumara Rang	1.54	233	P	Pn	Pn	20 16 22.5	+0.5
CNGZ	Carnagh Statio	1.65	209	P	Pn	Pn	20 16 24.4	+1.0
CNGZ				S	Sb	Sb	20 16 47.4	+0.7
TKGZ	Te Karaka	1.78	218	P	Pn	Pn	20 16 25.3	+0.3
MWZ	Matawai	1.87	226	P	Pn	Pn	20 16 26.9	+0.5
MWZ				S	Sn	Sn	20 16 50.0	+1.1
RIGZ	Rimuhau	2.03	215	P	Pn	Pn	20 16 28.6	0.0
URZ	Urewera 30nm,0.3s,baz=33,slow=0.6,SNR=83	2.08	234	Pn	Pn	Pn	20 16 29.4	+0.2
URZ						Sn	Sn	20 16 54.8	+0.8
	32nm,0.3s,baz=345,slow=22,SNR=29 73nm,0.3s							
URZ	Urewera	2.08	234	Pn	Pn	Pn	20 16 29.5	+0.3
URZ	Urewera	2.08	234	P	Pn	Pn	20 16 29.7	+0.5
URZ				S	Sn	Sn	20 16 55.0	+0.9
PRGZ	Paritu Road	2.16	209	P	Pn	Pn	20 16 30.4	0.0
SNGZ	Shannon Statio	2.29	220	P	Pn	Pn	20 16 31.9	-0.3
SNGZ				S	Sn	Sn	20 17 00.4	+1.0
KNZ	Kokohu	2.33	211	P	Pn	Pn	20 16 32.0	-0.6
MHGZ	Mahia Peninsul	2.35	206	P	Pn	Pn	20 16 32.8	-0.2
MUGZ	Murupara	2.42	233	P	Pn	Pn	20 16 34.1	+0.2
RRRZ	Republican Roa	2.52	238	P	Pn	Pn	20 16 36.1	+0.9
RAHZ	Arahi	2.53	222	P	Pn	Pn	20 16 36.4	+1.0
RAHZ				S	Pn	Pn	20 17 06.5	+1.4
WHHZ	Waihua	2.57	217	P	Pn	Pn	20 16 37.0	+1.0
WHHZ				S	Sn	Sn	20 17 07.1	+0.8
MTHZ	Maungataniwha	2.62	226	P	Pn	Pn	20 16 37.3	+0.6
MTHZ				S	Sn	Sn	20 17 08.6	+1.2
NMHZ	Naumai	2.81	222	P	Pn	Pn	20 16 39.6	+0.3
NMHZ				S	Sn	Sn	20 17 13.1	+1.0
KUZ	Kuaotunu	2.83	275	P	Pn	Pn	20 16 37.8	-1.7
ARHZ	Aropaoanui	2.83	218	P	Pn	Pn	20 16 39.4	-0.2
ARHZ				S	Sn	Sn	20 17 13.0	+0.3
MRHZ	Matea Rd	2.86	230	P	Pn	Pn	20 16 40.2	+0.2
MRHZ				S	Sn	Sn	20 17 12.6	-0.7
BKZ	Black Stump Fm	3.03	225		Pn	Pn	20 16 41.9	-0.5
BKZ	Black Stump Fm	3.03	225	P	Pn	Pn	20 16 42.3	-0.1
BKZ				S	Sn	Sn	20 17 17.5	0.0
TOZ	Tahuroa Road	3.05	256	P	Pn	Pn	20 16 42.2	-0.4
CKHZ	Cape Kidnapper	3.11	212	P	Pn	Pn	20 16 42.2	-1.3
CKHZ				S	Sn	Sn	20 17 18.4	-1.1
MCHZ	McNeill Hill	3.12	219	P	Pn	Pn	20 16 43.3	-0.2
GRZ	Great Barrier	3.14	283	P	Pn	Pn	20 16 43.7	0.0
KWHZ	Kaweka Forest	3.25	222	P	Pn	Pn	20 16 44.6	-0.7
KWHZ				S	Sn	Sn	20 17 22.7	-0.3
MKAZ	Moumakai	3.26	268	P	Pn	Pn	20 16 44.0	-1.4
KAHZ	Kahuranaki	3.31	213	P	Pn	Pn	20 16 44.8	-1.4
KAHZ				S	Sn	Sn	20 17 23.3	-1.2
KRHZ	Kereru	3.44	220	P	Pn	Pn	20 16 47.6	-0.3
ETAZ	East Tamaki Re	3.45	270	P	Pn	Pn	20 16 47.5	-0.5
NTVZ	North Tongarir	3.48	233	P	Pn	Pn	20 16 48.7	+0.1
BHHZ	Black Hill Sta	3.49	225	P	Pn	Pn	20 16 48.3	-0.4
PXZ	Pawanui	3.52	211	P	Pn	Pn	20 16 47.7	-1.3
OTVZ	Oturere	3.52	232	P	Pn	Pn	20 16 49.1	-0.1
SNVZ	South Ngauruho	3.55	232	P	Pn	Pn	20 16 49.9	+0.3
NGZ	Ngauruhoe	3.57	232	P	Pn	Pn	20 16 49.9	0.0
MOVZ	Moawhango	3.62	228	P	Pn	Pn	20 16 50.1	-0.4
WNVZ	Wahianoa	3.66	230	P	Pn	Pn	20 16 51.2	0.0
AWAZ	Awhitu Peninsu	3.67	268	P	Pn	Pn	20 16 52.0	+0.8
WPHZ	Waipukurau	3.73	215	P	Pn	Pn	20 16 49.9	-2.0
RVAZ	Riverhead Bore	3.74	273	P	Pn	Pn	20 16 52.1	0.0
MTVZ	Mangateitei	3.78	231	P	Pn	Pn	20 16 51.6	-1.0
PRHZ	Porangahau	3.81	211	P	Pn	Pn	20 16 51.0	-2.0
DVHZ	Dannevirke	4.04	215	P	Pn	Pn	20 16 54.6	-1.7
POWZ	Post Office Ro	4.30	218	P	Pn	Pn	20 16 58.6	-1.3
PRWZ	Pori Road	4.34	215	P	Pn	Pn	20 16 58.6	-1.6
MRZ	Mangatainoka R	4.60	217	P	Pn	Pn	20 17 02.4	-1.6
NEZ	North Egmont	4.62	240	P	Pn	Pn	20 17 07.0	+2.7
PKE	Pukeiti	4.66	241	P	Pn	Pn	20 17 07.9	+3.1
KHEZ	Kahui Hut	4.69	240	P	Pn	Pn	20 17 07.9	+2.8
OUZ	Omahuta	4.91	290	P	Pn	Pn	20 17 07.9	-0.2
OGWZ	Otaki Gorge	4.92	219	P	Pn	Pn	20 17 06.2	-2.1
CTZ	Chatham Island	7.40	156	P	Pn	Pn	20 17 42.5	+0.2
AS31	Alice Springs	40.96	276	P	P	P	20 23 34.8	-1.7
AS31					IAmb	IAmb	20 23 36.4	
	comp=Z,1.9nm,1.2s							
ASAR	Alice Springs comp=Z,1.8nm,0.7s,baz=119,slow=7.9,SNR=18	40.96	276	P	P	P	20 23 35.3	-1.2
	comp=Z,1.8nm,0.7s							
ASAR	Alice Springs	40.96	276	P	P	P	20 23 34.5	-2.0
WRA	Warramunga Arr comp=Z,1.5nm,0.7s,baz=122,slow=7.7,SNR=15	42.55	281	P	P	P	20 23 47.8	-1.8
	comp=Z,1.5nm,0.7s							
WRA	Warramunga Arr	42.55	281	P	P	P	20 23 47.6	-2.0
WB0	Warramunga Arr	42.61	281	P	P	P	20 23 48.4	-1.6
WB0					IAmb	IAmb	20 23 57.0	
	comp=Z,12nm,1.5s							
FITZ	Fitzroy Crossi	50.44	277	P	P	P	20 24 50.0	-1.4
QSPA	South Pole Qui	53.08	180	P	P	P	20 25 13.4	+2.7
QSPA					IAmb	IAmb	20 25 23.4	
	comp=Z,9.1nm,1.5s							
H03N3	Juan Fernandez baz=234	78.94	124	T	T	T	21 54 43.0	
H03N2	Juan Fernandez baz=234	78.94	124	T	T	T	21 54 43.9	
H03N1	Juan Fernandez baz=234	78.96	124	T	T	T	21 54 38.5	
FINES	FINESS Array B comp=Z,2.5nm,0.9s,baz=50,slow=2.2,SNR=4.2	150.35	334	PKPbc		PKPbc	20 35 44.5	+0.7

IDC ***17*** *20:22:43.9±0.8, 4°.46S×101°.86E, h0km, mb4.2/16, mbtmp4.2/17, ML4.0/1, MS3.5/4, Error ellipse: s-maj=35.8km s-min=12.9km az=44.0*
DJA ***17*** *20:22:46.8±0.3, 5°S±3°×10°2E±°, h10km, M4.6/31, mB5.2/7, mb4.7/31, MLv4.7/25, Mw(mB)4.5/7*
NEIC ***17*** *20:22:49.6±1.5, 4°.61S±0°.09×101°.85E±0°.07, h39km±8km, mb4.6/37, Error ellipse: s-maj=13.2km s-min=8.5km az=203.0*

ISC 17 20:22:49.1±0.6, 4°.67S±0°.08×101°.79E±0°.06, h37km, n129, σ1§45/124, mb4.5/39, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MNAI	Manna	1.20	75			Pn	20 23 08.3	-1.0
MNAI					Sn	Sn	20 23 23.7	-0.7
MNAI	Manna	1.20	75	P	Pn	Pn	20 23 08.2	-1.1
KSI	Kapahiang	1.29	38	P	Pn	Pn	20 23 09.1	-1.5
MASI	Maura Aman, Be	1.58	17	P	Pn	Pn	20 23 14.3	-0.3
LWLI	Liwa	2.29	99	P	Pn	Pn	20 23 24.8	+0.4
KRJI	Kerinci	2.58	353	P	Pn	Pn	20 23 29.3	+0.9
PPSI	Pulau Pagai	2.59	317	P	Pn	Pn	20 23 30.2	+1.7
KASI	Kota Agung	2.83	108	P	Pn	Pn	20 23 32.1	+0.4
KLI	Kotabumi	3.06	94	P	Pn	Pn	20 23 36.8	+1.8
PMBI	Palembang	3.44	60	Pn	Pn	Pn	20 23 38.9	-1.3
PMBI	Palembang	3.44	60	P	Pn	Pn	20 23 41.4	+1.2
BLSI	Bandar Lampung	3.51	102	P	Pn	Pn	20 23 43.0	+1.9
JMBI	JAMBI	3.54	32	P	Pn	Pn	20 23 43.0	+1.5
SDSI	Sungai Dareh	3.73	354	P	Pn	Pn	20 23 44.1	0.0
PDSI	Padang	3.96	340	P	Pn	Pn	20 23 47.9	+0.6
SISI	Saibi	4.28	321	P	Pn	Pn	20 23 52.4	+0.8
PPBI	Pangkal Pinang 0.3nm638nm51nm,1.0s	5.00	60	P	Pn	Pn	20 24 02.5	+0.9
DSRI	Dabo 0.2nm55nm,0.6s	5.00	34	P	Pn	Pn	20 24 02.1	+0.4
BKNI	Bangkinang	5.02	351			Pn	20 24 02.0	+0.1
BKNI	Bangkinang 1.9nm2µm241nm,0.7s	5.02	351	P	Pn	Pn	20 24 02.1	+0.3
DBJI	Dramaga 0.9nm4µm184nm,1.5s	5.28	111	P	Pn	Pn	20 24 09.6	+4.1
SKJI	Sukabumi 0.5nm2µm100nm,1.0s	5.28	116	P	Pn	Pn	20 24 08.2	+2.7
CBJI	Citeko 1.2nm4µm419nm,1.1s	5.33	109	P	Pn	Pn	20 24 10.4	+4.3
PBSI	Pulau Batu 1.3nm140nm,0.5s	5.77	322	P	Pn	Pn	20 24 12.4	+0.2
CNJI	Cibinong 0.6nm2µm92nm,1.1s	5.92	117	P	Pn	Pn	20 24 14.3	0.0
TPI	Tanjungpandan 0.1nm7.3nm,0.9s	6.15	72	P	Pn	Pn	20 24 19.0	+1.6
LEM	Lembang 3.6nm,0.3s,baz=300,slow=20,SNR=3.7	6.18	111	Pn	Pn	Pn	20 24 19.3	+1.3
LEM						Sn	Sn	20 25 27.4	-0.2
	4.4nm,0.3s,baz=286,slow=18,SNR=1.5							
LEM						LR	LR	20 27 08.3	
	comp=Z,462nm,19.8s,baz=274,slow=43							
LEM	Lembang 0.3nm58nm,1.0s	6.18	111	P	Pn	Pn	20 24 20.2	+2.2
TPRI	Tanjung Pinang 0.2nm33nm,0.5s	6.18	26	P	Pn	Pn	20 24 18.8	+0.9
MYKOM	Kota Tinggi	6.74	18	Pn	Pn	Pn	20 24 25.4	-0.1
GSI	Gunungsitoli	7.27	325	Pn	Pn	Pn	20 24 32.8	-0.1
GSI	Gunungsitoli 0.4nm73nm,0.6s	7.27	325	P	Pn	Pn	20 24 32.4	-0.5
RPSI	Rantau Prapat	7.85	339	Pn	Pn	Pn	20 24 40.3	-0.6
RPSI	Rantau Prapat	7.85	339			Pn	20 24 39.7	-1.1
PSI	Prapat 1.1nm,0.3s,baz=156,slow=19,SNR=7.8	7.95	339	Pn	Pn	Pn	20 24 39.7	-2.6
KCSI	Kotacane, Aceh 21nm,0.7s	9.07	334	P	Pn	Pn	20 24 57.8	+0.2
IPM	Ipoh	9.12	355			Pn	20 24 59.2	+1.0
UGM	Wanagama	9.26	111	Pn	Pn	Pn	20 24 58.2	-1.9
UGM	Wanagama 234nm,2.1s	9.26	111	P	Pn	Pn	20 25 01.0	+0.8
KULM	Kulim	9.96	353	Pn	Pn	Pn	20 25 09.7	0.0
PCJI	Pacitan 48nm,1.7s	9.96	111	P	Pn	Pn	20 25 09.7	-0.1
PWJI	Pagerwojo	10.49	109	P	Pn	Pn	20 25 17.2	+0.1
GMJI	Gumukmas 45nm,1.7s	12.12	108	P	Pn	Pn	20 25 40.7	+1.4
ABJI	Asem Bagus 54nm,0.6s	12.75	105	P	Pn	Pn	20 25 50.3	+2.3
JAGI	Jajag, Banyuwa	12.85	108	Pn	Pn	Pn	20 25 47.8	-1.5
JAGI	Jajag, Banyuwa 42nm,0.8s	12.85	108	P	Pn	Pn	20 25 47.8	-1.5
SRBI	Singaraja 37nm,0.5s	13.76	105	P	Pn	Pn	20 26 03.1	+1.3
TWSI	Taliwang, Sumb 12nm,1.1s	15.52	106	P	Pn	Pn	20 26 21.3	-4.1
PLAI	Plampang 50nm,0.8s	16.40	105	P	Pn	Pn	20 26 33.6	-3.1
KAPI	Kappang 0.5nm,0.3s,baz=254,slow=9.4,SNR=2.3	17.90	92	P	Pn	Pn	20 26 54.5	-0.8
KAPI						LR	LR	20 34 41.7	
	comp=Z,140nm,18.3s,baz=258,slow=40 12nm,0.7s							
SPSI	Sidrap Palu 15nm,0.9s	17.94	88	P	P	P	20 26 58.2	+2.1
TTSI	Tana Toraja 13nm,1.0s	18.06	86	P	P	P	20 26 58.6	+1.2
BKSI	Bulukumba 28nm,0.9s	18.27	93	P	Pn	Pn	20 27 01.0	+1.1
MPSI	Mapaga 13nm,1.1s	18.76	75	P	Pn	Pn	20 27 07.0	+1.2
UBPT	Khong Chiam	20.15	10			P	20 27 18.8	-1.5
UBPT					IAmb	IAmb	20 27 20.1	
	comp=Z,36nm,0.9s							
APSI	Ampana comp=Z,29nm,1.0s	20.18	80	P	P	P	20 27 22.1	+1.4
MRSI	Marisa comp=Z,487nmcomp=Z,32nm,1.0s	20.77	76	P	P	P	20 27 28.5	+1.4
LUWI	Luwuk	21.26	81	P	P	P	20 27 31.9	-0.4
LUWI					IAmb	IAmb	20 27 49.5	
	comp=Z,32nm,0.8s							
BATI	Baumata comp=Z,9.6nm,0.3s,baz=310,slow=17,SNR=1.7 comp=Z,9.6nm,0.3s	22.37	105	P	P	P	20 27 44.1	-0.2
CM31	Chiang Mai Arr	23.15	353	P	P	P	20 27 50.4	-2.0
CMAR	Chiang Mai Arr comp=Z,2.0nm,0.8s,baz=182,slow=8.5,SNR=14 comp=Z,2.0nm,0.8s	23.15	353	P	P	P	20 27 49.3	-3.0
CMAR	Chiang Mai Arr	23.15	353	P	P	P	20 27 50.6	-1.8
SANI	Sanana comp=Z,10nm,0.9s	24.29	85	P	P	P	20 28 07.3	+4.0
CRAI	Chiangrai	24.78	357	P	P	P	20 28 05.9	-1.7
LBMI	Labuha comp=Z,21nm,0.8s	25.99	82	P	P	P	20 28 20.8	+2.1
FITZ	Fitzroy Crossi comp=Z,1.2nm,0.4s,baz=303,slow=7.0,SNR=10.0	26.87	122	P	P	P	20 28 26.5	-0.1
FITZ					LR	LR	20 38 12.8	
	comp=Z,62nm,21.4s,baz=327,slow=34 comp=Z,1.2nm,0.4s							
FITZ	Fitzroy Crossi	26.87	122	P	P	P	20 28 26.1	-0.5
KNRA	Kununurra	28.67	114	P	P	P	20 28 41.2	-1.5
H08S2	Diego Garcia H baz=85,slow=75,SNR=381	29.27	263	T	T		20 59 12.3	
H08S3	Diego Garcia H baz=85,slow=75,SNR=327	29.28	263	T	T		20 59 12.8	
H08S1	Diego Garcia H baz=85,slow=75,SNR=198	29.29	263	T	T		20 59 07.0	
PZH	PanZhiHua	30.98	360	P	P	P	20 29 06.8	+3.6
PZH					pmax	pmax		
	comp=Z,8.0nm,0.9s							
PZH					pmax	pmax		
	comp=Z,100nm,4.7s							
H01W3	Cape Leeuwin H baz=338,slow=76,SNR=12	32.17	161	T	T		21 03 07.8	
H01W2	Cape Leeuwin H baz=338,slow=76,SNR=11	32.18	161	T	T		21 03 08.8	
H01W1	Cape Leeuwin H baz=338,slow=76,SNR=11	32.18	161	T	T		21 03 09.1	
WB0	Warramunga Arr	35.12	118	P	P	P	20 29 38.6	-0.7
WB0					IAmb	IAmb	20 30 07.5	
	comp=Z,12nm,1.4s							
WRA	Warramunga Arr comp=Z,0.7nm,0.5s,baz=300,slow=8.6,SNR=14 comp=Z,0.7nm,0.5s	35.13	118	P	P	P	20 29 39.6	+0.2
WRA	Warramunga Arr	35.13	118	P	P	P	20 29 39.2	-0.3
CD2	Chengdu	35.43	3	*e*P	P	P	20 29 44.5	+2.7
LSA	Lhasa	35.66	344	P	P	P	20 29 43.4	-1.0
LSA					IAmb	IAmb	20 29 45.4	
	comp=Z,10nm,1.0s							
ASAR	Alice Springs comp=Z,0.5nm,0.4s,baz=294,slow=7.8,SNR=9.9 comp=Z,0.5nm,0.4s	36.26	125	P	P	P	20 29 49.6	+0.5
XAN	Xi'an	39.08	9	P	P	P	20 30 22.6	+10
XAN					pmax	pmax		
	comp=Z,11nm,1.0s							
NJ2	Nanjing	39.96	23	*e*P	P	P	20 30 23.1	+3.0
NJ2					pmax	pmax		
	comp=Z,53nm,1.2s							
GOMU	GeErMu	41.17	351	P	P	P	20 30 31.5	+1.0
GOMU					pP	pP	20 30 35.6	-5.1
GOMU					sP	pwP	20 30 36.6	-6.4
GOMU					pmax	pmax		
	comp=Z,2.0nm,0.7s							
GOMU					pmax	pmax		
	comp=Z,85nm,4.9s							
CTAO	Charters Tower	45.88	113	P	P	P	20 31 07.4	-0.9
CTAO					IAmb	IAmb	20 31 22.5	
	comp=Z,11nm,1.1s							
STKA	Stephens Creek comp=Z,1.5nm,0.7s,baz=309,slow=13,SNR=4.2	46.06	131	P	P	P	20 31 10.6	+1.1
	comp=Z,1.5nm,0.7s							
STKA	Stephens Creek	46.06	131	P	P	P	20 31 09.3	-0.2
HHC	Hu-ho-hao-te	46.17	10	*e*P	P	P	20 31 13.3	+3.0
HHC					pmax	pmax		
	comp=Z,15nm,0.8s							
HHC					pmax	pmax		
	comp=Z,200nm,6.2s							
JNU	Nakatsue	46.61	34	P	P	P	20 31 14.4	+0.6
NIL	Nilore	46.70	327	P	P	P	20 31 14.3	-0.2
KBL	Kabul	49.73	324	P	P	P	20 31 38.0	-0.1
WMQ	Urumqi	49.91	347	*e*P	P	P	20 31 40.0	+0.9
WMQ					pmax	pmax		
	comp=Z,22nm,0.7s							
KSH	Kashi	50.00	334	P	P	P	20 31 38.9	-1.0
KSH					sP	pP	20 31 49.8	-0.6
KSH					pmax	pmax		
	comp=Z,6.0nm,0.8s							
NRN	Naryn	51.57	335	P	P	P	20 31 51.8	-0.2
NRN					IAmb	IAmb	20 31 54.8	
	comp=Z,4.5nm,1.0s							
SONM	Songino Array comp=Z,3.9nm,0.7s,baz=181,slow=8.6,SNR=29	52.44	4	P	P	P	20 31 57.2	-0.9
SONM					PcP	PcP	20 33 08.0	-0.5
	comp=Z,0.5nm,0.5s,baz=205,slow=3.0,SNR=1.0 comp=Z,3.9nm,0.7s							
SONM	Songino Array	52.44	4	P	P	P	20 31 57.9	-0.2
SONM					IAmb	IAmb	20 31 58.8	
	comp=Z,3.9nm,0.8s							
BOOM	Boomskoye usch	52.48	336	P	P	P	20 31 58.4	-0.2
BOOM					IAmb	IAmb	20 32 32.0	
	comp=Z,8.3nm,1.4s							
ULN	Ulaanbaatar	52.51	4	P	P	P	20 31 57.8	-0.9
CHGR	Chuyangaron	52.63	328	P	P	P	20 31 58.3	-1.4
CHGR					IAmb	IAmb	20 31 58.8	
	comp=Z,12nm,1.2s							
AAK	Ala-Archa	53.20	335	P	P	P	20 32 03.4	-0.5
MK31	Makanchi Array	54.07	344	P	P	P	20 32 09.5	-0.5
MK31					IAmb	IAmb	20 32 10.4	
	comp=Z,4.1nm,1.0s							
MKAR	Makanchi Array comp=Z,2.2nm,0.5s,baz=146,slow=8.4,SNR=31 comp=Z,2.2nm,0.5s	54.07	344	P	P	P	20 32 09.2	-0.8
MKAR	Makanchi Array	54.07	344	P	P	P	20 32 09.5	-0.5
MAKZ	Makanchi	54.17	343	P	P	P	20 32 10.2	-0.5
MAKZ					IAmb	IAmb	20 32 11.1	
	comp=Z,5.7nm,1.2s							
KKAR	Karatay Array	55.33	332	P	P	P	20 32 18.4	-0.8
USRK	Ussuriysk Ar. comp=Z,2.2nm,0.6s,baz=230,slow=3.6,SNR=3.8 comp=Z,2.2nm,0.6s	55.70	26	P	P	P	20 32 20.0	-1.8
USRK	Ussuriysk Ar.	55.70	26	P	P	P	20 32 21.0	-0.8
GEYT	Alibeck comp=Z,4.3nm,0.9s,baz=151,slow=6.6,SNR=9.6 comp=Z,4.3nm,0.9s	58.63	320	P	P	P	20 32 42.8	+0.1
GEYT	Alibeck	58.63	320	P	P	P	20 32 42.8	+0.1
GEYT					IAmb	IAmb	20 32 44.4	
	comp=Z,8.9nm,1.1s							
GYA0B	ALIBECK ARRAY	58.63	320	P	P	P	20 32 43.0	+0.3
KURK	Kurchatov	58.66	343	P	P	P	20 32 41.7	-0.8
KURK					IAmb	IAmb	20 32 43.0	
	comp=Z,8.7nm,1.1s							
ZAA0	Zalesovo Array	60.11	349	P	P	P	20 32 51.5	-1.0
ZALV	Zalesovo Beam comp=Z,6.8nm,0.8s,baz=160,slow=4.7,SNR=39 comp=Z,6.8nm,0.8s	60.11	349	P	P	P	20 32 51.3	-1.2
BRVK	Borovoye	63.35	339	P	P	P	20 33 13.7	-0.7
ABKAR	Akbulak array	64.82	331	P	P	P	20 33 23.4	-0.7
ABKAR	Akbulak array	64.82	331	P	P	P	20 33 23.4	-0.7
ABKAR					IAmb	IAmb	20 33 24.7	
	comp=Z,5.6nm,0.9s							
YAK	Yakutsk	69.88	14	P	P	P	20 33 53.8	-2.0
MARD	Mardin	70.34	312	P	P	P	20 33 59.9	+0.5
MARD					IAmb	IAmb	20 34 01.5	
	comp=Z,7.5nm,0.8s							
KBZ	Khabaz comp=Z,3.5nm,0.9s,baz=116,slow=6.7,SNR=7.9 comp=Z,3.5nm,0.9s	71.48	319	P	P	P	20 34 06.4	+0.4
BR131	Keskin Array S	76.43	313	P	P	P	20 34 35.0	-0.3
BR131					IAmb	IAmb	20 34 36.3	
	comp=Z,4.0nm,0.9s							
BRTR	Keskin Array B comp=Z,2.0nm,0.8s,baz=130,slow=7.3,SNR=14 comp=Z,2.0nm,0.8s	76.43	313	P	P	P	20 34 34.8	-0.5
BRTR	Keskin Array B	76.43	313	P	P	P	20 34 34.6	-0.7
AKASG	Malin Array Be comp=Z,0.4nm,0.6s,baz=93,slow=4.6,SNR=4.2 comp=Z,0.4nm,0.6s	82.67	322	P	P	P	20 35 08.7	0.0
TSUM	Tsumeb comp=Z,49nm,19.8s,baz=152,slow=33	83.02	251	LR	LR		21 08 43.3	
BURAR	Bucovina Array	84.43	319	P	P	P	20 35 18.6	+0.6
BURAR					IA

CPUP Villa Florida 34.50 316 P **P** **20 41 07.7 +0.2**
CPUP IAmb IAmb 20 41 08.8
comp=Z,16nm,1.2s
MT09 Talagante 34.83 291 P **P** **20 41 09.8 -0.6**
MT09 IAmb IAmb 20 41 11.0
comp=Z,18nm,0.7s
MT01 Popeta 34.91 291 P **P** **20 41 10.6 -0.3**
MT01 IAmb IAmb 20 41 11.7
comp=Z,12nm,0.6s
QSPA South Pole Qui 35.13 180 P **P** **20 41 12.7 -0.1**
comp=Z,4.4nm,0.9s,baz=199,slow=2.0,SNR=17
comp=Z,4.4nm,0.9s
QSPA South Pole Qui 35.13 180 P **P** **20 41 13.0 +0.2**
QSPA IAmb IAmb 20 41 31.1
comp=Z,16nm,1.2s
PEL Peldehue 35.16 292 P **P** **20 41 12.7 -0.4**
ROC1 El Roble 35.46 292 P **P** **20 41 16.0 0.0**
VA06 Catapilco 35.93 292 P **P** **20 41 19.7 0.0**
BB19B Bebedouro 36.41 332 *eP* **P** **20 41 25.1 +1.1**
RIB01 Linhares ES 36.42 345 *eP* **P** **20 41 27.5 +3.6**
CO02 Combarbal 36.84 294 P **P** **20 41 28.4 +0.8**
CO02 IAmb IAmb 20 41 32.9
comp=Z,19nm,0.8s
AC05 El Transito 38.35 297 P **P** **20 41 40.7 +0.2**
AC05 IAmb IAmb 20 41 42.0
comp=Z,13nm,0.7s
AQDB Aquidauana 39.20 322 P **P** **20 41 46.6 -0.8**
AQDB Aquidauana 39.20 322 *eP* **P** **20 41 46.7 -0.8**
GO02 Mina Guanaco 41.03 301 P **P** **20 42 03.9 +0.9**
BDFB Brasilia 41.48 335 P **P** **20 42 08.0 +1.5**
comp=Z,2.1nm,0.6s,baz=140,slow=7.9,SNR=4.2
BDFB LR LR 20 57 45.2
comp=Z,122nm,19.7s,baz=119,slow=34
comp=Z,2.1nm,0.6s
MAW Mawson 42.24 145 P **P** **20 42 12.0 -0.1**
comp=Z,6.9nm,0.8s,baz=236,slow=7.3,SNR=11
comp=Z,6.9nm,0.8s
MAW Mawson 42.24 145 P **P** **20 42 12.2 +0.1**
LVC Limon Verde 42.86 304 P **P** **20 42 19.4 +1.4**
comp=Z,8.6nm,0.6s,baz=145,slow=6.1,SNR=8.2
comp=Z,8.6nm,0.6s
LVC Limon Verde 42.86 304 P **P** **20 42 18.9 +0.9**
SALV Santo Antonio 43.45 325 *eP* **P** **20 42 23.0 +0.6**
PB01 IPOC Station P 44.47 304 P **P** **20 42 31.6 +1.0**
PB01 IAmb IAmb 20 42 32.9
comp=Z,21nm,0.8s
PTLB Pontes e Lacer 45.07 320 P **P** **20 42 35.6 +0.3**
PTLB IAmb IAmb 20 42 36.9
comp=Z,7.0nm,0.7s
PTLB Pontes e Lacer 45.07 320 *eP* **P** **20 42 35.8 +0.5**
GO01 Chusmiza 45.52 306 P **P** **20 42 40.3 +0.8**
GO01 IAmb IAmb 20 42 41.9
comp=Z,16nm,0.8s
SNDB Serra Nova Dou 45.83 332 *eP* **P** **20 42 43.0 +1.6**
PB16 IPOC Station P 46.82 306 P **P** **20 42 50.7 +0.9**
PB16 IAmb IAmb 20 42 52.1
comp=Z,11nm,1.3s
VNDA Vanda 47.38 184 P **P** **20 42 53.3 +0.5**
comp=Z,1.2nm,0.8s,baz=183,slow=5.6,SNR=6.2
comp=Z,1.2nm,0.8s
VNDA Vanda 47.38 184 P **P** **20 42 52.8 0.0**
VILB Vilhena 47.76 320 P **P** **20 42 56.7 +0.2**
VILB IAmb IAmb 20 42 58.3
comp=Z,11nm,1.0s
VILB Vilhena 47.76 320 *eP* **P** **20 42 57.0 +0.5**
PDRB Porto dos Gac 47.80 325 *eP* **P** **20 42 56.6 -0.2**
H10S2 ASCENSION HYDR 47.89 22 T T 21 35 05.0
baz=192,slow=74,SNR=35
H10S3 ASCENSION HYDR 47.89 22 T T 21 35 06.2
baz=28,slow=74,SNR=49
SMTB Santa Maria do 47.93 338 *eP* **P** **20 43 00.2 +2.4**
LPAZ La Paz 47.98 309 P **P** **20 43 00.4 +1.5**
comp=Z,15nm,0.5s,baz=138,slow=4.4,SNR=83
comp=Z,15nm,0.5s
LPAZ La Paz 47.98 309 P **P** **20 43 00.1 +1.2**
LPAZ La Paz 47.98 309 *eP* **P** **20 43 00.3 +1.4**
BOSA Boshof 48.02 80 P **P** **20 42 58.5 -0.1**
comp=Z,5.6nm,1.1s,baz=210,slow=10.0,SNR=4.0
comp=Z,5.6nm,1.1s
BOSA Boshof 48.02 80 P **P** **20 42 58.5 -0.1**
CLDB Colider 48.19 327 *eP* **P** **20 42 59.9 0.0**
H10N1 ASCENSION HYDR 49.00 22 T T 21 36 33.3
baz=192,slow=76,SNR=92
H10N3 ASCENSION HYDR 49.00 22 T T 21 36 33.1
baz=192,slow=76,SNR=92
H10N2 ASCENSION HYDR 49.02 22 T T 21 36 34.3
baz=192,slow=76,SNR=127
RCBR Riachuelo 49.29 354 LR LR 20 59 22.0
comp=Z,66nm,20.6s,baz=324,slow=31
LBTB Lobatse 51.00 78 P **P** **20 43 20.8 -0.5**
comp=Z,4.8nm,0.8s,baz=223,slow=5.9,SNR=7.4
comp=Z,4.8nm,0.8s
LBTB Lobatse 51.00 78 P **P** **20 43 21.5 +0.2**
LBTB IAmb IAmb 20 43 24.9
comp=Z,11nm,1.1s
NPGB Novo Progresso 51.67 329 *eP* **P** **20 43 27.3 +1.0**
SAML Samuel 52.55 319 P **P** **20 43 32.6 -0.2**
SAML IAmb IAmb 20 43 33.8
comp=Z,45nm,1.9s
POGA Pongola 52.66 85 P **P** **20 43 33.0 -0.6**
ETMB Extrema 52.95 315 P **P** **20 43 35.8 0.0**
ETMB IAmb IAmb 20 43 37.1
comp=Z,11nm,1.5s
ETMB Extrema 52.95 315 *eP* **P** **20 43 36.7 +0.9**
ITTB Itaituba 54.33 329 *eP* **P** **20 43 47.4 +1.5**
MACA Manacapuru-AM 57.02 324 P **P** **20 44 04.1 -1.1**
MACA IAmb IAmb 20 44 07.8
comp=Z,14nm,0.8s
ATAH Atahualpa 60.75 303 LR LR 21 14 49.4
comp=Z,54nm,18.1s,baz=224,slow=40
BOAV Boa Vista 62.19 326 P **P** **20 44 39.8 -1.0**
BOAV IAmb IAmb 20 44 41.0
comp=Z,24nm,1.9s
BOAV Boa Vista 62.19 326 *eP* **P** **20 44 44.3 +3.5**
MCRA Macar, Loja 63.91 303 P **P** **20 44 51.8 -0.5**
MCRA IAmb IAmb 20 45 01.5
comp=Z,5.3nm,0.7s
DBIC Dimbokro 65.37 29 P **P** **20 44 58.9 -2.8**
comp=Z,3.1nm,0.8s,baz=173,slow=8.1,SNR=4.2
comp=Z,3.1nm,0.8s
OTAV Otavalo 67.24 307 P **P** **20 45 14.3 0.0**
OTAV IAmb IAmb 20 45 25.4
comp=Z,17nm,1.6s
SDV Santo Domingo 71.76 319 LR LR 21 20 12.6
comp=Z,133nm,18.1s,baz=167,slow=38
TOA0 Torodi Ar. Sit 73.46 34 P **P** **20 45 51.7 0.0**
TOA0 IAmb IAmb 20 45 54.5
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 73.46 34 P **P** **20 45 49.8 -1.9**
comp=Z,2.0nm,0.7s,baz=200,slow=7.1,SNR=16
TORD LR LR 21 11 41.5
comp=Z,121nm,20.5s,baz=223,slow=31
comp=Z,2.0nm,0.7s
MBAR Mbarara 73.83 67 LR LR 21 15 29.5
comp=Z,94nm,18.8s,baz=110,slow=34
KMBO Kilima Mbogo 76.90 73 LR LR 21 18 13.2
comp=Z,102nm,18.1s,baz=110,slow=34
ATD Arta Tunnel 90.47 70 LR LR 21 26 16.8
comp=Z,66nm,18.1s,baz=348,slow=34
ASAR Alice Springs 100.51 166 P **Pdif** **20 48 04.8 -2.1**
comp=Z,0.4nm,0.8s,baz=183,slow=5.1,SNR=4.8
NVAR Mina Array Bea 118.92 296 PKP **PKPdf** **20 53 06.0 -1.6**
comp=Z,0.3nm,0.6s,baz=130,slow=3.6,SNR=2.8
FINES FINESS Array B 124.66 29 PKP **PKPdf** **20 53 16.6 -0.9**
comp=Z,1.2nm,0.6s,baz=235,slow=4.9,SNR=8.2
CMAR Chiang Mai Arr 127.54 114 PKP **PKPdf** **20 53 23.9 -0.6**
comp=Z,1.0nm,0.6s,baz=226,slow=4.3,SNR=6.4
ARCES ARCESS Array B 130.95 23 PKP **PKPdf** **20 53 29.0 -0.4**
comp=Z,2.0nm,0.9s,baz=158,slow=1.0,SNR=1.7
YKA Yellowknife Ar 133.96 320 PKP **PKPdf** **20 53 33.7 -1.5**
comp=Z,0.6nm,0.6s,baz=142,slow=2.4,SNR=2.4
PZH PanZhiHua 135.58 110 PKP **PKiKP** **20 53 41.0 -0.1**
MKAR Makanchi Array 138.79 73 PKhKP PKPpre 20 53 38.8
comp=Z,0.3nm,0.6s,baz=224,slow=4.0,SNR=2.4
INK Inuvik 143.64 322 PKP PKPbc 20 53 50.2 0.0
comp=Z,1.2nm,0.3s,baz=76,slow=3.6,SNR=3.7
ZALV Zalesovo Beam 144.03 65 PKP **PKPab** **20 53 51.1 -0.2**
comp=Z,1.9nm,0.6s,baz=224,slow=2.4,SNR=9.8
GTA Gaotai 144.08 95 *e*PKPbc PKPbc 20 53 53.3 +0.6
GTA pPKP PKiKP 20 53 58.9 +0.8
GTA sPKP 20 54 03.3
XAN Xi'an 145.32 111 ⇑PKPbc **PKPbc** **20 53 56.1 -0.5**
ILAR Eielson Array 147.79 314 PKPbc **PKPbc** **20 54 02.4 -0.5**
comp=Z,3.2nm,0.6s,baz=118,slow=1.8,SNR=36
KDAK Kodiak Island 148.35 299 PKPbc **PKPbc** **20 54 04.7 +0.2**
comp=Z,5.5nm,0.6s,baz=140,slow=7.9,SNR=4.6

SONM Songino Array 152.97 88 PKPbc **PKPbc** **20 54 15.7 -0.3**
comp=Z,1.9nm,0.6s,baz=214,slow=3.9,SNR=10

*IDC **17** 20:39:31.1±0.9,2.°15S×140.°60E, h0km, mb3.7/7, mbtmp3.9/9, ML4.2/2, Error ellipse: s-maj=35.7km s-min=20.4km az=95.0*
ISC 17 20:39:36.6±0.9, 2.°2S±0.°1×140.°6E±0.°2, h35km, n11, σ0.662/11, mb3.6/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**18.56**	**244**	P	**Pn**	**20 43 52.0**	**+0.9**
	4.7nm,0.3s,baz=45,slow=2.9,SNR=5.6						
	13nm,0.3s						
WRA	**Warramunga Arr**	**18.65**	**199**	P	**P**	**20 43 51.5**	**-0.1**
	0.3nm,0.3s,baz=25,slow=12,SNR=20						
	2.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.53**	**222**	P	**P**	**20 44 22.5**	**-0.4**
	2.6nm,0.9s,baz=48,slow=15,SNR=3.3						
	2.6nm,0.9s						
ASAR	**Alice Springs**	**22.29**	**196**	P	**P**	**20 44 31.1**	**0.0**
	1.5nm,0.6s,baz=27,slow=11,SNR=28						
	1.5nm,0.6s						
STKA	**Stephens Creek**	**29.54**	**178**	P	**P**	**20 45 37.8**	**-0.2**
	0.9nm,0.5s,baz=356,slow=9.1,SNR=4.0						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**70.52**	**322**	P	**P**	**20 50 47.7**	**-0.3**
	0.3nm,0.8s,baz=116,slow=6.7,SNR=4.2						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**72.43**	**329**	P	**P**	**20 50 58.1**	**-1.1**
	0.4nm,0.4s,baz=122,slow=5.2,SNR=2.1						
	0.4nm,0.4s						
VNDA	**Vanda**	**76.13**	**175**	P	**P**	**20 51 20.3**	**-0.1**
	1.2nm,0.6s,baz=335,slow=7.9,SNR=16						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**84.61**	**24**	P	**P**	**20 52 07.1**	**+0.9**
	0.2nm,0.6s,baz=261,slow=3.6,SNR=2.5						
	0.2nm,0.6s						
LPAZ	**La Paz**	**146.23**	**124**	PKPbc	**PKPdf**	**20 59 14.2**	**0.0**
	1.2nm,0.7s,baz=225,slow=1.4,SNR=4.4						
CPUP	**Villa Florida**	**146.79**	**150**	PKPbc	**PKPbc**	**20 59 15.9**	**+0.1**
	1.8nm,0.7s,baz=153,slow=0.6,SNR=4.8						

*IDC **17** 20:46:14.7±0.8,2.°18S×140.°65E, h0km, mb3.8/12, mbtmp4.0/14, ML4.5/2, MS3.7/37, Error ellipse: s-maj=32.2km s-min=15.6km az=91.0*
*NEIC **17** 20:46:15.7±1.4,2.°2S±0.°1×140.°9E±0.°1, h10km±1km, mb4.3/14, Error ellipse: s-maj=21.3km s-min=19.1km az=42.0*
*DJA **17** 20:46:25.8±0.4,3.°S±.8°×14.°0E±.°, h36km±7km, M3.9/6, mB4.8/1, mb4.4/6, MLv3.6/3, Mw(mB)4.0/1*
ISC 17 20:46:19.6±0.6, 2.°25S±0.°08×140.°7E±0.°1, h35km, n71, σ1.9 02/39, mb4.1/17, MS3.7/31, 1C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.60**	**236**	P	**Pn**	**20 46 31.5**	**-0.3**
SMPI	**Sarmi**	**1.97**	**277**	P	**Pn**	**20 46 48.4**	**-2.2**
FAKI	**Fak Fak**	**8.44**	**265**	Pn	**Pn**	**20 48 20.9**	**+1.4**
SIJI	**Sorong**	**9.50**	**278**	LR	LR	20 52 24.1	
	comp=Z,257nm,19.6s,baz=37,slow=39						
PMG	**Port Moresby**	**9.60**	**138**	LR	LR	20 52 55.6	
	comp=Z,414nm,19.9s,baz=295,slow=42						
MTN	**Manton Dam**	**14.14**	**221**	Pn	**Pn**	**20 49 36.6**	**-1.0**
GUMO	**Guam**	**16.28**	**15**	LR	LR	20 55 50.8	
	comp=Z,158nm,18.1s,baz=224,slow=36						
DAV	**Davao City (W)**	**17.68**	**302**	LR	LR	20 56 45.0	
	comp=Z,58nm,19.7s,baz=119,slow=36						
KNRA	**Kununurra**	**17.77**	**221**		**Pn**	**20 50 24.1**	**-0.3**
KNRA				IAmb	IAmb	20 50 38.6	
	comp=Z,23nm,1.1s						
WB0	**Warramunga Arr**	**18.46**	**199**	P	**Pn**	**20 50 33.2**	**+0.4**
WB0				IAmb	IAmb	20 50 48.5	
	comp=Z,10nm,1.1s						
CTA	**Charters Tower**	**18.55**	**163**	LR	LR	20 57 13.9	
	comp=Z,321nm,20.5s,baz=350,slow=35						
WRA	**Warramunga Arr**	**18.64**	**199**	P	**P**	**20 50 34.4**	**-0.2**
WRA	comp=Z,1.1nm,0.3s,baz=25,slow=12,SNR=38			LR	LR	20 58 44.0	
	comp=Z,645nm,18.6s,baz=42,slow=40						
	comp=Z,2.5nm,0.4s						
WRA	**Warramunga Arr**	**18.64**	**199**	P	**P**	**20 50 33.4**	**-1.2**
BATI	**Baumata**	**18.65**	**244**	P	**Pn**	**20 50 36.2**	**+1.1**
	comp=Z,7.4nm,0.3s,baz=64,slow=4.3,SNR=5.7						
	comp=Z,14nm,0.4s						
BATI	**Baumata**	**18.65**	**244**	P	**Pn**	**20 50 35.8**	**+0.6**
	comp=Z,31nm,1.1s						
HNR	**Honiara**	**20.45**	**111**	LR	LR	20 59 45.2	
	comp=Z,2μm,19.0s,baz=348,slow=40						
TTSI	**Tana Toraja**	**20.84**	**267**	P	Pn	20 51 00.1	-1.1
	comp=Z,26nm,1.3s						
MPSI	**Mapaga**	**20.92**	**277**	P	Pn	20 51 01.7	-0.4
	comp=Z,382nmcomp=Z,14nm,1.7s						
FITZ	**Fitzroy Crossi**	**21.57**	**222**	P	**P**	**20 51 06.0**	**-0.4**
FITZ	comp=Z,4.0nm,0.9s,baz=48,slow=12,SNR=7.8			LR	LR	21 00 53.5	
	comp=Z,197nm,20.5s,baz=39,slow=41						
	comp=Z,4.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.57**	**222**	P	**P**	**20 51 06.3**	**-0.1**
FITZ				IAmb	IAmb	20 51 10.7	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**22.27**	**197**	P	**P**	**20 51 14.3**	**+0.3**
ASAR	**Alice Springs**	**22.28**	**197**	P	**P**	**20 51 14.3**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=24,slow=10,SNR=27						
ASAR				LR	LR	21 00 58.2	
	comp=Z,538nm,18.3s,baz=60,slow=40						
	comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**22.28**	**197**	P	**P**	**20 51 13.7**	**-0.3**
EIDS	**Eidsvold**	**25.08**	**157**	P	**P**	**20 51 38.6**	**-2.5**
MBWA	**Marble Bar**	**27.74**	**226**	P	**P**	**20 52 05.2**	**+0.1**
MBWA				IAmb	IAmb	20 52 07.4	
	comp=Z,12nm,1.1s						
JCJ	**Chichijima**	**29.21**	**3**	LR	LR	21 02 48.8	
	comp=Z,38nm,20.2s,baz=135,slow=34						
STKA	**Stephens Creek**	**29.48**	**178**	P	**P**	**20 52 21.5**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=11,slow=9.8,SNR=5.3						
STKA				LR	LR	21 04 51.2	
	comp=Z,198nm,20.1s,baz=18,slow=38						
	comp=Z,3.4nm,0.9s						
STKA	**Stephens Creek**	**29.48**	**178**	P	**P**	**20 52 21.2**	**+0.7**
JOW	**Kunigami**	**31.29**	**338**	LR	LR	21 02 04.7	
	comp=Z,149nm,20.9s,baz=262,slow=30						
DZM	**Mont Dzumac**	**31.87**	**130**	LR	LR	21 03 52.0	
	comp=Z,162nm,19.5s,baz=276,slow=33						
H11N1	**WAKE ISLAND Hy**	**33.75**	**49**	T	T	21 29 09.8	
	baz=229						
H11N2	**WAKE ISLAND Hy**	**33.77**	**49**	T	T	21 29 35.5	
	baz=229						
H11N3	**WAKE ISLAND Hy**	**33.77**	**49**	T	T	21 29 19.9	
	baz=229						
JHJ	**Hachijo jima 2**	**35.19**	**359**	LR	LR	21 04 07.9	
	comp=Z,158nm,21.7s,baz=116,slow=31						
MORW	**Morawa**	**35.51**	**219**	P	**P**	**20 53 13.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.61**	**213**	LR	LR	21 10 29.9	
	comp=Z,318nm,19.7s,baz=226,slow=39						
MJAR	**Matsushiro Arr**	**38.66**	**357**	P	**P**	**20 53 40.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=183,slow=9.4,SNR=2.9						
MJAR				LR	LR	21 08 19.4	
	comp=Z,59nm,19.7s,baz=164,slow=34						
	comp=Z,0.7nm,0.8s						
KSRS	**Korea Array**	**41.23**	**345**	LR	LR	21 08 09.4	
	comp=Z,72nm,21.5s,baz=160,slow=32						
GSI	**Gunungsitoli**	**43.23**	**274**	P	**P**	**20 54 18.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**45.92**	**298**	P	**P**	**20 54 39.4**	**0.0**
	comp=Z,0.2nm,0.4s,baz=125,slow=7.8,SNR=1.1						
CMAR				LR	LR	21 15 10.9	
	comp=Z,20nm,19.0s,baz=110,slow=38						
	comp=Z,0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**46.89**	**351**	LR	LR	21 11 05.8	
	comp=Z,75nm,18.5s,baz=199,slow=32						
URZ	**Urewera**	**48.94**	**142**	LR	LR	21 16 36.9	
	comp=Z,71nm,18.3s,baz=132,slow=37						
BNX	**BinXian**	**49.21**	**348**	⇑P	**P**	**20 55 01.8**	**-2.6**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BNX				pmax	pmax		
	comp=Z,91nm,3.5s						
KLR	**Kul'dur**	**51.85**	**353**	P	**P**	**20 55 23.1**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=156,slow=10.0,SNR=3.0						
KLR				LR	LR	21 14 26.9	
	comp=Z,60nm,20.8s,baz=176,slow=33						
	comp=Z,1.2nm,0.8s						
PETK	**Petropavlovsk-**	**56.98**	**12**	LR	LR	21 17 20.7	
	comp=Z,38nm,21.9s,baz=207,slow=33						

SONM Songino Array 58.16 333 P **P** **20 56 09.2 -1.0**
comp=Z,0.3nm,0.5s,baz=140,slow=7.2,SNR=1.5
SONM LR LR 21 19 18.6
comp=Z,70nm,21.6s,baz=236,slow=34
comp=Z,0.3nm,0.5s
MA2 Magadan 62.15 6 LR LR 21 20 29.5
comp=Z,29nm,21.7s,baz=190,slow=33
YAK Yakutsk 64.65 354 LR LR 21 22 12.4
comp=Z,27nm,21.7s,baz=92,slow=33
SEY Seymchan 65.61 6 LR LR 21 23 25.1
comp=Z,319nm,21.2s,baz=330,slow=34
MK31 Makanchi Array 70.63 322 P **P** **20 57 31.7 0.0**
MK31 IAmb IAmb 20 57 40.4
comp=Z,3.1nm,1.1s
MKAR Makanchi Array 70.63 322 P **P** **20 57 30.6 -1.1**
comp=Z,0.4nm,0.5s,baz=115,slow=6.8,SNR=5.9
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 70.63 322 P **P** **20 57 31.4 -0.2**
ZALV Zalesovo Beam 72.53 329 P **P** **20 57 44.1 +1.2**
comp=Z,0.3nm,0.2s,baz=130,slow=5.8,SNR=2.7
ZALV LR LR 21 30 09.0
comp=Z,39nm,19.3s,baz=92,slow=36
comp=Z,0.3nm,0.2s
ZALV Zalesovo Beam 72.53 329 P **P** **20 57 42.1 -0.8**
KURK Kurchatov 74.47 324 P **P** **20 57 55.6 +1.2**
KURK IAmb IAmb 20 58 04.6
comp=Z,3.5nm,1.1s
VNDA Vanda 76.07 175 P **P** **20 58 04.2 +1.0**
comp=Z,1.4nm,0.7s,baz=329,slow=7.9,SNR=6.2
VNDA LR LR 21 30 50.5
comp=Z,60nm,19.4s,baz=354,slow=35
comp=Z,1.4nm,0.7s
VNDA Vanda 76.07 175 P **P** **20 58 03.5 +0.4**
VNDA IAmb IAmb 20 58 07.4
comp=Z,3.6nm,1.1s
KKAR Karatay Array 77.18 315 P **P** **20 58 09.8 -0.3**
KDAK Kodiak Island 79.72 30 LR LR 21 29 39.6
comp=Z,62nm,19.7s,baz=246,slow=33
ILAR Eielson Array 84.61 24 P **P** **20 58 50.2 +0.9**
comp=Z,1.2nm,0.8s,baz=256,slow=3.6,SNR=3.0
comp=Z,1.2nm,0.8s
GEYT Alibeck 85.49 308 P **P** **20 58 55.0 +0.7**
comp=Z,1.8nm,0.9s,baz=108,slow=10,SNR=3.8
comp=Z,1.8nm,0.9s
ARU Arti 87.49 327 LR LR 21 39 44.3
comp=Z,26nm,19.6s,baz=146,slow=37
QSPA South Pole Qui 87.69 180 LR LR 21 37 54.1
comp=Z,76nm,18.8s,baz=10,slow=35
QSPA South Pole Qui 87.69 180 P **P** **20 59 05.0 +0.4**
QSPA IAmb IAmb 20 59 21.8
comp=Z,4.3nm,1.2s
INK Inuvik 90.52 22 LR LR 21 37 16.1
comp=Z,32nm,21.7s,baz=150,slow=34
BBB Bella Bella 92.51 38 LR LR 21 31 48.8
comp=Z,27nm,20.2s,baz=256,slow=30
BELG Belogornoye 93.63 322 LR LR 21 42 48.2
comp=Z,24nm,21.4s,baz=15,slow=36
YBH Yreka Blue Hor 96.44 48 LR LR 21 34 25.3
comp=Z,46nm,21.0s,baz=283,slow=30
YKA Yellowknife Ar 98.77 27 LR LR 21 38 55.5
comp=Z,64nm,20.7s,baz=297,slow=32
SPITS Spitsbergen Ar 98.87 350 LR LR 21 44 18.3
comp=Z,40nm,20.5s,baz=7.0,slow=35
LPAZ La Paz 146.11 124 PKPbc **PKPdf** **21 05 57.8 +0.8**
comp=Z,3.3nm,1.1s,baz=265,slow=6.6,SNR=5.2

IDC 17 20:51:24.9±2.2, 2.°08S×140.°98E, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=94.0km s-min=32.0km az=84.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.91**	**200**	P	P	20 55 47.3	0.0
	0.1nm,0.3s,baz=26,slow=12,SNR=4.3						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**22.53**	**197**	P	P	20 56 26.4	-0.2
	1.0nm,0.7s,baz=26,slow=11,SNR=8.6						
	1.0nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**32.52**	**50**	T	T	21 33 44.9	
	baz=231						
H11S2	**WAKE ISLAND Hy**	**32.53**	**50**	T	T	21 33 38.5	
	baz=231						
H11S1	**WAKE ISLAND Hy**	**32.54**	**50**	T	T	21 33 30.4	
	baz=231						
MKAR	**Makanchi Array**	**70.69**	**322**	P	P	21 02 42.5	-0.2
	0.5nm,0.9s,baz=103,slow=6.2,SNR=3.0						
	0.5nm,0.9s						
VNDA	**Vanda**	**76.22**	**175**	P	P	21 03 15.0	+0.3
	0.6nm,0.6s,baz=340,slow=7.2,SNR=6.4						
	0.6nm,0.6s						

TAP 17 21:04:47.3, 22.°80N×120.°94E, h6km±1km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**0.12**	**80**	*i* P	Pg	21 04 50.8	+0.8
	baz=82						
TWG				S	Sg	21 04 52.9	+1.1
	baz=82						
TWGBT	**Beinan**	**0.13**	**82**	P	Pg	21 04 50.8	+0.7
	baz=82						
TWGBT				S	Sg	21 04 52.9	+0.9
	baz=82						
LONT	**Longtian**	**0.20**	**59**	P	Pg	21 04 51.8	+0.4
	baz=59						
LONT				eS	Sg	21 04 54.6	+0.4
	baz=59						
TSMG	**Majia**	**0.29**	**251**	P	Pg	21 04 53.6	+0.6
	baz=256						
TSMG				eS	Sg	21 04 57.1	+0.3
	baz=256						
SSD	**Sandimen**	**0.29**	**259**	*i* P	Pg	21 04 53.4	+0.4
	baz=259						
SSD				S	Sg	21 04 56.9	+0.1
	baz=259						
MASBT	**Mashibuluo**	**0.34**	**237**	P	Pg	21 04 54.6	+0.7
	baz=241						
MASBT				S	Sg	21 04 59.1	+0.7
	baz=241						
SCST	**Cishan**	**0.42**	**282**	*e*P	Pb	21 04 56.4	-0.8
	baz=282						
SCST				eS	Sb	21 05 02.4	-1.3
	baz=282						
EAST	**Anshuo**	**0.42**	**192**	*e*P	Pb	21 04 56.9	-0.3
	baz=190						
EAST				eS	Sb	21 05 03.3	-0.5
	baz=190						
TAWH	**Dawu Township**	**0.46**	**186**	*e*P	Pg	21 04 56.5	+0.3
	baz=196						
SCZT	**Fangliau**	**0.52**	**215**	*e*P	Pb	21 04 58.4	-0.4
	baz=222						
SCZT				eS	Sg	21 05 04.9	+0.8
	baz=222						

TAP 17 21:04:50.4, 23.°66N×121.°52E, h34km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.06**	**23**	*e*P	Pb	21 04 56.3	+0.2
	baz=30						
TEGC				eS	Sb	21 05 00.7	+0.6
	baz=30						
EGFH	**Guangfu**	**0.08**	**279**	*e*P	Pb	21 04 56.3	+0.1
	baz=278						
EGFH				eS	Sb	21 05 01.2	+1.0
	baz=278						
ESL	**Shilin**	**0.17**	**334**	*e*P	Pb	21 04 57.1	+0.2
	baz=336						
ESL				S	Sb	21 05 01.9	+0.6
	baz=336						
EHY	**Hungye**	**0.23**	**230**	*e*P	Pb	21 04 57.7	+0.3
	baz=228						
EHY				eS	Sb	21 05 03.0	+0.7
	baz=228						
EYUL	**Yuli**	**0.36**	**210**	*e*P	Pn	21 04 59.3	+0.1
	baz=25						
EYUL				eS	Sb	21 05 07.2	+2.4
	baz=25						
EYUL	**Yuli**	**0.36**	**210**	*e*P	Pn	21 04 59.3	+0.1
	baz=210						
EYUL				eS	Sb	21 05 07.1	+2.3
	baz=210						
OWD	**Renai**	**0.43**	**314**	*e*P	Pn	21 05 00.6	+0.2
	baz=313						
OWD				eS	Sn	21 05 07.7	+0.7

baz=313
FUSS Fushou 0.64 337 *e*P Pn 21 05 03.2 0.0
baz=337
FUSS *e*S Sb 21 05 12.6 +0.2
baz=337
WCS Beigang Elemen 0.68 306 *e*P Pb 21 05 03.9 0.0
baz=305

NEIC ***17*** *21:10:02.8±1.9, 1.3S±0.1×140.2E±0.1, h10km±1km, mb4.0/2, Error ellipse: s-maj=24.6km s-min=14.2km az=49.0*
IDC ***17*** *21:10:08.6±1.4, 2.32S×140.66E, h0km, mb3.9/5, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=51.3km s-min=28.1km az=95.0*
ISC 17 21:10:09.9±2.0, 1.38S±0.2×140.4E±0.1, h35km, n33, σ0.97/29, mb4.0/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.83**	**194**	P		**Pn**	**21 10 24.7**	**-0.4**
FAKI	**Fak Fak**	**8.20**	**262**	Pn		Pn	21 11 59.4	-7.0
PMG	**Port Moresby**	**10.14**	**139**	Pn		**Pn**	**21 12 33.1**	**0.0**
COEN	**Coen**	**12.41**	**167**	Pn		**Pn**	**21 13 06.4**	**+2.3**
KDU	**Kakadu**	**13.36**	**215**	P		**Pn**	**21 13 16.5**	**-0.7**
	15nm,1.5s							
MTN	**Manton Dam**	**14.30**	**219**	Pn		**Pn**	**21 13 29.9**	**-0.1**
MTN	**Manton Dam**	**14.30**	**219**	P		**Pn**	**21 13 29.9**	**-0.1**
	28nm,0.8s							
KNRA	**Kununurra**	**17.93**	**219**	P		**P**	**21 14 16.4**	**-0.5**
KNRA					IAmb	IAmb	21 14 20.0	
	comp=Z,12nm,1.1s							
KNRA	**Kununurra**	**17.93**	**219**	P		**P**	**21 14 17.7**	**+0.7**
	comp=Z,16nm,1.3s							
WB0	**Warramunga Arr**	**18.80**	**198**			**P**	**21 14 26.0**	**-0.5**
WRAB	**Tennant Creek**	**18.98**	**198**	P		**P**	**21 14 28.4**	**0.0**
	comp=Z,6.0nm,1.6s							
WRA	**Warramunga Arr**	**18.99**	**198**	P		**P**	**21 14 27.9**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=24,slow=12,SNR=32							
	comp=Z,2.2nm,0.5s							
WRA	**Warramunga Arr**	**18.99**	**198**	P		**P**	**21 14 27.0**	**-1.6**
CTAO	**Charters Tower**	**19.08**	**163**	P		**Pn**	**21 14 31.1**	**+0.6**
CTAO					IAmb	IAmb	21 14 59.2	
	comp=Z,15nm,1.4s							
FITZ	**Fitzroy Crossi**	**21.72**	**221**	P		**P**	**21 14 58.4**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=40,slow=14,SNR=7.5							
	comp=Z,2.5nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.72**	**221**	P		**P**	**21 14 56.6**	**-1.7**
FITZ					IAmb	IAmb	21 15 16.2	
	comp=Z,6.3nm,1.2s							
FITZ	**Fitzroy Crossi**	**21.72**	**221**	P		**P**	**21 14 59.8**	**+1.6**
	comp=Z,5.1nm,1.2s							
AS31	**Alice Springs**	**22.64**	**196**	P		**P**	**21 15 08.1**	**+0.1**
AS31					IAmb	IAmb	21 15 14.2	
	comp=Z,1.9nm,0.5s							
ASAR	**Alice Springs**	**22.64**	**196**	P		**P**	**21 15 07.3**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=27,slow=11,SNR=34							
	comp=Z,1.8nm,0.6s							
ASAR	**Alice Springs**	**22.64**	**196**	P		**P**	**21 15 07.5**	**-0.5**
EIDS	**Eidsvold**	**25.62**	**157**	P		**P**	**21 15 36.8**	**+0.6**
WRKA	**Warakurna**	**25.89**	**206**	P		**P**	**21 15 39.3**	**+0.6**
	comp=Z,6.1nm,1.4s							
STKA	**Stephens Creek**	**29.95**	**178**	P		**P**	**21 16 13.2**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=6.3,slow=13,SNR=4.5							
	comp=Z,2.0nm,0.7s							
STKA	**Stephens Creek**	**29.95**	**178**	P		**P**	**21 16 13.8**	**-1.2**
FORT	**Forrest**	**31.11**	**201**	P		**P**	**21 16 24.4**	**-0.7**
FORT	**Forrest**	**31.11**	**201**	P		**P**	**21 16 25.8**	**+0.7**
	comp=Z,23nm,2.4s							
MK31	**Makanchi Array**	**70.09**	**322**	P		P	21 21 11.4	-7.2
MK31					IAmb	IAmb	21 21 15.3	
	comp=Z,1.9nm,1.2s							
MKAR	**Makanchi Array**	**70.09**	**322**	P		P	21 21 11.6	-7.0
ZALV	**Zalesovo Beam**	**71.99**	**329**	P		P	21 21 37.9	+8.0
	comp=Z,0.3nm,0.5s,baz=103,slow=6.4,SNR=1.8							
	comp=Z,0.3nm,0.5s							
VNDA	**Vanda**	**76.55**	**175**	P		**P**	**21 21 57.5**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=327,slow=7.2,SNR=12							
	comp=Z,1.5nm,0.7s							
VNDA	**Vanda**	**76.55**	**175**	P		**P**	**21 21 56.4**	**+0.3**
VNDA					IAmb	IAmb	21 21 58.3	
	comp=Z,1.7nm,0.7s							
QSPA	**South Pole Qui**	**88.16**	**180**	P		**P**	**21 22 57.1**	**+0.1**
LPAZ	**La Paz**	**146.61**	**124**	PKPbc		**PKPab**	**21 29 51.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=225,slow=2.9,SNR=4.3							

TEH 17 21:14:09.9, 33.39N×56.94E, h7km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TKDS	**Koohdasht(Taba**	**0.27**	**34**	*e*Pg		Pg	21 14 15.3	0.0
TABS	**Tabas**	**0.30**	**30**	*e*Pg		Pg	21 14 15.7	0.2
TPRV	**Parvadeh(Tabas**	**0.42**	**211**	*e*Pg		Pg	21 14 18.5	+0.4
TNSJ	**Nastanj**	**0.64**	**334**	*e*Pg		Pg	21 14 22.2	0.0
TNSJ				*e*			21 14 36.0	
	comp=Z,64μm,0.4s							
ITEG	**Tejag**	**1.60**	**107**	*e*Pn		Pg	21 14 40.4	-0.1
AFRZ	**Afriz**	**1.74**	**88**	*e*Pn		Pb	21 14 42.1	-0.1
AFRZ				*e*			21 15 11.3	
	comp=Z,4μm,0.3s							
IKOO	**Kooshah**	**1.99**	**118**	*e*Pn		Pb	21 14 46.0	-0.5
IBAF	**Bafgh**	**2.14**	**213**	*e*Pn		Pb	21 14 48.0	-1.0
IBAF				*e*			21 15 27.0	
	comp=Z,5μm,0.5s							
YZKH	**Yazd**	**2.21**	**244**	*e*Pn		Pb	21 14 50.7	+0.4
IMON	**Monand**	**2.29**	**94**	*e*Pn		Pb	21 14 51.2	-0.5
IMON				*e*			21 14 55.7	
	comp=Z,3μm,0.3s							
BSRN	**Basiran**	**2.33**	**127**	*e*Pn		Pn	21 14 50.0	+1.3
ICHK	**Chekchek**	**2.42**	**242**	*e*Pn		Pn	21 14 51.7	+1.6
ICHK				*e*			21 15 36.4	
	comp=Z,2μm,0.4s							
IDAH	**Dahanechah**	**2.54**	**104**	*e*Pn		Pn	21 14 53.0	+1.2
IDAH				*e*			21 15 41.1	
	comp=Z,1μm,0.5s							
ANAR	**Anarak**	**2.70**	**267**	*e*Pn		Pn	21 14 55.1	+1.3
ANAR				*e*			21 15 42.4	
	comp=Z,892nm,0.5s							
SHRO	**Shahrood**	**2.70**	**344**	*e*Pn		Pn	21 14 55.2	+1.3
TBHD	**Torbat heydari**	**2.77**	**43**	*e*Pn		Pn	21 14 56.6	+1.7
TBHD				*e*			21 15 48.3	
	comp=Z,3μm,0.8s							
IMEH	**Mehriz**	**2.80**	**225**	*e*Pn		Pb	21 14 57.9	-2.5
IMEH				*e*			21 15 43.9	
	comp=Z,1μm,0.5s							
SHRT	**Shahrakht**	**2.81**	**84**	*e*Pn		Pn	21 14 57.4	+2.1
KHGB	**Koh Gabri**	**3.03**	**188**	*e*Pn		Pn	21 15 00.4	+1.9
KHGB				*e*			21 15 53.5	
	comp=Z,2μm,0.6s							
SBZV	**Sabzevar**	**3.04**	**10**	*e*Pn		Pn	21 15 00.5	+1.9
SBZV				*e*			21 15 59.1	
	comp=Z,1μm,0.6s							
ISAD	**Sadrabad**	**3.11**	**243**	*e*Pn		Pn	21 15 01.9	+2.2
IANJ	**Anjilo**	**3.25**	**310**	*e*			21 15 15.2	
	comp=Z,940nm,0.5s							
IANJ				*e*Pn		Pn	21 15 03.6	+2.1
NHDN	**Nehbandan**	**3.30**	**126**	*e*Pn		Pn	21 15 04.1	+2.0
IMOG	**Moghan**	**3.35**	**35**	*e*Pn		Pn	21 15 05.0	+2.0
TBJM	**Torbat-e-JAM**	**3.37**	**55**	*e*Pn		Pn	21 15 05.1	+2.0
TVBK	**TV Kerman**	**3.40**	**183**	*e*Pn		Pn	21 15 05.8	+2.2
KRBR	**Kerman**	**3.40**	**183**	*e*Pn		Pn	21 15 06.2	+2.6
IPAY	**Payeh**	**3.49**	**28**	*e*			21 15 52.6	
	comp=Z,785nm,0.5s							
IPAY				*e*Pn		Pn	21 15 06.9	+2.1
IAKL	**Akhelmad**	**3.54**	**24**	*e*Pn		Pn	21 15 07.2	+1.7
IAKL				*e*			21 16 11.5	
	comp=Z,818nm,0.5s							
CHMN	**Cheshme madani**	**3.56**	**172**	*e*			21 15 20.5	
	comp=Z,2μm,0.3s							
CHMN				*e*Pn		Pn	21 15 08.0	+2.2
NGRK	**Negar Kerman**	**3.74**	**183**	*e*Pn		Pn	21 15 10.5	+2.2
NGRK				*e*			21 15 21.8	
	comp=Z,2μm,0.3s							
ISFR	**Sfrayin**	**3.76**	**13**	*e*Pn		Pn	21 15 10.8	+2.3
ISFR				*e*			21 15 25.6	
	comp=Z,662nm,0.6s							
ILAS	**Lasjerd**	**3.84**	**302**	*e*Pn		Pn	21 15 13.0	+3.3
IZEF	**Zefreh**	**3.90**	**264**	*e*Pn		Pn	21 15 12.5	+2.1
IZEF				*e*			21 16 19.1	
	comp=Z,284nm,0.4s							
IMYA	**Miami**	**3.93**	**41**	*e*Pn		Pn	21 15 12.9	+2.1
IKRD	**Kardeh**	**3.98**	**31**	*e*Pn		Pn	21 15 14.5	+2.9
ISFB	**Sefidab**	**4.03**	**285**	*e*Pn		Pn	21 15 14.0	+2.0
ISFB				*e*			21 16 31.2	
	comp=Z,494nm,0.4s							
KRSH	**Karshahi**	**4.05**	**280**	*e*Pn		Pn	21 15 14.2	+1.8
IFIR	**Firoozkooh**	**4.12**	**304**	*e*Pn		Pn	21 15 15.7	+2.2
IRAM	**Ramesheh**	**4.16**	**249**	*e*Pn		Pn	21 15 16.1	+2.1
IEMG	**Emamgholi**	**4.25**	**19**	*e*Pn		Pn	21 15 17.7	+2.4
MRVT	**Maraveh tapeh**	**4.32**	**351**	*e*Pn		Pn	21 15 18.1	+2.1
MRVT				*e*			21 15 19.1	
	comp=Z,99nm,0.3s							
BJRD	**Bojnurd**	**4.32**	**5**	*e*Pn		Pn	21 15 17.4	+1.3
KBAM	**BAM**	**4.43**	**163**	*e*Pn		Pn	21 15 19.7	+2.0
IKLH	**Kolahrood**	**4.49**	**271**	*e*Pn		Pn	21 15 20.4	+1.9
IDMV	**Damavand**	**4.60**	**300**	*e*Pn		Pn	21 15 22.6	+2.5
IVRN	**Varamin**	**4.61**	**292**	*e*Pn		Pn	21 15 21.8	+1.8
GHVR	**GHOM**	**4.82**	**285**	*e*Pn		Pn	21 15 25.9	+3.0
ZHSF	**Zahedan**	**4.99**	**138**	*e*Pn		Pn	21 15 27.0	+1.6
IQOM	**Qom**	**5.08**	**288**	*e*Pn		Pn	21 15 28.4	+1.7
KLNJ	**Kolanjah**	**5.12**	**244**	*e*Pn		Pn	21 15 30.6	+3.3
IPIR	**Pirpir**	**5.13**	**264**	*e*Pn		Pn	21 15 30.3	+2.9
ZHDN	**Zahedan**	**5.17**	**139**	*e*Pn		Pn	21 15 29.3	+1.4
ZHDN				*e*			21 17 12.3	
	comp=Z,271nm,0.9s							
CHTH	**Charan**	**5.41**	**299**	*e*Pn		Pn	21 15 33.0	+1.8
ASAO	**Ashtian**	**5.86**	**283**	*e*Pn		Pn	21 15 39.4	+2.0

IDC ***17*** *21:15:13.6±0.7, 2.10S×140.70E, h0km, mb4.2/12, mbtmp4.2/15, ML4.0/3, MS3.4/23, Error ellipse: s-maj=25.2km s-min=15.5km az=76.0*
NEIC ***17*** *21:15:15.7±1.9, 2.1S±0.1×140.7E±0.1, h10km±1km, mb4.3/14, Error ellipse: s-maj=24.5km s-min=19.1km az=59.0*
DJA ***17*** *21:15:19.5±1.6, 2°S±7°×14°1E±°, h22km±9km, M4.2/13, mB5.3/1, mb4.4/13, ML4.0/3, Mw(mB)4.8/1*
ISC 17 21:15:19.3±0.6, 2.06S±0.07×140.59E±0.09, h35km, n76, σ1.9/50/56, mb4.3/16, MS3.4/18, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.68**	**218**	P		**Pn**	**21 15 31.8**	**-0.7**
GENI	**Genyem**	**0.68**	**218**	P		**Pn**	**21 15 32.1**	**-0.4**
SMPI	**Sarmi**	**1.88**	**272**	P		**Pn**	**21 15 48.4**	**-0.6**
WAMI	**Wamena**	**2.61**	**226**	P		**Pn**	**21 16 02.7**	**+3.7**
FAKI	**Fak Fak**	**8.38**	**264**	Pn		**Pn**	**21 17 18.7**	**+0.4**
FAKI	**Fak Fak**	**8.38**	**264**	P		**Pn**	**21 17 20.4**	**+2.0**
	17nm,1.2s							
SIJI	**Sorong**	**9.40**	**277**	LR		LR	21 21 12.7	
	comp=Z,136nm,19.6s,baz=18,slow=38							
PMG	**Port Moresby**	**9.80**	**138**	LR		LR	21 22 02.2	
	comp=Z,160nm,19.2s,baz=292,slow=42							
MTN	**Manton Dam**	**14.23**	**221**			**Pn**	**21 18 36.2**	**-2.3**
GUMO	**Guam**	**16.11**	**15**	LR		LR	21 24 38.8	
	comp=Z,89nm,19.6s,baz=200,slow=35							
DAV	**Davao City (W)**	**17.51**	**301**	LR		LR	21 26 44.4	
	comp=Z,51nm,19.2s,baz=128,slow=39							
LUWI	**Luwuk**	**17.84**	**273**			**P**	**21 19 26.6**	**+1.2**
LUWI					IAmb	IAmb	21 19 27.7	
	comp=Z,28nm,1.0s							
KNRA	**Kununurra**	**17.86**	**220**	P		**Pn**	**21 19 23.4**	**-1.8**
KNRA					IAmb	IAmb	21 19 45.8	
	comp=Z,15nm,1.1s							
BATI	**Baumata**	**18.66**	**244**	P		**P**	**21 19 34.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=5.9,slow=2.2,SNR=6.5							
	comp=Z,33nm,0.7s							
BATI	**Baumata**	**18.66**	**244**	P		**Pn**	**21 19 35.3**	**+0.2**
	comp=Z,20nm,0.4s							
WR0	**Warramunga Arr**	**18.75**	**198**	P		**P**	**21 19 33.7**	**-1.7**
WR0					IAmb	IAmb	21 19 51.9	
	comp=Z,12nm,1.1s							
CTA	**Charters Tower**	**18.76**	**163**	P		**Pn**	**21 19 35.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=343,slow=14,SNR=4.7							
CTA					LR	LR	21 27 44.3	
	comp=Z,86nm,18.8s,baz=3.0,slow=40							
	comp=Z,12nm,1.2s							
CTA	**Charters Tower**	**18.76**	**163**	P		**Pn**	**21 19 38.8**	**+2.7**
CTAO	**Charters Tower**	**18.76**	**163**			**Pn**	**21 19 36.1**	**0.0**
CTAO					IAmb	IAmb	21 19 39.9	
	comp=Z,22nm,1.4s							
CTAO	**Charters Tower**	**18.76**	**163**	P		**Pn**	**21 19 39.3**	**+3.2**
WRAB	**Tennant Creek**	**18.79**	**199**	P		**P**	**21 19 35.4**	**-0.4**
WRA	**Warramunga Arr**	**18.80**	**199**	P		**P**	**21 19 35.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=24,slow=12,SNR=24							
WRA					S	Sn	21 22 50.6	-15
	comp=Z,0.2nm,0.3s,baz=56,slow=30,SNR=5.3							
WRA					LR	LR	21 27 42.8	
	comp=Z,324nm,19.1s,baz=62,slow=40							
	comp=Z,4.2nm,0.6s							
WRA	**Warramunga Arr**	**18.80**	**199**	P		**P**	**21 19 33.3**	**-2.6**
APSI	**Ampana**	**18.97**	**273**	P		**P**	**21 19 36.8**	**-1.1**
	comp=Z,21nm,0.9s							
HNR	**Honiara**	**20.59**	**112**	LR		LR	21 28 42.4	
	comp=Z,2μm,18.2s,baz=324,slow=40							
TTSI	**Tana Toraja**	**20.77**	**267**	P		Pn	21 19 59.8	-0.3
	comp=Z,18nm,1.2s							
MPSI	**Mapaga**	**20.82**	**276**	P		Pn	21 20 01.5	+0.8
	comp=Z,14nm,0.9s							
SPSI	**Siap Palu**	**20.88**	**264**	P		**P**	**21 19 59.8**	**+1.1**
	comp=Z,9.6nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.66**	**222**	P		**P**	**21 20 06.1**	**-0.9**
	comp=Z,6.1nm,0.9s,baz=56,slow=11,SNR=6.7							
FITZ					LR	LR	21 29 42.4	
	comp=Z,119nm,19.1s,baz=55,slow=40							
	comp=Z,6.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.66**	**222**	P		**P**	**21 20 05.9**	**-1.2**
FITZ					IAmb	IAmb	21 20 19.3	
	comp=Z,12nm,1.2s							
AS31	**Alice Springs**	**22.43**	**196**	P		**P**	**21 20 14.2**	**-1.1**
ASAR	**Alice Springs**	**22.44**	**196**	P		**P**	**21 20 14.2**	**-1.2**
	comp=Z,4.0nm,0.8s,baz=28,slow=11,SNR=34							
ASAR					LR	LR	21 29 56.0	
	comp=Z,291nm,18.9s,baz=84,slow=39							
	comp=Z,4.0nm,0.8s							
ASAR	**Alice Springs**	**22.44**	**196**	P		**P**	**21 20 13.8**	**-1.6**
RK1H	**Rockhampton Ha**	**23.28**	**156**	P		**P**	**21 20 26.6**	**+2.6**
	comp=Z,26nm,1.1s							
QLP	**Qolie**	**24.64**	**172**	P		**P**	**21 20 38.0**	**+1.3**
	comp=Z,34nm,1.2s							
EIDS	**Eidsvold**	**25.29**	**157**	P		**P**	**21 20 43.4**	**+0.8**
EIDS	**Eidsvold**	**25.29**	**157**	P		**P**	**21 20 45.7**	**+3.1**
RMQ	**Roma**	**25.52**	**163**	P		**P**	**21 20 47.2**	**+2.4**
INKA	**Innaminka**	**25.54**	**180**	P		**P**	**21 20 47.0**	**+2.1**
WRKA	**Warakurna**	**25.74**	**206**	P		**P**	**21 20 46.4**	**-0.4**
STKA	**Stephens Creek**	**29.68**	**178**	P		**P**	**21 21 20.9**	**-1.1**
	comp=Z,4.4nm,0.9s,baz=348,slow=11,SNR=5.6							
STKA					LR	LR	21 33 26.8	
	comp=Z,134nm,19.2s,baz=352,slow=37							
	comp=Z,4.4nm,0.9s							
STKA	**Stephens Creek**	**29.68**	**178**	P		**P**	**21 21 21.7**	**-0.2**
BBOO	**Buckleboo**	**30.89**	**187**	P		**P**	**21 21 32.6**	**0.0**
JOW	**Kunigami**	**31.08**	**338**	LR		LR	21 33 08.0	
	comp=Z,165nm,19.1s,baz=46,slow=34							
DZM	**Mont Dzumac**	**32.05**	**130**	P		**P**	**21 21 41.6**	**-1.5**
	comp=Z,6.5nm,0.8s,baz=322,slow=12,SNR=4.4							
DZM					LR	LR	21 33 00.8	
	comp=Z,173nm,18.1s,baz=166,slow=33							
	comp=Z,6.5nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**33.69**	**49**	T		T	21 57 52.4	
	baz=229							
H11N2	**WAKE ISLAND Hy**	**33.70**	**49**	T		T	21 58 23.6	
	baz=229							
H11N3	**WAKE ISLAND Hy**	**33.70**	**49**	T		T	21 58 31.2	
	baz=229							
JHJ	**Hachijo jima 2**	**34.99**	**359**	LR		LR	21 32 44.0	
	comp=Z,138nm,20.9s,baz=86,slow=30							
MJAR	**Matsushiro Arr**	**38.47**	**357**	LR		LR	21 37 18.1	
	comp=Z,27nm,19.0s,baz=168,slow=34							
KSRS	**Korea Array**	**41.03**	**345**	LR		LR	21 39 11.9	
	comp=Z,28nm,19.4s,baz=165,slow=35							
CMAR	**Chiang Mai Arr**	**45.76**	**298**	P		**P**	**21 23 39.7**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=117,slow=6.7,SNR=4.6							
CMAR					LR	LR	21 43 59.8	
	comp=Z,12nm,19.0s,baz=175,slow=38							
	comp=Z,1.1nm,0.3s							
CMAR	**Chiang Mai Arr**	**45.76**	**298**	P		**P**	**21 23 37.8**	**-0.1**
URZ	**Urewera**	**49.14**	**142**	LR		LR	21 45 04.3	
	comp=Z,78nm,18.5s,baz=17,slow=36							
RPZ	**Rata Peaks**	**49.52**	**151**	LR		LR	21 45 23.0	
	comp=Z,48nm,20.1s,baz=266,slow=37							
KLR	**Kul'dur**	**51.65**	**353**	LR		LR	21 43 44.5	
	comp=Z,32nm,19.0s,baz=166,slow=33							
PETK	**Petropavlovsk-**	**56.81**	**12**	LR		LR	21 47 12.7	
	comp=Z,24nm,21.4s,baz=202,slow=34							
SONM	**Songino Array**	**57.96**	**333**	P		**P**	**21 25 10.6**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=134,slow=4.2,SNR=2.9							
SONM					LR	LR	21 48 27.1	
	comp=Z,25nm,21.1s,baz=241,slow=34							
	comp=Z,0.5nm,0.7s							
MA2	**Magadan**	**61.97**	**6**	LR		LR	21 49 38.0	
	comp=Z,18nm,21.9s,baz=155,slow=33							
YAK	**Yakutsk**	**64.46**	**354**	LR		LR	21 51 31.3	
	comp=Z,25nm,20.4s,baz=267,slow=34							
CASY	**Casey**	**67.51**	**193**	P		**P**	**21 26 13.4**	**+1.8**
MKAR	**Makanchi Array**	**70.43**	**322**	P		**P**	**21 26 29.2**	**-1.0**
	comp=Z,1.5nm,1.0s,baz=111,slow=6.6,SNR=6.3							
	comp=Z,1.5nm,1.0s							
MKAR	**Makanchi Array**	**70.43**	**322**	P		**P**	**21 26 29.6**	**-0.6**
MAKZ	**Makanchi**	**70.63**	**322**	P		**P**	**21 26 31.0**	**-0.4**
MAKZ					IAmb	IAmb	21 26 34.5	
	comp=Z,3.5nm,1.1s							
ZALV	**Zalesovo Beam**	**72.33**	**329**	P		**P**	**21 26 41.8**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=134,slow=10,SNR=1.9							
ZALV					LR	LR	21 58 56.8	
	comp=Z,20nm,20.5s,baz=57,slow=36							
	comp=Z,0.3nm,0.4s							
VNDA	**Vanda**	**76.27**	**175**	P		**P**	**21 27 03.3**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=321,slow=6.3,SNR=21							
	comp=Z,2.9nm,0.7s							
VNDA	**Vanda**	**76.27**	**175**	P		**P**	**21 27 04.3**	**+0.4**
VNDA					IAmb	IAmb	21 27 05.4	
	comp=Z,3.4nm,0.8s							
KKAR	**Karatay Array**	**76.99**	**315**	P		**P**	**21 27 08.8**	**+0.1**
KKAR	**Karatay Array**	**76.99**	**315**	P		**P**	**21 27 08.6**	**-0.1**
KKAR					IAmb	IAmb	21 27 16.4	
	comp=Z,4.2nm,1.4s							
ILAR	**Eielson Array**	**84.47**	**24**	P		**P**	**21 27 48.0**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=242,slow=6.8,SNR=7.3							
	comp=Z,1.2nm,0.8s							
GEYT	**Alibeck**	**85.31**	**308**	P		**P**	**21 27 52.0**	**-1.2**
	comp=Z,2.6nm,0.9s,baz=108,slow=3.2,SNR=4.7							
	comp=Z,2.6nm,0.9s							
ABKAR	**Akbulak array**	**85.44**	**320**	P		**P**	**21 27 52.5**	**-0.9**
QSPA	**South Pole Qui**	**87.88**	**180**	P		**P**	**21 28 04.3**	**-0.9**
	comp=Z,4.4nm,1.1s,baz=303,slow=0.9,SNR=7.4							
	comp=Z,4.4nm,1.1s							
QSPA	**South Pole Qui**	**87.88**	**180**	P		**P**	**21 28 04.4**	**-0.9**
LPAZ	**La Paz**	**146.28**	**124**	PKPbc		**PKPbc**	**21 34 57.1**	**-1.0**
	comp=Z,5.3nm,1.0s,baz=290,slow=2.0,SNR=12							
CPUP	**Villa Florida**	**146.89**	**150**	PKPbc		**PKPbc**	**21 34 57.7**	**-1.1**
	comp=Z,3.6nm,0.8s,baz=234,slow=2.7,SNR=7.0							

IDC ***17*** *21:18:17.3±3.1, 37.12S×178.88E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=73.9km s-min=30.7km az=130.0*
WEL ***17*** *21:18:19.6±1.1, 37°S±7°×17°9E±°, h19km±7km, M3.6/19, ML3.9/19, MLv3.6/19, Error ellipse: s-maj=0.0km s-min=0.0km az=116.3*
NEIC ***17*** *21:18:21.5±1.1, 37.2S±0.1×178.7E±0.2, h10km±1km, mb4.3/7, Error ellipse: s-maj=26.9km s-min=3.1km az=129.0*
ISC 17 21:18:19.1±2.0, 37.33S±0.06×178.97E±0.07, h7km±10km, n74, σ1.9/59/93, mb4.0/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.57**	**246**	Pg		**Pg**	**21 18 30.1**	**0.0**
MXZ						**Sg**	**21 18 36.9**	**-0.8**
MXZ	**Matakaoa Point**	**0.57**	**246**	P		**Pg**	**21 18 30.0**	**-0.1**
MXZ				S		**Sg**	**21 18 36.5**	**-1.1**
WMGZ	**Waiomatatini S**	**0.66**	**222**	P		**Pn**	**21 18 34.0**	**-0.7**
WMGZ				S		**Sb**	**21 18 44.1**	**+2.0**
PKGZ	**Pakihiroa**	**0.90**	**232**	P		**Pb**	**21 18 36.7**	**-0.4**
PUKE	**Puketiti**	**0.93**	**217**	P		**Pn**	**21 18 38.5**	**-0.1**
HAZ	**Te Kaha**	**1.03**	**245**	P		**Pg**	**21 18 37.7**	**-1.2**
TWGZ	**Tauwhareparae**	**1.15**	**223**	P		**Pn**	**21 18 42.1**	**+0.5**
TWGZ				S		**Sn**	**21 18 59.1**	**+1.5**
RUGZ	**Raukumara Rang**	**1.20**	**238**	P		**Pn**	**21 18 41.8**	**-0.6**
CNGZ	**Carnagh Statio**	**1.30**	**207**	P		**Pg**	**21 18 44.4**	**+0.4**
CNGZ				S		**Sg**	**21 19 04.0**	**+3.1**
TKGZ	**Te Karaka**	**1.42**	**218

WB2				IAmb	IAmb	21 26 20.9	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**42.40 281**	P		**P**	**21 26 12.8**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=122,slow=7.2,SNR=17						
	comp=Z,0.9nm,0.4s						
WRA	**Warramunga Arr**	**42.40 281**	P		**P**	**21 26 12.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**50.27 277**	P		**P**	**21 27 14.8**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=128,slow=6.1,SNR=1.6						
	comp=Z,1.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.27 277**	P		**P**	**21 27 15.8**	**-0.4**
SNAA	**Sanae**	**71.29 179**	P		**P**	**21 29 41.6**	**+2.9**
SNAA				IAmb	IAmb	21 29 51.2	
	comp=Z,4.9nm,1.3s						
H03N3	**Juan Fernandez**	**78.95 124**	T		T	22 57 01.8	
	baz=234,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**78.96 124**	T		T	22 57 05.7	
	baz=234,slow=72,SNR=7.7						
H03N1	**Juan Fernandez**	**78.97 124**	T		T	22 57 00.5	
	baz=234,slow=72,SNR=8.8						
FINES	**FINESS Array B**	**150.52 334**	PKPbc		**PKiKP**	**21 38 09.2**	**-2.0**
	comp=Z,2.3nm,1.0s,baz=64,slow=3.2,SNR=6.4						

*WEL **17** 21:23:29.4±0.7,37°S±4°×17°9E±°, h12km, M3.4/35, ML3.7/44, MLv3.4/35, Error ellipse: s-maj=0.0km s-min=0.0km az=99.0*
*IDC **17** 21:23:30.1±3.3, 37°02S×178°44E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=71.0km s-min=29.0km az=114.0*
ISC 17 21:23:27.9±2.3, 37°21S±0°06×178°90E±0°08, h5km±12km, n71, σ1§29/75, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.59**	**233**	P	**Pg**	**21 23 39.7**	**+0.5**
MXZ				S	**Sg**	**21 23 46.2**	**-0.7**
WMGZ	**Waiomatatini S**	**0.72**	**212**	P	**Pg**	**21 23 43.9**	**+2.2**
WMGZ				S	**Sb**	**21 23 54.0**	**+0.9**
PKGZ	**Pakihiroa**	**0.94**	**224**	P	**Pg**	**21 23 46.4**	**+0.3**
PUZ	**Puketiti**	**1.00**	**210**	P	**Pg**	**21 23 48.5**	**+1.3**
PUZ				S	**Sg**	**21 24 01.6**	**+1.5**
HAZ	**Te Kaha**	**1.04**	**238**	P	**Pg**	**21 23 47.5**	**-0.4**
TWGZ	**Tauwhareparae**	**1.21**	**217**	P	**Pg**	**21 23 52.1**	**+1.0**
TWGZ				S	**Sb**	**21 24 08.0**	**+0.7**
RUGZ	**Raukumara Rang**	**1.23**	**232**	P	**Pg**	**21 23 51.5**	**0.0**
RUGZ				S	**Sn**	**21 24 09.3**	**+0.3**
CNGZ	**Carnagh Statio**	**1.39**	**203**	P	**Pn**	**21 23 54.3**	**+0.4**
CNGZ				S	**Sb**	**21 24 13.6**	**+1.2**
TKGZ	**Te Karaka**	**1.48**	**214**	P	**Pn**	**21 23 55.6**	**+0.3**
MWZ	**Matawai**	**1.56**	**224**	P	**Pn**	**21 23 57.3**	**+0.9**
RIGZ	**Rimuhau**	**1.74**	**211**	P	**Pn**	**21 23 58.6**	**-0.3**
URZ	**Urewera**	**1.76**	**233**	Pn	**Pn**	**21 24 00.1**	**+1.0**
	25nm,0.3s,baz=75,slow=19,SNR=113						
URZ				Sn	**Sb**	**21 24 22.0**	**-1.2**
	31nm,0.3s,baz=22,slow=19,SNR=11						
URZ	**Urewera**	**1.76**	**233**	P	**Pn**	**21 24 00.0**	**+0.9**
URZ				S	**Sb**	**21 24 22.5**	**-0.6**
PRGZ	**Paritu Road**	**1.89**	**205**	P	**Pn**	**21 24 00.5**	**-0.4**
EDRZ	**Edgecumbe**	**1.93**	**242**	P	**Pn**	**21 24 02.3**	**+0.8**
OPRZ	**Ohinepanea**	**1.97**	**250**	P	**Pb**	**21 24 03.2**	**-1.1**
KNZ	**Kokohu**	**2.05**	**208**	P	**Pn**	**21 24 02.1**	**-0.9**
RTZ	**Ruatahuna**	**2.07**	**227**	P	**Pn**	**21 24 02.2**	**-1.2**
MUGZ	**Murupara**	**2.11**	**232**	P	**Pn**	**21 24 04.6**	**+0.7**
TARZ	**Mount Tarawera**	**2.16**	**241**	P	**Pb**	**21 24 06.3**	**-1.2**
TGRZ	**Tauranga**	**2.16**	**255**	P	**Pb**	**21 24 05.7**	**-1.8**
RAHZ	**Arahi**	**2.23**	**219**	P	**Pn**	**21 24 06.1**	**+0.6**
WHHZ	**Waihua**	**2.28**	**215**	P	**Pn**	**21 24 06.5**	**+0.3**
MTHZ	**Maungataniwha**	**2.31**	**224**	P	**Pn**	**21 24 07.5**	**+0.8**
ALRZ	**Allen Road**	**2.43**	**235**	P	**Pn**	**21 24 09.7**	**+1.3**
NMHZ	**Naumai**	**2.50**	**221**	P	**Pn**	**21 24 10.0**	**+0.6**
ARHZ	**Aropaoanui**	**2.54**	**216**	P	**Pn**	**21 24 09.8**	**0.0**
MRHZ	**Matea Rd**	**2.54**	**230**	P	**Pn**	**21 24 10.6**	**+0.7**
BKZ	**Black Stump Fm**	**2.72**	**223**	P	**Pn**	**21 24 12.7**	**+0.3**
TOZ	**Tahuroa Road**	**2.75**	**258**	P	**Pn**	**21 24 14.0**	**+1.3**
MCHZ	**McNeill Hill**	**2.82**	**217**	P	**Pn**	**21 24 13.8**	**+0.1**
CKHZ	**Cape Kidnapper**	**2.83**	**210**	P	**Pn**	**21 24 12.0**	**-1.8**
TLZ	**Tolley Road**	**2.89**	**246**	P	**Pn**	**21 24 16.5**	**+1.8**
KWHZ	**Kaweka Forest**	**2.95**	**221**	P	**Pn**	**21 24 14.9**	**-0.5**
MKAZ	**Moumakai**	**2.99**	**271**	P	**Pn**	**21 24 15.4**	**-0.6**
KAHZ	**Kahuranaki**	**3.03**	**211**	P	**Pn**	**21 24 15.2**	**-1.4**
KRHZ	**Kereru**	**3.14**	**218**	P	**Pn**	**21 24 17.7**	**-0.4**
TMVZ	**Te Maari**	**3.16**	**232**	P	**Pn**	**21 24 18.8**	**+0.4**
NTVZ	**North Tongariro**	**3.16**	**232**	P	**Pn**	**21 24 19.0**	**+0.4**
ETVZ	**East Tongariro**	**3.16**	**232**	P	**Pn**	**21 24 18.9**	**+0.4**
KRVZ	**Karewarewa**	**3.18**	**233**	P	**Pn**	**21 24 19.5**	**+0.7**
ETAZ	**East Tamaki Re**	**3.18**	**273**	P	**Pb**	**21 24 21.8**	**-3.2**
BHHZ	**Black Hill Sta**	**3.19**	**224**	P	**Pn**	**21 24 18.9**	**+0.1**
OTVZ	**Oturere**	**3.21**	**232**	P	**Pn**	**21 24 19.5**	**+0.3**
NNVZ	**North Ngauruho**	**3.22**	**232**	P	**Pn**	**21 24 20.2**	**+0.8**
WTVZ	**West Tongariro**	**3.23**	**233**	P	**Pn**	**21 24 21.0**	**+1.6**
SNVZ	**South Ngauruho**	**3.24**	**231**	P	**Pn**	**21 24 20.0**	**+0.4**
NGZ	**Ngauruhoe**	**3.26**	**232**	P	**Pn**	**21 24 20.2**	**+0.4**
TWVZ	**Taurewa**	**3.30**	**235**	P	**Pn**	**21 24 21.3**	**+0.9**
MOVZ	**Moawhango**	**3.31**	**227**	P	**Pn**	**21 24 20.3**	**-0.1**
WNVZ	**Wahianoa**	**3.35**	**230**	P	**Pn**	**21 24 21.1**	**0.0**
AWAZ	**Awhitu Peninsu**	**3.40**	**271**	P	**Pb**	**21 24 25.0**	**-3.7**
PNHZ	**Pukenui**	**3.43**	**217**	P	**Pn**	**21 24 20.8**	**-1.3**
WPHZ	**Waipukurau**	**3.44**	**213**	P	**Pn**	**21 24 20.6**	**-1.6**
HIZ	**Hauiti**	**3.45**	**247**	P	**Pn**	**21 24 24.6**	**+2.2**
MTVZ	**Mangateitei**	**3.46**	**230**	P	**Pn**	**21 24 22.9**	**+0.3**
RVAZ	**Riverhead Bore**	**3.48**	**276**	P	**Pn**	**21 24 23.0**	**+0.3**
TSZ	**Takapari Road**	**3.66**	**218**	P	**Pn**	**21 24 23.5**	**-1.7**
WAZ	**Wanganui**	**3.98**	**229**	P	**Pn**	**21 24 30.6**	**+0.9**
NEZ	**North Egmont**	**4.30**	**240**	P	**Pn**	**21 24 37.3**	**+3.1**
PKE	**Pukeiti**	**4.35**	**241**	P	**Pn**	**21 24 37.9**	**+3.2**
KHEZ	**Kahui Hut**	**4.37**	**240**	P	**Pn**	**21 24 38.2**	**+3.2**
OUZ	**Omahuta**	**4.72**	**293**	P	**Pn**	**21 24 41.1**	**+1.3**
CTZ	**Chatham Island**	**7.36**	**154**	P	**Pn**	**21 25 16.1**	**+0.1**
RPZ	**Rata Peaks**	**8.83**	**220**	Sn	Sn	21 27 01.5	-15
	0.4nm,0.3s,baz=93,slow=17,SNR=1.1						
ASAR	**Alice Springs**	**40.71**	**276**	P	**P**	**21 31 09.2**	**-0.5**
	0.3nm,0.5s,baz=120,slow=7.7,SNR=6.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**42.32**	**281**	P	**P**	**21 31 22.6**	**-0.3**
	0.5nm,0.5s,baz=122,slow=7.3,SNR=10						
	0.5nm,0.5s						
H03N3	**Juan Fernandez**	**79.07**	**124**	T	T	23 02 10.9	
	baz=234,slow=72,SNR=7.5						
H03N2	**Juan Fernandez**	**79.08**	**124**	T	T	23 02 12.1	
	baz=234,slow=72,SNR=5.9						
H03N1	**Juan Fernandez**	**79.09**	**124**	T	T	23 02 09.6	
	baz=234,slow=72,SNR=8.5						
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKiKP**	**21 43 21.5**	**+1.2**
	0.9nm,0.8s,baz=49,slow=4.2,SNR=1.3						

*IDC **17** 21:30:38.5±1.3, 7°53S×147°35E, h0km, mb3.6/3, mbtmp3.6/4, ML3.2/1, MS3.9/2, Error ellipse: s-maj=35.8km s-min=21.3km az=103.0*
ISC 17 21:30:43.3±1.0, 7°6S±0°1×147°4E±0°1, h35km, n9, σ1§46/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.82**	**187**	Pn	**Pn**	**21 31 11.6**	**-0.5**
	15nm,0.3s,baz=3.1,slow=8.0,SNR=32						
PMG				Sn	**Sn**	**21 31 35.7**	**+1.8**
	8.3nm,0.3s,baz=274,slow=20,SNR=12						
HNR	**Honiara**	**12.56**	**99**	Pn	**Pn**	**21 33 38.7**	**-0.8**
	55nm,0.3s,baz=248,slow=9.3,SNR=3.2						
WRA	**Warramunga Arr**	**17.63**	**225**	P	**P**	**21 34 45.5**	**-0.8**
	0.1nm,0.3s,baz=48,slow=11,SNR=7.1						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**20.56**	**217**	P	**P**	**21 35 18.6**	**-0.6**
	2.2nm,0.9s,baz=42,slow=10,SNR=16						
	2.2nm,0.9s						
RAO	**Raoul Island**	**39.10**	**128**	LR	LR	21 49 57.0	
	comp=Z,470nm,20.3s,baz=74,slow=30						
RPZ	**Rata Peaks**	**41.52**	**154**	LR	LR	21 54 35.5	
	comp=Z,45nm,19.2s,baz=252,slow=35						
MKAR	**Makanchi Array**	**78.96**	**321**	P	**P**	**21 42 42.5**	**-1.0**
	0.3nm,0.6s,baz=104,slow=5.1,SNR=2.7						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**86.78**	**23**	P	**P**	**21 43 25.6**	**+2.0**
	0.5nm,0.8s,baz=260,slow=5.4,SNR=2.6						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**145.82**	**282**	PKPbc	**PKPab**	**21 50 21.1**	**+0.7**
	0.9nm,0.7s,baz=71,slow=5.1,SNR=8.5						

IDC 17 21:37:45.0±4.0, 2°13S×141°02E, h0km, mb3.4/3, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=121.9km s-min=31.2km az=91.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.87**	**200**	P	Pn	21 42 07.4	-0.1
	0.2nm,0.3s,baz=25,slow=12,SNR=11						
	0.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.89**	**223**	P	P	21 42 39.2	-0.7
	2.5nm,1.0s,baz=36,slow=8.7,SNR=2.2						
	2.5nm,1.0s						
ASAR	**Alice Springs**	**22.49**	**197**	P	P	21 42 46.6	+0.3
	0.7nm,0.6s,baz=26,slow=11,SNR=13						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**70.76**	**322**	P	P	21 49 03.3	0.0
	0.3nm,0.8s,baz=98,slow=6.0,SNR=2.2						
	0.3nm,0.8s						

*IGIL **17** 21:37:50.4, 35°78N×10°27W, h31km, ML1.6*
*CNRM **17** 21:38:06.0, 36°72N×6°27W, h85km, ml2.2*
INMG 17 21:37:50.1±1.1, 35°84N×10°33W, h31km, ML1.8, Error ellipse: s-maj=10.0km s-min=6.0km az=108.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**2.00**	**42**	*e*P	Pn	21 38 20.0	-1.7
MORF				*e*S	Sn	21 38 42.0	-3.7
MORF				IAML		21 38 43.0	
	comp=E,4.5nm,0.2s						
MORF	**Marmelete**	**2.00**	**42**	*e*Pn	Pn	21 38 20.0	-1.7
MORF				*e*Sn	Sn	21 38 42.8	-2.9
MORF				A	A	21 38 47.8	
	comp=E,2.9nm,0.3s						
PTEO	**Sao Teotonio**	**2.14**	**37**	*e*Pn	Pn	21 38 22.3	-1.4
PTEO				*e*Sn	Sn	21 38 46.4	-2.8
PCVE	**Castro Verde**	**2.57**	**45**	*e*Pn	Pn	21 38 28.1	-1.5
PCVE				*e*Sn	Sn	21 38 56.4	-3.4
MESJ	**Messejana**	**2.62**	**40**	*e*P	Pn	21 38 28.6	-1.7
MESJ				*e*S	Sn	21 38 57.0	-4.1
MESJ				IAML		21 39 00.6	
	comp=N,2.6nm,0.2s						
MESJ	**Messejana**	**2.62**	**40**	*e*Pn	Pn	21 38 28.7	-1.6
MESJ				*e*Sn	Sn	21 38 57.0	-4.1
MESJ				A	A	21 39 11.6	
	comp=N,2.8nm,0.8s						
PVAQ	**Vaqueiros**	**2.62**	**53**	*e*Pn	Pn	21 38 28.6	-1.7
PVAQ				*e*Sn	Sn	21 38 57.3	-3.8
PVAQ				A	A	21 39 14.6	
	comp=N,2.4nm,0.5s						
PVAQ	**Vaqueiros**	**2.62**	**53**	P	Pn	21 38 28.5	-1.8
PVAQ				S	Sn	21 38 48.3	-13
PNCL	**Nicolau / Gran**	**2.69**	**32**	*e*Pn	Pn	21 38 29.7	-1.6
PNCL				*e*Sn	Sn	21 38 59.4	-3.4
PNCL				A	A	21 39 16.4	
	comp=N,2.6nm,0.7s						
PMAFR	**Mafra**	**3.22**	**15**	*e*Sn	Sn	21 39 11.7	-4.3
PMAFR				A	A	21 39 12.9	
	comp=N,14nm,0.6s						
PBAR	**Barrancos**	**3.52**	**48**	*e*Pn	Pn	21 38 41.1	-1.6
PBAR				*e*Sn	Sn	21 39 19.9	-3.4
PBAR				A	A	21 39 24.2	
	comp=N,1.5nm,0.7s						
PMTG	**Montargil**	**3.64**	**27**	*e*Pn	Pn	21 38 42.9	-1.4
PMTG				*e*Sn	Sn	21 39 22.0	-4.1
PMTG				A	A	21 39 24.5	
	comp=N,2.1nm,0.7s						
PESTR	**Estremoz**	**3.73**	**35**	*e*Pn	Pn	21 38 43.1	-2.5
PESTR				*e*Sn	Sn	21 39 24.1	-4.4
PESTR	**Estremoz**	**3.73**	**35**	P	Pn	21 38 44.2	-1.4
PESTR				S	Sn	21 39 11.7	-17
PMRV	**Marv??o**	**4.28**	**32**	*e*Pn	Pn	21 38 51.1	-2.0
PMRV				*e*Sn	Sn	21 39 37.2	-4.8
PMRV				A	A	21 39 38.8	
	comp=N,1.1nm,0.5s						
MD31	**MD31**	**5.48**	**121**	P	Pn	21 39 05.3	-4.4
MD31				S	Sn	21 39 52.5	-19
MDT	**Midelt**	**5.62**	**121**	P	Pn	21 39 07.4	-4.1
MDT				S	Sn	21 39 54.5	-21

*BJI **17** 21:47:46.0±0.0, 2°13S×140°90E, h14km, mb4.7/29, mB5.0/10*
*IDC **17** 21:47:46.5±0.6, 1°94S×140°74E, h0km, mb4.2/16, mbtmp4.3/20, ML4.5/3, MS3.5/30, Error ellipse: s-maj=25.1km s-min=12.4km az=86.0*
*NEIC **17** 21:47:48.7±1.2, 1°97S±0°07×140°7E±0°1, h10km±1km, mb4.6/42, Error ellipse: s-maj=17.5km s-min=12.1km az=80.0*
*DJA **17** 21:47:56.0±1.2, 3°S±9°×14°1E±°, h19km±6km, M4.1/12, mB4.8/3, mb4.6/12, MLv3.9/1, Mw(mB)4.1/3*
ISC 17 21:47:51.8±0.4, 2°06S±0°05×140°70E±0°08, h35km, n114, σ1§21/95, mb4.5/42, MS3.5/25, 1C-3D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.75**	**225**	P	**Pn**	**21 48 05.3**	**-0.6**
FAKI	**Fak Fak**	**8.48**	**264**	Pn	**Pn**	**21 49 51.0**	**-1.3**
FAKI	**Fak Fak**	**8.48**	**264**	P	**Pn**	**21 49 53.1**	**+0.8**
	23nm,1.2s						
SIJI	**Sorong**	**9.50**	**277**	LR	LR	21 54 28.5	
	comp=Z,217nm,18.1s,baz=74,slow=42						
PMG	**Port Moresby**	**9.73**	**139**	Pn	**Pn**	**21 50 08.5**	**-0.7**
	3.3nm,0.3s,baz=251,slow=17,SNR=1.4						
PMG				LR	LR	21 54 14.0	
	comp=Z,366nm,19.7s,baz=310,slow=40						
COEN	**Coen**	**12.08**	**168**	Pn	**Pn**	**21 50 42.7**	**+1.2**
MTN	**Manton Dam**	**14.30**	**221**	Pn	**Pn**	**21 51 09.4**	**-2.5**
GUMO	**Guam**	**16.08**	**15**	LR	LR	21 57 09.0	
	comp=Z,141nm,18.5s,baz=200,slow=35						
DAV	**Davao City (W)**	**17.60**	**301**	LR	LR	21 56 40.7	
	comp=Z,102nm,21.7s,baz=112,slow=30						
KNRA	**Kununurra**	**17.93**	**220**	P	**Pn**	**21 51 57.7**	**-0.8**
LUWI	**Luwuk**	**17.95**	**273**	P	**P**	**21 51 58.9**	**-0.1**
LUWI				IAmb	IAmb	21 52 29.3	
	comp=Z,37nm,0.9s						
WB0	**Warramunga Arr**	**18.65**	**199**	P	**P**	**21 52 06.2**	**-0.5**
CTA	**Charters Tower**	**18.73**	**164**	P	**Pn**	**21 52 09.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=329,slow=13,SNR=6.6						
CTA				LR	LR	22 00 18.5	
	comp=Z,188nm,20.4s,baz=6.0,slow=40						
	comp=Z,7.6nm,0.8s						
CTAO	**Charters Tower**	**18.73**	**164**	P	**P**	**21 52 07.3**	**-0.3**
BATI	**Baumata**	**18.76**	**244**	P	**Pn**	**21 52 09.5**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=29,slow=2.4,SNR=6.3						
BATI				S	Sn	21 55 18.1	-20
	comp=Z,14nm,0.3s,baz=112,slow=19,SNR=4.4						
	comp=Z,9.9nm,0.4s						
BATI	**Baumata**	**18.76**	**244**	P	**Pn**	**21 52 10.5**	**+1.8**
	comp=Z,41nm,0.7s						
WR0	**Warramunga Arr**	**18.79**	**198**	P	**P**	**21 52 07.3**	**-0.9**
WRAB	**Tennant Creek**	**18.82**	**199**	P	**P**	**21 52 08.0**	**-0.6**
WB2	**Warramunga Arr**	**18.83**	**199**	P	**P**	**21 52 08.5**	**-0.2**
WB2				IAmb	IAmb	21 52 09.6	
	comp=Z,18nm,0.5s						
WRA	**Warramunga Arr**	**18.83**	**199**	P	**P**	**21 52 08.4**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=23,slow=12,SNR=58						
WRA				S	Sn	21 55 27.7	-12
	comp=Z,3.1nm,1.0s,baz=16,slow=21,SNR=2.2						
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**18.83**	**199**	P	**P**	**21 52 07.6**	**-1.2**
APSI	**Ampana**	**19.08**	**273**	P	**Pn**	**21 52 18.1**	**+5.6**
	comp=Z,348nmcomp=Z,38nm,1.1s						
TTSI	**Tana Toraja**	**20.88**	**267**	P	Pn	21 52 37.1	+3.3
	comp=Z,32nm,1.2s						
MPSI	**Mapaga**	**20.93**	**276**	P	Pn	21 52 36.3	+1.9
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.74**	**222**	P	**P**	**21 52 39.5**	**-0.8**
	comp=Z,5.5nm,0.6s,baz=40,slow=12,SNR=22						
FITZ				S	**S**	**21 56 34.4**	**-4.6**
	comp=Z,12nm,0.9s,baz=49,slow=20,SNR=8.7						
FITZ				LR	LR	22 03 00.3	
	comp=Z,107nm,20.7s,baz=34,slow=42						
	comp=Z,5.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.74**	**222**	P	**P**	**21 52 39.5**	**-0.8**
AS31	**Alice Springs**	**22.47**	**196**	P	**P**	**21 52 48.2**	**+0.1**
ASAR	**Alice Springs**	**22.47**	**196**	P	**P**	**21 52 48.1**	**0.0**
	comp=Z,11nm,0.6s,baz=29,slow=10,SNR=129						
ASAR				S	**S**	**21 56 52.8**	**0.0**
	comp=Z,1.6nm,0.9s,baz=14,slow=26,SNR=1.5						
ASAR				LR	LR	22 03 26.3	
	comp=Z,124nm,18.8s,baz=42,slow=42						
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**22.47**	**196**	P	**P**	**21 52 48.0**	**-0.2**
EIDS	**Eidsvold**	**25.25**	**158**	P	**P**	**21 53 15.0**	**+0.3**

MBWA	**Marble Bar**	**27.89**	**226**	P	**P**	**21 53 38.1**	**-0.5**
MBWA				IAmb	IAmb	21 54 17.0	
	comp=Z,11nm,1.1s						
JCJ	**Chichijima**	**29.02**	**3**	LR	LR	22 03 04.2	
	comp=Z,60nm,21.8s,baz=134,slow=32						
STKA	**Stephens Creek**	**29.68**	**178**	P	**P**	**21 53 54.4**	**+0.1**
	comp=Z,6.9nm,0.9s,baz=357,slow=8.1,SNR=8.5						
STKA				LR	LR	22 06 44.9	
	comp=Z,168nm,18.6s,baz=11,slow=38						
	comp=Z,6.9nm,0.9s						
STKA	**Stephens Creek**	**29.68**	**178**	P	**P**	**21 53 54.4**	**+0.1**
ARMA	**Armidale**	**30.05**	**161**	P	**P**	**21 53 59.2**	**+1.4**
ARMA				IAmb	IAmb	21 54 37.4	
	comp=Z,10.0nm,1.2s						
BBOO	**Buckleboo**	**30.90**	**188**	P	**P**	**21 54 05.4**	**+0.2**
FORT	**Forrest**	**30.97**	**201**	P	**P**	**21 54 06.3**	**+0.4**
JOW	**Kunigami**	**31.12**	**338**	LR	LR	22 05 03.0	
	comp=Z,102nm,18.9s,baz=107,slow=33						
DZM	**Mont Dzumac**	**31.97**	**130**	LR	LR	22 06 40.3	
	comp=Z,101nm,18.3s,baz=34,slow=35						
H11N1	**WAKE ISLAND Hy**	**33.60**	**49**	T	T	22 30 21.3	
	baz=227						
H11N2	**WAKE ISLAND Hy**	**33.62**	**49**	T	T	22 30 10.2	
	baz=227						
H11N3	**WAKE ISLAND Hy**	**33.62**	**49**	T	T	22 30 36.4	
	baz=227						
CAN	**Canberra**	**33.99**	**168**	P	**P**	**21 54 34.3**	**+2.0**
JHJ	**Hachijo jima 2**	**34.99**	**359**	LR	LR	22 05 16.1	
	comp=Z,183nm,20.7s,baz=106,slow=30						
MORW	**Morawa**	**35.68**	**219**	P	**P**	**21 54 47.0**	**+0.2**
MJAR	**Matsushiro Arr**	**38.47**	**357**	P	**P**	**21 55 07.6**	**-2.9**
	comp=Z,1.5nm,0.8s,baz=177,slow=9.8,SNR=7.1						
MJAR				LR	LR	22 07 56.2	
	comp=Z,46nm,19.1s,baz=178,slow=32						
	comp=Z,1.5nm,0.8s						
NJ2	**Nanjing**	**39.75**	**330**	*e*P	**P**	**21 55 20.8**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,17nm,0.7s						
JSD	**Sado**	**39.95**	**357**	P	**P**	**21 55 21.6**	**-1.3**
JSD				IAmb	IAmb	21 55 23.3	
	comp=Z,18nm,0.9s						
KSRS	**Korea Array**	**41.06**	**344**	P	**P**	**21 55 30.9**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=153,slow=7.6,SNR=2.6						
KSRS				LR	LR	22 10 37.9	
	comp=Z,50nm,19.7s,baz=150,slow=34						
	comp=Z,1.3nm,0.9s						
GSI	**Gunungsitoli**	**43.24**	**274**	P	**P**	**21 55 49.3**	**-0.9**
GSI				IAmb	IAmb	21 56 29.8	
	comp=Z,21nm,1.1s						
CMAR	**Chiang Mai Arr**	**45.86**	**298**	P	**P**	**21 56 11.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=111,slow=4.0,SNR=1.4						
	comp=Z,0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**45.86**	**298**	P	**P**	**21 56 10.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**46.70**	**351**	P	**P**	**21 56 17.3**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=237,slow=15,SNR=1.9						
USRK				LR	LR	22 13 06.1	
	comp=Z,72nm,21.9s,baz=210,slow=33						
	comp=Z,2.6nm,0.9s						
XAN	**Xi'an**	**46.72**	**323**	⇑P	**P**	**21 56 17.9**	**+0.3**
XAN				pP	pP	21 56 21.5	-5.5
XAN				pmax	pmax		
	comp=Z,14nm,1.1s						
PZH	**PanZhiHua**	**47.11**	**310**	P	**P**	**21 56 22.5**	**+1.6**
PZH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
CN2	**Changchun**	**47.66**	**345**	*e*P	**P**	**21 56 24.3**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2	**Chengdu**	**48.06**	**316**	*e*P	**P**	**21 56 27.0**	**-1.1**
BNX	**BinXian**	**49.03**	**348**	⇓P	**P**	**21 56 34.4**	**-0.8**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,90nm,5.3s						
URZ	**Urewera**	**49.07**	**142**	LR	LR	22 15 48.4	
	comp=Z,103nm,21.6s,baz=39,slow=34						
TUWZ	**Tuamarina**	**49.31**	**147**	P	**P**	**21 56 38.0**	**+0.6**
RPZ	**Rata Peaks**	**49.47**	**151**	LR	LR	22 16 27.7	
	comp=Z,88nm,18.5s,baz=304,slow=35						
HHC	**Hu-ho-h

KKAR IAmb IAmb 21 59 43.1
comp=Z,4.9nm,1.1s
NRIK Noril'sk 79.66 343 P P 21 59 54.8 -0.5
comp=Z,2.5nm,0.4s,baz=111,slow=7.3,SNR=5.7
comp=Z,2.5nm,0.4s
NRIK Noril'sk 79.66 343 P P 21 59 55.3 0.0
NRIK IAmb IAmb 21 59 56.4
comp=Z,7.0nm,0.9s
BRVK Borovoye 79.99 325 P P 21 59 57.6 +0.1
BRVK IAmb IAmb 21 59 58.8
comp=Z,6.2nm,1.1s
L19K White Mountain 80.17 25 P P 21 59 58.5 +0.3
L19K IAmb IAmb 22 00 00.0
comp=Z,7.8nm,1.1s
J20K Nowinta River 81.26 24 P P 22 00 04.5 +0.5
J20K IAmb IAmb 22 00 05.8
comp=Z,5.7nm,0.9s
IMAR Indian Mountai 82.14 22 P P 22 00 08.0 -0.6
ILAR Eielson Array 84.42 24 P P 22 00 18.9 -1.5
comp=Z,2.1nm,0.8s,baz=251,slow=5.0,SNR=17
comp=Z,2.1nm,0.8s
GEYT Alibeck 85.40 308 P P 22 00 27.1 +1.1
comp=Z,4.0nm,0.9s,baz=90,slow=1.5,SNR=9.4
comp=Z,4.0nm,0.9s
GEYT Alibeck 85.40 308 P P 22 00 26.8 +0.8
GYA0B ALIBECK ARRAY 85.40 308 P P 22 00 26.5 +0.5
GYA0B IAmb IAmb 22 00 28.1
comp=Z,7.1nm,1.1s
ABKAR Akbulak array 85.51 320 P P 22 00 25.9 -0.3
ABKAR Akbulak array 85.51 320 P P 22 00 25.9 -0.3
ABKAR IAmb IAmb 22 00 27.3
comp=Z,3.2nm,0.8s
BMAR Burnt Mountain 86.06 22 P P 22 00 28.9 +0.3
BCAR Beaver Creek A 86.18 26 P P 22 00 29.9 +0.6
AKTO Aktyubinsk 86.90 321 LR LR 22 42 18.8
comp=Z,16nm,18.1s,baz=60,slow=38
QSPA South Pole Qui 87.89 180 LR LR 22 40 17.5
comp=Z,49nm,19.2s,baz=350,slow=36
QSPA South Pole Qui 87.89 180 P P 22 00 38.1 +0.4
BELG Belogornoye 93.50 322 LR LR 22 45 24.0
comp=Z,14nm,19.5s,baz=123,slow=37
KBZ Khabaz 97.06 314 LR LR 22 49 49.5
comp=Z,9.4nm,18.5s,baz=59,slow=38
YKA Yellowknife Ar 98.58 27 LR LR 22 39 34.7
comp=Z,46nm,20.7s,baz=199,slow=32
NVAR Mina Array Bea 99.89 52 P Pdif 22 01 33.8 +0.3
comp=Z,0.2nm,0.6s,baz=298,slow=4.7,SNR=2.2
comp=Z,0.2nm,0.6s
TORD Torodi Ar. Bea 137.97 287 PKP PKPdf 22 07 13.4 -0.4
comp=Z,0.7nm,0.9s,baz=255,slow=4.5,SNR=3.0
LPAZ La Paz 146.19 124 PKPbc PKPab 22 07 31.8 +0.9
comp=Z,3.8nm,0.9s,baz=315,slow=2.0,SNR=3.6
CPUP Villa Florida 146.84 149 PKPbc PKPbc 22 07 31.7 +0.6
comp=Z,1.9nm,0.9s,baz=225,slow=4.9,SNR=3.4

IDC 17 21:48:27.1±9.5, 0.°19N×97.°22E, h0km, mb3.6/3, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=208.5km s-min=124.5km az=131.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.23**	**5**	P	Pn	21 52 41.2	-0.5
	0.1nm,0.3s,baz=204,slow=11,SNR=2.9						
	0.4nm,0.6s						
H08S2	**Diego Garcia H**	**25.86**	**252**	T	T	22 20 53.4	
	baz=72,slow=75,SNR=207						
H08S3	**Diego Garcia H**	**25.86**	**252**	T	T	22 20 56.3	
	baz=72,slow=75,SNR=321						
H08S1	**Diego Carcia H**	**25.88**	**252**	T	T	22 20 50.5	
	baz=72,slow=75,SNR=345						
H01W3	**Cape Leeuwin H**	**38.31**	**157**	T	T	22 37 14.3	
	baz=332,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**38.32**	**157**	T	T	22 37 15.9	
	baz=332,slow=76,SNR=31						
H01W1	**Cape Leeuwin H**	**38.33**	**157**	T	T	22 37 20.4	
	baz=332,slow=76,SNR=27						
SONM	**Songino Array**	**48.12**	**8**	P	P	21 57 08.6	-0.2
	0.3nm,0.4s,baz=206,slow=9.6,SNR=2.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**48.22**	**346**	P	P	21 57 09.7	+0.2
	0.5nm,0.7s,baz=161,slow=8.5,SNR=5.7						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**54.55**	**351**	P	P	21 57 56.6	-0.2
	0.5nm,0.4s,baz=172,slow=7.5,SNR=4.7						
	0.5nm,0.4s						

IDC 17 22:04:51.3±8.8, 20.°47S×69.°09W, h113km±64km, mb3.0/2, mbtmp3.4/3, MS2.5/1, Error ellipse: s-maj=72.7km s-min=43.1km az=21.0
GUC 17 22:04:51.7±0.9, 20.°25S×69.°19W, h94km±5km, ML3.3
ISC 17 22:04:51.4±1.0, 20.°28S±0.°03×69.°32W±0.°07, h98km±8km, n20, σ1s28/31, 14C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.62**	**11**	⇑*e*P	Pn	**22 05 07.8**	**-0.8**
GO01				*e*S	Sn	**22 05 20.2**	**-1.2**
TA02	**Huaiquique**	**0.76**	**271**	⇑*e*P	Pn	**22 05 09.9**	**+0.6**
TA02				*e*S	Sn	**22 05 23.5**	**+0.8**
TA02				IAML		22 05 25.0	
	comp=N,2μm,0.1s						
PB01	**IPOC Station P**	**0.78**	**192**	⇑*e*P	Pn	**22 05 09.9**	**+0.3**
PB01				*e*S	Sn	**22 05 23.9**	**+0.7**
PB01				IAML		22 05 25.4	
	comp=N,2μm,0.2s						
PB01				IAML		22 05 25.7	
	comp=E,2μm,0.2s						
TA01	**Diego Aracena**	**0.86**	**250**	⇑*e*P	Pn	**22 05 10.6**	**+0.3**
TA01				*e*S	Sn	**22 05 24.9**	**+0.5**
PATCX	**Punta Patache**	**0.95**	**235**	⇑*e*P	Pn	**22 05 11.9**	**+0.6**
PATCX				*e*S	Sn	**22 05 27.2**	**+1.0**
PATCX				IAML		22 05 28.7	
	comp=E,796nm,0.2s						
PB02	**IPOC Station P**	**1.17**	**207**	⇑*e*P	Pn	**22 05 14.3**	**+0.5**
PB02				*e*S	Sn	**22 05 31.7**	**+1.1**
PB02				IAML		22 05 35.5	
	comp=E,1μm,0.4s						
PB09	**IPOC Station P**	**1.51**	**177**	⇑*e*P	Pn	**22 05 18.7**	**+0.8**
PB09				*e*S	Sn	**22 05 38.2**	**+0.2**
PB09				IAML		22 05 41.3	
	comp=E,308nm,0.5s						
PB07	**IPOC Station P**	**1.54**	**200**	⇑*e*P	Pn	**22 05 18.6**	**+0.3**
PB07				*e*S	Sn	**22 05 39.2**	**+0.7**
PB07				IAML		22 05 42.3	
	comp=E,462nm,0.4s						
PB12	**IPOC Station P**	**1.91**	**330**	⇑*e*P	Pn	**22 05 22.4**	**-0.6**
PB12				*e*S	Sn	**22 05 47.3**	**+0.4**
PB12				IAML		22 05 53.5	
	comp=N,286nm,0.8s						
PB04	**IPOC Station P**	**2.19**	**201**	⇑*e*P	Pn	**22 05 26.7**	**+0.1**
PB04				*e*S	Sn	**22 05 55.2**	**+1.8**
PB04				IAML		22 06 07.0	
	comp=E,185nm,0.3s						
LVC	**Limon Verde**	**2.35**	**171**	⇑*i*Pg	Pn	**22 05 29.4**	**+0.5**
LVC				⇑*e*P	Pn	**22 05 29.4**	**+0.5**
LVC				*e*S	Sn	**22 05 58.0**	**+0.5**
PB06	**IPOC Station P**	**2.43**	**186**	⇑*e*P	Pn	**22 05 29.9**	**+0.2**
PB06				*i* S	Sn	**22 05 58.0**	**-1.0**
PB06				IAML		22 06 05.2	
	comp=N,154nm,0.4s						
PB15	**IPOC Station P**	**2.92**	**183**	⇑*e*P	Pn	**22 05 37.0**	**+0.7**
PB15				*e*S	Sn	**22 06 12.7**	**+2.0**
LPAZ	**La Paz**	**4.13**	**16**	P	Pn	**22 05 54.8**	**+1.9**
	comp=N,7.7nm,0.6s,baz=193,slow=8.4,SNR=32						
LPAZ				S	Sn	**22 06 44.5**	**+4.1**
	comp=N,1.7nm,0.4s,baz=302,slow=21,SNR=1.5						
SIV	**San Ignacio**	**8.92**	**63**	LR	LR	22 10 30.7	
	comp=N,32nm,19.3s,baz=276,slow=38						
H03N1	**Juan Fernandez**	**15.64**	**211**	T	T	22 23 51.0	
	baz=34						
H03N2	**Juan Fernandez**	**15.65**	**211**	T	T	22 23 36.2	
	baz=34						
H03N3	**Juan Fernandez**	**15.66**	**211**	T	T	22 23 43.8	
	baz=34						
TXAR	**Lajitas Array**	**59.41**	**325**	P	P	**22 14 44.1**	**+0.2**
	comp=N,0.3nm,0.8s,baz=164,slow=10.0,SNR=1.4						
	comp=N,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.31**	**71**	P	P	**22 16 33.2**	**-2.5**
	comp=N,0.2nm,0.4s,baz=255,slow=5.3,SNR=7.4						
	comp=N,0.2nm,0.4s						

NEIC 17 22:20:54.5±1.3, 18.°0S±0.°1×176.°1W±0.°1, h335km±8km, mb4.6/32, Error ellipse: s-maj=17.6km s-min=14.3km az=199.0
NOU 17 22:20:55.3, 18.°15S×175.°98W, h352km, mb4.8/45, Tonga Islands
IDC 17 22:20:59.5±1.6, 18.°33S×176.°53W, h359km±15km, mb3.9/12, mbtmp4.7/14, Error ellipse: s-maj=14.6km s-min=11.5km az=155.0
ISC 17 22:20:55.8±0.5, 17.°94S±0.°08×176.°15W±0.°07, h350km, n143, σ1s55/145, mb4.5/30, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.55**	**263**	P	Pn	**22 21 51.9**	**+0.6**
TAVE	**Taveuni**	**3.79**	**288**	P	Pn	**22 22 04.4**	**+1.7**
FUTU	**Fugatoga**	**4.07**	**332**	P	Pn	**22 22 08.5**	**+2.8**
DGTI	**Dogotuki**	**4.25**	**292**	P	Pn	**22 22 08.8**	**+1.3**
MSVF	**Nonsavu**	**5.52**	**271**	P	Pn	**22 22 22.6**	**+1.3**
	655nm,0.7s,baz=104,slow=8.4,SNR=385						
MSVF	**Nonsavu**	**5.52**	**271**	P	Pn	**22 22 23.0**	**+1.6**
AFI	**Afiamalu**	**5.81**	**47**	P	Pn	**22 22 23.6**	**-1.0**
	232nm,0.6s,baz=211,slow=5.9,SNR=57						
AFI				S	S	**22 23 31.8**	**-4.7**
	108nm,0.4s,baz=221,slow=20,SNR=7.9						
AFI	**Afiamalu**	**5.81**	**47**		Pn	**22 22 23.5**	**-1.1**
AFI	**Afiamalu**	**5.81**	**47**	P	Pn	**22 22 23.8**	**-0.8**
NIUE	**Niue**	**6.02**	**102**	Pn	Pn	**22 22 26.1**	**-0.7**
RAO	**Raoul Island**	**11.38**	**188**	P	Pn	22 23 13.0	-17
	283nm,0.6s,baz=98,slow=22,SNR=2.2						
RAO				S	S	22 25 23.7	-14
	126nm,0.3s,baz=92,slow=22,SNR=1.5						
MARNC	**Mare, Loyalty**	**15.30**	**254**		P	**22 24 13.1**	**-0.7**
MARNC	**Mare, Loyalty**	**15.30**	**254**	P	P	**22 24 13.3**	**-0.5**
	2.2nm,0.7s						
LIFNC	**LIFOU**	**15.92**	**257**	P	P	**22 24 19.4**	**-1.2**
PINNC	**Pines Island,**	**16.07**	**250**		P	**22 24 21.6**	**-0.5**
PINNC	**Pines Island,**	**16.07**	**250**	P	P	**22 24 22.4**	**+0.3**
YATNC	**Mamie plateau,**	**16.45**	**253**	P	P	**22 24 26.9**	**+0.6**
DZM	**Mont Dzumac**	**16.86**	**253**	*e*P	Pn	**22 24 31.7**	**-2.7**
	90nm,0.9s						
DZM				*e*LR	LR	22 28 46.6	
	comp=Z,72nm,23.4s						
DZM	**Mont Dzumac**	**16.86**	**253**	P	P	**22 24 29.4**	**-1.4**
	32nm,0.7s,baz=78,slow=16,SNR=24						
DZM	**Mont Dzumac**	**16.86**	**253**		P	**22 24 29.8**	**-1.0**
DZM				IAmb	IAmb	22 24 33.3	
	comp=Z,37nm,0.8s						
DZM	**Mont Dzumac**	**16.86**	**253**	P	P	**22 24 30.6**	**-0.2**
ONTNC	**Ouen Toro**	**16.90**	**252**		P	**22 24 31.3**	**+0.2**
ONTNC	**Ouen Toro**	**16.90**	**252**	P	Pn	**22 24 32.4**	**-2.4**
NOUC	**Port Laguerre**	**17.00**	**253**	P	P	**22 24 33.1**	**+1.0**
KOUNC	**Koumac, New Ca**	**18.65**	**259**	P	P	**22 24 48.6**	**-1.2**
KOUNC				IAmb	IAmb	22 24 49.6	
	comp=Z,19nm,0.8s						
KOUNC	**Koumac, New Ca**	**18.65**	**259**	P	P	**22 24 51.8**	**+2.0**
	comp=Z,28nm,1.1s						
OUZ	**Omahuta**	**19.48**	**206**		P	**22 24 57.5**	**-0.9**
KUZ	**Kuaotunu**	**20.06**	**199**	P	P	**22 25 04.5**	**+0.2**
WMGZ	**Waiomatatini S**	**20.37**	**192**	P	P	**22 25 07.1**	**-0.1**
HAZ	**Te Kaha**	**20.45**	**194**	P	P	**22 25 04.6**	**-3.3**
ETAZ	**East Tamaki Re**	**20.51**	**201**	P	P	**22 25 09.1**	**+0.7**
PKGZ	**Pakihiroa**	**20.51**	**193**	P	P	**22 25 07.7**	**-0.8**
MKAZ	**Moumakai**	**20.57**	**200**	P	P	**22 25 08.0**	**-0.9**
PUZ	**Puketiti**	**20.65**	**193**	P	P	**22 25 07.2**	**-2.5**
RUGZ	**Raukumara Rang**	**20.67**	**194**	P	P	**22 25 09.1**	**-0.9**
TWGZ	**Tauwhareparae**	**20.81**	**193**	P	P	**22 25 09.7**	**-1.4**
TOZ	**Tahuroa Road**	**21.04**	**199**	P	P	**22 25 12.8**	**-0.3**
MWZ	**Matawai**	**21.06**	**194**	P	P	**22 25 10.9**	**-2.5**
URZ	**Urewera**	**21.09**	**195**	P	P	**22 25 10.4**	**-3.1**
	comp=Z,40nm,0.6s,baz=358,slow=2.6,SNR=29						
URZ				S	S	**22 28 46.9**	**+2.6**
	comp=Z,5.6nm,0.5s,baz=0.0,slow=20,SNR=1.1						
	comp=Z,40nm,0.6s						
URZ	**Urewera**	**21.09**	**195**		P	**22 25 10.5**	**-3.1**
URZ	**Urewera**	**21.09**	**195**	P	P	**22 25 10.7**	**-2.9**
TKGZ	**Te Karaka**	**21.09**	**193**	P	P	**22 25 12.4**	**-1.2**
TARZ	**Mount Tarawera**	**21.22**	**196**	P	P	**22 25 13.9**	**-1.0**
MUGZ	**Murupara**	**21.38**	**195**	P	P	**22 25 13.3**	**-3.0**
HIZ	**Hauiti**	**21.95**	**199**		P	**22 25 20.7**	**-0.8**
BFZ	**Birch Farm**	**23.59**	**195**	P	P	**22 25 33.2**	**-3.1**
BFZ	**Birch Farm**	**23.59**	**195**	P	P	**22 25 33.5**	**-2.9**
PPT2	**Papeete2**	**25.31**	**93**	*e*LR	LR	22 32 36.3	
	comp=Z,20nm,25.2s						
KHZ	**Kahutara**	**25.93**	**198**	P	P	**22 25 54.7**	**-2.6**
RPZ	**Rata Peaks**	**27.88**	**200**	P	P	**22 26 12.4**	**-2.1**
	comp=Z,8.1nm,0.6s,baz=50,slow=17,SNR=7.2						
	comp=Z,8.1nm,0.6s						
EIDS	**Eidsvold**	**31.28**	**251**	P	P	**22 26 43.5**	**-1.1**
ARMA	**Armidale**	**31.79**	**241**	P	P	**22 26 49.0**	**-0.2**
ARMA				IAmb	IAmb	22 26 49.9	
	comp=Z,23nm,0.7s						
ARMA	**Armidale**	**31.79**	**241**	P	P	**22 26 49.2**	**+0.1**
RMQ	**Roma**	**33.49**	**249**	P	P	**22 27 04.0**	**+0.3**
CNB	**Canberra Magne**	**35.12**	**234**	P	P	**22 27 17.2**	**-0.3**
CAN	**Canberra**	**35.41**	**234**	P	P	**22 27 18.6**	**-1.4**
CAN				IAmb	IAmb	22 27 20.0	
	comp=Z,19nm,1.0s						
CAN	**Canberra**	**35.41**	**234**	P	P	**22 27 19.0**	**-0.9**
CTA	**Charters Tower**	**35.56**	**260**	P	P	**22 27 20.5**	**-0.8**
	comp=Z,4.6nm,0.6s,baz=96,slow=10.0,SNR=10						
	comp=Z,4.6nm,0.6s						
CTAO	**Charters Tower**	**35.56**	**260**	P	P	**22 27 20.6**	**-0.8**
CMSA	**Cobar Meteorol**	**37.01**	**241**	P	P	**22 27 32.7**	**-0.7**
QLP	**Quilpie**	**37.53**	**250**	P	P	**22 27 37.2**	**-0.6**
TOO	**Toolangi**	**38.83**	**232**	P	P	**22 27 47.0**	**-1.3**
TOO				IAmb	IAmb	22 27 48.0	
	comp=Z,21nm,0.8s						
TOO	**Toolangi**	**38.83**	**232**	P	P	**22 27 47.7**	**-0.7**
	comp=Z,33nm,0.9s						
COEN	**Coen**	**39.25**	**270**	P	P	**22 27 52.1**	**0.0**
BRAT	**Ballarat**	**39.99**	**233**	P	P	**22 27 58.1**	**+0.3**
	comp=Z,21nm,1.0s						
STKA	**Stephens Creek**	**40.50**	**242**	P	P	**22 28 01.6**	**-0.5**
	comp=Z,26nm,0.9s,baz=88,slow=9.1,SNR=27						
	comp=Z,26nm,0.9s						
STKA	**Stephens Creek**	**40.50**	**242**	P	P	**22 28 01.6**	**-0.5**
STKA	**Stephens Creek**	**40.50**	**242**	P	P	**22 28 02.1**	**0.0**
	comp=Z,7.2nm,0.9s						
INKA	**Innaminka**	**40.73**	**248**	P	P	**22 28 04.4**	**+0.5**
ARPS	**Mount Arapiles**	**41.37**	**234**	P	P	**22 28 08.3**	**-0.7**
HTT	**Hallett**	**42.98**	**240**	P	P	**22 28 21.5**	**-0.5**
LCRK	**Leigh Creek**	**43.18**	**244**	P	P	**22 28 23.4**	**-0.1**
WHYH	**Whyalla**	**44.04**	**241**	P	P	**22 28 30.2**	**-0.1**
OOD	**Ooninadatta**	**45.20**	**248**	P	P	**22 28 39.6**	**+0.1**
BBOO	**Buckleboo**	**45.27**	**241**	P	P	**22 28 39.2**	**-0.7**
BBOO				IAmb	IAmb	22 28 40.2	
	comp=Z,28nm,0.8s						
WR0	**Warramunga Arr**	**46.55**	**259**	P	P	**22 28 49.2**	**-0.7**
WRAB	**Tennant Creek**	**46.73**	**259**	P	P	**22 28 50.5**	**-0.9**
WRA	**Warramunga Arr**	**46.74**	**259**	P	P	**22 28 50.2**	**-1.3**
	comp=Z,2.7nm,0.5s,baz=95,slow=5.6,SNR=39						
WRA				PcP	PcP	**22 30 19.8**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=92,slow=3.5,SNR=6.4						
WRA				S	S	**22 35 11.7**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=96,slow=13,SNR=6.0						
	comp=Z,2.7nm,0.5s						
WRA	**Warramunga Arr**	**46.74**	**259**	P	P	**22 28 50.5**	**-1.0**
MULG	**Mulgathing**	**46.74**	**245**	P	P	**22 28 50.6**	**-0.8**
	comp=Z,109nm,1.0s						
AS31	**Alice Springs**	**46.85**	**254**	P	P	**22 28 51.6**	**-0.7**
ASAR	**Alice Springs**	**46.85**	**254**	P	P	**22 28 51.6**	**-0.7**
	comp=Z,33nm,0.8s,baz=89,slow=8.6,SNR=462						
ASAR				PcP	PcP	**22 30 19.9**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=94,slow=4.2,SNR=5.9						
ASAR				S	S	**22 35 11.1**	**-5.0**
	comp=Z,1.0nm,0.8s,baz=92,slow=16,SNR=5.7						
	comp=Z,33nm,0.8s						
ASAR	**Alice Springs**	**46.85**	**254**	P	P	**22 28 51.9**	**-0.4**
MTN	**Manton Dam**	**50.94**	**268**	P	P	**22 29 22.2**	**-1.0**
MTN				IAmb	IAmb	22 29 23.8	
	comp=Z,18nm,0.8s						
MTN	**Manton Dam**	**50.94**	**268**	P	P	**22 29 23.4**	**+0.3**
WRKA	**Warakurna**	**51.88**	**252**	P	P	**22 29 29.8**	**-0.2**
KNRA	**Kununurra**	**52.62**	**264**	P	P	**22 29 34.7**	**-0.7**
KNRA				IAmb	IAmb	22 29 35.9	
	comp=Z,21nm,0.7s						
KNRA	**Kununurra**	**52.62**	**264**	P	P	**22 29 35.5**	**+0.1**
SIJI	**Sorong**	**54.34**	**282**	P	P	**22 29 48.3**	**+0.5**
	baz=111,slow=8.6						
FITZ	**Fitzroy Crossi**	**55.14**	**260**	P	P	**22 29 53.4**	**-0.1**
SANI	**Sanana**	**58.87**	**279**	P	P	**22 30 19.3**	**-0.1**
	comp=Z,537nmcomp=Z,18nm,0.9s						
SANI	**Sanana**	**58.87**	**279**	P	P	**22 30 20.2**	**+0.8**
	comp=Z,18nm,0.9s						
PSA00	**Pilbara Seismi**	**59.98**	**255**	P	P	**22 30 25.7**	**-1.1**
PSA00				IAmb	IAmb	22 30 27.3	
	comp=Z,19nm,0.9s						
PSA00	**Pilbara Seismi**	**59.98**	**255**	P	P	**22 30 26.1**	**-0.7**
PSA00				IAmb	IAmb	22 30 27.3	
	comp=Z,19nm,0.9s						
PSA00	**Pilbara Seismi**	**59.98**	**255**	P	P	**22 30 26.6**	**-0.3**
MBWA	**Marble Bar**	**60.15**	**256**	P	P	**22 30 27.3**	**-0.7**
MBWA				IAmb	IAmb	22 30 28.9	
	comp=Z,31nm,1.3s						
MBWA	**Marble Bar**	**60.15**	**256**	P	P	**22 30 27.6**	**-0.4**
SBA	**Scott Base**	**60.53**	**184**	P	P	**22 30 32.1**	**+2.5**
SBA				IAmb	IAmb	22 30 33.5	
	comp=Z,21nm,1.2s						
VNDA	**Vanda**	**60.61**	**185**	P	P	**22 30 31.6**	**+1.5**
	comp=Z,7.1nm,1.0s,baz=9.3,slow=6.9,SNR=29						
	comp=Z,7.1nm,1.0s						
VNDA	**Vanda**	**60.61**	**185**	P	P	**22 30 31.3**	**+1.2**
VNDA				IAmb	IAmb	22 30 33.1	
	comp=Z,14nm,1.1s						
EDFI	**Ende, Flores**	**60.94**	**270**	P	P	**22 30 33.3**	**-0.2**
	comp=Z,8.8nm,0.8s						
TWSI	**Taliwang, Sumb**	**65.52**	**268**	P	P	**22 31 02.9**	**-0.3**
CASY	**Casey**	**67.01**	**205**	P	P	**22 31 12.4**	**+0.7**
CASY				IAmb	IAmb	22 31 12.6	
	comp=Z,15nm,1.0s						
UGM	**Wanagama**	**71.79**	**267**	P	P	**22 31 41.1**	**-0.6**
QSPA	**South Pole Qui**	**72.12**	**180**	P	P	**22 31 43.7**	**+0.9**
QSPA				IAmb	IAmb	22 31 45.3	
	comp=Z,12nm,0.8s						
KSRS	**Korea Array**	**76.16**	**317**	P	P	**22 32 09.4**	**+3.2**
	comp=Z,1.5nm,0.9s,baz=120,slow=2.8,SNR=2.7						
	comp=Z,1.5nm,0.9s						
NVAR	**Mina Array Bea**	**77.97**	**43**	P	P	22 32 21.1	+4.6
	comp=Z,1.2nm,0.8s,baz=230,slow=9.2,SNR=8.6						
	comp=Z,1.2nm,0.8s						
BELA	**Belgrano 2**	**81.86**	**172**	P	P	**22 32 36.8**	**+0.5**
BELA				IAmb	IAmb	22 32 38.1	
	comp=Z,5.0nm,0.9s						
TXAR	**Lajitas Array**	**84.21**	**57**	P	P	22 32 54.4	+5.3
	comp=Z,3.3nm,0.9s,baz=212,slow=4.4,SNR=26						
	comp=Z,3.3nm,0.9s						
MAW	**Mawson**	**84.55**	**199**	P	P	**22 32 50.9**	**+1.0**
	comp=Z,5.5nm,0.8s,baz=146,slow=6.1,SNR=7.6						
	comp=Z,5.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**88.83**	**314**	*e*P	P	**22 33 11.5**	**+0.4**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,6.2s						
TROLL	**Troll, Antarti**	**90.28**	**180**	PcP	PcP	**22 33 18.1**	**-0.1**
SNAA	**Sanae**	**90.50**	**178**	PcP	PcP	**22 33 19.0**	**-0.2**
VNA3	**Neumayer Olymp**	**90.56**	**176**	PcP	PcP	**22 33 19.4**	**0.0**
CMAR	**Chiang Mai Arr**	**90.92**	**289**	P	P	**22 33 23.9**	**+2.8**
	comp=Z,1.0nm,0.9s,baz=108,slow=2.8,SNR=7.0						
	comp=Z,1.0nm,0.9s						
VNA2	**Neumayer--Watz**	**91.03**	**176**	PcP	PcP	**22 33 21.9**	**+0.5**
	baz=179,slow=2.0						
PZH	**PanZhiHua**	**91.07**	**297**	P	P	**22 33 22.8**	**+1.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
VNA1	**Neumayer--Stat**	**91.24**	**176**	PcP	PcP	**22 33 23.1**	**+0.8**
ARCES	**ARCESS Array B**	**126.71**	**351**	PKP	PKiP	**22 39 20.2**	**+2.3**
	comp=Z,0.5nm,0.4s,baz=45,slow=0.3,SNR=1.8						
VLDR	**Vladesti**	**145.66**	**329**	⇓P	PKiKP	**22 39 57.8**	**+0.7**
BIZ	**Bicaz**	**145.76**	**333**	⇑P	PKiKP	**22 39 58.0**	**+0.7**
OSTC	**Ostas**	**145.98**	**346**	*e*PKP	PKiKP	**22 39 58.1**	**+0.4**
OSTC				*ex*	x	22 40 06.8	
DPC	**Dobruska-Polom**	**146.15**	**346**	*e*PKP	PKiKP	**22 39 58.9**	**+0.8**
KRLC	**Kraliky**	**146.29**	**345**	*e*PKP	PKiKP	**22 39 58.0**	**-0.4**
BRTR	**Keskin Array B**	**146.31**	**316**	PKPbc	PKiKP	**22 39 58.3**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=80,slow=3.5,SNR=17						
MORC	**Moravsky Berou**	**146.38**	**344**	*e*PKP	PKiKP	**22 39 58.8**	**+0.3**
MAUC	**Maruska**	**146.67**	**343**	*e*PKP	PKiKP	**22 39 59.7**	**+0.5**
PRU	**Pruhonice**	**146.89**	**347**	*e*PKP	PKPab	**22 40 00.7**	**+1.1**
DRGR		**147.28**	**336**	⇑P	PKPab	**22 40 01.8**	**+0.4**
KHC	**Kasperske Hory**	**147.90**	**348**	*e*PKP	PKPab	**22 40 03.1**	**-0.6**
KHC				*ex*	x	22 40 12.8	
CKRC	**Cesky Krumlov**	**148.04**	**347**	*e*PKP	PKPab	**22 40 03.4**	**-0.9**
CKRC				*ex*	x	22 40 11.3	
GERES	**GERESS Array B**	**148.15**	**348**	PKPbc	PKPab	**22 40 03.8**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=28,slow=3.2,SNR=18						
CONA	**Conrad Observa**	**148.51**	**344**	*e*P	PKPab	**22 40 05.5**	**-0.8**
	comp=Z,7.0nm,1.3s						
RONA	**Rosalia, Austr**	**148.61**	**344**	*i* P	PKPab	**22 40 05.5**	**-1.1**
	comp=Z,3.1nm,0.6s						
SOKA	**Soboth**	**149.88**	**345**	*e*P	PKiKP	**22 40 07.5**	**+1.5**
	comp=Z,3.4nm,1.0s						
KBA	**Koelnbreinsper**	**149.90**	**347**	*e*P	PKiKP	**22 40 07.4**	**+1.3**
	comp=Z,6.0nm,1.2s						
WATA	**Walderalm**	**150.00**	**349**	*i* P	PKPab	**22 40 08.4**	**-4.1**
	comp=Z,4.6nm,1.2s						
WTTA	**Wattenberg**	**150.06**	**349

WRAB	Tennant Creek	18.71 198	P	Pn	22 43 22.5	+0.3
WRA	Warramunga Arr	18.73 198	P	P	22 43 22.2	+0.5
	comp=Z,0.8nm,0.3s,baz=19,slow=12,SNR=32					
WRA		S	S	Sn	22 46 45.6	-5.4
	comp=Z,4.3nm,0.9s,baz=12,slow=22,SNR=10					
WRA		LR	LR		22 51 29.4	
	comp=Z,631nm,18.8s,baz=30,slow=40					
	comp=Z,7.6nm,0.9s					
WRA	Warramunga Arr	18.73 198	P	P	22 43 19.8	-1.9
MRSI	Marisa	18.73 278	P	P	22 43 22.4	+0.5
	comp=Z,562nmcomp=Z,23nm,0.7s					
CTA	Charters Tower	18.74 163	P	Pn	22 43 23.0	+0.5
	comp=Z,0.2nm,0.3s,baz=350,slow=15,SNR=2.0					
CTA		LR	LR		22 51 15.0	
	comp=Z,349nm,18.1s,baz=2.0,slow=39					
	comp=Z,1.6nm,0.4s					
EDFI	Ende, Flores	19.85 250	P	P	22 43 34.7	+0.5
	comp=Z,8.5nm,1.4s					
HNR	Honiara	20.66 111	LR	LR	22 51 47.3	
	comp=Z,2µm,18.6s,baz=342,slow=37					
TTSI	Tana Toraja	20.68 267	P	Pn	22 43 46.5	+0.9
	comp=Z,36nm,1.3s					
MPSI	Mapaga	20.74 276	P	Pn	22 43 46.1	-0.2
	comp=Z,2µmcomp=Z,11nm,1.2s					
KAPI	Kappang	20.91 261	P	P	22 43 57.7	+12
	comp=Z,5.9nm,0.4s,baz=83,slow=8.1,SNR=4.6					
FITZ	Fitzroy Crossi	21.57 222	P	P	22 43 53.0	+0.4
	comp=Z,7.1nm,0.7s,baz=43,slow=10.0,SNR=14					
FITZ		S	S		22 47 51.6	+1.6
	comp=Z,4.6nm,0.9s,baz=142,slow=12,SNR=5.2					
FITZ		LR	LR		22 53 29.3	
	comp=Z,256nm,20.9s,baz=42,slow=40					
	comp=Z,7.1nm,0.7s					
FITZ	Fitzroy Crossi	21.57 222	P	P	22 43 52.5	-0.1
FITZ		IAmb	IAmb		22 44 17.4	
	comp=Z,16nm,1.1s					
FITZ	Fitzroy Crossi	21.57 222	P	P	22 43 53.2	+0.5
AS31	Alice Springs	22.37 196	P	P	22 44 00.8	-0.4
ASAR	Alice Springs	22.37 196	P	P	22 44 01.7	+0.5
	comp=Z,5.3nm,0.8s,baz=27,slow=10,SNR=53					
ASAR		S	S		22 48 09.4	+4.3
	comp=Z,2.7nm,1.1s,baz=17,slow=20,SNR=5.7					
ASAR		LR	LR		22 53 43.8	
	comp=Z,684nm,18.7s,baz=36,slow=39					
	comp=Z,5.3nm,0.8s					
ASAR	Alice Springs	22.37 196	P	P	22 44 00.4	-0.8
EIDS	Eidsvold	25.28 157	P	P	22 44 29.4	+0.2
EIDS	Eidsvold	25.28 157	P	P	22 44 32.0	+2.8
WRKA	Warakurna	25.66 206	P	P	22 44 33.3	+0.6
OOD	Oodnadatta	25.96 190	P	P	22 44 36.6	+1.3
MBWA	Marble Bar	27.72 225	P	P	22 44 51.2	-0.1
MBWA		IAmb	IAmb		22 45 10.0	
	comp=Z,16nm,1.1s					
MULG	Mulgathing	28.68 192	P	P	22 45 00.7	+1.0
JCJ	Chichijima	29.07 3	LR	LR	22 54 05.6	
	comp=Z,54nm,19.5s,baz=122,slow=31					
STKA	Stephens Creek	29.63 178	P	P	22 45 08.1	-0.1
	comp=Z,6.8nm,0.9s,baz=0.6,slow=8.3,SNR=7.5					
STKA		LR	LR		22 57 35.7	
	comp=Z,285nm,21.6s,baz=17,slow=38					
	comp=Z,6.8nm,0.9s					
STKA	Stephens Creek	29.63 178	P	P	22 45 08.2	+0.1
BBOO	Buckleboo	30.83 187	P	P	22 45 18.9	+0.1
FORT	Forrest	30.86 201	P	P	22 45 19.8	+0.8
FORT	Forrest	30.86 201	P	P	22 45 20.2	+1.2
JOW	Kunigami	31.09 339	LR	LR	22 55 01.1	
	comp=Z,131nm,20.6s,baz=181,slow=31					
DZM	Mont Dzumac	32.09 130	P	P	22 45 28.3	-1.8
	comp=Z,3.1nm,0.8s,baz=274,slow=17,SNR=2.1					
DZM		LR	LR		22 58 18.6	
	comp=Z,179nm,18.7s,baz=224,slow=36					
	comp=Z,3.1nm,0.8s					
DZM	Mont Dzumac	32.09 130	P	P	22 45 27.8	-2.3
DZM		IAmb	IAmb		22 46 05.9	
	comp=Z,10nm,1.2s					
H11N1	WAKE ISLAND Hy baz=229	33.78 49	T	T	23 21 36.4	
H11N2	WAKE ISLAND Hy baz=229	33.80 49	T	T	23 21 37.7	
H11N3	WAKE ISLAND Hy baz=229	33.80 49	T	T	23 21 59.1	
JHJ	Hachijo jima 2	35.04 359	LR	LR	22 56 44.1	
	comp=Z,225nm,21.3s,baz=132,slow=30					
BLDU	Ballidu	36.22 216	P	P	22 46 06.8	+1.1
NWAO	Narrogin (SRO)	37.64 213	LR	LR	23 03 34.4	
	comp=Z,343nm,19.1s,baz=262,slow=39					
SDSI	Sungai Dareh	39.07 271	P	P	22 46 30.7	+0.6
	comp=Z,6.7nm,1.5s					
NJ2	Nanjing	39.69 331	eP	P	22 46 35.6	+0.7
NJ2		pmax	pmax			
	comp=Z,18nm,0.8s					
KSRS	Korea Array	41.05 345	P	P	22 46 44.2	-1.9
	comp=Z,1.0nm,0.8s,baz=172,slow=9.3,SNR=2.0					
KSRS		LR	LR		23 00 54.9	
	comp=Z,86nm,21.3s,baz=175,slow=32					
	comp=Z,1.0nm,0.8s					
RPSI	Rantau Prapat	41.84 276	P	P	22 46 51.9	-1.1
RPSI		IAmb	IAmb		22 46 54.0	
	comp=Z,9.1nm,0.9s					
PSI	Prapat	41.85 277	P	P	22 46 53.2	0.0
	comp=Z,6.0nm,0.8s,baz=68,slow=11,SNR=2.4					
	comp=Z,6.0nm,0.8s					
CMAR	Chiang Mai Arr	45.71 298	P	P	22 47 23.4	-0.6
	comp=Z,1.1nm,0.3s,baz=114,slow=6.0,SNR=1.8					
CMAR		LR	LR		23 04 31.6	
	comp=Z,21nm,21.5s,baz=125,slow=34					
	comp=Z,1.1nm,0.3s					
CMAR	Chiang Mai Arr	45.71 298	P	P	22 47 23.8	-0.2
XAN	Xi'an	46.63 323	⇑P	P	22 47 34.0	+2.9
XAN		pP	pP		22 47 37.6	-3.0
XAN		pmax	pmax			
	comp=Z,15nm,1.2s					
USRK	Ussuriysk Ar.	46.72 352	P	P	22 47 31.0	-0.5
	comp=Z,3.2nm,1.1s,baz=160,slow=9.0,SNR=4.1					
USRK		LR	LR		23 03 53.1	
	comp=Z,112nm,21.9s,baz=235,slow=32					
	comp=Z,3.2nm,1.1s					
USRK	Ussuriysk Ar.	46.72 352	P	P	22 47 31.1	-0.4
RAO	Raoul Island	47.86 129	LR	LR	23 05 40.1	
	comp=Z,68nm,19.5s,baz=36,slow=33					
URZ	Urewera	49.16 142	LR	LR	23 08 52.1	
	comp=Z,121nm,18.4s,baz=46,slow=36					
RPZ	Rata Peaks	49.52 151	LR	LR	23 10 14.7	
	comp=Z,22nm,19.2s,baz=288,slow=38					
LZH	Lanzhou	51.10 322	eP	P	22 48 10.9	+5.4
LZH		pP	pP		22 48 14.4	-0.7
LZH		pmax	pmax			
	comp=Z,14nm,1.5s					
KLR	Kul'dur	51.69 353	P	P	22 48 08.7	-0.8
	comp=Z,0.9nm,0.4s,baz=162,slow=8.5,SNR=4.7					
KLR		LR	LR		23 07 23.2	
	comp=Z,70nm,20.1s,baz=184,slow=33					
	comp=Z,0.9nm,0.4s					
GTA	Gaotai	55.67 322	eP	P	22 48 39.9	+0.9
GTA		pP	pP		22 48 46.8	-1.8
GTA		sP	sP		22 48 50.8	-1.6
GTA		pmax	pmax			
	comp=Z,3.0nm,1.1s					
LSA	Lhasa	56.74 308	P	P	22 48 48.3	+1.1
LSA		IAmb	IAmb		22 48 58.8	
	comp=Z,8.8nm,1.5s					
SONM	Songino Array	57.96 334	LR	LR	23 12 03.3	
	comp=Z,64nm,21.7s,baz=62,slow=34					
SHEM	Shemya Is, Ala	61.49 23	LR	LR	23 12 00.9	
	comp=Z,46nm,21.9s,baz=243,slow=32					
YAK	Yakutsk	64.49 354	LR	LR	23 13 37.2	
	comp=Z,69nm,21.6s,baz=88,slow=32					
MK31	Makanchi Array	70.41 322	P	P	22 50 15.2	-1.4
MK31		IAmb	IAmb		22 50 37.2	
	comp=Z,3.4nm,1.1s					
MKAR	Makanchi Array	70.41 322	P	P	22 50 16.7	0.0
	comp=Z,1.7nm,1.1s,baz=118,slow=7.0,SNR=7.1					
	comp=Z,1.7nm,1.1s					
MKAR	Makanchi Array	70.41 322	P	P	22 50 16.2	-0.5
TARG	Taragay, Kyrgy	71.40 315	P	P	22 50 23.2	-0.1
TARG		IAmb	IAmb		22 50 38.8	
	comp=Z,5.4nm,1.3s					
KSH	Kashi	71.98 313	P	P	22 50 28.3	+1.9
KSH		pP	pP		22 50 31.4	-5.0
KSH		pmax	pmax			
	comp=Z,4.0nm,1.1s					
ZALV	Zalesovo Beam	72.32 329	P	P	22 50 27.6	-0.4
	comp=Z,0.7nm,0.6s,baz=103,slow=6.4,SNR=5.2					
	comp=Z,0.7nm,0.6s					
ZALV	Zalesovo Beam	72.32 329	P	P	22 50 27.2	-0.7
NIL	Nilore	72.41 306	P	P	22 50 28.9	-0.1
NIL		IAmb	IAmb		22 50 30.2	
	comp=Z,6.6nm,0.7s					
BOOM	Boomskoye usch	72.96 316	P	P	22 50 31.5	-0.8
BOOM		IAmb	IAmb		22 50 33.2	
	comp=Z,4.6nm,1.1s					
AAK	Ala-Archa	74.02 315	P	P	22 50 38.1	-0.4
	comp=Z,1.1nm,0.5s,baz=128,slow=13,SNR=3.9					
	comp=Z,1.1nm,0.5s					
AAK	Ala-Archa	74.02 315	P	P	22 50 38.8	+0.2
KURK	Kurchatov	74.26 324	P	P	22 50 38.8	-0.7
KURK		IAmb	IAmb		22 50 43.9	
	comp=Z,7.3nm,1.3s					
KURBB	Kurchatov Arra	74.27 324	P	P	22 50 39.0	-0.5
	comp=Z,1.0nm,0.9s,baz=113,slow=4.8,SNR=6.4					
	comp=Z,1.0nm,0.9s					
GAR	Garm	76.05 311	P	P	22 50 50.0	-0.2
VNDA	Vanda	76.23 175	P	P	22 50 51.2	+0.9
	comp=Z,3.3nm,0.7s,baz=324,slow=7.7,SNR=26					
	comp=Z,3.3nm,0.7s					
VNDA	Vanda	76.23 175	P	P	22 50 50.8	+0.4
VNDA		IAmb	IAmb		22 50 51.9	
	comp=Z,3.5nm,0.7s					
CHGR	Chuyangaron	76.84 310	P	P	22 50 54.4	-0.3
KK31	Karatay Array	76.96 315	P	P	22 50 54.4	-0.8
KK31		IAmb	IAmb		22 50 57.1	
	comp=Z,3.6nm,1.3s					
KKAR	Karatay Array	76.96 315	P	P	22 50 54.6	-0.5
NRIK	Noril'sk	79.65 343	P	P	22 51 08.4	-1.1
	comp=Z,1.7nm,0.6s,baz=111,slow=8.6,SNR=2.3					
	comp=Z,1.7nm,0.6s					
NRIK	Noril'sk	79.65 343	P	P	22 51 07.0	-2.5
NRIK		IAmb	IAmb		22 51 12.6	
	comp=Z,5.6nm,1.1s					
KDAK	Kodiak Island	79.68 30	LR	LR	23 20 50.5	
	comp=Z,69nm,20.2s,baz=259,slow=32					
BVAR	Borovoye Array	79.85 325	P	P	22 51 10.7	-0.1
	comp=Z,2.0nm,1.0s,baz=121,slow=5.7,SNR=8.4					
	comp=Z,2.0nm,1.0s					
BRVK	Bovoye	79.92 325	P	P	22 51 10.2	-1.0
ILAR	Eielson Array	84.55 24	P	P	22 51 34.7	-0.5
	comp=Z,0.7nm,0.8s,baz=270,slow=4.5,SNR=2.8					
ILAR		LR	LR		23 24 57.5	
	comp=Z,34nm,19.2s,baz=240,slow=33					
	comp=Z,0.7nm,0.8s					
GEYT	Alibeck	85.27 308	P	P	22 51 40.4	+0.8
	comp=Z,2.2nm,0.8s,baz=90,slow=1.4,SNR=6.6					
	comp=Z,2.2nm,0.8s					
GEYT	Alibeck	85.27 308	P	P	22 51 39.5	0.0
GYA0B	ALIBECK ARRAY	85.27 308	P	P	22 51 39.4	-0.1
GYA0B		IAmb	IAmb		22 51 44.4	
	comp=Z,8.7nm,1.2s					
ABKAR	Akbulak array	85.42 320	P	P	22 51 39.2	-0.7
ABKAR	Akbulak array	85.42 320	P	P	22 51 39.0	-1.0
ABKAR		IAmb	IAmb		22 51 44.3	
	comp=Z,2.5nm,1.1s					
QSPA	South Pole Qui	87.84 180	LR	LR	23 30 19.6	
	comp=Z,69nm,20.1s,baz=24,slow=35					
QSPA	South Pole Qui	87.84 180	P	P	22 51 51.4	-0.2
QSPA		IAmb	IAmb		22 51 54.0	
	comp=Z,3.9nm,0.9s					
INK	Inuvik	90.44 22	LR	LR	23 30 44.5	
	comp=Z,35nm,19.9s,baz=202,slow=34					
BBB	Bella Bella	92.50 38	LR	LR	23 23 59.3	
	comp=Z,40nm,20.9s,baz=164,slow=29					
YBH	Yreka Blue Hor	96.47 48	LR	LR	23 27 12.1	
	comp=Z,46nm,21.2s,baz=316,slow=30					
YKA	Yellowknife Ar	98.72 27	LR	LR	23 31 05.0	
	comp=Z,62nm,21.1s,baz=283,slow=32					
NEW	Newport	99.80 41	LR	LR	23 36 15.1	
	comp=Z,27nm,18.0s,baz=284,slow=34					
DBIC	Dimbokro	145.17 279	PKPbc	PKPdf	22 58 40.9	-0.1
	comp=Z,2.9nm,0.8s,baz=169,slow=1.4,SNR=3.3					
CPUP	Villa Florida	146.90 150	PKPbc	PKPab	22 58 46.1	-0.7
	comp=Z,2.6nm,0.8s,baz=218,slow=1.1,SNR=5.7					

IDC ***17*** *22:45:00.8±1.9,2˚.07S×140˚.81E, h0km, mb3.6/4, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=60.0km s-min=30.9km az=87.0*

NEIC ***17*** *22:45:04.9±1.4, 2˚.3S±0˚.1×139˚.8E±0˚.1, h10km±2km, mb4.1/9, Error ellipse: s-maj=26.3km s-min=13.4km az=49.0*

DJA ***17*** *22:45:05.2±1.5, 2˚S±8˚×14˚1E±1˚2, h10km, M3.9/4, MLv3.9/4*

ISC 17 22:45:04.3±1.0, 2˚.2S±0˚.1×139˚.72E±0˚.09, h10km, n22, σ1§76/20, mb4.1/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	Genyem	0.61	132	P	Pn	22 45 18.1	-1.0
GENI				S	Sb	22 45 30.7	+4.9
SMPI	Sarmi	1.02	280	P	Pn	22 45 40.7	+16
WAMI	Wamena	1.97	211	P	Pg	22 45 48.7	+6.6
BAKI	Biak	3.74	285	P	Pg	22 46 16.7	+0.7
FAKI	Fak Fak	7.50	264	Pn	Pn	22 46 54.3	+0.5
KNRA	Kununurra	17.22	218	Pn	Pn	22 49 04.3	-0.8
KNRA				IAmb	IAmb	22 49 13.9	
	comp=Z,28nm,1.3s						
WB2	Warramunga Arr	18.42	196	P	Pn	22 49 19.5	-0.5
WB2				IAmb	IAmb	22 49 35.8	
	comp=Z,19nm,1.4s						
WRA	Warramunga Arr	18.42	196	P	P	22 49 22.4	+2.4
	comp=Z,0.3nm,0.3s,baz=24,slow=12,SNR=6.6						
	comp=Z,1.2nm,0.5s						
WRA	Warramunga Arr	18.42	196	P	Pn	22 49 19.2	-0.7
FITZ	Fitzroy Crossi	21.00	220	P		22 49 54.3	
	comp=Z,2.0nm,0.6s,baz=51,slow=11,SNR=1.3						
	comp=Z,2.0nm,0.6s						
AS31	Alice Springs	22.09	194	P	P	22 49 59.3	-0.6
ASAR	Alice Springs	22.09	194	P	P	22 50 01.1	+1.2
	comp=Z,0.7nm,0.5s,baz=28,slow=11,SNR=7.9						
	comp=Z,0.7nm,0.5s						
ASAR	Alice Springs	22.09	194	P	P	22 49 59.2	-0.7
EIDS	Eidsvold	25.53	156	P	P	22 50 31.8	-1.4
GSI	Gunungsitoli	42.27	274	P	P	22 52 58.6	+0.1
MK31	Makanchi Array	69.99	322	P	P	22 56 17.9	+1.7
MK31				IAmb	IAmb	22 56 29.4	
	comp=Z,1.6nm,1.1s						
MKAR	Makanchi Array	69.99	322	P	P	22 56 17.8	+1.6
	comp=Z,0.2nm,0.5s,baz=130,slow=6.4,SNR=2.2						
	comp=Z,0.2nm,0.5s						
MKAR	Makanchi Array	69.99	322	P	P	22 56 17.3	+1.1
VNDA	Vanda	76.22	175	P	P	22 56 51.3	-1.1
	comp=Z,1.1nm,0.7s,baz=325,slow=7.9,SNR=12						
	comp=Z,1.1nm,0.7s						
VNDA	Vanda	76.22	175	P	P	22 56 50.9	-1.6
VNDA				IAmb	IAmb	22 56 52.4	
	comp=Z,1.6nm,0.9s						
ABKAR	Akbulak array	84.97	320	P	P	22 57 39.6	-0.3
QSPA	South Pole Qui	87.77	180	P	P	22 57 51.3	-2.2
QSPA				IAmb	IAmb	22 58 15.3	
	comp=Z,1.8nm,1.1s						

IDC ***17*** *22:45:54.9±0.9, 48˚.92N×129˚.71W, h0km, mb3.9/12, mbtmp4.0/20, ML3.6/7, MS3.7/39, Error ellipse: s-maj=28.7km s-min=11.9km az=66.0*

PGC ***17*** *22:45:55.1±0.6, 48˚.81N×129˚.29W, h10km, mb4.4, ML3.7/43, MLSn3.7/43, Mw4.3/43, 249km west of Tofino, Bc Vancouver Island, Canada Region*

NEIC ***17*** *22:45:58.6±1.5, 49˚.08N±0˚.07×129˚.0W±0˚.1, h10km±1km, mb4.4/82, Mwr4.5(OTT), Error ellipse: s-maj=14.3km s-min=9.5km az=233.0*

GCMT ***17*** *22:45:58.6±0.4, 48˚.80N±0˚.02×129˚.39W±0˚.03, h25km±1km, MW4.8/82, Moment Tensor Solution. s13,c13; s82,c99; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.01±.12; Mθθ=1.69±.09; Mφφ 1.70±.09; Mrθ=0.16±.20; Mrφ=0.60±.07; Mθφ 0.24±.17; Best double couple: M0 1.82100×10^16 NP1:φs305.00000°, δ87.00000°, λ172.00000°. NP2: φs35.00000°, δ82.00000°, λ3.00000°. Principal axes: T 1.8400, Plg8.0000°, Azm260.0000°; N -0.0360, Plg81.0000°, Azm105.0000°; P -1.8010, Plg4.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *22:45:58.6, 48˚.81N×129˚.29W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=0.36; Mθθ 0.27; Mφφ 0.50; Mrθ -0.34; Mrφ 0.30; Mθφ -0.47; Fault plane solution: M0 8.10000×10^15 NP1:φs36.00000°, δ69.00000°, λ-89.00000°. NP2:φs214.00000°, δ21.00000°, λ-92.00000°. Principal axes: T 0.8258, Plg24.0000°, Azm125.0000°; N -0.0728, Plg1.0000°, Azm215.0000°; P*

-0.7530, Plg66.0000°, Azm307.0000°;

ISC 17 22:45:58.0±0.5, 49˚.03N±0˚.04×129˚.01W±0˚.05, h10km, n386, σ1§50/401, mb4.4/26, MS3.8/27, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NCHR	NEPTUNE Canada	1.06	183	P	Pb	22 46 09.9	-8.3
NCHR				S	Sb	22 46 20.3	-12
KEMF	NEPTUNE Canada	1.09	183	P	Pb	22 46 10.2	-8.5
KEMF				S	Sb	22 46 20.5	-12
BPBC	Brooks Peninsu	1.39	35	Pn	Pn	22 46 22.1	-1.2
BPBC				Sn	Sn	22 46 41.2	-0.6
NC89	ODP889	1.47	103	Pn	Pn	22 46 21.4	-2.9
EDB	Eliza Dome	1.49	55	Pn	Pn	22 46 23.4	-1.4
EDB				Sn	Sn	22 46 43.2	-1.2
NC27	ODP1027	1.52	146	P	Pn	22 46 19.0	-5.8
ETB	Estevan Point	1.66	77	Pn	Pn	22 46 25.8	-1.2
HOLB	Holberg	1.71	19	Pn	Pn	22 46 26.4	-1.4
HOLB				Sn	Sn	22 46 48.5	-1.2
PACB	Port Alice, BC	1.71	35	Pn	Pn	22 46 26.6	-1.3
PACB				Sn	Sn	22 46 48.5	-1.3
MAYB	Maynard	1.82	40	Pn	Pn	22 46 28.5	-1.0
MAYB				Sn	Sn	22 46 51.9	-0.7
WOSB	Woss	1.95	54	Pn	Pn	22 46 30.9	-0.3
WOSB				Sn	Sb	22 46 57.1	-0.8
PHC	Port Hardy	1.96	31	Pn	Pn	22 46 30.5	-0.7
PHC				Sn	Sn	22 46 55.3	-0.6
NCBC	Barkley Canyon	1.97	107	Pn	Pn	22 46 28.9	-2.5
NCBC				Sn	Sn	22 46 53.4	-2.6
TOFB	Tofino	2.04	85	Pn	Pn	22 46 30.7	-1.6
TOFB				Sn	Sn	22 46 56.0	-1.9
GDR	Gold River	2.08	68	Pn	Pn	22 46 32.0	-0.9
B012	Ucluelet	2.29	91	Pn	Pn	22 46 33.6	-2.1
B012				Sn	Sn	22 47 01.2	-2.7
OZB	Mount Ozzard	2.32	90			22 46 34.1	-2.1
OZB	Mount Ozzard	2.32	90	Pn	Pn	22 46 34.1	-2.1
OZB				Sn	Sn	22 47 02.1	-2.6
BTB	Buttle Lake	2.33	78	Pn	Pn	22 46 35.5	-0.9
SPLB	Strathcona Par	2.35	67	Pn	Pn	22 46 36.4	-0.3
SPLB				Sn	Sn	22 47 07.0	+1.4
NCRB	Newcastle Ridg	2.36	53	Pn	Pn	22 46 37.1	+0.2
NCRB				Sn	Sb	22 47 07.4	-2.4
MWAB	Mount Washingt	2.52	72	Pn	Pn	22 46 38.4	-0.7
BFSB	Bamfield	2.56	93	Pn	Pn	22 46 37.5	-2.0
BFSB				Sn	Sn	22 47 07.9	-2.8
B928	Bamfield	2.56	93	Pn	Pn	22 46 37.4	-2.1
B928				Sn	Sn	22 47 08.3	-2.3
CBB	Campbell River	2.58	66	Pn	Pn	22 46 39.6	-0.1
CBB	Campbell River	2.58	66	Pn	Pn	22 46 39.5	-0.2
CBB				Sn	Sn	22 47 12.0	+0.9
B927	Port Alberni	2.77	85	Pn	Pn	22 46 40.7	-1.6
MGB	Mount Grey	2.84	89	Pn	Pn	22 46 41.6	-1.9
MGB				Sn	Sn	22 47 15.5	-2.4
OCP	Olym-Cheeka Pk	3.00	103	Pn	Pn	22 46 43.6	-1.9
OCP				Sn	Sn	22 47 19.6	-1.9
PFB	Port Renfrew	3.06	97	Pn	Pn	22 46 44.5	-1.9
PFB				Sn	Sn	22 47 19.5	-3.5
TXB	Texada	3.06	76	Pn	Pn	22 46 46.1	-0.3
GHNB	Nanoose	3.15	83	Pn	Pn	22 46 47.0	-0.4
GHNB				Sn	Sn	22 47 24.9	-0.1
C03A	Quillayute Air	3.15	109	Pn	Pn	22 46 46.0	-1.6
BBB	Bella Bella	3.21	10	Pn	Pn	22 46 48.1	-0.3
	288nm,0.4s,baz=205,slow=12,SNR=328						
BBB				Sn	Sn	22 47 24.7	-1.8
	59nm,0.3s,baz=353,slow=7.7,SNR=11						
BBB				LR	LR	22 48 05.6	
	comp=Z,560nm,21.3s,baz=294,slow=38						
BBB	Bella Bella	3.21	10		Pn	22 46 48.3	0.0
BBB	Bella Bella	3.21	10	Pn	Pn	22 46 48.2	-0.1
BBB				Sn	Sn	22 47 24.8	-1.8
B926	Mesachie Lake	3.23	92	Pn	Pn	22 46 46.7	-1.9
B926				Sn	Sn	22 47 25.2	-1.8
NLLB	Nanaimo Lost L	3.31	85	Pn	Pn	22 46 49.2	-0.5
NLLB				Sn	Sn	22 47 28.6	-0.4
SHB	Sechelt	3.41	79	Pn	Pn	22 46 50.9	-0.4
OBC	Olympics--Boni	3.43	105	Pn	Pn	22 46 50.0	-1.5
HG4B	Hotspring	3.55	338		Pn	22 46 50.4	-2.6
GOBB	Galiano Island	3.62	89	Pn	Pn	22 46 53.2	-0.9
STW	Striped Peak	3.65	102	Pn	Pn	22 46 52.9	-1.7
STW				Sn	Sn	22 47 34.3	-3.4
B009	North Saanich	3.69	94	Pn	Pn	22 46 53.5	-1.5
B009				Sn	Sn	22 47 36.5	-2.1
B010	North Saanich	3.69	94	Pn	Pn	22 46 53.6	-1.4
B010				Sn	Sn	22 47 36.4	-2.1
PGC	Sidney	3.69	94	Pn	Pn	22 46 53.6	-1.4
PGC	Sidney	3.69	94	Pn	Pn	22 46 53.3	-1.7
B011	North Saanich	3.69	94	Pn	Pn	22 46 53.6	-1.5
B011				Sn	Sn	22 47 37.2	-1.4
BIB	Bowen Island	3.76	82	Pn	Pn	22 46 55.5	-0.4
B04A	Port Angeles	3.79	103		Pn	22 46 54.7	-1.7
NLWA	Neilton Lookou	3.81	114	Pn	Pn	22 46 55.0	-1.7
VGZ	Gonzales	3.82	97	Pn	Pn	22 46 54.4	-2.4
VGZ				Sn	Sn	22 47 38.6	-3.0
WPB	Watts Point	3.84	78	Pn	Pn	22 46 57.2	+0.1
SNB	Saturna Island	3.86	92	Pn	Pn	22 46 56.7	-0.7
SNB				Sn	Sn	22 47 42.4	-0.4
WISH	Wishkah	4.00	117	Pn	Pn	22 46 57.8	-1.4
WISH				Sn	Sn	22 47 42.5	-3.7
BUTB	Butedale	4.05	5	Pn	Pn	22 46 59.4	-0.6
BUTB				Sn	Sn	22 47 46.0	-1.5
WSLR	Whistler	4.11	72	Pn	Pn	22 47 01.7	+0.8
HDW	Hoodsport	4.21	107	Pn	Pn	22 47 01.3	-0.9
HDW				Sn	Sn	22 47 49.5	-1.9
BNKB	Banks Island	4.34	353	Pn	Pn	22 47 02.9	-1.1
RADR	Rader Ridge	4.38	125	Pn	Pn	22 47 03.5	-1.1
GNW	Green Mountain	4.38	107	Pn	Pn	22 47 03.5	-1.0
GNW				Sn	Sn	22 47 53.0	-2.6
E03A	Lebam	4.44	122	Pn	Pn	22

NEW Newport 7.91 91 Pn **Pn** **22 47 52.5 -0.5**
3.9nm,0.3s,baz=283,slow=14,SNR=46
NEW LR LR 22 51 02.6
comp=Z,994nm,19.6s,baz=266,slow=37
NEW Newport 7.91 91 Pn **Pn** **22 47 52.4 -0.7**
T35M Bob Quinn 8.00 355 P **Pn** **22 47 56.6 +2.5**
KSXB Camp Six Broad 8.05 151 **Pn** **22 47 56.2 +1.2**
L04D Klamath Falls 8.28 143 **Pn** **22 48 00.5 +2.3**
KRMB Red Mountain 8.33 153 **Pn** **22 47 59.7 +1.0**
BDMTA Bald Mountain 8.51 43 P **Pn** **22 48 03.9 +2.8**
YBH Yreka Blue Hor 8.54 146 Pn **Pn** **22 48 04.3 +2.6**
0.8nm,0.3s,baz=332,slow=15,SNR=106
YBH LR LR 22 50 59.7
comp=Z,670nm,19.2s,baz=334,slow=35
33nm,0.8s
BRLDA Berland Lookou 8.82 51 P **Pn** **22 48 08.2 +2.7**
JCC Jacoby Creek, 8.94 155 **Pn** **22 48 07.5 +0.4**
KHMM Horse Mountain 8.97 153 Pn **Pn** **22 48 08.8 +1.2**
BMO Blue Mountains 9.03 113 **Pn** **22 48 08.5 +0.1**
NBC5 NorthernBC 5 9.31 22 P **Pn** **22 48 14.3 +2.2**
DLBC Dease Lake 9.44 357 Pn **Pn** **22 48 15.2 +1.3**
0.3nm,0.3s,baz=188,slow=13,SNR=7.4
DLBC Sn **Sn** **22 49 54.3 -5.8**
0.2nm,0.3s,baz=180,slow=20,SNR=1.4
DLBC LR LR 22 51 58.1
comp=Z,582nm,18.8s,baz=174,slow=38
7.4nm,1.0s
DLBC Dease Lake 9.44 357 Pn **Pn** **22 48 14.9 +1.0**
DLBC Dease Lake 9.44 357 P **Pn** **22 48 15.6 +1.6**
BSMT Bassoo Peak 9.53 92 P **Pn** **22 48 13.1 -2.3**
SWHSA Sweathouse Loo 9.57 48 P **Pn** **22 48 16.8 +1.0**
JTMT Jette 9.89 92 Pn **Pn** **22 48 19.6 -0.5**
JTMT Jette 9.89 92 P **Pn** **22 48 18.5 -1.7**
WALA Waterton Lakes 9.92 84 Pn **Pn** **22 48 21.2 +0.6**
WALA Waterton Lakes 9.92 84 P **Pn** **22 48 21.7 +1.1**
MSO Missoula 10.35 97 Pn **Pn** **22 48 26.3 -0.3**
R33M Jennings River 10.45 354 P **Pn** **22 48 31.1 +3.4**
FNBB Fort Nelson 10.48 17 P **Pn** **22 48 29.4 +1.2**
NBC6 NorthernBC 6 10.58 22 P **Pn** **22 48 31.9 +2.4**
EDM Edmonton 10.70 61 Pn **Pn** **22 48 31.7 +0.6**
EDM Edmonton 10.70 61 P **Pn** **22 48 31.9 +0.8**
MFID Camas Ranch 10.72 117 Pn **Pn** **22 48 32.5 +1.0**
OVMT Ovando 10.90 94 P **Pn** **22 48 33.3 -0.8**
HOPS Hopland Field 10.90 155 **Pn** **22 48 35.1 +1.1**
P32M Atlin 10.93 347 P **Pn** **22 48 36.6 +2.4**
BEKR Beckworth 11.05 143 **Pn** **22 48 37.2 +1.1**
PLBC Pleasant Camp 11.29 340 P **Pn** **22 48 41.8 +2.7**
P33M Teslin, Yukon 11.41 350 P **Pn** **22 48 45.7 +4.7**
HLID Hailey 11.48 113 Pn **Pn** **22 48 42.4 +0.4**
AFDM Forest Hills D 11.62 147 Pn **Pn** **22 48 44.8 +1.0**
LRM Limekiln Ridge 11.67 100 **Pn** **22 48 44.0 -0.6**
BCYI Bear Canyon 11.71 108 Pn **Pn** **22 48 45.4 +0.2**
WHY Whitehorse 12.12 346 Pn **Pn** **22 48 52.0 +1.3**
WHY Whitehorse 12.12 346 P **Pn** **22 48 54.9 +4.2**
BOZ Bozeman (W) 12.29 100 Pn **Pn** **22 48 52.2 -0.8**
O29M Mount Kennedy 12.56 338 P **Pn** **22 48 59.3 +2.7**
CMB Columbia Colle 12.64 147 **Pn** **22 48 59.1 +1.4**
YUK7 Dusty Glacier 12.65 339 P **Pn** **22 49 00.2 +2.3**
HYT Haines Junctio 12.77 341 P **Pn** **22 49 01.2 +1.7**
ELK Elko 12.79 125 Pn **Pn** **22 49 03.1 +3.1**
0.1nm,0.3s,baz=311,slow=12,SNR=5.9
ELK LR LR 22 53 47.7
comp=Z,82nm,20.4s,baz=316,slow=36
EGMT Eagleton 12.81 87 **Pn** **22 49 00.3 +0.3**
PCA Pinnacle 12.84 344 P **Pn** **22 49 02.3 +2.0**
SAMH Samovar Hills 13.02 333 P **Pn** **22 49 04.8 +2.0**
YUK6 Outpost Mounta 13.07 339 P **Pn** **22 49 06.6 +3.0**
NVAR Mina Array Bea 13.11 140 Pn **Pn** **22 49 07.5 +3.1**
0.1nm,0.3s,baz=297,slow=6.5,SNR=27
NVAR LR LR 22 53 56.9
comp=Z,337nm,18.9s,baz=315,slow=36
4.1nm,0.8s
NVAR Mina Array Bea 13.11 140 **Pn** **22 49 06.3 +1.9**
YHH Holmes Hill 13.12 102 Pn **Pn** **22 49 06.2 +1.7**
NV11 Mina Array Sit 13.17 140 Pn **Pn** **22 49 07.2 +2.1**
N30M Aishikik Lake 13.26 343 P **Pn** **22 49 10.3 +4.2**
TABL Table Mountain 13.38 333 P **Pn** **22 49 09.9 +2.0**
YUK4 Talbot Arm 13.49 340 P **Pn** **22 49 10.2 +0.9**
LOGN Logan Glacier 13.65 334 **Pn** **22 49 12.4 +0.9**
LOGN Logan Glacier 13.65 334 P **Pn** **22 49 13.5 +2.0**
MMPY Sheldon Lake, 13.68 356 P **Pn** **22 49 16.3 +4.5**
CTGM Chitina Glacie 13.86 334 **Pn** **22 49 15.4 +1.1**
CTGM Chitina Glacie 13.86 334 P **Pn** **22 49 15.9 +1.5**
TPH Tonopah 13.88 138 **Pn** **22 49 16.1 +1.3**
BGU Big Grassy Mou 13.90 120 Pn **Pn** **22 49 17.2 +2.2**
PMPB Monarch Peak 14.15 152 **Pn** **22 49 19.0 +0.6**
M30M Minto, Yukon 14.24 345 P **Pn** **22 49 21.7 +2.2**
YUK3 Moose Creek 14.30 338 P **Pn** **22 49 22.1 +1.7**
HWUT Hardware Ranch 14.32 115 Pn **Pn** **22 49 21.8 +0.9**
PTPK Patty Peak 14.37 333 P **Pn** **22 49 22.1 +0.8**
YUK2 White River 14.40 337 P **Pn** **22 49 23.6 +1.8**
M29M Somme Creek 14.43 342 P **Pn** **22 49 24.7 +2.6**
DUG Dugway, Tooele 14.51 121 **Pn** **22 49 24.8 +1.4**
MCARA McCarthy VSAT 14.69 333 **Pn** **22 49 26.5 +0.9**
PAGB Antelope Grade 14.77 151 **Pn** **22 49 27.1 +0.3**
PD31 Pinedale Array 14.90 108 **Pn** **22 49 29.0 +0.1**
PDAR Pinedale Array 14.90 108 Pn **Pn** **22 49 31.3 +2.5**
0.1nm,0.3s,baz=311,slow=14,SNR=21
PDAR LR LR 22 55 30.1
comp=Z,318nm,20.0s,baz=302,slow=38
PDAR Pinedale Array 14.90 108 Pn **Pn** **22 49 30.3 +1.4**
L29M L29M 14.97 344 P **Pn** **22 49 31.4 +2.0**
M27K Edge Creek, AK 15.15 337 **Pn** **22 49 31.6 -0.3**
M27K IAmb IAmb 22 49 40.3
comp=Z,15nm,0.9s
M27K Edge Creek, AK 15.15 337 P **Pn** **22 49 34.4 +2.5**
TPNV Topopah Spring 15.24 138 Pn **Pn** **22 49 34.6 +1.3**
TPNV IAmb IAmb 22 49 53.6
comp=Z,19nm,1.1s
ISA Isabella, Lake 15.44 146 **Pn** **22 49 36.4 +0.6**
ISA IAmb IAmb 22 49 51.8
comp=Z,15nm,1.1s
LAO LASA Array 15.46 90 **Pn** **22 49 35.8 -0.3**
LAO IAmb IAmb 22 49 46.5
comp=Z,57nm,1.3s
LAO LASA Array 15.46 90 P **Pn** **22 49 35.8 -0.3**
baz=287
K29M Barlow Dome 15.55 346 P **P** **22 49 39.8 -1.7**
YKA Yellowknife Ar 15.68 25 Pn **Pn** **22 49 38.2 -0.5**
comp=Z,0.3nm,0.3s,baz=215,slow=12,SNR=12
YKA LR LR 22 56 22.9
comp=Z,119nm,21.6s,baz=184,slow=39
comp=Z,3.3nm,0.7s
YKA Yellowknife Ar 15.68 25 Pn **Pn** **22 49 39.5 +0.9**
GWY Greenwater Val 15.70 140 Pn **Pn** **22 49 39.5 +0.2**
BCAR Beaver Creek A 15.72 338 Pn **Pn** **22 49 40.0 +0.7**
L27K Beaver Creek, 15.73 338 Pn **Pn** **22 49 40.4 +1.0**
L27K IAmb IAmb 22 49 46.8
comp=Z,19nm,1.0s
L27K Beaver Creek, 15.73 338 P **Pn** **22 49 41.4 +2.1**
BCW Bitter Crk WRg 15.77 150 Pn **Pn** **22 49 39.7 -0.4**
BCW IAmb IAmb 22 49 56.4
comp=Z,32nm,1.1s
QSM Queen of Sheba 15.81 141 Pn **Pn** **22 49 41.1 +0.6**
QSM IAmb IAmb 22 49 53.6
comp=Z,26nm,0.9s
MSU Marysvale 16.04 125 **Pn** **22 49 44.1 +0.4**
CCAC Calif City Air 16.07 146 Pn **Pn** **22 49 44.6 +0.7**
CCAC IAmb IAmb 22 50 06.9
comp=Z,16nm,0.9s
DAWY Dawson 16.08 343 Pn **Pn** **22 49 44.2 +0.3**
DAWY Dawson 16.08 343 P **P** **22 49 46.2 -1.1**
DGMT Dagmar 16.36 83 Pn **Pn** **22 49 47.0 -0.6**
DGMT IAmb IAmb 22 49 54.9
comp=Z,54nm,1.1s
DGMT Dagmar 16.36 83 P **Pn** **22 49 47.8 +0.2**
baz=282,SNR=5.8
GSC Goldstone, Bar 16.41 142 Pn **Pn** **22 49 48.5 +0.3**
GSC IAmb IAmb 22 50 04.4
comp=Z,23nm,1.3s
KDAK Kodiak Island 16.48 311 LR LR 22 54 11.6
comp=Z,212nm,20.4s,baz=137,slow=31
SRU San Rafael Swe 16.54 120 Pn **Pn** **22 49 50.6 +0.6**
SRU IAmb IAmb 22 50 04.6
comp=Z,24nm,0.8s
DOT Dot Lake 16.78 336 P **Pn** **22 49 53.9 +1.0**
K22A Casper 16.89 104 **Pn** **22 49 54.5 +0.1**
K22A IAmb IAmb 22 49 60.0
comp=Z,29nm,0.8s
K22A Casper 16.89 104 P **Pn** **22 49 55.5 +1.1**
baz=300
SCRK Sand Creek 17.03 337 Pn **Pn** **22 49 56.4 +0.3**
EGAK Eagle 17.07 342 Pn **Pn** **22 49 56.8 +0.5**

I29M Ogilvie Camp, 17.09 347 P **Pn** **22 49 57.6 +0.9**
J26L Joseph Creek 17.36 339 P **P** **22 50 01.2 -0.3**
J26L IAmb IAmb 22 50 06.9
comp=Z,21nm,1.1s
FFC Flin Flon 17.57 61 Pn **Pn** **22 50 01.0 -1.7**
FFC Flin Flon 17.57 61 P **Pn** **22 50 01.6 -1.1**
ELS Elsinore Mount 17.63 146 Pn **Pn** **22 50 03.6 -0.1**
RSSD Black Hills 17.82 97 **P** **22 50 06.9 0.0**
RSSD IAmb IAmb 22 50 12.3
comp=Z,26nm,0.9s
RSSD Black Hills 17.82 97 P **P** **22 50 08.7 +1.8**
baz=295,SNR=17
EPYK Eagle Plains 17.84 350 P **P** **22 50 08.5 +1.8**
W13A Hualapai Mount 17.84 136 P **Pn** **22 50 06.8 +0.4**
I27K Kandik River 17.89 343 P **P** **22 50 09.3 +2.0**
J25K Salcha River, 17.90 337 P **P** **22 50 07.5 0.0**
I26K Coal Creek Min 17.95 341 P **Pn** **22 50 07.4 +0.1**
I26K IAmb IAmb 22 50 10.8
comp=Z,26nm,1.4s
PFO Pinyon Flats O 18.02 144 P **Pn** **22 50 09.1 +0.5**
comp=Z,0.1nm,0.3s,baz=339,slow=8.6,SNR=5.1
PFO LR LR 22 57 29.3
comp=Z,84nm,18.2s,baz=326,slow=38
comp=Z,2.7nm,0.8s
PFO Pinyon Flats O 18.02 144 Pn **Pn** **22 50 08.0 -0.6**
PMD Palm Desert 18.02 144 **Pn** **22 50 07.8 -0.6**
PMD IAmb IAmb 22 50 17.6
comp=Z,7.6nm,1.1s
PV07 Paradox Valley 18.07 118 P **Pn** **22 50 09.7 +0.4**
PV07 IAmb IAmb 22 50 26.2
comp=Z,22nm,0.9s
N23A Red Feather La 18.19 108 P **Pn** **22 50 11.2 +0.5**
N23A IAmb IAmb 22 50 30.9
comp=Z,22nm,1.0s
MCK McKinley 18.27 331 **P** **22 50 12.0 +0.5**
MCK IAmb IAmb 22 50 14.2
comp=Z,23nm,1.1s
H27K Steamboat Moun 18.43 344 P **P** **22 50 14.4 +1.2**
IL31 18.43 335 P **P** **22 50 13.0 -0.1**
ILAR Eielson Array 18.43 335 P **P** **22 50 11.3 -1.9**
comp=Z,0.1nm,0.3s,baz=146,slow=10,SNR=15
ILAR LR LR 22 56 33.8
comp=Z,251nm,21.5s,baz=131,slow=35
comp=Z,1.4nm,0.6s
ILAR Eielson Array 18.43 335 P **P** **22 50 13.3 +0.1**
WRH Wood River Hil 18.55 334 P **P** **22 50 14.4 0.0**
WRH IAmb IAmb 22 50 16.6
comp=Z,38nm,1.3s
CCB Clear Creek Bu 18.59 334 P **P** **22 50 15.4 +0.4**
CCB IAmb IAmb 22 50 17.8
comp=Z,50nm,1.3s
PRP Porcupine Dome 18.67 338 P **Pn** **22 50 16.5 +0.1**
BLYC Blythe 18.69 139 P **P** **22 50 16.9 +0.7**
COLA College 18.78 335 P **P** **22 50 17.4 +0.4**
COLA IAmb IAmb 22 50 21.0
comp=Z,84nm,1.4s
TCOL CIGO, UAF Yank 18.78 335 P **P** **22 50 17.5 +0.5**
TCOL IAmb IAmb 22 50 21.0
comp=Z,74nm,1.4s
G27K Doyon Strip 18.97 345 P **Pn** **22 50 20.2 +0.3**
MVCO Mesa Verde 19.00 121 P **Pn** **22 50 21.1 +0.4**
MVCO IAmb IAmb 22 50 28.2
comp=Z,30nm,0.9s
ISCO Idaho Springs 19.03 110 P **P** **22 50 20.4 +0.2**
ISCO Idaho Springs 19.03 110 P **Pn** **22 50 22.4 +1.4**
baz=307,SNR=9.1
E28A Huff 19.14 87 P **P** **22 50 21.1 0.0**
E28A Huff 19.14 87 P **Pn** **22 50 22.1 +0.2**
baz=288
BPAW Bear Paw Mtn. 19.19 330 P **P** **22 50 21.2 -0.3**
INK Inuvik 19.46 355 P **P** **22 50 23.0 -1.4**
comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=3.7
INK LR LR 22 58 11.9
comp=Z,443nm,18.7s,baz=153,slow=38
comp=Z,1.2nm,0.3s
FYU Fort Yukon 19.47 340 **Pn** **22 50 26.0 +0.2**
FYU IAmb IAmb 22 50 29.2
comp=Z,38nm,1.2s
L19K White Mountain 19.48 322 P **P** **22 50 24.9 +0.2**
L19K IAmb IAmb 22 50 27.9
comp=Z,36nm,1.4s
MDND Maddock 19.50 82 P **Pn** **22 50 26.1 -0.1**
ESJX Sierra Juarez 19.65 145 P **P** **22 50 27.1 +0.2**
MLY Manley 19.74 332 P **P** **22 50 28.2 +0.6**
MLY IAmb IAmb 22 50 39.6
comp=Z,28nm,1.4s
BMAR Burnt Mountain 20.07 342 P **P** **22 50 30.7 -0.5**
I21K Tanana 20.23 332 P **P** **22 50 32.0 -0.8**
I21K IAmb IAmb 22 50 37.8
comp=Z,15nm,1.1s
SDCO Great Sand Dun 20.39 115 P **P** **22 50 35.1 0.0**
SDCO IAmb IAmb 22 50 43.6
comp=Z,12nm,1.1s
SDCO Great Sand Dun 20.39 115 P **P** **22 50 36.5 +1.4**
baz=311,SNR=6.7
C36M Paulatuk 20.52 5 P **P** **22 50 33.0 -2.9**
C36M IAmb IAmb 22 50 40.2
comp=Z,46nm,1.3s
214A Organ Pipe Nat 20.97 138 P **P** **22 50 40.5 -0.6**
PIX Pinacate 21.03 140 P **P** **22 50 41.1 -0.6**
IMAR Indian Mountai 21.31 332 P **P** **22 50 44.2 -0.4**
KSCO Kaye Shedlock' 21.36 108 P **P** **22 50 48.1 +2.7**
baz=307
D32A Dogwood Acres, 21.38 83 P **P** **22 50 46.5 +1.1**
D32B Dogwood Acres, 21.38 83 P **P** **22 50 47.3 +1.9**
baz=287,SNR=7.1
ULM Lac du Bonnet 21.40 74 P **P** **22 50 46.2 +0.7**
comp=Z,29nm,0.7s,baz=282,slow=12,SNR=15
ULM LR LR 22 59 28.1
comp=Z,445nm,18.4s,baz=264,slow=37
ULM Lac du Bonnet 21.40 74 P **P** **22 50 45.6 +0.1**
ULM Lac du Bonnet 21.40 74 P **P** **22 50 44.8 -0.8**
TUC Tucson 21.59 134 P **P** **22 50 48.1 +0.2**
ANMO Albuquerque 21.78 122 P **P** **22 50 52.3 +2.4**
comp=Z,4.0nm,0.9s,baz=314,slow=8.7,SNR=10
comp=Z,4.0nm,0.9s
ANMO Albuquerque 21.78 122 P **P** **22 50 49.9 -0.2**
ANMO IAmb IAmb 22 50 59.8
comp=Z,12nm,0.9s
ANMO Albuquerque 21.78 122 P **P** **22 50 52.4 +2.4**
baz=317,SNR=19
AGMN Agassiz Nation 21.82 79 P **P** **22 50 50.1 0.0**
AGMN Agassiz Nation 21.82 79 P **P** **22 50 51.2 +1.1**
baz=285,SNR=29
F33A 5 Mile Ranch, 22.26 86 P **P** **22 50 55.4 +0.5**
F33A 5 Mile Ranch, 22.26 86 P **P** **22 50 56.0 +1.0**
baz=290,SNR=17
BNM Barren Site 22.27 124 P **P** **22 50 57.2 +1.8**
FCC Fort Churchill 22.51 51 P **P** **22 50 57.1 -0.3**
FCC Fort Churchill 22.51 51 P **P** **22 50 57.5 +0.1**
ECSD EROS Data Cent 22.86 91 P **P** **22 51 00.9 -0.3**
ECSD IAmb IAmb 22 51 11.4
comp=Z,18nm,0.8s
ECSD EROS Data Cent 22.86 91 P **P** **22 51 00.7 -0.5**
baz=295,SNR=12
EPLO Experimental L 22.87 75 P **P** **22 50 60.0 -1.4**
B35A Bob, Littlefor 23.18 78 P **P** **22 51 04.2 -0.3**
B35A Bob, Littlefor 23.18 78 P **P** **22 51 04.3 -0.2**
baz=285,SNR=15
CBKS Cedar Bluff 23.30 105 P **P** **22 51 06.7 +0.8**
L34A Svendsen Farm, 23.81 95 P **P** **22 51 11.3 +0.5**
baz=299
SOLO Sioux Lookout 23.84 74 P **P** **22 51 10.7 -0.3**
F36A Milaca 24.07 84 P **P** **22 51 14.0 +0.7**
F36A Milaca 24.07 84 P **P** **22 51 14.2 +1.0**
baz=291,SNR=22
ATKO Atikokan Iron 24.42 76 P **P** **22 51 15.9 -0.6**
MSTX Muleshoe 24.59 118 P **P** **22 51 18.2 0.0**
MSTX IAmb IAmb 22 51 30.1
comp=Z,22nm,1.3s
PKLO Pickle Lake 24.64 69 P **P** **22 51 18.4 -0.1**
EYMN Ely 24.73 78 P **P** **22 51 19.7 +0.4**
EYMN Ely 24.73 78 P **P** **22 51 19.7 +0.4**
baz=287,SNR=13
EYMN Ely 24.73 78 P **P** **22 51 20.4 +1.2**
SPMN Marine on St. 24.77 85 P **P** **22 51 21.6 +1.9**
baz=292
N35A Tabor 24.83 97 P **P** **22 51 21.5 +1.2**
baz=301,SNR=9.5
E38A The Farm, Brul 25.10 81 P **P** **22 51 23.3 +0.7**
KSU1 Kansas State U 25.14 101 P **P** **22 51 24.1 +1.1**
KSU1 Kansas State U 25.14 101 P **P** **22 51 26.0 +3.0**
baz=304
TBO Thunder Bay 25.87 76 P **P** **22 51 30.4 +0.9**
N38A Joes South For 26.44 95 P **P** **22 51 34.8 0.0**

N38A Joes South For 26.44 95 P **P** **22 51 36.5 +1.7**
baz=300
WMOK Wichita Mounta 26.44 111 P **P** **22 51 35.1 +0.2**
WMOK IAmb IAmb 22 51 37.1
comp=Z,12nm,1.1s
WMOK Wichita Mounta 26.44 111 P **P** **22 51 34.6 -0.3**
baz=312,SNR=8.9
G40A Rib Lake 26.46 83 P **P** **22 51 35.4 +0.4**
G40A IAmb IAmb 22 51 40.5
comp=Z,12nm,0.8s
I40A Norwalk 26.74 86 P **P** **22 51 39.0 +1.6**
baz=295
COWI Conover 26.85 81 P **P** **22 51 38.6 +0.1**
COWI IAmb IAmb 22 51 46.2
comp=Z,10nm,0.9s
GTO Geraldton 27.12 72 P **P** **22 51 41.9 +1.0**
L40A Anamosa 27.15 90 P **P** **22 51 41.0 -0.2**
baz=298
TXAR Lajitas Array 27.59 126 P **P** **22 51 46.4 +1.1**
comp=Z,0.2nm,0.6s,baz=327,slow=6.5,SNR=2.8
TXAR LR LR 23 02 37.8
comp=Z,103nm,20.6s,baz=316,slow=36
comp=Z,0.2nm,0.6s
I42A Draeger Farm, 27.86 85 P **P** **22 51 48.1 +0.7**
baz=295
P40A Paris 27.87 96 P **P** **22 51 47.7 0.0**
baz=302
N41A Harden Midland 28.05 93 P **P** **22 51 50.1 +0.9**
baz=300,SNR=5.5
JCT Junction City 28.85 119 P **P** **22 51 56.4 -0.1**
JCT IAmb IAmb 22 52 05.8
comp=Z,12nm,0.9s
LPIG La Paz 28.91 143 LR LR 23 03 39.3
comp=Z,84nm,18.4s,baz=7.0,slow=37
MGMO Mountain Grove 29.06 100 P **P** **22 51 57.8 -0.4**
MGMO IAmb IAmb 22 52 11.5
comp=Z,12nm,0.9s
RES Resolute Bay 29.47 18 LR LR 23 02 40.6
comp=Z,84nm,21.5s,baz=162,slow=34
MIAR Mount Ida 29.82 106 P **P** **22 52 04.5 -0.5**
baz=310,SNR=5.0
KAPO Kapuskasing 29.99 71 P **P** **22 52 07.9 +1.5**
LCAR Lake Charles 30.42 101 P **P** **22 52 09.9 -0.4**
LCAR IAmb IAmb 22 52 19.5
comp=Z,9.3nm,1.0s
J47A Sunmer 30.82 84 P **P** **22 52 14.5 +0.7**
baz=297
J47A P **P** **22 52 14.5 +0.7**
baz=297
KILO Kirkland Lake 32.03 72 P **P** **22 52 25.7 +1.3**
OXF Oxford 32.50 102 P **P** **22 52 28.3 -0.4**
EEO Eldee 33.12 75 P **P** **22 52 34.5 +0.6**
CLWO Collingwood 33.23 79 P **P** **22 52 35.5 +0.5**
NMSQ Nemaska Statio 33.29 65 P **P** **22 52 36.4 +1.1**
BUKO Buck Lake 33.39 77 P **P** **22 52 37.0 +0.6**
R50A Paris 33.62 92 P **P** **22 52 39.2 +0.8**
baz=304
R50A P **P** **22 52 39.2 +0.8**
baz=304
SADO Sadowa 33.84 78 LR LR 23 06 40.3
comp=Z,396nm,20.2s,baz=350,slow=36
SADO Sadowa 33.84 78 P **P** **22 52 39.5 -0.7**
SADO Sadowa 33.84 78 P **P** **22 52 39.9 -0.3**
LG4Q La Grande 4 33.89 61 P **P** **22 52 41.4 +0.8**
M53A WI Miller and 34.38 84 P **P** **22 52 44.7 -0.2**
S51A Beattyville 34.45 92 P **P** **22 52 46.2 +0.5**
baz=304
S51A P **P** **22 52 46.2 +0.5**
baz=304
BANO Bancroft 34.51 77 P **P** **22 52 46.7 +0.6**
N53A Lisbon 34.59 85 P **P** **22 52 47.2 +0.5**
baz=300
N53A P **P** **22 52 47.2 +0.5**
baz=300
FRB Frobisher Bay 35.05 42 LR LR 23 07 33.8
comp=Z,147nm,19.0s,baz=222,slow=37
VABQ Val Des Bois 35.62 74 P **P** **22 52 55.0 -0.5**
GAC Glen Almond 35.78 75 P **P** **22 52 56.9 -0.1**
V53A Saluda 36.10 94 P **P** **22 53 00.7 +0.8**
baz=306,SNR=6.4
V53A P **P** **22 53 00.7 +0.8**
baz=306,SNR=6.4
J59A Piesco 37.41 77 P **P** **22 53 10.2 -0.7**
J59A IAmb IAmb 22 53 21.8
comp=Z,16nm,1.1s
SCHQ Schefferville 37.65 57 LR LR 23 09 03.1
comp=Z,650nm,18.2s,baz=290,slow=36
SFJD Kangerlussuaq 41.90 35 LR LR 23 09 26.6
comp=Z,134nm,20.2s,baz=286,slow=33
DRLN Deer Lake 45.12 61 P **P** **22 54 15.1 +0.9**
NRS Narsarsuaq 46.05 42 P **P** **22 54 23.6 +2.3**
BORG Borgarnes 52.53 31 LR LR 23 17 03.6
comp=Z,39nm,18.1s,baz=315,slow=35
H11N2 WAKE ISLAND Hy 58.43 264 T T 23 59 03.8
baz=44,slow=75,SNR=53
H11N3 WAKE ISLAND Hy 58.43 264 T T 23 59 01.1
baz=44,slow=75,SNR=56
H11N1 WAKE ISLAND Hy 58.45 264 T T 23 59 00.6
baz=44,slow=75,SNR=37
H11S1 WAKE ISLAND Hy 59.44 263 T T 00 00 14.3
baz=49,slow=76,SNR=8.0
H11S2 WAKE ISLAND Hy 59.45 263 T T 00 00 30.4
baz=49,slow=76,SNR=7.7
H11S3 WAKE ISLAND Hy 59.45 263 T T 00 00 18.9
baz=49,slow=76,SNR=6.1
ROSC El Rosal 63.76 115 LR LR 23 27 28.6
comp=Z,30nm,18.4s,baz=38,slow=39
NOA NORSAR Array B 65.70 20 LR LR 23 24 50.6
comp=Z,34nm,19.8s,baz=65,slow=35
FINES FINESS Array B 68.07 13 P **P** **22 56 55.6 -1.5**
comp=Z,1.2nm,0.8s,baz=339,slow=7.4,SNR=2.7
comp=Z,1.2nm,0.8s
SONM Songino Array 72.26 324 P **P** **22 57 21.3 -2.0**
comp=Z,0.4nm,0.6s,baz=23,slow=7.8,SNR=2.2
SONM LR LR 23 28 15.6
comp=Z,88nm,21.8s,baz=39,slow=35
comp=Z,0.4nm,0.6s
KIRV Kirov 72.74 1 LR LR 23 34 34.6
comp=Z,54nm,19.9s,baz=25,slow=40
ZALV Zalesovo Beam 73.49 340 P **P** **22 57 28.6 -1.7**
comp=Z,0.7nm,0.6s,baz=5.7,slow=4.3,SNR=2.3
comp=Z,0.7nm,0.6s
ARU Arti 74.72 356 P **P** **22 57 36.3 -1.1**
comp=Z,2.6nm,0.6s,baz=0.8,slow=12,SNR=5.6
comp=Z,2.6nm,0.6s
HHC Hu-ho-hao-te 75.80 317 *eP* **P** **22 57 46.1 +2.0**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,200nm,6.2s
BVAR Borovoye Array 76.99 348 P **P** **22 57 49.7 -0.8**
comp=Z,0.4nm,0.6s,baz=18,slow=5.3,SNR=3.8
BVAR LR LR 23 35 43.6
comp=Z,35nm,18.6s,baz=44,slow=39
comp=Z,0.4nm,0.6s
MDP Montagnes des 77.23 97 LR LR 23 37 44.7
comp=Z,31nm,18.3s,baz=288,slow=40
KURBB Kurchatov Arra 77.95 342 P **P** **22 57 54.1 -1.8**
comp=Z,1.5nm,0.8s,baz=15,slow=5.6,SNR=9.2
comp=Z,1.5nm,0.8s
ESDC Sonseca Array 79.22 40 P **P** **22 58 03.4 +0.3**
comp=Z,1.0nm,0.9s,baz=342,slow=8.1,SNR=2.0
comp=Z,1.0nm,0.9s
AKTO Aktyubinsk 80.73 355 P **P** **22 58 09.9 -1.1**
comp=Z,1.9nm,0.9s,baz=0.9,slow=3.0,SNR=5.3
AKTO LR LR 23 36 52.5
comp=Z,19nm,19.1s,baz=17,slow=38
comp=Z,1.9nm,0.9s
MKAR Makanchi Array 80.75 339 P **P** **22 58 08.8 -2.4**
comp=Z,0.6nm,0.7s,baz=23,slow=6.6,SNR=5.5
MKAR LR LR 23 35 48.3
comp=Z,47nm,21.1s,baz=323,slow=37
comp=Z,0.6nm,0.7s
MKAR Makanchi Array 80.75 339 P **P** **22 58 10.0 -1.2**
MAKZ Makanchi 80.81 339 P **P** **22 58 10.5 -1.1**
MAKZ IAmb IAmb 22 58 11.1
comp=Z,3.2nm,0.9s
MSVF Nonsavu 81.37 230 LR LR 23 27 50.1
comp=Z,46nm,18.3s,baz=15,slow=31
ABKAR Akbulak array 81.79 354 P **P** **22 58 15.9 -0.7**
ABKAR IAmb IAmb 22 58 16.8
comp=Z,4.0nm,1.2s
ABKAR Akbulak array 81.79 354 P **P** **22 58 16.0 -0.7**
WMQ Urumqi 82.09 334 *eP* **P** **22 58 21.3 +2.8**
MLR Muntele Rosu 83.35 17 LR LR 23 34 22.1
comp=Z,48nm,18.6s,baz=21,slow=35
LPAZ La Paz 84.39 123 P **P** **22 58 31.7 +0.5**

comp=Z,1.9nm,0.8s,baz=338,slow=5.4,SNR=3.0

LPAZ					LR	LR	23 38 26.6		
	comp=Z,30nm,19.3s,baz=292,slow=37								
	comp=Z,1.9nm,0.8s								
AAK	**Ala-Archa**	**86.40**	**343**		LR	LR	23 42 45.4		
	comp=Z,26nm,18.2s,baz=58,slow=40								
KKAR	**Karatay Array**	**86.66**	**346**		P	**P**	**22 58 40.4**	**-1.2**	
LVC	**Limon Verde**	**89.12**	**127**		LR	LR	23 37 37.0		
	comp=Z,12nm,21.4s,baz=269,slow=35								
BRTR	**Keskin Array B**	**90.30**	**13**		LR	LR	23 41 21.6		
	comp=Z,38nm,18.3s,baz=358,slow=37								
PZH	**PanZhiHua**	**92.23**	**316**		P	**P**	**22 59 10.1**	**+1.9**	
PZH					pmax	pmax			
	comp=Z,10.0nm,0.7s								
PZH					pmax	pmax			
	comp=Z,100nm,4.4s								
PMG	**Port Moresby**	**93.01**	**259**		LR	LR	23 34 16.4		
	comp=Z,32nm,20.7s,baz=328,slow=31								
BBTS	**Babate**	**93.11**	**64**		LR	LR	23 38 41.3		
	comp=Z,58nm,19.9s,baz=352,slow=34								
DAV	**Davao City (W)**	**94.67**	**286**		LR	LR	23 34 44.5		
	comp=Z,30nm,21.9s,baz=348,slow=31								
RCBR	**Riachuelo**	**96.40**	**91**		LR	LR	23 37 44.9		
	comp=Z,22nm,19.7s,baz=100,slow=32								

IDC ***17*** *22:52:29.5±1.6,2°.02S×140°.91E, h0km, mb3.4/4, mbtmp3.5/5, ML4.0/2, MS2.9/1, Error ellipse: s-maj=58.2km s-min=25.8km az=96.0*

DJA ***17*** *22:52:37.2±0.5,3°.5S×14°.0E±°, h10km, M3.0/3, MLv3.0/3*

ISC 17 22:52:31.3±1.2, 1.79S±0.08×140.4E±0.2, h10km, n9, σ1s92/9, mb3.3/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.83**	**196**	P	**Pg**	**22 52 48.5**	**+1.2**
GENI				S	**Sg**	**22 52 58.3**	**+0.2**
SMPI	**Sarmi**	**1.70**	**263**	P	**Pn**	**22 52 59.4**	**-1.6**
WAMI	**Wamena**	**2.68**	**219**	P	Pn	22 53 03.5	-11
GUMO	**Guam**	**15.91**	**16**	Pn	**Pn**	**22 56 14.1**	**-1.4**
	3.0nm,0.3s,baz=188,slow=16,SNR=2.8						
GUMO				LR	LR	23 01 49.0	
	comp=Z,40nm,20.7s,baz=315,slow=35						
WRA	**Warramunga Arr**	**18.99**	**198**	P	**P**	**22 56 51.6**	**-1.6**
	0.3nm,0.3s,baz=24,slow=12,SNR=14						
	0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.74**	**221**	P	**P**	**22 57 23.2**	**+0.2**
	0.9nm,0.7s,baz=53,slow=9.1,SNR=1.6						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**22.64**	**196**	P	**P**	**22 57 31.6**	**-1.1**
	0.4nm,0.4s,baz=27,slow=11,SNR=12						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**70.11**	**322**	P	**P**	**23 03 47.3**	**+3.3**
	0.1nm,0.4s,baz=97,slow=7.3,SNR=1.8						
	0.1nm,0.4s						
VNDA	**Vanda**	**76.55**	**175**	P	**P**	**23 04 20.3**	**-1.0**
	0.7nm,0.6s,baz=330,slow=6.6,SNR=7.5						
	0.7nm,0.6s						

IDC 17 23:03:04.4±3.7, 0°.50S×96°.78E, h0km, mb3.4/2, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=142.1km s-min=30.8km az=62.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.96**	**6**	P	P	23 07 27.1	-0.3
	0.2nm,0.3s,baz=202,slow=11,SNR=4.3						
	0.5nm,0.4s						
H08S2	**Diego Garcia H**	**25.23**	**253**	T	T	23 34 43.6	
	baz=74,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**25.23**	**253**	T	T	23 34 43.9	
	baz=74,slow=75,SNR=27						
H08S1	**Diego Carcia H**	**25.25**	**253**	T	T	23 34 49.6	
	baz=74,slow=75,SNR=4.1						
H01W3	**Cape Leeuwin H**	**37.85**	**156**	T	T	23 51 02.9	
	baz=333						
H01W2	**Cape Leeuwin H**	**37.87**	**156**	T	T	23 51 00.4	
	baz=333						
H01W1	**Cape Leeuwin H**	**37.87**	**156**	T	T	23 51 00.0	
	baz=333						
ASAR	**Alice Springs**	**42.74**	**125**	P	P	23 11 03.7	-0.1
	0.2nm,0.4s,baz=297,slow=8.8,SNR=4.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**48.78**	**347**	P	P	23 11 51.3	0.0
	0.5nm,0.6s,baz=157,slow=8.7,SNR=6.1						
	0.5nm,0.6s						

IDC 17 23:22:10.5±5.5, 35°.03S×54°.28E, h0km, mb3.6/3, mbtmp3.6/3, MS3.6/2, Error ellipse: s-maj=663.4km s-min=36.0km az=24.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**31.97**	**36**	T	T	00 02 56.0	
	baz=208						
H08S2	**Diego Garcia H**	**31.98**	**36**	T	T	00 02 55.6	
	baz=208,slow=75						
H08S3	**Diego Garcia H**	**31.99**	**36**	T	T	00 02 57.1	
	baz=208,slow=75						
H01W2	**Cape Leeuwin H**	**48.38**	**108**	T	T	00 22 31.1	
	baz=250						
H01W3	**Cape Leeuwin H**	**48.39**	**108**	T	T	00 22 30.9	
	baz=250						
H01W1	**Cape Leeuwin H**	**48.40**	**108**	T	T	00 22 34.4	
	baz=250						
QSPA	**South Pole Qui**	**55.15**	**180**	LR	LR	23 53 37.1	
	comp=Z,40nm,19.0s,baz=56,slow=34						
ASAR	**Alice Springs**	**68.68**	**104**	P	P	23 33 16.1	-0.1
	0.2nm,0.7s,baz=227,slow=6.2,SNR=1.9						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**69.11**	**304**	P	P	23 33 18.7	0.0
	0.8nm,1.1s,baz=141,slow=7.3,SNR=2.9						
	0.8nm,1.1s						
WRA	**Warramunga Arr**	**70.92**	**101**	P	P	23 33 30.0	+0.1
	0.5nm,0.7s,baz=236,slow=5.3,SNR=5.3						
	0.5nm,0.7s						
SIJI	**Sorong**	**78.85**	**83**	LR	LR	00 04 19.5	
	comp=Z,56nm,21.3s,baz=257,slow=32						

IDC ***17*** *23:37:16.0±3.0, 3°.27S×140°.30E, h0km, mb3.6/4, mbtmp3.9/6, ML3.8/2, MS3.3/4, Error ellipse: s-maj=72.2km s-min=27.1km az=90.0*

ISC 17 23:37:22.5±2.5, 3°.3S±0°.2×140°.0E±0°.4, h35km, n9, σ0s34/6, mb3.6/3, MS3.4/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.41**	**198**	P	**P**	**23 41 24.0**	**+0.2**
	0.2nm,0.3s,baz=25,slow=12,SNR=11						
	2.7nm,0.9s						
BATI	**Baumata**	**17.60**	**246**	P	**Pn**	**23 41 25.5**	**+0.3**
	1.0nm,0.3s,baz=51,slow=3.0,SNR=4.7						
	13nm,0.6s						
CTA	**Charters Tower**	**17.73**	**160**	LR	LR	23 49 06.5	
	comp=Z,97nm,21.2s,baz=78,slow=40						
FITZ	**Fitzroy Crossi**	**20.33**	**223**	P	**P**	**23 41 55.6**	**-0.3**
	1.8nm,0.7s,baz=45,slow=13,SNR=3.7						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**21.05**	**196**	P	**P**	**23 42 03.6**	**-0.1**
	1.9nm,0.8s,baz=28,slow=10,SNR=24						
ASAR				LR	LR	23 51 53.0	
	comp=Z,151nm,19.7s,baz=186,slow=41						
	1.9nm,0.8s						
STKA	**Stephens Creek**	**28.43**	**177**	LR	LR	23 56 17.7	
	comp=Z,128nm,21.1s,baz=28,slow=40						
KSRS	**Korea Array**	**42.11**	**346**	LR	LR	23 58 45.7	
	comp=Z,8.0nm,21.8s,baz=75,slow=31						
CMAR	**Chiang Mai Arr**	**45.88**	**300**	P	**P**	**23 45 41.6**	**-0.3**
	0.3nm,0.3s,baz=122,slow=6.8,SNR=0.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**71.08**	**322**	P	**P**	**23 48 37.5**	**+0.2**
	0.6nm,0.8s,baz=111,slow=6.9,SNR=4.4						
	0.6nm,0.8s						

NOU ***18*** *00:05:55.3, 37°.14S×179°.69W, h134km, MLv5.0/8, East of North Island, N.Z.*

IDC ***18*** *00:06:01.2±0.8, 36°.81S×179°.14E, h0km, mb4.6/6, mbtmp4.5/8, ML5.0/2, MS3.8/19, Error ellipse: s-maj=24.8km s-min=23.7km az=75.0*

NEIC ***18*** *00:06:03.9±1.6, 37°.0S±0°.1×179°.0E±0°.2, h10km±2km, mb4.8/26, Error ellipse: s-maj=22.8km s-min=15.9km az=128.0*

WEL ***18*** *00:06:04.1±1.2, 37°.5S±1°.×17°.9E±°, h16km±9km, M4.5/69, ML4.7/43, MLv4.5/69, Error ellipse: s-maj=0.0km s-min=0.0km az=107.4*

ISC 18 00:06:06.2±0.6, 37°.09S±0°.06×179°.22E±0°.09, h37km±2km, n208, σ1s37/196, mb4.7/18, MS3.7/18, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.86**	**237**		**Pn**	**00 06 20.1**	**-1.7**
MXZ	**Matakaoa Point**	**0.86**	**237**	P	**Pn**	**00 06 20.2**	**-1.5**
MXZ				S	**Sn**	**00 06 30.7**	**-2.4**
WMGZ	**Waiomatatini S**	**0.96**	**221**	P	**Pn**	**00 06 23.7**	**+0.5**
WMGZ				S	**Sn**	**00 06 37.5**	**+1.9**
PKGZ	**Pakihiroa**	**1.20**	**228**	P	**Pn**	**00 06 26.5**	**0.0**
PKGZ				S	**Sn**	**00 06 42.4**	**+0.8**
PUZ	**Puketiti**	**1.24**	**218**	P	**Pn**	**00 06 27.1**	**+0.2**
PUZ				S	**Sn**	**00 06 44.3**	**+1.9**
HAZ	**Te Kaha**	**1.32**	**239**	P	**Pn**	**00 06 27.0**	**-0.9**
HAZ				S	**Sn**	**00 06 46.6**	**+2.3**
TWGZ	**Tauwhareparae**	**1.46**	**222**	P	**Pn**	**00 06 30.5**	**+0.5**
TWGZ				S	**Sn**	**00 06 50.4**	**+2.5**
RUGZ	**Raukumara Rang**	**1.50**	**234**	P	**Pn**	**00 06 31.4**	**+0.8**
CNGZ	**Carnagh Station**	**1.60**	**210**	P	**Pn**	**00 06 32.1**	**+0.2**
WIZ	**White Island**	**1.67**	**254**	P	**Pn**	**00 06 31.7**	**-1.2**
WSRZ	**White Island S**	**1.68**	**255**	P	**Pn**	**00 06 33.5**	**+0.5**
MWZ	**Matawai**	**1.82**	**227**	P	**Pn**	**00 06 35.2**	**+0.2**
MWZ				S	**Sn**	**00 06 57.6**	**+0.7**
WHRZ	**Whale Island**	**1.94**	**246**	P	**Pn**	**00 06 37.6**	**+1.1**
RIGZ	**Rimuhau**	**1.98**	**215**	P	**Pn**	**00 06 37.1**	**0.0**
RIGZ				S	**Sn**	**00 07 02.0**	**+1.3**
RAGZ	**Rawiri**	**2.00**	**225**	P	**Pn**	**00 06 37.6**	**+0.2**
URZ	**Urewera**	**2.04**	**235**	Pn	**Pn**	**00 06 38.2**	**+0.4**
	168nm,0.3s,baz=342,slow=2.0,SNR=460						
URZ				Sn	**Sn**	**00 07 01.9**	**-0.1**
	153nm,0.3s,baz=262,slow=22,SNR=15						
URZ				LR	LR	00 07 41.3	
	comp=Z,1μm,19.1s,baz=91,slow=46						
	477nm,0.3s						
URZ	**Urewera**	**2.04**	**235**	P	**Pn**	**00 06 38.3**	**+0.4**
URZ	**Urewera**	**2.04**	**235**	P	**Pn**	**00 06 38.3**	**+0.4**
PRGZ	**Paritu Road**	**2.11**	**210**	P	**Pn**	**00 06 38.6**	**-0.3**
MARZ	**Manawahe**	**2.21**	**245**	P	**Pn**	**00 06 40.6**	**+0.3**
EDRZ	**Edgecumbe**	**2.21**	**242**	P	**Pn**	**00 06 41.1**	**+0.7**
SNGZ	**Shannon Statio**	**2.24**	**221**	P	**Pn**	**00 06 41.0**	**+0.2**
OPRZ	**Ohinepanea**	**2.25**	**250**	P	**Pn**	**00 06 40.8**	**+0.1**
KNZ	**Kokohu**	**2.28**	**212**	P	**Pn**	**00 06 40.3**	**-0.9**
MHGZ	**Mahia Peninsul**	**2.30**	**206**	P	**Pn**	**00 06 41.2**	**-0.3**
RTZ	**Ruatahuna**	**2.33**	**229**	P	**Pn**	**00 06 42.4**	**+0.3**
MUGZ	**Murupara**	**2.38**	**234**	P	**Pn**	**00 06 42.6**	**0.0**
MYRZ	**Mayor Island**	**2.38**	**265**	P	**Pn**	**00 06 43.0**	**+0.4**
MKRZ	**Makatiti**	**2.42**	**244**	P	**Pn**	**00 06 44.5**	**+1.3**
TARZ	**Mount Tarawera**	**2.43**	**241**	P	**Pn**	**00 06 44.3**	**+0.8**
TGRZ	**Tauranga**	**2.44**	**254**	P	**Pn**	**00 06 43.7**	**+0.3**
OMRZ	**Omania**	**2.48**	**245**	P	**Pn**	**00 06 44.8**	**+0.9**
RRRZ	**Republican Roa**	**2.48**	**239**	P	**Pn**	**00 06 44.4**	**+0.5**
RAHZ	**Arahi**	**2.48**	**222**	P	**Pn**	**00 06 44.6**	**+0.6**
WHHZ	**Waihua**	**2.52**	**218**	P	**Pn**	**00 06 44.2**	**-0.4**
KARZ	**Kaharoa**	**2.54**	**248**	P	**Pn**	**00 06 45.3**	**+0.6**
HLRZ	**Highlands Stat**	**2.55**	**242**	P	**Pn**	**00 06 46.1**	**+1.1**
MTHZ	**Maungataniwha**	**2.57**	**226**	P	**Pn**	**00 06 45.4**	**+0.2**
MTHZ				S	**Sn**	**00 07 15.8**	**+0.6**
PRRZ	**Plateau Road**	**2.64**	**237**	P	**Pn**	**00 06 46.2**	**0.0**
HRRZ	**Handcock Road**	**2.66**	**240**	P	**Pn**	**00 06 47.1**	**+0.6**
ALRZ	**Allen Road**	**2.71**	**236**	P	**Pn**	**00 06 47.1**	**0.0**
GRRZ	**Galatos Road**	**2.76**	**242**	P	**Pn**	**00 06 49.0**	**+1.1**
ARHZ	**Aropaoanui**	**2.78**	**218**	P	**Pn**	**00 06 47.8**	**-0.4**
MRHZ	**Matea Rd**	**2.81**	**231**	P	**Pn**	**00 06 48.6**	**0.0**
KUZ	**Kuaotunu**	**2.82**	**276**	P	**Pn**	**00 06 47.8**	**-0.9**
BKZ	**Black Stump Fm**	**2.98**	**225**	Pn	**Pn**	**00 06 50.3**	**-0.6**
BKZ	**Black Stump Fm**	**2.98**	**225**	P	**Pn**	**00 06 50.6**	**-0.4**
BKZ	**Black Stump Fm**	**2.98**	**225**	P	**Pn**	**00 06 50.9**	**0.0**
TOZ	**Tauroa Road**	**3.02**	**257**	P	**Pn**	**00 06 51.0**	**-0.4**
KUTZ	**Kaahu Road**	**3.03**	**242**	P	**Pn**	**00 06 52.1**	**+0.6**
CKHZ	**Cape Kidnapper**	**3.06**	**213**	P	**Pn**	**00 06 50.6**	**-1.4**
MCHZ	**McNeill Hill**	**3.07**	**219**	P	**Pn**	**00 06 51.6**	**-0.5**
GRZ	**Great Barrier**	**3.14**	**284**	P	**Pn**	**00 06 52.8**	**-0.1**
TLZ	**Tolley Road**	**3.17**	**246**	P	**Pn**	**00 06 54.0**	**+0.5**
KWHZ	**Kaweka Forest**	**3.20**	**223**	P	**Pn**	**00 06 53.0**	**-0.9**
MKAZ	**Moumakai**	**3.24**	**269**	P	**Pn**	**00 06 53.9**	**-0.6**
RATZ	**Rangitukua**	**3.25**	**236**	P	**Pn**	**00 06 55.2**	**+0.6**
RITZ	**Rihia Road**	**3.25**	**234**	P	**Pn**	**00 06 54.7**	**+0.1**
KAHZ	**Kahuranaki**	**3.26**	**214**	P	**Pn**	**00 06 53.2**	**-1.5**
KATZ	**Kakaramea**	**3.35**	**235**	P	**Pn**	**00 06 56.6**	**+0.5**
KRHZ	**Kereru**	**3.39**	**220**	P	**Pn**	**00 06 55.2**	**-1.3**
TMVZ	**Te Maari**	**3.43**	**233**	P	**Pn**	**00 06 56.7**	**-0.4**
ETAZ	**East Tamaki Re**	**3.43**	**271**	P	**Pn**	**00 06 57.2**	**+0.1**
ETVZ	**East Tongariro**	**3.44**	**233**	P	**Pn**	**00 06 56.8**	**-0.5**
NTVZ	**North Tongarir**	**3.44**	**233**	P	**Pn**	**00 06 56.8**	**-0.4**
BHHZ	**Black Hill Sta**	**3.44**	**225**	P	**Pn**	**00 06 56.7**	**-0.7**
KRVZ	**Karewarewa**	**3.46**	**234**	P	**Pn**	**00 06 57.2**	**-0.4**
PXZ	**Pawanui**	**3.46**	**211**	P	**Pn**	**00 06 55.3**	**-2.2**
MBAZ	**Motutapu North**	**3.48**	**274**	P	**Pn**	**00 06 58.0**	**+0.4**
OTVZ	**Oturere**	**3.48**	**233**	P	**Pn**	**00 06 57.2**	**-0.6**
NNVZ	**North Ngauruho**	**3.49**	**233**	P	**Pn**	**00 06 57.9**	**-0.1**
WTVZ	**West Tongariro**	**3.50**	**234**	P	**Pn**	**00 06 58.3**	**+0.2**
SNVZ	**South Ngauruho**	**3.51**	**232**	P	**Pn**	**00 06 57.7**	**-0.6**
NGZ	**Ngauruhoe**	**3.53**	**233**	P	**Pn**	**00 06 58.0**	**-0.6**
TUVZ	**Tukino**	**3.55**	**231**	P	**Pn**	**00 06 58.3**	**-0.5**
ABAZ	**Army Bay**	**3.55**	**277**	P	**Pn**	**00 07 00.0**	**+1.4**
MOVZ	**Moawhango**	**3.57**	**229**	P	**Pn**	**00 06 58.1**	**-1.0**
TWVZ	**Taurewa**	**3.58**	**235**	P	**Pn**	**00 06 59.1**	**-0.1**
EPAZ	**Eden Park BICE**	**3.59**	**272**	P	**Pn**	**00 07 00.4**	**+1.2**
WHVZ	**Whangaehu Hut**	**3.60**	**231**	P	**Pn**	**00 06 59.1**	**-0.5**
HBAZ	**Herne Bay Bore**	**3.60**	**273**	P	**Pn**	**00 07 00.8**	**+1.4**
FWVZ	**Far West T-bar**	**3.60**	**232**	P	**Pn**	**00 06 59.5**	**-0.2**
WNVZ	**Wahianoa**	**3.62**	**231**	P	**Pn**	**00 06 59.7**	**-0.8**
AWAZ	**Awhitu Peninsu**	**3.66**	**269**	P	**Pn**	**00 07 00.5**	**+0.4**
PNHZ	**Pukenui**	**3.68**	**219**	P	**Pn**	**00 06 58.7**	**-1.7**
WTAZ	**Waiatarua**	**3.72**	**271**	P	**Pn**	**00 07 02.6**	**+1.5**
RVAZ	**Riverhead Bore**	**3.73**	**274**	P	**Pn**	**00 07 01.6**	**+0.5**
MTVZ	**Mangateitei**	**3.73**	**231**	P	**Pn**	**00 07 00.5**	**-0.7**
HIZ	**Hauiti**	**3.73**	**246**	P	**Pn**	**00 07 02.5**	**+1.3**
HIZ	**Hauiti**	**3.73**	**246**	P	**Pn**	**00 07 02.6**	**+1.4**
PRHZ	**Porangahau**	**3.76**	**212**	P	**Pn**	**00 06 59.3**	**-2.3**
TSZ	**Takapari Road**	**3.91**	**220**	P	**Pn**	**00 07 01.7**	**-1.9**
ANWZ	**Angora Road**	**3.98**	**212**	P	**Pn**	**00 07 03.0**	**-1.6**
DVHZ	**Dannevirke**	**3.99**	**216**	P	**Pn**	**00 07 02.7**	**-2.1**
WCZ	**Waipu Caves**	**4.09**	**285**	P	**Pn**	**00 07 06.6**	**+0.5**
WAZ	**Wanganui**	**4.25**	**230**	P	**Pn**	**00 07 08.7**	**-0.6**
POWZ	**Post Office Ro**	**4.25**	**218**	P	**Pn**	**00 07 06.2**	**-2.2**
BFZ	**Birch Farm**	**4.27**	**212**	P	**Pn**	**00 07 05.6**	**-2.9**
PRWZ	**Pori Road**	**4.29**	**215**	P	**Pn**	**00 07 06.8**	**-2.0**
LREZ	**Lake Rotokare**	**4.46**	**237**	P	**Pn**	**00 07 12.2**	**+1.0**
CPWZ	**Castlepoint**	**4.47**	**211**	P	**Pn**	**00 07 09.5**	**-1.9**
TIWZ	**Tintock**	**4.50**	**214**	P	**Pn**	**00 07 09.6**	**-2.2**
PREZ	**Palmer Road**	**4.57**	**239**	P	**Pn**	**00 07 15.3**	**+2.6**
NEZ	**North Egmont**	**4.58**	**240**	P	**Pn**	**00 07 15.0**	**+2.0**
PKE	**Pukeiti**	**4.62**	**241**	P	**Pn**	**00 07 15.5**	**+2.0**
KHEZ	**Kahui Hut**	**4.65**	**240**	P	**Pn**	**00 07 15.9**	**+2.1**
NBEZ	**Newall Road No**	**4.74**	**241**	P	**Pn**	**00 07 18.1**	**+3.0**
NMEZ	**Namu Road**	**4.80**	**240**	P	**Pn**	**00 07 19.3**	**+3.5**
OUZ	**Omahuta**	**4.92**	**291**	P	**Pn**	**00 07 18.2**	**+0.7**
OUZ	**Omahuta**	**4.92**	**291**	P	**Pn**	**00 07 18.6**	**+1.1**
SNZO	**South Karori**	**5.48**	**218**	P	**Pn**	**00 07 21.7**	**-3.4**
QRZ	**Quartz Range**	**6.41**	**232**	P	**Pn**	**00 07 36.3**	**-1.6**
KHZ	**Kahutara**	**6.88**	**218**	P	**Pn**	**00 07 40.4**	**-4.0**
CTZ	**Chatham Island**	**7.36**	**156**	P	**Pn**	**00 07 51.2**	**+0.3**
RPZ	**Rata Peaks**	**9.08**	**221**	Pn	**Pn**	**00 08 11.3**	**-3.3**
	2.4nm,0.3s,baz=73,slow=3.2,SNR=8.1						
RPZ				Sn	Sn	00 09 44.3	-11
	11nm,0.3s,baz=44,slow=19,SNR=16						
WHZ	**Wether Hill Ro**	**12.18**	**220**	P	**Pn**	**00 08 56.2**	**-0.8**
DZM	**Mont Dzumac**	**18.61**	**320**	*e*LR	LR	00 14 50.0	
	comp=Z,776nm,24.3s						
DZM	**Mont Dzumac**	**18.61**	**320**	LR	LR	00 16 33.9	
	comp=Z,459nm,18.6s,baz=220,slow=34						
DZM	**Mont Dzumac**	**18.61**	**320**		**Pn**	**00 10 21.4**	**+0.4**
MSVF	**Nonsavu**	**19.31**	**357**	P	**P**	**00 10 26.5**	**-1.7**
	0.4nm,0.3s,baz=149,slow=19,SNR=2.1						
MSVF				LR	LR	00 16 18.0	
	comp=Z,227nm,21.5s,baz=132,slow=32						
	0.9nm,0.3s						
MSVF	**Nonsavu**	**19.31**	**357**	P	**Pn**	**00 10 29.4**	**-0.1**
CAN	**Canberra**	**24.40**	**265**	P	**P**	**00 11 22.2**	**+1.1**
EIDS	**Eidsvold**	**26.65**	**288**	P	**P**	**00 11 40.1**	**-1.4**
EIDS				IAmb	IAmb	00 12 00.8	
	comp=Z,20nm,1.4s						
TOO	**Toolangi**	**26.74**	**259**	P	**P**	**00 11 42.0**	**-0.3**
TBI	**Tubuai**	**30.18**	**72**	*e*LR	LR	00 19 41.4	
	comp=Z,156nm,26.2s						
TBI	**Tubuai**	**30.18**	**72**	*e*T	T	00 43 41.6	
	comp=Z,26nm,0.4s						
STKA	**Stephens Creek**	**31.30**	**268**	P	**P**	**00 12 23.3**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=90,slow=7.7,SNR=6.0						
STKA				LR	LR	00 23 41.9	
	comp=Z,150nm,21.6s,baz=78,slow=34						
	comp=Z,3.8nm,0.7s						
STKA	**Stephens Creek**	**31.30**	**268**	P	**P**	**00 12 22.7**	**-0.1**
HNR	**Honiara**	**32.59**	**323**	LR	LR	00 23 34.1	
	comp=Z,1μm,19.2s,baz=295,slow=33						
CTA	**Charters Tower**	**33.32**	**291**	P	**P**	**00 12 40.3**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=102,slow=8.6,SNR=3.4						
CTA				LR	LR	00 24 37.2	
	comp=Z,162nm,21.4s,baz=84,slow=34						
	comp=Z,2.4nm,0.5s						
CTAO	**Charters Tower**	**33.32**	**291**	P	**P**	**00 12 40.7**	**+0.1**
CTAO				IAmb	IAmb	00 12 42.8	
	comp=Z,8.1nm,1.0s						
PPT2	**Papeete2**	**33.62**	**63**	*e*LR	LR	00 21 13.3	
	comp=Z,157nm,24.2s						
BBOO	**Buckleboo**	**35.41**	**264**	P	**P**	**00 12 57.3**	**-1.2**
COEN	**Coen**	**39.50**	**296**	P	**P**	**00 13 33.2**	**-0.2**
COEN				IAmb	IAmb	00 13 34.4	
	comp=Z,30nm,0.9s						
PMG	**Port Moresby**	**39.99**	**305**	LR	LR	00 28 31.7	
	comp=Z,102nm,18.4s,baz=123,slow=34						
AS31	**Alice Springs**	**40.95**	**276**	P	**P**	**00 13 44.7**	**-0.6**
AS31				IAmb	IAmb	00 13 45.6	
	comp=Z,6.7nm,0.5s						
ASAR	**Alice Springs**	**40.95**	**276**	P	**P**	**00 13 44.5**	**-0.9**
	comp=Z,14nm,0.6s,baz=119,slow=8.1,SNR=203						
ASAR				PcP	**PcP**	**00 15 45.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=109,slow=3.6,SNR=2.8						
ASAR				S	**S**	**00 19 51.2**	**-3.7**
	comp=Z,0.3nm,0.8s,baz=120,slow=16,SNR=3.6						
ASAR				LR	LR	00 32 27.3	
	comp=Z,95nm,18.0s,baz=94,slow=39						
	comp=Z,14nm,0.6s						
VNDA	**Vanda**	**41.22**	**186**	LR	LR	00 28 06.2	
	comp=Z,54nm,18.5s,baz=18,slow=32						
WR0	**Warramunga Arr**	**42.38**	**281**	P	**P**	**00 13 56.3**	**-0.8**
WR0				IAmb	IAmb	00 13 57.1	
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**42.49**	**263**	P	**P**	**00 13 56.8**	**-1.0**
WB2	**Warramunga Arr**	**42.54**	**281**	P	**P**	**00 13 57.5**	**-0.9**
WB2				IAmb	IAmb	00 13 58.3	
	comp=Z,19nm,0.8s						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**00 13 57.6**	**-0.9**
	comp=Z,14nm,0.6s,baz=121,slow=7.6,SNR=145						
WRA				PcP	**PcP**	**00 15 51.3**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=114,slow=3.0,SNR=6.4						
WRA				LR	LR	00 31 05.9	
	comp=Z,132nm,20.4s,baz=79,slow=36						
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**42.55**	**281**	P	**P**	**00 13 57.1**	**-1.4**
CASY	**Casey**	**46.18**	**210**	P	**P**	**00 14 43.6**	**+1.2**
MTN	**Manton Dam**	**49.19**	**286**	P	**P**	**00 14 49.6**	**-1.2**
KNRA	**Kununurra**	**49.33**	**282**	P	**P**	**00 14 51.1**	**-0.8**
KNRA				IAmb	IAmb	00 15 09.8	
	comp=Z,9.2nm,0.8s						
NWAO	**Narrogin (SRO)**	**50.15**	**255**	P	**P**	**00 14 56.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**50.43**	**277**	LR	LR	00 36 02.2	
	comp=Z,93nm,19.6s,baz=107,slow=36						
FITZ	**Fitzroy Crossi**	**50.43**	**277**	P	**P**	**00 14 59.7**	**-0.5**
MORW	**Morawa**	**52.69**	**259**	P	**P**	**00 15 15.6**	**-1.4**
MORW				IAmb	IAmb	00 15 28.1	
	comp=

comp=Z,1.7nm,0.7s,baz=74,slow=8.2,SNR=5.2
TORD Torodi Ar. Bea 156.05 186 PKPbc PKPbc 00 26 10.1
comp=Z,0.2nm,0.4s,baz=176,slow=2.8,SNR=1.6
TORD PKPab **PKPab 00 26 25.6 +1.4**
comp=Z,1.6nm,0.9s,baz=150,slow=3.4,SNR=5.6
BER Bergen 156.37 352 *e*PKPdf **PKPdf 00 26 01.2 +5.2**
KONO Kongsberg 156.46 347 *e*PKPdf **PKPdf 00 25 58.1 +2.0**
CLL Collm 162.73 330 *e*PKPab **PKPab 00 26 52.0 -0.5**
CLL LmV 02 03 00.0
comp=Z,100nm,20.0s

IDC 18 00:23:08.4±5.1,2°00S×140°69E,h0km,mb3.4/3, mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=107.8km s-min=60.1km az=150.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.89**	**199**	P	P	00 27 30.2	-0.4
	0.1nm,0.3s,baz=23,slow=12,SNR=5.5 0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.77**	**222**	P	P	00 28 01.4	-0.6
	1.6nm,0.9s,baz=45,slow=15,SNR=2.0 1.6nm,0.9s						
ASAR	**Alice Springs**	**22.52**	**196**	P	P	00 28 10.0	-0.1
	0.4nm,0.5s,baz=27,slow=11,SNR=9.3 0.4nm,0.5s						
VNDA	**Vanda**	**76.32**	**175**	P	P	00 34 59.2	+0.4
	0.4nm,0.6s,baz=326,slow=6.6,SNR=6.4 0.4nm,0.6s						

---

*JMA **18** 00:37:25.4±0.3,26°N±2°×12°6E±°,h111km±2km,MV3.6/18, NW OFF OKINAWAJIMA IS*
*IDC **18** 00:37:25.4±5.8,26.4ºN×126.24E,h110km±71km,mb3.2/6, mbtmp3.5/6,Error ellipse: s-maj=75.4km s-min=17.4km az=64.0*
ISC 18 00:37:25.2±0.9,26°42N±0.09×126°16E±0.07,h109km±9km, n22,σ0s90/32,mb3.4/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.57**	**99**	P	**Pn**	**00 37 42.9**	**+0.5**
JKE				*e*S	**Sn**	**00 37 55.3**	**-0.1**
JAGN	**Aguni-jima**	**0.99**	**80**	P	**Pn**	**00 37 46.5**	**+0.4**
JAGN				*e*S	**Sn**	**00 38 01.6**	**-0.4**
JJT3	**Tamagusuku3**	**1.49**	**100**	P	**Pn**	**00 37 52.5**	**+0.8**
JJT3				S	**Sn**	**00 38 12.2**	**+0.2**
JNTH	**Nagotoyohara**	**1.68**	**86**	P	**Pn**	**00 37 54.4**	**+0.3**
JNTH				S	**Sn**	**00 38 14.9**	**-1.1**
JIH	**Iheya**	**1.73**	**69**	P	**Pn**	**00 37 55.4**	**+0.7**
JIH				S	**Sn**	**00 38 16.5**	**-0.8**
JOGS	**Gusukube**	**1.78**	**202**	S	**Sn**	**00 38 18.4**	**0.0**
JIRB	**Irabujima**	**1.81**	**209**	S	**Sn**	**00 38 18.3**	**-0.8**
JMJ2	**Miyako jima3**	**1.83**	**204**	*e*S	**Sn**	**00 38 19.0**	**-0.4**
JOW	**Kunigami**	**1.94**	**77**	P	**Pn**	**00 37 56.9**	**-0.4**
	120nm,0.2s,baz=161,slow=27,SNR=110						
JOW				S	**Sn**	**00 38 20.8**	**-1.2**
	273nm,0.3s,baz=141,slow=29,SNR=40						
JOW	**Kunigami**	**1.94**	**77**	P	**Pn**	**00 37 57.5**	**+0.2**
JOW				S	**Sn**	**00 38 20.3**	**-1.6**
JYRO	**Yoronjima**	**2.14**	**73**	P	**Pn**	**00 37 59.9**	**+0.1**
JYRO				S	**Sn**	**00 38 24.6**	**-1.8**
JTJ	**Tarama**	**2.20**	**217**	*e*P	**Pn**	**00 38 01.1**	**+0.4**
JTJ				*e*S	**Sn**	**00 38 26.4**	**-1.5**
JOKE	**Okinoerabujima**	**2.35**	**66**	P	**Pn**	**00 38 02.6**	**0.0**
JISG	**Ishigakijimahi**	**2.47**	**223**	*e*P	**Pn**	**00 38 03.7**	**-0.4**
JIJ	**Ishigaki jima**	**2.74**	**222**	P	**Pn**	**00 38 07.2**	**-0.5**
JTK	**Tokunoshima**	**2.84**	**61**	P	**Pn**	**00 38 09.2**	**+0.2**
JTK				S	**Sn**	**00 38 41.5**	**-1.3**
SONM	**Songino Array**	**26.41**	**329**	P	**P**	**00 42 53.9**	**+2.3**
	0.6nm,0.5s,baz=132,slow=8.5,SNR=2.5 0.6nm,0.5s						
MKAR	**Makanchi Array**	**40.03**	**312**	P	**P**	**00 44 48.9**	**-0.5**
	0.2nm,0.4s,baz=100,slow=9.2,SNR=4.3 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**40.98**	**323**	P	**P**	**00 44 56.6**	**-0.5**
	0.4nm,0.4s,baz=85,slow=8.8,SNR=1.7 0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**44.25**	**181**	P	**P**	**00 45 23.6**	**-0.3**
	1.1nm,0.6s,baz=17,slow=8.8,SNR=7.6 1.1nm,0.6s						
WRA	**Warramunga Arr**	**46.76**	**169**	P	**P**	**00 45 44.0**	**+0.3**
	0.3nm,0.7s,baz=350,slow=6.3,SNR=2.2 0.3nm,0.7s						
ASAR	**Alice Springs**	**50.35**	**171**	P	**P**	**00 46 11.6**	**+0.4**
	0.3nm,0.7s,baz=356,slow=14,SNR=5.1 0.3nm,0.7s						

---

*IDC **18** 00:42:13.9±0.6,1°95S×140°64E,h0km,mb4.1/13, mbtmp4.2/15,ML4.5/2,MS3.5/6,Error ellipse: s-maj=24.8km s-min=14.6km az=85.0*
*NEIC **18** 00:42:16.3±1.4,2°1S±0°1×140°6E±0°1,h10km±1km, mb4.5/31,Error ellipse: s-maj=21.1km s-min=16.6km az=30.0*
*DJA **18** 00:42:19.3±1.7,2°S±7°×14°1E±°,h21km±9km,M4.4/13, mbB5.1/5,mb4.6/13,MLv4.2/3,Mw(mB)4.5/5*
ISC 18 00:42:19.3±0.5,2°02S±0°06×140°60E±0°08,h35km,n81, σ1s05/75,mb4.4/27,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.72**	**217**	P	**Pn**	**00 42 32.1**	**-0.9**
SMPI	**Sarmi**	**1.89**	**271**	P	**Pn**	**00 42 48.7**	**-0.4**
WAMI	**Wamena**	**2.65**	**225**	P	**Pn**	**00 43 02.0**	**+2.4**
FAKI	**Fak Fak**	**8.39**	**264**	Pn	**Pn**	**00 44 19.8**	**+1.2**
SIJI	**Sorong**	**9.40**	**277**	LR	LR	00 47 49.6	
	comp=Z,144nm,21.5s,baz=115,slow=36						
PMG	**Port Moresby**	**9.82**	**139**	LR	LR	00 48 54.0	
	comp=Z,224nm,21.8s,baz=292,slow=41						
KDU	**Kakadu**	**13.31**	**217**	P	**Pn**	**00 45 23.6**	**-2.3**
MTN	**Manton Dam**	**14.27**	**221**		**Pn**	**00 45 36.6**	**-2.4**
MTN	**Manton Dam**	**14.27**	**221**	P	**Pn**	**00 45 37.7**	**-1.3**
GUMO	**Guam**	**16.07**	**15**	LR	LR	00 52 38.5	
	comp=Z,83nm,18.6s,baz=210,slow=39						
LUWI	**Luwuk**	**17.85**	**273**	P	**P**	**00 46 27.1**	**+1.6**
	40nm,0.6s						
KNRA	**Kununurra**	**17.90**	**220**	P	**Pn**	**00 46 24.3**	**-1.4**
SOEI	**Soe**	**17.97**	**244**	P	**P**	**00 46 27.1**	**+0.1**
SOEI				IAmb	IAmb	00 46 39.6	
	comp=Z,60nm,0.8s						
SOEI	**Soe**	**17.97**	**244**	P	**P**	**00 46 28.0**	**+1.1**
	comp=Z,997nmcomp=Z,84nm,0.8s						
WB0	**Warramunga Arr**	**18.66**	**199**	P	**P**	**00 46 33.8**	**-0.6**
BATI	**Baumata**	**18.69**	**243**	P	**P**	**00 46 34.7**	**-0.2**
	comp=Z,7.4nm,0.3s,baz=27,slow=2.9,SNR=13 comp=Z,47nm,0.6s						
BATI	**Baumata**	**18.69**	**243**	P	**Pn**	**00 46 36.5**	**+1.1**
	comp=Z,37nm,0.8s						
CTA	**Charters Tower**	**18.79**	**163**	LR	LR	00 54 17.9	
	comp=Z,276nm,20.9s,baz=20,slow=38						
CTAO	**Charters Tower**	**18.79**	**163**	P	**Pn**	**00 46 36.0**	**-0.6**
MRSI	**Marisa**	**18.82**	**277**	P	**P**	**00 46 36.7**	**+0.5**
	comp=Z,26nm,0.6s						
WRAB	**Tennant Creek**	**18.83**	**199**	P	**P**	**00 46 36.1**	**-0.1**
WRA	**Warramunga Arr**	**18.84**	**199**	P	**P**	**00 46 36.1**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=23,slow=12,SNR=28						
WRA				LR	LR	00 54 53.3	
	comp=Z,354nm,21.5s,baz=48,slow=40 comp=Z,7.5nm,0.8s						
WRA	**Warramunga Arr**	**18.84**	**199**	P	**P**	**00 46 35.1**	**-1.3**
APSI	**Ampana**	**18.98**	**273**	P	**Pn**	**00 46 39.8**	**+0.9**
	comp=Z,454nmcomp=Z,31nm,1.0s						
TOLI2	**Tolitoli**	**20.06**	**279**	P	**P**	**00 46 50.3**	**+0.5**
TOLI2				IAmb	IAmb	00 47 00.8	
	comp=Z,12nm,0.8s						
TOLI2	**Tolitoli**	**20.06**	**279**	P	**P**	**00 46 50.9**	**+1.1**
TTSI	**Tana Toraja**	**20.79**	**267**	P	Pn	00 47 00.0	-0.3
	comp=Z,25nm,1.0s						
MPSI	**Mapaga**	**20.83**	**276**	P	Pn	00 47 01.6	+0.8
	comp=Z,664nmcomp=Z,17nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**00 47 07.1**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=43,slow=9.1,SNR=19 comp=Z,4.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**		**P**	**00 47 06.4**	**-1.0**
FITZ				IAmb	IAmb	00 47 25.0	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**00 47 06.9**	**-0.5**
AS31	**Alice Springs**	**22.48**	**196**	P	**P**	**00 47 15.4**	**-0.3**
ASAR	**Alice Springs**	**22.48**	**196**	P	**P**	**00 47 15.4**	**-0.4**
	comp=Z,5.0nm,0.6s,baz=27,slow=12,SNR=61						
ASAR				LR	LR	00 56 56.7	
	comp=Z,248nm,20.6s,baz=86,slow=39 comp=Z,5.0nm,0.6s						
ASAR	**Alice Springs**	**22.48**	**196**	P	**P**	**00 47 14.9**	**-0.9**
RK1H	**Rockhampton Ha**	**23.31**	**156**	P	**P**	**00 47 28.7**	**+4.4**
QLP	**Quilpie**	**24.67**	**172**	P	**P**	**00 47 38.7**	**+1.7**
	comp=Z,35nm,1.2s						
EIDS	**Eidsvold**	**25.32**	**157**	P	**P**	**00 47 44.4**	**+1.5**
EIDS				IAmb	IAmb	00 47 46.7	
	comp=Z,17nm,0.8s						
INKA	**Innaminka**	**25.58**	**180**	P	**P**	**00 47 46.4**	**+1.2**
	comp=Z,34nm,1.1s						
WRKA	**Warakurna**	**25.78**	**206**	P	**P**	**00 47 46.9**	**-0.3**
MBWA	**Marble Bar**	**27.85**	**225**	P	**P**	**00 48 04.9**	**-0.9**
MBWA				IAmb	IAmb	00 48 24.8	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**29.72**	**178**	P	**P**	**00 48 22.2**	**0.0**
	comp=Z,4.9nm,0.8s,baz=345,slow=12,SNR=6.7 comp=Z,4.9nm,0.8s						
STKA	**Stephens Creek**	**29.72**	**178**	P	**P**	**00 48 21.6**	**-0.7**
BBOO	**Buckleboo**	**30.93**	**187**	P	**P**	**00 48 32.4**	**-0.6**
FORT	**Forrest**	**30.98**	**201**	P	**P**	**00 48 33.2**	**-0.2**
DZM	**Mont Dzumac**	**32.07**	**130**	P	**P**	**00 48 42.4**	**-0.9**
	comp=Z,9.7nm,1.1s,baz=342,slow=20,SNR=3.0 comp=Z,9.7nm,1.1s						
DZM	**Mont Dzumac**	**32.07**	**130**	P	**P**	**00 48 43.6**	**+0.4**
MORW	**Morawa**	**35.65**	**219**	P	**P**	**00 49 13.8**	**-0.4**
MORW				IAmb	IAmb	00 49 34.9	
	comp=Z,18nm,1.3s						
MJAR	**Matsushiro Arr**	**38.42**	**357**	P	**P**	**00 49 36.0**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=172,slow=10.0,SNR=3.1 comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.76**	**298**	P	**P**	**00 50 37.1**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=106,slow=5.2,SNR=4.5 comp=Z,0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**45.76**	**298**	P	**P**	**00 50 38.5**	**+0.7**
BKZ	**Black Stump Fm**	**49.35**	**143**	P	**P**	**00 51 05.7**	**+0.2**
KLR	**Kul'dur**	**51.62**	**353**	P	**P**	**00 51 22.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=122,slow=13,SNR=2.2 comp=Z,0.5nm,0.3s						
MK31	**Makanchi Array**	**70.41**	**322**	P	**P**	**00 53 29.8**	**-0.2**
MKAR	**Makanchi Array**	**70.41**	**322**	P	**P**	**00 53 30.5**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=107,slow=8.1,SNR=11 comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**70.41**	**322**	P	**P**	**00 53 30.2**	**+0.2**
ZALV	**Zalesovo Beam**	**72.30**	**329**	P	**P**	**00 53 40.2**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=94,slow=7.4,SNR=2.0 comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**72.30**	**329**	P	**P**	**00 53 41.7**	**+0.4**
NIL	**Nilore**	**72.44**	**306**	P	**P**	**00 53 42.6**	**+0.1**
NIL				IAmb	IAmb	00 53 43.9	
	comp=Z,7.6nm,0.9s						
BOOM	**Boomskoye usch**	**72.97**	**316**	P	**P**	**00 53 46.5**	**+0.7**
BOOM				IAmb	IAmb	00 53 54.3	
	comp=Z,3.3nm,0.9s						
KURK	**Kurchatov**	**74.25**	**324**	P	**P**	**00 53 52.8**	**0.0**
KURK				IAmb	IAmb	00 54 13.5	
	comp=Z,6.7nm,1.5s						
KBL	**Kabul**	**76.04**	**306**	P	**P**	**00 54 03.6**	**-0.1**
KBL				IAmb	IAmb	00 54 04.2	
	comp=Z,3.2nm,0.7s						
VNDA	**Vanda**	**76.31**	**175**	P	**P**	**00 54 05.0**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=325,slow=6.5,SNR=37 comp=Z,3.5nm,0.7s						
VNDA	**Vanda**	**76.31**	**175**	P	**P**	**00 54 04.9**	**+0.8**
VNDA				IAmb	IAmb	00 54 05.9	
	comp=Z,4.2nm,0.8s						
CHGR	**Chuyangaron**	**76.86**	**310**	P	**P**	**00 54 08.5**	**+0.3**
KK31	**Karatay Array**	**76.97**	**315**	P	**P**	**00 54 08.8**	**+0.2**
KK31				IAmb	IAmb	00 54 09.4	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**76.97**	**315**	P	**P**	**00 54 09.0**	**+0.4**
NRIK	**Noril'sk**	**79.60**	**343**	P	**P**	**00 54 22.4**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=99,slow=8.8,SNR=2.1 comp=Z,0.8nm,0.4s						
BRVK	**Borovoye**	**79.91**	**325**	P	**P**	**00 54 24.6**	**+0.1**
BRVK				IAmb	IAmb	00 54 25.7	
	comp=Z,3.3nm,1.0s						
ILAR	**Eielson Array**	**84.42**	**24**	P	**P**	**00 54 46.2**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=250,slow=4.9,SNR=5.7 comp=Z,0.6nm,0.7s						
GEYT	**Alibeck**	**85.30**	**308**	P	**P**	**00 54 53.0**	**0.0**
	comp=Z,2.8nm,0.8s,baz=116,slow=3.4,SNR=6.7 comp=Z,2.8nm,0.8s						
GEYT	**Alibeck**	**85.30**	**308**	P	**P**	**00 54 53.6**	**+0.6**
GEYT				IAmb	IAmb	00 54 54.9	
	comp=Z,5.5nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**85.30**	**308**	P	**P**	**00 54 53.9**	**+0.8**
ABKAR	**Akbulak array**	**85.42**	**320**	P	**P**	**00 54 52.7**	**-0.6**
ABKAR	**Akbulak array**	**85.42**	**320**	P	**P**	**00 54 52.7**	**-0.6**
ABKAR				IAmb	IAmb	00 54 54.2	
	comp=Z,2.4nm,0.8s						
M27K	**Edge Creek, AK**	**86.00**	**27**	P	**P**	**00 54 56.3**	**+0.3**
M27K				IAmb	IAmb	00 54 57.0	
	comp=Z,4.8nm,1.1s						
BMAR	**Burnt Mountain**	**86.06**	**22**	P	**P**	**00 54 57.3**	**+1.2**
QSPA	**South Pole Qui**	**87.92**	**180**	P	**P**	**00 55 05.3**	**0.0**
QSPA				IAmb	IAmb	00 55 08.0	
	comp=Z,4.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**137.87**	**287**	PKP	**PKiKP**	**01 01 42.3**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=102,slow=2.5,SNR=1.8						
DBIC	**Dimbokro**	**145.26**	**279**	PKPbc	**PKPbc**	**01 01 54.2**	**0.0**
	comp=Z,2.7nm,0.8s,baz=108,slow=8.5,SNR=3.7						
LPAZ	**La Paz**	**146.29**	**124**	PKPbc	**PKPab**	**01 01 58.9**	**0.0**
	comp=Z,5.5nm,0.9s,baz=335,slow=0.7,SNR=18						
CPUP	**Villa Florida**	**146.92**	**150**	PKPbc	**PKPbc**	**01 01 59.0**	**+0.1**
	comp=Z,6.6nm,0.9s,baz=233,slow=2.7,SNR=12						

---

*IDC **18** 00:43:20.5±0.7,1°94S×140°65E,h0km,mb4.2/12, mbtmp4.2/14,ML4.3/2,Error ellipse: s-maj=25.8km s-min=15.9km az=83.0*
*NEIC **18** 00:43:22.6±1.8,1°96S±0°08×140°76E±0°09,h10km±1km, mb4.6/25,Error ellipse: s-maj=19.1km s-min=6.8km az=50.0*
ISC 18 00:43:25.6±0.5,1°96S±0°08×140°74E±0°09,h35km,n49, σ0s89/49,mb4.4/22,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**8.54**	**263**	Pn	**Pn**	**00 45 27.3**	**+0.5**
MTN	**Manton Dam**	**14.40**	**221**		**Pn**	**00 46 48.1**	**+1.0**
SOEI	**Soe**	**18.11**	**244**		**P**	**00 47 34.7**	**-0.2**
SOEI				IAmb	IAmb	00 47 46.3	
	comp=Z,45nm,0.9s						
BATI	**Baumata**	**18.84**	**244**	P	**P**	**00 47 42.5**	**-0.3**
	comp=Z,3.7nm,0.3s,baz=76,slow=3.9,SNR=5.0 comp=Z,40nm,0.6s						
WB2	**Warramunga Arr**	**18.93**	**199**	P	**P**	**00 47 42.0**	**-1.6**
WRA	**Warramunga Arr**	**18.93**	**199**	P	**P**	**00 47 42.8**	**-0.9**
	comp=Z,5.5nm,0.3s,baz=28,slow=12,SNR=5.4 comp=Z,4.8nm,0.7s						
WRA	**Warramunga Arr**	**18.93**	**199**	P	**P**	**00 47 42.0**	**-1.7**
TOLI2	**Tolitoli**	**20.19**	**279**	P	**P**	**00 47 56.3**	**-1.2**
HNR	**Honiara**	**20.49**	**112**	P	**P**	**00 47 59.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**21.83**	**222**	P	**P**	**00 48 13.8**	**-1.4**
	comp=Z,6.5nm,0.8s,baz=42,slow=17,SNR=2.8 comp=Z,6.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.83**	**222**	P	**P**	**00 48 13.6**	**-1.6**
AS31	**Alice Springs**	**22.57**	**197**	P	**P**	**00 48 22.7**	**-0.3**
ASAR	**Alice Springs**	**22.57**	**197**	P	**P**	**00 48 22.4**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=29,slow=11,SNR=6.4 comp=Z,3.3nm,0.6s						
ASAR	**Alice Springs**	**22.57**	**197**	P	**P**	**00 48 23.4**	**+0.4**
EIDS	**Eidsvold**	**25.31**	**158**	P	**P**	**00 48 50.2**	**+1.1**
EIDS				IAmb	IAmb	00 48 53.6	
	comp=Z,16nm,0.8s						
MBWA	**Marble Bar**	**27.99**	**225**	P	**P**	**00 49 15.0**	**+1.7**
STKA	**Stephens Creek**	**29.76**	**179**	P	**P**	**00 49 29.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=331,slow=11,SNR=3.9 comp=Z,3.3nm,0.8s						
BBOO	**Buckleboo**	**31.00**	**188**	P	**P**	**00 49 39.2**	**-0.7**
FORT	**Forrest**	**31.07**	**201**	P	**P**	**00 49 39.8**	**-0.8**
DZM	**Mont Dzumac**	**32.00**	**131**	P	**P**	**00 49 49.8**	**+0.9**
	comp=Z,6.8nm,0.9s,baz=63,slow=8.5,SNR=3.6 comp=Z,6.8nm,0.9s						
DZM	**Mont Dzumac**	**32.00**	**131**	P	**P**	**00 49 49.3**	**+0.4**
DZM				IAmb	IAmb	00 49 57.6	
	comp=Z,12nm,1.2s						
MORW	**Morawa**	**35.78**	**219**	P	**P**	**00 50 20.8**	**-0.8**
MORW				IAmb	IAmb	00 50 38.5	
	comp=Z,14nm,1.2s						
KSRS	**Korea Array**	**40.98**	**344**	P	**P**	**00 51 06.6**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=152,slow=9.3,SNR=1.2 comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**45.85**	**298**	P	**P**	**00 51 44.1**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=120,slow=5.3,SNR=1.4 comp=Z,1.1nm,0.3s						
USA0B	**Ussuriysk Arra**	**46.62**	**351**	P	**P**	**00 51 50.8**	**+0.5**
USA0B				IAmb	IAmb	00 52 00.2	
	comp=Z,6.2nm,0.9s						
PETK	**Petropavlovsk-**	**56.69**	**12**	P	**P**	**00 53 04.5**	**-0.9**
	comp=Z,5.2nm,1.1s,baz=107,slow=9.7,SNR=3.1 comp=Z,5.2nm,1.1s						
MK31	**Makanchi Array**	**70.46**	**322**	P	**P**	**00 54 37.5**	**+0.9**
MKAR	**Makanchi Array**	**70.46**	**322**	P	**P**	**00 54 36.9**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=111,slow=6.6,SNR=5.1 comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**70.46**	**322**	P	**P**	**00 54 37.3**	**+0.8**
ZALV	**Zalesovo Beam**	**72.33**	**329**	P	**P**	**00 54 46.0**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=78,slow=6.6,SNR=4.3 comp=Z,0.7nm,0.3s						
NIL	**Nilore**	**72.52**	**306**	P	**P**	**00 54 50.1**	**+0.8**
BOOM	**Boomskoye usch**	**73.03**	**316**	P	**P**	**00 54 52.4**	**0.0**
BOOM				IAmb	IAmb	00 55 01.2	
	comp=Z,4.1nm,0.8s						
VNDA	**Vanda**	**76.35**	**175**	P	**P**	**00 55 10.2**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=328,slow=7.0,SNR=11 comp=Z,2.6nm,0.7s						
VNDA	**Vanda**	**76.35**	**175**	P	**P**	**00 55 11.6**	**+1.0**
VNDA				IAmb	IAmb	00 55 12.4	
	comp=Z,2.8nm,0.8s						
KK31	**Karatay Array**	**77.03**	**315**	P	**P**	**00 55 15.2**	**0.0**
KK31				IAmb	IAmb	00 55 18.3	
	comp=Z,4.5nm,1.4s						
KKAR	**Karatay Array**	**77.03**	**315**	P	**P**	**00 55 15.0**	**-0.2**
BRVK	**Borovoye**	**79.94**	**325**	P	**P**	**00 55 30.8**	**-0.2**
BRVK				IAmb	IAmb	00 55 39.5	
	comp=Z,4.6nm,1.1s						
J20K	**Nowinta River**	**81.16**	**24**	P	**P**	**00 55 38.5**	**+1.2**
J20K				IAmb	IAmb	00 55 54.9	
	comp=Z,6.9nm,1.5s						
ILAR	**Eielson Array**	**84.32**	**24**	P	**P**	**00 55 53.3**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=262,slow=5.1,SNR=2.8 comp=Z,0.5nm,0.7s						
GEYT	**Alibeck**	**85.38**	**308**	P	**P**	**00 55 59.3**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=126,slow=2.0,SNR=6.2 comp=Z,2.5nm,0.8s						
GEYT	**Alibeck**	**85.38**	**308**	P	**P**	**00 55 59.9**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**85.38**	**308**	P	**P**	**00 55 59.8**	**+0.1**
GYA0B				IAmb	IAmb	00 56 01.6	
	comp=Z,4.7nm,0.8s						
ABKAR	**Akbulak array**	**85.47**	**320**	P	**P**	**00 55 59.5**	**-0.3**
ABKAR	**Akbulak array**	**85.47**	**320**	P	**P**	**00 55 59.5**	**-0.3**
ABKAR				IAmb	IAmb	00 56 08.1	
	comp=Z,2.6nm,0.8s						
QSPA	**South Pole Qui**	**87.98**	**180**	P	**P**	**00 56 12.6**	**+0.7**
QSPA				IAmb	IAmb	00 56 14.8	
	comp=Z,5.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**137.99**	**287**	PKP	**PKiKP**	**01 02 49.3**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=160,slow=4.6,SNR=1.3						
DBIC	**Dimbokro**	**145.39**	**279**	PKPbc	**PKPbc**	**01 03 00.7**	**-0.2**
	comp=Z,4.7nm,0.9s,baz=146,slow=4.3,SNR=3.4						
LPAZ	**La Paz**	**146.20**	**124**	PKPbc	**PKPab**	**01 03 05.5**	**+0.7**
	comp=Z,4.7nm,0.9s,baz=256,slow=1.3,SNR=7.7						
CPUP	**Villa Florida**	**146.89**	**149**	PKPbc	**PKPab**	**01 03 06.3**	**-0.1**
	comp=Z,4.3nm,1.0s,baz=232,slow=3.6,SNR=7.7						

IDC 18 00:46:47.0±5.1,2°16S×140°86E,h0km,mb3.6/3, mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=110.0km s-min=59.7km az=150.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.79**	**199**	P	P	00 51 08.1	0.0
	0.3nm,0.3s,baz=23,slow=12,SNR=5.3 1.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.77**	**222**	P	P	00 51 39.7	-0.8
	1.3nm,0.5s,baz=56,slow=15,SNR=1.2 1.3nm,0.5s						
ASAR	**Alice Springs**	**22.41**	**197**	P	P	00 51 47.4	-0.1
	1.0nm,0.5s,baz=29,slow=12,SNR=8.1 1.0nm,0.5s						
VNDA	**Vanda**	**76.14**	**175**	P	P	00 58 36.8	+0.4
	0.6nm,0.6s,baz=328,slow=6.6,SNR=6.8 0.6nm,0.6s						

IDC 18 00:47:56.9±6.9,18°06S×173°09W,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=289.6km s-min=38.2km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.42**	**260**	P	P	00 55 20.4	-0.1
	1.9nm,0.6s,baz=72,slow=6.4,SNR=2.1 1.9nm,0.6s						
WRA	**Warramunga Arr**	**49.58**	**259**	P	P	00 56 50.4	+0.2
	0.3nm,0.3s,baz=96,slow=7.5,SNR=10.0 0.3nm,0.3s						
ASAR	**Alice Springs**	**49.62**	**254**	P	P	00 56 50.1	-0.4
	0.8nm,0.7s,baz=93,slow=8.7,SNR=8.4 0.8nm,0.7s						
ILAR	**Eielson Array**	**84.98**	**11**	P	P	01 00 33.5	-0.1
	0.6nm,1

SOEI Soe 17.84 244 P **P** **00 57 49.7 +0.3**
BBSI Bau Bau 18.20 259 P **Pn** **00 57 55.1 +1.9**
comp=Z,420nmcomp=Z,5.7nm,1.7s
QIS Mount Isa 18.38 183 P **Pn** **00 57 56.3 +0.8**
WB0 Warramunga Arr 18.56 198 **P** **00 57 57.8 +0.6**
BATI Baumata 18.56 244 P **P** **00 57 57.6 +0.3**
comp=Z,62nm,0.5s,baz=20,slow=1.8,SNR=14
BATI Baumata 18.56 244 P **Pn** **00 57 58.4 +0.7**
comp=Z,604nmcomp=Z,48nm,0.8s
MRSI Marisa 18.72 278 P **Pn** **00 57 59.3 -0.3**
comp=Z,686nmcomp=Z,44nm,0.5s
WRAB Tennant Creek 18.73 198 P **P** **00 57 59.7 +0.7**
WRA Warramunga Arr 18.74 198 P **P** **00 58 00.1 +0.9**
comp=Z,2.0nm,0.3s,baz=25,slow=12,SNR=59
WRA S **Sn** **01 01 21.7 -6.9**
comp=Z,3.8nm,0.9s,baz=19,slow=22,SNR=6.3
WRA LR LR 01 06 15.8
comp=Z,2µm,18.1s,baz=36,slow=40
comp=Z,5.3nm,0.5s
WRA Warramunga Arr 18.74 198 P **P** **00 57 58.5 -0.7**
CTA Charters Tower 18.76 163 LR LR 01 05 53.2
comp=Z,772nm,18.6s,baz=349,slow=39
CTAO Charters Tower 18.76 163 P **Pn** **00 58 00.6 +0.5**
APSI Ampana 18.87 273 P **Pn** **00 58 02.3 +0.9**
comp=Z,620nmcomp=Z,42nm,1.1s
TOLI2 Tolitoli 19.96 279 P **Pn** **00 58 13.5 -0.9**
TOLI2 Tolitoli 19.96 279 P **Pn** **00 58 14.1 -0.3**
BKSI Bulukumba 20.58 260 P **P** **00 58 20.2 +1.0**
comp=Z,15nm,0.6s
TTSI Tana Toraja 20.67 267 P Pn 00 58 23.1 +0.3
comp=Z,821nmcomp=Z,54nm,1.5s
HNR Honiara 20.68 111 LR LR 01 07 08.8
comp=Z,4µm,19.3s,baz=322,slow=39
MPSI Mapaga 20.73 276 P **P** **00 58 22.0 +1.1**
comp=Z,719nmcomp=Z,30nm,1.9s
SPSI Sidrap Palu 20.78 264 P Pn 00 58 23.3 -0.7
comp=Z,3µmcomp=Z,39nm,1.2s
KAPI Kappang 20.90 261 P Pn 00 58 24.9 -0.5
KAPI IAmb IAmb 00 58 36.2
comp=Z,79nm,2.0s
FITZ Fitzroy Crossi 21.58 222 P **P** **00 58 29.7 -0.3**
comp=Z,5.5nm,0.5s,baz=33,slow=11,SNR=32
FITZ S **S** **01 02 24.2 -3.2**
comp=Z,4.1nm,0.8s,baz=99,slow=13,SNR=2.3
FITZ LR LR 01 07 55.9
comp=Z,600nm,18.6s,baz=44,slow=40
comp=Z,5.5nm,0.5s
FITZ Fitzroy Crossi 21.58 222 P **P** **00 58 30.6 +0.5**
FITZ Fitzroy Crossi 21.58 222 P **P** **00 58 30.5 +0.5**
AS31 Alice Springs 22.38 196 P **P** **00 58 39.4 +0.7**
ASAR Alice Springs 22.39 196 P **P** **00 58 39.2 +0.6**
comp=Z,5.7nm,0.5s,baz=26,slow=12,SNR=80
ASAR S **S** **01 02 40.9 -1.7**
comp=Z,1.0nm,0.8s,baz=4.2,slow=28,SNR=3.5
ASAR LR LR 01 08 48.5
comp=Z,288nm,21.1s,baz=39,slow=40
comp=Z,5.7nm,0.5s
ASAR Alice Springs 22.39 196 P **P** **00 58 38.7 0.0**
MYLDM Lahad Datu 23.12 288 P **P** **00 58 46.6 +0.2**
MYLDM IAmb IAmb 00 58 59.2
comp=Z,90nm,1.4s
BKB Balikpapan 23.60 272 P **P** **00 58 51.3 +0.2**
EIDS Eidsvold 25.30 157 P **P** **00 59 07.6 +1.0**
INKA Innaminka 25.52 179 P **P** **00 59 10.2 +1.7**
WRKA Warakurna 25.68 206 P **P** **00 59 10.8 +0.7**
OOD Oodnadatta 25.98 190 P **P** **00 59 14.0 +1.3**
MBWA Marble Bar 27.73 225 P **P** **00 59 29.3 +0.8**
MBWA IAmb IAmb 00 59 46.2
comp=Z,13nm,0.9s
MBWA Marble Bar 27.73 225 P **P** **00 59 29.5 +0.9**
PSA00 Pilbara Seismi 27.91 225 P **P** **00 59 30.5 +0.3**
PSA00 Pilbara Seismi 27.91 225 P **P** **00 59 31.0 +0.8**
PSA00 IAmb IAmb 01 00 01.5
comp=Z,24nm,1.1s
SBUM Sibu 28.62 279 P **P** **00 59 38.0 +1.4**
SBUM IAmb IAmb 00 59 47.0
comp=Z,35nm,1.6s
MULG Mulgathing 28.70 192 P **P** **00 59 38.3 +1.2**
JCJ Chichijima 29.05 3 LR LR 01 08 41.7
comp=Z,196nm,19.6s,baz=124,slow=31
STKA Stephens Creek 29.65 178 P **P** **00 59 46.5 +1.0**
comp=Z,3.2nm,0.7s,baz=337,slow=10,SNR=6.3
STKA LR LR 01 13 14.6
comp=Z,471nm,18.9s,baz=9.2,slow=39
comp=Z,3.2nm,0.7s
STKA Stephens Creek 29.65 178 P **P** **00 59 46.2 +0.6**
BBOO Buckleboo 30.85 187 P **P** **00 59 56.5 +0.4**
FORT Forrest 30.87 201 P **P** **00 59 57.3 +0.9**
FORT Forrest 30.87 201 P **P** **00 59 57.6 +1.2**
JOW Kunigami 31.07 339 LR LR 01 09 37.3
comp=Z,379nm,22.0s,baz=134,slow=31
LIFNC LIFOU 32.03 127 P **P** **01 00 06.5 -0.1**
DZM Mont Dzumac 32.12 130 eLR LR 01 08 34.6
comp=Z,473nm,23.2s
DZM Mont Dzumac 32.12 130 P **P** **01 00 07.8 +0.3**
comp=Z,10nm,1.0s,baz=333,slow=21,SNR=4.0
DZM LR LR 01 12 31.3
comp=Z,372nm,19.8s,baz=24,slow=35
comp=Z,10nm,1.0s
DZM Mont Dzumac 32.12 130 P **P** **01 00 07.5 -0.1**
DZM IAmb IAmb 01 00 09.3
comp=Z,26nm,1.3s
MEEK Meekatharra 32.20 219 P **P** **01 00 08.9 +0.7**
CAN Canberra 34.00 168 P **P** **01 00 24.4 +0.6**
CAN IAmb IAmb 01 00 59.8
comp=Z,40nm,1.6s
JHJ Hachijo jima 2 35.02 359 LR LR 01 11 19.9
comp=Z,557nm,21.8s,baz=252,slow=30
MORW Morawa 35.53 219 P **P** **01 00 37.0 0.0**
MORW IAmb IAmb 01 00 41.0
comp=Z,37nm,1.6s
NWAO Narrogin (SRO) 37.65 213 LR LR 01 18 10.6
comp=Z,650nm,19.3s,baz=268,slow=39
MJAR Matsushiro Arr 38.48 357 P **P** **01 00 59.9 -2.1**
comp=Z,1.3nm,0.7s,baz=177,slow=10,SNR=6.3
MJAR LR LR 01 15 41.1
comp=Z,136nm,19.6s,baz=155,slow=34
comp=Z,1.3nm,0.7s
SDSI Sungai Dareh 39.06 271 P **P** **01 01 07.4 +0.2**
comp=Z,656nmcomp=Z,10nm,1.6s
BKNI Bangkinang 39.52 273 P **P** **01 01 11.1 +0.1**
NJ2 Nanjing 39.67 331 eP **P** **01 01 13.6 +1.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
JMM Marumori 39.75 0 P **P** **01 01 12.1 -0.4**
JMM IAmb IAmb 01 01 31.2
comp=Z,31nm,1.3s
MSVF Nonsavu 40.01 115 LR LR 01 18 11.9
comp=Z,188nm,18.1s,baz=7.9,slow=37
KSRS Korea Array 41.03 345 P **P** **01 01 21.7 -1.4**
comp=Z,1.8nm,0.8s,baz=154,slow=7.5,SNR=4.1
KSRS LR LR 01 16 21.3
comp=Z,201nm,19.9s,baz=160,slow=33
comp=Z,1.8nm,0.8s
RPSI Rantau Prapat 41.82 276 P **P** **01 01 29.8 -0.3**
RPSI IAmb IAmb 01 01 38.7
comp=Z,37nm,1.3s
GSI Gunungsitoli 43.04 274 P **P** **01 01 39.6 -0.4**
GSI Gunungsitoli 43.04 274 P **P** **01 01 39.1 -0.9**
comp=Z,46nm,0.7s
CRAI Chiangrai 45.15 301 P **P** **01 01 56.8 -0.1**
KMI Kunming 45.49 309 ⇓P **P** **01 02 00.4 +0.7**
KMI pmax pmax
comp=Z,8.0nm,1.5s
CMAR Chiang Mai Arr 45.69 298 P **P** **01 02 01.1 +0.1**
comp=Z,0.9nm,0.3s,baz=115,slow=5.9,SNR=4.1
CMAR LR LR 01 22 24.7
comp=Z,23nm,19.5s,baz=105,slow=38
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 45.69 298 P **P** **01 02 00.6 -0.5**
HNS HongShan 45.99 331 ⇓P **P** **01 02 04.0 +0.9**
XAN Xi'an 46.61 323 ⇑P **P** **01 02 08.3 +0.1**
XAN pP pP 01 02 15.3 -2.4
XAN pmax pmax
comp=Z,16nm,1.2s
USRK Ussuriysk Ar. 46.70 352 LR LR 01 18 18.8
comp=Z,272nm,20.3s,baz=237,slow=32
USRK Ussuriysk Ar. 46.70 352 P **P** **01 02 07.3 -1.3**
PZH PanZhiHua 46.97 310 P **P** **01 02 13.8 +2.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
BJT Baijiatuau 47.45 335 P **P** **01 02 14.4 -0.1**
CN2 Changchun 47.63 345 eP P 01 02 22.8 +6.9
CN2 pmax pmax
comp=Z,20nm,1.2s
RAO Raoul Island 47.88 129 LR LR 01 19 46.7
comp=Z,189nm,21.6s,baz=60,slow=33
CD2 Chengdu 47.94 316 P **P** **01 02 19.3 +0.7**
URZ Urewera 49.18 142 LR LR 01 23 40.3
comp=Z,134nm,18.8s,baz=32,slow=37
RPZ Rata Peaks 49.55 151 LR LR 01 23 60.0
comp=Z,175nm,18.2s,baz=300,slow=37
HHC Hu-ho-hao-te 50.21 331 eP **P** **01 02 36.8 +1.0**
HHC pmax pmax
comp=Z,27nm,1.0s
HHC pmax pmax
comp=Z,420nm,5.5s
HHC LR LR
comp=Z,360nm,16.5s
HHC LR LR
comp=Z,320nm,17.8s
HHC LR LR
comp=Z,330nm,17.1s
LZH Lanzhou 51.08 322 eP **P** **01 02 43.9 +1.4**
LZH pP pP 01 02 51.1 -1.0
LZH pmax pmax
comp=Z,17nm,1.5s
KLR Kul'dur 51.67 353 P **P** **01 02 44.8 -1.7**
comp=Z,1.2nm,0.5s,baz=185,slow=6.3,SNR=4.2
KLR LR LR 01 21 59.8
comp=Z,150nm,19.6s,baz=183,slow=33
comp=Z,1.2nm,0.5s
BRDH Bariadhala 53.59 300 LR LR 01 27 33.3
comp=Z,38nm,19.1s,baz=122,slow=38
HIA Hailar 54.20 343 P **P** **01 03 04.8 -0.4**
HIA IAmb IAmb 01 03 06.0
comp=Z,24nm,1.6s
GTA Gaotai 55.64 322 eP **P** **01 03 17.1 +1.1**
GTA pP pP 01 03 24.0 -1.7
GTA sP sP 01 03 27.3 -2.2
GTA pmax pmax
comp=Z,8.0nm,1.4s
LSA Lhasa 56.72 308 P **P** **01 03 24.1 -0.2**
PETK Petropavlovsk- 56.86 12 P **P** **01 03 21.4 -2.8**
comp=Z,3.1nm,0.9s,baz=156,slow=7.7,SNR=1.9
PETK LR LR 01 24 31.8
comp=Z,93nm,21.8s,baz=194,slow=33
comp=Z,3.1nm,0.9s
GOMU GeErMu 57.07 316 P **P** **01 03 28.1 +1.5**
GOMU pP pP 01 03 31.4 -4.8
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,52nm,3.7s
ULN Ulaanbaatar 57.67 334 P **P** **01 03 29.9 -0.3**
SONM Songino Array 57.93 334 P **P** **01 03 29.7 -2.4**
comp=Z,1.0nm,0.5s,baz=144,slow=8.6,SNR=4.0
SONM LR LR 01 26 28.9
comp=Z,183nm,22.0s,baz=108,slow=34
comp=Z,1.0nm,0.5s
SONM Songino Array 57.93 334 P **P** **01 03 32.5 +0.3**
PALK Pallekele 60.37 280 LR LR 01 29 48.0
comp=Z,41nm,21.1s,baz=219,slow=36
SHEM Shemya Is, Ala 61.48 23 LR LR 01 25 27.6
comp=Z,157nm,21.9s,baz=284,slow=31
MA2 Magadan 62.01 6 LR LR 01 28 02.7
comp=Z,77nm,21.8s,baz=147,slow=33
YAK Yakutsk 64.47 354 LR LR 01 29 45.1
comp=Z,74nm,22.0s,baz=268,slow=34
YAK Yakutsk 64.47 354 P **P** **01 04 15.5 -0.4**
WMQ Urumqi 65.64 321 eP **P** **01 04 24.3 +0.3**
WMQ pP pP 01 04 31.4 -2.4
WMQ pmax pmax
comp=Z,30nm,0.7s
PPT2 Papeete2 70.25 108 eLR LR 01 26 14.5
comp=Z,113nm,23.8s
MK31 Makanchi Array 70.39 322 P **P** **01 04 53.9 +0.1**
MK31 IAmb IAmb 01 05 02.6
comp=Z,11nm,1.3s
MKAR Makanchi Array 70.39 322 P **P** **01 04 53.5 -0.3**
comp=Z,1.0nm,0.6s,baz=93,slow=8.5,SNR=13
MKAR LR LR 01 35 21.1
comp=Z,43nm,21.2s,baz=106,slow=36
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 70.39 322 P **P** **01 04 53.9 +0.2**
MAKZ Makanchi 70.59 322 P **P** **01 04 54.7 -0.3**
MAKZ IAmb IAmb 01 05 03.6
comp=Z,13nm,1.1s
TBI Tubuai 70.88 114 eLR LR 01 26 31.1
comp=Z,104nm,36.2s
TARG Taragay, Kyrgy 71.38 315 P **P** **01 05 01.2 +0.9**
TARG IAmb IAmb 01 05 20.0
comp=Z,14nm,1.3s
KSH Kashi 71.96 313 P **P** **01 05 06.0 +2.5**
KSH sP pP 01 05 13.3 -0.2
KSH PP **PP** **01 07 48.4 +4.7**
KSH pmax pmax
comp=Z,5.0nm,1.5s
ZAA0 Zalesovo Array 72.30 329 P **P** **01 05 04.4 -0.7**
ZALV Zalesovo Beam 72.30 329 P **P** **01 05 04.3 -0.7**
comp=Z,0.5nm,0.5s,baz=148,slow=8.5,SNR=2.0
ZALV LR LR 01 37 30.8
comp=Z,122nm,19.2s,baz=124,slow=36
comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam 72.30 329 P **P** **01 05 03.6 -1.5**
NIL Nilore 72.39 306 P **P** **01 05 04.9 -1.2**
NIL IAmb IAmb 01 05 15.0
comp=Z,14nm,1.1s
NRN Naryn 72.55 315 P **P** **01 05 06.7 -0.6**
NRN IAmb IAmb 01 05 16.2
comp=Z,7.5nm,1.2s
BOOM Boomskoye usch 72.94 316 P **P** **01 05 09.2 -0.2**
BOOM IAmb IAmb 01 05 18.5
comp=Z,14nm,1.2s
AAK Ala-Archa 74.00 315 P **P** **01 05 14.8 -0.8**
AAK IAmb IAmb 01 05 24.9
comp=Z,17nm,1.6s
KURK Kurchatov 74.24 324 P **P** **01 05 15.8 -0.8**
KURBB Kurchatov Arra 74.25 324 LR LR 01 38 12.9
comp=Z,73nm,20.4s,baz=45,slow=36
BTK Batken 75.92 312 P **P** **01 05 26.4 -0.3**
BTK IAmb IAmb 01 05 40.2
comp=Z,7.1nm,1.1s
KBL Kabul 75.99 306 P **P** **01 05 26.8 -0.5**
GAR Garm 76.03 311 P **P** **01 05 27.0 -0.3**
VNDA Vanda 76.25 175 P **P** **01 05 29.0 +1.3**
comp=Z,2.2nm,0.7s,baz=326,slow=6.7,SNR=34
VNDA LR LR 01 38 59.3
comp=Z,166nm,19.4s,baz=341,slow=36
comp=Z,2.2nm,0.7s
VNDA Vanda 76.25 175 P **P** **01 05 28.4 +0.7**
CHGR Chuyangaron 76.82 310 P **P** **01 05 32.1 +0.2**
KK31 Karatay Array 76.94 315 P **P** **01 05 32.6 +0.3**
KK31 IAmb IAmb 01 05 41.1
comp=Z,14nm,1.4s
KKAR Karatay Array 76.94 315 P **P** **01 05 32.6 +0.3**
SBA Scott Base 76.99 174 P **P** **01 05 32.5 +0.6**
SBA IAmb IAmb 01 05 35.7
comp=Z,27nm,1.8s
NRIK Noril'sk 79.63 343 P **P** **01 05 46.7 +0.2**
comp=Z,1.1nm,0.3s,baz=127,slow=5.6,SNR=5.8
NRIK LR LR 01 40 45.2
comp=Z,161nm,20.7s,baz=136,slow=36
comp=Z,1.1nm,0.3s
NRIK Noril'sk 79.63 343 P **P** **01 05 46.2 -0.3**
NRIK IAmb IAmb 01 05 54.4
comp=Z,17nm,1.4s
KDAK Kodiak Island 79.67 30 LR LR 01 36 09.9
comp=Z,156nm,20.9s,baz=255,slow=32
BVAR Borovoye Array 79.82 325 LR LR 01 40 20.0
comp=Z,47nm,21.8s,baz=104,slow=35
BRVK Borovoye 79.89 325 P **P** **01 05 48.1 -0.3**
BRVK IAmb IAmb 01 05 56.9
comp=Z,14nm,1.2s
L19K White Mountain 80.28 25 P **P** **01 05 49.9 -0.4**
L19K IAmb IAmb 01 05 58.3
comp=Z,10nm,1.1s
J20K Nowinta River 81.37 24 P **P** **01 05 55.9 -0.1**
J20K IAmb IAmb 01 06 04.3
comp=Z,20nm,1.4s
HRA Herat 81.49 305 P **P** **01 05 57.0 -0.5**
IMAR Indian Mountai 82.24 22 P **P** **01 06 00.1 -0.5**
H21K Melozitna Rive 82.47 23 P **P** **01 06 01.4 -0.5**
H21K IAmb IAmb 01 06 09.7
comp=Z,15nm,1.4s
MLY Manley 83.06 23 P **P** **01 06 04.3 -0.6**
MLY IAmb IAmb 01 06 15.8
comp=Z,6.5nm,1.3s
MAW Mawson 83.37 202 LR LR 01 41 42.1
comp=Z,168nm,18.6s,baz=83,slow=34
SCM Sheep Creek Mo 83.49 27 P **P** **01 06 07.1 -0.2**
DHY Denali Highway 83.83 26 P **P** **01 06 08.8 -0.2**
DHY IAmb IAmb 01 06 16.2
comp=Z,9.0nm,1.0s
CCB Clear Creek Bu 84.12 24 P **P** **01 06 09.4 -0.8**
CCB IAmb IAmb 01 06 16.4
comp=Z,6.9nm,1.1s
ILAR Eielson Array 84.53 24 P **P** **01 06 10.2 -2.2**
comp=Z,0.9nm,0.6s,baz=256,slow=4.9,SNR=8.2
ILAR LR LR 01 37 30.6
comp=Z,86nm,20.8s,baz=243,slow=31
comp=Z,0.9nm,0.6s
ILAR Eielson Array 84.53 24 P **P** **01 06 10.3 -2.1**
GEYT Alibeck 85.25 308 P **P** **01 06 17.0 +0.3**
comp=Z,3.0nm,0.8s,baz=96,slow=3.0,SNR=9.5
GEYT LR LR 01 46 12.6
comp=Z,49nm,21.5s,baz=132,slow=37
comp=Z,3.0nm,0.8s
GEYT Alibeck 85.25 308 P **P** **01 06 16.8 +0.2**
GYA0B ALIBECK ARRAY 85.25 308 P **P** **01 06 17.1 +0.5**
GYA0B IAmb IAmb 01 06 26.0
comp=Z,12nm,1.1s
ABKAR Akbulak array 85.40 320 **P** **01 06 16.5 -0.5**
ABKAR Akbulak array 85.40 320 P **P** **01 06 16.3 -0.8**
ABKAR IAmb IAmb 01 06 25.3
comp=Z,5.0nm,0.9s
BMAR Burnt Mountain 86.16 22 P **P** **01 06 20.2 -0.3**
BCAR Beaver Creek A 86.30 26 P **P** **01 06 21.2 -0.1**
ARU Arti 87.25 327 LR LR 01 47 07.0
comp=Z,80nm,19.9s,baz=96,slow=37
DAWY Dawson 87.54 26 P **P** **01 06 26.9 -0.4**
DAWY IAmb IAmb 01 06 36.3
comp=Z,8.3nm,1.1s
QSPA South Pole Qui 87.86 180 LR LR 01 44 48.4
comp=Z,158nm,21.3s,baz=14,slow=35
QSPA South Pole Qui 87.86 180 P **P** **01 06 29.4 +0.5**
QSPA IAmb IAmb 01 06 43.3
comp=Z,10nm,1.3s
INK Inuvik 90.43 22 LR LR 01 42 27.8
comp=Z,67nm,20.1s,baz=265,slow=32
DLBC Dease Lake 91.49 32 LR LR 01 52 59.5
comp=Z,48nm,18.1s,baz=294,slow=39
BBB Bella Bella 92.49 38 LR LR 01 38 58.9
comp=Z,85nm,22.0s,baz=232,slow=30
BELG Belogornoye 93.39 322 LR LR 01 50 18.3
comp=Z,64nm,20.7s,baz=140,slow=36
GNI Garni 95.73 310 LR LR 01 54 40.2
comp=Z,16nm,21.9s,baz=85,slow=38
YBH Yreka Blue Hor 96.46 48 LR LR 01 41 59.9
comp=Z,110nm,21.8s,baz=286,slow=30
KBZ Khabaz 96.93 314 LR LR 01 52 36.8
comp=Z,21nm,21.8s,baz=58,slow=37
SPITS Spitsbergen Ar 98.68 350 LR LR 01 51 39.9
comp=Z,128nm,20.2s,baz=13,slow=35
YKA Yellowknife Ar 98.70 27 LR LR 01 46 41.1
comp=Z,129nm,21.6s,baz=280,slow=32
GERES GERESS Array B 114.99 324 PKP PKPdf 01 12 20.9 +0.1
comp=Z,0.2nm,0.5s,baz=46,slow=4.6,SNR=1.8
TORD Torodi Ar. Bea 137.78 287 PKP **PKiKP** **01 13 06.2 -0.7**
comp=Z,0.6nm,1.0s,baz=5.9,slow=1.2,SNR=1.7
ROSC El Rosal 145.15 85 PKPbc **PKPdf** **01 13 19.6 +0.9**
comp=Z,4.3nm,0.4s,baz=117,slow=16,SNR=5.2
DBIC Dimbokro 145.16 279 PKPbc **PKPab** **01 13 17.8 -0.1**
comp=Z,3.3nm,0.8s,baz=80,slow=4.1,SNR=2.7
LPAZ La Paz 146.35 124 PKPbc **PKPab** **01 13 22.9 -0.1**
comp=Z,6.7nm,1.1s,baz=281,slow=2.4,SNR=12
CPUP Villa Florida 146.92 150 PKPbc **PKPbc** **01 13 23.2 +0.4**
comp=Z,5.3nm,1.0s,baz=256,slow=2.0,SNR=7.8

---

*IDC **18** 01:03:13.7±1.1,2°.17S×140°.59E, h0km, mb3.6/6, mbtmp3.8/8, ML4.1/2, Error ellipse: s-maj=38.3km s-min=21.7km az=98.0*

ISC 18 01:03:19.3±1.1,2°.2S±0°.2×140°.5E±0°.2, h35km, n9, σ0s80/9, mb3.6/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**18.51**	**244**	P	**Pn**	**01 07 33.5**	**+0.3**
	1.0nm,0.3s,baz=36,slow=6.8,SNR=4.7						
	18nm,0.7s						
WRA	**Warramunga Arr**	**18.62**	**198**	P	**P**	**01 07 33.6**	**-0.3**
	0.5nm,0.3s,baz=25,slow=12,SNR=14						
	1.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.48**	**222**	P	**P**	**01 08 05.3**	**+0.3**
	1.6nm,0.6s,baz=61,slow=12,SNR=5.5						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**22.26**	**196**	P	**P**	**01 08 13.0**	**-0.4**
	1.2nm,0.5s,baz=28,slow=11,SNR=15						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**01 14 28.9**	**-1.6**
	0.2nm,0.4s,baz=105,slow=9.3,SNR=3.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**74.36**	**324**	P	**P**	**01 14 54.4**	**+1.0**
	0.3nm,0.6s,baz=117,slow=4.6,SNR=4.0						
	0.3nm,0.6s						
VNDA	**Vanda**	**76.12**	**175**	P	**P**	**01 15 03.0**	**0.0**
	0.8nm,0.6s,baz=329,slow=6.5,SNR=12						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**84.65**	**24**	P	**P**	**01 15 49.3**	**+0.2**
	0.4nm,0.8s,baz=255,slow=3.5,SNR=2.4						
	0.4nm,0.8s						
LPAZ	**La Paz**	**146.27**	**124**	PKPbc	**PKPdf**	**01 22 57.0**	**+0.2**
	0.8nm,0.6s,baz=197,slow=2.1,SNR=4.0						

---

*IDC **18** 01:09:47.3±0.7,5°.60N×124°.69E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=22.3km s-min=11.7km az=95.0*

*MAN **18** 01:09:53.0,5°.68N×124°.95E, h23km, mb4.9, ML3.8, MS3.8 MAN INTENSITY II - GENERAL SANTOS CITY; ALABEL SARANGANI.*

ISC 18 01:09:55.0±0.7,5°.68N±0°.07×124°.87E±0°.06, h62km, n20, σ1s61/24, mb3.7/11, 3C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.41**	**11**	⇓*i*P	Pn	01 10 02.2	-4.1
GSPH				*i* S	**Sn**	**01 10 09.6**	**-5.0**
KCP	**Kidapawan**	**1.34**	**9**	⇓*i*P	**Pn**	**01 10 15.9**	**-1.7**
KCP				*i* S	**Sn**	**01 10 32.1**	**-2.4**
DAV	**Davao City (W)**	**1.55**	**27**	Pn	**Pn**	**01 10 19.2**	**-1.2**
	220nm,0.3s,baz=137,slow=1.6,SNR=17						
DAV				Lg	Lg	01 10 41.5	
	307nm,0.3s,baz=145,slow=23,SNR=20						
CTBH	**Cotabato--PC H**	**1.65**	**338**	⇑*i*P	**Pn**	**01 10 21.4**	**-0.3**
CTBH				*i* S	**Sn**	**01 10 42.5**	**+0.5**
BUKP	**Musuan**	**2.19**	**5**	⇓*i*P	**Pn**	**01 10 29.0**	**-0.1**
PAGZ	**Pagadian**	**2.61**	**326**	*i* P	**Pn**	**01 10 35.5**	**+0.8**
CGP	**Cagayan de Oro**	**2.76**	**356**	⇓*e*P	Pn	01 10 44.4	+7.6
CGP				*e*S	Sn	01 11 34.7	+26
BIPH	**Bislig**	**2.89**	**31**	⇑*e*P	**Pn**	**01 10 38.5**	**-0.2**
BIPH				*e*S	**Sn**	**01 11 12.4**	**+0.1**
ZCP	**Zamboanga City**	**3.04**	**294**	⇓*e*P	**Pn**	**01 10 39.0**	**-1.6**
ZCP				*e*S	**Sn**	**01 11 13.2**	**-2.7**
FITZ	**Fitzroy Crossi**	**23.64**	**178**	P	**P**	**01 15 00.3**	**-0.5**
	1.4nm,0.6s,baz=14,slow=5.2,SNR=9.6						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**27.11**	**160**	P	**P**	**01 15 31.8**	**-0.5**
	1.5nm,0.8s,baz=344,slow=11,SNR=15						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**30.47**	**164**	P	**P**	**01 16 01.9**	**-0.2**
	0.6nm,0.6s,baz=336,slow=6.4,SNR=11						
ASAR				PcP	**PcP**	**01 19 00.3**	**0.0**
	0.4nm,0.4s,baz=344,slow=2.3,SNR=5.8						
	0.6nm,0.6s						
XAN	**Xi'an**	**31.86**	**334**	⇑P	**P**	**01 16 16.5**	**+2.2**
XAN				pP	pP	01 16 24.8	-5.0
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
STKA	**Stephens Creek**	**40.61**	**158**	P	**P**	**01 17 29.4**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=325,slow=7.8,SNR=4.3						
	comp=Z,2.4nm,0.7s						
SONM	**Songino Array**	**44.88**	**342**	P	**P**	**01 18 03.4**	**0.0**
	comp=Z,0.6nm,0.4s,baz=169,slow=8.5,SNR=3.7						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**54.91**	**325**	P	**P**	**01 19 20.6**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=126,slow=7.6,SNR=8.7						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**58.02**	**333**	P	**P**	**01 19 41.0**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=144,slow=5.2,SNR=2.1						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**59.11**	**328**	P	**P**	**01 19 49.4**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=124,slow=6.6,SNR=18						
	comp=Z,1.4nm,0.8s						
BVAR	**Borovoye Array**	**64.68**	**327**	P	**P**	**01 20 26.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=152,slow=10.0,SNR=5.5						

comp=Z,0.3nm,0.3s
ILAR Eielson Array 84.15 26 P **P** **01 22 19.7 +0.6**
comp=Z,0.4nm,0.7s,baz=260,slow=5.4,SNR=3.5
comp=Z,0.4nm,0.7s

IDC 18 01:17:17.5±6.9, 2°28S×141°15E, h0km, mb3.3/2, mbtmp3.3/3, ML3.5/1, MS4.0/1, Error ellipse: s-maj=185.3km s-min=77.9km az=132.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.78**	**200**	P		P	01 21 37.6	-0.8
	0.1nm,0.3s,baz=24,slow=12,SNR=2.8							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**22.39**	**198**	P		P	01 22 17.6	-0.1
	0.3nm,0.5s,baz=27,slow=12,SNR=5.3							
	0.3nm,0.5s							
MSVF	**Nonsavu**	**39.33**	**115**	LR		LR	01 38 46.1	
	comp=Z,207nm,20.6s,baz=55,slow=33							
VNDA	**Vanda**	**76.00**	**175**	P		P	01 29 06.5	+0.4
	0.4nm,0.8s,baz=335,slow=6.0,SNR=2.0							
	0.4nm,0.8s							

IDC 18 01:19:05.0±6.7, 1°82S×140°85E, h0km, mb3.4/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=177.5km s-min=77.9km az=131.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.11**	**199**	P		P	01 23 29.5	-0.1
	0.1nm,0.3s,baz=20,slow=12,SNR=4.6							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**22.74**	**197**	P		P	01 24 08.9	0.0
	0.5nm,0.5s,baz=28,slow=11,SNR=8.4							
	0.5nm,0.5s							
VNDA	**Vanda**	**76.48**	**175**	P		P	01 30 56.4	+0.1
	0.4nm,0.7s,baz=332,slow=7.0,SNR=2.0							
	0.4nm,0.7s							

---

*MAN **18** 01:25:48.9, 9.°14N×125.°91E, h8km, mb5.3, ML4.2, MS4.4*
MAN INTENSITY IV - CARMEN CANTILAN & LANUZA
SURIGAO DEL SUR; INTENSITY III - TANDAG CITY
SURIGAO DEL SUR; INTENSITY II - SUIRGAO CITY.
*IDC **18** 01:25:51.8±1.6, 9.°18N×126.°01E, h44km±15km, mb3.9/22, mbtmp4.2/26, ML4.7/4, MS3.3/12, Error ellipse: s-maj=20.0km s-min=9.2km az=82.0*
*NEIC **18** 01:25:53.6±1.6, 9.°20N±0.°09×126.°1E±0.°1, h54km±8km, mb4.5/29, Error ellipse: s-maj=15.4km s-min=12.7km az=73.0*
*DJA **18** 01:26:05.4±2.1, 8.°N±17.°×12.°6E±.°, h51km±11km, M4.8/16, mB5.1/6, mb4.8/16, MLv5.0/6, Mw(mB)4.4/6*
ISC 18 01:25:49.2±1.2, 9.°15N±0.°03×126.°00E±0.°05, h23km±8km, n117, σ1°64/120, mb4.4/36, MS3.5/11, 11C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**0.81**	**321**	⇑*iP*		**Pb**	**01 26 03.1**	**-1.6**
SCPH				*i* S		**Sb**	**01 26 14.0**	**-1.2**
BIPH	**Bislig**	**1.02**	**160**	⇑*eP*		**Pn**	**01 26 06.9**	**-1.2**
BIPH				*e*S		**Sb**	**01 26 21.1**	**-0.1**
CGP	**Cagayan de Oro**	**1.46**	**242**	⇓*iP*		**Pn**	**01 26 13.6**	**-0.7**
CGP				*i* S		**Sn**	**01 26 32.6**	**-0.1**
BUKP	**Musuan**	**1.56**	**216**	⇑*eP*		**Pn**	**01 26 16.6**	**+0.9**
BUKP				*e*S		**Sb**	**01 26 40.5**	**+3.5**
GHBP	**Garcia Hernand**	**1.73**	**286**	⇓*eP*		**Pn**	**01 26 16.9**	**-0.9**
GHBP				*e*S		**Sn**	**01 26 38.5**	**-0.7**
TABP	**Talibon, Bohol**	**1.90**	**300**	⇑*eP*		**Pn**	**01 26 18.9**	**-1.3**
TABP				*e*S		**Sn**	**01 26 42.0**	**-1.4**
DAV	**Davao City (W)**	**2.10**	**191**	P		**Pn**	**01 26 23.7**	**+0.6**
	146nm,0.3s,baz=10,slow=3.1,SNR=18							
DAV				S		**Sb**	**01 26 51.2**	**-1.3**
	1μm,0.5s,baz=303,slow=20,SNR=7.0							
DAV				LR		LR	01 27 29.8	
	comp=Z,1μm,20.3s,baz=160,slow=46							
	542nm,0.4s							
DAV	**Davao City (W)**	**2.10**	**191**	Pn		**Pb**	**01 26 26.0**	**-0.8**
TBP	**Tagbilaran**	**2.18**	**285**	⇓*eP*		**Pn**	**01 26 24.3**	**+0.2**
TBP				*i* S		**Sn**	**01 26 49.2**	**-1.2**
KCP	**Kidapawan**	**2.31**	**203**	⇑*iP*		**Pn**	**01 26 27.5**	**+1.6**
KCP				*i* S		**Sb**	**01 26 57.3**	**-1.1**
LLP	**Lapu-Lapu**	**2.32**	**300**	⇑*eP*		**Pn**	**01 26 27.0**	**+1.0**
LLP				*e*S		**Sb**	**01 26 58.1**	**-0.5**
LSIP	**Lazi, Siquijor**	**2.34**	**270**	*iP*		**Pn**	**01 26 25.9**	**-0.4**
LSIP				*i* S		**Sn**	**01 26 54.0**	**-0.4**
CTBH	**Cotabato--PC H**	**2.58**	**222**	⇑*iP*		**Pn**	**01 26 30.7**	**+1.0**
DCPH	**Dipolog City**	**2.68**	**258**	⇑*eP*		**Pb**	**01 26 34.0**	**-2.5**
SNPH	**Sibulan**	**2.74**	**274**	⇓*eP*		**Pn**	**01 26 33.0**	**+1.1**
SNPH				*e*S		**Sn**	**01 27 03.5**	**-0.7**
PAGZ	**Pagadian**	**2.89**	**244**	⇑*iP*		**Pn**	**01 26 35.2**	**+1.3**
GSPH	**General Santos**	**3.21**	**199**	*eP*		**Pb**	**01 26 43.2**	**-2.5**
CNOP	**Candoni, Negro**	**3.38**	**282**	⇑*iP*		**Pn**	**01 26 41.6**	**+0.9**
RCP	**Roxas**	**4.00**	**307**	⇓*eP*		**Pn**	**01 26 51.0**	**+1.8**
RCP				*e*S		**Sn**	**01 27 39.6**	**+4.2**
JAP	**San Jose, Anti**	**4.30**	**292**	⇑*eP*		**Pn**	**01 26 56.5**	**+3.2**
SGSI	**Sangihe**	**5.45**	**185**	P		**Pn**	**01 27 10.8**	**+1.8**
JCNP	**Jose Panganiba**	**6.05**	**328**	*iP*		**Pn**	**01 27 17.8**	**+0.5**
LQP	**Lukban**	**6.59**	**319**	⇓*eP*		**Pn**	**01 27 28.3**	**+3.4**
MYLDM	**Lahad Datu**	**8.42**	**243**	Pn		**Pn**	**01 27 54.2**	**+4.3**
TNTI	**Ternate**	**8.43**	**171**	Pn		**Pn**	**01 27 54.4**	**+4.4**
TNTI	**Ternate**	**8.43**	**171**	P		**Pn**	**01 27 52.8**	**+2.8**
	0.4nm92nm,0.9s							
GTOI	**Gorontalo**	**8.96**	**200**	P		**Pn**	**01 27 57.7**	**+0.3**
	313nm30nm,0.6s							
MRSI	**Marisa**	**9.51**	**205**	P		**Pn**	**01 28 08.2**	**+3.3**
	44nm,0.5s							
LBMI	**Labuha**	**9.83**	**171**	P		**Pn**	**01 28 13.0**	**+3.7**
	1um38nm,0.9s							
LUWI	**Luwuk**	**10.62**	**198**			**Pn**	**01 28 24.0**	**+3.9**
LUWI	**Luwuk**	**10.62**	**198**	P		**Pn**	**01 28 24.0**	**+3.9**
	77nm,0.7s							
APSI	**Ampana**	**10.89**	**204**	P		Pn	01 28 29.3	+5.5
	23nm,1.4s							
SANI	**Sanana**	**11.12**	**180**	P		**Pn**	**01 28 25.8**	**-1.2**
	31nm,0.5s							
SIJI	**Sorong**	**11.25**	**152**	P		**Pn**	**01 28 29.4**	**+0.7**
	6.3nm,0.3s,baz=319,slow=15,SNR=13							
	18nm,0.4s							
NLAI	**Namlea**	**12.35**	**175**	P		**Pn**	**01 28 46.1**	**+2.3**
	29nm,0.7s							
TTSI	**Tana Toraja**	**13.59**	**207**	P		**P**	**01 29 07.1**	**-2.4**
	882nm20nm,0.9s							
SBUM	**Sibu**	**15.23**	**245**	Pn		**P**	**01 29 27.5**	**-0.2**
SBUM				IAmb		IAmb	01 29 39.7	
	comp=Z,32nm,1.0s							
KAPI	**Kappang**	**15.38**	**204**	P		**Pn**	**01 29 24.9**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=189,slow=15,SNR=4.1							
KAPI				LR		LR	01 35 59.3	
	comp=Z,93nm,18.2s,baz=40,slow=39							
	comp=Z,2.6nm,0.3s							
KAPI	**Kappang**	**15.38**	**204**	Pn		**P**	**01 29 27.9**	**-1.6**
KAPI				IAmb		IAmb	01 29 36.5	
	comp=Z,51nm,1.5s							
EDFI	**Ende, Flores**	**18.29**	**194**	P		**P**	**01 30 05.3**	**+3.5**
	comp=Z,7.3nm,0.9s							
SOEI	**Soe**	**18.86**	**185**	P		**Pn**	**01 30 09.5**	**+0.8**
GUMO	**Guam**	**19.01**	**75**	LR		LR	01 35 55.4	
	comp=Z,79nm,21.6s,baz=250,slow=32							
BATI	**Baumata**	**19.37**	**187**	P		**Pn**	**01 30 15.0**	**+0.3**
	comp=Z,6.1nm,0.3s,baz=249,slow=4.6,SNR=3.5							
	comp=Z,20nm,0.4s							
BATI	**Baumata**	**19.37**	**187**	P		**Pn**	**01 30 15.3**	**+0.6**
MTN	**Manton Dam**	**22.43**	**167**	P		**P**	**01 30 48.5**	**+1.8**
MTN				IAmb		IAmb	01 30 58.4	
	comp=Z,16nm,0.7s							
KNRA	**Kununurra**	**24.81**	**174**	P		**P**	**01 31 11.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**27.07**	**181**	P		**P**	**01 31 31.1**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=3.0,slow=7.6,SNR=14							
	comp=Z,2.1nm,0.5s							
FITZ	**Fitzroy Crossi**	**27.07**	**181**	P		**P**	**01 31 31.2**	**+1.0**
CRAI	**Chiangrai**	**27.08**	**297**	P		**P**	**01 31 30.0**	**-0.4**
RPSI	**Rantau Prapat**	**27.67**	**258**	P		**P**	**01 31 35.8**	**+0.1**
RPSI				IAmb		IAmb	01 31 44.3	
	comp=Z,11nm,0.9s							
CMAR	**Chiang Mai Arr**	**27.82**	**292**	P		**P**	**01 31 38.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=120,slow=6.9,SNR=9.5							
CMAR				LR		LR	01 42 43.6	
	comp=Z,65nm,19.2s,baz=95,slow=36							
	comp=Z,0.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**27.82**	**292**	P		**P**	**01 31 36.5**	**-0.6**
KSAR	**Wonju Array Be**	**28.22**	**3**	P		**P**	**01 31 38.6**	**-1.7**
KSRS	**Korea Array**	**28.24**	**3**	P		**P**	**01 31 41.3**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=184,slow=11,SNR=3.6							
KSRS				LR		LR	01 45 21.6	
	comp=Z,18nm,18.2s,baz=185,slow=42							
	comp=Z,1.2nm,0.5s							
PZH	**PanZhiHua**	**28.74**	**310**	P		**P**	**01 31 48.1**	**+2.8**
PZH				pmax		pmax		
	comp=Z,8.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,100nm,5.1s							
MJAR	**Matsushiro Arr**	**29.44**	**20**	P		**P**	**01 31 50.0**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=187,slow=9.5,SNR=6.6							
MJAR				LR		LR	01 41 43.3	
	comp=Z,42nm,21.1s,baz=166,slow=32							
	comp=Z,1.5nm,0.8s							
WB0	**Warramunga Arr**	**29.90**	**164**	P		**P**	**01 31 56.1**	**+0.7**
WRA	**Warramunga Arr**	**30.05**	**164**	P		**P**	**01 31 56.1**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=347,slow=9.4,SNR=18							
WRA				S		**S**	**01 36 52.7**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=342,slow=15,SNR=2.4							
	comp=Z,1.7nm,0.5s							
JMM	**Marumori**	**31.55**	**23**	P		**P**	**01 32 08.3**	**-1.6**
AS31	**Alice Springs**	**33.51**	**167**	P		**P**	**01 32 27.0**	**-0.2**
AS31				IAmb		IAmb	01 32 34.6	
	comp=Z,1.9nm,0.3s							
ASAR	**Alice Springs**	**33.51**	**167**	P		**P**	**01 32 27.2**	**0.0**
	comp=Z,1.3nm,0.4s,baz=351,slow=7.2,SNR=24							
ASAR				S		**S**	**01 37 47.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=355,slow=20,SNR=4.9							
ASAR				ScP		**ScP**	**01 38 49.5**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=0.1,slow=4.5,SNR=5.3							
	comp=Z,1.3nm,0.4s							
HHC	**Hu-ho-hao-te**	**34.07**	**340**	*eP*		**P**	**01 32 35.3**	**+3.3**
HHC				pmax		pmax		
	comp=Z,27nm,0.7s							
HHC				pmax		pmax		
	comp=Z,300nm,4.5s							
CTA	**Charters Tower**	**35.23**	**146**	P		**P**	**01 32 42.5**	**+0.4**
	comp=Z,4.0nm,0.6s,baz=322,slow=9.3,SNR=8.5							
	comp=Z,4.0nm,0.6s							
CTAO	**Charters Tower**	**35.23**	**146**	P		**P**	**01 32 41.3**	**-0.9**
CTAO				IAmb		IAmb	01 32 43.2	
	comp=Z,7.4nm,0.8s							
USRK	**Ussuriysk Ar.**	**35.31**	**7**	P		**P**	**01 32 42.6**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=197,slow=7.2,SNR=13							
	comp=Z,2.9nm,0.6s							
USRK	**Ussuriysk Ar.**	**35.31**	**7**	P		**P**	**01 32 43.3**	**+0.8**
BRDH	**Bariadhala**	**35.57**	**296**	LR		LR	01 48 33.1	
	comp=Z,76nm,19.1s,baz=102,slow=38							
HNR	**Honiara**	**38.51**	**118**	LR		LR	01 48 56.2	
	comp=Z,623nm,18.1s,baz=312,slow=36							
FORT	**Forrest**	**39.74**	**177**	P		**P**	**01 33 20.6**	**+0.4**
KLR	**Kul'dur**	**40.24**	**6**	P		**P**	**01 33 24.2**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=232,slow=16,SNR=2.8							
	comp=Z,1.2nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**40.50**	**72**	T		T	02 16 21.6	
	baz=262,slow=75,SNR=355							
H11S1	**WAKE ISLAND Hy**	**40.52**	**72**	T		T	02 16 23.5	
	baz=262,slow=75,SNR=281							
H11S2	**WAKE ISLAND Hy**	**40.52**	**72**	T		T	02 16 21.6	
	baz=262,slow=75,SNR=231							
H11N1	**WAKE ISLAND Hy**	**40.87**	**70**	T		T	02 16 56.7	
	baz=265,slow=74,SNR=157							
H11N2	**WAKE ISLAND Hy**	**40.88**	**70**	T		T	02 16 54.8	
	baz=265,slow=74,SNR=179							
H11N3	**WAKE ISLAND Hy**	**40.89**	**70**	T		T	02 16 56.1	
	baz=265,slow=74,SNR=162							
SONM	**Songino Array**	**41.98**	**340**	P		**P**	**01 33 38.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=166,slow=8.9,SNR=1.5							
SONM				LR		LR	01 53 04.9	
	comp=Z,67nm,18.1s,baz=256,slow=39							
	comp=Z,0.3nm,0.4s							
BBOO	**Buckleboo**	**42.81**	**168**	P		**P**	**01 33 45.1**	**-0.3**
STKA	**Stephens Creek**	**43.43**	**161**	P		**P**	**01 33 50.2**	**-0.2**
	comp=Z,3.2nm,0.4s,baz=338,slow=8.9,SNR=10.0							
	comp=Z,3.2nm,0.4s							
STKA	**Stephens Creek**	**43.43**	**161**	P		**P**	**01 33 50.8**	**+0.3**
WMQ	**Urumqi**	**47.95**	**323**	*eP*		**P**	**01 34 28.8**	**+2.7**
WMQ				LR		LR		
	comp=Z,60nm,20.7s							
PETK	**Petropavlovsk-**	**50.77**	**24**	P		**P**	**01 34 48.1**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=219,slow=4.1,SNR=7.7							
	comp=Z,3.5nm,0.7s							
MK31	**Makanchi Array**	**52.76**	**323**	P		**P**	**01 35 01.6**	**-0.9**
MKAR	**Makanchi Array**	**52.76**	**323**	P		**P**	**01 35 02.4**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=119,slow=8.3,SNR=12							
	comp=Z,1.4nm,0.7s							
MKAR	**Makanchi Array**	**52.76**	**323**	P		**P**	**01 35 01.0**	**-1.4**
YAK	**Yakutsk**	**52.85**	**2**	LR		LR	01 56 48.8	
	comp=Z,23nm,21.5s,baz=96,slow=35							
KSH	**Kashi**	**53.79**	**313**	P		P	01 35 18.0	+7.7
NIL	**Nilore**	**54.15**	**305**	P		**P**	**01 35 12.8**	**-0.1**
ZALV	**Zalevo Beam**	**55.48**	**332**	P		**P**	**01 35 21.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=134,slow=4.2,SNR=1.9							
ZALV				LR		LR	02 00 16.3	
	comp=Z,41nm,18.4s,baz=162,slow=37							
	comp=Z,0.5nm,0.3s							
ZALV	**Zalesovo Beam**	**55.48**	**332**	P		**P**	**01 35 24.7**	**+2.6**
AAK	**Ala-Archa**	**55.94**	**316**	LR		LR	02 01 34.4	
	comp=Z,42nm,21.9s,baz=104,slow=38							
AAK	**Ala-Archa**	**55.94**	**316**	P		**P**	**01 35 26.4**	**+0.5**
KURK	**Kurchatov**	**56.84**	**326**	P		**P**	**01 35 32.1**	**+0.2**
KURK				IAmb		IAmb	01 35 40.4	
	comp=Z,5.0nm,0.8s							
KURBB	**Kurchatov Arra**	**56.84**	**326**	P		**P**	**01 35 31.2**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=125,slow=6.8,SNR=11							
	comp=Z,1.6nm,0.4s							
KBL	**Kabul**	**57.75**	**305**	P		**P**	**01 35 40.2**	**+1.3**
KBL				IAmb		IAmb	01 35 54.7	
	comp=Z,4.9nm,1.0s							
GAR	**Garm**	**57.81**	**310**	P		**P**	**01 35 40.0**	**+0.8**
KK31	**Karatay Array**	**58.85**	**315**	P		**P**	**01 35 46.4**	**+0.2**
KK31				IAmb		IAmb	01 35 52.5	
	comp=Z,2.5nm,0.7s							
KKAR	**Karatay Array**	**58.85**	**315**	P		**P**	**01 35 46.7**	**+0.4**
BRVK	**Borovoye**	**62.51**	**326**	P		**P**	**01 36 10.9**	**0.0**
BRVK				IAmb		IAmb	01 36 17.4	
	comp=Z,3.4nm,0.7s							
NRIK	**Noril'sk**	**65.03**	**346**	P		**P**	**01 36 28.1**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=139,slow=7.6,SNR=2.3							
	comp=Z,1.9nm,0.5s							
NRIK	**Noril'sk**	**65.03**	**346**	P		**P**	**01 36 29.4**	**+2.2**
GEYT	**Ailbeck**	**67.01**	**307**	P		**P**	**01 36 41.3**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=210,slow=4.6,SNR=1.8							
	comp=Z,0.4nm,0.4s							
ABKAR	**Akbulak array**	**67.55**	**320**	P		**P**	**01 36 43.8**	**0.0**
ARU	**Arti**	**70.02**	**327**	P		**P**	**01 36 59.4**	**+0.4**
ARU				IAmb		IAmb	01 37 05.0	
	comp=Z,4.5nm,0.7s							
RAYN	**Ar Rayn**	**77.74**	**292**	P		**P**	**01 37 43.5**	**-1.5**
RAYN				IAmb		IAmb	01 37 53.0	
	comp=Z,3.5nm,0.9s							
BPAW	**Bear Paw Mtn.**	**78.78**	**26**	P		**P**	**01 37 49.1**	**-0.7**
BPAW				IAmb		IAmb	01 38 01.1	
	comp=Z,5.3nm,1.0s							
MLY	**Manley**	**78.92**	**25**	P		**P**	**01 37 50.7**	**0.0**
MLY				IAmb		IAmb	01 37 54.6	
	comp=Z,6.0nm,1.3s							
ILAR	**Eielson Array**	**80.56**	**26**	P		**P**	**01 37 59.5**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=251,slow=5.5,SNR=5.5							
ILAR				LR		LR	02 16 40.9	
	comp=Z,18nm,18.6s,baz=320,slow=38							
	comp=Z,0.8nm,0.6s							
GLI	**Glacier Island**	**80.57**	**30**	P		**P**	**01 37 59.3**	**-0.3**
GLI				IAmb		IAmb	01 38 08.7	
	comp=Z,5.1nm,0.7s							
ARCES	**ARCESS Array B**	**85.15**	**340**	P		**P**	**01 38 21.2**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=81,slow=8.0,SNR=9.2							
	comp=Z,0.9nm,0.5s							
BRTR	**Keskin Array B**	**86.03**	**309**	P		**P**	**01 38 26.9**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=95,slow=4.0,SNR=5.1							
	comp=Z,0.6nm,0.8s							
FINES	**FINESS Array B**	**86.75**	**332**	P		**P**	**01 38 29.8**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=57,slow=4.6,SNR=10							
	comp=Z,0.6nm,0.4s							
VNDA	**Vanda**	**88.86**	**173**	P		**P**	**01 38 40.7**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=308,slow=7.0,SNR=12							
	comp=Z,0.9nm,0.6s							
TXAR	**Lajitas Array**	**118.76**	**49**	PKP		**PKPdf**	**01 44 35.3**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=270,slow=1.3,SNR=3.9							
TORD	**Torodi Ar. Bea**	**120.43**	**291**	PKP		**PKPdf**	**01 44 38.4**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=94,slow=1.8,SNR=9.9							
PLCA	**Paso Flores**	**145.28**	**158**	PKPbc		**PKPbc**	**01 45 25.1**	**-0.2**
	comp=Z,5.9nm,0.8s,baz=217,slow=3.7,SNR=14							
LPAZ	**La Paz**	**164.50**	**119**	PKP		**PKPdf**	**01 45 52.9**	**0.0**
	comp=Z,1.1nm,0.8s,baz=286,slow=4.8,SNR=4.7							

---

*UPA **18** 01:26:55.1±1.3, 7.°09N×77.°87W, h24km±5km, MW3.7*
*RSNC **18** 01:26:58.0±1.1, 7.°18N×77.°82W, h14km±3km, ML3.0*
ISC 18 01:26:55.4±1.0, 7°25N±0°03×77°93W±0°03, h20km±4km, n41, σ1°94/71, 5C-2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTAC	**Punta Ardita,**	**0.16**	**130**	*i* P		**Pg**	**01 26 59.8**	**-0.2**
PTAC				*e*S		**Sg**	**01 27 02.9**	**-0.3**
PTAC	**Punta Ardita,**	**0.16**	**130**	⇓*iP*		**Pg**	**01 26 59.8**	**-0.2**
PTAC				*e*S		**Sg**	**01 27 02.8**	**-0.3**
SOLC	**Bahia Solano**	**1.14**	**153**	*eP*		**Pn**	**01 27 15.8**	**-0.4**
SOLC				*e*S		**Sg**	**01 27 32.2**	**-0.3**
SOLC				IAML			01 27 38.0	
	comp=Z,321nm,0.3s							
UPD2	**Meteti**	**1.29**	**356**	⇓*iP*		**Pn**	**01 27 18.6**	**+0.2**
UPD2				*e*S		**Sg**	**01 27 37.6**	**+0.2**
DBBC	**Dabeiba**	**1.72**	**98**	*eP*		**Pn**	**01 27 24.8**	**+0.4**
DBBC				*e*S		**Sn**	**01 27 45.2**	**-0.6**
LCBC	**Los crdobas,**	**2.22**	**44**	*eP*		**Pn**	**01 27 32.5**	**+1.3**
LCBC				*e*S		**Sb**	**01 28 01.1**	**-1.0**
LCBC				IAML			01 28 04.0	
	comp=Z,87nm,0.4s							
LCBC	**Los crdobas,**	**2.22**	**44**	*eP*		**Pn**	**01 27 32.1**	**+1.0**
LCBC				*e*S		**Sn**	**01 27 59.6**	**+1.5**
TABO3	**Taboga, Panama**	**2.22**	**314**	⇑*iP*		**Pn**	**01 27 31.5**	**+0.3**
TABO3				*e*S		**Sn**	**01 28 00.0**	**+1.9**
UPA	**Univ. de Panam**	**2.34**	**317**	*eP*		**Pn**	**01 27 32.8**	**0.0**
UPA				*e*S		**Sb**	**01 28 06.7**	**+1.2**
UPA				IAML			01 28 24.9	
	comp=Z,49nm,0.4s							
UPA	**Univ. de Panam**	**2.34**	**317**	*eP*		**Pn**	**01 27 32.6**	**-0.2**
UPA				*e*S		**Sb**	**01 28 08.0**	**+2.5**
CBOC	**Ciudad Bolivar**	**2.35**	**126**	*eP*		**Pn**	**01 27 33.1**	**0.0**
CBOC				*e*S		**Sn**	**01 28 00.0**	**-1.1**
CBOC				IAML			01 28 07.9	
	comp=Z,77nm,0.6s							
UREC	**San Jos de Ur**	**2.43**	**78**	*eP*		**Pn**	**01 27 35.0**	**+1.0**
UREC				*e*S		**Sn**	**01 28 03.8**	**+0.6**
UREC				IAML			01 28 05.2	
	comp=Z,55nm,0.4s							
UREC	**San Jos de Ur**	**2.43**	**78**	*eP*		**Pn**	**01 27 33.9**	**-0.1**
UREC				*e*S		**Sn**	**01 28 00.6**	**-2.6**
VTON	**El Valle, Cocl**	**2.55**	**302**	*eS*		**Sb**	**01 28 09.8**	**-1.8**
CHIT3	**Chitre**	**2.56**	**286**	⇑*iP*		**Pn**	**01 27 37.7**	**+1.8**
CHIT3				*e*S		**Sn**	**01 28 07.3**	**+0.7**
HELC	**Santa Helena**	**2.61**	**114**	⇑*eP*		**Pn**	**01 27 37.8**	**+1.0**
HELC				*e*S		**Sn**	**01 28 07.8**	**-0.2**
HELC				IAML			01 28 12.2	
	comp=Z,73nm,0.6s							
BCIP	**Isla Barro Col**	**2.68**	**315**	⇑*iP*		**Pn**	**01 27 37.8**	**+0.2**
BCIP				*e*S		**Sb**	**01 28 16.6**	**+1.3**
PLMC	**San Jos del P**	**2.85**	**145**	*eP*		**Pn**	**01 27 40.9**	**+1.0**
CACAO	**El Cacao, Vera**	**2.91**	**272**	*eP*		**Pn**	**01 27 41.8**	**+1.2**
CACAO				*e*S		**Sn**	**01 28 14.1**	**-0.9**
ZARC	**Zaragoza, Cauc**	**3.06**	**85**	*eP*		**Pn**	**01 27 43.1**	**+0.5**
ZARC				*e*S		**Sn**	**01 28 18.9**	**+0.2**
ZARC				IAML			01 28 20.5	
	comp=Z,80nm,0.3s							
GUY2C	**Guyana, Caldas**	**3.25**	**128**	*eP*		**Pn**	**01 27 47.0**	**+1.3**
GUY2C				*e*S		**Sn**	**01 28 25.4**	**+1.4**
GUY2C				IAML			01 28 42.2	
	comp=Z,46nm,0.6s							
MALC	**Bahia Malaga**	**3.27**	**170**	*eP*		**Pb**	**01 27 49.8**	**-3.0**
NORC	**Norcasia**	**3.47**	**119**	*eP*		**Pn**	**01 27 50.9**	**+2.5**
NORC				*e*S		**Sn**	**01 28 32.5**	**+3.4**
NORC	

MVOU					AML	AML	01 38 53.2	
	9.1nm,0.3s							
ATHAL	**Athalassa**	**0.49**	**298**		P	**Pb**	**01 38 52.1**	**+0.3**
ATHAL					S	**Sb**	**01 38 59.0**	**+0.4**
ATHAL					AML	AML	01 39 06.2	
	3.1nm,0.6s							
ATHAL					AML	AML	01 39 06.2	
	3.1nm,0.6s							
ATHAL					AML	AML	01 39 10.2	
	2.6nm,0.5s							
ATHAL					AML	AML	01 39 10.2	
	2.6nm,0.5s							
CSS	**Mathiatis**	**0.49**	**276**		PG	**Pb**	**01 38 52.2**	**+0.4**
CSS					SG	**Sb**	**01 38 59.4**	**+0.8**
CSS	**Mathiatis**	**0.49**	**276**		P	**Pb**	**01 38 51.8**	**+0.1**
CSS					S	**Sn**	**01 39 00.8**	**-1.0**
CSS	**Mathiatis**	**0.49**	**276**		Pg	**Pg**	**01 38 51.1**	**-0.7**
CSS					Sg	**Sg**	**01 38 56.6**	**-1.9**
ASGA	**Asgata**	**0.57**	**257**		P	**Pn**	**01 38 54.5**	**-0.4**
ASGA					AML	AML	01 39 10.6	
	1.4nm,0.5s							
ASGA					AML	AML	01 39 13.4	
	1.1nm,0.5s							
EREN	**Erenkoy**	**0.65**	**18**		PG	**Pb**	**01 38 53.3**	**-1.2**
EREN					SG	**Sb**	**01 39 01.0**	**-2.1**
SZAC	**Souni**	**0.87**	**260**		P	**Pn**	**01 39 00.9**	**+1.9**
SZAC					AML	AML	01 39 17.2	
	1.9nm,0.4s							
SZAC					AML	AML	01 39 17.4	
	2.0nm,0.4s							
LEF	**Lefka**	**0.87**	**284**		PG	**Pn**	**01 38 59.4**	**+0.4**
LEF					SG	**Sn**	**01 39 11.9**	**+0.7**
ALFC	**Alefka**	**1.11**	**283**		P	**Pg**	**01 39 03.7**	**+0.3**
ALFC					AML	AML	01 39 24.1	
	0.6nm,0.4s							
ALFC					AML	AML	01 39 25.6	
	0.9nm,0.3s							
AKKU	**Akkuyu-Mersin**	**1.28**	**346**		PN	**Pn**	**01 39 04.5**	**-0.2**
AKKU					SN	**Sn**	**01 39 20.8**	**-0.5**
GULN	**MERSIN_Gulnar**	**1.31**	**346**		P	**Pn**	**01 39 03.9**	**-1.1**
AKMS	**Akamas**	**1.31**	**275**		P	**Pg**	**01 39 08.5**	**+1.4**
AKMS					AML	AML	01 39 30.4	
	0.9nm,0.8s							
AKMS					AML	AML	01 39 33.8	
	0.7nm,0.7s							
IKL	**Isikli**	**1.34**	**352**		PN	**Pn**	**01 39 05.3**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.39**	**332**		PN	**Pb**	**01 39 07.0**	**-0.2**
BERE	**Bereket-Mersin**	**1.54**	**339**		PN	**Pb**	**01 39 09.2**	**-0.6**
KEBE	**Keben-Mersin**	**1.54**	**354**		PN	**Pb**	**01 39 09.2**	**-0.6**
TEVE	**Tevekalti-Mers**	**1.57**	**346**		PN	**Pn**	**01 39 09.2**	**+0.5**
KIZK	**Mersin**	**1.57**	**7**		PN	**Pn**	**01 39 09.6**	**+0.9**
KIZK	**Mersin**	**1.57**	**7**		P	**Pb**	**01 39 10.1**	**-0.2**
KIZK					S	**Sn**	**01 39 26.6**	**-2.0**
GAZI	**Gazipasa**	**1.86**	**316**		PN	**Pn**	**01 39 13.8**	**+1.2**
GAZI	**Gazipasa**	**1.86**	**316**		P	**Pn**	**01 39 13.4**	**+0.8**
ERMK	**Ermenek**	**1.91**	**335**		P	**Pb**	**01 39 15.4**	**-0.7**
ERMK					S	**Sb**	**01 39 38.5**	**-1.2**
MERS	**Mersin**	**2.01**	**14**		PN	**Pn**	**01 39 15.8**	**+1.0**
DED	**Mersin**	**2.17**	**19**		P	**Pn**	**01 39 15.8**	**-1.1**
DED					S	**Sn**	**01 39 43.8**	**+0.7**
GEM	**Giv'at Ha'Em**	**2.23**	**139**		Pn	**Pn**	**01 39 18.5**	**+0.8**
GEM					Sn	**Sn**	**01 39 45.9**	**+1.2**
NATI	**Neve Ativ**	**2.23**	**137**		Pn	**Pn**	**01 39 18.6**	**+0.9**
NATI					Sn	**Sn**	**01 39 46.1**	**+1.4**
MMA0	**Mount Meron ar**	**2.26**	**147**		Pn	**Pn**	**01 39 18.4**	**+0.2**
OSC2	**CSNet OBS 4**	**2.29**	**217**		P	**Pn**	**01 39 20.5**	**+2.0**
OSC2					S	**Sb**	**01 39 49.4**	**-1.0**
KRMN	**Karaman**	**2.32**	**347**		PN	**Pn**	**01 39 20.2**	**+1.1**
TAHT	**Tahtakopru-Hat**	**2.35**	**51**		PN	**Pb**	**01 39 21.9**	**-1.7**
YURE	**YUREGIR**	**2.36**	**36**		P	**Pn**	**01 39 21.4**	**+1.8**
KKBE	**Karaman, Kazim**	**2.44**	**341**		P	**Pb**	**01 39 23.3**	**-1.8**
KKBE					S	**Sb**	**01 39 54.0**	**-0.7**
OFRI	**`Ofer**	**2.45**	**159**		Pn	**Pn**	**01 39 21.1**	**+0.3**
OFRI					Sn	**Sn**	**01 39 50.0**	**-0.2**
GULE	**Gulek**	**2.47**	**16**		P	**Pn**	**01 39 22.6**	**+1.4**
GULE					S	**Sb**	**01 39 55.1**	**-0.5**
GULE				*i*	AML	AML	01 40 03.0	
	comp=E,43nm,0.8s							
GULE				*i*	AML	AML	01 40 04.0	
	comp=N,26nm,0.5s							
KSHT	**Keshet**	**2.48**	**140**		Pn	**Pn**	**01 39 21.8**	**+0.5**
KERG	**Konya-Eregli**	**2.50**	**4**		P	**Pn**	**01 39 22.2**	**+0.6**
KERG				*i*	AML	AML	01 39 47.0	
	comp=N,14nm,0.9s							
KERG					S	**Sn**	**01 39 54.0**	**+2.3**
OSC1	**CSNet OBS 1**	**2.60**	**238**		P	**Pb**	**01 39 25.8**	**-2.1**
OSC1					S	**Sb**	**01 39 56.9**	**-2.5**
KEPZ	**Antalya-Kepez**	**2.73**	**317**		P	**Pn**	**01 39 26.4**	**+1.7**
KEPZ					S	**Sn**	**01 39 56.8**	**-0.4**
MMLI	**Mount Malkishu**	**2.77**	**153**		Pn	**Pn**	**01 39 26.0**	**+0.9**
MMLI					Sn	**Sn**	**01 39 58.4**	**+0.4**
SLIT	**Sal'it**	**2.82**	**160**		Sn	**Sn**	**01 39 59.6**	**+0.2**
AKO	**Adana**	**2.83**	**25**		P	**Pn**	**01 39 27.8**	**+1.8**
CMRD	**Camardi-Nigde**	**2.88**	**17**		PN	**Pn**	**01 39 28.6**	**+1.9**
HMDT	**Nahal Hemdat**	**2.97**	**153**		Pn	**Pn**	**01 39 29.4**	**+1.5**
HMDT					Sn	**Sn**	**01 40 04.0**	**+1.0**
SEYD	**Seydisehir-KON**	**3.01**	**326**		PN	**Pn**	**01 39 30.2**	**+1.7**
SALP	**Salfit**	**3.03**	**159**		Pn	**Pn**	**01 39 28.8**	**+0.1**
SALP					Sn	**Sn**	**01 40 05.7**	**+1.2**
SEDI	**Konya, Seydise**	**3.08**	**326**		P	**Pn**	**01 39 32.1**	**+2.6**
KAMA	**Osmaniye**	**3.18**	**44**		P	**Pn**	**01 39 32.6**	**+1.8**
YAHY	**KAYSERI_Yahyal**	**3.38**	**20**		P	**Pn**	**01 39 36.6**	**+2.9**
YAHY					S	**Sn**	**01 40 15.6**	**+2.2**
YAHY				*i*	AML	AML	01 40 23.0	
	comp=N,16nm,1.1s							
AMAZ	**Amatzia**	**3.47**	**166**		Pn	**Pn**	**01 39 35.0**	**+0.2**
AMAZ					Sn	**Sn**	**01 40 16.4**	**+1.0**
SAIM	**ADANA**	**3.52**	**29**		P	**Pn**	**01 39 39.0**	**+3.5**
DSI	**Dead Sea**	**3.55**	**159**		Pn	**Pn**	**01 39 36.6**	**+0.7**
DSI					Sn	**Sn**	**01 40 17.6**	**+0.3**
YTIR	**Yattir**	**3.68**	**164**		Pn	**Pn**	**01 39 37.7**	**0.0**
YTIR					Sn	**Sn**	**01 40 21.5**	**+0.9**
GHAJ	**Ghor Haditha**	**3.85**	**159**		Pn	**Pn**	**01 39 39.9**	**-0.1**
GHAJ					Sn	**Sn**	**01 40 25.6**	**+0.8**
KZIT	**Kziot**	**4.01**	**174**		Pn	**Pn**	**01 39 42.9**	**+0.6**
KZIT					Sn	**Sn**	**01 40 29.3**	**+0.5**
PRNI	**Paran**	**4.64**	**168**		Sn	**Sn**	**01 40 44.6**	**+0.4**
KRMI	**Paran Flat**	**4.83**	**172**		Pn	**Pn**	**01 39 54.9**	**+1.4**
KRMI					Sn	**Sn**	**01 40 49.7**	**+0.8**
HRFI	**Mount Harif**	**4.95**	**169**		Pn	**Pn**	**01 39 56.3**	**+1.1**
HRFI					Sn	**Sn**	**01 40 52.3**	**+0.4**
MBRI	**Mt Berech**	**5.17**	**170**		Pn	**Pn**	**01 39 59.8**	**+1.5**
MBRI					Sn	**Sn**	**01 40 58.6**	**+1.2**

*SKHL **18** 01:42:44.3±0.3, 44°40′N×149°30′E, h55km±5km, mb4.9/4*
*IDC **18** 01:42:44.2±5.8, 44°52′N×149°00′E, h33km±43km, mb3.5/13, mbtmp3.8/17, ML5.1/2, MS3.0/1, Error ellipse: s-maj=22.9km s-min=17.6km az=138.0*
*JMA **18** 01:42:44.1±0.6, 45°N×3°×14°9E±°, h30km, MV4.4/15, SE OFF ETOROFU*
*MOS **18** 01:42:44.8±1.1, 44°52′N×149°07′E, h57km, mb4.2/2, Error ellipse: s-maj=13.2km s-min=10.4km az=73.6*

ISC 18 01:42:43.2±3.4, **44°31′N**±0°05′×**149°29′E**±0°07′, **h32**km±25km, **n56**, σ1**§43**/64, **mb3.7**/13, **2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
KUR	**Kuril'sk**	**1.37**	**313**	*c*	*i* P	N	**Pn**	**01 43 05.7**	**-0.4**
KUR					*e*S		**Sn**	**01 43 20.8**	**-2.4**
KUR					pmax	pmax			
	comp=Z,595nm,0.3s								
KUR					pmax	pmax			
	comp=N,272nm,0.4s								
KUR					pmax	pmax			
	comp=E,256nm,0.1s								
KUR					smax	smax			
	comp=N,2μm,0.5s								
KUR					smax	smax			
	comp=E,2μm,0.5s								
KUR	**Kuril'sk**	**1.37**	**313**	*i*	P	**Pn**		**01 43 05.6**	**-0.5**
KUR					AMB	AMB		01 43 08.0	
	comp=E,600nm,0.3s								
KUR					*e*S	**Sn**		**01 43 21.3**	**-1.9**
KUR					A	A		01 43 24.3	
	comp=E,2μm,0.5s								
KUR					A	A		01 43 24.3	
	comp=E,2μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**2.48**	**265**	*e*	PN	**Pn**		**01 43 22.2**	**+0.8**
YUK					*e*S	**Sn**		**01 43 52.9**	**+2.4**
YUK					pmax	pmax			
	comp=Z,331nm,0.2s								
YUK					pmax	pmax			
	comp=N,118nm,0.1s								
YUK					pmax	pmax			
	comp=E,158nm,0.1s								
YUK					smax	smax			
	comp=E,799nm,0.4s								
YUK					smax	smax			
	comp=N,741nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**2.48**	**265**	*e*	P	**Pn**		**01 43 22.6**	**+1.2**
YUK					AMB	AMB		01 43 26.3	
	comp=N,330nm,0.3s								
YUK					*e*S	**Sn**		**01 43 51.3**	**+0.8**
YUK					A	A		01 43 55.1	
	comp=N,740nm,0.5s								
YUK					A	A		01 43 55.1	
	comp=N,800nm,0.5s								
NEM2	**Nemuro 2**	**2.73**	**251**	*e*	P	**Pn**		**01 43 25.4**	**+0.6**
NEM2					*e*S	**Sn**		**01 43 56.4**	**-0.4**
NMR	**Nemuro--Hokkai**	**2.74**	**251**	*e*	PN	**Pn**		**01 43 25.2**	**+0.3**
NMR					*i* S	**Sn**		**01 43 56.6**	**-0.4**
NMR	**Nemuro--Hokkai**	**2.74**	**251**	*e*	P	**Pn**		**01 43 25.3**	**+0.3**
NMR					*i* S	**Sn**		**01 43 56.3**	**-0.7**
RUSJ	**Misakicho**	**2.91**	**267**	*e*	PN	**Pn**		**01 43 28.4**	**+1.1**
RUSJ					*e*S	**Sn**		**01 44 02.7**	**+1.5**
JRA	**Rausu**	**3.02**	**264**	*e*	P	**Pn**		**01 43 31.0**	**+2.2**
JRA					*e*S	**Sn**		**01 44 05.4**	**+1.5**
JNK	**Nakash**	**3.38**	**259**	*e*	P	**Pn**		**01 43 35.1**	**+1.4**
JNK					*e*S	**Sn**		**01 44 12.5**	**-0.2**
AKK	**Akkeshi**	**3.47**	**250**	*i*	P	**Pn**		**01 43 36.7**	**+1.6**
JAK	**Akkeshi**	**3.58**	**250**	*e*	P	**Pn**		**01 43 37.3**	**+0.8**
JAK					*e*S	**Sn**		**01 44 17.2**	**-0.5**
JTKR	**Abashiri--Toko**	**3.89**	**267**	*e*	P	**Pn**		**01 43 42.8**	**+2.1**
JAR	**Ashorobuto**	**4.12**	**258**	*e*	P	Pn		01 43 46.0	+2.1
JAR					*e*S	**Sn**		**01 44 31.5**	**+0.5**
JOB	**Onbets**	**4.20**	**252**	*e*	P	**Pn**		**01 43 46.6**	**+1.5**
JOB					*e*S	**Sn**		**01 44 32.7**	**-0.3**
JCH	**Churui**	**4.63**	**251**	*e*	P	**Pn**		**01 43 52.5**	**+1.5**
JCH					*e*S	**Sn**		**01 44 43.4**	**-0.2**
JKK2	**Kamakawa 2**	**4.73**	**267**	*e*	P	Pn		01 43 55.5	+3.1
ERM	**Erimo**	**5.04**	**245**	*de*	PN	Pn		01 43 59.3	+2.8
JNBK	**Urakawa-nobuka**	**5.18**	**249**	*e*	P	**Pn**		**01 43 59.3**	**+0.8**
YSS	**Yuzh-Sakhalins**	**5.29**	**302**	*e*	PN	**Pn**		**01 44 01.1**	**+1.1**
YSS					*e*S	**Sn**		**01 45 00.1**	**+0.3**
YSS					pmax	pmax			
	comp=Z,20nm,0.4s								
YSS					smax	smax			
	comp=N,20nm,0.7s								
YSS					smax	smax			
	comp=E,20nm,0.5s								
YSS					MLR	MLR			
	comp=Z,200nm,11.0s								
YSS	**Yuzh-Sakhalins**	**5.29**	**302**	*e*	P	**Pn**		**01 44 01.1**	**+1.1**
YSS					*e*S	**Sn**		**01 44 59.7**	**-0.1**
JANG	**Nango**	**6.97**	**238**	*e*	P	**Pn**		**01 44 22.2**	**-0.9**
JANG					*e*S	**Sn**		**01 45 35.1**	**-6.1**
JTH	**Tanohata**	**7.04**	**234**	*e*	P	**Pn**		**01 44 23.0**	**-1.0**
SKR	**Severo-Kuril's**	**7.87**	**34**	*e*	P	**Pn**		**01 44 35.3**	**-0.1**
SKR					AMB	AMB		01 44 36.6	
	comp=Z,30nm,0.6s								
PAU	**Pauzhetka**	**8.76**	**33**	*e*	P	**Pn**		**01 44 48.4**	**+0.8**
PAU					AMB	AMB		01 44 50.9	
	comp=Z,20nm,0.8s								
PETK	**Petropavlovsk-**	**10.40**	**29**		Pn	**Pn**		**01 45 10.1**	**0.0**
	comp=Z,2.0nm,0.5s,baz=210,slow=17,SNR=8.7								
PET	**Petropavlovsk**	**10.69**	**32**	*e*	PN	**Pn**		**01 45 11.8**	**-2.1**
KLR	**Kul'dur**	**12.98**	**298**		LR	LR		01 51 08.2	
	comp=Z,68nm,18.6s,baz=20,slow=40								
MA2	**Magadan**	**15.32**	**3**		Pn	**Pn**		**01 46 16.0**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=174,slow=19,SNR=2.0								
	comp=Z,2.1nm,0.5s								
JCJ	**Chichijima**	**18.11**	**201**		P	**P**		**01 46 53.4**	**+1.0**
	comp=Z,8.6nm,0.3s,baz=254,slow=20,SNR=1.8								
	comp=Z,50nm,0.6s								
SEY	**Seymchan**	**18.75**	**4**		P	**P**		**01 46 57.0**	**-2.1**
	comp=Z,2.0nm,0.5s,baz=94,slow=3.9,SNR=4.0								
SEY	**Seymchan**	**18.75**	**4**	*i*	*e*P	**P**		**01 46 59.3**	**+0.2**
SEY					pmax	pmax			
	comp=Z,6.0nm,1.3s								
SEY	**Seymchan**	**18.75**	**4**	*i*	P	**P**		**01 46 59.3**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**28.57**	**143**		T	T		02 19 32.4	
	baz=333,slow=76,SNR=34								
H11N1	**WAKE ISLAND Hy**	**28.59**	**143**		T	T		02 19 34.2	
	baz=333,slow=76,SNR=37								
H11N3	**WAKE ISLAND Hy**	**28.59**	**143**		T	T		02 19 34.8	
	baz=333,slow=76,SNR=36								
H11S1	**WAKE ISLAND Hy**	**29.58**	**145**		T	T		02 20 52.3	
	baz=334,slow=76,SNR=54								
H11S3	**WAKE ISLAND Hy**	**29.59**	**145**		T	T		02 20 45.1	
	baz=334,slow=76,SNR=27								
H11S2	**WAKE ISLAND Hy**	**29.60**	**145**		T	T		02 20 52.7	
	baz=334,slow=76,SNR=30								
ILAR	**Eielson Array**	**40.12**	**37**		P	**P**		**01 50 15.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=272,slow=7.6,SNR=6.9								
	comp=Z,0.5nm,0.5s								
ILAR	**Eielson Array**	**40.12**	**37**	*e*	P	**P**		**01 50 17.2**	**+1.6**
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**45.14**	**31**		P	**P**		**01 50 57.2**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=246,slow=3.7,SNR=7.0								
	comp=Z,0.7nm,0.4s								
MKAR	**Makanchi Array**	**45.69**	**298**		P	**P**		**01 50 59.9**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=77,slow=7.6,SNR=2.4								
MKAR					PcP	**PcP**		**01 52 38.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=81,slow=5.6,SNR=2.7								
	comp=Z,0.2nm,0.4s								
CMAR	**Chiang Mai Arr**	**49.16**	**255**		P	**P**		**01 51 27.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=39,slow=8.8,SNR=1.9								
	comp=Z,0.4nm,0.3s								
FINES	**FINESS Array B**	**65.07**	**334**		P	**P**		**01 53 17.9**	**-2.1**
	comp=Z,1.2nm,0.9s,baz=32,slow=5.4,SNR=1.3								
	comp=Z,1.2nm,0.9s								
NVAR	**Mina Array Bea**	**65.97**	**59**		P	**P**		**01 53 28.0**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=298,slow=6.7,SNR=8.2								
	comp=Z,0.8nm,0.7s								
PDAR	**Pinedale Array**	**68.36**	**51**		P	**P**		**01 53 42.5**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=284,slow=1.2,SNR=4.4								
	comp=Z,0.4nm,0.6s								
ASAR	**Alice Springs**	**69.10**	**195**		P	**P**		**01 53 48.2**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=20,slow=2.7,SNR=4.9								
	comp=Z,0.4nm,0.6s								
NB2	**NORSAR Subarra**	**69.63**	**340**		P	**P**		**01 53 47.7**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**69.63**	**340**		P	**P**		**01 53 47.6**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=31,slow=6.7,SNR=9.5								
	comp=Z,0.3nm,0.5s								
AKASG	**Malin Array Be**	**72.03**	**325**		P	**P**		**01 54 02.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=37,slow=6.0,SNR=2.9								
	comp=Z,0.3nm,0.3s								
BRTR	**Keskin Array B**	**78.26**	**315**		P	**P**		**01 54 39.6**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=111,slow=2.1,SNR=1.9								
	comp=Z,0.3nm,0.6s								
GERES	**GERESS Array B**	**79.41**	**332**		P	**P**		**01 54 45.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=52,slow=7.1,SNR=4.7								
	comp=Z,0.3nm,0.5s								
TXAR	**Lajitas Array**	**81.05**	**58**		P	**P**		**01 54 55.9**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=300,slow=4.1,SNR=23								
	comp=Z,1.2nm,0.5s								
TXAR	**Lajitas Array**	**81.05**	**58**	*e*	P	**P**		**01 54 56.2**	**+0.9**
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
PLCA	**Paso Flores**	**150.62**	**97**		PKPbc	**PKPbc**		**02 02 32.5**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=331,slow=4.4,SNR=3.9								

*NOU **18** 01:48:10.1, 37°13S×180°00W, h79km, MLv4.4/6, East of North Island, N.Z.*
*IDC **18** 01:48:12.6±2.0, 36°71S×179°00E, h0km, mb3.9/4, mbtmp3.9/5, ML4.0/1, MS2.7/1, Error ellipse: s-maj=45.2km s-min=36.1km az=72.0*
*WEL **18** 01:48:15.3±1.1, 37°S±4°×17°9E±°, h12km±5km, M3.8/55, ML4.0/60, MLv3.8/55, Error ellipse: s-maj=0.0km s-min=0.0km az=83.5*

ISC 18 01:48:13.3±2.4, **37°10S**±0°07′×**179°28E**±0°09′, **h9**km±11km, **n104**, σ1**§27**/108, **mb3.8**/4, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
MXZ	**Matakaoa Point**	**0.90**	**239**		P	**Pg**		**01 48 30.9**	**+0.3**
MXZ					S	**Sg**		**01 48 40.3**	**-2.1**
WMGZ	**Waiomatatini S**	**0.99**	**224**		P	**Pn**		**01 48 34.6**	**+1.2**
PKGZ	**Pakihiroa**	**1.24**	**230**		P	**Pg**		**01 48 37.4**	**+0.4**
PUZ	**Puketiti**	**1.26**	**220**		P	**Pg**		**01 48 38.7**	**+1.1**
PUZ					S	**Sg**		**01 48 55.5**	**+1.6**
TWGZ	**Tauwhareparae**	**1.49**	**224**		P	**Pg**		**01 48 41.8**	**-0.1**
TWGZ					S	**Sg**		**01 49 02.2**	**+1.0**
RUGZ	**Raukumara Rang**	**1.54**	**236**		P	**Pb**		**01 48 42.2**	**+0.1**
CNGZ	**Carnagh Statio**	**1.62**	**211**		P	**Pg**		**01 48 44.1**	**-0.3**
WIZ	**White Island**	**1.72**	**255**		P	**Pn**		**01 48 42.6**	**-0.8**
TKGZ	**Te Karaka**	**1.75**	**220**		P	**Pb**		**01 48 45.0**	**-0.6**
MWZ	**Matawai**	**1.86**	**228**		P	**Pb**		**01 48 46.3**	**-1.1**
WHRZ	**Whale Island**	**1.98**	**247**		P	**Pb**		**01 48 49.0**	**-0.5**
RIGZ	**Rimuhau**	**2.00**	**216**		P	**Pn**		**01 48 48.1**	**+0.8**
RAGZ	**Rawiri**	**2.03**	**226**		P	**Pb**		**01 48 49.0**	**-1.4**
URZ	**Urewera**	**2.07**	**236**		Pn	**Pn**		**01 48 49.3**	**+1.0**
	44nm,0.3s,baz=332,slow=3.6,SNR=109								
URZ					Sn	**Sn**		**01 49 13.5**	**-0.7**
	44nm,0.3s,baz=256,slow=22,SNR=16								
URZ					LR	LR		01 49 54.3	
	comp=Z,182nm,21.4s,baz=88,slow=47								
	102nm,0.3s								
URZ	**Urewera**	**2.07**	**236**		P	**Pn**		**01 48 49.3**	**+1.0**
URZ					S	**Sn**		**01 49 14.5**	**+0.3**
URZ	**Urewera**	**2.07**	**236**		P	**Pn**		**01 48 49.2**	**+1.0**
PRGZ	**Paritu Road**	**2.13**	**211**		P	**Pn**		**01 48 49.9**	**+0.9**
MARZ	**Manawahe**	**2.25**	**246**		P	**Pn**		**01 48 52.5**	**+1.7**
EDRZ	**Edgecumbe**	**2.25**	**243**		P	**Pn**		**01 48 52.2**	**+1.4**
SNGZ	**Shannon Statio**	**2.27**	**222**		P	**Pn**		**01 48 50.2**	**-0.8**
SNGZ					S	**Sn**		**01 49 19.4**	**+0.3**
OPRZ	**Ohinepanea**	**2.29**	**250**		P	**Pn**		**01 48 51.6**	**+0.4**
KNZ	**Kokohu**	**2.30**	**213**		P	**Pn**		**01 48 51.3**	**0.0**
MHGZ	**Mahia Peninsul**	**2.32**	**208**		P	**Pn**		**01 48 52.4**	**+0.8**
RTZ	**Ruatahuna**	**2.37**	**230**		P	**Pn**		**01 48 53.6**	**+1.3**
MUGZ	**Murupara**	**2.42**	**235**		P	**Pn**		**01 48 53.8**	**+0.9**
MKRZ	**Makatiti**	**2.46**	**244**		P	**Pn**		**01 48 55.4**	**+1.7**
TARZ	**Mount Tarawera**	**2.48**	**242**		P	**Pn**		**01 48 55.4**	**+1.5**
TGRZ	**Tauranga**	**2.49**	**255**		P	**Pn**		**01 48 54.4**	**+0.5**
RAHZ	**Arahi**	**2.51**	**223**		P	**Pn**		**01 48 55.6**	**+1.4**
RRRZ	**Republican Roa**	**2.52**	**240**		P	**Pb**		**01 48 56.9**	**-1.8**
OMRZ	**Omania**	**2.52**	**246**		P	**Pn**		**01 48 55.9**	**+1.5**
WHHZ	**Waihua**	**2.55**	**219**		P	**Pn**		**01 48 55.4**	**+0.7**
KARZ	**Kaharoa**	**2.58**	**248**		P	**Pn**		**01 48 56.4**	**+1.2**
MTHZ	**Maungataniwha**	**2.60**	**227**		P	**Pn**		**01 48 56.6**	**+1.0**
MTHZ					S	**Sn**		**01 49 27.5**	**+0.2**
PRRZ	**Plateau Road**	**2.68**	**238**		P	**Pn**		**01 48 57.3**	**+0.8**
ALRZ	**Allen Road**	**2.75**	**237**		P	**Pn**		**01 48 58.4**	**+0.9**
KMRZ	**Kaimai**	**2.76**	**253**		P	**Pn**		**01 48 57.8**	**+0.1**
NMHZ	**Naumai**	**2.79**	**224**		P	**Pn**		**01 48 59.2**	**+1.0**
ARHZ	**Aropaoanui**	**2.81**	**219**		P	**Pn**		**01 48 58.9**	**+0.5**
MRHZ	**Matea Rd**	**2.85**	**232**		P	**Pn**		**01 48 59.7**	**+0.8**
KUZ	**Kuaotunu**	**2.88**	**276**		P	**Pn**		**01 48 58.5**	**-0.8**
BKZ	**Black Stump Fm**	**3.01**	**226**		P	**Pn**		**01 49 01.6**	**+0.4**
BKZ	**Black Stump Fm**	**3.01**	**226**		P	**Pn**		**01 49 01.9**	**+0.7**
KUTZ	**Kaahu Road**	**3.07**	**242**		P	**Pn**		**01 49 03.5**	**+1.5**
TOZ	**Tahuroa Road**	**3.08**	**257**		P	**Pn**		**01 49 01.7**	**-0.3**
CKHZ	**Cape Kidnapper**	**3.08**	**214**		P	**Pn**		**01 49 01.7**	**-0.5**
MCHZ	**McNeill Hill**	**3.10**	**220**		P	**Pn**		**01 49 02.7**	**+0.4**
GRZ	**Great Barrier**	**3.19**	**284**		P	**Pn**		**01 49 04.6**	**+1.0**
TLZ	**Tolley Road**	**3.21**	**246**		P	**Pn**		**01 49 05.4**	**+1.5**
KAHZ	**Kahuranaki**	**3.28**	**214**		P	**Pn**		**01 49 04.4**	**-0.5**
**MK

WB0	**Warramunga Arr**	**18.50**	**199**	P	**P**	01 54 00.9 -1.2
BATI	**Baumata**	**18.57**	**244**	P	**Pn**	01 54 03.2 -0.1
	comp=Z,5.4nm,0.3s,baz=4.0,slow=4.5,SNR=9.1					
	comp=Z,44nm,0.7s					
BATI	**Baumata**	**18.57**	**244**	P	**Pn**	01 54 03.7 +0.4
	comp=Z,30nm,0.8s					
WR0	**Warramunga Arr**	**18.64**	**198**	P	**P**	01 54 01.9 -1.6
WRAB	**Tennant Creek**	**18.67**	**198**	P	**P**	01 54 02.7 -1.2
WRAB				IAmb	IAmb	01 54 17.5
	comp=Z,17nm,0.9s					
WRAB	**Tennant Creek**	**18.67**	**198**	P	**P**	01 54 04.4 +0.5
CTA	**Charters Tower**	**18.67**	**163**	P	**P**	01 54 04.7 +0.7
	comp=Z,0.2nm,0.3s,baz=337,slow=12,SNR=2.1					
CTA				LR	LR	02 00 52.3
	comp=Z,81nm,21.6s,baz=52,slow=36					
	comp=Z,2.4nm,0.8s					
WB2	**Warramunga Arr**	**18.68**	**198**	P	**P**	01 54 02.9 -1.2
WB2				IAmb	IAmb	01 54 05.1
	comp=Z,9.5nm,0.6s					
WRA	**Warramunga Arr**	**18.68**	**198**	P	**P**	01 54 04.5 +0.4
	comp=Z,0.9nm,0.3s,baz=25,slow=12,SNR=28					
WRA				LR	LR	02 02 09.8
	comp=Z,154nm,20.9s,baz=68,slow=40					
	comp=Z,6.9nm,0.8s					
WRA	**Warramunga Arr**	**18.68**	**198**	P	**P**	01 54 02.9 -1.2
APSI	**Ampana**	**18.92**	**273**	P	**Pn**	01 54 08.2 +0.7
	comp=Z,21nm,1.1s					
TOLI2	**Tolitoli**	**20.01**	**279**	P	**P**	01 54 17.5 -1.2
TOLI2				IAmb	IAmb	01 54 26.5
	comp=Z,8.1nm,0.7s					
MPSI	**Mapaga**	**20.78**	**277**	P	Pn	01 54 29.3 -0.3
	comp=Z,8.9nm,0.8s					
FITZ	**Fitzroy Crossi**	**21.55**	**222**	P	**P**	01 54 35.5 +0.3
	comp=Z,6.0nm,0.8s,baz=35,slow=9.4,SNR=14					
FITZ				LR	LR	02 04 01.4
	comp=Z,98nm,21.3s,baz=38,slow=40					
	comp=Z,6.0nm,0.8s					
FITZ	**Fitzroy Crossi**	**21.55**	**222**	P	**P**	01 54 34.4 -0.8
AS31	**Alice Springs**	**22.32**	**196**	P	**P**	01 54 43.0 -0.5
ASAR	**Alice Springs**	**22.32**	**196**	P	**P**	01 54 43.9 +0.4
	comp=Z,3.7nm,0.5s,baz=26,slow=12,SNR=61					
	comp=Z,3.7nm,0.5s					
ASAR	**Alice Springs**	**22.32**	**196**	P	**P**	01 54 42.4 -1.2
EIDS	**Eidsvold**	**25.21**	**157**	P	**P**	01 55 13.8 +2.4
EIDS	**Eidsvold**	**25.21**	**157**	P	**P**	01 55 13.9 +2.5
WRKA	**Warakurna**	**25.62**	**206**	P	**P**	01 55 15.3 +0.1
OOD	**Oodnadatta**	**25.91**	**190**	P	**P**	01 55 18.7 +1.1
MULG	**Mulgathing**	**28.64**	**192**	P	**P**	01 55 42.4 +0.3
STKA	**Stephens Creek**	**29.58**	**178**	P	**P**	01 55 49.8 -0.6
	comp=Z,2.4nm,0.6s,baz=349,slow=9.0,SNR=5.9					
STKA				LR	LR	02 09 46.1
	comp=Z,101nm,19.8s,baz=26,slow=40					
	comp=Z,2.4nm,0.6s					
BBOO	**Buckleboo**	**30.78**	**187**	P	**P**	01 56 01.3 +0.2
FORT	**Forrest**	**30.82**	**201**	P	**P**	01 56 01.8 +0.4
DZM	**Mont Dzumac**	**32.03**	**130**	P	**P**	01 56 11.0 -1.4
	comp=Z,9.5nm,1.1s,baz=102,slow=18,SNR=4.1					
	comp=Z,9.5nm,1.1s					
MEEK	**Meekatharra**	**32.17**	**219**	P	**P**	01 56 13.5 +0.1
TARA	**Tarawa**	**32.57**	**84**	P	**P**	01 56 15.8 -1.3
BLDU	**Ballidu**	**36.19**	**216**	P	**P**	01 56 48.8 +0.6
KSRS	**Korea Array**	**41.12**	**345**	LR	LR	02 13 58.8
	comp=Z,25nm,18.2s,baz=150,slow=36					
CMAR	**Chiang Mai Arr**	**45.76**	**298**	P	**P**	01 58 05.6 -1.6
	comp=Z,0.3nm,0.3s,baz=117,slow=9.2,SNR=2.3					
	comp=Z,0.3nm,0.3s					
PZH	**PanZhiHua**	**47.05**	**310**	P	**P**	01 58 19.1 +1.7
PZH				pmax	pmax	
	comp=Z,8.0nm,0.7s					
PZH				pmax	pmax	
	comp=Z,90nm,4.2s					
HHC	**Hu-ho-hao-te**	**50.30**	**331**	*e*P	**P**	01 58 44.5 +2.4
HHC				pmax	pmax	
	comp=Z,23nm,0.9s					
HHC				pmax	pmax	
	comp=Z,230nm,4.9s					
LZH	**Lanzhou**	**51.16**	**322**	*e*P	**P**	01 58 51.4 +2.7
LZH				pP	PcP	01 59 56.1 -7.9
LZH				pmax	pmax	
	comp=Z,25nm,1.6s					
KLR	**Kul'dur**	**51.75**	**353**	LR	LR	02 18 23.8
	comp=Z,27nm,20.1s,baz=267,slow=33					
MA2	**Magadan**	**62.08**	**6**	LR	LR	02 24 49.6
	comp=Z,11nm,21.2s,baz=132,slow=34					
WMQ	**Urumqi**	**65.73**	**321**	*e*P	**P**	02 00 31.5 +1.4
WMQ				pmax	pmax	
	comp=Z,25nm,0.9s					
MK31	**Makanchi Array**	**70.48**	**322**	P	**P**	02 01 01.3 +1.4
MK31				IAmb	IAmb	02 01 08.2
	comp=Z,2.3nm,1.1s					
MKAR	**Makanchi Array**	**70.48**	**322**	P	**P**	02 00 57.9 -2.0
	comp=Z,1.3nm,0.9s,baz=105,slow=9.2,SNR=7.1					
	comp=Z,1.3nm,0.9s					
MKAR	**Makanchi Array**	**70.48**	**322**	P	**P**	02 00 59.2 -0.7
NIL	**Nilore**	**72.47**	**306**	P	**P**	02 01 11.4 -0.7
NRN	**Naryn**	**72.64**	**315**	P	**P**	02 01 13.3 -0.1
NRN				IAmb	IAmb	02 01 19.8
	comp=Z,6.0nm,1.4s					
KURK	**Kurchatov**	**74.33**	**324**	P	**P**	02 01 22.6 0.0
KURK				IAmb	IAmb	02 01 29.2
	comp=Z,4.0nm,1.1s					
KURBB	**Kurchatov Arra**	**74.34**	**324**	P	**P**	02 01 21.3 -1.4
	comp=Z,0.3nm,0.6s,baz=114,slow=5.6,SNR=3.2					
	comp=Z,0.3nm,0.6s					
KBL	**Kabul**	**76.07**	**306**	P	**P**	02 01 34.2 +0.8
KBL				IAmb	IAmb	02 01 40.1
	comp=Z,2.8nm,0.8s					
VNDA	**Vanda**	**76.17**	**175**	P	**P**	02 01 33.6 +0.8
	comp=Z,2.6nm,0.7s,baz=324,slow=6.7,SNR=38					
	comp=Z,2.6nm,0.7s					
VNDA	**Vanda**	**76.17**	**175**	P	**P**	02 01 33.8 +1.0
VNDA				IAmb	IAmb	02 01 34.4
	comp=Z,2.7nm,0.7s					
KK31	**Karatay Array**	**77.02**	**315**	P	**P**	02 01 40.2 +1.9
KK31				IAmb	IAmb	02 01 45.7
	comp=Z,4.2nm,1.3s					
KKAR	**Karatay Array**	**77.02**	**315**	P	**P**	02 01 38.3 0.0
KDAK	**Kodiak Island**	**79.71**	**30**	LR	LR	02 30 38.7
	comp=Z,35nm,21.1s,baz=239,slow=31					
BVAR	**Borovoye Array**	**79.91**	**325**	P	**P**	02 01 52.9 -1.1
	comp=Z,1.1nm,0.8s,baz=53,slow=8.4,SNR=5.9					
	comp=Z,1.1nm,0.8s					
GEYT	**Alibeck**	**85.33**	**308**	P	**P**	02 02 20.7 -1.9
	comp=Z,1.4nm,0.8s,baz=335,slow=6.6,SNR=4.2					
	comp=Z,1.4nm,0.8s					
GEYT	**Alibeck**	**85.33**	**308**	P	**P**	02 02 21.8 -0.8
GYA0B	**ALIBECK ARRAY**	**85.33**	**308**	P	**P**	02 02 20.2 -2.5
ABKAR	**Akbulak array**	**85.48**	**320**	P	**P**	02 02 21.6 -1.4
ABKAR				IAmb	IAmb	02 02 30.2
	comp=Z,2.1nm,0.8s					
QSPA	**South Pole Qui**	**87.78**	**180**	P	**P**	02 02 33.9 -0.2
	comp=Z,2.0nm,0.9s,baz=308,slow=0.9,SNR=10					
QSPA				LR	LR	02 40 55.3
	comp=Z,40nm,20.2s,baz=20,slow=35					
	comp=Z,2.0nm,0.9s					
LPAZ	**La Paz**	**146.27**	**124**	PKPbc	**PKPdf**	02 09 26.9 +0.6
	comp=Z,3.5nm,1.0s,baz=308,slow=2.4,SNR=10.0					
CPUP	**Villa Florida**	**146.83**	**150**	PKPbc	**PKPbc**	02 09 28.2 +0.2
	comp=Z,1.5nm,0.5s,baz=203,slow=3.9,SNR=5.6					

IDC 18 01:53:15.1±5.0, 2°19S×140°69E, h0^{km}, mb3.5/3, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=111.5km s-min=60.7km az=146.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.71**	**199**	P	Pn	01 57 35.6	0.0
	0.3nm,0.3s,baz=20,slow=12,SNR=6.4						
	1.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.64**	**222**	P	P	01 58 06.4	-0.8
	1.0nm,0.6s,baz=38,slow=17,SNR=1.4						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**22.34**	**197**	P	P	01 58 15.3	+0.6
	1.0nm,0.5s,baz=27,slow=11,SNR=8.2						
	1.0nm,0.5s						
VNDA	**Vanda**	**76.13**	**175**	P	P	02 05 04.3	-0.1
	0.4nm,0.6s,baz=335,slow=6.4,SNR=5.6						
	0.4nm,0.6s						

*LDG **18** 01:55:37.0±0.2, 42°55N×13°34E, h10^{km}, Ml3.0/9, Error ellipse: s-maj=7.8km s-min=5.5km az=50.0*
*PRU **18** 01:55:38.6±0.0, 42°79N×13°65E, h0^{km}*
*BEO **18** 01:55:52.6±0.9, 42°88N×14°78E, h0^{km}, ML2.9/4*
ROM 18 01:55:35.9±0.0, **42°677N**±0°002×**13°286E**±0°004,

h10^{km}, ML3.2/61, 37C-36D, Error ellipse: s-maj=0.3km s-min=0.2km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.02**	**92**	P	Pg	01 55 37.9	0.0
T1204				S	Sg	01 55 38.9	-0.3
T1204				AML	AML		
T1204				AML	AML		
T1202	**Accumoli, Fraz**	**0.05**	**301**	P	Pg	01 55 38.3	+0.3
T1202				S	Sg	01 55 39.8	+0.2
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
SMA1	**SAN MARTINO**	**0.06**	**142**	P	Pg	01 55 38.4	+0.3
SMA1				S	Sg	01 55 40.3	+0.6
SMA1				AML	AML		
	comp=N,99750μm,0.4s						
SMA1				AML	AML		
	comp=E,78100μm,1.6s						
SMA1				AML	AML		
	comp=N,99800μm,0.4s						
T1242	**Castelluccio d**	**0.16**	**339**	P	Pg	01 55 40.1	+0.6
T1242				AML	AML		
	comp=E,28100μm,0.3s						
T1242				AML	AML		
	comp=N,33550μm,0.4s						
T1242				AML	AML		
	comp=N,33350μm,0.4s						
T1242				AML	AML		
	comp=N,33600μm,0.4s						
T1242				AML	AML		
	comp=E,28100μm,0.3s						
T1242				AML	AML		
	comp=N,33600μm,0.4s						
T1242				AML	AML		
	comp=E,28050μm,0.3s						
CAMP	**Campotosto**	**0.17**	**147**	⇓P	Pg	01 55 40.2	+0.6
CAMP				S	Sg	01 55 43.2	+1.0
CAMP				AML	AML		
	comp=E,8220μm,0.7s						
CAMP				AML	AML		
	comp=N,8110μm,1.6s						
RM33	**Pellescritta (**	**0.18**	**197**	P	Pg	01 55 40.5	+0.7
RM33				AML	AML		
	comp=E,15650μm,0.6s						
RM33				AML	AML		
	comp=E,14550μm,0.6s						
RM33				AML	AML		
	comp=N,20150μm,0.7s						
RM33				AML	AML		
	comp=N,20600μm,0.6s						
RM33				AML	AML		
	comp=N,20100μm,0.6s						
RM33				AML	AML		
	comp=E,14600μm,0.6s						
RM33				AML	AML		
	comp=N,20150μm,0.6s						
T1246	**Crognaleto (TE**	**0.18**	**121**	P	Pg	01 55 40.4	+0.7
T1246				S	Sg	01 55 43.7	+1.3
LNSS	**Leonessa**	**0.20**	**248**	⇓P	Pg	01 55 40.8	+0.7
LNSS				S	Sg	01 55 44.6	+1.7
LNSS				AML	AML		
	comp=E,39150μm,0.7s						
LNSS				AML	AML		
	comp=N,36500μm,0.8s						
NRCA	**Norcia**	**0.20**	**321**	P	Pg	01 55 40.7	+0.5
NRCA				S	Sg	01 55 44.2	+1.1
NRCA				AML	AML		
	comp=E,31950μm,1.3s						
NRCA				AML	AML		
	comp=N,17850μm,1.1s						
NRCA				AML	AML		
	comp=N,16650μm,1.1s						
NRCA				AML	AML		
	comp=N,16700μm,1.1s						
NRCA				AML	AML		
	comp=E,34450μm,1.3s						
T1241	**Roccafluvione,**	**0.21**	**31**	P	Pg	01 55 40.8	+0.5
T1241				S	Sg	01 55 45.0	+1.7
T1241				AML	AML		
	comp=E,13350μm,0.7s						
T1241				AML	AML		
	comp=N,10175μm,0.5s						
T1241				AML	AML		
	comp=E,13100μm,0.7s						
T1241				AML	AML		
	comp=N,10205μm,0.5s						
T1241				AML	AML		
	comp=N,10190μm,0.5s						
T1241				AML	AML		
	comp=E,13400μm,0.7s						
T1241				AML	AML		
	comp=N,9745μm,0.5s						
MMO1	**Montemonaco**	**0.22**	**8**	P	Pg	01 55 41.1	+0.5
MMO1				S	Sg	01 55 45.2	+1.5
T1247	**Pizzolo (AQ)**	**0.23**	**178**	P	Pg	01 55 41.5	+0.8
T1247				AML	AML		
	comp=E,13950μm,1.6s						
T1247				AML	AML		
	comp=N,17950μm,0.5s						
TERO	**Teramo**	**0.24**	**103**	P	Pg	01 55 41.5	+0.6
TERO				S	Sg	01 55 45.6	+1.4
TERO				AML	AML		
	comp=N,14800μm,0.5s						
TERO				AML	AML		
	comp=E,12250μm,0.7s						
TERO				AML	AML		
	comp=N,14250μm,0.5s						
TERO				AML	AML		
	comp=E,12950μm,0.7s						
MC2	**Monte Cornacci**	**0.25**	**344**	⇑P	Pg	01 55 41.6	+0.5
MC2				S	Sg	01 55 46.5	+2.0
T1217	**Poggiodomo (PG**	**0.26**	**278**	⇓P	Pg	01 55 41.8	+0.5
T1217				S	Sb	01 55 46.6	-0.9
T1217				AML	AML		
	comp=E,6245μm,0.5s						
T1217				AML	AML		
	comp=N,7840μm,0.4s						
T1217				AML	AML		
	comp=E,6135μm,0.5s						
T1217				AML	AML		
	comp=E,6250μm,0.5s						
T1217				AML	AML		
	comp=E,6110μm,0.5s						
T1217				AML	AML		
	comp=N,7615μm,0.4s						
T1216	**Preci, Frazion**	**0.29**	**318**	⇑P	Pg	01 55 42.2	+0.5
T1216				S	Sb	01 55 47.2	-1.0
T1216				AML	AML		
T1216				AML	AML		
	comp=N,26250μm,0.3s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,19450μm,0.4s						
AM05	**Amandola Campo**	**0.30**	**9**	⇑P	Pg	01 55 42.7	+0.7
AM05				AML	AML		
	comp=E,1990μm,0.4s						
AM05				AML	AML		
	comp=N,2000μm,1.5s						
AM05				AML	AML		
	comp=E,7865μm,0.4s						
AM05				AML	AML		
	comp=N,1995μm,1.5s						
AM05				AML	AML		
	comp=E,7870μm,0.4s						
AM05				AML	AML		
	comp=N,8065μm,0.1s						
GIGS	**Gran Sasso**	**0.31**	**137**	P	Pg	01 55 42.6	+0.5
GIGS				AML	AML		
	comp=N,1310μm,1.4s						
GIGS				AML	AML		
	comp=E,1535μm,0.4s						
AQU	**L'Aquila**	**0.33**	**165**	P	Pg	01 55 43.2	+0.6
AQU				AML	AML		
	comp=E,6205μm,1.0s						
AQU				AML	AML		
	comp=N,6585μm,0.6s						
AQU				AML	AML		
	comp=N,6475μm,0.5s						
AQU				AML	AML		
	comp=N,6590μm,0.6s						
AQU				AML	AML		
	comp=E,6210μm,1.0s						
AQU				AML	AML		
	comp=E,6020μm,1.0s						
FEMA	**Monte Fema**	**0.33**	**329**	P	Pg	01 55 43.2	+0.6
FEMA				S	Sb	01 55 48.9	-0.7
FEMA				AML	AML		
	comp=N,10545μm,0.3s						
FEMA				AML	AML		
	comp=E,17950μm,0.5s						
FEMA				AML	AML		
	comp=N,10505μm,0.3s						
GUMA	**Gualdo di Mace**	**0.39**	**5**	⇑P	Pg	01 55 43.1	-0.4
GUMA				AML	AML		
	comp=N,17850μm,0.9s						
GUMA				AML	AML		
	comp=N,17550μm,0.3s						
GUMA				AML	AML		
	comp=E,24200μm,0.3s						
GUMA				AML	AML		
	comp=E,20150μm,0.3s						
FDMO	**Fiordimonte**	**0.39**	**338**	P	Pg	01 55 43.9	+0.3
FDMO				S	Sb	01 55 50.3	-0.7
OFFI	**Offida**	**0.39**	**49**	P	Pb	01 55 44.8	-0.2
OFFI				AML	AML		
	comp=E,9710μm,0.8s						
OFFI				AML	AML		
	comp=N,10060μm,0.5s						
ARRO	**Arrone**	**0.40**	**256**	P	Pg	01 55 44.0	+0.3
ARRO				AML	AML		
	comp=E,2885μm,1.1s						
ARRO				AML	AML		
	comp=N,2620μm,0.4s						
ARRO				AML	AML		
	comp=E,2880μm,1.1s						
CSP1	**Cessapalombo**	**0.42**	**352**	⇑P	Pg	01 55 44.6	+0.4
CSP1				AML	AML		
	comp=N,7635μm,0.3s						
CSP1				AML	AML		
	comp=E,5640μm,0.3s						
CSP1				AML	AML		
	comp=N,7630μm,0.3s						
FIAM	**Fiamignano**	**0.43**	**197**	P	Pg	01 55 44.7	+0.4
CESI	**CESI - Serrava**	**0.43**	**320**	P	Pg	01 55 44.8	+0.4
CESI				S	Sb	01 55 51.7	-0.7
CESI				AML	AML		
	comp=N,16250μm,0.4s						
CESI				AML	AML		
	comp=E,9845μm,0.5s						
FAGN	**Fagnano**	**0.47**	**152**	⇑P	Pg	01 55 45.5	+0.5
FAGN				AML	AML		
	comp=N,7760μm,0.4s						
FAGN				AML	AML		
	comp=E,7650μm,0.5s						
MNTP	**Montappone**	**0.48**	**16**	⇓P	Pb	01 55 46.4	-0.1
MNTP				AML	AML		
	comp=E,6760μm,0.3s						
MNTP				AML	AML		
	comp=N,5160μm,0.2s						
MNTP				AML	AML		
	comp=E,6765μm,0.3s						
MNTP				AML	AML		
	comp=N,5165μm,0.2s						
TRTR	**Tortoreto Alta**	**0.48**	**74**	⇓P	Pb	01 55 46.9	+0.3
TRTR				AML	AML		
	comp=E,9505μm,1.2s						
TRTR				AML	AML		
	comp=N,9485μm,0.4s						
VCEL	**Villa Celiera**	**0.50**	**124**	⇑P	Pb	01 55 46.6	-0.3
VCEL				AML	AML		
	comp=N,3795μm,1.6s						
VCEL				AML	AML		
	comp=E,3570μm,0.3s						
CESX	**Cesi**	**0.53**	**263**	⇓P	Pg	01 55 46.2	+0.1
CESX				AML	AML		
	comp=N,1875μm,0.3s						
CESX				AML	AML		
	comp=E,1970μm,0.5s						
SEF1	**Sefro**	**0.53**	**332**	⇑P	Pb	01 55 46.9	-0.5
SEF1				S	Sb	01 55 56.0	+0.8
SEF1				AML	AML		
	comp=E,5250μm,1.1s						
SEF1				AML	AML		
	comp=N,5895μm,1.4s						
T0110	**Collepietro**	**0.58**	**141**	⇓P	Pg	01 55 47.4	+0.2
T0110				AML	AML		
	comp=N,3830μm,0.5s						
T0110				AML	AML		
	comp=E,3990μm,0.5s						
GAG1	**Gagliole**	**0.58**	**344**	⇑P	Pb	01 55 48.1	-0.1
GAG1				AML	AML		
	comp=E,8210μm,0.4s						
GAG1				AML	AML		
	comp=N,8625μm,0.4s						
SNTG	**Esanatoglia**	**0.63**	**336**	P	Pg	01 55 48.1	-0.1
SNTG				S	Sb	01 55 59.0	+0.9
SNTG				AML	AML		
	comp=N,2195μm,0.9s						
SNTG				AML	AML		
	comp=E,238μm,0.9s						
SNTG				AML	AML		
	comp=E,1570μm,0.8s						
SNTG				AML	AML		
	comp=N,338μm,1.1s						
PTQR	**Pietraquaria**	**0.66**	**173**	⇓P	Pg	01 55 49.0	+0.3
PTQR				AML	AML		
	comp=E,762μm,1.6s						
PTQR				AML	AML		
	comp=N,637μm,1.1s						
PTQR				AML	AML		
	comp=E,762μm,1.6s						
EL6	**Elcito**	**0.67**	**348**	⇑P	Pg	01 55 49.0	+0.1
EL6				S	Sn	01 56 01.0	-1.2
ATCC	**AVT- Casa Cast**	**0.69**	**317**	⇓P	Pg	01 55 49.5	+0.1
ATCC				S	Sb	01 56 01.0	+1.1
ATCC				AML	AML		
	comp=N,3140μm,0.6s						
ATCC				AML	AML		
	comp=N,3135μm,0.6s						
ATCC				AML	AML		
	comp=E,2715μm,0.7s						
CING	**Cingoli**	**0.70**	**355**	⇑P	Pg	01 55 49.5	0.0
CING				AML	AML		
	comp=N,3775μm,0.6s						
CING				AML	AML		
	comp=E,5330μm,0.3s						
FOSV	**Fossato di Vic**	**0.73**	**328**	⇑P	Pg	01 55 50.2	+0.2
FOSV				S	Sb	01 56 02.0	+1.2
FOSV				AML	AML		
	comp=N,1985μm,1.1s						
FOSV				AML	AML		
	comp=E,1680μm,1.0s						
PP3	**Marolino**	**0.74**	**19**	⇑P	Pb	01 55 51.2	+0.3
PP3				AML	AML		
	comp=E,2725μm,0.4s						
PP3				AML	AML		
	comp=N,2945μm,0.5s						
PP3				AML	AML		
	comp=N,3105μm,0.6s						
PP3				AML	AML		
	comp=E,2645μm,0.8s						
CERT	**Cerreto**	**0.76**	**197**	⇓P	Pg	01 55 50.5	-0.1
CERT				AML	AML		
	comp=E,1970μm,1.0s						
CERT				AML	AML		
	comp=N,1310μm,0.8s						
MTCE	**Montecelio**	**0.77**	**212**	⇓P	Pb	01 55 51.4	0.0
MTCE				AML	AML		
	comp=N,798μm,1.2s						
MTCE				AML	AML		
	comp=E,1285μm,0.5s						
INTR	**Introdacqua**	**0.81**	**145**	⇑P	Pg	01 55 51.2	-0.3
INTR				AML	AML		
	comp=E,1μm,0.6s						
INTR				AML	AML		
	comp=N,2μm,0.7s						
INTR				AML	AML		
	comp=E,1136μm,0.6s						
INTR				AML	AML		
	comp=N,2255μm,0.7s						
MURB	**Monte Urbino**	**0.81**	**317**	⇑P	Pb	01 55 52.0	-0.2
MURB				S	Sn	01 56 05.0	-0.7
MURB				AML	AML		
	comp=N,3985μm,1.0s						
MURB				AML	AML		
	comp=E,4445μm,0.3s						
MURB				AML	AML		
	comp=N,4415μm,0.3s						
MURB				AML	AML		

comp=E,4210µm,0.3s
SSFR Montelago di S 0.84 334 ⇓P Pg 01 55 52.3 +0.1
SSFR AML AML
comp=N,3620µm,0.2s
SSFR AML AML
comp=N,3270µm,0.2s
SSFR AML AML
comp=E,2700µm,0.7s
SSFR AML AML
comp=E,2865µm,0.7s
ARVD Arcevia 0.86 343 ⇑P Pg 01 55 52.3 -0.2
ARVD S Sn 01 56 07.0 +0.2
ARVD AML AML
comp=N,701µm,0.9s
ARVD AML AML
comp=E,1120µm,1.1s
ATTE AVT- Monte Tez 0.86 308 P Pg 01 55 52.3 -0.2
ATTE AML AML
comp=E,979µm,1.3s
ATTE AML AML
comp=N,855µm,0.4s
ATFO Monte Foce - G 0.87 323 ⇑P Pg 01 55 52.7 +0.1
ATFO AML AML
comp=E,1340µm,1.2s
ATFO AML AML
comp=N,1305µm,0.6s
RCAV Rocca di Cave 0.87 197 P Pb 01 55 53.2 +0.1
RCAV AML AML
comp=N,1785µm,0.8s
RCAV AML AML
comp=E,2025µm,0.6s
MGAB Montegabbione 0.90 286 ⇑P Pb 01 55 53.5 -0.1
MGAB AML AML
comp=E,2125µm,0.5s
MGAB AML AML
comp=E,2200µm,0.5s
MGAB AML AML
comp=N,2065µm,0.5s
MGAB AML AML
comp=N,1895µm,0.5s
AOI Ancona 0.90 15 ⇑P Pb 01 55 54.0 +0.2
AOI AML AML
comp=E,1215µm,0.3s
AOI AML AML
comp=N,1124µm,0.4s
LPEL Lama dei Pelig 0.92 133 ⇑P Pg 01 55 53.3 -0.3
LPEL AML AML
comp=N,780µm,0.7s
LPEL AML AML
comp=E,1106µm,0.9s
FRON Frontone 0.94 334 ⇓P Pg 01 55 53.7 -0.3
FRON AML AML
comp=E,1625µm,0.6s
FRON AML AML
comp=N,1430µm,0.5s
ATVO AVT- Monte Val 0.95 318 ⇓P Pg 01 55 53.9 -0.4
ATVO AML AML
comp=N,978µm,0.8s
ATVO AML AML
comp=E,1110µm,0.4s
COR1 Corinaldo 0.98 348 ⇓P Pn 01 55 55.4 -0.3
ATMI Monte Miggiano 0.99 312 ⇑P Pg 01 55 54.6 -0.5
ATMI AML AML
comp=N,2550µm,0.5s
ATMI AML AML
comp=E,2955µm,0.6s
VIVA Pratoni del Vi 1.00 203 ⇓P Pn 01 55 57.6 +1.5
ATPI Pietralunga - 1.01 320 ⇑P Pg 01 55 55.3 -0.1
ATPI AML AML
comp=E,1585µm,0.7s
ATPI AML AML
comp=N,907µm,0.6s
POFI Posta Fibreno 1.01 162 ⇓P Pn 01 55 57.8 +1.5
PIEI Pieia 1.02 328 ⇑P Pg 01 55 55.3 -0.3
PIEI AML AML
comp=E,956µm,1.0s
PIEI AML AML
comp=N,793µm,0.4s
MPAG Monte Paganucc 1.03 338 ⇓P Pg 01 55 55.5 -0.2
SACS San Casciano d 1.03 280 ⇓P Pb 01 55 55.9 0.0
SACS AML AML
comp=E,595µm,0.5s
SACS AML AML
comp=N,830µm,0.9s
SACS AML AML
comp=N,824µm,0.9s
SACS AML AML
comp=E,592µm,0.5s
SENI Senigallia 1.03 358 ⇓P Pn 01 55 56.5 0.0
SENI AML AML
comp=N,5845µm,1.1s
SENI AML AML
comp=E,4900µm,0.3s
LRP Arpino 1.05 168 ⇑P Pn 01 55 58.6 +1.8
NARO Abbazia di Nar 1.07 331 ⇓P Pg 01 55 56.1 -0.3
NARO AML AML
comp=E,703µm,0.7s
NARO AML AML
comp=N,650µm,0.9s
FSSB Fossombrone 1.08 340 ⇓P Pg 01 55 56.7 0.0
FSSB AML AML
comp=E,2665µm,0.5s
FSSB AML AML
comp=N,3275µm,0.4s
APEC Apecchio 1.09 325 ⇑P Pn 01 55 57.1 -0.2
LAV9 Lanuvio 1.09 204 ⇑P Pg 01 55 55.4 -1.5
LAV9 AML AML
comp=E,2570µm,1.6s
LAV9 AML AML
comp=E,2520µm,0.5s
LAV9 AML AML
comp=N,1900µm,0.6s
LAV9 AML AML
comp=N,1820µm,0.6s
LATE Laterza 1.09 267 ⇓P Pn 01 55 57.7 +0.3
BADI Badiali 1.13 318 P Pn 01 55 57.7 -0.1
TOLF Tolfa 1.13 238 P Pb 01 55 57.2 -0.4
TOLF AML AML
comp=E,558µm,0.6s
TOLF AML AML
comp=N,543µm,0.7s
CAFI Castiglion Fio 1.17 304 ⇑P Pn 01 55 58.6 +0.2
CAFI AML AML
comp=N,676µm,0.4s
CAFI AML AML
comp=E,676µm,1.3s
PE3 Peglio 1.17 331 ⇑P Pb 01 55 58.3 0.0
PE3 AML AML
comp=N,6µm,0.3s
PE3 AML AML
comp=E,6µm,0.2s
MCIV Monte Civitell 1.19 275 ⇓P Pg 01 55 59.0 +0.2
MCIV AML AML
comp=E,268µm,0.5s
MCIV AML AML
comp=N,222µm,1.6s
SF04 Casetta 1.21 278 ⇓P Pg 01 55 59.8 +0.7
SSP9 Sansepolcro 1.23 317 ⇑P Pg 01 55 59.9 +0.3
PARC Parchiule 1.24 322 ⇑P Pn 01 55 59.4 0.0
PARC AML AML
comp=E,691µm,0.5s
PARC AML AML
comp=N,816µm,1.2s
MIDA Miranda 1.26 145 ⇓P Pn 01 55 59.5 -0.2
MIDA AML AML
comp=N,448µm,0.7s
MIDA AML AML
comp=E,456µm,0.8s
SF01 Poggio Pratacc 1.28 277 ⇑P Pg 01 56 00.9 +0.5
PESA Pesaro 1.30 346 ⇓P Pg 01 56 01.7 +0.7
TRIV Trivento 1.31 134 ⇑P Pg 01 56 03.5 +2.5
CSNT Castellina Chi 1.66 299 P Pb 01 56 06.3 -0.4
CSNT AML AML
comp=E,130µm,0.8s
CSNT AML AML
comp=N,136µm,1.4s
OSSC Osservatorio P 1.72 300 ⇑P Pb 01 56 07.3 -0.3
RUFI Rufina 1.74 312 P Pn 01 56 07.1 +0.8
TRIF Trifonti 1.81 285 P Pn 01 56 08.0 +0.8
TRIF AML AML
comp=E,321µm,0.8s
TRIF AML AML
comp=N,276µm,0.9s
DUGI Dugi Otok 1.84 44 *e*Pn Pn 01 56 08.6 +0.9
ZIRJ Zirje 1.98 60 *e*Pn Pn 01 56 10.5 +1.0
VIRC Vir 2.06 38 *e*Pn Pn 01 56 11.6 +0.9
VIRC Sn Sn 01 56 37.5 +1.0
MORI Morici 2.13 55 *e*Pn Pn 01 56 12.8 +1.2
MTCR Monte La Croce 2.15 310 P Pn 01 56 12.5 +0.6
NVLJ Novalja 2.21 31 *e*Pn Pn 01 56 13.6 +0.9
PII Pisa 2.27 298 ⇓P Pb 01 56 15.7 -1.3
RABC Rab 2.34 27 *e*Pn Pn 01 56 15.4 +1.0
MCRV Calabrutti - M 2.36 143 S Sg 01 56 51.0 -0.7
HVAR Hvar 2.38 77 *e*Pn Pn 01 56 15.9 +1.0
SMRN Sveta Marina 2.44 15 *e*Pn Pn 01 56 16.3 +0.4
UDBI Udbina 2.58 43 *e*Pn Pn 01 56 19.9 +2.0
KIJV Kijevo 2.63 59 *e*Pn Pn 01 56 20.5 +2.0
A253A Karojba, Istri 2.64 8 *e*Pn Pn 01 56 18.6 -0.1
LSTV Lastovo 2.66 87 *e*Pn Pn 01 56 20.3 +1.5
A250A Rusevo Krmpots 2.68 25 *e*Pn Pn 01 56 20.1 +0.9
PLIT Plitvice 2.78 37 *e*Pn Pn 01 56 22.2 +1.7
RIY Rijeka 2.79 18 *e*Pn Pn 01 56 21.5 +0.9
MAKA Makarska 2.81 76 *e*Pn Pn 01 56 22.6 +1.7
RICI Ricice 2.94 73 *e*Pn Pn 01 56 24.9 +2.2
BOJS Bojanci 3.16 26 ⇑P Pn 01 56 27.7 +1.9
PGF Pioggiola 3.17 269 *e*Pn Pn 01 56 27.2 +1.3
STON Ston 3.26 85 *e*Pn Pn 01 56 27.5 +0.5
STON Ston 3.26 85 *e*Pn Pn 01 56 27.9 +0.9
STON *e*Sg Sn 01 57 02.4 -3.4
SABO M.te Sabotino 3.31 4 S Sn 01 57 09.0 +1.7
OZLJ Ozalj 3.33 27 *e*Pn Pn 01 56 29.6 +1.6
CGRP Cima Grappa 3.38 342 ⇑P Pn 01 56 30.8 +1.9
LJU Ljubljana 3.48 14 ⇓P Pn 01 56 32.0 +1.8
DOSS Dosso del Somm 3.54 336 ⇓P Pn 01 56 33.9 +2.8
SALO Salr 3.55 327 ⇓P Pn 01 56 34.0 +2.8
CTI Castel Tesino 3.57 341 S Sn 01 57 16.0 +2.2
MPRI Monte Prat 3.57 357 P Pn 01 56 33.1 +1.6
DBRK Dubrovnik 3.58 88 *e*Pn Pn 01 56 33.4 +1.8
MAGA Magasa 3.64 329 P Pn 01 56 34.1 +1.7
CIMO Cimolais 3.68 351 ⇓P Pn 01 56 34.5 +1.5
ZONE Zone 3.83 325 ⇓P Pn 01 56 37.8 +2.7
MOSL Moslavina 3.85 39 *e*Pn Pn 01 56 35.8 +0.5
ZOU Zoufplan 3.89 357 P Pn 01 56 37.2 +1.3
MABI Malga Bissina 3.92 330 ⇑P Pn 01 56 38.5 +2.2
OBKA Obir 3.94 13 Pn Pn 01 56 38.1 +1.6
comp=N,0.8nm,0.2s,SNR=4.3
OBKA *e*Sn Sn 01 57 23.7 +0.9
comp=N,4.9nm,0.3s
MYKA Terra Mystica 3.96 4 *e*Pn Pn 01 56 39.3 +2.4
comp=N,0.9nm,0.2s
MYKA *e*Sn Sn 01 57 25.2 +1.8
comp=N,4.1nm,0.4s
KOSI Kohlern 4.02 341 ⇑P Pn 01 56 40.0 +2.2
APPI Appiano 4.08 340 P Pn 01 56 40.6 +2.1
ABTA Abfaltersbach 4.11 353 Pn Pn 01 56 40.6 +1.8
comp=N,19nm,0.6s,SNR=7.0
ABTA *e*Sn Sn 01 57 27.9 +0.9
comp=N,9.6nm,0.5s
A252A Venje 4.29 48 *e*Pn Pn 01 56 41.9 +0.5
RISI Rein 4.36 349 ⇓P Pn 01 56 46.4 +4.0
KBA Koelnbreinsper 4.40 1 *e*Pn Pn 01 56 45.9 +2.9
comp=N,2.9nm,0.2s
KBA *e*Sn Sn 01 57 36.1 +1.7
comp=N,4.5nm,0.4s
PDG Podgorica 4.42 91 *e*Pn Pn 01 56 45.5 +2.5
PDG *e*Sg Sn 01 57 36.7 +2.2
SBF Sospel 4.43 287 *e*Pn Pn 01 56 44.1 +0.8
SBF *e*Sn Sn 01 57 36.0 +1.0
comp=N,22nm,0.7s
MUGIO Muggio 4.45 318 ⇓P Pn 01 56 45.1 +1.6
ROSI Rosskopf 4.46 343 ⇓P Pn 01 56 47.0 +3.3
BBLS Lazići 4.62 73 *e*Pn Pn 01 56 48.3 +2.4
FETA Feichten 4.71 338 *e*Pn Pn 01 56 51.7 +4.5
comp=N,2.2nm,0.4s
WTTA Wattenberg 4.73 346 *e*Pn Pn 01 56 50.6 +3.0
comp=N,0.8nm,0.2s
WTTA *e*Sn Sn 01 57 47.3 +4.8
comp=N,4.2nm,0.3s
SQTA Sankt Quirin 4.78 343 *i* Pn Pn 01 56 51.1 +3.0
comp=N,5.6nm,0.4s,SNR=8.1
SQTA *e*Sn Sn 01 57 47.7 +4.1
comp=N,5.6nm,0.3s
WATA Walderalm 4.81 346 Pn Pn 01 56 52.1 +3.5
comp=N,1.7nm,0.2s,SNR=6.5
WATA *e*Sn Sn 01 57 49.6 +5.0
comp=N,2.5nm,0.2s
ARSA Arzberg 4.84 18 *e*Pn Pn 01 56 50.3 +1.4
comp=N,0.7nm,0.2s
ARSA *e*Sn Sn 01 57 43.4 -1.6
comp=N,3.0nm,0.5s
MOTA Moosalm 4.92 342 Pn Pn 01 56 53.8 +3.8
comp=N,1.0nm,0.4s,SNR=5.5
MOTA *e*Sn Sn 01 57 52.7 +5.6
comp=N,2.0nm,0.3s
SJES Sjenica 4.94 81 *e*Pn Pn 01 56 53.5 +3.1
LMR La Mourre 5.01 280 *e*Pn Pn 01 56 51.4 +0.2
BIOA Bad Ischl, Aus 5.02 3 *i* Pn Pn 01 56 52.9 +1.6
comp=N,2.4nm,0.2s,SNR=7.4
BIOA *e*Sn Sn 01 57 54.1 +4.6
comp=N,7.0nm,0.5s
IVAS Ivanjica 5.11 78 *e*Pn Pn 01 56 54.6 +2.0
RETA Reutte 5.13 340 *e*Pn Pn 01 56 57.5 +4.6
comp=N,1.5nm,0.2s
RETA *e*Sn Sn 01 57 55.8 +3.6
comp=N,2.2nm,0.3s
MBDF Montbardon 5.15 296 *e*Pn Pn 01 56 55.5 +2.3
DAVA Damuels 5.20 334 Pn Pn 01 56 57.7 +3.7
comp=N,0.8nm,0.2s,SNR=4.1
DAVA *e*Sn Sn 01 57 58.1 +4.0
comp=N,2.6nm,0.3s
MOA Molln 5.22 7 *e*Pn Pn 01 56 55.5 +1.4
comp=N,0.6nm,0.2s
MOA *e*Sn Sn 01 57 55.7 +1.4
comp=N,3.7nm,0.4s
FRGS Fruska Gora 5.33 60 *e*Pn Pn 01 56 57.1 +1.6
TRUS Trudelj 5.41 71 *e*Pn Pn 01 56 58.7 +2.0
RONA Rosalia, Austr 5.45 22 Pn Pn 01 56 58.6 +1.2
comp=N,0.8nm,0.2s,SNR=4.4
RONA *e*Sn Sn 01 57 53.8 -6.4
comp=N,0.3nm,0.2s
LPG La Plagne 5.49 303 *e*Pn Pn 01 57 00.2 +2.2
LPG *e*Sn Sn 01 57 54.6 -6.7
comp=N,2.0nm,0.3s
LPL La Plagne 5.51 303 *e*Pn Pn 01 57 01.5 +3.3
LPL *e*Sn Sn 01 57 59.2 -2.5
comp=N,3.7nm,0.6s
CONA Conrad Observa 5.56 18 *i* Pn Pn 01 57 00.3 +1.6
comp=N,0.3nm,0.1s,SNR=5.5
CONA *e*Sn Sn 01 58 01.5 -1.3
comp=N,2.8nm,0.5s
SELS Selova 5.78 82 *e*Pn Pn 01 57 03.7 +2.0
ORIF Oris-en-Rattie 5.81 295 *e*Pn Pn 01 57 06.2 +4.0
CKRC Cesky Krumlov 6.19 6 *e*PN Pn 01 57 08.6 +1.3
CKRC *e*SN Sn 01 58 16.3 -1.8
BARS Barje 6.28 86 *e*Pn Pn 01 57 10.6 +1.9
KHC Kasperske Hory 6.46 2 *e*PN Pn 01 57 11.8 +0.7
KHC *e*SN Sn 01 58 22.5 -2.4
CABF La Chapelle 6.47 310 *e*Pn Pn 01 57 12.9 +1.6
CABF *e*Sn Sn 01 58 27.2 +2.0
comp=N,1.6nm,0.4s
VIVF Saint-Julien-l 6.61 292 *e*Pn Pn 01 57 15.1 +2.0
ZAGS Zajecar 6.63 77 *e*Pn Pn 01 57 16.3 +2.9
BOSS Bosilegrad 6.79 88 *e*Pn Pn 01 57 18.4 +2.8
HINF Hinteralfeld 6.86 321 *e*Pn Pn 01 57 17.8 +1.2
HINF *e*Sn Sn 01 58 34.2 -0.5
comp=N,3.7nm,0.4s
ZAPS Zavoj 6.88 82 *e*Pn Pn 01 57 19.5 +2.6
CDF Champ du Feu 7.12 326 *e*Pn Pn 01 57 21.3 +1.1
CDF *e*Sn Sn 01 58 39.2 -2.0
comp=N,3.6nm,0.4s
HAU Haudompre 7.23 320 *e*Pn Pn 01 57 21.0 -0.7
HAU *e*Sn Sn 01 58 41.9 -1.9
comp=N,6.9nm,0.5s
SMF Signal de Mont 7.81 304 *e*Pn Pn 01 57 32.2 +2.5
SMF *e*Sn Sn 01 58 55.2 -3.0
comp=N,0.4nm,0.2s
PAGF Fort de Pagny 7.91 321 *e*Pn Pn 01 57 31.7 +0.7
LOR Lormes 8.11 308 *e*Pn Pn 01 57 34.8 +1.1
LOR *e*Sn Sn 01 59 06.3 +0.9
comp=N,2.1nm,0.4s
AVF Avril sur Loir 8.18 304 *e*Pn Pn 01 57 35.7 +1.0
SSF Saint Saulge 8.21 306 *e*Pn Pn 01 57 34.4 -0.7
CAF Calviac 8.42 289 *e*Pn Pn 01 57 35.6 -2.4
TCF Toulx Ste Croi 8.70 298 *e*Pn Pn 01 57 41.4 -0.5
RJF Les Rejaudoux 8.88 291 *e*Pn Pn 01 57 41.4 -2.9

IDC ***18*** *01:57:32.4±5.0, 2.°19S×140.°78E, h0km, mb3.5/3, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=106.5km*
s-min=58.4km az=150.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.73**	**199**	P	P	02 01 52.6	-0.2
	0.2nm,0.3s,baz=24,slow=12,SNR=8.4						
	0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.69**	**222**	P	P	02 02 24.1	-1.0
	1.2nm,0.6s,baz=50,slow=15,SNR=2.0						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**22.36**	**197**	P	P	02 02 32.2	-0.1
	0.6nm,0.5s,baz=28,slow=11,SNR=8.9						
	0.6nm,0.5s						
VNDA	**Vanda**	**76.12**	**175**	P	P	02 09 22.1	+0.5
	0.5nm,0.6s,baz=327,slow=6.9,SNR=7.9						
	0.5nm,0.6s						

IDC ***18*** *02:02:02.5±1.8, 2.°06S×140.°38E, h0km, mb3.6/6, mbtmp3.8/8, ML4.0/2, Error ellipse: s-maj=58.4km s-min=20.4km az=90.0*
ISC 18 02:02:07.7±1.8, 2.°1S±0.°2×140.°4E±0.°3, h35km, n8, σ0.°35/8, mb3.7/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**18.45**	**243**	P	**P**	**02 06 20.7**	**+0.1**
	2.1nm,0.3s,baz=83,slow=4.5,SNR=1.7						
	7.5nm,0.4s						
WRA	**Warramunga Arr**	**18.69**	**198**	P	**P**	**02 06 22.8**	**-0.4**
	0.3nm,0.3s,baz=17,slow=12,SNR=10						
	0.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.49**	**221**	P	**P**	**02 06 53.9**	**+0.3**
	1.0nm,0.6s,baz=50,slow=11,SNR=1.5						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**22.34**	**196**	P	**P**	**02 07 02.4**	**-0.3**
	0.8nm,0.7s,baz=25,slow=12,SNR=13						
	0.8nm,0.7s						
STKA	**Stephens Creek**	**29.64**	**178**	P	**P**	**02 08 10.3**	**+0.3**
	0.4nm,0.3s,baz=8.1,slow=14,SNR=1.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**70.33**	**322**	P	**P**	**02 13 18.3**	**+0.4**
	0.6nm,0.6s,baz=115,slow=6.8,SNR=6.3						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**74.20**	**324**	P	**P**	**02 13 40.6**	**-0.3**
	0.3nm,0.4s,baz=110,slow=5.2,SNR=5.0						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**79.77**	**325**	P	**P**	**02 14 12.1**	**-0.1**
	0.5nm,0.5s,baz=123,slow=5.3,SNR=4.3						
	0.5nm,0.5s						

IDC ***18*** *02:04:45.0±1.8, 2.°10S×140.°68E, h0km, mb3.8/5, mbtmp4.0/7, ML4.1/2, MS3.2/3, Error ellipse: s-maj=45.9km s-min=29.1km az=82.0*
ISC 18 02:04:50.7±1.7, 2.°2S±0.°2×140.°5E±0.°3, h35km, n9, σ0.°45/7, mb3.7/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.23**	**15**	LR	LR	02 13 11.3	
	comp=Z,50nm,19.6s,baz=185,slow=31						
BATI	**Baumata**	**18.57**	**244**	P	**Pn**	**02 09 05.8**	**+0.5**
	1.9nm,0.3s,baz=63,slow=2.3,SNR=5.2						
	17nm,0.6s						
CTA	**Charters Tower**	**18.67**	**163**	LR	LR	02 17 32.8	
	comp=Z,46nm,19.9s,baz=260,slow=41						
WRA	**Warramunga Arr**	**18.68**	**198**	P	**Pn**	**02 09 06.1**	**-0.4**
	0.4nm,0.3s,baz=25,slow=12,SNR=10						
WRA				LR	LR	02 15 35.9	
	comp=Z,93nm,20.9s,baz=100,slow=35						
	2.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.55**	**222**	P	**P**	**02 09 37.1**	**-0.1**
	2.1nm,0.7s,baz=41,slow=11,SNR=3.6						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**22.32**	**196**	P	**P**	**02 09 45.1**	**-0.3**
	2.1nm,0.6s,baz=27,slow=11,SNR=15						
	2.1nm,0.6s						
STKA	**Stephens Creek**	**29.57**	**178**	P	**P**	**02 10 52.5**	**+0.1**
	1.6nm,0.5s,baz=337,slow=13,SNR=4.0						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**70.49**	**322**	P	**P**	**02 16 01.6**	**-0.3**
	0.5nm,0.8s,baz=104,slow=6.1,SNR=3.3						
	0.5nm,0.8s						
VNDA	**Vanda**	**76.16**	**175**	P	**P**	**02 16 35.1**	**+0.4**
	1.0nm,0.6s,baz=331,slow=7.3,SNR=13						
	1.0nm,0.6s						

IDC ***18*** *02:05:27.0±2.8, 19.°92S×173.°28W, h0km, mb4.0/5, mbtmp4.1/7, ML4.6/2, Error ellipse: s-maj=78.1km s-min=28.5km az=137.0*
ISC 18 02:05:28.3±2.0, 19.°9S±0.°2×173.°2W±0.°2, h10km, n8, σ1.°41/8, mb4.1/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.11**	**13**	Pn	**Pn**	**02 06 58.4**	**-0.4**
	3.0nm,0.3s,baz=149,slow=11,SNR=5.5						
AFI				Sn	Sn	02 07 51.8	-17
	20nm,0.3s,baz=54,slow=22,SNR=7.3						
	36nm,0.7s						
MSVF	**Nonsavu**	**8.59**	**283**	Pn	**Pn**	**02 07 32.9**	**+0.2**
	0.6nm,0.3s,baz=102,slow=18,SNR=6.4						
	9.0nm,0.8s						
DZM	**Mont Dzumac**	**19.15**	**260**	P	**P**	**02 09 54.2**	**+2.2**
	1.8nm,0.6s,baz=80,slow=18,SNR=1.7						
CTA	**Charters Tower**	**38.06**	**263**	P	**P**	**02 12 46.2**	**-1.1**
	2.2nm,0.5s,baz=90,slow=11,SNR=7.9						
	2.2nm,0.5s						
ASAR	**Alice Springs**	**49.06**	**256**	P	**P**	**02 14 15.9**	**-0.1**
	1.5nm,0.6s,baz=91,slow=8.0,SNR=18						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**49.17**	**260**	P	**P**	**02 14 15.3**	**-1.6**
	1.6nm,0.5s,baz=97,slow=8.6,SNR=28						
	1.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**57.59**	**261**	P	**P**	**02 15 18.7**	**-0.1**
	1.3nm,0.8s,baz=90,slow=7.1,SNR=1.6						
	1.3nm,0.8s						
ILAR	**Eielson Array**	**86.80**	**11**	P	**P**	**02 18 13.4**	**+1.1**
	0.2nm,0.5s,baz=218,slow=5.7,SNR=2.2						
	0.2nm,0.5s						

IDC ***18*** *02:17:09.6±1.3, 1.°93S×140.°74E, h0km, mb3.7/6, mbtmp3.8/8, ML3.8/2, Error ellipse: s-maj=40.4km s-min=22.4km az=97.0*
NEIC ***18*** *02:17:12.4±0.8, 1.°8S±0.°1×140.°5E±0.°1, h10km±1km, mb4.0/11, Error ellipse: s-maj=21.3km s-min=11.2km az=224.0*
ISC 18 02:17:15.1±0.7, 1.°9S±0.°1×140.°5E±0.°1, h35km, n23, σ0.°71/23, mb3.9/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**6.83**	**91**	Pn	**Pn**	**02 18 53.0**	**+0.1**
MTN	**Manton Dam**	**14.32**	**220**	Pn	**Pn**	**02 20 34.5**	**-0.9**
BATI	**Baumata**	**18.69**	**243**	P	**P**	**02 21 31.4**	**+0.8**
	1.4nm,0.3s,baz=298,slow=18,SNR=4.0						
	14nm,0.6s						
WB0	**Warramunga Arr**	**18.75**	**198**	P	**P**	**02 21 31.4**	**+0.2**
WB0				IAmb	IAmb	02 21 45.3	
	comp=Z,8.5nm,1.4s						
WB2	**Warramunga Arr**	**18.93**	**198**	P	**Pn**	**02 21 34.2**	**+0.2**
WB2				IAmb	IAmb	02 21 42.1	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**18.93**	**198**	P	**P**	**02 21 32.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=18,slow=12,SNR=5.6						
	comp=Z,1.1nm,0.7s						
WRA	**Warramunga Arr**	**18.93**	**198**	P	**Pn**	**02 21 34.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.75**	**221**	P	**P**	**02 22 03.9**	**+0.2**
	comp=Z,3.9nm,1.1s,baz=53,slow=10,SNR=3.0						
	comp=Z,3.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.75**	**221**	P	**P**	**02 22 04.1**	**+0.3**
FITZ				IAmb	IAmb	02 22 06.3	
	comp=Z,8.2nm,1.4s						
AS31	**Alice Springs**	**22.57**	**196**	P	**P**	**02 22 12.7**	**0.0**
AS31				IAmb	IAmb	02 22 22.3	
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**22.58**	**196**	P	**P**	**02 22 11.9**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=28,slow=12,SNR=7.5						
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**22.58**	**196**	P	**P**	**02 22 12.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**45.64**	**298**	P	**P**	**02 25 32.7**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=116,slow=6.2,SNR=1.7						
	comp=Z,0.8nm,0.3s						
MK31	**Makanchi Array**	**70.27**	**322**	P	**P**	**02 28 24.5**	**-0.5**
MK31				IAmb	IAmb	02 28 27.7	
	comp=Z,2.1nm,1.2s						

MKAR	**Makanchi Array**	**70.27 322**	P	**P**	**02 28 26.9**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=103,slow=8.8,SNR=6.9					
	comp=Z,1.1nm,0.8s					
MKAR	**Makanchi Array**	**70.27 322**	P	**P**	**02 28 24.7**	**-0.2**
NIL	**Nilore**	**72.31 306**	P	**P**	**02 28 37.2**	**-0.4**
KURK	**Kurchatov**	**74.11 324**	P	**P**	**02 28 48.0**	**+0.2**
KURK			IAmb	IAmb	02 28 54.8	
	comp=Z,1.9nm,0.7s					
VNDA	**Vanda**	**76.43 175**	P	**P**	**02 29 01.2**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=330,slow=3.9,SNR=1.7					
	comp=Z,0.3nm,0.6s					
KK31	**Karatay Array**	**76.83 315**	P	**P**	**02 29 03.9**	**+0.2**
KK31			IAmb	IAmb	02 29 14.9	
	comp=Z,0.7nm,0.8s					
KKAR	**Karatay Array**	**76.83 315**	P	**P**	**02 29 03.9**	**+0.2**
ILAR	**Eielson Array**	**84.34 24**	P	**P**	**02 29 42.1**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=271,slow=4.5,SNR=4.8					
	comp=Z,0.6nm,0.8s					
ABKAR	**Akbulak array**	**85.28 320**	P	**P**	**02 29 48.7**	**+0.3**

*IDC **18** 02:18:25.1±1.8,1°.95S×140°.67E,h0km,mb3.9/5, mbtmp4.0/7,ML3.9/2,MS3.4/7,Error ellipse: s-maj=45.5km s-min=29.6km az=82.0*
*NEIC **18** 02:18:29.7±1.4,2°.2S±0°.1×140°.5E±0°.1,h10km±1km, mb4.2/13,Error ellipse: s-maj=26.6km s-min=12.8km az=47.0*

ISC 18 02:18:32.7±1.0,2°.3S±0°.1×140°.5E±0°.2,h35km,n28, σ0s95/25,mb4.0/11,MS3.4/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.75**	**137**	LR	LR	02 25 17.1	
	comp=Z,114nm,21.6s,baz=256,slow=42						
MTN	**Manton Dam**	**14.00**	**221**	Pn	**Pn**	**02 21 48.4**	**-0.2**
GUMO	**Guam**	**16.33**	**15**	LR	LR	02 26 50.6	
	comp=Z,94nm,21.8s,baz=206,slow=32						
SOEI	**Soe**	**17.73**	**244**	Pn	**Pn**	**02 22 35.7**	**-1.4**
SOEI				IAmb	IAmb	02 22 51.8	
	comp=Z,21nm,0.7s						
BATI	**Baumata**	**18.46**	**244**	P	**P**	**02 22 46.4**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=74,slow=18,SNR=4.0						
	comp=Z,19nm,0.6s						
WB2	**Warramunga Arr**	**18.57**	**198**	P	**P**	**02 22 46.6**	**-0.2**
WRA	**Warramunga Arr**	**18.57**	**198**	P	**P**	**02 22 47.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=18,slow=11,SNR=6.2						
WRA				LR	LR	02 30 53.3	
	comp=Z,196nm,18.8s,baz=35,slow=40						
	comp=Z,1.8nm,0.6s						
WRA	**Warramunga Arr**	**18.57**	**198**		**P**	**02 22 46.6**	**-0.2**
CTA	**Charters Tower**	**18.61**	**163**	LR	LR	02 29 48.8	
	comp=Z,99nm,18.8s,baz=74,slow=36						
FITZ	**Fitzroy Crossi**	**21.43**	**222**	P	**P**	**02 23 18.7**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=53,slow=12,SNR=4.4						
FITZ				LR	LR	02 31 56.7	
	comp=Z,47nm,21.8s,baz=12,slow=37						
	comp=Z,3.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.43**	**222**	P	**P**	**02 23 17.9**	**0.0**
AS31	**Alice Springs**	**22.21**	**196**	P	**P**	**02 23 27.4**	**+1.1**
ASAR	**Alice Springs**	**22.22**	**196**	P	**P**	**02 23 27.2**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=28,slow=11,SNR=7.7						
ASAR				LR	LR	02 33 07.7	
	comp=Z,155nm,19.6s,baz=74,slow=39						
	comp=Z,2.3nm,0.7s						
ASAR	**Alice Springs**	**22.22**	**196**	P	**P**	**02 23 25.5**	**-0.9**
EIDS	**Eidsvold**	**25.17**	**157**	P	**P**	**02 23 54.9**	**0.0**
EIDS				IAmb	IAmb	02 23 58.4	
	comp=Z,6.3nm,0.8s						
STKA	**Stephens Creek**	**29.49**	**178**	P	**P**	**02 24 33.7**	**0.0**
	comp=Z,1.9nm,0.7s,baz=0.9,slow=7.7,SNR=3.1						
STKA				LR	LR	02 36 48.7	
	comp=Z,139nm,19.9s,baz=29,slow=37						
	comp=Z,1.9nm,0.7s						
RPSI	**Rantau Prapat**	**41.80**	**277**	P	**P**	**02 26 20.1**	**+0.7**
MK31	**Makanchi Array**	**70.50**	**322**	P	**P**	**02 29 44.3**	**+0.4**
MK31				IAmb	IAmb	02 30 09.3	
	comp=Z,1.4nm,1.1s						
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**02 29 41.5**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=126,slow=9.3,SNR=2.9						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**02 29 43.8**	**-0.1**
ZALV	**Zalesovo Beam**	**72.42**	**329**	P	**P**	**02 29 57.0**	**+1.7**
NIL	**Nilore**	**72.45**	**306**	P	**P**	**02 29 55.8**	**-0.2**
KURK	**Kurchatov**	**74.35**	**324**	P	**P**	**02 30 08.4**	**+1.7**
KURK				IAmb	IAmb	02 30 39.1	
	comp=Z,1.4nm,0.6s						
VNDA	**Vanda**	**76.09**	**175**	P	**P**	**02 30 15.8**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=332,slow=6.2,SNR=9.5						
	comp=Z,1.3nm,0.7s						
GAR	**Garm**	**76.11**	**311**	P	**P**	**02 30 17.2**	**-0.1**
KK31	**Karatay Array**	**77.03**	**315**	P	**P**	**02 30 21.9**	**-0.4**
KK31				IAmb	IAmb	02 30 44.5	
	comp=Z,1.7nm,1.1s						
KKAR	**Karatay Array**	**77.03**	**315**	P	**P**	**02 30 22.4**	**+0.2**
KKAR				IAmb	IAmb	02 30 44.5	
	comp=Z,1.7nm,1.1s						
ABKAR	**Akbulak array**	**85.50**	**320**	P	**P**	**02 31 06.0**	**-1.0**
ABKAR				IAmb	IAmb	02 31 26.2	
	comp=Z,3.7nm,1.4s						

IDC 18 02:23:29.1±3.7,2°.14S×139°.67E,h0km,mb3.5/3, mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=120.5km s-min=28.7km az=90.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.45**	**196**	P	Pn	02 27 45.2	-1.3
	0.3nm,0.3s,baz=18,slow=12,SNR=8.9						
	1.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.00**	**220**	P	P	02 28 14.8	+0.4
	1.4nm,0.9s,baz=29,slow=13,SNR=1.2						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**22.12**	**194**	P	P	02 28 26.9	+0.5
	1.5nm,0.5s,baz=17,slow=11,SNR=17						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**69.93**	**322**	P	P	02 34 42.2	-0.1
	0.5nm,0.7s,baz=110,slow=7.8,SNR=4.2						
	0.5nm,0.7s						

IDC 18 02:27:27.4±5.1,2°.37S×140°.81E,h0km,mb3.7/4, mbtmp3.8/5,ML3.8/1,MS3.7/1,Error ellipse: s-maj=104.2km s-min=56.9km az=154.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.57**	**199**	P	Pn	02 31 46.5	+0.3
	0.3nm,0.3s,baz=24,slow=12,SNR=13						
	1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.58**	**223**	P	P	02 32 17.9	-0.9
	1.6nm,0.6s,baz=41,slow=9.3,SNR=5.8						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**22.20**	**197**	P	P	02 32 25.9	+0.4
	1.0nm,0.6s,baz=27,slow=11,SNR=13						
	1.0nm,0.6s						
STKA	**Stephens Creek**	**29.36**	**179**	P	P	02 33 32.1	-0.1
	0.7nm,0.2s,baz=349,slow=10,SNR=1.9						
	0.7nm,0.2s						
JOW	**Kunigami**	**31.46**	**338**	LR	LR	02 43 17.8	
	comp=Z,140nm,20.3s,baz=40,slow=30						
VNDA	**Vanda**	**75.94**	**175**	P	P	02 39 15.7	+0.1
	0.5nm,0.5s,baz=346,slow=6.1,SNR=9.5						
	0.5nm,0.5s						

IDC 18 02:28:57.2±5.7,1°.92S×140°.70E,h0km,mb3.5/3, mbtmp3.5/4,ML3.6/1,MS2.7/1,Error ellipse: s-maj=113.9km s-min=66.3km az=152.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.96**	**199**	P	P	02 33 19.8	-0.4
	0.2nm,0.3s,baz=20,slow=12,SNR=5.5						
	0.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.84**	**222**	P	P	02 33 51.3	-0.2
	0.9nm,0.6s,baz=56,slow=11,SNR=1.8						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**22.60**	**196**	P	P	02 33 59.5	-0.2
	0.6nm,0.5s,baz=30,slow=11,SNR=6.3						
	0.6nm,0.5s						
DZM	**Mont Dzumac**	**32.06**	**131**	LR	LR	02 46 22.3	
	comp=Z,13nm,19.1s,baz=22,slow=33						
VNDA	**Vanda**	**76.39**	**175**	P	P	02 40 48.5	+0.5
	0.5nm,0.6s,baz=331,slow=7.6,SNR=2.5						
	0.5nm,0.6s						

IDC 18 02:32:39.6±6.0,2°.45S×140°.97E,h0km,mb3.3/3, mbtmp3.3/4,ML3.4/1,Error ellipse: s-maj=124.8km s-min=67.5km az=152.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.55**	**200**	P	Pn	02 36 58.2	0.0
	0.1nm,0.3s,baz=25,slow=12,SNR=6.4						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.63**	**223**	P	P	02 37 30.9	-0.7
	0.8nm,0.6s,baz=58,slow=9.5,SNR=1.4						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**22.17**	**197**	P	P	02 37 37.8	+0.4
	0.5nm,0.6s,baz=27,slow=11,SNR=7.7						
	0.5nm,0.6s						
VNDA	**Vanda**	**75.84**	**175**	P	P	02 44 27.3	+0.1
	0.3nm,0.7s,baz=329,slow=7.4,SNR=1.8						
	0.3nm,0.7s						

ROM 18 02:48:22.3±0.1,42°.686N±0°.003×13°.293E±0°.005, h9km,Md1.3/3,Error ellipse: s-maj=0.4km s-min=0.1km az=80.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.02**	**119**	P	Pg	02 48 24.1	0.0
T1204				S	Sg	02 48 25.1	-0.4
T1204	**Amatrice, Fraz**	**0.02**	**119**	P	Pg	02 48 24.1	-0.1
T1204				S	Sg	02 48 25.0	-0.5
T1202	**Accumoli, Fraz**	**0.05**	**290**	P	Pg	02 48 24.5	+0.1
T1202				S	Sg	02 48 25.9	+0.1
T1242	**Castelluccio d**	**0.16**	**336**	P	Pg	02 48 26.4	+0.6
T1242				S	Sg	02 48 29.4	+1.2
T1242				AML	AML		
	comp=E,160μm,1.3s						
T1242				AML	AML		
	comp=N,164μm,1.3s						
T1242				AML	AML		
	comp=E,160μm,1.3s						
T1242				AML	AML		
	comp=N,164μm,1.3s						
T1242	**Castelluccio d**	**0.16**	**336**	P	Pg	02 48 26.4	+0.6
T1242				S	Sg	02 48 29.5	+1.3
CAMP	**Campotosto**	**0.17**	**150**	P	Pg	02 48 26.6	+0.5
CAMP				S	Sg	02 48 29.7	+1.1
T1246	**Crognaleto (TE**	**0.18**	**125**	P	Pg	02 48 26.8	+0.7
T1246				S	Sg	02 48 30.0	+1.2
RM33	**Pellescritta (**	**0.19**	**198**	P	Pg	02 48 26.9	+0.6
RM33				S	Sg	02 48 30.7	+1.8
RM33				AML	AML		
	comp=E,65μm,0.7s						
RM33				AML	AML		
	comp=N,77μm,1.3s						
RM33	**Pellescritta (**	**0.19**	**198**	P	Pg	02 48 26.8	+0.6
RM33				S	Sg	02 48 30.4	+1.5
NRCA	**Norcia**	**0.20**	**318**	P	Pg	02 48 27.0	+0.6
NRCA				S	Sg	02 48 30.5	+1.2
NRCA				AML	AML		
	comp=E,503μm,0.1s						
NRCA				AML	AML		
	comp=N,662μm,0.9s						
NRCA				AML	AML		
	comp=E,578μm,0.1s						
NRCA				AML	AML		
	comp=N,742μm,1.2s						
NRCA				AML	AML		
	comp=N,662μm,0.9s						
NRCA				AML	AML		
	comp=E,578μm,0.1s						
NRCA				AML	AML		
	comp=E,503μm,0.1s						
NRCA				AML	AML		
	comp=N,742μm,1.2s						
T1241	**Roccafluvione,**	**0.20**	**31**	P	Pg	02 48 27.1	+0.7
T1241				S	Sg	02 48 30.7	+1.4
T1241				AML	AML		
	comp=E,64μm,0.2s						
T1241				AML	AML		
	comp=N,57μm,1.6s						
T1241				AML	AML		
	comp=E,64μm,0.2s						
T1241				AML	AML		
	comp=N,57μm,1.6s						
T1241				AML	AML		
	comp=E,64μm,0.2s						
T1241				AML	AML		
	comp=N,57μm,1.6s						
T1241	**Roccafluvione,**	**0.20**	**31**	P	Pg	02 48 27.1	+0.6
T1241				S	Sg	02 48 30.7	+1.4
T1241				END			
LNSS	**Leonessa**	**0.20**	**246**	P	Pg	02 48 27.1	+0.5
LNSS				S	Sg	02 48 30.8	+1.3
LNSS				AML	AML		
	comp=E,217μm,1.5s						
LNSS				AML	AML		
	comp=N,148μm,0.2s						
LNSS				AML	AML		
	comp=E,217μm,1.5s						
LNSS				AML	AML		
	comp=N,148μm,0.2s						
LNSS				AML	AML		
	comp=E,217μm,1.5s						
LNSS				AML	AML		
	comp=N,148μm,0.2s						
LNSS	**Leonessa**	**0.20**	**246**	P	Pg	02 48 27.1	+0.5
LNSS				S	Sg	02 48 30.8	+1.3
LNSS				END			
MMO1	**Montemonaco**	**0.21**	**7**	P	Pg	02 48 27.5	+0.7
MMO1	**Montemonaco**	**0.21**	**7**	P	Pg	02 48 27.4	+0.7
MMO1				S	Sg	02 48 31.3	+1.5
TERO	**Teramo**	**0.24**	**105**	P	Pg	02 48 27.7	+0.6
TERO				S	Sg	02 48 31.7	+1.3
TERO				AML	AML		
	comp=E,93μm,0.7s						
TERO				AML	AML		
	comp=N,84μm,0.5s						
TERO				AML	AML		
	comp=E,94μm,0.7s						
TERO				AML	AML		
	comp=N,84μm,0.5s						
TERO				AML	AML		
	comp=N,84μm,0.5s						
TERO				AML	AML		
	comp=E,94μm,0.7s						
MC2	**Monte Cornacci**	**0.24**	**342**	P	Pg	02 48 28.0	+0.7
MC2				END			
T1247	**Pizzolo (AQ)**	**0.24**	**179**	P	Pg	02 48 28.6	+1.3
T1216	**Preci, Frazion**	**0.29**	**316**	P	Pg	02 48 28.7	+0.6
T1216				S	Sb	02 48 33.4	-1.2
T1216	**Preci, Frazion**	**0.29**	**316**	P	Pg	02 48 28.6	+0.6
T1216				S	Sb	02 48 33.6	-1.0
GIGS	**Gran Sasso**	**0.31**	**139**	P	Pg	02 48 28.8	+0.3
GIGS				S	Sb	02 48 34.5	-0.8
T1215	**Vallo di Nera,**	**0.33**	**291**	P	Pg	02 48 29.2	+0.3
T1215				S	Sb	02 48 34.7	-1.2
FDMO	**Fiordimonte**	**0.38**	**337**	P	Pg	02 48 30.4	+0.6
FDMO				S	Sb	02 48 36.7	-0.6

IDC 18 02:56:05.4±6.0,30°.13S×60°.74E,h0km,mb3.6/3, mbtmp3.6/3,MS3.6/2,Error ellipse: s-maj=968.1km s-min=34.7km az=20.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**36.47**	**318**	LR	LR	03 14 54.8	
	comp=Z,34nm,19.2s,baz=44,slow=31						
H01W2	**Cape Leeuwin H**	**44.84**	**111**	T	T	03 52 30.7	
	baz=261,slow=75,SNR=5.7						
H01W3	**Cape Leeuwin H**	**44.84**	**111**	T	T	03 52 31.0	
	baz=261,slow=75,SNR=6.5						
H01W1	**Cape Leeuwin H**	**44.85**	**111**	T	T	03 52 31.9	
	baz=261,slow=75,SNR=6.0						
ASAR	**Alice Springs**	**64.57**	**104**	P	P	03 06 45.2	+0.4
	0.6nm,0.8s,baz=240,slow=6.8,SNR=4.9						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**66.45**	**100**	P	P	03 06 56.6	-0.4
	0.7nm,1.0s,baz=248,slow=5.6,SNR=3.5						
	0.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**71.27**	**298**	P	P	03 07 27.0	0.0
	0.7nm,0.9s,baz=145,slow=5.3,SNR=3.3						
	0.7nm,0.9s						
SIJI	**Sorong**	**72.76**	**81**	LR	LR	03 34 46.4	
	comp=Z,114nm,20.8s,baz=102,slow=32						

*IDC **18** 03:22:31.8±1.9,2°.06S×140°.61E,h0km,mb3.7/5, mbtmp3.8/6,MLb3.8/1,MS3.1/2,Error ellipse: s-maj=59.9km s-min=29.7km az=85.0*

ISC 18 03:22:37.5±1.8,2°.1S±0°.2×140°.4E±0°.4,h35km,n8,σ0s39/6, mb3.7/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.86**	**138**	LR	LR	03 30 02.8	
	comp=Z,94nm,18.8s,baz=260,slow=46						
WRA	**Warramunga Arr**	**18.69**	**198**	P	**Pn**	**03 26 53.4**	**-0.1**
	0.3nm,0.3s,baz=25,slow=12,SNR=20						
	1.6nm,0.6s						
CTA	**Charters Tower**	**18.74**	**163**	LR	LR	03 34 07.3	
	comp=Z,62nm,18.8s,baz=276,slow=37						
FITZ	**Fitzroy Crossi**	**21.51**	**221**	P	**P**	**03 27 23.5**	**0.0**
	1.7nm,0.7s,baz=56,slow=11,SNR=3.7						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**22.33**	**196**	P	**P**	**03 27 32.7**	**+0.3**
	1.4nm,0.5s,baz=26,slow=11,SNR=34						
	1.4nm,0.5s						
STKA	**Stephens Creek**	**29.62**	**178**	P	**P**	**03 28 39.1**	**-0.4**
	1.0nm,0.5s,baz=0.0,slow=11,SNR=2.9						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**70.39**	**322**	P	**P**	**03 33 48.0**	**-0.1**
	0.3nm,0.7s,baz=116,slow=3.4,SNR=2.0						
	0.3nm,0.7s						
VNDA	**Vanda**	**76.22**	**175**	P	**P**	**03 34 22.2**	**+0.4**
	0.8nm,0.6s,baz=327,slow=6.3,SNR=12						
	0.8nm,0.6s						

NOU 18 03:23:52.5,21°.52S×171°.45E,h0km,MLv4.0/8, Southeast of Loyalty Islands,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**3.19**	**270**	P	Pn	03 24 43.7	-0.2
PINNC	**Pines Island,**	**3.87**	**253**	P	Pn	03 24 53.1	-0.2
LIFNC	**LIFOU**	**4.00**	**280**	P	Pn	03 24 54.7	-0.4
YATNC	**Mamie plateau,**	**4.27**	**262**	P	Pn	03 24 57.8	-1.0
DZM	**Mont Dzumac**	**4.68**	**262**	P	Pn	03 25 04.8	+0.2
ONTNC	**Ouen Toro**	**4.71**	**259**	P	Pn	03 25 04.9	+0.1
NOUC	**Port Laguerre**	**4.82**	**262**	P	Pn	03 25 06.4	+0.1
KOUNC	**Koumac, New Ca**	**6.76**	**277**	P	Pn	03 25 33.2	+0.2

*IDC **18** 03:27:08.9±2.5,8°.62S×112°.46E,h61km±21km,mb3.9/16, mbtmp4.2/18,ML4.1/2,MS3.1/5,Error ellipse: s-maj=22.8km s-min=12.0km az=56.0*
*DJA **18** 03:27:09.7±0.2,9°.S±3°×11°.2E±°,h67km±6km,M4.6/20, mb4.6/12,mB4.9/2,MLv4.6/20,Mw(mB)4.2/2*
*NEIC **18** 03:27:10.4±2.3,9°.0S±0°.1×112°.42E±0°.07,h82km±10km, mb4.2/12,Error ellipse: s-maj=15.8km s-min=8.9km az=195.0*

ISC 18 03:27:09.4±0.8,8°.91S±0°.05×112°.48E±0°.04,h68km±7km, n109,σ1s94/111,mb4.2/24,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.11**	**323**	P	**Pn**	**03 27 29.3**	**+0.1**
PWJI				S	**Sn**	**03 27 43.1**	**-0.8**
GMJI	**Gumukmas**	**1.14**	**56**	P	**Pn**	**03 27 29.7**	**+0.1**
PCJI	**Pacitan**	**1.48**	**299**	P	**Pn**	**03 27 34.6**	**+0.7**
PCJI				S	**Sn**	**03 27 51.8**	**-0.7**
BLJI	**Banyuglugur**	**1.60**	**44**	P	**Pn**	**03 27 36.9**	**+1.3**
BLJI				S	**Sn**	**03 27 54.8**	**-0.6**
JAGI	**Jajag, Banyuwa**	**1.71**	**75**		**Pn**	**03 27 38.1**	**+1.0**
JAGI	**Jajag, Banyuwa**	**1.71**	**75**	P	**Pn**	**03 27 38.1**	**+1.0**
JAGI				S	**Sn**	**03 27 57.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.71**	**75**	P	**Pn**	**03 27 38.6**	**+1.5**
NGJI	**Ngawi**	**1.84**	**327**	P	**Pn**	**03 27 41.5**	**+2.7**
NGJI				S	**Sn**	**03 28 04.0**	**+2.8**
ABJI	**Asem Bagus**	**2.06**	**57**	P	**Pn**	**03 27 43.2**	**+1.4**
TBJI	**Tambak Boyo**	**2.17**	**343**	P	**Pn**	**03 27 44.1**	**+0.7**
UGM	**Wanagama**	**2.18**	**297**		**Pn**	**03 27 44.7**	**+1.3**
UGM	**Wanagama**	**2.18**	**297**	P	**Pn**	**03 27 44.4**	**+1.0**
UGM				S	**Sn**	**03 28 09.9**	**+0.5**
UGM	**Wanagama**	**2.18**	**297**	P	**Pn**	**03 27 45.2**	**+1.6**
KMMI	**Kalianget**	**2.36**	**39**	P	**Pn**	**03 27 45.7**	**-0.2**
YOGI	**Yogyakarta**	**2.42**	**297**	P	**Pn**	**03 27 47.1**	**+0.4**
YOGI				S	**Sn**	**03 28 16.4**	**+1.0**
IGBI	**Denpasar**	**2.63**	**88**	P	**Pn**	**03 27 51.6**	**+2.0**
DNP	**Denpasar**	**2.71**	**85**	P	**Pn**	**03 27 52.3**	**+1.7**
SMRI	**Semarang**	**2.74**	**312**		**Pn**	**03 27 52.4**	**+1.4**
SMRI	**Semarang**	**2.74**	**312**	P	**Pn**	**03 27 52.0**	**+0.9**
SMRI	**Semarang**	**2.74**	**312**	P	**Pn**	**03 27 52.9**	**+1.8**
SRBI	**Singaraja**	**2.82**	**73**	P	**Pn**	**03 27 51.9**	**-0.2**
BWJI	**Bawean**	**3.05**	**3**	P	**Pn**	**03 27 56.1**	**+0.9**
TWSI	**Taliwang, Sumb**	**4.35**	**88**	P	**Pn**	**03 28 14.9**	**+1.9**
PLAI	**Plampang**	**5.23**	**89**	P	**Pn**	**03 28 27.8**	**+2.7**
	0.7nm65nm,0.7s						
PLAI	**Plampang**	**5.23**	**89**	P	**Pn**	**03 28 29.3**	**+4.2**
	80nm,0.9s						
LEM	**Lembang**	**5.25**	**293**	P	**Pn**	**03 28 23.2**	**-2.3**
	5.3nm,0.3s,baz=298,slow=23,SNR=1.9						
	14nm,0.3s						
LEM	**Lembang**	**5.25**	**293**	P	**Pn**	**03 28 24.9**	**-0.5**
	0.2nm27nm,0.8s						
CNJI	**Cibinong**	**5.53**	**286**	P	**Pn**	**03 28 30.4**	**+1.2**
	1.0nm94nm,0.6s						
BBKI	**Banjar Baru**	**5.90**	**24**	P	**Pn**	**03 28 35.4**	**+1.1**
	0.5nm2μm125nm,0.9s						
XMIS	**Christmas Isla**	**6.91**	**256**	Pn	**Pn**	**03 28 47.8**	**-0.3**
XMIS	**Christmas Isla**	**6.91**	**256**	P	**Pn**	**03 28 48.3**	**+0.2**
KAPI	**Kappang**	**8.19**	**62**	LR	LR	03 32 56.7	
	comp=Z,28nm,18.7s,baz=242,slow=43						
KAPI	**Kappang**	**8.19**	**62**	P	**Pn**	**03 29 09.8**	**+4.2**
BSSI	**Bau Bau, Buton**	**8.40**	**71**	P	**Pn**	**03 29 09.8**	**+1.3**
	14nm,0.8s						
STKI	**Sintang**	**8.97**	**354**	P	**Pn**	**03 29 18.9**	**+2.6**
EDFI	**Ende, Flores**	**9.10**	**90**	P	**Pn**	**03 29 19.2**	**+1.1**
	360nm19nm,0.6s						
SBUM	**Sibu**	**11.29**	**359**		**Pn**	**03 29 50.0**	**+2.0**
SOEI	**Soe**	**11.66**	**95**		**Pn**	**03 29 53.4**	**+0.2**
SOEI	**Soe**	**11.66**	**95**	P	**Pn**	**03 29 54.9**	**+1.8**
	30nm,0.7s						
SOEI	**Soe**	**11.66**	**95**	P	**Pn**	**03 29 55.8**	**+2.7**
MPSI	**Mapaga**	**11.79**	**39**	P	Pn	03 30 00.2	+5.4
TOLI2	**Tolitoli**	**12.94**	**40**	Pn	**Pn**	**03 30 12.4**	**+1.9**
TOLI2	**Tolitoli**	**12.94**	**40**	P	**P**	**03 30 16.4**	**-2.3**
GIRL	**Giralia**	**13.76**	**173**	P	**Pn**	**03 30 20.5**	**-0.8**
PPSI	**Pulau Pagai**	**13.83**	**295**	P	**Pn**	**03 30 21.4**	**-0.9**
	153nm,0.8s						
MBWA	**Marble Bar**	**14.04**	**151**	Pn	**Pn**	**03 30 23.5**	**-1.6**
MBWA	**Marble Bar**	**14.04**	**151**	P	**Pn**	**03 30 23.7**	**-1.4**
GTOI	**Gorontalo**

comp=Z,0.2nm,0.3s,baz=304,slow=1.8,SNR=6.9
WRA ScP **ScP** **03 39 29.9 -0.9**
comp=Z,0.5nm,0.6s,baz=298,slow=1.8,SNR=4.9
comp=Z,1.2nm,0.6s
WB2 Warramunga Arr 23.82 120 P **P** **03 32 17.4 +1.1**
WB2 IAmb IAmb 03 32 21.7
comp=Z,5.2nm,0.7s
WR0 Warramunga Arr 23.98 120 P **P** **03 32 18.6 +0.8**
WR0 IAmb IAmb 03 32 20.3
comp=Z,8.4nm,0.6s
AS31 Alice Springs 25.20 128 P **P** **03 32 28.8 -0.2**
ASAR Alice Springs 25.20 128 P **P** **03 32 30.2 +1.3**
comp=Z,1.5nm,0.4s,baz=302,slow=9.5,SNR=14
ASAR PcP **PcP** **03 36 02.5 +1.2**
comp=Z,0.9nm,0.4s,baz=310,slow=1.9,SNR=8.7
comp=Z,1.5nm,0.4s
ASAR Alice Springs 25.20 128 P **P** **03 32 28.8 -0.1**
FORT Forrest 26.16 148 P **P** **03 32 40.6 +3.1**
QIS Mount Isa 28.62 117 P **P** **03 33 02.4 +2.8**
OOD Oodnadatta 28.84 134 P **P** **03 33 03.8 +2.3**
comp=Z,14nm,1.6s
CMAR Chiang Mai Arr 30.30 334 P **P** **03 33 12.2 -2.3**
comp=Z,0.7nm,0.3s,baz=174,slow=7.8,SNR=4.6
CMAR LR LR 03 47 47.7
comp=Z,32nm,18.0s,baz=205,slow=41
comp=Z,0.7nm,0.3s
COEN Coen 30.48 102 P **P** **03 33 16.8 +0.7**
COEN Coen 30.48 102 P **P** **03 33 18.9 +2.7**
CTA Charters Tower 34.46 113 P **P** **03 33 52.1 +1.2**
comp=Z,2.1nm,0.7s,baz=317,slow=9.3,SNR=2.4
CTA PcP **PcP** **03 36 26.2 +1.1**
comp=Z,1.4nm,0.6s,baz=0.0,slow=1.0,SNR=1.7
comp=Z,2.1nm,0.7s
STKA Stephens Creek 35.38 134 P **P** **03 34 00.9 +2.2**
comp=Z,3.8nm,0.4s,baz=312,slow=10,SNR=9.8
STKA PcP **PcP** **03 36 29.1 +1.6**
comp=Z,3.9nm,0.4s,baz=350,slow=3.3,SNR=9.5
comp=Z,3.8nm,0.4s
STKA Stephens Creek 35.38 134 P **P** **03 34 01.5 +2.8**
PZH PanZhiHua 36.72 344 P **P** **03 34 14.3 +4.0**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.1s
H08S2 Diego Garcia H 39.58 269 T T 04 16 33.2
baz=94,slow=74,SNR=7.4
H08S3 Diego Garcia H 39.59 269 T T 04 16 33.5
baz=94,slow=74,SNR=8.1
H08S1 Diego Carcia H 39.60 269 T T 04 16 35.9
baz=94
NJ2 Nanjing 41.19 8 *e*P P 03 34 55.3 +8.0
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KSRS Korea Array 48.34 16 P **P** **03 35 42.9 -1.2**
comp=Z,1.5nm,0.7s,baz=208,slow=8.0,SNR=4.9
comp=Z,1.5nm,0.7s
HHC Hu-ho-hao-te 49.52 359 *e*P **P** **03 35 57.6 +4.3**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,220nm,5.3s
MJAR Matsushiro Arr 51.27 27 P **P** **03 36 03.8 -2.8**
comp=Z,1.5nm,0.7s,baz=190,slow=7.9,SNR=5.5
comp=Z,1.5nm,0.7s
USRK Ussuriysk Ar. 55.74 17 P **P** **03 36 37.3 -1.7**
comp=Z,3.6nm,0.6s,baz=205,slow=3.9,SNR=10
comp=Z,3.6nm,0.6s
SONM Songino Array 56.76 355 P **P** **03 36 44.7 -1.7**
comp=Z,1.2nm,0.6s,baz=181,slow=9.0,SNR=4.5
comp=Z,1.2nm,0.6s
WMQ Urumqi 57.10 339 *e*P **P** **03 36 51.3 +2.4**
MK31 Makanchi Array 61.64 337 P **P** **03 37 18.6 -1.5**
MK31 IAmb IAmb 03 37 18.9
comp=Z,1.1nm,0.7s
MKAR Makanchi Array 61.64 337 P **P** **03 37 17.8 -2.2**
comp=Z,2.4nm,0.6s,baz=146,slow=7.3,SNR=24
comp=Z,2.4nm,0.6s
MKAR Makanchi Array 61.64 337 P **P** **03 37 18.3 -1.7**
KK31 Karatay Array 64.33 327 P **P** **03 37 36.5 -1.4**
KKAR Karatay Array 64.33 327 P **P** **03 37 36.8 -1.1**
KKAR IAmb IAmb 03 37 39.1
comp=Z,1.1nm,0.8s
ZALV Zalesovo Beam 66.85 343 P **P** **03 37 51.5 -2.5**
comp=Z,2.2nm,0.6s,baz=150,slow=6.0,SNR=6.9
comp=Z,2.2nm,0.6s
PETK Petropavlovsk- 72.73 27 P **P** **03 38 29.1 -1.0**
comp=Z,2.5nm,0.8s,baz=236,slow=10,SNR=1.9
comp=Z,2.5nm,0.8s
VNDA Vanda 73.13 170 P **P** **03 38 34.1 +2.0**
comp=Z,0.2nm,0.4s,baz=324,slow=7.0,SNR=5.8
comp=Z,0.2nm,0.4s
ABKAR Akbulak array 73.89 327 P **P** **03 38 35.2 -1.8**
NRIK Noril'sk 79.97 351 P **P** **03 39 09.9 -0.9**
comp=Z,3.1nm,0.5s,baz=180,slow=3.0,SNR=4.4
comp=Z,3.1nm,0.5s
BR131 Keskin Array S 87.17 311 P **P** **03 39 47.5 -0.9**
BRTR Keskin Array B 87.17 311 P **P** **03 39 47.9 -0.6**
comp=Z,1.6nm,0.8s,baz=132,slow=8.0,SNR=12
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 87.17 311 P **P** **03 39 47.5 -0.9**
SNAA Sanae 89.29 197 PcP **PcP** **03 40 00.6 +1.3**
SNAA Sanae 89.29 197 pP pP 03 40 20.5 +4.3
SNAA Sanae 89.29 197 LR LR 04 12 27.3
comp=Z,35nm,21.7s,baz=50,slow=30
VNA2 Neumayer--Watz 90.94 197 PcP **PcP** **03 40 08.3 +1.8**
baz=91,slow=1.0
PDAR Pinedale Array 130.13 40 PKP **PKiKP** **03 46 13.1 0.0**
comp=Z,0.2nm,0.5s,baz=112,slow=4.1,SNR=2.1
CPUP Villa Florida 143.60 196 PKP **PKPdf** **03 46 37.7 +0.4**
comp=Z,0.9nm,0.4s,baz=168,slow=3.8,SNR=4.8
BDFB Brasilia 148.88 218 PKPbc **PKiKP** **03 46 51.5 -0.4**
comp=Z,1.3nm,0.6s,baz=141,slow=6.1,SNR=5.9

---

*IDC **18** 03:47:53.2±2.5, 10.˚48S×161.˚31E, h101km±18km, mb3.4/6, mbtmp3.8/8, Error ellipse: s-maj=27.3km s-min=21.7km az=76.0*

ISC 18 03:47:47.7±1.0, **10.˚7S**±0.˚1×**161.˚6E**±0.˚1, **h61**km, **n9,** σ**1**§**06**/**10**, **mb3.7/6, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.06**	**307**	P	**Pn**	**03 48 20.3**	**+0.4**
	4μm,0.5s,baz=172,slow=11,SNR=6.9						
HNR				S	**Sn**	**03 48 44.2**	**-0.4**
	11μm,0.6s,baz=129,slow=20,SNR=10.0						
DZM	**Mont Dzumac**	**12.24**	**158**	P	**P**	**03 50 49.0**	**-0.8**
	1.7nm,0.4s,baz=312,slow=15,SNR=9.0						
CTA	**Charters Tower**	**17.51**	**236**	P	**P**	**03 51 50.0**	**+1.8**
	2.7nm,0.7s,baz=46,slow=5.2,SNR=4.2						
WRA	**Warramunga Arr**	**27.84**	**247**	P	**P**	**03 53 31.5**	**-0.3**
	0.5nm,0.7s,baz=77,slow=9.1,SNR=4.7						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**29.39**	**240**	P	**P**	**03 53 45.3**	**-0.2**
	0.4nm,0.9s,baz=68,slow=10,SNR=4.8						
	0.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**35.57**	**254**	P	**P**	**03 54 39.2**	**-0.3**
	2.8nm,1.0s,baz=78,slow=9.3,SNR=3.5						
	2.8nm,1.0s						
SONM	**Songino Array**	**76.01**	**325**	P	**P**	**03 59 27.6**	**-0.9**
	0.5nm,0.5s,baz=131,slow=7.9,SNR=3.1						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**88.90**	**51**	P	**P**	**04 00 37.5**	**+1.5**
	0.4nm,0.8s,baz=254,slow=6.5,SNR=3.6						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**90.49**	**318**	P	**P**	**04 00 42.3**	**-0.7**
	0.2nm,0.5s,baz=91,slow=5.8,SNR=2.3						
	0.2nm,0.5s						

---

*ROM **18** 03:51:49.6±0.1, 42.˚821N±0.˚003×13.˚250E±0.˚005, h8km, ML3.1/58, Error ellipse: s-maj=0.4km s-min=0.1km az=85.0*

*IDC **18** 03:51:49.7±2.0, 42.˚90N×13.˚81E, h0km, mb3.2/1, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=56.5km s-min=15.2km az=97.0*

*LDG **18** 03:51:49.1±0.1, 42.˚81N×13.˚24E, h8km, Ml3.1/5, Error ellipse: s-maj=3.8km s-min=2.3km az=49.0*

*PRU **18** 03:51:53.7±0.0, 42.˚99N×13.˚41E, h0km*

ISC 18 03:51:50.5±0.8, **42.˚82N**±0.˚01×**13.˚23E**±0.˚02, **h7**km±4km, **n128,** σ**1**§**70**/**189**, **27C-26D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.02**	**290**	P	**Pg**	**03 51 51.4**	**-0.7**
T1242				S	**Sg**	**03 51 52.3**	**-0.9**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
NRCA	**Norcia**	**0.09**	**278**	P	**Pg**	**03 51 52.6**	**-0.1**
NRCA				S	**Sg**	**03 51 54.4**	**+0.1**
MMO1	**Montemonaco**	**0.10**	**42**	P	**Pg**	**03 51 52.5**	**-0.4**
MMO1				S	**Sg**	**03 51 54.3**	**-0.4**
T1202	**Accumoli, Fraz**	**0.12**	**182**	P	**Pg**	**03 51 53.2**	**+0.1**
T1202				S	**Sg**	**03 51 55.9**	**+0.9**
T1202				AML	AML		
	comp=E,44350μm,0.7s						
T1202				AML	AML		
	comp=N,40600μm,0.2s						
T1241	**Roccafluvione,**	**0.15**	**77**	P	**Pg**	**03 51 53.5**	**-0.2**
T1204	**Amatrice, Fraz**	**0.16**	**157**	⇓P	**Pg**	**03 51 53.8**	**0.0**
T1204				S	**Sg**	**03 51 56.6**	**+0.5**
T1204				AML	AML		
	comp=E,8950μm,1.1s						
T1204				AML	AML		
	comp=E,8935μm,1.1s						
T1204				AML	AML		
	comp=N,10295μm,1.0s						
T1216	**Preci, Frazion**	**0.17**	**294**	⇑P	**Pg**	**03 51 54.1**	**+0.1**
T1216				S	**Sg**	**03 51 57.3**	**+0.9**
T1216				AML	AML		
T1216				AML	AML		
	comp=E,19150μm,0.4s						
T1216				AML	AML		
T1216				AML	AML		
	comp=N,32700μm,1.4s						
AM05	**Amandola Campo**	**0.18**	**30**	P	**Pg**	**03 51 54.2**	**0.0**
AM05				S	**Sg**	**03 51 57.2**	**+0.5**
FEMA	**Monte Fema**	**0.19**	**316**	P	**Pg**	**03 51 54.6**	**+0.1**
FEMA				S	**Sg**	**03 51 58.1**	**+0.9**
FEMA				AML	AML		
	comp=N,16850μm,0.4s						
FEMA				AML	AML		
	comp=E,18450μm,1.4s						
FDMO	**Fiordimonte**	**0.24**	**334**	P	**Pg**	**03 51 55.1**	**-0.1**
FDMO				S	**Sg**	**03 51 59.4**	**+0.9**
FDMO				AML	AML		
	comp=E,10585μm,0.2s						
FDMO				AML	AML		
	comp=N,13250μm,0.2s						
T1217	**Poggiodomo (PG**	**0.25**	**244**	P	**Pg**	**03 51 55.5**	**+0.1**
T1217				S	**Sg**	**03 51 59.7**	**+1.0**
T1217				AML	AML		
	comp=E,4105μm,0.6s						
T1217				AML	AML		
	comp=N,9655μm,0.5s						
T1217				AML	AML		
	comp=E,4055μm,1.1s						
T1217				AML	AML		
	comp=N,9390μm,0.5s						
T1217				AML	AML		
	comp=E,4050μm,1.1s						
T1217				AML	AML		
	comp=N,9660μm,0.5s						
T1217				AML	AML		
	comp=N,9410μm,0.5s						
GUMA	**Gualdo di Mace**	**0.25**	**18**	⇑P	**Pg**	**03 51 54.4**	**-1.1**
GUMA				S	**Sg**	**03 51 59.1**	**+0.2**
GUMA				AML	AML		
	comp=E,41250μm,0.6s						
GUMA				AML	AML		
	comp=N,53500μm,0.3s						
GUMA				AML	AML		
	comp=N,46900μm,1.4s						
GUMA				AML	AML		
	comp=E,49900μm,0.3s						
LNSS	**Leonessa**	**0.26**	**213**	⇑P	**Pg**	**03 51 55.7**	**+0.1**
LNSS				S	**Sg**	**03 52 00.4**	**+1.2**
LNSS				AML	AML		
	comp=E,14150μm,0.9s						
LNSS				AML	AML		
	comp=N,9425μm,1.2s						
T1215	**Vallo di Nera,**	**0.27**	**266**	⇑P	**Pg**	**03 51 55.9**	**+0.1**
T1215				S	**Sg**	**03 52 00.5**	**+1.1**
T1215				AML	AML		
	comp=E,4085μm,0.3s						
T1215				AML	AML		
	comp=E,4335μm,0.3s						
T1215				AML	AML		
	comp=N,3875μm,0.4s						
T1215				AML	AML		
	comp=N,3620μm,0.4s						
T1215				AML	AML		
	comp=E,4335μm,0.3s						
CSP1	**Cessapalombo**	**0.27**	**356**	P	**Pg**	**03 51 55.8**	**-0.1**
CSP1				S	**Sg**	**03 52 00.5**	**+1.0**
CSP1				AML	AML		
	comp=N,24100μm,0.4s						
CSP1				AML	AML		
	comp=E,10850μm,0.2s						
CESI	**CESI - Serrava**	**0.30**	**307**	⇑P	**Pg**	**03 51 56.5**	**0.0**
CESI				S	**Sb**	**03 52 01.8**	**-1.6**
CESI				AML	AML		
	comp=E,9850μm,0.4s						
CESI				AML	AML		
	comp=N,15050μm,0.3s						
RM33	**Pellescritta (**	**0.31**	**182**	⇓P	**Pg**	**03 51 56.5**	**-0.1**
RM33				AML	AML		
	comp=E,3830μm,1.5s						
RM33				AML	AML		
	comp=N,2695μm,1.6s						
RM33				AML	AML		
	comp=E,3830μm,1.5s						
RM33				AML	AML		
	comp=N,2740μm,1.6s						
RM33				AML	AML		
	comp=E,3915μm,1.5s						
RM33				AML	AML		
	comp=N,2690μm,1.6s						
CAMP	**Campotosto**	**0.32**	**155**	⇓P	**Pg**	**03 51 56.3**	**-0.4**
CAMP				S	**Sg**	**03 52 01.2**	**+0.4**
CAMP				AML	AML		
	comp=E,2490μm,1.0s						
CAMP				AML	AML		
	comp=N,3105μm,0.5s						
TERO	**Teramo**	**0.34**	**126**	⇓P	**Pg**	**03 51 56.7**	**-0.4**
TERO				S	**Sg**	**03 52 02.0**	**+0.4**
TERO				AML	AML		
	comp=E,6030μm,1.1s						
TERO				AML	AML		
	comp=N,11195μm,0.3s						
TERO				AML	AML		
	comp=E,6355μm,1.2s						
TERO				AML	AML		
	comp=N,11865μm,0.3s						
TERO				AML	AML		
	comp=E,6035μm,1.1s						
TERO				AML	AML		
	comp=N,11180μm,0.3s						
OFFI	**Offida**	**0.35**	**71**	⇑P	**Pg**	**03 51 58.0**	**+0.6**
OFFI				AML	AML		
	comp=N,8705μm,0.7s						
OFFI				AML	AML		
	comp=E,6650μm,0.6s						
T1247	**Pizzolo (AQ)**	**0.38**	**173**	⇓P	**Pg**	**03 51 57.7**	**-0.3**
T1247				AML	AML		
	comp=N,2510μm,0.4s						
T1247				AML	AML		
	comp=N,2505μm,0.4s						
T1247				AML	AML		
	comp=E,4080μm,0.6s						
SEF1	**Sefro**	**0.39**	**327**	P	**Pg**	**03 51 57.9**	**-0.1**
SEF1				S	**Sb**	**03 52 04.7**	**-1.1**
SEF1				AML	AML		
	comp=N,12350μm,0.2s						
SEF1				AML	AML		
	comp=E,9845μm,0.3s						
ARRO	**Arrone**	**0.42**	**235**	⇑P	**Pg**	**03 51 58.5**	**-0.1**
ARRO				S	**Sg**	**03 52 05.7**	**+1.5**
ARRO				AML	AML		
	comp=N,2120μm,0.2s						
ARRO				AML	AML		
	comp=E,2060μm,1.1s						
GAG1	**Gaglole**	**0.43**	**344**	P	**Pg**	**03 51 58.8**	**-0.1**
GAG1				S	**Sb**	**03 52 06.1**	**-1.1**
GAG1				AML	AML		
	comp=E,10305μm,0.2s						
GAG1				AML	AML		
	comp=N,14400μm,1.0s						
GIGS	**Gran Sasso**	**0.45**	**146**	⇓P	**Pg**	**03 51 58.4**	**-0.8**
GIGS				AML	AML		
	comp=E,653μm,0.6s						
GIGS				AML	AML		
	comp=N,486μm,0.8s						
SNTG	**Esanatoglia**	**0.48**	**334**	⇓P	**Pg**	**03 51 59.5**	**-0.3**
SNTG				S	**Sb**	**03 52 07.4**	**-1.2**
SNTG				AML	AML		
	comp=N,2225μm,0.8s						
SNTG				AML	AML		
	comp=E,2015μm,0.9s						
SNTG				AML	AML		
	comp=E,304μm,1.1s						
SNTG				AML	AML		
	comp=N,414μm,1.2s						
AQU	**L'Aquila**	**0.48**	**165**	⇓P	**Pg**	**03 51 59.3**	**-0.5**
AQU				AML	AML		
	comp=N,1665μm,1.1s						
AQU				AML	AML		
	comp=E,1655μm,1.2s						
AQU				AML	AML		
	comp=N,1565μm,1.1s						
AQU				AML	AML		
	comp=E,1695μm,1.2s						
TRTR	**Tortoreto Alta**	**0.50**	**91**	⇑P	**Pb**	**03 52 01.2**	**-0.4**
TRTR				AML	AML		
	comp=E,6815μm,0.8s						
TRTR				AML	AML		
	comp=N,10115μm,0.7s						
EL6	**Elcito**	**0.52**	**349**	P	**Pg**	**03 52 00.0**	**-0.4**
EL6				S	**Sb**	**03 52 10.0**	**+0.4**
EL6				AML	AML		
	comp=E,5270μm,0.4s						
EL6				AML	AML		
	comp=N,6310μm,0.3s						
CESX	**Cesi**	**0.53**	**246**	S	**Sb**	**03 52 10.0**	**+0.2**
CING	**Cingoli**	**0.55**	**357**	⇓P	**Pg**	**03 52 00.8**	**-0.4**
CING				AML	AML		
	comp=E,2145μm,0.5s						
CING				AML	AML		
	comp=N,1960μm,0.7s						
FIAM	**Fiamignano**	**0.56**	**189**	⇓P	**Pg**	**03 52 00.8**	**-0.5**
FIAM				S	**Sg**	**03 52 10.0**	**+1.4**
FIAM				AML	AML		
	comp=E,1270μm,1.4s						
FIAM				AML	AML		
	comp=N,1955μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.57**	**310**	⇑P	**Pg**	**03 52 01.2**	**-0.2**
ATCC				S	**Sb**	**03 52 10.5**	**-0.4**
FOSV	**Fossato di Vic**	**0.58**	**324**	⇓P	**Pg**	**03 52 01.5**	**-0.3**
FOSV				S	**Sb**	**03 52 11.0**	**-0.5**
FOSV				AML	AML		
	comp=E,4620μm,0.3s						
FOSV				AML	AML		
	comp=N,12065μm,0.3s						
FAGN	**Fagnano**	**0.61**	**155**	⇓P	**Pg**	**03 52 01.3**	**-1.0**
FAGN				S	**Sb**	**03 52 12.0**	**-0.4**
FAGN				AML	AML		
	comp=N,1910μm,1.4s						
FAGN				AML	AML		
	comp=E,3165μm,0.6s						
VCEL	**Villa Celiera**	**0.62**	**133**	P	**Pg**	**03 52 01.6**	**-0.8**
VCEL				AML	AML		
	comp=E,2025μm,0.6s						
VCEL				AML	AML		
	comp=E,2030μm,0.6s						
VCEL				AML	AML		
	comp=N,2255μm,0.9s						
PP3	**Marolino**	**0.62**	**26**	⇓P	**Pb**	**03 52 03.0**	**-0.6**
PP3				AML	AML		
	comp=N,8810μm,0.4s						
PP3				AML	AML		
	comp=N,8830μm,0.4s						
PP3				AML	AML		
	comp=E,6440μm,0.8s						
PP3				AML	AML		
	comp=E,6890μm,0.8s						
MURB	**Monte Urbino**	**0.68**	**311**	P	**Pg**	**03 52 03.4**	**-0.2**
MURB				S	**Sb**	**03 52 15.0**	**+0.7**
MURB				AML	AML		
	comp=E,8125μm,0.3s						
MURB				AML	AML		
	comp=N,7820μm,0.3s						
MURB				AML	AML		
	comp=E,8815μm,0.3s						
MURB				AML	AML		
	comp=N,7915μm,0.9s						
SSFR	**Montelago di S**	**0.70**	**332**	⇓P	**Pg**	**03 52 03.4**	**-0.5**
SSFR				S	**Sb**	**03 52 16.0**	**+1.2**
SSFR				AML	AML		
	comp=N,5975μm,0.2s						
SSFR				AML	AML		
	comp=N,5570μm,0.2s						
SSFR				AML	AML		
	comp=E,5380μm,0.3s						
SSFR				AML	AML		
	comp=E,5275μm,0.2s						
ARVD	**Arcevia**	**0.71**	**343**	⇓P	**Pg**	**03 52 03.6**	**-0.6**
ARVD				S	**Sb**	**03 52 16.0**	**+0.9**
ARVD				AML	AML		
	comp=N,650μm,0.5s						
ARVD				AML	AML		
	comp=E,1380μm,0.5s						
T0110	**Collepietro**	**0.72**	**146**	⇓P	**Pg**	**03 52 03.4**	**-1.0**
T0110				AML	AML		
	comp=E,1815μm,0.9s						
T0110				AML	AML		
	comp=N,1700μm,0.5s						
ATFO	**Monte Foce - G**	**0.73**	**319**	⇑P	**Pg**	**03 52 04.1**	**-0.4**
ATFO				AML	AML		
	comp=E,1435μm,1.6s						
ATFO				AML	AML		
	comp=N,1340μm,0.8s						
ATTE	**AVT- Monte Tez**	**0.74**	**301**	⇑P	**Pg**	**03 52 04.5**	**-0.3**
ATTE				AML	AML		
	comp=N,752μm,1.4s						
ATTE				AML	AML		
	comp=E,1034μm,0.5s						
AOI	**Ancona**	**0.78**	**20**	⇑P	**Pg**	**03 52 05.3**	**-0.1**
AOI				AML	AML		
	comp=E,1440μm,1.2s						
AOI				AML	AML		
	comp=N,1430μm,1.1s						
FRON	**Frontone**	**0.79**	**332**	⇓P	**Pg**	**03 52 05.0**	**-0.7**
FRON				S	**Sb**	**03 52 18.0**	**+0.6**
FRON				AML	AML		
	comp=E,1110μm,1.3s						
FRON				AML	AML		
	comp=N,1450μm,0.3s						
ATVO	**AVT- Monte Val**	**0.82**	**313**	⇑P	**Pg**	**03 52 05.7**	**-0.6**
ATVO				AML	AML		
	comp=E,931μm,0.3s						
ATVO				AML	AML		
	comp=N,970μm,0.6s						
COR1	**Corinaldo**	**0.83**	**348**	⇓P	**Pb**	**03 52 06.6**	**-0.5**
COR1				AML	AML		
	comp=E,3000μm,0.5s						
COR1				AML	AML		
	comp=N,2726μm,1.4s						
MGAB	**Montegabbione**	**0.83**	**277**	⇑P	**Pg**	**03 52 05.9**	**-0.5**
MGAB				AML	AML		
	comp=E,1290μm,0.5s						
MGAB				AML	AML		
	comp=N,1835μm,0.4s						
MGAB				AML	AML		
	comp=N,1770μm,0.4s						
MGAB				AML	AML		
	comp=E,1272μm,0.6s						
ATMI	**Monte Miggiano**	**0.87**	**306**	⇑P	**Pg**	**03 52 06.9**	**-0.4**
ATMI				AML	AML		
	comp=E,2710μm,0.7s						
ATMI				AML	AML		
	comp=N,2790μm,0.3s						
ATPI	**Pietralunga -**	**0.87**	**316**	⇑P	**Pg**	**03 52 06.7**	**-0.6**
ATPI				AML	AML		
	comp=E,904μm,0.6s						
ATPI				AML	AML		
	comp=N,654μm,1.5s						
MPAG	**Monte Paganucc**	**0.88**	**337**	⇓P	**Pg**	**03 52 07.0**	**-0.3**
MPAG				S	**Sn**	**03 52 22.0**	**-0.3**
MPAG				AML	AML		
	comp=N,876μm,0.6s						
MPAG				AML	AML		
	comp=E,1075μm,0.4s						
MTCE	**Montecelio**	**0.88**	**205**	⇑P	**Pn**	**03 52 09.2**	**0.0**
MTCE				AML	AML		
	comp=E,576μm,0.5s						
MTCE				AML	AML		

comp=N,459µm,0.5s
PIEI Pieia 0.88 325 ⇑P **Pg** 03 52 06.5 -0.8
PIEI S **Sb** 03 52 21.0 +1.1
PIEI AML AML
comp=E,814µm,0.2s
PIEI AML AML
comp=N,634µm,1.1s
SENI Senigallia 0.88 0 ⇓P **Pb** 03 52 08.0 0.0
CERT Cerreto 0.89 192 P **Pg** 03 52 05.5 -2.1
CERT AML AML
comp=E,936µm,0.5s
CERT AML AML
comp=N,726µm,1.1s
CERT AML AML
comp=N,726µm,1.1s
NARO Abbazia di Nar 0.92 329 ⇑P **Pg** 03 52 07.3 -0.8
NARO S **Sn** 03 52 23.0 -0.3
NARO AML AML
comp=E,528µm,1.1s
NARO AML AML
comp=N,496µm,0.7s
FSSB Fossombrone 0.93 339 ⇓P **Pg** 03 52 08.0 -0.4
FSSB AML AML
comp=E,2390µm,0.4s
FSSB AML AML
comp=N,2785µm,1.3s
APEC Apecchio 0.95 321 ⇑P **Pg** 03 52 08.4 -0.2
APEC S **Sn** 03 52 24.0 +0.1
INTR Introdacqua 0.95 148 ⇓P **Pg** 03 52 07.0 -1.7
INTR AML AML
comp=E,398µm,0.9s
INTR AML AML
comp=N,986µm,0.6s
SACS San Casciano d 0.97 272 P **Pg** 03 52 08.7 -0.5
SACS AML AML
comp=N,679µm,0.8s
SACS AML AML
comp=E,536µm,1.6s
VVLD Villa Vallelon 0.99 163 P **Pg** 03 52 08.2 -1.3
VVLD AML AML
comp=E,412µm,0.7s
VVLD AML AML
comp=N,410µm,0.6s
BADI Badiali 1.00 314 ⇑P **Pg** 03 52 09.1 -0.5
BADI S **Sn** 03 52 26.0 +0.8
RCAV Rocca di Cave 1.00 192 ⇓P **Pb** 03 52 10.7 +0.6
PE3 Peglio 1.02 329 P **Pg** 03 52 09.6 -0.6
PE3 AML AML
comp=E,5µm,1.2s
PE3 AML AML
comp=N,4µm,1.2s
LPEL Lama dei Pelig 1.05 137 ⇑P **Pg** 03 52 08.8 -1.8
LPEL AML AML
comp=E,553µm,0.7s
LPEL AML AML
comp=N,474µm,0.5s
CAFI Castiglion Fio 1.06 299 ⇑P **Pg** 03 52 10.0 -0.8
CAFI S **Sn** 03 52 27.0 +0.4
CAFI AML AML
comp=E,490µm,0.7s
CAFI AML AML
comp=N,484µm,0.4s
CAFI AML AML
comp=N,507µm,0.4s
CAFI AML AML
comp=E,517µm,0.7s
PARC Parchiule 1.10 319 ⇓P **Pg** 03 52 10.9 -0.7
PARC AML AML
comp=N,556µm,1.3s
PARC AML AML
comp=E,662µm,0.7s
PESA Pesaro 1.15 346 ⇓P **Pb** 03 52 12.7 0.0
PESA AML AML
comp=E,1380µm,1.6s
PESA AML AML
comp=N,1115µm,0.3s
SF04 Casetta 1.16 271 ⇑P **Pn** 03 52 13.4 +0.3
TOLF Tolfa 1.19 231 ⇑P **Pg** 03 52 13.4 +0.2
TOLF AML AML
comp=N,502µm,0.4s
TOLF AML AML
comp=E,378µm,1.3s
GIUL Giuliano Di Ro 1.26 179 ⇓P **Pg** 03 52 14.9 +0.2
GIUL AML AML
comp=E,215µm,0.9s
GIUL AML AML
comp=N,267µm,0.8s
TRIV Trivento 1.44 137 ⇑P **Pg** 03 52 18.5 +0.4
DUGI Dugi Otok 1.77 48 *e*Pn **Pn** 03 52 21.0 -0.5
ZIRJ Zirje 1.95 64 *e*Pn **Pn** 03 52 23.6 -0.3
VIRC Vir 1.98 41 *e*Pn **Pn** 03 52 24.0 -0.3
MORI Morici 2.09 59 *e*Pn **Pn** 03 52 25.6 -0.1
PII Pisa 2.17 295 ⇑P **Pb** 03 52 28.7 -1.4
SMRN Sveta Marina 2.31 16 *e*Pn **Pn** 03 52 28.2 -0.6
HVAR Hvar 2.39 80 *e*Pn **Pn** 03 52 29.9 0.0
A253A Karojba, Istri 2.51 9 *e*Pn **Pn** 03 52 30.7 -0.8
UDBI Udbina 2.51 46 *e*Pn **Pn** 03 52 32.6 +0.9
A250A Rusevo Krmpots 2.57 28 *e*Pn **Pn** 03 52 32.4 0.0
VULT Monte Vulture 2.58 136 S **Sb** 03 53 11.0 +2.0
KIJV Kijevo 2.60 62 *e*Pn **Pn** 03 52 33.5 +0.6
PLIT Plitvice 2.69 39 *e*Pn **Pn** 03 52 33.8 -0.3
LSTV Lastovo 2.69 90 *e*Pn **Pn** 03 52 34.2 0.0
RICI Ricice 2.93 75 *e*Pn **Pn** 03 52 38.2 +0.8
RICI Sn **Sn** 03 53 14.2 +1.3
PGF Pioggiola 3.13 266 *e*P **Pn** 03 52 40.5 +0.2
STON Ston 3.29 88 *e*Pn **Pn** 03 52 41.2 -1.0
OBKA Obir 3.80 14 *e*Pn **Pn** 03 52 50.2 +0.7
comp=N,0.5nm,0.1s
OBKA *e*Sn **Sn** 03 53 34.6 +0.1
comp=N,10nm,0.4s
MYKA Terra Mystica 3.82 4 *e*Pn **Pn** 03 52 51.1 +1.5
comp=N,2.2nm,0.4s
MYKA *e*Sn **Sn** 03 53 35.7 +0.8
comp=N,5.2nm,0.3s
ABTA Abfaltersbach 3.96 353 *e*Pn **Pn** 03 52 52.8 +1.2
comp=N,13nm,0.5s
ABTA *e*Sn **Sn** 03 53 40.2 +1.9
comp=N,5.2nm,0.4s
SOKA Soboth 4.06 18 *e*Pn **Pn** 03 52 53.0 -0.1
comp=N,0.2nm,0.2s
SOKA *e*Sn **Sn** 03 53 41.5 +0.6
comp=N,2.0nm,0.3s
KBA Koelnbreinsper 4.26 1 *e*Pn **Pn** 03 52 57.5 +1.7
comp=N,2.0nm,0.3s
KBA *e*Sn **Sn** 03 53 45.3 -0.5
comp=N,5.8nm,0.3s
SBF Sospel 4.35 286 *e*P **Pn** 03 52 57.4 +0.4
FETA Feichten 4.56 338 *e*Pn **Pn** 03 53 03.2 +3.3
comp=N,3.0nm,0.4s
FETA *e*Sn **Sn** 03 53 53.0 -0.2
comp=N,2.3nm,0.5s
WTTA Wattenberg 4.58 346 *e*Pn **Pn** 03 53 03.2 +2.9
comp=N,0.9nm,0.2s
WTTA *e*Sn **Sn** 03 53 55.9 +2.1
comp=N,4.2nm,0.4s
DAVOX Davos/Dischmat 4.62 330 Pn **Pn** 03 53 03.7 +2.9
comp=N,1.0nm,0.3s,baz=159,slow=16,SNR=15
DAVOX Sn **Sn** 03 54 00.7 +6.0
comp=N,0.6nm,0.3s,baz=282,slow=20,SNR=3.8
comp=N,2.9nm,0.4s
SQTA Sankt Quirin 4.63 343 *e*Pn **Pn** 03 53 03.5 +2.6
comp=N,2.7nm,0.3s
SQTA *e*Sn **Sn** 03 53 55.2 +0.5
comp=N,4.8nm,0.4s
WATA Walderalm 4.66 346 *e*Pn **Pn** 03 53 03.0 +1.6
comp=N,2.0nm,0.3s
WATA *e*Sn **Sn** 03 53 56.2 +0.5
comp=N,3.8nm,0.4s
ARSA Arzberg 4.72 19 *e*Pn **Pn** 03 53 01.4 -0.5
comp=N,0.3nm,0.2s
ARSA *e*Sn **Sn** 03 53 54.5 -2.4
comp=N,3.8nm,0.4s
MOTA Moosalm 4.77 342 *e*Pn **Pn** 03 53 02.2 -0.6
comp=N,1.0nm,0.5s
MOTA *e*Sn **Sn** 03 53 59.5 +1.2
comp=N,1.8nm,0.4s
BIOA Bad Ischl, Aus 4.88 3 *e*Pn **Pn** 03 53 04.5 +0.3
comp=N,2.1nm,0.3s
BIOA *e*Sn **Sn** 03 54 01.1 +0.3
comp=N,5.1nm,0.5s
LMR La Mourre 4.95 278 *e*P **Pn** 03 53 05.5 +0.3
RETA Reutte 4.98 340 *e*Pn **Pn** 03 53 09.0 +3.4
comp=N,1.4nm,0.2s
RETA *e*Sn **Sn** 03 54 05.1 +1.6
comp=N,1.9nm,0.3s
MBDF Montbardon 5.05 294 *e*P **Pn** 03 53 08.4 +1.7

DAVA Damuels 5.06 333 *e*Pn **Pn** 03 53 09.9 +3.1
comp=N,1.0nm,0.4s
DAVA *e*Sn **Sn** 03 54 07.8 +2.3
comp=N,3.5nm,0.4s
MOA Molln 5.08 8 *i* Pn **Pn** 03 53 08.8 +1.9
comp=N,0.5nm,0.3s
MOA *e*Sn **Sn** 03 54 05.1 -0.7
comp=N,3.3nm,0.4s
RONA Rosalia, Austr 5.33 23 *e*Pn **Pn** 03 53 10.6 +0.1
comp=N,0.7nm,0.3s
RONA *e*Sn **Sn** 03 54 10.6 -1.6
comp=N,2.3nm,0.5s
LPG La Plagne 5.37 302 *e*P **Pn** 03 53 12.3 +1.1
LPG *e*Sn **Sn** 03 54 06.4 -7.1
comp=N,6.2nm,0.8s
LPL La Plagne 5.39 302 *e*P **Pn** 03 53 12.3 +0.8
CONA Conrad Observa 5.43 19 *i* Pn **Pn** 03 53 11.3 -0.5
comp=N,0.4nm,0.3s
CONA *e*Sn **Sn** 03 54 13.7 -0.9
comp=N,2.8nm,0.4s
ORIF Oris-en-Rattie 5.71 294 *e*P **Pn** 03 53 16.4 +0.7
ORIF *e*Sn **Sn** 03 54 14.6 -6.9
comp=N,7.2nm,0.9s
GERES GERESS Array B 6.03 3 Pn **Pn** 03 53 19.7 -0.4
comp=N,0.4nm,0.3s,baz=174,slow=12,SNR=15
GERES Sn **Sn** 03 54 27.1 -2.3
comp=N,0.9nm,0.3s,baz=182,slow=24,SNR=8.8
comp=N,0.4nm,0.3s
CKRC Cesky Krumlov 6.05 7 *e*SN **Sn** 03 54 26.6 -3.0
KHC Kasperske Hory 6.32 2 *e*PN **Pn** 03 53 24.2 +0.3
KHC *e*SN **Sn** 03 54 32.6 -3.7
CABF La Chapelle 6.34 309 *e*P **Pn** 03 53 25.5 +1.1
VIVF Saint-Julien-l 6.51 291 *e*P **Pn** 03 53 28.2 +1.5
HINF Hinteralfeld 6.72 320 *e*P **Pn** 03 53 31.1 +1.6
HINF *e*Sn **Sn** 03 54 38.2 -8.0
comp=N,12nm,0.8s
CDF Champ du Feu 6.98 325 *e*P **Pn** 03 53 33.9 +0.9
CDF *e*Sn **Sn** 03 54 46.0 -6.6
comp=N,1.5nm,0.3s
HAU Haudompre 7.09 319 *e*P **Pn** 03 53 36.4 +1.8
HAU *e*Sn **Sn** 03 54 47.7 -7.7
comp=N,6.2nm,0.4s
KEST Kesra 7.69 204 Pn Pn 03 53 48.4 +5.5
comp=N,0.2nm,0.3s,baz=20,slow=21,SNR=1.5
comp=N,0.7nm,0.5s
SFTF Sexfontaines 7.88 316 *e*Pn **Pn** 03 53 43.2 -2.1
SFTF Sexfontaines 7.88 316 *e*P **Pn** 03 53 48.0 +2.7
MEZF Maizieres J'vi 8.06 318 *e*P **Pn** 03 53 49.2 +1.3
SSF Saint Saulge 8.10 305 *e*P **Pn** 03 53 51.2 +2.9
SAVF Savonnieres en 8.11 318 *e*P **Pn** 03 53 50.7 +2.3
TORD Torodi Ar. Bea 31.21 202 P **P** 03 58 11.8 +1.5
comp=N,0.3nm,0.8s,baz=29,slow=7.9,SNR=2.0
comp=N,0.3nm,0.8s

IDC 18 03:53:56.4±2.1,1°83S×140°72E,h0km,mb3.5/4,
mbtmp3.6/5,ML3.6/1,MS3.2/4,Error ellipse:
s-maj=66.8km s-min=28.7km az=88.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.88**	**140**	LR	LR	LR	04 00 52.0	
	comp=Z,82nm,21.6s,baz=50,slow=42							
GUMO	**Guam**	**15.86**	**15**	LR	LR	LR	04 03 25.8	
	comp=Z,36nm,18.3s,baz=164,slow=36							
CTA	**Charters Tower**	**18.94**	**164**	LR	LR	LR	04 06 05.1	
	comp=Z,78nm,21.9s,baz=16,slow=38							
WRA	**Warramunga Arr**	**19.05**	**199**	P	P		03 58 19.6	-0.8
	0.2nm,0.3s,baz=21,slow=12,SNR=8.8							
	1.3nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.92**	**222**	P	P		03 58 51.5	0.0
	1.3nm,0.7s,baz=39,slow=6.5,SNR=1.7							
	1.3nm,0.7s							
ASAR	**Alice Springs**	**22.69**	**196**	P	P		03 58 59.8	0.0
	0.8nm,0.5s,baz=28,slow=12,SNR=22							
	0.8nm,0.5s							
STKA	**Stephens Creek**	**29.90**	**179**	LR	LR		04 13 24.6	
	comp=Z,136nm,18.4s,baz=15,slow=39							
MKAR	**Makanchi Array**	**70.33**	**322**	P	P		04 05 12.0	-0.1
	0.5nm,0.7s,baz=108,slow=4.7,SNR=4.5							
	0.5nm,0.7s							
VNDA	**Vanda**	**76.48**	**175**	P	P		04 05 48.1	+0.5
	0.4nm,0.7s,baz=327,slow=6.2,SNR=3.7							
	0.4nm,0.7s							

*CNRM **18** 03:57:28.0,36°.39N×4°.83W,h30km,ml2.7*
*SFS **18** 03:57:28.0,36°.39N×4°.80W,ML2.8,ALBORAN OESTE*
*MDD **18** 03:57:29.0±0.3,36°.40N×4°.80W,h60km±6km,Mb3.7/33,*
Error ellipse: s-maj=2.2km s-min=1.7km az=165.0
*IGIL **18** 03:57:29.1,36°.39N×4°.80W,h40km,ML3.2*
*INMG **18** 03:57:30.5±1.8,36°.58N×4°.79W,h31km±7km,ML2.9,Error*
ellipse: s-maj=5.6km s-min=2.9km az=179.0

ISC 18 03:57:27.6±1.1,36°.44N±0°.02×4°.79W±0°.02,h35km,n102,
σ1s95/179,41C-3D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.13**	**7**	⇑Pg		**Pn**	**03 57 37.4**	**+3.5**
EMIJ				Sg		**Sn**	**03 57 43.7**	**+5.5**
EMAL	**Malaga-Limoner**	**0.44**	**42**	P		**Pn**	**03 57 39.6**	**+2.3**
EMAL				S		**Sn**	**03 57 48.4**	**+4.3**
EJIF	**Jimena Fronter**	**0.55**	**272**	⇑Pg		**Pn**	**03 57 42.0**	**+3.1**
EJIF				Sg		**Sn**	**03 57 50.0**	**+3.2**
CEU	**Ceuta**	**0.71**	**221**	P		**Pn**	**03 57 42.1**	**+0.9**
CEU				S		**Sn**	**03 57 53.6**	**+2.7**
ECEU	**Ceuta**	**0.72**	**221**	Pg		**Pn**	**03 57 44.3**	**+3.0**
ECEU				Sg		**Sn**	**03 57 54.2**	**+3.1**
EGOR	**Sierra Gorda,**	**0.87**	**39**	Pg		**Pn**	**03 57 45.8**	**+2.4**
EGOR				⇑*i*Vmb_V			03 57 48.3	
	668nm,SNR=16							
EGOR				Sg		**Sn**	**03 57 57.3**	**+2.3**
SMIR	**Smir Dam**	**0.89**	**212**	P		**Pn**	**03 57 44.5**	**+0.9**
SMIR	**Smir Dam**	**0.89**	**212**	P		**Pn**	**03 57 44.9**	**+1.2**
SMIR				S		**Sn**	**03 57 57.5**	**+2.2**
ESPR	**Espera**	**0.96**	**297**	Pg		**Pn**	**03 57 46.8**	**+2.2**
ESPR				⇑*i*Vmb_V			03 57 47.8	
	1µm,SNR=17							
ESPR				Sg		**Sn**	**03 58 00.3**	**+3.3**
ELGU	**Los Guajares,**	**1.03**	**65**	Pg		**Pn**	**03 57 45.6**	**-0.1**
ELGU				⇑*i*Vmb_V			03 57 47.8	
	1µm,SNR=41							
ELGU				Sg		**Sn**	**03 57 59.8**	**+1.0**
PVLZ	**Peæn de**	**1.32**	**162**	P		Pn	03 57 49.4	-0.2
PVLZ				S		**Sn**	**03 58 04.2**	**-1.7**
EQUE	**Quentar**	**1.33**	**54**	Pg		**Pn**	**03 57 51.7**	**+2.0**
EQUE				⇑*i*Vmb_V			03 57 55.4	
	302nm,SNR=4.6							
EQUE				Sg		**Sn**	**03 58 08.4**	**+2.2**
CHEFC	**Chefchaouen**	**1.40**	**199**	P		**Pn**	**03 57 53.0**	**+2.3**
CHEFC				S		**Sn**	**03 58 07.1**	**-0.9**
PALE	**Palemas**	**1.40**	**150**	P		**Pn**	**03 57 51.0**	**+0.3**
PALE	**Palemas**	**1.40**	**150**	P		**Pn**	**03 57 51.0**	**+0.3**
PALE				S		**Sn**	**03 58 08.9**	**+1.0**
EBER	**Berja**	**1.60**	**73**	Pn		**Pn**	**03 57 53.9**	**+0.4**
EBER				⇑*i*Vmb_V			03 57 59.3	
	287nm,SNR=5.6							
EBER				Sn		**Sn**	**03 58 14.3**	**+1.3**
ECAB	**El Cabril**	**1.71**	**343**	Pn		**Pn**	**03 57 56.1**	**+1.1**
ECAB				⇑*i*Vmb_V			03 57 56.9	
	484nm,SNR=9.3							
ECAB				Sn		**Sn**	**03 58 15.8**	**+0.2**
EADA	**Adamuz**	**1.73**	**6**	Pn		**Pn**	**03 57 57.1**	**+1.9**
EADA				⇑*i*Vmb_V			03 58 05.5	
	857nm,SNR=18							
EADA				Sn		**Sn**	**03 58 17.5**	**+1.2**
WMELI	**Melilla**	**1.87**	**126**	P		**Pn**	**03 57 56.5**	**-0.5**
WMELI				S		**Sn**	**03 58 17.6**	**-1.8**
EMEL	**Melilla**	**1.87**	**127**	Pn		**Pn**	**03 57 57.3**	**+0.1**
EMEL				Sn		**Sn**	**03 58 17.4**	**-2.2**
EQES	**Quesada**	**1.94**	**45**	Pn		**Pn**	**03 57 59.7**	**+1.6**
EQES				⇑*i*Vmb_V			03 58 07.7	
	408nm,SNR=7.2							
EQES				Sn		**Sn**	**03 58 22.9**	**+1.7**
EMIN	**Mina Concepcio**	**2.00**	**312**	⇑Pn		**Pn**	**03 57 59.9**	**+0.9**
EMIN				⇑*i*Vmb_V			03 57 59.9	
	2µm,SNR=24							
EMIN				Sn		**Sn**	**03 58 22.0**	**-0.8**
AKLM	**AKL**	**2.07**	**158**	P		**Pn**	**03 58 01.0**	**+1.1**
AKLM				S		Sn	03 58 20.4	-4.1
ENIJ	**Nijar**	**2.15**	**75**	Pn		**Pn**	**03 58 02.0**	**+1.1**
ENIJ				⇑*i*Vmb_V			03 58 06.8	
	186nm,SNR=3.0							
ENIJ				Sn		**Sn**	**03 58 27.0**	**+0.7**

CHAS Isla Isabel II 2.29 122 P **Pn** 03 58 02.2 -0.6
CHAS S **Sn** 03 58 26.8 -3.0
EGRO El Granado 2.42 298 ⇑Pn **Pn** 03 58 05.5 +0.9
EGRO ⇑*i*Vmb_V 03 58 05.8
2µm,SNR=17
EGRO Sn **Sn** 03 58 32.5 -0.5
PBAR Barrancos 2.49 315⇑*e*Pn **Pn** 03 58 06.4 +0.7
PBAR *e*Sn **Sn** 03 58 34.2 -0.7
PBAR A A 03 58 37.2
35nm,0.3s
TAF Taforalt 2.52 129 P **Pn** 03 58 06.4 +0.2
TAF S **Sn** 03 58 36.3 +0.5
PVAQ Vaqueiros 2.54 293⇑*e*Pn **Pn** 03 58 07.0 +0.8
PVAQ *e*Sn **Sn** 03 58 34.9 -1.0
PVAQ A A 03 58 38.1
59nm,0.2s
PVAQ Vaqueiros 2.54 293 P **Pn** 03 58 06.6 +0.4
PVAQ S **Sn** 03 58 35.3 -0.6
PVAQ Vaqueiros 2.54 293 P **Pn** 03 58 07.2 +1.0
PVAQ S **Sn** 03 58 35.2 -0.7
PBDV Barranco-do-Ve 2.64 289 *e*Pn **Pn** 03 58 08.4 +0.6
PBDV *e*Sn **Sn** 03 58 37.2 -1.4
PBDV A A 03 58 39.7
68nm,0.2s
LCRM LCR 2.75 181 P Pn 03 58 09.2 -0.1
LCRM S **Sn** 03 58 40.5 -0.8
JBK JBK 2.78 138 P **Pn** 03 58 09.6 -0.1
JBK S **Sn** 03 58 41.0 -1.2
JBK JBK 2.78 138 P **Pn** 03 58 09.6 -0.1
JBK S **Sn** 03 58 41.2 -1.0
PCVE Castro Verde 2.86 296⇑*e*Pn **Pn** 03 58 11.4 +0.7
PCVE *e*Sn **Sn** 03 58 42.7 -1.2
PCVE A A 03 58 47.1
32nm,0.2s
EBAD Badajoz 2.91 323 ⇑Pn **Pn** 03 58 12.4 +1.0
EBAD ⇑*i*Vmb_V 03 58 13.1
895nm,SNR=14
EBAD Sn **Sn** 03 58 44.5 -0.6
PBEJ Beja 2.92 304⇑*e*Pn **Pn** 03 58 12.3 +0.8
PBEJ *e*Sn **Sn** 03 58 44.0 -1.4
PBEJ A A 03 58 46.1
24nm,0.2s
IFR Ifrane 2.93 185 P Pn 03 58 19.6 +7.8
IFR S Sn 03 58 41.9 -3.9
MESJ Messejana 3.08 298 *e*P **Pn** 03 58 14.4 +0.8
MESJ *e*S **Sn** 03 58 47.6 -1.6
MESJ IAML 03 58 50.0
comp=N,56nm,0.1s
MESJ Messejana 3.08 298⇑*i*Pn **Pn** 03 58 14.5 +0.8
MESJ *e*Sn **Sn** 03 58 48.2 -1.0
MESJ A A 03 58 51.1
comp=N,27nm,0.2s
PAB San Pablo 3.12 6 Pn **Pn** 03 58 15.6 +1.2
PAB ⇑*i*Vmb_V 03 58 21.3
comp=N,134nm,SNR=2.4
PAB Sn **Sn** 03 58 48.8 -1.7
PAB San Pablo 3.12 6 S **Sn** 03 58 51.4 +0.9
MORF Marmelete 3.21 287 *e*P **Pn** 03 58 16.2 +0.7
MORF *e*S **Sn** 03 58 50.6 -2.1
MORF IAML 03 58 53.5
comp=N,128nm,0.1s
MORF Marmelete 3.21 287⇓*e*Pn **Pn** 03 58 16.3 +0.7
MORF *e*Sn **Sn** 03 58 50.6 -2.1
MORF A A 03 58 54.3
comp=N,52nm,0.2s
CART Cartagena 3.24 68 P **Pn** 03 58 19.6 +3.6
CART S **Sn** 03 58 57.7 +4.3
PESTR Estremoz 3.29 318 *e*Pn **Pn** 03 58 17.6 +1.0
PESTR *e*Sn **Sn** 03 58 53.3 -1.2
PESTR A A 03 58 55.0
comp=N,12nm,0.4s
PESTR Estremoz 3.29 318 P **Pn** 03 58 17.8 +1.2
PESTR Estremoz 3.29 318 P **Pn** 03 58 18.4 +1.8
PESTR S **Sn** 03 58 56.0 +1.5
ESDC Sonseca Array 3.30 11 Pn **Pn** 03 58 18.2 +1.4
ESDC ⇑*i*Vmb_V 03 58 21.1
comp=N,76nm,SNR=1.3
ESDC Sn **Sn** 03 58 52.8 -1.9
EVO Evora 3.31 310 P **Pn** 03 58 17.9 +1.1
EVO S **Sn** 03 58 53.6 -1.2
EVO Evora 3.31 310 *e*Pn **Pn** 03 58 18.0 +1.1
EVO *e*Sn **Sn** 03 58 53.7 -1.2
EVO A A 03 58 55.0
comp=N,56nm,0.3s
PFVI Vila Bisbo 3.31 283 *e*Pn **Pn** 03 58 17.8 +0.9
PFVI *e*Sn **Sn** 03 58 53.0 -2.1
PFVI A A 03 58 55.5
comp=N,53nm,0.4s
PFVI Vila Bisbo 3.31 283 P **Pn** 03 58 17.5 +0.6
PFVI S **Sn** 03 58 54.5 -0.6
PFVI Vila Bisbo 3.31 283 P **Pn** 03 58 16.3 -0.6
PFVI S **Sn** 03 58 53.2 -1.9
PTEO Sao Teotonio 3.34 291 *e*Pn **Pn** 03 58 18.2 +1.0
PTEO *e*Sn **Sn** 03 58 54.3 -1.3
PTEO A A 03 58 58.4
comp=N,40nm,0.3s
ZHG ZHG 3.35 208 P Pn 03 58 17.0 -0.5
ZHG S **Sn** 03 58 54.5 -1.6
ETOB Tobarra 3.39 49 ⇓Pn **Pn** 03 58 19.0 +0.9
ETOB ⇑*i*Vmb_V 03 58 26.2
comp=N,311nm,SNR=3.3
ETOB Sn **Sn** 03 58 55.2 -1.9
CZD Col de Zad 3.40 184 P Pn 03 58 16.7 -1.8
CZD S Sn 03 58 55.2 -2.5
PNCL Nicolau / Gran 3.42 300⇑*i*Pn **Pn** 03 58 19.2 +0.9
PNCL *e*Sn **Sn** 03 58 55.7 -1.9
PNCL A A 03 58 57.8
comp=N,36nm,0.2s
MD31 MD31 3.56 180 P **Pn** 03 58 20.6 +0.1
MD31 S Sn 03 58 57.4 -4.0
MDT Midelt 3.62 178 P **Pn** 03 58 21.4 +0.2
MDT Midelt 3.62 178 P **Pn** 03 58 21.4 +0.2
MDT S Sn 03 58 59.4 -3.4
PMRV Marv??o 3.62 326 *e*Pn **Pn** 03 58 22.4 +1.2
PMRV *e*Sn **Sn** 03 59 01.4 -1.4
PMRV A A 03 59 14.7
comp=N,17nm,0.4s
PMTG Montargil 3.78 315 *e*Pn **Pn** 03 58 24.3 +0.9
PMTG *e*Sn **Sn** 03 59 04.7 -1.9
PMTG A A 03 59 06.9
comp=N,19nm,0.3s
AVE Averroes 3.80 215 P Pn 03 58 23.3 -0.4
AVE S **Sn** 03 59 04.8 -2.3
AVE Averroes 3.80 215 P Pn 03 58 23.2 -0.5
AVE Averroes 3.80 215 P Pn 03 58 23.2 -0.5
AVE S Sn 03 59 02.7 -4.5
PACT Alcochete 3.96 307 *e*Pn **Pn** 03 58 27.7 +1.9
PACT *e*Sn **Sn** 03 59 11.1 0.0
PACT A A 03 59 12.9
comp=N,25nm,0.2s
PCBR Castelo Branco 4.00 329 *e*Pn **Pn** 03 58 27.7 +1.3
PCBR *e*Sn **Sn** 03 59 10.3 -1.8
PCBR A A 03 59 12.5
comp=N,13nm,0.3s
AFON Font Roja 4.04 55 Pn **Pn** 03 58 28.3 +1.2
AFON ⇑*i*Vmb_V 03 58 36.1
comp=N,173nm,SNR=1.5
AFON Sn **Sn** 03 59 11.7 -1.6
UCM Universidad Co 4.05 17 P **Pn** 03 58 28.9 +1.8
UCM S **Sn** 03 59 12.2 -1.1
PMST Lisbon--Monsan 4.17 305 *e*Pn **Pn** 03 58 30.2 +1.4
PMST *e*Sn **Sn** 03 59 16.2 -0.1
PMST A A 03 59 19.3
comp=N,18nm,0.8s
GUD Guadarrama 4.23 7 Pn **Pn** 03 58 30.8 +1.1
GUD ⇑*i*Vmb_V 03 58 34.2
comp=N,76nm,SNR=1.6
GUD Sn **Sn** 03 59 15.0 -2.9
PMAFR Mafra 4.36 307 *e*Pn **Pn** 03 58 32.5 +1.2
PMAFR *e*Sn **Sn** 03 59 18.9 -2.0
PMAFR A A 03 59 21.8
comp=N,32nm,0.3s
ECHE Chera 4.36 43 Pn **Pn** 03 58 32.1 +0.7
ECHE ⇑*i*Vmb_V 03 58 39.2
comp=N,189nm,SNR=1.2
ECHE Sn **Sn** 03 59 17.7 -3.3
PSBE So Bento 4.41 315 *e*Pn **Pn** 03 58 33.3 +1.3
PSBE *e*Sn **Sn** 03 59 20.2 -1.9
PSBE A A 03 59 23.4
comp=N,11nm,0.7s
MTE Manteigas 4.51 332 *e*Pn **Pn** 03 58 35.0 +1.6
MTE *e*Sn **Sn** 03 59 23.3 -1.3

MTE					A	A	03 59 48.4			
	comp=N,8.3nm,0.5s									
PCAS	**Casmilo, Conde**	**4.64**	**322**	*e*Pn	**Pn**	**03 58 36.7**	**+1.5**			
PCAS				*e*Sn	**Sn**	**03 59 25.6**	**-2.2**			
PCAS				A	A	03 59 29.3				
	comp=N,9.2nm,0.5s									
SRHM	**Skhour des Reh**	**4.72**	**214**	P	Pn	03 58 36.1	-0.2			
SRHM				S	**Sn**	**03 59 30.5**	**+0.7**			
COI	**Coimbra**	**4.72**	**324**	*e*Pn	**Pn**	**03 58 37.8**	**+1.6**			
COI				*e*Sn	**Sn**	**03 59 28.1**	**-1.6**			
COI				A	A	03 59 28.2				
	comp=N,11nm,0.2s									
ETOR	**Torete**	**4.87**	**25**	⇓Pn	**Pn**	**03 58 39.6**	**+1.1**			
ETOR				⇑*i*Vmb_V		03 58 39.9				
	comp=N,187nm,SNR=1.6									
ETOR				Sn	**Sn**	**03 59 31.7**	**-1.9**			
PVIS	**Viseu**	**4.91**	**331**	*e*Pn	**Pn**	**03 58 40.5**	**+1.5**			
PVIS				*e*Sn	**Sn**	**03 59 32.1**	**-2.5**			
PVIS				A	A	03 59 36.9				
	comp=N,13nm,0.6s									
MVO	**Moncorvo**	**5.03**	**340**	⇑*e*Pn	**Pn**	**03 58 42.0**	**+1.4**			
MVO				*e*Sn	**Sn**	**03 59 34.6**	**-3.0**			
MVO				A	A	03 59 37.3				
	comp=N,11nm,0.5s									
EMOS	**Mosqueruela**	**5.18**	**40**	⇑*i*Vmb_V		03 58 44.2				
	comp=N,216nm,SNR=1.4									
EMOS				Pn	**Pn**	**03 58 44.4**	**+1.6**			
EMOS				Sn	**Sn**	**03 59 38.2**	**-3.3**			
PVRL	**Vila Real**	**5.34**	**336**	*e*Pn	**Pn**	**03 58 46.4**	**+1.5**			
PVRL				*e*Sn	**Sn**	**03 59 43.0**	**-2.2**			
POLO	**Lamas de Olo**	**5.46**	**336**	*e*Pn	**Pn**	**03 58 47.8**	**+1.3**			
POLO				*e*Sn	**Sn**	**03 59 44.4**	**-3.6**			
POLO				A	A	03 59 48.3				
	comp=N,4.1nm,0.6s									
PTO	**Porto**	**5.56**	**329**	*e*Pn	**Pn**	**03 58 49.2**	**+1.5**			
PTO				*e*Sn	**Sn**	**03 59 48.1**	**-2.3**			
PTO				A	A	03 59 49.2				
	comp=N,14nm,0.3s									
PBRG	**Braganca**	**5.57**	**345**	*e*Pn	**Pn**	**03 58 49.1**	**+1.1**			
PBRG				*e*Sn	**Sn**	**03 59 46.4**	**-4.4**			
PBRG				A	A	03 59 50.2				
	comp=N,9.0nm,1.1s									
ECAL	**Calabor**	**5.70**	**345**	Pn	**Pn**	**03 58 51.3**	**+1.5**			
ECAL				⇑*i*Vmb_V		03 58 53.7				
	comp=N,136nm,SNR=1.1									
ECAL				Sn	**Sn**	**03 59 50.8**	**-3.3**			
OUK	**Oukaimeden**	**5.81**	**207**	P	Pn	03 58 48.0	-3.6			
OUK				S	Sn	03 59 51.1	-6.0			
PCAB	**Cabril**	**5.83**	**335**	*e*Pn	**Pn**	**03 58 53.0**	**+1.4**			
PCAB				*e*Sn	**Sn**	**03 59 53.9**	**-3.4**			
PCAB				A	A	03 59 58.4				
	comp=N,6.4nm,0.1s									
ELOB	**Lobios**	**5.99**	**336**	Pn	**Pn**	**03 58 55.1**	**+1.3**			
ELOB				⇑*i*Vmb_V		03 58 57.1				
	comp=N,133nm,SNR=1.1									
ELOB				Sn	**Sn**	**03 59 57.0**	**-4.1**			
PGAV	**Gavieira, Arco**	**6.14**	**335**	*e*Pn	**Pn**	**03 58 57.2**	**+1.3**			
PGAV				*e*Sn	**Sn**	**04 00 01.3**	**-3.7**			
PGAV				A	A	04 00 05.0				
	comp=N,7.5nm,0.8s									
EZAM	**Zamans**	**6.46**	**333**	Pn	**Pn**	**03 59 01.6**	**+1.5**			
EZAM				⇑*i*Vmb_V		03 59 02.1				
	comp=N,218nm,SNR=1.5									
EZAM				Sn	**Sn**	**04 00 08.2**	**-4.4**			
TTIG	**Tnine Tigouga,**	**6.62**	**208**	P	Pn	03 58 58.8	-3.7			
TTIG				S	Sn	04 00 10.2	-6.6			
EARI	**Arriondas**	**6.86**	**357**	Pn	**Pn**	**03 59 07.4**	**+1.7**			
EARI				⇑*i*Vmb_V		03 59 07.8				
	comp=N,231nm,SNR=0.9									
EARI				Sn	**Sn**	**04 00 17.9**	**-4.6**			
ELAN	**Lanestosa**	**6.87**	**8**	Pn	**Pn**	**03 59 07.2**	**+1.5**			
ELAN				⇑*i*Vmb_V		03 59 11.6				
	comp=N,104nm,SNR=0.5									
ELAN				Sn	**Sn**	**04 00 18.5**	**-4.1**			
EORO	**Oroz-Betelu**	**6.98**	**22**	Pn	**Pn**	**03 59 08.8**	**+1.4**			
EORO				⇑*i*Vmb_V		03 59 11.3				
	comp=N,126nm,SNR=1.0									
EORO				Sn	**Sn**	**04 00 23.0**	**-2.6**			
EPON	**Pontenova**	**7.12**	**346**	Pn	**Pn**	**03 59 11.0**	**+1.8**			
EPON				⇑*i*Vmb_V		03 59 11.6				
	comp=N,112nm,SNR=0.6									
EPON				Sn	**Sn**	**04 00 24.6**	**-4.1**			
EALK	**Alkurruntz**	**7.23**	**19**	Pn	**Pn**	**03 59 12.4**	**+1.6**			
EALK				⇑*i*Vmb_V		03 59 14.4				
	comp=N,84nm,SNR=0.9									
EALK				Sn	**Sn**	**04 00 27.6**	**-4.0**			
ECHI	**Chisagues Biel**	**7.31**	**30**	Pn	**Pn**	**03 59 12.7**	**+0.7**			
ECHI				⇑*i*Vmb_V		03 59 14.4				
	comp=N,101nm,SNR=1.2									
ECHI				Sn	**Sn**	**04 00 29.9**	**-3.9**			

IDC 18 03:58:09.7±2.2,1°92S×140°77E,h0km,mb3.4/4, mbtmp3.4/5,ML3.4/1,Error ellipse: s-maj=68.2km s-min=31.2km az=89.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.98**	**199**	P	P	04 02 32.1	-0.8
	0.1nm,0.3s,baz=24,slow=12,SNR=4.5 0.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.88**	**222**	P	P	04 03 04.5	0.0
	0.9nm,0.7s,baz=72,slow=16,SNR=1.3 0.9nm,0.7s						
ASAR	**Alice Springs**	**22.62**	**197**	P	P	04 03 11.4	-0.8
	0.5nm,0.5s,baz=28,slow=11,SNR=5.9 0.5nm,0.5s						
MKAR	**Makanchi Array**	**70.44**	**322**	P	P	04 09 25.6	-0.4
	0.2nm,0.4s,baz=114,slow=3.5,SNR=2.0 0.2nm,0.4s						
VNDA	**Vanda**	**76.39**	**175**	P	P	04 10 01.9	+1.4
	0.6nm,1.0s,baz=332,slow=5.4,SNR=2.5 0.6nm,1.0s						

*IDC **18** 04:11:01.6±5.0,6°99S×155°81E,h134km±44km,mb3.4/7, mbtmp3.9/9,Error ellipse: s-maj=32.2km s-min=27.0km az=108.0*

ISC 18 04:11:02.8±0.9,7°1S×155°8E±0°1,h150km,n11, σ0°65/11,mb3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.88**	**254**	P	**Pn**	**04 13 07.2**	**-0.9**
	14nm,0.5s,baz=49,slow=9.4,SNR=5.4						
DZM	**Mont Dzumac**	**18.08**	**147**	P	**Pn**	**04 15 04.4**	**-0.3**
	1.8nm,0.6s,baz=278,slow=19,SNR=1.5						
WRA	**Warramunga Arr**	**24.45**	**236**	P	**P**	**04 16 08.4**	**+0.5**
	1.4nm,0.7s,baz=62,slow=10,SNR=8.5 1.4nm,0.7s						
ASAR	**Alice Springs**	**26.73**	**230**	P	**P**	**04 16 29.2**	**+0.7**
	0.3nm,0.4s,baz=60,slow=9.3,SNR=11 0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**31.37**	**247**	P	**P**	**04 17 10.1**	**+0.5**
	0.6nm,0.5s,baz=77,slow=6.5,SNR=1.7 0.6nm,0.5s						
SONM	**Songino Array**	**69.86**	**327**	P	**P**	**04 21 57.9**	**+0.5**
	1.4nm,0.5s,baz=135,slow=4.8,SNR=8.8 1.4nm,0.5s						
ILAR	**Eielson Array**	**83.16**	**21**	P	**P**	**04 23 11.1**	**-0.6**
	0.4nm,0.9s,baz=259,slow=4.1,SNR=2.5 0.4nm,0.9s						
MKAR	**Makanchi Array**	**84.02**	**319**	P	**P**	**04 23 16.9**	**+0.4**
	0.7nm,0.7s,baz=100,slow=6.0,SNR=6.9 0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**84.72**	**326**	P	**P**	**04 23 19.2**	**-0.7**
	0.5nm,0.4s,baz=28,slow=25,SNR=2.2 0.5nm,0.4s						
GERES	**GERESS Array B**	**127.56**	**329**	PKP	**PKiKP**	**04 29 51.6**	**+0.7**
	0.3nm,0.5s,baz=111,slow=4.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**153.85**	**285**	PKPbc	**PKiKP**	**04 30 45.4**	**0.0**
	0.4nm,0.9s,baz=69,slow=1.2,SNR=1.6						

HEL 18 04:13:03.1±0.9,67°88N×20°22E,h0km,ML1.1, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.69**	**75**	PG	Pg	04 13 15.6	-0.7
LANU				SG	Sg	04 13 24.3	-0.9
KIF	**Kilpisjarvi**	**1.15**	**11**	PN	Pn	04 13 26.7	+0.3
KIF				MSG		04 13 39.1	
	comp=Z,1.0nm,0.2s						
KIF				SN	Sn	04 13 43.2	+0.4
HEF	**Hetta**	**1.39**	**66**	PG	Pg	04 13 28.9	-0.9
HEF				MSG		04 13 45.1	
	comp=Z,1.7nm,0.2s						
HEF				SN	Sn	04 13 50.3	+1.4
PAJU	**Pajala**	**1.41**	**126**	SG	Sg	04 13 45.1	-3.2
KTK1	**Kautokeino**	**1.59**	**43**	SN	Sg	04 13 55.1	+1.0
TRO	**Tromso**	**1.82**	**346**	SG	Sg	04 14 01.6	+0.1
TOF	**Tornio**	**2.42**	**136**	MSG		04 14 14.9	
	comp=Z,0.9nm,0.2s						
ARA0	**ARCESS Array S**	**2.55**	**47**	SB	Sn	04 14 18.2	+0.9
RNF	**Rovaniemi**	**2.59**	**117**	SG	Sb	04 14 21.3	-1.4

*IDC **18** 04:16:34.9±1.5,33°10N×138°96E,h0km,mb3.4/2, mbtmp3.3/3,ML2.4/1,Error ellipse: s-maj=25.2km s-min=18.6km az=162.0*
*JMA **18** 04:16:35.7±0.2,33°7N±0°5×14°1E±°,h45km,MV3.0/29,E OFF HACHIJOJIMA ISLAND*

ISC 18 04:16:34.7±1.7,33°62N±0°06×140°75E±0°09,h28km±14km, n16,σ0°92/23,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.93**	**237**	P	**Pn**	**04 16 52.8**	**+0.9**
JHJ2				S	**Sn**	**04 17 04.9**	**+0.5**
JHJ	**Hachijo jima 2**	**0.95**	**238**	Pn	**Pb**	**04 16 52.9**	**+0.2**
	275nm,0.3s,baz=81,slow=21,SNR=141						
JHJ				Sn	**Sb**	**04 17 03.9**	**-0.9**
	264nm,0.3s,baz=208,slow=23,SNR=20						
JHCJ	**Hachijojimakas**	**0.97**	**236**	P	**Pb**	**04 16 53.1**	**+0.3**
JHCJ				S	**Sb**	**04 17 05.2**	**-0.1**
JMKN	**Mikurajimanish**	**1.00**	**286**	P	**Pn**	**04 16 53.1**	**+0.1**
BSO1	**Boso 1**	**1.05**	**10**	P	**Pn**	**04 16 53.2**	**+0.2**
BSO1				*e*S	**Sn**	**04 17 06.6**	**+0.1**
BSO3	**Boso 3**	**1.19**	**351**	P	**Pn**	**04 16 55.7**	**+0.4**
BSO3				S	**Sn**	**04 17 10.6**	**0.0**
BSO4	**Boso 4**	**1.41**	**346**	*e*P	**Pn**	**04 16 58.8**	**+0.4**
JAOM	**Aogashimamukai**	**1.42**	**216**	*e*S	**Sb**	**04 17 17.6**	**-0.7**
JTHY	**Toshimahigashi**	**1.51**	**307**	P	**Pn**	**04 17 00.3**	**+0.4**
JIM2	**Oshima 3**	**1.55**	**315**	P	**Pn**	**04 17 00.2**	**-0.2**
JIZS	**Izushimoda**	**1.90**	**306**	P	**Pn**	**04 17 05.6**	**+0.3**
KTJ3	**Kamata3**	**1.91**	**314**	P	**Pn**	**04 17 05.3**	**-0.1**
JOD2	**Odawara 2**	**2.14**	**320**	P	**Pn**	**04 17 08.6**	**0.0**
JOD2				*e*S	**Sn**	**04 17 32.0**	**-2.2**
MJAR	**Matsushiro Arr**	**3.58**	**325**	Pn	**Pn**	**04 17 30.4**	**+1.9**
	0.3nm,0.3s,baz=169,slow=14,SNR=20						
MJAR				Sn	**Sn**	**04 18 11.6**	**+1.8**
	0.2nm,0.3s,baz=153,slow=15,SNR=4.8 2.3nm,0.3s						
WRA	**Warramunga Arr**	**53.61**	**187**	P	**P**	**04 25 52.4**	**-1.2**
	0.5nm,0.6s,baz=3.4,slow=7.7,SNR=8.6 0.5nm,0.6s						
ASAR	**Alice Springs**	**57.34**	**187**	P	**P**	**04 26 20.5**	**+0.1**
	0.3nm,0.9s,baz=17,slow=11,SNR=1.5 0.3nm,0.9s						

IDC 18 04:17:35.2±2.0,2°24S×140°78E,h0km,mb3.4/4, mbtmp3.5/5,ML3.6/1,MS3.1/4,Error ellipse: s-maj=66.8km s-min=31.0km az=89.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**17.77**	**301**	LR	LR	04 27 00.5	
	comp=Z,41nm,20.7s,baz=45,slow=32						
CTA	**Charters Tower**	**18.53**	**164**	LR	LR	04 29 38.2	
	comp=Z,59nm,18.8s,baz=246,slow=39						
WRA	**Warramunga Arr**	**18.69**	**199**	P	P	04 21 55.1	0.0
	0.2nm,0.3s,baz=25,slow=12,SNR=14						
WRA				LR	LR	04 30 02.3	
	comp=Z,69nm,21.5s,baz=66,slow=40 1.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.66**	**222**	P	P	04 22 26.7	-0.7
	1.3nm,0.6s,baz=44,slow=15,SNR=2.6 1.3nm,0.6s						
ASAR	**Alice Springs**	**22.32**	**197**	P	P	04 22 34.8	+0.2
	0.7nm,0.5s,baz=28,slow=11,SNR=18						
ASAR				LR	LR	04 32 45.5	
	comp=Z,83nm,18.9s,baz=92,slow=41 0.7nm,0.5s						
MKAR	**Makanchi Array**	**70.69**	**322**	P	P	04 28 52.9	-0.1
	0.1nm,0.4s,baz=121,slow=7.6,SNR=1.6 0.1nm,0.4s						
VNDA	**Vanda**	**76.07**	**175**	P	P	04 29 24.4	+0.3
	0.6nm,0.7s,baz=325,slow=7.2,SNR=6.6 0.6nm,0.7s						

IDC 18 04:35:15.9±4.0,6°19S×154°92E,h0km,mb3.2/2, mbtmp3.2/2,MS3.6/1,Error ellipse: s-maj=186.6km s-min=56.8km az=127.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.22**	**234**	P	P	04 40 35.2	+0.6
	0.2nm,0.3s,baz=59,slow=9.3,SNR=8.5 0.2nm,0.3s						
ASAR	**Alice Springs**	**26.66**	**227**	P	P	04 40 56.0	-0.7
	0.3nm,0.7s,baz=55,slow=10,SNR=2.2 0.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.25**	**340**	LR	LR	05 06 45.4	
	comp=Z,50nm,19.4s,baz=135,slow=35						
TORD	**Torodi Ar. Bea**	**152.73**	**287**	PKPbc	PKPbc	04 55 15.7	-0.1
	0.4nm,0.7s,baz=60,slow=2.9,SNR=2.2						

*IDC **18** 04:43:44.8±2.6,53°63N×165°61W,h24km±16km,mb4.4/37, mbtmp4.5/39,ML4.1/2,MS3.8/70,Error ellipse: s-maj=15.3km s-min=9.0km az=176.0*
*BJI **18** 04:43:44.0±0.0,53°60N×165°50W,h52km,mb5.0/45, mB5.1/17,Ms4.9/4,Ms7 4.5/7*
*MOS **18** 04:43:44.9±1.0,53°51N×165°52W,h41km,mb5.0/79, Error ellipse: s-maj=10.9km s-min=5.0km az=94.7*
*AEIC **18** 04:43:44±4.3,53°45N±0°04×165°43W±0°06,h0km±4km, Error ellipse: s-maj=6.8km s-min=4.9km az=216.0*
*NEIC **18** 04:43:47.6±1.8,53°59N±0°06×165°48W±0°07,h50km±6km, mb4.8/258,ML4.5/8,ML4.4(AEIC),Error ellipse: s-maj=8.5km s-min=5.9km az=165.0*
*ANF **18** 04:43:48.8±0.8,53°67N×165°39W,h43km±6km,ML4.8/5, Error ellipse: s-maj=8.6km s-min=5.5km az=168.0*

ISC 18 04:43:47.4±0.4,53°58N±0°06×165°47W±0°03,h50km±2km, h49km:pP-P,n862,σ1°31/768,mb4.8/252,MS3.9/75, 25C-43D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.58**	**346**		**Pn**	**04 43 59.2**	**-0.4**
AKSA					**Sn**	**04 44 09.7**	**+1.3**
AKSA	**Akutan Strait**	**0.58**	**346**		**Pn**	**04 43 59.2**	**-0.4**
AKUT	**Akutan**	**0.59**	**342**		**Pn**	**04 43 59.7**	**-0.1**
AKBBA	**Akutan Broad B**	**0.59**	**332**		**Pn**	**04 43 59.7**	**-0.1**
AKMO	**Akutan Morgan**	**0.61**	**328**		**Pn**	**04 43 59.9**	**-0.1**
AKLV	**Akutan Long Va**	**0.66**	**334**		**Pn**	**04 44 00.3**	**-0.3**
AKLV					**Sn**	**04 44 11.8**	**+1.6**
AKRB	**Akutan Reef Bi**	**0.66**	**327**		**Pn**	**04 44 00.7**	**0.0**
UNV	**Unalaska Valle**	**0.68**	**294**		**Pn**	**04 44 00.0**	**-0.7**
UNV	**Unalaska Valle**	**0.68**	**294**		**Sn**	**04 44 11.1**	**+0.6**
UNV	**Unalaska Valle**	**0.68**	**294**	P	**Pn**	**04 44 00.1**	**-0.7**
	baz=125						
UNV				S	**Sn**	**04 44 09.3**	**-1.2**
	baz=125						
MNAT	**Makushin Natee**	**0.79**	**294**		**Pn**	**04 44 02.0**	**-0.2**
MNAT					**Sn**	**04 44 14.6**	**+1.5**
MGOD	**Makushin Gods**	**0.87**	**285**		**Pn**	**04 44 02.7**	**-0.7**
MAPS	**Pakushin South**	**0.91**	**285**		**Pn**	**04 44 03.3**	**-0.6**
WESP	**Westdahl Peak**	**1.02**	**25**		**Pn**	**04 44 05.5**	**0.0**
WECS	**Westdahl Cape**	**1.04**	**23**		**Pn**	**04 44 06.0**	**+0.3**
WECS					**Sn**	**04 44 24.1**	**+4.9**
WESN	**West Dahl Nort**	**1.12**	**27**		**Pn**	**04 44 07.3**	**+0.5**
SSLS	**Shishaldin Sou**	**1.43**	**37**		**Pn**	**04 44 10.4**	**-0.6**
SSBA	**Shishaldin**	**1.44**	**33**		**Pn**	**04 44 11.0**	**0.0**
SSBA					**Sn**	**04 44 32.8**	**+4.0**
BRPK	**Brown Peak**	**1.48**	**43**		**Pn**	**04 44 10.5**	**-1.1**
SSLN	**Shishaldin Nor**	**1.51**	**34**		**Pn**	**04 44 12.8**	**+0.7**
SSLN					**Sn**	**04 44 34.8**	**+4.2**
ISLZ	**Isanotski Laza**	**1.55**	**41**		**Pn**	**04 44 11.6**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**1.55**	**264**		**Pn**	**04 44 12.1**	**-0.6**
OKNC	**Okmok New Cone**	**1.59**	**267**		**Pn**	**04 44 12.5**	**-0.6**
ISNN	**Isanotski Nort**	**1.60**	**38**		**Pn**	**04 44 13.8**	**+0.5**
ISNN					**Sn**	**04 44 37.3**	**+4.5**
OKRE	**Okmok R'deer P**	**1.61**	**269**		**Pn**	**04 44 13.1**	**-0.4**

OKSO	**Okmok South**	**1.63**	**263**		**Pn**	**04 44 11.7**	**-1.9**
OKSP	**Okmok Steeple**	**1.72**	**260**		**Pn**	**04 44 13.8**	**-1.2**
DT1	**Dutton Round H**	**2.42**	**49**		**Pn**	**04 44 25.6**	**+1.2**
HAG	**Hague Volcano**	**2.71**	**49**		**Pn**	**04 44 29.8**	**+1.3**
HAG	**Hague Volcano**	**2.71**	**49**	P	**Pn**	**04 44 29.8**	**+1.3**
PN7A	**Pavlof North-7**	**2.75**	**46**		**Pn**	**04 44 30.6**	**+1.6**
PS4A	**Pavlof South-4**	**2.75**	**48**		**Pn**	**04 44 30.6**	**+1.6**
SDPT	**Sand Point**	**3.41**	**57**	Pn	**Pn**	**04 44 38.5**	**+0.5**
SDPT	**Sand Point**	**3.41**	**57**	P	**Pn**	**04 44 38.2**	**+0.2**
	baz=237						
SDPT				S	**Sn**	**04 45 17.0**	**-0.1**
	baz=237						
CNBA	**Chernabura Isl**	**3.67**	**68**	Pn	**Pn**	**04 44 40.5**	**-1.1**
CNBA				IAML		04 45 43.3	
	comp=N,546nm,0.9s						
CNBA				IAML		04 45 48.4	
	comp=E,458nm,1.0s						
CHNA	**Chernabura Isl**	**3.67**	**68**	P	**Pn**	**04 44 40.4**	**-1.2**
	baz=249						
CHNA				S	**Sn**	**04 45 21.2**	**-2.4**
	baz=249						
S14K	**Fog Glacier**	**4.36**	**49**	P	**Pn**	**04 44 52.0**	**+0.9**
	baz=231						
VNFG	**Fog Glacier, M**	**4.36**	**49**		**Pn**	**04 44 51.7**	**+0.6**
SPIA	**Saint Paul Isl**	**4.52**	**325**		**Pn**	**04 44 55.0**	**+1.8**
CHGN	**Chignik**	**4.90**	**53**		**Pn**	**04 44 59.0**	**+0.7**
CHGN				IAML		04 46 14.7	
	comp=N,518nm,0.9s						
CHGN				IAML		04 46 15.2	
	comp=E,507nm,1.0s						
CHGN	**Chignik**	**4.90**	**53**	P	**Pn**	**04 44 58.5**	**+0.2**
	baz=237,SNR=6.3						
CHIR	**Chirikof Islan**	**6.13**	**65**	Pn	**Pn**	**04 45 16.5**	**+1.2**
CHIR	**Chirikof Islan**	**6.13**	**65**	P	**Pn**	**04 45 14.1**	**-1.3**
	baz=251						
CHIR				S	**Sn**	**04 46 19.4**	**-4.7**
	baz=251						
R17K	**Ugashik Creek**	**6.56**	**48**		**Pn**	**04 45 23.6**	**+2.5**
R17K	**Ugashik Creek**	**6.56**	**48**	P	**Pn**	**04 45 22.7**	**+1.6**
	baz=234						
GSTR	**Great Sitkin T**	**6.59**	**261**	Pn	**Pn**	**04 45 23.0**	**+1.4**
GSTD	**Great Sitkin T**	**6.65**	**261**		**Pn**	**04 45 23.0**	**+0.4**
GSCK	**Great Sitkin C**	**6.67**	**261**		**Pn**	**04 45 23.1**	**+0.3**
P16K	**Nushagak River**	**6.87**	**34**		**Pn**	**04 45 27.3**	**+1.9**
P16K	**Nushagak River**	**6.87**	**34**	P	**Pn**	**04 45 27.4**	**+2.0**
	baz=219						
ADK	**Adak**	**7.02**	**261**		**Pn**	**04 45 26.6**	**-0.9**
ADK	**Adak**	**7.02**	**261**	P	**Pn**	**04 45 26.6**	**-0.9**
Q16K	**King Salmon**	**7.09**	**40**	P	**Pn**	**04 45 28.6**	**+0.2**
	baz=226						
SII	**Sitkinak Islan**	**7.13**	**61**	Pn	**Pn**	**04 45 29.5**	**+0.4**
SII	**Sitkinak Islan**	**7.13**	**61**	P	**Pn**	**04 45 29.4**	**+0.3**
	baz=248						
O16K	**Kokwok River B**	**7.27**	**31**		**Pn**	**04 45 33.0**	**+2.0**
O16K	**Kokwok River B**	**7.27**	**31**	P	**Pn**	**04 45 32.9**	**+2.0**
	baz=216,SNR=21						
KIWB	**Kanaga Island**	**7.31**	**261**	Pn	**Pn**	**04 45 31.8**	**+0.4**
KIMD	**Kanaga Island**	**7.38**	**260**		**Pn**	**04 45 32.7**	**+0.2**
KAKN	**Katmai Knife C**	**7.51**	**47**		**Pn**	**04 45 36.1**	**+1.8**
P17K	**Kvichak River**	**7.53**	**38**	P	**Pn**	**04 45 37.1**	**+2.6**
	baz=224						
O17K	**Koliganek Bris**	**7.73**	**33**		**Pn**	**04 45 39.3**	**+2.1**
O17K	**Koliganek Bris**	**7.73**	**33**	P	**Pn**	**04 45 38.9**	**+1.7**
	baz=219						
N16K	**Nishlik Lake**	**7.82**	**25**		**Pn**	**04 45 41.3**	**+2.9**
N16K	**Nishlik Lake**	**7.82**	**25**	P	**Pn**	**04 45 40.4**	**+2.0**
	baz=220,SNR=14						
OHAK	**Old Harbor**	**7.83**	**57**	Pn	**Pn**	**04 45 38.1**	**-0.5**
OHAK	**Old Harbor**	**7.83**	**57**	P	**Pn**	**04 45 36.7**	**-1.9**
	baz=246						
OHAK				S	**Sn**	**04 47 01.2**	**-4.6**
	baz=246						
P18K	**Big Mountain,**	**8.12**	**40**		**Pn**	**04 45 42.9**	**+0.3**
P18K	**Big Mountain,**	**8.12**	**40**	P	**Pn**	**04 45 44.2**	**+1.6**
	baz=227						
KDAK	**Kodiak Island**	**8.41**	**55**	Pn	**Pn**	**04 45 44.7**	**-1.7**
	comp=E,3.7nm,0.3s,baz=221,slow=5.9,SNR=23						
KDAK				Sn	**Sn**	**04 47 13.9**	**-6.0**
	comp=E,1.0nm,0.3s,baz=285,slow=15,SNR=1.6 comp=E,8.0nm,0.4s						
KDAK	**Kodiak Island**	**8.41**	**55**	⇓*i*P	**Pn**	**04 45 45.0**	**-1.4**
KDAK	**Kodiak Island**	**8.41**	**55**	P	**Pn**	**04 45 45.6**	**-0.9**
	baz=244						
KDAK				S	**Sn**	**04 47 15.2**	**-4.6**
	baz=244						
O18K	**Koktuh Hills**	**8.44**	**38**		**Pn**	**04 45 48.2**	**+1.2**
O18K	**Koktuh Hills**	**8.44**	**38**	P	**Pn**	**04 45 48.6**	**+1.6**
	baz=225						
Q19K	**Cape Douglas,**	**8.48**	**46**	Pn	**Pn**	**04 45 48.0**	**+0.5**
Q19K	**Cape Douglas,**	**8.48**	**46**	P	**Pn**	**04 45 48.5**	**+1.0**
	baz=235						
N18K	**Kilae Creek**	**8.81**	**32**	Pn	**Pn**	**04 45 52.7**	**+0.6**
N18K	**Kilae Creek**	**8.81**	**32**	P	**Pn**	**04 45 53.5**	**+1.4**
	baz=219						
Q20K	**Shuyak Island**	**8.87**	**50**	P	**Pn**	**04 45 53.4**	**+0.6**
	baz=240						
Q20K				S	**Sn**	**04 47 28.4**	**-2.8**
	baz=240						
O19K	**Port Alsworth**	**9.00**	**38**		**Pn**	**04 45 54.0**	**-0.6**
O19K	**Port Alsworth**	**9.00**	**38**	P	**Pn**	**04 45 56.3**	**+1.8**

baz=234
CUT **Chulitna** 11.94 36 P Pn 04 46 35.3 +0.6
baz=228
GCSA **Galena City Sc** 12.02 18 P Pn 04 46 33.9 -1.9
baz=205
KNK **Knik Glacier** 12.02 42 P Pn 04 46 34.8 -1.1
baz=236,SNR=16
KNK S Sn 04 48 45.3 -3.0
baz=236
TNA **Tin City** 12.09 355 P Pn 04 46 39.5 +2.9
baz=173
J20K **Nowinta River** 12.11 24 P Pn 04 46 39.3 +2.3
baz=213,SNR=23
SML **Sawmill** 12.29 41 P Pn 04 46 38.2 -1.4
baz=235
SHEM **Shemya Is, Ala** 12.29 274 LR LR 04 51 02.2
comp=E,220nm,18.6s,baz=156,slow=36
GLI **Glacier Island** 12.32 46 P Pn 04 46 36.7 -3.2
baz=241,SNR=9.1
GLI S Sn 04 48 49.8 -5.7
baz=241
HIN **Hinchinbrook I** 12.36 49 Pn Pn 04 46 38.4 -2.1
M23K **Glacier View** 12.53 42 P Pn 04 46 40.6 -2.1
baz=236,SNR=30
TRF **Thorofare Moun** 12.64 33 P Pn 04 46 45.9 +1.5
baz=225
SCM **Sheep Creek Mo** 12.71 42 P Pn 04 46 43.8 -1.4
baz=237,SNR=20
SCM S Sn 04 49 00.5 -4.5
baz=237
EYAK **Cordova Ski Ar** 12.76 49 P Pn 04 46 43.4 -2.5
baz=245
EYAK S Sn 04 49 01.2 -5.1
baz=245
WAT1 **Susitna Watana** 12.82 37 P Pn 04 46 42.9 -3.8
baz=231
BPAW **Bear Paw Mtn.** 12.90 29 P Pn 04 46 49.6 +1.8
baz=221,SNR=12
WAT6 **Susitna Watana** 12.97 39 P Pn 04 46 47.4 -1.4
baz=233,SNR=8.3
KLU **Klutina** 13.11 45 P Pn 04 46 48.6 -2.2
baz=241,SNR=135
KAIM **Kayak Island** 13.15 53 Pn 04 46 51.7 +0.6
MCK **McKinley** 13.28 33 P Pn 04 46 55.7 +2.8
baz=227,SNR=5.3
M24K **Tolsona, Glenn** 13.31 42 P Pn 04 46 51.6 -1.9
baz=238,SNR=22
DHY **Denali Highway** 13.40 38 P Pn 04 46 51.9 -2.8
baz=232
BMRM **Bremner River** 13.45 48 P Pn 04 46 53.5 -1.9
baz=245
I21K **Tanana** 13.47 25 Pn 04 46 56.6 +1.1
I21K **Tanana** 13.47 25 P Pn 04 46 58.2 +2.7
baz=216,SNR=13
H21K **Melozitna Rive** 13.66 23 P Pn 04 47 00.0 +1.8
baz=213,SNR=12
MLY **Manley** 13.68 27 P Pn 04 47 00.1 +1.6
baz=219,SNR=9.5
N25K **Chitina, Valde** 13.73 46 P Pn 04 46 57.0 -2.2
baz=243,SNR=19
NEA2 **Nenana** 13.83 31 P Pn 04 46 59.5 -1.0
baz=224,SNR=7.9
HARP **HAARP** 13.87 42 P Pn 04 46 59.1 -2.0
baz=239,SNR=7.2
PAX **Paxson** 14.05 40 P Pn 04 47 01.2 -2.3
baz=236,SNR=15
WAX **Waxell Ridge** 14.06 52 Pn 04 47 03.0 -0.7
H22K **Ishtalitna Cre** 14.20 24 P Pn 04 47 07.8 +2.5
baz=216,SNR=28
G21K **Allakaket** 14.25 20 P Pn 04 47 09.0 +3.0
baz=210,SNR=9.0
MCARA **McCarthy VSAT** 14.32 48 P Pn 04 47 05.3 -1.7
baz=246
HDA **Harding Lake** 14.38 34 P Pn 04 47 06.2 -1.6
baz=229
COLA **College** 14.40 31 *ce*P Pn 04 47 08.8 +0.7
K24K **Donnelly Dome** 14.41 37 P Pn 04 47 07.2 -1.0
baz=233,SNR=9.2
H23K **Yukon River** 14.61 27 P Pn 04 47 11.5 +0.6
baz=220,SNR=20
IL31 14.64 33 Pn 04 47 09.9 -1.3
ILAR **Eielson Array** 14.64 33 Pn Pn 04 47 08.6 -2.7
comp=E,0.4nm,0.3s,baz=219,slow=13,SNR=9.6
ILAR PcP PcP 04 52 21.6 +0.7
comp=E,0.6nm,0.6s,baz=271,slow=2.7,SNR=5.0
ILAR LR LR 04 53 16.4
comp=E,556nm,18.9s,baz=230,slow=39
comp=E,0.6nm,0.4s
RIDG **Independent Ri** 14.71 38 P Pn 04 47 10.1 -2.2
baz=235,SNR=8.2
M26K **Nabesna, AK** 14.76 44 P Pn 04 47 10.7 -2.2
baz=243,SNR=27
F21K **Alatna River** 14.87 18 P P 04 47 17.1 -1.9
baz=208,SNR=8.1
L26K **Log Cabin Wild** 14.91 42 P Pn 04 47 13.8 -1.0
baz=240,SNR=13
CTG **Chitna Glacier** 14.93 51 P Pn 04 47 14.2 -1.0
baz=250
G22K **Bettles** 15.01 22 P Pn 04 47 16.8 +0.8
baz=213
J25K **Salcha River,** 15.04 35 P Pn 04 47 13.5 -3.0
baz=232,SNR=7.4
LOGN **Logan Glacier** 15.04 51 IAmb IAmb 04 47 31.6
comp=Z,54nm,1.4s
H24K **Noodor Dome** 15.08 29 Pn Pn 04 47 16.2 -0.8
H24K **Noodor Dome** 15.08 29 P Pn 04 47 15.9 -1.2
baz=223,SNR=9.0
SCRK **Sand Creek** 15.16 38 P Pn 04 47 16.5 -1.7
baz=236,SNR=12
G23K **Bananza Creek** 15.18 24 P Pn 04 47 19.1 +0.8
baz=217,SNR=31
PCA **Pinnacle** 15.20 55 IAmb IAmb 04 47 26.0
comp=Z,28nm,0.6s
PINM **Pinnacle** 15.20 55 P Pn 04 47 17.8 -0.8
baz=255
M27K **Edge Creek, AK** 15.21 45 IAmb IAmb 04 47 36.3
comp=Z,29nm,0.8s
M27K **Edge Creek, AK** 15.21 45 P Pn 04 47 17.7 -1.1
baz=245,SNR=8.8
F22K **John River** 15.37 19 P Pn 04 47 17.9 -2.8
baz=211
O28M **Mount Upton** 15.41 52 P Pn 04 47 21.0 -0.5
baz=253,SNR=7.6
BCPM **Bancas Point** 15.46 55 IAmb IAmb 04 47 28.5
comp=Z,38nm,0.8s
PNL **Peninsula** 15.52 56 P Pn 04 47 22.7 0.0
baz=258
L27K **Beaver Creek,** 15.54 43 P Pn 04 47 21.7 -1.3
baz=242
COLD **Coldfoot** 15.56 22 P Pn 04 47 21.9 -1.2
baz=215,SNR=14
PRP **Porcupine Dome** 15.57 32 P Pn 04 47 21.8 -1.6
baz=229
YUK3 **Moose Creek** 15.60 48 P Pn 04 47 22.3 -1.7
baz=249,SNR=8.8
J26L **Joseph Creek** 15.61 37 P Pn 04 47 22.8 -1.1
baz=235,SNR=7.4
BVCY **Beaver Creek** 15.67 46 P Pn 04 47 23.6 -1.0
baz=246
G24K **Hadweenzic Riv** 15.82 27 P Pn 04 47 25.2 -1.3
baz=222
K27K **Chicken** 15.90 40 P Pn 04 47 27.1 -0.5
baz=239
H25K **Birch Creek** 15.98 30 P Pn 04 47 27.1 -1.4
baz=226
O29M **Mount Kennedy** 16.06 54 P Pn 04 47 29.8 +0.1
baz=256,SNR=5.8
I26K **Coal Creek Min** 16.21 35 P Pn 04 47 28.3 -3.1
baz=234
YUK4 **Talbot Arm** 16.29 51 P P 04 47 34.5 -0.5
baz=253,SNR=29
YUK6 **Outpost Mounta** 16.32 52 P Pn 04 47 34.2 +1.1
baz=255,SNR=9.7
F24K **Squaw Lake** 16.34 24 P Pn 04 47 31.9 -1.2
baz=219
P29M **Windy Craggy** 16.34 57 P Pn 04 47 33.7 +0.5
baz=260,SNR=5.3
E23K **Chandalar** 16.37 21 P Pn 04 47 33.8 +0.3
baz=215,SNR=5.6
EGAK **Eagle** 16.63 38 P Pn 04 47 35.4 -1.3
baz=238,SNR=11
E24K **Your Creek** 16.63 23 P Pn 04 47 35.9 -0.8
baz=217,SNR=7.7
HYT **Haines Junctio** 16.69 53 P P 04 47 38.7 -0.6
baz=256,SNR=16
M29M **Somme Creek** 16.72 47 P Pn 04 47 37.0 -1.0
baz=250,SNR=34
P30M **Million Dollar** 16.81 56 P Pn 04 47 38.7 -0.4
baz=259
TOLK **Toolik Lake Re** 16.86 20 P P 04 47 40.5 -0.5
baz=214
D23K **Nanushuk River** 16.91 18 P Pn 04 47 39.8 -0.4
baz=211
I27K **Kandik River** 16.91 35 P Pn 04 47 38.5 -1.8
baz=235,SNR=12
DAWY **Dawson** 16.96 41 Pn 04 47 40.1 -0.8
DAWY **Dawson** 16.96 41 P Pn 04 47 40.2 -0.7
baz=243,SNR=22
F25K **Christian Rive** 16.97 26 P Pn 04 47 39.4 -1.6
baz=223
PLBC **Pleasant Camp** 17.01 58 P Pn 04 47 41.8 +0.3
baz=262
G26K **Porcupine Rive** 17.04 30 P Pn 04 47 40.4 -1.4
baz=228
N30M **Aishikik Lake** 17.04 51 P Pn 04 47 41.5 -0.5
baz=255,SNR=17
L29M **L29M** 17.09 45 P Pn 04 47 42.1 -0.4
baz=248,SNR=9.3
H27K **Steamboat Moun** 17.30 34 P Pn 04 47 43.1 -2.0
baz=234,SNR=9.8
O30N **Mendenhall** 17.36 54 P P 04 47 46.8 +0.2
baz=258,SNR=16
E25K **Arctic Village** 17.37 25 P Pn 04 47 44.4 -1.5
baz=222
D24K **Happy Valley** 17.43 20 P Pn 04 47 44.9 -1.8
baz=214
F26K **Sheenjek River** 17.45 28 P Pn 04 47 46.1 -0.7
baz=226
M30M **Minto, Yukon** 17.49 48 P Pn 04 47 46.5 -1.0
baz=252
SKAG **Skagway** 17.53 58 P Pn 04 47 47.1 -0.8
baz=263
J29M **Klondike Camp** 17.59 41 IAmb IAmb 04 47 56.0
comp=Z,56nm,0.5s
G27K **Doyon Strip** 17.61 32 P Pn 04 47 47.8 -1.1
baz=232,SNR=8.8
K29M **Barlow Dome** 17.62 43 P Pn 04 47 48.6 -0.5
baz=247,SNR=33
N31M **Braeburn, Yuko** 17.66 52 P P 04 47 50.2 +0.3
baz=256,SNR=13
C23K **Itkillik River** 17.67 17 P Pn 04 47 49.0 -0.6
baz=210
S32K **Killisnoo** 17.83 65 P P 04 47 52.5 +0.8
baz=270
R32K **Eaglecrest** 17.87 62 P P 04 47 53.3 +1.1
baz=267
WHY **Whitehorse** 17.92 55 P P 04 47 53.4 +0.4
baz=260,SNR=8.6
C24K **Franklin Bluff** 17.93 19 P P 04 47 53.3 +0.6
baz=214
I29M **Ogilvie Camp,** 17.97 38 P Pn 04 47 52.5 -0.7
baz=241,SNR=18
MAYO **Mayo, Yukon** 18.21 45 IAmb IAmb 04 48 02.0
comp=Z,80nm,0.7s
MAYO **Mayo, Yukon** 18.21 45 P Pn 04 47 57.6 +1.4
baz=250,SNR=15
P32M **Atlin** 18.36 58 P Pn 04 47 58.6 +0.4
baz=264,SNR=6.8
M31M **Drury Creek, Y** 18.47 50 IAmb IAmb 04 48 03.9
comp=Z,48nm,0.7s
M31M **Drury Creek, Y** 18.47 50 P Pn 04 48 00.9 +1.5
baz=256,SNR=45
E27K **Coleen River** 18.49 28 P Pn 04 48 00.5 +0.9
baz=229
N32M **Quiet Lake** 18.87 53 P Pn 04 48 05.2 +0.9
baz=260
P33M **Teslin, Yukon** 18.88 56 IAmb IAmb 04 48 07.4
comp=Z,59nm,0.8s
P33M **Teslin, Yukon** 18.88 56 P Pn 04 48 05.5 +1.2
baz=263,SNR=45
C27K **Jade River** 18.94 24 P P 04 48 03.0 -0.9
baz=222,SNR=7.9
FARO **Faro, Yukon** 18.95 50 IAmb IAmb 04 48 08.1
comp=Z,60nm,0.7s
FARO **Faro, Yukon** 18.95 50 P Pn 04 48 06.2 +1.0
baz=257,SNR=49
EPYK **Eagle Plains** 19.02 36 IAmb IAmb 04 48 05.9
comp=Z,49nm,0.6s
EPYK **Eagle Plains** 19.02 36 P P 04 48 04.1 -0.7
baz=268,SNR=41
Q32M **Nakina River** 19.07 60 P Pn 04 48 06.3 -0.4
baz=268,SNR=7.1
WRAK **Wrangell Islan** 19.10 68 P Pn 04 48 06.9 0.0
baz=275
V35K **Ketchikan** 19.65 71 P Pn 04 48 13.2 -0.3
baz=278
S34M **Telegraph Cree** 19.67 63 P Pn 04 48 14.7 +1.0
baz=271,SNR=8.9
BILL **Bilibino** 19.72 328 *eP* P 04 48 12.8 +0.4
BILL *eS* S 04 51 40.4 -11
BILL pmax pmax
comp=Z,36nm,1.9s
BILL MLR MLR
comp=Z,270nm,18.0s
R33M **Jennings River** 19.75 59 P Pn 04 48 14.9 +0.1
baz=267,SNR=7.7
MMPY **Sheldon Lake,** 19.98 50 P P 04 48 16.4 +1.0
baz=258,SNR=54
T35M **Bob Quinn** 20.20 66 P Pn 04 48 20.2 +0.2
baz=275,SNR=5.3
DLBC **Dease Lake** 20.24 62 P P 04 48 18.4 +0.2
comp=Z,7.1nm,0.6s,baz=290,slow=2.6,SNR=20
DLBC LR LR 04 56 01.9
comp=Z,85nm,18.7s,baz=276,slow=36
comp=Z,7.1nm,0.6s
DLBC **Dease Lake** 20.24 62 P P 04 48 18.9 +0.7
DLBC **Dease Lake** 20.24 62 P Pn 04 48 19.6 -0.8
baz=271,SNR=6.8
F31M **Tsiigehtchic** 20.56 35 P P 04 48 19.2 -2.3
baz=243
WTLY **Watson Lake, Y** 20.88 57 P P 04 48 26.0 +1.0
baz=268,SNR=9.4
GRNB **Grenville Isla** 20.89 75 P P 04 48 24.6 -0.5
INK **Inuvik** 21.04 33 P P 04 48 24.8 -1.9
comp=Z,15nm,0.6s,baz=222,slow=11,SNR=66
INK LR LR 04 57 19.2
comp=Z,404nm,20.6s,baz=217,slow=39
comp=Z,15nm,0.6s
INK **Inuvik** 21.04 33 P P 04 48 24.7 -1.9
INK IAmb IAmb 04 48 31.4
comp=Z,21nm,0.8s
INK **Inuvik** 21.04 33 P P 04 48 24.7 -1.9
INK pmax pmax
comp=Z,21nm,0.7s
INK **Inuvik** 21.04 33 P P 04 48 24.8 -1.9
baz=241,SNR=18
TGTN **Hyland Airport** 21.22 53 P P 04 48 29.0 +0.3
baz=264,SNR=12
PETK **Petropavlovsk-** 21.85 284 P P 04 48 33.9 -1.6
comp=Z,7.7nm,0.6s,baz=82,slow=11,SNR=26
PETK ScP ScP 04 56 09.3 +3.3
comp=Z,4.6nm,0.9s,baz=15,slow=6.0,SNR=3.9
PETK LR LR 04 56 40.3
comp=Z,217nm,21.4s,baz=81,slow=36
comp=Z,7.7nm,0.6s
BBB **Bell Bella** 22.42 78 LR LR 04 56 05.0
comp=Z,133nm,19.8s,baz=302,slow=33
WRGLY **Wrigley** 23.60 49 P P 04 48 53.9 +0.6
baz=265,SNR=25
SEY **Seymchan** 23.64 310 P P 04 48 53.2 -0.5
comp=Z,5.3nm,0.7s,baz=143,slow=15,SNR=12
comp=Z,5.3nm,0.7s
SEY **Seymchan** 23.64 310 P P 04 48 53.2 -0.5
SEY **Seymchan** 23.64 310 *eP* P 04 48 54.4 +0.7
SEY pmax pmax
comp=Z,12nm,1.1s
MA2 **Magadan** 24.47 302 LR LR 04 58 00.7
comp=Z,136nm,21.0s,baz=101,slow=35
MA2 **Magadan** 24.47 302 *eP* P 04 49 01.9 +0.5
MA2 pmax pmax
comp=Z,17nm,1.1s
C36M **Paulatuk** 24.60 34 P P 04 49 02.5 +0.1
C36M IAmb IAmb 04 49 05.3
comp=Z,18nm,0.5s
C36M **Paulatuk** 24.60 34 P P 04 49 01.5 -0.9
baz=251,SNR=8.1
YKA **Yellowknife Ar** 27.66 51 P P 04 49 31.4 +1.3
comp=Z,7.4nm,0.6s,baz=274,slow=9.3,SNR=18
YKA LR LR 04 59 44.4
comp=Z,120nm,21.2s,baz=282,slow=35
comp=Z,7.4nm,0.6s
YKA **Yellowknife Ar** 27.66 51 P P 04 49 30.3 +0.3
YKA **Yellowknife Ar** 27.66 51 *i* P P 04 49 31.3 +1.3
YKA pmax pmax
comp=Z,8.0nm,0.6s
K02D **Willamette Mer** 29.53 94 P P 04 49 47.9 +0.9
baz=306
I04A **Tendick Farm,** 29.64 92 P P 04 49 48.7 +0.8
baz=304
L02F **Cave Junction** 29.93 95 P P 04 49 51.6 +1.2
baz=307
I05D **Terrebonne, OR** 29.97 90 P P 04 49 50.8 -0.1
baz=304
J04D **Umpqua Nationa** 30.14 92 P P 04 49 52.8 +0.2
baz=305
NEW **Newport** 30.45 80 P P 04 49 56.1 +1.0
comp=Z,3.6nm,0.6s,baz=301,slow=6.7,SNR=8.0
NEW LR LR 05 00 33.0
comp=Z,149nm,19.4s,baz=292,slow=33
comp=Z,3.6nm,0.6s
NEW **Newport** 30.45 80 P P 04 49 55.6 +0.6
baz=298
EDM **Edmonton** 30.50 69 IAmb IAmb 04 49 57.6
comp=Z,9.4nm,0.6s
L04D **Klamath Falls** 30.62 94 P P 04 49 57.5 +0.8
baz=306
J05D **Fort Rock, OR** 30.63 91 P P 04 49 55.5 -1.3
baz=305
YBH **Yreka Blue Hor** 30.68 95 P P 04 49 59.5 +2.3
comp=Z,2.4nm,0.8s,baz=307,slow=6.3,SNR=9.0
YBH LR LR 04 59 23.5
comp=Z,247nm,21.2s,baz=307,slow=30
comp=Z,2.4nm,0.8s
YBH **Yreka Blue Hor** 30.68 95 P P 04 49 56.9 -0.3
YBH **Yreka Blue Hor** 30.68 95 P P 04 49 56.9 -0.3
YBH pmax pmax
comp=Z,12nm,1.6s
K05A **Summer Lake** 31.16 92 P P 04 50 02.2 +0.7
K05A IAmb IAmb 04 50 11.7
comp=Z,16nm,1.0s
MOD **Modoc Plateau** 32.00 93 IAmb IAmb 04 50 19.0
comp=Z,7.9nm,0.9s
WVOR **Wild Horse Val** 32.68 91 IAmb IAmb 04 50 24.6
comp=Z,8.3nm,0.9s
WVOR **Wild Horse Val** 32.68 91 P P 04 50 17.3 +2.5
WVOR pmax pmax
comp=Z,10.0nm,0.9s
TIXI **Tiksi** 32.94 328 LR LR 05 05 39.6
comp=Z,161nm,19.2s,baz=1.0,slow=40
TIXI **Tiksi** 32.94 328 *eP* P 04 50 16.1 -0.5
TIXI pmax pmax
comp=Z,11nm,0.9s
MSO **Missoula** 33.03 80 P P 04 50 18.8 +1.0
MSO **Missoula** 33.03 80 P P 04 50 17.1 -0.8
baz=301
PAHR **Pah Rah Range** 33.91 95 IAmb IAmb 04 50 43.5
comp=Z,9.6nm,0.7s
VCNR **Virginia City** 34.02 96 IAmb IAmb 04 50 45.3
comp=Z,8.2nm,0.8s
YAK **Yakutsk** 34.17 311 LR LR 05 05 31.4
comp=Z,200nm,19.5s,baz=88,slow=38
YAK **Yakutsk** 34.17 311 *eP* P 04 50 25.8 -1.5
YAK pmax pmax
comp=Z,27nm,0.5s
PNTR **Pine Nut** 34.18 96 IAmb IAmb 04 50 48.7
comp=Z,15nm,0.8s
RES **Resolute Bay** 34.25 26 LR LR 05 06 12.3
comp=Z,202nm,19.2s,baz=214,slow=39
YERR **Yerington** 34.46 96 IAmb IAmb 04 50 39.9
comp=Z,13nm,1.1s
HLID **Hailey** 34.54 86 P P 04 50 30.3 -0.7
baz=305
EGMT **Eagleton** 34.86 76 P P 04 50 34.5 +0.8
baz=300,SNR=6.8
BOZ **Bozeman (W)** 35.05 81 P P 04 50 35.7 +0.3
baz=303,SNR=6.2
KVN **Kaiserville** 35.10 95 IAmb IAmb 04 50 49.8
comp=Z,5.3nm,0.8s
RYN **Ryan** 35.12 96 IAmb IAmb 04 50 52.5
comp=Z,6.8nm,0.8s
LHV **Little Huntoon** 35.38 96 IAmb IAmb 04 50 58.8
comp=Z,6.7nm,0.9s
NVAR **Mina Array Bea** 35.38 96 P P 04 50 39.9 +1.6
comp=Z,4.1nm,0.7s,baz=295,slow=8.4,SNR=40
NVAR PcP PcP 04 53 08.2 +0.8
comp=Z,1.0nm,0.7s,baz=292,slow=3.4,SNR=4.5
NVAR ScP ScP 04 56 51.7 +3.0
comp=Z,0.7nm,0.8s,baz=294,slow=4.5,SNR=5.0
NVAR LR LR 05 02 05.6
comp=Z,170nm,21.4s,baz=290,slow=31
comp=Z,4.1nm,0.7s
NVAR **Mina Array Bea** 35.38 96 P P 04 50 39.8 +1.4
MDPB **Devils Postpil** 35.45 98 IAmb IAmb 04 50 57.7
comp=Z,5.9nm,0.8s
NV11 **Mina Array Sit** 35.47 96 IAmb IAmb 04 50 59.2
comp=Z,6.0nm,0.9s
ELK **Elko** 35.73 90 LR LR 05 02 54.7
comp=Z,207nm,20.4s,baz=314,slow=32
YHH **Holmes Hill** 35.95 81 IAmb IAmb 04 50 45.9
comp=Z,14nm,1.1s
YNR **Norris Junctio** 36.09 81 IAmb IAmb 04 50 47.8
comp=Z,11nm,0.9s
DSP **Deep Springs** 36.28 97 P P 04 50 47.2 +1.5
DSP IAmb IAmb 04 51 03.4
comp=Z,6.2nm,0.9s
TIN **Tinemaha, Big** 36.34 98 P P 04 50 48.4 +2.0
baz=312
H17A **Grant Village** 36.34 82 P P 04 50 48.7 +2.2
baz=304
LCH **Last Change Ra** 36.56 97 IAmb IAmb 04 51 02.5
comp=Z,22nm,1.7s
VES **Vestal, Richgr** 36.66 100 P P 04 50 49.8 +0.8
baz=314
RLMT **Red Lodge** 36.70 80 IAmb IAmb 04 50 52.6
comp=Z,14nm,0.9s
RLMT **Red Lodge** 36.70 80 P P 04 50 51.3 +1.8
baz=304,SNR=8.1
CWC **Cottonwood Cre** 36.84 98 P P 04 50 51.7 +0.9
baz=313
GRAC **Grapevine Rang** 36.88 97 P P 04 50 53.0 +2.0
baz=312
R11A **Troy Canyon, C** 37.05 94 IAmb IAmb 04 51 09.4
comp=Z,7.1nm,0.9s
R11A **Troy Canyon, C** 37.05 94 P P 04 50 53.5 +0.9
baz=311,SNR=12
SPR3 **Spring Creek 3** 37.37 92 IAmb IAmb 04 51 15.8
comp=Z,3.0nm,0.9s
S11A **Rachel** 37.41 95 P P 04 50 57.2 +1.6
S11A IAmb IAmb 04 51 11.7
comp=Z,6.6nm,0.7s
MPMC **Manual Prospec** 37.45 98 P P 04 50 57.5 +1.5
baz=313
DUG **Dugway, Tooele** 37.52 89 P P 04 50 56.4 -0.1
DUG pmax pmax
comp=Z,5.0nm,1.2s
DUG **Dugway, Tooele** 37.52 89 P P 04 50 57.8 +1.4
baz=309
FURC **Furnace Creek,** 37.54 97 P P 04 50 58.8 +2.3
baz=313,SNR=5.3
TPNV **Topopah Spring** 37.58 96 IAmb IAmb 04 51 13.8
comp=Z,13nm,0.9s
TPNV **Topopah Spring** 37.58 96 P P 04 50 59.2 +2.2
baz=312,SNR=8.0
LAO **LASA Array** 37.61 76 P P 04 50 59.0 +1.9
baz=303,SNR=12
SCZ2 **Santa Cruz Isl** 37.63 103 P P 04 50 59.4 +2.1
baz=315
DGMT **Dagmar** 37.82 72 P P 04 50 58.1 -0.7
baz=301
GWY **Greenwater Val** 37.85 97 IAmb IAmb 04 51 13.9
comp=Z,4.9nm,0.7s
QSM **Queen of Sheba** 37.88 98 IAmb IAmb 04 51 17.2
comp=Z,5.4nm,0.7s
BW06 **Boulder Array** 37.88 83 P P 04 51 00.1 +0.4
baz=306
PDAR **Pinedale Array** 37.88 83 P P 04 51 00.2 +0.6
comp=Z,1.7nm,0.8s,baz=310,slow=4.5,SNR=17
PDAR LR LR 05 04 53.3
comp=Z,80nm,19.0s,baz=323,slow=33
comp=Z,1.7nm,0.8s
EDW2 **Edwards Air Fo** 37.96 100 P P 04 50 59.1 -1.0
baz=314
PRN **Pahroc Range** 37.98 94 IAmb IAmb 04 51 21.4
comp=Z,11nm,0.8s
KLR **Kul'dur** 38.28 290 P P 04 51 01.2 -1.4
comp=Z,3.1nm,0.5s,baz=35,slow=7.6,SNR=10
KLR LR LR 05 06 15.1
comp=Z,190nm,21.8s,baz=60,slow=35
comp=Z,3.1nm,0.5s
KLR **Kul'dur** 38.28 290 P P 04 51 01.2 -1.4
KLR **Kul'dur** 38.28 290 *eP* P 04 51 01.1 -1.5
KLR pmax pmax
comp=Z,9.0nm,1.4s
GSC **Goldstone, Bar** 38.37 98 P P 04 51 04.1 +0.4

baz=314
SHPR Sheep Range 38.52 96 P P 04 51 05.7 +0.7
ALE Alert 38.92 12 P P 04 51 08.0 +0.4
ALE sP sP 04 51 25.9 -0.6
GMRC Granite Mounta 39.41 98 P P 04 51 13.3 +0.9
baz=314
K22A Casper 39.75 81 IAmb IAmb 04 51 17.2
comp=Z,8.4nm,0.8s
K22A Casper 39.75 81 P P 04 51 15.4 +0.2
baz=307,SNR=6.1
BELC Belle Mtn. Jos 39.76 99 P P 04 51 14.7 -0.6
baz=315
PFO Pinyon Flats O 39.76 100 LR LR 05 04 41.3
comp=Z,199nm,18.6s,baz=309,slow=32
PFO Pinyon Flats O 39.76 100 P P 04 51 14.7 -0.5
baz=315
H11N2 WAKE ISLAND Hy 39.91 223 T T 05 33 56.1
baz=25,slow=76,SNR=1539
H11N3 WAKE ISLAND Hy 39.92 223 T T 05 34 02.4
baz=25,slow=76,SNR=2332
H11N1 WAKE ISLAND Hy 39.93 223 T T 05 34 03.2
baz=25,slow=76,SNR=2444
IRM Iron Mountain 40.15 98 P P 04 51 19.7 +1.3
baz=314
W13A Hualapai Mount 40.24 96 P P 04 51 18.4 -1.0
O20A White River Ci 40.28 86 IAmb IAmb 04 51 28.3
comp=Z,12nm,0.7s
O20A White River Ci 40.28 86 P P 04 51 20.6 +1.0
baz=309,SNR=9.9
U15A North Rim 40.28 93 IAmb IAmb 04 51 38.9
comp=Z,28nm,1.8s
MONP2 Monument Peak 40.29 101 P P 04 51 21.0 +1.2
baz=316
RSSD Black Hills 40.33 78 P P 04 51 19.6 -0.4
RSSD IAmb IAmb 04 51 21.7
comp=Z,14nm,1.1s
RSSD Black Hills 40.33 78 P P 04 51 19.6 -0.4
RSSD pmax pmax
comp=Z,14nm,1.2s
RSSD Black Hills 40.33 78 P P 04 51 20.3 +0.2
baz=306
RSSD Black Hills 40.33 78 P P
RSSD pP pP 04 51 34.6 +1.6
RSSD sP sP 04 51 40.7 +1.9
PDMCI Parker Dam,Lak 40.64 97 P P 04 51 23.9 +1.5
baz=314
MDND Maddock 40.75 70 P P 04 51 23.8 +0.6
baz=303
USRK Ussuriysk Ar. 40.94 283 PcP PcP 04 53 24.2 0.0
comp=Z,3.8nm,0.8s,baz=131,slow=2.7,SNR=5.4
H11S1 WAKE ISLAND Hy 41.09 222 T T 05 35 29.4
baz=25,slow=76,SNR=1243
H11S2 WAKE ISLAND Hy 41.10 222 T T 05 35 22.5
baz=25,slow=76,SNR=1460
H11S3 WAKE ISLAND Hy 41.11 222 T T 05 35 22.7
baz=25,slow=76,SNR=946
N23A Red Feather La 41.16 83 IAmb IAmb 04 51 30.3
comp=Z,15nm,1.4s
N23A Red Feather La 41.16 83 P P 04 51 27.6 +0.6
baz=308
PV13 Radium Mtn., P 41.20 88 IAmb IAmb 04 51 36.4
comp=Z,11nm,0.8s
ULM Lac du Bonnet 41.50 65 P P 04 51 28.9 -0.4
comp=Z,4.6nm,0.9s,baz=298,slow=6.2,SNR=3.0
ULM LR LR 05 10 28.3
comp=Z,67nm,18.2s,baz=238,slow=39
comp=Z,4.6nm,0.9s
MVCO Mesa Verde 42.02 89 P P 04 51 34.1 +0.1
baz=312
ISCO Idaho Springs 42.05 84 P P 04 51 35.4 +1.1
baz=310
MJAR Matsushiro Arr 42.08 270 P P 04 51 32.1 -2.1
comp=Z,4.2nm,0.6s,baz=52,slow=8.1,SNR=16
MJAR PcP PcP 04 53 28.2 0.0
comp=Z,2.1nm,1.0s,baz=51,slow=2.3,SNR=4.1
comp=Z,4.2nm,0.6s
MAJO Matsushiro 42.09 270 P P 04 51 33.8 -0.5
MAJO IAmb IAmb 04 51 36.7
comp=Z,22nm,0.8s
MAJO Matsushiro 42.09 270⇑ *i*P P 04 51 34.1 -0.1
MAJO pmax pmax
comp=Z,24nm,0.9s
MAJO Matsushiro 42.09 270 P P 04 51 34.3 +0.1
MAJO sP sP 04 51 53.4 +0.3
MJB9 Matsu-Tunnel 42.09 270 P P 04 51 34.8 +0.6
MJB9 IAmb IAmb 04 51 36.8
comp=Z,22nm,0.7s
AGMN Agassiz Nation 42.58 68 P P 04 51 38.1 0.0
baz=304
S22A 4UR Ranch, Cre 42.66 87 IAmb IAmb 04 51 53.6
comp=Z,24nm,1.9s
S22A 4UR Ranch, Cre 42.66 87 P P 04 51 36.0 -3.3
baz=311
BOD Bodaibo 43.06 309 *e*P P 04 51 40.5 -1.4
BOD pmax pmax
comp=Z,9.0nm,0.9s
SUSD Miller 43.08 74 P P 04 51 42.4 +0.1
baz=307
214A Organ Pipe Nat 43.09 98 P P 04 51 43.1 +0.7
baz=316
NEEM North Greenlan 43.16 17 *i*P P 04 51 42.5 -0.4
NEEM IAmb IAmb 04 51 43.4
comp=Z,12nm,0.6s
SDCO Great Sand Dun 43.45 86 P P 04 51 45.3 -0.3
baz=311
NOR Nord 44.03 6 *i*P P 04 51 46.5 -2.8
KSCO Kaye Shedlock' 44.33 83 IAmb IAmb 04 51 54.8
comp=Z,11nm,0.7s
KSCO Kaye Shedlock' 44.33 83 P P 04 51 53.0 +0.5
baz=310
T25A Trinidad 44.50 86 IAmb IAmb 04 51 57.7
comp=Z,11nm,1.1s
T25A Trinidad 44.50 86 P P 04 51 53.1 -0.8
baz=312
ANMO Albuquerque 44.77 90 LR LR 05 08 06.5
comp=Z,132nm,18.9s,baz=306,slow=33
ANMO Albuquerque 44.77 90⇓ *e*P P 04 51 54.7 -1.4
ANMO Albuquerque 44.77 90 P P 04 51 55.8 -0.3
baz=313
ECSD EROS Data Cent 44.85 73 IAmb IAmb 04 51 57.0
comp=Z,10nm,0.7s
ECSD EROS Data Cent 44.85 73 P P 04 51 56.3 -0.1
baz=308,SNR=14
CN2 Changchun 44.94 287 *e*P P 04 51 55.6 -1.5
CN2 pmax pmax
comp=Z,20nm,0.6s
LENM Lemitar 45.00 91 P P 04 51 58.4 +0.5
BGNE Belgrade 45.42 77 P P 04 52 00.8 -0.1
BGNE Belgrade 45.42 77 P P 04 52 01.9 +1.0
baz=309,SNR=5.7
121A Cookes Peak, D 45.66 93 P P 04 52 03.6 +0.5
baz=315
SPMN Marine on St. 46.09 69 P P 04 52 05.0 -1.2
baz=308
NRIK Noril'sk 46.48 332 P P 04 52 08.8 -0.1
comp=Z,3.0nm,0.7s,baz=75,slow=2.8,SNR=3.7
NRIK LR LR 05 16 02.4
comp=Z,114nm,18.1s,baz=32,slow=42
comp=Z,3.0nm,0.7s
NRIK Noril'sk 46.48 332⇓ *e*P P 04 52 08.0 -0.9
NRIK pmax pmax
comp=Z,5.0nm,0.9s
FRB Frobisher Bay 46.60 37 LR LR 05 12 47.5
comp=Z,291nm,18.3s,baz=317,slow=37
KSRS Korea Array 47.59 278 P P 04 52 18.1 +0.1
comp=Z,8.7nm,0.8s,baz=54,slow=7.1,SNR=22
KSRS PcP PcP 04 53 47.9 +0.8
comp=Z,4.0nm,1.0s,baz=58,slow=4.8,SNR=5.1
KSRS LR LR 05 13 17.6
comp=Z,25nm,18.0s,baz=55,slow=37
comp=Z,8.7nm,0.8s
MNTX Cornudas Mount 47.68 92 P P 04 52 19.6 +0.9
baz=316,SNR=6.7
KSU1 Kansas State U 47.81 78 IAmb IAmb 04 52 20.3
comp=Z,12nm,0.9s
KSU1 Kansas State U 47.81 78 P P 04 52 19.2 -0.5
baz=311
I40A Norwalk 48.14 70 IAmb IAmb 04 52 22.8
comp=Z,11nm,0.8s
DAG Danmarks Havn 48.22 10 *i*P P 04 52 22.3 0.0
DAG IAmb IAmb 04 52 23.0
comp=Z,20nm,0.6s
SPITS Spitsbergen Ar 48.50 359 LR LR 05 14 30.5
comp=Z,107nm,19.3s,baz=337,slow=38
TJN Taejon 48.64 278⇓ *e*P P 04 52 27.1 +1.0
KAN13 South Haven SW 48.69 81 P P 04 52 26.6 +0.1
KAN13 IAmb IAmb 04 52 37.0
comp=Z,20nm,1.2s
SUMG Summit 48.91 19 P P 04 52 27.5 -0.6
SUMG Summit 48.91 19 P P 04 52 27.5 -0.6
SUMG pmax pmax
comp=Z,19nm,0.7s
SUMG Summit 48.91 19 *i*P P 04 52 28.0 -0.1
SUMG IAmb IAmb 04 52 29.3
comp=Z,14nm,0.6s
JFWS Jewell Farm 48.97 70 IAmb IAmb 04 52 28.5
comp=Z,11nm,0.7s
JFWS Jewell Farm 48.97 70 P P 04 52 27.6 -1.0
baz=310
OK049 E0420 Rd and N 49.21 82 IAmb IAmb 04 52 35.5
comp=Z,12nm,0.7s
T35A Sooner Cattle 49.33 80 IAmb IAmb 04 52 32.0
comp=Z,8.4nm,0.9s
OK048 Pawnee Station 49.41 81 P 04 52 33.3 +1.3
OK048 IAmb IAmb 04 52 41.2
comp=Z,11nm,0.8s
WMOK Wichita Mounta 49.48 84 IAmb IAmb 04 52 49.9
comp=Z,4.4nm,0.8s
WMOK Wichita Mounta 49.48 84 P P 04 52 33.0 +0.4
WMOK pmax pmax
comp=Z,9.0nm,1.7s
WMOK Wichita Mounta 49.48 84 P P 04 52 31.9 -0.7
baz=314
OK030 Cody Creek RV 49.84 82 IAmb IAmb 04 52 48.4
comp=Z,12nm,0.9s
SFJD Saguaro Passuaq 50.23 28 LR LR 05 14 56.4
comp=Z,82nm,19.7s,baz=313,slow=37
TX32 Lajitas Array 50.41 93 IAmb IAmb 04 53 00.1
comp=Z,7.4nm,0.9s
LPIG La Paz 50.41 103 LR LR 05 11 36.4
comp=Z,94nm,18.1s,baz=268,slow=33
TXAR Lajitas Array 50.41 93 P P 04 52 40.6 +0.8
comp=Z,4.8nm,0.7s,baz=299,slow=5.4,SNR=66
TXAR ScP ScP 04 57 51.3 +2.3
comp=Z,1.1nm,1.1s,baz=270,slow=2.5,SNR=4.3
TXAR LR LR 05 11 54.6
comp=Z,77nm,19.4s,baz=300,slow=34
comp=Z,4.8nm,0.7s
TUL1 Leonard 50.44 81 P P 04 52 40.4 +0.6
TUL1 IAmb IAmb 04 52 48.9
comp=Z,7.5nm,0.8s
TUL1 Leonard 50.44 81 P P 04 52 38.9 -0.9
baz=313
U38A Gravette 50.90 79 P P 04 52 42.5 -0.8
U38A IAmb IAmb 04 52 43.5
comp=Z,15nm,1.1s
HDIL Hopedale 51.06 72 P P 04 52 44.1 -0.3
baz=312,SNR=13
HHAR Hobbs 51.27 79 IAmb IAmb 04 52 50.5
comp=Z,4.6nm,0.7s
ICESG Greenland Ices 51.40 22 *i*P P 04 52 46.8 -0.1
ICESG IAmb IAmb 04 52 48.3
comp=Z,10nm,0.7s
X37A Clayton 51.60 82 P P 04 52 48.8 +0.3
X37A IAmb IAmb 04 52 49.6
comp=Z,22nm,1.4s
CCM Cathedral Cave 51.63 76 P P 04 52 47.6 -1.1
CCM IAmb IAmb 04 52 48.3
comp=Z,8.7nm,0.9s
CCM Cathedral Cave 51.63 76 P P 04 52 47.6 -1.1
CCM pmax pmax
comp=Z,9.0nm,1.0s
CCM Cathedral Cave 51.63 76 P P 04 52 46.8 -1.9
baz=313
CCM Cathedral Cave 51.63 76 P P 04 52 47.6 -1.1
CCM sP sP 04 53 09.1 +1.4
MGMO Mountain Grove 51.65 77 IAmb IAmb 04 52 48.6
comp=Z,12nm,0.8s
JCT Junction City 51.88 89 IAmb IAmb 04 53 06.1
comp=Z,10nm,1.0s
JCT Junction City 51.88 89 P P 04 52 50.3 -0.4
baz=316
WHTX Lake Whitney, 52.20 86 IAmb IAmb 04 53 07.0
comp=Z,8.9nm,0.8s
WHTX Lake Whitney, 52.20 86 P P 04 52 53.5 +0.5
baz=316
ULN Ulaanbaatar 52.33 302 P P 04 52 53.9 0.0
ULN Ulaanbaatar 52.33 302 *de*P P 04 52 54.2 +0.2
ULN pmax pmax
comp=Z,18nm,1.2s
ULN Ulaanbaatar 52.33 302 P P 04 52 54.0 0.0
SFIN Lafayette 52.42 71 P P 04 52 53.8 -0.7
baz=312
ZAK Zakamensk 52.53 306 *e*P P 04 52 54.8 -0.6
ZAK *e* 04 53 14.1
ZAK pmax pmax
comp=Z,6.0nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,1.3s
FCAR Ozark Folk Cen 52.60 78 IAmb IAmb 04 52 56.0
comp=Z,14nm,1.0s
SONM Songino Array 52.68 302 P P 04 52 57.1 +0.5
comp=Z,10nm,1.1s,baz=51,slow=7.3,SNR=30
SONM PcP PcP 04 54 06.7 +0.9
comp=Z,5.3nm,0.9s,baz=1.9,slow=4.5,SNR=5.3
SONM LR LR 05 15 38.7
comp=Z,124nm,22.0s,baz=66,slow=36
comp=Z,10nm,1.1s
SONM Songino Array 52.68 302 P P 04 52 57.1 +0.5
SONM IAmb IAmb 04 52 58.0
comp=Z,11nm,1.1s
SONM PcP PcP 04 54 06.5 +0.7
SONM Songino Array 52.68 302 P P 04 52 57.1 +0.5
SONM PCP PcP 04 54 06.5 +0.7
SONM pmax pmax
comp=Z,11nm,1.1s
MIAR Mount Ida 52.69 81 P P 04 52 57.7 +1.0
baz=314
SCHQ Schefferville 52.92 46 P P 04 52 58.0 0.0
comp=Z,2.2nm,0.5s,baz=294,slow=14,SNR=1.8
SCHQ LR LR 05 14 59.9
comp=Z,159nm,21.0s,baz=137,slow=35
comp=Z,2.2nm,0.5s
S44A Carbondale 53.02 75 IAmb IAmb 04 52 59.5
comp=Z,14nm,0.8s
SIUC Southern Illin 53.03 75 IAmb IAmb 04 52 59.4
comp=Z,15nm,0.8s
WLAR White Oak Lake 53.56 81 IAmb IAmb 04 53 19.7
comp=Z,12nm,0.8s
O48B Farmland 53.59 70 P P 04 53 02.0 -1.2
baz=313,SNR=5.4
833A Chaparral WMA, 53.69 90 IAmb IAmb 04 53 19.5
comp=Z,18nm,1.1s
833A Chaparral WMA, 53.69 90 P P 04 53 04.0 -0.1
baz=317
SADO Sadowa 53.80 62 LR LR 05 15 33.1
comp=Z,62nm,18.1s,baz=356,slow=35
P49A Miami Univ. Ec 54.33 70 P P 04 53 07.3 -1.3
baz=313,SNR=7.8
WCI Wyandotte Cave 54.34 72 P P 04 53 07.9 -0.8
baz=314
JMIC Jan Mayen 54.65 9 LR LR 05 18 39.0
comp=Z,57nm,18.0s,baz=22,slow=38
HHC Hu-ho-hao-te 54.66 293 *e*P P 04 53 11.6 +0.5
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.2s
WVT Waverly 54.93 75 P P 04 53 11.7 -1.3
WVT IAmb IAmb 04 53 13.9
comp=Z,17nm,0.9s
WVT Waverly 54.93 75 P P 04 53 11.7 -1.3
WVT pmax pmax
comp=Z,17nm,1.0s
WVT Waverly 54.93 75 P P 04 53 12.4 -0.5
baz=314
WVT Waverly 54.93 75 P P 04 53 12.6 -0.3
WVT pP pP 04 53 25.0 -1.4
WVT sP sP 04 53 31.3 -0.7
OXF Oxford 55.15 78 P P 04 53 14.2 -0.4
baz=315
TRQ Mont Tremblant 55.17 58 IAmb IAmb 04 53 16.1
comp=Z,12nm,1.0s
M53A WI Miller and 55.25 66 P P 04 53 14.5 -0.7
baz=314
HNS HongShan 55.30 288 ⇑P P 04 53 16.1 +0.6
HNS pmax pmax
comp=Z,23nm,1.1s
R50A Paris 55.42 71 IAmb IAmb 04 53 16.8
comp=Z,11nm,0.8s
O52A Adamsville 55.53 68 IAmb IAmb 04 53 17.8
comp=Z,18nm,0.9s
PLAL Pickwick Lake 55.59 76 P P 04 53 17.3 -0.5
PLAL IAmb IAmb 04 53 17.9
comp=Z,8.9nm,0.9s
P52A Corning 55.70 68 P P 04 53 17.5 -1.0
baz=314
GUMO Guam 55.76 244 LR LR 05 12 34.4
comp=Z,29nm,21.8s,baz=118,slow=31
V48A Smith Brothers 55.78 75 IAmb IAmb 04 53 19.9
comp=Z,15nm,1.4s
CLTN Cedars of Leba 55.82 74 IAmb IAmb 04 53 20.5
comp=Z,12nm,0.9s
U49A Red Boiling Sp 55.84 73 IAmb IAmb 04 53 19.7
comp=Z,9.4nm,0.7s
HAMF Hammerfest 55.91 356 *e*P P 04 53 19.1 -0.4
T50A Nancy 56.01 72 IAmb IAmb 04 53 21.0
comp=Z,11nm,0.7s
LONY Lake Ozonia 56.27 59 P P 04 53 20.6 -1.9
baz=314
S51A Beattyville 56.28 71 IAmb IAmb 04 53 23.3
comp=Z,8.6nm,0.8s
X48A Hartselle 56.57 76 IAmb IAmb 04 53 24.3
comp=Z,11nm,1.0s
KEV Kevo 56.64 355 P P 04 53 24.4 -0.3
NJ2 Nanjing 56.69 280 *e*P P 04 53 25.4 -0.2
NJ2 pmax pmax
comp=Z,13nm,0.5s
J58A Remsen 56.78 61 IAmb IAmb 04 53 27.3
comp=Z,18nm,1.0s
ARA0 ARCESS Array S 56.94 355 *e*P P 04 53 26.6 -0.3
ARA0 IAmb IAmb 04 53 27.6
comp=Z,14nm,1.0s
ARCES ARCESS Array B 56.94 355 P P 04 53 25.4 -1.4
comp=Z,5.9nm,0.7s,baz=16,slow=7.4,SNR=18
ARCES PcP PcP 04 54 22.2 +0.6
comp=Z,3.4nm,0.8s,baz=319,slow=3.5,SNR=4.5
ARCES LR LR 05 21 28.6
comp=Z,71nm,18.1s,baz=16,slow=40
comp=Z,5.9nm,0.7s
ARCES ARCESS Array B 56.94 355 P P 04 53 26.7 -0.1
ARCES IAmb IAmb 04 53 27.9
comp=Z,15nm,1.1s
ARCES ARCESS Array B 56.94 355 P P 04 53 26.7 -0.1
ARCES pmax pmax
comp=Z,15nm,1.1s
MCWV Mont Chateau 56.95 67 IAmb IAmb 04 53 27.7
comp=Z,15nm,0.8s
MCWV Mont Chateau 56.95 67 P P 04 53 25.9 -1.4
baz=315
W50A Signal Mountai 57.03 74 IAmb IAmb 04 53 28.1
comp=Z,12nm,0.9s
TRO Tromso 57.06 358 *e*P P 04 53 27.6 0.0
TRO IAmb IAmb 04 53 28.5
comp=Z,19nm,0.8s
TZTN Tazewell 57.08 72 P P 04 53 27.1 -1.2
baz=315
JETT Jettan, Norway 57.10 358 *e*P P 04 53 28.4 +0.4
JETT IAmb IAmb 04 53 29.4
comp=Z,28nm,0.7s
J59A Piesco 57.11 60 IAmb IAmb 04 53 29.3
comp=Z,11nm,0.8s
BINY Binghamton 57.23 62 P P 04 53 28.6 -0.8
baz=315
D62A Allapoint, All 57.28 54 IAmb IAmb 04 53 30.3
comp=Z,17nm,1.1s
SSPA Standing Stone 57.32 65 P P 04 53 29.2 -0.8
SSPA Standing Stone 57.32 65 P P 04 53 29.9 -0.1
baz=315
SSPA Standing Stone 57.32 65 P P 04 53 29.2 -0.8
FPAL Fort Paine 57.33 75 IAmb IAmb 04 53 30.9
comp=Z,9.2nm,0.7s
Y49A Blount Mountai 57.36 76 IAmb IAmb 04 53 29.9
comp=Z,7.1nm,0.8s
VT1 Waterbury 57.40 58 IAmb IAmb 04 53 32.1
comp=Z,14nm,1.1s
V52A Sevierville 57.55 72 IAmb IAmb 04 53 33.6
comp=Z,12nm,1.1s
KTK1 Kautokeino 57.56 356 *e*P P 04 53 31.7 +0.5
TKL Tuckaleechee C 57.59 73 LR LR 05 17 30.8
comp=Z,89nm,20.1s,baz=324,slow=35
LRAL Lakeview Retre 57.61 77 P P 04 53 31.1 -1.0
baz=316
LBNH Lisbon 57.88 58 P P 04 53 32.6 -1.3
baz=315
LVZ Lovozero 57.92 351 P P 04 53 33.0 -0.8
H62A Milan 58.03 57 IAmb IAmb 04 53 35.6
comp=Z,12nm,0.8s
P57A Homestead Farm 58.07 66 IAmb IAmb 04 53 35.8
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 58.09 319 P P 04 53 35.9 +0.7
comp=Z,2.0nm,0.6s,baz=30,slow=6.8,SNR=7.7
ZALV PcP PcP 04 54 27.0 +0.6
comp=Z,3.0nm,0.6s,baz=41,slow=3.6,SNR=8.0
ZALV LR LR 05 19 53.4
comp=Z,145nm,20.5s,baz=50,slow=37
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 58.09 319 P P 04 53 35.2 0.0
ZALV PcP PcP 04 54 26.4 +0.1
F63A Nahmakanta, Br 58.24 55 IAmb IAmb 04 53 36.8
comp=Z,14nm,1.1s
BLA Blacksburg 58.36 69 P P 04 53 36.0 -1.4
baz=316
PKME Peaks-Kenny Pk 58.46 55 P P 04 53 36.6 -1.3
baz=316
LYN LuoYang 58.59 287⇑ *i*P P 04 53 39.3 +0.4
LOF Lofoten 58.61 0 *e*P P 04 53 38.2 -0.3
L61B Northampton 58.78 60 P P 04 53 39.1 -1.0
baz=316
STEI Steigen 58.81 360 *e*P P 04 53 39.8 -0.1
STEI IAmb IAmb 04 53 40.6
comp=Z,10nm,0.5s
BORG Borgarnes 58.81 17 LR LR 05 22 02.4
comp=Z,75nm,18.9s,baz=346,slow=39
BRAL Brewton 58.93 79 P P 04 53 42.0 +0.7
baz=317
SGF Sodankyl 58.97 355 P P 04 53 38.3 -2.7
SGF pmax pmax
comp=Z,18nm,1.6s
KMSC Kings Mountain 59.34 71 IAmb IAmb 04 53 44.2
comp=Z,18nm,1.2s
KMSC Kings Mountain 59.34 71 P P 04 53 42.3 -1.8
baz=316
FAUS Fauske 59.36 360 *e*P P 04 53 43.7 0.0
GOGA Godfrey 59.38 74 P P 04 53 42.5 -1.8
baz=317
T59A Double "B" Far 60.12 67 P P 04 53 49.0 -0.5
DGZ Jazzator, Alta 60.22 314⇓ *i*P P 04 53 51.0 +0.8
DGZ pmax pmax
comp=Z,7.0nm,0.7s
MOR8 Moi Rana 60.58 0 *e*P P 04 53 51.0 -1.1
XAN Xi'an 60.98 289 P P 04 53 56.1 +0.7
XAN pmax pmax
comp=Z,12nm,1.0s
OUL Oulu 61.35 355 P P 04 53 57.4 +0.1
OUL pmax pmax
comp=Z,33nm,0.9s
GTA Gaotai 61.99 299 ⇑P P 04 54 01.9 -0.4
GTA pmax pmax
comp=Z,14nm,0.7s
LZH Lanzhou 62.30 294 ⇓P P 04 54 05.3 +0.9
LZH sP sP 04 54 26.6 +2.7
LZH pmax pmax
comp=Z,19nm,1.3s
KURK Kurchatov 63.00 320 P P 04 54 08.7 0.0
KURK IAmb IAmb 04 54 10.6
comp=Z,3.7nm,0.8s
KURK Kurchatov 63.00 320⇓ *e*P P 04 54 09.0 +0.4
KURK pmax pmax
comp=Z,18nm,3.0s
KURBB Kurchatov Arra 63.11 320 P P 04 54 09.7 +0.4
comp=Z,3.0nm,0.9s,baz=42,slow=6.5,SNR=14
KURBB PcP PcP 04 54 46.7 +0.1
comp=Z,2.5nm,0.9s,baz=16,slow=3.8,SNR=6.4
KURBB LR LR 05 23 52.5
comp=Z,229nm,18.9s,baz=15,slow=38
comp=Z,3.0nm,0.9s
TBLU Trondheim 63.46 2 *e*P P 04 54 09.8 -1.7
BVAR Borovoye Array 64.05 326 LR LR 05 23 43.9
comp=Z,104nm,20.8s,baz=33,slow=38
BRVK Borovoye 64.06 326 P P 04 54 15.6 0.0
BRVK IAmb IAmb 04 54 17.2
comp=Z,3.9nm,0.7s
BRVK Borovoye 64.06 326 *d*P P 04 54 16.6 +1.0
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 64.06 326 P P 04 54 16.2 +0.6
MOL Molde 64.07 4 *e*P P 04 54 14.8 -0.7
MOL IAmb IAmb 04 54 15.2
comp=Z,17nm,0.6s
KLMR Klimovskoe 64.19 347 *e*P P 04 54 15.2 -1.1

KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 64.19 347 *e*P **P 04 54 15.2 -1.1**
KLMR AMP 04 54 17.4
comp=Z,15nm,1.3s
AKN Aaknes 64.44 4 *e*P **P 04 54 18.4 +0.5**
AKN IAmb IAmb 04 54 19.1
comp=Z,35nm,0.7s
ARU Arti 64.58 335 LR LR 05 26 56.4
comp=Z,76nm,19.9s,baz=153,slow=40
ARU Arti 64.58 335⇑ *e*P **P 04 54 16.9 -2.0**
ARU pmax pmax
comp=Z,10.0nm,2.3s
WMQ Urumqi 64.61 310 *e*P **P 04 54 20.0 +0.6**
WMQ pP sP 04 54 36.3 -2.7
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ LR LR
comp=Z,120nm,23.9s
DOMB Dombas 64.64 3 *e*P **P 04 54 18.9 -0.5**
DOMB IAmb IAmb 04 54 19.8
comp=Z,26nm,0.6s
MK31 Makanchi Array 64.65 315 P **P 04 54 19.3 -0.3**
MK31 Makanchi Array 64.65 315 *i* P **P 04 54 18.9 -0.7**
MKAR Makanchi Array 64.65 315 P **P 04 54 19.4 -0.2**
comp=Z,4.2nm,0.7s,baz=47,slow=6.1,SNR=47
MKAR LR LR 05 23 40.6
comp=Z,140nm,21.0s,baz=21,slow=37
comp=Z,4.2nm,0.7s
MKAR Makanchi Array 64.65 315 *i* P **P 04 54 19.3 -0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
KIRV Kirov 64.69 341 LR LR 05 25 44.4
comp=Z,155nm,20.3s,baz=19,slow=39
MAKZ Makanchi 64.77 315 P **P 04 54 19.4 -1.0**
MAKZ IAmb IAmb 04 54 20.7
comp=Z,4.7nm,0.6s
MAKZ Makanchi 64.77 315 P **P 04 54 19.4 -1.0**
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
CMIG Matias Romero 64.91 95 LR LR 05 19 05.7
comp=Z,74nm,20.6s,baz=306,slow=33
FOO Floro 64.92 5 *e*P **P 04 54 20.1 -0.9**
FINES FINESS Array B 64.96 354 P **P 04 54 21.1 -0.2**
comp=Z,10nm,0.6s,baz=20,slow=8.2,SNR=93
FINES LR LR 05 25 04.8
comp=Z,59nm,18.1s,baz=7.5,slow=38
comp=Z,10nm,0.6s
FINES FINESS Array B 64.96 354 P **P 04 54 20.3 -1.0**
FINES FINESS Array B 64.96 354 *i* P **P 04 54 21.1 -0.2**
FINES pmax pmax
comp=Z,11nm,0.6s
RAF Rauma 65.60 356 *e*P **P 04 54 26.1 +0.6**
NB2 NORSAR Subarra 65.70 2 P **P 04 54 26.2 0.0**
comp=Z,4.1nm,0.6s,baz=359,slow=6.2
NB2 NORSAR Subarra 65.70 2 P **P 04 54 26.2 0.0**
baz=359,slow=6.2
NBO00 NORSAR Array S 65.70 2 P **P 04 54 26.3 +0.2**
NOA NORSAR Array B 65.70 2 P **P 04 54 26.1 0.0**
comp=Z,7.7nm,0.7s,baz=360,slow=6.3,SNR=42
NOA LR LR 05 23 44.9
comp=Z,37nm,20.1s,baz=10.0,slow=37
comp=Z,7.7nm,0.7s
TAOE Nuku Hiva Isla 65.80 152 *e*LR LR 05 14 21.3
comp=Z,176nm,24.1s
TAOE Nuku Hiva Isla 65.80 152 *e*T T 06 06 11.0
comp=Z,33nm,0.2s
SKAR Skarslia 65.98 3 *e*P **P 04 54 28.4 +0.3**
SKAR IAmb IAmb 04 54 28.9
comp=Z,21nm,0.6s
NC602 NORSAR Array S 66.01 2 *e*P **P 04 54 28.1 0.0**
NORES NORESS Array B 66.01 2 P **P 04 54 28.1 0.0**
ASK Askoy 66.05 5 *e*P **P 04 54 28.3 0.0**
ASK IAmb IAmb 04 54 29.0
comp=Z,28nm,0.6s
CD2 Chengdu 66.21 290 P **P 04 54 30.8 +0.8**
CD2 pmax pmax
comp=Z,50nm,0.9s
MEF Metsahovi 66.28 355 *e*P **P 04 54 30.2 +0.4**
HFS Hagfors 66.64 0 LR LR 05 23 56.9
comp=Z,47nm,21.0s,baz=360,slow=36
ODD1 Odda 66.69 4 *e*P **P 04 54 32.1 -0.4**
ODD1 IAmb IAmb 04 54 33.8
comp=Z,14nm,1.0s
GOMU GeErMu 67.01 300 P **P 04 54 34.9 -0.5**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
KONO Kongsberg 67.06 3 P **P 04 54 34.0 -0.8**
KONO Kongsberg 67.06 3 *ce*P **P 04 54 35.9 +1.1**
KONO pmax pmax
comp=Z,44nm,2.5s
KONO Kongsberg 67.06 3 *e*P **P 04 54 35.4 +0.6**
KONO IAmb IAmb 04 54 36.4
comp=Z,16nm,0.8s
KONO Kongsberg 67.06 3 P **P 04 54 35.3 +0.5**
BLS5 Blasjo 67.17 4 *e*P **P 04 54 36.1 +0.5**
AFI Afiamalu 67.43 187 LR LR 05 17 34.2
comp=Z,74nm,21.4s,baz=106,slow=30
MTSE Matsula 67.81 355 *e*P **P 04 54 40.1 +0.6**
VSU Vasula 67.88 353 *c i*P **P 04 54 40.2 +0.2**
VSU Vasula 67.88 353 *e*P **P 04 54 40.6 +0.7**
GYA Guiyang 67.94 285 ⇓P **P 04 54 42.4 +1.3**
GYA pmax pmax
comp=Z,44nm,0.7s
SNART Snartemo 68.28 4 *e*P **P 04 54 42.9 +0.4**
SNART IAmb IAmb 04 54 43.4
comp=Z,24nm,0.8s
HOMB Homborsund 68.40 3 *e*P **P 04 54 43.8 +0.5**
PDGK Podgornoye 68.61 315 P **P 04 54 45.3 +0.2**
SLIT Slitere, Latvi 68.97 356 *e*P **P 04 54 47.1 +0.3**
PMOR Pomariorio Ree 69.95 162 *e*T T 06 11 18.9
comp=Z,13nm,0.2s
AKTO Aktyubinsk 70.10 332 LR LR 05 30 21.3
comp=Z,92nm,18.2s,baz=30,slow=40
OBN Obninsk 70.16 347 LR LR 05 29 05.2
comp=Z,29nm,20.5s,baz=11,slow=39
OBN Obninsk 70.16 347⇑ *e*P **P 04 54 53.4 -0.8**
OBN *e* 04 55 11.3
OBN *e* 04 57 32.7
OBN pmax pmax
comp=Z,15nm,1.0s
OBN MLR MLR
comp=Z,100nm,19.0s
EKA Eskdalemuir Ar 70.48 11 P **P 04 54 56.5 +0.3**
ESK Eskdalemuir 70.49 11 P **P 04 54 56.5 +0.3**
VSVD Vaisvydziai 70.53 354 *e*P **P 04 54 56.9 +0.5**
AB31 Akbulak array 70.60 330 *i* P **P 04 54 56.9 -0.1**
ABKAR Akbulak array 70.60 330 P **P 04 54 57.4 +0.4**
PZH PanZhiHua 70.72 289 P **P 04 54 59.1 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
BOOM Boomskoye usch 70.78 317 P **P 04 54 58.7 +0.2**
BOOM IAmb IAmb 04 55 01.1
comp=Z,6.0nm,0.7s
BOOM Boomskoye usch 70.78 317 P **P 04 54 58.7 +0.2**
BOOM pmax pmax
comp=Z,6.0nm,0.7s
ISAL Salakas 70.80 353 *e*P **P 04 54 58.5 +0.5**
BELG Belogornoye 70.84 339 LR LR 05 28 23.4
comp=Z,83nm,20.5s,baz=346,slow=38
PABE Paberze 71.01 354 P **P 04 54 59.0 -0.3**
PABE Paberze 71.01 354 *e*P **P 04 55 00.1 +0.7**
IIGN Ignalina 71.01 353 *e*P **P 04 55 00.1 +0.7**
KMI Kunming 71.22 287 ⇓P **P 04 55 02.3 +0.9**
KMI pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 71.25 318 P **P 04 55 01.7 +0.4**
comp=Z,4.8nm,0.8s,baz=164,slow=0.4,SNR=7.9
AAK LR LR 05 28 19.0
comp=Z,167nm,20.9s,baz=32,slow=38
comp=Z,4.8nm,0.8s
AAK Ala-Archa 71.25 318 P **P 04 55 01.8 +0.4**
AAK Ala-Archa 71.25 318 ⇓ *i*P **P 04 55 02.3 +1.0**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 71.25 318 P **P 04 55 02.3 +1.0**
NACGM Naroch 71.41 353⇑ *e*P **P 04 55 00.2 -1.6**
baz=8.0
NRN Naryn 71.64 316 IAmb IAmb 04 55 05.8
comp=Z,8.0nm,1.1s
MNK Minsk 71.72 352 *i* P **P 04 55 03.2 -0.4**
MNK *i* *PP **pP 04 55 17.0 -0.8**
MNK *i* 04 57 42.9
MNK *i* PPP PPP 04 59 25.8
MNK *i* S **S 05 04 19.8 +0.3**
MNK *i* *SS **sS 05 04 44.2 +1.0**
MNK *i* SS **SS 05 08 56.7 +2.2**
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,29nm,0.8s
MNK MLR MLR
comp=E,30nm,13.0s
MNK MLR MLR
comp=Z,64nm,16.0s
MNK Minsk 71.72 352 *i* P **P 04 55 03.3 -0.4**
comp=E,2.0nm,0.8s
MNK *i* P **P 04 55 03.3 -0.4**
MNK *i* P **P 04 55 03.3 -0.4**
comp=Z,29nm,0.8s,baz=8.2
MNK *i* pP **pP 04 55 17.1 -0.8**
MNK *i* PP **PP 04 57 43.0 +0.4**
MNK *i* PPP PPP 04 59 25.8
MNK *i* S **S 05 04 19.8 +0.3**
MNK *i* sS **sS 05 04 44.2 +1.0**
MNK *i* SS **SS 05 08 56.7 +2.2**
MNK *i* SSS SSS 05 12 16.1
MNK *i* LQ LQ 05 20 56.2
MNK *i* LR LR 05 26 02.2
MNK *i* LRM MLR 05 29 10.3
MNK *i* LRM MLR 05 29 49.9
comp=E,30nm,12.9s
comp=Z,64nm,16.3s
QIZ Qiongzhong 71.80 277 P **P 04 55 04.5 -0.1**
QIZ IAmb IAmb 04 55 07.0
comp=Z,18nm,1.0s
QIZ Qiongzhong 71.80 277 P **P 04 55 05.7 +1.0**
DAV Davao City (W) 71.90 257 LR LR 05 25 23.0
comp=Z,33nm,20.1s,baz=127,slow=35
PPT Papeete 72.16 164 LR LR 05 19 25.5
comp=Z,172nm,21.4s,baz=318,slow=30
PPT2 Papeete2 72.18 164 *e*LR LR 05 17 19.2
comp=Z,190nm,21.2s
KK31 Karatay Array 72.41 320 P **P 04 55 08.4 +0.4**
KK31 IAmb IAmb 04 55 09.2
comp=Z,6.3nm,0.8s
KK31 Karatay Array 72.41 320 *i* P **P 04 55 08.0 -0.1**
KKAR Karatay Array 72.41 320 P **P 04 55 08.4 +0.4**
KKAR IAmb IAmb 04 55 09.2
comp=Z,6.3nm,0.8s
KKAR Karatay Array 72.41 320 P **P 04 55 08.5 +0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.9s
MSVF Nonsavu 72.42 196 LR LR 05 21 19.9
comp=Z,148nm,21.9s,baz=31,slow=31
VORR Voronezh 73.11 344 *e*P **P 04 55 16.7 +4.7**
VORR pmax pmax
comp=Z,50nm,0.5s
KSH Kashi 73.25 315 P **P 04 55 17.3 +4.1**
KSH pmax pmax
comp=Z,14nm,0.8s
KSH LR LR
comp=Z,420nm,21.3s
KSH LR LR
comp=Z,250nm,17.6s
KSH LR LR
comp=Z,230nm,15.1s
RUE Ruedersdorf 74.31 0 *e*P **P 04 55 20.0 +1.0**
PMG Port Moresby 74.45 229 LR LR 05 21 25.2
comp=Z,50nm,20.0s,baz=326,slow=30
BTK Batken 74.90 319 P **P 04 55 22.8 0.0**
BTK IAmb IAmb 04 55 24.2
comp=Z,14nm,0.8s
BTK Batken 74.90 319 P **P 04 55 22.8 0.0**
BTK pmax pmax
comp=Z,14nm,0.8s
SIJI Sorong 75.16 247 P **P 04 55 25.3 +0.8**
comp=Z,11nm,0.7s,baz=343,slow=8.0,SNR=3.6
comp=Z,11nm,0.7s
AKASG Malin Array Be 75.36 350 P **P 04 55 24.5 -0.6**
comp=Z,19nm,0.7s,baz=13,slow=5.8,SNR=60
AKASG LR LR 05 32 56.9
comp=Z,51nm,19.4s,baz=18,slow=39
comp=Z,19nm,0.7s
AKASG Malin Array Be 75.36 350 P **P 04 55 24.8 -0.3**
AKASG Malin Array Be 75.36 350 *i* P **P 04 55 24.5 -0.6**
AKASG pmax pmax
comp=Z,14nm,0.6s
AKBB Malin Array Si 75.36 350 *c i*P **P 04 55 24.5 -0.6**
AKBB pmax pmax
comp=Z,23nm,0.7s
CLL Collm 75.48 1 P **P 04 55 25.8 0.0**
CLL IAmb IAmb 04 55 27.0
comp=Z,11nm,1.1s
CLL Collm 75.48 1 *i* P **P 04 55 26.0 +0.2**
CLL *e**PP **pP 04 55 41.0 +1.0**
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 75.48 1 *i* P **P 04 55 26.0 +0.2**
comp=Z,12nm,1.1s
CLL *ep* **pP 04 55 41.0 +1.0**
BRG Berggiesshubel 75.92 0 *e*P **P 04 55 29.2 +0.8**
BRG Amp 04 55 30.4
comp=Z,8.9nm,1.2s
BRG Berggiesshubel 75.92 0 *e*P **P 04 55 29.1 +0.8**
BRG pmax pmax
comp=Z,9.0nm,1.2s
BSTI Sart Tilman 75.94 6 *d*P **P 04 55 29.5 +1.0**
comp=Z,4.6nm,0.7s
MEM Membach 75.94 6 *d*P **P 04 55 28.9 +0.5**
comp=Z,9.1nm,0.8s
KSP Ksiaz 75.94 359 *e*P **P 04 55 29.0 +0.5**
GAR Garm 76.01 318 IAmb IAmb 04 55 30.6
comp=Z,22nm,0.9s
BCLA Clavier 76.09 6 *d*P **P 04 55 30.0 +0.8**
BMRD Maredsous 76.17 6 *d*P **P 04 55 30.6 +0.8**
comp=Z,10nm,0.8s
BHOU Houvegnez 76.19 6 *d*P **P 04 55 30.9 +0.9**
CHVC Chvalec 76.20 359 *e*P **P 04 55 30.5 +0.5**
OSTC Ostas 76.23 359 *e*P **P 04 55 30.3 +0.2**
PVCC Panska Ves 76.27 360 *e*P **P 04 55 31.5 +1.2**
PVCC Panska Ves 76.27 360 *e*P **P 04 55 31.5 +1.2**
UPC Upice 76.28 359 *e*P **P 04 55 30.7 +0.3**
UPC Upice 76.28 359 *e*P **P 04 55 30.7 +0.3**
RCHB Rochefort 76.34 6 *d*P **P 04 55 30.9 +0.2**
comp=Z,11nm,0.9s
DOU Dourbes 76.36 7 *d*P **P 04 55 31.2 +0.4**
comp=Z,5.4nm,0.8s
BAIF Baives 76.37 7 *e*P **P 04 55 31.3 +0.4**
BAIF pmax pmax
comp=Z,6.0nm,0.6s
GIVF Givet 76.37 6 *e*P **P 04 55 31.1 +0.2**
GIVF pmax pmax
comp=Z,12nm,0.9s
CRAI Chiangrai 76.39 285 IAmb IAmb 04 55 33.3
comp=Z,19nm,0.9s
DPC Dobruska-Polom 76.44 359 *e*P **P 04 55 32.0 +0.7**
DPC Dobruska-Polom 76.44 359 *e*P **P 04 55 32.0 +0.7**
OJC Ojcow 76.48 357 *e*P **P 04 55 31.4 -0.2**
OJC Ojcow 76.48 357 IAmb IAmb 04 55 31.9
comp=Z,7.1nm,1.0s
NKC Novy Kostel 76.55 1 *e*P **P 04 55 32.2 +0.3**
NKC Novy Kostel 76.55 1 *e*P **P 04 55 32.2 +0.3**
LVV L'vov 76.67 354 *e*P **P 04 55 32.5 -0.1**
KRLC Kraliky 76.71 359 *e*P **P 04 55 33.4 +0.5**
KRLC Kraliky 76.71 359 *e*P **P 04 55 33.4 +0.5**
PRU Pruhonice 76.81 360 *e*P **P 04 55 33.9 +0.5**
PRU Pruhonice 76.81 360 *e*P **P 04 55 33.9 +0.5**
WLF Walferdange 76.89 6 *d*P **P 04 55 33.1 -0.7**
comp=Z,7.0nm,1.1s
MORC Moravsky Berou 76.99 358 ⇓P **P 04 55 35.3 +0.8**
MORC Moravsky Berou 76.99 358 IAmb IAmb 04 55 36.1
comp=Z,7.8nm,1.1s
MORC Moravsky Berou 76.99 358 *e*P **P 04 55 35.0 +0.5**
MORC Moravsky Berou 76.99 358 P **P 04 55 35.3 +0.8**
FLN La Foliniere 77.25 10 *e*P **P 04 55 36.7 +0.9**
FLN pmax pmax
comp=Z,118nm,1.9s
NIE Niedzica 77.27 356 *e*P **P 04 55 36.8 +0.8**
UBPT Khong Chiam 77.31 278 P **P 04 55 36.9 +0.2**
UBPT IAmb IAmb 04 55 38.4
comp=Z,13nm,0.8s
MAUC Maruska 77.40 358 *e*P **P 04 55 37.5 +0.8**
LDF La Druitiere 77.45 10 *e*P **P 04 55 36.9 -0.1**
LDF pmax pmax
comp=Z,64nm,1.8s
VRAC Vranov 77.48 359 *e*P **P 04 55 38.0 +0.8**
SGMF Saint Gilles 77.52 12 *e*P **P 04 55 38.6 +1.3**
SGMF pmax pmax
comp=Z,50nm,1.7s
LANS Liptovska Anna 77.56 357 *e*P **P 04 55 39.8 +2.1**
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 77.56 357 *e*P **P 04 55 39.8 +2.1**
GRR Gorron 77.58 10 *e*P **P 04 55 37.8 +0.1**
GRR pmax pmax
comp=Z,77nm,1.7s
KHC Kasperske Hory 77.67 1 IAmb IAmb 04 55 40.3
comp=Z,7.8nm,1.1s
KHC Kasperske Hory 77.67 1 *e*P **P 04 55 38.9 +0.7**
KHC Kasperske Hory 77.67 1 *e*P **P 04 55 38.9 +0.7**
TAPN Taplejung 77.68 299 *e*P **P 04 55 39.2 +0.2**
KRUC Moravsky 77.72 359 *e*P **P 04 55 39.1 +0.6**
CRVS Cervenica-Dubn 77.73 355 *e*P **P 04 55 39.4 +0.8**
CRVS pmax pmax
comp=Z,13nm,1.1s
CRVS Cervenica-Dubn 77.73 355 *e*P **P 04 55 39.4 +0.8**
TBI Tubuai 77.85 165 *e*LR LR 05 19 56.2
comp=Z,174nm,23.5s
JAVC Velka Javorina 77.91 358 *e*P **P 04 55 41.6 +2.0**
GEC2 GERESS Array S 77.95 1 IAmb IAmb 04 55 41.5
comp=Z,7.2nm,1.0s
GERES GERESS Array B 77.95 1 P **P 04 55 40.0 +0.1**
comp=Z,2.8nm,0.8s,baz=18,slow=4.6,SNR=27
comp=Z,2.8nm,0.8s
GERES GERESS Array B 77.95 1 P **P 04 55 40.5 +0.6**
GERES GERESS Array B 77.95 1 P **P 04 55 40.5 +0.6**
CKRC Cesky Krumlov 77.98 0 *e*P **P 04 55 40.5 +0.5**
GUN Gumba 78.17 301 *e*P **P 04 55 42.4 +0.6**
comp=Z,43nm,0.5s
CDF Champ du Feu 78.20 5 *e*P **P 04 55 41.5 +0.2**
CDF pmax pmax
comp=Z,5.0nm,0.8s
JIRN Jiri 78.22 301 *e*P **P 04 55 42.6 +0.5**
comp=Z,140nm,1.0s
VYHS Vyhne 78.24 357 *e*P **P 04 55 42.4 +1.0**
VYHS pmax pmax
comp=Z,11nm,1.0s
VYHS Vyhne 78.24 357 *e*P **P 04 55 42.4 +1.0**
SMOL Smolenice 78.26 358 *e*P **P 04 55 42.9 +1.4**
SMOL pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 78.33 286 P **P 04 55 42.3 0.0**
CHTO Chiang Mai 78.33 286 P **P 04 55 42.3 0.0**
ECH Echery 78.39 5 IAmb IAmb 04 55 44.3
comp=Z,12nm,1.0s
MODS Modra-Piesok 78.40 358 *e*P **P 04 55 43.8 +1.5**
MODS pmax pmax
comp=Z,32nm,1.4s
MODS Modra-Piesok 78.40 358 *e*P **P 04 55 43.8 +1.5**
TRPA Tarpa 78.44 355⇑ P **P 04 55 43.5 +1.0**
HAU Haudompre 78.56 6 *e*P **P 04 55 43.3 +0.1**
HAU pmax pmax
comp=Z,7.0nm,0.8s
ZST Bratislava 78.58 358 *e*P **P 04 55 44.8 +1.5**
ZST pmax pmax
comp=Z,26nm,0.8s
ZST Bratislava 78.58 358 *e*P **P 04 55 44.8 +1.5**
RAMN Ramite 78.58 300 *e*P **P 04 55 44.0 +0.1**
comp=Z,76nm,0.9s
CMAR Chiang Mai Arr 78.61 285 P **P 04 55 44.5 +0.6**
comp=Z,12nm,1.0s,baz=19,slow=5.5,SNR=46
CMAR LR LR 05 33 13.9
comp=Z,33nm,20.0s,baz=45,slow=38
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 78.61 285 P **P 04 55 44.4 +0.6**
CMAR Chiang Mai Arr 78.61 285 *i* P **P 04 55 44.5 +0.6**
CMAR pmax pmax
comp=Z,14nm,1.0s
PKI Pulchoki 78.69 301 *e*P **P 04 55 44.8 +0.2**
PKIN Phulchoki 78.69 301 *e*P **P 04 55 44.7 +0.1**
comp=Z,33nm,0.7s
GKN Gorkha 78.73 302 *e*P **P 04 55 44.9 +0.3**
BUR08 Bucovina Ar. S 78.75 353 IAmb IAmb 04 55 45.6
comp=Z,5.7nm,0.7s
GOF Gofitskoye 78.76 340⇑ *e*P **P 04 55 45.2 +0.9**
GOF pmax pmax
comp=Z,90nm,0.9s
HINF Hinteralfeld 78.77 5 *e*P **P 04 55 44.7 +0.3**
HINF pmax pmax
comp=Z,3.0nm,0.6s
BURAR Bucovina Array 78.78 353 ⇑P **P 04 55 44.8 +0.3**
BURAR Bucovina Array 78.78 353 IAmb IAmb 04 55 46.1
comp=Z,9.6nm,0.7s
BURAR Bucovina Array 78.78 353 P **P 04 55 44.8 +0.3**
PSZ Piszkesteto 78.78 356 ⇓P **P 04 55 45.9 +1.5**
PSZ Piszkesteto 78.78 356 IAmb IAmb 04 55 47.4
comp=Z,7.7nm,0.9s
PSZ Piszkesteto 78.78 356 P **P 04 55 45.8 +1.3**
DMN Daman 78.81 301 *e*P **P 04 55 45.7 +0.5**
comp=Z,45nm,0.7s
CONA Conrad Observa 78.87 359 *i* P **P 04 55 46.1 +1.2**
comp=Z,7.2nm,1.0s,SNR=8.7
DANN Dangsing 78.89 303 *e*P **P 04 55 46.3 +0.6**
comp=Z,158nm,0.8s
MOA Molln 78.95 0 *e*P **P 04 55 46.0 +0.7**
comp=Z,7.5nm,1.2s
RONA Rosalia, Austr 79.09 359 *e*P **P 04 55 47.6 +1.5**
comp=Z,0.7nm,0.3s
BIOA Bad Ischl, Aus 79.11 1 *e*P **P 04 55 47.1 +0.9**
comp=Z,7.4nm,1.2s
LOR Lormes 79.12 7 *e*P **P 04 55 46.5 +0.2**
LOR pmax pmax
comp=Z,8.0nm,0.8s
MILM Milestii Mici 79.15 350 ⇑P **P 04 55 46.5 +0.2**
MILM Milestii Mici 79.15 350 P **P 04 55 46.5 +0.2**
DZM Mont Dzumac 79.16 206 *e*LR LR 05 20 31.9
comp=Z,174nm,22.1s
DZM Mont Dzumac 79.16 206 LR LR 05 27 32.8
comp=Z,126nm,20.1s,baz=28,slow=33
RETA Reutte 79.26 3 *e*P **P 04 55 48.3 +1.2**
comp=Z,4.5nm,0.9s
SSF Saint Saulge 79.30 8 *e*P **P 04 55 47.5 +0.3**
SSF pmax pmax
comp=Z,13nm,0.9s
BRDH Bariadhala 79.35 294 LR LR 05 35 22.6
comp=Z,72nm,19.2s,baz=82,slow=39
NIL Nilore 79.37 314 P **P 04 55 48.0 +0.1**
NIL Nilore 79.37 314 P **P 04 55 48.0 +0.1**
NIL pmax pmax
comp=Z,32nm,1.1s
BIZ Bicaz 79.38 352 ⇓P **P 04 55 48.5 +0.8**
MOTA Moosalm 79.41 2 *i* P **P 04 55 48.9 +0.9**
comp=Z,15nm,1.4s,SNR=6.3
MFF Saint Martin d 79.42 10 *e*P **P 04 55 48.3 +0.4**
MFF pmax pmax
comp=Z,8.0nm,0.8s
WATA Walderalm 79.43 2 *e*P **P 04 55 49.1 +0.9**
comp=Z,4.7nm,0.7s
DAVA Damuels 79.44 3 *e*P **P 04 55 48.2 0.0**
comp=Z,6.0nm,1.1s
WTTA Wattenberg 79.51 2 *e*P **P 04 55 49.7 +1.1**
comp=Z,7.2nm,0.6s
VASR Vaslui 79.52 351 ⇑P **P 04 55 48.5 +0.1**
SQTA Sankt Quirin 79.54 2 *i* P **P 04 55 50.0 +1.3**
comp=Z,19nm,1.2s,SNR=7.3
ARSA Arzberg 79.55 359 *i* P **P 04 55 49.9 +1.3**
comp=Z,12nm,1.3s,SNR=6.4
AVF Avril sur Loir 79.56 8 *e*P **P 04 55 48.7 +0.1**
AVF pmax pmax
comp=Z,9.0nm,0.7s
KBA Koelnbreinsper 79.72 1 *i* P **P 04 55 51.3 +1.5**
comp=Z,18nm,0.8s,SNR=5.1
FETA Feichten 79.73 3 *i* P **P 04 55 51.2 +1.4**
comp=Z,15nm,1.0s,SNR=11
SMF Signal de Mont 79.74 7 *e*P **P 04 55 49.8 +0.1**
SMF pmax pmax
comp=Z,16nm,0.9s
BGF Bois d'Agland 79.75 8 *e*P **P 04 55 49.9 +0.2**
BGF pmax pmax
comp=Z,8.0nm,0.8s
DRGR 79.77 354 ⇓P **P 04 55 50.5 +0.6**
DRGR 79.77 354 P **P 04 55 50.4 +0.6**
KIV Kislovodsk 79.89 340 ⇓P **P 04 55 52.0 +1.4**
KIV Kislovodsk 79.89 340 P **P 04 55 50.1 -0.5**
KIV IAmb IAmb 04 55 52.6
comp=Z,12nm,0.8s
KIV Kislovodsk 79.89 340 *e*P **P 04 55 51.6 +1.0**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,65nm,19.0s
CABF La Chapelle 79.93 6 *e*P **P 04 55 51.4 +0.6**

CABF pmax pmax
comp=Z,7.0nm,0.7s
TCF Toulx Ste Croi 79.96 9 *e*P **P 04 55 51.0 +0.1**
TCF pmax pmax
comp=Z,10.0nm,1.0s
ABTA Abfaltersbach 80.04 1 *i* P **P 04 55 53.1 +1.7**
comp=Z,14nm,1.2s,SNR=5.4
KBZ Khabaz 80.07 340 P **P 04 55 52.3 +0.9**
comp=Z,13nm,0.9s,baz=353,slow=1.3,SNR=21
KBZ LR LR 05 34 32.4
comp=Z,86nm,21.6s,baz=8.0,slow=38
comp=Z,13nm,0.9s
KBZ Khabaz 80.07 340*c i*P **P 04 55 52.7 +1.3**
KBZ pmax pmax
comp=Z,13nm,0.9s
SOKA Soboth 80.12 360 *i* P **P 04 55 53.1 +1.3**
comp=Z,20nm,1.3s,SNR=12
NCK Nalchik 80.14 339⇓*i*P **P 04 55 53.8 +1.9**
NCK pmax pmax
comp=Z,35nm,0.5s
MYKA Terra Mystica 80.17 1 *e*P **P 04 55 53.6 +1.6**
comp=Z,6.0nm,0.7s
VLDR Vladesti 80.28 350⇑P **P 04 55 54.1 +1.5**
OBKA Obir 80.29 360 *i* P **P 04 55 53.8 +1.0**
comp=Z,16nm,0.6s,SNR=16
GROS Grobnik 80.34 359 *i* P **P 04 55 53.7 +0.8**
SIRR Siria 80.35 355⇓P **P 04 55 53.8 +0.9**
KBL Kabul 80.37 317 P **P 04 55 52.3 -1.2**
KBL IAmb IAmb 04 55 53.7
comp=Z,8.2nm,0.9s
KBL Kabul 80.37 317 P **P 04 55 52.3 -1.2**
KBL pmax pmax
comp=Z,8.0nm,0.9s
VRI Vrincioaia 80.39 351⇓P **P 04 55 53.5 +0.3**
VRI Vrincioaia 80.39 351 P **P 04 55 53.5 +0.3**
DOPR Dopca 80.40 352⇓P **P 04 55 54.5 +1.2**
PLOR Plostina 80.41 351⇑P **P 04 55 53.7 +0.3**
PLOR Plostina 80.41 351 P **P 04 55 53.6 +0.3**
COVR Voineasa-Covas 80.45 352⇓P **P 04 55 55.0 +1.4**
ZEI Tsey 80.75 339 *e*P **P 04 55 55.6 +0.2**
ZEI pmax pmax
comp=Z,8.0nm,0.7s
MLR Muntele Rosu 80.83 352⇓P **P 04 55 56.9 +1.2**
MLR Muntele Rosu 80.83 352 LR LR 05 35 29.5
comp=Z,64nm,18.1s,baz=48,slow=38
MLR Muntele Rosu 80.83 352 P **P 04 55 56.9 +1.2**
RJF Les Rejaudoux 80.87 9 *e*P **P 04 55 55.8 +0.1**
RJF pmax pmax
comp=Z,9.0nm,1.1s
CFR Carcaliu 80.94 350⇑P **P 04 55 57.3 +1.3**
CFR Carcaliu 80.94 350 P **P 04 55 57.3 +1.3**
BZS Buzias 81.00 355⇑P **P 04 55 56.9 +0.4**
BZS Buzias 81.00 355 P **P 04 55 56.8 +0.4**
SJG San Juan 81.01 72 LR LR 05 32 10.5
comp=Z,27nm,20.6s,baz=322,slow=36
LPL La Plagne 81.06 6 *e*P **P 04 55 59.0 +2.0**
LPL pmax pmax
comp=Z,8.0nm,1.0s
LPG La Plagne 81.08 6 *e*P **P 04 56 00.6 +3.4**
LPG pmax pmax
comp=Z,10.0nm,1.1s
LFF La Frestale 81.15 10 *e*P **P 04 55 57.6 +0.4**
LFF pmax pmax
comp=Z,4.0nm,0.6s
GZR Gura Zlata 81.16 354⇑P **P 04 55 57.8 +0.5**
CAF Calviac 81.30 9 *e*P **P 04 56 00.0 +1.9**
CAF pmax pmax
comp=Z,10.0nm,1.0s
GEYT Alibeck 81.39 327 P **P 04 55 58.7 0.0**
comp=Z,5.1nm,0.8s,baz=349,slow=6.0,SNR=7.3
comp=Z,5.1nm,0.8s
GEYT Alibeck 81.39 327 IAmb IAmb 04 56 00.4
comp=Z,6.7nm,0.8s
GYA0B ALIBECK ARRAY 81.39 327 P **P 04 55 59.0 +0.3**
GYA0B IAmb IAmb 04 56 00.4
comp=Z,5.9nm,0.7s
FRGS Fruska Gora 81.54 356⇓P **P 04 56 00.3 +1.0**
VIVF Saint-Julien-l 81.58 7 *e*P **P 04 56 00.2 +0.6**
VIVF pmax pmax
comp=Z,11nm,1.0s
ORIF Oris-en-Rattie 81.60 6 *e*P **P 04 56 00.6 +0.8**
ORIF pmax pmax
comp=Z,4.0nm,0.6s
MDVR Moldovita 81.83 355⇑P **P 04 56 01.0 +0.2**
MBDF Montbardon 81.85 6 *e*P **P 04 56 02.6 +1.5**
MBDF pmax pmax
comp=Z,10.0nm,0.7s
EFOR EFORIE 81.97 350⇓P **P 04 56 02.6 +1.0**
BLKB Belogradchik 82.93 354⇓P **P 04 56 06.6 0.0**
BOVS Bovan 82.97 355⇓P **P 04 56 06.8 0.0**
ETSF Etsaut 83.03 11 *e*P **P 04 56 08.0 +0.8**
ETSF pmax pmax
comp=Z,7.0nm,0.8s
GNI Garni 83.08 337 LR LR 05 39 28.8
comp=Z,57nm,18.2s,baz=34,slow=40
GNI Garni 83.08 337⇓*e*P **P 04 56 09.6 +2.0**
GNI pmax pmax
comp=Z,10.0nm,1.3s
DIKM Dikmen 83.48 345⇓P **P 04 56 11.3 +1.8**
VTS Vitosha 83.89 354⇓P **P 04 56 11.5 -0.3**
VTS Vitosha 83.89 354 P **P 04 56 11.4 -0.3**
CTA Charters Tower 84.32 225 P **P 04 56 13.8 -0.1**
comp=Z,5.7nm,1.1s,baz=45,slow=8.6,SNR=3.1
comp=Z,5.7nm,1.1s
KAPI Kappang 85.05 255 P **P 04 56 18.0 +0.3**
comp=Z,2.2nm,0.3s,baz=44,slow=6.3,SNR=4.3
comp=Z,2.2nm,0.3s
RDO Rodhopi 85.18 352 P **P 04 56 17.4 -0.6**
RDO IAmb IAmb 04 56 19.6
comp=Z,8.3nm,0.8s
ANTO Ankara 85.60 346 P **P 04 56 20.9 +0.6**
ANTO Ankara 85.60 346 P **P 04 56 20.9 +0.6**
ANTO pmax pmax
comp=Z,15nm,0.8s
BR131 Keskin Array S 85.62 345*c i*P **P 04 56 21.2 +0.7**
BRTR Keskin Array B 85.62 345 P **P 04 56 21.4 +0.9**
comp=Z,7.7nm,0.8s,baz=41,slow=2.4,SNR=42
BRTR LR LR 05 39 58.6
comp=Z,49nm,18.4s,baz=339,slow=39
comp=Z,7.7nm,0.8s
BRTR Keskin Array B 85.62 345 P **P 04 56 21.1 +0.6**
ESDC Sonseca Array 85.76 14 P **P 04 56 21.1 0.0**
comp=Z,1.4nm,0.8s,baz=341,slow=4.2,SNR=9.5
ESDC LR LR 05 37 17.0
comp=Z,28nm,18.1s,baz=354,slow=38
comp=Z,1.4nm,0.8s
SDV Santo Domingo 85.78 81 LR LR 05 34 32.4
comp=Z,26nm,21.6s,baz=276,slow=36
MARD Mardin 86.67 339 P **P 04 56 26.1 +0.5**
ROSC El Rosal 86.82 86 LR LR 05 36 23.6
comp=Z,26nm,20.5s,baz=52,slow=36
WRA Warramunga Arr 89.62 235 P **P 04 56 38.7 -0.8**
comp=Z,1.7nm,1.0s,baz=38,slow=5.7,SNR=7.3
comp=Z,1.7nm,1.0s
WRA Warramunga Arr 89.62 235 *i* P **P 04 56 39.9 +0.3**
WRA pmax pmax
comp=Z,2.0nm,0.9s
IDI Anoyia 91.05 352 LR LR 05 40 21.3
comp=Z,37nm,21.3s,baz=22,slow=37
PSI Prapat 91.11 276 P **P 04 56 46.5 -0.4**
comp=Z,5.4nm,0.5s,baz=54,slow=1.7,SNR=6.0
comp=Z,5.4nm,0.5s
MMAI Mount Meron Ar 91.88 343 LR LR 05 42 12.0
comp=Z,23nm,21.0s,baz=274,slow=38
ASAR Alice Springs 93.00 233 P **P 04 56 54.6 -0.6**
comp=Z,1.4nm,0.8s,baz=31,slow=4.6,SNR=11
comp=Z,1.4nm,0.8s
RAYN Ar Rayn 98.67 331 P **P 04 57 20.7 -0.6**
RAYN IAmb IAmb 04 57 22.3
comp=Z,3.7nm,0.9s
RAYN Ar Rayn 98.67 331 P **P 04 57 20.7 -0.6**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
RPZ Rata Peaks 98.98 197 LR LR 05 37 19.9
comp=Z,39nm,20.3s,baz=308,slow=32
MDP Montagnes des 99.18 68 LR LR 05 45 41.4
comp=Z,31nm,18.7s,baz=356,slow=38
H03N2 Juan Fernandez 114.21 114 T T 07 06 50.2
baz=322,slow=77,SNR=208
H03N1 Juan Fernandez 114.22 114 T T 07 06 51.5
baz=322,slow=77,SNR=198
H03N3 Juan Fernandez 114.23 114 T T 07 06 50.7
baz=322,slow=77,SNR=161
KMBO Kilima Mbogo 124.45 332 PKP **PKiKP 05 02 42.6 +0.9**
comp=Z,0.5nm,0.2s,baz=355,slow=5.6,SNR=4.0
TSUM Tsumeb 145.61 355 **PKPdf 05 03 19.4 -0.7**

MAW Mawson 153.30 220 PKPbc **PKiKP 05 03 38.6 +0.2**
comp=Z,2.5nm,0.8s,baz=297,slow=6.8,SNR=3.6
BOSA Boshof 153.84 338 PKPbc **PKiKP 05 03 41.1 +0.2**
comp=Z,2.2nm,0.8s,baz=352,slow=4.8,SNR=2.0

ISK 18 04:54:22.5,35°.90N×27°.82E,h12km,ML2.1/12,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.41**	**38**	PG	Pb	04 54 31.5	-0.1
ARG				SG	Sb	04 54 37.3	-0.4
KARP	**Karpathos**	**0.64**	**237**	PG	Pb	04 54 35.5	-0.1
KARP				SG	Sb	04 54 44.7	+0.3
DAT	**Datca**	**0.85**	**347**	PG	Pg	04 54 39.1	+0.1
DAT				SG	Sn	04 54 52.1	-0.7
NIS1	**Nisyros Isl.**	**0.87**	**324**	PG	Pg	04 54 38.9	-0.5
NIS1				SG	Sn	04 54 52.3	-0.9
TURN	**Turunc**	**0.94**	**21**	PG	Pg	04 54 40.4	-0.3
DALY	**Dalyan (Mula)**	**1.14**	**36**	PN	Pg	04 54 44.7	+0.2
BODT	**Bodrum**	**1.23**	**341**	PN	Pg	04 54 46.1	-0.1
FETY	**Fethiye**	**1.26**	**54**	PN	Pb	04 54 46.2	0.0
YER	**Yerkesik**	**1.29**	**17**	PN	Pb	04 54 46.7	0.0
AKAS	**Kas**	**1.49**	**77**	PN	Pb	04 54 49.8	-0.3
ZKR	**Zakros**	**1.52**	**240**	PN	Pb	04 54 50.5	-0.1
CAME	**Cameli-Denizli**	**1.59**	**49**	PN	Pb	04 54 51.3	-0.6

*IDC **18** 05:16:08.6±0.8,52°.16N×169°.94W,h0km,mb3.8/18,*
mbtmp3.8/20,ML3.7/2,MS3.4/4,Error ellipse:
s-maj=24.4km s-min=15.4km az=175.0
*NEIC **18** 05:16:11±3.0,51°.9N±0°.1×169°.9W±0°.1,h28km±11km,*
Error ellipse: s-maj=22.8km s-min=7.4km az=158.0
*AEIC **18** 05:16:12.7±3.3,52°.1N±0°.1×170°.0W±0°.1,h33km±7km,*
ML3.7/21,mb3.9/46(NEIC),Error ellipse: s-maj=22.6km
s-min=6.7km az=159.0

ISC 18 05:16:13.1±0.7,52.0N±0°.1×169.94W±0°.05,h35km,n124,
σ1§41/118,mb3.9/23,MS3.4/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.61**	**38**		**Pn**	**05 16 38.8**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.80**	**39**		**Pn**	**05 16 42.0**	**+0.3**
OKNC	**Okmok New Cone**	**1.83**	**36**		**Pn**	**05 16 43.3**	**+1.2**
OKRE	**Okmok R'deer P**	**1.86**	**35**		**Pn**	**05 16 43.5**	**+0.9**
MAPS	**Pakushin South**	**2.56**	**44**		**Pn**	**05 16 52.3**	**+0.2**
MAPS					**Sn**	**05 17 22.7**	**+0.6**
MNAT	**Makushin Natee**	**2.73**	**45**		**Pn**	**05 16 54.8**	**+0.5**
MNAT					**Sn**	**05 17 27.5**	**+1.4**
UNV	**Unalaska Valle**	**2.78**	**47**		**Pn**	**05 16 55.2**	**+0.1**
ZRO	**Akutan Zero**	**3.18**	**47**		**Pn**	**05 17 02.2**	**+1.6**
AKBBA	**Akutan Broad B**	**3.20**	**47**		**Pn**	**05 17 02.1**	**+1.2**
AKUT	**Akutan**	**3.30**	**48**		**Pn**	**05 17 03.1**	**+0.9**
GSMY	**Great Sitkin M**	**3.78**	**273**		**Pn**	**05 17 09.2**	**+0.3**
GSTR	**Great Sitkin T**	**3.78**	**274**	Pn	**Pn**	**05 17 09.2**	**+0.3**
GSTD	**Great Sitkin T**	**3.83**	**273**		**Pn**	**05 17 10.4**	**+0.8**
GSTD					**Sn**	**05 17 54.1**	**+0.7**
GSCK	**Great Sitkin C**	**3.84**	**273**		**Pn**	**05 17 10.3**	**+0.5**
ADK	**Adak**	**4.17**	**271**	Pn	**Pn**	**05 17 14.7**	**+0.4**
ADK						05 17 15.2	
KIWB	**Kanaga Island**	**4.47**	**271**		**Pn**	**05 17 17.1**	**-1.2**
KIMD	**Kanaga Island**	**4.53**	**270**		**Pn**	**05 17 19.6**	**+0.5**
SPIA	**Saint Paul Isl**	**5.19**	**358**		**Pn**	**05 17 29.2**	**+1.0**
SDPT	**Sand Point**	**6.54**	**55**	Pn	**Pn**	**05 17 47.1**	**+0.3**
AMKA	**Amchitka**	**6.72**	**269**	Pn	**Pn**	**05 17 48.2**	**-1.0**
CNBA	**Chernabura Isl**	**6.80**	**61**	Pn	**Pn**	**05 17 48.6**	**-1.7**
CHGN	**Chignik**	**8.02**	**53**	Pn	**Pn**	**05 18 06.8**	**-0.1**
CHIR	**Chirikof Islan**	**9.27**	**60**	Pn	**Pn**	**05 18 23.5**	**-0.6**
SII	**Sitkinak Islan**	**10.27**	**57**	Pn	**Pn**	**05 18 38.5**	**+0.6**
OHAK	**Old Harbor**	**10.97**	**55**	Pn	**Pn**	**05 18 45.3**	**-2.0**
O18K	**Koktuh Hills**	**11.38**	**41**	Pn	**Pn**	**05 18 54.4**	**+1.3**
KDAK	**Kodiak Island**	**11.53**	**53**	Pn	**Pn**	**05 18 53.3**	**-1.8**
	1.0nm,0.3s,baz=228,slow=6.2,SNR=19						
KDAK	**Kodiak Island**	**11.53**	**53**	Pn	**Pn**	**05 18 52.8**	**-2.3**
Q19K	**Cape Douglas,**	**11.54**	**47**	Pn	**Pn**	**05 18 54.9**	**-0.3**
RSO	**Redoubt South**	**12.74**	**42**	Pn	**Pn**	**05 19 12.1**	**+0.4**
CNPM	**China Poot**	**12.91**	**47**	Pn	**Pn**	**05 19 12.9**	**-1.1**
M19K	**Big River Lodg**	**13.01**	**34**	Pn	**Pn**	**05 19 14.1**	**-1.2**
BRLK	**Bradley Lake**	**13.18**	**46**	Pn	**Pn**	**05 19 17.2**	**-0.4**
SEW	**Seward**	**13.98**	**47**	Pn	**Pn**	**05 19 26.4**	**-2.0**
O22K	**Cooper Landing**	**14.03**	**45**	Pn	**Pn**	**05 19 28.6**	**-0.5**
SKT	**Skwentna**	**14.10**	**38**	Pn	**Pn**	**05 19 29.9**	**-0.3**
SUA	**Susitna One**	**14.11**	**40**	Pn	**Pn**	**05 19 30.4**	**+0.1**
K20K	**Telida**	**14.14**	**30**	Pn	**Pn**	**05 19 31.1**	**+0.5**
RC01	**Rabbit Creek A**	**14.33**	**43**	Pn	**Pn**	**05 19 31.5**	**-1.7**
J20K	**Nowinta River**	**14.72**	**28**		**P**	**05 19 41.8**	**-2.4**
PWL	**Port Wells**	**14.81**	**45**		**Pn**	**05 19 37.7**	**-2.1**
TRF	**Thorofare Moun**	**15.46**	**35**	Pn	**Pn**	**05 19 45.8**	**-2.7**
TRF				IAmb	IAmb	05 20 09.5	
comp=Z,14nm,1.4s							
BPAW	**Bear Paw Mtn.**	**15.65**	**32**		**Pn**	**05 19 50.9**	**+0.2**
BPAW				IAmb	IAmb	05 20 00.5	
comp=Z,8.5nm,0.8s							
SCM	**Sheep Creek Mo**	**15.70**	**42**		**Pn**	**05 19 49.3**	**-2.2**
EYAK	**Cordova Ski Ar**	**15.84**	**48**	Pn	**Pn**	**05 19 49.8**	**-3.4**
EYAK				IAmb	IAmb	05 20 10.8	
comp=Z,14nm,1.3s							
RND	**Reindeer**	**15.95**	**36**	Pn	**Pn**	**05 19 54.1**	**-0.5**
RND				IAmb	IAmb	05 20 01.7	
comp=Z,8.9nm,1.3s							
M24K	**Tolsona, Glenn**	**16.31**	**42**	Pn	**Pn**	**05 19 58.0**	**-1.3**
DHY	**Denali Highway**	**16.31**	**38**	Pn	**Pn**	**05 19 54.5**	**-4.8**
DHY				IAmb	IAmb	05 20 22.7	
comp=Z,8.2nm,1.4s							
HMT	**Hamilton**	**16.46**	**50**	Pn	**Pn**	**05 19 59.8**	**-1.3**
BMRM	**Bremner River**	**16.52**	**47**	Pn	**Pn**	**05 19 59.3**	**-2.6**
BMRM				IAmb	IAmb	05 20 10.6	
comp=Z,14nm,1.2s							
NEA2	**Nenana**	**16.60**	**33**	Pn	**Pn**	**05 20 02.6**	**-0.2**
N25K	**Chitina, Valde**	**16.77**	**45**	Pn	**Pn**	**05 20 02.2**	**-2.8**
N25K				IAmb	IAmb	05 20 22.5	
comp=Z,5.9nm,0.8s							
WRH	**Wood River Hil**	**16.86**	**34**	P	**Pn**	**05 20 04.9**	**-1.2**
WRH				IAmb	IAmb	05 20 23.9	
comp=Z,6.2nm,1.1s							
PAX	**Paxson**	**17.01**	**40**	P	**Pn**	**05 20 03.7**	**-4.4**
GLB	**Gilahina Butte**	**17.05**	**46**	P	**Pn**	**05 20 06.7**	**-1.9**
GLB				IAmb	IAmb	05 20 19.6	
comp=Z,8.6nm,1.0s							
CCB	**Clear Creek Bu**	**17.06**	**34**	P	**Pn**	**05 20 06.3**	**-2.3**
CCB				IAmb	IAmb	05 20 19.3	
comp=Z,7.8nm,1.4s							
MDM	**Murphy Dome**	**17.11**	**32**	P	**Pn**	**05 20 08.4**	**-0.9**
HDA	**Harding Lake**	**17.22**	**35**	P	**Pn**	**05 20 09.8**	**-0.7**
TGL	**Tana Glacier**	**17.27**	**49**	P	**Pn**	**05 20 10.5**	**-0.8**
TGL				IAmb	IAmb	05 20 19.8	
comp=Z,12nm,1.0s							
ISLE	**Juniper Island**	**17.45**	**50**	P	**P**	**05 20 13.8**	**-0.8**
ISLE				IAmb	IAmb	05 20 41.0	
comp=Z,17nm,1.2s							
IL31		**17.45**	**34**	P	**Pn**	**05 20 11.5**	**-1.9**
ILAR	**Eielson Array**	**17.45**	**34**	P	**Pn**	**05 20 11.3**	**-2.1**
comp=Z,0.1nm,0.3s,baz=232,slow=11,SNR=9.7							
comp=Z,0.5nm,0.6s							
RIDG	**Independent Ri**	**17.63**	**39**	P	**P**	**05 20 15.8**	**-0.7**
YAH	**Yahtse**	**17.66**	**51**	P	**P**	**05 20 17.0**	**0.0**
M26K	**Nabesna, AK**	**17.78**	**44**	P	**Pn**	**05 20 16.5**	**-1.1**
M26K				IAmb	IAmb	05 20 33.3	
comp=Z,4.8nm,0.8s							
H24K	**Noodor Dome**	**17.79**	**30**	P	**Pn**	**05 20 16.7**	**-1.0**
DOT	**Dot Lake**	**17.89**	**39**	P	**Pn**	**05 20 17.8**	**-1.2**
J25K	**Salcha River,**	**17.90**	**36**	P	**Pn**	**05 20 16.9**	**-2.1**
CTGM	**Chitina Glacie**	**18.03**	**49**	P	**P**	**05 20 20.1**	**-0.8**
CTGM				IAmb	IAmb	05 20 47.2	
comp=Z,13nm,1.2s							
SCRK	**Sand Creek**	**18.08**	**38**	P	**Pn**	**05 20 19.6**	**-1.8**
LOGN	**Logan Glacier**	**18.14**	**50**	P	**P**	**05 20 21.7**	**-0.5**
LOGN				IAmb	IAmb	05 20 31.8	
comp=Z,6.8nm,0.7s							
M27K	**Edge Creek, AK**	**18.25**	**44**	P	**Pn**	**05 20 22.7**	**-0.6**
M27K				IAmb	IAmb	05 20 33.7	
comp=Z,12nm,1.1s							
J26L	**Joseph Creek**	**18.50**	**37**	P	**P**	**05 20 24.4**	**-1.7**
J26L				IAmb	IAmb	05 20 49.3	
comp=Z,4.6nm,0.7s							
L27K	**Beaver Creek,**	**18.54**	**42**	P	**Pn**	**05 20 25.8**	**-1.0**
BCAR	**Beaver Creek A**	**18.56**	**42**	P	**Pn**	**05 20 26.3**	**-0.8**
BCPM	**Bancas Point**	**18.59**	**53**	P	**P**	**05 20 24.9**	**-2.0**
I26K	**Coal Creek Min**	**19.07**	**35**	P	**P**	**05 20 30.3**	**-1.8**
I26K				IAmb	IAmb	05 20 58.0	
comp=Z,5.2nm,0.8s							

FYU Fort Yukon 19.09 31 P **Pn 05 20 32.3 -1.0**
FYU IAmb IAmb 05 20 51.6
comp=Z,17nm,1.5s
TOLK Toolik Lake Re 19.32 23 P **Pn 05 20 35.0 -1.2**
TOLK IAmb IAmb 05 20 57.1
comp=Z,8.1nm,1.1s
EGAK Eagle 19.55 38 P **Pn 05 20 37.7 -1.1**
EGAK IAmb IAmb 05 20 45.7
comp=Z,3.6nm,0.7s
PEA0B Petropavlovsk- 19.62 286 P **Pn 05 20 38.7 -1.2**
PETK Petropavlovsk- 19.62 286 P **Pn 05 20 38.2 -1.6**
comp=Z,2.0nm,0.3s,baz=87,slow=13,SNR=30
comp=Z,6.6nm,0.6s
PETK Petropavlovsk- 19.62 286 P **Pn 05 20 38.5 -1.3**
BMAR Burnt Mountain 19.82 29 P **Pn 05 20 40.6 -1.5**
DAWY Dawson 19.94 41 P **P 05 20 41.1 -0.6**
DAWY IAmb IAmb 05 20 49.1
comp=Z,5.7nm,1.1s
SKAG Skagway 20.67 55 P **P 05 20 48.0 -1.5**
I29M Ogilvie Camp, 20.89 38 P **P 05 20 51.1 -0.9**
I29M IAmb IAmb 05 21 11.1
comp=Z,3.8nm,1.0s
M31M Drury Creek, Y 21.55 48 P **P 05 20 59.6 +0.5**
M31M IAmb IAmb 05 21 07.5
comp=Z,4.6nm,0.8s
EPYK Eagle Plains 21.91 36 P **P 05 21 01.3 -1.6**
P33M Teslin, Yukon 22.00 54 P **P 05 21 04.9 +0.8**
SEY Seymchan 22.66 313 P **P 05 21 10.8 -0.1**
comp=Z,2.1nm,0.7s,baz=143,slow=11,SNR=3.8
comp=Z,2.1nm,0.7s
DLBC Dease Lake 23.38 58 P **P 05 21 21.8 +3.4**
comp=Z,4.2nm,0.9s,baz=284,slow=13,SNR=3.9
INK Inuvik 23.84 33 P **P 05 21 21.2 -1.4**
comp=Z,1.7nm,0.4s,baz=250,slow=5.5,SNR=12
comp=Z,1.7nm,0.4s
INK Inuvik 23.84 33 P **P 05 21 21.1 -1.5**
C36M Paulatuk 27.43 34 P **P 05 21 54.4 -0.6**
YKA Yellowknife Ar 30.75 48 P **P 05 22 24.6 +0.1**
comp=Z,1.1nm,0.6s,baz=272,slow=8.4,SNR=5.8
YKA LR LR 05 37 03.4
comp=Z,76nm,19.1s,baz=286,slow=41
comp=Z,1.1nm,0.6s
YBH Yreka Blue Hor 33.34 89 LR LR 05 33 18.9
comp=Z,60nm,21.4s,baz=275,slow=31
H11N2 WAKE ISLAND Hy 36.95 218 T T 06 02 56.0
baz=26
H11N3 WAKE ISLAND Hy 36.95 218 T T 06 03 25.1
baz=26
H11N1 WAKE ISLAND Hy 36.97 218 T T 06 03 21.9
baz=26
NVAR Mina Array Bea 38.01 90 P **P 05 23 29.6 +1.7**
comp=Z,0.2nm,0.6s,baz=295,slow=6.9,SNR=2.0
comp=Z,0.2nm,0.6s
H11S1 WAKE ISLAND Hy 38.14 218 T T 06 04 34.3
baz=23,slow=76,SNR=37
H11S2 WAKE ISLAND Hy 38.15 218 T T 06 04 36.1
baz=23,slow=76,SNR=32
H11S3 WAKE ISLAND Hy 38.15 218 T T 06 04 40.3
baz=23,slow=76,SNR=20
ELK Elko 38.51 85 LR LR 05 37 03.5
comp=Z,56nm,19.8s,baz=242,slow=33
PDAR Pinedale Array 40.82 78 P **P 05 23 51.5 +0.3**
comp=Z,0.5nm,0.5s,baz=302,slow=2.9,SNR=9.0
comp=Z,0.5nm,0.5s
KSRS Korea Array 45.10 277 P **P 05 24 26.4 +0.8**
comp=Z,1.5nm,0.9s,baz=67,slow=11,SNR=2.9
comp=Z,1.5nm,0.9s
NEEM North Greenlan 45.44 16 *i* P **P 05 24 28.0 -0.2**
NEEM IAmb IAmb 05 24 31.3
comp=Z,6.0nm,0.5s
SONM Songino Array 51.19 301 P **P 05 25 13.0 +0.3**
comp=Z,0.3nm,0.3s,baz=26,slow=8.2,SNR=3.9
comp=Z,0.3nm,0.3s
SUMG Summit 51.23 17 *i* P **P 05 25 13.7 +0.7**
SUMG IAmb IAmb 05 25 16.2
comp=Z,5.3nm,0.8s
TXAR Lajitas Array 53.11 88 P **P 05 25 27.1 -0.1**
comp=Z,0.3nm,0.6s,baz=300,slow=6.5,SNR=4.7
comp=Z,0.3nm,0.6s
ICESG Greenland Ices 53.84 20 *i* P **P 05 25 32.2 -0.1**
ICESG IAmb IAmb 05 25 36.6
comp=Z,6.6nm,1.0s
ZALV Zalesovo Beam 57.46 317 PcP **PcP 05 26 51.9 +0.5**
comp=Z,0.9nm,0.5s,baz=43,slow=2.6,SNR=3.7
ARCES ARCESS Array B 58.25 354 P **P 05 26 04.0 +0.7**
comp=Z,1.3nm,0.6s,baz=1.0,slow=7.3,SNR=7.3
ARCES LR LR 05 53 50.1
comp=Z,27nm,18.4s,baz=269,slow=39
comp=Z,1.3nm,0.6s
MKAR Makanchi Array 63.80 313 P **P 05 26 40.9 -0.5**
comp=Z,0.2nm,0.3s,baz=47,slow=6.9,SNR=5.6
comp=Z,0.2nm,0.3s
FINES FINESS Array B 66.18 352 P **P 05 26 56.0 -0.6**
comp=Z,2.7nm,0.8s,baz=7.4,slow=7.8,SNR=7.0
comp=Z,2.7nm,0.8s
NB2 NORSAR Subarra 67.30 359 P **P 05 27 04.0 +0.2**
comp=Z,0.4nm,0.7s,baz=358,slow=6.2
NOA NORSAR Array B 67.30 359 P **P 05 27 03.0 -0.8**
comp=Z,1.2nm,0.9s,baz=1.3,slow=6.3,SNR=4.7
comp=Z,1.2nm,0.9s
CMAR Chiang Mai Arr 76.36 282 P **P 05 27 59.8 +1.0**
comp=Z,0.5nm,0.4s,baz=32,slow=5.8,SNR=1.7
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 76.39 348 P **P 05 27 57.9 -0.5**
comp=Z,0.6nm,0.5s,baz=15,slow=6.1,SNR=7.2
comp=Z,0.6nm,0.5s
GERES GERESS Array B 79.48 358 P **P 05 28 16.4 +0.7**
comp=Z,0.4nm,0.6s,baz=349,slow=4.1,SNR=4.5
comp=Z,0.4nm,0.6s
WRA Warramunga Arr 86.50 231 P P 05 28 55.1 +2.9
comp=Z,0.3nm,0.9s,baz=34,slow=6.3,SNR=2.2
comp=Z,0.3nm,0.9s
ESDC Sonseca Array 87.88 11 P **P 05 28 59.5 +0.7**
comp=Z,0.8nm,0.8s,baz=356,slow=5.2,SNR=6.9
comp=Z,0.8nm,0.8s
ASAR Alice Springs 89.89 230 P **P 05 29 08.3 0.0**
comp=Z,0.8nm,0.7s,baz=31,slow=4.5,SNR=9.3
comp=Z,0.8nm,0.7s

*INMG **18** 05:19:22.6±1.6,32°.45N×5°.87W,h0km,MD2.8,ML3.0,*
Error ellipse: s-maj=4.9km s-min=3.9km az=48.0
*CNRM **18** 05:19:23.2,32°.41N×5°.86W,h4km,ml3.8*
*MDD **18** 05:19:22.2±0.6,32°.36N×6°.00W,h0km±5km,Mb4.1/20,*
M_mb3.4/20,Error ellipse: s-maj=6.8km s-min=3.8km
az=150.0
*IGIL **18** 05:19:23.4,32°.41N×5°.86W,h0km,ML3.3*

ISC 18 05:19:25.5±1.1,32°.54N±0°.05×5°.88W±0°.02,h22km±7km,
n94,σ1§71/164,19C,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZD	**Col de Zad**	**0.86**	**55**	P	**Pn**	**05 19 45.0**	**+2.4**
CZD	**Col de Zad**	**0.86**	**55**	P	**Pb**	**05 19 40.8**	**-1.2**
CZD				S	**Sb**	**05 19 52.7**	**-0.5**
MD31	**MD31**	**1.00**	**71**	P	**Pn**	**05 19 41.1**	**-3.3**
MD31				S	**Sb**	**05 19 56.6**	**-0.5**
ZHG	**ZHG**	**1.11**	**325**	P	**Pb**	**05 19 46.2**	**+0.2**
ZHG	**ZHG**	**1.11**	**325**	P	**Pb**	**05 19 46.6**	**+0.5**
ZHG				S	**Sn**	**05 20 00.5**	**0.0**
MDT	**Midelt**	**1.11**	**75**	P	**Pn**	**05 19 43.1**	**-2.7**
MDT				S	**Sb**	**05 19 59.6**	**-0.5**
IFR	**Ifrane**	**1.17**	**33**	P	**Pn**	**05 19 46.8**	**+0.1**
IFR				S	**Sb**	**05 20 07.0**	**+5.1**
LCRM	**LCR**	**1.43**	**37**	P	**Pb**	**05 19 51.0**	**-0.6**
AVE	**Averroes**	**1.50**	**301**	P	**Pb**	**05 19 52.7**	**+0.1**
AVE				S	**Sb**	**05 20 14.7**	**+3.5**
AVE	**Averroes**	**1.50**	**301**	P	**Pb**	**05 19 51.1**	**-1.5**
AVE				S	**Sb**	**05 20 13.2**	**+2.1**
AVE	**Averroes**	**1.50**	**301**	P	**Pb**	**05 19 52.9**	**+0.3**
AVE				S	**Sb**	**05 20 12.6**	**+1.5**
SRHM	**Skhour des Reh**	**1.71**	**268**	P	**Pb

TTIG	**Tnine Tigouga,**	**2.95**	**228**	P		**Pn**	**05 20 10.0**	**-1.2**
TTIG	**Tnine Tigouga,**	**2.95**	**228**	P		**Pn**	**05 20 08.2**	**-3.0**
TTIG				S		**Sn**	**05 20 45.1**	**-0.9**
PALE	**Palemas**	**3.12**	**31**	P		**Pn**	**05 20 16.0**	**+2.5**
PALE	**Palemas**	**3.12**	**31**	P		**Pn**	**05 20 15.7**	**+2.2**
PALE				S		**Sn**	**05 20 53.4**	**+3.2**
SMIR	**Smir Dam**	**3.17**	**7**	P		**Pn**	**05 20 16.0**	**+2.1**
SMIR	**Smir Dam**	**3.17**	**7**	P		**Pn**	**05 20 16.1**	**+2.1**
SMIR				S		**Sn**	**05 20 54.5**	**+3.5**
JBK	**JBK**	**3.30**	**56**	P		**Pn**	**05 20 16.0**	**-0.1**
JBK	**JBK**	**3.30**	**56**	P		**Pn**	**05 20 15.4**	**-0.6**
JBK				S		**Sn**	**05 20 54.1**	**-0.7**
ECEU	**Ceuta**	**3.38**	**7**	Sn		**Sn**	**05 20 58.0**	**+1.6**
CEU	**Ceuta**	**3.38**	**7**	P		**Pn**	**05 20 19.1**	**+2.2**
CEU				S		**Sb**	**05 21 02.0**	**-3.3**
TAF	**Taforalt**	**3.68**	**51**	P		**Pn**	**05 20 22.0**	**+0.9**
TAF	**Taforalt**	**3.68**	**51**	P		**Pn**	**05 20 22.1**	**+1.0**
TAF				S		**Sn**	**05 21 06.7**	**+2.8**
WMELI	**Melilla**	**3.69**	**40**	P		**Pn**	**05 20 21.8**	**+0.6**
WMELI				S		**Sn**	**05 21 06.8**	**+2.7**
CGR	**Cap Guir**	**3.91**	**242**	P		**Pn**	**05 20 21.9**	**-2.3**
CGR				S		**Sn**	**05 21 09.4**	**0.0**
EJIF	**Jimena Fronter**	**3.92**	**5**	Pn		**Pn**	**05 20 26.4**	**+2.0**
EJIF				Sn		**Sn**	**05 21 13.5**	**+3.8**
SFS	**San Fernando**	**3.93**	**356**	P		**Pn**	**05 20 27.0**	**+2.5**
FIGM	**Figuig**	**3.93**	**95**	P		**Pn**	**05 20 25.1**	**+0.4**
FIGM	**Figuig**	**3.93**	**95**	P		**Pn**	**05 20 25.1**	**+0.4**
FIGM				S		**Sn**	**05 21 10.8**	**+0.6**
EMIJ	**Mijas**	**4.12**	**13**	Pn		**Pn**	**05 20 26.8**	**-0.4**
EMIJ				⇑*i*Vmb_V			05 20 30.8	
	67nm,SNR=2.2							
EMIJ				Sn		**Sn**	**05 21 15.9**	**+1.2**
ESPR	**Espera**	**4.32**	**0**	Pn		**Pn**	**05 20 32.5**	**+2.6**
ESPR				⇑*i*Vmb_V			05 20 35.0	
	86nm,SNR=1.1							
ESPR				Sn		**Sn**	**05 21 22.7**	**+3.1**
EMAL	**Malaga-Limoner**	**4.38**	**15**	P		**Pn**	**05 20 31.8**	**+1.0**
EMAL				S		**Sn**	**05 21 21.9**	**+0.8**
ELGU	**Los Guajares,**	**4.70**	**23**	Pn		**Pn**	**05 20 35.3**	**+0.1**
ELGU				⇑*i*Vmb_V			05 20 39.4	
	114nm,SNR=1.0							
ELGU				Sn		**Sn**	**05 21 29.8**	**+0.7**
EGOR	**Sierra Gorda,**	**4.79**	**17**	Pn		**Pn**	**05 20 37.5**	**+1.0**
EGOR				⇑*i*Vmb_V			05 20 44.8	
	78nm,SNR=2.1							
EGOR				Sn		**Sn**	**05 21 34.6**	**+3.2**
PBDV	**Barranco-do-Ve**	**4.99**	**341**	*e*Pn		**Pn**	**05 20 39.2**	**+0.1**
PBDV				*e*Sn		**Sn**	**05 21 36.7**	**+0.6**
EBER	**Berja**	**5.00**	**29**	Pn		**Pn**	**05 20 40.4**	**+1.0**
EBER				⇑*i*Vmb_V			05 20 45.1	
	79nm,SNR=1.4							
EBER				Sn		**Sn**	**05 21 38.8**	**+2.1**
PVAQ	**Vaqueiros**	**5.08**	**343**	⇑*e*Pn		**Pn**	**05 20 40.4**	**0.0**
PVAQ				*e*Sn		**Sn**	**05 21 38.4**	**0.0**
PVAQ				A		A	05 21 41.7	
	10nm,0.5s							
PVAQ	**Vaqueiros**	**5.08**	**343**	P		**Pn**	**05 20 40.4**	**0.0**
PVAQ				S		**Sn**	**05 21 42.5**	**+4.1**
EGRO	**El Granado**	**5.16**	**346**	Pn		**Pn**	**05 20 41.7**	**+0.3**
EGRO				⇑*i*Vmb_V			05 20 44.1	
	411nm,SNR=4.5							
EGRO				Sn		**Sn**	**05 21 38.8**	**-1.3**
PFVI	**Vila Bisbo**	**5.18**	**333**	*e*Pn		**Pn**	**05 20 41.4**	**-0.4**
PFVI				*e*Sn		**Sn**	**05 21 41.0**	**+0.1**
PFVI				A		A	05 21 47.3	
	11nm,0.9s							
PFVI	**Vila Bisbo**	**5.18**	**333**	P		**Pn**	**05 20 42.3**	**+0.6**
PFVI				S		**Sn**	**05 21 44.9**	**+3.9**
EMIN	**Mina Concepcio**	**5.26**	**353**	Pn		**Pn**	**05 20 41.6**	**-1.2**
EMIN				⇑*i*Vmb_V			05 20 44.6	
	130nm,SNR=2.1							
EMIN				Sn		**Sn**	**05 21 41.9**	**-0.8**
MORF	**Marmelete**	**5.27**	**335**	*e*P		**Pn**	**05 20 42.7**	**-0.3**
MORF				*e*S		**Sn**	**05 21 41.1**	**-2.1**
MORF				IAML			05 21 48.6	
	comp=N,38nm,0.4s							
MORF	**Marmelete**	**5.27**	**335**	*e*Pn		**Pn**	**05 20 42.7**	**-0.3**
MORF				*e*Sn		**Sn**	**05 21 43.3**	**+0.1**
MORF				A		A	05 21 50.0	
	comp=N,20nm,0.2s							
PCVE	**Castro Verde**	**5.38**	**341**	*e*Pn		**Pn**	**05 20 44.7**	**+0.2**
PCVE				*e*Sn		**Sn**	**05 21 45.7**	**-0.1**
PCVE				A		A	05 21 49.2	
	comp=N,15nm,0.3s							
PTEO	**Sao Teotonio**	**5.51**	**336**	*e*Pn		**Pn**	**05 20 46.3**	**0.0**
PTEO				*e*Sn		**Sn**	**05 21 49.0**	**0.0**
PTEO				A		A	05 21 57.4	
	comp=N,14nm,0.5s							
ECAB	**El Cabril**	**5.54**	**4**	Pn		**Pn**	**05 20 46.6**	**-0.1**
ECAB				⇑*i*Vmb_V			05 20 49.3	
	comp=N,113nm,SNR=2.1							
ECAB				Sn		**Sn**	**05 21 47.9**	**-1.7**
MESJ	**Messejana**	**5.63**	**341**	*e*P		**Pn**	**05 20 47.7**	**-0.1**
MESJ				*e*S		**Sn**	**05 21 49.3**	**-2.5**
MESJ				IAML			05 21 57.6	
	comp=N,32nm,0.6s							
MESJ	**Messejana**	**5.63**	**341**	*e*Pn		**Pn**	**05 20 47.9**	**+0.1**
MESJ				*e*Sn		**Sn**	**05 21 52.7**	**+0.9**
MESJ				A		A	05 21 59.1	
	comp=N,17nm,0.4s							
PBAR	**Barrancos**	**5.70**	**351**	*e*Pn		**Pn**	**05 20 48.9**	**0.0**
PBAR				*e*Sn		**Sn**	**05 21 53.3**	**-0.4**
PBAR				A		A	05 21 58.0	
	comp=N,12nm,0.6s							
PBEJ	**Beja**	**5.71**	**344**	*e*Pn		**Pn**	**05 20 49.1**	**+0.1**
PBEJ				*e*Sn		**Sn**	**05 21 53.9**	**0.0**
PBEJ				A		A	05 22 03.8	
	comp=N,6.3nm,0.3s							
EADA	**Adamuz**	**5.72**	**10**	Pn		**Pn**	**05 20 48.8**	**-0.4**
EADA				⇑*i*Vmb_V			05 20 51.2	
	comp=N,99nm,SNR=2.2							
EADA				Sn		**Sn**	**05 21 52.9**	**-1.2**
EQES	**Quesada**	**5.74**	**23**	Pn		**Pn**	**05 20 51.2**	**+1.8**
EQES				⇑*i*Vmb_V			05 20 55.5	
	comp=N,117nm,SNR=1.9							
EQES				Sn		**Sn**	**05 22 00.2**	**+5.6**
PNCL	**Nicolau / Gran**	**5.97**	**339**	*e*Pn		**Pn**	**05 20 52.4**	**-0.1**
PNCL				*e*Sn		**Sn**	**05 21 59.5**	**-0.7**
PNCL				A		A	05 22 06.0	
	comp=N,11nm,0.7s							
TANT	**Tantan**	**6.19**	**230**	P		**Pn**	**05 20 53.9**	**-1.7**
EVO	**Evora**	**6.23**	**344**	P		**Pn**	**05 20 56.4**	**+0.4**
EVO				S		**Sn**	**05 22 04.9**	**-1.8**
EVO	**Evora**	**6.23**	**344**	*e*Pn		**Pn**	**05 20 56.5**	**+0.4**
EVO				*e*Sn		**Sn**	**05 22 06.4**	**-0.2**
EVO				A		A	05 22 09.2	
	comp=N,8.6nm,0.6s							
EBAD	**Badajoz**	**6.27**	**352**	Pn		**Pn**	**05 20 56.8**	**+0.1**
EBAD				Sn		**Sn**	**05 22 06.5**	**-1.3**
EZAR	**Zarzadilla de**	**6.33**	**32**	Pn		**Pn**	**05 20 57.7**	**0.0**
PESTR	**Estremoz**	**6.47**	**348**	*e*Pn		**Pn**	**05 20 59.4**	**0.0**
PESTR				*e*Sn		**Sn**	**05 22 12.4**	**-0.1**
PESTR				A		A	05 22 15.2	
	comp=N,5.7nm,0.4s							
PESTR	**Estremoz**	**6.47**	**348**	P		**Pn**	**05 21 00.8**	**+1.4**
PACT	**Alcochete**	**6.67**	**340**	*e*Pn		**Pn**	**05 21 02.8**	**+0.7**
PACT				*e*Sn		**Sn**	**05 22 18.3**	**+1.0**
PMST	**Lisbon--Monsan**	**6.74**	**337**	*e*Pn		**Pn**	**05 21 04.1**	**+0.9**
PMTG	**Montargil**	**6.79**	**344**	*e*Pn		**Pn**	**05 21 03.9**	**+0.1**
PMTG				*e*Sn		**Sn**	**05 22 20.3**	**-0.1**
PMTG				A		A	05 22 36.9	
	comp=N,6.1nm,0.4s							
PMAFR	**Mafra**	**6.97**	**338**	*e*Pn		**Pn**	**05 21 07.0**	**+0.6**
PMAFR				*e*Sn		**Sn**	**05 22 25.9**	**+0.9**
PMAFR				A		A	05 22 35.0	
	comp=N,17nm,0.8s							
PMRV	**Marv??o**	**6.99**	**350**	*e*Pn		**Pn**	**05 21 06.6**	**+0.1**
PMRV				*e*Sn		**Sn**	**05 22 24.9**	**-0.4**
PMRV				A		A	05 22 27.3	
	comp=N,7.6nm,0.7s							
ETOB	**Tobarra**	**7.04**	**29**	Pn		**Pn**	**05 21 09.9**	**+2.5**
ETOB				⇑*i*Vmb_V			05 21 11.3	
	comp=N,78nm,SNR=0.9							
PAB	**San Pablo**	**7.10**	**10**	Pn		**Pn**	**05 21 07.5**	**-0.7**
PAB				⇑*i*Vmb_V			05 21 08.7	
	comp=N,71nm,SNR=1.3							
PAB				Sn		**Sn**	**05 22 25.4**	**-2.9**
ESDC	**Sonseca Array**	**7.29**	**12**	Pn		**Pn**	**05 21 10.0**	**-0.7**
ESDC				⇑*i*Vmb_V			05 21 11.8	
	comp=N,60nm,SNR=1.0							
ESDC				Sn		**Sn**	**05 22 29.7**	**-3.1**
PSBE	**So Bento**	**7.35**	**342**	*e*Pn		**Pn**	**05 21 12.1**	**+0.5**
PSBE				*e*Sn		**Sn**	**05 22 34.2**	**-0.1**
PSBE				A		A	05 22 39.7	
	comp=N,4.9nm,0.4s							
PCBR	**Castelo Branco**	**7.40**	**350**	*e*Pn		**Pn**	**05 21 12.4**	**+0.2**
PCBR				*e*Sn		**Sn**	**05 22 35.0**	**-0.5**
PCBR				A		A	05 22 38.1	
	comp=N,3.7nm,0.3s							
MTE	**Manteigas**	**7.96**	**351**	*e*Pn		**Pn**	**05 21 20.1**	**+0.2**
MTE				*e*Sn		**Sn**	**05 22 49.5**	**+0.2**
UCM	**Universidad Co**	**8.04**	**15**	P		**Pn**	**05 21 20.9**	**-0.1**
UCM				S		**Sn**	**05 22 51.0**	**-0.3**
CGIN	**Giniginamar, F**	**8.29**	**241**	Sn		**Sn**	05 22 46.0	-12
MVO	**Moncorvo**	**8.66**	**354**	*e*Pn		**Pn**	**05 21 30.1**	**+0.6**
MVO				*e*Sn		**Sn**	**05 23 06.0**	**-0.5**
MVO				A		A	05 23 09.1	
	comp=N,5.0nm,0.9s							
ETOR	**Torete**	**8.82**	**19**	Pn		**Pn**	**05 21 31.6**	**-0.1**
ETOR				⇑*i*Vmb_V			05 21 35.8	
	comp=N,61nm,SNR=0.6							
ETOR				Sn		**Sn**	**05 23 06.4**	**-4.0**
PVRL	**Vila Real**	**8.85**	**351**	*e*Pn		**Pn**	**05 21 32.5**	**+0.5**
PVRL				*e*Sn		**Sn**	**05 23 09.6**	**-1.4**
PVRL				A		A	05 23 12.3	
	comp=N,3.3nm,0.5s							
POLO	**Lamas de Olo**	**8.95**	**351**	*e*Pn		**Pn**	**05 21 33.6**	**0.0**
POLO				*e*Sn		**Sn**	**05 23 12.4**	**-1.3**
POLO				A		A	05 23 16.8	
	comp=N,2.2nm,0.5s							
PBRG	**Braganca**	**9.28**	**356**	*e*Pn		**Pn**	**05 21 38.4**	**+0.4**
PBRG				*e*Sn		**Sn**	**05 23 20.4**	**-1.2**
PBRG				A		A	05 23 34.8	
	comp=N,2.4nm,0.5s							
ECAL	**Calabor**	**9.41**	**356**	Pn		**Pn**	**05 21 39.8**	**0.0**
ECAL				⇑*i*Vmb_V			05 21 42.8	
	comp=N,151nm,SNR=1.3							
ECAL				Sn		**Sn**	**05 23 22.7**	**-2.3**
ELOB	**Lobios**	**9.47**	**350**	Pn		**Pn**	**05 21 39.7**	**-1.0**
ELOB				⇑*i*Vmb_V			05 21 42.5	
	comp=N,77nm,SNR=0.8							
ELOB				Sn		**Sn**	**05 23 22.5**	**-4.1**
EARI	**Arriondas**	**10.76**	**3**	Pn		**Pn**	**05 21 59.5**	**+1.2**
EARI				Sn		**Sn**	**05 23 54.3**	**-3.7**
EPON	**Pontenova**	**10.82**	**355**	Pn		**Pn**	**05 22 00.4**	**+1.4**
EPON				⇑*i*Vmb_V			05 22 01.7	
	comp=N,62nm,SNR=0.4							
ELAN	**Lanestosa**	**10.85**	**10**	Pn		**Pn**	**05 22 00.0**	**+0.5**
ELAN				⇑*i*Vmb_V			05 22 01.8	
	comp=N,107nm,SNR=0.5							
EALK	**Alkurruntz**	**11.21**	**17**	Sn		**Sn**	**05 24 08.5**	**-0.6**

IDC 18 05:32:47.1±2.0, 4°.13N×126°.68E, h0km, mb3.4/5, mbtmp3.5/5, Error ellipse: s-maj=115.5km s-min=27.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.11**	**183**	P	P	05 37 45.3	+1.0
	2.2nm,0.9s,baz=29,slow=7.5,SNR=3.0 2.2nm,0.9s						
WRA	**Warramunga Arr**	**25.08**	**163**	P	P	05 38 13.2	-0.4
	0.4nm,0.6s,baz=340,slow=10,SNR=9.1 0.4nm,0.6s						
ASAR	**Alice Springs**	**28.51**	**166**	P	P	05 38 44.5	0.0
	0.1nm,0.4s,baz=344,slow=8.0,SNR=1.7 0.1nm,0.4s						
STKA	**Stephens Creek**	**38.52**	**159**	P	P	05 40 10.8	-0.6
	0.9nm,0.5s,baz=346,slow=12,SNR=2.0 0.9nm,0.5s						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	05 42 36.2	+0.1
	0.2nm,0.6s,baz=126,slow=7.4,SNR=2.0 0.2nm,0.6s						

NOU 18 05:38:54.9, 22°.26S×171°.36E, h0km, MLv4.1/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.19**	**283**	P	Pn	05 39 46.0	-0.3
PINNC	**Pines Island,**	**3.64**	**264**	P	Pn	05 39 52.1	-0.4
LIFNC	**LIFOU**	**4.11**	**290**	P	Pn	05 39 58.3	-0.7
YATNC	**Mamie plateau,**	**4.15**	**272**	P	Pn	05 39 58.8	-0.7
DZM	**Mont Dzumac**	**4.56**	**271**	P	Pn	05 40 05.0	-0.3
NOUC	**Port Laguerre**	**4.69**	**271**	P	Pn	05 40 07.2	+0.2
KOUNC	**Koumac, New Ca**	**6.81**	**283**	P	Pn	05 40 37.0	+0.9
NFK	**Norfolk Island**	**7.43**	**204**	P	Pn	05 40 44.5	-0.1

IDC 18 05:42:47.0±1.3, 2°.43S×140°.85E, h0km, mb3.7/4, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=47.9km s-min=28.2km az=96.0

ISC 18 05:42:52.5±1.3, 2°.5S±0°.2×140°.8E±0°.3, h35km, n7, σ1s02/7, mb3.6/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.45**	**199**	P	**Pn**	**05 47 05.6**	**0.0**
	0.4nm,0.3s,baz=25,slow=12,SNR=22 1.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.46**	**223**	P	**P**	**05 47 36.9**	**-1.1**
	1.7nm,0.7s,baz=56,slow=8.6,SNR=6.6 1.7nm,0.7s						
ASAR	**Alice Springs**	**22.08**	**197**	P	**P**	**05 47 45.9**	**+1.2**
	1.2nm,0.5s,baz=27,slow=11,SNR=26 1.2nm,0.5s						
MKAR	**Makanchi Array**	**70.87**	**322**	P	**P**	**05 54 06.5**	**+0.5**
	0.3nm,0.5s,baz=108,slow=7.8,SNR=4.7 0.3nm,0.5s						
VNDA	**Vanda**	**75.83**	**175**	P	**P**	**05 54 35.0**	**+0.4**
	1.0nm,0.7s,baz=351,slow=6.5,SNR=6.3 1.0nm,0.7s						
LPAZ	**La Paz**	**145.90**	**124**	PKPbc	**PKPdf**	**06 02 28.8**	**-0.6**
	0.6nm,0.6s,baz=256,slow=8.3,SNR=4.1						
CPUP	**Villa Florida**	**146.44**	**150**	PKPbc	**PKPbc**	**06 02 29.9**	**-0.8**
	1.2nm,1.0s,baz=276,slow=9.2,SNR=2.9						

IDC 18 05:43:56.0±0.6, 29°.26S×61°.11E, h0km, mb4.2/13, mbtmp4.2/14, ML4.6/1, MS3.6/11, Error ellipse: s-maj=19.2km s-min=17.5km az=34.0
NEIC 18 05:43:57.8±1.1, 29°.22S±0°.08×60°.9E±0°.1, h10km±1km, mb4.6/21, Error ellipse: s-maj=19.3km s-min=6.2km az=232.0

ISC 18 05:43:58.0±0.5, 29°.28S±0°.09×60°.89E±0°.10, h10km, n71, σ1s41/56, mb4.5/24, MS3.7/12, 1C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.33**	**329**	Pn	**Pn**	**05 46 10.1**	**-2.6**
FOMA	**Nahampoana Res**	**13.10**	**286**	Pn	**Pn**	**05 47 03.4**	**-0.9**
VOI	**Voi**	**14.67**	**297**	Pn	**Pn**	**05 47 26.3**	**+0.4**
OPO	**Ambohidratompo**	**16.43**	**307**	Pn	**Pn**	**05 47 48.6**	**-0.4**
	0.2nm,0.3s,baz=115,slow=17,SNR=10						
OPO				Sn	Sn	05 50 37.4	-14
	0.2nm,0.3s,baz=152,slow=14,SNR=7.4 2.9nm,0.3s						
H08S1	**Diego Carcia H**	**24.13**	**29**	T	T	06 13 57.5	
	baz=204,slow=76,SNR=4.7						
H08S2	**Diego Garcia H**	**24.14**	**29**	T	T	06 14 03.0	
	baz=204,slow=76,SNR=7.9						
H08S3	**Diego Garcia H**	**24.15**	**29**	T	T	06 14 11.4	
	baz=204,slow=76,SNR=31						
SOE	**Somerset East**	**30.39**	**255**	P	**P**	**05 50 10.4**	**-0.1**
BOSA	**Boshof**	**31.11**	**262**	P	**P**	**05 50 18.5**	**+1.5**
	2.5nm,0.8s,baz=94,slow=7.8,SNR=3.9 2.5nm,0.8s						
BOSA	**Boshof**	**31.11**	**262**	P	**P**	**05 50 14.3**	**-2.7**
BOSA					IAmb	IAmb	05 50 25.8
	comp=Z,11nm,1.3s						
LBTB	**Lobatse**	**31.61**	**269**	P	**P**	**05 50 23.2**	**+1.9**
	comp=Z,2.7nm,0.7s,baz=127,slow=5.1,SNR=2.2 comp=Z,2.7nm,0.7s						
KAAM	**Kaadhehdhoo**	**31.79**	**23**	P	**P**	**05 50 20.5**	**-2.3**
LSZ	**Lusaka**	**33.18**	**288**	LR	LR	06 04 00.4	
	comp=Z,79nm,18.3s,baz=341,slow=36						
KMBO	**Kilima Mbogo**	**35.93**	**317**	LR	LR	06 04 52.7	
	comp=Z,73nm,18.1s,baz=98,slow=35						
MBAR	**Mbarara**	**40.49**	**309**	LR	LR	06 06 23.1	
	comp=Z,63nm,21.6s,baz=89,slow=33						
ATD	**Arta Tunnel**	**44.15**	**334**	LR	LR	06 08 00.8	
	comp=Z,69nm,20.3s,baz=149,slow=33						
H01W2	**Cape Leeuwin H**	**45.02**	**111**	T	T	06 39 51.7	
	baz=261,slow=75,SNR=20						
H01W3	**Cape Leeuwin H**	**45.03**	**111**	T	T	06 39 51.6	
	baz=261,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**45.04**	**111**	T	T	06 39 53.9	
	baz=261,slow=75,SNR=15						
SNAA	**Sanae**	**54.27**	**200**	P	**P**	**05 53 23.9**	**-0.1**
SNAA	**Sanae**	**54.27**	**200**	P	**P**	**05 53 23.7**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=77,slow=3.9,SNR=7.8 comp=Z,1.5nm,0.9s						
SNAA	**Sanae**	**54.27**	**200**	P	**P**	**05 53 23.9**	**-0.1**
SNAA					IAmb	IAmb	05 53 38.6
	comp=Z,5.8nm,1.3s						
VNA2	**Neumayer--Watz**	**55.54**	**202**	P	**P**	**05 53 28.7**	**-4.3**
	baz=57,slow=8.0						
VNA1	**Neumayer--Stat**	**55.78**	**202**	P	**P**	**05 53 32.7**	**-2.0**
FITZ	**Fitzroy Crossi**	**59.69**	**95**	P	**P**	**05 54 03.7**	**+0.6**
FITZ					IAmb	IAmb	05 54 18.0
	comp=Z,9.1nm,1.4s						
CM31	**Chiang Mai Arr**	**60.01**	**42**	P	**P**	**05 54 04.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**60.01**	**42**	P	**P**	**05 54 03.3**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=237,slow=7.5,SNR=7.6 comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**60.01**	**42**	P	**P**	**05 54 04.5**	**-0.6**
QSPA	**South Pole Qui**	**60.88**	**180**	P	**P**	**05 54 09.6**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=266,slow=2.5,SNR=7.3						
QSPA					LR	LR	06 17 06.0
	comp=Z,52nm,19.9s,baz=161,slow=33 comp=Z,2.5nm,0.9s						
QSPA	**South Pole Qui**	**60.88**	**180**	P	**P**	**05 54 10.5**	**-0.2**
QSPA					IAmb	IAmb	05 54 29.0
	comp=Z,6.5nm,1.1s						
EIL	**Elat**	**63.63**	**335**	LR	LR	06 19 14.8	
	comp=Z,52nm,19.0s,baz=77,slow=33						
VNDA	**Vanda**	**63.97**	**166**	P	**P**	**05 54 30.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=279,slow=6.5,SNR=5.3 comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**63.97**	**166**	P	**P**	**05 54 31.3**	**+0.3**
VNDA					IAmb	IAmb	05 54 57.7
	comp=Z,4.8nm,1.4s						
ASAR	**Alice Springs**	**64.65**	**104**	P	**P**	**05 54 34.8**	**-1.6**
	comp=Z,3.2nm,0.7s,baz=242,slow=6.3,SNR=36 comp=Z,3.2nm,0.7s						
ASAR	**Alice Springs**	**64.65**	**104**	P	**P**	**05 54 35.4**	**-0.9**
AS31	**Alice Springs**	**64.65**	**104**	P	**P**	**05 54 35.3**	**-1.1**
SBA	**Scott Base**	**64.85**	**167**	P	**P**	**05 54 38.5**	**+1.8**
SBA					IAmb	IAmb	05 54 48.2
	comp=Z,8.0nm,1.3s						
WRA	**Warramunga Arr**	**66.48**	**100**	P	**P**	**05 54 46.7**	**-1.5**
	comp=Z,3.1nm,0.9s,baz=246,slow=5.4,SNR=14 comp=Z,3.1nm,0.9s						
WRA	**Warramunga Arr**	**66.48**	**100**	P	**P**	**05 54 47.1**	**-1.2**
WB2	**Warramunga Arr**	**66.49**	**100**	P	**P**	**05 54 47.3**	**-1.0**
WR0	**Warramunga Arr**	**66.65**	**101**	P	**P**	**05 54 48.8**	**-0.5**
WR0					IAmb	IAmb	05 54 48.8
	comp=Z,3.4nm,0.9s						
PZH	**PanZhiHua**	**67.91**	**39**	P	**P**	**05 54 59.3**	**+2.2**
PZH					pmax	pmax	
	comp=Z,8.0nm,0.8s						
PZH					pmax	pmax	
	comp=Z,100nm,6.1s						
GNI	**Garni**	**70.69**	**347**	LR	LR	06 24 23.9	
	comp=Z,41nm,20.3s,baz=150,slow=34						
TOA0	**Torodi Ar. Sit**	**70.98**	**298**	P	**P**	**05 55 15.1**	**-1.1**
TOA0					IAmb	IAmb	05 55 20.6
	comp=Z,8.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**70.98**	**298**	P	**P**	**05 55 16.3**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=104,slow=6.3,SNR=12 comp=Z,4.3nm,0.9s						
DBIC	**Dimbokro**	**72.52**	**288**	LR	LR	06 27 08.1	
	comp=Z,37nm,19.1s,baz=149,slow=36						
KK31	**Karatay Array**	**72.57**	**7**	P	**P**	**05 55 25.4**	**+0.2**
KKAR	**Karatay Array**	**72.57**	**7**	P	**P**	**05 55 24.8**	**-0.4**
KKAR	**Karatay Array**	**72.57**	**7**	P	**P**	**05 55 25.3**	**+0.1**
KKAR					IAmb	IAmb	05 55 29.2
	comp=Z,4.1nm,1.1s						
BRTR	**Keskin Array B**	**73.19**	**338**	P	**P**	**05 55 27.9**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=152,slow=5.6,SNR=5.8 comp=Z,1.2nm,0.8s						
KBZ	**Khabaz**	**74.50**	**347**	LR	LR	06 26 45.3	
	comp=Z,40nm,20.8s,baz=126,slow=34						
WMQ	**Urumqi**	**76.78**	**20**	*e*P	**P**	**05 55 49.8**	**+0.1**
WMQ				sP	pwP	05 55 56.5	-1.7
WMQ				PcP	**PcP**	**05 56 02.6**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				LR	LR		
	comp=Z,110nm,21.7s						
GTA	**Gaotai**	**77.36**	**30**	*e*P	**P**	**05 55 56.0**	**+2.9**
GTA				pP	PcP	05 56 02.5	-1.1
GTA				sP	pwP	05 56 05.6	+4.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MK31	**Makanchi Array**	**78.16**	**15**	P	**P**	**05 55 56.3**	**-0.9**
MKAR	**Makanchi Array**	**78.16**	**15**	P	**P**	**05 55 56.

KMSI S Sn 05 56 24.2 +0.4
4.0nm11µm1µm,0.8s
SANI Sanana 5.32 209 P Pn 05 55 32.7 +1.9
0.4nm1µm131nm,0.9s
SANI S Sn 05 56 28.5 -2.3
0.4nm1µm131nm,0.9s
SANI Sanana 5.32 209 P Pn 05 55 33.6 +2.8
DAV Davao City (W) 5.34 326 LR LR 05 56 51.5
comp=Z,250nm,20.6s,baz=160,slow=30
KCP Kidapawan 5.58 322 ⇓*i*P Pn 05 55 36.0 +1.4
KCP *i* S Sn 05 56 45.4 +7.9
GTOI Gorontalo 5.91 251 P Pn 05 55 40.4 +1.4
0.4nm1µm132nm,1.2s
NLAI Namlea 6.01 194 P Pn 05 55 41.8 +1.5
0.2nm37nm,0.7s
CTBH Cotabato--PC H 6.29 317⇑*i*P Pn 05 55 45.8 +1.6
FAKI Fak Fak 6.61 146 Pn Pn 05 55 50.2 +1.6
FAKI Fak Fak 6.61 146 P Pn 05 55 51.0 +2.4
0.4nm2µm145nm,0.9s
FAKI Fak Fak 6.61 146 P Pn 05 55 51.0 +2.4
LUWI Luwuk 6.86 238 Pn Pn 05 55 52.0 0.0
LUWI Luwuk 6.86 238 P Pn 05 55 53.7 +1.7
1.1nm3µm189nm,0.7s
LUWI Luwuk 6.86 238 P Pn 05 55 55.3 +3.3
MRSI Marisa 6.98 252 P Pn 05 55 54.9 +1.3
1.9nm6µm412nm,0.6s
PAGZ Pagadian 7.34 315⇓*i*P Pn 05 55 59.6 +1.1
APSI Ampana 7.77 243 P Pn 05 56 05.4 +0.9
0.6nm1µm134nm,0.9s
TOLI2 Tolitoli 7.94 259 Pn Pn 05 56 06.1 -0.8
TOLI2 Tolitoli 7.94 259 P Pn 05 56 06.5 -0.4
MPSI Mapaga 8.98 256 P Pn 05 56 22.0 +0.9
1µm93nm,1.3s
MYLDM Lahad Datu 10.38 284 Pn Pn 05 56 40.4 +0.1
TTSI Tana Toraja 10.41 237 P Pn 05 56 39.9 -0.8
2µm84nm,0.8s
SPSI Sidrap Palu 10.97 233 P Pn 05 56 48.0 -0.4
3µm112nm,0.8s
BKSI Bulukumba 11.56 227 P Pn 05 56 58.9 +2.4
554nm52nm,0.8s
KAPI Kappang 11.64 229 P Pn 05 56 57.7 +0.2
18nm,0.4s,baz=21,slow=3.5,SNR=14
KAPI LR LR 06 02 15.1
comp=Z,115nm,19.0s,baz=40,slow=42
KAPI Kappang 11.64 229 Pn Pn 05 56 56.7 -0.8
KAPI Kappang 11.64 229 P Pn 05 56 59.2 +1.7
SMKI Samarinda 11.78 255 P Pn 05 57 01.3 +1.9
KKM Kota Kinabalu 12.80 286 Pn Pn 05 57 12.8 -0.6
SOEI Soe 13.02 199 Pn Pn 05 57 15.4 -1.1
SOEI Soe 13.02 199 P Pn 05 57 19.5 +3.0
52nm,0.9s
EDFI Ende, Flores 13.22 211 P Pn 05 57 21.0 +1.8
22nm,1.0s
BATI Baumata 13.65 201 LR LR 06 02 55.1
comp=Z,444nm,20.2s,baz=14,slow=38
MTKI Muara Teweh, K 14.14 256 P Pn 05 57 32.8 +1.2
36nm,0.6s
MTN Manton Dam 15.57 171 Pn Pn 05 57 50.3 0.0
PLAI Plampang 15.67 223 P Pn 05 57 53.1 +1.5
2µm133nm,1.2s
PLAI Plampang 15.67 223 P P 05 57 54.1 -0.8
TWSI Taliwang, Sumb 16.23 226 P P 05 58 07.3 +6.2
SBUM Sibu 16.35 270 Pn Pn 05 57 59.6 -0.6
SBUM IAmb IAmb 05 58 10.2
comp=Z,38nm,0.9s
STKI Sintang 17.29 262 P P 05 58 13.0 +0.1
comp=Z,23nm,0.5s
KMMI Kalianget 17.47 237 P P 05 58 16.5 +1.7
comp=Z,144nm,1.7s
PBKI Pangkalan Bun 17.72 253 P P 05 58 28.3 +11
JAGI Jajag, Banyuwa 18.13 232 P P 05 58 22.2 +0.1
JAGI Jajag, Banyuwa 18.13 232 P Pn 05 58 25.3 +3.0
comp=Z,79nm,1.1s
BLJI Banyuglugur 18.16 235 P Pn 05 58 32.5 +10
KNRA Kununurra 18.18 179 P P 05 58 23.0 +0.4
KNRA IAmb IAmb 05 58 24.3
comp=Z,38nm,0.8s
KNRA Kununurra 18.18 179 P P 05 58 23.6 +1.0
GUMO Guam 19.44 55 LR LR 06 06 17.2
comp=Z,42nm,18.1s,baz=225,slow=37
PWJI Pagerwojo 19.80 238 P P 05 58 40.5 +0.1
comp=Z,118nm,1.2s
PCJI Pacitan 20.42 238 P P 05 58 47.8 +0.7
comp=Z,120nm,0.8s
FITZ Fitzroy Crossi 20.79 188 P P 05 58 51.0 -0.1
comp=Z,1.6nm,0.5s,baz=17,slow=9.9,SNR=11
FITZ LR LR 06 07 37.6
comp=Z,86nm,20.3s,baz=12,slow=39
comp=Z,1.6nm,0.5s
FITZ Fitzroy Crossi 20.79 188 P P 05 58 49.5 -1.6
FITZ Fitzroy Crossi 20.79 188 P P 05 58 51.7 +0.6
UGM Wanagama 20.84 240 P Pn 05 58 53.5 -1.1
COEN Coen 21.92 139 P P 05 59 07.2 +3.9
PMG Port Moresby 22.03 123 LR LR 06 08 46.5
comp=Z,252nm,19.4s,baz=296,slow=39
PMG Port Moresby 22.03 123 P P 05 59 04.5 0.0
LEM Lembang 22.94 246 P P 05 59 14.6 +0.3
comp=Z,13nm,0.3s,baz=68,slow=14,SNR=4.5
comp=Z,13nm,0.3s
WB0 Warramunga Arr 22.97 166 P P 05 59 14.7 +0.4
WB0 IAmb IAmb 05 59 39.0
comp=Z,25nm,0.9s
YHNB Yeheng 23.00 343 P P 05 59 14.1 -0.7
WRAB Tennant Creek 23.11 166 P P 05 59 15.2 -0.7
WRAB IAmb IAmb 05 59 17.1
comp=Z,24nm,0.8s
WRA Warramunga Arr 23.12 166 P P 05 59 15.9 0.0
comp=Z,15nm,0.8s,baz=342,slow=10,SNR=64
WRA S S 06 03 19.2 -4.5
comp=Z,3.2nm,1.1s,baz=337,slow=16,SNR=5.9
WRA LR LR 06 09 39.2
comp=Z,133nm,20.8s,baz=348,slow=40
comp=Z,15nm,0.8s
WRA Warramunga Arr 23.12 166 P P 05 59 15.0 -0.9
WB2 Warramunga Arr 23.12 166 P P 05 59 15.9 0.0
WB2 IAmb IAmb 05 59 17.2
comp=Z,23nm,0.8s
WR0 Warramunga Arr 23.19 166 P P 05 59 16.5 0.0
WR0 IAmb IAmb 05 59 18.5
comp=Z,35nm,1.2s
QIZ Qiongzhong 24.55 313 P P 05 59 29.1 -0.1
QIZ IAmb IAmb 05 59 42.5
comp=Z,37nm,1.5s
MBWA Marble Bar 25.17 200 P P 05 59 33.9 -0.9
MBWA IAmb IAmb 05 59 46.0
comp=Z,27nm,1.2s
QIS Mount Isa 25.44 155 P P 05 59 39.1 +1.8
PSA00 Pilbara Seismi 25.52 199 P P 05 59 36.9 -1.0
PSA00 IAmb IAmb 05 59 37.2
comp=Z,14nm,0.8s
PSA00 Pilbara Seismi 25.52 199 P P 05 59 36.6 -1.4
PSA00 IAmb IAmb 05 59 37.1
comp=Z,6.4nm,0.9s
PSA00 Pilbara Seismi 25.52 199 P P 05 59 37.2 -0.8
comp=Z,21nm,0.8s
UBPT Khong Chiam 26.03 300 P P 05 59 42.1 -0.6
AS31 Alice Springs 26.63 169 P P 05 59 48.4 +0.3
ASAR Alice Springs 26.64 169 P P 05 59 48.1 0.0
comp=Z,2.9nm,0.6s,baz=356,slow=8.3,SNR=48
ASAR PcP PcP 06 03 11.0 -0.3
comp=Z,1.9nm,0.6s,baz=12,slow=2.4,SNR=7.5
ASAR ScP ScP 06 06 44.5 -2.9
comp=Z,2.3nm,0.9s,baz=356,slow=2.3,SNR=8.6
ASAR LR LR 06 11 44.9
comp=Z,104nm,19.6s,baz=288,slow=39
comp=Z,2.9nm,0.6s
ASAR Alice Springs 26.64 169 P P 05 59 48.0 -0.1
MASI Maura Aman, Be 26.95 258 P P 05 59 53.4 +2.3
comp=Z,56nm,0.5s
JCJ Chichijima 27.60 27 LR LR 06 08 28.7
comp=Z,94nm,21.5s,baz=184,slow=31
CTA Charters Tower 28.46 143 LR LR 06 11 57.7
comp=Z,107nm,18.8s,baz=280,slow=37
PSI Prapat 29.63 271 LR LR 06 12 27.9
comp=Z,95nm,21.5s,baz=102,slow=37
NJ2 Nanjing 30.68 344 *e*P P 06 00 24.8 +0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 33.03 301 P P 06 00 44.1 -0.7
comp=Z,3.9nm,0.8s,baz=116,slow=7.2,SNR=19
CMAR ScP ScP 06 07 06.7 -1.4
comp=Z,0.5nm,0.4s,baz=161,slow=4.3,SNR=4.9
comp=Z,3.9nm,0.8s
CHTO Chiang Mai 33.18 301 P P 06 00 45.6 -0.5
FORT Forrest 33.22 181 P P 06 00 45.6 -0.6
KMI Kunming 33.48 314⇑P P 06 00 50.5 +1.6
KMI pmax pmax
comp=Z,14nm,1.1s
INU Inuyama 33.49 13 P P 06 00 49.2 +0.6
MORW Morawa 33.73 200 P P 06 00 49.2 -1.6
MORW IAmb IAmb 06 01 12.5
comp=Z,13nm,1.2s
KSRS Korea Array 34.67 359 P P 06 00 59.5 +0.7
comp=Z,1.2nm,0.4s,baz=175,slow=9.7,SNR=5.3
KSRS LR LR 06 14 52.5
comp=Z,22nm,21.4s,baz=190,slow=36
comp=Z,1.2nm,0.4s
MJAR Matsushiro Arr 34.91 14 P P 06 01 00.6 -0.3
comp=Z,1.8nm,0.7s,baz=174,slow=10,SNR=8.2
MJAR LR LR 06 13 06.5
comp=Z,134nm,21.9s,baz=188,slow=32
comp=Z,1.8nm,0.7s
PZH PanZhiHua 35.03 315 P P 06 01 04.8 +2.6
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.3s
BBOO Buckleboo 35.94 169 P P 06 01 09.8 0.0
XAN Xi'an 36.25 332⇑P P 06 01 12.8 +0.3
XAN pP pwP 06 01 28.3 +1.0
XAN pmax pmax
comp=Z,10.0nm,1.0s
STKA Stephens Creek 36.46 161 P P 06 01 14.1 -0.2
comp=Z,7.2nm,0.6s,baz=333,slow=9.2,SNR=18
STKA LR LR 06 19 42.0
comp=Z,110nm,18.6s,baz=349,slow=42
comp=Z,7.2nm,0.6s
STKA Stephens Creek 36.46 161 P P 06 01 14.6 +0.3
NWAO Narrogin (SRO) 36.95 196 P P 06 01 16.6 -1.8
comp=Z,12nm,0.9s,baz=228,slow=7.5,SNR=5.4
NWAO LR LR 06 17 11.4
comp=Z,101nm,19.1s,baz=321,slow=37
comp=Z,12nm,0.9s
LZH Lanzhou 40.40 328⇑P P 06 01 48.3 +0.8
LZH pmax pmax
comp=Z,29nm,1.5s
H11S3 WAKE ISLAND Hy 40.51 64 T T 06 45 07.3
baz=251,slow=75,SNR=54
H11S2 WAKE ISLAND Hy 40.52 64 T T 06 45 12.4
baz=251,slow=75,SNR=45
H11S1 WAKE ISLAND Hy 40.52 64 T T 06 45 12.2
baz=251,slow=75,SNR=36
BRDH Bariadhala 40.99 302 LR LR 06 21 08.9
comp=Z,68nm,18.6s,baz=110,slow=40
HHC Hu-ho-hao-te 41.05 340 *e*P P 06 01 55.3 +2.6
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,240nm,5.6s
H11N1 WAKE ISLAND Hy 41.08 63 T T 06 45 44.5
baz=250,slow=75,SNR=359
H11N2 WAKE ISLAND Hy 41.09 63 T T 06 45 45.1
baz=250,slow=75,SNR=149
H11N3 WAKE ISLAND Hy 41.10 63 T T 06 45 45.7
baz=250,slow=75,SNR=218
USRK Ussuriysk Ar. 41.52 4 P P 06 01 56.2 -0.1
comp=Z,3.5nm,0.8s,baz=163,slow=10,SNR=4.3
comp=Z,3.5nm,0.8s
USRK Ussuriysk Ar. 41.52 4 P P 06 01 56.6 +0.3
USA0B Ussuriysk Arra 41.52 4 P P 06 01 55.5 -0.8
USA0B IAmb IAmb 06 02 04.6
comp=Z,7.8nm,0.8s
XLT XiLinHaoTe 42.58 347 *e*P P 06 02 07.8 +2.7
XLT pmax pmax
comp=Z,11nm,0.9s
DZM Mont Dzumac 44.38 126 LR LR 06 21 14.6
comp=Z,137nm,18.4s,baz=342,slow=36
GTA Gaotai 45.00 328 *e*P P 06 02 24.5 -0.3
GTA pP pP 06 02 34.9 -2.6
GTA pmax pmax
comp=Z,9.0nm,1.0s
GOMU GeErMu 45.70 321 P P 06 02 29.8 -0.8
GOMU pmax pmax
comp=Z,3.0nm,0.7s
TAPN Taplejung 46.16 306 *e*P P 06 02 33.9 -0.4
KLR Kul'dur 46.52 3 P P 06 02 35.5 -0.9
comp=Z,1.8nm,0.8s,baz=223,slow=5.2,SNR=4.6
KLR LR LR 06 19 25.4
comp=Z,27nm,21.0s,baz=234,slow=32
comp=Z,1.8nm,0.8s
RAMN Ramite 46.90 305 *e*P P 06 02 39.9 -0.1
comp=Z,34nm,0.7s
JIRN Jiri 47.52 306 *e*P P 06 02 44.7 -0.3
GUN Gumba 47.87 306 *e*P P 06 02 47.4 -0.3
PALK Pallekele 47.91 277 LR LR 06 25 35.9
comp=Z,66nm,18.8s,baz=214,slow=39
PKI Pulchoki 48.12 305 *e*P P 06 02 48.7 -0.9
comp=Z,8.6nm,0.6s
PKIN Phulchoki 48.13 305 *e*P P 06 02 48.7 -0.9
comp=Z,8.8nm,0.3s
DMN Daman 48.38 305 *e*P P 06 02 50.7 -0.8
ULN Ulaanbaatar 48.76 341 P P 06 02 53.5 -0.5
ULN IAmb IAmb 06 02 54.5
comp=Z,7.4nm,0.9s
GKN Gorkha 48.92 305 *e*P P 06 02 54.7 -0.8
SONM Songino Array 48.95 340 P P 06 02 54.4 -1.0
comp=Z,2.0nm,0.7s,baz=148,slow=7.4,SNR=8.7
SONM PcP PcP 06 04 18.8 -0.2
comp=Z,1.0nm,0.7s,baz=145,slow=5.3,SNR=1.9
SONM ScP ScP 06 08 07.6 -2.4
comp=Z,0.3nm,0.4s,baz=150,slow=3.2,SNR=3.5
SONM LR LR 06 24 55.8
comp=Z,55nm,21.1s,baz=134,slow=38
comp=Z,2.0nm,0.7s
SONM Songino Array 48.95 340 P P 06 02 55.1 -0.3
DANN Dangsing 49.77 306 *e*P P 06 03 01.8 -0.4
MSVF Nonsavu 52.77 115 LR LR 06 24 43.0
comp=Z,69nm,18.5s,baz=110,slow=35
WMQ Urumqi 54.70 325 *e*P P 06 03 39.6 +1.4
PETK Petropavlovsk- 55.78 21 P P 06 03 45.8 +0.1
comp=Z,4.3nm,0.8s,baz=194,slow=6.3,SNR=6.4
comp=Z,4.3nm,0.8s
YAK Yakutsk 59.28 1 P P 06 04 09.5 -0.6
comp=Z,28nm,0.4s,baz=237,slow=1.9,SNR=5.1
YAK LR LR 06 30 03.5
comp=Z,31nm,20.2s,baz=264,slow=36
YAK Yakutsk 59.28 1 P P 06 04 10.0 -0.1
MA2 Magadan 59.35 13 LR LR 06 27 31.8
comp=Z,22nm,21.5s,baz=154,slow=34
MK31 Makanchi Array 59.52 325 P P 06 04 11.3 -0.9
MK31 IAmb IAmb 06 04 12.5
comp=Z,4.8nm,0.9s
MKAR Makanchi Array 59.52 325 P P 06 04 11.6 -0.7
comp=Z,2.3nm,0.4s,baz=119,slow=8.1,SNR=42
MKAR pP pP 06 04 25.7 -0.3
comp=Z,3.1nm,0.7s,baz=123,slow=8.1,SNR=7.8
MKAR LR LR 06 31 22.8
comp=Z,50nm,20.1s,baz=138,slow=38
comp=Z,2.3nm,0.4s
MAKZ Makanchi 59.71 325 P P 06 04 12.5 -1.0
MAKZ IAmb IAmb 06 04 13.8
comp=Z,6.4nm,0.8s
AFI Afiamalu 61.35 107 LR LR 06 29 06.4
comp=Z,80nm,18.2s,baz=210,slow=34
ZAA0 Zalesovo Array 62.42 333 P P 06 04 29.9 -1.8
ZAA0 IAmb IAmb 06 04 40.8
comp=Z,5.7nm,1.1s
ZALV Zalesovo Beam 62.42 333 P P 06 04 29.8 -1.9
comp=Z,1.5nm,0.4s,baz=101,slow=7.7,SNR=6.5
comp=Z,1.5nm,0.4s
ZALV Zalesovo Beam 62.42 333 P P 06 04 30.1 -1.5
AAK Ala-Archa 62.42 318 LR LR 06 33 40.6
comp=Z,70nm,21.4s,baz=108,slow=38
SEY Seymchan 62.71 12 P P 06 04 34.4 +0.9
comp=Z,4.6nm,0.9s,baz=242,slow=3.0,SNR=5.2
comp=Z,4.6nm,0.9s
KURK Kurchatov 63.67 327 P P 06 04 39.2 -0.9
KURK IAmb IAmb 06 04 40.0
comp=Z,7.3nm,0.8s
GAR Garm 64.03 313 P P 06 04 42.0 -0.8
KK31 Karatay Array 65.30 317 P P 06 04 50.0 -0.9
KK31 IAmb IAmb 06 05 11.7
comp=Z,5.6nm,1.1s
KKAR Karatay Array 65.30 317 P P 06 04 49.8 -1.2
TIXI Tiksi 68.93 0 P P 06 05 12.5 -0.8
comp=Z,4.3nm,0.4s,baz=271,slow=23,SNR=2.3
comp=Z,4.3nm,0.4s
BVAR Borovoye Array 69.26 327 LR LR 06 37 59.0
comp=Z,32nm,19.1s,baz=152,slow=38
BRVK Borovoye 69.33 327 P P 06 05 14.8 -1.4
BRVK IAmb IAmb 06 05 25.9
comp=Z,6.1nm,0.9s
CASY Casey 69.96 188 P P 06 05 19.1 -0.6
CASY IAmb IAmb 06 05 44.1
comp=Z,13nm,1.4s
NRIK Noril'sk 71.95 346 P P 06 05 31.2 -0.6
comp=Z,7.2nm,0.7s,baz=140,slow=7.8,SNR=6.1
NRIK LR LR 06 43 30.3
comp=Z,25nm,18.5s,baz=123,slow=41
comp=Z,7.2nm,0.7s
NRIK Noril'sk 71.95 346 P P 06 05 31.4 -0.4
NRIK IAmb IAmb 06 05 31.9
comp=Z,8.6nm,0.9s
ABKAR Akbulak array 74.18 321 P P 06 05 43.5 -1.9
ABKAR Akbulak array 74.18 321 IAmb IAmb 06 05 44.9
comp=Z,3.4nm,1.1s
AKTO Aktyubinsk 75.68 322 LR LR 06 42 00.1
comp=Z,26nm,19.3s,baz=110,slow=38
KDAK Kodiak Island 81.84 32 P P 06 06 28.5 +0.9
comp=Z,6.2nm,0.7s,baz=316,slow=3.3,SNR=9.0
KDAK LR LR 06 35 51.4
comp=Z,84nm,21.3s,baz=251,slow=30
comp=Z,6.2nm,0.7s
VNDA Vanda 82.10 173 P P 06 06 28.2 -0.5
comp=Z,3.3nm,0.8s,baz=314,slow=5.7,SNR=20
comp=Z,3.3nm,0.8s
VNDA Vanda 82.10 173 P P 06 06 27.8 -0.9
VNDA IAmb IAmb 06 06 28.9
comp=Z,4.7nm,0.9s
J20K Nowinta River 82.11 26 P P 06 06 31.2 +2.2
J20K IAmb IAmb 06 06 31.9
comp=Z,5.7nm,1.0s
IMAR Indian Mountai 82.60 24 P P 06 06 32.7 +1.2
M22K Willow 83.58 28 IAmb IAmb 06 06 44.2
comp=Z,8.8nm,0.9s
TRF Thorofare Moun 83.69 27 P P 06 06 38.0 +0.6
COLD Coldfoot 84.19 23 P P 06 06 41.4 +1.7
ILAR Eielson Array 85.31 25 P P 06 06 44.9 -0.4
comp=Z,0.4nm,0.7s,baz=241,slow=4.7,SNR=2.1
ILAR pP pP 06 06 59.9 +0.3
comp=Z,0.4nm,0.6s,baz=249,slow=4.9,SNR=2.9
ILAR LR LR 06 40 20.1
comp=Z,36nm,20.1s,baz=296,slow=32
comp=Z,0.4nm,0.7s
ARCES ARCESS Array B 92.12 340 P P 06 07 15.7 -2.0
comp=Z,0.9nm,0.7s,baz=94,slow=4.9,SNR=5.1
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 92.15 310 LR LR 06 55 41.9
comp=Z,26nm,19.5s,baz=123,slow=40
FINES FINESS Array B 93.68 332 P P 06 07 23.0 -2.0
comp=Z,0.7nm,0.7s,baz=59,slow=7.4,SNR=3.7
FINES LR LR 06 52 56.0
comp=Z,25nm,18.3s,baz=152,slow=38
comp=Z,0.7nm,0.7s
MNK Minsk 94.09 325 *i* P P 06 07 25.8 -1.2
comp=E,3.0nm,0.8s
MNK *i* P P 06 07 25.8 -1.2
MNK *i* P P 06 07 25.8 -1.2
comp=Z,11nm,0.7s,baz=80
MNK *i* pP pP 06 07 42.8 +1.2
MNK *i* PP PP 06 11 10.2 -3.4
MNK *i* PPP PPP 06 13 12.4
MNK *i* S SKSac 06 17 54.9 -2.9
MNK *i* sS SKKSac 06 18 25.4 +6.8
MNK *e*SS SS 06 24 52.2 -2.4
MNK *i* SSS SSS 06 28 34.6
MNK *i* LR LR 06 44 00.1
MNK *i* LRM MLR 06 50 42.9
MNK *i* LRM MLR 06 50 42.9
MLR Muntele Rosu 96.98 316 LR LR 06 57 03.5
comp=Z,39nm,18.7s,baz=52,slow=39
IDI Anoyia 99.64 306 LR LR 06 59 03.3
comp=Z,7.7nm,20.0s,baz=78,slow=39
HFS Hagfors 99.86 333 LR LR 06 56 53.7
comp=Z,39nm,18.2s,baz=52,slow=38
TORD Torodi Ar. Bea 125.02 288 PKP **PKPdf** 06 13 07.9 -1.9
comp=Z,0.8nm,0.7s,baz=66,slow=1.6,SNR=4.3
TORD pPKP **pPKPdf** 06 13 23.2 -1.7
comp=Z,0.6nm,0.6s,baz=42,slow=3.4,SNR=3.1
PLCA Paso Flores 138.30 158 PKP **PKPdf** 06 13 34.4 +0.1
comp=Z,1.3nm,0.8s,baz=207,slow=6.0,SNR=4.2
LPAZ La Paz 158.67 131 PKP **PKPdf** 06 14 07.4 -0.5
comp=Z,0.5nm,0.5s,baz=104,slow=4.7,SNR=3.6

*IDC **18** 05:55:46.8±23.0, 52.°95N×175.°62W, h188km±158km, mb3.0/4, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=175.3km s-min=73.5km az=59.0*
*AEIC **18** 05:55:51±1.1, 52.°3N±0.°5×175.°2W±0.°3, h220km±6km, ML3.2, Error ellipse: s-maj=71.9km s-min=4.5km az=162.0*
*NEIC **18** 05:55:51.3±1.4, 52.°4N±0.°6×175.°3W±0.°3, h232km±10km, Error ellipse: s-maj=88.5km s-min=12.2km az=167.0*
ISC 18 05:55:49.8±0.9, 53.°1N±0.°1×175.°55W±0.°07, h200km, n24, σ1§99/28, mb3.3/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**1.09**	**197**		**Pn**	**05 56 22.2**	**+2.0**
GSMY	**Great Sitkin M**	**1.14**	**196**		**Pn**	**05 56 22.1**	**+1.6**
GSTD	**Great Sitkin T**	**1.14**	**199**		**Pn**	**05 56 22.4**	**+1.8**
GSTD					**Sn**	**05 56 46.2**	**+1.7**
KOKL	**Mount Kliuchef**	**1.16**	**134**		**Pn**	**05 56 22.3**	**+1.6**
GSIG	**Igitkin Island**	**1.18**	**191**		**Pn**	**05 56 22.4**	**+1.6**
GSCK	**Great Sitkin C**	**1.19**	**198**		**Pn**	**05 56 22.8**	**+1.9**
GSCK					**Sn**	**05 56 47.1**	**+2.2**
KOSE	**Korovin Southe**	**1.21**	**130**		**Pn**	**05 56 22.6**	**+1.5**
KOFP	**Korovin Flat P**	**1.24**	**134**		**Pn**	**05 56 22.4**	**+1.1**
ETKA	**Kagalaska Isla**	**1.38**	**203**		**Pn**	**05 56 23.5**	**+1.1**
ADK	**Adak**	**1.43**	**209**	Pn	**Pn**	**05 56 24.2**	**+1.4**
KIKV	**Kanaga Island**	**1.60**	**219**		**Pn**	**05 56 26.6**	**+2.2**
KIWB	**Kanaga Island**	**1.62**	**218**		**Pn**	**05 56 24.2**	**-0.3**
KIMD	**Kanaga Island**	**1.72**	**217**		**Pn**	**05 56 26.9**	**+1.4**
KIMD					**Sn**	**05 56 54.2**	**+1.0**
TASE	**Tanaga Southea**	**2.00**	**230**		**Pn**	**05 56 31.3**	**+3.0**
GANE	**Gareloi Northe**	**2.37**	**237**		**Pn**	**05 56 35.4**	**+3.2**
CERAA	**Semis' Rag'd T**	**3.16**	**249**		**Pn**	**05 56 44.8**	**+3.6**
AMKA	**Amchitka**	**3.62**	**243**		**Pn**	**05 56 46.5**	**-0.3**
AMKA					**Sn**	**05 57 31.0**	**-0.5**
UNV	**Unalaska Valle**	**5.45**	**79**	Pn	**Pn**	**05 57 13.9**	**+4.1**
KDAK	**Kodiak Island**	**13.80**	**61**	P	Pn	05 58 55.6	-1.3
	1.5nm,0.3s,baz=276,slow=5.9,SNR=51						
KDAK				S	S	06 01 19.1	-11
	15nm,1.2s,baz=354,slow=22,SNR=2.7						
	4.0nm,0.2s						
ILAR	**Eielson Array**	**18.61**	**40**	P	**P**	**05 59 52.0**	**+0.1**
	0.1nm,0.3s,baz=244,slow=9.9,SNR=4.1						
	0.4nm,0.5s						
DLBC	**Dease Lake**	**25.73**	**60**	P	**P**	**06 01 00.6**	**-0.9**
	0.5nm,0.4s,baz=247,slow=8.1,SNR=1.4						
	0.5nm,0.4s						
NVAR	**Mina Array Bea**	**41.41**	**87**	P	**P**	**06 03 15.5**	**-1.1**
	0.3nm,0.6s,baz=299,slow=7.5,SNR=4.0						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**43.91**	**76**	P	**P**	**06 03 35.2**	**-1.4**
	0.4nm,0.5s,baz=304,slow=3.9,SNR=5.8						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**56.46**	**85**	P	**P**	**06 05 09.1**	**-1.6**
	0.5nm,0.6s,baz=306,slow=5.2,SNR=8.0						
TXAR				PcP	**PcP**	**06 06 03.5**	**-1.6**
	0.1nm,0.5s,baz=242,slow=1.9,SNR=3.5						
	0.5nm,0.6s						

IDC 18 06:01:40.2±2.5, 41.°78S×98.°74W, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=77.5km s-min=34.7km az=23.0, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**17.52**	**70**	T	T	06 23 21.9	
	baz=238,SNR=294						
H03S1	**Juan Fernandez**	**17.54**	**70**	T	T	06 23 23.1	
	baz=238,SNR=290						
H03S3	**Juan Fernandez**	**17.54**	**70**	T	T	06 23 21.9	
	baz=238,SNR=289						
H03N3	**Juan Fernandez**	**17.73**	**68**	T	T	06 23 34.5	
	baz=240,slow=72,SNR=283						
H03N2	**Juan Fernandez**	**17.74**	**68**	T	T	06 23 33.2	
	baz=240,slow=72,SNR=230						
H03N1	**Juan Fernandez**	**17.75**	**68**	T	T	06 23 33.6	
	baz=240,slow=72,SNR=530						
PLCA	**Paso Flores**	**21.18**	**97**	P	P	06 06 28.1	+0.9
	2.8nm,0.9s,baz=268,slow=7.9,SNR=5.1						
	2.8nm,0.9s						
LPAZ	**La Paz**	**36.56**	**55**	P	P	06 08 47.8	-0.7
	0.6nm,0.6s,baz=216,slow=14,SNR=1.7						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**70.91**	**355**	P	P	06 12 59.5	+0.4
	0.4nm,0.8s,baz=178,slow=8.7,SNR=6.3						

0.4nm,0.8s
NVAR Mina Array Bea 81.80 345 P P 06 14 01.5 +0.5
0.2nm,0.6s,baz=188,slow=5.0,SNR=2.2
0.2nm,0.6s
PDAR Pinedale Array 84.73 352 P P 06 14 15.6 -0.4
0.6nm,0.8s,baz=157,slow=7.0,SNR=6.8
0.6nm,0.8s
H01W1 Cape Leeuwin H 97.95 207 T T 08 05 50.6
baz=154,slow=76,SNR=56
H01W2 Cape Leeuwin H 97.95 207 T T 08 05 50.7
baz=154,slow=76,SNR=72
H01W3 Cape Leeuwin H 97.96 207 T T 08 05 51.8
baz=154,slow=76,SNR=53
KSRS Korea Array 144.14 279 PKP PKPdf 06 21 17.2 -0.4
0.9nm,0.7s,baz=116,slow=5.5,SNR=4.3
BRTR Keskin Array B 144.22 77 PKP PKPab 06 21 15.8 +0.1
0.7nm,0.7s,baz=226,slow=1.1,SNR=4.0

IDC 18 06:18:02.4±2.5, 4.°99S×154.°70E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=112.2km s-min=29.8km az=122.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**231**	P	P	06 23 26.4	+0.2
	0.6nm,0.6s,baz=57,slow=9.5,SNR=11						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**27.32**	**225**	P	P	06 23 49.0	-0.2
	0.3nm,0.4s,baz=58,slow=9.3,SNR=10						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**81.63**	**22**	P	P	06 30 22.1	-0.1
	0.3nm,0.6s,baz=243,slow=5.6,SNR=2.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**81.71**	**319**	P	P	06 30 23.1	+0.1
	0.3nm,0.6s,baz=106,slow=4.8,SNR=2.4						
	0.3nm,0.6s						

IDC 18 06:29:40.2±2.0, 1.°99S×140.°68E, h0km, mb3.6/4, mbtmp3.7/5, ML3.7/1, MS3.1/6, Error ellipse: s-maj=63.5km s-min=27.9km az=88.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.78**	**139**	LR	LR	06 36 44.9	
	comp=Z,87nm,21.3s,baz=184,slow=43						
GUMO	**Guam**	**16.03**	**15**	LR	LR	06 39 35.4	
	comp=Z,27nm,19.9s,baz=192,slow=37						
BATI	**Baumata**	**18.77**	**244**	LR	LR	06 42 54.3	
	comp=Z,165nm,18.1s,baz=218,slow=42						
CTA	**Charters Tower**	**18.79**	**164**	LR	LR	06 40 07.6	
	comp=Z,92nm,21.5s,baz=241,slow=33						
WRA	**Warramunga Arr**	**18.89**	**199**	P	P	06 34 02.1	-0.4
	0.3nm,0.3s,baz=21,slow=11,SNR=17						
WRA				LR	LR	06 41 43.6	
	comp=Z,91nm,20.5s,baz=70,slow=38						
	0.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.77**	**222**	P	P	06 34 33.2	-0.6
	1.3nm,0.6s,baz=44,slow=4.2,SNR=5.9						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**22.52**	**196**	P	P	06 34 42.0	+0.2
	1.1nm,0.6s,baz=27,slow=9.9,SNR=17						
	1.1nm,0.6s						
KSRS	**Korea Array**	**40.99**	**344**	LR	LR	06 54 19.9	
	comp=Z,11nm,19.5s,baz=200,slow=36						
MKAR	**Makanchi Array**	**70.44**	**322**	P	P	06 40 56.9	+0.4
	0.6nm,0.7s,baz=122,slow=7.4,SNR=5.3						
	0.6nm,0.7s						
VNDA	**Vanda**	**76.32**	**175**	P	P	06 41 30.7	0.0
	0.6nm,0.6s,baz=326,slow=4.5,SNR=4.8						
	0.6nm,0.6s						

*ARE **18** 06:48:22±1.7, 16.°06S±0.°09×73.°7W±0.°1, h37km±9km, ML4.6, mb4.1/4(NEIC), Error ellipse: s-maj=15.7km s-min=10.8km az=60.0*
*NEIC **18** 06:48:22.3±1.6, 16.°03S±0.°09×73.°7W±0.°1, h65km±25km, Error ellipse: s-maj=19.5km s-min=2.9km az=50.0*
*IDC **18** 06:48:25.3±1.8, 12.°82S×72.°11W, h0km, mb3.8/2, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=77.6km s-min=32.0km az=40.0*

ISC 18 06:48:20.7±0.9, 16.°05S±0.°09×73.°8W±0.°1, h54km, n33, σ1s22/30, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**4.18**	**128**		**Pn**	**06 49 22.9**	**+0.9**
PB16	**IPOC Station P**	**4.69**	**120**		**Pn**	**06 49 31.9**	**+2.4**
NNA	**Nana**	**5.00**	**323**		**Pn**	**06 49 36.1**	**+2.8**
LPAZ	**La Paz**	**5.45**	**93**	Pn	Pn	06 49 45.1	+5.2
	0.5nm,0.3s,baz=306,slow=7.6,SNR=16						
	1.5nm,0.4s						
LPAZ	**La Paz**	**5.45**	**93**	Pn	**Pn**	**06 49 39.7**	**-0.2**
TA02	**Huaiquique**	**5.46**	**141**	Pn	**Pn**	**06 49 40.0**	**+0.6**
TA01	**Diego Aracena**	**5.66**	**143**	Pn	**Pn**	**06 49 43.2**	**+1.0**
GO01	**Chusmiza**	**5.67**	**130**		**Pn**	**06 49 44.6**	**+1.8**
PATCX	**Punta Patache**	**5.87**	**145**	Pn	**Pn**	**06 49 46.0**	**+0.7**
PB08	**IPOC Station P**	**6.00**	**133**		**Pn**	**06 49 48.6**	**+1.3**
PB02	**IPOC Station P**	**6.42**	**145**		**Pn**	**06 49 53.6**	**+0.9**
PB01	**IPOC Station P**	**6.43**	**141**		**Pn**	**06 49 54.2**	**+1.2**
PB07	**IPOC Station P**	**6.75**	**147**		**Pn**	**06 49 58.0**	**+0.6**
PB04	**IPOC Station P**	**7.14**	**152**	Pn	**Pn**	**06 50 02.5**	**-0.2**
PB09	**IPOC Station P**	**7.16**	**144**	Pn	**Pn**	**06 50 04.8**	**+1.9**
PB06	**IPOC Station P**	**7.73**	**150**	Pn	**Pn**	**06 50 11.9**	**+1.1**
LVC	**Limon Verde**	**7.99**	**146**	Pn	**Pn**	**06 50 16.1**	**+1.5**
PB15	**IPOC Station P**	**8.21**	**151**	Pn	**Pn**	**06 50 17.9**	**+0.5**
CZSB	**Cruzeiro do Su**	**8.33**	**7**	Pn	**Pn**	**06 50 19.0**	**0.0**
PB14	**IPOC Station P**	**9.11**	**160**	Pn	**Pn**	**06 50 29.8**	**0.0**
ETMB	**Extrema**	**9.64**	**51**	Pn	**Pn**	**06 50 36.4**	**-0.4**
GO02	**Mina Guanaco**	**9.89**	**157**	Pn	**Pn**	**06 50 40.2**	**-0.3**
AC06	**Mina Casimiro**	**11.70**	**165**	Pn	**Pn**	**06 51 05.8**	**+0.8**
BOSC	**San Juan Bosco**	**13.62**	**340**		**Pn**	**06 51 32.7**	**+1.3**
ARNL	**Arenillas**	**13.87**	**333**	Pn	**Pn**	**06 51 35.8**	**+1.2**
PORT	**Chimborazo Vol**	**15.30**	**341**		**P**	**06 51 56.5**	**-1.3**
PORT				IAmb	IAmb	06 52 06.1	
	comp=Z,16nm,1.0s						
CHSH	**Refugio Sur-Vo**	**15.30**	**340**		**P**	**06 51 56.8**	**-1.0**
CHSH				IAmb	IAmb	06 52 05.1	
	comp=Z,19nm,1.0s						
SLOR	**San Lorenzo -**	**15.91**	**343**	Pn	**P**	**06 52 04.1**	**-0.3**
IMBA	**Imbabura, San**	**16.79**	**345**	Pn	**P**	**06 52 14.7**	**+0.5**
IMBA				IAmb	IAmb	06 52 16.4	
	comp=Z,9.4nm,0.9s						
TXAR	**Lajitas Array**	**53.55**	**327**	P	**P**	**06 57 35.5**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=148,slow=8.6,SNR=4.7						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.06**	**73**	P	**P**	**07 00 23.8**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=249,slow=4.7,SNR=6.0						
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**132.14**	**215**	PKP	pPKiKP	07 07 48.2	+1.5
	comp=Z,0.1nm,0.5s,baz=134,slow=2.7,SNR=1.5						
WRA	**Warramunga Arr**	**134.80**	**219**	PKP	pPKiKP	07 07 52.6	+0.5
	comp=Z,0.2nm,0.6s,baz=126,slow=1.8,SNR=1.7						

*BJI **18** 07:17:30.3±0.0, 2.°32S×141.°05E, h10km, mb5.1/70, mB5.6/60, Ms5.5/82, Ms7 5.3/80*
*IDC **18** 07:17:34.5±0.4, 1.°99S×140.°48E, h0km, mb5.0/24, mbtmp5.0/30, ML4.7/4, MS5.2/53, Error ellipse: s-maj=13.8km s-min=9.6km az=76.0*
*NEIC **18** 07:17:36.7, 2.°03S×140.°48E, h4km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=1.94; Mθθ=2.01; Mθφ=-0.07; Mrθ=3.01; Mθφ=0.61; Mφr=0.09; Fault plane solution: M0 3.66000×1017 NP1:φ1=268.92000°, δ1=73.32000°, λ1=-80.64000°. NP2:φ2=59.06000°, δ2=19.06000°, λ2=-118.48000°. Principal axes: T 3.7002, Plg28.0000°, Azm351.0000°; N -0.0913, Plg9.0000°, Azm86.0000°; P -3.6089, Plg61.0000°, Azm192.0000°;*
*MOS **18** 07:17:36.4±0.9, 2.°00S×140.°45E, h15km, mb5.5/56, MS5.1/17 Error ellipse: s-maj=9.5km s-min=4.7km az=113.4*
*NEIC **18** 07:17:36.7±1.4, 2.°04S±0.°07×140.°48E±0.°06, h10km±1km, mb5.5/236, Ms_20 5.4/350, Mwb5.6/41, Mww5.8, Error ellipse: s-maj=12.6km s-min=10.7km az=198.0*
*DJA **18** 07:17:39.0±0.4, 2.°S±2.°×14.°1E±.°, h31km±3km, M5.4/99, mb5.5/99, mB5.8/79, MLv5.5/6, Mw5.7/74, Mw(mB)5.4/79, MwMwp5.4/49, Mwp5.6/49*
*GCMT **18** 07:17:39.7±0.1, 1.°87S×140.°58E, h12km, MW5.8/166, Moment Tensor Solution. s152,c305; s166,c525; Duration: 1s9 Moment tensor: Scale 1017Nm;*
Mrr=4.46±.03; Mθθ=4.74±.03; Mφφ=-0.28±.03; Mrθ=3.17±.08; Mθφ=0.12±.03; Mφr=0.17±.08; Best double couple: M0 5.59000×1017 NP1:φ1=268.00000°, δ1=62.00000°, λ1=-91.00000°. NP2:φ2=90.00000°, δ2=28.00000°, λ2=-88.00000°. Principal axes: T 5.7310, Plg17.0000°, Azm358.0000°; N -0.2840, Plg1.0000°, Azm268.0000°; P -5.4500, Plg73.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
*NEIC **18** 07:17:39, 1.°63S×140.°68E, h26km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 1017Nm; Mrr=4.79; Mθθ=4.35; Mθφ=0.44; Mrθ=4.46; Mφφ=0.07; Mφr=2.41; Fault plane solution: M0 6.83000×1017 NP1:φ1=77.00000°, δ1=24.00000°, λ1=-120.00000°. NP2:φ2=289.00000°, δ2=69.00000°, λ2=-77.00000°. Principal axes: T 6.2926, Plg23.0000°, Azm10.0000°; N 0.9723, Plg12.0000°, Azm105.0000°; P -7.2649, Plg64.0000°, Azm219.0000°;*

ISC 18 07:17:37.2±0.4, 2.°02S±0.°03×140.°51E±0.°03, h16km±2km, h17km: pP-P, n1132, σ1971/953, mb5.5/224, MS5.4/280, 34C-16D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.66**	**211**	P	**Pn**	**07 17 52.3**	**+0.3**
GENI				S	**Sn**	**07 18 03.4**	**+1.4**
SMPI	**Sarmi**	**1.79**	**271**	P	**Pn**	**07 18 07.9**	**+0.4**
SMPI				S	**Sg**	**07 18 34.6**	**-0.5**
WAMI	**Wamena**	**2.58**	**224**	P	**Pb**	**07 18 22.2**	**-0.9**
WAMI				S	**Sb**	**07 18 53.0**	**-1.6**
SRPI	**Serui, Papua**	**4.27**	**272**	P	**Pn**	**07 18 43.5**	**+2.0**
SRPI				S	**Sn**	**07 19 33.2**	**+2.2**
BAKI	**Biak**	**4.47**	**280**	P	**Pn**	**07 18 44.5**	**+0.1**
MANU	**Manus Island**	**6.86**	**90**		**Pn**	**07 19 16.4**	**-0.8**
FAKI	**Fak Fak**	**8.30**	**264**	Pn	**Pn**	**07 19 36.6**	**-0.4**
FAKI	**Fak Fak**	**8.30**	**264**	P	**Pn**	**07 19 38.4**	**+1.4**
FAKI	11μm3μm186nm,1.1s			S	**Sn**	**07 21 11.2**	**+0.8**
	11μm3μm186nm,1.1s						
SIJI	**Sorong**	**9.31**	**277**	Pn	**Pn**	**07 19 51.2**	**+0.3**
	1.5nm,0.3s,baz=81,slow=19,SNR=2.7						
SIJI				LR	LR	07 23 55.8	
	comp=Z,11μm,19.4s,baz=83,slow=41						
	12nm,0.5s						
SWI	**Sorong**	**9.31**	**277**	P	**Pn**	**07 19 54.8**	**+3.9**
	12μm2μm142nm,0.8s						
PMG	**Port Moresby**	**9.88**	**138**	Pn	**Pn**	**07 19 59.1**	**+0.4**
	19nm,0.6s,baz=324,slow=13,SNR=8.9						
PMG				LR	LR	07 24 18.8	
	comp=Z,24μm,21.0s,baz=307,slow=41						
PMG	**Port Moresby**	**9.88**	**138**	Pn	**Pn**	**07 19 58.5**	**-0.2**
PMG	**Port Moresby**	**9.88**	**138**	*ce*P	**Pn**	**07 20 01.7**	**+3.0**
PMG				pmax	pmax		
	comp=Z,129nm,0.8s						
BNDI	**Bandanaira**	**10.87**	**257**	P	**Pn**	**07 20 14.0**	**+1.7**
	comp=Z,11μmcomp=Z,325nm,1.0s						
SAUI	**Saumlaki**	**10.92**	**237**	P	**Pn**	**07 20 13.5**	**+0.6**
	comp=Z,18μmcomp=Z,10μmcomp=Z,504nm,1.1s						
MSAI	**Masohi**	**11.64**	**263**	Pn	**Pn**	**07 20 24.6**	**+1.8**
	comp=Z,747nmcomp=Z,20nm,1.1s						
RABL	**Rabaul**	**11.84**	**101**	Pn	**Pn**	**07 20 26.6**	**+1.1**
COEN	**Coen**	**12.15**	**168**	P	**Pn**	**07 20 29.9**	**+0.1**
	baz=12,SNR=3.9						
COEN	**Coen**	**12.15**	**168**	Pn	**Pn**	**07 20 28.3**	**-1.5**
AAI	**Ambon**	**12.41**	**262**	P	**Pn**	**07 20 34.1**	**+0.8**
	comp=Z,12μmcomp=Z,3μmcomp=Z,258nm,1.4s						
LBMI	**Labuha**	**13.07**	**276**	P	**Pn**	**07 20 44.5**	**+2.1**
	comp=Z,4μmcomp=Z,136nm,1.2s						
KDU	**Kakadu**	**13.25**	**217**	P	**Pn**	**07 20 43.3**	**-1.6**
	baz=13,SNR=40						
TNTI	**Ternate**	**13.43**	**282**	Pn	**Pn**	**07 20 46.0**	**-1.3**
TNTI	**Ternate**	**13.43**	**282**	P	**Pn**	**07 20 50.0**	**+2.8**
	comp=Z,6μmcomp=Z,6μmcomp=Z,243nm,1.6s						
NLAI	**Namlea**	**13.45**	**265**	P	**Pn**	**07 20 49.4**	**+1.9**
	comp=Z,74nm,0.9s						
MTN	**Manton Dam**	**14.21**	**220**	P	**Pn**	**07 20 56.5**	**-1.4**
	baz=14,SNR=22						
MTN	**Manton Dam**	**14.21**	**220**	Pn	**Pn**	**07 20 56.9**	**-1.0**
SANI	**Sanana**	**14.51**	**270**	P	**Pn**	**07 21 02.9**	**+0.8**
	comp=Z,5μmcomp=Z,2μmcomp=Z,128nm,1.4s						
SGSI	**Sangihe**	**16.01**	**291**	P	**Pn**	**07 21 22.8**	**+0.9**
	comp=Z,128nm,0.9s						
GUMO	**Guam**	**16.10**	**15**	Pn	**Pn**	**07 21 22.4**	**-0.6**
GUMO	comp=Z,6.2nm,0.3s,baz=198,slow=10,SNR=6.2			LR	LR	07 26 53.6	
	comp=Z,11μm,20.2s,baz=218,slow=35						
	comp=Z,130nm,0.9s						
GUMO	**Guam**	**16.10**	**15**		**Pn**	**07 21 22.9**	**-0.1**
GUMO				IAmb	IAmb	07 21 32.5	
	comp=Z,458nm,1.6s						
GUMO	**Guam**	**16.10**	**15**	P	**Pn**	**07 21 22.9**	**-0.1**
GUMO				pmax	pmax		
	comp=Z,458nm,1.6s						
MTSU	**Mount Surprise**	**16.45**	**167**	P	**Pn**	**07 21 28.7**	**+1.2**
	baz=16,SNR=14						
KMSI	**Cibinong**	**16.72**	**279**	P	**P**	**07 21 33.3**	**+0.1**
	comp=Z,404nm,0.9s						
BIPH	**Bislig**	**17.37**	**306**	*e*P	**Pn**	**07 21 36.9**	**-2.2**
DAV	**Davao City (W)**	**17.42**	**301**	LR	LR	07 29 08.4	
	comp=Z,3μm,19.1s,baz=128,slow=40						
DAV	**Davao City (W)**	**17.42**	**301**	P	**Pn**	**07 21 39.0**	**-0.7**
DAV				IAmb	IAmb	07 21 45.6	
	comp=Z,177nm,0.5s						
GTOI	**Gorontalo**	**17.69**	**278**	P	**P**	**07 21 45.5**	**+1.6**
	comp=Z,3μmcomp=Z,3μmcomp=Z,233nm,1.3s						
LUWI	**Luwuk**	**17.75**	**273**	P	**Pn**	**07 21 43.8**	**-0.1**
LUWI	**Luwuk**	**17.75**	**273**	P	**P**	**07 21 45.0**	**+0.3**
	comp=Z,13μmcomp=Z,1μm,1.3s						
KCP	**Kidapawan**	**17.81**	**300**	*e*P	**P**	**07 21 50.0**	**+4.7**
KCP				*i* S	S	07 25 28.6	+19
KNRA	**Kununurra**	**17.84**	**220**	P	**Pn**	**07 21 45.1**	**+0.2**
	baz=18,SNR=44						
KNRA	**Kununurra**	**17.84**	**220**	P	**Pn**	**07 21 43.0**	**-1.9**
SOEI	**Soe**	**17.88**	**244**	P	**Pn**	**07 21 43.7**	**-1.9**
SOEI				IAmb	IAmb	07 21 51.9	
	comp=Z,490nm,0.9s						
SOEI	**Soe**	**17.88**	**244**	P	**Pn**	**07 21 45.3**	**-0.3**
	comp=Z,8μmcomp=Z,13μmcomp=Z,1μm,1.4s						
BBSI	**Bau Bau**	**18.22**	**259**	P	**P**	**07 21 50.8**	**+1.0**
	comp=Z,806nmcomp=Z,69nm,1.2s						
BUKP	**Musuan**	**18.27**	**303**	*e*P	**P**	**07 21 52.6**	**+2.1**
QIS	**Mount Isa**	**18.45**	**183**	P	**P**	**07 21 51.6**	**-0.7**
	baz=18,SNR=15						
BATI	**Baumata**	**18.61**	**243**	P	**Pn**	**07 21 54.6**	**+0.2**
	comp=Z,441nm,0.8s,baz=98,slow=1.8,SNR=24						
BATI	**Baumata**	**18.61**	**243**	P	**Pn**	**07 21 55.0**	**+0.6**
	comp=Z,6μmcomp=Z,7μmcomp=Z,598nm,1.0s						
WB0	**Warramunga Arr**	**18.63**	**198**	P	**P**	**07 21 54.1**	**-0.1**
MRSI	**Marisa**	**18.73**	**277**	P	**Pn**	**07 21 56.3**	**+0.5**
	comp=Z,6μmcomp=Z,4μmcomp=Z,330nm,0.8s						
WR0	**Warramunga Arr**	**18.76**	**198**	P	**P**	**07 21 55.6**	**-0.1**
WRAB	**Tennant Creek**	**18.80**	**198**	P	**P**	**07 21 56.1**	**0.0**
WRAB	**Tennant Creek**	**18.80**	**198**	P	**P**	**07 21 56.1**	**0.0**
WRAB				pmax	pmax		
	comp=Z,77nm,0.7s						
WB2	**Warramunga Arr**	**18.80**	**198**	P	**P**	**07 21 55.7**	**-0.5**
WRA	**Warramunga Arr**	**18.81**	**198**	P	**P**	**07 21 55.8**	**-0.5**
	comp=Z,4.2nm,0.3s,baz=14,slow=11,SNR=127						
WRA				S	**Sn**	**07 25 26.3**	**-0.7**
	comp=Z,19nm,0.8s,baz=17,slow=21,SNR=4.6						
WRA				LR	LR	07 30 06.2	
	comp=Z,35μm,19.9s,baz=14,slow=40						
	comp=Z,81nm,0.9s						
WRA	**Warramunga Arr**	**18.81**	**198**	P	**P**	**07 21 56.1**	**-0.2**
WRA	**Warramunga Arr**	**18.81**	**198**	*i* P	**P**	**07 21 53.9**	**-2.3**
WRA				pmax	pmax		
	comp=Z,39nm,0.7s						
CTA	**Charters Tower**	**18.82**	**163**	P	**P**	**07 21 55.9**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=340,slow=11,SNR=22						
CTA				LR	LR	07 29 52.0	
	comp=Z,16μm,18.7s,baz=348,slow=39						
	comp=Z,10nm,0.6s						
CTAO	**Charters Tower**	**18.82**	**163**	P	**P**	**07 21 56.0**	**-0.4**
CTAO	**Charters Tower**	**18.82**	**163**	P	**P**	**07 21 56.0**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,49nm,1.2s						
APSI	**Ampana**	**18.88**	**273**	P	**Pn**	**07 21 58.3**	**+0.6**
	comp=Z,5μmcomp=Z,5μmcomp=Z,630nm,1.2s						
MMRI	**Maumere**	**19.33**	**249**	P	**P**	**07 22 00.9**	**-1.2**
MMRI	**Maumere**	**19.33**	**249**	P	**Pn**	**07 22 03.5**	**+0.4**
	comp=Z,8μmcomp=Z,5μmcomp=Z,173nm,1.3s						
PAGZ	**Pagadian**	**19.69**	**300**	*i* P	Pn	07 22 18.9	+11
PATS	**Pohnpei**	**19.83**	**64**	P	**P**	**07 22 07.1**	**-0.3**
	baz=20,SNR=10.0						
PATS	**Pohnpei**	**19.83**	**64**	P	**Pn**	**07 22 08.6**	**-0.5**
GHBP	**Garcia Hernand**	**19.84**	**306**	*i* P	**P**	**07 22 08.1**	**+0.5**
EDFI	**Ende, Flores**	**19.88**	**250**	P	**P**	**07 22 07.0**	**-1.1**
	comp=Z,4μmcomp=Z,966nmcomp=Z,79nm,1.1s						
TOLI2	**Tolitoli**	**19.96**	**279**		**P**	**07 22 09.0**	**0.0**
TOLI2				IAmb	IAmb	07 22 23.7	
	comp=Z,177nm,0.9s						
TABP	**Talibon, Bohol**	**20.10**	**307**	*i* P	**P**	**07 22 10.1**	**-0.3**
LSIP	**Lazi, Siquijor**	**20.14**	**304**	*i* P	Pn	07 22 13.0	+0.3
TBP	**Tagbilaran**	**20.25**	**305**	*e*P	**P**	**07 22 12.7**	**+0.6**
BSSI	**Bau Bau, Buton**	**20.38**	**258**	P	Pn	07 22 14.9	-0.7
	comp=Z,4μmcomp=Z,3μmcomp=Z,191nm,1.2s						
SNPH	**Sibulan**	**20.58**	**304**	*e*P	Pn	07 22 17.9	0.0
BKSI	**Bulukumba**	**20.60**	**260**	P	Pn	07 22 17.0	-1.2
	comp=Z,7μmcomp=Z,2μmcomp=Z,91nm,0.9s						
HNR	**Honiara**	**20.69**	**112**	P	**P**	**07 22 16.2**	**-0.6**
	comp=Z,7μm,0.8s,baz=260,slow=2.6,SNR=6.8						
HNR				LR	LR	07 30 25.5	
	comp=Z,77μm,19.4s,baz=303,slow=37						
HNR	**Honiara**	**20.69**	**112**	P	**P**	**07 22 16.5**	**-0.3**
HNR	**Honiara**	**20.69**	**112**	P	**P**	**07 22 16.5**	**-0.3**
HNR				pmax	pmax		
	comp=Z,837nm,1.0s						
HNR				MLR	MLR		
	comp=Z,6μm,19.0s						
TTSI	**Tana Toraja**	**20.69**	**267**	P	Pn	07 22 19.4	+0.2
	comp=Z,8μmcomp=Z,5μmcomp=Z,423nm,1.2s						
MPSI	**Mapaga**	**20.74**	**276**	P	**P**	**07 22 18.0**	**+0.7**
	comp=Z,6μmcomp=Z,3μmcomp=Z,298nm,1.1s						
SPSI	**Sidrap Palu**	**20.80**	**264**	P	**P**	**07 22 19.1**	**+1.1**
	comp=Z,8μmcomp=Z,6μmcomp=Z,168nm,1.1s						
KAPI	**Kappang**	**20.93**	**261**	P	**P**	**07 22 18.7**	**-0.7**
	comp=Z,10nm,0.6s,baz=236,slow=16,SNR=12						
KAPI				LR	LR	07 32 11.6	
	comp=Z,1μm,20.0s,baz=82,slow=42						
	comp=Z,10nm,0.6s						
KAPI	**Kappang**	**20.93**	**261**	P	**P**	**07 22 20.1**	**+0.8**
KAPI				IAmb	IAmb	07 22 35.7	
	comp=Z,313nm,1.6s						
KAPI	**Kappang**	**20.93**	**261**	*d* P	**P**	**07 22 20.5**	**+1.1**
KAPI				pmax	pmax		
	comp=Z,186nm,1.5s						
KAPI	**Kappang**	**20.93**	**261**	P	Pn	07 22 21.7	-0.2
CNOP	**Candoni, Negro**	**21.33**	**304**	*i* P	**P**	**07 22 24.7**	**+1.0**
BASI	**Baing, Sumba**	**21.41**	**247**	P	**P**	**07 22 24.8**	**+0.2**
	comp=Z,4μmcomp=Z,4μmcomp=Z,281nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.64**	**221**	P	**P**	**07 22 26.4**	**-0.6**
	comp=Z,45nm,0.7s,baz=38,slow=11,SNR=64						
FITZ				S	**S**	**07 26 24.6**	**-1.7**
	comp=Z,29nm,0.8s,baz=238,slow=23,SNR=5.2						
FITZ				LR	LR	07 32 05.2	
	comp=Z,13μm,19.4s,baz=43,slow=40						
	comp=Z,45nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.64**	**221**	P	**P**	**07 22 26.4**	**-0.6**
	baz=22,SNR=44						
FITZ	**Fitzroy Crossi**	**21.64**	**221**	P	**P**	**07 22 26.1**	**-0.8**
FITZ				IAmb	IAmb	07 22 45.9	
	comp=Z,435nm,1.8s						
RCP	**Roxas**	**22.22**	**308**	*e*P	**P**	**07 22 31.9**	**-1.4**
AS31	**Alice Springs**	**22.45**	**196**	P	**P**	**07 22 34.9**	**-0.8**
ASAR	**Alice Springs**	**22.45**	**196**	P	**P**	**07 22 35.0**	**-0.7**
	comp=Z,32nm,0.6s,baz=26,slow=11,SNR=187						
ASAR				S	**S**	**07 26 44.4**	**+2.6**
	comp=Z,20nm,1.0s,baz=15,slow=25,SNR=5.3						
ASAR				LR	LR	07 32 20.1	
	comp=Z,35μm,18.2s,baz=23,slow=39						
	comp=Z,32nm,0.6s						
ASAR	**Alice Springs**	**22.45**	**196**	P	**P**	**07 22 35.8**	**0.0**
ASAR	**Alice Springs**	**22.45**	**196**	P	**P**	**07 22 35.8**	**0.0**
SGKI	**Sangatta, Kali**	**22.94**	**273**	P	**P**	**07 22 43.9**	**+2.9**
	comp=Z,19μmcomp=Z,19μmcomp=Z,861nm,1.1s						
MYLDM	**Lahad Datu**	**23.12**	**288**	P	**P**	**07 22 44.2**	**+1.4**
SMKI	**Samarinda**	**23.34**	**274**	P	**P**	**07 22 47.9**	**+2.8**
	comp=Z,9μmcomp=Z,19μmcomp=Z,630nm,1.4s						
PLAI	**Plampang**	**23.61**	**252**	P	**P**	**07 22 45.9**	**-1.8**
	comp=Z,3μmcomp=Z,2μmcomp=Z,105nm,1.2s						
BKB	**Balikpapan**	**23.61**	**271**	P	**P**	**07 22 50.8**	**+3.1**
	comp=Z,8μmcomp=Z,11μmcomp=Z,954nm,1.1s						
JCNP	**Jose Panganiba**	**23.95**	**313**	*i* P	**P**	**07 22 50.2**	**-0.7**
TWSI	**Taliwang, Sumb**	**24.44**	**253**	P	**P**	**07 22 53.9**	**-1.6**
	comp=Z,844nmcomp=Z,38nm,1.3s						
QLP	**Quilpie**	**24.69**	**172**	P	**P**	**07 22 58.2**	**+0.6**
	baz=25,SNR=5.6						
LQP	**Lukban**	**24.70**	**311**	*e*P	**P**	**07 22 59.7**	**+1.6**
PGP	**Puerto Galera**	**24.78**	**309**	*e*P	**P**	**07 23 02.7**	**+4.2**
TGY	**Tagaytay City**	**25.15**	**310**	LR	LR	07 35 19.6	
	comp=Z,2μm,

comp=Z,72nm,0.9s
YHNB Yeheng 32.38 326 IAMs_20 IAMs_20 07 34 10.3
comp=Z,7µm,21.0s
GIRL Giralia 32.72 229 P **P** **07 24 09.4 0.0**
baz=33,SNR=4.2
H11S3 WAKE ISLAND Hy 32.85 51 T T 07 59 49.4
baz=232,slow=75,SNR=25
H11S2 WAKE ISLAND Hy 32.86 51 T T 07 59 54.3
baz=232,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 32.87 51 T T 07 59 50.2
baz=232,slow=75,SNR=20
PINNC Pines Island, 33.22 130 IAmb IAmb 07 24 16.9
comp=Z,98nm,1.0s
WAKE Wake Island 33.29 49 IAMs_20 IAMs_20 07 34 15.6
comp=Z,7µm,20.0s
H11N1 WAKE ISLAND Hy 33.72 49 T T 07 59 40.5
baz=229,slow=76,SNR=14
H11N2 WAKE ISLAND Hy 33.74 49 T T 07 59 41.6
baz=229,slow=76,SNR=11
H11N3 WAKE ISLAND Hy 33.74 49 T T 07 59 54.8
baz=229,slow=76,SNR=8.4
CAN Canberra 34.06 168 IAmb IAmb 07 24 27.2
comp=Z,41nm,0.9s
CAN Canberra 34.06 168 P **P** **07 24 22.4 +1.5**
CAN pmax pmax
comp=Z,86nm,1.2s
CNB Canberra Magne 34.14 167 P **P** **07 24 23.1 +1.5**
baz=34,SNR=9.9
QZH Quanzhou 34.20 323 ⇓*i*P **P** **07 24 24.5 +2.3**
QZH S **S** **07 29 49.1 +0.8**
QZH LR LR
comp=Z,3µm,20.8s
QZH LR LR
comp=Z,3µm,21.3s
QZH LR LR
comp=Z,4µm,30.3s
PPBI Pangkal Pinang 34.35 269 P **P** **07 24 24.7 +1.1**
comp=Z,22µmcomp=Z,240nm,1.2s
ARPS Mount Arapiles 34.60 178 P **P** **07 24 26.3 +0.8**
baz=35,SNR=12
JSU Suzuyama 34.68 345 IAmb IAmb 07 24 35.2
comp=Z,68nm,1.0s
JHJ Hachijo jima 2 34.95 359 LR LR 07 35 30.1
comp=Z,11µm,20.5s,baz=169,slow=31
MORW Morawa 35.59 219 P **P** **07 24 33.9 -0.2**
baz=36,SNR=14
MORW Morawa 35.59 219 IAmb IAmb 07 24 38.9
comp=Z,136nm,1.3s
TOO Toolangi 35.68 173 P **P** **07 24 35.1 +0.3**
baz=36,SNR=7.0
TOO Toolangi 35.68 173 P **P** **07 24 34.0 -0.8**
TOO IAmb IAmb 07 24 47.9
comp=Z,95nm,1.4s
TOO Toolangi 35.68 173 P **P** **07 24 34.0 -0.8**
TOO pmax pmax
comp=Z,95nm,1.5s
PMBI Palembang 35.71 268 P **P** **07 24 36.6 +1.2**
comp=Z,328nm,0.4s
MILA Mila 35.77 168 P **P** **07 24 36.3 +0.7**
baz=36,SNR=3.3
DSRI Dabo 35.95 272 P **P** **07 24 37.2 -0.3**
comp=Z,1µmcomp=Z,41nm,1.3s
TPRI Tanjung Pinang 36.09 274 P **P** **07 24 39.6 +0.9**
JMN Monobe 36.10 351 IAmb IAmb 07 24 50.1
comp=Z,61nm,0.9s
BLDU Ballidu 36.29 216 P **P** **07 24 39.7 -0.4**
baz=36,SNR=22
KLBR Kellerberrin 36.42 214 P **P** **07 24 40.6 -0.6**
baz=36,SNR=7.9
QIZ Qiongzhong 36.69 306 P **P** **07 24 43.5 -0.1**
QIZ IAmb IAmb 07 24 48.1
comp=Z,139nm,1.1s
QIZ Qiongzhong 36.69 306 P **P** **07 24 43.3 -0.4**
QIZ sP **pwP** **07 24 51.1 -0.8**
QIZ PP **PP** **07 26 10.5 +3.2**
QIZ S **S** **07 30 27.8 +1.1**
QIZ pmax pmax
comp=Z,39nm,1.2s
QIZ LR LR
comp=Z,4µm,14.3s
QIZ LR LR
comp=Z,2µm,22.3s
QIZ LR LR
comp=Z,4µm,29.5s
JMBI JAMBI 36.85 270 P **P** **07 24 47.0 +1.9**
comp=Z,3µmcomp=Z,156nm,0.7s
INU Inuyama 37.31 355 P **P** **07 24 47.8 -0.9**
INU IAMs_20 IAMs_20 07 39 05.5
comp=Z,6µm,20.0s
MUN Mundaring 37.58 215 P **P** **07 24 51.6 +0.5**
baz=38,SNR=6.6
SSE Sheshan 37.72 332 P **P** **07 24 52.6 +0.4**
SSE S **S** **07 30 42.8 +0.8**
SSE pmax pmax
comp=Z,18nm,1.2s
SSE pmax pmax
comp=Z,470nm,4.5s
SSE LR LR
comp=Z,2µm,21.8s
SSE LR LR
comp=Z,1µm,21.8s
NWAO Narrogin (SRO) 37.72 213 P **P** **07 24 51.5 -0.7**
comp=Z,20nm,0.9s,baz=256,slow=5.6,SNR=9.1
NWAO LR LR 07 42 09.8
comp=Z,16µm,18.0s,baz=259,slow=39
comp=Z,20nm,0.9s
NWAO Narrogin (SRO) 37.72 213 P **P** **07 24 52.2 -0.1**
baz=38,SNR=6.3
NWAO P **P** **07 24 52.2 -0.1**
baz=38,SNR=6.3
NWAO Narrogin (SRO) 37.72 213 P **P** **07 24 51.9 -0.4**
KSI Kapahiang 37.90 267 P **P** **07 24 54.1 0.0**
MASI Maura Aman, Be 38.24 268 P **P** **07 24 57.7 +0.7**
comp=Z,2µmcomp=Z,271nm,1.2s
MJAR Matsushiro Arr 38.42 357 P **P** **07 24 56.6 -1.6**
comp=Z,7.5nm,0.8s,baz=169,slow=9.9,SNR=20
MJAR LR LR 07 39 50.0
comp=Z,2µm,18.6s,baz=154,slow=35
comp=Z,7.5nm,0.8s
MAJO Matsushiro 38.42 357 P **P** **07 24 57.4 -0.7**
MAJO Matsushiro 38.42 357 ⇓*e*P **P** **07 24 57.7 -0.4**
UBPT Khong Chiam 38.69 298 P **P** **07 25 00.3 -0.4**
KRJI Kerinci 39.02 269 P **P** **07 25 03.4 -0.2**
comp=Z,10µmcomp=Z,581nm,1.1s
FUNA Funafuti 39.04 101 P **P** **07 25 03.9 +0.2**
SDSI Sungai Dareh 39.08 271 P **P** **07 25 04.0 0.0**
comp=Z,114nm,1.4s
BKNI Bangkinang 39.53 273 P **P** **07 25 07.2 -0.5**
BKNI Bangkinang 39.53 273 P **P** **07 25 07.9 +0.2**
comp=Z,2µmcomp=Z,9µmcomp=Z,287nm,1.1s
NJ2 Nanjing 39.62 331 ⇓P **P** **07 25 09.6 +1.4**
NJ2 pP **sP** **07 25 12.8 -1.1**
NJ2 sP **pwP** **07 25 16.1 -0.3**
NJ2 S **S** **07 31 15.8 +5.1**
NJ2 sS **sS** **07 31 23.3 +5.8**
NJ2 pmax pmax
comp=Z,38nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,4.2s
NJ2 LR LR
comp=Z,4µm,19.4s
NJ2 LR LR
comp=Z,2µm,12.8s
NJ2 LR LR
comp=Z,5µm,20.6s
JMM Marumori 39.68 0 P **P** **07 25 07.1 -1.6**
JMM IAmb IAmb 07 25 18.5
comp=Z,136nm,1.3s
GULI GuiLin 39.87 315 ⇑P **P** **07 25 09.3 -1.1**
GULI S **S** **07 31 10.8 -3.9**
GULI pmax pmax
comp=Z,20nm,0.1s
GULI LR LR
comp=Z,3µm,20.6s
GULI LR LR
comp=Z,3µm,18.6s
GULI LR LR
comp=Z,4µm,23.9s
JSD Sado 39.91 357 P **P** **07 25 09.6 -0.9**
JSD IAmb IAmb 07 25 14.0
comp=Z,115nm,1.1s
IPM Ipoh 39.97 279 P **P** **07 25 10.4 -1.0**
IPM IAmb IAmb 07 25 16.7
comp=Z,240nm,1.5s
MSVF Nonsavu 40.02 115 P **P** **07 25 12.2 +0.3**
comp=Z,15nm,0.8s,baz=272,slow=11,SNR=8.0
MSVF LR LR 07 41 06.5
comp=Z,3µm,20.4s,baz=291,slow=35
comp=Z,15nm,0.8s
MSVF Nonsavu 40.02 115 P **P** **07 25 11.7 -0.2**
PDSI Padang 40.05 271 P **P** **07 25 10.8 -1.3**
comp=Z,68nm,1.4s
KULM Kulim 40.47 280 P **P** **07 25 14.9 -0.6**
KULM IAmb IAmb 07 25 20.6
comp=Z,188nm,1.2s
MOO Moorlands 40.69 172 P **P** **07 25 18.2 +1.3**
baz=41,SNR=5.3
WHN Wuhan 40.87 324 ⇑P **P** **07 25 20.4 +1.9**
WHN pP **sP** **07 25 23.5 -0.8**
WHN S **S** **07 31 33.8 +4.4**
WHN SS **SnSn** **07 34 35.4 -2.8**
WHN LR LR
comp=Z,12µm,31.5s
KSAR Wonju Array Be 40.97 345 P **P** **07 25 18.7 -0.6**
KSAR Wonju Array Be 40.97 345 P **P** **07 25 18.7 -0.6**
KSRS Korea Array 40.97 345 P **P** **07 25 18.2 -1.1**
comp=Z,5.1nm,0.6s,baz=159,slow=9.2,SNR=21
KSRS PcP **PcP** **07 27 20.4 +1.0**
comp=Z,3.8nm,0.9s,baz=166,slow=5.0,SNR=5.0
KSRS LR LR 07 39 30.8
comp=Z,4µm,21.5s,baz=160,slow=32
comp=Z,5.1nm,0.6s
KS19 Wonju Array Si 41.03 345 P **P** **07 25 20.2 +0.4**
KS19 IAmb IAmb 07 25 40.3
comp=Z,94nm,1.4s
INCN Inchon 41.35 343 P **P** **07 25 22.3 -0.2**
INCN IAmb IAmb 07 25 33.6
comp=Z,127nm,1.4s
INCN Inchon 41.35 343 P **P** **07 25 22.3 -0.2**
INCN pmax pmax
comp=Z,127nm,1.5s
SISI Saibi 41.40 270 P **P** **07 25 22.3 -1.0**
comp=Z,2µmcomp=Z,235nm,1.2s
RPSI Rantau Prapat 41.83 276 P **P** **07 25 26.0 -0.8**
PSI Prapat 41.84 276 P **P** **07 25 26.4 -0.6**
comp=Z,106nm,0.9s,baz=95,slow=4.6,SNR=33
PSI LR LR 07 44 02.6
comp=Z,1µm,20.2s,baz=126,slow=38
comp=Z,106nm,0.9s
SRIT Nakonsritamara 42.12 285 IAmb IAmb 07 25 33.7
comp=Z,88nm,1.0s
TSI Tuntungan 42.28 277 P **P** **07 25 31.6 +1.2**
comp=Z,11µmcomp=Z,135nm,0.7s
GSI Gunungsitoli 43.05 274 P **P** **07 25 34.5 -2.2**
GSI Gunungsitoli 43.05 274 P **P** **07 25 35.4 -1.3**
comp=Z,4µmcomp=Z,329nm,1.0s
KCSI Kotacane, Aceh 43.07 277 P **P** **07 25 35.4 -1.5**
comp=Z,1µmcomp=Z,130nm,1.0s
GYA Guiyang 43.23 313 ⇓P **P** **07 25 41.8 +3.7**
GYA S **S** **07 32 06.8 +2.1**
GYA sS sS 07 32 21.3 +10
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,680nm,5.0s
GYA LR LR
comp=Z,970nm,5.8s
GYA LR LR
comp=Z,980nm,4.7s
GYA LR LR
comp=Z,1µm,7.3s
ENH Enshi 43.66 320 P **P** **07 25 41.4 -0.1**
ENH IAmb IAmb 07 25 46.2
comp=Z,123nm,1.5s
ENH IAMs_20 IAMs_20 07 41 03.6
comp=Z,4µm,20.0s
LHMI Lhok Sumawe 44.10 280 P **P** **07 25 43.7 -1.5**
LHMI Lhok Sumawe 44.10 280 P **P** **07 25 45.9 +0.7**
comp=Z,3µmcomp=Z,336nm,1.0s
DL2 Dalian 44.28 339 P **P** **07 25 47.3 +1.1**
DL2 S **S** **07 32 21.9 +2.5**
DL2 pmax pmax
comp=Z,33nm,1.2s
DL2 pmax pmax
comp=Z,660nm,4.2s
DL2 LR LR
comp=Z,2µm,17.4s
DL2 LR LR
comp=Z,2µm,17.3s
DL2 LR LR
comp=Z,4µm,27.1s
JEW Eniwo 44.66 1 P **P** **07 25 48.9 -0.3**
LYN LuoYang 44.90 327 ⇓*i*P **P** **07 25 49.9 -1.3**
LYN pP pP 07 25 54.8 -0.6
LYN S **S** **07 32 28.3 -0.3**
LYN SS **SS** **07 35 50.8 +0.4**
LYN pmax pmax
comp=Z,40nm,1.6s
LYN pmax pmax
comp=Z,480nm,5.0s
LYN LR LR
comp=Z,2µm,29.2s
LYN LR LR
comp=Z,2µm,21.8s
LYN LR LR
comp=Z,3µm,39.6s
OUZ Omahuta 45.12 141 P **P** **07 25 56.4 +3.5**
KMI Kunming 45.46 309 ⇑P **P** **07 25 57.9 +1.8**
KMI pP sP 07 26 01.3 -0.6
KMI S **S** **07 32 40.0 +2.5**
KMI SS **SS** **07 36 00.8 -0.4**
KMI pmax pmax
comp=Z,25nm,1.5s
KMI pmax pmax
comp=Z,310nm,5.4s
KMI LR LR
comp=Z,1µm,18.5s
KMI LR LR
comp=Z,2µm,26.6s
KMI LR LR
comp=Z,4µm,26.7s
CM31 Chiang Mai Arr 45.67 298 IAmb IAmb 07 26 03.0
comp=Z,91nm,1.4s
CMAR Chiang Mai Arr 45.67 298 P **P** **07 25 57.6 0.0**
comp=Z,17nm,0.9s,baz=121,slow=6.5,SNR=34
CMAR LR LR 07 46 32.8
comp=Z,618nm,19.2s,baz=115,slow=38
comp=Z,17nm,0.9s
CHTO Chiang Mai 45.80 299 P **P** **07 25 58.1 -0.6**
CHTO Chiang Mai 45.80 299 P **P** **07 25 58.1 -0.6**
CHTO Chiang Mai 45.80 299 P **P** **07 26 01.3 +2.7**
CHTO P **P** **07 26 01.3 +2.7**
HNS HongShan 45.94 331 ⇓P **P** **07 25 59.5 +0.1**
HNS S **S** **07 32 39.5 -4.0**
HNS pmax pmax
comp=Z,91nm,1.3s
HNS LR LR
comp=Z,2µm,19.8s
HNS LR LR
comp=Z,3µm,20.2s
HNS LR LR
comp=Z,4µm,20.0s
ASAJ Asahikawa 45.97 2 P **P** **07 25 55.5 -4.0**
YUK Yuzh-Kuril'sk 46.10 5 *e*P **P** **07 25 57.1 -3.4**
YUK *e* 07 27 33.8
YUK *e* 07 27 45.2
YUK *e*PPP PPP 07 28 25.6
YUK *e*S **S** **07 32 42.9 -2.6**
YUK *e* 07 35 53.2
YUK *e*SSS SSS 07 37 00.2
YUK pmax pmax
comp=Z,259nm,1.5s
YUK pmax pmax
comp=Z,253nm,1.0s
YUK pmax pmax
comp=E,226nm,1.2s
YUK pmax pmax
comp=N,273nm,1.2s
YUK MLR MLR
comp=Z,2µm,17.0s
YUK MLR MLR
comp=N,1µm,15.0s
YUK MLR MLR
comp=E,917nm,15.0s
SNY Shenyang 46.27 342 ⇓P **P** **07 26 01.6 -0.3**
SNY S **S** **07 32 49.8 +1.8**
SNY pmax pmax
comp=E,15nm,0.9s
SNY pmax pmax
comp=E,750nm,4.2s
SNY LR LR
comp=E,2µm,24.3s
SNY LR LR
comp=E,2µm,18.4s
SNY LR LR
comp=E,5µm,22.8s
XAN Xi'an 46.57 323 ⇑P **P** **07 26 04.3 -0.2**
XAN pP sP 07 26 08.8 -1.5
XAN sP pwP 07 26 11.1 -1.7
XAN S **S** **07 32 55.5 +2.7**
XAN SS **SS** **07 36 17.0 -2.2**
XAN pmax pmax
comp=E,43nm,1.1s
XAN LR LR
comp=E,2µm,18.4s
XAN LR LR
comp=E,2µm,20.0s
XAN LR LR
comp=E,4µm,22.5s
USA0B Ussuriysk Arra 46.64 352 P **P** **07 26 04.8 0.0**
USA0B Ussuriysk Arra 46.64 352 P **P** **07 26 04.8 0.0**
USA0B pmax pmax
comp=Z,34nm,1.3s
USRK Ussuriysk Ar. 46.64 352 P **P** **07 26 04.6 -0.2**
comp=Z,13nm,0.9s,baz=162,slow=7.6,SNR=16
USRK LR LR 07 42 18.8
comp=Z,6µm,21.7s,baz=240,slow=32
comp=Z,13nm,0.9s
PZH PanZhiHua 46.94 310 P **P** **07 26 07.1 -0.5**
PZH S **S** **07 32 58.8 +0.3**
PZH pmax pmax
comp=Z,210nm,5.6s
PZH LR LR
comp=Z,7µm,20.9s
PZH LR LR
comp=Z,7µm,22.4s
PZH LR LR
comp=Z,7µm,21.3s
TEY Ternei 46.98 356 *e*P **P** **07 26 06.3 -1.1**
TIY Taiyuan 47.31 329 *e*P **P** **07 26 14.8 +4.5**
TIY S **S** **07 33 03.8 +0.5**
TIY pmax pmax
comp=Z,500nm,6.7s
TIY LR LR
comp=Z,3µm,21.3s
TIY LR LR
comp=Z,2µm,22.0s
TIY LR LR
comp=Z,4µm,25.4s
BJT Baijiatuan 47.40 335 P **P** **07 26 10.2 -0.6**
BJT IAmb IAmb 07 26 19.4
comp=Z,98nm,1.5s
BJT Baijiatuan 47.40 335 IAMs_20 IAMs_20 07 43 00.5
comp=Z,5µm,22.0s
BJT Baijiatuan 47.40 335 P **P** **07 26 10.2 -0.6**
BJT pmax pmax
comp=Z,98nm,1.5s
BJI Beijing 47.41 335 P **P** **07 26 11.6 +0.7**
BJI pP **pP** **07 26 14.3 -0.8**
BJI sP **sP** **07 26 16.4 -0.3**
BJI PcP **PcP** **07 27 44.0 +2.6**
BJI S **S** **07 33 07.3 +2.8**
BJI pmax pmax
comp=Z,31nm,1.4s
BJI LR LR
comp=Z,570nm,20.3s
BJI LR LR
comp=Z,2µm,22.1s
BJI LR LR
comp=Z,4µm,20.8s
MDJ Mudanjiang 47.44 349 P **P** **07 26 10.5 -0.6**
MDJ IAmb IAmb 07 26 23.8
comp=Z,35nm,1.0s
MDJ IAMs_20 IAMs_20 07 42 10.6
comp=Z,5µm,22.0s
MDJ Mudanjiang 47.44 349 P **P** **07 26 10.1 -0.9**
MDJ PP **PP** **07 28 04.0 +1.4**
MDJ S **S** **07 33 01.5 -3.3**
MDJ pmax pmax
comp=Z,550nm,9.8s
MDJ LR LR
comp=Z,3µm,21.9s
MDJ LR LR
comp=Z,2µm,22.4s
MDJ LR LR
comp=Z,5µm,21.1s
KUR Kuril'sk 47.50 7 *c i*P **P** **07 26 12.9 +1.4**
KUR *e* 07 27 55.2
KUR *e*S S 07 32 54.4 -11
KUR pmax pmax
comp=Z,259nm,1.2s
KUR pmax pmax
comp=Z,1µm,3.7s
KUR MLR MLR
comp=Z,1µm,20.0s
CN2 Changchun 47.57 345 P **P** **07 26 11.6 -0.5**
CN2 S **S** **07 33 01.4 -5.3**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,700nm,7.0s
CN2 LR LR
comp=Z,3µm,19.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,3µm,19.0s
CD2 Chengdu 47.90 316 P **P** **07 26 15.1 +0.1**
CD2 pP pP 07 26 17.8 -1.4
CD2 S **S** **07 33 13.8 +1.9**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,450nm,5.4s
CD2 LR LR
comp=Z,2µm,14.7s
CD2 LR LR
comp=Z,2µm,17.7s
CD2 LR LR
comp=Z,3µm,18.6s
RAO Raoul Island 47.91 129 LR LR 07 46 24.9
comp=Z,1µm,18.5s,baz=298,slow=36
HIZ Hauiti 48.01 143 IAMs_20 IAMs_20 07 44 27.6
comp=Z,4µm,22.0s
QRZ Quartz Range 48.26 147 IAMs_20 IAMs_20 07 45 10.4
comp=Z,4µm,22.0s
AFI Afiamalu 48.60 107 LR LR 07 45 10.3
comp=Z,2µm,20.5s,baz=268,slow=34
YSS Yuzh-Sakhalins 48.81 2 P **P** **07 26 20.4 -1.1**
YSS IAmb IAmb 07 26 31.1
comp=Z,39nm,0.9s
YSS IAMs_20 IAMs_20 07 42 56.8
comp=Z,4µm,22.0s
YSS Yuzh-Sakhalins 48.81 2 *e*P **P** **07 26 20.5 -1.1**
YSS *e**SP **pwP** **07 26 27.7 -2.3**
YSS *e* 07 27 47.9
YSS *e* 07 28 13.3
YSS *e*S **S** **07 33 22.6 -1.4**
YSS *e*SS **SS** **07 36 53.6 -1.2**
YSS pmax pmax
comp=Z,500nm,5.0s
YSS pmax pmax
comp=Z,30nm,0.9s
BNX BinXian 48.95 348 ⇑P **P** **07 26 21.8 -0.9**
BNX pP **pP** **07 26 24.4 -2.5**
BNX sP **sP** **07 26 26.3 -2.2**
BNX PP **PP** **07 28 12.4 -3.9**
BNX S **S** **07 33 26.6 +0.5**
BNX pmax pmax
comp=Z,32nm,1.0s
BNX pmax pmax
comp=Z,660nm,5.9s
BNX LR LR
comp=Z,2µm,20.6s
BNX LR LR
comp=Z,2µm,17.3s
BNX LR LR
comp=Z,3µm,19.2s
NNZ Nelson 48.99 147 IAMs_20 IAMs_20 07 45 33.5
comp=Z,4µm,21.0s
THZ Tophouse 49.12 148 IAMs_20 IAMs_20 07 45 23.8
comp=Z,4µm,21.0s
DCZ Deep Cove 49.20 155 P **P** **07 26 27.0 +2.4**
DCZ IAmb IAmb 07 26 46.3
comp=Z,89nm,1.1s
DCZ Deep Cove 49.20 155 P **P** **07 26 27.1 +2.4**
URZ Urewera 49.22 142 LR LR 07 47 29.3
comp=Z,4µm,19.1s,baz=32,slow=36
URZ Urewera 49.22 142 IAMs_20 IAMs_20 07 44 56.0

comp=Z,5μm,22.0s
BKZ Black Stump Fm 49.41 143 IAmb IAmb 07 26 37.6
comp=Z,42nm,0.9s
BKZ IAMs_20 IAMs_20 07 47 12.6
comp=Z,4μm,19.0s
LTZ Lake Taylor 49.52 149 IAMs_20 IAMs_20 07 48 03.3
comp=Z,4μm,18.0s
RPZ Rata Peaks 49.60 151 LR LR 07 47 58.9
comp=Z,4μm,18.2s,baz=314,slow=37
RPZ Rata Peaks 49.60 151 P **P** **07 26 27.4 -0.4**
RPZ IAmb IAmb 07 26 49.7
comp=Z,95nm,1.1s
RPZ IAMs_20 IAMs_20 07 47 56.4
comp=Z,4μm,18.0s
LBZ Lake Benmore 49.69 152 IAMs_20 IAMs_20 07 47 24.9
comp=Z,3μm,20.0s
SNZO South Karori 49.78 146 IAMs_20 IAMs_20 07 45 33.4
comp=Z,3μm,21.0s
OXZ Oxford 49.79 150 IAMs_20 IAMs_20 07 49 14.0
comp=Z,3μm,19.0s
WHZ Wether Hill Ro 49.87 155 P P 07 26 24.9 -4.9
KHZ Kahutara 49.91 148 IAMs_20 IAMs_20 07 48 12.9
comp=Z,4μm,19.0s
HHC Hu-ho-hao-te 50.16 331 *e*P **P** **07 26 33.1 +0.9**
HHC S **S** **07 33 44.5 +1.0**
HHC ScS **ScS** **07 36 23.3 +0.2**
HHC SS **SS** **07 37 17.1 0.0**
HHC pmax pmax
comp=Z,41nm,1.0s
HHC pmax pmax
comp=Z,680nm,5.1s
HHC LR LR
comp=Z,5μm,20.9s
HHC LR LR
comp=Z,3μm,19.7s
HHC LR LR
comp=Z,8μm,21.6s
BFZ Birch Farm 50.24 145 IAMs_20 IAMs_20 07 46 42.8
comp=Z,4μm,21.0s
MIDW Midway 50.38 50 IAMs_20 IAMs_20 07 41 47.7
comp=Z,6μm,22.0s
ODZ Otahua Downs 50.40 152 IAMs_20 IAMs_20 07 48 09.0
comp=Z,3μm,20.0s
APZ The Paps 50.64 156 P **P** **07 26 34.0 -1.6**
XLT XiLinHaoTe 50.68 337 *e*P **P** **07 26 35.1 -0.9**
XLT pP sP 07 26 41.8 -0.1
XLT sP pwP 07 26 43.5 -0.9
XLT S **S** **07 33 49.3 -1.3**
XLT ScS **ScS** **07 36 21.3 -5.2**
XLT pmax pmax
comp=Z,16nm,1.1s
XLT pmax pmax
comp=Z,600nm,6.0s
XLT LR LR
comp=Z,220nm,21.1s
XLT LR LR
comp=Z,2μm,20.6s
XLT LR LR
comp=Z,4μm,24.8s
BTO Baotou 50.73 330 *e*P **P** **07 26 37.3 +0.9**
BTO S **S** **07 33 45.0 -6.3**
BTO LR LR
comp=Z,14μm,20.4s
BTO LR LR
comp=Z,11μm,17.8s
LZH Lanzhou 51.03 322 ⇑P **P** **07 26 39.9 +1.0**
LZH sP pwP 07 26 48.0 +0.7
LZH S **S** **07 33 56.0 +0.1**
LZH SS **SS** **07 37 27.8 -3.5**
LZH pmax pmax
comp=Z,86nm,1.4s
LZH pmax pmax
comp=Z,420nm,4.1s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,2μm,16.5s
LZH LR LR
comp=Z,3μm,15.1s
KLR Kul'dur 51.60 353 P **P** **07 26 41.9 -0.8**
comp=Z,6.9nm,0.7s,baz=198,slow=3.5,SNR=16
KLR LR LR 07 45 59.3
comp=Z,3μm,20.0s,baz=165,slow=33
comp=Z,6.9nm,0.7s
KLR Kul'dur 51.60 353 *ce*P **P** **07 26 41.1 -1.6**
KLR pmax pmax
comp=Z,71nm,1.7s
IMP Imphal 52.43 304 *e*P **P** **07 26 49.6 +0.1**
MOKO MOKOCHONG 52.57 306 *e*P **P** **07 26 50.9 +0.3**
MOKO IAmb IAmb 07 27 00.1
comp=Z,35nm,1.0s
KOHI KOHIMA 52.65 305 *e*P **P** **07 26 51.2 0.0**
KOHI IAmb IAmb 07 26 55.6
comp=Z,67nm,1.0s
GRNR Gornyy 52.70 357 *e*P **P** **07 26 46.2 -4.7**
GRNR MLR MLR
comp=E,200nm,11.0s
GRNR MLR MLR
comp=Z,700nm,15.0s
TYV Tymovskoe 52.71 2 *e*P **P** **07 26 54.8 +3.9**
TYV *e*S S 07 34 28.3 +10
TYV pmax pmax
comp=Z,33nm,1.2s
TYV pmax pmax
comp=Z,400nm,3.2s
ITAN ITANAGAR 53.56 306 *e*P **P** **07 26 59.7 +2.0**
ITAN IAmb IAmb 07 27 03.7
comp=Z,198nm,1.1s
BRDH Bariadhala 53.57 300 LR LR 07 51 40.9
comp=Z,591nm,19.9s,baz=114,slow=38
ZIRO ZIRO 53.62 307 *e*P **P** **07 27 00.4 +2.0**
TEZP TEZPUR 54.09 305 *e*P **P** **07 27 01.4 -0.2**
TEZP IAmb IAmb 07 27 06.5
comp=Z,68nm,1.4s
HIA Hailar 54.15 343 IAMs_20 IAMs_20 07 49 18.1
comp=Z,4μm,20.0s
HIA Hailar 54.15 343 IAmb IAmb 07 27 06.3
comp=Z,59nm,1.3s
GUWA GUWAHATI 54.84 304 *e*P **P** **07 27 08.1 +1.1**
GUWA IAmb IAmb 07 27 12.0
comp=Z,70nm,1.3s
GTA Gaotai 55.60 322 ⇑P **P** **07 27 13.0 +0.5**
GTA pP pwP 07 27 20.4 -0.4
GTA sP sP 07 27 24.1 +5.8
GTA S **S** **07 35 00.4 +2.5**
GTA SS **SS** **07 38 47.9 +4.6**
GTA pmax pmax
comp=Z,41nm,1.3s
GTA pmax pmax
comp=Z,280nm,6.4s
GTA LR LR
comp=Z,1μm,22.2s
GTA LR LR
comp=Z,1μm,24.0s
GTA LR LR
comp=Z,2μm,23.6s
DHUB DHUBRI 56.18 303 *e*P **P** **07 27 14.8 -1.9**
DHUB IAmb IAmb 07 27 21.9
comp=Z,70nm,1.1s
ZEA Zeya 56.65 351 *e*P **P** **07 27 19.1 -0.4**
ZEA *e* 07 29 24.2
ZEA *e*S **S** **07 35 13.2 +2.2**
ZEA *e*PS **PnS** **07 35 34.0 +12**
ZEA *e*SS **SS** **07 39 01.8 +2.8**
ZEA pmax pmax
comp=Z,200nm,4.4s
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=Z,300nm,11.2s
ZEA smax smax
comp=E,300nm,10.0s
ZEA smax smax
comp=N,400nm,9.8s
LSA Lhasa 56.69 308 IAmb IAmb 07 27 27.1
comp=Z,68nm,1.3s
LSA Lhasa 56.69 308 P **P** **07 27 21.9 +1.1**
PETK Petropavlovsk- 56.79 12 P **P** **07 27 20.3 -0.2**
comp=Z,14nm,1.1s,baz=321,slow=2.1,SNR=5.1
PETK LR LR 07 48 21.0
comp=Z,2μm,21.8s,baz=202,slow=32
comp=Z,14nm,1.1s
PETK Petropavlovsk- 56.79 12 P **P** **07 27 20.9 +0.4**
PETK Petropavlovsk- 56.79 12 P **P** **07 27 20.9 +0.4**

GOMU GeErMu 57.04 316 P **P** **07 27 24.0 +1.0**
GOMU pP sP 07 27 28.3 -0.6
GOMU sP pwP 07 27 30.4 -1.0
GOMU S **S** **07 35 19.3 +1.8**
GOMU pmax pmax
comp=Z,320nm,3.7s
GOMU LR LR
comp=Z,650nm,15.5s
GOMU LR LR
comp=Z,1μm,20.0s
GOMU LR LR
comp=Z,1μm,21.6s
ULN Ulaanbaatar 57.62 334 P **P** **07 27 26.9 +0.3**
ULN Ulaanbaatar 57.62 334 IAMs_20 IAMs_20 07 50 37.8
comp=Z,3μm,21.0s
ULN Ulaanbaatar 57.62 334 *c* *i*P **P** **07 27 26.9 +0.3**
ULN pmax pmax
comp=Z,17nm,0.7s
ULN Ulaanbaatar 57.62 334 P **P** **07 27 27.2 +0.6**
ULN P **P** **07 27 27.2 +0.6**
GTK Tadong 57.82 304 *e*P **P** **07 27 30.2 +1.8**
GTK IAmb IAmb 07 27 34.0
comp=Z,36nm,1.0s
SONM Songino Array 57.88 334 P **P** **07 27 28.1 -0.4**
comp=Z,3.0nm,0.7s,baz=153,slow=7.6,SNR=22
SONM PcP **PcP** **07 28 22.5 +1.7**
comp=Z,2.5nm,0.7s,baz=142,slow=4.9,SNR=4.0
SONM LR LR 07 50 39.0
comp=Z,3μm,21.4s,baz=142,slow=34
SONM PKPPKP 07 57 25.1
comp=Z,1.3nm,0.8s,baz=297,slow=2.5,SNR=6.0
comp=Z,3.0nm,0.7s
CIT Chita 58.47 341 *e*P **P** **07 27 33.9 +1.5**
CIT *e* 07 27 46.2
CIT *e* 07 28 25.9
CIT pmax pmax
comp=Z,212nm,2.8s
TAPN Taplejung 58.57 304 *e*P **P** **07 27 34.6 +0.7**
comp=Z,184nm,1.4s
RAMN Ramite 59.35 303 *e*P **P** **07 27 40.2 +0.9**
comp=Z,165nm,1.4s
RAGD RAYAGADA 59.86 294 *e*P **P** **07 27 43.4 +0.8**
JIRN Jiri 59.94 304 *e*P **P** **07 27 44.4 +0.9**
GUN Gumba 60.28 304 *e*P **P** **07 27 46.5 +0.7**
PALK Pallekele 60.38 279 P **P** **07 27 46.1 -0.2**
PALK IAmb IAmb 07 27 51.0
comp=Z,39nm,1.0s
PALK Pallekele 60.38 279 P **P** **07 27 46.1 -0.2**
PALK pmax pmax
comp=Z,39nm,1.0s
PALK Pallekele 60.38 279 P **P** **07 27 47.3 +1.0**
PALK P **P** **07 27 47.3 +1.0**
PKI Pulchoki 60.56 303 *e*P **P** **07 27 48.0 +0.3**
comp=Z,89nm,1.2s
PKIN Phulchoki 60.57 303 *e*P **P** **07 27 48.6 +0.9**
DMN Daman 60.83 303 *e*P **P** **07 27 50.3 +0.9**
RAR Rarotonga 61.13 113 LR LR 07 52 09.7
comp=Z,824nm,21.5s,baz=280,slow=34
ZAK Zakamensk 61.15 334 *e*P **P** **07 27 49.9 -1.0**
ZAK pmax pmax
comp=Z,53nm,1.4s
GKN Gorkha 61.35 303 *e*P **P** **07 27 53.8 +1.0**
SHEM Shemya Is, Ala 61.41 23 LR LR 07 49 38.2
comp=Z,3μm,21.5s,baz=262,slow=31
MA2 Magadan 61.94 6 P **P** **07 27 55.8 -0.1**
comp=Z,13nm,0.9s,baz=176,slow=7.7,SNR=5.7
MA2 LR LR 07 52 13.3
comp=Z,1μm,21.9s,baz=193,slow=34
comp=Z,13nm,0.9s
MA2 Magadan 61.94 6 P **P** **07 27 56.0 0.0**
MA2 IAmb IAmb 07 28 09.3
comp=Z,39nm,1.2s
MA2 Magadan 61.94 6 *ce*P **P** **07 27 56.8 +0.8**
MA2 pmax pmax
comp=Z,75nm,2.0s
IRK Irkutsk 62.09 336 *e*P **P** **07 27 52.8 -4.3**
IRK pmax pmax
comp=Z,105nm,3.0s
DANN Dangsing 62.19 304 *e*P **P** **07 27 59.5 +0.8**
comp=Z,113nm,0.9s
MOY Mondy 63.08 334 *e*P **P** **07 28 04.1 +0.2**
MOY pmax pmax
comp=Z,124nm,1.9s
BOD Bodaibo 63.31 344 *e*P **P** **07 28 05.4 +0.2**
BOD pmax pmax
comp=Z,59nm,1.6s
SALM Salem 63.38 284 *e*P **P** **07 28 08.2 +1.8**
KOD Kodaikanal 63.91 282 *e*P **P** **07 28 10.8 +0.5**
HYBB Hyderabad (bro 64.01 290 *e*P **P** **07 28 10.2 -0.4**
TRD Trivandrum 64.20 280 *e*P **P** **07 28 15.6 +3.7**
YAK Yakutsk 64.41 354 LR LR 07 54 34.3
comp=Z,642nm,21.0s,baz=186,slow=34
YAK Yakutsk 64.41 354 P **P** **07 28 11.4 -0.9**
YAK Yakutsk 64.41 354 *e*P **P** **07 28 11.2 -1.1**
YAK *e**PP **sP** **07 28 17.6 -0.5**
YAK *e* 07 30 36.1
YAK *e*S **S** **07 36 50.4 +0.4**
YAK *e**SS sS 07 37 04.3 +7.2
YAK *e*SS **SS** **07 40 55.5 -4.8**
YAK pmax pmax
comp=Z,101nm,1.1s
YAK pmax pmax
comp=N,73nm,1.4s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=Z,113nm,3.2s
YAK pmax pmax
comp=N,43nm,3.0s
YAK pmax pmax
comp=E,66nm,2.9s
YAK smax smax
comp=N,514nm,3.8s
YAK smax smax
comp=E,264nm,4.4s
YAK MLR MLR
comp=Z,787nm,18.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,184nm,17.0s
ADK Adak 64.72 28 IAMs_20 IAMs_20 07 50 43.2
comp=Z,3μm,21.0s
PCHI Peechi 65.04 283 ⇓ *e*P **P** **07 28 17.6 +0.3**
PCHI *e*S **S** **07 37 01.0 +1.6**
SEY Seymchan 65.40 6 LR LR 07 54 10.8
comp=Z,1μm,21.4s,baz=164,slow=34
SEY Seymchan 65.40 6 *ce*P **P** **07 28 18.8 +0.1**
SEY pmax pmax
comp=Z,25nm,1.1s
LGTI Lohaghat 65.46 304 *e*P **P** **07 28 19.2 -0.6**
PTH Pithoragarh 65.52 304 *e*P **P** **07 28 20.0 -0.4**
WMQ Urumqi 65.60 321 *e*P **P** **07 28 22.3 +1.8**
WMQ pP sP 07 28 25.3 -1.2
WMQ S **S** **07 37 12.5 +7.0**
WMQ pmax pmax
comp=Z,39nm,1.3s
WMQ pmax pmax
comp=Z,570nm,5.5s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,860nm,21.3s
WMQ LR LR
comp=Z,910nm,19.7s
JHNI Jhansi 65.82 299 *e*P **P** **07 28 21.8 -0.5**
BHPL Bhopal 66.27 296 *e*P **P** **07 28 24.7 -0.5**
BHPL IAmb IAmb 07 28 27.9
comp=Z,32nm,0.8s
CASY Casey 67.53 193 P **P** **07 28 32.5 +0.2**
CASY IAmb IAmb 07 28 37.5
comp=Z,58nm,1.3s
CASY Casey 67.53 193 IAMs_20 IAMs_20 07 58 40.4
comp=Z,3μm,19.0s
DDI Dehra Dun 67.53 304 *e*P **P** **07 28 34.6 +1.4**
KAAM Kaadhehdhoo 67.55 271 P **P** **07 28 34.4 +0.9**
KUDL Kundal 68.27 301 *e*P **P** **07 28 37.1 -0.6**
SMLA Simla 68.50 305 *e*P **P** **07 28 39.5 +0.4**
SMLA IAmb IAmb 07 28 48.5
comp=Z,45nm,0.8s
DGZ Jazzator, Alta 68.70 326 ⇓ *i*P **P** **07 28 39.5 -0.7**
DGZ pmax pmax
comp=Z,54nm,1.7s
KHET Khetri 68.84 301 *e*P **P** **07 28 40.5 -0.9**
BHK Bhakra 69.19 305 *e*P **P** **07 28 45.3 +1.8**

THN Thein Dam 70.04 306 *e*P **P** **07 28 48.2 -0.5**
PPT2 Papeete2 70.26 108 *e*P **P** **07 28 51.7 +1.4**
comp=Z,159nm,23.5s
PPT2 *e*S **S** **07 38 03.0 +0.8**
comp=Z,375nm,27.2s
PPT2 Papeete2 70.26 108 *e*LR LR 07 50 10.0
comp=Z,2μm,22.2s
MK31 Makanchi Array 70.35 322 P **P** **07 28 50.0 -0.3**
MK31 IAmb IAmb 07 29 02.6
comp=Z,24nm,0.9s
MK31 Makanchi Array 70.35 322 *i* P **P** **07 28 50.1 -0.2**
MK31 pmax pmax
comp=Z,37nm,0.9s
MKAR Makanchi Array 70.35 322 P **P** **07 28 50.2 -0.1**
comp=Z,17nm,0.8s,baz=113,slow=7.5,SNR=95
MKAR PKPPKP 07 56 53.1
comp=Z,1.1nm,1.1s,baz=301,slow=2.6,SNR=5.0
MKAR LR LR 08 02 30.4
comp=Z,692nm,18.1s,baz=98,slow=38
comp=Z,17nm,0.8s
MKAR Makanchi Array 70.35 322 P **P** **07 28 49.6 -0.7**
MAKZ Makanchi 70.55 322 P **P** **07 28 51.2 -0.3**
MAKZ IAmb IAmb 07 28 56.5
comp=Z,40nm,0.9s
MAKZ Makanchi 70.55 322 P **P** **07 28 51.2 -0.3**
MAKZ pmax pmax
comp=Z,40nm,1.0s
SHLS Shalkode 70.72 317 *e*P **P** **07 28 50.6 -2.1**
SHLS *e*S **S** **07 38 04.1 -2.7**
SHLS pmax pmax
comp=Z,27nm,1.5s
SHLS Shalkode 70.72 317 *e*P **P** **07 28 50.6 -2.1**
comp=Z,27nm,1.5s,baz=317
SHLS *e*S **S** **07 38 04.2 -2.7**
baz=317
PDGK Podgornoye 70.76 317 P **P** **07 28 52.6 -0.4**
TBI Tubuai 70.89 114 *e*S **S** **07 38 09.4 +0.2**
comp=Z,491nm,30.2s
TBI *e*SS **SS** **07 42 42.6 +0.5**
TBI *e*LR LR 07 50 27.0
comp=Z,620nm,28.8s
comp=Z,2μm,25.5s
UZB Uzynbulak 71.01 317 *e*P **P** **07 28 54.1 -0.5**
UZB pmax pmax
comp=Z,25nm,1.5s
UZB Uzynbulak 71.01 317 *e*P **P** **07 28 54.2 -0.5**
comp=Z,25nm,1.5s,baz=317
TARG Taragay, Kyrgy 71.34 315 IAmb IAmb 07 29 17.6
comp=Z,56nm,1.1s
KPKS Kokpek 71.36 317 *e*P **P** **07 28 56.1 -0.5**
KPKS *e*S **S** **07 38 14.9 +0.8**
KPKS pmax pmax
comp=Z,28nm,1.3s
KPKS Kokpek 71.36 317 *e*P **P** **07 28 56.2 -0.5**
comp=Z,28nm,1.3s,baz=317
KPKS *e*S **S** **07 38 15.0 +0.8**
baz=317
ZHN Zhinishke 71.42 317 *e*P **P** **07 28 56.8 -0.2**
ZHN Zhinishke 71.42 317 *e*P **P** **07 28 56.8 -0.2**
baz=317
KSH Kashi 71.93 313 P **P** **07 29 01.8 +1.6**
KSH pP sP 07 29 05.9 -0.2
KSH sP pwP 07 29 09.6 +1.0
KSH S **S** **07 38 22.5 +1.6**
KSH pmax pmax
comp=Z,28nm,1.5s
KSH pmax pmax
comp=Z,340nm,3.5s
KSH LR LR
comp=Z,1μm,17.9s
KSH LR LR
comp=Z,2μm,21.3s
KSH LR LR
comp=Z,2μm,24.7s
TDK Taldyqorghan 72.11 319 LR LR 08 01 07.3
comp=Z,426nm,14.9s,baz=319
BILL Bilibino 72.17 10 ⇑ *e*P **P** **07 29 01.8 +0.9**
BILL *e* 07 31 41.7
BILL *i* S **S** **07 38 20.0 -2.4**
BILL pmax pmax
comp=Z,17nm,1.5s
BILL MLR MLR
comp=Z,803nm,19.0s
ZALV Zalesovo Beam 72.25 329 P **P** **07 28 60.0 -1.7**
comp=Z,9.7nm,0.7s,baz=94,slow=5.7,SNR=16
ZALV LR LR 08 01 30.4
comp=Z,2μm,19.4s,baz=123,slow=36
comp=Z,9.7nm,0.7s
ZALV Zalesovo Beam 72.25 329 *i* P **P** **07 29 01.2 -0.4**
ZALV pmax pmax
comp=Z,16nm,0.9s
NIL Nilore 72.36 306 P **P** **07 29 03.0 +0.2**
NIL Nilore 72.36 306 P **P** **07 29 03.0 +0.2**
NIL pmax pmax
comp=Z,98nm,0.7s
NIL MLR MLR
comp=Z,700nm,22.0s
NIL Nilore 72.36 306 P **P** **07 29 03.5 +0.7**
MDOK Medeo 72.37 317 *e*P **P** **07 29 02.4 -0.3**
MDOK *e*S **S** **07 38 26.5 +0.6**
MDOK MLR MLR
comp=Z,426nm,14.0s
MDOK Medeo 72.37 317 *e*P **P** **07 29 02.4 -0.3**
baz=317
MDOK *e*S **S** **07 38 26.5 +0.6**
baz=317
MDOK LR LR 08 00 51.0
comp=Z,426nm,14.4s,baz=317
AAA Alma-Ata 72.47 317 *e*P **P** **07 29 03.2 -0.1**
AAA pmax pmax
comp=Z,32nm,0.9s
AAA Alma-Ata 72.47 317 *e*P **P** **07 29 03.2 -0.1**
comp=Z,32nm,0.9s,baz=317
NRN Naryn 72.52 315 IAmb IAmb 07 29 09.1
comp=Z,51nm,1.4s
ULHL Ulahol 72.61 316 P **P** **07 29 04.8 +0.4**
SNR=9.7
CHKK Chushkaly 72.65 317 *e*P **P** **07 29 03.9 -0.3**
CHKK Chushkaly 72.65 317 *e*P **P** **07 29 03.9 -0.3**
baz=317
BOOM Boomskoye usch 72.91 316 IAmb IAmb 07 29 25.7
comp=Z,53nm,1.1s
KUU Kurty 73.10 317 *e*P **P** **07 29 06.6 -0.3**
KUU *e*S **S** **07 38 34.4 +0.4**
KUU pmax pmax
comp=Z,42nm,1.2s
KUU Kurty 73.10 317 *e*P **P** **07 29 06.7 -0.3**
comp=Z,42nm,1.2s,baz=317
KUU *e*S **S** **07 38 34.5 +0.4**
baz=317
SEM Semipalatinsk 73.12 325 *e*P **P** **07 29 06.0 -1.1**
SEM MLR MLR
comp=Z,381nm,18.0s
SEM Semipalatinsk 73.12 325 *e*P **P** **07 29 06.1 -1.1**
baz=324
SEM LR LR 08 02 53.2
comp=Z,381nm,18.3s,baz=324
TKM2 Tokmak 2 73.29 316 P **P** **07 29 08.5 +0.2**
SNR=27
TKM2 Tokmak 2 73.29 316 *i* P **P** **07 29 07.9 -0.4**
TKM2 pmax pmax
comp=Z,93nm,1.9s
KBK Karagaybulak 73.65 316 P **P** **07 29 11.2 +0.7**
SNR=13
UCH Uchtor 73.82 315 P **P** **07 29 12.6 +0.8**
SNR=47
CHMS Chumysh 73.90 316 P **P** **07 29 11.4 -0.3**
SNR=11
CHMS Chumysh 73.90 316 *i* P **P** **07 29 11.1 -0.6**
CHMS pmax pmax
comp=Z,93nm,1.6s
TIXI Tiksi 73.93 356 LR LR 08 00 26.1
comp=Z,2μm,20.7s,baz=180,slow=35
TIXI Tiksi 73.93 356 P **P** **07 29 11.9 +0.7**
TIXI IAmb IAmb 07 29 16.4
comp=Z,56nm,1.6s
TIXI IAMs_20 IAMs_20 08 00 15.5
comp=Z,2μm,20.0s
TIXI Tiksi 73.93 356 *ce*P **P** **07 29 12.1 +1.0**
TIXI pmax pmax
comp=Z,30nm,1.3s
AAK Ala-Archa 73.97 315 P **P** **07 29 13.0 +0.7**
SNR=9.2
AAK Ala-Archa 73.97 315 LR LR 08 01 50.7
comp=Z,795nm,21.4s,baz=101,slow=36
AAK Ala-Archa 73.97 315 P **P** **07 29 12.9 +0.7**

AAK IAmb IAmb 07 29 24.0
comp=Z,49nm,1.3s
AAK Ala-Archa 73.97 315 *ce*P **P 07 29 12.5 +0.3**
AAK pmax pmax
comp=Z,47nm,1.8s
AAK Ala-Archa 73.97 315 P **P**
AAK Ala-Archa 73.97 315 P **P 07 29 13.8 +1.6**
SGDS Sogindy 74.13 316 *e*P **P 07 29 12.6 -0.4**
SGDS Sogindy 74.13 316 *e*P **P 07 29 12.7 -0.4**
baz=316
USP Ospenovka 74.16 316 P **P 07 29 13.4 +0.2**
SNR=38
KURK Kurchatov 74.19 324 P **P 07 29 12.6 -0.6**
KURK IAmb IAmb 07 29 15.9
comp=Z,50nm,1.1s
KURK Kurchatov 74.19 324 IAMs_20 IAMs_20 08 07 19.6
comp=Z,2µm,20.0s
KURK Kurchatov 74.19 324 *ce*P **P 07 29 12.3 -0.8**
KURK pmax pmax
comp=Z,82nm,1.7s
KURK Kurchatov 74.19 324 P **P 07 29 12.8 -0.3**
KURK P **P 07 29 12.8 -0.3**
KURBB Kurchatov Arra 74.21 324 LR LR 08 02 12.9
comp=Z,1µm,20.7s,baz=67,slow=36
AML Almayashu 74.38 315 P **P 07 29 16.1 +1.1**
SNR=16
EKS2 Erkin-Say 74.48 315 P **P 07 29 15.8 +0.7**
SNR=18
SDPT Sand Point 74.62 31 P **P 07 29 15.3 -0.2**
baz=243
CNBA Chernabura Isl 74.84 31 IAMs_20 IAMs_20 07 57 50.4
comp=Z,2µm,21.0s
BTLS Baital 75.03 318 *e*P **P 07 29 17.5 -0.6**
BTLS pmax pmax
comp=Z,22nm,1.1s
BTLS Baital 75.03 318 *e*P **P 07 29 17.6 -0.6**
comp=Z,22nm,1.1s,baz=318
BTK Batken 75.89 312 IAmb IAmb 07 29 28.5
comp=Z,85nm,1.5s
KBL Kabul 75.96 306 P **P 07 29 23.7 -0.3**
KBL IAmb IAmb 07 29 27.8
comp=Z,44nm,0.8s
KBL Kabul 75.96 306 P **P 07 29 23.7 -0.3**
KBL pmax pmax
comp=Z,44nm,0.8s
KBL Kabul 75.96 306 P **P 07 29 24.2 +0.2**
CHGN Chignik 76.09 30 P **P 07 29 24.0 0.0**
baz=244
DZA Taraz 76.27 315 *e*P **P 07 29 25.1 -0.2**
DZA Taraz 76.27 315 *e*P **P 07 29 25.1 -0.2**
baz=315
VNDA Vanda 76.31 175 P **P 07 29 25.2 +0.4**
comp=Z,19nm,0.7s,baz=325,slow=6.6,SNR=143
VNDA LR LR 08 03 08.6
comp=Z,3µm,19.7s,baz=348,slow=36
comp=Z,19nm,0.7s
VNDA Vanda 76.31 175 P **P 07 29 25.3 +0.4**
VNDA IAmb IAmb 07 29 30.0
comp=Z,26nm,0.8s
VNDA Vanda 76.31 175 P **P 07 29 25.3 +0.4**
VNDA pmax pmax
comp=Z,26nm,0.8s
CHGR Chuyangaron 76.79 310 P **P 07 29 28.5 0.0**
TNA Tin City 76.90 20 P **P 07 29 28.5 +0.1**
baz=234
KK31 Karatay Array 76.90 315 P **P 07 29 28.5 -0.4**
KK31 Karatay Array 76.90 315 *i* P **P 07 29 28.3 -0.6**
KKAR Karatay Array 76.90 315 P **P 07 29 28.4 -0.5**
KKAR Karatay Array 76.90 315 IAmb IAmb 07 29 33.8
comp=Z,147nm,1.8s
KKAR Karatay Array 76.90 315 P **P 07 29 28.4 -0.5**
IUG luzhnay 77.00 314 *e*P **P 07 29 29.3 -0.3**
IUG *e*S **S 07 39 18.2 +0.6**
IUG luzhnay 77.00 314 *e*P **P 07 29 29.3 -0.3**
baz=314
IUG *e*S **S 07 39 18.2 +0.6**
baz=314
SBA Scott Base 77.05 174 P **P 07 29 29.2 +0.2**
SBA Scott Base 77.05 174 IAMs_20 IAMs_20 08 03 51.1
comp=Z,2µm,18.0s
SBA Scott Base 77.05 174 P **P 07 29 29.2 +0.2**
SBA pmax pmax
comp=Z,129nm,1.8s
SBA MLR MLR
comp=Z,2µm,18.0s
ANM Nome 77.21 21 IAMs_20 IAMs_20 07 57 28.1
comp=Z,3µm,22.0s
ANM Nome 77.21 21 P **P 07 29 30.4 +0.3**
baz=236
CHIR Chirikof Islan 77.32 31 IAMs_20 IAMs_20 07 58 20.9
comp=Z,2µm,19.0s
CHIR Chirikof Islan 77.32 31 P **P 07 29 30.1 -0.8**
baz=247
BRZS Berezniki 77.48 322 *e*P **P 07 29 31.0 -1.0**
BRZS *e*S **S 07 39 21.9 -0.4**
BRZS Berezniki 77.48 322 *e*P **P 07 29 31.1 -1.0**
baz=322
BRZS *e*S **S 07 39 21.9 -0.4**
baz=322
P16K Nushagak River 77.49 28 P **P 07 29 30.7 -1.1**
baz=244
R17K Ugashik Creek 77.66 29 P **P 07 29 32.4 -0.4**
baz=246
O16K Kokwok River B 77.69 27 P **P 07 29 32.4 -0.5**
baz=244
N16K Nishlik Lake 77.78 26 P **P 07 29 33.0 -0.4**
baz=243
Q16K King Salmon 77.96 28 P **P 07 29 34.5 0.0**
baz=245
O17K Koliganek Bris 78.22 27 P **P 07 29 35.5 -0.4**
baz=245
P17K Kvichak River 78.28 28 P **P 07 29 36.8 +0.6**
baz=246
SII Sitkinak Islan 78.34 31 IAMs_20 IAMs_20 08 03 40.0
comp=Z,2µm,19.0s
SII Sitkinak Islan 78.34 31 P **P 07 29 36.7 0.0**
baz=248
P18K Big Mountain, 78.93 28 P **P 07 29 39.9 0.0**
baz=246
OHAK Old Harbor 79.05 30 P **P 07 29 40.3 -0.2**
baz=249
O18K Koktuh Hills 79.12 28 IAMs_20 IAMs_20 07 58 44.4
comp=Z,3µm,22.0s
O18K Koktuh Hills 79.12 28 P **P 07 29 39.2 -1.7**
baz=246
N18K Kilae Creek 79.15 27 P **P 07 29 42.3 +1.3**
N18K IAMs_20 IAMs_20 07 58 55.6
comp=Z,2µm,22.0s
N18K Kilae Creek 79.15 27 P **P 07 29 40.4 -0.6**
baz=246
TAOE Nuku Hiva Isla 79.17 99 *e*P **P 07 29 43.5 +1.3**
TAOE Nuku Hiva Isla 79.17 99 *e*SS SS 07 44 49.6 +1.1
comp=Z,331nm,30.8s
TAOE *e*LR LR 07 54 16.8
comp=Z,1µm,22.8s
Q19K Cape Douglas, 79.50 29 IAMs_20 IAMs_20 07 58 53.1
comp=Z,2µm,22.0s
Q19K Cape Douglas, 79.50 29 P **P 07 29 42.3 -0.7**
baz=248
NRIK Noril'sk 79.57 343 P **P 07 29 42.5 -0.6**
comp=Z,31nm,1.1s,baz=125,slow=6.2,SNR=29
NRIK LR LR 08 04 45.1
comp=Z,3µm,20.9s,baz=114,slow=36
comp=Z,31nm,1.1s
NRIK Noril'sk 79.57 343 *ce*P **P 07 29 42.1 -1.0**
NRIK pmax pmax
comp=Z,115nm,1.3s
KDAK Kodiak Island 79.61 30 LR LR 07 59 58.5
comp=Z,3µm,21.5s,baz=264,slow=32
KDAK Kodiak Island 79.61 30 P **P 07 29 42.8 -0.6**
baz=249
O19K Port Alsworth 79.67 27 IAMs_20 IAMs_20 07 59 12.4
comp=Z,2µm,21.0s
O19K Port Alsworth 79.67 27 P **P 07 29 44.1 +0.3**
baz=247
BVA0 Borovoye Array 79.78 325 *i* P **P 07 29 44.3 -0.3**
N19K Bonanza Creek 79.84 27 IAmb IAmb 07 29 48.8
comp=Z,72nm,1.4s
N19K IAMs_20 IAMs_20 08 00 10.8
comp=Z,2µm,21.0s
N19K Bonanza Creek 79.84 27 P **P 07 29 44.1 -0.7**
baz=247,SNR=7.5
BRVK Borovoye 79.85 325 P **P 07 29 44.6 -0.3**
BRVK IAmb IAmb 07 29 50.3
comp=Z,97nm,1.4s
BRVK Borovoye 79.85 325 *ce*P **P 07 29 44.5 -0.4**
BRVK pmax pmax
comp=Z,80nm,1.4s
BRVK Borovoye 79.85 325 P **P 07 29 44.9 -0.1**
BRVK P **P 07 29 44.9 -0.1**
RDOG Red Dog Mine 79.95 19 IAMs_20 IAMs_20 08 11 34.6
comp=Z,2µm,21.0s
P19K Oil Pt 79.97 28 P **P 07 29 45.6 +0.1**
baz=248
Q20K Shuyak Island 79.99 29 P **P 07 29 45.3 -0.3**
baz=249
L19K White Mountain 80.22 25 IAMs_20 IAMs_20 08 00 34.8
comp=Z,2µm,21.0s
L19K White Mountain 80.22 25 P **P 07 29 46.8 0.0**
baz=246,SNR=11
M19K Big River Lodg 80.31 26 IAMs_20 IAMs_20 08 00 28.2
comp=Z,2µm,21.0s
M19K Big River Lodg 80.31 26 P **P 07 29 47.5 +0.3**
baz=247
GCSA Galena City Sc 80.47 23 P **P 07 29 47.1 -0.9**
baz=244
HOM Homer 80.72 28 IAMs_20 IAMs_20 08 00 25.3
comp=Z,2µm,21.0s
L20K Farewell, AK 80.75 25 P **P 07 29 49.2 -0.5**
baz=247
M20K Styx River 80.85 26 IAmb IAmb 07 29 59.8
comp=Z,35nm,0.9s
M20K IAMs_20 IAMs_20 08 01 06.5
comp=Z,3µm,22.0s
M20K Styx River 80.85 26 P **P 07 29 50.2 -0.1**
baz=248
N20K Mount Spurr 81.01 27 P **P 07 29 49.7 -1.4**
baz=249
SPCR Spurr Chakacha 81.01 27 P **P 07 29 50.5 -0.6**
baz=249
K20K Telida 81.02 25 IAmb IAmb 07 29 55.2
comp=Z,104nm,1.8s
K20K IAMs_20 IAMs_20 07 59 45.8
comp=Z,2µm,22.0s
K20K Telida 81.02 25 P **P 07 29 50.7 -0.3**
baz=247,SNR=12
BRLK Bradley Lake 81.12 28 IAMs_20 IAMs_20 07 59 56.5
comp=Z,2µm,21.0s
BRSE Bradley Lake S 81.18 29 P **P 07 29 51.4 -0.6**
baz=250
NGCH Negor - Chabah 81.26 296 P **P 07 29 54.4 +1.3**
J20K Nowinta River 81.31 24 IAmb IAmb 07 29 56.7
comp=Z,64nm,1.2s
J20K IAMs_20 IAMs_20 08 01 46.5
comp=Z,1µm,21.0s
J20K Nowinta River 81.31 24 P **P 07 29 52.6 +0.1**
baz=247,SNR=18
HRA Herat 81.46 305 IAmb IAmb 07 29 58.8
comp=Z,104nm,1.8s
SKT Skwentna 81.59 26 IAMs_20 IAMs_20 08 01 30.1
comp=Z,2µm,22.0s
SKT Skwentna 81.59 26 P **P 07 29 53.8 -0.3**
baz=250
SUA Susitna One 81.76 27 P **P 07 29 54.5 -0.7**
baz=250
O22K Cooper Landing 81.91 28 IAMs_20 IAMs_20 08 03 24.6
comp=Z,2µm,21.0s
O22K Cooper Landing 81.91 28 P **P 07 29 55.7 -0.1**
baz=251
SEW Seward 81.92 28 IAmb IAmb 07 30 03.4
comp=Z,88nm,1.5s
SEW Seward 81.92 28 P **P 07 29 55.5 -0.3**
baz=252
RC01 Rabbit Creek A 82.10 27 IAmb IAmb 07 30 05.2
comp=Z,30nm,0.8s
RC01 Rabbit Creek A 82.10 27 P **P 07 29 55.5 -1.3**
baz=251,SNR=5.2
M22K Willow 82.14 27 IAmb IAmb 07 30 05.5
comp=Z,37nm,0.9s
M22K Willow 82.14 27 P **P 07 29 56.0 -1.0**
baz=251,SNR=9.1
CUT Chulitna 82.29 26 IAmb IAmb 07 30 37.5
comp=Z,42nm,1.0s
CUT IAMs_20 IAMs_20 08 02 24.8
comp=Z,2µm,21.0s
CUT Chulitna 82.29 26 P **P 07 29 57.3 -0.4**
baz=251
H21K Melozitna Rive 82.41 23 IAMs_20 IAMs_20 07 59 52.6
comp=Z,2µm,22.0s
H21K Melozitna Rive 82.41 23 P **P 07 29 57.7 -0.6**
baz=248,SNR=9.2
G21K Allakaket 82.48 22 P **P 07 29 57.8 -0.8**
baz=247
PMR Palmer 82.54 27 IAmb IAmb 07 30 07.3
comp=Z,20nm,0.8s
PMR Palmer 82.54 27 P **P 07 29 58.1 -0.9**
baz=252,SNR=9.8
I21K Tanana 82.55 23 P **P 07 29 58.3 -0.7**
baz=253,SNR=5.8
BPAW Bear Paw Mtn. 82.56 24 IAMs_20 IAMs_20 08 00 44.8
comp=Z,2µm,21.0s
BPAW Bear Paw Mtn. 82.56 24 P **P 07 29 57.8 -1.4**
baz=250
TRF Thorofare Moun 82.63 25 P **P 07 29 59.8 0.0**
baz=250
PWL Port Wells 82.68 28 IAmb IAmb 07 30 14.7
comp=Z,35nm,1.0s
PWL Port Wells 82.68 28 P **P 07 29 59.5 -0.3**
baz=252,SNR=14
GHO Glory Hole Cre 82.69 27 IAmb IAmb 07 30 28.6
comp=Z,25nm,0.9s
GHO IAMs_20 IAMs_20 08 00 16.1
comp=Z,3µm,22.0s
F21K Alatna River 82.76 21 P **P 07 30 00.1 -0.1**
baz=247
KNK Knik Glacier 82.79 27 IAmb IAmb 07 30 18.5
comp=Z,56nm,1.2s
KNK IAMs_20 IAMs_20 08 02 03.8
comp=Z,2µm,21.0s
KNK Knik Glacier 82.79 27 P **P 07 29 59.6 -0.8**
baz=252,SNR=12
P23K Montague Islan 82.86 29 P **P 07 30 00.4 -0.4**
baz=253
WBK Wadi Bani Khal 82.96 293 P **P 07 30 02.9 +0.8**
SML Sawmill 82.97 27 IAMs_20 IAMs_20 08 02 03.5
comp=Z,2µm,21.0s
SML Sawmill 82.97 27 P **P 07 30 00.3 -1.0**
baz=252,SNR=19
MLY Manley 82.99 23 IAmb IAmb 07 30 37.3
comp=Z,31nm,1.2s
MLY Manley 82.99 23 P **P 07 30 00.8 -0.6**
baz=250,SNR=12
H22K Ishtalitna Cre 83.04 23 P **P 07 30 01.4 -0.2**
baz=249
WAT1 Susitna Watana 83.18 26 P **P 07 30 02.1 -0.3**
baz=252
BWN Browne 83.22 24 IAMs_20 IAMs_20 08 00 44.9
comp=Z,1µm,22.0s
M23K Glacier View 83.23 27 P **P 07 30 02.1 -0.7**
baz=253
GLI Glacier Island 83.26 28 P **P 07 30 01.9 -1.0**
baz=254,SNR=8.9
MCK McKinley 83.30 25 IAmb IAmb 07 30 05.5
comp=Z,55nm,1.3s
MCK IAMs_20 IAMs_20 08 00 56.2
comp=Z,2µm,22.0s
MCK McKinley 83.30 25 P **P 07 30 02.6 -0.4**
baz=252,SNR=14
WSAR Wadi Sarin 83.33 294 LR LR 08 10 40.0
comp=Z,148nm,18.8s,baz=112,slow=38
F22K John River 83.34 21 P **P 07 30 03.3 +0.1**
baz=248
G22K Bettles 83.36 22 P **P 07 30 02.7 -0.5**
baz=249
HIN Hinchinbrook I 83.41 29 IAMs_20 IAMs_20 08 04 34.3
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 83.43 27 IAMs_20 IAMs_20 08 04 27.7
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 83.43 27 P **P 07 30 03.0 -0.7**
baz=253,SNR=16
MAW Mawson 83.44 202 P **P 07 30 03.0 -0.6**
comp=Z,17nm,0.9s,baz=67,slow=5.2,SNR=13
MAW LR LR 08 05 40.8
comp=Z,4µm,18.5s,baz=74,slow=35
comp=Z,17nm,0.9s
MAW Mawson 83.44 202 P **P 07 30 04.2 +0.6**
baz=83,SNR=12
MAW Mawson 83.44 202 P **P 07 30 03.6 0.0**
MAW Mawson 83.44 202 P **P 07 30 03.6 0.0**
MAW pmax pmax
comp=Z,20nm,1.7s
WAT6 Susitna Watana 83.46 26 P **P 07 30 03.6 -0.5**
baz=253,SNR=19
FID Port Fidalgo 83.52 28 IAmb IAmb 07 30 39.4
comp=Z,68nm,1.5s
NEA2 Nenana 83.52 24 IAmb IAmb 07 30 39.0
comp=Z,35nm,1.5s
NEA2 Nenana 83.52 24 P **P 07 30 03.7 -0.3**
baz=251,SNR=11
H23K Yukon River 83.73 23 P **P 07 30 04.1 -1.1**
baz=251
JMDO Jabal Madar 83.74 293 P **P 07 30 07.7 +1.6**
MHTO MHTO 83.75 291 P **P 07 30 06.8 +0.6**
DHY Denali Highway 83.77 26 IAMs_20 IAMs_20 08 02 56.7
comp=Z,2µm,21.0s
DHY Denali Highway 83.77 26 P **P 07 30 04.3 -1.3**
baz=253,SNR=30
EYAK Cordova Ski Ar 83.81 29 P **P 07 30 05.1 -0.5**
baz=255
BIDO Bidbid 83.81 294 P **P 07 30 07.2 +0.7**
G23K Bananza Creek 83.84 22 P **P 07 30 05.3 -0.5**
baz=250,SNR=7.7
SMDO Samad 83.84 293 P **P 07 30 07.3 +0.5**
WRH Wood River Hil 83.88 24 IAmb IAmb 07 30 45.1
comp=Z,30nm,1.1s
DIV Divide 83.95 28 IAmb IAmb 07 30 19.1
comp=Z,48nm,1.0s
COLD Coldfoot 83.95 21 P **P 07 30 05.8 -0.4**
baz=250
MDM Murphy Dome 83.97 24 IAMs_20 IAMs_20 08 01 28.0
comp=Z,2µm,22.0s
KLU Klutina 83.98 28 IAmb IAmb 07 30 10.1
comp=Z,74nm,1.6s
KLU Klutina 83.98 28 P **P 07 30 05.4 -1.2**
baz=255,SNR=12
M24K Tolsona, Glenn 84.03 27 IAMs_20 IAMs_20 08 04 46.6
comp=Z,1µm,20.0s
M24K Tolsona, Glenn 84.03 27 P **P 07 30 06.4 -0.4**
baz=254,SNR=8.4
TCOL CIGO, UAF Yank 84.10 24 IAmb IAmb 07 30 10.1
comp=Z,89nm,1.9s
TCOL CIGO, UAF Yank 84.10 24 P **P 07 30 07.0 0.0**
baz=252
COLA College 84.10 24 P **P 07 30 06.4 -0.6**
COLA College 84.10 24 *i* P **P 07 30 05.9 -1.1**
COLA pmax pmax
comp=Z,29nm,1.6s
COLA College 84.10 24 P **P 07 30 06.6 -0.4**
baz=252
RAGM Ragged Mountai 84.28 29 IAMs_20 IAMs_20 08 02 08.4
comp=Z,2µm,21.0s
KAIM Kayak Island 84.29 29 P **P 07 30 07.9 -0.2**
baz=256
HDA Harding Lake 84.34 25 P **P 07 30 06.5 -1.8**
baz=253
POKR Poker Plat Res 84.34 24 IAMs_20 IAMs_20 08 01 38.8
comp=Z,2µm,22.0s
POKR Poker Plat Res 84.34 24 P **P 07 30 07.7 -0.6**
baz=253
H24K Noodor Dome 84.38 23 IAmb IAmb 07 30 12.8
comp=Z,55nm,1.4s
H24K IAMs_20 IAMs_20 08 02 16.8
comp=Z,2µm,22.0s
H24K Noodor Dome 84.38 23 P **P 07 30 07.7 -0.9**
baz=252,SNR=18
D23K Nanushuk River 84.39 20 P **P 07 30 08.5 0.0**
baz=250
RER Riviere de l'E 84.39 249 P **P 07 30 11.5 +1.9**
E23K Chandalar 84.44 21 P **P 07 30 08.9 0.0**
baz=251
BMRM Bremner River 84.46 28 P **P 07 30 08.4 -0.7**
baz=256,SNR=9.7
ILAR Eielson Array 84.47 24 P **P 07 30 06.5 -2.4**
comp=Z,6.1nm,0.8s,baz=253,slow=4.8,SNR=23
ILAR LR LR 08 02 17.1
comp=Z,873nm,21.9s,baz=235,slow=32
HMT Hamilton 84.47 29 IAMs_20 IAMs_20 08 01 49.4
comp=Z,2µm,22.0s
HARP HAARP 84.56 27 P **P 07 30 09.1 -0.4**
baz=255
HOQ Hoqain 84.56 294 P **P 07 30 11.0 +0.6**
HOQ P **P 07 30 11.0 +0.6**
PAX Paxson 84.57 26 IAmb IAmb 07 30 13.8
comp=Z,74nm,1.9s
PAX Paxson 84.57 26 P **P 07 30 08.6 -1.0**
baz=255,SNR=12
BSY Bisya 84.60 293 P **P 07 30 11.4 +0.9**
N25K Chitina, Valde 84.62 28 IAmb IAmb 07 30 14.4
comp=Z,75nm,1.8s
N25K Chitina, Valde 84.62 28 P **P 07 30 09.5 -0.3**
baz=256,SNR=9.1
SUCK Suckling Hills 84.64 29 IAMs_20 IAMs_20 08 06 08.3
comp=Z,2µm,21.0s
TOLK Toolik Lake Re 84.66 20 IAMs_20 IAMs_20 08 02 05.9
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 84.66 20 P **P 07 30 09.6 -0.3**
baz=250
K24K Donnelly Dome 84.66 25 P **P 07 30 09.1 -0.9**
baz=254,SNR=8.5
C23K Itkillik River 84.72 19 P **P 07 30 09.5 -0.6**
baz=249
G24K Hadweenzic Riv 84.80 22 P **P 07 30 10.2 -0.4**
baz=253,SNR=11
E24K Your Creek 84.85 21 P **P 07 30 11.3 +0.4**
baz=252
F24K Squaw Lake 84.89 21 P **P 07 30 10.8 -0.3**
baz=252
GLB Gilahina Butte 84.95 28 IAmb IAmb 07 30 14.8
comp=Z,52nm,1.4s
GLB IAMs_20 IAMs_20 08 03 53.9
comp=Z,2µm,21.0s
RIDG Independent Ri 85.04 26 IAmb IAmb 07 30 18.9
comp=Z,27nm,1.0s
RIDG IAMs_20 IAMs_20 08 02 13.4
comp=Z,2µm,22.0s
RIDG Independent Ri 85.04 26 P **P 07 30 11.2 -0.7**
baz=255,SNR=11
J25K Salcha River, 85.05 25 IAmb IAmb 07 30 14.5
comp=Z,62nm,1.4s
J25K Salcha River, 85.05 25 P **P 07 30 11.2 -0.8**
baz=255,SNR=24
D24K Happy Valley 85.08 20 P **P 07 30 11.9 0.0**
baz=251
SNH Sunshine Point 85.12 29 IAMs_20 IAMs_20 08 02 14.1
comp=Z,2µm,20.0s
WAX Waxell Ridge 85.18 29 IAMs_20 IAMs_20 08 06 08.4
comp=Z,2µm,20.0s
GEYT Alibeck 85.22 308 P **P 07 30 13.4 0.0**
comp=Z,22nm,0.8s,baz=146,slow=1.1,SNR=28
comp=Z,22nm,0.8s
PRP Porcupine Dome 85.23 24 IAMs_20 IAMs_20 08 02 17.1
comp=Z,2µm,22.0s
PRP Porcupine Dome 85.23 24 P **P 07 30 12.4 -0.5**
baz=255
TGL Tana Glacier 85.25 29 IAMs_20 IAMs_20 08 01 05.1
comp=Z,2µm,22.0s
ARQ Aragi 85.27 293 P **P 07 30 14.2 +0.3**
MCARA McCarthy VSAT 85.30 28 IAmb IAmb 07 30 29.6
comp=Z,54nm,1.6s
MCARA IAMs_20 IAMs_20 08 04 06.3
comp=Z,2µm,21.0s
MCARA McCarthy VSAT 85.30 28 P **P 07 30 13.0 -0.2**
baz=257
C24K Franklin Bluff 85.30 19 P **P 07 30 12.8 -0.2**
baz=251,SNR=6.3
H25K Birch Creek 85.31 23 P **P 07 30 13.3 +0.2**
baz=254,SNR=7.3
SOHO SOHO 85.32 294 P **P 07 30 14.1 0.0**
SOHO SOHO 85.32 294 *i* P **P 07 30 13.6 -0.4**
SNR=11
MENT Mentasta 85.34 26 IAmb IAmb 07 30 30.4
comp=Z,21nm,0.9s
AB31 Akbulak array 85.36 320 *i* P **P 07 30 12.8 -0.9**
ABKAR Akbulak array 85.36 320 IAmb IAmb 07 30 17.0
comp=Z,31nm,0.8s
DOT Dot Lake 85.36 26 IAmb IAmb 07 30 16.6
comp=Z,62nm,1.4s
ISLE Juniper Island 85.46 29 IAmb IAmb 07 30 17.6
comp=Z,63nm,1.4s
ISLE IAMs_20 IAMs_20 08 06 27.5
comp=Z,2µm,21.0s
SCRK Sand Creek 85.47 25 IAMs_20 IAMs_20 08 05 49.7
comp=Z,2µm,20.0s
SCRK Sand Creek 85.47 25 P **P 07 30 13.4 -0.7**
baz=256,SNR=10
L26K Log Cabin Wild 85.53 26 IAmb IAmb 07 30 17.8
comp=Z,55nm,1.8s
L26K IAMs_20 IAMs_20 08 04 15.2
comp=Z,2µm,21.0s
L26K Log Cabin Wild 85.53 26 P **P 07 30 13.7 -0.6**
baz=257,SNR=16
M26K Nabesna, AK 85.54 27 P **P 07 30 14.0 -0.4**
baz=257

MESA	MESA	85.56	29	IAMs_20	IAMs_20	08 05 06.5					
	comp=Z,2µm,20.0s										
MESA	MESA	85.56	29	P	P	07 30 13.5	-1.2				
	baz=258										
MDH	Madha	85.62	295	P	P	07 30 15.1	-0.4				
MDH	Madha	85.62	295	P	P	07 30 13.3	-2.3				
FYU	Fort Yukon	85.62	23	IAMs_20	IAMs_20	08 02 52.5					
	comp=Z,1µm,22.0s										
BANOM	Banah	85.66	296	P	P	07 30 15.9	+0.1				
BANOM	Banah	85.66	296	*i* P	P	07 30 14.4	-1.4				
	SNR=14										
UOSS	Minazif	85.67	295	P	P	07 30 15.3	-0.6				
UOSS				IAmb	IAmb	07 30 19.8					
	comp=Z,82nm,1.6s										
UOSS	Minazif	85.67	295	P	P	07 30 15.5	-0.3				
UOSS	Minazif	85.67	295	P	P	07 30 15.1	-0.8				
YAH	Yahtse	85.69	29	IAmb	IAmb	07 31 55.0					
	comp=Z,26nm,1.1s										
YAH				IAMs_20	IAMs_20	08 06 12.1					
	comp=Z,2µm,20.0s										
HATD	Hatta, Dubai	85.73	295	P	P	07 30 15.3	-0.9				
HATD	Hatta, Dubai	85.73	295	*i* P	P	07 30 15.6	-0.6				
	SNR=7.6										
F25K	Christian Rive	85.74	22	P	P	07 30 14.8	-0.6				
	baz=254										
MSFE	Esma-Masafi	85.75	295	*i* P	P	07 30 14.9	-1.4				
	SNR=11										
MASF	Masafi	85.75	295	P	P	07 30 16.7	+0.4				
SHAO	Shalim	85.75	288	P	P	07 30 15.0	-1.4				
J26L	Joseph Creek	85.78	25	IAmb	IAmb	07 30 24.7					
	comp=Z,46nm,1.4s										
J26L				IAMs_20	IAMs_20	08 02 34.7					
	comp=Z,2µm,22.0s										
J26L	Joseph Creek	85.78	25	P	P	07 30 15.2	-0.5				
	baz=256,SNR=14										
ASHO	Ashiyiah	85.79	295	P	P	07 30 16.2	-0.3				
ASHO	Ashiyiah	85.79	295	*i* P	P	07 30 14.2	-2.2				
	SNR=5.8										
SHME	Shamm	85.81	296	P	P	07 30 16.6	+0.1				
E25K	Arctic Village	85.91	21	P	P	07 30 15.7	-0.4				
	baz=254										
D25K	Kavik River	85.96	20	P	P	07 30 16.0	-0.4				
	baz=254										
TABL	Table Mountain	86.00	29	IAmb	IAmb	07 30 19.8					
	comp=Z,69nm,1.4s										
TABL				IAMs_20	IAMs_20	08 05 42.3					
	comp=Z,2µm,20.0s										
CTG	Chitna Glacier	86.01	29	P	P	07 30 15.7	-1.2				
	baz=259										
CTGM	Chitina Glacie	86.01	29	IAmb	IAmb	07 30 29.9					
	comp=Z,45nm,1.0s										
ALNE	Al Ain	86.02	294	P	P	07 30 18.0	+0.4				
ALNE	Al Ain	86.02	294	*i* P	P	07 30 16.8	-0.9				
	SNR=6.5										
M27K	Edge Creek, AK	86.04	27	IAmb	IAmb	07 30 26.5					
	comp=Z,25nm,0.8s										
M27K	Edge Creek, AK	86.04	27	P	P	07 30 16.4	-0.7				
	baz=258,SNR=25										
I26K	Coal Creek Min	86.13	24	P	P	07 30 16.9	-0.3				
	baz=257										
LOGN	Logan Glacier	86.15	29	IAmb	IAmb	07 30 20.5					
	comp=Z,38nm,1.2s										
LOGN				IAMs_20	IAMs_20	08 06 46.7					
	comp=Z,1µm,21.0s										
L27K	Beaver Creek,	86.21	26	IAmb	IAmb	07 30 21.4					
	comp=Z,28nm,1.2s										
L27K				IAMs_20	IAMs_20	08 03 27.3					
	comp=Z,2µm,22.0s										
L27K	Beaver Creek,	86.21	26	P	P	07 30 17.1	-0.7				
	baz=258,SNR=18										
FAQ	Al Faqa, Dubai	86.22	295	P	P	07 30 18.5	-0.1				
G26K	Porcupine Rive	86.27	22	P	P	07 30 17.4	-0.5				
	baz=256,SNR=12										
K27K	Chicken	86.30	26	IAmb	IAmb	07 30 22.4					
	comp=Z,65nm,1.6s										
K27K	Chicken	86.30	26	P	P	07 30 18.0	-0.1				
	baz=258										
F26K	Sheenjek River	86.32	22	P	P	07 30 17.9	-0.2				
	baz=256,SNR=8.7										
PCA	Pinnacle	86.37	30	IAmb	IAmb	07 30 21.4					
	comp=Z,57nm,1.3s										
PINM	Pinnacle	86.38	30	P	P	07 30 18.1	-0.5				
	baz=260										
DMTO	DMTO	86.38	288	P	P	07 30 20.4	+0.9				
ASUD	Al Ashush, Dub	86.45	295	P	P	07 30 19.7	0.0				
BVCY	Beaver Creek	86.52	27	P	P	07 30 19.1	-0.1				
	baz=259										
O28M	Mount Upton	86.53	29	P	P	07 30 18.6	-1.0				
	baz=260										
YUK3	Moose Creek	86.58	28	P	P	07 30 18.3	-1.5				
	baz=259										
C26K	Camden Bay	86.62	19	P	P	07 30 19.5	0.0				
	baz=255										
BCPM	Bancas Point	86.66	30	IAMs_20	IAMs_20	08 01 47.6					
	comp=Z,2µm,22.0s										
PNL	Peninsula	86.73	30	P	P	07 30 19.6	-0.7				
	baz=260										
AKTO	Aktyubinsk	86.75	321	P	P	07 30 18.5	-2.1				
I27K	Kandik River	86.83	24	P	P	07 30 20.0	-0.8				
	baz=258										
EGAK	Eagle	86.85	25	P	P	07 30 20.1	-0.7				
	baz=259										
C27K	Jago River	86.95	20	P	P	07 30 20.9	-0.3				
	baz=256										
H27K	Steamboat Moun	86.99	23	P	P	07 30 20.7	-0.8				
	baz=258,SNR=18										
G27K	Doyon Strip	87.06	23	P	P	07 30 21.3	-0.5				
	baz=258										
ARU	Arti	87.21	327	P	P	07 30 21.2	-1.5				
ARU				IAMs_20	IAMs_20	08 11 13.6					
	comp=Z,1µm,20.0s										
ARU	Arti	87.21	327	*c i* P	P	07 30 21.8	-0.9				
ARU						07 33 42.8					
ARU				PPP	PPP	07 35 42.4					
ARU				S	SKSac	07 40 49.1	-0.3				
ARU				SS	SS	07 46 38.7	-6.9				
ARU				pmax	pmax						
	comp=Z,14nm,0.9s										
ARU				MLR	MLR						
	comp=Z,1µm,21.0s										
O29M	Mount Kennedy	87.24	29	P	P	07 30 21.9	-1.0				
	baz=261,SNR=5.4										
YUK4	Talbot Arm	87.36	28	P	P	07 30 23.7	+0.1				
	baz=261,SNR=14										
E27K	Coleen River	87.37	21	P	P	07 30 23.4	+0.1				
	baz=258,SNR=22										
YUK6	Outpost Mounta	87.44	29	P	P	07 30 24.1	+0.1				
	baz=261										
DAWY	Dawson	87.47	26	IAmb	IAmb	07 30 27.7					
	comp=Z,46nm,1.2s										
DAWY	Dawson	87.47	26	P	P	07 30 23.8	0.0				
	baz=260,SNR=31										
WHFO	Wadi Hawf	87.51	288	P	P	07 30 24.4	-0.6				
WHFO				P	P	07 30 24.4	-0.6				
P29M	Windy Craggy	87.55	30	IAmb	IAmb	07 30 32.3					
	comp=Z,40nm,1.1s										
P29M				IAMs_20	IAMs_20	08 04 20.4					
	comp=Z,1µm,21.0s										
P29M	Windy Craggy	87.55	30	P	P	07 30 24.9	+0.6				
	baz=262,SNR=7.2										
M29M	Somme Creek	87.62	27	P	P	07 30 24.6	-0.2				
	baz=261,SNR=15										
HYT	Haines Junctio	87.84	29	P	P	07 30 25.2	-0.6				
	baz=262,SNR=12										
L29M	L29M	87.87	27	P	P	07 30 25.3	-0.5				
	baz=261,SNR=25										
QSPA	South Pole Qui	87.92	180	P	P	07 30 25.8	-0.3				
QSPA				IAmb	IAmb	07 30 41.7					
	comp=Z,30nm,1.0s										
ABTO	Aybut	87.93	287	P	P	07 30 28.4	+1.3				
ABTO				P	P	07 30 28.4	+1.3				
P30M	Million Dollar	88.01	30	P	P	07 30 26.5	0.0				
	baz=263										
N30M	Aishikik Lake	88.12	28	P	P	07 30 27.2	+0.1				
	baz=262,SNR=8.8										
I29M	Ogilvie Camp,	88.14	24	P	P	07 30 26.9	-0.1				
	baz=261,SNR=24										
PLBC	Pleasant Camp	88.22	30	P	P	07 30 27.1	-0.4				
	baz=263										
K29M	Barlow Dome	88.25	26	P	P	07 30 27.4	-0.3				
	baz=262,SNR=32										
M30M	Minto, Yukon	88.41	27	IAmb	IAmb	07 30 31.6					
	comp=Z,36nm,1.6s										
M30M	Minto, Yukon	88.41	27	P	P	07 30 28.3	-0.1				
	baz=263,SNR=9.3										
O30N	Mendenhall	88.52	29	P	P	07 30 29.1	+0.2				
	baz=263,SNR=6.0										
N31M	Braeburn, Yuko	88.75	28	IAMs_20	IAMs_20	08 05 05.5					
	comp=Z,2µm,22.0s										
N31M	Braeburn, Yuko	88.75	28	P	P	07 30 29.9	-0.1				
	baz=264,SNR=9.6										
SKAG	Skagway	88.75	31	IAmb	IAmb	07 30 33.9					
	comp=Z,59nm,1.4s										
SKAG	Skagway	88.75	31	P	P	07 30 29.6	-0.3				
	baz=264										
BESE	Bessie Mountai	88.90	31	IAmb	IAmb	07 30 33.8					
	comp=Z,37nm,1.3s										
EPYK	Eagle Plains	88.93	24	IAMs_20	IAMs_20	08 05 08.0					
	comp=Z,1µm,22.0s										
EPYK	Eagle Plains	88.93	24	P	P	07 30 30.7	0.0				
	baz=263										
MAYO	Mayo, Yukon	88.94	26	P	P	07 30 31.3	+0.5				
	baz=263										
S32K	Killisnoo	88.94	33	P	P	07 30 30.6	-0.3				
	baz=265										
WHY	Whitehorse	89.10	29	P	P	07 30 31.2	-0.5				
	baz=264										
JIS	Juneau Island	89.12	32	IAMs_20	IAMs_20	08 05 47.9					
	comp=Z,2µm,22.0s										
M31M	Drury Creek, Y	89.48	28	IAMs_20	IAMs_20	08 05 06.7					
	comp=Z,2µm,22.0s										
M31M	Drury Creek, Y	89.48	28	P	P	07 30 32.9	-0.5				
	baz=265										
P32M	Atlin	89.58	30	P	P	07 30 33.3	-0.7				
	baz=265										
FARO	Faro, Yukon	89.97	28	IAmb	IAmb	07 30 39.0					
	comp=Z,50nm,1.4s										
FARO	Faro, Yukon	89.97	28	P	P	07 30 35.3	-0.4				
	baz=266										
N32M	Quiet Lake	90.01	29	P	P	07 30 35.6	-0.3				
	baz=266										
P33M	Teslin, Yukon	90.08	30	P	P	07 30 36.0	-0.2				
	baz=266										
WRAK	Wrangell Islan	90.08	34	P	P	07 30 36.4	+0.1				
	baz=266										
INK	Inuvik	90.36	22	LR	LR	08 06 26.8					
	comp=Z,1µm,21.9s,baz=238,slow=32										
INK	Inuvik	90.36	22	IAmb	IAmb	07 30 40.0					
	comp=Z,34nm,1.4s										
INK	Inuvik	90.36	22	P	P	07 30 37.6	+0.3				
	baz=266										
V35K	Ketchikan	90.43	35	P	P	07 30 37.4	-0.5				
	baz=267										
MMPY	Sheldon Lake,	90.96	28	P	P	07 30 40.8	+0.5				
	baz=268										
R33M	Jennings River	90.97	31	P	P	07 30 40.1	-0.5				
	baz=268										
T35M	Bob Quinn	91.26	33	P	P	07 30 42.0	+0.2				
	baz=268										
DLBC	Dease Lake	91.42	32	LR	LR	08 07 41.2					
	comp=Z,1µm,20.3s,baz=286,slow=33										
DLBC	Dease Lake	91.42	32	IAmb	IAmb	07 30 45.9					
	comp=Z,25nm,1.6s										
DLBC	Dease Lake	91.42	32	P	P	07 30 41.9	-0.7				
	baz=268										
WTLY	Watson Lake, Y	92.08	30	IAmb	IAmb	07 30 49.1					
	comp=Z,44nm,1.6s										
WTLY	Watson Lake, Y	92.08	30	P	P	07 30 44.7	-0.8				
	baz=270										
KIRV	Kirov	92.28	328	LR	LR	08 12 49.1					
	comp=Z,2µm,21.2s,baz=88,slow=36										
TGTN	Hyland Airport	92.34	29	P	P	07 30 45.7	-1.1				
	baz=270										
FOMA	Nahampoana Res	92.36	245	IAMs_20	IAMs_20	08 15 00.5					
	comp=Z,1µm,19.0s										
BBB	Bella Bella	92.43	38	LR	LR	08 05 14.1					
	comp=Z,1µm,20.2s,baz=268,slow=31										
BELG	Belogornoye	93.35	322	*i* P	P	07 30 49.8	-1.7				
BELG				pmax	pmax						
	comp=Z,5.0nm,0.7s										
MAK	Makhachkala	93.56	313	*e* P	P	07 30 46.1	-6.6				
MAK				*e*		07 34 32.7					
MAK				*e*		07 41 17.2					
MAK				*e* SS	SS	07 48 09.4	-8.8				
MAK				pmax	pmax						
	comp=Z,220nm,1.4s										
C36M	Paulatuk	93.80	21	P	P	07 30 52.4	-0.7				
	baz=274										
PRGR	Permogore	94.09	332	*e* P	P	07 30 53.5	-1.2				
PRGR				pmax	pmax						
	comp=Z,12nm,0.9s										
WRGLY	Wrigley	94.52	27	P	P	07 30 55.5	-1.1				
	baz=274										
GROC	Groznyy	94.81	313	*e* P	P	07 30 56.0	-2.4				
GROC				*e*		07 34 46.1					
GROC				pmax	pmax						
	comp=Z,83nm,1.2s										
NLWA	Neilton Lookou	95.29	43	IAMs_20	IAMs_20	08 06 54.0					
	comp=Z,1µm,20.0s										
RAYN	Ar Rayn	95.39	293	P	P	07 31 00.6	-1.0				
RAYN	Ar Rayn	95.39	293	P	P	07 31 00.6	-1.0				
RAYN				pmax	pmax						
	comp=Z,20nm,1.7s										
J01E	Myrtle Point	95.44	47	IAMs_20	IAMs_20	08 04 52.2					
	comp=Z,1µm,22.0s										
JCC	Jacoby Creek,	95.45	49	IAMs_20	IAMs_20	08 03 00.8					
	comp=Z,2µm,21.0s										
KRMB	Red Mountain	95.52	49	IAmb	IAmb	07 31 06.1					
	comp=Z,29nm,1.4s										
G03D	McMinnville, O	95.82	45	P	P	07 31 01.9	-1.1				
	baz=273										
COR	Corvallis	95.82	46	IAMs_20	IAMs_20	08 10 48.4					
	comp=Z,1µm,21.0s										
I03D	Drain, OR	95.83	46	P	P	07 31 02.5	-0.6				
	baz=273										
HUMO	Hull Mountain	96.18	48	IAMs_20	IAMs_20	08 09 10.9					
	comp=Z,1µm,20.0s										
ZEI	Tsey	96.22	313	*e* P	P	07 31 01.4	-3.8				
ZEI				pmax	pmax						
	comp=Z,14nm,1.4s										
HOPS	Hopland Field	96.26	51	IAMs_20	IAMs_20	08 05 40.4					
	comp=Z,2µm,21.0s										
YBH	Yreka Blue Hor	96.40	48	LR	LR	08 05 59.9					
	comp=Z,2µm,21.6s,baz=302,slow=30										
YBH	Yreka Blue Hor	96.40	48	P	P	07 31 06.5	+0.6				
YBH	Yreka Blue Hor	96.40	48	P	P	07 31 06.5	+0.6				
YBH				pmax	pmax						
	comp=Z,9.0nm,1.3s										
L04D	Klamath Falls	96.68	48	IAMs_20	IAMs_20	08 05 13.2					
	comp=Z,2µm,22.0s										
L04D	Klamath Falls	96.68	48	P	P	07 31 07.9	+0.7				
	baz=273										
J04D	Umpqua Nationa	96.76	47	IAMs_20	IAMs_20	08 05 46.3					
	comp=Z,1µm,22.0s										
J04D	Umpqua Nationa	96.76	47	P	P	07 31 08.1	+0.5				
	baz=274										
KBZ	Khabaz	96.89	314	P	P	07 31 07.6	-0.3				
	comp=Z,2.0nm,0.7s,baz=90,slow=3.9,SNR=5.0										
KBZ				PP	PP	07 35 06.9	+3.7				
	comp=Z,1.8nm,0.6s,baz=57,slow=7.3,SNR=3.8										
KBZ				LR	LR	08 18 19.4					
	comp=Z,331nm,20.1s,baz=58,slow=38										
	comp=Z,2.0nm,0.7s										
KIV	Kislovodsk	97.03	314	*e* P	P	07 31 05.8	-2.9				
KIV				*e*		07 35 01.5					
KIV				*e*		07 41 42.5					
KIV				*e* SS	SS	07 49 06.5	-1.1				
KIV				pmax	pmax						
	comp=Z,5.0nm,1.0s										
VRH	Novokhopyorsk	97.08	321	*e* P	P	07 31 06.6	-1.9				
VRH				pmax	pmax						
	comp=Z,20nm,0.6s										
VRH				MLR	MLR						
	comp=Z,1µm,17.0s										
GEVA	Gevas	97.09	308	IAmb	IAmb	07 31 19.9					
	comp=Z,17nm,1.0s										
KLMR	Klimovskoe	97.11	331	*e* P	P	07 31 02.7	-5.8				
KLMR				*e*		07 35 00.9					
KLMR				pmax	pmax						
	comp=Z,19nm,1.6s										
KLMR				MLR	MLR						
	comp=Z,2µm,20.0s										
KLMR	Klimovskoe	97.11	331	*e* P	P	07 31 02.8	-5.7				
KLMR				AMP		07 31 15.0					
	comp=Z,19nm,1.6s										
KLMR				*e* PP	PP	07 35 00.9	-3.4				
KLMR				LQ	LQ	08 03 59.1					
KLMR				LQ	LQ	08 03 59.1					
KLMR				LR	LR	08 05 48.3					
KLMR				AMP		08 16 28.8					
	comp=Z,2µm,19.9s										
I05D	Terrebonne, OR	97.24	46	P	P	07 31 09.0	-0.6				
	baz=274										
J05D	Fort Rock, OR	97.40	47	P	P	07 31 09.4	-1.0				
	baz=274										
PINE	Pine Mountain	97.57	46	IAmb	IAmb	07 31 14.7					
	comp=Z,9.5nm,1.1s										
SAO	San Andreas Ge	97.65	53	IAMs_20	IAMs_20	08 09 55.5					
	comp=Z,1µm,20.0s										
K05A	Summer Lake	97.69	47	P	Pdif	07 31 12.7	+0.8				
AFDM	Forest Hills D	97.90	51	P	P	07 31 12.7	0.0				
AFDM				IAmb	IAmb	07 31 15.1					
	comp=Z,8.0nm,0.9s										
ATD	Arta Tunnel	97.90	281	LR	LR	08 18 03.8					
	comp=Z,130nm,18.2s,baz=92,slow=37										
MOD	Modoc Plateau	98.19	48	IAmb	IAmb	07 31 17.7					
	comp=Z,15nm,1.3s										
B08A	Colville Reser	98.26	42	IAmb	IAmb	07 31 16.7					
	comp=Z,11nm,1.2s										
APA	Apatity	98.34	338	↓ *i* P	P	07 31 12.3	-1.6				
APA				*i*		07 35 16.0					
APA				*i*		07 41 48.0					
APA				*i* S	S	07 42 32.0	-9.1				
APA				*i* PS	PS	07 44 08.0	+0.5				
APA				*i* SS	SS	07 49 27.0	+2.5				
APA				pmax	pmax						
	comp=Z,4.0nm,1.0s										
EMB	Emerald Bay	98.57	51	IAmb	IAmb	07 31 40.7					
	comp=Z,10nm,1.2s										
VORR	Voronezh	98.58	322	*e* P	Pdif	07 31 15.6	+0.3				
VORR				pmax	pmax						
	comp=Z,50nm,0.4s										
LPSR	Galich'ya Gora	98.63	323	*e* P	P	07 31 12.3	-3.2				
LPSR				pmax	pmax						
	comp=Z,20nm,1.4s										
LPSR				MLR	MLR						
	comp=Z,450nm,18.0s										
YKA	Yellowknife Ar	98.64	27	P	P	07 31 15.3	0.0				
	comp=Z,12nm,1.2s,baz=279,slow=4.6,SNR=12										
YKA				LR	LR	08 11 15.3					
	comp=Z,2µm,21.9s,baz=290,slow=33										
	comp=Z,12nm,1.2s										
YKA	Yellowknife Ar	98.64	27	*i* P	P	07 31 15.3	0.0				
YKA				pmax	pmax						
	comp=Z,13nm,1.2s										
VSR	Storozhevoye	98.67	321	*e* P	P	07 31 13.9	-1.8				
VSR				pmax	pmax						
	comp=Z,20nm,1.8s										
VSR				MLR	MLR						
	comp=Z,1µm,20.0s										
VCNR	Virginia City	98.89	51	IAmb	IAmb	07 31 20.9					
	comp=Z,18nm,1.7s										
MOS	Moscow	98.91	326	*e* P	P	07 31 13.5	-3.2				
MOS				*e*		07 35 16.3					
WVOR	Wild Horse Val	99.37	47	IAMs_20	IAMs_20	08 07 25.5					
	comp=Z,1µm,22.0s										
OBN	Obninsk	99.61	326	IAMs_20	IAMs_20	08 20 52.7					
	comp=Z,1µm,20.0s										
OBN	Obninsk	99.61	326	*de* P	Pdif	07 31 18.7	-1.1				
OBN				*e*		07 35 28.9					
OBN				*e* SS	SS	07 49 33.8	-9.1				
OBN				pmax	pmax						
	comp=Z,8.0nm,0.9s										
VES	Vestal, Richgr	99.62	54	P	Pdif	07 31 19.6	-0.8				
	baz=274										
NEW	Newport	99.73	41	IAMs_20	IAMs_20	08 16 09.5					
	comp=Z,1µm,19.0s										
NEW	Newport	99.73	41	P	Pdif	07 31 19.9	-0.8				
	baz=278										
NVL	N'lazarevskaya	100.02	195	*e* P	Pdif	07 31 11.5	-10				
NVL				*e* S	SKSac	07 41 50.0	-9.2				
NVL				pmax	pmax						
	comp=Z,3.0nm,0.6s										
NVL				MLR	MLR						
	comp=Z,3µm,17.0s										
NVAR	Mina Array Bea	100.02	51	P	Pdif	07 31 21.7	-0.7				
	comp=Z,2.1nm,0.8s,baz=261,slow=5.1,SNR=18										
CWC	Cottonwood Cre	100.38	53	P	Pdif	07 31 23.7	-0.2				
	baz=275										
ARCES	ARCESS Array B	100.44	341	P	Pdif	07 31 22.3	-0.9				
	comp=Z,2.8nm,0.6s,baz=71,slow=3.2,SNR=9.0										
PASC	Pasadena Art C	100.49	56	IAMs_20	IAMs_20	08 07 43.7					
	comp=Z,2µm,21.0s										
EDW2	Edwards Air Fo	100.59	55	P	Pdif	07 31 24.4	-0.4				
	baz=275										
LRMC	Laurel Mtn Rad	100.79	54	P	Pdif	07 31 24.6	-1.1				
	baz=275										
MPMC	Manual Prospec	100.89	54	P	Pdif	07 31 24.7	-1.6				
	baz=276										
GRAC	Grapevine Rang	100.90	53	P	Pdif	07 31 25.4	-0.7				
	baz=276										
BFSC	Mount Baldy Ra	100.92	56	P	Pdif	07 31 24.4	-2.0				
	baz=275										
FURC	Furnace Creek,	101.35	53	P	Pdif	07 31 26.2	-1.8				
	baz=276										
109C	Camp Elliot, M	101.50	57	IAMs_20	IAMs_20	08 06 48.5					
	comp=Z,1µm,20.0s										
TPNV	Topopah Spring	101.79	53	IAMs_20	IAMs_20	08 14 08.0					
	comp=Z,865nm,19.0s										
TPNV	Topopah Spring	101.79	53	P	Pdif	07 31 28.7	-1.5				
	baz=276										
SHOC	Shoshone, Teco	101.89	54	P	Pdif	07 31 29.8	-0.7				
	baz=276										
PFO	Pinyon Flats O	101.97	56	IAMs_20	IAMs_

AKASG **Malin Array Be** 104.93 322 Pdiff **Pdif** 07 31 42.0 -1.5
comp=Z,0.9nm,0.6s,baz=64,slow=3.3,SNR=6.3
AKASG PP **PP** 07 36 01.6 -2.1
comp=Z,1.2nm,0.7s,baz=63,slow=7.0,SNR=2.3
AKASG PKKPbc **PKKPbc** 07 47 29.7 +1.8
comp=Z,0.3nm,0.5s,baz=234,slow=0.8,SNR=4.1
NACGM **Naroch** 105.11 327 *e*PP **PP** 07 36 07.1 +2.2
WUAZ **Wupatki** 105.89 54 IAMs_20 IAMs_20 08 11 00.5
comp=Z,1µm,20.0s
BW06 **Boulder Array** 105.94 46 IAMs_20 IAMs_20 08 14 56.0
comp=Z,1µm,20.0s
PDAR **Pinedale Array** 105.94 46 Pdiff **Pdif** 07 31 48.4 -0.2
comp=Z,0.7nm,0.7s,baz=236,slow=1.6,SNR=6.9
PDAR PP **PP** 07 36 18.4 +6.6
comp=Z,0.9nm,1.0s,baz=270,slow=4.4,SNR=5.3
KIS **Kishinev** 106.16 319 *e*PS PS 07 45 27.5 -3.6
KIS LRM MLR 08 23 35.5
comp=Z,300nm,20.0s
MILM **Milestii Mici** 106.18 318 *e*P **Pdif** 07 32 03.0 +14
MILM *e*PS PS 07 45 31.5 +0.2
MILM *e* 07 51 15.5
TIRR **Tirgusor** 107.07 316 ⇑P **PKiKP** 07 36 02.2 -0.5
TIRR ⇓S **PKiKP** 07 36 07.9 +5.2
MVCO **Mesa Verde** 107.87 52 IAMs_20 IAMs_20 08 15 25.1
comp=Z,1µm,21.0s
DGMT **Dagmar** 108.08 39 IAMs_20 IAMs_20 08 13 39.0
comp=Z,1µm,21.0s
LVV **L'vov** 108.37 322 *e*P **Pdif** 07 32 00.1 +1.1
SLBS **Sierra La Lagu** 108.70 66 IAMs_20 IAMs_20 08 10 36.9
comp=Z,2µm,22.0s
PHWY **Pilot Hill** 109.25 47 IAMs_20 IAMs_20 08 17 47.8
comp=Z,894nm,20.0s
ISCO **Idaho Springs** 109.51 48 IAMs_20 IAMs_20 08 18 04.9
comp=Z,1µm,20.0s
UZH **Uzhgorod** 109.85 322 *e*P **Pdif** 07 32 01.4 -4.1
UZH *i* 07 46 00.0
SDCO **Great Sand Dun** 110.09 50 IAMs_20 IAMs_20 08 20 16.3
comp=Z,880nm,19.0s
EPT **El Paso** 110.53 57 IAMs_20 IAMs_20 08 17 35.8
comp=Z,1µm,20.0s
MNTX **Cornudas Mount** 111.49 57 IAMs_20 IAMs_20 08 18 17.0
comp=Z,1µm,21.0s
MNTX **Cornudas Mount** 111.49 57 P **PKiKP** 07 36 11.5 0.0
baz=282
PSZ **Piszkesteto** 111.60 321 IAMs_20 IAMs_20 08 25 08.3
comp=Z,1µm,22.0s
OKC **Ostrava-Krasne** 111.90 324 AMS AMS 08 23 20.0
comp=Z,1µm,26.7s
VYHS **Vyhne** 112.03 322 *e*PP **PP** 07 36 50.4 -5.1
MORC **Moravsky Berou** 112.28 324 *e*SP SP 07 46 31.8 +3.3
MAUC **Maruska** 112.28 324 AMS AMS 08 24 00.0
comp=Z,2µm,21.5s
ILULI **Ilulissat** 112.47 4 IAMs_20 IAMs_20 08 23 54.1
comp=Z,1µm,21.0s
KRLC **Kraliky** 112.60 325 AMS AMS 08 25 30.0
comp=Z,1µm,21.2s
OSTC **Ostas** 112.71 325 AMS AMS 08 24 20.0
comp=Z,1µm,23.2s
DPC **Dobruska-Polom** 112.74 325 AMS AMS 08 23 10.0
comp=Z,1µm,25.3s
CHVC **Chvalec** 112.79 325 AMS AMS 08 23 50.0
comp=Z,1µm,22.4s
UPC **Upice** 112.85 325 AMS AMS 08 23 40.0
comp=Z,1µm,21.1s
VRAC **Vranov** 113.04 324 *e*SP SP 07 46 38.8 +3.3
KRUC **Moravsky** 113.26 324 *e*SP SP 07 46 40.3 +2.8
TXAR **Lajitas Array** 113.40 59 PKiKP **PKiKP** 07 36 14.3 -0.9
comp=Z,0.6nm,0.8s,baz=218,slow=2.3,SNR=6.2
TXAR PP **PP** 07 37 12.9 +6.8
comp=Z,1.0nm,1.0s,baz=291,slow=3.5,SNR=3.7
TXAR PKKPbc **PKKPbc** 07 47 02.9 +2.6
comp=Z,0.3nm,0.6s,baz=124,slow=4.1,SNR=5.6
PVCC **Panska Ves** 113.66 326 AMS AMS 08 26 50.0
comp=Z,2µm,21.2s
TREC **Trest** 113.70 324 AMS AMS 08 26 10.0
comp=Z,1µm,20.3s
GOPC **GO Pecny, Ondr** 113.82 325 AMS AMS 08 24 40.0
comp=Z,2µm,24.3s
RONA **Rosalia, Austr** 113.91 322 *e*P **PP** 07 37 12.3 +3.4
comp=Z,1nm,2.1s
PRU **Pruhonice** 113.93 325 AMS AMS 08 24 40.0
comp=Z,2µm,25.8s
PDG **Podgorica** 114.04 316 IAMs_20 IAMs_20 08 28 54.1
comp=Z,1µm,21.0s
CONA **Conrad Observa** 114.08 323 *e*P **PP** 07 37 12.9 +2.8
comp=Z,11nm,2.1s
CLL **Collm** 114.15 327 *e*PKiKP **PKiKP** 07 36 19.0 +3.1
CLL *e* 07 42 57.0
CLL MLR MLR
comp=Z,2µm,21.6s
CLL **Collm** 114.15 327 *e*PKiKP **PKiKP** 07 36 19.0 +3.1
CLL *e*PP **PP** 07 37 12.0 +1.7
CLL *e*SKSac **SKSac** 07 42 57.0 -4.9
CLL *e*(PS) 07 46 36.0
CLL *e*PPS PPS 07 48 18.0
CLL *e*SS **SS** 07 53 00.0 -0.2
CLL *ex* x 07 58 12.0
CLL LmV 08 27 00.0
comp=Z,2µm,21.6s
CLL Lmax 08 30 00.0
CLL LmV 09 35 00.0
comp=Z,200nm,19.1s
ARSA **Arzberg** 114.58 322 *e*P **PKiKP** 07 36 16.7 -0.2
comp=Z,4.2nm,1.1s
ECSD **EROS Data Cent** 114.67 42 IAMs_20 IAMs_20 08 22 37.7
comp=Z,1µm,19.0s
ECSD **EROS Data Cent** 114.67 42 P PKPdf 07 36 17.7 +0.5
baz=293
KHC **Kasperske Hory** 114.88 325 AMS AMS 08 25 10.0
comp=Z,2µm,25.1s
GERES **GERESS Array B** 114.95 324 PKP **PKiKP** 07 36 16.9 -0.7
comp=Z,0.9nm,0.5s,baz=82,slow=2.0,SNR=12
GERES PKKPbc **PKKPab** 07 46 59.0 -1.3
comp=Z,0.1nm,0.3s,baz=312,slow=4.6,SNR=3.9
GERES **GERESS Array B** 114.95 324 PKiKP **PKiKP** 07 36 17.0 -0.7
NKC **Novy Kostel** 114.99 326 AMS AMS 08 27 00.0
comp=Z,2µm,20.9s
MOA **Molln** 115.07 323 *e*P **PKPdf** 07 36 18.3 +0.5
comp=Z,9.4nm,1.8s
MOA *e*P **PP** 07 37 13.9 -3.2
comp=Z,8.3nm,1.4s
SOKA **Soboth** 115.13 322 *e*P **PP** 07 37 18.9 +1.3
comp=Z,7.2nm,1.4s
OBKA **Obir** 115.50 322 *e*P **PP** 07 37 22.8 +2.6
comp=Z,9.6nm,1.2s
BIOA **Bad Ischl, Aus** 115.52 323 *e*P **PP** 07 37 23.8 +3.6
comp=Z,9.4nm,1.3s
OK038 **West end E0370** 115.63 50 IAMs_20 IAMs_20 08 17 45.0
comp=Z,1µm,20.0s
OK032 **Salt Plains WL** 115.94 50 IAMs_20 IAMs_20 08 17 18.1
comp=Z,1µm,19.0s
KBA **Koelnbreinsper** 115.98 323 *e*P **PP** 07 37 27.4 +3.7
comp=Z,12nm,1.6s
WMOK **Wichita Mounta** 116.12 52 IAMs_20 IAMs_20 08 20 10.1
comp=Z,1µm,21.0s
JCT **Junction City** 116.42 57 **PKPdf** 07 36 20.4 -0.6
JCT **Junction City** 116.42 57 PKIKP **PKPdf** 07 36 20.4 -0.6
JCT MLR MLR
comp=Z,700nm,21.0s
JCT **Junction City** 116.42 57 P **PKPdf** 07 36 20.4 -0.6
baz=284
SPMN **Marine on St.** 116.53 39 P **PKPdf** 07 36 20.5 -0.2
baz=296
ABTA **Abfaltersbach** 116.64 323 *e*P **PKiKP** 07 36 21.8 +0.8
comp=Z,8.2nm,1.2s
ABTA *e*P **PP** 07 37 22.8 -5.3
comp=Z,7.0nm,1.2s
OK049 **E0420 Rd and N** 116.75 50 IAMs_20 IAMs_20 08 24 18.8
comp=Z,1µm,21.0s
WTTA **Wattenberg** 116.92 324 *e*P **PKPdf** 07 36 20.6 -1.0
comp=Z,2.6nm,0.5s
WTTA *e*P PP 07 37 22.3 -7.9
comp=Z,2.5nm,0.5s
WATA **Walderalm** 116.92 324 *e*P **PP** 07 37 23.9 -6.2
comp=Z,3.4nm,0.5s
TIP **Timpagrande** 116.97 314 IAMs_20 IAMs_20 08 30 55.0
comp=Z,1µm,22.0s
OK050 **Pawnee Station** 117.00 50 IAMs_20 IAMs_20 08 15 12.3
comp=Z,1µm,19.0s
OK045 **Pawnee Station** 117.03 50 IAMs_20 IAMs_20 08 19 59.1
comp=Z,1µm,20.0s
OK046 **Pawnee Station** 117.06 50 IAMs_20 IAMs_20 08 23 52.8
comp=Z,973nm,20.0s
OK051 **E0350 and S346** 117.08 50 IAMs_20 IAMs_20 08 20 10.3
comp=Z,1µm,22.0s
OK033 **Mehan** 117.15 50 IAMs_20 IAMs_20 08 21 07.3
comp=Z,1µm,22.0s
OK044 **Pawnee Station** 117.15 50 IAMs_20 IAMs_20 08 15 14.3
comp=Z,983nm,20.0s
OK047 **Pawnee, Statio** 117.18 50 IAMs_20 IAMs_20 08 18 04.9
comp=Z,1µm,18.0s
SQTA **Sankt Quirin** 117.19 324 *e*P **PKPdf** 07 36 21.6 -0.5
comp=Z,11nm,1.6s
SQTA *e*P **PP** 07 37 27.9 -4.2
comp=Z,10nm,1.8s
MOTA **Moosalm** 117.20 324 *e*P **PKiKP** 07 36 23.6 +1.5
comp=Z,3.8nm,0.7s
MOTA *e*P **PP** 07 37 29.2 -2.9
comp=Z,8.0nm,1.4s
RETA **Reutte** 117.33 324 *e*P **PP** 07 37 33.8 +0.9
comp=Z,9.8nm,1.3s
FETA **Feichten** 117.58 324 *e*P **PKPdf** 07 36 22.9 0.0
comp=Z,6.7nm,1.1s
FETA *e*P **PP** 07 37 31.9 -2.9
comp=Z,8.4nm,1.6s
DAVA **Damuels** 117.94 324 *e*P **PKPdf** 07 36 22.8 -0.8
comp=Z,6.1nm,0.6s
435B **Jarrell** 118.19 56 IAMs_20 IAMs_20 08 24 01.5
comp=Z,820nm,20.0s
KVTX **Kingsville** 118.75 60 IAMs_20 IAMs_20 08 31 58.8
comp=Z,855nm,20.0s
ECH **Echery** 119.00 326 IAMs_20 IAMs_20 08 31 58.4
comp=Z,1µm,20.0s
VLC **Villacollemand** 119.19 321 IAMs_20 IAMs_20 08 34 40.1
comp=Z,1µm,21.0s
JFWS **Jewell Farm** 119.22 41 P **PKPdf** 07 36 25.6 -0.3
baz=298
HHAR **Hobbs** 119.35 49 PKPdf **PKPdf** 07 36 25.8 -0.6
HKT **Hockley** 119.88 56 IAMs_20 IAMs_20 08 30 15.0
comp=Z,1µm,19.0s
MIAR **Mount Ida** 120.24 51 P **PKPdf** 07 36 28.0 -0.2
baz=291
CCM **Cathedral Cave** 120.66 46 PKPdf **PKiKP** 07 36 29.3 +0.4
CCM **Cathedral Cave** 120.66 46 PKiKP **PKiKP** 07 36 29.3 +0.4
CCM **Cathedral Cave** 120.66 46 P **PKPdf** 07 36 28.4 -0.4
baz=294
HDIL **Hopedale** 120.94 43 P **PKPdf** 07 36 28.5 -0.8
baz=297
CLF **Chambon-Foret** 121.76 328 PKPdf **PKPdf** 07 36 30.5 -0.1
SSB **Saint Sauveur** 122.14 325 IAMs_20 IAMs_20 08 30 40.8
comp=Z,1µm,21.0s
SFIN **Lafayette** 122.50 42 P **PKiKP** 07 36 33.2 +0.7
baz=299
SCHQ **Schefferville** 122.83 18 PKP **PKiKP** 07 36 32.8 0.0
comp=Z,4.2nm,0.7s,baz=6,8,slow=5.0,SNR=6.3
L48A **N Adams** 123.44 39 **PKPdf** 07 36 32.9 -1.2
KEST **Kesra** 123.75 313 PKP **PKPdf** 07 36 34.9 0.0
comp=Z,2.2nm,0.6s,baz=282,slow=4.8,SNR=4.0
O48B **Farmland** 123.85 41 P **PKPdf** 07 36 34.5 -0.5
baz=301
WVT **Waverly** 123.94 47 PKPdf **PKiKP** 07 36 36.0 +0.5
WVT **Waverly** 123.94 47 PKIKP **PKiKP** 07 36 36.0 +0.5
WVT **Waverly** 123.94 47 P **PKPdf** 07 36 34.8 -0.4
baz=296
WCI **Wyandotte Cave** 124.08 44 P **PKPdf** 07 36 34.9 -0.5
baz=298
P49A **Miami Univ. Ec** 124.51 42 P **PKPdf** 07 36 35.4 -0.8
baz=301
ACSO **Alum Creek Sta** 125.28 40 P **PKPdf** 07 36 36.7 -0.9
baz=303
LRAL **Lakeview Retre** 125.88 50 P **PKPdf** 07 36 38.2 -0.7
baz=295
P52A **Corning** 126.15 40 P **PKPdf** 07 36 38.1 -1.2
baz=303
O53A **New Philadelph** 126.40 39 P **PKPdf** 07 36 39.5 -0.3
baz=304
TZTN **Tazewell** 126.81 44 P **PKiKP** 07 36 41.5 +0.4
baz=300
MCWV **Mont Chateau** 127.60 39 P **PKPdf** 07 36 41.2 -0.9
baz=305
SSPA **Standing Stone** 128.23 37 P **PKPdf** 07 36 42.8 -0.4
baz=308
BINY **Binghamton** 128.35 34 P **PKPdf** 07 36 43.0 -0.4
baz=311
GOGA **Godfrey** 128.37 48 P **PKPdf** 07 36 43.8 +0.1
baz=298
BLA **Blacksburg** 128.60 42 P **PKPdf** 07 36 43.7 -0.5
baz=303
PLCA **Paso Flores** 128.89 150 PKP **PKiKP** 07 36 45.2 -0.1
comp=Z,6.7nm,0.9s,baz=208,slow=3.9,SNR=12
PLCA **Paso Flores** 128.89 150 PKPdf **PKiKP** 07 36 45.8 +0.4
PLCA **Paso Flores** 128.89 150 PKiKP **PKiKP** 07 36 45.8 +0.4
PLCA **Paso Flores** 128.89 150 *e*P **PKiKP** 07 36 47.1 +1.7
PLCA **Paso Flores** 128.89 150 *e*P **PKPdf** 07 36 43.8 -0.8
KMSC **Kings Mountain** 129.07 45 P **PKPdf** 07 36 44.5 -0.6
baz=301
L61B **Northampton** 129.98 32 P **PKiKP** 07 36 47.6 +0.3
baz=315
CART **Cartagena** 129.99 320 IAMs_20 IAMs_20 08 38 48.9
comp=Z,796nm,20.0s
PAL **Palisades** 130.30 34 P **PKPdf** 07 36 47.1 -0.1
baz=312
PAB **San Pablo** 130.85 324 IAMs_20 IAMs_20 08 42 49.2
comp=Z,968nm,20.0s
NHSC **New Hope** 130.93 46 IAMs_20 IAMs_20 08 30 29.6
comp=Z,1µm,20.0s
MVO **Moncorvo** 131.27 327 *e*PP **PP** 07 39 13.6 +7.3
MVO *i* LQ LQ 07 40 20.6
MVO **Moncorvo** 131.27 327 *e*SS SS 07 56 49.3 +11
MVO **Moncorvo** 131.27 327 *e*LR LR 08 21 28.6
comp=Z,1µm,22.0s
TGUH **Tegucigalpa,Un** 131.31 73 IAMs_20 IAMs_20 08 25 14.6
comp=Z,670nm,22.0s
PGAV **Gavieira, Arco** 131.35 329 *e*PP PP 07 39 21.6 +15
PGAV *i* LQ LQ 07 40 19.9
PGAV **Gavieira, Arco** 131.35 329 *e*SS SS 07 56 50.4 +12
PGAV **Gavieira, Arco** 131.35 329 *e*LR LR 08 21 10.8
comp=Z,961nm,20.0s
MTE **Manteigas** 132.08 327 *e*PP PP 07 39 20.1 +8.6
MTE *i* LQ LQ 07 40 24.3
MTE **Manteigas** 132.08 327 *e*SS SS 07 57 06.3 +18
MTE **Manteigas** 132.08 327 *e*LR LR 08 21 46.0
comp=Z,1µm,20.0s
DWPF **Disney Wildern** 132.31 53 IAMs_20 IAMs_20 08 27 40.9
comp=Z,873nm,22.0s
PMRV **Marv??o** 132.67 326 *e*PP PP 07 39 28.3 +13
PMRV *i* LQ LQ 07 40 24.9
PMRV **Marv??o** 132.67 326 *e*SS SS 07 57 01.3 +6.3
PMRV **Marv??o** 132.67 326 *e*LR LR 08 22 05.0
comp=Z,1µm,20.0s
MESJ **Messejana** 134.24 325 *e*PKPdf **PKPdf** 07 36 54.3 -0.4
MESJ *e*PP **PP** 07 39 25.9 +0.6
MESJ IAMs_20 IAMs_20 08 34 24.7
comp=Z,1µm,22.1s
MESJ **Messejana** 134.24 325 *e*PKIKP **PKPdf** 07 36 54.3 -0.4
MESJ *e* 07 39 25.9
PVAQ **Vaqueiros** 134.24 324 *i* LQ LQ 07 40 30.5
PVAQ **Vaqueiros** 134.24 324 *e*SS SS 07 57 49.4 +35
PVAQ **Vaqueiros** 134.24 324 *e*LR LR 08 23 01.1
comp=Z,814nm,20.0s
PEL **Peldehue** 134.28 143 IAMs_20 IAMs_20 08 21 50.7
comp=Z,1µm,21.0s
MORF **Marmelete** 134.85 325 *e*PKPdf **PKPdf** 07 36 55.4 -0.6
MORF *e*PP **PP** 07 39 29.9 +0.6
MORF IAMs_20 IAMs_20 08 34 08.2
comp=N,1µm,20.9s
MORF **Marmelete** 134.85 325 *e*PKIKP **PKPdf** 07 36 55.4 -0.6
MORF *e* 07 39 29.9
HDC **Heredia** 134.97 78 IAMs_20 IAMs_20 08 31 30.8
comp=Z,612nm,21.0s
AVE **Averroes** 136.74 320 IAMs_20 IAMs_20 08 39 54.7
comp=Z,820nm,22.0s
TORD **Torodi Ar. Bea** 137.78 287 PKP **PKPdf** 07 37 02.5 +0.6
comp=Z,2.5nm,0.7s,baz=29,slow=1.6,SNR=8.8
TORD PP **PP** 07 39 53.5 +4.5
comp=Z,1.7nm,0.8s,baz=51,slow=4.7,SNR=4.0
BCIP **Isla Barro Col** 139.26 78 IAMs_20 IAMs_20 08 32 06.4
comp=Z,727nm,20.0s
MTDJ **Mount Denham** 139.37 64 IAMs_20 IAMs_20 08 41 48.4
comp=Z,602nm,21.0s
BOSC **San Juan Bosco** 140.68 97 **PKPdf** 07 37 04.2 -3.3
OTAV **Otavalo** 141.01 92 PKPdf **PKPdf** 07 37 04.1 -4.4
OTAV **Otavalo** 141.01 92 PKIKP **PKPdf** 07 37 04.1 -4.4
OTAV **Otavalo** 141.01 92 *e*P **PKPdf** 07 37 09.3 +0.8
OTAV **Otavalo** 141.01 92 *e*P **PKPdf** 07 37 07.7 -0.8
LVC **Limon Verde** 142.28 132 PKPdf **PKPdf** 07 37 08.1 -2.3
LVC **Limon Verde** 142.28 132 PKIKP **PKPdf** 07 37 08.1 -2.3
LVC **Limon Verde** 142.28 132 *e*P **PKPdf** 07 37 11.3 +0.9
PMOZ **Porto Moniz, M** 142.88 328 *e*PP PP 07 40 33.9 +15
PMOZ **Porto Moniz, M** 142.88 328 *e*LR LR 08 26 33.3
comp=Z,885nm,22.0s
GRTK **Grand Turk** 143.61 55 IAMs_20 IAMs_20 08 51 36.8
comp=Z,590nm,21.0s
PLTB **Pedras Altas** 143.83 159 PKPdf **PKPdf** 07 37 11.9 -0.5
PLTB **Pedras Altas** 143.83 159 *e*P **PKiKP** 07 37 14.9 -1.0
PLTB **Pedras Altas** 143.83 159 *e*P **PKPdf** 07 37 12.8 +0.3
ITQB **Itaqui** 144.49 154 PKPdf PKPbc 07 37 12.8 +0.8
ITQB **Itaqui** 144.49 154 *e*P **PKiKP** 07 37 15.8 -1.4
ITQB **Itaqui** 144.49 154 *e*P PKPbc 07 37 12.6 +0.5
RODS **Rosario do Sul** 144.50 156 *e*P **PKiKP** 07 37 16.4 -0.9
RODS **Rosario do Sul** 144.50 156 *e*P **PKPdf** 07 37 14.2 +0.6
SDDR **Presa de Saban** 144.60 59 IAMs_20 IAMs_20 08 36 01.3
comp=Z,850nm,22.0s
KIC **Kosan Boka** 145.08 278⇑ *e*PKP1 **PKPbc** 07 37 13.4 -1.1
comp=Z,49nm,0.9s
ROSC **El Rosal** 145.13 84 PKPbc **PKPdf** 07 37 15.6 -0.1
comp=Z,13nm,0.6s,baz=336,slow=2.3,SNR=20
DBIC **Dimbokro** 145.16 279 PKPbc **PKPbc** 07 37 14.1 -0.6
comp=Z,25nm,0.9s,baz=108,slow=3.9,SNR=25
TIC **Toumodi** 145.33 279⇑ *e*PKP1 **PKPbc** 07 37 13.8 -1.5
comp=Z,58nm,1.0s
LIC **Lamto** 145.38 278⇑ *e*PKP1 **PKPbc** 07 37 14.3 -1.1
comp=Z,68nm,0.9s
CZSB **Cruzeiro do Su** 145.49 107 *e*P **PKPab** 07 37 17.2 +1.2
CZSB **Cruzeiro do Su** 145.49 107 *e*P **PKPbc** 07 37 15.9 +0.1
UNIS **Unistalda (Bra** 145.68 155 *e*P **PKPab** 07 37 16.9 +0.7
UNIS **Unistalda (Bra** 145.68 155 *e*P **PKPab** 07 37 16.5 +0.2
LPAZ **La Paz** 146.37 124 PKPbc **PKPbc** 07 37 19.5 +0.3
comp=Z,36nm,0.7s,baz=254,slow=3.4,SNR=3.9
LPAZ **La Paz** 146.37 124 *e*P **PKPdf** 07 37 18.1 +0.2
ALGR **Alto Alegre (B** 146.72 158 *e*P **PKPbc** 07 37 18.6 -0.6
ALGR **Alto Alegre (B** 146.72 158 *e*P **PKPdf** 07 37 17.7 +0.2
CPUP **Villa Florida** 146.97 150 PKPbc **PKPbc** 07 37 19.1 -0.7
comp=Z,34nm,0.8s,baz=237,slow=2.5,SNR=31
CPUP **Villa Florida** 146.97 150 *e*P **PKPdf** 07 37 18.1 +0.2
CNLB **Canela** 147.00 162 *e*P **PKPbc** 07 37 19.9 0.0
CNLB **Canela** 147.00 162 *e*P **PKPdf** 07 37 19.0 +1.0
CRSM **Crissiumal (Br** 147.49 155 *e*P **PKPdf** 07 37 19.2 +0.4
CRSM **Crissiumal (Br** 147.49 155 *e*P **PKPdf** 07 37 19.4 +0.6
TER01 **Tubaro-SC** 148.25 164 *e*P **PKPdf** 07 37 19.9 -0.1
SDV **Santo Domingo** 148.28 76 **PKPbc** 07 37 22.6 -1.4
SDV **Santo Domingo** 148.28 76 IAMs_20 IAMs_20 08 39 09.4
comp=Z,524nm,20.0s
SDV **Santo Domingo** 148.28 76 *e*P **PKPdf** 07 37 21.5 +0.9
SDV **Santo Domingo** 148.28 76 *e*P **PKPdf** 07 37 20.8 +0.2
ITAB **Concordia** 148.47 158 *e*P **PKPdf** 07 37 21.5 +1.1
MLPR **Magueyes Islan** 148.66 58 **PKPbc** 07 37 23.0 -1.6
TBTG **Tabatinga, AM** 148.99 101 **PKPbc** 07 37 25.9 +0.3
TBTG **Tabatinga, AM** 148.99 101 *e*P **PKPdf** 07 37 22.9 +1.3
TBTG **Tabatinga, AM** 148.99 101 *e*P **PKPdf** 07 37 21.0 -0.6
CELP **Cerrillos** 149.00 57 **PKPbc** 07 37 24.8 -0.7
FRBT **Francisco Belt** 149.23 156 *e*P **PKPbc** 07 37 23.4 +1.6
FRBT **Francisco Belt** 149.23 156 *e*P **PKPdf** 07 37 21.9 +0.1
SJG **San Juan** 149.35 57 IAMs_20 IAMs_20 08 49 00.9
comp=Z,523nm,21.0s
MCR1 **Marechal Candi** 150.13 153 *e*P **PKPdf** 07 37 23.8 +0.7
PTGB **Pitanga** 150.76 156 *e*P **PKPdf** 07 37 25.0 +0.8
PTGB **Pitanga** 150.76 156 *e*P **PKPdf** 07 37 24.4 +0.1
ETMB **Extrema** 150.91 114 *e*P **PKPdf** 07 37 24.9 +0.3
ETMB **Extrema** 150.91 114 *e*P **PKPdf** 07 37 24.8 +0.2
ANTJ **Antonio Joao (** 151.19 147 *e*P **PKPdf** 07 37 26.1 +1.2
TIJ01 **Guaruva-PR** 151.30 162 *e*P **PKPdf** 07 37 25.6 +0.5
TIJ01 **Guaruva-PR** 151.30 162 *e*P **PKPdf** 07 37 25.2 +0.1
SMRT **St. Maarten** 151.91 54 IAMs_20 IAMs_20 08 45 35.3
comp=Z,788nm,22.0s
TRCB **Terra Rica** 152.21 153 *e*P **PKPdf** 07 37 27.6 +1.1
AQDB **Aquidauana** 152.58 145 *e*P **PKPdf** 07 37 27.7 +0.8
AQDB **Aquidauana** 152.58 145 *e*P **PKPdf** 07 37 27.2 +0.3
PET01 **Itanhaem-SP** 152.78 164 *e*P **PKPdf** 07 37 28.0 +0.8
ANWB **Willy Bob** 153.15 53 IAMs_20 IAMs_20 08 51 50.0
comp=Z,690nm,22.0s
RPRD **Ribas do Rio P** 153.66 149 *e*P **PKPdf** 07 37 29.9 +1.4
RPRD **Ribas do Rio P** 153.66 149 *e*P **PKPdf** 07 37 28.9 +0.3
PCMB **Pacaembu** 153.85 154 *e*P **PKPdf** 07 37 30.0 +1.2
GDHS **Morne Mazeau,** 153.90 56 IAMs_20 IAMs_20 08 42 05.2
comp=Z,891nm,22.0s
PTLB **Pontes e Lacer** 153.95 132 *e*P **PKPdf** 07 37 30.0 +1.0
PTLB **Pontes e Lacer** 153.95 132 *e*P **PKPdf** 07 37 29.5 +0.5
ABD **La Joyeuse, An** 154.02 55 IAMs_20 IAMs_20 08 43 51.4
comp=Z,762nm,22.0s
VAO **Valinhos** 154.09 164 *e*P **PKPdf** 07 37 30.1 +0.9
PARB **Paraibuna** 154.10 167 *e*P **PKPdf** 07 37 30.0 +0.8
CBE **Ff, Capester** 154.13 56 IAMs_20 IAMs_20 08 41 49.4
comp=Z,751nm,22.0s
TDBA **Terre de Bas,** 154.21 57 IAMs_20 IAMs_20 08 41 52.7
comp=Z,725nm,22.0s
GDSD **La Dsirade Is** 154.45 55 IAMs_20 IAMs_20 08 44 34.8
comp=Z,785nm,22.0s
MAGL **Barre de l'ile** 154.46 56 IAMs_20 IAMs_20 08 42 19.1
comp=Z,736nm,22.0s
RCLB **Rio Claro- Sao** 154.48 163 *e*P **PKPdf** 07 37 31.0 +1.3
VILB **Vilhena** 154.63 126 *e*P **PKPdf** 07 37 31.3 +1.3
VILB **Vilhena** 154.63 126 *e*P **PKPdf** 07 37 30.8 +0.7
SVN **Savane Anatole** 155.10 58 IAMs_20 IAMs_20 08 40 43.4
comp=Z,557nm,22.0s
FDF **Fort de France** 155.17 58 IAMs_20 IAMs_20 08 41 31.3
comp=Z,714nm,22.0s
BIM **Bigot** 155.34 59 IAMs_20 IAMs_20 08 41 14.9
comp=Z,794nm,21.0s
ILAM **Ilet Lapin Mar** 155.38 58 IAMs_20 IAMs_20 08 38 51.8
comp=Z,619nm,22.0s
BB19B **Bebedouro** 155.41 159 *e*P **PKPdf** 07 37 32.0 +1.0
MPOM **Morne Pois Mar** 155.55 59 IAMs_20 IAMs_20 08 41 09.4
comp=Z,806nm,22.0s
GRGR **Grenville** 155.85 64 IAMs_20 IAMs_20 08 45 32.0
comp=Z,642nm,21.0s
ITRB **Iturama** 155.92 154 *e*P **PKPdf** 07 37 32.9 +1.2
ITRB **Iturama** 155.92 154 *e*P **PKPdf** 07 37 32.2 +0.5
SALV **Santo Antonio** 156.05 139 *e*P **PKPdf** 07 37 33.3 +1.4
SALV **Santo Antonio** 156.05 139 *e*P **PKPdf** 07 37 32.3 +0.4
CAM01 **Campos-RJ** 156.21 175 *e*P **PKPdf** 07 37 33.3 +1.3
PDRB **Porto dos Gac** 158.16 129 *e*P **PKPdf** 07 37 36.1 +1.5
PDRB **Porto dos Gac** 158.16 129 *e*P **PKPdf** 07 37 35.0 +0.4
MACA **Manacapuru-AM** 158.20 104 *e*P **PKPab** 07 38 07.8 -0.9
MACA **Manacapuru-AM** 158.20 104 *e*P **PKPdf** 07 37 35.5 +0.7
MACA **Manacapuru-AM** 158.20 104 *e*P **PKPdf** 07 37 35.3 +0.5
IPMB **Ipameri, GO** 158.35 157 *e*P **PKPdf** 07 37 36.0 +1.2
IPMB **Ipameri, GO** 158.35 157 *e*P **PKPdf** 07 37 35.3 +0.4
RIB01 **Linhares ES** 158.78 178 *e*P **PKPdf** 07 37 36.7 +1.4
BOAV **Boa Vista** 158.98 89 *e*P **PKPdf** 07 37 35.9 +0.2
BOAV **Boa Vista** 158.98 89 *e*P **PKPdf** 07 37 35.7 0.0
CLDB **Colider** 159.33 129 *e*P **PKPdf** 07 37 37.6 +1.6
CLDB **Colider** 159.33 129 *e*P **PKPdf** 07 37 36.5 +0.5
SJMB **Sao Joao De Ma** 159.34 175 *e*P **PKPdf** 07 37 37.5 +1.6
DIAM **Diamantina, MG** 159.40 169 *e*P **PKPdf** 07 37 36.3 +0.1
NAN01 **Guarapari, ES** 160.25 178 *e*P **PKPdf** 07 37 39.1 +2.1
BDFB **Brasilia** 160.54 155 PKP **PKPdf** 07 37 37.7 +0.2
comp=Z,4.5nm,0.8s,baz=221,slow=1.2,SNR=9.3
BDFB PKPab **PKPab** 07 38 18.5 0.0
comp=Z,8.6nm,0.9s,baz=139,slow=1.5,SNR=7.2
BDFB **Brasilia** 160.54 155 *e*P **PKPdf** 07 37 38.3 +0.8
BDFB **Brasilia** 160.54 155 *e*P **PKPdf** 07 37 37.0 -0.6
MC01 **Montes Claros** 160.88 167 *e*P **PKPdf** 07 37 39.4 +1.5
MC01 **Montes Claros** 160.88 167 *e*P **PKPdf** 07 37 38.4 +0.6
NPGB **Novo Progresso** 161.79 120 *e*P **PKPdf** 07 37 39.0 +0.2
SNDB **Serra Nova Dou** 161.81 140 *e*P **PKPdf** 07 37 39.8 +1.0
SNDB **Serra Nova Dou** 161.81 140 *e*P **PKPdf** 07 37 39.2 +0.5
JANB **Januaria** 162.38 164 *e*P **PKPdf** 07 37 40.4 +1.0
JANB **Januaria** 162.38 164 *e*P **PKPdf** 07 37 40.0 +0.7
ITTB **Itaituba** 162.58 111 *e*P **PKPdf** 07 37 40.5 +0.9
ITTB **Itaituba** 162.58 111 *e*P **PKPdf** 07 37 38.2 -1.4
SDBA **SAO DESIDERIO** 164.69 160 *e*P **PKPdf** 07 37 42.8 +1.2
SDBA **SAO DESIDERIO** 164.69 160 *e*P **PKPdf** 07 37 41.5 -0.1
SMTB **Santa Maria do** 166.51 143 *e*P **PKPdf** 07 37 42.1 -0.9
PRPB **Parauapebas** 166.87 128 *e*P **PKPdf** 07 37 44.2 +0.8
PRPB **Parauapebas** 166.87 128 *e*P **PKPdf** 07 37 44.4 +1.0
TMAB **Tom-Au,PA,Br** 170.36 117 *e*P **PKPdf** 07 37 46.0 +0.5

IDC ***18*** *07:20:37.0±1.0, 1°.89S×140°.61E, h0km, mb4.1/5, mbtmp4.2/6, ML4.2/1, Error ellipse: s-maj=54.7km s-min=24.5km az=87.0*

ISC 18 07:20:41.8±1.0, 2°.0S±0°.1×140°.6E±0°.3, h35km, n8, σ1°05/8, mb4.1/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.90**	**199**	P		**Pn**	**07 24 59.0**	**-1.3**
	0.8nm,0.3s,baz=24,slow=12,SNR=1.5 6.3nm,0.8s							
ASAR	**Alice Springs**	**22.54**	**196**	P		**P**	**07 25 39.1**	**+0.2**
	6.0nm,0.7s,baz=26,slow=11,SNR=1.2 6.0nm,0.7s							
MKAR	**Makanchi Array**	**70.39**	**322**	P		**P**	**07 31 53.2**	**+0.8**
	2.0nm,0.7s,baz=99,slow=7.7,SNR=5.6 2.0nm,0.7s							

ZALV	Zalesovo Beam	72.28 329	P	P	07 32 03.6	+0.1
	1.0nm,0.4s,baz=120,slow=8.5,SNR=1.9					
	1.0nm,0.4s					
VNDA	Vanda	76.36 175	P	P	07 32 27.8	+0.9
	1.0nm,0.5s,baz=332,slow=8.0,SNR=1.5					
	1.0nm,0.5s					
ILAR	Eielson Array	84.36 24	P	P	07 33 08.9	-1.3
	0.9nm,0.7s,baz=251,slow=5.2,SNR=2.2					
	0.9nm,0.7s					
LPAZ	La Paz	146.29 124	PKPbc	PKPab	07 40 22.1	+0.7
	5.0nm,0.8s,baz=228,slow=1.7,SNR=3.3					
CPUP	Villa Florida	146.95 149	PKPbc	PKPab	07 40 23.0	+0.1
	4.1nm,1.0s,baz=200,slow=9.7,SNR=3.2					

*NOU **18** 07:22:53.0, 37°.59S×176°.43E, h308km, MLv4.4/10, North Island, New Zealand*
*WEL **18** 07:22:57.6±0.7, 38°.5±5°×17°.6E±°, h274km±5km, M3.3/49, ML2.7/4, MLv3.3/49, Error ellipse: s-maj=0.0km s-min=0.0km az=143.1*
ISC 18 07:22:50.4±1.5, 37°.51S±0°.07×176°.40E±0°.07, h323km±9km, n154, σ2§10/182, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.24	207	P	Pn	07 23 33.1	+1.9
OPRZ	Ohinepanea	0.35	160	P	Pn	07 23 32.8	+1.4
OPRZ				S	S	07 24 02.6	-1.4
OMRZ	Omania	0.59	182	P	Pn	07 23 33.9	+1.9
EDRZ	Edgecumbe	0.65	156	P	Pn	07 23 34.2	+2.1
TARZ	Mount Tarawera	0.73	173	P	Pn	07 23 34.6	+2.2
TOZ	Tahuroa Road	0.75	253	P	Pn	07 23 34.7	+2.4
RRRZ	Republican Roa	0.83	174	P	Pn	07 23 34.5	+1.8
HRRZ	Handcock Road	0.88	186	P	Pn	07 23 34.9	+2.1
URZ	Urewera	0.93	143	P	Pn	07 23 34.3	+1.4
URZ				S	S	07 24 08.7	-3.3
URZ	Urewera	0.93	143	P	Pn	07 23 33.6	+0.6
KUZ	Kuaotunu	0.94	324	P	Pn	07 23 35.0	+1.8
PRRZ	Plateau Road	0.98	180	P	Pn	07 23 35.1	+1.9
MUGZ	Murupara	1.01	163	P	Pn	07 23 35.1	+1.8
WPRZ	Whakapapatarin	1.02	190	P	Pn	07 23 35.5	+2.1
ALRZ	Allen Road	1.05	182	P	Pn	07 23 35.8	+2.3
TLZ	Tolley Road	1.06	220	P	Pn	07 23 36.1	+2.5
MKAZ	Moumakai	1.07	292	P	Pn	07 23 36.1	+2.5
KUTZ	Kaahu Road	1.08	205	P	Pn	07 23 36.0	+2.3
RUGZ	Raukumara Rang	1.11	114	P	Pn	07 23 35.0	+1.1
RUGZ				S	S	07 24 05.0	-3.7
RTZ	Ruatahuna	1.19	158	P	Pn	07 23 36.2	+2.0
RTZ				S	S	07 24 07.1	-2.2
MWZ	Matawai	1.21	133	P	Pn	07 23 36.3	+2.0
MWZ				S	S	07 24 07.3	-2.1
WIAZ	Waiheke Island	1.24	305	P	Pn	07 23 36.5	+2.0
RAGZ	Rawiri	1.27	141	P	Pn	07 23 37.0	+2.3
RAGZ				S	S	07 24 08.1	-1.9
ETAZ	East Tamaki Re	1.30	295	P	Pn	07 23 37.3	+2.5
WATZ	Wairara	1.30	204	P	Pn	07 23 37.1	+2.3
MRHZ	Matea Rd	1.32	179	P	Pn	07 23 36.8	+1.9
MRHZ				S	S	07 24 07.8	-2.6
MTHZ	Maungataniwha	1.38	166	P	Pn	07 23 37.3	+2.1
MTHZ				S	S	07 24 08.9	-2.2
HATZ	Hinemaiaia	1.40	190	P	Pn	07 23 37.5	+2.2
MBAZ	Motutapu North	1.41	301	P	Pn	07 23 38.1	+2.7
TWGZ	Tauwhareparae	1.42	118	P	Pn	07 23 38.3	+2.8
TWGZ				S	S	07 24 11.2	-0.2
RATZ	Rangitukua	1.44	200	P	Pn	07 23 37.6	+2.1
SNGZ	Shannon Statio	1.47	150	P	Pn	07 23 38.1	+2.4
SNGZ				S	S	07 24 10.0	-1.8
AWAZ	Awhitu Peninsu	1.47	287	P	Pn	07 23 38.4	+2.6
TKGZ	Te Karaka	1.47	129	P	Pn	07 23 38.2	+2.5
TKGZ				S	S	07 24 11.1	-1.8
RAHZ	Arahi	1.50	159	P	Pn	07 23 38.5	+2.6
RAHZ				S	S	07 24 11.3	-1.0
MXZ	Matakaoa Point	1.52	92	P	Pn	07 23 38.3	+2.3
MXZ				S	S	07 24 10.8	-1.6
RITZ	Rihia Road	1.52	196	P	Pn	07 23 38.5	+2.5
KATZ	Kakaramea	1.56	201	P	Pn	07 23 38.6	+2.2
PUZ	Puketiti	1.57	111	P	Pn	07 23 38.4	+2.1
PUZ				S	S	07 24 10.6	-2.4
HIZ	Hauiti	1.58	230	P	Pn	07 23 39.0	+2.7
HIZ	Hauiti	1.58	230	P	Pn	07 23 38.4	+2.1
RIGZ	Rimuhau	1.60	138	P	Pn	07 23 39.1	+2.6
RIGZ				S	S	07 24 12.6	-0.9
NMHZ	Naumai	1.61	169	P	Pn	07 23 39.6	+2.9
NMHZ				S	S	07 24 13.0	-0.6
WMGZ	Waiomatatini S	1.63	101	P	Pn	07 23 39.0	+2.3
WMGZ				S	S	07 24 12.0	-1.6
BKZ	Black Stump Fm	1.65	177	P	Pn	07 23 38.9	+2.0
BKZ				S	S	07 24 12.0	-2.0
BKZ	Black Stump Fm	1.65	177	P	Pn	07 23 36.3	-0.6
BKZ	Black Stump Fm	1.65	177	P	Pn	07 23 38.9	+2.0
NTVZ	North Tongarir	1.68	200	P	Pn	07 23 39.4	+2.2
KRVZ	Karewarewa	1.69	200	P	Pn	07 23 39.4	+2.2
TMVZ	Te Maari	1.69	199	P	Pn	07 23 39.5	+2.3
WHHZ	Waihua	1.69	157	P	Pn	07 23 39.7	+2.6
WHHZ				S	S	07 24 13.4	-1.0
ETVZ	East Tongariro	1.71	198	P	Pn	07 23 39.6	+2.3
WTVZ	West Tongariro	1.72	201	P	Pn	07 23 39.6	+2.2
CNGZ	Carnagh Statio	1.73	125	P	Pn	07 23 40.2	+2.9
NNVZ	North Ngauruho	1.73	201	P	Pn	07 23 39.9	+2.4
TWVZ	Taurewa	1.73	206	P	Pn	07 23 39.7	+2.2
OTVZ	Oturere	1.75	199	P	Pn	07 23 39.8	+2.2
SNVZ	South Ngauruho	1.77	199	P	Pn	07 23 40.1	+2.3
NGZ	Ngauruhoe	1.78	200	P	Pn	07 23 40.1	+2.3
ARHZ	Aropaoanui	1.81	165	P	Pn	07 23 40.5	+2.7
ARHZ				P	Pn	07 23 40.6	+2.7
ARHZ				S	S	07 24 14.9	-0.9
KNZ	Kokohu	1.81	147	P	Pn	07 23 40.2	+2.3
KNZ				S	S	07 24 14.4	-1.4
PRGZ	Paritu Road	1.83	141	P	Pn	07 23 40.8	+2.7
TUVZ	Tukino	1.85	198	P	Pn	07 23 40.6	+2.3
FWVZ	Far West T-bar	1.86	201	P	Pn	07 23 40.9	+2.3
WHVZ	Whangaehu Hut	1.88	200	P	Pn	07 23 40.9	+2.3
TRVZ	Turoa	1.91	200	P	Pn	07 23 41.3	+2.5
KWHZ	Kaweka Forest	1.91	179	P	Pn	07 23 40.2	+1.5
KWHZ				S	S	07 24 15.9	-1.3
WNVZ	Wahianoa	1.92	199	P	Pn	07 23 40.9	+2.1
MCHZ	McNeill Hill	1.94	173	P	Pn	07 23 41.6	+2.8
MCHZ				S	S	07 24 17.2	-0.3
PKVZ	Pokaka	1.96	205	P	Pn	07 23 41.2	+2.2
MOVZ	Moawhango	1.96	195	P	Pn	07 23 40.8	+1.8
BHHZ	Black Hill Sta	1.99	188	P	Pn	07 23 41.4	+2.2
MTVZ	Mangateitei	2.01	201	P	Pn	07 23 41.7	+2.3
MHVZ	Mahia Peninsul	2.02	145	P	Pn	07 23 42.2	+2.8
KRHZ	Kereru	2.13	181	P	Pn	07 23 42.4	+2.2
KRHZ				S	S	07 24 18.6	-1.5
CKHZ	Cape Kidnapper	2.21	166	P	Pn	07 23 43.6	+2.8
CKHZ				S	S	07 24 20.6	-0.5
PNHZ	Pukenui	2.40	184	P	Pn	07 23 44.5	+2.1
PNHZ				S	S	07 24 23.2	-0.9
WAZ	Wanganui	2.50	206	P	Pn	07 23 45.5	+2.3
NEZ	North Egmont	2.52	225	P	Pn	07 23 47.0	+3.4
PKE	Pukeiti	2.53	228	P	Pn	07 23 47.0	+3.4
PREZ	Palmer Road	2.54	223	P	Pn	07 23 46.8	+3.2
PXZ	Pawanui	2.54	172	P	Pn	07 23 46.1	+2.5
PXZ				S	S	07 24 25.8	-0.3
WPHZ	Waipukurau	2.55	179	P	Pn	07 23 46.0	+2.4
TSZ	Takapari Road	2.57	188	P	Pn	07 23 45.9	+2.0
KHEZ	Kahui Hut	2.58	226	P	Pn	07 23 47.4	+3.3
NBEZ	Newall Road No	2.65	228	P	Pn	07 23 47.8	+3.2
NMEZ	Namu Road	2.74	225	P	Pn	07 23 48.6	+3.2
PRHZ	Porangahau	2.76	176	P	Pn	07 23 48.0	+2.5
DVHZ	Dannevirke	2.79	184	P	Pn	07 23 47.7	+1.9
OHWZ	Ohakea	2.82	197	P	Pn	07 23 48.8	+2.8
POWZ	Post Office Ro	2.92	190	P	Pn	07 23 48.9	+2.0
ANWZ	Angora Road	2.94	179	P	Pn	07 23 49.9	+2.7
PRWZ	Pori Road	3.06	186	P	Pn	07 23 50.7	+2.4
BFZ	Birch Farm	3.17	182	P	Pn	07 23 51.6	+2.3
BFZ	Birch Farm	3.17	182	P	Pn	07 23 50.9	+1.6
BFZ	Birch Farm	3.17	182	P	Pn	07 23 51.9	+2.6
MRZ	Mangatainoka R	3.21	191	P	Pn	07 23 51.6	+1.9
OUZ	Omahuta	3.22	314	P	Pn	07 23 53.0	+3.0
OUZ	Omahuta	3.22	314	P	Pn	07 23 52.3	+2.3
TIWZ	Tintock	3.28	187	P	Pn	07 23 52.7	+2.2
CPWZ	Castlepoint	3.40	183	P	Pn	07 23 54.5	+2.9
OGWZ	Otaki Gorge	3.44	196	P	Pn	07 23 54.0	+2.0
HOWZ	Holdsworth Sta	3.45	191	P	Pn	07 23 53.8	+1.7
KIW	Kapiti Island	3.54	199	P	Pn	07 23 54.9	+1.8
TMWZ	Te Maipa	3.61	186	P	Pn	07 23 55.9	+2.1
MTW	Mount Morrison	3.71	191	P	Pn	07 23 56.4	+1.7
CAW	Cannon Point	3.74	196	P	Pn	07 23 56.8	+1.8
DUWZ	D'Urville Isla	3.81	210	P	Pn	07 23 57.4	+1.6
TRWZ	Traveller	3.92	188	P	Pn	07 23 59.1	+2.1
PAWZ	Paruwai Farm	3.94	191	P	Pn	07 23 58.9	+1.8
WEL	Wellington	3.97	198	P	Pn	07 23 59.3	+1.8
MSWZ	Moikau Station	4.00	193	P	Pn	07 23 59.4	+1.6
SNZO	South Karori	4.01	199	P	Pn	07 23 59.1	+1.2
TCW	Tory Channel	4.04	203	P	Pn	07 24 00.2	+2.0
PLWZ	Palliser	4.15	192	P	Pn	07 24 01.1	+1.6
TUWZ	Tuamarina	4.35	205	P	Pn	07 24 03.2	+1.7
NNZ	Nelson	4.38	211	P	Pn	07 24 03.1	+1.3
TKNZ	Takaka Hill	4.41	216	P	Pn	07 24 03.1	+0.8
QRZ	Quartz Range	4.47	221	P	Pn	07 24 03.6	+0.8
QRZ	Quartz Range	4.47	221	P	Pn	07 24 03.0	+0.1
QRZ	Quartz Range	4.47	221	P	Pn	07 24 03.7	+0.8
CMWZ	Cape Campbell	4.56	201	P	Pn	07 24 07.3	+3.5
BSWZ	Blackbirch Sta	4.63	204	P	Pn	07 24 06.7	+2.1
MRNZ	Matariki Terra	4.80	215	P	Pn	07 24 07.4	+0.8
THZ	Tophouse	5.03	211	P	Pn	07 24 10.3	+1.1
KHZ	Kahutara	5.37	203	P	Pn	07 24 15.0	+2.1
KHZ	Kahutara	5.37	203	P	Pn	07 24 14.4	+1.5
KHZ	Kahutara	5.37	203	P	Pn	07 24 15.2	+2.3
DSZ	Denniston Nort	5.52	219	P	Pn	07 24 15.4	+0.6
GVZ	Greta Valley S	6.03	204	P	Pn	07 24 22.3	+1.7
LTZ	Lake Taylor	6.14	210	P	Pn	07 24 23.3	+1.3
AMCZ	Amberley	6.34	206	P	Pn	07 24 26.3	+2.0
INZ	Inchbonnie	6.44	215	P	Pn	07 24 26.3	+0.8
OXZ	Oxford	6.69	208	P	Pn	07 24 29.6	+1.2
OKCZ	Okains Bay	6.70	201	P	Pn	07 24 31.0	+2.4
MQZ	McQueen's Vall	6.81	204	P	Pn	07 24 30.9	+1.0
AKCZ	Akaroa Harbour	6.88	202	P	Pn	07 24 33.0	+2.3
RACZ	Rakaia	7.00	206	P	Pn	07 24 33.6	+1.5
WVZ	Waitaha Valley	7.04	216	P	Pn	07 24 34.0	+1.5
WACZ	Wakanui South	7.30	207	P	Pn	07 24 37.3	+1.7
RPZ	Rata Peaks	7.41	212	P	Pn	07 24 38.2	+1.1
RPZ	Rata Peaks	7.41	212	P	Pn	07 24 38.3	+1.3
	89nm,2.6s						
RPZ	Rata Peaks	7.41	212	P	Pn	07 24 38.1	+1.1
GCSZ	Gaunt Creek Bo	7.42	217	P	Pn	07 24 38.6	+1.5
ARCZ	Arundel	7.55	210	P	Pn	07 24 39.9	+1.2
FOZ	Fox Glacier	7.83	218	P	Pn	07 24 43.1	+1.1
TMZ	Timaru	7.98	209	P	Pn	07 24 45.7	+1.8
LBZ	Lake Benmore	8.32	212	P	Pn	07 24 49.8	+1.8
ODZ	Otahua Downs	8.68	208	P	P	07 24 54.9	-1.3
ODZ	Otahua Downs	8.68	208	P	P	07 24 54.5	-1.7
ODZ	Otahua Downs	8.68	208	P	P	07 24 55.0	-1.2
JCZ	Jackson Bay	8.73	219	P	Pn	07 24 53.8	+0.8
WKZ	Wanaka	9.18	215	P	Pn	07 25 00.3	+1.8
WHZ	Wether Hill Ro	10.48	214	P	P	07 25 16.4	+0.2

WEL 18 07:25:49.1±0.4, 44°S±3°×17°0E±°, h5km, M2.9/5, ML2.9/11, MLv2.9/5, Error ellipse: s-maj=0.0km s-min=0.0km az=2.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	Lake Benmore	0.42	118	P	Pg	07 25 58.2	+0.9
LBZ				S	Sg	07 26 04.2	+1.3
JCZ	Jackson Bay	0.64	280	P	Pb	07 26 02.4	-0.5
JCZ				S	Sg	07 26 10.6	+0.8
FOZ	Fox Glacier	0.66	10	P	Pg	07 26 02.4	+0.6
FOZ				S	Sg	07 26 10.4	0.0
WKZ	Wanaka	0.79	216	P	Pg	07 26 04.2	-0.2
TMZ	Timaru	0.98	102	P	Pb	07 26 08.8	+0.1
GCSZ	Gaunt Creek Bo	0.99	29	P	Pn	07 26 10.6	+0.9
EAZ	Earnscleugh	1.08	193	P	Pg	07 26 09.2	-0.6
EAZ				S	Sg	07 26 23.8	0.0
ODZ	Otahua Downs	1.11	141	P	Pg	07 26 09.9	-0.5
ODZ				S	Sg	07 26 24.3	-0.5
ARCZ	Arundel	1.12	78	S	Sb	07 26 25.6	-0.2
MSZ	Milford Sound	1.34	248	P	Pn	07 26 14.5	0.0
MSZ				S	Sb	07 26 31.6	-0.5
MLZ	Mavora Lakes	1.61	222	P	Pb	07 26 19.1	-0.3
TUZ	Tuapeka	1.77	181	P	Pb	07 26 21.4	-0.6

*JMA **18** 07:27:53.0±0.5, 36°N±2°×12°9E±°, h0km, MV2.9/6, S KOREAN PENINSULA REG*
*KMA **18** 07:27:54.6±0.0, 35°.80N×129°.12E, h0km, Error ellipse: s-maj=0.6km s-min=0.4km az=300.0*
ISC 18 07:27:53.4±0.9, 35°.75N±0°.02×129°.18E±0°.03, h10km, n39, σ0§48/42, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	Daegu	0.23	274	P	Pg	07 27 59.4	+1.3
	SNR=641						
MIYA	Miryang-si	0.44	234	P	Pb	07 28 03.0	-0.2
	SNR=13						
KSPHA	Pohang	0.47	19	P	Pb	07 28 03.4	-0.3
	SNR=38						
KSDAU	Deagu-acc	0.47	287	P	Pb	07 28 03.6	-0.2
	SNR=79						
KSBUS	Busan	0.51	186	P	Pb	07 28 04.1	-0.2
	SNR=119						
KSCHR	CHANGNYEONG	0.60	250	P	Pb	07 28 05.6	-0.3
	SNR=30						
KSADO	Andong	0.69	344	P	Pb	07 28 07.1	-0.3
	SNR=209						
EUSB	Uiseong	0.72	327	P	Pb	07 28 07.7	-0.3
	SNR=38						
YODB	Yeongdeok	0.80	13	P	Pb	07 28 09.2	-0.2
	SNR=32						
EURB	Uiryeong-eup	0.84	240	P	Pb	07 28 10.0	-0.1
	SNR=11						
KSGUM	GUMI	0.87	304	P	Pb	07 28 10.5	0.0
	SNR=3						
YEYB	Yeongyang	0.88	355	P	Pb	07 28 10.5	-0.1
	SNR=50						
ADOA	Andong Acc Bor	0.91	335	P	Pb	07 28 11.0	-0.2
	SNR=7.2						
KSGIC	Gimchen	0.93	291	P	Pb	07 28 11.5	-0.1
	SNR=59						
HACA	Hapcheon Acc B	0.94	249	P	Pn	07 28 12.0	-0.7
	SNR=18						
KSULJ	Uljin	0.97	11	P	Pg	07 28 12.0	0.0
	SNR=138						
KSSAJ	Sangju	1.06	309	P	Pn	07 28 13.7	-0.5
	SNR=15						
DUSB	Deogyusan	1.15	278	P	Pn	07 28 15.4	-0.2
	SNR=81						
HAMB	Hamyang	1.19	259	P	Pg	07 28 16.0	-0.3
	SNR=18						
CHYB	Chungyang	1.21	350	P	Pn	07 28 16.3	0.0
	SNR=14						
JTU	Tsushima	1.24	172	P	Pn	07 28 16.5	-0.2
JTU				S	Sb	07 28 32.8	0.0
YOJB	Youngju	1.24	335	P	Pg	07 28 16.9	-0.3
	SNR=64						
OKCB	Cheongsan-myeo	1.27	298	P	Pg	07 28 17.4	-0.3
	SNR=21						
KSMGY	Mungyeong	1.28	315	P	Pb	07 28 17.4	-0.2
	SNR=28						
KSBON	Boeun	1.34	304	P	Pg	07 28 19.0	-0.2
	SNR=49						
KSTBA	Taebaek	1.38	352	P	Pg	07 28 19.7	-0.2
	SNR=26						
JTSM	Tsushimamitsus	1.42	173	P	Pb	07 28 20.0	+0.1
JTSM				S	Sg	07 28 39.1	+0.1
KSCHJ	Chungju	1.48	319	P	Pb	07 28 21.0	0.0
	SNR=20						
NAWB	Namwon	1.49	258	P	Pg	07 28 21.5	-0.5
	SNR=27						
KSJEO	Jeonju	1.54	277	P	Pb	07 28 22.1	+0.1
	SNR=29						
SUCA	Sunchang	1.71	258	P	Pb	07 28 25.0	+0.2
	SNR=7.5						
EMSB	Eumseong	1.75	315	P	Pg	07 28 26.0	-1.0
	SNR=7.2						
JHGM	Hagimishima	1.87	120	*e*S	Sb	07 28 52.2	+1.1
KSKWJ	Gwangju	1.88	252	P	Pb	07 28 27.5	-0.3
	SNR=20						
KSKWJ	Gwangju	1.88	252	P	Pb	07 28 28.0	+0.2
	SNR=8.1						
KSWJU	Wonju	1.88	332	P	Pn	07 28 26.0	+0.4
	SNR=11						
BOSB	Boseong-gun	1.89	239	P	Pb	07 28 28.0	+0.1
	SNR=17						
KSDGY	Daegwallycong	1.98	348	P	Pb	07 28 30.0	+0.5
	SNR=8.3						
JII	Iki	2.00	167	*e*P	Pb	07 28 28.8	-1.1
JII				*e*S	Sb	07 28 56.0	+1.1

IDC 18 07:28:53.9±5.4, 2°.04S×140°.81E, h0km, mb3.7/2, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=133.5km s-min=69.1km az=134.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.89	199	P	P	07 33 15.6	-0.5
	0.3nm,0.3s,baz=22,slow=12,SNR=7.9						
	1.4nm,0.5s						
ASAR	Alice Springs	22.52	197	P	P	07 33 55.0	-0.5
	0.9nm,0.5s,baz=27,slow=11,SNR=7.6						
	0.9nm,0.5s						
VNDA	Vanda	76.27	175	P	P	07 40 44.4	+0.4
	0.8nm,0.7s,baz=328,slow=5.9,SNR=6.6						
	0.8nm,0.7s						

IDC 18 07:29:38.3±5.4, 1°.92S×140°.95E, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, MS4.1/1, Error ellipse: s-maj=114.5km s-min=61.5km az=153.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	9.73	276	LR	LR	07 36 16.9	
	comp=Z,1μm,21.8s,baz=156,slow=41						
WRA	Warramunga Arr	19.04	199	P	P	07 34 01.4	-0.8
	0.1nm,0.3s,baz=22,slow=12,SNR=1.6						
	0.7nm,0.6s						
FITZ	Fitzroy Crossi	22.00	222	P	P	07 34 34.2	-0.1
	6.2nm,1.1s,baz=45,slow=10.0,SNR=2.0						
	6.2nm,1.1s						
ASAR	Alice Springs	22.67	197	P	P	07 34 41.7	+0.3
	1.1nm,0.8s,baz=29,slow=11,SNR=2.7						
	1.1nm,0.8s						
VNDA	Vanda	76.37	175	P	P	07 41 29.2	+0.2
	0.6nm,0.6s,baz=334,slow=5.6,SNR=5.6						
	0.6nm,0.6s						

IDC 18 07:30:46.6±5.9, 2°.11S×140°.98E, h0km, mb3.4/3, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=121.2km s-min=66.9km az=153.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.88	200	P	P	07 35 08.0	-0.7
	0.1nm,0.3s,baz=23,slow=12,SNR=2.1						
	0.4nm,0.4s						
FITZ	Fitzroy Crossi	21.89	222	P	P	07 35 41.5	+0.1
	1.0nm,0.5s,baz=36,slow=14,SNR=1.3						
	1.0nm,0.5s						
ASAR	Alice Springs	22.50	197	P	P	07 35 47.7	-0.3
	0.6nm,0.6s,baz=23,slow=12,SNR=1.9						
	0.6nm,0.6s						
VNDA	Vanda	76.19	175	P	P	07 42 36.6	+0.4
	0.2nm,0.5s,baz=329,slow=7.8,SNR=1.5						
	0.2nm,0.5s						

IDC 18 07:32:36.6±6.0, 1°.90S×140°.67E, h0km, mb3.4/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=142.7km s-min=77.0km az=133.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.97	199	P	P	07 36 59.2	-0.5
	0.1nm,0.3s,baz=21,slow=12,SNR=3.2						
	0.7nm,0.6s						
ASAR	Alice Springs	22.61	196	P	P	07 37 38.7	-0.5
	0.4nm,0.4s,baz=27,slow=11,SNR=6.1						
	0.4nm,0.4s						
VNDA	Vanda	76.41	175	P	P	07 44 28.2	+0.6
	0.3nm,0.6s,baz=320,slow=5.5,SNR=1.9						
	0.3nm,0.6s						

*BJI **18** 07:46:02.8±0.0, 2°.52S×140°.79E, h10km, mb4.6/15, mB5.1/2*
*IDC **18** 07:46:05.0±0.6, 1°.99S×140°.68E, h0km, mb4.2/16, mbtmp4.3/19, ML4.5/3, Error ellipse: s-maj=24.2km s-min=12.6km az=82.0*
*NEIC **18** 07:46:07.7±1.1, 2°.03S±0°.06×140°.5E±0°.1, h10km±1km, mb4.6/33, Error ellipse: s-maj=21.0km s-min=4.6km az=64.0*
*DJA **18** 07:46:11.5±1.4, 2°S±7°×141°E±°, h24km±8km, M4.5/17, mB5.1/3, mb4.6/17, MLv4.4/4, Mw(mB)4.5/3*
ISC 18 07:46:10.8±0.4, 2°.11S±0°.05×140°.62E±0°.07, h35km, n94, σ1§30/94, mb4.5/32, 2D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.66	223	P	Pn	07 46 23.2	-0.5
SMPI	Sarmi	1.91	273	P	Pn	07 46 39.7	-1.2
WAMI	Wamena	2.60	227	P	Pn	07 46 53.5	+3.1
SRPI	Serui, Papua	4.38	273	P	Pn	07 47 17.3	+2.4
COEN	Coen	12.04	168	Pn	Pn	07 48 59.8	-0.2
MTN	Manton Dam	14.21	221		Pn	07 49 27.8	-1.9
GTOI	Gorontalo	17.82	279	P	P	07 50 19.3	+2.7
	16nm,0.9s						
KNRA	Kununurra	17.85	220		Pn	07 50 15.4	-1.1
KNRA	Kununurra	17.85	220	P	Pn	07 50 16.3	-0.2
SOEI	Soe	17.94	244	P	Pn	07 50 15.6	-2.3
SOEI				IAmb	IAmb	07 50 29.6	
	comp=Z,67nm,0.7s						
SOEI	Soe	17.94	244	P	P	07 50 19.8	+1.6
	comp=Z,105nm,0.8s						
WB0	Warramunga Arr	18.58	199	P	P	07 50 24.0	-1.0
BATI	Baumata	18.67	244	P	P	07 50 26.5	+0.5
	comp=Z,5.8nm,0.3s,baz=354,slow=3.8,SNR=8.0						
	comp=Z,80nm,0.8s						
BATI	Baumata	18

STKA Stephens Creek 29.63 178 P P 07 52 12.8 -0.1
STKA Stephens Creek 29.63 178 P P 07 52 13.6 +0.7
BBOO Buckleboo 30.84 188 P P 07 52 23.9 +0.2
BBOO Buckleboo 30.84 188 P P 07 52 23.8 +0.1
FORT Forrest 30.90 201 P P 07 52 24.5 +0.3
FORT Forrest 30.90 201 P P 07 52 24.5 +0.3
HTT Hallett 31.20 183 P P 07 52 27.7 +0.8
DZM Mont Dzumac 32.00 130 P P 07 52 33.8 -0.4
comp=Z,8.7nm,0.9s,baz=257,slow=19,SNR=3.1
comp=Z,8.7nm,0.9s
DZM Mont Dzumac 32.00 130 P P 07 52 34.3 +0.2
DZM IAmb IAmb 07 52 34.8
comp=Z,10nm,0.9s
MEEK Meekatharra 32.27 219 P P 07 52 35.8 -0.6
CAN Canberra 33.95 168 P P 07 52 51.6 +0.6
ARPS Mount Arapiles 34.51 178 P P 07 52 57.2 +1.5
TOO Toolangi 35.58 173 P P 07 53 05.6 +0.7
TOO IAmb IAmb 07 53 32.0
comp=Z,28nm,1.4s
MORW Morawa 35.59 219 P P 07 53 04.1 -1.0
MORW IAmb IAmb 07 53 20.9
comp=Z,28nm,1.4s
XMIS Christmas Isla 35.71 255 P P 07 53 04.4 -2.0
BLDU Ballidu 36.29 216 P P 07 53 11.3 +0.2
MJAR Matsushiro Arr 38.52 357 P P 07 53 26.6 -3.2
comp=Z,1.3nm,0.8s,baz=180,slow=9.7,SNR=4.3
comp=Z,1.3nm,0.8s
SDSI Sungai Dareh 39.20 271 P P 07 53 37.0 +1.1
comp=Z,5.8nm,1.0s
KSRS Korea Array 41.09 345 P P 07 53 50.5 -0.7
comp=Z,1.1nm,0.7s,baz=160,slow=9.3,SNR=2.8
comp=Z,1.1nm,0.7s
CMAR Chiang Mai Arr 45.81 298 P P 07 54 29.1 -0.6
comp=Z,1.4nm,0.8s,baz=118,slow=4.8,SNR=6.1
comp=Z,1.4nm,0.8s
HNS HongShan 46.07 331 ⇓P P 07 54 36.9 +5.5
XAN Xi'an 46.71 323 P P **07 54 38.6 +2.1**
XAN pP pP 07 54 42.8 -3.1
XAN pmax pmax
comp=Z,9.0nm,1.1s
PZH PanZhiHua 47.08 310 P P **07 54 41.3 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.7s
CN2 Changchun 47.69 345 *e*P P **07 54 45.1 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
TUWZ Tuamarina 49.31 147 P P 07 54 56.7 +0.2
HHC Hu-ho-hao-te 50.29 331 *e*P P **07 55 03.3 -0.8**
HHC pmax pmax
comp=Z,38nm,0.8s
LZH Lanzhou 51.17 322 ⇓P P **07 55 13.9 +3.0**
LZH pP pP 07 55 17.8 -2.6
LZH pmax pmax
comp=Z,26nm,1.2s
KLR Kul'dur 51.70 353 P P 07 55 13.7 -0.8
comp=Z,3.0nm,0.9s,baz=196,slow=4.5,SNR=8.2
comp=Z,3.0nm,0.9s
SONM Songino Array 58.01 333 P P 07 56 00.8 +0.5
comp=Z,0.3nm,0.5s,baz=156,slow=6.1,SNR=1.5
comp=Z,0.3nm,0.5s
WMQ Urumqi 65.74 321 *e*P P **07 56 54.9 +2.6**
CASY Casey 67.47 193 P P **07 57 03.8 +1.1**
CASY IAmb IAmb 07 57 04.4
comp=Z,8.6nm,1.1s
MKAR Makanchi Array 70.49 322 P P 07 57 20.5 -1.5
comp=Z,0.8nm,0.6s,baz=94,slow=8.4,SNR=6.7
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 70.49 322 P P 07 57 22.0 0.0
MAKZ Makanchi 70.69 322 P P 07 57 23.3 +0.1
MAKZ IAmb IAmb 07 57 30.4
comp=Z,3.1nm,0.8s
ZALV Zalesovo Beam 72.39 329 P P 07 57 32.3 -0.9
comp=Z,0.7nm,0.5s,baz=109,slow=7.8,SNR=2.0
comp=Z,0.7nm,0.5s
NIL Nilore 72.50 306 P P 07 57 33.8 -0.7
KURK Kurchatov 74.33 324 P P 07 57 44.7 0.0
KURK IAmb IAmb 07 57 48.2
comp=Z,6.6nm,1.3s
GAR Garm 76.14 311 P P 07 57 55.8 +0.2
VNDA Vanda 76.22 175 P P 07 57 56.0 +0.9
comp=Z,5.4nm,0.7s,baz=325,slow=6.7,SNR=58
comp=Z,5.4nm,0.7s
VNDA Vanda 76.22 175 P P 07 57 56.0 +0.9
VNDA IAmb IAmb 07 57 56.8
comp=Z,6.2nm,0.8s
SBA Scott Base 76.96 175 P P 07 58 01.3 +2.0
SBA IAmb IAmb 07 58 01.7
comp=Z,4.2nm,0.9s
KKAR Karatay Array 77.05 315 P P 07 58 00.1 -0.4
NRIK Noril'sk 79.69 343 P P 07 58 14.3 -0.2
comp=Z,2.4nm,0.7s,baz=106,slow=5.0,SNR=2.4
comp=Z,2.4nm,0.7s
NRIK Noril'sk 79.69 343 P P 07 58 14.6 +0.1
NRIK IAmb IAmb 07 58 21.1
comp=Z,8.8nm,1.1s
BRVK Borovoye 79.99 325 P P 07 58 16.0 -0.4
J20K Nowinta River 81.34 24 P P 07 58 23.2 -0.2
J20K IAmb IAmb 07 58 30.2
comp=Z,3.9nm,0.8s
ILAR Eielson Array 84.50 24 P P 07 58 37.4 -2.4
comp=Z,0.7nm,0.7s,baz=261,slow=4.9,SNR=7.1
comp=Z,0.7nm,0.7s
GEYT Alibeck 85.37 308 P P 07 58 44.5 -0.4
comp=Z,3.8nm,0.9s,baz=145,slow=5.4,SNR=5.0
comp=Z,3.8nm,0.9s
GEYT Alibeck 85.37 308 IAmb IAmb 07 58 45.9
comp=Z,4.9nm,0.9s
ABKAR Akbulak array 85.50 320 P P 07 58 44.1 -1.1
ABKAR IAmb IAmb 07 58 52.2
comp=Z,2.2nm,0.7s
TABL Table Mountain 86.03 29 P P 07 58 47.0 -0.9
QSPA South Pole Qui 87.84 180 P P 07 58 55.2 -1.2
comp=Z,3.7nm,0.7s,baz=240,slow=2.7,SNR=4.1
comp=Z,3.7nm,0.7s
DBIC Dimbokro 145.29 279 PKPbc PKPbc 08 05 45.6 -0.2
comp=Z,3.6nm,0.8s,baz=112,slow=6.0,SNR=4.5
LPAZ La Paz 146.23 124 PKPbc PKPbc 08 05 49.5 +0.1
comp=Z,6.1nm,1.0s,baz=322,slow=1.9,SNR=19
CPUP Villa Florida 146.83 150 PKPbc PKPbc 08 05 49.9 -0.2
comp=Z,3.7nm,0.8s,baz=234,slow=2.7,SNR=10

IDC ***18*** *07:50:34.3±0.6,53˚.45S×24˚.80E,h0km,mb4.4/14, mbtmp4.4/14,Error ellipse: s-maj=21.4km s-min=15.1km az=75.0*
NEIC ***18*** *07:50:36.7±0.9,53˚.4S±0˚.1×24˚.8E±0˚.2,h10km±1km, mb4.6/22,Error ellipse: s-maj=24.8km s-min=18.4km az=277.0*

ISC 18 07:50:36.2±0.6,53˚.42S±0˚.09×24˚.8E±0˚.1,h10km,n49, σ0°68/44,mb4.5/23,South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOE	**Somerset East**	**20.70**	**2**	P		**P**	**07 55 15.6**	**-0.8**
SOE				IAmb		IAmb	07 55 34.8	
	comp=Z,37nm,1.3s							
TROLL	**Troll, Antarti**	**21.00**	**199**	P		**P**	**07 55 19.8**	**+0.2**
SUR	**Sutherland**	**21.22**	**351**	P		**P**	**07 55 23.9**	**+1.8**
	comp=Z,13nm,0.9s,baz=58,slow=5.7,SNR=9.9							
	comp=Z,13nm,0.9s							
SUR	**Sutherland**	**21.22**	**351**	P		**P**	**07 55 23.0**	**+0.8**
SUR				IAmb		IAmb	07 55 26.0	
	comp=Z,30nm,1.1s							
SNAA	**Sanae**	**21.92**	**203**	P		**P**	**07 55 29.8**	**+0.6**
SNAA	**Sanae**	**21.92**	**203**	P		**P**	**07 55 29.9**	**+0.6**
	comp=Z,30nm,0.8s,baz=52,slow=9.7,SNR=76							
	comp=Z,30nm,0.8s							
SNAA	**Sanae**	**21.92**	**203**	P		**P**	**07 55 29.4**	**+0.1**
SNAA				IAmb		IAmb	07 55 33.7	
	comp=Z,30nm,0.8s							
VNA2	**Neumayer--Watz**	**22.62**	**207**	P		**P**	**07 55 36.8**	**+0.1**
	baz=48,slow=11							
VNA1	**Neumayer--Stat**	**22.71**	**208**	P		**P**	**07 55 38.4**	**+0.9**
MAW	**Mawson**	**23.01**	**143**	P		**P**	**07 55 41.1**	**+0.4**
	comp=Z,6.2nm,0.9s,baz=293,slow=11,SNR=6.5							
	comp=Z,6.2nm,0.9s							
MAW	**Mawson**	**23.01**	**143**	P		**P**	**07 55 39.8**	**-0.9**
VNA3	**Neumayer Olymp**	**23.41**	**207**	P		**P**	**07 55 44.6**	**-0.3**
BOSA	**Boshof**	**24.78**	**1**	P		**P**	**07 55 58.1**	**0.0**
	comp=Z,4.1nm,0.7s,baz=174,slow=7.2,SNR=8.1							
	comp=Z,4.1nm,0.7s							
BOSA	**Boshof**	**24.78**	**1**	P		**P**	**07 55 58.7**	**+0.6**
LBTB	**Lobatse**	**28.37**	**2**	P		**P**	**07 56 30.4**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=179,slow=4.8,SNR=5.5							
	comp=Z,4.7nm,0.8s							
LBTB	**Lobatse**	**28.37**	**2**	P		**P**	**07 56 30.6**	**+0.2**
BELA	**Belgrano 2**	**32.08**	**200**	P		**P**	**07 57 03.3**	**+0.6**
BELA				IAmb		IAmb	07 57 05.1	
	comp=Z,9.9nm,1.1s							
FOMA	**Nahampoana Res**	**32.92**	**39**	P		**P**	**07 57 11.5**	**+1.0**
QSPA	**South Pole Qui**	**36.80**	**180**	P		**P**	**07 57 43.8**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=181,slow=0.1,SNR=31							
	comp=Z,4.2nm,0.6s							
QSPA	**South Pole Qui**	**36.80**	**180**	P		**P**	**07 57 43.7**	**-0.1**
RER	**Riviere de l'E**	**39.95**	**48**	P		**P**	**07 58 10.1**	**-0.5**
PMSA	**Palmer Station**	**43.20**	**219**	P		**P**	**07 58 36.9**	**+0.3**
VNDA	**Vanda**	**46.64**	**168**	P		**P**	**07 59 05.0**	**+1.1**
VNDA				IAmb		IAmb	07 59 23.3	
	comp=Z,5.2nm,1.5s							
SBA	**Scott Base**	**46.92**	**170**	P		**P**	**07 59 07.1**	**+1.0**
SBA				IAmb		IAmb	07 59 09.9	
	comp=Z,3.6nm,0.8s							
H10S2	**ASCENSION HYDR**	**54.50**	**310**	T		T	08 59 12.0	
	baz=70,slow=74,SNR=5.9							
H10S3	**ASCENSION HYDR**	**54.52**	**310**	T		T	08 59 10.7	
	baz=150,slow=74,SNR=15							
PLCA	**Paso Flores**	**61.42**	**239**	P		**P**	**08 00 51.5**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=91,slow=7.9,SNR=4.2							
	comp=Z,1.8nm,0.9s							
H01W2	**Cape Leeuwin H**	**62.49**	**112**	T		T	09 09 16.8	
	baz=222,slow=75,SNR=7.1							
H01W3	**Cape Leeuwin H**	**62.50**	**112**	T		T	09 09 17.8	
	baz=222,slow=75,SNR=4.6							
H01W1	**Cape Leeuwin H**	**62.51**	**112**	T		T	09 09 22.5	
	baz=222,slow=75,SNR=4.4							
CPUP	**Villa Florida**	**64.72**	**259**	P		**P**	**08 01 14.2**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=154,slow=11,SNR=5.8							
	comp=Z,2.2nm,0.8s							
ZON	**Zonda**	**67.29**	**247**	P		**P**	**08 01 30.4**	**-0.6**
ZON				IAmb		IAmb	08 01 37.1	
	comp=Z,6.3nm,1.2s							
TOA0	**Torodi Ar. Sit**	**69.19**	**336**	P		**P**	**08 01 43.2**	**+0.4**
TOA0				IAmb		IAmb	08 01 43.8	
	comp=Z,2.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**69.19**	**336**	P		**P**	**08 01 43.2**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=184,slow=6.1,SNR=15							
	comp=Z,2.4nm,0.7s							
CO01	**Juntas del Tor**	**69.27**	**248**	P		**P**	**08 01 44.6**	**+1.0**
CO01				IAmb		IAmb	08 01 53.9	
	comp=Z,12nm,1.2s							
LPAZ	**La Paz**	**78.81**	**258**	P		**P**	**08 02 39.3**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=164,slow=4.5,SNR=3.3							
	comp=Z,1.1nm,0.9s							
STKA	**Stephens Creek**	**78.97**	**129**	P		**P**	**08 02 39.3**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=255,slow=1.7,SNR=7.1							
	comp=Z,4.4nm,0.9s							
STKA	**Stephens Creek**	**78.97**	**129**	P		**P**	**08 02 40.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**81.94**	**109**	P		**P**	**08 02 55.5**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=231,slow=6.5,SNR=2.4							
	comp=Z,4.0nm,1.0s							
ASAR	**Alice Springs**	**81.95**	**119**	P		**P**	**08 02 55.6**	**-0.5**
	comp=Z,5.0nm,0.7s,baz=207,slow=5.3,SNR=31							
	comp=Z,5.0nm,0.7s							
ASAR	**Alice Springs**	**81.95**	**119**	P		**P**	**08 02 56.1**	**-0.1**
AS31	**Alice Springs**	**81.95**	**119**	P		**P**	**08 02 56.1**	**-0.1**
AS31				IAmb		IAmb	08 02 56.8	
	comp=Z,2.2nm,0.7s							
WRA	**Warramunga Arr**	**85.23**	**117**	P		**P**	**08 03 12.3**	**-0.7**
	comp=Z,5.5nm,0.8s,baz=207,slow=3.7,SNR=19							
	comp=Z,5.5nm,0.8s							
WRA	**Warramunga Arr**	**85.23**	**117**	P		**P**	**08 03 12.9**	**-0.1**
WB2	**Warramunga Arr**	**85.23**	**117**	P		**P**	**08 03 12.8**	**-0.2**
WR0	**Warramunga Arr**	**85.32**	**117**	P		**P**	**08 03 13.4**	**-0.1**
WR0				IAmb		IAmb	08 03 14.7	
	comp=Z,7.7nm,1.1s							
WB0	**Warramunga Arr**	**85.40**	**117**	P		**P**	**08 03 13.4**	**-0.5**
WB0				IAmb		IAmb	08 03 14.5	
	comp=Z,7.0nm,0.8s							
PDAR	**Pinedale Array**	**148.22**	**269**	PKPbc		**PKPbc**	**08 10 20.4**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=106,slow=5.4,SNR=5.3							
NVAR	**Mina Array Bea**	**150.66**	**254**	PKPbc		**PKPbc**	**08 10 27.0**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=146,slow=3.1,SNR=7.7							

BJI ***18*** *07:51:16.1±0.0,2˚.46S×140˚.95E,h10km,mb4.8/39, mB5.3/16*
IDC ***18*** *07:51:20.2±0.6,1˚.91S×140˚.63E,h0km,mb4.2/16, mbtmp4.3/19,ML3.9/2,MS4.0/4,Error ellipse: s-maj=25.5km s-min=12.8km az=87.0*
DJA ***18*** *07:51:22.8±0.4,2˚.5±3˚×14˚.1E±˚,h10km,M4.7/18,mB5.3/3, mb4.7/18,MLv4.7/5,Mw(mB)4.7/3*
NEIC ***18*** *07:51:22.3±1.1,2˚.0S±0˚.1×140˚.59E±0˚.09,h10km±1km, mb4.8/53,Error ellipse: s-maj=18.1km s-min=14.8km az=163.0*

ISC 18 07:51:25.3±0.4,2˚.05S±0˚.05×140˚.61E±0˚.06,h35km,n105, σ1°48/106,mb4.7/48,4C-1D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.70**	**219**	P		**Pn**	**07 51 37.9**	**-0.8**
GENI				S		**Sn**	**07 51 48.6**	**+0.3**
SMPI	**Sarmi**	**1.90**	**272**	P		**Pn**	**07 51 54.4**	**-0.8**
WAMI	**Wamena**	**2.63**	**226**	P		**Pn**	**07 52 07.0**	**+1.7**
WAMI				S		**Sn**	**07 52 40.9**	**+4.9**
SRPI	**Serui, Papua**	**4.37**	**272**	P		**Pn**	**07 52 31.0**	**+1.8**
MANU	**Manus Island**	**6.75**	**90**	Pn		**Pn**	**07 53 01.0**	**-1.0**
SAUI	**Saumlaki**	**10.99**	**237**	Pn		**Pn**	**07 53 59.1**	**-1.0**
MTN	**Manton Dam**	**14.25**	**221**			**Pn**	**07 54 43.1**	**-1.6**
GUMO	**Guam**	**16.10**	**15**	LR		LR	08 00 49.2	
	comp=Z,272nm,18.2s,baz=128,slow=36							
GTOI	**Gorontalo**	**17.80**	**278**	P		**P**	**07 55 31.2**	**+0.3**
	311nm16nm,1.6s							
LUWI	**Luwuk**	**17.86**	**273**	P		**Pn**	**07 55 29.0**	**-2.2**
LUWI				IAmb		IAmb	07 55 47.7	
	comp=Z,78nm,0.8s							
KNRA	**Kununurra**	**17.88**	**220**	P		**Pn**	**07 55 29.9**	**-1.6**
SOEI	**Soe**	**17.96**	**244**	P		**Pn**	**07 55 30.9**	**-1.6**
SOEI				IAmb		IAmb	07 55 50.1	
	comp=Z,107nm,1.1s							
SOEI	**Soe**	**17.96**	**244**	P		**P**	**07 55 34.0**	**+1.2**
	comp=Z,110nm,0.9s							
WB0	**Warramunga Arr**	**18.63**	**199**	P		**P**	**07 55 40.0**	**-0.1**
BATI	**Baumata**	**18.68**	**244**	P		**Pn**	**07 55 41.4**	**+0.1**
	comp=Z,52nm,0.7s,baz=15,slow=7.6,SNR=5.1							
CTA	**Charters Tower**	**18.76**	**163**	P		**Pn**	**07 55 43.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=255,slow=17,SNR=3.7							
	comp=Z,3.0nm,0.9s							
WR0	**Warramunga Arr**	**18.77**	**198**	P		**P**	**07 55 41.0**	**-0.5**
WB2	**Warramunga Arr**	**18.81**	**199**	P		**P**	**07 55 40.5**	**-1.5**
WRA	**Warramunga Arr**	**18.81**	**199**	P		**P**	**07 55 42.0**	**0.0**
	comp=Z,0.7nm,0.3s,baz=12,slow=12,SNR=12							
WRA				S		**Sn**	**07 59 04.0**	**-8.4**
	comp=Z,2.8nm,0.9s,baz=19,slow=24,SNR=6.1							
WRA				LR		LR	08 04 13.7	
	comp=Z,635nm,18.9s,baz=16,slow=41							
	comp=Z,4.6nm,0.7s							
WRA	**Warramunga Arr**	**18.81**	**199**	P		**P**	**07 55 41.5**	**-0.5**
APSI	**Ampana**	**18.99**	**273**	P		**Pn**	**07 55 46.8**	**+1.9**
	comp=Z,836nmcomp=Z,43nm,1.4s							
TOLI2	**Tolitoli**	**20.07**	**279**	P		**P**	**07 55 54.3**	**-1.6**
TOLI2				IAmb		IAmb	07 56 11.2	
	comp=Z,35nm,1.2s							
BKSI	**Bulukumba**	**20.70**	**260**	P		**P**	**07 56 03.8**	**+1.1**
	comp=Z,15nm,1.0s							
TTSI	**Tana Toraja**	**20.79**	**267**	P		Pn	07 56 06.1	-0.2
	comp=Z,39nm,1.0s							
SPSI	**Siwa Palu**	**20.90**	**264**	P		Pn	07 56 14.2	+6.7
FITZ	**Fitzroy Crossi**	**21.68**	**222**	P		**P**	**07 56 13.3**	**+0.1**
	comp=Z,7.7nm,0.9s,baz=89,slow=7.6,SNR=5.6							
FITZ				S		**S**	**08 00 08.0**	**-3.6**
	comp=Z,4.2nm,0.8s,baz=110,slow=6.9,SNR=3.3							
	comp=Z,7.7nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.68**	**222**	P		**P**	**07 56 13.1**	**-0.1**
AS31	**Alice Springs**	**22.45**	**196**	P		**P**	**07 56 21.0**	**-0.4**
ASAR	**Alice Springs**	**22.45**	**196**	P		**P**	**07 56 22.1**	**+0.7**
	comp=Z,4.3nm,0.6s,baz=27,slow=10,SNR=22							
ASAR				S		**S**	**08 00 30.8**	**+4.8**
	comp=Z,1.4nm,0.9s,baz=20,slow=16,SNR=4.5							
ASAR				LR		LR	08 06 21.2	
	comp=Z,602nm,19.1s,baz=72,slow=40							
	comp=Z,4.3nm,0.6s							
ASAR	**Alice Springs**	**22.45**	**196**	P		**P**	**07 56 21.2**	**-0.2**
MYLDM	**Lahad Datu**	**23.22**	**288**	P		**P**	**07 56 27.4**	**-2.2**
MYLDM				IAmb		IAmb	07 56 40.2	
	comp=Z,56nm,1.4s							
EIDS	**Eidsvold**	**25.29**	**157**	P		**P**	**07 56 49.2**	**+0.6**
EIDS				IAmb		IAmb	07 57 02.4	
	comp=Z,40nm,1.4s							
KKM	**Kota Kinabalu**	**25.65**	**288**	P		**P**	**07 56 49.9**	**-2.2**
KKM				IAmb		IAmb	07 57 05.2	
	comp=Z,33nm,1.3s							
SBUM	**Sibu**	**28.73**	**279**	P		**P**	**07 57 18.8**	**-0.9**
SBUM				IAmb		IAmb	07 57 22.1	
	comp=Z,10nm,1.0s							
STKA	**Stephens Creek**	**29.69**	**178**	P		**P**	**07 57 28.6**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=335,slow=8.2,SNR=5.3							
	comp=Z,4.7nm,0.9s							
MJAR	**Matsushiro Arr**	**38.46**	**357**	P		**P**	**07 58 41.8**	**-2.1**
	comp=Z,1.7nm,0.7s,baz=174,slow=9.5,SNR=6.3							
	comp=Z,1.7nm,0.7s							
NJ2	**Nanjing**	**39.70**	**330**	*e*P		**P**	**07 58 53.3**	**-1.0**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
KSRS	**Korea Array**	**41.03**	**345**	P		**P**	**07 59 05.0**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=151,slow=8.0,SNR=4.3							
KSRS				LR		LR	08 14 23.9	
	comp=Z,115nm,20.3s,baz=175,slow=34							
	comp=Z,1.8nm,0.9s							
RPSI	**Rantau Prapat**	**41.94**	**276**	P		**P**	**07 59 12.2**	**-0.9**
RPSI				IAmb		IAmb	07 59 20.4	
	comp=Z,28nm,1.2s							
SRIT	**Nakonsritamara**	**42.22**	**285**	P		**P**	**07 59 15.6**	**+0.2**
SRIT				IAmb		IAmb	07 59 34.1	
	comp=Z,15nm,1.0s							
GSI	**Gunungsitoli**	**43.16**	**274**	P		**P**	**07 59 21.7**	**-1.3**
GSI	**Gunungsitoli**	**43.16**	**274**	P		**P**	**07 59 21.5**	**-1.5**
	comp=Z,3umcomp=Z,53nm,1.2s							
LYN	**LuoYang**	**44.98**	**327**	*e*P		**P**	**07 59 36.5**	**-0.8**
CRAI	**Chiangrai**	**45.23**	**301**	P		**P**	**07 59 39.5**	**0.0**
KMI	**Kunming**	**45.56**	**309**	⇑P		**P**	**07 59 43.8**	**+1.5**
KMI				pmax		pmax		
	comp=Z,12nm,1.1s							
CM31	**Chiang Mai Arr**	**45.78**	**298**	P		**P**	**07 59 43.4**	**-0.5**
CM31				IAmb		IAmb	07 59 45.2	
	comp=Z,18nm,1.5s							
CMAR	**Chiang Mai Arr**	**45.78**	**298**	P		**P**	**07 59 43.5**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=116,slow=6.7,SNR=11							
	comp=Z,1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**45.78**	**298**	P		**P**	**07 59 43.2**	**-0.7**
CHTO	**Chiang Mai**	**45.91**	**299**	P		**P**	**07 59 44.6**	**-0.3**
HNS	**HongShan**	**46.01**	**331**	⇓P		**P**	**07 59 45.3**	**-0.1**
HNS				pmax		pmax		
	comp=Z,15nm,1.0s							
XAN	**Xi'an**	**46.66**	**323**	⇑P		**P**	**07 59 50.8**	**+0.2**
XAN				pP		pP	07 59 55.8	-4.2
XAN				sP		sP	07 59 59.1	-4.7
XAN				pmax		pmax		
	comp=Z,24nm,1.1s							
PZH	**PanZhiHua**	**47.04**	**310**	P		**P**	**07 59 55.6**	**+1.8**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PZH				pmax		pmax		
	comp=Z,100nm,4.5s							
CD2	**Chengdu**	**47.99**	**316**	P		**P**	**08 00 01.8**	**+0.7**
CD2				pmax		pmax		
	comp=Z,20nm,0.9s							
HHC	**Hu-ho-hao-te**	**50.23**	**331**	*e*P		**P**	**08 00 20.4**	**+2.3**
HHC				pmax		pmax		
	comp=Z,21nm,0.8s							
HHC				pmax		pmax		
	comp=Z,470nm,5.5s							
LZH	**Lanzhou**	**51.12**	**321**	⇑P		**P**	**08 00 26.5**	**+1.5**
LZH				pP		pP	08 00 30.8	-3.7
LZH				sP		sP	08 00 32.9	-5.3
LZH				pmax		pmax		
	comp=Z,32nm,1.5s							
KLR	**Kul'dur**	**51.65**	**353**	P		**P**	**08 00 28.1**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=217,slow=4.9,SNR=4.4							
	comp=Z,2.5nm,0.9s							
GTA	**Gaotai**	**55.69**	**322**	⇑P		**P**	**08 00 59.3**	**+0.9**
GTA				pP		pP	08 01 03.6	-4.4
GTA				sP		sP	08 01 06.5	-5.2
GTA				pmax		pmax		
	comp=Z,9.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,150nm,5.1s							
ULN	**Ulaanbaatar**	**57.69**	**334**	P		**P**	**08 01 12.3**	**-0.2**
ULN				IAmb		IAmb	08 01 13.5	
	comp=Z,4.8nm,1.0s							
SONM	**Songino Array**	**57.95**	**333**	P		**P**	**08 01 14.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=156,slow=11,SNR=3.6							
	comp=Z,0.6nm,0.6s							
SONM	**Songino Array**	**57.95**	**333**	P		**P**	**08 01 14.4**	**0.0**
YAK	**Yakutsk**	**64.45**	**354**	P		**P**	**08 01 58.1**	**+0.3**
KIWB	**Kanaga Island**	**64.46**	**28**	P		**P**	**08 01 58.7**	**+0.5**
WMQ	**Urumqi**	**65.69**	**321**	*e*P		**P**	**08 02 07.6**	**+1.2**
WMQ				pP		pP	08 02 13.0	-3.2
WMQ				sP		sP	08 02 14.8	-5.1
WMQ				pmax		pmax		
	comp=Z,19nm,0.9s							
MK31	**Makanchi Array**	**70.44**	**322**	P		**P**	**08 02 36.6**	**+0.5**
MK31				IAmb		IAmb	08 02 37.8	
	comp=Z,6.9nm,1.1s							
MKAR	**Makanchi Array**	**70.44**	**322**	P		**P**	**08 02 35.9**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=113,slow=8.0,SNR=31							
	comp=Z,3.1nm,0.7s							
MKAR	**Makanchi Array**	**70.44**	**322**	P		**P**	**08 02 36.0**	**-0.1**
MAKZ	**Makanchi**	**70.64**	**322**	P		**P**	**08 02 37.4**	**+0.1**
MAKZ				IAmb		IAmb	08 02 38.9	
	comp=Z,8.5nm,0.9s							
TARG	**Taragay, Kyrgy**	**71.44**	**315**	P		**P**	**08 02 42.7**	**-0.1**
TARG				IAmb		IAmb	08 02 45.0	
	comp=Z,5.4nm,1.0s							
KSH	**Kashi**	**72.02**	**313**	P		**P**	**08 02 48.6**	**+2.6**
KSH				sP		pP	08 02 54.8	-1.0
KSH				pmax		pmax		
	comp=Z,7.0nm,0.9s							
ZAA0	**Zalesovo Array**	**72.33**	**329**	P		**P**	**08 02 46.5**	**-0.8**
ZALV	**Zalesovo Beam**	**72.33**	**329**	P		**P**	**08 02 46.5**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=119,slow=5.6,SNR=5.6							
	comp=Z,1.3nm,0.7s							
ZALV	**Zalesovo Beam**	**72.33**	**329**	P		**P**	**08 02 46.7**	**-0.7**
NIL	**Nilore**	**72.46**	**306**	P		**P**	**

GYA0B	**ALIBECK ARRAY**	**85.32**	**308**	P	**P**	**08 03 59.3**	**+0.2**
GYA0B				IAmb	IAmb	08 04 01.3	
	comp=Z,8.7nm,0.9s						
ABKAR	**Akbulak array**	**85.45**	**320**	P	**P**	**08 04 00.2**	**+0.8**
ABKAR				IAmb	IAmb	08 04 00.7	
	comp=Z,6.2nm,0.8s						
ABKAR	**Akbulak array**	**85.45**	**320**	P	**P**	**08 03 59.7**	**+0.3**
K27K	**Chicken**	**86.29**	**25**	IAmb	IAmb	08 04 06.0	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**87.89**	**180**	P	**P**	**08 04 11.9**	**+0.7**
NVAR	**Mina Array Bea**	**99.96**	**51**	P	**Pdif**	**08 05 06.0**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=235,slow=3.2,SNR=5.4						
	comp=Z,0.7nm,0.9s						
DBIC	**Dimbokro**	**145.27**	**279**	PKPbc	**PKPab**	**08 11 00.5**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=80,slow=7.9,SNR=6.4						
LPAZ	**La Paz**	**146.27**	**124**	PKPbc	**PKPab**	**08 11 04.6**	**-0.2**
	comp=Z,11nm,1.1s,baz=297,slow=1.3,SNR=19						
CPUP	**Villa Florida**	**146.89**	**150**	PKPbc	**PKPab**	**08 11 05.9**	**-0.2**
	comp=Z,8.2nm,0.9s,baz=275,slow=2.4,SNR=14						

IDC 18 07:59:33.3±2.0, 2°.12S×140°.71E, h0km, mb3.4/4, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=62.6km s-min=30.7km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.77**	**199**	P	P	08 03 54.1	-0.1
	0.2nm,0.3s,baz=23,slow=12,SNR=10						
	1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	P	08 04 25.2	-0.8
	0.9nm,0.6s,baz=43,slow=12,SNR=1.2						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**22.41**	**197**	P	P	08 04 33.5	-0.1
	1.3nm,0.7s,baz=25,slow=11,SNR=12						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**70.56**	**322**	P	P	08 10 50.5	+0.2
	0.1nm,0.6s,baz=118,slow=5.5,SNR=2.0						
	0.1nm,0.6s						
VNDA	**Vanda**	**76.19**	**175**	P	P	08 11 23.2	+0.3
	0.5nm,0.7s,baz=337,slow=7.0,SNR=6.6						
	0.5nm,0.7s						

IDC 18 08:07:09.9±10.0, 2°.17S×141°.77E, h0km, mb3.3/2, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=319.3km s-min=78.0km az=134.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.09**	**202**	P	P	08 11 34.0	-0.4
	baz=25,slow=12,SNR=2.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**22.68**	**199**	P	P	08 12 14.0	+0.7
	0.2nm,0.4s,baz=24,slow=12,SNR=4.1						
	0.2nm,0.4s						
VNDA	**Vanda**	**76.06**	**176**	P	P	08 18 58.6	-0.2
	0.4nm,0.4s,baz=323,slow=5.1,SNR=4.2						
	0.4nm,0.4s						

IDC 18 08:19:22.3±6.9, 2°.26S×140°.98E, h0km, mb3.2/2, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=188.8km s-min=76.9km az=131.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.74**	**200**	P	P	08 23 42.2	-0.6
	0.1nm,0.3s,baz=23,slow=12,SNR=6.6						
	1.7nm,1.1s						
ASAR	**Alice Springs**	**22.36**	**197**	P	P	08 24 21.9	-0.3
	0.3nm,0.5s,baz=27,slow=11,SNR=6.2						
	0.3nm,0.5s						
VNDA	**Vanda**	**76.04**	**175**	P	P	08 31 11.6	+0.5
	0.5nm,1.0s,baz=337,slow=7.7,SNR=2.2						
	0.5nm,1.0s						

IDC 18 08:22:17.9±5.5, 2°.13S×140°.88E, h0km, mb3.2/3, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=108.5km s-min=64.9km az=154.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.82**	**199**	P	P	08 26 38.5	-1.0
	0.1nm,0.3s,baz=23,slow=12,SNR=6.0						
	0.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.80**	**222**	P	P	08 27 12.1	+0.3
	0.9nm,0.6s,baz=72,slow=16,SNR=1.5						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**22.45**	**197**	P	P	08 27 18.6	-0.3
	0.3nm,0.5s,baz=24,slow=12,SNR=6.0						
	0.3nm,0.5s						
VNDA	**Vanda**	**76.18**	**175**	P	P	08 34 08.0	+0.5
	0.3nm,0.7s,baz=315,slow=8.6,SNR=2.0						
	0.3nm,0.7s						

IDC 18 08:23:46.9±2.0, 1°.92S×140°.91E, h0km, mb3.5/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=62.8km s-min=30.8km az=88.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.02**	**199**	P	P	08 28 09.9	-0.7
	0.2nm,0.3s,baz=24,slow=12,SNR=9.0						
	1.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.98**	**222**	P	P	08 28 42.1	-0.5
	1.1nm,0.6s,baz=53,slow=15,SNR=2.1						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**22.65**	**197**	P	P	08 28 49.8	-0.2
	0.6nm,0.5s,baz=28,slow=11,SNR=8.8						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**70.53**	**322**	P	P	08 35 03.6	-0.2
	0.4nm,0.8s,baz=123,slow=5.3,SNR=2.4						
	0.4nm,0.8s						
VNDA	**Vanda**	**76.37**	**175**	P	P	08 35 38.3	+0.7
	0.6nm,0.7s,baz=325,slow=5.8,SNR=5.8						
	0.6nm,0.7s						

ROM 18 08:26:57.4±0.1, 42°.842N±0°.006×13°.231E±0°.006, h10km, ML0.8/1, 1C, Error ellipse: s-maj=0.6km s-min=0.5km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.08**	**337**	P	Pg	08 27 00.3	+0.3
MC2				S	Sg	08 27 01.9	+0.1
NRCA	**Norcia**	**0.09**	**265**	⇑P	Pg	08 27 00.3	+0.4
NRCA				S	Sg	08 27 02.0	+0.3
NRCA				AML	AML		
	comp=E,85μm,0.1s						
NRCA				AML	AML		
	comp=N,96μm,0.4s						
T1202	**Accumoli, Fraz**	**0.14**	**182**	P	Pg	08 27 01.4	+0.7
T1202				S	Sg	08 27 03.6	+0.7
T1241	**Roccafluvione,**	**0.15**	**84**	P	Pg	08 27 01.5	+0.7
T1241				S	Sg	08 27 03.7	+0.6
T1215	**Vallo di Nera,**	**0.27**	**262**	P	Pg	08 27 03.5	+0.6
T1215				S	Sb	08 27 08.0	-1.1

*SOF **18** 08:28:13.5, 41°.34N×23°.36E, h15km, MD3.5*
*ATH **18** 08:28:13.6, 41°.36N×23°.36E, h11km±1km, ML3.0/10, Error ellipse: s-maj=1.6km s-min=0.6km az=164.0*
*ISK **18** 08:28:13.8, 41°.31N×23°.30E, h16km, ML3.6/31*
*SKO **18** 08:28:14.8, 41°.33N×23°.34E, h0km*
*THE **18** 08:28:14.2, 41°.31N×23°.37E, h5km, ML3.0/11, Error ellipse: s-maj=1.2km s-min=0.6km az=163.0*
*BEO **18** 08:28:14.2±0.3, 41°.33N×23°.36E, h10km±2km, ML3.3/20*

ISC 18 08:28:14.4±0.9, 41°.32N±0°.01×23°.36E±0°.01, h9km±8km, n141, σ1s01/197, 18C-21D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRS	**Serrai**	**0.27**	**139**	P	**Pg**	**08 28 19.6**	**-0.2**
SRS				S	**Sg**	**08 28 23.8**	**+0.4**
SRS	**Serrai**	**0.27**	**139**	*e*Pg	**Pg**	**08 28 19.5**	**-0.2**
SRS				*e*Sg	**Sg**	**08 28 23.9**	**+0.5**
SRS	**Serrai**	**0.27**	**139**	⇑*i*Pg	**Pg**	**08 28 19.6**	**-0.2**
SRS				*i* Sg	**Sg**	**08 28 24.0**	**+0.5**
SRS	**Serrai**	**0.27**	**139**	P	**Pg**	**08 28 19.6**	**-0.2**
SRS				S	**Sg**	**08 28 24.0**	**+0.5**
SRS				AML	AML	08 28 24.0	
	comp=E,5955μm,0.3s						
SRS				AML	AML	08 28 25.9	
	comp=N,8874μm,0.4s						
KNT	**Kendrikon**	**0.38**	**245**	P	**Pg**	**08 28 21.3**	**-0.5**
KNT				S	**Sg**	**08 28 26.5**	**-0.4**
	comp=N,6μm,0.1s						
KNT	**Kendrikon**	**0.38**	**245**	PG	**Pg**	**08 28 21.3**	**-0.5**
KNT				SG	**Sg**	**08 28 26.3**	**-0.5**
KNT	**Kendrikon**	**0.38**	**245**	⇓*i*Pg	**Pg**	**08 28 21.3**	**-0.5**
KNT				*i* Sg	**Sg**	**08 28 26.4**	**-0.4**
KNT	**Kendrikon**	**0.38**	**245**	P	**Pg**	**08 28 21.4**	**-0.4**
KNT				S	**Sg**	**08 28 26.6**	**-0.2**
NVR	**Nevrokopi**	**0.38**	**85**	P	**Pg**	**08 28 21.3**	**-0.6**
NVR				S	**Sg**	**08 28 26.9**	**-0.1**
	comp=N,2μm,0.4s						
NVR	**Nevrokopi**	**0.38**	**85**	P	**Pg**	**08 28 21.2**	**-0.6**
NVR				S	**Sg**	**08 28 26.6**	**-0.4**
NVR				AML	AML	08 28 27.5	
	comp=N,5146μm,0.3s						
NVR				AML	AML	08 28 29.3	
	comp=E,3667μm,0.3s						
MMB	**Musomiste**	**0.39**	**46**	*i* P	**Pg**	**08 28 21.0**	**-1.0**
SOH	**Sokhos**	**0.50**	**180**	P	**Pg**	**08 28 23.9**	**-0.2**
SOH				S	**Sg**	**08 28 31.3**	**+0.7**
	comp=E,3μm,0.4s						
SOH	**Sokhos**	**0.50**	**180**	⇑*i*Pg	**Pg**	**08 28 23.9**	**-0.2**
SOH				*i* Sg	**Sg**	**08 28 31.3**	**+0.7**
SOH	**Sokhos**	**0.50**	**180**	P	**Pg**	**08 28 23.9**	**-0.2**
SOH				S	**Sg**	**08 28 31.3**	**+0.7**
SOH				AML	AML	08 28 31.8	
	comp=E,6232μm,0.5s						
SOH				AML	AML	08 28 32.1	
	comp=N,8269μm,0.4s						
KKB	**Krupnik**	**0.58**	**340**	*i* P	**Pg**	**08 28 24.6**	**-1.1**
VAY	**Valandovo**	**0.59**	**270**	*e*Pg	**Pg**	**08 28 25.4**	**-0.4**
VAY				*e*Sg	**Sg**	**08 28 33.4**	**-0.1**
VAY	**Valandovo**	**0.59**	**270**	*i* Pg	**Pg**	**08 28 24.9**	**-1.0**
VAY				*i* Sg	**Sg**	**08 28 33.4**	**-0.1**
VAY				*e*Lg	Lg	08 28 33.8	
	comp=N,469nm,0.2s						
KOKK	**Kokkinochori,**	**0.70**	**136**	P	**Pg**	**08 28 27.2**	**-0.7**
KOKK				S	**Sg**	**08 28 36.4**	**-0.6**
	comp=N,770nm,0.3s						
KOKK	**Kokkinochori,**	**0.70**	**136**	P	**Pg**	**08 28 27.4**	**-0.5**
KOKK				S	**Sb**	**08 28 37.4**	**-1.1**
KOKK				AML	AML	08 28 40.4	
	comp=E,3708μm,0.3s						
KOKK				AML	AML	08 28 41.9	
	comp=N,4374μm,0.4s						
HORT	**Hortiatis**	**0.75**	**195**	P	**Pg**	**08 28 28.5**	**-0.3**
HORT				S	**Sb**	**08 28 39.1**	**-0.9**
	comp=N,1μm,0.4s						
HORT	**Hortiatis**	**0.75**	**195**	PG	**Pg**	**08 28 28.5**	**-0.3**
HORT				SG	**Sg**	**08 28 38.9**	**+0.4**
HORT	**Hortiatis**	**0.75**	**195**	P	**Pg**	**08 28 28.6**	**-0.1**
HORT				S	**Sb**	**08 28 39.2**	**-0.9**
HORT				AML	AML	08 28 40.2	
	comp=N,3123μm,0.4s						
HORT				AML	AML	08 28 40.3	
	comp=E,2235μm,0.3s						
THE	**Thessaloniki**	**0.75**	**203**	P	**Pg**	**08 28 28.5**	**-0.3**
THE				S	**Sg**	**08 28 38.4**	**-0.1**
	comp=E,1μm,0.3s						
THE	**Thessaloniki**	**0.75**	**203**	⇑*i*Pg	**Pg**	**08 28 28.5**	**-0.3**
THE				*i* Sg	**Sb**	**08 28 39.4**	**-0.5**
THE	**Thessaloniki**	**0.75**	**203**	P	**Pg**	**08 28 28.5**	**-0.3**
THE				S	**Sb**	**08 28 39.2**	**-0.7**
THE				AML	AML	08 28 39.7	
	comp=N,3049μm,0.3s						
THE				AML	AML	08 28 40.1	
	comp=E,1450μm,0.3s						
GRG	**Griva**	**0.81**	**244**	PG	**Pg**	**08 28 29.2**	**-0.7**
GRG				SG	**Sg**	**08 28 40.5**	**+0.1**
KVLA	**Kavala**	**0.87**	**116**	P	**Pg**	**08 28 30.2**	**-0.9**
KVLA				S	**Sb**	**08 28 42.5**	**-0.9**
KAVA	**Kavala**	**0.93**	**110**	P	**Pg**	**08 28 31.5**	**-0.8**
KAVA				S	**Sg**	**08 28 43.9**	**-0.5**
KAVA	**Kavala**	**0.93**	**110**	P	**Pg**	**08 28 31.4**	**-0.9**
KAVA				S	**Sg**	**08 28 44.1**	**-0.3**
RZN	**Rozhen**	**1.09**	**70**	*i* P	**Pg**	**08 28 34.4**	**-0.9**
OUR	**Ouranopolis**	**1.09**	**154**	PN	**Pb**	**08 28 35.5**	**0.0**
THAS	**Thassos island**	**1.26**	**124**	P	**Pg**	**08 28 37.1**	**-1.4**
THAS				S	**Sb**	**08 28 54.8**	**+0.3**
	comp=E,1μm,0.3s						
THAS	**Thassos island**	**1.26**	**124**	P	**Pg**	**08 28 37.3**	**-1.2**
THAS				S	**Sb**	**08 28 54.4**	**-0.1**
THAS				AML	AML	08 28 56.3	
	comp=N,1739μm,0.3s						
THAS				AML	AML	08 28 57.3	
	comp=E,2465μm,0.4s						
PLD	**Plovdiv**	**1.28**	**52**	PN	**Pg**	**08 28 38.1**	**-0.8**
PLD	**Plovdiv**	**1.28**	**52**	*e*Pg	**Pg**	**08 28 38.2**	**-0.7**
PLD				*e*Sg	**Sn**	**08 28 56.3**	**+0.6**
PLD	**Plovdiv**	**1.28**	**52**	*i* Pn	**Pg**	**08 28 38.0**	**-0.8**
PLD	**Plovdiv**	**1.28**	**52**	*i* P	**Pg**	**08 28 37.9**	**-1.0**
VTS	**Vitosha**	**1.30**	**356**	*e*Pg	**Pg**	**08 28 37.7**	**-1.6**
VTS				*e*Sg	**Sg**	**08 28 55.1**	**-1.1**
VTS	**Vitosha**	**1.30**	**356**	*i* Pg	**Pg**	**08 28 37.5**	**-1.8**
VTS				*i* Sg	**Sg**	**08 28 55.1**	**-1.1**
VTS	**Vitosha**	**1.30**	**356**	*i* P	**Pg**	**08 28 37.5**	**-1.8**
BOSS	**Bosilegrad**	**1.34**	**331**	*e*Pg	**Pb**	**08 28 40.1**	**+0.3**
BOSS				*e*Sg	**Sg**	**08 28 58.0**	**+0.4**
PGB	**Panagyurishte**	**1.37**	**26**	*i* P	**Pn**	**08 28 38.5**	**-1.3**
LIT	**Litokhoron**	**1.39**	**209**	P	**Pn**	**08 28 39.1**	**-0.9**
LIT	**Litokhoron**	**1.39**	**209**	P	**Pn**	**08 28 39.5**	**-0.4**
LIT				S	**Sb**	**08 28 58.1**	**-0.2**
LIT				AML	AML	08 29 03.6	
	comp=E,599μm,0.3s						
LIT				AML	AML	08 29 03.9	
	comp=N,520μm,0.5s						
PAIG	**Paliouri**	**1.41**	**170**	P	**Pn**	**08 28 40.0**	**-0.3**
PAIG				S	**Sn**	**08 28 59.4**	**+0.3**
	comp=N,310nm,0.5s						
PAIG	**Paliouri**	**1.41**	**170**	P	**Pn**	**08 28 40.0**	**-0.3**
PAIG				S	**Sb**	**08 28 58.9**	**-0.1**
PAIG				AML	AML	08 29 04.5	
	comp=E,685μm,0.4s						
PAIG				AML	AML	08 29 05.1	
	comp=N,552μm,0.5s						
KZN	**Kozani**	**1.57**	**230**	P	**Pn**	**08 28 42.4**	**-0.2**
KZN				S	**Sn**	**08 29 03.9**	**+0.8**
	comp=N,338nm,0.6s						
KZN	**Kozani**	**1.57**	**230**	P	**Pn**	**08 28 42.3**	**-0.3**
KDZ	**Kurdzhali**	**1.58**	**77**	PN	**Pn**	**08 28 41.7**	**-1.0**
KDZ	**Kurdzhali**	**1.58**	**77**	*i* P	**Pn**	**08 28 42.2**	**-0.5**
RDO	**Rodhopi**	**1.66**	**95**	P	**Pn**	**08 28 43.3**	**-0.3**
RDO				S	**Sn**	**08 29 05.0**	**-0.1**
	comp=N,772nm,0.4s						
RDO	**Rodhopi**	**1.66**	**95**	PN	**Pn**	**08 28 43.3**	**-0.3**
RDO	**Rodhopi**	**1.66**	**95**	P	**Pn**	**08 28 43.3**	**-0.3**
RDO				S	**Sn**	**08 29 04.9**	**-0.1**
RDO				AML	AML	08 29 09.5	
	comp=N,1817μm,0.4s						
RDO				AML	AML	08 29 09.8	
	comp=E,1274μm,0.3s						
DIM	**Dimitrovgrad**	**1.79**	**65**	*i* P	**Pb**	**08 28 46.7**	**-0.6**
SMTH	**Samothraki Isl**	**1.85**	**117**	P	**Pn**	**08 28 46.7**	**+0.3**
BARS	**Barje**	**1.88**	**323**	*e*Pg	**Pb**	**08 28 49.0**	**0.0**
BARS	**Barje**	**1.88**	**323**	*i* Pn	**Pn**	**08 28 46.1**	**-0.7**
OHR	**Ohrid**	**1.94**	**265**	*e*Pg	**Pn**	**08 28 48.6**	**+1.0**
OHR				*e*Sg	**Sg**	**08 29 16.5**	**-0.2**
OHR	**Ohrid**	**1.94**	**265**	*i* Pn	**Pn**	**08 28 48.6**	**+1.0**
XOR	**Xorichti**	**1.96**	**184**	P	**Pn**	**08 28 47.6**	**-0.2**
XOR				S	**Sn**	**08 29 12.0**	**-0.5**
	comp=E,185nm,0.4s						
NEST	**Nestorio**	**1.97**	**243**	P	**Pn**	**08 28 49.1**	**+1.0**
ZAPS	**Zavoj**	**2.02**	**345**	*e*Pg	**Pn**	**08 28 49.4**	**+0.6**
ZAPS				*e*Sg	**Sn**	**08 29 15.2**	**+1.0**
THL	**Klokotos Trika**	**2.03**	**211**	P	**Pn**	**08 28 49.3**	**+0.5**
THL	**Klokotos Trika**	**2.03**	**211**	P	**Pn**	**08 28 50.0**	**+1.2**
ALN	**Alexandroupoli**	**2.08**	**101**	P	**Pn**	**08 28 49.3**	**-0.1**
ALN	**Alexandroupoli**	**2.08**	**101**	PN	**Pn**	**08 28 49.3**	**-0.1**
ALN	**Alexandroupoli**	**2.08**	**101**	P	**Pn**	**08 28 50.6**	**+1.2**
ENEZ	**Enez**	**2.20**	**105**	PN	**Pn**	**08 28 51.2**	**+0.1**
GADA	**Gvkgeada**	**2.24**	**119**	PN	**Pn**	**08 28 51.9**	**+0.3**
BLKB	**Belogradchik**	**2.35**	**348**	⇑P	**Pn**	**08 28 53.8**	**+0.4**
BLKB				⇓S	**Sg**	**08 29 29.6**	**-0.5**
UKOP	**Uzunkopru-Edir**	**2.48**	**93**	PN	**Pn**	**08 28 55.4**	**+0.5**
SELS	**Selova**	**2.52**	**320**	*e*Pn	**Pn**	**08 28 54.3**	**-1.3**
SELS				*e*Sg	**Sg**	**08 29 34.0**	**-1.4**
BOZC	**Bozcaada**	**2.53**	**125**	PN	**Pn**	**08 28 55.8**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.54**	**110**	PN	**Pn**	**08 28 55.9**	**+0.1**
EDRB	**Edirne**	**2.60**	**77**	P	**Pn**	**08 28 57.0**	**+0.5**
EDRB	**Edirne**	**2.60**	**77**	PN	**Pn**	**08 28 57.1**	**+0.5**
BOVS	**Bovan**	**2.62**	**333**	⇑S	**Sb**	**08 29 35.9**	**+2.3**
BOVS	**Bovan**	**2.62**	**333**	*e*Pg	**Pb**	**08 29 01.5**	**+0.1**
BOVS				*e*Sg	**Sb**	**08 29 34.3**	**+0.6**
BOVS	**Bovan**	**2.62**	**333**	⇓P	**Pn**	**08 28 57.3**	**+0.4**
ZAGS	**Zajecar**	**2.62**	**342**	*e*Pn	**Pn**	**08 28 57.3**	**+0.3**
ZAGS				*e*Sg	**Sg**	**08 29 38.6**	**-0.1**
EZN	**Ezine**	**2.71**	**122**	PN	**Pn**	**08 28 58.4**	**+0.3**
VLAD	**Vladila**	**2.79**	**16**	⇓P	**Pn**	**08 29 00.3**	**+1.1**
VLAD				⇑S	**Sg**	**08 29 42.8**	**-1.1**
SIGR	**SIGRI**	**2.85**	**137**	PN	**Pn**	**08 28 59.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.96**	**101**	PN	**Pn**	**08 29 02.1**	**+0.5**
SJES	**Sjenica**	**3.17**	**309**	*e*Pn	**Pn**	**08 29 04.7**	**+0.1**
SJES				*e*Sg	**Sg**	**08 29 57.2**	**+1.0**
GRUS	**Gruza**	**3.22**	**324**	*e*Pn	**Pn**	**08 29 04.5**	**-0.7**
GRUS				*e*Sg	**Sg**	**08 29 56.5**	**-1.3**
RAZG	**Razgrad**	**3.24**	**45**	⇓P	**Pn**	**08 29 06.9**	**+1.5**
RAZG				⇑S	**Sb**	**08 29 53.4**	**+1.8**
PDG	**Podgorica**	**3.26**	**291**	⇓P	Pn	08 28 58.8	-6.9
PDG				⇑S	**Sn**	**08 29 42.0**	**-2.5**
IVAS	**Ivanjica**	**3.27**	**315**	*e*Pn	**Pn**	**08 29 05.0**	**-0.9**
IVAS				*e*Sg	**Sg**	**08 30 00.5**	**+1.1**
KUBS	**Kucevo**	**3.33**	**339**	*e*Pn	**Pn**	**08 29 05.0**	**-1.6**
KUBS				*e*Sg	**Sb**	**08 29 57.1**	**+2.9**
SRE	**Strehaia**	**3.34**	**358**	⇑S	**Sb**	**08 29 56.4**	**+1.8**
SRE	**Strehaia**	**3.34**	**358**	⇓P	**Pn**	**08 29 08.9**	**+2.1**
HUMR	**Humele**	**3.42**	**20**	⇑P	**Pn**	**08 29 10.5**	**+2.6**
HUMR				⇓S	**Sb**	**08 29 58.8**	**+2.0**
EDC	**Edincik**	**3.56**	**104**	PN	**Pn**	**08 29 10.4**	**+0.6**
CHOS	**Chios island**	**3.59**	**144**	PN	**Pn**	**08 29 10.7**	**+0.4**
TRUS	**Trudelj**	**3.62**	**324**	*e*Pn	**Pn**	**08 29 09.7**	**-1.0**
TRUS				*e*Sg	**Sg**	**08 30 09.8**	**-0.9**
HERR	**Herculane**	**3.62**	**349**	⇑P	**Pn**	**08 29 10.0**	**-0.7**
SLVT	**Silivri**	**3.66**	**90**	PN	**Pn**	**08 29 11.9**	**+0.7**
MDVR	**Moldovita**	**3.66**	**341**	⇓P	**Pn**	**08 29 11.1**	**-0.2**
MDVR				⇓S	**Sb**	**08 30 02.8**	**-1.0**
CTYL	**Yalikoy Yolu**	**3.71**	**86**	PN	**Pn**	**08 29 12.7**	**+0.8**
DIVS	**Divibare**	**3.72**	**319**	*e*Pn	**Pn**	**08 29 11.4**	**-0.7**
DIVS				*e*Sg	**Sg**	**08 30 12.5**	**-1.4**
URLA	**Izmir**	**3.87**	**139**	PN	**Pn**	**08 29 13.5**	**-0.6**
BBLS	**Lazići**	**3.87**	**312**	*e*Pn	**Pn**	**08 29 14.0**	**-0.2**
BBLS				*e*Sg	**Sg**	**08 30 18.1**	**-0.5**
CTKS	**Kestanelik-??a**	**3.88**	**90**	PN	**Pn**	**08 29 15.4**	**+1.2**
SULR		**3.97**	**31**	⇑P	**Pn**	**08 29 16.0**	**+0.5**
BGKT	**Bogazkoy**	**4.09**	**90**	PN	**Pn**	**08 29 17.9**	**+0.8**
GZR	**Gura Zlata**	**4.09**	**354**	⇓P	**Pn**	**08 29 18.2**	**+1.0**
DBRK	**Dubrovnik**	**4.11**	**291**	*e*Pn	**Pn**	**08 29 18.0**	**+0.6**
LOT	**Lotru**	**4.14**	**4**	⇑P	**Pn**	**08 29 18.4**	**+0.6**
LOT	**Lotru**	**4.14**	**4**	PN	**Pn**	**08 29 17.8**	**-0.1**
ARR	**Arges**	**4.15**	**13**	⇑P	**Pn**	**08 29 19.9**	**+1.9**
ARMT	**Armutlu**	**4.24**	**98**	PN	**Pn**	**08 29 20.1**	**+0.9**
ITM	**Ithomi**	**4.28**	**195**	PN	**Pn**	**08 29 19.9**	**+0.1**
KLYT	**Kilyos**	**4.29**	**89**	PN	**Pn**	**08 29 20.6**	**+0.8**
VOIR		**4.30**	**16**	⇓P	**Pn**	**08 29 20.8**	**+0.8**
ISK	**Istanbul-Kandi**	**4.31**	**92**	PN	**Pn**	**08 29 21.4**	**+1.3**
BZS	**Buzias**	**4.48**	**344**	⇓P	**Pn**	**08 29 23.4**	**+1.0**
BZS	**Buzias**	**4.48**	**344**	PN	**Pn**	**08 29 23.6**	**+1.2**
STON	**Ston**	**4.48**	**292**	*e*Pn	**Pn**	**08 29 22.9**	**+0.4**
APE	**Apeiranthos**	**4.57**	**158**	⇑P	Pn	08 29 08.9	-15
MLR	**Muntele Rosu**	**4.58**	**23**	⇓P	**Pn**	**08 29 25.2**	**+1.3**
MLR	**Muntele Rosu**	**4.58**	**23**	PN	**Pn**	**08 29 24.9**	**+1.0**
TIRR	**Tirgusor**	**4.86**	**48**	⇓P	**Pn**	**08 29 27.7**	**0.0**
COVR	**Voineasa-Covas**	**4.97**	**24**	⇑P	**Pn**	**08 29 31.9**	**+2.6**
LSTV	**Lastovo**	**5.03**	**289**	*e*Pn	**Pn**	**08 29 30.3**	**+0.3**
RICI	**Ricice**	**5.09**	**297**	*e*Pn	**Pn**	**08 29 32.4**	**+1.5**
SIRR	**Siria**	**5.09**	**347**	⇓P	**Pn**	**08 29 32.5**	**+1.6**
PLOR	**Plostina**	**5.12**	**27**	⇑P	**Pn**	**08 29 33.0**	**+1.7**
TPGR	**Topolog**	**5.12**	**45**	⇓P	**Pn**	**08 29 31.5**	**+0.2**
VRI	**Vrincioaia**	**5.16**	**27**	⇓P	**Pn**	**08 29 34.0**	**+2.1**
CFR	**Carcaliu**	**5.20**	**41**	⇑P	**Pn**	**08 29 33.1**	**+0.7**
HVAR	**Hvar**	**5.45**	**292**	*e*Pn	**Pn**	**08 29 36.1**	**+0.3**
DRGR		**5.49**	**355**	⇓P	**Pn**	**08 29 37.4**	**+1.0**
KIJV	**Kijevo**	**5.78**	**300**	*e*Pn	**Pn**	**08 29 42.2**	**+1.8**
MORH	**Mrgy, Hungar**	**5.96**	**327**	⇓P	**Pn**	**08 29 41.3**	**-1.5**
ZIRJ	**Zirje**	**6.16**	**295**	*e*Pn	**Pn**	**08 29 46.0**	**+0.5**
MORI	**Morici**	**6.19**	**297**	*e*Pn	**Pn**	**08 29 46.8**	**+0.8**
UDBI

σ1°49/44, **mb4.1**/15, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.27**	**27**	Pn	**Pn**	**08 36 09.0**	**+0.5**
RABL	**Rabaul**	**1.27**	**27**	P	**Pn**	**08 36 09.0**	**+0.5**
MANU	**Manus Island**	**5.33**	**308**		**Pn**	**08 37 02.2**	**-1.8**
PMG	**Port Moresby**	**5.97**	**227**	P	**Pn**	**08 37 13.8**	**+1.0**
	6.6nm,0.3s,baz=48,slow=9.4,SNR=13						
PMG				S	**Sn**	**08 38 19.0**	**-0.9**
	32nm,0.5s,baz=325,slow=23,SNR=5.8						
PMG				LR	LR	08 39 29.9	
	comp=Z,239nm,20.6s,baz=5.5,slow=38						
	44nm,0.7s						
PMG	**Port Moresby**	**5.97**	**227**	Pn	**Pn**	**08 37 14.8**	**+2.0**
PMG	**Port Moresby**	**5.97**	**227**	P	**Pn**	**08 37 15.5**	**+2.7**
PMG	**Port Moresby**	**5.97**	**227**	P	**Pn**	**08 37 15.8**	**+3.0**
CTA	**Charters Tower**	**15.56**	**199**	P	**Pn**	**08 39 23.1**	**+0.3**
	0.2nm,0.3s,baz=4.9,slow=8.3,SNR=4.5						
CTA				LR	LR	08 44 37.2	
	comp=Z,176nm,21.4s,baz=61,slow=34						
	1.9nm,0.6s						
CTAO	**Charters Tower**	**15.56**	**199**	Pn	**P**	**08 39 24.5**	**-1.7**
CTAO				IAmb	IAmb	08 39 40.9	
	comp=Z,15nm,1.4s						
QIS	**Mount Isa**	**19.09**	**216**	P	**Pn**	**08 40 06.3**	**-0.2**
EIDS	**Eidsvold**	**19.93**	**181**	P	**P**	**08 40 13.2**	**-1.1**
EIDS				IAmb	IAmb	08 40 13.6	
	comp=Z,7.2nm,0.8s						
KDU	**Kakadu**	**20.23**	**248**	P	Pn	08 40 20.1	+0.2
	comp=Z,15nm,1.6s						
MTN	**Manton Dam**	**21.52**	**248**	P	**P**	**08 40 30.2**	**-1.2**
DZM	**Mont Dzumac**	**22.00**	**141**	P	**P**	**08 40 34.0**	**-2.6**
	comp=Z,2.3nm,0.5s,baz=309,slow=14,SNR=1.7						
DZM				LR	LR	08 48 07.0	
	comp=Z,193nm,18.4s,baz=220,slow=34						
	comp=Z,2.3nm,0.5s						
WB0	**Warramunga Arr**	**22.04**	**228**	P	**P**	**08 40 36.5**	**-0.6**
WB0				IAmb	IAmb	08 40 39.9	
	comp=Z,6.5nm,0.9s						
WR0	**Warramunga Arr**	**22.05**	**227**	P	**P**	**08 40 38.0**	**+0.8**
WR0				IAmb	IAmb	08 41 02.6	
	comp=Z,4.7nm,0.8s						
WB2	**Warramunga Arr**	**22.18**	**228**	P	**P**	**08 40 38.7**	**+0.1**
WB2				IAmb	IAmb	08 40 58.7	
	comp=Z,9.3nm,1.1s						
WRA	**Warramunga Arr**	**22.19**	**228**	P	**P**	**08 40 38.5**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=52,slow=10,SNR=31						
WRA				LR	LR	08 48 53.4	
	comp=Z,93nm,18.1s,baz=356,slow=36						
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**22.19**	**228**	P	**P**	**08 40 38.2**	**-0.4**
INKA	**Innaminka**	**24.56**	**204**	P	**P**	**08 41 01.7**	**+0.2**
KNRA	**Kununurra**	**24.65**	**244**	P	**P**	**08 41 00.7**	**-1.8**
KNRA	**Kununurra**	**24.65**	**244**	P	**P**	**08 41 06.3**	**+3.8**
AS31	**Alice Springs**	**24.95**	**221**	P	**P**	**08 41 04.0**	**-1.3**
ASAR	**Alice Springs**	**24.95**	**221**	P	**P**	**08 41 05.3**	**+0.1**
	comp=Z,6.8nm,0.7s,baz=56,slow=9.1,SNR=79						
	comp=Z,6.8nm,0.7s						
ASAR	**Alice Springs**	**24.95**	**221**	P	**P**	**08 41 04.1**	**-1.1**
ARMA	**Armidale**	**24.96**	**180**	P	**P**	**08 41 04.8**	**-0.5**
ARMA				IAmb	IAmb	08 41 05.2	
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**28.02**	**198**	P	**P**	**08 41 31.6**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=25,slow=13,SNR=3.3						
	comp=Z,1.3nm,0.7s						
STKA	**Stephens Creek**	**28.02**	**198**	P	**P**	**08 41 32.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**28.34**	**241**	P	**P**	**08 41 37.2**	**+1.4**
	comp=Z,4.2nm,0.7s,baz=43,slow=7.4,SNR=9.7						
	comp=Z,4.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.34**	**241**	P	**P**	**08 41 34.8**	**-1.0**
FITZ				IAmb	IAmb	08 41 39.9	
	comp=Z,3.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.34**	**241**	P	**P**	**08 41 37.9**	**+2.1**
FORT	**Forrest**	**33.62**	**218**	P	**P**	**08 42 20.8**	**-1.3**
FORT	**Forrest**	**33.62**	**218**	P	**P**	**08 42 21.4**	**-0.7**
MORW	**Morawa**	**41.07**	**231**	P	**P**	**08 43 23.9**	**-1.4**
SONM	**Songino Array**	**66.13**	**328**	P	**P**	**08 46 30.9**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=146,slow=2.6,SNR=6.1						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**72.35**	**178**	P	**P**	**08 47 06.0**	**-0.3**
MKAR	**Makanchi Array**	**79.93**	**319**	P	**P**	**08 47 51.6**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=109,slow=6.9,SNR=5.1						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**80.92**	**327**	P	**P**	**08 47 55.6**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=104,slow=4.6,SNR=2.3						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**84.63**	**180**	P	**P**	**08 48 13.7**	**-0.6**
QSPA				IAmb	IAmb	08 48 25.9	
	comp=Z,4.9nm,1.2s						
YBH	**Yreka Blue Hor**	**90.31**	**48**	P	**P**	**08 48 44.2**	**+2.1**
	comp=Z,1.6nm,1.0s,baz=260,slow=4.7,SNR=4.8						
	comp=Z,1.6nm,1.0s						
NVAR	**Mina Array Bea**	**93.36**	**52**	P	**P**	**08 48 58.0**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=250,slow=5.7,SNR=4.0						
	comp=Z,0.9nm,0.8s						
GERES	**GERESS Array B**	**123.86**	**328**	PKP	**PKiKP**	**08 54 39.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=88,slow=3.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.31**	**287**	PKPbc	**PKiKP**	**08 55 31.1**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=74,slow=2.7,SNR=25						
BDFB	**Brasilia**	**151.53**	**137**	PKPbc	**PKiKP**	**08 55 35.8**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=205,slow=6.9,SNR=3.2						

MAN ***18*** *08:44:22.4,14.˚45N×119.˚71E, h2km, mb4.0, ML2.8, MS2.4*
ISC 18 08:44:21.2±4.6, 13.˚4N±0.˚7×120.˚6E±0.˚2, h120km, n4,
σ2°08/4, 1C-3D, Minoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.38**	**80↓**	*e*P	Pn	08 44 50.8	+12
PGP				*i* S	Sn	08 45 11.6	+20
LUBP	**Lubang**	**0.43**	**314↓**	*e*P	**Pn**	**08 44 39.5**	**+0.7**
LUBP				*e*S	**Sn**	**08 44 50.4**	**-1.6**
TGY	**Tagaytay City**	**0.76**	**28↑**	*e*P	**Pn**	**08 44 42.2**	**+1.1**
LQP	**Lukban**	**1.16**	**54↓**	*e*P	**Pn**	**08 44 45.0**	**0.0**

SKHL ***18*** *08:58:44.1±0.4, 44.˚40N×147.˚90E, h129km±5km, mb4.2/2, msha4.6/2*
IDC ***18*** *08:58:44.7±9.0, 45.˚92N×147.˚07E, h118km±58km, mb3.3/6, mbtmp3.7/7, MS3.2/1, Error ellipse: s-maj=106.6km s-min=29.2km az=174.0*
JMA ***18*** *08:58:45.3±0.5, 45˚N±2˚×14˚7E±˚, h154km, MV3.4/26, NEAR ETOROFU ISLAND*
ISC 18 08:58:42.3±0.9, 44.˚70N±0.˚10×147.˚57E±0.˚09, h159km±7km, n26, σ1°59/34, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.58**	**21**	*e*P	**Pn**	**08 59 05.0**	**0.0**
KUR				AMB	AMB	08 59 05.5	
	80nm,0.2s						
KUR				*e*S	**Sn**	**08 59 21.0**	**-1.6**
KUR				A	A	08 59 22.1	
	100nm,0.5s						
KUR				A	A	08 59 22.1	
	70nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.39**	**242**	*e*P	**Pn**	**08 59 12.6**	**+1.1**
YUK				AMB	AMB	08 59 14.2	
	30nm,0.2s						
YUK				*e*S	**Sn**	**08 59 33.9**	**+0.1**
YUK				A	A	08 59 36.0	
	270nm,0.7s						
YUK				A	A	08 59 36.0	
	250nm,0.7s						
NEM2	**Nemuro 2**	**1.87**	**225**	*e*P	**Pn**	**08 59 17.3**	**+0.8**
NEM2				*e*S	**Sn**	**08 59 42.0**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.88**	**226**	*e*P	**Pn**	**08 59 17.4**	**+0.8**
NMR				*e*S	**Sn**	**08 59 42.2**	**-0.8**
JRA	**Rausu**	**1.92**	**248**	*e*P	**Pn**	**08 59 18.3**	**+1.3**
JNSB	**Nemuroshibetsu**	**2.06**	**244**	*e*P	**Pn**	**08 59 20.5**	**+1.8**
JNK	**Nakash**	**2.33**	**243**	*e*P	**Pn**	**08 59 23.4**	**+1.5**
JKHN	**Kushirohamanak**	**2.37**	**228**	*e*P	**Pn**	**08 59 23.5**	**+1.2**
JKHN				*e*S	**Sn**	**08 59 52.8**	**-0.4**
JAK	**Akkeshi**	**2.69**	**232**	*e*P	**Pn**	**08 59 27.1**	**+1.0**
JAK				*e*S	**Sn**	**08 59 59.5**	**-0.4**
JTKR	**Abashiri--Toko**	**2.73**	**256**	*e*P	**Pn**	**08 59 27.8**	**+1.2**
JTKR				*e*S	**Sn**	**09 00 01.2**	**+0.4**
JAR	**Ashorobuto**	**3.08**	**244**	*e*P	**Pn**	**08 59 33.1**	**+2.1**
JMP	**Maruseppu**	**3.10**	**259**	*e*P	**Pn**	**08 59 32.4**	**+1.2**
JOB	**Onbets**	**3.25**	**238**	*e*P	**Pn**	**08 59 34.8**	**+1.7**
JKK2	**Kamakawa 2**	**3.56**	**258**	*e*P	**Pn**	**08 59 38.9**	**+1.8**
JCH	**Churui**	**3.70**	**237**	*e*P	**Pn**	**08 59 40.0**	**+1.1**
JCH				*e*S	**Sn**	**09 00 22.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**4.26**	**237**	*e*P	**Pn**	**08 59 46.4**	**+0.3**
JNBK				*e*S	**Sn**	**09 00 33.8**	**-2.0**
JRBN	**Rebuntou**	**4.67**	**281**	*e*P	**Pn**	**08 59 52.8**	**+1.4**
JOT	**Ohata**	**5.81**	**238**	*e*P	**Pn**	**09 00 06.1**	**-0.5**
JOT				*e*S	**Sn**	**09 01 08.6**	**-4.0**
PETK	**Petropavlovsk-**	**10.73**	**35**	P	Pn	09 01 04.4	-7.1
	3.9nm,0.9s,baz=232,slow=8.7,SNR=2.2						
GUMO	**Guam**	**31.09**	**185**	LR	LR	09 15 50.7	
	comp=Z,41nm,21.5s,baz=37,slow=32						
MKAR	**Makanchi Array**	**44.42**	**297**	P	**P**	**09 06 36.7**	**-0.3**
	0.3nm,0.7s,baz=81,slow=7.6,SNR=3.8						
	0.3nm,0.7s						
INK	**Inuvik**	**45.43**	**31**	P	**P**	**09 06 44.3**	**-0.3**
	1.2nm,0.7s,baz=294,slow=7.3,SNR=15						
	1.2nm,0.7s						
ARCES	**ARCESS Array B**	**58.47**	**340**	P	**P**	**09 08 18.9**	**-2.0**
	1.5nm,0.7s,baz=46,slow=6.9,SNR=4.5						
	1.5nm,0.7s						
FINES	**FINESS Array B**	**64.17**	**333**	P	**P**	**09 08 57.4**	**-1.9**
	1.4nm,0.8s,baz=43,slow=6.3,SNR=4.1						
	1.4nm,0.8s						
NOA	**NORSAR Array B**	**68.83**	**339**	P	**P**	**09 09 27.9**	**-1.0**
	0.2nm,0.4s,baz=30,slow=6.5,SNR=1.9						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**69.07**	**50**	P	**P**	**09 09 34.6**	**+3.6**
	0.1nm,0.4s,baz=332,slow=5.1,SNR=1.5						
	0.1nm,0.4s						

IDC ***18*** *09:00:30.1±1.4, 0.˚01N×17.˚47W, h0km, mb4.0/9, mbtmp4.1/11, ML4.5/2, MS3.9/1, Error ellipse: s-maj=71.1km s-min=16.7km az=148.0*
NEIC ***18*** *09:00:31.4±1.3, 0.˚2S±0.˚1×17.˚5W±0.˚1, h10km±1km, mb4.7/10, Error ellipse: s-maj=22.4km s-min=18.0km az=125.0*
ISC 18 09:00:30.9±0.6, 0.˚1S±0.˚1×17.˚36W±0.˚08, h12km, n34,
σ1°44/30, mb4.5/13, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.15**	**160**	T	T	09 11 39.9	
	baz=339,slow=75,SNR=1331						
H10N3	**ASCENSION HYDR**	**8.16**	**160**	T	T	09 11 38.8	
	baz=339,slow=75,SNR=1855						
H10N1	**ASCENSION HYDR**	**8.17**	**160**	T	T	09 11 41.3	
	baz=339,slow=75,SNR=2671						
ASCN	**Ascension**	**8.29**	**159**	Pn	**Pn**	**09 02 31.4**	**+0.2**
H10S3	**ASCENSION HYDR**	**9.15**	**163**	T	T	09 12 55.8	
	baz=342,slow=74,SNR=334						
H10S2	**ASCENSION HYDR**	**9.16**	**163**	T	T	09 12 56.5	
	baz=238,slow=74,SNR=93						
LIC	**Lamto**	**13.84**	**63**	*e*P	**Pn**	**09 03 47.9**	**+0.9**
	13nm,0.4s						
TIC	**Toumodi**	**14.03**	**61**	*e*P	**Pn**	**09 03 49.8**	**0.0**
	12nm,0.4s						
KIC	**Kosan Boka**	**14.15**	**63**	*e*P	**Pn**	**09 03 50.8**	**-0.6**
	17nm,0.4s						
DBIC	**Dimbokro**	**14.19**	**61**	Pn	**Pn**	**09 03 53.0**	**+1.2**
	4.2nm,0.3s,baz=255,slow=13,SNR=42						
DBIC				Sn	**Sn**	**09 06 24.2**	**-5.1**
	1.7nm,0.3s,baz=130,slow=7.6,SNR=3.0						
DBIC				LR	LR	09 08 07.8	
	comp=Z,510nm,20.1s,baz=270,slow=32						
	14nm,0.4s						
RCBR	**Riachuelo**	**19.36**	**253**	P	**Pn**	**09 04 57.1**	**-0.6**
	0.9nm,0.3s,baz=162,slow=16,SNR=7.1						
	4.7nm,0.4s						
RCBR	**Riachuelo**	**19.36**	**253**	P	**P**	**09 04 56.2**	**-0.4**
TOA0	**Torodi Ar. Sit**	**23.04**	**54**	P	**P**	**09 05 37.4**	**+1.0**
TOA0				IAmb	IAmb	09 05 39.9	
	comp=Z,16nm,0.9s						
TORD	**Torodi Ar. Bea**	**23.04**	**54**	P	**P**	**09 05 37.4**	**+1.0**
	comp=Z,14nm,1.0s,baz=241,slow=10,SNR=34						
	comp=Z,14nm,1.0s						
TORD	**Torodi Ar. Bea**	**23.04**	**54**	P	**P**	**09 05 37.5**	**+1.1**
TORD				IAmb	IAmb	09 05 59.6	
	comp=Z,10.0nm,0.7s						
BDFB	**Brasilia**	**33.96**	**242**	P	**P**	**09 07 15.1**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=85,slow=12,SNR=1.6						
	comp=Z,0.6nm,0.3s						
SIV	**San Ignacio**	**45.91**	**248**	P	**P**	**09 08 54.7**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=67,slow=11,SNR=4.6						
	comp=Z,1.3nm,1.0s						
ETMB	**Extrema**	**49.55**	**257**	P	**P**	**09 09 20.5**	**-1.7**
ETMB				IAmb	IAmb	09 09 32.0	
	comp=Z,1.8nm,1.1s						
BIRV	**Birongo**	**49.76**	**284**	P	**P**	**09 09 21.8**	**-2.0**
BIRV				IAmb	IAmb	09 10 01.2	
	comp=Z,19nm,1.2s						
BAUV	**El Baul**	**51.27**	**282**	P	**P**	**09 09 34.2**	**-1.1**
BAUV				IAmb	IAmb	09 09 35.7	
	comp=Z,8.8nm,0.8s						
GERES	**GERESS Array B**	**55.66**	**24**	P	**P**	**09 10 07.4**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=218,slow=8.5,SNR=7.1						
	comp=Z,0.7nm,0.7s						
GERES	**GERESS Array B**	**55.66**	**24**	P	**P**	**09 10 08.2**	**+1.1**
BRTR	**Keskin Array B**	**61.06**	**43**	P	**P**	**09 10 45.8**	**+0.7**
	comp=Z,2.2nm,1.0s,baz=243,slow=5.0,SNR=8.0						
	comp=Z,2.2nm,1.0s						
BRTR	**Keskin Array B**	**61.06**	**43**	P	**P**	**09 10 46.6**	**+1.5**
BR131	**Keskin Array S**	**61.06**	**43**	P	**P**	**09 10 46.4**	**+1.3**
BR131				IAmb	IAmb	09 10 48.3	
	comp=Z,6.6nm,1.1s						
BNN	**Bunyan**	**62.21**	**45**	P	**P**	**09 10 54.4**	**+1.5**
AKASG	**Malin Array Be**	**64.20**	**31**	P	**P**	**09 11 05.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=235,slow=6.5,SNR=5.4						
	comp=Z,0.5nm,0.6s						
KBZ	**Khabaz**	**69.02**	**42**	P	**P**	**09 11 38.5**	**+2.0**
	comp=Z,1.6nm,0.5s,baz=205,slow=13,SNR=4.7						
	comp=Z,1.6nm,0.5s						
FINES	**FINESS Array B**	**69.71**	**21**	P	**P**	**09 11 41.2**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=196,slow=3.6,SNR=9.5						
	comp=Z,0.7nm,0.5s						
EUNU	**Eureka**	**86.58**	**351**	P	**P**	**09 13 14.2**	**+0.5**
TXAR	**Lajitas Array**	**86.85**	**299**	P	**P**	**09 13 16.3**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=123,slow=6.5,SNR=9.3						
	comp=Z,0.8nm,0.9s						
TXAR	**Lajitas Array**	**86.85**	**299**	P	**P**	**09 13 15.8**	**-0.3**
QSPA	**South Pole Qui**	**89.93**	**180**	P	**P**	**09 13 29.0**	**-0.9**
QSPA				IAmb	IAmb	09 13 35.7	
	comp=Z,6.2nm,1.4s						
ASAR	**Alice Springs**	**143.41**	**132**	PKP	**PKPdf**	**09 20 06.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=204,slow=2.0,SNR=2.2						

IDC 18 09:04:14.1±5.6, 2.˚39S×140.˚92E, h0km, mb3.5/3,
mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=123.9km
s-min=62.0km az=149.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.59**	**200**	P	Pn	09 08 33.1	-0.1
	0.5nm,0.3s,baz=25,slow=11,SNR=7.8						
	0.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**21.64**	**223**	P	P	09 09 05.5	-0.7
	1.6nm,0.9s,baz=41,slow=9.3,SNR=2.0						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**22.21**	**197**	P	P	09 09 12.7	+0.3
	0.7nm,0.4s,baz=27,slow=12,SNR=13						
	0.7nm,0.4s						
VNDA	**Vanda**	**75.91**	**175**	P	P	09 16 02.2	+0.1
	0.4nm,0.6s,baz=323,slow=7.1,SNR=6.0						
	0.4nm,0.6s						

NEIC ***18*** *09:08:07.5±1.1, 21.˚8S±0.˚1×179.˚4W±0.˚2, h606km±11km, mb4.3/31, Error ellipse: s-maj=24.9km s-min=18.6km az=74.0*
IDC ***18*** *09:08:07.4±1.5, 21.˚72S×179.˚49W, h599km±17km, mb3.4/17, mbtmp4.3/19, Error ellipse: s-maj=15.6km s-min=13.6km az=102.0*
ISC 18 09:08:06.6±0.5, 21.˚81S±0.˚09×179.˚43W±0.˚09, h592km,
n67, σ0°98/66, mb4.2/32, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**329**	P	**P**	**09 09 37.8**	**+1.0**
	92nm,0.5s,baz=176,slow=5.2,SNR=209						
DZM	**Mont Dzumac**	**13.11**	**266**	P	**P**	**09 10 57.5**	**+0.7**
	5.8nm,0.5s,baz=251,slow=20,SNR=11						
DZM	**Mont Dzumac**	**13.11**	**266**	P	**P**	**09 10 58.3**	**+1.5**
OUZ	**Omahuta**	**14.69**	**203**	P	**P**	**09 11 13.6**	**+1.5**
URZ	**Urewera**	**16.66**	**190**	P	**P**	**09 11 27.4**	**-2.8**
	4.9nm,0.5s,baz=333,slow=2.3,SNR=5.7						
BKZ	**Black Stump Fm**	**17.65**	**191**	P	**P**	**09 11 37.0**	**-2.2**
BKZ				IAmb	IAmb	09 12 13.4	
	comp=Z,27nm,1.4s						
QRZ	**Quartz Range**	**20.15**	**198**	P	**P**	**09 12 01.9**	**0.0**
THZ	**Tophouse**	**20.92**	**196**	P	**P**	**09 12 08.4**	**-0.5**
KHZ	**Kahutara**	**21.38**	**194**	P	**P**	**09 12 11.1**	**-1.8**
RPZ	**Rata Peaks**	**23.23**	**198**	P	**P**	**09 12 29.6**	**+0.2**
	comp=Z,16nm,1.1s,baz=24,slow=10,SNR=3.5						
	comp=Z,16nm,1.1s						
MLZ	**Mavora Lakes**	**25.62**	**201**	P	**P**	**09 12 50.6**	**+0.1**
EIDS	**Eidsvold**	**27.23**	**257**	P	**P**	**09 13 04.8**	**-0.1**
EIDS				IAmb	IAmb	09 13 29.6	
	comp=Z,10nm,1.2s						
ARMA	**Armidale**	**27.30**	**246**	P	**P**	**09 13 06.4**	**+0.8**
ARMA				IAmb	IAmb	09 13 07.7	
	comp=Z,4.3nm,0.7s						
CTAO	**Charters Tower**	**32.06**	**267**	P	**P**	**09 13 46.5**	**-0.1**
CTAO				IAmb	IAmb	09 13 47.4	
	comp=Z,7.9nm,0.6s						
PMG	**Port Moresby**	**34.37**	**286**	P	**P**	**09 14 05.5**	**-0.5**
	comp=Z,15nm,0.7s,baz=111,slow=9.4,SNR=5.5						
	comp=Z,15nm,0.7s						
PMG	**Port Moresby**	**34.37**	**286**	P	**P**	**09 14 05.8**	**-0.1**
STKA	**Stephens Creek**	**36.03**	**245**	P	**P**	**09 14 20.0**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=93,slow=9.8,SNR=16						
	comp=Z,3.4nm,0.5s						
STKA	**Stephens Creek**	**36.03**	**245**	P	**P**	**09 14 19.3**	**-0.2**
COEN	**Coen**	**36.36**	**276**	P	**P**	**09 14 22.3**	**-0.1**
COEN				IAmb	IAmb	09 14 24.1	
	comp=Z,10.0nm,0.9s						
BBOO	**Buckleboo**	**40.78**	**245**	P	**P**	**09 14 57.2**	**-0.6**
BBOO				IAmb	IAmb	09 15 29.3	
	comp=Z,24nm,1.4s						
WR0	**Warramunga Arr**	**42.92**	**264**	P	**P**	**09 15 13.8**	**-1.0**
WR0				IAmb	IAmb	09 15 15.4	
	comp=Z,3.8nm,0.5s						
AS31	**Alice Springs**	**42.93**	**258**	P	**P**	**09 15 14.5**	**-0.3**
ASAR	**Alice Springs**	**42.93**	**258**	P	**P**	**09 15 14.6**	**-0.3**
	comp=Z,8.9nm,0.8s,baz=98,slow=8.0,SNR=124						
	comp=Z,8.9nm,0.8s						
ASAR	**Alice Springs**	**42.93**	**258**	P	**P**	**09 15 14.2**	**-0.7**
WB0	**Warramunga Arr**	**43.10**	**264**	P	**P**	**09 15 15.5**	**-0.7**
WB0				IAmb	IAmb	09 15 16.0	
	comp=Z,9.5nm,0.8s						
WB2	**Warramunga Arr**	**43.10**	**264**	P	**P**	**09 15 15.4**	**-0.8**
WB2				IAmb	IAmb	09 15 16.2	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**43.11**	**264**	P	**P**	**09 15 15.3**	**-1.0**
	comp=Z,2.6nm,0.3s,baz=96,slow=7.7,SNR=153						
WRA				ScP	**ScP**	**09 19 48.5**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=87,slow=4.9,SNR=4.6						
	comp=Z,2.6nm,0.3s						
WRA	**Warramunga Arr**	**43.11**	**264**	P	**P**	**09 15 15.3**	**-1.0**
FORT	**Forrest**	**47.56**	**248**	P	**P**	**09 15 49.2**	**-0.7**
FORT				IAmb	IAmb	09 15 56.5	
	comp=Z,14nm,0.9s						
MTN	**Manton Dam**	**47.86**	**272**	P	**P**	**09 15 51.6**	**-0.8**
MTN				IAmb	IAmb	09 15 52.0	
	comp=Z,12nm,0.6s						
KNRA	**Kununurra**	**49.26**	**268**	P	**P**	**09 16 02.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**51.54**	**264**	P	**P**	**09 16 19.4**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=72,slow=6.9,SNR=21						
	comp=Z,2.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**51.54**	**264**	P	**P**	**09 16 19.2**	**-0.1**
FITZ				IAmb	IAmb	09 16 20.3	
	comp=Z,11nm,1.4s						
SIJI	**Sorong**	**52.31**	**287**	P	**P**	**09 16 23.9**	**-0.9**
	comp=Z,26nm,0.7s,baz=99,slow=8.6,SNR=4.0						
	comp=Z,26nm,0.7s						
PSA00	**Pilbara Seismi**	**56.08**	**258**	P	**P**	**09 16 49.8**	**-1.4**
PSA00	**Pilbara Seismi**	**56.08**	**258**	P	**P**	**09 16 50.0**	**-1.2**
PSA00				IAmb	IAmb	09 17 24.2	
	comp=Z,6.1nm,0.9s						
MBWA	**Marble Bar**	**56.27**	**259**	P	**P**	**09 16 51.4**	**-1.2**
MBWA				IAmb	IAmb	09 17 03.9	
	comp=Z,31nm,1.5s						
SBA	**Scott Base**	**56.49**	**183**	P	**P**	**09 16 55.2**	**+2.2**
VNDA	**Vanda**	**56.50**	**185**	P	**P**	**09 16 54.5**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=359,slow=6.2,SNR=18						
	comp=Z,1.3nm,0.7s						
VNDA	**Vanda**	**56.50**	**185**	P	**P**	**09 16 54.6**	**+1.5**
MORW	**Morawa**	**58.10**	**249**	P	**P**	**09 17 03.8**	**-1.0**
MORW				IAmb	IAmb	09 17 29.5	
	comp=Z,14nm,1.2s						
CASY	**Casey**	**62.22**	**205**	P	**P**	**09 17 31.0**	**-0.2**
TOLI2	**Tolitoli**	**62.59**	**283**	P	**P**	**09 17 34.3**	**-0.2**
TOLI2				IAmb	IAmb	09 17 36.0	
	comp=Z,5.0nm,0.6s						
**Q

WRA	**Warramunga Arr**	**18.82**	**199**	P	**P**	**09 20 06.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=24,slow=12,SNR=33						
	comp=Z,3.8nm,0.6s						
WRA	**Warramunga Arr**	**18.82**	**199**	P	**P**	**09 20 05.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.76**	**222**	P	**P**	**09 20 37.5**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=46,slow=8.8,SNR=9.8						
	comp=Z,4.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.76**	**222**	P	**P**	**09 20 38.0**	**-0.3**
FITZ				IAmb	IAmb	09 20 40.8	
	comp=Z,4.9nm,0.8s						
AS31	**Alice Springs**	**22.45**	**197**	P	**P**	**09 20 45.5**	**-0.3**
ASAR	**Alice Springs**	**22.45**	**197**	P	**P**	**09 20 46.0**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=29,slow=11,SNR=66						
	comp=Z,3.9nm,0.6s						
ASAR	**Alice Springs**	**22.45**	**197**	P	**P**	**09 20 45.2**	**-0.6**
EIDS	**Eidsvold**	**25.18**	**158**	P	**P**	**09 21 10.3**	**-1.8**
EIDS				IAmb	IAmb	09 21 16.9	
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**29.64**	**179**	P	**P**	**09 21 52.3**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=353,slow=9.8,SNR=7.3						
	comp=Z,4.2nm,0.8s						
STKA	**Stephens Creek**	**29.64**	**179**	P	**P**	**09 21 51.7**	**-0.2**
BBOO	**Buckleboo**	**30.88**	**188**	P	**P**	**09 22 03.0**	**+0.1**
FORT	**Forrest**	**30.97**	**202**	P	**P**	**09 22 03.5**	**-0.2**
CASY	**Casey**	**67.52**	**193**	P	**P**	**09 26 41.0**	**-1.2**
MKAR	**Makanchi Array**	**70.58**	**322**	P	**P**	**09 27 03.3**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=127,slow=9.2,SNR=2.2						
	comp=Z,0.5nm,0.7s						
VNDA	**Vanda**	**76.22**	**175**	P	**P**	**09 27 35.0**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=328,slow=6.9,SNR=29						
	comp=Z,2.3nm,0.7s						
VNDA	**Vanda**	**76.22**	**175**	P	**P**	**09 27 34.7**	**+0.5**
VNDA				IAmb	IAmb	09 27 36.4	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**84.42**	**24**	P	**P**	**09 28 17.6**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=245,slow=4.8,SNR=4.2						
	comp=Z,0.5nm,0.8s						
QSPA	**South Pole Qui**	**87.85**	**180**	P	**P**	**09 28 35.1**	**-0.5**
QSPA				IAmb	IAmb	09 29 15.4	
	comp=Z,2.9nm,1.2s						
LPAZ	**La Paz**	**146.10**	**124**	PKPbc	**PKPab**	**09 35 29.0**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=237,slow=3.2,SNR=6.2						
CPUP	**Villa Florida**	**146.76**	**149**	PKPbc	**PKPab**	**09 35 30.1**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=344,slow=3.9,SNR=4.2						

*SOME **18** 09:25:42.5, 40°.57N × 83°.48E, h0km*
*NNC **18** 09:25:45.1 ± 4.4, 40°.92N × 83°.82E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=28.2km s-min=21.4km az=145.0*

ISC 18 09:25:49.9 ± 3.4, 41°.1N ± 0°.1 × 83°.7E ± 0°.1, h10km, n26, σ2ş87/31, 5C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**3.76**	**304**	*e*P		**Pb**	**09 26 52.4**	**-4.1**
	4.5nm,0.3s							
SHLS				*e*S		**Sb**	**09 27 42.8**	**+0.6**
	36nm,0.3s							
SHLS	**Shalkode**	**3.76**	**304**	Pg		**Pb**	**09 26 52.4**	**-4.1**
	4.5nm,0.3s							
SHLS				Lg		Lg	09 27 42.8	
	36nm,0.3s							
PDGK	**Podgornoye**	**3.84**	**306**	⇑Pg		**Pg**	**09 27 06.2**	**+2.8**
	8.9nm,0.6s							
PDGK				⇓Sn		**Sn**	**09 27 39.3**	**+4.9**
	8.9nm,0.4s							
PDGK				⇓Lg		Lg	09 27 54.3	
	15nm,0.6s							
UZB	**Uzynbulak**	**4.04**	**301**	*e*P		**Pb**	**09 27 01.6**	**+0.4**
	0.8nm,0.1s							
UZB				*e*S		**Sg**	**09 27 58.5**	**-1.1**
	19nm,0.5s							
UZB	**Uzynbulak**	**4.04**	**301**	Pg		**Pb**	**09 27 01.6**	**+0.4**
	0.8nm,0.1s							
UZB				Lg		Lg	09 27 58.5	
	19nm,0.5s							
DJR	**Jarkent**	**4.32**	**319**	*e*P		**Pg**	**09 27 08.4**	**-4.2**
	1.9nm,0.2s							
DJR				*e*S		**Sg**	**09 28 10.8**	**+2.3**
	10nm,0.5s							
DJR	**Jarkent**	**4.32**	**319**	Pg		**Pg**	**09 27 08.4**	**-4.2**
	1.9nm,0.2s							
DJR				Lg		Lg	09 28 10.8	
	10nm,0.5s							
KPKS	**Kokpek**	**4.41**	**304**	*e*P		**Pb**	**09 27 08.3**	**+0.8**
	1.3nm,0.2s							
KPKS				*e*S		**Sg**	**09 28 10.0**	**-1.5**
	40nm,0.2s							
KPKS	**Kokpek**	**4.41**	**304**	Pg		**Pb**	**09 27 08.3**	**+0.8**
	1.3nm,0.2s							
KPKS				Lg		Lg	09 28 10.0	
	40nm,0.2s							
KURS	**Kuram**	**4.75**	**302**	*e*P		**Pb**	**09 27 12.8**	**-0.4**
	4.3nm,0.5s							
KURS				*e*S		**Sg**	**09 28 17.6**	**-4.7**
	8.4nm,0.7s							
KURS	**Kuram**	**4.75**	**302**	Pg		**Pb**	**09 27 12.8**	**-0.4**
	4.3nm,0.5s							
KURS				Lg		Lg	09 28 17.6	
	8.4nm,0.7s							
ARXS	**Arharly**	**5.33**	**307**	*e*P		Pg	09 27 26.3	-5.6
	3.1nm,1.0s							
ARXS				*e*S		**Sg**	**09 28 40.9**	**-0.1**
	9.1nm,0.6s							
ARXS	**Arharly**	**5.33**	**307**	Pg		Pg	09 27 26.3	-5.6
	3.1nm,1.0s							
ARXS				Lg		Lg	09 28 40.9	
	9.1nm,0.6s							
MDOK	**Medeo**	**5.37**	**294**	*e*P		**Pb**	**09 27 22.2**	**-1.6**
	2.3nm,0.5s							
MDOK				*e*S		**Sb**	**09 28 33.8**	**+5.5**
	4.3nm,0.5s							
MDOK	**Medeo**	**5.37**	**294**	Pg		**Pb**	**09 27 22.2**	**-1.6**
	2.3nm,0.5s							
MDOK				Lg		Lg	09 28 33.8	
	4.3nm,0.5s							
MK31	**Makanchi Array**	**5.75**	**350**	⇑Pg		**Pb**	**09 27 30.6**	**+0.4**
	0.4nm,0.3s,baz=183,slow=13,SNR=4.7							
MK31				Sn		**Sn**	**09 28 23.7**	**+2.3**
	1.3nm,0.3s,baz=179,slow=26,SNR=5.5							
MK31				⇓Lg		Lg	09 28 54.4	
	6.9nm,0.6s,baz=168,slow=29,SNR=3.7							
MAKZ	**Makanchi**	**5.81**	**348**	⇓Sn		**Sn**	**09 28 24.5**	**+1.7**
	1.5nm,0.3s							
MAKZ				⇑Lg		Lg	09 29 00.4	
	4.6nm,0.7s							
KTBS	**Karatobe**	**5.82**	**299**	*e*P		**Pb**	**09 27 33.1**	**+1.6**
	0.9nm,0.2s							
KTBS				*e*S		**Sg**	**09 28 52.8**	**-3.8**
	14nm,0.6s							
KTBS	**Karatobe**	**5.82**	**299**	Pg		**Pb**	**09 27 33.1**	**+1.6**
	0.9nm,0.2s							
KTBS				Lg		Lg	09 28 52.8	
	14nm,0.6s							
KST	**Kastek**	**6.09**	**291**	*e*P		**Pb**	**09 27 37.1**	**+1.0**
	1.4nm,0.3s							
KST				*e*S		**Sg**	**09 28 59.7**	**-5.6**
	15nm,0.6s							
KST	**Kastek**	**6.09**	**291**	Pg		**Pb**	**09 27 37.1**	**+1.0**
	1.4nm,0.3s							
KST				Lg		Lg	09 28 59.7	
	15nm,0.6s							
TKM2	**Tokmak 2**	**6.32**	**289**	⇓Lg		Lg	09 29 12.0	
	7.1nm,0.7s							
KRBS	**Karabastau**	**6.49**	**296**	Pg		Pb	09 27 46.1	+3.2
	0.6nm,0.4s							
KRBS				Lg		Lg	09 29 15.3	
	3.0nm,0.7s							
SGDS	**Sogindy**	**7.14**	**292**	Pg		**Pb**	**09 27 55.2**	**+1.3**
	0.7nm,0.3s							
SGDS				Lg		Lg	09 29 30.1	
	1.2nm,0.7s							
KURBB	**Kurchatov Arra**	**10.15**	**341**	⇑Lg		Lg	09 31 16.4	
	7.7nm,0.9s							
KURK	**Kurchatov**	**10.22**	**341**	⇑Lg		Lg	09 31 16.1	
	3.2nm,0.8s							

*IDC **18** 09:30:09.7 ± 5.8, 20°.90S × 177°.29W, h476km ± 42km, mb3.2/3, mbtmp4.1/5, Error ellipse: s-maj=134.2km s-min=21.5km az=151.0*

ISC 18 09:30:10.9 ± 1.6, 20°.6S ± 0°.3 × 177°.3W ± 0°.2, h500km, n9, σ0ş72/11, mb3.7/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**5.23**	**302**	P		**P**	**09 31 40.3**	**+0.2**
	2.8nm,0.5s,baz=282,slow=23,SNR=4.7							

AFI	**Afiamalu**	**8.49**	**39**	P	**P**	**09 32 12.8**	**+0.2**
	22nm,0.7s,baz=122,slow=18,SNR=1.7						
AFI				S	**S**	**09 33 52.0**	**-0.3**
	19nm,0.5s,baz=316,slow=13,SNR=5.8						
CTA	**Charters Tower**	**34.13**	**264**	P	**P**	**09 36 13.8**	**+0.1**
	2.2nm,0.4s,baz=87,slow=9.8,SNR=8.5						
	2.2nm,0.4s						
ASAR	**Alice Springs**	**45.13**	**257**	P	**P**	**09 37 42.5**	**+0.2**
	1.9nm,0.7s,baz=98,slow=7.7,SNR=29						
ASAR				PcP	**pP**	**09 39 14.4**	**+0.1**
	0.3nm,0.5s,baz=109,slow=3.8,SNR=5.7						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**45.23**	**262**	P	**P**	**09 37 42.5**	**-0.6**
	0.5nm,0.3s,baz=97,slow=7.1,SNR=32						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**136.04**	**344**	PKP	**PKiKP**	**09 48 35.0**	**-1.0**
	0.8nm,0.8s,baz=90,slow=5.6,SNR=1.2						
AKASG	**Malin Array Be**	**143.40**	**332**	PKP	**PKPdf**	**09 48 47.5**	**-0.3**
	0.8nm,0.3s,baz=43,slow=4.4,SNR=8.1						
BRTR	**Keskin Array B**	**147.38**	**313**	PKPbc	**PKiKP**	**09 48 59.9**	**-0.3**
	0.8nm,0.7s,baz=137,slow=3.9,SNR=4.4						
GERES	**GERESS Array B**	**150.46**	**345**	PKPbc	**PKiKP**	**09 49 07.7**	**+1.5**
	0.6nm,0.8s,baz=64,slow=3.1,SNR=4.6						

IDC 18 09:31:12.5 ± 2.4, 2°.07S × 140°.87E, h0km, mb3.3/3, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=94.1km s-min=31.4km az=85.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.87**	**199**	P		P	09 35 34.0	-0.5
	0.1nm,0.3s,baz=20,slow=12,SNR=11							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**22.50**	**197**	P		P	09 36 13.7	-0.2
	0.6nm,0.5s,baz=28,slow=11,SNR=20							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**70.62**	**322**	P		P	09 42 29.9	0.0
	0.2nm,0.4s,baz=109,slow=7.8,SNR=2.3							
	0.2nm,0.4s							
VNDA	**Vanda**	**76.23**	**175**	P		P	09 43 02.9	+0.6
	0.2nm,0.5s,baz=325,slow=3.1,SNR=1.3							
	0.2nm,0.5s							

*IDC **18** 09:35:22.1 ± 2.5, 2°.46N × 95°.73E, h0km, mb3.8/6, mbtmp3.8/7, Error ellipse: s-maj=75.4km s-min=26.9km az=62.0*
*NEIC **18** 09:35:27.9 ± 1.7, 2°.49N ± 0°.06 × 95°.9E ± 0°.2, h29km ± 7km, mb4.1/8, Error ellipse: s-maj=23.2km s-min=5.2km az=71.0*

ISC 18 09:35:26.6 ± 1.0, 2°.53N ± 0°.10 × 95°.8E ± 0°.2, h25km, n28, σ0ş93/22, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**2.16**	**124**	Pn		**Pn**	**09 36 00.6**	**-0.5**
RPSI	**Rantau Prapat**	**3.14**	**87**			**Pn**	**09 36 14.6**	**0.0**
KULM	**Kulim**	**5.57**	**60**			**Pn**	**09 36 47.8**	**-0.2**
IPM	**Ipoh**	**5.58**	**70**			**Pn**	**09 36 48.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.13**	**11**	Pn		**Pn**	**09 39 12.2**	**+0.3**
	1.3nm,0.5s,baz=197,slow=11,SNR=5.9							
H08S2	**Diego Garcia H**	**25.34**	**246**	T		T	10 07 04.0	
	baz=66,slow=75,SNR=109							
H08S3	**Diego Garcia H**	**25.34**	**246**	T		T	10 07 04.1	
	baz=66,slow=75,SNR=191							
H08S1	**Diego Carcia H**	**25.36**	**246**	T		T	10 07 05.3	
	baz=66,slow=75,SNR=34							
GIRL	**Giralia**	**30.82**	**145**	P		**P**	**09 41 40.7**	**-0.1**
H01W3	**Cape Leeuwin H**	**41.01**	**157**	T		T	10 26 44.1	
	baz=332,slow=76,SNR=19							
H01W2	**Cape Leeuwin H**	**41.02**	**157**	T		T	10 26 45.0	
	baz=332,slow=76,SNR=30							
H01W1	**Cape Leeuwin H**	**41.02**	**157**	T		T	10 26 44.5	
	baz=332,slow=76,SNR=26							
WB0	**Warramunga Arr**	**43.90**	**122**	P		**P**	**09 43 31.3**	**-0.4**
WB0				IAmb		IAmb	09 43 39.7	
	comp=Z,3.1nm,0.7s							
WRA	**Warramunga Arr**	**43.93**	**122**	P		**P**	**09 43 34.7**	**+2.8**
WB2	**Warramunga Arr**	**43.94**	**122**	P		**P**	**09 43 34.2**	**+2.2**
WR0	**Warramunga Arr**	**44.11**	**122**	P		**P**	**09 43 32.7**	**-0.6**
WR0				IAmb		IAmb	09 44 01.5	
	comp=Z,7.4nm,1.4s							
ASAR	**Alice Springs**	**45.32**	**127**	P		**P**	**09 43 42.2**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=304,slow=8.4,SNR=7.4							
	comp=Z,0.2nm,0.6s							
KSRS	**Korea Array**	**45.59**	**36**	P		**P**	**09 43 44.5**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=237,slow=9.8,SNR=2.4							
	comp=Z,0.7nm,0.7s							
MK31	**Makanchi Array**	**45.63**	**347**	P		**P**	**09 43 44.7**	**-0.3**
MKAR	**Makanchi Array**	**45.63**	**347**	P		**P**	**09 43 45.0**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=162,slow=8.0,SNR=10							
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**45.63**	**347**	P		**P**	**09 43 44.9**	**-0.1**
SONM	**Songino Array**	**46.05**	**10**	P		**P**	**09 43 47.5**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=185,slow=8.7,SNR=7.0							
	comp=Z,0.9nm,0.6s							
SONM	**Songino Array**	**46.05**	**10**	P		**P**	**09 43 48.0**	**-0.5**
SONM				IAmb		IAmb	09 43 55.4	
	comp=Z,1.9nm,0.9s							
ZALV	**Zalesovo Beam**	**52.04**	**352**	P		**P**	**09 44 33.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=178,slow=6.8,SNR=5.3							
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**52.04**	**352**	P		**P**	**09 44 34.3**	**+0.2**
STKA	**Stephens Creek**	**55.29**	**132**	P		**P**	**09 44 58.6**	**+0.3**
STKA				IAmb		IAmb	09 45 11.4	
	comp=Z,1.5nm,1.1s							
ABKAR	**Akbulak array**	**55.69**	**332**	P		**P**	**09 45 01.4**	**+0.6**
KLR	**Kul'dur**	**55.73**	**28**	P		**P**	**09 45 01.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=254,slow=7.8,SNR=4.0							
	comp=Z,0.7nm,0.5s							

*IDC **18** 09:51:50.6 ± 1.8, 9°.35S × 125°.25E, h0km, mb3.6/1, mbtmp3.7/4, ML3.7/3, MS2.8/1, Error ellipse: s-maj=99.6km s-min=27.3km az=66.0*
*DJA **18** 09:51:55.0 ± 0.7, 10°.S ± 4'.× 12°.5E ± °, h10km ± 7km, M4.2/8, mb4.3/7, MLv4.1/8*

ISC 18 09:51:55.7 ± 1.0, 9°.76S ± 0°.08 × 124°.82E ± 0°.09, h35km, n13, σ1ş65/17, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MMRI	**Maumere**	**2.78**	**293**	P		**Pn**	**09 52 38.7**	**+0.9**
MMRI				S		**Sn**	**09 53 09.0**	**-1.1**
EDFI	**Ende, Flores**	**3.25**	**288**	P		**Pn**	**09 52 44.6**	**+0.4**
EDFI				S		**Sn**	**09 53 20.4**	**-1.4**
BASI	**Baing, Sumba**	**4.20**	**263**	P		**Pn**	**09 52 57.2**	**-0.1**
BSSI	**Bau Bau, Buton**	**5.59**	**310**	P		**Pn**	**09 53 17.1**	**+0.7**
	0.1nm12nm,0.8s							
KAPI	**Kappang**	**6.89**	**313**	LR		LR	09 56 32.7	
	comp=Z,72nm,19.8s,baz=214,slow=41							
PLAI	**Plampang**	**7.01**	**277**	P		**Pn**	**09 53 36.3**	**+0.4**
	0.1nm24nm,0.8s							
SANI	**Sana**	**7.75**	**9**	P		**Pn**	**09 53 47.0**	**+1.0**
	0.1nm15nm,0.6s							
TWSI	**Taliwang, Sumb**	**7.90**	**277**	P		**Pn**	**09 53 47.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**8.33**	**175**	Pn		**Pn**	**09 53 56.8**	**+2.7**
	1.1nm,0.3s,baz=6.5,slow=9.8,SNR=36							
FITZ				Sn		**Sn**	**09 55 27.1**	**+0.2**
	2.5nm,0.3s,baz=142,slow=6.9,SNR=11							
	2.3nm,0.3s							
LUWI	**Luwuk**	**8.89**	**347**	P		**Pn**	**09 54 02.4**	**+0.6**
WRA	**Warramunga Arr**	**13.68**	**139**	Pn		**Pn**	**09 55 07.8**	**+0.6**
	0.3nm,0.3s,baz=320,slow=14,SNR=31							
WRA				Sn		**Sn**	**09 57 33.3**	**-4.7**
	0.6nm,0.3s,baz=308,slow=23,SNR=7.9							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**16.33**	**149**	Pn		**Pn**	**09 55 43.2**	**+0.8**
	0.2nm,0.3s,baz=321,slow=12,SNR=28							
ASAR				Sn		**Sn**	**09 58 42.0**	**-0.6**
	0.2nm,0.3s,baz=313,slow=21,SNR=5.7							
	1.1nm,0.7s							
MKAR	**Makanchi Array**	**67.87**	**330**	P		**P**	**10 02 50.0**	**-0.5**
	0.4nm,0.6s,baz=122,slow=7.1,SNR=5.7							
	0.4nm,0.6s							

IDC 18 10:05:43.4 ± 7.2, 10°.50N × 93°.42E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=388.4km s-min=30.8km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.39**	**347**	P		P	10 12 57.9	-0.2
	0.4nm,0.7s,baz=164,slow=7.5,SNR=3.0							
	0.4nm,0.7s							

WRA	**Warramunga Arr**	**50.37**	**127**	P		P	10 14 41.9	-0.9
	0.5nm,0.7s,baz=304,slow=9.0,SNR=6.7							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**52.15**	**131**	P		P	10 14 56.8	+0.7
	0.3nm,0.6s,baz=311,slow=7.6,SNR=8.2							
	0.3nm,0.6s							

*MOS **18** 10:24:01.6 ± 1.3, 49°.36N × 156°.12E, h65km, mb4.0/4, Error ellipse: s-maj=14.4km s-min=4.5km az=73.4*
*KRSC **18** 10:24:02.0 ± 2.1, 49°.43N × 156°.82E, h40km ± 28km, ML4.8*
*IDC **18** 10:24:05.4 ± 3.2, 49°.62N × 155°.67E, h77km ± 29km, mb3.3/11, mbtmp3.6/15, MS2.6/1, Error ellipse: s-maj=25.1km s-min=14.6km az=141.0*

ISC 18 10:24:02.4 ± 0.6, 49°.37N ± 0°.07 × 156°.22E ± 0°.07, h50km, n74, σ1ş56/87, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.31**	**357**	*e*P		**Pn**	**10 24 23.6**	**-0.8**
SKR				*e*S		**Sn**	**10 24 38.9**	**-1.9**
SKR				pmax		pmax		
	comp=Z,110nm,0.9s							
SKR				smax		smax		
	comp=E,2μm,0.4s							
SKR				smax		smax		
	comp=N,2μm,0.2s							
SKR	**Severo-Kuril's**	**1.31**	**357**	*e*P		**Pn**	**10 24 23.6**	**-0.8**
SKR				*e*S		**Sn**	**10 24 38.9**	**-1.9**
PAU	**Pauzhetka**	**2.13**	**10**	PN		**Pn**	**10 24 36.0**	**+0.5**
PAU				S		**Sn**	**10 25 00.2**	**-0.6**
PAU	**Pauzhetka**	**2.13**	**10**	*e*P		**Pn**	**10 24 36.0**	**+0.5**
PAU				*e*S		**Sn**	**10 25 00.2**	**-0.6**
KDTR	**Khodutka, Kamc**	**2.71**	**25**	*e*S		**Sn**	**10 25 14.0**	**-1.0**
MTVR	**Mutnovka**	**3.35**	**21**	PN		**Pn**	**10 24 53.9**	**+1.5**
MTVR				S		**Sn**	**10 25 31.4**	**+0.4**
MTVR	**Mutnovka**	**3.35**	**21**	*e*P		**Pn**	**10 24 53.9**	**+1.5**
MTVR				*e*S		**Sn**	**10 25 31.4**	**+0.4**
RUS	**Russkaya**	**3.39**	**24**	PN		**Pn**	**10 24 53.2**	**+0.4**
RUS				S		**Sn**	**10 25 30.5**	**-1.2**
RUS	**Russkaya**	**3.39**	**24**	*e*P		**Pn**	**10 24 53.2**	**+0.4**
RUS				*e*S		**Sn**	**10 25 30.5**	**-1.2**
GRL	**Gorelyy**	**3.39**	**19**	PN		**Pn**	**10 24 54.6**	**+1.7**
GRL				S		**Sn**	**10 25 32.4**	**+0.4**
GRL	**Gorelyy**	**3.39**	**19**	*e*P		**Pn**	**10 24 54.6**	**+1.7**
GRL				*e*S		**Sn**	**10 25 32.4**	**+0.4**
APC	**Apacha**	**3.61**	**9**	PN		**Pn**	**10 24 57.9**	**+2.2**
APC	**Apacha**	**3.61**	**9**	*e*P		**Pn**	**10 24 57.9**	**+2.2**
PEA0B	**Petropavlovsk-**	**3.86**	**13**	*i* PN		**Pn**	**10 25 00.9**	**+1.7**
PETK	**Petropavlovsk-**	**3.86**	**13**	P		**Pn**	**10 25 00.1**	**+1.0**
	comp=N,9.7nm,0.5s,baz=192,slow=14,SNR=33							
PETK				LR		LR	10 26 25.1	
	comp=N,78nm,20.5s,baz=129,slow=38							
PET	**Petropavlovsk**	**3.96**	**22**	*e*PN		**Pn**	**10 25 01.9**	**+1.3**
PET				*e*S		**Sn**	**10 25 46.5**	**+0.7**
PET				smax		smax		
	comp=N,416μm,0.5s							
PET	**Petropavlovsk**	**3.96**	**22**	*e*P		**Pn**	**10 25 01.3**	**+0.7**
PET				*e*S		**Sn**	**10 25 46.2**	**+0.4**
DALK	**Dalny**	**4.00**	**23**	PN		**Pn**	**10 25 02.3**	**+1.3**
DALK				S		**Sn**	**10 25 46.5**	**0.0**
DALK	**Dalny**	**4.00**	**23**	*e*P		**Pn**	**10 25 02.3**	**+1.3**
DALK				*e*S		**Sn**	**10 25 46.5**	**0.0**
AVH	**Avacha**	**4.21**	**21**	PN		**Pn**	**10 25 06.8**	**+2.8**
AVH	**Avacha**	**4.21**	**21**	*e*P		**Pn**	**10 25 06.8**	**+2.8**
KOK	**Koryaka**	**4.21**	**20**	PN		**Pn**	**10 25 06.9**	**+2.8**
KOK	**Koryaka**	**4.21**	**20**	P		**Pn**	**10 25 06.9**	**+2.8**
SMAR	**Somma**	**4.22**	**22**	PN		**Pn**	**10 25 07.1**	**+2.8**
SMAR	**Somma**	**4.22**	**22**	P		**Pn**	**10 25 07.1**	**+2.8**
KRER	**Koryakskii**	**4.25**	**21**	PN		**Pn**	**10 25 06.8**	**+2.1**
KRER	**Koryakskii**	**4.25**	**21**	*e*P		**Pn**	**10 25 06.8**	**+2.1**
KRX	**Arik**	**4.27**	**20**	PN		**Pn**	**10 25 06.8**	**+1.8**
KRX	**Arik**	**4.27**	**20**	P		**Pn**	**10 25 06.8**	**+1.8**
SPN	**Mys Shipunski**	**4.43**	**31**	PN		**Pn**	**10 25 07.8**	**+0.8**
SPN				S		**Sn**	**10 25 57.3**	**0.0**
SPN	**Mys Shipunski**	**4.43**	**31**	P		**Pn**	**10 25 07.8**	**+0.8**
SPN				S		**Sn**	**10 25 57.3**	**0.0**
GNL	**Ganaly**	**4.46**	**13**	PN		**Pn**	**10 25 10.1**	**+2.5**
GNL	**Ganaly**	**4.46**	**13**	*e*P		**Pn**	**10 25 10.1**	**+2.5**
MKZ	**Mys Kozlova**	**6.21**	**31**	PN		**Pn**	**10 25 30.9**	**-0.4**
MKZ	**Mys Kozlova**	**6.21**	**31**	*e*P		**Pn**	**10 25 30.9**	**-0.4**
KUR	**Kuril'sk**	**7.03**	**237**	PN		**Pn**	**10 25 42.9**	**+0.3**
KUR				S		**Sn**	**10 27 04.2**	**+3.1**
KUR				pmax		pmax		
	comp=Z,48nm,0.7s							
KUR				pmax		pmax		
	comp=N,29nm,0.6s							
KUR				smax		smax		
	comp=N,38nm,0.5s							
**KBTR

comp=Z,0.9nm,0.8s
ASAR Alice Springs 75.38 201 P **P** **10 35 41.4 +0.8**
comp=Z,0.3nm,0.7s,baz=15,slow=5.6,SNR=6.1
ASAR pP **pwP** **10 35 56.6 -0.3**
comp=Z,0.5nm,0.5s,baz=14,slow=5.0,SNR=11
comp=Z,0.3nm,0.7s
CPUP Villa Florida 145.36 61 PKPbc **PKPbc** **10 43 34.5 +0.1**
comp=Z,2.1nm,1.2s,baz=308,slow=6.9,SNR=2.9
PLCA Paso Flores 146.32 93 PKPbc **PKPbc** **10 43 37.1 0.0**
comp=Z,1.9nm,1.0s,baz=300,slow=5.7,SNR=3.9

ROM 18 10:25:27.9±0.0, 42°801N±0°004×13°210E±0°004, h10km, ML1.4/4, 3C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=10.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**352**	P	Pg	10 25 30.1	+0.1
T1242				S	Sg	10 25 31.2	-0.3
T1242				AML	AML		
	comp=E,1246μm,0.3s						
T1242				AML	AML		
	comp=N,2775μm,0.1s						
T1242				AML	AML		
	comp=E,1246μm,0.3s						
T1242				AML	AML		
	comp=E,1240μm,0.3s						
T1242				AML	AML		
	comp=N,2680μm,0.1s						
NRCA	**Norcia**	**0.08**	**295**	⇑P	Pg	10 25 30.6	+0.3
NRCA				S	Sg	10 25 32.2	+0.1
NRCA				AML	AML		
	comp=E,1620μm,0.1s						
NRCA				AML	AML		
	comp=E,1795μm,0.1s						
NRCA				AML	AML		
	comp=E,1615μm,0.1s						
NRCA				AML	AML		
	comp=N,1640μm,0.2s						
NRCA				AML	AML		
	comp=N,1850μm,0.2s						
NRCA				AML	AML		
	comp=E,1800μm,0.1s						
T1202	**Accumoli, Fraz**	**0.10**	**173**	⇑P	Pg	10 25 31.1	+0.5
T1202				S	Sg	10 25 33.1	+0.6
T1202				AML	AML		
	comp=N,955μm,0.8s						
T1202				AML	AML		
	comp=E,396μm,0.8s						
MC2	**Monte Cornacci**	**0.11**	**353**	P	Pg	10 25 31.3	+0.4
MC2				S	Sg	10 25 33.8	+0.8
MMO1	**Montemonaco**	**0.13**	**41**	P	Pg	10 25 31.5	+0.5
MMO1				S	Sg	10 25 34.0	+0.7
T1216	**Preci, Frazion**	**0.17**	**303**	AML	AML		
	comp=E,210μm,1.1s						
T1216				AML	AML		
	comp=N,366μm,0.3s						
T1241	**Roccafluvione,**	**0.17**	**71**	P	Pg	10 25 32.2	+0.6
T1241				S	Sg	10 25 35.3	+1.0
T1241				AML	AML		
	comp=E,142μm,0.3s						
T1241				AML	AML		
	comp=N,70μm,0.6s						
T1217	**Poggiodomo (PG**	**0.22**	**247**	P	Pb	10 25 33.4	-0.7
T1217				S	Sg	10 25 37.0	+1.3
T1217				AML	AML		
	comp=E,76μm,1.6s						
T1217				AML	AML		
	comp=N,117μm,1.6s						
LNSS	**Leonessa**	**0.23**	**212**	P	Pb	10 25 33.5	-0.7
LNSS				S	Sg	10 25 37.5	+1.5
LNSS				AML	AML		
	comp=E,198μm,0.3s						
LNSS				AML	AML		
	comp=N,159μm,0.3s						
T1215	**Vallo di Nera,**	**0.25**	**270**	P	Pg	10 25 33.6	+0.6
T1215				S	Sb	10 25 37.8	-1.2
CSP1	**Cessapalombo**	**0.29**	**359**	⇓P	Pb	10 25 34.5	-0.7
RM33	**Pellescritta (**	**0.29**	**179**	P	Pg	10 25 34.4	+0.6
RM33				S	Sb	10 25 39.2	-1.0
TERO	**Teramo**	**0.34**	**121**	P	Pg	10 25 34.9	+0.3
TERO				S	Sb	10 25 40.5	-1.1
OFFI	**Offida**	**0.38**	**69**	P	Pb	10 25 37.0	+0.4
COR1	**Corinaldo**	**0.84**	**350**	⇑P	Pg	10 25 40.7	-3.5
LPEL	**Lama dei Pelig**	**1.04**	**136**	S	Sg	10 25 60.0	-1.5
LAV9	**Lanuvio**	**1.19**	**199**	S	Sb	10 26 05.0	-0.8

*ATH **18** 10:26:45.7, 41°33N×23°37E, h20km±1km, ML3.5/14, Error ellipse: s-maj=1.8km s-min=0.8km az=171.0*
*SOF **18** 10:26:45.2, 41°30N×23°33E, h13km, MD4.0*
*IDC **18** 10:26:46.8±1.0, 41°36N×23°48E, h0km, mb3.3/6, mbtmp3.4/11, ML3.4/6, MS2.8/5, Error ellipse: s-maj=14.6km s-min=13.1km az=53.0*
*BEO **18** 10:26:46.6±0.3, 41°31N×23°33E, h8km±2km, ML3.9/15*
*PDG **18** 10:26:46.3±0.4, 41°33N×23°37E, h12km, ML3.4/10, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*ISK **18** 10:26:46.1, 41°31N×23°28E, h21km, ML4.0/37*
*THE **18** 10:26:46.7, 41°31N×23°37E, h5km, ML3.5/13, Error ellipse: s-maj=1.1km s-min=0.5km az=168.0*
*SKO **18** 10:26:47.4, 41°33N×23°33E, h0km*
*DDA **18** 10:26:48.0±0.0, 41°34N×23°49E, h15km, MW3.8*
ISC 18 10:26:46.6±1.0, 41°33N±0°02×23°35E±0°01, h3km±8km, n263, σ1§14/343, mb3.3/4, 37C-34D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRS	**Serrai**	**0.28**	**140**	P	**Pg**	**10 26 52.1**	**+0.1**
SRS				S	**Sg**	**10 26 56.0**	**+0.4**
	13μm,0.3s						
SRS	**Serrai**	**0.28**	**140**	*e*Pg	**Pg**	**10 26 52.1**	**+0.1**
SRS				*e*Sg	**Sg**	**10 26 56.4**	**+0.8**
SRS	**Serrai**	**0.28**	**140**	⇑*i*Pg	**Pg**	**10 26 52.2**	**+0.2**
SRS				*i* Sg	**Sg**	**10 26 56.5**	**+0.9**
SRS	**Serrai**	**0.28**	**140**	P	**Pg**	**10 26 52.0**	**+0.1**
SRS				S	**Sg**	**10 26 55.9**	**+0.2**
SRS				AML	AML	10 26 56.5	
	comp=E,21907μm,0.3s						
SRS				AML	AML	10 26 58.5	
	comp=N,31766μm,0.4s						
MMB	**Musomiste**	**0.38**	**48**	*i* P	**Pg**	**10 26 53.3**	**-0.6**
KNT	**Kendrikon**	**0.38**	**244**	P	**Pg**	**10 26 53.8**	**-0.1**
KNT				S	**Sg**	**10 26 59.0**	**0.0**
	comp=N,25μm,0.3s						
KNT	**Kendrikon**	**0.38**	**244**	PG	**Pg**	**10 26 53.9**	**0.0**
KNT				SG	**Sg**	**10 26 58.9**	**0.0**
KNT	**Kendrikon**	**0.38**	**244**	⇑*i*Pg	**Pg**	**10 26 53.6**	**-0.3**
KNT				*i* Sg	**Sg**	**10 26 59.0**	**0.0**
KNT	**Kendrikon**	**0.38**	**244**	P	**Pg**	**10 26 53.8**	**-0.1**
KNT				S	**Sg**	**10 26 58.9**	**0.0**
NVR	**Nevrokopi**	**0.38**	**87**	P	**Pg**	**10 26 54.0**	**0.0**
NVR				S	**Sg**	**10 26 59.5**	**+0.5**
	comp=N,7μm,0.4s						
NVR	**Nevrokopi**	**0.38**	**87**	P	**Pg**	**10 26 53.8**	**-0.1**
NVR				S	**Sg**	**10 26 59.4**	**+0.5**
NVR				AML	AML	10 27 00.1	
	comp=N,17321μm,0.5s						
NVR				AML	AML	10 27 01.9	
	comp=E,11121μm,0.3s						
SOH	**Sokhos**	**0.51**	**180**	P	**Pg**	**10 26 56.5**	**+0.1**
SOH				S	**Sg**	**10 27 03.4**	**+0.4**
	comp=E,12μm,0.3s						
SOH	**Sokhos**	**0.51**	**180**	⇑*i*Pg	**Pg**	**10 26 56.5**	**+0.1**
SOH				*i* Sg	**Sb**	**10 27 03.9**	**-2.1**
SOH	**Sokhos**	**0.51**	**180**	P	**Pg**	**10 26 56.4**	**0.0**
SOH				S	**Sg**	**10 27 03.6**	**+0.7**
SOH				AML	AML	10 27 04.6	
	comp=N,35883μm,0.3s						
SOH				AML	AML	10 27 05.4	
	comp=E,22970μm,0.2s						
KKB	**Krupnik**	**0.57**	**339**	*i* P	**Pg**	**10 26 56.6**	**-0.9**
VAY	**Valandovo**	**0.59**	**269**	⇓*i*Pg	**Pg**	**10 26 57.4**	**-0.5**
VAY				*i* Sg	**Sg**	**10 27 06.0**	**+0.5**
VAY				*e*Lg	Lg	10 27 06.4	
	comp=N,2μm,0.2s						
KOKK	**Kokkinochori,**	**0.71**	**136**	P	**Pg**	**10 26 59.9**	**-0.3**
KOKK				S	**Sg**	**10 27 09.2**	**-0.1**
	comp=N,2μm,0.4s						
KOKK	**Kokkinochori,**	**0.71**	**136**	P	**Pg**	**10 26 59.8**	**-0.4**
KOKK				S	**Sg**	**10 27 09.3**	**-0.1**
HORT	**Hortiatis**	**0.76**	**195**	P	**Pg**	**10 27 01.0**	**-0.1**
HORT				S	**Sg**	**10 27 11.3**	**+0.4**
	comp=N,5μm,0.4s						
HORT	**Hortiatis**	**0.76**	**195**	PG	**Pg**	**10 27 01.1**	**-0.1**
HORT				SG	**Sb**	**10 27 11.5**	**-1.7**
HORT	**Hortiatis**	**0.76**	**195**	P	**Pg**	**10 27 01.1**	**-0.1**
HORT				S	**Sg**	**10 27 10.7**	**-0.3**
HORT				AML	AML	10 27 12.4	
	comp=N,10359μm,0.4s						
HORT				AML	AML	10 27 12.8	
	comp=E,7679μm,0.4s						
THE	**Thessaloniki**	**0.76**	**203**	P	**Pg**	**10 27 01.0**	**-0.1**
THE				S	**Sb**	**10 27 11.5**	**-1.6**
	comp=E,5μm,0.2s						
THE	**Thessaloniki**	**0.76**	**203**	⇑*i*Pg	**Pg**	**10 27 01.1**	**0.0**
THE				*i* Sg	**Sb**	**10 27 11.8**	**-1.3**
THE	**Thessaloniki**	**0.76**	**203**	P	**Pg**	**10 27 00.9**	**-0.1**
THE				S	**Sg**	**10 27 11.3**	**+0.4**
THE				AML	AML	10 27 12.2	
	comp=E,5848μm,0.2s						
THE				AML	AML	10 27 12.3	
	comp=N,13261μm,0.3s						
GRG	**Griva**	**0.81**	**243**	P	**Pg**	**10 27 01.7**	**-0.5**
GRG				S	**Sg**	**10 27 12.8**	**+0.2**
GRG	**Griva**	**0.81**	**243**	PG	**Pg**	**10 27 01.6**	**-0.5**
GRG	**Griva**	**0.81**	**243**	P	**Pg**	**10 27 01.6**	**-0.5**
GRG				S	**Sg**	**10 27 12.9**	**+0.2**
GRG				AML	AML	10 27 14.8	
	comp=E,12988μm,0.4s						
GRG				AML	AML	10 27 15.3	
	comp=N,15044μm,0.5s						
KVLA	**Kavala**	**0.88**	**117**	P	**Pg**	**10 27 02.3**	**-1.1**
KVLA				S	**Sg**	**10 27 14.6**	**-0.1**
KVLA				AML	AML	10 27 16.0	
	comp=E,5524μm,0.3s						
KVLA				AML	AML	10 27 19.9	
	comp=N,7780μm,0.3s						
KAVA	**Kavala**	**0.94**	**111**	P	**Pg**	**10 27 03.6**	**-0.9**
KAVA				S	**Sg**	**10 27 16.5**	**-0.2**
	comp=N,6μm,0.4s						
KAVA	**Kavala**	**0.94**	**111**	P	**Pg**	**10 27 03.0**	**-1.6**
KAVA				S	**Sg**	**10 27 16.7**	**0.0**
RZN	**Rozhen**	**1.08**	**70**	*i* P	**Pg**	**10 27 07.0**	**-0.3**
OUR	**Ouranopolis**	**1.11**	**154**	P	**Pb**	**10 27 07.7**	**-0.6**
OUR				S	**Sb**	**10 27 22.0**	**-1.1**
OUR	**Ouranopolis**	**1.11**	**154**	PN	**Pg**	**10 27 07.5**	**-0.2**
OUR	**Ouranopolis**	**1.11**	**154**	P	**Pg**	**10 27 07.4**	**-0.4**
OUR				S	**Sg**	**10 27 21.5**	**-0.5**
THAS	**Thassos island**	**1.26**	**125**	P	**Pg**	**10 27 09.6**	**-1.2**
THAS				S	**Sn**	**10 27 27.3**	**-1.2**
	comp=N,4μm,0.3s						
THAS	**Thassos island**	**1.26**	**125**	P	**Pg**	**10 27 09.4**	**-1.4**
THAS				S	**Sg**	**10 27 25.5**	**-1.7**
THAS				AML	AML	10 27 28.2	
	comp=N,6631μm,0.3s						
THAS				AML	AML	10 27 29.8	
	comp=E,9476μm,0.4s						
PLD	**Plovdiv**	**1.27**	**52**	PN	**Pn**	**10 27 10.5**	**-0.7**
PLD	**Plovdiv**	**1.27**	**52**	*e*Pg	**Pn**	**10 27 10.7**	**-0.5**
PLD				*e*Sg	**Sn**	**10 27 28.8**	**0.0**
PLD	**Plovdiv**	**1.27**	**52**	P	**Pn**	**10 27 10.6**	**-0.7**
PLD				*i* Sg	**Sn**	**10 27 30.6**	**+1.8**
PLD	**Plovdiv**	**1.27**	**52**	*i* P	**Pn**	**10 27 10.5**	**-0.7**
VTS	**Vitosha**	**1.29**	**356**	⇓P	**Pn**	**10 27 10.3**	**-1.3**
VTS				⇓S	**Sg**	**10 27 27.5**	**-0.4**
VTS	**Vitosha**	**1.29**	**356**	*e*Pg	**Pn**	**10 27 10.9**	**-0.7**
VTS				*e*Sg	**Sg**	**10 27 27.8**	**-0.2**
VTS	**Vitosha**	**1.29**	**356**	⇑*i*Pg	**Pn**	**10 27 10.1**	**-1.5**
VTS				*i* Sg	**Sg**	**10 27 27.1**	**-0.9**
VTS	**Vitosha**	**1.29**	**356**	*i* P	**Pn**	**10 27 10.0**	**-1.6**
BOSS	**Bosilegrad**	**1.33**	**331**	*e*Pg	**Pn**	**10 27 12.4**	**+0.3**
BOSS				*e*Sg	**Sg**	**10 27 30.5**	**+1.1**
PGB	**Panagyurishte**	**1.36**	**26**	*i* P	**Pn**	**10 27 11.1**	**-1.4**
LIT	**Litokhoron**	**1.40**	**208**	P	**Pn**	**10 27 12.1**	**-0.8**
LIT				S	**Sb**	**10 27 30.3**	**-1.1**
LIT	**Litokhoron**	**1.40**	**208**	P	**Pn**	**10 27 12.6**	**-0.3**
PAIG	**Paliouri**	**1.43**	**170**	P	**Pn**	**10 27 12.3**	**-1.0**
PAIG				S	**Sb**	**10 27 30.9**	**-1.4**
	comp=E,1μm,0.5s						
PAIG	**Paliouri**	**1.43**	**170**	P	**Pn**	**10 27 12.3**	**-1.0**
PAIG				AML	AML	10 27 37.0	
	comp=E,2287μm,0.5s						
PAIG				AML	AML	10 27 37.6	
	comp=N,2045μm,0.6s						
SKO	**Skopje**	**1.57**	**295**	*i* Pn	**Pn**	**10 27 14.9**	**-0.4**
KZN	**Kozani**	**1.58**	**230**	P	**Pn**	**10 27 15.1**	**-0.4**
KZN				S	**Sb**	**10 27 36.7**	**-0.1**
	comp=N,1μm,0.6s						
KZN	**Kozani**	**1.58**	**230**	P	**Pn**	**10 27 15.0**	**-0.4**
KZN				AML	AML	10 27 39.6	
	comp=N,1880μm,0.6s						
KZN				AML	AML	10 27 43.6	
	comp=E,2941μm,0.5s						
KDZ	**Kurdzhali**	**1.58**	**78**	PN	**Pn**	**10 27 14.0**	**-1.5**
KDZ	**Kurdzhali**	**1.58**	**78**	*i* P	**Pn**	**10 27 14.7**	**-0.8**
RDO	**Rodhopi**	**1.66**	**96**	P	**Pn**	**10 27 15.8**	**-0.7**
RDO				S	**Sn**	**10 27 37.2**	**-1.1**
	comp=E,2μm,0.4s						
RDO	**Rodhopi**	**1.66**	**96**	PN	**Pn**	**10 27 15.9**	**-0.6**
RDO	**Rodhopi**	**1.66**	**96**	P	**Pn**	**10 27 15.7**	**-0.7**
DIM	**Dimitrovgrad**	**1.78**	**66**	*i* P	**Pb**	**10 27 19.8**	**-0.1**
SMTH	**Samothraki Isl**	**1.86**	**117**	P	**Pn**	**10 27 18.2**	**-1.1**
SMTH	**Samothraki Isl**	**1.86**	**117**	P	**Pn**	**10 27 17.9**	**-1.5**
SMTH				AML	AML	10 27 47.1	
	comp=N,706μm,0.5s						
SMTH				AML	AML	10 27 51.7	
	comp=E,739μm,0.4s						
BARS	**Barje**	**1.87**	**323**	*e*Pn	**Pn**	**10 27 19.0**	**-0.5**
OHR	**Ohrid**	**1.94**	**264**	*i* Pn	**Pn**	**10 27 20.6**	**+0.2**
XOR	**Xorichti**	**1.97**	**184**	P	**Pn**	**10 27 20.2**	**-0.6**
XOR	**Xorichti**	**1.97**	**184**	P	**Pn**	**10 27 20.0**	**-0.9**
LIA	**Limnos Island**	**2.00**	**135**	P	**Pn**	**10 27 20.1**	**-1.1**
LIA	**Limnos Island**	**2.00**	**135**	P	**Pn**	**10 27 19.9**	**-1.3**
LIA				AML	AML	10 27 55.0	
	comp=N,1766μm,0.4s						
LIA				AML	AML	10 28 00.8	
	comp=E,2360μm,0.6s						
ZAPS	**Zavoj**	**2.01**	**345**	*e*Pn	**Pn**	**10 27 21.8**	**+0.4**
ZAPS				*e*Sg	**Sb**	**10 27 50.0**	**+0.7**
NEO	**Neokhori**	**2.03**	**183**	P	**Pn**	**10 27 20.9**	**-0.7**
NEO	**Neokhori**	**2.03**	**183**	P	**Pn**	**10 27 20.8**	**-0.8**
NEO				AML	AML	10 27 46.6	
	comp=E,928μm,0.5s						
NEO				AML	AML	10 27 52.1	
	comp=N,1043μm,0.7s						
THL	**Klokotos Trika**	**2.04**	**210**	P	**Pn**	**10 27 21.7**	**-0.1**
THL				S	**Sn**	**10 27 47.6**	**-0.1**
	comp=N,502nm,0.8s						
THL	**Klokotos Trika**	**2.04**	**210**	P	**Pn**	**10 27 21.4**	**-0.4**
THL				AML	AML	10 27 51.5	
	comp=N,712μm,0.8s						
THL				AML	AML	10 27 52.0	
	comp=E,1300μm,0.9s						
ALN	**Alexandroupoli**	**2.08**	**101**	P	**Pn**	**10 27 21.7**	**-0.6**
ALN	**Alexandroupoli**	**2.08**	**101**	PN	**Pn**	**10 27 21.7**	**-0.6**
ALN	**Alexandroupoli**	**2.08**	**101**	P	**Pn**	**10 27 21.6**	**-0.6**
ENEZ	**Enez**	**2.20**	**105**	PN	**Pn**	**10 27 23.5**	**-0.5**
CAVK	**Edirne/Enez-Ca**	**2.22**	**106**	P	**Pn**	**10 27 24.0**	**-0.3**
GADA	**Gvkgeada**	**2.25**	**120**	PN	**Pn**	**10 27 23.8**	**-0.8**
GOKA	**anakkale-Gk**	**2.25**	**120**	P	**Pn**	**10 27 24.5**	**-0.2**
GOKA				S	**Sb**	**10 27 55.9**	**-0.1**
BLKB	**Belogradchik**	**2.34**	**348**	⇑P	**Pn**	**10 27 25.5**	**-0.5**
BLKB				⇑S	**Sn**	**10 27 55.7**	**+0.5**
UKOP	**Uzunkopru-Edir**	**2.48**	**94**	PN	**Pn**	**10 27 27.7**	**-0.1**
SELS	**Selova**	**2.51**	**319**	*e*Pn	**Pn**	**10 27 27.1**	**-1.2**
SELS				*e*Sg	**Sg**	**10 28 06.4**	**-0.8**
BOZC	**Bozcaada**	**2.54**	**125**	PN	**Pn**	**10 27 27.6**	**-1.0**
BOZC	**Bozcaada**	**2.54**	**125**	P	**Pn**	**10 27 27.9**	**-0.8**
GELI	**Tayfur-Gelibol**	**2.54**	**111**	PN	**Pn**	**10 27 27.8**	**-0.9**
KESN	**Edirne-Kesan**	**2.56**	**100**	P	**Pn**	**10 27 28.6**	**-0.8**
EDRB	**Edirne**	**2.59**	**77**	P	**Pn**	**10 27 29.4**	**0.0**
EDRB	**Edirne**	**2.59**	**77**	PN	**Pn**	**10 27 29.2**	**-0.2**
EDRB	**Edirne**	**2.59**	**77**	P	**Pn**	**10 27 28.9**	**-0.5**
EDRB				S	**Sb**	**10 28 04.7**	**-1.3**
BOVS	**Bovan**	**2.60**	**333**	⇑S	**Sn**	**10 27 60.0**	**-1.6**
BOVS	**Bovan**	**2.60**	**333**	*e*Pn	**Pn**	**10 27 28.9**	**-0.6**
BOVS				*e*Sg	**Sb**	**10 28 08.1**	**+1.9**
BOVS	**Bovan**	**2.60**	**333**	⇑P	**Pn**	**10 27 28.7**	**-0.8**
ZAGS	**Zajecar**	**2.61**	**342**	*e*Pn	**Pn**	**10 27 28.8**	**-0.9**
ZAGS				*e*Sg	**Sb**	**10 28 07.7**	**+1.2**
TIR	**Tirane**	**2.63**	**271**	⇑P	**Pn**	**10 27 28.0**	**-1.8**
ATAL	**Atalanti**	**2.65**	**186**	P	**Pn**	**10 27 29.3**	**-0.9**
EVR	**Evrytania**	**2.69**	**207**	P	**Pn**	**10 27 30.8**	**0.0**
EZN	**Ezine**	**2.72**	**123**	PN	**Pn**	**10 27 30.6**	**-0.5**
KYMI	**Kymi, Euboea I**	**2.76**	**168**	P	**Pn**	**10 27 30.6**	**-1.0**
VLAD	**Vladila**	**2.77**	**16**	⇓P	**Pn**	**10 27 31.8**	**-0.1**
VLAD				⇑S	**Sn**	**10 28 06.9**	**+1.1**
KOCA	**Canakkale, Ayv**	**2.80**	**130**	P	**Pn**	**10 27 32.3**	**0.0**
PVY	**Plav**	**2.83**	**298**	⇑*i*Pn	**Pn**	**10 27 32.8**	**+0.1**
PVY				*i* Sn	**Sn**	**10 28 08.6**	**+1.2**
KIRK	**Kırklareli**	**2.84**	**80**	P	**Pn**	**10 27 32.1**	**-0.7**
KIRK				S	**Sb**	**10 28 15.0**	**+1.8**
SIGR	**SIGRI**	**2.86**	**137**	PN	**Pn**	**10 27 32.2**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**2.91**	**122**	P	**Pn**	**10 27 33.1**	**-0.6**
BAYC				S	**Sn**	**10 28 09.1**	**0.0**
PUNG	**Punghina**	**2.96**	**354**	⇓S	**Sn**	**10 28 10.6**	**+0.1**
PUNG	**Punghina**	**2.96**	**354**	⇓P	**Pn**	**10 27 33.1**	**-1.3**
RKY	**Sarkoy-Tekirda**	**2.96**	**101**	PN	**Pn**	**10 27 34.4**	**-0.2**
SART	**Tekirdag**	**2.97**	**101**	P	**Pn**	**10 27 34.0**	**-0.6**
SART				S	**Sg**	**10 28 19.5**	**-2.4**
IVA	**Berane**	**3.00**	**302**	⇑*i*Pn	**Pn**	**10 27 35.1**	**0.0**
IVA				*i* Sn	**Sn**	**10 28 12.4**	**+0.9**
ARMN	**Kirklareli, Me**	**3.10**	**79**	P	**Pn**	**10 27 36.0**	**-0.4**
ARMN				S	**Sb**	**10 28 21.4**	**+0.8**
ULC	**Ulcinj**	**3.14**	**283**	⇑*i*Pn	**Pn**	**10 27 37.2**	**+0.2**
ULC				*i* Sn	**Sn**	**10 28 16.4**	**+1.4**
PHSR	**Pinarhisar**	**3.15**	**83**	PN	**Pn**	**10 27 36.8**	**-0.2**
KEK	**Kerkira**	**3.15**	**240**	P	**Pn**	**10 27 38.4**	**+1.2**
SJES	**Sjenica**	**3.16**	**309**	*e*Pn	**Pn**	**10 27 37.3**	**0.0**
GRUS	**Gruza**	**3.21**	**324**	*e*Pn	**Pn**	**10 27 37.0**	**-0.9**
GRUS				*e*Sg	**Sg**	**10 28 29.4**	**-0.3**
RAZG	**Razgrad**	**3.23**	**45**	⇓P	**Pn**	**10 27 39.2**	**+1.1**
RAZG				⇓S	**Sn**	**10 28 19.8**	**+2.7**
DRME	**Dracevica, Mon**	**3.23**	**287**	*e*Pn	**Pn**	**10 27 40.4**	**+2.2**
DRME	**Dracevica, Mon**	**3.23**	**287**	*e*Pn	**Pn**	**10 27 39.4**	**+1.2**
DRME				*i* Sn	**Sn**	**10 28 18.0**	**+0.8**
KOME	**Kolasin**	**3.23**	**299**	⇓*i*Pn	**Pn**	**10 27 38.2**	**-0.1**
KOME				*i* Sn	**Sn**	**10 28 18.3**	**+1.0**
PDG	**Podgorica**	**3.25**	**291**	⇓P	**Pn**	**10 27 36.0**	**-2.4**
TTG	**Podgorica**	**3.25**	**291**	*e*Pn	**Pn**	**10 27 38.4**	**0.0**
TTG				*i* Sn	**Sn**	**10 28 18.6**	**+1.0**
IVAS	**Ivanjica**	**3.26**	**314**	*e*Pn	**Pn**	**10 27 37.6**	**-1.0**
IVAS				*e*Sg	**Sg**	**10 28 30.4**	**-0.9**
KUBS	**Kucevo**	**3.32**	**339**	*e*Pn	**Pn**	**10 27 37.6**	**-1.7**
SRE	**Strehaia**	**3.33**	**358**	⇓P	**Pn**	**10 27 39.3**	**-0.2**
KNL	**Balıkesir**	**3.34**	**107**	P	**Pn**	**10 27 39.8**	**+0.1**
BUHA	**Balikesir, Bur**	**3.38**	**122**	P	**Pn**	**10 27 39.5**	**-0.7**
VIZE	**Kirklareli, Vi**	**3.38**	**84**	P	**Pn**	**10 27 39.1**	**-1.1**
DJES	**Djerdap**	**3.39**	**350**	⇑P	**Pn**	**10 27 39.0**	**-1.3**
DJES				⇓S	**Sn**	**10 28 20.9**	**-0.1**
HUMR	**Humele**	**3.41**	**20**	⇓P	**Pn**	**10 27 41.7**	**+1.1**
HUMR				⇑S	**Sn**	**10 28 23.3**	**+1.8**
BUM	**Brajici-Budva**	**3.47**	**288**	⇓*i*Pn	**Pn**	**10 27 41.9**	**+0.4**
BUM				*i* Sn	**Sn**	**10 28 23.6**	**+0.5**
SGRR	**Singureni**	**3.47**	**33**	⇓S	**Sn**	**10 28 25.0**	**+1.9**
SGRR	**Singureni**	**3.47**	**33**	⇑P	**Pn**	**10 27 42.1**	**+0.6**
CEME	**Cevo**	**3.52**	**292**	⇓*i*Pn	**Pn**	**10 27 42.3**	**+0.1**
CEME				*i* Sn	**Sn**	**10 28 25.0**	**+0.5**
DKL	**Dikili**	**3.54**	**129**	PN	**Pn**	**10 27 41.8**	**-0.5**
GONE	**Gonen-Balikesi**	**3.54**	**110**	PN	**Pn**	**10 27 42.1**	**-0.2**
EDC	**Edincik**	**3.56**	**105**	PN	**Pn**	**10 27 42.9**	**+0.2**
NKME	**Niksic**	**3.58**	**295**	⇑*i*Pn	**Pn**	**10 27 43.5**	**+0.5**
NKME				*i* Sn	**Sn**	**10 28 26.1**	**+0.4**
CHOS	**Chios island**	**3.60**	**144**	PN	**Pn**	**10 27 42.5**	**-0.8**
HERR	**Herculane**	**3.61**	**349**	⇓S	**Sn**	**10 28 27.1**	**+0.5**
HERR	**Herculane**	**3.61**	**349**	⇓P	**Pn**	**10 27 42.2**	**-1.1**
TRUS	**Trudelj**	**3.61**	**324**	*e*Pn	**Pn**	**10 27 42.5**	**-0.9**
TRUS				*e*Sg	**Sg**	**10 28 42.8**	**+0.2**
BALY	**Balya**	**3.62**	**115**	P	**Pn**	**10 27 42.8**	**-0.7**
MDVR	**Moldovita**	**3.65**	**341**	⇓P	**Pn**	**10 27 42.6**	**-1.1**
MDVR				⇑S	**Sn**	**10 28 26.6**	**-1.0**
SLVT	**Silivri**	**3.66**	**90**	PN	**Pn**	**10 27 43.5**	**-0.6**
SLVT	**Silivri**	**3.66**	**90**	P	**Pn**	**10 27 43.8**	**-0.2**
SLVT				S	**Sb**	**10 28 36.2**	**-0.5**
DIVS	**Divibare**	**3.71**	**319**	*e*Pn	**Pn**	**10 27 43.8**	**-1.0**
DIVS	**Divibare**	**3.71**	**319**	*e*Pn	**Pn**	**10 27 44.0**	**-0.8**
CTYL	**Yalikoy Yolu**	**3.71**	**86**	PN	**Pn**	**10 27 44.5**	**-0.3**
CTYL	**Yalikoy Yolu**	**3.71**	**86**	P	**Pn**	**10 27 43.9**	**-0.9**
RUDO	**Rudo**	**3.73**	**309**	*e*Pn	**Pn**	**10 27 43.7**	**-1.3**
UPM	**Unac-Piva**	**3.79**	**301**	*e*Pn	**Pn**	**10 27 46.5**	**+0.4**
UPM	**Unac-Piva**	**3.79**	**301**	⇑*i*Pn	**Pn**	**10 27 46.1**	**0.0**
UPM				*i* Sn	**Sn**	**10 28 31.8**	**+0.5**
HCY	**Herceg Novi**	**3.79**	**289**	*e*Pn	**Pn**	**10 27 47.0**	**+1.1**

MORH	**Mrgy, Hungar**	**5.95**	**327**	⇑P		**Pn**	**10 28 14.5**	**-1.0**
MORH	**Mrgy, Hungar**	**5.95**	**327**	P		**Pn**	**10 28 14.2**	**-1.3**
MORH				S		**Sn**	**10 29 22.8**	**-1.4**
KOVH	**Kovagotottos**	**6.09**	**323**	P		**Pn**	**10 28 16.5**	**-0.9**
KOVH				S		**Sn**	**10 29 25.7**	**-1.9**
ZIRJ	**Zirje**	**6.15**	**295**	*e*Pn		**Pn**	**10 28 18.5**	**+0.2**
IDI	**Anoyia**	**6.16**	**168**	Pn		**Pn**	**10 28 21.0**	**+2.6**
	comp=E,0.8nm,0.3s,baz=359,slow=14,SNR=6.6							
IDI				LR		LR	10 30 56.7	
	comp=E,41nm,21.9s,baz=271,slow=41							
	comp=E,6.0nm,0.7s							
MORI	**Morici**	**6.18**	**297**	*e*Pn		**Pn**	**10 28 19.1**	**+0.4**
UDBI	**Udbina**	**6.42**	**302**	*e*Pn		**Pn**	**10 28 24.4**	**+2.4**
BURAR	**Bucovina Array**	**6.42**	**11**	⇓P		**Pn**	**10 28 21.8**	**-0.3**
MOSL	**Moslavina**	**6.43**	**314**	*e*Pn		**Pn**	**10 28 21.3**	**-0.8**
DUGI	**Dugi Otok**	**6.67**	**296**	*e*Pn		**Pn**	**10 28 25.5**	**+0.2**
VIRC	**Vir**	**6.78**	**299**	*e*Pn		**Pn**	**10 28 27.0**	**+0.1**
NVLJ	**Novalja**	**7.01**	**300**	*e*Pn		**Pn**	**10 28 30.2**	**+0.2**
BOJS	**Bojanci**	**7.22**	**308**	*e*Pn		**Pn**	**10 28 33.0**	**0.0**
CEY	**Cerknica**	**7.84**	**307**	*e*Pn		**Pn**	**10 28 41.9**	**+0.5**
VYHS	**Vyhne**	**7.84**	**337**	*e*PN		**Pn**	**10 28 45.1**	**+3.6**
VYHS				*e*SN		**Sn**	**10 30 07.0**	**-3.8**
SKDS	**Skadanscina**	**7.99**	**305**	*e*Pn		**Pn**	**10 28 43.2**	**-0.4**
BRTR	**Keskin Array B**	**8.00**	**98**	Pn		**Pn**	**10 28 44.2**	**+0.4**
	comp=E,0.3nm,0.3s,baz=272,slow=12,SNR=13							
	comp=E,1.7nm,0.5s							
SOKA	**Soboth**	**8.03**	**314**	*e*Pn		**Pn**	**10 28 45.8**	**+1.6**
	comp=E,1.0nm,0.4s							
SOKA				*e*Sn		**Sn**	**10 30 09.6**	**-5.8**
	comp=E,1.3nm,0.4s							
ARSA	**Arzberg**	**8.15**	**319**	*i* Pn		**Pn**	**10 28 44.9**	**-0.9**
	comp=E,0.4nm,0.2s							
ARSA				*e*Sn		**Sn**	**10 30 12.6**	**-5.8**
	comp=E,3.3nm,0.4s							
OBKA	**Obir**	**8.19**	**312**	*e*Pn		**Pn**	**10 28 48.0**	**+1.6**
OBKA	**Obir**	**8.19**	**312**	*e*Pn		**Pn**	**10 28 46.6**	**+0.2**
	comp=E,0.7nm,0.2s							
CONA	**Conrad Observa**	**8.48**	**324**	*e*Pn		**Pn**	**10 28 50.8**	**+0.5**
	comp=E,0.8nm,0.3s							
CONA				*e*Sn		**Sn**	**10 30 22.6**	**-4.0**
	comp=E,2.3nm,0.5s							
MOA	**Molln**	**9.19**	**318**	*e*Pn		**Pn**	**10 29 02.2**	**+2.2**
	comp=E,0.3nm,0.2s							
MOA				*e*Sn		**Sn**	**10 30 39.5**	**-4.3**
	comp=E,1.5nm,0.3s							
ABTA	**Abfaltersbach**	**9.50**	**308**	*e*Pn		**Pn**	**10 29 05.1**	**+0.8**
	comp=E,4.5nm,0.5s							
GERES	**GERESS Array B**	**10.14**	**321**	Pn		**Pn**	**10 29 16.1**	**+3.0**
	comp=E,0.1nm,0.3s,baz=145,slow=14,SNR=5.1							
	comp=E,0.4nm,0.4s							
AKASG	**Malin Array Be**	**10.22**	**22**	Pn		**Pn**	**10 29 12.3**	**-1.6**
	comp=E,0.4nm,0.3s,baz=205,slow=13,SNR=2.3							
AKASG				LR		LR	10 34 07.6	
	comp=E,63nm,19.2s,baz=168,slow=43							
	comp=E,0.4nm,0.4s							
WTTA	**Wattenberg**	**10.28**	**309**	*e*Pn		**Pn**	**10 29 16.3**	**+1.3**
	comp=E,1.8nm,0.3s							
WATA	**Walderalm**	**10.35**	**309**	*e*Pn		**Pn**	**10 29 18.7**	**+2.7**
	comp=E,1.8nm,0.3s							
SQTA	**Sankt Quirin**	**10.51**	**308**	*e*Pn		**Pn**	**10 29 19.9**	**+1.9**
	comp=E,2.4nm,0.5s							
MOTA	**Moosalm**	**10.63**	**309**	*e*Pn		**Pn**	**10 29 21.1**	**+1.3**
	comp=E,1.1nm,0.4s							
FETA	**Feichten**	**10.70**	**306**	*e*Pn		**Pn**	**10 29 22.7**	**+1.9**
	comp=E,0.4nm,0.3s							
DAVOX	**Davos/Dischmat**	**11.12**	**304**	LR		LR	10 34 30.0	
	comp=E,74nm,18.2s,baz=263,slow=41							
HFS	**Hagfors**	**19.75**	**346**	P		**Pn**	**10 31 18.7**	**0.0**
	comp=E,0.1nm,0.3s,baz=157,slow=15,SNR=1.2							
	comp=E,0.8nm,0.7s							
FINES	**FINESS Array B**	**20.21**	**4**	P		**P**	**10 31 21.2**	**-1.1**
	comp=E,0.7nm,0.7s,baz=153,slow=16,SNR=1.8							
	comp=E,0.7nm,0.7s							
ESDC	**Sonseca Array**	**20.81**	**274**	P		**P**	**10 31 30.2**	**+1.1**
	comp=E,0.6nm,0.9s,baz=84,slow=13,SNR=2.7							
	comp=E,0.6nm,0.9s							
NOA	**NORSAR Array B**	**21.08**	**343**	P		**P**	**10 31 31.1**	**-0.6**
	comp=E,0.7nm,0.8s,baz=155,slow=13,SNR=3.2							
NOA				LR		LR	10 40 26.4	
	comp=E,15nm,18.6s,baz=290,slow=39							
	comp=E,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**33.85**	**220**	P		**P**	**10 33 31.5**	**+1.2**
	comp=E,0.7nm,0.5s,baz=30,slow=9.3,SNR=5.2							
	comp=E,0.7nm,0.5s							
MKAR	**Makanchi Array**	**41.84**	**62**	P		**P**	**10 34 38.0**	**+0.4**
	comp=E,0.2nm,0.6s,baz=281,slow=7.4,SNR=2.3							
	comp=E,0.2nm,0.6s							
ZALV	**Zalesovo Beam**	**41.98**	**51**	P		**P**	**10 34 39.3**	**+0.7**
	comp=E,0.5nm,0.4s,baz=303,slow=8.1,SNR=2.4							
	comp=E,0.5nm,0.4s							

ROM 18 10:29:30.8±0.1, 42°.842N±0°.003×13°.121E±0°.004, h10km, ML1.0/2, 2C, Error ellipse: s-maj=0.3km s-min=0.2km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.06**	**101**	P	Pg	10 29 33.3	+0.2
T1242				S	Sg	10 29 34.7	0.0
T1242				AML	AML		
	comp=E,244μm,0.4s						
T1242				AML	AML		
	comp=N,235μm,0.5s						
MC2	**Monte Cornacci**	**0.09**	**36**	⇑P	Pg	10 29 33.8	+0.4
MC2				S	Sg	10 29 35.8	+0.5
T1216	**Preci, Frazion**	**0.09**	**303**	P	Pg	10 29 33.8	+0.5
T1216				S	Sg	10 29 35.6	+0.5
T1202	**Accumoli, Fraz**	**0.16**	**151**	P	Pg	10 29 34.9	+0.6
T1202				S	Sg	10 29 37.8	+1.0
MMO1	**Montemonaco**	**0.16**	**69**	P	Pg	10 29 34.9	+0.5
MMO1				S	Sg	10 29 37.7	+0.8
T1215	**Vallo di Nera,**	**0.19**	**258**	P	Pg	10 29 35.5	+0.7
T1215				S	Sg	10 29 38.6	+1.0
FDMO	**Fiordimonte**	**0.20**	**353**	⇑P	Pg	10 29 35.6	+0.6
FDMO				S	Sg	10 29 39.0	+1.2
FDMO				AML	AML		
	comp=E,37μm,0.6s						
FDMO				AML	AML		
	comp=N,37μm,1.4s						
FDMO				AML	AML		
	comp=E,37μm,0.6s						
FDMO				AML	AML		
	comp=N,37μm,1.4s						
CSP1	**Cessapalombo**	**0.26**	**14**	P	Pg	10 29 36.7	+0.6
CSP1				S	Sb	10 29 41.0	-1.1
TERO	**Teramo**	**0.42**	**121**	S	Sg	10 29 40.0	-4.5

DJA 18 10:35:07.7±0.7, 10°S±3°×111°9E±1°, h12km±5km, M3.8/7, mb4.6/3, mB4.6/1, MLv3.4/7, Mw(mB)3.8/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.88**	**45**	P	Pg	10 35 24.5	-0.1
PLAI	**Plampang**	**1.72**	**326**	P	Pn	10 35 37.7	+0.2
PLAI				S	Sn	10 35 59.4	-0.1
BASI	**Baing, Sumba**	**1.79**	**89**	P	Pn	10 35 38.4	0.0
BASI				S	Sb	10 36 02.2	-0.7
TWSI	**Taliwang, Sumb**	**2.39**	**309**	P	Pn	10 35 47.0	+0.3
TWSI				S	Sn	10 36 17.8	+1.8
EDFI	**Ende, Flores**	**3.26**	**63**	P	Pn	10 35 59.0	+0.3
IGBI	**Denpasar**	**3.84**	**292**	P	Pn	10 36 06.4	-0.3
BSSI	**Bau Bau, Buton**	**4.43**	**23**	P	Pn	10 36 15.1	+0.2
BSSI				S	Sn	10 37 07.6	+1.1
BKSI	**Bulukumba**	**5.09**	**15**	P	Pn	10 36 24.2	+0.4
	0.1nm562nm34nm,0.5s						

*KRSC **18** 10:47:32.4±0.9, 53°.71N×161°.11E, h40km±17km, ML4.1*
*IDC **18** 10:47:40.4±2.2, 53°.82N×160°.48E, h95km±20km, mb3.2/8, mbtmp3.5/9, Error ellipse: s-maj=28.4km s-min=21.1km az=149.0*

ISC 18 10:47:34.4±1.1, 53°.74N±0°.05×161°.05E±0°.05, h47km±12km, n48, σ1°45/58, mb3.4/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.89**	**224**	*e*S	**Sn**	**10 48 01.2**	**-1.1**
MKZ	**Mys Kozlova**	**0.91**	**26**	*e*P	**Pn**	**10 47 50.4**	**-0.5**
MKZ				*e*S	**Sn**	**10 48 01.8**	**-1.1**
KII	**Karymskiy**	**0.99**	**288**	*e*P	**Pn**	**10 47 51.6**	**-0.4**
KII				*e*S	**Sn**	**10 48 04.1**	**-0.9**
NLC	**Nalytchevo**	**1.17**	**242**	*e*P	**Pn**	**10 47 54.2**	**-0.1**
NLC				*e*S	**Sn**	**10 48 08.4**	**-0.6**
SDLR	**Sedlovina**	**1.37**	**251**	*e*P	**Pn**	**10 47 57.7**	**+0.5**
SMAR	**Somma**	**1.42**	**251**	*e*P	**Pn**	**10 47 58.3**	**+0.3**
SMAR				*e*S	**Sn**	**10 48 14.6**	**-1.1**
UGLR	**Uglovaya**	**1.43**	**249**	*e*P	**Pn**	**10 47 58.0**	**0.0**
KRER	**Koryakskii**	**1.44**	**253**	*e*P	**Pn**	**10 47 58.9**	**+0.7**
KRER				*e*S	**Sn**	**10 48 16.4**	**+0.3**
AVH	**Avacha**	**1.46**	**252**	*e*P	**Pn**	**10 47 59.0**	**+0.6**
AVH				*e*S	**Sn**	**10 48 17.4**	**+1.0**
KRX	**Arik**	**1.48**	**256**	*e*P	**Pn**	**10 47 58.9**	**+0.1**
KRX				*e*S	**Sn**	**10 48 16.8**	**-0.2**
KOK	**Koryaka**	**1.51**	**254**	*e*P	**Pn**	**10 47 59.6**	**+0.5**
KOK				*e*S	**Sn**	**10 48 17.7**	**+0.1**
DALK	**Dalny**	**1.55**	**244**	*e*P	**Pn**	**10 47 59.7**	**+0.2**
DALK				*e*S	**Sn**	**10 48 18.2**	**-0.1**
TUMR	**Tumrok**	**1.64**	**342**	*e*P	**Pn**	**10 48 01.5**	**+0.6**
GNL	**Ganaly**	**1.85**	**270**	*e*P	**Pn**	**10 48 04.5**	**+0.8**
GNL				*e*S	**Sn**	**10 48 26.7**	**+0.8**
KRMR	**Karymshinskiy**	**1.97**	**244**	*e*P	**Pn**	**10 48 06.0**	**+0.7**
KRMR				*e*S	**Sn**	**10 48 29.2**	**+0.4**
RUS	**Russkaya**	**2.01**	**230**	*e*P	**Pn**	**10 48 07.2**	**+1.3**
RUS				*e*S	**Sn**	**10 48 31.4**	**+1.6**
KMNR	**Kamenistaya**	**2.08**	**347**	*e*P	**Pn**	**10 48 07.9**	**+1.0**
PETK	**Petropavlovsk-**	**2.10**	**254**	P	**Pn**	**10 48 08.7**	**+1.5**
	11nm,0.3s,baz=78,slow=19,SNR=62						
PETK				S	**Sn**	**10 48 33.5**	**+1.5**
	52nm,0.6s,baz=66,slow=19,SNR=17						
MTVR	**Mutnovka**	**2.14**	**235**	*e*P	**Pn**	**10 48 10.0**	**+2.3**
GRL	**Gorelyy**	**2.15**	**238**	*e*P	**Pn**	**10 48 10.2**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**2.22**	**355**	*e*P	**Pn**	**10 48 10.2**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.25**	**352**	*e*P	**Pn**	**10 48 11.7**	**+2.3**
KIRR	**Kirishev**	**2.26**	**350**	*e*P	**Pn**	**10 48 10.4**	**+1.0**
KOZ	**Kozyrevsk**	**2.42**	**344**	*e*P	**Pn**	**10 48 12.5**	**+1.0**
APC	**Apacha**	**2.47**	**252**	*e*P	**Pn**	**10 48 13.9**	**+1.8**
APC				*e*S	**Sn**	**10 48 44.4**	**+3.3**
ESO	**Esso**	**2.58**	**329**	*e*P	**Pn**	**10 48 14.6**	**+0.9**
KLY	**Klyuchi**	**2.59**	**355**	*e*P	**Pn**	**10 48 15.0**	**+1.2**
KDTR	**Khodutka, Kamc**	**2.64**	**224**	*e*P	**Pn**	**10 48 16.4**	**+1.9**
KDTR				*e*S	**Sn**	**10 48 45.8**	**+0.5**
KBTR	**Krutoberegovo**	**2.68**	**22**	*e*P	**Pn**	**10 48 16.4**	**+1.4**
SRDR	**Sredinnyy**	**2.70**	**344**	*e*P	**Pn**	**10 48 15.8**	**+0.5**
KBG	**Krutoberegovo**	**2.70**	**20**	*e*P	**Pn**	**10 48 17.6**	**+2.4**
KBG				*e*S	**Sn**	**10 48 49.9**	**+3.3**
SRKR	**Sorokina**	**2.92**	**1**	*e*P	**Pn**	**10 48 20.6**	**+2.2**
BKI	**Bering**	**3.23**	**61**	*e*P	**Pn**	**10 48 23.3**	**+0.8**
BKI				*e*S	**Sn**	**10 48 57.6**	**-2.0**
MA2	**Magadan**	**8.14**	**320**	P	**Pn**	**10 49 32.3**	**+2.5**
	4.6nm,0.7s,baz=124,slow=15,SNR=2.8						
MJAR	**Matsushiro Arr**	**23.39**	**232**	P	**P**	**10 52 38.8**	**-0.1**
	1.0nm,0.8s,baz=56,slow=9.1,SNR=4.0						
	1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.24**	**170**	T	T	11 31 10.2	
	baz=354,slow=76,SNR=154						
H11N3	**WAKE ISLAND Hy**	**34.26**	**170**	T	T	11 31 09.5	
	baz=354,slow=76,SNR=112						
H11N1	**WAKE ISLAND Hy**	**34.26**	**170**	T	T	11 31 09.7	
	baz=354,slow=76,SNR=151						
H11S1	**WAKE ISLAND Hy**	**35.43**	**171**	T	T	11 32 28.0	
	baz=352,slow=76,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**35.45**	**171**	T	T	11 32 30.0	
	baz=352,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**35.45**	**171**	T	T	11 32 35.4	
	baz=352,slow=76,SNR=5.0						
MKAR	**Makanchi Array**	**48.39**	**296**	P	**P**	**10 56 07.9**	**-3.4**
	0.2nm,0.5s,baz=50,slow=4.5,SNR=1.9						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**54.99**	**71**	P	P	10 57 04.4	+3.5
	0.2nm,0.6s,baz=289,slow=6.6,SNR=3.0						
	0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.87**	**259**	P	**P**	**10 57 27.3**	**-1.1**
	0.5nm,0.3s,baz=43,slow=6.7,SNR=3.0						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**59.75**	**337**	P	**P**	**10 57 33.6**	**-0.3**
	0.3nm,0.4s,baz=57,slow=7.0,SNR=6.5						
	0.3nm,0.4s						
NOA	**NORSAR Array B**	**63.08**	**344**	P	**P**	**10 57 55.5**	**-0.9**
	0.3nm,0.4s,baz=23,slow=6.0,SNR=4.1						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**69.86**	**68**	P	**P**	**10 58 42.4**	**+2.2**
	0.4nm,0.8s,baz=290,slow=4.8,SNR=5.5						
	0.4nm,0.8s						
GERES	**GERESS Array B**	**74.13**	**338**	P	**P**	**10 59 05.9**	**+0.4**
	0.2nm,0.5s,baz=27,slow=6.3,SNR=3.6						
	0.2nm,0.5s						

*NEIC **18** 10:48:02.4±0.9, 5°.70S±0°.09×152°.3E±0°.1, h39km±6km, mb4.2/13, Error ellipse: s-maj=21.1km s-min=10.9km az=109.0*
*IDC **18** 10:48:03.6±4.9, 5°.53S×151°.78E, h48km±45km, mb3.8/8, mbtmp4.1/9, ML2.1/1, MS3.4/7, Error ellipse: s-maj=45.4km s-min=27.1km az=125.0*

ISC 18 10:48:02.8±0.7, 5°.64S±0°.08×152°.1E±0°.1, h45km, n43, σ2°13/39, mb4.1/14, MS3.1/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.44**	**2**	Pn	**Pn**	**10 48 26.1**	**-0.4**
RABL	**Rabaul**	**1.44**	**2**	P	**Pn**	**10 48 26.4**	**-0.1**
MANU	**Manus Island**	**5.93**	**307**	Pn	**Pn**	**10 49 30.2**	**+2.1**
PMG	**Port Moresby**	**6.17**	**232**	P	**Pn**	**10 49 30.1**	**-1.3**
	3.0nm,0.3s,baz=46,slow=7.4,SNR=9.2						
PMG				S	**Sn**	**10 50 37.1**	**-3.6**
	29nm,0.4s,baz=150,slow=23,SNR=6.5						
PMG				LR	LR	10 51 59.1	
	comp=E,210nm,21.7s,baz=39,slow=39						
	40nm,0.8s						
PMG	**Port Moresby**	**6.17**	**232**		**Pn**	**10 49 31.0**	**-0.4**
PMG	**Port Moresby**	**6.17**	**232**	P	**Pn**	**10 49 32.8**	**+1.4**
PMG	**Port Moresby**	**6.17**	**232**	P	**Pn**	**10 49 33.2**	**+1.8**
HNR	**Honiara**	**8.64**	**116**	LR	LR	10 53 19.2	
	comp=E,2μm,20.1s,baz=337,slow=35						
CTA	**Charters Tower**	**15.45**	**201**	LR	LR	10 57 14.4	
	comp=E,150nm,19.4s,baz=70,slow=36						
QIS	**Mount Isa**	**19.16**	**218**	P	**Pn**	**10 52 25.4**	**+1.5**
	7.9nm,0.8s						
EIDS	**Eidsvold**	**19.64**	**183**	P	**P**	**10 52 26.6**	**-1.2**
EIDS				IAmb	IAmb	10 53 01.1	
	comp=Z,17nm,1.4s						
GUMO	**Guam**	**20.41**	**339**	LR	LR	11 01 11.3	
	comp=Z,19nm,18.5s,baz=169,slow=39						
RMQ	**Roma**	**20.98**	**188**	P	Pn	10 52 46.5	+1.2
MTN	**Manton Dam**	**21.89**	**249**	P	**P**	**10 52 52.8**	**+0.6**
QLP	**Quilpie**	**22.14**	**199**	P	**P**	**10 52 59.3**	**+4.5**
	comp=Z,30nm,1.7s						
WB0	**Warramunga Arr**	**22.23**	**229**	P	**P**	**10 52 56.2**	**+0.4**
WB0				IAmb	IAmb	10 52 56.9	
	comp=Z,5.5nm,0.9s						
WR0	**Warramunga Arr**	**22.23**	**229**	P	**P**	**10 52 57.1**	**+1.2**
WR0				IAmb	IAmb	10 53 23.4	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**22.37**	**229**	P	**P**	**10 52 57.6**	**+0.3**
WB2				IAmb	IAmb	10 52 58.9	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**22.38**	**229**	P	**P**	**10 52 56.1**	**-1.3**
	comp=Z,3.8nm,0.9s,baz=53,slow=10,SNR=23						
WRA				S	**S**	**10 56 55.5**	**-5.1**
	comp=Z,1.8nm,1.1s,baz=52,slow=20,SNR=5.8						
	comp=Z,3.8nm,0.9s						
WRA	**Warramunga Arr**	**22.38**	**229**	P	**P**	**10 52 57.3**	**-0.1**
KNRA	**Kununurra**	**24.99**	**245**	P	**P**	**10 53 23.2**	**+0.7**
AS31	**Alice Springs**	**25.07**	**223**	P	**P**	**10 53 23.2**	**0.0**
ASAR	**Alice Springs**	**25.07**	**223**	P	**P**	**10 53 22.4**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=55,slow=9.3,SNR=55						
ASAR				S	**S**	**10 57 51.8**	**+7.0**
	comp=Z,1.3nm,1.2s,baz=32,slow=15,SNR=4.9						
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**25.07**	**223**	P	**P**	**10 53 23.9**	**+0.7**
STKA	**Stephens Creek**	**27.90**	**199**	LR	LR	11 05 00.5	
	comp=Z,36nm,19.8s,baz=23,slow=36						
FITZ	**Fitzroy Crossi**	**28.66**	**242**	P	**P**	**10 53 53.5**	**-2.0**
	comp=E,6.1nm,0.9s,baz=62,slow=8.6,SNR=7.1						
	comp=Z,6.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.66**	**242**	P	**P**	**10 53 54.3**	**-1.2**
FITZ				IAmb	IAmb	10 54 14.9	
	comp=Z,5.0nm,0.7s						
WRKA	**Warakurna**	**29.89**	**227**	P	**P**	**10 54 09.8**	**+3.4**
MORW	**Morawa**	**41.28**	**231**	P	**P**	**10 55 43.9**	**-0.1**
MJAR	**Matsushiro Arr**	**43.93**	**344**	LR	LR	11 13 11.8	
	comp=Z,35nm,19.9s,baz=171,slow=34						
SONM	**Songino Array**	**66.67**	**328**	P	**P**	**10 58 48.4**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=139,slow=5.9,SNR=5.5						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**66.67**	**328**	P	**P**	**10 58 47.8**	**-1.2**
MKAR	**Makanchi Array**	**80.50**	**319**	P	**P**	**11 00 09.2**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=101,slow=6.3,SNR=6.6						
	comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**81.47**	**327**	P	**P**	**11 00 13.5**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=113,slow=4.3,SNR=3.2						
	comp=Z,0.8nm,0.3s						
ILAR	**Eielson Array**	**83.19**	**22**	P	**P**	**11 00 23.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=249,slow=5.0,SNR=6.5						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**83.19**	**22**	P	**P**	**11 00 24.0**	**0.0**
J25K	**Salcha River,**	**83.69**	**23**	P	**P**	**11 00 27.5**	**+0.9**
J25K				IAmb	IAmb	11 00 46.2	
	comp=Z,3.8nm,1.2s						
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**11 00 27.6**	**-2.4**
QSPA				IAmb	IAmb	11 00 46.3	
	comp=Z,3.4nm,1.1s						
NVAR	**Mina Array Bea**	**93.14**	**52**	P	**P**	**11 01 14.7**	**+2.0**
	comp=Z,1.0nm,0.9s,baz=253,slow=6.6,SNR=7.6						
	comp=Z,1.0nm,0.9s						
NEW	**Newport**	**94.68**	**42**	LR	LR	11 40 42.1	
	comp=Z,38nm,18.0s,baz=285,slow=33						
PDAR	**Pinedale Array**	**99.92**	**48**	P	**Pdif**	**11 01 44.3**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=301,slow=7.0,SNR=2.2						
GERES	**GERESS Array B**	**124.40**	**328**	PKP	**PKPdf**	**11 06 56.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=97,slow=3.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**149.90**	**286**	PKPbc	**PKPbc**	**11 07 48.8**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=66,slow=2.5,SNR=20						

*IDC **18** 11:02:17.5±0.4, 29°.23S×61°.07E, h0km, mb4.6/28, mbtmp4.6/29, ML5.1/1, MS4.0/54, Error ellipse: s-maj=13.6km s-min=11.2km az=25.0*
*BJI **18** 11:02:17.2±0.0, 29°.48S×60°.46E, h15km, mb4.7/31, mB5.2/12, Ms4.7/2, Ms7 4.4/2*
*MOS **18** 11:02:17.4±0.8, 29°.27S×61°.00E, h10km, mb5.0/35, Error ellipse: s-maj=13.2km s-min=6.5km az=98.0*
*NEIC **18** 11:02:19.5±1.1, 29°.23S±0°.09×61°.0E±0°.1, h10km±1km, mb5.0/61, Error ellipse: s-maj=17.6km s-min=14.5km az=239.0*
*GCMT **18** 11:02:23.5±0.4, 29°.16S±0°.02×60°.79E±0°.04, h18km±1km, MW4.9/71, Moment Tensor Solution. s23,c26; s71,c84; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}=2.65±.18; $M_{\theta\theta}$2.05±.12; $M_{\phi\phi}$0.59±.12; $M_{r\theta}$1.23±.23; $M_{\theta\phi}$0.70±.08; $M_{\phi r}$1.10±.33; Best double couple: $M_0$2.98100×10^16 NP1:ϕ_s238.00000°, δ62.00000°, λ-98.00000°. NP2: ϕ_s75.00000°, δ29.00000°, λ-75.00000°. Principal axes: T 2.7850, Plg16.0000°, Azm334.0000°; N 0.3840, Plg7.0000°, Azm242.0000°; P -3.1770, Plg72.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 11:02:19.6±0.3, 29°.27S±0°.06×60°.97E±0°.07, h10km, n392, σ1°18/359, mb4.9/120, MS4.0/56, 29C-13D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.36**	**328**	Pn	**Pn**	**11 04 30.9**	**-3.8**
FOMA	**Nahampoana Res**	**13.18**	**286**	Pn	**Pn**	**11 05 23.6**	**-3.2**
VOI	**Vohitsoka**	**14.74**	**297**	Pn	**Pn**	**11 05 47.4**	**-0.9**
ABPO	**Ambohimpanom**	**16.16**	**306**		**Pn**	**11 06 05.6**	**-1.5**
ABPO	**Ambohimpanom**	**16.16**	**306**	P	**Pn**	**11 06 05.6**	**-1.5**
ABPO				pmax	pmax		
	comp=Z,50nm,1.0s						
OPO	**Ambohidratompo**	**16.49**	**307**	Pn	**Pn**	**11 06 10.3**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=120,slow=12,SNR=29						
OPO				Sn	Sn	11 08 59.0	-15
	comp=Z,1.1nm,0.3s,baz=302,slow=5.9,SNR=13						
OPO				LR	LR	11 09 50.4	
	comp=Z,376nm,20.6s,baz=352,slow=27						
	comp=Z,16nm,0.4s						
H08S1	**Diego Carcia H**	**24.09**	**29**	T	T	11 32 42.7	
	baz=210,slow=74,SNR=27						
H08S2	**Diego Garcia H**	**24.09**	**29**	T	T	11 32 43.2	

SUR Sutherland 34.49 255 P **P** **11 09 08.9 +0.7**
SUR IAmb IAmb 11 09 17.0
comp=Z,48nm,1.5s

UPI Upington 34.70 262 *eP* **P** **11 09 11.9 +2.1**
UPI IAML 11 09 19.9
comp=Z,2.7nm,0.6s

KEIM Keimoes 34.88 261 *eP* **P** **11 09 12.3 +0.9**
KEIM IAmb IAmb 11 09 14.7
comp=Z,42nm,1.2s

AUGR Augrabies 35.45 261 *eP* **P** **11 09 18.6 +2.4**
AUGR IAmb IAmb 11 09 26.1
comp=Z,1µm,3.4s

CVNA Calvinia 35.48 256 *eP* **P** **11 09 17.1 +0.5**
CVNA IAmb IAmb 11 09 27.3
comp=Z,7.0nm,0.7s

CER Ceres 35.67 253 *eP* **P** **11 09 20.4 +2.3**
CER IAmb IAmb 11 09 28.4
comp=Z,7.3nm,0.9s

KMBO Kilima Mbogo 35.98 317 P **P** **11 09 21.0 -0.1**
comp=Z,1.3nm,0.7s,baz=101,slow=5.1,SNR=4.3
KMBO LR LR 11 21 19.2
comp=Z,331nm,20.2s,baz=94,slow=32
comp=Z,1.3nm,0.7s

KMBO Kilima Mbogo 35.98 317 *i* P **P** **11 09 22.2 +1.1**
KMBO pmax pmax
comp=Z,2.0nm,0.9s

ARMS Ukamas 36.07 262 *eP* **P** **11 09 23.3 +1.6**
ARMS IAmb IAmb 11 09 31.3
comp=Z,20nm,0.8s

MAW Mawson 38.38 179 P **P** **11 09 41.1 +0.5**
comp=Z,7.0nm,0.9s,baz=11,slow=9.5,SNR=8.6
MAW PcP **PcP** **11 11 54.0 0.0**
comp=Z,4.4nm,0.8s,baz=332,slow=4.4,SNR=4.4
MAW LR LR 11 22 08.5
comp=Z,262nm,19.5s,baz=0.5,slow=31
comp=Z,7.0nm,0.9s

MAW Mawson 38.38 179 P **P** **11 09 40.2 -0.4**
RUDU RUNDU 39.27 277 *eP* **P** **11 09 50.1 +1.2**
RUDU IAmb IAmb 11 09 59.7
comp=Z,25nm,1.1s

AUSN Aus 39.40 263 *eP* **P** **11 09 51.2 +1.3**
AUSN IAmb IAmb 11 09 52.9
comp=Z,25nm,1.0s

WIN Windhoek 39.84 269 *eP* **P** **11 09 57.3 +3.6**
WIN IAmb IAmb 11 09 58.6
comp=Z,117nm,2.6s

MBAR Mbarara 40.55 309 LR LR 11 25 05.4
comp=Z,230nm,20.8s,baz=82,slow=34

TSUM Tsumeb 40.62 274 P **P** **11 10 01.2 +1.1**
comp=Z,14nm,0.9s,baz=101,slow=6.1,SNR=10
TSUM LR LR 11 25 37.8
comp=Z,246nm,19.0s,baz=148,slow=34
comp=Z,14nm,0.9s

TSUM Tsumeb 40.62 274 P **P** **11 09 59.8 -0.2**
TSUM IAmb IAmb 11 10 10.4
comp=Z,17nm,0.8s

TSUM Tsumeb 40.62 274 *eP* **P** **11 10 00.8 +0.7**
LODK Lodwar 40.74 319 P **P** **11 10 00.6 -0.4**
PALK Pallekele 41.00 31 LR LR 11 22 55.0
comp=Z,180nm,20.8s,baz=300,slow=30

ATD Arta Tunnel 44.18 334 LR LR 11 26 03.6
comp=Z,348nm,19.8s,baz=160,slow=32

H01W2 Cape Leeuwin H 44.96 111 T T 11 58 15.1
baz=261,slow=75,SNR=26

H01W3 Cape Leeuwin H 44.96 111 T T 11 58 15.6
baz=261,slow=75,SNR=16

H01W1 Cape Leeuwin H 44.97 111 T T 11 58 16.2
baz=261,slow=75,SNR=24

CASY Casey 47.61 155 P **P** **11 10 55.1 -0.3**
CASY IAmb IAmb 11 11 33.5
comp=Z,36nm,1.9s

NWAO Narrogin (SRO) 47.83 109 LR LR 11 28 01.7
comp=Z,121nm,18.7s,baz=123,slow=32

PSI Prapat 48.35 55 LR LR 11 25 43.1
comp=Z,104nm,21.2s,baz=200,slow=29

WSAR Wadi Sarin 52.26 357 LR LR 11 30 31.8
comp=Z,69nm,18.0s,baz=185,slow=32

TROLL Troll, Antarti 52.81 199 P **P** **11 11 34.6 -0.2**
SNAA Sanae 54.30 200 P **P** **11 11 45.6 -0.2**
SNAA Sanae 54.30 200 P **P** **11 11 45.0 -0.8**
comp=Z,4.6nm,0.6s,baz=86,slow=7.1,SNR=18
SNAA LR LR 11 29 53.9
comp=Z,147nm,21.1s,baz=19,slow=30
comp=Z,4.6nm,0.6s

SNAA Sanae 54.30 200 P **P** **11 11 45.5 -0.2**
SNAA Sanae 54.30 200 ⇓*i* P **P** **11 11 45.4 -0.3**
SNAA Sanae 54.30 200 *ceP* **P** **11 11 44.4 -1.4**
SNAA pmax pmax
comp=Z,5.0nm,0.8s

RAYN Ar Rayn 54.56 343 P **P** **11 11 47.8 -0.3**
RAYN Ar Rayn 54.56 343 P **P** **11 11 47.8 -0.3**
RAYN pmax pmax
comp=Z,8.0nm,0.9s

VNA2 Neumayer--Watz 55.58 202 P **P** **11 11 55.0 +0.1**
baz=81,slow=6.0

STKI Sintang 56.28 68 P **P** **11 12 01.6 +0.9**
VNA3 Neumayer Olymp 56.36 202 P **P** **11 12 00.4 -0.1**
FORT Forrest 57.28 110 P **P** **11 12 07.1 -0.6**
SBUM Sibu 58.28 66 P **P** **11 12 14.5 -0.3**
SBUM IAmb IAmb 11 12 16.6
comp=Z,20nm,1.6s

BRDH Bariadhala 59.50 33 LR LR 11 37 04.1
comp=Z,108nm,18.1s,baz=268,slow=35

FITZ Fitzroy Crossi 59.62 95 P **P** **11 12 22.1 -2.0**
comp=Z,4.9nm,0.9s,baz=236,slow=8.6,SNR=7.8
FITZ LR LR 11 35 11.6
comp=Z,80nm,18.2s,baz=268,slow=33
comp=Z,4.9nm,0.9s

FITZ Fitzroy Crossi 59.62 95 P **P** **11 12 23.3 -0.8**
FITZ IAmb IAmb 11 12 50.4
comp=Z,9.1nm,1.1s

CM31 Chiang Mai Arr 59.95 42 P **P** **11 12 26.2 -0.1**
CM31 IAmb IAmb 11 12 27.7
comp=Z,7.6nm,0.8s

CMAR Chiang Mai Arr 59.95 42 P **P** **11 12 26.2 -0.1**
comp=Z,4.9nm,0.8s,baz=230,slow=7.3,SNR=25
CMAR LR LR 11 36 41.9
comp=Z,48nm,18.0s,baz=220,slow=34
comp=Z,4.9nm,0.8s

CMAR Chiang Mai Arr 59.95 42 P **P** **11 12 25.9 -0.4**
CMAR Chiang Mai Arr 59.95 42 *ceP* **P** **11 12 27.1 +0.8**
CMAR pmax pmax
comp=Z,5.0nm,0.8s

PYUN Piuthan 60.81 22 *eP* **P** **11 12 31.5 -0.8**
comp=Z,85nm,0.8s

QSPA South Pole Qui 60.88 180 P **P** **11 12 31.4 -0.8**
comp=Z,12nm,1.1s,baz=265,slow=1.6,SNR=46
comp=Z,12nm,1.1s

QSPA South Pole Qui 60.88 180 P **P** **11 12 31.8 -0.4**
QSPA IAmb IAmb 11 12 39.2
comp=Z,16nm,1.1s

RAMN Ramite 61.06 26 *eP* **P** **11 12 33.6 -0.4**
comp=Z,31nm,0.8s

DMN Daman 61.10 24 *eP* **P** **11 12 33.5 -0.8**
comp=Z,42nm,1.0s

GKN Gorkha 61.29 24 *eP* **P** **11 12 34.6 -0.8**
BATI Baumata 61.30 86 LR LR 11 35 30.8
comp=Z,239nm,19.6s,baz=263,slow=33

DANN Dangsing 61.30 23 *eP* **P** **11 12 34.7 -1.0**
comp=Z,58nm,0.7s

JIRN Jiri 61.55 25 *eP* **P** **11 12 36.6 -0.8**
comp=Z,21nm,0.8s

GUN Gumba 61.66 25 *eP* **P** **11 12 37.7 -0.4**
comp=Z,62nm,1.0s

CRAI Chiangrai 62.17 42 P **P** **11 12 40.1 -1.2**
BELA Belgrano 2 62.78 194 P **P** **11 12 44.5 -0.2**
BBOO Buckleboo 63.15 114 P **P** **11 12 47.2 -0.7**
KNRA Kununurra 63.34 94 P **P** **11 12 48.0 -1.3**
NIL Nilore 63.65 11 P **P** **11 12 50.3 -0.7**
NIL IAmb IAmb 11 12 50.9
comp=Z,12nm,0.9s

NIL Nilore 63.65 11 P **P** **11 12 50.3 -0.7**
NIL pmax pmax
comp=Z,12nm,0.9s

EIL Elat 63.66 335 LR LR 11 37 09.1
comp=Z,170nm,19.6s,baz=90,slow=33

VNDA Vanda 63.96 166 P **P** **11 12 52.1 -0.4**
comp=Z,3.7nm,0.7s,baz=276,slow=5.8,SNR=32
VNDA LR LR 11 38 54.4
comp=Z,257nm,18.1s,baz=250,slow=34
comp=Z,3.7nm,0.7s

VNDA Vanda 63.96 166 P **P** **11 12 52.5 0.0**
VNDA Vanda 63.96 166 P **P** **11 12 52.5 0.0**
VNDA pmax pmax
comp=Z,34nm,2.0s

APSI Ampana 64.18 76 P **P** **11 12 55.9 +1.0**
comp=Z,20nm,0.9s

TOLI2 Tolitoli 64.54 73 P **P** **11 12 56.7 -0.5**
ASAR Alice Springs 64.58 104 P **P** **11 12 56.5 -1.0**
comp=Z,10nm,0.8s,baz=243,slow=6.3,SNR=97
ASAR LR LR 11 38 11.3
comp=Z,74nm,18.8s,baz=269,slow=33
comp=Z,10nm,0.8s

ASAR Alice Springs 64.58 104 P **P** **11 12 56.8 -0.7**
ASAR Alice Springs 64.58 104 P **P** **11 12 56.8 -0.7**
AS31 Alice Springs 64.58 104 P **P** **11 12 56.5 -1.0**
SBA Scott Base 64.84 167 P **P** **11 12 59.3 +1.1**
SBA IAmb IAmb 11 12 59.8
comp=Z,6.7nm,0.8s

SBA Scott Base 64.84 167 P **P** **11 12 59.3 +1.1**
SBA pmax pmax
comp=Z,7.0nm,0.8s

WRA Warramunga Arr 66.41 100 P **P** **11 13 08.6 -0.8**
comp=Z,10nm,0.9s,baz=246,slow=5.5,SNR=44
WRA LR LR 11 37 51.8
comp=Z,214nm,19.8s,baz=218,slow=32
comp=Z,10nm,0.9s

WRA Warramunga Arr 66.41 100 P **P** **11 13 08.5 -0.8**
WB2 Warramunga Arr 66.42 100 P **P** **11 13 08.9 -0.5**
WB2 IAmb IAmb 11 13 09.8
comp=Z,15nm,1.0s

WRAB Tennant Creek 66.42 100 P **P** **11 13 08.8 -0.6**
WRAB Tennant Creek 66.42 100 *ceP* **P** **11 13 07.6 -1.8**
WRAB pmax pmax
comp=Z,48nm,2.5s

MMAI Mount Meron Ar 66.52 337 LR LR 11 38 56.0
comp=Z,117nm,19.4s,baz=19,slow=33

WB0 Warramunga Arr 66.53 100 P **P** **11 13 09.6 -0.5**
WB0 IAmb IAmb 11 13 10.4
comp=Z,18nm,1.1s

WR0 Warramunga Arr 66.57 100 P **P** **11 13 09.9 -0.5**
WR0 IAmb IAmb 11 13 10.6
comp=Z,11nm,0.9s

GEYT Alibeck 66.91 358 LR LR 11 40 01.6
comp=Z,70nm,20.9s,baz=171,slow=34

KMI Kunming 67.34 41 ⇑P **P** **11 13 19.4 +4.2**
KMI pmax pmax
comp=Z,9.0nm,0.8s

PZH PanZhiHua 67.85 39 P **P** **11 13 21.0 +2.7**
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.3s

STKA Stephens Creek 67.87 115 P **P** **11 13 17.6 -0.8**
comp=Z,5.4nm,0.8s,baz=257,slow=6.1,SNR=10.0
STKA LR LR 11 38 24.0
comp=Z,79nm,21.6s,baz=208,slow=32
comp=Z,5.4nm,0.8s

STKA Stephens Creek 67.87 115 P **P** **11 13 17.5 -0.9**
LBMI Labuha 69.31 79 P **P** **11 13 28.5 +0.9**
comp=Z,678nmcomp=Z,37nm,1.1s

KSH Kashi 69.85 12 P **P** **11 13 27.3 -3.2**
KSH pmax pmax
comp=Z,19nm,0.7s

GNI Garni 70.70 347 LR LR 11 42 57.1
comp=Z,183nm,19.9s,baz=172,slow=34

GNI Garni 70.70 347 *ceP* **P** **11 13 37.1 +1.4**
GNI pmax pmax
comp=Z,17nm,1.3s

TOA0 Torodi Ar. Sit 71.04 298 P **P** **11 13 38.0 -0.1**
TOA0 IAmb IAmb 11 13 39.1
comp=Z,16nm,0.9s

TORD Torodi Ar. Bea 71.04 298 P **P** **11 13 38.4 +0.2**
comp=Z,12nm,0.8s,baz=111,slow=4.7,SNR=46
TORD LR LR 11 44 44.1
comp=Z,356nm,19.1s,baz=205,slow=36
comp=Z,12nm,0.8s

TORD Torodi Ar. Bea 71.04 298 P **P** **11 13 37.6 -0.6**
IUG luzhnay 71.56 7 *eP* **P** **11 13 40.8 0.0**
IUG luzhnay 71.56 7 *eP* **P** **11 13 40.9 0.0**
baz=7.0

KIC Kosan Boka 72.33 288 ⇑*i* P **P** **11 13 46.2 +0.2**
comp=Z,9.2nm,0.8s

SIJI Sorong 72.43 81 P **P** **11 13 46.4 -0.3**
comp=Z,25nm,0.8s,baz=347,slow=5.3,SNR=9.1
comp=Z,25nm,0.8s

DZA Taraz 72.44 8 *eP* **P** **11 13 45.5 -0.5**
DZA Taraz 72.44 8 *eP* **P** **11 13 45.5 -0.5**
baz=7.9

GOMU GeErMu 72.49 28 P **P** **11 13 49.5 +2.6**
GOMU pP pwP 11 13 53.6 -0.7
GOMU sP sP 11 13 54.8 +5.3
GOMU pmax pmax
comp=Z,4.0nm,0.5s
GOMU pmax pmax
comp=Z,84nm,4.8s

LIC Lamto 72.49 288 ⇑*eP* **P** **11 13 47.1 +0.2**
comp=Z,22nm,1.1s

KK31 Karatay Array 72.55 7 P **P** **11 13 46.8 +0.1**
KK31 IAmb IAmb 11 13 51.0
comp=Z,9.6nm,1.1s

KK31 Karatay Array 72.55 7 P **P** **11 13 46.8 +0.1**
KK31 pmax pmax
comp=Z,10.0nm,1.1s

KKAR Karatay Array 72.55 7 P **P** **11 13 46.5 -0.2**
KKAR Karatay Array 72.55 7 P **P** **11 13 46.8 +0.1**
KKAR IAmb IAmb 11 13 51.0
comp=Z,9.6nm,1.1s

KKAR Karatay Array 72.55 7 P **P** **11 13 46.5 -0.2**
KKAR 11 13 46.8
KKAR pmax pmax
comp=Z,10.0nm,1.1s

DBIC Dimbokro 72.59 288 P **P** **11 13 48.4 +0.8**
comp=Z,6.2nm,0.8s,baz=151,slow=7.0,SNR=6.7
DBIC LR LR 11 45 09.6
comp=Z,100nm,18.8s,baz=137,slow=35
comp=Z,6.2nm,0.8s

DBIC Dimbokro 72.59 288 P **P** **11 13 46.3 -1.2**
DBIC IAmb IAmb 11 13 59.8
comp=Z,9.3nm,0.9s

AAK Ala-Archa 72.63 10 LR LR 11 42 58.8
comp=Z,64nm,20.8s,baz=188,slow=34

AAK Ala-Archa 72.63 10 P **P** **11 13 47.1 -0.2**
AAK IAmb IAmb 11 13 48.6
comp=Z,7.1nm,0.9s

AAK Ala-Archa 72.63 10 *ceP* **P** **11 13 47.8 +0.5**
AAK pmax pmax
comp=Z,8.0nm,1.0s

IDI Anoyia 72.67 330 LR LR 11 45 07.0
comp=Z,26nm,19.1s,baz=100,slow=35

TIC Toumodi 72.71 288 ⇑*i* P **P** **11 13 48.7 +0.4**
comp=Z,12nm,0.8s

BOOM Boomskoye usch 72.73 12 P **P** **11 13 46.9 -1.0**
BOOM Boomskoye usch 72.73 12 P **P** **11 13 46.9 -1.0**
BOOM pmax pmax
comp=Z,7.0nm,1.2s

BRTR Keskin Array B 73.21 338 P **P** **11 13 49.6 -1.1**
comp=Z,4.0nm,0.9s,baz=161,slow=7.9,SNR=21
BRTR LR LR 11 43 20.1
comp=Z,81nm,19.8s,baz=140,slow=34
comp=Z,4.0nm,0.9s

BRTR Keskin Array B 73.21 338 P **P** **11 13 49.8 -1.0**
BRTR Keskin Array B 73.21 338 *ceP* **P** **11 13 50.2 -0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.9s

BR131 Keskin Array S 73.21 338 P **P** **11 13 49.7 -1.1**
BR131 IAmb IAmb 11 13 50.9
comp=Z,8.8nm,0.9s

BR131 Keskin Array S 73.21 338 P **P** **11 13 49.7 -1.1**
BR131 pmax pmax
comp=Z,9.0nm,0.9s

SANT Santorini 73.34 331 P **P** **11 13 50.4 -1.1**
ZEI Tsey 73.41 347 *eP* **P** **11 13 50.9 -1.1**
ZEI pmax pmax
comp=Z,7.0nm,1.2s

SGDS Sogindy 73.45 10 *eP* **P** **11 13 51.3 -0.7**
SGDS Sogindy 73.45 10 *eP* **P** **11 13 51.3 -0.7**
baz=10

MDOK Medeo 73.58 12 *eP* **P** **11 13 52.8 -0.1**
MDOK Medeo 73.58 12 *eP* **P** **11 13 52.8 -0.1**
baz=12

AAA Alma-Ata 73.60 12 *eP* **P** **11 13 52.8 -0.1**
AAA Alma-Ata 73.60 12 *eP* **P** **11 13 52.8 -0.1**
baz=12

UZB Uzynbulak 73.95 14 *eP* **P** **11 13 55.2 +0.1**
UZB Uzynbulak 73.95 14 *eP* **P** **11 13 55.2 +0.1**
baz=14

SHLS Shalkode 74.05 14 *eP* **P** **11 13 56.1 +0.5**
SHLS Shalkode 74.05 14 *eP* **P** **11 13 56.1 +0.5**
baz=14

KUU Kurty 74.16 11 *eP* **P** **11 13 55.6 -0.5**
KUU pmax pmax
comp=Z,8.0nm,0.9s

KUU Kurty 74.16 11 *eP* **P** **11 13 55.7 -0.5**
comp=Z,7.9nm,0.9s,baz=11

KPKS Kokpek 74.19 13 *eP* **P** **11 13 56.2 -0.2**
KPKS Kokpek 74.19 13 *eP* **P** **11 13 56.3 -0.2**
baz=13

CHKK Chushkaly 74.24 12 *eP* **P** **11 13 56.0 -0.6**
CHKK Chushkaly 74.24 12 *eP* **P** **11 13 56.0 -0.6**
baz=12

KBZ Khabaz 74.51 347 P **P** **11 13 57.8 -0.3**
comp=Z,2.6nm,0.8s,baz=270,slow=1.1,SNR=4.8
KBZ LR LR 11 44 46.1
comp=Z,180nm,21.8s,baz=152,slow=34
comp=Z,2.6nm,0.8s

KBZ Khabaz 74.51 347 *ceP* **P** **11 13 57.6 -0.5**
KBZ pmax pmax
comp=Z,3.0nm,0.9s

MDUB Mudurnu 74.69 337 P **P** **11 13 58.4 -1.0**
KIV Kislovodsk 74.77 346 P **P** **11 13 59.6 -0.2**
KIV IAmb IAmb 11 14 00.5
comp=Z,10nm,0.9s

KIV Kislovodsk 74.77 346 *eP* **P** **11 13 59.6 -0.2**
KIV pmax pmax
comp=Z,11nm,1.0s

BTLS Baital 74.91 10 *eP* **P** **11 14 00.0 -0.4**
BTLS Baital 74.91 10 *eP* **P** **11 14 00.0 -0.4**
baz=9.5

SOC Sochi 75.08 344 *eP* **P** **11 14 00.1 -1.3**
SOC *eS* **S** **11 23 45.4 +5.9**
SOC *eSSS* SSS 11 31 36.0
SOC pmax pmax
comp=Z,14nm,0.9s
SOC MLR MLR
comp=Z,193nm,22.0s

SMAI San Martin Ant 75.57 198 P **P** **11 14 04.5 +0.4**
SMAI IAmb IAmb 11 15 02.2
comp=Z,20nm,1.4s

ARMA Armidale 76.32 117 P **P** **11 14 09.5 +0.2**
CTA Charters Tower 76.49 106 P **P** **11 14 08.8 -1.4**
comp=Z,3.5nm,0.8s,baz=240,slow=5.0,SNR=5.4
comp=Z,3.5nm,0.8s

LZH Lanzhou 76.50 35 *eP* **P** **11 14 13.6 +3.6**
LZH pP pwP 11 14 19.0 +0.4
LZH sP PcP 11 14 22.5 +0.9
LZH pmax pmax
comp=Z,14nm,1.4s

WMQ Urumqi 76.75 20 *eP* **P** **11 14 12.8 +1.7**
WMQ pmax pmax
comp=Z,12nm,0.7s

ANN Anapa 76.78 343 *eP* **P** **11 14 10.6 -0.5**
ANN pmax pmax
comp=Z,98nm,1.4s

GTA Gaotai 77.32 30 *eP* **P** **11 14 17.4 +3.0**
GTA pP PcP 11 14 25.8 +0.8
GTA sP pwP 11 14 29.9 +6.9
GTA pmax pmax
comp=Z,8.0nm,1.7s

XAN Xi'an 77.59 39 ⇑P **P** **11 14 15.6 -0.4**
XAN pmax pmax
comp=Z,5.0nm,0.8s

MAKZ Makanchi 78.07 15 P **P** **11 14 17.4 -1.0**
MAKZ Makanchi 78.07 15 P **P** **11 14 17.4 -1.0**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s

EIDS Eidsvold 78.12 112 P **P** **11 14 18.4 -0.9**
EIDS IAmb IAmb 11 14 19.6
comp=Z,11nm,0.8s

MK31 Makanchi Array 78.13 15 P **P** **11 14 18.1 -0.6**
MK31 Makanchi Array 78.13 15 *i* P **P** **11 14 17.9 -0.7**
MKAR Makanchi Array 78.13 15 P **P** **11 14 17.9 -0.7**
comp=Z,4.5nm,0.9s,baz=187,slow=4.8,SNR=31
MKAR LR LR 11 46 48.4
comp=Z,42nm,19.1s,baz=254,slow=34
comp=Z,4.5nm,0.9s

MKAR Makanchi Array 78.13 15 *i* P **P** **11 14 17.8 -0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.8s

ABKAR Akbulak array 78.18 359 P **P** **11 14 18.0 -0.8**
ABKAR Akbulak array 78.18 359 P **P** **11 14 18.6 -0.2**
ABKAR IAmb IAmb 11 14 19.2
comp=Z,9.4nm,0.8s

TIRR Tirgusor 79.18 337 ⇓P **P** **11 14 24.0 -0.4**
TIRR Tirgusor 79.18 337 P **P** **11 14 22.9 -1.5**
TIRR Tirgusor 79.18 337 P **P** **11 14 22.9 -1.5**
TIRR pmax pmax
comp=Z,35nm,0.9s

AKTO Aktyubinsk 79.40 358 LR LR 11 46 17.6
comp=Z,60nm,21.2s,baz=173,slow=33

VAE Valguarnera 79.45 324 LR LR 11 50 05.1
comp=Z,63nm,18.9s,baz=151,slow=36

HARR Harsova 79.55 337 ⇑P **P** **11 14 25.8 -0.7**
HARR Harsova 79.55 337 P **P** **11 14 25.7 -0.7**
BRZS Berezniki 79.59 8 *eP* **P** **11 14 25.7 -0.8**
BRZS Berezniki 79.59 8 *eP* **P** **11 14 25.8 -0.8**
baz=7.6

CFR Carcaliu 79.90 337 ⇓P **P** **11 14 28.2 -0.2**
CFR Carcaliu 79.90 337 P **P** **11 14 27.6 -0.7**
CFR pmax pmax
comp=Z,21nm,1.0s

ISR Istrita 80.41 336 ⇓P **P** **11 14 31.5 +0.3**
ISR Istrita 80.41 336 P **P** **11 14 31.4 +0.3**
BLKB Belogradchik 80.59 333 ⇓P **P** **11 14 31.4 -0.8**
KEST Kesra 80.88 320 P **P** **11 14 33.4 -0.6**
comp=Z,2.2nm,0.5s,baz=289,slow=5.0,SNR=3.5
KEST LR LR 11 52 08.7
comp=Z,169nm,18.0s,baz=227,slow=37
comp=Z,2.2nm,0.5s

MLR Muntele Rosu 80.94 336 ⇑P **P** **11 14 33.5 -0.6**
MLR Muntele Rosu 80.94 336 LR LR 11 50 12.4
comp=Z,26nm,18.1s,baz=139,slow=36

MLR Muntele Rosu 80.94 336 P **P** **11 14 33.1 -1.0**
MLR IAmb IAmb 11 14 45.7
comp=Z,9.8nm,0.9s

MLR Muntele Rosu 80.94 336 P **P** **11 14 33.1 -1.0**
MLR pmax pmax
comp=Z,10.0nm,0.9s

VRI Vrincioaia 80.99 337 ⇓P **P** **11 14 33.9 -0.3**
VRI ⇓P **pP** **11 14 34.1 -1.7**
VRI Vrincioaia 80.99 337 P **P** **11 14 33.9 -0.3**
VRI pmax pmax
comp=Z,24nm,1.0s

PLOR Plostina 81.00 336 ⇑P **P** **11 14 34.0 -0.4**
PLOR Plostina 81.00 336 P **P** **11 14 33.9 -0.4**
MTUR Matau 81.03 335 ⇑P **P** **11 14 34.4 -0.2**
SEM Semipalatinsk 81.15 12 *eP* **P** **11 14 35.0 -0.2**
SEM Semipalatinsk 81.15 12 *eP* **P** **11 14 35.0 -0.2**
baz=12

COVR Voineasa-Covas 81.15 336 ⇑P **P** **11 14 34.4 -0.7**
KURK Kurchatov 81.16 11 P **P** **11 14 34.6 -0.4**
KURK IAmb IAmb 11 14 39.1
comp=Z,16nm,1.3s

KURK Kurchatov 81.16 11 *ceP* **P** **11 14 35.0 +0.1**
KURK pmax pmax
comp=Z,13nm,1.3s

MILM Milestii Mici 81.21 338 ⇑P **P** **11 14 34.6 -0.8**
MILM Milestii Mici 81.21 338 P **P** **11 14 34.5 -0.8**
VOIR 81.22 335 P **P** **11 14 34.2 -1.3**
VOIR pmax pmax
comp=Z,6.0nm,0.9s

ARR Arges 81.31 335 ⇓P **P** **11 14 35.1 -0.9**
HERR Herculane 81.74 333 ⇑P **P** **11 14 37.6 -0.6**
VRH Novokhopyorsk 81.91 348 *eP* **P** **11 14 36.7 -2.2**
VRH pmax pmax
comp=Z,20nm,1.5s

MDVR Moldovita 81.94 333 ⇓P **P** **11 14 38.9 -0.4**
GZR Gura Zlata 82.03 334 ⇓P **P** **11 14 39.2 -0.7**
GZR Gura Zlata 82.03 334 P **P** **11 14 39.1 -0.7**
DGZ Jazzator, Alta 82.07 17 *i* P **P** **11 14 40.9 +0.8**
DGZ pmax pmax
comp=Z,9.0nm,1.1s

DIVS Divibare 82.08 332 P **P** **11 14 40.2 +0.1**
DIVS IAmb IAmb 11 14 41.0
comp=Z,14nm,1.2s

NJ2 Nanjing 82.09 47 *eP* **P** **11 14 40.5 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s

BELG Belogornoye 82.15 352 LR LR 11 54 15.5
comp=Z,62nm,18.0s,baz=158,slow=38

BELG Belogornoye 82.15 352 *i* P **P** **11 14 39.7 -0.4**
BELG pmax pmax
comp=Z,5.0nm,1.1s

BVAR Borovoye Array 82.36 6 LR LR 11 48 43.2
comp=Z,111nm,21.3s,baz=197,slow=34

BRVK Borovoye 82.38 6 P **P** **11 14 40.6 -0.7**
BRVK Borovoye 82.38 6 *ceP* **P** **11 14 41.4 0.0**
BRVK pmax pmax

comp=Z,4.0nm,1.0s
VSR Storozhevoye 82.42 346 *eP* **P 11 14 39.3 -2.3**
VSR pmax pmax
comp=Z,10.0nm,1.3s
BZS Buzias 82.67 333 ⇓P **P 11 14 42.7 -0.4**
BZS Buzias 82.67 333 P **P 11 14 42.6 -0.4**
VORR Voronezh 82.84 347 *eP* **P 11 14 41.4 -2.4**
BURAR Bucovina Array 83.02 337 ⇓P **P 11 14 45.0 0.0**
BURAR Bucovina Array 83.02 337 P **P 11 14 44.6 -0.3**
BURAR Bucovina Array 83.02 337 P **P 11 14 44.7 -0.3**
BURAR pmax pmax
comp=Z,5.0nm,1.1s
SIRR Siria 83.19 334 ⇓P **P 11 14 45.9 +0.1**
DRGR 83.23 335 ⇑P **P 11 14 45.9 -0.1**
DRGR 83.23 335 P **P 11 14 45.9 -0.1**
RPZ Rata Peaks 83.25 137 LR LR 11 43 07.2
comp=Z,243nm,18.2s,baz=253,slow=29
HHC Hu-ho-hao-te 84.04 36 *eP* **P 11 14 52.3 +1.9**
HHC pmax pmax
comp=Z,35nm,0.7s
HHC pmax pmax
comp=Z,260nm,5.3s
MORH Mrgy, Hungar 84.35 332 ⇑P **P 11 14 51.3 -0.4**
AKASG Malin Array Be 84.43 340 P **P 11 14 51.0 -0.9**
comp=Z,2.4nm,0.6s,baz=160,slow=4.1,SNR=12
comp=Z,2.4nm,0.6s
AKASG Malin Array Be 84.43 340 *ceP* **P 11 14 51.0 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 84.43 340 P **P 11 14 50.9 -1.1**
AKBB IAmb IAmb 11 14 55.2
comp=Z,10.0nm,1.0s
AKBB Malin Array Si 84.43 340 *ceP* **P 11 14 51.6 -0.4**
ARU Arti 85.39 359 P **P 11 14 55.9 -0.8**
ARU IAmb IAmb 11 14 57.5
comp=Z,10nm,1.0s
ARU Arti 85.39 359 *ceP* **P 11 14 57.0 +0.4**
ARU pmax pmax
comp=Z,27nm,2.5s
ZAA0 Zalesovo Array 85.41 14 P **P 11 14 56.6 -0.3**
ZAA0 IAmb IAmb 11 15 00.5
comp=Z,11nm,1.2s
ZALV Zalesovo Beam 85.41 14 P **P 11 14 55.9 -1.0**
comp=Z,2.3nm,0.4s,baz=204,slow=3.3,SNR=13
ZALV LR LR 11 49 27.1
comp=Z,60nm,21.1s,baz=206,slow=33
comp=Z,2.3nm,0.4s
ZALV Zalesovo Beam 85.41 14 P **P 11 14 56.1 -0.7**
ZALV Zalesovo Beam 85.41 14 P **P 11 14 56.1 -0.7**
VYHS Vyhne 86.12 333 *eP* **P 11 14 59.5 -1.0**
VYHS Vyhne 86.12 333 *eP* **P 11 14 59.5 -1.0**
SOKA Soboth 86.24 330 *eP* **P 11 14 59.4 -1.8**
comp=Z,6.9nm,1.4s
RONA Rosalia, Austr 86.51 332 *eP* **P 11 15 02.1 -0.4**
comp=Z,8.9nm,1.3s
BBTS Babate 86.53 289 LR LR 11 53 36.9
comp=Z,172nm,18.3s,baz=106,slow=36
OBN Obninsk 86.62 346 ⇑*eP* **P 11 15 03.5 +0.8**
OBN *e* 11 18 20.1
OBN *eS* **PnS 11 26 38.2 -0.4**
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,99nm,18.0s
CONA Conrad Observa 86.87 331 *eP* **P 11 15 03.3 -1.0**
comp=Z,6.3nm,1.2s
SONM Songino Array 86.92 29 P **P 11 15 04.8 +0.2**
comp=Z,0.8nm,0.7s,baz=215,slow=4.3,SNR=3.6
SONM LR LR 11 51 43.8
comp=Z,62nm,20.7s,baz=246,slow=34
comp=Z,0.8nm,0.7s
MOS Moscow 86.99 347 *eP* **P 11 15 03.3 -1.3**
ABTA Abfaltersbach 87.41 329 *eP* **P 11 15 08.1 +1.1**
comp=Z,4.6nm,1.1s
MOA Molln 87.48 331 *eP* **P 11 15 07.2 0.0**
comp=Z,9.8nm,1.4s
KRUC Moravsky 87.54 332 *eP* **P 11 15 06.4 -1.0**
MDT Midelt 87.61 310 LR LR 11 53 58.2
comp=Z,162nm,19.3s,baz=125,slow=35
BIOA Bad Ischl, Aus 87.63 330 *eP* **P 11 15 10.3 +2.3**
comp=Z,15nm,1.5s
MORC Moravsky Berou 87.65 334 *eP* **P 11 15 07.3 -0.7**
VRAC Vranov 87.66 333 *eP* **P 11 15 07.3 -0.7**
KIRV Kirov 88.06 354 LR LR 11 55 00.5
comp=Z,50nm,18.8s,baz=147,slow=36
KIRV Kirov 88.06 354 *ceP* **P 11 15 09.6 0.0**
WTTA Wattenberg 88.19 329 *eP* **P 11 15 09.7 -1.1**
comp=Z,9.5nm,1.1s
WATA Walderalm 88.27 329 *eP* **P 11 15 10.4 -0.8**
comp=Z,6.9nm,0.8s
SQTA Sankt Quirin 88.35 329 *eP* **P 11 15 09.8 -1.7**
comp=Z,8.6nm,1.4s
FETA Feichten 88.42 328 *eP* **P 11 15 11.5 -0.5**
comp=Z,9.9nm,1.2s
GERES GERESS Array B 88.49 331 P **P 11 15 10.5 -1.6**
comp=Z,1.0nm,1.0s,baz=178,slow=3.9,SNR=7.0
comp=Z,1.0nm,1.0s
MOTA Moosalm 88.49 329 *eP* **P 11 15 11.3 -0.9**
comp=Z,8.6nm,1.0s
DAVOX Davos/Dischmat 88.64 328 LR LR 11 57 12.0
comp=Z,18nm,19.4s,baz=258,slow=37
RETA Reutte 88.75 329 *eP* **P 11 15 12.4 -0.9**
comp=Z,12nm,1.0s
NACGM Naroch 88.84 341 ⇑*eP* **P 11 15 14.2 +0.8**
baz=151
DAVA Damuels 89.01 328 *eP* **P 11 15 14.0 -0.6**
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 89.95 332 *eP* **P 11 15 18.4 -0.4**
BRG Amp 11 15 23.2
comp=Z,11nm,1.3s
BRG Berggiesshubel 89.95 332 *eP* **P 11 15 18.3 -0.4**
BRG pmax pmax
comp=Z,11nm,1.3s
URZ Urewera 90.17 135 LR LR 11 49 56.0
comp=Z,135nm,18.0s,baz=308,slow=32
CLL Collm 90.66 332 *eP* **P 11 15 23.0 +1.0**
CLL Collm 90.66 332 *eP* **P 11 15 23.0 +1.0**
ESBB Sonseca Array 91.36 316 P **P 11 15 25.7 0.0**
ESDC Sonseca Array 91.36 316 P **P 11 15 26.0 +0.3**
comp=Z,5.3nm,0.9s,baz=112,slow=4.1,SNR=20
ESDC LR LR 11 55 46.1
comp=Z,74nm,21.3s,baz=117,slow=35
comp=Z,5.3nm,0.9s
ESDC Sonseca Array 91.36 316 P **P 11 15 26.0 +0.3**
ESDC IAmb IAmb 11 15 30.8
comp=Z,7.8nm,1.1s
KLMR Klimovskoe 91.50 350 *eP* **P 11 15 23.7 -1.9**
KLMR pmax pmax
comp=Z,20nm,1.8s
KLMR Klimovskoe 91.50 350 *eP* **P 11 15 23.8 -1.9**
KLMR AMP 11 15 34.8
comp=Z,20nm,1.8s
RCBR Riachuelo 93.15 262 LR LR 11 50 40.5
comp=Z,86nm,19.1s,baz=310,slow=31
HNR Honiara 93.17 103 LR LR 11 53 16.3
comp=Z,1μm,19.9s,baz=221,slow=33
TRQA Tornquist 94.39 222 P **P 11 15 38.9 -1.0**
TRQA Tornquist 94.39 222 P **P 11 15 38.9 -1.0**
TRQA pmax pmax
comp=Z,11nm,0.7s
FINES FINESS Array B 94.72 344 LR LR 11 58 38.3
comp=Z,34nm,19.8s,baz=195,slow=36
PLCA Paso Flores 97.12 215 P **P 11 15 52.6 +0.2**
comp=Z,1.1nm,0.7s,baz=104,slow=7.0,SNR=3.9
PLCA LR LR 11 54 36.5
comp=Z,77nm,18.6s,baz=190,slow=32
comp=Z,1.1nm,0.7s
HFS Hagfors 97.15 338 LR LR 12 00 30.9
comp=Z,46nm,18.2s,baz=120,slow=36
NOA NORSAR Array B 98.64 338 LR LR 12 00 19.5
comp=Z,39nm,20.0s,baz=295,slow=35
SEY Seymchan 116.26 31 PKP **PKPdf 11 21 00.6 -1.9**
comp=Z,2.9nm,0.9s,baz=189,slow=5.4,SNR=4.9
F22K John River 136.93 18 P **PKiKP 11 21 44.6 +1.0**
baz=316
G22K Bettles 137.53 18 P **PKiKP 11 21 45.0 +0.2**
baz=316
J20K Nowinta River 138.62 22 P **PKiKP 11 21 47.3 +0.2**
baz=311
MLY Manley 139.11 20 P **PKPdf 11 21 46.0 +0.1**
baz=316
H25K Birch Creek 139.51 16 P **PKPdf 11 21 46.9 +0.4**
baz=323
ILAR Eielson Array 140.41 18 PKP **PKPdf 11 21 46.5 -1.8**
comp=Z,2.5nm,1.1s,baz=300,slow=2.9,SNR=9.7
EPYK Eagle Plains 141.33 11 P **PKPdf 11 21 50.2 +0.3**
baz=335

M26K Nabesna, AK 143.35 18 P **PKPdf 11 21 53.0 -0.7**
baz=324
L29M L29M 143.97 15 P PKPbc 11 21 53.1 +0.5
baz=331
MCARA McCarthy VSAT 144.16 20 P **PKPdf 11 21 54.9 -0.1**
baz=323
M29M Somme Creek 144.47 15 P PKPbc 11 21 55.2 +1.0
baz=330
CTG Chitna Glacier 144.98 19 P **PKPdf 11 21 57.1 +0.5**
baz=325
YUK4 Talbot Arm 145.38 17 P **PKPab 11 21 58.0 +0.5**
baz=329
MESA MESA 145.44 20 P **PKPab 11 21 59.3 +1.6**
baz=323
O28M Mount Upton 145.46 18 P **PKPab 11 21 59.9 +2.0**
baz=326
M31M Drury Creek, Y 145.55 13 P **PKPdf 11 21 57.3 -0.1**
baz=336
N30M Aishikik Lake 145.65 15 P **PKPab 11 21 58.7 +0.4**
baz=331
MMPY Sheldon Lake, 145.70 10 P **PKPab 11 21 59.0 +0.5**
baz=341
WRGLY Wrigley 145.91 4 P **PKPdf 11 21 58.7 +0.8**
baz=353
N31M Braeburn, Yuko 145.92 14 P **PKPdf 11 21 58.9 +0.8**
baz=333
HYT Haines Junctio 146.11 16 P **PKPbc 11 22 00.3 +0.8**
baz=330
O30N Mendenhall 146.49 15 P **PKPbc 11 22 00.6 +0.1**
baz=332
YKA Yellowknife Ar 146.65 356 PKPbc **PKPdf 11 21 57.7 -1.5**
comp=Z,8.4nm,0.8s,baz=355,slow=2.9,SNR=11
N32M Quiet Lake 146.77 12 P **PKPdf 11 22 00.7 +1.2**
baz=337
O53A New Philadelph 147.28 300 P **PKPbc 11 22 04.2 +0.8**
baz=82
SKAG Skagway 147.83 16 P **PKPbc 11 22 04.8 +0.6**
baz=333
P32M Atlin 148.08 14 P **PKPbc 11 22 05.2 +0.3**
baz=335
WTLY Watson Lake, Y 148.46 9 P **PKPbc 11 22 06.0 +0.1**
baz=344
R33M Jennings River 148.80 12 P **PKPbc 11 22 07.3 +0.3**
baz=340
Q32M Nakina River 148.96 13 P **PKPbc 11 22 08.1 +0.7**
baz=337
P49A Miami Univ. Ec 150.06 299 P **PKPbc 11 22 10.2 -0.4**
baz=80
S34M Telegraph Cree 150.15 13 P **PKiKP 11 22 11.2 +0.2**
baz=338
T35M Bob Quinn 151.20 13 P **PKiKP 11 22 13.7 +0.5**
baz=339
WCI Wyandotte Cave 151.47 297 P **PKPbc 11 22 13.7 -0.3**
baz=82
EYMN Ely 151.76 319 P **PKPbc 11 22 14.5 +0.2**
baz=58
ULM Lac du Bonnet 152.71 327 PKPbc **PKPbc 11 22 14.9 -1.4**
comp=Z,7.9nm,0.7s,baz=62,slow=4.9,SNR=8.1
ULM PKPab **PKPab 11 22 26.3 -0.8**
comp=Z,12nm,0.7s,baz=31,slow=2.7,SNR=8.0
JFWS Jewell Farm 153.21 308 P **PKPbc 11 22 17.4 -0.2**
baz=69
NEW Newport 160.98 356 P **PKPdf 11 22 20.1 +0.1**
baz=5.1
WMOK Wichita Mounta 161.99 293 P **PKPdf 11 22 22.5 +1.1**
baz=78
MSO Missoula 162.03 349 P **PKPdf 11 22 20.8 -0.4**
baz=14
833A Chaparral WMA, 162.76 272 P **PKPdf 11 22 24.0 +1.6**
baz=98
JCT Junction City 163.28 279 P **PKPdf 11 22 23.6 +0.8**
baz=90
AMTX Amarillo 164.27 295 P **PKPdf 11 22 24.4 +0.7**
baz=74
BW06 Boulder Array 164.52 333 P **PKPdf 11 22 23.6 -0.2**
baz=32
PDAR Pinedale Array 164.52 333 PKP **PKPdf 11 22 23.6 -0.3**
comp=Z,2.9nm,0.9s,baz=139,slow=2.6,SNR=19
ISCO Idaho Springs 164.77 317 P **PKPdf 11 22 24.8 +0.6**
baz=50
Q24A Divide 165.00 314 P **PKPdf 11 22 25.7 +1.2**
baz=54
J05D Fort Rock, OR 165.91 7 P **PKPdf 11 22 26.3 +1.4**
baz=352
SDCO Great Sand Dun 165.91 310 P **PKPdf 11 22 26.6 +1.4**
baz=57
O20A White River Ci 166.01 324 P **PKPdf 11 22 26.0 +0.8**
baz=42
TXAR Lajitas Array 166.59 274 PKP **PKPdf 11 22 26.3 +0.5**
comp=Z,0.5nm,0.8s,baz=119,slow=1.6,SNR=5.7
TXAR PKPab **PKPab 11 23 29.4 +1.2**
comp=Z,0.4nm,1.0s,baz=104,slow=2.9,SNR=3.4
S22A 4UR Ranch, Cre 166.78 313 P **PKPdf 11 22 27.2 +1.2**
baz=54
DUG Dugway, Tooele 167.97 337 P **PKPdf 11 22 27.4 +0.8**
baz=27
MNTX Cornudas Mount 167.98 285 P **PKPdf 11 22 27.6 +1.0**
baz=82
121A Cookes Peak, D 169.81 291 P **PKPdf 11 22 29.9 +1.9**
baz=74
NVAR Mina Array Bea 170.85 356 PKP **PKPdf 11 22 29.6 +1.2**
comp=Z,1.3nm,0.8s,baz=182,slow=2.4,SNR=13
WUAZ Wupatki 171.02 316 P **PKPdf 11 22 30.3 +1.8**
baz=48
TUC Tucson 172.29 295 P **PKPdf 11 22 31.0 +1.8**
baz=69
FURC Furnace Creek, 172.60 346 P **PKPdf 11 22 31.5 +2.5**
baz=15
SHOC Shoshone, Teco 173.00 341 P **PKPdf 11 22 31.0 +1.8**
baz=20
MPMC Manual Prospec 173.11 350 P **PKPdf 11 22 31.8 +2.2**
baz=11
ISA Isabella, Lake 173.61 356 P **PKPdf 11 22 31.6 +2.1**
baz=4.4
LRMC Laurel Mtn Rad 173.71 350 P **PKPdf 11 22 31.7 +2.0**
baz=11
GMRC Granite Mounta 173.81 333 P **PKPdf 11 22 31.8 +2.1**
baz=28
214A Organ Pipe Nat 174.01 298 P **PKPdf 11 22 31.7 +2.0**
baz=64
IRM Iron Mountain 174.11 327 P **PKPdf 11 22 31.9 +2.1**
baz=35
EDW2 Edwards Air Fo 174.34 351 P **PKPdf 11 22 31.9 +2.1**
baz=9.2
BELC Belle Mtn. Jos 174.63 332 P **PKPdf 11 22 32.3 +2.3**
baz=29
BC3 Big Chuckawall 174.67 326 P **PKPdf 11 22 32.4 +2.4**
baz=36
PFO Pinyon Flats O 175.15 334 P **PKPdf 11 22 32.8 +2.6**
baz=27
TPFO Pinon Flats 175.15 334 P **PKPdf 11 22 32.6 +2.4**
baz=27
SWSC Sam W. Stewart 175.41 324 P **PKPdf 11 22 32.5 +2.4**
baz=38
MONP2 Monument Peak 175.76 329 P **PKPdf 11 22 32.5 +2.0**
baz=32
IKP In-Ko-Pah, Jac 175.80 324 P **PKPdf 11 22 32.8 +2.4**
baz=37

IDC 18 11:10:28.4±1.4, 8.33S×74.59W, h0km, mb3.3/2, mbtmp3.2/3, ML3.1/1, MS3.0/3, Error ellipse: s-maj=64.5km s-min=27.3km az=50.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.95**	**287**	LR	LR	11 13 16.4	
	comp=Z,98nm,20.1s,baz=119,slow=42						
NNA	**Nana**	**4.26**	**211**	LR	LR	11 13 16.8	
	comp=Z,70nm,18.9s,baz=90,slow=40						
LPAZ	**La Paz**	**10.12**	**142**	Pn	Pn	11 12 56.7	+1.0
	0.1nm,0.3s,baz=328,slow=13,SNR=1.4						
LPAZ				Lg	Lg	11 15 51.9	
	0.4nm,0.3s,baz=194,slow=15,SNR=4.0						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**46.76**	**324**	P	P	11 19 00.7	+0.8
	0.1nm,0.4s,baz=138,slow=8.6,SNR=1.8						
	0.1nm,0.4s						
PMSA	**Palmer Station**	**56.85**	**175**	LR	LR	11 42 11.9	
	comp=Z,51nm,19.1s,baz=237,slow=34						
TORD	**Torodi Ar. Bea**	**78.69**	**75**	P	P	11 22 32.9	-0.3
	0.3nm,0.5s,baz=270,slow=3.9,SNR=2.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**137.73**	**221**	PKP	PKPdf	11 29 54.3	-1.4
	0.4nm,1.0s,baz=129,slow=2.5,SNR=4.2						
WRA	**Warramunga Arr**	**140.00**	**225**	PKP	PKPdf	11 29 58.7	-1.2
	0.3nm,0.4s,baz=140,slow=1.8,SNR=4.9						

FITZ Fitzroy Crossi 147.01 217 PKPbc PKPdf 11 30 12.8 +0.7
1.0nm,0.6s,baz=300,slow=2.0,SNR=1.5

ROM 18 11:12:16.6±0.0, 42.820N±0.002×13.220E±0.004, h10km, ML1.5/10, 4C-3D, Error ellipse: s-maj=0.3km s-min=0.2km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.01**	**310**	⇓P	Pg	11 12 18.5	-0.1
T1242				S	Sg	11 12 19.3	-0.6
T1242				AML	AML		
	comp=E,5520μm,0.2s						
T1242				AML	AML		
	comp=N,6110μm,0.2s						
T1242				AML	AML		
	comp=E,5505μm,0.2s						
T1242				AML	AML		
	comp=N,6055μm,0.2s						
NRCA	**Norcia**	**0.08**	**280**	P	Pg	11 12 19.4	+0.4
NRCA				S	Sg	11 12 20.9	+0.2
NRCA				AML	AML		
	comp=N,4070μm,0.9s						
NRCA				AML	AML		
	comp=N,4395μm,0.9s						
NRCA				AML	AML		
	comp=N,4075μm,0.9s						
NRCA				AML	AML		
	comp=E,2310μm,0.1s						
NRCA				AML	AML		
	comp=E,2200μm,0.1s						
MC2	**Monte Cornacci**	**0.10**	**347**	P	Pg	11 12 19.8	+0.4
MC2				S	Sg	11 12 21.7	+0.4
MMO1	**Montemonaco**	**0.11**	**45**	P	Pg	11 12 19.9	+0.4
MMO1				S	Sg	11 12 22.0	+0.5
T1202	**Accumoli, Fraz**	**0.12**	**178**	P	Pg	11 12 20.1	+0.6
T1202				S	Sg	11 12 22.5	+0.9
T1204	**Amatrice, Fraz**	**0.16**	**154**	P	Pg	11 12 20.8	+0.6
T1204				S	Sg	11 12 23.7	+1.0
T1241	**Roccafluvione,**	**0.16**	**77**	P	Pg	11 12 20.8	+0.7
T1241				S	Sg	11 12 23.6	+1.1
T1241				AML	AML		
	comp=E,731μm,1.6s						
T1241				AML	AML		
	comp=N,790μm,1.6s						
T1241				AML	AML		
	comp=E,175μm,0.4s						
T1241				AML	AML		
	comp=N,168μm,1.5s						
T1241				AML	AML		
	comp=E,2125μm,0.5s						
T1241				AML	AML		
	comp=N,168μm,1.5s						
T1241				AML	AML		
	comp=E,174μm,0.4s						
T1241				AML	AML		
	comp=N,2405μm,0.5s						
T1216	**Preci, Frazion**	**0.16**	**296**	P	Pg	11 12 20.8	+0.6
T1216				S	Sg	11 12 23.8	+1.1
AM05	**Amandola Campo**	**0.18**	**32**	P	Pg	11 12 21.0	+0.4
AM05				S	Sg	11 12 24.7	+1.4
AM05				AML	AML		
	comp=E,180μm,0.3s						
AM05				AML	AML		
	comp=E,703μm,0.4s						
AM05				AML	AML		
	comp=N,550μm,1.2s						
AM05				AML	AML		
	comp=N,144μm,0.4s						
FDMO	**Fiordimonte**	**0.24**	**336**	P	Pg	11 12 22.2	+0.7
FDMO				S	Sg	11 12 26.4	+1.6
FDMO				AML	AML		
	comp=E,108μm,1.3s						
FDMO				AML	AML		
	comp=N,98μm,0.3s						
T1217	**Poggiodomo (PG**	**0.24**	**243**	⇑P	Pg	11 12 22.2	+0.7
T1217				S	Sg	11 12 26.7	+1.8
GUMA	**Gualdo di Mace**	**0.26**	**19**	AML	AML		
	comp=E,230μm,0.4s						
GUMA				AML	AML		
	comp=N,267μm,1.4s						
T1215	**Vallo di Nera,**	**0.26**	**266**	P	Pg	11 12 22.6	+0.7
T1215				S	Sb	11 12 26.9	-1.1
CSP1	**Cessapalombo**	**0.27**	**358**	P	Pg	11 12 22.9	+0.7
CSP1				S	Sb	11 12 27.5	-0.9
RM33	**Pellescritta (**	**0.31**	**181**	P	Pg	11 12 23.5	+0.6
RM33				S	Sb	11 12 28.6	-0.9
RM33				AML	AML		
	comp=E,108μm,1.0s						
RM33				AML	AML		
	comp=N,80μm,1.6s						
RM33				AML	AML		
	comp=N,80μm,1.6s						
RM33				AML	AML		
	comp=E,108μm,1.0s						
CAMP	**Campotosto**	**0.32**	**154**	P	Pg	11 12 23.3	+0.4
CAMP				S	Sg	11 12 28.4	+1.2
CAMP				AML	AML		
	comp=N,68μm,0.8s						
CAMP				AML	AML		
	comp=E,64μm,0.2s						
TERO	**Teramo**	**0.34**	**125**	P	Pg	11 12 23.8	+0.4
TERO				S	Sb	11 12 29.4	-1.1
TERO				AML	AML		
	comp=E,138μm,0.3s						
TERO				AML	AML		
	comp=N,236μm,0.5s						
ARRO	**Arrone**	**0.41**	**234**	⇑P	Pb	11 12 25.4	-0.6
GIGS	**Gran Sasso**	**0.45**	**145**	P	Pg	11 12 25.8	+0.4
GIGS				S	Sb	11 12 32.9	-0.6
GIGS				AML	AML		
	comp=E,31μm,1.6s						
GIGS				AML	AML		
	comp=N,19μm,1.6s						
SNTG	**Esanatoglia**	**0.48**	**335**	⇑P	Pb	11 12 26.9	-0.4
SNTG				AML	AML		
	comp=E,37μm,1.6s						
SNTG				AML	AML		
	comp=N,34μm,1.6s						
EL6	**Elcito**	**0.52**	**350**	⇓P	Pb	11 12 27.6	-0.3
EL6				S	Sb	11 12 37.0	+1.5
ARVD	**Arcevia**	**0.71**	**343**	S	Sn	11 12 43.0	-0.8
T0110	**Collepietro**	**0.72**	**145**	⇑P	Pg	11 12 30.5	-0.1
FRON	**Frontone**	**0.79**	**333**	S	Sg	11 12 41.0	-1.0
RCAV	**Rocca di Cave**	**0.99**	**192**	⇓P	Pn	11 12 38.0	+1.3
LRP	**Arpino**	**1.20**	**167**	S	Sn	11 12 56.0	+0.1

IDC 18 11:24:27.3±1.8, 2.73N×125.56E, h0km, mb3.5/5, mbtmp3.5/5, MS3.8/3, Error ellipse: s-maj=112.0km s-min=24.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.69**	**180**	P	P	11 29 09.0	-0.2
	0.7nm,0.3s,baz=6.8,slow=10,SNR=12						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**24.12**	**159**	P	P	11 29 45.5	+0.5
	0.7nm,0.4s,baz=339,slow=9.9,SNR=35						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**27.46**	**163**	P	P	11 30 14.7	-0.6
	0.3nm,0.8s,baz=338,slow=8.5,SNR=9.8						
	0.3nm,0.8s						
CTA	**Charters Tower**	**30.44**	**139**	LR	LR	11 45 03.0	
	comp=Z,108nm,21.2s,baz=260,slow=41						
STKA	**Stephens Creek**	**37.63**	**157**	P	P	11 31 44.2	+0.1
	1.0nm,0.8s,baz=336,slow=10.0,SNR=1.6						
	1.0nm,0.8s						
MSVF	**Nonsavu**	**55.57**	**114**	LR	LR	11 56 11.2	
	comp=Z,85nm,18.1s,baz=192,slow=34						
MKAR	**Makanchi Array**	**57.72**	**326**	P	P	11 34 20.0	+0.1
	0.1nm,0.4s,baz=124,slow=8.3,SNR=2.5						
	0.1nm,0.4s						
TIXI	**Tiksi**	**68.86**	**1**	LR	LR	12 06 54.3	
	comp=Z,84nm,19.7s,baz=184,slow=37						

IDC 18 12:01:45.2±6.3, 2.25S×141.26E, h0km, mb3.3/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=156.9km s-min=74.9km az=134.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.84**	**201**	P	P	12 06 06.3	-0.6

0.1nm,0.3s,baz=24,slow=12,SNR=5.5
0.5nm,0.7s

ASAR Alice Springs 22.45 198 P P 12 06 45.8 -0.3
0.5nm,0.6s,baz=28,slow=11,SNR=10
0.5nm,0.6s

VNDA Vanda 76.03 175 P P 12 13 34.4 +0.5
0.3nm,0.6s,baz=340,slow=6.3,SNR=2.0
0.3nm,0.6s

---

*DJA **18** 12:02:00.9±4.5,2°S±12″×14°3E±1°3,h27km±30km, M5.0/7, mB6.4/1,mb4.7/7,MLv5.2/1,Mw(mB)6.2/1*
*IDC **18** 12:02:26.1±0.7,2°21S×140°87E,h0km,mb4.0/12, mbtmp4.1/14,ML4.5/2,MS3.5/8,Error ellipse: s-maj=29.9km s-min=14.4km az=89.0*
*NEIC **18** 12:02:29.1±1.6,2°2S±0°1×140°5E±0°1,h10km±1km, mb4.2/17,Error ellipse: s-maj=23.8km s-min=10.4km az=50.0*

ISC 18 12:02:32.1±0.6,2°18S±0°07×140°6E±0°1,h35km,n49, σ1ᵖ59/41,mb4.0/14,MS3.6/7,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAMI	**Wamena**	**2.50**	**227**	P	**Pn**	**12 03 14.4**	**+4.2**
FAKI	**Fak Fak**	**8.33**	**265**	Pn	**Pn**	**12 04 30.2**	**-0.2**
PMG	**Port Moresby**	**9.73**	**138**	LR	LR	12 09 14.7	
	comp=Z,180nm,18.2s,baz=294,slow=43						
BNDI	**Bandanaira**	**10.88**	**257**	P	Pn	12 05 14.9	+9.5
	14μm85nm,0.6s						
MTN	**Manton Dam**	**14.11**	**221**	Pn	**Pn**	**12 05 47.9**	**-1.7**
KNRA	**Kununurra**	**17.74**	**220**	P	**Pn**	**12 06 36.0**	**-0.5**
KNRA				IAmb	IAmb	12 06 46.5	
	comp=Z,27nm,1.3s						
WB0	**Warramunga Arr**	**18.48**	**199**	P	**Pn**	**12 06 45.1**	**-0.5**
BATI	**Baumata**	**18.57**	**244**	P	**Pn**	**12 06 49.0**	**+2.3**
	comp=Z,3.2nm,0.3s,baz=112,slow=14,SNR=3.6						
	comp=Z,28nm,0.6s						
WR0	**Warramunga Arr**	**18.62**	**198**	P	**Pn**	**12 06 46.6**	**-0.6**
WR0				IAmb	IAmb	12 06 54.8	
	comp=Z,6.8nm,0.7s						
WRAB	**Tennant Creek**	**18.65**	**199**	P	**P**	**12 06 46.1**	**-1.0**
WRAB				IAmb	IAmb	12 06 47.5	
	comp=Z,14nm,1.2s						
WB2	**Warramunga Arr**	**18.66**	**199**	P	**P**	**12 06 46.8**	**-0.4**
WB2				IAmb	IAmb	12 06 55.3	
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**18.66**	**199**	P	**P**	**12 06 46.6**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=25,slow=12,SNR=46						
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**18.66**	**199**	P	**P**	**12 06 46.0**	**-1.2**
MRSI	**Marisa**	**18.79**	**278**	P	**P**	**12 06 44.9**	**-3.8**
	comp=Z,14nm,0.5s						
TOLI2	**Tolitoli**	**20.04**	**279**	P	**P**	**12 07 02.1**	**-0.1**
TOLI2				IAmb	IAmb	12 07 19.7	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.54**	**222**	P	**P**	**12 07 17.5**	**-1.0**
	comp=Z,3.4nm,0.5s,baz=40,slow=11,SNR=15						
	comp=Z,3.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.54**	**222**	P	**P**	**12 07 18.4**	**-0.1**
FITZ				IAmb	IAmb	12 07 20.8	
	comp=Z,7.9nm,1.1s						
AS31	**Alice Springs**	**22.30**	**196**	P	**P**	**12 07 26.8**	**+0.1**
ASAR	**Alice Springs**	**22.30**	**196**	P	**P**	**12 07 26.4**	**-0.4**
	comp=Z,3.8nm,0.6s,baz=25,slow=9.3,SNR=49						
	comp=Z,3.8nm,0.6s						
ASAR	**Alice Springs**	**22.30**	**196**	P	**P**	**12 07 26.1**	**-0.6**
EIDS	**Eidsvold**	**25.19**	**157**	P	**P**	**12 07 56.1**	**+1.6**
MTKI	**Muara Teweh, K**	**25.68**	**272**	P	**P**	**12 07 54.6**	**-4.5**
STKA	**Stephens Creek**	**29.55**	**178**	P	**P**	**12 08 32.5**	**-1.1**
	comp=Z,5.2nm,1.0s,baz=351,slow=9.1,SNR=7.8						
	comp=Z,5.2nm,1.0s						
STKA	**Stephens Creek**	**29.55**	**178**	P	**P**	**12 08 33.4**	**-0.2**
BBOO	**Buckleboo**	**30.76**	**187**	P	**P**	**12 08 42.9**	**-1.4**
BBOO				IAmb	IAmb	12 08 48.7	
	comp=Z,14nm,1.3s						
FORT	**Forrest**	**30.80**	**201**	P	**P**	**12 08 43.8**	**-0.9**
DZM	**Mont Dzumac**	**32.00**	**130**	LR	LR	12 21 13.9	
	comp=Z,127nm,18.0s,baz=29,slow=36						
H11S3	**WAKE ISLAND Hy**	**32.92**	**50**	T	T	12 44 34.9	
	baz=232,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy**	**32.93**	**50**	T	T	12 44 33.6	
	baz=232,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**32.94**	**50**	T	T	12 44 34.1	
	baz=232,slow=75,SNR=23						
CAN	**Canberra**	**33.89**	**168**	P	**P**	**12 09 11.6**	**-0.2**
KSRS	**Korea Array**	**41.14**	**345**	P	**P**	**12 10 12.4**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=163,slow=9.9,SNR=4.7						
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.79**	**298**	P	**P**	**12 10 53.2**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=112,slow=8.3,SNR=4.1						
	comp=Z,0.4nm,0.3s						
RPZ	**Rata Peaks**	**49.43**	**151**	LR	LR	12 32 05.8	
	comp=Z,88nm,18.7s,baz=282,slow=36						
KLR	**Kul'dur**	**51.77**	**353**	P	**P**	**12 11 37.5**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=205,slow=2.3,SNR=6.6						
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**58.05**	**334**	P	**P**	**12 12 23.7**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=145,slow=5.3,SNR=3.5						
	comp=Z,0.4nm,0.4s						
MA2	**Magadan**	**62.10**	**6**	LR	LR	12 37 32.2	
	comp=Z,20nm,20.5s,baz=142,slow=34						
MKAR	**Makanchi Array**	**70.51**	**322**	P	**P**	**12 13 42.3**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=110,slow=6.6,SNR=7.9						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**70.51**	**322**	P	**P**	**12 13 42.5**	**-0.8**
ZALV	**Zalesovo Beam**	**72.42**	**329**	P	**P**	**12 13 55.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=93,slow=7.8,SNR=2.4						
ZALV				LR	LR	12 46 09.6	
	comp=Z,24nm,19.8s,baz=88,slow=36						
	comp=Z,0.4nm,0.3s						
BOOM	**Boomskoye usch**	**73.06**	**316**	P	**P**	**12 13 58.7**	**-0.3**
BOOM				IAmb	IAmb	12 14 04.8	
	comp=Z,3.2nm,0.8s						
VNDA	**Vanda**	**76.14**	**175**	P	**P**	**12 14 15.6**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=323,slow=6.5,SNR=20						
VNDA				LR	LR	12 46 59.0	
	comp=Z,49nm,18.6s,baz=105,slow=35						
	comp=Z,2.5nm,0.8s						
VNDA	**Vanda**	**76.14**	**175**	P	**P**	**12 14 16.0**	**0.0**
VNDA				IAmb	IAmb	12 14 16.4	
	comp=Z,2.3nm,0.7s						
NRIK	**Noril'sk**	**79.74**	**343**	P	**P**	**12 14 36.8**	**+0.7**
	comp=Z,4.3nm,0.7s,baz=98,slow=3.8,SNR=5.0						
NRIK				LR	LR	12 50 01.3	
	comp=Z,32nm,19.9s,baz=77,slow=36						
	comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**84.60**	**24**	P	**P**	**12 14 58.9**	**-2.7**
	comp=Z,0.8nm,0.8s,baz=250,slow=4.9,SNR=5.6						
ILAR				LR	LR	12 55 20.0	
	comp=Z,20nm,18.2s,baz=272,slow=38						
	comp=Z,0.8nm,0.8s						
BMAR	**Burnt Mountain**	**86.23**	**22**	P	**P**	**12 15 10.5**	**+0.7**
QSPA	**South Pole Qui**	**87.76**	**180**	P	**P**	**12 15 16.6**	**-0.8**
LPAZ	**La Paz**	**146.24**	**124**	PKPbc	**PKPdf**	**12 22 08.8**	**-0.9**
	comp=Z,2.4nm,1.0s,baz=282,slow=4.1,SNR=6.6						
CPUP	**Villa Florida**	**146.80**	**150**	PKPbc	**PKPdf**	**12 22 10.2**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=233,slow=8.4,SNR=4.2						

---

*NEIC **18** 12:11:24.0±0.8,21°9S±0°2×179°3W±0°2,h600km±19km, mb4.4/25,Error ellipse: s-maj=34.0km s-min=21.8km az=219.0*
*IDC **18** 12:11:24.7±1.9,22°00S×179°49W,h593km±20km, mb3.4/10,mbtmp4.4/12,Error ellipse: s-maj=20.6km s-min=15.3km az=90.0*

ISC 18 12:11:24.0±0.7,22°07S±0°09×179°4W±0°1,h592km,n59, σ0ᵖ98/61,mb4.2/22,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.92**	**331**	P	**P**	**12 12 56.1**	**+0.1**
	126nm,0.4s,baz=250,slow=23,SNR=354						
MSVF	**Nonsavu**	**4.92**	**331**	P	**P**	**12 12 55.3**	**-0.7**
MARNC	**Mare, Loyalty**	**11.66**	**271**	P	**P**	**12 13 59.2**	**-0.1**
DZM	**Mont Dzumac**	**13.09**	**267**	P	**P**	**12 14 15.6**	**+1.6**
	7.8nm,0.7s,baz=121,slow=12,SNR=10.0						
DZM	**Mont Dzumac**	**13.09**	**267**	P	**P**	**12 14 15.9**	**+1.9**
URZ	**Urewera**	**16.41**	**190**	S	**S**	**12 17 24.2**	**-5.0**
	15nm,0.9s,baz=289,slow=22,SNR=7.7						
TUWZ	**Tuamarina**	**20.09**	**195**	P	**P**	**12 15 20.1**	**+1.4**
LTZ	**Lake Taylor**	**21.78**	**197**	P	**P**	**12 15 34.8**	**+0.8**
LTZ				IAmb	IAmb	12 15 57.4	
	comp=Z,20nm,1.2s						
WHZ	**Wether Hill Ro**	**25.90**	**200**	P	**P**	**12 16 11.1**	**+0.8**

EIDS	**Eidsvold**	**27.16**	**257**	P	**P**	**12 16 22.1**	**+0.4**
ARMA	**Armidale**	**27.19**	**246**	P	**P**	**12 16 23.1**	**+1.0**
CAN	**Canberra**	**30.53**	**237**	P	**P**	**12 16 51.4**	**+0.6**
CTA	**Charters Tower**	**32.03**	**267**	P	**P**	**12 17 03.7**	**0.0**
	comp=Z,6.4nm,0.4s,baz=94,slow=10,SNR=13						
	comp=Z,6.4nm,0.4s						
CTAO	**Charters Tower**	**32.03**	**267**	P	**P**	**12 17 04.0**	**+0.3**
CTAO				IAmb	IAmb	12 17 04.7	
	comp=Z,6.5nm,0.7s						
TOO	**Toolangi**	**33.89**	**235**	P	**P**	**12 17 19.9**	**+0.7**
STKA	**Stephens Creek**	**35.91**	**246**	P	**P**	**12 17 36.8**	**+0.9**
	comp=Z,3.0nm,0.5s,baz=97,slow=11,SNR=12						
	comp=Z,3.0nm,0.5s						
STKA	**Stephens Creek**	**35.91**	**246**	P	**P**	**12 17 36.3**	**+0.4**
COEN	**Coen**	**36.38**	**276**	P	**P**	**12 17 39.2**	**-0.7**
BBOO	**Buckleboo**	**40.66**	**245**	P	**P**	**12 18 13.8**	**-0.5**
BBOO				IAmb	IAmb	12 18 40.6	
	comp=Z,28nm,1.5s						
AS31	**Alice Springs**	**42.87**	**259**	P	**P**	**12 18 31.8**	**0.0**
ASAR	**Alice Springs**	**42.87**	**259**	P	**P**	**12 18 31.8**	**-0.1**
	comp=Z,9.1nm,0.8s,baz=97,slow=8.0,SNR=145						
ASAR				PcP	**PcP**	12 20 09.3	+0.3
	comp=Z,0.8nm,0.5s,baz=108,slow=3.9,SNR=5.4						
	comp=Z,9.1nm,0.8s						
ASAR	**Alice Springs**	**42.87**	**259**	P	**P**	**12 18 31.1**	**-0.7**
WR0	**Warramunga Arr**	**42.89**	**264**	P	**P**	**12 18 31.6**	**-0.4**
WR0				IAmb	IAmb	12 18 37.0	
	comp=Z,6.3nm,1.2s						
WB0	**Warramunga Arr**	**43.06**	**264**	P	**P**	**12 18 32.8**	**-0.5**
WB0				IAmb	IAmb	12 18 33.1	
	comp=Z,6.0nm,0.5s						
WB2	**Warramunga Arr**	**43.06**	**264**	P	**P**	**12 18 32.6**	**-0.7**
WB2				IAmb	IAmb	12 18 33.6	
	comp=Z,8.7nm,1.1s						
WRA	**Warramunga Arr**	**43.08**	**264**	P	**P**	**12 18 32.8**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=96,slow=7.9,SNR=148						
	comp=Z,2.0nm,0.3s						
WRA	**Warramunga Arr**	**43.08**	**264**	P	**P**	**12 18 32.6**	**-0.8**
FORT	**Forrest**	**47.45**	**248**	P	**P**	**12 19 05.3**	**-1.3**
FORT				IAmb	IAmb	12 19 23.9	
	comp=Z,20nm,0.9s						
MTN	**Manton Dam**	**47.86**	**272**	P	**P**	**12 19 08.4**	**-1.3**
MTN				IAmb	IAmb	12 19 22.5	
	comp=Z,17nm,1.2s						
KNRA	**Kununurra**	**49.24**	**268**	P	**P**	**12 19 19.0**	**-0.9**
KNRA				IAmb	IAmb	12 19 21.7	
	comp=Z,8.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.51**	**264**	P	**P**	**12 19 36.0**	**-0.4**
FITZ				IAmb	IAmb	12 20 10.5	
	comp=Z,8.7nm,1.4s						
PSA00	**Pilbara Seismi**	**56.02**	**258**	P	**P**	**12 20 07.8**	**-0.4**
MBWA	**Marble Bar**	**56.21**	**259**	P	**P**	**12 20 08.9**	**-0.6**
MBWA				IAmb	IAmb	12 20 09.5	
	comp=Z,9.4nm,0.5s						
VNDA	**Vanda**	**56.24**	**185**	P	**P**	**12 20 09.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=355,slow=6.0,SNR=8.8						
	comp=Z,0.7nm,0.6s						
VNDA	**Vanda**	**56.24**	**185**	P	**P**	**12 20 09.4**	**+0.7**
MORW	**Morawa**	**58.00**	**249**	P	**P**	**12 20 21.1**	**-0.5**
MORW				IAmb	IAmb	12 20 41.7	
	comp=Z,48nm,1.5s						
TOLI2	**Tolitoli**	**62.63**	**283**	P	**P**	**12 20 52.0**	**-0.3**
TOLI2				IAmb	IAmb	12 20 54.3	
	comp=Z,5.3nm,0.6s						
QSPA	**South Pole Qui**	**68.01**	**180**	P	**P**	**12 21 26.0**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=336,slow=0.6,SNR=19						
	comp=Z,3.8nm,0.9s						
QSPA	**South Pole Qui**	**68.01**	**180**	P	**P**	**12 21 26.1**	**+1.1**
MJAR	**Matsushiro Arr**	**70.69**	**325**	P	**P**	**12 21 41.1**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=149,slow=7.2,SNR=5.6						
	comp=Z,1.7nm,0.6s						
PETK	**Petropavlovsk-**	**77.45**	**346**	P	**P**	**12 22 19.1**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=145,slow=8.6,SNR=3.5						
	comp=Z,3.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**12 23 20.4**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=136,slow=3.7,SNR=14						
	comp=Z,2.5nm,0.9s						
ILAR	**Eielson Array**	**90.14**	**13**	P	**P**	**12 23 20.7**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=224,slow=3.8,SNR=2.7						
	comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**130.20**	**349**	PKP	**PKiKP**	**12 29 27.1**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=48,slow=1.8,SNR=9.3						
FINES	**FINESS Array B**	**136.87**	**342**	PKP	**PKiKP**	**12 29 40.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=73,slow=3.5,SNR=6.8						
AKASG	**Malin Array Be**	**143.69**	**329**	PKP	PKPbc	12 29 51.0	-0.4
	comp=Z,2.4nm,0.3s,baz=43,slow=4.2,SNR=20						
BRTR	**Keskin Array B**	**146.85**	**310**	PKPbc	**PKPbc**	**12 30 01.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=142,slow=4.7,SNR=8.5						
OSTC	**Ostas**	**149.03**	**340**	*e*PKP	**PKiKP**	**12 30 07.2**	**+0.2**
CHVC	**Chvalec**	**149.05**	**341**	*e*PKP	**PKiKP**	**12 30 07.2**	**+0.2**
UPC	**Upice**	**149.13**	**341**	*e*PKP	**PKiKP**	**12 30 07.3**	**+0.1**
DPC	**Dobruska-Polom**	**149.18**	**340**	*e*PKP	**PKiKP**	**12 30 07.0**	**-0.3**
CLL	**Collm**	**149.25**	**345**	*i* PKPbc	**PKiKP**	**12 30 07.2**	**-0.1**
	comp=Z,8.0nm,1.0s						
CLL				*i* PKPab	**PKPab**	**12 30 14.0**	**+0.4**
	comp=Z,10.0nm,1.5s						
CLL				Lm	MLR	15 32 00.0	
	comp=Z,100nm,20.3s						
KRLC	**Kraliky**	**149.27**	**339**	*e*PKP	**PKiKP**	**12 30 07.4**	**-0.1**
MAUC	**Maruska**	**149.51**	**338**	*e*PKP	**PKiKP**	**12 30 08.4**	**+0.4**
PRU	**Pruhonice**	**150.03**	**342**	*e*PKP	**PKiKP**	**12 30 08.6**	**-0.4**
PRU				*ex*	x	12 30 17.7	
KRUC	**Moravsky**	**150.27**	**339**	*e*PKP	**PKiKP**	**12 30 09.7**	**+0.2**
KHC	**Kasperske Hory**	**151.08**	**342**	*e*PKP	**PKiKP**	**12 30 11.4**	**+0.1**
KHC				*ex*	x	12 30 21.2	
CKRC	**Cesky Krumlov**	**151.15**	**341**	*e*PKP	**PKiKP**	**12 30 11.7**	**+0.3**
GERES	**GERESS Array B**	**151.30**	**342**	PKPbc	**PKiKP**	**12 30 11.9**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=38,slow=2.4,SNR=8.3						
GERES				PKPab	**PKPab**	**12 30 22.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=46,slow=7.6,SNR=3.9						

---

*IDC **18** 12:11:59.7±2.1,15°93S×173°41W,h0km,mb3.6/4, mbtmp3.6/5,ML3.5/1,Error ellipse: s-maj=128.9km s-min=23.9km az=148.0*

ISC 18 12:12:05.5±1.8,15°5S±0°6×173°6W±0°4,h35km,n7, σ0ᵖ85/8,mb3.5/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.37**	**48**	Pn	**Pn**	**12 12 41.4**	**-0.5**
	10nm,0.3s,baz=203,slow=4.4,SNR=24						
AFI				Sn	**Sn**	12 13 09.3	-0.4
	43nm,0.3s,baz=211,slow=15,SNR=13						
	27nm,0.4s						
WRA	**Warramunga Arr**	**49.65**	**257**	P	**P**	**12 20 54.4**	**+0.3**
	0.2nm,0.5s,baz=91,slow=7.7,SNR=1.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**49.91**	**252**	P	**P**	**12 20 54.6**	**-1.5**
	1.0nm,0.6s,baz=85,slow=8.7,SNR=6.2						
	1.0nm,0.6s						
TXAR	**Lajitas Array**	**80.82**	**56**	P	**P**	**12 24 16.4**	**+0.3**
	0.3nm,1.0s,baz=234,slow=7.7,SNR=1.8						
	0.3nm,1.0s						
PDAR	**Pinedale Array**	**82.47**	**42**	P	**P**	**12 24 25.5**	**+0.8**
	0.5nm,0.8s,baz=247,slow=6.0,SNR=4.5						
	0.5nm,0.8s						
BRTR	**Keskin Array B**	**146.13**	**321**	PKPbc	**PKPab**	**12 31 43.4**	**+0.3**
	0.7nm,0.7s,baz=98,slow=2.5,SNR=4.3						
GERES	**GERESS Array B**	**146.22**	**351**	PKPbc	**PKPab**	**12 31 43.4**	**+0.4**
	0.8nm,0.9s,baz=54,slow=2.5,SNR=4.6						

---

*IDC **18** 12:16:19.9±0.7,55°13S×30°05W,h0km,mb4.3/6, mbtmp4.3/6,MS3.5/5,Error ellipse: s-maj=34.0km s-min=18.8km az=73.0*
*NEIC **18** 12:16:22.2±0.9,55°1S±0°1×30°3W±0°2,h10km±1km, mb4.6/15,Error ellipse: s-maj=24.1km s-min=17.1km az=31.0*

ISC 18 12:16:21.6±0.6,55°1S±0°1×30°2W±0°1,h10km,n40, σ0ᵖ68/31,mb4.5/12,MS3.4/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.74**	**280**	Pn	**Pn**	**12 17 18.9**	**-0.3**
VNA1	**Neumayer--Stat**	**18.33**	**157**	P	**P**	**12 20 36.4**	**+0.8**
VNA3	**Neumayer Olymp**	**18.48**	**159**	P	**Pn**	**12 20 37.8**	**+0.5**
VNA2	**Neumayer--Watz**	**18.73**	**157**	P	**Pn**	**12 20 40.9**	**+0.5**
	baz=313,slow=15						
SNAA	**Sanae**	**20.32**	**155**	P	**P**	**12 20 56.4**	**-0.9**
SNAA	**Sanae**	**20.32**	**155**	P	**P**	**12 20 55.6**	**-1.7**
	6.5nm,0.8s,baz=311,slow=11,SNR=11						
	6.5nm,0.8s						
SNAA	**Sanae**	**20.32**	**155**	P	**P**	**12 20 56.7**	**-0.7**
BELA	**Belgrano 2**	**22.93**	**182**	P	**P**	**12 21 24.7**	**-0.6**

PLTB	**Pedras Altas**	**28.60**	**315**	P	**P**	**12 22 18.3**	**+0.5**
PLTB				IAmb	IAmb	12 22 22.3	
	comp=Z,8.4nm,1.2s						
CPUP	**Villa Florida**	**34.91**	**314**	P	**P**	**12 23 13.1**	**0.0**
	comp=Z,2.2nm,0.5s,baz=162,slow=5.4,SNR=6.9						
CPUP				LR	LR	12 35 08.4	
	comp=Z,48nm,20.4s,baz=195,slow=32						
	comp=Z,2.2nm,0.5s						
CPUP	**Villa Florida**	**34.91**	**314**	P	**P**	**12 23 12.8**	**-0.4**
CPUP				IAmb	IAmb	12 23 35.5	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**35.15**	**180**	P	**P**	**12 23 14.9**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=210,slow=1.9,SNR=20						
	comp=Z,4.4nm,0.8s						
QSPA	**South Pole Qui**	**35.15**	**180**	P	**P**	**12 23 15.9**	**+0.8**
MT09	**Talagante**	**35.38**	**290**	P	**P**	**12 23 16.7**	**-0.7**
CO01	**Juntas del Tor**	**37.87**	**295**	P	**P**	**12 23 39.8**	**+1.1**
CO01				IAmb	IAmb	12 23 43.9	
	comp=Z,12nm,1.3s						
GO02	**Mina Guanaco**	**41.53**	**300**	P	**P**	**12 24 09.7**	**+0.4**
GO02				IAmb	IAmb	12 24 10.4	
	comp=Z,8.4nm,0.7s						
LVC	**Limon Verde**	**43.34**	**303**	LR	LR	12 41 26.7	
	comp=Z,50nm,21.2s,baz=184,slow=35						
PTLB	**Pontes e Lacer**	**45.44**	**319**	P	**P**	**12 24 40.2**	**-0.3**
PTLB				IAmb	IAmb	12 24 41.5	
	comp=Z,5.9nm,0.7s						
VNDA	**Vanda**	**47.43**	**184**	P	**P**	**12 24 55.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=191,slow=4.5,SNR=11						
	comp=Z,1.2nm,0.7s						
VNDA	**Vanda**	**47.43**	**184**	P	**P**	**12 24 56.5**	**+1.1**
H10S2	**ASCENSION HYDR**	**47.65**	**21**	T	T	13 16 46.1	
	baz=192,slow=74,SNR=33						
H10S3	**ASCENSION HYDR**	**47.66**	**21**	T	T	13 16 46.3	
	baz=28,slow=74,SNR=52						
LPAZ	**La Paz**	**48.44**	**308**	P	**P**	**12 25 05.5**	**+0.8**
	comp=Z,5.3nm,0.6s,baz=151,slow=6.2,SNR=26						
LPAZ				LR	LR	12 46 14.7	
	comp=Z,40nm,20.8s,baz=116,slow=37						
	comp=Z,5.3nm,0.6s						
LPAZ	**La Paz**	**48.44**	**308**	P	**P**	**12 25 05.6**	**+1.0**
LPAZ				IAmb	IAmb	12 25 06.3	
	comp=Z,5.0nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.77**	**21**	T	T	13 18 06.5	
	baz=190,slow=76,SNR=6.7						
H10N3	**ASCENSION HYDR**	**48.77**	**21**	T	T	13 18 01.2	
	baz=190,slow=76,SNR=14						
H10N2	**ASCENSION HYDR**	**48.78**	**21**	T	T	13 18 12.5	
	baz=190,slow=76,SNR=12						
SAML	**Samuel**	**52.93**	**318**	P	**P**	**12 25 37.8**	**-0.1**
SAML				IAmb	IAmb	12 25 38.7	
	comp=Z,5.1nm,0.8s						
BOAV	**Boa Vista**	**62.50**	**325**	P	**P**	**12 26 44.9**	**-0.3**
BOAV				IAmb	IAmb	12 26 45.0	
	comp=Z,3.8nm,0.7s						
MCRA	**Macar, Loja**	**64.39**	**302**	P	**P**	**12 26 57.9**	**+0.1**
SDV	**Santo Domingo**	**72.14**	**318**	LR	LR	12 59 47.6	
	comp=Z,64nm,20.4s,baz=86,slow=36						
TOA0	**Torodi Ar. Sit**	**73.12**	**33**	P	**P**	**12 27 52.2**	**+0.2**
TOA0				IAmb	IAmb	12 27 53.4	
	comp=Z,2.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.12**	**33**	P	**P**	**12 27 52.5**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=202,slow=7.0,SNR=16						
	comp=Z,2.1nm,0.5s						
MDT	**Midelt**	**90.28**	**21**	LR	LR	13 04 03.0	
	comp=Z,45nm,19.5s,baz=220,slow=32						
NVAR	**Mina Array Bea**	**119.44**	**296**	PKP	**PKPdf**	**12 35 10.7**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=134,slow=4.3,SNR=3.7						
FINES	**FINESS Array B**	**124.36**	**29**	PKP	**PKPdf**	**12 35 18.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=207,slow=0.9,SNR=7.0						
ARCES	**ARCESS Array B**	**130.71**	**23**	PKP	**PKPdf**	**12 35 30.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=207,slow=2.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**143.49**	**64**	PKP	PKPbc	12 35 52.1	-0.4
	comp=Z,0.9nm,0.5s,baz=226,slow=4.3,SNR=3.9						
ILAR	**Eielson Array**	**148.21**	**313**	PKPbc	**PKPbc**	**12 36 05.8**	**-0.4**
	comp=Z,6.4nm,0.6s,baz=121,slow=1.6,SNR=59						
SONM	**Songino Array**	**152.38**	**87**	PKPbc	**PKPbc**	**12 36 16.1**	**-0.9**
	comp=Z,0.6nm,0.

0.3nm,0.7s,baz=86,slow=10.0,SNR=2.3
0.3nm,0.7s
ASAR Alice Springs 32.56 248 P **P 13 02 03.0 -1.4**
0.9nm,0.6s,baz=75,slow=9.4,SNR=35
0.9nm,0.6s
SIJI Sorong 37.48 287 LR LR 13 17 47.1
comp=Z,49nm,18.2s,baz=180,slow=36
JCJ Chichijima 47.25 330 LR LR 13 22 43.3
comp=Z,26nm,20.5s,baz=133,slow=35
MJAR Matsushiro Arr 56.97 333 P **P 13 05 18.0 -0.3**
2.5nm,1.0s,baz=163,slow=9.4,SNR=5.0
2.5nm,1.0s
VNDA Vanda 63.67 181 P **P 13 06 03.5 0.0**
0.3nm,0.7s,baz=352,slow=8.2,SNR=1.6
0.3nm,0.7s
SONM Songino Array 81.57 324 P **P 13 07 51.2 +0.7**
0.3nm,0.5s,baz=157,slow=5.4,SNR=4.5
0.3nm,0.5s
ILAR Eielson Array 85.88 18 P **P 13 08 11.4 -0.6**
0.5nm,0.7s,baz=246,slow=5.0,SNR=6.2
0.5nm,0.7s
MKAR Makanchi Array 96.31 317 P **P 13 09 00.6 -0.7**
0.6nm,0.7s,baz=100,slow=6.6,SNR=6.8
0.6nm,0.7s
ARCES ARCESS Array B 119.35 345 PKP **PKPdf 13 14 20.6 -0.8**
0.4nm,0.3s,baz=86,slow=1.9,SNR=7.9
FINES FINESS Array B 124.80 338 PKP **PKPdf 13 14 31.4 -0.5**
1.0nm,0.8s,baz=90,slow=1.4,SNR=4.0
AKASG Malin Array Be 129.81 326 PKP **PKiKP 13 14 44.4 +1.8**
0.3nm,0.3s,baz=56,slow=0.5,SNR=4.8

*VAO **18** 13:08:44.9±0.3,21°.64S×68°.33W,h117km,mb4.2*
*NEIC **18** 13:08:45.0±1.0,21°.92S±0°.05×68°.53W±0°.10,h137km±8km, Error ellipse: s-maj=13.0km s-min=7.0km az=88.0*
*GUC **18** 13:08:45.5±0.6,21°.89S×68°.46W,h136km±3km,mb4.0*
*IDC **18** 13:08:48.7±9.2,21°.70S×67°.99W,h145km±62km,mb3.9/2, mbtmp4.1/4, Error ellipse: s-maj=94.2km s-min=43.7km az=37.0*

ISC 18 13:08:44.3±0.6,21°.91S±0°.04×68°.47W±0°.05,h137km±6km, n95,σ1°09/109,7C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.72**	**279**		**Pn**	**13 09 06.2**	**+0.5**
PB09	**IPOC Station P**	**0.72**	**279**	⇑*i*P	**Pn**	**13 09 06.5**	**+0.8**
PB09				*e*S	**Sn**	**13 09 22.7**	**+0.7**
PB09				IAML		13 09 24.4	
	comp=N,2μm,0.2s						
LVC	**Limon Verde**	**0.81**	**210**	LR	LR	13 09 39.7	
	comp=N,128nm,20.1s,baz=202,slow=41						
LVC	**Limon Verde**	**0.81**	**210**		**Pn**	**13 09 06.8**	**+0.2**
LVC	**Limon Verde**	**0.81**	**210**	*e*P	**Pn**	**13 09 06.6**	**-0.1**
LVC				*e*S	**Sn**	**13 09 22.8**	**-0.8**
LVC	**Limon Verde**	**0.81**	**210**	*e*P	**Pn**	**13 09 06.9**	**+0.3**
AF01	**San Pedro de A**	**1.07**	**165**		**Pn**	**13 09 09.5**	**+0.7**
AF01	**San Pedro de A**	**1.07**	**165**	*e*P	**Pn**	**13 09 09.9**	**+1.1**
AF01				*e*S	**Sn**	**13 09 28.4**	**+0.8**
AF01				IAML		13 09 48.7	
	comp=N,1μm,0.4s						
PB01	**IPOC Station P**	**1.28**	**312**		**Pn**	**13 09 11.0**	**+0.4**
PB01	**IPOC Station P**	**1.28**	**312**	⇑*i*P	**Pn**	**13 09 10.9**	**+0.3**
PB01				*e*S	**Sn**	**13 09 30.2**	**-0.5**
PB01				IAML		13 09 32.8	
	comp=N,3μm,0.3s						
PB06	**IPOC Station P**	**1.29**	**232**		**Pn**	**13 09 11.4**	**+0.6**
PB06	**IPOC Station P**	**1.29**	**232**	⇑*i*P	**Pn**	**13 09 11.7**	**+0.9**
PB06				*e*S	**Sn**	**13 09 32.0**	**+1.0**
PB06				IAML		13 09 32.9	
	comp=N,1μm,0.4s						
PB07	**IPOC Station P**	**1.33**	**278**		**Pn**	**13 09 11.7**	**+0.5**
PB07	**IPOC Station P**	**1.33**	**278**	⇑*i*P	**Pn**	**13 09 11.9**	**+0.7**
PB07				*e*S	**Sn**	**13 09 32.0**	**+0.3**
PB07				IAML		13 09 33.4	
	comp=N,4μm,0.2s						
PB02	**IPOC Station P**	**1.45**	**294**		**Pn**	**13 09 12.7**	**+0.3**
PB02	**IPOC Station P**	**1.45**	**294**	⇑*i*P	**Pn**	**13 09 12.9**	**+0.5**
PB02				*e*S	**Sn**	**13 09 33.6**	**-0.2**
PB02				IAML		13 09 34.9	
	comp=E,5μm,0.2s						
PB15	**IPOC Station P**	**1.59**	**215**		**Pn**	**13 09 15.1**	**+1.1**
PB15	**IPOC Station P**	**1.59**	**215**	⇑*i*P	**Pn**	**13 09 15.1**	**+1.1**
PB15				*i* S	**Sn**	**13 09 38.4**	**+1.5**
PB04	**IPOC Station P**	**1.61**	**255**		**Pn**	**13 09 14.6**	**+0.4**
PB04	**IPOC Station P**	**1.61**	**255**	⇑*i*P	**Pn**	**13 09 15.1**	**+0.8**
PB04				*e*S	**Sn**	**13 09 37.4**	**+0.3**
PB04				IAML		13 09 39.9	
	comp=N,1μm,0.2s						
PATCX	**Punta Patache**	**1.91**	**304**	Pn	**Pn**	**13 09 17.9**	**+0.3**
PATCX	**Punta Patache**	**1.91**	**304**	*e*P	**Pn**	**13 09 17.9**	**+0.3**
PATCX				*e*S	**Sn**	**13 09 42.6**	**-0.5**
PATCX				IAML		13 09 44.4	
	comp=E,2μm,0.2s						
TA01	**Diego Aracena**	**2.08**	**310**	Pn	**Pn**	**13 09 19.5**	**-0.1**
TA01	**Diego Aracena**	**2.08**	**310**	⇓*e*P	**Pn**	**13 09 19.6**	**-0.1**
TA01				*e*S	**Sn**	**13 09 45.9**	**-0.8**
TA01				IAML		13 09 48.6	
	comp=E,1μm,0.3s						
TA02	**Huaiquique**	**2.25**	**316**		**Pn**	**13 09 21.0**	**-0.7**
TA02	**Huaiquique**	**2.25**	**316**	*e*P	**Pn**	**13 09 21.3**	**-0.4**
TA02				*e*S	**Sn**	**13 09 49.8**	**-0.6**
TA02				IAML		13 09 57.1	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**2.33**	**343**		**Pn**	**13 09 23.4**	**+0.3**
GO01	**Chusmiza**	**2.33**	**343**	⇓*e*P	**Pn**	**13 09 23.6**	**+0.4**
GO01				*e*S	**Sn**	**13 09 53.2**	**+0.2**
GO01				IAML		13 10 06.7	
	comp=N,880nm,0.1s						
PB10	**IPOC Station P**	**2.50**	**230**	Pn	**Pn**	**13 09 24.8**	**0.0**
PB10	**IPOC Station P**	**2.50**	**230**	*e*P	**Pn**	**13 09 25.2**	**+0.5**
PB10				*e*S	**Sn**	**13 09 54.4**	**-1.5**
PB14	**IPOC Station P**	**3.23**	**213**	Pn	**Pn**	**13 09 34.5**	**+0.1**
PB14	**IPOC Station P**	**3.23**	**213**	*e*P	**Pn**	**13 09 34.6**	**+0.1**
GO02	**Mina Guanaco**	**3.40**	**197**	Pn	**Pn**	**13 09 36.6**	**0.0**
GO02	**Mina Guanaco**	**3.40**	**197**	*e*P	**Pn**	**13 09 36.9**	**+0.3**
GO02				*e*S	**Sn**	**13 10 17.2**	**+0.2**
PB16	**IPOC Station P**	**3.69**	**345**	Pn	**Pn**	**13 09 40.5**	**-0.1**
PB12	**IPOC Station P**	**3.71**	**332**	Pn	**Pn**	**13 09 38.8**	**-1.7**
PB12	**IPOC Station P**	**3.71**	**332**	*e*P	**Pn**	**13 09 39.0**	**-1.5**
AC01	**Pan de Azucar**	**4.64**	**204**		**Pn**	**13 09 51.8**	**-0.9**
AC01	**Pan de Azucar**	**4.64**	**204**	*e*P	**Pn**	**13 09 51.9**	**-0.9**
AC02	**Maricunga**	**4.94**	**187**	Pn	**Pn**	**13 09 57.2**	**+0.1**
AC02	**Maricunga**	**4.94**	**187**	*e*P	**Pn**	**13 09 57.5**	**+0.4**
LPAZ	**La Paz**	**5.60**	**3**	P	**Pn**	**13 10 07.7**	**+1.6**
	comp=N,5.7nm,0.3s,baz=196,slow=3.6,SNR=78						
LPAZ				S	**Sn**	**13 11 09.9**	**0.0**
	comp=N,3.1nm,0.7s,baz=163,slow=6.8,SNR=1.9						
LPAZ	**La Paz**	**5.60**	**3**		**Pn**	**13 10 07.5**	**+1.4**
AC06	**Mina Casimiro**	**5.69**	**197**	Pn	**Pn**	**13 10 04.5**	**-2.1**
AC04	**Llanos de Chal**	**6.70**	**200**	Pn	**Pn**	**13 10 16.8**	**-3.3**
AC05	**El Transito**	**7.09**	**193**	Pn	**Pn**	**13 10 23.4**	**-2.1**
CO01	**Juntas del Tor**	**8.16**	**190**	Pn	**Pn**	**13 10 39.7**	**-0.4**
GO04	**Tololo Observa**	**8.49**	**194**	Pn	**Pn**	**13 10 40.1**	**-4.4**
CO06	**Fray Jorge**	**9.18**	**197**	Pn	**Pn**	13 10 48.6	-4.8
PTLB	**Pontes e Lacer**	**10.93**	**56**		**Pn**	**13 11 14.0**	**-2.9**
PTLB	**Pontes e Lacer**	**10.93**	**56**	*e*P	**Pn**	**13 11 13.9**	**-2.9**
CPUP	**Villa Florida**	**11.09**	**116**	*e*P	**Pn**	**13 11 19.1**	**+0.1**
VILB	**Vilhena**	**11.90**	**43**	*e*P	**Pn**	**13 11 27.8**	**-1.9**
ETMB	**Extrema**	**12.22**	**11**	*e*P	**Pn**	**13 11 31.7**	**-2.2**
MCR1	**Marechal Candi**	**13.52**	**104**	*e*P	**Pn**	**13 11 52.2**	**+1.7**
SAML	**Samuel**	**13.86**	**22**	Pn	**Pn**	**13 11 55.1**	**+0.2**
UNIS	**Unistalda (Bra**	**14.04**	**123**	*e*P	**P**	**13 12 00.6**	**-0.1**
CRSM	**Crissiumal (Br**	**14.24**	**116**	*e*P	**P**	**13 12 01.6**	**-1.3**
RODS	**Rosario do Sul**	**14.58**	**128**	*e*P	**P**	**13 12 07.1**	**+0.5**
PDRB	**Porto dos Gac**	**15.20**	**50**	*e*P	**Pn**	**13 12 10.8**	**-1.0**
PTGB	**Pitanga**	**15.33**	**104**	*e*P	**P**	**13 12 16.1**	**+1.0**
ALGR	**Alto Alegre (B**	**15.55**	**119**	*e*P	**P**	**13 12 18.7**	**+1.2**
ITAB	**Concordia**	**15.78**	**113**	P	**P**	**13 12 20.0**	**0.0**
ITAB				IAmb	IAmb	13 12 36.2	
	comp=Z,30nm,1.3s						
ITAB	**Concordia**	**15.78**	**113**	*e*P	**P**	**13 12 20.9**	**+1.0**
CPSB	**Cacapava Do Su**	**15.92**	**125**	*e*P	**P**	**13 12 22.0**	**+0.5**
PCMB	**Pacaembu**	**15.99**	**92**	*e*P	**P**	**13 12 22.3**	**-0.1**
CLDB	**Colider**	**16.37**	**50**	*e*P	**Pn**	**13 12 25.2**	**-1.0**
BB19B	**Bebedouro**	**18.58**	**91**	*e*P	**P**	**13 12 51.0**	**0.0**
TER01	**Tubaro-SC**	**18.69**	**115**	*e*P	**Pn**	**13 12 53.5**	**-0.4**
SNDB	**Serra Nova Dou**	**19.16**	**62**	*e*P	**P**	**13 12 56.3**	**-0.9**
IPMB	**Ipameri, GO**	**19.44**	**82**	*e*P	**P**	**13 13 00.3**	**0.0**
NPGB	**Novo Progresso**	**19.46**	**43**	*e*P	**P**	**13 12 59.2**	**-1.3**
PET01	**Itanhaem-SP**	**19.64**	**101**	*e*P	**P**	**13 13 02.4**	**0.0**
VAO	**Valinhos**	**19.91**	**97**	*e*P	**P**	**13 13 05.2**	**-0.2**
MACA	**Manacapuru-AM**	**20.11**	**23**	*e*P	**P**	**13 13 06.7**	**-0.8**
BDFB	**Brasilia**	**20.34**	**76**	P	**P**	**13 13 08.7**	**-1.3**
	comp=Z,2.1nm,0.5s,baz=234,slow=15,SNR=5.1						
BDFB	**Brasilia**	**20.34**	**76**	P	**P**	**13 13 09.1**	**-0.9**
BDFB				IAmb	IAmb	13 13 38.5	
	comp=Z,8.1nm,1.3s						
BDFB	**Brasilia**	**20.34**	**76**	*e*P	**P**	**13 13 09.6**	**-0.5**
MCRA	**Macar, Loja**	**20.69**	**326**	P	**P**	**13 13 14.8**	**+1.1**
MCRA				IAmb	IAmb	13 13 17.3	
	comp=Z,3.6nm,0.7s						
PMNB	**Patos De Minas**	**20.94**	**85**	*e*P	**P**	**13 13 16.9**	**+0.4**
ITTB	**Itatiuba**	**21.37**	**37**	*e*P	**P**	**13 13 19.4**	**-1.6**
PRPB	**Parauapebas**	**23.88**	**52**	*e*P	**P**	**13 13 44.0**	**-1.3**
JANB	**Januaria**	**23.89**	**78**	*e*P	**P**	**13 13 45.3**	**-0.2**
SMTB	**Santa Maria do**	**23.91**	**60**	*e*P	**P**	**13 13 45.6**	**-0.1**
MALB	**Monte Alegre**	**24.26**	**37**	*e*P	**P**	**13 13 49.3**	**+0.5**
SDBA	**SAO DESIDERIO**	**24.39**	**71**	*e*P	**P**	**13 13 50.8**	**+0.7**
BOAV	**Boa Vista**	**25.38**	**19**	P	**P**	**13 13 59.6**	**+0.7**
BOAV				IAmb	IAmb	13 14 38.9	
	comp=Z,3.5nm,1.2s						
BOAV	**Boa Vista**	**25.38**	**19**	*e*P	**P**	**13 14 00.2**	**+1.4**
SJMB	**Sao Joao De Ma**	**25.78**	**88**	*e*P	**P**	**13 14 03.4**	**+0.8**
GUA01	**Guaratinga, BA**	**27.55**	**84**	*e*P	**P**	**13 14 18.7**	**+0.2**
GDU01	**Guandu, BA**	**28.65**	**78**	*e*P	**P**	**13 14 28.0**	**-0.2**
DBIC	**Dimbokro**	**68.46**	**73**	P	**P**	**13 19 32.8**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=245,slow=6.7,SNR=6.8						
	comp=Z,1.5nm,0.4s						
DBIC	**Dimbokro**	**68.46**	**73**	P	**P**	**13 19 32.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	**P**	**13 20 23.6**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=253,slow=6.3,SNR=20						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**145.72**	**37**	PKPbc	**PKPab**	**13 28 08.6**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=337,slow=3.3,SNR=2.7						

*NORS **18** 13:20:35.5±0.0,43°.27N×45°.78E,h119km±2km,MPVA3.5*
*DRS **18** 13:20:37.7±0.0,43°.40N×45°.23E,h22km*

ISC 18 13:20:38.2±1.8,43°.39N±0°.06×45°.75E±0°.04,h107km±11km, n25,σ1°53/50,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.19**	**169**	*e*Pg	**Pn**	**13 20 53.5**	**+0.3**
GROC				*e*Sg	**Sn**	**13 21 06.6**	**+2.2**
DVE	**Vedeno**	**0.51**	**147**	*e*Pg	**Pn**	**13 20 54.3**	**-0.5**
DVE				*e*Sg	**Sn**	**13 21 07.8**	**+0.5**
DLMR	**Dylym**	**0.72**	**116**	*e*Pg	**Pn**	**13 20 54.1**	**-2.3**
	81nm,0.3s						
DLMR				*e*Sg	**Sn**	**13 21 06.1**	**-4.0**
	108nm,0.5s						
TRKR	**Terskaya**	**0.81**	**295**	*e*Pg	**Pn**	**13 20 57.5**	**+0.3**
TRKR				*e*Sg	**Sn**	**13 21 13.7**	**+2.2**
DBC	**Dubki**	**0.87**	**114**	*e*Pg	**Pn**	**13 20 56.6**	**-1.3**
	17nm,0.2s						
DBC				*e*Sg	**Sn**	**13 21 11.4**	**-1.4**
	17nm,0.4s						
KRNR	**Karanay**	**1.02**	**123**	*e*Pg	**Pn**	**13 20 59.1**	**-0.3**
	8.0nm,0.4s						
KRNR				*e*Sg	**Sn**	**13 21 15.0**	**-0.4**
	35nm,0.3s						
UNCR	**Uncukul**	**1.02**	**131**	*e*Pg	**Pn**	**13 20 58.6**	**-0.8**
	6.0nm,0.2s						
UNCR				*e*Sg	**Sn**	**13 21 14.0**	**-1.3**
	35nm,0.4s						
ARNR	**Ardon**	**1.09**	**260**	*e*Pg	**Pn**	**13 20 59.8**	**-0.3**
ARNR				*e*Sg	**Sn**	**13 21 19.3**	**+2.8**
XNZR	**Khunzakh**	**1.10**	**140**	*e*Pg	**Pn**	**13 20 59.6**	**-0.8**
	13nm,0.2s						
XNZR				*e*Sg	**Sn**	**13 21 15.8**	**-1.3**
	104nm,0.3s						
PNSH	**Pansheti**	**1.12**	**228**	P	**Pn**	**13 20 59.8**	**-0.8**
PNSH				S	**Sn**	**13 21 16.9**	**-0.6**
PRTR	**Priterechnaya**	**1.12**	**289**	*e*Pg	**Pn**	**13 21 00.7**	**+0.2**
PRTR				*e*Sg	**Sn**	**13 21 19.3**	**+2.0**
BUJR	**Buynaksk**	**1.15**	**119**	*e*Pg	**Pn**	**13 21 00.9**	**+0.2**
	63nm,0.4s						
BUJR				*e*Sg	**Sn**	**13 21 18.3**	**+0.6**
	57nm,0.5s						
LACR	**Lac**	**1.20**	**243**	*e*Pg	**Pn**	**13 21 00.6**	**-0.9**
LACR				*e*Sg	**Sn**	**13 21 18.4**	**-0.6**
ARKR	**Arakani**	**1.21**	**130**	*e*Pg	**Pn**	**13 21 01.2**	**-0.3**
	10.0nm,0.3s						
ARKR				*e*Sg	**Sn**	**13 21 18.7**	**-0.3**
	52nm,0.1s						
STDR	**Stavd-Durt**	**1.23**	**270**	*e*Pg	**Pn**	**13 21 02.1**	**+0.5**
STDR				*e*Sg	**Sn**	**13 21 21.6**	**+2.3**
KANR	**Karaman**	**1.29**	**98**	*e*Pg	**Pn**	**13 21 03.3**	**+1.1**
	184nm,0.4s						
KANR				*e*Sg	**Sn**	**13 21 23.3**	**+2.9**
	70nm,0.2s						
GNBR	**Gunib**	**1.34**	**138**	*e*Pg	**Pn**	**13 21 03.3**	**+0.3**
	8.0nm,0.1s						
GNBR				*e*Sg	**Sn**	**13 21 22.2**	**+0.5**
	78nm,0.4s						
ZEI	**Tsey**	**1.48**	**247**	*e*Pg	**Pn**	**13 21 03.8**	**-1.0**
ZEI				*e*Sg	**Sn**	**13 21 23.9**	**-1.0**
LGD	**Lagodekhi**	**1.59**	**167**	P	**Pn**	**13 21 05.8**	**-0.2**
LGD				S	**Sn**	**13 21 27.6**	**+0.6**
KMKR	**Kumukh**	**1.60**	**141**	*e*Pg	**Pn**	**13 21 05.6**	**-0.7**
	17nm,0.1s						
KMKR				*e*Sg	**Sn**	**13 21 27.9**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.66**	**254**	*e*Pg	**Pn**	**13 21 06.2**	**-0.8**
DIGR				*e*Sg	**Sn**	**13 21 27.6**	**-1.2**
KBTC	**Kuba-Taba**	**1.75**	**285**	*e*Pg	**Pn**	**13 21 07.2**	**-0.8**
KBTC				*e*Sg	**Sn**	**13 21 30.4**	**-0.2**
DDFL	**Dedoflistskaro**	**1.96**	**172**	P	**Pn**	**13 21 12.0**	**+1.4**
DDFL				S	**Sn**	**13 21 40.1**	**+4.8**
NEY	**Neytrino**	**2.21**	**267**	*e*Pg	**Pn**	**13 21 13.6**	**-0.3**
NEY				*e*Sg	**Sn**	**13 21 40.2**	**-1.0**
SHA1	**Shidzhatmaz**	**2.27**	**280**	*e*Pn	**Pn**	**13 21 14.0**	**-0.8**
SHA1				*e*Sn	**Sn**	**13 21 40.5**	**-2.3**

DJA 18 13:35:01.3±0.3,1°N±3°×126°1E±°,h53km±7km,M4.1/16, mb4.1/7,mB4.9/2,MLv4.1/16,Mw(mB)4.2/2,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.81**	**101**	P	Pn	13 35 16.8	+0.1
MRSI				S	Sn	13 35 29.1	+1.2
MPSI	**Mapaga**	**1.28**	**257**	P	Pn	13 35 22.7	-0.1
APSI	**Ampana**	**1.61**	**162**	P	Pn	13 35 26.6	-0.8
APSI				S	Sn	13 35 49.0	+1.9
GTOI	**Gorontalo**	**1.87**	**90**	P	Pn	13 35 29.4	-1.5
GTOI				S	Sn	13 35 51.1	-2.3
LUWI	**Luwuk**	**2.33**	**136**	P	Pn	13 35 37.6	+0.4
KMSI	**Cibinong**	**2.84**	**91**	P	Pn	13 35 46.3	+2.1
TTSI	**Tana Toraja**	**3.88**	**200**	P	Pn	13 35 58.2	-0.3
BKB	**Balikpapan**	**4.64**	**246**	P	Pn	13 36 08.3	-0.6
SPSI	**Sidrap Palu**	**4.76**	**197**	P	Pn	13 36 10.3	-0.3
SANI	**Sanana**	**5.53**	**119**	P	Pn	13 36 19.4	-1.7
BKSI	**Bulukumba**	**6.00**	**190**	P	Pn	13 36 25.6	-1.9
	0.0nm9.7nm,0.8s						
LBMI	**Labuha**	**6.48**	**101**	P	Pn	13 36 33.0	-1.2
	0.2nm867nm12nm,0.8s						
NLAI	**Namlea**	**7.09**	**123**	P	Pn	13 36 42.5	0.0
	0.2nm10nm,0.6s						

IDC 18 14:17:46.0±6.7,2°.32S×141°.12E,h0km,mb3.4/3, mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=155.6km s-min=74.9km az=135.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.72**	**200**	P	P	14 22 05.6	-0.8
	0.1nm,0.3s,baz=22,slow=12,SNR=12						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**22.34**	**198**	P	P	14 22 45.8	+0.1
	0.4nm,0.6s,baz=28,slow=11,SNR=12						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**29.40**	**179**	P	P	14 23 51.0	-0.1
	0.6nm,0.4s,baz=343,slow=11,SNR=4.1						
	0.6nm,0.4s						
VNDA	**Vanda**	**75.96**	**175**	P	P	14 29 34.8	+0.4
	0.2nm,0.5s,baz=351,slow=6.0,SNR=1.8						
	0.2nm,0.5s						

*IDC **18** 14:31:51.1±0.6,55°.12S×31°.45W,h0km,mb4.3/13, mbtmp4.3/13,MS4.0/35,Error ellipse: s-maj=28.5km s-min=13.8km az=59.0*
*NEIC **18** 14:31:54.0±1.1,55°.16S±0°.10×31°.38W±0°.2,h10km±1km, mb4.7/26,Error ellipse: s-maj=20.0km s-min=14.9km az=53.0*
*GCMT **18** 14:31:57.0±0.3,55°.02S±0°.02×31°.56W±0°.04,h17km±1km, MW5.0/84,Moment Tensor Solution. s35,c45; s84,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.37±.18; $M_{\theta\theta}$-1.83±.13; $M_{\phi\phi}$-0.54±.10; $M_{r\theta}$-2.44±.35; $M_{r\phi}$1.71±.07; $M_{\theta\phi}$1.30±.30; Best double couple: M_o3.86300×10^{16} NP1:ϕs299.00000°,δ68.00000°,λ85.00000°. NP2: ϕs133.00000°,δ23.00000°,λ103.00000°. Principal axes: T 3.5530, Plg67.0000°, Azm200.0000°; N 0.6100, Plg5.0000°, Azm301.0000°; P -4.1720, Plg23.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 14:31:53.4±0.5,55°.11S±0°.08×31°.68W±0°.08,h10km,n83, σ1°38/56,mb4.6/24,MS4.0/34,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**2.91**	**285**	Pn	**Pn**	**14 32 38.9**	**-0.8**
HOPE	**Hope Point**	**2.91**	**285**	*i* P	**Pn**	**14 32 39.9**	**+0.2**
HOPE				*i* S	**Sb**	**14 33 22.7**	**+1.7**
HOPE				IAML		14 33 45.0	
	comp=Z,758nm,1.1s						
ORCD	**Orcadas**	**8.94**	**226**	Pn	**Pn**	**14 34 01.0**	**-1.4**
PMSA	**Palmer Station**	**18.66**	**226**	LR	LR	14 41 34.3	
	comp=Z,756nm,20.3s,baz=66,slow=31						
VNA1	**Neumayer--Stat**	**18.66**	**156**	P	**P**	**14 36 12.4**	**+1.3**
VNA3	**Neumayer Olymp**	**18.78**	**158**	P	**P**	**14 36 13.2**	**+0.8**
VNA2	**Neumayer--Watz**	**19.06**	**156**	P	**P**	**14 36 18.3**	**+2.8**
	baz=310,slow=11						
SNAA	**Sanae**	**20.66**	**154**	P	**P**	**14 36 33.4**	**+0.4**
SNAA	**Sanae**	**20.66**	**154**	P	**P**	**14 36 31.4**	**-1.7**
	comp=Z,5.4nm,0.8s,baz=310,slow=11,SNR=16						
SNAA				LR	LR	14 42 31.7	
	comp=Z,285nm,21.6s,baz=9.5,slow=31						
	comp=Z,5.4nm,0.8s						
SNAA	**Sanae**	**20.66**	**154**	P	**P**	**14 36 33.1**	**0.0**
TROLL	**Troll, Antarti**	**22.24**	**153**	P	**P**	**14 36 51.2**	**+1.2**
MG05	**Puerto Natales**	**24.33**	**261**	P	**P**	**14 37 10.8**	**-0.3**
MG05				IAmb	IAmb	14 37 19.5	
	comp=Z,32nm,1.1s						
GO09	**Cerro Castillo**	**24.41**	**262**	P	**P**	**14 37 11.4**	**-0.4**
AY01	**Puyuhuapi**	**28.15**	**275**	P	**P**	**14 37 44.8**	**-0.7**
AY01				IAmb	IAmb	14 37 46.4	
	comp=Z,8.7nm,0.8s						
PLCA	**Paso Flores**	**29.32**	**283**	P	**P**	**14 37 55.1**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=125,slow=8.5,SNR=4.0						
PLCA				LR	LR	14 49 48.1	
	comp=Z,378nm,19.3s,baz=146,slow=37						
	comp=Z,1.4nm,0.9s						
PLCA	**Paso Flores**	**29.32**	**283**	P	**P**	**14 37 55.3**	**-0.7**
CPUP	**Villa Florida**	**34.32**	**316**	P	**P**	**14 38 39.8**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=156,slow=9.3,SNR=9.8						
CPUP				LR	LR	14 54 27.5	
	comp=Z,168nm,18.2s,baz=175,slow=39						
	comp=Z,3.3nm,0.7s						
ZON	**Zonda**	**35.13**	**297**	P	**P**	**14 38 46.6**	**-0.4**
ZON				IAmb	IAmb	14 38 59.9	
	comp=Z,6.4nm,0.9s						
QSPA	**South Pole Qui**	**35.14**	**180**	P	**P**	**14 38 46.4**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=192,slow=1.1,SNR=16						
QSPA				LR	LR	14 52 29.3	
	comp=Z,307nm,18.6s,baz=186,slow=35						
	comp=Z,1.7nm,0.6s						
QSPA	**South Pole Qui**	**35.14**	**180**	P	**P**	**14 38 47.9**	**+1.0**
QSPA				IAmb	IAmb	14 38 59.1	
	comp=Z,18nm,1.2s						
CO02	**Combarbal**	**36.60**	**294**	P	**P**	**14 39 01.2**	**+1.5**
CO01	**Juntas del Tor**	**37.11**	**297**	P	**P**	**14 39 04.2**	**0.0**
CO01				IAmb	IAmb	14 39 10.9	
	comp=Z,16nm,1.2s						
GO04	**Tololo Observa**	**37.32**	**296**	P	**P**	**14 39 05.6**	**-0.3**
AC05	**El Transito**	**38.12**	**298**	P	**P**	**14 39 13.1**	**+0.4**
AC05				IAmb	IAmb	14 39 49.1	
	comp=Z,29nm,1.4s						
AC04	**Llanos de Chal**	**39.04**	**297**	P	**P**	**14 39 21.1**	**+0.9**
GO02	**Mina Guanaco**	**40.81**	**302**	P	**P**	**14 39 35.5**	**+0.2**
GO02				IAmb	IAmb	14 40 10.9	
	comp=Z,21nm,1.3s						
BDFB	**Brasilia**	**41.37**	**

comp=Z,124nm,22.0s,baz=151,slow=34
DBIC Dimbokro 65.49 30 LR LR 15 04 48.6
PCRV Puerto La Cruz 70.67 325 P **P** **14 43 09.3 +0.1**
comp=Z,6.0nm,0.8s,baz=169,slow=16,SNR=3.5
comp=Z,6.0nm,0.8s
BBTS Babate 70.68 16 LR LR 15 07 34.1
comp=Z,147nm,21.2s,baz=202,slow=30
SDV Santo Domingo 71.59 319 P **P** **14 43 14.9 -0.1**
comp=Z,4.2nm,0.3s,baz=56,slow=6.2,SNR=3.3
SDV LR LR 15 17 30.6
comp=Z,85nm,18.5s,baz=154,slow=38
comp=Z,4.2nm,0.3s
TOA0 Torodi Ar. St 73.60 34 P **P** **14 43 27.3 +0.7**
TOA0 IAmb IAmb 14 43 43.5
comp=Z,7.5nm,1.4s
TORD Torodi Ar. Bea 73.60 34 P **P** **14 43 25.9 -0.7**
comp=Z,1.5nm,0.6s,baz=189,slow=5.3,SNR=7.8
TORD LR LR 15 08 26.1
comp=Z,258nm,21.8s,baz=214,slow=30
comp=Z,1.5nm,0.6s
MBAR Mbarara 74.06 67 LR LR 15 13 29.3
comp=Z,220nm,18.5s,baz=83,slow=34
KMBO Kilima Mbogo 77.14 73 LR LR 15 16 48.2
comp=Z,348nm,18.1s,baz=96,slow=35
SJG San Juan 78.61 327 LR LR 15 19 25.5
comp=Z,46nm,20.4s,baz=178,slow=36
RPZ Rata Peaks 79.67 197 LR LR 15 14 47.1
comp=Z,136nm,21.6s,baz=166,slow=32
URZ Urewera 83.78 202 LR LR 15 16 55.5
comp=Z,97nm,22.0s,baz=234,slow=32
MDT Midelt 90.61 23 LR LR 15 19 34.6
comp=Z,275nm,21.2s,baz=194,slow=32
ATD Arta Tunnel 90.70 71 LR LR 15 24 42.4
comp=Z,211nm,18.1s,baz=166,slow=35
RAO Raoul Island 91.12 209 LR LR 15 22 23.1
comp=Z,51nm,18.2s,baz=192,slow=33
STKA Stephens Creek 93.17 174 LR LR 15 24 33.7
comp=Z,251nm,20.0s,baz=200,slow=34
KEST Kesra 97.08 33 LR LR 15 24 55.6
comp=Z,283nm,19.5s,baz=166,slow=33
ESDC Sonseca Array 97.35 21 LR LR 15 24 23.6
comp=Z,175nm,20.6s,baz=168,slow=32
ASAR Alice Springs 100.57 167 P **Pdif** **14 45 38.5 -2.8**
comp=Z,0.7nm,0.9s,baz=185,slow=4.7,SNR=6.7
FINES FINESS Array B 124.78 30 PKP **PKPdf** **14 50 49.5 -2.4**
comp=Z,0.9nm,0.6s,baz=145,slow=4.0,SNR=5.9
CMAR Chiang Mai Arr 127.78 114 PKP **PKPdf** **14 50 56.3 -2.7**
comp=Z,0.6nm,0.4s,baz=225,slow=1.7,SNR=4.1
ARCES ARCESS Array B 131.05 23 PKP **PKPdf** **14 51 03.1 -0.5**
comp=Z,2.4nm,0.9s,baz=108,slow=0.4,SNR=4.3
MKAR Makanchi Array 139.03 73 PKP **PKPdf** **14 51 18.5 -0.8**
comp=Z,0.2nm,0.6s,baz=318,slow=1.9,SNR=2.4
ZALV Zalesovo Beam 144.26 65 PKP **PKPab** **14 51 26.1 -0.2**
comp=Z,3.0nm,0.6s,baz=237,slow=3.8,SNR=12
ILAR Eielson Array 147.60 314 PKPbc **PKPdf** **14 51 36.0 +2.2**
comp=Z,3.6nm,0.9s,baz=132,slow=1.5,SNR=22
SONM Songino Array 153.23 88 PKPbc **PKPdf** **14 51 49.5 +6.3**
comp=Z,2.1nm,0.6s,baz=244,slow=3.0,SNR=13

*IDC **18** 14:32:47.5±1.7,31°.54N×138°.26E,h403km±31km,mb2.6/4, mbtmp3.4/6,Error ellipse: s-maj=74.9km s-min=15.3km az=72.0*
*JMA **18** 14:32:49.6±0.4,32°.N±3°.×13°.8E±°.,h443km,MV3.1/34, NEAR TORISHIMA IS*
ISC 18 14:32:50.3±1.0,31°.9N±0°.1×138°.3E±0°.1,h450km,n17, σ1°.53°/20,mb2.7/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.79**	**46**	*eP*	**P**	**14 33 49.5**	**-0.1**
JMKN	**Mikurajimanish**	**2.29**	**28**	*eP*	**P**	**14 33 52.6**	**+0.2**
HMMJ	**Hamamatsu 2**	**3.01**	**351**	*eP*	**P**	**14 33 57.1**	**-0.1**
JOD2	**Odawara 2**	**3.44**	**11**	P	**P**	**14 34 00.7**	**0.0**
BSO3	**Boso 3**	**3.46**	**32**	*eP*	**P**	**14 34 00.1**	**-0.4**
BSO1	**Boso 1**	**3.57**	**39**	P	**P**	**14 34 00.9**	**-0.1**
BSO1				*eS*	**S**	**14 34 56.9**	**-1.9**
JHU	**Hanno**	**4.05**	**12**	P	**P**	**14 34 05.6**	**-0.1**
JHU				S	**S**	**14 35 05.0**	**-2.3**
JRY	**Ryogami san**	**4.16**	**7**	P	**P**	**14 34 07.5**	**+0.8**
JAG	**Ashikaga**	**4.64**	**12**	P	**P**	**14 34 11.0**	**-0.1**
JAG				*eS*	**S**	**14 35 13.8**	**-3.3**
MJAR	**Matsushiro Arr**	**4.65**	**359**	P	**P**	**14 34 11.2**	**-0.1**
	0.3nm,0.2s,baz=191,slow=14,SNR=5.3						
JTO	**Tosashimizu**	**4.74**	**283**	*eP*	**P**	**14 34 10.3**	**-1.8**
JHO	**Hitachi**	**5.09**	**21**	P	**P**	**14 34 15.6**	**+0.2**
JHO				S	**S**	**14 35 22.9**	**-1.9**
JCJ	**Chichijima**	**5.86**	**143**	P	P	14 34 16.4	-6.9
	45nm,0.6s,baz=264,slow=18,SNR=1.7						
JCJ				S	S	14 35 26.5	-13
	34nm,0.4s,baz=282,slow=22,SNR=8.5						
MKAR	**Makanchi Array**	**44.86**	**306**	P	**P**	**14 40 24.4**	**+1.5**
	0.1nm,0.3s,baz=90,slow=9.5,SNR=2.5						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**51.66**	**185**	P	**P**	**14 41 12.9**	**-1.3**
	0.1nm,0.4s,baz=360,slow=7.4,SNR=6.3						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**55.39**	**185**	P	**P**	**14 41 40.4**	**-0.4**
	0.4nm,1.1s,baz=359,slow=6.1,SNR=1.4						
	0.4nm,1.1s						
FINES	**FINESS Array B**	**72.15**	**332**	P	**P**	**14 43 30.7**	**+2.9**
	0.4nm,0.4s,baz=64,slow=6.3,SNR=9.9						
	0.4nm,0.4s						

IDC 18 14:33:49.7±5.5,2°.05S×140°.71E,h0km,mb3.4/3, mbtmp3.5/4,ML3.5/1,MS2.9/2,Error ellipse: s-maj=107.8km s-min=65.0km az=152.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.07**	**15**	LR	LR	14 42 28.2	
	comp=Z,21nm,19.8s,baz=60,slow=32						
WRA	**Warramunga Arr**	**18.85**	**199**	P	P	14 38 11.3	-0.1
	0.2nm,0.3s,baz=23,slow=12,SNR=15						
WRA				LR	LR	14 45 39.5	
	comp=Z,84nm,21.5s,baz=203,slow=38						
	0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.75**	**222**	P	P	14 38 42.3	-0.7
	1.8nm,0.9s,baz=42,slow=12,SNR=3.4						
	1.8nm,0.9s						
ASAR	**Alice Springs**	**22.48**	**196**	P	P	14 38 50.5	-0.4
	0.8nm,0.6s,baz=28,slow=10,SNR=18						
	0.8nm,0.6s						
VNDA	**Vanda**	**76.27**	**175**	P	P	14 45 40.5	+0.8
	0.3nm,0.5s,baz=343,slow=8.0,SNR=1.9						
	0.3nm,0.5s						

*NDI **18** 14:34:40.5±2.6,26°.76N×88°.43E,h10km,ML3.1*
*IDC **18** 14:34:45.0±5.3,27°.47N×90°.10E,h0km,mb3.3/3, mbtmp3.4/3,Error ellipse: s-maj=348.8km s-min=33.5km az=63.0*
ISC 18 14:34:40.8±1.1,26°.75N±0°.07×88°.53E±0°.07,h10km,n10, σ2°.44/14,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.58**	**6**	*eP*	**Pg**	**14 34 51.0**	**-1.0**
GTK				*eS*	**Sb**	**14 35 00.5**	**-1.0**
DHUB	**DHUBRI**	**1.50**	**118**	*eP*	**Pn**	**14 35 05.1**	**-2.7**
DHUB				*eS*	**Sn**	**14 35 24.8**	**-2.7**
DHUB				IAML		14 35 26.8	
	comp=N,346nm,0.3s						
DHUB				IAML		14 35 27.9	
	comp=E,263nm,0.2s						
GUWA	**GUWAHATI**	**2.89**	**100**	*eP*	**Pn**	**14 35 29.6**	**+2.7**
GUWA				*eS*	**Sn**	**14 36 04.2**	**+2.5**
GUWA				IAML		14 36 04.9	
	comp=N,138nm,0.4s						
GUWA				IAML		14 36 06.2	
	comp=E,64nm,0.5s						
BOK	**Bokaro**	**3.79**	**220**	*eP*	**Pn**	**14 35 38.8**	**-0.6**
TEZP	**TEZPUR**	**3.82**	**91**	*eP*	**Pn**	**14 35 40.1**	**+0.3**
TEZP				*eS*	**Sn**	**14 36 26.2**	**+1.4**
TEZP				IAML		14 36 40.9	
	comp=E,51nm,0.2s						
KOHI	**KOHIMA**	**5.11**	**100**	*eP*	**Pn**	**14 35 57.4**	**-0.2**
KOHI				*eS*	**Sn**	**14 36 53.3**	**-3.6**
MOKO	**MOKOCHONG**	**5.38**	**93**	*eS*	**Sn**	**14 37 00.5**	**-2.9**
MKAR	**Makanchi Array**	**20.61**	**348**	P	Pn	14 39 21.9	-0.5
	comp=E,0.3nm,0.6s,baz=161,slow=11,SNR=2.3						
	comp=E,0.3nm,0.6s						
WRA	**Warramunga Arr**	**64.24**	**131**	P	**P**	**14 45 18.4**	**+2.0**
	comp=E,0.4nm,0.5s,baz=324,slow=6.7,SNR=13						
	comp=E,0.4nm,0.5s						
ASAR	**Alice Springs**	**66.59**	**135**	P	**P**	**14 45 34.4**	**+2.8**
	comp=E,0.4nm,0.6s,baz=314,slow=6.3,SNR=12						
	comp=E,0.4nm,0.6s						

*NCEDC **18** 14:35:09.7±1.1,37°.63N±0°.02×119°.42W±0°.01,h-2km±5km, ML3.3/25,ML3.1/28(REN),ML2.9/82(NEIC),Error ellipse: s-maj=2.5km s-min=1.5km az=177.0*
*ANF **18** 14:35:10.8±0.5,37°.56N×119°.40W,h1km±2km,ML3.4/13, Error ellipse: s-maj=3.4km s-min=2.3km az=126.0*
*REN **18** 14:35:10.1±1.3,37°.63N±0°.02×119°.41W±0°.01,h5km±5km, Error ellipse: s-maj=2.4km s-min=1.2km az=195.0*
*NEIC **18** 14:35:10.5±1.4,37°.62N±0°.02×119°.44W±0°.01,h1km±8km, Error ellipse: s-maj=2.6km s-min=1.8km az=174.0*
*NEIC **18** 14:35:27.5±1.4,37°.58N±0°.03×119°.36W±0°.05,h5km±9km, Error ellipse: s-maj=7.2km s-min=1.8km az=128.0*
ISC 18 14:35:10.0±1.1,37°.64N±0°.02×119°.43W±0°.02,h5km±11km, n262,σ0°.85/250,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDPB	**Devils Postpil**	**0.28**	**92**		**Pg**	**14 35 15.6**	**+0.1**
MDPB	**Devils Postpil**	**0.28**	**92**		**Sg**	**14 35 19.4**	**+0.2**
MDPB	**Devils Postpil**	**0.28**	**92**	IAML		14 35 19.4	
	comp=E,4μm,0.2s						
MDPB				IAML		14 35 19.6	
	comp=N,3μm,0.3s						
MDPB	**Devils Postpil**	**0.28**	**92**			14 35 31.5	
MDPB						14 35 35.3	
MINS	**Minaret Summit**	**0.29**	**87**		**Pg**	**14 35 15.9**	**+0.1**
MINS	**Minaret Summit**	**0.29**	**87**			14 35 31.8	
MINS						14 35 36.0	
MRDM	**Red Cones**	**0.30**	**98**		**Pg**	**14 35 15.9**	**+0.1**
MDCM	**Deadman Creek**	**0.32**	**77**		**Pg**	**14 35 16.3**	**+0.2**
MMSM	**Mammoth Summit**	**0.32**	**92**		**Pg**	**14 35 16.5**	**+0.3**
MMPM	**Mammoth Pass**	**0.32**	**95**		**Pg**	**14 35 16.4**	**+0.1**
MLIM	**Lincoln Peak**	**0.33**	**91**		**Pg**	**14 35 16.8**	**+0.4**
MLIM					**Sg**	**14 35 21.5**	**+0.7**
MLIM	**Lincoln Peak**	**0.33**	**91**			14 35 32.8	
MLIM						14 35 37.3	
KCC	**Kaiser Creek**	**0.33**	**164**		**Pg**	**14 35 16.3**	**0.0**
KCC	**Kaiser Creek**	**0.33**	**164**			14 35 32.3	
KCC						14 35 36.6	
MDYM	**Dry Creek**	**0.33**	**87**		**Pg**	**14 35 16.9**	**+0.4**
MMIM	**Miami Mountain**	**0.33**	**229**		**Pg**	**14 35 16.7**	**+0.2**
OMMB	**Old Mammoth Mi**	**0.34**	**94**		**Pg**	**14 35 16.8**	**+0.1**
OMMB					**Sg**	**14 35 21.2**	**0.0**
OMMB	**Old Mammoth Mi**	**0.34**	**94**	IAML		14 35 21.6	
	comp=N,2μm,0.3s						
OMMB				IAML		14 35 21.6	
	comp=E,770nm,0.3s						
OMMB	**Old Mammoth Mi**	**0.34**	**94**			14 35 32.7	
OMMB						14 35 37.2	
MMLB	**Mammoth Lakes**	**0.36**	**87**		**Pg**	**14 35 17.4**	**+0.4**
MEMM	**East Mammoth H**	**0.39**	**86**		**Pg**	**14 35 18.0**	**+0.4**
MEMM	**East Mammoth H**	**0.39**	**86**			14 35 39.3	
MLCM	**Laurel Creek C**	**0.41**	**94**		**Pg**	**14 35 18.1**	**+0.2**
MCSM	**Casa Diablo Ho**	**0.42**	**88**		**Pg**	**14 35 18.5**	**+0.4**
MGPM	**Gravel Pit**	**0.42**	**92**		**Pg**	**14 35 18.5**	**+0.4**
MCBM	**Casa Benchmark**	**0.42**	**89**		**Pg**	**14 35 18.6**	**+0.5**
MCBM	**Casa Benchmark**	**0.42**	**89**			14 35 34.6	
LUL	**Lundy Lake**	**0.46**	**26**		**Pg**	**14 35 19.1**	**+0.3**
MDRNC	**Doe Ridge**	**0.47**	**90**		**Pg**	**14 35 19.6**	**+0.5**
MLAC	**Mammoth, Mammo**	**0.47**	**91**		**Pg**	**14 35 19.6**	**+0.5**
MLAC	**Mammoth, Mammo**	**0.47**	**91**	P	**Pg**	**14 35 19.5**	**+0.5**
	baz=270						
MCVM	**Convict Lake**	**0.48**	**96**		**Pg**	**14 35 19.4**	**+0.1**
MBUM	**Mount Bullion**	**0.52**	**261**		**Pg**	**14 35 20.1**	**+0.1**
RCCR	**Rock Creek Can**	**0.58**	**105**		**Pg**	**14 35 21.2**	**0.0**
ORC	**Owens River**	**0.61**	**90**		**Pg**	**14 35 22.1**	**+0.3**
MHDM	**Hidden Dam**	**0.64**	**215**		**Pg**	**14 35 22.3**	**0.0**
BENR	**Benton**	**0.68**	**83**		**Pg**	**14 35 23.5**	**+0.4**
MRCM	**Red Rock Canyo**	**0.73**	**87**		**Pg**	**14 35 24.4**	**+0.3**
MTUM	**Tungsten Hills**	**0.75**	**112**		**Pg**	**14 35 24.2**	**-0.1**
MCDM	**Chidago Canyon**	**0.79**	**96**		**Pg**	**14 35 25.4**	**+0.3**
HCK	**Huntoon Valley**	**0.79**	**57**		**Pb**	**14 35 25.8**	**-0.5**
MFBM	**Five Bridges**	**0.82**	**105**		**Pg**	**14 35 19.1**	**+0.4**
BHPR	**Bishop**	**0.82**	**114**		**Pg**	**14 35 25.7**	**0.0**
MYLM	**Yosemite Lake**	**0.83**	**252**		**Pg**	**14 35 26.0**	**+0.2**
CMB	**Columbia Colle**	**0.85**	**298**		**Pg**	**14 35 25.9**	**-0.4**
CMB	**Columbia Colle**	**0.85**	**298**	IAML		14 35 39.4	
	comp=E,498nm,0.4s						
CMB				IAML		14 35 39.4	
	comp=N,408nm,0.4s						
MLNR	**Milner Canyon**	**0.86**	**93**		**Pg**	**14 35 26.8**	**+0.2**
BONR	**Boundary Peak**	**0.95**	**70**		**Pg**	**14 35 25.8**	**-2.4**
LHV	**Little Huntoon**	**0.95**	**50**		**Pg**	**14 35 28.5**	**+0.3**
LHV	**Little Huntoon**	**0.95**	**50**	IAML		14 35 48.6	
	comp=N,369nm,0.5s						
LHV				IAML		14 35 49.3	
	comp=E,353nm,0.6s						
POCCA	**Poleta Canyon**	**0.96**	**107**		**Pg**	**14 35 28.2**	**-0.1**
MCUB	**Copperopolis B**	**1.00**	**290**		**Pg**	**14 35 28.5**	**-0.7**
TIN	**Tinemaha, Big**	**1.12**	**121**		**Pg**	**14 35 31.1**	**-0.3**
TIN	**Tinemaha, Big**	**1.12**	**121**			14 35 46.7	
TIN	**Tinemaha, Big**	**1.12**	**121**	P	**Pg**	**14 35 31.2**	**-0.3**
	baz=302						
TIN				S	**Sb**	**14 35 47.0**	**+0.1**
	baz=302						
NV08	**Mina Array Sit**	**1.16**	**49**		**Pg**	**14 35 32.2**	**-0.1**
NV09	**Mina Array Sit**	**1.17**	**47**		**Pg**	**14 35 32.4**	**-0.1**
NVAR	**Mina Array Bea**	**1.19**	**48**		**Pg**	**14 35 32.3**	**-0.4**
RYN	**Ryan**	**1.22**	**36**		**Pg**	**14 35 33.3**	**0.0**
RYN					**Sb**	**14 35 49.7**	**0.0**
RYN	**Ryan**	**1.22**	**36**	IAML		14 35 50.2	
	comp=E,196nm,0.2s						
RYN				IAML		14 35 50.4	
	comp=N,162nm,0.3s						
NV11	**Mina Array Sit**	**1.28**	**51**		**Pg**	**14 35 34.4**	**-0.1**
NV11					**Sb**	**14 35 51.7**	**+0.2**
VOG	**Valley Oaks Go**	**1.32**	**178**		**Pn**	**14 35 34.2**	**-0.8**
VOG	**Valley Oaks Go**	**1.32**	**178**	P	**Pn**	**14 35 34.2**	**-0.8**
	baz=359						
VOG				S	**Sb**	**14 35 51.8**	**-0.6**
	baz=359						
RCTC	**Rector, Farmer**	**1.34**	**174**		**Pn**	**14 35 34.3**	**-1.0**
YERR	**Yerington**	**1.35**	**6**		**Pn**	**14 35 35.7**	**0.0**
PWMM	**Westland Maint**	**1.36**	**208**		**Pb**	**14 35 35.8**	**-0.1**
MRHM	**Rocky Hill**	**1.38**	**168**		**Pn**	**14 35 34.7**	**-1.2**
EMB	**Emerald Bay**	**1.43**	**339**		**Pn**	**14 35 37.0**	**+0.1**
EMB	**Emerald Bay**	**1.43**	**339**	IAML		14 35 58.4	
	comp=E,220nm,0.5s						
EMB				IAML		14 35 59.4	
	comp=N,255nm,0.4s						
PNTR	**Pine Nut**	**1.45**	**355**		**Pb**	**14 35 37.8**	**+0.1**
PNTR	**Pine Nut**	**1.45**	**355**	IAML		14 36 01.6	
	comp=E,264nm,0.9s						
BMSM	**Mercy Hot Spri**	**1.47**	**228**		**Pn**	**14 35 37.3**	**+0.1**
LCH	**Last Change Ra**	**1.48**	**105**		**Pb**	**14 35 37.7**	**-0.4**
LCH	**Last Change Ra**	**1.48**	**105**	IAML		14 35 57.5	
	comp=N,120nm,0.3s						
LCH				IAML		14 35 57.5	
	comp=E,158nm,0.2s						
PDRM	**Domengine Ranc**	**1.50**	**210**		**Pb**	**14 35 38.3**	**-0.1**
CMPM	**Mikes Peak**	**1.53**	**260**		**Pb**	**14 35 38.4**	**-0.4**
SPG2	**Springville 2**	**1.53**	**159**		**Pn**	**14 35 37.9**	**-0.1**
SLD	**San Luis Dam**	**1.54**	**249**		**Pn**	**14 35 38.3**	**+0.2**
COSM	**Mount Oso**	**1.55**	**266**		**Pb**	**14 35 39.0**	**-0.2**
PARM	**Anticline Ridg**	**1.57**	**208**		**Pb**	**14 35 39.2**	**-0.3**
HPCM	**Pacheco Lake**	**1.58**	**249**		**Pn**	**14 35 39.1**	**+0.4**
PACP	**Pacheco Peak**	**1.61**	**247**		**Pb**	**14 35 39.9**	**-0.3**
CWC	**Cottonwood Cre**	**1.61**	**138**		**Pn**	**14 35 39.6**	**+0.3**
CWC	**Cottonwood Cre**	**1.61**	**138**	P	**Pn**	**14 35 39.6**	**+0.3**
	baz=318						
CWC				S	**Sg**	**14 36 01.6**	**-0.3**
	baz=318						
BAVM	**Antelope Valle**	**1.62**	**233**		**Pb**	**14 35 39.9**	**-0.5**
MZP	**Montezuma Peak**	**1.62**	**87**		**Pn**	**14 35 39.1**	**-0.5**
CMMM	**Mount Mocho**	**1.65**	**264**		**Pn**	**14 35 40.2**	**+0.5**
VCNR	**Virginia City**	**1.66**	**354**		**Pb**	**14 35 41.5**	**+0.3**
VCNR	**Virginia City**	**1.66**	**354**	IAML		14 36 06.3	
	comp=E,178nm,0.5s						
VCNR				IAML		14 36 10.9	
	comp=N,221nm,0.9s						
BBGB	**Big Mountain B**	**1.67**	**231**		**Pb**	**14 35 40.9**	**-0.3**
PJUM	**Juniper Ridge**	**1.69**	**214**		**Pb**	**14 35 40.9**	**-0.7**
CGO	**Cerro Gordo**	**1.70**	**129**		**Pn**	**14 35 41.1**	**+0.5**
ARN	**Arnold Ranch**	**1.70**	**261**		**Pb**	**14 35 41.0**	**-0.7**
MPK	**Martis Peak**	**1.72**	**344**		**Pb**	**14 35 42.5**	**+0.3**
WLHM	**Little Horse**	**1.73**	**149**		**Pb**	**14 35 41.7**	**-0.8**
TNK	**Tinkers Knob**	**1.74**	**339**		**Pb**	**14 35 42.8**	**+0.2**
CDC	**Canada Road**	**1.75**	**250**		**Pb**	**14 35 42.0**	**-0.6**
KVN	**Kaiserville**	**1.75**	**36**		**Pn**	**14 35 41.7**	**+0.5**
KVN	**Kaiserville**	**1.75**	**36**	IAML		14 36 09.4	
	comp=N,104nm,0.8s						
LRV	**Little Rabbit**	**1.76**	**227**		**Pb**	**14 35 42.4**	**-0.4**
GMN	**Gold Mountain**	**1.76**	**100**		**Pn**	**14 35 41.6**	**+0.3**
CBSNC	**Byron Hot Spri**	**1.76**	**276**		**Pb**	**14 35 42.7**	**-0.1**
BVL	**Bear Valley**	**1.76**	**233**		**Pb**	**14 35 42.6**	**-0.2**
GRAC	**Grapevine Rang**	**1.77**	**111**		**Pb**	**14 35 42.1**	**-0.7**
GRAC	**Grapevine Rang**	**1.77**	**111**	P	**Pb**	**14 35 42.3**	**-0.5**
	baz=292						
CMLM	**Mount Lewis**	**1.77**	**265**		**Pb**	**14 35 42.4**	**-0.6**
AFDM	**Forest Hills D**	**1.78**	**318**		**Pn**	**14 35 42.3**	**+0.8**
MHC	**Mount Hamilton**	**1.79**	**261**		**Pb**	**14 35 42.4**	**-0.8**
MHC	**Mount Hamilton**	**1.79**	**261**			14 36 00.1	
PMPB	**Monarch Peak**	**1.80**	**218**		**Pb**	**14 35 43.1**	**-0.3**
TPH	**Tonopah**	**1.80**	**75**		**Pn**	**14 35 42.4**	**+0.5**
TPH	**Tonopah**	**1.80**	**75**	IAML		14 36 17.8	
	comp=N,136nm,0.7s						
TPH				IAML		14 36 20.6	
	comp=E,170nm,0.8s						
BPIM	**Pinnacles**	**1.80**	**231**		**Pb**	**14 35 44.0**	**+0.5**
BJMM	**Mount Johnson**	**1.81**	**237**		**Pb**	**14 35 43.0**	**-0.6**
VES	**Vestal, Richgr**	**1.82**	**171**		**Pn**	**14 35 42.6**	**+0.7**
VES	**Vestal, Richgr**	**1.82**	**171**	P	**Pn**	**14 35 42.6**	**+0.7**
	baz=352						
VES				S	**Sb**	**14 36 05.9**	**-0.9**
	baz=352						
CCOB	**Coe Ranch Numb**	**1.82**	**259**		**Pb**	**14 35 43.5**	**-0.4**
PSMM	**Smith Mountain**	**1.82**	**211**		**Pn**	**14 35 42.9**	**+0.8**
PSMM	**Smith Mountain**	**1.82**	**211**			14 35 59.9	
SAO	**San Andreas Ge**	**1.83**	**242**		**Pn**	**14 35 42.9**	**+0.8**
DONR	**Donner Summit**	**1.85**	**338**		**Pb**	**14 35 44.2**	**-0.1**
HSFM	**Saint Francis**	**1.85**	**244**		**Pb**	**14 35 43.6**	**-0.6**
PPTM	**Peach Tree Val**	**1.85**	**214**		**Pb**	**14 35 43.6**	**-0.6**
CSR	**Chase Ranch**	**1.85**	**249**		**Pn**	**14 35 43.2**	**+0.8**
CTM	**Castle Mountai**	**1.85**	**203**		**Pb**	**14 35 43.9**	**-0.5**
HBTM	**San Juan Bauti**	**1.87**	**246**		**Pb**	**14 35 44.3**	**-0.7**
FRP	**Fremont Peak**	**1.87**	**242**		**Pn**	**14 35 43.3**	**+0.6**
ANZ	**Anzar Road**	**1.88**	**247**		**Pb**	**14 35 44.3**	**-0.5**
CMOB	**Morgan Territo**	**1.89**	**276**		**Pb**	**14 35 44.1**	**-0.9**
SCZ	**Santa Cruz**	**1.89**	**237**		**Pn**	**14 35 43.5**	**+0.6**
CALM	**Calaveras Res.**	**1.89**	**265**		**Pn**	**14 35 43.8**	**+0.9**
VPK	**Verdi Peak**	**1.89**	**346**		**Pb**	**14 35 45.2**	**0.0**
JLAB	**Laurel Hill**	**1.90**	**256**		**Pn**	**14 35 43.9**	**+0.8**
BSGM	**Shirttail Gulc**	**1.91**	**231**		**Pn**	**14 35 43.7**	**+0.6**
PSRM	**Scobie Ranch**	**1.91**	**201**		**Pb**	**14 35 44.2**	**-1.1**
PHPM	**Hope Ranch**	**1.91**	**210**		**Pn**	**14 35 44.0**	**+0.8**
CVLM	**Vallecito**	**1.91**	**270**		**Pb**	**14 35 44.8**	**-0.6**
BJCM	**Johnson Can.**	**1.91**	**236**		**Pn**	**14 35 44.0**	**+0.8**
PKD	**Bear Valley Ra**	**1.91**	**208**		**Pb**	**14 35 44.7**	**-0.7**
PSTM	**Stockdale Moun**	**1.92**	**207**		**Pb**	**14 35 44.4**	**-1.0**
PHFM	**Heflinger Ranc**	**1.92**	**204**		**Pn**	**14 35 44.2**	**+0.8**
PVCM	**Vineyard Canyo**	**1.93**	**208**		**Pb**	**14 35 44.6**	**-1.1**
BSRM	**Salinas Radio**	**1.93**	**240**		**Pn**	**14 35 44.1**	**+0.8**
HTUM	**Tustin Road**	**1.94**	**246**		**Pn**	**14 35 44.4**	**+0.7**
GHC	**Gold Hill**	**1.95**	**203**		**Pn**	**14 35 44.1**	**+0.3**
BDM	**Black Diamond**	**1.96**	**280**		**Pb**	**14 35 45.8**	**-0.3**
PHAM	**Harlan Ranch**	**1.96**	**204**		**Pn**	**14 35 44.6**	**+0.6**
PSNM	**Stone Corral**	**1.98**	**201**		**Pn**	**14 35 44.6**	**+0.5**
MCA	**Marble Canyon**	**1.98**	**119**		**Pn**	**14 35 45.0**	**+0.8**
AMC	**Almaden**	**1.98**	**257**		**Pn**	**14 35 44.6**	**+0.4**
JHLM	**Holstrom Ranch**	**1.99**	**255**		**Pn**	**14 35 45.0**	**+0.7**
PSAM	**San Ardo**	**1.99**	**216**		**Pb**	**14 35 46.6**	**0.0**
PCMM	**Cholame Hills**	**1.99**	**204**		**Pb**	**14 35 45.7**	**-1.0**
PKLM	**Kerr Lake**	**2.00**	**202**		**Pn**	**14 35 44.9**	**+0.4**
HERM	**Elkhorn Road**	**2.01**	**246**		**Pb**	**14 35 46.7**	**-0.2**
PEAR	**Peavine Mounta**	**2.01**	**348**		**Pb**	**14 35 46.4**	**-0.7**
PPO	**Portuguese Can**	**2.01**	**209**		**Pb**	**14 35 46.2**	**-0.8**
CNIC	**Niles Canyon**	**2.01**	**270**		**Pb**	**14 35 46.4**	**-0.7**
THIS	**South End of C**	**2.02**	**199**		**Pn**	**14 35 45.6**	**+0.9**
PWKM	**Work Ranch**	**2.02**	**206**		**Pn**	**14 35 45.5**	**+0.8**
SGV	**South Grapevin**	**2.02**	**108**		**Pn**	**14 35 45.5**	**+0.6**
WASM	**Alta Sierra Ca**	**2.02**	**159**		**Pb**	**14 35 46.4**	**-1.0**
BABR	**Babbit Peak**	**2.03**	**345**		**Pb**	**14 35 48.0**	**+0.5**
BSMM	**Soledad Missio**	**2.03**	**232**		**Pb**	**14 35 46.2**	**-1.2**
PMCM	**

baz=328
LRMC Sb **Sb** **14 36 29.7 +0.9**
baz=328
TPNV Topopah Spring 2.63 104 **Pn** **14 35 53.2 -0.1**
TPNV IAML 14 36 50.1
comp=N,36nm,0.7s
OGOM Van Goodin Ran 2.64 320 **Pn** **14 35 55.1 +1.9**
GWY Greenwater Val 2.65 122 **Pn** **14 35 53.8 +0.3**
GWY IAML 14 36 36.7
comp=N,35nm,0.5s
GWY IAML 14 36 42.2
comp=E,45nm,0.6s
QSM Queen of Sheba 2.65 128 **Pn** **14 35 53.7 +0.3**
QSM IAML 14 36 40.0
comp=N,57nm,0.5s
QSM IAML 14 36 43.7
comp=E,38nm,0.7s
VPDC Valencia Peak 2.66 206 **Pn** **14 35 55.3 +1.7**
SDH Striped Hills 2.66 111 **Pn** **14 35 54.6 +1.0**
BCW Bitter Crk WRg 2.69 180 **Pn** **14 35 54.2 +0.1**
PKM Mcpherson Peak 2.76 187 P **Pn** **14 35 56.2 +1.0**
baz=6.5
MCCM Marconi Confer 2.78 281 Pn **Pn** **14 35 56.0 +0.9**
MCCM IAML 14 36 48.5
comp=E,77nm,2.2s
MCCM IAML 14 37 20.8
comp=N,60nm,2.6s
CPY CP-1 2.78 104 **Pn** **14 35 55.9 +0.5**
AMDNV Amargosa 2.78 114 **Pn** **14 35 56.9 +1.7**
GSGM Seigler Mounta 2.86 296 **Pb** **14 36 01.7 +0.3**
GRTM Round Top Moun 2.86 298 **Pb** **14 36 00.8 -0.7**
S11A Rachel 2.92 89 Pn **Pn** **14 35 56.6 -0.7**
LCMM Colby Mountain 2.99 328 **Pb** **14 36 01.2 -2.5**
R11A Troy Canyon, C 3.12 76 **Pn** **14 36 00.3 +0.3**
R11A Troy Canyon, C 3.12 76 P **Pn** **14 36 00.5 +0.6**
baz=258
R11A Sb **Sg** **14 36 48.6 -1.6**
baz=258
GSC Goldstone, Bar 3.15 137 **Pn** **14 36 00.6 +0.3**
GSC IAML 14 36 54.8
comp=N,36nm,0.5s
BMN Battle Mountai 3.27 31 Pn **Pn** **14 36 02.8 +0.7**
LMEM Manzanita Entr 3.34 331 **Pn** **14 36 02.2 -0.8**
LMEM **Pb** **14 36 08.2 -1.5**
PRN Pahroc Range 3.49 93 **Pn** **14 36 05.4 +0.4**
TUQ Turquoise Moun 3.58 127 **Pn** **14 36 08.5 +2.2**
ELS Elsinore Mount 4.30 157 **Pn** **14 36 16.0 -0.2**
ELS IAML 14 37 27.3
comp=E,10nm,1.1s
ELS IAML 14 37 30.5
comp=N,10.0nm,0.8s
ELK Elko 4.50 45 Pn **Pn** **14 36 19.3 +0.4**
BELC Belle Mtn. Jos 4.58 141 P **Pn** **14 36 22.1 +2.1**
baz=324
PFO Pinyon Flats O 4.69 148 **Pn** **14 36 23.8 +2.3**
PFO Pinyon Flats O 4.69 148 P **Pn** **14 36 23.9 +2.3**
baz=330
WVOR Wild Horse Val 4.83 7 Pn **Pn** **14 36 22.6 -0.8**
WVOR IAML 14 37 49.9
comp=N,6.6nm,4.4s
WVOR IAML 14 39 13.4
comp=N,6.6nm,4.7s

*IDC **18** 14:35:45.0±0.8, 6.°74N×72.°90W, h165km±9km, mb2.4/1, mbtmp3.6/3, Error ellipse: s-maj=46.1km s-min=7.5km az=132.0*
*RSNC **18** 14:35:46.0±1.0, 6.°81N×73.°12W, h147km±4km, ML3.4*
ISC 18 14:35:44.6±0.9, 6.°83N±0.°03×73.°11W±0.°03, h155km±6km, n36, σ1$41/69, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**198**	*e*P	**Pn**	**14 36 06.0**	**+0.1**
BARC				*e*S	**Sn**	**14 36 20.7**	**-1.4**
BARC				IAML		14 36 23.7	
	comp=Z,961nm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	*i*P	**Pn**	**14 36 08.8**	**+1.0**
PAMC				*e*S	**Sn**	**14 36 25.9**	**+0.3**
PAMC				IAML		14 36 29.2	
	comp=Z,288nm,0.4s						
BRRC	**Barranca, Sant**	**0.66**	**295**	*i*P	**Pn**	**14 36 07.8**	**+0.5**
BRRC				*e*S	**Sn**	**14 36 24.6**	**-0.1**
BRRC				IAML		14 36 28.8	
	comp=Z,424nm,0.2s						
RUSC	**La Rusia**	**0.93**	**178**	*i*P	**Pn**	**14 36 09.9**	**+0.1**
RUSC				*e*S	**Sn**	**14 36 28.6**	**-0.5**
TAMC	**Tame, Arauca**	**1.36**	**107**	*e*P	**Pn**	**14 36 14.4**	**+1.2**
TAMC				*e*S	**Sn**	**14 36 35.5**	**+0.4**
TAMC				IAML		14 36 37.6	
	comp=Z,160nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*e*P	**Pn**	**14 36 12.7**	**-0.5**
PTBC				*e*S	**Sn**	**14 36 34.0**	**-1.1**
PTBC				IAML		14 36 39.3	
	comp=Z,286nm,0.2s						
OCAC	**Ocana**	**1.42**	**352**	*i*P	**Pn**	**14 36 14.1**	**+0.2**
OCAC				*e*S	**Sn**	**14 36 36.0**	**-0.3**
OCAC				IAML		14 36 39.9	
	comp=Z,798nm,0.2s						
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P	**Pn**	**14 36 15.0**	**+0.3**
SPBC				*e*S	**Sn**	**14 36 36.8**	**-1.0**
SPBC				IAML		14 36 39.4	
	comp=Z,564nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P	**Pn**	**14 36 18.3**	**0.0**
ZARC				*e*S	**Sn**	**14 36 44.3**	**0.0**
ZARC				IAML		14 36 52.9	
	comp=Z,281nm,0.2s						
NORC	**Norcasia**	**2.15**	**234**	*e*P	**Pn**	**14 36 22.1**	**+0.2**
NORC				*e*S	**Sn**	**14 36 50.1**	**-0.4**
NORC				IAML		14 36 55.5	
	comp=Z,184nm,0.2s						
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**14 36 24.0**	**+0.4**
CHIC				*e*S	**Sn**	**14 36 53.4**	**-0.3**
CHIC				IAML		14 36 58.8	
	comp=Z,155nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**14 36 25.8**	**+1.7**
	comp=Z,178nm,0.4s,baz=125,slow=23,SNR=132						
ROSC				S	**Sn**	**14 36 57.2**	**+2.7**
	comp=Z,534nm,0.4s,baz=336,slow=20,SNR=24						
ROSC	**El Rosal**	**2.31**	**211**	*e*P	**Pn**	**14 36 25.8**	**+1.7**
ROSC				*e*S	**Sn**	**14 36 56.2**	**+1.7**
ROSC				IAML		14 37 00.7	
	comp=Z,498nm,0.5s						
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**14 36 27.5**	**+1.4**
HELC				*e*S	**Sn**	**14 36 58.0**	**-0.2**
HELC				IAML		14 37 06.3	
	comp=Z,128nm,0.3s						
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P	**Pn**	**14 36 26.5**	**-0.4**
UREC				*e*S	**Sn**	**14 36 57.3**	**-2.2**
UREC				IAML		14 37 07.4	
	comp=Z,140nm,0.3s						
SOCV	**Socops**	**2.66**	**57**	*e*P	**Pn**	**14 36 28.8**	**+0.9**
SOCV				*e*S	**Sn**	**14 37 01.2**	**-0.2**
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*e*P	**Pn**	**14 36 31.2**	**+2.4**
LL1C				*e*S	**Sn**	**14 37 05.4**	**+2.4**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P	**Pn**	**14 36 30.5**	**+1.0**
GUY2C				*e*S	**Sn**	**14 37 04.3**	**+0.1**
GUY2C				IAML		14 37 16.2	
	comp=Z,155nm,0.5s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	**Pn**	**14 36 29.3**	**0.0**
VILC				*e*S	**Sn**	**14 37 03.5**	**-0.3**
VILC				IAML		14 37 09.1	
	comp=Z,215nm,0.6s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	*i*P	**Pn**	**14 36 29.1**	**-0.3**
PTGC				*e*S	**Sn**	**14 37 02.1**	**-2.1**
PTGC				IAML		14 37 07.4	
	comp=Z,107nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P	**Pn**	**14 36 33.5**	**+0.6**
CBOC				*e*S	**Sn**	**14 37 10.8**	**+0.7**
CBOC				IAML		14 37 21.0	
	comp=Z,41nm,0.5s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**14 36 35.5**	**+0.7**
	comp=Z,57nm,0.3s,baz=236,slow=7.3,SNR=36						
SDV				S	**Sn**	**14 37 12.8**	**-0.8**
	comp=Z,42nm,0.5s,baz=32,slow=14,SNR=16						
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P	**Pn**	**14 36 35.9**	**+1.0**
ARGC				*e*S	**Sn**	**14 37 15.3**	**+1.4**
ARGC				IAML		14 37 23.3	
	comp=Z,54nm,0.4s						
ANIL	**Santa Ana**	**3.26**	**225**	*e*P	**Pn**	**14 36 37.1**	**+1.4**
ANIL				*e*S	**Sn**	**14 37 16.9**	**+1.6**
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	**Pn**	**14 36 39.9**	**-0.9**
SJCC				*e*S	**Sn**	**14 37 21.0**	**-3.5**
SJCC				IAML		14 37 35.8	
	comp=Z,46nm,0.3s						
PLMC	**San Jos del P**	**3.69**	**239**	*e*P	**Pn**	**14 36 41.5**	**+0.4**
PLMC				*e*S	**Sn**	**14 37 23.3**	**-1.5**
PLMC				IAML		14 37 31.3	
	comp=Z,42nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	**Pn**	**14 36 46.4**	**-0.9**
CRJC				*e*S	**Sn**	**14 37 33.2**	**-3.0**
CRJC				IAML		14 37 35.7	
	comp=Z,72nm,0.5s						
GUVC	**San Jose del G**	**4.28**	**174**	*e*P	**Pn**	**14 36 48.6**	**0.0**
GUVC				*e*S	**Sn**	**14 37 37.5**	**-1.1**
GUVC				IAML		14 37 43.7	
	comp=Z,74nm,0.2s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P	**Pn**	**14 36 49.3**	**+0.5**
YOTC				*e*S	**Sn**	**14 37 39.6**	**+0.7**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P	**Pn**	**14 36 51.2**	**+0.4**
SMRC				*e*S	**Sn**	**14 37 38.8**	**-3.7**
SMRC				IAML		14 37 41.9	
	comp=Z,26nm,0.1s						
MACC	**Macarena, Meta**	**4.71**	**189**	*e*P	**Pn**	**14 36 52.9**	**-1.4**
MACC				*e*S	**Sn**	**14 37 44.9**	**-3.8**
MACC				IAML		14 37 50.3	
	comp=Z,55nm,0.8s						
DABV	**Dabajuro**	**4.75**	**31**	*e*P	**Pn**	**14 36 55.2**	**+0.5**
DABV				*e*S	**Sn**	**14 37 47.2**	**-2.3**
FLOC	**Florencia**	**5.79**	**206**	*e*P	**Pn**	**14 37 08.5**	**-0.2**
FLOC				*e*S	**Sn**	**14 38 12.6**	**-1.9**
FLOC				IAML		14 38 19.7	
	comp=Z,5.7nm,0.6s						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**14 42 36.3**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=118,slow=9.5,SNR=1.7						
	comp=Z,0.1nm,0.4s						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**14 55 14.6**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=110,slow=3.9,SNR=12						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**14 55 17.7**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=107,slow=2.8,SNR=8.0						

*IDC **18** 14:43:37.3±1.4, 14.°36S×173.°06E, h0km, mb3.8/3, mbtmp3.8/5, ML4.9/1, MS3.1/4, Error ellipse: s-maj=40.2km s-min=27.1km az=154.0, Fiji Islands region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.85**	**126**	Pn	Pn	14 45 04.6	-0.8
	1.1nm,0.3s,baz=275,slow=16,SNR=11						
MSVF				LR	LR	14 46 31.9	
	comp=Z,38nm,21.0s,baz=220,slow=30						
	6.3nm,0.6s						
DZM	**Mont Dzumac**	**9.91**	**218**	Pn	Pn	14 46 03.1	+1.9
	4.5nm,0.9s,baz=124,slow=10,SNR=22						
AFI	**Afiamalu**	**14.71**	**90**	LR	LR	14 51 49.2	
	comp=Z,75nm,18.6s,baz=136,slow=33						
WRA	**Warramunga Arr**	**37.35**	**256**	P	P	14 50 51.5	-0.5
	0.8nm,0.9s,baz=88,slow=9.5,SNR=6.1						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**38.06**	**250**	P	P	14 50 57.5	-0.4
	1.9nm,0.8s,baz=78,slow=9.0,SNR=22						
	1.9nm,0.8s						
MA2	**Magadan**	**75.87**	**349**	LR	LR	15 24 02.0	
	comp=Z,14nm,19.8s,baz=142,slow=32						
ILAR	**Eielson Array**	**84.53**	**16**	P	P	14 56 12.2	+0.3
	0.4nm,0.6s,baz=228,slow=5.3,SNR=11						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**91.20**	**60**	LR	LR	15 36 34.0	
	comp=Z,47nm,18.0s,baz=164,slow=35						

IDC 18 14:49:02.4±4.6, 55.°28S×31.°45W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=154.2km s-min=54.8km az=179.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**47.99**	**309**	P	P	14 57 43.5	-0.1
	1.2nm,0.6s,baz=143,slow=5.1,SNR=6.0						
	1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.67**	**34**	P	P	15 00 37.7	0.0
	0.3nm,0.6s,baz=187,slow=6.6,SNR=1.4						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**147.81**	**313**	PKPbc	PKPbc	15 08 47.0	-0.7
	0.4nm,0.9s,baz=96,slow=1.8,SNR=4.1						

WEL 18 14:52:21.8±0.9, 37.°S±4.°×17.°9E±.°, h21km±9km, M3.5/31, ML3.8/46, MLv3.5/31, Error ellipse: s-maj=0.0km s-min=0.0km az=88.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.84**	**243**	P	Pb	14 52 37.4	-0.2
MXZ				S	Sb	14 52 47.7	-0.8
PKGZ	**Pakihiroa**	**1.16**	**232**	P	Pb	14 52 43.5	+0.3
PKGZ				S	Sn	14 52 59.0	+0.7
PUZ	**Puketiti**	**1.18**	**221**	P	Pb	14 52 43.9	+0.3
PUZ				S	Sn	14 52 59.6	+0.9
HAZ	**Te Kaha**	**1.29**	**243**	P	Pb	14 52 45.2	-0.3
HAZ				S	Sb	14 53 01.8	+0.2
TWGZ	**Tauwhareparae**	**1.41**	**225**	P	Pb	14 52 47.3	-0.1
TWGZ				S	Sb	14 53 06.3	+1.3
RUGZ	**Raukumara Rang**	**1.47**	**237**	P	Pb	14 52 48.4	-0.1
RUGZ				S	Sb	14 53 07.0	+0.2
CNGZ	**Carnagh Statio**	**1.54**	**212**	P	Pb	14 52 49.8	+0.2
CNGZ				S	Sb	14 53 11.1	+2.5
WIZ	**White Island**	**1.67**	**257**	P	Pn	14 52 50.0	+0.2
TKGZ	**Te Karaka**	**1.67**	**221**	P	Pn	14 52 50.4	+0.5
TKGZ				S	Sb	14 53 11.9	-0.6
MWZ	**Matawai**	**1.78**	**229**	P	Pn	14 52 52.0	+0.6
MWZ				S	Sn	14 53 13.3	-0.2
RIGZ	**Rimuhau**	**1.92**	**217**	P	Pn	14 52 53.9	+0.6
RIGZ				S	Sn	14 53 17.6	+0.6
URZ	**Urewera**	**2.00**	**237**	P	Pn	14 52 55.1	+0.7
URZ				S	Sn	14 53 19.1	+0.2
PRGZ	**Paritu Road**	**2.04**	**211**	P	Pn	14 52 55.5	+0.5
PRGZ				S	Sn	14 53 20.7	+0.8
SNGZ	**Shannon Statio**	**2.19**	**223**	P	Pn	14 52 57.4	+0.2
KNZ	**Kokohu**	**2.22**	**213**	P	Pn	14 52 57.1	-0.3
MHGZ	**Mahia Peninsul**	**2.23**	**208**	P	Pn	14 52 58.2	+0.5
RTZ	**Ruatahuna**	**2.29**	**231**	P	Pn	14 52 59.1	+0.6
RTZ				S	Sn	14 53 27.5	+1.4
MUGZ	**Murupara**	**2.34**	**236**	P	Pn	14 52 59.4	+0.2
MUGZ				S	Sn	14 53 26.2	-1.1
RAHZ	**Arahi**	**2.43**	**224**	P	Pn	14 53 01.0	+0.6
TGRZ	**Tauranga**	**2.43**	**256**	P	Pn	14 53 00.4	0.0
WHHZ	**Waihua**	**2.47**	**219**	P	Pn	14 53 01.1	+0.2
MTHZ	**Maungataniwha**	**2.52**	**228**	P	Pn	14 53 02.3	+0.6
NMHZ	**Naumai**	**2.71**	**224**	P	Pn	14 53 04.6	+0.3
ARHZ	**Aropaoanui**	**2.73**	**220**	P	Pn	14 53 04.6	+0.1
MRHZ	**Matea Rd**	**2.77**	**233**	P	Pn	14 53 05.7	+0.6
KUZ	**Kuaotunu**	**2.85**	**278**	P	Pn	14 53 04.8	-1.3
BKZ	**Black Stump Fm**	**2.94**	**227**	P	Pn	14 53 07.3	0.0
CKHZ	**Cape Kidnapper**	**3.00**	**214**	P	Pn	14 53 07.4	-0.8
KUTZ	**Kaahu Road**	**3.00**	**243**	P	Pn	14 53 09.1	+0.8
MCHZ	**McNeill Hill**	**3.02**	**221**	P	Pn	14 53 08.3	-0.1
TOZ	**Tahuroa Road**	**3.02**	**258**	P	Pn	14 53 08.0	-0.5
KWHZ	**Kaweka Forest**	**3.15**	**224**	P	Pn	14 53 09.9	-0.4
GRZ	**Great Barrier**	**3.18**	**286**	P	Pn	14 53 10.5	-0.1
MKAZ	**Moumakai**	**3.26**	**270**	P	Pn	14 53 10.9	-0.8
WIAZ	**Waiheke Island**	**3.31**	**275**	P	Pn	14 53 12.6	+0.2
KRHZ	**Kereru**	**3.34**	**222**	P	Pn	14 53 12.1	-0.7
ETVZ	**East Tongariro**	**3.40**	**234**	P	Pn	14 53 13.6	-0.2
BHHZ	**Black Hill Sta**	**3.40**	**226**	P	Pn	14 53 13.6	-0.1
NTVZ	**North Tongarir**	**3.40**	**235**	P	Pn	14 53 13.5	-0.3
PXZ	**Pawanui**	**3.40**	**212**	P	Pn	14 53 12.1	-1.6
KRVZ	**Karewarewa**	**3.42**	**235**	P	Pn	14 53 14.2	+0.1
OTVZ	**Oturere**	**3.44**	**234**	P	Pn	14 53 14.0	-0.4
ETAZ	**East Tamaki Re**	**3.46**	**272**	P	Pn	14 53 14.4	0.0
NNVZ	**North Ngauruho**	**3.46**	**235**	P	Pn	14 53 14.9	+0.3
SNVZ	**South Ngauruho**	**3.47**	**234**	P	Pn	14 53 14.5	-0.3
NGZ	**Ngauruhoe**	**3.49**	**234**	P	Pn	14 53 14.8	-0.3
MBAZ	**Motutapu North**	**3.50**	**275**	P	Pn	14 53 15.4	+0.3
ABAZ	**Army Bay**	**3.58**	**278**	P	Pn	14 53 16.7	+0.5
WPHZ	**Waipukurau**	**3.62**	**216**	P	Pn	14 53 15.6	-1.1
PNHZ	**Pukenui**	**3.62**	**220**	P	Pn	14 53 15.5	-1.3
AWAZ	**Awhitu Peninsu**	**3.68**	**270**	P	Pn	14 53 18.1	+0.6
MTVZ	**Mangateitei**	**3.69**	**232**	P	Pn	14 53 17.5	-0.2
HIZ	**Hauiti**	**3.72**	**248**	P	Pn	14 53 19.2	+1.1
RVAZ	**Riverhead Bore**	**3.75**	**275**	P	Pn	14 53 18.5	0.0
TSZ	**Takapari Road**	**3.85**	**221**	P	Pn	14 53 18.4	-1.6
DVHZ	**Dannevirke**	**3.93**	**217**	P	Pn	14 53 19.4	-1.6
WCZ	**Waipu Caves**	**4.13**	**286**	P	Pn	14 53 24.2	+0.5
BFZ	**Birch Farm**	**4.20**	**213**	P	Pn	14 53 22.3	-2.4
WAZ	**Wanganui**	**4.21**	**231**	P	Pn	14 53 25.3	+0.4
PRWZ	**Pori Road**	**4.23**	**216**	P	Pn	14 53 23.9	-1.1
MRZ	**Mangatainoka R**	**4.50**	**218**	P	Pn	14 53 26.5	-2.2
NEZ	**North Egmont**	**4.56**	**241**	P	Pn	14 53 32.8	+3.2
PKE	**Pukeiti**	**4.60**	**242**	P	Pn	14 53 33.1	+2.9
TMWZ	**Te Maipa**	**4.71**	**213**	P	Pn	14 53 29.0	-2.6
MTW	**Mount Morrison**	**4.92**	**215**	P	Pn	14 53 31.8	-2.8
OUZ	**Omahuta**	**4.96**	**292**	P	Pn	14 53 35.7	+0.6
CAW	**Cannon Point**	**5.09**	**218**	P	Pn	14 53 33.6	-3.3
PAWZ	**Paruwai Farm**	**5.13**	**214**	P	Pn	14 53 34.5	-3.0
MSWZ	**Moikau Station**	**5.24**	**215**	P	Pn	14 53 35.8	-3.2
CTZ	**Chatham Island**	**7.27**	**156**	P	Pn	14 54 08.0	+1.2
GVZ	**Greta Valley S**	**7.49**	**218**	P	Pn	14 54 07.2	-2.5
LTZ	**Lake Taylor**	**7.74**	**222**	P	Pn	14 54 10.6	-2.7
OKCZ	**Okains Bay**	**8.05**	**214**	P	Pn	14 54 13.4	-4.2
TMZ	**Timaru**	**9.52**	**218**	P	Pn	14 54 33.5	-4.3
ODZ	**Otahua Downs**	**10.18**	**217**	P	Pn	14 54 42.2	-4.5

*NEIC **18** 14:58:36.9±2.9, 21.°7S±0.°1×176.°8W±0.°1, h206km±9km, mb4.4/27, Error ellipse: s-maj=21.5km s-min=16.7km az=187.0*
*IDC **18** 14:58:42.2±3.2, 21.°81S×177.°11W, h248km±28km, mb3.5/8, mbtmp4.1/10, Error ellipse: s-maj=24.5km s-min=18.2km az=108.0*
ISC 18 14:58:39.3±0.7, 22.°02S±0.°09×176.°9W±0.°1, h223km, n48, σ1$84/47, mb4.3/22, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.38**	**311**	P	**Pn**	**15 00 11.8**	**-0.1**
	4.1nm,0.4s,baz=220,slow=18,SNR=16						
NIUE	**Niue**	**7.17**	**67**	P	Pn	15 00 17.4	-4.5
AFI	**Afiamalu**	**9.43**	**32**	Pn	Pn	15 00 42.3	-8.8
MARNC	**Mare, Loyalty**	**14.01**	**269**	P	**P**	**15 01 49.6**	**-0.2**
PINNC	**Pines Island,**	**14.49**	**265**	P	**P**	**15 01 58.5**	**+3.4**
LIFNC	**LIFOU**	**14.82**	**272**		**P**	**15 02 00.7**	**+1.9**
DZM	**Mont Dzumac**	**15.44**	**267**	P	**Pn**	**15 02 06.7**	**+0.7**
	17nm,0.6s,baz=83,slow=18,SNR=25						
DZM	**Mont Dzumac**	**15.44**	**267**	P	**Pn**	**15 02 08.7**	**+2.7**
URZ	**Urewera**	**16.98**	**196**	P	**P**	**15 02 21.8**	**-0.6**
	5.6nm,0.3s,baz=26,slow=2.9,SNR=8.8						
URZ				S	**S**	**15 05 20.9**	**-7.0**
	6.6nm,0.4s,baz=356,slow=23,SNR=13						
BKZ	**Black Stump Fm**	**18.00**	**197**	P	**P**	**15 02 31.1**	**-2.5**
BKZ				IAmb	IAmb	15 03 10.1	
	comp=Z,34nm,1.4s						
QRZ	**Quartz Range**	**20.77**	**203**	P	**P**	**15 03 02.3**	**-0.9**
RPZ	**Rata Peaks**	**23.83**	**202**	P	**P**	**15 03 32.6**	**+0.5**
	comp=Z,5.0nm,0.5s,baz=20,slow=3.6,SNR=8.4						
	comp=Z,5.0nm,0.5s						
ARMA	**Armidale**	**29.37**	**247**	P	**P**	**15 04 23.4**	**+1.5**
CTAO	**Charters Tower**	**34.38**	**266**	P	**P**	**15 05 06.0**	**+0.5**
CTAO				IAmb	IAmb	15 05 07.0	
	comp=Z,5.9nm,0.5s						
STKA	**Stephens Creek**	**38.08**	**246**	P	**P**	**15 05 37.1**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=93,slow=9.0,SNR=10						
	comp=Z,1.7nm,0.4s						
STKA	**Stephens Creek**	**38.08**	**246**	P	**P**	**15 05 37.0**	**+0.4**
BBOO	**Buckleboo**	**42.81**	**245**	P	**P**	**15 06 14.7**	**-0.7**
BBOO				IAmb	IAmb	15 06 32.8	
	comp=Z,28nm,1.5s						
AS31	**Alice Springs**	**45.18**	**258**	P	**P**	**15 06 33.8**	**-0.6**
ASAR	**Alice Springs**	**45.18**	**258**	P	**P**	**15 06 33.9**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=97,slow=7.7,SNR=48						
	comp=Z,4.3nm,0.8s						
ASAR	**Alice Springs**	**45.18**	**258**	P	**P**	**15 06 33.6**	**-0.7**
WR0	**Warramunga Arr**	**45.23**	**263**	P	**P**	**15 06 33.4**	**-1.3**
WR0				IAmb	IAmb	15 06 35.9	
	comp=Z,9.2nm,1.5s						
WB2	**Warramunga Arr**	**45.41**	**263**	P	**P**	**15 06 35.0**	**-1.1**
WRAB	**Tennant Creek**	**45.41**	**263**	P	**P**	**15 06 34.7**	**-1.5**
WRA	**Warramunga Arr**	**45.42**	**263**	P	**P**	**15 06 34.7**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=96,slow=8.3,SNR=137						
	comp=Z,1.0nm,0.3s						
FORT	**Forrest**	**49.65**	**248**	P	**P**	**15 07 07.5**	**-1.1**
MTN	**Manton Dam**	**50.21**	**271**	P	**P**	**15 07 10.7**	**-2.3**
MTN				IAmb	IAmb	15 07 19.8	
	comp=Z,32nm,1.5s						
KNRA	**Kununurra**	**51.59**	**267**	P	**P**	**15 07 22.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.85**	**263**	P	**P**	**15 07 38.9**	**-0.8**
FITZ				IAmb	IAmb	15 08 01.3	
	comp=Z,9.2nm,1.3s						
SBA	**Scott Base**	**56.43**	**184**	P	**P**	**15 08 00.5**	**+3.3**
SBA				IAmb	IAmb	15 08 01.8	
	comp=Z,2.7nm,0.7s						
VNDA	**Vanda**	**56.49**	**185**	P	**P**	**15 08 00.2**	**+2.6**
	comp=Z,0.5nm,0.5s,baz=355,slow=7.3,SNR=6.8						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**56.49**	**185**	P	**P**	**15 08 00.6**	**+2.9**
PSA00	**Pilbara Seismi**	**58.33**	**258**	P	**P**	**15 08 11.3**	**-0.1**
PSA00				IAmb	IAmb	15 08 34.5	
	comp=Z,13nm,1.1s						
MBWA	**Marble Bar**	**58.53**	**258**	P	**P**	**15 08 11.8**	**-1.0**
MBWA				IAmb	IAmb	15 08 13.7	
	comp=Z,13nm,1.1s						
CASY	**Casey**	**63.03**	**206**	P	**P**	**15 08 42.6**	**+0.2**
CASY				IAmb	IAmb	15 08 44.8	
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**68.06**	**180**	P	**P**	**15 09 16.3**	**+1.7**
QSPA				IAmb	IAmb	15 09 16.9	
	comp=Z,4.7nm,0.7s		

NVR	**Nevrokopi**	**0.39**	**86**	P	**Pg**	15 09 15.6	-0.4
NVR				S	**Sg**	**15 09 21.4**	**+0.2**
NVR				AML	AML	15 09 22.1	
	comp=E,1126μm,0.1s						
NVR				AML	AML	15 09 22.4	
	comp=N,881μm,0.1s						
SOH	**Sokhos**	**0.50**	**179**	P	**Pg**	**15 09 18.1**	**+0.1**
SOH				S	**Sb**	**15 09 25.5**	**-0.8**
	comp=N,622nm,0.2s						
SOH	**Sokhos**	**0.50**	**179**	P	**Pg**	**15 09 18.1**	**+0.1**
SOH				S	**Sg**	**15 09 25.4**	**+0.8**
SOH				AML	AML	15 09 26.0	
	comp=E,1689μm,0.2s						
SOH				AML	AML	15 09 26.2	
	comp=N,1438μm,0.3s						
VAY	**Valandovo**	**0.58**	**270**	*e*Pg	**Pg**	**15 09 19.3**	**-0.2**
VAY				*e*Sg	**Sg**	**15 09 27.4**	**+0.3**
KOKK	**Kokkinochori,**	**0.71**	**135**	P	**Pg**	**15 09 21.5**	**-0.4**
KOKK				S	**Sg**	**15 09 31.5**	**+0.3**
	comp=N,152nm,0.2s						
KOKK	**Kokkinochori,**	**0.71**	**135**	P	**Pg**	**15 09 21.6**	**-0.3**
KOKK				S	**Sg**	**15 09 30.7**	**-0.5**
THE	**Thessaloniki**	**0.74**	**202**	P	**Pg**	**15 09 22.5**	**-0.1**
THE				S	**Sb**	**15 09 32.9**	**-0.4**
	comp=N,228nm,0.1s						
THE	**Thessaloniki**	**0.74**	**202**	P	**Pg**	**15 09 22.5**	**-0.1**
THE				S	**Sb**	**15 09 33.3**	**-0.1**
THE				AML	AML	15 09 33.8	
	comp=E,451μm,0.1s						
THE				AML	AML	15 09 33.9	
	comp=N,443μm,0.2s						
HORT	**Hortiatis**	**0.75**	**194**	P	**Pg**	**15 09 22.7**	**+0.1**
HORT				S	**Sg**	**15 09 32.5**	**+0.1**
	comp=N,230nm,0.4s						
HORT	**Hortiatis**	**0.75**	**194**	PG	**Pg**	**15 09 22.8**	**+0.1**
HORT				SG	**Sb**	**15 09 33.5**	**0.0**
HORT	**Hortiatis**	**0.75**	**194**	P	**Pg**	**15 09 22.7**	**+0.1**
HORT				AML	AML	15 09 34.3	
	comp=N,486μm,0.4s						
HORT				AML	AML	15 09 34.4	
	comp=E,425μm,0.3s						
GRG	**Griva**	**0.80**	**243**	PG	**Pg**	**15 09 23.5**	**-0.1**
GRG				SG	**Sg**	**15 09 34.3**	**+0.3**
GRG	**Griva**	**0.80**	**243**	P	**Pg**	**15 09 23.5**	**-0.1**
GRG				AML	AML	15 09 36.6	
	comp=N,521μm,0.2s						
GRG				AML	AML	15 09 37.1	
	comp=E,447μm,0.2s						
KVLA	**Kavala**	**0.88**	**116**	P	**Pg**	**15 09 24.3**	**-0.8**
KAVA	**Kavala**	**0.94**	**110**	P	**Pb**	**15 09 25.6**	**-1.0**
KAVA				S	**Sb**	**15 09 38.7**	**-0.4**
	comp=E,412nm,0.1s						
KAVA	**Kavala**	**0.94**	**110**	P	**Pb**	**15 09 25.4**	**-1.1**
KAVA				S	**Sg**	**15 09 38.1**	**-0.6**
OUR	**Ouranopolis**	**1.10**	**153**	P	**Pg**	**15 09 29.7**	**+0.4**
OUR				S	**Sn**	**15 09 45.1**	**+0.4**
OUR	**Ouranopolis**	**1.10**	**153**	PN	**Pg**	**15 09 29.7**	**+0.4**
OUR				SN	**Sn**	**15 09 45.2**	**+0.5**
OUR	**Ouranopolis**	**1.10**	**153**	P	**Pb**	**15 09 29.1**	**-0.1**
OUR				AML	AML	15 09 46.7	
	comp=N,1689μm,0.3s						
OUR				AML	AML	15 09 47.0	
	comp=E,1138μm,0.2s						
PLD	**Plovdiv**	**1.29**	**52**	PN	**Pb**	**15 09 32.4**	**0.0**
PLD	**Plovdiv**	**1.29**	**52**	*e*Pg	**Pb**	**15 09 32.4**	**0.0**
PLD				*e*Sg	**Sg**	**15 09 52.5**	**+2.9**
VTS	**Vitosha**	**1.30**	**357**	⇑P	**Pn**	**15 09 31.6**	**-0.8**
VTS				⇑S	**Sb**	**15 09 49.1**	**-0.3**
VTS	**Vitosha**	**1.30**	**357**	*e*Pg	**Pn**	**15 09 32.4**	**0.0**
VTS				*e*Sg	**Sb**	**15 09 49.3**	**-0.2**
BOSS	**Bosilegrad**	**1.34**	**332**	*e*Pg	**Pn**	**15 09 32.8**	**-0.1**
BOSS				*e*Sg	**Sg**	**15 09 51.8**	**+0.6**
LIT	**Litokhoron**	**1.38**	**208**	P	**Pn**	**15 09 32.9**	**-0.5**
LIT				AML	AML	15 09 57.7	
	comp=E,122μm,0.3s						
LIT				AML	AML	15 09 57.9	
	comp=N,106μm,0.3s						
PAIG	**Paliouri**	**1.42**	**169**	P	**Pb**	**15 09 34.1**	**-0.5**
PAIG				S	**Sn**	**15 09 52.2**	**-0.3**
PAIG	**Paliouri**	**1.42**	**169**	P	**Pb**	**15 09 34.1**	**-0.5**
PAIG				AML	AML	15 09 56.8	
	comp=E,114μm,0.3s						
PAIG				AML	AML	15 09 56.9	
	comp=N,92μm,0.3s						
KDZ	**Kurdzhali**	**1.59**	**77**	PN	**Pn**	**15 09 36.2**	**-0.2**
RDO	**Rodhopi**	**1.67**	**95**	P	**Pn**	**15 09 37.3**	**0.0**
RDO				S	**Sn**	**15 09 58.7**	**0.0**
	comp=N,125nm,0.3s						
RDO	**Rodhopi**	**1.67**	**95**	PN	**Pn**	**15 09 37.5**	**+0.2**
RDO	**Rodhopi**	**1.67**	**95**	P	**Pn**	**15 09 37.5**	**+0.2**
RDO				S	**Sn**	**15 09 58.2**	**-0.5**
RDO				AML	AML	15 10 03.6	
	comp=N,276μm,0.4s						
RDO				AML	AML	15 10 05.9	
	comp=E,244μm,0.2s						
SMTH	**Samothraki Isl**	**1.87**	**116**	P	**Pn**	**15 09 39.6**	**-0.5**
BARS	**Barje**	**1.88**	**323**	*e*Pg	**Pn**	**15 09 40.3**	**+0.1**
BARS				*e*Sg	**Sb**	**15 10 07.1**	**+1.2**
XOR	**Xorichti**	**1.96**	**183**	P	**Pn**	**15 09 42.0**	**+0.6**
XOR	**Xorichti**	**1.96**	**183**	P	**Pn**	**15 09 41.9**	**+0.6**
LIA	**Limnos Island**	**2.00**	**135**	P	**Pn**	**15 09 41.9**	**0.0**
LIA	**Limnos Island**	**2.00**	**135**	P	**Pn**	**15 09 41.4**	**-0.5**
LIA				AML	AML	15 10 17.3	
	comp=E,77μm,0.3s						
LIA				AML	AML	15 10 18.7	
	comp=N,69μm,0.4s						
ZAPS	**Zavoj**	**2.02**	**345**	*e*Pg	**Pn**	**15 09 43.5**	**+1.2**
ZAPS				*e*Sg	**Sg**	**15 10 14.0**	**+0.9**
ALN	**Alexandroupoli**	**2.09**	**101**	P	**Pn**	**15 09 43.5**	**+0.3**
ALN	**Alexandroupoli**	**2.09**	**101**	PN	**Pn**	**15 09 43.9**	**+0.8**
ALN	**Alexandroupoli**	**2.09**	**101**	P	**Pn**	**15 09 43.4**	**+0.3**
ALN				AML	AML	15 10 17.3	
	comp=E,58μm,0.7s						
ALN				AML	AML	15 10 20.0	
	comp=N,41μm,0.4s						
ENEZ	**Enez**	**2.21**	**104**	PN	**Pn**	**15 09 45.9**	**+1.1**
BLKB	**Belogradchik**	**2.35**	**348**	⇑P	**Pb**	**15 09 51.1**	**+0.5**
BLKB				⇓S	**Sb**	**15 10 21.4**	**+1.7**
MAKR	**Makrakomi, Fth**	**2.48**	**202**	P	**Pn**	**15 09 49.8**	**+1.2**
SELS	**Selova**	**2.51**	**320**	*e*Pg	**Pb**	**15 09 52.1**	**-1.2**
SELS				*e*Sg	**Sg**	**15 10 27.5**	**-1.4**
BOVS	**Bovan**	**2.61**	**333**	⇓P	**Pn**	15 09 36.8	-13
BOVS				⇑S	**Sb**	**15 10 26.4**	**-0.6**
BOVS	**Bovan**	**2.61**	**333**	*e*Pn	**Pb**	**15 09 53.2**	**-1.8**
BOVS				*e*Sg	**Sb**	**15 10 27.6**	**+0.6**
ZAGS	**Zajecar**	**2.62**	**342**	*e*Pg	**Pb**	**15 09 53.5**	**-1.6**
ZAGS				*e*Sn	**Sn**	**15 10 23.4**	**+1.1**
GRUS	**Gruza**	**3.21**	**324**	*e*Pn	**Pn**	**15 09 58.5**	**-0.1**
GRUS				*e*Sg	**Sg**	**15 10 50.4**	**-1.0**
RAZG	**Razgrad**	**3.25**	**45**	⇓P	**Pb**	**15 10 04.8**	**-1.0**
RAZG				⇓S	**Sg**	**15 10 52.6**	**+0.3**
MDVR	**Moldovita**	**3.66**	**342**	⇑P	**Pn**	**15 10 04.4**	**-0.4**
MDVR				⇑S	**Sg**	**15 11 05.3**	**-0.3**
GZR	**Gura Zlata**	**4.09**	**354**	⇑P	**Pn**	**15 10 12.1**	**+1.3**
GZR				⇓S	**Sb**	**15 11 10.9**	**+1.2**
BZS	**Buzias**	**4.47**	**344**	⇑P	**Pn**	**15 10 18.6**	**+2.7**
BZS				⇓S	**Sb**	**15 11 25.3**	**+4.7**
MLR	**Muntele Rosu**	**4.58**	**24**	⇑P	**Pn**	**15 10 17.4**	**-0.1**
DRGR		**5.49**	**355**	⇓P	Pn	15 10 24.5	-5.4
DRGR				⇑S	**Sg**	**15 11 58.6**	**-5.7**

*KRNET **18** 15:31:24.3±0.1, 43.32N×70.19E, mb2.6*
*NNC **18** 15:31:24.6±0.8, 43.35N×70.23E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=5.1km s-min=4.1km az=70.0, Suspected Mining explosion.*
*SOME **18** 15:31:24.2, 43.37N×70.42E*
ISC 18 15:31:26.5±1.6, 43.31N±0.06×70.25E±0.07, h0km, n21, σ1§04/36, 17C-11D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KK09	**Karatay Array**	**0.26**	**135**	⇑P		**Pg**	**15 31 30.1**		**-1.4**
KK09				⇑S		**Sg**	**15 31 34.9**		**+0.1**
KK08	**Karatay Array**	**0.27**	**139**	⇑P		**Pg**	**15 31 30.4**		**-1.2**
KK08				⇓S		**Sg**	**15 31 35.2**		**+0.2**
KK04	**Karatay Array**	**0.27**	**137**	⇑P		**Pg**	**15 31 30.5**		**-1.2**
KK04				⇓S		**Sg**	**15 31 35.3**		**+0.1**
KK03	**Karatay Array**	**0.28**	**138**	⇑P		**Pg**	**15 31 30.5**		**-1.3**
KK03				⇓S		**Sg**	**15 31 35.4**		**+0.1**
KK01	**Karatay Array**	**0.28**	**137**	⇑P		**Pg**	**15 31 30.5**		**-1.3**
KK01				⇑S		**Sg**	**15 31 35.7**		**+0.4**
KK05	**Karatay Array**	**0.28**	**134**	⇑P		**Pg**	**15 31 30.5**		**-1.3**
KK05				⇓S		**Sg**	**15 31 35.4**		**+0.1**
KK02	**Karatay Array**	**0.28**	**137**	⇑P		**Pg**	**15 31 30.6**		**-1.2**
KK02				⇑S		**Sg**	**15 31 35.6**		**+0.2**
KK31	**Karatay Array**	**0.28**	**137**	⇑P		**Pg**	**15 31 30.5**		**-1.3**
	1.5nm,0.1s,baz=297,slow=17,SNR=1345								
KK31				⇑S		**Sg**	**15 31 35.3**		**-0.2**
	16nm,0.2s								
KKAR	**Karatay Array**	**0.28**	**137**	⇓*e*P		**Pg**	**15 31 30.6**		**-1.2**
	baz=33								
KKAR				⇓*i*S		**Sg**	**15 31 35.4**		**0.0**
	baz=33								
KK07	**Karatay Array**	**0.29**	**140**	⇑P		**Pg**	**15 31 30.7**		**-1.2**
KK07				⇓S		**Sg**	**15 31 35.7**		**+0.1**
KK06	**Karatay Array**	**0.29**	**137**	⇓P		**Pg**	**15 31 30.8**		**-1.3**
KK06				⇓S		**Sg**	**15 31 35.7**		**-0.1**
IUG	**Iuzhnay**	**1.17**	**188**	P		**Pg**	**15 31 47.9**		**-1.0**
	97nm,0.2s								
IUG				S		**Sg**	**15 32 04.7**		**+0.6**
	48nm,0.4s								
TRKS	**Terek-Say**	**1.90**	**159**	⇑*e*P		**Pb**	**15 32 01.5**		**-0.5**
	baz=58								
TRKS				⇑*i*S		**Sg**	**15 32 28.3**		**+0.9**
	baz=58								
MRKS	**Merke**	**2.25**	**103**	Pg		**Pn**	**15 32 06.4**		**+1.3**
	3.9nm,0.2s								
MRKS				Lg		Lg	15 32 37.2		
	13nm,0.6s								
EKS2	**Erkin-Say**	**2.67**	**103**	⇓*i*P		**Pn**	**15 32 11.4**		**+0.6**
	baz=3.0								
EKS2				⇓*e*S		**Sn**	**15 32 45.6**		**+1.7**
	baz=3.0								
USP	**Ospenovka**	**3.10**	**89**	⇑*e*P		**Pn**	**15 32 17.1**		**+0.4**
	baz=90								
USP				⇑*e*S		**Sn**	**15 32 56.0**		**+1.5**
	baz=90								
SGDS	**Sogindy**	**3.20**	**86**	Pg		**Pb**	**15 32 22.5**		**-1.6**
	1.8nm,0.2s								
SGDS				Lg		Lg	15 33 04.1		
	4.5nm,0.3s								
BTLS	**Baital**	**3.23**	**56**	Pg		**Pg**	**15 32 27.1**		**-1.4**
	2.8nm,0.3s								
BTLS				Lg		Lg	15 33 12.1		
	3.2nm,0.6s								
KRBS	**Karabastau**	**3.97**	**83**	Pg		**Pb**	**15 32 37.9**		**+0.7**
	0.7nm,0.2s								
KRBS				Lg		Lg	15 33 30.8		
	4.9nm,0.5s								
KST	**Kastek**	**4.19**	**92**	Pg		**Pb**	**15 32 39.5**		**-1.6**
	1.5nm,0.3s								
KST				Lg		Lg	15 33 33.7		
	7.6nm,0.4s								
KTBS	**Karatobe**	**4.70**	**83**	Pg		**Pb**	**15 32 50.6**		**+1.0**
	0.8nm,0.5s								
KTBS				Lg		Lg	15 33 52.4		
	11nm,0.5s								

*MAN **18** 15:38:11.7±4.4, 5.0N±0.3×125.8E±0.2, h100km, n5, σ1§84/8, 1C-3D, Talaud Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DDMP	**Don Marcelino,**	**1.12**	**355**	⇓*e*P		**Pn**	**15 38 33.7**		**+0.2**
DDMP				*e*S		**Sn**	**15 38 50.9**		**+0.9**
GSPH	**General Santos**	**1.40**	**322**	*e*P		**Pn**	**15 38 36.2**		**-0.7**
MATI	**Mati**	**2.01**	**13**	⇓*e*P		**Pn**	**15 38 43.2**		**-1.2**
MATI				*e*S		**Sn**	**15 39 07.3**		**-2.1**
KCP	**Kidapawan**	**2.14**	**341**	⇑*e*P		Pn	15 38 38.8		-7.4
KCP				*i*S		**Sn**	**15 39 13.2**		**+0.6**
BIPH	**Bislig**	**3.23**	**10**	⇓*e*P		**Pn**	**15 39 03.5**		**+2.8**
BIPH				*e*S		**Sn**	**15 39 37.1**		**-1.2**

ROM 18 15:38:58.0±0.1, 42.635N±0.007×13.32E±0.01, h10km, ML1.3/5, 2C-1D, Error ellipse: s-maj=0.8km s-min=0.8km az=287.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SMA1	**SAN MARTINO**	**0.01**	**116**	P		Pg		15 39 00.3	+0.3
SMA1				S		Sg		15 39 01.2	-0.1
SMA1				AML		AML			
	comp=E,808μm,0.3s								
SMA1				AML		AML			
	comp=N,770μm,0.3s								
T1204	**Amatrice, Fraz**	**0.04**	**353**	P		Pg		15 39 00.4	+0.2
T1204				S		Sg		15 39 01.5	-0.3
T1204				AML		AML			
	comp=E,879μm,0.1s								
T1204				AML		AML			
	comp=N,864μm,0.2s								
T1204				AML		AML			
	comp=E,875μm,0.3s								
T1204				AML		AML			
	comp=N,860μm,0.2s								
T1202	**Accumoli, Fraz**	**0.10**	**313**	⇓P		Pg		15 39 01.4	+0.6
T1202				S		Sg		15 39 03.3	+0.5
T1243	**Rocca Santa Ma**	**0.11**	**56**	⇑P		Pg		15 39 01.5	+0.6
RM33	**Pellescritta (**	**0.15**	**213**	P		Pg		15 39 02.2	+0.7
RM33				S		Sg		15 39 04.7	+0.9
RM33				AML		AML			
	comp=E,55μm,0.3s								
RM33				AML		AML			
	comp=N,65μm,0.2s								
RM33				AML		AML			
	comp=E,55μm,0.3s								
RM33				AML		AML			
	comp=N,65μm,0.2s								
TERO	**Teramo**	**0.21**	**93**	P		Pb		15 39 03.2	-0.7
TERO				AML		AML			
	comp=E,80μm,0.1s								
TERO				AML		AML			
	comp=N,104μm,0.3s								
TERO				AML		AML			
	comp=E,80μm,0.1s								
LNSS	**Leonessa**	**0.21**	**261**	P		Pg		15 39 03.1	+0.6
T1241	**Roccafluvione,**	**0.23**	**20**	P		Pg		15 39 03.5	+0.5
T1241				AML		AML			
	comp=N,68μm,1.5s								
T1241				AML		AML			
	comp=E,57μm,1.5s								
GIGS	**Gran Sasso**	**0.26**	**135**	P		Pb		15 39 04.4	-0.5
FAGN	**Fagnano**	**0.42**	**152**	⇑P		Pg		15 39 05.4	-0.9
FDMO	**Fiordimonte**	**0.44**	**337**	P		Pg		15 39 07.0	+0.4

*ATH **18** 15:39:40.0, 41.33N×23.36E, h20km±1km, ML2.7/15, Error ellipse: s-maj=1.7km s-min=0.7km az=171.0*
*ISK **18** 15:39:40.4, 41.34N×23.29E, h12km, ML3.1/14*
*THE **18** 15:39:40.7, 41.32N×23.36E, h4km±1km, ML2.7/11, Error ellipse: s-maj=1.3km s-min=0.6km az=168.0*
*SOF **18** 15:39:40.6, 41.38N×23.37E, h13km, MD2.8*
*BEO **18** 15:39:41.0±0.3, 41.35N×23.31E, h0km, ML3.0/12*
ISC 18 15:39:40.6±1.0, 41.34N±0.02×23.34E±0.02, h6km±9km, n93, σ1§15/133, 14C-8D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SRS	**Serrai**	**0.29**	**139**	P		**Pg**	**15 39 46.3**		**+0.1**
SRS				S		**Sg**	**15 39 50.3**		**+0.2**
	2μm,0.3s								
SRS	**Serrai**	**0.29**	**139**	*e*Pg		**Pg**	**15 39 46.3**		**+0.1**
SRS				*e*Sg		**Sg**	**15 39 50.7**		**+0.6**
SRS	**Serrai**	**0.29**	**139**	P		**Pg**	**15 39 46.4**		**+0.1**
SRS				S		**Sg**	**15 39 50.3**		**+0.2**
SRS				AML		AML	15 39 50.8		
	comp=E,3574μm,0.4s								
SRS				AML		AML	15 39 52.7		
	comp=N,4517μm,0.3s								
KNT	**Kendrikon**	**0.38**	**243**	P		**Pg**	**15 39 47.9**		**0.0**
KNT				S		**Sg**	**15 39 52.9**		**0.0**
	comp=N,3μm,0.1s								
KNT	**Kendrikon**	**0.38**	**243**	PG		**Pg**	**15 39 47.9**		**0.0**
KNT				SG		**Sg**	**15 39 52.9**		**0.0**
KNT	**Kendrikon**	**0.38**	**243**	P		**Pg**	**15 39 47.9**		**0.0**
KNT				S		**Sg**	**15 39 53.1**		**+0.2**
MMB	**Musomiste**	**0.38**	**49**	*i*Pg		**Pg**	**15 39 47.6**		**-0.5**
NVR	**Nevrokopi**	**0.39**	**88**	P		**Pg**	**15 39 48.1**		**-0.1**
NVR				S		**Sg**	**15 39 53.8**		**+0.5**
	comp=N,1μm,0.2s								
NVR	**Nevrokopi**	**0.39**	**88**	P		**Pg**	**15 39 48.1**		**-0.1**
NVR				S		**Sg**	**15 39 53.8**		**+0.5**
NVR				AML		AML	15 39 54.2		
	comp=N,2523μm,0.3s								
NVR				AML		AML	15 39 54.7		
	comp=E,1914μm,0.2s								
SOH	**Sokhos**	**0.52**	**179**	P		**Pg**	**15 39 50.6**		**+0.1**
SOH				S		**Sg**	**15 39 58.0**		**+0.8**
	comp=E,2μm,0.2s								
SOH	**Sokhos**	**0.52**	**179**	P		**Pg**	**15 39 50.6**		**+0.1**
SOH				S		**Sg**	**15 39 57.8**		**+0.6**
SOH				AML		AML	15 39 58.6		
	comp=E,3826μm,0.2s								
SOH				AML		AML	15 39 58.8		
	comp=N,3740μm,0.3s								
KKB	**Krupnik**	**0.56**	**340**	*i*Pg		**Pg**	**15 39 50.6**		**-0.9**
KOKK	**Kokkinochori,**	**0.72**	**136**	P		**Pg**	**15 39 54.0**		**-0.3**
KOKK				S		**Sg**	**15 40 03.9**		**+0.2**
	comp=N,430nm,0.3s								
KOKK	**Kokkinochori,**	**0.72**	**136**	P		**Pg**	**15 39 54.1**		**-0.3**
KOKK				S		**Sg**	**15 40 02.9**		**-0.8**
THE	**Thessaloniki**	**0.76**	**202**	P		**Pg**	**15 39 55.2**		**0.0**
THE				S		**Sg**	**15 40 05.4**		**+0.4**
	comp=N,648nm,0.2s								
THE	**Thessaloniki**	**0.76**	**202**	P		**Pg**	**15 39 55.2**		**0.0**
THE				AML		AML	15 40 06.4		
	comp=N,1700μm,0.2s								
THE				AML		AML	15 40 06.5		
	comp=E,886μm,0.2s								
HORT	**Hortiatis**	**0.76**	**194**	P		**Pg**	**15 39 55.2**		**0.0**
HORT				S		**Sg**	**15 40 05.5**		**+0.4**
	comp=E,640nm,0.4s								
HORT	**Hortiatis**	**0.76**	**194**	PG		**Pg**	**15 39 55.3**		**0.0**
HORT				SG		**Sg**	**15 40 05.8**		**+0.7**
HORT	**Hortiatis**	**0.76**	**194**	P		**Pg**	**15 39 55.3**		**0.0**
HORT				S		**Sg**	**15 40 05.3**		**+0.2**
HORT				AML		AML	15 40 06.9		
	comp=N,1265μm,0.4s								
HORT				AML		AML	15 40 07.0		
	comp=E,1280μm,0.3s								
GRG	**Griva**	**0.81**	**242**	PG		**Pg**	**15 39 56.1**		**0.0**
GRG				SG		**Sg**	**15 40 07.1**		**+0.6**
GRG	**Griva**	**0.81**	**242**	P		**Pg**	**15 39 55.8**		**-0.3**
GRG				S		**Sg**	**15 40 06.7**		**+0.2**
GRG				AML		AML	15 40 08.0		
	comp=E,1310μm,0.5s								
GRG				AML		AML	15 40 08.2		
	comp=N,1322μm,0.3s								
KVLA	**Kavala**	**0.88**	**117**	P		**Pg**	**15 39 57.0**		**-0.6**
KVLA				S		**Sg**	**15 40 09.0**		**0.0**
KVLA				AML		AML	15 40 13.7		
	comp=E,975μm,0.2s								
KVLA				AML		AML	15 40 14.4		
	comp=N,1180μm,0.3s								
KAVA	**Kavala**	**0.95**	**111**	P		**Pg**	**15 39 57.6**		**-1.2**
KAVA				S		**Sg**	**15 40 11.2**		**+0.1**
	comp=N,1μm,0.2s								
KAVA	**Kavala**	**0.95**	**111**	P		**Pg**	**15 39 57.8**		**-1.0**
KAVA				S		**Sg**	**15 40 10.6**		**-0.5**
RZN	**Rozhen**	**1.09**	**71**	*e*P		**Pg**	**15 40 01.3**		**-0.2**
OUR	**Ouranopolis**	**1.11**	**154**	PN		**Pn**	**15 40 03.5**		**+0.8**
PLD	**Plovdiv**	**1.27**	**53**	PN		**Pg**	**15 40 04.9**		**-0.2**
PLD				SN		**Sn**	**15 40 22.8**		**+0.4**
PLD	**Plovdiv**	**1.27**	**53**	*e*Pg		**Pg**	**15 40 04.7**		**-0.4**
PLD				*e*Sg		**Sn**	**15 40 22.7**		**+0.4**
PLD	**Plovdiv**	**1.27**	**53**	*i*P		**Pg**	**15 40 04.6**		**-0.5**
VTS	**Vitosha**	**1.28**	**356**	⇓S		**Sg**	**15 40 21.6**		**-0.2**
VTS	**Vitosha**	**1.28**	**356**	*e*Pg		**Pg**	**15 40 04.9**		**-0.3**
VTS				*e*Sg		**Sg**	**15 40 21.7**		**-0.2**
VTS	**Vitosha**	**1.28**	**356**	*i*P		**Pg**	**15 40 04.5**		**-0.7**
BOSS	**Bosilegrad**	**1.32**	**331**	*e*Pg		**Pn**	**15 40 05.4**		**-0.3**
BOSS				*e*Sg		**Sg**	**15 40 23.4**		**+0.2**
LIT	**Litokhoron**	**1.39**	**208**	P		**Pn**	**15 40 06.1**		**-0.5**
LIT	**Litokhoron**	**1.39**	**208**	P		**Pn**	**15 40 05.9**		**-0.7**
LIT				AML		AML	15 40 30.2		
	comp=E,358μm,0.3s								
LIT				AML		AML	15 40 30.5		
	comp=N,324μm,0.4s								
PAIG	**Paliouri**	**1.43**	**170**	P		**Pn**	**15 40 06.6**		**-0.5**
PAIG				S		**Sn**	**15 40 26.4**		**+0.2**
	comp=N,158nm,0.3s								
PAIG	**Paliouri**	**1.43**	**170**	P		**Pn**	**15 40 06.6**		**-0.5**
PAIG				AML		AML	15 40 29.3		
	comp=E,353μm,0.3s								
PAIG				AML		AML	15 40 29.4		
	comp=N,256μm,0.3s								
KZN	**Kozani**	**1.57**	**230**	P		**Pn**	**15 40 09.0**		**-0.1**
KZN				AML		AML	15 40 33.7		
	comp=N,280μm,0.5s								
KZN				AML		AML	15 40 33.9		
	comp=E,344μm,0.5s								
KDZ	**Kurdzhali**	**1.59**	**78**	PN		**Pn**	**15 40 09.2**		**-0.1**
KDZ				SN		**Sn**	**15 40 28.9**		**-1.3**
KDZ	**Kurdzhali**	**1.59**	**78**	*e*P		**Pn**	**15 40 09.0**		**-0.3**
RDO	**Rodhopi**	**1.67**	**96**	P		**Pn**	**15 40 10.0**		**-0.3**
RDO				S		**Sn**	**15 40 32.6**		**+0.6**
	comp=E,412nm,0.3s								
RDO	**Rodhopi**	**1.67**	**96**	PN		**Pn**	**15 40 10.6**		**+0.3**
RDO	**Rodhopi**	**1.67**	**96**	P		**Pn**	**15 40 10.0**		**-0.3**
RDO				S		**Sn**	**15 40 31.3**		**-0.7**
RDO				AML		AML	15 40 36.0		
	comp=E,811μm,0.3s								
RDO				AML		AML	15 40 36.2		
	comp=N,833μm,0.3s								
DIM	**Dimitrovgrad**	**1.79**	**66**	*i*P		**Pb**	**15 40 13.6**		**-0.2**
BARS	**Barje**	**1.86**	**323**	*e*Pn		**Pb**	**15 40 15.5**		**+0.4**
BARS				*e*Sg		**Sb**	**15 40 39.6**		**+0.9**
SMTH	**Samothraki Isl**	**1.87**	**117**	P		**Pn**	**15 40 11.6**		**-1.6**
SMTH	**Samothraki Isl**	**1.87**

MDVR	Moldovita	3.64	341	⇓	P		Pn	15 40 38.2 +0.6
DIVS	Divibare	3.70	319		eP	n	Pn	15 40 37.8 -0.6
DIVS					eS	g	Sg	15 41 40.6 +1.1
BBLS	Lazići	3.85	312		eP	n	Pn	15 40 40.6 +0.2
GZR	Gura Zlata	4.08	354	⇑	S		Sn	15 41 30.2 -1.4
GZR	Gura Zlata	4.08	354	⇑	P		Pn	15 40 44.3 +0.8
LOT	Lotru	4.12	4	⇑	P		Pn	15 40 45.7 +1.5
ARR	Arges	4.14	13	⇑	P		Pn	15 40 47.3 +2.9
VOIR		4.28	16	⇓	P		Pn	15 40 49.4 +3.0
ICOR	Ion Corvin	4.30	48	⇑	P		Pb	15 40 53.2 -3.4
BZS	Buzias	4.46	344	⇑	P		Pn	15 40 48.7 0.0
MLR	Muntele Rosu	4.56	24	⇓	P		Pn	15 40 54.2 +3.9
FRGS	Fruska Gora	4.61	327	⇑	P		Pn	15 40 50.4 -0.4
DOPR	Dopca	4.86	17	⇓	P		Pn	15 40 57.6 +3.3
COVR	Voineasa-Covas	4.96	24	⇓	P		Pn	15 40 58.6 +3.0
PLOR	Plostina	5.11	27	⇓	P		Pn	15 41 01.4 +3.7

IDC 18 15:41:35.2±6.2, 1°92S×104°63E, h0km, mb3.3/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=156.3km s-min=75.4km az=131.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.94**	**199**	P	P	15 45 57.7	-0.3
	0.1nm,0.3s,baz=18,slow=12,SNR=11						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**22.58**	**196**	P	P	15 46 37.3	-0.1
	0.5nm,0.5s,baz=28,slow=11,SNR=18						
	0.5nm,0.5s						
VNDA	**Vanda**	**76.40**	**175**	P	P	15 53 26.3	+0.3
	0.2nm,0.5s,baz=354,slow=5.9,SNR=1.6						
	0.2nm,0.5s						

*IDC **18** 16:06:51.9±1.4, 30°82S×71°23W, h0km, mb4.0/4, mbtmp3.9/8, ML3.6/4, Error ellipse: s-maj=38.5km s-min=32.4km az=159.0*
*NEIC **18** 16:06:58.1±3.5, 30°63S±0°04×71°55W±0°03, h41km±11km, Error ellipse: s-maj=5.9km s-min=2.8km az=162.0*
*GUC **18** 16:06:58.1±0.7, 30°66S×71°37W, h50km±3km, ML4.1*
ISC 18 16:06:58.3±0.8, 30°65S±0°03×71°40W±0°05, h44km±7km, n67, σ1s91/79, mb4.0/4, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.21**	**262**		**Pn**	**16 07 07.5**	**+1.4**
CO06	**Fray Jorge**	**0.21**	**262**	*i* P	**Pn**	**16 07 07.5**	**+1.4**
CO06				eS	**Sn**	**16 07 13.8**	**+2.2**
CO06				IAML		16 07 15.7	
	comp=N,15μm,0.1s						
CO02	**Combarbal**	**0.65**	**149**		**Pn**	**16 07 12.2**	**+0.8**
CO02				Sn	**Sn**	**16 07 20.8**	**+0.1**
CO02	**Combarbal**	**0.65**	**149**	eP	**Pn**	**16 07 12.1**	**+0.8**
CO02				eS	**Sn**	**16 07 21.4**	**+0.6**
CO02				IAML		16 07 22.2	
	comp=N,111μm,0.2s						
GO04	**Tololo Observa**	**0.70**	**48**		**Pn**	**16 07 13.0**	**+0.9**
GO04				Sn	**Sn**	**16 07 22.7**	**+0.7**
GO04	**Tololo Observa**	**0.70**	**48**	eP	**Pn**	**16 07 12.9**	**+0.8**
GO04				eS	**Sn**	**16 07 23.2**	**+1.2**
GO04				IAML		16 07 26.8	
	comp=N,18μm,0.3s						
CO05	**La Serena**	**0.74**	**11**		**Pn**	**16 07 13.6**	**+1.2**
CO05	**La Serena**	**0.74**	**11**	⇓ eP	**Pn**	**16 07 13.7**	**+1.3**
CO05				*i* S	**Sn**	**16 07 24.3**	**+1.8**
CO05				IAML		16 07 26.2	
	comp=N,5μm,0.2s						
CO01	**Juntas del Tor**	**1.31**	**60**		**Pn**	**16 07 22.1**	**+1.7**
CO01	**Juntas del Tor**	**1.31**	**60**	⇓ eP	**Pn**	**16 07 22.3**	**+1.9**
CO01				eS	**Sn**	**16 07 39.3**	**+2.5**
CO01				IAML		16 07 40.1	
	comp=N,3μm,0.1s						
LCO	**Las Campanas**	**1.74**	**21**		**Pn**	**16 07 27.7**	**+1.4**
LCO	**Las Campanas**	**1.74**	**21**	⇓ eP	**Pn**	**16 07 27.7**	**+1.4**
LCO				eS	**Sn**	**16 07 49.1**	**+1.7**
VA06	**Catapilco**	**1.91**	**177**		**Pn**	**16 07 29.8**	**+1.4**
VA06	**Catapilco**	**1.91**	**177**	⇑ eP	**Pn**	**16 07 29.9**	**+1.5**
VA06				eS	**Sn**	**16 07 53.9**	**+2.6**
VA06				IAML		16 08 00.6	
	comp=E,2μm,0.5s						
AC05	**El Transito**	**2.05**	**29**		**Pn**	**16 07 32.8**	**+2.4**
AC05	**El Transito**	**2.05**	**29**	⇓ eP	**Pn**	**16 07 32.8**	**+2.4**
AC05				eS	**Sn**	**16 07 58.7**	**+3.8**
AC05				IAML		16 08 13.1	
	comp=N,1μm,0.3s						
VA03	**San Esteban**	**2.23**	**161**		**Pn**	**16 07 34.6**	**+1.6**
VA03	**San Esteban**	**2.23**	**161**	eP	**Pn**	**16 07 34.8**	**+1.9**
VA03				eS	**Sn**	**16 08 02.8**	**+3.5**
VA03				IAML		16 08 09.2	
	comp=E,2μm,0.2s						
ROCH	**El Roble**	**2.34**	**172**	⇑ eP	**Sn**	**16 07 36.2**	**+1.6**
ROCH				eS	**Sn**	**16 08 05.7**	**+3.4**
ROCH				IAML		16 08 14.0	
	comp=N,2μm,0.3s						
ROC1	**El Roble**	**2.35**	**172**		**Pn**	**16 07 36.0**	**+1.4**
AC04	**Llanos de Chal**	**2.45**	**7**		**Pn**	**16 07 37.5**	**+1.7**
AC04	**Llanos de Chal**	**2.45**	**7**	eP	**Pn**	**16 07 37.6**	**+1.8**
AC04				eS	**Sn**	**16 08 10.5**	**+6.0**
AC04				IAML		16 08 24.9	
	comp=N,705nm,0.4s						
ZON	**Zonda**	**2.50**	**112**		**Pn**	**16 07 39.8**	**+3.3**
PEL	**Peldehue**	**2.56**	**167**		**Pn**	**16 07 39.1**	**+1.6**
MT02	**Curacav**	**2.62**	**175**		**Pn**	**16 07 39.2**	**+1.1**
MT02	**Curacav**	**2.62**	**175**	eP	**Pn**	**16 07 39.5**	**+1.4**
MT02				eS	**Sn**	**16 08 10.0**	**+1.4**
MT02				IAML		16 08 23.3	
	comp=E,443nm,0.5s						
MT05	**Renca**	**2.80**	**169**		**Pn**	**16 07 41.7**	**+1.1**
MT05	**Renca**	**2.80**	**169**	eP	**Pn**	**16 07 42.5**	**+1.9**
MT05				eS	**Sn**	**16 08 15.9**	**+2.8**
MT05				IAML		16 08 29.2	
	comp=E,1μm,0.2s						
MT03	**Universidad Ad**	**2.94**	**165**		**Pn**	**16 07 44.0**	**+1.4**
MT03	**Universidad Ad**	**2.94**	**165**	eP	**Pn**	**16 07 44.9**	**+2.3**
MT03				eS	**Sn**	**16 08 19.6**	**+2.9**
MT03				IAML		16 08 28.9	
	comp=E,1μm,0.3s						
VA05	**Santo Domingo**	**3.01**	**183**		**Pn**	**16 07 43.8**	**+0.3**
VA05	**Santo Domingo**	**3.01**	**183**	eP	**Pn**	**16 07 44.0**	**+0.5**
VA05				eS	**Sn**	**16 08 17.3**	**-1.0**
VA05				IAML		16 08 32.0	
	comp=E,983nm,0.3s						
MT09	**Talagante**	**3.14**	**174**		**Pn**	**16 07 46.8**	**+1.4**
MT09	**Talagante**	**3.14**	**174**	eP	**Pn**	**16 07 47.2**	**+1.7**
MT09				eS	**Sn**	**16 08 24.6**	**+2.8**
MT09				IAML		16 08 35.8	
	comp=N,1μm,0.3s						
MT01	**Popeta**	**3.21**	**178**		**Pn**	**16 07 47.5**	**+1.1**
MT01	**Popeta**	**3.21**	**178**	eP	**Pn**	**16 07 47.4**	**+1.1**
MT01				eS	**Sn**	**16 08 26.1**	**+2.8**
MT01				IAML		16 08 34.7	
	comp=E,438nm,0.4s						
LMEL	**Las Melosas**	**3.35**	**163**		**Pn**	**16 07 50.5**	**+2.2**
AC06	**Mina Casimiro**	**3.40**	**16**		**Pn**	**16 07 50.3**	**+1.4**
BO04	**La Punta**	**3.40**	**169**		**Pn**	**16 07 50.4**	**+1.5**
BO02	**Sierra Bellavi**	**4.17**	**173**	Pn	**Pn**	**16 08 01.0**	**+1.5**
AC02	**Maricunga**	**4.29**	**28**		**Pn**	**16 08 03.8**	**+2.3**
AC01	**Pan de Azucar**	**4.54**	**9**	Pn	**Pn**	**16 08 04.3**	**-0.2**
GO02	**Mina Guanaco**	**5.69**	**17**		**Pn**	**16 08 20.5**	**-0.1**
PB14	**IPOC Station P**	**6.06**	**9**	Pn	**Pn**	**16 08 24.7**	**-1.1**
H03N1	**Juan Fernandez**	**6.96**	**244**	T	T	16 15 27.6	
	baz=72,slow=72,SNR=1924						
VA04	**Juan Fernndez**	**6.98**	**243**		**Pn**	**16 08 37.1**	**-0.9**
H03N3	**Juan Fernandez**	**6.98**	**244**	T	T	16 15 33.7	
	baz=72,slow=72,SNR=1603						
H03N2	**Juan Fernandez**	**6.98**	**245**	T	T	16 15 28.3	
	baz=72,slow=72,SNR=1866						
PB15	**IPOC Station P**	**7.60**	**14**	Pn	**Pn**	**16 08 45.0**	**-1.8**
LVC	**Limon Verde**	**8.30**	**16**	Pn	**Pn**	**16 08 55.8**	**-0.7**
	comp=E,0.3nm,0.3s,baz=167,slow=8.0,SNR=1.4						
	comp=E,1.0nm,0.3s						
PB01	**IPOC Station P**	**9.71**	**11**	Pn	**Pn**	**16 09 13.4**	**-2.2**
TRQA	**Tornquist**	**10.73**	**136**	Pn	**Pn**	**16 09 29.8**	**+0.4**
ITQB	**Itaqui**	**12.82**	**89**	Pn	**Pn**	**16 09 55.1**	**-2.9**
CPUP	**Villa Florida**	**13.10**	**74**	Pn	Pn	16 09 55.9	-5.8
	comp=E,0.1nm,0.3s,baz=287,slow=11,SNR=1.7						
	comp=E,0.5nm,0.3s						
LPAZ	**La Paz**	**14.60**	**13**	Pn	**Pn**	**16 10 21.8**	**-1.0**
	comp=E,0.1nm,0.3s,baz=175,slow=11,SNR=4.0						
	comp=E,1.1nm,0.7s						
LPAZ	**La Paz**	**14.60**	**13**	P	**P**	**16 10 26.1**	**-2.2**
SIV	**San Ignacio**	**17.38**	**35**	P	**Pn**	**16 10 56.8**	**-0.9**
	baz=231,slow=11,SNR=11						
	comp=E,1.8nm,0.5s						
BDFB	**Brasilia**	**26.10**	**60**	P	**P**	**16 12 26.5**	**-1.8**
	comp=E,2.5nm,0.6s,baz=256,slow=9.9,SNR=5.7						
	comp=E,2.5nm,0.6s						
TXAR	**Lajitas Array**	**67.10**	**330**	P	**P**	**16 17 48.8**	**+1.4**
	comp=E,0.2nm,0.5s,baz=147,slow=7.1,SNR=3.6						
	comp=E,0.2nm,0.5s						
DBIC	**Dimbokro**	**73.60**	**72**	P	**P**	**16 18 27.9**	**+0.5**
	comp=E,2.1nm,0.5s,baz=230,slow=6.1,SNR=5.1						
	comp=E,2.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**82.56**	**70**	P	**P**	**16 19 17.4**	**+0.5**
	comp=E,1.0nm,0.7s,baz=270,slow=5.2,SNR=9.7						
	comp=E,1.0nm,0.7s						
LBTB	**Lobatse**	**83.22**	**115**	P	**P**	**16 19 20.8**	**+0.3**
WRA	**Warramunga Arr**	**123.94**	**210**	PKP	**PKPdf**	**16 25 51.1**	**-1.2**
	comp=E,0.7nm,1.2s,baz=156,slow=1.9,SNR=2.2						
H11S2	**WAKE ISLAND Hyd**	**126.30**	**271**	T	T	18 44 40.8	
	baz=116,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hyd**	**126.32**	**271**	T	T	18 44 41.6	
	baz=116,slow=75,SNR=47						
H11S3	**WAKE ISLAND Hyd**	**126.32**	**271**	T	T	18 44 42.1	
	baz=116,slow=75,SNR=64						
ZALV	**Zalesovo Beam**	**151.07**	**30**	PKPbc	**PKPbc**	**16 26 46.4**	**+0.4**
	comp=E,3.4nm,0.5s,baz=303,slow=3.7,SNR=16						

IDC 18 16:27:01.0±1.5, 53°71S×134°98W, h0km, mb3.9/5, mbtmp3.9/5, MS3.8/26, Error ellipse: s-maj=46.9km s-min=38.2km az=123.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**32.23**	**334**	*e*LR	LR	16 41 58.0	
	comp=Z,404nm,25.5s						
TBI	**Tubuai**	**32.23**	**334**	*e*T	T	17 07 41.6	
	52nm,0.3s						
VNDA	**Vanda**	**32.52**	**201**	LR	LR	16 42 39.0	
	comp=Z,106nm,21.3s,baz=87,slow=29						
PMSA	**Palmer Station**	**35.93**	**136**	LR	LR	16 44 33.9	
	comp=Z,262nm,20.3s,baz=257,slow=29						
URZ	**Urewera**	**35.95**	**276**	LR	LR	16 45 58.7	
	comp=Z,115nm,20.1s,baz=206,slow=32						
QSPA	**South Pole Qui**	**36.46**	**180**	P	P	16 34 07.5	+0.1
	1.2nm,0.8s,baz=62,slow=2.5,SNR=2.1						
QSPA				LR	LR	16 47 08.1	
	comp=Z,55nm,18.8s,baz=78,slow=33						
	1.2nm,0.8s						
RAR	**Rarotonga**	**37.55**	**320**	LR	LR	16 46 33.4	
	comp=Z,252nm,18.5s,baz=177,slow=31						
PPT2	**Papete2**	**37.79**	**337**	*e*LR	LR	16 44 36.2	
	comp=Z,406nm,25.0s						
PPT	**Papeete**	**37.81**	**337**	LR	LR	16 45 22.8	
	comp=Z,349nm,18.9s,baz=140,slow=29						
H03S2	**Juan Fernandez**	**43.78**	**86**	T	T	17 21 15.8	
	baz=223,SNR=44						
H03S1	**Juan Fernandez**	**43.79**	**86**	T	T	17 21 17.7	
	baz=223,SNR=42						
H03S3	**Juan Fernandez**	**43.80**	**86**	T	T	17 21 19.3	
	baz=223,SNR=39						
H03N3	**Juan Fernandez**	**44.05**	**86**	T	T	17 21 35.0	
	baz=226,slow=72,SNR=198						
H03N2	**Juan Fernandez**	**44.06**	**86**	T	T	17 21 35.0	
	baz=226,slow=72,SNR=238						
H03N1	**Juan Fernandez**	**44.07**	**86**	T	T	17 21 35.1	
	baz=226,slow=72,SNR=159						
PLCA	**Paso Flores**	**44.14**	**100**	LR	LR	16 48 23.9	
	comp=Z,129nm,20.6s,baz=199,slow=29						
TAOE	**U Hiva Isla**	**44.92**	**353**	*e*LR	LR	16 48 20.6	
	comp=Z,166nm,21.4s						
AFI	**Afiamalu**	**49.13**	**310**	LR	LR	16 52 50.6	
	comp=Z,77nm,18.9s,baz=124,slow=32						
SNAA	**Sanae**	**50.46**	**162**	LR	LR	16 54 46.0	
	comp=Z,157nm,21.6s,baz=195,slow=33						
MSVF	**Nonsavu**	**50.94**	**296**	LR	LR	16 54 11.8	
	comp=Z,65nm,19.1s,baz=70,slow=32						
STKA	**Stephens Creek**	**61.28**	**255**	P	P	16 37 18.8	+0.9
	1.6nm,0.8s,baz=154,slow=9.3,SNR=3.0						
STKA				LR	LR	16 59 26.0	
	comp=Z,55nm,20.5s,baz=176,slow=32						
	1.6nm,0.8s						
NNA	**Nana**	**61.77**	**71**	LR	LR	16 57 06.2	
	comp=Z,99nm,18.4s,baz=205,slow=29						
CPUP	**Villa Florida**	**62.04**	**97**	LR	LR	16 59 09.0	
	comp=Z,81nm,20.3s,baz=214,slow=31						
LPAZ	**La Paz**	**63.35**	**81**	LR	LR	16 59 54.4	
	comp=Z,51nm,19.5s,baz=200,slow=31						
ATAH	**Atahualpa**	**64.91**	**66**	LR	LR	16 58 57.4	
	comp=Z,91nm,19.7s,baz=236,slow=30						
ASAR	**Alice Springs**	**71.92**	**255**	P	P	16 38 25.6	-0.5
	1.2nm,0.8s,baz=138,slow=6.7,SNR=11						
ASAR				LR	LR	17 07 18.5	
	comp=Z,34nm,18.1s,baz=274,slow=34						
	1.2nm,0.8s						
H01W1	**Cape Leeuwin H**	**73.51**	**233**	T	T	18 00 07.7	
	baz=143,slow=76,SNR=9.2						
H01W2	**Cape Leeuwin H**	**73.51**	**233**	T	T	18 00 05.3	
	baz=143,slow=76,SNR=9.5						
H01W3	**Cape Leeuwin H**	**73.52**	**233**	T	T	18 00 09.2	
	baz=143,slow=76,SNR=9.1						
WRA	**Warramunga Arr**	**74.57**	**257**	P	P	16 38 41.1	-0.6
	1.1nm,0.7s,baz=146,slow=5.1,SNR=12						
WRA				LR	LR	17 09 38.0	
	comp=Z,64nm,18.1s,baz=27,slow=34						
	1.1nm,0.7s						
ROSC	**El Rosal**	**77.12**	**63**	LR	LR	17 08 33.2	
	comp=Z,79nm,19.3s,baz=220,slow=32						
FITZ	**Fitzroy Crossi**	**81.02**	**252**	LR	LR	17 11 49.8	
	comp=Z,39nm,18.4s,baz=184,slow=33						
TXAR	**Lajitas Array**	**87.05**	**27**	P	P	16 39 47.8	-0.3
	0.5nm,0.9s,baz=199,slow=7.4,SNR=4.7						
	0.5nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**87.54**	**306**	T	T	18 17 14.2	
	baz=148,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**87.56**	**306**	T	T	18 17 13.4	
	baz=148,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**87.56**	**306**	T	T	18 17 17.1	
	baz=148,slow=75,SNR=13						
PFO	**Pinyon Flats O**	**88.43**	**15**	LR	LR	17 11 36.7	
	comp=Z,73nm,18.2s,baz=173,slow=30						
H11N3	**WAKE ISLAND Hy**	**88.50**	**307**	T	T	18 18 25.4	
	baz=149,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**88.50**	**307**	T	T	18 18 24.8	
	baz=149,slow=76,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**88.52**	**307**	T	T	18 18 26.0	
	baz=149,slow=76,SNR=14						
ANMO	**Albuquerque**	**91.69**	**23**	LR	LR	17 15 37.5	
	comp=Z,43nm,18.1s,baz=209,slow=32						
SUR	**Sutherland**	**91.73**	**160**	LR	LR	17 16 01.2	
	comp=Z,67nm,18.7s,baz=180,slow=32						
YBH	**Yreka Blue Hor**	**95.65**	**9**	LR	LR	17 15 52.3	
	comp=Z,60nm,18.1s,baz=186,slow=31						
BOSA	**Boshof**	**96.25**	**163**	LR	LR	17 22 06.6	
	comp=Z,45nm,18.3s,baz=193,slow=34						
PDAR	**Pinedale Array**	**98.55**	**19**	LR	LR	17 18 39.5	
	comp=Z,72nm,18.0s,baz=230,slow=31						
LBTB	**Lobatse**	**99.82**	**162**	LR	LR	17 20 41.7	
	comp=Z,43nm,18.5s,baz=188,slow=32						
MKAR	**Makanchi Array**	**155.41**	**269**	PKPbc	PKPdf	16 47 04.8	+9.4
	0.5nm,0.9s,baz=117,slow=5.0,SNR=2.9						
MKAR				PKPab	PKPab	16 47 21.1	0.0
	0.9nm,0.9s,baz=150,slow=2.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**156.72**	**287**	PKPab	PKPab	16 47 27.1	+0.7
	0.5nm,0.3s,baz=115,slow=10.0,SNR=4.8						

*THE **18** 17:11:30.8, 35°15N×23°06E, h19km±5km, ML2.4/1, Error ellipse: s-maj=6.9km s-min=1.9km az=47.0*
*ATH **18** 17:11:30.5, 35°23N×23°09E, h29km±3km, ML2.5/2, Error ellipse: s-maj=10.1km s-min=1.9km az=29.0*
ISC 18 17:11:32.1±3.6, 35°2N±0°2×23°2E±0°2, h38km, n11, σ1s05/13, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.44**	**82**	P	**Pn**	**17 11 40.7**	**-1.1**
ANKY	**Antikythira Is**	**0.70**	**10**	P	**Pn**	**17 11 43.8**	**-1.7**
ANKY	**Antikythira Is**	**0.70**	**10**	P	**Pn**	**17 11 43.9**	**-1.7**
ANKY				AML	AML	17 11 56.2	
	comp=N,815μm,0.6s						
ANKY				AML	AML	17 11 56.7	
	comp=E,634μm,0.7s						
IMMV	**Iera Moni Meta**	**0.74**	**67**	P	**Pn**	**17 11 45.6**	**-0.4**
IMMV	**Iera Moni Meta**	**0.74**	**67**	P	**Pn**	**17 11 45.6**	**-0.4**
IMMV				S	**Sn**	**17 11 56.7**	**+0.7**
IMMV				AML	AML	17 12 00.5	
	comp=N,838μm,0.8s						
IMMV				AML	AML	17 12 05.8	
	comp=E,668μm,0.6s						
KTHA	**Kythira Island**	**1.08**	**356**	P	**Pn**	**17 11 50.3**	**-0.4**
KTHA				S	**Sn**	**17 12 05.8**	**+1.3**
	comp=E,198nm,0.5s						
KTHA	**Kythira Island**	**1.08**	**356**	P	**Pn**	**17 11 50.2**	**-0.5**
KTHR	**Kythira**	**1.09**	**354**	P	**Pn**	**17 11 50.0**	**-0.8**
IDI	**Anoyia**	**1.43**	**85**	P	**Pn**	**17 11 55.6**	**+0.1**
VLI	**Veliai**	**1.55**	**354**	P	**Pn**	**17 11 57.6**	**+0.5**
VLI	**Veliai**	**1.55**	**354**	P	**Pn**	**17 11 57.4**	**+0.3**

ROM 18 17:11:56.4±0.1, 42°681N±0°003×13°286E±0°004, h9km, ML1.7/7, 1D, Error ellipse: s-maj=0.3km s-min=0.2km az=192.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.02**	**103**	P	Pg	17 11 58.4	+0.1
T1204				S	Sg	17 11 59.2	-0.4
T1204				AML	AML		
	comp=E,6205μm,1.0s						
T1204				AML	AML		
	comp=N,3255μm,1.0s						
T1204				AML	AML		
	comp=N,3249μm,1.0s						
T1204				AML	AML		
	comp=E,6210μm,1.0s						
T1202	**Accumoli, Fraz**	**0.05**	**296**	P	Pg	17 11 58.8	+0.3
T1202				S	Sg	17 12 00.0	+0.1
T1202				AML	AML		
	comp=N,2595μm,1.0s						
T1202				AML	AML		
	comp=E,3375μm,0.3s						
T1202				AML	AML		
	comp=N,2600μm,1.0s						
SMA1	**SAN MARTINO**	**0.06**	**144**	P	Pg	17 11 58.9	+0.3
SMA1				AML	AML		
	comp=E,1325μm,1.4s						
SMA1				AML	AML		
	comp=N,1475μm,0.5s						
T1243	**Rocca Santa Ma**	**0.12**	**83**	P	Pg	17 11 59.9	+0.5
T1243				S	Sg	17 12 02.0	+0.7
T1242	**Castelluccio d**	**0.16**	**338**	P	Pg	17 12 00.7	+0.7
T1242				S	Sg	17 12 03.5	+1.1
CAMP	**Campotosto**	**0.17**	**148**	P	Pg	17 12 00.8	+0.7
CAMP				AML	AML		
	comp=E,109μm,0.4s						
CAMP				AML	AML		
	comp=N,99μm,0.2s						
RM33	**Pellescritta (**	**0.18**	**197**	P	Pg	17 12 01.0	+0.8
RM33				AML	AML		
	comp=E,199μm,0.4s						
RM33				AML	AML		
	comp=E,200μm,0.4s						
RM33				AML	AML		
	comp=N,251μm,0.4s						
LNSS	**Leonessa**	**0.20**	**247**	⇓ P	Pg	17 12 01.4	+0.8
LNSS				S	Sg	17 12 04.8	+1.3
LNSS				AML	AML		
	comp=E,822μm,0.5s						
LNSS				AML	AML		
	comp=N,594μm,0.2s						
LNSS				AML	AML		
	comp=E,822μm,0.5s						
NRCA	**Norcia**	**0.20**	**320**	P	Pg	17 12 01.2	+0.6
NRCA				S	Sg	17 12 04.5	+1.1
T1241	**Roccafluvione,**	**0.20**	**31**	P	Pg	17 12 01.4	+0.6
T1241				AML	AML		
	comp=N,126μm,0.1s						
T1241				AML	AML		
	comp=E,152μm,0.2s						
MMO1	**Montemonaco**	**0.22**	**8**	P	Pg	17 12 01.7	+0.7
TERO	**Teramo**	**0.24**	**104**	P	Pg	17 12 02.0	+0.7
TERO				S	Sg	17 12 05.9	+1.3
TERO				AML	AML		
	comp=N,246μm,1.4s						
TERO				AML	AML		
	comp=E,238μm,0.3s						
MC2	**Monte Cornacci**	**0.24**	**343**	P	Pg	17 12 02.2	+0.8
MC2				S	Sg	17 12 06.2	+1.3
T1217	**Poggiodomo (PG**	**0.26**	**277**	P	Pg	17 12 02.4	+0.6
T1217				S	Sg	17 12 06.7	+1.3
T1216	**Preci, Frazion**	**0.29**	**317**	P	Pg	17 12 02.9	+0.7
T1216				S	Sb	17 12 07.5	-1.2
AM05	**Amandola Campo**	**0.30**	**9**	S	Sg	17 12 04.0	-2.5
GIGS	**Gran Sasso**	**0.31**	**138**	P	Pg	17 12 03.1	+0.4
T1215	**Vallo di Nera,**	**0.33**	**292**	P	Pg	17 12 03.5	+0.5
GUMA	**Gualdo di Mace**	**0.38**	**5**	S	Sg	17 12 04.0	-5.1
FDMO	**Fiordimonte**	**0.38**	**338**	P	Pg	17 12 04.7	+0.7
CSP1	**Cessapalombo**	**0.41**	**352**	P	Pg	17 12 05.1	+0.5
CSP1				S	Sb	17 12 11.9	-0.6
EL6	**Elcito**	**0.66**	**348**	P	Pg	17 12 09.7	+0.4

ROM 18 17:14:09.9±0.1, 39°037N±0°003×16°466E±0°005, h24km±1km, ML1.6/5, 1C-1D, Error ellipse: s-maj=0.4km s-min=0.1km az=287.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SERS	**Sersale**	**0.17**	**90**	P	Pb	17 14 15.2	0.0
SERS				S	Sb	17 14 19.1	+0.3
SERS				AML	AML		
	comp=E,177μm,0.3s						
SERS				AML	AML		
	comp=N,216μm,0.2s						
SERS				AML	AML		
	comp=E,176μm,0.3s						
GRI	**Girifalco**	**0.22**	**190**	P	Pb	17 14 15.8	+0.1
GRI				S	Sb	17 14 20.1	+0.5
TIP	**Timpagrande**	**0.27**

az=47.0

ISC 18 17:14:14.3±1.0,**27°82N**±0˙03×**85°70E**±0˙02,**h7**km±6km, **n100**,σ1**9**94/128,**mb4.2**/26,**1C**,**Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**0.18**	**59**	*e*Pg	**Pg**	**17 14 17.3**	**-0.9**
GUN				*e*Sg	**Sg**	**17 14 19.6**	**-1.3**
PKI	**Pulchoki**	**0.35**	**227**	*e*Pg	**Pb**	**17 14 23.3**	**+0.1**
PKI				*e*Sg	**Sb**	**17 14 30.1**	**+1.0**
PKIN	**Phulchoki**	**0.36**	**229**	*e*Pg	**Pb**	**17 14 23.4**	**+0.2**
PKIN				*e*Sg	**Sb**	**17 14 30.2**	**+1.0**
KKN	**Kakani**	**0.37**	**266**	*e*Pg	**Pb**	**17 14 23.3**	**-0.1**
KKN				*e*Sg	**Sb**	**17 14 29.0**	**-0.5**
	17μm,0.2s						
JIRN	**Jiri**	**0.46**	**109**	*e*Pg	**Pg**	**17 14 22.8**	**-0.5**
JIRN				*e*Sg	**Sg**	**17 14 28.0**	**-1.4**
DMN	**Daman**	**0.57**	**249**	*e*Pg	**Pb**	**17 14 27.1**	**+0.4**
DMN				*e*Sg	**Sb**	**17 14 36.3**	**+1.2**
	5μm,0.4s						
GKN	**Gorkha**	**0.96**	**281**	*e*Pg	**Pb**	**17 14 33.7**	**+0.3**
GKN				*e*Sg	**Sb**	**17 14 46.4**	**0.0**
	1μm,0.3s						
RAMN	**Ramite**	**1.18**	**137**	*e*Pg	**Pg**	**17 14 36.2**	**-0.7**
RAMN				*e*Sg	**Sg**	**17 14 52.2**	**0.0**
	2μm,0.5s						
ODAN	**Odare**	**1.78**	**122**	*e*Pg	**Pb**	**17 14 47.7**	**+0.3**
ODAN				*e*Sg	**Sb**	**17 15 10.7**	**+0.7**
ODAN				*e*Sg	**Sb**	**17 15 10.7**	**+0.7**
	4μm,0.5s						
DANN	**Dangsing**	**1.80**	**288**	*e*Pg	**Pg**	**17 14 48.5**	**-0.3**
DANN				*e*Sg	**Sg**	**17 15 11.8**	**-0.3**
	2μm,0.3s						
KOLN	**Koldanda**	**1.86**	**269**	*e*Pg	**Pg**	**17 14 49.9**	**-0.1**
KOLN				*e*Sg	**Sg**	**17 15 15.6**	**+1.4**
KOLN				*e*Sg	**Sb**	**17 15 15.7**	**+3.3**
	2μm,0.3s						
PYUN	**Piuthan**	**2.42**	**277**	*e*Pn	**Pb**	**17 14 56.9**	**-1.3**
PYUN	**Piuthan**	**2.42**	**277**	*e*Pg	**Pg**	**17 14 59.8**	**-0.8**
PYUN				*e*Sg	**Sg**	**17 15 31.3**	**-0.7**
	4μm,0.6s						
GTK	**Tadong**	**2.62**	**100**	*e*P	**Pn**	**17 14 59.1**	**+1.9**
BRCI	**Bahraich**	**3.66**	**267**	*e*S	**Sn**	**17 15 58.5**	**+3.7**
BOK	**Bokaro**	**4.01**	**178**	*e*P	**Pn**	**17 15 18.2**	**+2.1**
BOK				*e*S	**Sn**	**17 16 04.8**	**+1.4**
BOK				IAML		17 16 22.4	
	comp=E,658nm,1.1s						
PTH	**Pithoragarh**	**5.12**	**291**	*e*P	**Pn**	**17 15 35.3**	**+3.7**
PTH				*e*S	**Sn**	**17 16 31.8**	**+0.8**
LSA	**Lhasa**	**5.14**	**67**	Pn	**Pn**	**17 15 35.2**	**+3.1**
LSA	**Lhasa**	**5.14**	**67**	Pn	**Pn**	**17 15 35.1**	**+3.0**
LSA				Pg	**Pb**	**17 15 43.1**	**-1.7**
LSA				Sn	**Sn**	**17 16 33.6**	**+1.6**
GUWA	**GUWAHATI**	**5.58**	**105**	*e*S	**Sn**	**17 16 38.9**	**-3.4**
TEZP	**TEZPUR**	**6.43**	**99**	*e*P	**Pn**	**17 15 50.0**	**+0.6**
TEZP				*e*P	**Pn**	**17 15 50.8**	**+1.3**
TEZP				*e*S	**Sn**	**17 17 01.8**	**-1.3**
TEZP				IAML		17 17 06.0	
	comp=N,2μm,0.2s						
JHNI	**Jhansi**	**6.82**	**252**	*e*P	**Pn**	**17 15 54.6**	**-0.3**
JHNI				*e*S	**Sn**	**17 17 08.9**	**-3.9**
ITAN	**ITANAGAR**	**7.16**	**94**	*e*P	**Pn**	**17 16 01.7**	**+2.3**
ITAN				*e*S	**Sn**	**17 17 14.0**	**-7.0**
ZIRO	**ZIRO**	**7.23**	**90**	IAML		17 17 28.0	
	comp=E,276nm,0.4s						
SONA	**Sohna**	**7.63**	**275**	*e*S	**Sn**	**17 17 29.4**	**-3.2**
KOHI	**KOHIMA**	**7.80**	**104**	*e*P	**Pn**	**17 16 09.8**	**+1.4**
KOHI				*e*S	**Sn**	**17 17 35.4**	**-1.6**
MOKO	**MOKOCHONG**	**8.00**	**99**	*e*P	**Pn**	**17 16 12.9**	**+1.8**
MOKO				*e*S	**Sn**	**17 17 38.8**	**-3.2**
MOKO				IAML		17 17 41.2	
	comp=N,43nm,0.5s						
SMLA	**Simla**	**8.14**	**296**	*e*P	**Pn**	**17 16 14.0**	**+1.2**
SMLA				*e*S	**Sn**	**17 17 44.1**	**-1.0**
SMLA				IAML		17 17 46.3	
	comp=E,1μm,0.7s						
SMLA				IAML		17 17 46.9	
	comp=N,660nm,0.4s						
BHPL	**Bhopal**	**8.75**	**240**	*e*P	**Pn**	**17 16 19.1**	**-2.3**
BHPL				*e*S	**Sn**	**17 17 55.7**	**-4.7**
BHPL				IAML		17 18 00.5	
	comp=N,44nm,0.2s						
BHK	**Bhakra**	**8.84**	**296**	*e*P	**Pn**	**17 16 24.2**	**+1.7**
BHK				*e*S	**Sn**	**17 18 01.5**	**-1.0**
LKP	**Lekhapani**	**9.02**	**91**	*e*P	**Pn**	**17 16 23.4**	**-1.6**
AJM	**Ajmer**	**9.94**	**265**	*e*P	**Pn**	**17 16 38.3**	**+0.6**
AJM				*e*S	**Sn**	**17 18 23.3**	**-6.2**
AKL	**Akola**	**10.62**	**230**	*e*P	**Pn**	**17 16 45.7**	**-1.3**
CHCP	**Chirah Chowk**	**12.18**	**302**	P	**Pn**	**17 17 07.7**	**-0.6**
HYBB	**Hyderabad (bro**	**12.27**	**214**	*e*P	**Pn**	**17 17 08.0**	**-1.6**
HYBB				*e*S	**Sn**	**17 19 24.6**	**-2.1**
CEP	**Cherat**	**13.27**	**300**	P	**Pn**	**17 17 21.3**	**-2.1**
KSH	**Kashi**	**14.19**	**328**	P	**Pn**	**17 17 32.4**	**-3.5**
KSH				pP	Pn	17 17 37.5	+1.6
KSH				S	**Sn**	**17 20 05.3**	**-8.4**
KSH				pmax	pmax		
	comp=N,6.0nm,0.7s						
TARG	**Taragay, Kyrgy**	**15.31**	**337**	Pn	**Pn**	**17 17 50.5**	**-0.8**
TARG				IAmb	IAmb	17 17 56.9	
	comp=Z,6.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.32**	**125**	Pn	**Pn**	**17 17 50.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=306,slow=14,SNR=6.9						
	comp=Z,0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.32**	**125**	P	**P**	**17 17 57.6**	**+1.7**
CRAI	**Chiangrai**	**15.38**	**116**	P	**P**	**17 17 59.1**	**+2.5**
NRN	**Naryn**	**15.74**	**332**	Pn	**Pn**	**17 17 55.9**	**-1.0**
KBL	**Kabul**	**15.75**	**299**	Pn	**Pn**	**17 17 52.9**	**-3.9**
KBL				IAmb	IAmb	17 18 11.7	
	comp=Z,5.7nm,0.8s						
WMQ	**Urumqi**	**16.05**	**5**	*e*P	**Pn**	**17 18 01.8**	**+1.2**
GTA	**Gaotai**	**16.47**	**42**	⇑P	**P**	**17 18 09.0**	**+0.3**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOOM	**Boomskoye usch**	**16.66**	**334**	P	**Pn**	**17 18 08.9**	**+0.5**
GAR	**Garm**	**16.99**	**315**	Pn	**Pn**	**17 18 10.1**	**-2.5**
BTK	**Batken**	**17.34**	**319**	Pn	**Pn**	**17 18 13.3**	**-3.6**
BTK				IAmb	IAmb	17 18 20.7	
	comp=Z,11nm,0.7s						
AAK	**Ala-Archa**	**17.37**	**331**	P	**Pn**	**17 18 16.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=177,slow=8.7,SNR=7.1						
AAK				LR	LR	17 25 30.8	
	comp=Z,25nm,18.5s,baz=64,slow=39						
	comp=Z,2.1nm,0.6s						
AAK	**Ala-Archa**	**17.37**	**331**		**Pn**	**17 18 17.2**	**-0.2**
MK31	**Makanchi Array**	**19.13**	**353**		**Pn**	**17 18 38.3**	**-0.5**
MKAR	**Makanchi Array**	**19.13**	**353**	P	**Pn**	**17 18 38.5**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=174,slow=11,SNR=86						
	comp=Z,7.1nm,0.5s						
MAKZ	**Makanchi**	**19.18**	**352**	P	**Pn**	**17 18 39.5**	**0.0**
MAKZ				IAmb	IAmb	17 18 40.5	
	comp=Z,9.7nm,0.5s						
KK31	**Karatay Array**	**19.59**	**325**	P	**P**	**17 18 42.2**	**-0.9**
KKAR	**Karatay Array**	**19.59**	**325**	P	**P**	**17 18 42.0**	**-1.1**
PALK	**Pallekele**	**20.97**	**194**	LR	LR	17 27 53.1	
	comp=Z,58nm,19.1s,baz=234,slow=39						
KURBB	**Kurchatov Arra**	**23.42**	**348**	P	**P**	**17 19 24.2**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=168,slow=10,SNR=36						
	comp=Z,3.9nm,0.7s						
KURK	**Kurchatov**	**23.50**	**349**	P	**P**	**17 19 24.3**	**-0.3**
KURK				IAmb	IAmb	17 19 27.6	
	comp=Z,6.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.90**	**52**	*e*P	**P**	**17 19 40.6**	**+2.6**
HHC				pmax	pmax		
	comp=Z,37nm,1.0s						
HHC				pmax	pmax		
	comp=Z,70nm,4.3s						
SONM	**Songino Array**	**25.68**	**33**	P	**P**	**17 19 46.1**	**+1.2**
	comp=Z,5.0nm,0.7s,baz=220,slow=9.7,SNR=23						
SONM				LR	LR	17 31 44.5	
	comp=Z,34nm,18.1s,baz=132,slow=41						
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**25.68**	**33**	P	**P**	**17 19 46.4**	**+1.4**
SONM				IAmb	IAmb	17 19 48.9	
	comp=Z,4.4nm,0.8s						
ULN	**Ulaanbaatar**	**26.02**	**34**	P	**P**	**17 19 49.7**	**+1.6**
ULN				IAmb	IAmb	17 19 51.8	
	comp=Z,7.5nm,0.7s						
ZAA0	**Zalesovo Array**	**26.12**	**359**	P	**P**	**17 19 49.8**	**+1.1**
ZAA0				IAmb	IAmb	17 19 51.6	
	comp=Z,3.7nm,0.7s						
ZALV	**Zalesovo Beam**	**26.12**	**359**	P	**P**	**17 19 50.0**	**+1.3**
	comp=Z,2.9nm,0.3s,baz=184,slow=9.4,SNR=20						
	comp=Z,2.9nm,0.3s						
ZALV	**Zalesovo Beam**	**26.12**	**359**	P	**P**	**17 19 49.5**	**+0.8**
BVAR	**Borovoye Array**	**27.63**	**340**	P	**P**	**17 20 03.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=2.6						
	comp=Z,0.3nm,0.3s						
GSI	**Gunungsitoli**	**28.71**	**155**	P	**P**	**17 20 13.7**	**+1.4**
ABKAR	**Akbulak array**	**29.15**	**324**	P	**P**	**17 20 16.5**	**+0.5**
ABKAR				IAmb	IAmb	17 20 18.0	
	comp=Z,4.2nm,1.3s						
ARU	**Arti**	**34.53**	**333**	P	**P**	**17 21 03.2**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=195,slow=14,SNR=5.8						
	comp=Z,1.9nm,0.4s						
CN2	**Changchun**	**35.58**	**53**	*e*P	**P**	**17 21 14.6**	**+2.2**
KSRS	**Korea Array**	**36.58**	**64**	P	**P**	**17 21 21.4**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=262,slow=9.1,SNR=4.7						
	comp=Z,1.0nm,0.6s						
NRIK	**Noril'sk**	**41.57**	**1**	P	**P**	**17 22 03.8**	**+1.5**
	comp=Z,3.7nm,0.6s,baz=171,slow=7.1,SNR=6.4						
	comp=Z,3.7nm,0.6s						
NRIK	**Noril'sk**	**41.57**	**1**	P	**P**	**17 22 03.6**	**+1.3**
NRIK				IAmb	IAmb	17 22 04.3	
	comp=Z,4.4nm,0.7s						
TIXI	**Tiksi**	**49.84**	**16**	P	**P**	**17 23 07.1**	**-0.5**
MLR	**Muntele Rosu**	**49.93**	**307**	P	**P**	**17 23 10.3**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=63,slow=5.7,SNR=3.8						
	comp=Z,1.8nm,0.6s						
BURAR	**Bucovina Array**	**50.43**	**310**	P	**P**	**17 23 13.4**	**+0.8**
BURAR				IAmb	IAmb	17 23 14.0	
	comp=Z,1.1nm,0.8s						
BUR08	**Bucovina Ar. S**	**50.44**	**310**	P	**P**	**17 23 13.6**	**+0.9**
BUR08				IAmb	IAmb	17 23 38.8	
	comp=Z,3.4nm,1.4s						
FIA1	**FINESS Array S**	**51.52**	**328**	P	**P**	**17 23 20.8**	**+0.4**
FINES	**FINESS Array B**	**51.52**	**328**	P	**P**	**17 23 19.6**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=106,slow=7.3,SNR=14						
	comp=Z,2.2nm,0.9s						
FINES	**FINESS Array B**	**51.52**	**328**	P	**P**	**17 23 20.9**	**+0.5**
KEV	**Kevo**	**53.46**	**338**	P	**P**	**17 23 35.8**	**+1.1**
ARCES	**ARCESS Array B**	**53.89**	**338**	P	**P**	**17 23 37.5**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=106,slow=7.8,SNR=9.5						
	comp=Z,3.4nm,0.7s						
ARCES	**ARCESS Array B**	**53.89**	**338**	P	**P**	**17 23 38.6**	**+0.7**
HFS	**Hagfors**	**57.40**	**326**	P	**P**	**17 24 02.6**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=98,slow=7.9,SNR=19						
	comp=Z,0.7nm,0.3s						
NC405	**NORSAR Array S**	**58.37**	**327**	P	**P**	**17 24 10.0**	**-0.1**
NB2	**NORSAR Subarra**	**58.62**	**327**	P	**P**	**17 24 11.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=81,slow=6.9						
NOA	**NORSAR Array B**	**58.62**	**327**	P	**P**	**17 24 11.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=83,slow=7.3,SNR=2.4						
	comp=Z,0.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**59.83**	**135**	P	**P**	**17 24 20.5**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=332,slow=13,SNR=2.1						
	comp=Z,2.4nm,1.0s						
WB0	**Warramunga Arr**	**66.76**	**130**	P	**P**	**17 25 07.0**	**+0.4**
WRA	**Warramunga Arr**	**66.84**	**130**	P	**P**	**17 25 07.8**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=322,slow=6.4,SNR=22						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**66.84**	**130**	P	**P**	**17 25 07.0**	**-0.2**
WB2	**Warramunga Arr**	**66.85**	**130**	P	**P**	**17 25 07.5**	**+0.3**
WB2				IAmb	IAmb	17 25 15.2	
	comp=Z,4.3nm,1.0s						
WR0	**Warramunga Arr**	**66.99**	**130**	P	**P**	**17 25 08.4**	**+0.3**
ASAR	**Alice Springs**	**69.14**	**133**	P	**P**	**17 25 22.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=316,slow=6.0,SNR=16						
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**69.14**	**133**	P	**P**	**17 25 21.7**	**+0.1**
BMAR	**Burnt Mountain**	**77.89**	**18**	P	**P**	**17 26 13.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**78.75**	**279**	P	**P**	**17 26 17.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=65,slow=7.2,SNR=2.3						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**79.12**	**20**	P	**P**	**17 26 21.2**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=321,slow=5.5,SNR=2.3						
	comp=Z,0.4nm,0.6s						
SKT	**Skwentna**	**79.47**	**24**	P	**P**	**17 26 22.0**	**+0.8**
SKT				IAmb	IAmb	17 26 51.6	
	comp=Z,4.7nm,1.2s						
BCAR	**Beaver Creek A**	**81.91**	**20**	P	**P**	**17 26 35.7**	**+1.3**

BUC ***18*** *17:24:08.4±0.7,45°82N×26°87E,h121km±4km, ml2.5/2, Error ellipse: s-maj=4.0km s-min=3.4km az=36.0*

ISC 18 17:24:07.9±2.9,**45°84N**±0˙07×**26°89E**±0˙08,**h127**km±18km, **n10**,σ0**°47/14**,**9C-4D**,**Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.12**	**282**	⇑P	**Pn**	**17 24 25.3**	**+0.1**
VRI				⇑S	**Sn**	**17 24 38.6**	**+0.4**
PLOR	**Plostina**	**0.17**	**273**	⇑S	**Sn**	**17 24 38.0**	**-0.4**
COVR	**Voineasa-Covas**	**0.48**	**271**	⇓S	**Sn**	**17 24 40.3**	**-0.3**
TUDR		**0.60**	**114**	⇓S	**Sn**	**17 24 41.5**	**-0.2**
TESR	**Tescani**	**0.69**	**346**	⇑P	**Pn**	**17 24 27.7**	**-0.1**
TESR				⇓S	**Sn**	**17 24 42.8**	**-0.2**
MLR	**Muntele Rosu**	**0.75**	**242**	⇑P	**Pn**	**17 24 29.2**	**+0.8**
MLR				⇑S	**Sn**	**17 24 43.2**	**-0.8**
CFR	**Carcaliu**	**1.10**	**127**	⇑P	**Pn**	**17 24 31.7**	**+0.4**
CFR				⇓S	**Sn**	**17 24 49.4**	**+0.1**
SULR		**1.25**	**201**	⇑S	**Sn**	**17 24 51.7**	**-0.3**
TIRR	**Tirgusor**	**1.75**	**142**	⇑P	**Pn**	**17 24 38.3**	**-0.3**
KIS	**Kishinev**	**1.77**	**48**	*e*P	**Pn**	**17 24 39.0**	**+0.2**

IDC ***18*** *17:25:40.5±0.8,7˙97S×122˙81E,h208km±8km, mb3.8/16, mbtmp4.3/22,MS3.4/1, Error ellipse: s-maj=21.1km s-min=9.1km az=73.0*

NEIC ***18*** *17:25:41.9±2.0,8˙03S±0˙09×122˙88E±0˙09,h217km±8km, mb4.2/21, Error ellipse: s-maj=14.1km s-min=12.1km az=52.0*

DJA ***18*** *17:25:42.6±0.2,8˚S±2˚×12˚3E±˚,h203km±3km,M4.1/19, mB4.8/6,mb4.2/19,MLv4.1/16,Mw(mB)4.0/6*

ISC 18 17:25:42.0±0.4,**8°05S**±0˙05×**122°90E**±0˙06,**h221**km,**n117**, σ1**9**29/123,**mb4.0**/21,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.87**	**228**	Pn	**Pn**	**17 26 12.0**	**-1.2**
MMRI	**Maumere**	**0.87**	**228**	P	**Pn**	**17 26 11.8**	**-1.4**
MMRI				S	**S**	**17 26 35.6**	**-2.0**
MMRI	**Maumere**	**0.87**	**228**	P	**Pn**	**17 26 12.7**	**-0.5**
EDFI	**Ende, Flores**	**1.38**	**240**	P	**Pn**	**17 26 15.2**	**-1.6**
EDFI				S	**S**	**17 26 43.5**	**-0.2**
BATI	**Baumata**	**2.27**	**161**	P	**Pn**	**17 26 24.9**	**0.0**
	220nm,0.3s,baz=54,slow=1.9,SNR=132						
BATI				S	**S**	**17 26 57.1**	**-1.2**
	600nm,0.3s,baz=248,slow=23,SNR=17						
BATI	**Baumata**	**2.27**	**161**	P	**Pn**	**17 26 25.1**	**+0.2**
BATI				S	**S**	**17 26 56.4**	**-2.0**
BBSI	**Bau Bau**	**2.56**	**353**	P	**Pn**	**17 26 27.6**	**-0.4**
BSSI	**Bau Bau, Buton**	**3.05**	**308**	P	**Pn**	**17 26 31.4**	**-1.9**
BKSI	**Bulukumba**	**3.86**	**314**	P	**Pn**	**17 26 41.0**	**-1.9**
KAPI	**Kappang**	**4.34**	**314**	P	**Pn**	**17 26 46.7**	**-2.0**
	18nm,0.5s,baz=136,slow=11,SNR=8.8						
SPSI	**Sidrap Palu**	**5.11**	**322**	P	**Pn**	**17 26 59.9**	**+1.5**
	0.1nm30nm,1.0s						
PLAI	**Plampang**	**5.12**	**261**	P	**Pn**	**17 26 56.8**	**-1.7**
	0.6nm1μm72nm,0.8s						
PLAI	**Plampang**	**5.12**	**261**	P	**Pn**	**17 26 57.4**	**-1.1**
TTSI	**Tana Toraja**	**5.84**	**328**	P	**Pn**	**17 27 08.8**	**+1.2**
	0.1nm34nm,0.8s						
TWSI	**Taliwang, Sumb**	**5.99**	**263**	P	**Pn**	**17 27 07.3**	**-2.2**
	0.4nm16nm,0.6s						
NLAI	**Namlea**	**6.35**	**41**	P	**Pn**	**17 27 16.0**	**+1.9**
	0.1nm13nm,1.0s						
SANI	**Sanana**	**6.71**	**27**	P	**Pn**	**17 27 18.2**	**-0.5**
	0.1nm12nm,0.7s						
SRBI	**Singaraja**	**7.61**	**269**	P	**Pn**	**17 27 28.8**	**-1.4**
	0.1nm18nm,1.6s						
IGBI	**Denpasar**	**7.71**	**264**	P	**Pn**	**17 27 35.0**	**+3.5**
	0.5nm91nm,0.8s						
SAUI	**Saumlaki**	**8.32**	**90**	Pn	**Pn**	**17 27 40.0**	**+0.6**
SAUI	**Saumlaki**	**8.32**	**90**	P	**Pn**	**17 27 40.6**	**+1.1**
	82nm,0.9s						
ABJI	**Asem Bagus**	**8.58**	**271**	P	**Pn**	**17 27 44.4**	**+1.6**
	28nm,1.1s						
JAGI	**Jajag, Banyuwa**	**8.66**	**267**	Pn	**Pn**	17 27 38.8	-5.1
JAGI	**Jajag, Banyuwa**	**8.66**	**267**	P	**Pn**	**17 27 46.9**	**+3.0**
	30nm,1.5s						
JAGI	**Jajag, Banyuwa**	**8.66**	**267**	P	**Pn**	17 27 40.7	-3.2
LBMI	**Labuha**	**8.68**	**32**	P	**Pn**	**17 27 46.7**	**+2.7**
	782nm12nm,1.1s						
MTN	**Manton Dam**	**9.40**	**121**	Pn	**Pn**	**17 27 53.1**	**-0.2**
MTN	**Manton Dam**	**9.40**	**121**	P	**Pn**	**17 27 53.7**	**+0.4**
KNRA	**Kununurra**	**9.51**	**143**	Pn	**Pn**	**17 27 54.0**	**-0.7**
KNRA	**Kununurra**	**9.51**	**143**	P	**Pn**	**17 27 54.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.34**	**165**	P	**Pn**	**17 28 03.9**	**-1.4**
	4.8nm,0.5s,baz=11,slow=13,SNR=24						
FITZ				S	**S**	**17 29 58.3**	**-3.0**
	43nm,0.6s,baz=144,slow=12,SNR=17						
FITZ	**Fitzroy Crossi**	**10.34**	**165**	Pn	**Pn**	**17 28 03.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**10.34**	**165**	P	**Pn**	**17 28 04.2**	**-1.1**
KDU	**Kakadu**	**10.49**	**117**	P	**Pn**	**17 28 05.8**	**-1.4**
	20nm,0.5s						
FAKI	**Fak Fak**	**10.61**	**62**		**Pn**	**17 28 07.5**	**-1.3**
FAKI	**Fak Fak**	**10.61**	**62**	P	**Pn**	**17 28 09.3**	**+0.5**
	28nm,0.7s						
SIJI	**Sorong**	**10.97**	**50**	P	**Pn**	**17 28 11.9**	**-1.5**
	2.4nm,0.6s,baz=164,slow=23,SNR=1.7						
PWJI	**Pagerwojo**	**10.98**	**269**	P	**Pn**	**17 28 16.2**	**+2.6**
	39nm,2.2s						
UGM	**Wanagama**	**12.26**	**270**	Pn	**Pn**	**17 28 27.5**	**-2.2**
UGM	**Wanagama**	**12.26**	**270**	P	**Pn**	**17 28 28.9**	**-0.7**
MBWA	**Marble Bar**	**13.39**	**193**		**Pn**	**17 28 44.1**	**+0.4**
MBWA	**Marble Bar**	**13.39**	**193**	P	**Pn**	**17 28 44.5**	**+0.9**
PSA00	**Pilbara Seismi**	**13.76**	**192**	Pn	**Pn**	**17 28 47.2**	**-1.1**
PSA00	**Pilbara Seismi**	**13.76**	**192**	P	**Pn**	**17 28 50.8**	**+2.5**
SBUM	**Sibu**	**14.90**	**314**	P	**Pn**	**17 29 03.2**	**+0.9**
WB0	**Warramunga Arr**	**16.12**	**137**	P	**P**	**17 29 15.2**	**-0.7**
WB0				IAmb	IAmb	17 29 27.1	
	comp=Z,8.0nm,1.0s						
WRA	**Warramunga Arr**	**16.21**	**138**	P	**P**	**17 29 17.3**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=310,slow=12,SNR=50						
WRA				S	**S**	**17 32 12.8**	**-3.0**
	comp=Z,4.4nm,0.5s,baz=313,slow=23,SNR=7.4						
WRA	**Warramunga Arr**	**16.21**	**138**	P	**P**	**17 29 17.1**	**+0.1**
WRAB	**Tennant Creek**	**16.21**	**138**	P	**P**	**17 29 16.3**	**-0.6**
WRAB				IAmb	IAmb	17 29 21.0	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**16.21**	**138**	P	**P**	**17 29 17.3**	**+0.3**
WB2	**Warramunga Arr**	**16.21**	**138**	P	**P**	**17 29 17.3**	**+0.3**
WB2				IAmb	IAmb	17 29 28.0	
	comp=Z,7.6nm,0.6s						
WR0	**Warramunga Arr**	**16.35**	**138**	P	**P**	**17 29 19.1**	**+0.6**
WR0				IAmb	IAmb	17 29 20.0	
	comp=Z,18nm,1.0s						
GIRL	**Giralia**	**16.73**	**209**	P	**P**	**17 29 22.9**	**+0.3**
GIRL	**Giralia**	**16.73**	**209**	P	**P**	**17 29 24.0**	**+1.3**
SBJI	**Serang**	**16.75**	**275**	P	**Pn**	**17 29 25.8**	**+1.4**
	comp=Z,83nm,0.5s						
SMPI	**Sarmi**	**16.86**	**70**	P	**Pn**	**17 29 27.2**	**+1.5**
	comp=Z,8.7nm,1.4s						
WRKA	**Warakurna**	**17.66**	**164**	P	**P**	**17 29 34.3**	**+1.4**
AS31	**Alice Springs**	**18.77**	**147**	P	**P**	**17 29 46.5**	**+1.5**
AS31				IAmb	IAmb	17 29 50.7	
	comp=Z,13nm,0.8s						
ASAR	**Alice Springs**	**18.78**	**147**	P	**P**	**17 29 46.3**	**+1.4**
	comp=Z,21nm,0.6s,baz=333,slow=14,SNR=292						
ASAR				S	**S**	**17 33 06.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=331,slow=20,SNR=4.8						
ASAR				ScP	**ScP**	**17 37 15.2**	**-1.9**
	comp=Z,1.7nm,0.8s,baz=356,slow=1.5,SNR=4.9						
MEEK	**Meekatharra**	**18.93**	**192**	P	**P**	**17 29 47.8**	**+1.2**
QIS	**Mount Isa**	**20.39**	**129**	P	**P**	**17 30 03.1**	**+0.8**
COEN	**Coen**	**20.75**	**108**	P	**P**	**17 30 06.1**	**0.0**
COEN				IAmb	IAmb	17 30 11.5	
	comp=Z,7.4nm,0.9s						
COEN	**Coen**	**20.75**	**108**	P	**P**	**17 30 06.1**	**0.0**
MORW	**Morawa**	**21.88**	**196**	P	**P**	**17 30 17.3**	**0.0**
OOD	**Oodnadatta**	**23.07**	**150**	P	**P**	**17 30 28.9**	**+0.7**
MTSU	**Mount Surprise**	**23.12**	**118**	P	**P**	**17 30 30.8**	**+2.0

*IDC **18** 17:34:25.4±7.2,38°.30N×73°.96E,h131km±62km,mb3.1/2, mbtmp3.6/7,Error ellipse: s-maj=63.6km s-min=30.5km az=170.0*

ISC 18 17:34:14.8±1.5,**38°.36N**±0°.09×**73°.30E**±0°.07,**h10**km,**n17**, σ2ᵉ**54**/27,**3C, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.37**	**12**	P	**Pb**	**17 35 31.2**	**-0.5**
	1.3nm,0.3s,baz=187,slow=19,SNR=4.7						
AAK				S	**Sb**	**17 36 20.7**	**-3.9**
	9.1nm,0.4s,baz=333,slow=23,SNR=13						
MRKS	**Merke**	**4.38**	**359**	*eP*	**Pb**	**17 35 32.7**	**+0.8**
	6.9nm,0.3s						
MRKS				*eS*	**Sb**	**17 36 21.8**	**-3.0**
	64nm,0.5s						
IUG	**Iuzhnay**	**4.54**	**328**	*eP*	**Pb**	**17 35 37.5**	**+3.0**
	286nm,0.3s						
IUG				*eS*	**Sb**	**17 36 29.9**	**+0.7**
	104nm,0.5s						
DZA	**Taraz**	**4.77**	**342**	*eP*	**Pb**	**17 35 39.1**	**+0.7**
	55nm,0.1s						
DZA				*eS*	**Sb**	**17 36 32.5**	**-3.5**
	119nm,0.3s						
TKM2	**Tokmak 2**	**4.88**	**20**	⇑Pn	Pb	17 35 36.9	-3.5
	1.7nm,0.6s						
TKM2				⇑Sn	**Sn**	**17 36 27.7**	**+2.6**
	9.0nm,0.6s						
KST	**Kastek**	**5.10**	**23**	*eP*	**Pb**	**17 35 44.0**	**-0.1**
	2.7nm,0.8s						
KST				*eS*	**Sb**	**17 36 41.5**	**-4.1**
	11nm,0.7s						
SGDS	**Sogindy**	**5.19**	**11**	*eP*	**Pb**	**17 35 47.5**	**+1.8**
	1.2nm,0.6s						
SGDS				*eS*	**Sb**	**17 36 47.3**	**-0.7**
	4.7nm,0.9s						
KK31	**Karatay Array**	**5.19**	**337**	Pn	**Pb**	**17 35 45.3**	**-0.3**
	0.9nm,0.3s,baz=155,slow=14,SNR=69						
KK31				⇑Sn	**Sb**	**17 36 42.9**	**-5.1**
	9.3nm,0.5s,baz=155,slow=22,SNR=4.0						
DGS	**Degeres**	**5.23**	**20**	*eP*	**Pb**	**17 35 48.9**	**+2.6**
	2.2nm,0.9s						
DGS				*eS*	**Sb**	**17 36 49.6**	**+0.4**
	14nm,0.7s						
KRBS	**Karabastau**	**5.63**	**18**	*eP*	**Pb**	**17 35 54.5**	**+1.5**
	0.8nm,0.8s						
KRBS				*eS*	**Sb**	**17 36 59.5**	**-1.1**
	3.0nm,1.0s						
BTLS	**Baital**	**6.70**	**5**	*eP*	**Pb**	**17 36 13.0**	**+1.7**
	0.7nm,0.3s						
BTLS				*eS*	**Sb**	**17 37 30.5**	**-0.9**
	3.2nm,0.7s						
MKAR	**Makanchi Array**	**10.72**	**35**	P	**Pn**	**17 36 50.6**	**+2.3**
	1.5nm,0.7s,baz=209,slow=15,SNR=7.6						
KURBB	**Kurchatov Arra**	**12.81**	**15**	P	**Pn**	**17 37 20.1**	**+3.2**
	0.4nm,0.3s,baz=199,slow=12,SNR=1.5						
BVAR	**Borovoye Array**	**14.81**	**353**	P	**P**	**17 37 50.8**	**+0.7**
	1.7nm,0.6s,baz=156,slow=11,SNR=10.0						
ZALV	**Zalesovo Beam**	**17.48**	**23**	P	**Pn**	**17 38 18.1**	**-0.3**
	2.0nm,0.5s,baz=215,slow=11,SNR=8.9						
SONM	**Songino Array**	**25.79**	**58**	P	**P**	**17 39 41.0**	**-4.9**
	0.6nm,0.8s,baz=258,slow=13,SNR=4.8 0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.58**	**269**	P	**P**	**17 45 11.1**	**-0.7**
	0.3nm,0.4s,baz=49,slow=6.4,SNR=1.5 0.3nm,0.4s						

*IDC **18** 17:34:57.0±1.0,30°.02N×82°.55E,h0km,mb3.6/12, mbtmp3.6/14,ML3.3/2,Error ellipse: s-maj=30.2km s-min=18.2km az=48.0*

ISC 18 17:34:58.3±0.8,**30°.0N**±0°.1×**82°.50E**±0°.08,**h10**km,**n16**, σ0ᵉ**89**/17,**mb3.6**/11,**Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**2.04**	**255**	*eP*	**Pn**	**17 35 31.4**	**-1.2**
LGTI				*eS*	**Sg**	**17 36 03.6**	**-0.1**
MKAR	**Makanchi Array**	**16.78**	**359**	Pn	**Pn**	**17 38 52.1**	**-1.2**
	baz=180,slow=14,SNR=4.1 0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**18.86**	**124**	P	**Pn**	**17 39 18.8**	**-0.3**
	0.1nm,0.3s,baz=312,slow=9.9,SNR=1.5 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**20.83**	**353**	P	**P**	**17 39 39.5**	**-0.4**
	0.4nm,0.3s,baz=180,slow=9.9,SNR=10 0.4nm,0.3s						
GEYT	**Alibeck**	**21.68**	**298**	P	**P**	**17 39 50.3**	**+1.1**
	1.1nm,0.6s,baz=72,slow=9.3,SNR=1.6 1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**24.00**	**3**	P	**P**	**17 40 12.0**	**-1.0**
	0.7nm,0.5s,baz=177,slow=15,SNR=4.4 0.7nm,0.5s						
SONM	**Songino Array**	**25.59**	**39**	P	**P**	**17 40 28.3**	**+0.6**
	1.0nm,0.7s,baz=232,slow=12,SNR=5.7 1.0nm,0.7s						
ARU	**Arti**	**31.35**	**334**	P	**P**	**17 41 19.5**	**+0.7**
	2.4nm,0.5s,baz=129,slow=5.2,SNR=4.5 2.4nm,0.5s						
FINES	**FINESS Array B**	**48.19**	**328**	P	**P**	**17 43 39.3**	**+0.8**
	1.0nm,0.4s,baz=115,slow=9.7,SNR=15 1.0nm,0.4s						
ARCES	**ARCESS Array B**	**50.82**	**338**	P	**P**	**17 43 58.1**	**-0.5**
	1.2nm,0.8s,baz=114,slow=10.0,SNR=3.7 1.2nm,0.8s						
GERES	**GERESS Array B**	**54.51**	**311**	P	**P**	**17 44 27.3**	**+1.0**
	0.5nm,0.7s,baz=101,slow=5.6,SNR=3.9 0.5nm,0.7s						
NB2	**NORSAR Subarra**	**55.26**	**326**	P	**P**	**17 44 31.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=89,slow=7.4						
NOA	**NORSAR Array B**	**55.26**	**326**	P	**P**	**17 44 29.9**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=94,slow=6.7,SNR=3.3 comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**70.38**	**128**	P	**P**	**17 46 12.7**	**0.0**
	comp=Z,0.4nm,0.9s,baz=326,slow=6.0,SNR=2.0 comp=Z,0.4nm,0.9s						
ASAR	**Alice Springs**	**72.67**	**131**	P	**P**	**17 46 26.8**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=322,slow=5.9,SNR=1.3 comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.68**	**277**	P	**P**	**17 46 45.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=48,slow=5.9,SNR=1.6 comp=Z,0.3nm,0.6s						

*IDC **18** 17:40:12.9±1.6,0°.13S×125°.26E,h0km,mb3.7/4, mbtmp3.8/4,Error ellipse: s-maj=179.3km s-min=22.1km az=64.0*

*DJA **18** 17:40:15.6±0.3,0°.N±3°×12°.6E±°,h10km,M3.0/7,MLv3.0/7*

ISC 18 17:40:18.0±1.0,**0°.26N**±0°.06×**126°.32E**±0°.05,**h35**km,**n9**, σ1ᵉ**63**/13,**mb3.6**/4,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**64**	P	**Pn**	**17 40 37.5**	**-0.3**
TNTI				S	**Sn**	**17 40 54.1**	**+1.7**
LBMI	**Labuha**	**1.48**	**127**	Pn	**Pn**	**17 40 42.3**	**+0.1**
LBMI				S	**Sn**	**17 41 02.8**	**+2.5**
SANI	**Sanana**	**2.32**	**188**	Pn	**Pn**	**17 40 53.0**	**-0.7**
SANI				S	**Sn**	**17 41 22.0**	**+1.0**
KMSI	**Cibinong**	**2.36**	**278**	P	**Pn**	**17 40 53.0**	**-1.2**
KMSI				S	**Sn**	**17 41 22.9**	**+1.0**
GTOI	**Gorontalo**	**3.33**	**276**	P	**Pn**	**17 41 10.5**	**+2.9**
WRA	**Warramunga Arr**	**21.56**	**159**	P	**P**	**17 45 03.8**	**-0.8**
	1.4nm,0.6s,baz=334,slow=11,SNR=18 1.4nm,0.6s						
ASAR	**Alice Springs**	**24.90**	**163**	P	**P**	**17 45 38.1**	**+0.2**
	0.9nm,0.5s,baz=344,slow=11,SNR=39 0.9nm,0.5s						
MKAR	**Makanchi Array**	**60.18**	**327**	P	**P**	**17 50 20.4**	**-2.0**
	0.2nm,0.5s,baz=129,slow=8.2,SNR=4.1 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.44**	**328**	P	**P**	**17 50 50.1**	**-0.7**
	0.9nm,0.2s,baz=128,slow=6.0,SNR=4.3 0.9nm,0.2s						

*IDC **18** 17:58:29.9±4.2,35°.77N×23°.14E,h0km,mb3.7/6, mbtmp3.6/8,ML2.9/2,Error ellipse: s-maj=85.8km s-min=18.1km az=37.0*

*ATH **18** 17:58:33.2,35°.21N×23°.10E,h38km±3km,ML3.2/4,Error ellipse: s-maj=4.9km s-min=1.6km az=57.0*

*ISK **18** 17:58:34.8,35°.24N×23°.35E,h70km±1km,ML3.2/6*

*THE **18** 17:58:34.3,35°.20N×23°.12E,h15km±1km,ML3.1/4,Error ellipse: s-maj=2.0km s-min=1.1km az=42.0*

ISC 18 17:58:33.0±1.6,**35°.19N**±0°.10×**23°.07E**±0°.10,**h56**km±12km, **n49**, σ2ᵉ**01**/58,**mb3.6**/6,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.70**	**16**	P	**Pn**	**17 58 47.0**	**-0.1**
ANKY				S	**Sn**	**17 58 57.8**	**+0.5**
	2μm,0.7s						
ANKY	**Antikythira Is**	**0.70**	**16**	P	**Pn**	**17 58 47.0**	**-0.1**
ANKY				S	**Sn**	**17 58 56.9**	**-0.4**
ANKY				AML	AML	17 58 59.3	
	comp=N,5088μm,0.8s						
ANKY				AML	AML	17 59 01.9	
	comp=E,3312μm,0.5s						
IMMV	**Iera Moni Meta**	**0.79**	**70**	P	**Pn**	**17 58 48.6**	**+0.4**
IMMV				S	**Sn**	**17 58 59.9**	**+0.6**
	comp=E,2μm,0.6s						
IMMV	**Iera Moni Meta**	**0.79**	**70**	PG	**Pn**	**17 58 48.6**	**+0.4**
IMMV				SG	**Sn**	**17 58 59.2**	**-0.1**
IMMV	**Iera Moni Meta**	**0.79**	**70**	P	**Pn**	**17 58 48.8**	**+0.6**
IMMV				S	**Sn**	**17 58 59.4**	**+0.1**
IMMV				AML	AML	17 59 03.7	
	comp=N,4523μm,0.6s						
IMMV				AML	AML	17 59 09.1	
	comp=E,3981μm,0.6s						
GVD	**Gavdhos**	**0.91**	**113**	PG	**Pn**	**17 58 50.7**	**+1.0**
GVD				SG	**Sn**	**17 59 02.2**	**+0.3**
GVD	**Gavdhos**	**0.91**	**113**	P	**Pn**	**17 58 50.4**	**+0.7**
KTHA	**Kythira Island**	**1.06**	**360**	P	**Pn**	**17 58 53.4**	**+1.6**
KTHA				S	**Sn**	**17 59 08.4**	**+2.7**
	comp=E,1μm,0.6s						
KTHA	**Kythira Island**	**1.06**	**360**	PG	**Pn**	**17 58 53.4**	**+1.6**
KTHA				SG	**Sn**	**17 59 09.1**	**+3.4**
KTHA	**Kythira Island**	**1.06**	**360**	P	**Pn**	**17 58 53.3**	**+1.5**
KTHA				AML	AML	17 59 12.3	
	comp=E,3272μm,0.6s						
KTHA				AML	AML	17 59 13.9	
	comp=N,1183μm,0.6s						
KTHR	**Kythira**	**1.07**	**357**	P	**Pn**	**17 58 52.9**	**+1.1**
PRNS	**Prines Rethymn**	**1.18**	**81**	P	**Pn**	**17 58 53.8**	**+0.5**
IDI	**Anoyia**	**1.49**	**86**	Pn	**Pn**	**17 58 58.9**	**+1.4**
	comp=N,4.9nm,0.3s,baz=283,slow=19,SNR=28						
IDI				Sn	**Sn**	**17 59 21.5**	**+5.4**
	comp=N,13nm,0.3s,baz=346,slow=19,SNR=6.5						
IDI				LR	LR	17 59 40.5	
	comp=N,56nm,20.9s,baz=300,slow=47						
IDI	**Anoyia**	**1.49**	**86**	P	**Pn**	**17 58 58.8**	**+1.2**
IDI	**Anoyia**	**1.49**	**86**	P	**Pn**	**17 58 58.6**	**+1.0**
MNVA	**Monemvasia**	**1.49**	**359**	P	**Pn**	**17 58 58.8**	**+1.3**
VLI	**Veliai**	**1.53**	**356**	P	**Pn**	**17 59 00.7**	**+2.7**
VLI				S	**Sn**	**17 59 20.0**	**+3.2**
	comp=N,480nm,0.6s						
VLI	**Veliai**	**1.53**	**356**	P	**Pn**	**17 59 00.4**	**+2.4**
VLI				AML	AML	17 59 28.7	
	comp=N,1196μm,0.6s						
VLI				AML	AML	17 59 30.1	
	comp=E,715μm,0.7s						
MHLO	**Agia Marina, M**	**1.84**	**35**	P	**Pn**	**17 59 04.4**	**+2.1**
PYL	**PYLOS**	**2.01**	**328**	P	**Pn**	**17 59 08.4**	**+3.8**
KRND	**KRANIDI**	**2.19**	**2**	P	**Pn**	**17 59 09.1**	**+2.1**
KRND	**KRANIDI**	**2.19**	**2**	P	**Pn**	**17 59 08.9**	**+1.9**
ITM	**Ithomi**	**2.19**	**335**	PN	**Pn**	**17 59 11.4**	**+4.4**
ITM	**Ithomi**	**2.19**	**335**	P	**Pn**	**17 59 08.8**	**+1.8**
SANT	**Santorini**	**2.27**	**58**	PN	**Pn**	**17 59 08.5**	**+0.3**
EPID	**Epidavros**	**2.42**	**1**	P	**Pn**	**17 59 12.0**	**+1.9**
ZKR	**Zakros**	**2.58**	**91**	PN	**Pn**	**17 59 12.6**	**+0.2**
VLY	**Voula,Athens**	**2.72**	**12**	P	**Pn**	**17 59 15.6**	**+1.3**
VLY	**Voula,Athens**	**2.72**	**12**	P	**Pn**	**17 59 15.4**	**+1.2**
APE	**Apeiranthos**	**2.73**	**46**	PN	**Pn**	**17 59 15.2**	**+0.7**
KLV	**Kalavryta, Ach**	**2.94**	**346**	P	**Pn**	**17 59 19.5**	**+2.1**
VIL2	**Platees**	**3.02**	**3**	P	**Pn**	**17 59 19.2**	**+0.8**
DBRK	**Dubrovnik**	**8.39**	**334**	*e*Pn	Pn	18 00 25.8	-6.2
STON	**Ston**	**8.73**	**333**	*e*Pn	**Pn**	**18 00 32.3**	**-4.2**
LSTV	**Lastovo**	**8.96**	**329**	*e*Pn	**Pn**	**18 00 36.6**	**-3.1**
RICI	**Ricice**	**9.48**	**333**	*e*Pn	**Pn**	**18 00 43.3**	**-3.5**
RICI				Sn	Sn	18 02 21.6	-10
BRTR	**Keskin Array B**	**9.54**	**59**	Pn	**Pn**	**18 00 46.8**	**-1.0**
	baz=237,slow=15,SNR=3.1 comp=E,0.5nm,0.8s						
KIJV	**Kijevo**	**10.19**	**332**	*e*Pn	**Pn**	**18 00 54.6**	**-1.9**
ZIRJ	**Zirje**	**10.21**	**328**	*e*Pn	**Pn**	**18 00 54.5**	**-2.3**
MORI	**Morici**	**10.36**	**329**	*e*Pn	**Pn**	**18 00 56.7**	**-2.1**
MMAI	**Mount Meron Ar**	**10.45**	**98**	Pn	**Pn**	**18 00 59.7**	**-0.6**
	comp=E,0.7nm,0.3s,baz=273,slow=13,SNR=1.9 comp=E,0.5nm,0.4s						
DUGI	**Dugi Otok**	**10.74**	**327**	*e*Pn	**Pn**	**18 01 01.0**	**-3.0**
GERES	**GERESS Array B**	**15.30**	**336**	Pn	**Pn**	**18 02 05.5**	**+0.1**
	comp=E,0.1nm,0.3s,baz=149,slow=12,SNR=1.6						
HFS	**Hagfors**	**25.69**	**349**	P	**P**	**18 03 56.4**	**-1.2**
	comp=E,0.9nm,0.4s,baz=146,slow=11,SNR=8.4 comp=E,0.9nm,0.4s						
FINES	**FINESS Array B**	**26.34**	**3**	P	**P**	**18 04 02.2**	**-1.2**
	comp=E,1.1nm,0.8s,baz=156,slow=10,SNR=8.0 comp=E,1.1nm,0.8s						
NOA	**NORSAR Array B**	**26.96**	**347**	P	**P**	**18 04 08.3**	**-0.8**
	comp=E,0.2nm,0.6s,baz=150,slow=10,SNR=1.7 comp=E,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**34.42**	**2**	P	**P**	**18 05 14.4**	**-0.3**
	comp=E,1.9nm,0.9s,baz=181,slow=8.1,SNR=3.5 comp=E,1.9nm,0.9s						
MKAR	**Makanchi Array**	**45.18**	**56**	P	**P**	**18 06 44.6**	**+0.4**
	comp=E,0.3nm,0.5s,baz=269,slow=7.8,SNR=9.6 comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.22**	**46**	P	**P**	**18 06 51.8**	**-0.5**
	comp=E,0.9nm,0.4s,baz=265,slow=11,SNR=4.7 comp=E,0.9nm,0.4s						

*TUL **18** 18:17:40.2±0.4,36°.76N±0°.01×98°.06W±0°.01,h7km±3km, ML2.6,mb_Lg2.3/15(NEIC),Error ellipse: s-maj=1.7km s-min=1.0km az=142.0*

NEIC 18 18:17:40.9±0.4,**36°.755N**±0°.010×**98°.06W**±0°.01,**h7**km±3km, **Error ellipse: s-maj=1.7km s-min=1.2km az=137.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.13**	**292**	Pg	Pg	18 17 43.4	-0.3
OK032				Sg	Sg	18 17 45.7	0.0
GC02	**Grant County #**	**0.19**	**59**	Pg	Pg	18 17 44.4	-0.4
GC02				Sg	Sg	18 17 47.4	+0.1
KAN14	**Manchester OK**	**0.22**	**21**		Pg	18 17 45.0	-0.3
KAN14				Sg	Sg	18 17 48.3	0.0
CROK	**Carrier**	**0.26**	**166**	Pg	Pg	18 17 45.5	-0.5
KAN10	**Anthony SW Sta**	**0.37**	**356**	Sg	Sg	18 17 53.1	0.0
KAN17	**Caldwell West**	**0.37**	**39**	Pg	Pg	18 17 47.8	-0.4
KAN05	**Bluff City Nor**	**0.38**	**23**	Pg	Pg	18 17 48.0	-0.4
KAN01	**Argonia South**	**0.47**	**31**	Pg	Pg	18 17 49.5	-0.5
KAN16	**Harper SW Stat**	**0.47**	**360**	Pg	Pg	18 17 49.7	-0.4
KAN08	**Anthony NE Sta**	**0.48**	**9**		Pg	18 17 49.8	-0.4
KAN06	**Argonia West S**	**0.52**	**18**	Pg	Pg	18 17 50.5	-0.5
KAN09	**Caldwell North**	**0.52**	**43**	Pg	Pg	18 17 50.3	-0.6
OK035	**E0210 Rd and N**	**0.52**	**265**	Pg	Pg	18 17 50.5	-0.8
KAN13	**South Haven SW**	**0.53**	**61**	Pg	Pg	18 17 50.5	-0.8
KAN12	**Harper NE Stat**	**0.54**	**5**	Pg	Pg	18 17 51.0	-0.4
OK038	**West end E0370**	**0.61**	**243**	Pg	Pg	18 17 52.2	-0.6
KS20	**Mayfield South**	**0.62**	**40**	Pg	Pg	18 17 52.3	-0.7
KS20				Sg	Sg	18 18 00.4	-0.7
BLOK	**Blackwell**	**0.68**	**89**	Pg	Pg	18 17 53.2	-0.8
BLOK				Sg	Sg	18 18 02.5	-0.4
OK049	**E0420 Rd and N**	**0.70**	**120**	Pg	Pg	18 17 53.5	-1.0
NOKA	**Waynoka**	**0.71**	**261**	Pg	Pg	18 17 53.8	-0.8
U32A	**Winter Ranch,**	**0.85**	**244**	Pg	Pg	18 17 56.3	-0.9
OK050	**Pawnee Station**	**0.94**	**112**	Pg	Pg	18 17 58.0	-1.0
OK048	**Pawnee Station**	**0.96**	**110**		Pg	18 17 58.3	-1.0
OK045	**Pawnee Station**	**0.96**	**108**		Pg	18 17 58.4	-1.0
OK046	**Pawnee Station**	**0.99**	**111**		Pg	18 17 59.0	-1.1
OK051	**E0350 and S346**	**1.02**	**104**		Pg	18 17 59.3	-1.1
OK029	**Liberty Lake**	**1.07**	**153**		Pg	18 18 00.4	-1.2
OK044	**Pawnee Station**	**1.09**	**110**		Pg	18 18 00.5	-1.3
OK047	**Pawnee, Statio**	**1.11**	**104**		Pg	18 18 01.1	-1.2
BCOK	**Bluff Creek, N**	**1.16**	**161**	IAmb_Lg		18 18 16.2	
	comp=Z,20nm,1.0s						
QUOK	**Quay**	**1.24**	**118**		Pb	18 18 03.2	-1.3
T35A	**Sooner Cattle**	**1.25**	**82**		Pn	18 18 03.5	-1.3
OK031	**S. Brethren Rd**	**1.27**	**129**		Pn	18 18 03.8	-1.2
OK025	**Westminster Rd**	**1.31**	**153**	Pg	Pn	18 18 04.6	-1.0
OK034	**N. Norfolk Rd.**	**1.32**	**124**		Pn	18 18 04.5	-1.1
OK030	**Cody Creek RV**	**1.32**	**128**		Pn	18 18 04.6	-1.1
DEOK	**Depew**	**1.56**	**125**	Pg	Pn	18 18 08.2	-0.7
R32A	**Long Quarter,**	**1.74**	**343**		Pn	18 18 11.9	+0.3
TUL1	**Leonard**	**2.02**	**114**		Pn	18 18 15.8	+0.5
TUL1				IAmb_Lg		18 18 45.1	
	comp=Z,22nm,0.9s						
WMOK	**Wichita Mounta**	**2.10**	**196**		Pn	18 18 16.7	+0.2
WMOK				IAmb_Lg		18 18 49.4	
	comp=Z,8.8nm,0.7s						
X34A	**Smith Ranch, M**	**2.16**	**175**		Pn	18 18 18.2	+0.9
X34A				IAmb_Lg		18 18 51.6	
	comp=Z,9.2nm,0.8s						
CBKS	**Cedar Bluff**	**2.45**	**328**	IAmb_Lg		18 18 58.8	
	comp=Z,12nm,1.0s						
U38A	**Gravette**	**2.97**	**95**		Pn	18 18 26.8	-1.6
X37A	**Clayton**	**3.08**	**134**	Pn	Pn	18 18 29.7	-0.2
AMTX	**Amarillo**	**3.48**	**239**	IAmb_Lg		18 19 30.2	
	comp=Z,5.4nm,0.9s						
MGMO	**Mountain Grove**	**4.66**	**83**	Pn	Pn	18 18 50.7	-0.9
FCAR	**Ozark Folk Cen**	**4.87**	**98**	IAmb_Lg		18 20 15.9	
	comp=Z,6.0nm,0.7s						
T25A	**Trinidad**	**5.10**	**276**	IAmb_Lg		18 20 31.5	
	comp=Z,6.4nm,0.8s						
JCT	**Junction City**	**6.43**	**194**	IAmb_Lg		18 21 08.1	
	comp=Z,9.5nm,1.3s						

*TUL **18** 18:30:34.6±1.1,36°.28N±0°.01×97°.51W±0°.01,h7km±5km, ML3.2,mb_Lg3.1/73(NEIC),Error ellipse: s-maj=1.5km s-min=1.3km az=168.0*

*NEIC **18** 18:30:34.7±0.9,36°.282N±0°.006×97°.52W±0°.01,h6km±6km, Error ellipse: s-maj=1.5km s-min=0.7km az=110.0*

*ANF **18** 18:30:34.3±0.2,36°.29N×97°.51W,h3km,ML3.7/13,Error ellipse: s-maj=2.7km s-min=2.1km az=164.0*

ISC 18 18:30:34.8±1.0,**36°.28N**±0°.02×**97°.52W**±0°.02,**h7**km±10km, **n103**, σ0ᵉ**49**/80,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK049	**E0420 Rd and N**	**0.22**	**54**	Pg	**Pg**	**18 30 39.3**	**+0.2**
OK049				Sg	**Sg**	**18 30 42.5**	**+0.4**
CROK	**Carrier**	**0.43**	**301**	Pg	**Pg**	**18 30 43.4**	**+0.2**
CROK				Sg	**Sg**	**18 30 49.6**	**+0.7**
OK050	**Pawnee Station**	**0.45**	**75**		**Pg**	**18 30 43.4**	**-0.2**
OK029	**Liberty Lake**	**0.48**	**173**	Pg	**Pg**	**18 30 44.2**	**0.0**
OK048	**Pawnee Station**	**0.49**	**74**	Pg	**Pg**	**18 30 44.0**	**-0.2**
OK045	**Pawnee Station**	**0.51**	**71**		**Pg**	**18 30 44.6**	**-0.1**
OK046	**Pawnee Station**	**0.51**	**77**	Pg	**Pg**	**18 30 44.3**	**-0.2**
OK033	**Mehan**	**0.53**	**116**	Pg	**Pg**	**18 30 44.9**	**-0.1**
OK033				Sg	**Sg**	**18 30 52.1**	**+0.2**
BLOK	**Blackwell**	**0.54**	**27**	Pg	**Pg**	**18 30 45.2**	**0.0**
BLOK				Sg	**Sg**	**18 30 52.6**	**+0.3**
OK044	**Pawnee Station**	**0.59**	**81**	Pg	**Pg**	**18 30 46.0**	**-0.2**
OK051	**E0350 and S346**	**0.60**	**68**	Pg	**Pg**	**18 30 46.1**	**-0.2**
BCOK	**Bluff Creek, N**	**0.62**	**186**	Pg	**Pg**	**18 30 46.7**	**-0.1**
GC02	**Grant County #**	**0.63**	**335**	Pg	**Pg**	**18 30 46.9**	**-0.1**
OK031	**S. Brethren Rd**	**0.64**	**120**	Pg	**Pg**	**18 30 47.0**	**-0.2**
OK031				Sg	**Sg**	**18 30 55.6**	**+0.1**
QUOK	**Quay**	**0.67**	**99**	Pg	**Pg**	**18 30 47.4**	**-0.2**
QUOK				IAmb_Lg		18 30 55.7	
	comp=Z,85nm,0.7s						
OK047	**Pawnee, Statio**	**0.67**	**73**	Pg	**Pg**	**18 30 47.4**	**-0.3**
OK030	**Cody Creek RV**	**0.69**	**120**	Pg	**Pg**	**18 30 47.9**	**-0.2**
OK030				Sg	**Sg**	**18 30 57.2**	**0.0**
OK034	**N. Norfolk Rd.**	**0.71**	**112**	Pg	**Pg**	**18 30 48.2**	**-0.3**
OK025	**Westminster Rd**	**0.71**	**168**	Pg	**Pg**	**18 30 48.4**	**-0.1**
KAN13	**South Haven SW**	**0.73**	**3**	Pg	**Pg**	**18 30 48.7**	**-0.2**
OK032	**Salt Plains WL**	**0.76**	**314**	Pg	**Pg**	**18 30 49.2**	**-0.2**
KAN14	**Manchester OK**	**0.76**	**333**		**Pg**	**18 30 49.2**	**-0.2**
KAN17	**Caldwell West**	**0.79**	**346**	Pg	**Pg**	**18 30 49.7**	**-0.2**
KAN09	**Caldwell North**	**0.86**	**355**	Pg	**Pg**	**18 30 51.0**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.88**	**175**	Pg	**Pg**	**18 30 51.2**	**-0.3**
KAN01	**Argonia South**	**0.89**	**348**	Pg	**Pg**	**18 30 51.5**	**-0.4**
DEOK	**Depew**	**0.94**	**117**	Pg	**Pg**	**18 30 52.1**	**-0.7**
KS20	**Mayfield South**	**0.95**	**359**	Pg	**Pg**	**18 30 52.5**	**-0.5**
KAN06	**Argonia West S**	**1.00**	**345**		**Pg**	**18 30 53.6**	**-0.4**
OK038	**West end E0370**	**1.00**	**282**	Pg	**Pg**	**18 30 53.5**	**-0.5**
KAN08	**Anthony NE Sta**	**1.01**	**339**		**Pg**	**18 30 53.7**	**-0.5**
KS21	**Milan North St**	**1.01**	**354**	Pg	**Pg**	**18 30 53.7**	**-0.5**
FNO	**Franklin**	**1.02**	**174**	Pg	**Pg**	**18 30 53.9**	**-0.6**
T35A	**Sooner Cattle**	**1.03**	**52**	Pg	**Pg**	**18 30 53.9**	**-0.7**
T35B	**Sooner Cattle**	**1.03**	**52**	P	**Pg**	**18 30 54.0**	**-0.7**
	baz=232						
T35B				S	**Sg**	**18 31 07.5**	**-0.6**
	baz=232						
KAN16	**Harper SW Stat**	**1.04**	**335**	Pg	**Pg**	**18 30 54.3**	**-0.4**
OK035	**E0210 Rd and N**	**1.05**	**294**	Pg	**Pg**	**18 30 54.4**	**-0

comp=Z,46nm,0.8s
OGNE Ogallala 5.84 324 IAmb_Lg 18 33 48.9
comp=Z,29nm,0.8s
JCT Junction City 6.09 199 IAmb_Lg 18 33 57.4
comp=Z,45nm,1.0s
PEBM Pemiscott Bayo 6.20 89 IAmb_Lg 18 33 59.1
comp=Z,38nm,0.7s
PARMO Parma 6.28 84 IAmb_Lg 18 34 10.5
comp=Z,30nm,0.8s
CGM3 Cape Girardeau 6.39 79 IAmb_Lg 18 33 55.2
comp=Z,28nm,0.8s
K31A O'Neill 6.41 352 IAmb_Lg 18 33 59.3
comp=Z,37nm,0.8s
SCIA State Center 6.54 29 IAmb_Lg 18 34 08.3
comp=Z,30nm,0.8s
Q24A Divide 6.62 296 IAmb_Lg 18 34 07.6
comp=Z,29nm,0.9s
S44A Carbondale 6.77 76 IAmb_Lg 18 34 08.5
comp=Z,30nm,0.7s
SIUC Southern Illin 6.80 75 IAmb_Lg 18 34 09.4
comp=Z,34nm,0.7s
OXF Oxford 6.86 103 IAmb_Lg 18 34 22.1
comp=Z,22nm,1.1s
W45A Hickory Valley 6.88 97 IAmb_Lg 18 34 18.8
comp=Z,24nm,0.7s
P43A Skaggs, Pawnee 7.16 60 IAmb_Lg 18 34 28.2
comp=Z,31nm,0.7s
T45A Paducah 7.18 81 IAmb_Lg 18 34 39.2
comp=Z,26nm,0.7s
L40A Anamosa 7.57 38 IAmb_Lg 18 34 39.4
comp=Z,31nm,1.1s
N23A Red Feather La 8.04 307 IAmb_Lg 18 34 56.7
comp=Z,22nm,0.9s
I37A Lemond, Waseca 8.35 21 IAmb_Lg 18 35 05.9
comp=Z,20nm,0.8s
L42A Oliver, Polo 8.36 44 IAmb_Lg 18 35 11.5
comp=Z,22nm,0.9s
JFWS Jewell Farm 8.68 38 IAmb_Lg 18 35 19.5
comp=Z,20nm,0.7s
K43A Burlington 9.57 45 IAmb_Lg 18 35 56.7
comp=Z,24nm,0.9s

---

*IDC **18** 18:39:06.6±1.2,55.07S×31.16W,h0km,mb4.0/4, mbtmp4.0/4,MS3.7/8,Error ellipse: s-maj=45.2km s-min=30.8km az=58.0*
*NEIC **18** 18:39:06.4±1.3,55.05S±0.1×31.1W±0.3,h10km±2km, mb4.4/8,Error ellipse: s-maj=34.5km s-min=6.2km az=49.0*
ISC 18 18:39:07.3±0.9,55.1S±0.1×31.3W±0.1,h10km,n28, σ1$22/15,mb4.3/7,MS3.6/8,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.13**	**283**	Pn	**Pn**	**18 39 56.9**	**+0.2**
PMSA	**Palmer Station**	**18.84**	**226**		**Pn**	**18 43 28.7**	**+1.2**
PMSA				IAmb	IAmb	18 43 52.3	
	comp=Z,19nm,0.8s						
SNAA	**Sanae**	**20.59**	**155**	P	**P**	**18 43 44.7**	**-1.4**
BELA	**Belgrano 2**	**22.91**	**182**	P	**P**	**18 44 10.1**	**-0.8**
AY01	**Puyuhuapi**	**28.37**	**275**	P	**P**	**18 44 60.0**	**-1.4**
AY01				IAmb	IAmb	18 45 02.2	
	comp=Z,8.2nm,1.1s						
LL05	**Los Muermos**	**30.74**	**279**	P	**P**	**18 45 20.9**	**-1.5**
CPUP	**Villa Florida**	**34.47**	**316**	P	**P**	**18 45 55.6**	**+0.5**
	comp=Z,3.2nm,1.0s,baz=121,slow=9.0,SNR=5.3						
	comp=Z,3.2nm,1.0s						
MAW	**Mawson**	**42.28**	**145**	LR	LR	19 02 17.6	
	comp=Z,66nm,18.7s,baz=202,slow=33						
PTLB	**Pontes e Lacer**	**45.03**	**320**	P	**P**	**18 47 21.7**	**-1.4**
PTLB				IAmb	IAmb	18 47 24.6	
	comp=Z,4.0nm,0.9s						
VNDA	**Vanda**	**47.40**	**184**	P	**P**	**18 47 42.1**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=187,slow=5.8,SNR=2.8						
	comp=Z,0.6nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.87**	**22**	T	T	19 39 37.9	
H10S3	**ASCENSION HYDR**	**47.88**	**22**	T	T	19 39 36.6	
	SNR=4.9						
LPAZ	**La Paz**	**47.95**	**309**	P	**P**	**18 47 48.2**	**+1.6**
	comp=Z,4.3nm,0.6s,baz=142,slow=4.0,SNR=16						
	comp=Z,4.3nm,0.6s						
LPAZ	**La Paz**	**47.95**	**309**	P	**P**	**18 47 47.7**	**+1.0**
BOSA	**Boshof**	**48.04**	**80**	LR	LR	19 05 59.0	
	comp=Z,47nm,18.0s,baz=193,slow=34						
H10N1	**ASCENSION HYDR**	**48.99**	**22**	T	T	19 41 02.1	
	baz=191,slow=76,SNR=3.1						
H10N3	**ASCENSION HYDR**	**48.99**	**22**	T	T	19 41 01.0	
	baz=191,slow=76,SNR=10						
H10N2	**ASCENSION HYDR**	**49.01**	**22**	T	T	19 41 01.6	
	baz=191,slow=76,SNR=11						
TSUM	**Tsumeb**	**51.32**	**66**	LR	LR	19 05 43.9	
	comp=Z,36nm,19.1s,baz=169,slow=31						
SAML	**Samuel**	**52.51**	**319**	P	**P**	**18 48 19.2**	**-1.3**
SAML				IAmb	IAmb	18 48 22.0	
	comp=Z,8.3nm,1.1s						
LSZ	**Lusaka**	**60.26**	**73**	LR	LR	19 14 02.5	
	comp=Z,49nm,18.5s,baz=164,slow=35						
TORD	**Torodi Ar. Bea**	**73.45**	**34**	P	**P**	**18 50 40.6**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=199,slow=6.1,SNR=4.0						
	comp=Z,0.7nm,0.7s						
KMBO	**Kilima Mbogo**	**76.92**	**73**	LR	LR	19 22 22.1	
	comp=Z,65nm,19.2s,baz=91,slow=34						
CMIG	**Matias Romero**	**89.69**	**301**	LR	LR	19 29 08.5	
	comp=Z,17nm,19.9s,baz=204,slow=33						
PPT	**Papeete**	**90.83**	**237**	LR	LR	19 23 35.1	
	comp=Z,124nm,19.7s,baz=115,slow=29						
ESDC	**Sonseca Array**	**97.25**	**21**	LR	LR	19 33 36.2	
	comp=Z,34nm,18.5s,baz=234,slow=34						
ILAR	**Eielson Array**	**147.76**	**314**	PKPbc	**PKPbc**	**18 58 51.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=127,slow=1.9,SNR=17						
SONM	**Songino Array**	**153.00**	**88**	PKPbc	**PKiKP**	**18 59 04.5**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=242,slow=3.1,SNR=2.8						

IDC 18 18:51:10.5±7.0,19.47S×178.18W,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=300.7km s-min=39.1km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.59**	**261**	P	P	18 59 24.8	+0.1
	1.0nm,0.3s,baz=97,slow=7.5,SNR=52						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**44.60**	**256**	P	P	18 59 24.6	-0.3
	2.8nm,0.8s,baz=90,slow=7.5,SNR=83						
	2.8nm,0.8s						
ILAR	**Eielson Array**	**87.35**	**13**	P	P	19 03 58.9	0.0
	0.3nm,0.7s,baz=224,slow=5.2,SNR=4.2						
	0.3nm,0.7s						

---

*IDC **18** 19:06:50.0±1.9,6.80S×128.49E,h0km,mb3.4/2, mbtmp3.3/4,ML3.2/2,MS2.8/1,Error ellipse: s-maj=139.3km s-min=30.4km az=67.0*
ISC 18 19:06:51.8±1.3,6.8S±0.1×128.6E±0.2,h10km,n13, σ1$75/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**6.53**	**158**	P	Pn	19 08 34.6	+6.6
MMRI	**Maumere**	**6.57**	**253**	P	Pn	19 08 14.1	-14
KDU	**Kakadu**	**7.01**	**147**	P	Pn	19 08 41.3	+6.7
KNRA	**Kununurra**	**8.85**	**179**	P	Pn	19 09 03.3	+3.4
FITZ	**Fitzroy Crossi**	**11.62**	**194**	P	**Pn**	**19 09 39.3**	**+1.4**
WRAB	**Tennant Creek**	**14.22**	**157**	P	**P**	**19 10 20.4**	**-0.6**
WRA	**Warramunga Arr**	**14.23**	**157**	Pn	**Pn**	**19 10 12.8**	**-0.8**
	0.1nm,0.3s,baz=335,slow=10,SNR=2.9						
WRA				Sn	Sn	19 12 37.0	-15
	0.3nm,0.3s,baz=332,slow=22,SNR=8.2						
	0.4nm,0.9s						
COEN	**Coen**	**16.01**	**118**	P	**P**	**19 10 43.2**	**+2.4**
ASAR	**Alice Springs**	**17.55**	**164**	P	**P**	**19 10 56.5**	**-1.4**
	0.2nm,0.3s,baz=346,slow=12,SNR=16						
ASAR				S	Sn	19 13 58.5	-14
	0.2nm,0.4s,baz=323,slow=15,SNR=5.4						
	0.4nm,0.3s						
WRKA	**Warakurna**	**18.16**	**181**	P	**P**	**19 11 02.6**	**-2.0**
GUMO	**Guam**	**25.89**	**39**	LR	LR	19 24 06.5	
	comp=Z,18nm,18.6s,baz=118,slow=40						
MKAR	**Makanchi Array**	**67.28**	**327**	P	**P**	**19 17 46.8**	**+0.1**
	0.2nm,0.5s,baz=134,slow=5.2,SNR=2.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.59**	**329**	P	**P**	**19 18 12.6**	**-0.8**
	0.3nm,0.5s,baz=134,slow=5.5,SNR=4.0						
	0.3nm,0.5s						

IDC 18 19:08:17.6±2.1,26.98N×100.22E,h0km,mb3.3/3, mbtmp3.3/3,MS3.4/2,Error ellipse: s-maj=442.2km s-min=30.3km az=56.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**24.32**	**329**	P	P	19 13 36.9	0.0
	0.2nm,0.6s,baz=129,slow=9.7,SNR=3.6						
	0.2nm,0.6s						
GNI	**Garni**	**47.35**	**301**	LR	LR	19 41 41.3	
	comp=Z,21nm,18.7s,baz=224,slow=42						
WRA	**Warramunga Arr**	**57.18**	**141**	P	P	19 18 06.2	-0.4
	0.4nm,0.5s,baz=330,slow=7.9,SNR=6.2						
WRA				LR	LR	19 45 34.4	
	comp=Z,50nm,19.0s,baz=100,slow=39						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**59.95**	**144**	P	P	19 18 26.4	+0.5
	0.3nm,0.8s,baz=328,slow=6.9,SNR=2.1						
	0.3nm,0.8s						

---

*IDC **18** 19:14:36.3±2.2,24.42S×179.97W,h497km±24km,mb3.0/4, mbtmp4.1/6,Error ellipse: s-maj=34.7km s-min=21.7km az=92.0*
ISC 18 19:14:36.6±1.7,24.4S±0.1×179.9W±0.3,h505km,n8, σ0$54/8,mb3.5/3,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.90**	**344**	P	**P**	**19 16 21.8**	**-0.4**
	7.7nm,0.4s,baz=159,slow=7.9,SNR=25						
URZ	**Urewera**	**14.03**	**190**	P	**P**	**19 17 36.1**	**-0.3**
	4.9nm,0.3s,baz=55,slow=15,SNR=2.0						
RPZ	**Rata Peaks**	**20.62**	**199**	P	**P**	**19 18 40.1**	**-0.4**
	7.3nm,0.6s,baz=63,slow=1.0,SNR=8.6						
	7.3nm,0.6s						
STKA	**Stephens Creek**	**34.58**	**249**	P	**P**	**19 20 43.2**	**+0.4**
	1.0nm,0.7s,baz=66,slow=12,SNR=1.8						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**19 21 43.0**	**-0.4**
	0.4nm,0.5s,baz=93,slow=7.1,SNR=14						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**42.43**	**267**	P	**P**	**19 21 46.7**	**0.0**
	1.1nm,0.4s,baz=99,slow=8.1,SNR=37						
	1.1nm,0.4s						
AKASG	**Malin Array Be**	**145.43**	**327**	PKPbc	**PKPdf**	**19 33 17.1**	**+0.7**
	0.4nm,0.3s,baz=46,slow=4.8,SNR=4.2						
BRTR	**Keskin Array B**	**147.93**	**307**	PKPbc	**PKPbc**	**19 33 25.4**	**+0.4**
	0.2nm,0.3s,baz=105,slow=3.4,SNR=2.4						

---

*AEIC **18** 19:30:22.6±1.0,55.67N±0.04×159.21W±0.09,h73km±4km, Error ellipse: s-maj=8.0km s-min=3.9km az=122.0*
NEIC 18 19:30:23.6±0.7,55.66N±0.04×159.24W±0.05,h75km±7km, ML2.1/6,ML2.7/16(AEIC),Error ellipse: s-maj=6.2km s-min=3.2km az=149.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNFG	**Fog Glacier, M**	**0.65**	**344**		Pn	19 30 38.6	+0.2
VNFG					Sn	19 30 49.5	+0.1
SDPT	**Sand Point**	**0.77**	**246**		Pn	19 30 39.2	-0.4
SDPT				IAML		19 30 57.3	
	comp=N,81nm,2.7s						
SDPT	**Sand Point**	**0.77**	**246**		Sn	19 30 51.2	-0.3
SDPT	**Sand Point**	**0.77**	**246**	IAML		19 30 50.6	
	comp=E,42nm,1.7s						
CHGN	**Chignik**	**0.79**	**36**		Pn	19 30 39.5	-0.3
CHGN	**Chignik**	**0.79**	**36**	IAML		19 30 53.8	
	comp=N,112nm,0.1s						
CNBA	**Chernabura Isl**	**0.87**	**193**		Pn	19 30 40.6	-0.1
CNBA					Sn	19 30 53.5	0.0
CNBA	**Chernabura Isl**	**0.87**	**193**	IAML		19 30 55.9	
	comp=E,49nm,0.3s						
CNBA				IAML		19 30 57.7	
	comp=N,52nm,0.6s						
ANPB	**Aniakchak Plen**	**1.26**	**25**		Sn	19 31 01.2	-1.0
PS4A	**Pavlof South-4**	**1.52**	**259**		Pn	19 30 48.8	-0.2
PN7A	**Pavlof North-7**	**1.58**	**263**		Pn	19 30 50.1	+0.3
P16K	**Nushagak River**	**3.45**	**11**		Pn	19 31 15.2	+0.4
OHAK	**Old Harbor**	**3.66**	**62**		Pn	19 31 17.1	-0.5

---

*NEIC **18** 20:00:23.7±2.7,3.14N±0.09×83.1W±0.1,h10km±2km, mb4.4/7,Error ellipse: s-maj=23.1km s-min=3.2km az=231.0*
*IDC **18** 20:00:25.2±1.4,3.15N×83.03W,h0km,mb4.0/4, mbtmp4.1/6,ML2.8/2,MS3.5/17,Error ellipse: s-maj=45.9km s-min=25.4km az=40.0*
ISC 18 20:00:24.9±0.9,3.2N±0.1×83.1W±0.1,h10km,n46, σ1$95/31,mb4.3/8,MS3.5/12,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**5.36**	**2**	Pn	**Pn**	**20 01 44.2**	**-0.8**
OTAV	**Otavalo**	**5.45**	**122**		**Pn**	**20 01 46.2**	**-0.5**
PULU	**Pululahua**	**5.53**	**125**	Pn	**Pn**	**20 01 46.1**	**-1.6**
BRU2	**Volcan**	**5.58**	**4**		**Pn**	**20 01 47.7**	**-0.5**
SRBA	**San Rafael, Bu**	**6.02**	**357**		**Pn**	**20 01 51.1**	**-3.0**
DRK0	**Durika**	**6.04**	**358**	Pn	**Pn**	**20 01 52.4**	**-2.2**
PEZE	**Perez Zeledon,**	**6.19**	**354**		**Pn**	**20 01 53.4**	**-3.1**
PORT	**Chimborazo Vol**	**6.29**	**137**	Pn	**Pn**	**20 01 55.5**	**-2.8**
RIMA	**Rio Macho**	**6.59**	**353**		**Pn**	**20 01 59.1**	**-3.1**
CVTR	**Volcan Turrial**	**6.83**	**354**	Pn	**Pn**	**20 02 03.9**	**-1.7**
HDC	**Heredia**	**6.86**	**351**	Pn	**Pn**	**20 02 03.7**	**-2.0**
DUNO	**Dulce Nombre,**	**7.27**	**341**	Pn	**Pn**	**20 02 08.3**	**-3.0**
JTS	**Las Juntas de**	**7.31**	**345**		**Pn**	**20 02 09.8**	**-2.1**
ORTG	**Ortega, Santa**	**7.52**	**342**		**Pn**	**20 02 12.5**	**-2.4**
COVE	**Coope Vega, Sa**	**7.61**	**350**	Pn	**Pn**	**20 02 14.7**	**-1.2**
HZTE	**Horizontes, Gu**	**7.89**	**341**	Pn	**Pn**	**20 02 19.1**	**-0.8**
ROSC	**El Rosal**	**8.86**	**79**	Pn	**Pn**	**20 02 36.0**	**+2.4**
	1.4nm,0.3s,baz=284,slow=5.5,SNR=4.5						
ROSC				LR	LR	20 05 56.8	
	comp=Z,162nm,20.4s,baz=226,slow=38						
	4.7nm,0.5s						
ROSC	**El Rosal**	**8.86**	**79**	Pn	**Pn**	**20 02 34.4**	**+0.9**
ATAH	**Atahualpa**	**11.26**	**156**	LR	LR	20 07 22.1	
	comp=Z,427nm,18.8s,baz=330,slow=37						
MTO3	**Montecristo**	**12.77**	**331**	Pn	**Pn**	**20 03 27.4**	**+0.6**
SDV	**Santo Domingo**	**13.58**	**65**	Pn	**Pn**	**20 03 40.8**	**+2.8**
	0.9nm,0.3s,baz=268,slow=6.8,SNR=1.5						
SDV				LR	LR	20 08 19.7	
	comp=Z,143nm,20.6s,baz=230,slow=35						
	2.5nm,0.3s						
NNA	**Nana**	**16.29**	**158**	LR	LR	20 10 22.7	
	comp=Z,105nm,18.5s,baz=315,slow=37						
TEIG	**Tepich**	**17.69**	**344**	P	**Pn**	**20 04 30.8**	**-0.8**
CMIG	**Matias Romero**	**18.06**	**321**	LR	LR	20 10 09.9	
	comp=Z,95nm,19.0s,baz=194,slow=32						
ETMB	**Extrema**	**21.17**	**128**	P	**P**	**20 05 09.9**	**-0.7**
ETMB				IAmb	IAmb	20 05 13.0	
	comp=Z,28nm,1.4s						
MLPR	**Magueyes Islan**	**21.49**	**46**	P	**P**	**20 05 12.8**	**-1.2**
MLPR				IAmb	IAmb	20 05 40.2	
	comp=Z,26nm,1.3s						
SJG	**San Juan**	**22.23**	**47**	LR	LR	20 14 04.8	
	comp=Z,50nm,18.9s,baz=256,slow=37						
HUMP	**Col San Antoni**	**22.47**	**47**	P	**P**	**20 05 23.8**	**-0.7**
SAML	**Samuel**	**23.18**	**121**	P	**P**	**20 05 30.9**	**-1.1**
SAML				IAmb	IAmb	20 05 40.0	
	comp=Z,9.0nm,1.2s						
LPAZ	**La Paz**	**24.33**	**143**	P	**P**	**20 05 45.6**	**+1.9**
	comp=Z,12nm,1.3s,baz=332,slow=8.4,SNR=12						
	comp=Z,12nm,1.3s						
LPAZ	**La Paz**	**24.33**	**143**	P	**P**	**20 05 44.4**	**+0.7**
LPAZ				IAmb	IAmb	20 05 49.1	
	comp=Z,17nm,1.4s						
SIV	**San Ignacio**	**28.90**	**132**	LR	LR	20 18 54.6	
	comp=Z,162nm,19.1s,baz=275,slow=38						
LVC	**Limon Verde**	**29.12**	**152**	LR	LR	20 16 31.5	
	comp=Z,104nm,18.1s,baz=216,slow=33						
HKT	**Hockley**	**29.25**	**337**	P	**P**	**20 06 26.5**	**-0.6**
HKT				IAmb	IAmb	20 06 29.1	
	comp=Z,8.5nm,1.5s						
TKL	**Tuckaleechee C**	**32.32**	**359**	LR	LR	20 18 47.0	
	comp=Z,83nm,19.5s,baz=172,slow=34						
SADO	**Sadowa**	**41.56**	**4**	LR	LR	20 25 31.5	
	comp=Z,27nm,18.7s,baz=208,slow=36						
PFO	**Pinyon Flats O**	**43.45**	**318**	LR	LR	20 24 03.8	
	comp=Z,64nm,19.6s,baz=163,slow=33						
PDAR	**Pinedale Array**	**45.95**	**333**	LR	LR	20 29 38.8	
	comp=Z,30nm,18.4s,baz=232,slow=38						
ELK	**Elko**	**47.32**	**327**	LR	LR	20 28 40.0	
	comp=Z,44nm,19.0s,baz=220,slow=36						

NVAR Mina Array Bea 47.58 322 P **P** **20 09 04.4 +3.1**
comp=Z,1.3nm,1.0s,baz=126,slow=10,SNR=6.2
comp=Z,1.3nm,1.0s
YBH Yreka Blue Hor 52.27 323 LR LR 20 30 27.8
comp=Z,39nm,21.6s,baz=172,slow=34
NEW Newport 53.58 332 LR LR 20 33 11.8
comp=Z,36nm,18.5s,baz=182,slow=37
RES Resolute Bay 71.77 357 LR LR 20 41 53.4
comp=Z,54nm,21.5s,baz=336,slow=35
INK Inuvik 73.29 343 LR LR 20 48 48.5
comp=Z,46nm,19.7s,baz=162,slow=40
ILAR Eielson Array 76.20 337 P **P** **20 12 14.4 +1.2**
comp=Z,0.5nm,0.8s,baz=127,slow=5.8,SNR=2.6
comp=Z,0.5nm,0.8s
TORD Torodi Ar. Bea 84.17 77 P **P** **20 12 57.6 +0.4**
comp=Z,2.6nm,1.3s,baz=267,slow=6.1,SNR=3.6
comp=Z,2.6nm,1.3s

---

*MAN **18** 20:01:10.3,15.53N×120.35E,h23km,mb4.0,ML2.8, MS2.4*
ISC 18 20:01:11.3±1.3,15.58N±0.04×120.40E±0.07,h29km±16km, n9,c0$75/15,3C-6D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPP	**San Manuel, Pa**	**0.62**	**26**	⇓*eP*	**Pb**	**20 01 23.5**	**-0.3**
SMPP				*eS*	**Sb**	**20 01 32.7**	**+0.4**
PCPH	**Palayan**	**0.67**	**92**	⇑*eP*	**Pb**	**20 01 24.4**	**-0.1**
PCPH				*eS*	**Pb**	**20 01 24.4**	**-0.1**
BOLP	**Bolinao**	**0.92**	**330**	⇓*eP*	**Pn**	**20 01 28.0**	**-0.3**
BOLP				*eS*	**Sn**	**20 01 41.0**	**+0.4**
BALP	**Baler**	**1.15**	**82**	⇓*eP*	**Pn**	**20 01 31.5**	**+0.1**
BALP				*eS*	**Sb**	**20 01 47.4**	**+0.3**
MACP	**Maragondon, Ca**	**1.35**	**167**	⇓*eP*	**Pn**	**20 01 33.2**	**-0.9**
MACP				*eS*	**Sb**	**20 01 52.5**	**-0.4**
TGY	**Tagaytay City**	**1.56**	**160**	⇑*eP*	**Pb**	**20 01 40.9**	**+1.2**
LQP	**Lukban**	**1.83**	**143**	⇑*eP*	**Pn**	**20 01 40.2**	**-0.8**
LUBP	**Lubang**	**1.84**	**185**	⇓*eP*	**Pn**	**20 01 39.6**	**-1.4**
LUBP				*eS*	**Sn**	**20 02 04.0**	**+0.6**
LUBP	**Lubang**	**1.84**	**185**	⇓*iP*	**Pn**	**20 01 40.8**	**-0.2**

---

*IDC **18** 20:05:11.5±0.9,44.12N×105.79W,h0km,mb3.7/1, mbtmp3.4/6,ML3.6/4,Error ellipse: s-maj=26.7km s-min=8.5km az=147.0*
*NEIC **18** 20:05:11.2±1.6,43.77N±0.06×105.27W±0.03,h0km±2km, ML3.1/37,Error ellipse: s-maj=9.9km s-min=3.1km az=343.0*
ISC 18 20:05:10.4±0.9,43.83N±0.06×105.28W±0.07,h0km,n36, σ0$97/36,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.95**	**72**		**Pn**	**20 05 30.0**	**-1.2**
K22A	**Casper**	**1.49**	**218**		**Pn**	**20 05 36.3**	**-2.3**
K22A				IAML		20 06 01.5	
	comp=N,421nm,0.6s						
K22A				IAML		20 06 03.7	
	comp=E,402nm,0.6s						
PHWY	**Pilot Hill**	**2.53**	**183**		**Pn**	**20 05 52.9**	**-0.1**
PHWY				IAML		20 06 33.3	
	comp=E,78nm,0.5s						
PHWY				IAML		20 06 34.2	
	comp=E,90nm,0.8s						
RWWY	**Rawlins**	**2.57**	**214**		**Pn**	**20 05 53.3**	**-0.2**
RWWY				IAML		20 06 28.4	
	comp=E,134nm,0.8s						
LAO	**LASA Array**	**2.93**	**347**		**Pb**	**20 06 02.5**	**-1.1**
N23A	**Red Feather La**	**2.97**	**190**	Pn	**Pn**	**20 05 59.7**	**+0.6**
N23A				IAML		20 06 49.9	
	comp=E,77nm,0.7s						
RLMT	**Red Lodge**	**3.13**	**296**		**Pn**	**20 06 02.1**	**+0.9**
RLMT				IAML		20 06 54.2	
	comp=E,47nm,0.3s						
RLMT				IAML		20 06 57.8	
	comp=E,58nm,0.4s						
BW06	**Boulder Array**	**3.30**	**253**		**Pn**	**20 06 04.0**	**+0.4**
BW06				IAML		20 06 57.2	
	comp=E,37nm,0.7s						
BW06				IAML		20 07 04.4	
	comp=E,34nm,0.9s						
PD31	**Pinedale Array**	**3.30**	**253**		**Pn**	**20 06 03.8**	**+0.3**
PDAR	**Pinedale Array**	**3.30**	**253**	Pn	**Pn**	**20 06 03.9**	**+0.3**
	comp=E,7.5nm,0.3s,baz=69,slow=16,SNR=89						
PDAR				Lg	Lg	20 06 47.6	
	comp=E,7.2nm,0.3s,baz=70,slow=28,SNR=3.9						
	comp=E,6.7nm,0.4s						
GCMT	**Greycliff**	**3.69**	**304**		**Pn**	**20 06 09.8**	**+1.1**
H17A	**Grant Village**	**3.85**	**280**	Pn	**Pn**	**20 06 11.9**	**+0.7**
LOHW	**Long Hollow**	**3.86**	**269**		**Pn**	**20 06 12.9**	**+1.6**
LOHW				IAML		20 07 35.7	
	comp=E,17nm,1.2s						
MOOW	**Moose Ponds**	**3.96**	**271**	Pn	**Pn**	**20 06 14.4**	**+1.9**
ISCO	**Idaho Springs**	**4.04**	**184**	Pn	**Pn**	**20 06 14.4**	**+0.6**
ISCO				IAML		20 07 20.5	
	comp=E,25nm,0.8s						
REDW	**Red Top Meadow**	**4.07**	**265**		**Pn**	**20 06 15.4**	**+1.2**
REDW				IAML		20 07 22.0	
	comp=E,26nm,0.8s						
REDW				IAML		20 07 26.1	
	comp=E,36nm,1.0s						
TPAW	**Teton Pass**	**4.13**	**267**	Pn	**Pn**	**20 06 14.0**	**-1.0**
TPAW				IAML		20 07 35.8	
	comp=E,23nm,0.9s						
TPAW				IAML		20 07 41.1	
	comp=E,35nm,1.1s						
FXWY	**Fox Creek**	**4.17**	**269**		**Pn**	**20 06 17.0**	**+1.5**
E28A	**Huff**	**4.25**	**48**	Pn	**Pn**	**20 06 18.9**	**+2.5**
O20A	**White River Ci**	**4.30**	**212**		**Pn**	**20 06 17.6**	**+0.4**
O20A				IAML		20 07 53.0	
	comp=N,32nm,2.5s						
HWUT	**Hardware Ranch**	**5.13**	**247**	Pn	**Pn**	**20 06 28.9**	**+0.2**
KSCO	**Kaye Sheldock'**	**5.21**	**157**		**Pn**	**20 06 29.9**	**+0.2**
JLU	**Jordanelle**	**5.60**	**237**		**Pn**	**20 06 35.3**	**+0.1**
P18A	**Preston Nutter**	**5.60**	**223**		**Pn**	**20 06 35.0**	**-0.3**
PV07	**Paradox Valley**	**5.96**	**206**		**Pn**	**20 06 40.2**	**+0.2**
P17A	**Butcher Ranch,**	**5.97**	**225**		**Pn**	**20 06 40.7**	**+0.6**
SRU	**San Rafael Swe**	**6.14**	**222**		**Pn**	**20 06 42.5**	**0.0**
PV13	**Radium Mtn., P**	**6.26**	**206**		**Pn**	**20 06 44.5**	**+0.2**
ECSD	**EROS Data Cent**	**6.28**	**88**	Pn	**Pn**	**20 06 44.9**	**+0.7**
TMUT	**Trail Mountain**	**6.34**	**226**		**Pn**	**20 06 45.9**	**+0.5**
Q16A	**Castle Valley**	**6.61**	**224**		**Pn**	**20 06 48.9**

KOUNC	**Koumac, New Ca**	**5.09**	**246**	P		**Pn**	**20 08 59.0**	**+2.7**
CTA	**Charters Tower**	**21.75**	**262**	P		**P**	**20 12 16.8**	**+0.2**
	3.9nm,0.9s,baz=82,slow=11,SNR=3.5 3.9nm,0.9s							
WRA	**Warramunga Arr**	**32.95**	**262**	P		**P**	**20 13 54.9**	**-1.8**
	1.6nm,0.9s,baz=81,slow=6.7,SNR=17 1.6nm,0.9s							
ASAR	**Alice Springs**	**33.31**	**255**	P		**P**	**20 13 58.6**	**-1.2**
	3.6nm,0.6s,baz=83,slow=8.8,SNR=67 3.6nm,0.6s							
PETK	**Petropavlovsk-**	**72.03**	**353**	P		**P**	**20 18 42.3**	**-0.1**
	7.3nm,0.9s,baz=152,slow=6.6,SNR=5.6 7.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**78.22**	**294**	P		**P**	**20 19 17.9**	**-0.7**
	1.2nm,0.7s,baz=131,slow=5.0,SNR=7.9 1.2nm,0.7s							
SONM	**Songino Array**	**86.65**	**323**	P		**P**	**20 20 00.9**	**-0.7**
	1.4nm,0.8s,baz=154,slow=7.1,SNR=9.1 1.4nm,0.8s							
NVAR	**Mina Array Bea**	**88.33**	**49**	P		**P**	**20 20 10.4**	**+0.4**
	0.6nm,0.8s,baz=227,slow=8.1,SNR=6.2 0.6nm,0.8s							
ILAR	**Eielson Array**	**89.55**	**17**	P		**P**	**20 20 12.9**	**-1.9**
	0.6nm,0.6s,baz=230,slow=5.3,SNR=7.0 0.6nm,0.6s							
TXAR	**Lajitas Array**	**96.42**	**61**	P		**P**	**20 20 48.0**	**+0.6**
	0.4nm,0.8s,baz=243,slow=4.0,SNR=2.7 0.4nm,0.8s							
RONA	**Rosalia, Austr**	**143.48**	**329**	*e*P		PKPab	20 26 48.9	+0.7
	1.0nm,0.5s							
CONA	**Conrad Observa**	**143.53**	**330**	*e*P		PKPbc	20 26 50.2	+0.8
	0.2nm,0.2s							
GERES	**GERESS Array B**	**143.86**	**332**	PKP		PKPab	20 26 48.9	-0.8
	1.0nm,0.9s,baz=72,slow=4.3,SNR=8.3							
MOA	**Molln**	**144.34**	**331**	*e*P		**PKPab**	**20 26 51.3**	**-0.2**
	3.3nm,0.7s							
BIOA	**Bad Ischl, Aus**	**144.75**	**331**	*e*P		**PKPab**	**20 26 52.2**	**-0.8**
	0.4nm,0.3s							
SOKA	**Soboth**	**144.81**	**329**	*e*P		**PKPab**	**20 26 52.3**	**-1.0**
	3.3nm,0.6s							
OBKA	**Obir**	**145.16**	**329**	*e*P		**PKPbc**	**20 26 54.0**	**-0.4**
	1.8nm,0.6s							
KBA	**Koelnbreinsper**	**145.33**	**331**	*e*P		**PKPdf**	**20 26 54.1**	**-0.7**
	1.7nm,0.6s							
MYKA	**Terra Mystica**	**145.52**	**330**	*e*P		**PKPdf**	**20 26 54.8**	**-0.2**
	1.7nm,0.3s							
WATA	**Walderalm**	**145.94**	**333**	*e*P		**PKPdf**	**20 26 55.5**	**-0.2**
	0.7nm,0.4s							
ABTA	**Abfaltersbach**	**145.96**	**331**	*e*P		**PKPdf**	**20 26 55.3**	**-0.5**
	1.6nm,0.7s							
WTTA	**Wattenberg**	**145.97**	**332**	*e*P		**PKPdf**	**20 26 56.5**	**+0.6**
	1.5nm,0.7s							
MOTA	**Moosalm**	**146.14**	**333**	*e*P		**PKPdf**	**20 26 56.8**	**+0.7**
	3.9nm,0.9s							
SQTA	**Sankt Quirin**	**146.19**	**333**	*e*P		**PKPdf**	**20 26 56.8**	**+0.7**
	2.5nm,0.7s							
FETA	**Feichten**	**146.55**	**333**	*e*P		**PKPdf**	**20 26 57.6**	**+0.8**
	0.4nm,0.3s							
DAVA	**Damuels**	**146.70**	**334**	*e*P		**PKPdf**	**20 26 58.1**	**+1.0**
	0.2nm,0.2s							

IDC 18 20:21:00.8±6.2, 2°22S×141°09E, h0km, mb3.3/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=147.8km s-min=75.4km az=134.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.81**	**200**	P		P	20 25 20.9	-1.2
	0.1nm,0.3s,baz=23,slow=12,SNR=2.8 0.3nm,0.5s							
ASAR	**Alice Springs**	**22.43**	**197**	P		P	20 26 01.4	0.0
	0.3nm,0.4s,baz=27,slow=11,SNR=12 0.3nm,0.4s							
VNDA	**Vanda**	**76.07**	**175**	P		P	20 32 50.4	+0.6
	0.5nm,0.9s,baz=342,slow=5.8,SNR=2.3 0.5nm,0.9s							

*IDC **18** 20:22:43.1±4.7, 21°.93S×68°.25W, h52km±60km, mb3.5/1, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=130.4km s-min=34.0km az=102.0*
*GUC **18** 20:22:52.7±0.6, 21°.09S×68°.63W, h128km±4km, ML3.2*
ISC 18 20:22:52.3±1.1, 21°.11S±0°.04×68°.8W±0°.1, h136km±10km, n17, σ0°92/29, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB01	**IPOC Station P**	**0.68**	**275**	⇑*i*P		**Pn**	**20 23 12.9**	**-0.4**
PB01				*e*S		**Sn**	**20 23 28.2**	**-1.1**
PB01				IAML			20 23 31.1	
	comp=E,478nm,0.2s							
PB09	**IPOC Station P**	**0.82**	**213**	⇑*i*P		**Pn**	**20 23 14.5**	**+0.1**
PB09				*e*S		**Sn**	**20 23 31.8**	**+0.5**
PB09				IAML			20 23 32.8	
	comp=N,145nm,0.3s							
PB02	**IPOC Station P**	**1.08**	**259**	⇑*i*P		**Pn**	**20 23 17.1**	**+0.4**
PB02				*e*S		**Sn**	**20 23 35.8**	**+0.7**
PB02				IAML			20 23 37.4	
	comp=E,951nm,0.1s							
PB07	**IPOC Station P**	**1.22**	**239**	⇑*i*P		**Pn**	**20 23 18.4**	**+0.3**
PB07				*e*S		**Sn**	**20 23 38.0**	**+0.4**
PB07				IAML			20 23 40.0	
	comp=N,394nm,0.1s							
PATCX	**Punta Patache**	**1.33**	**282**	⇑*e*P		**Pn**	**20 23 19.6**	**+0.4**
PATCX				*e*S		**Sn**	**20 23 39.9**	**+0.3**
PATCX				IAML			20 23 42.5	
	comp=E,636nm,0.2s							
HMBC	**Humberstone**	**1.34**	**308**	⇑*i*P		**Pn**	**20 23 19.1**	**-0.2**
HMBC				*e*S		**Sn**	**20 23 39.6**	**-0.2**
HMBC				IAML			20 23 42.2	
	comp=E,306nm,0.2s							
TA01	**Diego Aracena**	**1.44**	**292**	*e*P		**Pn**	**20 23 20.2**	**0.0**
TA01				*e*S		**Sn**	**20 23 41.3**	**0.0**
TA01				IAML			20 23 43.0	
	comp=E,406nm,0.2s							
GO01	**Chusmiza**	**1.49**	**344**	⇑*e*P		**Pn**	**20 23 21.0**	**-0.3**
GO01				*e*S		**Sn**	**20 23 42.5**	**-0.8**
GO01				IAML			20 23 46.7	
	comp=N,538nm,0.1s							
TA02	**Huaiquique**	**1.53**	**303**	*e*P		**Pn**	**20 23 21.3**	**+0.1**
TA02				*i* S		**Sn**	**20 23 43.2**	**0.0**
TA02				IAML			20 23 45.8	
	comp=N,734nm,0.1s							
PB06	**IPOC Station P**	**1.76**	**205**	⇑*i*P		**Pn**	**20 23 24.3**	**+0.3**
PB06				*e*S		**Sn**	**20 23 48.6**	**+0.4**
PB06				IAML			20 23 49.0	
	comp=E,274nm,0.1s							
PB04	**IPOC Station P**	**1.78**	**226**	*e*P		**Pn**	**20 23 24.4**	**+0.3**
PB04				*e*S		**Sn**	**20 23 49.1**	**+0.6**
PB04				IAML			20 23 53.5	
	comp=E,170nm,0.1s							
PB15	**IPOC Station P**	**2.19**	**197**	⇓*e*P		**Pn**	**20 23 29.7**	**+0.5**
PB15				*e*S		**Sn**	**20 23 57.4**	**-0.1**
PB10	**IPOC Station P**	**2.91**	**214**	*e*P		**Pn**	**20 23 38.1**	**+0.1**
PB10				*e*S		**Sn**	**20 24 09.6**	**-3.8**
LPAZ	**La Paz**	**4.83**	**7**	P		**Pn**	**20 24 04.6**	**+0.7**
	comp=E,0.7nm,0.3s,baz=185,slow=6.2,SNR=17 comp=E,3.8nm,0.5s							
PLCA	**Paso Flores**	**19.62**	**184**	P		P	20 26 58.9	-11
	comp=E,0.1nm,0.3s,baz=0.0,slow=9.1,SNR=2.9 comp=E,0.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.09**	**70**	P		**P**	**20 34 30.5**	**-0.6**
	comp=E,0.4nm,0.5s,baz=232,slow=5.2,SNR=4.8 comp=E,0.4nm,0.5s							
MKAR	**Makanchi Array**	**145.24**	**36**	PKPbc		**PKPdf**	**20 42 15.0**	**+1.2**
	comp=E,0.2nm,0.8s,baz=304,slow=1.0,SNR=2.3							

*REY **18** 20:42:51.5, 64°.64N×17°.48W, h6km*
*IDC **18** 20:42:52.6±1.0, 64°.34N×17°.74W, h0km, mb3.4/6, mbtmp3.4/8, ML3.2/2, MS2.9/5, Error ellipse: s-maj=41.0km s-min=11.2km az=22.0*
ISC 18 20:42:52.1±0.6, 64°.64N±0°.02×17°.50W±0°.02, h10km, n54, σ1§87/67, mb3.4/6, MS2.9/3, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKIS	**Kista**	**0.04**	**322**	P		**Pg**	**20 42 53.1**	**-1.1**
	baz=322							
IVON	**Vonarskard**	**0.12**	**287**	P		**Pg**	**20 42 54.4**	**-0.6**
	baz=291							
IDYN	**Dyngjuhals**	**0.16**	**20**	P		**Pg**	**20 42 55.1**	**-0.6**
	baz=16							
IDYN				S		**Sg**	**20 42 58.5**	**+0.2**
	baz=16							
IDJK	**Dyngjujokull**	**0.18**	**140**	P		**Pg**	**20 42 55.1**	**-0.8**
	baz=140							
IDJK				S		**Sg**	**20 42 58.7**	**0.0**
	baz=140							
IURH	**Urdarhals**	**0.24**	**40**	P		**Pg**	**20 42 56.3**	**-0.6**
	baz=36							
IGRF	**Grimsfjall**	**0.25**	**157**	P		**Pg**	**20 42 56.1**	**-1.2**
	baz=158							
IGRF				S		**Sg**	**20 43 00.1**	**-0.8**
	baz=158							
IHUS	**Husbondi**	**0.35**	**191**	P		**Pg**	**20 42 58.1**	**-1.0**
	baz=193							
IHUS				S		**Sg**	**20 43 03.2**	**-0.6**
	baz=193							
ISKR	**Skrokkalda**	**0.39**	**259**	P		**Pg**	**20 42 59.0**	**-0.8**
	baz=261							
ISKR				S		**Sg**	**20 43 04.7**	**-0.3**
	baz=261							
IVOT	**Vottur**	**0.40**	**160**	P		**Pg**	**20 42 58.6**	**-1.3**
	baz=160							
IVOT				S		**Sg**	**20 43 04.0**	**-1.1**
	baz=160							
IJOK	**Jokulheimar**	**0.45**	**224**	P		**Pg**	**20 42 59.7**	**-1.2**
	baz=226							
IJOK				S		**Sg**	**20 43 06.3**	**-0.6**
	baz=226							
THOR	**Thorvaldshraun**	**0.46**	**50**	P		**Pg**	**20 42 60.0**	**-1.1**
	baz=48							
THOR				S		**Sg**	**20 43 06.7**	**-0.5**
	baz=48							
IKRE	**Kreppuhraun**	**0.50**	**73**	P		**Pg**	**20 43 00.4**	**-1.4**
	baz=71							
IKRE				S		**Sg**	**20 43 07.7**	**-0.7**
	baz=71							
IASK	**Askja**	**0.55**	**41**	P		**Pg**	**20 43 01.4**	**-1.4**
	baz=39							
IASK				S		**Sg**	**20 43 09.4**	**-0.6**
	baz=39							
IMKO	**Mokollar**	**0.60**	**55**	P		**Pg**	**20 43 02.3**	**-1.4**
	baz=54							
IMKO				S		**Sg**	**20 43 10.7**	**-1.0**
	baz=54							
IIEY	**Innrieyrar**	**0.61**	**207**	P		**Pg**	**20 43 02.2**	**-1.7**
	baz=208							
IIEY				S		**Sg**	**20 43 11.0**	**-0.9**
	baz=208							
IKAL	**Kalfafell**	**0.70**	**187**	P		**Pg**	**20 43 03.6**	**-1.9**
	baz=188							
IKAL				S		**Sg**	**20 43 13.7**	**-1.0**
	baz=188							
ISVA	**Svartarkot**	**0.71**	**8**	P		**Pg**	**20 43 04.3**	**-1.4**
	baz=7.4							
ISVA				S		**Sg**	**20 43 14.1**	**-0.9**
	baz=7.4							
IVSH	**V-Sauoahnukur**	**0.78**	**77**	P		**Pg**	**20 43 05.0**	**-2.1**
	baz=76							
IFAG	**Fagurholsmyri**	**0.85**	**154**	P		**Pg**	**20 43 06.0**	**-2.4**
	baz=154							
IFAG				S		**Sg**	**20 43 18.8**	**-0.8**
	baz=154							
IADA	**Aoalbol**	**0.91**	**64**	P		**Pg**	**20 43 07.1**	**-2.4**
	baz=63							
IADA				S		**Sg**	**20 43 20.0**	**-1.3**
	baz=63							
ISTE	**Stelbrattur**	**0.94**	**284**	P		**Pg**	**20 43 08.2**	**-2.0**
	baz=285							
IMEL	**Melhnausar**	**1.00**	**20**	P		**Pg**	**20 43 09.1**	**-2.2**
	baz=20							
ISNB	**Snabyli**	**1.03**	**209**	P		**Pg**	**20 43 09.4**	**-2.5**
	baz=210							
ISNB				S		**Sg**	**20 43 23.9**	**-1.4**
	baz=210							
IREN	**Reynihlio**	**1.04**	**14**	P		**Pg**	**20 43 09.8**	**-2.3**
	baz=13							
IREN				S		**Sg**	**20 43 23.9**	**-1.7**
	baz=13							
IKVO	**Krokottuvotn**	**1.11**	**13**	P		**Pb**	**20 43 10.8**	**-2.5**
	baz=13							
IKVO				S		**Sg**	**20 43 25.8**	**-2.0**
	baz=13							
IFED	**Fedgar**	**1.14**	**238**	P		**Pb**	**20 43 11.4**	**-2.4**
	baz=239							
IRJU	**Rjupnafell**	**1.15**	**207**	P		**Pb**	**20 43 11.6**	**-2.4**
	baz=208							
IGRS	**Grimsstaoir**	**1.16**	**29**	P		**Pb**	**20 43 11.6**	**-2.6**
	baz=29							
IMJO	**Mjoaskard**	**1.18**	**234**	P		**Pb**	**20 43 12.6**	**-2.0**
	baz=235							
IAUS	**Austmannsbunga**	**1.19**	**216**	P		**Pb**	**20 43 12.3**	**-2.5**
	baz=217							
IGYG	**Gygjarholskot**	**1.23**	**254**	P		**Pn**	**20 43 13.0**	**-2.3**
	baz=255							
ISKI	**Skildingahlsh**	**1.25**	**9**	P		**Pn**	**20 43 13.1**	**-2.5**
	baz=8.4							
IHAU	**Haukadalur**	**1.27**	**239**	P		**Pn**	**20 43 13.6**	**-2.2**
	baz=240							
IGRA	**Granastaoir**	**1.28**	**359**	P		**Pn**	**20 43 13.6**	**-2.4**
	baz=358							
IDIM	**Dimmadalsv**	**1.35**	**10**	P		**Pn**	**20 43 14.6**	**-2.4**
	baz=9.4							
BORG	**Borgarnes**	**1.65**	**275**	Pg		**Pn**	**20 43 20.2**	**-0.8**
	22nm,0.3s,baz=94,slow=7.4,SNR=54							
BORG				Lg		Lg	20 43 44.7	
	16nm,0.3s,baz=216,slow=19,SNR=7.8							
SCO	**Scoresbysund**	**6.11**	**346**	*i* P		**Pn**	**20 44 23.0**	**+0.8**
JMIC	**Jan Mayen**	**7.22**	**24**	LR		LR	20 46 57.1	
	comp=Z,123nm,20.9s,baz=200,slow=32							
EKA	**Eskdalemuir Ar**	**11.74**	**136**	Pn		**Pn**	**20 45 38.1**	**-1.3**
	baz=323,slow=13 3.4nm,0.8s							
NOA	**NORSAR Array B**	**13.53**	**92**	Pn		**Pn**	**20 46 04.5**	**+0.7**
	baz=298,slow=13,SNR=2.3							
NOA				LR		LR	20 50 48.0	
	comp=Z,22nm,18.3s,baz=290,slow=35 0.3nm,0.7s							
CLL	**Collm**	**20.69**	**116**	*i* P		Pn	20 47 36.0	+1.7
	comp=Z,12nm,1.6s							
CLL				*i* x		x	20 47 39.5	
	comp=Z,10.0nm,1.4s							
CLL				*ex*		x	20 47 45.0	
BRG	**Berggiesshubel**	**21.40**	**115**	*e*P		**P**	**20 47 43.4**	**+3.8**
BRG				Amp			20 47 46.0	
	comp=Z,5.5nm,1.1s							
BRG				*ex*		x	20 47 51.0	
BRG				Amp			20 47 53.3	
	comp=Z,9.4nm,1.4s							
CHVC	**Chvalec**	**22.46**	**113**	*e*P		**P**	**20 47 55.7**	**+4.7**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P		**P**	**20 47 57.8**	**+4.6**
KHC				*ex*		x	20 48 02.8	
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P		**P**	**20 47 56.6**	**+2.5**
GERES	**GERESS Array B**	**22.94**	**119**	P		**P**	**20 47 57.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=316,slow=8.3,SNR=7.5 comp=Z,0.4nm,0.7s							
DAVOX	**Davos/Dischmat**	**23.30**	**127**	LR		LR	20 56 25.5	
	comp=Z,29nm,20.9s,baz=266,slow=35							
ESDC	**Sonseca Array**	**26.23**	**156**	P		**P**	**20 48 27.9**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=352,slow=7.9,SNR=3.9 comp=Z,0.8nm,1.0s							
AKASG	**Malin Array Be**	**27.84**	**98**	LR		LR	21 00 25.6	
	comp=Z,30nm,20.4s,baz=356,slow=38							
BRTR	**Keskin Array B**	**38.47**	**105**	P		**P**	**20 50 16.7**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=320,slow=7.7,SNR=6.5 comp=Z,0.7nm,0.6s							
GNI	**Garni**	**42.83**	**94**	LR		LR	21 10 37.7	
	comp=Z,30nm,20.1s,baz=6.5,slow=39							
ILAR	**Eielson Array**	**45.71**	**332**	P		P	20 51 17.1	+4.5
	comp=Z,0.8nm,1.0s,baz=17,slow=7.2,SNR=4.7 comp=Z,0.8nm,1.0s							
PDAR	**Pinedale Array**	**53.19**	**293**	P		**P**	**20 52 11.9**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=16,slow=4.0,SNR=2.0 comp=Z,0.3nm,0.7s							
TXAR	**Lajitas Array**	**62.29**	**280**	P		**P**	**20 53 15.8**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=36,slow=3.4,SNR=2.0 comp=Z,0.2nm,0.7s							

*IDC **18** 21:03:29.9±0.7, 54°.34S×134°.08W, h0km, mb4.1/9, mbtmp4.1/9, MS4.1/45, Error ellipse: s-maj=41.5km s-min=18.9km az=176.0*
*GCMT **18** 21:03:38.0±0.2, 53°.99S±0°.02×133°.91W±0°.02, h21km±1km, MW4.9/101, Moment Tensor Solution. s24,c27; s101,c134; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.26±.14; Mθθ2.22±.15; Mϕϕ-1.96±.12; Mrθ0.56±.22; Mθϕ2.27±.09; Mϕr0.87±.20; Best double couple: M03.25000×10^16 NP1:ϕ§21.00000°, δ89.00000°, λ162.00000°. NP2:ϕ§112.00000°, δ72.00000°, λ1.00000°.*

Principal axes: T 3.4220, Plg13.0000°, Azm335.0000°; N -0.3430, Plg72.0000°, Azm198.0000°; P -3.0780, Plg12.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function
ISC 18 21:03:31.4±0.8, 54°.3S±0°.3×134°.1W±0°.1, h10km, n67, σ0§34/12, mb4.3/9, MS4.2/48, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNDA	**Vanda**	**32.13**	**202**	LR		LR	21 19 12.2	
	comp=Z,183nm,20.2s,baz=92,slow=29							
RPN	**Rapa Nui**	**32.68**	**44**	LR		LR	21 19 52.4	
	comp=Z,351nm,18.7s,baz=208,slow=30							
TBI	**Tubuai**	**33.02**	**333**	*e*LR		LR	21 18 26.4	
	comp=Z,1μm,28.5s							
TBI	**Tubuai**	**33.02**	**333**	*e*T		T	21 44 21.0	
	76nm,0.4s							
PMSA	**Palmer Station**	**35.11**	**136**	P		**P**	**21 10 24.6**	**+0.2**
	5.4nm,0.6s,baz=252,slow=9.6,SNR=1.8							
PMSA				LR		LR	21 20 49.4	
	comp=Z,665nm,20.2s,baz=240,slow=30 5.4nm,0.6s							
QSPA	**South Pole Qui**	**35.84**	**180**	LR		LR	21 23 00.7	
	comp=Z,210nm,19.9s,baz=73,slow=33							
URZ	**Urewera**	**36.54**	**276**	LR		LR	21 22 24.6	
	comp=Z,236nm,19.9s,baz=220,slow=31							
RPZ	**Rata Peaks**	**36.62**	**264**	LR		LR	21 21 45.5	
	comp=Z,277nm,21.4s,baz=112,slow=30							
RAR	**Rarotonga**	**38.37**	**319**	LR		LR	21 22 06.6	
	comp=Z,397nm,19.9s,baz=124,slow=29							
PPT2	**Papeete2**	**38.58**	**336**	*e*LR		LR	21 21 00.8	
	comp=Z,949nm,25.5s							
PPT	**Papeete**	**38.59**	**336**	LR		LR	21 24 19.8	
	comp=Z,379nm,18.5s,baz=173,slow=32							
RAO	**Raoul Island**	**40.25**	**290**	LR		LR	21 23 05.1	
	comp=Z,133nm,21.1s,baz=246,slow=29							
H03S2	**Juan Fernandez**	**43.30**	**85**	T		T	21 57 48.4	
	baz=222,SNR=50							
H03S1	**Juan Fernandez**	**43.31**	**85**	T		T	21 57 48.9	
	baz=222,SNR=42							
H03S3	**Juan Fernandez**	**43.32**	**85**	T		T	21 57 49.6	
	baz=222,SNR=38							
PLCA	**Paso Flores**	**43.51**	**99**	P		**P**	**21 11 35.2**	**+0.2**
	1.8nm,1.1s,baz=224,slow=6.1,SNR=3.0							
PLCA				LR		LR	21 25 46.7	
	comp=Z,227nm,18.3s,baz=219,slow=31 1.8nm,1.1s							
H03N3	**Juan Fernandez**	**43.57**	**85**	T		T	21 58 03.8	
	baz=226,slow=72,SNR=451							
H03N2	**Juan Fernandez**	**43.58**	**85**	T		T	21 58 04.8	
	baz=226,slow=72,SNR=555							
H03N1	**Juan Fernandez**	**43.59**	**85**	T		T	21 58 02.8	
	baz=226,slow=72,SNR=343							
TAOE	**Nuku Hiva Isla**	**45.61**	**352**	*e*LR		LR	21 24 14.4	
	comp=Z,429nm,26.2s							
SNAA	**Sanae**	**49.70**	**162**	LR		LR	21 31 18.4	
	comp=Z,379nm,22.0s,baz=194,slow=34							
AFI	**Afiamalu**	**49.94**	**309**	LR		LR	21 29 14.8	
	comp=Z,146nm,18.7s,baz=105,slow=31							
MSVF	**Nonsavu**	**51.70**	**296**	LR		LR	21 29 20.8	
	comp=Z,66nm,21.7s,baz=172,slow=30							
DZM	**Mont Dzumac**	**54.64**	**282**	*e*LR		LR	21 28 38.5	
	comp=Z,234nm,28.1s							
DZM	**Mont Dzumac**	**54.64**	**282**	LR		LR	21 30 37.4	
	comp=Z,112nm,19.6s,baz=52,slow=30							
LVC	**Limon Verde**	**57.51**	**84**	LR		LR	21 32 57.8	
	comp=Z,54nm,19.4s,baz=210,slow=31							
MAW	**Mawson**	**57.73**	**188**	LR		LR	21 34 48.6	
	comp=Z,91nm,20.3s,baz=172,slow=33							
CPUP	**Villa Florida**	**61.44**	**96**	LR		LR	21 36 12.5	
	comp=Z,224nm,20.1s,baz=217,slow=32							
NNA	**Nana**	**61.48**	**69**	LR		LR	21 33 29.1	
	comp=Z,364nm,21.7s,baz=212,slow=29							
STKA	**Stephens Creek**	**61.62**	**254**	P		**P**	**21 13 49.1**	**0.0**
	1.6nm,0.7s,baz=104,slow=4.2,SNR=3.3							
STKA				LR		LR	21 36 08.3	
	comp=Z,93nm,19.4s,baz=182,slow=32 1.6nm,0.7s							
LPAZ	**La Paz**	**62.93**	**80**	P		**P**	**21 13 58.1**	**-0.6**
	3.2nm,1.2s,baz=146,slow=3.6,SNR=6.6							
LPAZ				LR		LR	21 35 00.6	
	comp=Z,86nm,21.8s,baz=188,slow=30 3.2nm,1.2s							
ATAH	**Atahualpa**	**64.68**	**65**	LR		LR	21 35 58.0	
	comp=Z,168nm,18.9s,baz=220,slow=30							
SIV	**San Ignacio**	**67.26**	**86**	LR		LR	21 40 13.6	
	comp=Z,128nm,20.4s,baz=258,slow=33							
CTA	**Charters Tower**	**67.94**	**266**	LR		LR	21 39 19.8	
	comp=Z,123nm,20.6s,baz=122,slow=32							
HNR	**Honiara**	**68.45**	**284**	LR		LR	21 37 53.5	
	comp=Z,757nm,20.9s,baz=164,slow=30							
ASAR	**Alice Springs**	**72.26**	**254**	P		**P**	**21 14 56.9**	**-0.1**
	1.1nm,0.8s,baz=142,slow=6.1,SNR=9.7							
ASAR				LR		LR	21 43 22.0	
	comp=Z,139nm,18.3s,baz=96,slow=33 1.1nm,0.8s							
H01W1	**Cape Leeuwin H**	**73.56**	**233**	T		T	22 36 41.2	
	baz=144,slow=76,SNR=26							
H01W2	**Cape Leeuwin H**	**73.56**	**233**	T		T	22 36 50.1	
	baz=144,slow=76,SNR=32							
H01W3	**Cape Leeuwin H**	**73.57**	**233**	T		T	22 36 48.7	
	baz=144,slow=76,SNR=17							
WRA	**Warramunga Arr**	**74.95**	**257**	P		**P**	**21 15 12.7**	**-0.1**
	0.8nm,0.6s,baz=143,slow=5.6,SNR=15							
WRA				LR		LR	21 44 34.3	
	comp=Z,130nm,20.3s,baz=7.0,slow=33 0.8nm,0.6s							
BDFB	**Brasilia**	**75.17**	**96**	P		**P**	**21 15 14.0**	**-0.2**
	1.8nm,0.6s,baz=158,slow=5.4,SNR=3.2 1.8nm,0.6s							
PMG	**Port Moresby**	**75.86**	**274**	LR		LR	21 42 12.0	
	comp=Z,62nm,21.9s,baz=124,slow=31							
ROSC	**El Rosal**	**76.94**	**62**	LR		LR	21 42 32.6	
	comp=Z,202nm,21.1s,baz=220,slow=30							
CMIG	**Matias Romero**	**78.62**	**38**	LR		LR	21 42 33.1	
	comp=Z,36nm,18.4s,baz=202,slow=30							
LPIG	**La Paz**	**80.75**	**22**	LR		LR	21 42 50.8	
	comp=

*NORS **18** 21:08:23.9±0.0,42.°98N×45.°42E,h22km,MPVA3.7*
*TIF **18** 21:08:23.9,43.°06N×45.°35E,h8km±4km*
*DRS **18** 21:08:25.1±0.0,43.°08N×45.°23E,h18km*

ISC 18 21:08:24.7±1.0,43.°03N±0.°02×45.°36E±0.°01,h17km±9km, n38,σ1ŝ75/75,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.36**	**62**	*e*Pg	**Pb**	**21 08 32.7**	**0.0**
GROC				*e*Sg	**Sn**	**21 08 39.6**	**-2.3**
VLKR	**Vladikavkaz**	**0.50**	**272**	*e*Pg	**Pn**	**21 08 36.5**	**-0.6**
VLKR				*e*Sg	**Sn**	**21 08 46.0**	**+0.7**
DVE	**Vedeno**	**0.57**	**97**	*e*Pg	**Pg**	**21 08 35.7**	**-0.4**
DVE				*e*Sg	**Sg**	**21 08 44.4**	**+0.7**
PNSH	**Pansheti**	**0.67**	**234**	P	**Pn**	**21 08 38.3**	**-1.3**
PNSH				S	**Sn**	**21 08 48.7**	**-1.2**
ARNR	**Ardon**	**0.80**	**281**	*e*Pg	**Pn**	**21 08 42.4**	**+1.2**
ARNR				*e*Sg	**Sn**	**21 08 56.9**	**+4.2**
LACR	**Lac**	**0.80**	**256**	*i* Pg	**Pn**	**21 08 40.8**	**-0.6**
LACR				*e*Sg	**Sn**	**21 08 52.7**	**-0.3**
TRKR	**Terskaya**	**0.83**	**327**	*i* Pg	**Pn**	**21 08 41.2**	**-0.4**
TRKR				*e*Sg	**Sn**	**21 08 54.1**	**+0.8**
DLMR	**Dylym**	**0.94**	**87**	*e*Pg	**Pg**	**21 08 43.4**	**+0.5**
	30nm,0.1s						
DLMR				*e*Sg	**Sn**	**21 08 56.9**	**+0.8**
	2.0nm,0.4s						
KORR	**Kora**	**0.95**	**274**	*e*Pg	**Pn**	**21 08 43.6**	**+0.3**
KORR				*e*Sg	**Sn**	**21 08 59.9**	**+3.6**
STDR	**Stavd-Durt**	**1.00**	**290**	*e*Pg	**Pg**	**21 08 45.6**	**+1.4**
STDR				*e*Sg	**Sn**	**21 09 01.6**	**+3.9**
PRTR	**Priterechnaya**	**1.06**	**313**	*e*Pg	**Pg**	**21 08 45.9**	**+0.6**
PRTR				*e*Sg	**Sg**	**21 09 02.4**	**+3.1**
DBC	**Dubki**	**1.08**	**90**	*e*Pg	**Pn**	**21 08 44.3**	**-0.9**
	14nm,0.3s						
DBC				*e*Sg	**Sg**	**21 08 59.8**	**0.0**
	97nm,0.3s						
ZEI	**Tsey**	**1.10**	**258**	*e*Pg	**Pg**	**21 08 45.5**	**-0.5**
ZEI				*e*Sg	**Sg**	**21 09 00.6**	**+0.2**
UNCR	**Uncukul**	**1.10**	**106**	*e*Pg	**Pg**	**21 08 45.6**	**-0.5**
	54nm,0.4s						
UNCR				*e*Sg	**Sg**	**21 09 01.3**	**+0.7**
	74nm,0.2s						
XNZR	**Khunzakh**	**1.11**	**116**	*e*Pg	**Pg**	**21 08 45.9**	**-0.3**
	28nm,0.3s						
XNZR				*e*Sg	**Sg**	**21 09 01.6**	**+0.8**
	64nm,0.2s						
KRNR	**Karanay**	**1.16**	**100**	*e*Pg	**Pg**	**21 08 46.5**	**-0.6**
	13nm,0.1s						
KRNR				*e*Sg	**Sg**	**21 09 02.7**	**+0.4**
	43nm,0.3s						
ARKR	**Arakani**	**1.28**	**109**	*e*Pg	**Pb**	**21 08 47.8**	**-0.6**
	29nm,0.3s						
ARKR				*e*Sg	**Sg**	**21 09 05.5**	**-0.7**
	4.0nm,0.5s						
BUJR	**Buynaksk**	**1.30**	**99**	*e*Pg	**Pg**	**21 08 49.4**	**-0.5**
	25nm,0.3s						
BUJR				*e*Sg	**Sg**	**21 09 08.1**	**+1.2**
	128nm,0.6s						
DIGR	**Digorskoe uzhe**	**1.31**	**265**	*e*Pg	**Pg**	**21 08 49.1**	**-1.0**
DIGR				*e*Sg	**Sg**	**21 09 06.9**	**-0.2**
GNBR	**Gunib**	**1.35**	**118**	*e*Pg	**Pg**	**21 08 50.4**	**-0.3**
	23nm,0.4s						
GNBR				*e*Sg	**Sg**	**21 09 09.6**	**+1.2**
	135nm,0.2s						
LGD	**Lagodekhi**	**1.36**	**151**	P	**Pg**	**21 08 50.7**	**-0.4**
LGD				S	**Sg**	**21 09 08.4**	**-0.5**
BTNK	**Botanikuri**	**1.41**	**197**	P	**Pn**	21 08 43.1	-6.6
BTNK				S	**Sn**	**21 09 03.0**	**-4.8**
ONI	**Oni**	**1.47**	**253**	P	**Pg**	**21 08 52.3**	**-0.7**
ONI				S	**Sg**	**21 09 12.6**	**+0.4**
ALIG	**Mtskhetisjvari**	**1.56**	**234**	P	**Pb**	**21 08 53.4**	**+0.1**
ALIG				S	**Sg**	**21 09 15.6**	**+0.4**
KANR	**Karaman**	**1.57**	**83**	*e*Pg	**Pg**	**21 08 54.2**	**-0.8**
	167nm,0.4s						
KANR				*e*Sg	**Sg**	**21 09 15.5**	**+0.1**
	48nm,0.3s						
KMKR	**Kumukh**	**1.57**	**124**	*e*Pg	**Pb**	**21 08 53.6**	**+0.1**
	8.0nm,0.3s						
KMKR				*e*Sg	**Sg**	**21 09 15.3**	**-0.2**
	175nm,0.5s						
KBTC	**Kuba-Taba**	**1.62**	**300**	*e*Pg	**Pg**	**21 08 53.9**	**-2.1**
KBTC				*e*Sg	**Sg**	**21 09 16.2**	**-0.8**
DDFL	**Dedoflistskaro**	**1.68**	**160**	P	**Pg**	**21 08 59.4**	**+2.2**
DDFL				S	**Sg**	**21 09 27.2**	**+8.2**
SGKR	**Sergokala**	**1.79**	**108**	*e*Pg	**Pb**	**21 08 56.9**	**-0.1**
	2.0nm,0.4s						
SGKR				*e*Sg	**Sg**	**21 09 21.3**	**-1.1**
	37nm,0.1s						
KZRT	**Kazreti**	**1.79**	**204**	P	**Pg**	**21 08 57.7**	**-1.5**
KZRT				S	**Sg**	**21 09 22.4**	**0.0**
BRNG	**Burnasheti**	**1.81**	**219**	P	**Pg**	**21 08 58.4**	**-1.1**
BRNG				S	**Sg**	**21 09 24.6**	**+1.6**
BKRG	**Bakuriani**	**1.86**	**227**	P	**Pb**	**21 08 58.3**	**0.0**
BKRG				S	**Sg**	**21 09 25.1**	**+0.4**
URKR	**Urkarakh**	**1.89**	**116**	*e*Pg	**Pb**	**21 08 58.1**	**-0.8**
	10.0nm,0.1s						
URKR				*e*Sg	**Sg**	**21 09 23.7**	**-1.9**
	10.0nm,0.3s						
DMNI	**Dmanisi**	**1.91**	**207**	P	**Pb**	**21 08 59.7**	**+0.5**
DMNI				S	**Sg**	**21 09 26.2**	**-0.1**
NEY	**Neytrino**	**1.94**	**277**	*e*Pg	**Pb**	**21 08 58.4**	**-1.3**
NEY				*e*Sg	**Sg**	**21 09 25.0**	**-2.2**
SHA1	**Shidzhatmaz**	**2.09**	**291**	*e*Pg	**Pb**	**21 09 00.8**	**-1.5**
SHA1				*e*Sg	**Sg**	**21 09 29.9**	**-2.2**
AZMN	**Azmana**	**2.30**	**223**	P	**Pb**	**21 09 03.5**	**-2.5**
AZMN				S	**Sb**	**21 09 35.3**	**+1.2**
AKT	**Akhty**	**2.35**	**131**	*e*Pn	**Pb**	**21 09 06.0**	**-0.7**
	4.0nm,0.5s						
AKT				*e*Sn	**Sb**	**21 09 37.0**	**+1.7**
	10.0nm,0.3s						

ZUR 18 21:12:30.6,46.°41N×8.°53E,h10km±2km,MLh0.9/13, 3C-3D,Error ellipse: s-maj=4.2km s-min=0.7km az=104.0,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUSIO	**Fusio**	**0.10**	**61**	⇓Pg	Pg	21 12 33.5	+0.2
GRIMS	**Grimsel Gerste**	**0.23**	**320**	⇓Pg	Pg	21 12 35.7	+0.3
NALPS	**Val Nalps**	**0.24**	**38**	Pg	Pg	21 12 36.0	+0.4
FIESA	**Fiescheralp**	**0.29**	**276**	⇓Pg	Pg	21 12 36.9	+0.3
SIMPL	**Simplonpass**	**0.39**	**245**	⇑Pg	Pg	21 12 38.5	+0.1
SIMPL				Sg	Sg	21 12 43.7	+0.1
HASLI	**Hasliberg/Brie**	**0.44**	**323**	⇑Pg	Pg	21 12 39.6	+0.4
HASLI				Sg	Sg	21 12 45.4	+0.3
BNALP	**Bannalp**	**0.47**	**351**	⇑Pg	Pg	21 12 40.1	+0.2
BNALP				Sg	Sg	21 12 46.2	+0.2
MMK	**Mattmark**	**0.53**	**228**	Pg	Pg	21 12 41.0	+0.1
MMK				Sg	Sg	21 12 47.5	-0.4
MUGIO	**Muggio**	**0.60**	**144**	Pg	Pg	21 12 42.4	+0.2
MUGIO				Sg	Sg	21 12 50.0	0.0

ROM 18 21:13:12.4±0.2,42.°833N×0.°007×13.°238E±0.°009, h8km±1km,ML1.6/11,5C-6D,Error ellipse: s-maj=0.7km s-min=0.5km az=205.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**261**	P	Pg	21 13 14.0	-0.1
T1242				S	Sg	21 13 14.9	-0.4
MC2	**Monte Cornacci**	**0.09**	**336**	P	Pg	21 13 14.1	-0.7
MC2				S	Sg	21 13 17.3	+0.8
NRCA	**Norcia**	**0.09**	**270**	P	Pg	21 13 15.2	+0.5
NRCA				S	Sg	21 13 17.1	+0.8
NRCA				AML	AML		
	comp=E,986μm,0.1s						
NRCA				AML	AML		
	comp=N,790μm,1.0s						
NRCA				AML	AML		
	comp=N,789μm,1.0s						
NRCA				AML	AML		
	comp=N,718μm,0.4s						
NRCA				AML	AML		
	comp=E,987μm,0.1s						
NRCA				AML	AML		
	comp=E,1055μm,0.1s						
MMO1	**Montemonaco**	**0.09**	**45**	P	Pg	21 13 15.1	+0.3
MMO1				S	Sg	21 13 16.9	+0.4
T1202	**Accumoli, Fraz**	**0.13**	**184**	P	Pg	21 13 15.9	+0.6
T1241	**Roccafluvione,**	**0.14**	**81**	⇑P	Pg	21 13 16.2	+0.7
T1241				S	Sg	21 13 18.8	+1.2
T1241				AML	AML		
	comp=N,164μm,0.8s						
T1241				AML	AML		
	comp=E,171μm,0.4s						
T1204	**Amatrice, Fraz**	**0.17**	**160**	⇓P	Pg	21 13 16.5	+0.6
T1216	**Preci, Frazion**	**0.17**	**290**	⇑P	Pg	21 13 16.7	+0.8
T1216				AML	AML		
	comp=N,265μm,1.5s						
T1216				AML	AML		
	comp=E,180μm,1.4s						
T1243	**Rocca Santa Ma**	**0.21**	**131**	⇑P	Pg	21 13 17.1	+0.5
T1243				S	Sg	21 13 20.5	+1.0
FDMO	**Fiordimonte**	**0.23**	**331**	⇓P	Pg	21 13 17.9	+0.9
FDMO				AML	AML		
	comp=E,147μm,0.2s						
FDMO				AML	AML		
	comp=N,172μm,0.2s						
GUMA	**Gualdo di Mace**	**0.24**	**17**	⇓P	Pg	21 13 16.5	-0.7
GUMA				AML	AML		
	comp=N,378μm,0.3s						
GUMA				AML	AML		
	comp=E,306μm,0.3s						
GUMA				AML	AML		
	comp=E,292μm,1.3s						
GUMA				AML	AML		
	comp=N,327μm,1.6s						
T1217	**Poggiodomo (PG**	**0.26**	**242**	⇑P	Pg	21 13 18.0	+0.5
CSP1	**Cessapalombo**	**0.26**	**355**	⇓P	Pg	21 13 18.4	+0.8
LNSS	**Leonessa**	**0.27**	**212**	⇓P	Pg	21 13 18.6	+0.8
LNSS				AML	AML		
	comp=E,188μm,0.7s						
LNSS				AML	AML		
	comp=N,134μm,0.7s						
LNSS				AML	AML		
	comp=E,189μm,0.7s						
T1215	**Vallo di Nera,**	**0.27**	**264**	⇑P	Pg	21 13 18.5	+0.7
CESI	**CESI - Serrava**	**0.30**	**305**	P	Pg	21 13 19.1	+0.8
CESI				AML	AML		
	comp=E,162μm,0.4s						
CESI				AML	AML		
	comp=E,162μm,0.4s						
CESI				AML	AML		
	comp=N,260μm,0.2s						
RM33	**Pellescritta (**	**0.33**	**183**	P	Pg	21 13 19.4	+0.5
TERO	**Teramo**	**0.34**	**128**	P	Pg	21 13 19.6	+0.4
TERO				AML	AML		
	comp=E,146μm,0.2s						
TERO				AML	AML		
	comp=N,157μm,0.3s						
SNTG	**Esanatoglia**	**0.47**	**333**	P	Pg	21 13 22.3	+0.6
SNTG				AML	AML		
	comp=N,31μm,0.7s						
SNTG				AML	AML		
	comp=E,42μm,1.2s						
EL6	**Elcito**	**0.51**	**349**	P	Pg	21 13 22.8	+0.6
CING	**Cingoli**	**0.54**	**357**	P	Pb	21 13 24.3	+0.1
ATCC	**AVT- Casa Cast**	**0.56**	**309**	P	Pg	21 13 23.9	+0.6
ATCC				AML	AML		
	comp=N,48μm,1.5s						
ATCC				AML	AML		
	comp=E,63μm,0.6s						
FOSV	**Fossato di Vic**	**0.58**	**323**	⇓P	Pb	21 13 24.2	-0.6
FOSV				AML	AML		
	comp=E,61μm,1.4s						
FOSV				AML	AML		
	comp=N,163μm,0.3s						
ARVD	**Arcevia**	**0.70**	**342**	P	Pb	21 13 26.5	-0.4
ARVD				S	Sn	21 13 39.0	-0.7
PIEI	**Pieia**	**0.87**	**324**	S	Sn	21 13 44.0	+0.1
CAFR	**Castel Frentan**	**1.02**	**126**	S	Sn	21 13 48.0	+0.5

*NEIC **18** 21:13:28.3±1.9,32.°5S±0.°1×177.°1W±0.°2,h10km±2km, mb4.4/7,Error ellipse: s-maj=24.1km s-min=20.5km az=132.0*
*IDC **18** 21:13:30.8±1.5,32.°24S×177.°78W,h0km,mb4.1/5, mbtmp4.1/6,ML3.6/1,Error ellipse: s-maj=39.3km s-min=28.4km az=43.0*

ISC 18 21:13:31.9±1.1,32.°6S±0.°1×177.°3W±0.°1,h21km,n26, σ1ŝ44/26,mb4.3/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.26**	**217**	Pn	**Pn**	**21 15 16.8**	**+0.1**
	1.0nm,0.3s,baz=333,slow=5.4,SNR=9.1						
URZ				Sn	**Sn**	**21 16 38.8**	**+0.4**
	14nm,0.3s,baz=294,slow=21,SNR=23 2.9nm,0.3s						
URZ	**Urewera**	**7.26**	**217**	Pn	**Pn**	**21 15 17.0**	**+0.4**
OUZ	**Omahuta**	**7.99**	**248**	Pn	**Pn**	**21 15 29.1**	**+2.3**
BKZ	**Black Stump Fm**	**8.26**	**216**	Pn	**Pn**	**21 15 30.6**	**+0.1**
BFZ	**Birch Farm**	**9.59**	**211**	Pn	**Pn**	**21 15 48.4**	**-0.3**
SNZO	**South Karori**	**10.79**	**214**	Pn	**Pn**	**21 16 05.9**	**+0.9**
TUWZ	**Tuamarina**	**11.25**	**216**	Pn	**Pn**	**21 16 12.6**	**+1.2**
RPZ	**Rata Peaks**	**14.37**	**216**	Pn	**Pn**	**21 16 52.4**	**-1.6**
	0.8nm,0.3s,baz=335,slow=20,SNR=1.6						
RPZ				Sn	Sn	21 19 20.6	-12
	1.0nm,0.3s,baz=27,slow=19,SNR=6.8						
STKA	**Stephens Creek**	**34.61**	**260**	P	**P**	**21 20 19.5**	**0.0**
	1.3nm,0.9s,baz=107,slow=14,SNR=1.7 1.3nm,0.9s						
CTA	**Charters Tower**	**34.77**	**282**	P	**P**	**21 20 20.2**	**-0.7**
	3.5nm,0.5s,baz=101,slow=9.3,SNR=9.3 3.5nm,0.5s						
CTAO	**Charters Tower**	**34.77**	**282**	P	**P**	**21 20 20.6**	**-0.4**
CTAO				IAmb	IAmb	21 20 37.2	
	comp=Z,5.4nm,0.9s						
ASAR	**Alice Springs**	**43.61**	**269**	P	**P**	**21 21 33.6**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=108,slow=7.6,SNR=14 comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**43.61**	**269**	P	**P**	**21 21 33.2**	**-1.7**
WR0	**Warramunga Arr**	**44.62**	**274**	P	**P**	**21 21 41.2**	**-1.7**
WR0				IAmb	IAmb	21 21 42.6	
	comp=Z,5.1nm,1.1s						
WB2	**Warramunga Arr**	**44.78**	**274**	P	**P**	**21 21 42.6**	**-1.6**
WB2				IAmb	IAmb	21 21 46.1	
	comp=Z,3.5nm,0.6s						
WRA	**Warramunga Arr**	**44.79**	**274**	P	**P**	**21 21 42.7**	**-1.7**
	comp=Z,1.8nm,0.4s,baz=113,slow=7.8,SNR=47 comp=Z,1.8nm,0.4s						
WRA	**Warramunga Arr**	**44.79**	**274**	P	**P**	**21 21 42.1**	**-2.3**
WB0	**Warramunga Arr**	**44.83**	**274**	P	**P**	**21 21 43.0**	**-1.6**
VNDA	**Vanda**	**45.99**	**186**	P	**P**	**21 21 52.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.96**	**271**	P	**P**	**21 22 46.1**	**-1.0**
FITZ				IAmb	IAmb	21 23 03.9	
	comp=Z,4.0nm,1.1s						
CASY	**Casey**	**53.49**	**209**	P	**P**	**21 22 50.6**	**+0.3**
CASY				IAmb	IAmb	21 22 59.1	
	comp=Z,3.9nm,1.1s						
QSPA	**South Pole Qui**	**57.53**	**180**	P	P	21 23 24.9	+5.4
	comp=Z,0.6nm,0.6s,baz=345,slow=1.0,SNR=7.0 comp=Z,0.6nm,0.6s						
QSPA	**South Pole Qui**	**57.53**	**180**	P	**P**	**21 23 19.6**	**+0.1**
FINES	**FINESS Array B**	**147.39**	**339**	PKPbc	**PKPbc**	**21 33 13.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=36,slow=3.9,SNR=12						
BRTR	**Keskin Array B**	**154.09**	**295**	PKPbc	**PKiKP**	**21 33 31.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=90,slow=1.4,SNR=1.8						
TORD	**Torodi Ar. Bea**	**160.63**	**177**	PKPab	**PKPab**	**21 34 15.8**	**+3.6**
	comp=Z,0.6nm,0.8s,baz=177,slow=3.4,SNR=2.4						

*IDC **18** 21:38:35.5±0.8,54.°99S×30.°81W,h0km,mb3.9/7, mbtmp3.9/7,Error ellipse: s-maj=38.4km s-min=18.7km az=66.0*
*NEIC **18** 21:38:37.3±1.2,55.°0S±0.°1×31.°20W±0.°09,h10km±1km, mb4.6/16,Error ellipse: s-maj=21.1km s-min=9.0km az=0.0*

ISC 18 21:38:36.8±0.6,55.°06S±0.°10×31.°15W±0.°08,h10km,n34, σ1ŝ57/30,mb4.5/12,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.20**	**282**		**Pn**	**21 39 27.1**	**+0.1**
HOPE				Sn	**Sn**	**21 40 04.4**	**-0.7**
VNA3	**Neumayer Olymp**	**18.71**	**158**	P	**P**	**21 42 50.5**	**-4.5**
PMSA	**Palmer Station**	**18.91**	**226**	P	**P**	**21 42 58.5**	**+1.3**
PMSA				IAmb	IAmb	21 43 06.9	
	comp=Z,51nm,1.3s						
SNAA	**Sanae**	**20.58**	**155**	P	**P**	**21 43 11.0**	**-4.4**
SNAA	**Sanae**	**20.58**	**155**	P	**P**	**21 43 16.3**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=315,slow=11,SNR=11 comp=Z,3.1nm,0.7s						
SNAA	**Sanae**	**20.58**	**155**	P	**P**	**21 43 16.0**	**+0.5**
MG02	**Cerro Sombrero**	**22.35**	**260**	P	**P**	**21 43 35.5**	**+0.9**
MG05	**Puerto Natales**	**24.64**	**261**	P	**P**	**21 43 55.7**	**-1.5**
CPUP	**Villa Florida**	**34.50**	**316**	P	**P**	**21 45 25.8**	**+0.9**
	comp=Z,4.9nm,0.9s,baz=170,slow=7.4,SNR=8.5 comp=Z,4.9nm,0.9s						
CPUP	**Villa Florida**	**34.50**	**316**	P	**P**	**21 45 23.9**	**-0.9**
CPUP				IAmb	IAmb	21 45 26.9	
	comp=Z,8.3nm,1.1s						
QSPA	**South Pole Qui**	**35.19**	**180**	P	**P**	**21 45 31.8**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=199,slow=2.2,SNR=8.7 comp=Z,1.7nm,0.9s						
QSPA	**South Pole Qui**	**35.19**	**180**	P	P	**21 45 31.6**	**+0.9**
ZON	**Zonda**	**35.38**	**296**	P	**P**	**21 45 31.3**	**-1.1**
ZON				IAmb	IAmb	21 45 36.0	
	comp=Z,11nm,1.4s						
CO06	**Fray Jorge**	**37.61**	**294**	P	**P**	**21 45 51.1**	**-0.4**
PB14	**IPOC Station P**	**41.90**	**300**	P	**P**	**21 46 27.2**	**-0.3**
PB14				IAmb	IAmb	21 46 31.7	
	comp=Z,10nm,0.6s						
PTLB	**Pontes e Lacer**	**45.06**	**320**	P	**P**	**21 46 52.4**	**-0.3**
PTLB				IAmb	IAmb	21 46 54.2	
	comp=Z,5.3nm,0.8s						
SIV	**San Ignacio**	**45.29**	**318**	P	**P**	**21 46 55.0**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=130,slow=6.0,SNR=4.7 comp=Z,0.7nm,0.4s						
VNDA	**Vanda**	**47.43**	**184**	P	**P**	**21 47 11.4**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=216,slow=8.7,SNR=2.7 comp=Z,0.5nm,0.8s						
VNDA	**Vanda**	**47.43**	**184**	P	**P**	**21 47 11.4**	**+0.7**
H10S2	**ASCENSION HYDR**	**47.82**	**22**	T	T	22 39 20.9	
H10S3	**ASCENSION HYDR**	**47.82**	**22**	T	T	22 39 22.7	
	SNR=9.6						
BOSA	**Boshof**	**47.97**	**80**	P	**P**	**21 47 16.2**	**+0.6**
BOSA				IAmb	IAmb	21 47 27.7	
	comp=Z,12nm,1.4s						
LPAZ	**La Paz**	**47.98**	**309**	P	**P**	**21 47 18.1**	**+1.7**
	comp=Z,1.6nm,0.5s,baz=163,slow=8.4,SNR=9.8 comp=Z,1.6nm,0.5s						
LPAZ	**La Paz**	**47.98**	**309**	P	P	**21 47 16.1**	**-0.3**
H10N1	**ASCENSION HYDR**	**48.94**	**22**	T	T	22 40 40.7	
	baz=191,slow=75,SNR=10						
H10N3	**ASCENSION HYDR**	**48.94**	**22**	T	T	22 40 36.9	
	baz=191,slow=75,SNR=18						
H10N2	**ASCENSION HYDR**	**48.95**	**22**	T	T	22 40 43.6	
	baz=191,slow=75,SNR=14						
BOAV	**Boa Vista**	**62.16**	**326**	P	**P**	**21 48 57.3**	**-0.9**
BOAV				IAmb	IAmb	21 49 07.1	
	comp=Z,7.2nm,1.4s						
DBIC	**Dimbokro**	**65.30**	**29**	P	**P**	**21 49 19.6**	**+0.9**
TOA0	**Torodi Ar. Sit**	**73.39**	**33**	P	**P**	**21 50 07.9**	**-0.9**
TOA0				IAmb	IAmb	21 50 30.8	
	comp=Z,6.5nm,1.5s						
TORD	**Torodi Ar. Bea**	**73.39**	**33**	P	**P**	**21 50 08.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=200,slow=5.6,SNR=4.8 comp=Z,0.8nm,0.6s						
FINES	**FINESS Array B**	**124.59**	**29**	PKP	**PKPdf**	**21 57 34.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=153,slow=0.4,SNR=5.1						
ILAR	**Eielson Array**	**147.79**	**314**	PKPbc	**PKPdf**	**21 58 20.1**	**+2.7**
	comp=Z,2.6nm,1.0s,baz=69,slow=1.7,SNR=11						
SONM	**Songino Array**	**152.93**	**88**	PKPbc	**PKPbc**	**21 58 32.0**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=218,slow=2.8,SNR=5.2						

*CNRM **18** 21:43:47.9,35.°85N×0.°90W,h0km,ml1.7*
*CRAAG **18** 21:43:48.9,35.°71N×0.°44W,Ml3.0*
*MDD **18** 21:43:54.2±1.3,36.°03N×0.°62W,h0km,mb_Lg2.0/5,Error ellipse: s-maj=12.8km s-min=10.2km az=60.0*

ISC 18 21:43:47.1±1.7,35.88N±0.04×0.51W±0.08,h17km±15km, n12,σ0ŝ93/21,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USTO	**Oran**	**0.15**	**193**	P	**Pb**	**21 43 52.0**	**+0.6**
ODJA	**Bouhanifia**	**0.62**	**152**	P	**Pb**	**21 44 00.0**	**+0.5**
CART	**Cartagena**	**1.75**	**347**	P	**Pg**	**21 44 20.5**	**-0.3**
CART				S	**Sb**	**21 44 41.7**	**+1.3**
TAF	**Taforalt**	**1.88**	**236**	P	**Pn**	**21 44 18.3**	**-0.3**
ELOR	**Lorca, Murcia**	**2.02**	**331**	P	**Pg**	**21 44 25.1**	**-0.8**
ELOR				*i* Vmb_Lg		21 44 31.9	
ELOR				S	**Sb**	**21 44 49.4**	**+1.3**
EMUR	**La Murta**	**2.05**	**344**	P	**Pg**	**21 44 25.8**	**-0.6**
EMUR				S	**Sb**	**21 44 50.0**	**+1.0**
EMUR				*i* Vmb_Lg		21 44 53.5	
GOG	**Mont Gurugu**	**2.13**	**253**	P	**Pn**	**21 44 22.0**	**+0.1**
GOG				S	**Sn**	**21 44 45.9**	**-2.1**
EZAR	**Zarzadilla de**	**2.21**	**335**	P	**Pb**	**21 44 27.1**	**+0.5**
EZAR				S	**Sb**	**21 44 53.1**	**-0.6**
JBK	**JBK**	**2.28**	**228**	P	**Pn**	**21 44 25.0**	**+0.9**
JBK				S	**Sn**	**21 44 51.7**	**-0.3**
AFON	**Font Roja**	**2.78**	**359**	P	**Pb**	**21 44 36.6**	**+0.2**
AFON				S	**Sb**	**21 45 09.5**	**-0.8**
AFON				*i* Vmb_Lg		21 45 17.9	
EQES	**Quesada**	**2.81**	**314**	P	**Pb**	**21 44 38.0**	**+1.1**
EQES				S	**Sb**	**21 45 11.8**	**+0.7**
EQES				*i* Vmb_Lg		21 45 15.2	
ETOB	**Tobarra**	**2.88**	**344**	P	**Pb**	**21 44 38.6**	**+0.5**
ETOB				S	**Sb**	**21 45 12.9**	**-0.2**
ETOB				*i* Vmb_Lg		21 45 16.6	

*NIED **18** 21:49:08.0,37.°55N×144.°52E,h60km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.12; Mθθ0.55; Mϕϕ1.57; Mrθ0.56; Mθϕ-0.22; Mϕr-2.99; Fault plane solution: M₀3.57000×10¹⁴ NP1: ϕs168.00000°,δ16.00000°,λ-91.00000°. NP2: ϕs349.00000°,δ74.00000°,λ-90.00000°.*

JMA 18 21:49:08.0±0.2,37.°6N±0.°9×14.°5E±.°,h60km,MV4.0/29, FAR E OFF NORTH HONSHU,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.53**	**288**	P	Pn	21 49 47.8	+1.2
JIKH				S	Sn	21 50 17.3	+1.0
JIO	**Ouri**	**2.66**	**291**	*e*P	Pn	21 49 49.6	+1.2
JIO				S	Sn	21 50 20.9

SIJI				Sn	Sn	21 50 41.2	+1.6	
	6.0nm,0.3s,baz=32,slow=20,SNR=4.8							
	18nm,0.2s							
LBMI	**Labuha**	**3.83**	**327**	P	Pn	21 50 04.6	-1.6	
SANI	**Sanana**	**4.03**	**296**	P	Pn	21 50 08.9	0.0	
SANI				S	Sn	21 50 55.0	0.0	
MTN	**Manton Dam**	**9.05**	**170**	Pn	Pn	21 51 19.2	+1.4	
EDFI	**Ende, Flores**	**9.24**	**238**	P	Pn	21 51 21.6	+1.1	
	5.7nm,1.0s							
BSSI	**Bau Bau, Buton**	**9.35**	**256**	P	Pn	21 51 19.9	-2.1	
	468nm4.2nm,1.1s							
BKSI	**Bulukumba**	**9.56**	**261**	P	Pn	21 51 23.7	-1.1	
	6.3nm,1.8s							
SPSI	**Sidrap Palu**	**9.81**	**269**	P	Pn	21 51 26.2	-2.1	
KNRA	**Kununurra**	**11.77**	**184**	Pn	Pn	21 51 55.6	+0.5	
FITZ	**Fitzroy Crossi**	**14.67**	**195**		P	21 52 40.3	-0.1	
WB0	**Warramunga Arr**	**16.48**	**164**	Pn	P	21 52 59.4	-1.2	
WRA	**Warramunga Arr**	**16.63**	**164**	Pn	Pn	21 52 56.4	-3.8	
	0.1nm,0.3s,baz=345,slow=13,SNR=1.6							
	0.2nm,0.6s							
WB2	**Warramunga Arr**	**16.64**	**164**		P	21 53 01.6	-0.7	
WB2				IAmb	IAmb	21 53 03.2		
	comp=Z,14nm,1.4s							
MBWA	**Marble Bar**	**19.69**	**208**		Pn	21 53 38.5	+1.0	
MBWA				IAmb	IAmb	21 53 44.1		
	comp=Z,24nm,0.7s							
MBWA	**Marble Bar**	**19.69**	**208**	P	Pn	21 53 40.1	+2.6	
PSA00	**Pilbara Seismi**	**19.99**	**207**	P	Pn	21 53 40.4	-0.8	
PSA00				IAmb	IAmb	21 53 52.6		
	comp=Z,7.5nm,0.7s							
PSA00	**Pilbara Seismi**	**19.99**	**207**	P	Pn	21 53 40.6	-0.5	
PSA00				IAmb	IAmb	21 53 47.2		
	comp=Z,26nm,0.8s							
PSA00	**Pilbara Seismi**	**19.99**	**207**	P	Pn	21 53 45.1	+4.0	
AS31	**Alice Springs**	**20.12**	**168**	P	Pn	21 53 40.2	-2.5	
ASAR	**Alice Springs**	**20.12**	**168**	P	P	21 53 39.9	-0.8	
	comp=Z,1.4nm,0.6s,baz=348,slow=10,SNR=25							
	comp=Z,1.4nm,0.6s							
ASAR	**Alice Springs**	**20.12**	**168**	P	P	21 53 39.1	-1.5	
RABL	**Rabaul**	**22.51**	**92**	P	P	21 54 06.5	0.0	
MORW	**Morawa**	**28.18**	**206**	P	P	21 54 59.9	+1.0	
MK31	**Makanchi Array**	**65.41**	**326**	P	P	21 59 49.3	+0.5	
MK31				IAmb	IAmb	21 59 54.1		
	comp=Z,1.8nm,1.3s							
MKAR	**Makanchi Array**	**65.41**	**326**	P	P	21 59 49.5	+0.7	
	comp=Z,0.7nm,0.6s,baz=116,slow=8.4,SNR=7.9							
	comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**65.41**	**326**	P	P	21 59 48.8	+0.1	
ZALV	**Zalesovo Beam**	**68.62**	**333**	P	P	22 00 08.9	-0.1	
	comp=Z,0.3nm,0.3s,baz=111,slow=7.9,SNR=2.2							
	comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**69.65**	**328**	P	P	22 00 16.4	+0.9	
	comp=Z,1.6nm,0.2s,baz=133,slow=5.5,SNR=4.9							
	comp=Z,1.6nm,0.2s							
KURK	**Kurchatov**	**69.66**	**328**	P	P	22 00 15.7	+0.3	
KURK				IAmb	IAmb	22 00 16.8		
	comp=Z,1.9nm,0.8s							
QSPA	**South Pole Qui**	**86.09**	**180**	P	P	22 01 47.4	+0.7	
QSPA				IAmb	IAmb	22 02 16.4		
	comp=Z,3.8nm,1.3s							

*BJI **18** 21:50:23.5±0.0, 10.00S×111.70E, h20km, mb4.7/33, mB5.0/15, Ms5.1/1, Ms7 4.8/1*
*IDC **18** 21:50:26.1±0.5, 9.51S×111.78E, h0km, mb4.5/24, mbtmp4.6/27, ML4.3/3, MS3.7/14, Error ellipse: s-maj=18.0km s-min=11.2km az=54.0*
*DJA **18** 21:50:27.7±0.8, 10°S±2°×11°2E±°, h29km±8km, M4.8/31, mb4.8/31, mB5.4/13, MLv4.7/21, Mw(mB)4.9/13*
*NEIC **18** 21:50:32.5±1.3, 9.51S±0.10×111.81E±0.03, h46km±8km, mb4.6/40, Error ellipse: s-maj=14.9km s-min=2.2km az=195.0*

ISC 18 21:50:31.0±0.5, 9.72S±0.06×111.70E±0.05, h39km±2km, n163, σ1°43/164, mb4.6/44, MS3.8/14, 4C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.59**	**341**	P	Pn	21 50 54.9	-1.8
PCJI				S	Sn	21 51 14.8	-1.3
PWJI	**Pagerwojo**	**1.69**	**4**	P	Pn	21 50 56.5	-1.4
PWJI				S	Sn	21 51 20.5	+2.2
UGM	**Wanagama**	**2.13**	**327**	Pn	Pn	21 51 03.6	-0.5
UGM				Sn	Sn	21 51 28.0	-1.4
UGM	**Wanagama**	**2.13**	**327**	P	Pn	21 51 04.2	+0.1
UGM				S	Sn	21 51 32.0	+2.6
UGM	**Wanagama**	**2.13**	**327**	P	Pn	21 51 03.9	-0.2
GMJI	**Gumukmas**	**2.25**	**50**	P	Pn	21 51 05.5	-0.1
YOGI	**Yogyakarta**	**2.34**	**324**	P	Pn	21 51 07.5	+0.6
YOGI				S	Sn	21 51 36.4	+1.9
NGJI	**Ngawi**	**2.34**	**354**	P	Pn	21 51 09.3	+2.3
NGJI				S	Sn	21 51 41.6	+7.1
BLJI	**Banyuglugur**	**2.71**	**44**	P	Pn	21 51 13.4	+1.3
BLJI				S	Sn	21 51 45.2	+1.5
JAGI	**Jajag, Banyuwa**	**2.72**	**63**	P	Pn	21 51 11.9	-0.3
JAGI				Sn	Sn	21 51 40.6	-3.4
JAGI	**Jajag, Banyuwa**	**2.72**	**63**	P	Pn	21 51 13.1	+0.8
JAGI				S	Sn	21 51 45.6	+1.7
JAGI	**Jajag, Banyuwa**	**2.72**	**63**	P	Pn	21 51 13.0	+0.8
TBJI	**Tambak Boyo**	**2.88**	**3**	P	Pn	21 51 17.6	+3.2
TBJI				S	Sn	21 51 52.7	+4.9
SMRI	**Semarang**	**2.92**	**335**		Pn	21 51 13.0	-2.0
SMRI	**Semarang**	**2.92**	**335**	P	Pn	21 51 17.1	+2.1
SMRI	**Semarang**	**2.92**	**335**	P	Pn	21 51 17.8	+2.8
ABJI	**Asem Bagus**	**3.15**	**53**	P	Pn	21 51 20.0	+1.9
KMMI	**Kalianget**	**3.47**	**40**	P	Pn	21 51 22.7	+0.2
IGBI	**Denpasar**	**3.52**	**76**	P	Pn	21 51 24.8	+1.6
DNP	**Denpasar**	**3.62**	**74**	P	Pn	21 51 26.7	+2.2
SRBI	**Singaraja**	**3.83**	**65**	P	Pn	21 51 28.5	+1.0
SRBI				S	Sn	21 52 13.0	+1.7
BWJI	**Bawean**	**3.96**	**14**	P	Pn	21 51 30.3	+1.1
LEM	**Lembang**	**4.95**	**305**	Pn	Pn	21 51 43.1	+0.1
	3.5nm,0.3s,baz=130,slow=17,SNR=3.6						
	10nm,0.4s						
LEM	**Lembang**	**4.95**	**305**	P	Pn	21 51 41.0	-2.0
	0.3nm61nm,1.0s						
CNJI	**Cibinong**	**5.11**	**298**	P	Pn	21 51 41.8	-3.2
	0.6nm2µm102nm,1.1s						
TWSI	**Taliwang, Sumb**	**5.21**	**80**	P	Pn	21 51 47.3	+0.9
	0.7nm2µm170nm,0.7s						
XMI	**Christmas Isla**	**5.96**	**262**	P	Pn	21 51 55.8	-0.9
XMIS	**Christmas Isla**	**6.00**	**262**	P	Pn	21 51 54.0	-3.3
PLAI	**Plampang**	**6.07**	**82**	P	Pn	21 51 58.7	+0.5
	2.7nm8µm642nm,1.0s						
PLAI	**Plampang**	**6.07**	**82**	P	Pn	21 51 59.6	+1.4
PBKI	**Pangkalan Bun**	**6.96**	**360**	P	Pn	21 52 10.2	-0.3
	0.5nm159nm,1.0s						
KAPI	**Kappang**	**9.25**	**60**	Pn	Pn	21 52 44.9	+2.9
	1.4nm,0.3s,baz=235,slow=11,SNR=13						
PPBI	**Pangkal Pinang**	**9.32**	**323**	P	Pn	21 52 44.4	+1.6
	25nm,1.2s						
BSSI	**Bau Bau, Buton**	**9.41**	**68**	P	Pn	21 52 46.3	+2.3
	65nm,1.0s						
BKSI	**Bulukumba**	**9.43**	**63**	P	Pn	21 52 45.3	+1.0
	34nm,0.8s						
SPSI	**Sidrap Palu**	**9.84**	**55**	P	Pn	21 52 52.0	+2.0
	26nm,1.0s						
EDFI	**Ende, Flores**	**9.91**	**85**	P	Pn	21 52 51.2	+0.1
	603nm31nm,0.8s						
TTSI	**Tana Toraja**	**10.44**	**51**	P	Pn	21 53 00.9	+2.7
	972nm37nm,1.1s						
MMRI	**Maumere**	**10.46**	**85**	Pn	Pn	21 52 55.7	-2.8
MMRI	**Maumere**	**10.46**	**85**	P	Pn	21 52 58.1	-0.4
	2µm118nm,1.0s						
MMRI	**Maumere**	**10.46**	**85**	P	Pn	21 52 59.1	+0.6
KSI	**Kapahiang**	**10.86**	**303**	P	Pn	21 53 01.8	-2.2
	4µm51nm,0.9s						
BATI	**Baumata**	**11.80**	**93**	Pn	Pn	21 53 16.4	-0.5
	19nm,0.3s,baz=266,slow=0.4,SNR=26						
	96nm,0.6s						
BATI	**Baumata**	**11.80**	**93**	P	Pn	21 53 15.8	-1.1
	75nm,0.6s						
GIRL	**Giralia**	**13.08**	**170**	P	Pn	21 53 31.6	-2.7
PPSI	**Pulau Pagai**	**13.51**	**300**	P	Pn	21 53 34.0	-6.2
	227nm,0.7s						
LUWI	**Luwuk**	**13.99**	**53**		Pn	21 53 44.5	-2.3
LUWI	**Luwuk**	**13.99**	**53**	P	Pn	21 53 47.6	+0.9
	67nm,1.1s						
GTOI	**Gorontalo**	**15.25**	**48**	P	P	21 54 07.7	-0.4
	148nm13nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.89**	**123**	Pn	Pn	21 54 09.7	-2.2
	0.5nm,0.3s,baz=297,slow=9.1,SNR=14						
FITZ				Sn	Sn	21 56 55.5	-11
	1.1nm,0.3s,baz=211,slow=19,SNR=6.8						
	13nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.89**	**123**	Pn	Pn	21 54 09.4	-2.5
FITZ	**Fitzroy Crossi**	**15.89**	**123**	P	Pn	21 54 09.7	-2.2
KMSI	**Cibinong**	**15.94**	**51**	P	P	21 54 16.3	+0.6
	3µm81nm,1.1s						
SANI	**Sanana**	**16.12**	**63**	P	P	21 54 15.7	-2.0
	32nm,1.0s						
AAI	**Ambon**	**17.44**	**71**	P	P	21 54 32.7	+0.3
	43nm,1.3s						
KNRA	**Kununurra**	**17.67**	**111**	P	Pn	21 54 34.0	-0.3
MEEK	**Meekatharra**	**18.06**	**160**	P	P	21 54 37.3	-1.9
LBMI	**Labuha**	**18.13**	**61**	P	P	21 54 43.5	+3.5
	1µm26nm,0.9s						
BNDI	**Bandanaira**	**18.79**	**75**	P	Pn	21 54 48.4	+0.5
	18µm156nm,0.9s						
MTN	**Manton Dam**	**19.31**	**101**	P	P	21 54 52.4	-0.6
MTN				IAmb	IAmb	21 55 01.3	
	comp=Z,40nm,0.8s						
SAUI	**Saumlaki**	**19.45**	**86**		P	21 54 53.2	-1.3
SAUI	**Saumlaki**	**19.45**	**86**	P	P	21 54 52.5	-2.0
	comp=Z,117nm,0.9s						
MORW	**Morawa**	**19.68**	**169**	P	P	21 54 55.8	-1.1
SIJI	**Sorong**	**21.36**	**67**	P	P	21 55 13.1	-2.1
	comp=Z,22nm,0.8s,baz=290,slow=5.4,SNR=8.4						
	comp=Z,22nm,0.8s						
FAKI	**Fak Fak**	**21.50**	**73**	P	P	21 55 15.2	-1.6
FAKI				IAmb	IAmb	21 55 18.9	
	comp=Z,30nm,1.0s						
FAKI	**Fak Fak**	**21.50**	**73**	P	P	21 55 16.2	-0.6
	comp=Z,34nm,0.8s						
DAV	**Davao City (W)**	**21.66**	**40**	LR	LR	22 03 59.8	
	comp=Z,77nm,21.1s,baz=221,slow=38						
WB0	**Warramunga Arr**	**24.09**	**117**	P	P	21 55 43.6	+0.5
WRA	**Warramunga Arr**	**24.10**	**118**	P	P	21 55 43.6	+0.4
	comp=Z,22nm,0.8s,baz=291,slow=12,SNR=128						
WRA				LR	LR	22 05 53.7	
	comp=Z,116nm,20.6s,baz=282,slow=38						
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**24.10**	**118**	P	P	21 55 43.8	+0.6
WRAB	**Tennant Creek**	**24.11**	**117**	P	P	21 55 43.8	+0.5
WRAB	**Tennant Creek**	**24.11**	**117**	P	P	21 55 44.0	+0.7
WB2	**Warramunga Arr**	**24.11**	**118**	P	P	21 55 43.4	+0.1
WR0	**Warramunga Arr**	**24.29**	**117**	P	P	21 55 44.9	-0.1
ASAR	**Alice Springs**	**25.34**	**126**	P	P	21 55 55.6	+1.1
	comp=Z,14nm,0.8s,baz=300,slow=8.1,SNR=53						
ASAR				PcP	PcP	21 59 27.8	+1.0
	comp=Z,1.6nm,0.9s,baz=345,slow=2.8,SNR=4.8						
	comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**25.34**	**126**	P	P	21 55 54.6	+0.1
AS31	**Alice Springs**	**25.34**	**126**	P	P	21 55 55.4	+0.8
FORT	**Forrest**	**25.91**	**146**	P	P	21 55 59.9	+0.4
OOD	**Oodnadatta**	**28.88**	**132**	P	P	21 56 27.2	+1.0
CMAR	**Chiang Mai Arr**	**30.69**	**336**	P	P	21 56 42.5	+0.1
	comp=Z,1.9nm,0.3s,baz=167,slow=8.8,SNR=6.0						
CMAR				PcP	PcP	21 59 41.1	+1.3
	comp=Z,0.8nm,0.3s,baz=207,slow=2.5,SNR=5.0						
CMAR				LR	LR	22 11 21.4	
	comp=Z,112nm,18.1s,baz=150,slow=41						
	comp=Z,1.9nm,0.3s						
CTA	**Charters Tower**	**34.88**	**111**	P	P	21 57 21.0	+2.0
	comp=Z,4.7nm,0.8s,baz=260,slow=14,SNR=5.4						
	comp=Z,4.7nm,0.8s						
STKA	**Stephens Creek**	**35.39**	**133**	P	P	21 57 25.3	+2.1
	comp=Z,16nm,0.8s,baz=299,slow=8.6,SNR=25						
STKA				LR	LR	22 13 09.4	
	comp=Z,154nm,19.6s,baz=258,slow=38						
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**35.39**	**133**	P	P	21 57 24.6	+1.3
H08S2	**Diego Garcia H**	**38.79**	**270**	T	T	22 39 40.6	
	baz=94,slow=75,SNR=150						
H08S3	**Diego Garcia H**	**38.80**	**270**	T	T	22 39 37.4	
	baz=94,slow=75,SNR=146						
H08S1	**Diego Garcia H**	**38.81**	**270**	T	T	22 39 42.1	
	baz=94,slow=75,SNR=42						
ENH	**Enshi**	**39.81**	**357**	P	P	21 57 59.2	-1.4
ENH				IAmb	IAmb	21 58 05.7	
	comp=Z,7.9nm,0.6s						
ODAN	**Odare**	**43.34**	**328**	*eP*	P	21 58 29.3	-0.5
XAN	**Xi'an**	**43.59**	**357**	⇑P	P	21 58 31.3	-0.2
XAN				pP	pP	21 58 38.3	-3.4
XAN				sP	sP	21 58 42.0	-3.6
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
LSA	**Lhasa**	**43.90**	**334**	P	P	21 58 34.0	-0.6
LSA				IAmb	IAmb	21 58 35.8	
	comp=Z,7.4nm,0.7s						
LSA	**Lhasa**	**43.90**	**334**	P	P	21 58 35.3	+0.7
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LYN	**LuoYang**	**44.03**	**1**	⇑P	P	21 58 33.9	-1.0
LYN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
JIRN	**Jiri**	**44.62**	**327**	*eP*	P	21 58 39.9	-0.3
PKI	**Pulchoki**	**44.97**	**326**	*eP*	P	21 58 41.8	-1.2
PKIN	**Phulchoki**	**44.98**	**326**	*eP*	P	21 58 41.9	-1.1
GUN	**Gumba**	**44.98**	**327**	*eP*	P	21 58 42.8	-0.3
GKN	**Gorkha**	**45.73**	**326**	*eP*	P	21 58 48.0	-0.8
KOLN	**Koldanda**	**46.14**	**325**	*eP*	P	21 58 51.1	-1.0
	comp=Z,2.6nm,0.8s						
LZH	**Lanzhou**	**46.15**	**351**	⇑P	P	21 58 52.8	+0.8
LZH				pP	pP	21 58 57.9	-4.5
LZH				pmax	pmax		
	comp=Z,27nm,1.7s						
DANN	**Dangsing**	**46.49**	**325**	*eP*	P	21 58 53.9	-1.1
	comp=Z,39nm,0.7s						
PYUN	**Piuthan**	**46.74**	**324**	*eP*	P	21 58 56.0	-0.8
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**49.33**	**17**	P	P	21 59 16.4	0.0
	comp=Z,8.1nm,0.9s,baz=203,slow=8.4,SNR=14						
	comp=Z,8.1nm,0.9s						
GTA	**Gaotai**	**50.11**	**348**	⇑P	P	21 59 23.3	+0.8
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**52.34**	**27**	P	P	21 59 37.3	-1.8
	comp=Z,7.8nm,1.0s,baz=192,slow=7.9,SNR=11						
MJAR				LR	LR	22 21 27.6	
	comp=Z,34nm,21.8s,baz=186,slow=36						
	comp=Z,7.8nm,1.0s						
CN2	**Changchun**	**54.71**	**12**	*eP*	P	21 59 54.9	-1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NIL	**Nilore**	**56.52**	**322**	P	P	22 00 08.1	-1.5
USRK	**Ussuriysk Ar.**	**56.73**	**17**	P	P	22 00 10.1	-0.7
	comp=Z,16nm,1.0s,baz=198,slow=3.6,SNR=16						
	comp=Z,16nm,1.0s						
USRK	**Ussuriysk Ar.**	**56.73**	**17**	P	P	22 00 08.8	-2.1
ULN	**Ulaanbaatar**	**57.47**	**356**	P	P	22 00 15.4	-0.8
ULN				IAmb	IAmb	22 00 16.6	
	comp=Z,9.2nm,1.1s						
SONM	**Songino Array**	**57.49**	**356**	P	P	22 00 15.7	-0.6
	comp=Z,4.1nm,0.9s,baz=171,slow=8.6,SNR=16						
SONM				PcP	PcP	22 01 10.0	+0.4
	comp=Z,1.7nm,0.7s,baz=170,slow=4.0,SNR=4.3						
SONM				LR	LR	22 27 10.6	
	comp=Z,74nm,18.2s,baz=168,slow=38						
	comp=Z,4.1nm,0.9s						
SONM	**Songino Array**	**57.49**	**356**	P	P	22 00 15.0	-1.3
SONM				IAmb	IAmb	22 00 16.8	
	comp=Z,7.5nm,1.2s						
KBL	**Kabul**	**59.74**	**320**	P	P	22 00 30.5	-1.9
KBL				IAmb	IAmb	22 00 33.8	
	comp=Z,7.0nm,1.0s						
TARG	**Taragay, Kyrgy**	**59.91**	**331**	P	P	22 00 33.1	-0.5
TARG				IAmb	IAmb	22 00 41.8	
	comp=Z,7.6nm,1.0s						
NRN	**Naryn**	**60.56**	**330**	P	P	22 00 37.2	-0.8
NRN				IAmb	IAmb	22 00 38.1	
	comp=Z,5.8nm,1.0s						
KLR	**Kul'dur**	**61.28**	**15**	LR	LR	22 27 54.7	
	comp=Z,47nm,19.8s,baz=197,slow=37						
RPZ	**Rata Peaks**	**61.33**	**135**	LR	LR	22 27 40.1	
	comp=Z,139nm,18.4s,baz=264,slow=36						
BOOM	**Boomskoye usch**	**61.38**	**331**	P	P	22 00 43.0	-0.4
BOOM				IAmb	IAmb	22 00 43.9	
	comp=Z,4.3nm,0.9s						
TKM2	**Tokmak 2**	**61.88**	**331**	P	P	22 00 46.4	-0.3
	SNR=10						
UCH	**Uchtor**	**61.89**	**329**	P	P	22 00 44.5	-2.6
	SNR=8.6						
KBK	**Karagaybulak**	**61.99**	**330**	P	P	22 00 47.6	+0.1
	SNR=7.8						
MK31	**Makanchi Array**	**62.08**	**338**	P	P	22 00 46.7	-1.1
MK31				IAmb	IAmb	22 00 53.2	
	comp=Z,3.5nm,0.8s						
MKAR	**Makanchi Array**	**62.08**	**338**	P	P	22 00 47.2	-0.6
	comp=Z,2.7nm,0.4s,baz=150,slow=7.2,SNR=63						
	comp=Z,2.7nm,0.4s						
MKAR	**Makanchi Array**	**62.08**	**338**	P	P	22 00 46.8	-1.0
AAK	**Ala-Archa**	**62.21**	**330**	P	P	22 00 48.8	-0.1
	comp=Z,4.5nm,1.0s,baz=174,slow=4.8,SNR=9.2						
AAK				LR	LR	22 33 04.5	
	comp=Z,90nm,18.6s,baz=162,slow=41						
	comp=Z,4.5nm,1.0s						
AAK	**Ala-Archa**	**62.21**	**330**	P	P	22 00 48.6	-0.3
MAKZ	**Makanchi**	**62.21**	**337**	P	P	22 00 47.0	-1.6
AML	**Almayashu**	**62.24**	**329**	P	P	22 00 49.4	0.0
	SNR=5.8						
CHGR	**Chuyangaron**	**62.33**	**323**	P	P	22 00 48.8	-0.9
EKS2	**Erkin-Say**	**62.58**	**329**	P	P	22 00 51.7	+0.4
	SNR=8.8						
KK31	**Karatay Array**	**64.58**	**328**	P	P	22 01 04.6	+0.2
KKAR	**Karatay Array**	**64.58**	**328**	P	P	22 01 04.7	+0.3
KKAR	**Karatay Array**	**64.58**	**328**	P	P	22 01 04.4	0.0
KKAR				IAmb	IAmb	22 01 10.6	
	comp=Z,2.8nm,1.1s						
URZ	**Urewera**	**64.77**	**128**	LR	LR	22 31 40.9	
	comp=Z,85nm,18.1s,baz=46,slow=38						
MAW	**Mawson**	**66.20**	**198**	P	P	22 01 16.5	+2.1
	comp=Z,3.8nm,0.9s,baz=37,slow=6.6,SNR=6.2						
MAW				LR	LR	22 24 54.8	
	comp=Z,69nm,21.0s,baz=210,slow=31						
	comp=Z,3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**66.65**	**338**	P	P	22 01 17.3	-0.2
	comp=Z,1.5nm,0.2s,baz=147,slow=5.7,SNR=5.8						
	comp=Z,1.5nm,0.2s						
KURK	**Kurchatov**	**66.69**	**338**	P	P	22 01 16.7	-1.1
ZAA0	**Zalesovo Array**	**67.38**	**343**	P	P	22 01 20.5	-1.6
ZAA0				IAmb	IAmb	22 01 21.9	
	comp=Z,7.2nm,1.4s						
ZALV	**Zalesovo Beam**	**67.38**	**343**	P	P	22 01 20.9	-1.2
	comp=Z,1.3nm,0.4s,baz=144,slow=5.9,SNR=8.0						
ZALV				LR	LR	22 32 36.7	
	comp=Z,58nm,19.1s,baz=90,slow=38						
	comp=Z,1.3nm,0.4s						
ZALV	**Zalesovo Beam**	**67.38**	**343**	P	P	22 01 20.6	-1.6
GEYT	**Alibeck**	**68.89**	**317**	P	P	22 01 32.5	+0.5
	comp=Z,2.5nm,0.8s,baz=123,slow=5.5,SNR=9.8						
	comp=Z,2.5nm,0.8s						
GEYT	**Alibeck**	**68.89**	**317**	P	P	22 01 31.1	-0.9
GEYT				IAmb	IAmb	22 01 33.4	
	comp=Z,8.2nm,1.2s						
GYA0B	**ALIBECK ARRAY**	**68.89**	**317**	P	P	22 01 31.1	-0.9
GYA0B				IAmb	IAmb	22 01 33.3	
	comp=Z,6.7nm,1.1s						
BVAR	**Borovoye Array**	**71.72**	**335**	P	P	22 01 48.4	-0.5
	comp=Z,0.6nm,0.6s,baz=128,slow=9.6,SNR=5.1						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**72.48**	**170**	P	P	22 01 54.1	+0.9
	comp=Z,1.7nm,0.9s,baz=296,slow=6.0,SNR=12						
	comp=Z,1.7nm,0.9s						
VNDA	**Vanda**	**72.48**	**170**	P	P	22 01 54.6	+1.4
YAK	**Yakutsk**	**72.89**	**9**	P	P	22 01 54.3	-1.4
	comp=Z,5.5nm,0.4s,baz=251,slow=2.1,SNR=5.2						
	comp=Z,5.5nm,0.4s						
ABKAR	**Akbulak array**	**74.14**	**328**	P	P	22 02 03.4	+0.1
ABKAR				IAmb	IAmb	22 02 04.2	
	comp=Z,10nm,0.8s						
ABKAR	**Akbulak array**	**74.14**	**328**	P	P	22 02 03.6	+0.2
MA2	**Magadan**	**75.81**	**19**	P	P	22 02 11.9	-0.8
	comp=Z,8.2nm,0.9s,baz=246,slow=2.3,SNR=3.8						
	comp=Z,8.2nm,0.9s						
AKTO	**Aktyubinsk**	**75.85**	**328**	LR	LR	22 40 02.3	
	comp=Z,68nm,18.3s,baz=61,slow=39						
GURO	**Guroymak-BITLI**	**80.53**	**312**	P	P	22 02 39.7	+0.1
MBAR	**Mbarara**	**80.98**	**271**	P	P	22 02 43.0	+0.4
MBAR				IAmb	IAmb	22 02 46.1	
	comp=Z,5.3nm,0.9s						
KBZ	**Khabaz**	**81.78**	**317**	P	P	22 02 46.6	+0.8
	comp=Z,5.5nm,0.9s,baz=109,slow=3.3,SNR=11						
KBZ				LR	LR	22 44 58.3	
	comp=Z,48nm,18.7s,baz=44,slow=40						
	comp=Z,5.5nm,0.9s						
KIV	**Kislovodsk**	**82.00**	**317**	P	P	22 02 47.5	+0.3
KIV				IAmb	IAmb	22 02 56.2	
	comp=Z,6.3nm,0.8s						
KOPT	**Kop Dagi**	**82.15**	**313**	P	P	22 02 48.1	-0.2
KOPT				IAmb	IAmb	22 02 56.8	
	comp=Z,5.8nm,0.9s						
BOSA	**Boshof**	**82.32**	**242**	P	P	22 02 51.7	+2.4
	comp=Z,2.5nm,0.9s,baz=172,slow=4.5,SNR=2.4						
	comp=Z,2.5nm,0.9s						
KIRV	**Kir

PB12				*i* S		**Sn**	**21 52 35.8**	**-1.7**
PB12				IAML			21 52 40.8	
	comp=E,321nm,0.3s							
PB14	**IPOC Station P**	**3.68**	**204**	*e*P		**Pn**	**21 52 10.3**	**+0.4**
GO02	**Mina Guanaco**	**3.96**	**191**	⇑*i*P		**Pn**	**21 52 12.9**	**-0.7**
LPAZ	**La Paz**	**4.98**	**7**	P		**Pn**	**21 52 29.1**	**+1.6**
	comp=E,13nm,0.4s,baz=195,slow=7.0,SNR=74							
LPAZ				S		**Sn**	**21 53 23.4**	**-1.3**
	comp=E,2.0nm,0.4s,baz=233,slow=11,SNR=3.6							
AC01	**Pan de Azucar**	**5.15**	**199**	*e*P		**Pn**	**21 52 27.3**	**-1.8**
PLCA	**Paso Flores**	**19.47**	**184**	P		**Pn**	**21 55 33.3**	**+0.4**
	comp=E,1.9nm,0.9s,baz=358,slow=13,SNR=5.7							
BDFB	**Brasilia**	**20.44**	**78**	P		**P**	**21 55 40.6**	**-0.5**
	comp=E,1.6nm,0.4s,baz=255,slow=9.9,SNR=5.8							
	comp=E,1.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P		**P**	**22 02 54.4**	**+1.1**
	comp=E,0.6nm,0.6s,baz=259,slow=5.8,SNR=8.3							
	comp=E,0.6nm,0.6s							
MKAR	**Makanchi Array**	**145.36**	**36**	PKPbc		**PKiKP**	**22 10 38.8**	**-1.2**
	comp=E,1.0nm,0.9s,baz=331,slow=4.5,SNR=7.0							

*IDC **18** 21:53:38.5±0.9, 19.°95N×121.°69E, h0km, mb3.8/7, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=35.9km s-min=19.5km az=80.0*
*MAN **18** 21:53:46.0, 19.°74N×121.°59E, h22km, mb5.0, ML3.9, MS4.0*

ISC 18 21:53:44.3±0.8, 19.°95N±0.°07×121.°6E±0.°1, h40km, n15, σ0s90/18, mb3.8/7, 1C-6D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.69**	**187**	⇑*i*P	**Pn**	**21 53 56.7**	**-1.0**
CICP				*i* S	**Sn**	**21 54 06.1**	**-1.1**
PACPP	**Pamplona Cagay**	**1.50**	**188**	⇓*e*P	**Pn**	**21 54 08.5**	**-0.3**
SIPP	**Brgy, Tapao**	**2.28**	**208**	⇓*i*P	**Pn**	**21 54 20.1**	**+0.6**
SIPP				*e*S	Sn	21 55 09.0	+23
PALP	**Palanan**	**2.99**	**164**	⇓*e*P	**Pn**	**21 54 31.1**	**+1.8**
PALP				*e*S	**Sn**	**21 55 03.8**	**-0.1**
BOLP	**Bolinao**	**3.89**	**204**	⇓*e*P	**Pn**	**21 54 41.8**	**+0.2**
BOLP				*e*S	**Sn**	**21 55 27.0**	**+0.9**
BALP	**Baler**	**4.19**	**180**	⇓*e*P	**Pn**	**21 54 46.3**	**+0.5**
BALP				*e*S	**Sn**	**21 55 33.9**	**+0.4**
PCPH	**Palayan**	**4.39**	**186**	⇓*e*P	Pn	21 54 41.4	-7.1
KSRS	**Korea Array**	**18.30**	**16**	P	**P**	**21 57 53.8**	**-1.1**
	0.3nm,0.3s,baz=199,slow=11,SNR=4.6						
	1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**21.42**	**270**	P	**P**	**21 58 29.1**	**0.0**
	0.9nm,0.3s,baz=75,slow=9.1,SNR=4.9						
	0.9nm,0.3s						
SONM	**Songino Array**	**30.42**	**340**	P	**P**	**21 59 54.3**	**+1.4**
	0.5nm,0.5s,baz=140,slow=7.0,SNR=2.5						
	0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**38.03**	**174**	P	**P**	**22 00 59.2**	**+0.3**
	2.7nm,0.8s,baz=259,slow=5.2,SNR=2.3						
	2.7nm,0.8s						
WRA	**Warramunga Arr**	**41.58**	**162**	P	**P**	**22 01 27.3**	**-1.1**
	1.7nm,0.8s,baz=343,slow=8.9,SNR=7.5						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**44.99**	**164**	P	**P**	**22 01 56.1**	**+0.1**
	0.7nm,0.6s,baz=346,slow=6.5,SNR=3.0						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**72.80**	**27**	P	**P**	**22 05 07.8**	**-0.6**
	0.5nm,0.5s,baz=276,slow=5.3,SNR=7.3						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**75.27**	**330**	P	**P**	**22 05 23.0**	**+0.1**
	0.9nm,0.7s,baz=46,slow=5.5,SNR=3.9						
	0.9nm,0.7s						

*IDC **18** 21:54:30.4±0.9, 9.°45S×111.°76E, h0km, mb4.1/12, mbtmp4.1/12, Error ellipse: s-maj=34.9km s-min=16.8km az=52.0*
*NEIC **18** 21:54:38.2±1.6, 9.°44S±0.°05×111.°81E±0.°06, h53km±9km, mb4.4/14, Error ellipse: s-maj=10.2km s-min=5.9km az=50.0*

ISC 18 21:54:36.1±0.6, 9.°53S±0.°08×111.°80E±0.°06, h40km, n35, σ1s12/33, mb4.3/19, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.04**	**322**		**Pn**	**21 55 08.8**	**+0.7**
UGM				Sn	**Sn**	**21 55 34.9**	**+2.5**
JAGI	**Jajag, Banyuwa**	**2.55**	**66**	Pn	**Pn**	**21 55 15.7**	**+0.6**
JAGI				Sn	**Sn**	**21 55 48.5**	**+3.6**
LEM	**Lembang**	**4.94**	**303**	Pn	Pn	21 55 51.8	+3.9
	1.9nm,0.3s,baz=226,slow=22,SNR=2.7						
XMIS	**Christmas Isla**	**6.13**	**261**	Pn	**Pn**	**21 56 06.3**	**+2.1**
WB0	**Warramunga Arr**	**24.08**	**118**	P	**P**	**21 59 47.9**	**-0.2**
WB0				IAmb	IAmb	21 59 49.8	
	comp=Z,9.7nm,0.8s						
WRA	**Warramunga Arr**	**24.10**	**118**	P	**P**	**21 59 48.3**	**0.0**
	comp=Z,4.7nm,0.8s,baz=292,slow=12,SNR=17						
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**24.10**	**118**	P	**P**	**21 59 47.8**	**-0.5**
WRAB	**Tennant Creek**	**24.11**	**118**	P	**P**	**21 59 48.8**	**+0.5**
WRAB				IAmb	IAmb	21 59 50.1	
	comp=Z,8.6nm,0.8s						
WB2	**Warramunga Arr**	**24.11**	**118**	P	**P**	**21 59 48.5**	**+0.1**
WB2				IAmb	IAmb	21 59 50.1	
	comp=Z,8.0nm,0.8s						
WR0	**Warramunga Arr**	**24.28**	**118**	P	**P**	**21 59 50.2**	**+0.3**
WR0				IAmb	IAmb	21 59 52.0	
	comp=Z,9.2nm,0.8s						
ASAR	**Alice Springs**	**25.37**	**126**	P	**P**	**22 00 00.5**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=300,slow=8.8,SNR=9.1						
	comp=Z,3.5nm,0.7s						
ASAR	**Alice Springs**	**25.37**	**126**	P	**P**	**22 00 00.2**	**+0.4**
FORT	**Forrest**	**26.01**	**147**	P	**P**	**22 00 04.7**	**-0.7**
STKA	**Stephens Creek**	**35.44**	**133**	P	**P**	**22 01 29.1**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=283,slow=9.1,SNR=5.1						
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**35.44**	**133**	P	**P**	**22 01 29.8**	**+1.0**
STKA				IAmb	IAmb	22 01 45.2	
	comp=Z,4.4nm,1.5s						
H08S2	**Diego Garcia H**	**38.90**	**270**	T	T	22 42 57.9	
	baz=96,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**38.91**	**270**	T	T	22 42 58.6	
	baz=96,slow=75,SNR=21						
H08S1	**Diego Garcia H**	**38.91**	**270**	T	T	22 43 01.6	
	baz=96,slow=75,SNR=10						
TOO	**Toolangi**	**41.24**	**138**	P	**P**	**22 02 18.6**	**+1.2**
KSRS	**Korea Array**	**49.12**	**17**	P	**P**	**22 03 19.6**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=209,slow=9.6,SNR=5.7						
	comp=Z,2.3nm,0.8s						
MJAR	**Matsushiro Arr**	**52.13**	**27**	P	**P**	**22 03 42.3**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=198,slow=6.4,SNR=4.6						
	comp=Z,2.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**56.53**	**17**	P	**P**	**22 04 14.3**	**0.0**
	comp=Z,4.2nm,0.9s,baz=222,slow=6.6,SNR=6.2						
	comp=Z,4.2nm,0.9s						
SONM	**Songino Array**	**57.32**	**356**	P	**P**	**22 04 18.8**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=166,slow=7.6,SNR=6.2						
	comp=Z,0.8nm,0.5s						
BOOM	**Boomskoye usch**	**61.28**	**330**	P	**P**	**22 04 46.8**	**-0.9**
BOOM				IAmb	IAmb	22 04 50.4	
	comp=Z,6.9nm,1.4s						
MK31	**Makanchi Array**	**61.95**	**337**	P	**P**	**22 04 50.7**	**-1.2**
MKAR	**Makanchi Array**	**61.95**	**337**	P	**P**	**22 04 51.7**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=150,slow=7.2,SNR=28						
	comp=Z,1.7nm,0.5s						
ZALV	**Zalesovo Beam**	**67.24**	**343**	P	**P**	**22 05 25.2**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=173,slow=5.1,SNR=3.1						
	comp=Z,0.6nm,0.4s						
GEYT	**Alibeck**	**68.82**	**317**	P	**P**	**22 05 35.9**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=145,slow=5.3,SNR=2.9						
	comp=Z,0.9nm,0.6s						
RAYN	**Ar Rayn**	**72.62**	**298**	P	**P**	**22 05 59.7**	**-0.3**
ABKAR	**Akbulak array**	**74.05**	**328**	P	**P**	**22 06 07.8**	**0.0**
ABKAR				IAmb	IAmb	22 06 08.4	
	comp=Z,4.2nm,0.8s						
QSPA	**South Pole Qui**	**80.47**	**180**	P	**P**	**22 06 42.8**	**-1.0**
QSPA				IAmb	IAmb	22 06 53.2	
	comp=Z,11nm,1.5s						
KBZ	**Khabaz**	**81.72**	**317**	P	**P**	**22 06 51.1**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=196,slow=2.3,SNR=4.0						
	comp=Z,1.7nm,0.8s						
BRTR	**Keskin Array B**	**87.06**	**311**	P	**P**	**22 07 18.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=139,slow=8.7,SNR=6.2						
	comp=Z,0.8nm,0.8s						
TXAR	**Lajitas Array**	**141.41**	**54**	PKP	**PKiKP**	**22 14 05.0**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=130,slow=2.0,SNR=5.0						
BDFB	**Brasilia**	**147.98**	**219**	PKPbc	**PKPbc**	**22 14 18.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=100,slow=7.0,SNR=3.4						

*REY **18** 22:03:41.4, 64.°63N×17.°40W, h4km*
*IDC **18** 22:03:42.4±1.4, 64.°50N×17.°68W, h0km, mb3.6/3, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=37.9km s-min=15.4km az=24.0*

ISC 18 22:03:40.3±0.8, 64.°64N±0.°02×17.°48W±0.°03, h16km±5km, n29, σ1s28/41, mb3.7/3, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIS	**Kista**	**0.05**	**313**	P	**Pg**	**22 03 43.3**	**-0.3**
	baz=305						
IKIS				S	**Sg**	**22 03 45.4**	**-0.4**
	baz=305						
IVON	**Vonarskard**	**0.12**	**285**	P	**Pg**	**22 03 44.7**	**+0.5**
	baz=287						
IDYN	**Dyngjuhals**	**0.16**	**18**	P	**Pb**	**22 03 44.8**	**-0.1**
	baz=5.5						
IDYN				S	**Sg**	**22 03 47.6**	**+0.1**
	baz=5.5						
IDJK	**Dyngjujokull**	**0.17**	**143**	P	**Pb**	**22 03 44.5**	**-0.7**
	baz=150						
IDJK				S	**Sg**	**22 03 46.8**	**-1.1**
	baz=150						
IURH	**Urdarhals**	**0.23**	**38**	P	**Pb**	**22 03 45.9**	**-0.2**
	baz=29						
IGRF	**Grimsfjall**	**0.25**	**159**	P	**Pb**	**22 03 46.0**	**-0.6**
	baz=165						
IHUS	**Husbondi**	**0.35**	**193**	P	**Pb**	**22 03 48.1**	**-0.2**
	baz=198						
IHUS				S	**Sb**	**22 03 53.2**	**-0.5**
	baz=198						
IVOT	**Vottur**	**0.39**	**161**	P	**Pb**	**22 03 48.2**	**-0.7**
	baz=165						
IVOT				S	**Sg**	**22 03 53.8**	**-0.1**
	baz=165						
THOR	**Thorvaldshraun**	**0.45**	**49**	P	**Pb**	**22 03 49.5**	**-0.4**
	baz=45						
THOR				S	**Sb**	**22 03 56.4**	**-0.1**
	baz=45						
IJOK	**Jokulheimar**	**0.46**	**225**	P	**Pn**	**22 03 50.0**	**-2.2**
	baz=229						
IJOK				S	**Sb**	**22 03 57.2**	**+0.6**
	baz=229						
IKRE	**Kreppuhraun**	**0.49**	**73**	P	**Pb**	**22 03 49.7**	**-0.9**
	baz=70						
IKRE				S	**Sb**	**22 03 56.8**	**-0.7**
	baz=70						
IASK	**Askja**	**0.54**	**40**	P	**Pb**	**22 03 51.2**	**-0.3**
	baz=37						
IMKO	**Mokollar**	**0.59**	**55**	P	**Pb**	**22 03 51.8**	**-0.6**
	baz=52						
IIEY	**Innrieyrar**	**0.62**	**207**	P	**Pn**	**22 03 52.4**	**-2.0**
	baz=211						
IIEY				S	**Sb**	**22 04 01.3**	**+0.3**
	baz=211						
IKAL	**Kalfafell**	**0.70**	**188**	P	**Pb**	**22 03 53.6**	**-0.5**
	baz=190						
IKAL				S	**Sb**	**22 04 03.5**	**0.0**
	baz=190						
ISVA	**Svartarkot**	**0.70**	**8**	P	**Pn**	**22 03 54.0**	**-1.6**
	baz=5.0						
ISVA				S	**Sn**	**22 04 04.2**	**-1.9**
	baz=5.0						
IVSH	**V-Sauoahnukur**	**0.77**	**77**	P	**Pb**	**22 03 54.6**	**-0.8**
	baz=75						
IVSH				S	**Sg**	**22 04 05.0**	**-0.6**
	baz=75						
IVAT	**Vatnsfell**	**0.77**	**235**	P	**Pn**	**22 03 55.6**	**-0.9**
	baz=237						
IFAG	**Fagurholsmyri**	**0.85**	**155**	P	**Pg**	**22 03 55.7**	**-1.1**
	baz=156						
IADA	**Aoalbol**	**0.90**	**64**	P	**Pb**	**22 03 56.7**	**-0.8**
	baz=62						
IADA				S	**Sg**	**22 04 08.5**	**-1.0**
	baz=62						
ISTE	**Stelbrattur**	**0.95**	**284**	P	**Pn**	**22 03 58.4**	**-0.5**
	baz=285						
ISNB	**Snabyli**	**1.04**	**210**	P	**Pn**	**22 03 59.5**	**-0.6**
	baz=212						
ISNB				S	**Sn**	**22 04 13.9**	**-0.3**
	baz=212						
IGRS	**Grimsstaoir**	**1.15**	**29**	P	**Pn**	**22 04 01.4**	**-0.3**
	baz=28						
IRJU	**Rjupnafell**	**1.15**	**208**	P	**Pg**	**22 04 01.6**	**-1.0**
	baz=209						
BORG	**Borgarnes**	**1.66**	**275**	Pn	**Pg**	**22 04 09.8**	**-2.4**
	14nm,0.3s,baz=92,slow=7.9,SNR=41						
BORG				Lg	Lg	22 04 34.1	
	8.2nm,0.3s,baz=221,slow=20,SNR=8.0						
EKA	**Eskdalemuir Ar**	**11.73**	**136**	Pn	**Pn**	**22 06 29.6**	**+2.8**
	baz=324,slow=13						
	0.7nm,0.6s						
ESDC	**Sonseca Array**	**26.23**	**156**	P	**P**	**22 09 18.6**	**+4.4**
	0.7nm,1.0s,baz=351,slow=9.1,SNR=4.8						
	0.7nm,1.0s						
ILAR	**Eielson Array**	**45.71**	**332**	P	P	22 12 05.8	+6.0
	1.0nm,1.0s,baz=22,slow=6.0,SNR=5.7						
	1.0nm,1.0s						
PDAR	**Pinedale Array**	**53.19**	**293**	P	P	22 13 01.3	+3.8
	1.0nm,0.9s,baz=47,slow=6.5,SNR=6.2						
	1.0nm,0.9s						

WEL 18 22:24:57.7±1.2, 37.°5S×17.°9E±*, h20km±5km, M3.3/33, ML3.6/40, MLv3.3/33, Error ellipse: s-maj=0.0km s-min=0.0km az=89.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.55**	**254**	P	Pb	22 25 08.3	-0.3
MXZ				S	Sb	22 25 15.4	-0.6
WMGZ	**Waiomatatini S**	**0.60**	**227**	P	Pn	22 25 11.0	0.0
WMGZ				S	Sn	22 25 20.8	+0.6
PKGZ	**Pakihiroa**	**0.85**	**236**	P	Pn	22 25 14.5	-0.1
PKGZ				S	Sn	22 25 26.4	-0.1
PUZ	**Puketiti**	**0.86**	**220**	P	Pn	22 25 15.0	+0.3
PUZ				S	Sn	22 25 27.4	+0.6
HAZ	**Te Kaha**	**1.00**	**250**	P	Pn	22 25 16.5	-0.1
HAZ				P	Pb	22 25 16.5	+0.2
HAZ				S	Sn	22 25 30.6	+0.5
TWGZ	**Tauwhareparae**	**1.09**	**225**	P	Pn	22 25 17.6	-0.3
TWGZ				S	Sn	22 25 33.8	+1.3
RUGZ	**Raukumara Rang**	**1.16**	**241**	P	Pb	22 25 19.5	+0.3
RUGZ				S	Sn	22 25 34.8	+0.6
CNGZ	**Carnagh Statio**	**1.23**	**209**	P	Pb	22 25 20.6	+0.4
CNGZ				S	Sn	22 25 38.7	+3.0
TKGZ	**Te Karaka**	**1.35**	**220**	P	Pn	22 25 21.3	-0.2
MWZ	**Matawai**	**1.46**	**231**	P	Pn	22 25 22.9	-0.1
RIGZ	**Rimuhau**	**1.60**	**216**	P	Pn	22 25 24.9	0.0
RIGZ				S	Sn	22 25 45.1	0.0
RAGZ	**Rawiri**	**1.63**	**228**	P	Pn	22 25 25.3	-0.1
RAGZ				S	Sn	22 25 45.3	-0.5
WHRZ	**Whale Island**	**1.64**	**254**	P	Pb	22 25 26.7	-0.6
URZ	**Urewera**	**1.69**	**240**	P	Pn	22 25 26.9	+0.8
SNGZ	**Shannon Statio**	**1.87**	**223**	P	Pn	22 25 28.7	+0.1
MARZ	**Manawahe**	**1.91**	**252**	P	Pn	22 25 29.0	-0.1
MHGZ	**Mahia Peninsul**	**1.93**	**205**	P	Pn	22 25 29.2	-0.1
OPRZ	**Ohinepanea**	**1.96**	**257**	P	Pn	22 25 29.7	-0.1
RTZ	**Ruatahuna**	**1.98**	**232**	P	Pn	22 25 30.4	+0.3
MUGZ	**Murupara**	**2.04**	**238**	P	Pn	22 25 31.0	+0.2
RAHZ	**Arahi**	**2.11**	**224**	P	Pn	22 25 32.2	+0.3
TARZ	**Mount Tarawera**	**2.11**	**246**	P	Pn	22 25 32.6	+0.6
MTHZ	**Maungataniwha**	**2.21**	**229**	P	Pn	22 25 33.6	+0.3
KARZ	**Kaharoa**	**2.24**	**253**	P	Pn	22 25 34.2	+0.5
NMHZ	**Naumai**	**2.39**	**225**	P	Pn	22 25 36.0	+0.2
ARHZ	**Aropaoanui**	**2.41**	**219**	P	Pn	22 25 35.6	-0.4
MRHZ	**Matea Rd**	**2.46**	**234**	P	Pn	22 25 36.8	+0.1
BKZ	**Black Stump Fm**	**2.62**	**227**	P	Pn	22 25 38.6	-0.3
KUZ	**Kuaotunu**	**2.68**	**283**	P	Pn	22 25 39.3	-0.4
CKHZ	**Cape Kidnapper**	**2.69**	**213**	P	Pn	22 25 38.6	-1.2
KWHZ	**Kaweka Forest**	**2.83**	**224**	P	Pn	22 25 41.0	-0.9
KAHZ	**Kahuranaki**	**2.89**	**214**	P	Pn	22 25 41.3	-1.3
RITZ	**Rihia Road**	**2.90**	**237**	P	Pn	22 25 42.8	0.0
KATZ	**Kakaramea**	**3.01**	**238**	P	Pn	22 25 44.9	+0.5
KRHZ	**Kereru**	**3.02**	**222**	P	Pn	22 25 43.1	-1.3
GRZ	**Great Barrier**	**3.04**	**291**	P	Pn	22 25 44.6	-0.1
MKAZ	**Moumakai**	**3.05**	**275**	P	Pn	22 25 44.8	+0.1
TMVZ	**Te Maari**	**3.08**	**235**	P	Pn	22 25 44.9	-0.4
BHHZ	**Black Hill Sta**	**3.08**	**227**	P	Pn	22 25 44.6	-0.7
NTVZ	**North Tongarir**	**3.09**	**236**	P	Pn	22 25 45.1	-0.4
KRVZ	**Karewarewa**	**3.11**	**236**	P	Pn	22 25 45.4	-0.3
WIAZ	**Waiheke Island**	**3.12**	**280**	P	Pn	22 25 46.2	+0.4
OTVZ	**Oturere**	**3.13**	**235**	P	Pn	22 25 45.7	-0.3
NNVZ	**North Ngauruho**	**3.15**	**236**	P	Pn	22 25 46.3	+0.1
WTVZ	**West Tongariro**	**3.15**	**236**	P	Pn	22 25 46.7	+0.3
SNVZ	**South Ngauruho**	**3.16**	**235**	P	Pn	22 25 46.1	-0.3
NGZ	**Ngauruhoe**	**3.18**	**235**	P	Pn	22 25 46.4	-0.3
TUVZ	**Tukino**	**3.19**	**234**	P	Pn	22 25 46.7	-0.2
MOVZ	**Moawhango**	**3.21**	**231**	P	Pn	22 25 46.6	-0.5
WNVZ	**Wahianoa**	**3.27**	**233**	P	Pn	22 25 47.4	-0.5
PNHZ	**Pukenui**	**3.31**	**220**	P	Pn	22 25 46.1	-2.2
MBAZ	**Motutapu North**	**3.31**	**280**	P	Pn	22 25 49.2	+0.7
MTVZ	**Mangateitei**	**3.38**	**233**	P	Pn	22 25 49.0	-0.4
TSZ	**Takapari Road**	**3.54**	**221**	P	Pn	22 25 49.4	-2.1
DVHZ	**Dannevirke**	**3.62**	**216**	P	Pn	22 25 50.8	-1.8
POWZ	**Post Office Ro**	**3.88**	**219**	P	Pn	22 25 55.1	-1.2
WAZ	**Wanganui**	**3.90**	**232**	P	Pn	22 25 56.5	0.0
WCZ	**Waipu Caves**	**4.00**	**290**	P	Pn	22 25 57.7	0.0
PKZ	**Pukeiti**	**4.30**	**244**	P	Pn	22 26 04.7	+2.7
OUZ	**Omahuta**	**4.86**	**295**	P	Pn	22 26 09.7	+0.1
CTZ	**Chatham Island**	**7.15**	**153**	P	Pn	22 26 41.8	+0.7

WEL 18 22:25:27.3±0.8, 33.°S±12.°×18.°0W±2.°3, h419km±12km, M3.9/17, mB4.3/12, ML4.8/19, MLv4.7/17, Mw(mB)3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=114.9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.62**	**199**	P	P	22 26 46.6	+0.4
MXZ				S	S	22 27 50.1	-0.5
WMGZ	**Waiomatatini S**	**4.83**	**197**	P	P	22 26 50.3	+2.0
WMGZ				S	S	22 27 52.7	-1.8
HAZ	**Te Kaha**	**4.95**	**202**	P	P	22 26 49.7	+0.3
HAZ				S	S	22 27 57.9	+1.3
URZ	**Urewera**	**5.63**	**205**	P	P	22 26 56.1	-0.3
URZ				S	S	22 28 08.1	-1.3
MUGZ	**Murupara**	**5.95**	**207**	P	P	22 26 59.2	-0.5
MUGZ				S	S	22 28 15.5	0.0
TLZ	**Tolley Road**	**6.36**	**215**	P	P	22 27 06.5	+2.4
MRHZ	**Matea Rd**	**6.39**	**207**	P	P	22 27 04.4	-0.1
MRHZ				S	S	22 28 23.3	-1.0
ARHZ	**Aropaoanui**	**6.58**	**202**	P	P	22 27 06.7	-0.2
ARHZ				S	S	22 28 28.6	+0.8
BKZ	**Black Stump Fm**	**6.66**	**205**	P	P	22 27 07.3	-0.6
BKZ				S	S	22 28 29.5	-0.1
KWHZ	**Kaweka Forest**	**6.91**	**205**	P	P	22 27 10.3	-0.4
KWHZ				S	S	22 28 35.3	+0.6
WTVZ	**West Tongariro**	**6.97**	**211**	P	P	22 27 10.8	-0.6
OTVZ	**Oturere**	**6.98**	**210**	P	P	22 27 10.6	-0.9
OTVZ				S	S	22 28 37.1	+0.9
TWVZ	**Taurewa**	**7.00**	**212**	P	P	22 27 11.4	-0.2
SNVZ	**South Ngauruho**	**7.01**	**210**	P	P	22 27 11.3	-0.5
SNVZ				S	S	22 28 38.7	+1.9
NGZ	**Ngauruhoe**	**7.02**	**210**	P	P	22 27 11.8	-0.1
KAHZ	**Kahuranaki**	**7.10**	**201**	P	P	22 27 13.3	+0.6
KAHZ				S	S	22 28 44.4	+6.0
BHHZ	**Black Hill Sta**	**7.10**	**207**	P	P	22 27 11.3	-1.4
BHHZ				S	S	22 28 38.3	-0.2
KRHZ	**Kereru**	**7.13**	**204**	P	P	22 27 12.1	-0.8
KRHZ				S	S	22 28 39.7	+0.8
WNVZ	**Wahianoa**	**7.14**	**210**	P	P	22 27 12.4	-0.9
PKVZ	**Pokaka**	**7.22**	**211**	P	P	22 27 13.0	-1.0
PXZ	**Pawanui**	**7.32**	**200**	P	P	22 27 15.3	+0.2
PXZ				S	S	22 28 43.3	+0.5
PNHZ	**Pukenui**	**7.43**	**204**	P	P	22 27 15.5	-0.7
PNHZ				S	S	22 28 46.0	+0.9
PRHZ	**Porangahau**	**7.61**	**201**	P	P	22 27 18.9	+0.7
PRHZ				S	S	22 28 51.3	+2.7
TSZ	**Takapari Road**	**7.64**	**205**	P	P	22 27 17.5	-1.1
TSZ				S	S	22 28 47.3	-2.0
PKE	**Pukeiti**	**7.79**	**218**	P	P	22 27 22.2	+2.0
BFZ	**Birch Farm**	**8.11**	**202**	P	P	22 27 23.8	+0.3
MRZ	**Mangatainoka R**	**8.31**	**205**	P	P	22 27 24.8	-1.0
MRZ				S	S	22 29 01.7	-1.3
OGWZ	**Otaki Gorge**	**8.59**	**206**	P	P	22 27 28.1	-0.7
OGWZ				S	S	22 29 08.8	-0.1
OGWZ	**Otaki Gorge**	**8.59**	**206**	P	S	22 29 08.6	-0.3
MSWZ	**Moikau Station**	**9.09**	**204**	P	P	22 27 34.1	-0.3
MSWZ				S	S	22 29 18.5	-0.8

WEL 18 22:28:44.6, 40.°S±25.°×17.°6E±1.°1, h5km±10km, M2.6/17, ML2.8/12, MLv2.6/17, Error ellipse: s-maj=0.0km s-min=0.0km az=177.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	**Waipukurau**	**0.08**	**58**	P	Pg	22 28 47.1	+0.7
DVHZ	**Dannevirke**	**0.24**	**216**	P	Pg	22 28 51.0	+1.7
ANWZ	**Angora Road**	**0.36**	**165**	P	Pb	22 28 53.1	-0.4
POWZ	**Post Office Ro**	**0.53**	**237**	P	Pb

MTHZ	Maungataniwha	2.59	225	P	Pn	22 36 52.0	0.0
ALRZ	Allen Road	2.72	235	P	Pn	22 36 53.6	-0.2
NMHZ	Naumai	2.78	222	P	Pn	22 36 54.5	-0.2
KUZ	Kuaotunu	2.80	275	P	Pn	22 36 53.4	-1.4
ARHZ	Aropaoanui	2.81	217	P	Pn	22 36 54.3	-0.7
MRHZ	Matea Rd	2.83	230	P	Pn	22 36 55.2	-0.1
BKZ	Black Stump Fm	3.00	224	P	Pn	22 36 57.0	-0.8
TOZ	Tahuroa Road	3.02	256	P	Pn	22 36 57.7	-0.1
CKHZ	Cape Kidnapper	3.09	212	P	Pn	22 36 57.5	-1.4
MCHZ	McNeill Hill	3.10	219	P	Pn	22 36 58.2	-0.7
GRZ	Great Barrier	3.11	284	P	Pn	22 36 59.3	+0.3
KWHZ	Kaweka Forest	3.22	222	P	Pn	22 36 59.5	-1.3
MKAZ	Moumakai	3.22	268	P	Pn	22 36 59.5	-1.2
WIAZ	Waiheke Island	3.26	273	P	Pn	22 37 01.6	+0.4
KAHZ	Kahuranaki	3.29	213	P	Pn	22 36 59.9	-1.8
KRHZ	Kereru	3.41	220	P	Pn	22 37 01.7	-1.7
ETAZ	East Tamaki Re	3.41	270	P	Pn	22 37 04.1	+0.8
TMVZ	Te Maari	3.44	232	P	Pn	22 37 03.2	-0.6
NTVZ	North Tongarir	3.45	232	P	Pn	22 37 03.3	-0.6
MBAZ	Motutapu North	3.45	273	P	Pn	22 37 04.2	+0.4
BHHZ	Black Hill Sta	3.47	224	P	Pn	22 37 03.1	-1.0
KRVZ	Karewarewa	3.47	233	P	Pn	22 37 03.8	-0.4
OTVZ	Oturere	3.49	232	P	Pn	22 37 03.7	-0.9
NNVZ	North Ngauruho	3.51	232	P	Pn	22 37 04.7	-0.1
WTVZ	West Tongariro	3.51	233	P	Pn	22 37 04.7	-0.1
SNVZ	South Ngauruho	3.52	232	P	Pn	22 37 04.2	-0.7
ABAZ	Army Bay	3.53	276	P	Pn	22 37 05.3	+0.4
NGZ	Ngauruhoe	3.54	232	P	Pn	22 37 04.5	-0.7
TUVZ	Tukino	3.56	230	P	Pn	22 37 05.0	-0.5
TWVZ	Taurewa	3.59	235	P	Pn	22 37 05.8	0.0
MOVZ	Moawhango	3.59	228	P	Pn	22 37 04.8	-1.0
WNVZ	Wahianoa	3.63	230	P	Pn	22 37 05.8	-0.7
AWAZ	Awhitu Peninsu	3.64	268	P	Pn	22 37 06.6	+0.2
PNHZ	Pukenui	3.70	218	P	Pn	22 37 05.1	-2.2
RVAZ	Riverhead Bore	3.71	273	P	Pn	22 37 08.2	+0.9
HIZ	Hauiti	3.73	246	P	Pn	22 37 08.9	+1.1
MTVZ	Mangateitei	3.75	230	P	Pn	22 37 07.1	-0.9
PRHZ	Porangahau	3.79	211	P	Pn	22 37 05.9	-2.6
WAZ	Wanganui	4.27	229	P	Pn	22 37 14.9	-0.2
PKE	Pukeiti	4.63	241	P	Pn	22 37 22.6	+2.5
KHEZ	Kahui Hut	4.66	240	P	Pn	22 37 22.9	+2.4
OUZ	Omahuta	4.88	290	P	Pn	22 37 24.2	+0.7
TUWZ	Tuamarina	5.98	221	P	Pn	22 37 39.4	+0.8
CTZ	Chatham Island	7.41	156	P	Pn	22 37 57.9	-0.3

*INET **18** 22:37:06.0±0.8, 12°.48N×88°.14W, h23km±16km, MW3.4*
*SNET **18** 22:37:06.9±1.2, 12°.58N×88°.24W, h16km±10km, ML3.1*

ISC 18 22:37:03.6±2.1, 12°.45N±0°.09×88°.17W±0°.06, h18km±11km, n15, σ0s68/20, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.79	49	eP	Pb	22 37 20.0	+1.1
CNCH	Conchagua	0.88	22	eP	Pn	22 37 21.4	+0.1
CNCH				eS	Sn	22 37 32.8	-1.0
LCND	La Caada	0.89	18	eP	Pn	22 37 21.7	+0.4
LCND				eS	Sn	22 37 33.1	-0.7
LCND				IAML		22 37 34.7	
	comp=Z,683nm,0.3s						
PACA	Pacayal	1.02	352	eP	Pn	22 37 24.2	+0.9
PACA				eS	Sn	22 37 36.7	-0.5
PACA				IAML		22 37 39.5	
	comp=Z,3µm,0.2s						
PACA	Pacayal	1.02	352	eP	Pn	22 37 24.0	+0.8
COEB	Comit de Eme	1.10	341	eP	Pg	22 37 24.5	-0.4
COEB				eS	Sn	22 37 38.5	-0.6
COEB				IAML		22 37 41.9	
	comp=Z,174nm,0.2s						
CRIN	San Cristobal	1.12	77	eP	Pb	22 37 25.5	+0.9
TEL3	Telica 3	1.30	85	eP	Pn	22 37 27.3	+0.3
COEG	Centro de Oper	1.35	329	eS	Sn	22 37 45.2	0.0
CNGN	Cerro Negro	1.44	88	eP	Pn	22 37 28.2	-0.7
LFFS	El Faro	1.45	323	eP	Pb	22 37 30.3	0.0
LFRS				eS	Sb	22 37 47.8	-0.7
COPN	Copaltepe	1.56	100	eP	Pn	22 37 30.6	0.0
MOMN	Momotombo	1.59	91	eP	Pn	22 37 31.0	0.0
NUBE	Las Nubes	2.13	313	eS	Sn	22 38 05.2	+0.6
BOAB	BOACO BROADBAN	2.44	90	eP	Pn	22 37 42.6	-0.1

*DDA **18** 22:48:24.5±0.0, 38°.92N×27°.74E, h12km, MW3.6*
*ISK **18** 22:48:24.2, 38°.90N×27°.69E, h8km, ML3.6/53*
*THE **18** 22:48:25.8, 38°.96N×27°.81E, h9km±4km, ML3.5/4, Error ellipse: s-maj=4.8km s-min=1.2km az=75.0*

ISC 18 22:48:24.7±0.8, 38°.92N±0°.02×27°.73E±0°.02, h11km±6km, n127, σ0s81/152, 8C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.08	124	P	Pg	22 48 27.2	0.0
AKHS				S	Sg	22 48 29.1	+0.1
AKS	Akhisar	0.08	124	PG	Pg	22 48 27.0	-0.2
GOMA	Golmarmara-Man	0.26	146	PG	Pg	22 48 30.0	0.0
GOMA				SG	Sg	22 48 34.2	+0.6
STEP	BALIKESIR_Sava	0.45	359	P	Pg	22 48 33.4	-0.2
STEP				S	Sb	22 48 40.6	-0.9
ZEDA	zmir-Bergama	0.51	275	P	Pg	22 48 35.0	+0.4
ZEDA				S	Sb	22 48 42.6	-0.4
DKL	Dikili	0.66	283	PG	Pg	22 48 36.9	-0.5
DKL				SG	Sg	22 48 46.2	+0.1
BUHA	Balikesir, Bur	0.77	319	P	Pg	22 48 39.5	0.0
BUHA				S	Sb	22 48 51.4	+0.9
DEMI	Demirci	0.78	81	P	Pb	22 48 39.8	-0.5
DEMI				S	Sb	22 48 50.2	-0.7
MANT	Manisa	0.78	123	P	Pg	22 48 39.7	-0.1
MANT				S	Sb	22 48 50.4	-0.3
FOCM	Foa	0.81	255	PG	Pg	22 48 39.5	-0.7
FOCM				SG	Sg	22 48 50.6	-0.2
BALY	Balya	0.82	354	P	Pg	22 48 39.3	-1.2
BALY				S	Sg	22 48 50.5	-0.7
DURS	Dursunbey	0.89	40	P	Pg	22 48 41.0	-0.8
DURS				S	Sn	22 48 55.3	-0.9
AYVA	Ayvalik	0.89	296	P	Pb	22 48 42.1	-0.1
AYVA				S	Sb	22 48 54.3	+0.2
DST	Dursunbey	0.97	45	PG	Pn	22 48 44.1	-0.2
AYDB	Zeytinkoy-Aydi	0.98	172	PG	Pg	22 48 43.2	-0.4
AYDB				SG	Sb	22 48 56.9	+0.1
SMAA	Simav-Kutahya	0.99	79	PG	Pn	22 48 44.3	-0.3
URLA	Izmir	1.05	238	PG	Pg	22 48 44.0	-0.9
URLA	Izmir	1.05	238	P	Pg	22 48 43.6	-1.3
URLA				S	Sg	22 48 58.3	-0.3
DGB	zmir	1.09	218	P	Pg	22 48 45.1	-0.6
DGB				S	Sn	22 49 01.3	+0.3
GONE	Gonen-Balikesi	1.12	358	PN	Pn	22 48 46.5	+0.2
PRK	Paraskevi	1.18	286	P	Pg	22 48 48.2	+0.9
PRK				S	Sn	22 49 04.2	+1.1
	2µm,0.5s						
ZEYE	Izmir, Urla-Ze	1.18	235	P	Pb	22 48 46.6	-0.5
ZEYE				S	Sn	22 49 03.1	0.0
BAYC	CANAKKALE_Bayr	1.23	312	P	Pn	22 48 47.7	-0.1
BAYC				S	Sn	22 49 04.4	+0.1
AYDN	Tasoluk	1.27	175	P	Pn	22 48 48.1	-0.3
AYDN				S	Sg	22 49 05.3	-0.2
GEDZ	Gediz	1.32	84	PN	Pg	22 48 49.9	-0.1
GPNR	Gulpinar-Canak	1.35	294	PN	Pn	22 48 49.5	+0.1
KNL	Balıkesir	1.35	353	P	Pn	22 48 49.2	-0.3
KNL				S	Sb	22 49 07.5	+0.2
KOCA	Canakkale, Ayv	1.36	296	P	Pn	22 48 49.6	-0.1
KOCA				S	Sb	22 49 06.2	-1.4
GDZ	Gediz	1.38	83	P	Pg	22 48 49.8	-0.1
GDZ				S	Sb	22 49 07.6	-0.5
SMG	Samos	1.40	210	P	Pg	22 48 51.2	-0.4
SMG				S	Sg	22 49 10.7	+0.9
	1µm,0.5s						
EZN	Ezine	1.41	310	P	Pn	22 48 50.2	-0.1
EZN	Ezine	1.41	310	PN	Pn	22 48 50.6	+0.3
CHOS	Chios island	1.42	248	P	Pg	22 48 51.9	+0.1
CHOS				S	Sg	22 49 11.5	+1.3
	3µm,0.4s						
CHOS	Chios island	1.42	248	PN	Pn	22 48 50.3	-0.1
EDC	Edincik	1.42	4	PN	Pn	22 48 50.8	+0.3
ORLT	Orhaneli	1.44	39	PN	Pb	22 48 51.7	+0.2
TVSB	Tavsanli	1.45	68	PN	Pb	22 48 51.5	-0.2
SIGR	SIGRI	1.48	282	P	Pn	22 48 51.4	+0.1
SIGR				S	Sg	22 49 13.2	+0.7
	1µm,0.5s						
SIGR	SIGRI	1.48	282	PN	Pn	22 48 51.5	+0.1
PASA	Karahalli, USA	1.49	112	P	Pn	22 48 51.6	+0.1
PASA				S	Sg	22 49 12.0	-0.8

DDIM	Aydin, Didim	1.51	195	P	Pn	22 48 51.1	-0.6
BOZC	Bozcaada	1.59	306	PN	Pn	22 48 53.1	+0.4
BOZC	Bozcaada	1.59	306	P	Pn	22 48 52.6	-0.2
ULDT	Uludag	1.63	41	P	Pn	22 48 53.7	+0.1
ECEA	Canakkale, Ece	1.64	313	P	Pn	22 48 53.9	+0.5
MRMT	Marmara Adasi	1.68	357	PN	Pb	22 48 55.0	-0.6
MDNY	Mudanya-Bursa	1.70	31	PN	Pn	22 48 54.5	+0.3
MULA	Mugla, Merkez-	1.73	164	P	Pn	22 48 55.3	+0.6
TAVA	DENIZLI_Tavas	1.73	147	P	Pn	22 48 54.8	0.0
IGD	Bursa	1.76	40	P	Pn	22 48 54.5	-0.6
GELI	Tayfur-Gelibol	1.76	327	PN	Pn	22 48 55.7	+0.6
ANDZ	Kutahya, Merke	1.79	70	P	Pn	22 48 55.8	+0.2
RKY	Sarkoy-Tekirda	1.81	347	PN	Pn	22 48 56.6	+0.7
SART	Tekirdag	1.81	347	P	Pn	22 48 55.2	-0.7
YER	Yerkesik	1.84	166	PN	Pn	22 48 56.6	+0.4
ARMT	Armutlu	1.86	28	PN	Pn	22 48 56.7	+0.2
BDRM	Kayabasi	1.87	187	P	Pn	22 48 55.4	-1.2
GEMT	Gemlik	1.88	36	PN	Pb	22 48 58.1	-1.0
BODT	Bodrum	1.89	190	PN	Pn	22 48 55.7	-1.2
GOKA	anakkale-Gk	1.89	313	P	Pn	22 48 57.3	+0.4
GOKA				S	Sn	22 49 20.0	-0.7
GADA	Gvkgeada	1.90	312	PN	Pn	22 48 57.6	+0.6
APMY	Acipayam-Deniz	1.91	139	PN	Pn	22 48 57.9	+0.7
ESNK	Esenkıy	1.95	29	P	Pn	22 48 56.7	-1.0
KZIL	AFYON_Kizioren	2.00	109	P	Pn	22 48 58.9	+0.4
AFYO	Afyonkarahisar	2.01	93	P	Pb	22 49 01.7	+0.3
KURT	Yalova, Merkez	2.02	34	P	Pn	22 48 58.0	-0.6
AUBOZ	BOZOYUK	2.04	60	PN	Pb	22 49 00.3	-1.5
BILE	Bilecik/Merkez	2.07	53	P	Pb	22 49 02.1	-0.2
YLV	Yalova	2.07	37	PN	Pb	22 49 00.9	-1.5
CAVI	Cavuskoy	2.07	51	PN	Pb	22 49 00.9	-1.4
BASM	Basmaki-Afyon	2.08	119	PN	Pn	22 49 02.3	+0.9
ADVT	Abdulvahap	2.16	45	PN	Pn	22 49 01.9	+1.3
ENEZ	Enez	2.18	327	P	Pn	22 49 01.6	+0.8
ENEZ	Enez	2.18	327	PN	Pn	22 49 01.7	+0.9
TURN	Turunc	2.18	169	PN	Pn	22 49 00.9	0.0
TURN	Turunc	2.18	169	P	Pn	22 49 00.2	-0.7
CAEL	Denizli, Camel	2.19	145	P	Pb	22 49 04.2	-0.3
LIA	Limnos Island	2.20	297	P	Pn	22 49 01.4	+0.3
CRLT	Corlu	2.20	0	PN	Pn	22 49 02.5	+1.3
DALY	Dalyan (Mula)	2.23	161	PN	Pn	22 49 02.3	+0.8
SHUT	Suhut-Afyon	2.24	99	PN	Pn	22 49 02.9	+1.1
BORA	Eskisehir	2.32	65	PN	Pn	22 49 04.3	+1.5
SLVT	Silivri	2.33	9	PN	Pn	22 49 04.4	+1.4
CAME	Cameli-Denizli	2.34	147	PN	Pn	22 49 03.9	+0.7
ALN	Alexandroupoli	2.36	327	P	Pn	22 49 03.7	+0.4
ALN	Alexandroupoli	2.36	327	PN	Pn	22 49 04.3	+1.0
UKOP	Uzunkopru-Edir	2.36	339	PN	Pn	22 49 04.4	+1.1
NIS1	Nisyros Isl.	2.36	191	PN	Pn	22 49 03.9	+0.6
KAVV	Kandilli-Istan	2.37	25	PN	Pn	22 49 04.9	+1.4
ISK	Istanbul-Kandi	2.37	25	P	Pn	22 49 03.0	-0.5
ISK	Istanbul-Kandi	2.37	25	PN	Pn	22 49 05.1	+1.6
CTKS	Kestanelik-??a	2.38	14	PN	Pn	22 49 05.2	+1.5
HRT	Hereke	2.41	38	PN	Pn	22 49 05.4	+1.3
ISP	Isparta	2.46	116	PN	Pn	22 49 05.9	+1.1
SRCK	Saricakaya, Es	2.50	63	PN	Pn	22 49 07.1	+1.7
FETY	Fethiye	2.52	154	PN	Pn	22 49 06.5	+0.9
KLYT	Kilyos	2.54	23	PN	Pn	22 49 07.2	+1.5
APE	Apeiranthos	2.54	224	⇑P	Pg	22 49 13.9	+0.5
APE	Apeiranthos	2.54	224	PN	Pn	22 49 06.3	+0.5
CTYL	Yalikoy Yolu	2.58	9	PN	Pn	22 49 07.9	+1.5
GULT	Gulveren	2.63	54	PN	Pn	22 49 08.8	+1.7
CIFT	Cifteler, Eski	2.63	79	PN	Pn	22 49 08.6	+1.5
SILT	Sile	2.67	33	PN	Pn	22 49 09.4	+1.8
BCK	Bucak	2.69	122	PN	Pn	22 49 09.1	+1.2
SAUV	Serdivan-Sakar	2.70	47	PN	Pn	22 49 09.9	+1.9
ARG	Arkhangelos	2.72	173	P	Pn	22 49 08.3	+0.0
ARG	Arkhangelos	2.72	173	PN	Pn	22 49 09.1	+0.8
RDO	Rodhopi	2.78	324	P	Pn	22 49 10.0	+0.8
KYMI	Kymi, Euboea I	2.85	265	P	Pn	22 49 10.9	+0.8
EDRB	Edirne	3.01	346	P	Pn	22 49 11.9	-0.4
KDZ	Kurdzhali	3.25	328	*i* P	Pn	22 49 16.1	+0.6
RZN	Rozhen	3.59	321	*i* P	Pn	22 49 21.0	+0.5
NVR	Nevrokopi	3.83	310	P	Pn	22 49 24.1	+0.5
SRS	Serrai	3.86	306	P	Pn	22 49 24.3	+0.4
ANTO	Ankara	4.04	75	⇑P	Pg	22 49 43.5	+1.5
MMB	Musomiste	4.06	312	*i* P	Pn	22 49 27.0	+0.3
KKB	Krupnik	4.61	311	*i* P	Pn	22 49 34.8	+0.6
VTS	Vitosha	5.02	319	*i* P	Pn	22 49 41.1	+1.0
BOVS	Bovan	6.54	318	⇓P	Pn	22 50 01.4	+0.7
MLR	Muntele Rosu	6.69	349	⇓P	Pn	22 50 04.2	+1.2
PLOR	Plostina	6.97	354	⇑P	Pn	22 50 07.2	+0.5
VRI	Vrincioaia	6.98	354	⇑P	Pn	22 50 05.5	-1.2
COVR	Voineasa-Covas	7.01	351	⇑P	Pn	22 49 54.9	-12
OZUR		7.38	349	⇑P	Pn	22 50 17.5	+0.4
MDVR	Moldovita	7.37	324	⇑P	Pn	22 50 12.8	+0.5
GZR	Gura Zlata	7.43	332	⇓P	Pn	22 50 13.1	0.0
TESR	Tescani	7.62	354	⇑P	Pn	22 50 16.9	+1.2

IDC 18 22:54:12.8±4.0, 2°.07S×141°.51E, h0km, mb3.5/3, mbtmp3.5/4, ML3.5/1, MS3.0/1, Error ellipse: s-maj=123.3km s-min=31.3km az=92.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	18.50	166	LR	LR	23 06 25.8	
	comp=Z,44nm,20.7s,baz=86,slow=40						
WRA	Warramunga Arr	19.10	201	P	P	22 58 36.5	-0.8
	0.2nm,0.3s,baz=27,slow=12,SNR=12						
	0.5nm,0.4s						
FITZ	Fitzroy Crossi	22.27	223	P	P	22 59 11.4	-0.4
	0.9nm,0.5s,baz=66,slow=10.0,SNR=1.3						
	0.9nm,0.5s						
ASAR	Alice Springs	22.70	198	P	P	22 59 17.2	+0.9
	0.8nm,0.5s,baz=28,slow=11,SNR=12						
	0.8nm,0.5s						
MKAR	Makanchi Array	71.01	321	P	P	23 05 32.5	-0.1
	0.4nm,0.7s,baz=113,slow=7.0,SNR=2.8						
	0.4nm,0.7s						

*IDC **18** 23:06:09.7±1.1, 45°.60S×34°.34E, h0km, mb3.7/5, mbtmp3.9/7, ML4.4/2, MS3.4/9, Error ellipse: s-maj=65.5km s-min=19.5km az=67.0*
*NEIC **18** 23:06:11.1±2.6, 45°.4S±0°.2×34°.5E±0°.2, h10km±2km, mb4.2/8, Error ellipse: s-maj=32.9km s-min=18.3km az=203.0*

ISC 18 23:06:10.8±0.8, 45°.4S±0°.1×34°.2E±0°.2, h10km, n32, σ3s09/28, mb4.0/6, MS3.2/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOE	Somerset East	14.29	329	Pn	Pn	23 09 35.4	+2.2
SUR	Sutherland	16.61	317	Pn	Pn	23 10 07.8	+4.0
	1.5nm,0.3s,baz=146,slow=11,SNR=17						
SUR				Sn	Sn	23 13 03.2	-5.1
	0.2nm,0.3s,baz=238,slow=13,SNR=2.2						
SUR				LR	LR	23 15 19.3	
	comp=Z,97nm,18.5s,baz=144,slow=33						
	4.7nm,0.4s						
SUR	Sutherland	16.61	317	P	P	23 10 08.2	+1.9
POGA	Pongola	18.08	353		P	23 10 25.6	+3.2
POGA				IAmb	IAmb	23 10 27.3	
	comp=Z,13nm,0.7s						
BOSA	Boshof	18.15	334	P	Pn	23 10 24.4	+1.3
	comp=Z,0.7nm,0.3s,baz=162,slow=14,SNR=17						
BOSA				S	Sn	23 13 39.2	-6.5
	comp=Z,3.0nm,0.9s,baz=22,slow=17,SNR=1.9						
BOSA				LR	LR	23 16 15.8	
	comp=Z,110nm,18.7s,baz=192,slow=33						
	comp=Z,2.0nm,0.4s						
BOSA	Boshof	18.15	334		Pn	23 10 24.9	+1.8
BOSA	Boshof	18.15	334	*i* P	P	23 10 26.8	+3.4
BOSA	Boshof	18.15	334	*i* P	P	23 10 26.8	+3.4
LBTB	Lobatse	21.45	338	P	P	23 11 01.7	+2.4
	comp=Z,5.6nm,1.0s,baz=169,slow=14,SNR=4.9						
LBTB				S	S	23 14 52.4	-4.9
	comp=Z,2.4nm,0.9s,baz=32,slow=1.6,SNR=1.9						
LBTB				LR	LR	23 18 14.7	
	comp=Z,66nm,19.1s,baz=156,slow=33						
	comp=Z,5.6nm,1.0s						
LBTB	Lobatse	21.45	338	P	P	23 11 02.3	+2.9
LBTB				IAmb	IAmb	23 11 10.3	
	comp=Z,8.2nm,0.9s						
LBTB	Lobatse	21.45	338	*i* P	P	23 10 57.1	-2.2
LBTB	Lobatse	21.45	338	*i* P	P	23 10 57.1	-2.2
MOPA	Mopani	21.90	353	*i* P	P	23 11 12.8	+8.8
MOPA	Mopani	21.90	353	*i* P	P	23 11 12.8	+8.8
FOMA	Nahampoana Res	22.79	31	P	P	23 11 13.2	-0.2

MUSN	Musina, Limpop	23.28	350	*i* P	P	23 11 21.3	+2.7
MUSN	Musina, Limpop	23.28	350	*i* P	P	23 11 21.3	+2.7
VOI	Vohitsoka	25.55	28	P	P	23 11 39.4	-0.5
BLWY	Bulawayo	25.57	348	*i* P	P	23 11 37.5	-2.6
BLWY	Bulawayo	25.57	348	*i* P	P	23 11 37.5	-2.6
MAW	Mawson	26.87	156	LR	LR	23 21 50.0	
	comp=Z,68nm,18.3s,baz=263,slow=35						
TSUM	Tsumeb	29.50	327	LR	LR	23 23 23.4	
	comp=Z,56nm,18.4s,baz=142,slow=35						
LSZ	Lusaka	30.41	348	LR	LR	23 22 12.9	
	comp=Z,48nm,18.0s,baz=170,slow=31						
SHEL	Horse Pasture	44.47	298	P	P	23 14 23.2	+0.9
QSPA	South Pole Qui	44.87	180	P	P	23 14 23.2	-1.8
	comp=Z,1.1nm,0.7s,baz=258,slow=1.6,SNR=6.9						
	comp=Z,1.1nm,0.7s						
QSPA	South Pole Qui	44.87	180	P	P	23 14 23.5	-1.6
QSPA				IAmb	IAmb	23 14 37.5	
	comp=Z,2.5nm,1.0s						
VNDA	Vanda	53.24	168	P	P	23 15 26.7	-2.2
	comp=Z,0.8nm,0.9s,baz=242,slow=5.8,SNR=5.0						
VNDA				LR	LR	23 36 32.7	
	comp=Z,75nm,18.5s,baz=200,slow=34						
	comp=Z,0.8nm,0.9s						
TOA0	Torodi Ar. Sit	65.23	325		P	23 16 55.9	+3.4
TOA0				IAmb	IAmb	23 17 12.0	
	comp=Z,3.0nm,1.1s						
TORD	Torodi Ar. Bea	65.23	325	P	P	23 16 55.6	+3.1
	comp=Z,0.9nm,0.7s,baz=160,slow=5.6,SNR=6.5						
	comp=Z,0.9nm,0.7s						
MMAI	Mount Meron Ar	78.00	1	LR	LR	23 52 16.9	
	comp=Z,32nm,18.3s,baz=140,slow=35						
ASAR	Alice Springs	79.96	113	P	P	23 18 20.3	0.0
	comp=Z,0.3nm,0.7s,baz=230,slow=5.7,SNR=1.7						
	comp=Z,0.3nm,0.7s						
SIJI	Sorong	94.34	96	LR	LR	23 55 22.5	
	comp=Z,38nm,19.6s,baz=132,slow=31						

*UPP **18** 23:24:06.8±0.0, 67°.85N×20°.21E, h0km, ML2.3, Explosion*
*IDC **18** 23:24:07.2±1.4, 67°.86N×20°.66E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=20.0km s-min=7.8km az=117.0*
*HEL **18** 23:24:07.4±0.0, 67°.84N×20°.21E, h0km, ML2.0, ML2.3(UPP), Explosion*

ISC 18 23:24:07.0±0.8, 67°.84N±0°.02×20°.22E±0°.03, h0km, n36, σ0s81/54, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	20	P	Pg	23 24 09.3	-0.1
KUA				S	Sg	23 24 11.1	0.0
KUA	Kurravaara	0.13	20	*i* P	Pg	23 24 09.3	-0.1
KUA				*i* S	Sg	23 24 11.1	0.0
RATU	Laukkuluspa	0.24	267	P	Pg	23 24 11.5	0.0
RATU	Laukkuluspa	0.24	267	*i* P	Pg	23 24 11.5	0.0
KOVU	Salmi	0.39	357	P	Pg	23 24 14.1	-0.4
KOVU				S	Sg	23 24 19.2	-0.3
KOVU	Salmi	0.39	357	*i* P	Pg	23 24 14.1	-0.4
KOVU				*i* S	Sg	23 24 19.2	-0.3
NIKU	Nikkaluokta	0.45	275	P	Pg	23 24 15.3	-0.2
NIKU	Nikkaluokta	0.45	275	*i* P	Pg	23 24 15.3	-0.2
LANU	Lannavaara	0.70	71	P	Pg	23 24 20.1	-0.3
LANU	Lannavaara	0.70	71	*e*P	Pg	23 24 19.9	-0.4
LANU				*e*S	Sg	23 24 29.5	0.0
DUNU	Dundret	0.73	169	P	Pg	23 24 20.7	-0.2
DUNU	Dundret	0.73	169	*i* P	Pg	23 24 20.7	-0.2
SALU	Saltoluokta	0.80	236	P	Pg	23 24 21.9	-0.4
SALU	Saltoluokta	0.80	236	*i* P	Pg	23 24 21.9	-0.4
KIF	Kilpisjarvi	1.20	10	*e*P	Pg	23 24 29.9	+0.1
KIF	Kilpisjarvi	1.20	10	*e*PB	Pg	23 24 29.5	-0.3
KIF				MSG		23 24 44.4	
	comp=Z,21nm,0.2s						
KIF				*e*SB	Sg	23 24 45.5	+0.2
PAJU	Pajala	1.38	125	*e*P	Pg	23 24 32.1	-1.3
	baz=304						
PAJU				*e*SB	Sg	23 24 51.1	-0.1
HEF	Hetta	1.41	64	*e*P	Pn	23 24 32.9	-1.0
HEF	Hetta	1.41	64	*e*PG	Pn	23 24 32.7	-1.2
HEF				MSG		23 24 50.1

0.2nm,0.4s,baz=193,slow=5.8,SNR=1.7
0.2nm,0.4s
GEYT Alibeck 41.92 314 P **P** **23 39 41.4 +0.7**
0.9nm,0.6s,baz=145,slow=6.5,SNR=2.8
0.9nm,0.6s
WRA Warramunga Arr 49.91 130 P **P** **23 40 44.0 0.0**
0.5nm,0.8s,baz=312,slow=8.8,SNR=2.1
0.5nm,0.8s
ARU Arti 52.35 335 LR LR 00 05 38.6
comp=Z,22nm,19.1s,baz=214,slow=39
KIRV Kirov 57.57 333 LR LR 00 07 58.0
comp=Z,32nm,21.3s,baz=287,slow=38
FINES FINESS Array B 69.42 331 P **P** **23 42 57.1 -0.7**
0.6nm,0.5s,baz=121,slow=5.4,SNR=4.9
0.6nm,0.5s

---

*IDC **18** 23:39:04.3±1.6,8°.07N×92°.20E,h0km,mb3.8/6, mbtmp3.9/7,ML4.1/1,Error ellipse: s-maj=40.1km s-min=27.1km az=45.0*
*NDI **18** 23:39:07.7±2.8,7°.98N×92°.12E,h38km±72km,ML3.4, mb4.3(NEIC)*
*NEIC **18** 23:39:09.8±1.5,8°.2N±0°.1×92°.2E±0°.2,h30km±7km, mb4.3/14,Error ellipse: s-maj=27.0km s-min=6.7km az=57.0*
ISC 18 23:39:07.9±0.7,8°.09N±0°.07×92°.12E±0°.09,h25km,n38, σ1§36/37,mb4.0/12,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.60**	**10**	Pn	**Pn**	**23 40 00.6**	**-1.5**
PBA				Sn	**Sn**	**23 40 42.6**	**-1.2**
PBA	**Port Blair**	**3.60**	**10**	*e*P	**Pn**	**23 40 00.7**	**-1.4**
PBA				*e*S	**Sn**	**23 40 41.1**	**-2.7**
PBA				IAML		23 40 42.9	
	comp=N,152nm,0.6s						
DGPR	**DIGLIPUR**	**5.12**	**9**	*e*P	**Pn**	**23 40 24.9**	**+1.9**
DGPR				*e*S	**Sn**	**23 41 17.6**	**-3.8**
DGPR				IAML		23 41 19.0	
	comp=E,70nm,0.2s						
LHMI	**Lhok Sumawe**	**5.57**	**120**	Pn	**Pn**	**23 40 27.1**	**-2.1**
PALK	**Pallekele**	**11.35**	**267**	Pn	**Pn**	**23 41 47.8**	**-0.7**
	comp=E,1.4nm,0.3s,baz=77,slow=18,SNR=16						
PALK				Sn	Sn	23 43 39.0	-16
	comp=E,3.5nm,0.3s,baz=98,slow=22,SNR=9.2						
	comp=E,4.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**12.26**	**32**	Pn	**Pn**	**23 42 04.1**	**+3.1**
	comp=E,0.1nm,0.3s,baz=232,slow=14,SNR=5.3						
RAGD	**RAYAGADA**	**13.92**	**324**	*e*P	**Pn**	**23 42 22.2**	**-1.5**
RAGD				*e*S	Sn	23 44 45.0	-13
SALM	**Salem**	**14.16**	**286**	*e*S	Sn	23 44 48.7	-15
GKN	**Gorkha**	**21.03**	**341**	*e*P	**P**	**23 43 51.1**	**+1.0**
KOLN	**Koldanda**	**21.17**	**339**	*e*P	**P**	**23 43 52.5**	**+0.8**
	comp=E,5.2nm,1.1s						
KOLN	**Koldanda**	**21.17**	**339**	*e*P	**P**	**23 43 52.9**	**+1.2**
DANN	**Dangsing**	**21.64**	**340**	*e*P	**P**	**23 43 58.1**	**+1.3**
PYUN	**Piuthan**	**21.70**	**338**	*e*P	**P**	**23 43 58.3**	**+1.0**
H08S3	**Diego Garcia H**	**25.04**	**232**	T	T	00 10 34.0	
	baz=51,slow=75,SNR=426						
H08S2	**Diego Garcia H**	**25.04**	**232**	T	T	00 10 33.9	
	baz=51,slow=75,SNR=281						
H08S1	**Diego Carcia H**	**25.06**	**232**	T	T	00 10 37.5	
	baz=51,slow=75,SNR=152						
NIL	**Nilore**	**30.83**	**328**	P	**P**	**23 45 22.4**	**+0.3**
NIL				IAmb	IAmb	23 45 23.1	
	comp=Z,5.4nm,1.1s						
BTK	**Batken**	**37.09**	**332**	P	**P**	**23 46 17.7**	**+1.3**
BTK				IAmb	IAmb	23 46 19.7	
	comp=Z,3.8nm,0.8s						
AAK	**Ala-Archa**	**37.75**	**339**	P	**P**	**23 46 23.1**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=162,slow=6.4,SNR=4.4						
	comp=Z,0.7nm,0.3s						
AAK	**Ala-Archa**	**37.75**	**339**	P	**P**	**23 46 21.6**	**-0.4**
AAK				IAmb	IAmb	23 46 24.4	
	comp=Z,2.4nm,0.9s						
MKAR	**Makanchi Array**	**39.48**	**349**	P	**P**	**23 46 36.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=166,slow=7.9,SNR=8.9						
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**39.48**	**349**	P	**P**	**23 46 36.0**	**-0.3**
KK31	**Karatay Array**	**39.70**	**335**	P	**P**	**23 46 38.9**	**+0.7**
KK31				IAmb	IAmb	23 46 39.5	
	comp=Z,1.9nm,0.7s						
KKAR	**Karatay Array**	**39.70**	**335**	P	**P**	**23 46 39.2**	**+1.0**
KKAR				IAmb	IAmb	23 46 39.5	
	comp=Z,1.9nm,0.7s						
KKAR	**Karatay Array**	**39.70**	**335**	P	**P**	**23 46 39.2**	**+1.0**
SONM	**Songino Array**	**41.43**	**15**	P	**P**	**23 46 52.7**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=204,slow=8.2,SNR=5.4						
	comp=Z,0.7nm,0.6s						
FAKI	**Fak Fak**	**41.49**	**104**	P	**P**	**23 46 53.9**	**+0.6**
FAKI				IAmb	IAmb	23 47 18.5	
	comp=Z,14nm,1.4s						
GEYT	**Alibeck**	**42.72**	**319**	P	**P**	**23 47 04.3**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=119,slow=12,SNR=5.3						
	comp=Z,1.6nm,0.6s						
GEYT	**Alibeck**	**42.72**	**319**	P	**P**	**23 47 03.1**	**0.0**
GYA0B	**ALIBECK ARRAY**	**42.72**	**319**	P	**P**	**23 47 02.4**	**-0.7**
ZALV	**Zalesovo Beam**	**46.11**	**354**	P	**P**	**23 47 29.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=178,slow=9.8,SNR=4.0						
	comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**49.10**	**333**	P	**P**	**23 47 53.6**	**+0.3**
WB0	**Warramunga Arr**	**49.98**	**124**	P	**P**	**23 48 00.1**	**-0.2**
WRA	**Warramunga Arr**	**50.02**	**124**	P	**P**	**23 48 00.4**	**-0.4**
	comp=Z,1.4nm,1.3s,baz=305,slow=8.6,SNR=4.7						
	comp=Z,1.4nm,1.3s						
WRA	**Warramunga Arr**	**50.02**	**124**	P	**P**	**23 47 59.9**	**-0.8**
WRAB	**Tennant Creek**	**50.03**	**124**	P	**P**	**23 48 00.6**	**-0.2**
WB2	**Warramunga Arr**	**50.03**	**124**	P	**P**	**23 48 00.3**	**-0.5**
WR0	**Warramunga Arr**	**50.20**	**124**		**P**	**23 48 02.1**	**+0.1**
WR0				IAmb	IAmb	23 48 22.9	
	comp=Z,8.3nm,1.4s						

---

*IDC **18** 23:45:47.5±6.5,26°.63N×143°.91E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=418.6km s-min=36.2km az=119.0*
*JMA **18** 23:46:28.8±0.2,28°N±1°×14°0E±°,h510km,MV3.6/27,W OFF OGASAWARA*
ISC 18 23:46:29.7±1.1,28°.10N±0°.08×139°.9E±0°.2,h500km,n14, σ1§43/20,mb2.9/3,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.26**	**116**	P	**P**	**23 47 36.1**	**-0.1**
CBIJ				S	**S**	**23 48 28.8**	**-1.4**
JHH2	**Haha-jima-NKT2**	**2.50**	**125**	S	**S**	**23 48 31.5**	**-1.1**
BSO1	**Boso 1**	**6.60**	**8**	P	**P**	**23 48 11.8**	**+0.7**
BSO1				*e*S	**S**	**23 49 35.1**	**+0.8**
BSO3	**Boso 3**	**6.70**	**4**	*e*P	**P**	**23 48 12.8**	**+0.4**
BSO3				S	**S**	**23 49 34.7**	**-2.0**
JIE	**Ise**	**6.84**	**337**	*e*P	**P**	**23 48 15.9**	**+1.8**
JKN2	**Miekihoku**	**6.86**	**334**	*e*P	**P**	**23 48 15.3**	**+1.0**
BSO4	**Boso 4**	**6.88**	**3**	*e*S	**S**	**23 49 38.4**	**-1.9**
JRY	**Ryogami san**	**7.94**	**354**	*e*P	**P**	**23 48 24.9**	**-0.4**
JAG	**Ashikaga**	**8.31**	**358**	*e*P	**P**	**23 48 28.4**	**-0.7**
JAG				*e*S	**S**	**23 50 04.5**	**-2.7**
JHO	**Hitachi**	**8.51**	**4**	P	**P**	**23 48 31.4**	**+0.2**
JHO				*e*S	**S**	**23 50 09.6**	**-1.4**
JFK	**Kawauchi**	**9.28**	**5**	*e*P	**P**	**23 48 40.7**	**+1.4**
JFK				*e*S	**S**	**23 50 25.4**	**-0.5**
WRA	**Warramunga Arr**	**48.06**	**187**	P	**P**	**23 54 22.7**	**-0.6**
	0.3nm,0.5s,baz=12,slow=8.5,SNR=9.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**51.79**	**187**	P	**P**	**23 54 49.8**	**-0.8**
	0.2nm,0.6s,baz=23,slow=12,SNR=1.6						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**81.48**	**51**	P	**P**	**23 57 57.0**	**+2.3**
	0.2nm,0.5s,baz=298,slow=5.8,SNR=2.5						
	0.2nm,0.5s						

---

*IDC **19** 00:02:27.7±1.5,9°.35S×111°.93E,h0km,mb3.8/5, mbtmp3.8/5,MS2.8/1,Error ellipse: s-maj=78.0km s-min=21.5km az=47.0*
*NEIC **19** 00:02:29.4±2.4,9°.88S±0°.07×111°.64E±0°.08,h10km±1km, mb4.5/25,Error ellipse: s-maj=14.8km s-min=9.6km az=230.0*
*DJA **19** 00:02:30.3±1.1,10°S±4°×11°2E±°,h29km±13km,M4.1/12, mb4.6/7,mB5.2/2,MLv3.8/12,Mw(mB)4.6/2*
ISC 19 00:02:30.9±3.1,9°.83S±0°.06×111°.70E±0°.06,h28km±23km, n67,σ1§26/69,mb4.2/14,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.70**	**342**	P	**Pn**	**00 02 57.1**	**-1.6**
PWJI	**Pagerwojo**	**1.80**	**3**	P	**Pn**	**00 02 58.0**	**-2.0**
PWJI				S	**Sn**	**00 03 22.0**	**+0.1**
UGM	**Wanagama**	**2.23**	**329**		**Pn**	**00 03 06.1**	**+0.1**
UGM				Sn	**Sn**	**00 03 34.4**	**+1.8**
UGM	**Wanagama**	**2.23**	**329**	P	**Pn**	**00 03 05.1**	**-0.9**
UGM				S	**Sn**	**00 03 33.6**	**+1.0**
UGM	**Wanagama**	**2.23**	**329**	P	**Pn**	**00 03 05.7**	**-0.3**
GMJI	**Gumukmas**	**2.31**	**48**	P	**Pn**	**00 03 06.6**	**-0.6**
YOGI	**Yogyakarta**	**2.43**	**325**	P	**Pn**	**00 03 09.4**	**+0.6**
YOGI				S	**Sn**	**00 03 37.8**	**+0.2**
NGJI	**Ngawi**	**2.45**	**355**	P	**Pn**	**00 03 10.4**	**+1.3**
JAGI	**Jajag, Banyuwa**	**2.77**	**61**		**Pn**	**00 03 14.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.77**	**61**	P	**Pn**	**00 03 13.6**	**+0.1**
JAGI				S	**Sn**	**00 03 47.5**	**+1.4**
JAGI	**Jajag, Banyuwa**	**2.77**	**61**	P	**Pn**	**00 03 14.2**	**+0.7**
BLJI	**Banyuglugur**	**2.79**	**42**	P	**Pn**	**00 03 14.2**	**+0.5**
SMRI	**Semarang**	**3.03**	**336**		**Pn**	**00 03 18.4**	**+1.4**
SMRI	**Semarang**	**3.03**	**336**	P	**Pn**	**00 03 17.3**	**+0.3**
ABJI	**Asem Bagus**	**3.22**	**51**	P	**Pn**	**00 03 20.8**	**+1.2**
KMMI	**Kalianget**	**3.56**	**39**	P	**Pn**	**00 03 24.5**	**+0.2**
SRBI	**Singaraja**	**3.88**	**64**	P	**Pn**	**00 03 30.1**	**+1.4**
LEM	**Lembang**	**5.02**	**306**	LR	LR	00 05 47.3	
	comp=Z,116nm,21.2s,baz=182,slow=40						
TWSI	**Taliwang, Sumb**	**5.23**	**78**	P	**Pn**	**00 03 48.7**	**+1.4**
	0.1nm25nm,0.8s						
PLAI	**Plampang**	**6.08**	**81**	P	**Pn**	**00 04 00.5**	**+1.5**
	0.3nm1µm110nm,0.7s						
PLAI	**Plampang**	**6.08**	**81**	P	**Pn**	**00 04 00.7**	**+1.7**
EDFI	**Ende, Flores**	**9.92**	**85**	P	**Pn**	**00 04 50.3**	**-1.5**
	5.8nm,0.5s						
SOEI	**Soe**	**12.39**	**91**	Pn	**Pn**	**00 05 26.3**	**+0.6**
GIRL	**Giralia**	**12.97**	**170**	Pn	**Pn**	**00 05 34.3**	**+0.8**
GIRL	**Giralia**	**12.97**	**170**	P	**Pn**	**00 05 33.8**	**+0.3**
MBWA	**Marble Bar**	**13.66**	**146**	Pn	**Pn**	**00 05 41.4**	**-1.6**
MBWA	**Marble Bar**	**13.66**	**146**	P	**Pn**	**00 05 41.3**	**-1.6**
	14nm,1.4s						
LUWI	**Luwuk**	**14.05**	**52**	Pn	**Pn**	**00 05 49.0**	**+0.7**
LUWI	**Luwuk**	**14.05**	**52**	P	**Pn**	**00 05 48.7**	**+0.4**
	34nm,0.5s						
PSA00	**Pilbara Seismi**	**14.06**	**147**	Pn	**Pn**	**00 05 46.9**	**-1.4**
PSA00	**Pilbara Seismi**	**14.06**	**147**	Pn	**Pn**	**00 05 46.4**	**-1.9**
FITZ	**Fitzroy Crossi**	**15.83**	**123**	Pn	**Pn**	**00 06 12.3**	**+0.4**
MYLDM	**Lahad Datu**	**16.38**	**25**	P	**P**	**00 06 23.9**	**+2.3**
MYLDM				IAmb	IAmb	00 06 25.0	
	comp=Z,17nm,0.4s						
KNRA	**Kununurra**	**17.63**	**111**		**P**	**00 06 36.4**	**+1.0**
KNRA				IAmb	IAmb	00 07 00.6	
	comp=Z,44nm,1.4s						
LBMI	**Labuha**	**18.18**	**61**	P	**P**	**00 06 41.8**	**+0.2**
KULM	**Kulim**	**18.62**	**323**	P	**P**	**00 06 44.0**	**-2.3**
KULM				IAmb	IAmb	00 07 11.0	
	comp=Z,28nm,1.4s						
MTN	**Manton Dam**	**19.29**	**101**	P	**Pn**	**00 06 54.6**	**-0.4**
MORW	**Morawa**	**19.57**	**169**	P	**Pn**	**00 06 58.4**	**+0.2**
MORW				IAmb	IAmb	00 06 59.3	
	comp=Z,27nm,1.1s						
NWAO	**Narrogin (SRO)**	**23.55**	**168**	P	**P**	**00 07 40.1**	**+1.0**
WB0	**Warramunga Arr**	**24.04**	**117**	P	**P**	**00 07 45.1**	**+1.2**
WB0				IAmb	IAmb	00 07 46.4	
	comp=Z,6.5nm,0.9s						
WRA	**Warramunga Arr**	**24.05**	**117**	P	**P**	**00 07 45.0**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=293,slow=11,SNR=30						
WRA				PcP	**PcP**	**00 11 26.5**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=295,slow=1.7,SNR=1.8						
	comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**24.05**	**117**	P	**P**	**00 07 45.2**	**+1.2**
WRAB	**Tennant Creek**	**24.06**	**117**	P	**P**	**00 07 44.8**	**+0.8**
WRAB				IAmb	IAmb	00 07 48.3	
	comp=Z,10nm,1.1s						
WB2	**Warramunga Arr**	**24.06**	**117**	P	**P**	**00 07 45.4**	**+1.3**
WR0	**Warramunga Arr**	**24.24**	**117**	P	**P**	**00 07 47.2**	**+1.5**
WR0				IAmb	IAmb	00 07 48.9	
	comp=Z,6.7nm,0.8s						
ASAR	**Alice Springs**	**25.28**	**126**	P	**P**	**00 07 57.0**	**+1.9**
	comp=Z,2.2nm,0.7s,baz=302,slow=9.0,SNR=19						
	comp=Z,2.2nm,0.7s						
COEN	**Coen**	**31.06**	**101**	P	**P**	**00 08 43.9**	**-3.0**
COEN				IAmb	IAmb	00 08 52.7	
	comp=Z,13nm,1.1s						
NACB	**Ninganchiao**	**35.15**	**16**	P	**P**	**00 09 23.5**	**+1.1**
H08S2	**Diego Garcia H**	**38.79**	**270**	T	T	00 50 58.9	
	baz=96,slow=75						
H08S3	**Diego Garcia H**	**38.81**	**270**	T	T	00 51 00.9	
	baz=96,slow=75						
H08S1	**Diego Carcia H**	**38.81**	**270**	T	T	00 50 57.2	
	baz=96,slow=75						
EIDS	**Eidsvold**	**40.42**	**118**	P	**P**	**00 10 04.3**	**-2.7**
EIDS				IAmb	IAmb	00 10 47.2	
	comp=Z,15nm,1.3s						
TOO	**Toolangi**	**41.09**	**138**	P	**P**	**00 10 12.5**	**0.0**
TOO				IAmb	IAmb	00 10 20.3	
	comp=Z,24nm,1.4s						
ARMA	**Armidale**	**42.42**	**125**	P	**P**	**00 10 23.9**	**+0.3**
ARMA				IAmb	IAmb	00 11 06.7	
	comp=Z,18nm,1.2s						
JHS	**Saijyo**	**48.98**	**23**	P	**P**	**00 11 16.5**	**+1.4**
PATS	**Pohnpei**	**49.30**	**72**	P	**P**	**00 11 18.5**	**+0.6**
JMM	**Marumori**	**54.70**	**28**	P	**P**	**00 11 58.2**	**+0.6**
CASY	**Casey**	**56.38**	**181**	P	**P**	**00 12 07.7**	**-1.7**
CASY				IAmb	IAmb	00 12 51.7	
	comp=Z,7.6nm,1.2s						
SONM	**Songino Array**	**57.60**	**356**	P	**P**	**00 12 16.8**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=165,slow=6.0,SNR=3.1						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**57.60**	**356**	P	**P**	**00 12 17.4**	**-1.0**
MKAR	**Makanchi Array**	**62.18**	**338**	P	**P**	**00 12 48.5**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=154,slow=7.4,SNR=6.9						
	comp=Z,0.6nm,0.3s						
MKAR	**Makanchi Array**	**62.18**	**338**	P	**P**	**00 12 48.4**	**-1.4**
KHZ	**Kahutara**	**62.72**	**133**	P	**P**	**00 12 54.8**	**+1.3**
VNDA	**Vanda**	**72.37**	**170**	P	**P**	**00 13 54.3**	**+0.4**
VNDA				IAmb	IAmb	00 14 02.7	
	comp=Z,2.8nm,1.4s						
ABKAR	**Akbulak array**	**74.24**	**328**	P	**P**	**00 14 04.9**	**-0.3**
ABKAR	**Akbulak array**	**74.24**	**328**	P	**P**	**00 14 04.8**	**-0.5**
BRTR	**Keskin Array B**	**87.17**	**311**	P	**P**	**00 15 15.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=106,slow=5.1,SNR=3.1						
	comp=Z,0.4nm,0.8s						

IDC 19 00:06:45.1±3.5,18°.10S×178°.39W,h633km±29km, mb2.4/3,mbtmp3.4/4,Error ellipse: s-maj=191.4km s-min=30.9km az=158.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.41**	**276**	P	P	00 08 09.3	-0.1
	6.5nm,0.7s,baz=103,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**44.61**	**260**	P	P	00 14 03.5	-0.2
	0.2nm,0.5s,baz=95,slow=7.0,SNR=6.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.75**	**254**	P	P	00 14 05.0	+0.2
	0.9nm,0.8s,baz=85,slow=8.1,SNR=7.8						
	0.9nm,0.8s						
TXAR	**Lajitas Array**	**86.09**	**58**	P	P	00 18 21.1	0.0
	0.2nm,0.8s,baz=232,slow=4.4,SNR=2.4						
	0.2nm,0.8s						

---

*IDC **19** 00:18:18.1±1.9,9°.55S×111°.71E,h0km,mb3.7/6, mbtmp3.7/7,ML3.7/1,MS3.4/2,Error ellipse: s-maj=104.2km s-min=19.6km az=47.0*
ISC 19 00:18:22.9±1.7,9°.6S±0°.4×112°.2E±0°.4,h35km,n12, σ3§50/8,mb3.6/6,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.54**	**124**	Pn	**P**	**00 22 02.1**	**-1.3**
	0.2nm,0.3s,baz=310,slow=12,SNR=6.2						
FITZ				Sn	**Sn**	**00 24 46.9**	**-3.6**
	0.1nm,0.3s,baz=13,slow=16,SNR=2.9						
	2.3nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.70**	**169**	LR	LR	00 33 28.0	
	comp=Z,88nm,18.0s,baz=56,slow=38						
WRA	**Warramunga Arr**	**23.71**	**118**	P	**P**	**00 23 36.3**	**+4.4**
	1.5nm,0.8s,baz=293,slow=11,SNR=18						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**25.01**	**127**	P	**P**	**00 23 48.4**	**+4.6**
	1.0nm,0.7s,baz=304,slow=9.3,SNR=9.6						
	1.0nm,0.7s						
H08S2	**Diego Garcia H**	**39.31**	**270**	T	T	01 06 47.0	
	baz=95,slow=74						
H08S3	**Diego Garcia H**	**39.32**	**270**	T	T	01 07 19.1	
	baz=95,slow=74						
H08S1	**Diego Carcia H**	**39.33**	**270**	T	T	01 07 20.3	
	baz=95						
JCJ	**Chichijima**	**46.62**	**38**	LR	LR	00 46 01.1	
	comp=Z,36nm,21.3s,baz=104,slow=35						
SONM	**Songino Array**	**57.38**	**355**	P	**P**	**00 28 08.8**	**+0.9**
	0.4nm,0.6s,baz=163,slow=5.6,SNR=2.2						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**62.15**	**337**	P	**P**	**00 28 39.9**	**-0.6**
	0.9nm,0.3s,baz=151,slow=7.1,SNR=16						
	0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**67.40**	**343**	P	**P**	**00 29 12.8**	**-1.8**
	0.3nm,0.3s,baz=142,slow=5.6,SNR=2.2						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**87.40**	**311**	P	**P**	**00 31 05.9**	**-1.1**
	0.3nm,0.8s,baz=97,slow=8.1,SNR=2.1						
	0.3nm,0.8s						

---

*ANF **19** 00:30:19.5±0.5,37°.17N×115°.21W,h7km±5km,ML2.8/12, Error ellipse: s-maj=3.5km s-min=2.7km az=91.0*
*REN **19** 00:30:19.5±1.8,37°.15N±0°.03×115°.19W±0°.04,h15km±7km, ML2.8/19,ML2.6/114(NEIC),Error ellipse: s-maj=5.0km s-min=4.0km az=162.0*
*NEIC **19** 00:30:19.9±3.3,37°.15N±0°.03×115°.19W±0°.02,h3km±8km, Error ellipse: s-maj=4.8km s-min=2.5km az=175.0*
ISC 19 00:30:20.0±1.0,37°.15N±0°.02×115°.18W±0°.02,h9km±10km, n65,σ0§95/83,Southern Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRN	**Pahroc Range**	**0.28**	**22**		**Pg**	**00 30 25.9**	**+0.2**
PRN					**Sg**	**00 30 29.9**	**+0.5**
PRN				IAML		00 30 32.9	
	comp=E,1µm,0.5s						
SHPR	**Sheep Range**	**0.64**	**179**		**Pg**	**00 30 31.8**	**-0.7**
SHPR					**Sg**	**00 30 40.7**	**-0.3**
S11A	**Rachel**	**0.67**	**318**		**Pg**	**00 30 32.8**	**-0.2**
S11A					**Sg**	**00 30 42.0**	**+0.2**
CPY	**CP-1**	**0.73**	**253**		**Pg**	**00 30 34.0**	**-0.2**
CPY					**Sg**	**00 30 44.5**	**+0.7**
TPNV	**Topopah Spring**	**0.88**	**257**		**Pg**	**00 30 36.5**	**-0.5**
TPNV				IAML		00 30 54.9	
	comp=E,296nm,0.5s						
TPNV	**Topopah Spring**	**0.88**	**257**	P	**Pg**	**00 30 36.7**	**-0.2**
	baz=77,SNR=108						
TPNV				S	**Sg**	**00 30 48.3**	**-0.1**
	baz=77						
WTNK	**Soaring Height**	**0.97**	**172**		**Pg**	**00 30 37.8**	**-0.8**
WTNK				IAML		00 30 54.3	
	comp=E,34nm,1.0s						
WTNK				IAML		00 31 05.5	
	comp=N,19nm,1.4s						
SDH	**Striped Hills**	**1.06**	**242**		**Pg**	**00 30 40.4**	**+0.1**
AMDNV	**Amargosa**	**1.12**	**232**		**Pg**	**00 30 41.3**	**-0.3**
WCT	**Wildcat Mounta**	**1.21**	**253**		**Pg**	**00 30 43.1**	**-0.2**
R11A	**Troy Canyon, C**	**1.24**	**345**		**Pg**	**00 30 42.3**	**-1.5**
R11A				IAML		00 31 05.1	
	comp=N,80nm,0.7s						
R11A				IAML		00 31 05.7	
	comp=E,119nm,0.5s						
R11A	**Troy Canyon, C**	**1.24**	**345**	P	**Pg**	**00 30 43.3**	**-0.5**
	baz=165,SNR=88						
R11A				S	**Sg**	**00 30 59.7**	**-0.2**
	baz=165						
V12A	**Nelson**	**1.45**	**169**		**Pn**	**00 30 45.9**	**-0.6**
CCUT	**Cedar City**	**1.50**	**74**		**Pn**	**00 30 47.3**	**0.0**
CCUT				IAML		00 31 10.9	
	comp=N,72nm,0.6s						
FURC	**Furnace Creek,**	**1.51**	**244**	Pg	**Pb**	**00 30 48.5**	**+0.3**
	baz=63,SNR=40						
FURC				Sg	**Sg**	**00 31 09.2**	**+0.6**
	baz=63						
SHOC	**Shoshone, Teco**	**1.53**	**216**	Pg	**Pg**	**00 30 49.5**	**+0.2**
	baz=35,SNR=16						
GWY	**Greenwater Val**	**1.54**	**232**		**Pn**	**00 30 47.1**	**-0.6**
GWY				IAML		00 31 22.2	
	comp=E,55nm,0.8s						
GWY				IAML		00 31 25.2	
	comp=N,49nm,0.7s						
LCMT	**Little Creek M**	**1.56**	**95**		**Pn**	**00 30 48.8**	**+0.8**
LCMT				IAML		00 31 12.4	
	comp=E,48nm,0.5s						
LCMT				IAML		00 31 12.8	
	comp=N,81nm,0.5s						
GMN	**Gold Mountain**	**1.67**	**276**	Pg	**Pb**	**00 30 51.3**	**+0.3**
GMN				IAML		00 31 17.0	
	comp=N,72nm,0.8s						
GMN				IAML		00 31 17.7	
	comp=E,59nm,0.4s						
SZCU	**Shurtz Canyon**	**1.73**	**74**		**Pb**	**00 30 52.6**	**+0.6**
SZCU				IAML		00 31 18.1	
	comp=E,90nm,0.3s						
SZCU				IAML		00 31 21.8	
	comp=N,69nm,0.3s						
PSUT	**Pine Spring**	**1.73**	**37**		**Pn**	**00 30 49.5**	**-1.0**
PSUT				IAML		00 31 19.2	
	comp=E,70nm,0.6s						
PSUT				IAML		00 31 19.6	
	comp=N,56nm,0.9s						
GRAC	**Grapevine Rang**	**1.75**	**266**		**Pn**	**00 30 49.7**	**-0.9**
GRAC	**Grapevine Rang**	**1.75**	**266**	Pg	**Pb**	**00 30 52.7**	**+0.3**
	baz=84						
GRAC				Sb	**Sb**	**00 31 15.2**	**+0.7**
	baz=84						
QSM	**Queen of Sheba**	**1.80**	**229**		**Pn**	**00 30 51.0**	**-0.2**
TUQ	**Turquo

TCRU				IAML		00 31 53.4		
	comp=E,33nm,0.9s							
NV11	**Mina Array Sit**	**2.68**	**299**	Pn	**Pn**	**00 31 02.3**	**-1.2**	
NV11				IAML		00 31 53.6		
	comp=N,17nm,1.2s							
MVU	**Marysvale**	**2.71**	**59**		**Pn**	**00 31 02.0**	**-2.0**	
MSU	**Marysvale**	**2.74**	**59**	Pg	**Pg**	**00 31 11.5**	**-1.1**	
LHV	**Little Huntoon**	**2.86**	**294**	Pn	**Pn**	**00 31 06.2**	**+0.5**	
LHV					**Pg**	**00 31 16.1**	**+1.4**	
LHV				IAML		00 32 11.3		
	comp=E,28nm,0.8s							
KVN	**Kaiserville**	**2.98**	**310**	Pn	**Pn**	**00 31 06.8**	**-0.9**	
KVN				IAML		00 32 01.5		
	comp=N,15nm,0.8s							
KVN				IAML		00 32 02.4		
	comp=E,15nm,0.8s							
IRM	**Iron Mountain**	**2.99**	**179**	Pg	**Pg**	**00 31 17.0**	**-0.2**	
	baz=359,SNR=7.0							
IRM				Sb	**Sg**	**00 31 53.9**	**-2.0**	
	baz=359							
RYN	**Ryan**	**3.03**	**300**		**Pn**	**00 31 07.2**	**-1.0**	
RYN				IAML		00 31 59.7		
	comp=N,24nm,0.5s							
CCAC	**Calif City Air**	**3.04**	**230**		**Pg**	**00 31 18.4**	**+0.1**	
CCAC				IAML		00 32 05.6		
	comp=N,16nm,1.4s							
CCAC				IAML		00 32 10.5		
	comp=E,17nm,1.3s							
ISA	**Isabella, Lake**	**3.04**	**242**	Pg	**Pg**	**00 31 16.5**	**-1.8**	
OMMB	**Old Mammoth Mi**	**3.08**	**280**	Pg	**Pg**	**00 31 18.3**	**-0.7**	
BLYC	**Blythe**	**3.43**	**171**	Pn	**Pn**	**00 31 11.8**	**-1.9**	
BLYC				IAML		00 32 13.5		
	comp=E,11nm,0.6s							
WUAZ	**Wupatki**	**3.48**	**117**		**Pn**	**00 31 13.7**	**-0.7**	
WUAZ				Pg	**Pb**	**00 31 23.9**	**+2.0**	
WUAZ	**Wupatki**	**3.48**	**117**	Pb	**Pb**	**00 31 22.2**	**+0.3**	
	baz=299,SNR=8.1							
DUG	**Dugway, Tooele**	**3.56**	**31**		**Pn**	**00 31 14.5**	**-1.1**	
DUG				Pg	**Pg**	**00 31 29.1**	**+0.9**	
DUG				IAML		00 32 17.4		
	comp=E,9.7nm,0.8s							
ELK	**Elko**	**3.59**	**359**	Pn	**Pn**	**00 31 16.0**	**0.0**	
ELK				IAML		00 32 17.0		
	comp=E,7.6nm,0.6s							
BMN	**Battle Mountai**	**3.64**	**335**	Pn	**Pn**	**00 31 15.9**	**-0.8**	
BMN					**Pg**	**00 31 29.6**	**-0.2**	
BMN				IAML		00 32 20.2		
	comp=E,13nm,0.6s							
Y14A	**Wickenburg**	**3.66**	**150**		**Pg**	**00 31 30.2**	**0.0**	
Y14A				IAML		00 32 21.2		
	comp=E,8.1nm,0.7s							
Y14A				IAML		00 32 28.1		
	comp=N,8.6nm,0.7s							
PFO	**Pinyon Flats O**	**3.68**	**197**	Pn	**Pn**	**00 31 17.0**	**-0.2**	
PFO					**Pg**	**00 31 29.2**	**-1.4**	
YERR	**Yerington**	**3.69**	**301**		**Pn**	**00 31 15.8**	**-1.6**	
NLU	**North Lily Min**	**3.71**	**40**		**Pn**	**00 31 16.3**	**-1.4**	
NLU				IAML		00 32 33.6		
	comp=E,6.7nm,1.1s							
TMUT	**Trail Mountain**	**3.79**	**54**	Pn	**Pn**	**00 31 17.4**	**-1.5**	
TMUT				IAML		00 31 58.5		
	comp=E,10nm,4.1s							
TMUT				IAML		00 32 27.9		
	comp=N,8.4nm,0.9s							
BGU	**Big Grassy Mou**	**4.12**	**23**	Pn	**Pn**	**00 31 22.6**	**-0.7**	
BGU				IAML		00 32 33.4		
	comp=N,5.4nm,3.6s							
BGU				IAML		00 32 33.6		
	comp=E,7.0nm,0.8s							
SRU	**San Rafael Swe**	**4.16**	**61**	Pn	**Pn**	**00 31 22.1**	**-1.7**	
SRU				IAML		00 32 35.5		
	comp=E,7.6nm,0.7s							
SRU				IAML		00 32 44.3		
	comp=N,7.7nm,4.4s							

*ATH **19** 01:32:42.3, 41.˚20N×23.˚35E, h20km± 1km, ML2.6/6, Error ellipse: s-maj=1.4km s-min=0.8km az=164.0*
*THE **19** 01:32:43.1, 41.˚20N×23.˚35E, h6km±2km, ML2.4/4, Error ellipse: s-maj=2.9km s-min=0.3km az=53.0*
*SOF **19** 01:32:43.2, 41.˚24N×23.˚32E, h8km, MD2.8*
*BEO **19** 01:32:43.8±0.4, 41.˚18N×23.˚31E, h0km, ML2.6/11*
*DDA **19** 01:32:54.3±0.0, 41.˚25N×24.˚74E, h12km±3km, ML2.0*

ISC 19 01:32:43.2±0.9**, 41.˚18N**±0.˚02×**23.˚34E**±0.˚02**, h12**km±7km**, n63,σ1°13/90, 12C-5D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.20**	**109**	*e*Pg		**Pg**	**01 32 47.2**	**-0.4**
SRS				*e*Sg		**Sg**	**01 32 50.1**	**-0.5**
SRS	**Serrai**	**0.20**	**109**	P		**Pg**	**01 32 47.3**	**-0.4**
SRS				S		**Sg**	**01 32 51.0**	**+0.3**
KNT	**Kendrikon**	**0.34**	**267**	P		**Pg**	**01 32 49.6**	**-0.4**
KNT				S		**Sg**	**01 32 54.5**	**0.0**
SOH	**Sokhos**	**0.36**	**179**	P		**Pg**	**01 32 50.5**	**0.0**
SOH				S		**Sg**	**01 32 56.1**	**+0.7**
SOH				AML	AML	01 32 56.6		
	comp=N,6854µm,0.3s							
SOH				AML	AML	01 32 56.8		
	comp=E,5737µm,0.5s							
NVR	**Nevrokopi**	**0.43**	**67**	P		**Pg**	**01 32 51.3**	**-0.4**
NVR				S		**Sg**	**01 32 57.2**	**-0.2**
NVR				AML	AML	01 32 57.5		
	comp=E,1548µm,0.2s							
NVR				AML	AML	01 32 57.7		
	comp=N,1139µm,0.3s							
MMB	**Musomiste**	**0.50**	**35**	*i* Pg		**Pg**	**01 32 52.0**	**-1.0**
HORT	**Hortiatis**	**0.61**	**198**	P		**Pg**	**01 32 55.0**	**-0.2**
HORT				S		**Sg**	**01 33 03.6**	**+0.3**
	comp=N,722nm,0.3s							
HORT	**Hortiatis**	**0.61**	**198**	P		**Pg**	**01 32 55.0**	**-0.2**
HORT				S		**Sg**	**01 33 03.6**	**+0.3**
HORT				AML	AML	01 33 04.3		
	comp=N,1560µm,0.5s							
HORT				AML	AML	01 33 04.9		
	comp=E,1314µm,0.2s							
KOKK	**Kokkinochori,**	**0.62**	**126**	P		**Pg**	**01 32 54.8**	**-0.4**
KOKK				S		**Sg**	**01 33 03.4**	**0.0**
	comp=E,205nm,0.4s							
KOKK	**Kokkinochori,**	**0.62**	**126**	P		**Pg**	**01 32 54.8**	**-0.4**
KOKK				S		**Sg**	**01 33 03.4**	**0.0**
THE	**Thessaloniki**	**0.62**	**208**	P		**Pg**	**01 32 55.2**	**-0.1**
THE				S		**Sg**	**01 33 03.9**	**+0.5**
THE				AML	AML	01 33 04.7		
	comp=N,1363µm,0.2s							
THE				AML	AML	01 33 05.5		
	comp=E,582µm,0.2s							
KKB	**Krupnik**	**0.71**	**344**	*i* Pg		**Pg**	**01 32 55.6**	**-1.4**
KVLA	**Kavala**	**0.83**	**107**	P		**Pg**	**01 32 58.4**	**-0.8**
KAVA	**Kavala**	**0.91**	**101**	P		**Pg**	**01 33 00.0**	**-0.7**
KAVA				S		**Sb**	**01 33 13.5**	**+0.7**
	comp=E,542nm,0.2s							
KAVA	**Kavala**	**0.91**	**101**	P		**Pg**	**01 33 00.0**	**-0.7**
OUR	**Ouranopolis**	**0.98**	**150**	P		**Pg**	**01 33 01.6**	**-0.5**
RZN	**Rozhen**	**1.15**	**64**	*i* P		**Pn**	**01 33 06.2**	**+0.9**
LIT	**Litokhoron**	**1.26**	**211**	P		**Pn**	**01 33 06.6**	**0.0**
PAIG	**Paliouri**	**1.28**	**168**	P		**Pn**	**01 33 06.9**	**0.0**
PAIG				S		**Sb**	**01 33 24.7**	**+1.1**
	comp=E,108nm,0.5s							
PAIG	**Paliouri**	**1.28**	**168**	P		**Pn**	**01 33 06.9**	**0.0**
PAIG				S		**Sb**	**01 33 24.7**	**+1.1**
PAIG				AML	AML	01 33 29.9		
	comp=E,261µm,0.5s							
PAIG				AML	AML	01 33 32.0		
	comp=N,173µm,0.5s							
PLD	**Plovdiv**	**1.38**	**47**	*e*Pg		**Pg**	**01 33 10.5**	**+0.9**
PLD				*e*Sg		**Sg**	**01 33 29.3**	**+1.8**
PLD	**Plovdiv**	**1.38**	**47**	*i* P		**Pg**	**01 33 10.2**	**+0.6**
VTS	**Vitosha**	**1.44**	**357**	⇑P		**Pn**	**01 33 09.4**	**+0.2**
VTS	**Vitosha**	**1.44**	**357**	*e*Pg		**Pb**	**01 33 10.0**	**0.0**
VTS				*e*Sg		**Sg**	**01 33 28.6**	**-0.9**
VTS	**Vitosha**	**1.44**	**357**	*e*P		**Pb**	**01 33 09.8**	**-0.2**
BOSS	**Bosilegrad**	**1.46**	**334**	*e*Pg		**Pb**	**01 33 10.1**	**-0.2**
BOSS				*e*Sg		**Sg**	**01 33 30.0**	**-0.3**
KZN	**Kozani**	**1.48**	**234**	P		**Pn**	**01 33 10.0**	**+0.3**
KDZ	**Kurdzhali**	**1.63**	**73**	*e*P		**Pn**	**01 33 12.7**	**+1.0**
RDO	**Rodhopi**	**1.66**	**91**	P		**Pn**	**01 33 12.3**	**+0.2**
RDO				S		**Sn**	**01 33 34.0**	**+0.8**
RDO				AML	AML	01 33 39.8		
	comp=N,312µm,0.2s							
RDO				AML	AML	01 33 40.6		
	comp=E,295µm,0.2s							
SMTH	**Samothraki Isl**	**1.81**	**112**	P		**Pn**	**01 33 14.6**	**+0.4**
DIM	**Dimitrovgrad**	**1.86**	**61**	*i* P		**Pg**	**01 33 17.9**	**-0.9**
NEST	**Nestorio**	**1.90**	**247**	P		**Pn**	**01 33 16.1**	**+0.6**
BARS	**Barje**	**1.99**	**326**	*e*Pn		**Pn**	**01 33 17.1**	**+0.4**
BARS				*e*Sg		**Sg**	**01 33 46.8**	**-0.4**
ZAPS	**Zavoj**	**2.15**	**346**	*e*Pn		**Pn**	**01 33 20.1**	**+1.1**
ZAPS				*e*Sg		**Sb**	**01 33 49.4**	**+0.6**
GOKA	**anakkale-Gk**	**2.19**	**116**	P		**Pn**	**01 33 21.1**	**+1.8**
BLKB	**Belogradchik**	**2.49**	**349**	⇓P		**Pn**	**01 33 24.5**	**+0.9**
SELS	**Selova**	**2.62**	**322**	*e*Pn		**Pb**	**01 33 30.0**	**-0.1**
SELS				*e*Sg		**Sg**	**01 34 06.5**	**-0.9**
BOVS	**Bovan**	**2.73**	**334**	⇑P		**Pn**	**01 33 27.0**	**+0.1**
BOVS	**Bovan**	**2.73**	**334**	*e*Pn		**Pn**	**01 33 27.8**	**+0.9**
BOVS				*e*Sg		**Sg**	**01 34 08.5**	**-2.5**
ZAGS	**Zajecar**	**2.75**	**343**	*e*Pn		**Pn**	**01 33 27.9**	**+0.8**
ZAGS				*e*Sg		**Sg**	**01 34 12.2**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**2.84**	**119**	P		**Pn**	**01 33 26.1**	**-2.2**
BAYC				S		**Sn**	**01 33 58.6**	**-3.8**
KIRK	**Kırklareli**	**2.88**	**77**	P		**Pn**	**01 33 27.9**	**-1.0**
KIRK				*i* AML	AML	01 34 20.0		
	comp=E,14nm,0.6s							
VLAD	**Vladila**	**2.92**	**15**	⇑P		**Pn**	**01 33 32.2**	**+2.8**
ARMN	**Kirklareli, Me**	**3.14**	**76**	P		**Pn**	**01 33 33.0**	**+0.4**
ARMN				*i* AML	AML	01 34 28.0		
	comp=E,12nm,0.5s							
ARMN				*i* AML	AML	01 34 29.0		
	comp=E,12nm,0.9s							
SJES	**Sjenica**	**3.25**	**311**	*e*Pn		**Pn**	**01 33 36.4**	**+2.3**
SJES				*e*Sg		**Sg**	**01 34 27.5**	**-0.1**
KNL	**Balıkesir**	**3.31**	**105**	P		**Pn**	**01 33 34.6**	**-0.1**
KNL				*i* AML	AML	01 34 49.0		
	comp=E,11nm,0.4s							
BUHA	**Balikesir, Bur**	**3.31**	**119**	P		**Pn**	**01 33 35.2**	**+0.4**
BUHA				*i* AML	AML	01 34 31.0		
	comp=E,9.5nm,0.6s							
BUHA				*i* AML	AML	01 34 31.0		
	comp=E,8.1nm,0.4s							
GRUS	**Gruza**	**3.33**	**325**	*e*Pn		**Pn**	**01 33 35.9**	**+0.9**
GRUS				*e*Sg		**Sg**	**01 34 29.6**	**-0.5**
IVAS	**Ivanjica**	**3.36**	**316**	*e*Pn		**Pn**	**01 33 38.5**	**+2.9**
IVAS				*e*Sg		**Sg**	**01 34 30.5**	**-0.7**
HUMR	**Humele**	**3.55**	**19**	⇑P		**Pn**	**01 33 39.8**	**+1.6**
ZEDA	**zmir-Bergama**	**3.62**	**126**	P		**Pn**	**01 33 39.6**	**+0.6**
HERR	**Herculane**	**3.76**	**350**	⇑P		**Pn**	**01 33 39.9**	**-1.0**
MDVR	**Moldovita**	**3.79**	**342**	⇓P		**Pn**	**01 33 40.3**	**-1.1**
DIVS	**Divibare**	**3.82**	**321**	*e*Pn		**Pn**	**01 33 42.2**	**+0.3**
GZR	**Gura Zlata**	**4.23**	**355**	⇑P		**Pn**	**01 33 49.8**	**+2.3**
ARR	**Arges**	**4.29**	**12**	⇑P		**Pn**	**01 33 51.1**	**+2.8**
VOIR		**4.43**	**16**	⇑P		**Pn**	**01 33 51.0**	**+0.7**
BZS	**Buzias**	**4.61**	**345**	⇑P		**Pn**	**01 33 52.2**	**-0.4**
BZS				⇓S		**Sg**	**01 35 11.9**	**+0.9**
MLR	**Muntele Rosu**	**4.71**	**23**	⇑P		**Pn**	**01 33 56.9**	**+2.8**
SIRR	**Siria**	**5.23**	**347**	⇓P		**Pn**	**01 34 02.5**	**+1.4**
PLOR	**Plostina**	**5.25**	**26**	⇓P		**Pn**	**01 34 02.5**	**+1.1**
VRI	**Vrincioaia**	**5.29**	**27**	⇑P		**Pn**	**01 34 01.6**	**-0.3**
ODBI	**Odobesti**	**5.32**	**29**	⇑P		**Pn**	**01 34 03.1**	**+0.8**

*NEIC **19** 01:43:21.5±2.0, 33.˚9S±0.˚1×179.˚8E±0.˚2, h159km±4km, mb4.3/18, Error ellipse: s-maj=23.4km s-min=16.6km az=84.0*
*IDC **19** 01:43:22.0±3.6, 33.˚80S×179.˚47E, h170km±29km, mb4.0/9, mbtmp4.4/10, Error ellipse: s-maj=26.9km s-min=14.4km az=61.0*
*WEL **19** 01:43:26.7±0.9, 35.˚5S±9.˚×18.˚0E±1.˚1, h254km±12km, M3.8/38, mB4.4/15, ML4.6/41, MLv4.4/38, Mw(mB)3.5/15, Error ellipse: s-maj=0.0km s-min=0.0km az=92.6*
*NOU **19** 01:43:54.0, 36.˚66S×178.˚42E, h227km, MLv4.3/9, Off E. Coast of N. Island, N.Z.*

ISC 19 01:43:28.2±0.5**, 34.˚65S**±0.˚06×**179.˚72E**±0.˚09**, h250**km**, n152,σ2°02/152, mb4.0/17, 3C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.12**	**201**	Pn		**Pn**	**01 44 19.4**	**-2.5**
MXZ	**Matakaoa Point**	**3.12**	**201**	P		**Pn**	**01 44 19.9**	**-2.0**
MXZ				S		**S**	**01 45 02.2**	**-2.4**
WMGZ	**Waiomatatini S**	**3.33**	**198**	P		**Pn**	**01 44 23.3**	**-1.0**
WMGZ				S		**S**	**01 45 08.1**	**-0.7**
HAZ	**Te Kaha**	**3.47**	**206**	P		**Pn**	**01 44 24.7**	**-1.1**
HAZ				S		**S**	**01 45 10.9**	**-0.6**
PKGZ	**Pakihiroa**	**3.49**	**202**	P		**Pn**	**01 44 24.7**	**-1.5**
PKGZ				S		**S**	**01 45 11.8**	**-0.4**
WSRZ	**White Island S**	**3.53**	**215**	P		**Pn**	**01 44 27.3**	**+0.8**
PUZ	**Puketiti**	**3.61**	**199**	P		**Pn**	**01 44 26.1**	**-1.4**
PUZ				S		**S**	**01 45 14.1**	**-0.4**
RUGZ	**Raukumara Rang**	**3.70**	**206**	P		**Pn**	**01 44 27.2**	**-1.3**
RUGZ				S		**S**	**01 45 13.2**	**-3.3**
TWGZ	**Tauwhareparae**	**3.79**	**201**	P		**Pn**	**01 44 28.7**	**-0.8**
TWGZ				S		**S**	**01 45 20.9**	**+2.7**
GRZ	**Great Barrier**	**3.83**	**244**	P		**Pn**	**01 44 29.1**	**-0.9**
CNGZ	**Carnagh Statio**	**4.01**	**197**	P		**Pn**	**01 44 31.3**	**-0.8**
TKGZ	**Te Karaka**	**4.07**	**201**	P		**Pn**	**01 44 31.2**	**-1.5**
TKGZ				S		**S**	**01 45 24.3**	**+0.2**
MWZ	**Matawai**	**4.08**	**205**	P		**Pn**	**01 44 31.4**	**-1.5**
MWZ				S		**S**	**01 45 26.6**	**+2.2**
MARZ	**Manawahe**	**4.14**	**216**	P		**Pn**	**01 44 35.6**	**+2.0**
URZ	**Urewera**	**4.17**	**210**	P		**Pn**	**01 44 32.4**	**-1.5**
	13nm,0.3s,baz=1.3,slow=4.9,SNR=32							
URZ				S		**S**	**01 45 22.8**	**-3.4**
	55nm,0.4s,baz=38,slow=21,SNR=5.7							
URZ	**Urewera**	**4.17**	**210**	P		**Pn**	**01 44 32.7**	**-1.3**
URZ				S		**S**	**01 45 25.1**	**-1.1**
URZ	**Urewera**	**4.17**	**210**	P		**Pn**	**01 44 33.3**	**-0.6**
RAGZ	**Rawiri**	**4.26**	**205**	P		**Pn**	**01 44 35.9**	**+0.8**
RAGZ				S		**S**	**01 45 26.4**	**-1.9**
RIGZ	**Rimuhau**	**4.34**	**201**	P		**Pn**	**01 44 34.9**	**-1.1**
RIGZ				S		**S**	**01 45 29.2**	**-0.8**
KMRZ	**Kaimai**	**4.42**	**223**	P		**Pn**	**01 44 40.6**	**+3.7**
TARZ	**Mount Tarawera**	**4.42**	**215**	P		**Pn**	**01 44 39.5**	**+2.5**
MKAZ	**Moumakai**	**4.44**	**235**	P		**Pn**	**01 44 35.8**	**-1.4**
MUGZ	**Murupara**	**4.50**	**211**	P		**Pn**	**01 44 36.1**	**-1.7**
MUGZ				S		**S**	**01 45 31.8**	**-1.5**
PRGZ	**Paritu Road**	**4.51**	**199**	P		**Pn**	**01 44 37.4**	**-0.6**
RTZ	**Ruatahuna**	**4.53**	**208**	P		**Pn**	**01 44 37.0**	**-1.3**
SNGZ	**Shannon Statio**	**4.54**	**204**	P		**Pn**	**01 44 37.3**	**-1.1**
SNGZ				S		**S**	**01 45 34.5**	**+0.2**
WCZ	**Waipu Caves**	**4.58**	**252**	P		**Pn**	**01 44 35.3**	**-3.6**
TOZ	**Tahuroa Road**	**4.59**	**227**	P		**Pn**	**01 44 38.5**	**-0.4**
PRRZ	**Plateau Road**	**4.68**	**214**	P		**Pn**	**01 44 40.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**4.72**	**197**	P		**Pn**	**01 44 39.6**	**-0.9**
RAHZ	**Arahi**	**4.75**	**206**	P		**Pn**	**01 44 40.2**	**-0.8**
MTHZ	**Maungataniwha**	**4.79**	**208**	P		**Pn**	**01 44 41.4**	**0.0**
WHHZ	**Waihua**	**4.85**	**204**	P		**Pn**	**01 44 40.2**	**-1.9**
WHHZ				S		**S**	**01 45 42.5**	**+1.6**
TLZ	**Tolley Road**	**4.98**	**221**	P		**Pn**	**01 44 45.9**	**+2.1**
NMHZ	**Naumai**	**5.02**	**207**	P		**Pn**	**01 44 42.9**	**-1.3**
NMHZ				S		**S**	**01 45 44.9**	**+0.2**
ARHZ	**Aropaoanui**	**5.09**	**205**	P		**Pn**	**01 44 43.2**	**-1.9**
BKZ	**Black Stump Fm**	**5.20**	**209**	Pn		**Pn**	**01 44 44.6**	**-1.8**
BKZ	**Black Stump Fm**	**5.20**	**209**	P		**Pn**	**01 44 44.8**	**-1.6**
BKZ	**Black Stump Fm**	**5.20**	**209**	P		**Pn**	**01 44 44.8**	**-1.6**
RITZ	**Rihia Road**	**5.32**	**215**	P		**Pn**	**01 44 47.7**	**-0.1**
KWHZ	**Kaweka Forest**	**5.45**	**208**	P		**Pn**	**01 44 47.4**	**-2.0**
HIZ	**Hauiti**	**5.50**	**224**	Pn		**Pn**	**01 44 50.1**	**+0.1**
HIZ	**Hauiti**	**5.50**	**224**	P		**Pn**	**01 44 51.6**	**+1.6**
HIZ	**Hauiti**	**5.50**	**224**	P		**Pn**	**01 44 49.6**	**-0.4**
NTVZ	**North Tongarir**	**5.50**	**215**	P		**Pn**	**01 44 50.1**	**0.0**
TMVZ	**Te Maari**	**5.50**	**215**	P		**Pn**	**01 44 49.9**	**-0.2**
KRVZ	**Karewarewa**	**5.51**	**215**	P		**Pn**	**01 44 50.5**	**+0.2**
NNVZ	**North Ngauruho**	**5.55**	**215**	P		**Pn**	**01 44 50.9**	**0.0**
OTVZ	**Oturere**	**5.55**	**215**	P		**Pn**	**01 44 48.7**	**-2.1**
SNVZ	**South Ngauruho**	**5.58**	**215**	P		**Pn**	**01 44 49.2**	**-2.1**
TWVZ	**Taurewa**	**5.59**	**217**	P		**Pn**	**01 44 51.0**	**-0.2**
NGZ	**Ngauruhoe**	**5.59**	**215**	P		**Pn**	**01 44 49.8**	**-1.6**
KAHZ	**Kahuranaki**	**5.61**	**203**	P		**Pn**	**01 44 50.7**	**-0.8**
BHHZ	**Black Hill Sta**	**5.65**	**210**	P		**Pn**	**01 44 50.2**	**-1.8**
KRHZ	**Kereru**	**5.66**	**207**	P		**Pn**	**01 44 49.3**	**-2.7**
MOVZ	**Moawhango**	**5.71**	**213**	P		**Pn**	**01 44 51.5**	**-1.3**
WNVZ	**Wahianoa**	**5.72**	**214**	P		**Pn**	**01 44 51.0**	**-1.9**
RAO	**Raoul Island**	**5.74**	**21**	S		S	01 45 37.7	-23
	285nm,0.4s,baz=80,slow=22,SNR=2.6							
PKVZ	**Pokaka**	**5.80**	**216**	P		**Pn**	**01 44 53.7**	**-0.1**
PXZ	**Pawanui**	**5.83**	**202**	P		**Pn**	**01 44 51.5**	**-2.6**
PNHZ	**Pukenui**	**5.96**	**207**	P		**Pn**	**01 44 52.9**	**-2.8**
PRHZ	**Porangahau**	**6.12**	**203**	P		**Pn**	**01 44 56.3**	**-1.4**
TSZ	**Takapari Road**	**6.17**	**208**	P		**Pn**	**01 44 57.5**	**-1.0**
WAZ	**Wanganui**	**6.34**	**215**	P		**Pn**	**01 45 00.1**	**-0.4**
KHEZ	**Kahui Hut**	**6.51**	**223**	P		**Pn**	**01 45 02.1**	**-0.5**
POWZ	**Post Office Ro**	**6.54**	**208**	P		**Pn**	**01 45 01.4**	**-1.5**
PRWZ	**Pori Road**	**6.60**	**206**	P		**Pn**	**01 45 02.3**	**-1.4**
BFZ	**Birch Farm**	**6.62**	**204**	P		**Pn**	**01 45 01.2**	**-2.8**
BFZ	**Birch Farm**	**6.62**	**204**	P		**Pn**	**01 45 01.2**	**-2.8**
TIWZ	**Tintock**	**6.83**	**205**	P		**Pn**	**01 45 05.1**	**-1.6**
MRZ	**Mangatainoka R**	**6.84**	**207**	P		**Pn**	**01 45 03.2**	**-3.5**
SNZO	**South Karori**	**7.74**	**209**	P		**Pn**	**01 45 15.3**	**-2.7**
QRZ	**Quartz Range**	**8.39**	**221**	P		**Pn**	**01 45 24.3**	**-2.1**
BSWZ	**Blackbirch Sta**	**8.42**	**211**	P		**Pn**	**01 45 22.6**	**-4.0**
THZ	**Tophouse**	**8.90**	**215**	P		**Pn**	**01 45 29.7**	**-3.1**
KHZ	**Kahutara**	**9.14**	**210**	P		**Pn**	**01 45 31.3**	**-4.5**
CTZ	**Chatham Island**	**9.51**	**164**	P		**P**	**01 45 47.6**	**+0.7**
GVZ	**Greta Valley S**	**9.80**	**210**	P		**Pn**	**01 45 40.7**	**-3.5**
OKCZ	**Okains Bay**	**10.43**	**208**	P		**Pn**	**01 45 49.9**	**-2.1**
AKCZ	**Akaroa Harbour**	**10.61**	**208**	P		**Pn**	**01 45 51.9**	**-2.5**
RPZ	**Rata Peaks**	**11.27**	**214**	P		**Pn**	**01 45 58.0**	**-4.6**
	3.3nm,0.4s,baz=51,slow=18,SNR=1.7							
RPZ				S		S	01 47 58.2	-10
	4.2nm,0.4s,baz=128,slow=23,SNR=9.7							
RPZ	**Rata Peaks**	**11.27**	**214**	P		**Pn**	**01 45 59.4**	**-3.2**
ODZ	**Otahua Downs**	**12.50**	**211**	P		**Pn**	**01 46 16.7**	**-1.1**
MSVF	**Nonsavu**	**16.91**	**355**	P		**P**	**01 47 08.3**	**-0.9**
	2.0nm,0.5s,baz=317,slow=22,SNR=2.0							
MSVF	**Nonsavu**	**16.91**	**355**	Pn		**P**	**01 47 08.3**	**-0.9**
MSVF				IAmb	IAmb		01 47 50.1	
	comp=Z,10nm,1.1s							
DZM	**Mont Dzumac**	**17.11**	**314**	P		**P**	**01 47 07.9**	**-3.5**
	comp=Z,2.0nm,0.6s,baz=88,slow=18,SNR=1.6							
DZM	**Mont Dzumac**	**17.11**	**314**	P		**P**	**01 47 07.5**	**-3.9**
EIDS	**Eidsvold**	**26.40**	**283**	P		**P**	**01 48 42.2**	**+0.2**
TOO	**Toolangi**	**27.72**	**254**	P		**P**	**01 48 57.7**	**+4.0**
CTA	**Charters Tower**	**32.90**	**287**	P		**P**	**01 49 36.8**	**-2.4**
	comp=Z,4.0nm,0.5s,baz=115,slow=10,SNR=8.5							
	comp=Z,4.0nm,0.5s							
CTAO	**Charters Tower**	**32.90**	**287**	P		**P**	**01 49 38.6**	**-0.6**
CTAO				IAmb	IAmb		01 49 39.5	
	comp=Z,5.6nm,0.8s							
COEN	**Coen**	**38.86**	**293**	P		**P**	**01 50 27.5**	**-2.3**
COEN				IAmb	IAmb		01 50 33.3	
	comp=Z,8.2nm,1.1s							
AS31	**Alice Springs**	**41.17**	**273**	P		**P**	**01 50 50.9**	**+2.2**
AS31				IAmb	IAmb		01 50 52.6	
	comp=Z,2.4nm,0.4s							
ASAR	**Alice Springs**	**41.17**	**273**	P		**P**	**01 50 48.0**	**-0.7**
	comp=Z,5.1nm,0.7s,baz=114,slow=7.5,SNR=28							
ASAR				PcP		**PcP**	**01 52 44.0**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=110,slow=5.0,SNR=3.2							
	comp=Z,5.1nm,0.7s							
ASAR	**Alice Springs**	**41.17**	**273**	P		**P**	**01 50 51.4**	**+2.7**
WR0	**Warramunga Arr**	**42.38**	**278**	P		**P**	**01 51 00.0**	**+1.6**
WR0				IAmb	IAmb		01 51 15.3	
	comp=Z,5.6nm,1.1s							
WRA	**Warramunga Arr**	**42.55**	**278**	P		**P**	**01 50 58.9**	**-0.9**
	comp=Z,4.5nm,0.6s,baz=118,slow=7.8,SNR=42							
WRA				PcP		**PcP**	**01 52 47.7**	**+0.4**

comp=Z,3.3nm,0.7s,baz=169,slow=3.7,SNR=8.0
GERES GERESS Array B 162.44 328 PKPab **PKPab 02 03 46.4 -2.4**
comp=Z,0.2nm,0.4s,baz=21,slow=6.3,SNR=3.8

SJA ***19*** *02:02:11.0, 23˚.08S × 70˚.77W, h10km, ML4.3*
NEIC ***19*** *02:02:12.4, 23˚.11S × 70˚.64W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 0.95; Mθθ 0.11; Mϕϕ -1.06; Mrθ -0.13; Mθϕ 0.20; Mϕr -3.41; Fault plane solution: M0 3.57000 × 10^15 NP1: ϕs 181.73000°, δ 81.87000°, λ 93.79000°. NP2: ϕs 336.60000°, δ 8.96000°, λ 65.15000°. Principal axes: T 3.5185, Plg 53.0000°, Azm 96.0000°; N 0.0960, Plg 4.0000°, Azm 1.0000°; P -3.6145, Plg 37.0000°, Azm 268.0000°;*
NEIC ***19*** *02:02:13.2 ± 2.5, 23˚.11S ± 0˚.03 × 70˚.65W ± 0˚.04, h24km ± 4km, mb4.5/19, Mwr4.3/44, Mwr4.5(GUC) Error ellipse: s-maj=5.4km s-min=4.0km az=116.0*
VAO ***19*** *02:02:13.9 ± 0.4, 23˚.12S × 70˚.60W, h25km, mb4.3*
GUC ***19*** *02:02:14.0 ± 0.9, 23˚.08S × 70˚.58W, h30km ± 18km, ML4.4*
IDC ***19*** *02:02:16.9 ± 3.0, 23˚.07S × 70˚.54W, h53km ± 26km, mb3.5/5, mbtmp3.9/9, ML3.9/4, MS3.6/13, Error ellipse: s-maj=23.0km s-min=18.4km az=34.0*
ISC 19 02:02:11.9 ± 1.3, 23˚.12S ± 0˚.02 × 70˚.62W ± 0˚.04, h16km ± 8km, n165, σ1 9 02/167, mb4.4/15, MS3.7/8, 1C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.90**	**29**				**Pg**	**02 02 29.4**	**0.0**
PB04						Sn	**Sg**	**02 02 41.3**	**+0.1**
PB04	**IPOC Station P**	**0.90**	**29**	↓	*i* P		**Pg**	**02 02 29.5**	**+0.1**
PB04					*i* S		**Sg**	**02 02 41.5**	**+0.2**
PB04					IAML			02 02 44.0	
	comp=E,22µm,0.3s								
PB04	**IPOC Station P**	**0.90**	**29**	*i*	P		**Pb**	**02 02 29.0**	**-0.2**
PB06	**IPOC Station P**	**1.05**	**67**		Pn		**Pn**	**02 02 32.0**	**-0.2**
PB06					Sn		**Sb**	**02 02 45.4**	**0.0**
PB06	**IPOC Station P**	**1.05**	**67**	↓	*i* P		**Pn**	**02 02 32.0**	**-0.2**
PB06					*e* S		**Sb**	**02 02 45.5**	**0.0**
PB06					IAML			02 02 47.7	
	comp=N,14µm,0.3s								
PB06	**IPOC Station P**	**1.05**	**67**	*i*	P		**Pn**	**02 02 32.0**	**-0.2**
PB15	**IPOC Station P**	**1.06**	**95**		Pn		**Pg**	**02 02 32.5**	**0.0**
PB15					Sn		**Sn**	**02 02 46.8**	**-0.1**
PB15	**IPOC Station P**	**1.06**	**95**	↓	*i* P		**Pg**	**02 02 32.6**	**+0.1**
PB15					*e* S		**Sg**	**02 02 46.5**	**0.0**
PB15	**IPOC Station P**	**1.06**	**95**	*i*	P		**Pb**	**02 02 32.0**	**0.0**
PB14	**IPOC Station P**	**1.51**	**172**				**Pn**	**02 02 39.0**	**+0.4**
PB14					Sn		**Sn**	**02 02 58.2**	**+0.1**
PB14	**IPOC Station P**	**1.51**	**172**	↓	*i* P		**Pn**	**02 02 39.1**	**+0.5**
PB14					*e* S		**Sn**	**02 02 58.5**	**+0.4**
PB14	**IPOC Station P**	**1.51**	**172**	*i*	P		**Pn**	**02 02 39.0**	**+0.4**
PB07	**IPOC Station P**	**1.55**	**26**				**Pn**	**02 02 39.2**	**+0.2**
PB07					Sn		**Sb**	**02 02 59.1**	**-0.5**
PB07	**IPOC Station P**	**1.55**	**26**	↑	*i* P		**Pn**	**02 02 39.1**	**+0.1**
PB07					*e* S		**Sb**	**02 02 59.2**	**-0.5**
PB07					IAML			02 03 01.9	
	comp=N,11µm,0.2s								
PB07	**IPOC Station P**	**1.55**	**26**	*i*	P		**Pn**	**02 02 39.0**	**+0.1**
LVC	**Limon Verde**	**1.66**	**72**		P		**Pb**	**02 02 42.3**	**-0.1**
	comp=N,2µm,0.8s,baz=253,slow=12,SNR=1807								
LVC					S		**Sb**	**02 03 02.4**	**-0.7**
	comp=N,8µm,0.6s,baz=15,slow=6.2,SNR=69								
LVC					LR		LR	02 03 32.7	
	comp=N,3µm,18.7s,baz=239,slow=48								
LVC	**Limon Verde**	**1.66**	**72**				**Pb**	**02 02 42.2**	**-0.1**
LVC					Sn		**Sb**	**02 03 03.1**	**-0.1**
LVC	**Limon Verde**	**1.66**	**72**	↓	*i* P		**Pb**	**02 02 42.1**	**-0.2**
LVC					*e* S		**Sb**	**02 03 03.0**	**-0.1**
LVC	**Limon Verde**	**1.66**	**72**	*i*	P		**Pb**	**02 02 42.0**	**-0.3**
LVC	**Limon Verde**	**1.66**	**72**	*e*	P		**Pb**	**02 02 42.4**	**+0.1**
LVC					*e* S		**Sb**	**02 03 03.0**	**-0.1**
PB09	**IPOC Station P**	**1.83**	**44**				**Pb**	**02 02 44.6**	**-0.6**
PB09					Sn		**Sb**	**02 03 07.3**	**-0.7**
PB09	**IPOC Station P**	**1.83**	**44**	*i*	P		**Pb**	**02 02 44.4**	**-0.8**
PB09					*e* S		**Sb**	**02 03 07.7**	**-0.3**
PB09					IAML			02 03 10.8	
	comp=N,7µm,0.6s								
PB09	**IPOC Station P**	**1.83**	**44**	*i*	P		**Pb**	**02 02 44.0**	**-1.2**
PB02	**IPOC Station P**	**1.92**	**21**				**Pn**	**02 02 44.1**	**+0.2**
PB02	**IPOC Station P**	**1.92**	**21**	*e*	P		**Pn**	**02 02 44.0**	**0.0**
PB02					*e* S		**Sb**	**02 03 10.5**	**+0.3**
PB02					IAML			02 03 12.9	
	comp=E,9µm,0.2s								
PB02	**IPOC Station P**	**1.92**	**21**	*i*	P		**Pn**	**02 02 44.0**	**0.0**
GO02	**Mina Guanaco**	**2.24**	**155**		Pn		**Pb**	**02 02 51.1**	**-1.2**
GO02	**Mina Guanaco**	**2.24**	**155**	*e*	P		**Pb**	**02 02 51.0**	**-1.2**
GO02					*e* S		**Sb**	**02 03 19.5**	**-0.3**
GO02					IAML			02 03 26.6	
	comp=N,3µm,0.5s								
GO02	**Mina Guanaco**	**2.24**	**155**	*i*	P		**Pb**	**02 02 51.0**	**-1.2**
AF01	**San Pedro de A**	**2.26**	**86**	*e*	P		**Pb**	**02 02 52.7**	**+0.3**
AF01					*e* S		**Sg**	**02 03 22.4**	**-2.2**
PB01	**IPOC Station P**	**2.32**	**27**				**Pn**	**02 02 50.2**	**+0.7**
PB01	**IPOC Station P**	**2.32**	**27**	*e*	P		**Pn**	**02 02 50.3**	**+0.8**
PB01					*e* S		**Sn**	**02 03 17.7**	**-0.1**
PB01					IAML			02 03 26.4	
	comp=E,4µm,0.3s								
PB01	**IPOC Station P**	**2.32**	**27**	*i*	P		**Pn**	**02 02 50.0**	**+0.5**
PATCX	**Punta Patache**	**2.33**	**11**		Pn		**Pn**	**02 02 49.5**	**-0.2**
PATCX	**Punta Patache**	**2.33**	**11**	*e*	P		**Pn**	**02 02 49.2**	**-0.5**
PATCX	**Punta Patache**	**2.33**	**11**	*i*	P		**Pn**	**02 02 49.0**	**-0.7**
TA01	**Diego Aracena**	**2.58**	**9**		Pn		**Pn**	**02 02 52.4**	**-0.7**
TA01	**Diego Aracena**	**2.58**	**9**	*e*	P		**Pn**	**02 02 52.3**	**-0.7**
TA01	**Diego Aracena**	**2.58**	**9**	*i*	P		**Pn**	**02 02 52.0**	**-1.0**
TA02	**Huaiquique**	**2.87**	**9**		Pn		**Pn**	**02 02 57.4**	**+0.4**
TA02	**Huaiquique**	**2.87**	**9**	*e*			**Pn**	**02 02 57.0**	**0.0**
TA02					*e* P		**Pn**	**02 02 57.0**	**0.0**
HMBC	**Humberstone**	**2.91**	**14**	*e*	P		**Pn**	**02 02 58.4**	**+0.7**
HMBC					*e* S		**Sb**	**02 03 38.9**	**0.0**
HMBC					IAML			02 03 47.7	
	comp=E,2µm,0.4s								
AC01	**Pan de Azucar**	**3.01**	**180**		Pn		**Pn**	**02 02 58.3**	**-0.7**
AC01	**Pan de Azucar**	**3.01**	**180**	*e*	P		**Pn**	**02 02 58.5**	**-0.5**
AC01					IAML			02 03 48.3	
	comp=E,840nm,0.4s								
AC01	**Pan de Azucar**	**3.01**	**180**	*i*	P		**Pn**	**02 02 58.0**	**-1.0**
GO01	**Chusmiza**	**3.69**	**21**	*e*	P		**Pn**	**02 03 10.3**	**+1.6**
AC02	**Maricunga**	**3.94**	**160**		Pn		**Pn**	**02 03 14.9**	**+2.7**
AC02	**Maricunga**	**3.94**	**160**	*e*	P		**Pn**	**02 03 14.8**	**+2.7**
AC02	**Maricunga**	**3.94**	**160**	*i*	P		**Pn**	**02 03 15.0**	**+2.8**
AC06	**Mina Casimiro**	**4.22**	**177**		Pn		**Pn**	**02 03 15.6**	**0.0**
AC06	**Mina Casimiro**	**4.22**	**177**	*e*	P		**Pn**	**02 03 15.4**	**-0.3**
PB12	**IPOC Station P**	**4.49**	**4**		Pn		**Pn**	**02 03 19.0**	**-0.5**
PB12	**IPOC Station P**	**4.49**	**4**	*e*	P		**Pn**	**02 03 18.9**	**-0.5**
PB12	**IPOC Station P**	**4.49**	**4**	*i*	P		**Pn**	**02 03 19.0**	**-0.5**
PB16	**IPOC Station P**	**4.88**	**13**		Pn		**Pn**	**02 03 25.8**	**+0.6**
PB16	**IPOC Station P**	**4.88**	**13**	*e*	P		**Pn**	**02 03 25.7**	**+0.6**
PB16	**IPOC Station P**	**4.88**	**13**	*i*	P		**Pn**	**02 03 26.0**	**+0.9**
AC05	**El Transito**	**5.70**	**177**		Pn		**Pn**	**02 03 35.6**	**-0.4**
GO04	**Tololo Observa**	**7.02**	**181**		Pn		**Pn**	**02 03 52.1**	**-2.3**
LPAZ	**La Paz**	**7.19**	**19**		P		**Pn**	**02 03 59.2**	**+2.2**
	comp=E,0.6nm,0.3s,baz=132,slow=6.5,SNR=20								
LPAZ					S		**Sn**	**02 05 18.8**	**+0.1**
	comp=E,8.9nm,0.7s,baz=205,slow=17,SNR=1.2								
LPAZ					LR		LR	02 07 02.2	
	comp=E,329nm,18.1s,baz=151,slow=40								
	comp=E,2.1nm,0.3s								
LPAZ	**La Paz**	**7.19**	**19**	*e*	P		**Pn**	**02 03 57.3**	**+0.3**
CO06	**Fray Jorge**	**7.58**	**187**		Pn		**Pn**	**02 04 00.3**	**-1.4**
CO02	**Combarbal**	**8.06**	**182**		Pn		**Pn**	**02 04 05.6**	**-2.9**
SIV	**San Ignacio**	**11.46**	**53**		P		**Pn**	**02 04 54.9**	**-0.1**
	comp=E,0.2nm,0.3s,baz=236,slow=12,SNR=32								
SIV					S		**Sn**	**02 06 59.2**	**-3.5**
	comp=E,1.4nm,0.6s,baz=256,slow=23,SNR=0.9								
SIV					LR		LR	02 09 07.0	
	comp=E,83nm,19.1s,baz=267,slow=36								
	comp=E,11nm,0.6s								
CPUP	**Villa Florida**	**12.49**	**108**		P		**Pn**	**02 05 11.0**	**+1.9**
	comp=E,0.1nm,0.3s,baz=279,slow=11,SNR=4.3								
CPUP					LR		LR	02 10 34.9	
	comp=E,467nm,19.0s,baz=278,slow=40								
	comp=E,3.0nm,1.1s								
CPUP	**Villa Florida**	**12.49**	**108**	*e*	P		**Pn**	**02 05 11.4**	**+2.3**
NNA	**Nana**	**12.56**	**331**		LR		LR	02 09 21.0	
	comp=E,120nm,21.1s,baz=173,slow=34								
H03N1	**Juan Fernandez**	**12.61**	**214**		T		T	02 18 23.1	
	baz=39,slow=72,SNR=851								
H03N2	**Juan Fernandez**	**12.61**	**214**		T		T	02 18 09.8	
	baz=39,slow=72,SNR=628								
H03N3	**Juan Fernandez**	**12.62**	**214**		T		T	02 18 08.3	
	baz=39,slow=72,SNR=714								
H03S3	**Juan Fernandez**	**12.91**	**212**		T		T	02 18 31.2	
	baz=43,SNR=10								
H03S1	**Juan Fernandez**	**12.92**	**212**		T		T	02 18 39.4	
	baz=43								
H03S2	**Juan Fernandez**	**12.93**	**213**		T		T	02 18 37.2	
	baz=43								
PTLB	**Pontes e Lacer**	**13.25**	**57**		Pn		**Pn**	**02 05 22.0**	**+2.5**
PTLB	**Pontes e Lacer**	**13.25**	**57**	*e*	P		**Pn**	**02 05 20.9**	**+1.3**
ANTJ	**Antonio Joao (**	**13.55**	**88**	*e*	P		**Pn**	**02 05 25.1**	**+1.5**
ETMB	**Extrema**	**13.89**	**18**				**Pn**	**02 05 26.2**	**-1.9**
AQDB	**Aquidauana**	**14.11**	**82**		Pn		**Pn**	**02 05 32.5**	**+1.3**
AQDB	**Aquidauana**	**14.11**	**82**	*e*	P		**Pn**	**02 05 32.2**	**+1.0**
ITQB	**Itaqui**	**14.13**	**120**	*e*	P		**Pn**	**02 05 32.0**	**+0.5**
VILB	**Vilhena**	**14.15**	**46**		Pn		**Pn**	**02 05 32.9**	**+1.1**
VILB	**Vilhena**	**14.15**	**46**	*e*	P		**Pn**	**02 05 33.0**	**+1.1**
UNIS	**Unistalda (Bra**	**15.17**	**116**	*e*	P		**Pn**	**02 05 47.2**	**+1.7**
CZSB	**Cruzeiro do Su**	**15.44**	**352**		Pn		**Pn**	**02 05 48.6**	**-0.5**
CZSB					IAmb		IAmb	02 06 15.8	
	comp=Z,12nm,1.0s								
CZSB	**Cruzeiro do Su**	**15.44**	**352**	*e*	P		**Pn**	**02 05 50.8**	**+1.7**
CRSM	**Crissiumal (Br**	**15.61**	**110**	*e*	P		**Pn**	**02 05 51.8**	**+0.5**
PP1B	**Ponte de Pedra**	**15.75**	**72**	*e*	P		**Pn**	**02 05 52.9**	**-0.2**
SALV	**Santo Antonio**	**15.79**	**66**	*e*	P		**Pn**	**02 05 54.7**	**+1.0**
FRBT	**Francisco Belt**	**16.23**	**104**	*e*	P		**Pn**	**02 05 59.7**	**+0.3**
TRCB	**Terra Rica**	**16.57**	**92**	*e*	P		**Pn**	**02 06 04.7**	**+0.9**
TRQA	**Tornquist**	**16.63**	**156**		P		**P**	**02 06 07.6**	**+0.9**
ALGR	**Alto Alegre (B**	**16.80**	**113**	*e*	P		**Pn**	**02 06 06.0**	**-0.6**
CPSB	**Cacapava Do Su**	**16.96**	**119**	*e*	P		**Pn**	**02 06 08.6**	**0.0**
PTGB	**Pitanga**	**17.04**	**99**	*e*	P		**Pn**	**02 06 10.4**	**+0.7**
ITAB	**Concordia**	**17.23**	**108**	*e*	P		**Pn**	**02 06 12.5**	**+0.5**
PDRB	**Porto dos Gac**	**17.50**	**51**	*e*	P		**P**	**02 06 16.2**	**-0.2**
PLCA	**Paso Flores**	**17.56**	**180**		P		**P**	**02 06 18.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=353,slow=11,SNR=4.2								
PLCA					LR		LR	02 12 22.4	
	comp=Z,194nm,19.2s,baz=294,slow=34								
	comp=Z,1.7nm,0.7s								
PLCA	**Paso Flores**	**17.56**	**180**	*e*	P		**P**	**02 06 17.7**	**+0.6**
PCMB	**Pacaembu**	**17.97**	**89**	*e*	P		**Pn**	**02 06 20.3**	**-0.9**
CLDB	**Colider**	**18.67**	**52**	*e*	P		**P**	**02 06 29.1**	**-0.3**
CNLB	**Canela**	**18.77**	**113**	*e*	P		**P**	**02 06 30.7**	**+0.2**
ITRB	**Iturama**	**19.17**	**84**	*e*	P		**Pn**	**02 06 37.4**	**+1.6**
TER01	**Tubaro-SC**	**20.07**	**110**	*e*	P		**P**	**02 06 44.9**	**+0.2**
GO07	**Milladeo Hill,**	**20.10**	**186**		P		Pn	02 06 46.7	0.0
GO07					IAmb		IAmb	02 07 19.1	
	comp=Z,36nm,1.1s								
BB19B	**Bebedouro**	**20.57**	**89**	*e*	P		**P**	**02 06 51.4**	**+1.1**
MCRA	**Macar, Loja**	**20.71**	**333**		P		**P**	**02 06 50.8**	**-0.9**
BOSC	**San Juan Bosco**	**21.27**	**338**		P		**P**	**02 06 57.0**	**-0.9**
BOSC					IAmb		IAmb	02 07 02.9	
	comp=Z,13nm,0.9s								
PET01	**Itanhaem-SP**	**21.41**	**98**	*e*	P		**P**	**02 07 01.7**	**+2.5**
SNDB	**Serra Nova Dou**	**21.48**	**62**	*e*	P		**P**	**02 07 00.9**	**+0.9**
ARNL	**Arenillas**	**21.50**	**333**		P		**P**	**02 07 00.9**	**+0.7**
ARNL					IAmb		IAmb	02 07 04.3	
	comp=Z,22nm,1.0s								
IPMB	**Ipameri, GO**	**21.59**	**80**	*e*	P		**P**	**02 07 00.7**	**-0.5**
NPGB	**Novo Progresso**	**21.70**	**45**	*e*	P		**P**	**02 07 01.3**	**-1.1**
VAO	**Valinhos**	**21.76**	**94**	*e*	P		**P**	**02 07 04.5**	**+1.4**
MACA	**Manacapuru-AM**	**22.05**	**27**		P		**P**	**02 07 04.0**	**-2.1**
MACA					IAmb		IAmb	02 07 34.7	
	comp=Z,12nm,0.8s								
MACA	**Manacapuru-AM**	**22.05**	**27**	*e*	P		**P**	**02 07 06.1**	**0.0**
BDFB	**Brasilia**	**22.57**	**75**	*e*	P		**P**	**02 07 10.3**	**-1.5**
	comp=Z,3.8nm,0.8s,baz=234,slow=14,SNR=5.5								
BDFB					LR		LR	02 17 24.5	
	comp=Z,263nm,18.2s,baz=283,slow=40								
	comp=Z,3.8nm,0.8s								
BDFB	**Brasilia**	**22.57**	**75**	*e*	P		**P**	**02 07 13.0**	**+1.2**
PARB	**Paraibuna**	**22.97**	**95**	*e*	P		**P**	**02 07 16.6**	**+0.7**
PMNB	**Patos De Minas**	**23.05**	**83**	*e*	P		**P**	**02 07 16.4**	**-0.3**
ITTB	**Itaituba**	**23.55**	**40**	*e*	P		**P**	**02 07 21.1**	**-0.6**
OTAV	**Otavalo**	**24.44**	**341**	*e*	P		**P**	**02 07 31.8**	**+1.3**
DIAM	**Diamantina, MG**	**25.64**	**84**	*e*	P		**P**	**02 07 41.1**	**0.0**
JANB	**Januaria**	**26.09**	**77**	*e*	P		**P**	**02 07 44.6**	**-0.6**
PRPB	**Paraupebas**	**26.19**	**53**	*e*	P		**P**	**02 07 46.2**	**+0.2**
SMTB	**Santa Maria do**	**26.23**	**61**	*e*	P		**P**	**02 07 46.2**	**-0.2**
MALB	**Monte Alegre**	**26.43**	**39**	*e*	P		**P**	**02 07 48.6**	**+0.5**
SDBA	**SAO DESIDERIO**	**26.66**	**71**	*e*	P		**P**	**02 07 49.6**	**-0.8**
BOAV	**Boa Vista**	**27.21**	**23**	*e*	P		**P**	**02 07 56.3**	**+1.2**
NAN01	**Guarapari, ES**	**29.01**	**85**	*e*	P		**P**	**02 08 11.9**	**+0.6**
MDP	**Montagnes des**	**33.10**	**34**		LR		LR	02 23 08.9	
	comp=Z,133nm,21.1s,baz=206,slow=38								
RCBR	**Riachuelo**	**37.61**	**68**		LR		LR	02 26 15.1	
	comp=Z,143nm,18.9s,baz=340,slow=38								
RCBR	**Riachuelo**	**37.61**	**68**	*e*	P		**P**	**02 09 26.7**	**+0.5**
CBYP	**Canovanas**	**41.40**	**7**		P		**P**	**02 09 56.4**	**-1.3**
CMIG	**Matias Romero**	**46.48**	**327**		LR		LR	02 26 13.6	
	comp=Z,40nm,21.7s,baz=135,slow=31								
SWET	**Sewanee**	**59.81**	**346**		P		**P**	**02 12 16.5**	**0.0**
TXAR	**Lajitas Array**	**61.09**	**327**		P		**P**	**02 12 26.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=145,slow=9.1,SNR=7.1								
	comp=Z,0.5nm,0.7s								
TXAR	**Lajitas Array**	**61.09**	**327**		P		**P**	**02 12 26.4**	**+1.1**
WVT	**Waverly**	**61.14**	**344**		P		**P**	**02 12 24.8**	**-0.7**
WHAR	**Wooly Hollow**	**61.62**	**340**		P		**P**	**02 12 28.0**	**-0.7**
LCAR	**Lake Charles**	**61.99**	**341**		P		**P**	**02 12 30.9**	**-0.4**
LCAR					IAmb		IAmb	02 12 31.2	
	comp=Z,3.5nm,0.9s								
DBIC	**Dimbokro**	**70.71**	**74**		LR		LR	02 44 16.1	
	comp=Z,36nm,18.1s,baz=208,slow=36								
PFO	**Pinyon Flats O**	**71.33**	**321**		LR		LR	02 39 07.5	
	comp=Z,25nm,20.4s,baz=207,slow=31								
SRU	**San Rafael Swe**	**72.29**	**328**		P		**P**	**02 13 37.9**	**+1.1**
SRU					IAmb		IAmb	02 13 39.3	
	comp=Z,4.1nm,0.8s								
P18A	**Preston Nutter**	**72.57**	**329**		P		**P**	**02 13 39.6**	**+0.9**
P18A					IAmb		IAmb	02 13 41.9	
	comp=Z,4.0nm,0.9s								
MSU	**Marysvale**	**72.64**	**327**		P		**P**	**02 13 40.6**	**+1.6**
P17A	**Butcher Ranch,**	**72.68**	**329**		P		**P**	**02 13 38.9**	**-0.3**
P17A					IAmb		IAmb	02 13 42.1	
	comp=Z,3.4nm,0.8s								
PPT	**Papeete**	**73.42**	**258**		LR		LR	02 38 14.5	
	comp=Z,74nm,20.5s,baz=89,slow=29								
HWUT	**Hardware Ranch**	**74.74**	**329**		P		**P**	**02 13 52.0**	**+0.8**
HWUT					IAmb		IAmb	02 13 53.4	
	comp=Z,4.7nm,1.1s								
PDAR	**Pinedale Array**	**74.74**	**331**		P		**P**	**02 13 51.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=156,slow=6.7,SNR=1.9								
	comp=Z,0.2nm,0.5s								
NVAR	**Mina Array Bea**	**75.81**	**323**		P		**P**	**02 13 58.1**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=155,slow=6.9,SNR=7.2								
	comp=Z,0.6nm,0.7s								
KVN	**Kaiserville**	**76.14**	**324**		P		**P**	**02 13 59.4**	**+0.1**
SUR	**Sutherland**	**79.13**	**121**		LR		LR	02 44 24.8	
	comp=Z,54nm,20.7s,baz=236,slow=32								
TOA0	**Torodi Ar. Sit**	**79.39**	**71**		P		**P**	**02 14 16.9**	**-0.8**
TOA0					IAmb		IAmb	02 14 29.1	
	comp=Z,3.2nm,0.8s								
TORD	**Torodi Ar. Bea**	**79.39**	**71**		P		**P**	**02 14 17.1**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=258,slow=4.6,SNR=12								
	comp=Z,2.4nm,0.8s								
WALA	**Waterton Lakes**	**81.56**	**333**		P		**P**	**02 14 29.9**	**+1.1**
WALA					IAmb		IAmb	02 14 43.2	
	comp=Z,5.0nm,1.0s								
H11S2	**WAKE ISLAND Hyl**	**26.49**	**276**		T		T	04 40 31.9	
	baz=106,slow=75,SNR=281								
H11S1	**WAKE ISLAND Hyl**	**26.50**	**276**		T		T	04 40 32.7	
	baz=106,slow=75,SNR=317								
H11S3	**WAKE ISLAND Hyl**	**26.51**	**276**		T		T	04 40 32.5	
	baz=106,slow=75,SNR=397								
H11N3	**WAKE ISLAND Hyl**	**26.62**	**278**		T		T	04 40 39.2	
	baz=105,slow=75,SNR=73								
H11N2	**WAKE ISLAND Hyl**	**26.64**	**278**		T		T	04 40 42.0	
	baz=105,slow=75,SNR=77								
H11N1	**WAKE ISLAND Hyl**	**26.64**	**278**		T		T	04 40 40.4	
	baz=105,slow=75,SNR=50								
ASAR	**Alice Springs**	**127.74**	**209**		PKP		**PKPdf**	**02 21 16.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=141,slow=3.1,SNR=2.4								
WRA	**Warramunga Arr**	**130.75**	**212**		PKP		**PKPdf**	**02 21 23.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=130,slow=1.5,SNR=2.2								
ZALV	**Zalesovo Beam**	**144.09**	**25**		PKP		PKPbc	02 21 45.5	+1.0
	comp=Z,0.4nm,0.3s,baz=351,slow=1.9,SNR=1.9								
MKAR	**Makanchi Array**	**147.87**	**36**		PKPbc		**PKPbc**	**02 21 56.3**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=295,slow=2.9,SNR=5.3								

IDC 19 02:05:54.6 ± 3.0, 8.72S × 112.54E, h0km, mb3.5/3, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=167.6km s-min=26.2km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.78**	**128**		Pn		Pn	02 09 36.2	-2.1
	0.1nm,0.3s,baz=308,slow=17,SNR=2.1								
FITZ						Sn	Sn	02 12 20.0	-14
	0.1nm,0.3s,baz=352,slow=7.6,SNR=1.2								
	2.2nm,0.9s								
WRA	**Warramunga Arr**	**23.85**	**120**		P		P	02 11 10.2	+0.3
	1.0nm,0.8s,baz=293,slow=11,SNR=6.9								
	1.0nm,0.8s								
ASAR	**Alice Springs**	**25.27**	**129**		P		P	02 11 23.2	+0.4
	0.5nm,0.7s,baz=307,slow=10,SNR=4.1								
	0.5nm,0.7s								
H08S2	**Diego Garcia H**	**39.64**	**269**		T		T	02 54 24.6	
	baz=95,slow=74								
H08S3	**Diego Garcia H**	**39.66**	**269**		T		T	02 54 20.7	
	baz=95,slow=74								
H08S1	**Diego Carcia H**	**39.66**	**269**		T		T	02 54 45.5	
	baz=95								
MKAR	**Makanchi Array**	**61.49**	**337**		P		P	02 16 13.0	-0.2
	0.3nm,0.4s,baz=146,slow=6.5,SNR=5.1								
	0.3nm,0.4s								

IDC ***19*** *02:43:02.5 ± 0.8, 1.87N × 98.77E, h0km, mb4.2/12, mbtmp4.2/13, ML4.5/1, MS3.6/15, Error ellipse: s-maj=25.8km s-min=16.8km az=88.0*
DJA ***19*** *02:43:05.9 ± 0.2, 2˚N ± 2˚ × 9˚9E ± ˚, h10km, M4.3/12, MLv4.3/12*
NEIC ***19*** *02:43:08.7 ± 1.6, 2.22N ± 0.02 × 98.80E ± 0.06, h24km ± 6km, mb4.5/36, Error ellipse: s-maj=8.5km s-min=2.3km az=102.0*
ISC 19 02:43:08.6 ± 0.5, 2.10N ± 0.03 × 98.97E ± 0.05, h35km, n92, σ1 27/89, mb4.5/36, MS3.8/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.59**	**356**				**Pn**	**02 43 18.5**	**-2.0**
RPSI	**Rantau Prapat**	**0.59**	**356**				**Pn**	**02 43 18.7**	**-1.9**
PSI	**Prapat**	**0.70**	**356**			LR	LR	02 43 16.6	
	comp=Z,151nm,18.0s,baz=69,slow=17								
PSI						Pg	**Pn**	**02 43 18.7**	**-3.4**

comp=Z,2.9nm,0.7s,baz=165,slow=6.2,SNR=9.2
comp=Z,2.9nm,0.7s
ZALV Zalesovo Beam 52.98 350 P **P** **02 52 21.0 -0.5**
KLR Kul'dur 54.67 26 LR LR 03 19 16.4
comp=Z,128nm,18.1s,baz=296,slow=40
RAYN Ar Rayn 55.91 297 P **P** **02 52 43.1 -0.4**
RAYN IAmb IAmb 02 52 49.0
comp=Z,7.7nm,1.5s
BVAR Borovoye Array 56.01 340 LR LR 03 20 07.2
comp=Z,44nm,19.3s,baz=193,slow=40
BRVK Borovoye 56.07 340 P **P** **02 52 43.1 -1.0**
BRVK IAmb IAmb 02 52 45.7
comp=Z,4.3nm,0.9s
ABKAR Akbulak array 57.58 331 P **P** **02 52 54.1 -0.7**
ARU Arti 63.06 336 LR LR 03 23 15.3
comp=Z,72nm,20.2s,baz=125,slow=38
ARU Arti 63.06 336 P **P** **02 53 30.8 -1.4**
ARU IAmb IAmb 02 53 33.4
comp=Z,7.9nm,1.1s
GURO Guroymak-BITLI 63.25 313 P **P** **02 53 33.9 0.0**
GURO IAmb IAmb 02 53 36.4
comp=Z,5.1nm,1.1s
MARD Mardin 63.77 311 P **P** **02 53 36.6 -0.9**
MARD IAmb IAmb 02 53 39.4
comp=Z,5.8nm,0.8s
KBZ Khabaz 64.57 318 P **P** **02 53 42.2 -0.1**
comp=Z,3.3nm,0.9s,baz=180,slow=8.5,SNR=6.3
comp=Z,3.3nm,0.9s
MMAI Mount Meron Ar 66.83 305 LR LR 03 25 47.5
comp=Z,19nm,18.0s,baz=144,slow=38
BNN Bunyan 67.94 311 P **P** **02 54 04.0 -0.3**
MA2 Magadan 69.77 25 LR LR 03 27 49.0
comp=Z,50nm,18.1s,baz=227,slow=38
BR131 Keskin Array S 69.83 312 P **P** **02 54 15.6 -0.3**
BR131 IAmb IAmb 02 54 16.6
comp=Z,6.2nm,1.1s
BRTR Keskin Array B 69.83 312 P **P** **02 54 15.2 -0.8**
comp=Z,2.3nm,0.8s,baz=131,slow=7.5,SNR=16
comp=Z,2.3nm,0.8s
ANTO Ankara 70.49 312 P **P** **02 54 20.7 +0.7**
ANTO IAmb IAmb 02 54 21.4
comp=Z,5.2nm,0.8s
BR231 Keskin MP Arra 70.50 312 P **P** **02 54 19.8 -0.3**
BR231 IAmb IAmb 02 54 22.6
comp=Z,4.9nm,0.9s
MDUB Mudurnu 71.82 312 P **P** **02 54 27.0 -1.1**
TIXI Tiksi 72.00 10 P **P** **02 54 28.3 -0.1**
LSZ Lusaka 72.06 253 LR LR 03 23 30.2
comp=Z,50nm,18.1s,baz=185,slow=34
AKASG Malin Array Be 75.63 322 P **P** **02 54 49.4 -0.7**
comp=Z,2.4nm,1.0s,baz=88,slow=5.0,SNR=5.8
comp=Z,2.4nm,1.0s
MNK Minsk 77.38 326 *i* P **P** **02 54 57.9 -2.0**
comp=E,1.0nm,1.1s
MNK *i* P **P** **02 54 57.9 -2.0**
MNK *i* P **P** **02 54 57.9 -2.0**
comp=Z,10.0nm,0.8s,baz=285
MNK *i* PP **PP** **02 57 51.8 -2.6**
MNK *i* PPP PPP 02 59 39.4
MNK *i* S **S** **03 04 45.9 -1.9**
MNK *i* SS **SS** **03 09 45.1 -1.6**
MNK *i* SSS SSS 03 13 09.5
MNK *i* LQ LQ 03 24 01.5
MNK *i* LR LR 03 29 48.5
MNK *i* LRM MLR 03 30 59.4
comp=Z,35nm,15.3s
MNK *i* LRM MLR 03 31 06.5
comp=N,1.0nm,17.9s
MNK *i* LRM MLR 03 31 30.1
comp=E,69nm,19.8s
BURAR Bucovina Array 77.53 318 P **P** **02 55 01.6 +0.7**
BURAR IAmb IAmb 02 55 04.0
comp=Z,4.3nm,0.9s
BUR08 Bucovina Ar. S 77.54 318 P **P** **02 55 00.9 -0.2**
BUR08 IAmb IAmb 02 55 04.2
comp=Z,5.6nm,1.1s
FINES FINESS Array B 80.03 332 P **P** **02 55 14.3 +0.1**
comp=Z,4.2nm,1.0s,baz=94,slow=5.7,SNR=8.0
comp=Z,4.2nm,1.0s
ARCES ARCESS Array B 82.29 340 P **P** **02 55 27.3 +1.1**
comp=Z,3.5nm,1.0s,baz=100,slow=5.0,SNR=2.4
ARCES LR LR 03 36 00.9
comp=Z,42nm,18.7s,baz=140,slow=39
comp=Z,3.5nm,1.0s
GERES GERESS Array B 85.31 319 P **P** **02 55 42.5 +0.3**
comp=Z,0.6nm,0.9s,baz=74,slow=7.3,SNR=6.6
comp=Z,0.6nm,0.9s
NOA NORSAR Array B 87.08 331 P **P** **02 55 50.8 +0.3**
comp=Z,1.1nm,0.9s,baz=96,slow=5.1,SNR=3.7
NOA LR LR 03 37 16.7
comp=Z,14nm,19.7s,baz=325,slow=37
comp=Z,1.1nm,0.9s
NVAR Mina Array Bea 127.02 37 PKP **PKPdf** **03 02 09.4 -0.3**
comp=Z,0.8nm,0.9s,baz=222,slow=1.2,SNR=3.9
TXAR Lajitas Array 141.97 33 PKP **PKPdf** **03 02 36.1 -1.6**
comp=Z,0.5nm,0.9s,baz=318,slow=1.2,SNR=4.1
CPUP Villa Florida 146.85 221 PKPbc **PKPdf** **03 02 46.5 +0.3**
comp=Z,2.1nm,0.8s,baz=151,slow=7.5,SNR=4.7

*IDC **19** 02:45:25.3±1.9, 7°.75S×118°.51E, h0km, mb3.5/2, mbtmp3.5/5, ML3.5/3, MS2.5/1, Error ellipse: s-maj=38.7km s-min=18.5km az=88.0*
*DJA **19** 02:45:30.1±0.4, 8°.5S±3°×11°.9E±°, h55km±26km, M3.9/13, MLv3.9/13*
ISC 19 02:45:30.0±0.9, **7°.76S**±0°.05×**118°.68E**±0°.04, **h35**km, **n18,**
σ1s29/23, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.39**	**220**	P	**Pn**	**02 45 53.7**	**+0.8**
PLAI				S	**Sn**	**02 46 11.1**	**+1.1**
TWSI	**Taliwang, Sumb**	**2.03**	**241**	P	**Pn**	**02 46 01.9**	**+0.2**
TWSI				S	**Sn**	**02 46 26.1**	**+0.3**
BSSI	**Bau Bau, Buton**	**2.41**	**48**	P	**Pn**	**02 46 07.4**	**+0.5**
BKSI	**Bulukumba**	**2.81**	**31**	P	**Pn**	**02 46 12.5**	**0.0**
BKSI				S	**Sn**	**02 46 45.5**	**+0.3**
KAPI	**Kappang**	**2.93**	**21**	Pn	**Pn**	**02 46 14.5**	**+0.5**
	13nm,0.3s,baz=206,slow=5.8,SNR=20						
KAPI				Sn	**Sn**	**02 46 47.0**	**-0.9**
	28nm,0.3s,baz=324,slow=21,SNR=11						
KAPI				Lg	Lg	02 46 59.7	
	20nm,0.3s,baz=185,slow=19,SNR=4.1						
KAPI				LR	LR	02 47 35.0	
	comp=Z,83nm,19.8s,baz=224,slow=43						
	27nm,0.3s						
EDFI	**Ende, Flores**	**3.14**	**109**	P	**Pn**	**02 46 17.8**	**+0.7**
SRBI	**Singaraja**	**3.45**	**264**	P	**Pn**	**02 46 21.2**	**0.0**
DNP	**Denpasar**	**3.55**	**255**	P	**Pn**	**02 46 22.5**	**-0.1**
MMRI	**Maumere**	**3.63**	**104**	P	**Pn**	**02 46 24.2**	**+0.4**
IGBI	**Denpasar**	**3.65**	**253**	P	**Pn**	**02 46 23.4**	**-0.6**
SPSI	**Sidrap Palu**	**3.92**	**16**	P	**Pn**	**02 46 27.7**	**0.0**
ABJI	**Asem Bagus**	**4.40**	**269**	P	**Pn**	**02 46 33.4**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.54**	**261**	P	**Pn**	**02 46 35.5**	**-0.7**
KMMI	**Kalianget**	**4.72**	**278**	P	**Pn**	**02 46 39.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**12.31**	**147**	Pn	**Pn**	**02 48 23.6**	**+0.6**
	0.2nm,0.3s,baz=321,slow=13,SNR=1.8						
FITZ				Sn	**Sn**	**02 50 34.3**	**-4.7**
	0.5nm,0.3s,baz=186,slow=16,SNR=9.3						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**19.42**	**130**	P	**P**	**02 49 54.0**	**+0.6**
	0.2nm,0.3s,baz=303,slow=12,SNR=5.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**21.53**	**139**	P	**P**	**02 50 18.1**	**+1.9**
	1.0nm,0.4s,baz=315,slow=9.1,SNR=15						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**63.21**	**333**	P	**P**	**02 55 54.7**	**0.0**
	0.3nm,0.5s,baz=155,slow=6.8,SNR=2.5						
	0.3nm,0.5s						

*IDC **19** 02:45:36.2±1.5, 8°.69S×152°.23E, h0km, mb3.6/3, mbtmp3.7/5, ML1.7/1, Error ellipse: s-maj=40.9km s-min=26.3km az=160.0*
ISC 19 02:45:41.3±1.3, **8°.9S**±0°.2×**152°.3E**±0°.1, **h35**km, **n6,** σ1s**14**/7,
D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**264**	Pn	**Pn**	**02 46 53.8**	**-1.3**
	1.7nm,0.3s,baz=50,slow=7.9,SNR=2.0						
PMG				Sn	**Sn**	**02 47 53.8**	**+1.1**
	1.8nm,0.3s,baz=156,slow=22,SNR=1.9						
	3.1nm,0.3s						
DZM	**Mont Dzumac**	**18.88**	**135**	P	**Pn**	**02 49 59.5**	**-0.1**
	0.9nm,0.4s,baz=324,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**20.52**	**236**	P	**P**	**02 50 16.9**	**+0.1**
	2.6nm,0.6s,baz=58,slow=11,SNR=15						
	2.6nm,0.6s						
ASAR	**Alice Springs**	**22.90**	**228**	P	**P**	**02 50 43.3**	**+1.0**
	1.1nm,0.6s,baz=58,slow=8.3,SNR=5.3						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**86.14**	**22**	P	**P**	**02 58 19.2**	**+0.7**
	0.4nm,1.0s,baz=255,slow=5.3,SNR=2.7						
	0.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**150.84**	**281**	PKPbc	**PKPbc**	**03 05 30.4**	**-0.8**
	0.8nm,0.7s,baz=72,slow=2.7,SNR=3.6						

*IDC **19** 02:48:23.9±0.7, 9°.25S×159°.05E, h0km, mb4.1/9, mbtmp4.1/12, ML3.1/3, MS3.8/14, Error ellipse: s-maj=20.6km s-min=13.8km az=180.0*
*NEIC **19** 02:48:26.5±2.2, 9°.77S±0°.09×159°.09E±0°.06, h10km±1km, mb4.5/15, Error ellipse: s-maj=18.2km s-min=5.5km az=329.0*
ISC 19 02:48:28.2±0.5, **9°.68S**±0°.08×**159°.09E**±0°.06, **h27**km, **n46,**
σ1s**78**/40, **mb4.2**/15, **MS3.8**/12, **Bougainville-Solomon**
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.88**	**74**	Pn	**Pn**	**02 48 43.5**	**-1.2**
	19μm,0.3s,baz=237,slow=6.6,SNR=137						
HNR				Sn	**Sn**	**02 48 57.0**	**+0.4**
	42μm,0.3s,baz=214,slow=6.3,SNR=12						
HNR	**Honiara**	**0.88**	**74**		**Pb**	**02 48 44.0**	**-0.8**
HNR				Sg	**Sn**	**02 48 55.5**	**-1.2**
PMG	**Port Moresby**	**11.78**	**270**	Pn	**Pn**	**02 51 12.4**	**-2.0**
	0.5nm,0.3s,baz=54,slow=22,SNR=1.5						
PMG				LR	LR	02 55 27.2	
	comp=Z,637nm,20.5s,baz=110,slow=36						
	2.9nm,0.3s						
LIFNC	**LIFOU**	**13.54**	**146**	Pn	**Pn**	**02 51 36.9**	**-1.7**
DZM	**Mont Dzumac**	**14.20**	**151**	Pn	**P**	**02 51 53.0**	**-1.8**
	0.2nm,0.3s,baz=330,slow=23,SNR=2.2						
	2.5nm,0.8s						
CTA	**Charters Tower**	**16.14**	**229**	Pn	**P**	**02 52 14.5**	**-1.9**
	0.2nm,0.3s,baz=20,slow=12,SNR=2.1						
CTA				LR	LR	02 58 06.4	
	comp=Z,314nm,18.8s,baz=68,slow=36						
	1.5nm,0.5s						
CTAO	**Charters Tower**	**16.14**	**229**	P	**P**	**02 52 14.2**	**-2.2**
COEN	**Coen**	**16.15**	**253**	P	**P**	**02 52 16.0**	**-0.5**
COEN				IAmb	IAmb	02 52 18.3	
	comp=Z,20nm,1.3s						
PATS	**Pohnpei**	**16.43**	**357**	Pn	**Pn**	**02 52 17.8**	**+0.9**
PATS				IAmb	IAmb	02 52 45.1	
	comp=Z,54nm,1.1s						
MSVF	**Nonsavu**	**20.07**	**116**	P	**Pn**	**02 53 05.7**	**+4.1**
	comp=Z,19nm,1.2s,baz=246,slow=5.1,SNR=3.8						
ARMA	**Armidale**	**21.78**	**198**	P	**P**	**02 53 15.6**	**-2.5**
WR0	**Warramunga Arr**	**25.81**	**244**	P	**P**	**02 53 57.5**	**+0.2**
WR0				IAmb	IAmb	02 54 02.0	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**25.87**	**244**	P	**P**	**02 53 58.4**	**+0.4**
WB0				IAmb	IAmb	02 54 03.6	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**25.97**	**244**		**P**	**02 53 58.1**	**-0.7**
WB2	**Warramunga Arr**	**25.97**	**244**		**P**	**02 53 58.5**	**-0.3**
WB2				IAmb	IAmb	02 54 14.2	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**25.98**	**244**	P	**P**	**02 53 59.7**	**+0.8**
	comp=Z,7.4nm,1.0s,baz=69,slow=9.6,SNR=10						
WRA				PcP	**PcP**	**02 57 27.7**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=74,slow=2.1,SNR=3.3						
WRA				LR	LR	03 04 07.5	
	comp=Z,191nm,19.2s,baz=64,slow=36						
	comp=Z,7.4nm,1.0s						
WRA	**Warramunga Arr**	**25.98**	**244**	P	**P**	**02 53 58.4**	**-0.5**
STKA	**Stephens Creek**	**27.40**	**214**	P	**P**	**02 54 14.2**	**+2.7**
	comp=Z,2.1nm,0.7s,baz=341,slow=15,SNR=1.8						
STKA				LR	LR	03 05 03.4	
	comp=Z,163nm,18.7s,baz=22,slow=36						
	comp=Z,2.1nm,0.7s						
AS31	**Alice Springs**	**27.78**	**237**	P	**P**	**02 54 13.9**	**-1.2**
ASAR	**Alice Springs**	**27.78**	**237**	P	**P**	**02 54 15.7**	**+0.6**
	comp=Z,3.5nm,1.0s,baz=64,slow=9.6,SNR=14						
ASAR				PcP	**PcP**	**02 57 31.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=63,slow=4.4,SNR=1.7						
ASAR				LR	LR	03 04 26.3	
	comp=Z,150nm,20.8s,baz=90,slow=34						
	comp=Z,3.5nm,1.0s						
ASAR	**Alice Springs**	**27.78**	**237**	P	**P**	**02 54 14.5**	**-0.7**
RAO	**Raoul Island**	**29.03**	**135**	P	P	02 54 29.4	+3.3
	comp=Z,284nm,0.3s,baz=280,slow=23,SNR=4.8						
FITZ	**Fitzroy Crossi**	**33.49**	**252**	LR	LR	03 08 36.4	
	comp=Z,136nm,19.4s,baz=36,slow=36						
RAR	**Rarotonga**	**41.15**	**111**	LR	LR	03 10 53.6	
	comp=Z,112nm,21.5s,baz=279,slow=33						
LEM	**Lembang**	**50.99**	**269**	LR	LR	03 24 09.7	
	comp=Z,118nm,18.1s,baz=93,slow=42						
USRK	**Ussuriysk Ar.**	**58.99**	**338**	P	**P**	**02 58 27.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**65.59**	**295**	P	**P**	**02 59 11.2**	**+1.0**
VNDA	**Vanda**	**67.83**	**179**	P	**P**	**02 59 26.8**	**+3.3**
	comp=Z,1.3nm,0.8s,baz=345,slow=7.2,SNR=9.9						
	comp=Z,1.3nm,0.8s						
VNDA	**Vanda**	**67.83**	**179**	P	**P**	**02 59 26.5**	**+3.1**
VNDA				IAmb	IAmb	02 59 39.6	
	comp=Z,2.5nm,1.0s						
SONM	**Songino Array**	**73.79**	**326**	P	**P**	**02 59 59.0**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=131,slow=5.9,SNR=4.0						
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**73.79**	**326**	P	**P**	**03 00 03.1**	**+2.8**
SONM				IAmb	IAmb	03 00 09.2	
	comp=Z,4.1nm,1.4s						
PALK	**Pallekele**	**79.88**	**279**	LR	LR	03 38 43.4	
	comp=Z,48nm,18.6s,baz=198,slow=38						
M19K	**Big River Lodg**	**79.97**	**20**	P	**P**	**03 00 34.5**	**-0.2**
M19K				IAmb	IAmb	03 00 52.4	
	comp=Z,10nm,1.3s						
QSPA	**South Pole Qui**	**80.31**	**180**	P	**P**	**03 00 40.0**	**+3.3**
J20K	**Nowinta River**	**81.62**	**19**	P	**P**	**03 00 43.8**	**+0.4**
J20K				IAmb	IAmb	03 01 19.3	
	comp=Z,7.8nm,1.4s						
IMAR	**Indian Mountai**	**82.99**	**18**	P	**P**	**03 00 49.9**	**-0.7**
ILAR	**Eielson Array**	**84.42**	**20**	P	**P**	**03 00 55.3**	**-2.5**
	comp=Z,0.8nm,0.9s,baz=245,slow=4.8,SNR=7.7						
	comp=Z,0.8nm,0.8s						
YBH	**Yreka Blue Hor**	**87.70**	**47**	LR	LR	03 35 55.0	
	comp=Z,34nm,18.6s,baz=260,slow=33						
MKAR	**Makanchi Array**	**88.09**	**318**	P	**P**	**03 01 13.9**	**-2.6**
	comp=Z,0.5nm,0.5s,baz=86,slow=5.5,SNR=4.6						
	comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	**90.21**	**51**	P	**P**	**03 01 26.1**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=236,slow=6.1,SNR=10.0						
	comp=Z,1.5nm,1.0s						
PFO	**Pinyon Flats O**	**90.71**	**56**	LR	LR	03 35 19.6	
	comp=Z,101nm,19.5s,baz=276,slow=31						
NEW	**Newport**	**93.03**	**42**	LR	LR	03 40 17.1	
	comp=Z,44nm,18.0s,baz=244,slow=34						
LPIG	**La Paz**	**94.43**	**66**	LR	LR	03 37 13.0	
	comp=Z,38nm,18.9s,baz=246,slow=31						
PDAR	**Pinedale Array**	**97.47**	**48**	P	**P**	**03 01 59.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=276,slow=1.7,SNR=2.1						
	comp=Z,0.2nm,0.6s						
ANMO	**Albuquerque**	**99.09**	**56**	LR	LR	03 41 04.1	
	comp=Z,45nm,18.9s,baz=246,slow=32						
GERES	**GERESS Array B**	**131.41**	**330**	PKP	**PKPdf**	**03 07 38.1**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=116,slow=2.3,SNR=4.0						

*GUC **19** 02:55:08.0±0.7, 23°.09S×70°.60W, h23km±4km, ML3.8*
*NEIC **19** 02:55:08.2±2.6, 23°.10S±0°.04×70°.66W±0°.08, h33km±2km, Error ellipse: s-maj=10.0km s-min=5.8km az=93.0*
*IDC **19** 02:55:14.7±4.5, 22°.95S×70°.32W, h78km±48km, mb3.3/2, mbtmp3.6/4, ML3.3/2, MS2.6/1, Error ellipse: s-maj=83.1km s-min=29.4km az=106.0*
ISC 19 02:55:05.9±1.5, **23°.11S**±0°.03×**70°.66W**±0°.06, **h11**km±9km,
n55, σ1s**27**/60, **1C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**IPOC Station P**	**0.90**	**31**	Pn	**Pg**	**02 55 23.4**	**0.0**
PB04					**Sg**	**02 55 35.4**	**+0.2**
PB04	**IPOC Station P**	**0.90**	**31**	↓*i*	**Pg**	**02 55 23.6**	**+0.2**
PB04				*e*S	**Sg**	**02 55 35.3**	**+0.2**
PB04				IAML		02 55 39.5	
	comp=E,4μm,0.3s						
PB06	**IPOC Station P**	**1.08**	**68**		**Pb**	**02 55 25.6**	**-1.2**
PB06					**Sb**	**02 55 39.4**	**-1.5**
PB06	**IPOC Station P**	**1.08**	**68**	↓*i*	**Pb**	**02 55 26.0**	**-0.7**
PB06				*e*S	**Sb**	**02 55 39.6**	**-1.3**
PB06				IAML		02 55 41.4	
	comp=E,3μm,0.6s						
PB15	**IPOC Station P**	**1.09**	**95**		**Pb**	**02 55 26.4**	**-0.6**
PB15	**IPOC Station P**	**1.09**	**95**	*i* P	**Pb**	**02 55 26.6**	**-0.5**
PB15				*e*S	**Sg**	**02 55 40.6**	**-0.7**
PB14	**IPOC Station P**	**1.53**	**171**	Pn	**Pn**	**02 55 33.0**	**-0.4**
PB14	**IPOC Station P**	**1.53**	**171**	*e*P	**Pn**	**02 55 33.1**	**-0.4**
PB14				*e*S	**Sn**	**02 55 52.5**	**-1.0**
PB07	**IPOC Station P**	**1.55**	**27**		**Pn**	**02 55 33.4**	**-0.3**
PB07	**IPOC Station P**	**1.55**	**27**	*e*P	**Pn**	**02 55 33.3**	**-0.4**
PB07				*e*S	**Sn**	**02 55 52.9**	**-1.0**
PB07				IAML		02 55 56.3	
	comp=E,2μm,0.5s						
LVC	**Limon Verde**	**1.69**	**73**	LR	LR	02 56 26.1	
	comp=E,610nm,18.4s,baz=250,slow=53						
LVC	**Limon Verde**	**1.69**	**73**	Pn	**Pn**	**02 55 36.0**	**+0.3**
PB09	**IPOC Station P**	**1.85**	**45**	Pn	**Pn**	**02 55 38.1**	**+0.3**
PB09	**IPOC Station P**	**1.85**	**45**	*e*P	**Pb**	**02 55 38.8**	**-1.1**
PB09				*e*S	**Sb**	**02 56 02.7**	**-0.5**
PB09				IAML		02 56 04.8	
	comp=N,2μm,0.5s						
PB02	**IPOC Station P**	**1.92**	**22**	Pn	**Pn**	**02 55 38.4**	**-0.3**
PB02	**IPOC Station P**	**1.92**	**22**	*e*P	**Pn**	**02 55 39.4**	**+0.7**
PB02				*e*S	**Sb**	**02 56 04.7**	**-0.3**
PB02				IAML		02 56 08.3	
	comp=E,1μm,0.5s						
GO02	**Mina Guanaco**	**2.26**	**155**	Pn	**Pn**	**02 55 44.8**	**+1.2**
GO02	**Mina Guanaco**	**2.26**	**155**	⇑*i*P	**Pn**	**02 55 45.2**	**+1.5**
GO02				*e*S	**Sb**	**02 56 16.1**	**+0.8**
AF01	**San Pedro de A**	**2.29**	**87**	*e*P	**Pb**	**02 55 47.9**	**+0.5**
AF01				*e*S	**Sg**	**02 56 18.9**	**-0.7**
PB01	**IPOC Station P**	**2.33**	**28**	Pn	**Pn**	**02 55 43.7**	**-0.6**
PB01	**IPOC Station P**	**2.33**	**28**	*e*P	**Pn**	**02 55 44.6**	**+0.4**
PB01				*e*S	**Sb**	**02 56 15.2**	**-1.5**
PB01				IAML		02 56 20.1	
	comp=E,606nm,0.4s						
PATCX	**Punta Patache**	**2.33**	**12**	Pn	**Pn**	**02 55 43.6**	**-0.7**
TA01	**Diego Aracena**	**2.57**	**10**	Pn	**Pn**	**02 55 46.1**	**-1.4**
TA01	**Diego Aracena**	**2.57**	**10**	*e*P	**Pn**	**02 55 46.1**	**-1.4**
TA01				*e*S	**Sb**	**02 56 23.3**	**-0.4**
TA02	**Huaiquique**	**2.87**	**10**	Pn	**Pn**	**02 55 51.7**	**0.0**
AC01	**Pan de Azucar**	**3.02**	**179**	Pn	**Pn**	**02 55 53.9**	**+0.1**
AC01	**Pan de Azucar**	**3.02**	**179**	*e*P	**Pn**	**02 55 52.8**	**-1.1**
AC01				*e*S	**Sg**	**02 56 40.8**	**-2.3**
AC01				IAML		02 56 44.3	
	comp=N,372nm,0.5s						
GO01	**Chusmiza**	**3.69**	**22**	Pn	**Pn**	**02 56 03.5**	**+0.1**
GO01	**Chusmiza**	**3.69**	**22**	*e*P	**Pn**	**02 56 05.5**	**+2.1**
GO01				*e*S	**Sb**	**02 56 57.1**	**+0.8**
AC02	**Maricunga**	**3.96**	**160**	Pn	**Pn**	**02 56 08.9**	**+1.8**
AC06	**Mina Casimiro**	**4.24**	**176**	Pn	**Pn**	**02 56 09.8**	**-0.7**
PB12	**IPOC Station P**	**4.48**	**4**	Pn	**Pn**	**02 56 12.7**	**-1.3**
PB16	**IPOC Station P**	**4.87**	**13**	Pn	**Pn**	**02 56 19.3**	**-0.4**
AC05	**El Transito**	**5.71**	**177**	Pn	**Pn**	**02 56 29.3**	**-1.6**
GO04	**Tololo Observa**	**7.04**	**181**	Pn	**Pn**	**02 56 47.4**	**-1.8**
LPAZ	**La Paz**	**7.19**	**20**	P	**Pn**	**02 56 54.1**	**+2.5**
	comp=N,0.1nm,0.3s,baz=190,slow=11,SNR=1.9						
LPAZ				S	**Sn**	**02 58 13.2**	**-0.5**
	comp=N,2.9nm,0.7s,baz=240,slow=20,SNR=1.7						
	comp=N,0.7nm,0.4s						
MT02	**Curacav**	**10.12**	**182**	Pn	**Pn**	**02 57 31.3**	**+0.1**
MT09	**Talagante**	**10.63**	**182**	Pn	**Pn**	**02 57 40.8**	**+2.4**
NNA	**Nana**	**12.53**	**331**	LR	LR	03 02 05.7	
	comp=N,28nm,20.3s,baz=183,slow=33						
H03N1	**Juan Fernandez**	**12.60**	**213**	T	T	03 11 04.3	
	baz=39,slow=72,SNR=254						
H03N2	**Juan Fernandez**	**12.61**	**213**	T	T	03 11 04.5	
	baz=39,slow=72,SNR=218						
H03N3	**Juan Fernandez**	**12.61**	**213**	T	T	03 11 03.0	
	baz=39,slow=72,SNR=272						
PTLB	**Pontes e Lacer**	**13.27**	**57**	Pn	**Pn**	**02 58 17.2**	**+2.7**
TRQA	**Tornquist**	**16.65**	**155**		**P**	**02 59 01.9**	**+0.1**
TRQA				IAmb	IAmb	02 59 05.4	
	comp=Z,14nm,1.4s						
ITAB	**Concordia**	**17.26**	**108**	P	**P**	**02 59 08.4**	**-0.1**
ITAB				IAmb	IAmb	02 59 43.5	
	comp=Z,25nm,1.5s						
PLCA	**Paso Flores**	**17.57**	**180**	P	**P**	**02 59 16.2**	**+4.3**
	comp=Z,0.1nm,0.3s,baz=20,slow=12,SNR=2.7						
	comp=Z,2.1nm,1.1s						
BDFB	**Brasilia**	**22.60**	**75**	P	**P**	**03 00 05.5**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=230,slow=7.9,SNR=1.4						
	comp=Z,0.8nm,0.6s						
BDFB	**Brasilia**	**22.60**	**75**	P	**P**	**03 00 06.3**	**-0.6**
BDFB				IAmb	IAmb	03 00 26.8	
	comp=Z,8.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**79.41**	**71**	P	**P**	**03 07 11.0**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=246,slow=5.5,SNR=4.3						
	comp=Z,0.9nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**26.46**	**276**	T	T	05 33 24.0	
	baz=106,slow=75,SNR=132						
H11S1	**WAKE ISLAND Hyl**	**26.47**	**276**	T	T	05 33 23.3	
	baz=106,slow=75,SNR=89						
H11S3	**WAKE ISLAND Hyl**	**26.48**	**276**	T	T	05 33 25.1	
	baz=106,slow=75,SNR=115						
H11N3	**WAKE ISLAND Hyl**	**26.59**	**278**	T	T	05 33 32.5	
	baz=105,slow=75,SNR=50						
H11N2	**WAKE ISLAND Hyl**	**26.61**	**278**	T	T	05 33 35.7	
	baz=105,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hyl**	**26.61**	**278**	T	T	05 33 33.0	
	baz=105,slow=75,SNR=35						

*IDC **19** 03:06:59.8±1.0, 25°.43N×127°.51E, h0km, mb3.9/11, mbtmp3.9/11, MS4.0/3, Error ellipse: s-maj=30.9km s-min=18.3km az=83.0*
*NEIC **19** 03:07:01.1±2.2, 25°.38N±0°.08×127°.5E±0°.1, h10km±1km, mb4.3/9, Error ellipse: s-maj=20.3km s-min=6.7km az=130.0*
*NIED **

comp=Z,1.1nm,0.7s,baz=134,slow=12,SNR=3.6
comp=Z,1.1nm,0.7s
SONM Songino Array 28.01 329 P **P** **03 12 50.4 -1.3**
MK31 Makanchi Array 41.72 313 P **P** **03 14 48.9 -0.8**
MK31 IAmb IAmb 03 14 49.2
comp=Z,4.0nm,1.4s
MKAR Makanchi Array 41.72 313 P **P** **03 14 49.0 -0.6**
comp=Z,1.9nm,0.5s,baz=97,slow=11,SNR=24
MKAR PcP **PcP** **03 16 46.7 +0.6**
comp=Z,0.3nm,0.7s,baz=110,slow=6.6,SNR=2.3
comp=Z,1.9nm,0.5s
MKAR Makanchi Array 41.72 313 P **P** **03 14 48.9 -0.8**
COEN Coen 41.90 157 P **P** **03 14 52.5 +1.2**
ZALV Zalesovo Beam 42.63 324 P **P** **03 14 56.4 -0.5**
comp=Z,1.1nm,0.4s,baz=105,slow=9.1,SNR=3.9
comp=Z,1.1nm,0.4s
KURK Kurchatov 45.09 317 P **P** **03 15 16.1 -0.6**
KURBB Kurchatov Arra 45.12 317 P **P** **03 15 15.7 -1.2**
comp=Z,0.6nm,0.5s,baz=107,slow=9.0,SNR=5.7
comp=Z,0.6nm,0.5s
WRA Warramunga Arr 45.48 171 P **P** **03 15 21.1 +1.0**
comp=Z,0.6nm,0.8s,baz=353,slow=8.8,SNR=3.1
comp=Z,0.6nm,0.8s
ASAR Alice Springs 49.10 172 P **P** **03 15 49.7 +1.5**
comp=Z,0.3nm,0.5s,baz=355,slow=6.5,SNR=6.5
comp=Z,0.3nm,0.5s
KKAR Karatay Array 49.48 306 P **P** **03 15 51.8 +0.7**
BVAR Borovoye Array 50.58 319 P **P** **03 15 58.5 -0.7**
comp=Z,0.3nm,0.5s,baz=112,slow=6.4,SNR=2.5
BVAR LR LR 03 39 48.2
comp=Z,39nm,18.3s,baz=143,slow=39
comp=Z,0.3nm,0.5s
ABKAR Akbulak array 56.85 314 P **P** **03 16 44.4 -0.9**
STKA Stephens Creek 58.44 166 P **P** **03 16 57.1 +0.6**
STKA IAmb IAmb 03 17 06.6
comp=Z,1.7nm,1.3s
J20K Nowinta River 62.39 29 P **P** **03 17 23.4 +0.3**
J20K IAmb IAmb 03 17 45.4
comp=Z,5.0nm,1.2s
CCB Clear Creek Bu 65.10 28 P **P** **03 17 42.3 +1.3**
CCB IAmb IAmb 03 18 23.5
comp=Z,3.9nm,1.4s
DOT Dot Lake 66.87 29 P **P** **03 17 51.6 -0.9**
DOT IAmb IAmb 03 18 30.3
comp=Z,6.6nm,1.4s
FIA1 FINESS Array S 73.36 331 P **P** **03 18 33.4 +1.1**
FINES FINESS Array B 73.36 331 P **P** **03 18 32.6 +0.3**
comp=Z,1.1nm,0.5s,baz=58,slow=5.6,SNR=9.1
comp=Z,1.1nm,0.5s
AKASG Malin Array Be 75.85 320 P **P** **03 18 48.0 +1.1**
comp=Z,0.8nm,0.4s,baz=64,slow=6.2,SNR=4.1
comp=Z,0.8nm,0.4s
BRTR Keskin Array B 77.14 308 P **P** **03 18 55.5 +0.7**
comp=Z,0.6nm,0.7s,baz=74,slow=5.2,SNR=4.7
comp=Z,0.6nm,0.7s
BRTR Keskin Array B 77.14 308 P **P** **03 18 55.6 +0.9**
NB2 NORSAR Subarra 79.86 334 P **P** **03 19 09.2 0.0**
comp=Z,0.6nm,0.6s,baz=56,slow=5.6
NOA NORSAR Array B 79.86 334 P **P** **03 19 09.6 +0.4**
comp=Z,1.8nm,0.8s,baz=54,slow=5.6,SNR=7.5
comp=Z,1.8nm,0.8s
EIL Elat 80.04 298 LR LR 03 57 46.5
comp=Z,183nm,21.1s,baz=268,slow=38
VAE Valguarnera 91.48 313 LR LR 04 04 21.4
comp=Z,155nm,18.6s,baz=194,slow=38

---

*IDC **19** 03:24:39.9±1.0, 39.˚12N×99.˚79W, h0km, mbtmp3.4/5, ML3.2/5, Error ellipse: s-maj=11.6km s-min=10.0km az=93.0*
*ANF **19** 03:24:39.6±0.4, 39.˚00N×99.˚54W, h3km, ML4.2/21, Error ellipse: s-maj=4.8km s-min=3.9km az=127.0*
*NEIC **19** 03:24:40.9±1.4, 39.˚01N±0.˚03×99.˚58W±0.˚06, h3km±8km, mb_Lg3.2/115, Error ellipse: s-maj=6.4km s-min=4.7km az=98.0*

ISC 19 03:24:39.9±1.0, 39.˚04N±0.˚03×99.˚57W±0.˚03, h10km±7km, n166, σ1s26/183, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBKS	**Cedar Bluff**	**0.26**	**210**	Pg	**Pg**	**03 24 44.8**	**-0.4**
CBKS				Sg	**Sg**	**03 24 48.2**	**-0.5**
CBKS	**Cedar Bluff**	**0.26**	**210**	P	**Pg**	**03 24 44.6**	**-0.5**
	baz=32						
CBKS				S	**Sg**	**03 24 48.3**	**-0.4**
	baz=32						
CBKS	**Cedar Bluff**	**0.26**	**210**	P	**Pg**	**03 24 44.7**	**-0.4**
	baz=32,SNR=212						
CBKS				S	**Sg**	**03 24 48.2**	**-0.5**
	baz=32						
R32A	**Long Quarter,**	**0.91**	**132**		**Pg**	**03 24 57.2**	**-0.2**
R32A	**Long Quarter,**	**0.91**	**132**	P	**Pg**	**03 24 57.3**	**-0.2**
	baz=311,SNR=285						
R32A				S	**Sg**	**03 25 10.0**	**+0.6**
	baz=311						
KAN12	**Harper NE Stat**	**2.13**	**144**		**Pn**	**03 25 16.7**	**+1.1**
KAN12				IAmb_Lg		03 25 48.1	
	comp=Z,160nm,0.9s						
KAN16	**Harper SW Stat**	**2.16**	**146**	Pn	**Pn**	**03 25 17.7**	**+1.7**
KAN16				IAmb_Lg		03 25 53.5	
	comp=Z,97nm,0.7s						
KAN08	**Anthony NE Sta**	**2.21**	**145**	Pn	**Pn**	**03 25 18.2**	**+1.7**
KAN08				IAmb_Lg		03 25 54.6	
	comp=Z,124nm,0.9s						
KAN10	**Anthony SW Sta**	**2.24**	**148**	Pn	**Pn**	**03 25 18.2**	**+1.1**
KAN10				IAmb_Lg		03 25 55.0	
	comp=Z,98nm,0.8s						
KAN06	**Argonia West S**	**2.24**	**142**	Pn	**Pn**	**03 25 19.3**	**+2.3**
KAN06				IAmb_Lg		03 25 52.5	
	comp=Z,130nm,0.9s						
KS21	**Milan North St**	**2.31**	**139**	Pn	**Pn**	**03 25 18.2**	**+0.2**
KSU1	**Kansas State U**	**2.31**	**87**	Pn	**Pn**	**03 25 18.7**	**+0.7**
KSU1				IAmb_Lg		03 25 58.2	
	comp=Z,136nm,0.8s						
KSU1	**Kansas State U**	**2.31**	**87**	P	**Pn**	**03 25 19.4**	**+1.4**
	baz=269,SNR=10						
KSU1				S	**Sn**	**03 25 49.0**	**+2.6**
	baz=269						
KSU1	**Kansas State U**	**2.31**	**87**	P	**Pn**	**03 25 19.4**	**+1.4**
	baz=269,SNR=6.9						
KSU1				S	**Sn**	**03 25 49.1**	**+2.7**
	baz=269						
KAN05	**Bluff City Nor**	**2.35**	**145**	IAmb_Lg		03 25 59.3	
	comp=Z,104nm,1.1s						
N33B	**J Bar K, Exete**	**2.36**	**43**	P	**Pn**	**03 25 20.1**	**+1.5**
	baz=224,SNR=54						
N33B				S	**Sn**	**03 25 50.1**	**+2.4**
	baz=224						
N33A	**J Bar K, Exete**	**2.36**	**43**	Pn	**Pn**	**03 25 19.2**	**+0.5**
KAN01	**Argonia South**	**2.36**	**142**	Pn	**Pn**	**03 25 19.9**	**+1.2**
KAN01				IAmb_Lg		03 25 56.6	
	comp=Z,130nm,1.0s						
KSCO	**Kaye Shedlock'**	**2.38**	**270**	Pn	**Pn**	**03 25 20.1**	**+1.0**
KSCO	**Kaye Shedlock'**	**2.38**	**270**	P	**Pn**	**03 25 20.5**	**+1.4**
	baz=89						
KSCO	**Kaye Shedlock'**	**2.38**	**270**	Pb	**Pb**	**03 25 22.2**	**-0.7**
	baz=89,SNR=9.0						
KSCO				Sb	**Sb**	**03 25 52.8**	**+0.4**
	baz=89						
KS20	**Mayfield South**	**2.41**	**138**	Pn	**Pn**	**03 25 20.4**	**+1.1**
KS20				IAmb_Lg		03 25 57.9	
	comp=Z,126nm,0.8s						
OK035	**E0210 Rd and N**	**2.42**	**163**	Pn	**Pn**	**03 25 20.8**	**+1.2**
OK035				IAmb_Lg		03 25 58.5	
	comp=Z,151nm,0.7s						
KAN14	**Manchester OK**	**2.44**	**148**	IAmb_Lg		03 26 00.9	
	comp=Z,139nm,1.1s						
KAN09	**Caldwell North**	**2.44**	**140**	Pn	**Pn**	**03 25 21.6**	**+1.7**
KAN17	**Caldwell West**	**2.45**	**144**	Pn	**Pn**	**03 25 21.7**	**+1.7**
NOKA	**Waynoka**	**2.45**	**168**	Pn	**Pn**	**03 25 21.1**	**+1.1**
NOKA				IAmb_Lg		03 26 03.5	
	comp=Z,64nm,0.8s						
OK032	**Salt Plains WL**	**2.48**	**154**	Pn	**Pn**	**03 25 20.8**	**+0.5**
GC02	**Grant County #**	**2.57**	**148**	Pn	**Pn**	**03 25 22.9**	**+1.3**
BGNE	**Belgrade**	**2.61**	**24**	Pn	**Pn**	**03 25 22.8**	**+0.7**
BGNE	**Belgrade**	**2.61**	**24**	P	**Pn**	**03 25 23.6**	**+1.5**
	baz=205						
BGNE				S	**Sn**	**03 25 56.6**	**+2.7**
	baz=205						
BGNE	**Belgrade**	**2.61**	**24**	P	**Pn**	**03 25 23.7**	**+1.5**
	baz=205,SNR=13						
BGNE				Sb	**Sg**	**03 26 02.4**	**-1.3**
	baz=205						
KAN13	**South Haven SW**	**2.61**	**140**	Pn	**Pn**	**03 25 23.2**	**+1.1**
OK038	**West end E0370**	**2.64**	**165**	Pn	**Pn**	**03 25 22.7**	**+0.1**
OK038				IAmb_Lg		03 26 07.0	
	comp=Z,136nm,0.9s						
OGNE	**Ogallala**	**2.68**	**316**	Pn	**Pn**	**03 25 25.3**	**+2.0**
OGNE				IAmb_Lg		03 26 13.5	
	comp=Z,84nm,0.7s						
OGNE	**Ogallala**	**2.68**	**316**	P	**Pn**	**03 25 24.7**	**+1.5**
	baz=135						
OGNE	**Ogallala**	**2.68**	**316**	P	**Pn**	**03 25 24.8**	**+1.5**
	baz=135,SNR=27						
OGNE				S	**Sn**	**03 25 57.5**	**+1.7**
	baz=135						
U32A	**Winter Ranch,**	**2.69**	**170**	Pn	**Pn**	**03 25 25.1**	**+1.8**
U32A	**Winter Ranch,**	**2.69**	**170**	P	**Pn**	**03 25 24.6**	**+1.3**
	baz=350,SNR=8.1						
CROK	**Carrier**	**2.82**	**153**	Pn	**Pn**	**03 25 25.8**	**+0.7**
CROK				IAmb_Lg		03 26 14.5	
	comp=Z,81nm,0.8s						
BLOK	**Blackwell**	**2.94**	**140**	Pn	**Pn**	**03 25 28.4**	**+1.8**
BLOK				IAmb_Lg		03 26 18.2	
	comp=Z,67nm,0.7s						
OK049	**E0420 Rd and N**	**3.18**	**145**	Pn	**Pn**	**03 25 31.8**	**+1.7**
T35A	**Sooner Cattle**	**3.21**	**130**	Pn	**Pn**	**03 25 31.7**	**+1.2**
T35A				IAmb_Lg		03 26 27.1	
	comp=Z,59nm,0.9s						
T35B	**Sooner Cattle**	**3.21**	**130**	P	**Pn**	**03 25 31.7**	**+1.3**
	baz=312,SNR=11						
OK045	**Pawnee Station**	**3.33**	**140**	Pn	**Pn**	**03 25 34.2**	**+2.2**
OK051	**E0350 and S346**	**3.33**	**139**	Pn	**Pn**	**03 25 32.4**	**+0.4**
OK050	**Pawnee Station**	**3.34**	**141**	Pn	**Pn**	**03 25 32.7**	**+0.5**
OK048	**Pawnee Station**	**3.34**	**141**	Pn	**Pn**	**03 25 32.8**	**+0.5**
OK046	**Pawnee Station**	**3.38**	**140**	Pn	**Pn**	**03 25 33.4**	**+0.7**
OK047	**Pawnee, Statio**	**3.42**	**138**	Pn	**Pn**	**03 25 34.3**	**+1.1**
OK044	**Pawnee Station**	**3.45**	**140**	Pn	**Pn**	**03 25 36.2**	**+2.5**
CSTR	**Hydro, Custer**	**3.46**	**168**	Pn	**Pn**	**03 25 35.7**	**+1.9**
N35A	**Tabor**	**3.53**	**58**	Pn	**Pn**	**03 25 36.1**	**+1.3**
N35A	**Tabor**	**3.53**	**58**	P	**Pn**	**03 25 36.1**	**+1.3**
	baz=240						
N35A				S	**Sn**	**03 26 19.8**	**+3.2**
	baz=240						
K31A	**O'Neill**	**3.64**	**10**	P	**Pn**	**03 25 38.5**	**+2.2**
	baz=190						
OK029	**Liberty Lake**	**3.65**	**152**	Pn	**Pn**	**03 25 37.3**	**+0.9**
BCOK	**Bluff Creek, N**	**3.72**	**155**	Pn	**Pn**	**03 25 36.9**	**-0.5**
BCOK				IAmb_Lg		03 26 36.5	
	comp=Z,16nm,0.7s						
OK031	**S. Brethren Rd**	**3.77**	**144**	Pn	**Pn**	**03 25 38.6**	**+0.5**
OK034	**N. Norfolk Rd.**	**3.78**	**142**	Pn	**Pn**	**03 25 38.9**	**+0.7**
L34A	**Svendsen Farm,**	**3.81**	**39**	P	**Pn**	**03 25 39.5**	**+0.9**
	baz=221						
OK025	**Westminster Rd**	**3.88**	**152**	Pn	**Pn**	**03 25 40.1**	**+0.5**
OK025				IAmb_Lg		03 26 43.8	
	comp=Z,60nm,0.8s						
DEOK	**Depew**	**4.02**	**142**	IAmb_Lg		03 26 58.2	
	comp=Z,50nm,0.9s						
FNO	**Franklin**	**4.15**	**155**	Pn	**Pn**	**03 25 44.9**	**+1.5**
T25A	**Trinidad**	**4.26**	**245**	Pn	**Pn**	**03 25 44.6**	**-0.4**
T25A	**Trinidad**	**4.26**	**245**	P	**Pn**	**03 25 45.2**	**+0.1**
	baz=62						
T25A				Sb	**Sb**	**03 26 47.0**	**+0.4**
	baz=62						
TUL1	**Leonard**	**4.33**	**135**	Pn	**Pn**	**03 25 46.5**	**+0.7**
TUL1				IAmb_Lg		03 27 09.9	
	comp=Z,66nm,0.7s						
TUL1	**Leonard**	**4.33**	**135**	P	**Pn**	**03 25 47.0**	**+1.2**
	baz=317,SNR=20						
TUL1				S	**Sn**	**03 26 37.5**	**+1.0**
	baz=317						
TUL1	**Leonard**	**4.33**	**135**	P	**Pn**	**03 25 47.1**	**+1.2**
	baz=317,SNR=11						
TUL1				S	**Sn**	**03 26 37.1**	**+0.7**
	baz=317						
WMOK	**Wichita Mounta**	**4.34**	**171**	Pn	**Pn**	**03 25 45.8**	**-0.2**
WMOK				IAmb_Lg		03 26 59.3	
	comp=Z,38nm,0.9s						
WMOK	**Wichita Mounta**	**4.34**	**171**	P	**Pn**	**03 25 46.5**	**+0.6**
	baz=352,SNR=28						
WMOK				S	**Sn**	**03 26 37.0**	**+0.4**
	baz=352						
WMOK	**Wichita Mounta**	**4.34**	**171**	P	**Pn**	**03 25 46.5**	**+0.6**
	baz=352,SNR=7.9						
WMOK				S	**Sn**	**03 26 36.6**	**0.0**
	baz=352						
Q24A	**Divide**	**4.34**	**271**	Pn	**Pn**	**03 25 45.5**	**-0.8**
Q24A	**Divide**	**4.34**	**271**	P	**Pn**	**03 25 46.8**	**+0.5**
	baz=88						
Q24A				S	**Sn**	**03 26 37.6**	**+0.5**
	baz=88						
AMTX	**Amarillo**	**4.47**	**203**	Pn	**Pn**	**03 25 49.0**	**+1.1**
AMTX	**Amarillo**	**4.47**	**203**	P	**Pn**	**03 25 49.1**	**+1.3**
	baz=22						
AMTX				S	**Sn**	**03 26 41.0**	**+1.0**
	baz=22						
RLO	**Rose Lookout**	**4.61**	**127**	Pn	**Pn**	**03 25 49.9**	**+0.3**
RLO				IAmb_Lg		03 27 17.9	
	comp=Z,61nm,0.8s						
X34A	**Smith Ranch, M**	**4.64**	**162**	Pn	**Pn**	**03 25 50.8**	**+0.7**
P38A	**Dawn**	**4.72**	**81**	Pn	**Pn**	**03 25 53.4**	**+2.3**
P38A	**Dawn**	**4.72**	**81**	P	**Pn**	**03 25 52.4**	**+1.2**
	baz=264,SNR=9.0						
ISCO	**Idaho Springs**	**4.74**	**281**	Pn	**Pn**	**03 25 52.2**	**+0.5**
ISCO				IAmb_Lg		03 27 13.1	
	comp=Z,46nm,0.9s						
ISCO	**Idaho Springs**	**4.74**	**281**	P	**Pn**	**03 25 52.8**	**+1.1**
	baz=98						
ISCO				S	**Sn**	**03 26 46.9**	**0.0**
	baz=98						
ISCO	**Idaho Springs**	**4.74**	**281**	P	**Pn**	**03 25 52.7**	**+1.0**
	baz=98,SNR=10.0						
ISCO				S	**Sn**	**03 26 46.4**	**-0.5**
	baz=98						
SDCO	**Great Sand Dun**	**4.83**	**256**	Pn	**Pn**	**03 25 54.0**	**+1.1**
SDCO	**Great Sand Dun**	**4.83**	**256**	P	**Pn**	**03 25 54.4**	**+1.5**
	baz=73						
SDCO	**Great Sand Dun**	**4.83**	**256**	P	**Pn**	**03 25 53.9**	**+0.9**
	baz=73						
SDCO				Sb	**Sb**	**03 27 05.7**	**+2.6**
	baz=73						
U38A	**Gravette**	**4.86**	**121**	Pn	**Pn**	**03 25 53.4**	**+0.3**
U38A				IAmb_Lg		03 27 26.6	
	comp=Z,57nm,0.9s						
U38A	**Gravette**	**4.86**	**121**	P	**Pn**	**03 25 54.2**	**+1.1**
	baz=304,SNR=14						
PHWY	**Pilot Hill**	**5.04**	**299**	Pn	**Pn**	**03 25 55.4**	**-0.5**
S39A	**Bolivar**	**5.09**	**103**	IAmb_Lg		03 27 24.6	
	comp=Z,46nm,0.8s						
N38A	**Joes South For**	**5.18**	**68**	P	**Pn**	**03 25 58.7**	**+1.2**
	baz=252						
ECSD	**EROS Data Cent**	**5.19**	**24**	Pn	**Pn**	**03 25 58.5**	**+0.9**
ECSD				IAmb_Lg		03 27 26.9	
	comp=Z,44nm,0.7s						
ECSD	**EROS Data Cent**	**5.19**	**24**	P	**Pn**	**03 25 59.2**	**+1.4**
	baz=206,SNR=7.4						
ECSD				S	**Sn**	**03 26 57.5**	**-0.1**
	baz=206						
ECSD	**EROS Data Cent**	**5.19**	**24**	P	**Pn**	**03 25 59.1**	**+1.4**
	baz=206,SNR=13						
ECSD				S	**Sn**	**03 26 58.3**	**+0.7**
	baz=206						
N23A	**Red Feather La**	**5.24**	**293**	Pn	**Pn**	**03 25 59.9**	**+1.5**
N23A				IAmb_Lg		03 27 41.3	
	comp=Z,54nm,0.9s						
N23A	**Red Feather La**	**5.24**	**293**	P	**Pn**	**03 25 59.3**	**+0.8**
	baz=109,SNR=6.1						
N23A				S	**Sn**	**03 26 57.5**	**-1.5**
	baz=109						
HHAR	**Hobbs**	**5.25**	**120**	Pn	**Pn**	**03 25 59.3**	**+0.9**
HHAR				IAmb_Lg		03 27 32.5	
	comp=Z,44nm,0.7s						
LOOK	**Love County**	**5.39**	**158**	Pn	**Pn**	**03 26 01.4**	**+1.0**
LOOK				IAmb_Lg		03 27 40.2	
	comp=Z,66nm,0.8s						
SUSD	**Miller**	**5.42**	**5**	Pn	**Pn**	**03 26 01.9**	**+1.1**
SUSD				IAmb_Lg		03 27 36.3	
	comp=Z,64nm,0.7s						
SUSD	**Miller**	**5.42**	**5**	S	**Sn**	**03 27 03.9**	**+0.7**
	baz=185						
SUSD	**Miller**	**5.42**	**5**	P	**Pn**	**03 26 01.8**	**+1.0**
	baz=185						
SUSD				S	**Sn**	**03 27 04.1**	**+0.8**
	baz=185						
X37A	**Clayton**	**5.57**	**141**	Pn	**Pn**	**03 26 03.9**	**+1.1**
X37A				IAmb_Lg		03 27 42.9	
	comp=Z,54nm,0.9s						
SCIA	**State Center**	**5.63**	**57**	IAmb_Lg		03 27 40.7	
	comp=Z,39nm,0.8s						
SCIA	**State Center**	**5.63**	**57**	S	**Sn**	**03 27 09.1**	**+0.7**
	baz=241						
MSTX	**Muleshoe**	**5.67**	**208**	Pn	**Pn**	**03 26 04.4**	**0.0**
MSTX				IAmb_Lg		03 27 51.3	
	comp=Z,32nm,0.7s						
MSTX	**Muleshoe**	**5.67**	**208**	P	**Pn**	**03 26 04.7**	**+0.3**
	baz=26						
MSTX				S	**Sn**	**03 27 09.8**	**+0.2**
	baz=26						
MSTX	**Muleshoe**	**5.67**	**208**	P	**Pn**	**03 26 04.2**	**-0.2**
	baz=26						
MSTX				S	**Sn**	**03 27 08.5**	**-1.1**
	baz=26						
SMCO	**Snowmass**	**5.76**	**274**	IAmb_Lg		03 27 54.6	
	comp=Z,38nm,0.9s						
S22A	**4UR Ranch, Cre**	**5.84**	**260**	Pn	**Pn**	**03 26 07.1**	**+0.2**
S22A				IAmb_Lg		03 27 54.3	
	comp=Z,29nm,1.2s						
P40A	**Paris**	**5.86**	**83**	S	**Sn**	**03 27 12.1**	**-1.9**
	baz=267						
Z35A	**Perchaven, San**	**6.00**	**161**	Pn	**Pn**	**03 26 08.6**	**-0.1**
Z35A				IAmb_Lg		03 27 59.4	
	comp=Z,27nm,0.9s						
Z35A	**Perchaven, San**	**6.00**	**161**	P	**Pn**	**03 26 09.4**	**+0.7**
	baz=342						
RSSD	**Black Hills**	**6.08**	**328**	Pn	**Pn**	**03 26 11.9**	**+1.8**
RSSD				IAmb_Lg		03 28 05.8	
	comp=Z,22nm,0.7s						
RSSD	**Black Hills**	**6.08**	**328**	P	**Pn**	**03 26 12.1**	**+2.0**
	baz=145						
RSSD				S	**Sn**	**03 27 21.2**	**+1.4**
	baz=145						
K38A	**Parkersburg**	**6.29**	**53**	IAmb_Lg		03 28 04.3	
	comp=Z,30nm,0.7s						
K22A	**Casper**	**6.39**	**307**	P	**Pn**	**03 26 15.1**	**+0.9**
	baz=122						
ABTX	**Abilene, Hawle**	**6.40**	**181**	IAmb_Lg		03 28 10.1	
	comp=Z,32nm,0.9s						
ABTX	**Abilene, Hawle**	**6.40**	**181**	S	**Sn**	**03 27 25.2**	**-2.1**
	baz=0.5						
RWWY	**Rawlins**	**6.41**	**297**	Pn	**Pn**	**03 26 15.8**	**+1.2**
RWWY				IAmb_Lg		03 28 14.9	
	comp=Z,22nm,0.9s						
MIAR	**Mount Ida**	**6.58**	**131**	Pn	**Pn**	**03 26 17.7**	**+1.1**
MIAR				IAmb_Lg		03 28 09.8	
	comp=Z,27nm,0.8s						
MIAR	**Mount Ida**	**6.58**	**131**	P	**Pn**	**03 26 17.9**	**+1.3**
	baz=315,SNR=13						
MIAR				S	**Sn**	**03 27 31.0**	**-0.6**
	baz=315						
MIAR	**Mount Ida**	**6.58**	**131**	P	**Pn**	**03 26 17.8**	**+1.1**
	baz=315,SNR=8.4						
MIAR				S	**Sn**	**03 27 30.4**	**-1.2**
	baz=315						
CCM	**Cathedral Cave**	**6.60**	**96**	IAmb_Lg		03 28 19.6	
	comp=Z,48nm,0.7s						
CCM	**Cathedral Cave**	**6.60**	**96**	P	**Pn**	**03 26 18.3**	**+1.3**
	baz=281						
CCM				S	**Sn**	**03 27 30.4**	**-1.9**
	baz=281						
FCAR	**Ozark Folk Cen**	**6.71**	**116**	Pn	**Pn**	**03 26 19.0**	**+0.6**
I37A	**Lemond, Waseca**	**6.79**	**41**	IAmb_Lg		03 28 31.4	
	comp=Z,35nm,0.8s						
ANMO	**Albuquerque**	**6.86**	**236**	Pn	**Pn**	**03 26 21.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=72,slow=19,SNR=3.0						
ANMO				Pg	**Pb**	**03 26 42.4**	**+3.2**
	comp=Z,1.5nm,0.3s,baz=57,slow=16,SNR=21						
ANMO				Lg	Lg	03 28 11.3	
	comp=Z,0.4nm,0.3s,baz=105,slow=20,SNR=1.7						
	comp=Z,0.2nm,0.3s						
Z38A	**Mt. Pleasant**	**6.86**	**146**	IAmb_Lg		03 28 22.7	
	comp=Z,30nm,0.8s						
N41A	**Harden Midland**	**6.91**	**73**	Pn	**Pn**	**03 26 22.6**	**+1.3**
WHAR	**Wooly Hollow**	**6.91**	**120**	Pn	**Pn**	**03 26 21.2**	**0.0**
L40A	**Anamosa**	**7.04**	**62**	Pn	**Pn**	**03 26 22.6**	**-0.4**
L40A				IAmb_Lg		03 28 25.8	
	comp=Z,23nm,0.8s						
UALR	**University of**	**7.18**	**124**	Pn	**Pn**	**03 26 25.5**	**+0.5**
UALR				IAmb_Lg		03 28 36.9	
	comp=Z,42nm,0.8s						
F33A	**5 Mile Ranch,**	**7.22**	**19**	Pn	**Pn**	**03 26 25.2**	**-0.2**
F33A				IAmb_Lg		03 28 30.6	
	comp=Z,26nm,0.7s						
WHTX	**Lake Whitney,**	**7.24**	**166**	P	**Pn**	**03 26 25.8**	**+0.1**
	baz=347						
FVM	**French Village**	**7.25**	**95**	Pn	**Pn**	**03 26 27.4**	**+1.5**
MVCO	**Mesa Verde**	**7.27**	**258**	Pn	**Pn**	**03 26 26.4**	**0.0**
LCAR	**Lake Charles**	**7.31**	**111**	Pn	**Pn**	**03 26 27.6**	**+0.8**
LCAR				IAmb_Lg		03 28 30.2	
	comp=Z,38nm,0.8s						
WLAR	**White Oak Lake**	**7.46**	**134**	Pn	**Pn**	**03 26 29.7**	**+1.0**
WLAR				IAmb_Lg		03 28 45.4	
	comp=Z,28nm,0.8s						
237A	**Washetta, Mont**	**7.66**	**155**	IAmb_Lg		03 28 53.8	
	comp=Z,29nm,0.9s						
237A	**Washetta, Mont**	**7.66**	**155**	S	**Sn**	**03 27 55.2**	**-3.1**
	baz=337						
LENM	**Lemitar**	**7.68**	**233**	Pn	**Pn**	**03 26 32.2**	**+0.2**
P43A	**Skaggs, Pawnee**	**7.81**	**82**	Pn	**Pn**	**03 26 35.1**	**+1.4**
P43A	**Skaggs, Pawnee**	**7.81**	**82**	S	**Sn**	**03 27 59.9**	**-2.2**
	baz=269						
SBM	**South Baldy**	**7.94**	**233**	Pn	**Pn**	**03 26 35.8**	**+0.1**
SPMN	**Marine on St.**	**7.97**	**37**	Pn	**Pn**	**03 26 36.3**	**+0.6**
SPMN				IAmb_Lg		03 28 50.2	
	comp=Z,18nm,0.7s						
SPMN	**Marine on St.**	**7.97**	**37**	P	**Pn**	**03 26 36.5**	**+0.8**
	baz=221						
CGM3	**Cape Girardeau**	**8.00**	**99**	Pn	**Pn**	**03 26 37.9**	**+1.7**
CGM3				IAmb_Lg		03 28 54.8	
	comp=Z,44nm,0.8s						
JFWS	**Jewell Farm**	**8.05**	**58**	Pn	**Pn**	**03 26 35.9**	**-0.9**
JFWS				IAmb_Lg		03 29 05.3	
	comp=Z,20nm,0.7s						
JFWS	**Jewell Farm**	**8.05**	**58**	P	**Pn**	**03 26 37.2**	**+0.4**
	baz=244						
HDIL	**Hopedale**	**8.06**	**76**	Pn	**Pn**	**03 26 36.8**	**-0.2**
CCAR	**Cane Creek**	**8.10**	**127**	IAmb_Lg		03 29 05.4	
	comp=Z,33nm,0.7s						
L42A	**Oliver, Polo**	**8.11**	**65**	Pn	**Pn**	**03 26 36.8**	**-0.8**
L42A				IAmb_Lg		03 29 01.6	
	comp=Z,34nm,0.8s						
F36A	**Milaca**	**8.15**	**31**	Pn	**Pn**	**03 26 39.1**	**+0.9**
SIUC	**Southern Illin**	**8.24**	**96**

s-min=207.4km az=42.0
*NEIC **19** 03:33:36.8±1.8, 7.°0S±0.°1×125.°13E±0.°07, h518km±16km, mb4.4/11, Error ellipse: s-maj=17.5km s-min=3.9km az=147.0*

ISC 19 03:33:36.7±0.8, 7.°0S±0.°1×125.°08E±0.°10, h543km, n35, σ1§38/33, mb4.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.89**	**196**	**P**	**P**	**03 34 48.6**	**-2.0**
SOEI	**Soe**	**2.89**	**196**	P	**P**	**03 34 49.3**	**-1.3**
KAPI	**Kappang**	**5.65**	**290**	P	**P**	**03 35 10.8**	**-1.1**
PLAI	**Plampang**	**7.47**	**255**	P	**P**	**03 35 27.3**	**-1.8**
FAKI	**Fak Fak**	**8.19**	**61**	P	**P**	**03 35 34.4**	**-1.8**
FAKI	**Fak Fak**	**8.19**	**61**	P	**P**	**03 35 35.6**	**-0.6**
MTN	**Manton Dam**	**8.34**	**135**	P	**P**	**03 35 37.0**	**-0.7**
MTN	**Manton Dam**	**8.34**	**135**	P	**P**	**03 35 36.8**	**-0.9**
KDU	**Kakadu**	**9.23**	**129**	P	**P**	**03 35 45.5**	**-1.2**
KNRA	**Kununurra**	**9.38**	**158**	P	**P**	**03 35 47.4**	**-0.7**
KNRA	**Kununurra**	**9.38**	**158**	P	**P**	**03 35 47.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.08**	**177**		**P**	**03 36 04.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.08**	**177**	P	**P**	**03 36 05.1**	**-0.6**
MBWA	**Marble Bar**	**15.03**	**200**	P	**P**	**03 36 45.2**	**-1.5**
WB0	**Warramunga Arr**	**15.61**	**146**	P	**P**	**03 36 51.2**	**-1.4**
WB0				IAmb	IAmb	03 36 51.6	
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**15.72**	**146**	P	**P**	**03 36 52.4**	**-1.3**
WRA	**Warramunga Arr**	**15.72**	**146**	P	**P**	**03 36 52.1**	**-1.6**
	comp=Z,3.8nm,0.5s,baz=324,slow=11,SNR=30						
	comp=Z,3.8nm,0.5s						
WRA	**Warramunga Arr**	**15.72**	**146**	P	**P**	**03 36 51.8**	**-2.0**
WB2	**Warramunga Arr**	**15.72**	**146**	P	**P**	**03 36 52.2**	**-1.6**
WB2				IAmb	IAmb	03 36 54.1	
	comp=Z,4.8nm,0.6s						
WR0	**Warramunga Arr**	**15.84**	**146**	P	**P**	**03 36 53.8**	**-1.2**
WR0				IAmb	IAmb	03 36 55.7	
	comp=Z,9.1nm,0.7s						
WRKA	**Warakurna**	**18.23**	**171**	P	**P**	**03 37 18.3**	**+1.2**
AS31	**Alice Springs**	**18.64**	**154**	P	**P**	**03 37 21.5**	**+0.7**
AS31				IAmb	IAmb	03 37 22.9	
	comp=Z,2.3nm,0.3s						
ASAR	**Alice Springs**	**18.64**	**154**	P	**P**	**03 37 21.7**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=331,slow=7.8,SNR=36						
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**18.64**	**154**	P	**P**	**03 37 21.9**	**+1.0**
COEN	**Coen**	**19.09**	**113**	P	**P**	**03 37 25.3**	**+0.3**
COEN				IAmb	IAmb	03 37 35.6	
	comp=Z,15nm,1.2s						
QIS	**Mount Isa**	**19.51**	**135**	P	**P**	**03 37 29.8**	**+1.0**
MULG	**Mulgathing**	**24.68**	**161**	P	**P**	**03 38 15.9**	**+0.9**
BBOO	**Buckleboo**	**27.66**	**160**	P	**P**	**03 38 41.6**	**+0.4**
BBOO				IAmb	IAmb	03 38 42.9	
	comp=Z,30nm,1.5s						
GSI	**Gunungsitoli**	**28.65**	**286**	P	**P**	**03 38 51.4**	**+1.3**
STKA	**Stephens Creek**	**29.18**	**150**	P	**P**	**03 38 55.5**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=335,slow=8.4,SNR=4.5						
	comp=Z,1.7nm,0.5s						
STKA	**Stephens Creek**	**29.18**	**150**	P	**P**	**03 38 55.7**	**+1.2**
CAN	**Canberra**	**35.76**	**145**	P	**P**	**03 39 52.9**	**+2.6**
CAN				IAmb	IAmb	03 40 26.9	
	comp=Z,29nm,1.3s						
MSVF	**Nonsavu**	**52.68**	**107**	LR	LR	04 07 46.9	
	comp=Z,62nm,18.8s,baz=127,slow=38						
MKAR	**Makanchi Array**	**65.61**	**329**	P	**P**	**03 43 29.0**	**+1.8**
AKTO	**Aktyubinsk**	**81.10**	**323**	LR	LR	04 21 31.1	
	comp=Z,59nm,18.3s,baz=240,slow=39						

IDC 19 03:45:54.5±5.5, 2.°48S×140.°94E, h0km, mb3.6/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=122.5km s-min=61.0km az=149.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.51**	**200**	P	Pn	03 50 12.8	+0.1
	0.3nm,0.3s,baz=24,slow=12,SNR=15						
	1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.59**	**223**	P	P	03 50 45.0	-1.0
	1.8nm,0.7s,baz=51,slow=12,SNR=1.8						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**22.13**	**197**	P	P	03 50 52.5	+0.5
	1.0nm,0.6s,baz=28,slow=11,SNR=12						
	1.0nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**32.82**	**50**	T	T	04 27 58.3	
	baz=232,slow=75,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**32.83**	**50**	T	T	04 27 59.3	
	baz=232,slow=75,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**32.84**	**50**	T	T	04 28 01.7	
	baz=232,slow=75,SNR=3.6						
VNDA	**Vanda**	**75.82**	**175**	P	P	03 57 42.1	+0.1
	0.8nm,0.7s,baz=330,slow=6.7,SNR=6.7						
	0.8nm,0.7s						

*IDC **19** 03:47:56.0±1.1, 2.°04S×140.°58E, h0km, mb3.7/5, mbtmp3.8/6, ML3.9/1, MS3.2/7, Error ellipse: s-maj=48.9km s-min=23.8km az=99.0*

ISC 19 03:48:01.2±1.1, 2.°1S±0.°2×140.°6E±0.°3, h35km, n13, σ0§36/7, mb3.7/5, MS3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.80**	**138**	LR	LR	03 55 08.8	
	comp=Z,31nm,20.9s,baz=237,slow=44						
GUMO	**Guam**	**16.15**	**15**	LR	LR	03 57 55.0	
	comp=Z,68nm,18.8s,baz=154,slow=37						
CTA	**Charters Tower**	**18.74**	**163**	LR	LR	03 59 19.5	
	comp=Z,77nm,18.6s,baz=50,slow=36						
WRA	**Warramunga Arr**	**18.76**	**198**	P	**P**	**03 52 16.9**	**-0.5**
	0.4nm,0.3s,baz=26,slow=12,SNR=14						
WRA				LR	LR	04 00 23.9	
	comp=Z,169nm,19.8s,baz=7.5,slow=40						
	2.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.61**	**222**	P	**P**	**03 52 48.4**	**-0.1**
	2.4nm,0.8s,baz=54,slow=13,SNR=3.5						
	2.4nm,0.8s						
ASAR	**Alice Springs**	**22.40**	**196**	P	**P**	**03 52 57.0**	**+0.2**
	1.7nm,0.6s,baz=29,slow=10.0,SNR=14						
	1.7nm,0.6s						
STKA	**Stephens Creek**	**29.65**	**178**	LR	LR	04 08 50.2	
	comp=Z,115nm,19.4s,baz=24,slow=42						
KSRS	**Korea Array**	**41.05**	**345**	LR	LR	04 11 54.2	
	comp=Z,17nm,18.3s,baz=190,slow=35						
MKAR	**Makanchi Array**	**70.43**	**322**	P	**P**	**03 59 12.2**	**+0.1**
	1.0nm,1.0s,baz=113,slow=6.6,SNR=5.6						
	1.0nm,1.0s						
ZALV	**Zalesovo Beam**	**72.33**	**329**	LR	LR	04 31 57.4	
	comp=Z,42nm,18.6s,baz=224,slow=36						
VNDA	**Vanda**	**76.24**	**175**	P	**P**	**03 59 46.1**	**+0.4**
	1.2nm,0.8s,baz=328,slow=6.5,SNR=11						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**84.51**	**24**	P	**P**	**04 00 30.2**	**-0.2**
	0.3nm,0.6s,baz=269,slow=4.5,SNR=1.9						
	0.3nm,0.6s						
LPAZ	**La Paz**	**146.30**	**124**	PKPbc	**PKPbc**	**04 07 39.8**	**-0.2**
	1.6nm,1.0s,baz=248,slow=5.4,SNR=3.8						

*SSNC **19** 03:59:11.8±1.1, 18.°70N×73.°32W, h11km±11km, MD2.6, ML2.0, MW2.5*
*OSPL **19** 03:59:13.5±9.7, 18.°74N×73.°47W, h10km±124km, ML2.5*

ISC 19 03:59:11.8±1.2, 18.°8N±0.°1×73.°41W±0.°06, h20km±14km, n9, σ1§05/16, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAPH	**Port-au-Prince**	**1.10**	**106**	*i* P	**Pb**	**03 59 32.3**	**+0.2**
PAPH				*e*S	**Sn**	**03 59 46.8**	**+0.1**
PAPH				IAML		03 59 48.4	
	comp=Z,232nm,0.2s						
MASC	**Masc**	**1.55**	**330**	*e*P	**Pb**	**03 59 39.6**	**-0.2**
MASC				*e*S	**Sb**	**03 59 58.6**	**-0.4**
MASC				IAML		04 00 02.5	
	comp=N,16nm,0.4s						
MASC				IAML		04 00 02.9	
	comp=E,16nm,0.3s						
MASC	**Masc**	**1.55**	**330**	*i* P	**Pb**	**03 59 39.8**	**0.0**
MASC				*e*S	**Sb**	**03 59 58.9**	**0.0**
MASC				IAML		04 00 02.4	
	comp=Z,22nm,1.2s						
LODA1	**ITESIL, Dajabo**	**1.77**	**66**	*e*S	**Sb**	**04 00 05.8**	**+0.6**
LOPE2	**Hotel El Peder**	**1.77**	**116**	*i* P	**Pn**	**03 59 42.1**	**+0.9**
LOPE2				*e*S	**Sb**	**04 00 05.4**	**+0.1**
LOPE2				IAML		04 00 11.8	
	comp=Z,64nm,1.4s						
SDDR	**Presa de Saban**	**2.02**	**85**	*i* P	**Pb**	**03 59 47.0**	**-0.8**
SDDR				*e*S	**Sb**	**04 00 12.4**	**-0.1**
SDDR				IAML		04 00 13.1	
	comp=Z,29nm,0.4s						
RCC	**Rio Carpintero**	**2.45**	**299**	*e*P	**Pn**	**03 59 51.2**	**+0.6**
RCC				*e*S	**Sn**	**04 00 21.1**	**+1.1**
RCC				*e*Sg	**Sb**	**04 00 26.0**	**+1.1**
RCC				IAML		04 00 26.5	
	comp=N,4.6nm,0.4s						
RCC				IAML		04 00 27.9	
	comp=E,5.6nm,0.2s						
BANI	**BANI**	**2.93**	**98**	*i* P	Pn	03 59 50.6	-6.8
BANI				*e*S	Sn	04 00 12.6	-19
BANI				IAML		04 00 24.5	
	comp=Z,46nm,0.6s						
LMGC	**Las Mercedes**	**3.61**	**291**	*e*P	**Pn**	**04 00 06.9**	**+0.3**
LMGC				*e*S	**Sn**	**04 00 45.7**	**-2.9**

*BEO **19** 03:59:40.9±0.8, 37.°84N×20.°03E, h0km, ML4.6/6*
*BJI **19** 03:59:41.0±0.0, 38.°33N×20.°15E, h5km, mb4.7/26, mB5.0/10, Ms4.8/1, Ms7 4.7/2*
*TIR **19** 03:59:41.2, 38.°14N×20.°02E, h46km±3km, Md4.9, Ml4.8*
*MOS **19** 03:59:43.5±1.3, 38.°10N×20.°27E, h14km, mb4.8/33, Error ellipse: s-maj=4.1km s-min=2.4km az=80.3*
*IDC **19** 03:59:43.4±0.5, 38.°14N×20.°45E, h0km, mb4.5/34, mbtmp4.4/48, ML4.1/13, MS3.6/38, Error ellipse: s-maj=11.1km s-min=9.5km az=157.0*
*NEIC **19** 03:59:45.2, 38.°10N×20.°30E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.71; $M_{\theta\theta}$0.43; $M_{\phi\phi}$1.28; $M_{r\theta}$1.75; $M_{r\phi}$-1.17; $M_{\theta\phi}$-1.72; Fault plane solution: $M_0$3.13000×10^{15} NP1:ϕ_s316.04000°, δ71.35000°, λ-97.05000°. NP2:ϕ_s157.20000°, δ19.89000°, λ-70.00000°. Principal axes: T 3.2836, Plg26.0000°, Azm52.0000°; N -0.3440, Plg7.0000°, Azm318.0000°; P -2.9396, Plg63.0000°, Azm215.0000°;*
*MED_RC **19** 03:59:45.0±0.4, 38.°10N×20.°28E, h20km±2km, MW4.4/12, Moment Tensor Solution.Mantle waves: s12,c17; Duration: 1§1 Moment tensor: Scale 10^{15}Nm; M_{rr}1.92±.56; $M_{\theta\theta}$0.14±.27; $M_{\phi\phi}$-2.06±.35; $M_{r\theta}$2.96±.52; $M_{\theta\phi}$1.45±.18; $M_{\phi r}$-2.99±.45; Best double couple: $M_0$4.85000×10^{15} NP1:ϕ_s136.00000°, δ76.00000°, λ78.00000°. NP2:ϕ_s359.00000°, δ18.00000°, λ131.00000°. Principal axes: T 4.5600, Plg57.0000°, Azm30.0000°; N 0.5700, Plg12.0000°, Azm139.0000°; P -5.1400, Plg30.0000°, Azm236.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*ATH **19** 03:59:45.8, 38.°11N×20.°36E, h22km, Mw4.2, Moment Tensor Solution. s7 Moment tensor: M_{rr}0.44; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.30; $M_{r\theta}$1.70; $M_{r\phi}$0.44; $M_{\theta\phi}$-1.23; Fault plane solution: NP1:ϕ_s126.00000°, δ83.00000°, λ84.00000°. NP2:ϕ_s345.00000°, δ9.00000°, λ129.00000°.*
*PDG **19** 03:59:45.3±0.5, 38.°22N×20.°30E, h10km±1km, ML4.4/13 Error ellipse: s-maj=1.4km s-min=1.1km az=90.0*
*THE **19** 03:59:46.5, 38.°09N×20.°33E, h13km±1km, ML4.5/5, Error ellipse: s-maj=3.1km s-min=1.4km az=38.0*
*NEIC **19** 03:59:47.7±2.5, 38.°21N±0.°06×20.°35E±0.°07, h24km±4km, mb4.7/71, Mwr4.3/21, ML4.7(THE), ML4.4(ATH), Error ellipse: s-maj=9.0km s-min=8.0km az=182.0*
*GII **19** 03:59:50.0±0.0, 37.°61N×20.°90E, h20km, Mm4.7/1*
*HLW **19** 03:59:54.0, 38.°08N×21.°79E, h26km±18km, Md5.4, Ml5.4*

ISC 19 03:59:45.3±0.6, 38.°11N±0.°02×20.°39E±0.°02, h17km±3km, n619, σ1§80/667, mb4.7/107, MS3.7/36, 43C-29D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.10**	**339**	P	**Pg**	**03 59 50.2**	**+1.3**
KEF3				S	**Sg**	**03 59 52.8**	**+1.5**
KEF3	**Kipouria, Keph**	**0.10**	**339**	P	**Pg**	**03 59 50.3**	**+1.3**
KEF3				S	**Sg**	**03 59 52.9**	**+1.6**
DMLN	**Damoulianata-K**	**0.13**	**353**	P	**Pb**	**03 59 50.4**	**+1.0**
DMLN				S	**Sg**	**03 59 52.9**	**+1.0**
	433μm,0.4s						
KEF4	**Livadi, Kephal**	**0.15**	**9**	P	**Pb**	**03 59 50.7**	**+1.0**
KEF4				S	**Sg**	**03 59 54.0**	**+1.6**
KEF4	**Livadi, Kephal**	**0.15**	**9**	P	**Pb**	**03 59 50.7**	**+1.0**
KEF4				S	**Sg**	**03 59 53.9**	**+1.6**
VLS	**Valsamata**	**0.17**	**65**	P	**Pb**	**03 59 50.8**	**+0.8**
VLS				S	**Sg**	**03 59 54.2**	**+1.5**
	584μm,0.2s						
VLS	**Valsamata**	**0.17**	**65**	P	**Pb**	**03 59 50.8**	**+0.8**
VLS				S	**Sg**	**03 59 54.2**	**+1.5**
VLS	**Valsamata**	**0.17**	**65**	P	**Pb**	**03 59 50.8**	**+0.8**
VLS				S	**Sg**	**03 59 54.4**	**+1.6**
EVGI	**Lefkada island**	**0.55**	**22**	P	**Pb**	**03 59 56.9**	**+0.4**
EVGI				S	**Sn**	**04 00 05.9**	**-1.4**
	33μm,0.3s						
EVGI	**Lefkada island**	**0.55**	**22**	P	**Pb**	**03 59 57.0**	**+0.4**
EVGI				S	**Sb**	**04 00 05.3**	**+1.1**
DRAG	**Dragano-Lefkad**	**0.59**	**14**	P	**Pb**	**03 59 57.5**	**+0.2**
DRAG				S	**Sn**	**04 00 07.6**	**-0.7**
TSLK	**Tsoukalades, L**	**0.75**	**16**	P	**Pb**	**04 00 00.2**	**+0.3**
TSLK				S	**Sn**	**04 00 14.2**	**+2.2**
	32μm,0.6s						
TSLK	**Tsoukalades, L**	**0.75**	**16**	P	**Pn**	**04 00 00.5**	**-0.6**
RLS	**Riolos of Patr**	**0.85**	**93**	P	**Pn**	**04 00 02.2**	**-0.2**
RLS				S	**Sn**	**04 00 18.1**	**+3.6**
	20μm,0.5s						
RLS	**Riolos of Patr**	**0.85**	**93**	P	**Pn**	**04 00 02.7**	**+0.3**
RLS				S	**Sn**	**04 00 15.2**	**+0.7**
RLS				AML	AML	04 00 22.5	
	comp=N,34098μm,0.6s						
RLS				AML	AML	04 00 22.9	
	comp=E,45371μm,0.4s						
LAKA	**Lakka**	**1.26**	**83**	P	**Pg**	**04 00 09.8**	**+0.2**
LAKA				S	**Sg**	**04 00 27.9**	**+1.9**
LAKA				AML	AML	04 00 33.9	
	comp=N,49718μm,0.9s						
LAKA				AML	AML	04 00 36.1	
	comp=E,81363μm,0.5s						
EVR	**Evrytania**	**1.37**	**53**	P	**Pg**	**04 00 11.9**	**+0.1**
EVR				S	**Sg**	**04 00 31.0**	**+1.2**
EVR				AML	AML	04 00 41.2	
	comp=E,15402μm,0.9s						
EVR				AML	AML	04 00 42.5	
	comp=N,16758μm,0.8s						
KLV	**Kalavryta, Ach**	**1.39**	**92**	P	**Pg**	**04 00 11.7**	**-0.4**
KLV	**Kalavryta, Ach**	**1.39**	**92**	P	**Pg**	**04 00 12.3**	**+0.2**
KLV				S	**Sg**	**04 00 31.7**	**+1.5**
KLV				AML	AML	04 00 44.4	
	comp=N,16292μm,0.8s						
KLV				AML	AML	04 00 46.0	
	comp=E,11838μm,0.8s						
IGT	**Igoumenitsa**	**1.43**	**358**	P	**Pg**	**04 00 11.8**	**-1.0**
IGT	**Igoumenitsa**	**1.43**	**358**	P	**Pb**	**04 00 11.2**	**-0.2**
IGT	**Igoumenitsa**	**1.43**	**358**	P	**Pg**	**04 00 12.2**	**-0.6**
IGT				S	**Sg**	**04 00 32.1**	**+0.7**
IGT				AML	AML	04 00 37.6	
	comp=E,15506μm,0.7s						
IGT				AML	AML	04 00 38.7	
	comp=N,12208μm,0.5s						
ITM	**Ithomi**	**1.53**	**127**	P	**Pg**	**04 00 13.9**	**-0.8**
ITM	**Ithomi**	**1.53**	**127**	Pn	**Pg**	**04 00 14.1**	**-0.7**
ITM	**Ithomi**	**1.53**	**127**	P	**Pg**	**04 00 14.1**	**-0.7**
ITM				AML	AML	04 00 49.8	
	comp=N,14737μm,0.5s						
ITM				AML	AML	04 00 56.0	
	comp=E,10458μm,0.8s						
JAN	**Janina**	**1.59**	**13**	P	**Pb**	**04 00 14.0**	**-0.2**
JAN	**Janina**	**1.59**	**13**	P	**Pb**	**04 00 13.7**	**-0.5**
JAN	**Janina**	**1.59**	**13**	P	**Pg**	**04 00 14.7**	**-1.2**
JAN				S	**Sg**	**04 00 35.9**	**-0.6**
JAN				AML	AML	04 00 45.4	
	comp=N,11484μm,0.5s						
JAN				AML	AML	04 00 45.4	
	comp=E,24278μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.64**	**56**	P	**Pg**	**04 00 16.1**	**-0.7**
MAKR				AML	AML	04 00 49.4	
	comp=E,30382μm,0.5s						
MAKR				AML	AML	04 00 53.2	
	comp=N,33189μm,0.7s						
KEK	**Kerkira**	**1.67**	**344**	P	**Pb**	**04 00 15.2**	**-0.4**
KEK	**Kerkira**	**1.67**	**344**		**Pb**	**04 00 15.2**	**-0.4**
KEK	**Kerkira**	**1.67**	**344**	P	**Pg**	**04 00 15.8**	**-1.6**
KEK				AML	AML	04 00 54.6	
	comp=E,11460μm,0.6s						
KEK				AML	AML	04 00 57.1	
	comp=N,11073μm,0.7s						
KASA	**Kassiopi**	**1.68**	**348**	P	**Pb**	**04 00 15.8**	**+0.1**
THAL	**Thalero**	**1.79**	**92**	P	**Pb**	**04 00 18.2**	**+0.5**
THAL				AML	AML	04 00 56.8	
	comp=E,29101μm,0.6s						
THAL				AML	AML	04 01 01.5	
	comp=N,33791μm,0.9s						
LOUT	**Loutraki**	**2.04**	**93**	P	**Pb**	**04 00 21.6**	**-0.3**
ATAL	**Atalanti**	**2.15**	**73**	P	**Pb**	**04 00 23.2**	**-0.5**
EPID	**Epidavros**	**2.21**	**102**	P	**Pb**	**04 00 24.0**	**-0.8**
VIL2	**Platees**	**2.27**	**86**	P	**Pb**	**04 00 25.0**	**-0.8**
KZN	**Kozani**	**2.44**	**26**	P	**Pb**	**04 00 27.7**	**-1.1**
VLI	**Veliai**	**2.45**	**124**	P	**Pb**	**04 00 28.1**	**-0.8**
VLO	**Vlora**	**2.46**	**344**	Pn	**Pn**	**04 00 26.4**	**+1.8**
VLO	**Vlora**	**2.46**	**344**	P	**Pn**	**04 00 26.4**	**+1.8**
SCTE	**Santa Cesarea**	**2.47**	**323**	Pn	**Pn**	**04 00 25.7**	**+0.9**
KBN	**Korca**	**2.53**	**7**	Pn	**Pb**	**04 00 28.8**	**-1.6**
KBN	**Korca**	**2.53**	**7**	P	**Pb**	**04 00 28.8**	**-1.6**
KBN				S	**Sb**	**04 01 02.1**	**+0.9**
LIT	**Litokhoron**	**2.57**	**39**	Pn	**Pb**	**04 00 28.7**	**-2.3**
LIT	**Litokhoron**	**2.57**	**39**	P	**Pb**	**04 00 28.7**	**-2.3**
ATH	**Athens Observa**	**2.63**	**92**	P	**Pn**	**04 00 29.3**	**+2.4**
ATH	**Athens Observa**	**2.63**	**92**	P	**Pb**	**04 00 29.7**	**-2.2**
ATHU	**Athens Univers**	**2.68**	**92**	P	**Pb**	**04 00 30.4**	**-2.4**
VLY	**Voula,Athens**	**2.70**	**94**	P	**Pn**	**04 00 30.4**	**+2.5**
OHR	**Ohrid**	**3.02**	**6**	P	**Pb**	**04 00 35.8**	**-2.8**
OHR	**Ohrid**	**3.02**	**6**	*e*Pg	**Pb**	**04 00 36.2**	**-2.4**
OHR				*e*Sg	**Sg**	**04 01 27.7**	**+5.4**
OHR	**Ohrid**	**3.02**	**6**	*i* Pn	**Pb**	**04 00 35.8**	**-2.8**
TIP	**Timpagrande**	**3.04**	**292**	⇑P	**Pn**	**04 00 33.8**	**+1.1**
TIP	**Timpagrande**	**3.04**	**292**	Pn	**Pn**	**04 00 33.8**	**+1.1**
PAIG	**Paliouri**	**3.14**	**54**	P	**Pn**	**04 00 36.4**	**+2.4**
THE	**Thessaloniki**	**3.21**	**38**	P	**Pn**	**04 00 37.2**	**+2.2**
TIR	**Tirane**	**3.26**	**353**	Pn	**Pn**	**04 00 37.2**	**+1.5**
TIR	**Tirane**	**3.26**	**353**	P	**Pn**	**04 00 37.2**	**+1.5**
TIR	**Tirane**	**3.26**	**353**	*e*Pn	**Pn**	**04 00 38.1**	**+2.4**
SOH	**Sokhos**	**3.55**	**39**	P	**Pn**	**04 00 42.4**	**+2.7**
PHP	**Peshkopia**	**3.57**	**1**	P	**Pn**	**04 00 42.0**	**+2.0**
PHP				S	**Sn**	**04 01 24.9**	**+3.0**
KNT	**Kendrikon**	**3.61**	**32**	P	**Pn**	**04 00 42.8**	**+2.3**
MATE	**Matera**	**3.82**	**313**	⇑P	**Pn**	**04 00 44.6**	**+1.2**
SRS	**Serrai**	**3.89**	**38**	P	**Pn**	**04 00 46.6**	**+2.3**
SRS	**Serrai**	**3.89**	**38**	*e*Pn	**Pn**	**04 00 46.6**	**+2.3**
SKO	**Skopje**	**3.94**	**11**	*e*Pn	**Pn**	**04 00 47.3**	**+2.3**
SKO	**Skopje**	**3.94**	**11**	*i* Pn	**Pn**	**04 00 47.0**	**+2.0**
ULC	**Ulcinj**	**3.95**	**347**	P	**Pn**	**04 00 46.3**	**+1.1**
ULC	**Ulcinj**	**3.95**	**347**	⇓*i*Pn	**Pn**	**04 00 45.2**	**0.0**
ULC				*i* Sn	**Sn**	**04 01 30.4**	**-0.7**
CUC	**Castrocucco**	**4.03**	**299**	Pn	**Pn**	**04 00 48.1**	**+1.8**
DRME	**Dracevica, Mon**	**4.18**	**348**	*e*Pn	**Pn**	**04 00 48.9**	**+0.6**
DRME	**Dracevica, Mon**	**4.18**	**348**	⇑*i*Pn	**Pn**	**04 00 48.7**	**+0.4**
DRME				*i* Sn	**Sn**	**04 01 36.6**	**-0.1**
APE	**Apeiranthos**	**4.21**	**103**	⇑P	Pn	04 00 53.4	+4.7
APE				⇑S	**Sn**	**04 01 43.9**	**+6.4**
APE	**Apeiranthos**	**4.21**	**103**	*e*P	**Pn**	**04 00 50.2**	**+1.5**
APE	**Apeiranthos**	**4.21**	**103**	Pn	**Pn**	**04 00 45.2**	**-3.5**
BUM	**Brajici-Budva**	**4.34**	**345**	⇓*i*Pn	**Pn**	**04 00 51.0**	**+0.4**
BUM				*i* Sn	**Sn**	**04 01 40.6**	**-0.3**
SANT	**Santorini**	**4.40**	**112**	⇑P	**Pn**	**04 00 55.8**	**+4.4**
SANT	**Santorini**	**4.40**	**112**	Pn	**Pn**	**04 00 55.1**	**+3.8**
PDG	**Podgorica**	**4.41**	**349**	⇑P	**Pn**	**04 00 51.9**	**+0.5**
PDG	**Podgorica**	**4.41**	**349**	Pn	**Pn**	**04 00 51.5**	**+0.1**
PDG	**Podgorica**	**4.41**	**349**	*e*Pn	**Pn**	**04 00 52.3**	**+0.9**
TTG	**Podgorica**	**4.41**	**349**	⇓*i*Pn	**Pn**	**04 00 51.7**	**+0.3**
TTG				*i* Sn	**Sn**	**04 01 42.2**	**0.0**
PVY	**Plav**	**4.50**	**356**	*e*Pn	**Pn**	**04 00 54.0**	**+1.3**
PVY				*i* Sn	**Sn**	**04 01 44.3**	**-0.4**
HCY	**Herceg Novi**	**4.57**	**342**	*e*Pn	**Pn**	**04 00 53.1**	**-0.6**
HCY	**Herceg Novi**	**4.57**	**342**	P	**Pn**	**04 00 54.5**	**+0.8**
HCY	**Herceg Novi**	**4.57**	**342**	⇑*i*Pn	**Pn**	**04 00 53.1**	**-0.6**
HCY				*i* Sn	**Sn**	**04 01 46.1**	**-0.3**
CEME	**Cevo**	**4.58**	**346**	⇑*i*Pn	**Pn**	**04 00 53.9**	**+0.1**
CEME				*i* Sn	**Sn**	**04 01 45.9**	**-0.7**
IDI	**Anoyia**	**4.58**	**127**	Pn	**Pn**	**04 00 55.1**	**+1.2**
	comp=N,3.2nm,0.3s,baz=255,slow=5.2,SNR=25						
IDI				Sn	**Sn**	**04 01 48.2**	**+1.5**
	comp=N,27nm,0.3s,baz=308,slow=18,SNR=7.3						
	comp=N,12nm,0.3s						
BOSS	**Bosilegrad**	**4.67**	**19**	*e*Pn	**Pn**	**04 00 57.0**	**+2.0**
IVA	**Berane**	**4.78**	**356**	⇓*i*Pn	**Pn**	**04 00 57.3**	**+0.8**
IVA				*i* Sn	**Sn**	**04 01 51.2**	**-0.3**
VAE	**Valguarnera**	**4.78**	**264**	Pn	**Pn**	**04 00 59.6**	**+3.1**
	comp=N,4.7nm,0.3s,baz=122,slow=3.2,SNR=3.8						
VAE				Sn	**Sn**	**04 01 53.0**	**+1.4**
	comp=N,

FRGS Fruska Gora 7.06 357 *e*Pn **Pn** 04 01 27.3 -0.5
FRGS Fruska Gora 7.06 357 *e*Pn **Pn** 04 01 27.7 -0.1
BLY Banja Luka 7.06 341 *e*Pn **Pn** 04 01 27.8 0.0
DUGI Dugi Otok 7.13 327 *e*Pn **Pn** 04 01 28.8 +0.1
HUMR Humele 7.28 27 ⇓P **Pn** 04 01 33.3 +2.4
NRCA Norcia 7.29 313 Pn **Pn** 04 01 32.8 +1.8
BANR Banloc 7.29 4 ⇓P **Pn** 04 01 32.6 +1.7
UDBI Udbina 7.30 333 *e*Pn **Pn** 04 01 31.4 +0.2
A052A Srbac 7.32 344 *e*Pn **Pn** 04 01 30.9 -0.4
VIRC Vir 7.37 329 *i* Pn **Pn** 04 01 32.5 +0.4
A051A Mrakovica 7.38 340 *e*Pn **Pn** 04 01 31.9 -0.4
PRIJ Prijedor 7.40 339 *e*Pn **Pn** 04 01 32.5 +0.1
FDMO Fiordimonte 7.43 314 Pn **Pn** 04 01 34.4 +1.5
CESX Cesi 7.47 309 Pn **Pn** 04 01 35.0 +1.6
GZR Gura Zlata 7.50 13 ⇓P **Pn** 04 01 34.8 +0.9
GZR Gura Zlata 7.50 13 P **Pn** 04 01 34.7 +0.9
BZS Buzias 7.56 7 ⇑P **Pn** 04 01 35.1 +0.5
BZS Buzias 7.56 7 P **Pn** 04 01 34.8 +0.1
BZS pmax pmax
comp=Z,15nm,0.8s
A252A Venje 7.57 346 *e*Pn **Pn** 04 01 34.1 -0.6
AKAS Kas 7.59 101 Pn **Pn** 04 01 36.9 +1.6
PLIT Plitvice 7.65 334 *e*Pn **Pn** 04 01 37.0 +1.0
NVLJ Novalja 7.67 329 *e*Pn **Pn** 04 01 36.2 0.0
ELL Elmali 7.69 97 Pn Pn 04 01 41.4 +4.8
ELL Elmali 7.69 97 P Pn 04 01 41.4 +4.8
SLUM Salum 7.70 148 P **Pn** 04 01 37.1 +0.6
baz=155
LOT Lotru 7.76 18 ⇑P **Pn** 04 01 39.0 +1.5
RABC Rab 7.86 329 *i* Pn **Pn** 04 01 39.5 +0.7
MURB Monte Urbino 7.89 313 Pn **Pn** 04 01 41.0 +1.7
ARR Arges 7.92 22 ⇓P **Pn** 04 01 42.1 +2.5
MTUR Matau 7.92 25 ⇑P **Pn** 04 01 42.3 +2.5
DEV Deva 7.99 13 P **Pn** 04 01 40.0 -0.6
DEV pmax pmax
comp=Z,51nm,0.6s
ISP Isparta 8.01 89 Pn **Pn** 04 01 44.5 +3.6
ISP Isparta 8.01 89 P **Pn** 04 01 44.6 +3.6
BORA Eskisehir 8.03 74 Pn **Pn** 04 01 44.8 +3.5
A250A Rusevo Krmpots 8.09 331 *e*Pn **Pn** 04 01 42.7 +0.7
VOIR 8.11 24 ⇑P **Pn** 04 01 44.9 +2.6
VOIR 8.11 24 P **Pn** 04 01 44.4 +2.1
VOIR pmax pmax
comp=Z,42nm,0.9s
SECR 8.12 30 ⇓P **Pn** 04 01 45.3 +2.9
KOVH Kovagotottos 8.16 349 P **Pn** 04 01 41.7 -1.1
KOVH S **Sn** 04 03 08.5 -6.1
ICOR Ion Corvin 8.20 41 ⇓P **Pn** 04 01 45.1 +1.7
MORH Mrgy, Hungar 8.21 351 P **Pn** 04 01 42.7 -0.8
MORH S **Sn** 04 03 09.8 -6.0
SIRR Siria 8.21 6 ⇑P **Pn** 04 01 44.4 +0.8
BOJS Bojanci 8.33 334 *e*Pn **Pn** 04 01 45.7 +0.5
SMRN Sveta Marina 8.35 328 *e*Pn **Pn** 04 01 45.6 +0.1
OZLJ Ozalj 8.35 335 *i* Pn **Pn** 04 01 45.8 +0.3
ISR Istrita 8.38 31 ⇑P **Pn** 04 01 49.1 +3.1
ISR Istrita 8.38 31 P **Pn** 04 01 49.5 +3.5
ISR pmax pmax
comp=Z,139nm,1.2s
BRJN Brijuni 8.42 326 *e*Pn **Pn** 04 01 46.8 +0.4
RIY Rijeka 8.46 330 *e*Pn **Pn** 04 01 47.3 +0.4
MLR Muntele Rosu 8.46 28 ⇓P **Pn** 04 01 50.4 +3.2
MLR Muntele Rosu 8.46 28 Pn **Pn** 04 01 49.7 +2.5
comp=Z,2.6nm,0.3s,baz=251,slow=18,SNR=28
MLR LR LR 04 05 50.5
comp=Z,741nm,20.1s,baz=194,slow=44
comp=Z,75nm,1.0s
PTJ Puntijarka 8.46 339 P **Pn** 04 01 46.5 -0.6
CRES Cresnjev 8.54 336 *i* Pn **Pn** 04 01 48.3 +0.2
LOBO Lobor 8.66 340 *e*Pn **Pn** 04 01 49.2 -0.5
HARR Harsova 8.68 38 ⇑P **Pn** 04 01 51.9 +1.9
HARR Harsova 8.68 38 P **Pn** 04 01 51.8 +1.9
DOPR Dopca 8.69 24 ⇓P **Pn** 04 01 52.9 +2.7
A253A Karojba, Istri 8.70 328 *e*Pn **Pn** 04 01 50.1 -0.2
MDUB Mudurnu 8.70 71 Pn **Pn** 04 01 53.2 +2.8
VISS Visnje 8.73 334 *i* Pn **Pn** 04 01 51.0 +0.3
MATC Matruh 8.78 138 P **Pn** 04 01 50.8 -0.6
baz=144
OSSC Osservatorio P 8.79 311 Pn **Pn** 04 01 53.0 +1.3
SKDS Skadanscina 8.82 329 *e*Pn **Pn** 04 01 51.8 -0.3
CEY Cerknica 8.83 332 *e*Pn **Pn** 04 01 52.4 +0.3
DRGR 8.85 10 ⇑P **Pn** 04 01 53.7 +1.3
COVR Voineasa-Covas 8.86 27 ⇑P **Pn** 04 01 54.9 +2.4
OZUR 8.93 25 ⇓P **Pn** 04 01 56.1 +2.6
PLOR Plostina 9.03 29 ⇓P **Pn** 04 01 58.0 +3.1
PLOR Plostina 9.03 29 P **Pn** 04 01 57.9 +3.1
VRI Vrincioaia 9.07 29 ⇓P **Pn** 04 01 57.9 +2.5
VRI Vrincioaia 9.07 29 P **Pn** 04 01 58.6 +3.2
VRI pmax pmax
comp=Z,78nm,1.1s
CFR Carcaliu 9.13 37 ⇑P **Pn** 04 01 58.5 +2.2
CFR Carcaliu 9.13 37 P **Pn** 04 01 58.4 +2.2
KEST Kesra 9.16 258 Pn **Pn** 04 01 58.7 +2.0
comp=Z,0.9nm,0.3s,baz=12,slow=9.8,SNR=11
KEST Sn **Sn** 04 03 37.4 -2.0
comp=Z,0.4nm,0.3s,baz=49,slow=19,SNR=1.6
KEST LR LR 04 06 23.4
comp=Z,196nm,19.8s,baz=308,slow=43
comp=Z,3.7nm,0.5s
KEST Kesra 9.16 258 Pn **Pn** 04 01 58.1 +1.3
MPLH Magyarpolny 9.30 348 P **Pn** 04 01 57.5 -1.0
MPLH S **Sn** 04 03 38.0 -4.7
SABO M.te Sabotino 9.35 329 Pn **Pn** 04 01 59.0 -0.2
CSKK Cskako 9.38 351 P **Pn** 04 02 02.1 +2.4
ARCR ARCALIA 9.44 17 ⇑P **Pn** 04 02 02.5 +2.1
SOKA Soboth 9.44 337 *i* Pn **Pn** 04 02 00.2 -0.3
comp=Z,15nm,0.4s,SNR=30
SOKA *e*Sn **Sn** 04 03 39.8 -6.4
comp=Z,15nm,0.6s
OBKA Obir 9.44 335 *e*Pn **Pn** 04 02 01.0 +0.4
OBKA Obir 9.44 335 *i* Pn **Pn** 04 02 01.2 +0.6
comp=Z,10nm,0.4s,SNR=9.0
OBKA *e*Sn **Sn** 04 03 44.5 -1.9
comp=Z,27nm,0.5s
TESR Tescani 9.59 27 ⇑P **Pn** 04 02 05.4 +2.9
PRED Cave del Predi 9.74 331 Pn **Pn** 04 02 04.4 -0.3
TEOL Teolo 9.74 321 Pn **Pn** 04 02 03.3 -1.3
BIZ Bicaz 9.78 24 ⇑P **Pn** 04 02 08.1 +3.0
SWA2 9.79 153 P **Pn** 04 02 06.5 +1.2
baz=159
ARSA Arzberg 9.81 340 *i* Pn **Pn** 04 02 04.9 -0.7
comp=Z,7.9nm,0.4s,SNR=6.5
ARSA *e*Sn **Sn** 04 03 51.1 -4.3
comp=Z,2.7nm,0.4s
PSZ Piszkesteto 9.81 358 ⇓P **Pn** 04 02 06.2 +0.6
PSZ Piszkesteto 9.81 358 Pn **Pn** 04 02 05.3 -0.3
PSZ Piszkesteto 9.81 358 P **Pn** 04 02 05.3 -0.3
PSZ Piszkesteto 9.81 358 P **Pn** 04 02 05.6 -0.1
PSZ S **Sn** 04 03 49.5 -5.9
MYKA Terra Mystica 9.87 332 *e*Pn **Pn** 04 02 06.5 +0.1
comp=Z,1.2nm,0.2s
MYKA *e*Sn **Sn** 04 03 54.1 -2.7
comp=Z,8.6nm,0.4s
STAL STALIGIAL 9.94 327 Pn **Pn** 04 02 06.2 -1.1
CLUD Cludinico 10.03 329 Pn **Pn** 04 02 08.0 -0.6
RONA Rosalia, Austr 10.05 344 *e*Pn **Pn** 04 02 08.3 -0.5
comp=Z,2.7nm,0.6s
RONA *e*Sn **Sn** 04 03 56.5 -4.5
comp=Z,1.1nm,0.2s
CIMO Cimolais 10.09 327 Pn **Pn** 04 02 08.2 -1.3
BURAR Bucovina Array 10.14 19 ⇓P **Pn** 04 02 12.8 +2.6
BURAR Bucovina Array 10.14 19 Pn **Pn** 04 02 10.9 +0.8
BURAR Bucovina Array 10.14 19 P **Pn** 04 02 12.7 +2.6
TRPA Tarpa 10.14 8 ⇑P **Pn** 04 02 10.8 +0.8
TRPA Tarpa 10.14 19 P **Pn** 04 02 11.3 +1.3
BUR08 Bucovina Ar. S 10.16 19 Pn **Pn** 04 02 11.3 +0.8
CTI Castel Tesino 10.25 323 Pn **Pn** 04 02 10.8 -0.9
CTI Castel Tesino 10.25 323 P **Pn** 04 02 10.8 -0.9
KBA Koelnbreinsper 10.36 332 P **Pn** 04 02 11.0 -2.2
KBA pmax pmax
comp=Z,16nm,0.5s
KBA Koelnbreinsper 10.36 332 *e*Pn **Pn** 04 02 15.9 +2.8
comp=Z,7.3nm,0.5s
KBA *e*Sn **Sn** 04 04 08.3 -0.6
comp=Z,14nm,0.6s
CONA Conrad Observa 10.36 343 *e*Pn **Pn** 04 02 12.8 -0.3
comp=Z,2.3nm,0.7s
CONA *e*Sn **Sn** 04 04 05.8 -3.0
comp=Z,2.6nm,0.4s
ABTA Abfaltersbach 10.41 329 *i* Pn **Pn** 04 02 14.0 +0.1
comp=Z,2.5nm,0.4s,SNR=5.7
ABTA *e*Sn **Sn** 04 04 05.2 -4.8
comp=Z,19nm,0.6s
VYHS Vyhne 10.45 354 *e*P **Pn** 04 02 14.5 +0.3
VYHS *e* 04 04 04.8
VYHS Vyhne 10.45 354 *e*PN **Pn** 04 02 14.5 +0.3
VYHS *e*SN **Sn** 04 04 04.8 -6.0
BR131 Keskin Array S 10.45 77 Pn **Pn** 04 02 18.1 +3.7
BR131 Keskin Array S 10.45 77 ⇓*e*P **Pn** 04 02 17.1 +2.7
BRTR Keskin Array B 10.45 77 Pn **Pn** 04 02 18.6 +4.2
comp=Z,0.3nm,0.3s,baz=260,slow=12,SNR=22
BRTR LR LR 04 07 17.3
comp=Z,363nm,19.4s,baz=270,slow=44
comp=Z,2.2nm,0.6s
BRTR Keskin Array B 10.45 77 Pn **Pn** 04 02 16.3 +1.9
BRTR Keskin Array B 10.45 77 *i* P **Pn** 04 02 19.1 +4.7
BRTR pmax pmax
comp=Z,2.0nm,0.6s
SALO Salr 10.51 319 Pn **Pn** 04 02 14.2 -0.8
MODS Modra-Piesok 10.51 349 *e*P **Pn** 04 02 15.9 +0.8
MODS *e* 04 04 06.1
MODS Modra-Piesok 10.51 349 *e*PN **Pn** 04 02 15.9 +0.8
MODS *e*SN **Sn** 04 04 06.1 -6.3
UZH Uzhgorod 10.61 7 *e*P **Pn** 04 02 20.8 +4.4
MOA Molln 10.72 337 *i* Pn **Pn** 04 02 18.4 +0.4
comp=Z,9.3nm,0.6s,SNR=14
MOA *e*Sn **Sn** 04 04 12.5 -5.0
comp=Z,4.0nm,0.5s
BIOA Bad Ischl, Aus 10.78 335 *i* Pn **Pn** 04 02 19.2 +0.4
comp=Z,5.7nm,0.4s,SNR=18
BIOA *e*Sn **Sn** 04 04 16.0 -3.1
comp=Z,13nm,0.5s
CSS Mathiatis 10.87 103 Pn **Pn** 04 02 18.4 -1.7
JAVC Velka Javorina 10.93 350 *e*PN **Pn** 04 02 21.4 +0.5
WTTA Wattenberg 11.19 328 P **Pn** 04 02 26.4 +1.9
WTTA pmax pmax
comp=Z,24nm,0.6s
WTTA Wattenberg 11.19 328 Pn **Pn** 04 02 25.9 +1.4
comp=Z,3.0nm,0.3s,SNR=6.6
WTTA *e*Sn **Sn** 04 04 26.4 -2.8
comp=Z,16nm,0.5s
WATA Walderalm 11.27 328 *i* Pn **Pn** 04 02 27.3 +1.7
comp=Z,5.2nm,0.4s,SNR=7.3
WATA *e*Sn **Sn** 04 04 29.5 -1.7
comp=Z,13nm,0.5s
NIE Niedzica 11.31 360 *e*P **Pn** 04 02 28.2 +2.1
NIE Niedzica 11.31 360 P **Pn** 04 02 28.2 +2.1
NIE pmax pmax
comp=Z,5.0nm,1.3s
KRUC Moravsky 11.33 346 *e*PN **Pn** 04 02 26.8 +0.5
KRUC Moravsky 11.33 346 P **Pn** 04 02 27.1 +0.8
KRUC pmax pmax
comp=Z,8.0nm,1.4s
SQTA Sankt Quirin 11.34 326 *e*Pn **Pn** 04 02 27.9 +1.4
comp=Z,1.5nm,0.3s
SQTA *e*Sn **Sn** 04 04 31.2 -1.6
comp=Z,8.9nm,0.6s
FETA Feichten 11.40 324 *e*Pn **Pn** 04 02 28.1 +0.7
comp=Z,1.5nm,0.6s
FETA *e*Sn **Sn** 04 04 30.1 -4.3
comp=Z,5.9nm,0.8s
MAUC Maruska 11.41 351 *e*PN **Pn** 04 02 27.7 +0.3
MOTA Moosalm 11.48 327 Pn **Pn** 04 02 30.4 +1.9
comp=Z,10.0nm,0.7s,SNR=9.9
MOTA *e*Sn **Sn** 04 04 36.5 +0.2
comp=Z,14nm,0.8s
VRAC Vranov 11.53 347 *e*PN **Pn** 04 02 29.4 +0.4
DAVOX Davos/Dischmat 11.63 322 Pn **Pn** 04 02 31.4 +0.8
comp=Z,0.6nm,0.3s,baz=159,slow=13,SNR=8.3
DAVOX Sn **Sn** 04 04 38.2 -1.8
comp=Z,0.8nm,0.3s,baz=180,slow=20,SNR=2.5
DAVOX LR LR 04 08 16.3
comp=Z,114nm,18.4s,baz=262,slow=44
comp=Z,2.6nm,0.5s
TREC Trest 11.73 344 P **Pn** 04 02 32.4 +0.6
TREC pmax pmax
comp=Z,5.0nm,1.0s
RETA Reutte 11.73 326 *e*Pn **Pn** 04 02 34.3 +2.4
comp=Z,2.6nm,0.4s
RETA *e*Sn **Sn** 04 04 40.1 -2.4
comp=Z,4.2nm,0.5s
GEC2 GERESS Array S 11.78 338 Pn **Pn** 04 02 31.6 -1.0
GEC2 GERESS Array S 11.78 338 P **Pn** 04 02 31.7 -0.8
GEC2 pmax pmax
comp=Z,10.0nm,0.7s
GERES GERESS Array B 11.78 338 Pn **Pn** 04 02 32.1 -0.4
comp=Z,0.5nm,0.3s,baz=158,slow=14,SNR=39
GERES Sn **Sn** 04 04 38.6 -4.9
comp=Z,0.8nm,0.3s,baz=151,slow=24,SNR=5.1
comp=Z,5.2nm,0.8s
GERES GERESS Array B 11.78 338 Pn **Pn** 04 02 30.8 -1.7
OKC Ostrava-Krasne 11.84 353 P **Pn** 04 02 34.1 +0.8
OKC pmax pmax
comp=Z,15nm,0.8s
MORC Moravsky Berou 11.85 351 ⇑P **Pn** 04 02 34.1 +0.7
MORC Moravsky Berou 11.85 351 Pn **Pn** 04 02 33.4 0.0
MORC Moravsky Berou 11.85 351 *e*PN **Pn** 04 02 33.4 0.0
MORC Moravsky Berou 11.85 351 P **Pn** 04 02 33.4 0.0
HMYD Mayadein 11.97 131 P **Pn** 04 02 33.5 -1.6
baz=135
HNAT Natroun 11.98 132 P **Pn** 04 02 33.8 -1.4
baz=136
DAVA Damuels 11.99 323 *e*Pn **Pn** 04 02 37.0 +1.5
comp=Z,1.0nm,0.3s
DAVA *e*Sn **Sn** 04 04 44.0 -4.8
comp=Z,21nm,0.6s
KHC Kasperske Hory 12.07 338 Pn **Pn** 04 02 34.8 -1.7
KHC Kasperske Hory 12.07 338 *e*P **Pn** 04 02 36.1 -0.4
KHC Kasperske Hory 12.07 338 *e*PN **Pn** 04 02 36.1 -0.4
KHC x x 04 02 42.5
KHC *e*SN Sn 04 04 31.9 -19
RYAN Fayoum 12.19 135 P **Pn** 04 02 35.8 -2.4
baz=139
KRLC Kraliky 12.24 349 *e*P **Pn** 04 02 39.9 +1.1
KRLC Kraliky 12.24 349 *e*PN **Pn** 04 02 39.9 +1.1
WET Wettzell 12.29 336 P **Pn** 04 02 38.4 -1.1
WET pmax pmax
comp=Z,14nm,1.7s
SIM Simferopol' 12.34 52 *e*P Pn 04 02 45.0 +4.9
KOT Kottamia 12.50 127 P **Pn** 04 02 39.9 -2.6
baz=131
LPG La Plagne 12.56 310 *e*P **Pn** 04 02 45.6 +2.1
LPG pmax pmax
comp=Z,3.0nm,0.6s
DPC Dobruska-Polom 12.58 348 *e*P **Pn** 04 02 45.1 +1.6
DPC Dobruska-Polom 12.58 348 *e*PN **Pn** 04 02 45.1 +1.6
PRU Pruhonice 12.60 342 *e*P **Pn** 04 02 43.3 -0.3
PRU Pruhonice 12.60 342 *e*PN **Pn** 04 02 43.3 -0.3
SENIN Lac Senin/Sane 12.72 315 Pn **Pn** 04 02 46.1 +0.5
HFRF Wahat Farafira 12.79 146 P **Pn** 04 02 44.7 -1.8
baz=151
ORIF Oris-en-Rattie 12.82 307 *e*P **Pn** 04 02 49.1 +2.3
ORIF pmax pmax
comp=Z,3.0nm,0.8s
PVCC Panska Ves 13.09 343 P **Pn** 04 02 51.0 +0.6
PVCC pmax pmax
comp=Z,15nm,1.3s
NBNS Bani Suef 13.12 133 P **Pn** 04 02 49.0 -1.9
baz=137
SUZ Suez 13.20 125 P **Pn** 04 02 50.0 -1.9
baz=128
MMAI Mount Meron Ar 13.23 108 Pn **Pn** 04 02 51.4 -1.0
comp=Z,2.0nm,0.3s,baz=306,slow=12,SNR=2.6
comp=Z,0.9nm,0.2s
GEM Giv'at Ha'Em 13.34 107 Pn **Pn** 04 02 51.6 -2.2
NATI Neve Ativ 13.37 107 Pn **Pn** 04 02 50.9 -3.4
NATI Sn Sn 04 05 13.2 -9.3
NKC Novy Kostel 13.39 337 *e*P **Pn** 04 02 54.6 +0.2
NKC Novy Kostel 13.39 337 *e*PN **Pn** 04 02 54.6 +0.2
SALP Salfit 13.53 112 Pn **Pn** 04 02 54.2 -2.2
SALP Sn **Sn** 04 05 19.4 -6.9
CABF La Chapelle 13.55 313 *e*P **Pn** 04 02 56.7 -0.1
CABF pmax pmax
comp=Z,11nm,1.1s
BRG Berggiesshubel 13.56 342 *e*P **Pn** 04 02 56.4 -0.3
BRG Amp 04 02 58.2
comp=Z,4.3nm,0.9s
BRG *ex* x 04 03 08.8
BRG Amp 04 03 10.0
comp=Z,4.0nm,0.8s
BRG Amp 04 09 08.0
comp=N,0.2nm,10.5s
BRG Amp 04 09 16.0
comp=Z,0.3nm,12.1s
BRG Amp 04 09 20.0
comp=E,0.2nm,8.5s
BRG Berggiesshubel 13.56 342 *e*P **Pn** 04 02 56.4 -0.3
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=N,150nm,10.5s
BRG MLR MLR
comp=Z,254nm,12.1s
BRG MLR MLR
comp=E,159nm,8.5s
VIVF Saint-Julien-l 13.57 305 *e*P **Pn** 04 02 57.7 +0.8
VIVF pmax pmax
comp=Z,25nm,1.6s
TAMRE El Minia 13.63 137 P **Pn** 04 02 57.5 -0.3
baz=141
YTIR Yattir 13.84 115 Pn **Pn** 04 02 58.0 -2.8
YTIR Sn Sn 04 05 25.7 -8.4
HINF Hinteralfeld 13.85 319 *e*P **Pn** 04 03 00.9 +0.1
HINF pmax pmax
comp=Z,3.0nm,0.4s
ECH Echery 13.96 321 Pn **Pn** 04 03 03.2 +1.0
ECH Echery 13.96 321 P **Pn** 04 03 03.3 +1.0
MOX Moxa 14.01 336 P **Pn** 04 03 02.5 -0.3
MOX pmax pmax
comp=Z,15nm,0.8s
CDF Champ du Feu 14.03 321 *e*P **Pn** 04 03 03.8 +0.5
CDF pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 14.07 24 Pn **Pn** 04 03 03.7 0.0
comp=Z,0.8nm,0.3s,baz=213,slow=12,SNR=24
AKASG PcP **PcP** 04 08 23.8 +0.6
comp=Z,1.0nm,0.4s,baz=225,slow=1.0,SNR=6.0
AKASG LR LR 04 09 56.2
comp=Z,285nm,20.6s,baz=203,slow=44
comp=Z,3.8nm,0.7s
AKASG Malin Array Be 14.07 24 Pn **Pn** 04 03 02.8 -1.0
AKASG Malin Array Be 14.07 24 *i* P **Pn** 04 03 03.7 0.0
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 14.07 24 Pn **Pn** 04 03 02.8 -0.9
AKBB Malin Array Si 14.07 24 P **Pn** 04 03 02.8 -0.9
CLL Collm 14.20 341 Pn **Pn** 04 03 05.3 -0.1
CLL Collm 14.20 341 *e*P **Pn** 04 03 07.0 +1.6
CLL Collm 14.20 341 *e*P **Pn** 04 03 07.0 +1.6
CLL *i* PP **PnPn** 04 03 15.5 +2.1
comp=Z,22nm,1.5s
CLL *i* sPP 04 03 20.5
CLL *ex* x 04 03 34.0
GHAJ Ghor Haditha 14.20 114 Pn **Pn** 04 03 04.7 -0.9
GRB Gharib 14.26 130 P **Pn** 04 03 04.3 -2.3
baz=133
KRMI Paran Flat 14.29 120 Pn **Pn** 04 03 03.6 -3.2
KRMI Sn Sn 04 05 34.4 -11
PRNI Paran 14.34 118 Pn Pn 04 03 02.8 -4.7
HRFI Mount Harif 14.55 119 Pn **Pn** 04 03 07.6 -2.8
HRFI Sn Sn 04 05 41.5 -10
MBRI Mt Berech 14.61 120 Pn **Pn** 04 03 07.5 -3.9
EIL Elat 14.72 121 Pn **Pn** 04 03 12.7 0.0
comp=Z,1.5nm,0.3s,baz=340,slow=2.9,SNR=6.8
EIL Sn Sn 04 05 45.5 -10
comp=Z,2.1nm,0.3s,baz=356,slow=15,SNR=5.9
comp=Z,8.9nm,0.6s
EIL Elat 14.72 121 Pn Pn 04 03 07.4 -5.3
EIL Sn Sn 04 05 44.4 -11
ASF Jabal al Asfar 14.74 109 Pn **Pn** 04 03 12.6 -0.4
comp=Z,0.4nm,0.3s,baz=312,slow=11,SNR=2.9
ASF Sn **Sn** 04 05 48.3 -7.6
comp=Z,0.3nm,0.3s,baz=210,slow=18,SNR=1.8
comp=Z,1.1nm,0.3s
HKAT Jabal Katrina 14.84 126 P **Pn** 04 03 12.2 -2.3
baz=129
AVF Avril sur Loir 15.26 310 *e*P **P** 04 03 22.4 -2.2
AVF pmax pmax
comp=Z,19nm,1.6s
SSF Saint Saulge 15.30 311 *e*P **P** 04 03 26.2 +1.1
SSF pmax pmax
comp=Z,7.0nm,0.9s
WLF Walferdange 15.43 323 P **P** 04 03 27.7 +1.2
WLF lAmb lAmb 04 03 30.8
comp=Z,35nm,0.9s
WLF Walferdange 15.43 323 P **P** 04 03 27.7 +1.2
WLF pmax pmax
comp=Z,35nm,0.9s
WLF Walferdange 15.43 323 *dx* x 04 03 29.5
SOC Sochi 15.60 63 *e*P **Pn** 04 03 25.3 +1.0
SOC *e* 04 06 20.5
SOC pmax pmax
comp=Z,1.0nm,0.1s
SOC MLR MLR
comp=Z,67nm,17.0s
VSLR Vesyoloye 15.80 64 *i* P **P** 04 03 30.0 -0.7
GUZR Guzerip' 15.99 62 *i* P **P** 04 03 33.2 +0.4
EPF Esparros 16.00 294 *e*P **P** 04 03 33.4 +0.4
EPF pmax pmax
comp=Z,8.0nm,1.4s
BTNL Ternell 16.08 325 *dx* x 04 03 48.2
MEM Membach 16.15 325 P **P** 04 03 33.3 -1.2
MEM pmax pmax
comp=Z,15nm,0.9s
MEM Membach 16.15 325 *dP* **P** 04 03 33.1 -1.4
MEM *dx* x 04 03 43.4
MARD Mardin 16.15 87 Pn **Pn** 04 03 33.4 +1.7
RCHB Rochefort 16.20 323 *dx* x 04 03 38.0
KLNR Kaliningrad 16.50 360 *i* P **Pn** 04 03 33.7 -2.1
GURO Guroymak-BITLI 16.98 82 P **P** 04 03 44.0 0.0
SJPF Ste Jean 17.15 294 *e*P **P** 04 03 48.8 +3.2
SJPF pmax pmax
comp=Z,24nm,1.5s
MNK Minsk 17.18 15 *i* P **Pn** 04 03 41.4 -2.9
MNK *i* S **Sn** 04 06 52.9 -1.9
MNK pmax pmax
comp=Z,36nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=E,24nm,17.0s
MNK MLR MLR
comp=Z,223nm,20.0s
MNK Minsk 17.18 15 *i* P **Pn** 04 03 41.4 -2.9
comp=E,3.0nm,0.9s
MNK *i* P **Pn** 04 03 41.4 -2.9
MNK *i* P **Pn** 04 03 41.4 -2.9
comp=Z,36nm,0.9s,baz=202
MNK *i* PP **sP** 04 03 51.2 -1.6
MNK *i* PPP PPP 04 03 59.0
MNK *i* S **Sn** 04 06 53.0 -1.9
MNK *i* SS **SnSn** 04 07 07.6 -0.5
MNK *i* SSS SSS 04 07 20.4
MNK *i* LR LR 04 10 04.5
MNK *i* LRM MLR 04 11 08.9
comp=E,24nm,16.9s
MNK *i* LRM MLR 04 11 17.5
comp=Z,223nm,19.5s
MNK *i* LRM MLR 04 11 22.1
BSEG Bad Segeberg 17.28 340 *e*P **Pn** 04 03 45.9 +0.3
BSEG pmax pmax
comp=Z,21nm,0.9s
NACGM Naroch 17.36 12⇑ *e*P **Pn** 04 03 45.9 -0.6
baz=197
PABE Paberze 17.57 7 Pn **Pn** 04 03 48.0 -1.2
PABE lAmb lAmb 04 03 49.6
comp=Z,71nm,0.8s
PABE Paberze 17.57 7 *e*P **Pn** 04 03 48.5 -0.7
NEY Neytrino 17.68 66 *ce*P **P** 04 03 54.3 +2.6
IIGN Ignalina 17.70 11 *e*P **Pn** 04 03 50.6 -0.1
IIGN lAmb lAmb 04 03 57.5
comp=Z,8.3nm,0.6s
KARS Kars 17.71 75 **P** 04 03 52.6 +0.5
KARS lAmb lAmb 04 03 58.7
comp=Z,47nm,0.7s
KARS Kars 17.71 75 P **P** 04 03 52.6 +0.5
KARS pmax pmax
comp=Z,47nm,0.7s
SHA1 Shidzhatmaz 17.72 64 *i* P **P** 04 03 52.6 +0.4
KIV Kislovodsk 17.78 64 Pn **Pn** 04 03 51.9 -0.2
KIV Kislovodsk 17.78 64 *e*P **P** 04 03 54.0 +1.3
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,33nm,14.0s
GEVA Gevas 17.81 82 Pn **P** 04 03 56.3 +3.1
KBZ Khabaz 17.89 65 P **P** 04 03 54.6 +0.8
comp=Z,0.5nm,0.3s,baz=264,slow=9.0,SNR=16
comp=Z,11nm,0.9s
KBZ Khabaz 17.89 65 *i* P **P** 04 03 53.8 0.0
ISAL Salakas 17.89 11 *e*P **Pn** 04 03 53.2 0.0
ISAL lAmb lAmb 04 04 00.6
comp=Z,11nm,0.7s
VSVD Vaisvydziai 18.04 6 *e*P **Pn** 04 03 53.5 -1.4

GOF Gofitskoye 18.28 60⇑ eP P 04 03 59.9 +1.8
NCK Nalchik 18.35 66 i P P 04 03 59.9 +1.0
ZEI Tsey 18.47 68 eP Pn 04 04 01.7 +1.1
ZEI pmax pmax
comp=Z,12nm,0.7s
VSR Storozhevoye 18.64 39 eP P 04 04 02.0 0.0
VSR pmax pmax
comp=Z,20nm,1.4s
VORR Voronezh 18.94 38 eP P 04 04 03.6 -1.7
VORR pmax pmax
comp=Z,40nm,0.4s
GNI Garni 18.99 76 P Pn 04 04 07.5 +0.7
comp=Z,32nm,0.8s,baz=328,slow=10,SNR=22
GNI LR LR 04 11 59.7
comp=Z,71nm,18.5s,baz=275,slow=39
GNI Garni 18.99 76 P Pn 04 04 07.7 +0.9
GNI IAmb IAmb 04 04 09.6
comp=Z,44nm,0.9s
GNI Garni 18.99 76 i P Pn 04 04 08.0 +1.2
ESDC Sonseca Array 19.02 282 P Pn 04 04 07.2 +0.1
comp=Z,0.2nm,0.3s,baz=76,slow=11,SNR=16
comp=Z,2.7nm,0.9s
LPSR Galich'ya Gora 19.40 36 eP P 04 04 10.0 -0.3
LPSR pmax pmax
comp=Z,30nm,0.8s
TAM Tamanrasset 19.89 224 P P 04 04 10.5 -5.6
TAM Tamanrasset 19.89 224 P P 04 04 10.5 -5.6
TAM pmax pmax
comp=Z,5.0nm,0.9s
GROC Groznyy 19.90 67 eP Pn 04 04 18.0 +0.5
GROC eS Sn 04 08 04.3 +3.5
GROC pmax pmax
comp=Z,58nm,0.6s
VRH Novokhopyorsk 19.95 42 eP Pn 04 04 17.5 -0.5
VRH pmax pmax
comp=Z,40nm,0.8s
OBN Obninsk 20.23 28 P P 04 04 19.5 +0.2
comp=Z,4.2nm,0.4s,baz=298,slow=15,SNR=9.3
OBN LR LR 04 13 37.8
comp=Z,59nm,19.3s,baz=208,slow=41
comp=Z,4.2nm,0.4s
OBN Obninsk 20.23 28 P P 04 04 19.0 -0.4
OBN IAmb IAmb 04 04 32.9
comp=Z,56nm,1.2s
OBN Obninsk 20.23 28⇓ iP P 04 04 19.3 0.0
OBN e 04 04 36.9
OBN pmax pmax
comp=Z,51nm,1.3s
OBN MLR MLR
comp=Z,247nm,15.0s
MTSE Matsula 20.74 5 eP P 04 04 25.7 +0.9
VSU Vasula 20.78 9⇑ iP P 04 04 25.7 +0.4
VSU Vasula 20.78 9 eP P 04 04 26.3 +1.0
MDT Midelt 21.01 263 P P 04 04 29.0 +0.9
comp=Z,1.7nm,0.7s,baz=79,slow=7.5,SNR=3.8
MDT LR LR 04 13 29.2
comp=Z,56nm,18.4s,baz=102,slow=39
comp=Z,1.7nm,0.7s
PBRG Braganca 21.09 289 eP P 04 04 29.7 +0.8
MOS Moscow 21.10 28 eP P 04 04 28.5 -0.2
MOS e 04 04 47.7
MOS pmax pmax
comp=Z,43nm,0.7s
MOS MLR MLR
comp=Z,700nm,19.0s
MAK Makhachkala 21.12 68 eP P 04 04 25.5 -3.6
MAK eS S 04 08 19.9 -3.6
MAK pmax pmax
comp=Z,143nm,0.9s
MAK MLR MLR
comp=Z,68nm,12.0s
MVO Moncorvo 21.31 287 eP P 04 04 31.8 +0.6
comp=Z,3nm,1.9s
PBAR Barrancos 21.55 279 eP P 04 04 35.5 +1.7
PMRV Marv??o 21.68 282 eP P 04 04 35.4 +0.3
comp=Z,14nm,1.2s
PCBR Castelo Branco 21.71 283 eP P 04 04 35.2 -0.2
PVRL Vila Real 21.82 287 eP P 04 04 35.9 -0.8
POLO Lamas de Olo 21.88 287 eP P 04 04 38.2 +0.8
PESTR Estremoz 21.89 281 eP P 04 04 37.3 -0.1
PVIS Viseu 21.97 286 eP P 04 04 38.6 +0.2
comp=Z,25nm,1.9s
PVAQ Vaqueiros 22.21 277 eP P 04 04 44.5 +3.7
MEF Metsahovi 22.28 5 eP P 04 04 43.1 +1.8
PMTG Montargil 22.36 281 eP P 04 04 42.4 0.0
COI Coimbra 22.40 284 eP P 04 04 41.8 -1.0
HFS Hagfors 22.45 351 P P 04 04 43.1 -0.2
comp=Z,20nm,0.5s,baz=158,slow=9.6,SNR=155
HFS LR LR 04 16 00.3
comp=Z,112nm,18.7s,baz=167,slow=44
comp=Z,20nm,0.5s
PCAS Casmilo, Conde 22.47 284 eP P 04 04 44.0 +0.3
MESJ Messejana 22.53 278 eP P 04 04 44.8 +0.6
comp=Z,26nm,1.6s
PUL Pulkovo 22.59 13 i P P 04 04 45.1 +0.4
KONO Kongsberg 22.64 346 P P 04 04 44.5 -0.7
KONO Kongsberg 22.64 346 c iP P 04 04 44.9 -0.3
KONO pmax pmax
comp=Z,10.0nm,1.0s
KONO pmax pmax
comp=Z,18nm,1.3s
KONO Kongsberg 22.64 346 eP P 04 04 46.1 +0.9
OSL Oslo 22.70 347 eP P 04 04 46.4 +0.5
OSL IAmb IAmb 04 04 47.0
comp=Z,29nm,0.8s
PNCL Nicolau / Gran 22.72 279 eP P 04 04 47.4 +1.1
RAF Rauma 22.96 2 eP P 04 04 48.2 -0.3
BLSS Blasjo 23.13 342 eP P 04 04 51.5 +1.1
NC602 NORSAR Array S 23.33 349 P P 04 04 51.8 -0.5
NC602 IAmb IAmb 04 04 58.8
comp=Z,37nm,0.9s
NC602 NORSAR Array S 23.33 349 eP P 04 04 52.0 -0.3
NORES NORESS Array B 23.33 349 P P 04 04 55.1 +2.8
NORES pmax pmax
comp=Z,1.0nm,0.4s
EKA Eskdalemuir Ar 23.43 325 P P 04 04 54.0 +0.6
comp=Z,18nm,0.9s,baz=127,slow=10,SNR=27
comp=Z,18nm,0.9s
NAO01 NORSAR Array S 23.53 348 P P 04 04 54.3 -0.1
FINES FINESS Array B 23.63 7 P P 04 04 54.7 -0.6
comp=Z,16nm,0.7s,baz=169,slow=11,SNR=61
FINES PcP PcP 04 08 40.1 +0.7
comp=Z,1.3nm,0.5s,baz=163,slow=2.6,SNR=4.0
FINES ScP ScP 04 12 20.0 +3.2
comp=Z,1.6nm,0.8s,baz=185,slow=3.5,SNR=2.2
FINES LR LR 04 15 10.0
comp=Z,251nm,18.4s,baz=202,slow=39
comp=Z,16nm,0.7s
FINES FINESS Array B 23.63 7 P P 04 04 54.2 -1.0
FIA1 FINESS Array S 23.63 7 P P 04 04 54.3 -0.9
FIA1 IAmb IAmb 04 04 58.2
comp=Z,43nm,1.3s
NC405 NORSAR Array S 23.66 349 P P 04 04 54.6 -1.0
NB201 NORSAR Array S 23.67 349 P P 04 04 55.0 -0.7
NB2 NORSAR Subarra 23.67 349 P P 04 04 55.2 -0.5
comp=Z,13nm,0.7s,baz=158,slow=9.3
NB2 NORSAR Subarra 23.67 349 P P 04 04 55.2 -0.5
baz=158,slow=9.3
NOA NORSAR Array B 23.67 349 P P 04 04 56.1 +0.4
comp=Z,5.9nm,0.7s,baz=158,slow=9.1,SNR=52
NOA LR LR 04 15 38.5
comp=Z,58nm,20.0s,baz=155,slow=40
comp=Z,5.9nm,0.7s
BELG Belogornoye 23.72 44 P P 04 04 56.8 +0.5
comp=Z,68nm,0.6s,baz=330,slow=2.0,SNR=13
BELG LR LR 04 15 37.6
comp=Z,106nm,18.1s,baz=125,slow=40
comp=Z,68nm,0.6s
BELG Belogornoye 23.72 44⇑ eP P 04 04 56.6 +0.4
BELG pmax pmax
comp=Z,11nm,0.6s
NBO00 NORSAR Array S 23.73 348 P P 04 04 56.5 +0.2
NC303 NORSAR Array S 23.82 349 P P 04 04 56.6 -0.6
NC303 IAmb IAmb 04 04 59.3
comp=Z,36nm,1.1s
SKAR Skarslia 23.85 345 eP P 04 04 58.8 +1.3
NC204 NORSAR Array S 23.96 349 P P 04 04 58.5 0.0
HYA Hoyanger 24.74 343 eP P 04 05 06.4 +0.9
HYA IAmb IAmb 04 05 08.1
comp=Z,15nm,0.9s
DOMB Dombas 24.96 347 eP P 04 05 09.0 +1.3
DOMB IAmb IAmb 04 05 10.1
comp=Z,20nm,0.9s
KLMR Klimovskoe 25.74 22 eP P 04 05 13.4 -1.2
KLMR S S 04 09 39.2 -3.4
KLMR pmax pmax
comp=Z,29nm,1.1s
KLMR MLR MLR
comp=Z,375nm,13.0s
KLMR Klimovskoe 25.74 22 eP P 04 05 13.5 -1.2
KLMR eP P 04 05 13.5 -1.2
KLMR eP P 04 05 13.5 -1.2
KLMR AMP 04 05 15.7
comp=Z,29nm,1.1s
KLMR S S 04 09 39.2 -3.4
KLMR S S 04 09 39.2 -3.4
KLMR LR LR 04 16 19.9
KLMR AMP 04 16 30.4
comp=Z,375nm,13.3s
RAYN Ar Rayn 25.90 117 P P 04 05 18.3 +1.8
RAYN Ar Rayn 25.90 117 P P 04 05 18.3 +1.8
RAYN pmax pmax
comp=Z,4.0nm,0.9s
KIRV Kirov 27.77 33 P P 04 05 32.6 -0.3
comp=Z,4.9nm,0.5s,baz=290,slow=6.3,SNR=4.3
KIRV LR LR 04 16 27.4
comp=Z,69nm,18.1s,baz=176,slow=36
comp=Z,4.9nm,0.5s
PRGR Permogore 28.27 25 eP P 04 05 36.4 -0.9
PRGR pmax pmax
comp=Z,12nm,0.6s
AKTO Aktyubinsk 29.30 53 P P 04 05 46.3 -0.4
comp=Z,2.7nm,0.6s,baz=266,slow=8.2,SNR=14
comp=Z,2.7nm,0.6s
GEYT Alibeck 29.59 78 P P 04 05 49.7 +0.3
comp=Z,3.5nm,0.5s,baz=264,slow=8.6,SNR=5.7
GEYT LR LR 04 18 30.8
comp=Z,73nm,19.7s,baz=132,slow=38
comp=Z,3.5nm,0.5s
TOA0 Torodi Ar. Sit 29.91 219 P P 04 05 53.0 +0.6
TORD Torodi Ar. Bea 29.91 219 P P 04 05 53.5 +1.1
comp=Z,2.4nm,0.5s,baz=32,slow=9.2,SNR=42
TORD PcP PcP 04 08 55.7 +0.7
comp=Z,0.4nm,0.8s,baz=48,slow=1.4,SNR=1.3
TORD LR LR 04 19 24.1
comp=Z,103nm,18.5s,baz=220,slow=39
comp=Z,2.4nm,0.5s
AB31 Akbulak array 30.36 56 i P P 04 05 55.8 -0.3
ABKAR Akbulak array 30.36 56 P P 04 05 55.3 -0.8
APA Apatity 30.41 10⇓ iP P 04 05 59.4 +3.2
APA pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 31.18 42 P P 04 06 02.7 -0.5
comp=Z,7.5nm,0.2s,baz=246,slow=6.5,SNR=5.5
ARU LR LR 04 20 23.6
comp=Z,105nm,19.1s,baz=248,slow=40
comp=Z,7.5nm,0.2s
ARU Arti 31.18 42 P P 04 06 02.4 -0.8
ARU IAmb IAmb 04 06 14.4
comp=Z,8.7nm,1.0s
ARU Arti 31.18 42 c iP P 04 06 02.7 -0.5
ARU 04 07 01.8
ARU S S 04 11 10.1 +1.9
ARU SS SnSn 04 12 52.0 +1.6
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 31.61 3 P P 04 06 06.3 -0.6
comp=Z,5.6nm,1.1s,baz=184,slow=11,SNR=9.9
ARCES PcP PcP 04 08 59.1 +0.5
comp=Z,0.9nm,0.4s,baz=134,slow=2.6,SNR=8.3
ARCES LR LR 04 20 07.7
comp=Z,158nm,19.1s,baz=162,slow=39
comp=Z,5.6nm,1.1s
BRVK Borovoye 37.18 50 P P 04 06 55.2 0.0
BRVK Borovoye 37.18 50 i P P 04 06 55.3 0.0
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 37.24 50 P P 04 06 56.0 +0.2
comp=Z,2.4nm,0.6s,baz=268,slow=7.1,SNR=11
BVAR PP PP 04 08 20.6 0.0
comp=Z,1.2nm,0.6s,baz=292,slow=7.6,SNR=2.7
BVAR LR LR 04 25 17.2
comp=Z,17nm,18.4s,baz=273,slow=41
comp=Z,2.4nm,0.6s
BVAR Borovoye Array 37.24 50 P P 04 06 56.0 +0.2
CHGR Chuyangaron 37.87 74 P P 04 07 01.7 +0.4
CHGR Chuyangaron 37.87 74 P P 04 07 01.7 +0.4
CHGR pmax pmax
comp=Z,16nm,0.6s
KK31 Karatay Array 37.92 66 P P 04 07 01.1 -0.5
KK31 IAmb IAmb 04 07 11.6
comp=Z,8.6nm,0.8s
KK31 Karatay Array 37.92 66 i P P 04 07 02.1 +0.5
KKAR Karatay Array 37.92 66 P P 04 07 01.3 -0.3
KKAR Karatay Array 37.92 66 P P 04 07 01.3 -0.3
GAR Garm 38.65 73 P P 04 07 08.9 +0.9
GAR IAmb IAmb 04 07 18.9
comp=Z,10.0nm,0.8s
TRKS Terek-Say 38.67 68 P P 04 07 09.7 +1.5
TRKS pmax pmax
comp=Z,6.0nm,0.9s
DBIC Dimbokro 38.77 223 P P 04 07 10.0 +1.0
comp=Z,4.6nm,0.5s,baz=36,slow=10,SNR=13
DBIC LR LR 04 23 38.5
comp=Z,83nm,20.4s,baz=31,slow=37
comp=Z,4.6nm,0.5s
DBIC Dimbokro 38.77 223 P P 04 07 10.0 +1.0
MBAR Mbarara 39.68 164 LR LR 04 25 57.8
comp=Z,52nm,18.1s,baz=290,slow=40
SPITS Spitsbergen Ar 40.22 359 LR LR 04 26 21.9
comp=Z,198nm,18.4s,baz=138,slow=40
AAK Ala-Archa 40.88 66 P P 04 07 27.4 +0.9
comp=Z,2.6nm,0.6s,baz=241,slow=10,SNR=2.2
comp=Z,2.6nm,0.6s
AAK Ala-Archa 40.88 66 P P 04 07 27.3 +0.8
AAK Ala-Archa 40.88 66 i P P 04 07 29.2 +2.7
AAK pmax pmax
comp=Z,3.0nm,0.7s
ARLS Aral 40.93 67 P P 04 07 27.4 +0.5
ARLS pmax pmax
comp=Z,11nm,0.9s
BOOM Boomskoye usch 41.95 66 P P 04 07 36.4 +1.0
BOOM Boomskoye usch 41.95 66 P P 04 07 36.4 +1.0
BOOM pmax pmax
comp=Z,6.0nm,0.6s
KURBB Kurchatov Arra 42.35 53 P P 04 07 38.3 +0.1
comp=Z,5.4nm,0.6s,baz=280,slow=8.6,SNR=42
KURBB PP PP 04 09 17.1 +0.8
comp=Z,2.2nm,0.8s,baz=279,slow=11,SNR=4.5
comp=Z,5.4nm,0.6s
KURBB Kurchatov Arra 42.35 53 P P 04 07 37.6 -0.7
KURK Kurchatov 42.40 53 P P 04 07 37.7 -0.9
KURK Kurchatov 42.40 53 i P P 04 07 38.6 0.0
KURK pmax pmax
comp=Z,7.0nm,1.0s
NIL Nilore 42.59 79 P P 04 07 40.9 +0.5
NIL pmax pmax
comp=Z,12nm,0.8s
KSH Kashi 42.74 70 P P 04 07 40.3 -1.5
KSH sP sP 04 07 49.8 +0.6
KSH pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 44.85 339 i P P 04 08 00.0 +1.4
MAKZ Makanchi 45.21 58 P P 04 08 00.4 -0.9
MAKZ Makanchi 45.21 58 P P 04 08 00.4 -0.9
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
MK31 Makanchi Array 45.42 58 P P 04 08 03.1 0.0
MK31 IAmb IAmb 04 08 03.5
comp=Z,7.3nm,0.5s
MK31 Makanchi Array 45.42 58 i P P 04 08 02.6 -0.5
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 45.42 58 P P 04 08 02.8 -0.3
comp=Z,8.4nm,0.4s,baz=273,slow=7.4,SNR=141
MKAR PcP PcP 04 09 42.8 +0.7
comp=Z,0.6nm,0.4s,baz=268,slow=4.5,SNR=1.2
comp=Z,8.4nm,0.4s
MKAR Makanchi Array 45.42 58 P P 04 08 02.5 -0.5
MKAR Makanchi Array 45.42 58 i P P 04 08 02.7 -0.3
MKAR pmax pmax
comp=Z,9.0nm,0.4s
ZAA0 Zalesovo Array 45.81 48 P P 04 08 05.5 -0.5
ZALV Zalesovo Beam 45.81 48 P P 04 08 05.8 -0.2
comp=Z,30nm,0.5s,baz=276,slow=8.6,SNR=102
comp=Z,30nm,0.5s
NRIK Noril'sk 46.90 27 P P 04 08 13.9 -0.4
comp=Z,3.7nm,0.6s,baz=248,slow=3.5,SNR=2.7
NRIK LR LR 04 30 54.4
comp=Z,95nm,18.6s,baz=194,slow=40
comp=Z,3.7nm,0.6s
NRIK Noril'sk 46.90 27 i P P 04 08 15.0 +0.7
NRIK pmax pmax
comp=Z,4.0nm,1.1s
DGZ Jazzator, Alta 48.15 53 i P P 04 08 24.5 0.0
DGZ pmax pmax
comp=Z,5.0nm,0.5s
SFJD Kangerlussuaq 48.24 330 LR LR 04 30 04.0
comp=Z,42nm,20.9s,baz=128,slow=38
WMQ Urumqi 49.88 61 eP P 04 08 41.5 +3.8
WMQ sP sP 04 08 48.6 +3.3
WMQ pmax pmax
comp=Z,17nm,0.7s
LSZ Lusaka 53.60 171 LR LR 04 32 53.1
comp=Z,47nm,19.6s,baz=168,slow=37
KNGR Kungurtug, Tuv 54.15 50 i P P 04 09 10.2 +0.7
KNGR pmax pmax
comp=Z,4.0nm,1.0s
TSUM Tsumeb 57.06 183 LR LR 04 34 59.0
comp=Z,79nm,18.7s,baz=200,slow=37
ZAK Zakamensk 57.68 49 eP P 04 09 34.7 -0.1
ZAK pmax pmax
comp=Z,3.0nm,1.2s
GOMU GeErMu 57.81 67 P P 04 09 39.4 +3.2
GOMU pP sP 04 09 43.0 -0.8
GOMU pmax pmax
comp=Z,4.0nm,0.4s
GOMU pmax pmax
comp=Z,59nm,4.2s
SCHQ Schefferville 58.44 317 P P 04 09 41.0 +1.1
comp=Z,5.0nm,0.9s,baz=97,slow=7.1,SNR=6.2
comp=Z,5.0nm,0.9s
TIXI Tiksi 59.75 20 LR LR 04 39 32.8
comp=Z,348nm,18.5s,baz=355,slow=40
TIXI Tiksi 59.75 20 i P P 04 09 49.2 +0.5
TIXI pmax pmax
comp=Z,8.0nm,1.6s
GTA Gaotai 59.95 62 eP P 04 09 50.9 +0.2
GTA pP sP 04 09 58.5 +0.2
GTA sP pP 04 10 01.6 +5.4
GTA pmax pmax
comp=Z,8.0nm,0.9s
BOD Bodaibo 60.49 38 eP P 04 09 53.7 -0.3
BOD pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 60.58 50 P P 04 09 55.3 +0.4
comp=Z,4.1nm,0.6s,baz=284,slow=9.1,SNR=17
comp=Z,4.1nm,0.6s
SONM Songino Array 60.58 50 P P 04 09 54.7 -0.2
SONM IAmb IAmb 04 09 56.0
comp=Z,6.7nm,1.2s
ULN Ulaanbaatar 60.97 50 P P 04 09 57.4 -0.2
ULN IAmb IAmb 04 09 58.6
comp=Z,5.6nm,0.8s
ULN Ulaanbaatar 60.97 50 i P P 04 09 57.4 -0.2
ULN pmax pmax
comp=Z,5.0nm,0.5s
LBTB Lobatse 62.98 175 LR LR 04 39 24.5
comp=Z,78nm,18.8s,baz=350,slow=38
LZH Lanzhou 64.32 63 ⇑P P 04 10 21.0 +0.8
LZH sP sP 04 10 27.9 +0.1
LZH pmax pmax
comp=Z,11nm,1.4s
YAK Yakutsk 65.22 29 LR LR 04 43 17.0
comp=Z,64nm,19.0s,baz=267,slow=40
YAK Yakutsk 65.22 29 P P 04 10 25.5 +0.1
YAK Yakutsk 65.22 29 eP P 04 10 25.6 +0.3
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
BOSA Boshof 66.53 175 P P 04 10 35.6 +1.3
comp=N,2.2nm,0.5s,baz=359,slow=7.0,SNR=8.0
BOSA LR LR 04 41 30.9
comp=N,79nm,19.1s,baz=6.0,slow=38
comp=N,2.2nm,0.5s
HHC Hu-ho-hao-te 67.16 55 eP P 04 10 39.3 +1.0
HHC pmax pmax
comp=N,34nm,0.8s
HHC pmax pmax
comp=N,180nm,4.7s
PZH PanZhiHua 67.72 73 P P 04 10 42.9 +0.8
PZH pmax pmax
comp=N,10.0nm,0.7s
PZH pmax pmax
comp=N,110nm,5.1s
RCBR Riachuelo 68.07 243 LR LR 04 40 54.4
comp=N,86nm,18.5s,baz=306,slow=36
XAN Xi'an 68.94 63 ⇑P P 04 10 50.4 +0.8
XAN pmax pmax
comp=N,11nm,0.6s
CMAR Chiang Mai Arr 70.00 82 P P 04 10 56.4 +0.1
comp=N,2.1nm,0.4s,baz=304,slow=7.5,SNR=12
CMAR LR LR 04 48 25.7
comp=N,24nm,18.2s,baz=200,slow=42
comp=N,2.1nm,0.4s
CMAR Chiang Mai Arr 70.00 82 P P 04 10 55.6 -0.6
SUR Sutherland 70.13 180 LR LR 04 43 47.4
comp=N,75nm,18.1s,baz=318,slow=38
BILL Bilibino 71.11 13 eP P 04 11 00.8 -1.4
BILL e 04 13 40.8
BILL pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 72.12 350 P P 04 11 09.1 +0.9
comp=Z,1.2nm,0.5s,baz=12,slow=5.1,SNR=12
INK LR LR 04 44 57.3
comp=Z,46nm,18.5s,baz=258,slow=38
comp=Z,1.2nm,0.5s
YKA Yellowknife Ar 73.42 340 P P 04 11 17.4 +1.3
comp=Z,1.7nm,0.6s,baz=39,slow=5.1,SNR=4.6
comp=Z,1.7nm,0.6s
YKA Yellowknife Ar 73.42 340 i P P 04 11 17.8 +1.7
YKA pmax pmax
comp=Z,2.0nm,0.9s
KLR Kul'dur 73.99 39 LR LR 04 49 31.9
comp=Z,50nm,18.7s,baz=312,slow=40
KLR Kul'dur 73.99 39 i P P 04 11 20.2 +0.5
KLR pmax pmax
comp=Z,7.0nm,0.8s
CN2 Changchun 74.01 47 eP P 04 11 21.3 +1.4
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 74.40 24 LR LR 04 48 23.6
comp=Z,50nm,18.7s,baz=264,slow=39
MA2 Magadan 74.40 24 i P P 04 11 21.4 -0.5
MA2 pmax pmax
comp=Z,16nm,1.0s
I29M Ogilvie Camp, 75.53 351 P P 04 11 28.8 +0.4
I29M IAmb IAmb 04 11 30.5
comp=Z,13nm,1.2s
ULM Lac du Bonnet 75.70 324 P P 04 11 31.0 +1.5
comp=Z,7.3nm,0.8s,baz=40,slow=7.2,SNR=4.4
comp=Z,7.3nm,0.8s
IMAR Indian Mountai 76.14 358 P P 04 11 33.1 +1.3
H21K Melozitna Rive 76.43 357 P P 04 11 34.6 +1.1
H21K IAmb IAmb 04 11 37.0
comp=Z,9.0nm,0.8s
MDM Murphy Dome 76.88 355 P P 04 11 37.2 +1.1
MDM IAmb IAmb 04 11 38.7
comp=Z,11nm,1.2s
DAWY Dawson 76.91 351 IAmb IAmb 04 11 38.5
comp=Z,4.1nm,0.6s
NJ2 Nanjing 76.94 60 eP P 04 11 37.5 +0.6
NJ2 pmax pmax
comp=Z,11nm,0.5s
MLY Manley 76.96 356 P P 04 11 37.8 +1.3
ILAR Eielson Array 76.97 354 P P 04 11 38.0 +1.4
comp=Z,1.5nm,0.9s,baz=353,slow=3.1,SNR=9.9
comp=Z,1.5nm,0.9s
HDA Harding Lake 77.33 354 IAmb IAmb 04 11 40.6
comp=Z,6.5nm,0.8s
WRH Wood River Hil 77.36 355 IAmb IAmb 04 11 40.8
comp=Z,6.6nm,0.8s
USRK Ussuriysk Ar. 77.40 43 P P 04 11 39.7 +0.4
comp=Z,3.6nm,0.6s,baz=290,slow=5.1,SNR=6.4
comp=Z,3.6nm,0.6s
F36A Milaca 77.52 319 IAmb IAmb 04 11 41.7
comp=Z,4.6nm,0.7s
BCAR Beaver Creek A 78.16 352 P P 04 11 44.2 +0.9
DHY Denali Highway 78.69 354 IAmb IAmb 04 11 48.5
comp=Z,5.8nm,0.7s
WTLY Watson Lake, Y 78.89 345 IAmb IAmb 04 11 50.7
comp=Z,7.8nm,1.1s
M26K Nabesna, AK 78.94 352 IAmb IAmb 04 11 50.5
comp=Z,8.4nm,1.2s
PSI Prapat 79.25 95 P P 04 11 50.5 +0.3
comp=Z,5.2nm,0.5s,baz=321,slow=8.1,SNR=3.1
comp=Z,5.2nm,0.5s

RPSI	**Rantau Prapat**	**79.31**	**95**	P	**P**	**04 11 50.5**	**+0.1**
KS19	**Wonju Array Si**	**79.39**	**51**	P	**P**	**04 11 49.5**	**-0.9**
KSAR	**Wonju Array Be**	**79.44**	**51**	P	**P**	**04 11 47.5**	**-3.2**
KSAR	**Wonju Array Be**	**79.44**	**51**	P	**P**	**04 11 47.5**	**-3.2**
KSRS	**Korea Array**	**79.45**	**51**	LR	LR	04 51 09.6	
	comp=Z,32nm,18.0s,baz=230,slow=39						
HYT	**Haines Junctio**	**79.77**	**349**	IAmb	IAmb	04 11 55.4	
	comp=Z,7.3nm,1.3s						
L19K	**White Mountain**	**79.98**	**358**	P	**P**	**04 11 54.3**	**+1.1**
L19K				IAmb	IAmb	04 11 56.0	
	comp=Z,7.0nm,0.8s						
E28A	**Huff**	**80.56**	**323**	IAmb	IAmb	04 11 59.3	
	comp=Z,15nm,1.0s						
ECSD	**EROS Data Cent**	**80.58**	**319**	IAmb	IAmb	04 11 59.1	
	comp=Z,4.8nm,0.8s						
EDM	**Edmonton**	**80.61**	**334**	IAmb	IAmb	04 11 59.1	
	comp=Z,7.2nm,0.8s						
YSS	**Yuzh-Sakhalins**	**80.88**	**36**	*e*P	**P**	**04 11 59.5**	**+1.2**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
PETK	**Petropavlovsk-**	**81.91**	**24**	LR	LR	04 53 33.6	
	comp=Z,56nm,18.8s,baz=84,slow=40						
R40A	**Maddies Statio**	**81.95**	**313**	IAmb	IAmb	04 12 06.5	
	comp=Z,3.5nm,0.6s						
T35A	**Sooner Cattle**	**85.33**	**314**	P	**P**	**04 12 23.1**	**+1.5**
OK047	**Pawnee, Statio**	**85.77**	**314**	P	**P**	**04 12 24.1**	**+0.4**
NEW	**Newport**	**86.07**	**333**	IAmb	IAmb	04 12 27.3	
	comp=Z,4.1nm,0.8s						
NEW	**Newport**	**86.07**	**333**	P	**P**	**04 12 26.1**	**+1.1**
NEW				pmax	pmax		
	comp=Z,7.0nm,2.2s						
OK034	**N. Norfolk Rd.**	**86.08**	**314**	P	**P**	**04 12 25.8**	**+0.5**
MJAR	**Matsushiro Arr**	**86.11**	**46**	P	**P**	**04 12 26.2**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=339,slow=3.8,SNR=5.6						
	comp=Z,2.7nm,0.8s						
BOZ	**Bozeman (W)**	**86.17**	**328**	IAmb	IAmb	04 12 29.4	
	comp=Z,3.4nm,0.9s						
PDAR	**Pinedale Array**	**87.55**	**326**	P	**P**	**04 12 33.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=72,slow=5.3,SNR=4.8						
PDAR				PKKP	**PKKPdf**	**04 30 08.0**	**-4.9**
	comp=Z,0.3nm,0.6s,baz=186,slow=4.4,SNR=3.6						
	comp=Z,0.5nm,0.7s						
BMO	**Blue Mountains**	**89.03**	**331**	IAmb	IAmb	04 12 41.0	
	comp=Z,3.1nm,0.7s						
HWUT	**Hardware Ranch**	**89.37**	**326**	IAmb	IAmb	04 12 43.2	
	comp=Z,5.0nm,0.9s						
HVU	**Hansel Valley**	**89.76**	**327**	P	**P**	**04 12 44.2**	**+1.2**
HVU	**Hansel Valley**	**89.76**	**327**	P	**P**	**04 12 44.2**	**+1.2**
HVU				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BGU	**Big Grassy Mou**	**90.56**	**327**	IAmb	IAmb	04 12 49.2	
	comp=Z,4.8nm,1.2s						
SRU	**San Rafael Swe**	**90.91**	**324**	IAmb	IAmb	04 12 50.0	
	comp=Z,4.0nm,0.6s						
TMUT	**Trail Mountain**	**91.08**	**325**	IAmb	IAmb	04 12 52.8	
	comp=Z,6.4nm,1.5s						
NVAR	**Mina Array Bea**	**94.88**	**329**	P	**P**	**04 13 08.0**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=57,slow=5.5,SNR=4.5						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**94.95**	**313**	P	**P**	**04 13 08.8**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=72,slow=4.4,SNR=7.0						
	comp=Z,0.4nm,0.7s						
CPUP	**Villa Florida**	**96.93**	**242**	LR	LR	04 56 55.6	
	comp=Z,69nm,19.8s,baz=210,slow=35						
WRA	**Warramunga Arr**	**120.64**	**92**	PKP	**PKPdf**	**04 18 36.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=318,slow=1.8,SNR=9.2						
ASAR	**Alice Springs**	**122.27**	**96**	PKP	**PKPdf**	**04 18 39.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=326,slow=1.7,SNR=8.5						

UCR ***19*** *04:00:47.4±2.0, 10.89N×86.46W, h6km±9km, MW4.1*
INET ***19*** *04:00:48.1±0.6, 10.91N×86.45W, h15km±9km, MW3.5*
ISC 19 04:00:48.7±2.2, 10.92N±0.06×86.47W±0.07, h31km±16km, n46, σ0991/65, 4C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HZTE	**Horizontes, Gu**	**0.89**	**103**	⇓*i*P	**Pn**	**04 01 03.9**	**-1.1**
HZTE				*e*S	**Sn**	**04 01 16.7**	**-0.1**
HZTE	**Horizontes, Gu**	**0.89**	**103**	*e*P	**Pn**	**04 01 03.9**	**-1.1**
HZTE				*e*S	**Sn**	**04 01 16.6**	**-0.2**
GBS3	**Finca Las Img**	**1.01**	**98**	*e*P	**Pn**	**04 01 05.5**	**-1.3**
GBS3				*e*S	**Sn**	**04 01 19.3**	**-0.6**
LAPC	**Finca la Perla**	**1.03**	**98**	⇓*e*P	**Pn**	**04 01 05.8**	**-1.3**
LAPC				*e*S	**Sn**	**04 01 19.9**	**-0.6**
BUEV	**Buena Vista**	**1.05**	**97**	⇓*e*P	**Pn**	**04 01 06.4**	**-1.0**
BUEV				*e*S	**Sn**	**04 01 21.0**	**-0.1**
GB1A	**Borinquen Arri**	**1.06**	**95**	*e*P	**Pn**	**04 01 06.7**	**-0.8**
GB1A				*e*S	**Sb**	**04 01 21.7**	**-0.4**
VRLE	**La Escondida,**	**1.09**	**97**	*e*P	**Pn**	**04 01 07.1**	**-0.9**
VRLE				*e*S	**Sn**	**04 01 22.5**	**+0.4**
GPS3	**Bodega del ICE**	**1.10**	**99**	*e*P	**Pn**	**04 01 07.1**	**-0.9**
GPS3				*e*S	**Sn**	**04 01 22.4**	**+0.2**
GPS1	**Guardaparques**	**1.11**	**97**	*e*P	**Pn**	**04 01 07.3**	**-0.9**
GPS1				*e*S	**Sn**	**04 01 22.2**	**-0.3**
GPS2	**Hotel Rincn d**	**1.11**	**99**	*e*P	**Pn**	**04 01 07.3**	**-0.9**
GPS2				*e*S	**Sb**	**04 01 23.3**	**-0.3**
BUAI	**Buenos Aires**	**1.12**	**92**	*e*P	**Pn**	**04 01 08.0**	**-0.3**
SAJU	**San Juanillo,**	**1.13**	**139**	⇓*i*P	**Pn**	**04 01 07.1**	**-1.3**
ORTG	**Ortega, Santa**	**1.14**	**119**	*e*P	**Pn**	**04 01 07.8**	**-0.8**
ORTG				*e*S	**Sn**	**04 01 24.4**	**+1.2**
ORTG	**Ortega, Santa**	**1.14**	**119**	*e*P	**Pn**	**04 01 08.1**	**-0.5**
LIM1	**Limonal**	**1.22**	**100**	*e*P	**Pn**	**04 01 09.0**	**-0.6**
GUAB	**Guayabo de Bag**	**1.24**	**100**	*e*P	**Pn**	**04 01 09.2**	**-0.7**
GUAB				*e*S	**Sn**	**04 01 26.1**	**+0.5**
MGAN	**Managua**	**1.24**	**10**	*e*P	**Pn**	**04 01 09.4**	**-0.5**
WILN	**Americas 2**	**1.26**	**13**	*e*P	**Pn**	**04 01 09.9**	**-0.4**
COLC	**Colonia**	**1.27**	**101**	*e*P	**Pn**	**04 01 10.1**	**-0.3**
COLC				*e*S	**Sn**	**04 01 27.2**	**+0.8**
DUNO	**Dulce Nombre,**	**1.27**	**131**	*e*P	**Pn**	**04 01 09.3**	**-1.0**
DUNO	**Dulce Nombre,**	**1.27**	**131**	*e*P	**Pn**	**04 01 09.4**	**-1.0**
NICO	**Nicoya**	**1.27**	**128**	*e*P	**Pn**	**04 01 09.4**	**-1.0**
HORNC	**Hornillas**	**1.29**	**99**	⇑*e*P	**Pn**	**04 01 10.2**	**-0.5**
HORNC				*e*S	**Sn**	**04 01 27.0**	**+0.1**
GRZA	**Playa Garza**	**1.29**	**140**	*e*P	**Pn**	**04 01 09.3**	**-1.4**
CUI	**Cuipilapa**	**1.31**	**101**	⇑*e*P	**Pn**	**04 01 10.5**	**-0.5**
CUI				*e*S	**Sn**	**04 01 27.9**	**+0.4**
VMAR	**Armenia, Volca**	**1.33**	**94**	⇑*i*P	**Pn**	**04 01 11.5**	**+0.3**
VMAR				*e*S	**Sb**	**04 01 29.9**	**+0.1**
INDI	**Punta indio, G**	**1.42**	**138**	*e*P	**Pn**	**04 01 10.9**	**-1.4**
HUEN		**1.44**	**12**	*e*P	**Pn**	**04 01 12.1**	**-0.6**
ACAL	**Aguas Claras**	**1.44**	**101**	*e*P	**Pn**	**04 01 12.7**	**0.0**
PTEN	**Parque Tenorio**	**1.47**	**98**	*e*P	**Pn**	**04 01 13.5**	**+0.4**
PTEN				*e*S	**Sb**	**04 01 34.4**	**+0.5**
VERA	**Finca Concepci**	**1.57**	**92**	⇑*i*P	**Pn**	**04 01 15.0**	**+0.5**
VERA				*e*S	**Sb**	**04 01 36.6**	**-0.2**
JTS	**Las Juntas de**	**1.62**	**113**	*e*P	**Pn**	**04 01 15.3**	**+0.2**
JTS				*e*S	**Sb**	**04 01 39.3**	**+1.2**
JTS	**Las Juntas de**	**1.62**	**113**	*e*P	**Pn**	**04 01 15.4**	**+0.2**
ACON	**Acoyapa**	**1.64**	**51**	*e*P	**Pn**	**04 01 13.9**	**-1.5**
ACON	**Acoyapa**	**1.64**	**51**	*e*P	**Pn**	**04 01 14.3**	**-1.2**
TEL3	**Telica 3**	**1.68**	**347**	*e*P	**Pn**	**04 01 15.9**	**-0.1**
CRIN	**San Cristobal**	**1.86**	**342**	*e*P	**Pn**	**04 01 18.9**	**+0.4**
CRIN	**San Cristobal**	**1.86**	**342**	*e*P	**Pn**	**04 01 18.4**	**-0.1**
LAFE	**Finca La Fe, P**	**1.89**	**126**	*e*P	**Pn**	**04 01 17.9**	**-1.0**
LAFE	**Finca La Fe, P**	**1.89**	**126**	*e*P	**Pn**	**04 01 17.8**	**-1.1**
COVE	**Coope Vega, Sa**	**2.04**	**95**	*e*P	**Pn**	**04 01 21.6**	**+0.6**
MATN	**Matagalpa**	**2.07**	**15**	*e*P	**Pn**	**04 01 20.7**	**-0.7**
RIFO	**Rio Frio, Sara**	**2.58**	**103**	*e*P	**Pn**	**04 01 27.0**	**-1.3**
OCM	**Ochomogo**	**2.67**	**112**	*e*P	**Pn**	**04 01 32.3**	**+2.5**
LCR2	**La Lucha 2**	**2.69**	**116**	*e*P	**Pn**	**04 01 31.8**	**+1.7**
CDM	**Cerro de Muert**	**2.99**	**117**	*e*P	**Pn**	**04 01 36.2**	**+1.8**

IDC ***19*** *04:02:56.4±1.4, 9.72S×118.67E, h0km, mb3.6/3, mbtmp3.9/7, ML3.9/4, Error ellipse: s-maj=48.1km s-min=20.6km az=53.0*
NEIC ***19*** *04:03:09.0±2.3, 9.45S±0.09×119.44E±0.07, h61km±5km, mb4.3/9, Error ellipse: s-maj=13.2km s-min=9.8km az=199.0*
DJA ***19*** *04:03:09.2±1.3, 9°S±5°×12°0E±°, h25km±12km, M4.1/9, MLv4.1/9*
ISC 19 04:03:07.5±0.6, 9.43S±0.05×119.51E±0.04, h50km, n40, σ2886/42, mb4.0/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**1.31**	**127**	P	**Pn**	**04 03 33.0**	**+3.5**
PLAI	**Plampang**	**1.81**	**289**	P	**Pn**	**04 03 38.2**	**+1.9**
PLAI				S	**Sn**	**04 03 59.9**	**+1.7**
EDFI	**Ende, Flores**	**2.26**	**73**	P	**Pn**	**04 03 44.3**	**+1.8**
TWSI	**Taliwang, Sumb**	**2.69**	**285**	P	**Pn**	**04 03 51.0**	**+2.7**
TWSI				S	**Sn**	**04 04 22.4**	**+2.8**
MMRI	**Maumere**	**2.81**	**74**	Pn	**Pn**	**04 03 53.5**	**+3.6**
MMRI	**Maumere**	**2.81**	**74**	P	**Pn**	**04 03 52.9**	**+2.9**
MMRI				S	**Sn**	**04 04 25.9**	**+3.3**
BSSI	**Bau Bau, Buton**	**3.41**	**17**	P	**Pn**	**04 03 58.9**	**+0.7**
BKSI	**Bulukumba**	**4.13**	**8**	P	**Pn**	**04 04 09.2**	**+1.1**
BATI	**Baumata**	**4.16**	**101**	Pn	**Pn**	**04 04 11.5**	**+2.9**
	32nm,0.3s,baz=273,slow=19,SNR=8.0						
BATI				Sn	**Sn**	**04 04 57.4**	**+1.3**
	14nm,0.3s,baz=220,slow=7.9,SNR=1.7						
	92nm,0.4s						
BATI	**Baumata**	**4.16**	**101**	P	**Pn**	**04 04 11.5**	**+2.9**
KAPI	**Kappang**	**4.40**	**3**	Pn	**Pn**	**04 04 11.8**	**0.0**
	5.2nm,0.3s,baz=193,slow=3.9,SNR=9.5						
KAPI				Sn	**Sn**	**04 04 58.8**	**-2.9**
	13nm,0.3s,baz=212,slow=19,SNR=11						
	14nm,0.3s						
KAPI	**Kappang**	**4.40**	**3**	Pn	**Pn**	**04 04 13.2**	**+1.4**
SRBI	**Singaraja**	**4.46**	**287**	P	**Pn**	**04 04 13.9**	**+1.3**
SOEI	**Soe**	**4.70**	**94**	Pn	**Pn**	**04 04 18.6**	**+2.6**
SOEI	**Soe**	**4.70**	**94**	P	**Pn**	**04 04 18.6**	**+2.6**
JAGI	**Jajag, Banyuwa**	**5.38**	**280**	Pn	**Pn**	**04 04 26.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.47**	**146**	Pn	**Pn**	**04 05 31.8**	**-3.2**
	0.6nm,0.3s,baz=307,slow=10,SNR=20						
FITZ				Sn	**Sn**	**04 07 24.0**	**-7.0**
	0.5nm,0.3s,baz=37,slow=22,SNR=1.8						
	1.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.47**	**146**	Pn	**Pn**	**04 05 34.2**	**-0.8**
KNRA	**Kununurra**	**10.96**	**125**	Pn	**Pn**	**04 05 41.7**	**+0.1**
MBWA	**Marble Bar**	**11.66**	**179**	Pn	**Pn**	**04 05 51.6**	**+0.3**
MTN	**Manton Dam**	**11.90**	**108**	Pn	**Pn**	**04 05 52.9**	**-1.7**
PSA00	**Pilbara Seismi**	**12.07**	**179**	Pn	**Pn**	**04 05 57.6**	**+0.7**
WB0	**Warramunga Arr**	**17.68**	**127**	P	**Pn**	**04 07 09.9**	**-0.3**
WRA	**Warramunga Arr**	**17.73**	**128**	P	**Pn**	**04 07 09.8**	**-1.2**
	0.3nm,0.3s,baz=297,slow=14,SNR=12						
WRA				S	**Sn**	**04 10 18.1**	**-10**
	0.5nm,0.7s,baz=308,slow=22,SNR=2.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**17.73**	**128**		**Pn**	**04 07 10.1**	**-0.8**
WB2	**Warramunga Arr**	**17.74**	**128**	P	**Pn**	**04 07 10.1**	**-1.0**
WB2				IAmb	IAmb	04 07 47.7	
	comp=Z,18nm,1.5s						
WR0	**Warramunga Arr**	**17.90**	**127**	P	**P**	**04 07 14.0**	**+0.9**
WR0				IAmb	IAmb	04 07 24.9	
	comp=Z,15nm,1.3s						
ASAR	**Alice Springs**	**19.74**	**138**	P	**P**	**04 07 33.1**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=309,slow=9.2,SNR=8.6						
	comp=Z,0.7nm,0.4s						
COEN	**Coen**	**23.60**	**103**	P	**P**	**04 08 17.7**	**+3.6**
COEN				IAmb	IAmb	04 08 43.3	
	comp=Z,26nm,1.4s						
H08S2	**Diego Garcia H**	**46.51**	**268**	T	T	05 00 59.1	
	baz=99,slow=74						
H08S3	**Diego Garcia H**	**46.52**	**268**	T	T	05 00 58.8	
	baz=99,slow=74						
H08S1	**Diego Carcia H**	**46.52**	**268**	T	T	05 00 59.5	
	baz=99						
USA0B	**Ussuriysk Arra**	**54.57**	**11**	P	**P**	**04 12 31.3**	**+0.7**
SONM	**Songino Array**	**58.19**	**350**	P	P	04 12 52.2	-4.3
	comp=Z,0.6nm,0.5s,baz=172,slow=6.9,SNR=2.8						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**65.07**	**333**	P	P	04 13 37.7	-5.1
	comp=Z,0.4nm,0.5s,baz=152,slow=6.3,SNR=5.1						
	comp=Z,0.4nm,0.5s						
KK31	**Karatay Array**	**68.70**	**324**	P	**P**	**04 14 08.5**	**+2.5**
KK31				IAmb	IAmb	04 14 09.4	
	comp=Z,9.5nm,0.8s						
KKAR	**Karatay Array**	**68.70**	**324**	P	**P**	**04 14 07.6**	**+1.7**
VNDA	**Vanda**	**71.48**	**171**	P	**P**	**04 14 23.3**	**+0.8**
VNDA				IAmb	IAmb	04 14 46.4	
	comp=Z,3.0nm,1.4s						
GYA0B	**ALIBECK ARRAY**	**74.10**	**314**	P	**P**	**04 14 37.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**119.03**	**280**	PKP	**PKPdf**	**04 21 47.4**	**-4.4**
	comp=Z,0.5nm,0.7s,baz=97,slow=1.5,SNR=2.0						

IDC 19 04:08:43.8±3.5, 55.47N×86.26E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=28.5km s-min=25.0km az=21.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**209**	*i*		04 19 50.0	
	baz=26,slow=320,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.74**	**209**	Pn	Pn	04 09 14.9	-0.3
	5.3nm,0.3s,baz=29,slow=16,SNR=20						
ZALV				Lg	Lg	04 09 38.9	
	3.6nm,0.3s,baz=29,slow=28,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.73**	**227**	Pn	Pn	04 10 24.7	+0.9
	0.1nm,0.3s,baz=41,slow=14,SNR=2.1						
KURBB				Lg	Lg	04 12 17.6	
	baz=35,slow=29,SNR=1.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**9.04**	**198**	Pn	Pn	04 10 54.9	-0.6
	0.1nm,0.3s,baz=8.5,slow=11,SNR=1.2						
	0.2nm,0.6s						

IDC ***19*** *04:10:34.8±5.2, 36.20N×71.37E, h68km±35km, mb3.6/6, mbtmp3.8/10, ML3.5/4, Error ellipse: s-maj=59.2km s-min=24.2km az=138.0*
NNC ***19*** *04:10:39.3±6.6, 36.88N×71.04E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=58.6km s-min=49.7km az=128.0*
ISC 19 04:10:43.1±1.5, 36.8N±0.1×70.73E±0.10, h100km, n18, σ1996/23, mb3.8/5, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.26**	**359**	P	**Pn**	**04 12 13.9**	**+1.1**
	6.3nm,0.3s,baz=192,slow=14,SNR=65						
KK31				⇑S	**Sn**	**04 13 26.2**	**+3.3**
	4.7nm,0.3s,baz=179,slow=19,SNR=8.1						
AAK	**Ala-Archa**	**6.47**	**25**	P	**Pn**	**04 12 14.9**	**-1.0**
	SNR=9.7						
AAK	**Ala-Archa**	**6.47**	**25**	P	**Pn**	**04 12 14.3**	**-1.5**
	3.3nm,0.3s,baz=180,slow=5.2,SNR=14						
AAK				S	**Sn**	**04 13 28.5**	**+0.2**
	3.6nm,0.5s,baz=243,slow=17,SNR=1.6						
	7.3nm,0.3s						
AAK	**Ala-Archa**	**6.47**	**25**	⇓*i*P	**Pn**	**04 12 14.4**	**-1.5**
	baz=45						
CHMS	**Chumysh**	**6.88**	**25**	P	**Pn**	**04 12 20.5**	**-0.8**
	SNR=5.5						
CHMS	**Chumysh**	**6.88**	**25**	⇑P	**Pn**	**04 12 20.0**	**-1.2**
	8.0nm,0.5s						
CHMS				⇓S	**Sn**	**04 13 37.5**	**-0.6**
	4.0nm,0.5s						
CHMS	**Chumysh**	**6.88**	**25**	⇑*i*P	**Pn**	**04 12 20.1**	**-1.2**
	baz=55						
GEYT	**Alibeck**	**10.10**	**280**	P	**Pn**	**04 13 05.5**	**+0.4**
	0.4nm,0.3s,baz=96,slow=13,SNR=2.0						
GEYT				S	**Sn**	**04 14 53.8**	**-2.7**
	3.6nm,0.4s,baz=115,slow=13,SNR=5.8						
	1.7nm,0.5s						
AB31	**Akbulak array**	**14.68**	**331**	P	**Pn**	**04 14 05.7**	**+0.1**
	0.5nm,0.3s,baz=138,slow=12,SNR=56						
KURBB	**Kurchatov Arra**	**14.87**	**20**	P	**Pn**	**04 14 08.6**	**+0.7**
	baz=206,slow=10,SNR=4.1						
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**16.38**	**330**	P	**P**	**04 14 29.0**	**+1.1**
	0.2nm,0.3s,baz=118,slow=9.4,SNR=2.8						
AKTO				S	**Sn**	**04 17 24.1**	**-4.2**
	0.6nm,0.4s,baz=95,slow=12,SNR=1.9						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**19.70**	**25**	P	**P**	**04 15 01.7**	**-2.5**
	1.7nm,0.3s,baz=219,slow=11,SNR=1.9						
	1.7nm,0.3s						
AKASG	**Malin Array Be**	**32.57**	**308**	P	**P**	**04 17 06.4**	**+1.9**
	0.8nm,0.6s,baz=82,slow=6.4,SNR=8.4						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**37.08**	**326**	P	**P**	**04 17 45.4**	**+2.1**
	0.9nm,0.8s,baz=116,slow=6.6,SNR=4.7						
	0.9nm,0.8s						
ARCES	**ARCESS Array B**	**40.75**	**338**	P	**P**	**04 18 15.3**	**+1.6**
	2.8nm,0.9s,baz=116,slow=8.2,SNR=4.4						
	2.8nm,0.9s						
NB2	**NORSAR Subarra**	**43.98**	**323**	P	**P**	**04 18 42.2**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**43.98**	**323**	P	**P**	**04 18 41.7**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.8,SNR=4.8						
	comp=Z,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.51**	**268**	P	**P**	**04 21 14.0**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=49,slow=5.8,SNR=15						
	comp=Z,0.7nm,0.5s						

KRNET ***19*** *04:11:52.8±0.1, 41.51N×74.91E, h18km, mb2.3*
SOME ***19*** *04:11:53.2, 41.55N×74.95E, h10km*
ISC 19 04:11:52.0±1.6, 41.50N±0.06×74.93E±0.03, h16km±11km, n26, σ1836/46, 9C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.58**	**309**	⇓*i*P	**Pg**	**04 12 03.5**	**-0.1**
	baz=8.0						
ARLS				⇓*i*S	**Sg**	**04 12 11.3**	**-0.1**
	baz=8.0						
UCH	**Uchtor**	**0.79**	**337**	P	**Pb**	**04 12 07.8**	**0.0**
	SNR=63						
UCH	**Uchtor**	**0.79**	**337**	⇓*i*P	**Pb**	**04 12 07.7**	**-0.1**
	baz=38						
UCH				⇓*i*S	**Sg**	**04 12 18.4**	**+0.2**
	baz=38						
NRN	**Naryn**	**0.81**	**94**	⇑*e*P	**Pb**	**04 12 08.0**	**+0.1**
	baz=96						
NRN				⇑*i*S	**Sb**	**04 12 19.0**	**+0.3**
	baz=96						
AML	**Almayashu**	**1.12**	**305**	P	Pb	04 12 05.8	-7.5
	SNR=27						
KBK	**Karagaybulak**	**1.16**	**1**	⇑*i*P	**Pb**	**04 12 14.1**	**+0.2**
	baz=1.0						
KBK				⇑*i*S	**Sn**	**04 12 29.6**	**+0.1**
	baz=1.0						
AAK	**Ala-Archa**	**1.19**	**344**	⇓*i*S	**Sn**	**04 12 30.1**	**0.0**
	baz=45						
ULHL	**Ulahol**	**1.23**	**52**	⇓*i*P	**Pb**	**04 12 15.7**	**+0.6**
	baz=53						
ULHL				⇓*i*S	**Sg**	**04 12 32.4**	**+0.4**
	baz=53						
BOOM	**Boomskoye usch**	**1.25**	**37**	⇑*i*P	**Pb**	**04 12 15.9**	**+0.6**
	baz=38						
BOOM				⇑*i*S	**Sg**	**04 12 32.7**	**+0.3**
	baz=38						
CHMS	**Chumysh**	**1.51**	**355**	⇑*i*S	**Sg**	**04 12 40.0**	**-0.7**
	baz=55						
TKM2	**Tokmak 2**	**1.51**	**19**	P	**Pg**	**04 12 24.3**	**+3.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**1.51**	**19**	⇑*i*P	**Pb**	**04 12 20.3**	**+0.5**
	baz=20						
TKM2				⇑*i*S	**Sg**	**04 12 40.4**	**-0.3**
	baz=20						
KST	**Kastek**	**1.73**	**26**	*e*P	**Pg**	**04 12 24.9**	**-0.3**
	2.6nm,0.0s						
KST				*e*S	**Sg**	**04 12 47.6**	**-0.1**
	5.7nm,0.4s						
MRKS	**Merke**	**1.78**	**315**	*e*P	**Pb**	**04 12 25.3**	**+1.0**
	5.0nm,0.0s						
MRKS				*e*S	**Sg**	**04 12 48.1**	**-1.2**
	7.0nm,0.2s						
DGS	**Degeres**	**1.85**	**19**	*e*P	**Pg**	**04 12 27.2**	**-0.4**
	2.5nm,0.1s						
DGS				*e*S	**Sg**	**04 12 51.3**	**-0.4**
	5.5nm,0.1s						
SGDS	**Sogindy**	**1.97**	**354**	*e*P	**Pg**	**04 12 29.5**	**-0.3**
	4.7nm,0.1s						
SGDS				*e*S	**Sg**	**04 12 55.2**	**-0.2**
	1.3nm,0.1s						
MTBS	**Maitube**	**1.98**	**34**	*e*P	**Pg**	**04 12 29.6**	**-0.4**
	6.9nm,0.2s						
MTBS				*e*S	**Sg**	**04 12 55.3**	**-0.3**
	4.7nm,0.1s						
KRBS	**Karabastau**	**2.27**	**14**	*e*P	**Pg**	**04 12 34.6**	**-1.0**
	2.0nm,0.0s						
KRBS				*e*S	**Sg**	**04 13 04.3**	**-0.6**
	4.6nm,0.3s						
MDOK	**Medeo**	**2.29**	**43**	*e*P	**Pb**	**04 12 34.8**	**+1.7**
	3.2nm,0.3s						
MDOK				*e*S	**Sg**	**04 13 04.2**	**-1.5**
	3.8nm,0.0s						
KOTS	**Kotyrbulak**	**2.37**	**42**	*e*P	**Pg**	**04 12 36.7**	**-0.8**
	1.1nm,0.0s						
KOTS				*e*S	**Sg**	**04 13 07.5**	**-0.8**
	11nm,0.2s						
KTBS	**Karatobe**	**2.56**	**30**	*e*P	**Pb**	**04 12

comp=Z,2.7nm,0.5s
WRA **Warramunga Arr** **45.62** **189** P **P** **04 34 28.4** **-1.3**
ASAR **Alice Springs** **49.35** **189** P **P** **04 34 57.5** **-0.9**
comp=Z,0.2nm,0.5s,baz=9.8,slow=12,SNR=1.8
comp=Z,0.2nm,0.5s
K20K **Telida** **56.28** **29** P **P** **04 35 51.0** **+2.3**
K20K IAmb IAmb 04 36 07.7
comp=Z,5.5nm,1.2s
J20K **Nowinta River** **56.40** **28** P **P** **04 35 52.1** **+2.5**
J20K IAmb IAmb 04 35 52.6
comp=Z,4.2nm,0.9s
IMAR **Indian Mountai** **56.93** **26** P **P** **04 35 55.3** **+2.0**
STKA **Stephens Creek** **57.04** **179** P **P** **04 35 53.5** **-0.8**
comp=Z,1.9nm,0.7s,baz=328,slow=9.3,SNR=4.6
comp=Z,1.9nm,0.7s
STKA **Stephens Creek** **57.04** **179** P **P** **04 35 54.0** **-0.3**
KK31 **Karatay Array** **59.24** **307** P **P** **04 36 09.4** **-0.3**
KK31 IAmb IAmb 04 36 11.8
comp=Z,1.4nm,0.7s
KKAR **Karatay Array** **59.24** **307** P **P** **04 36 09.9** **+0.2**
KKAR **Karatay Array** **59.24** **307** P **P** **04 36 09.6** **-0.1**
KKAR IAmb IAmb 04 36 11.8
comp=Z,1.4nm,0.7s
ILAR **Eielson Array** **59.60** **28** P **P** **04 36 11.5** **-0.3**
comp=Z,0.9nm,1.0s,baz=244,slow=5.3,SNR=4.1
comp=Z,0.9nm,1.0s
BMRM **Bremner River** **60.48** **33** P **P** **04 36 19.6** **+1.7**
FINES **FINESS Array B** **78.95** **334** P **P** **04 38 09.8** **-0.9**
comp=Z,1.2nm,0.9s,baz=87,slow=7.8,SNR=5.1
comp=Z,1.2nm,0.9s
FINES **FINESS Array B** **78.95** **334** P **P** **04 38 10.2** **-0.5**
PDAR **Pinedale Array** **86.05** **44** P **P** **04 38 49.1** **+0.8**
comp=Z,0.2nm,0.5s,baz=287,slow=6.5,SNR=2.2
comp=Z,0.2nm,0.5s
LPAZ **La Paz** **151.27** **77** PKPbc **PKiKP** **04 46 00.9** **-0.8**
comp=Z,0.5nm,0.6s,baz=326,slow=3.6,SNR=4.2

RSNC 19 04:28:40.1±0.8, 6.76N×73.18W, h148km±8km, ML1.4, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRRC	**Barranca, Sant**	**0.63**	**303**↑	*eP*	Pn	04 29 01.1	-0.9
BRRC				*eS*	Sn	04 29 18.2	-0.3
BRRC				IAML		04 29 23.0	
	comp=Z,4.4nm,0.3s						
BRRC	**Barranca, Sant**	**0.63**	**303**↑	*eP*	Pn	04 29 01.1	-0.9
BRRC				*eS*	Sn	04 29 18.3	-0.2
BRRC				IAML		04 29 23.0	
	comp=Z,4.4nm,0.3s						
RUSC	**La Rusia**	**0.87**	**174**	*eP*	Pn	04 29 03.7	-0.5
RUSC				*eS*	Sn	04 29 22.2	-0.2
RUSC				IAML		04 29 22.6	
	comp=Z,1.4nm,0.2s						
RUSC	**La Rusia**	**0.87**	**174**	*eP*	Pn	04 29 03.9	-0.3
RUSC				*eS*	Sn	04 29 22.2	-0.2
RUSC				IAML		04 29 22.6	
	comp=Z,1.4nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.28**	**260**	*eP*	Pn	04 29 06.2	-1.1
PTBC				*eS*	Sn	04 29 26.7	-1.4
PTBC				IAML		04 29 29.0	
	comp=Z,2.7nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.28**	**260**	*eP*	Pn	04 29 07.2	-0.1
PTBC				*eS*	Sn	04 29 27.0	-1.1
PTBC				IAML		04 29 29.0	
	comp=Z,2.7nm,0.2s						
SPBC	**San Pablo de B**	**1.41**	**219**	*eP*	Pn	04 29 07.6	-1.1
SPBC				*eS*	Sn	04 29 31.7	+1.2
SPBC				IAML		04 29 33.6	
	comp=Z,2.3nm,0.1s						
SPBC	**San Pablo de B**	**1.41**	**219**	*eP*	Pn	04 29 08.4	-0.3
SPBC				*eS*	Sn	04 29 30.4	-0.1
SPBC				IAML		04 29 33.6	
	comp=Z,2.3nm,0.2s						
OCAC	**Ocana**	**1.48**	**355**	*eP*	Pn	04 29 07.8	-1.6
OCAC				*eS*	Sn	04 29 31.1	-0.8
OCAC				IAML		04 29 32.8	
	comp=Z,5.3nm,0.2s						
OCAC	**Ocana**	**1.48**	**355**	*eP*	Pn	04 29 07.7	-1.8
OCAC				*eS*	Sn	04 29 31.5	-0.4
OCAC				IAML		04 29 32.8	
	comp=Z,5.3nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.82**	**294**	*eP*	Pn	04 29 13.2	+0.2
ZARC				*eS*	Sn	04 29 37.9	-0.3
ZARC				IAML		04 29 44.1	
	comp=Z,3.7nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.82**	**294**	*eP*	Pn	04 29 13.2	+0.2
ZARC				*eS*	Sn	04 29 38.4	+0.2
ZARC				IAML		04 29 48.1	
	comp=Z,3.8nm,0.1s						

NOU 19 04:44:07.5, 15.90S×166.50E, h83km, MLv4.2/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.43**	**139**	P	Pn	04 44 43.7	-1.5
LIFNC	**LIFOU**	**4.90**	**172**	P	Pn	04 45 18.1	-0.6
KOUNC	**Koumac, New Ca**	**5.08**	**204**	P	Pn	04 45 19.3	-1.9
YATNC	**Mamie plateau,**	**6.14**	**177**	P	Pn	04 45 35.2	-0.4
DZM	**Mont Dzumac**	**6.14**	**180**	P	Pn	04 45 37.3	+1.6
NOUC	**Port Laguerre**	**6.17**	**182**	P	Pn	04 45 37.8	+1.7

*INET **19** 05:01:36.7±0.4, 11.81N×88.05W, h15km, MW3.5*
*SNET **19** 05:01:36.7±1.0, 11.89N×87.97W, h98km±197km, ML3.0*
ISC 19 05:01:36.6±2.5, 11.8N±0.1×88.02W±0.08, h23km±20km, n16, σ0.954/21, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**1.25**	**21**	*eP*	**Pn**	**05 01 58.3**	**-0.6**
CRIN	**San Cristobal**	**1.30**	**46**	*eP*	**Pn**	**05 01 59.4**	**-0.1**
COPN	**Copaltepe**	**1.45**	**75**	*eP*	**Pn**	**05 02 00.8**	**-0.6**
CNGN	**Cerro Negro**	**1.47**	**62**	*eP*	**Pb**	**05 02 02.9**	**-0.3**
CNCH	**Conchagua**	**1.48**	**7**	*eP*	**Pn**	**05 02 01.6**	**-0.4**
CNCH				*eS*	**Sb**	**05 02 22.0**	**+0.1**
CNCH				IAML		05 02 29.2	
	comp=Z,700nm,0.3s						
LCND	**La Caada**	**1.51**	**5**↑	*eP*	**Pn**	**05 02 01.7**	**-0.6**
LCND				*eS*	**Sn**	**05 02 21.8**	**+0.5**
LCND				IAML		05 02 31.6	
	comp=Z,227nm,0.5s						
MOMN	**Momotombo**	**1.57**	**67**	*eP*	**Pn**	**05 02 02.7**	**-0.4**
PACA	**Pacayal**	**1.69**	**350**	*eP*	**Pn**	**05 02 04.9**	**0.0**
PACA				*eS*	**Sn**	**05 02 26.4**	**+0.6**
COEB	**Comit de Eme**	**1.76**	**344**	*eP*	**Pn**	**05 02 05.2**	**-0.7**
COEB				IAML		05 02 40.7	
	comp=Z,110nm,0.5s						
UESV	**Universidad de**	**1.97**	**338**	*eP*	**Pn**	**05 02 08.0**	**-0.8**
UESV				*eS*	**Sn**	**05 02 32.6**	**-0.3**
COEG	**Centro de Oper**	**2.00**	**335**	*eP*	**Pn**	**05 02 08.8**	**-0.3**
COEG				IAML		05 02 42.5	
	comp=Z,90nm,0.4s						
SJTE	**Alcalda de S**	**2.05**	**332**	*eP*	**Pn**	**05 02 09.8**	**0.0**
SJTE				*eS*	**Sn**	**05 02 35.2**	**+0.5**
SJTE				IAML		05 02 42.2	
	comp=Z,41nm,0.3s						
PAVA	**Las Pavas**	**2.10**	**335**	*eP*	**Pn**	**05 02 11.3**	**+0.7**
MATN	**Matagalpa**	**2.33**	**61**	*eP*	**Pn**	**05 02 13.7**	**-0.1**
NUBE	**Las Nubes**	**2.71**	**321**	*eP*	**Pn**	**05 02 18.3**	**-0.7**
ACON	**Acoyapa**	**2.79**	**86**	*eP*	**Pb**	**05 02 26.4**	**+0.6**

*IDC **19** 05:42:16.5±2.2, 3.57S×144.51E, h0km, mb4.1/4, mbtmp4.1/6, ML3.4/2, MS3.3/9, Error ellipse: s-maj=47.6km s-min=28.2km az=81.0*
*NEIC **19** 05:42:20.6±2.3, 3.65S±0.1×144.78E±0.2, h37km±26km, mb4.0/8, Error ellipse: s-maj=30.6km s-min=12.6km az=105.0*
ISC 19 05:42:19.6±1.1, 3.61S±0.09×144.7E±0.1, h26km, n24, σ1.907/17, mb4.0/4, MS3.2/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.07**	**60**	Pn	**Pn**	**05 43 06.1**	**-0.5**
PMG	**Port Moresby**	**6.26**	**157**	Pn	**Pn**	**05 43 49.8**	**-0.5**
	7.7nm,0.3s,baz=328,slow=9.5,SNR=7.2						
PMG				Sn	**Sn**	**05 45 00.7**	**-0.4**
	4.3nm,0.3s,baz=257,slow=17,SNR=2.0						
PMG				LR	LR	05 46 42.0	
	comp=Z,362nm,19.8s,baz=336,slow=42						
	14nm,0.3s						
CTA	**Charters Tower**	**16.45**	**175**	LR	LR	05 52 05.8	
	comp=Z,36nm,19.4s,baz=349,slow=36						
WB0	**Warramunga Arr**	**18.96**	**211**	P	**P**	**05 46 37.1**	**-2.0**
WB0				IAmb	IAmb	05 46 41.5	
	comp=Z,8.4nm,1.2s						
WR0	**Warramunga Arr**	**19.04**	**211**	P	**P**	**05 46 38.8**	**-1.2**
WR0				IAmb	IAmb	05 47 03.2	
	comp=Z,13nm,1.2s						
WRAB	**Tennant Creek**	**19.12**	**211**	P	**P**	**05 46 40.3**	**-0.5**
WRAB				IAmb	IAmb	05 46 59.0	
	comp=Z,25nm,1.1s						
WB2	**Warramunga Arr**	**19.13**	**211**	P	**P**	**05 46 40.7**	**-0.2**
WB2				IAmb	IAmb	05 47 13.0	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**19.13**	**211**	P	**P**	**05 46 40.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=31,slow=11,SNR=21						
WRA				LR	LR	05 55 08.2	
	comp=Z,206nm,18.9s,baz=23,slow=40						
	comp=Z,1.6nm,0.5s						
WRA	**Warramunga Arr**	**19.13**	**211**	P	**P**	**05 46 39.7**	**-1.3**
KNRA	**Kununurra**	**19.75**	**232**	P	**P**	**05 46 46.4**	**-1.4**
DAV	**Davao City (W)**	**21.84**	**299**	LR	LR	05 55 19.7	
	comp=Z,44nm,18.3s,baz=178,slow=36						
AS31	**Alice Springs**	**22.51**	**207**	P	**P**	**05 47 17.8**	**+0.2**
ASAR	**Alice Springs**	**22.51**	**207**	P	**P**	**05 47 17.0**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=35,slow=9.0,SNR=38						
ASAR				LR	LR	05 57 06.8	
	comp=Z,96nm,19.5s,baz=346,slow=40						
	comp=Z,2.9nm,0.6s						
ASAR	**Alice Springs**	**22.51**	**207**	P	**P**	**05 47 17.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**23.58**	**231**	P	**P**	**05 47 27.8**	**-0.7**
	comp=Z,111nm,0.6s,baz=47,slow=8.2,SNR=40						
FITZ				LR	LR	05 57 56.8	
	comp=Z,48nm,19.6s,baz=58,slow=40						
	comp=Z,11nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.58**	**231**	P	**P**	**05 47 28.2**	**-0.3**
STKA	**Stephens Creek**	**28.28**	**186**	P	**P**	**05 48 13.1**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=349,slow=10,SNR=2.9						
	comp=Z,2.0nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**31.82**	**42**	T	T	06 21 39.4	
	baz=225						
H11N2	**WAKE ISLAND Hy**	**31.83**	**42**	T	T	06 21 29.6	
	baz=225						
H11N3	**WAKE ISLAND Hy**	**31.83**	**42**	T	T	06 21 40.9	
	baz=225						
KSRS	**Korea Array**	**43.73**	**341**	LR	LR	06 05 31.0	
	comp=Z,24nm,21.2s,baz=155,slow=32						
RPZ	**Rata Peaks**	**46.25**	**154**	LR	LR	06 10 21.0	
	comp=Z,55nm,18.1s,baz=286,slow=36						
MKAR	**Makanchi Array**	**74.21**	**321**	P	**P**	**05 53 54.5**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=122,slow=7.0,SNR=3.6						
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**75.78**	**328**	LR	LR	06 27 57.4	
	comp=Z,27nm,18.1s,baz=84,slow=36						

*NEIC **19** 06:08:46.4±2.4, 19.98S±0.04×69.39W±0.07, h94km±5km, mb3.9/6, ML4.3(GUC), Error ellipse: s-maj=8.9km s-min=6.2km az=102.0*
*GUC **19** 06:08:47.7±0.9, 19.94S×69.33W, h87km±4km, ML4.3*
*IDC **19** 06:08:47.9±1.5, 19.99S×69.11W, h112km±15km, mb3.4/7, mbtmp4.0/11, Error ellipse: s-maj=21.6km s-min=13.6km az=102.0*
*VAO **19** 06:08:48.0±0.5, 19.81S×69.15W, h98km, mb4.2*
ISC 19 06:08:45.8±0.6, 19.98S±0.03×69.38W±0.05, h94km±5km, n115, σ1.939/130, mb3.9/7, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.27**	**128**		**Pn**	**06 09 00.1**	**0.0**
PB08				Sn	**Sn**	**06 09 11.3**	**+0.7**
GO01	**Chusmiza**	**0.35**	**29**		**Pn**	**06 09 00.7**	**+0.1**
GO01				Sn	**Sn**	**06 09 12.0**	**+0.4**
GO01	**Chusmiza**	**0.35**	**29**	*eP*	**Pn**	**06 09 01.1**	**+0.5**
GO01				*i* S	**Sn**	**06 09 11.9**	**+0.3**
GO01				IAML		06 09 12.9	
	comp=E,50μm,0.1s						
TA02	**Huaiquique**	**0.77**	**248**		**Pn**	**06 09 04.2**	**+0.9**
TA02				Sn	**Sn**	**06 09 17.2**	**+0.7**
TA02	**Huaiquique**	**0.77**	**248**	*eP*	**Pn**	**06 09 04.2**	**+0.9**
TA02				*eS*	**Sn**	**06 09 17.1**	**+0.7**
TA02				IAML		06 09 21.5	
	comp=N,15μm,0.1s						
TA01	**Diego Aracena**	**0.96**	**232**	Pn	**Pn**	**06 09 06.2**	**+0.8**
TA01				Sn	**Sn**	**06 09 21.1**	**+1.2**
TA01	**Diego Aracena**	**0.96**	**232**↑	*iP*	**Pn**	**06 09 06.1**	**+0.8**
TA01				*eS*	**Sn**	**06 09 21.2**	**+1.2**
TA01				IAML		06 09 25.0	
	comp=E,4μm,0.4s						
PB01	**IPOC Station P**	**1.07**	**186**		**Pn**	**06 09 08.0**	**+1.3**
PB01				Sn	**Sn**	**06 09 23.9**	**+1.6**
PB01	**IPOC Station P**	**1.07**	**186**↓	*iP*	**Pn**	**06 09 07.9**	**+1.3**
PB01				*i* S	**Sn**	**06 09 24.2**	**+1.9**
PB01				IAML		06 09 25.1	
	comp=E,11μm,0.2s						
PATCX	**Punta Patache**	**1.11**	**221**	Pn	**Pn**	**06 09 07.2**	**0.0**
PATCX				Sn	**Sn**	**06 09 24.2**	**+0.9**
PB02	**IPOC Station P**	**1.42**	**200**		**Pn**	**06 09 12.2**	**+1.2**
PB02				Sn	**Sn**	**06 09 30.8**	**+0.9**
PB02	**IPOC Station P**	**1.42**	**200**↓	*iP*	**Pn**	**06 09 12.1**	**+1.2**
PB02				*eS*	**Sn**	**06 09 30.8**	**+0.9**
PB02				IAML		06 09 36.8	
	comp=E,6μm,0.3s						
PB12	**IPOC Station P**	**1.63**	**326**	Pn	**Pn**	**06 09 13.8**	**+0.4**
PB12	**IPOC Station P**	**1.63**	**326**	*eP*	**Pn**	**06 09 13.9**	**+0.4**
PB12				*eS*	**Sn**	**06 09 35.3**	**+0.8**
PB12				IAML		06 09 39.7	
	comp=E,4μm,0.5s						
PB16	**IPOC Station P**	**1.64**	**356**	Pn	**Pn**	**06 09 15.7**	**+1.6**
PB16	**IPOC Station P**	**1.64**	**356**↓	*iP*	**Pn**	**06 09 15.7**	**+1.6**
PB16				*i* S	**Sn**	**06 09 36.5**	**+1.0**
PB07	**IPOC Station P**	**1.81**	**195**		**Pn**	**06 09 16.8**	**+0.9**
PB07	**IPOC Station P**	**1.81**	**195**	*eP*	**Pn**	**06 09 17.1**	**+1.2**
PB07				*eS*	**Sn**	**06 09 39.6**	**+1.0**
PB07				IAML		06 09 46.9	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**1.81**	**176**		**Pn**	**06 09 17.4**	**+1.5**
PB09	**IPOC Station P**	**1.81**	**176**	*eP*	**Pn**	**06 09 17.8**	**+1.9**
PB09				*eS*	**Sn**	**06 09 42.0**	**+3.1**
PB09				IAML		06 09 46.0	
	comp=E,2μm,0.5s						
AP01	**Chacalluta**	**1.84**	**330**		**Pn**	**06 09 17.0**	**+0.9**
AP01	**Chacalluta**	**1.84**	**330**	*eP*	**Pn**	**06 09 16.9**	**+0.9**
AP01				*eS*	**Sn**	**06 09 40.4**	**+1.2**
AP01				IAML		06 09 48.4	
	comp=E,6μm,0.2s						
PB04	**IPOC Station P**	**2.45**	**197**	Pn	**Pn**	**06 09 26.2**	**+1.9**
PB04	**IPOC Station P**	**2.45**	**197**	*eP*	**Pn**	**06 09 26.3**	**+2.0**
LVC	**Limon Verde**	**2.66**	**171**	P	**Pn**	**06 09 29.5**	**+2.3**
	comp=E,135nm,0.3s,baz=2.0,slow=11,SNR=394						
LVC				S	**Sn**	**06 10 01.2**	**+2.3**
	comp=E,422nm,0.4s,baz=11,slow=14,SNR=22						
LVC	**Limon Verde**	**2.66**	**171**	*eP*	**Pn**	**06 09 29.4**	**+2.2**
LVC				*eS*	**Sn**	**06 10 02.3**	**+3.4**
LVC	**Limon Verde**	**2.66**	**171**	*eP*	**Pn**	**06 09 29.6**	**+2.5**
PB06	**IPOC Station P**	**2.72**	**184**		**Pn**	**06 09 28.6**	**+0.7**
PB06	**IPOC Station P**	**2.72**	**184**	*eP*	**Pn**	**06 09 28.6**	**+0.7**
PB06				*eS*	**Sn**	**06 09 59.8**	**-0.4**
PB06				IAML		06 10 07.1	
	comp=E,959nm,0.5s						
PB15	**IPOC Station P**	**3.22**	**182**		**Pn**	**06 09 35.3**	**+0.7**
LPAZ	**La Paz**	**3.86**	**18**	P	**Pn**	**06 09 46.6**	**+3.0**
	comp=E,15nm,0.4s,baz=194,slow=6.4,SNR=156						
LPAZ	**La Paz**	**3.86**	**18**	Pn	**Pn**	**06 09 45.4**	**+1.8**
PB14	**IPOC Station P**	**4.72**	**191**	Pn	**Pn**	**06 09 54.9**	**-0.1**
GO02	**Mina Guanaco**	**5.17**	**182**	Pn	**Pn**	**06 10 01.0**	**0.0**
AC01	**Pan de Azucar**	**6.24**	**190**	Pn	**Pn**	**06 10 13.9**	**-1.5**
AC02	**Maricunga**	**6.83**	**178**	Pn	**Pn**	**06 10 23.5**	**-0.3**
AC04	**Llanos de Chal**	**8.34**	**190**	Pn	**Pn**	**06 10 40.4**	**-3.5**
SIV	**San Ignacio**	**8.84**	**65**	P	**Pn**	**06 10 48.9**	**-1.9**
	comp=E,9.9nm,0.6s,baz=250,slow=12,SNR=97						
SIV				S	**Sn**	**06 12 33.1**	**+4.3**
	comp=E,1.2nm,0.7s,baz=180,slow=20,SNR=1.2						
AC05	**El Transito**	**8.86**	**185**	Pn	**Pn**	**06 10 48.6**	**-2.6**
LCO	**Las Campanas**	**9.07**	**187**	Pn	**Pn**	**06 10 50.4**	**-3.8**
CO01	**Juntas del Tor**	**9.98**	**184**	Pn	**Pn**	**06 11 05.1**	**-1.4**
CO05	**La Serena**	**10.04**	**189**	Pn	**Pn**	**06 11 06.7**	**-0.4**
GO04	**Tololo Observa**	**10.23**	**187**	Pn	**Pn**	**06 11 06.5**	**-3.4**
ETMB	**Extrema**	**10.55**	**17**	Pn	**Pn**	**06 11 14.0**	**-0.2**
ETMB	**Extrema**	**10.55**	**17**	*eP*	**Pn**	**06 11 13.2**	**-0.9**
PTLB	**Pontes e Lacer**	**10.74**	**67**	Pn	**Pn**	**06 11 15.1**	**-1.7**
PTLB	**Pontes e Lacer**	**10.74**	**67**	*eP*	**Pn**	**06 11 14.4**	**-2.3**
CO06	**Fray Jorge**	**10.85**	**190**	Pn	**Pn**	**06 11 17.0**	**-1.1**
VILB	**Vilhena**	**11.23**	**53**	Pn	**Pn**	**06 11 22.6**	**-0.8**
VILB	**Vilhena**	**11.23**	**53**	*eP*	**Pn**	**06 11 22.8**	**-0.6**
CO02	**Combarbal**	**11.28**	**187**	Pn	**Pn**	**06 11 24.2**	**+0.2**
ZON	**Zonda**	**11.54**	**177**	Pn	**Pn**	**06 11 28.9**	**+1.4**
ANTJ	**Antonio Joao (**	**12.65**	**101**	*eP*	**Pn**	**06 11 42.1**	**-0.2**
CPUP	**Villa Florida**	**12.75**	**122**	P	**Pn**	**06 11 42.8**	**-0.9**
	comp=E,8.6nm,0.7s,baz=302,slow=11,SNR=27						
CPUP	**Villa Florida**	**12.75**	**122**	*eP*	**Pn**	**06 11 43.0**	**-0.7**
AQDB	**Aquidauana**	**12.85**	**95**	*eP*	**Pn**	**06 11 43.7**	**-1.3**
ROC1	**El Roble**	**13.03**	**186**	Pn	**Pn**	**06 11 46.9**	**-0.6**
MT02	**Curacav**	**13.32**	**186**	Pn	**Pn**	**06 11 51.0**	**-0.1**
SALV	**Santo Antonio**	**13.63**	**75**	*eP*	**Pn**	**06 11 54.0**	**-1.3**
AMBA	**Amambai (Brazi**	**13.71**	**105**	*eP*	**Pn**	**06 11 56.4**	**+0.1**
MT01	**Popeta**	**13.93**	**186**	Pn	**Pn**	**06 11 58.3**	**-0.8**
RPRD	**Ribas do Rio P**	**14.72**	**95**	*eP*	**Pn**	**06 12 09.1**	**-0.3**
BO02	**Sierra Bellavi**	**14.81**	**185**	Pn	**Pn**	**06 12 11.6**	**+1.1**
MCR1	**Marechal Candi**	**14.89**	**110**	*eP*	**Pn**	**06 12 12.9**	**+1.5**
C2SB	**Chapadao do Su**	**15.65**	**88**	*eP*	**Pn**	**06 12 19.8**	**-1.3**
UNIS	**Unistalda (Bra**	**15.84**	**128**	*eP*	**P**	**06 12 25.9**	**+0.6**
CRSM	**Crissiumal (Br**	**15.90**	**121**	*eP*	**P**	**06 12 25.5**	**-0.5**
CLDB	**Colider**	**15.90**	**57**	*eP*	**Pn**	**06 12 24.1**	**-0.2**
FRBT	**Francisco Belt**	**16.16**	**115**	*eP*	**P**	**06 12 29.0**	**0.0**
RODS	**Rosario do Sul**	**16.46**	**132**	*eP*	**Pn**	**06 12 31.0**	**-0.1**
PTGB	**Pitanga**	**16.69**	**110**	*eP*	**P**	**06 12 36.1**	**+1.2**
PCMB	**Pacaembu**	**17.02**	**99**	*eP*	**P**	**06 12 39.0**	**+0.6**
ALGR	**Alto Alegre (B**	**17.27**	**124**	*eP*	**Pn**	**06 12 42.1**	**+0.9**
ITAB	**Concordia**	**17.37**	**118**		**Pn**	**06 12 42.4**	**+0.1**
ITAB	**Concordia**	**17.37**	**118**	*eP*	**P**	**06 12 41.7**	**-0.5**
CPSB	**Cacapava Do Su**	**17.75**	**129**	*eP*	**Pn**	**06 12 47.6**	**+0.7**
ITRB	**Iturama**	**17.89**	**92**	*eP*	**Pn**	**06 12 48.6**	**-0.1**
PLTB	**Pedras Altas**	**18.39**	**133**	*eP*	**Pn**	**06 12 55.2**	**+0.6**
MCRA	**Macar, Loja**	**18.63**	**325**	P	**P**	**06 12 56.8**	**+0.6**
NPGB	**Novo Progresso**	**18.71**	**49**	*eP*	**P**	**06 12 55.1**	**-2.0**
MACA	**Manacapuru-AM**	**18.74**	**28**	*eP*	**P**	**06 12 57.3**	**-0.1**
SNDB	**Serra Nova Dou**	**19.11**	**68**	*eP*	**P**	**06 13 00.4**	**-1.0**
TRQA	**Tornquist**	**19.13**	**162**	P	**P**	**06 13 01.0**	**-0.4**
TRQA				IAmb	IAmb	06 13 10.1	
	comp=Z,4.1nm,0.9s						
CNLB	**Canela**	**19.21**	**123**	*eP*	**Pn**	**06 13 03.6**	**-0.8**
TIJ01	**Guaruva-PR**	**19.53**	**110**	*eP*	**Pn**	**06 13 08.9**	**+0.7**
BB19B	**Bebedouro**	**19.56**	**97**	*eP*	**P**	**06 13 05.0**	**-1.3**
GO06	**Curarrehue**	**19.62**	**185**	P	**P**	**06 13 06.5**	**-0.4**
GO06				IAmb	IAmb	06 13 09.2	
	comp=Z,5.1nm,0.8s						
IPMB	**Ipameri, GO**	**20.11**	**88**	*eP*	**P**	**06 13 11.4**	**-1.0**
ITTB	**Itaituba**	**20.43**	**42**	*eP*	**P**	**06 13 14.0**	**-1.7**
RCLB	**Rio Claro- Sao**	**20.51**	**101**	*eP*	**P**	**06 13 16.4**	**-0.2**
PLCA	**Paso Flores**	**20.71**	**183**	P	**P**	**06 13 20.1**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=351,slow=10,SNR=9.3						
	comp=Z,1.7nm,0.6s						
PLCA	**Paso Flores**	**20.71**	**183**	*eP*	Pn	06 13 23.1	+1.3
BDFB	**Brasilia**	**20.79**	**81**	P	**P**	**06 13 17.8**	**-1.9**
	comp=Z,1.8nm,0.4s,baz=262,slow=10,SNR=5.9						
	comp=Z,1.8nm,0.4s						
BDFB	**Brasilia**	**20.79**	**81**	*eP*	**P**	**06 13 18.3**	**-1.4**
VAO	**Valinhos**	**21.07**	**102**	*eP*	**P**	**06 13 21.8**	**-0.8**
PMNB	**Patos De Minas**	**21.70**	**90**	*eP*	**P**	**06 13 27.8**	**-1.6**
BOAV	**Boa Vista**	**23.87**	**22**	P	**P**	**06 13 49.4**	**-1.4**
BOAV				IAmb	IAmb	06 13 51.7	
	comp=Z,4.3nm,1.0s						
BOAV	**Boa Vista**	**23.87**	**22**	*eP*	**P**	**06 13 51.2**	**+0.4**
JANB	**Januaria**	**24.39**	**82**	*eP*	**P**	**06 13 55.3**	**-0.3**
SDBA	**SAO DESIDERIO**	**24.66**	**76**	*eP*	**P**	**06 13 57.8**	**-0.2**
NBLA	**Lagarto - SE**	**31.67**	**78**	*eP*	**P**	**06 14 59.5**	**-1.1**
NBAN	**Anadia - AL**	**33.54**	**77**	*eP*	**P**	**06 15 16.6**	**-0.3**
TXAR	**Lajitas Array**	**59.14**	**325**	P	**P**	**06 18 37.0**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=148,slow=7.5,SNR=4.7						
	comp=Z,2.0nm,0.5s						
DBIC	**Dimbokro**	**68.73**	**74**	P	**P**	**06 19 38.5**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=238,slow=8.4,SNR=1.5						
	comp=Z,2.0nm,0.8s						
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**06 19 50.0**	**+1.6**
QSPA				IAmb	IAmb	06 20 16.2	
	comp=Z,5.3nm,1.4s						
NVAR	**Mina Array Bea**	**74.03**	**322**	P	**P**	**06 20 13.0**	**+1.3**
	comp=Z,0.2nm,0.4s

ASAR	**Alice Springs**	**146.12**	**137**	PKPbc	PKPdf	06 42 16.8	0.0
	0.2nm,0.6s,baz=222,slow=2.9,SNR=1.9						

*NEIC **19** 06:22:56.4±1.2, 18°.1S±0°.2×178°.4W±0°.1, h596km±10km, mb4.1/49, Error ellipse: s-maj=23.2km s-min=15.1km az=162.0*
*IDC **19** 06:22:58.0±1.0, 17°.88S×178°.55W, h624km±10km, mb3.6/13, mbtmp4.5/15, Error ellipse: s-maj=33.0km s-min=10.4km az=154.0*
ISC 19 06:22:56.1±0.5, **18°.0S**±0°.1×**178°.39W**±0°.0**8, h600km, n70,** σ1§**15**/73, **mb4.1**/36, **1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**274**	P	**P**	**06 24 20.2**	**+2.4**
	211nm,0.8s,baz=108,slow=8.4,SNR=137						
MSVF				S	**S**	**06 25 29.0**	**+4.7**
	10.0nm,1.0s,baz=65,slow=23,SNR=0.8						
AFI	**Afiamalu**	**7.54**	**58**	P	**P**	**06 24 51.2**	**-0.1**
	61nm,0.8s,baz=248,slow=17,SNR=6.5						
AFI	**Afiamalu**	**7.54**	**58**	P	**P**	**06 24 50.8**	**-0.5**
NIUE	**Niue**	**8.10**	**99**	P	**P**	**06 24 54.7**	**-1.6**
MARNC	**Mare, Loyalty**	**13.25**	**253**	P	**P**	**06 25 47.3**	**-0.2**
LIFNC	**LIFOU**	**13.84**	**256**	P	**P**	**06 25 52.1**	**-1.3**
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**06 26 02.4**	**-0.4**
	4.3nm,0.6s,baz=77,slow=17,SNR=10						
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**06 26 02.2**	**-0.5**
KOUNC	**Koumac, New Ca**	**16.56**	**258**	P	**P**	**06 26 20.3**	**+1.7**
OUZ	**Omahuta**	**18.58**	**201**	P	**P**	**06 26 36.7**	**-0.2**
PPT	**Papeete**	**27.43**	**94**	P	**P**	**06 27 56.9**	**+1.1**
	38nm,0.6s,baz=246,slow=20,SNR=2.8						
	38nm,0.6s						
EIDS	**Eidsvold**	**29.26**	**250**	P	**P**	**06 28 11.3**	**-0.3**
ARMA	**Armidale**	**29.92**	**240**	P	**P**	**06 28 17.5**	**+0.2**
CTAO	**Charters Tower**	**33.45**	**261**	P	**P**	**06 28 46.9**	**-0.4**
PMG	**Port Moresby**	**34.49**	**280**	P	**P**	**06 28 57.2**	**+1.2**
COEN	**Coen**	**37.13**	**271**	P	**P**	**06 29 18.4**	**+0.7**
TOO	**Toolangi**	**37.13**	**231**	P	**P**	**06 29 18.1**	**+0.6**
TOO				IAmb	IAmb	06 29 18.7	
	comp=Z,8.6nm,0.8s						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**06 29 29.5**	**0.0**
	comp=Z,8.4nm,0.6s,baz=67,slow=6.9,SNR=18						
	comp=Z,8.4nm,0.6s						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**06 29 30.3**	**+0.8**
STKA				IAmb	IAmb	06 29 30.8	
	comp=Z,4.4nm,1.1s						
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**06 30 05.9**	**-1.2**
WR0	**Warramunga Arr**	**44.45**	**260**	P	**P**	**06 30 14.4**	**-1.1**
WR0				IAmb	IAmb	06 30 38.9	
	comp=Z,5.7nm,1.0s						
WB0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**06 30 15.9**	**-0.8**
WB0				IAmb	IAmb	06 30 16.6	
	comp=Z,9.1nm,0.7s						
WB2	**Warramunga Arr**	**44.63**	**260**	P	**P**	**06 30 15.8**	**-1.1**
WRAB	**Tennant Creek**	**44.63**	**260**	P	**P**	**06 30 15.1**	**-1.9**
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**06 30 15.8**	**-1.2**
	comp=Z,6.4nm,0.7s,baz=95,slow=7.3,SNR=90						
	comp=Z,6.4nm,0.7s						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**06 30 15.9**	**-1.1**
AS31	**Alice Springs**	**44.79**	**254**	P	**P**	**06 30 17.8**	**-0.4**
AS31				IAmb	IAmb	06 30 18.8	
	comp=Z,7.0nm,0.6s						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**06 30 17.8**	**-0.4**
	comp=Z,30nm,0.7s,baz=87,slow=8.8,SNR=323						
ASAR				ScP	**ScP**	**06 34 42.0**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=102,slow=5.0,SNR=4.1						
ASAR				S	**S**	**06 36 09.7**	**-3.4**
	comp=Z,1.1nm,0.8s,baz=89,slow=15,SNR=8.3						
	comp=Z,30nm,0.7s						
MTN	**Manton Dam**	**48.82**	**269**	P	**P**	**06 30 47.8**	**-0.7**
FORT	**Forrest**	**49.99**	**245**	P	**P**	**06 30 56.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**	**06 31 17.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=112,slow=5.4,SNR=2.2						
	comp=Z,1.4nm,0.6s						
PSA00	**Pilbara Seismi**	**57.91**	**255**	P	**P**	**06 31 51.7**	**-0.9**
PSA00				IAmb	IAmb	06 32 20.7	
	comp=Z,22nm,1.4s						
MBWA	**Marble Bar**	**58.08**	**256**	P	**P**	**06 31 52.9**	**-0.7**
MBWA				IAmb	IAmb	06 32 28.1	
	comp=Z,32nm,1.4s						
SBA	**Scott Base**	**60.34**	**184**	P	**P**	**06 32 09.5**	**+1.8**
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**06 32 08.7**	**+0.8**
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**06 33 21.0**	**+0.5**
PETK	**Petropavlovsk-**	**73.77**	**345**	P	**P**	**06 33 29.3**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=123,slow=7.4,SNR=2.2						
	comp=Z,2.9nm,0.8s						
MDPB	**Devils Postpil**	**78.52**	**44**	P	**P**	**06 33 56.9**	**+0.1**
MDPB				IAmb	IAmb	06 33 58.1	
	comp=Z,5.2nm,0.9s						
YBH	**Yreka Blue Hor**	**78.57**	**39**	P	**P**	**06 33 57.7**	**+0.9**
YBH				IAmb	IAmb	06 34 31.2	
	comp=Z,7.0nm,1.4s						
MPK	**Martis Peak**	**78.83**	**42**	P	**P**	**06 33 59.3**	**+0.9**
MPK				IAmb	IAmb	06 33 59.4	
	comp=Z,5.0nm,0.5s						
BEKR	**Beckworth**	**78.94**	**42**	P	**P**	**06 33 59.3**	**+0.4**
BEKR				IAmb	IAmb	06 33 59.6	
	comp=Z,2.7nm,0.6s						
HUMO	**Hull Mountain**	**78.95**	**38**	P	**P**	**06 33 59.9**	**+1.2**
HUMO				IAmb	IAmb	06 34 12.2	
	comp=Z,11nm,1.5s						
DSP	**Deep Springs**	**79.12**	**45**	P	**P**	**06 34 00.7**	**+1.1**
YERR	**Yerington**	**79.16**	**43**	P	**P**	**06 34 00.7**	**+0.6**
YERR				IAmb	IAmb	06 34 00.9	
	comp=Z,4.1nm,0.6s						
LCH	**Last Change Ra**	**79.26**	**45**	P	**P**	**06 34 01.3**	**+0.6**
GRAC	**Grapevine Rang**	**79.33**	**45**	P	**P**	**06 34 01.8**	**+0.9**
GRAC				IAmb	IAmb	06 34 02.0	
	comp=Z,3.9nm,0.8s						
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**06 34 02.1**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=223,slow=8.6,SNR=27						
	comp=Z,2.5nm,0.8s						
PAHR	**Pah Rah Range**	**79.47**	**42**	P	**P**	**06 34 02.1**	**+0.4**
PAHR				IAmb	IAmb	06 34 03.0	
	comp=Z,5.4nm,1.2s						
NV11	**Mina Array Sit**	**79.57**	**44**	P	**P**	**06 34 02.6**	**+0.4**
KVN	**Kaiserville**	**79.94**	**43**	P	**P**	**06 34 04.8**	**+0.5**
TPNV	**Topopah Spring**	**80.06**	**46**	P	**P**	**06 34 05.6**	**+0.8**
MOD	**Modoc Plateau**	**80.13**	**40**	P	**P**	**06 34 05.8**	**+0.7**
MOD				IAmb	IAmb	06 34 06.2	
	comp=Z,4.8nm,0.7s						
K05A	**Summer Lake**	**80.25**	**39**	P	**P**	**06 34 06.7**	**+1.0**
K05A				IAmb	IAmb	06 34 06.8	
	comp=Z,6.4nm,0.8s						
H04A	**Detroit Lake**	**80.65**	**37**	P	**P**	**06 34 07.7**	**+0.2**
H04A				IAmb	IAmb	06 34 07.8	
	comp=Z,4.3nm,0.6s						
PINE	**Pine Mountain**	**80.84**	**38**	P	**P**	**06 34 09.4**	**+0.6**
PINE				IAmb	IAmb	06 34 10.4	
	comp=Z,8.5nm,0.9s						
PRN	**Pahroc Range**	**81.12**	**46**	P	**P**	**06 34 11.5**	**+1.2**
PRN				IAmb	IAmb	06 34 12.0	
	comp=Z,5.4nm,0.9s						
I07A	**Izee**	**81.86**	**39**	P	**P**	**06 34 14.1**	**+0.3**
I07A				IAmb	IAmb	06 34 15.2	
	comp=Z,4.8nm,0.8s						
J08A	**Circle Bar Ran**	**82.07**	**40**	P	**P**	**06 34 14.8**	**-0.2**
J08A				IAmb	IAmb	06 34 16.1	
	comp=Z,7.1nm,1.1s						
LCMT	**Little Creek M**	**82.17**	**47**	P	**P**	**06 34 16.5**	**+0.9**
LCMT				IAmb	IAmb	06 34 17.0	
	comp=Z,4.0nm,0.9s						
SPR3	**Spring Creek 3**	**82.41**	**45**	P	**P**	**06 34 17.1**	**+0.1**
SPR3				IAmb	IAmb	06 34 17.7	
	comp=Z,2.6nm,0.8s						
U15A	**North Rim**	**82.56**	**48**	P	**P**	**06 34 18.9**	**+1.1**
U15A				IAmb	IAmb	06 34 19.5	
	comp=Z,5.5nm,0.8s						
NEW	**Newport**	**85.56**	**36**	P	**P**	**06 34 31.4**	**-0.6**
	comp=Z,1.7nm,0.6s						
	comp=Z,1.7nm,0.6s						
DLBC	**Dease Lake**	**85.90**	**23**	P	**P**	**06 34 32.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=218,slow=19,SNR=3.4						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**85.96**	**13**	P	**P**	**06 34 31.7**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=229,slow=5.1,SNR=18						
	comp=Z,1.1nm,0.4s						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**06 34 35.7**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=220,slow=6.0,SNR=51						
	comp=Z,3.3nm,0.8s						
PDAR	**Pinedale Array**	**87.40**	**43**	P	**P**	**06 34 40.3**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=223,slow=3.8,SNR=20						
	comp=Z,1.7nm,0.6s						
INK	**Inuvik**	**91.96**	**15**	P	**P**	**06 35 00.1**	**-1.0**
	comp=Z,3.7nm,1.0s,baz=200,slow=4.0,SNR=3.1						
	comp=Z,3.7nm,1.0s						
BRTR	**Keskin Array B**	**144.86**	**315**	PKP	**PKPdf**	**06 41 25.1**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=76,slow=0.6,SNR=4.8						
KHC	**Kasperske Hory**	**147.46**	**345**	*e*PKP	**PKPbc**	**06 41 33.0**	**-0.6**
GERES	**GERESS Array B**	**147.70**	**345**	PKPbc	**PKPbc**	**06 41 33.6**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=36,slow=3.7,SNR=15						

*ISK **19** 06:25:50.5, 38°.90N×27°.73E, h12km, ML3.5/47*
*DDA **19** 06:25:50.7±0.0, 38°.88N×27°.74E, h13km±3km, ML3.4*
ISC 19 06:25:50.8±0.8, **38°.90N**±0°.02×**27°.72E**±0°.02, **h11**km±6km, **n78,** σ1§**23**/89, **9C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.07**	**104**	PG	**Pg**	**06 25 53.0**	**-0.2**
AKS				SG	**Sg**	**06 25 54.8**	**-0.2**
GOMA	**Golmarmara-Man**	**0.24**	**141**	PG	**Pg**	**06 25 56.2**	**-1.0**
GOMA				SG	**Sg**	**06 26 00.0**	**+0.8**
STEP	**BALIKESIR_Sava**	**0.48**	**360**	P	**Pb**	**06 26 00.7**	**-0.6**
STEP				S	**Sb**	**06 26 07.8**	**-0.7**
STEP				*i* AML	AML	06 26 09.0	
	comp=E,3μm,0.6s						
STEP				*i* AML	AML	06 26 11.0	
	comp=N,3μm,0.6s						
ZEDA	**zmir-Bergama**	**0.51**	**278**	P	**Pb**	**06 26 01.6**	**-0.2**
ZEDA				S	**Sb**	**06 26 08.9**	**-0.3**
DKL	**Dikili**	**0.66**	**286**	PG	**Pb**	**06 26 04.4**	**0.0**
DKL				SG	**Sb**	**06 26 13.8**	**+0.2**
MANT	**Manisa**	**0.77**	**122**	P	**Pb**	**06 26 05.8**	**-0.6**
MANT				S	**Sg**	**06 26 15.6**	**-0.2**
BUHA	**Balikesir, Bur**	**0.79**	**320**	P	**Pb**	**06 26 06.5**	**0.0**
BUHA				S	**Sb**	**06 26 17.9**	**+0.7**
BUHA				*i* AML	AML	06 26 20.0	
	comp=E,990nm,0.5s						
FOCM	**Foa**	**0.80**	**257**	PG	**Pb**	**06 26 06.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**172**	PG	**Pn**	**06 26 09.4**	**-0.9**
DST	**Dursunbey**	**0.99**	**44**	PG	**Pg**	**06 26 10.0**	**+0.1**
URLA	**Izmir**	**1.03**	**239**	PG	**Pb**	**06 26 09.8**	**-0.9**
GONE	**Gonen-Balikesi**	**1.15**	**359**	PN	**Pg**	**06 26 12.9**	**0.0**
GEDZ	**Gediz**	**1.32**	**83**	PN	**Pb**	**06 26 15.3**	**-0.4**
KNL	**Balıkesir**	**1.38**	**354**	P	**Pb**	**06 26 16.4**	**-0.3**
KNL				S	**Sg**	**06 26 35.4**	**+0.1**
KNL				*i* AML	AML	06 26 37.0	
	comp=N,736nm,0.4s						
KNL				*i* AML	AML	06 26 42.0	
	comp=E,666nm,0.6s						
GDZ	**Gediz**	**1.38**	**81**	P	**Pb**	**06 26 16.1**	**-0.6**
GDZ				S	**Sn**	**06 26 33.7**	**-0.9**
CHOS	**Chios island**	**1.40**	**249**	PN	**Pb**	**06 26 16.7**	**-0.4**
EZN	**Ezine**	**1.43**	**311**	PN	**Pb**	**06 26 16.9**	**-0.5**
EDC	**Edincik**	**1.45**	**4**	PN	**Pn**	**06 26 16.9**	**-0.1**
TVSB	**Tavsanli**	**1.46**	**67**	PN	**Pb**	**06 26 17.4**	**-0.7**
ORLT	**Orhaneli**	**1.46**	**38**	PN	**Pb**	**06 26 17.4**	**-0.7**
SIGR	**SIGRI**	**1.49**	**283**	PN	**Pn**	**06 26 17.7**	**+0.2**
BOZC	**Bozcaada**	**1.60**	**307**	PN	**Pn**	**06 26 19.4**	**+0.3**
ULDT	**Uludag**	**1.66**	**41**	P	**Pn**	**06 26 20.1**	**+0.1**
ULDT				S	**Sg**	**06 26 43.4**	**-0.7**
ULDT				*i* AML	AML	06 26 47.0	
	comp=N,446nm,0.4s						
ULDT				*i* AML	AML	06 26 47.0	
	comp=E,413nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.71**	**146**	P	**Pn**	**06 26 20.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.72**	**31**	PN	**Pn**	**06 26 20.5**	**-0.2**
IGD	**Bursa**	**1.78**	**39**	P	**Pb**	**06 26 22.8**	**-0.6**
IGD				S	**Sb**	**06 26 45.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.78**	**328**	PN	**Pn**	**06 26 22.1**	**+0.5**
ANDZ	**Kutahya, Merke**	**1.80**	**69**	P	**Pg**	**06 26 24.4**	**-0.9**
ANDZ				S	**Sg**	**06 26 49.0**	**+0.4**
ANDZ				*i* AML	AML	06 26 50.0	
	comp=N,340nm,0.3s						
ANDZ				*i* AML	AML	06 26 51.0	
	comp=E,422nm,0.4s						
YER	**Yerkesik**	**1.81**	**166**	PN	**Pn**	**06 26 21.7**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.84**	**347**	PN	**Pn**	**06 26 22.6**	**+0.2**
BODT	**Bodrum**	**1.86**	**190**	PN	**Pn**	**06 26 21.0**	**-1.6**
ARMT	**Armutlu**	**1.88**	**27**	PN	**Pn**	**06 26 23.2**	**+0.2**
APMY	**Acipayam-Deniz**	**1.89**	**138**	PN	**Pn**	**06 26 23.3**	**+0.2**
GADA	**Gvkgeada**	**1.91**	**313**	PN	**Pn**	**06 26 23.7**	**+0.3**
AFYO	**Afyonkarahisar**	**2.01**	**92**	P	**Pg**	**06 26 33.8**	**+4.3**
AFYO				S	**Sg**	**06 26 56.7**	**+1.1**
AUBOZ	**BOZOYUK**	**2.06**	**60**	PN	**Pn**	**06 26 25.8**	**+0.4**
BILE	**Bilecik/Merkez**	**2.09**	**52**	P	**Pb**	**06 26 28.5**	**-0.3**
BILE				S	**Sg**	**06 26 58.0**	**0.0**
BILE				*i* AML	AML	06 27 05.0	
	comp=N,171nm,0.5s						
BILE				*i* AML	AML	06 27 06.0	
	comp=E,142nm,0.7s						
CAVI	**Cavuskoy**	**2.09**	**51**	PN	**Pn**	**06 26 26.4**	**+0.5**
YLV	**Yalova**	**2.10**	**37**	PN	**Pn**	**06 26 25.7**	**-0.3**
TURN	**Turunc**	**2.16**	**169**	PN	**Pn**	**06 26 26.6**	**-0.1**
ADVT	**Abdulvahap**	**2.19**	**45**	PN	**Pn**	**06 26 27.6**	**+0.5**
BRDR	**BURDUR-Merkez**	**2.19**	**122**	P	**Pn**	**06 26 27.8**	**+0.5**
BRDR				S	Sn	06 26 36.5	-18
ENEZ	**Enez**	**2.20**	**327**	PN	**Pn**	**06 26 28.3**	**+1.0**
DALY	**Dalyan (Mula)**	**2.20**	**160**	PN	**Pn**	**06 26 28.2**	**+0.9**
SHUT	**Suhut-Afyon**	**2.24**	**98**	PN	**Pn**	**06 26 28.2**	**+0.3**
CAME	**Cameli-Denizli**	**2.31**	**147**	PN	**Pn**	**06 26 29.3**	**+0.3**
NIS1	**Nisyros Isl.**	**2.33**	**191**	PN	**Pn**	**06 26 29.9**	**+0.8**
BORA	**Eskisehir**	**2.33**	**64**	PN	**Pn**	**06 26 29.7**	**+0.5**
ALN	**Alexandroupoli**	**2.38**	**328**	PN	**Pn**	**06 26 30.4**	**+0.7**
UKOP	**Uzunkopru-Edir**	**2.38**	**340**	PN	**Pn**	**06 26 30.5**	**+0.7**
KAVV	**Kandilli-Istan**	**2.40**	**25**	PN	**Pn**	**06 26 29.9**	**-0.1**
ISK	**Istanbul-Kandi**	**2.40**	**25**	PN	**Pn**	**06 26 29.7**	**-0.3**
CTKS	**Kestanelik-??a**	**2.41**	**14**	PN	**Pn**	**06 26 30.4**	**+0.2**
HRT	**Hereke**	**2.44**	**37**	PN	**Pn**	**06 26 31.5**	**+0.9**
FETY	**Fethiye**	**2.50**	**154**	PN	**Pn**	**06 26 32.1**	**+0.6**
SGAZ	**Eskisehir, Sey**	**2.50**	**74**	P	**Pg**	**06 26 37.7**	**-1.1**
SGAZ				S	**Sg**	**06 27 09.8**	**-1.4**
APE	**Apeiranthos**	**2.52**	**224**	⇑P	**Pb**	**06 26 36.1**	**0.0**
APE	**Apeiranthos**	**2.52**	**224**	PN	**Pn**	**06 26 31.8**	**+0.1**
SRCK	**Saricakaya, Es**	**2.52**	**62**	PN	**Pn**	**06 26 32.5**	**+0.8**
KLYT	**Kilyos**	**2.56**	**23**	PN	**Pn**	**06 26 32.1**	**-0.2**
GULT	**Gulveren**	**2.65**	**54**	PN	**Pn**	**06 26 34.5**	**+1.0**
ARG	**Arkhangelos**	**2.69**	**173**	PN	**Pn**	**06 26 32.4**	**-1.7**
RDO	**Rodhopi**	**2.81**	**324**	PN	**Pn**	**06 26 36.7**	**+1.1**
AUSIV	**SIVRIHISAR**	**3.02**	**78**	PN	**Pn**	**06 26 39.5**	**+0.9**
AKAS	**Kas**	**3.05**	**150**	PN	**Pn**	**06 26 40.4**	**+1.3**
KDZ	**Kurdzhali**	**3.27**	**328**	*i* P	**Pn**	**06 26 42.9**	**+0.9**
RZN	**Rozhen**	**3.61**	**321**	*i* P	**Pn**	**06 26 47.9**	**+1.0**
KKB	**Krupnik**	**4.62**	**311**	*i* P	**Pn**	**06 26 58.7**	**-1.9**
VTS	**Vitosha**	**5.04**	**319**	*i* P	Pn	06 26 59.3	-7.0
BLKB	**Belogradchik**	**6.06**	**323**	⇓P	**Pn**	**06 27 23.9**	**+3.5**
CFR	**Carcaliu**	**6.29**	**3**	⇑P	Pb	06 27 33.1	-7.0
BOVS	**Bovan**	**6.55**	**318**	⇑P	**Pn**	**06 27 26.8**	**-0.3**
MLR	**Muntele Rosu**	**6.72**	**349**	⇑P	Pn	06 27 35.6	+6.0
PLOR	**Plostina**	**7.00**	**354**	⇑P	Pn	06 27 38.0	+4.8
VRI	**Vrincioaia**	**7.00**	**354**	⇑P	**Pn**	**06 27 37.7**	**+4.4**
COVR	**Voineasa-Covas**	**7.04**	**351**	⇑P	**Pn**	**06 27 38.2**	**+4.4**
DOPR	**Dopca**	**7.27**	**347**	⇑P	**Pn**	**06 27 40.2**	**+3.2**
GZR	**Gura Zlata**	**7.46**	**332**	⇑P	**Pn**	**06 27 36.3**	**-3.2**

*IDC **19** 06:39:28.0±1.5, 2°.04S×140°.68E, h0km, mb3.8/5, mbtmp3.8/6, ML3.9/1, MS3.0/3, Error ellipse: s-maj=50.7km s-min=28.0km az=92.0*
ISC 19 06:39:33.6±1.5, **2°.1S**±0°.2×**140°.6E**±0°.3, **h35**km, **n10,** σ0§**33**/7, **mb3.7**/5, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**9.37**	**277**	LR	LR	06 45 46.6	
	comp=Z,54nm,21.1s,baz=111,slow=40						
PMG	**Port Moresby**	**9.78**	**138**	LR	LR	06 45 45.0	
	comp=Z,72nm,18.7s,baz=260,slow=39						
WRA	**Warramunga Arr**	**18.75**	**199**	P	**P**	**06 43 49.9**	**+0.2**
	0.4nm,0.3s,baz=23,slow=12,SNR=18						
	2.3nm,0.6s						
KAPI	**Kappang**	**20.97**	**262**	LR	LR	06 55 26.7	
	comp=Z,84nm,18.3s,baz=249,slow=46						
FITZ	**Fitzroy Crossi**	**21.61**	**222**	P	**P**	**06 44 20.7**	**-0.1**
	1.6nm,0.6s,baz=50,slow=15,SNR=5.8						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**22.39**	**196**	P	**P**	**06 44 29.4**	**+0.3**
	1.9nm,0.6s,baz=28,slow=11,SNR=30						
	1.9nm,0.6s						
STKA	**Stephens Creek**	**29.63**	**178**	P	**P**	**06 45 35.4**	**-0.4**
	0.7nm,0.4s,baz=343,slow=14,SNR=1.3						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**70.45**	**322**	P	**P**	**06 50 44.6**	**0.0**
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.6						
	0.4nm,0.8s						
VNDA	**Vanda**	**76.22**	**175**	P	**P**	**06 51 18.4**	**+0.4**
	1.1nm,0.6s,baz=328,slow=7.4,SNR=4.4						
	1.1nm,0.6s						
LPAZ	**La Paz**	**146.28**	**124**	PKPbc	**PKPdf**	**06 59 11.2**	**-0.1**
	1.4nm,0.9s,baz=237,slow=4.3,SNR=4.9						

*NIED **19** 06:52:39.8, 33°.51N×132°.93E, h39km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.71; Mθθ=0.86; Mφφ=1.57; Mrθ=0.71; Mθφ=0.92; Mφr=0.18; Fault plane solution: M0 1.79000×10¹⁴ NP1: φs=200.00000°, δ=64.00000°, λ=-27.00000°. NP2: φs=303.00000°, δ=66.00000°, λ=-152.00000°.*
JMA 19 06:52:39.8±0.0, **33°.51N**±0°.09×**132°.9E**±0°.1, **h39**km, **MV3.5**/32, **8D, SW EHIME PREF, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKU	**Kubokawa**	**0.23**	**151**	⇓P	Pn	06 52 46.9	-1.1
JKU				⇓S	Sn	06 52 52.0	-3.1
JET	**Tanbara**	**0.28**	**20**	⇓P	Pn	06 52 47.6	-0.4
JET				⇓S	Sn	06 52 53.1	-1.6
JNA	**Nagahama**	**0.38**	**277**	P	Pn	06 52 48.9	+0.1
JNA				S	Sn	06 52 55.0	-0.4
UWA2	**Uwa jima 2**	**0.39**	**221**	P	Pn	06 52 48.9	0.0
UWA2				S	Sn	06 52 55.2	-0.4
JTO	**Tosashimizu**	**0.66**	**190**	⇓P	Pn	06 52 52.5	-0.2
JTO				⇓S	Sn	06 53 01.8	+0.1
JHM	**Kurahashi**	**0.71**	**332**	⇓P	Pn	06 52 53.3	0.0
JHM				⇓*e*S	Sn	06 53 03.1	0.0

*IDC **19** 06:59:07.7±1.6, 17°.50S×174°.78W, h0km, mb4.0/7, mbtmp4.0/8, ML3.8/1, MS3.4/15, Error ellipse: s-maj=98.8km s-min=18.7km az=150.0*
ISC 19 06:59:09.0±1.6, **17°.4S**±0°.5×**174°.8W**±0°.3, **h10**km, **n37,** σ1§**19**/12, **mb4.0/7, MS3.5**/15, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.52**	**41**	Pn	**Pn**	**07 00 17.0**	**-0.6**
	4.2nm,0.3s,baz=217,slow=5.1,SNR=4.8						
AFI				LR	LR	07 01 45.9	
	comp=Z,122nm,20.4s,baz=242,slow=34						
	12nm,0.3s						
MSVF	**Nonsavu**	**6.80**	**266**	Pn	Pn	07 00 55.6	+6.7
	0.4nm,0.3s,baz=73,slow=19,SNR=9.4						
MSVF				LR	LR	07 03 16.6	
	comp=Z,537nm,20.2s,baz=88,slow=36						
RAR	**Rarotonga**	**14.73**	**107**	LR	LR	07 06 14.3	
	comp=Z,194nm,21.1s,baz=263,slow=29						
DZM	**Mont Dzumac**	**18.23**	**252**	*e*LR	LR	07 08 03.6	
	comp=Z,158nm,26.1s						
DZM	**Mont Dzumac**	**18.23**	**252**	LR	LR	07 08 51.9	
	comp=Z,145nm,20.0s,baz=1.5,slow=32						
PPT2	**Papeete2**	**24.09**	**94**	*e*LR	LR	07 09 36.8	
	comp=Z,217nm,26.0s						
PPT	**Papeete**	**24.09**	**94**	LR	LR	07 10 56.0	
	comp=Z,85nm,19.9s,baz=116,slow=30						
TBI	**Tubuai**	**24.51**	**108**	*e*LR	LR	07 09 57.5	
	comp=Z,240nm,26.8s						
TBI	**Tubuai**	**24.51**	**108**	*e*T	T	07 29 25.5	
	7.3nm,0.4s						
HNR	**Honiara**	**25.74**	**285**	LR	LR	07 13 11.4	
	comp=Z,2μm,21.9s,baz=132,slow=33						
TAOE	**Nuku Hiva Isla**	**34.78**	**80**	*e*T	T	07 42 26.8	
	60nm,0.3s						
CTA	**Charters Tower**	**36.90**	**260**	P	**P**	**07 06 18.3**	**+0.1**
	2.1nm,0.8s,baz=96,slow=9.2,SNR=2.7						
CTA				LR	LR	07 20 56.6	
	comp=Z,56nm,18.8s,

NRCA AML AML
comp=N,622µm,1.4s
NRCA AML AML
comp=N,671µm,1.4s
NRCA AML AML
comp=N,622µm,1.4s
NRCA AML AML
comp=E,474µm,1.6s
NRCA AML AML
comp=E,472µm,1.0s
NRCA AML AML
comp=N,672µm,1.4s
T1241 Roccafluvione, 0.13 87 P Pg 07 05 11.6 +0.6
T1241 AML AML
comp=E,194µm,0.3s
T1241 AML AML
comp=N,206µm,0.5s
AM05 Amandola Campo 0.15 29 P Pg 07 05 12.1 +0.8
T1202 Accumoli, Fraz 0.15 189 P Pg 07 05 12.1 +0.7
T1202 AML AML
comp=E,320µm,1.3s
T1202 AML AML
comp=N,394µm,0.5s
T1204 Amatrice, Fraz 0.18 166 P Pg 07 05 12.7 +0.7
T1216 Preci, Frazion 0.18 283 P Pg 07 05 12.8 +0.9
T1243 Rocca Santa Ma 0.21 137 P Pg 07 05 13.1 +0.7
GUMA Gualdo di Mace 0.22 15 P Pg 07 05 12.6 0.0
GUMA S Sg 07 05 17.0 +1.3
GUMA AML AML
comp=N,244µm,1.6s
GUMA AML AML
comp=E,276µm,0.4s
FDMO Fiordimonte 0.23 326 P Pg 07 05 13.3 +0.6
FDMO S Sg 07 05 17.4 +1.6
FDMO AML AML
comp=E,72µm,0.7s
FDMO AML AML
comp=N,78µm,0.2s
FDMO AML AML
comp=E,72µm,0.7s
FDMO AML AML
comp=N,78µm,0.2s
CSP1 Cessapalombo 0.24 351 P Pg 07 05 13.7 +0.5
CSP1 S Sg 07 05 18.4 +2.0
T1215 Vallo di Nera, 0.29 261 P Pg 07 05 14.4 +0.5
CESI CESI - Serrava 0.30 301 P Pb 07 05 15.5 -0.4
TERO Teramo 0.34 131 P Pb 07 05 15.8 -0.8
TERO S Sb 07 05 21.4 -0.8
TERO AML AML
comp=N,91µm,0.5s
TERO AML AML
comp=E,72µm,0.4s
EL6 Elcito 0.49 347 P Pg 07 05 18.3 +0.5
ATCC AVT- Casa Cast 0.56 307 S Sb 07 05 30.0 +1.4

IDC 19 07:21:53.1±4.0, 7°73S×151°21E, h0km, mb3.2/2, mbtmp3.3/2, Error ellipse: s-maj=143.2km s-min=53.0km az=122.0, New Britain region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.37 232**	P	P	07 26 31.6	+0.1
	1.0nm,0.6s,baz=57,slow=11,SNR=8.3					
	1.0nm,0.6s					
ASAR	**Alice Springs**	**22.95 224**	P	P	07 26 58.8	-0.5
	0.5nm,0.8s,baz=59,slow=8.8,SNR=6.4					
	0.5nm,0.8s					
TORD	**Torodi Ar. Bea**	**149.56 283**	PKPbc	PKPbc	07 41 45.6	-0.1
	0.4nm,0.9s,baz=89,slow=3.7,SNR=1.3					

*NOU **19** 07:26:29.4, 20°21S×177°86W, h557km, mb4.8/51, Fiji Islands Region*
*NEIC **19** 07:26:29.4±2.1, 20°2S±0°1×178°0W±0°1, h534km±6km, mb4.3/84, Error ellipse: s-maj=16.7km s-min=14.8km az=152.0*
*IDC **19** 07:26:30.9±1.4, 20°19S×178°13W, h554km±15km, mb3.9/21, mbtmp4.8/24, Error ellipse: s-maj=13.6km s-min=11.8km az=148.0*

ISC 19 07:26:28.5±0.3, 20°26S±0°06×177°98W±0°06, h534km, n254, σ1$32/265, mb4.4/68, 13C-3D, Fiji Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.52 303**	P	**P**	**07 27 56.8**	**+3.3**
	448nm,0.7s,baz=129,slow=5.2,SNR=250					
MSVF	**Nonsavu**	**4.52 303**	P	**P**	**07 27 56.6**	**+3.2**
MSVF	**Nonsavu**	**4.52 303**	P	**P**	**07 27 57.1**	**+3.6**
NIUE	**Niue**	**7.68 83**	P	**P**	**07 28 24.2**	**+1.7**
NIUE	**Niue**	**7.68 83**	P	**P**	**07 28 24.3**	**+1.7**
AFI	**Afiamalu**	**8.66 44**	P	**P**	**07 28 31.7**	**-0.9**
	92nm,0.3s,baz=30,slow=0.7,SNR=25					
AFI			S	**S**	**07 30 09.1**	**-5.3**
	302nm,0.6s,baz=220,slow=23,SNR=9.4					
AFI	**Afiamalu**	**8.66 44**	P	**P**	**07 28 32.1**	**-0.5**
RAO	**Raoul Island**	**8.96 180**	S	**S**	**07 30 17.6**	**-1.8**
	221nm,0.3s,baz=93,slow=22,SNR=6.2					
MARNC	**Mare, Loyalty**	**13.13 262**	P	**P**	**07 29 19.3**	**+0.5**
MARNC	**Mare, Loyalty**	**13.13 262**	P	**P**	**07 29 19.8**	**+1.0**
PINNC	**Pines Island,**	**13.77 258**	P	**P**	**07 29 26.6**	**+1.2**
PINNC	**Pines Island,**	**13.77 258**	P	**P**	**07 29 26.8**	**+1.4**
LIFNC	**LIFOU**	**13.86 265**	P	**P**	**07 29 25.7**	**-0.6**
YATNC	**Mamie plateau,**	**14.23 260**	P	**P**	**07 29 31.3**	**+1.1**
DZM	**Mont Dzumac**	**14.64 260**	P	**P**	**07 29 35.1**	**+0.4**
	27nm,0.5s,baz=76,slow=18,SNR=62					
DZM	**Mont Dzumac**	**14.64 260**	P	**P**	**07 29 35.2**	**+0.6**
DZM	**Mont Dzumac**	**14.64 260**	P	**P**	**07 29 36.1**	**+1.5**
ONTNC	**Ouen Toro**	**14.65 259**	P	**P**	**07 29 35.2**	**+0.6**
ONTNC	**Ouen Toro**	**14.65 259**	P	**P**	**07 29 37.5**	**+2.9**
	41nm,0.9s					
NOUC	**Port Laguerre**	**14.78 260**	P	**P**	**07 29 37.0**	**+1.1**
KOUNC	**Koumac, New Ca**	**16.63 266**	P	**P**	**07 29 56.5**	**+1.9**
KOUNC	**Koumac, New Ca**	**16.63 266**	P	**P**	**07 29 56.8**	**+2.2**
OUZ	**Omahuta**	**16.65 205**	P	**P**	**07 29 56.6**	**+2.0**
URZ	**Urewera**	**18.44 192**	P	**P**	**07 30 13.4**	**+2.5**
	28nm,0.3s,baz=340,slow=5.5,SNR=5.7					
URZ			S	**S**	**07 33 05.3**	**-6.6**
	9.1nm,0.5s,baz=152,slow=21,SNR=9.5					
HLRZ	**Highlands Stat**	**18.59 194**	P	**P**	**07 30 19.0**	**+6.6**
HRRZ	**Handcock Road**	**18.74 194**	P	**P**	**07 30 15.7**	**+2.0**
RTZ	**Ruatahuna**	**18.81 192**	P	**P**	**07 30 18.1**	**+3.7**
PRRZ	**Plateau Road**	**18.82 194**	P	**P**	**07 30 16.7**	**+2.2**
TLZ	**Tolley Road**	**18.86 196**	P	**P**	**07 30 17.2**	**+2.3**
ALRZ	**Allen Road**	**18.89 194**	P	**P**	**07 30 17.8**	**+2.7**
HIZ	**Hauiti**	**19.22 197**	P	**P**	**07 30 20.6**	**+2.5**
BKZ	**Black Stump Fm**	**19.44 193**	P	**P**	**07 30 19.5**	**-0.6**
TWVZ	**Taurewa**	**19.59 195**	P	**P**	**07 30 21.5**	**-0.1**
OTVZ	**Oturere**	**19.62 195**	P	**P**	**07 30 21.5**	**-0.4**
BHHZ	**Black Hill Sta**	**19.84 194**	P	**P**	**07 30 22.5**	**-1.3**
PNHZ	**Pukenui**	**20.22 193**	P	**P**	**07 30 22.5**	**-0.6**
MRZ	**Mangatainoka R**	**21.07 194**	P	**P**	**07 30 32.9**	**-2.0**
OGWZ	**Otaki Gorge**	**21.31 194**	P	**P**	**07 30 36.6**	**-0.4**
DUWZ	**D'Urville Isla**	**21.61 197**	P	**P**	**07 30 38.9**	**-0.9**
TCW	**Tory Channel**	**21.90 196**	P	**P**	**07 30 42.9**	**+0.6**
QRZ	**Quartz Range**	**22.04 199**	P	**P**	**07 30 43.9**	**+0.3**
QRZ	**Quartz Range**	**22.04 199**	P	**P**	**07 30 43.9**	**+0.3**
NNZ	**Nelson**	**22.15 197**	P	**P**	**07 30 44.3**	**-0.2**
TUWZ	**Tuamarina**	**22.19 196**	P	**P**	**07 30 44.8**	**-0.1**
MRNZ	**Matariki Terra**	**22.50 198**	P	**P**	**07 30 47.1**	**-0.6**
THZ	**Tophouse**	**22.79 198**	P	**P**	**07 30 49.9**	**-0.4**
DSZ	**Denniston Nort**	**23.11 200**	P	**P**	**07 30 53.0**	**-0.2**
KHZ	**Kahutara**	**23.22 196**	P	**P**	**07 30 53.1**	**-1.0**
KHZ	**Kahutara**	**23.22 196**	P	**P**	**07 30 53.7**	**-0.4**
GVZ	**Greta Valley S**	**23.87 196**	P	**P**	**07 30 58.8**	**-1.1**
LTZ	**Lake Taylor**	**23.91 198**	P	**P**	**07 30 58.6**	**-1.7**
WHZ	**Wether Hill Ro**	**28.07 201**	P	**P**	**07 31 38.2**	**+1.4**
EIDS	**Eidsvold**	**28.93 254**	P	**P**	**07 31 44.8**	**+0.2**
EIDS	**Eidsvold**	**28.93 254**	P	**P**	**07 31 44.9**	**+0.2**
ARMA	**Armidale**	**29.19 244**	P	**P**	**07 31 47.9**	**+0.9**
ARMA	**Armidale**	**29.19 244**	P	**P**	**07 31 48.3**	**+1.3**
RK1H	**Rockhampton Ha**	**29.40 258**	P	**P**	**07 31 49.7**	**+1.0**
RMQ	**Roma**	**31.10 252**	P	**P**	**07 32 04.6**	**+1.2**
CNB	**Canberra Magne**	**32.38 235**	P	**P**	**07 32 14.9**	**+0.7**
CTA	**Charters Tower**	**33.53 264**	P	**P**	**07 32 24.4**	**+0.2**
	58nm,0.6s,baz=94,slow=9.8,SNR=125					
	58nm,0.6s					
CTA	**Charters Tower**	**33.53 264**	P	**P**	**07 32 24.4**	**+0.2**
CTAO	**Charters Tower**	**33.53 264**	P	**P**	**07 32 24.4**	**+0.2**
CTAO	**Charters Tower**	**33.53 264**	P	**P**	**07 32 24.3**	**+0.2**
CMSA	**Cobar Meteorol**	**34.41 244**	P	**P**	**07 32 31.6**	**+0.3**
QLP	**Quilpie**	**35.15 252**	P	**P**	**07 32 38.0**	**+0.4**
PMG	**Port Moresby**	**35.31 283**	P	**P**	**07 32 38.7**	**-0.3**
	32nm,0.8s,baz=109,slow=5.8,SNR=7.5					
	32nm,0.8s					
PMG	**Port Moresby**	**35.31 283**	P	**P**	**07 32 39.2**	**+0.1**
PMG	**Port Moresby**	**35.31 283**	P	**P**	**07 32 39.9**	**+0.9**
	47nm,1.0s					
MTSU	**Mount Surprise**	**35.62 267**	P	**P**	**07 32 41.8**	**+0.2**
TOO	**Toolangi**	**36.05 233**	P	**P**	**07 32 45.4**	**+0.4**
TOO	**Toolangi**	**36.05 233**	P	**P**	**07 32 45.7**	**+0.7**
BRAT	**Ballarat**	**37.23 234**	P	**P**	**07 32 55.6**	**+1.0**
COEN	**Coen**	**37.59 273**	P	**P**	**07 32 58.4**	**+0.5**
COEN	**Coen**	**37.59 273**	P	**P**	**07 32 58.2**	**+0.4**
STKA	**Stephens Creek**	**37.91 244**	P	**P**	**07 33 00.8**	**+0.5**
	23nm,0.7s,baz=92,slow=9.4,SNR=40					
	23nm,0.7s					
STKA	**Stephens Creek**	**37.91 244**	P	**P**	**07 33 00.7**	**+0.4**
STKA			IAmb	IAmb	07 33 01.8	
	comp=Z,12nm,1.1s					
STKA	**Stephens Creek**	**37.91 244**	P	**P**	**07 33 00.6**	**+0.4**
INKA	**Innaminka**	**38.30 251**	P	**P**	**07 33 04.7**	**+1.3**
ARPS	**Mount Arapiles**	**38.63 236**	P	**P**	**07 33 06.5**	**+0.4**
QIS	**Mount Isa**	**39.67 262**	P	**P**	**07 33 14.4**	**-0.3**
HTT	**Hallett**	**40.35 242**	P	**P**	**07 33 20.5**	**+0.5**
LCRK	**Leigh Creek**	**40.65 247**	P	**P**	**07 33 22.8**	**+0.5**
WHYH	**Whyalla**	**41.43 243**	P	**P**	**07 33 29.0**	**+0.5**
BBOO	**Buckleboo**	**42.67 243**	P	**P**	**07 33 38.4**	**+0.1**
BBOO	**Buckleboo**	**42.67 243**	P	**P**	**07 33 38.6**	**+0.3**
OOD	**Oodnadatta**	**42.78 251**	P	**P**	**07 33 40.0**	**+0.8**
MULG	**Mulgathing**	**44.23 247**	P	**P**	**07 33 50.5**	**0.0**
WR0	**Warramunga Arr**	**44.46 262**	P	**P**	**07 33 51.5**	**-0.9**
AS31	**Alice Springs**	**44.59 256**	P	**P**	**07 33 52.5**	**-0.9**
AS31			IAmb	IAmb	07 33 54.0	
	comp=Z,15nm,0.7s					
ASAR	**Alice Springs**	**44.59 256**	P	**P**	**07 33 53.1**	**-0.3**
	comp=Z,69nm,0.8s,baz=95,slow=7.7,SNR=596					
ASAR			PcP	**PcP**	**07 35 23.1**	**-1.8**
	comp=Z,2.0nm,0.5s,baz=96,slow=4.6,SNR=2.7					
ASAR			ScP	**ScP**	**07 38 26.4**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=112,slow=4.2,SNR=6.1					
ASAR			S	**S**	**07 39 47.7**	**-2.9**
	comp=Z,0.7nm,0.6s,baz=96,slow=16,SNR=4.8					
	comp=Z,69nm,0.8s					
ASAR	**Alice Springs**	**44.59 256**	P	**P**	**07 33 53.3**	**-0.2**
WB0	**Warramunga Arr**	**44.63 262**	P	**P**	**07 33 52.5**	**-1.2**
WB2	**Warramunga Arr**	**44.64 262**	P	**P**	**07 33 53.0**	**-0.8**
WRAB	**Tennant Creek**	**44.64 262**	P	**P**	**07 33 52.8**	**-1.0**
WRAB	**Tennant Creek**	**44.64 262**	P	**P**	**07 33 53.2**	**-0.6**
WRA	**Warramunga Arr**	**44.65 262**	P	**P**	**07 33 53.1**	**-0.8**
	comp=Z,28nm,0.6s,baz=98,slow=8.4,SNR=357					
WRA			ScP	**ScP**	**07 38 25.8**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=90,slow=4.0,SNR=4.3					
WRA			S	**S**	**07 39 47.5**	**-4.0**
	comp=Z,0.7nm,0.9s,baz=96,slow=14,SNR=2.7					
	comp=Z,28nm,0.6s					
WRA	**Warramunga Arr**	**44.65 262**	P	**P**	**07 33 52.8**	**-1.1**
KDU	**Kakadu**	**47.96 271**	P	**P**	**07 34 18.6**	**-0.4**
MTN	**Manton Dam**	**49.18 270**	P	**P**	**07 34 27.5**	**-0.6**
MTN	**Manton Dam**	**49.18 270**	P	**P**	**07 34 27.7**	**-0.4**
FORT	**Forrest**	**49.41 246**	P	**P**	**07 34 29.0**	**-0.5**
FORT	**Forrest**	**49.41 246**	P	**P**	**07 34 29.1**	**-0.5**
WRKA	**Warakurna**	**49.55 254**	P	**P**	**07 34 30.4**	**-0.3**
KNRA	**Kununurra**	**50.69 266**	P	**P**	**07 34 39.2**	**0.0**
KNRA	**Kununurra**	**50.69 266**	P	**P**	**07 34 39.0**	**-0.2**
FAKI	**Fak Fak**	**51.46 283**	P	**P**	**07 34 44.3**	**-0.5**
FAKI			IAmb	IAmb	07 34 45.4	
	comp=Z,16nm,1.0s					
FAKI	**Fak Fak**	**51.46 283**	P	**P**	**07 34 43.9**	**-0.9**
	comp=Z,19nm,1.4s					
FAKI	**Fak Fak**	**51.46 283**	P	**P**	**07 34 45.7**	**+0.9**
	comp=Z,19nm,1.4s					
FITZ	**Fitzroy Crossi**	**53.08 262**	P	**P**	**07 34 56.0**	**-0.3**
	comp=Z,7.7nm,0.6s,baz=114,slow=3.3,SNR=32					
	comp=Z,7.7nm,0.6s					
FITZ	**Fitzroy Crossi**	**53.08 262**	P	**P**	**07 34 56.1**	**-0.2**
FITZ			IAmb	IAmb	07 34 56.7	
	comp=Z,11nm,0.7s					
FITZ	**Fitzroy Crossi**	**53.08 262**	P	**P**	**07 34 56.5**	**+0.2**
SIJI	**Sorong**	**53.19 285**	P	**P**	**07 34 57.1**	**-0.1**
	comp=Z,50nm,0.7s,baz=70,slow=7.1,SNR=20					
	comp=Z,50nm,0.7s					
SWI	**Sorong**	**53.20 285**	P	**P**	**07 34 57.0**	**-0.2**
	comp=Z,76nm,0.8s					
LBMI	**Labuha**	**56.72 283**	P	**P**	**07 35 21.6**	**-0.3**
	comp=Z,2µmcomp=Z,53nm,0.5s					
TNTI	**Ternate**	**57.42 285**	P	**P**	**07 35 27.1**	**+0.4**
TNTI			IAmb	IAmb	07 35 28.1	
	comp=Z,27nm,1.0s					
SANI	**Sanana**	**57.55 281**	P	**P**	**07 35 26.9**	**-0.7**
	comp=Z,594nmcomp=Z,30nm,1.0s					
SANI	**Sanana**	**57.55 281**	P	**P**	**07 35 27.4**	**-0.2**
	comp=Z,30nm,1.0s					
PSA00	**Pilbara Seismi**	**57.74 257**	P	**P**	**07 35 27.4**	**-1.3**
PSA00			IAmb	IAmb	07 35 28.9	
	comp=Z,30nm,0.9s					
PSA00	**Pilbara Seismi**	**57.74 257**	P	**P**	**07 35 27.4**	**-1.3**
PSA00			IAmb	IAmb	07 35 29.0	
	comp=Z,15nm,1.0s					
PSA00	**Pilbara Seismi**	**57.74 257**	P	**P**	**07 35 28.0**	**-0.7**
MBWA	**Marble Bar**	**57.92 257**	P	**P**	**07 35 28.6**	**-1.4**
MBWA			IAmb	IAmb	07 35 33.0	
	comp=Z,45nm,1.4s					
SBA	**Scott Base**	**58.11 184**	P	**P**	**07 35 32.0**	**+1.7**
SBA			IAmb	IAmb	07 35 33.6	
	comp=Z,8.1nm,0.8s					
VNDA	**Vanda**	**58.15 185**	P	**P**	**07 35 32.3**	**+1.7**
	comp=Z,2.2nm,0.6s,baz=357,slow=8.0,SNR=36					
	comp=Z,2.2nm,0.6s					
VNDA	**Vanda**	**58.15 185**	P	**P**	**07 35 32.2**	**+1.7**
NWAO	**Narrogin (SRO)**	**58.49 243**	P	**P**	**07 35 33.5**	**-0.2**
	comp=Z,12nm,0.7s,baz=330,slow=6.5,SNR=5.9					
	comp=Z,12nm,0.7s					
EDFI	**Ende, Flores**	**59.24 272**	P	**P**	**07 35 38.1**	**-1.0**
	comp=Z,20nm,0.9s					
MORW	**Morawa**	**59.94 248**	P	**P**	**07 35 43.0**	**-0.4**
MORW			IAmb	IAmb	07 36 15.4	
	comp=Z,25nm,1.1s					
QSPA	**South Pole Qui**	**69.81 180**	P	**P**	**07 36 46.2**	**+1.2**
MJAR	**Matsushiro Arr**	**70.03 324**	P	**P**	**07 36 45.7**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=157,slow=7.0,SNR=3.3					
	comp=Z,1.1nm,0.6s					
LEM	**Lembang**	**73.06 269**	P	**P**	**07 37 05.0**	**0.0**
	comp=Z,21nm,0.3s,baz=75,slow=11,SNR=3.9					
	comp=Z,21nm,0.3s					
PETK	**Petropavlovsk-**	**76.04 345**	P	**P**	**07 37 21.1**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=99,slow=4.7,SNR=4.5					
	comp=Z,4.2nm,0.7s					
PETK	**Petropavlovsk-**	**76.04 345**	P	**P**	**07 37 20.8**	**+0.1**
KSRS	**Korea Array**	**76.72 319**	P	**P**	**07 37 24.9**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=205,slow=40,SNR=2.5					
	comp=Z,1.2nm,0.5s					
USRK	**Ussuriysk Ar.**	**78.78 326**	P	**P**	**07 37 36.9**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=137,slow=3.0,SNR=5.1					
	comp=Z,4.6nm,0.8s					
USRK	**Ussuriysk Ar.**	**78.78 326**	P	**P**	**07 37 37.0**	**+1.2**
SMAI	**San Martin Ant**	**78.83 159**	P	**P**	**07 37 37.2**	**+1.5**
SMAI			IAmb	IAmb	07 37 38.5	
	comp=Z,24nm,0.9s					
CMB	**Columbia Colle**	**79.27 43**	P	**P**	**07 37 40.1**	**+1.4**
AFDM	**Forest Hills D**	**79.45 42**	P	**P**	**07 37 41.0**	**+1.5**
NJ2	**Nanjing**	**79.74 310**	*e*P	**P**	**07 37 41.9**	**+0.8**
NJ2			pmax	pmax		
	comp=Z,11nm,0.5s					
BELA	**Belgrano 2**	**79.80 173**	P	**P**	**07 37 40.9**	**+0.2**
BELA			IAmb	IAmb	07 37 41.6	
	comp=Z,11nm,0.9s					
MPK	**Martis Peak**	**80.24 42**	P	**P**	**07 37 45.1**	**+1.2**
MPK			IAmb	IAmb	07 37 45.8	
	comp=Z,5.3nm,0.7s					
PNTR	**Pine Nut**	**80.39 42**	P	**P**	**07 37 46.2**	**+1.5**
PNTR			IAmb	IAmb	07 37 47.0	
	comp=Z,8.2nm,0.9s					
YERR	**Yerington**	**80.56 42**	P	**P**	**07 37 47.0**	**+1.4**
YERR			IAmb	IAmb	07 37 47.6	
	comp=Z,4.9nm,0.8s					
NVAR	**Mina Array Bea**	**80.84 43**	P	**P**	**07 37 48.4**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=224,slow=8.9,SNR=12					
	comp=Z,2.1nm,0.8s					
GMN	**Gold Mountain**	**80.88 45**	P	**P**	**07 37 48.5**	**+1.3**
PAHR	**Pah Rah Range**	**80.89 42**	P	**P**	**07 37 48.7**	**+1.5**
NV11	**Mina Array Sit**	**80.93 43**	P	**P**	**07 37 48.2**	**+0.8**
KVN	**Kaiserville**	**81.32 43**	P	**P**	**07 37 50.9**	**+1.4**
TPH	**Tonopah**	**81.34 44**	P	**P**	**07 37 50.9**	**+1.3**
TPH			IAmb	IAmb	07 37 51.7	
	comp=Z,16nm,0.9s					
TPNV	**Topopah Spring**	**81.36 46**	P	**P**	**07 37 51.1**	**+1.4**
MOD	**Modoc Plateau**	**81.62 40**	P	**P**	**07 37 52.3**	**+1.5**
MOD			IAmb	IAmb	07 37 53.0	
	comp=Z,5.2nm,0.8s					
CN2	**Changchun**	**82.12 322**	*e*P	**P**	**07 37 55.1**	**+1.9**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PINE	**Pine Mountain**	**82.38 38**	P	**P**	**07 37 56.4**	**+1.6**
PINE			IAmb	IAmb	07 37 57.3	
	comp=Z,9.0nm,0.9s					
PRN	**Pahroc Range**	**82.41 46**	P	**P**	**07 37 56.7**	**+1.7**
BMN	**Battle Mountai**	**82.66 42**	P	**P**	**07 37 56.1**	**-0.1**
TUC	**Tucson**	**82.82 52**	P	**P**	**07 37 58.2**	**+1.2**
WVOR	**Wild Horse Val**	**82.93 40**	P	**P**	**07 37 58.5**	**+1.0**
I07A	**Izee**	**83.39 38**	P	**P**	**07 38 01.3**	**+1.6**
I07A			IAmb	IAmb	07 38 02.0	
	comp=Z,5.6nm,1.0s					
LCMT	**Little Creek M**	**83.43 47**	P	**P**	**07 38 01.6**	**+1.5**
J08A	**Circle Bar Ran**	**83.57 39**	P	**P**	**07 38 02.1**	**+1.5**
J08A			IAmb	IAmb	07 38 03.4	
	comp=Z,6.8nm,1.2s					
U15A	**North Rim**	**83.79 48**	P	**P**	**07 38 04.1**	**+2.0**
G08A	**Pilot Rock**	**84.41 37**	P	**P**	**07 38 06.1**	**+1.4**
G08A			IAmb	IAmb	07 38 06.8	
	comp=Z,6.7nm,1.2s					
PSI	**Prapat**	**84.49 275**	P	**P**	**07 38 05.1**	**-0.8**
	comp=Z,8.2nm,0.8s,baz=194,slow=4.9,SNR=3.9					
	comp=Z,8.2nm,0.8s					
GHO	**Glory Hole Cre**	**84.99 13**	P	**P**	**07 38 06.8**	**-0.3**
GHO			IAmb	IAmb	07 38 07.7	
	comp=Z,9.5nm,0.7s					
SCM	**Sheep Creek Mo**	**85.39 14**	P	**P**	**07 38 09.3**	**+0.2**
SCM			IAmb	IAmb	07 38 10.2	
	comp=Z,8.9nm,0.7s					
HNS	**HongShan**	**85.40 313**	⇑P	**P**	**07 38 10.3**	**+0.8**
HNS			pmax	pmax		
	comp=Z,10.0nm,0.9s					
LYN	**LuoYang**	**85.62 309**	⇑P	**P**	**07 38 11.0**	**+0.3**
N25K	**Chitina, Valde**	**85.85 15**	P	**P**	**07 38 09.8**	**-1.4**
N25K			IAmb	IAmb	07 38 11.8	
	comp=Z,4.8nm,0.9s					
TMUT	**Trail Mountain**	**85.97 46**	P	**P**	**07 38 11.9**	**-0.7**
PLID	**Pearl Lake**	**86.01 39**	P	**P**	**07 38 13.5**	**+0.9**
HLID	**Hailey**	**86.13 41**	P	**P**	**07 38 13.6**	**+0.5**
TRF	**Thorofare Moun**	**86.21 12**	P	**P**	**07 38 12.7**	**-0.4**
TRF			IAmb	IAmb	07 38 13.1	
	comp=Z,7.5nm,0.9s					
COYC	**Coyhaique**	**86.31 137**	P	**P**	**07 38 15.1**	**+1.2**
RND	**Reindeer**	**86.46 13**	P	**P**	**07 38 14.1**	**0.0**
RND			IAmb	IAmb	07 38 15.2	
	comp=Z,13nm,1.0s					
TX31	**Lajitas Ar. Si**	**86.91 57**	P	**P**	**07 38 17.1**	**+0.1**
TX31			IAmb	IAmb	07 38 23.4	
	comp=Z,16nm,1.4s					
TX32	**Lajitas Array**	**86.91 57**	P	**P**	**07 38 17.8**	**+0.8**
TX32			IAmb	IAmb	07 38 23.4	
	comp=Z,5.2nm,1.4s					
TXAR	**Lajitas Array**	**86.91 57**	P	**P**	**07 38 19.0**	**+2.0**
	comp=Z,1.1nm,0.6s,baz=215,slow=7.3,SNR=16					
	comp=Z,1.1nm,0.6s					
TXAR	**Lajitas Array**	**86.91 57**	P	**P**	**07 38 18.5**	**+1.5**
LL02	**Futaleuf**	**87.48 135**	P	**P**	**07 38 20.3**	**+0.8**
LL02			IAmb	IAmb	07 38 21.8	
	comp=Z,5.0nm,0.8s					
WRH	**Wood River Hil**	**87.56 12**	P	**P**	**07 38 18.9**	**-0.3**
WRH			IAmb	IAmb	07 38 19.5	
	comp=Z,7.5nm,0.9s					
HDA	**Harding Lake**	**87.74 13**	P	**P**	**07 38 19.8**	**-0.2**
HDA			IAmb	IAmb	07 38 20.3	
	comp=Z,5.3nm,0.6s					
CCB	**Clear Creek Bu**	**87.78 13**	P	**P**	**07 38 19.7**	**-0.4**
CCB			IAmb	IAmb	07 38 20.2	
	comp=Z,5.8nm,0.6s					
IMAR	**Indian Mountai**	**87.92 10**	P	**P**	**07 38 20.7**	**0.0**
TCOL	**CIGO, UAF Yank**	**87.97 12**	P	**P**	**07 38 20.6**	**-0.4**
COLA	**College**	**87.97 12**	P	**P**	**07 38 20.5**	**-0.5**
MDM	**Murphy Dome**	**87.97 12**	P	**P**	**07 38 20.5**	**-0.6**
MDM			IAmb	IAmb	07 38 21.1	
	comp=Z,6.1nm,0.9s					
TROLL	**Troll, Antarti**	**87.97 180**	P	**P**	**07 38 20.9**	**-0.5**
IL31		**88.08 13**	P	**P**	**07 38 20.5**	**-1.0**
IL31			IAmb	IAmb	07 38 21.7	
	comp=Z,4.5nm,1.1s					
ILAR	**Eielson Array**	**88.08 13**	P	**P**	**07 38 20.8**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=223,slow=5.8,SNR=11					
	comp=Z,2.3nm,0.9s					
ILAR	**Eielson Array**	**88.08 13**	P	**P**	**07 38 20.9**	**-0.6**
SNAA	**Sanae**	**88.25 178**	P	**P**	**07 38 21.9**	**-0.6**
J25K	**Salcha River,**	**88.26 13**	P	**P**	**07 38 22.4**	**-0.1**
J25K			IAmb	IAmb	07 38 47.3	
	comp=Z,6.4nm,1.4s					
SNOW	**Snow King Moun**	**88.36 42**	P	**P**	**07 38 24.3**	**+0.6**
SNOW			IAmb	IAmb	07 38 27.0	
	comp=Z,6.2nm,1.3s					
VNA3	**Neumayer Olymp**	**88.38 176**	P	**P**	**07 38 22.8**	**-0.3**
IMW	**Indian Meadow**	**88.46 42**	P	**P**	**07 38 25.7**	**+1.5**
IMW			IAmb	IAmb	07 38 26.4	
	comp=Z,3.5nm,0.9s					
J26L	**Joseph Creek**	**88.57 14**	P	**P**	**07 38 24.2**	**+0.2**
J26L			IAmb	IAmb	07 38 25.5	
	comp=Z,6.0nm,0.9s					
M30M	**Minto, Yukon**	**88.73 18**			**07 38 25.2**	**+0.5**
M30M			IAmb	IAmb	07 38 25.9	
	comp=Z,4.8nm,0.8s					
PD31	**Pinedale Array**	**88.77 43**	P	**P**	**07 38 26.4**	**+0.7**
PDAR	**Pinedale Array**	**88.77 43**	P	**P**	**07 38 26.2**	**

MDUB PKPab **PKPab** 07 45 17.7 -1.1
BRG Berggiesshubel 148.03 346 *e*PKP **PKPbc** 07 45 14.0 +0.3
BRG Amp 07 45 14.7
comp=Z,6.6nm,0.9s
MLR Muntele Rosu 148.03 327 ⇑P **PKPbc** 07 45 12.5 -1.6
VOIR 148.52 328 ⇑P **PKPbc** 07 45 14.9 -0.3
VYHS Vyhne 148.74 338 *e*PKP **PKPbc** 07 45 15.8 +0.2
ARR Arges 148.77 328 ⇑P **PKiKP** 07 45 16.8 -0.1
BORA Eskisehir 148.78 315 PKPbc **PKPbc** 07 45 15.1 -1.0
CSS Mathiatis 148.78 305 PKPdf **PKPdf** 07 45 09.3 -2.2
PSZ Piszkesteto 148.84 336 ⇑P **PKPab** 07 45 24.2 +2.2
MODS Modra-Piesok 149.37 340 *e*PKP **PKiKP** 07 45 17.7 -0.3
GZR Gura Zlata 149.64 330 ⇓P **PKPbc** 07 45 17.3 -0.7
KHC Kasperske Hory 149.74 345 PKPdf **PKPdf** 07 45 10.6 -2.1
KHC PKPbc **PKPbc** 07 45 17.8 -0.2
KHC PKPab **PKPab** 07 45 25.9 +0.3
KHC Kasperske Hory 149.74 345⇑*e*PKP **PKPbc** 07 45 17.5 -0.5
GERES GERESS Array B 149.97 344 PKPbc **PKPbc** 07 45 18.3 -0.3
comp=Z,1.7nm,0.8s,baz=46,slow=2.8,SNR=12
GERES GERESS Array B 149.97 344 PKPdf **PKPdf** 07 45 12.0 -1.1
GERES PKPbc **PKPbc** 07 45 18.2 -0.5
BZS Buzias 149.99 332 ⇑P **PKPbc** 07 45 18.5 -0.2
HERR Herculane 150.19 330 ⇑P **PKPbc** 07 45 17.9 -1.3
CMLA Cha da Macela 150.42 48 PKPdf **PKPdf** 07 45 11.8 -2.2
CMLA PKPbc **PKPbc** 07 45 19.2 -0.7
WLF Walferdange 150.47 355 PKPdf **PKPdf** 07 45 12.6 -1.2
BLKB Belogradchik 151.00 328 ⇑P **PKPbc** 07 45 20.8 -0.3
DBIC Dimbokro 164.94 153 PKPab **PKPab** 07 46 32.2 +0.1
comp=Z,3.1nm,0.7s,baz=232,slow=9.5,SNR=4.8
TORD Torodi Ar. Bea 172.92 177 PKPab **PKPab** 07 47 06.3 -1.0
comp=Z,0.8nm,0.7s,baz=186,slow=4.3,SNR=4.0

DJA 19 07:36:41.3±1.1, 9°S±6′×12°2E±°, h24km±10km, M3.7/8, mb3.7/1, MLv3.6/8, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.73**	**360**	P	Pb	07 36 55.5	+0.1
MMRI				S	Sn	07 37 07.2	+0.7
EDFI	**Ende, Flores**	**0.82**	**319**	P	Pb	07 36 56.9	-0.1
EDFI				S	Sn	07 37 08.9	0.0
BATI	**Baumata**	**1.63**	**121**	P	Pn	07 37 08.6	0.0
BSSI	**Bau Bau, Buton**	**3.65**	**331**	P	Pn	07 37 35.9	-0.4
PLAI	**Plampang**	**4.44**	**277**	P	Pn	07 37 47.6	+0.4
BKSI	**Bulukumba**	**4.54**	**332**	P	Pn	07 37 48.5	0.0
TWSI	**Taliwang, Sumb**	**5.33**	**276**	P	Pn	07 37 59.4	0.0
	0.1nm13nm,1.5s						
TTSI	**Tana Toraja**	**6.73**	**339**	P	Pn	07 38 18.7	0.0

*DJA **19** 07:56:52.3±0.4, 2°N±3°×12°9E±°, h10km, M4.3/12, mb4.4/7, mB4.7/3, MLv4.3/12, Mw(mB)4.0/3*
*NEIC **19** 07:56:53.9±1.6, 2.35N±0.07°×128.62E±0.08, h35km±2km, mb4.3/10, Error ellipse: s-maj=17.6km s-min=7.0km az=229.0*
*IDC **19** 07:56:54.2±2.8, 2.36N×128.85E, h41km±29km, mb3.9/12, mbtmp4.1/14, ML4.1/2, MS3.5/14, Error ellipse: s-maj=24.1km s-min=14.1km az=72.0*
ISC 19 07:56:53.2±0.5, 2.33N±0.05×128.80E±0.06, h35km, n58, σ1s37/50, mb4.2/16, MS3.4/10, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.11**	**223**	Pn	**Pn**	**07 57 25.4**	**-0.7**
TNTI	**Ternate**	**2.11**	**223**	P	**Pn**	**07 57 25.9**	**-0.1**
TNTI				S	**Sn**	**07 57 51.0**	**-0.1**
LBMI	**Labuha**	**3.23**	**204**	P	**Pn**	**07 57 42.3**	**+0.9**
LBMI				S	**Sn**	**07 58 19.6**	**+1.0**
SGSI	**Sangihe**	**3.54**	**292**	P	**Pn**	**07 57 46.3**	**+0.7**
SGSI				S	**Sn**	**07 58 27.8**	**+1.6**
SIJI	**Sorong**	**4.02**	**142**	P	**Pn**	**07 57 54.2**	**+1.9**
	13nm,0.3s,baz=298,slow=22,SNR=31						
SIJI				S	**Sn**	**07 58 38.6**	**+0.4**
	31nm,0.4s,baz=69,slow=23,SNR=8.4						
SIJI				LR	LR	07 59 46.4	
	comp=Z,780nm,18.1s,baz=42,slow=43						
	28nm,0.3s						
KMSI	**Cibinong**	**5.13**	**250**	P	**Pn**	**07 58 06.2**	**-1.3**
SANI	**Sanana**	**5.18**	**213**	P	**Pn**	**07 58 08.7**	**+0.4**
	0.1nm22nm,0.8s						
DAV	**Davao City (W)**	**5.70**	**326**	Pn	**Pn**	**07 58 12.8**	**-2.6**
NLAI	**Namlea**	**5.79**	**197**	P	**Pn**	**07 58 15.7**	**-0.9**
	0.1nm24nm,0.6s						
KCP	**Kidapawan**	**5.94**	**322**	⇑*i*P	Pn	07 58 27.1	+8.3
KCP				*i* S	Sn	07 59 37.1	+12
GTOI	**Gorontalo**	**6.03**	**254**	P	**Pn**	**07 58 21.4**	**+1.5**
	0.1nm250nm16nm,0.5s						
FAKI	**Fak Fak**	**6.25**	**147**	Pn	**Pn**	**07 58 23.6**	**+0.6**
FAKI	**Fak Fak**	**6.25**	**147**	P	**Pn**	**07 58 24.9**	**+1.9**
	0.1nm20nm,0.8s						
LUWI	**Luwuk**	**6.90**	**241**	Pn	**Pn**	**07 58 28.9**	**-3.0**
PAGZ	**Pagadian**	**7.69**	**316**⇓*e*P		**Pn**	**07 58 45.3**	**+2.5**
APSI	**Ampana**	**7.84**	**246**	P	**Pn**	**07 58 44.9**	**0.0**
MYLDM	**Lahad Datu**	**10.66**	**286**	Pn	**Pn**	**07 59 20.2**	**-3.3**
KAPI	**Kappang**	**11.62**	**231**	P	**Pn**	**07 59 37.7**	**+1.1**
	1.0nm,0.3s,baz=94,slow=16,SNR=1.7						
KAPI				LR	LR	08 04 21.3	
	comp=Z,139nm,20.1s,baz=60,slow=38						
	3.8nm,0.4s						
BATI	**Baumata**	**13.47**	**202**	LR	LR	08 06 11.1	
	comp=Z,213nm,18.5s,baz=356,slow=41						
SBUM	**Sibu**	**16.57**	**271**		**Pn**	**08 00 41.3**	**-1.7**
SBUM				IAmb	IAmb	08 01 00.5	
	comp=Z,10nm,0.9s						
GUMO	**Guam**	**19.43**	**54**	LR	LR	08 07 47.6	
	comp=Z,105nm,21.5s,baz=236,slow=34						
FITZ	**Fitzroy Crossi**	**20.54**	**189**	P	**P**	**08 01 28.9**	**+0.1**
	comp=Z,2.7nm,1.1s,baz=5.2,slow=8.0,SNR=5.1						
	comp=Z,2.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.54**	**189**	P	**P**	**08 01 29.2**	**+0.5**
COEN	**Coen**	**21.57**	**139**	P	**P**	**08 01 40.7**	**+0.8**
COEN				IAmb	IAmb	08 01 43.5	
	comp=Z,11nm,1.1s						
PMG	**Port Moresby**	**21.69**	**123**	LR	LR	08 09 47.6	
	comp=Z,171nm,20.8s,baz=278,slow=36						
WB0	**Warramunga Arr**	**22.64**	**166**	P	**P**	**08 01 52.4**	**+1.1**
WB0				IAmb	IAmb	08 02 04.0	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**22.80**	**166**	P	**P**	**08 01 54.1**	**+1.1**
	comp=Z,4.6nm,0.7s,baz=343,slow=10,SNR=29						
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**22.80**	**166**	P	**P**	**08 01 53.5**	**+0.6**
WB2	**Warramunga Arr**	**22.80**	**166**	P	**P**	**08 01 54.8**	**+1.8**
WB2				IAmb	IAmb	08 01 59.8	
	comp=Z,24nm,1.2s						
AS31	**Alice Springs**	**26.32**	**169**	P	**P**	**08 02 26.2**	**+0.4**
ASAR	**Alice Springs**	**26.32**	**169**	P	**P**	**08 02 26.7**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=355,slow=7.9,SNR=17						
ASAR				LR	LR	08 15 32.5	
	comp=Z,118nm,19.3s,baz=308,slow=42						
	comp=Z,1.9nm,0.8s						
ASAR	**Alice Springs**	**26.32**	**169**	P	**P**	**08 02 25.7**	**-0.1**
UBPT	**Khong Chiam**	**26.36**	**301**	P	**P**	**08 02 22.9**	**-3.4**
UBPT				IAmb	IAmb	08 02 36.1	
	comp=Z,15nm,1.4s						
CTA	**Charters Tower**	**28.10**	**143**	LR	LR	08 13 53.5	
	comp=Z,93nm,18.2s,baz=326,slow=36						
HNR	**Honiara**	**33.16**	**111**	LR	LR	08 16 00.9	
	comp=Z,664nm,21.9s,baz=258,slow=35						
CMAR	**Chiang Mai Arr**	**33.36**	**301**	P	**P**	**08 03 29.7**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=132,slow=7.9,SNR=4.6						
	comp=Z,0.6nm,0.5s						
KSRS	**Korea Array**	**34.96**	**359**	LR	LR	08 16 56.5	
	comp=Z,48nm,21.6s,baz=195,slow=34						
MJAR	**Matsushiro Arr**	**35.13**	**13**	P	**P**	**08 03 42.6**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=183,slow=10,SNR=5.3						
MJAR				LR	LR	08 17 07.4	
	comp=Z,50nm,19.4s,baz=198,slow=35						
	comp=Z,1.1nm,0.5s						
STKA	**Stephens Creek**	**36.13**	**161**	P	**P**	**08 03 53.2**	**+1.1**
	comp=Z,2.1nm,0.4s,baz=344,slow=6.2,SNR=14						
	comp=Z,2.1nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**41.02**	**62**	T	T	08 48 29.1	
	baz=250,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.03**	**62**	T	T	08 48 30.1	
	baz=250,slow=75						
H11N3	**WAKE ISLAND Hy**	**41.04**	**62**	T	T	08 48 30.2	
	baz=250,slow=75						
USRK	**Usuriysk Ar.**	**41.78**	**3**	P	**P**	**08 04 40.2**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=195,slow=5.7,SNR=4.8						
	comp=Z,3.4nm,0.8s						
KLR	**Kul'dur**	**46.79**	**3**	P	**P**	**08 05 20.1**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=253,slow=4.0,SNR=3.8						
KLR				LR	LR	08 22 51.1	
	comp=Z,34nm,20.0s,baz=266,slow=33						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**49.29**	**340**	P	**P**	**08 05 38.8**	**0.0**
	comp=Z,0.8nm,0.4s,baz=164,slow=8.1,SNR=4.0						
	comp=Z,0.8nm,0.4s						
PETK	**Petropavlovsk-**	**55.97**	**21**	P	**P**	**08 06 28.3**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=210,slow=7.7,SNR=4.5						
	comp=Z,2.9nm,0.8s						
MK31	**Makanchi Array**	**59.88**	**325**	P	**P**	**08 06 54.9**	**-0.7**
MK31				IAmb	IAmb	08 07 07.4	
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	**59.88**	**325**	P	**P**	**08 06 55.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=120,slow=7.7,SNR=17						
MKAR				LR	LR	08 32 51.1	
	comp=Z,19nm,20.3s,baz=144,slow=36						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**59.88**	**325**	P	**P**	**08 06 55.0**	**-0.5**
KK31	**Karatay Array**	**65.66**	**317**	P	**P**	**08 07 33.8**	**-0.3**
KKAR	**Karatay Array**	**65.66**	**317**	P	**P**	**08 07 32.2**	**-1.9**
TIXI	**Tiksi**	**69.22**	**0**	LR	LR	08 41 00.3	
	comp=Z,28nm,18.0s,baz=189,slow=38						
TIXI	**Tiksi**	**69.22**	**0**	P	**P**	**08 07 56.4**	**+0.5**
ABKAR	**Akbulak array**	**74.53**	**321**	P	**P**	**08 08 29.4**	**+1.1**
KDAK	**Kodiak Island**	**81.96**	**32**	LR	LR	08 49 26.2	
	comp=Z,25nm,18.1s,baz=229,slow=38						
ARCES	**ARCESS Array B**	**92.46**	**340**	P	**P**	**08 09 58.8**	**-1.4**
	comp=Z,3.9nm,0.9s,baz=87,slow=6.2,SNR=6.0						
	comp=Z,3.9nm,0.9s						
TXAR	**Lajitas Array**	**120.78**	**54**	PKP	**PKPdf**	**08 15 42.4**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=343,slow=1.9,SNR=1.8						
TORD	**Torodi Ar. Bea**	**125.32**	**288**	PKP	**PKPdf**	**08 15 50.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=44,slow=3.1,SNR=2.3						

*NEIC **19** 07:58:08.5±1.7, 18°42S±0.08×177°9W±0°1, h564km±8km, mb4.0/16, Error ellipse: s-maj=17.4km s-min=11.4km az=84.0*
*IDC **19** 07:58:09.7±1.0, 18°33S×177°98W, h593km±10km, mb3.4/14, mbtmp4.3/16, Error ellipse: s-maj=17.9km s-min=10.8km az=151.0*
ISC 19 07:58:10.1±0.5, 18°2S±0°1×177°99W±0°09, h600km, n54, σ1s20/56, mb3.9/19, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.80**	**277**	P	**P**	**07 59 33.4**	**-0.9**
	66nm,0.7s,baz=123,slow=8.3,SNR=54						
MSVF				S	**S**	**08 00 43.1**	**+0.2**
	18nm,1.1s,baz=358,slow=16,SNR=5.8						
AFI	**Afiamalu**	**7.36**	**55**	P	P	07 59 58.5	-5.1
	27nm,0.5s,baz=202,slow=0.6,SNR=8.3						
AFI				S	S	08 01 26.0	-10
	20nm,0.5s,baz=41,slow=22,SNR=2.4						
AFI	**Afiamalu**	**7.36**	**55**	P	**P**	**07 59 59.4**	**-4.2**
NIUE	**Niue**	**7.69**	**97**	P	**P**	08 00 00.6	-5.9
LIFNC	**LIFOU**	**14.15**	**257**	P	**P**	**08 01 06.6**	**-3.8**
PINNC	**Pines Island,**	**14.32**	**250**	P	**P**	**08 01 11.6**	**-0.4**
DZM	**Mont Dzumac**	**15.10**	**253**	P	**P**	**08 01 18.8**	**-0.5**
	2.4nm,0.6s,baz=88,slow=10.0,SNR=7.8						
DZM	**Mont Dzumac**	**15.10**	**253**	P	**P**	**08 01 19.2**	**-0.1**
DZM				IAmb	IAmb	08 01 33.7	
	comp=Z,9.5nm,1.1s						
URZ	**Urewera**	**20.40**	**191**	P	**P**	**08 02 04.3**	**-2.9**
	comp=Z,13nm,0.7s,baz=65,slow=2.7,SNR=6.5						
	comp=Z,13nm,0.7s						
CTA	**Charters Tower**	**33.79**	**261**	P	**P**	**08 04 03.2**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=94,slow=9.6,SNR=7.4						
	comp=Z,3.4nm,0.6s						
CTAO	**Charters Tower**	**33.79**	**261**	P	**P**	**08 04 04.6**	**+0.6**
CTAO				IAmb	IAmb	08 04 05.2	
	comp=Z,4.4nm,0.7s						
COEN	**Coen**	**37.51**	**271**	P	**P**	**08 04 36.1**	**+1.3**
WR0	**Warramunga Arr**	**44.77**	**260**	P	**P**	**08 05 31.9**	**-0.1**
WR0				IAmb	IAmb	08 06 14.1	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**44.93**	**260**	P	**P**	**08 05 33.4**	**+0.2**
WRA	**Warramunga Arr**	**44.96**	**260**	P	**P**	**08 05 33.5**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=96,slow=7.0,SNR=31						
WRA				PcP	**PcP**	**08 07 02.0**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=90,slow=3.7,SNR=6.7						
WRA				S	**S**	**08 11 30.0**	**+0.6**
	comp=Z,1.1nm,1.1s,baz=91,slow=13,SNR=3.1						
	comp=Z,2.4nm,0.4s						
WRA	**Warramunga Arr**	**44.96**	**260**	P	**P**	**08 05 33.3**	**-0.2**
AS31	**Alice Springs**	**45.08**	**255**	P	**P**	**08 05 34.2**	**-0.1**
AS31				IAmb	IAmb	08 05 35.8	
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**45.09**	**255**	P	**P**	**08 05 34.8**	**+0.4**
	comp=Z,9.3nm,0.8s,baz=86,slow=8.7,SNR=52						
ASAR				PcP	**PcP**	**08 07 02.5**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=106,slow=3.8,SNR=15						
ASAR				S	**S**	**08 11 31.1**	**0.0**
	comp=Z,2.2nm,0.9s,baz=85,slow=16,SNR=12						
	comp=Z,9.3nm,0.8s						
SIJI	**Sorong**	**52.70**	**283**	P	**P**	**08 06 31.3**	**+0.8**
	comp=Z,28nm,0.7s,baz=53,slow=6.3,SNR=10						
	comp=Z,28nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	**P**	**08 06 34.7**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=48,slow=5.8,SNR=5.6						
	comp=Z,0.8nm,0.3s						
VNDA	**Vanda**	**60.15**	**185**	P	**P**	**08 07 21.4**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=28,slow=6.9,SNR=1.7						
	comp=Z,0.2nm,0.4s						
MJAR	**Matsushiro Arr**	**68.41**	**323**	P	**P**	**08 08 12.7**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=159,slow=6.2,SNR=8.4						
	comp=Z,2.2nm,0.5s						
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**08 08 34.1**	**+1.1**
QSPA				IAmb	IAmb	08 08 34.3	
	comp=Z,2.2nm,0.8s						
PETK	**Petropavlovsk-**	**74.10**	**345**	P	**P**	**08 08 45.8**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=136,slow=9.3,SNR=5.9						
	comp=Z,3.4nm,0.7s						
MDPB	**Devils Postpil**	**78.44**	**44**	P	**P**	**08 09 11.6**	**+1.2**
YBH	**Yreka Blue Hor**	**78.53**	**39**	P	**P**	**08 09 12.0**	**+1.4**
KDAK	**Kodiak Island**	**78.63**	**14**	P	**P**	**08 09 12.4**	**+1.9**
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**08 09 15.6**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=222,slow=8.8,SNR=10						
	comp=Z,0.8nm,0.7s						
KVN	**Kaseville**	**79.86**	**43**	P	**P**	**08 09 18.6**	**+0.8**
U15A	**North Rim**	**82.44**	**48**	P	**P**	**08 09 32.6**	**+1.5**
U15A				IAmb	IAmb	08 09 33.2	
	comp=Z,2.3nm,0.7s						
TX31	**Lajitas Ar. Si**	**85.84**	**57**	P	**P**	**08 09 49.5**	**+1.8**
TX32	**Lajitas Array**	**85.84**	**57**	P	**P**	**08 09 49.3**	**+1.6**
TX32				IAmb	IAmb	08 09 49.7	
	comp=Z,4.8nm,1.4s						
TXAR	**Lajitas Array**	**85.84**	**57**	P	**P**	**08 09 49.4**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=220,slow=6.2,SNR=19						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**86.12**	**13**	P	**P**	**08 09 47.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=218,slow=5.0,SNR=12						
	comp=Z,0.7nm,0.4s						
PDAR	**Pinedale Array**	**87.32**	**43**	P	**P**	**08 09 54.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=235,slow=1.3,SNR=6.8						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.37**	**290**	P	**P**	**08 10 05.6**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=107,slow=3.1,SNR=5.3						
	comp=Z,1.4nm,0.3s						
SNAA	**Sanae**	**90.25**	**178**	P	**P**	**08 10 08.1**	**+0.6**
SNAA				IAmb	IAmb	08 10 18.1	
	comp=Z,4.7nm,1.5s						
MKAR	**Makanchi Array**	**109.65**	**314**	PKiKP	**PKiKP**	**08 15 32.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=154,slow=1.7,SNR=4.1						
ARCES	**ARCESS Array B**	**126.71**	**350**	PKP	**PKPdf**	**08 16 05.2**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=64,slow=2.1,SNR=5.7						
FINES	**FINESS Array B**	**133.62**	**344**	PKP	**PKPdf**	**08 16 18.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=90,slow=3.8,SNR=4.5						
AKASG	**Malin Array Be**	**141.04**	**332**	PKhKP	PKPpre	08 16 27.2	
	comp=Z,0.5nm,0.4s,baz=41,slow=3.6,SNR=4.3						
BUR08	**Bucovina Ar. S**	**145.08**	**332**	PKPbc	**PKPab**	**08 16 43.0**	**+0.7**
BURAR	**Bucovina Array**	**145.09**	**332**	PKPbc	**PKiKP**	**08 16 43.3**	**-1.0**
BR131	**Keskin Array S**	**145.30**	**315**	PKPbc	**PKPab**	**08 16 43.6**	**0.0**
BRTR	**Keskin Array B**	**145.30**	**315**	PKPbc	**PKPbc**	**08 16 42.5**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=126,slow=3.6,SNR=10						
BRTR	**Keskin Array B**	**145.30**	**315**	PKPbc	**PKPab**	**08 16 42.9**	**-0.7**
CLL	**Colim**	**145.87**	**348**		**PKPbc**	**08 16 43.9**	**+0.7**
CLL	**Colim**	**145.87**	**348**	*i* PKPbc	**PKPbc**	**08 16 43.8**	**+0.6**
	comp=Z,14nm,0.6s						
KHC	**Kasperske Hory**	**147.80**	**346**	PKPbc	**PKiKP**	**08 16 49.6**	**-0.3**
KHC	**Kasperske Hory**	**147.80**	**346**⇑*e*PKP		**PKiKP**	**08 16 49.0**	**-0.8**
GEC2	**GERESS Array S**	**148.03**	**345**	PKPbc	**PKiKP**	**08 16 51.1**	**+0.7**
GERES	**GERESS Array B**	**148.03**	**345**	PKPbc	**PKiKP**	**08 16 49.6**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=45,slow=4.0,SNR=19						
GERES	**GERESS Array B**	**148.03**	**345**	PKPbc	**PKiKP**	**08 16 49.9**	**-0.5**
DIVS	**Divibare**	**150.12**	**333**		**PKiKP**	**08 16 54.5**	**-0.3**

NNC 19 08:05:27.1±0.4, 50.84N×73.66E, h0km, mb3.5, mpv3.2, 10C-7D, Error ellipse: s-maj=4.5km s-min=3.1km az=37.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.74**	**199**	⇑Pg	Pb	08 06 17.4	+0.4
	5.2nm,0.6s						
OTUK				⇑Lg	Lg	08 06 54.0	
	10.0nm,0.6s						
BVA0	**Borovoye Array**	**2.98**	**318**	⇓Pg	Pb	08 06 22.0	+1.0
	1.2nm,0.4s,baz=134,slow=16,SNR=9.5						
BVA0				⇑Lg	Lg	08 06 59.8	
	4.7nm,0.5s,baz=128,slow=24,SNR=11						
BRVK	**Borovoye**	**3.05**	**318**	⇓Pg	Pb	08 06 22.8	+0.6
	2.8nm,0.6s						
BRVK				⇓Lg	Lg	08 07 03.6	
	36nm,1.1s						
KURBB	**Kurchatov Arra**	**3.10**	**92**	⇑Pn	Pn	08 06 17.4	+0.2
	4.5nm,0.4s						
KURBB				⇑Lg	Lg	08 07 06.5	
	41nm,0.6s						
KURK	**Kurchatov**	**3.15**	**90**	⇓Pn	Pn	08 06 18.0	+0.1
	3.3nm,0.8s						
KURK				⇑Lg	Lg	08 07 07.1	
	19nm,0.6s						
MAKZ	**Makanchi**	**6.81**	**123**	⇓Pn	Pn	08 07 07.7	-0.5
	3.8nm,0.7s						
MAKZ				⇑Lg	Lg	08 09 03.0	
	4.9nm,0.7s						
MK31	**Makanchi Array**	**6.99**	**122**	⇓Pn	Pn	08 07 09.8	-0.9
	1.9nm,0.6s,baz=118,slow=8.3,SNR=24						
MK31				⇑Lg	Lg	08 09 05.8	
	5.6nm,0.7s,baz=313,slow=26,SNR=5.8						
TKM2	**Tokmak 2**	**8.03**	**170**	⇑Lg	Lg	08 09 42.0	
	7.3nm,0.9s						
PDGK	**Podgornoye**	**8.50**	**150**	⇑Pg	Pg	08 08 01.1	-8.7
	2.8nm,0.8s						
PDGK				⇓Lg	Lg	08 09 56.2	
	5.3nm,0.8s						

*IDC **19** 08:13:52.3±1.5, 29.92N×99.51E, h0km, mb3.6/5, mbtmp3.5/6, Error ellipse: s-maj=48.2km s-min=22.8km az=52.0*
ISC 19 08:13:55.3±1.6, 30.0N±0.2×99.6E±0.3, h18km, n6, σ0s52/6, mb3.5/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**18.61**	**15**	P	**Pn**	**08 18 12.3**	**+0.3**
	0.2nm,0.4s,baz=186,slow=12,SNR=1.8						
MKAR	**Makanchi Array**	**21.50**	**326**	P	**P**	**08 18 43.4**	**+0.3**
	0.9nm,0.6s,baz=136,slow=10,SNR=9.5						
	0.9nm,0.6s						
KSRS	**Korea Array**	**24.68**	**65**	P	**P**	**08 19 15.0**	**-0.1**
	1.5nm,0.7s,baz=252,slow=9.3,SNR=2.8						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**25.98**	**329**	P	**P**	**08 19 26.5**	**-0.2**
	0.9nm,0.7s,baz=142,slow=9.2,SNR=9.7						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**26.25**	**340**	P	**P**	**08 19 28.5**	**-0.7**
	0.5nm,0.4s,baz=161,slow=9.2,SNR=3.8						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**59.86**	**142**	P	**P**	**08 24 00.1**	**+0.1**
	0.6nm,0.7s,baz=325,slow=8.1,SNR=6.5						
	0.6nm,0.7s						

MAN 19 08:26:30.4, 13.51N×120.51E, h30km, mb4.4, ML3.3, MS3.1, 5C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.34**	**311**⇑*e*P		Pn	08 26 40.1	+0.8
LUBP				*e*S	Sn	08 26 47.1	+1.9
PGP	**Puerto Galera**	**0.43**	**91**⇑*e*P		Pb	08 26 40.1	+0.3
PGP				*i* S	Sn	08 26 48.7	+1.2
TGY	**Tagaytay City**	**0.72**	**35**⇑*e*P		Pn	08 26 46.5	+1.9
TGY				*i* S	Sn	08 26 56.9	+2.2
MACP	**Maragondon, Ca**	**0.78**	**15**⇓*e*P		Pb	08 26 45.6	+0.2
MACP				*e*S	Sn	08 26 57.0	+1.1
LQP	**

*IDC **19** 09:15:49.1±2.3,53°.55N×87°.81E, h0km, mbtmp3.7/3, ML3.4/3, Error ellipse: s-maj=20.7km s-min=13.0km az=62.0*

ISC 19 09:15:48.9±3.1, 53°.6N±0°.1×87°.7E±0°.2, h0km, n10, σ1§43/17, 9C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**282**	*i*		09 27 00.0	
	baz=98,slow=318,SNR=1.1						
ZAA0	**Zalesovo Array**	**1.72**	**282**	⇓Pn	**Pn**	**09 16 20.4**	**+0.4**
	2.6nm,0.4s						
ZAA0				⇑Sn	**Sg**	**09 16 45.3**	**+1.3**
	14nm,0.7s						
ZALV	**Zalesovo Beam**	**1.72**	**282**	Pn	**Pb**	**09 16 20.5**	**-0.7**
	9.8nm,0.3s,baz=100,slow=14,SNR=43						
ZALV				Lg	Lg	09 16 46.2	
	21nm,0.3s,baz=101,slow=29,SNR=20						
KURK	**Kurchatov**	**6.27**	**246**	⇓Pn	**Pn**	**09 17 23.4**	**+0.8**
	3.3nm,0.6s						
KURK				⇑Sn	**Sn**	**09 18 34.1**	**-0.7**
	3.3nm,0.6s						
KURK				⇑Lg	Lg	09 19 07.2	
	25nm,1.2s						
KURBB	**Kurchatov Arra**	**6.37**	**246**	Pn	**Pn**	**09 17 25.1**	**+1.3**
	0.5nm,0.3s,baz=62,slow=14,SNR=47						
KURBB				Sn	**Sn**	**09 18 37.9**	**+0.7**
	0.2nm,0.3s,baz=64,slow=23,SNR=5.6						
KURBB				Lg	Lg	09 19 12.8	
	0.2nm,0.3s,baz=64,slow=32,SNR=6.6						
	6.2nm,0.5s						
KURBB	**Kurchatov Arra**	**6.37**	**246**	⇑Pn	**Pn**	**09 17 25.1**	**+1.3**
	7.2nm,0.5s						
KURBB				⇓Sn	**Sn**	**09 18 36.4**	**-0.8**
	14nm,0.6s						
KURBB				⇑Lg	Lg	09 19 10.8	
	31nm,0.8s						
MK31	**Makanchi Array**	**7.64**	**209**	⇓Pn	**Pn**	**09 17 42.3**	**+0.9**
	0.6nm,0.4s,baz=29,slow=13,SNR=23						
MK31				⇑Sn	**Sn**	**09 19 08.8**	**+0.1**
	4.0nm,0.9s,baz=256,slow=45,SNR=3.0						
MK31				⇑Lg	Lg	09 19 48.8	
	3.5nm,0.7s,baz=37,slow=32,SNR=5.2						
MKAR	**Makanchi Array**	**7.64**	**209**	Pn	**Pn**	**09 17 42.1**	**+0.6**
	0.9nm,0.3s,baz=28,slow=13,SNR=29						
MKAR				Sn	**Sn**	**09 19 09.4**	**+0.8**
	0.6nm,0.3s,baz=31,slow=24,SNR=7.6						
MKAR				Lg	Lg	09 19 49.6	
	0.3nm,0.3s,baz=32,slow=31,SNR=7.0						
	1.3nm,0.3s						
MAKZ	**Makanchi**	**7.72**	**210**	⇑Pn	**Pn**	**09 17 41.1**	**-1.4**
	1.7nm,0.8s						
MAKZ				⇑Sn	**Sn**	**09 19 09.9**	**-0.7**
	4.9nm,1.2s						
MAKZ				⇓Lg	Lg	09 19 49.8	
	5.1nm,0.7s						
BVAR	**Borovoye Array**	**10.35**	**274**	Pn	**Pn**	**09 18 20.6**	**+2.1**
	0.5nm,0.3s,baz=78,slow=14,SNR=5.8						
BVAR				Sn	**Sn**	**09 20 11.7**	**-3.4**
	0.6nm,0.3s,baz=79,slow=25,SNR=6.1						
	0.8nm,0.4s						

*IDC **19** 09:19:23.9±0.7, 29°.21S×61°.08E, h0km, mb3.9/12, mbtmp3.9/13, ML4.1/1, MS3.5/11, Error ellipse: s-maj=25.6km s-min=19.6km az=61.0*

ISC 19 09:19:25.5±0.7, 29°.2S±0°.1×61°.1E±0°.2, h10km, n30, σ0§75/14, mb4.0/12, MS3.4/11, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.53**	**307**	Pn	**Pn**	**09 23 17.5**	**-0.1**
	0.1nm,0.3s,baz=139,slow=16,SNR=2.0						
OPO				Sn	Sn	09 26 05.3	-16
	0.2nm,0.3s,baz=292,slow=23,SNR=9.7						
	2.4nm,0.6s						
H08S1	**Diego Carcia H**	**23.98**	**29**	T	T	09 49 42.8	
	baz=204,slow=76,SNR=4.9						
H08S2	**Diego Garcia H**	**23.99**	**29**	T	T	09 49 40.2	
	baz=204,slow=76,SNR=6.8						
H08S3	**Diego Garcia H**	**24.00**	**29**	T	T	09 49 44.3	
	baz=204,slow=76,SNR=9.5						
BOSA	**Boshof**	**31.30**	**262**	LR	LR	09 36 18.2	
	comp=Z,53nm,19.4s,baz=190,slow=32						
LBTB	**Lobatse**	**31.79**	**269**	LR	LR	09 35 43.0	
	comp=Z,30nm,21.7s,baz=179,slow=31						
SUR	**Sutherland**	**34.60**	**254**	LR	LR	09 38 08.1	
	comp=Z,52nm,18.0s,baz=110,slow=32						
KMBO	**Kilima Mbogo**	**36.00**	**317**	LR	LR	09 38 42.8	
	comp=Z,50nm,18.2s,baz=185,slow=32						
TSUM	**Tsumeb**	**40.71**	**274**	LR	LR	09 41 44.6	
	comp=Z,49nm,20.7s,baz=33,slow=33						
ATD	**Arta Tunnel**	**44.16**	**334**	LR	LR	09 44 42.9	
	comp=Z,44nm,18.5s,baz=270,slow=34						
H01W2	**Cape Leeuwin H**	**44.89**	**111**	T	T	10 15 20.5	
	baz=261,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**44.89**	**111**	T	T	10 15 20.8	
	baz=261,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**44.91**	**111**	T	T	10 15 21.8	
	baz=261,slow=75,SNR=23						
SNAA	**Sanae**	**54.40**	**200**	P	**P**	**09 28 53.1**	**+0.7**
	0.9nm,0.8s,baz=219,slow=8.1,SNR=2.6						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.84**	**42**	P	**P**	**09 29 31.6**	**+0.2**
	0.9nm,0.5s,baz=218,slow=8.7,SNR=4.2						
	0.9nm,0.5s						
KAPI	**Kappang**	**60.32**	**78**	LR	LR	09 54 34.9	
	comp=Z,44nm,18.3s,baz=232,slow=35						
QSPA	**South Pole Qui**	**60.95**	**180**	P	**P**	**09 29 37.9**	**-0.7**
	1.0nm,0.9s,baz=274,slow=19,SNR=2.0						
	1.0nm,0.9s						
VNDA	**Vanda**	**64.00**	**166**	P	**P**	**09 29 58.5**	**-0.1**
	0.6nm,0.8s,baz=277,slow=4.8,SNR=4.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**64.50**	**104**	P	**P**	**09 30 02.7**	**-0.2**
	0.7nm,0.6s,baz=243,slow=6.4,SNR=11						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**66.32**	**100**	P	**P**	**09 30 14.9**	**+0.2**
	0.8nm,0.9s,baz=248,slow=6.4,SNR=3.2						
	0.8nm,0.9s						
GNI	**Garni**	**70.66**	**347**	LR	LR	10 00 22.6	
	comp=Z,19nm,19.3s,baz=143,slow=35						
TORD	**Torodi Ar. Bea**	**71.10**	**298**	P	**P**	**09 30 44.0**	**-0.5**
	2.7nm,0.8s,baz=117,slow=4.3,SNR=12						
TORD				LR	LR	10 01 29.9	
	comp=Z,54nm,19.6s,baz=208,slow=36						
	2.7nm,0.8s						
BRTR	**Keskin Array B**	**73.18**	**338**	P	**P**	**09 30 55.8**	**-0.8**
	1.1nm,0.8s,baz=164,slow=8.5,SNR=5.5						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**78.04**	**15**	P	**P**	**09 31 24.1**	**0.0**
	0.8nm,0.8s,baz=157,slow=6.6,SNR=7.6						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**84.40**	**340**	P	**P**	**09 31 57.1**	**-0.6**
	0.4nm,0.4s,baz=163,slow=4.8,SNR=1.2						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**85.33**	**14**	P	**P**	**09 32 03.0**	**+0.7**
	0.7nm,0.3s,baz=207,slow=6.1,SNR=5.2						
	0.7nm,0.3s						
MDT	**Midelt**	**87.64**	**310**	LR	LR	10 12 57.7	
	comp=Z,36nm,18.2s,baz=232,slow=37						
ESDC	**Sonseca Array**	**91.38**	**316**	P	**P**	**09 32 33.5**	**+1.8**
	0.9nm,0.9s,baz=124,slow=3.4,SNR=5.3						
	0.9nm,0.9s						
JHJ	**Hachijo jima 2**	**96.90**	**56**	LR	LR	10 07 46.4	
	comp=Z,98nm,20.6s,baz=50,slow=30						
PDAR	**Pinedale Array**	**164.51**	**333**	PKP	**PKPdf**	**09 39 29.2**	**-0.5**
	0.2nm,0.7s,baz=76,slow=3.8,SNR=4.4						

*IDC **19** 09:30:46.9±1.1, 34°.69N×24°.82E, h0km, mb3.5/5, mbtmp3.6/11, ML3.8/6, MS3.3/2, Error ellipse: s-maj=18.7km s-min=10.2km az=96.0*
*DDA **19** 09:30:47.6±0.0, 34°.55N×25°.27E, h8km±4km, MW3.6*
*ISK **19** 09:30:48.7, 34°.84N×24°.88E, h7km, ML3.6/20*
*ATH **19** 09:30:49.0, 34°.77N×24°.85E, h12km±2km, ML3.8/4, Error ellipse: s-maj=2.7km s-min=1.2km az=358.0*
*THE **19** 09:30:49.8, 34°.84N×24°.79E, h16km, ML3.5/6, Error ellipse: s-maj=1.3km s-min=0.6km az=342.0*
*HLW **19** 09:30:52.2, 34°.51N×25°.48E, h10km±13km, Md3.5, Ml3.8*

ISC 19 09:30:48.0±1.2, 34°.71N±0°.04×24°.86E±0°.02, h9km±8km, n71, σ1§47/94, mb3.4/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.31**	**353**	P	**Pg**	**09 30 54.4**	**+0.2**
SIVA				S	**Sg**	**09 30 58.1**	**-0.3**
SIVA				AML	AML	09 31 00.7	
SIVA				AML	AML	09 31 01.0	
IDI	**Anoyia**	**0.58**	**3**	Pg	**Pg**	**09 30 58.7**	**-0.5**
	117nm,0.3s,baz=245,slow=10,SNR=521						
IDI				Lg	Lg	09 31 06.0	
	1μm,0.3s,baz=277,slow=23,SNR=65						
IDI	**Anoyia**	**0.58**	**3**	P	**Pg**	**09 30 58.8**	**-0.5**
IDI				S	**Sg**	**09 31 06.2**	**-0.7**
	12μm,0.4s						
IDI	**Anoyia**	**0.58**	**3**	P	**Pg**	**09 30 58.8**	**-0.5**
IDI				S	**Sg**	**09 31 06.2**	**-0.7**
IDI				AML	AML	09 31 07.1	
	comp=E,26084μm,0.5s						
IDI				AML	AML	09 31 07.5	
	comp=N,17511μm,0.3s						
KSTL	**Kastelli Herak**	**0.62**	**16**	P	**Pb**	**09 31 00.6**	**-0.4**
IACM	**Heraklion**	**0.62**	**16**	P	**Pg**	**09 30 59.9**	**-0.1**
IACM				S	**Sg**	**09 31 08.0**	**-0.2**
IACM	**Heraklion**	**0.62**	**16**	P	**Pg**	**09 30 59.9**	**-0.1**
IACM				S	**Sg**	**09 31 08.0**	**-0.2**
GVDS	**Gavdos**	**0.65**	**282**	P	**Pg**	**09 31 01.3**	**+0.8**
GVDS				S	**Sg**	**09 31 10.4**	**+1.5**
	comp=N,4μm,0.7s						
GVD	**Gavdhos**	**0.65**	**282**	P	**Pg**	**09 31 01.2**	**+0.7**
GVD				S	**Sg**	**09 31 09.3**	**+0.3**
	comp=N,8μm,0.6s						
GVD	**Gavdhos**	**0.65**	**282**	PG	**Pg**	**09 31 01.2**	**+0.7**
GVD				SG	**Sb**	**09 31 11.8**	**+1.2**
GVD	**Gavdhos**	**0.65**	**282**	P	**Pg**	**09 31 01.2**	**+0.7**
IMMV	**Iera Moni Meta**	**1.04**	**317**	P	**Pg**	**09 31 06.4**	**-1.6**
IMMV				S	**Sg**	**09 31 18.8**	**-2.7**
	comp=N,3μm,0.9s						
IMMV	**Iera Moni Meta**	**1.04**	**317**	PG	**Pg**	**09 31 06.9**	**-1.1**
IMMV				SG	**Sb**	**09 31 21.9**	**0.0**
IMMV	**Iera Moni Meta**	**1.04**	**317**	P	**Pg**	**09 31 07.8**	**-0.2**
KNDR	**Palaiochora Ch**	**1.10**	**299**	P	**Pb**	**09 31 09.1**	**0.0**
ZKR	**Zakros**	**1.19**	**70**	P	**Pb**	**09 31 11.0**	**+0.3**
ZKR				S	**Sn**	**09 31 27.0**	**-0.1**
	comp=N,3μm,0.5s						
ZKR	**Zakros**	**1.19**	**70**	PN	**Pb**	**09 31 10.9**	**+0.3**
ZKR	**Zakros**	**1.19**	**70**	P	**Pb**	**09 31 11.0**	**+0.3**
ZKR				S	**Sn**	**09 31 27.8**	**+0.7**
ZKR				AML	AML	09 31 31.6	
	comp=E,6677μm,0.5s						
ZKR				AML	AML	09 31 34.5	
	comp=N,2905μm,0.5s						
RODP	**Rodopos**	**1.24**	**314**	P	**Pn**	**09 31 09.1**	**-2.4**
RODP				S	**Sb**	**09 31 24.7**	**-2.9**
ANKY	**Antikythira Is**	**1.72**	**313**	P	**Pb**	**09 31 20.0**	**+0.3**
SANT	**Santorini**	**1.73**	**16**	PN	**Pn**	**09 31 17.6**	**-0.7**
MHLO	**Agia Marina, M**	**2.01**	**350**	P	**Pb**	**09 31 24.5**	**-0.2**
KARP	**Karpathos**	**2.07**	**65**	P	**Pn**	**09 31 24.0**	**+1.1**
KARP				S	**Sn**	**09 31 47.9**	**-0.9**
	comp=N,782nm,0.7s						
KARP	**Karpathos**	**2.07**	**65**	PN	**Pn**	**09 31 24.4**	**+1.5**
KARP	**Karpathos**	**2.07**	**65**	P	**Pb**	**09 31 25.3**	**-0.4**
KARP				S	**Sb**	**09 31 52.3**	**+0.8**
KARP				AML	AML	09 32 05.2	
	comp=E,1531μm,0.7s						
KARP				AML	AML	09 32 15.9	
	comp=N,1573μm,0.5s						
KTHA	**Kythira Island**	**2.13**	**317**	PN	**Pn**	**09 31 24.3**	**+0.6**
KTHA	**Kythira Island**	**2.13**	**317**	P	**Pb**	**09 31 26.2**	**-0.6**
APE	**Apeiranthos**	**2.42**	**13**	PN	**Pn**	**09 31 28.2**	**+0.4**
NIS1	**Nisyros Isl.**	**2.67**	**44**	PN	**Pn**	**09 31 32.3**	**+1.1**
DAT	**Datca**	**3.00**	**47**	PN	**Pn**	**09 31 37.0**	**+1.3**
ARG	**Arkhangelos**	**3.06**	**60**	PN	**Pn**	**09 31 38.3**	**+1.7**
BODT	**Bodrum**	**3.08**	**40**	PN	**Pn**	**09 31 37.9**	**+1.1**
BDRM	**Kayabasi**	**3.15**	**41**	P	**Pn**	**09 31 36.5**	**-1.4**
SLUM	**Salum**	**3.22**	**175**	P	**Pn**	**09 31 39.7**	**+1.0**
	baz=185						
SLUM				S	**Sn**	**09 32 14.1**	**-3.1**
	baz=185						
DDIM	**Aydin, Didim**	**3.35**	**34**	P	**Pn**	**09 31 43.1**	**+2.5**
DDIM				S	**Sg**	**09 32 36.9**	**+1.2**
ITM	**Ithomi**	**3.43**	**317**	PN	**Pn**	**09 31 43.0**	**+1.4**
TURN	**Turunc**	**3.44**	**52**	PN	**Pn**	**09 31 43.0**	**+1.2**
TURN	**Turunc**	**3.44**	**52**	P	**Pn**	**09 31 40.7**	**-1.1**
GCAM	**G?zelcaml?**	**3.55**	**32**	PN	**Pn**	**09 31 44.5**	**+1.2**
YER	**Yerkesik**	**3.69**	**48**	PN	**Pn**	**09 31 46.5**	**+1.3**
DALY	**Dalyan (Mula)**	**3.74**	**55**	PN	**Pn**	**09 31 47.3**	**+1.5**
MULA	**Mugla, Merkez-**	**3.79**	**47**	P	**Pn**	**09 31 47.9**	**+1.2**
CHOS	**Chios island**	**3.80**	**14**	PN	**Pn**	**09 31 47.5**	**+0.8**
AYDN	**Tasoluk**	**3.83**	**39**	P	**Pn**	**09 31 49.5**	**+2.3**
AYDN				S	**Sn**	**09 32 35.1**	**+2.8**
URLA	**Izmir**	**3.91**	**21**	PN	**Pn**	**09 31 49.4**	**+1.2**
FETY	**Fethiye**	**3.94**	**60**	PN	**Pn**	**09 31 49.9**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**4.05**	**36**	PN	**Pn**	**09 31 50.9**	**+0.6**
AKAS	**Kas**	**4.16**	**67**	P	**Pn**	**09 31 51.3**	**-0.5**
AKAS				S	**Sn**	**09 32 43.1**	**+2.4**
TAVA	**DENIZLI_Tavas**	**4.29**	**49**	P	**Pn**	**09 31 53.3**	**-0.2**
CAEL	**Denizli, Camel**	**4.35**	**55**	P	**Pn**	**09 31 54.5**	**+0.1**
CAEL				S	**Sb**	**09 32 54.7**	**-2.6**
GOLH	**Golhisar**	**4.57**	**55**	P	**Pn**	**09 31 58.5**	**+1.0**
KORT	**Korkueli**	**5.01**	**61**	P	**Pn**	**09 32 04.7**	**+1.2**
PASA	**Karahalli, USA**	**5.21**	**44**	P	**Pn**	**09 32 07.5**	**+1.4**
PASA				S	**Sb**	**09 33 16.7**	**-5.2**
SWA2		**5.47**	**175**	P	**Pn**	**09 32 10.3**	**+0.6**
	baz=181						
KEPZ	**Antalya-Kepez**	**5.90**	**66**	P	**Pn**	**09 32 16.5**	**+0.8**
KEPZ				S	**Sn**	**09 33 21.7**	**-1.7**
SEDI	**Konya, Seydise**	**6.22**	**62**	P	**Pn**	**09 32 19.5**	**-0.6**
SEDI				S	**Sn**	**09 33 31.1**	**-0.2**
GAZI	**Gazipasa**	**6.27**	**74**	P	**Pn**	**09 32 19.5**	**-1.2**
GAZI				S	**Sn**	**09 33 28.5**	**-4.0**
HFRF	**Wahat Farafira**	**8.10**	**158**	P	**Pn**	**09 32 45.1**	**-0.7**
	baz=160						
BRTR	**Keskin Array B**	**8.61**	**52**	Pn	**Pn**	**09 32 56.6**	**+3.8**
	comp=N,0.2nm,0.3s,baz=232,slow=15,SNR=8.2						
	comp=N,1.4nm,0.6s						
MMAI	**Mount Meron Ar**	**8.93**	**98**	Pn	**Pn**	**09 32 57.0**	**-0.2**
	comp=N,1.7nm,0.3s,baz=289,slow=10,SNR=1.4						
MMAI				Sn	**Sn**	**09 34 39.3**	**+1.3**
	comp=N,2.2nm,0.3s,baz=265,slow=36,SNR=1.4						
	comp=N,0.5nm,0.3s						
EIL	**Elat**	**9.92**	**118**	Pn	**Pn**	**09 33 12.7**	**+2.0**
	comp=N,1.0nm,0.3s,baz=311,slow=9.3,SNR=3.0						
EIL				Sn	Sn	09 34 54.0	-8.2
	comp=N,1.3nm,0.3s,baz=333,slow=18,SNR=1.9						
	comp=N,3.9nm,0.4s						
AKASG	**Malin Array Be**	**16.30**	**10**	Pn	**Pn**	**09 34 37.4**	**+0.4**
	comp=N,0.6nm,0.3s,baz=202,slow=10,SNR=5.1						
	comp=N,0.2nm,0.3s						
GERES	**GERESS Array B**	**16.37**	**333**	Pn	**Pn**	**09 34 39.7**	**+1.8**
	comp=N,0.2nm,0.3s,baz=144,slow=12,SNR=8.5						
	comp=N,1.0nm,0.5s						
KBZ	**Khabaz**	**16.60**	**52**	Pn	**P**	**09 34 44.5**	**+1.2**
	comp=N,0.2nm,0.3s,baz=252,slow=6.4,SNR=2.9						
	comp=N,3.6nm,1.0s						
ESDC	**Sonseca Array**	**23.44**	**291**	P	**P**	**09 35 57.2**	**-0.4**
	comp=N,0.4nm,0.8s,baz=81,slow=9.5,SNR=1.8						
	comp=N,0.4nm,0.8s						
BELG	**Belogornoye**	**24.02**	**36**	LR	LR	09 46 07.3	
	comp=N,25nm,20.1s,baz=40,slow=38						
FINES	**FINESS Array B**	**26.77**	**1**	P	**P**	**09 36 26.5**	**-1.3**
	comp=N,1.2nm,0.9s,baz=178,slow=12,SNR=2.4						
	comp=N,1.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**28.27**	**325**	P	**P**	**09 36 43.3**	**+2.0**
	comp=N,0.2nm,0.3s,baz=118,slow=9.0,SNR=3.0						
	comp=N,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**30.01**	**230**	P	**P**	**09 36 56.3**	**-0.8**
	comp=N,0.2nm,0.3s,baz=36,slow=8.9,SNR=5.7						
	comp=N,0.2nm,0.3s						
MKAR	**Makanchi Array**	**44.23**	**56**	P	**P**	**09 38 57.2**	**-0.4**
	comp=N,0.3nm,0.4s,baz=267,slow=8.5,SNR=5.7						
	comp=N,0.3nm,0.4s						
BOSA	**Boshof**	**62.98**	**180**	LR	LR	10 09 27.6	
	comp=N,54nm,18.8s,baz=192,slow=37						

IDC 19 09:44:38.2±3.4, 54°.16N×87°.47E, h0km, mbtmp2.5/2, ML2.4/2, Error ellipse: s-maj=28.6km s-min=19.8km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**263**	*i*		09 54 10.0	
	baz=81,slow=324,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.58**	**263**	Pg	Pn	09 45 05.6	-1.8
	1.7nm,0.3s,baz=79,slow=17,SNR=13						
ZALV				Lg	Lg	09 45 30.8	
	1.2nm,0.3s,baz=80,slow=25,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.52**	**241**	Pn	Pn	09 46 15.9	+0.7
	baz=53,slow=13,SNR=4.8						
KURBB				Sn	Sn	09 47 26.9	-3.3
	baz=55,slow=21,SNR=1.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**8.08**	**206**	Pn	Pn	09 46 38.6	+1.9
	0.1nm,0.3s,baz=25,slow=15,SNR=1.9						
	0.1nm,0.3s						

*NNC **19** 09:47:09.6±2.0, 51°.78N×75°.40E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=122.6km s-min=13.1km az=26.0, Suspected Mining explosion.*
*IDC **19** 09:47:13.2±1.1, 51°.67N×75°.81E, h0km, mbtmp2.4/4, ML2.0/3, Error ellipse: s-maj=24.4km s-min=9.1km az=29.0*

ISC 19 09:47:06.8±1.1, 52°.33N±0°.07×76°.04E±0°.05, h0km, n11, σ0§88/11, 1C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.28**	**134**	⇓Pn	**Pb**	**09 47 48.8**	**0.0**
	3.8nm,0.8s						
KURK				⇓Sn	**Sb**	**09 48 17.1**	**-0.4**
	22nm,1.2s						
KURBB	**Kurchatov Arra**	**2.31**	**137**	Pn	**Pn**	**09 47 47.4**	**+1.3**
	0.2nm,0.3s,baz=305,slow=19,SNR=24						
KURBB				Lg	Lg	09 48 17.9	
	0.1nm,0.3s,baz=303,slow=32,SNR=8.0						
	1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**2.31**	**137**	⇓Pn	**Pg**	**09 47 50.3**	**-0.7**
	5.8nm,0.9s						
KURBB				⇑Sn	**Sb**	**09 48 18.8**	**+0.5**
	36nm,0.7s						
BVA0	**Borovoye Array**	**3.51**	**284**	Lg	Lg	09 48 53.1	
	6.8nm,0.9s,baz=110,slow=24,SNR=7.0						
BVAR	**Borovoye Array**	**3.51**	**284**	Pn	**Pb**	**09 48 09.7**	**+0.1**
	0.1nm,0.3s,baz=112,slow=16,SNR=2.2						
BVAR				Sn	**Sb**	**09 48 52.3**	**-0.5**
	0.6nm,0.3s,baz=113,slow=22,SNR=8.8						
	0.4nm,0.4s						
BRVK	**Borovoye**	**3.58**	**284**	⇓Lg	Lg	09 48 55.1	
	4.9nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.53**	**69**	*i*		10 21 50.0	
	baz=252,slow=319,SNR=1.5						
ZALV	**Zalesovo Beam**	**5.53**	**69**	Pn	**Pb**	**09 48 43.7**	**-0.4**
	1.0nm,0.7s,baz=255,slow=8.8,SNR=2.2						
ZALV				Sn	**Sb**	**09 49 51.2**	**+0.3**
	0.2nm,0.3s,baz=246,slow=25,SNR=1.5						
MAKZ	**Makanchi**	**6.74**	**143**	⇓Lg	Lg	09 50 36.5	
	4.7nm,1.0s						
MK31	**Makanchi Array**	**6.87**	**141**	Lg	Lg	09 50 41.3	
	2.0nm,0.6s,baz=322,slow=27,SNR=5.8						
MKAR	**Makanchi Array**	**6.87**	**141**	Pn	**Pn**	**09 48 49.9**	**+1.2**
	0.1nm,0.3s,baz=317,slow=12,SNR=2.7						
MKAR				Sn	**Sn**	**09 50 06.3**	**-1.3**
	0.1nm,0.3s,baz=267,slow=12,SNR=2.9						
MKAR				Lg	Lg	09 50 37.0	
	0.2nm,0.3s,baz=323,slow=26,SNR=7.6						
	0.2nm,0.5s						

*NNC **19** 09:56:01.6±1.5, 53°.49N×87°.66E, h0km, mb2.5, mpv2.2, Error ellipse: s-maj=10.5km s-min=7.0km az=100.0, Suspected Mining explosion.*
*IDC **19** 09:56:01.2±3.2, 53°.48N×87°.56E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=27.2km s-min=14.9km az=63.0*

ISC 19 09:55:56.7±2.5, 52°.30N±0°.05×86°.4E±0°.2, h0km, n7, σ1§17/7, 3C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.91**	**330**	⇑Pn	**Pg**	**09 56 33.2**	**-0.1**
	0.1nm,0.2s,baz=104,slow=16						
ZAA0				⇓Sn	**Sb**	**09 56 57.2**	**+0.4**
	1.3nm,0.8s,baz=103,slow=26						
ZALV	**Zalesovo Beam**	**1.91**	**330**	Pg	**Pb**	**09 56 32.2**	**-0.2**
	0.8nm,0.3s,baz=100,slow=16,SNR=5.3						
ZALV				Lg	Lg	09 56 54.6	
	1.6nm,0.3s,baz=104,slow=27,SNR=7.8						
I46RU	**ZALESOVO INFRA**	**1.91**	**330**	*i*		10 07 30.0	
	baz=101,slow=324,SNR=1.8						
KURK	**Kurchatov**	**5.13**	**255**	⇑Lg	Lg	09 59 16.4	
	3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**5.21**	**254**	Pn	**Pg**	**09 57 35.8**	**-0.8**
	baz=62,slow=14,SNR=2.4						
KURBB				Lg	Lg	09 59 19.5	
	baz=61,slow=32						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**5.21**	**254**	⇑Pn	**Pg**	**09 57 35.9**	**-0.7**
	0.8nm,0.6s						
KURBB				⇓Lg	Lg	09 59 21.5	
	5.1nm,0.7s						
MKAR	**Makanchi Array**	**6.14**	**208**	Pn	**Pg**	**09 57 53.4**	**-0.9**
	0.1nm,0.3s,baz=28,slow=12,SNR=4.4						
MKAR				Sn	**Sg**	**09 59 15.6**	**+1.9**
	0.1nm,0.3s,baz=30,slow=23,SNR=1.4						
MKAR				Lg	Lg	09 59 56.9	
	baz=23,slow=30,SNR=7.8						
	0.2nm,0.3s

ASAR	**Alice Springs**	**57.90**	**188**	P		**P**		**10 13 10.1**	**-0.4**
	0.8nm,0.8s,baz=12,slow=7.5,SNR=8.3								
	0.8nm,0.8s								
NOA	**NORSAR Array B**	**76.95**	**338**	P		**P**		**10 15 10.3**	**-0.3**
	0.6nm,0.6s,baz=41,slow=5.4,SNR=3.7								
	0.6nm,0.6s								
PDAR	**Pinedale Array**	**79.64**	**45**	P		**P**		**10 15 25.8**	**-0.4**
	0.3nm,0.5s,baz=247,slow=0.7,SNR=4.4								
	0.3nm,0.5s								
BRTR	**Keskin Array B**	**80.90**	**312**	P		**P**		**10 15 33.6**	**+0.8**
	0.6nm,0.6s,baz=34,slow=5.9,SNR=2.0								
	0.6nm,0.6s								
H03S1	**Juan Fernandez**	**146.58**	**101**	T		T		13 05 52.8	
	SNR=4.3								

IDC 19 10:08:36.2±10.0, 23°.83S×179°.44E, h571km±97km, mb2.7/4, mbtmp3.7/6, Error ellipse: s-maj=219.2km s-min=25.2km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MSVF	**Nonsavu**	**6.21**	**348**	P		P	10 10 17.5		-0.4
	2.8nm,0.4s,baz=322,slow=20,SNR=8.4								
DZM	**Mont Dzumac**	**12.10**	**276**	P		P	10 11 16.8		+0.8
	3.9nm,0.9s,baz=94,slow=19,SNR=3.9								
CTA	**Charters Tower**	**30.96**	**270**	P		P	10 14 08.9		+1.0
	1.2nm,0.4s,baz=98,slow=10.0,SNR=2.4								
	1.2nm,0.4s								
ASAR	**Alice Springs**	**41.54**	**261**	P		P	10 15 34.3		-0.6
	0.4nm,0.8s,baz=89,slow=8.0,SNR=5.8								
	0.4nm,0.8s								
WRA	**Warramunga Arr**	**41.90**	**266**	P		P	10 15 37.2		-0.5
	0.5nm,0.5s,baz=104,slow=7.9,SNR=8.4								
	0.5nm,0.5s								
TXAR	**Lajitas Array**	**90.83**	**58**	P		P	10 20 39.7		+0.1
	0.3nm,0.7s,baz=206,slow=6.7,SNR=4.3								
	0.3nm,0.7s								

IDC 19 10:13:42.3±3.9, 13°.76S×170°.73E, h616km±54km, mb2.7/4, mbtmp3.7/5, Error ellipse: s-maj=76.3km s-min=34.3km az=147.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
DZM	**Mont Dzumac**	**9.22**	**206**	P		P	10 15 53.5		-0.3
	1.6nm,0.4s,baz=209,slow=11,SNR=12								
STKA	**Stephens Creek**	**32.19**	**231**	P		P	10 19 21.9		+0.1
	2.8nm,0.4s,baz=60,slow=9.7,SNR=14								
	2.8nm,0.4s								
WRA	**Warramunga Arr**	**35.31**	**255**	P		P	10 19 48.1		+0.1
	0.2nm,0.4s,baz=88,slow=9.4,SNR=2.4								
	0.2nm,0.4s								
ASAR	**Alice Springs**	**36.15**	**249**	P		P	10 19 54.8		0.0
	0.4nm,0.4s,baz=74,slow=9.3,SNR=15								
ASAR				PcP		PcP	10 22 02.1		-1.0
	0.2nm,0.4s,baz=80,slow=2.5,SNR=2.9								
	0.4nm,0.4s								
ILAR	**Eielson Array**	**84.60**	**17**	P		P	10 25 11.9		+0.3
	0.1nm,0.4s,baz=243,slow=6.0,SNR=4.5								
	0.1nm,0.4s								

*ISU **19** 10:13:47, 41°.13N×70°.36E, h2km*
KRNET 19 10:13:45.7±0.1, 40°.96N×70°.26E, mb2.9, 5C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
CHMG	**Chimgan**	**0.62**	**343**	P		Pg	10 13 57.0		-0.6
CHMG				S		Sg	10 14 04.4		-1.3
TRKS	**Terek-Say**	**0.88**	**49**	⇑*i*	P	Pg	10 14 02.3		-0.3
	baz=53								
TRKS				⇑*i*	S	Sg	10 14 14.4		+0.4
	baz=53								
KK31	**Karatay Array**	**2.15**	**5**	Pn		Pb	10 14 25.4		-0.2
	0.5nm,0.3s,baz=195,slow=16,SNR=8.9								
KK31				⇑Sn		Sg	10 14 54.0		-0.9
	1.1nm,0.3s,baz=195,slow=29,SNR=5.7								
KKAR	**Karatay Array**	**2.15**	**5**	⇑*i*	P	Pb	10 14 25.1		-0.5
	baz=5.0								
KKAR				⇑*i*	S	Sb	10 14 53.9		+1.0
	baz=5.0								

*CNRM **19** 10:26:06.8, 36°.29N×7°.30W, h111km, ml2.5*
*MDD **19** 10:26:10.6±1.0, 36°.28N×8°.09W, h4km±4km, mb_Lg2.6/6, Error ellipse: s-maj=6.7km s-min=4.6km az=29.0*
*SFS **19** 10:26:10.0, 36°.28N×8°.08W, h4km, ML2.6, GOLFO DE CADIZ*
*IGIL **19** 10:26:11.6, 36°.28N×8°.11W, h5km, ML2.7*
INMG 19 10:26:12.1±1.8, 36°.28N×8°.14W, h11km±4km, MD2.6, ML2.5, 2C-1D, Error ellipse: s-maj=4.6km s-min=2.7km az=65.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PBDV	**Barranco-do-Ve**	**0.97**	**10**	⇓*i*	P	Pg	10 26 29.6		-1.3
PBDV				*e*S		Sg	10 26 42.5		-1.1
PBDV				A		A	10 26 43.8		
	64nm,0.3s								
PFVI	**Vila Bisbo**	**1.02**	**327**	*e*P		Pg	10 26 29.9		-1.8
PFVI				*e*S		Sg	10 26 44.0		-0.9
PFVI				A		A	10 26 46.4		
	84nm,0.1s								
PFVI	**Vila Bisbo**	**1.02**	**327**	P		Pg	10 26 30.3		-1.4
PFVI				S		Sn	10 26 53.0		+6.5
MORF	**Marmelete**	**1.10**	**338**	*e*P		Pb	10 26 31.5		-1.7
MORF				*e*S		Sb	10 26 46.0		-1.6
MORF				IAML			10 26 48.7		
	comp=N,187nm,0.2s								
MORF	**Marmelete**	**1.10**	**338**	⇑*e*	P	Pb	10 26 31.5		-1.7
MORF				*e*S		Sb	10 26 46.2		-1.4
MORF				A		A	10 26 47.3		
	comp=N,120nm,0.1s								
PVAQ	**Vaqueiros**	**1.17**	**17**	*e*P		Pb	10 26 32.3		-2.0
PVAQ				*e*S		Sb	10 26 47.7		-1.8
PVAQ				A		A	10 26 50.4		
	comp=N,98nm,0.2s								
PVAQ	**Vaqueiros**	**1.17**	**17**	P		Pb	10 26 32.4		-2.0
PVAQ				S		Sb	10 26 48.4		-1.0
PTEO	**Sao Teotonio**	**1.35**	**340**	*e*P		Pn	10 26 35.1		-1.7
PTEO				*e*S		Sb	10 26 53.1		-1.5
PTEO				A		A	10 26 57.0		
	comp=N,33nm,0.2s								
PCVE	**Castro Verde**	**1.35**	**3**	⇑*i*	P	Pn	10 26 35.0		-1.9
PCVE				S		Sb	10 26 52.3		-2.4
PCVE				A		A	10 26 57.2		
	comp=N,32nm,0.4s								
EGRO	**El Granado**	**1.36**	**22**	Pg		Pn	10 26 34.9		-2.0
EGRO				Sg		Sb	10 26 53.9		-1.0
EGRO				*i* Vmb_Lg			10 26 57.4		
MESJ	**Messejana**	**1.56**	**358**	*e*P		Pn	10 26 38.0		-1.7
MESJ				*e*S		Sn	10 26 57.4		-2.6
MESJ				IAML			10 27 04.3		
	comp=N,59nm,0.1s								
PBEJ	**Beja**	**1.75**	**7**	*e*Pn		Pn	10 26 41.1		-1.4
PBEJ				*e*Sn		Sn	10 27 02.8		-2.0
PBEJ				A		A	10 27 08.8		
	comp=N,22nm,0.3s								
PNCL	**Nicolau / Gran**	**1.85**	**350**	*e*Pn		Pn	10 26 41.7		-2.1
PNCL				*e*Sg		Sg	10 27 10.6		-1.1
PNCL				A		A	10 27 11.3		
	comp=N,31nm,0.4s								
EMIN	**Mina Concepcio**	**1.89**	**38**	Pn		Pn	10 26 41.9		-2.4
EMIN				Sn		Sn	10 27 03.8		-4.3
EMIN				*i* Vmb_Lg			10 27 12.9		
ESPR	**Espera**	**1.93**	**72**	Pn		Pn	10 26 43.6		-1.2
ESPR				Sn		Sn	10 27 04.8		-4.2
ESPR				*i* Vmb_Lg			10 27 10.5		
PBAR	**Barrancos**	**2.08**	**25**	*e*Pn		Pn	10 26 44.9		-2.1
PBAR				*e*Sg		Sb	10 27 16.2		+0.4
PBAR				A		A	10 27 20.2		
	comp=N,12nm,0.4s								
EVO	**Evora**	**2.25**	**2**	P		Pn	10 26 48.2		-1.0
EVO				S		Sn	10 27 14.7		-2.3
EVO	**Evora**	**2.25**	**2**	*e*Pn		Pn	10 26 47.3		-1.9
EVO				*e*Sn		Sn	10 27 15.1		-1.9
EVO				A		A	10 27 23.8		
	comp=N,16nm,0.1s								
PMST	**Lisbon--Monsan**	**2.59**	**342**	*e*Pn		Pn	10 26 52.5		-1.4
PESTR	**Estremoz**	**2.62**	**9**	*e*Pn		Pn	10 26 52.8		-1.5
PESTR				*e*Sn		Sn	10 27 22.8		-3.3
PESTR				*e*Sg		Sb	10 27 33.3		+2.1
PESTR				A		A	10 27 38.9		
	comp=N,7.1nm,0.4s								
PESTR	**Estremoz**	**2.62**	**9**	P		Pn	10 26 48.9		-5.4
PESTR				S		Sn	10 27 18.4		-7.7
EBAD	**Badajoz**	**2.63**	**20**	Pn		Pn	10 26 52.3		-2.2
EBAD				Sn		Sn	10 27 24.6		-1.7
EBAD				*i* Vmb_Lg			10 27 38.6		
PMTG	**Montargil**	**2.78**	**359**	*e*Pn		Pn	10 26 54.4		-2.2
PMTG				*e*Sn		Sn	10 27 27.5		-2.7
PMTG				A		A	10 27 28.9		
	comp=N,13nm,0.1s								
ECAB	**El Cabril**	**2.81**	**50**	Pn		Pn	10 26 54.7		-2.3
ECAB				Sn		Sn	10 27 27.5		-3.5
ECAB				*i* Vmb_Lg			10 27 47.4		
PMAFR	**Mafra**	**2.82**	**341**	*e*Pn		Pn	10 26 55.8		-1.3
PMAFR				*e*Sn		Sn	10 27 29.1		-2.0
PMAFR				A		A	10 27 30.0		
	comp=N,18nm,0.4s								
ZHG	**ZHG**	**3.08**	**156**	P		Pn	10 26 53.5		-7.2
ZHG				S		Sn	10 27 29.2		-8.5
PMRV	**Marv??o**	**3.20**	**10**	*e*Pn		Pn	10 27 00.1		-2.2
PMRV				*e*Sn		Sn	10 27 37.6		-2.8
PMRV				*e*Sg		Sb	10 27 51.0		+3.2
PMRV				A		A	10 27 54.8		
	comp=N,12nm,0.4s								
PSBE	**So Bento**	**3.27**	**351**	*e*Pn		Pn	10 27 02.2		-1.1
PSBE				*e*Sn		Sn	10 27 39.0		-3.2
PSBE				*e*Sg		Sg	10 27 55.0		-2.1
PSBE				A		A	10 28 01.6		
	comp=N,16nm,0.7s								
EADA	**Adamuz**	**3.41**	**55**	Pn		Pn	10 27 03.4		-1.8
EADA				Sn		Sn	10 27 41.3		-4.3
EADA				*i* Vmb_Lg			10 28 04.1		
PCBR	**Castelo Branco**	**3.59**	**8**	*e*Pn		Pn	10 27 05.7		-2.0
PCBR				*e*Sn		Sn	10 27 47.1		-3.0
PCBR				A		A	10 28 10.4		
	comp=N,6.0nm,0.5s								
PCAS	**Casmilo, Conde**	**3.78**	**356**	*e*Pn		Pn	10 27 09.1		-1.1
PCAS				*e*Sn		Sn	10 27 52.0		-2.7
PCAS				A		A	10 28 16.0		
	comp=N,8.5nm,0.4s								
SRHM	**Skhour des Reh**	**3.81**	**177**	P		Pn	10 27 08.1		-2.6
SRHM				S		Sn	10 27 55.7		+0.3
MD31	**MD31**	**4.40**	**140**	P		Pn	10 27 08.2		-11
MD31				S		Sn	10 27 52.7		-17
PAB	**San Pablo**	**4.43**	**41**	Pn		Pn	10 27 17.0		-2.3
PAB				Sn		Sn	10 28 03.0		-7.8
MDT	**Midelt**	**4.52**	**139**	P		Pn	10 27 08.0		-13
MDT				S		Sn	10 27 54.7		-18
TAF	**Taforalt**	**4.89**	**106**	P		Pn	10 27 08.6		-17
TAF				S		Sn	10 27 57.9		-24
MVO	**Moncorvo**	**4.95**	**10**	*e*Pn		Pn	10 27 24.3		-2.2
MVO				*e*Sn		Sn	10 28 19.2		-4.5
MVO				A		A	10 28 58.1		
	comp=N,5.0nm,0.5s								
OUK	**Oukaimeden**	**5.07**	**177**	P		Pn	10 27 20.4		-7.8
OUK				S		Sn	10 28 21.0		-5.9
POLO	**Lamas de Olo**	**5.09**	**3**	*e*Pn		Pn	10 27 26.4		-2.0
POLO				*e*Sn		Sn	10 28 22.3		-4.9
POLO				A		A	10 28 23.0		
	comp=N,1.0nm,0.7s								
GUD	**Guadarrama**	**5.36**	**34**	Pn		Pn	10 27 29.9		-2.2
GUD				Sn		Sn	10 28 28.1		-5.8
ELOB	**Lobios**	**5.58**	**1**	Pn		Pn	10 27 31.4		-3.7
ELOB				Sn		Sn	10 28 33.0		-6.2
PGAV	**Gavieira, Arco**	**5.68**	**359**	*e*Sn		Sn	10 28 37.0		-4.6
ECAL	**Calabor**	**5.76**	**10**	Pn		Pn	10 27 34.8		-2.7

TAP 19 11:07:08.7, 24°.68N×121°.90E, h66km, ML2.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
TWC	**Suao**	**0.08**	**212**	*e*P		Pn	11 07 19.1		+0.7
	baz=205								
TWC				*e*S		Sn	11 07 26.4		+1.0
	baz=205								
NTC	**Toucheng**	**0.19**	**341**	*e*S		Sn	11 07 26.4		+0.3
	baz=352								
TWE	**Neicheng**	**0.21**	**282**	*e*P		Pn	11 07 19.8		+0.9
	baz=288								
TWE				*e*S		Sn	11 07 27.7		+1.5
	baz=288								
EWUT	**Wuta**	**0.25**	**205**	*e*P		Pn	11 07 18.9		-0.2
	baz=204								
EWUT				*e*S		Sn	11 07 27.3		+0.6
	baz=204								
ENA	**Nanau**	**0.28**	**210**	*e*P		Pn	11 07 20.2		+0.8
	baz=208								
ENA				*e*S		Sn	11 07 28.7		+1.6
	baz=208								
FUSB	**Fushanzhiwuyua**	**0.29**	**286**	*e*P		Pn	11 07 20.0		+0.5
	baz=297								
FUSB				*e*S		Sn	11 07 28.4		+1.1
	baz=297								
TIPB	**Shuangxi**	**0.30**	**348**	P		Pn	11 07 19.6		+0.1
	baz=348								
TIPB				S		Sn	11 07 27.2		-0.1
	baz=348								
ENTT	**Nioudou**	**0.30**	**263**	P		Pn	11 07 19.4		-0.1
	baz=267								
TWB1	**Santiao Chiao**	**0.34**	**14**	*e*P		Pn	11 07 19.6		-0.1
	baz=23								
TWB1				*e*S		Sn	11 07 27.4		-0.4
	baz=23								
NDT	**Datong Townshi**	**0.36**	**258**	*e*P		Pn	11 07 20.6		+0.7
	baz=267								
NDT				*e*S		Sn	11 07 29.2		+1.2
	baz=267								
LATG	**Datong**	**0.36**	**247**	P		Pn	11 07 20.9		+0.8
	baz=254								
LATG				*e*S		Sn	11 07 29.9		+1.5
	baz=254								
NWF	**Wu-fen Shan**	**0.41**	**345**	*e*S		Sn	11 07 28.8		-0.1
	baz=352								
TWA	**Mucha**	**0.41**	**317**	*e*S		Sn	11 07 29.2		+0.4
	baz=324								
SXI1	**Grass Mountain**	**0.42**	**357**	*e*S		Sn	11 07 29.4		+0.4
	baz=350								
NHDH	**Xindian Distri**	**0.44**	**310**	*e*P		Pn	11 07 20.9		+0.3
	baz=310								
NHDH				*e*S		Sn	11 07 29.8		+0.5
	baz=310								
YHNB	**Yeheng**	**0.47**	**269**	P		Pn	11 07 21.4		+0.4
	baz=269								
YHNB				*e*S		Sn	11 07 30.8		+0.9
	baz=269								
NSK	**Sanguang**	**0.49**	**270**	*e*P		Pn	11 07 20.4		-0.7
	baz=270								
NSK				*e*S		Sn	11 07 29.5		-0.7
	baz=270								
NNSB	**Datong**	**0.53**	**242**	P		Pn	11 07 22.5		+0.9
	baz=249								
NNSB				*e*S		Sn	11 07 32.4		+1.4
	baz=249								
NNS	**Nan Shan**	**0.53**	**244**	P		Pn	11 07 21.6		0.0
	baz=250								
YM01	**YM01**	**0.55**	**328**	*e*P		Pn	11 07 21.8		0.0
	baz=335								
YM01				*e*S		Sn	11 07 31.1		-0.2
	baz=335								
ETLH	**Xiulin Townshi**	**0.60**	**219**	*e*P		Pn	11 07 22.7		+0.4
	baz=219								
NFF	**Wufeng Townshi**	**0.71**	**267**	*e*P		Pn	11 07 22.9		-0.6
	baz=271								
NFF				*e*S		Sn	11 07 33.9		-0.5
	baz=271								
FUSS	**Fushou**	**0.73**	**234**	*e*P		Pn	11 07 25.4		+1.4
	baz=228								
WHF	**Hehuan Shan**	**0.78**	**227**	*e*P		Pn	11 07 25.8		+1.0
	baz=221								
TDCB	**Techi**	**0.79**	**238**	*e*P		Pn	11 07 25.9		+1.3
	baz=238								
LIOB	**Emei**	**0.80**	**268**	*e*P		Pn	11 07 25.1		+0.5
	baz=268								
LIOB				*e*S		Sn	11 07 37.2		+0.9
	baz=268								
NSTT	**Nanjuang**	**0.82**	**267**	*e*S		Sn	11 07 37.1		+0.6
	baz=267								
WHP	**Taichung City**	**0.95**	**246**	*e*P		Pn	11 07 27.6		+1.2
	baz=256								
WUSB	**Renai**	**0.98**	**226**	*e*P		Pn	11 07 27.9		+0.9
	baz=225								
WCS	**Beigang Elemen**	**1.09**	**236**	*e*P		Pn	11 07 28.7		+0.5
	baz=246								
VWDT	**VWDT**	**1.15**	**217**	*e*P		Pn	11 07 29.9		+1.0
	baz=216								
ALS	**Alishan**	**1.53**	**221**	*e*P		Pn	11 07 36.2		+2.0
	baz=231								

JMA 19 11:07:40.4±0.4, 24°N±1°×122°4E±°, h20km±2km, MV1.4/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
HATJ	**Hateruma jima**	**0.14**	**64**	*i*	P	Pg	11 07 44.7		-0.2
HATJ				*e*S		Sg	11 07 47.5		-0.3
IRIF	**Iriomote-Funau**	**0.34**	**10**	*i*	P	Pg	11 07 47.7		-0.1
IRIF				*e*S		Sg	11 07 52.7		-0.2
JKRS	**Kuro-shima**	**0.40**	**52**	*i*	P	Pb	11 07 48.8		0.0
JKRS				*e*S		Sb	11 07 54.7		+0.2
JIJ	**Ishigaki jima**	**0.57**	**50**	P		Pb	11 07 51.1		-0.6
JIJ				*e*S		Sb	11 07 59.0		-0.5

*IDC **19** 11:12:37.4±1.6, 0°.92S×120°.69E, h0km, mb3.4/3, mbtmp3.5/4, ML3.8/1, MS3.2/2, Error ellipse: s-maj=54.7km s-min=24.7km az=71.0*
*DJA **19** 11:12:38.1±1.1, 1°S±2°×12°0E±°, h12km±9km, M3.7/13, mb4.0/1, mB4.7/1, MLv3.6/13, Mw(mB)4.0/1*
ISC 19 11:12:43.4±1.2, 1°.02S±0°.08×120°.4E±0°.1, h49km, n14, σ1s29/13, mb3.3/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
APSI	**Ampana**	**1.25**	**85**	P		**Pn**	**11 13 03.3**		**-1.3**
MPSI	**Mapaga**	**1.44**	**340**	P		Pn	11 13 00.0		-7.1
TTSI	**Tana Toraja**	**2.09**	**196**	P		**Pn**	**11 13 14.1**		**-1.9**
MRSI	**Marisa**	**2.14**	**46**	P		**Pn**	**11 13 16.0**		**-0.7**
LUWI	**Luwuk**	**2.37**	**90**	P		**Pn**	**11 13 20.1**		**+0.2**
SPSI	**Sidrap Palu**	**2.99**	**192**	P		**Pn**	**11 13 27.3**		**-1.1**
GTOI	**Gorontalo**	**3.09**	**58**	P		**Pn**	**11 13 28.5**		**-1.2**
KAPI	**Kappang**	**4.02**	**189**	Pn		**Pn**	**11 13 42.2**		**-0.3**
	5.5nm,0.3s,baz=15,slow=9.6,SNR=6.9								
KAPI				Sn		**Sn**	**11 14 30.0**		**+1.7**
	4.1nm,0.3s,baz=350,slow=23,SNR=7.4								
KAPI				LR		LR	11 15 20.4		
	comp=Z,121nm,18.8s,baz=344,slow=39								
	17nm,0.4s								
BKSI	**Bulukumba**	**4.28**	**184**	P		**Pn**	**11 13 45.1**		**-1.0**
BSSI	**Bau Bau, Buton**	**5.09**	**179**	P		**Pn**	**11 13 57.0**		**-0.2**
WRA	**Warramunga Arr**	**23.23**	**145**	P		**P**	**11 17 44.9**		**-1.7**
	0.8nm,0.7s,baz=327,slow=11,SNR=9.2								
	0.8nm,0.7s								
ASAR	**Alice Springs**	**26.04**	**151**	P		**P**	**11 18 13.0**		**+0.6**
	0.6nm,0.8s,baz=324,slow=8.7,SNR=11								
	0.6nm,0.8s								
MKAR	**Makanchi Array**	**58.15**	**330**	P		**P**	**11 22 33.4**		**+1.1**
	0.3nm,0.5s,baz=120,slow=8.7,SNR=3.6								
	0.3nm,0.5s								
PETK	**Petropavlovsk-**	**62.27**	**24**	LR		LR	11 51 07.2		
	comp=Z,42nm,19.9s,baz=202,slow=37								

*ISK **19** 11:15:37.4, 34°.68N×32°.87E, h23km, ML2.7/11*
*DDA **19** 11:15:38.0±0.0, 34°.93N×32°.98E, h2km±7km, MW3.1*
*NIC **19** 11:15:38.5±0.0, 34°.74N×32°.98E, h22km, Ml2.9/6*
*GII **19** 11:15:40.2±0.4, 34°.78N×32°.75E, h31km, Mm2.5/3*
ISC 19 11:15:38.8±0.9, 34°.78N±0°.03×32°.95E±0°.03, h25km±6km, n39, σ1s25/61, 1C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SZAC	**Souni**	**0.06**	**249**	⇑*i*	P	**Pb**	**11 15 42.9**		**-0.3**
SZAC				S		**Sb**	**11 15 45.6**		**-0.7**
SZAC				AML		AML	11 15 46.6		
	77nm,0.3s								
SZAC				AML		AML	11 15 46.6		
	77nm,0.3s								
SZAC				AML		AML	11 15 46.8		
	29nm,0.2s								
SZAC				AML		AML	11 15 46.8		
	29nm,0.2s								
ASGA	**Asgata**	**0.24**	**88**	⇓*e*	P	**Pb**	**11 15 44.5**		**-0.5**
ASGA				S		**Sb**	**11 15 48.7**		**-0.6**
ASGA				AML		AML	11 15 50.0		
	16nm,0.2s								
ASGA				AML		AML	11 15 50.0		
	16nm,0.2s								
ASGA				AML		AML	11 15 50.6		
	10nm,0.3s								
ASGA				AML		AML	11 15 50.6		
	10nm,0.3s								
NATA	**Nata**	**0.31**	**271**	P		**Pb**	**11 15 46.3**		**+0.3**
NATA				S		**Sb**	**11 15 51.5**		**+0.5**
LEF	**Lefka**	**0.35**	**352**	PG		**Pb**	**11 15 46.8**		**+0.3**
LEF				SG		**Sn**	**11 15 53.9**		**-0.4**
CSS	**Mathiatis**	**0.36**	**59**	⇓*e*	P	**Pb**	**11 15 46.3**		**-0.5**
CSS				S		**Sb**	**11 15 52.3**		**-0.1**
ALFC	**Alefka**	**0.48**	**323**	P		**Pb**	**11 15 48.5**		**-0.2**
ALFC				S		**Sn**	**11 15 57.2**		**-0.4**
ALFC				AML		AML	11 16 00.9		
	5.8nm,0.3s								
ALFC				AML		AML	11 16 00.9		
	5.8nm,0.3s								
ALFC				AML		AML	11 16 01.3		
	4.3nm,0.5s								
ALFC				AML		AML	11 16 01.3		
	4.3nm,0.5s								
ATHAL	**Athalassa**	**0.52**	**45**	P		**Pn**	**11 15 49.7**		**-0.8**
AKMS	**Akamas**	**0.56**	**296**	P		**Pb**	**11 15 50.5**		**+0.5**
AKMS				S		**Sn**	**11 15 59.8**		**+0.1**
AKMS				AML		AML	11 16 03.0		
	1.5nm,0.2s								
AKMS				AML		AML	11 16 03.0		
	1.5nm,0.2s								
AKMS				AML		AML	11 16 03.1		
	1.3nm,0.3s								
AKMS				AML		AML	11 16 03.1		
	1.3nm,0.3s								
MVOU	**Mavrovouni**	**0.61**	**67**	P		**Pb**	**11 15 50.1**		**-0.7**
MVOU				S		**Sn**	**11 16 00.2**		**-0.6**
MVOU				AML		AML	11 16 02.1		
	1.2nm,0.7s								
MVOU				AML		AML	11 16 02.1		
	1.2nm,0.7s								
MVOU				AML		AML	11 16 06.8		

SEDI	**Konya, Seydise**	**2.84**	**340**	P	**Pb**	**11 16 26.4 -2.4**
SEDI				S	**Sb**	**11 17 03.5 +0.3**
GULE	**Gulek**	**2.91**	**30**	P	**Pb**	**11 16 26.6 -3.4**
MMLI	**Mount Malkishu**	**3.11**	**138**	Pn	**Pn**	**11 16 27.0 +0.7**
HMDT	**Nahal Hemdat**	**3.31**	**139**	Pn	**Pn**	**11 16 30.1 +1.2**
HMDT				Sn	**Sn**	**11 17 09.5 +2.0**
DSI	**Dead Sea**	**3.79**	**147**	Pn	**Pn**	**11 16 36.4 +0.8**
KRMI	**Paran Flat**	**4.88**	**162**	Pn	**Pn**	**11 16 50.5 -0.1**
KRMI				Sn	**Sn**	**11 17 46.4 +0.1**

JMA 19 11:20:42.6±0.2, 24°.8N±0°.5×123°.9E±0°.3, h0km, MV1.6/6, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.47**	**193**	P	Pg	11 20 52.1	+0.5
IRIF				*e*S	Sg	11 20 58.8	+1.1
JIJ	**Ishigaki jima**	**0.51**	**148**	*i* P	Pg	11 20 52.7	+0.4
JIJ				*e*S	Sg	11 20 59.8	+0.9
JKRS	**Kuro-shima**	**0.57**	**165**	P	Pg	11 20 54.2	+0.6
JKRS				*e*S	Sg	11 21 02.1	+1.1
HATJ	**Hateruma jima**	**0.73**	**183**	P	Pg	11 20 57.1	+0.4
HATJ				*e*S	Sg	11 21 07.2	+1.0
JTJ	**Tarama**	**0.79**	**101**	*e*S	Sb	11 21 10.1	-0.4

IDC ***19*** *11:20:32.9±2.5, 0°.55S×127°.60E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=209.4km s-min=27.1km az=67.0*

DJA ***19*** *11:21:26.3±0.5, 4°.5S±5°×12°.9E±°, h80km±7km, M3.2/8, MLv3.2/8*

ISC 19 11:21:24.3±1.1, **3°.94S**±0°.09×**129°.27E**±0°.06, **h100**km, **n9, σ1s61/13, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.68**	**330**	P	**Pn**	**11 21 42.0**	**+0.5**
MSAI				S	**Sn**	**11 21 54.7**	**+0.3**
BNDI	**Bandanaira**	**0.86**	**133**	P	**Pn**	**11 21 44.5**	**+1.2**
BNDI				S	**Sn**	**11 21 59.9**	**+2.4**
AAI	**Ambon**	**1.10**	**283**	P	**Pn**	**11 21 46.2**	**+0.4**
AAI				S	**Sn**	**11 22 01.4**	**-0.7**
NLAI	**Namlea**	**2.27**	**288**	P	**Pn**	**11 22 03.0**	**+2.6**
NLAI				S	**Sn**	**11 22 29.4**	**+1.3**
FAKI	**Fak Fak**	**3.14**	**71**	P	**Pn**	**11 22 12.8**	**+0.8**
LBMI	**Labuha**	**3.72**	**332**	P	**Pn**	**11 22 20.2**	**+0.4**
SANI	**Sanana**	**3.77**	**300**	P	**Pn**	**11 22 21.3**	**+0.9**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=343,slow=12,SNR=15 0.3nm,0.3s	**16.66**	**163**	P	**Pn**	**11 25 10.3**	**-1.5**
ASAR	**Alice Springs** 0.9nm,0.4s,baz=349,slow=12,SNR=31 0.9nm,0.4s	**20.12**	**168**	P	**P**	**11 25 48.1**	**-2.3**

TAP 19 11:21:35.4, 23°.79N×121°.48E, h4km±1km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin** baz=304	**0.06**	**302**	P	Pg	11 21 36.6	-0.1
ESL				S	Sg	11 21 37.5	-0.2
EGFH	**Guangfu** baz=204	**0.13**	**204**	*e*P	Pg	11 21 38.0	0.0
EGFH				S	Sg	11 21 39.8	+0.1
VWDT	**VWDT** baz=264	**0.32**	**264**	*e*S	Sg	11 21 46.4	+0.7
OWD	**Renai** baz=300	**0.33**	**301**	*e*P	Pg	11 21 41.6	-0.2
OWD	baz=300			*e*S	Sg	11 21 46.0	-0.2
WUSB	**Renai** baz=301	**0.39**	**302**	*e*P	Pg	11 21 43.3	+0.2
WUSB	baz=301			*e*S	Sg	11 21 48.4	+0.2
YULB	**Yu-li** baz=203	**0.43**	**204**	*e*S	Sg	11 21 49.4	+0.2

BJI ***19*** *11:33:53.8±0.0, 35°.54N×129°.41E, h5km, mb4.4/29, mB4.8/19, Ms4.3/25, Ms7 4.0/26*

IDC ***19*** *11:33:56.5±0.8, 35°.63N×129°.07E, h0km, mb3.8/11, mbtmp3.8/15, ML3.0/3, MS3.5/22, Error ellipse: s-maj=20.2km s-min=11.9km az=66.0*

KEA ***19*** *11:33:57.4, 35°.85N×129°.14E, h15km, ML4.8/2*

KMA ***19*** *11:33:58.4±0.0, 35°.75N×129°.18E, h17km, Error ellipse: s-maj=0.6km s-min=0.4km az=293.0*

JMA ***19*** *11:33:58.4±0.3, 36°.N±1°×12°.9E±°, h32km, MD4.5/26, MV4.9/26, S KOREAN PENINSULA REG*

JMA Felt I J1 at S KOREAN PENINSULA REG .

NEIC ***19*** *11:33:58.1±1.3, 35°.76N±0°.03×129°.16E±0°.05, h9km±5km, mb4.1/8, Mwr4.6/13, Error ellipse: s-maj=5.9km s-min=4.2km az=85.0*

NEIC ***19*** *11:33:58.5, 35°.74N×129°.17E, h11km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr2.99; Mθθ4.24; Mϕϕ-7.23; Mrθ0.85; Mθϕ6.98; Mϕr-1.41; Fault plane solution: Mo9.54000×10^15 NP1:ϕ289.57000°, δ86.68000°, λ-6.33000°. NP2:ϕ19.94000°, δ83.68000°, λ-176.66000°. Principal axes: T 7.5455, Plg2.0000°, Azm335.0000°; N 3.1785, Plg83.0000°, Azm82.0000°; P -10.7239, Plg7.0000°, Azm245.0000°;*

NIED ***19*** *11:33:58.4, 35°.79N×129°.27E, h32km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.60; Mθθ3.35; Mϕϕ-2.75; Mrθ0.96; Mθϕ1.06; Mϕr-1.38; Fault plane solution: Mo3.68000×10^15 NP1:ϕ38.00000°, δ64.00000°, λ-168.00000°. NP2:ϕ303.00000°, δ79.00000°, λ-27.00000°.*

ISC 19 11:33:58.5±0.8, **35°.74N**±0°.02×**129°.18E**±0°.03, **h9**km±4km, **n144, σ1s85/125, mb4.0**/18, **MS3.7**/23, **5C-2D, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu**	**0.23**	**277**	P	**Pb**	**11 34 04.0**	**+0.8**
YOCB	**Yeongcheon** SNR=3586	**0.30**	**322**	P	**Pb**	**11 34 05.0**	**-1.1**
MIYA	**Miryang-si** SNR=279	**0.43**	**236**	P	**Pb**	**11 34 07.4**	**-0.9**
KSPHA	**Pohang** SNR=816	**0.48**	**19**	P	**Pb**	**11 34 08.0**	**-1.0**
KSDAU	**Deagu-acc** SNR=1516	**0.48**	**288**	P	**Pb**	**11 34 08.1**	**-1.0**
KSBUS	**Busan**	**0.49**	**187**		**Pg**	**11 34 08.1**	**+0.1**
KSBUS				Sg	**Sg**	**11 34 15.3**	**+0.8**
KSBUS	**Busan** SNR=1238	**0.49**	**187**	P	**Pg**	**11 34 08.4**	**+0.4**
KSCHR	**CHANGNYEONG** SNR=161	**0.60**	**251**	P	**Pg**	**11 34 10.1**	**+0.1**
KSADO	**Andong** SNR=6250	**0.70**	**344**	P	**Pb**	**11 34 11.7**	**-1.1**
EUSB	**Uiseong** SNR=732	**0.73**	**327**	P	**Pb**	**11 34 12.3**	**-1.1**
YODB	**Yeongdeok** SNR=1989	**0.81**	**13**	P	**Pb**	**11 34 13.7**	**-1.0**
EURB	**Uiryeong-eup** SNR=622	**0.84**	**241**	P	**Pb**	**11 34 14.1**	**-1.0**
KSGUM	**GUMI** SNR=322	**0.88**	**305**	P	**Pg**	**11 34 15.0**	**-0.3**
YEYB	**Yeongyang** SNR=2637	**0.89**	**355**	P	**Pg**	**11 34 15.0**	**-0.6**
ADOA	**Andong Acc Bor** SNR=430	**0.92**	**335**	P	**Pg**	**11 34 15.5**	**-0.7**
HACA	**Hapcheon Acc B** SNR=520	**0.94**	**250**	P	**Pb**	**11 34 15.8**	**-1.1**
KSGIC	**Gimchen** SNR=1189	**0.94**	**292**	P	**Pg**	**11 34 16.0**	**-0.5**
KUJA	**Jangpyeong** SNR=122	**0.97**	**209**	P	**Pb**	**11 34 16.4**	**-1.0**
KSULJ	**Uljin** SNR=6640	**0.98**	**11**	P	**Pg**	**11 34 16.6**	**-0.7**
KSSAJ	**Sangju** SNR=562	**1.07**	**309**	P	**Pn**	**11 34 18.2**	**-1.3**
KSYCH	**Yecheon** SNR=86	**1.08**	**326**	P	**Pn**	**11 34 18.4**	**-1.3**
KSTOY	**TONGYEONG** SNR=153	**1.08**	**215**	P	**Pb**	**11 34 18.5**	**-0.8**
DUSB	**Deogyusan**	**1.16**	**278**	P	**Pb**	**11 34 19.8**	**-0.8**
	SNR=5763						
HAMB	**Hamyang** SNR=779	**1.19**	**259**	P	**Pn**	**11 34 20.2**	**-1.1**
CHYB	**Chungyang** SNR=5535	**1.22**	**350**	P	**Pn**	**11 34 20.4**	**-1.3**
JTU	**Tsushima**	**1.22**	**172**	Pn	**Pn**	**11 34 20.8**	**-1.0**
JTU	**Tsushima**	**1.22**	**172**	P	**Pn**	**11 34 20.5**	**-1.2**
JTU				*e*S	**Sb**	**11 34 36.1**	**-1.6**
JTU	**Tsushima** comp=E,10.0nm,1.4s,comp=E,20nm,2.2s	**1.22**	**172**	A	A	11 34 20.5	
YOJB	**Youngju** SNR=2507	**1.25**	**335**	P	**Pb**	**11 34 21.0**	**-1.3**
OKCB	**Cheongsan-myeo** SNR=1163	**1.28**	**299**	P	**Pb**	**11 34 21.6**	**-1.1**
KSMGY	**Mungyeong** SNR=3371	**1.29**	**316**	P	**Pb**	**11 34 21.7**	**-1.2**
YKDB	**Yokjido** SNR=895	**1.34**	**214**	P	**Pn**	**11 34 22.4**	**-0.9**
KSBON	**Boeun** SNR=1292	**1.35**	**305**	P	**Pb**	**11 34 23.0**	**-1.0**
JTSM	**Tsushimamitsus**	**1.41**	**173**	*e*P	**Pn**	**11 34 23.2**	**-1.0**
JTSM				*e*S	**Sn**	**11 34 40.2**	**-2.7**
JTSM	**Tsushimamitsus** comp=E,14nm,1.1s,comp=E,18nm,0.8s	**1.41**	**173**	A	A	11 34 23.2	
KSMSA	**Geumsan** SNR=99	**1.43**	**285**	P	**Pb**	**11 34 24.6**	**-0.6**
GWYB	**Gwangyang** SNR=299	**1.46**	**237**	P	**Pn**	**11 34 24.2**	**-0.6**
NAWB	**Namwon**	**1.49**	**258**	Pn	**Pb**	**11 34 25.2**	**-1.1**
NAWB	**Namwon** SNR=2749	**1.49**	**258**	P	**Pb**	**11 34 25.0**	**-1.3**
KSCHJ	**Chungju**	**1.49**	**320**	Pn	**Pb**	**11 34 24.7**	**-1.6**
KSCHJ	**Chungju** SNR=1659	**1.49**	**320**	P	**Pn**	**11 34 24.5**	**-1.0**
IMWB	**Imwonan-gil** SNR=638	**1.50**	**5**	P	**Pn**	**11 34 24.5**	**-1.0**
KSJEO	**Jeonju** SNR=2412	**1.55**	**278**	P	**Pn**	**11 34 25.6**	**-0.6**
TJN	**Taejon**	**1.61**	**294**	Pn	**Pn**	**11 34 26.2**	**-0.8**
JECH	**Jecheon** SNR=950	**1.63**	**331**	P	**Pn**	**11 34 26.3**	**-1.0**
JHGM	**Hagimishima**	**1.86**	**120**	*e*P	**Pn**	**11 34 29.2**	**-1.3**
JHGM				*e*S	**Sn**	**11 34 52.6**	**-1.6**
JHGM	**Hagimishima** comp=E,12nm,2.1s,comp=E,13nm,0.7s	**1.86**	**120**	A	A	11 34 29.2	
KSRS	**Korea Array** 596nm,0.7s,baz=148,slow=15,SNR=433	**1.99**	**330**	Pn	**Pn**	**11 34 31.6**	**-0.7**
KSRS	252nm,0.3s,baz=146,slow=16,SNR=123			Pg	**Pb**	**11 34 34.2**	**-0.6**
KSRS	1μm,0.3s,baz=150,slow=31,SNR=56			Lg	Lg	11 35 00.6	
KSRS	comp=Z,6μm,20.2s,baz=80,slow=42			LR	LR	11 35 23.1	
JII	**Iki**	**1.99**	**167**	P	**Pn**	**11 34 31.6**	**-0.7**
JII				*e*S	**Sn**	**11 34 56.1**	**-1.2**
JII	**Iki** comp=E,9.0nm,0.7s,comp=E,9.0nm,0.7s	**1.99**	**167**	A	A	11 34 31.6	
KSAR	**Wonju Array Be**	**2.00**	**329**	Pn	**Pn**	**11 34 31.1**	**-1.3**
KS19	**Wonju Array Si**	**2.05**	**329**		**Pn**	**11 34 31.6**	**-1.5**
JTY	**Toyota**	**2.13**	**133**	P	**Pn**	**11 34 32.5**	**-1.8**
JTY	**Toyota** comp=E,6.0nm,0.8s,comp=E,11nm,2.3s	**2.13**	**133**	A	A	11 34 32.5	
KSMOK	**Mokpo** SNR=41	**2.22**	**245**	P	Pn	11 34 26.0	-9.5
JHIK	**Hikimi** comp=E,4.0nm,4.6s,comp=E,4.0nm,5.0s	**2.55**	**117**	A	A	11 34 38.5	
SEHB	**SEOHWA**	**2.63**	**344**	Pn	**Pn**	**11 34 40.3**	**-0.8**
INCN	**Inchon**	**2.69**	**311**	Pn	**Pn**	**11 34 41.1**	**-0.9**
JGT2	**ShimaneMisato**	**2.80**	**103**	P	**Pn**	**11 34 41.4**	**-2.0**
JHT	**Toyohira**	**2.86**	**111**	*e*P	**Pn**	**11 34 42.5**	**-1.8**
JKI	**Kunimi** comp=E,7.0nm,2.3s,comp=E,11nm,2.9s	**2.88**	**136**	A	A	11 34 43.5	
JNU	**Nakatsue** comp=E,6.0nm,4.7s,comp=E,4.0nm,4.5s	**2.96**	**151**	A	A	11 34 45.1	
JISK	**Izumosakaura** comp=E,4.0nm,3.8s,comp=E,5.0nm,3.8s	**3.00**	**93**	A	A	11 34 44.5	
JBEP	**Beppuamama** comp=E,10.0nm,1.5s,comp=E,10.0nm,0.9s	**3.02**	**142**	A	A	11 34 45.6	
JHS	**Saijyo**	**3.30**	**102**		**Pn**	**11 34 51.0**	**+0.7**
HJU	**Haeju**	**3.60**	**311**	Pg	**Pb**	**11 35 03.3**	**+1.1**
HJU				Sg	**Sg**	**11 35 50.0**	**-4.1**
HJU	comp=N,10μm,0.9s			AML	AML		
HJU	comp=E,4μm,1.1s			AML	AML		
HJU	comp=Z,9μm,0.9s			AML	AML		
JSU	**Suzuyama**	**4.35**	**166**		**Pn**	**11 35 04.7**	**-0.2**
JMN	**Monobe**	**4.36**	**116**	Pn	**Pn**	**11 35 04.7**	**-0.1**
HHU	**Hamhung**	**4.38**	**343**	Pg	**Pb**	**11 35 17.8**	**+2.2**
HHU				Sg	**Sg**	**11 36 14.2**	**-4.9**
HHU	comp=N,813nm,0.7s			AML	AML		
HHU	comp=E,1μm,0.9s			AML	AML		
HHU	comp=Z,1μm,0.7s			AML	AML		
INU	**Inuyama**	**6.40**	**91**	Pn	**Pn**	**11 35 34.0**	**+1.1**
DL2	**Dalian**	**6.80**	**300**	Pg	**Pg**	**11 36 12.1**	**+3.5**
DL2				Sg	**Sg**	**11 37 30.8**	**-5.9**
DL2	comp=N,1μm,0.7s			smax	smax		
DL2	comp=E,870nm,0.7s			smax	smax		
MAJO	**Matsushiro**	**7.35**	**81**		**Pn**	**11 35 47.0**	**+1.1**
MJAR	**Matsushiro Arr** comp=E,0.3nm,0.3s,baz=264,slow=13,SNR=12 comp=E,4.3nm,0.7s	**7.35**	**81**	Pn	**Pn**	**11 35 47.8**	**+1.9**
CN2	**Changchun**	**8.55**	**342**	*e*P	**Pn**	**11 36 05.5**	**+3.1**
CN2				sP		11 36 11.3	
CN2				S	**Sn**	**11 37 43.5**	**+4.6**
CN2	comp=E,10.0nm,0.5s			pmax	pmax		
CN2	comp=E,300nm,4.0s			pmax	pmax		
CN2	comp=E,800nm,10.0s			LR	LR		
CN2	comp=E,2μm,10.0s			LR	LR		
CN2	comp=E,1μm,12.0s			LR	LR		
USRK	**Ussuriysk Ar.** comp=E,0.6nm,0.3s,baz=196,slow=12,SNR=9.0	**8.72**	**13**	Pn	**Pn**	**11 36 06.3**	**+1.6**
USRK	comp=E,63nm,20.6s,baz=183,slow=32 comp=E,4.4nm,0.7s			LR	LR	11 38 42.5	
MDJ	**Mudanjiang**	**8.87**	**2**	P	**Pn**	**11 36 08.3**	**+1.5**
MDJ				S	**Sn**	**11 37 47.8**	**+0.9**
MDJ				SS	**SnSn**	**11 38 01.3**	**+2.6**
MDJ	comp=E,12nm,1.1s			pmax	pmax		
MDJ	comp=E,200nm,6.0s			pmax	pmax		
MDJ	comp=E,650nm,17.9s			LR	LR		
MDJ	comp=E,1μm,10.3s			LR	LR		
MDJ	comp=E,760nm,11.9s			LR	LR		
JHJ	**Hachijo jima 2** comp=E,293nm,18.6s,baz=269,slow=38	**9.14**	**104**	LR	LR	11 39 42.6	
TIA	**Tai'an**	**9.79**	**276**	P	**Pn**	**11 36 17.5**	**-1.9**
BNX	**BinXian**	**10.08**	**353**	⇓P	**Pn**	**11 36 23.4**	**+0.1**
HNS	**HongShan**	**11.76**	**282**	⇑P	Pn	11 36 50.3	+4.0
HNS				S	**Sn**	**11 39 04.3**	**+6.6**
HNS	comp=E,11nm,0.8s			pmax	pmax		
HNS	comp=E,290nm,4.5s			pmax	pmax		
HNS	comp=E,870nm,13.9s			LR	LR		
HNS	comp=E,520nm,12.9s			LR	LR		
HNS	comp=E,540nm,13.1s			LR	LR		
XLT	**XiLinHaoTe**	**12.94**	**313**	*e*P	**Pn**	**11 37 01.4**	**-1.2**
XLT				pP		11 37 05.0	
XLT				S	**Sn**	**11 39 26.3**	**-0.5**
XLT	comp=E,12nm,0.6s			pmax	pmax		
XLT	comp=E,140nm,6.0s			pmax	pmax		
XLT	comp=E,170nm,7.4s			LR	LR		
XLT	comp=E,1μm,5.5s			LR	LR		
XLT	comp=E,310nm,6.1s			LR	LR		
KLR	**Kul'dur** comp=E,0.1nm,0.3s,baz=201,slow=8.6,SNR=5.4	**13.61**	**7**	Pn	**Pn**	**11 37 14.5**	**+2.9**
KLR				Lg	Lg	11 41 14.5	
KLR	comp=E,0.2nm,0.3s,baz=134,slow=19,SNR=2.2			LR	LR	11 41 39.6	
LYN	**LuoYang** comp=E,96nm,20.9s,baz=180,slow=34 comp=E,1.6nm,0.8s	**13.73**	**270**	⇑P	**Pn**	**11 37 14.3**	**+1.0**
LYN				sP	P	11 37 22.4	+0.4
LYN	comp=E,20nm,1.5s			pmax	pmax		
LYN	comp=E,890nm,14.5s			LR	LR		
LYN	comp=E,600nm,13.7s			LR	LR		
JCJ	**Chichijima** comp=E,58nm,21.4s,baz=114,slow=33	**14.04**	**124**	LR	LR	11 41 35.8	
HHC	**Hu-ho-hao-te**	**14.74**	**296**	*e*P	**Pn**	**11 37 25.4**	**-1.8**
HHC				S	**Sn**	**11 40 09.4**	**-1.3**
HHC	comp=E,35nm,0.9s			pmax	pmax		
HHC	comp=E,340nm,4.8s			pmax	pmax		
HHC	comp=E,1μm,9.2s			LR	LR		
HHC	comp=E,1μm,12.6s			LR	LR		
HHC	comp=E,900nm,10.8s			LR	LR		
XAN	**Xi'an**	**16.71**	**270**	⇑P	**P**	**11 37 56.4**	**+1.2**
XAN	comp=E,11nm,0.8s			pmax	pmax		
XAN	comp=E,140nm,7.8s			pmax	pmax		
XAN	comp=E,730nm,14.6s			LR	LR		
XAN	comp=E,650nm,15.2s			LR	LR		
XAN	comp=E,750nm,14.9s			LR	LR		
ULN	**Ulaanbaatar**	**20.39**	**313**		Pn	11 38 36.7	-0.9
ULN	comp=Z,6.5nm,1.3s			IAmb	IAmb	11 38 39.1	
LZH	**Lanzhou**	**20.51**	**278**	⇓P	Pn	11 38 37.8	-1.5
LZH				sP	sP	11 38 45.3	+4.3
LZH	comp=Z,22nm,1.4s			pmax	pmax		
LZH	comp=Z,120nm,4.5s			pmax	pmax		
LZH	comp=Z,430nm,11.7s			LR	LR		
LZH	comp=Z,320nm,11.3s			LR	LR		
LZH	comp=Z,340nm,11.0s			LR	LR		
SONM	**Songino Array** comp=Z,3.0nm,0.7s,baz=122,slow=10,SNR=13	**20.76**	**313**	P	Pn	11 38 40.6	-1.4
SONM	comp=Z,0.2nm,0.3s,baz=103,slow=30,SNR=2.9			Lg	Lg	11 44 53.9	
SONM	comp=Z,60nm,22.0s,baz=94,slow=40 comp=Z,3.0nm,0.7s			LR	LR	11 47 36.7	
SONM	**Songino Array**	**20.76**	**313**	P	Pn	11 38 41.0	-1.1
GYA	**Guiyang**	**21.35**	**251**	⇑P	**P**	**11 38 47.8**	**+1.7**
GYA				pP	sP	11 38 51.0	+1.0
GYA	comp=Z,15nm,0.5s			pmax	pmax		
GTA	**Gaotai**	**23.52**	**288**	*e*P	**P**	**11 39 09.3**	**+0.4**
GTA				pP	sP	11 39 15.0	+2.2
GTA				sP	pP	11 39 17.8	+6.2
GTA	comp=Z,4.0nm,1.1s			pmax	pmax		
GTA	comp=Z,85nm,4.7s			pmax	pmax		
GTA	comp=Z,400nm,16.7s			LR	LR		
GTA	comp=Z,210nm,15.3s			LR	LR		
GTA	comp=Z,230nm,16.4s			LR	LR		
QIZ	**Qiongzhong**	**23.84**	**231**	P	**P**	**11 39 11.1**	**-0.9**
QIZ				S	**S**	**11 43 28.1**	**0.0**
QIZ	comp=Z,680nm,18.3s			LR	LR		
QIZ	comp=Z,660nm,14.3s			LR	LR		
QIZ	comp=Z,280nm,12.7s			LR	LR		
KMI	**Kunming**	**25.06**	**252**	⇑P	**P**	**11 39 22.6**	**-0.9**
KMI	comp=Z,10.0nm,0.8s			pmax	pmax		
PZH	**PanZhiHua**	**25.16**	**256**	P	**P**	**11 39 23.8**	**-0.5**
PZH				PP	**PnPn**	**11 40 04.3**	**+6.3**
PZH				S	**S**	**11 43 44.8**	**-4.7**
PZH				sS	**sS**	**11 43 54.6**	**+0.3**
PZH	comp=Z,10.0nm,0.9s			pmax	pmax		
PZH	comp=Z,140nm,4.3s			pmax	pmax		
PZH	comp=Z,620nm,15.6s			LR	LR		
PZH	comp=Z,730nm,16.5s			LR	LR		
PZH	comp=Z,1μm,15.7s			LR	LR		
GUMO	**Guam** comp=Z,26nm,19.3s,baz=44,slow=35	**26.19**	**143**	LR	LR	11 49 04.2	
YAK	**Yakutsk**	**26.32**	**1**	P	**P**	**11 39 33.0**	**-1.2**
MA2	**Magadan** comp=Z,105nm,18.3s,baz=296,slow=38	**27.68**	**24**	LR	LR	11 51 21.6	
DAV	**Davao City (W)** comp=Z,67nm,21.1s,baz=349,slow=38	**28.72**	**187**	LR	LR	11 51 48.0	
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=43,slow=6.6,SNR=5.1	**31.77**	**245**	P	**P**	**11 40 21.7**	**-1.5**
CMAR	comp=Z,23nm,19.4s,baz=55,slow=38 comp=Z,0.5nm,0.3s			LR	LR	11 53 45.8	
WMQ	**Urumqi**	**32.61**	**297**	*e*P	**P**	**11 40 31.4**	**+1.0**
WMQ	comp=Z,460nm,15.9s			LR	LR		
WMQ	comp=Z,230nm,13.1s			LR	LR		
WMQ	comp=Z,170nm,16.9s			LR	LR		
BRDH	**Bariadhala** comp=Z,1.14nm,19.0s,baz=90,slow=39	**35.04**	**259**	LR	LR	11 56 51.2	
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=96,slow=10,SNR=3.2 comp=Z,0.5nm,0.6s	**36.44**	**302**	P	**P**	**11 41 03.0**	**-0.5**
SIJI	**Sorong** comp=Z,58nm,20.3s,baz=55,slow=33	**36.47**	**176**	LR	LR	11 54 06.8	
MAKZ	**Makanchi** comp=Z,1.6nm,0.7s	**36.65**	**302**	P	**P**	**11 41 03.4**	**-1.9**
MAKZ				IAmb	IAmb	11 41 05.8	
KURBB	**Kurchatov Arra** comp=Z,2.3nm,0.6s,baz=94,slow=9.1,SNR=14 comp=Z,2.3nm,0.6s	**39.03**	**309**	P	**P**	**11 41 24.9**	**-0.4**
PSI	**Prapat** comp=Z,98nm,18.1s,baz=40,slow=41	**43.10**	**227**	LR	LR	12 03 12.4	
KK31	**Karatay Array**	**45.11**	**298**	P	**P**	**11 42 13.3**	**-1.7**
KK31	comp=Z,2.3nm,0.8s			IAmb	IAmb	11 42 15.2	
KKAR	**Karatay Array**	**45.11**	**298**	P	**P**	**11 42 13.8**	**-1.3**
ARU	**Arti** comp=Z,73nm,18.6s,baz=158,slow=37	**50.69**	**317**	LR	LR	12 05 05.8	
ABKAR	**Akbulak array**	**51.08**	**308**	P	**P**	**11 43 00.1**	**-0.9**
PALK	**Pallekele** comp=Z,58nm,18.5s,baz=170,slow=39	**52.55**	**249**	LR	LR	12 07 47.3	
H21K	**Melozitna Rive**	**53.19**	**30**	P	**P**	**11 43 15.9**	**-0.6**
H21K	comp=Z,5.9nm,1.4s			IAmb	IAmb	11 43 26.5	
WRA	**Warramunga Arr** comp=Z,2.5nm,0.7s,baz=354,slow=7.6,SNR=17 comp=Z,2.5nm,0.7s	**55.59**	**174**	P	**P**	**11 43 33.1**	**-1.4**
WRA	**Warramunga Arr**	**55.59**	**174**	P	**P**	**11 43 33.5**	**-1.0**
WB2	**Warramunga Arr**	**55.59**	**174**	P	**P**	**11 43 33.5**	**-1.0**
ILAR	**Eielson Array** comp=Z,0.4nm,0.7s,baz=270,slow=6.0,SNR=4.1 comp=Z,0.4nm,0.7s	**55.79**	**31**	P	**P**	**11 43 35.7**	**+0.3**
BMAR	**Burnt Mountain**	**56.15**	**28**	P	**P**	**11 43 38.5**	**+0.4**
BELG	**Belogornoye** comp=Z,65nm,18.4s,baz=352,slow=37	**57.81**	**314**	LR	LR	12 09 48.6	
BCAR	**Beaver Creek A**	**58.40**	**32**	P	**P**	**11 43 54.0**	**-0.1**
ASAR	**Alice Springs** comp=Z,1.0nm,0.9s,baz=0.8,slow=7.3,SNR=3.6	**59.25**	**175**	P	**P**	**11 43 59.0**	**-1.3**

comp=Z,1.0nm,0.9s
ASAR Alice Springs 59.25 175 P P 11 44 00.1 -0.1
INK Inuvik 59.91 25 LR LR 12 11 15.8
comp=Z,38nm,18.3s,baz=202,slow=37
ARCES ARCESS Array B 61.53 337 LR LR 12 16 12.6
comp=Z,50nm,18.3s,baz=56,slow=41
KBZ Khabaz 63.98 306 LR LR 12 13 19.0
comp=Z,70nm,19.6s,baz=60,slow=37
FINES FINESS Array B 65.08 329 P P 11 44 37.5 -1.4
comp=Z,1.7nm,0.9s,baz=56,slow=7.5,SNR=2.0
comp=Z,1.7nm,0.9s
FINES FINESS Array B 65.08 329 P P 11 44 37.2 -1.8
MNK Minsk 67.70 322 *i* P **P 11 44 57.9 +2.1**
comp=E,4.0nm,0.9s
MNK *i* P **P 11 44 57.9 +2.1**
MNK *i* P **P 11 44 57.9 +2.1**
comp=Z,17nm,0.7s,baz=60
MNK *i* PP **PP 11 47 27.1 +2.4**
MNK *i* PPP PPP 11 49 04.4
MNK *i* S **S 11 53 54.5 +1.2**
MNK *i* SS **SS 11 58 18.1 +4.6**
MNK *i* SSS SSS 12 01 32.5
MNK *i* LQ LQ 12 10 00.9
MNK *i* LR LR 12 15 01.3
MNK *i* LRM MLR 12 17 11.1
comp=E,11nm,19.3s
MNK *i* LRM MLR 12 17 11.1
comp=Z,48nm,14.8s
MNK *i* LRM MLR 12 17 21.5
comp=N,1.0nm,17.4s
NOA NORSAR Array B 71.20 333 P P 11 45 16.2 -1.2
comp=N,0.2nm,0.4s,baz=50,slow=5.6,SNR=2.4
comp=N,0.2nm,0.4s
BRTR Keskin Array B 71.97 306 LR LR 12 18 50.1
comp=N,30nm,19.3s,baz=34,slow=37
OKC Ostrava-Krasne 75.28 321 AMS AMS 12 18 30.0
comp=N,300nm,5.7s
MAUC Maruska 75.74 321 AMS AMS 12 18 00.0
comp=N,700nm,5.8s
OSTC Ostas 75.80 323 AMS AMS 12 17 00.0
comp=N,300nm,4.9s
KRLC Kraliky 75.82 322 AMS AMS 12 17 20.0
comp=N,200nm,6.4s
DPC Dobruska-Polom 75.88 323 AMS AMS 12 17 50.0
comp=N,200nm,6.0s
UPC Upice 75.93 323 AMS AMS 12 18 10.0
comp=N,200nm,6.0s
PVCC Panska Ves 76.62 323 AMS AMS 12 19 10.0
comp=N,200nm,6.9s
GOPC GO Pecny, Ondr 76.91 323 AMS AMS 12 16 40.0
comp=N,300nm,6.0s
PRU Pruhonice 76.98 323 AMS AMS 12 16 50.0
comp=N,300nm,5.7s
KHC Kasperske Hory 78.02 323 AMS AMS 12 18 10.0
comp=N,200nm,6.1s
IDI Anoyia 80.20 306 LR LR 12 25 29.3
comp=N,20nm,18.0s,baz=99,slow=39
DAVOX Davos/Dischmat 81.44 323 LR LR 12 26 50.5
comp=N,92nm,18.3s,baz=85,slow=39
NVAR Mina Array Bea 83.38 47 P P 11 46 26.9 +0.5
comp=N,0.4nm,0.7s,baz=283,slow=5.4,SNR=5.0
comp=N,0.4nm,0.7s
PDAR Pinedale Array 85.27 39 P P 11 46 35.5 -0.5
comp=N,0.3nm,0.7s,baz=220,slow=3.5,SNR=3.6
comp=N,0.3nm,0.7s

---

*ROM **19** 11:34:05.5±0.1, 42.776N±0.003×13.133E±0.005, h8km, ML2.9/45, Error ellipse: s-maj=0.4km s-min=0.2km az=68.0*
ISC 19 11:34:05.8±0.8, 42.78N±0.02×13.13E±0.02, h10km±5km, n66, σ0.63/95, 13C-29D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
NRCA	**Norcia**	**0.06**	**347**	⇑P		**Pg**	**11 34 07.4**	**-0.5**
NRCA				S		**Sg**	**11 34 08.6**	**-0.9**
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
T1242	**Castelluccio d**	**0.07**	**45**	⇑P		**Pg**	**11 34 07.9**	**-0.3**
T1242				S		**Sg**	**11 34 09.4**	**-0.6**
T1242				AML		AML		
	comp=E,88750μm,1.2s							
T1242				AML		AML		
	comp=N,94400μm,0.6s							
T1242				AML		AML		
	comp=E,87750μm,1.2s							
T1242				AML		AML		
	comp=N,94700μm,0.6s							
T1242				AML		AML		
	comp=E,88550μm,1.2s							
T1202	**Accumoli, Fraz**	**0.10**	**137**	P		**Pg**	**11 34 08.6**	**+0.1**
T1202				S		**Sg**	**11 34 10.9**	**+0.5**
T1202				AML		AML		
	comp=N,20550μm,0.4s							
T1202				AML		AML		
	comp=E,20700μm,0.8s							
T1202				AML		AML		
	comp=E,21650μm,0.3s							
T1202				AML		AML		
	comp=N,24350μm,0.8s							
T1202				AML		AML		
	comp=E,20701μm,0.8s							
T1202				AML		AML		
	comp=N,20556μm,0.4s							
T1216	**Preci, Frazion**	**0.14**	**324**	⇓P		**Pg**	**11 34 09.0**	**-0.1**
T1216				S		**Sg**	**11 34 11.4**	**+0.1**
T1216				AML		AML		
T1216				AML		AML		
	comp=E,39100μm,1.1s							
T1216				AML		AML		
	comp=N,34600μm,1.2s							
T1216				AML		AML		
T1216				AML		AML		
T1216				AML		AML		
	comp=N,34600μm,1.3s							
T1217	**Poggiodomo (PG**	**0.16**	**246**	⇓P		**Pg**	**11 34 09.6**	**+0.3**
T1217				S		**Sg**	**11 34 11.9**	**+0.1**
T1217				AML		AML		
	comp=E,9620μm,0.5s							
T1217				AML		AML		
	comp=N,12255μm,0.5s							
T1217				AML		AML		
	comp=E,9765μm,0.5s							
T1217				AML		AML		
	comp=N,12160μm,1.1s							
T1217				AML		AML		
	comp=E,9595μm,0.5s							
T1217				AML		AML		
	comp=N,12205μm,0.5s							
T1217				AML		AML		
	comp=E,9775μm,0.5s							
T1217				AML		AML		
	comp=N,12185μm,1.2s							
T1204	**Amatrice, Fraz**	**0.17**	**126**	⇓P		**Pg**	**11 34 10.0**	**+0.5**
T1204				S		**Sg**	**11 34 12.9**	**+0.8**
T1204				AML		AML		
	comp=E,6390μm,1.3s							
T1204				AML		AML		
	comp=N,4770μm,1.2s							
T1204				AML		AML		
	comp=E,8020μm,1.4s							
T1204				AML		AML		
	comp=N,4780μm,1.2s							
T1204				AML		AML		
	comp=E,6397μm,1.3s							
LNSS	**Leonessa**	**0.19**	**201**	⇓P		**Pg**	**11 34 10.1**	**+0.3**
LNSS				S		**Sg**	**11 34 13.9**	**+1.4**
LNSS				AML		AML		
	comp=E,8960μm,0.8s							
LNSS				AML		AML		
	comp=N,11090μm,0.6s							
MMO1	**Montemonaco**	**0.19**	**49**	⇑P		**Pg**	**11 34 10.0**	**+0.2**
MMO1				S		**Sg**	**11 34 13.2**	**+0.6**
FEMA	**Monte Fema**	**0.20**	**342**	⇑P		**Pg**	**11 34 10.3**	**+0.3**
FEMA				S		**Sg**	**11 34 13.8**	**+1.0**
FEMA				AML		AML		
	comp=E,18700μm,0.6s							
FEMA				AML		AML		
	comp=N,21000μm,0.4s							
FEMA				AML		AML		
	comp=N,20950μm,0.4s							
T1215	**Vallo di Nera,**	**0.20**	**278**	⇓P		**Pg**	**11 34 10.1**	**+0.2**
T1215				S		**Sg**	**11 34 13.7**	**+1.0**
T1215				AML		AML		
	comp=E,4560μm,0.3s							
T1215				AML		AML		
	comp=E,4745μm,1.2s							
T1215				AML		AML		
	comp=N,4370μm,1.2s							
T1215				AML		AML		
	comp=N,4355μm,1.2s							
T1215				AML		AML		
	comp=E,4745μm,1.2s							
T1215				AML		AML		
	comp=N,4355μm,1.2s							
T1215				AML		AML		
	comp=N,4360μm,1.2s							
T1215				AML		AML		
	comp=N,4375μm,1.2s							
T1215				AML		AML		
	comp=E,4730μm,1.2s							
T1241	**Roccafluvione,**	**0.23**	**70**	⇑P		**Pg**	**11 34 10.9**	**+0.3**
T1241				S		**Sg**	**11 34 15.2**	**+1.3**
T1241				AML		AML		
	comp=E,6755μm,1.3s							
T1241				AML		AML		
	comp=N,5190μm,0.7s							
T1241				AML		AML		
	comp=E,6675μm,1.3s							
T1241				AML		AML		
	comp=N,5095μm,0.7s							
T1243	**Rocca Santa Ma**	**0.25**	**109**	⇓P		**Pg**	**11 34 11.1**	**+0.3**
T1243				S		**Sg**	**11 34 15.3**	**+1.0**
AM05	**Amandola Campo**	**0.26**	**39**	⇑P		**Pg**	**11 34 11.4**	**+0.3**
AM05				S		**Sb**	**11 34 16.2**	**-0.9**
AM05				AML		AML		
	comp=E,1590μm,1.6s							
AM05				AML		AML		
	comp=N,1600μm,0.5s							
AM05				AML		AML		
	comp=N,6335μm,0.6s							
AM05				AML		AML		
	comp=N,6340μm,0.6s							
AM05				AML		AML		
	comp=E,6370μm,1.5s							
FDMO	**Fiordimonte**	**0.26**	**353**	⇓P		**Pg**	**11 34 11.2**	**+0.1**
FDMO				S		**Sb**	**11 34 16.3**	**-0.9**
FDMO				AML		AML		
	comp=E,5070μm,0.7s							
FDMO				AML		AML		
	comp=N,6450μm,0.3s							
RM33	**Pellescritta (**	**0.27**	**167**	⇓P		**Pg**	**11 34 11.7**	**+0.3**
RM33				AML		AML		
	comp=E,3180μm,1.4s							
RM33				AML		AML		
	comp=N,2705μm,1.0s							
RM33				AML		AML		
	comp=E,3095μm,1.4s							
RM33				AML		AML		
	comp=N,2735μm,1.1s							
RM33				AML		AML		
	comp=N,2710μm,1.0s							
RM33				AML		AML		
	comp=E,3290μm,0.3s							
RM33				AML		AML		
	comp=N,3305μm,0.3s							
RM33				AML		AML		
	comp=E,3255μm,0.3s							
RM33				AML		AML		
	comp=N,3310μm,0.3s							
RM33				AML		AML		
	comp=E,2903μm,0.7s							
RM33				AML		AML		
	comp=N,2708μm,1.1s							
RM33				AML		AML		
	comp=N,2733μm,1.1s							
RM33				AML		AML		
	comp=E,2845μm,0.7s							
CESI	**CESI - Serrava**	**0.28**	**324**	⇓P		**Pg**	**11 34 11.6**	**+0.1**
CESI				S		**Sg**	**11 34 16.0**	**+0.6**
CESI				AML		AML		
	comp=E,8280μm,0.3s							
CESI				AML		AML		
	comp=N,9480μm,0.4s							
CAMP	**Campotosto**	**0.32**	**140**	⇓P		**Pg**	**11 34 12.4**	**+0.3**
CAMP				AML		AML		
	comp=N,1280μm,1.2s							
CAMP				AML		AML		
	comp=E,2540μm,0.9s							
CAMP				AML		AML		
	comp=N,1335μm,0.6s							
CAMP				AML		AML		
	comp=N,1282μm,1.2s							
CSP1	**Cessapalombo**	**0.32**	**10**	⇑P		**Pg**	**11 34 12.3**	**+0.1**
CSP1				AML		AML		
	comp=N,5040μm,0.4s							
CSP1				AML		AML		
	comp=N,5045μm,0.4s							
CSP1				AML		AML		
	comp=E,6800μm,0.5s							
GUMA	**Gualdo di Mace**	**0.32**	**28**	⇑P		**Pg**	**11 34 11.4**	**-0.9**
GUMA				S		**Sg**	**11 34 15.9**	**-0.7**
ARRO	**Arrone**	**0.33**	**234**	⇓P		**Pg**	**11 34 12.7**	**+0.3**
ARRO				AML		AML		
	comp=E,1960μm,1.4s							
ARRO				AML		AML		
	comp=N,2045μm,1.0s							
ARRO				AML		AML		
	comp=E,1955μm,1.4s							
T1247	**Pizzolo (AQ)**	**0.36**	**160**	⇑P		**Pb**	**11 34 13.3**	**-1.0**
T1247				S		**Sb**	**11 34 19.2**	**-0.7**
T1247				AML		AML		
	comp=N,2865μm,1.1s							
T1247				AML		AML		
	comp=E,3175μm,1.4s							
TERO	**Teramo**	**0.38**	**114**	⇓P		**Pg**	**11 34 13.4**	**+0.1**
TERO				S		**Sb**	**11 34 19.5**	**-1.1**
TERO				AML		AML		
	comp=E,1830μm,0.9s							
TERO				AML		AML		
	comp=N,1800μm,0.7s							
TERO				AML		AML		
	comp=N,1855μm,0.7s							
TERO				AML		AML		
	comp=E,1890μm,0.9s							
CESX	**Cesi**	**0.44**	**248**	⇓P		**Pg**	**11 34 14.4**	**0.0**
CESX				AML		AML		
	comp=E,2090μm,1.0s							
CESX				AML		AML		
	comp=N,1705μm,0.5s							
GIGS	**Gran Sasso**	**0.46**	**135**	⇓P		**Pg**	**11 34 14.9**	**+0.2**
GIGS				AML		AML		
	comp=E,310μm,1.6s							
GIGS				AML		AML		
	comp=N,318μm,1.1s							
GIGS				AML		AML		
	comp=E,388μm,0.2s							
GIGS				AML		AML		
	comp=N,342μm,0.5s							
GIGS				AML		AML		
	comp=E,313μm,1.8s							
GIGS				AML		AML		
	comp=N,316μm,1.1s							
SNTG	**Esanatoglia**	**0.50**	**344**	⇓P		**Pg**	**11 34 15.4**	**0.0**
SNTG				AML		AML		
	comp=E,1299μm,0.6s							
SNTG				AML		AML		
	comp=N,1890μm,1.0s							
FIAM	**Fiamignano**	**0.51**	**181**	⇓P		**Pg**	**11 34 15.7**	**0.0**
FIAM				S		**Sb**	**11 34 23.6**	**-0.7**
FIAM				AML		AML		
	comp=E,1040μm,0.9s							
FIAM				AML		AML		
	comp=N,1165μm,1.3s							
ATCC	**AVT- Casa Cast**	**0.55**	**319**	⇓P		**Pg**	**11 34 16.3**	**-0.1**
ATCC				S		**Sb**	**11 34 24.8**	**-0.6**
ATCC				AML		AML		
	comp=E,2595μm,1.4s							
ATCC				AML		AML		
	comp=N,2700μm,0.4s							
EL6	**Elcito**	**0.55**	**358**	P		**Pg**	**11 34 16.4**	**-0.1**
EL6				S		**Sb**	**11 34 25.4**	**-0.3**
EL6				AML		AML		
	comp=E,2316μm,1.4s							
EL6				AML		AML		
	comp=N,2274μm,0.4s							
EL6				AML		AML		
	comp=N,2275μm,0.4s							
EL6				AML		AML		
	comp=E,2322μm,1.4s							
FOSV	**Fossato di Vic**	**0.58**	**332**	⇓P		**Pg**	**11 34 16.9**	**-0.2**
FOSV				S		**Sb**	**11 34 26.0**	**-0.5**
CING	**Cingoli**	**0.60**	**4**	P		**Pg**	**11 34 17.4**	**0.0**
CING				AML		AML		
	comp=N,706μm,1.4s							
CING				AML		AML		
	comp=E,1002μm,0.5s							
VCEL	**Villa Celiera**	**0.65**	**126**	⇓P		**Pb**	**11 34 18.9**	**-0.3**
VCEL				AML		AML		
	comp=E,1415μm,1.0s							
VCEL				AML		AML		
	comp=N,1535μm,1.6s							
VCEL				AML		AML		
	comp=E,1420μm,1.0s							
MURB	**Monte Urbino**	**0.66**	**318**	⇓P		**Pg**	**11 34 18.4**	**-0.2**
MURB				S		**Sb**	**11 34 29.3**	**+0.6**
MURB				AML		AML		
	comp=E,2325μm,0.7s							
MURB				AML		AML		
	comp=N,3095μm,0.3s							
MURB				AML		AML		
	comp=N,3020μm,0.3s							
MURB				AML		AML		
	comp=E,2520μm,0.3s							
SSFR	**Montelago di S**	**0.71**	**339**	⇓P		**Pg**	**11 34 19.2**	**-0.2**
SSFR				S		**Sb**	**11 34 30.5**	**+0.4**
SSFR				AML		AML		
	comp=E,1760μm,0.2s							
SSFR				AML		AML		
	comp=N,1830μm,0.8s							
SSFR				AML		AML		
	comp=N,1895μm,1.1s							
SSFR				AML		AML		
	comp=E,1920μm,0.2s							
ATTE	**AVT- Monte Tez**	**0.71**	**307**	⇓P		**Pg**	**11 34 19.6**	**+0.1**
ATTE				AML		AML		
	comp=E,644μm,0.4s							
ATTE				AML		AML		
	comp=N,681μm,1.4s							
ATFO	**Monte Foce - G**	**0.72**	**325**	⇓P		**Pg**	**11 34 19.4**	**-0.3**
ATFO				S		**Sb**	**11 34 30.8**	**+0.4**
ATFO				AML		AML		
	comp=E,1410μm,0.7s							
ATFO				AML		AML		
	comp=N,920μm,0.4s							
T0110	**Collepietro**	**0.73**	**139**	P		**Pg**	**11 34 19.5**	**-0.3**
T0110				AML		AML		
	comp=N,1062μm,0.5s							
T0110				AML		AML		
	comp=N,1062μm,0.5s							
T0110				AML		AML		
	comp=E,1160μm,0.5s							
ARVD	**Arcevia**	**0.73**	**349**	P		**Pg**	**11 34 19.4**	**-0.5**
MGAB	**Montegabbione**	**0.76**	**281**	⇑P		**Pb**	**11 34 20.9**	**-0.3**
MGAB				AML		AML		
	comp=N,1295μm,0.5s							
MGAB				AML		AML		
	comp=E,1595μm,1.4s							
MGAB				AML		AML		
	comp=N,1175μm,0.4s							
MGAB				AML		AML		
	comp=E,1425μm,1.3s							
ATVO	**AVT- Monte Val**	**0.81**	**319**	⇓P		**Pg**	**11 34 20.8**	**-0.6**
ATVO				S		**Sb**	**11 34 32.9**	**0.0**
ATVO				AML		AML		
	comp=E,659μm,0.7s							
ATVO				AML		AML		
	comp=N,576μm,0.6s							
CERT	**Cerreto**	**0.83**	**188**	P		**Pg**	**11 34 21.4**	**-0.5**
ATMI	**Monte Miggiano**	**0.84**	**312**	⇓P		**Pb**	**11 34 22.3**	**-0.3**
ATMI				AML		AML		
	comp=E,1585μm,0.9s							
ATMI				AML		AML		
	comp=N,1715μm,1.5s							
AOI	**Ancona**	**0.85**	**24**	P		**Pb**	**11 34 22.7**	**+0.1**
AOI				AML		AML		
	comp=N,587μm,0.9s							
AOI				AML		AML		
	comp=E,544μm,0.7s							
ATPI	**Pietralunga -**	**0.86**	**322**	⇓P		**Pg**	**11 34 21.9**	**-0.5**
ATPI				S		**Sb**	**11 34 34.5**	**0.0**
ATPI				AML		AML		
	comp=E,572μm,0.6s							
ATPI				AML		AML		
	comp=N,548μm,0.6s							
COR1	**Corinaldo**	**0.86**	**354**	P		**Pb**	**11 34 23.0**	**+0.2**
PIEI	**Pieia**	**0.88**	**330**	⇓P		**Pg**	**11 34 22.0**	**-0.6**
PIEI				AML		AML		
	comp=E,410μm,1.4s							
PIEI				AML		AML		
	comp=N,386μm,1.5s							
MPAG	**Monte Paganucc**	**0.90**	**342**	⇓P		**Pg**	**11 34 22.4**	**-0.6**
MPAG				S		**Sn**	**11 34 36.8**	**-0.8**
MPAG				AML		AML		
	comp=E,642μm,0.4s							
MPAG				AML		AML		
	comp=N,574μm,0.7s							
SACS	**San Casciano d**	**0.90**	**275**	⇑P		**Pb**	**11 34 23.4**	**-0.2**
SACS				AML		AML		
	comp=E,426μm,1.5s							
SACS				AML		AML		
	comp=N,486μm,0.9s							
SACS				AML		AML		
	comp=N,486μm,0.9s							
SACS				AML		AML		
	comp=E,426μm,1.5s							
FSSB	**Fossombrone**	**0.95**	**344**	P		**Pg**	**11 34 23.7**	**-0.4**
FSSB				AML		AML		
	comp=E,1375μm,0.4s							
FSSB				AML		AML		
	comp=N,2215μm,0.4s							
INTR	**Introdacqua**	**0.95**	**143**	⇑P		**Pg**	**11 34 23.4**	**-0.8**
INTR				AML		AML		
	comp=N,908μm,0.9s							
INTR				AML		AML		
	comp=N,907μm,0.9s							
INTR				AML		AML		
	comp=E,411μm,1.0s							
BADI	**Badiali**	**0.98**	**319**	P		**Pg**	**11 34 23.7**	**-1.0**
CAFI	**Castiglion Fio**	**1.02**	**303**	P		**Pg**	**11 34 25.0**	**-0.4**
CAFI				AML		AML		
	comp=E,340μm,0.5s							
CAFI				AML		AML		
	comp=N,430μm,0.6s							
PE3	**Peglio**	**1.03**	**333**	P		**Pb**	**11 34 25.6**	**-0.1**
LPEL	**Lama dei Pelig**	**1.07**	**133**	⇓P		**Pn**	**11 34 26.6**	**-0.3**
LPEL				S		**Sn**	**11 34 43.0**	**+1.2**
LPEL				AML		AML		
	comp=N,264μm,1.3s							
LPEL				AML		AML		
	comp=E,338μm,1.2s							
PARC	**Parchiule**	**1.09**	**323**	P		**Pb**	**11 34 26.5**	**-0.2**
PARC				AML		AML		
	comp=N,432μm,0.9s							
PARC				AML		AML		
	comp=E,402μm,1.0s							
ARCI	**Arcidosso**	**1.22**	**274**	⇑P		**Pg**	**11 34 30.1**	**+0.9**
DUGI	**Dugi Otok**	**1.86**	**48**	*e*Pn		**Pn**	**11 34 38.5**	**+0.8**
MTCR	**Monte La Croce**	**2.00**	**310**	P		**Pb**	**11 34 41.4**	**-0.8**
ZIRJ	**Zirje**	**2.04**	**64**	*e*Pn		**Pn**	**11 34 41.0**	**+1.0**
VIRC	**Vir**	**2.06**	**42**	*e*Pn		**Pn**	**11 34 41.0**	**+0.6**
NVLJ	**Novalja**	**2.19**	**35**	*e*Pn		**Pn**	**11 34 43.0**	**+0.8**
RABC	**Rab**	**2.31**	**31**	*e*Pn		**Pn**	**11 34 43.9**	**+0.1**
HVAR	**Hvar**	**2.47**	**80**	*e*Pn		**Pn**	**11 34 45.8**	**-0.2**
KIJV	**Kijevo**	**2.68**	**62**	*e*Pn		**Pn**	**11 34 50.8**	**+1.7**
LSTV	**Lastovo**	**2.77**	**89**	*e*Pn		**Pn**	**11 34 51.5**	**+1.3**
CMPR	**Campora**	**2.95**	**146**	P		**Pn**	**11 34 51.2**	**-1.5**
STON	**Ston**	**3.36**	**87**	*e*Pn		**Pn**	**11 34 58.6**	**+0.3**

ROM 19 11:34:55.5±0.0, 42.786N±0.003×13.128E±0.004, h10km, ML2.8/13, 4C-3D, Error ellipse: s-maj=0.3km s-min=0.2km az=240.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
NRCA	**Norcia**	**0.05**	**348**	P		Pg	11 34 57.5	-0.2
NRCA				S		Sg	11 34 58.7	-0.5
NRCA				AML		AML		
	comp=E,82300μm,1.1s							
NRCA				AML		AML		
	comp=N,92850μm,0.1s							
NRCA				AML		AML		
	comp=E,90300μm,1.1s							
NRCA				AML		AML		
	comp=N,92900μm,0.1s							

NRCA					AML	AML			
	comp=N,96950μm,0.1s								
NRCA					AML	AML			
	comp=E,82250μm,1.1s								
NRCA					AML	AML			
	comp=N,92900μm,0.1s								
T1242	**Castelluccio d**	**0.07**	**52**	P	Pg	11 34 57.9	0.0		
T1242				S	Sg	11 34 59.4	-0.3		
T1242				AML	AML				
	comp=E,59900μm,0.7s								
T1242				AML	AML				
	comp=N,71350μm,0.4s								
T1242				AML	AML				
	comp=N,70700μm,0.4s								
T1242				AML	AML				
	comp=E,59950μm,0.7s								
T1242				AML	AML				
	comp=E,59350μm,0.7s								
T1202	**Accumoli, Fraz**	**0.11**	**139**	P	Pg	11 34 58.7	+0.3		
T1202				S	Sg	11 35 01.1	+0.7		
T1202				AML	AML				
	comp=E,21700μm,0.3s								
T1202				AML	AML				
	comp=E,21650μm,0.3s								
T1202				AML	AML				
	comp=N,24350μm,0.8s								
T1202				AML	AML				
	comp=N,24300μm,0.8s								
T1216	**Preci, Frazion**	**0.13**	**323**	P	Pg	11 34 59.4	+0.7		
T1216				AML	AML				
T1216				AML	AML				
T1216				AML	AML				
	comp=E,16200μm,0.4s								
T1216				AML	AML				
	comp=N,16750μm,0.6s								
T1216				AML	AML				
MC2	**Monte Cornacci**	**0.14**	**20**	P	Pg	11 34 59.2	+0.4		
MC2				S	Sg	11 35 02.4	+1.2		
T1217	**Poggiodomo (PG**	**0.16**	**243**	P	Pg	11 34 59.6	+0.5		
T1217				S	Sg	11 35 02.9	+1.2		
T1217				AML	AML				
	comp=E,4985μm,0.8s								
T1217				AML	AML				
	comp=N,7265μm,1.4s								
T1217				AML	AML				
	comp=E,5235μm,0.8s								
T1217				AML	AML				
	comp=N,7300μm,1.4s								
T1217				AML	AML				
	comp=E,4985μm,0.8s								
T1217				AML	AML				
	comp=N,7245μm,1.4s								
T1217				AML	AML				
	comp=E,5235μm,0.8s								
T1217				AML	AML				
	comp=N,7300μm,1.4s								
T1217				AML	AML				
	comp=E,4975μm,0.8s								
T1217				AML	AML				
	comp=N,7245μm,1.4s								
T1217				AML	AML				
	comp=E,5240μm,0.8s								
T1217				AML	AML				
	comp=E,4975μm,0.8s								
T1217				AML	AML				
	comp=N,7255μm,1.4s								
T1204	**Amatrice, Fraz**	**0.18**	**128**	P	Pg	11 35 00.0	+0.6		
T1204				S	Sg	11 35 03.5	+1.3		
T1204				AML	AML				
	comp=E,8015μm,1.4s								
T1204				AML	AML				
	comp=N,4465μm,0.4s								
T1204				AML	AML				
	comp=E,8035μm,1.4s								
T1204				AML	AML				
	comp=E,8020μm,1.4s								
T1204				AML	AML				
	comp=N,4470μm,0.4s								
FEMA	**Monte Fema**	**0.18**	**342**	P	Pg	11 35 00.1	+0.6		
MMO1	**Montemonaco**	**0.18**	**52**	P	Pg	11 34 59.9	+0.4		
MMO1				S	Sg	11 35 03.4	+1.2		
T1215	**Vallo di Nera,**	**0.19**	**275**	P	Pg	11 35 00.2	+0.6		
T1215				S	Sg	11 35 03.6	+1.2		
T1215				AML	AML				
	comp=E,3050μm,1.6s								
T1215				AML	AML				
	comp=N,2290μm,0.3s								
T1215				AML	AML				
	comp=N,2165μm,0.3s								
T1215				AML	AML				
	comp=E,2845μm,1.6s								
LNSS	**Leonessa**	**0.19**	**200**	P	Pg	11 35 00.2	+0.6		
LNSS				AML	AML				
	comp=E,6285μm,0.5s								
LNSS				AML	AML				
	comp=E,6290μm,0.5s								
LNSS				AML	AML				
	comp=N,7175μm,0.4s								
T1241	**Roccafluvione,**	**0.23**	**72**	P	Pg	11 35 01.0	+0.6		
T1241				S	Sg	11 35 05.2	+1.6		
T1241				AML	AML				
	comp=E,4830μm,0.7s								
T1241				AML	AML				
	comp=N,3330μm,0.7s								
T1241				AML	AML				
	comp=N,3555μm,0.7s								
T1241				AML	AML				
	comp=E,4740μm,0.7s								
FDMO	**Fiordimonte**	**0.25**	**353**	P	Pg	11 35 01.4	+0.7		
FDMO				AML	AML				
	comp=N,2510μm,1.3s								
FDMO				AML	AML				
	comp=E,2900μm,0.2s								
T1243	**Rocca Santa Ma**	**0.25**	**111**	P	Pg	11 35 01.1	+0.4		
T1243				S	Sb	11 35 05.4	-1.3		
AM05	**Amandola Campo**	**0.25**	**41**	P	Pg	11 35 01.2	+0.5		
AM05				AML	AML				
	comp=E,5210μm,0.6s								
AM05				AML	AML				
	comp=E,1280μm,0.4s								
AM05				AML	AML				
	comp=N,1172μm,0.1s								
AM05				AML	AML				
	comp=E,5215μm,0.6s								
AM05				AML	AML				
	comp=N,4620μm,0.6s								
CESI	**CESI - Serrava**	**0.27**	**323**	P	Pg	11 35 01.6	+0.6		
CESI				S	Sb	11 35 06.4	-0.9		
CESI				AML	AML				
	comp=N,4945μm,1.2s								
CESI				AML	AML				
	comp=E,2260μm,0.2s								
RM33	**Pellescritta (**	**0.28**	**167**	P	Pg	11 35 01.8	+0.5		
RM33				S	Sb	11 35 06.5	-1.1		
RM33				AML	AML				
	comp=N,3305μm,0.3s								
RM33				AML	AML				
	comp=E,3255μm,0.3s								
RM33				AML	AML				
	comp=N,3310μm,0.3s								
CSP1	**Cessapalombo**	**0.31**	**10**	P	Pb	11 35 02.7	-0.6		
CSP1				S	Sb	11 35 07.8	-0.7		
GUMA	**Gualdo di Mace**	**0.32**	**29**	AML	AML				
	comp=N,8190μm,0.7s								
GUMA				AML	AML				
	comp=N,6860μm,0.7s								
GUMA				AML	AML				
	comp=E,7120μm,0.4s								
GUMA				AML	AML				
	comp=E,8010μm,0.4s								
CAMP	**Campotosto**	**0.33**	**140**	P	Pg	11 35 02.5	+0.5		
CAMP				S	Sb	11 35 07.8	-1.0		
CAMP				AML	AML				
	comp=N,1335μm,0.6s								
CAMP				AML	AML				
	comp=E,1195μm,0.8s								
T1246	**Crognaleto (TE**	**0.34**	**127**	P	Pg	11 35 02.7	+0.4		
T1246				S	Sb	11 35 08.2	-0.9		
ARRO	**Arrone**	**0.34**	**232**	P	Pg	11 35 02.7	+0.5		
ARRO				AML	AML				
	comp=E,1060μm,0.3s								
ARRO				AML	AML				
	comp=N,1210μm,0.9s								
T1247	**Pizzolo (AQ)**	**0.37**	**160**	P	Pg	11 35 03.3	+0.6		
TERO	**Teramo**	**0.39**	**115**	P	Pg	11 35 03.5	+0.3		
TERO				AML	AML				
	comp=E,1455μm,0.2s								
TERO				AML	AML				
	comp=N,1670μm,1.2s								
TERO				AML	AML				
	comp=N,1675μm,1.2s								
GIGS	**Gran Sasso**	**0.47**	**136**	P	Pg	11 35 04.8	+0.2		
GIGS				AML	AML				
	comp=E,388μm,0.2s								
GIGS				AML	AML				
	comp=E,388μm,0.2s								
GIGS				AML	AML				
	comp=N,342μm,0.5s								
SNTG	**Esanatoglia**	**0.49**	**344**	⇓P	Pg	11 35 05.6	+0.6		
SNTG				S	Sb	11 35 14.0	+0.5		
SNTG				AML	AML				
	comp=E,670μm,1.5s								
SNTG				AML	AML				
	comp=N,671μm,0.6s								
FIAM	**Fiamignano**	**0.52**	**181**	S	Sb	11 35 15.0	+0.7		
ATCC	**AVT- Casa Cast**	**0.54**	**318**	⇑P	Pg	11 35 06.1	+0.1		
ATCC				S	Sb	11 35 16.0	+1.2		
EL6	**Elcito**	**0.54**	**358**	S	Sb	11 35 16.0	+0.9		
FOSV	**Fossato di Vic**	**0.57**	**332**	⇑P	Pg	11 35 06.6	-0.1		
ATFO	**Monte Foce - G**	**0.71**	**325**	⇑P	Pg	11 35 09.4	+0.2		
ARVD	**Arcevia**	**0.72**	**349**	S	Sn	11 35 22.0	-1.0		
T0110	**Collepietro**	**0.74**	**139**	⇓P	Pg	11 35 09.9	+0.1		
T0110				S	Sb	11 35 22.0	+1.4		
COR1	**Corinaldo**	**0.85**	**354**	⇑P	Pg	11 35 09.4	-2.5		
SACS	**San Casciano d**	**0.90**	**274**	⇓P	Pn	11 35 13.8	-0.5		
LPEL	**Lama dei Pelig**	**1.07**	**133**	P	Pg	11 35 15.9	-0.2		
LPEL				S	Sn	11 35 32.0	+0.3		

ROM 19 11:35:34.0±0.1, 42°.791N±0°.004×13°.140E±0°.005, h10km, ML2.8/9, 10C-15D, Error ellipse: s-maj=0.4km s-min=0.4km az=254.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op		h	m	s	ISC
NRCA	**Norcia**	**0.05**	**337**	⇑P	Pg	11 35 35.8			-0.4
NRCA				S	Sg	11 35 37.2			-0.5
NRCA				AML	AML				
	comp=E,67700μm,0.5s								
NRCA				AML	AML				
	comp=N,50100μm,0.1s								
NRCA				AML	AML				
	comp=E,72250μm,0.5s								
NRCA				AML	AML				
	comp=N,53400μm,0.1s								
NRCA				AML	AML				
NRCA				AML	AML				
	comp=N,59150μm,1.4s								
NRCA				AML	AML				
NRCA				AML	AML				
	comp=N,64550μm,1.4s								
T1242	**Castelluccio d**	**0.06**	**51**	⇑P	Pg	11 35 36.3			-0.1
T1242				S	Sg	11 35 38.0			-0.1
T1242				AML	AML				
	comp=E,31350μm,1.0s								
T1242				AML	AML				
	comp=N,32500μm,0.4s								
T1242				AML	AML				
	comp=N,32150μm,0.4s								
T1242				AML	AML				
	comp=N,36100μm,1.0s								
T1242				AML	AML				
	comp=E,30800μm,1.0s								
T1242				AML	AML				
	comp=N,35900μm,1.0s								
T1202	**Accumoli, Fraz**	**0.11**	**144**	⇑P	Pg	11 35 37.2			+0.3
T1202				S	Sg	11 35 39.9			+1.0
T1202				AML	AML				
	comp=N,15250μm,0.2s								
T1202				AML	AML				
	comp=E,18300μm,0.3s								
MC2	**Monte Cornacci**	**0.13**	**17**	⇑P	Pg	11 35 37.6			+0.4
MC2				S	Sg	11 35 40.5			+1.0
T1216	**Preci, Frazion**	**0.13**	**318**	⇓P	Pg	11 35 37.4			+0.2
T1216				S	Sg	11 35 40.8			+1.4
T1216				AML	AML				
	comp=E,94400μm,0.4s								
T1216				AML	AML				
	comp=E,10070μm,0.4s								
T1216				AML	AML				
	comp=N,14650μm,0.5s								
T1216				AML	AML				
	comp=E,94300μm,0.4s								
T1216				AML	AML				
T1216				AML	AML				
	comp=E,10075μm,0.4s								
T1216				AML	AML				
	comp=N,14700μm,0.5s								
T1216				AML	AML				
T1216				AML	AML				
T1216				AML	AML				
	comp=E,12600μm,0.6s								
T1216				AML	AML				
	comp=N,15500μm,0.6s								
T1217	**Poggiodomo (PG**	**0.17**	**243**	⇓P	Pg	11 35 38.1			+0.2
T1217				S	Sg	11 35 42.2			+1.8
T1217				AML	AML				
	comp=E,2635μm,0.5s								
T1217				AML	AML				
	comp=N,4590μm,0.4s								
T1217				AML	AML				
	comp=E,2680μm,0.5s								
T1217				AML	AML				
	comp=N,4450μm,0.4s								
T1217				AML	AML				
	comp=E,2630μm,0.5s								
T1217				AML	AML				
	comp=N,4585μm,0.4s								
T1204	**Amatrice, Fraz**	**0.17**	**131**	P	Pg	11 35 38.1			+0.2
T1204				S	Sg	11 35 41.7			+1.2
T1204				AML	AML				
	comp=E,3410μm,0.3s								
T1204				AML	AML				
	comp=N,1960μm,1.6s								
MMO1	**Montemonaco**	**0.17**	**52**	⇑P	Pg	11 35 38.4			+0.6
MMO1				S	Sg	11 35 42.0			+1.4
T1215	**Vallo di Nera,**	**0.20**	**273**	⇓P	Pg	11 35 38.5			+0.3
T1215				S	Sg	11 35 42.6			+1.4
T1215				AML	AML				
	comp=E,1490μm,1.6s								
T1215				AML	AML				
	comp=N,1370μm,0.2s								
T1215				AML	AML				
	comp=E,2070μm,0.5s								
T1215				AML	AML				
	comp=N,1880μm,1.1s								
LNSS	**Leonessa**	**0.20**	**201**	⇓P	Pg	11 35 38.6			+0.3
LNSS				S	Sg	11 35 43.0			+1.8
LNSS				AML	AML				
	comp=E,3790μm,0.4s								
LNSS				AML	AML				
	comp=N,4895μm,0.7s								
T1241	**Roccafluvione,**	**0.22**	**73**	⇑P	Pg	11 35 39.4			+0.7
T1241				S	Sg	11 35 43.8			+1.9
T1241				AML	AML				
	comp=E,3285μm,0.8s								
T1241				AML	AML				
	comp=N,1790μm,0.8s								
T1241				AML	AML				
	comp=E,3280μm,0.7s								
T1241				AML	AML				
	comp=N,1630μm,0.8s								
T1241				AML	AML				
	comp=N,1785μm,0.8s								
T1241				AML	AML				
	comp=E,3285μm,0.7s								
T1241				AML	AML				
	comp=N,1635μm,0.8s								
AM05	**Amandola Campo**	**0.24**	**40**	⇑P	Pb	11 35 39.8			-0.7
AM05				AML	AML				
	comp=E,2810μm,0.4s								
AM05				AML	AML				
	comp=N,738μm,0.3s								
AM05				AML	AML				
	comp=E,2815μm,0.4s								
AM05				AML	AML				
	comp=N,2970μm,0.3s								
AM05				AML	AML				
	comp=E,700μm,0.4s								
T1243	**Rocca Santa Ma**	**0.25**	**112**	⇓P	Pg	11 35 39.6			+0.4
T1243				S	Sg	11 35 44.0			+1.5
FDMO	**Fiordimonte**	**0.25**	**351**	⇑P	Pg	11 35 39.8			+0.6
FDMO				S	Sg	11 35 44.9			+2.3
FDMO				AML	AML				
	comp=N,2510μm,1.3s								
FDMO				AML	AML				
	comp=E,1645μm,0.2s								
FDMO				AML	AML				
	comp=N,2825μm,0.3s								
FDMO				AML	AML				
	comp=E,2325μm,1.4s								
CESI	**CESI - Serrava**	**0.28**	**321**	⇓P	Pg	11 35 40.1			+0.5
CESI				S	Sb	11 35 44.9			-1.0
CESI				AML	AML				
	comp=E,2060μm,1.4s								
CESI				AML	AML				
	comp=N,4340μm,1.2s								
CESI				AML	AML				
	comp=E,3340μm,0.9s								
CESI				AML	AML				
	comp=N,6265μm,0.4s								
RM33	**Pellescritta (**	**0.29**	**169**	⇓P	Pg	11 35 40.1			+0.3
RM33				S	Sg	11 35 44.9			+1.2
CSP1	**Cessapalombo**	**0.30**	**9**	P	Pg	11 35 40.9			+0.7
GUMA	**Gualdo di Mace**	**0.31**	**28**	⇓P	Pg	11 35 39.8			-0.4
GUMA				S	Sb	11 35 45.6			-1.1
CAMP	**Campotosto**	**0.32**	**142**	⇓P	Pg	11 35 40.9			+0.3
CAMP				S	Sb	11 35 46.2			-1.0
ARRO	**Arrone**	**0.35**	**233**	⇓P	Pg	11 35 41.2			+0.2
T1247	**Pizzolo (AQ)**	**0.37**	**161**	S	Sb	11 35 48.0			-0.5
TERO	**Teramo**	**0.38**	**116**	⇑P	Pg	11 35 41.6			0.0
OFFI	**Offida**	**0.43**	**70**	⇓P	Pb	11 35 44.1			+0.4
GIGS	**Gran Sasso**	**0.47**	**137**	P	Pg	11 35 43.5			+0.4
SNTG	**Esanatoglia**	**0.49**	**343**	⇓P	Pg	11 35 44.0			+0.4
SNTG				S	Sb	11 35 53.0			+1.1
ATCC	**AVT- Casa Cast**	**0.54**	**317**	⇑P	Pg	11 35 44.8			+0.3
EL6	**Elcito**	**0.54**	**357**	S	Sb	11 35 55.0			+1.5
FOSV	**Fossato di Vic**	**0.57**	**331**	⇓P	Pg	11 35 45.2			0.0
CING	**Cingoli**	**0.59**	**4**	P	Pb	11 35 46.5			+0.1
VCEL	**Villa Celiera**	**0.65**	**127**	S	Sn	11 35 59.0			-0.8
ATTE	**AVT- Monte Tez**	**0.71**	**305**	⇓P	Pn	11 35 49.3			-0.8
ARVD	**Arcevia**	**0.72**	**348**	⇓P	Pg	11 35 48.2			+0.2
ARVD				S	Sn	11 36 01.0			-0.4
PIEI	**Pieia**	**0.87**	**330**	S	Sn	11 36 05.0			0.0
PTRJ	**Pietraroja**	**1.76**	**144**	P	Pn	11 36 05.0			+0.3

*JMA **19** 11:41:32.4±1.0, 47°.N±5°.×15°.3E±°, h30km, MV4.4/13, KURILE ISLANDS REGION*
*MOS **19** 11:41:35.7±1.0, 46°.96N×152°.95E, h63km, mb4.4/14, Error ellipse: s-maj=11.0km s-min=6.8km az=73.1*
*SKHL **19** 11:41:36.3±0.5, 46°.90N×153°.10E, h71km±6km, mb4.7/5, ms4.2/5*
*NEIC **19** 11:41:38.9±1.7, 47°.0N±0°.2×152°.9E±0°.2, h68km±11km, mb4.5/13, Error ellipse: s-maj=24.8km s-min=15.8km az=145.0*
*IDC **19** 11:41:39.9±2.6, 47°.02N×152°.88E, h81km±23km, mb3.7/17, mbtmp4.1/21, MS3.4/12, Error ellipse: s-maj=18.8km s-min=11.8km az=142.0*

ISC 19 11:41:36.2±0.6, 46°.86N±0°.07×153°.05E±0°.06, h56km, n120, σ1§60/119, mb4.2/32, MS3.5/10, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase		ID	Time			Res
					Op		h	m	s	ISC
KUR	**Kuril'sk**	**3.96**	**248**	*d*	iPN	**Pn**	**11 42 35.5**			**+1.2**
KUR					S	**Sn**	**11 43 21.5**			**+2.1**
KUR					pmax	pmax				
	comp=Z,104nm,0.4s									
KUR					pmax	pmax				
	comp=E,28nm,0.3s									
KUR					pmax	pmax				
	comp=N,41nm,0.4s									
KUR					smax	smax				
	comp=N,248nm,0.5s									
KUR					smax	smax				
	comp=E,161nm,0.5s									
KUR	**Kuril'sk**	**3.96**	**248**	*i*	P	**Pn**	**11 42 35.5**			**+1.2**
KUR					AMB	AMB	11 42 42.6			
	comp=E,100nm,0.4s									
KUR				*e*	S	**Sn**	**11 43 19.0**			**-0.4**
KUR					A	A	11 43 33.7			
	comp=E,250nm,0.4s									
KUR					A	A	11 43 33.7			
	comp=E,160nm,0.4s									
KUR					AMS	AMS	11 43 59.5			
	comp=E,6μm,18.0s									
KUR					AMS	AMS	11 43 59.5			
	comp=E,5μm,18.0s									
KUR					AMS	AMS	11 43 59.5			
	comp=E,4μm,18.0s									
SKR	**Severo-Kuril's**	**4.33**	**27**	*e*	PN	**Pn**	**11 42 39.8**			**+0.3**
SKR				*e*	S	**Sn**	**11 43 25.1**			**-3.6**
SKR					pmax	pmax				
	comp=Z,63nm,0.8s									
SKR					smax	smax				
	comp=N,109nm,0.4s									
SKR					smax	smax				
	comp=E,53nm,0.3s									
SKR					MLR	MLR				
	comp=Z,100nm,13.0s									
SKR	**Severo-Kuril's**	**4.33**	**27**	*e*	P	**Pn**	**11 42 39.3**			**-0.2**
SKR					AMB	AMB	11 42 41.4			
	comp=Z,30nm,0.5s									
SKR				*e*	S	**Sn**	**11 43 26.2**			**-2.5**
SKR					A	A	11 43 28.3			
	comp=Z,120nm,0.3s									
SKR					A	A	11 43 28.3			
	comp=Z,110nm,0.3s									
SKR					AMS	AMS	11 44 10.0			
	comp=Z,780nm,13.0s									
SKR					AMS	AMS	11 44 10.0			
	comp=Z,590nm,13.0s									
PAU	**Pauzhetka**	**5.23**	**27**	*i*	P	**Pn**	**11 42 51.6**			**-0.2**
PAU					AMB	AMB	11 42 54.1			
	comp=Z,40nm,0.5s									
PAU				*e*	S	**Sn**	**11 43 48.5**			**-2.2**
PAU					A	A	11 43 49.5			
	comp=Z,200nm,0.2s									
PAU					A	A	11 43 49.5			
	comp=Z,200nm,0.2s									
PAU					AMS	AMS	11 44 32.3			
	comp=Z,1μm,13.0s									
PAU					AMS	AMS	11 44 32.3			
	comp=Z,1μm,13.0s									
YUK	**Yuzh-Kuril'sk**	**5.79**	**243**	*e*	PN	**Pn**	**11 43 00.7**			**+1.3**
YUK				*e*	S	**Sn**	**11 44 06.2**			**+1.8**
YUK					pmax	pmax				
	comp=E,76nm,0.2s									
YUK					pmax	pmax				
	comp=Z,134nm,0.2s									
YUK					pmax	pmax				
	comp=N,45nm,0.1s									
YUK					smax	smax				
	comp=N,307nm,0.6s									
YUK					smax	smax				
	comp=E,80nm,0.3s									
YUK	**Yuzh-Kuril'sk**	**5.79**	**243**	*e*	P	**Pn**	**11 43 00.7**			**+1.3**
YUK					AMB	AMB	11 43 04.3			
	comp=E,130nm,0.2s									
YUK				*e*	S	**Sn**	**11 44 05.1**			**+0.7**
YUK					A	A	11 44 25.0			
	comp=E,310nm,0.6s									
YUK					A	A	11 44 25.0			
	comp=E,80nm,0.6s									
YUK					AMS	AMS	11 45 08.0			
	comp=E,2μm,15.0s									
YUK					AMS	AMS	11 45 08.0			
	comp=E,1μm,15.0s									
YUK					AMS	AMS	11 45 08.0			
	comp=E,1μm,15.0s									
RUSJ	**Misakicho**	**6.13**	**246**	⇓ *i*	PN	**Pn**	**11 43 08.1**			**+3.9**
RUSJ				*e*	S	**Sn**	**11 44 20.1**			**+7.2**
NEM2	**Nemuro 2**	**6.24**	**239**	*e*	P	**Pn**	**11 43 04.1**			**-1.4**
NEM2				*e*	S	**Sn**	**11 44 12.3**			**-3.1**
NMR	**Nemuro--Hokkai**	**6.24**	**239**	⇑ *i*	PN	**Pn**	**11 43 04.5**			**-1.1**
NMR	**Nemuro--Hokkai**	**6.24**	**239**	*i*	P	**Pn**	**11 43 04.5**			**-1.1**
NMR				*e*	S	**Sn**	**11 44 12.3**			**-3.3**
JNK	**Nakash**	**6.73**	**244**	*e*	P	**Pn**	**11 43 13.1**			**+0.8**
PEA0B	**Petropavlovsk-**	**6.94**	**24**		Pn	**Pn**	**11 43 15.5**			**+0.4**
PEA0B	**Petropavlovsk-**	**6.94**	**24**	*i*	PN	**Pn**	**11 43 15.6**			**+0.4**
PETK	**Petropavlovsk-**	**6.94**	**24**		P	**Pn**	**11 43 15.5**			**+0.4**
	comp=E,1.8nm,0.4s,baz=180,slow=12,SNR=20									
PETK					S	**Sn**	**11 44 34.9**			**+2.3**
	comp=E,4.7nm,0.8s,baz=188,slow=26,SNR=1.6									
JTKR	**Abashiri--Toko**	**7.05**	**249**	*e*	P	**Pn**	**11 43 18.3**			**+1.6**

YSS	**Yuzh-Sakhalins**	**7.05**	**275**			**Pn**	**11 43 18.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.05**	**275**	*e*PN		**Pn**	**11 43 18.7**	**+2.0**
YSS					pmax	pmax		
	comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.05**	**275**	*i* P		**Pn**	**11 43 18.5**	**+1.8**
YSS					AMB	AMB	11 43 20.4	
	comp=Z,20nm,0.8s							
JAK	**Akkeshi**	**7.07**	**240**	*e*P		**Pn**	**11 43 15.6**	**-1.4**
JAK				*e*S		**Sn**	**11 44 32.0**	**-3.9**
JAR	**Ashorobuto**	**7.47**	**245**	*e*P		**Pn**	**11 43 23.2**	**+0.8**
JAR				*e*S		**Sn**	**11 44 45.2**	**-0.5**
JKK2	**Kamakawa 2**	**7.84**	**251**	*e*P		**Pn**	**11 43 29.9**	**+2.3**
JCH	**Churui**	**8.09**	**242**	*e*P		**Pn**	**11 43 30.1**	**-0.8**
JCH				*e*S		**Sn**	**11 44 56.1**	**-4.8**
JRBN	**Rebuntou**	**8.44**	**265**	*e*P		**Pn**	**11 43 39.1**	**+3.3**
ERM	**Erimo**	**8.57**	**239**	Pn		**Pn**	**11 43 38.5**	**+0.9**
ERM	**Erimo**	**8.57**	**239**	*i* PN		**Pn**	**11 43 37.8**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.65**	**242**	*e*P		**Pn**	**11 43 37.2**	**-1.5**
OKH	**Okha**	**9.32**	**320**	*e*P		**Pn**	**11 43 49.0**	**+1.3**
OKH				*e*S		**Sn**	**11 45 28.8**	**-2.0**
OKH					AMS	AMS	11 48 05.4	
	comp=Z,200nm,12.0s							
OKH					AMS	AMS	11 48 05.4	
	comp=Z,300nm,12.0s							
OKH					AMS	AMS	11 48 05.4	
	comp=Z,200nm,12.0s							
JANG	**Nango**	**10.57**	**236**	*e*P		Pn	11 44 00.8	-4.1
JANG				*e*S		Sn	11 45 50.2	-12
JTH	**Tanohata**	**10.67**	**234**	*e*S		Sn	11 45 53.0	-11
MA2	**Magadan**	**12.81**	**355**	P		**Pn**	**11 44 35.7**	**+0.4**
	comp=Z,6.6nm,0.5s,baz=174,slow=12,SNR=9.1							
MA2	**Magadan**	**12.81**	**355**	Pn		**Pn**	**11 44 36.3**	**+0.9**
MA2	**Magadan**	**12.81**	**355**	PN		**Pn**	**11 44 36.3**	**+0.9**
MA2	**Magadan**	**12.81**	**355**	*e*P		**Pn**	**11 44 36.3**	**+0.9**
KLR	**Kul'dur**	**14.44**	**287**	P		**P**	**11 45 00.9**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=274,slow=12,SNR=0.8							
KLR					LR	LR	11 50 31.7	
	comp=Z,125nm,19.6s,baz=112,slow=37							
USRK	**Ussuriysk Ar.**	**14.99**	**267**	P		**P**	**11 45 06.8**	**-2.0**
	comp=Z,2.7nm,0.6s,baz=72,slow=14,SNR=2.6							
USRK					LR	LR	11 50 41.6	
	comp=Z,87nm,19.5s,baz=73,slow=36							
MJA0	**Matsu Arr-Jizo**	**15.09**	**232**	*e*P		**P**	**11 45 11.5**	**+1.5**
MJA0					pmax	pmax		
	comp=Z,3.0nm,0.7s							
MAJO	**Matsushiro**	**15.11**	**232**	*i* P		**P**	**11 45 11.0**	**+0.8**
MJAR	**Matsushiro Arr**	**15.11**	**232**	P		**P**	**11 45 10.0**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=43,slow=9.5,SNR=6.7							
MJAR					LR	LR	11 50 53.8	
	comp=Z,36nm,21.6s,baz=46,slow=37							
MJAR	**Matsushiro Arr**	**15.11**	**232**	P		**P**	**11 45 10.0**	**-0.2**
YAK	**Yakutsk**	**20.21**	**327**	LR		LR	11 53 58.4	
	comp=Z,74nm,18.8s,baz=116,slow=37							
YAK	**Yakutsk**	**20.21**	**327**	*i* P		**P**	**11 46 05.6**	**-0.5**
YAK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
YAK	**Yakutsk**	**20.21**	**327**	*i* P		**P**	**11 46 05.6**	**-0.5**
KSRS	**Korea Array**	**20.79**	**252**	P		**P**	**11 46 14.4**	**+1.9**
	comp=Z,1.5nm,0.6s,baz=50,slow=11,SNR=5.2							
KSRS					LR	LR	11 53 07.7	
	comp=Z,43nm,20.4s,baz=65,slow=33							
	comp=Z,1.5nm,0.6s							
BILL	**Bilibino**	**22.30**	**13**	*e*P		**P**	**11 46 27.0**	**-1.5**
BILL					pmax	pmax		
	comp=Z,6.0nm,1.4s							
BILL					MLR	MLR		
	comp=Z,123nm,16.0s							
BILL	**Bilibino**	**22.30**	**13**	*i* P		**P**	**11 46 27.0**	**-1.5**
TIXI	**Tiksi**	**27.35**	**344**	*i* P		**P**	**11 47 14.7**	**-0.8**
TIXI					pmax	pmax		
	comp=Z,2.0nm,1.4s							
TIXI	**Tiksi**	**27.35**	**344**	*i* P		**P**	**11 47 14.7**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**29.34**	**153**	T		T	12 18 54.2	
	baz=340,slow=76,SNR=1033							
H11N1	**WAKE ISLAND Hy**	**29.35**	**153**	T		T	12 18 57.5	
	baz=340,slow=76,SNR=728							
H11N3	**WAKE ISLAND Hy**	**29.35**	**153**	T		T	12 19 25.8	
	baz=340,slow=76,SNR=594							
H11S1	**WAKE ISLAND Hy**	**30.42**	**154**	T		T	12 20 29.2	
	baz=341,slow=76,SNR=1461							
H11S3	**WAKE ISLAND Hy**	**30.43**	**154**	T		T	12 20 18.0	
	baz=341,slow=76,SNR=1445							
H11S2	**WAKE ISLAND Hy**	**30.44**	**154**	T		T	12 20 30.5	
	baz=341,slow=76,SNR=1279							
SONM	**Songino Array**	**31.25**	**289**	LR		LR	12 01 26.1	
	comp=Z,70nm,18.1s,baz=74,slow=38							
IMAR	**Indian Mountai**	**33.71**	**36**	P		**P**	**11 48 12.4**	**+0.8**
H23K	**Yukon River**	**35.41**	**37**	P		**P**	**11 48 28.4**	**+2.1**
H23K					IAmb	IAmb	11 48 29.3	
	comp=Z,7.7nm,1.3s							
ILAR	**Eielson Array**	**36.49**	**39**	P		**P**	**11 48 36.3**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=278,slow=7.9,SNR=7.5							
	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**36.49**	**39**	*e*P		**P**	**11 48 36.8**	**+1.2**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.9s							
BMAR	**Burnt Mountain**	**37.46**	**34**	P		**P**	**11 48 45.5**	**+1.7**
NRIK	**Noril'sk**	**38.64**	**329**	*i* P		**P**	**11 48 52.1**	**-1.6**
NRIK					pmax	pmax		
	comp=Z,2.0nm,1.0s							
I29M	**Ogilvie Camp,**	**40.08**	**37**	P		**P**	**11 49 07.0**	**+1.2**
INK	**Inuvik**	**41.58**	**32**	P		**P**	**11 49 19.8**	**+1.8**
	comp=Z,4.4nm,0.8s,baz=258,slow=7.1,SNR=4.7							
	comp=Z,4.4nm,0.8s							
INK	**Inuvik**	**41.58**	**32**	P		**P**	**11 49 19.2**	**+1.3**
INK					IAmb	IAmb	11 49 43.6	
	comp=Z,10nm,1.2s							
M31M	**Drury Creek, Y**	**42.37**	**42**	P		**P**	**11 49 25.0**	**+0.5**
ZALV	**Zalesovo Beam**	**42.51**	**306**	PcP		**PcP**	**11 51 17.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=29,slow=3.3,SNR=3.8							
ZALV					LR	LR	12 08 22.2	
	comp=Z,83nm,18.5s,baz=69,slow=38							
GOMU	**GeErMu**	**43.95**	**278**	P		**P**	**11 49 38.3**	**+0.3**
GOMU				pP		pP	11 49 42.8	-9.1
GOMU				sP		sP	11 49 43.8	-14
GOMU					pmax	pmax		
	comp=Z,4.0nm,0.4s							
GOMU					pmax	pmax		
	comp=Z,130nm,5.1s							
DLBC	**Dease Lake**	**45.55**	**46**	P		**P**	**11 49 51.0**	**+0.9**
DLBC					IAmb	IAmb	11 50 20.9	
	comp=Z,7.0nm,0.8s							
MKAR	**Makanchi Array**	**46.85**	**297**	P		**P**	**11 50 00.2**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=67,slow=11,SNR=4.7							
MKAR					LR	LR	12 10 58.8	
	comp=Z,74nm,18.5s,baz=85,slow=38							
	comp=Z,1.2nm,0.9s							
MKAR	**Makanchi Array**	**46.85**	**297**	*e*P		**P**	**11 50 00.6**	**+0.2**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**46.85**	**297**	*i* P		**P**	**11 50 00.6**	**+0.2**
KURK	**Kurchatov**	**47.27**	**304**	*i* P		**P**	**11 50 02.9**	**-0.6**
KURK					pmax	pmax		
	comp=Z,2.0nm,0.9s							
KURK	**Kurchatov**	**47.27**	**304**	*i* P		**P**	**11 50 02.9**	**-0.6**
YKA	**Yellowknife Ar**	**50.87**	**37**	P		**P**	**11 50 31.6**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=290,slow=7.7,SNR=4.4							
	comp=Z,1.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**52.35**	**256**	P		**P**	**11 50 43.9**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=39,slow=7.2,SNR=12							
	comp=Z,1.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**52.35**	**256**	*e*P		**P**	**11 50 44.1**	**+1.6**
CMAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
AAK	**Ala-Archa**	**53.74**	**296**	*i* P		**P**	**11 50 52.4**	**-0.3**
AAK					pmax	pmax		
	comp=Z,1.0nm,0.9s							
AAK	**Ala-Archa**	**53.74**	**296**	*i* P		**P**	**11 50 52.4**	**-0.3**
ARCES	**ARCESS Array B**	**57.74**	**341**	P		**P**	**11 51 20.1**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=38,slow=6.1,SNR=1.4							
	comp=Z,2.0nm,0.9s							
AKTO	**Aktyubinsk**	**58.62**	**312**	LR		LR	12 19 17.4	
	comp=Z,43nm,18.7s,baz=80,slow=39							
SUMG	**Summit**	**60.60**	**4**	P		**P**	**11 51 40.1**	**-0.8**
SUMG	**Summit**	**60.60**	**4**	P		**P**	**11 51 40.1**	**-0.8**
SUMG					pmax	pmax		
	comp=Z,14nm,0.8s							
BOZ	**Bozeman (W)**	**61.76**	**53**	P		**P**	**11 51 50.0**	**+1.1**
BOZ					IAmb	IAmb	11 51 50.7	
	comp=Z,2.2nm,0.7s							
BOZ	**Bozeman (W)**	**61.76**	**53**	P		**P**	**11 51 50.0**	**+1.1**
BOZ					pmax	pmax		
	comp=Z,2.0nm,0.7s							
NVAR	**Mina Array Bea**	**62.42**	**62**	P		**P**	**11 51 54.8**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=297,slow=7.6,SNR=11							
	comp=Z,0.9nm,0.7s							

FINES	**FINESS Array B**	**63.92**	**335**	P		**P**	**11 52 02.0**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=49,slow=8.8,SNR=13							
	comp=Z,4.4nm,0.7s							
PDAR	**Pinedale Array**	**64.72**	**54**	P		**P**	**11 52 09.6**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=268,slow=0.8,SNR=15							
	comp=Z,1.6nm,0.8s							
OBN	**Obninsk**	**65.19**	**325**	*e*P		**P**	**11 52 10.8**	**-0.3**
OBN					pmax	pmax		
	comp=Z,5.0nm,0.7s							
OBN	**Obninsk**	**65.19**	**325**	*i* P		**P**	**11 52 10.8**	**-0.3**
RDMU	**Red Mountain**	**66.17**	**56**	P		**P**	**11 52 19.6**	**+1.6**
NC204	**NORSAR Array S**	**68.00**	**341**	P		**P**	**11 52 28.8**	**-0.2**
NB2	**NORSAR Subarra**	**68.11**	**341**	P		**P**	**11 52 28.6**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.11**	**341**	P		**P**	**11 52 29.2**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=27,slow=6.4,SNR=16							
	comp=Z,3.2nm,0.7s							
MSVF	**Nonsavu**	**68.13**	**154**	LR		LR	12 16 06.7	
	comp=Z,37nm,22.0s,baz=3.4,slow=30							
WRA	**Warramunga Arr**	**68.60**	**199**	P		**P**	**11 52 33.5**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=16,slow=6.6,SNR=3.5							
	comp=Z,1.0nm,1.0s							
KIV	**Kislovodsk**	**70.69**	**314**	*e*P		**P**	**11 52 44.5**	**-1.5**
KIV					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KIV	**Kislovodsk**	**70.69**	**314**	*i* P		**P**	**11 52 44.5**	**-1.5**
KBZ	**Khabaz**	**70.75**	**314**	*i* P		**P**	**11 52 46.2**	**0.0**
KBZ					pmax	pmax		
	comp=Z,2.0nm,0.9s							
KBZ	**Khabaz**	**70.75**	**314**	*i* P		**P**	**11 52 46.2**	**0.0**
SHA1	**Shidzhatmaz**	**70.86**	**314**	*i* P		**P**	**11 52 46.8**	**-0.4**
AKASG	**Malin Array Be**	**71.43**	**326**	P		**P**	**11 52 49.2**	**-1.0**
	comp=Z,3.9nm,0.4s,baz=35,slow=6.2,SNR=14							
	comp=Z,3.9nm,0.4s							
AKASG	**Malin Array Be**	**71.43**	**326**	*e*P		**P**	**11 52 49.2**	**-1.0**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.3s							
ASAR	**Alice Springs**	**72.30**	**198**	P		**P**	**11 52 57.0**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=12,slow=6.1,SNR=12							
	comp=Z,0.8nm,0.7s							
GNI	**Garni**	**72.43**	**310**	LR		LR	12 27 48.7	
	comp=Z,27nm,19.7s,baz=95,slow=38							
BUR08	**Bucovina Ar. S**	**75.45**	**327**	P		**P**	**11 53 14.1**	**0.0**
BUR08					IAmb	IAmb	11 53 14.4	
	comp=Z,4.0nm,0.6s							
BURAR	**Bucovina Array**	**75.47**	**326**	P		**P**	**11 53 13.7**	**-0.5**
BURAR					IAmb	IAmb	11 53 14.8	
	comp=Z,4.8nm,0.8s							
CLL	**Collm**	**76.35**	**335**	*i* P		**P**	**11 53 17.3**	**-1.6**
CLL					pmax	pmax		
	comp=Z,8.0nm,1.2s							
CLL	**Collm**	**76.35**	**335**	*i* P		**P**	**11 53 17.3**	**-1.6**
	comp=Z,8.0nm,1.2s							
CLL				*e*PP		**PP**	**11 56 11.0**	**+0.8**
TX31	**Lajitas Ar. Si**	**77.48**	**61**	P		**P**	**11 53 26.9**	**+1.1**
TX31					IAmb	IAmb	11 53 27.7	
	comp=Z,12nm,1.3s							
TX32	**Lajitas Array**	**77.48**	**61**	P		**P**	**11 53 26.9**	**+1.1**
TXAR	**Lajitas Array**	**77.48**	**61**	P		**P**	**11 53 26.6**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=298,slow=4.7,SNR=32							
	comp=Z,1.3nm,0.5s							
TXAR	**Lajitas Array**	**77.48**	**61**	P		**P**	**11 53 26.2**	**+0.4**
BRTR	**Keskin Array B**	**78.28**	**317**	P		**P**	**11 53 30.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=54,slow=6.3,SNR=5.5							
	comp=Z,1.2nm,0.7s							
BRTR	**Keskin Array B**	**78.28**	**317**	*e*P		**P**	**11 53 30.4**	**+0.2**
BRTR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
GERES	**GERESS Array B**	**78.34**	**334**	P		**P**	**11 53 29.7**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=28,slow=6.0,SNR=6.1							
	comp=Z,0.7nm,0.5s							
TKL	**Tuckaleechee C**	**83.32**	**43**	LR		LR	12 35 15.3	
	comp=Z,25nm,18.4s,baz=332,slow=39							
H03N2	**Juan Fernandez**	**138.80**	**90**	T		T	14 36 10.9	
	baz=308,slow=77,SNR=13							
H03N1	**Juan Fernandez**	**138.81**	**90**	T		T	14 36 13.8	
	baz=308,slow=77,SNR=62							
H03N3	**Juan Fernandez**	**138.81**	**90**	T		T	14 36 05.5	
	baz=308,slow=77,SNR=12							
PLCA	**Paso Flores**	**148.26**	**95**	*e*PKP2		**PKPbc**	**12 01 16.3**	**+0.7**
PLCA					pmax	pmax		
	comp=Z,1.0nm,0.8s							

*NNC **19** 11:50:11.9±0.8, 44.21N×81.85E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=8.5km s-min=2.4km az=127.0
*SOME **19** 11:50:12.6, 44.13N×81.78E, h10km*
*IDC **19** 11:50:15.1±2.3, 44.59N×81.91E, h0km, mb3.6/1,*
mbtmp3.4/3, ML3.2/2, MS3.7/2, Error ellipse: s-maj=41.0km
s-min=21.4km az=112.0

ISC 19 11:50:10.0±1.3, 44.21N±0.04×81.85E±0.04, h19km±3km, n53, σ1.9 67/75, 9C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
KTMS	**Ketmen**	**1.33**	**235**	*e*P		**Pg**	**11 50 36.2**			**+0.5**
	13nm,0.2s									
KTMS				*e*S		**Sg**	**11 50 54.3**			**+1.2**
	205nm,0.1s									
KTMS	**Ketmen**	**1.33**	**235**	P		**Pg**	**11 50 36.2**			**+0.5**
	13nm,0.2s									
KTMS				S		**Sg**	**11 50 54.3**			**+1.2**
	207nm,0.3s									
DJR	**Jarkent**	**1.48**	**275**	*e*P		**Pg**	**11 50 40.2**			**+1.5**
	40nm,0.3s									
DJR				*e*S		**Sg**	**11 51 00.8**			**+2.7**
	152nm,0.3s									
DJR	**Jarkent**	**1.48**	**275**	S		**Sg**	**11 51 01.1**			**+3.0**
	152nm,0.3s									
PDGK	**Podgornoye**	**1.92**	**244**	⇓Pn		**Pg**	**11 50 45.9**			**-1.1**
	11nm,0.4s									
PDGK				⇓Sn		**Sg**	**11 51 12.2**			**+0.2**
	64nm,0.5s									
SHLS	**Shalkode**	**2.03**	**240**	*e*P		**Pn**	**11 50 43.9**			**+0.6**
	26nm,0.3s									
SHLS				*e*S		**Sn**	**11 51 07.5**			**-0.6**
	224nm,0.5s									
UZB	**Uzynbulak**	**2.31**	**244**	*e*P		**Pg**	**11 50 54.0**			**-0.3**
	4.5nm,0.3s									
UZB				*e*S		**Sg**	**11 51 23.9**			**-0.5**
	42nm,0.1s									
TDK	**Taldyqorghan**	**2.58**	**289**	*e*P		**Pg**	**11 50 59.3**			**-0.3**
	92nm,0.5s									
TDK				*e*S		**Sg**	**11 51 32.9**			**-0.2**
	157nm,0.4s									
TDK	**Taldyqorghan**	**2.58**	**289**	Pg		**Pg**	**11 50 59.3**			**-0.3**
	92nm,0.5s									
TDK				Lg		Lg	11 51 32.8			
	157nm,0.4s									
MAKZ	**Makanchi**	**2.60**	**2**	⇓Pn		**Pb**	**11 50 55.7**			**-0.3**
	2.6nm,0.5s									
MAKZ				⇑Pg		**Pg**	**11 51 01.1**			**+1.3**
	3.4nm,0.2s									
MAKZ				⇓Sn		**Sb**	**11 51 28.5**			**+1.0**
	12nm,0.5s									
MAKZ				⇓Lg		Lg	11 51 35.1			
	15nm,0.5s									
MK31	**Makanchi Array**	**2.60**	**7**	⇑Pn		**Pb**	**11 50 55.3**			**-0.7**
	0.9nm,0.5s,baz=187,slow=14,SNR=96									
MK31				Pg		**Pg**	**11 51 00.3**			**+0.4**
	13nm,0.5s,baz=188,slow=16,SNR=15									
MK31				Sn		**Sb**	**11 51 27.7**			**+0.1**
	15nm,0.5s,baz=187,slow=26,SNR=8.6									
MK31				⇑Lg		Lg	11 51 34.7			
	66nm,0.7s,baz=186,slow=28,SNR=4.6									
MKAR	**Makanchi Array**	**2.60**	**7**	Pn		**Pb**	**11 50 55.6**			**-0.4**
	1.8nm,0.3s,baz=188,slow=15,SNR=21									
MKAR				Sn		**Sn**	**11 51 24.0**			**+1.8**
	5.8nm,0.3s,baz=187,slow=16,SNR=7.0									
	4.5nm,0.3s									
ZHN	**Zhinishke**	**2.69**	**248**	*e*P		**Pg**	**11 51 00.5**			**-1.1**
	13nm,0.2s									
ZHN				*e*S		**Sg**	**11 51 35.0**			**-1.5**
	110nm,0.2s									
ZHN	**Zhinishke**	**2.69**	**248**	Pg		**Pg**	**11 51 00.5**			**-1.1**
	13nm,0.2s									
ZHN				Lg		Lg	11 51 35.0			
	110nm,0.2s									
SATY	**Saty**	**2.75**	**246**	*e*P		**Pg**	**11 51 01.5**			**-1.3**
	5.4nm,0.1s									
SATY				*e*S		**Sg**	**11 51 36.2**			**-2.3**
	70nm,0.2s									
SATY	**Saty**	**2.75**	**246**	Pg		**Pg**	**11 51 01.5**			**-1.3**
	5.4nm,0.1s									
SATY				Lg		Lg	11 51 36.2			
	70nm,0.2s									
KURS	**Kuram**	**2.76**	**256**	*e*P		**Pg**	**11 51 02.4**			**-0.6**
	4.5nm,0.1s									
KURS				*e*S		**Sg**	**11 51 38.3**			**-0.4**
	12nm,0.6s									
KURS	**Kuram**	**2.76**	**256**	Pg		**Pg**	**11 51 02.4**			**-0.6**
	4.5nm,0.5s									
KURS				Lg		Lg	11 51 38.3			
	12nm,0.6s									
ARXS	**Arharly**	**2.89**	**271**	*e*P		**Pg**	**11 51 04.0**			**-1.4**
	7.3nm,0.1s									
ARXS				*e*S		**Sg**	**11 51 41.5**			**-1.4**
	61nm,0.4s									
ARXS	**Arharly**	**2.89**	**271**	Pg		**Pg**	**11 51 04.0**			**-1.4**
	11nm,0.3s									
CHKK	**Chushkaly**	**3.52**	**266**	*e*P		**Pg**	**11 51 14.7**			**-2.8**
	2.7nm,0.1s									
CHKK				*e*S		**Sg**	**11 51 59.4**			**-3.8**
	36nm,0.3s									
CHKK	**Chushkaly**	**3.52**	**266**	Pg		**Pg**	**11 51 14.5**			**-3.0**
	5.2nm,0.3s									
KOTS	**Kotyrbulak**	**3.57**	**256**	*e*P		**Pg**	**11 51 17.3**			**-1.1**
	2.0nm,0.6s									
KOTS				*e*S		**Sg**	**11 52 03.7**			**-1.0**
	60nm,0.5s									
KOTS	**Kotyrbulak**	**3.57**	**256**	Pg		**Pg**	**11 51 19.4**			**+0.9**
	2.0nm,0.6s									
MDOK	**Medeo**	**3.64**	**255**	*e*P		**Pg**	**11 51 19.4**			**-0.3**
	4.6nm,0.5s									
MDOK				*e*S		**Sg**	**11 52 07.5**			**+0.7**
	32nm,0.6s									
MDOK	**Medeo**	**3.64**	**255**	⇑Pg		**Pb**	**11 51 14.5**			**+0.7**
	5.9nm,0.8s									
MDOK				Pg		**Pg**	**11 51 19.4**			**-0.3**
	4.6nm,0.5s									
MDOK				Sn		**Sb**	**11 51 53.3**			**-4.2**
	7.0nm,0.6s									
MDOK				Lg		Lg	11 52 07.5			
	32nm,0.6s									
MDOK				Lg		Lg	11 52 08.4			
	31nm,0.7s									
TNSS	**Tian-Shan**	**3.75**	**253**	Pg		**Pg**	**11 51 23.1**			**+1.2**
	6.5nm,0.6s									
TNSS				Lg		Lg	11 52 13.7			
	33nm,0.5s									
KTBS	**Karatobe**	**3.76**	**264**	*e*P		**Pg**	**11 51 21.0**			**-1.1**
	2.9nm,0.2s									
KTBS				*e*S		**Sg**	**11 52 10.3**			**-0.6**
	89nm,0.6s									
KTBS	**Karatobe**	**3.76**	**264**	Pg		**Pg**	**11 51 21.0**			**-1.1**
	3.0nm,0.7s									
KTBS				Lg		Lg	11 52 10.3			
	89nm,0.6s									
ZSN	**Zaisan**	**3.87**	**32**	*e*P		**Pg**	**11 51 20.9**			**-3.1**
	3.8nm,0.1s									
ZSN				*e*S		**Sg**	**11 52 10.0**			**-4.1**
	37nm,0.2s									
IZV	**Izvestkoviy**	**3.98**	**255**	*e*P		**Pg**	**11 51 24.3**			**-1.9**
	62nm,0.2s									
IZV				*e*S		**Sg**	**11 52 16.5**			**-1.3**
	30nm,0.5s									
IZV	**Izvestkoviy**	**3.98**	**255**	Pg		**Pg**	**11 51 24.3**			**-1.9**
	62nm,0.2s									
IZV				Lg		Lg	11 52 16.5			
	30nm,0.5s									
KUU	**Kurty**	**3.98**	**267**	*e*P		**Pg**	**11 51 25.4**			**-0.9**
	3.2nm,0.1s									
KUU				*e*S		**Sg**	**11 52 18.2**			**+0.2**
	28nm,0.2s									
KUU	**Kurty**	**3.98**	**267**	Pg		**Pg**	**11 51 26.1**			**-0.2**
	7.2nm,0.9s									
KUU				Lg		Lg	11 52 18.2			
	28nm,0.4s									
MTBS	**Maitube**	**4.08**	**257**	*e*P		**Pg**	**11 51 27.5**			**-0.7**
	4.1nm,0.3s									
MTBS				*e*S		**Sg**	**11 52 21.2**			**+0.3**
	27nm,0.4s									
MTBS	**Maitube**	**4.08**	**257**	Pg		**Pg**	**11 51 27.5**			**-0.7**
	4.1nm,0.3s									
MTBS				Lg		Lg	11 52 21.2			
	27nm,0.4s									
KST	**Kastek**	**4.43**	**257**	*e*P		**Pg**	**11 51 34.0**			**-0.9**
	5.7nm,0.6s									
KST				*e*S		**Sg**	**11 52 32.7**			**+0.5**
	13nm,0.6s									
KST	**Kastek**	**4.43**	**257**	Pg		**

LYUB	**Lan-yu**	**1.49**	**235**	P	**Pg**	12 39 17.0	+0.2	
	baz=235							
LYUB				*eS*	**Sn**	12 39 34.1	-0.5	
	baz=235							
LAY	**Lan-yu**	**1.49**	**237**	*eP*	**Pg**	12 39 16.6	-0.3	
	baz=244							
HGSD	**Ruisui**	**1.49**	**295**	*eP*	**Pg**	12 39 17.9	+0.9	
	baz=290							
HGSD				*eS*	**Sb**	12 39 35.2	0.0	
	baz=290							
EYUL	**Yuli**	**1.53**	**289**	P	**Pg**	12 39 18.3	+0.6	
	baz=289							
EYUL				*eS*	**Sg**	12 39 38.0	+0.4	
	baz=289							
YULB	**Yu-li**	**1.56**	**290**	*eP*	**Pg**	12 39 18.7	+0.3	
	baz=293							
YULB				*eS*	**Sg**	12 39 38.9	+0.3	
	baz=293							
EGFH	**Guangfu**	**1.57**	**301**	P	**Pg**	12 39 19.3	+0.8	
	baz=307							
EGFH				*eS*	**Sg**	12 39 39.6	+0.8	
	baz=307							
EHY	**Hungye**	**1.58**	**294**	*eP*	**Pg**	12 39 19.8	+1.1	
	baz=294							
EHY				*eS*	**Sg**	12 39 39.0	-0.3	
	baz=294							
YOJ	**Yonaguni jima**	**1.59**	**4**	*eP*	**Pg**	12 39 19.5	+0.6	
YOJ				S	**Sb**	12 39 38.3	+0.2	
LONT	**Longtian**	**1.63**	**272**	*eP*	**Pg**	12 39 20.7	+1.1	
	baz=268							
LONT				*eS*	**Sg**	12 39 40.7	0.0	
	baz=268							
ESL	**Shilin**	**1.65**	**305**	P	**Pg**	12 39 19.6	-0.3	
	baz=306							
ESL				*eS*	**Sn**	12 39 38.4	-0.2	
	baz=306							
IRIF	**Iriomote-Funau**	**1.65**	**27**	P	**Pg**	12 39 19.7	-0.3	
IRIF				S	**Sn**	12 39 38.9	+0.2	
TWGBT	**Beinan**	**1.68**	**269**	P	**Pg**	12 39 20.9	+0.4	
	baz=266							
TWGBT				*eS*	**Sb**	12 39 40.0	-0.5	
	baz=266							
TWG	**Pinlang**	**1.69**	**269**	P	**Pg**	12 39 21.0	+0.4	
	baz=266							
TWG				*eS*	**Sg**	12 39 41.4	-1.1	
	baz=266							
JKRS	**Kuro-shima**	**1.71**	**36**	P	**Pb**	12 39 20.5	+0.7	
JKRS				S	**Sn**	12 39 40.1	0.0	
NACB	**Ninganchiao**	**1.77**	**318**	*eP*	**Pg**	12 39 21.6	-0.7	
	baz=313							
NACB				*eS*	**Sn**	12 39 42.0	+0.4	
	baz=313							
VWDT	**VWDT**	**1.84**	**299**	*eP*	**Pg**	12 39 23.5	-0.1	
	baz=305							
VWDT				*eS*	**Sb**	12 39 45.1	-0.1	
	baz=305							
ETLH	**Xiulin Townshi**	**1.86**	**316**	*eP*	**Pg**	12 39 23.5	-0.6	
	baz=316							
ETLH				*eS*	**Sb**	12 39 45.5	-0.5	
	baz=316							
EWUT	**Wuta**	**1.88**	**327**	*eP*	**Pg**	12 39 23.6	-0.7	
	baz=327							
EWUT				*eS*	**Sb**	12 39 45.6	-0.7	
	baz=327							
JIJ	**Ishigaki jima**	**1.88**	**37**	P	**Pb**	12 39 22.3	-0.5	
JIJ				S	**Sn**	12 39 43.1	-1.3	
ENA	**Nanau**	**1.89**	**326**	*eP*	**Pg**	12 39 23.9	-0.6	
	baz=326							
ENA				*eS*	**Sb**	12 39 46.1	-0.4	
	baz=326							
YUS	**Yu-Shan**	**1.90**	**290**	*eP*	**Pb**	12 39 23.5	+0.2	
	baz=290							
OWD	**Renai**	**1.92**	**305**	*eP*	**Pg**	12 39 24.8	-0.3	
	baz=310							
OWD				*eS*	**Sb**	12 39 47.0	-0.6	
	baz=310							
TAWH	**Dawu Township**	**1.93**	**255**	*eP*	**Pb**	12 39 23.7	+0.2	
	baz=246							
TAWH				*eS*	**Sn**	12 39 45.3	-0.2	
	baz=246							
EAST	**Anshuo**	**1.95**	**256**	P	**Pg**	12 39 24.6	-1.1	
	baz=262							
EAST				*eS*	**Sn**	12 39 46.7	+0.5	
	baz=262							
WHF	**Hehuan Shan**	**1.97**	**311**	*eP*	**Pb**	12 39 25.1	+0.6	
	baz=311							
WHF				*eS*	**Sb**	12 39 48.5	-0.8	
	baz=311							
CHGB	**Renai**	**1.98**	**307**	*eP*	**Pg**	12 39 25.6	-0.7	
	baz=314							
CHGB				*eS*	**Sb**	12 39 49.0	-0.5	
	baz=314							
WUSB	**Renai**	**1.98**	**305**	*eP*	**Pg**	12 39 25.5	-0.8	
	baz=313							
WUSB				*eS*	**Sb**	12 39 48.1	-1.4	
	baz=313							
ALS	**Alishan**	**2.03**	**289**	*eP*	**Pg**	12 39 28.0	+0.7	
	baz=289							
ALS				*eS*	**Sg**	12 39 52.5	-1.1	
	baz=289							
SLIU	**Shizi**	**2.04**	**252**	*eP*	**Pb**	12 39 26.1	+0.6	
	baz=244							
SLIU				*eS*	**Sb**	12 39 49.5	-1.5	
	baz=244							
FUSS	**Fushou**	**2.05**	**313**	*eP*	**Pb**	12 39 26.4	+0.6	
	baz=312							
FUSS				*eS*	**Sb**	12 39 50.4	-1.1	
	baz=312							
WHYT	**Xinyi Township**	**2.06**	**294**	*eP*	**Pg**	12 39 27.6	-0.1	
	baz=296							
WHYT				*eS*	**Sb**	12 39 51.1	-0.3	
	baz=296							
TSMG	**Majia**	**2.08**	**266**	*eP*	**Pg**	12 39 27.6	-0.7	
	baz=264							
LATG	**Datong**	**2.09**	**323**	*eP*	**Pb**	12 39 26.8	+0.4	
	baz=323							
LATG				*eS*	**Sb**	12 39 51.2	-1.2	
	baz=323							
NNSB	**Datong**	**2.09**	**319**	*eP*	**Pg**	12 39 27.4	-1.0	
	baz=312							
NNSB				*eS*	**Sb**	12 39 51.1	-1.4	
	baz=312							
SSD	**Sandimen**	**2.09**	**267**	*eP*	**Pb**	12 39 27.1	+0.7	
	baz=266							
SSD				*eS*	**Sb**	12 39 51.6	-0.8	
	baz=266							
NNS	**Nan Shan**	**2.10**	**319**	*eP*	**Pb**	12 39 26.4	-0.2	
	baz=313							
NNS				*eS*	**Sn**	12 39 50.5	+0.5	
	baz=313							
MASBT	**Mashibuluo**	**2.11**	**264**	*eP*	**Pb**	12 39 26.8	+0.2	
	baz=264							
TPUB	**Ta-pu**	**2.13**	**282**	*eP*	**Pg**	12 39 28.7	-0.5	
	baz=286							
TPUB				*eS*	**Sg**	12 39 57.0	+0.1	
	baz=286							
WTP	**Ta-pu**	**2.14**	**281**	*eP*	**Pg**	12 39 29.2	-0.1	
	baz=284							
WTP				*eS*	**Sg**	12 39 56.5	-0.5	
	baz=284							
NDT	**Datong Townshi**	**2.15**	**324**	*eP*	**Pb**	12 39 27.9	+0.6	
	baz=324							
NDT				*eS*	**Sb**	12 39 52.9	-1.1	
	baz=324							
ENTT	**Nioudou**	**2.15**	**326**	*eP*	**Pb**	12 39 27.7	+0.4	
	baz=325							
ENTT				*eS*	**Sn**	12 39 52.4	+1.4	
	baz=325							
WCS	**Beigang Elemen**	**2.18**	**303**	*eP*	**Pb**	12 39 27.7	-0.1	
	baz=306							
WCS				*eS*	**Sb**	12 39 53.9	-1.0	
	baz=306							
CHN1	**Nanshi**	**2.21**	**279**	*eP*	**Pg**	12 39 30.4	-0.2	
	baz=285							
CHN1				*eS*	**Sg**	12 39 58.2	-1.0	
	baz=285							
FUSB	**Fushanzhiwuyua**	**2.24**	**328**	*eP*	**Pb**	12 39 29.8	+1.0	
	baz=333							
FUSB				*eS*	**Sb**	12 39 55.4	-1.3	
	baz=333							
SNST	**Tainan City**	**2.24**	**280**	*eP*	**Pg**	12 39 31.4	+0.1	
	baz=280							
SNST				*eS*	**Sg**	12 39 59.2	-1.1	
	baz=280							
TWK	**Hsinying**	**2.26**	**281**	*eP*	**Pg**	12 39 31.5	0.0	
	baz=281							
TWK				*eS*	**Sg**	12 40 00.6	-0.2	
	baz=281							
YHNB	**Yeheng**	**2.28**	**323**	*eP*	**Pb**	12 39 29.6	0.0	
	baz=315							
YHNB				*eS*	**Sb**	12 39 56.0	-1.8	
	baz=315							
WHP	**Taichung City**	**2.28**	**309**	*eP*	**Pg**	12 39 32.5	+0.5	
	baz=314							
WHP				*eS*	**Sb**	12 39 57.9	0.0	
	baz=314							
TWM1	**Shoushan**	**2.28**	**269**	*eP*	**Pg**	12 39 31.2	-0.8	
	baz=269							
TWM1				*eS*	**Sg**	12 40 03.0	+1.3	
	baz=269							
NSK	**Sanguang**	**2.29**	**322**	*eP*	**Pb**	12 39 29.3	-0.5	
	baz=315							
NSK				*eS*	**Sn**	12 39 54.9	+0.3	
	baz=315							
TIPB	**Shuangxi**	**2.32**	**335**	*eP*	**Pb**	12 39 30.9	+0.7	
	baz=340							
TIPB				*eS*	**Sb**	12 39 57.6	-1.3	
	baz=340							
JTJ	**Tarama**	**2.42**	**43**	P	**Pn**	12 39 29.9	+2.0	
JTJ				*eS*	**Sn**	12 39 57.0	-0.7	
LIOB	**Emei**	**2.48**	**316**	*eP*	**Pb**	12 39 33.9	+1.0	
	baz=312							
LIOB				*eS*	**Sb**	12 40 03.1	-0.4	
	baz=312							
YM01	**YM01**	**2.58**	**332**	*eP*	**Pb**	12 39 35.7	+1.0	
	baz=342							
YM01				*eS*	**Sb**	12 40 04.8	-1.7	
	baz=342							
JIRB	**Irabujima**	**2.86**	**46**	*eS*	**Sn**	12 40 07.3	-1.2	
JMJ2	**Miyako jima3**	**2.91**	**49**	S	**Sn**	12 40 08.6	-1.1	
VWUC	**VWUC**	**3.80**	**305**	*eP*	**Pb**	12 39 51.8	-3.7	
	baz=304							
VWUC				*eS*	**Sn**	12 40 32.7	+1.0	
	baz=304							

IDC 19 12:56:50.6±4.9, 2°00S×140°89E, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=103.6km s-min=58.1km az=151.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.95**	**199**	P	P	13 01 12.7	-0.7
	0.2nm,0.3s,baz=23,slow=11,SNR=11 0.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.91**	**222**	P	P	13 01 45.2	-0.4
	3.9nm,1.0s,baz=43,slow=13,SNR=2.6 3.9nm,1.0s						
ASAR	**Alice Springs**	**22.58**	**197**	P	P	13 01 52.2	-0.5
	1.0nm,0.6s,baz=28,slow=11,SNR=26 1.0nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**32.55**	**50**	T	T	13 38 06.9	
	baz=231,slow=74						
H11S2	**WAKE ISLAND Hy**	**32.56**	**50**	T	T	13 38 09.5	
	baz=231						
H11S1	**WAKE ISLAND Hy**	**32.56**	**50**	T	T	13 38 14.6	
	baz=231,slow=74						
H11N1	**WAKE ISLAND Hy**	**33.42**	**49**	T	T	13 39 29.1	
	baz=228						
H11N2	**WAKE ISLAND Hy**	**33.44**	**49**	T	T	13 39 24.1	
	baz=228						
H11N3	**WAKE ISLAND Hy**	**33.44**	**49**	T	T	13 39 21.1	
	baz=228						
VNDA	**Vanda**	**76.30**	**175**	P	P	13 08 41.6	+0.7
	0.8nm,0.7s,baz=327,slow=7.8,SNR=7.2 0.8nm,0.7s						

*NEIC **19** 12:57:31.9±1.3, 10°35N±0°10×92°7E±0°1, h34km±6km, mb4.6/14, Error ellipse: s-maj=22.8km s-min=10.7km az=62.0*
*NDI **19** 12:57:36.6±3.7, 10°51N×92°84E, h33km, ML3.7, mb4.6(NEIC)*
*IDC **19** 12:57:36.7±3.3, 10°39N×92°98E, h75km±29km, mb3.7/13, mbtmp4.0/15, MS2.9/4, Error ellipse: s-maj=26.9km s-min=12.9km az=58.0*

ISC 19 12:57:31.4±0.5, 10°26N±0°06×92°59E±0°07, h35km, n46, σ1s42/47, mb4.2/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.39**	**6**	Pn	**Pn**	**12 57 54.0**	**-0.3**
PBA	**Port Blair**	**1.39**	**6**	*eP*	**Pn**	**12 57 55.1**	**+0.8**
PBA				*eS*	**Sn**	**12 58 09.2**	**-2.3**
PBA				IAML		12 58 16.6	
	comp=N,2μm,0.2s						
PBA				IAML		12 58 18.0	
	comp=E,2μm,0.4s						
DGPR	**DIGLIPUR**	**2.92**	**7**	*eP*	Pn	12 58 19.4	+4.1
DGPR				*eS*	**Sn**	**12 58 49.1**	**0.0**
SRIT	**Nakonsritamara**	**7.12**	**103**	Pn	**Pn**	**12 59 13.1**	**+0.1**
PSI	**Papat**	**9.72**	**139**	LR	LR	13 03 46.9	
	comp=E,125nm,20.6s,baz=280,slow=38						
CMAR	**Chiang Mai Arr**	**10.21**	**36**	P	**Pn**	**12 59 57.0**	**+1.5**
	comp=E,2.7nm,0.7s,baz=225,slow=15,SNR=15						
CMAR				LR	LR	13 04 00.1	
	comp=E,30nm,19.6s,baz=215,slow=39						
CMAR	**Chiang Mai Arr**	**10.21**	**36**	Pn	**Pn**	**12 59 53.8**	**-1.8**
PALK	**Pallekele**	**12.11**	**257**	P	**P**	**13 00 32.4**	**-1.5**
	comp=E,6.6nm,0.8s,baz=115,slow=14,SNR=1.4						
PALK				S	**Sn**	**13 02 34.5**	**-1.1**
	comp=E,2.5nm,0.4s,baz=100,slow=16,SNR=1.3						
PALK				LR	LR	13 04 56.3	
	comp=E,86nm,21.4s,baz=189,slow=35						
RAGD	**RAYAGADA**	**12.55**	**316**	*eP*	**Pn**	**13 00 31.3**	**+3.7**
RAGD				*eS*	**Sn**	**13 02 40.8**	**-5.5**
H08S3	**Diego Garcia H**	**26.77**	**229**	T	T	13 31 16.8	
	baz=48,slow=75,SNR=18						
H08S2	**Diego Garcia H**	**26.77**	**229**	T	T	13 31 17.3	
	baz=48,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**26.79**	**229**	T	T	13 31 16.2	
	baz=48,slow=75,SNR=10						
GTA	**Gaotai**	**29.73**	**11**	*eP*	**P**	**13 03 35.3**	**+0.7**
GTA				pP	pP	13 03 39.8	-4.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MK31	**Makanchi Array**	**37.45**	**348**	P	**P**	**13 04 41.9**	**+0.5**
MKAR	**Makanchi Array**	**37.45**	**348**	P	**P**	**13 04 42.1**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=171,slow=8.6,SNR=11						
MKAR				PcP	**PcP**	**13 07 00.5**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=187,slow=2.9,SNR=4.3 comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**37.45**	**348**	P	**P**	**13 04 41.9**	**+0.5**
SONM	**Songino Array**	**39.22**	**15**	P	**P**	**13 04 56.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=202,slow=9.0,SNR=6.8 comp=Z,0.5nm,0.3s						
KSRS	**Korea Array**	**41.74**	**44**	P	**P**	**13 05 15.4**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=237,slow=7.6,SNR=2.0 comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**41.88**	**347**	P	**P**	**13 05 18.7**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=163,slow=7.3,SNR=9.9						
KURBB				PcP	**PcP**	**13 07 14.3**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=164,slow=2.8,SNR=6.5 comp=Z,1.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.12**	**131**	P	**P**	**13 05 27.7**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=300,slow=8.0,SNR=7.1 comp=Z,1.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**43.12**	**131**	P	**P**	**13 05 27.9**	**-0.7**
FITZ				IAmb	IAmb	13 05 49.0	
	comp=Z,6.4nm,1.3s						
ZALV	**Zalesovo Beam**	**44.01**	**353**	P	**P**	**13 05 35.5**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=199,slow=7.8,SNR=4.2 comp=Z,0.8nm,0.4s						
KNRA	**Kununurra**	**44.13**	**125**	P	**P**	**13 05 36.7**	**-0.1**
KNRA				IAmb	IAmb	13 06 00.2	
	comp=Z,15nm,1.2s						
ABKAR	**Akbulak array**	**47.41**	**331**	P	**P**	**13 06 04.2**	**+1.9**
WB0	**Warramunga Arr**	**50.85**	**126**	P	**P**	**13 06 28.2**	**-0.8**
WB0				IAmb	IAmb	13 07 09.1	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**50.90**	**126**	P	**P**	**13 06 28.3**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=305,slow=8.6,SNR=39 comp=Z,1.7nm,0.5s						
WRA	**Warramunga Arr**	**50.90**	**126**	P	**P**	**13 06 28.9**	**-0.6**
WB2	**Warramunga Arr**	**50.91**	**126**	P	**P**	**13 06 28.2**	**-1.2**
WB2				IAmb	IAmb	13 06 47.3	
	comp=Z,17nm,1.5s						
WR0	**Warramunga Arr**	**51.06**	**126**	P	**P**	**13 06 29.5**	**-1.2**
WR0				IAmb	IAmb	13 06 49.1	
	comp=Z,3.9nm,0.9s						
GNI	**Garni**	**51.69**	**314**	LR	LR	13 31 37.6	
	comp=Z,15nm,18.4s,baz=65,slow=39						
AS31	**Alice Springs**	**52.62**	**130**	P	**P**	**13 06 41.6**	**-0.7**
ASAR	**Alice Springs**	**52.62**	**130**	P	**P**	**13 06 41.5**	**-0.8**
	comp=Z,5.8nm,0.7s,baz=304,slow=6.8,SNR=74						
ASAR				PcP	**PcP**	**13 07 52.5**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=295,slow=2.7,SNR=3.0 comp=Z,5.8nm,0.7s						
BBOO	**Buckleboo**	**59.60**	**138**	P	**P**	**13 07 32.0**	**0.0**
STKA	**Stephens Creek**	**62.86**	**134**	P	**P**	**13 07 54.2**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=291,slow=5.3,SNR=5.6 comp=Z,2.0nm,0.5s						
STKA	**Stephens Creek**	**62.86**	**134**	P	**P**	**13 07 53.7**	**-0.3**
STKA				IAmb	IAmb	13 08 36.7	
	comp=Z,3.3nm,1.5s						
TIXI	**Tiksi**	**65.22**	**12**	P	**P**	**13 08 07.4**	**-1.4**
TIXI				IAmb	IAmb	13 08 08.5	
	comp=Z,7.1nm,0.6s						
FINES	**FINESS Array B**	**69.89**	**332**	P	**P**	**13 08 39.5**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=100,slow=4.2,SNR=3.8 comp=Z,1.2nm,0.8s						
FINES	**FINESS Array B**	**69.89**	**332**	P	**P**	**13 08 39.8**	**+1.2**
ARCES	**ARCESS Array B**	**72.51**	**340**	P	**P**	**13 08 55.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=90,slow=6.1,SNR=8.4 comp=Z,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**72.51**	**340**	P	**P**	**13 08 55.0**	**+0.7**
ARCES				IAmb	IAmb	13 08 58.1	
	comp=Z,12nm,1.4s						
GERES	**GERESS Array B**	**75.03**	**318**	P	**P**	**13 09 11.6**	**+1.9**
	comp=Z,0.3nm,0.2s,baz=112,slow=1.1,SNR=4.2 comp=Z,0.3nm,0.2s						
TORD	**Torodi Ar. Bea**	**88.56**	**283**	P	**P**	**13 10 20.9**	**-0.4**
IMAR	**Indian Mountai**	**90.01**	**22**	P	**P**	**13 10 27.1**	**0.0**
K20K	**Telida**	**91.02**	**24**		**P**	**13 10 32.5**	**+0.6**
ILAR	**Eielson Array**	**93.11**	**22**	P	**P**	**13 10 40.4**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=303,slow=4.3,SNR=6.8 comp=Z,0.7nm,0.7s						
TXAR	**Lajitas Array**	**137.63**	**21**	PKP	**PKPdf**	**13 16 52.6**	**0.0**
	comp=Z,0.1nm,0.4s,baz=286,slow=0.9,SNR=3.6						

*BJI **19** 13:06:34.3±0.0, 2°32S×140°84E, h5km, mb4.7/40, mB5.0/19, Ms4.8/2, Ms7 4.5/1*
*IDC **19** 13:06:37.8±0.5, 1°97S×140°65E, h0km, mb4.4/21, mbtmp4.4/24, ML4.5/2, MS3.6/19, Error ellipse: s-maj=18.8km s-min=9.5km az=87.0*
*NEIC **19** 13:06:40.0±1.3, 1°97S±0°09×140°60E±0°09, h13km±4km, mb4.9/67, Error ellipse: s-maj=14.6km s-min=11.9km az=50.0*
*DJA **19** 13:06:45.1±0.4, 2°S±4°×14°1E±°, h45km±3km, M4.5/23, mB5.2/6, mb4.6/23, MLv4.4/3, Mw(mB)4.6/6*

ISC 19 13:06:42.9±0.4, 2°00S±0°05×140°63E±0°06, h35km, n288, σ1s35/277, mb4.8/67, MS3.6/16, 2C-2D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.75**	**218**	P	**Pn**	**13 06 56.5**	**-0.5**
SMPI	**Sarmi**	**1.92**	**270**	P	**Pn**	**13 07 13.8**	**+0.6**
WAMI	**Wamena**	**2.68**	**226**	P	**Pn**	**13 07 26.3**	**+2.7**
FAKI	**Fak Fak**	**8.43**	**264**	Pn	**Pn**	**13 08 39.7**	**-3.0**
FAKI	**Fak Fak**	**8.43**	**264**	P	**Pn**	**13 08 45.0**	**+2.4**
	18nm,1.4s						
SIJI	**Sorong**	**9.43**	**277**	LR	LR	13 12 28.5	
	comp=Z,204nm,19.4s,baz=73,slow=37						
PMG	**Port Moresby**	**9.81**	**139**	Pn	**Pn**	**13 09 01.3**	**-0.3**
	30nm,0.9s,baz=319,slow=11,SNR=2.3						
PMG	**Port Moresby**	**9.81**	**139**	Pn	**Pn**	**13 09 00.3**	**-1.3**
COEN	**Coen**	**12.14**	**168**	Pn	**Pn**	**13 09 34.3**	**+0.7**
KDU	**Kakadu**	**13.34**	**217**	P	**Pn**	**13 09 48.0**	**-2.0**
	baz=13,SNR=14						
NLAI	**Namlea**	**13.57**	**265**	P	**Pn**	**13 09 54.5**	**+1.3**
	4μm11nm,0.9s						
MTN	**Manton Dam**	**14.30**	**221**	P	**Pn**	**13 10 00.7**	**-2.4**
	baz=14,SNR=5.9						
MTN	**Manton Dam**	**14.30**	**221**	Pn	**Pn**	**13 10 00.5**	**-2.5**
GUMO	**Guam**	**16.05**	**15**	LR	LR	13 16 17.7	
	comp=Z,190nm,18.2s,baz=206,slow=36						
MTSU	**Mount Surprise**	**16.43**	**168**	P	**Pn**	**13 10 30.8**	**-0.2**
	baz=16,SNR=5.0						
GTOI	**Gorontalo**	**17.81**	**278**	P	**P**	**13 10 51.6**	**+2.8**
	14nm,0.7s						
LUWI	**Luwuk**	**17.88**	**273**	P	**P**	**13 10 50.6**	**+1.1**
	2μm67nm,1.2s						
KNRA	**Kununurra**	**17.93**	**220**	P	**Pn**	**13 10 49.3**	**-0.4**
	baz=18,SNR=18						
KNRA	**Kununurra**	**17.93**	**220**		**Pn**	**13 10 47.8**	**-1.9**
QIS	**Mount Isa**	**18.47**	**183**	P	**P**	**13 10 55.1**	**-0.9**
	baz=18,SNR=6.8						
WB0	**Warramunga Arr**	**18.68**	**199**		**P**	**13 10 57.2**	**-1.0**
BATI	**Baumata**	**18.73**	**243**	P	**Pn**	**13 11 03.7**	**+4.2**
	65nm,0.7s,baz=188,slow=2.1,SNR=10						
CTA	**Charters Tower**	**18.80**	**163**	P	**P**	**13 10 59.4**	**-0.1**
	0.8nm,0.3s,baz=344,slow=11,SNR=14						
CTA				LR	LR	13 18 59.9	
	comp=Z,240nm,18.8s,baz=352,slow=39						
	9.2nm,0.7s						
CTA	**Charters Tower**	**18.80**	**163**	P	**Pn**	**13 11 02.3**	**+2.1**
CTAO	**Charters Tower**	**18.80**	**163**	P	**P**	**13 10 59.1**	**-0.5**
CTAO	**Charters Tower**	**18.80**	**163**	P	**Pn**	**13 11 02.4**	**+2.2**
WR0	**Warramunga Arr**	**18.82**	**198**	P	**P**	**13 10 58.9**	**-0.9**
WRAB	**Tennant Creek**	**18.85**	**199**	P	**P**	**13 10 58.7**	**-1.4**
WRAB	**Tennant Creek**	**18.85**	**199**	P	**P**	**13 10 59.7**	**-0.4**
MRSI	**Marisa**	**18.85**	**277**	pP	pP	13 11 13.6	+5.0
	652nm24nm,0.7s						
WB2	**Warramunga Arr**	**18.86**	**199**		**P**	**13 10 59.5**	**-0.7**
WRA	**Warramunga Arr**	**18.86**	**199**	P	**P**	**13 10 59.7**	**-0.5**
	1.5nm,0.3s,baz=23,slow=12,SNR=46						
WRA				S	**S**	**13 14 33.9**	**+0.9**
	1.6nm,0.9s,baz=18,slow=18,SNR=3.0						
WRA				LR	LR	13 19 01.2	
	comp=Z,355nm,19.5s,baz=16,slow=39						
	12nm,0.6s						
WRA	**Warramunga Arr**	**18.86**	**199**	P	**P**	**13 10 57.9**	**-2.4**
EDFI	**Ende, Flores**	**20.01**	**250**	P	**P**	**13 11 12.6**	**-0.3**
	10nm,1.0s						
BSSI	**Bau Bau, Buton**	**20.50**	**258**	P	**P**	**13 11 17.5**	**-0.8**
	27nm,0.9s						
BSSI				pP	**pwP**	**13 11 30.6**	**+0.2**
	27nm,0.9s						
HNR	**Honiara**	**20.57**	**112**	P	Pn	13 11 21.0	-0.4
	1μm,0.8s,baz=237,slow=5.2,SNR=2.7						
BKSI	**Bulukumba**	**20.73**	**260**	P	**P**	**13 11 19.3**	**-1.4**
	12nm,0.9s						
TTSI	**Tana Toraja**	**20.82**	**267**	P	**P**	**13 11 21.3**	**-0.4**
	759nm45nm,1.0s						
MPSI	**Mapaga**	**20.86**	**276**	P	Pn	13 11 23.9	-0.8
	17nm,0.8s						
FITZ	**Fitzroy Crossi**

baz=30,SNR=6.8
CMSA Cobar Meteorol 29.76 171 P **P** **13 12 48.9 +2.6**
BBOO Buckleboo 30.95 188 P **P** **13 12 56.5 -0.2**
baz=31,SNR=6.9
BBOO Buckleboo 30.95 188 P **P** **13 12 56.1 -0.6**
BBOO Buckleboo 30.95 188 P **P** **13 12 56.7 -0.1**
FORT Forrest 31.00 201 P **P** **13 12 57.1 -0.1**
FORT Forrest 31.00 201 P **P** **13 12 57.6 +0.4**
JOW Kunigami 31.05 338 LR LR 13 24 01.8
comp=Z,133nm,19.2s,baz=252,slow=34
HTT Hallett 31.31 183 P **P** **13 13 00.4 +0.4**
baz=31,SNR=3.8
HTT Hallett 31.31 183 P **P** **13 13 00.6 +0.6**
DZM Mont Dzumac 32.06 130 P **P** **13 13 06.8 0.0**
5.5nm,1.0s,baz=45,slow=5.7,SNR=3.5
DZM LR LR 13 24 41.2
comp=Z,102nm,19.8s,baz=14,slow=34
5.5nm,1.0s
TARA Tarawa 32.46 84 P P 13 13 19.4 +9.1
58nm,1.7s
H11S3 WAKE ISLAND Hy 32.74 50 T T 13 47 55.2
baz=232,slow=75,SNR=26
H11S2 WAKE ISLAND Hy 32.76 50 T T 13 47 55.8
baz=232,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 32.76 50 T T 13 47 52.9
baz=232,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 33.62 49 T T 13 48 48.8
baz=229,slow=75,SNR=7.9
H11N2 WAKE ISLAND Hy 33.63 49 T T 13 48 50.0
baz=229,slow=75,SNR=8.5
H11N3 WAKE ISLAND Hy 33.63 49 T T 13 48 51.2
baz=229,slow=75,SNR=6.0
CAN Canberra 34.05 168 P **P** **13 13 24.9 +0.9**
CAN Canberra 34.05 168 P **P** **13 13 25.9 +1.9**
ARPS Mount Arapiles 34.61 178 P **P** **13 13 29.7 +1.0**
baz=34,SNR=6.9
MORW Morawa 35.68 219 P **P** **13 13 38.5 +0.4**
MJAR Matsushiro Arr 38.41 357 P **P** **13 14 00.0 -1.1**
2.8nm,0.7s,baz=177,slow=9.3,SNR=8.8
2.8nm,0.7s
MAJO Matsushiro 38.41 357 P **P** **13 13 59.8 -1.4**
MAJO IAmb IAmb 13 15 02.3
comp=Z,35nm,1.7s
NJ2 Nanjing 39.67 330 *e*P **P** **13 14 12.8 +1.1**
NJ2 pmax pmax
comp=Z,16nm,0.5s
JSD Sado 39.90 357 P **P** **13 14 12.9 -0.6**
MSVF Nonsavu 39.91 116 LR LR 13 29 40.6
comp=Z,113nm,20.2s,baz=290,slow=35
KSRS Korea Array 40.99 345 P **P** **13 14 22.9 +0.3**
comp=Z,2.1nm,0.9s,baz=159,slow=7.2,SNR=3.7
KSRS LR LR 13 29 29.0
comp=Z,74nm,20.3s,baz=180,slow=34
comp=Z,2.1nm,0.9s
RPSI Rantau Prapat 41.96 276 P **P** **13 14 31.1 +0.2**
PSI Prapat 41.97 276 P **P** **13 14 31.1 -0.1**
comp=Z,8.4nm,0.9s,baz=135,slow=7.1,SNR=4.1
comp=Z,8.4nm,0.9s
LYN LuoYang 44.96 327 *e*P **P** **13 14 54.4 -0.4**
LYN pP pP 13 14 58.3 -5.8
LYN pmax pmax
comp=Z,260nm,5.5s
CMAR Chiang Mai Arr 45.78 298 P **P** **13 15 01.7 +0.1**
comp=Z,0.7nm,0.5s,baz=122,slow=7.0,SNR=6.4
comp=Z,0.7nm,0.5s
HNS HongShan 45.99 331 ⇑P **P** **13 15 03.4 +0.5**
HNS pmax pmax
comp=Z,13nm,0.7s
XAN Xi'an 46.63 323 ⇑P **P** **13 15 07.9 -0.2**
XAN pP pP 13 15 17.1 -0.4
XAN pmax pmax
comp=Z,14nm,1.1s
USRK Ussuriysk Ar. 46.64 351 P **P** **13 15 08.3 +0.4**
comp=Z,6.4nm,1.1s,baz=180,slow=10,SNR=6.8
USRK LR LR 13 31 51.9
comp=Z,103nm,18.8s,baz=185,slow=32
comp=Z,6.4nm,1.1s
PZH PanZhiHua 47.03 310 P **P** **13 15 13.0 +1.6**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,100nm,3.7s
CN2 Changchun 47.59 345 *e*P **P** **13 15 18.0 +2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
RAO Raoul Island 47.82 129 LR LR 13 31 55.4
comp=Z,71nm,21.7s,baz=316,slow=32
CD2 Chengdu 47.98 316 P **P** **13 15 19.8 +1.2**
CD2 pmax pmax
comp=Z,20nm,0.7s
RPZ Rata Peaks 49.55 151 P **P** **13 15 31.2 +0.7**
comp=Z,11nm,0.8s,baz=132,slow=8.9,SNR=6.1
comp=Z,11nm,0.8s
RPZ Rata Peaks 49.55 151 P **P** **13 15 31.1 +0.7**
HHC Hu-ho-hao-te 50.21 331 *e*P **P** **13 15 39.4 +3.8**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.4s
LZH Lanzhou 51.10 321 ⇓P **P** **13 15 43.8 +1.3**
LZH pP pP 13 15 50.5 -1.5
LZH sP sP 13 15 52.5 -3.2
LZH pmax pmax
comp=Z,29nm,1.5s
GTA Gaotai 55.67 322 ⇓P **P** **13 16 16.8 +0.8**
GTA pP pP 13 16 21.5 -4.0
GTA sP sP 13 16 23.8 -5.5
GTA pmax pmax
comp=Z,7.0nm,0.9s
PETK Petropavlovsk- 56.75 12 P **P** **13 16 23.1 -0.1**
comp=Z,4.8nm,1.0s,baz=180,slow=5.9,SNR=3.9
comp=Z,4.8nm,1.0s
GOMU GeErMu 57.11 316 P **P** **13 16 28.6 +2.0**
GOMU pP pP 13 16 33.0 -3.2
GOMU sP sP 13 16 34.9 -5.0
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU pmax pmax
comp=Z,34nm,5.9s
ULN Ulaanbaatar 57.66 334 P **P** **13 16 30.0 +0.1**
ULN IAmb IAmb 13 16 31.7
comp=Z,8.2nm,1.2s
SONM Songino Array 57.93 333 P **P** **13 16 31.9 +0.1**
comp=Z,0.8nm,0.6s,baz=154,slow=9.9,SNR=4.8
SONM LR LR 13 40 09.1
comp=Z,64nm,20.8s,baz=106,slow=35
comp=Z,0.8nm,0.6s
SONM Songino Array 57.93 333 P **P** **13 16 31.5 -0.3**
MA2 Magadan 61.91 6 LR LR 13 40 49.2
comp=Z,21nm,21.4s,baz=182,slow=33
YAK Yakutsk 64.41 354 P **P** **13 17 14.9 -0.3**
WMQ Urumqi 65.67 321 *e*P **P** **13 17 25.0 +1.0**
WMQ sP pP 13 17 32.3 -1.4
WMQ pmax pmax
comp=Z,17nm,0.7s
CASY Casey 67.57 193 P **P** **13 17 35.9 +0.3**
CASY IAmb IAmb 13 17 55.6
comp=Z,10nm,1.3s
MKAR Makanchi Array 70.42 322 P **P** **13 17 54.3 +0.6**
comp=Z,4.3nm,0.9s,baz=116,slow=8.2,SNR=31
MKAR LR LR 13 47 04.6
comp=Z,22nm,21.7s,baz=88,slow=34
comp=Z,4.3nm,0.9s
MKAR Makanchi Array 70.42 322 P **P** **13 17 52.3 -1.4**
MAKZ Makanchi 70.62 322 P **P** **13 17 54.5 -0.4**
MAKZ IAmb IAmb 13 17 56.7
comp=Z,8.9nm,1.0s
KSH Kashi 72.01 313 P **P** **13 18 06.0 +2.4**
KSH pmax pmax
comp=Z,7.0nm,1.0s
ZALV Zalesovo Beam 72.31 329 P **P** **13 18 04.3 -0.6**
comp=Z,1.9nm,0.8s,baz=96,slow=6.0,SNR=8.0
ZALV LR LR 13 50 28.7
comp=Z,55nm,19.1s,baz=92,slow=36
comp=Z,1.9nm,0.8s
ZALV Zalesovo Beam 72.31 329 P **P** **13 18 04.1 -0.8**
NRN Naryn 72.60 315 P **P** **13 18 07.7 +0.4**
BOOM Boomskoye usch 72.98 316 P **P** **13 18 10.3 +0.9**
BOOM IAmb IAmb 13 18 11.6
comp=Z,7.0nm,0.8s
AAK Ala-Archa 74.04 315 P **P** **13 18 16.6 +1.0**
comp=Z,1.0nm,0.3s,baz=140,slow=8.3,SNR=4.3
AAK LR LR 13 50 42.4
comp=Z,16nm,21.1s,baz=121,slow=36
comp=Z,1.0nm,0.3s
KURK Kurchatov 74.25 324 P **P** **13 18 15.6 -0.9**
KURK IAmb IAmb 13 18 17.8
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 74.27 324 P **P** **13 18 16.9 +0.4**
comp=Z,1.3nm,0.2s,baz=120,slow=4.8,SNR=8.8
comp=Z,1.3nm,0.2s
S14K Fog Glacier 75.44 30 P **P** **13 18 22.9 -0.4**
baz=243
GAR Garm 76.08 311 P **P** **13 18 27.5 +0.1**
GAR IAmb IAmb 13 18 29.1
comp=Z,16nm,1.0s
VNDA Vanda 76.32 175 P **P** **13 18 28.7 +0.8**
comp=Z,2.1nm,0.6s,baz=329,slow=6.9,SNR=20
comp=Z,2.1nm,0.6s
VNDA Vanda 76.32 175 P **P** **13 18 28.6 +0.8**
TNA Tin City 76.84 20 P **P** **13 18 31.1 +0.2**
baz=233
CHGR Chuyangaron 76.88 310 P **P** **13 18 31.7 -0.2**
KK31 Karatay Array 76.98 315 P **P** **13 18 32.4 +0.1**
KKAR Karatay Array 76.98 315 P **P** **13 18 32.4 +0.1**
KKAR Karatay Array 76.98 315 P **P** **13 18 32.4 +0.1**
SBA Scott Base 77.06 175 P **P** **13 18 33.5 +1.5**
O17K Koliganek Bris 78.15 27 P **P** **13 18 38.6 +0.2**
baz=245
OHAK Old Harbor 78.97 30 P **P** **13 18 43.1 +0.2**
SVW2 Sparrevohn 79.39 26 P **P** **13 18 46.1 +0.9**
KDAK Kodiak Island 79.53 30 P **P** **13 18 46.0 0.0**
baz=249
NRIK Noril'sk 79.59 343 P **P** **13 18 46.5 +0.4**
comp=Z,7.3nm,0.9s,baz=106,slow=8.8,SNR=6.3
comp=Z,7.3nm,0.9s
NRIK Noril'sk 79.59 343 P **P** **13 18 46.3 +0.2**
NRIK IAmb IAmb 13 18 47.3
comp=Z,18nm,1.2s
N19K Bonanza Creek 79.77 27 P **P** **13 18 47.7 +0.4**
N19K IAmb IAmb 13 18 48.9
comp=Z,21nm,1.4s
N19K Bonanza Creek 79.77 27 P **P** **13 18 47.3 -0.1**
baz=247
BRVK Borovoye 79.91 325 P **P** **13 18 48.5 +0.3**
BRVK IAmb IAmb 13 18 49.7
comp=Z,11nm,1.2s
L19K White Mountain 80.15 25 P **P** **13 18 49.8 +0.5**
L19K IAmb IAmb 13 18 50.8
comp=Z,11nm,1.0s
L19K White Mountain 80.15 25 P **P** **13 18 49.5 +0.1**
baz=246
M19K Big River Lodg 80.24 26 P **P** **13 18 50.1 +0.3**
baz=247
GCSA Galena City Sc 80.40 23 P **P** **13 18 50.5 -0.1**
baz=244
HOM Homer 80.65 28 P **P** **13 18 51.7 -0.3**
baz=250
L20K Farewell, AK 80.68 25 P **P** **13 18 52.1 -0.1**
baz=247
M20K Styx River 80.78 26 P **P** **13 18 53.1 +0.3**
M20K IAmb IAmb 13 18 54.3
comp=Z,14nm,1.2s
M20K Styx River 80.78 26 P **P** **13 18 53.3 +0.5**
baz=248
K20K Telida 80.95 25 P **P** **13 18 54.4 +0.8**
K20K IAmb IAmb 13 18 55.2
comp=Z,8.7nm,0.9s
K20K Telida 80.95 25 P **P** **13 18 54.1 +0.5**
baz=247
J20K Nowinta River 81.24 24 P **P** **13 18 55.6 +0.5**
J20K IAmb IAmb 13 18 56.7
comp=Z,8.6nm,0.9s
J20K Nowinta River 81.24 24 P **P** **13 18 55.4 +0.3**
baz=247
SKT Skwentna 81.52 26 P **P** **13 18 56.5 -0.1**
baz=249
SUA Susitna One 81.69 27 P **P** **13 18 57.7 0.0**
baz=250
CAST Castle Rocks 81.80 25 P **P** **13 18 58.3 +0.2**
baz=249
CHUM Lake Minchumin 81.87 24 P **P** **13 18 59.0 +0.5**
baz=248
RC01 Rabbit Creek A 82.03 27 P **P** **13 18 58.9 -0.4**
RC01 IAmb IAmb 13 18 59.4
comp=Z,15nm,1.2s
RC01 Rabbit Creek A 82.03 27 P **P** **13 18 59.2 -0.1**
baz=251
M22K Willow 82.07 27 P **P** **13 18 59.3 -0.2**
baz=251
IMAR Indian Mountai 82.11 22 P **P** **13 18 59.9 +0.2**
CUT Chulitna 82.22 26 P **P** **13 19 00.3 +0.1**
baz=250
H21K Melozitna Rive 82.35 23 P **P** **13 19 01.3 +0.4**
H21K IAmb IAmb 13 19 01.6
comp=Z,4.9nm,1.0s
H21K Melozitna Rive 82.35 23 P **P** **13 19 01.4 +0.5**
baz=248
PMR Palmer 82.47 27 P **P** **13 19 00.8 -0.8**
PMR IAmb IAmb 13 19 01.8
comp=Z,6.7nm,1.0s
PMR Palmer 82.47 27 P **P** **13 19 01.4 -0.2**
baz=252
I21K Tanana 82.49 23 P **P** **13 19 02.1 +0.5**
I21K IAmb IAmb 13 20 08.5
comp=Z,18nm,1.6s
I21K Tanana 82.49 23 P **P** **13 19 01.3 -0.3**
baz=248
BPAW Bear Paw Mtn. 82.50 24 P **P** **13 19 02.7 +0.9**
BPAW IAmb IAmb 13 19 08.4
comp=Z,4.5nm,0.9s
TRF Thorofare Moun 82.57 25 P **P** **13 19 01.8 -0.5**
baz=250
KNK Knik Glacier 82.72 27 P **P** **13 19 02.5 -0.5**
KNK Knik Glacier 82.72 27 P **P** **13 19 02.3 -0.6**
baz=252
P23K Montague Islan 82.79 29 P **P** **13 19 03.7 +0.4**
baz=253
SML Sawmill 82.89 27 P **P** **13 19 03.8 -0.1**
SML Sawmill 82.89 27 P **P** **13 19 03.3 -0.6**
baz=252
MLY Manley 82.92 23 P **P** **13 19 03.8 -0.2**
MLY IAmb IAmb 13 19 23.6
comp=Z,17nm,1.7s
MLY Manley 82.92 23 P **P** **13 19 03.5 -0.5**
baz=250
WAT1 Susitna Watana 83.11 26 P **P** **13 19 04.0 -1.0**
baz=252
RND Reindeer 83.16 25 P **P** **13 19 04.4 -0.9**
M23K Glacier View 83.16 27 P **P** **13 19 04.6 -0.6**
baz=253
MCK McKinley 83.23 25 P **P** **13 19 05.4 -0.2**
baz=252
F22K John River 83.28 21 P **P** **13 19 06.8 +1.1**
baz=248
SCM Sheep Creek Mo 83.36 27 P **P** **13 19 06.1 -0.3**
baz=253
WAT6 Susitna Watana 83.39 26 P **P** **13 19 06.1 -0.5**
baz=253
A21K Barrow 83.42 17 P **P** **13 19 06.2 -0.1**
baz=243
NEA2 Nenana 83.45 24 P **P** **13 19 06.4 -0.2**
baz=251
H23K Yukon River 83.67 23 P **P** **13 19 07.5 -0.3**
baz=251
DHY Denali Highway 83.70 26 P **P** **13 19 07.7 -0.5**
DHY IAmb IAmb 13 19 08.8
comp=Z,11nm,1.0s
DHY Denali Highway 83.70 26 P **P** **13 19 08.1 0.0**
baz=253
G23K Bananza Creek 83.78 22 P **P** **13 19 08.1 -0.3**
baz=250
DIV Divide 83.88 28 P **P** **13 19 09.0 0.0**
COLD Coldfoot 83.89 21 P **P** **13 19 09.2 +0.3**
COLD IAmb IAmb 13 19 10.4
comp=Z,7.9nm,1.1s
COLD Coldfoot 83.89 21 P **P** **13 19 08.8 -0.1**
baz=250
KLU Klutina 83.91 28 P **P** **13 19 09.2 0.0**
baz=254
M24K Tolsona, Glenn 83.96 27 P **P** **13 19 09.3 0.0**
baz=254
CCB Clear Creek Bu 83.99 24 P **P** **13 19 08.2 -1.2**
CCB IAmb IAmb 13 19 08.9
comp=Z,8.4nm,1.0s
TCOL CIGO, UAF Yank 84.03 24 P **P** **13 19 09.9 +0.4**
baz=252
COLA College 84.04 24 P **P** **13 19 09.8 +0.2**
baz=252
HDA Harding Lake 84.27 25 P **P** **13 19 09.6 -1.3**
baz=253
H24K Noodor Dome 84.32 23 P **P** **13 19 11.2 0.0**
baz=252
BMRM Bremner River 84.39 28 P **P** **13 19 11.2 -0.4**
BMRM IAmb IAmb 13 19 12.4
comp=Z,8.7nm,1.0s
BMRM Bremner River 84.39 28 P **P** **13 19 11.3 -0.3**
baz=256
E23K Chandalar 84.39 21 P **P** **13 19 11.7 +0.2**
baz=250
IL31 84.40 24 P **P** **13 19 09.5 -1.9**
IL31 IAmb IAmb 13 19 10.6
comp=Z,5.8nm,0.9s
ILAR Eielson Array 84.40 24 P **P** **13 19 10.1 -1.4**
comp=Z,3.0nm,0.8s,baz=255,slow=5.3,SNR=24
comp=Z,3.0nm,0.8s
ILAR Eielson Array 84.40 24 P **P** **13 19 09.4 -2.0**
HARP HAARP 84.49 27 P **P** **13 19 11.7 -0.3**
baz=255
PAX Paxson 84.50 26 P **P** **13 19 12.1 -0.1**
baz=255
N25K Chitina, Valde 84.55 28 P **P** **13 19 12.4 0.0**
baz=256
K24K Donnelly Dome 84.59 25 P **P** **13 19 12.7 +0.1**
baz=254
C23K Itkillik River 84.66 19 P **P** **13 19 12.6 0.0**
baz=249
G24K Hadweenzic Riv 84.74 22 P **P** **13 19 13.1 0.0**
baz=253
F24K Squaw Lake 84.83 21 P **P** **13 19 13.8 +0.2**
baz=252
GLB Gilahina Butte 84.87 28 P **P** **13 19 13.6 -0.4**
GLB IAmb IAmb 13 19 14.8
comp=Z,8.6nm,1.1s
RIDG Independent Ri 84.98 25 P **P** **13 19 14.1 -0.4**
baz=255
J25K Salcha River, 84.98 25 P **P** **13 19 14.0 -0.5**
baz=255
H25K Birch Creek 85.25 23 P **P** **13 19 16.1 +0.5**
baz=254
DOT Dot Lake 85.29 26 P **P** **13 19 16.1 0.0**
DOT IAmb IAmb 13 19 16.7
comp=Z,6.7nm,1.0s
GEYT Alibeck 85.31 308 P **P** **13 19 18.1 +1.3**
comp=Z,6.4nm,1.0s,baz=230,slow=1.2,SNR=12
comp=Z,6.4nm,1.0s
SCRK Sand Creek 85.40 25 P **P** **13 19 16.0 -0.7**
baz=256
ABKAR Akbulak array 85.43 320 P **P** **13 19 16.4 -0.5**
L26K Log Cabin Wild 85.46 26 P **P** **13 19 16.8 0.0**
baz=257
M26K Nabesna, AK 85.47 27 P **P** **13 19 17.0 0.0**
baz=257
F25K Christian Rive 85.68 22 P **P** **13 19 18.0 +0.1**
baz=254
J26L Joseph Creek 85.71 25 P **P** **13 19 18.2 0.0**
baz=256
CTG Chitna Glacier 85.94 29 P **P** **13 19 19.1 -0.3**
baz=259,SNR=6.6
CTGM Chitina Glacie 85.94 29 P **P** **13 19 19.6 +0.2**
CTGM IAmb IAmb 13 19 20.9
comp=Z,13nm,1.0s
M27K Edge Creek, AK 85.97 27 P **P** **13 19 19.7 +0.1**
M27K IAmb IAmb 13 19 20.9
comp=Z,11nm,1.0s
M27K Edge Creek, AK 85.97 27 P **P** **13 19 19.1 -0.4**
baz=258,SNR=7.2
BMAR Burnt Mountain 86.03 22 P **P** **13 19 20.6 +0.9**
LOGN Logan Glacier 86.07 29 P **P** **13 19 20.2 0.0**
LOGN IAmb IAmb 13 19 21.3
comp=Z,14nm,1.2s
L27K Beaver Creek, 86.14 26 P **P** **13 19 20.6 +0.3**
L27K IAmb IAmb 13 19 21.5
comp=Z,7.5nm,1.1s
L27K Beaver Creek, 86.14 26 P **P** **13 19 19.9 -0.4**
baz=258,SNR=6.6
BCAR Beaver Creek A 86.16 26 P **P** **13 19 20.6 +0.2**
G26K Porcupine Rive 86.21 22 P **P** **13 19 20.8 +0.3**
baz=256
K27K Chicken 86.24 25 P **P** **13 19 21.3 +0.6**
baz=258
F26K Sheenjek River 86.26 22 P **P** **13 19 21.2 +0.5**
baz=256
PINM Pinnacle 86.30 30 P **P** **13 19 20.9 -0.3**
baz=260
BVCY Beaver Creek 86.45 27 P **P** **13 19 22.2 +0.4**
baz=259
O28M Mount Upton 86.45 29 P **P** **13 19 21.7 -0.4**
baz=260
YUK3 Moose Creek 86.51 28 P **P** **13 19 21.7 -0.7**
baz=259,SNR=8.8
I27K Kandik River 86.76 24 P **P** **13 19 23.3 0.0**
baz=258
AKTO Aktyubinsk 86.82 321 LR LR 14 00 09.3
comp=Z,14nm,18.9s,baz=78,slow=37
H27K Steamboat Moun 86.93 23 P **P** **13 19 24.3 +0.2**
baz=258
E27K Coleen River 87.31 21 P **P** **13 19 26.3 +0.4**
baz=258
DAWY Dawson 87.40 26 P **P** **13 19 26.7 +0.2**
DAWY IAmb IAmb 13 19 27.9
comp=Z,8.8nm,1.1s
DAWY Dawson 87.40 26 P **P** **13 19 26.4 0.0**
baz=260,SNR=8.0
P29M Windy Craggy 87.48 30 P **P** **13 19 26.7 -0.2**
baz=262
M29M Somme Creek 87.55 27 P **P** **13 19 27.4 +0.1**
baz=261,SNR=6.2
HYT Haines Junctio 87.76 29 P **P** **13 19 28.7 +0.4**
HYT IAmb IAmb 13 19 29.6
comp=Z,7.0nm,1.0s
HYT Haines Junctio 87.76 29 P **P** **13 19 27.9 -0.4**
baz=262,SNR=5.5
L29M L29M 87.80 27 P **P** **13 19 28.0 -0.4**
baz=261,SNR=5.6
P30M Million Dollar 87.93 30 P **P** **13 19 29.0 -0.1**
baz=262
QSPA South Pole Qui 87.94 180 LR LR 13 57 30.3
comp=Z,67nm,21.1s,baz=26,slow=35
QSPA South Pole Qui 87.94 180 P **P** **13 19 29.3 +0.3**
QSPA IAmb IAmb 13 19 36.1
comp=Z,6.6nm,1.0s
N30M Aishikik Lake 88.05 28 P **P** **13 19 30.1 +0.5**
baz=262,SNR=5.9
I29M Ogilvie Camp, 88.08 24 P **P** **13 19 29.6 0.0**
baz=261
PLBC Pleasant Camp 88.15 30 P **P** **13 19 29.9 -0.1**
baz=263
K29M Barlow Dome 88.18 26 P **P** **13 19 30.4 +0.1**
baz=262,SNR=7.4
M30M Minto, Yukon 88.33 27 P **P** **13 19 30.9 0.0**
M30M IAmb IAmb 13 21 44.2
comp=Z,18nm,1.9s
M30M Minto, Yukon 88.33 27 P **P** **13 19 31.4 +0.5**
baz=262
O30N Mendenhall 88.44 29 P **P** **13 19 31.5 0.0**
baz=263
N31M Braeburn, Yuko 88.67 28 P **P** **13 19 32.9 +0.4**
N31M Braeburn, Yuko 88.67 28 P **P** **13 19 33.0 +0.5**
baz=263
EPYK Eagle Plains 88.87 24 P **P** **13 19 33.8 +0.5**
baz=262
MAYO Mayo, Yukon 88.87 26 P **P** **13 19 33.6 +0.2**
baz=263
R32K Eaglecrest 88.97 32 P **P** **13 19 33.8 -0.1**
baz=265
WHY Whitehorse 89.02 29 P **P** **13 19 34.1 -0.2**
baz=264
M31M Drury Creek, Y 89.41 28 P **P** **13 19 36.1 +0.2**
baz=265
P32M Atlin 89.50 30 P **P** **13 19 36.8 +0.3**
baz=265
U33K Whale Pass 89.55 34 P **P** **13 19 36.6 0.0**
baz=266
FARO Faro, Yukon 89.89 28 P **P** **13 19 38.0 -0.2**
baz=266
INK Inuvik 90.30 22 P **P** **13 19 40.1 +0.2**
baz=265
MMPY Sheldon Lake, 90.89 28 P **P** **13 19 42.8 0.0**
baz=267
R33M Jennings River 90.89 31 P **P** **13 19 42.9 -0.2**
baz=268
C36M Paulatuk 93.74 21 P **P** **13 19 56.0 +0.2**
baz=274
G03D McMinnville, O 95.72 45 P **P** **13 20 04.8 -0.7**
baz=273
KBZ Khabaz 96.97 314 LR LR 14 09 47.0
comp=Z,15nm,18.2s,baz=32,slow=39
J05D Fort Rock, OR 97.29 47 P **P** **13 20 12.7 -0.1**
baz=274
NVAR Mina Array Bea 99.91 51 P **Pdif** **13 20 25.2 +0.5**
comp=Z,0.4nm,0.7s,baz=245,slow=5.9,SNR=3.8

comp=Z,0.4nm,0.7s
MNK Minsk 104.69 326 *i* P **Pdif 13 20 38.0 -7.3**
comp=E,3.0nm,0.8s
MNK *i* P **Pdif 13 20 38.0 -7.3**
MNK *i* P **Pdif 13 20 38.0 -7.3**
comp=Z,8.0nm,0.6s,baz=252
MNK *i* PP **PKiKP 13 24 56.3 -4.5**
MNK *i* PPP PPP 13 27 08.7
MNK *i* SKS 13 32 04.3
MNK *i* PS **PS 13 34 10.5 -8.4**
MNK *i* SS SS 13 39 50.1 -4.4
MNK *i* SSS SSS 13 43 47.3
MNK *i* LR LR 14 04 15.6
MNK *i* LRM MLR 14 07 32.4
MNK *i* LRM MLR 14 07 46.8
comp=E,8.0nm,17.0s
MNK *i* LRM MLR 14 07 46.8
comp=Z,46nm,15.3s
TORD Torodi Ar. Bea 137.89 287 PKP **PKPdf 13 26 05.3 +0.4**
comp=Z,1.0nm,0.8s,baz=101,slow=0.5,SNR=4.6
DBIC Imbokoro 145.29 279 PKPbc **PKPbc 13 26 17.0 -1.0**
comp=Z,5.7nm,0.9s,baz=188,slow=3.9,SNR=4.1
LPAZ La Paz 146.27 124 PKPbc **PKPbc 13 26 21.6 -0.1**
comp=Z,3.7nm,0.9s,baz=279,slow=2.2,SNR=11
CPUP Villa Florida 146.91 150 PKPbc **PKPbc 13 26 22.9 +0.4**
comp=Z,5.3nm,1.0s,baz=248,slow=5.4,SNR=3.9

---

*NEIC **19** 13:16:00.5±0.9, 18°.57N×0°.08×145°.4E±0°.1, h187km±7km, mb4.3/68, Error ellipse: s-maj=16.9km s-min=11.4km az=72.0*
*IDC **19** 13:16:01.0±1.9, 18°.55N×145°.42E, h200km±19km, mb3.6/12, mbtmp4.1/14, Error ellipse: s-maj=26.0km s-min=10.5km az=89.0*
ISC 19 13:16:01.1±0.4, 18°.54N±0°.06×145°.3E±0°.1, h200km, n95, σ0s72/98, mb4.2/44, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**4.94**	**185**	P		**Pn**	**13 17 16.1**	**+1.4**
	16nm,0.5s,baz=98,slow=18,SNR=2.0							
GUMO				S		**Sn**	**13 18 13.0**	**+0.2**
	31nm,0.3s,baz=22,slow=22,SNR=5.5							
GUMO	**Guam**	**4.94**	**185**	Pn		**Pn**	**13 17 14.3**	**-0.5**
JMZ	**Minamidaito 2**	**14.90**	**302**	Pn		**Pn**	**13 19 20.1**	**-2.0**
PATS	**Pohnpei**	**17.21**	**131**	Pn		**Pn**	**13 19 49.1**	**-0.9**
MJAR	**Matsushiro Arr**	**18.99**	**342**	P		**P**	**13 20 07.6**	**0.0**
	0.8nm,0.7s,baz=173,slow=11,SNR=1.7							
MAJO	**Matsushiro**	**18.99**	**342**	P		**P**	**13 20 07.3**	**-0.3**
MAJO				IAmb		IAmb	13 20 43.3	
	comp=Z,22nm,1.5s							
MJB9	**Matsu-Tunnel**	**18.99**	**342**	P		**P**	**13 20 07.3**	**-0.3**
MJB9				IAmb		IAmb	13 20 43.4	
	comp=Z,22nm,1.5s							
JMM	**Marumori**	**19.65**	**349**	P		**Pn**	**13 20 18.2**	**-0.4**
PMG	**Port Moresby**	**27.83**	**176**	P		**P**	**13 21 32.6**	**+0.5**
COEN	**Coen**	**32.36**	**184**	P		**P**	**13 22 11.8**	**-0.1**
COEN				IAmb		IAmb	13 22 30.2	
	comp=Z,12nm,1.2s							
KLR	**Kul'dur**	**32.51**	**343**	P		**P**	**13 22 13.5**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=157,slow=5.0,SNR=6.3							
	comp=Z,1.5nm,0.6s							
CTA	**Charters Tower**	**38.40**	**179**	P		**P**	**13 23 03.4**	**0.0**
	baz=353,slow=13							
CTAO	**Charters Tower**	**38.40**	**179**	P		**P**	**13 23 03.3**	**0.0**
CTAO				IAmb		IAmb	13 23 23.3	
	comp=Z,7.3nm,1.4s							
WB0	**Warramunga Arr**	**39.54**	**196**	P		**P**	**13 23 13.0**	**+0.2**
WB0				IAmb		IAmb	13 23 16.6	
	comp=Z,4.6nm,0.6s							
WR0	**Warramunga Arr**	**39.68**	**196**	P		**P**	**13 23 14.2**	**+0.2**
WR0				IAmb		IAmb	13 23 20.1	
	comp=Z,17nm,1.5s							
WRAB	**Tennant Creek**	**39.71**	**196**	P		**P**	**13 23 14.5**	**+0.3**
WRAB				IAmb		IAmb	13 23 16.7	
	comp=Z,15nm,1.3s							
WB2	**Warramunga Arr**	**39.72**	**196**	P		**P**	**13 23 14.8**	**+0.5**
WB2				IAmb		IAmb	13 23 16.8	
	comp=Z,16nm,1.3s							
WRA	**Warramunga Arr**	**39.72**	**196**	P		**P**	**13 23 14.7**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=20,slow=8.8,SNR=85							
WRA				PcP		**PcP**	**13 25 16.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=15,slow=3.4,SNR=1.7							
	comp=Z,2.5nm,0.3s							
FITZ	**Fitzroy Crossi**	**41.21**	**209**	P		**P**	**13 23 27.4**	**+0.9**
FITZ				IAmb		IAmb	13 23 28.9	
	comp=Z,5.1nm,0.8s							
AS31	**Alice Springs**	**43.39**	**195**	P		**P**	**13 23 44.2**	**+0.1**
ASAR	**Alice Springs**	**43.39**	**195**	P		**P**	**13 23 44.4**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=13,slow=6.6,SNR=54							
ASAR				PcP		**PcP**	**13 25 28.7**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=13,slow=5.0,SNR=2.9							
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**43.39**	**195**	P		**P**	**13 23 44.2**	**+0.1**
DZM	**Mont Dzumac**	**45.36**	**152**	P		**P**	**13 23 58.8**	**-0.9**
	comp=Z,3.6nm,0.5s,baz=330,slow=8.1,SNR=9.9							
	comp=Z,3.6nm,0.5s							
MBWA	**Marble Bar**	**46.72**	**214**	P		**P**	**13 24 10.1**	**-0.2**
MBWA				IAmb		IAmb	13 24 22.1	
	comp=Z,19nm,1.3s							
PSA00	**Pilbara Seismi**	**47.00**	**213**	P		**P**	**13 24 13.7**	**+1.3**
STKA	**Stephens Creek**	**50.25**	**184**	P		**P**	**13 24 36.3**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=358,slow=12,SNR=4.1							
	comp=Z,0.8nm,0.4s							
STKA	**Stephens Creek**	**50.25**	**184**	P		**P**	**13 24 36.2**	**-0.9**
BBOO	**Buckleboo**	**51.81**	**190**	P		**P**	**13 24 48.8**	**+0.2**
MORW	**Morawa**	**55.11**	**211**	P		**P**	**13 25 12.9**	**+0.2**
TOO	**Toolangi**	**55.81**	**180**	P		**P**	**13 25 17.3**	**-0.2**
ZALV	**Zalesovo Beam**	**57.90**	**323**	P		**P**	**13 25 32.8**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=125,slow=7.6,SNR=2.7							
	comp=Z,0.5nm,0.4s							
N18K	**Kilae Creek**	**58.88**	**29**	P		**P**	**13 25 37.8**	**-1.0**
N18K				IAmb		IAmb	13 26 09.7	
	comp=Z,9.1nm,1.3s							
K20K	**Telida**	**60.54**	**27**	P		**P**	**13 25 50.8**	**+0.7**
K20K				IAmb		IAmb	13 25 55.5	
	comp=Z,9.6nm,1.4s							
J20K	**Nowinta River**	**60.77**	**26**	P		**P**	**13 25 52.4**	**+0.8**
J20K				IAmb		IAmb	13 26 07.4	
	comp=Z,6.0nm,1.4s							
PPLA	**Purkeypile**	**61.22**	**28**	P		**P**	**13 25 55.3**	**+0.5**
SKT	**Skwentna**	**61.27**	**29**	P		**P**	**13 25 54.5**	**-0.5**
SKT				IAmb		IAmb	13 25 57.6	
	comp=Z,9.3nm,1.4s							
CAST	**Castle Rocks**	**61.42**	**27**	P		**P**	**13 25 56.1**	**+0.2**
CAST				IAmb		IAmb	13 26 23.6	
	comp=Z,7.8nm,1.4s							
IMAR	**Indian Mountai**	**61.52**	**24**	P		**P**	**13 25 57.2**	**+0.6**
H21K	**Melozitna Rive**	**61.79**	**25**	P		**P**	**13 25 58.9**	**+0.6**
H21K				IAmb		IAmb	13 26 11.2	
	comp=Z,8.9nm,1.5s							
I21K	**Tanana**	**61.97**	**25**	P		**P**	**13 26 00.0**	**+0.5**
BPAW	**Bear Paw Mtn.**	**62.07**	**26**	P		**P**	**13 25 59.7**	**-0.6**
BPAW				IAmb		IAmb	13 26 01.2	
	comp=Z,3.5nm,0.8s							
PMR	**Palmer**	**62.28**	**29**	P		**P**	**13 26 00.7**	**-0.9**
PMR				IAmb		IAmb	13 26 33.7	
	comp=Z,7.7nm,1.3s							
GHO	**Glory Hole Cre**	**62.42**	**29**	P		**P**	**13 26 02.3**	**-0.4**
GHO				IAmb		IAmb	13 26 09.3	
	comp=Z,6.1nm,1.0s							
MLY	**Manley**	**62.43**	**25**	P		**P**	**13 26 03.0**	**+0.3**
MLY				IAmb		IAmb	13 26 23.0	
	comp=Z,5.1nm,1.4s							
RND	**Reindeer**	**62.82**	**27**	P		**P**	**13 26 05.0**	**-0.4**
RND				IAmb		IAmb	13 26 41.8	
	comp=Z,7.7nm,1.4s							
H23K	**Yukon River**	**63.13**	**25**	P		**P**	**13 26 07.4**	**+0.2**
H23K				IAmb		IAmb	13 26 51.1	
	comp=Z,9.3nm,1.5s							
SCM	**Sheep Creek Mo**	**63.17**	**29**	P		**P**	**13 26 07.8**	**+0.1**
COLD	**Coldfoot**	**63.26**	**23**	P		**P**	**13 26 08.4**	**+0.4**
MDM	**Murphy Dome**	**63.44**	**26**	P		**P**	**13 26 09.9**	**+0.6**
MDM				IAmb		IAmb	13 26 15.5	
	comp=Z,8.5nm,1.4s							
H24K	**Noodor Dome**	**63.79**	**25**	P		**P**	**13 26 11.7**	**+0.1**
H24K				IAmb		IAmb	13 26 31.7	
	comp=Z,4.3nm,1.2s							
TOLK	**Toolik Lake Re**	**63.89**	**22**	P		**P**	**13 26 12.5**	**+0.3**
ILAR	**Eielson Array**	**63.96**	**26**	P		**P**	**13 26 11.4**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=261,slow=5.1,SNR=5.2							
	comp=Z,0.5nm,0.7s							
PAX	**Paxson**	**64.23**	**28**	P		**P**	**13 26 14.7**	**+0.1**
PAX				IAmb		IAmb	13 26 42.0	
	comp=Z,4.3nm,1.3s							
N25K	**Chitina, Valde**	**64.42**	**30**	P		**P**	**13 26 16.3**	**+0.5**
N25K				IAmb		IAmb	13 26 52.1	
	comp=Z,6.9nm,1.4s							
RIDG	**Independent Ri**	**64.64**	**28**	P		**P**	**13 26 17.2**	**+0.1**
RIDG				IAmb		IAmb	13 26 48.9	
	comp=Z,5.7nm,1.3s							
DOT	**Dot Lake**	**64.97**	**28**	P		**P**	**13 26 18.9**	**-0.4**
SCRK	**Sand Creek**	**65.06**	**27**	P		**P**	**13 26 20.1**	**+0.1**
J26L	**Joseph Creek**	**65.32**	**27**	P		**P**	**13 26 19.4**	**-2.2**
J26L				IAmb		IAmb	13 26 44.4	
	comp=Z,6.0nm,1.5s							
ISLE	**Juniper Island**	**65.38**	**31**	P		**P**	**13 26 22.6**	**+0.5**
BMAR	**Burnt Mountain**	**65.42**	**24**	P		**P**	**13 26 23.2**	**+1.1**
L27K	**Beaver Creek,**	**65.89**	**28**	P		**P**	**13 26 25.3**	**+0.1**
BCAR	**Beaver Creek A**	**65.91**	**28**	P		**P**	**13 26 25.4**	**+0.1**
EGAK	**Eagle**	**66.38**	**27**	P		**P**	**13 26 29.0**	**+0.8**
EGAK				IAmb		IAmb	13 27 03.6	
	comp=Z,7.6nm,1.3s							
KKAR	**Karatay Array**	**66.57**	**310**	P		**P**	**13 26 31.6**	**+1.8**
BCPM	**Bancas Point**	**66.67**	**32**	P		**P**	**13 26 30.3**	**+0.1**
DAWY	**Dawson**	**67.08**	**28**	P		**P**	**13 26 33.0**	**+0.4**
DAWY				IAmb		IAmb	13 27 03.5	
	comp=Z,6.7nm,1.4s							
HYT	**Haines Junctio**	**67.77**	**31**	P		**P**	**13 26 38.2**	**+1.1**
HYT				IAmb		IAmb	13 27 18.7	
	comp=Z,6.5nm,1.5s							
INK	**Inuvik**	**69.67**	**23**	P		**P**	**13 26 48.3**	**-0.3**
	comp=Z,3.6nm,1.0s,baz=275,slow=5.3,SNR=4.8							
	comp=Z,3.6nm,1.0s							
FARO	**Faro, Yukon**	**69.76**	**30**	P		**P**	**13 26 49.5**	**+0.2**
FARO				IAmb		IAmb	13 27 27.7	
	comp=Z,6.2nm,1.5s							
DLBC	**Dease Lake**	**71.64**	**33**	P		**P**	**13 27 01.5**	**+0.7**
ABKAR	**Akbulak array**	**73.19**	**317**	P		**P**	**13 27 10.3**	**+0.3**
EUNU	**Eureka**	**77.94**	**8**	P		**P**	**13 27 37.8**	**+1.2**
YKA	**Yellowknife Ar**	**78.31**	**28**	P		**P**	**13 27 38.3**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=284,slow=5.1,SNR=1.9							
	comp=Z,0.8nm,0.6s							
PINE	**Pine Mountain**	**80.06**	**47**	P		**P**	**13 27 49.1**	**+0.2**
BEKR	**Beckworth**	**81.59**	**51**	P		**P**	**13 27 56.9**	**-0.2**
PNTR	**Pine Nut**	**82.38**	**51**	P		**P**	**13 28 01.8**	**+0.6**
ARCES	**ARCESS Array B**	**82.52**	**342**	P		**P**	**13 28 01.0**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=81,slow=6.2,SNR=6.3							
	comp=Z,1.1nm,0.6s							
PAGB	**Antelope Grade**	**82.90**	**55**	P		**P**	**13 28 03.8**	**+0.1**
KVN	**Kaiserville**	**83.50**	**51**	P		**P**	**13 28 06.9**	**-0.1**
NVAR	**Mina Array Bea**	**83.55**	**52**	P		**P**	**13 28 06.7**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=274,slow=5.3,SNR=16							
	comp=Z,1.3nm,0.6s							
NVAR	**Mina Array Bea**	**83.55**	**52**	P		**P**	**13 28 07.2**	**0.0**
LCH	**Last Change Ra**	**84.42**	**53**	P		**P**	**13 28 11.7**	**+0.1**
LRM	**Limekiln Ridge**	**85.12**	**43**	P		**P**	**13 28 14.4**	**-0.7**
HRY	**Holter Researc**	**85.20**	**42**	P		**P**	**13 28 14.8**	**-0.4**
TPNV	**Topopah Spring**	**85.57**	**53**	P		**P**	**13 28 17.0**	**-0.3**
QLMT	**Earthquake Lak**	**86.16**	**44**	P		**P**	**13 28 20.6**	**+0.4**
SPR3	**Spring Creek 3**	**86.28**	**50**	P		**P**	**13 28 21.7**	**+0.7**
SPR3				IAmb		IAmb	13 28 58.0	
	comp=Z,3.1nm,1.5s							
YHL	**Hebgen Lake**	**86.32**	**44**	P		**P**	**13 28 21.3**	**+0.3**
YHL				IAmb		IAmb	13 28 36.1	
	comp=Z,7.6nm,1.4s							
HVU	**Hansel Valley**	**86.39**	**47**	P		**P**	**13 28 21.4**	**+0.1**
FIA1	**FINESS Array S**	**86.86**	**335**	P		**P**	**13 28 21.1**	**-1.7**
FIA1				IAmb		IAmb	13 28 24.1	
	comp=Z,7.0nm,1.1s							
FINES	**FINESS Array B**	**86.86**	**335**	P		**P**	**13 28 21.3**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=62,slow=5.0,SNR=13							
	comp=Z,0.9nm,0.4s							
FINES	**FINESS Array B**	**86.86**	**335**	P		**P**	**13 28 21.1**	**-1.7**
FXWY	**Fox Creek**	**86.89**	**45**	P		**P**	**13 28 23.3**	**-0.5**
LKWY	**Lake**	**86.94**	**44**	P		**P**	**13 28 22.5**	**-1.5**
LPAZ	**La Paz**	**148.06**	**91**	PKPbc		**PKPbc**	**13 35 24.6**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=40,slow=1.4,SNR=6.4							

ASRS 19 13:22:41.0±0.4, 51°N±2°×97°9E±°, h5km, MLh3.7/2, 1D, Error ellipse: s-maj=4.5km s-min=3.7km az=152.8, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KNGR	**Kungurtug, Tuv**	**1.01**	**219**	Pg		Pn	13 23 01.6	-0.4
KNGR				Sg		Sb	13 23 14.7	0.0
MOY	**Mondy**	**1.57**	**79**	↓Pg		Pg	13 23 11.7	+0.6
MOY				Sg		Sg	13 23 32.3	+0.8
ERNS	**Erzin**	**2.42**	**243**	Pg		Pg	13 23 26.3	-1.0
ERNS				Sg		Sg	13 23 58.8	+0.3
KZLR	**Kyzyl**	**2.56**	**279**	Pg		Pg	13 23 31.8	+1.7
KZLR				Sg		Sg	13 24 06.1	+3.0
ZAK	**Zakamensk**	**3.18**	**107**	Pg		Pb	13 23 37.8	-0.2
ZAK				Sg		Sb	13 24 19.6	+2.5
MINR	**Mina**	**4.37**	**325**	Sg		Sg	13 25 09.5	+8.2
GZLN	**Zheleznogorsk**	**5.73**	**333**	Pg		Pg	13 24 30.3	-0.4
GZLN				Sg		Sg	13 25 49.2	+4.2

---

*NOU **19** 14:16:26.7, 36°.97S×179°.97E, h141km, MLv4.6/10, Off E. Coast of N. Island, N.Z.*
*IDC **19** 14:16:29.0±1.6, 36°.58S×179°.20E, h0km, mb4.4/3, mbtmp4.4/4, ML3.4/1, MS3.3/5, Error ellipse: s-maj=44.4km s-min=30.6km az=49.0*
*WEL **19** 14:16:31.8±1.3, 37°.5±4°×17°9E±°, h9km±7km, M4.1/35, ML4.3/35, MLv4.1/35, Error ellipse: s-maj=0.0km s-min=0.0km az=94.2*
*NEIC **19** 14:16:33.8±0.6, 37°.0S±0°.1×178°.7E±0°.1, h10km±2km, mb4.6/12, Error ellipse: s-maj=23.8km s-min=12.4km az=135.0*
ISC 19 14:16:30.8±2.0, 36°.96S±0°.06×179°.30E±0°.07, h13km±10km, n153, σ1s40/151, mb4.5/9, MS3.3/5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.00**	**232**	Pn		**Pb**	**14 16 49.5**	**-0.4**
MXZ	**Matakaoa Point**	**1.00**	**232**	P		**Pb**	**14 16 49.5**	**-0.4**
MXZ				S		**Sb**	**14 17 02.4**	**-0.6**
WMGZ	**Waiomatatini S**	**1.11**	**219**	P		**Pg**	**14 16 53.9**	**+1.6**
WMGZ				S		**Sn**	**14 17 09.5**	**+2.2**
PKGZ	**Pakihiroa**	**1.35**	**226**	P		**Pb**	**14 16 55.9**	**-0.1**
PKGZ				S		**Sg**	**14 17 14.3**	**0.0**
PUZ	**Puketiti**	**1.39**	**216**	P		**Pg**	**14 16 57.3**	**-0.2**
PUZ				S		**Sg**	**14 17 16.5**	**+0.9**
HAZ	**Te Kaha**	**1.45**	**236**	P		**Pn**	**14 16 56.0**	**-0.7**
HAZ				S		**Sg**	**14 17 17.9**	**+0.4**
TWGZ	**Tauwhareparae**	**1.61**	**220**	P		**Pb**	**14 17 00.9**	**+0.5**
RUGZ	**Raukumara Rang**	**1.64**	**232**	P		**Pb**	**14 17 00.1**	**-0.8**
RUGZ				S		**Sg**	**14 17 22.8**	**-0.8**
CNGZ	**Carnagh Statio**	**1.75**	**209**	P		**Pb**	**14 17 03.1**	**+0.3**
WIZ	**White Island**	**1.78**	**251**	P		**Pn**	**14 17 01.3**	**+0.1**
WSRZ	**White Island S**	**1.78**	**251**	P		**Pb**	**14 17 02.3**	**-1.1**
TKGZ	**Te Karaka**	**1.88**	**217**	P		**Pb**	**14 17 03.8**	**-1.2**
MWZ	**Matawai**	**1.97**	**225**	P		**Pb**	**14 17 05.3**	**-1.2**
WHRZ	**Whale Island**	**2.06**	**243**	P		**Pb**	**14 17 06.7**	**-1.3**
RIGZ	**Rimuhau**	**2.13**	**214**	P		**Pn**	**14 17 07.2**	**+1.1**
RAGZ	**Rawiri**	**2.14**	**224**	P		**Pb**	**14 17 07.8**	**-1.7**
URZ	**Urewera**	**2.17**	**233**	Pn		**Pb**	**14 17 08.2**	**-1.8**
	9.6nm,0.3s,baz=121,slow=13,SNR=3.0							
URZ				Sn		**Sn**	**14 17 33.7**	**+0.3**
	96nm,0.3s,baz=143,slow=21,SNR=17							
URZ				LR		LR	14 18 20.2	
	comp=Z,510nm,19.2s,baz=86,slow=47							
	480nm,0.5s							
URZ	**Urewera**	**2.17**	**233**	Pn		**Pn**	**14 17 07.4**	**+0.8**
URZ	**Urewera**	**2.17**	**233**	P		**Pn**	**14 17 08.0**	**+1.3**
URZ				S		**Sn**	**14 17 34.0**	**+0.6**
URZ	**Urewera**	**2.17**	**233**	P		**Pn**	**14 17 07.9**	**+1.3**
PRGZ	**Paritu Road**	**2.26**	**209**	P		**Pn**	**14 17 09.0**	**+1.0**
EDRZ	**Edgecumbe**	**2.34**	**240**	P		**Pb**	**14 17 10.6**	**-2.3**
OPRZ	**Ohinepanea**	**2.36**	**247**	P		**Pn**	**14 17 10.0**	**+0.7**
SNGZ	**Shannon Statio**	**2.39**	**220**	P		**Pn**	**14 17 10.7**	**+0.9**
KNZ	**Kokohu**	**2.43**	**211**	P		**Pn**	**14 17 10.7**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.45**	**206**	P		**Pn**	**14 17 11.7**	**+1.2**
MYRZ	**Mayor Island**	**2.47**	**262**	P		**Pn**	**14 17 11.5**	**+0.7**
RTZ	**Ruatahuna**	**2.47**	**227**	P		**Pn**	**14 17 12.0**	**+1.1**
MUGZ	**Murupara**	**2.52**	**232**	P		**Pn**	**14 17 12.3**	**+0.9**
TGRZ	**Tauranga**	**2.54**	**251**	P		**Pn**	**14 17 12.5**	**+0.8**
TARZ	**Mount Tarawera**	**2.56**	**239**	P		**Pn**	**14 17 13.8**	**+1.7**
OMRZ	**Omania**	**2.59**	**243**	P		**Pn**	**14 17 14.3**	**+1.8**
RRRZ	**Republican Roa**	**2.61**	**237**	P		**Pn**	**14 17 14.0**	**+1.3**
RAHZ	**Arahi**	**2.62**	**221**	P		**Pn**	**14 17 14.0**	**+1.0**
KARZ	**Kaharoa**	**2.65**	**245**	P		**Pn**	**14 17 14.3**	**+1.0**
WHHZ	**Waihua**	**2.67**	**217**	P		**Pn**	**14 17 14.5**	**+1.0**
HLRZ	**Highlands Stat**	**2.67**	**240**	P		**Pn**	**14 17 15.3**	**+1.7**
MTHZ	**Maungataniwha**	**2.71**	**225**	P		**Pn**	**14 17 15.5**	**+1.3**
NGRZ	**Ngongotaha**	**2.73**	**244**	P		**Pb**	**14 17 16.9**	**-2.5**
UTU	**Utuhina**	**2.75**	**243**	P		**Pb**	**14 17 19.2**	**-0.7**
PRRZ	**Plateau Road**	**2.77**	**235**	P		**Pn**	**14 17 15.9**	**+0.9**
HSRZ	**Hossack Road**	**2.78**	**240**	P		**Pn**	**14 17 17.2**	**+2.2**
HRRZ	**Handcock Road**	**2.79**	**238**	P		**Pn**	**14 17 16.7**	**+1.5**
KMRZ	**Kaimai**	**2.82**	**251**	P		**Pn**	**14 17 15.7**	**+0.1**
ALRZ	**Allen Road**	**2.84**	**235**	P		**Pn**	**14 17 16.9**	**+1.1**
KUZ	**Kuaotunu**	**2.88**	**273**	P		**Pn**	**14 17 15.3**	**-1.1**
NMHZ	**Naumai**	**2.91**	**222**	P		**Pn**	**14 17 18.0**	**+1.2**
ARHZ	**Aropaoanui**	**2.93**	**218**	P		**Pn**	**14 17 18.0**	**+0.9**
WPRZ	**Whakapapatarin**	**2.94**	**237**	P		**Pn**	**14 17 19.4**	**+2.2**
MRHZ	**Matea Rd**	**2.95**	**230**	P		**Pn**	**14 17 18.5**	**+1.0**
TOZ	**Tahuroa Road**	**3.12**	**255**	P		**Pn**	**14 17 19.2**	**-0.6**
BKZ	**Black Stump Fm**	**3.13**	**224**	Pn		**Pn**	**14 17 20.0**	**+0.1**
BKZ	**Black Stump Fm**	**3.13**	**224**	P		**Pn**	**14 17 20.4**	**+0.5**
BKZ	**Black Stump Fm**	**3.13**	**224**	P		**Pn**	**14 17 20.9**	**+1.0**
KUTZ	**Kaahu Road**	**3.15**	**240**	P		**Pn**	**14 17 21.7**	**+1.5**
GRZ	**Great Barrier**	**3.17**	**282**	P		**Pn**	**14 17 21.2**	**+0.8**
CKHZ	**Cape Kidnapper**	**3.21**	**212**	P		**Pn**	**14 17 20.9**	**-0.1**
MCHZ	**McNeill Hill**	**3.22**	**219**	P		**Pn**	**14 17 21.7**	**+0.6**
TLZ	**Tolley Road**	**3.29**	**244**	P		**Pn**	**14 17 23.5**	**+1.4**
MKAZ	**Moumakai**	**3.31**	**266**	P		**Pn**	**14 17 22.0**	**-0.4**
WIAZ	**Waiheke Island**	**3.34**	**272**	P		**Pn**	**14 17 22.9**	**+0.1**
KWHZ	**Kaweka Forest**	**3.35**	**222**	P		**Pn**	**14 17 23.2**	**+0.3**
RATZ	**Rangitukua**	**3.38**	**235**	P		**Pn**	**14 17 25.1**	**+1.8**
KAHZ	**Kahuranaki**	**3.41**	**213**	P		**Pn**	**14 17 23.6**	**-0.2**
KATZ	**Kakaramea**	**3.49**	**234**	P		**Pn**	**14 17 26.5**	**+1.6**
ETAZ	**East Tamaki Re**	**3.50**	**269**	P		**Pn**	**14 17 25.3**	**+0.4**
MBAZ	**Motutapu North**	**3.54**	**272**	P		**Pn**	**14 17 25.8**	**+0.5**
KRHZ	**Kereru**	**3.54**	**220**	P		**Pn**	**14 17 25.5**	**-0.1**
TMVZ	**Te Maari**	**3.56**	**232**	P		**Pn**	**14 17 27.0**	**+1.0**
ETVZ	**East Tongariro**	**3.57**	**231**	P		**Pn**	**14 17 26.7**	**+0.6**
NTVZ	**North Tongariro**	**3.57**	**232**	P		**Pn**	**14 17 26.6**	**+0.5**
BHHZ	**Black Hill Sta**	**3.59**	**224**	P		**Pn**	**14 17 26.4**	**+0.2**
KRVZ	**Karewarewa**	**3.59**	**232**	P		**Pn**	**14 17 27.2**	**+0.9**
ABAZ	**Army Bay**	**3.60**	**274**	P		**Pn**	**14 17 26.6**	**+0.2**
OTVZ	**Oturere**	**3.62**	**231**	P		**Pn**	**14 17 27.1**	**+0.4**
PXZ	**Pawanui**	**3.62**	**211**	P		**Pn**	**14 17 26.0**	**-0.6**
NNVZ	**North Ngauruho**	**3.63**	**232**	P		**Pn**	**14 17 28.1**	**+1.3**
WTVZ	**West Tongariro**	**3.64**	**233**	P		**Pn**	**14 17 28.6**	**+1.7**
SNVZ	**South Ngauruho**	**3.65**	**231**	P		**Pn**	**14 17 27.6**	**+0.4**
EPAZ	**Eden Park BICE**	**3.65**	**270**	P		**Pn**	**14 17 29.1**	**+2.1**
HBAZ	**Herne Bay Bore**	**3.66**	**270**	P		**Pn**	**14 17 29.0**	**+1.8**
NGZ	**Ngauruhoe**	**3.66**	**232**	P		**Pn**	**14 17 28.1**	**+0.7**
TUVZ	**Tukino**	**3.69**	**230**	P		**Pn**	**14 17 28.3**	**+0.7**
TWVZ	**Taurewa**	**3.71**	**234**	P		**Pn**	**14 17 29.3**	**+1.4**
MOVZ	**Moawhango**	**3.71**	**228**	P		**Pn**	**14 17 28.3**	**+0.3**
AWAZ	**Awhitu Peninsu**	**3.73**	**267**	P		**Pn**	**14 17 28.4**	**+0.3**
WHVZ	**Whangaehu Hut**	**3.74**	**230**	P		**Pn**	**14 17 28.8**	**+0.5**
FWVZ	**Far West T-bar**	**3.74**	**231**	P		**Pn**	**14 17 29.3**	**+0.8**
WNVZ	**Wahianoa**	**3.76**	**230**	P		**Pn**	**14 17

mbtmp4.1/23,MS2.9/2,Error ellipse: s-maj=14.2km s-min=10.8km az=52.0
*NEIC **19** 14:33:31.0±1.3, 14°.93N±0°.05×61°.49W±0°.08,h175km±5km, mb4.5/51,Error ellipse: s-maj=11.4km s-min=6.8km az=70.0*
ISC 19 14:33:30.7±0.5,**14°.94N**±0°.03×**61°.46W**±0°.04,**h177**km±4km, **n184**,σ**1°.08**/217,**mb4.3**/43,**Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCM	**Pelee Case Pet**	**0.27**	**117**	*eP*	**Pn**	**14 33 55.0**	**+0.5**
SVN	**Savane Anatole**	**0.30**	**109**		**Pn**	**14 33 54.2**	**-0.4**
CXM	**Morne La Croix**	**0.31**	**114**	*eP*	**Pn**	**14 33 55.3**	**+0.6**
PML	**Morne Lenard**	**0.31**	**121**	*eP*	**Pn**	**14 33 55.3**	**+0.8**
GBMF	**Grand Be**	**0.32**	**116**	*eP*	**Pn**	**14 33 55.2**	**+0.6**
BAMF	**Morne Balai**	**0.32**	**112**	*eP*	**Pn**	**14 33 55.7**	**+1.0**
FDF	**Fort de France**	**0.36**	**124**	Pn	**Pn**	**14 33 54.6**	**-0.2**
FDF				Sn	**Sn**	**14 34 12.9**	**-0.2**
FDF	**Fort de France**	**0.36**	**124**	*eP*	**Pn**	**14 33 55.2**	**+0.4**
FDF				*eS*	**Sn**	**14 34 13.8**	**+0.7**
MDN	**Morne-Daniel**	**0.38**	**10**	*eP*	**Pn**	**14 33 55.3**	**+0.6**
MDN				*eS*	**Sn**	**14 34 13.8**	**+0.5**
DLPL	**La Plaine**	**0.44**	**28**		**Pn**	**14 33 54.9**	**-0.1**
DLPL	**La Plaine**	**0.44**	**28**	*eP*	**Pn**	**14 33 55.7**	**+0.7**
DLPL				*eS*	**Sn**	**14 34 14.7**	**+0.9**
DSLB	**Salisbury**	**0.50**	**4**	*eP*	**Pn**	**14 33 55.7**	**+0.5**
DSLB				*eS*	**Sn**	**14 34 15.0**	**+0.9**
ZAM	**Aeronautique**	**0.55**	**131**	*eP*	**Pn**	**14 33 56.1**	**+0.7**
TRMF	**Trois Ilets**	**0.56**	**135**	*eP*	**Pn**	**14 33 56.0**	**+0.5**
BIM	**Bigot**	**0.56**	**138**		**Pn**	**14 33 55.9**	**+0.3**
BIM				Sn	**Sn**	**14 34 14.0**	**-0.6**
BIM	**Bigot**	**0.56**	**138**	*eP*	**Pn**	**14 33 55.6**	**+0.1**
BIM				*eS*	**Sn**	**14 34 14.0**	**-0.6**
ILAM	**Ilet Lapin Mar**	**0.59**	**106**		**Pn**	**14 33 55.7**	**+0.1**
ILAM				Sn	**Sn**	**14 34 14.1**	**-0.5**
ILAM	**Ilet Lapin Mar**	**0.59**	**106**	*eP*	**Pn**	**14 33 55.9**	**+0.4**
ILAM				*eS*	**Sn**	**14 34 14.8**	**+0.2**
LPMF	**Morne Lapointe**	**0.60**	**127**	*eP*	**Pn**	**14 33 56.4**	**+0.8**
MVM	**Montagne Vaucl**	**0.67**	**125**	*eP*	**Pn**	**14 33 56.9**	**+0.8**
MDVC	**Dominica, Viel**	**0.67**	**4**	*eP*	**Pn**	**14 33 56.8**	**+0.8**
MDVC				*eS*	**Sn**	**14 34 16.6**	**+1.0**
MDCT	**Cottage Hill,**	**0.67**	**360**	*eP*	**Pn**	**14 33 56.9**	**+0.9**
MDCT				*eS*	**Sn**	**14 34 15.2**	**-0.5**
MPOM	**Morne Pois Mar**	**0.76**	**130**	Pn	**Pn**	**14 33 56.8**	**+0.2**
MPOM				Sn	**Sn**	**14 34 15.7**	**-0.7**
MPOM	**Morne Pois Mar**	**0.76**	**130**	*eP*	**Pn**	**14 33 56.5**	**0.0**
MPOM				*eS*	**Sn**	**14 34 16.6**	**+0.2**
H05S1	**Guadeloupe/Mar**	**0.79**	**130**	P	**Pn**	**14 33 57.1**	**+0.4**
H05S1				S	**Sn**	**14 34 16.8**	**+0.2**
TDBA	**Terre de Bas,**	**0.92**	**349**		**Pn**	**14 33 58.1**	**+0.5**
TDBA	**Terre de Bas,**	**0.92**	**349**	*i* P	**Pn**	**14 33 58.2**	**+0.6**
TDBA				*eS*	**Sn**	**14 34 19.1**	**+0.6**
TBG	**Guadaloupe-3**	**0.93**	**349**	*eP*	**Pn**	**14 33 58.2**	**+0.6**
MAGL	**Barre de l'ile**	**1.02**	**10**		**Pn**	**14 33 58.2**	**0.0**
MAGL				Sn	**Sn**	**14 34 18.7**	**-1.0**
MAGL	**Barre de l'ile**	**1.02**	**10**	*eP*	**Pn**	**14 33 58.5**	**+0.2**
MAGL				*eS*	**Sn**	**14 34 19.2**	**-0.5**
SLBI	**Saint Lucia, B**	**1.02**	**153**	*eP*	**Pn**	**14 33 58.5**	**+0.1**
SLBI				*eS*	**Sn**	**14 34 18.9**	**-0.8**
SLCP	**Castries, St.**	**1.03**	**154**	*eP*	**Pn**	**14 33 58.6**	**+0.3**
SLCP				*eS*	**Sn**	**14 34 19.3**	**-0.5**
CBE	**Ff, Capester**	**1.13**	**353**		**Pn**	**14 33 59.6**	**+0.4**
CBE	**Ff, Capester**	**1.13**	**353**	*eP*	**Pn**	**14 33 59.6**	**+0.4**
CBE				*eS*	**Sn**	**14 34 21.7**	**+0.3**
SLB	**Belfond**	**1.18**	**160**	*eP*	**Pn**	**14 34 01.9**	**+0.2**
MCLT	**Moule a Chique**	**1.32**	**158**	Pn	**Pn**	**14 34 01.0**	**+0.2**
MCLT	**Moule a Chique**	**1.32**	**158**	*eP*	**Pn**	**14 34 01.0**	**+0.2**
MCLT				*eS*	**Sn**	**14 34 24.4**	**+0.2**
GDHS	**Morne Mazeau,**	**1.36**	**347**		**Pn**	**14 34 01.6**	**+0.4**
GDSD	**La Dsirade Is**	**1.42**	**15**	Pn	**Pn**	**14 34 01.5**	**-0.2**
H05N1	**Guadeloupe/Mar**	**1.42**	**16**	P	**Pn**	**14 34 01.7**	**-0.1**
H05N1				S	**Sn**	**14 34 24.3**	**-1.6**
ABD	**La Joyeuse, An**	**1.53**	**359**		**Pn**	**14 34 02.5**	**-0.2**
ABD	**La Joyeuse, An**	**1.53**	**359**	*i* P	**Pn**	**14 34 02.7**	**0.0**
ABD				*eS*	**Sn**	**14 34 26.6**	**-1.0**
SSV	**Crater Summit**	**1.62**	**171**	*eP*	**Pn**	**14 34 06.1**	**+2.3**
SVB	**Belmont**	**1.67**	**173**		**Pn**	**14 34 04.4**	**+0.2**
SVB	**Belmont**	**1.67**	**173**	*i* P	**Pn**	**14 34 04.5**	**+0.3**
SVB				*eS*	**Sn**	**14 34 30.4**	**+0.3**
ANBD	**Bethesda, Anti**	**2.12**	**352**	*i* P	**Pn**	**14 34 08.6**	**-0.3**
ANBD				*eS*	**Sn**	**14 34 35.9**	**-2.7**
GCMP	**Grenada, Carri**	**2.44**	**179**	*eP*	**Pn**	**14 34 12.6**	**+0.1**
GCMP				*eS*	**Sn**	**14 34 44.2**	**-0.9**
BCHC	**Barbados, Cave**	**2.52**	**135**	*eP*	**Pn**	**14 34 15.4**	**+1.9**
BCHC				*eS*	**Sn**	**14 34 47.7**	**+0.9**
BBGH	**Gun Hill**	**2.57**	**134**		**Pn**	**14 34 15.4**	**+1.4**
BBGH	**Gun Hill**	**2.57**	**134**	*i* P	**Pn**	**14 34 15.2**	**+1.1**
BBGH				*eS*	**Sn**	**14 34 47.3**	**-0.5**
BBSP	**Saint Philip**	**2.66**	**133**	*eP*	**Pn**	**14 34 16.4**	**+1.2**
BBSP				*eS*	**Sn**	**14 34 49.6**	**-0.1**
ANWB	**Willy Bob**	**2.73**	**353**	Pn	**Pn**	**14 34 15.0**	**-1.0**
ANWB	**Willy Bob**	**2.73**	**353**	*eP*	**Pn**	**14 34 15.0**	**-1.0**
ANWB				*eS*	**Sn**	**14 34 49.1**	**-2.2**
GRGR	**Grenville**	**2.80**	**184**	Pn	**Pn**	**14 34 16.9**	**+0.1**
GRGR	**Grenville**	**2.80**	**184**	*eP*	**Pn**	**14 34 17.1**	**+0.3**
GRGR				*eS*	**Sn**	**14 34 52.4**	**-0.3**
GRFF	**Grenada Fort F**	**2.88**	**185**	*eP*	**Pn**	**14 34 18.0**	**+0.1**
GRFF				*eS*	**Sn**	**14 34 52.8**	**-1.9**
SMRT	**St. Maarten**	**3.46**	**334**	Pn	**Pn**	**14 34 23.9**	**-1.0**
SMRT	**St. Maarten**	**3.46**	**334**	*eP*	**Pn**	**14 34 24.0**	**-1.0**
SMRT				*eS*	**Sn**	**14 35 05.9**	**-1.4**
TOSP	**Speyside**	**3.73**	**166**	Pn	**Pn**	**14 34 28.1**	**-0.2**
TOSP	**Speyside**	**3.73**	**166**	*i* P	**Pn**	**14 34 28.2**	**-0.1**
TOSP				*eS*	**Sn**	**14 35 11.7**	**-1.7**
CDVI	**St. Croix**	**4.23**	**312**	Pn	**Pn**	**14 34 34.4**	**-0.2**
CDVI	**St. Croix**	**4.23**	**312**	*eP*	**Pn**	**14 34 34.2**	**-0.5**
TRN	**Trinidad (W)**	**4.26**	**179**	*eP*	**Pn**	**14 34 35.4**	**+0.2**
TRN	**Trinidad (W)**	**4.26**	**179**	*eS*	**Sn**	**14 35 22.8**	**-2.9**
TPP	**Pointe-a-Pierr**	**4.59**	**180**	*eP*	**Pn**	**14 34 40.2**	**+0.8**
STVI	**Saint Thomas**	**4.77**	**316**		**Pn**	**14 34 41.2**	**-0.4**
CUPR	**Culebra, Puert**	**4.97**	**313**	Pn	**Pn**	**14 34 44.1**	**-0.1**
MTP	**Monte Pirata**	**5.03**	**309**		**Pn**	**14 34 44.9**	**-0.1**
HUMP	**Col San Antoni**	**5.28**	**308**		**Pn**	**14 34 48.0**	**-0.2**
CBYP	**Canovanas**	**5.36**	**309**		**Pn**	**14 34 49.1**	**-0.3**
SJG	**San Juan**	**5.50**	**306**	P	**Pn**	**14 34 50.8**	**-0.3**
	101nm,0.6s,baz=90,slow=10,SNR=39						
SJG				S	**Sn**	**14 35 56.3**	**+2.0**
	41nm,0.4s,baz=122,slow=19,SNR=9.3						
SJG				LR	LR	14 36 51.2	
	comp=Z,40nm,18.9s,baz=54,slow=37						
SJG	**San Juan**	**5.50**	**306**	*eP*	**Pn**	**14 34 50.9**	**-0.2**
GCPR	**Guaynabo City**	**5.56**	**308**		**Pn**	**14 34 52.1**	**+0.2**
PCRV	**Puerto La Cruz**	**5.66**	**214**	P	**Pn**	**14 34 53.5**	**+0.2**
	11nm,0.7s,baz=37,slow=14,SNR=6.4						
PCRV				S	**Sn**	**14 36 01.1**	**+2.8**
	4.2nm,0.4s,baz=17,slow=19,SNR=1.0						
CELP	**Cerrillos**	**5.82**	**303**		**Pn**	**14 34 55.0**	**-0.3**
OBIP	**Obispado Ponce**	**5.82**	**303**		**Pn**	**14 34 54.3**	**-1.1**
EMPR	**Esperanza - Ma**	**6.00**	**307**		**Pn**	**14 34 55.2**	**-2.4**
AOPR	**Arecibo Observ**	**6.10**	**304**		**Pn**	**14 34 59.1**	**0.0**
AOPR	**Arecibo Observ**	**6.10**	**304**	*e*	**Pn**	**14 34 59.7**	**+0.6**
MLPR	**Magueyes Islan**	**6.15**	**300**		**Pn**	**14 34 58.0**	**-1.6**
CRPR	**Cabo Rojo, PR**	**6.22**	**300**		**Pn**	**14 34 59.9**	**-0.7**
BIRV	**Birongo**	**6.46**	**227**	Pn	**Pn**	**14 35 03.6**	**-0.2**
HATO	**Hato, Curacao**	**7.79**	**250**	Pn	**Pn**	**14 35 21.0**	**-0.3**
BAUV	**El Baul**	**8.77**	**228**		**Pn**	**14 35 34.3**	**0.0**
SDDR	**Presa de Saban**	**10.23**	**295**		**Pn**	**14 35 52.7**	**-0.7**
SDDR	**Presa de Saban**	**10.23**	**295**	*eP*	**Pn**	**14 35 55.0**	**+1.6**
BOAV	**Boa Vista**	**12.50**	**176**	Pn	**Pn**	**14 36 19.9**	**-2.8**
BOAV	**Boa Vista**	**12.50**	**176**	*eP*	**Pn**	**14 36 20.4**	**-2.3**
MDP	**Montagnes des**	**13.07**	**138**	P	**Pn**	**14 36 29.8**	**-0.2**
	27nm,0.5s,baz=320,slow=15,SNR=28						
MDP				S	**Sn**	**14 38 47.6**	**-7.8**
	55nm,0.6s,baz=62,slow=20,SNR=26						
ROSC	**El Rosal**	**16.15**	**233**	P	**Pn**	**14 37 09.2**	**+0.7**
	11nm,0.5s,baz=55,slow=16,SNR=6.4						
ROSC				S	**Sn**	**14 40 09.4**	**-0.3**
	6.8nm,0.4s,baz=90,slow=20,SNR=1.4						
MACA	**Manacapuru-AM**	**18.00**	**177**	P	**P**	**14 37 29.0**	**+0.7**
MACA				IAmb	IAmb	14 37 32.7	
	comp=Z,65nm,0.9s						
MACA	**Manacapuru-AM**	**18.00**	**177**	*eP*	**Pn**	**14 37 29.7**	**-0.4**
MALB	**Monte Alegre**	**18.14**	**156**	*eP*	**Pn**	**14 37 31.4**	**-0.4**
ITTB	**Itaituba**	**20.00**	**163**	*eP*	**P**	**14 37 51.0**	**+1.1**
TBTG	**Tabatinga, AM**	**20.77**	**204**	*eP*	**P**	**14 37 55.6**	**-2.4**
NPGB	**Novo Progresso**	**22.66**	**164**	*eP*	**P**	**14 38 18.2**	**+1.0**
SAML	**Samuel**	**23.80**	**184**	P	**P**	**14 38 27.0**	**-0.4**
SAML				IAmb	IAmb	14 38 28.3	
	comp=Z,13nm,0.8s						
ORTG	**Ortega, Santa**	**23.85**	**262**	P	**P**	**14 38 27.0**	**-1.1**
ORTG				IAmb	IAmb	14 38 49.1	
	comp=Z,16nm,1.3s						
CLDB	**Colider**	**26.25**	**167**	*eP*	**P**	**14 38 51.2**	**+1.6**
MCRA	**Macar, Loja**	**26.53**	**225**	P	**P**	**14 38 51.4**	**-0.9**
PDRB	**Porto dos Gac**	**26.79**	**170**	*eP*	**P**	**14 38 55.8**	**+1.3**
SMTB	**Santa Maria do**	**27.35**	**149**	*eP*	**P**	**14 39 01.1**	**+1.5**
152A	**Waverly Hall**	**27.54**	**314**	P	**P**	**14 39 01.4**	**+0.4**
VILB	**Vilhena**	**27.74**	**177**	*eP*	**P**	**14 39 04.0**	**+1.0**
TKL	**Tuckaleechee C**	**28.73**	**320**	P	**P**	**14 39 10.9**	**-0.7**
	comp=Z,17nm,0.7s,baz=158,slow=2.7,SNR=1.9						
	comp=Z,17nm,0.7s						
W50A	**Signal Mountai**	**29.42**	**318**	P	**P**	**14 39 17.8**	**0.0**
W50A				IAmb	IAmb	14 39 19.1	
	comp=Z,6.9nm,0.6s						
X48A	**Hartselle**	**30.15**	**315**	P	**P**	**14 39 24.7**	**+0.5**
X48A				IAmb	IAmb	14 39 25.3	
	comp=Z,9.8nm,0.7s						
PTLB	**Pontes e Lacer**	**30.28**	**176**	*eP*	**P**	**14 39 26.0**	**+0.6**
G65A	**Princeton**	**30.60**	**352**	P	**P**	**14 39 29.6**	**+1.6**
SIV	**San Ignacio**	**30.74**	**179**	LR	LR	14 51 57.1	
	comp=Z,76nm,20.3s,baz=238,slow=36						
NCB	**Newcomb**	**30.92**	**342**	P	**P**	**14 39 32.5**	**+1.7**
J57A	**Williamstown**	**30.98**	**339**	P	**P**	**14 39 32.2**	**+0.8**
J57A				IAmb	IAmb	14 39 39.6	
	comp=Z,9.8nm,1.1s						
G62A	**West of Eustis**	**31.14**	**348**	P	**P**	**14 39 33.8**	**+1.1**
PLAL	**Pickwick Lake**	**31.15**	**315**	P	**P**	**14 39 32.8**	**-0.1**
PLAL				IAmb	IAmb	14 39 34.2	
	comp=Z,8.1nm,0.7s						
SALV	**Santo Antonio**	**31.17**	**169**	*eP*	**P**	**14 39 34.7**	**+1.5**
WVT	**Waverly**	**31.63**	**317**	P	**P**	**14 39 37.2**	**+0.2**
WVT				IAmb	IAmb	14 39 37.8	
	comp=Z,6.3nm,0.7s						
MEDO	**Medina**	**31.68**	**336**	P	**P**	**14 39 36.4**	**-1.0**
LPAZ	**La Paz**	**31.72**	**192**	P	**P**	**14 39 39.1**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=14,slow=11,SNR=1.8						
	comp=Z,0.8nm,0.8s						
E62A	**Clayton Lake**	**32.30**	**350**	P	**P**	**14 39 43.6**	**+0.8**
E62A				IAmb	IAmb	14 39 55.1	
	comp=Z,17nm,1.2s						
D62A	**Allapoint, All**	**32.67**	**350**	P	**P**	**14 39 46.9**	**+0.9**
SADO	**Sadowa**	**33.30**	**337**	P	**P**	**14 39 51.0**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=146,slow=1.8,SNR=3.8						
	comp=Z,2.8nm,0.5s						
S44A	**Carbondale**	**33.46**	**318**	P	**P**	**14 39 53.1**	**+0.2**
LCAR	**Lake Charles**	**33.85**	**314**	P	**P**	**14 39 56.2**	**-0.2**
LCAR				IAmb	IAmb	14 39 56.7	
	comp=Z,3.1nm,0.5s						
DRLN	**Deer Lake**	**34.38**	**5**	P	**P**	**14 40 01.5**	**+0.8**
FVM	**French Village**	**34.38**	**317**	P	**P**	**14 40 01.1**	**+0.1**
FCAR	**Ozark Folk Cen**	**34.45**	**313**	P	**P**	**14 40 01.9**	**+0.4**
FCAR				IAmb	IAmb	14 40 27.3	
	comp=Z,8.2nm,1.5s						
O44A	**Mansfield**	**34.45**	**322**	P	**P**	**14 40 01.5**	**0.0**
CCM	**Cathedral Cave**	**34.96**	**317**	P	**P**	**14 40 05.6**	**-0.3**
CCM				IAmb	IAmb	14 40 06.5	
	comp=Z,8.7nm,0.8s						
MGMO	**Mountain Grove**	**35.18**	**315**	P	**P**	**14 40 07.5**	**-0.4**
MGMO				IAmb	IAmb	14 40 09.1	
	comp=Z,7.2nm,0.7s						
R40A	**Maddies Statio**	**35.77**	**316**	P	**P**	**14 40 12.1**	**-0.7**
R40A				IAmb	IAmb	14 40 13.0	
	comp=Z,4.1nm,0.7s						
MC01	**Montes Claros**	**35.89**	**151**	*eP*	**P**	**14 40 15.6**	**+1.5**
P40A	**Paris**	**36.30**	**318**	P	**P**	**14 40 16.6**	**-0.7**
P40A				IAmb	IAmb	14 40 17.7	
	comp=Z,9.5nm,0.6s						
L42A	**Oliver, Polo**	**36.32**	**324**	P	**P**	**14 40 17.4**	**-0.1**
P38A	**Dawn**	**37.31**	**317**	P	**P**	**14 40 24.7**	**-1.2**
P38A				IAmb	IAmb	14 40 26.2	
	comp=Z,8.1nm,0.7s						
WMOK	**Wichita Mounta**	**38.89**	**307**	P	**P**	**14 40 37.9**	**-1.3**
SCHQ	**Schefferville**	**40.03**	**355**	P	**P**	**14 40 48.9**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=169,slow=11,SNR=2.5						
	comp=Z,3.4nm,0.6s						
SCHQ	**Schefferville**	**40.03**	**355**	P	**P**	**14 40 49.2**	**+1.0**
SCHQ				IAmb	IAmb	14 41 32.2	
	comp=Z,16nm,1.4s						
PTGB	**Pitanga**	**40.47**	**167**	*eP*	**P**	**14 40 54.0**	**+1.7**
EYMN	**Ely**	**41.22**	**329**	P	**P**	**14 40 58.2**	**+0.1**
EYMN				IAmb	IAmb	14 41 26.6	
	comp=Z,16nm,1.3s						
CPUP	**Villa Florida**	**41.22**	**174**	P	**P**	**14 40 58.0**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=21,slow=8.6,SNR=1.8						
	comp=Z,0.8nm,0.5s						
TXAR	**Lajitas Array**	**41.41**	**298**	P	**P**	**14 40 59.9**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=113,slow=6.2,SNR=2.5						
	comp=Z,0.1nm,0.4s						
ECSD	**EROS Data Cent**	**41.47**	**321**	P	**P**	**14 40 58.9**	**-1.3**
AGMN	**Agassiz Nation**	**43.68**	**327**	P	**P**	**14 41 17.1**	**-0.8**
AGMN				IAmb	IAmb	14 41 17.7	
	comp=Z,7.9nm,0.7s						
ULM	**Lac du Bonnet**	**44.90**	**329**	P	**P**	**14 41 26.6**	**-1.0**
DGMT	**Dagmar**	**48.42**	**323**	P	**P**	**14 41 52.5**	**-2.5**
DGMT				IAmb	IAmb	14 41 53.9	
	comp=Z,7.1nm,0.6s						
BW06	**Boulder Array**	**49.56**	**314**	P	**P**	**14 42 03.2**	**-0.8**
PD31	**Pinedale Array**	**49.56**	**314**	P	**P**	**14 42 03.2**	**-0.8**
PDAR	**Pinedale Array**	**49.56**	**314**	P	**P**	**14 42 03.5**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=111,slow=10,SNR=9.5						
PDAR				PcP	**PcP**	**14 43 21.9**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=116,slow=6.1,SNR=1.9						
	comp=Z,1.7nm,0.6s						
PDAR	**Pinedale Array**	**49.56**	**314**	P	**P**	**14 42 03.3**	**-0.8**
YHL	**Hebgen Lake**	**51.35**	**316**	P	**P**	**14 42 17.8**	**+0.3**
HVU	**Hansel Valley**	**51.54**	**312**	P	**P**	**14 42 18.3**	**-0.5**
H10N3	**ASCENSION HYDR**	**51.76**	**113**	T	T	15 39 07.7	
	baz=297,slow=75,SNR=22						
H10N2	**ASCENSION HYDR**	**51.77**	**113**	T	T	15 39 08.1	
	baz=297,slow=75,SNR=17						
H10N1	**ASCENSION HYDR**	**51.78**	**113**	T	T	15 39 09.2	
	baz=297,slow=75,SNR=18						
H10S3	**ASCENSION HYDR**	**52.11**	**114**	T	T	15 39 36.7	
	baz=288						
H10S2	**ASCENSION HYDR**	**52.12**	**114**	T	T	15 39 42.6	
	baz=292						
NVAR	**Mina Array Bea**	**54.99**	**307**	P	**P**	**14 42 44.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=94,slow=6.4,SNR=4.1						
	comp=Z,0.4nm,0.6s						
ESDC	**Sonseca Array**	**55.68**	**52**	P	**P**	**14 42 49.1**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=258,slow=7.9,SNR=12						
	comp=Z,2.0nm,0.9s						
PLCA	**Paso Flores**	**56.03**	**188**	P	**P**	**14 42 51.0**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=9.5,slow=12,SNR=2.6						
	comp=Z,1.9nm,1.0s						
DBIC	**Dimbokro**	**56.08**	**92**	P	**P**	**14 42 53.1**	**+1.2**
	comp=Z,3.6nm,0.6s,baz=291,slow=9.4,SNR=5.2						
	comp=Z,3.6nm,0.6s						
DBIC	**Dimbokro**	**56.08**	**92**	P	**P**	**14 42 50.6**	**-1.3**
DBIC				IAmb	IAmb	14 42 55.2	
	comp=Z,8.6nm,1.1s						
EKA	**Eskdalemuir Ar**	**59.97**	**34**	P	**P**	**14 43 19.4**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=241,slow=4.4,SNR=2.1						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**60.26**	**335**	P	**P**	**14 43 19.5**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=110,slow=7.2,SNR=4.8						
	comp=Z,2.1nm,0.8s						
TOA0	**Torodi Ar. Sit**	**61.11**	**83**	P	**P**	**14 43 26.8**	**+0.1**
TOA0				IAmb	IAmb	14 43 28.5	
	comp=Z,7.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**61.11**	**83**	P	**P**	**14 43 27.1**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=288,slow=6.2,SNR=13						
	comp=Z,2.5nm,0.6s						
KEST	**Kesra**	**65.95**	**57**	P	**P**	**14 43 59.3**	**+1.1**
	comp=Z,6.7nm,0.8s,baz=304,slow=7.3,SNR=4.6						
	comp=Z,6.7nm,0.8s						
DAVOX	**Davos/Dischmat**	**66.50**	**45**	P	**P**	**14 44 02.5**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=318,slow=16,SNR=5.0						
	comp=Z,1.8nm,0.6s						
NBO00	**NORSAR Array S**	**68.45**	**30**	P	**P**	**14 44 14.7**	**+1.3**
NBO00				IAmb	IAmb	14 44 23.5	
	comp=Z,13nm,1.3s						
CLUD	**Cludinico**	**68.56**	**46**	P	**P**	**14 44 14.2**	**-0.2**
CLUD				IAmb	IAmb	14 44 15.8	
	comp=Z,6.9nm,0.8s						
NB2	**NORSAR Subarra**	**68.66**	**30**	P	**P**	**14 44 16.1**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=262,slow=6.5						
NOA	**NORSAR Array B**	**68.66**	**30**	P	**P**	**14 44 15.5**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=262,slow=6.3,SNR=3.5						
	comp=Z,0.5nm,0.6s						
GEC2	**GERESS Array S**	**69.15**	**43**	P	**P**	**14 44 16.9**	**-1.1**
GEC2				IAmb	IAmb	14 44 21.2	
	comp=Z,6.5nm,0.9s						
GERES	**GERESS Array B**	**69.15**	**43**	P	**P**	**14 44 17.8**	**-0.3**
DAWY	**Dawson**	**71.40**	**333**	P	**P**	**14 44 31.9**	**+0.6**
DAWY				IAmb	IAmb	14 45 16.2	
	comp=Z,7.0nm,1.4s						
EGAK	**Eagle**	**72.21**	**334**	P	**P**	**14 44 36.0**	**0.0**
BCAR	**Beaver Creek A**	**72.42**	**332**	P	**P**	**14 44 37.9**	**+0.5**
L27K	**Beaver Creek,**	**72.44**	**332**	P	**P**	**14 44 37.9**	**+0.4**
BMRM	**Bremner River**	**73.75**	**330**	P	**P**	**14 44 45.9**	**+0.6**
BMRM				IAmb	IAmb	14 44 53.3	
	comp=Z,5.1nm,1.0s						
IL31		**74.66**	**334**	P	**P**	**14 44 49.9**	**-0.5**
ILAR	**Eielson Array**	**74.66**	**334**	P	**P**	**14 44 50.1**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=88,slow=5.0,SNR=4.4						
	comp=Z,0.3nm,0.5s						
NEA2	**Nenana**	**75.61**	**334**	P	**P**	**14 44 55.0**	**-0.9**
KARP	**Karpathos**	**80.37**	**56**	P	**P**	**14 45 23.4**	**+0.6**
BRTR	**Keskin Array B**	**84.44**	**51**	P	**P**	**14 45 44.6**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=243,slow=5.4,SNR=4.9						
	comp=Z,0.7nm,0.7s						
BRTR	**Keskin Array B**	**84.44**	**51**	P	**P**	**14 45 44.1**	**+0.2**

*IDC **19** 14:34:21.6±2.6, 44°.33N×141°.22E,h0km,mb3.5/5, mbtmp3.5/5,Error ellipse: s-maj=91.4km s-min=32.8km az=65.0*
*JMA **19** 14:34:26.3±0.1, 42°.5N±0°.3×141°.3E±0°.4,h113km, MV2.3/37,IBURI REGION*
ISC 19 14:34:25.9±0.9,**42°.51N**±0°.05×**141°.36E**±0°.04,**h118**km±7km, **n23**,σ**0°.51**/36,**mb3.5**/5,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNB	**Noboribetsu**	**0.24**	**261**	P	**Pn**	**14 34 42.1**	**-0.2**
JNB				*eS*	**Sn**	**14 34 53.9**	**-0.8**
JEW	**Eniwo**	**0.34**	**11**	*eP*	**Pn**	**14 34 42.7**	**0.0**
JEW				*eS*	**Sn**	**14 34 55.0**	**-0.5**
JIAM	**Iburiatsuma**	**0.43**	**74**	P	**Pn**	**14 34 43.4**	**+0.2**
JIAM				*eS*	**Sn**	**14 34 56.5**	**+0.3**
JKB	**Kayabe**	**0.66**	**202**	P	**Pn**	**14 34 44.8**	**+0.1**
JKB				*eS*	**Sn**	**14 34 58.8**	**-0.1**
JISS	**Ishikarishitsu**	**0.77**	**3**	P	**Pn**	**14 34 45.8**	**+0.3**
JISS				*eS*	**Sn**	**14 35 00.5**	**+0.1**
JBT2	**Biratori 2**	**0.79**	**69**	*eS*	**Sn**	**14 35 01.2**	**+0.5**
JYM2	**Yakumo 2**	**0.83**	**242**	P	**Pn**	**14 34 46.3**	**+0.2**
JYM2				*eS*	**Sn**	**14 35 00.9**	**-0.5**
JSH	**Shimam**	**0.98**	**278**	*eP*	**P

BOSA			LR	LR	15 10 13.1	
	comp=Z,89nm,21.3s,baz=154,slow=30 comp=Z,1.1nm,0.6s					
BOSA	**Boshof**	**51.22 252**	P	**P**	**14 53 27.3**	**-0.1**
BOSA			IAmb	IAmb	14 54 04.8	
	comp=Z,13nm,1.4s					
LBTB	**Lobatse**	**51.54 256**	LR	LR	15 11 03.2	
	comp=Z,106nm,21.0s,baz=178,slow=31					
LSZ	**Lusaka**	**51.68 269**	LR	LR	15 11 21.9	
	comp=Z,41nm,18.9s,baz=172,slow=31					
DAV	**Davao City (W)**	**52.03 59**	LR	LR	15 13 49.1	
	comp=Z,40nm,21.7s,baz=190,slow=34					
STKA	**Stephens Creek**	**52.26 113**	P	**P**	**14 53 35.0**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=265,slow=7.0,SNR=5.3					
STKA			LR	LR	15 12 39.8	
	comp=Z,99nm,20.2s,baz=211,slow=32 comp=Z,2.0nm,0.7s					
STKA	**Stephens Creek**	**52.26 113**	P	**P**	**14 53 34.9**	**-0.2**
WSAR	**Wadi Sarin**	**52.26 332**	LR	LR	15 12 31.4	
	comp=Z,78nm,18.4s,baz=149,slow=32					
FAKI	**Fak Fak**	**52.27 74**	P	**P**	**14 53 34.8**	**-0.5**
FAKI			IAmb	IAmb	14 53 46.0	
	comp=Z,8.5nm,0.8s					
SIJI	**Sorong**	**52.39 71**	LR	LR	15 13 24.1	
	comp=Z,30nm,21.9s,baz=278,slow=33					
SUR	**Sutherland**	**54.48 246**	LR	LR	15 12 46.6	
	comp=Z,148nm,18.4s,baz=138,slow=31					
SUR	**Sutherland**	**54.48 246**	P	P	14 53 49.2	-2.4
TOO	**Toolangi**	**54.89 120**	P	**P**	**14 53 55.0**	**+0.7**
TOO			IAmb	IAmb	14 54 28.7	
	comp=Z,9.3nm,1.1s					
MBAR	**Mbarara**	**55.24 287**	LR	LR	15 13 07.8	
	comp=Z,48nm,18.2s,baz=134,slow=31					
RAYN	**Ar Rayn**	**59.26 320**	P	**P**	**14 54 26.0**	**+0.7**
RAYN			IAmb	IAmb	14 54 39.2	
	comp=Z,5.1nm,0.9s					
TSUM	**Tsumeb**	**60.17 261**	LR	LR	15 17 33.2	
	comp=Z,55nm,18.3s,baz=150,slow=33					
PMG	**Port Moresby**	**63.07 89**	LR	LR	15 21 34.4	
	comp=Z,40nm,20.0s,baz=278,slow=35					
VNDA	**Vanda**	**64.57 166**	P	**P**	**14 55 01.2**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=296,slow=5.6,SNR=1.8 comp=Z,0.4nm,0.9s					
VNDA	**Vanda**	**64.57 166**	P	**P**	**14 54 59.4**	**-0.9**
VNDA			IAmb	IAmb	14 55 25.5	
	comp=Z,4.9nm,1.5s					
GEYT	**Alibeck**	**65.60 339**	P	**P**	**14 55 08.4**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=174,slow=4.1,SNR=5.1 comp=Z,0.8nm,0.5s					
SNAA	**Sanae**	**66.14 200**	LR	LR	15 19 45.2	
	comp=Z,29nm,18.6s,baz=193,slow=32					
QSPA	**South Pole Qui**	**66.26 180**	P	**P**	**14 55 11.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=230,slow=7.9,SNR=14					
QSPA			LR	LR	15 19 50.6	
	comp=Z,67nm,19.4s,baz=302,slow=32 comp=Z,1.5nm,0.7s					
QSPA	**South Pole Qui**	**66.26 180**	P	**P**	**14 55 11.3**	**-0.3**
QSPA			IAmb	IAmb	14 55 35.2	
	comp=Z,7.7nm,1.1s					
KKAR	**Karatay Array**	**67.53 350**	P	**P**	**14 55 19.8**	**+0.2**
MK31	**Makanchi Array**	**70.31 360**	P	**P**	**14 55 36.4**	**-0.5**
MK31			IAmb	IAmb	14 55 49.4	
	comp=Z,1.5nm,0.9s					
MKAR	**Makanchi Array**	**70.31 360**	P	**P**	**14 55 36.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=169,slow=5.3,SNR=7.1					
MKAR			LR	LR	15 24 48.7	
	comp=Z,23nm,21.9s,baz=168,slow=34 comp=Z,0.8nm,0.8s					
MKAR	**Makanchi Array**	**70.31 360**	P	**P**	**14 55 36.4**	**-0.5**
GUMO	**Guam**	**71.34 65**	LR	LR	15 23 30.0	
	comp=Z,12nm,21.4s,baz=221,slow=33					
MMAI	**Mount Meron Ar**	**72.24 320**	LR	LR	15 22 46.8	
	comp=Z,66nm,21.9s,baz=120,slow=32					
GNI	**Garni**	**72.77 331**	LR	LR	15 26 22.0	
	comp=Z,25nm,18.0s,baz=142,slow=35					
RPZ	**Rata Peaks**	**72.88 131**	LR	LR	15 22 22.2	
	comp=Z,99nm,19.6s,baz=250,slow=31					
KSRS	**Korea Array**	**74.42 36**	LR	LR	15 26 04.2	
	comp=Z,27nm,21.9s,baz=205,slow=34					
ABKAR	**Akbulak array**	**75.52 345**	P	**P**	**14 56 07.0**	**-0.7**
DZM	**Mont Dzumac**	**76.07 108**	LR	LR	15 28 16.4	
	comp=Z,54nm,18.9s,baz=274,slow=35					
KBZ	**Khabaz**	**76.46 332**	LR	LR	15 28 55.1	
	comp=Z,34nm,19.1s,baz=88,slow=35					
AKTO	**Aktyubinsk**	**77.08 344**	LR	LR	15 30 12.7	
	comp=Z,27nm,18.6s,baz=150,slow=36					
BVAR	**Borovoye Array**	**77.28 352**	LR	LR	15 28 15.0	
	comp=Z,47nm,21.3s,baz=170,slow=34					
ZALV	**Zalesovo Beam**	**77.49 1**	P	**P**	**14 56 18.6**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=199,slow=4.1,SNR=6.1 comp=Z,1.3nm,0.7s					
ZALV	**Zalesovo Beam**	**77.49 1**	P	**P**	**14 56 17.9**	**-0.8**
BRTR	**Keskin Array B**	**77.99 324**	P	**P**	**14 56 22.7**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=145,slow=7.5,SNR=5.0					
BRTR			LR	LR	15 28 57.2	
	comp=Z,35nm,18.9s,baz=140,slow=34 comp=Z,0.9nm,0.7s					
URZ	**Urewera**	**79.00 127**	LR	LR	15 23 53.2	
	comp=Z,60nm,20.1s,baz=341,slow=30					
MJAR	**Matsushiro Arr**	**79.76 43**	LR	LR	15 34 03.5	
	comp=Z,14nm,18.2s,baz=220,slow=37					
USRK	**Ussuriysk Ar.**	**81.43 34**	LR	LR	15 33 10.1	
	comp=Z,41nm,18.9s,baz=181,slow=36					
BELG	**Belogornoye**	**81.82 339**	LR	LR	15 33 45.8	
	comp=Z,22nm,18.4s,baz=159,slow=36					
KLR	**Kul'dur**	**84.91 30**	LR	LR	15 32 59.8	
	comp=Z,28nm,21.2s,baz=208,slow=34					
TORD	**Torodi Ar. Bea**	**87.09 286**	P	**P**	**14 57 09.8**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=124,slow=6.4,SNR=2.5 comp=Z,0.7nm,0.9s					
AKASG	**Malin Array Be**	**87.86 329**	P	**P**	**14 57 13.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=139,slow=4.4,SNR=4.3					
AKASG			LR	LR	15 37 47.0	
	comp=Z,18nm,18.2s,baz=52,slow=36 comp=Z,0.2nm,0.3s					
KEST	**Kesra**	**91.07 309**	LR	LR	15 37 18.8	
	comp=Z,27nm,18.2s,baz=256,slow=35					
VRAC	**Vranov**	**93.43 323**	LR	LR	15 38 51.9	
	comp=Z,55nm,19.6s,baz=200,slow=35					
DAVOX	**Davos/Dischmat**	**96.01 319**	LR	LR	15 39 13.6	
	comp=Z,25nm,20.7s,baz=87,slow=34					
FINES	**FINESS Array B**	**96.29 336**	LR	LR	15 44 04.7	
	comp=Z,27nm,18.1s,baz=132,slow=37					
AFI	**Afiamalu**	**98.28 109**	LR	LR	15 42 55.3	
	comp=Z,20nm,18.1s,baz=142,slow=36					
MA2	**Magadan**	**99.96 29**	LR	LR	15 45 45.9	
	comp=Z,39nm,18.6s,baz=75,slow=37					
NVAR	**Mina Array Bea**	**157.04 46**	PKPab	**PKPab**	**15 04 49.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=304,slow=4.1,SNR=3.8					
PDAR	**Pinedale Array**	**158.62 25**	PKPab	**PKPab**	**15 04 56.0**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=330,slow=5.2,SNR=1.1					

RSNC 19 15:10:32.4±1.2, 6.83N×73.13W, h152km±5km, ML3.2, Mw3.5,5C-2D, Fault plane solution: NP1:ϕb88.00000°, δ28.00000°, λ93.00000°, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**193**	*i*P	Pn	15 10 53.0	-0.4
BARC				*e*S	Sn	15 11 08.5	-0.8
BARC				IAML		15 11 09.6	
	comp=Z,472nm,0.2s						
BRRC	**Barranca, Sant**	**0.64**	**295**	*i*P	Pn	15 10 54.8	0.0
BRRC				*e*S	Sn	15 11 11.8	0.0
BRRC				IAML		15 11 14.6	
	comp=Z,193nm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**40**	*e*P	Pn	15 10 55.7	+0.3
PAMC				*e*S	Sn	15 11 13.0	0.0
PAMC				IAML		15 11 15.5	
	comp=Z,288nm,0.6s						
RUSC	**La Rusia**	**0.93**	**177**	*e*P	Pn	15 10 56.9	-0.6
RUSC				*e*S	Sn	15 11 15.4	-1.1
RUSC				IAML		15 11 16.9	
	comp=Z,304nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P	Pn	15 10 59.7	-0.9
PTBC				*e*S	Sn	15 11 20.6	-1.6
PTBC				IAML		15 11 22.7	
	comp=Z,231nm,0.4s						
TAMC	**Tame, Arauca**	**1.38**	**106**	*e*P	Pn	15 11 01.2	+0.2
TAMC				IAML		15 11 22.2	
	comp=Z,78nm,0.5s						
TAMC				*e*S	Sn	15 11 22.6	-0.2
SPBC	**San Pablo de B**	**1.50**	**219**	*e*P	Pn	15 11 01.6	-0.7
SPBC				*e*S	Sn	15 11 24.2	-0.9
SPBC				IAML		15 11 26.4	
	comp=Z,382nm,0.2s						

ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	Pn	15 11 04.9	-0.9
ZARC				*e*S	Sn	15 11 31.2	-0.3
ZARC				IAML		15 11 36.0	
	comp=Z,111nm,0.5s						
NORC	**Norcasia**	**2.14**	**234**	*e*P	Pn	15 11 08.7	-0.7
NORC				*e*S	Sn	15 11 37.0	-0.9
NORC				IAML		15 11 39.2	
	comp=Z,132nm,0.2s						
CHIC	**Chingaza**	**2.27**	**195**	*i*P	Pn	15 11 11.1	-0.1
CHIC				*e*S	Sn	15 11 40.4	-0.8
CHIC				IAML		15 11 46.1	
	comp=Z,87nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	*e*P	Pn	15 11 12.6	+0.9
ROSC				*e*S	Sn	15 11 45.2	+3.3
ROSC				IAML		15 11 48.3	
	comp=Z,184nm,0.6s						
HELC	**Santa Helena**	**2.47**	**255**	*i*P	Pn	15 11 14.1	+0.5
HELC				*e*S	Sn	15 11 44.6	-0.7
HELC				IAML		15 11 51.8	
	comp=Z,107nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	Pn	15 11 12.7	-1.7
UREC				*e*S	Sn	15 11 43.5	-3.1
UREC				IAML		15 11 54.0	
	comp=Z,76nm,0.2s						
SOCV	**Socops**	**2.67**	**57**	*i*P	Pn	15 11 15.6	-0.2
SOCV				*e*S	Sn	15 11 47.9	-1.4
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*e*P	Pn	15 11 18.2	+1.8
LL1C				*e*S	Sn	15 11 53.4	+2.8
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*P	Pn	15 11 17.9	+0.8
GUY2C				*e*S	Sn	15 11 51.6	+0.2
GUY2C				IAML		15 11 58.9	
	comp=Z,104nm,0.4s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	Pn	15 11 16.2	-0.8
VILC				*e*S	Sn	15 11 51.4	-0.1
VILC				IAML		15 11 59.8	
	comp=Z,103nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.79**	**159**	*e*P	Pn	15 11 15.9	-1.4
PTGC				*e*S	Sn	15 11 49.0	-3.0
PTGC				IAML		15 11 51.3	
	comp=Z,75nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.89**	**357**	*e*P	Pn	15 11 18.2	-0.3
LL6C				*e*S	Sn	15 11 54.2	0.0
LL6C				IAML		15 12 06.8	
	comp=Z,32nm,0.5s						
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P	Pn	15 11 20.5	+0.1
CBOC				*e*S	Sn	15 11 57.4	0.0
CBOC				IAML		15 12 00.8	
	comp=Z,33nm,0.2s						
ANIL	**Santa Ana**	**3.25**	**224**	*i*P	Pn	15 11 24.2	+1.0
ANIL				*e*S	Sn	15 12 05.0	+2.3
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P	Pn	15 11 27.1	-1.3
SJCC				*e*S	Sn	15 12 07.8	-4.0
SJCC				IAML		15 12 12.9	
	comp=Z,19nm,0.3s						
PLMC	**San Jos del P**	**3.68**	**239**	*e*P	Pn	15 11 28.4	-0.2
PLMC				*e*S	Sn	15 12 12.7	+0.5
PLMC				IAML		15 12 15.4	
	comp=Z,34nm,0.2s						
LCBC	**Los crdobas,**	**3.79**	**302**	*e*P	Pn	15 11 25.4	-4.6
LCBC				*e*S	Sn	15 12 12.9	-1.8
LCBC				IAML		15 12 19.2	
	comp=Z,29nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	Pn	15 11 33.2	-1.9
CRJC				*e*S	Sn	15 12 20.7	-3.1
CRJC				IAML		15 12 26.1	
	comp=Z,29nm,0.2s						
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P	Pn	15 11 38.1	+1.6
YOTC				*e*S	Sn	15 12 31.6	+5.3
GUVC	**San Jose del G**	**4.29**	**173**	*e*P	Pn	15 11 35.4	-1.1
GUVC				*e*S	Sn	15 12 24.8	-1.6
GUVC				IAML		15 12 30.0	
	comp=Z,41nm,0.2s						
SMRC	**Santa Marta, M**	**4.44**	**346**	*e*P	Pn	15 11 38.1	-0.4
SMRC				*e*S	Sn	15 12 26.1	-4.0
DABV	**Dabajuro**	**4.75**	**31**	*e*P	Pn	15 11 42.6	0.0
DABV				*e*S	Sn	15 12 33.7	-3.7
GARC	**Garzon, Huila**	**5.18**	**207**	*e*P	Pn	15 11 46.9	-1.6
GARC				*e*S	Sn	15 12 42.1	-5.9
GARC				IAML		15 12 46.7	
	comp=Z,26nm,0.2s						
FLOC	**Florencia**	**5.79**	**206**	*e*P	Pn	15 11 56.0	-0.4
FLOC				*e*S	Sn	15 13 02.6	+0.4
BBAC	**Balboa, Cauca**	**6.30**	**221**	*e*P	Pn	15 12 03.4	+0.1
BBAC				*e*S	Sn	15 13 13.1	-1.4
BBAC				IAML		15 13 19.6	
	comp=Z,3.1nm,0.3s						

*IDC **19** 15:39:01.8±1.7, 0.18N×124.91E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=200.9km s-min=27.4km az=63.0*
*DJA **19** 15:39:09.5±0.2, 1.3±3.2×12.4E±.°, h10km, M4.1/10, mb4.4/3, mB4.7/2, MLv3.9/10, Mw(mB)3.9/2*
ISC 19 15:39:12.2±0.9, 0.43S±0.06×124.22E±0.05, h88km, n13, σ1°57/17, mb2.7/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.03**	**346**	P	**Pn**	**15 39 31.4**	**-0.7**
KMSI				S	**Sn**	**15 39 45.6**	**-1.4**
LUWI	**Luwuk**	**1.57**	**247**	P	**Pn**	**15 39 36.7**	**-2.1**
LUWI				S	**Sn**	**15 39 57.1**	**-1.9**
SANI	**Sanana**	**2.39**	**132**	P	**Pn**	**15 39 47.0**	**-2.5**
MRSI	**Marisa**	**2.45**	**292**	P	**Pn**	**15 39 49.5**	**-0.9**
APSI	**Ampana**	**2.62**	**259**	P	**Pn**	**15 39 51.8**	**-0.8**
LBMI	**Labuha**	**3.28**	**94**	P	**Pn**	**15 40 00.7**	**-0.9**
LBMI				S	**Sn**	**15 40 39.0**	**-0.7**
TNTI	**Ternate**	**3.36**	**69**	P	**Pn**	**15 40 02.7**	**+0.1**
TTSI	**Tana Toraja**	**5.11**	**239**	P	**Pn**	**15 40 26.2**	**-0.2**
	0.2nm805nm38nm,0.5s						
SPSI	**Sidrap Palu**	**5.67**	**232**	P	**Pn**	**15 40 33.9**	**-0.1**
	0.1nm626nm18nm,0.4s						
BKSI	**Bulukumba**	**6.35**	**220**	P	**Pn**	**15 40 43.8**	**+0.5**
WRA	**Warramunga Arr**	**21.78**	**154**	P	**P**	**15 43 57.6**	**+0.6**
	0.3nm,0.8s,baz=333,slow=10,SNR=1.8 0.3nm,0.8s						
ASAR	**Alice Springs**	**24.94**	**159**	P	**P**	**15 44 30.6**	**+3.1**
	0.2nm,0.7s,baz=346,slow=15,SNR=2.0						
ASAR				PcP	**PcP**	**15 48 03.2**	**+2.2**
	0.6nm,1.1s,baz=357,slow=2.0,SNR=4.0 0.2nm,0.7s						
MKAR	**Makanchi Array**	**59.62**	**328**	P	**P**	**15 49 06.7**	**-0.4**
	0.2nm,0.3s,baz=143,slow=7.4,SNR=5.8 0.2nm,0.3s						

*IDC **19** 15:52:30.1±14.0, 1.35S×140.71E, h0km, mb3.6/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=218.0km s-min=77.4km az=8.0*
*DJA **19** 15:52:53.0±0.5, 3.5±6.×14.0E±.°, h10km, M4.1/6, mb4.1/2, MLv4.0/6*
ISC 19 15:52:41.8±2.8, 2.5S±0.2×140.9E±0.2, h10km, n9, σ1°88/9, mb3.4/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.71**	**258**	P	**Pg**	**15 52 54.9**	**-0.6**
SMPI	**Sarmi**	**2.20**	**282**	P	**Pb**	**15 53 20.6**	**-1.1**
WAMI	**Wamena**	**2.58**	**236**	P	**Pn**	**15 53 26.1**	**+2.5**
SRPI	**Serui, Papua**	**4.66**	**277**	P	**Pn**	**15 53 54.7**	**+2.5**
FAKI	**Fak Fak**	**8.62**	**267**	P	**Pn**	**15 54 48.0**	**+1.3**
WRA	**Warramunga Arr**	**18.52**	**200**	P	**P**	**15 56 58.6**	**+0.1**
	0.1nm,0.3s,baz=22,slow=12,SNR=10 0.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.56**	**223**	P	**P**	**15 57 29.3**	**-2.3**
	1.3nm,0.8s,baz=69,slow=8.6,SNR=1.2 1.3nm,0.8s						
ASAR	**Alice Springs**	**22.14**	**197**	P	**P**	**15 57 38.3**	**+0.4**
	0.5nm,0.6s,baz=21,slow=11,SNR=16 0.5nm,0.6s						
STKA	**Stephens Creek**	**29.28**	**179**	P	**P**	**15 58 44.2**	**-0.2**
	2.6nm,1.0s,baz=355,slow=11,SNR=2.9 2.6nm,1.0s						

*IDC **19** 15:52:56.6±0.7, 2.00S×140.52E, h0km, mb3.9/12, mbtmp3.9/14, ML3.8/2, MS3.6/12, Error ellipse: s-maj=25.4km s-min=15.7km az=74.0*
*NEIC **19** 15:53:00.2±1.1, 1.99S±0.08×140.41E±0.07, h18km±3km, mb4.5/28, Error ellipse: s-maj=11.4km s-min=10.3km az=201.0*
ISC 19 15:52:58.4±0.5, 1.98S±0.08×140.44E±0.07, h10km, n68, σ0°78/53, mb4.4/24, MS3.7/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**6.92**	**91**	Pn	**Pn**	**15 54 39.1**	**-0.8**
FAKI	**Fak Fak**	**8.24**	**263**	Pn	**Pn**	**15 54 56.6**	**-1.5**
SIJI	**Sorong**	**9.24**	**277**	Pn	**Pn**	**15 55 12.2**	**+0.4**
	0.4nm,0.3s,baz=134,slow=18,SNR=1.4 1.0nm,0.3s						
PMG	**Port Moresby**	**9.95**	**138**	Pn	**Pn**	**15 55 22.0**	**+0.4**
MTN	**Manton Dam**	**14.19**	**220**	Pn	**Pn**	**15 56 20.7**	**+1.0**
KNRA	**Kununurra**	**17.82**	**220**		**Pn**	**15 57 07.7**	**+1.0**
KNRA				IAmb	IAmb	15 57 11.7	
	comp=Z,38nm,1.4s						
WB0	**Warramunga Arr**	**18.64**	**198**	P	**P**	**15 57 16.5**	**0.0**
WR0	**Warramunga Arr**	**18.77**	**197**	P	**P**	**15 57 17.1**	**-0.9**
WRAB	**Tennant Creek**	**18.81**	**198**	P	**P**	**15 57 17.6**	**-0.8**
WB2	**Warramunga Arr**	**18.82**	**198**	P	**P**	**15 57 17.8**	**-0.6**
WRA	**Warramunga Arr**	**18.82**	**198**	P	**P**	**15 57 18.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=25,slow=12,SNR=13 comp=Z,2.4nm,0.5s						
HNR	**Honiara**	**20.76**	**112**	P	**P**	**15 57 37.8**	**-1.8**
	comp=Z,455nm,0.7s,baz=284,slow=8.3,SNR=2.3						
KAPI	**Kappang**	**20.87**	**261**	LR	LR	16 06 59.8	
	comp=Z,37nm,19.0s,baz=93,slow=40						
FITZ	**Fitzroy Crossi**	**21.62**	**221**	P	**P**	**15 57 49.1**	**+0.2**
	comp=Z,5.8nm,0.9s,baz=55,slow=10,SNR=4.8 comp=Z,5.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.62**	**221**	P	**P**	**15 57 48.9**	**0.0**
AS31	**Alice Springs**	**22.46**	**196**	P	**P**	**15 57 57.7**	**-0.2**
ASAR	**Alice Springs**	**22.47**	**196**	P	**P**	**15 57 56.8**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=27,slow=11,SNR=14 comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**22.47**	**196**	P	**P**	**15 57 57.5**	**-0.4**
EIDS	**Eidsvold**	**25.41**	**157**	P	**P**	**15 58 27.1**	**+0.8**
EIDS				IAmb	IAmb	15 58 49.2	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**29.75**	**178**	P	**P**	**15 59 04.5**	**-0.7**
	comp=Z,3.8nm,1.0s,baz=350,slow=7.8,SNR=3.4 comp=Z,3.8nm,1.0s						
STKA	**Stephens Creek**	**29.75**	**178**	P	**P**	**15 59 04.8**	**-0.4**
DZM	**Mont Dzumac**	**32.21**	**130**	LR	LR	16 11 01.4	
	comp=Z,94nm,19.8s,baz=46,slow=34						
DZM	**Mont Dzumac**	**32.21**	**130**	P	**P**	**15 59 27.0**	**-0.2**
DZM				IAmb	IAmb	15 59 58.3	
	comp=Z,13nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**33.75**	**49**	T	T	16 35 00.0	
	baz=229						
H11N2	**WAKE ISLAND Hy**	**33.76**	**49**	T	T	16 36 22.2	
	baz=229						
H11N3	**WAKE ISLAND Hy**	**33.77**	**49**	T	T	16 36 05.8	
	baz=229						
MSVF	**Nonsavu**	**40.09**	**115**	LR	LR	16 15 10.8	
	comp=Z,73nm,18.2s,baz=298,slow=33						
GSI	**Gunungsitoli**	**42.99**	**274**	P	**P**	**16 00 57.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**45.60**	**298**	P	**P**	**16 01 18.0**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=125,slow=6.0,SNR=2.1 comp=Z,0.3nm,0.5s						
RAO	**Raoul Island**	**47.98**	**129**	LR	LR	16 20 13.0	
	comp=Z,55nm,18.1s,baz=356,slow=34						
NIUE	**Niue**	**51.44**	**113**	P	**P**	**16 02 04.6**	**+0.4**
HIA	**Hailar**	**54.10**	**343**	P	**P**	**16 02 23.9**	**+0.5**
SONM	**Songino Array**	**57.83**	**334**	P	**P**	**16 02 50.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=152,slow=6.5,SNR=2.0 comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**70.29**	**322**	P	**P**	**16 04 12.4**	**+0.3**
MK31				IAmb	IAmb	16 04 21.3	
	comp=Z,4.8nm,1.3s						
MKAR	**Makanchi Array**	**70.29**	**322**	P	**P**	**16 04 12.8**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=113,slow=7.0,SNR=10 comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**70.29**	**322**	P	**P**	**16 04 12.4**	**+0.3**
PPTF	**Pamatai, Papee**	**70.34**	**108**	P	**P**	**16 04 13.1**	**0.0**
MAKZ	**Makanchi**	**70.49**	**322**	P	**P**	**16 04 13.9**	**+0.5**
MAKZ				IAmb	IAmb	16 04 22.3	
	comp=Z,5.5nm,1.2s						
ZALV	**Zalesovo Beam**	**72.19**	**329**	P	**P**	**16 04 25.0**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=108,slow=4.7,SNR=1.6 comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**74.14**	**324**	P	**P**	**16 04 35.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=114,slow=6.2,SNR=5.9 comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**76.35**	**175**	P	**P**	**16 04 47.2**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=329,slow=7.3,SNR=14 comp=Z,1.4nm,0.6s						
VNDA	**Vanda**	**76.35**	**175**	P	**P**	**16 04 48.2**	**+0.8**
VNDA				IAmb	IAmb	16 05 30.2	
	comp=Z,5.8nm,1.4s						
KK31	**Karatay Array**	**76.83**	**315**	P	**P**	**16 04 51.2**	**+0.4**
KK31				IAmb	IAmb	16 05 17.3	
	comp=Z,2.6nm,1.2s						
KKAR	**Karatay Array**	**76.83**	**315**	P	**P**	**16 04 51.2**	**+0.4**
N18K	**Kilae Creek**	**79.15**	**27**	P	**P**	**16 05 04.0**	**+0.7**
N18K				IAmb	IAmb	16 05 29.0	
	comp=Z,11nm,1.3s						
KDAK	**Kodiak Island**	**79.61**	**30**	LR	LR	16 35 17.9	
	comp=Z,65nm,21.8s,baz=265,slow=32						
BVAR	**Borovoye Array**	**79.72**	**325**	P	**P**	**16 05 07.0**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=90,slow=7.2,SNR=3.9 comp=Z,1.0nm,0.7s						
L19K	**White Mountain**	**80.21**	**25**	P	**P**	**16 05 09.5**	**+0.5**
L19K				IAmb	IAmb	16 05 22.0	
	comp=Z,8.3nm,1.2s						
J20K	**Nowinta River**	**81.30**	**24**	P	**P**	**16 05 15.1**	**+0.4**
J20K				IAmb	IAmb	16 05 36.0	
	comp=Z,11nm,1.4s						
PPLA	**Purkeypile**	**81.63**	**25**	P	**P**	**16 05 16.

ARA0				IAML		16 03 34.4	
	comp=Z,1.8nm,0.3s						
ARA0	**ARCESS Array S**	**1.73 278**	PG	Pn	16 03 07.1	+0.1	
	baz=96						
ARA0				SN	Sg	16 03 32.0	+0.7
LVZ	**Lovozero**	**2.14 131**	SG	Sn	16 03 40.3	+0.5	
SGF	**Sodankyl**	**2.40 218**	SG	Sb	16 03 50.2	+0.5	
KTK1	**Kautokeino**	**2.58 266**	*e*P	Pb	16 03 21.2	-1.4	
KTK1			*e*S	Sb	16 03 52.8	-2.1	
KTK1			IAML		16 03 57.6		
	comp=Z,1.9nm,0.6s						
KTK1	**Kautokeino**	**2.58 266**	SG	Sb	16 03 55.5	+0.6	
HEF	**Hetta**	**2.62 252**	*e*P	Pb	16 03 22.4	-1.0	
HEF			*e*S	Sb	16 03 56.7	+0.7	
HEF	**Hetta**	**2.62 252**	MSG		16 03 52.8		
	comp=Z,0.8nm,0.2s						
HEF			SG	Sb	16 03 56.8	+0.8	
KLF	**Kolari**	**3.20 231**	SN	Sn	16 04 03.2	-2.7	

IDC ***19*** *16:16:49.4±1.0, 7.°04S×150.°45E, h0km, mb3.9/12, mbtmp3.9/14, ML2.6/2, MS3.1/7, Error ellipse: s-maj=25.6km s-min=17.0km az=109.0*
NEIC ***19*** *16:16:51.2±0.8, 7.°1S±0.°2×150.°5E±0.°2, h10km±2km, mb4.1/8, Error ellipse: s-maj=38.9km s-min=12.1km az=133.0*
ISC 19 16:16:53.3±0.7, 7.°03S±0.°08×150.°46E±0.°10, h26km, n30, σ0s65/28, mb3.9/10, MS3.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.29**	**31**	Pn	**Pn**	**16 17 43.5**	**+0.3**
PMG	**Port Moresby**	**4.03**	**234**	Pn	**Pn**	**16 17 53.7**	**+0.4**
	3.9nm,0.3s,baz=45,slow=8.8,SNR=17						
PMG				Sn	**Sn**	**16 18 40.3**	**+0.6**
	12nm,0.3s,baz=142,slow=20,SNR=25						
	19nm,0.5s						
PMG	**Port Moresby**	**4.03**	**234**		**Pn**	**16 17 53.8**	**+0.5**
CTA	**Charters Tower**	**13.60**	**197**	Pn	**Pn**	**16 20 05.8**	**+1.0**
	0.1nm,0.3s,baz=32,slow=19,SNR=1.8						
CTA				LR	LR	16 24 34.0	
	comp=Z,87nm,19.3s,baz=11,slow=34						
	1.9nm,0.9s						
FAKI	**Fak Fak**	**18.59**	**282**		**Pn**	**16 21 09.2**	**0.0**
FAKI				IAmb	IAmb	16 21 11.6	
	comp=Z,22nm,1.0s						
MTN	**Manton Dam**	**19.89**	**252**	P	**P**	**16 21 22.5**	**-0.4**
WB0	**Warramunga Arr**	**20.09**	**229**	P	**P**	**16 21 24.6**	**-0.4**
WB0				IAmb	IAmb	16 21 28.2	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**20.09**	**229**	P	**P**	**16 21 24.4**	**-0.7**
WR0				IAmb	IAmb	16 21 27.8	
	comp=Z,6.6nm,1.0s						
SIJI	**Sorong**	**20.09**	**287**	P	**P**	**16 21 24.9**	**-0.3**
	comp=Z,5.6nm,0.7s,baz=77,slow=14,SNR=5.8						
	comp=Z,5.6nm,0.7s						
WB2	**Warramunga Arr**	**20.22**	**229**	P	**P**	**16 21 26.1**	**-0.4**
WB2				IAmb	IAmb	16 21 37.9	
	comp=Z,5.6nm,0.8s						
WRA	**Warramunga Arr**	**20.23**	**229**	P	**P**	**16 21 26.2**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=54,slow=11,SNR=22						
	comp=Z,3.5nm,0.8s						
GUMO	**Guam**	**21.23**	**345**	LR	LR	16 28 18.1	
	comp=Z,31nm,21.2s,baz=170,slow=32						
DZM	**Mont Dzumac**	**21.48**	**136**	P	**P**	**16 21 40.2**	**0.0**
	comp=Z,4.2nm,0.8s,baz=343,slow=11,SNR=3.3						
DZM				LR	LR	16 28 21.9	
	comp=Z,86nm,19.4s,baz=19,slow=32						
	comp=Z,4.2nm,0.8s						
KNRA	**Kununurra**	**22.92**	**246**	P	**P**	**16 21 55.2**	**-0.3**
AS31	**Alice Springs**	**22.94**	**222**	P	**P**	**16 21 54.9**	**-0.8**
ASAR	**Alice Springs**	**22.94**	**222**	P	**P**	**16 21 55.0**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=55,slow=9.2,SNR=28						
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**22.94**	**222**	P	**P**	**16 21 54.7**	**-1.1**
STKA	**Stephens Creek**	**26.07**	**197**	P	**P**	**16 22 23.4**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=23,slow=11,SNR=4.7						
STKA				LR	LR	16 31 48.9	
	comp=Z,82nm,18.1s,baz=22,slow=34						
	comp=Z,1.8nm,0.7s						
STKA	**Stephens Creek**	**26.07**	**197**	P	**P**	**16 22 23.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**26.56**	**243**	P	**P**	**16 22 28.7**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=65,slow=8.5,SNR=9.0						
	comp=Z,2.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**26.56**	**243**	P	**P**	**16 22 29.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**53.66**	**344**	P	**P**	**16 26 12.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=172,slow=11,SNR=2.3						
	comp=Z,0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**56.77**	**297**	P	**P**	**16 26 36.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=119,slow=5.3,SNR=5.5						
	comp=Z,0.4nm,0.3s						
KLR	**Kul'dur**	**58.37**	**346**	LR	LR	16 51 00.3	
	comp=Z,20nm,18.3s,baz=150,slow=35						
MA2	**Magadan**	**66.39**	**0**	LR	LR	16 52 18.4	
	comp=Z,9.6nm,21.6s,baz=113,slow=32						
SONM	**Songino Array**	**67.00**	**329**	P	**P**	**16 27 43.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=151,slow=9.2,SNR=2.3						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**80.49**	**320**	P	**P**	**16 29 03.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=108,slow=5.9,SNR=4.9						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**81.73**	**327**	P	**P**	**16 29 09.0**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=120,slow=8.5,SNR=2.6						
ZALV				LR	LR	17 07 06.0	
	comp=Z,7.1nm,18.5s,baz=60,slow=37						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**85.09**	**22**	P	**P**	**16 29 27.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=250,slow=5.3,SNR=8.9						
	comp=Z,1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.67**	**284**	PKPbc	**PKPbc**	**16 36 39.7**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=66,slow=3.1,SNR=9.4						

IDC ***19*** *16:25:01.9±2.7, 10.°12S×161.°01E, h74km±17km, mb3.7/5, mbtmp3.9/7, MS3.1/1, Error ellipse: s-maj=32.0km s-min=21.0km az=75.0*
NEIC ***19*** *16:25:01.4±1.5, 10.°0S±0.°2×161.°0E±0.°1, h66km±12km, mb4.2/8, Error ellipse: s-maj=29.3km s-min=11.0km az=215.0*
ISC 19 16:25:00.8±1.2, 10.°2S±0.°1×161.°1E±0.°2, h67km, n22, σ1s66/24, mb4.1/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.31**	**304**	P	**Pn**	**16 25 22.5**	**-0.7**
	5μm,0.3s,baz=141,slow=3.7,SNR=50						
HNR				S	**Sn**	**16 25 40.2**	**+0.3**
	25μm,0.4s,baz=160,slow=21,SNR=70						
HNR				LR	LR	16 26 08.9	
	comp=Z,2μm,20.5s,baz=188,slow=54						
HNR	**Honiara**	**1.31**	**304**	Pn	**Pn**	**16 25 22.4**	**-0.7**
HNR				Sn	**Sn**	**16 25 38.9**	**-1.1**
KOUNC	**Koumac, New Ca**	**10.79**	**164**	Pn	**Pn**	**16 27 35.7**	**+3.2**
LIFNC	**LIFOU**	**12.12**	**151**	Pn	**Pn**	**16 27 52.0**	**+1.4**
DZM	**Mont Dzumac**	**12.92**	**157**	P	**Pn**	**16 28 04.4**	**+2.8**
	1.1nm,0.4s,baz=331,slow=19,SNR=14						
DZM				S	**Sn**	**16 30 18.8**	**-4.9**
	2.9nm,0.9s,baz=280,slow=23,SNR=2.1						
DZM	**Mont Dzumac**	**12.92**	**157**	Pn	**Pn**	**16 28 03.6**	**+1.9**
MARNC	**Mare, Loyalty**	**13.10**	**150**	Pn	**Pn**	**16 28 05.6**	**+1.7**
PMG	**Port Moresby**	**13.71**	**272**	LR	LR	16 32 34.0	
	comp=Z,82nm,18.8s,baz=91,slow=33						
CTA	**Charters Tower**	**17.34**	**234**	P	**P**	**16 28 59.8**	**+0.8**
	1.9nm,0.7s,baz=54,slow=13,SNR=2.8						
WB0	**Warramunga Arr**	**27.43**	**247**	P	**P**	**16 30 41.3**	**+0.8**
WB0				IAmb	IAmb	16 30 42.3	
	comp=Z,7.2nm,1.2s						
WB2	**Warramunga Arr**	**27.52**	**246**	P	**P**	**16 30 42.5**	**+1.2**
WB2				IAmb	IAmb	16 31 14.4	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**27.52**	**246**	P	**P**	**16 30 41.7**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=75,slow=9.2,SNR=14						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**27.52**	**246**	P	**P**	**16 30 41.0**	**-0.4**
AS31	**Alice Springs**	**29.16**	**239**	P	**P**	**16 30 56.2**	**+0.3**
ASAR	**Alice Springs**	**29.16**	**239**	P	**P**	**16 30 56.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=63,slow=10,SNR=26						
	comp=Z,0.3nm,0.3s						
KNRA	**Kununurra**	**31.92**	**257**	P	**P**	**16 31 20.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**35.18**	**253**	P	**P**	**16 31 48.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=66,slow=9.8,SNR=7.1						
	comp=Z,1.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**35.18**	**253**	P	**P**	**16 31 49.1**	**+0.5**
PSA00	**Pilbara Seismi**	**41.10**	**249**	P	**P**	**16 32 37.4**	**-1.1**
PSA00				IAmb	IAmb	16 33 13.6	
	comp=Z,5.8nm,1.2s						

SONM	**Songino Array**	**75.28**	**325**	P	**P**	**16 36 37.0**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=142,slow=5.7,SNR=11						
	comp=Z,2.1nm,0.7s						
SONM	**Songino Array**	**75.28**	**325**	P	**P**	**16 36 36.9**	**+0.2**
SONM				IAmb	IAmb	16 36 37.7	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**89.75**	**318**	P	**P**	**16 37 51.6**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=101,slow=6.0,SNR=4.3						
	comp=Z,0.4nm,0.7s						

NOU ***19*** *17:01:28.8, 24.°01S×178.°64E, h188km, mb4.4/14, South of Fiji Islands*
NEIC ***19*** *17:01:38.4±1.6, 23.°9S±0.°1×179.°5W±0.°1, h515km±14km, mb4.5/35, Error ellipse: s-maj=19.3km s-min=16.8km az=97.0*
IDC ***19*** *17:01:40.6±1.7, 23.°57S×179.°86W, h518km±15km, mb3.5/4, mbtmp4.4/8, Error ellipse: s-maj=28.7km s-min=21.5km az=111.0*
ISC 19 17:01:37.5±0.6, 23.°76S±0.°07×179.°43W±0.°09, h512km, n78, σ2s05/81, mb4.5/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.63**	**166**	P	**P**	**17 03 08.0**	**-2.9**
MSVF	**Nonsavu**	**6.44**	**338**	P	**P**	**17 03 20.8**	**+1.9**
	7.2nm,0.5s,baz=250,slow=23,SNR=23						
MSVF	**Nonsavu**	**6.44**	**338**	P	**P**	**17 03 20.9**	**+2.0**
AFI	**Afiamalu**	**12.18**	**38**	P	**P**	**17 04 21.2**	**+3.0**
	14nm,0.6s,baz=194,slow=23,SNR=2.2						
AFI				S	**S**	**17 06 25.9**	**-4.5**
	8.6nm,0.6s,baz=22,slow=21,SNR=1.1						
AFI	**Afiamalu**	**12.18**	**38**	P	**P**	**17 04 20.6**	**+2.4**
LIFNC	**LIFOU**	**12.70**	**281**	P	**P**	**17 04 22.9**	**-0.6**
DZM	**Mont Dzumac**	**13.13**	**275**	P	**P**	**17 04 28.6**	**+0.5**
	2.2nm,0.9s,baz=107,slow=14,SNR=1.9						
URZ	**Urewera**	**14.75**	**191**	P	**P**	**17 04 48.7**	**+3.9**
	4.1nm,0.3s,baz=357,slow=2.9,SNR=6.9						
URZ				S	**S**	**17 07 18.9**	**-0.4**
	5.8nm,0.9s,baz=101,slow=16,SNR=1.7						
URZ	**Urewera**	**14.75**	**191**	P	P	17 04 39.6	-5.2
HIZ	**Hauiti**	**15.49**	**197**	P	**P**	**17 04 59.5**	**+6.9**
BKZ	**Black Stump Fm**	**15.75**	**192**	P	**P**	**17 04 53.9**	**-1.3**
BKZ				IAmb	IAmb	17 05 09.9	
	comp=Z,19nm,1.1s						
NTVZ	**North Tongariro**	**15.85**	**194**	P	**P**	**17 05 00.4**	**+4.0**
TMVZ	**Te Maari**	**15.86**	**194**	P	**P**	**17 05 00.2**	**+3.8**
ETVZ	**East Tongariro**	**15.88**	**194**	P	**P**	**17 05 00.5**	**+3.9**
OTVZ	**Oturere**	**15.91**	**194**	P	**P**	**17 05 00.3**	**+3.2**
SNVZ	**South Ngauruho**	**15.94**	**194**	P	**P**	**17 05 00.7**	**+3.3**
BHTZ	**Black Hill Sta**	**16.14**	**193**	P	**P**	**17 05 01.3**	**+2.0**
TSZ	**Takapari Road**	**16.71**	**192**	P	**P**	**17 05 07.7**	**+2.6**
MRZ	**Mangatainoka R**	**17.37**	**193**	P	**P**	**17 05 12.7**	**+1.4**
QRZ	**Quartz Range**	**18.31**	**200**	P	**P**	**17 05 21.8**	**+1.8**
QRZ	**Quartz Range**	**18.31**	**200**	P	**P**	**17 05 22.5**	**+2.5**
QRZ	**Quartz Range**	**18.31**	**200**	P	**P**	**17 05 22.5**	**+2.5**
TKNZ	**Takaka Hill**	**18.37**	**199**	P	**P**	**17 05 22.7**	**+2.2**
TUWZ	**Tuamarina**	**18.47**	**196**	P	**P**	**17 05 19.7**	**-1.7**
TUWZ	**Tuamarina**	**18.47**	**196**	P	**P**	**17 05 20.7**	**-0.7**
MRNZ	**Matariki Terra**	**18.77**	**199**	P	**P**	**17 05 26.2**	**+2.0**
THZ	**Tophouse**	**19.06**	**198**	P	**P**	**17 05 25.7**	**-1.1**
THZ				IAmb	IAmb	17 06 04.0	
	comp=Z,23nm,1.3s						
THZ	**Tophouse**	**19.06**	**198**	P	**P**	**17 05 29.1**	**+2.3**
KHZ	**Kahutara**	**19.50**	**196**	P	**P**	**17 05 32.1**	**+1.3**
KHZ	**Kahutara**	**19.50**	**196**	P	**P**	**17 05 33.4**	**+2.6**
	comp=Z,29nm,1.5s						
LTZ	**Lake Taylor**	**20.18**	**198**	P	**P**	**17 05 37.2**	**+0.2**
LTZ				IAmb	IAmb	17 05 42.4	
	comp=Z,23nm,1.3s						
OXZ	**Oxford**	**20.75**	**198**	P	**P**	**17 05 42.5**	**+0.4**
OXZ				IAmb	IAmb	17 05 50.1	
	comp=Z,26nm,1.4s						
MQZ	**McQueen's Vall**	**20.94**	**196**	P	**P**	**17 05 46.5**	**+2.7**
MQZ				IAmb	IAmb	17 05 54.3	
	comp=Z,32nm,1.4s						
RPZ	**Rata Peaks**	**21.39**	**199**	P	**P**	**17 05 51.3**	**+3.4**
	comp=Z,2.6nm,0.5s,baz=47,slow=2.8,SNR=5.8						
	comp=Z,2.6nm,0.5s						
RPZ	**Rata Peaks**	**21.39**	**199**	P	**P**	**17 05 50.8**	**+2.9**
RPZ				IAmb	IAmb	17 06 17.2	
	comp=Z,30nm,1.4s						
RPZ	**Rata Peaks**	**21.39**	**199**	P	**P**	**17 05 52.2**	**+4.2**
WKZ	**Wanaka**	**23.04**	**201**	P	**P**	**17 06 02.4**	**-0.3**
MLZ	**Mavora Lakes**	**23.82**	**202**	P	**P**	**17 06 10.5**	**+0.8**
MLZ				IAmb	IAmb	17 06 30.2	
	comp=Z,13nm,1.2s						
EIDS	**Eidsvold**	**26.85**	**260**	P	**P**	**17 06 36.7**	**-0.1**
EIDS				IAmb	IAmb	17 06 37.6	
	comp=Z,7.0nm,0.5s						
EIDS	**Eidsvold**	**26.85**	**260**	P	**P**	**17 06 37.5**	**+0.7**
RMQ	**Roma**	**28.89**	**258**	P	**P**	**17 06 56.2**	**+1.5**
CAN	**Canberra**	**29.66**	**240**	P	**P**	**17 07 01.4**	**+0.1**
CAN	**Canberra**	**29.66**	**240**	P	**P**	**17 07 02.7**	**+1.4**
CMSA	**Cobar Meteorol**	**31.75**	**248**	P	**P**	**17 07 19.9**	**+0.6**
CTA	**Charters Tower**	**32.00**	**270**	P	**P**	**17 07 21.7**	**+0.1**
CTAO	**Charters Tower**	**32.00**	**270**	P	**P**	**17 07 21.6**	**+0.1**
CTAO	**Charters Tower**	**32.00**	**270**	P	**P**	**17 07 21.7**	**+0.1**
QLP	**Quilpie**	**32.94**	**257**	P	**P**	**17 07 30.0**	**+0.5**
TOO	**Toolangi**	**32.96**	**237**	P	**P**	**17 07 29.6**	**+0.1**
TOO				IAmb	IAmb	17 07 47.5	
	comp=Z,15nm,1.4s						
TOO	**Toolangi**	**32.96**	**237**	P	**P**	**17 07 30.9**	**+1.3**
MTSU	**Mount Surprise**	**34.26**	**272**	P	**P**	**17 07 40.8**	**+0.1**
STKA	**Stephens Creek**	**35.26**	**248**	P	**P**	**17 07 49.1**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=84,slow=10,SNR=10.0						
	comp=Z,1.6nm,0.4s						
STKA	**Stephens Creek**	**35.26**	**248**	P	**P**	**17 07 49.1**	**+0.2**
COEN	**Coen**	**36.61**	**279**	P	**P**	**17 07 59.8**	**-0.6**
COEN				IAmb	IAmb	17 08 17.6	
	comp=Z,21nm,1.5s						
BBOO	**Buckleboo**	**39.98**	**247**	P	**P**	**17 08 27.1**	**-0.4**
BBOO				IAmb	IAmb	17 09 10.0	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**42.57**	**260**	P	**P**	**17 08 48.1**	**-0.2**
ASAR	**Alice Springs**	**42.58**	**260**	P	**P**	**17 08 47.6**	**-0.7**
	comp=Z,7.3nm,0.7s,baz=96,slow=7.3,SNR=184						
ASAR				ScP	**ScP**	**17 13 32.5**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=104,slow=3.9,SNR=4.8						
	comp=Z,7.3nm,0.7s						
ASAR	**Alice Springs**	**42.58**	**260**	P	**P**	**17 08 47.5**	**-0.8**
WR0	**Warramunga Arr**	**42.75**	**266**	P	**P**	**17 08 48.6**	**-1.0**
WB2	**Warramunga Arr**	**42.93**	**266**	P	**P**	**17 08 50.0**	**-1.1**
WB2				IAmb	IAmb	17 08 50.7	
	comp=Z,11nm,0.7s						
WB0	**Warramunga Arr**	**42.93**	**266**	P	**P**	**17 08 50.0**	**-1.1**
WB0				IAmb	IAmb	17 08 50.7	
	comp=Z,14nm,0.7s						
WRAB	**Tennant Creek**	**42.93**	**266**	P	**P**	**17 08 50.1**	**-1.0**
WRAB				IAmb	IAmb	17 08 50.6	
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**42.94**	**266**	P	**P**	**17 08 50.2**	**-1.0**
	comp=Z,8.6nm,0.5s,baz=95,slow=8.3,SNR=308						
WRA				ScP	**ScP**	**17 13 34.5**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=98,slow=4.5,SNR=2.6						
	comp=Z,8.6nm,0.5s						
WRA	**Warramunga Arr**	**42.94**	**266**	P	**P**	**17 08 49.0**	**-2.2**
WAKE	**Wake Island**	**44.88**	**341**	P	**P**	**17 09 07.0**	**+0.9**
FORT	**Forrest**	**46.85**	**249**	P	**P**	**17 09 19.4**	**-1.7**
MTN	**Manton Dam**	**47.97**	**274**	P	**P**	**17 09 27.8**	**-2.0**
MTN				IAmb	IAmb	17 09 37.5	
	comp=Z,8.1nm,0.7s						
KNRA	**Kununurra**	**49.21**	**269**	P	**P**	**17 09 38.5**	**-0.5**
KNRA				IAmb	IAmb	17 09 39.4	
	comp=Z,16nm,0.9s						
FAKI	**Fak Fak**	**51.05**	**286**	P	**P**	**17 09 51.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**51.36**	**265**	P	**P**	**17 09 54.7**	**0.0**
VNDA	**Vanda**	**54.56**	**185**	P	**P**	**17 10 16.6**	**0.0**
PSA00	**Pilbara Seismi**	**55.70**	**259**	P	**P**	**17 10 24.2**	**-1.3**
NWAO	**Narrogin (SRO)**	**55.77**	**245**	P	**P**	**17 10 24.8**	**-1.0**
MBWA	**Marble Bar**	**55.91**	**260**	P	**P**	**17 10 25.1**	**-1.9**
MBWA				IAmb	IAmb	17 10 28.3	
	comp=Z,34nm,1.2s						
MORW	**Morawa**	**57.41**	**250**	P	**P**	**17 10 36.8**	**-0.4**
MORW				IAmb	IAmb	17 11 10.5	
	comp=Z,33nm,1.5s						
KKM	**Kota Kinabalu**	**69.36**	**287**	P	**P**	**17 11 53.3**	**-0.9**
KKM				IAmb	IAmb	17 11 55.3	
	comp=Z,18nm,1.0s						
AKASG	**Malin Array Be**	**145.13**	**328**	PKP	**PKPbc**	**17 20 17.0**	**0.0**
	comp=Z,0.7nm,0.4s,baz=42,slow=4.5,SNR=4.7						
BRTR	**Keskin Array B**	**147.91**	**308**	PKPbc	**PKPbc**	**17 20 25.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=126,slow=2.0,SNR=3.6						

IDC 19 17:06:28.0±6.9, 4.°63S×141.°66E, h0km, mb3.1/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=249.5km s-min=36.6km az=92.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.81**	**204**	Pn	P	**17 10 26.2**	**-1.1**
	0.1nm,0.3s,baz=28,slow=12,SNR=2.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**20.35**	**201**	P	P	**17 11 05.7**	**-0.6**
	0.4nm,0.5s,baz=27,slow=11,SNR=4.7						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**73.10**	**322**	P	P	**17 18 00.4**	**+0.1**
	0.1nm,0.5s,baz=111,slow=6.5,SNR=1.6						
	0.1nm,0.5s						

INET ***19*** *17:21:16.4±0.8, 12.°93N×87.°22W, h5km±5km, MW3.7*
SNET ***19*** *17:21:18.0±3.0, 12.°91N×87.°23W, h30km, ML3.6*
UCR ***19*** *17:21:18.1±2.1, 12.°94N×87.°24W, h30km, ML3.6*
ISC 19 17:21:16.3±1.1, 12.°94N±0.°04×87.°20W±0.°04, h13km±10km, n29, σ0s53/44, 4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.28**	**149**	*e*P	**Pb**	**17 21 23.2**	**+0.1**
CRIN				*e*S	**Sb**	**17 21 27.3**	**-0.5**
CSGN	**Cosiguina Volc**	**0.36**	**276**	*e*P	**Pg**	**17 21 23.7**	**+0.2**
TELN	**Telica**	**0.49**	**133**	*e*P	**Pb**	**17 21 26.8**	**+0.1**
TEL3	**Telica 3**	**0.50**	**137**	*e*P	**Pb**	**17 21 26.7**	**-0.2**
CNGN	**Cerro Negro**	**0.65**	**132**	*e*P	**Pb**	**17 21 29.4**	**-0.2**
CNCH	**Conchagua**	**0.71**	**298**	*e*P	**Pg**	**17 21 29.9**	**-0.2**
CNCH				*e*S	**Sb**	**17 21 40.0**	**-0.1**
CNCH	**Conchagua**	**0.71**	**298**	*e*P	**Pg**	**17 21 29.9**	**-0.2**
CNCH				*e*S	**Sb**	**17 21 40.0**	**-0.1**
LCND	**La Caada**	**0.77**	**299**	*e*P	**Pg**	**17 21 31.0**	**-0.3**
LCND				*e*S	**Sb**	**17 21 41.8**	**-0.1**
LCND				IAML		17 21 47.4	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**0.77**	**299**	*e*P	**Pg**	**17 21 31.0**	**-0.3**
LCND				*e*S	**Sb**	**17 21 41.8**	**-0.1**
LCND				IAML		17 21 47.4	
	comp=Z,2μm,0.3s						
MOMN	**Momotombo**	**0.83**	**129**	*e*P	**Pb**	**17 21 32.6**	**+0.1**
COPN	**Copaltepe**	**0.96**	**142**	*e*P	**Pb**	**17 21 33.6**	**-1.1**
APYN	**Apoyeque**	**1.08**	**130**	*e*P	**Pb**	**17 21 36.8**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.11**	**356**	*i*P	**Pb**	**17 21 37.5**	**0.0**
TGUH				*e*S	**Sn**	**17 21 53.2**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.11**	**356**	*i*P	**Pb**	**17 21 37.5**	**0.0**
TGUH				*e*S	**Sn**	**17 21 53.2**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.11**	**356**	*e*P	**Pb**	**17 21 37.5**	**0.0**
HUEN		**1.16**	**121**	*e*P	**Pn**	**17 21 37.8**	**-0.4**
HUEN				*e*S	**Sg**	**17 21 54.9**	**+1.0**
RANC	**El Ranchito**	**1.17**	**295**	*e*P	**Pb**	**17 21 38.4**	**-0.1**
RANC				*e*S	**Sn**	**17 21 54.6**	**+0.2**
RANC	**El Ranchito**	**1.17**	**295**	*e*P	**Pb**	**17 21 38.4**	**-0.1**
RANC				*e*S	**Sn**	**17 21 54.6**	**+0.2**
PACA	**Pacayal**	**1.22**	**296**	*e*P	**Pn**	**17 21 38.9**	**-0.2**
PACA				*e*S	**Sg**	**17 21 56.1**	**+0.5**
PACA	**Pacayal**	**1.22**	**296**	*e*P	**Pn**	**17 21 38.9**	**-0.2**
PACA				*e*S	**Sg**	**17 21 56.1**	**+0.5**
PACA	**Pacayal**	**1.22**	**296**	*e*P	**Pn**	**17 21 38.3**	**-0.8**
MATN	**Matagalpa**	**1.24**	**90**	*e*P	**Pn**	**17 21 39.1**	**-0.2**
MASN	**Masaya**	**1.39**	**133**	*e*P	**Pb**	**17 21 42.3**	**+0.2**
COEB	**Comit de Eme**	**1.41**	**293**	*e*P	**Pb**	**17 21 42.2**	**-0.3**
COEB				*e*S	**Sg**	**17 22 01.3**	**-0.6**
COEB				IAML		17 22 04.5	
	comp=Z,927nm,0.4s						
COEB	**Comit de Eme**	**1.41**	**293**	*e*P	**Pb**	**17 21 42.2**	**-0.3**
COEB				*e*S	**Sg**	**17 22 01.3**	**-0.6**
COEB				IAML		17 22 04.5	
	comp=Z

ILA				S		Sn	17 26 38.1	-0.8
	baz=265							
NWF	**Wu-fen Shan**	**0.64 297**	*i*	P		Pn	17 26 29.7	-0.5
	baz=295							
NWF			*i*	S		Sb	17 26 37.2	0.0
	baz=295							
WFSB	**Wu-fen Shan**	**0.64 297**	*e*	P		Pb	17 26 29.1	+0.7
	baz=295							
WFSB				S		Sb	17 26 37.1	-0.1
	baz=295							
YOJ	**Yonaguni jima**	**0.64 120**		P		Pn	17 26 30.9	+0.8
YOJ			*e*	S		Sn	17 26 40.1	+0.1
EWUT	**Wuta**	**0.66 240**		P		Pg	17 26 27.9	-0.5
	baz=245							
EWUT				S		Sg	17 26 36.8	-0.4
	baz=245							
TWE	**Neicheng**	**0.67 265**	*i*	P		Pg	17 26 28.1	-0.6
	baz=261							
TWE			*i*	S		Sg	17 26 38.0	+0.4
	baz=261							
TNOU	**National Taiwa**	**0.68 303**		P		Pb	17 26 29.8	+0.7
	baz=301							
TNOU				S		Sg	17 26 38.0	+0.1
	baz=301							
ENA	**Nanau**	**0.70 240**	*i*	P		Pg	17 26 29.1	-0.1
	baz=244							
ENA				S		Sg	17 26 38.4	0.0
	baz=244							
FUSB	**Fushanzhiwuyua**	**0.74 269**		P		Pg	17 26 29.5	-0.5
	baz=266							
FUSB				S		Sb	17 26 40.3	0.0
	baz=266							
EHP	**Heping Village**	**0.76 232**		P		Pb	17 26 30.7	+0.1
	baz=241							
EHP				S		Sg	17 26 40.5	0.0
	baz=241							
TWA	**Mucha**	**0.77 285**		P		Pn	17 26 31.8	-0.1
	baz=283							
TWA				S		Sg	17 26 40.8	+0.1
	baz=283							
ENTT	**Nioudou**	**0.77 260**		P		Pg	17 26 30.2	-0.4
	baz=256							
ENTT				S		Sg	17 26 40.0	-0.8
	baz=256							
NHDH	**Xindian Distri**	**0.82 283**	*i*	P		Pn	17 26 32.3	-0.3
	baz=271							
NHDH			*i*	S		Sg	17 26 43.3	+1.1
	baz=271							
NDT	**Datong Townshi**	**0.83 258**		P		Pb	17 26 31.5	-0.3
	baz=242							
NDT				S		Sb	17 26 41.6	-1.1
	baz=242							
LATG	**Datong**	**0.83 253**		P		Pb	17 26 31.7	-0.2
	baz=236							
LATG				S		Sb	17 26 41.9	-1.1
	baz=236							
YM01	**YM01**	**0.84 296**		P		Pn	17 26 32.5	-0.4
	baz=294							
YM01				S		Sb	17 26 42.4	-0.7
	baz=294							
TAP	**Taipei**	**0.85 288**		S		Sg	17 26 43.6	+0.2
	baz=285							
TWY	**Chenhua**	**0.88 304**	*i*	P		Pb	17 26 34.1	+0.6
	baz=303							
TWY			*i*	S		Sg	17 26 45.1	+0.9
	baz=303							
ANP	**Anpu**	**0.90 297**		P		Pn	17 26 33.6	-0.2
	baz=295							
ANP				S		Sb	17 26 44.3	-0.5
	baz=295							
YHNB	**Yeheng**	**0.94 263**		P		Pb	17 26 33.7	0.0
	baz=261							
YHNB				S		Sg	17 26 46.5	+0.3
	baz=261							
ETL	**Fush Village**	**0.94 229**		P		Pb	17 26 33.5	-0.2
	baz=237							
ETL				S		Sb	17 26 45.6	-0.4
	baz=237							
NTST	**Danshui**	**0.95 294**		P		Pn	17 26 35.5	+1.1
	baz=292							
NTST				S		Sg	17 26 46.4	+0.1
	baz=292							
TWS1	**Kuangyinshan**	**0.95 290**		P		Pg	17 26 34.1	+0.1
	baz=288							
TWS1			*i*	S		Sb	17 26 46.2	0.0
	baz=288							
NACB	**Ninganchiao**	**0.95 231**		P		Pb	17 26 33.8	0.0
	baz=239							
NACB				S		Sb	17 26 44.9	-1.4
	baz=239							
NSK	**Sanguang**	**0.96 264**	*i*	P		Pb	17 26 32.6	-1.3
	baz=261							
NSK				S		Sb	17 26 46.5	+0.1
	baz=261							
NNSB	**Datong**	**0.99 250**		P		Pb	17 26 34.3	-0.3
	baz=234							
NNSB				S		Sb	17 26 47.1	-0.4
	baz=234							
NNS	**Nan Shan**	**1.00 250**		P		Pb	17 26 34.3	-0.4
	baz=235							
NNS			*i*	S		Sb	17 26 46.1	-1.5
	baz=235							
TWD	**Chiawan**	**1.01 227**	*i*	P		Pb	17 26 34.9	+0.1
	baz=231							
TWD				S		Sb	17 26 48.0	0.0
	baz=231							
ETLH	**Xiulin Townshi**	**1.02 236**		P		Pb	17 26 34.8	-0.2
	baz=233							
HWA	**Hwalien**	**1.08 222**	*e*	P		Pg	17 26 38.9	+2.5
	baz=228							
NFF	**Wufeng Townshi**	**1.18 263**		P		Pn	17 26 37.6	0.0
	baz=260							
NFF				S		Sn	17 26 53.2	-0.3
	baz=260							
FUSS	**Fushou**	**1.18 244**	*i*	P		Pg	17 26 38.3	-0.1
	baz=241							
FUSS				S		Sb	17 26 52.5	-0.6
	baz=241							
WHF	**Hehuan Shan**	**1.22 239**	*i*	P		Pb	17 26 38.8	+0.3
	baz=236							
WHF			*i*	S		Sb	17 26 54.0	-0.3
	baz=236							
TWT	**Tachien**	**1.23 245**	*i*	P		Pg	17 26 40.7	+1.3
	baz=242							
TWT			*i*	S		Sb	17 26 54.6	0.0
	baz=242							
TDCB	**Techi**	**1.25 245**	*e*	P		Pg	17 26 40.4	+0.7
	baz=243							
LIOB	**Emei**	**1.27 264**	*i*	P		Pg	17 26 39.9	-0.1
	baz=253							
LIOB			*i*	S		Sg	17 26 58.8	+2.3
	baz=253							
NSTT	**Nanjuang**	**1.28 264**		P		Pg	17 26 40.6	+0.3
	baz=261							
NSTT				S		Sg	17 26 57.1	0.0
	baz=261							
ESL	**Shilin**	**1.31 223**		P		Pg	17 26 40.5	-0.2
	baz=202							
CHGB	**Renai**	**1.33 238**		P		Pg	17 26 41.2	0.0
	baz=244							
CHGB				S		Sn	17 26 57.5	+0.1
	baz=244							
OWD	**Renai**	**1.39 234**		P		Pg	17 26 42.2	-0.1
	baz=239							
OWD				S		Sb	17 26 59.2	+0.2
	baz=239							
WUSB	**Renai**	**1.41 236**		P		Pg	17 26 42.5	-0.3
	baz=242							
WUSB				S		Sb	17 27 00.0	+0.4
	baz=242							
WHP	**Taichung City**	**1.42 250**		P		Pg	17 26 43.6	+0.7
	baz=247							
WHP				S		Sg	17 27 01.2	-0.1
	baz=247							
NMLH	**Miaoli**	**1.49 261**	*e*	P		Pb	17 26 42.6	-0.3
	baz=251							
NMLH			*e*	S		Sg	17 27 04.1	+0.5
	baz=251							
NSY	**Sanyi**	**1.54 257**	*i*	P		Pg	17 26 46.5	+1.4
	baz=254							
NSY				S		Sg	17 27 05.8	+0.7
	baz=254							
WCS	**Beigang Elemen**	**1.54 242**	*e*	P		Pb	17 26 44.1	+0.3
	baz=240							
WCS			*e*	S		Sg	17 27 05.8	+0.7
	baz=240							
VWDT	**VWDT**	**1.54 229**	*e*	P		Pg	17 26 45.4	+0.2
	baz=231							
VWDT			*e*	S		Sg	17 27 04.4	-0.8
	baz=231							
TWQ1	**Liyutan**	**1.55 254**	*i*	P		Pg	17 26 46.0	+0.7
	baz=251							
TWQ1				S		Sg	17 27 05.8	+0.4
	baz=251							
JKRS	**Kuro-shima**	**1.56 110**		P		Pb	17 26 44.3	+0.2
HGSD	**Ruisui**	**1.56 215**	*e*	P		Pn	17 26 42.8	-0.1
	baz=198							
JIJ	**Ishigaki jima**	**1.64 104**		P		Pb	17 26 45.8	+0.3
JIJ			*e*	S		Sg	17 27 07.3	-1.0
SMLT	**Sun Moon Lake**	**1.64 237**		P		Pg	17 26 47.0	-0.1
	baz=221							
SSLB	**Suanglung**	**1.65 234**	*e*	P		Pb	17 26 46.4	+0.6
	baz=238							
SSLB			*e*	S		Sg	17 27 09.3	+0.5
	baz=238							
TCU	**Taichung**	**1.70 249**	*e*	P		Pg	17 26 47.9	-0.2
	baz=239							
TCU			*e*	S		Sg	17 27 11.5	+1.3
	baz=239							
YULB	**Yu-li**	**1.71 216**	*e*	P		Pn	17 26 45.3	+0.4
	baz=214							
EYUL	**Yuli**	**1.74 215**	*e*	P		Pb	17 26 47.4	+0.2
	baz=200							
JISG	**Ishigakijimahi**	**1.75 96**	*e*	P		Pg	17 26 48.6	-0.5
WHYT	**Xinyi Township**	**1.78 233**	*e*	P		Pb	17 26 48.6	+0.6
	baz=217							
YUS	**Yu-Shan**	**1.85 226**	*e*	P		Pb	17 26 49.4	0.0
	baz=224							
ALS	**Alishan**	**1.93 229**	*e*	P		Pb	17 26 51.4	+0.7
	baz=213							
WCKO	**Fanlu**	**2.12 231**	*e*	P		Pb	17 26 53.7	0.0
	baz=229							
TPUB	**Ta-pu**	**2.19 228**	*e*	P		Pb	17 26 53.5	-1.5
	baz=209							
WTP	**Ta-pu**	**2.24 227**	*e*	P		Pb	17 26 54.5	-1.3
	baz=209							
WTP			*e*	S		Sb	17 27 22.7	-0.7
	baz=209							
TWK	**Hsinying**	**2.31 230**	*e*	P		Pb	17 26 57.1	0.0
	baz=211							
CHN1	**Nanshi**	**2.34 228**	*e*	P		Pb	17 26 57.5	+0.1
	baz=225							
WSL	**Shuilin Townsh**	**2.35 238**	*e*	P		Pn	17 26 54.2	+0.6
	baz=252							

*IDC **19** 17:36:52.1±2.1, 7°.56S×128°.75E, h145km±22km, mb3.4/3, mbtmp4.0/8, Error ellipse: s-maj=24.2km s-min=19.6km az=115.0*

*NEIC **19** 17:36:53.3±1.6, 7°.45S±0°.06×128°.7E±0°.1, h138km±23km, mb4.4/5, Error ellipse: s-maj=15.0km s-min=8.5km az=74.0*

ISC 19 17:36:51.1±0.7, **7°.54S**±0°.05×**128°.80E**±0°.07, **h131**km, **n21, σ2§46/28, mb3.8/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.52**	**100**	Pn	**Pn**	**17 37 35.3**	**+3.8**
BATI	**Baumata**	**5.72**	**242**	P	**Pn**	**17 38 16.0**	**+2.1**
	20nm,0.3s,baz=90,slow=5.9,SNR=55						
BATI				S	**Sn**	**17 39 18.7**	**+0.1**
	40nm,0.5s,baz=46,slow=5.9,SNR=8.7						
FAKI	**Fak Fak**	**5.74**	**37**	Pn	**Pn**	**17 38 14.9**	**+0.7**
FAKI				Sn	**Sn**	**17 39 16.1**	**-2.8**
MTN	**Manton Dam**	**5.75**	**157**	Pn	**Pn**	**17 38 17.3**	**+3.0**
MTN				Sn	**Sn**	**17 39 19.8**	**+0.7**
SIJI	**Sorong**	**7.07**	**20**	P	**Pn**	**17 38 33.5**	**+1.3**
	1.5nm,0.2s,baz=304,slow=23,SNR=7.1						
SIJI				S	**Sn**	**17 39 48.5**	**-2.7**
	1.8nm,0.3s,baz=120,slow=23,SNR=2.3						
KNRA	**Kununurra**	**8.08**	**180**		**Pn**	**17 38 47.3**	**+1.6**
KNRA				Sn	**Sn**	**17 40 11.2**	**-4.3**
FITZ	**Fitzroy Crossi**	**10.93**	**196**	P	**Pn**	**17 39 22.9**	**-1.0**
	3.1nm,0.3s,baz=17,slow=11,SNR=46						
FITZ				S	Sn	17 41 15.2	-9.3
	4.1nm,0.4s,baz=62,slow=17,SNR=2.3						
FITZ	**Fitzroy Crossi**	**10.93**	**196**		**Pn**	**17 39 23.2**	**-0.7**
WB0	**Warramunga Arr**	**13.31**	**156**	Pn	**Pn**	**17 39 54.3**	**-0.7**
WRA	**Warramunga Arr**	**13.45**	**157**	P	**Pn**	**17 39 56.8**	**0.0**
	2.3nm,0.7s,baz=342,slow=12,SNR=37						
WRA				S	**Sn**	**17 42 19.8**	**-5.5**
	7.4nm,0.6s,baz=329,slow=25,SNR=8.0						
WB2	**Warramunga Arr**	**13.45**	**157**	Pn	**Pn**	**17 39 56.2**	**-0.6**
WR0	**Warramunga Arr**	**13.54**	**156**	Pn	**Pn**	**17 39 57.8**	**-0.2**
COEN	**Coen**	**15.49**	**115**	P	**P**	**17 40 26.7**	**+2.5**
COEN				IAmb	IAmb	17 41 09.7	
	comp=Z,32nm,1.5s						
MBWA	**Marble Bar**	**16.12**	**212**		**P**	**17 40 32.0**	**+0.9**
MBWA				IAmb	IAmb	17 40 53.0	
	comp=Z,22nm,1.2s						
PSA00	**Pilbara Seismi**	**16.41**	**211**		**P**	**17 40 34.7**	**+0.4**
PSA00				IAmb	IAmb	17 41 06.5	
	comp=Z,34nm,1.3s						
AS31	**Alice Springs**	**16.76**	**164**	P	**Pn**	**17 40 40.5**	**+2.3**
ASAR	**Alice Springs**	**16.76**	**164**	P	**Pn**	**17 40 39.6**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=338,slow=9.7,SNR=57						
ASAR				S	**Sn**	**17 43 39.8**	**-5.4**
	comp=Z,1.0nm,0.3s,baz=318,slow=15,SNR=6.7						
BBOO	**Buckleboo**	**26.03**	**166**	P	**P**	**17 42 14.7**	**+2.6**
SONM	**Songino Array**	**58.59**	**342**	P	**P**	**17 46 33.5**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=157,slow=4.1,SNR=2.7						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**17 47 36.1**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=120,slow=6.4,SNR=14						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**71.55**	**334**	P	**P**	**17 47 56.9**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=146,slow=6.8,SNR=4.5						
	comp=Z,0.6nm,0.4s						

*DJA **19** 18:14:46.8±0.3, 7°.5S±2°.1×12°.0E±°, h10km, M4.3/11, mb4.8/2, MLv4.1/11*

*IDC **19** 18:14:49.8±2.3, 7°.37S×120°.49E, h43km±22km, mb3.5/7, mbtmp3.8/11, ML3.7/4, Error ellipse: s-maj=77.6km s-min=10.1km az=63.0*

ISC 19 18:14:49.7±0.7, **7°.45S**±0°.05×**120°.46E**±0°.07, **h50**km, **n20, σ1§61/22, mb3.7/6, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**1.30**	**1**	P	**Pn**	**18 15 09.0**	**-2.5**
EDFI	**Ende, Flores**	**1.77**	**137**	P	**Pn**	**18 15 17.3**	**-0.8**
MMRI	**Maumere**	**2.12**	**124**	P	**Pn**	**18 15 22.2**	**-0.5**
BKSI	**Bulukumba**	**2.14**	**351**	P	**Pn**	**18 15 21.6**	**-1.4**
KAPI	**Kappang**	**2.52**	**344**	P	**Pn**	**18 15 27.5**	**-0.7**
	25nm,0.3s,baz=158,slow=12,SNR=62						
KAPI				S	**Sn**	**18 15 56.4**	**-1.4**
	141nm,0.5s,baz=26,slow=20,SNR=19						
	75nm,0.3s						
SPSI	**Sidrap Palu**	**3.53**	**349**	P	**Pn**	**18 15 41.8**	**-0.3**
TWSI	**Taliwang, Sumb**	**3.77**	**250**	P	**Pn**	**18 15 45.1**	**-0.3**
BATI	**Baumata**	**4.19**	**131**	P	**Pn**	**18 15 53.2**	**+2.0**
	6.4nm,0.3s,baz=294,slow=5.9,SNR=6.8						
	11nm,0.4s						
TTSI	**Tana Toraja**	**4.42**	**352**	P	**Pn**	**18 15 55.7**	**+1.4**
SRBI	**Singaraja**	**5.24**	**263**	P	**Pn**	**18 16 04.3**	**-1.3**
	0.2nm43nm,0.5s						
KMMI	**Kalianget**	**6.46**	**273**	P	**Pn**	**18 16 21.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.73**	**155**	P	**Pn**	**18 17 35.1**	**+0.7**
	0.2nm,0.3s,baz=349,slow=8.7,SNR=6.2						
FITZ				S	**Sn**	**18 19 39.0**	**-5.0**
	3.4nm,0.9s,baz=167,slow=10,SNR=1.5						
	3.5nm,0.8s						
WRA	**Warramunga Arr**	**18.31**	**134**	P	**P**	**18 18 59.8**	**-0.1**
	0.3nm,0.3s,baz=308,slow=13,SNR=20						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**20.65**	**143**	P	**P**	**18 19 27.0**	**+1.6**
	5.4nm,0.9s,baz=322,slow=9.5,SNR=29						
	5.4nm,0.8s						
STKA	**Stephens Creek**	**31.28**	**144**	P	**P**	**18 21 05.1**	**0.0**
	1.0nm,0.5s,baz=317,slow=14,SNR=1.9						
	1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.37**	**321**	P	**P**	**18 21 24.1**	**+0.6**
	0.4nm,0.6s,baz=128,slow=7.4,SNR=3.0						
	0.4nm,0.6s						
SONM	**Songino Array**	**56.43**	**349**	P	**P**	**18 24 26.8**	**+0.4**
	0.8nm,0.6s,baz=160,slow=9.0,SNR=6.6						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**63.76**	**332**	P	**P**	**18 25 17.2**	**+0.7**
	0.2nm,0.5s,baz=146,slow=7.5,SNR=2.9						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**68.13**	**338**	P	**P**	**18 25 44.8**	**+0.5**
	0.8nm,0.5s,baz=136,slow=5.8,SNR=3.9						
	0.8nm,0.5s						
VNDA	**Vanda**	**73.29**	**171**	P	**P**	**18 26 16.3**	**+0.9**
	0.7nm,1.0s,baz=321,slow=5.4,SNR=3.0						
	0.7nm,1.0s						

IDC 19 18:42:00.9±1.9, **2°.37S**×**140°.79E, h0**km, **mb3.8/4, mbtmp3.8/5, ML3.6/1, MS3.0/4, Error ellipse: s-maj=62.1km s-min=28.4km az=87.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**16.37**	**14**	LR	LR	18 52 09.6	
	comp=Z,39nm,19.4s,baz=168,slow=37						
DAV	**Davao City (W)**	**17.85**	**302**	LR	LR	18 51 52.9	
	comp=Z,22nm,21.6s,baz=110,slow=33						
WRA	**Warramunga Arr**	**18.57**	**199**	P	Pn	18 46 19.8	+0.1
	0.2nm,0.3s,baz=24,slow=12,SNR=24						
	1.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.57**	**223**	P	P	18 46 51.1	-1.1
	4.8nm,1.1s,baz=59,slow=12,SNR=4.1						
	4.8nm,1.1s						
ASAR	**Alice Springs**	**22.19**	**197**	P	P	18 46 59.4	+0.4
	1.6nm,0.7s,baz=28,slow=11,SNR=25						
	1.6nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**32.86**	**50**	T	T	19 24 07.8	
	baz=231						
H11S2	**WAKE ISLAND Hy**	**32.87**	**50**	T	T	19 24 11.0	
	baz=231						
H11S1	**WAKE ISLAND Hy**	**32.88**	**50**	T	T	19 24 09.4	
	baz=231						
KSRS	**Korea Array**	**41.39**	**344**	LR	LR	19 04 42.1	
	comp=Z,15nm,20.3s,baz=250,slow=33						
AFI	**Afiamalu**	**48.23**	**106**	LR	LR	19 08 24.9	
	comp=Z,62nm,19.4s,baz=63,slow=33						
MKAR	**Makanchi Array**	**70.81**	**322**	P	P	18 53 19.4	0.0
	0.9nm,1.0s,baz=114,slow=6.5,SNR=5.2						
	0.9nm,1.0s						
VNDA	**Vanda**	**75.94**	**175**	P	P	18 53 49.3	+0.2
	1.0nm,0.7s,baz=325,slow=6.9,SNR=12						
	1.0nm,0.7s						

*NEIC **19** 18:46:29.8±1.3, 16°.85S±0°.06×71°.5W±0°.1, h101km±9km, mb4.1/9, ML4.3(ARE), ML4.1(GUC), Error ellipse: s-maj=14.3km s-min=8.9km az=89.0*

*VAO **19** 18:46:30.8±0.7, 16°.72S×71°.21W, h124km±5km, mb4.3*

*ARE **19** 18:46:30±2.1, 16°.92S±0°.07×71°.3W±0°.1, h116km±6km, Error ellipse: s-maj=15.5km s-min=9.6km az=105.0*

*IDC **19** 18:46:31.0±1.5, 16°.70S×71°.25W, h110km±13km, mb3.6/8, mbtmp4.0/10, MS2.7/2, Error ellipse: s-maj=18.5km s-min=12.8km az=30.0*

*GUC **19** 18:46:32.1±0.6, 16°.89S×71°.24W, h108km±3km, ML4.1*

ISC 19 18:46:29.4±0.7, **16°.87S**±0°.04×**71°.34W**±0°.06, **h112**km±6km, **n111, σ1§86/129, mb3.9/13, 6C-3D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**1.77**	**148**		**Pn**	**18 47 00.1**	**+0.6**
AP01	**Chacalluta**	**1.77**	**148**	⇑*i*P	**Pn**	**18 47 01.6**	**+2.1**
AP01				*i* S	**Sn**	**18 47 23.2**	**+0.7**
AP01				IAML		18 47 26.7	
	comp=N,3μm,0.3s						
PB18	**Visviri**	**1.91**	**112**	Pn	**Pn**	**18 47 04.8**	**+2.9**
PB18				Sn	**Sn**	**18 47 29.2**	**+2.7**
PB12	**IPOC Station P**	**1.98**	**151**		**Pn**	**18 47 03.9**	**+1.5**
PB12				Sn	**Sn**	**18 47 28.7**	**+1.2**
PB12	**IPOC Station P**	**1.98**	**151**	⇑*i*P	**Pn**	**18 47 04.0**	**+1.6**
PB12				*i* S	**Sn**	**18 47 27.7**	**+0.2**
PB12				IAML		18 47 29.9	
	comp=N,1μm,0.1s						
PB16	**IPOC Station P**	**2.27**	**130**		**Pn**	**18 47 08.1**	**+1.6**
PB16	**IPOC Station P**	**2.27**	**130**	⇓*i*P	**Pn**	**18 47 08.3**	**+1.9**
PB16				*i* S	**Sn**	**18 47 36.0**	**+1.1**
PB16				IAML		18 47 39.2	
	comp=N,434nm,0.4s						
LPAZ	**La Paz**	**3.13**	**80**	P	**Pn**	**18 47 19.1**	**+1.4**
	comp=N,532nm,0.4s,baz=290,slow=8.6,SNR=2479						
LPAZ				S	**Sn**	**18 47 54.9**	**0.0**
	comp=N,56nm,0.7s,baz=204,slow=24,SNR=1.0						
LPAZ	**La Paz**	**3.13**	**80**	*e*P	**Pn**	**18 47 19.2**	**+1.5**
GO01	**Chusmiza**	**3.45**	**144**	P	**Pn**	**18 47 23.4**	**+1.6**
GO01	**Chusmiza**	**3.45**	**144**	⇑*i*P	**Pn**	**18 47 24.2**	**+2.3**
GO01				*i* S	**Sn**	**18 48 03.6**	**+1.3**
GO01				IAML		18 48 08.0	
	comp=N,561nm,0.3s						
TA02	**Huaiquique**	**3.57**	**161**		**Pn**	**18 47 24.3**	**+1.3**
TA02	**Huaiquique**	**3.57**	**161**	*e*P	**Pn**	**18 47 24.5**	**+1.5**
TA02				*i* S	**Sn**	**18 48 03.7**	**-0.8**
HMBC	**Humberstone**	**3.66**	**158**	⇓*i*P	**Pn**	**18 47 25.0**	**+0.7**
HMBC				*i* S	**Sn**	**18 48 06.2**	**-0.5**
TA01	**Diego Aracena**	**3.84**	**164**	Pn	**Pn**	**18 47 28.0**	**+1.4**
TA01	**Diego Aracena**	**3.84**	**164**	*e*P	**Pn**	**18 47 27.9**	**+1.4**
TA01				*i* S	**Sn**	**18 48 09.3**	**-1.5**
PB08	**IPOC Station P**	**3.86**	**148**		**Pn**	**18 47 28.5**	**+1.3**
PB08	**IPOC Station P**	**3.86**	**148**	⇓*i*P	**Pn**	**18 47 28.7**	**+1.5**
PB08				*i* S	**Sn**	**18 48 10.8**	**-1.1**
PATCX	**Punta Patache**	**4.09**	**164**		**Pn**	**18 47 31.2**	**+1.2**
PATCX	**Punta Patache**	**4.09**	**164**	⇑*i*P	**Pn**	**18 47 31.3**	**+1.3**
PATCX				*i* S	**Sn**	**18 48 14.8**	**-2.2**
PB01	**IPOC Station P**	**4.50**	**157**		**Pn**	**18 47 36.0**	**+0.4**
PB01	**IPOC Station P**	**4.50**	**157**	⇑*i*P	**Pn**	**18 47 36.3**	**+0.7**
PB01				*i* S	**Sn**	**18 48 26.1**	**-0.9**
PB02	**IPOC Station P**	**4.63**	**163**		**Pn**	**18 47 38.5**	**+1.1**
PB02	**IPOC Station P**	**4.63**	**163**	*e*P	**Pn**	**18 47 38.5**	**+1.1**
PB02				*i* S	**Sn**	**18 48 27.2**	**-2.9**
PB07	**IPOC Station P**	**5.02**	**164**		**Pn**	**18 47 43.9**	**+1.2**
PB07				Sn	**Sn**	**18 48 37.1**	**-2.6**
PB07	**IPOC Station P**	**5.02**	**164**	⇑*i*P	**Pn**	**18 47 44.1**	**+1.4**
PB07				*i* S	**Sn**	**18 48 36.9**	**-2.8**
PB09	**IPOC Station P**	**5.28**	**158**		**Pn**	**18 47 47.7**	**+1.5**
PB09				Sn	**Sn**	**18 48 44.3**	**-1.7**
PB09	**IPOC Station P**	**5.28**	**158**	*e*P	**Pn**	**18 47 47.8**	**+1.5**
PB09				*i* S	**Sn**	**18 48 46.3**	**+0.2**
PB04	**IPOC Station P**	**5.55**	**169**	Pn	**Pn**	**18 47 50.7**	**+0.9**
PB04				Sn	**Sn**	**18 48 48.7**	**-3.8**
PB06	**IPOC Station P**	**6.04**	**164**	Pn	**Pn**	**18 47 56.7**	**+0.3**
PB06				Sn	**Sn**	**18 48 59.0**	**-5.3**
LVC	**Limon Verde**	**6.15**	**159**	P	**Pn**	**18 47 59.6**	**+1.5**
	comp=N,13nm,0.3s,baz=346,slow=9.8,SNR=22						
LVC				S	**Sn**	**18 49 04.6**	**-2.7**
	comp=N,47nm,0.3s,baz=224,slow=19,SNR=38						
LVC				LR	LR	18 50 25.2	
	comp=N,59nm,21.0s,baz=274,slow=37						
LVC	**Limon Verde**	**6.15**	**159**	Pn	**

PTGB	**Pitanga**	**19.62**	**117**	*eP*		**Pn**	**18 50 50.3**	**-1.4**
ITTB	**Itaituba**	**19.71**	**53**	*eP*		**P**	**18 50 49.0**	**-1.3**
SNDB	**Serra Nova Dou**	**20.01**	**79**	*eP*		**P**	**18 50 52.1**	**-1.4**
ITRB	**Iturama**	**20.12**	**101**	*eP*		**P**	**18 50 54.0**	**-0.6**
ITAB	**Concordia**	**20.55**	**123**	*eP*		**P**	**18 50 59.9**	**+0.8**
CPSB	**Cacapava Do Su**	**21.18**	**133**	*eP*		**P**	**18 51 07.1**	**+1.2**
PLTB	**Pedras Altas**	**21.88**	**136**	*eP*		**P**	**18 51 13.7**	**+0.3**
BOAV	**Boa Vista**	**21.92**	**30**	P		**P**	**18 51 12.3**	**-1.5**
BOAV				IAmb		IAmb	18 51 43.6	
	comp=Z,4.3nm,1.1s							
BOAV	**Boa Vista**	**21.92**	**30**	*eP*		**P**	**18 51 13.4**	**-0.4**
IPMB	**Ipameri, GO**	**22.09**	**96**	*eP*		**P**	**18 51 13.7**	**-2.1**
MALB	**Monte Alegre**	**22.47**	**50**	*eP*		**P**	**18 51 18.6**	**-0.9**
GO06	**Curarrehue**	**22.63**	**180**	P		**P**	**18 51 24.7**	**+3.6**
GO06				IAmb		IAmb	18 52 01.2	
	comp=Z,13nm,1.4s							
TRQA	**Tornquist**	**22.65**	**161**	P		**P**	**18 51 22.9**	**+1.7**
TRQA				IAmb		IAmb	18 51 35.9	
	comp=Z,4.1nm,0.8s							
TER01	**Tubaro-SC**	**23.50**	**123**	*eP*		**P**	**18 51 30.1**	**+0.8**
PRPB	**Parauapebas**	**23.59**	**66**	*eP*		**P**	**18 51 28.9**	**-1.4**
PLCA	**Paso Flores**	**23.79**	**179**	P		**P**	**18 51 35.6**	**+3.7**
	comp=Z,3.1nm,0.7s,baz=358,slow=12,SNR=11							
	comp=Z,3.1nm,0.7s							
PLCA	**Paso Flores**	**23.79**	**179**	P		**P**	**18 51 31.0**	**-0.8**
PLCA				IAmb		IAmb	18 51 37.0	
	comp=Z,6.7nm,1.1s							
SMTB	**Santa Maria do**	**24.46**	**74**	*eP*		**P**	**18 51 37.3**	**-0.8**
BAUV	**El Baul**	**25.86**	**7**	P		**P**	**18 51 50.9**	**+0.2**
JANB	**Januaria**	**26.04**	**90**	*eP*		**P**	**18 51 51.6**	**-0.9**
MC01	**Montes Claros**	**26.22**	**94**	*eP*		**P**	**18 51 53.5**	**-0.7**
NBLA	**Lagarto - SE**	**33.05**	**84**	*eP*		**P**	**18 52 53.2**	**-1.4**
NBAN	**Anadia - AL**	**34.83**	**83**	*eP*		**P**	**18 53 07.5**	**-2.5**
SJG	**San Juan**	**35.13**	**9**	LR		LR	19 09 28.2	
	comp=Z,15nm,18.3s,baz=171,slow=39							
TXAR	**Lajitas Array**	**55.54**	**326**	P		**P**	**18 55 54.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=152,slow=10,SNR=6.2							
	comp=Z,0.4nm,0.6s							
TXAR	**Lajitas Array**	**55.54**	**326**	P		**P**	**18 55 52.6**	**-0.7**
TX31	**Lajitas Ar. Si**	**55.54**	**326**	P		**P**	**18 55 52.4**	**-0.9**
TX31				IAmb		IAmb	18 56 06.2	
	comp=Z,2.0nm,1.4s							
TX32	**Lajitas Array**	**55.54**	**326**	P		**P**	**18 55 52.6**	**-0.7**
VNA3	**Neumayer Olymp**	**65.17**	**162**	P		**P**	**18 57 01.5**	**+3.3**
VNA1	**Neumayer--Stat**	**65.39**	**161**	P		**P**	**18 57 03.1**	**+3.5**
VNA2	**Neumayer--Watz**	**65.75**	**161**	P		P	18 57 06.8	+4.9
SNAA	**Sanae**	**67.38**	**161**	P		P	**18 57 15.4**	**+3.1**
SNAA	**Sanae**	**67.38**	**161**	P		P	**18 57 15.1**	**+2.7**
SNAA				IAmb		IAmb	18 57 16.1	
	comp=Z,4.3nm,0.6s							
PDAR	**Pinedale Array**	**68.97**	**331**	P		**P**	**18 57 23.5**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.4,SNR=2.1							
	comp=Z,0.2nm,0.4s							
TROLL	**Troll, Antarti**	**69.09**	**161**	P		**P**	**18 57 26.6**	**+3.4**
ULM	**Lac du Bonnet**	**70.24**	**344**	P		**P**	**18 57 27.3**	**-2.9**
	comp=Z,5.5nm,0.7s,baz=48,slow=5.4,SNR=2.5							
NVAR	**Mina Array Bea**	**70.45**	**322**	P		**P**	**18 57 33.7**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=142,slow=4.6,SNR=3.7							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**78.05**	**72**	P		**P**	**18 58 16.0**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=253,slow=5.6,SNR=26							
	comp=Z,2.4nm,0.3s							
ESDC	**Sonseca Array**	**84.21**	**46**	P		**P**	**18 58 49.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=265,slow=5.6,SNR=5.5							
	comp=Z,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**86.09**	**341**	P		**P**	**18 58 58.8**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=135,slow=4.8,SNR=8.7							
YKA				pP		**pP**	**18 59 28.3**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=138,slow=5.6,SNR=3.6							
	comp=Z,0.8nm,0.4s							
MAW	**Mawson**	**89.39**	**164**	P		**P**	**18 59 16.0**	**+2.8**
	comp=Z,2.2nm,0.6s,baz=188,slow=5.1,SNR=8.6							
	comp=Z,2.2nm,0.6s							
ASAR	**Alice Springs**	**132.76**	**212**	PKP		**PKiKP**	**19 05 34.3**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=125,slow=1.8,SNR=6.3							
BVAR	**Borovoye Array**	**133.15**	**31**	PKP		**PKiKP**	**19 05 32.4**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=236,slow=1.6,SNR=2.4							
WRA	**Warramunga Arr**	**135.56**	**216**	PKP		**PKiKP**	**19 05 39.8**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=142,slow=1.8,SNR=21							
ZALV	**Zalesovo Beam**	**138.62**	**21**	PKP		**PKPdf**	**19 05 41.7**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=311,slow=4.0,SNR=8.8							
ZALV	**Zalesovo Beam**	**138.62**	**21**			**PKiKP**	**19 05 44.4**	**+0.3**
MKAR	**Makanchi Array**	**143.03**	**30**	PKhKP		PKPpre	19 05 47.0	
	comp=Z,0.1nm,0.4s,baz=303,slow=2.9,SNR=2.6							
USRK	**Ussuriysk Ar.**	**146.38**	**329**	PKPbc		**PKPab**	**19 05 58.1**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=114,slow=0.7,SNR=5.2							
MJAR	**Matsushiro Arr**	**147.33**	**313**	PKPbc		**PKPbc**	**19 06 00.9**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=105,slow=3.7,SNR=6.1							
SONM	**Songino Array**	**149.06**	**3**	PKPbc		**PKPab**	**19 06 07.4**	**-1.7**
	comp=Z,2.1nm,0.4s,baz=327,slow=1.3,SNR=18							
KSRS	**Korea Array**	**153.38**	**324**	PKPbc		**PKiKP**	**19 06 17.2**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=0.1,slow=2.0,SNR=1.6							

*GUC **19** 18:51:27.4±0.8, 18°.20S×69°.66W, h119km±4km, ML3.8*
*IDC **19** 18:51:29.1±2.2, 18°.33S×69°.23W, h142km±13km, mb4.1/2, mbtmp4.1/5, Error ellipse: s-maj=44.8km s-min=20.3km az=105.0*

ISC 19 18:51:25.9±0.9, **18°.26S**±0°.05×**69°.77W**±0°.09, **h132**km±6km, **n18**, σ1**°65**/30, **3C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**0.26**	**106**⇑	*eP*	**Pn**	**18 51 44.8**	**-0.1**
PB16				*i* S	**Sn**	**18 51 58.1**	**-0.9**
PB16				IAML		18 51 59.1	
	comp=N,4μm,0.3s						
AP01	**Chacalluta**	**0.55**	**259**⇑	*i*P	**Pn**	**18 51 45.6**	**+0.2**
AP01				*i* S	**Sn**	**18 52 00.6**	**+0.4**
AP01				IAML		18 52 01.4	
	comp=N,9μm,0.2s						
PB12	**IPOC Station P**	**0.64**	**237**⇑	*i*P	**Pn**	**18 51 46.1**	**+0.1**
PB12				*i* S	**Sn**	**18 52 01.2**	**-0.2**
PB12				IAML		18 52 02.8	
	comp=E,2μm,0.1s						
GO01	**Chusmiza**	**1.50**	**159**⇓	*i*P	**Pn**	**18 51 56.1**	**+1.5**
GO01				*e*S	**Sn**	**18 52 18.5**	**+2.0**
GO01				IAML		18 52 24.1	
	comp=E,1μm,0.1s						
PB08	**IPOC Station P**	**1.96**	**163**⇓	*i*P	**Pn**	**18 52 01.5**	**+1.7**
PB08				*e*S	**Sn**	**18 52 26.9**	**+1.2**
PB08				IAML		18 52 29.3	
	comp=E,444nm,0.2s						
HMBC	**Humberstone**	**2.01**	**183**	*eP*	**Pn**	**18 52 00.8**	**+0.7**
HMBC				*e*S	**Sn**	**18 52 26.0**	**-0.5**
HMBC				IAML		18 52 30.1	
	comp=N,402nm,0.3s						
TA01	**Diego Aracena**	**2.32**	**190**⇓	*e*P	**Pn**	**18 52 04.3**	**+0.4**
TA01				*e*S	**Sn**	**18 52 32.0**	**-1.1**
TA01				IAML		18 52 39.8	
	comp=E,241nm,0.5s						
LPAZ	**La Paz**	**2.51**	**39**	P	**Pn**	**18 52 07.7**	**+0.8**
	comp=E,78nm,0.3s,baz=224,slow=2.9,SNR=144						
LPAZ				S	**Sn**	**18 52 38.4**	**0.0**
	comp=E,38nm,0.8s,baz=169,slow=13,SNR=2.7						
LPAZ	**La Paz**	**2.51**	**39**⇓	*i*P	**Pn**	**18 52 07.7**	**+0.8**
PATCX	**Punta Patache**	**2.57**	**188**	*eP*	**Pn**	**18 52 08.0**	**+0.8**
PATCX				*i* S	**Sn**	**18 52 35.2**	**-3.7**
PATCX				IAML		18 52 38.7	
	comp=E,206nm,0.4s						
PB01	**IPOC Station P**	**2.78**	**175**	*eP*	**Pn**	**18 52 10.7**	**+0.9**
PB01				*e*S	**Sn**	**18 52 39.8**	**-3.9**
PB01				IAML		18 52 44.0	
	comp=E,233nm,0.4s						
PB02	**IPOC Station P**	**3.04**	**182**	*eP*	**Pn**	**18 52 14.3**	**+1.1**
PB02				*e*S	**Sn**	**18 52 47.7**	**-2.1**
LVC	**Limon Verde**	**4.40**	**170**	P	**Pn**	**18 52 33.0**	**+1.7**
	comp=E,4.7nm,0.3s,baz=351,slow=10,SNR=3.8						
SIV	**San Ignacio**	**8.62**	**76**	P	**Pn**	**18 53 24.2**	**-3.5**
	comp=E,1.6nm,0.3s,baz=248,slow=11,SNR=3.4						
DBIC	**Dimbokro**	**68.64**	**75**	P	**P**	**19 02 15.1**	**-0.3**
	comp=E,3.7nm,0.6s,baz=225,slow=5.7,SNR=8.1						
	comp=E,3.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.06**	**71**	P	**P**	**19 03 04.2**	**-0.9**
	comp=E,1.6nm,0.5s,baz=255,slow=5.6,SNR=15						
	comp=E,1.6nm,0.5s						
WRA	**Warramunga Arr**	**135.26**	**213**	PKP	**PKiKP**	**19 10 33.8**	**+1.4**
	comp=E,1.4nm,1.4s,baz=138,slow=1.8,SNR=1.4						
WRA				pPKP	**pPKPdf**	**19 11 07.9**	**+1.2**
	comp=E,0.2nm,0.9s,baz=140,slow=2.0,SNR=1.0						
SONM	**Songino Array**	**150.34**	**5**	PKPbc	**PKiKP**	**19 11 03.3**	**+0.7**
	comp=E,0.5nm,0.4s,baz=322,slow=2.5,SNR=4.6						

IDC 19 18:59:33.0±2.9, **13°.31S**×**167°.97E, h0**km, **mb3.7**/5,
mbtmp3.7/5, **MS3.6**/4, **Error ellipse: s-maj=118.1km s-min=31.9km az=133.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.76**	**295**	LR	LR	19 04 46.2	
	comp=Z,2μm,21.4s,baz=184,slow=36						
CTA	**Charters Tower**	**21.85**	**249**	LR	LR	19 12 08.0	
	comp=Z,51nm,18.7s,baz=82,slow=35						
RPZ	**Rata Peaks**	**30.41**	**176**	LR	LR	19 16 26.3	
	comp=Z,87nm,18.1s,baz=275,slow=33						
STKA	**Stephens Creek**	**30.43**	**228**	P	P	19 05 47.0	-0.3
	2.7nm,1.0s,baz=63,slow=9.0,SNR=1.9						
	2.7nm,1.0s						
WRA	**Warramunga Arr**	**32.85**	**254**	P	P	19 06 08.5	-0.3
	0.5nm,0.9s,baz=85,slow=8.8,SNR=3.2						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**33.83**	**247**	P	P	19 06 17.7	+0.4
	0.7nm,0.9s,baz=76,slow=9.2,SNR=7.0						
	0.7nm,0.9s						
PPT	**Papeete**	**41.08**	**102**	LR	LR	19 20 04.6	
	comp=Z,47nm,18.9s,baz=25,slow=30						
ILAR	**Eielson Array**	**84.98**	**18**	P	P	19 12 09.9	+0.1
	0.4nm,0.7s,baz=227,slow=1.2,SNR=4.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**96.65**	**316**	P	P	19 13 04.9	-0.3
	0.2nm,0.6s,baz=96,slow=6.3,SNR=2.2						
	0.2nm,0.6s						

*NOU **19** 19:07:02.7, 36°.86S×179°.15W, h80km, MLv4.5/5, East of North Island, N.Z.*
*NEIC **19** 19:07:11.9±2.1, 37°.5S±0°.1×179°.9E±0°.1, h10km±2km, mb4.3/9, Error ellipse: s-maj=18.8km s-min=15.8km az=4.0*
*IDC **19** 19:07:12.7±5.8, 37°.28S×179°.49E, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=288.9km s-min=62.9km az=171.0*
*WEL **19** 19:07:19.7±1.3, 37°S±5°×17°9E±°, h19km±8km, M3.6/29, ML3.8/30, MLv3.6/29, Error ellipse: s-maj=0.0km s-min=0.0km az=91.1*

ISC 19 19:07:16.1±2.3, **37°.34S**±0°.06×**179°.47E**±0°.10, **h29**km±12km, **n105**, σ2**°00**/111, **mb4.2**/7, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.95**	**256**		**Pb**	**19 07 33.3**	**-0.7**
MXZ	**Matakaoa Point**	**0.95**	**256**	P	**Pb**	**19 07 33.3**	**-0.7**
MXZ				S	**Sb**	**19 07 42.7**	**-3.5**
WMGZ	**Waiomatatini S**	**0.96**	**240**	P	**Pb**	**19 07 36.6**	**+2.4**
WMGZ				S	**Sn**	**19 07 48.6**	**+2.1**
PUZ	**Puketiti**	**1.20**	**232**	P	**Pb**	**19 07 40.2**	**+1.8**
PUZ				S	**Sb**	**19 07 54.8**	**+1.3**
PKGZ	**Pakihiroa**	**1.23**	**243**	P	**Pb**	**19 07 39.7**	**+0.9**
PKGZ				S	**Sn**	**19 07 54.0**	**+0.8**
HAZ	**Te Kaha**	**1.40**	**252**	P	**Pn**	**19 07 40.4**	**+0.6**
HAZ				S	**Sn**	**19 07 57.4**	**+0.2**
TWGZ	**Tauwhareparae**	**1.44**	**234**	P	**Pb**	**19 07 43.4**	**+1.0**
CNGZ	**Carnagh Statio**	**1.51**	**221**	P	**Pb**	**19 07 46.0**	**+2.4**
RUGZ	**Raukumara Rang**	**1.55**	**246**	P	**Pb**	**19 07 44.4**	**+0.1**
RUGZ				S	**Sn**	**19 08 02.4**	**+1.2**
TKGZ	**Te Karaka**	**1.69**	**229**	P	**Pb**	**19 07 46.9**	**+0.4**
WIZ	**White Island**	**1.82**	**264**	P	**Pn**	**19 07 47.0**	**+1.4**
MWZ	**Matawai**	**1.83**	**237**	P	**Pb**	**19 07 48.4**	**-0.5**
RIGZ	**Rimuhau**	**1.91**	**224**	P	**Pb**	**19 07 50.2**	**-0.2**
RAGZ	**Rawiri**	**1.99**	**234**	P	**Pn**	**19 07 50.7**	**+2.8**
PRGZ	**Paritu Road**	**2.01**	**218**	P	**Pb**	**19 07 51.7**	**-0.4**
WHRZ	**Whale Island**	**2.04**	**255**	P	**Pn**	**19 07 50.7**	**+2.0**
URZ	**Urewera**	**2.08**	**243**	Pn	**Pn**	**19 07 51.3**	**+2.2**
URZ				Sn	**Sn**	**19 08 12.8**	**-1.2**
URZ	**Urewera**	**2.08**	**243**	P	**Pn**	**19 07 51.4**	**+2.3**
URZ				S	**Sn**	**19 08 13.9**	**-0.2**
URZ	**Urewera**	**2.08**	**243**	P	**Pn**	**19 07 51.7**	**+2.6**
MHGZ	**Mahia Peninsul**	**2.19**	**214**	P	**Pb**	**19 07 54.4**	**-0.6**
SNGZ	**Shannon Statio**	**2.21**	**229**	P	**Pn**	**19 07 53.6**	**+2.7**
RTZ	**Ruatahuna**	**2.34**	**236**	P	**Pn**	**19 07 55.3**	**+2.6**
OPRZ	**Ohinepanea**	**2.37**	**257**	P	**Pn**	**19 07 54.1**	**+1.1**
MUGZ	**Murupara**	**2.42**	**241**	P	**Pn**	**19 07 55.7**	**+1.9**
RAHZ	**Arahi**	**2.45**	**229**	P	**Pn**	**19 07 57.1**	**+2.9**
TARZ	**Mount Tarawera**	**2.51**	**248**	P	**Pn**	**19 07 57.4**	**+2.3**
RRRZ	**Republican Roa**	**2.54**	**246**	P	**Pn**	**19 07 58.1**	**+2.6**
MTHZ	**Maungataniwha**	**2.56**	**233**	P	**Pn**	**19 07 58.6**	**+2.8**
ARHZ	**Aropaoanui**	**2.73**	**225**	P	**Pn**	**19 08 00.9**	**+2.9**
NMHZ	**Naumai**	**2.73**	**229**	P	**Pn**	**19 08 00.9**	**+2.8**
MRHZ	**Matea Rd**	**2.83**	**237**	P	**Pn**	**19 08 01.7**	**+2.2**
BKZ	**Black Stump Fm**	**2.97**	**231**	Pn	**Pn**	**19 08 03.4**	**+2.1**
BKZ	**Black Stump Fm**	**2.97**	**231**	P	**Pn**	**19 08 03.8**	**+2.4**
BKZ	**Black Stump Fm**	**2.97**	**231**	P	**Pn**	**19 08 03.7**	**+2.4**
CKHZ	**Cape Kidnapper**	**2.98**	**218**	P	**Pn**	**19 08 03.7**	**+2.3**
MCHZ	**McNeill Hill**	**3.02**	**225**	P	**Pn**	**19 08 04.5**	**+2.4**
KUZ	**Kuaotunu**	**3.06**	**280**	P	**Pn**	**19 08 01.4**	**-1.2**
KWHZ	**Kaweka Forest**	**3.17**	**228**	P	**Pn**	**19 08 06.1**	**+2.0**
KAHZ	**Kahuranaki**	**3.18**	**219**	P	**Pn**	**19 08 06.5**	**+2.2**
KRHZ	**Kereru**	**3.34**	**226**	P	**Pn**	**19 08 08.5**	**+2.0**
GRZ	**Great Barrier**	**3.40**	**288**	P	**Pn**	**19 08 07.8**	**+0.6**
BHHZ	**Black Hill Sta**	**3.43**	**230**	P	**Pn**	**19 08 09.4**	**+1.7**
MKAZ	**Moumakai**	**3.44**	**273**	P	**Pn**	**19 08 07.5**	**-0.4**
TMVZ	**Te Maari**	**3.45**	**238**	P	**Pn**	**19 08 10.0**	**+1.9**
ETVZ	**East Tongariro**	**3.46**	**238**	P	**Pn**	**19 08 10.0**	**+1.9**
NTVZ	**North Tongarir**	**3.46**	**238**	P	**Pn**	**19 08 10.2**	**+2.0**
OTVZ	**Oturere**	**3.50**	**238**	P	**Pn**	**19 08 10.4**	**+1.5**
WIAZ	**Waiheke Island**	**3.51**	**278**	P	**Pn**	**19 08 08.2**	**-0.5**
NNVZ	**North Ngauruho**	**3.52**	**238**	P	**Pn**	**19 08 11.2**	**+2.1**
WTVZ	**West Tongariro**	**3.53**	**239**	P	**Pn**	**19 08 11.4**	**+2.2**
SNVZ	**South Ngauruho**	**3.53**	**237**	P	**Pn**	**19 08 11.0**	**+1.8**
NGZ	**Ngauruhoe**	**3.55**	**238**	P	**Pn**	**19 08 11.3**	**+1.8**
TUVZ	**Tukino**	**3.56**	**236**	P	**Pn**	**19 08 11.6**	**+1.9**
MOVZ	**Moawhango**	**3.57**	**234**	P	**Pn**	**19 08 11.6**	**+1.9**
WPHZ	**Waipukurau**	**3.60**	**220**	P	**Pn**	**19 08 11.5**	**+1.4**
TWVZ	**Taurewa**	**3.61**	**240**	P	**Pn**	**19 08 12.9**	**+2.1**
PNHZ	**Pukenui**	**3.62**	**224**	P	**Pn**	**19 08 11.4**	**+1.1**
WNVZ	**Wahianoa**	**3.63**	**236**	P	**Pn**	**19 08 12.4**	**+1.8**
ETAZ	**East Tamaki Re**	**3.65**	**275**	P	**Pn**	**19 08 11.4**	**+0.7**
MBAZ	**Motutapu North**	**3.70**	**278**	P	**Pn**	**19 08 11.7**	**+0.4**
MTVZ	**Mangateitei**	**3.75**	**236**	P	**Pn**	**19 08 14.0**	**+1.9**
ABAZ	**Army Bay**	**3.79**	**280**	P	**Pn**	**19 08 12.7**	**+0.2**
HIZ	**Hauiti**	**3.83**	**251**	Pn	**Pn**	**19 08 15.6**	**+2.5**
HIZ	**Hauiti**	**3.83**	**251**	P	**Pn**	**19 08 15.8**	**+2.6**
HIZ	**Hauiti**	**3.83**	**251**	P	**Pn**	**19 08 15.8**	**+2.6**
AWAZ	**Awhitu Peninsu**	**3.86**	**273**	P	**Pn**	**19 08 14.2**	**+0.6**
DVHZ	**Dannevirke**	**3.92**	**220**	P	**Pn**	**19 08 15.4**	**+1.0**
WTAZ	**Waiatarua**	**3.93**	**275**	P	**Pn**	**19 08 14.9**	**+0.3**
BFZ	**Birch Farm**	**4.17**	**216**	Pn	**Pn**	**19 08 16.1**	**-1.8**
BFZ				Sn	**Sn**	**19 09 03.9**	**-1.8**
BFZ	**Birch Farm**	**4.17**	**216**	P	**Pn**	**19 08 18.5**	**+0.6**
PRWZ	**Pori Road**	**4.21**	**219**	P	**Pn**	**19 08 19.6**	**+1.2**
WAZ	**Wanganui**	**4.26**	**234**	P	**Pn**	**19 08 21.6**	**+2.6**
WCZ	**Waipu Caves**	**4.35**	**287**	P	**Pn**	**19 08 20.7**	**+0.3**
PKE	**Pukeiti**	**4.69**	**245**	P	**Pn**	**19 08 29.1**	**+4.1**
OUZ	**Omahuta**	**5.19**	**292**		**Pn**	**19 08 32.5**	**+0.5**
OUZ	**Omahuta**	**5.19**	**292**	P	**Pn**	**19 08 32.6**	**+0.7**
MSWZ	**Moikau Station**	**5.22**	**217**	Pn	**Pn**	**19 08 31.6**	**-0.6**
MSWZ				Sn	**Sn**	**19 09 28.3**	**-3.1**
PLWZ	**Palliser**	**5.33**	**216**	Pn	**Pn**	**19 08 31.5**	**-2.3**
SNZO	**South Karori**	**5.42**	**222**	Sn	**Sn**	**19 09 30.7**	**-5.5**
TUWZ	**Tuamarina**	**5.91**	**225**	Pn	**Pn**	**19 08 41.1**	**-0.6**
NNZ	**Nelson**	**6.10**	**229**	Pn	**Pn**	**19 08 42.8**	**-1.6**
NNZ				Sn	**Sn**	**19 09 48.9**	**-4.3**
BSWZ	**Blackbirch Sta**	**6.14**	**223**	Pn	Pn	19 08 41.3	-3.7
QRZ	**Quartz Range**	**6.42**	**235**	Pn	**Pn**	**19 08 47.0**	**-1.7**
QRZ				Sn	**Sn**	**19 09 54.1**	**-6.9**
QRZ	**Quartz Range**	**6.42**	**235**	P	**Pn**	**19 08 50.6**	**+1.9**
	64nm,2.0s						
THZ	**Tophouse**	**6.72**	**227**	Pn	**Pn**	**19 08 51.9**	**-1.0**
CTZ	**Chatham Island**	**7.05**	**156**	P	Pn	19 09 05.6	+8.3
LTZ	**Lake Taylor**	**7.74**	**223**	Pn	**Pn**	**19 09 06.0**	**-0.9**
MQZ	**McQueen's Vall**	**8.20**	**217**	Pn	**Pn**	**19 09 10.7**	**-2.4**
LBZ	**Lake Benmore**	**9.94**	**222**	Pn	**Pn**	**19 09 36.4**	**-0.7**
BBOO	**Buckleboo**	**35.58**	**264**	P	**P**	**19 14 12.2**	**+1.1**
AS31	**Alice Springs**	**41.17**	**276**	P	**P**	**19 14 59.5**	**+1.2**
ASAR	**Alice Springs**	**41.18**	**276**	P	**P**	**19 14 59.0**	**+0.7**
	1.6nm,0.7s,baz=120,slow=8.1,SNR=38						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**41.18**	**276**	P	**P**	**19 14 58.1**	**-0.2**
WR0	**Warramunga Arr**	**42.63**	**281**	P	**P**	**19 15 10.5**	**+0.4**
FORT	**Forrest**	**42.66**	**263**	P	**P**	**19 15 10.7**	**+0.5**
WB2	**Warramunga Arr**	**42.79**	**281**	P	**P**	**19 15 11.6**	**+0.1**
WB2				IAmb	IAmb	19 15 40.4	
	comp=Z,10.0nm,1.4s						
WRAB	**Tennant Creek**	**42.79**	**281**	P	**P**	**19 15 11.8**	**+0.3**
WRAB				IAmb	IAmb	19 15 20.8	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**42.80**	**281**	P	**P**	**19 15 11.8**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=123,slow=7.0,SNR=34						
	comp=Z,1.4nm,0.7s						
WB0	**Warramunga Arr**	**42.85**	**281**	P	**P**	**19 15 12.4**	**+0.5**
WB0				IAmb	IAmb	19 15 46.3	
	comp=Z,5.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.66**	**277**	P	**P**	**19 16 14.0**	**+0.9**
FITZ				IAmb	IAmb	19 16 24.3	
	comp=Z,4.1nm,1.1s						
BELA	**Belgrano 2**	**63.20**	**172**	P	P	19 17 38.3	-2.8
BELA				IAmb	IAmb	19 17 42.9	
	comp=Z,1.3nm,0.9s						
H03N3	**Juan Fernandez**	**78.62**	**123**	T	T	20 46 09.2	
	baz=233						
H03N2	**Juan Fernandez**	**78.62**	**123**	T	T	20 46 00.7	
	baz=233						
H03N1	**Juan Fernandez**	**78.63**	**123**	T	T	20 46 08.8	
	baz=233						
FINES	**FINESS Array B**	**150.70**	**334**	PKPbc	**PKiKP**	**19 27 06.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=61,slow=6.5,SNR=1.2						

*IGIL **19** 19:32:56.0, 38°.66N×16°.39W, h10km*
*MDD **19** 19:32:59.4±1.1, 38°.85N×15°.77W, h0km, Mb4.3/10, M_mb3.6/10, Error ellipse: s-maj=8.1km s-min=7.4km az=75.0*
*INMG **19** 19:33:00.9±1.0, 38°.75N×16°.29W, h10km, ML2.4, Error ellipse: s-maj=8.8km s-min=5.8km az=119.0*

ISC 19 19:32:59.8±3.9, **38°.91N**±0°.08×**15°.6W**±0°.2, **h10**km, **n31**, σ1**°99**/48, **11C, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**4.96**	**87**	*e*Pn	**Pn**	**19 34 16.8**	**+2.6**
PMAFR				*e*Sn	**Sn**	**19 35 13.5**	**+1.9**
PTEO	**Sao Teotonio**	**5.61**	**102**	*e*Pn	**Pn**	**19 34 24.5**	**+1.3**
PTEO				*e*Sn	**Sn**	**19 35 27.2**	**-0.5**
PNCL	**Nicolau / Gran**	**5.63**	**96**	*e*Pn	**Pn**	**19 34 24.8**	**+1.3**
PNCL				*e*Sn	**Sn**	**19 35 26.9**	**-1.3**
PNCL				A	A	19 35 30.8	
	2.2nm,0.8s						
PCAS	**Casmilo, Conde**	**5.64**	**76**	*e*Sn	**Sn**	**19 35 29.7**	**+1.2**
PCAS				A	A	19 35 31.6	
	2.2nm,0.6s						
PFVI	**Vila

YBMT **Yellow Bay** 2.37 167 Pn Pn 19 36 01.8 0.0
NEW **Newport** 2.44 219 Pn Pg 19 36 10.5 +2.2
3.4nm,0.3s,baz=35,slow=13,SNR=12
NEW Lg Lg 19 36 38.9
3.3nm,0.3s,baz=349,slow=19,SNR=7.3
18nm,0.5s
I56US **NEWPORT INFRAS** 2.45 219 *i* 19 51 15.0
0.2nm,1.0s,baz=39,slow=326,SNR=0.9
JTMT **Jette** 2.46 172 Pn Pn 19 36 02.8 -0.1
MNB **Mounoet Dainar** 3.03 313 Pn Pn 19 36 11.5 +0.6
EDM **Edmonton** 3.18 16 Pn Pn 19 36 13.2 +0.4
EDM Sn Sn 19 36 52.1 +0.6
PNT **Penticton** 3.24 256 Pn Pn 19 36 13.2 -0.4
PNT Sn Sn 19 36 52.7 -0.2
C09A **Chrisman Ranch** 3.30 225 Sn Sn 19 36 53.2 -1.1
OVMT **Ovando** 3.34 158 Pn Pn 19 36 15.6 +0.6
BLBC **Blue River** 3.37 305 Pn Pn 19 36 16.0 +0.5
B08A **Colville Reser** 3.48 240 Pn Pn 19 36 16.8 -0.2
BRLDA **Berland Lookou** 4.24 339 Pn Pn 19 36 27.8 +0.4
SWHSA **Sweathouse Loo** 4.88 347 Pn Pn 19 36 35.9 -0.2
HNBB **Haney** 5.12 263 Pn Pn 19 36 38.5 -0.9
BDMTA **Bald Mountain** 5.28 333 Pn Pn 19 36 41.8 +0.2
PDAR **Pinedale Array** 8.25 152 Pn Pn 19 37 32.8 +10
0.1nm,0.3s,baz=344,slow=13,SNR=3.7
0.4nm,0.7s
ELK **Elko** 9.44 182 Lg Lg 19 40 25.0
baz=262,slow=20,SNR=1.3
YKA **Yellowknife Ar** 12.35 0 Pn Pn 19 38 22.5 +4.2
0.2nm,0.3s,baz=182,slow=13,SNR=4.8
YKA Sn Sn 19 40 31.9 -4.6
0.1nm,0.3s,baz=181,slow=22,SNR=2.6
YKA Lg Lg 19 41 45.2
baz=178,slow=30
0.7nm,0.5s
ILAR **Eielson Array** 22.26 323 P P 19 40 27.3 +7.5
0.3nm,0.6s,baz=121,slow=12,SNR=4.1
0.3nm,0.6s

IDC 19 19:42:00.6±3.9, 4.97S×152.77E, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=167.0km s-min=52.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.31**	**229**	P	P	19 47 09.7	-0.7
	0.3nm,0.4s,baz=53,slow=9.8,SNR=6.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**26.00**	**223**	P	P	19 47 35.8	+0.4
	0.4nm,0.6s,baz=58,slow=9.4,SNR=6.5						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.33**	**288**	PKPbc	PKPbc	20 01 54.8	-0.2
	0.4nm,1.0s,baz=83,slow=2.7,SNR=2.1						

*SKHL **19** 19:57:39.8±0.6, 47.20N×147.90E, h437km±9km, mb4.5/3, msha4.4/2*
*JMA **19** 19:57:42.5±0.6, 47.7°N±3.7°×14.9E±.°, h400km, MV3.6/14, SOUTHERN SEA OF OKHOTSK*
*IDC **19** 19:57:46.3±1.9, 47.75N×147.54E, h412km±23km, mb2.9/8, mbtmp3.7/14, Error ellipse: s-maj=21.6km s-min=14.5km az=148.0*

ISC 19 19:57:42.6±0.8, 47.21N±0.08×147.91E±0.10, h400km, n30, σ1s55/32, mb3.3/8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.97**	**181**	*eP*	**Pn**	**19 58 39.7**	**+1.3**
KUR				AMB	AMB	19 58 40.2	
	50nm,0.6s						
KUR				*eS*	**S**	**19 59 26.3**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**3.48**	**205**	*eP*	**Pn**	**19 58 51.0**	**+1.1**
YUK				AMB	AMB	19 58 52.7	
	80nm,0.3s						
YUK				*eS*	**S**	**19 59 46.8**	**+2.4**
YUK				A	A	19 59 49.3	
	70nm,0.5s						
YUK				A	A	19 59 49.3	
	70nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.53**	**268**	*eP*	**Pn**	**19 58 50.5**	**+0.3**
YSS				AMB	AMB	19 58 50.7	
	50nm,0.4s						
YSS				*eS*	**S**	**19 59 46.1**	**+1.0**
YSS				A	A	19 59 46.2	
	10.0nm,0.5s						
YSS				A	A	19 59 46.2	
	10.0nm,0.5s						
NEM2	**Nemuro 2**	**4.13**	**202**	*eP*	**Pn**	**19 58 55.4**	**-0.6**
NEM2				*eS*	**S**	**19 59 53.2**	**-2.3**
NMR	**Nemuro--Hokkai**	**4.13**	**203**	*eP*	**Pn**	**19 58 55.3**	**-0.6**
NMR				*eS*	**S**	**19 59 53.5**	**-1.9**
JNK	**Nakash**	**4.26**	**213**	*eP*	**Pn**	**19 58 58.2**	**+1.0**
JTKR	**Abashiri--Toko**	**4.28**	**222**	*eP*	Pn	19 58 59.4	+2.0
AKK	**Akkeshi**	**4.72**	**208**	*eS*	**S**	**20 00 03.6**	**-2.4**
AKK				*eP*	**Pn**	**19 59 01.6**	**-0.1**
JAK	**Akkeshi**	**4.78**	**210**	*eP*	**Pn**	**19 59 02.3**	**-0.1**
JAK				*eS*	**S**	**20 00 05.0**	**-2.2**
JAR	**Ashorobuto**	**4.88**	**218**	*eP*	**Pn**	**19 59 04.7**	**+1.3**
JAR				*eS*	**S**	**20 00 09.7**	**+0.7**
JKK2	**Kamakawa 2**	**4.92**	**229**	*eP*	Pn	19 59 06.6	+2.7
JOB	**Onbets**	**5.18**	**215**	*eP*	**Pn**	**19 59 07.3**	**+0.9**
JOB				*eS*	**S**	**20 00 13.1**	**-1.6**
JAB	**Ashibetsu**	**5.45**	**229**	*eP*	Pn	19 59 11.5	+2.2
JCH	**Churui**	**5.61**	**217**	*eP*	**Pn**	**19 59 11.3**	**+0.2**
JNBK	**Urakawa-nobuka**	**6.14**	**219**	*eP*	**Pn**	**19 59 16.8**	**+0.1**
PETK	**Petropavlovsk-**	**8.62**	**43**	P	**P**	**19 59 45.3**	**+0.7**
	1.2nm,0.7s,baz=224,slow=8.1,SNR=1.2						
PETK				S	S	20 01 31.3	+6.8
	1.7nm,0.9s,baz=254,slow=19,SNR=1.6						
KLR	**Kul'dur**	**10.97**	**287**	P	**Pn**	**20 00 11.6**	**-0.2**
	2.3nm,0.5s,baz=85,slow=9.6,SNR=8.6						
USRK	**Ussuriysk Ar.**	**11.53**	**261**	P	**Pn**	**20 00 18.6**	**+0.4**
	1.2nm,0.6s,baz=67,slow=11,SNR=2.2						
MJAR	**Matsushiro Arr**	**12.86**	**218**	P	Pn	20 00 38.1	+4.3
	3.9nm,0.5s,baz=20,slow=10,SNR=13						
SEY	**Seymchan**	**15.96**	**7**	P	**P**	**20 01 03.0**	**-2.0**
	1.2nm,0.4s,baz=184,slow=9.8,SNR=6.7						
KSRS	**Korea Array**	**17.66**	**244**	P	**P**	**20 01 27.1**	**+3.8**
	2.0nm,0.6s,baz=47,slow=10,SNR=5.3						
ILAR	**Eielson Array**	**38.42**	**39**	P	**P**	**20 04 27.0**	**-0.2**
	0.7nm,0.6s,baz=269,slow=8.2,SNR=7.7						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**43.54**	**295**	P	**P**	**20 05 08.5**	**-0.1**
	0.2nm,0.5s,baz=73,slow=6.3,SNR=2.4						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**62.05**	**332**	P	**P**	**20 07 20.9**	**-0.9**
	1.4nm,0.6s,baz=44,slow=7.3,SNR=10						
	1.4nm,0.6s						
NVAR	**Mina Array Bea**	**65.33**	**60**	P	P	20 07 47.0	+3.4
	0.4nm,0.7s,baz=296,slow=5.4,SNR=3.9						
	0.4nm,0.7s						
NB2	**NORSAR Subarra**	**66.58**	**339**	P	**P**	**20 07 50.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**66.58**	**339**	P	**P**	**20 07 48.6**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=30,slow=6.7,SNR=6.4						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**66.71**	**337**	P	**P**	**20 07 50.3**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=35,slow=5.4,SNR=11						
	comp=Z,0.6nm,0.3s						
PDAR	**Pinedale Array**	**67.30**	**51**	P	P	20 07 58.3	+2.4
	comp=Z,0.4nm,0.5s,baz=53,slow=1.4,SNR=8.0						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**67.94**	**194**	P	P	20 08 04.6	+4.9
	comp=Z,0.2nm,0.9s,baz=17,slow=3.7,SNR=1.3						
	comp=Z,0.2nm,0.9s						

*NEIC **19** 20:17:41.3±2.0, 7.93N±0.10×74.82W±0.09, h88km±9km, mb4.1/6, Error ellipse: s-maj=15.0km s-min=12.3km az=143.0*
*IDC **19** 20:17:41.7±0.6, 7.90N×74.87W, h71km±5km, mb3.4/8, mbtmp3.8/11, MS3.1/3, Error ellipse: s-maj=12.2km s-min=10.6km az=55.0*
*RSNC **19** 20:17:42.1±1.0, 7.90N×74.88W, h27km±4km, ML3.7, Mw3.8, Fault plane solution: NP1:φs118.00000°, δ14.00000°, λ-180.00000°.*

ISC 19 20:17:40.9±0.6, 7.84N±0.03×74.88W±0.03, h63km±5km, n57, σ2s21/86, mb3.6/8, 7C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZARC	**Zaragoza, Cauc**	**0.35**	**176**	↓*iP*	**Pn**	**20 17 50.4**	**-1.4**
ZARC				*eS*	**Sn**	**20 17 57.5**	**-2.2**
ZARC				IAML		20 17 58.1	
	comp=Z,5μm,0.3s						
UREC	**San Jos de Ur**	**0.65**	**262**	↑*iP*	**Pn**	**20 17 53.8**	**-1.0**
UREC				*eS*	**Sn**	**20 18 03.9**	**-1.1**
UREC				IAML		20 18 05.0	
	comp=Z,4μm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.36**	**162**	↑*iP*	**Pn**	**20 18 04.4**	**+0.5**
PTBC				*eS*	**Sn**	**20 18 22.6**	**+1.6**
PTBC				IAML		20 18 24.9	
	comp=Z,2μm,0.4s						
BRRC	**Barranca, Sant**	**1.37**	**122**	↑*iP*	**Pn**	**20 18 04.9**	**+0.9**
BRRC				*eS*	**Sn**	**20 18 23.3**	**+2.0**
BRRC				IAML		20 18 26.3	
	comp=Z,1μm,0.6s						
OCAC	**Ocana**	**1.60**	**76**	↑*eP*	**Pn**	**20 18 07.0**	**-0.1**
OCAC				*eS*	**Sn**	**20 18 26.9**	**0.0**
HELC	**Santa Helena**	**1.76**	**201**	*eP*	**Pn**	**20 18 11.5**	**+1.9**
HELC				*eS*	**Sn**	**20 18 33.8**	**+2.6**
HELC				IAML		20 18 39.2	
	comp=Z,317nm,0.3s						
LCBC	**Los crdobas,**	**1.78**	**305**	*i P*	**Pn**	**20 18 12.3**	**+2.8**
LCBC				*eS*	**Sn**	**20 18 34.8**	**+3.6**
LCBC				IAML		20 18 40.6	
	comp=Z,533nm,0.3s						
SJCC	**San Jacinto, C**	**2.06**	**352**	*eP*	**Pn**	**20 18 13.2**	**-0.2**
SJCC				*eS*	**Sn**	**20 18 38.5**	**+0.4**
SJCC				IAML		20 18 47.3	
	comp=Z,378nm,0.4s						
BARC	**Barichara**	**2.09**	**126**	↑*iP*	**Pn**	**20 18 15.6**	**+1.6**
BARC				*eS*	**Sn**	**20 18 41.5**	**+2.4**
BARC				IAML		20 18 45.2	
	comp=Z,1μm,0.4s						
ARGC	**Ariguani, Magd**	**2.10**	**17**	*eP*	**Pn**	**20 18 17.2**	**+3.3**
ARGC				*eS*	**Sn**	**20 18 45.5**	**+6.5**
ARGC				IAML		20 18 56.0	
	comp=Z,128nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.14**	**38**	*i P*	**Pn**	**20 18 17.2**	**+2.9**
LL1C				*eS*	**Sn**	**20 18 45.3**	**+5.4**
LL1C				IAML		20 19 00.6	
	comp=Z,1μm,0.6s						
PAMC	**Pamplona, Colo**	**2.22**	**103**	↑*iP*	**Pn**	**20 18 17.4**	**+1.5**
PAMC				*eS*	**Sn**	**20 18 44.0**	**+1.5**
PAMC				IAML		20 18 47.5	
	comp=Z,580nm,0.3s						
CBOC	**Ciudad Bolivar**	**2.26**	**210**	*eP*	**Pn**	**20 18 17.7**	**+1.5**
CBOC				*eS*	**Sn**	**20 18 48.4**	**+5.3**
CBOC				IAML		20 19 04.1	
	comp=Z,126nm,0.6s						
NORC	**Norcasia**	**2.26**	**180**	*eP*	**Pn**	**20 18 17.5**	**+1.4**
NORC				*eS*	**Sn**	**20 18 46.5**	**+3.6**
NORC				IAML		20 18 51.4	
	comp=Z,437nm,0.3s						
SPBC	**San Pablo de B**	**2.32**	**160**	*eP*	**Pn**	**20 18 17.7**	**+0.8**
SPBC				*eS*	**Sn**	**20 18 46.3**	**+1.9**
SPBC				IAML		20 18 54.8	
	comp=Z,283nm,0.3s						
RUSC	**La Rusia**	**2.63**	**137**	↑*eP*	**Pn**	**20 18 23.0**	**+1.5**
RUSC				*eS*	**Sn**	**20 18 56.5**	**+3.8**
RUSC				IAML		20 18 59.4	
	comp=Z,514nm,0.7s						
GUY2C	**Guyana, Caldas**	**2.64**	**190**	*eP*	**Pn**	**20 18 23.5**	**+1.8**
GUY2C				*eS*	**Sn**	**20 18 54.2**	**+1.4**
GUY2C				IAML		20 19 09.7	
	comp=Z,196nm,0.5s						
PTAC	**Punta Ardita,**	**2.98**	**257**	*eP*	**Pn**	**20 18 26.5**	**+0.7**
PTAC				*eS*	**Sn**	**20 19 00.4**	**0.0**
PTAC				IAML		20 19 05.5	
	comp=Z,404nm,0.8s						
ROSC	**El Rosal**	**3.03**	**169**	P	**Pn**	**20 18 28.8**	**+1.9**
	comp=Z,20nm,0.3s,baz=130,slow=21,SNR=5.9						
ROSC				S	**Sn**	**20 19 05.6**	**+3.4**
	comp=Z,71nm,0.3s,baz=200,slow=22,SNR=3.4						
ROSC	**El Rosal**	**3.03**	**169**		**Pn**	**20 18 28.4**	**+1.5**
ROSC	**El Rosal**	**3.03**	**169**	*eP*	**Pn**	**20 18 28.8**	**+1.9**
ROSC				*eS*	**Sn**	**20 19 06.4**	**+4.1**
ROSC				IAML		20 19 14.9	
	comp=Z,172nm,0.3s						
PLMC	**San Jos del P**	**3.23**	**206**	*eP*	**Pn**	**20 18 31.4**	**+2.0**
PLMC				IAML		20 19 37.9	
	comp=Z,67nm,0.6s						
TAMC	**Tame, Arauca**	**3.37**	**114**	*eP*	**Pn**	**20 18 33.1**	**+1.9**
TAMC				IAML		20 18 58.6	
	comp=Z,216nm,0.5s						
TAMC				*eS*	**Sn**	**20 19 14.5**	**+4.5**
CHIC	**Chingaza**	**3.39**	**160**	*eP*	**Pn**	**20 18 33.5**	**+1.7**
CHIC				*eS*	**Sn**	**20 19 12.7**	**+1.7**
CHIC				IAML		20 19 21.6	
	comp=Z,112nm,0.4s						
CRJC	**Cerrejon, Guaj**	**3.73**	**32**	*eP*	**Pn**	**20 18 37.2**	**+1.1**
CRJC				*eS*	**Sn**	**20 19 20.7**	**+1.9**
CRJC				IAML		20 19 34.1	
	comp=Z,145nm,0.4s						
YOTC	**Yotoco, Valle**	**4.10**	**201**	*eP*	**Pn**	**20 18 43.9**	**+2.6**
SDV	**Santo Domingo**	**4.33**	**76**	P	**Pn**	**20 18 45.6**	**+1.2**
	comp=Z,101nm,0.5s,baz=326,slow=14,SNR=37						
SDV				S	**Sn**	**20 19 35.0**	**+1.2**
	comp=Z,111nm,0.3s,baz=33,slow=23,SNR=13						
SDV	**Santo Domingo**	**4.33**	**76**	Pn	**Pn**	**20 18 44.9**	**+0.4**
BCIP	**Isla Barro Col**	**5.07**	**285**	Pn	**Pn**	**20 18 54.3**	**-0.2**
BAUV	**El Baul**	**6.86**	**80**		**Pn**	**20 19 17.7**	**-1.2**
HATO	**Hato, Curacao**	**7.25**	**53**	Pn	**Pn**	**20 19 24.9**	**+0.6**
OTAV	**Otavalo**	**8.35**	**205**	Pn	**Pn**	**20 19 42.7**	**+2.9**
SRBA	**San Rafael, Bu**	**8.50**	**280**	Pn	**Pn**	**20 19 42.2**	**+0.7**
BIRV	**Birongo**	**8.90**	**72**	Pn	**Pn**	**20 19 45.5**	**-1.4**
RIMA	**Rio Macho**	**9.08**	**283**	Pn	**Pn**	**20 19 50.0**	**+0.4**
PCRV	**Puerto La Cruz**	**10.38**	**76**	P	**Pn**	**20 20 07.3**	**+0.1**
	comp=Z,15nm,0.9s,baz=305,slow=15,SNR=1.9						
PCRV				S	**Sn**	**20 21 58.1**	**-4.0**
	comp=Z,13nm,0.8s,baz=190,slow=5.5,SNR=2.1						
MTDJ	**Mount Denham**	**10.64**	**346**	Pn	**Pn**	**20 20 06.6**	**-4.1**
CUPR	**Culebra, Puert**	**13.98**	**41**	Pn	Pn	20 20 50.6	-5.4
MPOM	**Morne Pois Mar**	**15.24**	**63**	Pn	**Pn**	**20 21 09.1**	**-3.4**
MPOM				IAmb	IAmb	20 21 10.0	
	comp=Z,47nm,1.1s						
ATAH	**Atahualpa**	**15.28**	**193**	LR	LR	20 28 40.8	
	comp=Z,30nm,20.1s,baz=193,slow=43						
BOAV	**Boa Vista**	**15.29**	**110**		**Pn**	**20 21 11.6**	**-1.5**
BOAV				IAmb	IAmb	20 21 23.5	
	comp=Z,5.8nm,0.5s						
ILAM	**Ilet Lapin Mar**	**15.36**	**62**	P	**Pn**	**20 21 15.0**	**+1.0**
ETMB	**Extrema**	**19.55**	**154**	P	**P**	**20 22 01.9**	**-1.7**
ETMB				IAmb	IAmb	20 22 08.7	
	comp=Z,8.0nm,1.1s						
SAML	**Samuel**	**20.35**	**145**	P	**P**	**20 22 09.1**	**-3.3**
SAML				IAmb	IAmb	20 22 11.0	
	comp=Z,6.0nm,0.8s						
LPAZ	**La Paz**	**24.89**	**164**	P	**P**	**20 22 58.8**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=339,slow=5.1,SNR=2.6						
LPAZ				LR	LR	20 35 16.6	
	comp=Z,59nm,20.7s,baz=114,slow=42						
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**24.89**	**164**	P	**P**	**20 22 57.7**	**-1.0**
SIV	**San Ignacio**	**27.34**	**150**	P	**P**	**20 23 19.7**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=279,slow=13,SNR=3.0						
	comp=Z,0.7nm,0.4s						
TXAR	**Lajitas Array**	**34.48**	**312**	P	**P**	**20 24 23.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=125,slow=9.3,SNR=6.7						
TXAR				pP	**pP**	**20 24 39.9**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=113,slow=6.9,SNR=2.4						
	comp=Z,0.6nm,0.8s						
LPIG	**La Paz**	**37.55**	**300**	LR	LR	20 42 24.6	
	comp=Z,42nm,18.4s,baz=284,slow=40						
PDAR	**Pinedale Array**	**46.23**	**325**	P	**P**	**20 25 59.4**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=120,slow=8.4,SNR=4.7						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**49.53**	**315**	P	**P**	**20 26 26.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=123,slow=8.0,SNR=2.6						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**61.72**	**340**	P	**P**	**20 27 52.4**	**0.0**
	comp=Z,0.6nm,0.4s,baz=125,slow=8.9,SNR=5.3						
YKA				pP	**pP**	**20 28 10.4**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=137,slow=7.5,SNR=1.6						
	comp=Z,0.6nm,0.4s						
DBIC	**Dimbokro**	**69.40**	**86**	P	**P**	**20 28 41.7**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=263,slow=9.7,SNR=1.2						
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.25**	**78**	P	**P**	**20 29 17.6**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=288,slow=6.8,SNR=8.8						
TORD				pP	**pP**	**20 29 37.1**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=290,slow=6.0,SNR=1.7						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**148.24**	**237**	PKPbc	**PKPbc**	**20 37 20.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=121,slow=3.7,SNR=7.9						
ASAR				pPKP	**pPKPdf**	**20 37 35.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=120,slow=3.5,SNR=7.3						
ASAR				pPKPbc	**pPKPbc**	**20 37 39.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=113,slow=3.6,SNR=2.8						
WRA	**Warramunga Arr**	**149.25**	**244**	PKP	**PKPdf**	**20 37 18.3**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=104,slow=3.0,SNR=1.4						
WRA				PKPbc	**PKPbc**	**20 37 23.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=105,slow=2.9,SNR=7.1						
WRA				pPKP	**pPKPdf**	**20 37 38.9**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=104,slow=3.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**153.17**	**13**	PKPbc	**PKPbc**	**20 37 30.8**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=347,slow=2.8,SNR=1.6						

*GUC **19** 20:29:40.1±0.7, 21.55S×68.02W, h140km±7km, ML2.8*
*SCB **19** 20:29:41.7±0.8, 21.50S×68.04W, h140km±9km, ML2.5/4, MW3.5, Error ellipse: s-maj=4.0km s-min=2.1km az=0.0*

ISC 19 20:29:38.4±2.3, 21.53S±0.05×68.04W±0.05, h150km±22km, n22, σ1s06/37, 1C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.15**	**257**	↓*iP*	**Pn**	**20 30 05.5**	**+0.9**
PB09				*eS*	**Sn**	**20 30 25.2**	**+0.5**
LVC	**Limon Verde**	**1.34**	**217**	*eP*	**Pn**	**20 30 07.5**	**+0.8**
LVC				*eS*	**Sn**	**20 30 27.5**	**-0.9**
LVC	**Limon Verde**	**1.34**	**217**	P	**Pn**	**20 30 07.6**	**+0.8**
PB01	**IPOC Station P**	**1.44**	**289**	↓*iP*	**Pn**	**20 30 07.4**	**0.0**
PB01				*i* S	**Sn**	**20 30 29.1**	**-0.4**
PB01				IAML		20 30 32.9	
	comp=E,95nm,0.2s						
PB07	**IPOC Station P**	**1.73**	**263**	↓*eP*	**Pn**	**20 30 10.9**	**+0.3**
PB07				*eS*	**Sn**	**20 30 34.9**	**-0.4**
PB07				IAML		20 30 36.4	
	comp=E,104nm,0.3s						
PB08	**IPOC Station P**	**1.73**	**323**	*eP*	**Pn**	**20 30 12.1**	**+1.2**
PB08				*eS*	**Sn**	**20 30 36.3**	**+0.6**
PB08				IAML		20 30 40.2	
	comp=N,37nm,0.2s						
PB02	**IPOC Station P**	**1.75**	**277**	↑*eP*	**Pn**	**20 30 11.0**	**+0.4**
PB02				*eS*	**Sn**	**20 30 34.9**	**-0.5**
PB02				IAML		20 30 42.0	
	comp=E,112nm,0.2s						
PB02	**IPOC Station P**	**1.75**	**277**	P	**Pn**	**20 30 11.4**	**+0.7**
PB02				S	**Sn**	**20 30 33.2**	**-2.2**
PB02				IAML		20 30 37.3	
	comp=E,91nm,0.2s						
PB06	**IPOC Station P**	**1.84**	**230**	*eP*	**Pn**	**20 30 12.7**	**+0.8**
PB06				*eS*	**Sn**	**20 30 37.5**	**0.0**
PB06				IAML		20 30 40.7	
	comp=E,46nm,0.1s						
PB06	**IPOC Station P**	**1.84**	**230**	P	**Pn**	**20 30 12.8**	**+1.0**
PB06				S	**Sn**	**20 30 35.5**	**-2.0**
PB06				IAML		20 30 41.5	
	comp=E,35nm,0.2s						
PATCX	**Punta Patache**	**2.10**	**289**	↓*eP*	**Pn**	**20 30 15.1**	**+0.4**
PATCX				*eS*	**Sn**	**20 30 42.3**	**-0.3**
PATCX				IAML		20 30 45.2	
	comp=N,108nm,0.2s						
PB04	**IPOC Station P**	**2.12**	**247**	*eP*	**Pn**	**20 30 15.2**	**+0.1**
PB04				*eS*	**Sn**	**20 30 43.0**	**-0.2**
PB04				IAML		20 30 45.1	
	comp=N,42nm,0.2s						
PB04	**IPOC Station P**	**2.12**	**247**	P	**Pn**	**20 30 15.6**	**+0.6**
PB04				S	**Sn**	**20 30 41.1**	**-2.1**
PB04				IAML		20 30 44.8	
	comp=N,33nm,0.6s						
HMBC	**Humberstone**	**2.13**	**305**	*eP*	**Pn**	**20 30 15.2**	**0.0**
HMBC				*eS*	**Sn**	**20 30 42.8**	**-0.6**
HMBC				IAML		20 30 45.5	
	comp=N,51nm,0.2s						
PB15	**IPOC Station P**	**2.13**	**218**	*eP*	**Pn**	**20 30 16.4**	**+1.1**
PB15	**IPOC Station P**	**2.13**	**218**	P	**Pn**	**20 30 16.8**	**+1.5**
GO01	**Chusmiza**	**2.15**	**329**	*eP*	**Pn**	**20 30 16.6**	**+0.9**
GO01	**Chusmiza**	**2.15**	**329**	P	**Pn**	**20 30 16.7**	**+1.0**
TA01	**Diego Aracena**	**2.22**	**295**	*eP*	**Pn**	**20 30 16.1**	**+0.1**
TA01				*eS*	**Sn**	**20 30 44.4**	**-0.7**
TA01				IAML		20 30 45.5	
	comp=E,84nm,0.2s						
TA01	**Diego Aracena**	**2.22**	**295**	P	**Pn**	**20 30 16.2**	**+0.1**
MOCB	**Mochara**	**2.25**	**83**	P	**Pn**	**20 30 17.9**	**+1.0**
MOCB				S	**Sn**	**20 30 43.8**	**-2.7**
MOCB				IAML		20 30 48.0	
	comp=E,4.6nm,0.4s						
YJA	**Yavi**	**2.43**	**106**	P	**Pn**	**20 30 20.0**	**+1.0**

MAN 19 20:36:04.0, 9.74N×125.42E, h12km, mb4.4, ML3.2, MS3.0, 5C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.08**	**58**	↓*iP*	Pg	20 36 07.5	+0.9
SCPH				*i* S	Sg	20 36 10.0	+1.4
MSLP	**Maasin**	**0.68**	**306**	↓*eP*	Pg	20 36 17.4	+0.2
MSLP				*eS*	Sb	20 36 27.8	+0.7
BUTP	**Butuan**	**0.79**	**165**	↓*eP*	Pn	20 36 20.8	-0.2
BUTP				*eS*	Sn	20 36 35.4	+2.7
GHBP	**Garcia Hernand**	**1.09**	**264**	↑*iP*	Pb	20 36 24.3	-0.5
GHBP				*i* S	Sb	20 36 38.3	-0.6
TABP	**Talibon, Bohol**	**1.12**	**288**	↓*eP*	Pb	20 36 23.7	-1.8
CGP	**Cagayan de Oro**	**1.46**	**209**	↓*eP*	Pg	20 36 31.7	-0.4
CGP				*eS*	Sn	20 36 48.5	-0.8
TBP	**Tagbilaran**	**1.53**	**268**	*eP*	Pn	20 36 30.4	-0.8
TBP				*i* S	Sb	20 36 52.5	+0.7
BIPH	**Bislig**	**1.80**	**149**	↑*eP*	Pg	20 36 38.4	-0.3
BIPH				*i* S	Sb	20 36 59.9	+0.3
BESP	**Borongan**	**1.85**	**1**	↓*eP*	Pb

PZH	**PanZhiHua**	**4.36**	**128**	Pn		**Pn**	**21 12 29.3**	**+2.1**
PZH				Sn		**Sn**	**21 13 21.8**	**+3.7**
PZH				Sg		**Sg**	**21 13 39.4**	**-1.4**
PZH				smax	smax			
	comp=E,90nm,1.1s							
PZH				smax	smax			
	comp=E,80nm,1.1s							
PZH				LR	LR			
	comp=E,2μm,7.1s							
PZH				LR	LR			
	comp=E,2μm,7.4s							
PZH				LR	LR			
	comp=E,2μm,7.1s							
KOHI	**KOHIMA**	**4.87**	**225**	*e*P		**Pn**	**21 12 35.3**	**+1.1**
KOHI				*e*S		**Sn**	**21 13 33.8**	**+3.0**
KOHI				IAML			21 14 05.4	
	comp=N,506nm,0.7s							
KOHI				IAML			21 14 07.4	
	comp=E,1μm,0.9s							
TEZP	**TEZPUR**	**5.22**	**241**	*e*P		**Pn**	**21 12 40.1**	**+1.2**
TEZP				*e*S		**Sn**	**21 13 40.0**	**+0.8**
CD2	**Chengdu**	**5.33**	**70**	Pn		**Pn**	**21 12 38.9**	**-1.6**
CD2				Sg		**Sg**	**21 14 08.0**	**-4.1**
CD2				smax	smax			
	comp=E,50nm,1.6s							
CD2				smax	smax			
	comp=E,100nm,1.8s							
LSA	**Lhasa**	**5.91**	**276**			**Pn**	**21 12 51.8**	**+3.1**
LSA	**Lhasa**	**5.91**	**276**	Pn		**Pn**	**21 12 52.1**	**+3.3**
LSA				Sn		**Sn**	**21 14 00.3**	**+3.5**
LSA				LR	LR			
	comp=E,1μm,9.3s							
LSA				LR	LR			
	comp=E,1μm,7.8s							
LSA				LR	LR			
	comp=E,320nm,9.3s							
GUWA	**GUWAHATI**	**6.29**	**243**	*e*P		**Pn**	**21 12 53.9**	**+0.3**
GUWA				*e*S		**Sn**	**21 14 04.5**	**-1.1**
GUWA				IAML			21 14 06.6	
	comp=N,58nm,1.0s							
GUWA				IAML			21 14 10.6	
	comp=E,61nm,0.6s							
MND	**Mandalay**	**7.38**	**193**	Pn		**Pn**	**21 13 09.2**	**+0.7**
GOMU	**GeErMu**	**7.40**	**340**	Pn		**Pn**	**21 13 13.3**	**+4.1**
GOMU				Sn		**Sn**	**21 14 40.9**	**+7.5**
GOMU				LR	LR			
	comp=E,350nm,6.8s							
GOMU				LR	LR			
	comp=E,660nm,11.3s							
GOMU				LR	LR			
	comp=E,190nm,6.6s							
DHUB	**DHUBRI**	**7.72**	**247**	*e*P		**Pn**	**21 13 14.3**	**+1.2**
DHUB				*e*S		**Sn**	**21 14 39.6**	**-1.0**
DHUB				IAML			21 14 46.5	
	comp=N,64nm,0.5s							
DHUB				IAML			21 14 49.7	
	comp=E,57nm,0.5s							
GTK	**Tadong**	**8.43**	**259**	*e*P		**Pn**	**21 13 23.9**	**+0.8**
GTK				*e*S		**Sn**	**21 14 58.7**	**+0.4**
LZH	**Lanzhou**	**8.46**	**35**	Pn		Pn	21 13 33.8	+10
LZH				Pg		Pg	21 14 07.8	+5.2
LZH				Sg		**Sg**	**21 15 50.8**	**-1.3**
LZH				smax	smax			
	comp=N,27nm,1.5s							
LZH				smax	smax			
	comp=E,26nm,1.5s							
LZH				LR	LR			
	comp=N,2μm,7.0s							
LZH				LR	LR			
	comp=E,2μm,7.5s							
LZH				LR	LR			
	comp=Z,530nm,8.3s							
BRDH	**Bariadhala**	**8.63**	**222**	LR		LR	21 17 52.4	
	comp=Z,410nm,19.8s,baz=80,slow=46							
TAPN	**Taplejung**	**9.18**	**261**	*e*Pn		**Pn**	**21 13 35.5**	**+1.9**
TAPN				*e*Sn		**Sn**	**21 15 20.9**	**+3.7**
	comp=Z,95nm,0.8s							
ODAN	**Odare**	**9.59**	**258**	*e*Pn		**Pn**	**21 13 41.4**	**+2.3**
ENH	**Enshi**	**10.12**	**81**	Pn		Pn	21 13 50.7	+4.6
RAMN	**Ramite**	**10.24**	**260**	*e*Pn		**Pn**	**21 13 49.7**	**+1.6**
RAMN				*e*Sn		**Sn**	**21 15 45.0**	**+1.9**
	comp=Z,66nm,0.8s							
GTA	**Gaotai**	**10.26**	**8**	*e*P		**Pn**	**21 13 47.8**	**-0.3**
GTA				pP			21 13 54.3	
GTA				sP			21 13 57.8	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.8s							
GTA				pmax	pmax			
	comp=Z,42nm,5.1s							
GTA				LR	LR			
	comp=Z,260nm,11.6s							
GTA				LR	LR			
	comp=Z,970nm,11.3s							
GTA				LR	LR			
	comp=Z,200nm,13.8s							
CHTO	**Chiang Mai**	**10.43**	**175**	Pn		**Pn**	**21 13 51.0**	**+0.6**
JIRN	**Jiri**	**10.43**	**264**	*e*Pn		**Pn**	**21 13 51.2**	**+0.4**
JIRN				*e*Sn		**Sn**	**21 15 47.6**	**-0.3**
XAN	**Xi'an**	**10.53**	**60**	⇑P		Pn	21 14 04.4	+13
XAN				pP			21 14 17.9	
XAN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GUN	**Gumba**	**10.66**	**266**	*e*Pn		**Pn**	**21 13 53.9**	**+0.1**
GUN				*e*Sn		**Sn**	**21 15 51.8**	**-1.6**
CM31	**Chiang Mai Arr**	**10.78**	**175**	Pn		**Pn**	**21 13 56.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**10.78**	**175**	Pn		**Pn**	**21 13 57.0**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=346,slow=12,SNR=40							
CMAR	**Chiang Mai Arr**	**10.78**	**175**	Pn		**Pn**	**21 13 56.8**	**+1.5**
PHRA	**Phrae**	**10.91**	**168**	Pn		**Pn**	**21 13 59.5**	**+2.5**
PKI	**Pulchoki**	**11.13**	**264**	*e*Pn		**Pn**	**21 13 59.7**	**-0.6**
PKI				*e*Sn		**Sn**	**21 16 02.9**	**-2.1**
PKIN	**Phulchoki**	**11.14**	**264**	*e*Pn		**Pn**	**21 13 59.6**	**-0.8**
PKIN				*e*Sn		**Sn**	**21 16 03.4**	**-1.7**
	comp=Z,40nm,0.7s							
KKN	**Kakani**	**11.20**	**266**	*e*Pn		**Pn**	**21 14 01.1**	**0.0**
KKN				*e*Sn		**Sn**	**21 16 04.2**	**-2.4**
DMN	**Daman**	**11.38**	**265**	*e*Pn		**Pn**	**21 14 03.7**	**0.0**
DMN				*e*Sn		**Sn**	**21 16 09.9**	**-1.3**
	comp=Z,82nm,0.8s							
GKN	**Gorkha**	**11.72**	**267**	*e*Pn		**Pn**	**21 14 06.5**	**-1.8**
GKN				*e*Sn		**Sn**	**21 16 15.5**	**-3.8**
	comp=Z,19nm,0.5s							
BOK	**Bokaro**	**12.05**	**246**	*e*P		**Pn**	**21 14 12.0**	**-0.6**
BOK				IAmb		IAmb	21 14 14.0	
	comp=Z,10nm,0.6s							
BOK				*e*S		**Sn**	**21 16 25.0**	**-2.2**
DANN	**Dangsing**	**12.44**	**269**	*e*Pn		**Pn**	**21 14 16.2**	**-2.0**
DANN				*e*Sn		**Sn**	**21 16 31.2**	**-5.8**
	comp=Z,35nm,0.8s							
KOLN	**Koldanda**	**12.67**	**267**	*e*Pn		**Pn**	**21 14 19.3**	**-1.9**
KOLN				*e*Sn		**Sn**	**21 16 38.2**	**-4.3**
PYUN	**Piuthan**	**13.15**	**269**	*e*Pn		**Pn**	**21 14 25.1**	**-2.7**
PYUN				*e*Sn		**Sn**	**21 16 48.1**	**-6.1**
	comp=Z,12nm,0.5s							
QIZ	**Qiongzhong**	**14.89**	**130**	P		**P**	**21 14 59.6**	**+2.4**
QIZ				S		**Sn**	**21 17 36.4**	**-0.2**
QIZ				LR	LR			
	comp=N,360nm,12.7s							
QIZ				LR	LR			
	comp=E,400nm,11.2s							
QIZ				LR	LR			
	comp=Z,460nm,9.6s							
UBPT	**Khong Chiam**	**15.56**	**152**	Pn		**Pn**	**21 15 00.9**	**+0.7**
WMQ	**Urumqi**	**16.68**	**333**	*e*P		**Pn**	**21 15 15.8**	**+1.2**
WMQ				LR	LR			
	comp=Z,250nm,13.3s							
WMQ				LR	LR			
	comp=Z,110nm,13.9s							
SMLA	**Simla**	**18.03**	**281**	*e*P		**Pn**	**21 15 28.1**	**-3.4**
SMLA				IAmb		IAmb	21 15 34.9	
	comp=Z,11nm,0.8s							
SONM	**Songino Array**	**19.69**	**17**	P		**Pn**	**21 15 51.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=9.9							
SONM				LR	LR		21 23 58.1	
	comp=Z,69nm,19.6s,baz=206,slow=38							
	comp=Z,1.6nm,0.8s							
SONM	**Songino Array**	**19.69**	**17**	Pn		**Pn**	**21 15 54.5**	**+2.9**
TARG	**Taragay, Kyrgy**	**20.51**	**313**	P		**P**	**21 16 00.4**	**+1.0**
TARG				IAmb		IAmb	21 16 08.7	
	comp=Z,7.8nm,0.9s							
HYBB	**Hyderabad (bro**	**21.28**	**241**	*e*P		**P**	**21 16 07.4**	**-0.1**
MK31	**Makanchi Array**	**21.34**	**329**	P		**P**	**21 16 07.2**	**-0.7**
MKAR	**Makanchi Array**	**21.34**	**329**	P		**P**	**21 16 08.7**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=137,slow=13,SNR=16							
MKAR				LR	LR		21 24 39.5	
	comp=Z,59nm,18.7s,baz=248,slow=37							
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**21.34**	**329**	P		**P**	**21 16 07.6**	**-0.3**
NIL	**Nilore**	**21.47**	**288**	P		**P**	**21 16 08.8**	**-0.7**
MAKZ	**Makanchi**	**21.49**	**329**	P		**P**	**21 16 11.5**	**+2.0**
NRN	**Naryn**	**21.55**	**310**	P		**P**	**21 16 10.4**	**-0.2**
NRN				IAmb		IAmb	21 16 43.7	
	comp=Z,6.9nm,1.0s							
BOOM	**Boomskoye usch**	**22.09**	**313**	P		**P**	**21 16 17.4**	**+1.2**
BOOM				IAmb		IAmb	21 16 25.6	
	comp=Z,15nm,1.1s							
AAK	**Ala-Archa**	**23.10**	**312**	P		**P**	**21 16 27.5**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=132,slow=5.6,SNR=12							
	comp=Z,3.8nm,0.8s							
AAK	**Ala-Archa**	**23.10**	**312**	P		**P**	**21 16 27.4**	**+0.6**
AAK				IAmb		IAmb	21 16 38.6	
	comp=Z,12nm,1.1s							
DRK	**Karamyk**	**23.77**	**302**	P		**P**	**21 16 31.9**	**-1.9**
DRK				IAmb		IAmb	21 16 51.6	
	comp=Z,8.4nm,0.8s							
BTK	**Batken**	**24.66**	**303**	P		**P**	**21 16 40.9**	**-0.9**
BTK				IAmb		IAmb	21 17 18.2	
	comp=Z,6.6nm,0.8s							
GAR	**Garm**	**24.74**	**300**	P		**P**	**21 16 41.5**	**-1.0**
GAR				IAmb		IAmb	21 16 53.1	
	comp=Z,9.4nm,0.6s							
KBL	**Kabul**	**25.02**	**290**	P		**P**	**21 16 43.7**	**-1.5**
KBL				IAmb		IAmb	21 16 59.0	
	comp=Z,7.5nm,0.8s							
CHGR	**Chuyangaron**	**25.54**	**299**	P		**P**	**21 16 49.6**	**-0.1**
KURBB	**Kurchatov Arra**	**25.86**	**331**	P		**P**	**21 16 51.9**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=138,slow=11,SNR=9.3							
KURBB				LR	LR		21 28 07.1	
	comp=Z,108nm,18.5s,baz=119,slow=39							
	comp=Z,0.8nm,0.5s							
KURK	**Kurchatov**	**25.89**	**331**	P		**P**	**21 16 52.8**	**+0.2**
KURK				IAmb		IAmb	21 17 15.0	
	comp=Z,13nm,1.4s							
KK31	**Karatay Array**	**25.94**	**310**	P		**P**	**21 16 53.1**	**-0.1**
KKAR	**Karatay Array**	**25.94**	**310**	P		**P**	**21 16 53.0**	**-0.3**
KSRS	**Korea Array**	**26.29**	**64**	LR		LR	21 26 47.7	
	comp=Z,25nm,18.2s,baz=250,slow=35							
ZAA0	**Zalesovo Array**	**26.46**	**343**	P		**P**	**21 16 56.1**	**-1.7**
ZAA0				IAmb		IAmb	21 17 14.4	
	comp=Z,5.3nm,0.9s							
ZALV	**Zalesovo Beam**	**26.46**	**343**	P		**P**	**21 16 57.8**	**0.0**
	comp=Z,0.9nm,0.6s,baz=154,slow=11,SNR=4.2							
	comp=Z,0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**26.46**	**343**	P		**P**	**21 16 56.6**	**-1.2**
JOW	**Kunigami**	**26.88**	**88**	LR		LR	21 28 28.8	
	comp=Z,151nm,18.5s,baz=260,slow=38							
PALK	**Pallekele**	**27.21**	**220**	LR		LR	21 28 41.6	
	comp=Z,79nm,21.5s,baz=143,slow=38							
BVAR	**Borovoye Array**	**31.18**	**327**	LR		LR	21 30 52.0	
	comp=Z,47nm,19.4s,baz=146,slow=38							
KLR	**Kul'dur**	**32.55**	**43**	LR		LR	21 32 54.1	
	comp=Z,25nm,20.8s,baz=242,slow=40							
GEYT	**Alibeck**	**34.05**	**295**	P		**P**	**21 18 06.3**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=148,slow=8.7,SNR=3.6							
GEYT				LR		LR	21 33 03.8	
	comp=Z,57nm,18.6s,baz=150,slow=38							
	comp=Z,1.1nm,0.7s							
GEYT	**Alibeck**	**34.05**	**295**	P		**P**	**21 18 04.0**	**-1.2**
GEYT				IAmb		IAmb	21 18 11.5	
	comp=Z,7.5nm,1.4s							
GYA0B	**ALIBECK ARRAY**	**34.05**	**295**	P		**P**	**21 18 04.1**	**-1.1**
GYA0B				IAmb		IAmb	21 18 19.2	
	comp=Z,3.4nm,0.8s							
ABKAR	**Akbulak array**	**35.05**	**315**			**P**	**21 18 14.1**	**+0.5**
AKTO	**Aktyubinsk**	**36.63**	**317**	LR		LR	21 34 25.2	
	comp=Z,66nm,18.3s,baz=117,slow=38							
ARU	**Arti**	**38.77**	**326**	LR		LR	21 36 21.6	
	comp=Z,44nm,18.1s,baz=138,slow=39							
YAK	**Yakutsk**	**38.84**	**23**	LR		LR	21 34 25.4	
	comp=Z,48nm,18.8s,baz=269,slow=36							
BELG	**Belogornoye**	**43.42**	**317**	LR		LR	21 37 54.1	
	comp=Z,53nm,19.2s,baz=351,slow=37							
GNI	**Garni**	**44.46**	**299**	LR		LR	21 41 15.5	
	comp=Z,44nm,19.2s,baz=96,slow=40							
KBZ	**Khabaz**	**45.72**	**304**	LR		LR	21 42 34.8	
	comp=Z,42nm,18.6s,baz=63,slow=41							
PETK	**Petropavlovsk-**	**49.24**	**43**	P		**P**	**21 20 10.4**	**+1.2**
	comp=Z,5.1nm,1.0s,baz=282,slow=8.7,SNR=3.1							
	comp=Z,5.1nm,1.0s							
BRTR	**Keskin Array B**	**52.98**	**300**	P		**P**	**21 20 37.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=134,slow=3.6,SNR=3.8							
	comp=Z,0.7nm,0.8s							
AKASG	**Malin Array Be**	**54.75**	**313**	P		**P**	**21 20 49.3**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=72,slow=7.2,SNR=2.7							
AKASG				LR		LR	21 48 07.6	
	comp=Z,75nm,19.2s,baz=26,slow=40							
	comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**56.13**	**327**	P		**P**	**21 20 59.2**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=64,slow=6.3,SNR=1.6							
	comp=Z,1.6nm,0.9s							
ARCES	**ARCESS Array B**	**56.77**	**336**	P		**P**	**21 21 04.3**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=96,slow=9.2,SNR=1.3							
	comp=Z,1.1nm,0.8s							
MLR	**Muntele Rosu**	**57.60**	**308**	LR		LR	21 47 33.2	
	comp=Z,54nm,20.2s,baz=76,slow=38							
BURAR	**Bucovina Array**	**57.73**	**310**	P		**P**	**21 21 10.5**	**-1.3**
BURAR				IAmb		IAmb	21 21 12.7	
	comp=Z,2.1nm,1.1s							
WRA	**Warramunga Arr**	**60.22**	**140**	P		**P**	**21 21 27.8**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=323,slow=8.4,SNR=6.8							
	comp=Z,1.8nm,0.6s							
IDI	**Anoyia**	**60.77**	**296**	LR		LR	21 50 59.2	
	comp=Z,24nm,20.8s,baz=59,slow=39							
VRAC	**Vranov**	**63.01**	**313**	LR		LR	21 53 29.9	
	comp=Z,58nm,19.3s,baz=95,slow=40							
NB2	**NORSAR Subarra**	**63.31**	**327**	P		**P**	**21 21 48.3**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=78,slow=6.5							
NOA	**NORSAR Array B**	**63.31**	**327**	P		**P**	**21 21 48.6**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=78,slow=6.5,SNR=3.7							
NOA				LR		LR	21 48 42.1	
	comp=Z,21nm,20.9s,baz=90,slow=35							
	comp=Z,0.4nm,0.7s							
GERES	**GERESS Array B**	**64.96**	**313**	P		**P**	**21 22 00.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=63,slow=4.8,SNR=1.9							
	comp=Z,0.2nm,0.4s							
DAVOX	**Davos/Dischmat**	**68.05**	**312**	LR		LR	21 56 04.0	
	comp=Z,81nm,19.6s,baz=76,slow=39							
VAE	**Valguarnera**	**68.08**	**302**	LR		LR	21 55 22.2	
	comp=Z,49nm,18.6s,baz=234,slow=39							
ESDC	**Sonseca Array**	**80.19**	**310**	LR		LR	22 03 10.6	
	comp=Z,23nm,19.4s,baz=57,slow=39							
SFJD	**Kangerlussuaq**	**81.14**	**348**	LR		LR	22 02 45.0	
	comp=Z,41nm,18.9s,baz=35,slow=38							
MDT	**Midelt**	**84.10**	**304**	LR		LR	22 08 14.8	
	comp=Z,22nm,19.4s,baz=315,slow=41							
YKA	**Yellowknife Ar**	**84.93**	**15**	LR		LR	22 06 40.1	
	comp=Z,23nm,18.1s,baz=305,slow=39							
TORD	**Torodi Ar. Bea**	**88.98**	**284**	P		**P**	**21 24 16.4**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=64,slow=6.6,SNR=1.6							
	comp=Z,0.2nm,0.8s							
SUR	**Sutherland**	**95.39**	**236**	LR		LR	22 04 17.6	
	comp=Z,31nm,21.8s,baz=124,slow=33							

*NEIC **19**21:14:15.1±0.5, 54.°70N±0.°10×161.°83W±0.°08, h50km±20km, Error ellipse: s-maj=14.2km s-min=5.8km az=169.0*

AEIC 19 21:14:15±1.4, **54.°80N**±0.°07×**161.°89W**±0.°08, **h58**km±9km, **ML2.8, mL3.0**/8(NEIC), **Error ellipse: s-maj=10.4km s-min=5.9km az=155.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DT1	**Dutton Round H**	**0.38**	**324**		Pn	21 14 26.1	+0.5
HAG	**Hague Volcano**	**0.52**	**359**		Pn	21 14 28.0	+0.9
PS4A	**Pavlof South-4**	**0.55**	**2**		Pn	21 14 28.1	+0.7
SDPT	**Sand Point**	**0.98**	**55**		Pn	21 14 33.1	+0.4
SDPT				IAML		21 14 47.2	
	comp=E,367nm,0.5s						
SDPT				IAML		21 14 47.2	
	comp=N,345nm,0.3s						
ISLZ	**Isanotski Laza**	**1.06**	**267**		Pn	21 14 34.0	+0.2
SSLS	**Shishaldin Sou**	**1.23**	**267**		Pn	21 14 36.9	+0.9
CNBA	**Chernabura Isl**	**1.33**	**88**	Pn	Pn	21 14 37.0	-0.3
AKUT	**Akutan**	**2.36**	**255**	Pn	Pn	21 14 51.5	+0.3
CHGN	**Chignik**	**2.48**	**51**	Pn	Pn	21 14 53.8	+0.8
CHGN				IAML		21 15 33.9	
	comp=N,59nm,0.1s						
CHGN				IAML		21 16 12.9	
	comp=E,86nm,0.1s						
UNV	**Unalaska Valle**	**2.87**	**252**	Pn	Pn	21 14 58.3	+0.1
KDAK	**Kodiak Island**	**5.98**	**56**	Pn	Pn	21 15 40.0	-0.8
O18K	**Koktuh Hills**	**6.22**	**33**	Pn	Pn	21 15 42.6	-1.5
GLI	**Glacier Island**	**9.95**	**46**	Pn	Pn	21 16 34.7	-0.3
HIN	**Hinchinbrook I**	**9.97**	**50**	Pn	Pn	21 16 34.1	-1.2

*IDC **19**21:16:59.0±0.9, 3.°95S×131.°85E, h0km, mb4.0/6, mbtmp4.0/8, ML3.7/2, MS3.2/4, Error ellipse: s-maj=57.6km s-min=15.9km az=66.0*

*NEIC **19**21:17:00.1±1.6, 3.°97S±0.°04×131.°9E±0.°2, h7km±7km, mb4.0/12, Error ellipse: s-maj=24.4km s-min=5.1km az=93.0*

ISC 19 21:17:02.9±0.6, **4.°15S**±0.°05×**131.°7E**±0.°1, **h35**km, **n31, s**≥**29**/33, **mb4.0/7, MS3.3**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.34**	**24**	Pg	**Pn**	**21 17 20.6**	**-4.6**
SIJI	**Sorong**	**3.29**	**352**	Pn	**Pn**	**21 17 49.7**	**-2.3**
	2.6nm,0.3s,baz=249,slow=23,SNR=16						
SIJI				Sn	**Sn**	**21 18 27.4**	**-2.5**
	8.0nm,0.3s,baz=244,slow=23,SNR=12						
SIJI				LR	LR	21 19 43.7	
	comp=Z,268nm,19.1s,baz=157,slow=53						
	6.0nm,0.3s						
MTN	**Manton Dam**	**8.66**	**184**		**Pn**	**21 19 07.1**	**+1.3**
KNRA	**Kununurra**	**11.81**	**194**		**Pn**	**21 19 49.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**15.08**	**203**	Pn	**Pn**	**21 20 31.8**	**-1.7**
	0.3nm,0.3s,baz=40,slow=12,SNR=7.7						
FITZ				Sn	**Sn**	**21 23 14.9**	**-4.5**
	0.2nm,0.3s,baz=240,slow=20,SNR=2.9						
FITZ	**Fitzroy Crossi**	**15.08**	**203**	Pn	**Pn**	**21 20 32.0**	**-1.5**
FITZ				IAmb	IAmb	21 20 49.4	
	comp=Z,11nm,1.3s						
WB0	**Warramunga Arr**	**15.74**	**171**	Pn	**Pn**	**21 20 40.0**	**-2.2**
WB0				IAmb	IAmb	21 20 54.5	
	comp=Z,6.9nm,0.7s						
WRAB	**Tennant Creek**	**15.90**	**171**		**Pn**	**21 20 42.3**	**-1.9**
WRA	**Warramunga Arr**	**15.91**	**171**	Pn	**Pn**	**21 20 41.2**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=356,slow=13,SNR=34						
WRA				Sn	**Sn**	**21 23 34.4**	**-5.3**
	comp=Z,0.3nm,0.3s,baz=356,slow=20,SNR=3.7						
WB2	**Warramunga Arr**	**15.91**	**171**	Pn	**Pn**	**21 20 41.6**	**-2.7**
WR0	**Warramunga Arr**	**15.96**	**170**	Pn	**Pn**	**21 20 42.8**	**-2.2**
WR0				IAmb	IAmb	21 21 02.1	
	comp=Z,18nm,1.5s						
AS31	**Alice Springs**	**19.52**	**174**	P	**Pn**	**21 21 29.9**	**+1.0**
ASAR	**Alice Springs**	**19.52**	**174**	P	**Pn**	**21 21 29.9**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=353,slow=10.0,SNR=68						
ASAR				S	**S**	**21 25 05.2**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=8.8,slow=27,SNR=4.9						
	comp=Z,6.1nm,0.6s						
ASAR	**Alice Springs**	**19.52**	**174**	P	**Pn**	**21 21 29.7**	**+0.8**
PSA00	**Pilbara Seismi**	**20.80**	**213**	P	**P**	**21 21 43.3**	**+2.0**
PSA00				IAmb	IAmb	21 21 58.1	
	comp=Z,9.5nm,1.2s						
CTA	**Charters Tower**	**21.26**	**139**	P	**P**	**21 21 48.5**	**+2.1**
	comp=Z,6.4nm,0.9s,baz=317,slow=9.9,SNR=7.9						
	comp=Z,6.4nm,0.9s						
CTAO	**Charters Tower**	**21.26**	**139**	P	**P**	**21 21 48.7**	**+2.3**
STKA	**Stephens Creek**	**29.11**	**163**	P	**P**	**21 23 02.4**	**+1.9**
	comp=Z,3.6nm,0.7s,baz=342,slow=6.2,SNR=5.4						
	comp=Z,3.6nm,0.7s						
STKA	**Stephens Creek**	**29.11**	**163**	P	**P**	**21 23 01.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**39.32**	**306**	P	**P**	**21 24 30.9**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=144,slow=9.3,SNR=4.2						
	comp=Z,0.7nm,0.3s						
MJAR	**Matsushiro Arr**	**40.93**	**8**	LR	LR	21 38 38.8	
	comp=Z,40nm,20.9s,baz=220,slow=32						
SONM	**Songino Array**	**56.33**	**340**	P	**P**	**21 26 40.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=158,slow=8.1,SNR=4.0						
SONM				LR	LR	21 55 59.9	
	comp=Z,18nm,18.5s,baz=224,slow=42						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**56.33**	**340**	P	**P**	**21 26 40.7**	**+0.3**
SONM				IAmb	IAmb	21 27 22.5	
	comp=Z,1.7nm,1.4s						
MK31	**Makanchi Array**	**66.82**	**325**	P	**P**	**21 27 50.3**	**-0.9**
MK31				IAmb	IAmb	21 28 00.0	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**66.82**	**325**	P	**P**	**21 27 52.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=115,slow=9.3,SNR=6.8						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**66.82**	**325**	P	**P**	**21 27 51.7**	**+0.5**
MAKZ	**Makanchi**	**67.00**	**325**	P	**P**	**21 27 53.1**	**+0.8**
KURBB	**Kurchatov Arra**	**71.01**	**327**	P	**P**	**21 28 17.9**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=127,slow=5.4,SNR=7.8						
	comp=Z,1.0nm,0.8s						
ABKAR	**Akbulak array**	**81.36**	**321**	P	**P**	**21 29 18.5**	**+2.5**
GNI	**Garni**	**90.32**	**310**	LR	LR	22 15 57.0	
	comp=Z,15nm,18.9s,baz=290,slow=39						
LPAZ	**La Paz**	**151.77**	**136**	PKPab

SMPP				eS	Sb	21 30 34.6	-0.5	
BALP	**Baler**	**0.53**	**97**↑	*e*P	Pg	21 30 27.5	+0.1	
BALP				eS	Sg	21 30 35.5	+1.1	
BOLP	**Bolinao**	**1.21**	**298**↓	*e*P	Pg	21 30 39.6	-0.8	
BOLP				eS	Sn	21 30 57.1	0.0	
SAMP	**Sagada Mountai**	**1.27**	**355**↑	*e*P	Pn	21 30 40.1	-1.2	
SAMP				eS	Sg	21 30 58.2	+0.2	
CAUP	**Cauayan**	**1.36**	**34**↑	*e*P	Pn	21 30 41.6	-1.0	
CAUP				eS	Sb	21 31 00.5	-0.1	
MACP	**Maragondon, Ca**	**1.57**	**191**↓	*e*P	Pn	21 30 45.4	+0.1	
MACP				eS	Sn	21 31 04.8	-1.1	

*BER **19** 21:49:14.7±1.3, 67.64N×34.44E, h0km, ML1.4, Suspected explosion*

HEL 19 21:49:16.3±0.2, 68.08N×33.64E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.42**	**115**	PG	Pg	21 49 23.8	-0.5
LVZ				SG	Sg	21 49 29.7	0.0
VRF	**Varrio** baz=74	**1.56**	**260**	PG	Pn	21 49 44.6	-0.7
VRF	comp=Z,3.2nm,0.2s			MSG		21 50 03.0	
VRF				SG	Sn	21 50 04.3	-1.9
OLKF	**Oulanka, Finla**	**2.42**	**225**	PN	Pn	21 49 55.5	-1.5
OLKF				SN	Sn	21 50 23.9	-3.3
KU6	**Riekki**	**2.53**	**217**	SN	Sn	21 50 29.6	-0.5
KU6	comp=Z,3.9nm,0.2s			MSG		21 50 30.9	
SGF	**Sodankyl**	**2.78**	**260**	PB	Pb	21 50 04.8	-2.0
SGF				SG	Sb	21 50 40.8	-0.6
MSF	**Maaselka**	**2.83**	**222**	PN	Pn	21 50 01.4	-1.3
MSF				SN	Sn	21 50 35.5	-1.9
KEV	**Kevo**	**2.93**	**308**	*e*P	Pb	21 50 08.4	-1.0
KEV				eS	Sb	21 50 46.9	+1.2
KEV	**Kevo**	**2.93**	**308**	PG	Pb	21 50 08.4	-1.0
KEV	comp=Z,1.2nm,0.2s			MSG		21 50 42.6	
KEV				SG	Sb	21 50 47.0	+1.3
ARA0	**ARCESS Array S**	**3.30**	**300**	*e*P	Pn	21 50 12.3	+3.1
ARA0				*e*S	Sb	21 50 55.1	-1.1
ARA0	comp=Z,1.9nm,0.5s			IAML		21 51 10.0	
ARA0	**ARCESS Array S**	**3.30**	**300**	PB	Pn	21 50 12.1	+3.0
ARA0				SG	Sb	21 50 54.7	-1.6
RNF	**Rovaniemi** baz=57	**3.30**	**247**	PN	Pn	21 50 07.5	-1.6
HEF	**Hetta**	**3.73**	**280**	*e*P	Pn	21 50 16.4	+1.3
HEF				eS	Sn	21 51 04.0	+4.3
KLF	**Kolari**	**3.79**	**262**	PG	Pb	21 50 24.4	+0.4
KTK1	**Kautokeino**	**3.94**	**289**	eS	Sn	21 51 08.2	+3.4
TOF	**Tornio**	**4.16**	**246**	PG	Pb	21 50 29.4	-0.8
TOF				SG	Sb	21 51 22.0	+1.1
LANU	**Lannavaara**	**4.37**	**275**	PN	Pn	21 50 23.9	0.0
KALU	**Kalix**	**4.61**	**246**	SG	Sb	21 51 38.1	+4.2
ERTU	**Ertsjaerv**	**4.69**	**256**	SN	Sn	21 51 20.8	-2.4

*HLW **19** 21:50:54.6, 23.57N×32.73E, h3km±2km, Md4.0*

ISC 19 21:50:54.1±0.9, 23.54N±0.03×32.77E±0.03, h11km±9km, n29, σ1°08/37, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAHD	**NAHD** baz=10.0	**0.26**	**2**	P	**Pg**	**21 50 59.2**	**-0.3**
NAHD				S	**Sg**	**21 51 02.2**	**-0.8**
NNAL	**NNAL** baz=193	**0.27**	**201**	P	**Pg**	**21 51 00.3**	**+0.7**
NNAL				S	**Sg**	**21 51 04.6**	**+1.4**
NNMR	**New North Mara** baz=317	**0.27**	**316**	P	**Pg**	**21 50 59.0**	**-0.6**
NNMR				S	**Sg**	**21 51 02.3**	**-1.1**
KASR	**Kasr** baz=83	**0.30**	**77**	P	**Pg**	**21 51 01.3**	**+1.1**
AWKL	**West Kalabsha** baz=239	**0.32**	**248**	P	**Pg**	**21 51 00.6**	**+0.1**
AWKL				S	**Sg**	**21 51 04.7**	**-0.1**
NGMR	**NGMR** baz=261	**0.33**	**266**	P	**Pg**	**21 51 00.4**	**-0.4**
AKUR	**Kurkur** baz=351	**0.35**	**1**	P	**Pb**	**21 51 02.9**	**+0.5**
AKUR				S	**Sb**	**21 51 09.1**	**+1.2**
NSKD	**New Sinn el Ka** baz=286	**0.37**	**288**	P	**Pg**	**21 51 00.8**	**-0.7**
NMAN	**Kulet Umm Tihe** baz=42	**0.47**	**37**	P	**Pg**	**21 51 03.5**	**+0.3**
NMAN				S	**Sg**	**21 51 09.7**	**+0.3**
MABD	**Mabed** baz=213	**0.70**	**216**	P	**Pg**	**21 51 07.7**	**0.0**
HMSM	**Jabal Masmas** baz=229	**1.04**	**231**	P	**Pg**	**21 51 13.7**	**-0.5**
ASHG	**Umm Shaghir** baz=253	**1.06**	**255**	P	**Pg**	**21 51 13.6**	**-0.8**
BRNS	**Bernies** baz=77	**1.27**	**76**	P	**Pg**	**21 51 18.4**	**-0.2**
HKFR	**Khafra** baz=234	**1.65**	**235**	P	**Pn**	**21 51 24.1**	**+1.0**
APRS	**Wahet Paris** baz=294	**2.05**	**294**	P	**Pn**	**21 51 29.3**	**+0.7**
HAGS	**Hagol** baz=68	**2.19**	**67**	P	**Pn**	**21 51 31.9**	**+1.3**
NADB	**Abo Dabab** baz=42	**2.39**	**41**	P	**Pn**	**21 51 33.9**	**+0.7**
GTR	**Jabal at Tayr** baz=315	**2.81**	**315**	P	**Pn**	**21 51 39.8**	**+0.9**
AKRG	**Al Kharijah** baz=314	**2.84**	**314**	P	**Pn**	**21 51 40.3**	**+0.8**
HDK1	**Dakhla** baz=304	**3.65**	**304**	P	**Pn**	**21 51 51.2**	**+0.5**
HHRG	**Al Ghardaqah** baz=12	**3.73**	**11**	P	**Pn**	**21 51 49.5**	**-2.2**
ASUT	baz=345	**3.99**	**344**	P	**Pn**	**21 51 56.3**	**+1.1**
TAMRE	**El Minia** baz=339	**4.45**	**338**	P	**Pn**	**21 52 02.7**	**+1.2**
GRB	**Gharib** baz=0.0	**4.71**	**0**	P	**Pn**	**21 52 05.3**	**+0.2**
TR2	**Tor 2** baz=10.0	**4.90**	**10**	P	**Pn**	**21 52 08.0**	**+0.3**
MQOL	**MQOL** baz=180,slow=7.4	**4.90**	**125**	*i*	**Pb**	**21 52 18.5**	**-1.4**
MQOL				*i* P	**Pg**	**21 52 27.9**	**-0.1**
MQOL				*i* S	**Sg**	**21 53 28.1**	**-3.4**
MQOL	comp=N,65nm,0.6s			IAML		21 53 42.1	
HKAT	**Jabal Katrina** baz=12	**5.08**	**12**	P	**Pn**	**21 52 10.6**	**+0.2**
HFRF	**Wahat Farafira** baz=313	**5.40**	**313**	P	**Pn**	**21 52 15.2**	**+0.6**
RYAN	**Fayoum** baz=339	**5.95**	**338**	P	**Pn**	**21 52 23.8**	**+1.6**

*NOU **19** 22:03:17.9, 36.59S×178.39W, h0km, MLv4.6/6, East of North Island, N.Z.*

*IDC **19** 22:03:44.0±7.2, 37.45S×179.57E, h69km±52km, mb3.1/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=61.3km s-min=44.4km az=26.0*

*WEL **19** 22:03:44.5±1.4, 37.5±4.4×17.9E±., h21km±11km, M3.4/30, ML3.6/36, MLv3.4/30, Error ellipse: s-maj=0.0km s-min=0.0km az=88.0*

ISC 19 22:03:40.3±2.4, 36.95S±0.07×179.5E±0.1, h32km±13km, n63, σ1°77/66, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.13**	**237**	P	**Pn**	**22 03 59.7**	**-0.2**
MXZ				S	**Sn**	**22 04 12.0**	**-2.3**
WMGZ	**Waiomatatini S**	**1.23**	**224**	P	**Pb**	**22 04 03.4**	**+0.6**
WMGZ				S	**Sb**	**22 04 18.2**	**-0.2**
PKGZ	**Pakihiroa**	**1.47**	**230**	P	**Pb**	**22 04 06.3**	**-0.7**
PKGZ				S	**Sn**	**22 04 22.9**	**+0.1**
PUZ	**Puketiti**	**1.50**	**221**	P	**Pb**	**22 04 07.3**	**-0.2**
PUZ				S	**Sn**	**22 04 23.8**	**+0.5**
HAZ	**Te Kaha**	**1.59**	**239**	P	**Pn**	**22 04 06.3**	**+0.2**
HAZ				S	**Sn**	**22 04 25.8**	**+0.2**
TWGZ	**Tauwhareparae**	**1.72**	**224**	P	**Pb**	**22 04 10.5**	**-0.8**
RUGZ	**Raukumara Rang**	**1.77**	**234**	P	**Pb**	**22 04 10.6**	**-1.5**
CNGZ	**Carnagh Statio**	**1.84**	**213**	P	**Pb**	**22 04 12.5**	**-0.8**
TKGZ	**Te Karaka**	**1.98**	**221**	P	**Pb**	**22 04 13.7**	**-2.0**
MWZ	**Matawai**	**2.09**	**228**	P	**Pn**	**22 04 14.9**	**+1.8**
MWZ				S	**Sn**	**22 04 37.2**	**-0.8**
RIGZ	**Rimuhau**	**2.23**	**217**	P	**Pn**	**22 04 16.6**	**+1.6**
RIGZ				S	**Sn**	**22 04 41.3**	**-0.1**
RAGZ	**Rawiri**	**2.26**	**226**	P	**Pn**	**22 04 17.2**	**+1.7**
URZ	**Urewera** 19nm,0.3s,baz=77,slow=11,SNR=48	**2.31**	**235**	P	**Pn**	**22 04 17.4**	**+1.4**
URZ	64nm,0.4s,baz=350,slow=18,SNR=13 64nm,0.4s			S	**Sn**	**22 04 42.7**	**-0.5**
URZ	**Urewera**	**2.31**	**235**	P	**Pn**	**22 04 17.8**	**+1.9**
URZ	**Urewera**	**2.31**	**235**	P	**Pn**	**22 04 18.5**	**+2.5**
SNGZ	**Shannon Statio**	**2.50**	**222**	P	**Pn**	**22 04 21.6**	**+2.8**
OPRZ	**Ohinepanea**	**2.51**	**248**	P	**Pn**	**22 04 19.9**	**+1.2**
MHGZ	**Mahia Peninsul**	**2.54**	**209**	P	**Pn**	**22 04 20.9**	**+1.7**
RTZ	**Ruatahuna**	**2.60**	**229**	P	**Pn**	**22 04 22.5**	**+2.4**
MUGZ	**Murupara**	**2.65**	**234**	P	**Pn**	**22 04 22.7**	**+2.0**
TARZ	**Mount Tarawera**	**2.70**	**241**	P	**Pn**	**22 04 23.4**	**+1.9**
RAHZ	**Arahi**	**2.74**	**223**	P	**Pn**	**22 04 24.1**	**+2.1**
MTHZ	**Maungataniwha**	**2.83**	**227**	P	**Pn**	**22 04 25.1**	**+1.8**
NMHZ	**Naumai**	**3.02**	**224**	P	**Pn**	**22 04 27.6**	**+1.7**
KUZ	**Kuaotunu**	**3.04**	**273**	P	**Pn**	**22 04 26.1**	**+0.1**
BKZ	**Black Stump Fm**	**3.25**	**226**	P	**Pn**	**22 04 30.8**	**+1.8**
BKZ	**Black Stump Fm**	**3.25**	**226**	P	**Pn**	**22 04 31.4**	**+2.4**
TOZ	**Tahuroa Road**	**3.28**	**255**	P	**Pn**	**22 04 30.0**	**+0.7**
GRZ	**Great Barrier**	**3.32**	**281**	P	**Pn**	**22 04 31.2**	**+1.2**
MCHZ	**McNeill Hill**	**3.33**	**221**	P	**Pn**	**22 04 31.7**	**+1.6**
KWHZ	**Kaweka Forest**	**3.46**	**223**	P	**Pn**	**22 04 33.8**	**+1.8**
MKAZ	**Moumakai**	**3.47**	**266**	P	**Pn**	**22 04 32.4**	**+0.3**
WIAZ	**Waiheke Island**	**3.50**	**271**	P	**Pn**	**22 04 33.2**	**+0.7**
ETAZ	**East Tamaki Re**	**3.66**	**268**	P	**Pn**	**22 04 35.8**	**+1.2**
MBAZ	**Motutapu North**	**3.69**	**271**	P	**Pn**	**22 04 36.5**	**+1.4**
TMVZ	**Te Maari**	**3.70**	**233**	P	**Pn**	**22 04 36.7**	**+1.4**
ETVZ	**East Tongariro**	**3.70**	**233**	P	**Pn**	**22 04 36.5**	**+1.2**
NTVZ	**North Tongariro**	**3.70**	**233**	P	**Pn**	**22 04 36.5**	**+1.2**
BHHZ	**Black Hill Sta**	**3.71**	**226**	P	**Pn**	**22 04 37.0**	**+1.6**
PXZ	**Pawanui**	**3.71**	**213**	P	**Pn**	**22 04 38.0**	**+2.7**
OTVZ	**Oturere**	**3.75**	**233**	P	**Pn**	**22 04 38.3**	**+2.3**
ABAZ	**Army Bay**	**3.76**	**274**	P	**Pn**	**22 04 37.1**	**+1.1**
NNVZ	**North Ngauruho**	**3.76**	**233**	P	**Pn**	**22 04 38.8**	**+2.6**
WTVZ	**West Tongariro**	**3.77**	**234**	P	**Pn**	**22 04 40.6**	**+4.3**
SNVZ	**South Ngauruho**	**3.78**	**233**	P	**Pn**	**22 04 37.6**	**+1.2**
NGZ	**Ngauruhoe**	**3.80**	**233**	P	**Pn**	**22 04 38.2**	**+1.5**
MOVZ	**Moawhango**	**3.84**	**229**	P	**Pn**	**22 04 38.7**	**+1.5**
TWVZ	**Taurewa**	**3.84**	**235**	P	**Pn**	**22 04 40.0**	**+2.7**
PNHZ	**Pukenui**	**3.94**	**220**	P	**Pn**	**22 04 38.8**	**+0.4**
RVAZ	**Riverhead Bore**	**3.95**	**271**	P	**Pn**	**22 04 40.2**	**+1.7**
HIZ	**Hauiti**	**4.00**	**246**	P	Pn	22 04 44.3	+5.0
WCZ	**Waipu Caves**	**4.27**	**282**	P	**Pn**	**22 04 44.6**	**+1.6**
BFZ	**Birch Farm**	**4.51**	**213**	P	**Pn**	**22 04 45.7**	**-0.6**
OUZ	**Omahuta**	**5.08**	**288**	P	**Pn**	**22 04 56.2**	**+2.1**
OUZ	**Omahuta**	**5.08**	**288**	P	**Pn**	**22 04 56.6**	**+2.5**
QRZ	**Quartz Range**	**6.67**	**232**	P	**Pn**	**22 05 19.0**	**+3.0**
RPZ	**Rata Peaks** 5.4nm,0.7s,baz=85,slow=17,SNR=2.3	**9.34**	**221**	S	Sn	22 07 23.8	-13
ASAR	**Alice Springs** 0.5nm,0.6s,baz=118,slow=7.9,SNR=6.3 0.5nm,0.6s	**41.16**	**276**	P	**P**	**22 11 23.0**	**+1.2**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=120,slow=7.9,SNR=8.5 0.2nm,0.5s	**42.74**	**281**	P	**P**	**22 11 35.5**	**+0.8**
H03N3	**Juan Fernandez** baz=229	**78.82**	**123**	T	T	23 42 31.3	
H03N2	**Juan Fernandez** baz=229	**78.82**	**123**	T	T	23 42 36.8	
H03N1	**Juan Fernandez** baz=229	**78.83**	**123**	T	T	23 42 29.8	
TORD	**Torodi Ar. Bea** 1.1nm,1.0s,baz=186,slow=4.2,SNR=4.3	**156.22**	**185**	PKPab	**PKPab**	**22 23 56.0**	**-3.7**

IDC 19 22:08:48.8±2.4, 17.52S×178.30W, h627km±31km, mb2.7/2, mbtmp3.6/3, Error ellipse: s-maj=284.2km s-min=21.5km az=177.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 5.5nm,0.7s,baz=102,slow=9.3,SNR=5.7	**3.49**	**266**	P	P	22 10 13.0	-0.1
PPT	**Papeete** 39nm,0.6s,baz=252,slow=19,SNR=2.6	**27.38**	**94**	P	P	22 13 46.8	+0.1
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=95,slow=7.2,SNR=14 0.2nm,0.3s	**44.81**	**251**	P	P	22 16 09.1	-0.2
ASAR	**Alice Springs** 1.1nm,0.5s,baz=87,slow=8.8,SNR=15 1.1nm,0.5s	**45.00**	**254**	P	P	22 16 10.8	+0.1

*IDC **19** 22:14:59.5±0.5, 1.95S×138.86E, h0km, mb4.2/17, mbtmp4.3/22, ML4.8/4, MS4.2/44, Error ellipse: s-maj=18.7km s-min=11.7km az=75.0*

*BJI **19** 22:15:01.2±0.0, 2.30S×138.98E, h30km, mb4.6/36, mB5.0/22, Ms4.5/14, Ms7 4.2/15*

*NEIC **19** 22:15:02.6±1.6, 1.95S±0.08×138.71E±0.07, h10km±1km, mb4.9/53, Error ellipse: s-maj=14.0km s-min=11.0km az=7.0*

*DJA **19** 22:15:05.1±0.5, 2.5±4.3×13.9E±., h21km±4km, M4.8/30, mb4.8/30, mB5.3/18, MLv5.0/6, Mw(mB)4.7/18, MwMwp4.6/1, Mwp4.9/1*

*GCMT **19** 22:15:07.7±0.3, 1.90S±0.02×138.75E±0.02, h15km, MW5.1/67, Moment Tensor Solution. s29,c31; s67,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.47±.09; Mθθ=0.31±.06; Mφφ=-0.77±.07; Mrθ=-4.65±.19; Mθφ=0.43±.04; Mφr=3.26±.21; Best double couple: M0=5.73500×10^16 NP1:φs=305.00000°, δ88.00000°, λ=3.00000°. NP2: φs=196.00000°, δ7.00000°, λ=160.00000°. Principal axes: T 5.7380, Plg47.0000°, Azm209.0000°; N -0.0070, Plg7.0000°, Azm306.0000°; P -5.7310, Plg42.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 22:15:05.0±0.8, 2.00S±0.04×138.82E±0.04, h30km±5km, n213, σ1°65/185, mb4.8/52, MS4.2/51, 5C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.10**	**273**	P	**Pb**	**22 15 10.1**	**-0.2**
SMPI				S	**Sb**	**22 15 16.2**	**+2.2**
GENI	**Genyem**	**1.48**	**114**	P	**Pn**	**22 15 30.3**	**+0.7**
GENI	**Genyem**	**1.48**	**114**	P	**Pb**	**22 15 30.8**	**-1.1**
WAMI	**Wamena**	**1.88**	**183**	P	**Pb**	**22 15 40.2**	**+1.5**
SRPI	**Serui, Papua**	**2.58**	**273**	P	**Pn**	**22 15 44.5**	**-0.3**
BAKI	**Biak**	**2.82**	**286**	P	**Pn**	**22 15 47.1**	**-1.1**
FAKI	**Fak Fak**	**6.62**	**262**		**Pn**	**22 16 40.2**	**-0.3**
FAKI	**Fak Fak** 0.8nm3μm150nm,0.5s	**6.62**	**262**	P	**Pn**	**22 16 40.7**	**+0.2**
FAKI	**Fak Fak**	**6.62**	**262**	P	**Pn**	**22 16 40.6**	**+0.1**
SIJI	**Sorong** 4.5nm,0.3s,baz=74,slow=13,SNR=8.3	**7.63**	**278**	Pn	**Pn**	**22 16 53.7**	**-0.6**
SIJI	0.7nm,0.3s,baz=48,slow=9.2,SNR=3.6 8.7nm,0.4s			Sn	**Sn**	**22 18 17.2**	**-2.6**
MANU	**Manus Island**	**8.55**	**90**	Pn	**Pn**	**22 17 09.2**	**+2.3**
BNDI	**Bandanaira** 10μm117nm,0.8s	**9.24**	**254**	P	**Pn**	**22 17 17.9**	**+1.5**
SAUI	**Saumlaki**	**9.56**	**231**	Pn	**Pn**	**22 17 19.0**	**-1.8**
SAUI	**Saumlaki** 248nm,0.5s	**9.56**	**231**	P	**Pn**	**22 17 22.3**	**+1.5**
MSAI	**Masohi** 986nm20nm,0.5s	**9.97**	**262**	P	**Pn**	**22 17 27.3**	**+0.9**
AAI	**Ambon** 2μm61nm,0.5s	**10.74**	**261**	P	**Pn**	**22 17 38.4**	**+1.4**
PMG	**Port Moresby** 6.3nm,0.7s,baz=285,slow=16,SNR=1.6	**11.09**	**132**	Pn	**Pn**	**22 17 39.6**	**-2.2**
PMG	comp=Z,2μm,18.7s,baz=355,slow=45			LR	LR	22 23 21.9	
PMG	**Port Moresby**	**11.09**	**132**	Pn	**Pn**	**22 17 40.6**	**-1.2**
LBMI	**Labuha** 911nm23nm,1.1s	**11.39**	**277**	P	**Pn**	**22 17 46.8**	**+0.9**
NLAI	**Namlea** 27nm,0.4s	**11.77**	**264**	P	**Pn**	**22 17 52.7**	**+1.7**
KDU	**Kakadu** baz=12,SNR=82	**12.34**	**210**	P	**Pn**	**22 17 56.7**	**-2.2**
KDU	**Kakadu**	**12.34**	**210**	P	**Pn**	**22 17 57.4**	**-1.5**
COEN	**Coen** baz=12,SNR=6.5	**12.64**	**160**	P	**Pn**	**22 18 02.5**	**-0.6**
COEN	**Coen**	**12.64**	**160**	Pn	**Pn**	**22 18 04.2**	**+1.1**
COEN	**Coen**	**12.64**	**160**	P	**Pn**	**22 18 03.8**	**+0.8**
SANI	**Sanana** 24nm,1.2s	**12.82**	**270**	P	**Pn**	**22 18 06.9**	**+1.5**
MTN	**Manton Dam** baz=13,SNR=3.3	**13.19**	**215**	P	**Pn**	**22 18 09.2**	**-1.3**
MTN	**Manton Dam**	**13.19**	**215**	Pn	**Pn**	**22 18 09.3**	**-1.3**
MTN	**Manton Dam**	**13.19**	**215**	P	**Pn**	**22 18 09.6**	**-0.9**
KRVT	**Keravat (AS076** 4.3nm,0.3s,baz=296,slow=16,SNR=4.5	**13.39**	**100**	Pn	**P**	**22 18 23.2**	**+0.9**
KRVT	comp=Z,1μm,20.4s,baz=47,slow=36			LR	LR	22 22 56.4	
LUWI	**Luwuk**	**16.07**	**273**		**Pn**	**22 18 49.3**	**+0.3**
LUWI	**Luwuk** 2μm34nm,1.0s	**16.07**	**273**	P	**Pn**	**22 18 49.7**	**+0.7**
GUMO	**Guam** comp=Z,689nm,19.7s,baz=208,slow=36	**16.61**	**21**	LR	LR	22 24 51.2	
KNRA	**Kununurra** baz=17,SNR=32	**16.82**	**216**	P	**Pn**	**22 18 57.6**	**-1.0**
KNRA	**Kununurra**	**16.82**	**216**	Pn	**Pn**	**22 18 57.4**	**-1.2**
KNRA	comp=Z,86nm,0.6s			IAmb	IAmb	22 19 00.1	
KNRA	**Kununurra**	**16.82**	**216**	P	**Pn**	**22 18 57.5**	**-1.0**
MTSU	**Mount Surprise** baz=17,SNR=6.2	**16.92**	**162**	P	**P**	**22 19 00.9**	**-0.7**
BATI	**Baumata** comp=Z,6.0nm,0.3s,baz=117,slow=9.0,SNR=5.2	**17.12**	**241**	P	**Pn**	**22 19 01.4**	**-1.0**
BATI	comp=Z,12nm,0.5s,baz=143,slow=17,SNR=1.8 comp=Z,25nm,0.4s			S	**S**	**22 22 19.6**	**-1.3**
BATI	**Baumata** comp=Z,1μmcomp=Z,112nm,0.5s	**17.12**	**241**	P	**P**	**22 19 04.2**	**+0.3**
EDFI	**Ende, Flores** comp=Z,11nm,0.8s	**18.31**	**248**	P	**Pn**	**22 19 18.0**	**+0.8**
WRAB	**Tennant Creek**	**18.36**	**193**	P	**P**	**22 19 16.1**	**-1.3**
WRAB	comp=Z,49nm,0.7s			IAmb	IAmb	22 19 21.9	
WRAB	**Tennant Creek**	**18.36**	**193**	P	**P**	**22 19 16.1**	**-1.3**
WRA	**Warramunga Arr** comp=Z,3.5nm,0.3s,baz=15,slow=11,SNR=194	**18.37**	**193**	P	**P**	**22 19 15.4**	**-2.1**
WRA	comp=Z,11nm,0.7s,baz=9.3,slow=22,SNR=6.7			S	Sn	22 22 30.4	-12
WRA	comp=Z,2μm,18.8s,baz=28,slow=39			LR	LR	22 27 01.7	
QIS	**Mount Isa** baz=18,SNR=21	**18.47**	**178**	P	**P**	**22 19 17.5**	**-1.1**
QIS	**Mount Isa**	**18.47**	**178**	P	**P**	**22 19 18.4**	**-0.2**
BSSI	**Bau Bau, Buton** comp=Z,700nmcomp=Z,34nm,1.3s	**18.73**	**257**	P	**P**	**22 19 21.6**	**0.0**
BKSI	**Bulukumba**	**18.94**	**259**	P	**Pn**	**22 19 28.7**	**+4.0**
TTSI	**Tana Toraja** comp=Z,3μmcomp=Z,30nm,1.5s	**19.01**	**266**	P	**Pn**	**22 19 27.1**	**+1.6**
MPSI	**Mapaga** comp=Z,477nmcomp=Z,15nm,1.7s	**19.05**	**277**	P	**Pn**	**22 19 27.7**	**+1.6**
SPSI	**Sidrap Palu** comp=Z,717nmcomp=Z,24nm,1.2s	**19.12**	**264**	P	**Pn**	**22 19 27.4**	**+0.5**
KAPI	**Kappang** comp=Z,3.0nm,0.4s,baz=105,slow=17,SNR=0.9	**19.26**	**261**	P	**P**	**22 19 27.1**	**-0.3**
CTA	**Charters Tower** comp=Z,1.7nm,0.3s,baz=340,slow=11,SNR=25	**19.40**	**159**	P	**P**	**22 19 29.1**	**+0.3**
CTA	comp=Z,983nm,21.9s,baz=336,slow=39 comp=Z,9.0nm,0.5s			LR	LR	22 27 33.1	
CTA	**Charters Tower**	**19.40**	**159**	P	**Pn**	**22 19 30.4**	**+0.3**
CTAO	**Charters Tower**	**19.40**	**159**	P	**Pn**	**22 19 29.9**	**-0.2**
CTAO	**Charters Tower**	**19.40**	**159**	P	**Pn**	**22 19 30.2**	**+0.1**
FITZ	**Fitzroy Crossi** comp=Z,7.0nm,0.5s,baz=29,slow=11,SNR=19	**20.57**	**218**	P	**P**	**22 19 40.8**	**-0.9**
FITZ	comp=Z,12nm,0.5s,baz=74,slow=9.2,SNR=7.0			S	S	22 23 19.2	-11
FITZ	comp=Z,818nm,21.1s,baz=34,slow=39 comp=Z,7.0nm,0.5s			LR	LR	22 28 33.2	
FITZ	**Fitzroy Crossi** baz=20,SNR=9.0	**20.57**	**218**	P	**P**	**22 19 41.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.57**	**218**	P	**P**	**22 19 41.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.57**	**218**	P	**P**	**22 19 41.5**	**-0.2**
PLAI	**Plampang**	**22.00**	**251**	P	**P**	**22 19 57.1**	**0.0**
AS31	**Alice Springs**	**22.06**	**192**	P	**P**	**22 19 57.9**	**+0.2**
AS31	comp=Z,17nm,0.6s			IAmb	IAmb	22 20 05.2	
ASAR	**Alice Springs** comp=Z,30nm,0.6s,baz=22,slow=11,SNR=368	**22.06**	**192**	P	**P**	**22 19 57.5**	**-0.3**
ASAR	comp=Z,4.0nm,0.7s,baz=15,slow=26,SNR=4.9			S	**S**	**22 23 58.1**	**-1.5**
ASAR	comp=Z,1μm,18.4s,baz=12,slow=39 comp=Z,30nm,0.6s			LR	LR	22 29 16.5	
ASAR	**Alice Springs**	**22.06**	**192**	P	**P**	**22 19 57.8**	**+0.1**
HNR	**Honiara** comp=Z,651nm,0.3s,baz=236,slow=11,SNR=1.7	**22.27**	**110**	P	**P**	**22 19 58.5**	**-1.6**
BBKI	**Banjar Baru**	**23.99**	**266**	P	**P**	**22 20 19.2**	**+1.8**
QLP	**Quilpie** baz=25,SNR=6.0	**25.00**	**168**	P	**P**	**22 20 27.0**	**+0.6**
WRKA	**Warakurna** baz=25,SNR=38	**25.05**	**203**	P	**P**	**22 20 26.5**	**-0.5**
WRKA	**Warakurna**	**25.05**	**203**	P	**P**	**22 20 27.0**	**0.0**
KMMI	**Kalianget** comp=Z,52nm,1.2s	**25.27**	**258**	P	**P**	**22 20 29.7**	**+0.7**
INKA	**Innaminka**	**25.67**	**176**	P	**P**	**22 20 33.6**	**+1.2**
OOD	**Oodnadatta**	**25.83**	**186**	P	**P**	**22 20 34.8**	**+0.9**
EIDS	**Eidsvold** baz=26,SNR=12	**26.07**	**154**	P	**P**	**22 20 37.1**	**+0.9**
EIDS	**Eidsvold**	**26.07**	**154**	P	**P**	**22 20 37.0**	**+0.9**
EIDS	**Eidsvold**	**26.07**	**154**	P	**P**	**22 20 37.1**	**+0.9**
RMQ	**Roma** baz=26,SNR=15	**26.16**	**159**	P	**P**	**22 20 38.5**	**+1.6**
RMQ	**Roma**	**26.16**	**159**	P	**P**	**22 20 38.8**	**+1.8**
MBWA	**Marble Bar**	**26.62**	**223**	P	**P**	**22 20 40.7**	**-0.5**
MBWA	**Marble Bar**	**26.62**	**223**	P	**P**	**22 20 41.3**	**+0.1**
PSA00	**Pilbara Seismi**	**26.83**	**222**	P	**P**	**22 20 42.9**	**-0.2**
PSA00	comp=Z,52nm,1.3s			IAmb	IAmb	22 20 54.8	
PSA00	**Pilbara Seismi**	**26.83**	**222**	P	**P**	**22 20 43.2**	**+0.1**
LCRK	**Leigh Creek**	**28.30**	**181**	P	**P**	**22 20 57.6**	**+1.5**
JCJ	**Chichijima** comp=Z,304nm,19.3s,baz=158,slow=34	**29.10**	**6**	LR	LR	22 31 30.5	
STKA	**Stephens Creek** comp=Z,5.6nm,0.6s,baz=340,slow=9.4,SNR=21	**29.84**	**175**	P	**P**	**22 21 07.8**	**-2.0**
STKA	comp=Z,1μm,19.7

H11N2	**WAKE ISLAND Hy**	**35.02**	**51**	T	T	22 59 02.0		
	baz=229,slow=76,SNR=20							
H11N3	**WAKE ISLAND Hy**	**35.02**	**51**	T	T	22 58 57.1		
	baz=229,slow=76,SNR=12							
QIZ	**Qiongzhong**	**35.32**	**308**	P	**P**	**22 21 57.8**	**-0.1**	
QIZ				S	**S**	**22 27 34.3**	**+3.8**	
QIZ				LR	LR			
	comp=Z,270nm,23.1s							
QIZ				LR	LR			
	comp=Z,180nm,24.7s							
QIZ				LR	LR			
	comp=Z,200nm,23.9s							
BLDU	**Ballidu**	**35.34**	**214**	P	**P**	**22 21 57.6**	**-0.3**	
	baz=35,SNR=9.6							
BLDU	**Ballidu**	**35.34**	**214**	P	**P**	**22 21 57.4**	**-0.5**	
TOO	**Toolangi**	**35.93**	**171**	P	**P**	**22 22 07.3**	**+4.3**	
	baz=36,SNR=3.9							
NWAO	**Narrogin (SRO)**	**36.84**	**211**	LR	LR	22 38 27.1		
	comp=Z,1µm,18.3s,baz=271,slow=38							
NWAO	**Narrogin (SRO)**	**36.84**	**211**	P	**P**	**22 22 10.9**	**+0.1**	
MJAR	**Matsushiro Arr**	**38.34**	**359**	P	**P**	**22 22 21.8**	**-1.6**	
	comp=Z,0.7nm,0.4s,baz=243,slow=14,SNR=1.9							
MJAR				LR	LR	22 35 51.1		
	comp=Z,223nm,20.1s,baz=159,slow=33							
	comp=Z,0.7nm,0.4s							
NJ2	**Nanjing**	**38.79**	**332**	*e*P	**P**	**22 22 29.5**	**+2.3**	
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
KSRS	**Korea Array**	**40.53**	**347**	P	**P**	**22 22 39.9**	**-1.7**	
	comp=Z,0.6nm,0.4s,baz=170,slow=9.9,SNR=2.3							
KSRS				LR	LR	22 36 57.0		
	comp=Z,258nm,21.8s,baz=145,slow=32							
	comp=Z,0.6nm,0.4s							
GSI	**Gunungsitoli**	**41.36**	**274**	P	**P**	**22 22 47.3**	**-1.6**	
GSI				IAmb	IAmb	22 22 47.9		
	comp=Z,26nm,0.6s							
GSI	**Gunungsitoli**	**41.36**	**274**	P	**P**	**22 22 47.8**	**-1.1**	
MSVF	**Nonsavu**	**41.56**	**115**	P	**P**	**22 22 49.1**	**-1.4**	
	comp=Z,4.2nm,0.9s,baz=251,slow=18,SNR=4.4							
MSVF				LR	LR	22 39 09.2		
	comp=Z,164nm,20.9s,baz=330,slow=35							
	comp=Z,4.2nm,0.9s							
MSVF	**Nonsavu**	**41.56**	**115**	P	**P**	**22 22 52.5**	**+1.9**	
MSVF				IAmb	IAmb	22 23 06.0		
	comp=Z,29nm,1.3s							
PHRA	**Phrae**	**43.08**	**300**	P	**P**	**22 22 03.3**	**+0.6**	
KMI	**Kunming**	**44.14**	**310**	⇓P	**P**	**22 23 11.5**	**0.0**	
KMI				pP	pP	22 23 20.8	+0.4	
KMI				pmax	pmax			
	comp=Z,5.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**44.18**	**299**	P	**P**	**22 23 09.3**	**-2.3**	
	comp=Z,0.9nm,0.3s,baz=119,slow=7.3,SNR=2.0							
CMAR				LR	LR	22 40 37.4		
	comp=Z,65nm,21.9s,baz=140,slow=35							
	comp=Z,0.9nm,0.3s							
CMAR	**Chiang Mai Arr**	**44.18**	**299**	P	**P**	**22 23 11.6**	**0.0**	
CHTO	**Chiang Mai**	**44.32**	**300**	P	**P**	**22 23 11.9**	**-0.9**	
HNS	**HongShan**	**45.12**	**333**	⇑P	P	22 23 27.0	+8.1	
HNS				eS	S	22 30 06.8	+10	
HNS				pmax	pmax			
	comp=Z,6.0nm,0.6s							
HNS				LR	LR			
	comp=N,210nm,12.6s							
HNS				LR	LR			
	comp=E,390nm,10.2s							
HNS				LR	LR			
	comp=Z,320nm,19.7s							
XAN	**Xi'an**	**45.56**	**325**	⇑P	P	22 23 30.4	+8.0	
XAN				pP	sP	22 23 40.3	+5.4	
XAN				sP	pP	22 23 45.1	+14	
XAN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PZH	**PanZhiHua**	**45.64**	**311**	P	**P**	**22 23 24.4**	**+1.1**	
PZH				S	**S**	**22 30 03.0**	**-1.5**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,4.9s							
PZH				LR	LR			
	comp=Z,330nm,20.4s							
PZH				LR	LR			
	comp=Z,360nm,20.6s							
PZH				LR	LR			
	comp=Z,650nm,21.6s							
USRK	**Ussuriysk Ar.**	**46.39**	**353**	P	**P**	**22 23 26.4**	**-2.4**	
	comp=Z,2.7nm,0.8s,baz=157,slow=10,SNR=6.9							
USRK				LR	LR	22 39 39.9		
	comp=Z,384nm,22.0s,baz=116,slow=32							
	comp=Z,2.7nm,0.8s							
USRK	**Ussuriysk Ar.**	**46.39**	**353**	P	**P**	**22 23 27.8**	**-0.9**	
BJT	**Baijiatuau**	**46.67**	**336**	P	**P**	**22 23 29.8**	**-1.3**	
BJT				IAmb	IAmb	22 23 40.9		
	comp=Z,27nm,1.7s							
BJI	**Beijing**	**46.69**	**336**	P	**P**	**22 23 29.8**	**-1.4**	
BJI				pmax	pmax			
	comp=Z,7.0nm,1.5s							
BJI				LR	LR			
	comp=Z,76nm,19.4s							
BJI				LR	LR			
	comp=Z,220nm,22.1s							
BJI				LR	LR			
	comp=Z,300nm,21.4s							
MDJ	**Mudanjiang**	**47.13**	**351**	P	**P**	**22 23 33.3**	**-1.3**	
MDJ				sP	sP	22 23 46.8	-0.2	
MDJ				pmax	pmax			
	comp=Z,14nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,140nm,7.5s							
MDJ				LR	LR			
	comp=Z,290nm,21.7s							
MDJ				LR	LR			
	comp=Z,210nm,17.9s							
MDJ				LR	LR			
	comp=Z,350nm,23.8s							
CN2	**Changchun**	**47.14**	**347**	*e*P	**P**	**22 23 37.3**	**+2.6**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
BNX	**BinXian**	**48.59**	**349**	⇑P	**P**	**22 23 45.3**	**-0.6**	
BNX				pmax	pmax			
	comp=Z,13nm,1.2s							
BNX				pmax	pmax			
	comp=Z,250nm,4.3s							
HHC	**Hu-ho-hao-te**	**49.35**	**333**	*e*P	**P**	**22 23 55.3**	**+3.4**	
HHC				pmax	pmax			
	comp=Z,27nm,1.1s							
HHC				pmax	pmax			
	comp=Z,260nm,5.1s							
HHC				LR	LR			
	comp=Z,500nm,19.8s							
HHC				LR	LR			
	comp=Z,500nm,15.2s							
HHC				LR	LR			
	comp=Z,520nm,17.7s							
BTO	**Baotou**	**49.88**	**331**	*e*P	P	22 24 05.1	+9.1	
LZH	**Lanzhou**	**49.98**	**323**	⇑P	**P**	**22 23 57.3**	**+0.4**	
LZH				pP	pP	22 24 06.9	+1.0	
LZH				sP	sP	22 24 13.3	+3.9	
LZH				pmax	pmax			
	comp=Z,12nm,1.3s							
LZH				pmax	pmax			
	comp=Z,200nm,4.4s							
LZH				LR	LR			
	comp=Z,220nm,14.1s							
LZH				LR	LR			
	comp=Z,220nm,13.1s							
LZH				LR	LR			
	comp=Z,220nm,15.1s							
XLT	**XiLinHaoTe**	**50.03**	**339**	*e*P	P	22 24 02.0	+5.0	
XLT				pP	sP	22 24 11.3	+1.8	
XLT				sP	pP	22 24 14.0	+8.0	
XLT				pmax	pmax			
	comp=Z,12nm,0.9s							
XLT				pmax	pmax			
	comp=Z,230nm,4.7s							
AFI	**Afiamalu**	**50.23**	**106**	LR	LR	22 43 53.6		
	comp=Z,162nm,18.9s,baz=324,slow=34							
URZ	**Urewera**	**50.30**	**141**	LR	LR	22 45 58.7		
	comp=Z,165nm,19.7s,baz=38,slow=37							
RPZ	**Rata Peaks**	**50.45**	**150**	LR	LR	22 45 14.7		
	comp=Z,306nm,18.8s,baz=289,slow=36							
KLR	**Kul'dur**	**51.39**	**354**	P	**P**	**22 24 06.5**	**-0.6**	
	comp=Z,2.4nm,0.8s,baz=180,slow=4.8,SNR=9.3							
KLR				LR	LR	22 42 13.2		
	comp=Z,259nm,21.4s,baz=172,slow=32							
	comp=Z,2.4nm,0.8s							
HIA	**Hailar**	**53.66**	**345**	P	**P**	**22 24 22.9**	**-1.0**	
HIA				IAmb	IAmb	22 25 49.7		
	comp=Z,14nm,1.2s							
GTA	**Gaotai**	**54.56**	**323**	⇑P	**P**	**22 24 31.3**	**+0.5**	
GTA				pP	pP	22 24 41.6	+1.7	
GTA				sP	sP	22 24 46.9	+3.5	
GTA				pmax	pmax			
	comp=Z,4.0nm,1.5s							
GTA				pmax	pmax			
	comp=Z,39nm,6.0s							
GTA				LR	LR			
	comp=Z,110nm,18.2s							
GTA				LR	LR			
	comp=Z,85nm,18.5s							
GTA				LR	LR			
	comp=Z,98nm,18.5s							
LSA	**Lhasa**	**55.35**	**309**	P	**P**	**22 24 36.4**	**-0.7**	
LSA				IAmb	IAmb	22 25 04.4		
	comp=Z,8.8nm,1.1s							
ULN	**Ulaanbaatar**	**56.87**	**335**	P	**P**	**22 24 46.7**	**-0.5**	
ULN				IAmb	IAmb	22 24 47.8		
	comp=Z,18nm,2.0s							
SONM	**Songino Array**	**57.12**	**335**	P	**P**	**22 24 47.8**	**-1.2**	
	comp=Z,1.0nm,0.8s,baz=149,slow=3.9,SNR=7.2							
SONM				LR	LR	22 48 39.0		
	comp=Z,290nm,20.2s,baz=142,slow=35							
	comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**57.12**	**335**	P	**P**	**22 24 48.2**	**-0.8**	
PETK	**Petropavlovsk-**	**57.15**	**13**	LR	LR	22 45 39.3		
	comp=Z,230nm,21.9s,baz=199,slow=32							
SHEM	**Shemya Is, Ala**	**52.05**	**23**	LR	LR	22 47 04.6		
	comp=Z,178nm,21.4s,baz=266,slow=31							
MA2	**Magadan**	**62.11**	**7**	LR	LR	22 50 32.5		
	comp=Z,84nm,21.0s,baz=162,slow=34							
RAR	**Rarotonga**	**62.70**	**113**	LR	LR	22 51 33.6		
	comp=Z,56nm,18.2s,baz=280,slow=35							
YAK	**Yakutsk**	**64.23**	**355**	LR	LR	22 50 28.6		
	comp=Z,231nm,21.3s,baz=88,slow=33							
WMQ	**Urumqi**	**64.52**	**321**	*e*P	**P**	**22 25 41.5**	**+2.1**	
CASY	**Casey**	**67.19**	**192**	P	**P**	**22 25 55.6**	**-0.4**	
CASY				IAmb	IAmb	22 25 59.0		
	comp=Z,16nm,1.6s							
MK31	**Makanchi Array**	**69.29**	**322**	P	**P**	**22 26 09.3**	**-0.4**	
MK31				IAmb	IAmb	22 26 27.4		
	comp=Z,8.6nm,1.4s							
MKAR	**Makanchi Array**	**69.29**	**322**	P	**P**	**22 26 09.4**	**-0.2**	
	comp=Z,3.6nm,1.0s,baz=112,slow=8.2,SNR=22							
	comp=Z,3.6nm,1.0s							
MAKZ	**Makanchi**	**69.49**	**322**	P	**P**	**22 26 10.2**	**-0.6**	
MAKZ				IAmb	IAmb	22 26 23.7		
	comp=Z,11nm,1.2s							
KSH	**Kashi**	**70.67**	**313**	P	P	22 26 28.3	+10	
KSH				pmax	pmax			
	comp=Z,8.0nm,1.1s							
ZALV	**Zalesovo Beam**	**71.38**	**330**	P	**P**	**22 26 20.8**	**-1.4**	
	comp=Z,0.9nm,0.5s,baz=106,slow=6.8,SNR=6.2							
ZALV				LR	LR	22 57 22.6		
	comp=Z,115nm,20.8s,baz=109,slow=36							
	comp=Z,0.9nm,0.5s							
BOOM	**Boonskoye usch**	**71.71**	**316**	P	**P**	**22 26 24.3**	**-0.4**	
PPT	**Papeete**	**71.87**	**108**	LR	LR	22 56 03.4		
	comp=Z,64nm,18.0s,baz=168,slow=34							
PPT2	**Papeete2**	**71.87**	**108**	*e*LR	LR	22 48 18.8		
	comp=Z,95nm,24.0s							
TBI	**Tubuai**	**72.44**	**114**	*e*LR	LR	22 48 36.0		
	comp=Z,83nm,27.0s							
KURK	**Kurchatov**	**73.20**	**325**	P	**P**	**22 26 32.7**	**-0.4**	
KBL	**Kabul**	**74.59**	**307**	P	**P**	**22 26 40.6**	**-1.3**	
BTK	**Batken**	**74.62**	**312**	P	**P**	**22 26 40.0**	**-1.9**	
GAR	**Garm**	**74.71**	**311**	P	**P**	**22 26 41.2**	**-1.2**	
GAR				IAmb	IAmb	22 26 52.7		
	comp=Z,16nm,1.1s							
CHGR	**Chuyangaron**	**75.49**	**311**	P	**P**	**22 26 46.0**	**-0.9**	
CHGR				IAmb	IAmb	22 27 00.0		
	comp=Z,19nm,0.9s							
KK31	**Karatay Array**	**75.70**	**315**	P	**P**	**22 26 46.6**	**-1.3**	
KKAR	**Karatay Array**	**75.70**	**315**	P	**P**	**22 26 47.0**	**-0.9**	
VNDA	**Vanda**	**76.48**	**175**	P	**P**	**22 26 51.2**	**-0.4**	
	comp=Z,1.3nm,0.6s,baz=322,slow=7.3,SNR=24							
VNDA				LR	LR	23 00 52.7		
	comp=Z,455nm,18.8s,baz=354,slow=36							
	comp=Z,1.3nm,0.6s							
VNDA	**Vanda**	**76.48**	**175**	P	**P**	**22 26 51.4**	**-0.3**	
VNDA				IAmb	IAmb	22 27 34.6		
	comp=Z,17nm,2.0s							
SBA	**Scott Base**	**77.24**	**174**	P	**P**	**22 26 56.6**	**+0.7**	
SBA				IAmb	IAmb	22 27 24.6		
	comp=Z,32nm,2.0s							
BRVK	**Borovoye**	**78.86**	**325**	P	**P**	**22 27 04.8**	**-0.6**	
BRVK				IAmb	IAmb	22 27 06.2		
	comp=Z,8.4nm,0.7s							
NRIK	**Noril'sk**	**79.07**	**344**	P	**P**	**22 27 05.6**	**-0.6**	
	comp=Z,4.1nm,0.8s,baz=116,slow=4.4,SNR=5.0							
NRIK				LR	LR	23 04 08.2		
	comp=Z,117nm,19.3s,baz=132,slow=37							
	comp=Z,4.1nm,0.8s							
NRIK	**Noril'sk**	**79.07**	**344**	P	**P**	**22 27 05.6**	**-0.6**	
NRIK				IAmb	IAmb	22 27 07.0		
	comp=Z,13nm,1.2s							
KDAK	**Kodiak Island**	**80.44**	**30**	LR	LR	22 59 33.0		
	comp=Z,265nm,19.5s,baz=256,slow=33							
N19K	**Bonanza Creek**	**80.58**	**27**	P	**P**	**22 27 15.5**	**+0.8**	
N19K				IAmb	IAmb	22 27 39.2		
	comp=Z,24nm,1.4s							
L19K	**White Mountain**	**80.93**	**26**	P	**P**	**22 27 16.8**	**+0.3**	
CNPM	**China Poot**	**81.67**	**29**	P	**P**	**22 27 21.3**	**+0.9**	
PPLA	**Purkeypile**	**82.34**	**26**	P	**P**	**22 27 23.9**	**-0.1**	
CAST	**Castle Rocks**	**82.56**	**25**	P	**P**	**22 27 26.8**	**+1.8**	
CAST				IAmb	IAmb	22 30 28.7		
	comp=Z,27nm,2.0s							
MAW	**Mawson**	**82.82**	**202**	P	**P**	**22 27 24.7**	**-1.5**	
	comp=Z,0.8nm,0.5s,baz=43,slow=7.9,SNR=2.2							
MAW				LR	LR	23 02 16.1		
	comp=Z,189nm,19.6s,baz=50,slow=34							
	comp=Z,0.8nm,0.5s							
MAW	**Mawson**	**82.82**	**202**	P	**P**	**22 27 26.1**	**-0.1**	
RC01	**Rabbit Creek A**	**82.86**	**28**	P	**P**	**22 27 26.5**	**-0.1**	
PWL	**Port Wells**	**83.45**	**28**	P	**P**	**22 27 29.9**	**+0.3**	
PWL				IAmb	IAmb	22 28 51.2		
	comp=Z,16nm,1.5s							
SML	**Sawmill**	**83.71**	**27**	P	**P**	**22 27 31.1**	**+0.1**	
GEYT	**Alibeck**	**83.88**	**308**	P	**P**	**22 27 31.9**	**-0.5**	
	comp=Z,0.7nm,0.5s,baz=64,slow=6.6,SNR=2.0							
	comp=Z,0.7nm,0.5s							
SCM	**Sheep Creek Mo**	**84.18**	**27**	P	**P**	**22 27 34.1**	**+0.6**	
SCM				IAmb	IAmb	22 27 45.1		
	comp=Z,19nm,1.3s							
ABKAR	**Akbulak array**	**84.25**	**320**	P	**P**	**22 27 33.0**	**-0.9**	
ILAR	**Eielson Array**	**85.14**	**24**	P	**P**	**22 27 36.3**	**-1.9**	
	comp=Z,0.6nm,0.7s,baz=282,slow=4.5,SNR=3.3							
ILAR				LR	LR	23 01 37.0		
	comp=Z,82nm,20.6s,baz=224,slow=33							
	comp=Z,0.6nm,0.7s							
ARU	**Arti**	**86.26**	**327**	LR	LR	23 07 34.2		
	comp=Z,84nm,21.5s,baz=94,slow=37							
QSPA	**South Pole Qui**	**87.95**	**180**	LR	LR	23 08 10.6		
	comp=Z,310nm,20.3s,baz=7.0,slow=36							
QSPA	**South Pole Qui**	**87.95**	**180**	P	**P**	**22 27 51.3**	**-0.7**	
QSPA				IAmb	IAmb	22 27 56.9		
	comp=Z,19nm,1.6s							
INK	**Inuvik**	**90.97**	**22**	LR	LR	23 05 53.0		
	comp=Z,41nm,19.5s,baz=208,slow=34							
BELG	**Belogornoye**	**92.30**	**322**	LR	LR	23 11 16.3		
	comp=Z,56nm,21.1s,baz=148,slow=37							
DLBC	**Dease Lake**	**92.30**	**32**	LR	LR	23 07 03.4		
	comp=Z,114nm,19.2s,baz=288,slow=34							
BBB	**Bella Bella**	**93.45**	**38**	LR	LR	23 04 49.7		
	comp=Z,151nm,19.2s,baz=244,slow=32							
YBH	**Yreka Blue Hor**	**97.65**	**48**	LR	LR	23 04 14.8		
	comp=Z,200nm,21.8s,baz=290,slow=30							
SPITS	**Spitsbergen Ar**	**98.30**	**350**	LR	LR	23 11 52.3		
	comp=Z,152nm,21.9s,baz=22,slow=35							
YKA	**Yellowknife Ar**	**99.38**	**27**	LR	LR	23 09 04.8		
	comp=Z,159nm,20.0s,baz=291,slow=33							
ARCES	**ARCESS Array B**	**99.87**	**341**	LR	LR	23 17 15.6		
	comp=Z,31nm,21.8s,baz=46,slow=37							
MNK	**Minsk**	**103.67**	**326**	*i* P	**Pdif**	**22 29 11.7**	**+8.0**	
	comp=E,2.0nm,0.9s							
MNK				*i* P	**Pdif**	**22 29 11.7**	**+8.0**	
MNK				*i* P	**Pdif**	**22 29 11.7**	**+8.0**	
	comp=Z,5.0nm,0.7s,baz=254							
MNK				*i* PP	**PKiKP**	**22 33 21.4**	**-0.5**	
MNK				*i* PPP	PPP	22 35 32.8		
MNK				*i* SKS		22 39 40.2		
MNK				*i* S	**SKKSac**	**22 40 29.4**	**+5.8**	
MNK				*i* SS	**SS**	**22 48 04.1**	**+0.2**	
MNK				*i* SSS	SSS	22 52 00.0		
MNK				*i* LQ	LQ	23 11 17.3		
MNK				*i* LR	LR	23 14 33.5		
MNK				*i* LRM	MLR	23 15 54.0		
	comp=Z,50nm,14.1s							
MNK				*i* LRM	MLR	23 16 15.7		
	comp=N,1.0nm,16.0s							
MNK				*i* LRM	MLR	23 16 24.9		
	comp=E,8.0nm,17.9s							
CLL	**Collm**	**113.20**	**326**	*e*PP	**PP**	**22 34 29.0**	**-0.5**	
CLL				Lm	MLR	23 25 00.0		
	comp=Z,200nm,18.8s							
TORD	**Torodi Ar. Bea**	**136.15**	**287**	PKP	**PKPdf**	**22 34 25.1**	**+0.5**	
	comp=Z,0.6nm,0.6s,baz=121,slow=1.6,SNR=6.2							
LPAZ	**La Paz**	**147.78**	**125**	PKPbc	**PKPdf**	**22 34 47.0**	**+1.0**	
	comp=Z,1.1nm,0.7s,baz=254,slow=8.3,SNR=2.6							
CPUP	**Villa Florida**	**147.81**	**152**	PKPbc	**PKPbc**	**22 34 47.7**	**-0.2**	
	comp=Z,3.5nm,1.1s,baz=178,slow=3.2,SNR=3.8							

MAN 19 22:22:27.3, 15°.81N × 121°.04E, h13 km, mb4.3, ML3.1, MS2.8, 6C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.26**	**169**	⇑*e*P		Pb		22 22 34.0	+0.2
PCPH				*e*S		Sb		22 22 38.9	+0.8
SMPP	**San Manuel, Pa**	**0.48**	**314**	⇑*e*P		Pg		22 22 37.3	+0.4
SMPP				*e*S		Sb		22 22 44.9	+0.1
BALP	**Baler**	**0.52**	**98**	⇓*e*P		Pg		22 22 37.6	+0.1
BALP				*e*S		Sb		22 22 45.9	+0.2
BOLP	**Bolinao**	**1.23**	**298**	⇑*e*P		Pn		22 22 49.7	-0.4
BOLP				*e*S		Sn		22 23 06.4	-0.2
SAMP	**Sagada Mountai**	**1.27**	**354**	⇓*e*P		Pn		22 22 50.1	-0.7
SAMP				*e*S		Sb		22 23 07.3	0.0
CAUP	**Cauayan**	**1.35**	**34**	⇓*e*P		Pn		22 22 51.6	-0.3
CAUP				*e*S		Sg		22 23 14.7	+3.8
MACP	**Maragondon, Ca**	**1.57**	**192**	⇑*e*P		Pn		22 22 55.1	+0.2
MACP				*e*S		Sn		22 23 15.5	+0.4
TGY	**Tagaytay City**	**1.70**	**184**	⇑*e*P		Pg		22 22 59.6	-0.5
LQP	**Lukban**	**1.76**	**164**	⇑*e*P		Pb		22 22 59.2	-0.4
LQP				*e*S		Sb		22 23 21.4	-0.2
LUBP	**Lubang**	**2.21**	**201**	⇓*e*P		Pb		22 23 06.7	-0.4
LUBP				*e*S		Sn		22 23 32.2	+1.3

IDC 19 22:41:02.0±2.0, 1°.96S × 140°.60E, h0 km, mb3.6/4, mbtmp3.6/5, ML3.7/1, MS3.4/3, Error ellipse: s-maj=64.2km s-min=29.0km az=89.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.86**	**139**	LR		LR	LR	22 47 31.5	
	comp=Z,108nm,20.5s,baz=272,slow=40								
WRA	**Warramunga Arr**	**18.90**	**198**	P		P	P	22 45 23.9	-0.4
	0.2nm,0.3s,baz=15,slow=11,SNR=19								
WRA				LR		LR	LR	22 52 58.0	
	comp=Z,113nm,19.1s,baz=70,slow=38								
	1.6nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.75**	**222**	P		P	P	22 45 56.9	+1.6
	3.4nm,0.8s,baz=60,slow=8.1,SNR=5.5								
	3.4nm,0.8s								
ASAR	**Alice Springs**	**22.54**	**196**	P		P	P	22 46 03.1	-0.7
	0.6nm,0.5s,baz=29,slow=11,SNR=12								
	0.6nm,0.5s								
MKAR	**Makanchi Array**	**70.36**	**322**	P		P	P	22 52 17.3	-0.5
	0.3nm,0.7s,baz=99,slow=7.4,SNR=3.9								
	0.3nm,0.7s								
VNDA	**Vanda**	**76.37**	**175**	P		P	P	22 52 52.9	+0.3
	0.6nm,0.7s,baz=320,slow=5.2,SNR=6.1								
VNDA				LR		LR	LR	23 25 38.0	
	comp=Z,47nm,18.3s,baz=194,slow=35								
	0.6nm,0.7s								

*IDC **19** 22:52:01.4±0.7, 11°.32S × 164°.91E, h0 km, mb4.0/12, mbtmp4.0/14, ML4.0/2, MS3.4/15, Error ellipse: s-maj=26.4km s-min=19.1km az=118.0*
*NEIC **19** 22:52:09.7±1.6, 11°.5S±0°.1 × 164°.7E±0°.1, h38 km±8 km, mb4.6/11, Error ellipse: s-maj=20.4km s-min=13.4km az=59.0*

ISC 19 22:52:06.8±0.6, 11°.32S±0°.09 × 164°.89E±0°.09, h34 km, n55, σ0 s 90/40, mb4.2/17, MS3.4/11, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.21**	**291**	Sn		**Sn**	**Sn**	**22 54 20.0**	**-1.2**
	578nm,0.3s,baz=294,slow=22,SNR=7.8								
HNR				LR		LR	LR	22 55 14.9	
	comp=Z,4µm,18.8s,baz=156,slow=37								
HNR	**Honiara**	**5.21**	**291**	Pn		**Pn**	**Pn**	**22 53 23.6**	**+1.3**
KOUNC	**Koumac, New Ca**	**9.20**	**184**			**Pn**	**Pn**	**22 54 16.8**	**-0.4**
LIFNC	**LIFOU**	**9.68**	**167**	Pn		**Pn**	**Pn**	**22 54 22.6**	**-1.0**
MARNC	**Mare, Loyalty**	**10.55**	**164**	Pn		**Pn**	**Pn**	**22 54 36.2**	**+0.6**
DZM	**Mont Dzumac**	**10.80**	**172**	Pn		**Pn**	**Pn**	**22 54 38.6**	**-0.5**
	1.7nm,0.3s,baz=326,slow=14,SNR=18								
DZM				LR		LR	LR	22 58 11.3	
	comp=Z,166nm,18.0s,baz=32,slow=34								
	5.4nm,0.4s								
DZM	**Mont Dzumac**	**10.80**	**172**				**Pn**	**22 54 38.9**	**-0.3**
PINNC	**Pines Island,**	**11.50**	**168**	Pn			**Pn**	**22 54 49.4**	**+0.8**
MSVF	**Nonsavu**	**14.25**	**118**	LR		LR	LR	22 59 58.4	
	comp=Z,112nm,19.7s,baz=229,slow=34								
KRVT	**Keravat (AS076**	**14.51**	**298**	LR		LR	LR	23 01 01.0	
	comp=Z,165nm,21.8s,baz=251,slow=37								
CTA	**Charters Tower**	**19.93**	**242**	P		**P**	**P**	**22 56 35.5**	**-0.4**
	0.2nm,0.3s,baz=94,slow=12,SNR=2.7								
CTA				LR		LR	LR	23 02 37.7	
	comp=Z,77nm,20.8s,baz=76,slow=32								
	2.2nm,0.6s								
COEN	**Coen**	**21.35**	**261**	P		**P**	**P**	**22 56 50.7**	**-0.6**
COEN				IAmb		IAmb	IAmb	22 57 07.2	
	comp=Z,34nm,1.4s

FITZ	Fitzroy Crossi	38.50	255	P	P	22 59	26.1	0.0	
NWAO	Narrogin (SRO)	48.61	236	LR	LR	23 20	24.1		
	comp=Z,92nm,19.6s,baz=270,slow=35								
LEM	Lembang	56.66	269	LR	LR	23 30	08.4		
	comp=Z,27nm,18.7s,baz=318,slow=40								
VNDA	Vanda	66.21	181	P	P	23 02	51.0	+0.2	
	comp=Z,0.8nm,0.9s,baz=10,slow=5.4,SNR=3.6								
	comp=Z,0.8nm,0.9s								
VNDA	Vanda	66.21	181	P	P	23 02	51.1	+0.3	
VNDA				IAmb	IAmb	23 03	18.5		
	comp=Z,4.3nm,1.4s								
CMAR	Chiang Mai Arr	71.45	294	P	P	23 03	25.4	+1.1	
	comp=Z,0.9nm,0.3s,baz=113,slow=4.2,SNR=4.1								
	comp=Z,0.9nm,0.3s								
SONM	Songino Array	78.39	324	P	P	23 04	04.7	+0.7	
	comp=Z,0.5nm,0.7s,baz=142,slow=7.9,SNR=4.2								
	comp=Z,0.5nm,0.7s								
QSPA	South Pole Qui	78.69	180	P	P	23 04	04.5	-0.9	
	comp=Z,2.9nm,0.9s,baz=47,slow=4.9,SNR=6.6								
	comp=Z,2.9nm,0.9s								
QSPA	South Pole Qui	78.69	180	P	P	23 04	05.7	+0.2	
QSPA				IAmb	IAmb	23 04	17.8		
	comp=Z,4.5nm,0.9s								
TABL	Table Mountain	83.30	24	P	P	23 04	37.7	+7.7	
TABL				IAmb	IAmb	23 04	48.9		
	comp=Z,9.1nm,1.0s								
ILAR	Eielson Array	84.04	19	P	P	23 04	32.7	-0.8	
	comp=Z,0.5nm,0.8s,baz=204,slow=4.3,SNR=3.4								
	comp=Z,0.5nm,0.8s								
NVAR	Mina Array Bea	86.84	50	P	P	23 04	48.1	-0.3	
	comp=Z,0.6nm,0.9s,baz=283,slow=6.3,SNR=3.9								
	comp=Z,0.6nm,0.9s								
PFO	Pinyon Flats O	86.93	55	LR	LR	23 35	42.0		
	comp=Z,25nm,19.1s,baz=266,slow=30								
MKAR	Makanchi Array	93.14	317	P	P	23 05	17.8	+0.3	
	comp=Z,1.2nm,0.8s,baz=94,slow=6.4,SNR=14								
	comp=Z,1.2nm,0.8s								
ZALV	Zalesovo Beam	93.28	324	P	P	23 05	17.1	-0.8	
	comp=Z,0.4nm,0.3s,baz=119,slow=5.2,SNR=4.4								
	comp=Z,0.4nm,0.3s								
TXAR	Lajitas Array	96.70	62	LR	LR	23 46	27.8		
	comp=Z,24nm,18.4s,baz=296,slow=34								
ARCES	ARCESS Array B	116.38	345	PKP	PKPdf	23 10	45.8	-0.6	
	comp=Z,1.5nm,0.7s,baz=45,slow=1.4,SNR=5.8								
FINES	FINESS Array B	121.71	338	PKP	PKPdf	23 10	54.5	-2.3	
	comp=Z,0.7nm,0.7s,baz=111,slow=6.1,SNR=1.2								
NOA	NORSAR Array B	126.74	344	PKP	PKPdf	23 11	07.1	+0.6	
	comp=Z,0.3nm,0.8s,baz=78,slow=2.1,SNR=2.1								
GERES	GERESS Array B	135.57	333	PKP	PKiKP	23 11	25.2	0.0	
	comp=Z,0.4nm,0.6s,baz=108,slow=3.2,SNR=2.0								
KEST	Kesra	147.11	322	PKPbc	PKPbc	23 11	46.6	-0.2	
	comp=Z,7.2nm,0.8s,baz=356,slow=7.7,SNR=5.4								
ESDC	Sonseca Array	150.07	343	PKPbc	PKPbc	23 11	55.1	+0.7	
	comp=Z,1.0nm,0.9s,baz=5.5,slow=1.7,SNR=5.7								

*IDC **19** 22:54:34.2±0.7, 55.05S×31.02W, h0km, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=32.2km s-min=16.6km az=61.0*

*NEIC **19** 22:54:37.6±1.9, 55.2S±0.1×31.6W±0.2, h10km±2km, mb4.5/21, Error ellipse: s-maj=21.7km s-min=15.9km az=59.0*

ISC 19 22:54:36.1±0.6, 55.09S±0.09×31.3W±0.1, h10km, n44, σ1s02/42, mb4.4/15, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	Hope Point	3.12	283			Pn	22 55 24.1	-1.2
ORCD	Orcadas	9.11	226	Pn		Pn	22 56 47.3	-0.1
VNA1	Neumayer--Stat	18.59	156	P		Pn	22 58 53.9	+0.6
VNA3	Neumayer Olymp	18.71	158	P		P	22 58 53.7	-0.7
VNA2	Neumayer--Watz	18.99	156	P		P	22 58 56.9	-0.5
	baz=313,slow=11							
SNAA	Sanae	20.59	155	P		P	22 59 14.3	-0.6
SNAA	Sanae	20.59	155	P		P	22 59 13.7	-1.2
	5.2nm,0.7s,baz=288,slow=13,SNR=9.9							
	5.2nm,0.7s							
SNAA	Sanae	20.59	155	P		P	22 59 14.6	-0.3
TROLL	Troll, Antarti	22.16	153	P		P	22 59 31.5	-0.4
BELA	Belgrano 2	22.91	182	P		P	22 59 41.7	+2.0
GO10	Punta Arenas	23.16	258	P		P	22 59 42.3	-0.2
GO09	Cerro Castillo	24.63	262	P		P	22 59 54.2	-2.2
GO09				IAmb		IAmb	23 00 19.1	
	comp=Z,31nm,1.4s							
PLTB	Pedras Altas	28.16	317	P		P	23 00 28.1	-0.3
PLTB				IAmb		IAmb	23 00 38.1	
	comp=Z,17nm,1.2s							
CPUP	Villa Florida	34.46	316	P		P	23 01 23.6	-0.2
	comp=Z,3.3nm,0.9s,baz=161,slow=8.4,SNR=4.8							
	comp=Z,3.3nm,0.9s							
CPUP	Villa Florida	34.46	316	P		P	23 01 23.6	-0.2
CPUP				IAmb		IAmb	23 01 24.3	
	comp=Z,5.4nm,1.1s							
MT09	Talagante	34.79	291	P		P	23 01 26.2	-0.7
MT01	Popeta	34.86	291	P		P	23 01 26.3	-1.0
QSPA	South Pole Qui	35.16	180	P		P	23 01 29.4	-0.4
	comp=Z,1.6nm,0.6s,baz=201,slow=1.8,SNR=11							
	comp=Z,1.6nm,0.6s							
QSPA	South Pole Qui	35.16	180	P		P	23 01 29.8	+0.1
QSPA				IAmb		IAmb	23 02 03.7	
	comp=Z,4.8nm,1.0s							
ZON	Zonda	35.31	296	P		P	23 01 31.4	+0.1
VA06	Catapilco	35.89	292	P		P	23 01 36.4	+0.3
CO01	Juntas del Tor	37.29	296	P		P	23 01 48.3	-0.1
CO01				IAmb		IAmb	23 01 52.4	
	comp=Z,10nm,1.4s							
AC05	El Transito	38.30	297	P		P	23 01 57.2	+0.4
AC05				IAmb		IAmb	23 02 19.7	
	comp=Z,12nm,1.2s							
GO02	Mina Guanaco	40.99	301	P		P	23 02 20.2	+0.8
GO02				IAmb		IAmb	23 02 20.6	
	comp=Z,10nm,0.9s							
MAW	Mawson	42.29	145	P		P	23 02 28.5	-0.7
	comp=Z,1.9nm,0.8s,baz=281,slow=8.2,SNR=6.1							
	comp=Z,1.9nm,0.8s							
LVC	Limon Verde	42.81	304	P		P	23 02 34.8	+0.3
	comp=Z,4.0nm,0.8s,baz=174,slow=6.9,SNR=6.1							
	comp=Z,4.0nm,0.8s							
LVC	Limon Verde	42.81	304	P		P	23 02 35.3	+0.9
PB01	IPOC Station P	44.43	304	P		P	23 02 47.7	+0.6
PB01				IAmb		IAmb	23 02 48.6	
	comp=Z,7.5nm,0.8s							
PTLB	Pontes e Lacer	45.03	320	P		P	23 02 51.9	+0.1
PTLB				IAmb		IAmb	23 02 52.4	
	comp=Z,3.9nm,0.8s							
GO01	Chusmiza	45.47	306	P		P	23 02 56.5	+0.6
GO01				IAmb		IAmb	23 02 57.2	
	comp=Z,5.1nm,0.8s							
VNDA	Vanda	47.40	184	P		P	23 03 10.8	+1.0
	comp=Z,1.1nm,0.9s,baz=209,slow=6.1,SNR=6.7							
	comp=Z,1.1nm,0.9s							
VNDA	Vanda	47.40	184	P		P	23 03 10.0	+0.2
VNDA				IAmb		IAmb	23 03 36.9	
	comp=Z,4.1nm,1.4s							
LPAZ	La Paz	47.94	309	P		P	23 03 15.8	+0.4
	comp=Z,6.1nm,0.6s,baz=130,slow=5.5,SNR=26							
	comp=Z,6.1nm,0.6s							
LPAZ	La Paz	47.94	309	P		P	23 03 16.4	+1.0
H10N1	ASCENSION HYDR	49.00	22	T		T	23 56 14.4	
	baz=191,slow=75,SNR=6.1							
H10N3	ASCENSION HYDR	49.00	22	T		T	23 56 13.8	
	baz=191,slow=75,SNR=5.8							
H10N2	ASCENSION HYDR	49.01	22	T		T	23 56 16.2	
	baz=191,slow=75,SNR=8.7							
BOAV	Boa Vista	62.14	327	P		P	23 05 00.8	+3.5
BOAV				IAmb		IAmb	23 05 21.3	
	comp=Z,2.4nm,1.1s							
TORD	Torodi Ar. Bea	73.46	34	P		P	23 06 08.0	-0.5
	comp=Z,0.5nm,0.5s,baz=197,slow=6.6,SNR=6.2							
	comp=Z,0.5nm,0.5s							
ASAR	Alice Springs	100.54	166	P		Pdif	23 08 22.1	-1.9
	comp=Z,0.2nm,0.8s,baz=219,slow=38,SNR=2.4							
MKAR	Makanchi Array	138.82	73	PKP		PKPdf	23 14 02.5	+1.0
	comp=Z,0.1nm,0.5s,baz=241,slow=5.9,SNR=2.3							
ZALV	Zalesovo Beam	144.06	65	PKP		PKPab	23 14 08.4	+0.2
	comp=Z,1.2nm,0.6s,baz=231,slow=3.4,SNR=6.4							
ILAR	Eielson Array	147.75	314	PKPbc		PKPbc	23 14 19.0	-0.6
	comp=Z,2.6nm,0.8s,baz=121,slow=1.7,SNR=18							
SONM	Songino Array	153.01	88	PKPbc		PKPbc	23 14 31.7	-1.2
	comp=Z,0.6nm,0.5s,baz=221,slow=3.7,SNR=6.1							
SONM				PKPab		PKPab	23 14 43.0	-1.5
	comp=Z,0.6nm,0.5s,baz=220,slow=3.3,SNR=4.8							

IDC 19 22:58:40.3±1.2, 5.13S×151.19E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=60.7km s-min=10.9km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KRVT	Keravat (AS076	1.17	46	Pg		Pg	22 59 02.8	+0.2
	49nm,0.3s,baz=257,slow=2.0,SNR=17							
KRVT				Lg		Lg	22 59 18.4	
	184nm,0.3s,baz=166,slow=23,SNR=42							
WRA	Warramunga Arr	22.04	227	P		P	23 03 36.8	0.0
	0.7nm,0.6s,baz=52,slow=10.0,SNR=11							
	0.7nm,0.6s							
ASAR	Alice Springs	24.84	220	P		P	23 04 05.1	+0.4
	1.2nm,0.7s,baz=54,slow=9.3,SNR=11							
	1.2nm,0.7s							
FITZ	Fitzroy Crossi	28.10	241	P		P	23 04 34.4	+0.3
	1.0nm,0.6s,baz=60,slow=8.1,SNR=1.4							
	1.0nm,0.6s							
MKAR	Makanchi Array	79.52	319	P		P	23 10 50.1	+1.0
	0.3nm,0.5s,baz=121,slow=5.6,SNR=4.9							
	0.3nm,0.5s							
TORD	Torodi Ar. Bea	148.87	287	PKPbc		PKPdf	23 18 28.1	+0.8
	0.2nm,0.4s,baz=96,slow=3.1,SNR=2.2							

*NEIC **19** 23:12:54.1±2.8, 19.6S±0.2×176.4W±0.1, h231km±14km, mb4.1/17, Error ellipse: s-maj=32.8km s-min=14.3km az=185.0*

*IDC **19** 23:13:05.6±8.3, 20.09S×176.46W, h369km±89km, mb3.0/5, mbtmp3.9/7, Error ellipse: s-maj=58.6km s-min=26.1km az=173.0*

ISC 19 23:12:54.3±0.7, 19.6S±0.2×176.30W±0.07, h250km, n32, σ1s32/33, mb3.6/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	Nonsavu	5.67	288	Pn		Pn	23 14 17.1	-1.4
NIUE	Niue	6.04	86	Pn		Pn	23 14 23.6	+0.7
NIUE				Sn		S	23 15 32.2	-1.7
MARNC	Mare, Loyalty	14.80	260	P		P	23 16 12.3	+0.4
PINNC	Pines Island,	15.46	256	P		P	23 16 20.4	+1.2
DZM	Mont Dzumac	16.32	258	P		Pn	23 16 32.2	+1.9
	4.7nm,0.7s,baz=71,slow=18,SNR=3.2							
URZ	Urewera	19.45	196	P		P	23 17 01.4	-1.0
	4.7nm,0.4s,baz=358,slow=4.5,SNR=2.1							
URZ	Urewera	19.45	196	P		P	23 17 00.2	-2.2
URZ				IAmb		IAmb	23 17 08.6	
	comp=Z,13nm,0.9s							
HIZ	Hauiti	20.35	200	P		P	23 17 13.5	+1.5
BKZ	Black Stump Fm	20.47	196	P		P	23 17 12.1	-1.2
BKZ				IAmb		IAmb	23 17 26.9	
	comp=Z,9.2nm,1.1s							
BFZ	Birch Farm	21.96	195	P		P	23 17 28.4	+0.6
PLWZ	Palliser	23.05	196	P		P	23 17 40.6	+2.8
QRZ	Quartz Range	23.21	202	P		P	23 17 39.2	0.0
NNZ	Nelson	23.28	200	P		P	23 17 40.2	+0.5
THZ	Tophouse	23.92	200	P		P	23 17 44.7	-1.0
KHZ	Kahutara	24.32	198	P		P	23 17 47.3	-1.9
KHZ				IAmb		IAmb	23 18 00.1	
	comp=Z,12nm,0.9s							
LTZ	Lake Taylor	25.04	200	P		P	23 17 56.2	+0.4
LTZ				IAmb		IAmb	23 18 09.9	
	comp=Z,4.0nm,0.9s							
CTAO	Charters Tower	35.18	263	P		P	23 19 24.8	-0.2
CTAO				IAmb		IAmb	23 19 41.1	
	comp=Z,4.6nm,1.1s							
TOO	Toolangi	37.71	233	P		P	23 19 46.4	+0.2
TOO				IAmb		IAmb	23 20 04.9	
	comp=Z,1.2nm,0.8s							
STKA	Stephens Creek	39.62	243	P		P	23 20 00.3	-1.7
	comp=Z,2.3nm,0.9s,baz=90,slow=6.1,SNR=1.2							
	comp=Z,2.3nm,0.9s							
STKA	Stephens Creek	39.62	243	P		P	23 20 02.5	+0.5
AS31	Alice Springs	46.28	256	P		P	23 20 55.7	+0.3
ASAR	Alice Springs	46.28	256	P		P	23 20 54.0	-1.4
	comp=Z,0.7nm,0.4s,baz=95,slow=8.7,SNR=18							
	comp=Z,0.7nm,0.4s							
ASAR	Alice Springs	46.28	256	P		P	23 20 54.8	-0.7
WB0	Warramunga Arr	46.29	261	P		P	23 20 54.2	-1.3
WB0				IAmb		IAmb	23 20 57.3	
	comp=Z,3.8nm,1.1s							
WB2	Warramunga Arr	46.30	261	P		P	23 20 53.9	-1.7
WRA	Warramunga Arr	46.31	261	P		P	23 20 53.9	-1.8
	comp=Z,0.5nm,0.3s,baz=96,slow=7.4,SNR=17							
	comp=Z,0.5nm,0.3s							
WRA	Warramunga Arr	46.31	261	P		P	23 20 54.2	-1.4
KNRA	Kununurra	52.32	265	P		P	23 21 42.1	+1.1
KNRA				IAmb		IAmb	23 21 59.5	
	comp=Z,8.7nm,0.9s							
PSA00	Pilbara Seismi	59.43	256	P		P	23 22 32.0	+0.7
PSA00				IAmb		IAmb	23 22 33.4	
	comp=Z,4.4nm,1.1s							
NVAR	Mina Array Bea	79.28	43	P		P	23 24 33.1	+0.7
	comp=Z,0.4nm,0.7s,baz=230,slow=7.0,SNR=3.1							
	comp=Z,0.4nm,0.7s							
TXAR	Lajitas Array	85.23	57	P		P	23 25 04.1	+0.9
	comp=Z,0.3nm,0.8s,baz=208,slow=7.8,SNR=3.9							
	comp=Z,0.3nm,0.8s							
GERES	GERESS Array B	149.73	347	PKPbc		PKPbc	23 32 13.7	-0.8
	comp=Z,0.2nm,0.5s,baz=18,slow=0.3,SNR=3.7							

*NOU **19** 23:31:45.3, 37.14S×179.72W, h146km, MLv5.0/8, East of North Island, N.Z.*

*IDC **19** 23:31:50.5±0.8, 36.75S×179.16E, h0km, mb4.2/4, mbtmp4.1/6, ML5.3/2, MS3.5/9, Error ellipse: s-maj=27.3km s-min=22.0km az=110.0*

*NEIC **19** 23:31:53.9±1.7, 37.37S±0.09×179.2E±0.1, h18km±7km, mb4.5/12, Mwr4.4/10, Error ellipse: s-maj=14.9km s-min=12.3km az=77.0*

*WEL **19** 23:31:54.1±1.0, 37°S±4°×17°9E±°, h17km±9km, M4.4/72, ML4.7/73, MLv4.4/72, Error ellipse: s-maj=0.0km s-min=0.0km az=88.6*

*NEIC **19** 23:31:55.4, 37.39S×179.20E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=2.80; Mθθ=2.48; Mφφ=0.33; Mrθ=2.95; Mrφ=1.81; Mθφ=1.89; Fault plane solution: M0=4.76000×10^15 NP1:φ=64.04000°, δ=21.08000°, λ=-84.16000°. NP2:φ=237.78000°, δ=69.03000°, λ=-92.25000°. Principal axes: T 5.0662, Plg24.0000°, Azm330.0000°; N -0.6987, Plg2.0000°, Azm239.0000°; P -4.3675, Plg66.0000°, Azm144.0000°;*

ISC 19 23:31:50.1±1.8, 37.10S±0.05×179.45E±0.06, h6km±10km, n194, σ1s71/195, mb4.4/10, MS3.4/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	Matakaoa Point	1.02	243			Pg	23 32 10.2	+0.4
MXZ	Matakaoa Point	1.02	243	P		Pg	23 32 10.2	+0.4
MXZ				S		Sg	23 32 21.4	-1.7
WMGZ	Waiomatatini S	1.10	228	P		Pn	23 32 13.6	+1.6
WMGZ				S		Sn	23 32 27.8	+0.3
PKGZ	Pakihiroa	1.35	234	P		Pb	23 32 16.7	+0.8
PKGZ				S		Sb	23 32 32.7	-0.7
PUZ	Puketiti	1.36	224	P		Pb	23 32 17.2	+1.2
PUZ				P		Pg	23 32 17.4	+1.2
PUZ				S		Sn	23 32 34.6	+0.5
HAZ	Te Kaha	1.48	243	P		Pn	23 32 17.2	-0.1
HAZ				S		Sn	23 32 36.4	-0.6
TWGZ	Tauwhareparae	1.59	227	P		Pb	23 32 20.5	+0.6
TWGZ				S		Sn	23 32 40.5	+0.7
RUGZ	Raukumara Rang	1.66	238	P		Pb	23 32 21.5	+0.4
RUGZ				S		Sn	23 32 41.4	-0.1
CNGZ	Carnagh Statio	1.70	215	P		Pb	23 32 22.8	+1.0
CNGZ				S		Sb	23 32 45.1	+1.6
TKGZ	Te Karaka	1.85	223	P		Pn	23 32 23.7	+1.4
TKGZ				S		Sn	23 32 45.7	-0.4
WIZ	White Island	1.85	256	P		Pn	23 32 21.1	-1.3
WIZ				S		Sn	23 32 44.0	-2.2
WSRZ	White Island S	1.86	256	P		Pn	23 32 23.2	+0.6
WSRZ				S		Sn	23 32 44.7	-1.7
MWZ	Matawai	1.96	230	P		Pn	23 32 25.2	+1.2
MWZ				S		Sn	23 32 48.5	-0.5
RIGZ	Rimuhau	2.09	219	P		Pn	23 32 27.0	+1.2
WHRZ	Whale Island	2.11	248	P		Pn	23 32 27.6	+1.6
RAGZ	Rawiri	2.13	228	P		Pn	23 32 27.7	+1.2
URZ	Urewera	2.19	237	Pn		Pn	23 32 27.8	+0.7
	240nm,0.3s,baz=350,slow=3.8,SNR=659							
URZ				Sn		Sn	23 32 53.3	-1.2
	102nm,0.3s,baz=329,slow=19,SNR=6.9							
URZ				LR		LR	23 33 20.8	
	comp=Z,660nm,21.5s,baz=119,slow=41							
	783nm,0.3s							

URZ	Urewera	2.19	237			Pn	23 32 28.1	+1.0
URZ	Urewera	2.19	237	P		Pn	23 32 28.4	+1.3
URZ						S	23 32 53.5	-1.0
URZ	Urewera	2.19	237	P		Pn	23 32 28.4	+1.3
PRGZ	Paritu Road	2.21	214	P		Pn	23 32 28.8	+1.5
SNGZ	Shannon Statio	2.37	224	P		Pn	23 32 30.8	+1.2
SNGZ				S		Sn	23 32 58.7	-0.3
EDRZ	Edgecumbe	2.38	244	P		Pn	23 32 31.2	+1.5
MARZ	Manawahe	2.38	247	P		Pn	23 32 31.2	+1.4
KNZ	Kokohu	2.38	216	P		Pn	23 32 30.4	+0.7
MHGZ	Mahia Peninsul	2.39	210	P		Pn	23 32 31.3	+1.5
OPRZ	Ohinepanea	2.42	251	P		Pn	23 32 31.0	+0.8
RTZ	Ruatahuna	2.48	231	P		Pn	23 32 32.4	+1.3
MUGZ	Murupara	2.53	236	P		Pn	23 32 32.8	+1.0
MYRZ	Mayor Island	2.57	265	P		Pn	23 32 32.3	0.0
MKRZ	Makatiti	2.59	245	P		Pn	23 32 34.6	+1.9
TARZ	Mount Tarawera	2.60	243	P		Pn	23 32 34.2	+1.4
RAHZ	Arahi	2.61	225	P		Pn	23 32 34.0	+1.1
TGRZ	Tauranga	2.62	255	P		Pn	23 32 34.0	+1.1
RRRZ	Republican Roa	2.64	241	P		Pn	23 32 34.6	+1.3
WHHZ	Waihua	2.64	221	P		Pn	23 32 34.3	+1.1
OMRZ	Omania	2.65	247	P		Pn	23 32 34.9	+1.5
MTHZ	Maungataniwha	2.71	229	P		Pn	23 32 35.6	+1.3
KARZ	Kaharoa	2.71	249	P		Pn	23 32 35.6	+1.4
HLRZ	Highlands Stat	2.71	244	P		Pn	23 32 35.9	+1.5
NGRZ	Ngongotaha	2.78	248	P		Pn	23 32 37.0	+1.8
PRRZ	Plateau Road	2.80	239	P		Pn	23 32 36.4	+1.0
UTU	Utuhina	2.80	246	P		Pn	23 32 38.1	+2.6
HSRZ	Hossack Road	2.82	243	P		Pn	23 32 37.5	+1.8
HRRZ	Handcock Road	2.82	242	P		Pn	23 32 37.2	+1.4
ALRZ	Allen Road	2.86	238	P		Pn	23 32 37.4	+1.0
NMHZ	Naumai	2.89	225	P		Pn	23 32 37.8	+1.1
KMRZ	Kaimai	2.89	254	P		Pn	23 32 37.9	+1.2
ARHZ	Aropaoanui	2.90	221	P		Pn	23 32 38.0	+1.1
GRRZ	Galatos Road	2.93	244	P		Pn	23 32 39.1	+1.8
MRHZ	Matea Rd	2.96	233	P		Pn	23 32 38.8	+1.1
WPRZ	Whakapapatarin	2.97	240	P		Pn	23 32 39.7	+1.9
KUZ	Kuaotunu	3.01	276	P		Pn	23 32 37.8	-0.6
BKZ	Black Stump Fm	3.12	228			Pn	23 32 40.2	+0.3
BKZ	Black Stump Fm	3.12	228	P		Pn	23 32 40.6	+0.7
BKZ	Black Stump Fm	3.12	228	P		Pn	23 32 40.8	+0.9
CKHZ	Cape Kidnapper	3.17	215	P		Pn	23 32 40.7	+0.2
WHTZ	Whakaora	3.18	239	P		Pn	23 32 43.9	+3.1
KUTZ	Kaahu Road	3.19	243	P		Pn	23 32 42.3	+1.4
MCHZ	McNeill Hill	3.19	222	P		Pn	23 32 41.7	+0.8
TOZ	Tahuroa Road	3.21	257	P		Pn	23 32 41.3	+0.3
GRZ	Great Barrier	3.32	284	P		Pn	23 32 43.1	+0.5
KWHZ	Kaweka Forest	3.33	225	P		Pn	23 32 43.0	+0.1
TLZ	Tolley Road	3.34	247	P		Pn	23 32 44.4	+1.4
KAHZ	Kahuranaki	3.37	216	P		Pn	23 32 43.5	+0.1
RATZ	Rangitukua	3.40	238	P		Pn	23 32 45.4	+1.6
RITZ	Rihia Road	3.40	235	P		Pn	23 32 44.9	+1.1
MKAZ	Moumakai	3.43	269	P		Pn	23 32 44.1	0.0
WIAZ	Waiheke Island	3.47	274	P		Pn	23 32 45.0	+0.3
KATZ	Kakaramea	3.51	237	P		Pn	23 32 46.7	+1.3
KRHZ	Kereru	3.51	223	P		Pn	23 32 45.7	+0.4
PXZ	Pawanui	3.56	214	P		Pn	23 32 45.5	-0.5
TMVZ	Te Maari	3.58	235	P		Pn	23 32 46.9	+0.6
BHHZ	Black Hill Sta	3.58	227	P		Pn	23 32 46.9	+0.6
ETVZ	East Tongariro	3.58	234	P		Pn	23 32 46.9	+0.5
NTVZ	North Tongarir	3.59	235	P		Pn	23 32 47.0	+0.6
KRVZ	Karewarewa	3.61	235	P		Pn	23 32 47.6	+0.9
ETAZ	East Tamaki Re	3.62	271	P		Pn	23 32 47.7	+0.9
OTVZ	Oturere	3.63	234	P		Pn	23 32 47.5	+0.5
NNVZ	North Ngauruho	3.64	235	P		Pn	23 32 48.1	+0.9
WTVZ	West Tongariro	3.65	235	P		Pn	23 32 48.5	+1.1
SNVZ	South Ngauruho	3.66	234	P		Pn	23 32 47.9	+0.5
MBAZ	Motutawa North	3.66	274	P		Pn	23 32 48.1	+0.8
NGZ	Ngauruhoe	3.68	234	P		Pn	23 32 48.2	+0.5
TUVZ	Tukino	3.69	233	P		Pn	23 32 48.6	+0.7
MOVZ	Moawhango	3.71	230	P		Pn	23 32 48.3	+0.2
TWVZ	Taurewa	3.73	237	P		Pn	23 32 49.5	+1.1
ABAZ	Army Bay	3.74	276	P		Pn	23 32 49.3	+1.0
WHVZ	Whangaehu Hut	3.75	233	P		Pn	23 32 49.4	+0.7
WNVZ	Wahianoa	3.76	233	P		Pn	23 32 49.4	+0.5
EPAZ	Eden Park BICE	3.77	272

PPT2	**Papeete2**	**33.46**	**63**	*e*LR	LR	23 47 34.6	
	comp=Z,87nm,23.2s						
PPT	**Papeete**	**33.47**	**63**	LR	LR	23 53 08.1	
	comp=Z,45nm,18.0s,baz=354,slow=38						
CTA	**Charters Tower**	**33.49**	**291**	LR	LR	23 50 15.2	
	comp=Z,84nm,20.4s,baz=84,slow=33						
COEN	**Coen**	**39.67**	**296**	P	**P**	**23 39 23.7 +0.6**	
COEN				IAmb	IAmb	23 39 27.3	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**41.13**	**276**	P	**P**	**23 39 35.5 +0.2**	
ASAR	**Alice Springs**	**41.14**	**276**	P	**P**	**23 39 35.5 +0.2**	
	comp=Z,2.5nm,0.5s,baz=120,slow=8.1,SNR=38						
	comp=Z,2.5nm,0.5s						
ASAR	**Alice Springs**	**41.14**	**276**	P	**P**	**23 39 35.8 +0.5**	
WR0	**Warramunga Arr**	**42.57**	**281**	P	**P**	**23 39 46.7 -0.3**	
WR0				IAmb	IAmb	23 40 09.6	
	comp=Z,11nm,1.4s						
FORT	**Forrest**	**42.67**	**263**	P	**P**	**23 39 47.5 -0.2**	
WB2	**Warramunga Arr**	**42.73**	**281**	P	**P**	**23 39 47.9 -0.4**	
WRAB	**Tennant Creek**	**42.73**	**281**	P	**P**	**23 39 47.7 -0.6**	
WRAB				IAmb	IAmb	23 40 02.7	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**42.73**	**281**	P	**P**	**23 39 47.2 -1.1**	
	comp=Z,2.0nm,0.5s,baz=121,slow=7.7,SNR=49						
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**42.73**	**281**	P	**P**	**23 39 48.0 -0.3**	
WB0	**Warramunga Arr**	**42.79**	**281**	P	**P**	**23 39 48.5 -0.3**	
WB0				IAmb	IAmb	23 40 01.0	
	comp=Z,4.4nm,0.7s						
CASY	**Casey**	**48.27**	**210**	P	**P**	**23 40 32.2 +0.6**	
CASY				IAmb	IAmb	23 40 41.2	
	comp=Z,7.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**50.33**	**255**	P	**P**	**23 40 45.7 -2.2**	
FITZ	**Fitzroy Crossi**	**50.62**	**277**	P	**P**	**23 40 50.5 +0.3**	
QSPA	**South Pole Qui**	**53.03**	**180**	P	**P**	**23 41 12.5 +4.7**	
	comp=Z,1.7nm,0.8s,baz=341,slow=0.6,SNR=9.4						
	comp=Z,1.7nm,0.8s						
PSA00	**Pilbara Seismi**	**53.41**	**269**	P	**P**	**23 41 11.5 +0.6**	
BELA	**Belgrano 2**	**63.45**	**172**	P	**P**	**23 42 24.2 +3.9**	
BELA				IAmb	IAmb	23 42 38.1	
	comp=Z,2.7nm,0.9s						
MAW	**Mawson**	**65.32**	**202**	LR	LR	00 09 32.1	
	comp=Z,33nm,18.4s,baz=168,slow=34						
H03S2	**Juan Fernandez**	**78.54**	**124**	T	T	01 10 29.3	
	baz=230						
H03S1	**Juan Fernandez**	**78.55**	**124**	T	T	01 10 27.6	
	baz=230						
H03S3	**Juan Fernandez**	**78.55**	**124**	T	T	01 10 26.0	
	baz=230						
H03N3	**Juan Fernandez**	**78.77**	**123**	T	T	01 10 44.0	
	baz=235,slow=72,SNR=33						
H03N2	**Juan Fernandez**	**78.77**	**123**	T	T	01 10 32.8	
	baz=235,slow=72,SNR=31						
H03N1	**Juan Fernandez**	**78.78**	**123**	T	T	01 10 36.7	
	baz=235,slow=72,SNR=35						
MA2	**Magadan**	**99.20**	**346**	LR	LR	00 24 35.9	
	comp=Z,18nm,20.3s,baz=172,slow=32						
MKAR	**Makanchi Array**	**120.32**	**308**	PKP	**PKiKP**	**23 50 41.9 -0.1**	
	comp=Z,0.5nm,0.6s,baz=119,slow=1.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**121.50**	**316**	PKP	**PKPdf**	**23 50 43.4 -0.5**	
	comp=Z,0.6nm,0.5s,baz=116,slow=3.4,SNR=2.4						
NRIK	**Noril'sk**	**124.81**	**334**	PKP	**PKiKP**	**23 50 50.5 +0.4**	
	comp=Z,1.7nm,0.3s,baz=129,slow=2.8,SNR=4.0						
ARCES	**ARCESS Array B**	**144.57**	**345**	PKP	**PKPdf**	**23 51 27.1 +0.6**	
	comp=Z,1.3nm,0.5s,baz=45,slow=2.0,SNR=21						
DBIC	**Dimbokro**	**149.46**	**172**	PKPbc	**PKiKP**	**23 51 41.5 -0.4**	
	comp=Z,2.0nm,0.7s,baz=252,slow=3.2,SNR=2.0						
FINES	**FINESS Array B**	**150.47**	**334**	PKPbc	**PKiKP**	**23 51 42.9 +0.3**	
	comp=Z,2.5nm,0.5s,baz=37,slow=4.5,SNR=33						
BRTR	**Keskin Array B**	**153.17**	**286**	PKPbc	**PKPbc**	**23 51 48.2 -0.7**	
	comp=Z,1.2nm,0.9s,baz=129,slow=3.5,SNR=4.7						
NB2	**NORSAR Subarra**	**154.91**	**346**	PKP	**PKiKP**	**23 51 53.3 +1.5**	
	comp=Z,0.4nm,0.5s,baz=37,slow=2.8						
NOA	**NORSAR Array B**	**154.91**	**346**	PKPbc	**PKiKP**	**23 51 52.7 +0.9**	
	comp=Z,1.2nm,0.9s,baz=31,slow=2.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**156.07**	**185**	PKPbc	PKPdf	23 51 58.7	+13
	comp=Z,0.4nm,0.7s,baz=193,slow=1.9,SNR=2.9						
TORD				PKPab	pPKPab	23 52 15.3	+0.9
	comp=Z,1.0nm,0.7s,baz=164,slow=4.7,SNR=5.3						

STR ***19*** *23:34:21.6±2.0, 43˚N.8˚×1˚4E±1˚6, h10km, mb4.4/37, Error ellipse: s-maj=0.0km s-min=0.0km az=108.9, preliminary*

IDC ***19*** *23:34:24.7±0.6, 42˚.70N×13˚.22E, h0km, mb3.9/14, mbtmp3.9/27, ML3.6/10, MS2.9/6, Error ellipse: s-maj=13.0km s-min=9.8km az=92.0*

MOS ***19*** *23:34:24.1±1.1, 42˚.70N×13˚.21E, h12km, mb4.3/14, Error ellipse: s-maj=4.1km s-min=2.9km az=105.9*

ROM ***19*** *23:34:25.1±0.0, 42˚.674N±0˚.002×13˚.277E±0˚.004, h9km, ML3.9/123, Mw3.7, Error ellipse: s-maj=0.3km s-min=0.1km az=58.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-2.49; $M_{\theta\theta}$2.91; $M_{\phi\phi}$-0.42; $M_{r\theta}$0.12; $M_{\theta\phi}$-1.68; $M_{\phi r}$-1.95; Fault plane solution: M_o3.74659×10^{14} NP1:ϕ_s83.00000°, δ46.00000°, λ-138.00000°. NP2:ϕ_s322.00000°, δ61.00000°, λ-52.00000°.*

PDG ***19*** *23:34:25.7±0.5, 42˚.71N×13˚.28E, h13km±1km, ML3.9/9 Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*

LDG ***19*** *23:34:26.7±0.2, 42˚.62N×13˚.23E, h8km, Ml3.6/31, Error ellipse: s-maj=5.8km s-min=4.2km az=24.0*

PRU ***19*** *23:34:26.7±0.0, 42˚.88N×13˚.11E, h0km, M4.2*

NEIC ***19*** *23:34:26.6±1.9, 42˚.72N±0˚.05×13˚.19E±0˚.07, h7km±6km, mb4.1/23, ML3.9(BUC), ML4.1(VIE), Error ellipse: s-maj=8.3km s-min=6.6km az=46.0*

MED_RC ***19*** *23:34:27.0±0.6, 42˚.74N×13˚.24E, h21km±3km, MW4.0/7, Moment Tensor Solution. Mantle waves: s7,c9; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.33±.54; $M_{\theta\theta}$1.31±.29; $M_{\phi\phi}$0.02±.27; $M_{r\theta}$-0.26±.16; $M_{\theta\phi}$-0.47±.08; $M_{\phi r}$-0.28±.22; Best double couple: M_o1.45000×10^{15} NP1:ϕ_s93.00000°, δ50.00000°, λ-110.00000°. NP2: ϕ_s303.00000°, δ44.00000°, λ-68.00000°. Principal axes: T 1.4700, Plg3.0000°, Azm197.0000°; N -0.0400, Plg15.0000°, Azm106.0000°; P -1.4300, Plg75.0000°, Azm300.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

ISC 19 23:34:26.0±0.6, 42˚.67N±0˚.01×13˚.25E±0˚.02, h9km±4km, n648, σ1s73/762, mb4.1/33, 46C-50D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.04**	**336**	P	**Pg**	**23 34 27.6**	**-0.4**
T1204	**Amatrice, Fraz**	**0.05**	**79**	⇓P	**Pg**	**23 34 27.0**	**-1.1**
T1214	**Arquata del Tr**	**0.10**	**343**	⇑P	**Pg**	**23 34 28.2**	**-0.4**
T1214				S	**Sg**	**23 34 30.2**	**-0.3**
T1244	**Arquata del Tr**	**0.10**	**22**	⇑P	**Pg**	**23 34 27.8**	**-0.8**
T1244				S	**Sg**	**23 34 29.5**	**-0.9**
T1213	**Norcia, Frazio**	**0.11**	**303**	⇓P	**Pg**	**23 34 28.6**	**-0.1**
T1213				S	**Sg**	**23 34 31.1**	**+0.5**
T1243	**Rocca Santa Ma**	**0.15**	**78**	⇑P	**Pg**	**23 34 28.5**	**-0.9**
T1243				S	**Sg**	**23 34 30.6**	**-1.1**
RM33	**Pellescritta (**	**0.16**	**189**	⇓P	**Pg**	**23 34 29.6**	**+0.1**
RM33				AML	AML		
RM33				AML	AML		
	comp=E,99800μm,0.5s						
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
LNSS	**Leonessa**	**0.17**	**248**	P	**Pg**	**23 34 29.9**	**+0.3**
LNSS				S	**Sg**	**23 34 33.5**	**+1.4**
LNSS				AML	AML		
LNSS				AML	AML		
T1242	**Castelluccio d**	**0.17**	**349**	⇑P	**Pg**	**23 34 29.3**	**-0.4**
T1242				S	**Sg**	**23 34 32.3**	**+0.1**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1212	**Cascia, Frazio**	**0.17**	**300**	⇓P	**Pg**	**23 34 29.8**	**0.0**
T1212				S	**Sg**	**23 34 33.2**	**+1.0**
CAMP	**Campotosto**	**0.18**	**138**	Pg	**Pg**	**23 34 29.3**	**-0.5**
CAMP					**Sg**	**23 34 32.3**	**-0.1**
CAMP	**Campotosto**	**0.18**	**138**	⇓P	**Pg**	**23 34 29.3**	**-0.5**
CAMP				S	**Sg**	**23 34 32.2**	**-0.1**
CAMP				AML	AML		
	comp=E,65050μm,0.7s						
CAMP				AML	AML		
	comp=N,58100μm,0.6s						
NRCA	**Norcia**	**0.19**	**330**		**Pg**	**23 34 29.3**	**-0.8**
NRCA				Sg	**Sg**	**23 34 33.1**	**+0.2**
NRCA	**Norcia**	**0.19**	**330**	⇑P	**Pg**	**23 34 29.9**	**-0.3**
NRCA				S	**Sg**	**23 34 33.3**	**+0.4**
NRCA				AML	AML		
	comp=N,79300μm,0.5s						
NRCA				AML	AML		
NRCA				AML	AML		
	comp=N,79350μm,0.5s						
NRCA				AML	AML		
	comp=N,79300μm,0.5s						
NRCA				AML	AML		
	comp=N,87250μm,0.5s						
NRCA				AML	AML		
NRCA				AML	AML		
T1246	**Crognaleto (TE**	**0.20**	**114**	⇓P	**Pg**	**23 34 29.6**	**-0.6**
T1246				S	**Sg**	**23 34 32.5**	**-0.5**
T1247	**Pizzolo (AQ)**	**0.23**	**171**	⇓P	**Pg**	**23 34 30.6**	**0.0**
T1247				AML	AML		
T1247				AML	AML		
	comp=E,87900μm,1.2s						
T1241	**Roccafluvione,**	**0.23**	**35**	⇑P	**Pg**	**23 34 30.0**	**-0.8**
T1241				AML	AML		
	comp=E,43750μm,1.1s						
T1241				AML	AML		
	comp=E,43750μm,1.1s						
T1241				AML	AML		
	comp=E,42050μm,1.1s						
T1241				AML	AML		
	comp=N,54650μm,0.8s						
T1241				AML	AML		
	comp=N,53050μm,0.8s						
T1217	**Poggiodomo (PG**	**0.24**	**281**	⇓P	**Pg**	**23 34 31.0**	**+0.1**
T1217				S	**Sg**	**23 34 35.5**	**+1.3**
T1217				AML	AML		
	comp=E,49800μm,0.5s						
T1217				AML	AML		
	comp=N,59150μm,0.4s						
T1217				AML	AML		
	comp=E,50200μm,0.7s						
T1217				AML	AML		
	comp=N,58050μm,0.4s						
T1217				AML	AML		
	comp=E,49850μm,0.5s						
MMO1	**Montemonaco**	**0.24**	**14**	⇑P	**Pg**	**23 34 30.3**	**-0.6**
MMO1				S	**Sg**	**23 34 34.2**	**-0.1**
MC2	**Monte Cornacci**	**0.25**	**350**	⇑P	**Pg**	**23 34 30.8**	**-0.4**
MC2				S	**Sg**	**23 34 35.2**	**+0.6**
TERO	**Teramo**	**0.27**	**99**	⇑P	**Pg**	**23 34 30.6**	**-0.9**
TERO				S	**Sg**	**23 34 34.5**	**-0.5**
TERO				AML	AML		
	comp=E,71900μm,0.8s						
TERO				AML	AML		
TERO				AML	AML		
	comp=E,76050μm,0.6s						
TERO				AML	AML		
TERO				AML	AML		
	comp=E,71950μm,0.8s						
T1216	**Preci, Frazion**	**0.28**	**323**	⇓P	**Pg**	**23 34 31.5**	**-0.2**
T1216				S	**Sg**	**23 34 35.9**	**+0.4**
T1216				AML	AML		
	comp=E,89700μm,0.5s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,89250μm,0.5s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,89450μm,0.5s						
T1215	**Vallo di Nera,**	**0.31**	**296**	⇓P	**Pg**	**23 34 32.1**	**-0.1**
T1215				S	**Sg**	**23 34 37.3**	**+0.9**
T1215				AML	AML		
	comp=E,16300μm,0.9s						
T1215				AML	AML		
	comp=N,14750μm,0.4s						
T1215				AML	AML		
	comp=E,15850μm,0.9s						
T1215				AML	AML		
	comp=E,16250μm,0.9s						
T1215				AML	AML		
	comp=N,14750μm,0.4s						
T1215				AML	AML		
	comp=E,16100μm,0.9s						
T1215				AML	AML		
	comp=N,14750μm,0.4s						
T1211	**Morro Reatino**	**0.32**	**245**	⇓P	**Pg**	**23 34 32.5**	**+0.1**
T1211				S	**Sb**	**23 34 38.0**	**-1.2**
AM05	**Amandola Campo**	**0.32**	**14**	⇑P	**Pg**	**23 34 31.9**	**-0.6**
AM05				S	**Sg**	**23 34 36.9**	**+0.2**
AM05				AML	AML		
	comp=E,8860μm,0.6s						
AM05				AML	AML		
	comp=N,10010μm,0.4s						
AM05				AML	AML		
	comp=N,10005μm,0.4s						
AM05				AML	AML		
	comp=N,40200μm,0.4s						
AM05				AML	AML		
	comp=E,35200μm,0.6s						
AM05				AML	AML		
	comp=E,8905μm,0.6s						
GIGS	**Gran Sasso**	**0.32**	**132**	⇓P	**Pg**	**23 34 31.6**	**-0.8**
GIGS				S	**Sg**	**23 34 36.5**	**-0.2**
GIGS				AML	AML		
	comp=N,8810μm,0.9s						
GIGS				AML	AML		
	comp=E,13300μm,0.4s						
FEMA	**Monte Fema**	**0.33**	**334**	⇑P	**Pg**	**23 34 32.2**	**-0.4**
FEMA				S	**Sg**	**23 34 37.8**	**+0.8**
FEMA				AML	AML		
	comp=E,85450μm,0.5s						
FEMA				AML	AML		
	comp=N,50500μm,1.0s						
FEMA				AML	AML		
	comp=E,85450μm,0.5s						
AQU	**L'Aquila**	**0.33**	**160**		**Pg**	**23 34 32.5**	**-0.1**
AQU				Sg	**Sb**	**23 34 39.4**	**-0.2**
AQU	**L'Aquila**	**0.33**	**160**	P	**Pg**	**23 34 32.5**	**-0.1**
AQU						23 34 39.4	
AQU	**L'Aquila**	**0.33**	**160**	⇓P	**Pg**	**23 34 32.3**	**-0.3**
AQU				AML	AML		
	comp=N,50000μm,0.6s						
AQU				AML	AML		
	comp=E,40550μm,1.1s						
AQU				AML	AML		
	comp=N,47950μm,0.6s						
AQU				AML	AML		
	comp=E,38850μm,1.1s						
AQU				AML	AML		
	comp=N,50050μm,0.6s						
FDMO	**Fiordimonte**	**0.39**	**342**		**Pg**	**23 34 32.8**	**-0.9**
FDMO				Sg	**Sg**	**23 34 39.5**	**+0.6**
FDMO	**Fiordimonte**	**0.39**	**342**	⇑P	**Pg**	**23 34 33.1**	**-0.6**
FDMO				S	**Sg**	**23 34 39.0**	**+0.2**
FDMO				AML	AML		
	comp=E,31200μm,0.8s						
FDMO				AML	AML		
	comp=N,40700μm,1.0s						
GUMA	**Gualdo di Mace**	**0.40**	**9**	⇑P	**Pg**	**23 34 32.7**	**-1.3**
GUMA				S	**Sg**	**23 34 39.1**	**-0.2**
GUMA				AML	AML		
GUMA				AML	AML		
	comp=N,91200μm,0.4s						
GUMA				AML	AML		
GUMA				AML	AML		
FIAM	**Fiamignano**	**0.41**	**194**	⇓P	**Pg**	**23 34 33.8**	**-0.3**
FIAM				AML	AML		
	comp=E,25750μm,0.7s						
FIAM				AML	AML		
	comp=N,20950μm,0.7s						
OFFI	**Offida**	**0.42**	**50**	⇑P	**Pg**	**23 34 34.2**	**-0.1**
OFFI				AML	AML		
	comp=E,56350μm,0.4s						
OFFI				AML	AML		
	comp=N,70650μm,0.5s						
CESI	**CESI - Serrava**	**0.42**	**323**	⇑P	**Pg**	**23 34 34.0**	**-0.3**
CESI				S	**Sg**	**23 34 40.7**	**+0.8**
CESI				AML	AML		
	comp=E,39950μm,0.6s						
CESI				AML	AML		
	comp=N,80650μm,0.5s						
CSP1	**Cessapalombo**	**0.43**	**356**	⇑P	**Pg**	**23 34 33.7**	**-0.7**
CSP1				S	**Sg**	**23 34 40.5**	**+0.4**
CSP1				AML	AML		
	comp=N,46800μm,0.9s						
CSP1				AML	AML		
	comp=E,33350μm,0.4s						
CSP1				AML	AML		
	comp=N,46750μm,0.9s						
FAGN	**Fagnano**	**0.47**	**148**	P	**Pg**	**23 34 34.5**	**-0.7**
FAGN				AML	AML		
	comp=E,58350μm,0.4s						
FAGN				AML	AML		
	comp=N,63900μm,0.5s						
CESX	**Cesi**	**0.50**	**264**		**Pg**	**23 34 35.1**	**-0.6**
CESX	**Cesi**	**0.50**	**264**	⇓P	**Pg**	**23 34 35.3**	**-0.3**
CESX				AML	AML		
	comp=N,13350μm,0.4s						
CESX				AML	AML		
	comp=E,15250μm,0.5s						
MNTP	**Montappone**	**0.50**	**19**	⇑P	**Pg**	**23 34 35.3**	**-0.4**
MNTP				AML	AML		
	comp=E,37500μm,0.2s						
MNTP				AML	AML		
	comp=N,29350μm,0.4s						
MNTP				AML	AML		
	comp=E,37450μm,0.2s						
TRTR	**Tortoreto Alta**	**0.51**	**74**	⇑P	**Pg**	**23 34 36.2**	**+0.2**
TRTR				AML	AML		
	comp=E,67350μm,1.2s						
TRTR				AML	AML		
	comp=N,57750μm,0.4s						
VCEL	**Villa Celiera**	**0.52**	**122**	⇑P	**Pg**	**23 34 35.6**	**-0.5**
VCEL				AML	AML		
	comp=E,27450μm,0.3s						
VCEL				AML	AML		
	comp=N,27500μm,0.7s						
SEF1	**Sefro**	**0.53**	**335**	P	**Pg**	**23 34 35.7**	**-0.7**
SEF1				S	**Sb**	**23 34 44.5**	**-0.8**
SEF1				AML	AML		
	comp=E,25750μm,1.6s						
SEF1				AML	AML		
	comp=N,24000μm,0.7s						
SEF1				AML	AML		
	comp=E,25700μm,1.6s						
MDAR	**Monte D'Aria**	**0.53**	**352**	P	**Pg**	**23 34 35.5**	**-0.8**
MDAR				AML	AML		
	comp=N,27550μm,0.5s						
MDAR				AML	AML		
	comp=E,27550μm,0.5s						
PIO1	**Pioraco**	**0.55**	**339**	P	**Pg**	**23 34 35.7**	**-1.0**
SSM1	**San Severino M**	**0.56**	**355**	P	**Pg**	**23 34 36.2**	**-0.8**
SSM1				S	**Sg**	**23 34 45.2**	**+0.7**
FIU1	**Fiuminata**	**0.57**	**336**	P	**Pg**	**23 34 36.4**	**-0.7**
GAG1	**Gagliole**	**0.59**	**347**	P	**Pg**	**23 34 36.9**	**-0.6**
GAG1				AML	AML		
	comp=E,48650μm,0.5s						
GAG1				AML	AML		
	comp=N,42600μm,0.3s						
GAG1				AML	AML		
	comp=E,48700μm,0.5s						
T0110	**Collepietro**	**0.59**	**138**	P	**Pg**	**23 34 36.5**	**-0.9**
T0110				S	**Sg**	**23 34 46.1**	**+0.9**
T0110				AML	AML		
	comp=E,33200μm,0.5s						
T0110				AML	AML		
	comp=N,29850μm,0.4s						
MTL1	**Matelica**	**0.62**	**344**	P	**Pg**	**23 34 37.2**	**-0.7**
SNTG	**Esanatoglia**	**0.63**	**339**	⇑P	**Pg**	**23 34 37.3**	**-0.9**
SNTG				S	**Sg**	**23 34 46.9**	**+0.4**
SNTG				AML	AML		
	comp=E,864μm,0.8s						
SNTG				AML	AML		
	comp=N,1340μm,0.7s						
SNTG				AML	AML		
	comp=E,6445μm,0.8s						
SNTG				AML	AML		
	comp=N,10900μm,0.7s						
SNTG				AML	AML		
	comp=E,867μm,0.8s						
TRE1	**Treia**	**0.65**	**4**	P	**Pg**	**23 34 38.1**	**-0.5**
TRE1				AML	AML		
	comp=E,49050μm,0.4s						
TRE1				AML	AML		
	comp=E,49000μm,0.4s						
TRE1				AML	AML		
	comp=N,29550μm,0.7s						
CADA	**Capodarco di F**	**0.65**	**35**	P	**Pg**	**23 34 38.8**	**+0.2**
PTQR	**Pietraquaria**	**0.65**	**170**	⇓P	**Pg**	**23 34 37.6**	**-1.1**
PTQR				AML	AML		
	comp=N,3945μm,1.1s						
PTQR				AML	AML		
	comp=E,5105μm,0.5s						
EL6	**Elcito**	**0.67**	**351**	⇑P	**Pg**	**23 34 38.1**	**-1.0**
ATCC	**AVT- Casa Cast**	**0.69**	**319**	⇓P	**Pg**	**23 34 38.6**	**-0.6**
ATCC				AML	AML		
	comp=E,14650μm,0.6s						
ATCC				AML	AML		
	comp=N,15550μm,1.5s						
CING	**Cingoli**	**0.71**	**357**	⇑P	**Pg**	**23 34 38.7**	**-1.1**
CING				S	**Sb**	**23 34 49.9**	**-0.6**
CING				AML	AML		
	comp=E,29650μm,0.3s						
CING				AML	AML		
	comp=N,17350μm,0.2s						
CIMA	**Civitanova Mar**	**0.71**	**26**	P	**Pb**	**23 34 40.0**	**-0.5**
CERT	**Cerreto**	**0.74**	**195**	P	**Pg**	**23 34 39.4**	**-0.9**
CERT				AML	AML		
	comp=N,12050μm,0.5s						
CERT				AML	AML		
	comp=E,14800μm,0.5s						
MTCE	**Montecelio**	**0.74**	**210**	⇓P	**Pg**	**23 34 39.4**	**-0.9**
MTCE				AML	AML		
	comp=E,7980μm,0.8s						
MTCE				AML	AML		
	comp=N,6645μm,0.9s						
PP3	**Marolino**	**0.76**	**20**	⇑P	**Pg**	**23 34 40.2**	**-0.5**
PP3				AML	AML		
	comp=N,16650μm,0.6s						
PP3				AML	AML		
	comp=E,17650μm,0.5s						
PP3				AML	AML		
	comp=N,17600μm,0.6s						
PP3				AML	AML		
	comp=N,17550μm,0.6s						
PP3				AML	AML		
	comp=E,18700μm,0.5s						
PP3				AML	AML		
	comp=E,17600μm,0.5s						
MMUR	**Monte Murano**	**0.80**	**347**	P	**Pg**	**23 34 40.3**	**-1.1**
MMUR				AML	AML		
	comp=E,22550μm,0.5s						
MMUR				AML	AML		
	comp=N,16850μm,0.4s						
MMUR				AML	AML		
	comp=E,22550μm,0.5s						
MURB	**Monte Urbino**	**0.80**	**319**		**Pg**	**23 34 40.5**	**-0.9**
MURB					**Sb**	**23 34 53.7**	**+0.7**
MURB	**Monte Urbino**	**0.80**	**319**	⇓P	**Pg**	**23 34 40.7**	**-0.7**
MURB				AML	AML		
	comp=N,19600μm,0.9s						
MURB				AML	AML		
	comp=N,19550μm,0.9s						
MURB				AML	AML		
	comp=E,19850μm,0.3s						
MURB				AML	AML		
	comp=N,20350μm,0.9s						
MURB				AML	AML		
	comp=E,18850μm,0.3s						
INTR	**Introdacqua**	**0.81**	**143**	⇓P	**Pg**	**23 34 40.2**	**-1.5**
INTR				AML	AML		
	comp=E,8μm,0.9s						
INTR				AML	AML		
	comp=N,11μm,0.7s						
INTR				AML	AML		
	comp=E,8205μm,0.9s						
INTR				AML	AML		
	comp=N,16800μm,0.7s						
INTR				AML	AML		
	comp=N,11μm,0.7s						
SSFR	**Montelago di S**	**0.84**	**336**	P	**Pg**	**23 34 41.3**	**-1.0**
SSFR				AML	AML		
	comp=N,12950μm,0.2s						
SSFR				AML	AML		
	comp=E,13300μm,0.3s						
SSFR				AML	AML		
	comp=E,12645μm,0.3s						
SSFR				AML	AML		
	comp=N,12050μm,0.2s						
VVLD	**Villa Vallelon**	**0.84**	**161**	P	**Pg**	**23 34 40.6**	**-1.6**
VVLD				AML	AML		
	comp=N,8895μm,0.6s						

VVLD AML AML
comp=E,5185µm,0.6s
ATTE AVT- Monte Tez 0.84 309 ⇓P **Pg 23 34 41.5 -0.8**
ATTE AML AML
comp=E,5580µm,1.6s
ATTE AML AML
comp=N,5410µm,0.7s
ATFO Monte Foce - G 0.86 325 P **Pg 23 34 41.4 -1.2**
ATFO AML AML
comp=N,8060µm,1.0s
ATFO AML AML
comp=E,8750µm,1.2s
ARVD Arcevia 0.86 345 AML AML
comp=E,6910µm,0.9s
ARVD AML AML
comp=N,4160µm,0.6s
GUAR Guarcino 0.87 177 P **Pg 23 34 41.9 -1.0**
GUAR AML AML
comp=N,8705µm,0.7s
GUAR AML AML
comp=E,7525µm,0.5s
MGAB Montegabbione 0.87 287 ⇓P **Pg 23 34 42.2 -0.6**
MGAB AML AML
comp=E,14750µm,0.6s
MGAB AML AML
comp=N,12850µm,0.5s
MGAB AML AML
comp=N,11750µm,0.5s
MGAB AML AML
comp=E,16250µm,0.6s
AOI Ancona 0.92 16 ⇑P **Pg 23 34 42.5 -1.3**
AOI AML AML
comp=E,7000µm,0.8s
AOI AML AML
comp=N,7780µm,0.4s
CAFR Castel Frentan 0.92 118 P **Pg 23 34 42.5 -1.3**
CAFR AML AML
comp=E,4385µm,0.5s
CAFR AML AML
comp=N,3615µm,0.5s
FRON Frontone 0.93 336 P **Pg 23 34 42.7 -1.3**
FRON AML AML
comp=E,9525µm,1.1s
FRON AML AML
comp=N,8245µm,1.5s
ATVO AVT- Monte Val 0.94 320 ⇓P **Pg 23 34 43.0 -1.2**
ATVO AML AML
comp=E,6395µm,0.5s
ATVO AML AML
comp=N,5450µm,0.8s
RMP Rome, Mte Porz 0.95 206 P **Pg 23 34 42.8 -1.4**
RMP AML AML
comp=N,12900µm,0.8s
RMP AML AML
comp=E,15250µm,1.1s
ATMI Monte Miggiano 0.98 313 P **Pg 23 34 43.7 -1.2**
ATMI AML AML
comp=E,21200µm,0.5s
ATMI AML AML
comp=N,12480µm,0.4s
COR1 Corinaldo 0.98 349 P **Pg 23 34 43.9 -1.0**
COR1 AML AML
comp=E,18350µm,1.6s
COR1 AML AML
comp=N,17850µm,1.1s
COR1 AML AML
comp=E,9645µm,1.6s
COR1 AML AML
comp=N,16600µm,1.1s
VIVA Pratoni del Vi 0.98 201 P **Pg 23 34 43.1 -1.8**
VIVA AML AML
comp=N,21000µm,0.5s
VIVA AML AML
comp=E,19200µm,0.5s
SACS San Casciano d 1.00 281 ⇓P **Pg 23 34 44.6 -0.7**
SACS AML AML
comp=E,4560µm,0.6s
SACS AML AML
comp=N,6255µm,0.8s
SACS AML AML
comp=N,6310µm,0.8s
SACS AML AML
comp=E,4350µm,0.6s
POFI Posta Fibreno 1.01 160 P **Pg 23 34 44.0 -1.4**
POFI AML AML
comp=E,8000µm,0.9s
POFI AML AML
comp=N,4705µm,0.6s
POFI AML AML
comp=N,4450µm,0.6s
POFI AML AML
comp=E,7800µm,0.8s
PIEI Pieia 1.01 329 P **Pg 23 34 44.3 -1.3**
PIEI AML AML
comp=E,5270µm,0.8s
PIEI AML AML
comp=N,4640µm,1.1s
PIEI AML AML
comp=E,5265µm,0.8s
PIEI AML AML
comp=N,4645µm,1.1s
MPAG Monte Paganucc 1.03 340 P **Pg 23 34 44.2 -1.6**
MPAG AML AML
comp=N,6770µm,1.0s
MPAG AML AML
comp=N,6475µm,0.9s
MPAG AML AML
comp=E,7065µm,0.7s
MPAG AML AML
comp=E,8165µm,0.7s
SENI Senigallia 1.04 359 P **Pg 23 34 44.9 -1.1**
SENI AML AML
comp=N,29100µm,1.1s
SENI AML AML
comp=E,24900µm,0.4s
LRP Arpino 1.05 166 AML AML
comp=E,2225µm,0.5s
LRP AML AML
comp=N,3585µm,0.9s
LATE Laterza 1.07 268 **Pg 23 34 45.7 -0.8**
LATE Laterza 1.07 268 ⇓P **Pg 23 34 45.7 -0.8**
APEC Apecchio 1.08 326 P **Pg 23 34 45.6 -1.2**
APEC AML AML
comp=N,1820µm,1.4s
APEC AML AML
comp=E,1525µm,0.5s
FSSB Fossombrone 1.08 342 P **Pg 23 34 45.5 -1.4**
FSSB AML AML
comp=E,17400µm,0.4s
FSSB AML AML
comp=N,15450µm,0.4s
TOLF Tolfa 1.10 237 P **Pg 23 34 46.0 -1.2**
TOLF AML AML
comp=E,4855µm,0.7s
TOLF AML AML
comp=N,4365µm,0.7s
GIUL Giuliano Di Ro 1.11 180 P **Pg 23 34 46.3 -1.0**
GIUL AML AML
comp=E,3610µm,1.2s
GIUL AML AML
comp=N,3895µm,0.5s
BADI Badiali 1.12 319 P **Pg 23 34 46.3 -1.2**
CAFI Castiglion Fio 1.15 306 P **Pg 23 34 47.1 -1.0**
CAFI AML AML
comp=N,3530µm,0.7s
CAFI AML AML
comp=N,3685µm,0.7s
CAFI AML AML
comp=E,3230µm,1.4s
CAFI AML AML
comp=E,3285µm,1.4s
MCIV Monte Civitell 1.16 276 P **Pg 23 34 46.6 -1.8**
MCIV AML AML
comp=N,1520µm,1.6s
MCIV AML AML
comp=E,2150µm,0.9s
RNI2 Rionero Sannit 1.17 145 P **Pg 23 34 47.3 -1.2**
RNI2 AML AML
comp=N,5535µm,0.8s
RNI2 AML AML
comp=N,5330µm,0.8s
RNI2 AML AML
comp=E,5400µm,1.6s
RNI2 AML AML
comp=E,5590µm,1.6s
SF04 Casetta 1.18 279 P **Pg 23 34 48.2 -0.5**
CERA Filignano 1.21 152 P **Pb 23 34 46.7 -2.4**

CERA AML AML
comp=E,4575µm,0.6s
CERA AML AML
comp=E,4685µm,0.6s
CERA AML AML
comp=N,4185µm,0.5s
CERA AML AML
comp=N,4360µm,0.5s
SSP9 Sansepolcro 1.22 318 P **Pb 23 34 47.5 -1.8**
SSP9 AML AML
comp=N,4335µm,1.6s
SSP9 AML AML
comp=E,3815µm,1.6s
SF01 Poggio Pratacc 1.25 277 P **Pn 23 34 49.2 -0.5**
SF01 AML AML
comp=E,3830µm,0.8s
SF01 AML AML
comp=N,3795µm,1.1s
MIDA Miranda 1.27 143 P **Pn 23 34 48.1 -1.9**
MIDA AML AML
comp=E,3490µm,0.5s
MIDA AML AML
comp=E,3505µm,0.5s
MIDA AML AML
comp=N,3470µm,0.6s
MIDA AML AML
comp=N,3465µm,0.6s
PESA Pesaro 1.31 347 P **Pn 23 34 50.2 -0.3**
PESA AML AML
comp=E,8705µm,0.6s
PESA AML AML
comp=N,7020µm,0.5s
ARCI Arcidosso 1.32 279 P **Pn 23 34 50.2 -0.5**
ARCI AML AML
comp=N,1010µm,1.1s
ARCI AML AML
comp=E,880µm,0.4s
TRIV Trivento 1.32 132 P **Pn 23 34 50.4 -0.3**
TRIV AML AML
comp=N,2765µm,0.7s
TRIV AML AML
comp=E,2885µm,0.6s
TRIV AML AML
comp=E,2500µm,0.6s
TRIV AML AML
comp=N,2760µm,0.7s
CRE Caprese Michel 1.34 316 P **Pn 23 34 49.6 -1.5**
CRE AML AML
comp=E,2210µm,1.1s
CRE AML AML
comp=N,2645µm,0.5s
VAGA Valle Agricola 1.45 149 P **Pn 23 34 52.2 -0.3**
VAGA AML AML
comp=N,2195µm,0.5s
VAGA AML AML
comp=E,1675µm,1.3s
VAGA AML AML
comp=N,2270µm,0.5s
VAGA AML AML
comp=E,1625µm,1.3s
BSSO Busso 1.50 138 P **Pn 23 34 52.9 -0.3**
ASQU Asqua 1.55 317 P **Pn 23 34 52.9 -1.0**
ASQU AML AML
comp=E,1665µm,0.8s
ASQU AML AML
comp=N,3320µm,0.8s
MODR Mondragone 1.59 163 P **Pn 23 34 54.9 +0.5**
MODR AML AML
comp=N,1730µm,0.7s
MODR AML AML
comp=E,1170µm,0.8s
CIGN Sant'Elia a Pi 1.59 129 AML AML
comp=N,1600µm,0.8s
CIGN AML AML
comp=E,952µm,0.7s
PIGN Pignataro Magg 1.62 154 P **Pn 23 34 55.4 +0.6**
CSNT Castellina Chi 1.65 300 ⇓P **Pn 23 34 54.5 -0.6**
CSNT AML AML
comp=E,813µm,1.6s
CSNT AML AML
comp=N,974µm,0.6s
MELA Melanico ??? S 1.69 124 P **Pn 23 34 55.8 0.0**
MELA AML AML
comp=N,2980µm,0.5s
MELA AML AML
comp=E,2620µm,0.7s
MELA AML AML
comp=N,3140µm,0.5s
MELA AML AML
comp=E,2515µm,0.7s
RUFI Rufina 1.73 313 P **Pn 23 34 55.3 -0.9**
RUFI AML AML
comp=E,2070µm,0.7s
RUFI AML AML
comp=N,1785µm,1.5s
CASP Castiglione de 1.76 275 Pn **Pn 23 34 56.3 -0.4**
CASP Castiglione de 1.76 275 ⇓P **Pn 23 34 56.3 -0.4**
CASP AML AML
comp=E,270µm,1.4s
CASP AML AML
comp=N,445µm,0.7s
TRIF Trifonti 1.78 285 ⇓P **Pn 23 34 56.9 -0.2**
TRIF AML AML
comp=E,845µm,0.7s
TRIF AML AML
comp=N,822µm,0.6s
LMD Lutirano 1.80 322 P **Pn 23 34 56.9 -0.4**
LMD AML AML
comp=E,1750µm,0.7s
LMD AML AML
comp=N,1405µm,1.4s
VITU Vitulano (BN) 1.81 145 P **Pn 23 34 57.9 +0.5**
VITU AML AML
comp=N,1480µm,0.8s
VITU AML AML
comp=E,1150µm,0.5s
VITU AML AML
comp=N,1520µm,0.7s
VITU AML AML
comp=E,544µm,0.6s
DUGI Dugi Otok 1.87 44 *e*Pn **Pn 23 34 57.9 -0.3**
PAOL Paolisi 1.91 148 **Pn 23 34 59.9 +1.1**
APRC Apricena 1.93 117 AML AML
comp=E,1255µm,0.8s
APRC AML AML
comp=N,6405µm,1.2s
APRC AML AML
comp=N,1475µm,0.7s
APRC AML AML
comp=E,1190µm,0.8s
BRIS BRISIGHELLA 1.95 320 P **Pn 23 34 59.5 +0.2**
SEI Scarperia 1.96 316 P **Pn 23 34 58.5 -1.0**
SEI AML AML
comp=E,2070µm,0.5s
SEI AML AML
comp=N,2535µm,0.5s
ZIRJ Zirje 2.01 60 *e*Pn **Pn 23 34 59.6 -0.6**
MPPT Montemurlo 2.04 310 P **Pn 23 34 59.8 -0.8**
MPPT AML AML
comp=E,1050µm,1.0s
MPPT AML AML
comp=N,704µm,1.2s
SGRT San Giovanni R 2.07 115 Pn **Pn 23 35 01.6 +0.6**
SGRT San Giovanni R 2.07 115 P **Pn 23 35 01.3 +0.4**
SGRT AML AML
comp=N,1410µm,0.6s
SGRT AML AML
comp=E,1645µm,0.5s
VIRC Vir 2.09 38 *i* Pn **Pn 23 35 00.8 -0.4**
MTCR Monte La Croce 2.13 310 P **Pn 23 35 00.9 -1.0**
MTCR AML AML
comp=E,821µm,0.6s
MTCR AML AML
comp=N,970µm,0.7s
MORI Morici 2.16 55 *e*Pn **Pn 23 35 01.8 -0.4**
NVLJ Novalja 2.23 31 *e*Pn **Pn 23 35 02.8 -0.4**
CELB S.Piero in Cam 2.24 273 ⇓P **Pn 23 35 02.6 -0.7**
CELB AML AML
comp=E,159µm,0.7s
CELB AML AML
comp=N,172µm,1.0s
PII Pisa 2.25 299 P **Pn 23 35 03.9 +0.5**
PII Pisa 2.25 299 AML AML
comp=N,681µm,0.6s
PII AML AML
comp=E,699µm,0.4s

BRJN Brijuni 2.27 9 *e*Pn **Pn 23 35 03.1 -0.6**
BRJN Brijuni 2.27 9 P **Pn 23 35 03.0 -0.6**
POPM Popiglio 2.28 308 P **Pn 23 35 03.2 -0.6**
POPM AML AML
comp=E,469µm,1.2s
POPM AML AML
comp=N,539µm,1.6s
ZCCA Zocca 2.36 316 **Pn 23 35 04.9 -0.1**
ZCCA Zocca 2.36 316 P **Pn 23 35 06.7 +1.8**
RABC Rab 2.36 28 *e*Pn **Pn 23 35 04.7 -0.2**
MAIM Mastiano 2.37 303 P **Pn 23 35 04.5 -0.6**
BDI Bagni Di Lucca 2.38 307 P **Pn 23 35 04.3 -1.0**
BDI AML AML
comp=E,544µm,0.6s
BDI AML AML
comp=N,606µm,0.5s
BDI AML AML
comp=N,236µm,1.1s
BDI AML AML
comp=E,223µm,0.6s
HVAR Hvar 2.41 77 *e*Pn **Pn 23 35 05.2 -0.4**
HVAR Hvar 2.41 77 P **Pn 23 35 05.1 -0.4**
CARD Cardoso 2.43 305 P **Pn 23 35 05.5 -0.5**
CARD AML AML
comp=E,566µm,0.4s
CARD AML AML
comp=N,421µm,0.5s
SMRN Sveta Marina 2.46 15 *e*Pn **Pn 23 35 05.8 -0.5**
VLC Villacollemand 2.56 307 **Pn 23 35 07.3 -0.4**
VLC Villacollemand 2.56 307 P **Pn 23 35 06.9 -0.8**
VLC AML AML
comp=N,360µm,0.8s
VLC AML AML
comp=N,358µm,1.1s
VLC AML AML
comp=E,300µm,1.1s
VLC AML AML
comp=E,308µm,1.1s
GSCL Gusciola 2.56 312 AML AML
comp=E,780µm,0.9s
GSCL AML AML
comp=N,639µm,0.6s
UDBI Udbina 2.61 44 *i* Pn **Pn 23 35 09.2 +0.8**
A253A Karojba, Istri 2.66 9 *e*Pn **Pn 23 35 08.1 -0.9**
PALZ Palazzo San Ge 2.66 129 AML AML
comp=N,980µm,1.1s
PALZ AML AML
comp=E,1680µm,0.8s
KIJV Kijevo 2.66 59 *e*Pn **Pn 23 35 09.8 +0.6**
KIJV Sn **Sn 23 35 41.5 0.0**
CDRU Civita di Ruta 2.67 144 P **Pn 23 35 09.9 +0.7**
LSTV Lastovo 2.69 87 *e*Pn **Pn 23 35 09.0 -0.4**
LSTV Sn **Sn 23 35 41.1 -0.9**
A250A Rusevo Krmpots 2.70 26 *e*Pn **Pn 23 35 09.7 0.0**
EQUI Equi 2.71 305 P **Pn 23 35 09.0 -0.8**
EQUI AML AML
comp=N,280µm,1.0s
EQUI AML AML
comp=E,256µm,0.7s
PLIT Plitvice 2.80 37 *e*Pn **Pn 23 35 12.4 +1.3**
RIY Rijeka 2.80 18 *i* Pn **Pn 23 35 10.9 -0.1**
MAKA Makarska 2.84 76 *e*Pn **Pn 23 35 11.2 -0.2**
PLMA Palmaria, Port 2.84 300 P **Pn 23 35 10.9 -0.6**
PLMA AML AML
comp=E,210µm,0.6s
PLMA AML AML
comp=N,176µm,1.2s
TEOL Teolo 2.92 338 Pn **Pn 23 35 12.8 +0.1**
SKDS Skadanscina 2.93 11 *e*Pn **Pn 23 35 11.8 -1.0**
SKDS Skadanscina 2.93 11 *i* Pn **Pn 23 35 11.9 -0.9**
SKDS *i* Sn **Sn 23 35 47.6 -0.6**
SKDS IAML 23 35 51.5
comp=Z,159nm,0.4s
GRAM Graiana 2.94 309 P **Pn 23 35 13.5 +0.4**
GRAM AML AML
comp=E,499µm,0.5s
GRAM AML AML
comp=N,644µm,0.6s
RICI Ricice 2.96 72 *e*Pn **Pn 23 35 13.9 +0.7**
PRMA PARMA 2.99 316 **Pn 23 35 13.5 0.0**
SMPL Sampolo 2.99 260 AML AML
comp=N,61µm,1.1s
SMPL AML AML
comp=E,64µm,1.6s
SMPL Sampolo 2.99 260 P **Pn 23 35 13.9 +0.3**
A050A Klekovaca 3.00 52 *e*Pn **Pn 23 35 14.6 +0.8**
MTSN Montesano sull 3.05 141 P **Pn 23 35 16.4 +1.9**
AMUR Altamura 3.06 124 P **Pn 23 35 15.2 +0.6**
AMUR AML AML
comp=N,372µm,1.0s
AMUR AML AML
comp=E,383µm,0.8s
PGF Pioggiola 3.14 269 *e*Pn **Pn 23 35 16.0 +0.3**
PGF *e*Sn **Sn 23 35 51.9 -1.5**
comp=E,54nm,0.7s
PGF Pioggiola 3.14 269 P **Pn 23 35 15.8 +0.1**
PGF Pioggiola 3.14 269 P **Pn 23 35 16.6 +0.9**
MSSA Maissana 3.18 303 Pn **Pn 23 35 16.2 0.0**
MSSA Maissana 3.18 303 P **Pn 23 35 16.2 0.0**
MSSA AML AML
comp=E,231µm,1.0s
MSSA AML AML
comp=N,244µm,1.2s
SRKY Kupres RS 3.18 63 *e*Pn **Pn 23 35 17.6 +1.3**
BOJS Bojanci 3.18 26 *e*Pn **Pn 23 35 15.8 -0.4**
BOJS Bojanci 3.18 26 P **Pn 23 35 16.3 0.0**
BOJS AML AML
comp=N,1100µm,1.1s
BOJS AML AML
comp=E,1215µm,1.5s
CEY Cerknica 3.19 15 *e*Pn **Pn 23 35 15.8 -0.5**
STON Ston 3.28 85 *e*Pn **Pn 23 35 16.4 -1.2**
STON Ston 3.28 85 *e*Pn **Pn 23 35 16.4 -1.2**
STON Ston 3.28 85 AML AML
comp=N,204µm,0.5s
STON AML AML
comp=E,214µm,1.4s
MGRS Mrkonjic Grad 3.29 57 *e*Pn **Pn 23 35 18.9 +1.1**
CUC Castrocucco 3.30 143 Pn **Pn 23 35 19.3 +1.5**
SABO M.te Sabotino 3.32 4 **Pn 23 35 17.6 -0.6**
SABO M.te Sabotino 3.32 4 P **Pn 23 35 16.9 -1.3**
SABO AML AML
comp=N,954µm,0.7s
SABO AML AML
comp=E,3350µm,0.5s
SABO AML AML
comp=N,3860µm,0.7s
SABO AML AML
comp=E,826µm,0.5s
OZLJ Ozalj 3.35 28 *e*Pn **Pn 23 35 18.9 +0.3**
CGRP Cima Grappa 3.38 343 P **Pn 23 35 19.1 +0.1**
CGRP AML AML
comp=E,812µm,1.1s
CGRP AML AML
comp=N,754µm,0.9s
LTRZ Laterza 3.38 126 P **Pn 23 35 19.4 +0.5**
AJAC Base Areonaval 3.41 259 AML AML
comp=E,472µm,0.3s
AJAC AML AML
comp=N,196µm,1.1s
AJAC Base Areonaval 3.41 259 P **Pn 23 35 20.7 +1.4**
PRIJ Prijedor 3.41 46 *e*Pn **Pg 23 35 29.2 -2.1**
NOCI Noci 3.42 122 P **Pn 23 35 19.8 +0.3**
NOCI AML AML
comp=E,353µm,0.4s
NOCI AML AML
comp=N,296µm,0.8s
VARN Col Varnada, M 3.43 347 P **Pn 23 35 19.4 -0.3**
VARN AML AML
comp=E,912µm,1.1s
VARN AML AML
comp=N,670µm,0.8s
BOB Bobbio (Coli) 3.46 309 P **Pn 23 35 23.1 +2.9**
LJU Ljubljana 3.50 15 AML AML
comp=E,3130µm,0.5s
LJU AML AML
comp=N,3445µm,0.6s
BLY Banja Luka 3.53 53 *e*Pn **Pn 23 35 21.5 +0.5**
BLY Banja Luka 3.53 53 P **Pn 23 35 21.8 +0.7**
A051A Mrakovica 3.54 47 *e*Pn **Pn 23 35 20.6 -0.6**
DOSS Dosso del Somm 3.54 336 P **Pn 23 35 21.5 +0.2**
DOSS AML AML
comp=E,548µm,0.7s
DOSS AML AML
comp=N,442µm,0.6s

DOSS AML AML
comp=N,553µm,0.7s
DOSS AML AML
comp=E,479µm,0.7s
SALO Salr 3.54 327 Pn **Pn** 23 35 21.5 +0.2
SALO Salr 3.54 327 P **Pn** 23 35 21.4 +0.2
SALO AML AML
comp=N,634µm,0.8s
SALO AML AML
comp=E,652µm,0.7s
CTI Castel Tesino 3.57 342 **Pn** 23 35 21.7 0.0
CTI Castel Tesino 3.57 342 P **Pn** 23 35 21.7 0.0
CTI Castel Tesino 3.57 342 P **Pn** 23 35 21.9 +0.3
CTI AML AML
comp=E,515µm,0.7s
CTI AML AML
comp=N,603µm,1.5s
DGI Dorgali Grotta 3.60 231 P **Pn** 23 35 22.2 +0.1
DBRK Dubrovnik 3.61 88 *e*Pn **Pn** 23 35 22.0 -0.2
STAL STALIGIAL 3.61 354 **Pn** 23 35 21.9 -0.3
STAL STALIGIAL 3.61 354 P **Pn** 23 35 21.6 -0.6
STAL AML AML
comp=E,588µm,0.8s
STAL AML AML
comp=N,534µm,0.7s
MAGA Magasa 3.63 330 P **Pn** 23 35 22.7 +0.1
MAGA AML AML
comp=E,1325µm,0.6s
MAGA AML AML
comp=N,808µm,0.3s
LUSI Trento, Gardas 3.69 334 P **Pn** 23 35 23.3 +0.1
LUSI AML AML
comp=N,635µm,1.0s
LUSI AML AML
comp=E,386µm,0.8s
CIMO Cimolais 3.69 351 Pn **Pn** 23 35 22.7 -0.6
CIMO Cimolais 3.69 351 P **Pn** 23 35 22.6 -0.7
CIMO AML AML
comp=N,172µm,0.7s
CIMO AML AML
comp=N,191µm,0.7s
CIMO AML AML
comp=E,164µm,0.6s
CIMO AML AML
comp=E,166µm,0.6s
TAR1 Taranto 3.71 124 AML AML
comp=N,246µm,0.6s
TAR1 AML AML
comp=E,290µm,0.6s
PTCC Patocco-Chiusa 3.74 1 P **Pn** 23 35 22.8 -1.1
PTCC AML AML
comp=E,266µm,0.6s
PTCC AML AML
comp=N,265µm,0.9s
PRED Cave del Predi 3.78 3 **Pn** 23 35 25.2 +0.6
PTJ Puntijarka 3.78 30 *e*Pn **Pn** 23 35 24.9 +0.3
GAGG Gaggia 3.79 335 P **Pn** 23 35 25.3 +0.5
GAGG AML AML
comp=E,537µm,1.0s
GAGG AML AML
comp=N,410µm,0.7s
CLUD Cludinico 3.80 356 **Pn** 23 35 24.2 -0.6
CLUD Cludinico 3.80 356 P **Pn** 23 35 23.5 -1.3
CLUD AML AML
comp=N,406µm,1.1s
CLUD AML AML
comp=E,418µm,0.9s
CLUD AML AML
comp=N,373µm,1.0s
CLUD AML AML
comp=E,416µm,0.9s
ZONE Zone 3.83 325 P **Pn** 23 35 25.2 0.0
ZONE AML AML
comp=E,344µm,1.3s
ZONE AML AML
comp=N,476µm,0.3s
MOSL Moslavina 3.88 39 *e*Pn **Pn** 23 35 25.1 -0.7
HCY Herceg Novi 3.88 91 *e*Pn **Pn** 23 35 25.7 -0.2
HCY Herceg Novi 3.88 91 P **Pn** 23 35 27.9 +2.0
ACOM Acomizza, Ital 3.89 3 P **Pn** 23 35 25.6 -0.5
ACOM AML AML
comp=E,562µm,1.3s
ACOM AML AML
comp=N,498µm,0.8s
ACOM AML AML
comp=E,543µm,1.3s
ACOM AML AML
comp=N,504µm,0.6s
ZOU Zoufplan 3.90 357 P **Pn** 23 35 25.8 -0.5
ZOU AML AML
comp=N,358µm,0.9s
ZOU AML AML
comp=N,349µm,1.1s
ZOU AML AML
comp=E,315µm,1.2s
ZOU AML AML
comp=E,318µm,1.2s
PCP Piancastagn 3.90 300 P **Pn** 23 35 26.2 +0.1
BRY Bratogost 3.90 85 *e*Pn **Pn** 23 35 26.4 +0.1
BRY Bratogost 3.90 85 P **Pn** 23 35 27.3 +1.0
BRY Bratogost 3.90 85 ⇓ *i* Pn **Pn** 23 35 26.1 -0.2
BRY *i* Sn **Sn** 23 36 12.6 +0.4
MABI Malga Bissina 3.91 331 P **Pn** 23 35 27.2 +0.7
QLNO Quiliano 3.93 297 P **Pn** 23 35 26.7 +0.1
QLNO AML AML
comp=E,63µm,1.4s
QLNO AML AML
comp=N,91µm,0.9s
OBKA Obir 3.95 13 *e*Pn **Pn** 23 35 26.8 -0.1
OBKA Obir 3.95 13 *i* Pn **Pn** 23 35 27.1 +0.1
comp=N,10nm,0.2s,SNR=12
OBKA *e*Sn **Sn** 23 36 12.3 -1.1
comp=N,71nm,0.5s
OBKA Obir 3.95 13 *e*Pn **Pn** 23 35 26.8 -0.1
CANO Canova, Maglio 3.96 295 P **Pn** 23 35 26.8 -0.2
CANO AML AML
comp=N,152µm,0.4s
CANO AML AML
comp=E,387µm,1.2s
MYKA Terra Mystica 3.97 4 *e*Pn **Pn** 23 35 27.4 +0.3
comp=E,32nm,0.5s,SNR=13
MYKA *e*Sn **Sn** 23 36 11.4 -2.5
comp=E,32nm,0.5s
KOSI Kohlern 4.03 341 P **Pn** 23 35 28.6 +0.7
KOSI AML AML
comp=N,414µm,1.0s
KOSI AML AML
comp=E,554µm,1.0s
LOBO Lobor 4.03 29 *e*Pn **Pn** 23 35 27.5 -0.4
BOSI Bolzano 4.07 341 AML AML
comp=E,1550µm,1.4s
BOSI AML AML
comp=N,1645µm,1.1s
APPI Appiano 4.08 340 P **Pn** 23 35 29.2 +0.6
APPI AML AML
comp=N,348µm,0.5s
APPI AML AML
comp=E,329µm,0.5s
ABTA Abfaltersbach 4.12 353 *i* Pn **Pn** 23 35 29.6 +0.4
comp=E,107nm,0.6s,SNR=79
ABTA *e*Sn **Sn** 23 36 17.2 -0.2
comp=E,32nm,0.4s
KALN Kalnik 4.16 32 *e*Pn **Pn** 23 35 29.1 -0.6
CEME Cevo 4.19 90 ⇑ *i* Pn **Pn** 23 35 30.7 +0.6
CEME *i* Sn **Sn** 23 36 18.7 -0.5
UPM Unac-Piva 4.19 81 *e*Pn **Pn** 23 35 31.5 +1.3
UPM Unac-Piva 4.19 81 ⇓ *i* Pn **Pn** 23 35 30.9 +0.7
UPM *i* Sn **Sn** 23 36 22.4 +3.0
BUM Brajici-Budva 4.19 93 ⇓ *i* Pn **Pn** 23 35 30.4 +0.2
BUM *i* Sn **Sn** 23 36 19.7 +0.4
SOKA Soboth 4.21 17 *i* Pn **Pn** 23 35 30.3 -0.1
comp=E,5.3nm,0.3s
SOKA *e*Sn **Sn** 23 36 19.5 -0.2
comp=E,28nm,0.6s
NKY Niksic 4.23 86 P **Pn** 23 35 33.1 +2.3
VSL Villasalto 4.31 224 P **Pn** 23 35 31.8 0.0
A252A Venje 4.32 49 *e*Pn **Pn** 23 35 31.7 -0.2
KOGS Kog 4.35 29 AML AML
comp=N,1400µm,0.6s
KOGS AML AML
comp=E,1490µm,0.8s
SAOF Saorge 4.36 290 P **Pn** 23 35 33.8 +1.4
SAOF Saorge 4.36 290 P **Pn** 23 35 33.4 +1.0
RISI Rein 4.36 349 AML AML
comp=N,792µm,0.5s

RISI AML AML
comp=E,526µm,0.5s
TIP Timpagrande 4.38 141 ⇓ P **Pn** 23 35 35.8 +3.0
TIP Timpagrande 4.38 141 Pn **Pn** 23 35 35.4 +2.6
SBF Sospel 4.41 288 *e*Pn **Pn** 23 35 33.3 +0.1
SBF *e*Sn **Sn** 23 36 22.2 -2.5
comp=E,56nm,0.6s
SBF Sospel 4.41 288 P **Pn** 23 35 32.3 -0.9
DRME Dracevica, Mon 4.42 94 *e*Pn **Pn** 23 35 33.7 +0.4
DRME Dracevica, Mon 4.42 94 ⇓ *i* Pn **Pn** 23 35 34.3 +1.0
DRME *i* Sn **Sn** 23 36 24.1 -0.7
MUGIO Muggio 4.44 319 P **Pn** 23 35 33.0 -0.5
MUGIO AML AML
comp=N,108µm,0.5s
MUGIO AML AML
comp=E,100µm,0.4s
PDG Podgorica 4.45 91 ⇓ P **Pn** 23 35 34.7 +1.1
PDG Podgorica 4.45 91 Pn **Pn** 23 35 34.6 +1.1
PDG Podgorica 4.45 91 AML AML
comp=E,220µm,0.4s
PDG AML AML
comp=E,182µm,0.4s
PDG AML AML
comp=N,288µm,0.5s
PDG AML AML
comp=N,364µm,0.5s
TTG Podgorica 4.45 91 ⇓ *i* Pn **Pn** 23 35 33.5 -0.1
TTG *i* Sn **Sn** 23 36 23.2 -2.2
ESCA l'Escarene 4.45 287 P **Pn** 23 35 34.0 +0.4
ROSI Rosskopf 4.46 344 P **Pn** 23 35 34.7 +0.8
ROSI AML AML
comp=E,424µm,0.6s
ROSI AML AML
comp=N,522µm,0.4s
TURF col de Turini 4.47 289 P **Pn** 23 35 34.7 +0.7
ULC Ulcinj 4.50 97 P **Pn** 23 35 35.8 +1.4
ULC Ulcinj 4.50 97 ⇑ *i* Pn **Pn** 23 35 34.7 +0.3
ULC *i* Sn **Sn** 23 36 26.5 -0.4
PLE Pljevlja 4.55 80 P **Pn** 23 35 37.8 +2.6
PLE Pljevlja 4.55 80 ⇑ *i* Pn **Pn** 23 35 37.3 +2.1
PLE *i* Sn **Sn** 23 36 32.0 +3.7
EILF Villa Eilenroc 4.56 283 P **Pn** 23 35 34.9 -0.3
RUDO Rudo 4.58 76 *e*Pn **Pn** 23 35 35.8 +0.3
SPIF crte de Spivo 4.60 290 P **Pn** 23 35 36.8 +1.0
MVIF Mont Vial 4.62 288 P **Pn** 23 35 37.1 +1.0
SCTE Santa Cesarea 4.71 122 Pn **Pn** 23 35 38.0 +0.8
FETA Feichten 4.71 339 *i* Pn **Pn** 23 35 38.8 +1.5
comp=N,10nm,0.4s,SNR=13
FETA *i* Sn **Sn** 23 36 34.2 +2.1
comp=N,28nm,0.5s
TUE Stuetta 4.72 325 P **Pn** 23 35 38.4 +0.9
WTTA Wattenberg 4.74 347 P **Pn** 23 35 39.5 +1.7
WTTA Wattenberg 4.74 347 *e*Pn **Pn** 23 35 39.3 +1.6
comp=N,13nm,0.3s,SNR=19
WTTA *i* Sn **Sn** 23 36 33.7 +0.8
comp=N,56nm,0.4s
WTTA Wattenberg 4.74 347 *e*Pn **Pn** 23 35 39.3 +1.6
WTTA *e*Sn **Sn** 23 36 38.1 +5.2
CALF Calern 4.75 285 P **Pn** 23 35 38.4 +0.5
ISO Isola 4.76 291 P **Pn** 23 35 39.7 +1.7
DAVOX Davos/Dischmat 4.76 331 Pn **Pn** 23 35 39.5 +1.3
comp=N,6.3nm,0.3s,baz=147,slow=12,SNR=45
DAVOX Sn **Sn** 23 36 35.7 +2.1
comp=N,4.3nm,0.3s,baz=111,slow=17,SNR=6.0
DAVOX LR LR 23 38 14.0
comp=N,60nm,18.7s,baz=33,slow=49
comp=N,23nm,0.3s
SQTA Sankt Quirin 4.78 343 **Pn** 23 35 39.9 +1.6
SQTA **Sn** 23 36 35.5 +1.7
SQTA Sankt Quirin 4.78 343 P **Pn** 23 35 39.9 +1.6
SQTA 23 36 35.5
SQTA Sankt Quirin 4.78 343 *e*Pn **Pn** 23 35 39.9 +1.6
comp=N,36nm,0.3s,SNR=24
SQTA *e*Sn **Sn** 23 36 35.5 +1.7
comp=N,44nm,0.4s
WATA Walderalm 4.82 346 **Pn** 23 35 40.5 +1.6
WATA **Sn** 23 36 37.6 +2.8
WATA Walderalm 4.82 346 *e*Pn **Pn** 23 35 40.5 +1.6
comp=N,25nm,0.4s,SNR=23
WATA *e*Sn **Sn** 23 36 37.6 +2.8
comp=N,25nm,0.3s
BLJ Bijeljina 4.85 62 *e*Pn **Pn** 23 35 38.1 -1.0
ARSA Arzberg 4.86 19 *i* Pn **Pn** 23 35 38.8 -0.6
comp=N,5.6nm,0.3s,SNR=12
ARSA *e*Sn **Sn** 23 36 32.6 -3.1
comp=N,20nm,0.7s
ARSA Arzberg 4.86 19 *e*Pn **Pn** 23 35 38.6 -0.7
ARSA **Sn** 23 36 33.3 -2.4
KOVH Kovagototos 4.88 44 P **Pn** 23 35 38.3 -1.2
KOVH S **Sn** 23 36 32.6 -3.5
IVA Berane 4.90 85 ⇑ *i* Pn **Pn** 23 35 41.8 +1.9
IVA *i* Sn **Sn** 23 36 36.0 -0.7
MOTA Moosalm 4.92 343 **Pn** 23 35 41.1 +1.6
MOTA **Sn** 23 36 39.5 +2.1
MOTA Moosalm 4.92 343 P **Pn** 23 35 41.9 +1.6
MOTA 23 36 39.5
MOTA Moosalm 4.92 343 *i* Pn **Pn** 23 35 41.9 +1.6
comp=N,17nm,0.5s,SNR=18
MOTA *e*Sn **Sn** 23 36 39.5 +2.1
comp=N,24nm,0.3s
PVY Plav 4.95 89 ⇑ *i* Pn **Pn** 23 35 42.7 +2.0
PVY *i* Sn **Sn** 23 36 37.6 -0.5
LMR La Mourre 4.99 280 *e*Pn **Pn** 23 35 40.9 -0.1
LMR *e*Sn **Sn** 23 36 36.4 -2.4
comp=N,4.6nm,0.4s
LMR La Mourre 4.99 280 P **Pn** 23 35 39.3 -1.7
FUSIO Fusio 5.01 321 P **Pn** 23 35 41.3 -0.1
SURF Saint Ours 5.01 293 P **Pn** 23 35 43.0 +1.4
BIOA Bad Ischl, Aus 5.03 3 **Pn** 23 35 42.1 +0.4
BIOA **Sn** 23 36 41.6 +1.7
BIOA Bad Ischl, Aus 5.03 3 *i* Pn **Pn** 23 35 42.1 +0.4
comp=N,20nm,0.4s,SNR=19
BIOA *i* Sn **Sn** 23 36 41.6 +1.7
comp=N,50nm,0.5s
MMK Mattmark 5.08 314 P **Pn** 23 35 44.4 +1.9
RJOB Jochberg 5.08 357 *e*Pn **Pn** 23 35 43.5 +1.1
RJOB *e*Sn **Sn** 23 36 42.0 +0.8
CLTB Caltabellotta 5.08 180 Pn **Pn** 23 35 46.8 +4.4
TIR Tirane 5.10 103 ⇓ P **Pn** 23 35 43.6 +1.0
TIR Tirane 5.10 103 Pn **Pn** 23 35 43.5 +0.9
TIR Tirane 5.10 103 P **Pn** 23 35 43.5 +0.9
TRIGF Trigance 5.12 285 P **Pn** 23 35 44.3 +1.4
DIVS Divibare 5.12 71 Pn **Pn** 23 35 43.3 +0.4
DIVS Divibare 5.12 71 *e*Pn **Pn** 23 35 42.9 0.0
MBDF Montbardon 5.13 296 *e*Pn **Pn** 23 35 43.6 +0.5
MBDF *e*Sn **Sn** 23 36 39.9 -2.6
comp=N,42nm,0.8s
MBDF Montbardon 5.13 296 P **Pn** 23 35 44.2 +1.1
RETA Reutte 5.13 341 *i* Pn **Pn** 23 35 45.1 +2.0
comp=N,9.9nm,0.3s,SNR=12
RETA *i* Sn **Sn** 23 36 44.8 +2.4
comp=N,23nm,0.6s
PLONS Plons/SG 5.17 329 P **Pn** 23 35 45.9 +2.2
VLO Vlora 5.17 113 Pn **Pn** 23 35 43.9 +0.3
VLO Vlora 5.17 113 P **Pn** 23 35 43.9 +0.3
FLAF Flassans-sur-I 5.18 280 P **Pn** 23 35 44.3 +0.7
DAVA Damuels 5.20 334 *i* Pn **Pn** 23 35 46.0 +1.9
comp=N,26nm,0.5s,SNR=13
DAVA *i* Sn **Sn** 23 36 47.3 +3.1
comp=N,39nm,0.6s
DAVA Damuels 5.20 334 *e*Pn **Pn** 23 35 46.0 +1.9
DAVA *e*Sn **Sn** 23 36 49.1 +4.8
LSD Lago del Serru 5.21 304 P **Pn** 23 35 44.9 +0.5
LSD pmax pmax
comp=Z,14nm,0.5s
MOA Molln 5.23 8 *i* Pn **Pn** 23 35 44.9 +0.5
comp=Z,12nm,0.5s,SNR=14
MOA *e*Sn **Sn** 23 36 43.3 -1.5
comp=Z,26nm,0.5s
MOA Molln 5.23 8 *e*Pn **Pn** 23 35 44.7 +0.3
MOA *e*Sn **Sn** 23 36 44.3 -0.6
MORH Mrgy, Hungar 5.25 46 ⇓ P **Pn** 23 35 45.7 +1.2
MORH Mrgy, Hungar 5.25 46 P **Pn** 23 35 44.2 -0.4
VAE Valguarnera 5.26 170 Pn **Pn** 23 35 44.5 -0.3
comp=Z,12nm,0.9s,baz=90,slow=24,SNR=2.7
OGDI Digne 5.26 288 P **Pn** 23 35 47.9 +3.0
BNI Bardonecchia 5.32 299 Pn **Pn** 23 35 46.9 +1.2
BNI Bardonecchia 5.32 299 P **Pn** 23 35 46.9 +1.2
FRGS Fruska Gora 5.36 60 ⇓ P **Pn** 23 35 47.1 +1.0
FRGS Fruska Gora 5.36 60 *e*Pn **Pn** 23 35 45.5 -0.6
OGMO Fort Saint-Gob 5.38 300 P **Pn** 23 35 47.6 +1.1
DIX Grande Dixence 5.40 311 P **Pn** 23 35 47.2 +0.2
BLAF les Blancs 5.41 286 P **Pn** 23 35 48.7 +1.8

LPG La Plagne 5.47 303 *e*Pn **Pn** 23 35 47.9 0.0
LPG *e*Sn **Sn** 23 36 46.2 -4.9
comp=Z,34nm,0.6s
LPG La Plagne 5.47 303 P **Pn** 23 35 48.7 +0.8
LPG S **Sn** 23 36 53.8 +2.7
RONA Rosalia, Austr 5.47 22 **Pn** 23 35 47.7 -0.1
RONA **Sn** 23 36 50.2 -0.6
RONA Rosalia, Austr 5.47 22 *i* Pn **Pn** 23 35 47.7 -0.1
comp=Z,3.7nm,0.3s,SNR=6.2
RONA *i* Sn **Sn** 23 36 50.2 -0.6
comp=Z,4.9nm,0.2s
UBR Ueberruh 5.48 337 *e*Pn **Pn** 23 35 49.0 +1.1
UBR *e*Sn **Sn** 23 36 53.9 +2.8
LPL La Plagne 5.49 303 *e*Pn **Pn** 23 35 48.3 +0.2
LPL *e*Sn **Sn** 23 36 48.7 -2.8
comp=Z,44nm,0.8s
LPL La Plagne 5.49 303 P **Pn** 23 35 49.2 +1.1
ARTF Artigues 5.52 282 P **Pn** 23 35 49.4 +1.0
CONA Conrad Observa 5.58 18 *e*Pn **Pn** 23 35 49.1 -0.1
comp=Z,6.5nm,0.3s,SNR=16
CONA *i* Sn **Sn** 23 36 50.2 -3.2
comp=Z,22nm,0.5s
SENIN Lac Senin/Sane 5.63 313 **Pn** 23 35 50.0 -0.1
RSL Roselend 5.64 305 P **Pn** 23 35 51.3 +1.2
BSTF la Bastide-des 5.68 285 P **Pn** 23 35 51.8 +1.2
GDM Grand'Maison 5.74 299 P **Pn** 23 35 54.8 +3.3
ZUR Degenried 5.75 326 P **Pn** 23 35 54.4 +2.9
ZUR pmax pmax
comp=Z,31nm,1.0s
ZUR Degenried 5.75 326 P **Pn** 23 35 52.5 +1.0
KEK Kerkira 5.75 119 **Pn** 23 35 53.0 +1.4
OGSI Sixt 5.76 308 P **Pn** 23 35 53.4 +1.7
ORIF Oris-en-Rattie 5.79 295 *e*P **Pn** 23 35 56.1 +4.0
ORIF *e*Sn **Sn** 23 36 54.5 -4.2
comp=Z,26nm,0.7s
ORIF Oris-en-Rattie 5.79 295 P **Pn** 23 35 55.7 +3.6
ORIF pmax pmax
comp=Z,32nm,0.7s
ORIF Oris-en-Rattie 5.79 295 P **Pn** 23 35 55.4 +3.3
RUSF Rustrel 5.81 285 P **Pn** 23 35 53.9 +1.6
AIGLE Aigle 5.81 311 P **Pn** 23 35 53.7 +1.4
OHR Ohrid 5.85 103 P **Pn** 23 35 57.4 +4.5
OHR pmax pmax
comp=Z,47nm,0.8s
OHR Ohrid 5.85 103 *i* Pn **Pn** 23 35 54.5 +1.6
ARBF Arbois 5.86 281 P **Pn** 23 35 54.1 +1.2
KBN Korca 6.00 107 **Pn** 23 35 56.5 +1.5
KBN Korca 6.00 107 P **Pn** 23 35 56.6 +1.5
SULZ Cheisacher 6.07 325 P **Pn** 23 35 56.7 +0.8
SULZ Cheisacher 6.07 325 S **Sn** 23 37 03.5 -2.0
SAUF chteau de Sau 6.08 285 P **Pn** 23 35 57.5 +1.5
TORNY Torny/Romont 6.08 315 P **Pn** 23 35 56.9 +0.9
SLE Schleitheim 6.10 328 P **Pn** 23 35 56.9 +0.5
SLE pmax pmax
comp=Z,16nm,0.5s
SLE Schleitheim 6.10 328 S **Sn** 23 37 03.2 -3.1
SLE Schleitheim 6.10 328 P **Pn** 23 35 56.7 +0.3
BALST Balsthal 6.11 322 S **Sn** 23 37 06.6 +0.2
BALST Balsthal 6.11 322 P **Pn** 23 35 57.2 +0.8
GUT Gutenstein 6.14 333 P **Pn** 23 35 58.6 +1.7
ZST Bratislava 6.16 25 *e*P **Pn** 23 35 56.2 -0.9
ZST Bratislava 6.16 25 *e*Pn **Pn** 23 35 56.2 -0.9
OGSM Saint Maurice 6.18 301 P **Pn** 23 35 59.1 +1.7
GEC2 GERESS Array S 6.19 3 *e*Pn **Pn** 23 35 57.7 -0.6
GEC2 *e*Sn **Sn** 23 37 07.1 -1.4
GERES GERESS Array B 6.19 3 Pn **Pn** 23 35 56.8 -0.8
comp=Z,1.5nm,0.3s,baz=170,slow=13,SNR=38
GERES Sn **Sn** 23 37 07.8 -0.6
comp=Z,3.9nm,0.3s,baz=167,slow=25,SNR=7.7
comp=Z,2.1nm,0.3s
GERES GERESS Array B 6.19 3 Pn **Pn** 23 35 56.7 -0.9
CKRC Cesky Krumlov 6.20 7 *e*PN **Pn** 23 35 56.9 -0.8
CKRC *e*SN **Sn** 23 37 04.8 -3.9
BOVS Bovan 6.26 78 ⇑ P **Pn** 23 35 58.7 +0.2
GIMEL St. Georges / 6.31 310 P **Pn** 23 36 00.4 +1.1
BOURR Bourrignon 6.37 320 P **Pn** 23 36 01.1 +1.1
MODS Modra-Piesok 6.37 25 *e*P **Pn** 23 35 59.6 -0.4
MODS *e* 23 37 13.9
MODS Modra-Piesok 6.37 25 *e*PN **Pn** 23 35 59.6 -0.4
MODS *e*SN **Sn** 23 37 13.9 +1.0
FELD Feldberg im Sc 6.39 326 P **Pn** 23 36 00.3 -0.1
BRANT Les Verrieres 6.44 314 P **Pn** 23 36 01.9 +0.8
CABF La Chapelle 6.45 310 *e*Pn **Pn** 23 36 01.5 +0.2
CABF *e*Sn **Sn** 23 37 11.6 -3.4
comp=Z,38nm,0.9s
CABF La Chapelle 6.45 310 P **Pn** 23 36 01.4 +0.2
CABF S **Sn** 23 37 15.6 +0.6
OG35 Corcelles 6.46 304 P **Pn** 23 36 02.1 +0.9
KHC Kasperske Hory 6.47 2 *e*P **Pn** 23 36 01.0 -0.4
KHC *e* 23 37 10.4
KHC Kasperske Hory 6.47 2 *e*PN **Pn** 23 36 01.0 -0.4
KHC *e*SN **Sn** 23 37 10.4 -5.0
WET Wettzell 6.48 358 P **Pn** 23 36 03.3 +1.7
WET pmax pmax
comp=Z,11nm,0.8s
WET Wettzell 6.48 358 *e*Sn **Sn** 23 37 12.9 -2.8
MDVR Moldovita 6.49 68 ⇓ P **Pn** 23 36 02.9 +1.2
CHMF Charmoille 6.55 317 P **Pn** 23 36 02.8 +0.3
VIVF Saint-Julien-l 6.58 292 *e*Pn **Pn** 23 36 02.8 -0.2
VIVF Saint-Julien-l 6.58 292 P **Pn** 23 36 04.9 +1.9
RIVEL MONT RIVEL 6.63 311 P **Pn** 23 36 04.0 +0.4
BFO Black Forest 6.63 330 **Pn** 23 36 04.4 +0.7
BFO Black Forest 6.63 330 P **Pn** 23 36 04.4 +0.7
BFO Black Forest 6.63 330 *e*Pn **Pn** 23 36 04.3 +0.7
VOGT Vogtsburg - To 6.69 326 P **Pn** 23 36 04.3 -0.1
BZS Buzias 6.70 61 ⇓ P **Pn** 23 36 06.3 +1.7
BZS Buzias 6.70 61 P **Pn** 23 36 06.3 +1.7
BZS pmax pmax
comp=Z,12nm,0.8s
MOF Molkenrain 6.74 322 P **Pn** 23 36 05.7 +0.5
BOUC Bouclans 6.75 315 P **Pn** 23 36 06.0 +0.8
KRUC Moravsky 6.76 18 *e*PN **Pn** 23 36 04.5 -0.9
KRUC *e*SN **Sn** 23 37 18.3 -4.2
KRUC Moravsky 6.76 18 P **Pn** 23 36 04.8 -0.6
KRUC pmax pmax
comp=Z,5.0nm,0.6s
SSB Saint Sauveur 6.80 296 Pn **Pn** 23 36 06.0 0.0
SSB Saint Sauveur 6.80 296 P **Pn** 23 36 06.0 0.0
SSB Saint Sauveur 6.80 296 P **Pn** 23 36 07.0 +1.0
TREC Trest 6.81 12 *e*P **Pn** 23 36 05.8 -0.3
TREC *e* 23 37 18.9
TREC Trest 6.81 12 *e*PN **Pn** 23 36 05.8 -0.3
TREC *e*SN **Sn** 23 37 18.9 -4.8
HINF Hinteralfeld 6.85 321 *e*Pn **Pn** 23 36 06.4 -0.2
HINF *e*Sn **Sn** 23 37 20.6 -4.0
comp=Z,35nm,0.5s
HINF Hinteralfeld 6.85 321 P **Pn** 23 36 06.7 +0.1
RONF Ronchamp 6.87 320 P **Pn** 23 36 07.0 +0.1
RONF S **Sn** 23 37 23.6 -1.5
JAVC Velka Javorina 6.92 25 *e*PN **Pn** 23 36 06.9 -0.7
BLKB Belogradchik 6.96 79 ⇑ P **Pn** 23 36 09.3 +1.1
LASF Ste Croix 6.99 285 *e*Pn **Pn** 23 36 08.4 -0.1
LASF *e*Sn **Sn** 23 37 19.6 -8.5
comp=Z,3.7nm,0.7s
HERR Herculane 7.00 68 ⇑ P **Pn** 23 36 09.8 +1.2
ECH Echery 7.01 324 P **Pn** 23 36 08.7 -0.1
SIRR Siria 7.01 56 ⇓ P **Pn** 23 36 09.9 +1.1
VYHS Vyhne 7.02 32 *e*P **Pn** 23 36 10.0 +1.0
VYHS *e* 23 37 31.0
VYHS Vyhne 7.02 32 *e*PN **Pn** 23 36 10.0 +1.0
VYHS *e*SN **Sn** 23 37 31.0 +2.1
PSZ Piszkesteto 7.04 39 ⇑ P **Pn** 23 36 09.6 +0.3
PSZ Piszkesteto 7.04 39 Pn **Pn** 23 36 09.9 +0.7
PSZ Piszkesteto 7.04 39 P **Pn** 23 36 09.9 +0.7
VRAC Vranov 7.04 18 ⇑ P **Pn** 23 36 08.7 -0.5
VRAC Vranov 7.04 18 Pn **Pn** 23 36 08.4 -0.8
comp=Z,0.9nm,0.3s,baz=227,slow=12,SNR=4.8
VRAC LR LR 23 39 05.9
comp=Z,52nm,21.4s,baz=204,slow=40
comp=Z,2.6nm,0.3s
VRAC Vranov 7.04 18 *e*PN **Pn** 23 36 08.8 -0.5
WLS Welschbruch 7.08 326 P **Pn** 23 36 09.8 0.0
CDF Champ du Feu 7.11 326 *e*Pn **Pn** 23 36 10.0 -0.3
CDF *e*Sn **Sn** 23 37 27.0 -4.2
comp=Z,22nm,0.4s
CDF Champ du Feu 7.11 326 P **Pn** 23 36 10.7 +0.4
ROTZ Rotzenmuhle 7.14 355 *e*Pn **Pn** 23 36 10.1 -0.5
ROTZ *e*Sn **Sn** 23 37 28.5 -3.3
GRFO Grafenberg 7.17 349 **Pn** 23 36 11.1 +0.2
GRFO Grafenberg 7.17 349 P **Pn** 23 36 11.1 +0.2
GRA1 Grafenberg Arr 7.17 349 **Pn** 23 36 11.3 +0.3
GRF Grafenberg Arr 7.17 349 P **Pn** 23 36 11.3 +0.3

GRF	**Grafenberg Arr**	**7.17**	**349**	*e*Pn		**Pn**	**23 36 11.0**	**+0.1**
HAU	**Haudompre**	**7.22**	**320**	*e*Pn		**Pn**	**23 36 11.6**	**-0.1**
HAU				*e*Sn		**Sn**	**23 37 29.8**	**-4.0**
	comp=Z,39nm,0.4s							
HAU	**Haudompre**	**7.22**	**320**	P		**Pn**	**23 36 11.4**	**-0.3**
MAHO	**Mahon**	**7.31**	**251**	Pn		**Pn**	**23 36 13.2**	**+0.3**
KKB	**Krupnik**	**7.34**	**93**	*i* P		**Pn**	**23 36 14.7**	**+1.3**
KNT	**Kendrikon**	**7.35**	**99**	P		**Pn**	**23 36 16.1**	**+2.6**
KNT				pmax	pmax			
	comp=Z,11nm,0.9s							
MANZ	**Manzenberg**	**7.37**	**354**	*e*Pn		**Pn**	**23 36 13.6**	**-0.1**
MANZ				*e*Sn		**Sn**	**23 37 33.4**	**-4.0**
VTS	**Vitosha**	**7.37**	**87**	⇑P		**Pn**	**23 36 14.9**	**+1.0**
VTS	**Vitosha**	**7.37**	**87**	*i* P		**Pn**	**23 36 14.8**	**+1.0**
PRU	**Pruhonice**	**7.38**	**7**	*e*P		**Pn**	**23 36 14.9**	**+1.1**
PRU				*e*			23 37 32.0	
PRU	**Pruhonice**	**7.38**	**7**	*e*PN		**Pn**	**23 36 14.9**	**+1.1**
PRU				*e*SN		**Sn**	**23 37 32.0**	**-5.6**
GZR	**Gura Zlata**	**7.39**	**65**	⇑P		**Pn**	**23 36 15.1**	**+1.0**
LIT	**Litokhoron**	**7.41**	**107**	Pn		**Pn**	**23 36 14.7**	**+0.4**
LIT	**Litokhoron**	**7.41**	**107**	P		**Pn**	**23 36 14.7**	**+0.4**
KEST	**Kesra**	**7.56**	**205**	Pn		**Pn**	**23 36 20.8**	**+4.4**
	comp=Z,2.3nm,0.3s,baz=313,slow=3.8,SNR=28							
NKC	**Novy Kostel**	**7.59**	**356**	*e*P		**Pn**	**23 36 19.0**	**+2.2**
NKC				*e*			23 37 36.6	
NKC	**Novy Kostel**	**7.59**	**356**	*e*PN		**Pn**	**23 36 19.0**	**+2.2**
NKC				*e*SN		**Sn**	**23 37 36.6**	**-6.3**
MORC	**Moravsky Berou**	**7.71**	**21**	⇑P		**Pn**	**23 36 18.3**	**-0.1**
MORC	**Moravsky Berou**	**7.71**	**21**	Pn		**Pn**	**23 36 18.1**	**-0.3**
MORC	**Moravsky Berou**	**7.71**	**21**	*e*PN		**Pn**	**23 36 18.9**	**+0.5**
MORC	**Moravsky Berou**	**7.71**	**21**	P		**Pn**	**23 36 18.1**	**-0.3**
MPEP	**Malo Peshtene**	**7.72**	**81**	*i* P		Pn	23 36 23.5	+4.9
SMF	**Signal de Mont**	**7.80**	**304**	*e*Pn		**Pn**	**23 36 19.3**	**-0.3**
SMF				*e*Sn		**Sn**	**23 37 43.2**	**-4.8**
	comp=Z,20nm,0.8s							
SMF	**Signal de Mont**	**7.80**	**304**	P		**Pn**	**23 36 18.7**	**-0.9**
SMF				S		**Sn**	**23 37 46.9**	**-1.1**
KRLC	**Kraliky**	**7.80**	**17**	*e*P		**Pn**	**23 36 19.2**	**-0.5**
KRLC				*e*			23 37 41.4	
KRLC	**Kraliky**	**7.80**	**17**	*e*PN		**Pn**	**23 36 19.2**	**-0.5**
KRLC				*e*SN		**Sn**	**23 37 41.4**	**-6.7**
MMB	**Musomiste**	**7.87**	**94**	*i* P		**Pn**	**23 36 21.9**	**+1.3**
SRS	**Serrai**	**7.87**	**98**	P		**Pn**	**23 36 22.3**	**+1.6**
SRS				pmax	pmax			
	comp=Z,14nm,0.8s							
FILF	**Fillols**	**7.88**	**273**	P		**Pn**	**23 36 22.6**	**+1.7**
DRGR		**7.90**	**55**	⇑P		**Pn**	**23 36 22.6**	**+1.6**
PAGF	**Fort de Pagny**	**7.90**	**321**	*e*Pn		**Pn**	**23 36 21.7**	**+0.7**
	baz=141							
PAGF				*e*Sn		**Sn**	**23 37 46.0**	**-4.5**
	comp=Z,21nm,0.7s							
DPC	**Dobruska-Polom**	**7.97**	**14**	*e*P		**Pn**	**23 36 20.9**	**-1.1**
DPC	**Dobruska-Polom**	**7.97**	**14**	*e*PN		**Pn**	**23 36 20.9**	**-1.1**
DPC				*e*SN		**Sn**	**23 37 44.8**	**-7.5**
PYM	**Petit Puy Mans**	**7.98**	**296**	P		**Pn**	**23 36 22.0**	**-0.1**
SFTF	**Sexfontaines**	**8.00**	**317**	*e*Pn		**Pn**	**23 36 22.6**	**+0.2**
	baz=137							
SFTF				*e*Sn		**Sn**	**23 37 48.4**	**-4.5**
	comp=Z,2.9nm,0.3s							
PGB	**Panagyurishte**	**8.06**	**87**	*i* P		**Pn**	**23 36 24.9**	**+1.7**
MOX	**Moxa**	**8.06**	**353**	P		**Pn**	**23 36 26.0**	**+2.8**
MOX				pmax	pmax			
	comp=Z,9.0nm,1.2s							
MOX	**Moxa**	**8.06**	**353**	*e*Pn		**Pn**	**23 36 22.7**	**-0.5**
LOT	**Lotru**	**8.07**	**66**	⇓P		**Pn**	**23 36 25.5**	**+2.1**
LOR	**Lormes**	**8.09**	**308**	*e*Pn		**Pn**	**23 36 23.9**	**+0.3**
	baz=128							
LOR				*e*Sn		**Sn**	**23 37 50.7**	**-4.5**
	comp=Z,11nm,0.5s							
LOR	**Lormes**	**8.09**	**308**	P		**Pn**	**23 36 24.0**	**+0.3**
LOR	**Lormes**	**8.09**	**308**	P		**Pn**	**23 36 24.4**	**+0.7**
MTLF	**Montolieu**	**8.11**	**279**	*e*Pn		**Pn**	**23 36 23.5**	**-0.5**
MTLF	**Montolieu**	**8.11**	**279**	*e*P		Pn	23 36 28.8	+4.8
MTLF				*e*Sn		**Sn**	**23 37 50.5**	**-5.3**
	comp=Z,9.1nm,0.8s							
MTLF	**Montolieu**	**8.11**	**279**	P		**Pn**	**23 36 25.9**	**+2.0**
OSTC	**Ostas**	**8.15**	**13**	*e*PN		**Pn**	**23 36 23.6**	**-0.9**
OSTC				*e*SN		**Sn**	**23 37 51.5**	**-5.2**
CHVC	**Chvalec**	**8.16**	**13**	*e*PN		**Pn**	**23 36 23.5**	**-1.0**
CHVC				*e*SN		**Sn**	**23 37 50.9**	**-5.9**
AVF	**Avril sur Loir**	**8.16**	**304**	*e*Pn		**Pn**	**23 36 24.7**	**+0.1**
AVF				*e*Sn		**Sn**	**23 37 51.6**	**-5.3**
	comp=Z,14nm,0.9s							
AVF	**Avril sur Loir**	**8.16**	**304**	P		**Pn**	**23 36 25.2**	**+0.6**
MEZF	**Maizieres J'vi**	**8.19**	**318**	*e*Pn		**Pn**	**23 36 24.7**	**-0.2**
MEZF				*e*Sn		**Sn**	**23 37 52.9**	**-4.6**
	comp=Z,6.4nm,0.4s							
SSF	**Saint Saulge**	**8.20**	**306**	*e*Pn		**Pn**	**23 36 25.3**	**+0.2**
SSF				*e*Sn		**Sn**	**23 37 52.6**	**-5.1**
	comp=Z,7.2nm,0.6s							
SSF	**Saint Saulge**	**8.20**	**306**	P		**Pn**	**23 36 25.5**	**+0.4**
ABH	**Alteburg**	**8.22**	**333**	P		**Pn**	**23 36 27.0**	**+1.5**
BRG	**Berggiesshubel**	**8.22**	**3**	*e*P		**Pn**	**23 36 26.3**	**+0.9**
BRG				Amp			23 36 28.9	
	comp=Z,1.7nm,0.5s							
BRG				*ex*	x		23 37 55.8	
BRG				*ex*	x		23 39 04.2	
BRG				Amp			23 39 18.8	
	comp=Z,18nm,1.0s							
BRG	**Berggiesshubel**	**8.22**	**3**	*e*P		**Pn**	**23 36 26.3**	**+0.9**
BRG				*e*			23 37 55.7	
BRG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BRG				pmax	pmax			
	comp=Z,18nm,1.0s							
SAVF	**Savonnieres en**	**8.23**	**319**	*e*Pn		**Pn**	**23 36 27.2**	**+1.7**
	baz=126							
SAVF				*e*Sn		**Sn**	**23 37 53.9**	**-4.7**
	comp=Z,8.0nm,0.4s							
TNS	**Taunus Mts**	**8.25**	**338**	P		**Pn**	**23 36 27.5**	**+1.6**
TNS				pmax	pmax			
	comp=Z,11nm,0.7s							
TNS	**Taunus Mts**	**8.25**	**338**	*e*Pn		**Pn**	**23 36 26.5**	**+0.7**
BGF	**Bois d'Agland**	**8.38**	**301**	*e*Pn		**Pn**	**23 36 27.9**	**+0.4**
BGF				*e*Sn		**Sn**	**23 37 56.7**	**-5.5**
	comp=Z,15nm,0.8s							
BGF	**Bois d'Agland**	**8.38**	**301**	P		**Pn**	**23 36 28.0**	**+0.4**
CAF	**Calviac**	**8.40**	**289**	*e*Pn		**Pn**	**23 36 28.2**	**+0.3**
CAF	**Calviac**	**8.40**	**289**	P		**Pn**	**23 36 29.2**	**+1.3**
KSP	**Ksiaz**	**8.44**	**13**	P		**Pn**	**23 36 28.7**	**+0.3**
KSP				pmax	pmax			
	comp=Z,4.0nm,1.4s							
PLD	**Plovdiv**	**8.50**	**90**	*i* P		**Pn**	**23 36 30.6**	**+1.4**
TRPA	**Tarpa**	**8.52**	**47**	⇓P		**Pn**	**23 36 30.4**	**+1.0**
TRPA	**Tarpa**	**8.52**	**47**	P		**Pn**	**23 36 30.7**	**+1.3**
WLF	**Walferdange**	**8.55**	**327**	Pn		**Pn**	**23 36 30.9**	**+0.9**
WLF	**Walferdange**	**8.55**	**327**	P		**Pn**	**23 36 30.9**	**+0.9**
WLF	**Walferdange**	**8.55**	**327**	*d*P		**Pn**	**23 36 32.6**	**+2.7**
WLF				*d*S		**Sn**	**23 38 06.2**	**-0.4**
WLF	**Walferdange**	**8.55**	**327**	*e*Pn		**Pn**	**23 36 32.0**	**+2.1**
WLF	**Walferdange**	**8.55**	**327**	P		**Pn**	**23 36 32.1**	**+2.1**
ITM	**Ithomi**	**8.63**	**127**	Pn		**Pn**	**23 36 33.4**	**+2.3**
PAND	**Andorre**	**8.63**	**273**	P		**Pn**	**23 36 32.1**	**+0.8**
ARR	**Arges**	**8.64**	**68**	⇑P		**Pn**	**23 36 33.2**	**+2.0**
CLL	**Collm**	**8.65**	**359**			**Pn**	**23 36 30.5**	**-0.7**
CLL	**Collm**	**8.65**	**359**	*e*P		**Pn**	**23 36 31.0**	**-0.2**
CLL	**Collm**	**8.65**	**359**	*e*Pn		**Pn**	**23 36 31.0**	**-0.2**
CLL				*ex*	x		23 36 45.0	
CLL				*e*Sn		Sn	23 37 55.0	-14
CLL				*ex*	x		23 38 07.0	
CLL				*ex*	x		23 38 29.0	
CLL				*e*Sg		**Sg**	**23 38 58.0**	**-5.3**
	comp=Z,25nm,1.0s							
TCF	**Toulx Ste Croi**	**8.68**	**298**	*e*Pn		**Pn**	**23 36 33.4**	**+1.7**
TCF				*e*Sn		**Sn**	**23 38 04.3**	**-5.5**
TCF	**Toulx Ste Croi**	**8.68**	**298**	P		**Pn**	**23 36 33.5**	**+1.7**
OJC	**Ojcow**	**8.80**	**29**	Pn		**Pn**	**23 36 35.5**	**+2.1**
OJC	**Ojcow**	**8.80**	**29**	P		**Pn**	**23 36 35.5**	**+2.1**
HYF	**Humbligny**	**8.81**	**305**	*e*P		Pn	23 36 41.2	+7.6
RJF	**Les Rejaudoux**	**8.86**	**291**	*e*Pn		**Pn**	**23 36 34.6**	**+0.4**
RJF	**Les Rejaudoux**	**8.86**	**291**	P		**Pn**	**23 36 37.0**	**+2.8**
MONQ	**Montcuq**	**8.92**	**285**	P		**Pn**	**23 36 36.3**	**+1.3**
VOIR		**8.94**	**68**	⇓P		**Pn**	**23 36 36.6**	**+1.2**
VOIR		**8.94**	**68**	P		Pn	23 36 40.2	+4.9
VOIR				pmax	pmax			
	comp=Z,11nm,0.8s							
MLS	**Moulis**	**8.94**	**276**	P		**Pn**	**23 36 37.1**	**+1.8**
RDO	**Rodhopi**	**9.29**	**95**	Pn		**Pn**	**23 36 41.2**	**+1.1**
RCHB	**Rochefort**	**9.31**	**326**	P		**Pn**	**23 36 42.0**	**+1.7**
LFF	**La Frestale**	**9.33**	**288**	*e*Pn		**Pn**	**23 36 40.5**	**-0.1**
MEM	**Membach**	**9.37**	**330**	*d*P		**Pn**	**23 36 41.0**	**-0.2**
CLF	**Chambon-Foret**	**9.41**	**308**	Pn		**Pn**	**23 36 38.6**	**-3.1**

GIVF	**Givet**	**9.44**	**325**	*e*Pn		**Pn**	**23 36 42.8**	**+0.7**
GIVF				*e*Sn		**Sn**	**23 38 23.7**	**-4.6**
	comp=Z,2.9nm,0.3s							
EPF	**Esparros**	**9.49**	**277**	*e*P		Pn	23 36 48.6	+5.7
EPF				*e*Sn		**Sn**	**23 38 24.1**	**-5.6**
	comp=Z,0.3nm,0.2s							
MLR	**Muntele Rosu**	**9.56**	**69**	⇑P		**Pn**	**23 36 45.7**	**+1.7**
MLR	**Muntele Rosu**	**9.56**	**69**	Pn		**Pn**	**23 36 44.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=212,slow=9.5,SNR=3.6							
	comp=Z,3.4nm,0.7s							
MLR	**Muntele Rosu**	**9.56**	**69**			**Pn**	**23 36 47.7**	**+3.7**
MLR	**Muntele Rosu**	**9.56**	**69**	P		**Pn**	**23 36 47.7**	**+3.7**
BMRD	**Maredsous**	**9.62**	**326**	*d*P		**Pn**	**23 36 44.6**	**+0.1**
BMRD				*d*S		**Sn**	**23 38 30.4**	**-2.1**
BAIF	**Baives**	**9.68**	**323**	*e*Pn		**Pn**	**23 36 45.6**	**+0.3**
BAIF				*e*Sn		**Sn**	**23 38 29.6**	**-4.4**
	comp=Z,4.0nm,0.6s							
ALN	**Alexandroupoli**	**9.72**	**96**	Pn		**Pn**	**23 36 47.3**	**+1.3**
ALN	**Alexandroupoli**	**9.72**	**96**	P		**Pn**	**23 36 47.3**	**+1.3**
BURAR	**Bucovina Array**	**9.79**	**56**	Pn		**Pn**	**23 36 49.0**	**+2.0**
BUR08	**Bucovina Ar. S**	**9.80**	**55**	Pn		**Pn**	**23 36 47.9**	**+0.7**
ETSF	**Etsaut**	**10.16**	**276**	*e*P		**Pn**	**23 36 54.9**	**+2.9**
ETSF				*e*Sn		**Sn**	**23 38 39.1**	**-6.9**
	comp=Z,1.8nm,0.6s							
MFF	**Saint Martin d**	**10.32**	**297**	*e*P		**Pn**	**23 36 57.8**	**+3.6**
SJPF	**Ste Jean**	**10.63**	**277**	*e*Pn		**Pn**	**23 36 59.3**	**+0.8**
SJPF				*e*Sn		**Sn**	**23 38 50.9**	**-6.7**
	comp=Z,11nm,0.8s							
FLN	**La Foliniere**	**11.36**	**307**	*e*P		**Pn**	**23 37 12.1**	**+3.7**
	baz=127							
GRR	**Gorron**	**11.42**	**305**	*e*P		Pn	23 37 14.3	+5.1
IDI	**Anoyia**	**11.67**	**125**	Pn		**Pn**	**23 37 13.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=278,slow=15,SNR=2.1							
IDI				Sn		Sn	23 39 13.9	-9.2
	comp=Z,0.3nm,0.3s,baz=318,slow=14,SNR=1.4							
	comp=Z,1.3nm,0.3s							
KLNR	**Kaliningrad**	**12.79**	**19**	*i* P		**Pn**	**23 37 29.1**	**+1.2**
KLNR				pmax	pmax			
	comp=Z,38nm,1.1s							
ROSF	**Rostrenen**	**12.89**	**302**	*e*Pn		**Pn**	**23 37 26.9**	**-2.4**
ESBB	**Sonseca Array**	**13.31**	**263**	Pn		**Pn**	**23 37 34.4**	**-0.7**
ESDC	**Sonseca Array**	**13.31**	**263**	Pn		**Pn**	**23 37 34.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=66,slow=13,SNR=14							
	comp=Z,1.1nm,0.7s							
ESDC	**Sonseca Array**	**13.31**	**263**	Pn		**Pn**	**23 37 35.1**	**0.0**
AKASG	**Malin Array Be**	**13.58**	**48**	Pn		**Pn**	**23 37 39.5**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=240,slow=11,SNR=1.1							
PAB	**San Pablo**	**13.63**	**263**	Pn		**Pn**	**23 37 38.7**	**-0.8**
PAB	**San Pablo**	**13.63**	**263**	P		**Pn**	**23 37 38.7**	**-0.8**
MNK	**Minsk**	**15.26**	**34**	*i* P		**Pn**	**23 37 58.0**	**-3.4**
MNK				*i* S		**Sn**	**23 40 49.5**	**-0.9**
MNK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MNK				pmax	pmax			
	comp=E,1.0nm,0.9s							
MNK				MLR	MLR			
	comp=E,3.0nm,12.0s							
MNK				MLR	MLR			
	comp=Z,45nm,19.0s							
MNK	**Minsk**	**15.26**	**34**	*i* P		**Pn**	**23 37 58.0**	**-3.4**
	comp=E,1.0nm,0.8s							
MNK				*i* P		**Pn**	**23 37 58.0**	**-3.4**
MNK				*i* P		**Pn**	**23 37 58.0**	**-3.4**
	comp=Z,3.0nm,0.7s,baz=226							
MNK				*i* PP		**P**	**23 38 06.2**	**-0.2**
MNK				*i* PPP		PPP	23 38 13.9	
MNK				*i* S		**Sn**	**23 40 49.5**	**-0.9**
MNK				*i* SS		**SnSn**	**23 41 03.5**	**+0.5**
MNK				*i* SSS		SSS	23 41 16.2	
MNK				*i* LQ		LQ	23 42 29.6	
MNK				*i* LR		LR	23 43 34.9	
MNK				*i* LRM		MLR	23 44 32.1	
	comp=E,3.0nm,12.3s							
MNK				*i* LRM		MLR	23 44 34.7	
	comp=Z,45nm,18.6s							
MNK				*i* LRM		MLR	23 44 38.0	
BRTR	**Keskin Array B**	**15.63**	**94**	Pn		**Pn**	**23 38 08.4**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=7.8,slow=12,SNR=2.2							
BRTR				LR		LR	23 45 00.4	
	comp=Z,52nm,21.1s,baz=320,slow=41							
	comp=Z,0.3nm,0.3s							
EKA	**Eskdalemuir Ar**	**16.57**	**326**	Pn		**Pn**	**23 38 17.6**	**-0.8**
	baz=136,slow=13							
	comp=Z,0.8nm,0.5s							
ESK	**Eskdalemuir**	**16.58**	**325**	Pn		**Pn**	**23 38 17.1**	**-1.4**
ESK				IAmb	IAmb		23 38 31.8	
	comp=Z,24nm,1.4s							
ESK	**Eskdalemuir**	**16.58**	**325**	P		**Pn**	**23 38 17.1**	**-1.4**
ESK				pmax	pmax			
	comp=Z,24nm,1.4s							
KONO	**Kongsberg**	**17.16**	**354**	*i* P		**P**	**23 38 26.6**	**-0.8**
KONO				pmax	pmax			
	comp=Z,4.0nm,1.1s							
HFS	**Hagfors**	**17.50**	**1**	P		**Pn**	**23 38 29.7**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=177,slow=12,SNR=2.7							
HFS				LR		LR	23 46 10.0	
	comp=Z,33nm,20.1s,baz=178,slow=40							
ANN	**Anapa**	**17.59**	**75**	*i* P		**P**	**23 38 33.0**	**+0.7**
ANN				pmax	pmax			
	comp=Z,84nm,1.0s							
NC602	**NORSAR Array S**	**18.13**	**357**	P		**P**	**23 38 39.5**	**+1.4**
NC602				IAmb	IAmb		23 38 39.9	
	comp=Z,10nm,0.9s							
NAO01	**NORSAR Array S**	**18.26**	**356**			**Pn**	**23 38 39.5**	**+0.1**
NB2	**NORSAR Subarra**	**18.44**	**357**	P		**Pn**	**23 38 42.8**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=175,slow=11							
NOA	**NORSAR Array B**	**18.44**	**357**	P		**Pn**	**23 38 42.1**	**+0.4**
	baz=176,slow=11,SNR=10							
NOA				LR	LR		23 46 41.8	
	comp=Z,29nm,18.6s,baz=190,slow=40							
	comp=Z,1.4nm,0.7s							
NB201	**NORSAR Array S**	**18.45**	**357**	P		**Pn**	**23 38 42.9**	**+1.2**
NB201				IAmb	IAmb		23 38 59.3	
	comp=Z,26nm,1.4s							
NBO00	**NORSAR Array S**	**18.45**	**356**	P		**Pn**	**23 38 42.6**	**+0.8**
NBO00				IAmb	IAmb		23 39 25.4	
	comp=Z,16nm,1.1s							
NC405	**NORSAR Array S**	**18.50**	**358**	P		**Pn**	**23 38 43.5**	**+1.1**
NC405				IAmb	IAmb		23 38 51.6	
	comp=Z,9.8nm,0.8s							
NC303	**NORSAR Array S**	**18.62**	**357**	P		**Pn**	**23 38 44.7**	**+0.8**
NC204	**NORSAR Array S**	**18.70**	**356**	P		**P**	**23 38 44.4**	**-0.1**
NC204				IAmb	IAmb		23 38 48.5	
	comp=Z,19nm,1.1s							
VSR	**Storozhevoye**	**19.57**	**55**	*e*P		**P**	**23 38 53.5**	**-0.5**
VSR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
OBN	**Obninsk**	**19.64**	**43**	*e*P		**Pn**	**23 38 56.2**	**+0.1**
OBN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
VORR	**Voronezh**	**19.73**	**54**	*e*P		**P**	**23 38 52.4**	**-3.3**
VORR				pmax	pmax			
	comp=Z,10.0nm,0.4s							
MMAI	**Mount Meron Ar**	**19.93**	**112**	P		**P**	**23 38 58.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=329,slow=13,SNR=4.5							
	comp=Z,4.9nm,1.1s							
FINES	**FINESS Array B**	**20.32**	**18**	P		**P**	**23 39 01.1**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=196,slow=9.8,SNR=10							
	comp=Z,1.9nm,0.7s							
FINES	**FINESS Array B**	**20.32**	**18**	P		**P**	**23 39 02.5**	**+0.4**
FINES	**FINESS Array B**	**20.32**	**18**	P		**P**	**23 39 02.5**	**+0.4**
FIA1	**FINESS Array S**	**20.32**	**18**	P		**P**	**23 39 02.5**	**+0.4**
MOS	**Moscow**	**20.47**	**42**	*e*P		**P**	**23 39 03.8**	**0.0**
KOPT	**Kop Dagi**	**20.60**	**88**	P		**P**	**23 39 05.5**	**-0.2**
KOPT				IAmb	IAmb		23 39 18.5	
	comp=Z,11nm,1.0s							
TAM	**Tamanrasset**	**20.84**	**200**	P		**P**	**23 39 07.7**	**-0.5**
TAM	**Tamanrasset**	**20.84**	**200**	P		**P**	**23 39 07.7**	**-0.5**
TAM				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VRH	**Novokhopyorsk**	**21.13**	**56**	*e*P		**P**	**23 39 14.7**	**+3.8**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KIV	**Kislovodsk**	**21.41**	**76**	P		**P**	**23 39 14.9**	**+0.8**
KIV				IAmb	IAmb		23 39 18.5	
	comp=Z,8.9nm,1.0s							
KIV	**Kislovodsk**	**21.41**	**76**	*e*P		**P**	**23 39 16.6**	**+2.4**
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
ASF	**Jabal al Asfar**	**21.44**	**111**	P		**P**	**23 39 16.2**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=324,slow=11,SNR=6.6							
	comp=Z,0.6nm,0.4s							
KBZ	**Khabaz**	**21.59**	**77**	P		**P**	**23 39 17.9**	**+1.9**
	comp=Z,6.1nm,0.9s,baz=322,slow=6.5,SNR=11							
	comp=Z,6.1nm,0.9s							
KBZ	**Khabaz**	**21.59**	**77**	*ce*P		**P**	**23 39 16.9**	**+0.9**
KBZ				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MARD	**Mardin**	**21.71**	**95**	P		**P**	**23 39 17.4**	**-0.1**
ONI	**Oni**	**22.17**	**80**	P		**P**	**23 39 22.0**	**-0.3**
ONI	**Oni**	**22.17**	**80**	P		**P**	**23 39 22.0**	**-0.3**
ONI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GURO	**Guroymak-BITLI**	**22.18**	**91**	P		**P**	**23 39 24.3**	**+1.7**
GURO				IAmb	IAmb		23 39 35.4	
	comp=Z,6.4nm,1.1s							
ZEI	**Tsey**	**22.46**	**79**	*e*P		**P**	**23 39 29.7**	**+4.1**
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MAK	**Makhachkala**	**25.03**	**78**	*e*P		**P**	**23 39 47.7**	**-2.6**
MAK				*e*S		**S**	**23 44 11.5**	**-2.9**
MAK				pmax	pmax			
	comp=Z,289nm,1.8s							
ARCES	**ARCESS Array B**	**27.67**	**9**	P		**P**	**23 40 13.9**	**0.0**
	comp=Z,2.3nm,1.1s,baz=160,slow=3.9,SNR=3.9							
	comp=Z,2.3nm,1.1s							
TOA0	**Torodi Ar. Sit**	**31.07**	**202**	P		**P**	**23 40 45.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**31.07**	**202**	P		**P**	**23 40 45.1**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=17,slow=8.5,SNR=23							
TORD				PcP		**PcP**	**23 43 38.8**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=1.6,slow=0.4,SNR=1.4							
	comp=Z,2.9nm,0.8s							
ARU	**Arti**	**31.83**	**48**	P		**P**	**23 40 51.1**	**+0.3**
ARU	**Arti**	**31.83**	**48**	*c i*P		**P**	**23 40 51.9**	**+1.1**
ARU				S		**S**	**23 46 04.4**	**+3.3**
ARU				SS		**SnSn**	**23 47 50.4**	**+2.1**
ARU				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ABKAR	**Akbulak array**	**32.69**	**62**	P		**P**	**23 40 57.0**	**-1.4**
BRVK	**Borovoye**	**38.68**	**54**	P		**P**	**23 41 51.2**	**+1.4**
BRVK	**Borovoye**	**38.68**	**54**	*ce*P		**P**	**23 41 51.4**	**+1.6**
BRVK				pmax	pmax			
	comp=Z,11nm,1.7s							
DBIC	**Dimbokro**	**39.26**	**209**	P		**P**	**23 41 53.4**	**-1.6**
	comp=Z,5.1nm,0.9s,baz=53,slow=3.1,SNR=4.2							
	comp=Z,5.1nm,0.9s							
KK31	**Karatay Array**	**41.24**	**69**	P		**P**	**23 42 12.5**	**+1.2**
KK31				IAmb	IAmb		23 42 15.4	
	comp=Z,3.0nm,0.9s							
KK31	**Karatay Array**	**41.24**	**69**	P		**P**	**23 42 12.5**	**+1.2**
KK31				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**41.24**	**69**	P		**P**	**23 42 13.3**	**+2.1**
KKAR	**Karatay Array**	**41.24**	**69**	P		**P**	**23 42 12.7**	**+1.4**
KKAR				IAmb	IAmb		23 42 15.4	
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**41.24**	**69**	P		**P**	**23 42 12.7**	**+1.4**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa**	**44.15**	**68**	*i* P		**P**	**23 42 36.0**	**+1.0**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KURK	**Kurchatov**	**44.22**	**56**	*

h45km:pP-P,n592,σ1§54/512,mb4.8/157,MS3.7/30,
28C-30D,Near east coast of eastern Honshu

Code	Station Name	Δ°	ΔZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MIYJ	**Miyakonagasawa**	**0.64**	**298**	*i* P	**Pn**	**23**	**46**	**60.0**	**-1.5**
MIYJ				S	**Sn**	**23**	**47**	**07.9**	**-2.7**
MIYJ	**Miyakonagasawa**	**0.64**	**298**	A	A	23	46	60.0	
	comp=E,101nm,1.1s,comp=E,47nm,0.8s								
OFUJ	**Ofunato**	**0.71**	**254**	⇓*i* P	**Pn**	**23**	**47**	**01.2**	**-1.2**
OFUJ				⇓S	**Sn**	**23**	**47**	**10.3**	**-2.1**
OFUJ	**Ofunato**	**0.71**	**254**	A	A	23	47	01.2	
	comp=E,119nm,0.5s,comp=E,49nm,1.5s								
JTH	**Tanohata**	**0.84**	**321**	⇓*i* P	**Pn**	**23**	**47**	**03.0**	**-1.2**
JTH				⇓S	**Sn**	**23**	**47**	**13.5**	**-2.1**
JTH	**Tanohata**	**0.84**	**321**	A	A	23	47	03.0	
	comp=E,22nm,0.7s,comp=E,31nm,1.5s								
JKMT	**Kesennumamotoy**	**0.96**	**241**	⇓*i* P	**Pn**	**23**	**47**	**04.8**	**-0.9**
JKMT				⇓S	**Sn**	**23**	**47**	**16.3**	**-2.0**
JKMT	**Kesennumamotoy**	**0.96**	**241**	A	A	23	47	04.8	
	comp=E,41nm,0.5s,comp=E,23nm,0.9s								
JOM	**Ohasama**	**0.99**	**282**	⇓*i* P	**Pn**	**23**	**47**	**04.8**	**-1.4**
JOM				⇓S	**Sn**	**23**	**47**	**16.7**	**-2.5**
JOM	**Ohasama**	**0.99**	**282**	A	A	23	47	04.8	
	comp=E,106nm,0.3s,comp=E,58nm,0.3s								
JMK	**Ichinoseki**	**1.09**	**253**	⇓*i* P	**Pn**	**23**	**47**	**06.4**	**-1.1**
JMK				⇓S	**Sn**	**23**	**47**	**19.1**	**-2.2**
JMK	**Ichinoseki**	**1.09**	**253**	A	A	23	47	06.4	
	comp=E,17nm,0.2s,comp=E,27nm,0.2s								
JKEN	**Kujiedanarisaw**	**1.13**	**325**	A	A	23	47	07.2	
	comp=E,42nm,1.2s,comp=E,56nm,1.5s								
JKZ	**Kuzumaki**	**1.18**	**307**	⇓*i* P	**Pn**	**23**	**47**	**07.8**	**-1.0**
JKZ				⇓S	**Sn**	**23**	**47**	**21.6**	**-2.0**
JKZ	**Kuzumaki**	**1.18**	**307**	A	A	23	47	07.8	
	comp=E,32nm,0.5s,comp=E,33nm,0.6s								
JIO	**Ouri**	**1.25**	**229**	⇓*i* P	**Pn**	**23**	**47**	**09.0**	**-0.7**
JIO				⇓S	**Sn**	**23**	**47**	**23.8**	**-1.5**
JIO	**Ouri**	**1.25**	**229**	A	A	23	47	09.0	
	comp=E,19nm,0.9s,comp=E,23nm,1.5s								
JSZI	**Iwateshizukuis**	**1.32**	**291**	A	A	23	47	09.5	
	comp=E,56nm,1.0s,comp=E,49nm,1.1s								
JANG	**Nango**	**1.35**	**324**	⇓*i* P	**Pn**	**23**	**47**	**09.9**	**-1.2**
JANG				⇓S	**Sn**	**23**	**47**	**25.9**	**-2.0**
JANG	**Nango**	**1.35**	**324**	A	A	23	47	09.9	
	comp=E,19nm,1.2s,comp=E,20nm,1.1s								
JOFO	**Osakifurukawao**	**1.45**	**243**	A	A	23	47	11.9	
	comp=E,79nm,0.7s,comp=E,76nm,2.5s								
JRG	**Rokugo**	**1.49**	**275**	⇓P	**Pn**	**23**	**47**	**11.9**	**-1.1**
JRG	**Rokugo**	**1.49**	**275**	A	A	23	47	11.9	
	comp=E,21nm,1.0s,comp=E,16nm,0.7s								
JAH	**Hinai**	**1.73**	**302**	⇓*i* P	**Pn**	**23**	**47**	**15.3**	**-1.0**
JAH	**Hinai**	**1.73**	**302**	A	A	23	47	15.3	
	comp=E,12nm,1.0s,comp=E,17nm,2.3s								
JOU	**Okura**	**1.73**	**239**	⇓*i* P	**Pn**	**23**	**47**	**15.7**	**-0.6**
JOU	**Okura**	**1.73**	**239**	A	A	23	47	15.7	
	comp=E,13nm,2.0s,comp=E,16nm,0.9s								
JYK	**Kaneyama**	**1.74**	**259**	P	**Pn**	**23**	**47**	**15.8**	**-0.6**
JYK	**Kaneyama**	**1.74**	**259**	A	A	23	47	15.8	
	comp=E,13nm,2.4s,comp=E,9.0nm,1.3s								
JYW	**Yuwa**	**1.83**	**279**	A	A	23	47	17.0	
	comp=E,35nm,2.6s,comp=E,37nm,1.0s								
JTM	**Tenmabayashi**	**1.89**	**323**	Pn	**Pn**	**23**	**47**	**18.0**	**-0.4**
JTM				Sn	**Sn**	**23**	**47**	**40.4**	**-0.6**
JARK	**Aomorirokkasho**	**1.95**	**333**	A	A	23	47	19.1	
	comp=E,7.0nm,6.0s,comp=E,6.0nm,0.6s								
JMM	**Marumori**	**1.97**	**225**	Pn	**Pn**	**23**	**47**	**19.2**	**-0.4**
JMM				Sn	**Sn**	**23**	**47**	**43.1**	**0.0**
JMM	**Marumori**	**1.97**	**225**	A	A	23	47	19.9	
	comp=E,6.0nm,0.5s,comp=E,7.0nm,0.9s								
JMST	**Minamisoumatoc**	**2.03**	**221**	A	A	23	47	20.8	
	comp=E,8.0nm,1.1s,comp=E,9.0nm,1.0s								
JYYZ	**Yamagatayuza**	**2.05**	**263**	A	A	23	47	20.2	
	comp=E,31nm,2.1s,comp=E,16nm,3.3s								
JNTW	**Noshirotokiwa**	**2.09**	**299**	A	A	23	47	20.6	
	comp=E,21nm,2.2s,comp=E,33nm,2.1s								
JHHS	**Hirosakihyakuz**	**2.17**	**310**	A	A	23	47	21.9	
	comp=E,14nm,1.1s,comp=E,18nm,1.4s								
JAHD	**Aomorihigashid**	**2.19**	**335**	A	A	23	47	22.6	
	comp=E,13nm,0.6s,comp=E,13nm,1.8s								
JYS	**Shirataka**	**2.21**	**242**	A	A	23	47	22.9	
	comp=E,20nm,1.5s,comp=E,23nm,1.0s								
JYA	**Atsumi**	**2.32**	**254**	A	A	23	47	24.1	
	comp=E,16nm,0.6s,comp=E,13nm,0.7s								
JFK	**Kawauchi**	**2.32**	**215**	A	A	23	47	25.1	
	comp=E,4.0nm,1.4s,comp=E,4.0nm,0.9s								
JYAR	**Yonezawaarcadi**	**2.33**	**235**	A	A	23	47	24.7	
	comp=E,27nm,1.1s,comp=E,26nm,0.8s								
JIW	**Iwasaki**	**2.35**	**305**	A	A	23	47	24.5	
	comp=E,7.0nm,1.6s,comp=E,11nm,1.2s								
JSI2	**Shiura 2**	**2.42**	**248**	A	A	23	47	25.5	
	comp=E,7.0nm,2.3s,comp=E,11nm,1.2s								
JOG3	**Oga3**	**2.75**	**284**	A	A	23	47	22.3	
	comp=E,12nm,2.4s,comp=E,11nm,1.8s								
ERM	**Erimo**	**2.77**	**9**	Pn	**Pn**	**23**	**47**	**30.8**	**+0.3**
ERM	**Erimo**	**2.77**	**9**	*ce*P	**Pn**	**23**	**47**	**30.8**	**+0.3**
ERM				pmax	pmax				
	comp=Z,53nm,0.5s								
JFY	**Yanaizu**	**2.92**	**231**	A	A	23	47	33.1	
	comp=Z,3.0nm,2.1s,comp=Z,3.0nm,4.8s								
JNS	**Sasagawa**	**2.92**	**241**	A	A	23	47	33.0	
	comp=Z,4.0nm,1.8s,comp=Z,3.0nm,1.4s								
JSB	**Shiboa**	**3.10**	**223**	A	A	23	47	36.0	
	comp=Z,7.0nm,1.0s,comp=Z,7.0nm,2.2s								
JIZZ	**Izumozaki**	**3.49**	**241**	A	A	23	47	40.9	
	comp=Z,11nm,2.0s,comp=Z,11nm,3.1s								
JYT	**Yasato**	**3.57**	**212**		**Pn**	**23**	**47**	**40.3**	**-1.3**
JSD	**Sado**	**3.58**	**251**	Pn	**Pn**	**23**	**47**	**41.3**	**-0.4**
JEW	**Eniwo**	**3.65**	**347**	Pn	**Pn**	**23**	**47**	**46.4**	**+3.7**
JJN	**Nakama**	**4.08**	**239**	A	A	23	47	49.4	
	comp=Z,4.0nm,2.4s,comp=Z,3.0nm,3.5s								
MAJO	**Matsushiro**	**4.39**	**233**	Pn	**Pn**	**23**	**47**	**54.4**	**+1.5**
MAJO	**Matsushiro**	**4.39**	**233**	*d*P	**Pn**	**23**	**47**	**54.2**	**+1.4**
MJAR	**Matsushiro Arr**	**4.39**	**233**	P	**Pn**	**23**	**47**	**52.1**	**-0.7**
	comp=Z,306nm,0.8s,baz=34,slow=12,SNR=121								
MJAR				LR	LR	23	49	47.2	
	comp=Z,980nm,21.2s,baz=46,slow=42								
MJB9	**Matsu-Tunnel**	**4.39**	**233**	Pn	**Pn**	**23**	**47**	**54.2**	**+1.4**
NMR	**Nemuro--Hokkai**	**4.73**	**29**	⇓*i* P	**Pn**	**23**	**47**	**56.2**	**-1.3**
NMR				*e*S	**Sn**	**23**	**48**	**46.6**	**-4.4**
RUSJ	**Misakicho**	**5.22**	**22**	*e*P	**Pn**	**23**	**48**	**03.8**	**-0.4**
RUSJ				*e*S	**Sn**	**23**	**49**	**00.7**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**5.36**	**26**	*e*P	**Pn**	**23**	**48**	**05.2**	**-0.8**
YUK				*e*S	**Sn**	**23**	**49**	**02.1**	**-4.3**
YUK				pmax	pmax				
	comp=Z,898nm,0.5s								
YUK				pmax	pmax				
	comp=N,352nm,0.2s								
YUK				pmax	pmax				
	comp=E,438nm,0.3s								
YUK				smax	smax				
	comp=E,2μm,0.6s								
YUK				smax	smax				
	comp=N,3μm,0.4s								
JGF	**Kuroka**	**5.53**	**230**	Pn	**Pn**	**23**	**48**	**08.8**	**+0.4**
INU	**Inuyama**	**5.90**	**230**	Pn	**Pn**	**23**	**48**	**14.5**	**+0.9**
JHJ	**Hachijo jima 2**	**6.54**	**201**	P	**Pn**	**23**	**48**	**21.9**	**-0.4**
	comp=N,108nm,0.4s,baz=45,slow=17,SNR=7.9								
JHJ				S	**Sn**	**23**	**49**	**30.5**	**-5.2**
	comp=N,208nm,0.4s,baz=32,slow=20,SNR=3.5								
KUR	**Kuril'sk**	**7.13**	**32**	P	**Pn**	**23**	**48**	**30.4**	**0.0**
KUR				*e*S	**Sn**	**23**	**49**	**46.0**	**-4.1**
KUR				pmax	pmax				
	comp=N,78nm,0.7s								
KUR				pmax	pmax				
	comp=E,94nm,0.7s								
KUR				pmax	pmax				
	comp=Z,183nm,0.7s								
KUR				smax	smax				
	comp=N,398nm,0.6s								
KUR				smax	smax				
	comp=E,296nm,0.6s								
YSS	**Yuzh-Sakhalins**	**7.67**	**1**	Pn	**Pn**	**23**	**48**	**38.6**	**+0.8**
YSS	**Yuzh-Sakhalins**	**7.67**	**1**	*e*P	**Pn**	**23**	**48**	**38.3**	**+0.6**
YSS				*e*S	**Sn**	**23**	**50**	**02.9**	**-0.3**
YSS				pmax	pmax				
	comp=Z,50nm,1.1s								
YSS				smax	smax				
	comp=N,30nm,0.6s								
YSS				smax	smax				
	comp=E,30nm,0.7s								
JHS	**Saijyo**	**8.66**	**243**	Pn	**Pn**	**23**	**48**	**51.4**	**0.0**
VLA	**Vladivostok**	**8.91**	**299**	*i* P	**Pn**	**23**	**48**	**51.7**	**-3.0**
VLA				pmax	pmax				
	comp=Z,45nm,0.7s								
USA0B	**Ussuriysk Arra**	**9.30**	**305**		**Pn**	**23**	**49**	**02.4**	**+2.4**
USA0B	**Ussuriysk Arra**	**9.30**	**305**	P	**Pn**	**23**	**49**	**02.4**	**+2.4**
USRK	**Ussuriysk Ar.**	**9.30**	**305**	P	**Pn**	**23**	**49**	**01.4**	**+1.4**
	comp=Z,20nm,0.6s,baz=111,slow=13,SNR=22								
USRK				LR	LR	23	52	28.8	
	comp=Z,308nm,18.3s,baz=139,slow=37								
USRK	**Ussuriysk Ar.**	**9.30**	**305**	Pn	**Pn**	**23**	**49**	**02.5**	**+2.5**
USRK	**Ussuriysk Ar.**	**9.30**	**305**	P	**Pn**	**23**	**49**	**02.6**	**+2.5**
MDJ	**Mudanjiang**	**11.02**	**303**	Pn	**Pn**	**23**	**49**	**27.2**	**+3.6**
KSRS	**Korea Array**	**11.63**	**266**	P	**Pn**	**23**	**49**	**33.8**	**+1.8**
	comp=Z,19nm,0.8s,baz=78,slow=14,SNR=29								
KSRS				LR	LR	23	53	27.1	
	comp=Z,283nm,21.9s,baz=75,slow=34								
KS19	**Wonju Array Si**	**11.66**	**266**	Pn	**Pn**	**23**	**49**	**35.9**	**+3.5**
KSAR	**Wonju Array Be**	**11.66**	**266**	Pn	**Pn**	**23**	**49**	**35.5**	**+3.1**
KSAR	**Wonju Array Be**	**11.66**	**266**	P	**Pn**	**23**	**49**	**35.5**	**+3.1**
KSCHJ	**Chungju**	**11.74**	**263**	Pn	**Pn**	**23**	**49**	**37.2**	**+3.8**
JCJ	**Chichijima**	**12.16**	**182**	P	**Pn**	**23**	**49**	**40.7**	**+1.5**
	comp=Z,29nm,0.3s,baz=270,slow=20,SNR=1.6								
JCJ	**Chichijima**	**12.16**	**182**	Pn	**Pn**	**23**	**49**	**38.4**	**-0.8**
KLR	**Kul'dur**	**12.59**	**326**	P	**Pn**	**23**	**49**	**44.4**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=127,slow=11,SNR=7.6								
KLR				LR	LR	23	54	29.2	
	comp=Z,130nm,22.0s,baz=138,slow=37								
KLR	**Kul'dur**	**12.59**	**326**	*ce*P	**Pn**	**23**	**49**	**44.9**	**-0.1**
KLR				pmax	pmax				
	comp=Z,5.0nm,1.3s								
BNX	**BinXian**	**12.89**	**305**	⇑P	**Pn**	**23**	**49**	**51.4**	**+2.2**
BNX				pmax	pmax				
	comp=Z,7.0nm,1.0s								
BNX				pmax	pmax				
	comp=Z,190nm,5.0s								
CN2	**Changchun**	**13.58**	**295**	*e*P	**Pn**	**23**	**49**	**58.3**	**-0.3**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
SKR	**Severo-Kuril's**	**14.88**	**36**	*i* P	**Pn**	**23**	**50**	**16.9**	**+1.0**
JOW	**Kunigami**	**17.21**	**228**	LR	LR	23	57	55.8	
	comp=Z,100nm,20.1s,baz=84,slow=39								
PETK	**Petropavlovsk-**	**17.30**	**32**	LR	LR	23	57	06.3	
	comp=Z,133nm,20.8s,baz=203,slow=35								
ZEA	**Zeya**	**17.83**	**329**	*e*P	**Pn**				
ZEA				pmax	pmax				
	comp=E,10.0nm,0.5s								
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.5s								
ZEA				MLR	MLR				
	comp=Z,100nm,14.0s								
XLT	**XiLinHaoTe**	**20.29**	**292**	*e*P	**P**	**23**	**51**	**21.1**	**+0.5**
XLT				pP	pP	23	51	33.0	+1.7
XLT				sP	sP	23	51	38.4	+1.3
XLT				pmax	pmax				
	comp=Z,20nm,0.8s								
TIA	**Tai'an**	**20.32**	**269**	*e*P	**P**	**23**	**51**	**18.3**	**-2.6**
TIA				pmax	pmax				
	comp=Z,26nm,1.5s								
MA2	**Magadan**	**20.97**	**12**	P	**P**	**23**	**51**	**28.3**	**+0.6**
	comp=Z,30nm,0.7s,baz=186,slow=9.8,SNR=13								
MA2				LR	LR	00	00	00.7	
	comp=Z,116nm,18.8s,baz=178,slow=38								
	comp=Z,30nm,0.7s								
MA2	**Magadan**	**20.97**	**12**	P	**P**	**23**	**51**	**28.4**	**+0.6**
MA2				IAmb	IAmb	23	51	28.9	
	comp=Z,36nm,0.8s								
MA2	**Magadan**	**20.97**	**12**	*ce*P	**P**	**23**	**51**	**28.1**	**+0.4**
MA2				pmax	pmax				
	comp=Z,85nm,1.7s								
HNS	**HongShan**	**21.89**	**274**	⇑P	**P**	**23**	**51**	**40.8**	**+3.1**
HNS				pmax	pmax				
	comp=Z,12nm,0.6s								
HNS				LR	LR				
	comp=Z,280nm,10.9s								
HNS				LR	LR				
	comp=Z,230nm,18.6s								
YHNB	**Yeheng**	**23.05**	**237**	P	**P**	**23**	**51**	**49.4**	**-0.8**
YHNB				IAmb	IAmb	23	51	54.7	
	comp=Z,29nm,1.0s								
NACB	**Ninganchiao**	**23.25**	**236**	P	**P**	**23**	**51**	**51.1**	**-1.0**
HHC	**Hu-ho-hao-te**	**23.71**	**284**	*e*P	**P**	**23**	**51**	**59.3**	**+2.8**
HHC				pmax	pmax				
	comp=Z,33nm,0.9s								
HHC				pmax	pmax				
	comp=Z,150nm,6.8s								
HHC				LR	LR				
	comp=Z,460nm,14.6s								
HHC				LR	LR				
	comp=Z,470nm,16.0s								
SSLB	**Suanglung**	**23.94**	**236**	P	**P**	**23**	**51**	**57.0**	**-1.7**
YULB	**Yu-li**	**24.00**	**235**	P	**P**	**23**	**51**	**58.2**	**-0.9**
YULB				IAmb	IAmb	23	52	11.0	
	comp=Z,16nm,0.7s								
YAK	**Yakutsk**	**24.10**	**345**	P	**P**	**23**	**51**	**59.9**	**+0.2**
	comp=Z,16nm,0.3s,baz=167,slow=2.6,SNR=5.1								
	comp=Z,16nm,0.3s								
YAK	**Yakutsk**	**24.10**	**345**	P	**P**	**23**	**52**	**00.6**	**+0.8**
YAK	**Yakutsk**	**24.10**	**345**	*e*P	**P**	**23**	**51**	**59.7**	**0.0**
YAK				*e**PP	**pP**	**23**	**52**	**10.3**	**-1.1**
YAK				*e*		23	52	30.1	
YAK				*e*		23	55	39.9	
YAK				*e*S	**S**	**23**	**56**	**13.8**	**-0.2**
YAK				*e**SS	**sS**	**23**	**56**	**36.1**	**+2.8**
YAK				*e*SS	**SnSn**	**23**	**56**	**59.2**	**+1.0**
YAK				*e*		00	03	01.3	
YAK				pmax	pmax				
	comp=Z,54nm,1.2s								
YAK				pmax	pmax				
	comp=N,23nm,1.4s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.2s								
YAK				pmax	pmax				
	comp=Z,93nm,3.4s								
YAK				pmax	pmax				
	comp=N,114nm,3.2s								
YAK				pmax	pmax				
	comp=E,44nm,2.9s								
YAK				smax	smax				
	comp=E,23nm,1.5s								
YAK				smax	smax				
	comp=N,27nm,1.3s								
SEY	**Seymchan**	**24.42**	**11**	P	**P**	**23**	**52**	**03.6**	**+1.0**
	comp=N,11nm,0.7s,baz=198,slow=6.8,SNR=16								
	comp=N,11nm,0.7s								
SEY	**Seymchan**	**24.42**	**11**	*ce*P	**P**	**23**	**52**	**04.3**	**+1.7**
SEY				pmax	pmax				
	comp=Z,33nm,1.3s								
LYN	**LuoYang**	**24.45**	**268**	*e*P	**P**	**23**	**52**	**03.0**	**-0.2**
LYN				sP	sP	23	52	20.8	+0.4
LYN				PP	**PnPn**	**23**	**52**	**37.8**	**+2.4**
LYN				pmax	pmax				
	comp=Z,10.0nm,0.7s								
LYN				pmax	pmax				
	comp=Z,130nm,4.7s								
LYN				LR	LR				
	comp=Z,160nm,13.5s								
LYN				LR	LR				
	comp=Z,180nm,12.6s								
TPUB	**Ta-pu**	**24.49**	**236**	P	**P**	**23**	**52**	**04.3**	**+0.6**
TPUB				IAmb	IAmb	23	52	11.3	
	comp=Z,27nm,0.9s								
TWG	**Pinlang**	**24.56**	**234**	P	**P**	**23**	**52**	**03.9**	**-0.4**
TWG				IAmb	IAmb	23	52	07.7	
	comp=Z,34nm,0.8s								
WHN	**Wuhan**	**24.64**	**258**	P	**P**	**23**	**52**	**03.5**	**-1.4**
GUMO	**Guam**	**25.67**	**175**	LR	LR	00	05	58.8	
	comp=Z,25nm,18.0s,baz=67,slow=45								
BOD	**Bodaibo**	**26.16**	**325**	*e*P	**P**	**23**	**52**	**16.7**	**-1.8**
BOD				pmax	pmax				
	comp=Z,20nm,0.9s								
ULN	**Ulaanbaatar**	**26.91**	**300**	P	**P**	**23**	**52**	**25.4**	**-0.2**
ULN	**Ulaanbaatar**	**26.91**	**300**	*ce*P	**P**	**23**	**52**	**23.6**	**-2.0**
ULN				pmax	pmax				
	comp=Z,9.0nm,2.5s								
SONM	**Songino Array**	**27.35**	**300**	P	**P**	**23**	**52**	**28.8**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=97,slow=9.9,SNR=11								
SONM				LR	LR	00	03	30.6	
	comp=Z,109nm,20.6s,baz=90,slow=37								
	comp=Z,1.9nm,0.5s								
SONM	**Songino Array**	**27.35**	**300**	P	**P**	**23**	**52**	**29.6**	**+0.1**
SONM	**Songino Array**	**27.35**	**300**	P	**P**	**23**	**52**	**29.6**	**+0.1**
SONM				pmax	pmax				
	comp=Z,3.0nm,0.8s								
XAN	**Xi'an**	**27.38**	**270**	⇑P	**P**	**23**	**52**	**29.0**	**-0.8**
XAN				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ENH	**Enshi**	**28.48**	**262**	P	**P**	**23**	**52**	**37.9**	**-1.7**
ENH				IAmb	IAmb	23	52	38.4	
	comp=Z,15nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.63**	**126**	T	T	00	23	08.2	
	baz=318,slow=75,SNR=4313								
H11N1	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	00	23	25.5	
	baz=318,slow=75,SNR=3738								
H11N3	**WAKE ISLAND Hy**	**28.65**	**126**	T	T	00	23	16.8	
	baz=318,slow=75,SNR=4745								
H11S1	**WAKE ISLAND Hy**	**29.43**	**128**	T	T	00	24	23.3	
	baz=319,slow=76,SNR=401								
H11S3	**WAKE ISLAND Hy**	**29.43**	**128**	T	T	00	24	23.1	
	baz=319,slow=76,SNR=745								
H11S2	**WAKE ISLAND Hy**	**29.44**	**128**	T	T	00	24	26.1	
	baz=319,slow=76,SNR=455								
ZAK	**Zakamensk**	**29.65**	**305**	*e*P	**P**	**23**	**52**	**47.7**	**-2.1**
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.4s								
LZH	**Lanzhou**	**30.64**	**276**	⇓P	**P**	**23**	**53**	**00.0**	**+1.2**
LZH				pP	pP	23	53	13.4	+2.6
LZH				sP	sP	23	53	17.4	+1.3
LZH				pmax	pmax				
	comp=Z,18nm,1.4s								
LZH				pmax	pmax				
	comp=Z,90nm,4.4s								
LZH				LR	LR				
	comp=Z,330nm,12.4s								
LZH				LR	LR				
	comp=Z,200nm,13.7s								
LZH				LR	LR				
	comp=Z,250nm,14.1s								
BILL	**Bilibino**	**31.62**	**17**	*ce*P	**P**	**23**	**53**	**07.8**	**+0.9**
BILL				pmax	pmax				
	comp=Z,6.0nm,0.4s								
BILL				MLR	MLR				
	comp=Z,54nm,17.0s								
CD2	**Chengdu**	**32.62**	**267**	P	**P**	**23**	**53**	**14.9**	**-1.3**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KNGR	**Kungurtug, Tuv**	**33.33**	**305**	*i* P	**P**	**23**	**53**	**22.7**	**+0.4**
PZH	**PanZhiHua**	**36.26**	**262**	P	**P**	**23**	**53**	**48.6**	**+0.8**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PZH				pmax	pmax				
	comp=Z,90nm,4.8s								
GOMU	**GeErMu**	**37.53**	**281**	P	**P**	**23**	**53**	**58.3**	**-0.5**
GOMU				pmax	pmax				
	comp=Z,8.0nm,0.7s								
GOMU				pmax	pmax				
	comp=Z,80nm,6.7s								
DGZ	**Jazzator, Alta**	**39.85**	**304**	*i* P	**P**	**23**	**54**	**18.1**	**+0.4**
DGZ				pmax	pmax				
	comp=Z,10.0nm,0.8s								
WMQ	**Urumqi**	**40.67**	**295**	*e*P	**P**	**23**	**54**	**26.3**	**+1.8**
WMQ				pmax	pmax				
	comp=Z,33nm,0.9s								
CRAI	**Chiangrai**	**40.81**	**255**	P	**P**	**23**	**54**	**25.7**	**-0.1**
CRAI				IAmb	IAmb	23	54	33.5	
	comp=Z,19nm,0.7s								
ZAA0	**Zalesovo Array**	**41.10**	**311**	P	**P**	**23**	**54**	**27.0**	**-0.9**
ZAA0				IAmb	IAmb	23	54	39.0	
	comp=Z,11nm,0.6s								
ZALV	**Zalesovo Beam**	**41.10**	**311**	P	**P**	**23**	**54**	**26.9**	**-1.0**
	comp=Z,8.4nm,0.5s,baz=88,slow=8.3,SNR=29								
ZALV				PcP	**PcP**	**23**	**56**	**26.1**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=81,slow=3.7,SNR=4.3								
ZALV				LR	LR	00	12	18.3	
	comp=Z,98nm,18.1s,baz=80,slow=37								
	comp=Z,8.4nm,0.5s								
SMPI	**Sarmi**	**41.22**	**186**	P	P	23	54	35.2	+6.0
	comp=Z,3μmcomp=Z,116nm,0.7s								
NRIK	**Noril'sk**	**41.62**	**334**	P	**P**	**23**	**54**	**31.2**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=86,slow=9.1,SNR=2.4								
	comp=Z,1.6nm,0.3s								
NRIK	**Noril'sk**	**41.62**	**334**	*i* P	**P**	**23**	**54**	**32.9**	**+1.0**
NRIK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
CHGN	**Chignik**	**41.74**	**46**	P	**P**	**23**	**54**	**34.8**	**+1.8**
	baz=272								
O17K	**Koliganek Bris**	**42.43**	**41**	P	**P**	**23**	**54**	**40.4**	**+1.9**
	baz=269								
CHTO	**Chiang Mai**	**42.74**	**254**	P	**P**	**23**	**54**	**42.7**	**+1.1**
CHTO	**Chiang Mai**	**42.74**	**254**	P	**P**	**23**	**54**	**42.7**	**+1.1

baz=270
MLY Manley 45.48 33 P P 23 55 05.2 +2.1
baz=269,SNR=6.0
SUA Susitna One 45.53 38 IAmb IAmb 23 55 06.8
comp=Z,17nm,0.9s
SUA pP pP 23 55 16.3 +0.6
SUA Susitna One 45.53 38 P P 23 55 05.8 +2.2
baz=273,SNR=9.0
BRSE Bradley Lake S 45.64 41 P P 23 55 06.2 +1.8
baz=274
TRF Thorofare Moun 45.68 35 IAmb IAmb 23 55 08.5
comp=Z,9.6nm,1.0s
TRF Thorofare Moun 45.68 35 P P 23 55 06.5 +1.7
baz=271
D23K Nanushuk River 45.69 28 P P 23 55 06.8 +2.2
baz=265
CUT Chulitna 45.72 37 P P 23 55 06.4 +1.5
baz=272
COLD Coldfoot 45.76 30 P P 23 55 06.7 +1.5
baz=268
C23K Itkillik River 45.79 26 P P 23 55 07.0 +1.6
baz=265
G23K Bananza Creek 45.81 31 P P 23 55 07.2 +1.6
baz=268
H23K Yukon River 45.99 32 IAmb IAmb 23 55 10.5
comp=Z,12nm,0.8s
H23K Yukon River 45.99 32 P P 23 55 09.2 +2.1
baz=270,SNR=7.7
E23K Chandalar 46.02 29 P P 23 55 09.3 +1.9
baz=267,SNR=9.3
RC01 Rabbit Creek A 46.04 39 P P 23 55 08.5 +1.1
baz=274,SNR=6.7
TOLK Toolik Lake Re 46.07 28 P P 23 55 09.2 +1.5
baz=267
BRDH Bariadhala 46.07 264 LR LR 00 16 58.4
comp=Z,85nm,20.5s,baz=93,slow=39
NEA2 Nenana 46.19 34 IAmb IAmb 23 55 12.4
comp=Z,8.9nm,1.0s
NEA2 Nenana 46.19 34 P P 23 55 10.3 +1.6
baz=271,SNR=6.2
SEW Seward 46.26 40 P P 23 55 10.4 +1.2
baz=275
MCK McKinley 46.27 35 P P 23 55 10.9 +1.6
MCK IAmb IAmb 23 55 11.7
comp=Z,12nm,0.9s
MCK McKinley 46.27 35 P P 23 55 10.9 +1.6
MCK pmax pmax
comp=Z,12nm,0.9s
MCK McKinley 46.27 35 P P 23 55 10.6 +1.2
baz=272
PMR Palmer 46.30 38 P P 23 55 10.3 +0.9
baz=274
RND Reindeer 46.33 35 IAmb IAmb 23 55 11.8
comp=Z,19nm,1.1s
D24K Happy Valley 46.37 27 P P 23 55 11.6 +1.6
baz=267
C24K Franklin Bluff 46.44 27 P P 23 55 12.1 +1.6
baz=267
E24K Your Creek 46.45 29 P P 23 55 12.5 +1.8
baz=268
WAT1 Susitna Watana 46.49 36 P P 23 55 12.1 +1.0
baz=273
MDM Murphy Dome 46.54 33 P P 23 55 13.3 +1.9
MDM IAmb IAmb 23 55 14.3
comp=Z,19nm,1.1s
SHLS Shalkode 46.62 296 *eP* P 23 55 09.1 -3.4
SHLS pmax pmax
comp=Z,14nm,2.5s
KNK Knik Glacier 46.63 38 IAmb IAmb 23 55 14.5
comp=Z,12nm,1.0s
KNK Knik Glacier 46.63 38 P P 23 55 13.4 +1.2
baz=275,SNR=5.7
SML Sawmill 46.66 38 IAmb IAmb 23 55 14.8
comp=Z,14nm,0.8s
SML Sawmill 46.66 38 P P 23 55 13.9 +1.4
baz=274,SNR=6.2
F24K Squaw Lake 46.66 30 P P 23 55 13.8 +1.4
baz=269
H24K Noodor Dome 46.67 32 P P 23 55 14.3 +1.9
baz=271
COLA College 46.71 33 *i* P P 23 55 14.0 +1.4
COLA pmax pmax
comp=Z,9.0nm,0.9s
PWL Port Wells 46.74 39 IAmb IAmb 23 55 14.9
comp=Z,16nm,0.9s
PWL Port Wells 46.74 39 P P 23 55 13.9 +0.9
baz=275,SNR=8.8
G24K Hadweenzic Riv 46.82 31 P P 23 55 15.0 +1.5
baz=271
POKR Poker Flat Res 46.88 33 P P 23 55 15.9 +1.9
baz=272,SNR=5.3
WAT6 Susitna Watana 46.88 37 P P 23 55 15.2 +0.9
baz=274,SNR=5.7
M23K Glacier View 46.95 38 P P 23 55 15.8 +1.2
baz=275,SNR=8.0
DHY Denali Highway 47.01 36 IAmb IAmb 23 55 17.5
comp=Z,11nm,1.0s
DHY Denali Highway 47.01 36 P P 23 55 16.4 +1.2
baz=274,SNR=6.5
KPKS Kokpek 47.07 297 *eP* P 23 55 15.2 -0.7
KPKS pmax pmax
comp=Z,8.0nm,1.9s
HDA Harding Lake 47.12 34 IAmb IAmb 23 55 17.7
comp=Z,12nm,0.8s
HDA Harding Lake 47.12 34 P P 23 55 16.8 +0.9
baz=273,SNR=7.7
IL31 47.12 33 IAmb IAmb 23 55 17.9
comp=Z,14nm,0.8s
IL31 pP 23 55 30.2 +2.2
ILAR Eielson Array 47.12 33 P P 23 55 16.5 +0.6
comp=Z,10.0nm,0.7s,baz=268,slow=6.4,SNR=86
ILAR PcP **PcP** 23 56 46.5 -0.5
comp=Z,1.3nm,0.8s,baz=264,slow=3.3,SNR=2.2
comp=Z,10.0nm,0.7s
SCM Sheep Creek Mo 47.13 38 P P 23 55 17.4 +1.3
baz=275,SNR=7.6
D25K Kavik River 47.24 27 P P 23 55 18.3 +1.4
baz=269
P23K Montague Islan 47.29 40 P P 23 55 18.7 +1.4
baz=277
GLI Glacier Island 47.34 39 IAmb IAmb 23 55 19.7
comp=Z,12nm,0.7s
GLI Glacier Island 47.34 39 P P 23 55 18.6 +1.0
baz=276,SNR=7.8
H25K Birch Creek 47.50 31 P P 23 55 21.0 +2.3
baz=272
F25K Christian Rive 47.52 30 P P 23 55 20.7 +1.6
baz=271
E25K Arctic Village 47.54 29 P P 23 55 21.1 +1.9
baz=271
M24K Tolsona, Glenn 47.65 37 P P 23 55 22.1 +2.0
baz=276
FID Port Fidalgo 47.66 39 IAmb IAmb 23 55 21.8
comp=Z,9.0nm,0.9s
PRP Porcupine Dome 47.66 32 P P 23 55 22.1 +1.9
baz=274
K24K Donnelly Dome 47.67 35 P P 23 55 21.2 +0.9
baz=275
RAMN Ramite 47.77 273 *eP* P 23 55 20.8 -0.9
comp=Z,27nm,0.7s
J25K Salcha River, 47.78 34 P P 23 55 22.2 +1.0
baz=274
KLU Klutina 47.84 38 P P 23 55 23.1 +1.5
baz=277,SNR=13
GUN Gumba 47.85 274 *eP* P 23 55 22.9 +0.4
comp=Z,45nm,0.5s
PAX Paxson 47.89 36 P P 23 55 23.4 +1.4
baz=276
EYAK Cordova Ski Ar 48.04 39 P P 23 55 24.8 +1.8
baz=278,SNR=5.2
RIDG Independent Ri 48.09 35 IAmb IAmb 23 55 25.3
comp=Z,7.1nm,0.9s
RIDG Independent Ri 48.09 35 P P 23 55 25.0 +1.5
baz=276,SNR=6.1
HARP HAARP 48.09 37 P P 23 55 25.4 +1.9
baz=277
F26K Sheenjek River 48.09 29 P P 23 55 25.8 +2.3
baz=273,SNR=9.9
C27K Jago River 48.18 27 P P 23 55 26.0 +2.0
baz=271
G26K Porcupine Rive 48.27 30 P P 23 55 27.0 +2.2
baz=274
PKI Pulchoki 48.38 274 *eP* P 23 55 25.5 -1.1
PKIN Phulchoki 48.39 274 *eP* P 23 55 26.1 -0.5
SCRK Sand Creek 48.44 34 P P 23 55 27.2 +0.9
baz=276,SNR=17
N25K Chitina, Valde 48.45 38 IAmb IAmb 23 55 31.2
comp=Z,5.8nm,0.7s
N25K Chitina, Valde 48.45 38 P P 23 55 28.0 +1.6
baz=278,SNR=8.0
BMRM Bremner River 48.54 38 P P 23 55 28.8 +1.8
baz=278,SNR=11
J26L Joseph Creek 48.57 34 P P 23 55 27.8 +0.6
baz=276
I26K Coal Creek Min 48.66 33 P P 23 55 29.1 +1.3
baz=276
GKN Gorkha 48.77 275 *eP* P 23 55 28.9 -0.5
KAIM Kayak Island 48.79 40 P P 23 55 30.9 +2.0
baz=279
GLB Gilahina Butte 48.85 38 IAmb IAmb 23 55 35.8
comp=Z,6.3nm,0.7s
E27K Coleen River 49.02 29 P P 23 55 32.5 +1.9
baz=275
M26K Nabesna, AK 49.09 36 IAmb IAmb 23 55 33.9
comp=Z,7.3nm,0.8s
M26K Nabesna, AK 49.09 36 P P 23 55 33.1 +1.9
baz=278,SNR=9.7
G27K Doyon Strip 49.12 31 P P 23 55 33.4 +2.0
baz=276
BRZS Berezniki 49.16 307 *eP* P 23 55 30.2 -1.6
MCARA McCarthy VSAT 49.23 38 P P 23 55 34.1 +1.8
baz=279,SNR=9.6
H27K Steamboat Moun 49.23 31 P P 23 55 34.5 +2.3
baz=276
I27K Kandik River 49.27 32 P P 23 55 34.3 +1.7
baz=277
K27K Chicken 49.27 34 P P 23 55 34.4 +1.9
baz=278
DANN Dangsing 49.28 276 *eP* P 23 55 32.6 -0.8
comp=Z,68nm,0.5s
BOOM Boomskoye usch 49.29 296 IAmb IAmb 23 55 36.0
comp=Z,11nm,1.1s
L27K Beaver Creek, 49.52 35 IAmb IAmb 23 55 37.7
comp=Z,15nm,0.9s
L27K Beaver Creek, 49.52 35 P P 23 55 36.5 +2.0
baz=279,SNR=16
EGAK Eagle 49.57 33 IAmb IAmb 23 55 38.1
comp=Z,4.5nm,0.7s
EGAK Eagle 49.57 33 P P 23 55 35.9 +1.2
baz=278
M27K Edge Creek, AK 49.61 36 IAmb IAmb 23 55 38.4
comp=Z,12nm,0.8s
M27K Edge Creek, AK 49.61 36 P P 23 55 37.1 +1.8
baz=279,SNR=6.9
KOLN Koldanda 49.69 275 *eP* P 23 55 35.8 -0.6
BTLS Baital 49.73 300 *eP* P 23 55 35.5 -0.8
BTLS pmax pmax
comp=Z,21nm,3.6s
BVAR Borovoye Array 49.75 311 LR LR 00 17 36.5
comp=Z,77nm,18.1s,baz=60,slow=37
SGDS Sogindy 49.86 298 *eP* P 23 55 37.9 +0.5
SGDS pmax pmax
comp=Z,15nm,4.0s
PYUN Piuthan 50.00 276 *eP* P 23 55 37.5 -1.3
CTG Chitna Glacier 50.11 38 P P 23 55 40.7 +1.6
baz=281,SNR=11
AAK Ala-Archa 50.24 297 LR LR 00 17 39.8
comp=Z,41nm,19.4s,baz=98,slow=37
AAK Ala-Archa 50.24 297 P P 23 55 40.0 -0.4
AAK Ala-Archa 50.24 297 *ce*P P 23 55 39.6 -0.8
AAK pmax pmax
comp=Z,4.0nm,0.7s
LOGN Logan Glacier 50.30 38 IAmb IAmb 23 55 46.1
comp=Z,5.2nm,0.8s
TABL Table Mountain 50.31 39 IAmb IAmb 23 55 43.1
comp=Z,11nm,0.8s
KSH Kashi 50.34 293 P P 23 55 46.5 +5.4
YUK3 Moose Creek 50.37 37 P P 23 55 42.6 +1.5
baz=281,SNR=11
DAWY Dawson 50.44 34 P P 23 55 42.8 +1.4
baz=280
I29M Ogilvie Camp, 50.67 32 P P 23 55 44.8 +1.7
baz=280,SNR=14
O28M Mount Upton 50.70 38 P P 23 55 45.3 +1.6
baz=282,SNR=6.0
PINM Pinnacle 50.81 39 P P 23 55 45.8 +1.5
baz=282
EPYK Eagle Plains 51.14 31 P P 23 55 48.4 +1.8
baz=280,SNR=8.3
M29M Somme Creek 51.16 36 P P 23 55 49.1 +2.1
baz=282,SNR=12
L29M L29M 51.17 35 P P 23 55 49.4 +2.5
baz=282,SNR=18
K29M Barrow Dome 51.29 34 P P 23 55 50.0 +2.1
baz=282,SNR=13
YUK4 Talbot Arm 51.31 37 P P 23 55 50.2 +2.0
baz=283,SNR=11
PNL Peninsula 51.33 39 P P 23 55 49.5 +1.4
baz=284
YUK6 Outpost Mounta 51.53 38 P P 23 55 52.2 +2.3
baz=283,SNR=5.3
O29M Mount Kennedy 51.58 39 P P 23 55 52.8 +2.7
baz=284,SNR=6.4
M30M Minto, Yukon 51.88 35 IAmb IAmb 23 55 55.7
comp=Z,10nm,0.9s
M30M Minto, Yukon 51.88 35 P P 23 55 54.7 +2.5
baz=283,SNR=9.9
HYT Haines Junctio 51.97 38 P P 23 55 55.7 +2.7
baz=284,SNR=42
INK Inuvik 51.98 28 P P 23 55 53.0 +0.2
comp=Z,5.0nm,0.5s,baz=256,slow=5.0,SNR=5.4
comp=Z,5.0nm,0.5s
INK Inuvik 51.98 28 P P 23 55 53.0 +0.2
INK Inuvik 51.98 28 P P 23 55 54.2 +1.4
baz=282
N30M Aishikik Lake 52.01 37 P P 23 55 55.5 +2.2
baz=284
F31M Tsiigehtchic 52.08 29 P P 23 55 55.2 +1.7
baz=282
P29M Windy Craggy 52.15 39 P P 23 55 56.7 +2.4
baz=285,SNR=9.4
BATI Baumata 52.28 204 LR LR 00 18 15.8
comp=Z,149nm,21.1s,baz=120,slow=36
P30M Million Dollar 52.41 39 P P 23 55 58.7 +2.5
baz=285
N31M Braeburn, Yuko 52.61 37 P P 23 56 00.1 +2.5
baz=285,SNR=11
O30N Mendenhall 52.65 38 P P 23 56 00.1 +2.1
baz=285,SNR=5.6
KK31 Karatay Array 52.80 299 IAmb IAmb 23 56 01.4
comp=Z,8.0nm,0.9s
KKAR Karatay Array 52.80 299 IAmb IAmb 23 56 01.4
comp=Z,8.0nm,0.9s
PLBC Pleasant Camp 52.88 39 P P 23 56 02.0 +2.4
baz=286
M31M Drury Creek, Y 53.06 36 IAmb IAmb 23 56 04.0
comp=Z,10nm,0.9s
M31M Drury Creek, Y 53.06 36 P P 23 56 03.0 +2.0
baz=286,SNR=7.3
PPBI Pangkal Pinang 53.09 228 P P 23 56 03.0 +1.3
WHY Whitehorse 53.26 38 IAmb IAmb 23 56 05.7
comp=Z,10.0nm,0.8s
WHY Whitehorse 53.26 38 P P 23 56 04.8 +2.3
baz=286,SNR=6.0
LHMI Lhok Sumawe 53.28 243 P P 23 56 02.7 -0.4
comp=Z,147nm,1.2s
SKAG Skagway 53.38 39 P P 23 56 05.8 +2.5
baz=287
IUG Iuzhnay 53.49 298 *eP* P 23 56 03.1 -1.4
FARO Faro, Yukon 53.52 35 IAmb IAmb 23 56 07.3
comp=Z,12nm,1.0s
FARO Faro, Yukon 53.52 35 P P 23 56 06.1 +1.8
baz=286
BTK Batken 53.78 295 IAmb IAmb 23 56 10.1
comp=Z,4.9nm,0.8s
P32M Atlin 54.13 39 P P 23 56 10.8 +2.0
baz=288
R32K Eaglecrest 54.14 40 P P 23 56 11.0 +2.1
baz=288
MMPY Sheldon Lake, 54.34 35 P P 23 56 12.4 +2.1
baz=288
P33M Teslin, Yukon 54.37 38 IAmb IAmb 23 56 14.5
comp=Z,8.1nm,0.9s
P33M Teslin, Yukon 54.37 38 P P 23 56 12.8 +2.2
baz=288,SNR=7.8
GAR Garm 54.57 294 IAmb IAmb 23 56 14.7
comp=Z,13nm,0.9s
SDSI Sungai Dareh 54.94 233 P P 23 56 17.1 +1.9
comp=Z,2umcomp=Z,8.6nm,1.1s
Q32M Nakina River 55.03 39 P P 23 56 18.0 +2.4
baz=289
ARU Arti 55.29 318 LR LR 00 22 03.6
comp=Z,75nm,19.7s,baz=79,slow=38
ARU Arti 55.29 318 P P 23 56 16.3 -0.9
ARU IAmb IAmb 23 56 19.8
comp=Z,14nm,0.9s
ARU Arti 55.29 318 *c i* P P 23 56 16.2 -1.0
ARU *PP pP 23 56 28.5 -1.2
ARU 23 57 16.5
ARU S S 00 03 57.0 -0.5
ARU pmax pmax
comp=Z,15nm,0.9s
R33M Jennings River 55.52 38 P P 23 56 21.5 +2.5
baz=290,SNR=5.6
CHGR Chuyangaron 55.53 294 P P 23 56 18.6 -0.8
CHGR pmax pmax
comp=Z,77nm,0.8s
U33K Whale Pass 55.57 43 P P 23 56 21.7 +2.4
baz=291
S34M Telegraph Cree 55.96 40 P P 23 56 24.7 +2.7
baz=291
TGTN Hyland Airport 56.03 35 P P 23 56 24.9 +2.4
baz=291
DLBC Dease Lake 56.31 39 P P 23 56 27.1 +2.5
baz=291
T35M Bob Quinn 56.74 41 P P 23 56 30.5 +2.9
baz=292,SNR=7.3
KBL Kabul 57.47 290 P P 23 56 35.2 +1.9
KBL IAmb IAmb 23 56 40.1
comp=Z,5.7nm,0.8s
KBL Kabul 57.47 290 P P 23 56 35.2 +1.9
KBL pmax pmax
comp=Z,6.0nm,0.8s
WRGLY Wrigley 57.47 32 P P 23 56 34.2 +1.6
baz=293
AKTO Aktyubinsk 57.85 311 LR LR 00 24 01.9
comp=Z,36nm,18.4s,baz=43,slow=39
KIRV Kirov 59.01 322 *ce*P P 23 56 43.2 -0.2
WB0 Warramunga Arr 59.23 189 P P 23 56 44.6 -0.8
PRGR Permogore 59.38 327 *eP* P 23 56 44.2 -1.7
PRGR pmax pmax
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 59.40 189 P P 23 56 45.9 -0.6
WRAB IAmb IAmb 23 56 49.3
comp=Z,8.0nm,0.9s
WRAB Tennant Creek 59.40 189 *i* P P 23 56 45.2 -1.3
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WR0 Warramunga Arr 59.40 189 IAmb IAmb 23 56 59.9
comp=Z,12nm,1.1s
WB2 Warramunga Arr 59.41 189 P P 23 56 46.1 -0.5
WB2 IAmb IAmb 23 56 49.3
comp=Z,8.3nm,0.8s
WRA Warramunga Arr 59.41 189 P P 23 56 44.9 -1.7
comp=Z,5.2nm,0.6s,baz=7.7,slow=7.1,SNR=87
comp=Z,5.2nm,0.6s
WRA Warramunga Arr 59.41 189 *i* P P 23 56 45.7 -0.9
WRA pmax pmax
comp=Z,5.0nm,0.6s
RES Resolute Bay 60.20 15 P P 23 56 51.4 0.0
comp=Z,13nm,1.0s,baz=309,slow=14,SNR=3.8
RES LR LR 00 25 13.5
comp=Z,27nm,19.9s,baz=15,slow=38
comp=Z,13nm,1.0s
YKA Yellowknife Ar 61.42 31 P P 23 57 00.6 +0.8
comp=Z,1.8nm,0.8s,baz=296,slow=6.3,SNR=3.7
comp=Z,1.8nm,0.8s
ARCES ARCESS Array B 62.21 339 P P 23 57 03.9 -1.3
comp=Z,1.4nm,0.6s,baz=55,slow=6.6,SNR=7.0
ARCES LR LR 00 26 44.4
comp=Z,35nm,20.1s,baz=350,slow=38
comp=Z,1.4nm,0.6s
KLMR Klimovskoe 62.34 327 *eP* P 23 57 02.5 -3.5
KLMR pmax pmax
comp=Z,25nm,1.5s
KLMR Klimovskoe 62.34 327 *eP* P 23 57 02.6 -3.5
KLMR AMP 23 57 06.9
comp=Z,25nm,1.5s
HRA Herat 62.45 293 P P 23 57 07.4 -0.1
HRA IAmb IAmb 23 57 20.4
comp=Z,4.0nm,0.7s
BELG Belogornoye 62.78 317 LR LR 00 26 28.5
comp=Z,71nm,18.6s,baz=11,slow=38
ASAR Alice Springs 63.14 189 P P 23 57 11.4 -0.4
comp=Z,2.4nm,0.7s,baz=11,slow=5.5,SNR=23
ASAR LR LR 00 22 24.5
comp=Z,200nm,21.9s,baz=64,slow=34
comp=Z,2.4nm,0.7s
GEYT Alibeck 63.54 298 P P 23 57 13.3 -1.2
comp=Z,5.0nm,0.8s,baz=346,slow=3.1,SNR=7.8
comp=Z,5.0nm,0.8s
GEYT Alibeck 63.54 298 P P 23 57 14.0 -0.5
GEYT IAmb IAmb 23 57 16.9
comp=Z,5.7nm,0.9s
I02E Swisshome, OR 66.28 52 P P 23 57 34.0 +1.9
baz=302
H04D Lebanon 66.73 51 P P 23 57 37.1 +2.1
baz=303
I03D Drain, OR 66.81 52 P P 23 57 37.6 +2.1
baz=303
OBN Obninsk 66.84 323 *ce*P P 23 57 34.2 -1.2
OBN *e* 00 00 01.2
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,76nm,17.0s
H04A Detroit Lake 66.98 51 IAmb IAmb 23 57 39.0
comp=Z,12nm,0.9s
K02D Willamette Mer 67.15 53 P P 23 57 39.3 +1.5
baz=303
FIA1 FINESS Array S 67.25 332 P P 23 57 37.3 -0.6
FIA1 IAmb IAmb 23 57 40.2
comp=Z,8.7nm,0.7s
FINES FINESS Array B 67.25 332 P P 23 57 37.2 -0.8
comp=Z,6.2nm,0.6s,baz=48,slow=7.9,SNR=33
FINES LR LR 00 27 47.8
comp=Z,39nm,19.7s,baz=41,slow=37
comp=Z,6.2nm,0.6s
I04A Tendick Farm, 67.33 51 P P 23 57 40.7 +1.8
baz=303
L02F Cave Junction 67.52 53 P P 23 57 42.2 +2.1
baz=303
C09A Chrisman Ranch 67.53 46 IAmb IAmb 23 57 42.4
comp=Z,11nm,0.9s
D08A Wollman Farm, 67.58 47 IAmb IAmb 23 57 42.3
comp=Z,7.0nm,0.7s
J04D Umpqua Nationa 67.81 52 P P 23 57 44.1 +2.0
baz=304
NEW Newport 67.90 45 P P 23 57 42.7 +0.3
comp=Z,4.5nm,0.8s,baz=308,slow=5.4,SNR=6.7
comp=Z,4.5nm,0.8s
NEW Newport 67.90 45 IAmb IAmb 23 57 44.8
comp=Z,9.1nm,1.1s
NEW Newport 67.90 45 P P 23 57 43.9 +1.5
baz=305
PINE Pine Mountain 68.21 51 P P 23 57 47.0 +2.3
PINE pP sP 23 58 01.3 -1.0
L04D Klamath Falls 68.26 53 P P 23 57 46.6 +1.7
baz=304
YBH Yreka Blue Hor 68.27 53 P P 23 57 46.0 +1.1
comp=Z,6.1nm,1.0s,baz=18,slow=2.6,SNR=8.7
comp=Z,6.1nm,1.0s
YBH Yreka Blue Hor 68.27 53 P P 23 57 47.2 +2.3
YBH Yreka Blue Hor 68.27 53 P P 23 57 47.2 +2.3
YBH pmax pmax
comp=Z,3.0nm,0.9s
J05D Fort Rock, OR 68.32 51 P P 23 57 47.3 +2.1
baz=304
E09A Wood Farm, Sta 68.32 47 IAmb IAmb 23 57 47.7
comp=Z,17nm,1.1s
SUMG Summit 68.44 0 P P 23 57 46.4 +0.6
SUMG IAmb IAmb 23 57 49.1
comp=Z,12nm,1.0s
SUMG Summit 68.44 0 P P 23 57 46.4 +0.6
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 68.44 0 *i* P P 23 57 45.3 -0.5
SUMG IAmb IAmb 23 57 46.5
comp=Z,7.3nm,0.7s
K05A Summer Lake 68.84 52 P P 23 57 51.3 +2.7
J08A Circle Bar Ran 69.94 50 IAmb IAmb 23 57 58.3
comp=Z,12nm,1.1s
KIV Kislovodsk 70.11 311 P P 23 57 56.6 +0.3
KIV IAmb IAmb 23 58 00.3
comp=Z,12nm,0.9s
KIV Kislovodsk 70.11 311 *eP* P 23 57 56.8 +0.5
KIV pmax pmax
comp=Z,15nm,1.0s
KBZ Khabaz 70.12 311 P P 23 57 55.4 -0.8
comp=Z,3.8nm,0.7s,baz=119,slow=6.4,SNR=9.4
comp=Z,3.8nm,0.7s
KBZ Khabaz 70.12 311 *ce*P P 23 57 55.2 -1.0
KBZ pmax pmax

	comp=Z,3.0nm,0.9s							
SHA1	**Shidzhatmaz**	**70.26**	**311**	*i* P		**P**	**23 57 57.8**	**+0.5**
ORV	**Oroville**	**70.26**	**55**	IAmb		IAmb	23 57 58.7	
	comp=Z,6.3nm,0.7s							
MSO	**Missoula**	**70.49**	**45**	P		**P**	**23 57 59.5**	**+0.9**
	baz=307							
BEKR	**Beckworth**	**70.80**	**54**	IAmb		IAmb	23 58 03.0	
	comp=Z,10nm,0.8s							
MNK	**Minsk**	**71.14**	**326**	*i* P		**P**	**23 58 02.2**	**+0.1**
MNK				*i* *PP		**pP**	**23 58 16.4**	**+1.4**
MNK				*i*			23 58 22.0	
MNK				*i*			00 00 39.9	
MNK				*i* PPP		PPP	00 02 23.2	
MNK				*i* S		**S**	**00 07 13.9**	**-1.4**
MNK				*i* *SS		**SKiKP**	**00 07 39.6**	**+0.6**
MNK				*i*			00 08 01.8	
MNK				*i* SS		**SS**	**00 11 50.1**	**+1.6**
MNK				pmax		pmax		
	comp=Z,9.0nm,0.9s							
MNK				pmax		pmax		
	comp=E,3.0nm,1.2s							
MNK				MLR		MLR		
	comp=N,2.0nm,17.0s							
MNK				MLR		MLR		
	comp=E,6.0nm,17.0s							
MNK				MLR		MLR		
	comp=Z,45nm,17.0s							
MNK	**Minsk**	**71.14**	**326**	*i* P		**P**	**23 58 02.2**	**+0.1**
	comp=E,3.0nm,1.2s							
MNK				*i* P		**P**	**23 58 02.2**	**+0.1**
MNK				*i* P		**P**	**23 58 02.2**	**+0.1**
	comp=Z,9.0nm,0.8s,baz=228							
MNK				*i* pP		**pP**	**23 58 16.5**	**+1.4**
MNK				*i* PP		**PP**	**00 00 40.0**	**+0.2**
MNK				*i* PPP		PPP	00 02 23.2	
MNK				*i* S		**S**	**00 07 13.9**	**-1.4**
MNK				*i* sS		**SKiKP**	**00 07 39.7**	**+0.6**
MNK				*i* SS		**SS**	**00 11 50.1**	**+1.6**
MNK				*i* SSS		SSS	00 15 09.3	
MNK				*i* LQ		LQ	00 24 26.6	
MNK				*i* LR		LR	00 29 51.2	
MNK				*i* LRM		MLR	00 31 52.9	
	comp=E,6.0nm,17.4s							
MNK				*i* LRM		MLR	00 31 52.9	
	comp=N,2.0nm,17.4s							
MNK				*i* LRM		MLR	00 32 00.1	
	comp=Z,45nm,17.4s							
PNTR	**Pine Nut**	**71.73**	**54**	IAmb		IAmb	23 58 09.2	
	comp=Z,8.5nm,0.8s							
ICESG	**Greenland Ices**	**71.93**	**1**	*i* P		**P**	**23 58 06.6**	**-0.5**
ICESG				IAmb		IAmb	23 58 07.9	
	comp=Z,9.5nm,0.6s							
EGMT	**Eagleton**	**72.00**	**42**	P		**P**	**23 58 08.5**	**+0.9**
	baz=309							
HLID	**Hailey**	**72.20**	**48**	P		**P**	**23 58 10.5**	**+1.5**
	baz=308							
NB201	**NORSAR Array S**	**72.43**	**337**	P		**P**	**23 58 09.5**	**-0.4**
NB201				IAmb		IAmb	23 58 24.0	
	comp=Z,7.7nm,0.7s							
NB2	**NORSAR Subarra**	**72.46**	**337**	P		**P**	**23 58 09.6**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**72.46**	**337**	P		**P**	**23 58 09.2**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=38,slow=6.0,SNR=23							
NOA				LR		LR	00 34 31.4	
	comp=Z,36nm,18.5s,baz=260,slow=40							
	comp=Z,2.2nm,0.6s							
BOZ	**Bozeman (W)**	**72.51**	**45**	IAmb		IAmb	23 58 13.2	
	comp=Z,7.8nm,0.7s							
BOZ	**Bozeman (W)**	**72.51**	**45**	P		**P**	**23 58 12.2**	**+1.3**
	baz=309							
NORES	**NORESS Array B**	**72.60**	**337**	P		**P**	**23 58 13.7**	**+2.8**
KVN	**Kaiserville**	**72.69**	**54**	IAmb		IAmb	23 58 14.8	
	comp=Z,15nm,1.1s							
NVAR	**Mina Array Bea**	**72.94**	**54**	P		**P**	**23 58 15.3**	**+1.8**
	comp=Z,7.3nm,0.8s,baz=288,slow=6.1,SNR=41							
	comp=Z,7.3nm,0.8s							
AKASG	**Malin Array Be**	**73.07**	**322**	P		**P**	**23 58 12.7**	**-1.1**
	comp=Z,2.7nm,0.4s,baz=44,slow=6.5,SNR=31							
	comp=Z,2.7nm,0.4s							
AKBB	**Malin Array Si**	**73.07**	**322**	*ce*P		**P**	**23 58 13.4**	**-0.4**
ELK	**Elko**	**73.43**	**51**	P		**P**	**23 58 17.2**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=284,slow=4.8,SNR=7.3							
	comp=Z,1.5nm,0.6s							
SFJD	**Kangerlussuaq**	**73.57**	**5**	LR		LR	00 31 05.0	
	comp=Z,51nm,20.5s,baz=342,slow=36							
DSP	**Deep Springs**	**73.78**	**55**	IAmb		IAmb	23 58 21.4	
	comp=Z,9.1nm,1.1s							
DSP						**PcP**	**23 58 35.0**	**+1.3**
H17A	**Grant Village**	**73.85**	**46**	P		**P**	**23 58 21.0**	**+2.1**
	baz=310							
PKM	**Mcpherson Peak**	**74.08**	**58**	P		**P**	**23 58 22.1**	**+1.8**
	baz=307							
RLMT	**Red Lodge**	**74.11**	**44**	P		**P**	**23 58 21.8**	**+1.5**
	baz=310							
CWC	**Cottonwood Cre**	**74.28**	**56**	P		**P**	**23 58 22.9**	**+1.5**
	baz=307							
DY2G	**Dye2**	**74.36**	**4**	*i* P		**P**	**23 58 20.6**	**-0.8**
DY2G				IAmb		IAmb	23 58 22.0	
	comp=Z,7.2nm,0.6s							
GRAC	**Grapevine Rang**	**74.39**	**55**	P		**P**	**23 58 23.6**	**+1.7**
	baz=308							
ISA	**Isabella, Lake**	**74.49**	**57**	P		**P**	**23 58 23.5**	**+1.0**
	baz=307							
R11A	**Troy Canyon, C**	**74.68**	**53**	P		**P**	**23 58 25.3**	**+1.6**
	baz=308							
LAO	**LASA Array**	**74.70**	**42**	P		**P**	**23 58 25.1**	**+1.6**
	baz=312							
MPMC	**Manual Prospec**	**74.89**	**56**	P		**P**	**23 58 26.3**	**+1.3**
	baz=308							
FURC	**Furnace Creek,**	**75.04**	**55**	P		**P**	**23 58 27.1**	**+1.6**
	baz=306							
SPR3	**Spring Creek 3**	**75.05**	**52**	IAmb		IAmb	23 58 28.6	
	comp=Z,4.4nm,0.9s							
TPNV	**Topopah Spring**	**75.13**	**54**	IAmb		IAmb	23 58 28.9	
	comp=Z,11nm,0.9s							
TPNV	**Topopah Spring**	**75.13**	**54**	P		**P**	**23 58 27.8**	**+1.5**
	baz=308							
DUG	**Dugway, Tooele**	**75.22**	**50**	P		**P**	**23 58 28.3**	**+1.6**
	baz=309							
EDW2	**Edwards Air Fo**	**75.28**	**57**	P		**P**	**23 58 28.6**	**+1.5**
	baz=308							
GWY	**Greenwater Val**	**75.33**	**55**	IAmb		IAmb	23 58 29.8	
	comp=Z,7.0nm,0.7s							
BW06	**Boulder Array**	**75.46**	**46**	P		**P**	**23 58 29.2**	**+1.0**
	baz=310							
PDAR	**Pinedale Array**	**75.46**	**46**	P		**P**	**23 58 28.6**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=293,slow=0.9,SNR=30							
	comp=Z,3.1nm,0.7s							
PRN	**Pahroc Range**	**75.60**	**53**	IAmb		IAmb	23 58 31.8	
	comp=Z,7.4nm,0.9s							
GSC	**Goldstone, Bar**	**75.79**	**56**	P		**P**	**23 58 31.3**	**+1.3**
	baz=308							
BFSC	**Mount Baldy Ra**	**75.89**	**57**	P		**P**	**23 58 31.8**	**+1.2**
	baz=308							
MPU	**Maple Canyon**	**76.03**	**50**	IAmb		IAmb	23 58 34.1	
	comp=Z,10nm,1.0s							
SCI2	**San Clemente I**	**76.07**	**59**	P		**P**	**23 58 33.1**	**+1.6**
	baz=306							
TUQ	**Turquoise Moun**	**76.27**	**55**	P		**P**	**23 58 33.9**	**+1.1**
	baz=309							
GMRC	**Granite Mounta**	**76.84**	**56**	P		**P**	**23 58 37.2**	**+1.1**
	baz=309							
PFO	**Pinyon Flats O**	**77.06**	**57**	P		**P**	**23 58 38.3**	**+1.0**
	baz=309							
TPFO	**Pinon Flats**	**77.06**	**57**	P		**P**	**23 58 38.4**	**+1.0**
	baz=309							
BURAR	**Bucovina Array**	**77.10**	**322**	⇓P		**P**	**23 58 37.2**	**-0.1**
BURAR	**Bucovina Array**	**77.10**	**322**	⇓P		**P**	**23 58 37.2**	**-0.1**
BELC	**Belle Mtn. Jos**	**77.12**	**57**	P		**P**	**23 58 38.5**	**+0.9**
	baz=309							
ULM	**Lac du Bonnet**	**77.14**	**34**	P		**P**	**23 58 36.5**	**-0.7**
	comp=Z,6.5nm,0.8s,baz=300,slow=8.3,SNR=4.5							
	comp=Z,6.5nm,0.8s							
BIZ	**Bicaz**	**77.15**	**321**	⇓P		**P**	**23 58 37.8**	**+0.4**
K22A	**Casper**	**77.22**	**45**	P		**P**	**23 58 39.1**	**+1.0**
	baz=312							
KNB	**Kanab**	**77.22**	**53**	IAmb		IAmb	23 58 41.4	
	comp=Z,9.7nm,1.0s							
KOLS	**Kolonicke sedl**	**77.53**	**324**	*e*P		**P**	**23 58 39.6**	**+0.1**
KOLS				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KOLS	**Kolonicke sedl**	**77.53**	**324**	*e*P		**P**	**23 58 39.6**	**+0.1**
RSSD	**Black Hills**	**77.56**	**43**	P		**P**	**23 58 41.1**	**+1.1**
RSSD				IAmb		IAmb	23 58 41.7	
	comp=Z,12nm,1.0s							
RSSD	**Black Hills**	**77.56**	**43**	P		**P**	**23 58 41.1**	**+1.1**
RSSD				pmax		pmax		
	comp=Z,12nm,1.0s							
RSSD	**Black Hills**	**77.56**	**43**	P		**P**	**23 58 40.8**	**+0.8**
	baz=313							
IRM	**Iron Mountain**	**77.57**	**56**	P		**P**	**23 58 41.5**	**+1.5**
	baz=309							
OJC	**Ojcow**	**77.67**	**326**	IAmb		IAmb	23 58 42.5	
	comp=Z,6.4nm,0.9s							
IKP	**In-Ko-Pah, Jac**	**77.89**	**58**	P		**P**	**23 58 43.3**	**+1.4**
	baz=309							
SWSC	**Sam W. Stewart**	**77.91**	**57**	P		**P**	**23 58 43.4**	**+1.6**
	baz=309							
O20A	**White River Ci**	**77.93**	**48**	P		**P**	**23 58 43.1**	**+1.0**
	baz=312							
TRPA	**Tarpa**	**77.99**	**324**	⇓P		**P**	**23 58 42.4**	**+0.4**
BRTR	**Keskin Array B**	**78.03**	**312**	P		**P**	**23 58 41.6**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=106,slow=2.3,SNR=10							
	comp=Z,1.2nm,0.5s							
BRTR	**Keskin Array B**	**78.03**	**312**	*ce*P		**P**	**23 58 44.7**	**+2.1**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
PDMCI	**Parker Dam,Lak**	**78.12**	**55**	P		**P**	**23 58 44.4**	**+1.4**
	baz=310							
N23A	**Red Feather La**	**78.72**	**46**	IAmb		IAmb	23 58 49.4	
	comp=Z,16nm,1.1s							
N23A	**Red Feather La**	**78.72**	**46**	P		**P**	**23 58 48.0**	**+1.4**
	baz=313							
VOIR		**78.73**	**320**	⇑P		**P**	**23 58 47.0**	**+0.7**
VOIR		**78.73**	**320**	⇑P		**P**	**23 58 47.0**	**+0.7**
OSTC	**Ostas**	**78.91**	**328**	*e*P		**P**	**23 58 47.9**	**+0.8**
CHVC	**Chvalec**	**78.95**	**329**	*e*P		**P**	**23 58 48.3**	**+0.9**
MORC	**Moravsky Berou**	**78.96**	**327**	⇓P		**P**	**23 58 46.5**	**-0.9**
MORC	**Moravsky Berou**	**78.96**	**327**	*e*P		**P**	**23 58 47.2**	**-0.2**
MORC	**Moravsky Berou**	**78.96**	**327**	⇓P		**P**	**23 58 46.5**	**-0.9**
ARR	**Arges**	**78.98**	**321**	⇓P		**P**	**23 58 48.6**	**+0.9**
DPC	**Dobruska-Polom**	**79.03**	**328**	*e*P		**P**	**23 58 48.2**	**+0.4**
DPC	**Dobruska-Polom**	**79.03**	**328**	*e*P		**P**	**23 58 48.2**	**+0.4**
KRLC	**Kraliky**	**79.05**	**328**	*e*P		**P**	**23 58 47.9**	**0.0**
KRLC	**Kraliky**	**79.05**	**328**	*e*P		**P**	**23 58 47.9**	**0.0**
WUAZ	**Wupatki**	**79.08**	**53**	IAmb		IAmb	23 58 51.4	
	comp=Z,8.5nm,0.8s							
WUAZ	**Wupatki**	**79.08**	**53**	P		**P**	**23 58 50.4**	**+1.9**
	baz=311							
VYHS	**Vyhne**	**79.38**	**326**	*e*P		**P**	**23 58 50.2**	**+0.5**
VYHS	**Vyhne**	**79.38**	**326**	*e*P		**P**	**23 58 50.2**	**+0.5**
BRG	**Berggiesshubel**	**79.57**	**330**	*e*P		**P**	**23 58 50.8**	**+0.1**
BRG				Amp			23 58 51.5	
	comp=Z,3.8nm,0.9s							
BRG	**Berggiesshubel**	**79.57**	**330**	*e*P		**P**	**23 58 50.7**	**+0.1**
BRG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
CLL	**Collm**	**79.59**	**331**	*i* P		**P**	**23 58 49.3**	**-1.5**
CLL				*e**PP		**pP**	**23 59 03.0**	**-0.8**
CLL				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**79.59**	**331**	*i* P		**P**	**23 58 49.3**	**-1.5**
	comp=Z,7.0nm,1.0s							
CLL				*i* x		x	23 58 52.6	
	comp=Z,6.0nm,1.0s							
CLL				*e*pP		**pP**	**23 59 03.0**	**-0.8**
CLL				*e*PP		**PP**	**00 01 52.0**	**+0.9**
JAVC	**Velka Javorina**	**79.61**	**327**	*e*P		**P**	**23 58 51.6**	**+0.6**
ISCO	**Idaho Springs**	**79.65**	**47**	P		**P**	**23 58 53.1**	**+1.4**
	baz=313							
MVCO	**Mesa Verde**	**79.72**	**50**	IAmb		IAmb	23 58 54.5	
	comp=Z,7.8nm,0.8s							
MVCO	**Mesa Verde**	**79.72**	**50**	P		**P**	**23 58 53.6**	**+1.5**
	baz=312							
VRAC	**Vranov**	**79.72**	**327**	LR		LR	00 36 22.3	
	comp=Z,53nm,18.4s,baz=13,slow=37							
VRAC	**Vranov**	**79.72**	**327**	*e*P		**P**	**23 58 51.5**	**0.0**
GZR	**Gura Zlata**	**79.87**	**322**	⇑P		**P**	**23 58 51.9**	**-0.6**
GZR	**Gura Zlata**	**79.87**	**322**	⇑P		**P**	**23 58 51.9**	**-0.6**
SUSD	**Miller**	**79.93**	**40**	P		**P**	**23 58 55.0**	**+2.2**
	baz=316							
KRUC	**Moravsky**	**79.99**	**327**	*e*P		**P**	**23 58 52.6**	**-0.4**
PRU	**Pruhonice**	**80.03**	**329**	*e*P		**P**	**23 58 53.6**	**+0.4**
PRU	**Pruhonice**	**80.03**	**329**	*e*P		**P**	**23 58 53.6**	**+0.4**
BZS	**Buzias**	**80.26**	**322**	⇑P		**P**	**23 58 53.6**	**-0.9**
BZS	**Buzias**	**80.26**	**322**	⇑P		**P**	**23 58 53.6**	**-0.9**
S22A	**4UR Ranch, Cre**	**80.34**	**49**	P		**P**	**23 58 57.1**	**+1.6**
	baz=313							
W18A	**Petrified Fore**	**80.36**	**52**	P		**P**	**23 58 57.0**	**+1.5**
	baz=312							
CKRC	**Cesky Krumlov**	**81.04**	**328**	*e*P		**P**	**23 58 58.6**	**-0.1**
RONA	**Rosalia, Austr**	**81.09**	**327**	*i* P		**P**	**23 58 59.3**	**+0.3**
	comp=Z,4.5nm,0.8s							
KHC	**Kasperske Hory**	**81.09**	**329**	*e*P		**P**	**23 58 59.0**	**+0.1**
KHC	**Kasperske Hory**	**81.09**	**329**	*e*P		**P**	**23 58 59.0**	**+0.1**
CONA	**Conrad Observa**	**81.09**	**327**	*i* P		**P**	**23 58 59.0**	**-0.1**
	comp=Z,3.7nm,0.9s							
SDCO	**Great Sand Dun**	**81.12**	**48**	P		**P**	**23 59 01.0**	**+1.4**
	baz=313							
MORH	**Mrgy, Hungar**	**81.19**	**324**	⇑P		**P**	**23 58 57.4**	**-2.0**
GERES	**GERESS Array B**	**81.27**	**329**	P		**P**	**23 58 59.3**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=38,slow=6.8,SNR=9.6							
	comp=Z,1.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**81.31**	**341**	P		**P**	**23 58 59.7**	**-0.2**
TUC	**Tucson**	**81.55**	**55**	P		**P**	**23 59 03.2**	**+1.5**
	baz=311							
ECSD	**EROS Data Cent**	**81.60**	**39**	P		**P**	**23 59 02.5**	**+0.7**
ECSD				IAmb		IAmb	23 59 02.6	
	comp=Z,6.1nm,0.8s							
ECSD	**EROS Data Cent**	**81.60**	**39**	P		**P**	**23 59 02.8**	**+1.1**
	baz=318							
VTS	**Vitosha**	**81.67**	**319**	⇑P		**P**	**23 59 01.7**	**-0.6**
VTS	**Vitosha**	**81.67**	**319**	IAmb		IAmb	23 59 03.2	
	comp=Z,4.6nm,0.6s							
VTS	**Vitosha**	**81.67**	**319**	⇑P		**P**	**23 59 01.7**	**-0.6**
BOVS	**Bovan**	**81.68**	**321**	⇓P		**P**	**23 59 01.0**	**-1.1**
T25A	**Trinidad**	**82.16**	**48**	IAmb		IAmb	23 59 07.3	
	comp=Z,10nm,0.9s							
T25A	**Trinidad**	**82.16**	**48**	P		**P**	**23 59 06.4**	**+1.3**
	baz=314							
BIOA	**Bad Ischl, Aus**	**82.21**	**328**	*i* P		**P**	**23 59 04.1**	**-0.7**
	comp=Z,9.3nm,1.2s							
SOKA	**Soboth**	**82.42**	**327**	*i* P		**P**	**23 59 05.7**	**-0.4**
	comp=Z,6.7nm,0.9s							
ANMO	**Albuquerque**	**82.46**	**51**	P		**P**	**23 59 08.7**	**+2.1**
ANMO				IAmb		IAmb	23 59 09.5	
	comp=Z,6.8nm,1.1s							
ANMO	**Albuquerque**	**82.46**	**51**	*ce*P		**P**	**23 59 06.0**	**-0.6**
ANMO				pmax		pmax		
	comp=Z,9.0nm,1.3s							
ANMO	**Albuquerque**	**82.46**	**51**	P		**P**	**23 59 08.4**	**+1.7**
	baz=313							
121A	**Cookes Peak, D**	**83.29**	**53**	IAmb		IAmb	23 59 13.7	
	comp=Z,8.0nm,0.9s							
121A	**Cookes Peak, D**	**83.29**	**53**	P		**P**	**23 59 12.5**	**+1.6**
	baz=313							
ABTA	**Abfaltersbach**	**83.43**	**328**	*i* P		**P**	**23 59 10.6**	**-0.6**
	comp=Z,3.3nm,1.2s							
MOTA	**Moosalm**	**83.51**	**329**	*i* P		**P**	**23 59 11.3**	**-0.5**
	comp=Z,5.3nm,1.0s							
RETA	**Reutte**	**83.53**	**329**	*i* P		**P**	**23 59 11.6**	**-0.2**
	comp=Z,9.0nm,1.2s							
SQTA	**Sankt Quirin**	**83.57**	**329**	*i* P		**P**	**23 59 12.3**	**+0.3**
	comp=Z,6.5nm,1.2s							
CBKS	**Cedar Bluff**	**83.59**	**44**	P		**P**	**23 59 13.4**	**+1.2**
	baz=316							
FETA	**Feichten**	**83.93**	**329**	*i* P		**P**	**23 59 14.1**	**+0.2**
	comp=Z,6.5nm,1.3s							
DAVA	**Damuels**	**84.04**	**330**	*i* P		**P**	**23 59 14.0**	**-0.5**
	comp=Z,6.2nm,0.8s							
PPT	**Papeete**	**84.86**	**117**	LR		LR	00 30 52.0	
	comp=Z,59nm,21.4s,baz=145,slow=31							
AMTX	**Amarillo**	**85.32**	**48**	P		**P**	**23 59 22.2**	**+1.1**
	baz=316							
MSTX	**Muleshoe**	**85.33**	**49**	P		**P**	**23 59 21.9**	**+0.7**
	baz=315							
GLMI	**Grayling**	**86.13**	**32**	P		**P**	**23 59 25.3**	**+0.6**
	baz=325							
WMOK	**Wichita Mounta**	**87.07**	**46**	P		**P**	**23 59 30.5**	**+0.8**
	baz=317							
TX31	**Lajitas Ar. Si**	**88.05**	**53**	IAmb		IAmb	23 59 37.7	
	comp=Z,4.7nm,0.7s							
TXAR	**Lajitas Array**	**88.05**	**53**	P		**P**	**23 59 35.4**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=295,slow=3.2,SNR=36							
	comp=Z,1.6nm,0.6s							
SADO	**Sadowa**	**88.30**	**28**	LR		LR	00 40 52.9	
	comp=Z,43nm,18.3s,baz=194,slow=37							
CCM	**Cathedral Cave**	**88.56**	**40**	P		**P**	**23 59 37.4**	**+0.8**
CCM	**Cathedral Cave**	**88.56**	**40**	P		**P**	**23 59 37.4**	**+0.8**
CCM				pmax		pmax		
	comp=Z,14nm,0.9s							
CCM	**Cathedral Cave**	**88.56**	**40**	P		**P**	**23 59 37.0**	**+0.4**
	baz=321							
JCT	**Junction City**	**89.58**	**50**	P		**P**	**23 59 42.0**	**+0.4**
	baz=317							
O48B	**Farmland**	**89.64**	**34**	P		**P**	**23 59 42.0**	**+0.3**
	baz=325							
WHTX	**Lake Whitney,**	**89.84**	**47**	P		**P**	**23 59 44.1**	**+1.4**
	baz=318							
MIAR	**Mount Ida**	**90.06**	**43**	P		**P**	**23 59 44.5**	**+0.7**
	baz=320							
ERPA	**Erie**	**90.24**	**30**	P		**P**	**23 59 45.0**	**+0.6**
	baz=328							
P49A	**Miami Univ. Ec**	**90.43**	**35**	P		**P**	**23 59 45.5**	**+0.2**
	baz=325							
ACSO	**Alum Creek Sta**	**90.60**	**33**	P		**P**	**23 59 46.6**	**+0.5**
	baz=326							
WCI	**Wyandotte Cave**	**90.78**	**36**	P		**P**	**23 59 47.5**	**+0.5**
	baz=324							
LBNH	**Lisbon**	**91.23**	**24**	P		**P**	**23 59 48.0**	**-1.0**
	baz=334							
BINY	**Binghamton**	**91.67**	**28**	P		**P**	**23 59 51.5**	**+0.4**
	baz=331							
TKL	**Tuckaleechee C**	**94.04**	**36**	P		**P**	**00 00 02.0**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=310,slow=1.1,SNR=7.7							
	comp=Z,4.0nm,0.7s							
BLA	**Blacksburg**	**94.22**	**33**	P		**P**	**00 00 03.7**	**+0.7**
	baz=328							
ESDC	**Sonseca Array**	**95.66**	**335**	P		**P**	**00 00 07.6**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=16,slow=4.1,SNR=5.0							
ESDC				LR		LR	00 48 09.6	
	comp=Z,21nm,18.0s,baz=356,slow=38							
	comp=Z,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**116.35**	**317**	PKP		**PKPdf**	**00 05 26.1**	**-1.6**
	comp=Z,0.8nm,1.0s,baz=72,slow=1.1,SNR=4.4							
VNDA	**Vanda**	**117.14**	**175**	PKP		**PKPdf**	**00 05 26.8**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=328,slow=3.3,SNR=1.3							
TROLL	**Troll, Antarti**	**141.64**	**199**	PKPdf		**PKPdf**	**00 06 08.6**	**-5.3**
SNAA	**Sanae**	**143.16**	**197**	PKPdf		PKPab	00 06 12.1	-0.1
VNA2	**Neumayer--Watz**	**144.72**	**197**	PKPdf		**PKPab**	**00 06 16.4**	**-1.7**
	baz=127,slow=3.0							
LPAZ	**La Paz**	**144.77**	**58**	PKP		PKPbc	00 06 20.8	+0.1
	comp=Z,2.2nm,0.5s,baz=290,slow=3.7,SNR=16							
VNA3	**Neumayer Olymp**	**144.97**	**195**	PKPdf		PKPbc	00 06 17.8	-1.2
VNA1	**Neumayer--Stat**	**145.12**	**197**	PKPdf		**PKPbc**	**00 06 19.1**	**-0.4**
VILB	**Vilhena**	**146.95**	**44**			**PKPbc**	**00 06 26.6**	**0.0**
PTLB	**Pontes e Lacer**	**149.59**	**45**			**PKPbc**	**00 06 34.1**	**+0.6**
AC05	**El Transito**	**151.02**	**79**			**PKiKP**	**00 06 38.1**	**+0.7**
BO02	**Sierra Bellavi**	**153.11**	**91**			**PKiKP**	**00 06 42.3**	**+0.8**

BJI ***20*** *00:05:07.5±0.0, 10°.86S×162°.54E, h64km, mb4.8/18, mB5.1/9*

IDC ***20*** *00:05:07.9±0.6, 11°.00S×162°.47E, h58km±4km, mb4.1/17, mbtmp4.4/19, MS3.6/33, Error ellipse: s-maj=13.8km s-min=10.4km az=19.0*

NOU ***20*** *00:05:09.6, 10°.73S×162°.77E, h101km, mb4.9/16, Solomon Islands*

NEIC ***20*** *00:05:09.4±1.6, 10°.92S±0°.08×162°.56E±0°.09, h64km±7km, mb4.9/87, Error ellipse: s-maj=13.9km s-min=9.3km az=51.0*

ISC 20 00:05:08.2±0.4,**10°.93S**±0°.05×**162°.55E**±0°.06,**h58**km±3km, **h59**km:**pP-P, n188,** σ1**27**/176,**mb4.8**/67,**MS3.6**/32,**1C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.96**	**300**	P		**Pn**	**00 05 51.1**	**-1.7**
	5μm,0.5s,baz=180,slow=12,SNR=3.2							
HNR				S		**Sn**	**00 06 26.9**	**-0.2**
	21μm,0.5s,baz=153,slow=16,SNR=7.9							
HNR	**Honiara**	**2.96**	**300**	Pn		**Pn**	**00 05 53.8**	**+1.0**
HNR				Sn		**Sn**	**00 06 29.6**	**+2.5**
HNR	**Honiara**	**2.96**	**300**	P		**Pn**	**00 05 55.7**	**+2.9**
DVP	**Devils Point**	**8.69**	**142**	P		**Pn**	**00 07 13.3**	**+2.1**
RTV	**Rentapao**	**8.89**	**141**	P		**Pn**	**00 07 16.8**	**+2.9**
KOUNC	**Koumac, New Ca**	**9.71**	**170**			**Pn**	**00 07 26.5**	**+1.3**
KOUNC						**Sn**	**00 09 14.8**	**+1.9**
KOUNC	**Koumac, New Ca**	**9.71**	**170**	P		**Pn**	**00 07 28.8**	**+3.6**
LIFNC	**LIFOU**	**10.78**	**156**			**Pn**	**00 07 40.3**	**+0.5**
LIFNC	**LIFOU**	**10.78**	**156**	P		**Pn**	**00 07 40.3**	**+0.5**
NOUC	**Port Laguerre**	**11.68**	**163**	P		**Pn**	**00 07 55.1**	**+3.0**
DZM	**Mont Dzumac**	**11.69**	**162**	*e*Pn		**Pn**	**00 07 51.7**	**-0.7**
DZM	28nm,1.0s							
	44nm,0.9s			*e*Sn		**Sn**	**00 09 56.1**	**-5.3**
DZM				*e*LR		LR	00 10 37.4	
	comp=Z,605nm,29.4s							
DZM	**Mont Dzumac**	**11.69**	**162**	P		**Pn**	**00 07 54.0**	**+1.6**
	5.7nm,0.3s,baz=331,slow=10,SNR=26							
DZM				S		Sn	00 09 51.4	-10
	3.1nm,0.5s,baz=330,slow=20,SNR=1.7							
DZM	**Mont Dzumac**	**11.69**	**162**	Pn		**Pn**

H11N3 WAKE ISLAND Hy 30.76 8 T T 00 43 46.3
baz=188,slow=76,SNR=122
H11N2 WAKE ISLAND Hy 30.77 8 T T 00 43 40.9
baz=188,slow=76,SNR=105
SIJI Sorong 32.64 286 LR LR 00 25 17.2
comp=Z,114nm,21.2s,baz=21,slow=37
MULG Mulgathing 32.73 230 P **P** **00 11 34.8 -0.7**
KNRA Kununurra 33.19 258 P **P** **00 11 38.8 -0.9**
KNRA Kununurra 33.19 258 P **P** **00 11 38.7 -0.9**
OXZ Oxford 33.31 167 P **P** **00 11 40.1 -0.3**
RPZ Rata Peaks 33.49 169 LR LR 00 25 03.0
comp=Z,50nm,18.3s,baz=286,slow=36
ODZ Otahua Downs 34.70 170 P **P** **00 11 53.0 +0.7**
FITZ Fitzroy Crossi 36.38 254 P **P** **00 12 05.2 -2.0**
comp=Z,7.8nm,0.6s,baz=80,slow=7.0,SNR=24
FITZ LR LR 00 26 41.4
comp=Z,150nm,19.6s,baz=41,slow=36
comp=Z,7.8nm,0.6s
FITZ Fitzroy Crossi 36.38 254 P **P** **00 12 05.8 -1.4**
FITZ IAmb IAmb 00 12 06.6
comp=Z,9.5nm,0.7s
FITZ pP **pP** **00 12 20.9 -0.4**
SANI Sanana 37.34 281 P **P** **00 12 14.7 -0.7**
comp=Z,2µmcomp=Z,24nm,1.2s
RAR Rarotonga 37.53 111 LR LR 00 24 13.2
comp=Z,233nm,19.6s,baz=244,slow=30
BATI Baumata 38.21 267 P **P** **00 12 22.2 -0.6**
comp=Z,25nm,0.5s,baz=94,slow=16,SNR=5.4
comp=Z,25nm,0.5s
DAV Davao City (W) 40.91 294 LR LR 00 29 13.5
comp=Z,41nm,19.8s,baz=126,slow=35
APSI Ampana 41.82 281 P P 00 13 08.1 +15
BSSI Bau Bau, Buton 41.83 273 P **P** **00 12 51.6 -1.2**
KAPI Kappang 42.75 274 P **P** **00 12 59.0 -1.2**
comp=Z,6.1nm,0.7s,baz=94,slow=5.6,SNR=4.7
KAPI LR LR 00 32 08.8
comp=Z,61nm,18.3s,baz=108,slow=38
comp=Z,6.1nm,0.7s
KAPI Kappang 42.75 274 P **P** **00 12 59.1 -1.1**
KAPI pP **pP** **00 13 13.9 -1.4**
PPT2 Papeete2 46.77 104 *e*LR LR 00 26 54.2
comp=Z,345nm,35.0s
TBI Tubuai 47.29 112 *e*LR LR 00 27 08.7
comp=Z,256nm,34.2s
MJAR Matsushiro Arr 52.49 335 P **P** **00 14 13.9 -1.4**
comp=Z,0.9nm,0.3s,baz=139,slow=11,SNR=2.4
MJAR LR LR 00 35 19.2
comp=Z,15nm,21.9s,baz=175,slow=34
comp=Z,0.9nm,0.3s
KSRS Korea Array 58.06 328 P **P** **00 14 55.8 +0.4**
comp=Z,2.8nm,0.8s,baz=134,slow=7.2,SNR=5.9
comp=Z,2.8nm,0.8s
KSAR Wonju Array Be 58.07 328 P **P** **00 14 55.2 -0.2**
USA0B Ussuriysk Arra 61.48 335 P **P** **00 15 19.4 +0.6**
USA0B pP **pP** **00 15 35.0 +0.7**
USA0B IAmb IAmb 00 15 36.8
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 61.48 335 P **P** **00 15 20.1 +1.2**
comp=Z,8.8nm,0.8s,baz=152,slow=7.3,SNR=12
USRK pP **pP** **00 15 35.2 +1.0**
comp=Z,12nm,1.0s,baz=160,slow=6.8,SNR=6.8
comp=Z,8.8nm,0.8s
USRK Ussuriysk Ar. 61.48 335 P **P** **00 15 19.0 +0.2**
USRK pP **pP** **00 15 35.0 +0.7**
CN2 Changchun 64.07 331 *e*P **P** **00 15 35.6 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
PSI Prapat 64.74 278 LR LR 00 46 03.9
comp=Z,32nm,18.4s,baz=152,slow=38
VNDA Vanda 66.58 180 P **P** **00 15 51.5 -0.3**
comp=Z,2.2nm,0.7s,baz=343,slow=6.2,SNR=18
comp=Z,2.2nm,0.7s
VNDA Vanda 66.58 180 P **P** **00 15 53.0 +1.2**
VNDA Vanda 66.58 180 P **P** **00 15 52.7 +0.9**
VNDA pP **sP** **00 16 10.0 -2.9**
SBA Scott Base 66.95 179 P **P** **00 15 56.8 +2.6**
SBA Scott Base 66.95 179 P **P** **00 15 55.6 +1.4**
SBA sP **pwP** **00 16 18.2 +4.9**
CCD Concordia, Ant 67.75 190 P **P** **00 16 00.3 +0.5**
CCD pP **pwP** **00 16 17.5 -1.7**
PHRA Phrae 68.06 295 P **P** **00 16 01.4 -0.8**
CRAI Chiangrai 68.55 297 P **P** **00 16 04.4 -0.8**
XLT XiLinHaoTe 68.97 326⇑ *i*P **P** **00 16 08.3 +0.8**
XLT pP sP 00 16 28.9 -0.2
XLT pmax pmax
comp=Z,25nm,0.9s
XLT pmax pmax
comp=Z,130nm,5.1s
CMAR Chiang Mai Arr 69.20 295 P **P** **00 16 08.7 -0.6**
comp=Z,1.6nm,0.9s,baz=104,slow=4.4,SNR=9.5
CMAR pP **pP** **00 16 23.3 -1.9**
comp=Z,1.9nm,1.1s,baz=128,slow=4.4,SNR=2.1
CMAR LR LR 00 47 39.4
comp=Z,11nm,18.0s,baz=125,slow=37
comp=Z,1.6nm,0.9s
CMAR Chiang Mai Arr 69.20 295 P **P** **00 16 08.2 -1.1**
HHC Hu-ho-hao-te 69.74 321 *e*P **P** **00 16 14.4 +2.1**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.9s
PZH PanZhiHua 69.78 304 P **P** **00 16 13.8 +1.0**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.9s
CD2 Chengdu 70.06 309 P **P** **00 16 14.4 0.0**
SII Sitkinak Islan 76.17 23 P **P** **00 16 51.0 +1.2**
ULN Ulaanbaatar 76.39 325 P **P** **00 16 51.7 +0.2**
ULN IAmb IAmb 00 16 53.4
comp=Z,14nm,1.1s
GTA Gaotai 76.73 315 *e*P **P** **00 16 54.4 +0.8**
GTA pP pP 00 17 10.0 +0.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 76.74 325 P **P** **00 16 54.0 +0.5**
comp=Z,7.9nm,1.0s,baz=137,slow=6.0,SNR=30
SONM pP **pP** **00 17 09.5 -0.2**
comp=Z,2.8nm,0.8s,baz=137,slow=5.4,SNR=5.5
comp=Z,7.9nm,1.0s
SONM Songino Array 76.74 325 P **P** **00 16 53.9 +0.4**
SONM IAmb IAmb 00 16 55.2
comp=Z,9.7nm,1.0s
OHAK Old Harbor 76.99 23 P **P** **00 16 54.9 +0.5**
BRDH Bariadhala 77.02 296 LR LR 00 52 33.4
comp=Z,54nm,18.1s,baz=80,slow=37
P18K Big Mountain, 77.86 21 IAmb IAmb 00 17 00.1
comp=Z,16nm,0.9s
Q19K Cape Douglas, 78.08 22 P **P** **00 17 00.7 +0.2**
N18K Kilae Creek 78.60 19 P **P** **00 17 03.8 +0.5**
P19K Oil Pt 78.75 21 P **P** **00 17 04.7 +0.5**
SVW2 Sparrevohn 79.01 19 P **P** **00 17 06.6 +1.0**
SVW2 IAmb IAmb 00 17 07.4
comp=Z,14nm,1.0s
QSPA South Pole Qui 79.07 180 P **P** **00 17 06.4 +0.3**
CNPM China Poot 79.38 22 P **P** **00 17 07.2 -0.5**
CNPM IAmb IAmb 00 17 09.4
comp=Z,11nm,0.9s
M19K Big River Lodg 79.99 19 P **P** **00 17 12.6 +1.7**
L19K White Mountain 80.05 19 P **P** **00 17 12.8 +1.6**
L19K IAmb IAmb 00 19 08.6
comp=Z,29nm,1.6s
SUA Susitna One 80.90 21 P **P** **00 17 16.9 +0.9**
K20K Telida 81.16 18 P **P** **00 17 18.1 +1.0**
K20K IAmb IAmb 00 18 10.3
comp=Z,27nm,1.8s
Q23K Middleton Isla 81.18 24 P **P** **00 17 16.9 -0.4**
MID Middleton Isla 81.19 24 P **P** **00 17 16.6 -0.7**
PWL Port Wells 81.35 22 P **P** **00 17 18.6 +0.3**
PWL IAmb IAmb 00 17 22.0
comp=Z,17nm,1.3s
J20K Nowinta River 81.74 18 P **P** **00 17 21.6 +1.4**
J20K IAmb IAmb 00 17 22.3
comp=Z,9.6nm,1.1s
GHO Glory Hole Cre 81.75 21 P **P** **00 17 22.0 +1.7**
GHO IAmb IAmb 00 17 56.9
comp=Z,13nm,1.2s
GLI Glacier Island 81.83 22 P **P** **00 17 21.3 +0.6**
KTH Kantishna Hill 82.29 19 P **P** **00 17 23.2 0.0**
SCM Sheep Creek Mo 82.36 22 P **P** **00 17 24.8 +1.2**
SCM IAmb IAmb 00 18 20.2
comp=Z,23nm,1.4s
TRF Thorofare Moun 82.43 19 P **P** **00 17 23.8 -0.2**
TRF IAmb IAmb 00 17 27.5
comp=Z,21nm,1.6s
BPAW Bear Paw Mtn. 82.66 19 P **P** **00 17 24.4 -0.6**
BPAW IAmb IAmb 00 17 35.7
comp=Z,35nm,2.0s
RND Reindeer 82.87 20 P **P** **00 17 26.6 +0.4**
RND IAmb IAmb 00 20 35.6
comp=Z,7.0nm,0.5s
M24K Tolsona, Glenn 82.95 22 **P** **00 17 27.8 +1.1**
MCK McKinley 83.06 20 P **P** **00 17 26.5 -0.6**
MCK IAmb IAmb 00 17 27.9
comp=Z,7.2nm,0.8s
I21K Tanana 83.11 18 P **P** **00 17 28.3 +1.0**
I21K IAmb IAmb 00 17 29.2
comp=Z,17nm,1.2s
DHY Denali Highway 83.16 21 P **P** **00 17 28.5 +0.7**
DHY IAmb IAmb 00 20 15.0
comp=Z,21nm,1.8s
IMAR Indian Mountai 83.18 17 P **P** **00 17 28.5 +0.9**
BWN Browne 83.19 19 **P** **00 17 28.6 +0.9**
H21K Melozitna Rive 83.21 17 P **P** **00 17 29.2 +1.4**
H21K IAmb IAmb 00 17 29.4
comp=Z,11nm,1.3s
MLY Manley 83.38 18 P **P** **00 17 29.2 +0.5**
PALK Palekele 83.42 279 LR LR 00 58 06.1
comp=Z,25nm,18.1s,baz=202,slow=38
RPN Rapa Nui 83.44 116 LR LR 00 47 40.4
comp=Z,54nm,20.9s,baz=276,slow=31
NEA2 Nenana 83.60 19 P **P** **00 17 29.7 -0.2**
WRH Wood River Hil 83.84 19 IAmb IAmb 00 17 32.2
comp=Z,9.7nm,1.2s
CCB Clear Creek Bu 84.05 19 IAmb IAmb 00 17 33.4
comp=Z,5.2nm,0.6s
MDM Murphy Dome 84.11 19 P **P** **00 17 32.4 -0.1**
DIB Dawson Inlet, 84.29 33 P **P** **00 17 34.6 +1.1**
H23K Yukon River 84.29 18 P **P** **00 17 33.9 +0.5**
IL31 84.42 19 P **P** **00 17 34.3 +0.3**
ILAR Eielson Array 84.42 19 P **P** **00 17 33.4 -0.7**
comp=Z,1.3nm,0.4s,baz=248,slow=5.4,SNR=14
ILAR pP **pP** **00 17 49.9 -0.1**
comp=Z,0.9nm,0.8s,baz=244,slow=4.2,SNR=4.1
ILAR LR LR 00 49 42.9
comp=Z,38nm,21.0s,baz=276,slow=32
comp=Z,1.3nm,0.4s
ILAR Eielson Array 84.42 19 P **P** **00 17 34.0 0.0**
DOT Dot Lake 84.68 21 P **P** **00 17 35.8 +0.5**
DOT IAmb IAmb 00 17 37.0
comp=Z,26nm,1.9s
J25K Salcha River, 84.83 20 P **P** **00 17 37.3 +1.1**
J25K IAmb IAmb 00 17 37.5
comp=Z,6.4nm,0.6s
SCRK Sand Creek 84.90 21 P **P** **00 17 37.9 +1.3**
SCRK IAmb IAmb 00 18 02.9
comp=Z,13nm,1.6s
L27K Beaver Creek, 85.13 22 P **P** **00 17 38.7 +1.0**
L27K IAmb IAmb 00 17 39.9
comp=Z,9.3nm,1.1s
K27K Chicken 85.61 21 IAmb IAmb 00 17 43.5
comp=Z,13nm,1.1s
I26K Coal Creek Min 86.00 20 P **P** **00 17 42.8 +1.0**
I26K IAmb IAmb 00 17 44.1
comp=Z,15nm,1.4s
YBH Yreka Blue Hor 86.07 46 LR LR 00 56 47.4
comp=Z,29nm,18.0s,baz=298,slow=36
EGAK Eagle 86.37 21 P **P** **00 17 45.8 +2.1**
EGAK IAmb IAmb 00 17 45.9
comp=Z,9.9nm,0.8s
WMQ Urumqi 86.80 316 *e*P **P** **00 17 45.3 -1.1**
WMQ pP sP 00 18 06.8 -2.4
WMQ pmax pmax
comp=Z,24nm,1.1s
I29M Ogilvie Camp, 87.70 21 P **P** **00 17 51.0 +0.8**
I29M IAmb IAmb 00 17 52.1
comp=Z,6.2nm,0.8s
DSP Deep Springs 88.34 52 P **P** **00 17 54.9 +1.1**
DSP IAmb IAmb 00 17 56.5
comp=Z,12nm,1.7s
NVAR Mina Array Bea 88.36 51 P **P** **00 17 55.0 +0.8**
comp=Z,1.4nm,0.7s,baz=232,slow=7.5,SNR=12
NVAR LR LR 00 51 25.2
comp=Z,26nm,19.2s,baz=290,slow=31
comp=Z,1.4nm,0.7s
NV11 Mina Array Sit 88.47 51 P **P** **00 17 54.7 0.0**
NV11 IAmb IAmb 00 17 55.8
comp=Z,5.5nm,1.1s
PFO Pinyon Flats O 88.60 56 LR LR 00 49 05.1
comp=Z,41nm,20.5s,baz=256,slow=30
WVOR Wild Horse Val 89.18 47 P **P** **00 17 58.2 +0.4**
WVOR IAmb IAmb 00 17 59.9
comp=Z,11nm,1.4s
J08A Circle Bar Ran 89.54 46 P **P** **00 17 59.0 -0.5**
J08A IAmb IAmb 00 18 01.3
comp=Z,12nm,1.3s
SHPR Sheep Range 90.31 53 P **P** **00 18 02.5 -0.9**
R11A Troy Canyon, C 90.41 51 P **P** **00 18 03.7 0.0**
PRN Pahroc Range 90.61 52 P **P** **00 18 04.9 +0.3**
PRN IAmb IAmb 00 18 06.7
comp=Z,7.5nm,1.0s
BMO Blue Mountains 90.74 44 P **P** **00 18 04.9 -0.1**
BMO IAmb IAmb 00 18 06.6
comp=Z,5.6nm,1.2s
BELA Belgrano 2 90.82 176 P **P** **00 18 04.3 -0.4**
F10A Beach Ranch, E 91.07 43 P **P** **00 18 06.5 -0.1**
F10A IAmb IAmb 00 18 08.0
comp=Z,4.2nm,0.8s
ELK Elko 91.23 49 LR LR 01 00 14.7
comp=Z,17nm,18.0s,baz=274,slow=36
ELK Elko 91.23 49 P **P** **00 18 07.2 -0.4**
ELK IAmb IAmb 00 18 09.4
comp=Z,7.7nm,1.3s
MK31 Makanchi Array 91.30 317 P **P** **00 18 07.5 0.0**
MK31 IAmb IAmb 00 18 08.0
comp=Z,5.3nm,1.6s
MKAR Makanchi Array 91.30 317 P **P** **00 18 07.0 -0.5**
comp=Z,1.0nm,0.7s,baz=98,slow=5.5,SNR=8.3
MKAR pP **pP** **00 18 23.7 -0.3**
comp=Z,1.1nm,0.7s,baz=92,slow=6.3,SNR=5.7
MKAR LR LR 00 58 51.1
comp=Z,16nm,20.3s,baz=282,slow=35
comp=Z,1.0nm,0.7s
SPR3 Spring Creek 3 91.51 51 P **P** **00 18 07.5 -1.6**
SPR3 IAmb IAmb 00 18 10.2
comp=Z,5.0nm,1.2s
ZALV Zalesovo Beam 91.64 325 P **P** **00 18 07.5 -1.3**
comp=Z,0.4nm,0.5s,baz=187,slow=1.2,SNR=3.8
comp=Z,0.4nm,0.5s
PLID Pearl Lake 91.69 44 P **P** **00 18 08.9 -0.7**
PLID IAmb IAmb 00 18 11.3
comp=Z,5.9nm,1.0s
NEW Newport 91.72 41 LR LR 00 53 22.5
comp=Z,22nm,18.9s,baz=28,slow=32
LPIG La Paz 91.82 66 LR LR 00 54 08.1
comp=Z,25nm,18.9s,baz=200,slow=32
HLID Hailey 92.46 46 P **P** **00 18 12.8 -0.3**
HLID IAmb IAmb 00 18 15.2
comp=Z,4.6nm,1.2s
HVU Hansel Valley 93.26 48 P **P** **00 18 17.2 +0.3**
HVU IAmb IAmb 00 18 18.8
comp=Z,3.7nm,1.0s
PDAR Pinedale Array 95.79 48 P **P** **00 18 28.9 +0.4**
comp=Z,0.3nm,0.7s,baz=219,slow=1.9,SNR=3.9
PDAR LR LR 00 56 59.4
comp=Z,21nm,18.2s,baz=294,slow=32
comp=Z,0.3nm,0.7s
AAK Ala-Archa 95.88 312 LR LR 01 02 01.7
comp=Z,19nm,20.9s,baz=110,slow=36
TROLL Troll, Antarti 96.19 186 P **P** **00 18 29.2 -0.5**
SNAA Sanae 97.00 185 P **P** **00 18 32.6 -0.7**
VNA3 Neumayer Olymp 97.85 183 P **P** **00 18 36.3 -0.7**
VNA2 Neumayer--Watz 98.05 183 P **P** **00 18 37.2 -0.7**
baz=181,slow=5.0
TXAR Lajitas Array 98.54 62 P **P** **00 18 41.0 -0.1**
comp=Z,0.3nm,0.9s,baz=223,slow=4.6,SNR=3.7
TXAR LR LR 00 54 33.0
comp=Z,19nm,20.2s,baz=253,slow=30
comp=Z,0.3nm,0.9s
BVAR Borovoye Array 99.93 322 LR LR 01 05 18.9
comp=Z,22nm,19.2s,baz=91,slow=36
ARCES ARCESS Array B 115.41 345 PKP **PKiKP** **00 23 41.8 -1.1**
comp=Z,2.5nm,1.0s,baz=46,slow=3.9,SNR=5.0
NOA NORSAR Array B 125.73 343 PKP **PKPdf** **00 24 00.5 -2.5**
comp=Z,0.3nm,0.6s,baz=36,slow=1.9,SNR=3.1
NOA pPKP **pPKPdf** **00 24 19.1 -0.8**
comp=Z,0.2nm,0.7s,baz=353,slow=18,SNR=1.2
CLL Collm 132.69 334 *e*PKPdf pPKPdf 00 24 33.0 -0.3
ESDC Sonseca Array 148.96 340 PKPbc **PKPbc** **00 24 49.2 -0.8**
comp=Z,0.5nm,0.9s,baz=0.3,slow=3.0,SNR=3.3
TORD Torodi Ar. Bea 161.14 279 PKP **PKPdf** **00 25 02.0 -1.0**
comp=Z,0.5nm,1.0s,baz=206,slow=3.3,SNR=2.1

KRSC 20 00:06:39.2±1.0, 51°51N×155°10E, h474km±11km, ML4.3, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.88**	**80**	*e*P	P	00 07 42.5	+1.4
KDTR				*e*S	S	00 08 31.1	-0.5
RUS	**Russkaya**	**2.31**	**65**	*e*P	P	00 07 45.2	+1.8
RUS				*e*S	S	00 08 36.1	+0.3
GNL	**Ganaly**	**2.79**	**37**	*e*P	P	00 07 47.6	+1.0
SPN	**Mys Shipunski**	**3.42**	**60**	*e*P	P	00 07 53.1	+2.1
SPN				*e*S	S	00 08 49.1	-0.5
TUMR	**Tumrok**	**4.84**	**37**	*e*P	P	00 08 05.9	+2.7
MKZ	**Mys Kozlova**	**5.04**	**50**	*e*P	P	00 08 07.1	+2.3
MKZ				*e*S	S	00 09 14.5	-0.4
KBTR	**Krutoberegovo**	**6.56**	**41**	*e*P	P	00 08 21.0	+1.3

*BJI **20** 00:11:43.1±0.0, 7°.89S×128°.79E, h169km, mb4.9/56, mB4.8/23*
*DJA **20** 00:11:47.0±0.2, 8°.S±2°×12°.9E±°, h176km±6km, M4.8/29, mB5.2/24, mb5.2/29, MLv5.4/13, Mw(mB)4.6/24*
*NEIC **20** 00:11:47.1±1.8, 7°.53S±0°.06×128°.59E±0°.06, h158km±7km, mb4.7/51, Error ellipse: s-maj=9.2km s-min=8.8km az=190.0*
*IDC **20** 00:11:48.0±0.7, 7°.50S×128°.52E, h168km±7km, mb4.1/13, mbtmp4.8/18, MS3.6/3, Error ellipse: s-maj=12.7km s-min=8.8km az=60.0*

ISC 20 00:11:46.5±0.3, 7°.51S±0°.04×128°.58E±0°.04, h151km, n213, σ1§89/220, mb4.7/48, 3C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.74**	**100**		**Pn**	**00 12 32.2**	**+1.6**
SAUI				Sn	**Sn**	**00 13 04.9**	**+0.3**
SAUI	**Saumlaki**	**2.74**	**100**	P	**Pn**	**00 12 32.7**	**+2.2**
SAUI	**Saumlaki**	**2.74**	**100**	P	**Pn**	**00 12 32.8**	**+2.2**
BNDI	**Bandanaira**	**3.25**	**24**	P	**Pn**	**00 12 39.9**	**+2.9**
BNDI	**Bandanaira**	**3.25**	**24**	P	**Pn**	**00 12 40.6**	**+3.6**
AAI	**Ambon**	**3.82**	**354**	P	**Pn**	**00 12 47.4**	**+3.0**
MSAI	**Masohi**	**4.15**	**5**	P	**Pn**	**00 12 52.0**	**+3.2**
NLAI	**Namlea**	**4.49**	**341**	P	**Pn**	**00 12 56.9**	**+3.7**
BATI	**Baumata**	**5.55**	**241**	P	**Pn**	**00 13 08.4**	**+1.2**
	6µm,0.4s,baz=48,slow=3.8,SNR=312						
BATI				S	**Sn**	**00 14 08.1**	**-2.2**
	1µm,0.4s,baz=26,slow=17,SNR=9.5						
BATI	**Baumata**	**5.55**	**241**	P	**Pn**	**00 13 08.3**	**+1.0**
	17nm44µm4µm,0.6s						
FAKI	**Fak Fak**	**5.84**	**39**	Pn	**Pn**	**00 13 10.1**	**-1.1**
FAKI				Sn	**Sn**	**00 14 13.4**	**-3.9**
FAKI	**Fak Fak**	**5.84**	**39**	P	**Pn**	**00 13 10.2**	**-0.9**
	4.0nm7µm302nm,0.6s						
MTN	**Manton Dam**	**5.87**	**155**	P	**Pn**	**00 13 11.7**	**+0.2**
	baz=5.8,SNR=471						
MTN	**Manton Dam**	**5.87**	**155**	Pn	**Pn**	**00 13 10.2**	**-1.2**
MTN				Sn	**Sn**	**00 14 16.2**	**-1.8**
MTN	**Manton Dam**	**5.87**	**155**	P	**Pn**	**00 13 11.9**	**+0.4**
SANI	**Sanana**	**6.01**	**334**	P	**Pn**	**00 13 16.5**	**+3.2**
	0.7nm2µm194nm,1.0s						
SANI	**Sanana**	**6.01**	**334**	P	**Pn**	**00 13 16.8**	**+3.5**
MMRI	**Maumere**	**6.38**	**259**	Pn	**Pn**	**00 13 18.7**	**+0.4**
MMRI	**Maumere**	**6.38**	**259**	P	**Pn**	**00 13 18.9**	**+0.6**
	3.6nm12µm885nm,0.7s						
MMRI	**Maumere**	**6.38**	**259**	P	**Pn**	**00 13 19.5**	**+1.2**
KDU	**Kakadu**	**6.42**	**144**	P	**Pn**	**00 13 19.2**	**+0.4**
	baz=6.3,SNR=195						
KDU	**Kakadu**	**6.42**	**144**	P	**Pn**	**00 13 19.4**	**+0.6**
LBMI	**Labuha**	**6.91**	**351**	P	**Pn**	**00 13 29.1**	**+3.7**
	1.8nm4µm481nm,0.8s						
EDFI	**Ende, Flores**	**6.93**	**259**	P	**Pn**	**00 13 26.3**	**+0.5**
	0.8nm3µm280nm,0.8s						
SIJI	**Sorong**	**7.12**	**22**	P	**Pn**	**00 13 28.1**	**0.0**
	46nm,0.3s,baz=207,slow=14,SNR=75						
SIJI				S	**Sn**	**00 14 44.1**	**-3.9**
	154nm,0.5s,baz=218,slow=19,SNR=16						
KNRA	**Kununurra**	**8.12**	**179**	P	**Pn**	**00 13 40.5**	**-1.0**
	baz=8.1,SNR=509						
KNRA	**Kununurra**	**8.12**	**179**	Pn	**Pn**	**00 13 40.5**	**-1.0**
KNRA				Sn	**Sn**	**00 15 07.1**	**-4.9**
KNRA	**Kununurra**	**8.12**	**179**	P	**Pn**	**00 13 41.2**	**-0.3**
BSSI	**Bau Bau, Buton**	**8.15**	**279**	P	**Pn**	**00 13 43.5**	**+1.6**
	904nm107nm,0.8s						
TNTI	**Ternate**	**8.31**	**352**	Pn	**Pn**	**00 13 46.4**	**+2.2**
TNTI	**Ternate**	**8.31**	**352**	P	**Pn**	**00 13 47.0**	**+2.9**
	2µm201nm,1.1s						
LUWI	**Luwuk**	**8.65**	**318**		**Pn**	**00 13 50.3**	**+1.7**
LUWI	**Luwuk**	**8.65**	**318**	P	**Pn**	**00 13 52.3**	**+3.7**
	243nm,1.3s						
BKSI	**Bulukumba**	**8.68**	**284**	P	**Pn**	**00 13 50.2**	**+1.2**
	862nm81nm,0.8s						
KAPI	**Kappang**	**9.12**	**285**	P	**Pn**	**00 13 57.0**	**+2.2**
	20nm,0.7s,baz=103,slow=8.2,SNR=13						
KAPI	**Kappang**	**9.12**	**285**	Pn	**Pn**	**00 13 55.5**	**+0.7**
KAPI	**Kappang**	**9.12**	**285**	P	**Pn**	**00 13 58.4**	**+3.6**
KMSI	**Cibinong**	**9.25**	**330**	P	**Pn**	**00 14 00.0**	**+3.4**
	234nm,0.7s						
SPSI	**Sidrap Palu**	**9.45**	**291**	P	**Pn**	**00 14 00.5**	**+1.3**
	705nm33nm,0.6s						
APSI	**Ampana**	**9.52**	**313**	P	**Pn**	**00 14 03.0**	**+2.8**
	473nm47nm,1.0s						
BAKI	**Biak**	**9.78**	**50**	P	**Pn**	**00 14 05.1**	**+1.5**
	9µm1µm,0.8s						
TTSI	**Tana Toraja**	**9.79**	**296**	P	Pn	00 14 18.2	+15
MRSI	**Marisa**	**10.33**	**320**	P	**Pn**	**00 14 14.3**	**+3.3**
	1µm100nm,1.3s						
PLAI	**Plampang**	**10.78**	**262**	P	**Pn**	**00 14 14.2**	**-2.6**
	4µm502nm,0.7s						
PLAI	**Plampang**	**10.78**	**262**	P	**Pn**	**00 14 15.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.91**	**195**	P	**Pn**	**00 14 15.5**	**-3.0**
	68nm,0.5s,baz=26,slow=11,SNR=123						
FITZ				S	Sn	00 16 09.3	-10
	194nm,0.6s,baz=85,slow=17,SNR=9.9						
FITZ	**Fitzroy Crossi**	**10.91**	**195**	P	**Pn**	**00 14 15.7**	**-2.8**
	baz=11,SNR=263						
FITZ	**Fitzroy Crossi**	**10.91**	**195**	P	**Pn**	**00 14 15.9**	**-2.6**
SMPI	**Sarmi**	**11.48**	**62**	P	**Pn**	**00 14 25.3**	**-0.8**
	40nm,0.7s						
SGSI	**Sangihe**	**11.53**	**345**	P	**Pn**	**00 14 28.4**	**+1.7**
	358nm,0.5s						
TWSI	**Taliwang, Sumb**	**11.65**	**263**	P	**Pn**	**00 14 28.4**	**+0.2**
	868nm62nm,0.6s						
MPSI	**Mapaga**	**11.65**	**312**	P	**Pn**	**00 14 29.9**	**+1.6**
	856nm14nm,1.0s						
GENI	**Genyem**	**12.53**	**68**	P	**Pn**	**00 14 40.6**	**+0.9**
	88nm,0.9s						
WB0	**Warramunga Arr**	**13.43**	**156**		**Pn**	**00 14 48.8**	**-2.4**
WRAB	**Tennant Creek**	**13.56**	**156**	Pn	**Pn**	**00 14 50.3**	**-2.5**
WRAB	**Tennant Creek**	**13.56**	**156**	P	**Pn**	**00 14 50.9**	**-2.0**
WRA	**Warramunga Arr**	**13.56**	**156**	P	**Pn**	**00 14 49.4**	**-3.5**
	36nm,0.4s,baz=325,slow=14,SNR=274						
WRA				S	Sn	00 17 11.6	-12
	65nm,0.8s,baz=333,slow=20,SNR=8.8						
WRA	**Warramunga Arr**	**13.56**	**156**		**Pn**	**00 14 49.7**	**-3.2**
WB2	**Warramunga Arr**	**13.57**	**156**		**Pn**	**00 14 50.4**	**-2.6**
WR0	**Warramunga Arr**	**13.66**	**156**		**Pn**	**00 14 50.9**	**-3.2**
BBKI	**Banjar Baru**	**14.25**	**286**	P	**P**	**00 15 06.0**	**+1.6**
JAGI	**Jajag, Banyuwa**	**14.32**	**265**	Pn	**Pn**	**00 15 01.8**	**-0.7**
JAGI	**Jajag, Banyuwa**	**14.32**	**265**	P	**Pn**	**00 15 03.0**	**+0.5**
	53nm,0.7s						
DAV	**Davao City (W)**	**14.79**	**348**	P	**P**	**00 15 10.0**	**-0.3**
	85nm,0.3s,baz=27,slow=23,SNR=1.3						
DAV	**Davao City (W)**	**14.79**	**348**	P	**P**	**00 15 11.0**	**+0.6**
BLJI	**Banyuglugur**	**14.86**	**268**	P	**Pn**	**00 15 09.0**	**-0.2**
	2µm125nm,0.5s						
MTKI	**Muara Teweh, K**	**15.12**	**295**	P	**P**	**00 15 18.9**	**+4.8**
COEN	**Coen**	**15.70**	**115**		**P**	**00 15 18.7**	**-1.8**
COEN				IAmb	IAmb	00 15 25.0	
	comp=Z,38nm,0.6s						
COEN	**Coen**	**15.70**	**115**	P	**P**	**00 15 19.8**	**-0.7**
MBWA	**Marble Bar**	**16.04**	**211**	P	**Pn**	**00 15 22.9**	**-0.9**
MBWA				IAmb	IAmb	00 16 02.9	
	comp=Z,83nm,1.5s						
MBWA	**Marble Bar**	**16.04**	**211**	P	**P**	**00 15 23.2**	**-1.0**
MYLDM	**Lahad Datu**	**16.12**	**321**	P	**P**	**00 15 28.4**	**+3.3**
MYLDM				IAmb	IAmb	00 15 51.2	
	comp=Z,50nm,1.0s						
PSA00	**Pilbara Seismi**	**16.33**	**210**	P	**P**	**00 15 27.0**	**-0.4**
PSA00				IAmb	IAmb	00 16 03.4	
	comp=Z,45nm,0.7s						
PSA00	**Pilbara Seismi**	**16.33**	**210**	P	**P**	**00 15 26.8**	**-0.6**
PSA00				IAmb	IAmb	00 16 03.7	
	comp=Z,13nm,0.7s						
PSA00	**Pilbara Seismi**	**16.33**	**210**	P	**P**	**00 15 28.2**	**+0.8**

PWJI	**Pagerwojo**	**16.63**	**267**	P	**Pn**	**00 15 32.7 +1.7**
QIS	**Mount Isa**	**16.80**	**142**	P	**Pn**	**00 15 33.7 +0.7**
AS31	**Alice Springs**	**16.86**	**163**	P	**Pn**	**00 15 33.2 -0.5**
ASAR	**Alice Springs**	**16.86**	**163**	P	**Pn**	**00 15 32.3 -1.4**
	comp=Z,90nm,0.5s,baz=335,slow=9.5,SNR=867					
ASAR				pP	**pP**	**00 16 01.4 +2.5**
	comp=Z,105nm,0.9s,baz=340,slow=11,SNR=7.6					
ASAR				S	**S**	**00 18 33.4 -7.8**
	comp=Z,20nm,0.6s,baz=346,slow=25,SNR=5.2					
ASAR	**Alice Springs**	**16.86**	**163**	P	**Pn**	**00 15 33.3 -0.4**
WRKA	**Warakurna**	**17.43**	**181**	P	**Pn**	**00 15 40.7 +0.1**
PBKI	**Pangkalan Bun**	**17.50**	**285**	P	**Pn**	**00 15 45.6 +4.1**
UGM	**Wanagama**	**17.90**	**268**	P	**P**	**00 15 44.1 -0.6**
UGM	**Wanagama**	**17.90**	**268**	P	**P**	**00 15 44.9 +0.1**
KKM	**Kota Kinabalu**	**18.26**	**317**	P	**Pn**	**00 15 49.9 -0.6**
KKM				lAmb	lAmb	00 15 52.8
	comp=Z,50nm,0.7s					
KKM	**Kota Kinabalu**	**18.26**	**317**	P	**Pn**	**00 15 52.1 +1.6**
PMG	**Port Moresby**	**18.47**	**97**	P	**Pn**	**00 15 51.8 -1.2**
	comp=Z,138nm,0.7s,baz=276,slow=7.2,SNR=30					
PMG				S	**S**	**00 19 11.9 -2.1**
	comp=Z,11nm,0.5s,baz=36,slow=23,SNR=2.1					
PMG	**Port Moresby**	**18.47**	**97**		**Pn**	**00 15 52.4 -0.5**
PMG	**Port Moresby**	**18.47**	**97**	P	**Pn**	**00 15 56.8 +3.9**
MTSU	**Mount Surprise**	**18.61**	**126**	P	**Pn**	**00 15 54.8 +0.3**
STKI	**Sintang**	**18.64**	**293**	P	**Pn**	**00 16 00.3 +5.4**
SBUM	**Sibu**	**19.09**	**301**		**Pn**	**00 15 59.3 -0.8**
SBUM				lAmb	lAmb	00 16 02.1
	comp=Z,31nm,0.9s					
MANU	**Manus Island**	**19.48**	**75**	P	**Pn**	**00 16 03.9 -0.9**
GIRL	**Giralia**	**20.42**	**221**	P	Pn	00 16 14.0 -1.8
CTA	**Charters Tower**	**21.21**	**128**	P	**P**	**00 16 21.8 +1.4**
	comp=Z,6.2nm,0.6s,baz=308,slow=12,SNR=7.3					
CTA				S	**S**	**00 20 07.5 -0.1**
	comp=Z,1.8nm,0.3s,baz=326,slow=15,SNR=1.2					
	comp=Z,6.2nm,0.6s					
CTAO	**Charters Tower**	**21.21**	**128**	P	**P**	**00 16 20.7 +0.3**
MEEK	**Meekatharra**	**21.25**	**205**	P	**P**	**00 16 21.3 +0.4**
OOD	**Oodnadatta**	**21.27**	**162**	P	**P**	**00 16 22.0 +1.0**
TGY	**Tagaytay City**	**22.77**	**341**	P	**P**	**00 16 36.1 -0.1**
	baz=90,slow=19					
FORT	**Forrest**	**23.16**	**181**	P	**P**	**00 16 39.9 +0.3**
FORT	**Forrest**	**23.16**	**181**	P	**P**	**00 16 40.9 +1.3**
INKA	**Innaminka**	**23.19**	**152**	P	**P**	**00 16 42.1 +2.2**
MULG	**Mulgathing**	**23.23**	**168**	P	**P**	**00 16 41.6 +1.3**
QLP	**Quilpie**	**24.11**	**144**	P	**P**	**00 16 51.2 +2.9**
MORW	**Morawa**	**24.49**	**207**	P	**P**	**00 16 52.3 +0.6**
MORW	**Morawa**	**24.49**	**207**	P	**P**	**00 16 53.6 +1.9**
LCRK	**Leigh Creek**	**24.54**	**160**	P	**P**	**00 16 53.6 +1.4**
BLDU	**Ballidu**	**25.54**	**204**	P	**P**	**00 17 02.5 +1.3**
KLBR	**Kellerberrin**	**26.00**	**201**	P	**P**	**00 17 06.6 +1.2**
BBOO	**Buckleboo**	**26.12**	**166**	P	**P**	**00 17 06.0 -0.4**
BBOO	**Buckleboo**	**26.12**	**166**	P	**P**	**00 17 07.6 +1.2**
STKA	**Stephens Creek**	**27.11**	**155**	P	**P**	**00 17 16.6 +1.2**
	comp=Z,11nm,0.6s,baz=325,slow=8.9,SNR=28					
STKA				pP	**pP**	**00 17 49.5 +2.9**
	comp=Z,17nm,0.4s,baz=326,slow=12,SNR=11					
	comp=Z,11nm,0.6s					
STKA	**Stephens Creek**	**27.11**	**155**	P	**P**	**00 17 16.0 +0.7**
STKA				lAmb	lAmb	00 18 01.4
	comp=Z,9.5nm,0.8s					
STKA	**Stephens Creek**	**27.11**	**155**	P	**P**	**00 17 16.8 +1.4**
NWAO	**Narrogin (SRO)**	**27.40**	**201**	P	**P**	**00 17 18.8 +0.9**
HTT	**Hallett**	**27.52**	**161**	P	**P**	**00 17 20.8 +1.8**
CMSA	**Cobar Meteorol**	**28.75**	**149**	P	**P**	**00 17 31.6 +1.7**
ARPS	**Mount Arapiles**	**31.54**	**159**	P	**P**	**00 17 56.5 +2.1**
TOO	**Toolangi**	**33.63**	**155**	P	**P**	**00 18 15.8 +3.1**
CMAR	**Chiang Mai Arp**	**39.00**	**312**	P	**P**	**00 18 58.5 0.0**
	comp=Z,2.3nm,0.4s,baz=141,slow=6.8,SNR=18					
	comp=Z,2.3nm,0.4s					
CMAR	**Chiang Mai Arr**	**39.00**	**312**	P	**P**	**00 18 57.6 -0.9**
CRAI	**Chiangrai**	**39.11**	**315**	P	**P**	**00 18 58.9 -0.5**
CHTO	**Chiang Mai**	**39.22**	**312**	P	**P**	**00 19 00.3 0.0**
YATNC	**Mamie plateau,**	**39.63**	**116**	P	**P**	**00 19 06.4 +2.7**
GYA	**Guiyang**	**39.91**	**329**	⇓*i*P	**P**	**00 19 06.3 +0.3**
GYA				pmax	pmax	
	comp=Z,22nm,0.7s					
WHN	**Wuhan**	**40.22**	**341**	⇓P	**P**	**00 19 09.1 +0.7**
WHN				pmax	pmax	
	comp=Z,110nm,0.7s					
NJ2	**Nanjing**	**40.42**	**347**	*e*P	P	00 19 14.6 +4.6
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
KMI	**Kunming**	**41.05**	**323**	⇓P	**P**	**00 19 16.8 +1.2**
KMI				pmax	pmax	
	comp=Z,12nm,2.1s					
PZH	**PanZhiHua**	**42.68**	**323**	P	**P**	**00 19 29.9 +1.3**
PZH				pmax	pmax	
	comp=Z,20nm,0.7s					
PZH				pmax	pmax	
	comp=Z,60nm,4.6s					
LYN	**LuoYang**	**44.52**	**341**	⇓P	**P**	**00 19 41.8 -1.3**
LYN				pP	pwP	00 20 19.0 -2.5
LYN				sP	sP	00 20 38.8 +7.1
LYN				pmax	pmax	
	comp=Z,20nm,0.7s					
LYN				pmax	pmax	
	comp=Z,170nm,5.2s					
KSRS	**Korea Array**	**44.73**	**359**	P	**P**	**00 19 44.2 -0.5**
	comp=Z,3.2nm,0.6s,baz=178,slow=9.2,SNR=9.9					
	comp=Z,3.2nm,0.6s					
MAJO	**Matsushiro**	**44.74**	**11**	P	**P**	**00 19 43.7 -1.1**
MAJO				lAmb	lAmb	00 19 44.2
	comp=Z,18nm,0.8s					
MJAR	**Matsushiro Arr**	**44.74**	**11**	P	**P**	**00 19 41.0 -3.8**
	comp=Z,10nm,0.8s,baz=189,slow=8.9,SNR=19					
MJB9	**Matsu-Tunnel**	**44.74**	**11**	P	**P**	**00 19 43.8 -1.0**
MJB9				lAmb	lAmb	00 19 44.3
	comp=Z,18nm,0.8s					
CD2	**Chengdu**	**45.00**	**329**	P	**P**	**00 19 46.3 -0.7**
CD2				pmax	pmax	
	comp=Z,20nm,0.6s					
XAN	**Xi'an**	**45.33**	**337**	⇑P	**P**	**00 19 48.4 -1.1**
XAN				pP	pP	00 20 22.4 +0.6
XAN				pmax	pmax	
	comp=Z,66nm,0.8s					
HNS	**HongShan**	**46.52**	**345**	⇑P	**P**	**00 19 57.9 -0.8**
HNS				pmax	pmax	
	comp=Z,66nm,0.7s					
JMM	**Marumori**	**46.56**	**13**	P	**P**	**00 19 57.5 -1.5**
BJT	**Baijiatuan**	**48.66**	**347**	P	**P**	**00 20 14.0 -1.2**
BJT				lAmb	lAmb	00 20 15.5
	comp=Z,23nm,0.8s					
BJI	**Beijing**	**48.68**	**347**	P	**P**	**00 20 14.3 -1.0**
BJI				PcP	**PcP**	**00 21 41.0 +2.7**
BJI				pmax	pmax	
	comp=Z,30nm,0.8s					
LZH	**Lanzhou**	**49.21**	**333**	⇑P	**P**	**00 20 19.9 +0.2**
LZH				sP	sP	00 21 12.8 +3.9
LZH				pmax	pmax	
	comp=Z,53nm,1.2s					
HHC	**Hu-ho-hao-te**	**50.60**	**343**	*e*P	**P**	**00 20 28.8 -1.3**
HHC				pmax	pmax	
	comp=Z,48nm,1.0s					
HHC				pmax	pmax	
	comp=Z,170nm,4.9s					
CN2	**Changchun**	**51.15**	**357**	*e*P	**P**	**00 20 37.3 +3.4**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
USRK	**Ussuriysk Ar.**	**51.56**	**3**	P	**P**	**00 20 36.6 -0.4**
	comp=Z,8.6nm,0.6s,baz=186,slow=7.2,SNR=16					
	comp=Z,8.6nm,0.6s					
USRK	**Ussuriysk Ar.**	**51.56**	**3**	P	**P**	**00 20 36.8 -0.2**
RPZ	**Rata Peaks**	**51.71**	**141**	LR	LR	00 42 19.1
	comp=Z,100nm,19.3s,baz=288,slow=35					
RPZ	**Rata Peaks**	**51.71**	**141**	P	**P**	**00 20 40.7 +2.5**
XLT	**XiLinHaoTe**	**52.41**	**349**	⇓*i*P	**P**	**00 20 43.8 +0.4**
XLT				pmax	pmax	
	comp=Z,28nm,0.8s					
XLT				pmax	pmax	
	comp=Z,94nm,4.4s					
TAPN	**Taplejung**	**52.58**	**313**	*e*P	**P**	**00 20 44.3 -1.0**
	comp=Z,19nm,0.5s					
RAMN	**Ramite**	**53.17**	**312**	*e*P	**P**	**00 20 49.2 -0.3**
	comp=Z,42nm,0.6s					
GTA	**Gaotai**	**53.75**	**332**	*e*P	**P**	**00 20 53.6 +0.2**
GTA				pmax	pmax	
	comp=Z,22nm,1.0s					
JIRN	**Jiri**	**53.87**	**312**	*e*P	**P**	**00 20 54.0 -0.7**
	comp=Z,17nm,0.6s					
GUN	**Gumba**	**54.24**	**312**	*e*P	**P**	**00 20 56.6 -0.8**
	comp=Z,34nm,0.5s					
PKI	**Pulchoki**	**54.40**	**312**	*e*P	**P**	**00 20 57.3 -1.2**
	comp=Z,14nm,0.5s					
PKIN	**Phulchoki**	**54.41**	**312**	*e*P	**P**	**00 20 57.3 -1.2**
	comp=Z,15nm,0.5s					
DMN	**Daman**	**54.64**	**312**	*e*P	**P**	**00 20 58.5 -1.7**
	comp=Z,111nm,0.4s					
GKN	**Gorkha**	**55.20**	**312**	*e*P	**P**	**00 21 03.2 -0.9**
	comp=Z,36nm,0.5s					
DANN	**Dangsing**	**56.04**	**311**	*e*P	**P**	**00 21 09.4 -0.9**
	comp=Z,18nm,0.6s					
PYUN	**Piuthan**	**56.48**	**311**	*e*P	**P**	**00 21 12.7 -0.6**
	comp=Z,40nm,0.7s					
ULN	**Ulaanbaatar**	**58.32**	**343**	P	**P**	**00 21 25.9 +0.2**
ULN				lAmb	lAmb	00 21 27.3
	comp=Z,18nm,1.3s					
SONM	**Songino Array**	**58.49**	**343**	P	**P**	**00 21 26.9 0.0**
	comp=Z,8.3nm,0.6s,baz=162,slow=6.8,SNR=40					
SONM				ScP	**ScP**	**00 25 58.9 -3.1**
	comp=Z,0.7nm,0.9s,baz=159,slow=5.7,SNR=2.2					
	comp=Z,8.3nm,0.6s					
SONM	**Songino Array**	**58.49**	**343**	P	**P**	**00 21 26.9 0.0**
SONM				lAmb	lAmb	00 21 29.0
	comp=Z,7.9nm,0.7s					
WMQ	**Urumqi**	**63.06**	**328**	*e*P	**P**	**00 21 57.9 +0.1**
WMQ				sP	sP	00 22 52.4 +3.8
WMQ				pmax	pmax	
	comp=Z,21nm,0.9s					
PEA0B	**Petropavlovsk-**	**65.25**	**19**	P	**P**	**00 22 11.9 +0.2**
PETK	**Petropavlovsk-**	**65.25**	**19**	P	**P**	**00 22 10.9 -0.8**
	comp=Z,14nm,0.8s,baz=191,slow=6.0,SNR=16					
	comp=Z,14nm,0.8s					
PETK	**Petropavlovsk-**	**65.25**	**19**	P	**P**	**00 22 12.1 +0.4**
NIL	**Nilore**	**66.49**	**312**	P	**P**	**00 22 19.3 -0.8**
NIL				lAmb	lAmb	00 22 20.0
	comp=Z,7.8nm,0.6s					
KSH	**Kashi**	**67.45**	**318**	P	**P**	**00 22 26.6 +0.4**
KSH				pmax	pmax	
	comp=Z,5.0nm,0.9s					
TARG	**Taragay, Kyrgy**	**67.47**	**321**	P	**P**	**00 22 26.3 -0.3**
MK31	**Makanchi Array**	**67.89**	**328**	lAmb	lAmb	00 22 29.6
	comp=Z,13nm,1.1s					
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**	**00 22 28.4 -0.3**
	comp=Z,9.0nm,0.7s,baz=123,slow=7.9,SNR=80					
MKAR				PcP	**PcP**	**00 22 52.8 -1.3**
	comp=Z,2.4nm,0.5s,baz=126,slow=6.8,SNR=5.3					
	comp=Z,9.0nm,0.7s					
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**	**00 22 28.6 -0.1**
MAKZ	**Makanchi**	**68.06**	**327**	P	**P**	**00 22 29.6 -0.2**
MAKZ				lAmb	lAmb	00 22 30.6
	comp=Z,16nm,1.2s					
NRN	**Naryn**	**68.44**	**320**	P	**P**	**00 22 32.2 -0.4**
BOOM	**Boomskoye usch**	**69.04**	**321**	P	**P**	**00 22 35.8 -0.4**
BOOM				lAmb	lAmb	00 22 37.2
	comp=Z,16nm,1.5s					
YAK	**Yakutsk**	**69.33**	**1**	P	**P**	**00 22 36.8 -0.4**
TKM2	**Tokmak 2**	**69.49**	**321**	P	**P**	**00 22 38.8 -0.1**
	SNR=5.7					
UCH	**Uchtor**	**69.80**	**320**	P	**P**	**00 22 42.0 +0.8**
	SNR=6.3					
AAK	**Ala-Archa**	**70.03**	**321**	P	**P**	**00 22 42.1 -0.1**
AML	**Almayashu**	**70.28**	**320**	P	**P**	**00 22 44.4 +0.4**
	SNR=6.6					
USP	**Ospenovka**	**70.35**	**321**	P	**P**	**00 22 44.1 +0.1**
	SNR=14					
EKS2	**Erkin-Say**	**70.49**	**320**	P	**P**	**00 22 45.9 +0.9**
	SNR=6.5					
GAR	**Garm**	**71.03**	**316**		**P**	**00 22 47.4 -0.9**
GAR				lAmb	lAmb	00 22 52.1
	comp=Z,8.5nm,1.0s					
ZAA0	**Zalesovo Array**	**71.42**	**334**	P	**P**	**00 22 48.9 -1.3**
ZAA0				lAmb	lAmb	00 22 50.0
	comp=Z,15nm,1.1s					
ZALV	**Zalesovo Beam**	**71.42**	**334**	P	**P**	**00 22 49.1 -1.0**
	comp=Z,7.4nm,0.6s,baz=112,slow=4.8,SNR=36					
	comp=Z,7.4nm,0.6s					
CHGR	**Chuyangaron**	**71.69**	**315**	P	**P**	**00 22 51.5 -0.7**
CHGR				lAmb	lAmb	00 22 52.6
	comp=Z,9.9nm,1.0s					
VNDA	**Vanda**	**72.12**	**173**	P	**P**	**00 22 54.1 +0.1**
	comp=Z,0.3nm,0.4s,baz=308,slow=9.8,SNR=8.4					
VNDA				pP	**pP**	**00 23 35.0 +4.4**
	comp=Z,1.5nm,0.7s,baz=301,slow=5.7,SNR=4.0					
	comp=Z,0.3nm,0.4s					
KURK	**Kurchatov**	**72.22**	**329**	P	**P**	**00 22 54.4 -0.6**
KK31	**Karatay Array**	**72.80**	**319**	P	**P**	**00 22 58.5 -0.1**
KKAR	**Karatay Array**	**72.80**	**319**	P	**P**	**00 22 58.3 -0.3**
MAW	**Mawson**	**73.97**	**201**	P	**P**	**00 23 04.8 -0.1**
	comp=Z,1.5nm,0.9s,baz=175,slow=3.2,SNR=2.3					
MAW				pP	**pP**	**00 23 45.9 +4.2**
	comp=Z,3.9nm,0.7s,baz=58,slow=7.9,SNR=6.3					
	comp=Z,1.5nm,0.9s					
HRA	**Herat**	**75.16**	**308**	P	**P**	**00 23 12.2 -0.6**
BRVK	**Borovoye**	**77.82**	**328**	P	**P**	**00 23 26.4 -0.6**
BRVK				lAmb	lAmb	00 23 27.6
	comp=Z,12nm,0.9s					
TIXI	**Tiksi**	**78.99**	**0**	P	**P**	**00 23 32.3 -0.7**
NRIK	**Noril'sk**	**81.71**	**346**	P	**P**	**00 23 47.3 -0.4**
	comp=Z,10nm,0.9s,baz=124,slow=5.4,SNR=11					
	comp=Z,10nm,0.9s					
NRIK	**Noril'sk**	**81.71**	**346**	P	**P**	**00 23 47.2 -0.4**
NRIK				lAmb	lAmb	00 23 49.0
	comp=Z,9.8nm,0.9s					
AKTO	**Aktyubinsk**	**83.62**	**323**	LR	LR	01 05 48.0
	comp=Z,30nm,18.5s,baz=97,slow=39					
ARU	**Arti**	**85.39**	**328**	P	**P**	**00 24 05.4 -1.3**
ARU				lAmb	lAmb	00 24 07.4
	comp=Z,15nm,1.1s					
BELG	**Belogornoye**	**90.41**	**323**	LR	LR	01 12 22.8
	comp=Z,15nm,18.1s,baz=33,slow=40					
SML	**Sawmill**	**93.30**	**28**	P	**P**	**00 24 42.6 -1.3**
RND	**Reindeer**	**93.34**	**27**	lAmb	lAmb	00 24 43.8
	comp=Z,6.7nm,0.9s					
DHY	**Denali Highway**	**93.94**	**27**	P	**P**	**00 24 46.4 -0.6**
DHY				lAmb	lAmb	00 24 49.9
	comp=Z,8.0nm,1.1s					
CCB	**Clear Creek Bu**	**94.00**	**25**	lAmb	lAmb	00 24 46.4
	comp=Z,4.6nm,1.0s					
ILAR	**Eielson Array**	**94.41**	**25**	P	**P**	**00 24 46.5 -2.4**
	comp=Z,0.7nm,0.8s,baz=246,slow=5.2,SNR=4.6					
	comp=Z,0.7nm,0.8s					
L27K	**Beaver Creek,**	**96.45**	**27**	P	**P**	**00 24 58.4 +0.1**
L27K				lAmb	lAmb	00 25 01.6
	comp=Z,2.6nm,0.9s					
ARCES	**ARCESS Array B**	**101.56**	**340**	P	**Pdif**	**00 25 19.8 -1.2**
	comp=Z,3.9nm,1.1s,baz=86,slow=4.6,SNR=2.1					
CLL	**Collm**	**111.70**	**322**	*e*PKPdf	**PKiKP**	**00 30 03.5 +0.3**
GERES	**GERESS Array B**	**111.90**	**320**	PKiKP	**PKiKP**	**00 30 03.0 -0.8**
	comp=Z,0.4nm,0.5s,baz=45,slow=4.3,SNR=5.1					
PDAR	**Pinedale Array**	**118.25**	**45**	PKP	**PKiKP**	**00 30 15.7 -0.7**
	comp=Z,0.2nm,0.5s,baz=226,slow=2.4,SNR=2.2					
TXAR	**Lajitas Array**	**126.39**	**59**	PKP	**PKiKP**	**00 30 32.0 -0.7**
	comp=Z,0.2nm,0.4s,baz=196,slow=2.5,SNR=7.1					
TORD	**Torodi Ar. Bea**	**127.52**	**281**	PKP	**PKiKP**	**00 30 33.9 -1.3**
	comp=Z,1.2nm,0.9s,baz=88,slow=2.4,SNR=5.2					
SCHQ	**Schefferville**	**131.22**	**12**	SKPbc	**SKPbc**	**00 33 48.1 -3.4**
	comp=Z,5.7nm,0.8s,baz=307,slow=2.9,SNR=5.4					
DBIC	**Dimbokro**	**133.80**	**272**	SKPbc	**SKPbc**	**00 33 59.0 -2.7**
	comp=Z,5.5nm,0.9s,baz=122,slow=2.9,SNR=5.3					

*NORS **20** 00:18:03.3±0.0, 43.25N×46.41E, h12km, MPVA3.6*
*DRS **20** 00:18:04.5±0.0, 43.29N×46.21E, h16km*

ISC 20 00:18:03.8±1.4, 43.32N±0.05×46.32E±0.03, h6km±10km, n30, σ1°18/56, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLMR	**Dylym**	**0.34**	**138**	*e*Pg	**Pb**	**00 18 11.6**	**-0.7**
	96nm,0.3s						
DLMR				*e*Sg	**Sb**	**00 18 16.9**	**-1.1**
	25nm,0.1s						
DVE	**Vedeno**	**0.39**	**201**	*i* Pg	**Pg**	**00 18 10.7**	**-0.6**
DVE				*e*Sg	**Sg**	**00 18 15.7**	**-0.8**
GROC	**Groznyy**	**0.40**	**253**	*e*Pg	**Pg**	**00 18 11.3**	**-0.2**
	32nm,0.4s						
GROC				*e*Sg	**Sg**	**00 18 16.7**	**-0.1**
	825nm,0.2s						
DBC	**Dubki**	**0.48**	**129**	*e*Pg	**Pb**	**00 18 14.5**	**-0.2**
	142nm,0.2s						
DBC				*e*Sg	**Sb**	**00 18 22.0**	**-0.1**
	41nm,0.1s						
KRNR	**Karanay**	**0.66**	**139**	*e*Pg	**Pb**	**00 18 17.0**	**-0.8**
	25nm,0.1s						
KRNR				*e*Sg	**Sb**	**00 18 26.4**	**-0.7**
	75nm,0.2s						
UNCR	**Uncukul**	**0.70**	**150**	*e*Pg	**Pb**	**00 18 17.6**	**-0.8**
	57nm,0.3s						
UNCR				*e*Sg	**Sb**	**00 18 27.3**	**-1.1**
	79nm,0.1s						
BUJR	**Buynaksk**	**0.76**	**130**	*e*Pg	**Pn**	**00 18 19.8**	**-1.4**
	64nm,0.4s						
BUJR				*e*Sg	**Sb**	**00 18 30.9**	**+0.8**
	194nm,0.2s						
XNZR	**Khunzakh**	**0.83**	**160**	*e*Pg	**Pb**	**00 18 19.9**	**-0.8**
	39nm,0.1s						
XNZR				*e*Sg	**Sg**	**00 18 31.1**	**+0.7**
	30nm,0.2s						
ARKR	**Arakani**	**0.87**	**145**	*e*Pg	**Pb**	**00 18 20.9**	**-0.5**
	24nm,0.2s						
ARKR				*e*Sg	**Sb**	**00 18 33.0**	**-0.3**
	300nm,0.2s						
GNBR	**Gunib**	**1.04**	**153**	*e*Pg	**Pn**	**00 18 24.2**	**-0.8**
	41nm,0.1s						
GNBR				*e*Sg	**Sb**	**00 18 38.8**	**+0.5**
	32nm,0.2s						
KMGR	**Komgaron**	**1.09**	**257**	*e*Pg	**Pn**	**00 18 25.3**	**-0.5**
KMGR				*e*Sg	**Sn**	**00 18 41.7**	**+0.4**
TRKR	**Terskaya**	**1.22**	**290**	*e*Pg	**Pn**	**00 18 27.7**	**+0.3**
TRKR				*e*Sg	**Sn**	**00 18 45.4**	**+1.0**
BTKR	**Batakoyurt**	**1.30**	**273**	*e*Pg	**Pg**	**00 18 29.2**	**+0.5**
BTKR				*e*Sg	**Sn**	**00 18 48.1**	**+1.9**
SGKR	**Sergokala**	**1.31**	**131**	*e*Pg	**Pg**	**00 18 29.6**	**+0.7**
	2.0nm,0.6s						
SGKR				*e*Sg	**Sn**	**00 18 47.9**	**+1.5**
	123nm,0.4s						
KMKR	**Kumukh**	**1.32**	**154**	*e*Pg	**Pg**	**00 18 29.1**	**0.0**
	79nm,0.1s						
KMKR				*e*Sg	**Sn**	**00 18 47.4**	**+0.4**
	150nm,0.3s						
PNSH	**Pansheti**	**1.43**	**242**	P	**Pn**	**00 18 28.9**	**-1.5**
LGD	**Lagodekhi**	**1.49**	**182**	P	**Pn**	**00 18 30.9**	**-0.2**
LGD				S	**Sn**	**00 18 49.6**	**-1.3**
ARNR	**Ardon**	**1.49**	**265**	*e*Pg	**Pb**	**00 18 31.4**	**-0.6**
ARNR				*e*Sg	**Sg**	**00 18 52.7**	**+0.9**
URKR	**Urkarakh**	**1.51**	**140**	*e*Pg	**Pg**	**00 18 32.3**	**-0.4**
	30nm,0.2s						
URKR				*e*Sg	**Sg**	**00 18 52.9**	**+0.7**
	104nm,0.3s						
LACR	**Lac**	**1.56**	**252**	*e*Pg	**Pn**	**00 18 30.9**	**-1.3**
LACR				*e*Sg	**Sn**	**00 18 51.2**	**-1.7**
STDR	**Stavd-Durt**	**1.65**	**272**	*e*Pg	**Pg**	**00 18 34.6**	**-0.8**
STDR				*e*Sg	**Sg**	**00 18 57.5**	**+0.7**
KORR	**Kora**	**1.66**	**263**	*e*Pg	**Pb**	**00 18 34.8**	**-0.1**
KORR				*e*Sg	**Sg**	**00 18 57.8**	**+0.5**
ZEI	**Tsey**	**1.85**	**254**	*e*Pg	**Pn**	**00 18 36.8**	**+0.5**
ZEI				*e*Sg	**Sn**	**00 19 00.0**	**-0.1**
DDFL	**Dedoflistskaro**	**1.88**	**185**	P	**Pg**	**00 18 40.0**	**+0.1**
DDFL				S	**Sg**	**00 19 10.0**	**+5.8**
DGRG	**David-gareji**	**2.00**	**201**	P	**Pb**	**00 18 39.5**	**-1.0**
DGRG				S	**Sb**	**00 19 07.3**	**+1.6**
DIGR	**Digorskoe uzhe**	**2.05**	**259**	*e*Pg	**Pb**	**00 18 40.0**	**-1.6**
DIGR				*i* Sg	**Sn**	**00 19 05.7**	**+0.6**
AKT	**Akhty**	**2.12**	**150**	*e*Pg	**Pb**	**00 18 41.8**	**-0.8**
	32nm,0.2s						
AKT				*e*Sg	**Sb**	**00 19 09.7**	**+0.5**
	104nm,0.3s						
ONI	**Oni**	**2.23**	**252**	P	**Pn**	**00 18 42.1**	**+0.7**
DMNI	**Dmanisi**	**2.54**	**219**	P	**Pn**	**00 18 45.6**	**-0.1**
BKRG	**Bakuriani**	**2.59**	**234**	P	**Pn**	**00 18 46.4**	**-0.1**

IDC 20 00:36:43.0±2.2, 3.67S×142.37E, h0km, mb3.5/3, mbtmp3.5/4, ML3.4/1, MS3.4/1, Error ellipse: s-maj=86.8km s-min=33.1km az=87.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.97**	**205**	P	Pn	00 40 54.1	-0.4
	0.1nm,0.3s,baz=25,slow=12,SNR=12						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**21.50**	**202**	P	P	00 41 34.0	+0.4
	1.0nm,0.6s,baz=27,slow=10,SNR=10						
	1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.77**	**228**	LR	LR	00 50 38.2	
	comp=Z,98nm,19.4s,baz=248,slow=38						
H11S3	**WAKE ISLAND Hy**	**32.54**	**47**	T	T	01 18 41.1	
	baz=231						
H11S2	**WAKE ISLAND Hy**	**32.55**	**47**	T	T	01 18 42.2	
	baz=231						
H11S1	**WAKE ISLAND Hy**	**32.56**	**47**	T	T	01 18 43.0	
	baz=231						
MKAR	**Makanchi Array**	**72.79**	**321**	P	P	00 48 13.7	+0.2
	0.5nm,0.9s,baz=111,slow=7.9,SNR=2.9						
	0.5nm,0.9s						
VNDA	**Vanda**	**74.53**	**176**	P	P	00 48 22.9	-0.2
	0.4nm,0.7s,baz=349,slow=5.2,SNR=5.1						
	0.4nm,0.7s						

*AUST **20** 01:08:05.3±3.3, 26.52S×132.53E, h9km±24km, Error ellipse: s-maj=11.4km s-min=8.4km az=95.0*
*NOU **20** 01:08:05.8, 26.51S×132.69E, h0km, MLv4.4/9, South Australia*
*IDC **20** 01:08:05.6±3.0, 26.47S×132.64E, h0km, mbtmp3.5/4, ML

STKA				S		Sn	01 12 06.2 -1.1
	baz=9.6						
STKA	**Stephens Creek**	**9.45**	**127**	P		**Pn**	**01 10 23.4 +2.5**
FITZ	**Fitzroy Crossi**	**10.59**	**321**	Pn		**Pn**	**01 10 37.6 +1.1**
	0.3nm,0.3s,baz=137,slow=7.3,SNR=18						
FITZ				Sn		**Sn**	**01 12 30.2 -5.1**
	0.3nm,0.3s,baz=38,slow=18,SNR=1.5						
	0.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.59**	**321**	P		**Pn**	**01 10 37.6 +1.1**
	baz=11						
FITZ				S		**Sn**	**01 12 31.1 -4.2**
	baz=11						
FITZ	**Fitzroy Crossi**	**10.59**	**321**	P		**Pn**	**01 10 38.9 +2.4**
KNRA	**Kununurra**	**11.36**	**340**	P		**Pn**	**01 10 47.7 +0.7**
	baz=11						
CMSA	**Cobar Meteorol**	**12.44**	**117**	P		**Pn**	**01 11 02.1 +0.4**
	baz=12						
MEEK	**Meekatharra**	**12.61**	**266**	P		Pn	01 11 00.1 -4.1
	baz=12						
KDU	**Kakadu**	**13.72**	**359**	P		**Pn**	**01 11 18.0 -1.3**
	baz=14						

IDC 20 01:13:59.2±2.1,2°.14N×127°.93E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=136.8km s-min=26.9km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.83**	**164**	P	P	01 19 04.6	+0.5
	1.4nm,0.4s,baz=344,slow=11,SNR=17						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**26.30**	**168**	P	P	01 19 35.9	-0.8
	0.4nm,0.5s,baz=349,slow=7.5,SNR=4.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.53**	**325**	P	P	01 24 04.7	+0.2
	0.3nm,0.4s,baz=124,slow=6.4,SNR=4.3						
	0.3nm,0.4s						

*ROM **20** 01:18:56.8±0.1,44°.307N±0°.004×7°.432E±0°.007, h11km±1km,ML1.4/6,Error ellipse: s-maj=0.6km s-min=0.2km az=48.0*
*STR **20** 01:18:57.5±0.8,44°.N±3°.×±°, h2km,MLv1.5/13,Error ellipse: s-maj=0.0km s-min=0.0km az=60.1,preliminary*
*LDG **20** 01:18:57.3±0.1,44°.33N×7°.47E,h3km,Md1.6/2,Ml1.7/6, Error ellipse: s-maj=1.2km s-min=0.7km az=62.0*
ISC 20 01:18:57.0±0.9,44°.33N±0°.02×7°.47E±0°.02,h11km±6km, n33,σ0°41/62,3C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENR	**Entracque**	**0.11**	**200**	P	**Pg**	**01 18 59.9**	**0.0**
ENR				S	**Sg**	**01 19 01.5**	**-0.3**
ENR				AML	AML		
	comp=E,1130μm,0.1s						
ENR				AML	AML		
	comp=N,558μm,0.6s						
STV	**Sant Anna di V**	**0.13**	**232**	P	**Pg**	**01 19 00.1**	**0.0**
STV				S	**Sg**	**01 19 02.1**	**-0.4**
STV				AML	AML		
	comp=N,242μm,0.1s						
STV				AML	AML		
	comp=E,183μm,0.2s						
PZZ	**Stroppo**	**0.31**	**305**	P	**Pg**	**01 19 03.7**	**+0.4**
PZZ				S	**Sg**	**01 19 08.2**	**+0.6**
PZZ				AML	AML		
	comp=N,176μm,0.3s						
PZZ				AML	AML		
	comp=E,150μm,0.3s						
SPIF	**crte de Spivo**	**0.32**	**212**	⇑Pg	**Pg**	**01 19 03.6**	**+0.1**
SPIF				Sg	**Sg**	**01 19 07.7**	**-0.1**
ISO	**Isola**	**0.34**	**245**	⇑Pg	**Pg**	**01 19 03.8**	**+0.1**
ISO				Sg	**Sg**	**01 19 07.9**	**-0.2**
SAOF	**Saorge**	**0.35**	**170**	P	**Pg**	**01 19 04.1**	**+0.2**
SAOF				S	**Sg**	**01 19 08.5**	**-0.1**
SAOF				AML	AML		
	comp=N,63μm,1.4s						
SAOF				AML	AML		
	comp=N,63μm,1.4s						
SAOF				AML	AML		
	comp=E,61μm,0.7s						
SAOF				AML	AML		
	comp=E,61μm,1.3s						
SAOF	**Saorge**	**0.35**	**170**	Pg	**Pg**	**01 19 04.1**	**+0.2**
SAOF				Sg	**Sg**	**01 19 08.4**	**-0.1**
TURF	**col de Turini**	**0.36**	**189**	Pg	**Pg**	**01 19 04.3**	**+0.1**
TURF				Sg	**Sg**	**01 19 08.0**	**-0.9**
MGRO	**Montegrosso**	**0.37**	**139**	P	**Pg**	**01 19 04.7**	**+0.2**
MGRO				S	**Sg**	**01 19 09.8**	**+0.4**
SBF	**Sospel**	**0.46**	**183**	*e*Pg	**Pg**	**01 19 06.3**	**+0.2**
SBF				*e*Sg	**Sg**	**01 19 12.4**	**+0.2**
	comp=E,29nm,0.2s						
RORO	**Rocca Rossa**	**0.48**	**116**	P	**Pg**	**01 19 06.7**	**+0.3**
RORO				S	**Sg**	**01 19 13.3**	**+0.7**
RORO				AML	AML		
	comp=N,53μm,1.4s						
RORO				AML	AML		
	comp=E,34μm,1.4s						
RORO				AML	AML		
	comp=N,53μm,0.6s						
RORO				AML	AML		
	comp=E,34μm,0.6s						
SURF	**Saint Ours**	**0.50**	**288**	Pg	**Pg**	**01 19 06.9**	**+0.2**
SURF				Sg	**Sg**	**01 19 14.0**	**+0.6**
ESCA	**l'Escarene**	**0.50**	**188**	Pg	**Pg**	**01 19 06.9**	**+0.2**
ESCA				Sg	**Sg**	**01 19 13.5**	**+0.1**
IMI	**Imperia**	**0.52**	**144**	P	**Pg**	**01 19 07.3**	**+0.2**
IMI				S	**Sg**	**01 19 14.2**	**+0.4**
IMI				AML	AML		
	comp=E,59μm,0.8s						
IMI				AML	AML		
	comp=N,111μm,1.6s						
IMI				AML	AML		
	comp=E,59μm,0.8s						
IMI				AML	AML		
	comp=N,112μm,1.6s						
IMI				AML	AML		
	comp=N,112μm,0.4s						
JAUF	**Jausiers**	**0.53**	**281**	Pg	**Pg**	**01 19 07.4**	**+0.1**
JAUF				Sg	**Sg**	**01 19 14.0**	**-0.3**
BHB	**Bricherasio**	**0.54**	**344**	⇑P	**Pg**	**01 19 07.1**	**-0.4**
BHB				S	**Sg**	**01 19 14.7**	**+0.2**
ENAUX	**Enaux**	**0.55**	**247**	Pg	**Pg**	**01 19 08.0**	**+0.4**
ENAUX				Sg	**Sg**	**01 19 14.7**	**-0.2**
BURY	**Giardini Botan**	**0.55**	**173**	P	**Pg**	**01 19 07.8**	**+0.2**
BURY				S	**Sg**	**01 19 15.0**	**+0.2**
QLNO	**Quiliano**	**0.63**	**90**	P	**Pb**	**01 19 10.0**	**0.0**
QLNO				S	**Sb**	**01 19 18.7**	**-0.1**
MBDF	**Montbardon**	**0.64**	**309**	*e*Pg	**Pg**	**01 19 09.4**	**0.0**
MBDF				*e*Sg	**Sg**	**01 19 18.3**	**+0.4**
	comp=N,6.0nm,0.3s						
CALF	**Calern**	**0.70**	**215**	Pg	**Pg**	**01 19 10.6**	**+0.1**
CALF				Sg	**Sg**	**01 19 19.5**	**-0.1**
RRL	**Rocca Remolon**	**0.77**	**321**	P	**Pg**	**01 19 11.5**	**-0.4**
RRL				S	**Sg**	**01 19 21.7**	**-0.2**
PCP	**Piancastagn**	**0.80**	**74**	P	**Pb**	**01 19 13.3**	**+0.3**
PCP				S	**Sb**	**01 19 24.4**	**+0.6**
BNI	**Bardonecchia**	**0.92**	**322**	P	**Pg**	**01 19 14.3**	**-0.4**
BNI				S	**Sg**	**01 19 26.1**	**-0.6**
TRIGF	**Trigance**	**0.96**	**233**	Pg	**Pb**	**01 19 15.8**	**+0.1**
TRIGF				Sg	**Sb**	**01 19 29.0**	**+0.5**
LMR	**La Mourre**	**1.21**	**215**	*e*Pn	**Pn**	**01 19 19.8**	**-0.1**
LMR				*e*Sg	**Sb**	**01 19 35.4**	**-0.2**
	comp=N,5.0nm,0.2s						
LPG	**La Plagne**	**1.28**	**337**	*e*Pg	**Pb**	**01 19 21.6**	**+0.3**
ORIF	**Oris-en-Rattie**	**1.28**	**298**	*e*Pg	**Pn**	**01 19 21.1**	**+0.2**
ORIF				*e*Sg	**Sb**	**01 19 37.8**	**+0.1**
	comp=N,0.9nm,0.3s						
FLAF	**Flassans-sur-I**	**1.29**	**223**	Pg	**Pb**	**01 19 21.5**	**+0.3**
LPL	**La Plagne**	**1.30**	**336**	*e*Pg	**Pb**	**01 19 21.9**	**+0.3**
LPL				*e*Sg	**Sb**	**01 19 38.8**	**+0.4**
	comp=N,0.9nm,0.3s						
BSTF	**la Bastide-des**	**1.39**	**252**	Pg	**Pg**	**01 19 24.5**	**+0.9**
ARTF	**Artigues**	**1.41**	**239**	Pg	**Pb**	**01 19 23.8**	**+0.4**
PGF	**Pioggiola**	**2.10**	**147**	*e*Pn	**Pn**	**01 19 31.9**	**-0.3**
PGF				*e*Sn	**Sn**	**01 19 56.7**	**-1.6**
	comp=N,0.6nm,0.2s						

*IDC **20** 01:20:53.4±1.3,42°.71N×13°.18E,h0km,mb3.6/5, mbtmp3.5/8,ML3.3/3,MS3.3/1,Error ellipse: s-maj=28.4km s-min=15.7km az=94.0*

*ROM **20** 01:20:53.2±0.0,42°.677N±0°.003×13°.290E±0°.004, h9km,ML3.3/67,Mw3.2,Error ellipse: s-maj=0.3km s-min=0.2km az=80.0,Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr-0.93; Mθθ3.68; Mφφ-2.75; Mrθ4.36; Mrφ-0.80; Mθφ-6.76; Fault plane solution: M₀8.71188×10¹³ NP1:φs59.00000°,δ23.00000°, λ-173.00000°. NP2:φs323.00000°,δ87.00000°, λ-68.00000°.*
*PRU **20** 01:20:55.7±0.0,42°.78N×13°.50E,h0km*
*STR **20** 01:20:58.8±1.7,43°.N±6°.×1°.3E±1°.4,h10km,MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=95.3, preliminary*
ISC 20 01:20:54.3±0.8,42°.67N±0°.02×13°.28E±0°.02,h5km±5km, n221,σ1§16/261,mb3.7/4,44C-41D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.03**	**83**	P	**Pg**	**01 20 55.2**	**-0.4**
T1204				S	**Sg**	**01 20 56.1**	**-0.3**
T1204				AML	AML		
T1204				AML	AML		
T1243	**Rocca Santa Ma**	**0.13**	**79**	⇑P	**Pg**	**01 20 56.7**	**-0.3**
T1243				S	**Sg**	**01 20 58.8**	**0.0**
T1242	**Castelluccio d**	**0.17**	**341**	⇑P	**Pg**	**01 20 57.5**	**-0.2**
T1242				S	**Sg**	**01 21 00.6**	**+0.7**
T1242				AML	AML		
	comp=E,28300μm,0.7s						
T1242				AML	AML		
	comp=N,47150μm,0.5s						
T1242				AML	AML		
	comp=E,28000μm,0.7s						
T1242				AML	AML		
	comp=N,46500μm,0.5s						
T1242				AML	AML		
	comp=E,28300μm,1.3s						
T1242				AML	AML		
	comp=E,28000μm,1.3s						
T1242				AML	AML		
	comp=N,47200μm,0.5s						
CAMP	**Campotosto**	**0.17**	**144**	⇓P	**Pg**	**01 20 57.5**	**-0.2**
CAMP				S	**Sg**	**01 21 00.4**	**+0.5**
CAMP				AML	AML		
	comp=N,9615μm,0.5s						
CAMP				AML	AML		
	comp=E,8510μm,1.0s						
RM33	**Pellescritta (**	**0.17**	**196**	⇓P	**Pg**	**01 20 57.8**	**+0.1**
RM33				S	**Sg**	**01 21 01.3**	**+1.3**
RM33				AML	AML		
	comp=E,16350μm,0.5s						
RM33				AML	AML		
	comp=N,23300μm,0.5s						
RM33				AML	AML		
	comp=N,23350μm,0.5s						
RM33				AML	AML		
	comp=E,16750μm,0.5s						
RM33				AML	AML		
	comp=N,23350μm,0.5s						
RM33				AML	AML		
	comp=N,23350μm,0.5s						
LNSS	**Leonessa**	**0.19**	**248**	⇓P	**Pg**	**01 20 58.1**	**+0.1**
LNSS				S	**Sg**	**01 21 01.8**	**+1.2**
LNSS				AML	AML		
	comp=E,26150μm,0.6s						
LNSS				AML	AML		
	comp=N,35050μm,0.4s						
LNSS				AML	AML		
	comp=E,26150μm,1.4s						
LNSS				AML	AML		
	comp=N,35050μm,1.6s						
NRCA	**Norcia**	**0.20**	**324**	P	**Pg**	**01 20 58.1**	**-0.2**
NRCA				S	**Sg**	**01 21 01.5**	**+0.6**
NRCA				AML	AML		
	comp=E,52500μm,0.1s						
NRCA				AML	AML		
	comp=E,56100μm,0.1s						
NRCA				AML	AML		
	comp=N,42300μm,0.2s						
NRCA				AML	AML		
	comp=N,42300μm,0.2s						
NRCA				AML	AML		
	comp=E,52450μm,0.1s						
NRCA				AML	AML		
	comp=N,44550μm,0.2s						
T1241	**Roccafluvione,**	**0.22**	**32**	⇑P	**Pg**	**01 20 58.2**	**-0.4**
T1241				S	**Sg**	**01 21 01.7**	**+0.2**
T1241				AML	AML		
	comp=N,20900μm,0.6s						
T1241				AML	AML		
	comp=N,20850μm,0.6s						
T1241				AML	AML		
	comp=E,18500μm,0.4s						
T1241				AML	AML		
	comp=E,19000μm,0.4s						
T1241				AML	AML		
	comp=N,20350μm,0.6s						
MMO1	**Montemonaco**	**0.23**	**9**	P	**Pg**	**01 20 58.6**	**-0.3**
MMO1				S	**Sg**	**01 21 02.3**	**+0.4**
T1247	**Pizzolo (AQ)**	**0.23**	**176**	P	**Pg**	**01 20 58.8**	**0.0**
T1247				AML	AML		
	comp=E,14500μm,0.8s						
T1247				AML	AML		
	comp=N,15150μm,0.9s						
TERO	**Teramo**	**0.25**	**101**	P	**Pg**	**01 20 58.8**	**-0.4**
TERO				S	**Sg**	**01 21 02.7**	**+0.3**
TERO				AML	AML		
	comp=N,16400μm,0.5s						
TERO				AML	AML		
	comp=E,22150μm,0.5s						
TERO				AML	AML		
	comp=N,17100μm,0.5s						
TERO				AML	AML		
	comp=E,20950μm,0.5s						
MC2	**Monte Cornacci**	**0.25**	**345**	P	**Pg**	**01 20 59.0**	**-0.2**
MC2				S	**Sg**	**01 21 03.7**	**+1.1**
T1217	**Poggiodomo (PG**	**0.26**	**279**	P	**Pg**	**01 20 59.2**	**-0.2**
T1217				S	**Sg**	**01 21 03.8**	**+1.0**
T1217				AML	AML		
	comp=E,6615μm,0.5s						
T1217				AML	AML		
	comp=E,6685μm,0.5s						
T1217				AML	AML		
	comp=N,9235μm,0.4s						
T1217				AML	AML		
	comp=N,9355μm,0.4s						
T1217				AML	AML		
	comp=E,6690μm,0.5s						
T1217				AML	AML		
	comp=N,9220μm,0.4s						
T1217				AML	AML		
	comp=E,6620μm,0.5s						
T1216	**Preci, Frazion**	**0.29**	**319**	P	**Pg**	**01 20 59.7**	**-0.3**
T1216				S	**Sg**	**01 21 04.4**	**+0.6**
T1216				AML	AML		
T1216				AML	AML		
	comp=E,30100μm,0.4s						
T1216				AML	AML		
	comp=N,31750μm,0.4s						
T1216				AML	AML		
	comp=E,30150μm,0.4s						
T1216				AML	AML		
	comp=N,31700μm,0.4s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=E,30150μm,1.6s						
T1216				AML	AML		
AM05	**Amandola Campo**	**0.31**	**10**	⇑P	**Pg**	**01 21 00.0**	**-0.4**
AM05				S	**Sg**	**01 21 05.3**	**+0.9**
AM05				AML	AML		
	comp=N,2320μm,0.3s						
AM05				AML	AML		
	comp=N,9665μm,0.3s						
AM05				AML	AML		
	comp=E,2225μm,0.3s						
AM05				AML	AML		
	comp=E,8890μm,0.3s						
AM05				AML	AML		
	comp=N,2325μm,0.3s						
AM05				AML	AML		
	comp=N,9675μm,0.3s						
GIGS	**Gran Sasso**	**0.31**	**136**	P	**Pg**	**01 20 59.9**	**-0.5**
GIGS				AML	AML		
	comp=E,1595μm,0.5s						
GIGS				AML	AML		
	comp=N,1510μm,0.5s						
GIGS				AML	AML		
	comp=N,1510μm,1.5s						
GIGS				AML	AML		
	comp=E,1595μm,1.5s						
AQU	**L'Aquila**	**0.33**	**164**	⇓P	**Pg**	**01 21 00.5**	**-0.2**
AQU				AML	AML		
	comp=E,4925μm,0.6s						
AQU				AML	AML		
	comp=N,5690μm,1.0s						
AQU				AML	AML		
	comp=E,4710μm,0.6s						
AQU				AML	AML		
	comp=N,5590μm,1.0s						
AQU				AML	AML		
	comp=N,5685μm,1.0s						
FEMA	**Monte Fema**	**0.33**	**330**	P	**Pg**	**01 21 00.6**	**-0.3**
FEMA				S	**Sg**	**01 21 06.2**	**+0.9**
FEMA				AML	AML		
	comp=E,21300μm,0.5s						
FEMA				AML	AML		
	comp=N,15000μm,0.4s						
FEMA				AML	AML		
	comp=E,21250μm,0.5s						
FEMA				AML	AML		
	comp=N,15000μm,1.6s						
GUMA	**Gualdo di Mace**	**0.39**	**6**	⇑P	**Pg**	**01 21 00.8**	**-1.1**
GUMA				S	**Sg**	**01 21 07.6**	**+0.5**
GUMA				AML	AML		
	comp=E,20950μm,0.4s						
GUMA				AML	AML		
	comp=N,26700μm,0.4s						
GUMA				AML	AML		
	comp=N,20450μm,0.4s						
GUMA				AML	AML		
	comp=E,26850μm,0.4s						
OFFI	**Offida**	**0.40**	**49**	P	**Pg**	**01 21 02.4**	**+0.3**
OFFI				S	**Sb**	**01 21 10.1**	**-0.3**
OFFI				AML	AML		
	comp=E,11950μm,0.5s						
OFFI				AML	AML		
	comp=N,12000μm,0.4s						
FIAM	**Fiamignano**	**0.42**	**196**	P	**Pg**	**01 21 02.0**	**-0.5**
FIAM				AML	AML		
	comp=N,3810μm,0.6s						
FIAM				AML	AML		
	comp=N,3815μm,0.6s						
FIAM				AML	AML		
	comp=E,3575μm,0.8s						
FIAM				AML	AML		
	comp=E,3575μm,1.2s						
CSP1	**Cessapalombo**	**0.42**	**353**	P	**Pg**	**01 21 02.0**	**-0.5**
CSP1				S	**Sg**	**01 21 08.8**	**+0.7**
CSP1				AML	AML		
	comp=E,8290μm,0.8s						
CSP1				AML	AML		
	comp=N,9055μm,0.4s						
CSP1				AML	AML		
	comp=E,8295μm,0.8s						
CSP1				AML	AML		
	comp=N,9025μm,0.4s						
CSP1				AML	AML		
	comp=E,8295μm,1.2s						
CESI	**CESI - Serrava**	**0.43**	**321**	⇑P	**Pg**	**01 21 02.3**	**-0.4**
CESI				S	**Sg**	**01 21 09.2**	**+0.8**
CESI				AML	AML		
	comp=N,15600μm,0.4s						
CESI				AML	AML		
	comp=E,9230μm,0.7s						
FAGN	**Fagnano**	**0.47**	**151**	P	**Pg**	**01 21 03.0**	**-0.2**
FAGN				AML	AML		
	comp=E,7590μm,0.5s						
FAGN				AML	AML		
	comp=N,9275μm,0.4s						
MNTP	**Montappone**	**0.49**	**17**	P	**Pg**	**01 21 03.7**	**0.0**
MNTP				AML	AML		
	comp=N,6085μm,1.0s						
MNTP				AML	AML		
	comp=E,7290μm,0.3s						
MNTP				AML	AML		
	comp=N,6085μm,0.9s						
TRTR	**Tortoreto Alta**	**0.49**	**74**	⇑P	**Pg**	**01 21 04.4**	**+0.7**
TRTR				AML	AML		
	comp=N,14400μm,0.5s						
TRTR				AML	AML		
	comp=E,12650μm,0.7s						
VCEL	**Villa Celiera**	**0.50**	**123**	⇑P	**Pg**	**01 21 03.8**	**-0.1**
VCEL				S	**Sb**	**01 21 12.3**	**-1.1**
VCEL				AML	AML		
	comp=N,4705μm,0.7s						
VCEL				AML	AML		
	comp=E,6675μm,0.4s						
VCEL				AML	AML		
	comp=E,6675μm,1.6s						
CESX	**Cesi**	**0.52**	**263**	⇓P	**Pg**	**01 21 03.6**	**-0.7**
CESX				AML	AML		
	comp=E,2480μm,0.6s						
CESX				AML	AML		
	comp=N,1705μm,1.2s						
SEF1	**Sefro**	**0.53**	**333**	P	**Pg**	**01 21 04.1**	**-0.5**
SEF1				AML	AML		
SEF1				AML	AML		
	comp=E,8105μm,1.2s						
SEF1				AML	AML		
	comp=N,11345μm,0.2s						
SEF1				AML	AML		
	comp=E,8100μm,1.2s						
SEF1				AML	AML		
	comp=N,11355μm,0.2s						
SEF1				AML	AML		
	comp=E,8100μm,0.8s						
T0110	**Collepietro**	**0.58**	**140**	AML	AML		
	comp=N,5930μm,0.4s						
T0110				AML	AML		
	comp=E,3635μm,0.4s						
GAG1	**Gagliole**	**0.59**	**345**	AML	AML		
	comp=N,9695μm,0.6s						
GAG1				AML	AML		
	comp=E,10990μm,0.4s						
GAG1				AML	AML		
	comp=N,9685μm,0.6s						
GAG1				AML	AML		
	comp=E,10985μm,0.4s						
GAG1				AML	AML		
	comp=N,9695μm,1.4s						
SNTG	**Esanatoglia**	**0.63**	**337**	AML	AML		
	comp=N,1980μm,0.3s						
SNTG				AML	AML		
	comp=E,1765μm,0.6s						
SNTG				AML	AML		
	comp=N,280μm,0.4s						
SNTG				AML	AML		
	comp=E,238μm,0.8s						
SNTG				AML	AML		
	comp=N,280μm,1.6s						
SNTG				AML	AML		
	comp=E,238μm,1.2s						
TRE1	**Treia**	**0.64**	**2**	⇑P	**Pg**	**01 21 07.2**	**+0.6**
TRE1				AML	AML		
	comp=N,6065μm,0.4s						
TRE1				AML	AML		
	comp=N,6070μm,0.4s						
TRE1				AML	AML		
	comp=E,6215μm,1.5s						
TRE1				AML	AML		
	comp=E,6215μm,0.5s						
PTQR	**Pietraquaria**	**0.66**	**172**	AML	AML		
	comp=E,762μm,0.5s						
PTQR				AML	AML		
	comp=N,520μm,1.4s						
EL6	**Elcito**	**0.67**	**349**	⇑P	**Pg**	**01 21 06.3**	**-0.9**
EL6				S	**Sb**	**01 21 18.0**	**-0.2**
EL6				AML	AML		
	comp=E,5245μm,1.6s						
EL6				AML	AML		
	comp=N,4815μm,0.8s						
EL6				AML	AML		
	comp=N,4825μm,0.8s						
EL6				AML	AML		
	comp=E,5245μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.69**	**318**	AML	AML		
	comp=N,3305μm,0.3s						
ATCC				AML	AML		
	comp=E,3060μm,0.4s						
CING	**Cingoli**	**0.71**	**355**	⇑P	**Pg**	**01 21 07.0**	**-0.9**
CING				AML	AML		
	comp=E,4330μm,0.5s						
CING				AML	AML		
	comp=N,2375μm,0.7s						

PP3 Marolino 0.75 19 ⇓P Pg 01 21 08.7 +0.1
PP3 AML AML
comp=E,3700µm,0.5s
PP3 AML AML
comp=N,3855µm,0.3s
PP3 AML AML
comp=N,3695µm,0.3s
PP3 AML AML
comp=E,3695µm,0.4s
PP3 AML AML
comp=N,3695µm,1.7s
PP3 AML AML
comp=N,3855µm,1.7s
CERT Cerreto 0.76 197 AML AML
comp=N,1292µm,0.6s
CERT AML AML
comp=E,2020µm,0.4s
MTCE Montecelio 0.76 212 AML AML
comp=N,885µm,0.6s
MTCE AML AML
comp=E,1155µm,0.9s
MTCE AML AML
comp=N,884µm,0.6s
INTR Introdacqua 0.81 145 AML AML
comp=E,1265µm,0.8s
INTR AML AML
comp=E,2µm,1.6s
INTR AML AML
comp=N,4µm,1.6s
INTR AML AML
comp=N,2735µm,0.5s
MURB Monte Urbino 0.81 317 AML AML
comp=N,6875µm,0.9s
MURB AML AML
comp=N,6395µm,0.9s
MURB AML AML
comp=N,6875µm,1.1s
MURB AML AML
comp=N,6395µm,1.1s
MURB AML AML
comp=E,5565µm,0.3s
MURB AML AML
comp=E,4935µm,0.3s
VVLD Villa Vallelon 0.84 162 ⇓P Pb 01 21 12.1 +0.6
VVLD AML AML
comp=E,1050µm,0.5s
VVLD AML AML
comp=N,1058µm,0.7s
SSFR Montelago di S 0.84 335 ⇓P Pg 01 21 09.5 -1.0
SSFR AML AML
comp=N,3040µm,0.2s
SSFR AML AML
comp=E,3535µm,0.9s
SSFR AML AML
comp=N,2840µm,0.7s
SSFR AML AML
comp=E,3955µm,0.9s
ATTE AVT- Monte Tez 0.86 308 AML AML
comp=E,1197µm,0.4s
ATTE AML AML
comp=N,1017µm,1.1s
RCAV Rocca di Cave 0.86 197 ⇓P Pb 01 21 11.6 -0.3
RCAV AML AML
comp=E,1970µm,0.9s
RCAV AML AML
comp=N,1845µm,0.6s
RCAV AML AML
comp=N,1845µm,1.4s
ARVD Arcevia 0.86 344 ⇑P Pg 01 21 09.7 -1.1
ARVD S Sb 01 21 24.0 +0.3
ARVD AML AML
comp=E,1340µm,0.6s
ARVD AML AML
comp=N,1292µm,0.7s
ATFO Monte Foce - G 0.87 324 ⇓P Pg 01 21 10.4 -0.6
ATFO S Sb 01 21 25.0 +1.1
ATFO AML AML
comp=E,1755µm,1.1s
ATFO AML AML
comp=N,1635µm,0.5s
MGAB Montegabbione 0.89 286 ⇓P Pg 01 21 10.5 -0.9
MGAB AML AML
comp=E,2700µm,0.6s
MGAB AML AML
comp=E,3265µm,0.9s
MGAB AML AML
comp=N,2565µm,0.5s
MGAB AML AML
comp=N,2325µm,0.5s
AOI Ancona 0.91 15 ⇓P Pg 01 21 11.4 -0.4
AOI AML AML
comp=N,1695µm,0.4s
AOI AML AML
comp=E,1765µm,0.5s
AOI AML AML
comp=N,1695µm,1.6s
AOI AML AML
comp=E,1765µm,1.5s
LPEL Lama dei Pelig 0.92 133 AML AML
comp=E,1074µm,0.5s
LPEL AML AML
comp=N,920µm,1.2s
FRON Frontone 0.94 335 ⇑P Pg 01 21 11.0 -1.3
FRON AML AML
comp=E,1640µm,1.2s
FRON AML AML
comp=N,1655µm,0.5s
ATVO AVT- Monte Val 0.95 318 ⇑P Pg 01 21 11.7 -1.0
ATVO AML AML
comp=E,1375µm,1.6s
ATVO AML AML
comp=N,992µm,1.3s
RMP Rome, Mte Porz 0.96 207 ⇑P Pn 01 21 14.1 -0.4
RMP AML AML
comp=E,1750µm,0.8s
RMP AML AML
comp=N,1765µm,1.0s
RMP AML AML
comp=N,1765µm,1.0s
COR1 Corinaldo 0.98 348 ⇓P Pg 01 21 12.8 -0.3
ATMI Monte Miggiano 0.99 312 ⇑P Pg 01 21 13.2 -0.2
ATMI AML AML
comp=E,2950µm,0.5s
ATMI AML AML
comp=N,3345µm,0.5s
VIVA Pratoni del Vi 0.99 202 ⇓P Pb 01 21 14.2 +0.2
VIVA AML AML
comp=E,3225µm,0.5s
VIVA AML AML
comp=N,2550µm,0.5s
ATPI Pietralunga - 1.01 321 ⇓P Pg 01 21 12.6 -1.1
ATPI AML AML
comp=N,1186µm,0.6s
ATPI AML AML
comp=E,1695µm,0.5s
MA9 Marino 1.01 207 ⇓P Pb 01 21 14.4 +0.1
MA9 AML AML
comp=E,2075µm,0.7s
MA9 AML AML
comp=N,1990µm,0.6s
MA9 AML AML
comp=N,1990µm,1.4s
MA9 AML AML
comp=E,2075µm,1.3s
PIEI Pieia 1.02 328 P Pg 01 21 12.5 -1.4
PIEI S Sn 01 21 30.0 -0.1
PIEI AML AML
comp=E,1194µm,0.3s
PIEI AML AML
comp=N,1105µm,0.4s
PIEI AML AML
comp=N,1105µm,1.6s
SACS San Casciano d 1.02 280 ⇓P Pg 01 21 13.0 -1.0
SACS AML AML
comp=E,751µm,1.4s
SACS AML AML
comp=N,1175µm,0.8s
SACS AML AML
comp=N,1180µm,0.9s
SACS AML AML
comp=E,728µm,0.6s
SACS AML AML
comp=N,1175µm,1.2s
MPAG Monte Paganucc 1.03 339 ⇓P Pg 01 21 12.9 -1.1
MPAG AML AML
comp=N,1126µm,1.0s
MPAG AML AML
comp=E,1615µm,0.6s
MPAG AML AML
comp=N,1126µm,1.0s
SENI Senigallia 1.03 358 ⇑P Pg 01 21 13.5 -0.7
SENI AML AML
comp=E,7515µm,0.3s
SENI AML AML
comp=N,7630µm,0.3s
SENI AML AML
comp=N,7625µm,0.3s
LRP Arpino 1.05 167 ⇓P Pn 01 21 15.9 +0.1
LRP AML AML
comp=N,574µm,0.8s
LRP AML AML
comp=E,332µm,1.1s
FSSB Fossombrone 1.08 340 ⇓P Pg 01 21 14.1 -1.0
FSSB AML AML
comp=N,4510µm,0.4s
FSSB AML AML
comp=E,3505µm,0.4s
FSSB AML AML
comp=E,3505µm,1.6s
APEC Apecchio 1.09 325 ⇓P Pg 01 21 14.9 -0.3
LATE Laterza 1.09 267 ⇓P Pg 01 21 15.1 -0.1
TOLF Tolfa 1.12 238 P Pg 01 21 14.8 -1.0
TOLF AML AML
comp=E,647µm,0.6s
TOLF AML AML
comp=N,440µm,0.9s
BADI Badiali 1.13 318 ⇓P Pg 01 21 15.4 -0.6
CAFI Castiglion Fio 1.16 305 P Pg 01 21 15.3 -1.4
CAFI AML AML
comp=E,762µm,0.5s
CAFI AML AML
comp=N,918µm,0.8s
PE3 Peglio 1.17 331 ⇑P Pg 01 21 16.1 -0.7
MCIV Monte Civitell 1.18 276 ⇑P Pg 01 21 17.0 0.0
MCIV AML AML
comp=N,273µm,0.6s
MCIV AML AML
comp=E,357µm,0.6s
MCIV AML AML
comp=N,273µm,1.4s
MCIV AML AML
comp=E,357µm,1.4s
SF04 Casetta 1.20 278 ⇑P Pg 01 21 17.3 -0.1
CERA Filignano 1.21 153 ⇑P Pn 01 21 19.1 +1.1
PARC Parchiule 1.24 322 P Pg 01 21 16.9 -1.1
PARC AML AML
comp=N,845µm,1.1s
PARC AML AML
comp=N,845µm,0.9s
PARC AML AML
comp=E,1004µm,0.6s
MIDA Miranda 1.26 144 ⇓P Pg 01 21 16.9 -1.6
MIDA AML AML
comp=N,488µm,0.7s
MIDA AML AML
comp=E,510µm,0.5s
MIDA AML AML
comp=E,515µm,0.5s
MIDA AML AML
comp=N,505µm,0.6s
SF01 Poggio Pratacc 1.27 277 P Pg 01 21 17.5 -1.2
PESA Pesaro 1.31 346 ⇓P Pn 01 21 18.7 -0.6
PESA AML AML
comp=N,1630µm,0.3s
PESA AML AML
comp=E,2460µm,0.3s
TRIV Trivento 1.31 133 ⇑P Pg 01 21 20.3 +0.9
ARCI Arcidosso 1.34 278 ⇓P Pn 01 21 19.3 -0.5
ARCI AML AML
comp=E,165µm,0.4s
ARCI AML AML
comp=N,154µm,0.9s
CRE Caprese Michel 1.36 315 ⇑P Pb 01 21 20.2 -0.1
CRE AML AML
comp=N,502µm,0.4s
CRE AML AML
comp=E,434µm,0.8s
CRE AML AML
comp=N,502µm,1.6s
CRE AML AML
comp=E,434µm,1.2s
VAGA Valle Agricola 1.44 150 ⇓P Pg 01 21 23.1 +1.0
ASQU Asqua 1.56 316 ⇑P Pn 01 21 23.0 +0.1
ASQU AML AML
comp=E,350µm,0.9s
ASQU AML AML
comp=N,447µm,0.8s
BLLA Bellaria 1.58 338 ⇓P Pg 01 21 25.0 +0.3
CSNT Castellina Chi 1.66 299 ⇑P Pn 01 21 23.8 -0.3
CSNT AML AML
comp=E,194µm,0.5s
CSNT AML AML
comp=N,200µm,0.7s
CSNT AML AML
comp=E,194µm,1.5s
OSSC Osservatorio P 1.71 300 ⇑P Pn 01 21 24.7 -0.2
OSSC AML AML
comp=E,188µm,0.6s
OSSC AML AML
comp=N,250µm,0.9s
RUFI Rufina 1.74 313 ⇑P Pn 01 21 24.5 -0.7
CASP Castiglione de 1.78 275 ⇓P Pn 01 21 24.7 -1.1
CASP AML AML
comp=N,57µm,0.7s
CASP AML AML
comp=E,68µm,1.1s
TRIF Trifonti 1.80 285 ⇑P Pn 01 21 25.6 -0.5
TRIF AML AML
comp=N,172µm,0.7s
TRIF AML AML
comp=E,180µm,0.9s
LMD Lutirano 1.81 321 ⇑P Pg 01 21 29.1 +0.1
DUGI Dugi Otok 1.85 44 *e*Pn **Pn 01 21 25.4 -1.4**
ZIRJ Zirje 1.99 60 *e*Pn **Pn 01 21 27.7 -0.9**
MPPT Montemurlo 2.05 310 P Pn 01 21 28.1 -1.4
MPPT AML AML
comp=E,204µm,0.7s
MPPT AML AML
comp=N,147µm,0.6s
SGRT San Giovanni R 2.05 116 P Pb 01 21 31.0 -1.1
SGRT S Sb 01 21 58.0 +0.1
VIRC Vir 2.07 38 *e*Pn **Pn 01 21 28.8 -1.0**
VIRC Sn **Sn 01 21 55.5 -0.5**
MORI Morici 2.14 55 *e*Pn **Pn 01 21 30.0 -0.7**
MTCR Monte La Croce 2.14 310 P Pn 01 21 30.8 -0.1
NVLJ Novalja 2.22 31 *e*Pn **Pn 01 21 30.6 -1.2**
BRJN Brijuni 2.26 9 *e*Pn **Pn 01 21 30.8 -1.6**
BRJN Brijuni 2.26 9 ⇓P Pn 01 21 31.4 -0.9
CELB S.Piero in Cam 2.26 273 ⇑P Pn 01 21 31.4 -1.1
RABC Rab 2.35 27 *e*Pn **Pn 01 21 32.6 -0.9**
HVAR Hvar 2.38 77 *e*Pn **Pn 01 21 33.4 -0.7**
HVAR Hvar 2.38 77 ⇓P Pn 01 21 33.8 -0.3
SMRN Sveta Marina 2.45 15 *e*Pn **Pn 01 21 33.6 -1.4**
UDBI Udbina 2.59 43 *e*Pn **Pn 01 21 37.2 +0.2**
KIJV Kijevo 2.64 59 *e*Pn **Pn 01 21 37.9 +0.2**
A253A Karojba, Istri 2.65 8 *e*Pn **Pn 01 21 36.1 -1.6**
LSTV Lastovo 2.67 87 *e*Pn **Pn 01 21 37.0 -0.9**
A250A Rusevo Krmpots 2.69 26 *e*Pn **Pn 01 21 37.6 -0.7**
PLIT Plitvice 2.78 37 *e*Pn **Pn 01 21 39.2 -0.5**
RIY Rijeka 2.79 18 *e*Pn **Pn 01 21 39.1 -0.6**
CMPR Campora 2.80 146 P Pn 01 21 40.4 +0.5
MAKA Makarska 2.81 76 *e*Pn **Pn 01 21 39.2 -0.8**
SKDS Skadanscina 2.92 10 *e*Pn **Pn 01 21 39.7 -1.8**
RICI Ricice 2.94 72 *e*Pn **Pn 01 21 41.8 0.0**
KNDS Knezji Dol 2.96 15 *i* Pn **Pn 01 21 41.3 -0.9**
A050A Klekovaca 2.98 51 *e*Pn **Pn 01 21 42.8 +0.5**
SMPL Sampolo 3.01 260 P Pn 01 21 42.6 -0.1
PGF Pioggiola 3.16 269 P Pn 01 21 44.9 0.0
SRKY Kupres RS 3.16 62 *e*Pn **Pn 01 21 45.2 +0.3**
BOJS Bojanci 3.17 26 *e*Pn **Pn 01 21 44.3 -0.6**
BOJS Bojanci 3.17 26 P Pn 01 21 46.1 +1.2
CEY Cerknica 3.18 15 *e*Pn **Pn 01 21 43.9 -1.1**
STON Ston 3.26 85 *e*Pn **Pn 01 21 44.4 -1.7**
STON Ston 3.26 85 *e*Pn **Pn 01 21 44.6 -1.5**
STON Ston 3.26 85 ⇓P Pn 01 21 45.3 -0.8
JAVS Javornik 3.27 10 *i* Pn **Pn 01 21 45.1 -1.3**
MGRS Mrkonjic Grad 3.27 56 *e*Pn **Pn 01 21 47.6 +1.3**
SABO M.te Sabotino 3.31 4 ⇑P Pn 01 21 45.8 -1.1
SABO AML AML
comp=E,172µm,0.6s
SABO AML AML
comp=N,168µm,0.9s
SABO AML AML
comp=E,693µm,0.5s
SABO AML AML
comp=N,740µm,0.6s
OZLJ Ozalj 3.34 27 *e*Pn **Pn 01 21 47.0 -0.1**
CGRP Cima Grappa 3.38 342 ⇑P Pn 01 21 47.7 -0.2
CGRP AML AML
comp=N,150µm,0.5s
CGRP AML AML
comp=E,146µm,0.6s
PRIJ Prijedor 3.39 46 *e*Pn **Pg 01 21 58.8 -0.5**
AJAC Base Areonaval 3.43 259 P Pn 01 21 49.0 +0.6
LJU Ljubljana 3.49 14 ⇓P Pn 01 21 49.2 -0.1
LJU AML AML
comp=N,658µm,0.6s
LJU AML AML
comp=E,668µm,0.6s
LJU AML AML
comp=E,668µm,1.4s
BLY Banja Luka 3.51 52 *e*Pn **Pn 01 21 50.5 +0.9**
A051A Mrakovica 3.52 47 *e*Pn **Pn 01 21 49.3 -0.4**
DOSS Dosso del Somm 3.54 336 ⇑P Pn 01 21 50.7 +0.5
SALO Salr 3.55 327 P Pn 01 21 52.0 +1.8
CADS Cadrg 3.57 5 *i* Pn **Pn 01 21 49.1 -1.3**
CTI Castel Tesino 3.57 341 ⇑P Pn 01 21 50.8 +0.3
DBRK Dubrovnik 3.59 88 *e*Pn **Pn 01 21 49.6 -1.1**
CIMO Cimolais 3.69 351 ⇑P Pn 01 21 51.8 -0.2
CIMO AML AML
comp=N,38µm,1.3s
CIMO AML AML
comp=E,35µm,0.4s
CIMO AML AML
comp=N,31µm,0.9s
CIMO AML AML
comp=E,36µm,1.6s
LUSI Trento, Gardas 3.69 334 ⇑P Pn 01 21 52.8 +0.7
PTCC Patocco-Chiusa 3.73 1 ⇑P Pn 01 21 52.3 -0.4
PTCC S Sn 01 22 37.0 -0.1
PTCC AML AML
comp=N,45µm,0.3s
PTCC AML AML
comp=E,61µm,0.4s
CLUD Cludinico 3.79 356 ⇓P Pn 01 21 53.1 -0.4
CLUD AML AML
comp=N,66µm,1.2s
CLUD AML AML
comp=E,68µm,1.2s
ZONE Zone 3.83 325 P Pn 01 21 54.8 +0.7
BRY Bratogost 3.88 85 *e*Pn **Pn 01 21 54.7 -0.1**
ZOU Zoufplan 3.89 357 ⇑P Pn 01 21 54.2 -0.8
ZOU AML AML
comp=E,83µm,1.2s
ZOU AML AML
comp=N,68µm,1.0s
MABI Malga Bissina 3.92 331 ⇓P Pn 01 21 56.0 +0.6
OBKA Obir 3.94 13 *e*Pn **Pn 01 21 55.2 -0.4**
OBKA Obir 3.94 13 *e*Pn **Pn 01 21 55.4 -0.1**
comp=N,2.0nm,0.2s,SNR=7.8
MYKA Terra Mystica 3.97 4 *i* Pn **Pn 01 21 56.0 +0.1**
comp=N,3.4nm,0.3s
MYKA *i* Sn **Sn 01 22 40.7 -2.1**
comp=N,8.1nm,0.5s
LOBO Lobor 4.02 29 *e*Pn **Pn 01 21 54.7 -1.8**
KOSI Kohlern 4.03 341 ⇓P Pn 01 21 57.2 +0.4
APPI Appiano 4.08 340 ⇓P Pn 01 21 57.8 +0.3
ABTA Abfaltersbach 4.11 353 *e*Pn **Pn 01 21 57.8 -0.1**
comp=N,24nm,0.5s,SNR=18
ABTA *e*Sn **Sn 01 22 46.9 +0.5**
comp=N,6.7nm,0.3s
UPM Unac-Piva 4.17 81 *e*Pn **Pn 01 21 58.6 -0.2**
BRES Bressanone 4.17 345 P Pn 01 21 59.1 +0.1
SOKA Soboth 4.20 17 *i* Pn **Pn 01 21 59.0 -0.1**
comp=N,1.1nm,0.2s
SOKA *e*Sn **Sn 01 22 47.5 -1.0**
comp=N,4.5nm,0.4s
RISI Rein 4.36 349 ⇓P Pn 01 22 02.0 +0.6
SAOF Saorge 4.38 289 P Pn 01 22 01.6 +0.1
DRME Dracevica, Mon 4.40 94 *e*Pn **Pn 01 22 02.3 +0.5**
PDG Podgorica 4.42 91 ⇑P Pn 01 22 03.0 +0.9
PDG Podgorica 4.42 91 P Pn 01 22 02.5 +0.4
TURF col de Turini 4.49 289 P Pn 01 22 03.0 -0.1
RUDO Rudo 4.56 76 *e*Pn **Pn 01 22 03.0 -1.0**
SPIF crte de Spivo 4.62 289 P Pn 01 22 06.7 +1.9
FETA Feichten 4.71 338 *i* Pn **Pn 01 22 07.1 +0.9**
comp=N,3.1nm,0.3s,SNR=8.2
FETA *i* Sn **Sn 01 23 02.8 +1.5**
comp=N,3.5nm,0.4s
WTTA Wattenberg 4.74 346 *i* Pn **Pn 01 22 08.2 +1.6**
comp=N,2.6nm,0.3s
WTTA *i* Sn **Sn 01 23 03.9 +1.9**
comp=N,8.9nm,0.3s
DAVOX Davos/Dischmat 4.77 331 Pn **Pn 01 22 07.7 +0.7**
comp=N,1.5nm,0.3s,baz=170,slow=19,SNR=18
DAVOX Sn **Sn 01 23 02.4 -0.4**
comp=N,0.9nm,0.3s,baz=130,slow=17,SNR=2.8
comp=N,6.0nm,0.5s
CALF Calern 4.77 285 P Pn 01 22 06.9 0.0
SQTA Sankt Quirin 4.78 343 *i* Pn **Pn 01 22 08.3 +1.2**
comp=N,12nm,0.5s
SQTA *i* Sn **Sn 01 23 04.9 +2.0**
comp=N,9.9nm,0.4s
WATA Walderalm 4.82 346 *i* Pn **Pn 01 22 09.2 +1.5**
comp=N,2.3nm,0.2s
WATA *e*Sn **Sn 01 23 05.2 +1.4**
comp=N,6.1nm,0.3s
ARSA Arzberg 4.85 18 *i* Pn **Pn 01 22 07.6 -0.4**
comp=N,4.1nm,0.5s
ARSA *i* Sn **Sn 01 23 01.6 -2.9**
comp=N,2.2nm,0.3s
MOTA Moosalm 4.92 343 *i* Pn **Pn 01 22 10.4 +1.3**
comp=N,3.1nm,0.3s
MOTA *i* Sn **Sn 01 23 08.9 +2.5**
comp=N,8.5nm,0.4s
BIOA Bad Ischl, Aus 5.03 3 *i* Pn **Pn 01 22 11.0 +0.6**
comp=N,6.0nm,0.4s
BIOA *e*Sn **Sn 01 23 10.3 +1.4**
comp=N,12nm,0.6s
SURF Saint Ours 5.03 293 P Pn 01 22 12.1 +1.4
TIR Tirane 5.08 103 ⇑P Pn 01 22 11.7 +0.5
DIVS Divibare 5.10 71 *e*Pn **Pn 01 22 11.8 +0.3**
RETA Reutte 5.13 341 *i* Pn **Pn 01 22 13.3 +1.4**
comp=N,2.0nm,0.2s,SNR=11
RETA *i* Sn **Sn 01 23 13.1 +1.5**
comp=N,5.9nm,0.4s
TRIGF Trigance 5.13 284 P Pn 01 22 12.5 +0.5
FLAF Flassans-sur-I 5.20 280 P Pn 01 22 12.6 -0.1
DAVA Damuels 5.21 334 *i* Pn **Pn 01 22 14.2 +1.2**
comp=N,3.4nm,0.3s,SNR=8.7
DAVA *e*Sn **Sn 01 23 13.9 +0.5**
comp=N,9.8nm,0.5s
MOA Molln 5.22 7 *i* Pn **Pn 01 22 13.2 0.0**
comp=N,2.2nm,0.3s
MOA *e*Sn **Sn 01 23 12.9 -0.9**
comp=N,5.8nm,0.3s
MORH Mrgy, Hungar 5.22 45 ⇓P Pn 01 22 13.2 +0.1
FRGS Fruska Gora 5.33 60 *e*Pn **Pn 01 22 13.9 -0.7**
RONA Rosalia, Austr 5.46 22 *i* Pn **Pn 01 22 16.4 0.0**
comp=N,0.6nm,0.1s
CONA Conrad Observa 5.56 18 *e*Pn **Pn 01 22 17.1 -0.8**
comp=N,1.4nm,0.2s,SNR=6.1
CONA *i* Sn **Sn 01 23 20.8 -1.4**
comp=N,1.5nm,0.2s
RSL Roselend 5.65 304 P Pn 01 22 21.4 +2.2
BSTF la Bastide-des 5.70 285 P Pn 01 22 20.0 +0.4
SLE Schleitheim 6.11 328 P Pn 01 22 26.2 +0.9
BALST Balsthal 6.12 322 P Pn 01 22 26.9 +1.5
GERES GERESS Array B 6.18 3 Pn **Pn 01 22 25.2 -1.2**
comp=N,0.4nm,0.3s,baz=181,slow=12,SNR=14
GERES Sn **Sn 01 23 36.3 -1.2**
comp=N,1.6nm,0.3s,baz=173,slow=24,SNR=8.5
comp=N,1.0nm,0.5s
CKRC Cesky Krumlov 6.19 6 *e*PN **Pn 01 22 26.4 0.0**
CKRC *e*SN **Sn 01 23 33.7 -3.9**
BOVS Bovan 6.24 78 ⇓P Pn 01 22 27.3 +0.3
BOURR Bourrignon 6.37 320 S Sn 01 23 40.3 -1.9
BOURR Bourrignon 6.37 320 P Pn 01 22 30.6 +1.6
FELD Feldberg im Sc 6.39 326 P Pn 01 22 29.8 +0.4
FELD Feldberg im Sc 6.39 326 S Sn 01 23 41.6 -1.1
KHC Kasperske Hory 6.46 2 *e*PN **Pn 01 22 29.0 -1.2**
KHC *e*SN **Sn 01 23 39.8 -4.5**
CHMF Charmoille 6.56 317 P Pn 01 22 30.0 -1.4
CHMF S **Sn 01 23 45.5 -1.2**
BZS Buzias 6.68 61 ⇑P Pn 01 22 34.5 +1.4
VOGT Vogtsburg - To 6.70 326 P Pn 01 22 33.3 0.0

MOF	Molkenrain	6.75	322	P	Pn	01 22 34.2	0.0
MOF				S	Sn	01 23 49.5	-2.0
BOUC	Bouclans	6.76	315	P	Pn	01 22 33.7	-0.5
BOUC				S	Sn	01 23 49.0	-2.6
RONF	Ronchamp	6.88	319	P	Pn	01 22 36.6	+0.8
RONF				S	Sn	01 23 51.7	-2.7
HERR	Herculane	6.97	68 ⇑	P	Pn	01 22 38.4	+1.3
ECH	Echery	7.02	324	P	Pn	01 22 37.8	+0.1
ECH				S	Sn	01 23 54.1	-3.8
VTS	Vitosha	7.34	87 ⇓	P	Pn	01 22 43.6	+1.2
GZR	Gura Zlata	7.37	65 ⇑	P	Pn	01 22 43.9	+1.3
KEST	Kesra	7.57	205	Pn	Pn	01 22 49.0	+3.6
	comp=N,0.5nm,0.3s,baz=342,slow=4.2,SNR=9.0						
CLL	Collm	8.64	359	ePn	Pn	01 23 04.0	+4.0
CLL				ex	Sn	01 24 35.0	-2.8
CLL				ex	x	01 24 48.0	
CLL				e(Sg)	Sg	01 25 38.0	+6.5
VOIR		8.92	68 ⇑	P	Pn	01 23 05.5	+1.6
ESDC	Sonseca Array	13.33	263	Pn	Pn	01 24 03.9	-0.3
	baz=67,slow=13,SNR=2.6						
	comp=N,0.5nm,0.8s						
FINES	FINESS Array B	20.31	18	P	P	01 25 30.1	-0.7
	comp=N,0.7nm,0.6s,baz=224,slow=8.0,SNR=3.7						
	comp=N,0.7nm,0.6s						
KIRV	Kirov	27.47	42	LR	LR	01 39 58.3	
	comp=N,54nm,18.2s,baz=274,slow=42						
TORD	Torodi Ar. Bea	31.08	202	P	P	01 27 12.7	-0.8
	comp=N,0.8nm,0.9s,baz=19,slow=8.4,SNR=3.9						
	comp=N,0.8nm,0.9s						
ARU	Arti	31.81	49	P	P	01 27 19.5	-0.1
	comp=N,0.8nm,0.3s,baz=261,slow=14,SNR=3.1						
	comp=N,0.8nm,0.3s						
BVAR	Borovoye Array	38.73	54	P	P	01 28 20.0	+0.8
	comp=N,0.2nm,0.3s,baz=263,slow=8.1,SNR=4.0						
	comp=N,0.2nm,0.3s						
SONM	Songino Array	61.84	50	P	P	01 31 14.8	+0.4
	comp=N,0.5nm,0.7s,baz=282,slow=6.9,SNR=2.3						
	comp=N,0.5nm,0.7s						

IDC ***20*** *01:21:47.5±0.9,54˚.79S×30˚.27W,h0km,mb3.9/5, mbtmp4.0/6,ML3.9/1,MS3.5/8,Error ellipse: s-maj=33.0km s-min=22.1km az=82.0*

NEIC ***20*** *01:21:50.2±1.6,54˚.85S±0˚.1×30˚.5W±0˚.2,h14km±4km, mb4.5/13,Error ellipse: s-maj=15.2km s-min=14.0km az=205.0*

ISC 20 01:21:49.0±0.6,54˚.75S±0˚.09×30˚.48W±0˚.09,h10km,n36, σ1ş03/29,mb4.4/9,MS3.4/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.53	275	Pn	Pn	Pn	01 22 41.7	-2.2
ORCD	Orcadas	9.69	226	Pn	Pn	Pn	01 24 08.0	-0.3
VNA1	Neumayer--Stat	18.72	157	P	Pn	Pn	01 26 08.3	+0.6
VNA3	Neumayer Olymp	18.87	159	P	Pn	Pn	01 26 10.3	+0.7
VNA2	Neumayer--Watz	19.12	157	P	Pn	Pn	01 26 13.4	+0.8
	baz=310,slow=11							
PMSA	Palmer Station	19.41	225	P	P	P	01 26 15.1	+0.2
	0.4nm,0.3s,baz=92,slow=11,SNR=4.9							
	7.1nm,0.7s							
SNAA	Sanae	20.70	155	P	P	P	01 26 27.6	-1.5
SNAA	Sanae	20.70	155	P	P	P	01 26 27.4	-1.7
	2.1nm,0.7s,baz=307,slow=9.8,SNR=13							
SNAA				LR	LR	LR	01 32 47.8	
	comp=Z,46nm,21.7s,baz=11,slow=32							
	2.1nm,0.7s							
SNAA	Sanae	20.70	155	P	P	P	01 26 27.5	-1.5
TROLL	Troll, Antarti	22.25	153	P	P	P	01 26 44.4	-1.3
BELA	Belgrano 2	23.28	182	P	P	P	01 26 56.9	+0.6
LL02	Futaleuf	29.09	276	P	P	P	01 27 50.9	+1.4
LL02				IAmb	IAmb	IAmb	01 27 52.0	
	comp=Z,12nm,1.2s							
PLCA	Paso Flores	29.92	281	LR	LR	LR	01 39 05.3	
	comp=Z,66nm,18.7s,baz=45,slow=34							
CPUP	Villa Florida	34.55	314	LR	LR	LR	01 43 37.1	
	comp=Z,51nm,18.0s,baz=202,slow=38							
MT01	Popeta	35.19	289	P	P	P	01 28 42.3	-0.8
QSPA	South Pole Qui	35.51	180	P	P	P	01 28 46.3	+0.6
MAW	Mawson	42.30	145	P	P	P	01 29 41.1	-1.2
	comp=Z,2.7nm,0.8s,baz=218,slow=12,SNR=6.0							
	comp=Z,2.7nm,0.8s							
MAW	Mawson	42.30	145	P	P	P	01 29 41.9	-0.3
LVC	Limon Verde	43.02	303	LR	LR	LR	01 49 39.8	
	comp=Z,51nm,19.0s,baz=216,slow=39							
GO01	Chusmiza	45.66	304	P	P	P	01 30 10.9	+0.6
GO01				IAmb	IAmb	IAmb	01 30 25.9	
	comp=Z,5.5nm,1.2s							
BOSA	Boshof	47.53	80	P	P	P	01 30 24.3	-0.2
BOSA				IAmb	IAmb	IAmb	01 30 39.4	
	comp=Z,14nm,1.4s							
VNDA	Vanda	47.78	184	P	P	P	01 30 26.1	+0.5
	comp=Z,1.6nm,0.9s,baz=171,slow=6.2,SNR=12							
	comp=Z,1.6nm,0.9s							
VNDA	Vanda	47.78	184	P	P	P	01 30 25.7	+0.1
VNDA				IAmb	IAmb	IAmb	01 30 29.6	
	comp=Z,5.9nm,1.4s							
LPAZ	La Paz	48.09	308	P	P	P	01 30 30.3	+0.8
	comp=Z,0.8nm,0.7s,baz=130,slow=7.9,SNR=2.1							
LPAZ				LR	LR	LR	01 51 40.5	
	comp=Z,45nm,20.1s,baz=206,slow=37							
	comp=Z,0.8nm,0.7s							
LPAZ	La Paz	48.09	308	P	P	P	01 30 29.8	+0.4
LPAZ				IAmb	IAmb	IAmb	01 30 52.0	
	comp=Z,2.0nm,0.8s							
RCBR	Riachuelo	48.97	353	LR	LR	LR	01 48 42.9	
	comp=Z,44nm,18.1s,baz=321,slow=33							
MDP	Montagnes des	62.43	335	LR	LR	LR	01 57 20.4	
	comp=Z,45nm,19.3s,baz=132,slow=34							
DBIC	Dimbokro	64.83	28	P	P	P	01 32 28.4	+0.4
DBIC				IAmb	IAmb	IAmb	01 32 30.6	
	comp=Z,12nm,1.2s							
VOI	Vohitsoka	65.11	93	P	P	P	01 32 29.4	-0.6
SDV	Santo Domingo	71.77	318	LR	LR	LR	02 04 27.3	
	comp=Z,75nm,21.3s,baz=102,slow=36							
TOA0	Torodi Ar. Sit	72.91	33	P	P	P	01 33 18.7	+0.5
TOA0				IAmb	IAmb	IAmb	01 33 21.7	
	comp=Z,3.5nm,0.9s							
TORD	Torodi Ar. Bea	72.91	33	P	P	P	01 33 18.7	+0.5
	comp=Z,2.8nm,0.8s,baz=211,slow=5.4,SNR=13							
	comp=Z,2.8nm,0.8s							
MOOW	Moose Ponds	119.37	305			PKiKP	01 40 40.0	+1.9
ZALV	Zalesovo Beam	143.48	64	PKP		PKPbc	01 41 19.8	-0.1
	comp=Z,0.5nm,0.4s,baz=239,slow=4.7,SNR=2.1							
ILAR	Eielson Array	147.85	314	PKPbc		PKPbc	01 41 32.2	-0.5
	comp=Z,2.0nm,0.7s,baz=119,slow=1.5,SNR=14							
SONM	Songino Array	152.52	87	PKPbc		PKPbc	01 41 44.0	-0.7
	comp=Z,0.8nm,0.6s,baz=210,slow=3.4,SNR=5.8							

BJI ***20*** *01:31:34.1±0.0,31˚.11S×58˚.24E,h12km,mb5.1/54, mB5.2/29,Ms4.9/27,Ms7 4.6/27*

MOS ***20*** *01:31:37.0±0.8,30˚.93S×59˚.08E,h9km,mb5.5/84, MS4.3/6,Error ellipse: s-maj=9.4km s-min=4.6km az=101.5*

IDC ***20*** *01:31:37.2±0.3,30˚.98S×59˚.09E,h0km,mb4.9/45, mbtmp4.9/46,ML5.1/1,MS4.3/61,Error ellipse: s-maj=12.4km s-min=9.2km az=32.0*

GCMT ***20*** *01:31:39.6±0.2,30˚.94S±0˚.01×59˚.00E±0˚.01,h12km, MW5.2/130,Moment Tensor Solution. s74,c102; s130,c223; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=6.58±.10; Mθθ5.85±.09; Mϕϕ0.73±.10; Mrθ1.71±.28; Mθϕ1.74±.08; Mϕr1.91±.34; Best double couple: Mo6.78100×10^16^ NP1:ϕs240.00000°,δ52.00000°, λ-106.00000°. NP2:ϕs85.00000°,δ41.00000°, λ-71.00000°. Principal axes: T 6.5060, Plg6.0000°, Azm341.0000°; N 0.5500, Plg12.0000°, Azm250.0000°; P -7.0550, Plg76.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***20*** *01:31:39.6±1.6,30˚.92S±0˚.08×59˚.0E±0˚.1,h10km±1km, mb5.4/124 Error ellipse: s-maj=15.2km s-min=13.8km az=243.0*

ISC 20 01:31:38.9±0.7,30˚.92S±0˚.04×58˚.98E±0˚.05,h11km±4km, n1079,σ1ş10/1120,mb5.3/267,MS4.4/78,38C-28D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RER	Riviere de l'E	10.14	343	Pn	Pn	Pn	01 34 01.5	-3.2
ROCAM	Rodrigues Isla	11.80	21	Pn	Pn	Pn	01 34 27.3	0.0
VOI	Vohitsoka	14.12	307	Pn	Pn	Pn	01 35 00.0	+0.9
VOI	Vohitsoka	14.12	307	P	Pn		01 35 00.4	+1.3
OPO	Ambohidratompo	16.29	316	Pn	P		01 35 29.7	-1.2
	0.7nm,0.3s,baz=142,slow=8.5,SNR=28							
OPO				Sn	Sn		01 38 17.7	-11
	0.3nm,0.3s,baz=18,slow=6.4,SNR=4.9							
OPO				LR	LR		01 40 14.5	
	comp=Z,1μm,20.9s,baz=5.5,slow=32							
	35nm,0.8s							
POGA	Pongola	24.06	272	P	P		01 36 54.7	+0.3
KSTD	Kokstad	25.46	263	eP	P		01 37 08.9	+1.7
KSTD				IAmb	IAmb		01 37 12.0	
	comp=Z,35nm,0.9s							
NWCL	Newcastle	25.53	270	eP	P		01 37 07.0	-0.7
NWCL				IAmb	IAmb		01 37 37.1	
	comp=Z,77nm,1.6s							
CRLN	Carolina, Mapu	25.89	274	eP	P		01 37 11.0	-0.1
CRLN				IAmb	IAmb		01 37 14.1	
	comp=Z,18nm,0.8s							
H08S1	Diego Carcia H	26.37	31	T	T		02 04 32.2	
	baz=206,slow=75,SNR=62							
H08S2	Diego Garcia H	26.38	31	T	T		02 04 31.7	
	baz=206,slow=75,SNR=150							
H08S3	Diego Garcia H	26.39	31	T	T		02 04 33.7	
	baz=206,slow=75,SNR=237							
SNKL	Senekal, Frees	27.22	268	eP	P		01 37 22.1	-1.1
SNKL				IAmb	IAmb		01 37 42.6	
	comp=Z,26nm,1.0s							
MUSN	Musina, Limpop	27.36	281	eP	P		01 37 24.3	0.0
MUSN				IAmb	IAmb		01 37 52.4	
	comp=Z,26nm,1.3s							
SLR	Silverton	27.46	273	eP	P		01 37 24.8	-0.5
SLR				IAmb	IAmb		01 37 25.9	
	comp=Z,63nm,1.7s							
PRYS	Parys	27.91	270	eP	P		01 37 26.9	-2.5
PRYS				IAmb	IAmb		01 37 49.1	
	comp=Z,21nm,1.1s							
HRAO	HartRAO	27.93	272	eP	P		01 37 28.9	-0.6
HRAO				IAmb	IAmb		01 37 32.2	
	comp=Z,32nm,0.9s							
WDLM	Western Deep L	28.00	271	eP	P		01 37 27.2	-3.0
WDLM				IAmb	IAmb		01 37 36.8	
	comp=Z,23nm,0.9s							
LEPH	Lephalale, Lim	28.50	277	eP	P		01 37 33.8	-0.8
LEPH				IAmb	IAmb		01 37 37.4	
	comp=Z,18nm,1.0s							
KSR	Koster	28.61	272	eP	P		01 37 35.9	+0.3
KSR				IAmb	IAmb		01 37 37.6	
	comp=Z,8.0nm,0.8s							
HVD	Gariep Dam	28.71	262	eP	P		01 37 36.5	0.0
HVD				IAmb	IAmb		01 37 39.5	
	comp=Z,8.4nm,0.9s							
BOSA	Boshof	29.30	266	P	P		01 37 41.4	-0.3
	comp=Z,3.4nm,0.7s,baz=118,slow=5.8,SNR=8.8							
BOSA				PcP	PcP		01 40 48.2	0.0
	comp=Z,4.4nm,0.8s,baz=164,slow=6.3,SNR=3.4							
	comp=Z,3.4nm,0.7s							
BOSA	Boshof	29.30	266	P	P		01 37 42.2	+0.6
BOSA	Boshof	29.30	266	eP	P		01 37 38.8	-2.9
BOSA				IAmb	IAmb		01 37 54.0	
	comp=Z,281nm,3.1s							
BOSA	Boshof	29.30	266	P	P		01 37 42.3	+0.6
BOSA				pmax	pmax			
	comp=Z,15nm,1.3s							
GRAF	Camdeboo Natio	29.34	258	eP	P		01 37 41.0	-0.9
GRAF				IAmb	IAmb		01 37 43.9	
	comp=Z,20nm,1.1s							
BLWY	Bulawayo	29.34	284	eP	P		01 37 41.6	-0.5
BLWY				IAmb	IAmb		01 37 50.5	
	comp=Z,539nm,2.3s							
SWZ	Schweizer	29.59	269	eP	P		01 37 42.9	-1.4
SWZ				IAmb	IAmb		01 37 55.0	
	comp=Z,53nm,1.7s							
LBTB	Lobatse	29.99	273	P	P		01 37 47.6	-0.2
LBTB				PcP	PcP		01 40 50.4	+0.3
LBTB	Lobatse	29.99	273 ⇓	iP	P		01 37 47.5	-0.3
LBTB				IAmb	IAmb		01 37 55.2	
	comp=Z,23nm,1.1s							
LBTB	Lobatse	29.99	273	P	P		01 37 47.6	-0.2
LBTB							01 40 50.4	
LBTB				pmax	pmax			
	comp=Z,15nm,0.9s							
ROOI	Rooidraai Farm	30.10	258	eP	P		01 37 47.1	-1.6
ROOI				IAmb	IAmb		01 37 49.1	
	comp=Z,633nm,3.4s							
GRAN	Grantham	31.28	258	eP	P		01 37 58.9	-0.2
GRAN				IAmb	IAmb		01 38 01.3	
	comp=Z,6.7nm,0.8s							
FRAZ	Fraserburg	31.97	258	eP	P		01 38 05.2	0.0
FRAZ				IAmb	IAmb		01 38 14.0	
	comp=Z,2μm,5.5s							
LSZ	Lusaka	32.18	292	P	P		01 38 08.6	+1.4
	comp=Z,15nm,0.8s,baz=130,slow=10,SNR=5.7							
LSZ				LR	LR		01 50 54.0	
	comp=Z,419nm,18.1s,baz=131,slow=36							
	comp=Z,15nm,0.8s							
LSZ	Lusaka	32.18	292	eP	P		01 38 08.3	+1.2
LSZ				IAmb	IAmb		01 38 10.4	
	comp=Z,143nm,0.8s							
SUR	Sutherland	32.41	257	P	P		01 38 09.3	+0.1
	comp=Z,8.8nm,1.0s,baz=111,slow=14,SNR=2.3							
SUR				LR	LR		01 48 56.4	
	comp=Z,661nm,21.0s,baz=108,slow=32							
	comp=Z,8.8nm,1.0s							
SUR	Sutherland	32.41	257	P	P		01 38 09.1	-0.1
SUR				IAmb	IAmb		01 38 10.0	
	comp=Z,106nm,1.8s							
MATJ	Matjiesfontein	32.50	256	eP	P		01 38 06.3	-3.4
MATJ				IAmb	IAmb		01 38 06.4	
	comp=Z,650nm,3.0s							
KEIM	Keimoes	32.95	264	eP	P		01 38 12.9	-0.9
KEIM				IAmb	IAmb		01 38 13.8	
	comp=Z,32nm,1.5s							
ELIM	Elim	33.06	253	eP	P		01 38 08.1	-6.5
ELIM				IAmb	IAmb		01 38 09.4	
	comp=Z,92nm,1.5s							
CER	Ceres	33.55	255	eP	P		01 38 15.7	-3.2
CER				IAmb	IAmb		01 38 18.1	
	comp=Z,351nm,3.6s							
ARMS	Ukamas	34.16	265	eP	P		01 38 24.4	+0.1
ARMS				IAmb	IAmb		01 38 25.1	
	comp=Z,38nm,1.5s							
KIBK	Kibwezi	34.64	321	P	P		01 38 28.4	-0.2
KMBO	Kilima Mbogo	36.08	321	P	P		01 38 43.0	+1.9
	comp=Z,5.4nm,0.9s,baz=112,slow=6.0,SNR=13							
KMBO				PcP	PcP		01 41 08.0	+0.6
	comp=Z,2.7nm,0.8s,baz=59,slow=8.1,SNR=5.6							
KMBO				LR	LR		01 50 57.6	
	comp=Z,564nm,20.3s,baz=102,slow=32							
	comp=Z,5.4nm,0.9s							
KMBO	Kilima Mbogo	36.08	321	P	P		01 38 41.2	+0.1
KMBO	Kilima Mbogo	36.08	321	iP	P		01 38 42.0	+0.9
KMBO				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KMBO	Kilima Mbogo	36.08	321	P	P		01 38 42.9	+1.7
MAW	Mawson	36.79	178	P	P		01 38 46.8	+0.5
	comp=Z,18nm,0.8s,baz=0.4,slow=8.8,SNR=31							
MAW				PcP	PcP		01 41 08.7	+0.5
	comp=Z,3.2nm,0.8s,baz=317,slow=6.1,SNR=4.5							
MAW				LR	LR		01 49 54.0	
	comp=Z,993nm,21.9s,baz=353,slow=30							
	comp=Z,18nm,0.8s							
MAW	Mawson	36.79	178	P	P		01 38 46.4	+0.1
AUSN	Aus	37.51	266	eP	P		01 38 52.6	-0.6
AUSN				IAmb	IAmb		01 38 54.4	
	comp=Z,27nm,1.0s							
WIN	Windhoek	38.14	272	eP	P		01 38 59.8	+1.2
WIN				IAmb	IAmb		01 39 07.8	
	comp=Z,8.0nm,1.2s							
TSUM	Tsumeb	39.07	277	P	P		01 39 07.5	+1.2
	comp=Z,28nm,0.9s,baz=121,slow=8.5,SNR=17							
TSUM				LR	LR		01 54 37.4	
	comp=Z,392nm,18.2s,baz=118,slow=35							
	comp=Z,28nm,0.9s							
TSUM	Tsumeb	39.07	277	P	P		01 39 06.2	-0.1
TSUM	Tsumeb	39.07	277	eP	P		01 39 07.1	+0.8
MBAR	Mbarara	40.32	313	P	P		01 39 18.8	+2.0
	comp=Z,2.3nm,0.7s,baz=107,slow=17,SNR=5.4							
MBAR				LR	LR		01 54 27.2	
	comp=Z,1μm,20.7s,baz=132,slow=34							
	comp=Z,2.3nm,0.7s							
MBAR	Mbarara	40.32	313	P	P		01 39 17.2	+0.4
MBAR	Mbarara	40.32	313	iP	P		01 39 16.9	+0.1
LODK	Lodwar	40.91	322	P	P		01 39 23.0	+1.4
PALK	Pallekele	43.30	32	LR	LR		01 53 52.7	
	comp=Z,342nm,19.1s,baz=306,slow=31							
PCHI	Peechi	44.46	25	eP	P		01 39 58.2	+8.0
PCHI				eS	S		01 46 32.2	+6.9
ATD	Arta Tunnel	44.96	337	P	P		01 39 54.6	+0.3
H01W2	Cape Leeuwin H	45.99	110	T	T		02 29 21.4	
	baz=258,slow=75,SNR=148							
H01W3	Cape Leeuwin H	45.99	110	T	T		02 29 20.7	
	baz=258,slow=75,SNR=129							
H01W1	Cape Leeuwin H	46.01	110	T	T		02 29 26.1	
	baz=258,slow=75,SNR=132							
CASY	Casey	46.86	154	P	P		01 40 08.7	+0.1
CASY				IAmb	IAmb		01 40 18.5	
	comp=Z,28nm,1.1s							
NVL	N'lazarevskaya	47.46	199	eP	P		01 40 12.9	-0.4
NVL				eS	S		01 47 10.1	+2.8
NVL				pmax	pmax			
	comp=Z,28nm,1.1s							
MUN	Mundaring	48.33	107	P	P		01 40 20.7	+0.1
	comp=Z,31nm,1.3s							
GSI	Gunungsitoli	48.70	56	P	P		01 40 25.1	+1.4
GSI	Gunungsitoli	48.70	56	P	P		01 40 25.8	+2.2
	comp=Z,52nm,1.8s							
SHAO	Shalim	48.77	356	P	P		01 40 25.1	+1.1
SHAO	Shalim	48.77	356	P	P		01 40 24.8	+0.9
NWAO	Narrogin (SRO)	48.94	108	P	P		01 40 24.8	-0.5
	comp=Z,17nm,0.9s,baz=115,slow=8.4,SNR=3.7							
NWAO				LR	LR		01 55 32.6	
	comp=Z,300nm,21.9s,baz=115,slow=29							
	comp=Z,17nm,0.9s							
KSI	Kapahiang	49.21	65	P	P		01 40 28.8	+1.2
MASI	Maura Aman, Be	49.25	65	P	P		01 40 30.1	+2.2
	comp=Z,82nm,0.8s							
PDSI	Padang	49.32	61	P	P		01 40 30.5	+2.1
	comp=Z,4μmcomp=Z,58nm,1.1s							
DOK	Doka	49.47	354	P	P		01 40 30.0	+0.7
	SNR=6.3							
KASI	Kota Agung	49.59	69	P	P		01 40 31.6	+1.2
	comp=Z,175nm,1.0s							
LHSI	Lahat	49.83	66	P	P		01 40 34.3	+2.0
	comp=Z,95nm,0.9s							
SDSI	Sungai Dareh	50.03	62	P	P		01 40 35.5	+1.7
	comp=Z,15nm,1.3s							
BKNI	Bangkinang	50.57	60	P	P		01 40 38.1	+0.2
BKNI	Bangkinang	50.57	60	P	P		01 40 40.3	+2.4
	comp=Z,177nm,1.1s							
DQM	DQM	50.58	358	P	P		01 40 34.7	-3.0
DQM				P	P		01 40 34.7	-3.0
RPSI	Rantau Prapat	50.63	56	P	P		01 40 37.8	-0.5
RPSI				IAmb	IAmb		01 40 41.3	
	comp=Z,60nm,1.3s							
TROLL	Troll, Antarti	50.69	200	P	P		01 40 37.8	-0.3
PSI	Prapat	50.71	56	P	P		01 40 39.9	+0.8
	comp=Z,26nm,1.1s,baz=180,slow=9.0							
PSI				PcP	PcP		01 41 55.7	-0.6
	comp=Z,11nm,0.9s,baz=237,slow=5.3,SNR=4.1							
PSI				LR	LR		01 56 44.0	
	comp=Z,247nm,21.2s,baz=212,slow=30							
	comp=Z,26nm,1.1s							
PSI	Prapat	50.71	56	P	P		01 40 40.3	+1.3
	comp=Z,39nm,1.5s							
DBJI	Dramaga	50.81	72	P	P		01 40 41.5	+1.8
	comp=Z,137nm,1.0s							
CBJI	Citeko	50.97	72	P	P		01 40 42.3	+1.4
	comp=Z,221nm,1.2s							
LEM	Lembang	51.37	73	P	P		01 40 45.6	+1.6
	comp=Z,33nm,0.4s,baz=180,slow=3.7,SNR=7.9							
LEM				LR	LR		01 57 23.2	
	comp=Z,108nm,20.8s,baz=24,slow=30							
LEM	Lembang	51.37	73	P	P		01 40 46.2	+2.1
LEM				pmax	pmax			
	comp=Z,88nm,1.4s							
HYBB	Hyderabad (bro	51.62	24	eP	P		01 40 45.4	-0.2
MHTO	MHTO	51.62	359	P	P		01 40 43.5	-2.0
MHTO				P	P		01 40 43.5	-2.0
MEEK	Meekatharra	51.91	101	P	P		01 40 47.1	-0.8
	comp=Z,66nm,1.3s							
SNAA	Sanae	52.16	201	P	P		01 40 48.5	-0.6
SNAA	Sanae	52.16	201	P	P		01 40 48.3	-0.8
	comp=Z,30nm,1.0s,baz=85,slow=5.8,SNR=68							
SNAA				LR	LR		01 57 44.7	
	comp=Z,589nm,22.0s,baz=12,slow=30							
	comp=Z,30nm,1.0s							
SNAA	Sanae	52.16	201	P	P		01 40 48.6	-0.5
SNAA				IAmb	IAmb		01 40 49.9	
	comp=Z,33nm,1.0s							
SNAA	Sanae	52.16	201	eP	P		01 40 47.3	-1.9
SNAA	Sanae	52.16	201	ceP	P		01 40 48.9	-0.2
SNAA				pmax	pmax			
	comp=Z,46nm,1.3s							
DSRI	Dabo	52.73	64	P	P		01 40 55.6	+1.6
	comp=Z,2μmcomp=Z,22nm,0.7s							
WBK	Wadi Bani Khal	53.22	360	P	P		01 41 00.2	+2.8
IPM	Ipoh	53.37	56	P	P		01 40 57.4	-1.3
IPM	Ipoh	53.37	56	P	P		01 40 59.6	+0.8
	comp=Z,163nm,1.0s							
BSY	Bisya	53.39	358	P	P		01 40 56.0	-2.6
	SNR=13							
BSY				P	P		01 40 56.0	-2.6
	SNR=13							
VNA2	Neumayer--Watz	53.41	202	P	P		01 40 58.3	+0.1
	baz=85,slow=7.0							
VNA2	Neumayer--Watz	53.41	202	PcP	PcP		01 42 04.6	-0.8
	baz=57,slow=3.0							
PCJI	Pacitan	53.57	76	P	P		01 41 01.5	+1.3
	comp=Z,115nm,1.2s							
SMRI	Semarang	53.57	75	P	P		01 41 02.4	+2.1
	comp=Z,137nm,1.0s							
SMRI	Semarang	53.57	75	P	P		01 41 01.9	+1.6
	comp=Z,140nm,1.0s							
VNA1	Neumayer--Stat	53.64	202	P	P		01 41 00.3	+0.3
SMDO	Samad	53.68	359	P	P		01 41 00.8	-0.1
	SNR=5.6							
WSAR	Wadi Sarin	53.85	360	LR	LR		01 57 51.6	
	comp=Z,340nm,22.0s,baz=209,slow=29							
MZR	Muzera	53.87	354	P	P		01 41 02.

JAGI Jajag, Banyuwa 55.92 79 P **P** **01 41 16.4 -0.9**
JAGI Jajag, Banyuwa 55.92 79 P **P** **01 41 17.4 +0.1**
comp=Z,3μmcomp=Z,172nm,1.1s
JAGI Jajag, Banyuwa 55.92 79 P **P** **01 41 17.5 +0.1**
comp=Z,172nm,1.1s
MSFE Esma-Masafi 56.03 357 *i* P **P** **01 41 17.9 +0.1**
SNR=10
MASF Masafi 56.04 357 P **P** **01 41 17.7 -0.2**
MASF P **P** 01 41 17.7 -0.2
ABJI Asem Bagus 56.34 78 P **P** **01 41 22.0 +1.7**
comp=Z,86nm,1.0s
FORT Forrest 58.37 109 P **P** **01 41 34.6 +0.2**
FORT IAmb IAmb 01 41 35.3
comp=Z,50nm,0.9s
PLAI Plampang 58.80 81 P **P** **01 41 37.5 -0.1**
comp=Z,2μmcomp=Z,208nm,0.9s
PLAI Plampang 58.80 81 P **P** **01 41 37.6 -0.1**
comp=Z,208nm,0.9s
QSPA South Pole Qui 59.24 180 LR LR 02 04 10.8
comp=Z,671nm,19.8s,baz=270,slow=33
SBUM Sibu 60.52 67 P **P** **01 41 49.1 -0.4**
SBUM IAmb IAmb 01 41 50.8
comp=Z,28nm,0.9s
WRKA Warakurna 60.62 103 P **P** **01 41 49.7 -0.5**
comp=Z,96nm,1.1s
BELA Belgrano 2 60.77 194 P **P** **01 41 49.8 -0.5**
BELA IAmb IAmb 01 41 51.0
comp=Z,21nm,1.1s
FITZ Fitzroy Crossi 61.20 95 P **P** **01 41 53.3 -0.8**
comp=Z,34nm,1.0s,baz=230,slow=6.3,SNR=33
comp=Z,34nm,1.0s
FITZ Fitzroy Crossi 61.20 95 P **P** **01 41 53.4 -0.8**
FITZ IAmb IAmb 01 41 54.3
comp=Z,43nm,1.1s
FITZ Fitzroy Crossi 61.20 95 P **P** **01 41 53.1 -1.0**
BRDH Bariadhala 61.82 34 LR LR 02 07 29.6
comp=Z,322nm,18.4s,baz=220,slow=35
CMAR Chiang Mai Arr 62.33 44 P **P** **01 42 01.7 +0.1**
comp=Z,33nm,0.8s,baz=231,slow=7.1,SNR=150
CMAR LR LR 02 04 15.2
comp=Z,261nm,21.5s,baz=220,slow=31
comp=Z,33nm,0.8s
CMAR Chiang Mai Arr 62.33 44 *i* P **P** **01 42 01.5 -0.1**
CMAR pmax pmax
comp=Z,35nm,0.8s
KAPI Kappang 62.45 79 P **P** **01 42 01.5 -1.1**
comp=Z,42nm,0.8s,baz=245,slow=5.3,SNR=31
comp=Z,42nm,0.8s
KAPI Kappang 62.45 79 P **P** **01 42 02.3 -0.3**
KAPI Kappang 62.45 79*d i* P **P** **01 42 01.3 -1.3**
KAPI pmax pmax
comp=Z,66nm,0.9s
KAPI Kappang 62.45 79 P **P** **01 42 01.6 -1.0**
comp=Z,76nm,1.0s
BSSI Bau Bau, Buton 62.49 80 P **P** **01 42 01.3 -1.5**
comp=Z,30nm,1.4s
BKSI Bulukumba 62.61 79 P **P** **01 42 02.5 -1.1**
comp=Z,834mcomp=Z,66nm,1.3s
CHTO Chiang Mai 62.61 43 P **P** **01 42 03.5 +0.1**
CHTO Chiang Mai 62.61 43 P **P** **01 42 03.5 +0.1**
CHTO Chiang Mai 62.61 43 P **P** **01 42 03.4 -0.1**
comp=Z,17nm,1.3s
MMRI Maumere 62.70 84 P **P** **01 42 04.2 0.0**
MMRI Maumere 62.70 84 P **P** **01 42 04.5 +0.3**
comp=Z,197nm,0.9s
VNDA Vanda 62.78 166 P **P** **01 42 03.5 -0.3**
comp=Z,20nm,0.8s,baz=261,slow=7.7,SNR=116
VNDA LR LR 02 07 06.9
comp=Z,204nm,18.5s,baz=257,slow=34
comp=Z,20nm,0.8s
VNDA Vanda 62.78 166 P **P** **01 42 03.5 -0.3**
VNDA IAmb IAmb 01 42 04.4
comp=Z,33nm,0.9s
PYUN Piuthan 63.00 24 *eP* **P** **01 42 05.3 -0.8**
comp=Z,123nm,0.9s
PHRA Phrae 63.13 45 P **P** **01 42 06.4 -0.5**
BATI Baumata 63.14 86 P **P** **01 42 06.5 -0.8**
comp=Z,24nm,0.5s,baz=185,slow=19,SNR=6.4
comp=Z,24nm,0.5s
RAMN Ramite 63.31 28 *eP* **P** **01 42 07.9 -0.3**
comp=Z,30nm,0.7s
DMN Daman 63.32 26 *eP* **P** **01 42 07.6 -0.7**
comp=Z,37nm,0.8s
MULG Mulgathing 63.39 111 P **P** **01 42 07.8 -0.8**
comp=Z,35nm,1.5s
PKI Pulchoki 63.40 26 *eP* **P** **01 42 08.5 -0.4**
PKIN Phulchoki 63.40 26 *eP* **P** **01 42 08.4 -0.4**
comp=Z,12nm,0.7s
DANN Dangsing 63.50 24 *eP* **P** **01 42 08.6 -0.9**
comp=Z,34nm,0.7s
GKN Gorkha 63.50 25 *eP* **P** **01 42 08.6 -0.8**
comp=Z,42nm,0.8s
TTSI Tana Toraja 63.57 77 P **P** **01 42 10.5 +0.5**
comp=Z,1μmcomp=Z,78nm,1.2s
SBA Scott Base 63.63 167 P **P** **01 42 10.2 +0.7**
SBA IAmb IAmb 01 42 11.2
comp=Z,29nm,0.9s
SBA Scott Base 63.63 167 P **P** **01 42 10.2 +0.7**
SBA pmax pmax
comp=Z,29nm,0.9s
JIRN Jiri 63.78 27 *eP* **P** **01 42 10.5 -1.0**
comp=Z,25nm,0.9s
DLV T Lat 63.83 56 P **P** **01 42 11.9 0.0**
comp=Z,32nm,0.9s
SOEI Soe 63.88 86 P **P** **01 42 11.3 -0.9**
SOEI Soe 63.88 86 P **P** **01 42 12.7 +0.5**
comp=Z,72nm,0.9s
GUN Gumba 63.88 26 *eP* **P** **01 42 11.3 -0.8**
comp=Z,41nm,0.9s
UBPT Khong Chiam 64.08 51 P **P** **01 42 13.2 0.0**
UBPT IAmb IAmb 01 42 14.2
comp=Z,47nm,1.3s
TAPN Taplejung 64.11 28 *eP* **P** **01 42 13.9 +0.3**
comp=Z,62nm,1.1s
EIL Elat 64.45 337 P **P** **01 42 16.5 +1.1**
comp=Z,14nm,1.1s,baz=88,slow=20,SNR=5.2
comp=Z,14nm,1.1s
CRAI Chiangrai 64.55 43 P **P** **01 42 16.1 -0.1**
CRAI IAmb IAmb 01 42 17.3
comp=Z,25nm,1.0s
KNRA Kununurra 64.95 94 P **P** **01 42 18.1 -1.0**
KNRA Kununurra 64.95 94 P **P** **01 42 18.1 -1.0**
comp=Z,58nm,1.0s
HRA Herat 65.03 3 P **P** **01 42 19.2 -0.1**
HRA IAmb IAmb 01 42 27.3
comp=Z,40nm,2.0s
OOD Oodnadatta 65.66 109 P **P** **01 42 22.8 -0.7**
comp=Z,35nm,1.1s
KBL Kabul 65.80 9 P **P** **01 42 24.2 -0.1**
KBL IAmb IAmb 01 42 41.0
comp=Z,74nm,1.9s
KBL Kabul 65.80 9 P **P** **01 42 24.2 -0.1**
KBL pmax pmax
comp=Z,75nm,1.9s
KBL Kabul 65.80 9 P **P** **01 42 23.3 -1.0**
SNR=10
ASAR Alice Springs 65.86 104 P **P** **01 42 23.7 -1.2**
comp=Z,21nm,0.8s,baz=240,slow=6.1,SNR=149
ASAR PKPPKP **P'P'df** **02 11 00.3 -5.3**
comp=Z,0.9nm,0.8s,baz=67,slow=2.5,SNR=4.9
comp=Z,21nm,0.8s
ASAR Alice Springs 65.86 104 P **P** **01 42 23.9 -1.0**
ASAR Alice Springs 65.86 104 P **P** **01 42 23.9 -1.0**
AS31 Alice Springs 65.86 104 P **P** **01 42 23.4 -1.5**
HTT Hallett 66.05 116 P **P** **01 42 26.2 +0.1**
HTT Hallett 66.05 116 P **P** **01 42 25.5 -0.6**
comp=Z,43nm,1.2s
ASF Jabal al Asfar 66.15 340 P **P** **01 42 27.5 +1.0**
comp=Z,16nm,1.1s,baz=170,slow=2.9,SNR=17
ASF LR LR 02 09 14.0
comp=Z,306nm,18.5s,baz=116,slow=34
comp=Z,16nm,1.1s
LCRK Leigh Creek 66.65 112 P **P** **01 42 29.0 -0.8**
comp=Z,92nm,0.9s
TOLI2 Tolitoli 66.66 74 P **P** **01 42 29.4 -0.7**
TOLI2 Tolitoli 66.66 74 P **P** **01 42 29.4 -0.7**
comp=Z,96nm,1.2s
ARPS Mount Arapiles 67.01 120 P **P** **01 42 32.3 +0.2**
comp=Z,61nm,0.7s
LUWI Luwuk 67.13 77 P **P** **01 42 32.8 -0.3**
LUWI Luwuk 67.13 77 P **P** **01 42 34.1 +1.0**
comp=Z,94nm,1.1s
MYLDM Lahad Datu 67.15 69 P **P** **01 42 32.7 -0.5**
MYLDM IAmb IAmb 01 42 34.7
comp=Z,36nm,0.9s
MMAI Mount Meron Ar 67.39 339 P **P** **01 42 36.0 +1.7**
comp=Z,4.8nm,0.6s,baz=156,slow=8.2,SNR=18

MMAI LR LR 02 08 29.4
comp=Z,186nm,21.5s,baz=42,slow=33
comp=Z,4.8nm,0.6s
WRA Warramunga Arr 67.81 101 P **P** **01 42 36.8 -0.6**
comp=Z,50nm,0.9s,baz=242,slow=5.6,SNR=230
WRA LR LR 02 08 13.0
comp=Z,163nm,21.2s,baz=256,slow=32
WRA PKPPKP **P'P'df** **02 10 59.5 -2.4**
comp=Z,2.2nm,1.0s,baz=69,slow=3.1,SNR=6.9
comp=Z,50nm,0.9s
WB2 Warramunga Arr 67.82 101 P **P** **01 42 36.3 -1.1**
WRAB Tennant Creek 67.82 101 P **P** **01 42 36.4 -1.0**
WRAB Tennant Creek 67.82 101*ce* P **P** **01 42 36.7 -0.7**
WRAB pmax pmax
comp=Z,153nm,1.7s
WRAB Tennant Creek 67.82 101 P **P** **01 42 36.7 -0.7**
comp=Z,91nm,1.1s
WB0 Warramunga Arr 67.93 100 P **P** **01 42 37.2 -0.9**
BRAT Ballarat 68.26 122 P **P** **01 42 40.2 +0.3**
comp=Z,12nm,1.2s
MTN Manton Dam 68.30 92 P **P** **01 42 39.5 -1.0**
MTN IAmb IAmb 01 42 40.5
comp=Z,29nm,0.9s
MTN Manton Dam 68.30 92 P **P** **01 42 39.6 -0.9**
comp=Z,43nm,1.3s
GEYT Alibeck 68.50 359 P **P** **01 42 41.5 +0.3**
comp=Z,4.4nm,0.9s,baz=242,slow=2.5,SNR=12
GEYT LR LR 02 09 53.3
comp=Z,244nm,21.6s,baz=170,slow=34
comp=Z,4.4nm,0.9s
GEYT Alibeck 68.50 359 P **P** **01 42 41.2 0.0**
GYA0B ALIBECK ARRAY 68.50 359 P **P** **01 42 41.3 +0.2**
TAU Tasmania Unive 68.58 128 P **P** **01 42 42.0 +0.2**
TAU Tasmania Unive 68.58 128 P **P** **01 42 42.0 +0.2**
TAU pmax pmax
comp=Z,213nm,1.7s
TAU Tasmania Unive 68.58 128 P **P** **01 42 42.2 +0.4**
STKA Stephens Creek 68.73 115 P **P** **01 42 42.0 -1.0**
comp=Z,24nm,0.9s,baz=257,slow=6.1,SNR=22
STKA LR LR 02 07 33.5
comp=Z,240nm,20.6s,baz=230,slow=31
comp=Z,24nm,0.9s
STKA Stephens Creek 68.73 115 P **P** **01 42 42.7 -0.3**
STKA Stephens Creek 68.73 115 *i* P **P** **01 42 42.9 -0.1**
STKA Stephens Creek 68.73 115 P **P** **01 42 42.4 -0.6**
comp=Z,9.6nm,1.5s
SANI Sanana 69.29 80 P **P** **01 42 45.9 -0.8**
comp=Z,37nm,1.0s
TOO Toolangi 69.39 122 P **P** **01 42 46.9 -0.1**
TOO IAmb IAmb 01 42 50.4
comp=Z,54nm,1.6s
TOO Toolangi 69.39 122 P **P** **01 42 46.9 -0.1**
TOO pmax pmax
comp=Z,53nm,1.6s
TOO Toolangi 69.39 122 P **P** **01 42 47.7 +0.7**
comp=Z,24nm,1.5s
KDU Kakadu 69.52 93 P **P** **01 42 46.9 -1.2**
comp=Z,57nm,0.9s
QIZ Qiongzhong 69.67 51 P **P** **01 42 52.0 +3.2**
QIZ S **S** **01 51 58.5 +1.0**
QIZ LR LR
comp=Z,260nm,20.3s
QIZ LR LR
comp=Z,210nm,16.2s
QIZ LR LR
comp=Z,250nm,17.5s
KMI Kunming 69.71 42 ⇓P **P** **01 42 49.1 -0.1**
KMI pP pwP 01 42 56.4 -0.1
KMI pmax pmax
comp=Z,18nm,1.4s
KMI LR LR
comp=Z,160nm,15.4s
KMI LR LR
comp=Z,290nm,15.5s
KMI LR LR
comp=Z,260nm,21.3s
INKA Innaminka 69.77 111 P **P** **01 42 49.4 0.0**
comp=Z,168nm,1.2s
CSS Mathiatis 69.84 338 P **P** **01 42 50.5 +0.9**
CSS IAmb IAmb 01 42 53.4
comp=Z,27nm,1.1s
CHGR Chuyangaron 69.87 8 P **P** **01 42 50.4 +0.7**
CHGR Chuyangaron 69.87 8 P **P** **01 42 50.4 +0.7**
CHGR pmax pmax
comp=Z,133nm,1.7s
MARD Mardin 69.98 345 P **P** **01 42 50.7 +0.2**
PZH PanZhiHua 70.22 40 P **P** **01 42 56.0 +3.8**
PZH S **S** **01 52 02.5 -1.5**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,100nm,3.6s
PZH LR LR
comp=Z,380nm,21.6s
PZH LR LR
comp=Z,440nm,20.0s
PZH LR LR
comp=Z,430nm,19.6s
TOA0 Torodi Ar. Sit 70.31 299 P **P** **01 42 52.6 -0.2**
TOA0 IAmb IAmb 01 43 03.0
comp=Z,38nm,1.8s
TORD Torodi Ar. Bea 70.31 299 P **P** **01 42 53.0 +0.2**
comp=Z,3.7nm,0.7s,baz=124,slow=5.5,SNR=24
comp=Z,3.7nm,0.7s
GAR Garm 70.36 9 P **P** **01 42 52.4 -0.3**
GAR IAmb IAmb 01 43 01.5
comp=Z,21nm,1.0s
SAUI Saumlaki 70.79 88 P **P** **01 42 55.8 -0.1**
SAUI Saumlaki 70.79 88 P **P** **01 42 57.2 +1.3**
comp=Z,215nm,1.2s
GURO Guymak-BITLI 70.90 346 P **P** **01 42 56.9 +0.8**
KIC Kosan Boka 71.22 290⇑ *eP* **P** **01 42 58.8 +0.3**
comp=Z,9.3nm,0.8s
LIC Lamto 71.38 289⇑ *eP* **P** **01 43 00.6 +1.2**
comp=Z,35nm,0.9s
BTK Batken 71.47 10 P **P** **01 42 59.6 +0.1**
BTK IAmb IAmb 01 43 09.4
comp=Z,42nm,1.4s
BTK Batken 71.47 10 P **P** **01 42 59.6 +0.1**
BTK pmax pmax
comp=Z,42nm,1.5s
DBIC Dimbokro 71.49 290 P **P** **01 43 00.7 +0.7**
comp=Z,13nm,1.0s,baz=147,slow=7.5,SNR=8.4
DBIC LR LR 02 11 46.4
comp=Z,308nm,22.0s,baz=143,slow=34
comp=Z,13nm,1.0s
DBIC Dimbokro 71.49 290 P **P** **01 43 00.7 +0.7**
DBIC IAmb IAmb 01 43 02.3
comp=Z,24nm,1.1s
TIC Toumodi 71.61 290⇑ *iP* **P** **01 43 02.1 +1.3**
comp=Z,13nm,0.9s
KSH Kashi 71.84 14 P **P** **01 42 58.6 -3.1**
KSH sP pwP 01 43 06.5 -1.5
KSH PcP **PcP** **01 43 15.9 -4.6**
KSH pmax pmax
comp=Z,17nm,0.7s
KSH LR LR
comp=Z,130nm,19.2s
KSH LR LR
comp=Z,210nm,14.4s
KSH LR LR
comp=Z,480nm,20.6s
GNI Garni 71.93 349 P **P** **01 43 03.4 +1.1**
comp=Z,16nm,1.0s,baz=204,slow=4.2,SNR=11
GNI LR LR 02 14 09.7
comp=Z,221nm,18.6s,baz=170,slow=35
comp=Z,16nm,1.0s
GNI Garni 71.93 349 P **P** **01 43 03.2 +0.8**
GNI Garni 71.93 349*ce* P **P** **01 43 03.3 +1.0**
GNI pmax pmax
comp=Z,40nm,1.3s
GNI Garni 71.93 349 P **P** **01 43 03.3 +1.0**
TNTI Ternate 71.96 78 P **P** **01 43 03.7 +0.8**
comp=Z,51nm,1.3s
QIS Mount Isa 71.96 103 P **P** **01 43 02.4 -0.5**
comp=Z,53nm,1.4s
CMSA Cobar Meteorol 72.05 116 P **P** **01 43 03.7 +0.4**
comp=Z,65nm,1.2s
KARP Karpathos 72.57 333 P **P** **01 43 06.9 +0.9**
KARP IAmb IAmb 01 43 10.0
comp=Z,54nm,1.0s
ELL Elmali 72.62 336 P **P** **01 43 06.8 +0.3**
KOPT Kop Dagi 72.64 345 P **P** **01 43 06.2 -0.5**
BNN Bunyan 72.68 341 P **P** **01 43 06.5 -0.3**
BNN IAmb IAmb 01 43 09.6
comp=Z,82nm,1.4s

KARS Kars 72.70 347 P **P** **01 43 07.5 +0.7**
KARS Kars 72.70 347 P **P** **01 43 07.5 +0.7**
KARS pmax pmax
comp=Z,169nm,1.6s
CAN Canberra 72.90 121 P **P** **01 43 07.8 -0.5**
CAN IAmb IAmb 01 43 10.0
comp=Z,52nm,1.2s
CAN Canberra 72.90 121 P **P** **01 43 07.8 -0.5**
CAN pmax pmax
comp=Z,52nm,1.2s
CAN Canberra 72.90 121 P **P** **01 43 08.9 +0.5**
comp=Z,64nm,1.4s
GYA Guiyang 73.02 44⇑ *iP* **P** **01 43 08.6 -0.5**
GYA pP pwP 01 43 16.8 +0.4
GYA pmax pmax
comp=Z,31nm,1.2s
QLP Quilpie 73.07 111 P **P** **01 43 09.0 -0.4**
CNB Canberra Magne 73.17 121 P **P** **01 43 10.5 +0.5**
comp=Z,24nm,1.4s
IDI Anoyia 73.25 331 LR LR 02 15 42.1
comp=Z,185nm,20.0s,baz=114,slow=36
IUG Iuzhnay 73.42 9 *eP* **P** **01 43 11.5 +0.5**
IUG *eS* **S** **01 52 41.3 +1.2**
IUG Iuzhnay 73.42 9 *eP* **P** **01 43 11.6 +0.5**
baz=8.4
IUG *eS* **S** **01 52 41.4 +1.2**
baz=8.4
NRN Naryn 73.69 13 P **P** **01 43 12.4 -0.6**
NRN Naryn 73.69 13 P **P** **01 43 12.4 -0.6**
NRN pmax pmax
comp=Z,13nm,1.2s
AML Almayashu 73.94 11 P **P** **01 43 14.8 +0.3**
SNR=12
SANT Santorini 73.96 332 P **P** **01 43 14.2 0.0**
DAV Davao City (W) 73.96 71 LR LR 02 11 33.6
comp=Z,42nm,18.4s,baz=238,slow=32
BR131 Keskin Array S 74.12 340 P **P** **01 43 15.5 +0.2**
BR131 Keskin Array S 74.12 340 *i* P **P** **01 43 15.9 +0.6**
BRTR Keskin Array B 74.12 340 P **P** **01 43 15.4 +0.2**
comp=Z,6.8nm,0.7s,baz=165,slow=8.0,SNR=49
comp=Z,6.8nm,0.7s
BRTR Keskin Array B 74.12 340 *i* P **P** **01 43 15.3 0.0**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
FAKI Fak Fak 74.16 84 P **P** **01 43 15.9 -0.1**
FAKI IAmb IAmb 01 43 17.2
comp=Z,42nm,0.8s
FAKI Fak Fak 74.16 84 P **P** **01 43 16.3 +0.3**
comp=Z,693nmcomp=Z,67nm,1.1s
FAKI Fak Fak 74.16 84 P **P** **01 43 16.4 +0.4**
comp=Z,67nm,1.1s
UCH Uchtor 74.18 12 P **P** **01 43 16.8 +0.8**
SNR=7.9
MAK Makhachkala 74.27 351 *eP* P 01 43 10.4 -5.4
MAK *ePPP* PPP 01 47 44.9
MAK *eS* **SKiKP** **01 52 39.9 -3.3**
MAK *eSS* **SS** **01 57 31.4 -4.6**
MAK pmax pmax
comp=Z,365nm,1.8s
MAK MLR MLR
comp=Z,157nm,16.0s
DZA Taraz 74.32 9 *eP* **P** **01 43 16.4 +0.2**
DZA Taraz 74.32 9 *eP* **P** **01 43 16.4 +0.2**
baz=9.3
SIJI Sorong 74.39 81 P **P** **01 43 17.6 +0.3**
comp=Z,73nm,0.8s,baz=278,slow=2.8,SNR=51
SIJI LR LR 02 14 21.6
comp=Z,29nm,18.1s,baz=171,slow=34
comp=Z,73nm,0.8s
KK31 Karatay Array 74.42 9 P **P** **01 43 17.1 +0.3**
KK31 IAmb IAmb 01 43 26.5
comp=Z,88nm,1.8s
KK31 Karatay Array 74.42 9 *i* P **P** **01 43 16.7 -0.1**
KKAR Karatay Array 74.42 9 P **P** **01 43 16.9 +0.1**
KKAR Karatay Array 74.42 9 P **P** **01 43 17.0 +0.3**
KKAR IAmb IAmb 01 43 26.5
comp=Z,88nm,1.8s
KKAR Karatay Array 74.42 9 P **P** **01 43 16.9 +0.1**
KKAR pmax pmax
comp=Z,88nm,1.8s
EKS2 Erkin-Say 74.47 11 P **P** **01 43 18.3 +1.0**
SNR=14
ANTO Ankara 74.51 339 P **P** **01 43 18.6 +1.2**
ULHL Ulahol 74.52 13 P **P** **01 43 18.2 +0.5**
SNR=5.8
APE Apeiranthos 74.53 333 ⇓P **P** **01 43 18.3 +0.6**
APE Apeiranthos 74.53 333 P **P** **01 43 18.2 +0.6**
AAK Ala-Archa 74.58 12 P **P** **01 43 18.8 +0.9**
SNR=7.0
AAK Ala-Archa 74.58 12 LR LR 02 13 44.4
comp=Z,235nm,21.1s,baz=196,slow=34
AAK Ala-Archa 74.58 12 P **P** **01 43 18.6 +0.7**
AAK IAmb IAmb 01 43 28.0
comp=Z,28nm,1.2s
AAK Ala-Archa 74.58 12*de* P **P** **01 43 18.3 +0.4**
AAK pmax pmax
comp=Z,21nm,1.3s
AAK Ala-Archa 74.58 12 *i* P **P** **01 43 18.6 +0.7**
SNR=9.8
ZEI Tsey 74.64 349 *eP* **P** **01 43 18.6 +0.3**
ZEI pmax pmax
comp=Z,27nm,1.3s
BOOM Boomskoye usch 74.70 13 P **P** **01 43 18.8 +0.2**
BOOM Boomskoye usch 74.70 13 P **P** **01 43 18.8 +0.2**
BOOM pmax pmax
comp=Z,23nm,1.4s
GROC Groznyy 74.75 350 *eP* **P** **01 43 20.0 +1.4**
GROC *e* 01 43 33.4
GROC pmax pmax
comp=Z,241nm,1.1s
CD2 Chengdu 74.75 39 P **P** **01 43 17.9 -1.1**
CD2 pmax pmax
comp=Z,50nm,0.9s
GOMU GeErMu 74.76 29 P **P** **01 43 19.5 +0.2**
GOMU sP pwP 01 43 26.9 +1.3
GOMU PcP **PcP** **01 43 34.8 +1.4**
GOMU S **S** **01 52 57.4 +1.4**
GOMU SS **SS** **01 57 51.4 +7.0**
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU pmax pmax
comp=Z,100nm,4.7s
GOMU LR LR
comp=Z,140nm,18.1s
GOMU LR LR
comp=Z,140nm,17.9s
GOMU LR LR
comp=Z,180nm,17.6s
PMSA Palmer Station 74.86 202 LR LR 02 09 06.4
comp=Z,387nm,21.6s,baz=146,slow=30
PMSA Palmer Station 74.86 202 *eP* **P** **01 43 21.6 +2.4**
TKM2 Tokmak 2 75.05 13 P **P** **01 43 20.8 +0.1**
SNR=10
TKM2 Tokmak 2 75.05 13 *i* P **P** **01 43 19.4 -1.3**
TKM2 pmax pmax
comp=Z,25nm,1.1s
USP Ospenovka 75.19 12 P **P** **01 43 21.7 +0.4**
SNR=12
BORA Eskisehir 75.26 338 P **P** **01 43 22.3 +0.5**
BORA IAmb IAmb 01 43 31.4
comp=Z,86nm,1.8s
NEY Neytrino 75.30 348 *i* P **P** **01 43 22.7 +0.6**
NEY pmax pmax
comp=Z,4.0nm,0.7s
SGDS Sogindy 75.39 12 *eP* **P** **01 43 22.3 -0.1**
SGDS Sogindy 75.39 12 *eP* **P** **01 43 22.3 -0.1**
baz=12
DIKM Dikmen 75.46 342 ⇓P **P** **01 43 22.2 -0.6**
MDOK Medeo 75.56 14 *eP* **P** **01 43 23.9 +0.3**
MDOK *eS* **S** **01 53 05.6 +1.3**
MDOK Medeo 75.56 14 *eP* **P** **01 43 23.9 +0.3**
baz=13
MDOK *eS* **S** **01 53 05.6 +1.3**
baz=13
AAA Alma-Ata 75.58 13 *eP* **P** **01 43 23.2 -0.3**
AAA pmax pmax
comp=Z,17nm,0.7s
AAA Alma-Ata 75.58 13 *eP* **P** **01 43 23.2 -0.3**
comp=Z,17nm,0.7s,baz=13
KBZ Khabaz 75.73 348 P **P** **01 43 25.3 +1.0**
comp=Z,5.1nm,0.8s,baz=164,slow=6.4,SNR=10
KBZ LR LR 02 15 28.3
comp=Z,381nm,20.3s,baz=160,slow=35
comp=Z,5.1nm,0.8s
KBZ Khabaz 75.73 348*ce* P **P** **01 43 25.0 +0.7**
KBZ pmax pmax

comp=Z,16nm,1.6s
SATY Saty 75.75 15 *e*P **P 01 43 24.9 +0.4**
SATY pmax pmax
comp=Z,16nm,1.7s
SATY Saty 75.75 15 *e*P **P 01 43 25.0 +0.4**
comp=Z,16nm,1.7s,baz=14
SHA1 Shidzhatmaz 75.78 348 *d i*P **P 01 43 25.5 +0.6**
UZB Uzynbulak 75.97 15 *e*P **P 01 43 26.1 +0.3**
UZB Uzynbulak 75.97 15 *e*P **P 01 43 26.2 +0.3**
baz=15
KVAR Kislovodsk Arr 75.99 348 LR LR 02 15 33.7
comp=Z,244nm,20.5s,baz=68,slow=35
KIV Kislovodsk 75.99 348 ⇑P **P 01 43 25.8 -0.1**
KIV Kislovodsk 75.99 348 P **P 01 43 26.6 +0.8**
KIV IAmb IAmb 01 43 38.5
comp=Z,23nm,0.9s
KIV Kislovodsk 75.99 348 *e*P **P 01 43 26.4 +0.5**
KIV *e*S **S 01 53 10.2 +1.4**
KIV *e*SS **SS 01 58 04.4 +2.0**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 75.99 348 P **P 01 43 25.7 -0.2**
KIV P **P 01 43 25.7 -0.2**
KIV Kislovodsk 75.99 348 *i* P **P 01 43 26.7 +0.8**
SNR=6.3
SHLS Shalkode 76.08 15 *e*P **P 01 43 27.5 +1.1**
SHLS Shalkode 76.08 15 *e*P **P 01 43 27.6 +1.1**
baz=16
KUU Kurty 76.13 13 *e*P **P 01 43 26.4 -0.2**
KUU pmax pmax
comp=Z,37nm,1.5s
KUU Kurty 76.13 13 *e*P **P 01 43 26.4 -0.2**
comp=Z,37nm,1.5s,baz=13
KPKS Kokpek 76.20 15 *e*P **P 01 43 27.1 0.0**
KPKS pmax pmax
comp=Z,11nm,1.3s
KPKS Kokpek 76.20 15 *e*P **P 01 43 27.1 0.0**
comp=Z,11nm,1.3s,baz=14
SOC Sochi 76.21 346 *e*P **P 01 43 24.6 -2.4**
SOC *e*PPP PPP 01 48 03.1
SOC *e*S **S 01 53 07.9 -3.1**
SOC *e*SS **SS 01 58 04.9 -0.6**
SOC *e*SSS SSS 02 01 25.2
SOC MLR MLR
comp=Z,132nm,18.0s
CHKK Chushkaly 76.22 13 *e*P **P 01 43 26.5 -0.6**
CHKK Chushkaly 76.22 13 *e*P **P 01 43 26.5 -0.6**
baz=13
PDGK Podgornoye 76.25 15 P **P 01 43 26.8 -0.6**
RMQ Roma 76.72 113 P **P 01 43 30.9 +0.3**
comp=Z,9.9nm,0.9s
BTLS Baital 76.83 11 *e*P **P 01 43 30.6 +0.1**
BTLS Baital 76.83 11 *e*P **P 01 43 30.6 +0.1**
baz=11
GOF Gofitskoye 77.00 348 ⇑*e*P **P 01 43 31.8 +0.4**
GOF pmax pmax
comp=Z,31nm,0.8s
MTSU Mount Surprise 77.02 103 P **P 01 43 32.2 -0.2**
comp=Z,17nm,0.9s
ARMA Armidale 77.10 118 P **P 01 43 32.8 0.0**
ARMA IAmb IAmb 01 43 34.4
comp=Z,48nm,0.9s
ARMA Armidale 77.10 118 P **P 01 43 33.3 +0.5**
comp=Z,59nm,1.2s
CTA Charters Tower 77.70 106 P **P 01 43 36.0 -0.2**
comp=Z,17nm,0.8s,baz=235,slow=5.7,SNR=22
CTA LR LR 02 14 03.7
comp=Z,185nm,20.4s,baz=260,slow=33
comp=Z,17nm,0.8s
CTA Charters Tower 77.70 106 P **P 01 43 35.8 -0.4**
comp=Z,50nm,1.4s
CTAO Charters Tower 77.70 106 P **P 01 43 35.9 -0.2**
CTAO IAmb IAmb 01 43 36.8
comp=Z,88nm,1.6s
CTAO Charters Tower 77.70 106 P **P 01 43 35.9 -0.3**
CTAO pmax pmax
comp=Z,87nm,1.6s
CTAO Charters Tower 77.70 106 P **P 01 43 35.8 -0.4**
comp=Z,43nm,1.4s
LIT Litokhoron 78.35 332 P **P 01 43 39.4 +0.2**
LIT Litokhoron 78.35 332 P **P 01 43 39.4 +0.2**
KDZ Kurdzhali 78.57 335 *i* P **P 01 43 40.7 +0.4**
SIM Simferopol' 78.83 342 *e*P **P 01 43 42.6 +0.9**
SIM *e*S **S 01 53 45.4 +6.0**
SIM pmax pmax
comp=Z,83nm,1.3s
SIM smax smax
comp=N,120nm,16.0s
LZH Lanzhou 78.84 36 *e*P **P 01 43 41.8 -0.3**
LZH pP pwP 01 43 47.6 -0.8
LZH sP PcP 01 43 51.8 +1.0
LZH pmax pmax
comp=N,20nm,1.3s
LZH pmax pmax
comp=N,140nm,7.6s
LZH LR LR
comp=N,310nm,17.5s
LZH LR LR
comp=N,240nm,18.2s
LZH LR LR
comp=N,240nm,18.9s
DIM Dimitrovgrad 78.88 335 *i* P **P 01 43 42.3 +0.3**
WMQ Urumqi 78.89 21 *e*P **P 01 43 43.8 +1.7**
WMQ sP PcP 01 43 50.4 -0.3
WMQ pmax pmax
comp=N,22nm,1.3s
WMQ LR LR
comp=N,260nm,19.9s
WMQ LR LR
comp=N,280nm,17.3s
WMQ LR LR
comp=N,150nm,23.1s
EIDS Eidsvold 79.08 113 P **P 01 43 43.5 -0.2**
EIDS IAmb IAmb 01 43 44.4
comp=Z,55nm,0.9s
EIDS Eidsvold 79.08 113 P **P 01 43 43.1 -0.6**
comp=Z,55nm,1.1s
MMB Musomiste 79.14 334 *i* P **P 01 43 43.1 -0.4**
PRD Provadia 79.24 337 *i* P **P 01 43 40.7 -3.2**
KKB Krupnik 79.63 334 *i* P **P 01 43 45.4 -0.7**
PGB Panagyurishte 79.81 335 *i* P **P 01 43 46.9 -0.3**
AB31 Akbulak array 79.82 1 *i* P **P 01 43 46.9 0.0**
ABKAR Akbulak array 79.82 1 P **P 01 43 47.3 +0.3**
ABKAR Akbulak array 79.82 1 P **P 01 43 47.2 +0.3**
ABKAR IAmb IAmb 01 43 56.2
comp=Z,113nm,1.6s
XAN Xi'an 79.96 40 ⇓P **P 01 43 47.3 -0.8**
XAN pP sP 01 43 51.4 -0.4
XAN sP PcP 01 43 55.3 -0.3
XAN pmax pmax
comp=Z,39nm,1.0s
XAN LR LR
comp=Z,300nm,18.1s
XAN LR LR
comp=Z,340nm,15.9s
MAKZ Makanchi 80.11 16 P **P 01 43 48.4 -0.2**
MAKZ Makanchi 80.11 16 P **P 01 43 48.4 -0.2**
MAKZ pmax pmax
comp=Z,15nm,1.2s
WHZ Wether Hill Ro 80.16 138 P **P 01 43 49.1 -0.1**
WHZ IAmb IAmb 01 43 49.9
comp=Z,66nm,1.3s
MK31 Makanchi Array 80.17 16 P **P 01 43 48.6 -0.4**
MK31 Makanchi Array 80.17 16 *i* P **P 01 43 48.1 -0.8**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 80.17 16 P **P 01 43 48.9 -0.1**
comp=Z,3.3nm,0.9s,baz=208,slow=6.4,SNR=26
MKAR LR LR 02 16 52.1
comp=Z,132nm,21.6s,baz=226,slow=34
comp=Z,3.3nm,0.9s
MKAR Makanchi Array 80.17 16 P **P 01 43 48.5 -0.4**
MKAR Makanchi Array 80.17 16 *i* P **P 01 43 48.5 -0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
VTS Vitosha 80.22 334 ⇑P **P 01 43 49.7 +0.2**
VTS Vitosha 80.22 334 P **P 01 43 48.9 -0.6**
VTS IAmb IAmb 01 43 52.6
comp=Z,54nm,2.0s
VTS Vitosha 80.22 334 P **P 01 43 48.9 -0.6**
VTS pmax pmax
comp=Z,54nm,2.0s
VTS Vitosha 80.22 334 *i* P **P 01 43 47.5 -2.0**
TIR Tirane 80.47 331 P **P 01 43 51.7 +1.0**
YULB Yu-li 80.50 56 P **P 01 43 51.3 0.0**
YULB IAmb IAmb 01 44 01.1
comp=Z,27nm,0.9s
SSLB Suanglung 80.51 55 P **P 01 43 51.6 +0.2**
SSLB IAmb IAmb 01 43 53.2
comp=Z,61nm,1.0s
SSLB Suanglung 80.51 55 P **P 01 43 52.3 +0.9**
comp=Z,59nm,2.5s
WHN Wuhan 80.63 46 ⇑P **P 01 43 52.4 +0.6**
WHN pmax pmax
comp=Z,64nm,1.0s
MPEP Malo Peshtene 80.67 335 *i* P **P 01 43 51.8 +0.1**
CFR Carcaliu 80.77 338 ⇓P **P 01 43 52.3 +0.2**
CFR Carcaliu 80.77 338 P **P 01 43 52.3 +0.2**
AKTO Aktyubinsk 81.00 359 P **P 01 43 53.5 +0.3**
comp=Z,5.3nm,0.6s,baz=164,slow=4.8,SNR=25
AKTO LR LR 02 19 00.1
comp=Z,117nm,19.8s,baz=179,slow=35
comp=Z,5.3nm,0.6s
KEST Kesra 81.05 321 LR LR 02 20 12.6
comp=Z,495nm,19.6s,baz=100,slow=36
NACB Ninganchiao 81.21 55 P **P 01 43 54.1 -0.9**
HUMR Humele 81.24 336 ⇑P **P 01 43 55.2 +0.5**
MATE Matera 81.25 329 ⇓P **P 01 43 55.0 +0.1**
BLKB Belogradchik 81.29 334 ⇓P **P 01 43 55.0 -0.1**
ZSN Zaisan 81.42 17 *e*P **P 01 43 56.2 +0.6**
ZSN Zaisan 81.42 17 *e*P **P 01 43 56.2 +0.6**
baz=17
BRZS Berezniki 81.46 9 *e*P **P 01 43 55.5 -0.2**
BRZS Berezniki 81.46 9 *e*P **P 01 43 55.6 -0.2**
baz=8.8
BOVS Bovan 81.67 334 ⇑P **P 01 43 56.7 -0.2**
MLR Muntele Rosu 81.76 337 ⇓P **P 01 43 57.7 +0.1**
MLR Muntele Rosu 81.76 337 P **P 01 43 58.2 +0.6**
MLR IAmb IAmb 01 44 07.4
comp=Z,29nm,0.8s
MLR Muntele Rosu 81.76 337 P **P 01 43 58.2 +0.6**
MLR pmax pmax
comp=Z,29nm,0.8s
MTUR Matau 81.82 337 ⇓P **P 01 43 57.4 -0.5**
VRI Vrincioaia 81.83 338 ⇑P **P 01 43 58.5 +0.7**
VRI Vrincioaia 81.83 338 P **P 01 43 58.5 +0.7**
PLOR Plostina 81.84 338 ⇓P **P 01 43 58.3 +0.4**
PLOR Plostina 81.84 338 P **P 01 43 58.3 +0.4**
COVR Voineasa-Covas 81.98 338 ⇑P **P 01 43 58.3 -0.3**
VOIR 82.01 337 ⇓P **P 01 43 58.4 -0.4**
VOIR 82.01 337 P **P 01 43 58.4 -0.4**
ARR Arges 82.09 336 ⇓P **P 01 43 59.0 -0.3**
MILM Milestii Mici 82.12 340 ⇓P **P 01 43 59.2 -0.1**
MILM Milestii Mici 82.12 340 P **P 01 43 59.2 -0.1**
DJES Djerdap 82.24 335 ⇓P **P 01 44 00.1 +0.1**
LBZ Lake Benmore 82.33 138 P **P 01 44 01.0 +0.2**
LBZ IAmb IAmb 01 44 03.9
comp=Z,60nm,1.4s
LYN LuoYang 82.33 42 ⇑P **P 01 44 00.4 -0.3**
LYN pP pwP 01 44 04.8 -2.1
LYN S **S 01 54 17.8 +1.3**
LYN pmax pmax
comp=Z,10.0nm,1.0s
LYN pmax pmax
comp=Z,120nm,4.1s
LYN LR LR
comp=Z,240nm,21.0s
LYN LR LR
comp=Z,260nm,27.9s
DOPR Dopca 82.36 337 ⇑P **P 01 44 00.3 -0.3**
TESR Tescani 82.43 338 ⇑P **P 01 44 01.2 +0.3**
HERR Herculane 82.46 335 ⇑P **P 01 44 01.5 +0.4**
LOT Lotru 82.47 336 ⇑P **P 01 44 01.3 0.0**
FOZ Fox Glacier 82.61 137 P **P 01 44 02.1 -0.1**
FOZ IAmb IAmb 01 44 02.8
comp=Z,31nm,0.9s
MDVR Moldovita 82.64 334 ⇑P **P 01 44 02.6 +0.4**
DIVS Divibare 82.72 333 P **P 01 44 02.2 -0.4**
DIVS IAmb IAmb 01 44 13.1
comp=Z,18nm,1.0s
GZR Gura Zlata 82.77 335 ⇑P **P 01 44 03.1 +0.3**
GZR Gura Zlata 82.77 335 P **P 01 44 03.1 +0.3**
BIZ Bicaz 82.98 338 ⇓P **P 01 44 03.9 +0.1**
KURBB Kurchatov Arra 83.01 12 P **P 01 44 04.1 +0.3**
comp=Z,3.4nm,0.6s,baz=212,slow=6.1,SNR=36
KURBB LR LR 02 18 44.4
comp=Z,140nm,19.2s,baz=188,slow=34
comp=Z,3.4nm,0.6s
KURBB Kurchatov Arra 83.01 12 P **P 01 44 03.3 -0.5**
KURK Kurchatov 83.12 12 P **P 01 44 04.7 +0.4**
KURK IAmb IAmb 01 44 14.0
comp=Z,31nm,1.1s
KURK Kurchatov 83.12 12 *ce*P **P 01 44 04.7 +0.4**
KURK pmax pmax
comp=Z,40nm,1.7s
SEM Semipalatinsk 83.14 14 *e*P **P 01 44 04.7 -0.1**
SEM Semipalatinsk 83.14 14 *e*P **P 01 44 04.7 -0.1**
baz=13
VRH Novokhopyorsk 83.17 349 *e*P **P 01 44 03.6 -1.0**
VRH pmax pmax
comp=Z,50nm,0.7s
RPZ Rata Peaks 83.23 137 P **P 01 44 05.3 -0.1**
comp=Z,12nm,0.9s,baz=112,slow=1.3,SNR=4.0
RPZ LR LR 02 13 52.7
comp=Z,515nm,19.0s,baz=242,slow=30
comp=Z,12nm,0.9s
RPZ Rata Peaks 83.23 137 P **P 01 44 05.8 +0.3**
RPZ IAmb IAmb 01 44 06.5
comp=Z,67nm,1.5s
BZS Buzias 83.39 335 ⇓P **P 01 44 06.3 +0.4**
BZS Buzias 83.39 335 P **P 01 44 06.3 +0.4**
BELG Belogornoye 83.55 353 LR LR 02 21 52.0
comp=Z,172nm,20.6s,baz=151,slow=36
BELG Belogornoye 83.55 353 *d i*P **P 01 44 06.4 -0.1**
BELG pmax pmax
comp=Z,12nm,1.0s
CJR Cluj-Napoca 83.62 336 ⇑P **P 01 44 07.8 +0.6**
CJR Cluj-Napoca 83.62 336 P **P 01 44 07.7 +0.6**
VSR Storozhevoye 83.63 348 *e*P **P 01 44 07.1 +0.1**
VSR pmax pmax
comp=Z,40nm,0.7s
CBBR Cluj-Babes-Bol 83.69 336 ⇑P **P 01 44 07.9 +0.5**
ARCR ARCALIA 83.69 337 ⇑P **P 01 44 08.3 +0.8**
PMG Port Moresby 83.69 97 P **P 01 44 08.0 -0.3**
comp=Z,21nm,0.9s,baz=349,slow=5.6,SNR=6.7
PMG LR LR 02 19 40.4
comp=Z,162nm,18.1s,baz=230,slow=34
comp=Z,21nm,0.9s
PMG Port Moresby 83.69 97 P **P 01 44 08.1 -0.3**
PMG Port Moresby 83.69 97 *de*P **P 01 44 08.1 -0.2**
PMG pmax pmax
comp=Z,49nm,1.7s
PMG Port Moresby 83.69 97 P **P 01 44 09.2 +0.9**
comp=Z,34nm,1.4s
BURAR Bucovina Array 83.86 338 ⇑P **P 01 44 09.6 +1.1**
BURAR Bucovina Array 83.86 338 P **P 01 44 09.1 +0.6**
BURAR Bucovina Array 83.86 338 P **P 01 44 08.0 -0.4**
BURAR pmax pmax
comp=Z,7.0nm,0.8s
BUR08 Bucovina Ar. S 83.90 338 P **P 01 44 09.1 +0.5**
BUR08 IAmb IAmb 01 44 18.4
comp=Z,57nm,1.9s
SIRR Siria 83.92 335 ⇓P **P 01 44 08.8 +0.1**
DRGR 84.00 336 ⇓P **P 01 44 09.3 +0.1**
DRGR 84.00 336 P **P 01 44 09.2 +0.1**
VORR Voronezh 84.06 348 *e*P **P 01 44 09.2 +0.1**
VORR pmax pmax
comp=Z,28nm,0.4s
DGZ Jazzator, Alta 84.16 18 *d i*P **P 01 44 10.9 +0.9**
DGZ pmax pmax
comp=Z,27nm,1.1s
BVA0 Borovoye Array 84.18 7 *i* P **P 01 44 09.0 -0.8**
BVAR Borovoye Array 84.18 7 P **P 01 44 10.2 +0.4**
comp=Z,5.0nm,0.8s,baz=178,slow=4.2,SNR=29
BVAR LR LR 02 19 25.6
comp=Z,199nm,20.6s,baz=197,slow=34
comp=Z,5.0nm,0.8s
BRVK Borovoye 84.20 7 P **P 01 44 09.8 -0.1**
BRVK IAmb IAmb 01 44 19.4
comp=Z,36nm,1.5s
BRVK Borovoye 84.20 7 *ce*P **P 01 44 10.2 +0.3**
BRVK pmax pmax
comp=Z,40nm,2.5s
NJ2 Nanjing 84.48 48 *e*P **P 01 44 14.1 +2.3**
NJ2 pmax pmax
comp=Z,13nm,0.5s
LTZ Lake Taylor 84.50 137 P **P 01 44 12.1 +0.1**
LPSR Galich'ya Gora 85.00 348 *e*P **P 01 44 12.5 -1.4**
LPSR pmax pmax
comp=Z,30nm,0.8s
MORH Mrgy, Hungar 85.01 333 ⇑P **P 01 44 14.3 +0.2**
TRPA Tarpa 85.21 336 ⇓P **P 01 44 15.0 0.0**
AKASG Malin Array Be 85.42 342 P **P 01 44 15.8 -0.3**
comp=Z,6.1nm,0.6s,baz=160,slow=4.5,SNR=23
AKASG LR LR 02 22 53.1
comp=Z,61nm,18.4s,baz=173,slow=36
comp=Z,6.1nm,0.6s
AKBB Malin Array Si 85.42 342 P **P 01 44 15.8 -0.2**
AKBB IAmb IAmb 01 44 25.4
comp=Z,21nm,0.8s
AKBB Malin Array Si 85.42 342 *ce*P **P 01 44 16.0 -0.1**
BBTS Babate 85.44 290 LR LR 02 21 50.8
comp=Z,179nm,20.4s,baz=103,slow=35
HNS HongShan 85.63 41 ⇓P **P 01 44 17.4 0.0**
HNS S **S 01 54 49.8 +0.3**
HNS pmax pmax
comp=Z,71nm,1.1s
HNS pmax pmax
comp=Z,230nm,4.0s
HNS LR LR
comp=Z,230nm,13.7s
HNS LR LR
comp=Z,240nm,15.7s
UZH Uzhgorod 85.72 337 *e*P **P 01 44 17.0 -0.6**
UZH *e* 01 44 23.6
PSZ Piszkesteto 85.96 335 P **P 01 44 18.5 -0.5**
PSZ Piszkesteto 85.96 335 P **P 01 44 18.5 -0.5**
PSZ pmax pmax
comp=Z,11nm,1.2s
CRES Cresnjev 85.97 331 *i* P **P 01 44 19.1 +0.1**
KOLS Kolonicke sedl 85.99 337 *e*P **P 01 44 19.6 +0.6**
KOLS Kolonicke sedl 85.99 337 *e*P **P 01 44 19.6 +0.6**
KOGS Kog 86.15 332 *i* P **P 01 44 19.9 +0.1**
DOBS Dobrina 86.23 331 *i* P **P 01 44 20.4 +0.1**
HHC Hu-ho-hao-te 86.39 37 *e*P **P 01 44 21.8 +0.5**
HHC S **S 01 54 53.9 -3.2**
HHC pmax pmax
comp=Z,61nm,0.8s
HHC pmax pmax
comp=Z,220nm,4.8s
HHC LR LR
comp=Z,330nm,15.9s
HHC LR LR
comp=Z,290nm,15.9s
HHC LR LR
comp=Z,240nm,15.9s
SRO Srobarova 86.46 334 *e*P **P 01 44 21.6 +0.3**
SRO pmax pmax
comp=Z,33nm,1.7s
SRO Srobarova 86.46 334 *e*P **P 01 44 21.6 +0.3**
ZCCA Zocca 86.77 328 P **P 01 44 23.8 +0.8**
SOKA Soboth 86.83 331 *i* P **P 01 44 23.5 +0.2**
comp=Z,17nm,1.9s
VYHS Vyhne 86.83 335 *e*P **P 01 44 23.3 +0.1**
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 86.83 335 *e*P **P 01 44 23.2 +0.1**
OBKA Obir 86.90 331 *i* P **P 01 44 24.1 +0.4**
comp=Z,13nm,1.2s
ARU Arti 87.00 360 P **P 01 44 24.1 +0.4**
comp=Z,14nm,1.0s,baz=181,slow=8.0,SNR=27
ARU LR LR 02 19 59.8
comp=Z,160nm,21.9s,baz=166,slow=33
comp=Z,14nm,1.0s
ARU Arti 87.00 360 P **P 01 44 24.2 +0.5**
ARU Arti 87.00 360 *d i*P **P 01 44 24.1 +0.4**
ARU S **SKSac 01 54 50.9 +0.5**
ARU SS **SS 02 00 45.3 -0.6**
ARU pmax pmax
comp=Z,48nm,1.4s
ARU MLR MLR
comp=Z,188nm,22.0s
NIE Niedzica 87.08 336 *e*P **P 01 44 23.6 -0.8**
ARSA Arzberg 87.09 332 *i* P **P 01 44 26.1 +1.6**
comp=Z,9.6nm,1.1s
RONA Rosalia, Austr 87.15 333 *i* P **P 01 44 24.9 +0.1**
comp=Z,16nm,1.3s
LANS Liptovska Anna 87.15 335 *e*P **P 01 44 25.7 +1.0**
LANS pmax pmax
comp=Z,9.0nm,1.2s
LANS Liptovska Anna 87.15 335 *e*P **P 01 44 25.7 +1.0**
TEOL Teolo 87.24 329 P **P 01 44 25.9 +0.7**
ZST Bratislava 87.24 333 *e*P **P 01 44 25.1 0.0**
ZST pmax pmax
comp=Z,53nm,1.0s
ZST Bratislava 87.24 333 *e*P **P 01 44 25.1 0.0**
MODS Modra-Piesok 87.32 334 *e*P **P 01 44 24.8 -0.7**
MODS pmax pmax
comp=Z,42nm,1.3s
MODS Modra-Piesok 87.32 334 *e*P **P 01 44 24.8 -0.7**
MDT Midelt 87.35 311 LR LR 02 25 03.4
comp=Z,308nm,18.5s,baz=129,slow=37
SMOL Smolenice 87.38 334 *e*P **P 01 44 25.8 0.0**
MG05 Puerto Natales 87.38 208 P **P 01 44 25.1 -1.0**
ZAA0 Zalesovo Array 87.43 15 P **P 01 44 24.6 -1.2**
ZALV Zalesovo Beam 87.43 15 P **P 01 44 24.8 -1.1**
comp=Z,11nm,0.8s,baz=200,slow=3.9,SNR=34
ZALV LR LR 02 20 31.3
comp=Z,98nm,21.8s,baz=231,slow=34
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 87.43 15 P **P 01 44 24.4 -1.5**
ZALV Zalesovo Beam 87.43 15 *i* P **P 01 44 24.3 -1.6**
ZALV pmax pmax
comp=Z,11nm,0.9s
STAL STALIGIAL 87.48 330 P **P 01 44 26.8 +0.4**
STAL IAmb IAmb 01 44 35.5
comp=Z,21nm,1.4s
CONA Conrad Observa 87.51 333 *i* P **P 01 44 26.5 0.0**
comp=Z,30nm,1.4s,SNR=16
JAVC Velka Javorina 87.57 334 *e*P **P 01 44 27.8 +1.0**
GO09 Cerro Castillo 87.63 208 P **P 01 44 26.6 -0.7**
CIMO Cimolais 87.64 330 P **P 01 44 27.9 +0.7**
CIMO IAmb IAmb 01 44 37.4
comp=Z,32nm,1.7s
CTI Castel Tesino 87.78 329 P **P 01 44 28.9 +1.0**
CTI IAmb IAmb 01 44 37.9
comp=Z,18nm,1.0s
CTI Castel Tesino 87.78 329 P **P 01 44 28.9 +1.0**
CTI pmax pmax
comp=Z,18nm,1.0s
OBN Obninsk 87.82 347 LR LR 02 23 41.5
comp=Z,31nm,18.7s,baz=180,slow=36
OBN Obninsk 87.82 347 *e*P **P 01 44 28.4 +0.7**
OBN *e* 01 47 51.7
OBN pmax pmax
comp=Z,59nm,1.3s
OBN MLR MLR
comp=Z,139nm,18.0s
MAUC Maruska 87.93 335 *e*P **P 01 44 28.7 +0.2**
MAUC *ex* x 01 44 35.8
OJC Ojcow 87.93 336 *e*P **P 01 44 25.6 -2.8**
OJC Ojcow 87.93 336 P **P 01 44 26.9 -1.5**
OJC Ojcow 87.93 336 P **P 01 44 26.9 -1.5**
OJC pmax pmax
comp=Z,75nm,1.6s
RIB01 Linhares ES 87.94 249 *e*P **P 01 44 30.7 +1.4**
ABTA Abfaltersbach 87.95 330 *e*P **P 01 44 29.5 +0.8**
comp=Z,25nm,1.2s,SNR=10
KNGR Kungurtug, Tuv 88.03 23 *i* P **P 01 44 29.7 +0.7**
KNGR pmax pmax
comp=Z,9.0nm,1.2s
SBF Sospel 88.08 325 *e*P **P 01 44 29.6 +0.3**
SBF pmax pmax
comp=Z,11nm,0.7s
MOA Molln 88.08 332 *i* P **P 01 44 29.4 +0.2**
comp=Z,25nm,1.2s,SNR=12
LMR La Mourre 88.14 325 *e*P **P 01 44 30.1 +0.5**
LMR pmax pmax
comp=Z,37nm,1.5s
OKC Ostrava-Krasne 88.20 335 *e*P **P 01 44 30.0 +0.3**
OKC *e* 01 44 36.3
OKC Ostrava-Krasne 88.20 335 *e*P **P 01 44 30.0 +0.3**
OKC *e*pP **pwP 01 44 36.3 +0.2**
BIOA Bad Ischl, Aus 88.22 331 *i* P **P 01 44 29.8 0.0**
comp=Z,17nm,1.3s,SNR=7.9
KRUC Moravsky 88.22 334 *e*P **P 01 44 29.5 -0.3**
MOS Moscow 88.22 348 *e*P **P 01 44 29.5 -0.1**
MOS pmax pmax
comp=Z,103nm,1.5s
VRAC Vranov 88.34 334 ⇑P **P 01 44 30.5 +0.1**
VRAC Vranov 88.34 334 LR LR 02 23 42.2
comp=Z,45nm,20.3s,baz=168,slow=35
VRAC Vranov 88.34 334 *e*P **P 01 44 30.5 +0.1**
VRAC Vranov 88.34 334 P **P 01 44 30.4 +0.1**
MORC Moravsky Berou 88.37 335 ⇑P **P 01 44 30.7 +0.1**

MORC Moravsky Berou 88.37 335 P **P** **01 44 30.7 +0.1**
MORC IAmb IAmb 01 44 39.7
comp=Z,42nm,1.6s
MORC Moravsky Berou 88.37 335 *e*P **P** **01 44 30.6 +0.1**
MORC Moravsky Berou 88.37 335 P **P** **01 44 30.7 +0.1**
MORC pmax pmax
comp=Z,42nm,1.6s
NAN01 Guarapari, ES 88.50 250 *e*P **P** **01 44 33.7 +1.7**
WTTA Wattenberg 88.73 330 *i* P **P** **01 44 32.7 +0.3**
comp=Z,34nm,1.3s,SNR=11
TREC Trest 88.76 333 *e*P **P** **01 44 32.1 -0.3**
TREC *e* 01 44 39.3
TREC Trest 88.76 333 *e*P **P** **01 44 32.1 -0.3**
TREC *e*pP **pwP** **01 44 39.3 +0.5**
VAS01 Vassouras-RJ 88.77 245 *e*P **P** **01 44 34.6 +1.4**
WATA Walderalm 88.81 330 *i* P **P** **01 44 32.9 +0.1**
comp=Z,13nm,0.7s,SNR=12
CKRC Cesky Krumlov 88.84 332 *e*P **P** **01 44 32.2 -0.6**
MAN01 Angra dos Reis 88.85 244 *e*P **P** **01 44 35.5 +1.8**
SQTA Sankt Quirin 88.88 330 *i* P **P** **01 44 33.4 +0.3**
comp=Z,20nm,0.7s,SNR=12
SJMB Sao Joao De Ma 88.90 249 *e*P **P** **01 44 35.0 +1.2**
KRLC Kraliky 88.90 334 *e*P **P** **01 44 32.8 -0.2**
KRLC *e* 01 44 40.4
KRLC Kraliky 88.90 334 *e*P **P** **01 44 32.8 -0.2**
KRLC *e*pP **pwP** **01 44 40.4 +0.9**
GUA01 Guaratinga, BA 88.90 251 *e*P **P** **01 44 34.9 +0.9**
FETA Feichten 88.93 329 *i* P **P** **01 44 34.1 +0.7**
comp=Z,19nm,0.9s,SNR=12
BEL Belsk 88.96 337 *e*P P 01 44 41.8 +8.6
MOTA Moosalm 89.02 330 *i* P **P** **01 44 34.0 +0.1**
comp=Z,22nm,1.0s,SNR=14
MBDF Montbardon 89.04 326 *e*P **P** **01 44 34.8 +0.8**
MBDF pmax pmax
comp=Z,30nm,1.1s
NBRF Rio Formoso - 89.09 260 *e*P **P** **01 44 37.0 +2.2**
GERES GERESS Array B 89.10 332 P **P** **01 44 33.8 -0.3**
comp=Z,2.3nm,0.6s,baz=149,slow=5.7,SNR=27
comp=Z,2.3nm,0.6s
GERES GERESS Array B 89.10 332 P **P** **01 44 33.6 -0.5**
DAVOX Davos/Dischmat 89.12 329 LR LR 02 26 20.9
comp=Z,44nm,20.3s,baz=135,slow=37
SONM Songino Array 89.20 30 P **P** **01 44 34.2 -0.4**
comp=Z,4.1nm,0.9s,baz=213,slow=4.1,SNR=19
comp=Z,4.1nm,0.9s
SONM Songino Array 89.20 30 P **P** **01 44 33.9 -0.7**
MNK Minsk 89.20 342 *i* P **P** **01 44 33.1 -1.1**
MNK *i* S **SKSac** **01 55 02.6 -1.1**
MNK *i* 01 55 15.6
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,34nm,0.9s
MNK MLR MLR
comp=Z,136nm,19.0s
MNK MLR MLR
comp=E,16nm,19.0s
MNK Minsk 89.20 342 *i* P **P** **01 44 33.2 -1.1**
comp=E,1.0nm,0.9s
MNK *i* P **P** **01 44 33.2 -1.1**
MNK *i* P **P** **01 44 33.2 -1.1**
comp=Z,34nm,0.9s,baz=154
MNK *i* PPP PPP 01 50 17.7
MNK *i* SKS 01 54 20.5
MNK *i* S **SKSac** **01 55 02.6 -1.1**
MNK *i* SKKS **SKKSac** **01 55 15.6 0.0**
MNK *i* PS **PnS** **01 56 15.5 -13**
MNK *i* SS **SS** **02 01 11.8 -6.2**
MNK *i* SSS SSS 02 04 14.6
MNK *i* LQ LQ 02 18 52.4
MNK *i* LR LR 02 21 08.8
MNK *i* LRM MLR 02 25 15.5
comp=Z,136nm,18.5s
MNK *i* LRM MLR 02 25 16.8
MNK *i* LRM MLR 02 26 02.5
comp=E,16nm,18.9s
RETA Reutte 89.28 330 *i* P **P** **01 44 35.3 +0.4**
comp=E,14nm,0.7s,SNR=13
DPC Dobruska-Polom 89.30 334 *e*P **P** **01 44 35.0 +0.1**
DPC *e* 01 44 42.0
DPC Dobruska-Polom 89.30 334 *e*P **P** **01 44 35.0 +0.1**
DPC *e*pP **pwP** **01 44 42.0 +0.7**
BNI Bardonecchia 89.32 326 P **P** **01 44 35.7 +0.4**
BNI IAmb IAmb 01 44 47.6
comp=Z,16nm,1.1s
BNI Bardonecchia 89.32 326 P **P** **01 44 35.7 +0.4**
BNI pmax pmax
comp=Z,16nm,1.1s
KHC Kasperske Hory 89.38 332 P **P** **01 44 34.5 -0.9**
KHC Kasperske Hory 89.38 332 *e*P **P** **01 44 34.4 -0.9**
KHC *e* 01 44 41.3
KHC Kasperske Hory 89.38 332 *e*P **P** **01 44 34.4 -0.9**
KHC *e*pP **pwP** **01 44 41.3 -0.4**
OSTC Ostas 89.50 334 *e*P **P** **01 44 36.0 +0.2**
OSTC *ex* x 01 44 43.4
ULN Ulaanbaatar 89.50 30 P **P** **01 44 35.1 -1.0**
ULN Ulaanbaatar 89.50 30*c*e P **P** **01 44 35.3 -0.8**
ULN pmax pmax
comp=Z,17nm,1.7s
DAVA Damuels 89.51 329 *i* P **P** **01 44 36.4 +0.2**
comp=Z,16nm,0.7s,SNR=11
KIRV Kirov 89.52 355 LR LR 02 26 38.0
comp=Z,81nm,18.3s,baz=175,slow=37
KIRV Kirov 89.52 355*c*e P **P** **01 44 36.3 +0.7**
UPC Upice 89.54 334 *e*P **P** **01 44 36.5 +0.5**
UPC Upice 89.54 334 *e*P **P** **01 44 36.5 +0.5**
CHVC Chvalec 89.59 334 *e*P **P** **01 44 36.0 -0.2**
CHVC *e*pP **pwP** **01 44 43.4 +0.7**
ORIF Oris-en-Rattie 89.61 325 *e*P **P** **01 44 40.4 +3.8**
ORIF pmax pmax
comp=Z,2.0nm,0.6s
LPG La Plagne 89.61 326 *e*P **P** **01 44 36.5 -0.3**
LPG pmax pmax
comp=Z,14nm,1.2s
LPL La Plagne 89.64 326 *e*P **P** **01 44 36.6 -0.2**
LPL pmax pmax
comp=Z,19nm,1.4s
PRU Pruhonice 89.68 333 P **P** **01 44 37.5 +0.9**
PRU Pruhonice 89.68 333 *e*P P 01 44 43.8 +7.2
KSP Ksiaz 89.71 335 *e*P **P** **01 44 37.3 +0.5**
KSP Ksiaz 89.71 335 P **P** **01 44 37.5 +0.8**
NACGM Naroch 89.85 342⇑ *e*P **P** **01 44 36.6 -0.6**
baz=152
ZAK Zakamensk 89.94 27 *e*P **P** **01 44 36.8 -1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
SENIN Lac Senin/Sane 89.99 327 P **P** **01 44 37.3 -1.1**
SENIN IAmb IAmb 01 44 48.1
comp=Z,12nm,0.9s
PVCC Panska Ves 90.10 333 *e*P **P** **01 44 39.3 +0.7**
PVCC *e* 01 44 46.0
PVCC Panska Ves 90.10 333 *e*P **P** **01 44 39.3 +0.7**
PVCC *e*pP **pwP** **01 44 46.0 +1.0**
MOY Mondy 90.14 25 *e*P **P** **01 44 38.5 -0.4**
VIVF Saint-Julien-l 90.16 325 *e*P **P** **01 44 40.3 +1.2**
VIVF pmax pmax
comp=Z,24nm,1.5s
SLE Schleitheim 90.49 329 P **P** **01 44 41.5 +1.0**
BRG Berggiesshubel 90.62 333 *i* P **P** **01 44 41.8 +0.8**
BRG Amp 01 44 44.2
comp=Z,14nm,1.1s
BRG *ex* x 01 44 49.1
BRG Amp 01 44 51.6
comp=Z,18nm,1.0s
BRG Berggiesshubel 90.62 333 *i* P **P** **01 44 41.8 +0.8**
BRG *e* 01 44 49.1
BRG pmax pmax
comp=Z,14nm,1.2s
NKC Novy Kostel 90.70 332 *e*P **P** **01 44 42.4 +1.0**
NKC Novy Kostel 90.70 332 *e*P **P** **01 44 42.4 +1.0**
GRFO Grafenberg 90.78 331 P **P** **01 44 41.5 -0.3**
GRFO Grafenberg 90.78 331 P **P** **01 44 41.5 -0.3**
GRFO pmax pmax
comp=Z,62nm,1.7s
XLT XiLinHaoTe 90.91 37⇑ *i* P **P** **01 44 42.4 -0.2**
XLT sP pwP 01 44 50.5 +1.6
XLT pmax pmax
comp=Z,19nm,1.0s
XLT pmax pmax
comp=Z,84nm,3.5s
VAO Valinhos 91.08 242 *e*P **P** **01 44 45.9 +1.8**
DIAM Diamantina, MG 91.11 248 *e*P **P** **01 44 46.1 +1.8**
EPF Esparros 91.13 321 P **P** **01 44 44.5 +0.9**
EPF pmax pmax
comp=Z,7.0nm,1.0s
RCBR Riachuelo 91.21 263 LR LR 02 18 02.5
comp=Z,122nm,21.0s,baz=288,slow=30
HINF Hinteralfeld 91.27 328 *e*P **P** **01 44 43.7 -0.5**
HINF pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 91.33 333 P **P** **01 44 44.3 +0.1**
CLL Collm 91.33 333 *e*P **P** **01 44 44.0 -0.3**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 91.33 333 *e*P **P** **01 44 44.0 -0.3**
comp=Z,9.0nm,1.2s
CLL *i* x x 01 44 53.0
comp=Z,26nm,1.7s
CLL *e*(SKSac) 01 55 07.0
CLL *ex* x 01 56 18.0
CLL *e*PS **PnS** **01 56 54.0 +0.3**
CLL *e*PPS PPS 01 57 18.0
CLL *e*SS SS 02 01 54.0 +5.1
CLL *e*SSS SSS 02 05 24.0
CLL Lm MLR 02 22 00.0
comp=Z,100nm,22.0s
ESDC Sonseca Array 91.34 317 P **P** **01 44 46.1 +1.3**
comp=Z,6.4nm,0.9s,baz=114,slow=3.2,SNR=40
ESDC LR LR 02 26 26.8
comp=Z,127nm,20.1s,baz=141,slow=36
comp=Z,6.4nm,0.9s
GKP Gorka Klasztor 91.36 336 *e*P **P** **01 44 44.4 +0.1**
GKP Gorka Klasztor 91.36 336 P **P** **01 44 44.5 +0.1**
PAB San Pablo 91.49 316 P **P** **01 44 45.8 +0.3**
PAB IAmb IAmb 01 44 57.3
comp=Z,16nm,1.1s
PAB San Pablo 91.49 316 P **P** **01 44 45.8 +0.3**
PAB pmax pmax
comp=Z,16nm,1.1s
CDF Champ du Feu 91.52 328 *e*P **P** **01 44 44.8 -0.5**
CDF pmax pmax
comp=Z,19nm,1.6s
CAF Calviac 91.52 323 *e*P **P** **01 44 46.2 +0.8**
CAF pmax pmax
comp=Z,13nm,1.0s
TRQA Tornquist 92.01 223 P **P** **01 44 46.6 -1.5**
TRQA IAmb IAmb 01 44 48.2
comp=Z,14nm,1.0s
TRQA Tornquist 92.01 223 P **P** **01 44 46.6 -1.5**
TRQA pmax pmax
comp=Z,14nm,1.0s
SJPF Ste Jean 92.03 321 *e*P **P** **01 44 49.1 +1.3**
SJPF pmax pmax
comp=Z,9.0nm,0.8s
RJF Les Rejaudoux 92.07 323 *e*P **P** **01 44 48.5 +0.6**
RJF pmax pmax
comp=Z,17nm,1.2s
MC01 Montes Claros 92.18 249 *e*P **P** **01 44 50.9 +1.6**
AVF Avril sur Loir 92.18 325 *e*P **P** **01 44 49.6 +1.3**
AVF pmax pmax
comp=Z,9.0nm,1.4s
BGF Bois d'Agland 92.27 325 *e*P **P** **01 44 49.3 +0.5**
BGF pmax pmax
comp=Z,7.0nm,0.9s
LOR Lormes 92.28 326 *e*P **P** **01 44 50.2 +1.4**
LOR pmax pmax
comp=Z,13nm,1.3s
TCF Toulx Ste Croi 92.40 325 *e*P **P** **01 44 50.0 +0.6**
TCF pmax pmax
comp=Z,11nm,1.2s
NOUC Port Laguerre 92.64 118 P **P** **01 44 51.8 +0.6**
comp=Z,18nm,1.4s
DZM Mont Dzumac 92.76 118 *e*SS SS 02 02 09.9 +0.2
comp=Z,222nm,24.9s
DZM Mont Dzumac 92.76 118 *e*LR LR 02 14 34.5
comp=Z,345nm,24.9s
DZM Mont Dzumac 92.76 118 LR LR 02 21 15.8
comp=Z,164nm,18.3s,baz=218,slow=32
KLMR Klimovskoe 92.82 351 *e*P **P** **01 44 49.0 -1.9**
KLMR *e* 01 48 32.7
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 92.82 351 *e*P **P** **01 44 49.0 -1.9**
KLMR AMP 01 45 00.2
comp=Z,29nm,1.4s
KLMR *e*PP **PP** **01 48 32.8 -0.9**
PRGR Permogore 92.86 354 *e*P **P** **01 44 49.0 -2.1**
PRGR pmax pmax
comp=Z,8.0nm,0.6s
JANB Januaria 93.38 250 *e*P **P** **01 44 56.0 +1.2**
KSRS Korea Array 93.66 48 P **P** **01 44 54.4 -1.0**
comp=Z,6.0nm,0.8s,baz=230,slow=4.8,SNR=9.4
KSRS LR LR 02 24 47.2
comp=Z,78nm,21.2s,baz=235,slow=34
comp=Z,6.0nm,0.8s
GIVF Givet 93.85 328 *e*P **P** **01 44 56.1 +0.1**
GIVF pmax pmax
comp=Z,9.0nm,0.9s
ITQB Itaqui 94.09 232 *e*P **P** **01 44 59.4 +1.6**
BAIF Baives 94.09 328 *e*P **P** **01 44 57.3 +0.2**
BAIF pmax pmax
comp=Z,17nm,1.4s
HNR Honiara 94.48 104 LR LR 02 23 23.0
comp=Z,1μm,19.7s,baz=112,slow=33
PLCA Paso Flores 94.78 216 P **P** **01 45 00.1 -0.7**
comp=Z,2.7nm,0.9s,baz=134,slow=5.4,SNR=4.6
PLCA LR LR 02 22 19.2
comp=Z,132nm,18.8s,baz=150,slow=32
comp=Z,2.7nm,0.9s
LDF La Druitiere 95.13 325 *e*P **P** **01 45 00.6 -1.3**
LDF pmax pmax
comp=Z,20nm,1.6s
SDBA SAO DESIDERIO 95.30 252 *e*P **P** **01 45 04.9 +1.3**
FLN La Foliniere 95.42 325 *e*P **P** **01 45 02.9 -0.3**
FLN pmax pmax
comp=Z,17nm,1.2s
CN2 Changchun 95.98 42 *e*P **P** **01 45 03.3 -2.6**
CN2 SKS **SKSac** **01 55 38.0 -4.1**
BDFB Brasilia 96.03 248 LR LR 02 21 01.8
comp=Z,111nm,19.5s,baz=96,slow=31
GO06 Curarrehue 96.11 216 P **P** **01 45 05.0 -2.0**
CPUP Villa Florida 96.68 234 LR LR 02 22 29.6
comp=Z,102nm,19.2s,baz=198,slow=32
HFS Hagfors 98.05 339 LR LR 02 28 30.1
comp=Z,77nm,20.7s,baz=140,slow=35
RAO Raoul Island 99.30 132 LR LR 02 22 13.9
comp=Z,106nm,20.0s,baz=164,slow=31
NOA NORSAR Array B 99.53 339 P **Pdif** **01 45 20.9 -0.6**
comp=Z,0.2nm,0.7s,baz=125,slow=4.7,SNR=1.8
NOA LR LR 02 28 56.2
comp=Z,47nm,21.9s,baz=150,slow=34
comp=Z,0.2nm,0.7s
MJAR Matsushiro Arr 100.01 53 P **Pdif** **01 45 23.1 -1.1**
comp=Z,3.6nm,0.9s,baz=207,slow=5.0,SNR=5.2
MJAR LR LR 02 28 24.1
comp=Z,83nm,20.9s,baz=228,slow=34
comp=Z,3.6nm,0.9s
SEY Seymchan 118.56 31*c* *i* PKIKP **PKiKP** **01 50 26.4 +0.3**
SEY pmax pmax
comp=Z,22nm,2.5s
PETK Petropavlovsk- 119.11 43 PKP **PKPdf** **01 50 25.2 -2.2**
comp=Z,3.0nm,0.7s,baz=172,slow=2.1,SNR=5.9
TBI Tubuai 119.54 150 *e*SS SS 02 08 15.0 +2.2
comp=Z,86nm,31.2s
TBI Tubuai 119.54 150 *e*LR LR 02 26 59.0
comp=Z,241nm,34.2s
CZSB Cruzeiro do Su 119.87 239 *e*P **PKiKP** **01 50 31.4 +1.2**
TBTG Tabatinga, AM 120.07 244 *e*P **PKiKP** **01 50 31.8 +1.2**
PPT2 Papeete2 124.50 146 *e*SS SS 02 09 17.9 +1.4
comp=Z,182nm,29.0s
PPT2 Papeete2 124.50 146 *e*LR LR 02 29 17.5
comp=Z,140nm,23.0s
BILL Bilibino 124.74 26 *e*PKIKP **PKPdf** **01 50 37.0 -0.8**
BILL *e* 01 52 25.9
BILL *e*PPP PPP 01 55 05.8
BILL pmax pmax
comp=Z,6.0nm,0.9s
OTAV Otavalo 129.42 241 PKPdf **PKPdf** **01 50 48.0 -1.0**
OTAV Otavalo 129.42 241 PKIKP **PKPdf** **01 50 48.0 -1.0**
OTAV Otavalo 129.42 241 *e*P **PKiKP** **01 50 49.5 -0.2**
TAOE Nuku Hiva Isla 136.40 152 *e*LR LR 02 34 49.3
comp=Z,227nm,24.8s
PKME Peaks-Kenny Pk 137.55 305 P **PKiKP** **01 51 04.6 0.0**
baz=89
C24K Franklin Bluff 138.12 14 P **PKiKP** **01 51 05.3 +0.3**
baz=323
D23K Nanushuk River 138.28 16 P **PKiKP** **01 51 05.6 +0.1**
baz=320
TOLK Toolik Lake Re 138.79 15 P **PKiKP** **01 51 06.6 +0.1**
baz=321
F21K Alatna River 138.88 19 P **PKiKP** **01 51 06.8 +0.1**
baz=316
F22K John River 139.02 18 P **PKiKP** **01 51 07.3 +0.3**
baz=317
HRV Adam Dziewonsk 139.22 301 P **PKiKP** **01 51 07.9 -0.3**
baz=90
E23K Chandalar 139.24 16 P **PKiKP** **01 51 08.0 +0.5**
baz=321
G21K Allakaket 139.37 19 P **PKiKP** **01 51 07.1 -0.6**
baz=315
G22K Bettles 139.63 18 P **PKiKP** **01 51 07.9 -0.3**
baz=318
COLD Coldfoot 139.74 17 P **PKiKP** **01 51 08.3 -0.1**
baz=320
L61B Northampton 140.05 301 P **PKiKP** **01 51 09.6 -0.3**
baz=90
F24K Squaw Lake 140.07 16 P **PKiKP** **01 51 09.4 +0.2**
baz=323
G23K Bananza Creek 140.18 18 P **PKiKP** **01 51 09.6 +0.2**
baz=319
H21K Melozitna Rive 140.19 20 P **PKiKP** **01 51 09.5 +0.1**
baz=315,SNR=5.6
H22K Ishtalitna Cre 140.42 19 P **PKiKP** **01 51 09.8 -0.1**
baz=317
F25K Christian Rive 140.51 15 P **PKiKP** **01 51 10.0 -0.1**
baz=326
I21K Tanana 140.77 20 P **PKiKP** **01 51 10.4 -0.2**
baz=316
J20K Nowinta River 140.79 22 PKPpre PKPpre 01 51 02.0
J20K sPKPdf 01 51 10.1 -1.7
J20K Nowinta River 140.79 22 P **PKiKP** **01 51 10.5 -0.2**
baz=312
G24K Hadweenzic Riv 140.82 16 P **PKiKP** **01 51 10.4 -0.3**
baz=323
H23K Yukon River 140.98 18 P **PKiKP** **01 51 10.8 -0.3**
baz=319
MLY Manley 141.24 20 PKPpre PKPpre 01 51 02.4
MLY pPKPdf 01 51 10.6 -1.1
MLY Manley 141.24 20 P **PKiKP** **01 51 11.5 -0.2**
baz=317
BMNY Brushton-Moira 141.27 304 P **PKiKP** **01 51 12.0 -0.3**
baz=85
LONY Lake Ozonia 141.34 304 P **PKiKP** **01 51 12.3 -0.2**
baz=86,SNR=5.8
K20K Telida 141.37 23 P **PKiKP** **01 51 12.1 +0.2**
baz=311
H25K Birch Creek 141.56 16 P **PKiKP** **01 51 12.4 +0.2**
baz=325
BPAW Bear Paw Mtn. 141.84 21 PKPpre PKPpre 01 51 04.8
M19K Big River Lodg 142.20 25 P **PKiKP** **01 51 13.9 +0.2**
baz=310
ILAR Eielson Array 142.50 18 PKhKP PKPpre 01 51 05.0
comp=Z,1.9nm,0.9s,baz=322,slow=3.3,SNR=9.2
ILAR PKP pPKPdf 01 51 12.8 -1.0
comp=Z,3.8nm,0.8s,baz=296,slow=2.9,SNR=14
M20K Styx River 142.67 25 P **PKiKP** **01 51 14.8 +0.1**
baz=311
MCK McKinley 142.73 20 P **PKiKP** **01 51 15.2 +0.5**
baz=318
SKT Skwentna 143.16 24 PKPab 01 51 07.9 0.0
SDMD Soldier's Deli 143.20 296 P PKPab 01 51 09.2 +0.4
baz=91
M57A Sunshine Farm, 143.40 299 P PKPbc 01 51 10.2 -0.4
baz=88
M57A P PKPbc 01 51 10.2 -0.4
baz=88
N20K Mount Spurr 143.45 25 P **PKiKP** **01 51 17.6 +1.3**
baz=312
SPCR Spurr Chakacha 143.45 25 P **PKiKP** **01 51 17.7 +1.4**
baz=312
K24K Donnelly Dome 143.57 18 P **PKiKP** **01 51 18.1 +1.7**
baz=323
CBN Corbin Frederi 143.59 294 P PKPab 01 51 10.8 +0.5
baz=92
T59A Double "B" Far 143.68 292 P PKPab 01 51 10.8 +0.1
baz=94
T59A P PKPab 01 51 10.8 +0.1
baz=94
L56A Greenwood 143.68 300 PKPdf PKPbc 01 51 11.2 -0.3
L56A Greenwood 143.68 300 P PKPab 01 51 11.0 +0.3
baz=86
L56A P PKPab 01 51 11.0 +0.3
baz=86
U59A Littleton 143.83 290 P PKPbc 01 51 11.9 -0.1
baz=94
U59A P PKPbc 01 51 11.9 -0.1
baz=94
R58B Mineral 143.99 293 P PKPbc 01 51 12.2 -0.2
baz=92
R58B P PKPbc 01 51 12.2 -0.2
baz=92
SSPA Standing Stone 144.00 298 PKPdf PKPab 01 51 12.0 +0.1
SSPA Standing Stone 144.00 298 P PKPab 01 51 11.6 -0.3
baz=88
P57A Homestead Farm 144.11 296 P **PKPab** **01 51 12.5 +0.2**
baz=90
P57A P **PKPab** **01 51 12.5 +0.2**
baz=90
060A Indiantown 144.36 274 P **PKPdf** **01 51 15.4 -0.1**
baz=106
J54A Appleton 144.38 302 P PKPbc 01 51 13.5 +0.1
baz=84
J54A P PKPbc 01 51 13.5 +0.1
baz=84
WVNY West Valley, N 144.44 301 P **PKPab** **01 51 13.3 -0.2**
baz=85
Y59A Loris 144.48 286 P PKPbc 01 51 14.4 +0.3
baz=97
Y59A P PKPbc 01 51 14.4 +0.3
baz=97
061Z Ochoppi 144.49 272 P PKPbc 01 51 14.5 +0.2
baz=108
SADO Sadowa 144.55 305 PKPdf PKPbc 01 51 14.2 +0.2
M23K Glacier View 144.56 22 P **PKPab** **01 51 12.8 -0.5**
baz=318,SNR=36
KNK Knik Glacier 144.60 22 P **PKPab** **01 51 13.4 0.0**
baz=317,SNR=13
M55A Ridgway 144.62 299 P **PKPab** **01 51 14.2 0.0**
baz=86
M55A P **PKPab** **01 51 14.2 0.0**
baz=86
SCM Sheep Creek Mo 144.65 21 P **PKPab** **01 51 13.2 -0.5**
baz=319,SNR=20
HOM Homer 144.68 27 P **PKPab** **01 51 13.5 -0.3**
baz=311
TGUH Tegucigalpa,Un 144.77 249 PKPdf **PKPab** **01 51 14.7 -0.9**
M24K Tolsona, Glenn 144.79 20 P PKPbc 01 51 14.5 +0.2
baz=321,SNR=9.8
S57A Dark Hollow, R 144.83 293 P **PKPab** **01 51 15.1 0.0**
baz=92
S57A P **PKPab** **01 51 15.1 0.0**
baz=92
O22K Cooper Landing 144.84 24 P **PKPab** **01 51 13.9 -0.4**
baz=314
L26K Log Cabin Wild 144.84 18 P PKPbc 01 51 14.8 +0.4
baz=326,SNR=21
V58A Windy Hill, Pi 144.86 289 P PKPbc 01 51 15.4 +0.1
baz=94
V58A P PKPbc 01 51 15.4 +0.1
baz=94
HARP HAARP 144.86 19 P PKPbc 01 51 14.6 +0.1
baz=322,SNR=14
DAWY Dawson 144.87 14 P **PKPab** **01 51 14.2 -0.2**
baz=332,SNR=35
CNPM China Poot 144.93 27 PKPdf **PKPab** **01 51 14.1 -0.6**
X58A Rowland 144.93 287 P **PKPab** **01 51 15.5 0.0**
baz=96
X58A P **PKPab** **01 51 15.5 0.0**
baz=96
BRSE Bradley Lake S 144.97 26 P **PKPab** **01 51 14.1 -0.7**
baz=312,SNR=7.7
Q56A Snyder Ridge, 145.03 295 **PKPbc** **01 51 15.6 -0.1**
Q56A Snyder Ridge, 145.03 295 P **PKPbc** **01 51 15.5 -0.3**
baz=90
Q56A P **PKPbc** **01 51 15.5 -0.3**
baz=90
T57A Hurt 145.04 291 P **PKPab** **01 51 16.0 +0.1**
baz=92
T57A P **PKPab** **01 51 16.0 +0.1**
baz=92
PWL Port Wells 145.05 23 P **PKPbc** **01 51 14.4 -0.7**
baz=316,SNR=25
Q20K Shuyak Island 145.06 28 P **PKPbc** **01 51 14.7 -0.4**
baz=309,SNR=8.8
L27K Beaver Creek, 145.19 16 P **PKPab** **01 51 15.7 0.0**
baz=328,SNR=58
SEW Seward 145.20 25 **PKPbc** **01 51 15.4 -0.1**
SEW Seward 145.20 25 P **PKPbc** **01 51 14.9 -0.7**

	baz=314,SNR=13							
KLU	Klutina	145.34	21	P		PKPbc	01 51 15.9	-0.3
	baz=320,SNR=44							
GLI	Glacier Island	145.44	22	P		PKPbc	01 51 15.8	-0.6
	baz=318,SNR=18							
K29M	Barlow Dome	145.44	13	P		PKPbc	01 51 16.4	-0.1
	baz=334,SNR=32							
M26K	Nabesna, AK	145.45	18	P		PKPbc	01 51 16.2	-0.2
	baz=325,SNR=23							
NHSC	New Hope	145.45	285	P		PKPdf	01 51 17.0	-0.2
	baz=98							
ERPA	Erie	145.48	300	P		PKPbc	01 51 17.2	+0.1
	baz=85							
ERPA	Erie	145.48	300	P		PKPdf	01 51 16.7	-0.3
	baz=85,SNR=8.4							
KDAK	Kodiak Island	145.49	30	PKPdf		PKPbc	01 51 16.6	+0.1
KDAK	Kodiak Island	145.49	30	PKIKP		PKPbc	01 51 16.6	+0.1
KDAK	Kodiak Island	145.49	30	P		PKPbc	01 51 16.6	+0.1
	baz=307							
SII	Sitkinak Islan	145.50	32	P		PKPab	01 51 16.9	0.0
	baz=304							
OHAK	Old Harbor	145.52	31	PKPdf		PKPbc	01 51 16.7	+0.1
OHAK	Old Harbor	145.52	31	P		PKPdf	01 51 16.4	-0.1
	baz=306,SNR=5.4							
W57A	Gilead	145.52	288	P		PKPdf	01 51 17.0	-0.3
	baz=95							
W57A				P		PKPdf	01 51 17.0	-0.3
	baz=95							
MCWV	Mont Chateau	145.53	296	P		PKPdf	01 51 17.1	-0.1
	baz=88							
MCWV	Mont Chateau	145.53	296	P		PKPdf	01 51 16.9	-0.3
	baz=88,SNR=8.2							
DWPF	Disney Wildern	145.56	276	P		PKPdf	01 51 17.2	-0.3
	baz=105							
ALLY	Alegheny Colle	145.64	300	P		PKPdf	01 51 17.0	-0.3
	baz=85							
N25K	Chitina, Valde	145.65	20			PKPab	01 51 17.9	+0.5
N25K	Chitina, Valde	145.65	20	P		PKPab	01 51 17.6	+0.2
	baz=322,SNR=85							
Y57A	Sumter	145.74	286	P		PKPdf	01 51 17.4	-0.3
	baz=96							
Y57A				P		PKPdf	01 51 17.4	-0.3
	baz=96							
M27K	Edge Creek, AK	145.78	17	P		PKPbc	01 51 17.7	+0.2
	baz=327,SNR=29							
BIRD	Birdtown, Kers	145.86	287	P		PKPdf	01 51 17.9	+0.1
	baz=95							
O54A	Avella	145.91	297	P		PKPab	01 51 18.9	-0.1
	baz=87							
O54A				P		PKPab	01 51 18.9	-0.1
	baz=87							
BLA	Blacksburg	145.98	292	P		PKPbc	01 51 18.6	-0.2
	baz=92							
BLA	Blacksburg	145.98	292	P		PKPbc	01 51 18.8	-0.1
	baz=92,SNR=12							
BVCY	Beaver Creek	145.98	16	P		PKPbc	01 51 18.3	+0.2
	baz=329							
L29M	L29M	145.98	14	P		PKPbc	01 51 18.0	-0.1
	baz=333,SNR=15							
P23K	Montague Islan	145.99	24	P		PKPdf	01 51 17.6	+0.3
	baz=317							
M53A	WI Miller and	146.06	299	P		PKPbc	01 51 18.6	-0.3
	baz=85,SNR=8.0							
EYAK	Cordova Ski Ar	146.13	22	P		PKPbc	01 51 18.4	0.0
	baz=320,SNR=8.9							
BMRM	Bremner River	146.15	21	P		PKPbc	01 51 18.7	+0.1
	baz=322,SNR=28							
N53A	Lisbon	146.23	298	P		PKPbc	01 51 19.1	-0.3
	baz=86							
N53A				P		PKPbc	01 51 19.1	-0.3
	baz=86							
MCARA	McCarthy VSAT	146.28	19	P		PKPab	01 51 19.4	-0.3
	baz=325,SNR=41							
Q54A	Coxs Mills	146.31	295	P		PKPdf	01 51 18.9	+0.4
	baz=89							
Q54A				P		PKPdf	01 51 18.9	+0.4
	baz=89							
JSC	Jenkinsville	146.48	286	P		PKPdf	01 51 18.6	-0.4
	baz=96							
M29M	Somme Creek	146.51	15	P		PKPbc	01 51 20.1	+0.4
	baz=332,SNR=47							
O53A	New Philadelph	146.55	297	P		PKPbc	01 51 20.9	+0.5
	baz=86,SNR=29							
M52A	Chesterland	146.56	300	PKPdf		PKPdf	01 51 18.3	-0.6
M52A	Chesterland	146.56	300	P		PKPdf	01 51 19.3	+0.4
	baz=84							
M52A				P		PKPdf	01 51 19.3	+0.4
	baz=84							
V55A	Taylorsville	146.56	289	P		PKPdf	01 51 19.1	0.0
	baz=93							
V55A				P		PKPdf	01 51 19.1	0.0
	baz=93							
KMSC	Kings Mountain	146.61	288	P		PKPdf	01 51 19.0	-0.2
	baz=94							
KMSC	Kings Mountain	146.61	288	P		PKPbc	01 51 20.3	-0.5
	baz=94,SNR=12							
YUK3	Moose Creek	146.63	17	P		PKPab	01 51 21.2	-0.1
	baz=329,SNR=16							
HAW	Hawthorne Fire	146.67	285	P		PKPdf	01 51 19.2	-0.1
	baz=97							
P53A	Whipple	146.72	296	P		PKPdf	01 51 19.3	+0.1
	baz=88							
P53A				P		PKPdf	01 51 19.3	+0.1
	baz=88							
M30M	Minto, Yukon	146.73	13	PKPdf		PKPbc	01 51 19.6	-0.7
M30M	Minto, Yukon	146.73	13	P		PKPbc	01 51 19.9	-0.4
	baz=335,SNR=8.6							
PAULI	Pauline	146.98	287	PKPdf		PKPdf	01 51 19.9	+0.1
PAULI	Pauline	146.98	287	P		PKPdf	01 51 19.6	-0.1
	baz=94							
KAIM	Kayak Island	147.03	22	P		PKPbc	01 51 20.9	-0.2
	baz=321,SNR=5.7							
O52A	Adamsville	147.03	297	P		PKPdf	01 51 19.4	-0.3
	baz=86							
O52A				P		PKPdf	01 51 19.4	-0.3
	baz=86							
U54A	Nelsons Funny	147.08	290	P		PKPdf	01 51 19.8	-0.2
	baz=92							
U54A				P		PKPdf	01 51 19.8	-0.2
	baz=92							
CTG	Chitna Glacier	147.09	18	P		PKPbc	01 51 21.6	+0.1
	baz=327,SNR=38							
R53A	Hurricane	147.20	294	P		PKPdf	01 51 19.9	-0.2
	baz=89							
R53A				P		PKPdf	01 51 19.9	-0.2
	baz=89							
P52A	Corning	147.29	296	P		PKPbc	01 51 22.4	-0.2
	baz=87,SNR=30							
HODGE	Hodges	147.30	286	P		PKPdf	01 51 20.2	-0.1
	baz=95							
K50A	Casco	147.34	302	P		PKPdf	01 51 20.1	0.0
	baz=82							
K50A				P		PKPdf	01 51 20.1	0.0
	baz=82							
N51A	Ashland	147.38	299	P		PKPdf	01 51 19.9	-0.3
	baz=85							
N51A				P		PKPdf	01 51 19.9	-0.3
	baz=85							
Q52A	Bidwell	147.43	295	PKPdf		PKPdf	01 51 20.3	-0.1
Q52A	Bidwell	147.43	295	P		PKPdf	01 51 20.1	-0.3
	baz=88							
Q52A				P		PKPdf	01 51 20.1	-0.3
	baz=88							
YUK4	Talbot Arm	147.44	16	P		PKPbc	01 51 22.2	-0.3
	baz=331,SNR=27							
M31M	Drury Creek, Y	147.52	12	P		PKPbc	01 51 21.6	-0.9
	baz=338,SNR=17							
O28M	Mount Upton	147.55	17	P		PKPbc	01 51 22.9	0.0
	baz=328,SNR=22							
MESA	MESA	147.57	19	P		PKPbc	01 51 23.1	+0.2
	baz=325,SNR=9.8							
MMPY	Sheldon Lake,	147.61	9	P		PKPbc	01 51 22.6	-0.1
	baz=343,SNR=44							
WRGLY	Wrigley	147.64	2	P		PKPbc	01 51 21.9	-0.8
	baz=356,SNR=9.0							
FARO	Faro, Yukon	147.67	11	P		PKPbc	01 51 22.2	-0.7
	baz=340,SNR=8.5							
N30M	Aishikik Lake	147.68	14	P		PKPbc	01 51 22.8	-0.2
	baz=334,SNR=18							
E46A	Sault Ste Mari	147.77	309	PKPdf		PKPdf	01 51 20.8	+0.1
E46A	Sault Ste Mari	147.77	309	P		PKPdf	01 51 20.3	-0.4
	baz=74							
154A	Montrose	147.83	283	P		PKPdf	01 51 21.8	+0.6
	baz=97							
M50A	Fremont	147.83	300	P		PKPdf	01 51 20.6	-0.4
	baz=83							
M50A				P		PKPdf	01 51 20.6	-0.4
	baz=83							
V53A	Saluda	147.85	289	P		PKPdf	01 51 20.7	-0.6
	baz=93							
V53A				P		PKPdf	01 51 20.7	-0.6
	baz=93							
YUK6	Outpost Mounta	147.85	16	P		PKPbc	01 51 22.9	-0.8
	baz=331,SNR=12							
ACSO	Alum Creek Sta	147.90	297	P		PKPdf	01 51 20.5	-0.6
	baz=85,SNR=15							
ACSO	Alum Creek Sta	147.90	297	P		PKPbc	01 51 24.2	0.0
	baz=85,SNR=15							
CASEE	Lake Jocassee	147.91	288	P		PKPdf	01 51 21.3	-0.1
	baz=94							
N31M	Braeburn, Yuko	147.93	13	P		PKPbc	01 51 22.5	-1.1
	baz=336,SNR=30							
P51A	Williamsport	148.02	296	P		PKPdf	01 51 21.0	-0.4
	baz=86							
P51A				P		PKPdf	01 51 21.0	-0.4
	baz=86							
TIGA	Tifton	148.07	281	P		PKPdf	01 51 21.7	0.0
	baz=99,SNR=20							
TIGA	Tifton	148.07	281	P		PKPbc	01 51 24.0	-0.8
	baz=99,SNR=20							
PINM	Pinnacle	148.11	18	P		PKPbc	01 51 23.8	-0.4
	baz=328,SNR=9.8							
YKA	Yellowknife Ar	148.14	354	PKPbc		PKPbc	01 51 23.7	-0.4
	comp=Z,21nm,0.7s,baz=1.8,slow=2.6,SNR=46							
YKA	Yellowknife Ar	148.14	354	PKPdf		PKPdf	01 51 20.8	0.0
YKA	Yellowknife Ar	148.14	354	PKIKP		PKPdf	01 51 20.8	0.0
HYT	Haines Junctio	148.16	15	PKPbc		PKPbc	01 51 24.6	+0.2
HYT	Haines Junctio	148.16	15	P		PKPbc	01 51 24.2	-0.1
	baz=332,SNR=40							
AAM	Ann Arbor	148.17	301	P		PKPbc	01 51 23.9	-0.8
	baz=81							
GOGA	Godfrey	148.22	285	P		PKPdf	01 51 21.8	-0.1
	baz=96							
GOGA	Godfrey	148.22	285	P		PKPbc	01 51 24.4	-0.8
	baz=96,SNR=14							
Q51A	Peebles	148.26	295	P		PKPdf	01 51 21.5	-0.3
	baz=87							
Q51A				P		PKPdf	01 51 21.5	-0.3
	baz=87							
O29M	Mount Kennedy	148.37	17	P		PKPbc	01 51 24.3	-0.6
	baz=330,SNR=9.8							
GLMI	Grayling	148.37	306	P		PKPbc	01 51 25.5	+0.2
	baz=76							
TZTN	Tazewell	148.47	290	PKPdf		PKPdf	01 51 22.5	+0.2
TZTN	Tazewell	148.47	290	P		PKPbc	01 51 25.0	-0.8
	baz=91							
V52A	Sevierville	148.50	289	P		PKPdf	01 51 22.2	-0.1
	baz=92							
S51A	Beattyville	148.51	293	P		PKPdf	01 51 22.2	0.0
	baz=89							
S51A				P		PKPdf	01 51 22.2	0.0
	baz=89							
O30N	Mendenhall	148.51	14	P		PKPbc	01 51 24.7	-0.5
	baz=335,SNR=23							
PNL	Peninsula	148.70	18	P		PKPbc	01 51 26.1	+0.4
	baz=329,SNR=12							
N32M	Quiet Lake	148.73	11	P		PKPbc	01 51 25.0	-0.7
	baz=340,SNR=5.5							
N49A	Columbus Grove	148.74	299	PKPdf		PKPdf	01 51 22.3	-0.2
N49A	Columbus Grove	148.74	299	P		PKPdf	01 51 22.1	-0.4
	baz=83							
N49A				P		PKPdf	01 51 22.1	-0.4
	baz=83							
Y52A	Lilburn	148.76	285	P		PKPdf	01 51 23.0	+0.3
	baz=95,SNR=12							
Y52A				P		PKPdf	01 51 23.0	+0.3
	baz=95,SNR=12							
L48A	N Adams	148.79	301	P		PKPdf	01 51 22.0	-0.5
	baz=81							
L48A				P		PKPdf	01 51 22.0	-0.5
	baz=81							
J47A	Sunmer	148.85	303	P		PKPdf	01 51 22.4	-0.2
	baz=79							
J47A				P		PKPdf	01 51 22.4	-0.2
	baz=79							
WHY	Whitehorse	148.86	13	P		PKPbc	01 51 25.2	-0.9
	baz=336							
P30M	Million Dollar	148.91	15	P		PKPbc	01 51 26.5	+0.3
	baz=333							
O49A	Covington	148.94	298	P		PKPdf	01 51 22.4	-0.4
	baz=84							
O49A				P		PKPdf	01 51 22.4	-0.4
	baz=84							
TGTN	Hyland Airport	149.02	7	P		PKPbc	01 51 26.2	-0.3
	baz=348,SNR=6.2							
R50A	Paris	149.07	294	P		PKPdf	01 51 22.6	-0.6
	baz=88							
R50A				P		PKPdf	01 51 22.6	-0.6
	baz=88							
V51A	Loudon	149.11	289	PKPdf		PKPdf	01 51 23.9	+0.7
V51A	Loudon	149.11	289	P		PKPdf	01 51 24.1	+0.9
	baz=92							
P29M	Windy Craggy	149.16	17	P		PKPbc	01 51 26.2	-0.6
	baz=331,SNR=8.9							
152A	Waverly Hall	149.19	283	P		PKPdf	01 51 24.5	+1.0
	baz=97							
352A	Blakely	149.21	281	P		PKPdf	01 51 24.0	+0.4
	baz=99,SNR=15							
P49A	Miami Univ. Ec	149.29	296	PKPdf		PKPdf	01 51 22.8	-0.7
P49A	Miami Univ. Ec	149.29	296	P		PKPbc	01 51 26.6	-1.2
	baz=85,SNR=16							
X51A	Calhoun	149.47	287	P		PKPdf	01 51 24.1	+0.3
	baz=93,SNR=11							
X51A				P		PKPdf	01 51 24.1	+0.3
	baz=93,SNR=11							
E43A	Lone Tree Farm	149.55	310	PKPdf		PKPdf	01 51 24.3	+0.7
O48B	Farmland	149.55	298	P		PKPbc	01 51 27.5	-0.9
	baz=84,SNR=5.9							
Z51A	Franklin	149.64	284	P		PKPdf	01 51 24.8	+0.6
	baz=95,SNR=11							
PLBC	Pleasant Camp	149.64	16	P		PKPbc	01 51 27.9	-0.1
	baz=333,SNR=13							
P33M	Teslin, Yukon	149.66	12	P		PKPbc	01 51 27.3	-0.8
	baz=340							
P48A	Milroy	149.84	296	P		PKPdf	01 51 23.1	-1.2
	baz=85							
P48A				P		PKPdf	01 51 23.1	-1.2
	baz=85							
SKAG	Skagway	149.87	15	P		PKPbc	01 51 28.2	-0.3
	baz=338,SNR=16							
W50A	Signal Mountai	149.87	288	P		PKPdf	01 51 24.7	+0.2
	baz=92,SNR=21							
N47A	Urbana	149.88	299	P		PKPdf	01 51 23.5	-0.8
	baz=82							
N47A				P		PKPdf	01 51 23.5	-0.8
	baz=82							
P32M	Atlin	150.08	13	P		PKPbc	01 51 28.8	-0.3
	baz=338,SNR=23							
U49A	Red Beiling Sp	150.27	290	P		PKPdf	01 51 24.9	-0.2
	baz=90,SNR=41							
WTLY	Watson Lake, Y	150.34	8	P		PKPbc	01 51 29.2	-0.5
	baz=346							
F42A	Maple Grove Fa	150.50	309	P		PKPdf	01 51 25.6	+0.5
	baz=71,SNR=14							
WCI	Wyandotte Cave	150.62	294	PKPdf		PKPdf	01 51 25.1	-0.4
WCI	Wyandotte Cave	150.62	294	PKIKP		PKPdf	01 51 25.1	-0.4
WCI	Wyandotte Cave	150.62	294	P		PKPdf	01 51 25.2	-0.4
	baz=86,SNR=7.2							
WCI	Wyandotte Cave	150.62	294	P		PKPbc	01 51 30.0	-1.0
	baz=86							
FLDN	Fort Liard	150.63	2	P		PKPbc	01 51 30.2	-0.1
	baz=356							
H43A	Windswept, Lux	150.64	307	PKPbc		PKPbc	01 51 31.0	+0.2
H43A	Windswept, Lux	150.64	307	P		PKPbc	01 51 30.5	-0.3
	baz=74,SNR=5.2							
Y49A	Blount Mountai	150.71	285	PKPdf		PKPdf	01 51 25.9	0.0
Y49A	Blount Mountai	150.71	285	P		PKPdf	01 51 24.8	-1.0
	baz=94,SNR=11							
R33M	Jennings River	150.74	10	P		PKPbc	01 51 31.0	+0.2
	baz=342,SNR=20							
Q32M	Nakina River	150.94	12	P		PKPbc	01 51 31.3	0.0
	baz=340,SNR=18							
BRAL	Brewton	150.96	279	P		PKPbc	01 51 31.6	-0.4
	baz=98							
SFIN	Lafayette	151.01	298	P		PKPbc	01 51 30.9	-1.0
	baz=82,SNR=5.6							
COWI	Conover	151.04	311	P		PKPdf	01 51 25.3	-0.7
	baz=70							
V48A	Smith Brothers	151.12	289	P		PKPbc	01 51 31.4	-0.9
	baz=90,SNR=7.2							
R32K	Eaglecrest	151.12	15	P		PKPbc	01 51 31.6	0.0
	baz=335,SNR=11							
LRAL	Lakeview Retre	151.13	283	PKPbc		PKPbc	01 51 32.1	-0.3
LRAL	Lakeview Retre	151.13	283	P		PKPbc	01 51 31.9	-0.5
	baz=95,SNR=17							
LRAL	Lakeview Retre	151.13	283	P		PKPbc	01 51 31.9	-0.5
	baz=95							
X48A	Hartselle	151.27	286	PKPdf		PKPdf	01 51 26.8	+0.1
X48A	Hartselle	151.27	286	P		PKPbc	01 51 32.4	-0.3
	baz=93,SNR=20							
L44A	Lake County Fo	151.30	302	P		PKPbc	01 51 32.5	0.0
	baz=78							
T47A	Sharon Grove	151.32	291	P		PKPbc	01 51 31.7	-1.0
	baz=88,SNR=14							
M44A	Midewin, Midew	151.55	301	PKPdf		PKPdf	01 51 27.6	+0.7
M44A	Midewin, Midew	151.55	301	P		PKPbc	01 51 33.1	0.0
	baz=79,SNR=10							
I42A	Draeger Farm,	151.59	306	P		PKPbc	01 51 32.9	-0.2
	baz=74,SNR=8.1							
EYMN	Ely	151.79	315	P		PKPbc	01 51 33.6	+0.1
	baz=64							
EYMN	Ely	151.79	315	P		PKPbc	01 51 33.2	-0.2
	baz=64							
S32K	Killisnoo	151.84	16	P		PKPbc	01 51 33.1	-0.1
	baz=335							
WVT	Waverly	151.93	290			PKPbc	01 51 33.2	-0.9
WVT	Waverly	151.93	290	PKIKP		PKPbc	01 51 33.3	-0.9
WVT	Waverly	151.93	290	P		PKPdf	01 51 28.5	+0.9
	baz=89,SNR=24							
WVT	Waverly	151.93	290	P		PKPbc	01 51 32.9	-1.2
	baz=89							
OLIL	Olney	151.99	295	P		PKPdf	01 51 28.4	+0.8
	baz=84,SNR=12							
G40A	Rib Lake	152.03	310	P		PKPdf	01 51 28.6	+1.1
	baz=70,SNR=12							
Z47A	Carrollton	152.04	283	P		PKPdf	01 51 28.7	+0.8
	baz=94							
O44A	Mansfield	152.08	298	P		PKPdf	01 51 28.8	+1.0
	baz=81,SNR=15							
S34M	Telegraph Cree	152.12	12	P		PKPbc	01 51 33.5	-0.3
	baz=341,SNR=12							
PLAL	Pickwick Lake	152.13	287	PKPbc		PKPbc	01 51 33.4	-1.2
FFC	Flin Flon	152.59	336	PKPdf		PKPdf	01 51 29.2	+1.2
FFC				PKPbc		PKPbc	01 51 34.4	-0.6
FFC	Flin Flon	152.59	336	PKIKP		PKPdf	01 51 29.2	+1.2
FFC							01 51 34.4	
L42A	Oliver, Polo	152.61	303			PKPbc	01 51 35.6	+0.1
L42A	Oliver, Polo	152.61	303	P		PKPdf	01 51 29.2	+0.8
	baz=76,SNR=6.9							
HDIL	Hopedale	152.64	299			PKiKP	01 51 35.8	0.0
HDIL	Hopedale	152.64	299	P		PKPdf	01 51 30.6	+2.1
	baz=80,SNR=5.9							
HDIL	Hopedale	152.64	299	P		PKPbc	01 51 34.9	-0.7
	baz=80,SNR=5.9							
I40A	Norwalk	152.76	307	P		PKPbc	01 51 35.6	-0.2
	baz=72,SNR=6.0							
JFWS	Jewell Farm	152.79	305	P		PKPbc	01 51 35.3	-0.6
	baz=74,SNR=6.6							
JFWS	Jewell Farm	152.79	305	P		PKPbc	01 51 35.3	-0.6
	baz=74							
146A	Union	152.82	282	P		PKPbc	01 51 36.0	-0.2
	baz=95							
B35A	Bob, Littlefor	152.91	318	P		PKPbc	01 51 34.4	-1.6
	baz=60							
P43A	Skaggs, Pawnee	152.96	297	P		PKiKP	01 51 36.8	+0.3
	baz=81,SNR=6.1							
346A	Big Creek Wild	153.04	279	P		PKiKP	01 51 36.9	0.0
	baz=97							
ULM	Lac du Bonnet	153.06	323	PKPbc		PKPbc	01 51 35.7	-0.5
	comp=Z,27nm,0.8s,baz=48,slow=3.3,SNR=14							
ULM	Lac du Bonnet	153.06	323			PKPbc	01 51 35.5	-0.7
ULM	Lac du Bonnet	153.06	323	PKIKP		PKPbc	01 51 35.5	-0.7
T35M	Bob Quinn	153.16	11	P		PKPbc	01 51 35.9	-0.4
	baz=342							
OXF	Oxford	153.22	286	P		PKPbc	01 51 36.4	-0.6
	baz=91							
OXF	Oxford	153.22	286	P		PKPbc	01 51 36.0	-1.0
	baz=91							
WRAK	Wrangell Islan	153.30	14	P		PKPbc	01 51 36.2	-0.3
	baz=338							
Y45A	Yeager Farm, C	153.31	285	P		PKPbc	01 51 37.2	-0.1
	baz=92							
SPMN	Marine on St.	153.76	311	P		PKPbc	01 51 37.8	-0.1
	baz=67							
SPMN	Marine on St.	153.76	311	P		PKPbc	01 51 36.8	-1.1
	baz=67,SNR=7.2							
N41A	Harden Midland	153.77	300	P		PKPbc	01 51 37.7	-0.3
	baz=78							
FVM	French Village	153.88	294	P		PKPbc	01 51 38.2	-0.2
	baz=84							
F36A	Milaca	153.96	313			PKPbc	01 51 38.0	-0.3
F36A	Milaca	153.96	313	P		PKPbc	01 51 37.6	-0.7
	baz=65							
VBMS	Vicksburg	154.02	281	P		PKiKP	01 51 39.2	+0.3
	baz=95							
344A	Westbrook Farm	154.12	279	P		PKiKP	01 51 39.7	+0.6
	baz=97							
AGMN	Agassiz Nation	154.16	319	P		PKPbc	01 51 38.2	-0.5
	baz=57							
AGMN	Agassiz Nation	154.16	319	P		PKPbc	01 51 37.7	-0.9
	baz=57							
V35K	Ketchikan	154.47	14	P		PKPbc	01 51 38.5	-0.5
	baz=338							
CCM	Cathedral Cave	154.52	294			PKPbc	01 51 39.5	-0.2
CCM	Cathedral Cave	154.52	294	PKIKP		PKPbc	01 51 39.5	-0.2
CCM	Cathedral Cave	154.52	294	P		PKPbc	01 51 39.4	-0.4
	baz=83							
CCM	Cathedral Cave	154.52	294	P		PKPbc	01 51 39.2	-0.5
	baz=83							
I37B	Waseca	154.61	309	P		PKPdf	01 51 31.1	-0.2
	baz=68							
P40A	Paris	154.91	298	P		PKiKP	01 51 40.6	+0.1
	baz=79							
WLAR	White Oak Lake	156.28	284	PKPdf		PKPdf	01 51 33.9	+0.1
MDND	Maddock	156.46	322	P		PKPdf	01 51 33.3	-0.4
	baz=52							
MIAR	Mount Ida	156.66	286	P		PKPdf	01 51 33.8	-0.5
	baz=89							
ECSD	EROS Data Cent	156.85	310	PKPdf		PKPdf	01 51 34.5	+0.2
ECSD	EROS Data Cent	156.85	310	P		PKPdf	01 51 34.9	+0.6
	baz=64							
EDM	Edmonton	157.03	348	PKPdf		PKPdf	01 51 34.6	+0.4
EDM	Edmonton	157.03	348	PKIKP		PKPdf	01 51 34.6	+0.4
NATX	Nacogdoches	157.49	279	P		PKPdf	01 51 35.0	-0.4
	baz=95							
T35B	Sooner Cattle	158.83	293	P		PKPdf	01 51 36.5	-0.5
	baz=81							
WHTX	Lake Whitney,	159.87	279	P		PKPdf	01 51 38.9	+0.7
	baz=93							
WHTX	Lake Whitney,	159.87	279	P		PKPdf	01 51 38.0	-0.3
	baz=93							
LAO	LASA Array	160.54	328	P		PKPdf

E09A	**Wood Farm, Sta**	**164.27**	**353**	PKPdf	**PKPdf**	**01 51 41.2**	**-1.0**
E09A				PKPab	**PKPab**	**01 52 36.6**	**+0.5**
MSTX	**Muleshoe**	**164.30**	**286**	P	**PKPdf**	**01 51 42.4**	**-0.5**
	baz=84						
ISCO	**Idaho Springs**	**164.64**	**309**	PKPdf	**PKPdf**	**01 51 39.8**	**-3.5**
ISCO					**PKPab**	**01 52 38.3**	**-0.2**
ISCO	**Idaho Springs**	**164.64**	**309**	PKIKP	**PKPdf**	**01 51 39.8**	**-3.5**
ISCO						01 52 38.3	
ISCO	**Idaho Springs**	**164.64**	**309**	P	**PKPdf**	**01 51 43.3**	**0.0**
	baz=59						
ISCO	**Idaho Springs**	**164.64**	**309**	P	**PKPdf**	**01 51 43.0**	**-0.3**
	baz=59,SNR=13						
Q24A	**Divide**	**164.72**	**306**	P	**PKPdf**	**01 51 43.2**	**-0.2**
	baz=63,SNR=7.6						
MOOW	**Moose Ponds**	**164.83**	**330**	PKPdf	**PKPdf**	**01 51 40.9**	**-2.3**
MOOW					**PKPab**	**01 52 38.1**	**-1.0**
TXAR	**Lajitas Array**	**164.90**	**268**	PKP	**PKPdf**	**01 51 43.9**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=101,slow=0.9,SNR=15						
TXAR				PKPab	**PKPab**	**01 52 40.2**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=121,slow=6.5,SNR=11						
TX31	**Lajitas Ar. Si**	**164.90**	**268**	PKPdf	**PKPdf**	**01 51 40.5**	**-3.1**
TX31				PKPab	**PKPab**	**01 52 39.0**	**-0.9**
TX31	**Lajitas Ar. Si**	**164.90**	**268**	P	**PKPdf**	**01 51 42.4**	**-1.1**
	baz=100						
T25A	**Trinidad**	**164.90**	**299**	P	**PKPdf**	**01 51 43.2**	**-0.2**
	baz=70						
BW06	**Boulder Array**	**165.05**	**325**	P	**PKPdf**	**01 51 42.6**	**-0.8**
	baz=41						
PDAR	**Pinedale Array**	**165.05**	**325**	PKP	**PKPdf**	**01 51 42.4**	**-1.0**
	comp=Z,6.1nm,0.9s,baz=127,slow=2.2,SNR=37						
PDAR				PKPab	**PKPab**	**01 52 38.8**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=45,slow=2.7,SNR=5.3						
PDAR	**Pinedale Array**	**165.05**	**325**	PKPdf	**PKPdf**	**01 51 41.8**	**-1.6**
PDAR				PKPab	**PKPab**	**01 52 38.8**	**-1.3**
SDCO	**Great Sand Dun**	**165.49**	**302**	P	**PKPdf**	**01 51 44.1**	**0.0**
	baz=66						
SDCO	**Great Sand Dun**	**165.49**	**302**	P	**PKPdf**	**01 51 44.0**	**0.0**
	baz=66,SNR=7.7						
HPIG		**165.98**	**257**	PKPdf	**PKPdf**	**01 51 43.4**	**-1.3**
HPIG				PKPab	**PKPab**	**01 52 44.0**	**-0.7**
O20A	**White River Ci**	**166.13**	**315**	P	**PKPdf**	**01 51 44.2**	**-0.1**
	baz=52						
HLID	**Hailey**	**166.34**	**339**	P	**PKPdf**	**01 51 44.5**	**+0.1**
	baz=25						
H04D	**Lebanon**	**166.35**	**5**	P	**PKPdf**	**01 51 45.4**	**+1.3**
	baz=354						
S22A	**4UR Ranch, Cre**	**166.45**	**304**	PKPdf	**PKPdf**	**01 51 44.1**	**-0.7**
S22A					**PKPab**	**01 52 44.8**	**-1.8**
S22A	**4UR Ranch, Cre**	**166.45**	**304**	P	**PKPdf**	**01 51 45.7**	**+0.9**
	baz=64						
MFID	**Camas Ranch**	**166.86**	**343**	PKPdf	**PKPdf**	**01 51 44.2**	**-0.5**
HWUT	**Hardware Ranch**	**166.90**	**327**	PKPdf	**PKPdf**	**01 51 44.5**	**-0.4**
I04A	**Tendick Farm,**	**167.10**	**5**	P	**PKPdf**	**01 51 45.5**	**+0.7**
	baz=355						
I03D	**Drain, OR**	**167.11**	**8**	P	**PKPdf**	**01 51 45.2**	**+0.6**
	baz=351						
ANMO	**Albuquerque**	**167.13**	**292**	P	**PKPdf**	**01 51 44.9**	**-0.4**
	baz=76						
ANMO	**Albuquerque**	**167.13**	**292**	P	**PKPdf**	**01 51 45.7**	**+0.4**
	baz=76						
J05D	**Fort Rock, OR**	**167.66**	**1**	P	**PKPdf**	**01 51 45.9**	**+0.5**
	baz=359						
J04D	**Umpqua Nationa**	**167.67**	**4**	P	**PKPdf**	**01 51 46.2**	**+0.7**
	baz=356						
Y22A	**Socorro**	**167.75**	**288**	P	**PKPdf**	**01 51 46.5**	**+0.8**
	baz=80						
MVCO	**Mesa Verde**	**167.87**	**305**	PKPdf	**PKPdf**	**01 51 43.6**	**-2.2**
MVCO	**Mesa Verde**	**167.87**	**305**	P	**PKPdf**	**01 51 46.2**	**+0.4**
	baz=62						
K02D	**Willamette Mer**	**168.06**	**9**	P	**PKPdf**	**01 51 48.0**	**+2.4**
	baz=349						
BGU	**Big Grassy Mou**	**168.11**	**329**	PKPdf	**PKPdf**	**01 51 44.8**	**-0.9**
DUG	**Dugway, Tooele**	**168.59**	**326**	P	**PKPdf**	**01 51 46.7**	**+0.6**
	baz=38						
121A	**Cookes Peak, D**	**168.62**	**282**	P	**PKPdf**	**01 51 47.7**	**+1.4**
	baz=85						
121A	**Cookes Peak, D**	**168.62**	**282**	P	**PKPdf**	**01 51 46.8**	**+0.4**
	baz=85						
L02F	**Cave Junction**	**168.64**	**10**	P	**PKPdf**	**01 51 46.6**	**+0.8**
	baz=349						
W18A	**Petrified Fore**	**169.64**	**297**	P	**PKPdf**	**01 51 46.7**	**-0.2**
	baz=69						
SPR3	**Spring Creek 3**	**170.25**	**328**	PKPdf	**PKPdf**	**01 51 46.0**	**-1.3**
WUAZ	**Wupatki**	**170.71**	**302**	P	**PKPdf**	**01 51 47.6**	**+0.1**
	baz=63						
BEKR	**Beckworth**	**171.06**	**357**	PKPdf	**PKPdf**	**01 51 46.2**	**-1.4**
TUC	**Tucson**	**171.16**	**282**	P	**PKPdf**	**01 51 48.7**	**+1.0**
	baz=84						
R11A	**Troy Canyon, C**	**171.34**	**330**	P	**PKPdf**	**01 51 48.5**	**+0.7**
	baz=33						
NVAR	**Mina Array Bea**	**172.18**	**344**	PKP	**PKPdf**	**01 51 49.7**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=170,slow=1.6,SNR=20						
NVAR				PKPab	**PKPab**	**01 53 12.2**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=26,slow=4.6,SNR=8.4						
NVAR				PP	**PP**	**01 57 04.2**	**+2.0**
	comp=Z,1.4nm,1.1s,baz=325,slow=1.8,SNR=6.6						
214A	**Organ Pipe Nat**	**172.91**	**280**	P	**PKPdf**	**01 51 49.1**	**+0.6**
	baz=84						
DSP	**Deep Springs**	**173.09**	**339**	PKPab	**PKPab**	**01 53 14.4**	**-0.9**
PDMCI	**Parker Dam,Lak**	**173.29**	**302**	P	**PKPdf**	**01 51 49.6**	**+1.2**
	baz=62						
FURC	**Furnace Creek,**	**173.47**	**329**	P	**PKPdf**	**01 51 49.4**	**+1.0**
	baz=33						
GWY	**Greenwater Val**	**173.62**	**326**	PKPdf	**PKPdf**	**01 51 47.5**	**-1.2**
GWY					**PKPab**	**01 53 18.4**	**+0.3**
CWC	**Cottonwood Cre**	**173.97**	**337**	P	**PKPdf**	**01 51 50.2**	**+1.3**
	baz=25						
GMRC	**Granite Mounta**	**174.07**	**312**	P	**PKPdf**	**01 51 50.5**	**+1.5**
	baz=51,SNR=11						
IRM	**Iron Mountain**	**174.08**	**305**	P	**PKPdf**	**01 51 50.2**	**+1.4**
	baz=58						
MPMC	**Manual Prospec**	**174.09**	**331**	P	**PKPdf**	**01 51 50.8**	**+1.8**
	baz=31						
GSC	**Goldstone, Bar**	**174.38**	**322**	P	**PKPdf**	**01 51 50.5**	**+1.5**
	baz=40,SNR=5.3						
HEC	**Hector,Ludlow**	**174.46**	**316**	P	**PKPdf**	**01 51 50.8**	**+1.7**
	baz=46,SNR=7.5						
BC3	**Big Chuckawall**	**174.55**	**302**	P	**PKPdf**	**01 51 50.5**	**+1.4**
	baz=61						
LRMC	**Laurel Mtn Rad**	**174.66**	**329**	P	**PKPdf**	**01 51 50.5**	**+1.4**
	baz=32						
BELC	**Belle Mtn. Jos**	**174.76**	**307**	P	**PKPdf**	**01 51 51.4**	**+2.2**
	baz=55						
ISA	**Isabella, Lake**	**174.81**	**336**	P	**PKPdf**	**01 51 50.5**	**+1.4**
	baz=25,SNR=6.9						
SWSC	**Sam W. Stewart**	**175.12**	**296**	P	**PKPdf**	**01 51 50.6**	**+1.4**
	baz=67						
PFO	**Pinyon Flats O**	**175.30**	**306**	P	**PKPdf**	**01 51 50.5**	**+1.1**
	baz=56						
TPFO	**Pinon Flats**	**175.30**	**306**	P	**PKPdf**	**01 51 50.3**	**+1.0**
	baz=56						
EDW2	**Edwards Air Fo**	**175.30**	**328**	P	**PKPdf**	**01 51 50.9**	**+1.6**
	baz=33,SNR=5.6						
IKP	**In-Ko-Pah, Jac**	**175.48**	**294**	P	**PKPdf**	**01 51 51.5**	**+2.1**
	baz=69						
SMMC	**Simmler**	**175.53**	**349**	P	**PKPdf**	**01 51 51.0**	**+1.7**
	baz=11						
MONP2	**Monument Peak**	**175.62**	**298**	P	**PKPdf**	**01 51 51.0**	**+1.4**
	baz=64						
BFSC	**Mount Baldy Ra**	**175.64**	**320**	P	**PKPdf**	**01 51 51.2**	**+1.8**
	baz=41						
PKM	**Mcpherson Peak**	**175.91**	**346**	P	**PKPdf**	**01 51 51.4**	**+1.9**
	baz=14						
CIS	**Catalina Islan**	**176.68**	**319**	P	**PKPdf**	**01 51 52.1**	**+2.6**
	baz=42						
SCZ2	**Santa Cruz Isl**	**176.72**	**339**	P	**PKPdf**	**01 51 51.1**	**+1.6**
	baz=21						
SCI2	**San Clemente I**	**177.06**	**315**	P	**PKPdf**	**01 51 51.8**	**+2.2**
	baz=46						
SNCC	**San Nicolas Is**	**177.35**	**332**	P	**PKPdf**	**01 51 52.3**	**+2.6**
	baz=29						

*IDC **20** 01:41:08.1±2.9, 1°87S×140°76E, h0km, mb4.0/4, mbtmp4.0/6, ML4.0/2, Error ellipse: s-maj=64.5km s-min=41.7km az=138.0*

ISC 20 01:41:08.9±2.9, 1°8S±0°3×140°7E±0°3, h10km, n7, σ1§19/7, mb4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**18.96**	**164**	P	**Pn**	**01 45 31.8**	**+0.7**
	0.3nm,0.3s,baz=0.0,slow=11,SNR=2.4						
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**19.05**	**199**	P	**Pn**	**01 45 31.0**	**-1.3**
	0.4nm,0.3s,baz=22,slow=12,SNR=18						
	1.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.91**	**221**	P	**P**	**01 46 03.3**	**+0.8**
	2.2nm,0.6s,baz=53,slow=15,SNR=1.9						
	2.2nm,0.6s						
ASAR	**Alice Springs**	**22.69**	**196**	P	**P**	**01 46 10.3**	**-0.5**
	2.4nm,0.6s,baz=28,slow=11,SNR=21						
	2.4nm,0.6s						
STKA	**Stephens Creek**	**29.91**	**178**	P	**P**	**01 47 17.0**	**0.0**
	2.7nm,0.8s,baz=0.0,slow=11,SNR=2.8						
	2.7nm,0.8s						
VNDA	**Vanda**	**76.50**	**175**	P	**P**	**01 52 59.7**	**+1.0**
	1.1nm,0.6s,baz=331,slow=6.8,SNR=8.5						
	1.1nm,0.6s						
LPAZ	**La Paz**	**146.33**	**123**	PKPbc	**PKPab**	**02 00 51.3**	**-1.2**
	0.8nm,0.6s,baz=213,slow=4.8,SNR=2.7						

DJA 20 01:45:03.8±0.6, 1°N±4°×12°1E±°, h31km±8km, M3.0/5, MLv3.0/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.70**	**93**	P	Pb	01 45 18.2	+0.6
MRSI				S	Sn	01 45 28.4	+1.0
MPSI	**Mapaga**	**1.35**	**262**	P	Pn	01 45 26.8	+0.2
MPSI				S	Sn	01 45 44.2	+0.7
APSI	**Ampana**	**1.48**	**164**	P	Pn	01 45 28.3	0.0
APSI				S	Sn	01 45 47.1	+0.5
GTOI	**Gorontalo**	**1.77**	**86**	P	Pn	01 45 30.1	-2.3
GTOI				S	Sn	01 45 51.5	-2.4

*IDC **20** 01:48:56.3±0.7, 1°90S×140°62E, h0km, mb4.2/11, mbtmp4.4/14, ML3.9/2, MS3.3/6, Error ellipse: s-maj=27.8km s-min=14.4km az=85.0*
*NEIC **20** 01:48:59.4±1.7, 1°9S±0°1×140°3E±0°1, h15km±5km, mb4.4/18, Error ellipse: s-maj=20.8km s-min=16.3km az=80.0*
*DJA **20** 01:49:08.3±0.6, 2°S±8°×14°0E±°, h10km, M4.2/5, mb4.6/2, MLv4.0/5*

ISC 20 01:48:58.7±0.6, 2°00S±0°07×140°58E±0°09, h10km, n57, σ1§45/42, mb4.3/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.72**	**215**	P	**Pg**	**01 49 14.2**	**+1.5**
SMPI	**Sarmi**	**1.87**	**270**	P	**Pn**	**01 49 30.9**	**+0.2**
WAMI	**Wamena**	**2.65**	**225**	P	**Pn**	**01 49 40.6**	**-0.8**
SRPI	**Serui, Papua**	**4.34**	**272**	P	**Pn**	**01 50 07.3**	**+2.5**
SIJI	**Sorong**	**9.38**	**277**	LR	LR	01 55 03.5	
	comp=Z,112nm,18.9s,baz=96,slow=39						
PMG	**Port Moresby**	**9.85**	**139**	Pn	**Pn**	**01 51 21.5**	**+1.1**
	18nm,0.6s,baz=332,slow=2.6,SNR=6.4						
PMG				LR	LR	01 55 45.5	
	comp=Z,171nm,20.3s,baz=306,slow=41						
PMG	**Port Moresby**	**9.85**	**139**	Pn	**Pn**	**01 51 23.4**	**+3.0**
MTN	**Manton Dam**	**14.27**	**221**		**Pn**	**01 52 19.1**	**-1.9**
GUMO	**Guam**	**16.06**	**15**	LR	LR	01 59 04.0	
	comp=Z,123nm,18.4s,baz=248,slow=38						
DAV	**Davao City (W)**	**17.47**	**301**	LR	LR	01 59 58.1	
	comp=Z,54nm,19.2s,baz=138,slow=38						
KNRA	**Kununurra**	**17.90**	**220**		**Pn**	**01 53 07.4**	**-0.6**
KNRA				IAmb	IAmb	01 53 26.7	
	comp=Z,14nm,0.9s						
SOEI	**Soe**	**17.96**	**244**		**Pn**	**01 53 06.1**	**-2.7**
SOEI				IAmb	IAmb	01 53 21.9	
	comp=Z,47nm,0.9s						
WB0	**Warramunga Arr**	**18.67**	**198**	P	**P**	**01 53 16.0**	**-1.1**
BATI	**Baumata**	**18.68**	**243**	P	**P**	**01 53 18.3**	**+1.0**
	comp=Z,32nm,0.4s,baz=266,slow=1.5,SNR=4.7						
BATI	**Baumata**	**18.68**	**243**	P	**Pn**	**01 53 21.7**	**+4.1**
WR0	**Warramunga Arr**	**18.81**	**198**	P	**P**	**01 53 17.5**	**-1.1**
WR0				IAmb	IAmb	01 53 26.5	
	comp=Z,7.7nm,0.8s						
CTA	**Charters Tower**	**18.82**	**163**	P	**P**	**01 53 20.2**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=339,slow=11,SNR=6.5						
CTA				LR	LR	02 01 19.1	
	comp=Z,136nm,19.4s,baz=68,slow=39						
CTAO	**Charters Tower**	**18.82**	**163**		**P**	**01 53 20.4**	**+1.7**
WRAB	**Tennant Creek**	**18.84**	**198**	P	**P**	**01 53 18.1**	**-0.9**
WRAB				IAmb	IAmb	01 53 32.8	
	comp=Z,16nm,1.0s						
WB2	**Warramunga Arr**	**18.85**	**198**	P	**P**	**01 53 18.3**	**-0.7**
WB2				IAmb	IAmb	01 53 32.9	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**18.85**	**198**	P	**P**	**01 53 18.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=24,slow=12,SNR=44						
	comp=Z,7.3nm,0.8s						
WRA	**Warramunga Arr**	**18.85**	**198**	P	**P**	**01 53 16.6**	**-2.4**
APSI	**Ampana**	**18.96**	**273**	P	Pn	01 53 33.5	+13
TTSI	**Tana Toraja**	**20.77**	**267**	P	Pn	01 53 47.1	+4.7
MPSI	**Managa**	**20.81**	**276**	P	Pn	01 53 44.6	+1.7
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**01 53 49.4**	**-0.7**
	comp=Z,5.5nm,0.8s,baz=83,slow=10,SNR=9.8						
	comp=Z,5.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**01 53 49.0**	**-1.1**
FITZ				IAmb	IAmb	01 53 56.8	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**22.49**	**196**	P	**P**	**01 53 58.2**	**-0.3**
AS31				IAmb	IAmb	01 54 06.8	
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**22.49**	**196**	P	**P**	**01 53 57.6**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=30,slow=10,SNR=46						
	comp=Z,4.6nm,0.7s						
ASAR	**Alice Springs**	**22.49**	**196**	P	**P**	**01 53 56.7**	**-1.8**
EIDS	**Eidsvold**	**25.35**	**157**	P	**P**	**01 54 26.8**	**+0.9**
STKA	**Stephens Creek**	**29.74**	**178**	P	**P**	**01 55 04.6**	**-0.7**
	comp=Z,6.2nm,0.8s,baz=356,slow=7.2,SNR=8.1						
	comp=Z,6.2nm,0.8s						
STKA	**Stephens Creek**	**29.74**	**178**	P	**P**	**01 55 03.9**	**-1.4**
BBOO	**Buckleboo**	**30.95**	**187**	P	**P**	**01 55 14.6**	**-1.4**
FORT	**Forest**	**30.99**	**201**	P	**P**	**01 55 16.0**	**-0.4**
JOW	**Kunigami**	**31.02**	**338**	LR	LR	02 06 11.5	
	comp=Z,71nm,19.0s,baz=338,slow=33						
H11S3	**WAKE ISLAND Hy**	**32.78**	**50**	T	T	02 29 46.1	
	baz=228						
H11S2	**WAKE ISLAND Hy**	**32.79**	**50**	T	T	02 29 48.4	
	baz=228						
H11S1	**WAKE ISLAND Hy**	**32.80**	**50**	T	T	02 29 48.0	
	baz=228						
H11N1	**WAKE ISLAND Hy**	**33.65**	**49**	T	T	02 31 01.8	
	baz=233						
H11N2	**WAKE ISLAND Hy**	**33.67**	**49**	T	T	02 30 58.0	
	baz=233,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**33.67**	**49**	T	T	02 31 00.7	
	baz=233						
KLR	**Kul'dur**	**51.59**	**353**	P	**P**	**01 58 04.0**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=146,slow=3.0,SNR=6.4						
	comp=Z,3.1nm,0.9s						
MKAR	**Makanchi Array**	**70.38**	**322**	P	**P**	**02 00 12.0**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=110,slow=7.0,SNR=14						
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**72.27**	**329**	P	**P**	**02 00 23.8**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=76,slow=6.3,SNR=3.6						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**76.33**	**175**	P	**P**	**02 00 47.3**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=323,slow=6.7,SNR=32						
	comp=Z,4.2nm,0.7s						
NRIK	**Noril'sk**	**79.57**	**343**	P	P	02 01 03.6	-1.9
	comp=Z,3.3nm,0.9s,baz=71,slow=4.4,SNR=2.6						
	comp=Z,3.3nm,0.9s						
J20K	**Nowinta River**	**81.26**	**24**	P	**P**	**02 01 14.0**	**-0.8**
J20K				IAmb	IAmb	02 01 34.5	
	comp=Z,13nm,1.4s						
SML	**Sawmill**	**82.91**	**27**	P	**P**	**02 01 23.3**	**-0.2**
MAW	**Mawson**	**83.48**	**202**	P	**P**	**02 01 25.9**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=73,slow=13,SNR=4.0						
	comp=Z,2.2nm,0.9s						
ILAR	**Eielson Array**	**84.42**	**24**	P	P	02 01 27.9	-3.2
	comp=Z,1.3nm,0.9s,baz=250,slow=4.7,SNR=7.2						
	comp=Z,1.3nm,0.9s						
GEYT	**Alibeck**	**85.27**	**308**	P	**P**	**02 01 35.7**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=153,slow=1.7,SNR=6.4						
	comp=Z,2.0nm,0.8s						
ISLE	**Juniper Island**	**85.40**	**29**	P	**P**	**02 01 36.9**	**+0.5**
ISLE				IAmb	IAmb	02 01 53.1	
	comp=Z,8.2nm,1.2s						
QSPA	**South Pole Qui**	**87.94**	**180**	P	**P**	**02 01 47.9**	**-0.8**
QSPA				IAmb	IAmb	02 01 48.6	
	comp=Z,5.1nm,1.1s						
DBIC	**Dimbokro**	**145.24**	**279**	PKPbc	**PKPbc**	**02 08 38.0**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=60,slow=5.1,SNR=4.2						
LPAZ	**La Paz**	**146.32**	**124**	PKPbc	**PKPdf**	**02 08 40.6**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=279,slow=2.6,SNR=13						
CPUP	**Villa Florida**	**146.95**	**150**	PKPbc	**PKPdf**	**02 08 41.8**	**+1.4**
	comp=Z,3.1nm,0.8s,baz=224,slow=8.5,SNR=5.8						

IDC 20 02:10:33.1±6.2, 2°13S×140°99E, h0km, mb3.3/2, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=155.4km s-min=76.3km az=133.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**200**	P	P	02 14 54.4	-0.7
	0.1nm,0.3s,baz=24,slow=12,SNR=5.3						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**22.49**	**197**	P	P	02 15 34.0	-0.4
	0.9nm,0.9s,baz=28,slow=10.0,SNR=5.5						
	0.9nm,0.9s						
VNDA	**Vanda**	**76.17**	**175**	P	P	02 22 23.3	+0.6
	0.3nm,0.6s,baz=342,slow=6.4,SNR=1.7						
	0.3nm,0.6s						

*IDC **20** 02:38:19.6±0.5, 29°24S×61°03E, h0km, mb4.2/18, mbtmp4.2/19, ML4.6/1, MS3.6/22, Error ellipse: s-maj=18.2km s-min=15.6km az=50.0*
*NEIC **20** 02:38:24.1±1.1, 28°73S±0°09×60°7E±0°1, h10km±1km, mb4.6/10, Error ellipse: s-maj=23.3km s-min=10.8km az=56.0*

ISC 20 02:38:21.1±0.5, 29°14S±0°10×61°0E±0°1, h10km, n72, σ1§11/56, mb4.5/29, MS3.6/23, 4C-2D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.26**	**328**	Pn	**Pn**	**02 40 32.6**	**-2.2**
VOI	**Vohitsoka**	**14.69**	**296**	Pn	**Pn**	**02 41 48.6**	**-0.7**
VOI				Sn	Sn	02 44 21.3	-11
ABPO	**Ambohimpanom**	**16.09**	**306**	Pn	**Pn**	**02 42 04.6**	**-3.2**
OPO	**Ambohidratompo**	**16.42**	**307**	Pn	**Pn**	**02 42 12.2**	**+0.3**
	0.2nm,0.3s,baz=105,slow=17,SNR=11						
OPO				Sn	Sn	02 44 59.8	-14
	0.2nm,0.3s,baz=292,slow=17,SNR=3.1						
	5.0nm,0.4s						
H08S1	**Diego Carcia H**	**23.96**	**29**	T	T	03 08 43.5	
	baz=204,slow=76,SNR=7.9						
H08S2	**Diego Garcia H**	**23.97**	**29**	T	T	03 08 44.3	
	baz=204,slow=76,SNR=5.4						
H08S3	**Diego Garcia H**	**23.98**	**29**	T	T	03 08 42.2	
	baz=204,slow=76,SNR=11						
MSEY	**Mahe Island**	**24.89**	**347**	P	**P**	**02 43 40.8**	**-3.5**
BOSA	**Boshof**	**31.22**	**262**	P	**P**	**02 44 41.0**	**0.0**
	2.8nm,0.8s,baz=104,slow=5.9,SNR=4.2						
BOSA				LR	LR	02 55 12.5	
	comp=Z,110nm,18.1s,baz=89,slow=32						
	2.8nm,0.8s						
BOSA	**Boshof**	**31.22**	**262**	P	**P**	**02 44 41.8**	**+0.8**
BOSA				IAmb	IAmb	02 45 04.9	
	comp=Z,20nm,1.4s						
LBTB	**Lobatse**	**31.70**	**269**	LR	LR	02 56 29.3	
	comp=Z,30nm,19.3s,baz=126,slow=34						
LSZ	**Lusaka**	**33.22**	**287**	LR	LR	02 58 06.3	
	comp=Z,101nm,18.2s,baz=170,slow=36						
SUR	**Sutherland**	**34.53**	**254**	LR	LR	02 56 45.4	
	comp=Z,59nm,20.5s,baz=132,slow=32						
KMBO	**Kilima Mbogo**	**35.89**	**317**	LR	LR	02 57 20.6	
	comp=Z,96nm,19.6s,baz=102,slow=32						
MAW	**Mawson**	**38.51**	**179**	P	**P**	**02 45 42.6**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=342,slow=8.8,SNR=4.7						
MAW				LR	LR	02 58 28.1	
	comp=Z,104nm,18.3s,baz=353,slow=32						
	comp=Z,2.1nm,0.9s						
MBAR	**Mbarara**	**40.47**	**309**	LR	LR	03 01 27.0	
	comp=Z,78nm,19.2s,baz=100,slow=34						
TSUM	**Tsumeb**	**40.62**	**274**	P	**P**	**02 46 02.1**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=117,slow=5.1,SNR=5.0						
TSUM				LR	LR	03 00 59.7	
	comp=Z,74nm,19.7s,baz=144,slow=33						
	comp=Z,4.1nm,0.8s						
PALK	**Pallekele**	**40.88**	**31**	LR	LR	02 58 31.2	
	comp=Z,70nm,20.5s,baz=303,slow=30						
H01W2	**Cape Leeuwin H**	**44.99**	**112**	T	T	03 34 18.2	
	baz=261,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**45.00**	**112**	T	T	03 34 17.4	
	baz=261,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**45.01**	**112**	T	T	03 34 19.5	
	baz=261,slow=75,SNR=19						
SNAA	**Sanae**	**54.43**	**200**	LR	LR	03 05 45.2	
	comp=Z,51nm,21.3s,baz=12,slow=30						
CMAR	**Chiang Mai Arr**	**59.85**	**42**	P	**P**	**02 48 28.4**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=232,slow=7.0,SNR=9.1						
CMAR				LR	LR	03 12 06.3	
	comp=Z,21nm,18.9s,baz=195,slow=34						
	comp=Z,2.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.85**	**42**	P	**P**	**02 48 28.6**	**+1.4**
QSPA	**South Pole Qui**	**61.02**	**180**	P	**P**	**02 48 33.6**	**-1

comp=Z,0.6nm,0.4s
ARU Arti 85.25 359 P **P** **02 50 58.9 +1.3**
ZALV Zalesovo Beam 85.28 14 P **P** **02 50 57.3 -0.4**
comp=Z,1.6nm,0.6s,baz=194,slow=5.5,SNR=8.5
comp=Z,1.6nm,0.6s
ZALV Zalesovo Beam 85.28 14 P **P** **02 50 58.2 +0.5**
MNK Minsk 88.06 341 *i* P **P** **02 51 10.9 -0.3**
comp=E,1.0nm,0.9s
MNK *i* P **P** **02 51 10.9 -0.3**
MNK *i* P **P** **02 51 10.9 -0.3**
comp=Z,11nm,0.9s,baz=152
MNK *i* PP PP 02 54 23.2 -15
MNK *i* PPP PPP 02 56 35.0
MNK *i* S **SKSac** **03 01 39.6 +0.2**
MNK *i* SKKS **S** **03 01 56.4 +1.6**
MNK *i* PS PS 03 03 25.3 +26
MNK *i* SS SS 03 08 07.6 +24
MNK *i* SSS SSS 03 12 55.5
MNK *i* LQ LQ 03 24 30.2
MNK *i* LR LR 03 26 51.1
MNK *i* LRM MLR 03 31 22.6
comp=Z,67nm,19.2s
MNK *i* LRM MLR 03 31 28.2
comp=E,5.0nm,19.2s
MNK *i* LRM MLR 03 32 26.4
WTTA Wattenberg 88.08 329 *e*P **P** **02 51 12.5 +0.6**
comp=E,7.6nm,1.2s
WATA Walderalm 88.17 329 *e*P **P** **02 51 12.7 +0.5**
comp=E,1.3nm,0.5s
SQTA Sankt Quirin 88.25 329 *i* P **P** **02 51 12.6 0.0**
comp=E,3.2nm,0.9s
FETA Feichten 88.32 328 *e*P **P** **02 51 13.3 +0.3**
comp=E,5.2nm,1.1s
MOTA Moosalm 88.39 329 *e*P **P** **02 51 13.2 -0.1**
comp=E,3.0nm,1.1s
RETA Reutte 88.65 329 *i* P **P** **02 51 14.6 +0.2**
comp=E,2.9nm,0.6s
DAVA Damuels 88.91 328 *i* P **P** **02 51 15.7 0.0**
comp=E,5.1nm,0.7s
ESDC Sonseca Array 91.27 316 P **P** **02 51 28.6 +1.8**
comp=E,2.6nm,1.0s,baz=110,slow=3.2,SNR=9.9
comp=E,2.6nm,1.0s
ESDC Sonseca Array 91.27 316 P **P** **02 51 28.6 +1.8**
ESDC IAmb IAmb 02 51 29.2
comp=Z,3.9nm,1.1s
ILAR Eielson Array 140.28 18 PKP **PKPdf** **02 57 48.0 -1.5**
comp=Z,0.6nm,1.0s,baz=318,slow=3.9,SNR=3.0
YKA Yellowknife Ar 146.52 356 PKPbc **PKPbc** **02 58 02.4 +0.4**
comp=Z,2.5nm,0.8s,baz=4.8,slow=3.4,SNR=4.9
ULM Lac du Bonnet 152.61 327 PKPbc **PKPbc** **02 58 16.9 -0.7**
comp=Z,4.5nm,0.6s,baz=44,slow=2.8,SNR=5.6
PDAR Pinedale Array 164.41 333 PKP **PKPdf** **02 58 25.1 -0.3**
comp=Z,0.7nm,0.8s,baz=116,slow=3.4,SNR=5.6

TEH 20 02:42:32.3,32°42N×49°75E,h9km,ML3.6,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.85**	**208**	*e*Pg		Pb	02 42 49.1	-0.2
SHK1	**Shahrekord**	**0.97**	**95**	*e*Pg		Pg	02 42 50.7	-0.2
IPIR	**Pirpir**	**1.00**	**75**	*e*Pg		Pg	02 42 51.4	-0.2
KHMZ	**Khomeyn**	**1.32**	**8**	*e*Pg		Pg	02 42 57.9	+0.2
IBRJ	**Brojen**	**1.38**	**111**	*e*Pg		Pg	02 42 58.8	0.0
IBRJ				*e*			02 43 27.8	
	comp=Z,7μm,0.8s							
AHWZ	**Ahwaz**	**1.44**	**221**	*e*Pg		Pg	02 43 00.0	+0.1
AHWZ				*e*Sg		Sg	02 43 21.0	+2.4
IKLH	**Kolahrood**	**1.78**	**59**	*e*Pn		Pb	02 43 05.0	-0.3
ABEH	**Behbahan**	**1.87**	**167**	*e*Pn		Pb	02 43 06.5	-0.1
IDOB	**Doab**	**1.89**	**316**	*e*Pn		Pn	02 43 05.7	+0.6
QAMS	**Qamsar**	**1.90**	**46**	*e*			02 43 37.6	
	comp=Z,8μm,0.4s							
QAMS				*e*Pn		Pb	02 43 07.4	0.0
IGAR	**Gharneh**	**1.94**	**90**	*e*			02 43 11.2	
	comp=Z,3μm,0.3s							
IGAR				*e*Pn		Pb	02 43 07.8	-0.2
IKFM	**Kafar-mosalman**	**1.94**	**305**	*e*Pn		Pb	02 43 07.0	-0.8
HSAM	**Samen**	**2.02**	**332**	*e*			02 43 44.4	
	comp=Z,3μm,0.6s							
HSAM				*e*Pn		Pb	02 43 08.9	-0.6
KLNJ	**Kolanjah**	**2.11**	**131**	*e*			02 43 43.6	
	comp=Z,5μm,0.6s							
KLNJ				*e*Pn		Pb	02 43 09.9	-1.1
ASAO	**Ashtian**	**2.13**	**6**	*e*Pn		Pb	02 43 10.8	-0.5
IZEF	**Zefreh**	**2.23**	**77**	*e*Pn		Pb	02 43 11.8	-1.1
IZEF				*e*			02 43 14.5	
	comp=Z,2μm,0.4s							
IRAM	**Ramesheh**	**2.32**	**105**	*e*Pn		Pb	02 43 12.7	-1.7
IRAM				*e*			02 43 58.7	
	comp=Z,1μm,0.8s							
GHVR	**GHOM**	**2.42**	**32**	*e*Pn		Pb	02 43 16.2	0.0
HAGD	**Aghdareh**	**2.44**	**348**	*e*Pn		Pb	02 43 14.9	-1.7
HAGD				*e*			02 43 58.9	
	comp=Z,3μm,0.4s							
KRSH	**Karshahi**	**2.52**	**52**	*e*Pn		Pb	02 43 16.0	-1.9
KRSH				*e*			02 43 57.6	
	comp=Z,2μm,0.6s							
IKOM	**Komasi**	**2.56**	**314**	*e*Pn		Pn	02 43 15.4	+1.2
IKOM				*e*			02 44 03.8	
	comp=Z,4μm,0.6s							
IBZA	**Bozab**	**2.58**	**323**	*e*Pn		Pn	02 43 15.0	+0.5
IBZA				*e*			02 44 09.4	
	comp=Z,2μm,0.5s							
NASN	**Na'in**	**2.61**	**81**	*e*Pn		Pn	02 43 17.1	+2.1
IQOM	**Qom**	**2.65**	**24**	*e*Pn		Pn	02 43 17.8	+2.3
IQOM				*e*			02 44 02.6	
	comp=Z,1μm,0.7s							
ISFB	**Sefidab**	**2.84**	**47**	*e*Pn		Pn	02 43 19.8	+1.9
ISFB				*e*			02 44 08.0	
	comp=Z,988nm,0.6s							
KCHF	**Cheshme Sefid,**	**2.92**	**310**	*e*Pn		Pn	02 43 20.0	+0.8
KCHF				*e*			02 44 11.8	
	comp=Z,3μm,0.6s							
KER	**Kermanshah**	**2.94**	**312**	*e*Pn		Pn	02 43 20.1	+0.8
IRAZ	**Razeghan**	**2.98**	**3**	*e*Pn		Pn	02 43 22.7	+2.8
IRAZ				*e*			02 44 13.9	
	comp=Z,2μm,0.9s							
IVRN	**Varamin**	**3.05**	**32**	*e*Pn		Pn	02 43 23.3	+2.5
IGHG	**Ghaleghazi**	**3.27**	**306**	*e*Pn		Pn	02 43 24.6	+0.6
IGHG				*e*			02 44 36.9	
	comp=Z,3μm,0.9s							
QABG	**Abgarm-Qazvin**	**3.28**	**358**	*e*Pn		Pn	02 43 24.8	+0.7
SNGE	**Sanandaj**	**3.33**	**324**	*e*Pn		Pn	02 43 26.1	+1.3
IMHD	**Mahdasht**	**3.34**	**13**	*e*Pn		Pn	02 43 26.4	+1.5
IMHD				*e*			02 44 29.2	
	comp=Z,766nm,0.4s							
ISAD	**Sadrabad**	**3.38**	**98**	*e*Pn		Pn	02 43 27.4	+1.9
ISAD				*e*			02 43 37.5	
	comp=Z,666nm,0.6s							
ILIN	**Lien**	**3.40**	**318**	*e*Pn		Pn	02 43 27.8	+1.9
ILIN				*e*			02 44 25.5	
	comp=Z,1μm,0.4s							
ANAR	**Anarak**	**3.44**	**76**	*e*Pn		Pn	02 43 28.1	+1.9
IDHR	**Dehrash**	**3.61**	**310**	*e*Pn		Pn	02 43 29.1	+0.5
CHTH	**Charan**	**3.66**	**18**	*e*Pn		Pn	02 43 31.9	+2.6
IDMV	**Damavand**	**3.67**	**30**	*e*Pn		Pn	02 43 31.3	+1.7
IDMV				*e*			02 44 47.7	
	comp=Z,914nm,0.6s							
DAMV	**Damavand**	**3.69**	**29**	*e*Pn		Pn	02 43 32.3	+2.5
AHBU	**AHRAM**	**3.79**	**159**	*e*Pn		Pn	02 43 32.4	+1.5
ICHK	**Chekchek**	**3.95**	**91**	*e*Pn		Pn	02 43 34.8	+1.5
ICHK				*e*			02 43 52.9	
	comp=Z,542nm,0.4s							
IGZV	**Ghazvin**	**3.97**	**5**	*e*Pn		Pn	02 43 35.5	+1.9
ILAS	**Lasjerd**	**3.98**	**41**	*e*Pn		Pn	02 43 35.4	+1.7
ILAS				*e*			02 44 57.4	
	comp=Z,594nm,0.6s							
IFIR	**Firoozkooh**	**4.07**	**37**	*e*Pn		Pn	02 43 36.7	+1.7
IFIR				*e*			02 45 08.2	
	comp=Z,394nm,0.9s							
QALM	**Alamut, Qazvin**	**4.07**	**10**	*e*Pn		Pn	02 43 37.3	+2.3
YZKH	**Yazd**	**4.10**	**89**	*e*Pn		Pn	02 43 37.4	+2.2
IMEH	**Mehriz**	**4.26**	**103**	*e*Pn		Pn	02 43 39.2	+1.5
JIR1	**Jirandeh**	**4.27**	**1**	*e*Pn		Pn	02 43 39.6	+1.9
ZNJK	**Zanjan**	**4.33**	**349**	*e*Pn		Pn	02 43 40.7	+2.2
IPRN	**Peran**	**4.37**	**29**	*e*Pn		Pn	02 43 40.6	+1.6
GIDE	**GILAN DEYLAMAN**	**4.49**	**2**	*e*Pn		Pn	02 43 43.1	+2.4
IGLO	**Ghaloghah**	**5.28**	**39**	*e*Pn		Pn	02 43 54.4	+2.8
TPRV	**Parvadeh(Tabas**	**5.88**	**82**	*e*Pn		Pn	02 44 01.5	+1.8
TNSJ	**Nastanj**	**5.95**	**73**	*e*Pn		Pn	02 44 02.5	+1.8
IHRS	**Heris**	**6.28**	**340**	*e*Pn		Pn	02 44 05.5	+0.1
SHRO	**Shahrood**	**6.29**	**54**	*e*Pn		Pn	02 44 08.1	+2.7
TABS	**Tabas**	**6.31**	**77**	*e*Pn		Pn	02 44 07.5	+1.9
GRMI	**Germi**	**6.55**	**347**	*e*Pn		Pn	02 44 10.9	+2.0

DJA 20 02:49:22.4±0.3,1°S×2°×12°0E.°,h20km,M3.8/10,MLv3.8/10,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.21**	**344**	P		Pn	02 49 43.3	-0.9
MPSI				S		Sn	02 50 01.4	+1.4
APSI	**Ampana**	**1.41**	**93**	P		Pn	02 49 44.8	-2.2
APSI				S		Sb	02 50 05.9	+0.3
MRSI	**Marisa**	**2.14**	**53**	P		Pn	02 49 55.2	-1.8
TTSI	**Tana Toraja**	**2.24**	**191**	P		Pn	02 49 57.6	-0.8
TTSI				S		Sn	02 50 25.5	0.0
LUWI	**Luwuk**	**2.54**	**95**	P		Pn	02 50 04.6	+2.1
LUWI				S		Sb	02 50 35.8	-2.4
GTOI	**Gorontalo**	**3.13**	**62**	P		Pn	02 50 09.4	-1.2
SPSI	**Sidrap Palu**	**3.15**	**189**	P		Pn	02 50 09.5	-1.4
SPSI				S		Sn	02 50 47.9	0.0
BKSI	**Bulukumba**	**4.46**	**182**	P		Pn	02 50 26.6	-2.4
BSSI	**Bau Bau, Buton**	**5.28**	**177**	P		Pn	02 50 41.7	+1.4

*IDC **20** 02:53:08.3±1.4,44.°81N×81.°00E,h0km,mb3.5/2,mbtmp3.3/7,ML3.0/5,MS4.0/2,Error ellipse: s-maj=19.8km s-min=10.7km az=124.0*
*NNC **20** 02:53:11.2±0.4,44.°95N×80.°81E,h0km,mb4.1,mpv3.8,Error ellipse: s-maj=6.5km s-min=1.9km az=125.0*
*SOME **20** 02:53:11.7,44.°87N×81.°00E,h10km*
ISC 20 02:53:10.5±1.4,44°87N±0.°03×80°98E±0.°04,h2km±10km,n68,σ1s86/111,20C-8D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.01**	**238**	*e*P		**Pg**	**02 53 30.8**	**+0.9**
DJR				*e*S		**Sg**	**02 53 43.9**	**+1.0**
	52nm,0.1s							
	206nm,0.2s							
KTMS	**Ketmen**	**1.50**	**198**	*e*P		**Pn**	**02 53 39.0**	**+0.5**
KTMS				*e*S		**Sg**	**02 53 58.0**	**-0.6**
	44nm,0.1s							
	305nm,0.0s							
PDGK	**Podgornoye**	**1.88**	**215**	⇑Pn		**Pn**	**02 53 44.4**	**+0.6**
PDGK	10nm,0.2s			⇑Sn		**Sn**	**02 54 09.2**	**+1.1**
	357nm,0.3s							
BLB	**Baldybastay**	**1.95**	**247**	*e*P		**Pb**	**02 53 47.6**	**+0.8**
BLB	173nm,0.2s			*e*S		**Sb**	**02 54 13.0**	**+1.3**
	800nm,0.3s							
SHLS	**Shalkode**	**2.04**	**213**	*e*P		**Pn**	**02 53 46.1**	**+0.2**
SHLS	67nm,0.2s			*e*S		**Sn**	**02 54 10.4**	**-1.5**
	510nm,0.6s							
SHLS	**Shalkode**	**2.04**	**213**	*i* Pn		**Pn**	**02 53 44.6**	**-1.3**
	baz=203							
SHLS				*i* Pg		**Pb**	**02 53 47.0**	**-1.3**
	baz=203							
SHLS				*e*Sn		**Sn**	**02 54 09.6**	**-2.3**
	baz=203							
MAKZ	**Makanchi**	**2.06**	**19**	⇑Pn		**Pn**	**02 53 47.1**	**+1.0**
MAKZ	4.6nm,0.2s			⇑Sn		**Sn**	**02 54 13.6**	**+1.3**
	78nm,0.2s							
MK31	**Makanchi Array**	**2.13**	**25**	⇑Pn		**Pn**	**02 53 48.2**	**+1.1**
	4.6nm,0.2s,baz=206,slow=13,SNR=682							
MK31				⇑Sn		**Sn**	**02 54 15.9**	**+1.9**
	104nm,0.3s,baz=194,slow=17,SNR=28							
MKAR	**Makanchi Array**	**2.13**	**25**	Pn		**Pn**	**02 53 48.3**	**+1.3**
	9.3nm,0.3s,baz=200,slow=15,SNR=390							
MKAR				Lg		Lg	02 54 15.9	
	77nm,0.3s,baz=202,slow=23,SNR=25							
	11nm,0.3s							
KPKS	**Kokpek**	**2.17**	**230**	*i* Pn		**Pn**	**02 53 48.6**	**+0.9**
	baz=228							
KPKS				*i* Pg		**Pb**	**02 53 50.5**	**-0.1**
	baz=228							
KPKS				*e*Sn		**Sn**	**02 54 16.4**	**+1.2**
	baz=228							
UZB	**Uzynbulak**	**2.23**	**220**	*e*P		**Pb**	**02 53 52.0**	**+0.4**
UZB	8.6nm,0.1s			*e*S		**Sb**	**02 54 19.7**	**0.0**
	287nm,0.2s							
UZB	**Uzynbulak**	**2.23**	**220**	*i* Pn		**Pn**	**02 53 49.3**	**+0.7**
	baz=218							
UZB				*e*Sn		**Sn**	**02 54 17.5**	**+0.7**
	baz=218							
UZB	**Uzynbulak**	**2.23**	**220**	Pg		**Pb**	**02 53 52.0**	**+0.4**
	15nm,0.1s							
UZB				Lg		Lg	02 54 19.7	
	287nm,0.2s							
ARXS	**Arharly**	**2.35**	**255**	*e*P		**Pb**	**02 53 54.6**	**+1.0**
	47nm,0.2s							
ARXS				*e*S		**Sb**	**02 54 24.4**	**+1.3**
	429nm,0.3s							
ARXS	**Arharly**	**2.35**	**255**	Pg		**Pb**	**02 53 54.0**	**+0.4**
	47nm,0.2s							
ARXS				Lg		Lg	02 54 23.4	
	429nm,0.3s							
KURS	**Kuram**	**2.45**	**237**	*e*P		**Pb**	**02 53 56.9**	**+1.6**
	8.9nm,0.3s							
KURS				*e*S		**Sb**	**02 54 28.2**	**+2.2**
	59nm,0.3s							
KURS	**Kuram**	**2.45**	**237**	Pg		**Pb**	**02 53 57.0**	**+1.7**
	24nm,0.3s							
KURS				Lg		Lg	02 54 28.2	
	59nm,0.3s							
ZHN	**Zhinishke**	**2.51**	**228**	*e*P		**Pb**	**02 53 57.0**	**+0.8**
	17nm,0.3s							
ZHN				*e*S		**Sb**	**02 54 28.3**	**+0.7**
	544nm,0.2s							
ZHN	**Zhinishke**	**2.51**	**228**	*i* Pn		**Pn**	**02 53 53.0**	**+0.6**
	baz=226							
ZHN				*i* Pb		**Pb**	**02 53 56.8**	**+0.5**
	baz=226							
ZHN				*i* Pg		**Pg**	**02 53 57.9**	**-0.6**
	baz=226							
ZHN	**Zhinishke**	**2.51**	**228**	Pg		**Pb**	**02 53 57.1**	**+0.8**
	18nm,0.1s							
ZHN				Lg		Lg	02 54 28.3	
	544nm,0.2s							
SATY	**Saty**	**2.60**	**227**	*e*P		**Pb**	**02 53 59.1**	**+1.3**
	28nm,0.1s							
SATY				*e*S		**Sb**	**02 54 31.9**	**+1.6**
	272nm,0.3s							
SATY	**Saty**	**2.60**	**227**	*i* Pn		**Pn**	**02 53 54.5**	**+0.9**
	baz=225							
SATY				*i* Pg		**Pb**	**02 53 59.7**	**+1.9**
	baz=225							
SATY	**Saty**	**2.60**	**227**	Pg		**Pb**	**02 53 59.1**	**+1.3**
	28nm,0.1s							
SATY				Lg		Lg	02 54 31.9	
	272nm,0.3s							
CHKK	**Chushkaly**	**3.04**	**252**	*e*P		**Pb**	**02 54 06.9**	**+1.6**
	7.8nm,0.0s							
CHKK				*e*S		**Sb**	**02 54 45.4**	**+2.5**
	208nm,0.2s							
CHKK	**Chushkaly**	**3.04**	**252**	Pg		**Pb**	**02 54 05.9**	**+0.6**
	11nm,0.2s							
CHKK				Lg		Lg	02 54 43.9	
	208nm,0.2s							
KOTS	**Kotyrbulak**	**3.23**	**241**	*e*P		**Pb**	**02 54 10.9**	**+2.2**
	1.8nm,0.2s							
KOTS				*e*S		**Sb**	**02 54 52.0**	**+3.3**
	178nm,0.4s							
KOTS	**Kotyrbulak**	**3.23**	**241**	Pg		**Pb**	**02 54 10.0**	**+1.3**
	4.4nm,0.3s							
KOTS				Lg		Lg	02 54 50.6	
	157nm,0.4s							
KTBS	**Karatobe**	**3.30**	**251**	*e*P		**Pb**	**02 54 11.3**	**+1.6**
	17nm,0.5s							
KTBS				*e*S		**Sb**	**02 54 53.3**	**+3.0**
	224nm,0.5s							
KTBS	**Karatobe**	**3.30**	**251**	Pg		**Pb**	**02 54 11.3**	**+1.6**
	20nm,0.4s							
KTBS				Lg		Lg	02 54 52.9	
	220nm,0.4s							
MDOK	**Medeo**	**3.31**	**240**	*e*P		**Pb**	**02 54 11.5**	**+1.5**
	11nm,0.4s							
MDOK				*e*S		**Sb**	**02 54 52.8**	**+2.0**
	79nm,0.5s							
MDOK	**Medeo**	**3.31**	**240**	*i* Pn		**Pn**	**02 54 04.1**	**+0.6**
	baz=239							
MDOK				*i* Pg		**Pb**	**02 54 12.8**	**+2.7**
	baz=239							
MDOK				*e*Sn		**Sn**	**02 54 44.5**	**+1.0**
	baz=239							
MDOK	**Medeo**	**3.31**	**240**	⇑Pg		**Pb**	**02 54 12.2**	**+2.1**
	22nm,0.5s							
MDOK				Pg		**Pb**	**02 54 12.7**	**+2.7**
	20nm,0.3s							
MDOK				⇑Lg		Lg	02 54 52.6	
	54nm,0.5s							
MDOK				Lg		Lg	02 54 55.0	
	79nm,0.5s							
KNDC	**Almaty**	**3.33**	**242**	⇓Pg		**Pb**	**02 54 10.6**	**+0.2**
	106nm,0.8s							
KNDC				⇑Lg		Lg	02 54 54.2	
	78nm,0.4s							
AAA	**Alma-Ata**	**3.37**	**242**	*e*P		**Pb**	**02 54 13.2**	**+2.2**
	21nm,0.6s							
AAA				*e*S		**Sb**	**02 54 55.6**	**+3.2**
	95nm,0.3s							
AAA	**Alma-Ata**	**3.37**	**242**	Pg		**Pb**	**02 54 13.3**	**+2.3**
	29nm,0.1s							
AAA				Lg		Lg	02 54 56.8	
	95nm,0.3s							
KUU	**Kurty**	**3.47**	**255**	*e*P		**Pb**	**02 54 14.6**	**+2.0**
	4.9nm,0.4s							
KUU				*e*S		**Sb**	**02 54 58.5**	**+3.3**
	92nm,0.4s							
KUU	**Kurty**	**3.47**	**255**	*i* Pn		**Pn**	**02 54 06.0**	**+0.5**
	baz=254							
KUU				*i* Pg		**Pb**	**02 54 14.8**	**+2.2**
	baz=254							
KUU				*e*Sn		**Sn**	**02 54 47.7**	**+0.6**
	baz=254							
KUU	**Kurty**	**3.47**	**255**	Pg		**Pb**	**02 54 13.7**	**+1.1**
	7.7nm,0.1s							
KUU				Lg		Lg	02 54 57.0	
	80nm,0.3s							
IZV	**Izvestkoviy**	**3.65**	**241**	*e*P		**Pb**	**02 54 17.9**	**+2.1**
	62nm,0.2s							
IZV				*e*S		**Sb**	**02 55 04.5**	**+3.9**
	79nm,0.6s							
IZV	**Izvestkoviy**	**3.65**	**241**	Pg		**Pg**	**02 54 19.4**	**-1.1**
	6.8nm,0.2s							
IZV				Lg		Lg	02 55 06.5	
	81nm,0.5s							
MTBS	**Maitube**	**3.72**	**244**	*e*P		**Pb**	**02 54 19.5**	**+2.6**
	12nm,0.2s							
MTBS				*e*S		**Sg**	**02 55 07.4**	**-2.5**
	113nm,0.6s							
MTBS	**Maitube**	**3.72**	**244**	Pg		**Pb**	**02 54 18.3**	**+1.4**
	10nm,0.3s							
MTBS				Lg		Lg	02 55 04.7	
	164nm,0.3s							
ZSN	**Zaisan**	**3.73**	**45**	*e*P		**Pb**	**02 54 19.6**	**+2.6**
	11nm,0.1s							
ZSN				*e*S		**Sb**	**02 55 05.6**	**+2.9**
	48nm,0.4s							
KST	**Kastek**	**4.06**	**245**	*e*P		**Pb**	**02 54 25.6**	**+2.8**
	18nm,0.2s							
KST				*e*S		**Sb**	**02 55 16.5**	**+4.3**
	54nm,0.6s							
KST	**Kastek**	**4.06**	**245**	Pg		**Pb**	**02 54 24.6**	**+1.8**
	18nm,0.3s							
KST				Lg		Lg	02 55 16.0	
	51nm,0.7s							
DGS	**Degeres**	**4.09**	**248**	*e*P		**Pb**	**02 54 26.9**	**+3.6**
	9.0nm,0.3s							
DGS				*e*S		**Sg**	**02 55 19.6**	**-2.4**
	142nm,0.6s							
TKM2	**Tokmak 2**	**4.35**	**245**	⇑Pn		**Pn**	**02 54 17.8**	**0.0**
	1.5nm,0.5s							
TKM2				⇓Pg		**Pb**	**02 54 29.4**	**+1.6**
	13nm,0.6s							
TKM2				⇑Sn		**Sn**	**02 55 09.6**	**+0.3**
	6.9nm,0.3s							
TKM2				⇓Lg		Lg	02 55 25.4	
	21nm,0.3s							
SGDS	**Sogindy**	**4.79**	**255**	*e*P		**Pb**	**02 54 39.3**	**+4.2**
	3.3nm,0.2s							
SGDS				*e*S		**Sg**	**02 55 40.7**	**-3.5**
	30nm,0.5s							
SGDS	**Sogindy**	**4.79**	**255**	*i* Pn		**Pn**	**02 54 24.2**	**+0.6**
	baz=254							
SGDS				*i* Pg		**Pb**	**02 54 38.7**	**+3.7**
	baz=254							
CHMS	**Chumysh**	**4.87**	**250**	⇑Pg		**Pb**	**02 54 38.8**	**+2.2**
	12nm,0.6s							
CHMS				⇓Lg		Lg	02 55 41.5	
	14nm,0.4s							
BTLS	**Baital**	**4.92**	**274**	*e*P		**Pg**	**02 54 42.8**	**-2.1**
	5.4nm,0.2s							
BTLS				*e*S		**Sg**	**02 55 46.9**	**-1.8**
	16nm,1.1s							
BTLS	**Baital**	**4.92**	**274**	*i* Pn		**Pn**	**02 54 26.1**	**+0.6**
	baz=274							
BTLS	**Baital**	**4.92**	**274**	Pg		**Pb**	**02 54 39.7**	**+2.2**
	5.6nm,0.3s							
BTLS				Lg		Lg	02 55 41.7	
	17nm,0.6s							
AAK	**Ala-Archa**	**5.20**	**247**	Pn		**Pn**	**02 54 30.6**	**+1.2**
	0.5nm,0.3s,baz=214,slow=7.3,SNR=2.5							
AAK				Lg		Lg	02 55 51.5	
	1.6nm,0.3s,baz=264,slow=17,SNR=8.4							
AAK				LR		LR	02 56 51.0	
	comp=Z,43nm,21.0s,baz=297,slow=43							
	1.0nm,0.3s							
KURBB	**Kurchatov Arra**	**5.99**	**345**	Pn		**Pn**	**02 54 39.2**	**-0.8**
	0.2nm,0.3s,baz=96,slow=8.5,SNR=11							
KURBB				Sn		**Sn**	**02 55 47.9**	**-1.2**
	1.2nm,0.3s,baz=164,slow=20,SNR=9.2							
KURBB				Lg		Lg	02 56 20.6	
	1.5nm,0.3s,baz=174,slow=29,SNR=6.8							
	0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**5.99**	**345**	⇑Pn		**Pn**	**02 54 40.5**	**+0.5**
	1.7nm,0.5s							
KURBB				⇑Sn		**Sn**	**02 55 47.4**	**-1.6**
	31nm,0.6s							
KURBB				⇓Lg		Lg	02 56 15.3	
	90nm,0.8s							
KURK	**Kurchatov**	**6.06**	**346**	⇓Pn		**Pn**	**02 54 41.5**	**+0.5**
	1.2nm,0.6s							
KURK				⇓Sn		**Sn**	**02 55 47.9**	**-3.0**
	9.3nm,0.5s							
KURK				⇑Lg		Lg	02 56 19.7	
	77nm,0.8s							
BRZS	**Berezniki**	**7.60**	**315**	*e*Pn		**Pn**	**02 55 02.3**	**+0.1**
	baz=315							
KK31	**Karatay Array**	**7.76**	**260**	⇑Pn		**Pn**	**02 55 03.9**	**-0.5**
	0.3nm,0.2s,baz=70,slow=15,SNR=4.7							
KK31				⇑Lg		Lg	02 57 11.5	
	3.1nm,0.4s,baz=74,slow=29,SNR=5.5							
ZALV	**Zalesovo Beam**	**9.42**	**14**	Pn		**Pn**	**02 55 26.7**	**-0.4**
	0.4nm,0.3s,baz=185,slow=15

σ2$02/23, mb4.3/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.26**	**207**	Pn	**Pn**	**02 57 11.5**	**+0.6**
URZ	**Urewera**	**6.35**	**211**	Pn	**Pn**	**02 57 26.9**	**+1.1**
	3.9nm,0.3s,baz=351,slow=5.0,SNR=24						
URZ				Sn	**Sn**	**02 58 34.2**	**-4.1**
	5.7nm,0.3s,baz=192,slow=21,SNR=9.8						
	7.9nm,0.3s						
URZ	**Urewera**	**6.35**	**211**		**Pn**	**02 57 27.6**	**+1.8**
OUZ	**Omahuta**	**6.79**	**248**	Pn	**Pn**	**02 57 36.0**	**+4.2**
BKZ	**Black Stump Fm**	**7.37**	**210**	Pn	**Pn**	**02 57 39.6**	**-0.2**
TUWZ	**Tuamarina**	**10.34**	**212**	Pn	**Pn**	**02 58 23.8**	**+3.2**
MQZ	**McQueen's Vall**	**12.74**	**210**	Pn	**Pn**	**02 58 55.2**	**+1.8**
MSVF	**Nonsavu**	**15.36**	**348**	LR	LR	03 04 21.2	
	comp=Z,147nm,18.1s,baz=74,slow=34						
DZM	**Mont Dzumac**	**16.98**	**306**	LR	LR	03 05 10.8	
	comp=Z,80nm,20.0s,baz=49,slow=33						
LIFNC	**LIFOU**	**17.36**	**310**	Pn	**Pn**	**02 59 51.1**	**-3.6**
AS31	**Alice Springs**	**42.42**	**270**	P	**P**	**03 03 48.1**	**+0.8**
ASAR	**Alice Springs**	**42.42**	**270**	P	**P**	**03 03 47.2**	**-0.1**
	1.3nm,0.6s,baz=107,slow=7.2,SNR=14						
	1.3nm,0.6s						
WR0	**Warramunga Arr**	**43.46**	**275**	P	**P**	**03 03 55.1**	**-0.6**
WR0				IAmb	IAmb	03 03 59.7	
	comp=Z,8.1nm,1.4s						
WB2	**Warramunga Arr**	**43.63**	**275**	P	**P**	**03 03 56.5**	**-0.6**
WB2				IAmb	IAmb	03 04 31.3	
	comp=Z,9.5nm,1.5s						
WRA	**Warramunga Arr**	**43.64**	**275**	P	**P**	**03 03 56.7**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=116,slow=7.7,SNR=16						
	comp=Z,1.1nm,0.6s						
WRA	**Warramunga Arr**	**43.64**	**275**	P	**P**	**03 03 56.0**	**-1.2**
WB0	**Warramunga Arr**	**43.67**	**275**	P	**P**	**03 03 56.8**	**-0.6**
WB0				IAmb	IAmb	03 03 58.0	
	comp=Z,7.6nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.79**	**272**	LR	LR	03 24 16.0	
	comp=Z,36nm,18.7s,baz=46,slow=33						
CASY	**Casey**	**52.67**	**209**	P	**P**	**03 05 06.3**	**0.0**
QSPA	**South Pole Qui**	**57.23**	**180**	P	**P**	**03 05 42.8**	**+3.2**
	comp=Z,1.9nm,0.7s,baz=314,slow=0.7,SNR=7.9						
	comp=Z,1.9nm,0.7s						
QSPA	**South Pole Qui**	**57.23**	**180**	P	**P**	**03 05 39.8**	**+0.2**
QSPA				IAmb	IAmb	03 05 43.8	
	comp=Z,3.1nm,0.9s						
FINES	**FINESS Array B**	**147.24**	**338**	PKPbc	**PKPbc**	**03 15 34.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=36,slow=3.5,SNR=12						
NB2	**NORSAR Subarra**	**151.09**	**350**	PKP	**PKiKP**	**03 15 45.0**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.09**	**350**	PKPbc	**PKiKP**	**03 15 44.8**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=23,slow=4.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**160.35**	**181**	PKPab	**PKPab**	**03 16 33.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=168,slow=3.3,SNR=2.3						

*IDC **20** 03:04:35.4±1.5,0.76S×120.91E, h0km, mb3.5/3, mbtmp3.6/4, ML4.0/1, MS3.1/4, Error ellipse: s-maj=63.5km s-min=26.2km az=65.0*

*DJA **20** 03:04:36.3±1.0, 1.1S±3.3°×12.0E±.7°, h17km±9km, M4.0/9, mb4.1/1, MLv4.0/9*

*NEIC **20** 03:04:41.8±0.6, 0.96S±0.07°×120.61E±0.05, h45km±16km, mb4.1/6, Error ellipse: s-maj=10.2km s-min=7.3km az=161.0*

ISC 20 03:04:41.5±0.8, 0.95S±0.04×120.47E±0.06, h49km, n26,
σ2$00/29, mb3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.18**	**88**	P	**Pn**	**03 05 01.7**	**+0.1**
APSI				S	**Sn**	**03 05 20.9**	**+4.3**
MPSI	**Mapaga**	**1.40**	**336**	P	Pn	03 04 58.8	-5.9
MRSI	**Marisa**	**2.04**	**46**	P	**Pn**	**03 05 09.9**	**-3.5**
MRSI				S	**Sn**	**03 05 34.9**	**-2.8**
TOLI2	**Tolitoli**	**2.07**	**9**		**Pn**	**03 05 12.5**	**-1.3**
TOLI2				Sn	**Sn**	**03 05 41.1**	**+2.7**
TTSI	**Tana Toraja**	**2.18**	**197**	P	**Pn**	**03 05 14.0**	**-1.4**
TTSI				S	**Sn**	**03 05 43.3**	**+2.1**
LUWI	**Luwuk**	**2.30**	**92**	Pn	**Pn**	**03 05 15.4**	**-1.6**
LUWI	**Luwuk**	**2.30**	**92**	P	**Pn**	**03 05 14.9**	**-2.1**
GTOI	**Gorontalo**	**2.99**	**58**	P	**Pn**	**03 05 23.8**	**-2.6**
SPSI	**Sidrap Palu**	**3.08**	**193**	P	**Pn**	**03 05 23.9**	**-3.8**
SPSI				S	**Sn**	**03 06 03.2**	**-0.1**
KAPI	**Kappang**	**4.10**	**190**	Pn	**Pn**	**03 05 41.7**	**0.0**
	7.5nm,0.3s,baz=14,slow=11,SNR=17						
KAPI				Sn	**Sn**	**03 06 29.8**	**+1.3**
	11nm,0.3s,baz=182,slow=22,SNR=12						
KAPI				LR	LR	03 07 30.4	
	comp=Z,485nm,19.0s,baz=348,slow=40						
	19nm,0.3s						
KAPI	**Kappang**	**4.10**	**190**	Pn	**Pn**	**03 05 40.9**	**-0.9**
BKSI	**Bulukumba**	**4.36**	**185**	P	**Pn**	**03 05 42.7**	**-2.6**
SANI	**Sanana**	**5.62**	**101**	P	**Pn**	**03 06 02.5**	**-0.1**
MYLDM	**Lahad Datu**	**6.40**	**342**	Pn	**Pn**	**03 06 13.9**	**+0.7**
DAV	**Davao City (W)**	**9.46**	**33**	LR	LR	03 10 38.5	
	comp=Z,143nm,21.8s,baz=176,slow=40						
KNRA	**Kununurra**	**16.77**	**151**	Pn	**Pn**	**03 08 31.9**	**-1.1**
KNRA				IAmb	IAmb	03 08 36.9	
	comp=Z,30nm,1.4s						
WB0	**Warramunga Arr**	**23.14**	**145**	P	**P**	**03 09 42.7**	**-1.1**
WB0				IAmb	IAmb	03 09 44.4	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**23.25**	**145**	P	**P**	**03 09 43.9**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=328,slow=10,SNR=13						
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**23.25**	**145**	P	**P**	**03 09 43.0**	**-1.9**
WB2	**Warramunga Arr**	**23.26**	**145**	P	**P**	**03 09 44.7**	**-0.2**
WB2				IAmb	IAmb	03 10 06.8	
	comp=Z,3.2nm,1.0s						
WR0	**Warramunga Arr**	**23.38**	**145**	P	**P**	**03 09 45.4**	**-0.7**
WR0				IAmb	IAmb	03 10 04.1	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**26.07**	**151**	P	**P**	**03 10 10.9**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=342,slow=15,SNR=12						
ASAR				PcP	**PcP**	**03 13 37.6**	**0.0**
	comp=Z,0.3nm,0.7s,baz=334,slow=1.8,SNR=5.3						
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.64**	**313**	LR	LR	03 22 37.9	
	comp=Z,24nm,18.1s,baz=110,slow=38						
KSRS	**Korea Array**	**38.83**	**9**	LR	LR	03 28 23.7	
	comp=Z,18nm,19.7s,baz=305,slow=37						
MKAR	**Makanchi Array**	**58.12**	**330**	P	**P**	**03 14 31.9**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=132,slow=8.0,SNR=2.0						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**88.99**	**180**	P	**P**	**03 17 31.9**	**+0.9**

IDC 20 03:09:28.1±3.2, 2.08S×140.92E, h0km, mb3.7/3, mbtmp3.8/4, ML3.7/1, MS3.2/4, Error ellipse: s-maj=90.7km s-min=40.5km az=138.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.56**	**140**	LR	LR	03 16 35.8	
	comp=Z,44nm,19.0s,baz=264,slow=45						
CTA	**Charters Tower**	**18.64**	**164**	LR	LR	03 21 57.2	
	comp=Z,92nm,19.1s,baz=216,slow=40						
WRA	**Warramunga Arr**	**18.88**	**199**	P	P	03 13 49.8	-0.4
	0.2nm,0.3s,baz=23,slow=12,SNR=14						
WRA				LR	LR	03 21 25.1	
	comp=Z,109nm,20.7s,baz=48,slow=38						
	1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.86**	**222**	P	P	03 14 21.8	-0.9
	2.1nm,0.8s,baz=53,slow=15,SNR=2.0						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**22.51**	**197**	P	P	03 14 29.2	-0.4
	1.8nm,0.8s,baz=28,slow=10,SNR=21						
ASAR				LR	LR	03 23 28.1	
	comp=Z,129nm,21.2s,baz=86,slow=37						
	1.8nm,0.8s						
VNDA	**Vanda**	**76.22**	**175**	P	P	03 21 18.6	+0.7
	1.2nm,0.6s,baz=336,slow=6.5,SNR=11						
	1.2nm,0.6s						
LPAZ	**La Paz**	**145.99**	**124**	PKPbc	PKPdf	03 29 10.7	-0.3
	1.6nm,1.0s,baz=236,slow=3.6,SNR=4.3						

*IDC **20** 03:11:32.4±1.7, 2.29S×140.86E, h0km, mb3.7/5, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=66.8km s-min=29.3km az=113.0*

ISC 20 03:11:34.0±1.5, 2.3S±0.2×140.6E±0.4, h10km, n6, σ0$39/6, mb3.7/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.62**	**199**	P	**Pn**	**03 15 52.1**	**-0.1**
	0.3nm,0.3s,baz=23,slow=12,SNR=13						
	1.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.55**	**222**	P	**P**	**03 16 23.5**	**-0.2**
	1.3nm,0.6s,baz=55,slow=14,SNR=1.2						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**22.26**	**196**	P	**P**	**03 16 32.0**	**+0.6**
	1.5nm,0.6s,baz=28,slow=11,SNR=11						
	1.5nm,0.6s						
STKA	**Stephens Creek**	**29.48**	**178**	P	**P**	**03 17 38.3**	**-0.1**
	1.2nm,0.5s,baz=23,slow=7.7,SNR=1.9						
	1.2nm,0.5s						
VNDA	**Vanda**	**76.07**	**175**	P	**P**	**03 23 21.1**	**-0.2**
	1.0nm,0.7s,baz=333,slow=7.4,SNR=9.1						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**84.63**	**24**	P	**P**	**03 24 07.7**	**+0.1**
	0.3nm,0.8s,baz=265,slow=5.4,SNR=2.5						
	0.3nm,0.8s						

*IDC **20** 03:28:41.0±10.0, 17.45N×145.74E, h137km±101km, mb3.6/11, mbtmp4.0/11, Error ellipse: s-maj=43.8km s-min=17.1km az=96.0*

*NEIC **20** 03:28:46.5±1.0, 17.4N±0.1°×145.6E±0.2, h179km±9km, mb4.2/19, Error ellipse: s-maj=25.5km s-min=14.9km az=93.0*

ISC 20 03:28:44.5±0.6, 17.36N±0.08×145.8E±0.1, h167km, n42,
σ1$00/36, mb4.0/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.85**	**193**	S	**Sn**	**03 30 29.3**	**+0.2**
	42nm,0.3s,baz=0.0,slow=20,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**19.93**	**84**	T	T	03 54 01.4	
	baz=271,slow=74,SNR=1.3						
H11S1	**WAKE ISLAND Hy**	**19.94**	**84**	T	T	03 54 05.4	
	baz=271						
H11S2	**WAKE ISLAND Hy**	**19.95**	**84**	T	T	03 54 03.7	
	baz=271,slow=74,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**20.16**	**80**	T	T	03 54 16.9	
	baz=264,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**20.16**	**80**	T	T	03 54 20.8	
	baz=264,slow=75,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**20.17**	**80**	T	T	03 54 20.2	
	baz=264,slow=75,SNR=14						
SIJI	**Sorong**	**23.07**	**220**	P	**P**	**03 33 35.1**	**-0.5**
	11nm,0.5s,baz=20,slow=8.8,SNR=5.2						
	11nm,0.5s						
USRK	**Ussuriysk Ar.**	**29.18**	**339**	P	**P**	**03 34 30.3**	**+0.2**
HNR	**Honiara**	**30.08**	**151**	P	**P**	**03 34 40.2**	**+1.9**
KLR	**Kul'dur**	**33.77**	**343**	P	**P**	**03 35 09.4**	**-0.7**
	0.6nm,0.3s,baz=146,slow=11,SNR=2.6						
	0.6nm,0.3s						
KAPI	**Kappang**	**33.98**	**231**	P	**P**	**03 35 11.3**	**-1.2**
KNRA	**Kununurra**	**36.86**	**208**	P	**P**	**03 35 37.0**	**0.0**
KNRA				IAmb	IAmb	03 35 58.7	
	comp=Z,21nm,1.2s						
WB0	**Warramunga Arr**	**38.55**	**197**	P	**P**	**03 35 50.8**	**-0.3**
WB0				IAmb	IAmb	03 35 52.0	
	comp=Z,9.8nm,1.5s						
WR0	**Warramunga Arr**	**38.69**	**197**	P	**P**	**03 35 52.0**	**-0.3**
WR0				IAmb	IAmb	03 36 32.7	
	comp=Z,5.7nm,1.2s						
WB2	**Warramunga Arr**	**38.73**	**197**	P	**P**	**03 35 52.6**	**0.0**
WB2				IAmb	IAmb	03 35 59.1	
	comp=Z,7.3nm,1.3s						
WRA	**Warramunga Arr**	**38.73**	**197**	P	**P**	**03 35 52.8**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=20,slow=8.5,SNR=18						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**38.73**	**197**	P	**P**	**03 35 51.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**40.42**	**210**	P	**P**	**03 36 07.3**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=27,slow=15,SNR=7.7						
	comp=Z,0.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**40.42**	**210**	P	**P**	**03 36 06.9**	**+0.3**
FITZ				IAmb	IAmb	03 36 18.7	
	comp=Z,6.4nm,1.3s						
JAGI	**Jajag, Banyuwa**	**40.44**	**233**	P	**P**	**03 36 05.4**	**-1.5**
ASAR	**Alice Springs**	**42.39**	**196**	P	**P**	**03 36 22.4**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=16,slow=9.9,SNR=6.3						
	comp=Z,0.2nm,0.4s						
SONM	**Songino Array**	**44.24**	**322**	P	**P**	**03 36 38.6**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=142,slow=7.3,SNR=2.3						
CMAR	**Chiang Mai Arr**	**44.48**	**279**	P	**P**	**03 36 42.0**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=68,slow=8.0,SNR=4.7						
STKA	**Stephens Creek**	**49.12**	**185**	P	**P**	**03 37 14.5**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=9.3,slow=9.3,SNR=5.4						
	comp=Z,0.9nm,0.4s						
ILAR	**Eielson Array**	**64.81**	**26**	P	**P**	**03 39 04.0**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=245,slow=6.1,SNR=11						
	comp=Z,0.7nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**77.74**	**306**	P	**P**	**03 40 22.6**	**-0.7**
PINE	**Pine Mountain**	**80.51**	**47**	P	**P**	**03 40 39.3**	**+0.9**
PINE				IAmb	IAmb	03 40 40.5	
	comp=Z,5.2nm,0.7s						
PNTR	**Pine Nut**	**82.75**	**51**	P	**P**	**03 40 50.8**	**+0.6**
PNTR				IAmb	IAmb	03 41 02.1	
	comp=Z,10nm,1.4s						
PLID	**Pearl Lake**	**83.54**	**45**	P	**P**	**03 40 54.0**	**-0.2**
ARCES	**ARCESS Array B**	**83.78**	**342**	P	**P**	**03 40 54.8**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=78,slow=5.6,SNR=5.5						
	comp=Z,2.8nm,1.0s						
KVN	**Kaiserville**	**83.87**	**51**	P	**P**	**03 40 55.7**	**-0.2**
NVAR	**Mina Array Bea**	**83.91**	**52**	P	**P**	**03 40 56.9**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=270,slow=6.2,SNR=1.8						
	comp=Z,0.9nm,0.5s						
LCH	**Last Change Ra**	**84.76**	**53**	P	**P**	**03 40 58.8**	**-1.6**
LCH				IAmb	IAmb	03 41 10.8	
	comp=Z,4.2nm,1.5s						
ELK	**Elko**	**85.44**	**49**	P	**P**	**03 41 04.4**	**+0.6**
BCYI	**Bear Canyon**	**85.54**	**45**	P	**P**	**03 41 05.3**	**+1.1**
LRM	**Limekiln Ridge**	**85.66**	**43**	P	**P**	**03 41 05.3**	**+0.5**
YHL	**Hebgen Lake**	**86.84**	**44**	P	**P**	**03 41 12.2**	**+1.5**
YHL				IAmb	IAmb	03 41 12.7	
	comp=Z,3.0nm,0.7s						
DUG	**Dugway, Tooele**	**87.37**	**49**	P	**P**	**03 41 13.6**	**+0.4**
DUG				IAmb	IAmb	03 41 14.5	
	comp=Z,2.4nm,0.7s						
FINES	**FINESS Array B**	**88.13**	**335**	P	**P**	**03 41 14.0**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=72,slow=6.2,SNR=4.5						
	comp=Z,0.5nm,0.5s						
PDAR	**Pinedale Array**	**88.71**	**45**	P	**P**	**03 41 19.6**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=229,slow=1.3,SNR=4.9						
	comp=Z,0.2nm,0.4s						
LPAZ	**La Paz**	**147.55**	**93**	PKPbc	**PKPbc**	**03 48 10.5**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=353,slow=3.5,SNR=19						

*PRU **20** 03:29:59.9±0.0, 42.64N×14.02E, h0km*

ROM 20 03:30:02.5±0.0, 42.806N±0.002×13.155E±0.003, h10km, ML3.1/69, 43C-21D, Error ellipse: s-maj=0.2km s-min=0.1km az=250.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**313**	⇓P	Pg	03 30 04.8	+0.2
NRCA				S	Sg	03 30 05.9	-0.1
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1242	**Castelluccio d**	**0.04**	**57**	⇓P	Pg	03 30 04.9	+0.2
T1242				S	Sg	03 30 06.2	-0.1
T1242				AML	AML		
	comp=N,64600μm,0.4s						
T1242				AML	AML		
	comp=E,47200μm,0.2s						
T1242				AML	AML		
	comp=E,47950μm,0.4s						
T1242				AML	AML		
	comp=N,64100μm,0.4s						
T1242				AML	AML		
	comp=E,47900μm,0.4s						
T1242				AML	AML		
	comp=E,35240μm,0.2s						
T1242				AML	AML		
	comp=N,57667μm,0.2s						
T1242				AML	AML		
	comp=E,34080μm,0.3s						
T1242				AML	AML		
	comp=N,56944μm,0.2s						
MC2	**Monte Cornacci**	**0.11**	**14**	P	Pg	03 30 06.0	+0.5
MC2				S	Sg	03 30 08.3	+0.7
T1202	**Accumoli, Fraz**	**0.11**	**153**	P	Pg	03 30 06.0	+0.6
T1202				S	Sg	03 30 08.4	+0.9
T1202				AML	AML		
	comp=E,54400μm,0.7s						
T1202				AML	AML		
	comp=E,54450μm,0.7s						
T1202				AML	AML		
	comp=N,61400μm,0.8s						
T1202				AML	AML		
	comp=E,44853μm,0.2s						
T1202				AML	AML		
	comp=N,54719μm,0.2s						
T1216	**Preci, Frazion**	**0.13**	**310**	P	Pg	03 30 06.2	+0.5
T1216				S	Sg	03 30 08.4	+0.6
T1216				AML	AML		
T1216				AML	AML		
	comp=E,23500μm,0.9s						
T1216				AML	AML		
T1216				AML	AML		
T1216				AML	AML		
	comp=N,24050μm,1.5s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,23450μm,0.9s						
T1216				AML	AML		
	comp=N,24100μm,1.5s						
T1216				AML	AML		
	comp=E,19885μm,0.1s						
T1216				AML	AML		
T1216				AML	AML		
	comp=N,23425μm,0.1s						
T1216				AML	AML		
MMO1	**Montemonaco**	**0.16**	**53**	P	Pg	03 30 06.6	+0.5
MMO1				S	Sg	03 30 09.4	+0.9
FEMA	**Monte Fema**	**0.17**	**334**	⇑P	Pg	03 30 07.0	+0.6
FEMA				S	Sg	03 30 09.9	+0.8
FEMA				AML	AML		
	comp=E,27300μm,1.3s						
FEMA				AML	AML		
	comp=N,21950μm,0.4s						
FEMA				AML	AML		
	comp=N,21900μm,0.4s						
FEMA				AML	AML		
	comp=E,27300μm,1.3s						
FEMA				AML	AML		
	comp=N,19589μm,0.1s						
FEMA				AML	AML		
	comp=E,23271μm,0.1s						
T1204	**Amatrice, Fraz**	**0.18**	**137**	P	Pg	03 30 07.1	+0.7
T1204				S	Sg	03 30 10.1	+1.0
T1204				AML	AML		
	comp=E,13800μm,0.6s						
T1204				AML	AML		
	comp=N,8220μm,1.0s						
T1204				AML	AML		
	comp=N,8200μm,1.0s						
T1204				AML	AML		
	comp=N,8205μm,1.0s						
T1204				AML	AML		
	comp=N,6981μm,0.2s						
T1204				AML	AML		
	comp=E,12207μm,0.3s						
T1217	**Poggiodomo (PG**	**0.19**	**241**	⇓P	Pg	03 30 07.3	+0.7
T1217				S	Sg	03 30 10.5	+1.1
T1217				AML	AML		
	comp=E,14700μm,0.7s						
T1217				AML	AML		
	comp=E,14300μm,0.7s						
T1217				AML	AML		
	comp=N,10730μm,1.6s						
T1217				AML	AML		
	comp=E,14650μm,0.7s						
T1217				AML	AML		
	comp=N,10850μm,1.6s						
T1217				AML	AML		
	comp=E,14250μm,0.7s						
T1217				AML	AML		
	comp=N,10745μm,1.6s						
T1217				AML	AML		
	comp=N,10850μm,1.6s						
T1217				AML	AML		
	comp=N,10750μm,1.6s						
T1217				AML	AML		
	comp=N,10809μm,0.3s						
T1217				AML	AML		
	comp=E,13914μm,0.1s						
T1217				AML	AML		
	comp=N,10425μm,0.3s						
T1217				AML	AML		
	comp=E,13396μm,0.1s						
T1241	**Roccafluvione,**	**0.21**	**76**	P	Pg	03 30 07.6	+0.7
T1241				S	Sg	03 30 11.2	+1.3
T1241				AML	AML		
	comp=N,12150μm,0.3s						
T1241				AML	AML		
	comp=E,21750μm,0.2s						
T1241				AML	AML		
	comp=N,12150μm,0.3s						
T1241				AML	AML		
	comp=N,11200μm,0.3s						
T1241				AML	AML		
	comp=E,21350μm,0.2s						
T1241				AML	AML		
	comp=N,5210μm,0.2s						
T1241				AML	AML		
	comp=N,4819μm,0.2s						
T1241				AML	AML		
	comp=E,12764μm,0.2s						
T1241				AML	AML		
	comp=E,13041μm,0.2s						
T1215	**Vallo di Nera,**	**0.21**	**269**	P	Pg	03 30 07.6	+0.7
T1215				S	Sg	03 30 11.1	+1.1
T1215				AML	AML		
	comp=E,11500μm,1.1s						
T1215				AML	AML		
	comp=N,12450μm,0.3s						
T1215				AML	AML		
	comp=E,11700μm,1.1s						
T1215				AML	AML		
	comp=N,12500μm,0.2s						
T1215				AML	AML		
	comp=E,11650μm,1.1s						
T1215				AML	AML		
	comp=N,12400μm,0.2s						
T1215				AML	AML		
	comp=E,11550μm,1.1s						
T1215				AML	AML		
	comp=N,9904μm,0.1s						
T1215				AML	AML		
	comp=E,9243μm,0.1s						
T1215				AML	AML		
	comp=E,8603μm,0.1s						
T1215				AML	AML		
	comp=N,10135μm,0.1s						
LNSS	**Leonessa**	**0.22**	**203**	P	Pg	03 30 07.8	+0.6
LNSS				S	Sg	03 30 11.7	+1.4
LNSS				AML	AML		
	comp=N,65550μm,0.2s						
LNSS				AML	AML		
	comp=E,53850μm,0.2s						
LNSS				AML	AML		
	comp=E,53812μm,0.2s						
LNSS				AML	AML		
	comp=N,57384μm,0.2s						
AM05	**Amandola Campo**	**0.23**	**40**	⇑P	Pb	03 30 08.0	-0.8
AM05				AML	AML		
	comp=E,3680μm,0.5s						
AM05				AML	AML		
	comp=N,19800μm,0.5s						
AM05				AML	AML		
	comp=E,3685μm,0.5s						
AM05				AML	AML		
	comp=E,14850μm,0.5s						
AM05				AML	AML		
	comp=N,4930μm,0.5s						
AM05				AML	AML		
	comp=N,4696μm,0.2s						
AM05				AML	AML		
	comp=N,18826μm,0.2s						
AM05				AML	AML		
	comp=E,12650μm,0.1s						
AM05				AML	AML		
	comp=E,3198μm,0.1s						
FDMO	**Fiordimonte**	**0.24**	**348**	P	Pg	03 30 08.0	+0.6

FDMO				S	Sg	03 30 12.0	+1.2		
FDMO				AML	AML				
	comp=N,8920µm,0.5s								
FDMO				AML	AML				
	comp=E,7875µm,0.2s								
FDMO				AML	AML				
	comp=N,8076µm,0.2s								
FDMO				AML	AML				
	comp=E,7271µm,0.2s								
T1243	**Rocca Santa Ma**	**0.24**	**117**	⇑P	Pg	03 30 08.1	+0.5		
T1243				S	Sg	03 30 12.1	+1.2		
CESI	**CESI - Serrava**	**0.27**	**317**	⇑P	Pg	03 30 08.8	+0.7		
CESI				S	Sb	03 30 13.2	-1.0		
CESI				AML	AML				
	comp=N,17750µm,0.5s								
CESI				AML	AML				
	comp=E,9875µm,0.4s								
CESI				AML	AML				
	comp=N,14065µm,0.3s								
CESI				AML	AML				
	comp=E,6612µm,0.3s								
CSP1	**Cessapalombo**	**0.29**	**7**	⇑P	Pg	03 30 09.0	+0.6		
CSP1				S	Sb	03 30 13.8	-1.0		
CSP1				AML	AML				
	comp=N,19850µm,0.5s								
CSP1				AML	AML				
	comp=E,16050µm,0.3s								
CSP1				AML	AML				
	comp=E,14940µm,0.3s								
CSP1				AML	AML				
	comp=N,17908µm,0.4s								
GUMA	**Gualdo di Mace**	**0.29**	**27**	⇑P	Pg	03 30 08.4	0.0		
GUMA				S	Sg	03 30 13.3	+1.0		
GUMA				AML	AML				
	comp=E,29300µm,0.2s								
GUMA				AML	AML				
	comp=E,45650µm,0.2s								
GUMA				AML	AML				
	comp=N,32850µm,0.3s								
GUMA				AML	AML				
	comp=N,27900µm,0.3s								
GUMA				AML	AML				
	comp=N,27855µm,0.3s								
GUMA				AML	AML				
	comp=E,29302µm,0.2s								
GUMA				AML	AML				
	comp=N,32876µm,0.3s								
GUMA				AML	AML				
	comp=E,45660µm,0.2s								
RM33	**Pellescritta (**	**0.30**	**172**	⇓P	Pg	03 30 09.1	+0.5		
RM33				S	Sb	03 30 13.9	-1.1		
RM33				AML	AML				
	comp=E,8865µm,0.9s								
RM33				AML	AML				
	comp=N,8630µm,1.0s								
RM33				AML	AML				
	comp=E,8690µm,0.9s								
RM33				AML	AML				
	comp=N,8420µm,1.0s								
RM33				AML	AML				
	comp=E,8870µm,0.9s								
RM33				AML	AML				
	comp=E,8685µm,0.9s								
RM33				AML	AML				
	comp=N,8425µm,1.0s								
RM33				AML	AML				
	comp=N,8635µm,1.0s								
RM33				AML	AML				
	comp=N,5860µm,0.2s								
RM33				AML	AML				
	comp=E,8026µm,0.2s								
RM33				AML	AML				
	comp=E,7985µm,0.2s								
RM33				AML	AML				
	comp=N,5588µm,0.2s								
CAMP	**Campotosto**	**0.33**	**145**	⇑P	Pg	03 30 09.5	+0.4		
CAMP				S	Sb	03 30 14.7	-1.2		
CAMP				AML	AML				
	comp=E,3325µm,0.2s								
CAMP				AML	AML				
	comp=N,2595µm,1.3s								
CAMP				AML	AML				
	comp=N,2529µm,0.3s								
CAMP				AML	AML				
	comp=E,3325µm,0.2s								
SEF1	**Sefro**	**0.37**	**336**	P	Pg	03 30 10.4	+0.5		
SEF1				AML	AML				
	comp=N,9175µm,0.6s								
SEF1				AML	AML				
	comp=N,9195µm,0.6s								
SEF1				AML	AML				
	comp=E,8650µm,0.2s								
SEF1				AML	AML				
	comp=E,8649µm,0.2s								
SEF1				AML	AML				
	comp=N,9073µm,0.2s								
TERO	**Teramo**	**0.38**	**119**	⇑P	Pg	03 30 10.3	+0.3		
TERO				S	Sb	03 30 16.4	-0.9		
TERO				AML	AML				
	comp=E,3385µm,0.5s								
TERO				AML	AML				
	comp=N,4005µm,0.5s								
TERO				AML	AML				
	comp=E,3900µm,0.1s								
TERO				AML	AML				
	comp=N,4230µm,0.5s								
TERO				AML	AML				
	comp=E,2495µm,0.3s								
TERO				AML	AML				
	comp=N,3100µm,0.2s								
TERO				AML	AML				
	comp=N,3096µm,0.3s								
TERO				AML	AML				
	comp=E,2659µm,0.3s								
T1247	**Pizzolo (AQ)**	**0.38**	**164**	⇑P	Pg	03 30 10.5	+0.5		
T1247				AML	AML				
	comp=E,4940µm,0.2s								
T1247				AML	AML				
	comp=N,6375µm,0.4s								
T1247				AML	AML				
	comp=E,4935µm,0.2s								
T1247				AML	AML				
	comp=N,4549µm,0.2s								
T1247				AML	AML				
	comp=E,4247µm,0.2s								
MDAR	**Monte D'Aria**	**0.39**	**359**	P	Pg	03 30 10.8	+0.6		
MDAR				S	Sb	03 30 17.2	-0.4		
MDAR				AML	AML				
	comp=E,4100µm,1.2s								
MDAR				AML	AML				
	comp=N,4520µm,0.4s								
MDAR				AML	AML				
	comp=E,4105µm,1.2s								
MDAR				AML	AML				
	comp=N,4515µm,0.4s								
MDAR				AML	AML				
	comp=E,3538µm,0.2s								
MDAR				AML	AML				
	comp=N,3791µm,0.4s								
MNTP	**Montappone**	**0.40**	**35**	AML	AML				
	comp=N,4247µm,0.3s								
MNTP				AML	AML				
	comp=E,7615µm,0.6s								
MNTP				AML	AML				
	comp=N,6265µm,1.1s								
MNTP				AML	AML				
	comp=E,4969µm,0.5s								
OFFI	**Offida**	**0.41**	**71**	AML	AML				
	comp=N,5237µm,0.4s								
OFFI				AML	AML				
	comp=E,5005µm,0.9s								
OFFI				AML	AML				
	comp=N,6590µm,0.7s								
FIU1	**Fiuminata**	**0.42**	**337**	P	Pg	03 30 11.3	+0.6		
FIU1				S	Sb	03 30 18.0	-0.4		
FIU1				AML	AML				
	comp=N,4845µm,0.3s								
FIU1				AML	AML				
	comp=E,3630µm,1.0s								
FIU1				AML	AML				
	comp=E,2684µm,0.2s								
FIU1				AML	AML				
	comp=N,4475µm,0.3s								
GAG1	**Gagliole**	**0.44**	**352**	AML	AML				
	comp=N,8470µm,1.6s								
GAG1				AML	AML				
	comp=E,8790µm,0.4s								
GAG1				AML	AML				
	comp=N,8470µm,1.6s								
GAG1				AML	AML				
	comp=N,6824µm,0.4s								
GAG1				AML	AML				
	comp=E,6844µm,0.4s								
MTL1	**Matelica**	**0.46**	**347**	AML	AML				
	comp=N,6250µm,0.3s								
MTL1				AML	AML				
	comp=E,7415µm,0.3s								
MTL1				AML	AML				
	comp=N,8445µm,0.4s								
MTL1				AML	AML				
	comp=E,7420µm,0.3s								
MTL1				AML	AML				
	comp=N,8460µm,0.4s								
MTL1				AML	AML				
	comp=E,5887µm,0.3s								
CESX	**Cesi**	**0.47**	**245**	AML	AML				
	comp=E,2720µm,0.2s								
CESX				AML	AML				
	comp=N,2925µm,0.6s								
CESX				AML	AML				
	comp=N,2635µm,0.3s								
CESX				AML	AML				
	comp=E,2720µm,0.2s								
GIGS	**Gran Sasso**	**0.47**	**139**	AML	AML				
	comp=E,436µm,0.2s								
GIGS				AML	AML				
	comp=E,659µm,0.5s								
GIGS				AML	AML				
	comp=N,546µm,0.8s								
GIGS				AML	AML				
	comp=E,658µm,0.5s								
GIGS				AML	AML				
	comp=N,541µm,0.4s								
SNTG	**Esanatoglia**	**0.48**	**341**	AML	AML				
	comp=N,1905µm,0.2s								
SNTG				AML	AML				
	comp=E,312µm,1.4s								
SNTG				AML	AML				
	comp=E,1935µm,0.9s								
SNTG				AML	AML				
	comp=N,330µm,1.6s								
SNTG				AML	AML				
	comp=N,2050µm,1.6s								
SNTG				AML	AML				
	comp=N,262µm,0.2s								
AQU	**L'Aquila**	**0.49**	**158**	AML	AML				
	comp=N,3000µm,0.2s								
AQU				AML	AML				
	comp=N,3000µm,0.2s								
AQU				AML	AML				
	comp=E,1950µm,0.2s								
AQU				AML	AML				
	comp=N,2980µm,0.2s								
AQU				AML	AML				
	comp=E,2095µm,1.4s								
AQU				AML	AML				
	comp=E,2037µm,0.3s								
AQU				AML	AML				
	comp=E,1951µm,0.2s								
AQU				AML	AML				
	comp=N,2982µm,0.2s								
TRE1	**Treia**	**0.52**	**13**	AML	AML				
	comp=N,4869µm,0.5s								
TRE1				AML	AML				
	comp=N,6270µm,0.4s								
TRE1				AML	AML				
	comp=E,6765µm,0.3s								
TRE1				AML	AML				
	comp=E,5171µm,0.3s								
ATCC	**AVT- Casa Cast**	**0.54**	**315**	AML	AML				
	comp=N,3000µm,0.6s								
ATCC				AML	AML				
	comp=E,4350µm,1.4s								
ATCC				AML	AML				
	comp=N,2802µm,0.2s								
ATCC				AML	AML				
	comp=E,3938µm,0.3s								
FIAM	**Fiamignano**	**0.54**	**183**	⇑P	Pg	03 30 13.1	+0.1		
FIAM				S	Sb	03 30 22.0	+0.1		
FIAM				AML	AML				
	comp=N,1740µm,1.1s								
FIAM				AML	AML				
	comp=E,1540µm,0.2s								
FIAM				AML	AML				
	comp=N,1498µm,0.3s								
FIAM				AML	AML				
	comp=E,1538µm,0.2s								
TRTR	**Tortoreto Alta**	**0.56**	**89**	AML	AML				
	comp=E,4845µm,0.7s								
TRTR				AML	AML				
	comp=N,3850µm,0.8s								
CING	**Cingoli**	**0.57**	**3**	AML	AML				
	comp=N,2438µm,0.7s								
CING				AML	AML				
	comp=N,2950µm,0.1s								
CING				AML	AML				
	comp=E,2570µm,0.2s								
CING				AML	AML				
	comp=E,2285µm,0.2s								
FAGN	**Fagnano**	**0.62**	**149**	AML	AML				
	comp=E,3112µm,0.4s								
FAGN				AML	AML				
	comp=E,3110µm,0.4s								
FAGN				AML	AML				
	comp=N,2710µm,0.3s								
FAGN				AML	AML				
	comp=N,2712µm,0.3s								
MMUR	**Monte Murano**	**0.65**	**350**	AML	AML				
	comp=E,3085µm,0.8s								
MMUR				AML	AML				
	comp=N,2560µm,0.3s								
MMUR				AML	AML				
	comp=E,2311µm,0.8s								
MMUR				AML	AML				
	comp=N,1928µm,0.4s								
MURB	**Monte Urbino**	**0.65**	**315**	AML	AML				
	comp=N,4346µm,0.2s								
MURB				AML	AML				
	comp=N,4480µm,0.9s								
MURB				AML	AML				
	comp=N,4520µm,0.9s								
MURB				AML	AML				
	comp=E,6995µm,0.3s								
MURB				AML	AML				
	comp=E,7610µm,0.3s								
MURB				AML	AML				
	comp=N,4501µm,0.2s								
VCEL	**Villa Celiera**	**0.65**	**129**	AML	AML				
	comp=N,2050µm,1.2s								
VCEL				AML	AML				
	comp=E,1920µm,1.0s								
VCEL				AML	AML				
	comp=E,1910µm,0.3s								
VCEL				AML	AML				
	comp=N,1546µm,0.3s								
PP3	**Marolino**	**0.66**	**30**	AML	AML				
	comp=E,11356µm,0.4s								
PP3				AML	AML				
	comp=N,9035µm,0.3s								
PP3				AML	AML				
	comp=E,11800µm,0.4s								
PP3				AML	AML				
	comp=N,9645µm,0.3s								
PP3				AML	AML				
	comp=E,11350µm,0.4s								
PP3				AML	AML				
	comp=E,11784µm,0.4s								
SSFR	**Montelago di S**	**0.69**	**337**	AML	AML				
	comp=N,3684µm,0.3s								
SSFR				AML	AML				
	comp=E,4320µm,0.2s								
SSFR				AML	AML				
	comp=E,4145µm,0.2s								
SSFR				AML	AML				
	comp=N,3335µm,1.4s								
SSFR				AML	AML				
	comp=N,3905µm,0.7s								
SSFR				AML	AML				
	comp=E,4316µm,0.2s								
SSFR				AML	AML				
	comp=E,4145µm,0.2s								
SSFR				AML	AML				
	comp=N,3075µm,0.2s								
ATFO	**Monte Foce - G**	**0.70**	**323**	AML	AML				
	comp=N,1193µm,0.5s								
ATFO				AML	AML				
	comp=N,1190µm,0.5s								
ATFO				AML	AML				
	comp=E,1140µm,0.2s								
ATFO				AML	AML				
	comp=E,1141µm,0.2s								
ATTE	**AVT- Monte Tez**	**0.71**	**304**	AML	AML				
	comp=E,921µm,0.5s								
ATTE				AML	AML				
	comp=N,840µm,0.3s								
ATTE				AML	AML				
	comp=E,921µm,0.5s								
ATTE				AML	AML				
	comp=N,840µm,0.3s								
ARVD	**Arcevia**	**0.71**	**347**	⇑P	Pg	03 30 16.4	+0.1		
ARVD				S	Sb	03 30 28.0	+1.2		
ARVD				AML	AML				
	comp=E,993µm,1.2s								
ARVD				AML	AML				
	comp=N,777µm,0.2s								
ARVD				AML	AML				
	comp=N,738µm,0.4s								
ARVD				AML	AML				
	comp=E,829µm,1.1s								
T0110	**Collepietro**	**0.74**	**141**	AML	AML				
	comp=E,1360µm,0.5s								
T0110				AML	AML				
	comp=N,1560µm,0.4s								
T0110				AML	AML				
	comp=E,1525µm,1.0s								
T0110				AML	AML				
	comp=N,1320µm,0.3s								
MGAB	**Montegabbione**	**0.77**	**278**	⇓P	Pb	03 30 17.8	-0.3		
MGAB				AML	AML				
	comp=N,1755µm,1.3s								
MGAB				AML	AML				
	comp=N,1595µm,1.3s								
MGAB				AML	AML				
	comp=E,2050µm,0.8s								
MGAB				AML	AML				
	comp=E,2035µm,0.8s								
MGAB				AML	AML				
	comp=E,1647µm,0.5s								
MGAB				AML	AML				
	comp=N,1516µm,0.3s								
MGAB				AML	AML				
	comp=E,1965µm,0.4s								
MGAB				AML	AML				
	comp=N,1494µm,0.4s								
FRON	**Frontone**	**0.78**	**336**	⇑P	Pg	03 30 17.4	-0.2		
ATVO	**AVT- Monte Val**	**0.80**	**317**	AML	AML				
	comp=N,664µm,0.8s								
ATVO				AML	AML				
	comp=E,732µm,0.4s								
ATVO				AML	AML				
	comp=E,733µm,0.4s								
ATVO				AML	AML				
	comp=N,648µm,0.5s								
PTQR	**Pietraquaria**	**0.80**	**167**	P	Pg	03 30 17.5	-0.5		
PTQR				AML	AML				
	comp=N,354µm,0.6s								
PTQR				AML	AML				
	comp=E,488µm,0.3s								
AOI	**Ancona**	**0.81**	**24**	⇑P	Pb	03 30 19.2	+0.4		
AOI				AML	AML				
	comp=N,896µm,0.2s								
AOI				AML	AML				
	comp=E,916µm,1.4s								
COR1	**Corinaldo**	**0.83**	**352**	P	Pb	03 30 19.5	+0.4		
ATMI	**Monte Miggiano**	**0.84**	**309**	⇓P	Pg	03 30 18.9	+0.2		
ATMI				AML	AML				
	comp=E,2350µm,0.4s								
ATMI				AML	AML				
	comp=N,2730µm,0.7s								
ATMI				AML	AML				
	comp=E,2352µm,0.4s								
ATMI				AML	AML				
	comp=N,2241µm,0.3s								
MTCE	**Montecelio**	**0.84**	**201**	⇑P	Pg	03 30 18.3	-0.4		
MTCE				AML	AML				
	comp=E,941µm,0.5s								
MTCE				AML	AML				
	comp=N,569µm,0.5s								
MTCE				AML	AML				
	comp=N,568µm,0.5s								
MTCE				AML	AML				
	comp=E,940µm,0.5s								
ATPI	**Pietralunga -**	**0.85**	**320**	⇑P	Pg	03 30 18.8	-0.1		
ATPI				S	Sn	03 30 33.0	-0.1		
ATPI				AML	AML				
	comp=N,609µm,0.4s								
ATPI				AML	AML				
	comp=E,700µm,0.5s								
PIEI	**Pieia**	**0.86**	**328**	⇑P	Pg	03 30 18.8	-0.3		
PIEI				S	Sn	03 30 33.0	-0.4		
PIEI				AML	AML				
	comp=N,548µm,0.3s								
PIEI				AML	AML				
	comp=E,896µm,0.2s								
PIEI				AML	AML				
	comp=E,896µm,0.2s								
PIEI				AML	AML				
	comp=N,548µm,0.3s								
CERT	**Cerreto**	**0.87**	**189**	⇓P	Pg	03 30 18.6	-0.6		
CERT				AML	AML				
	comp=N,965µm,0.3s								
CERT				AML	AML				
	comp=E,1275µm,0.4s								
CERT				AML	AML				
	comp=E,1274µm,0.4s								
CERT				AML	AML				
	comp=N,964µm,0.3s								
MPAG	**Monte Paganucc**	**0.87**	**341**	⇑P	Pg	03 30 19.3	-0.1		
MPAG				S	Sn	03 30 34.0	+0.2		
MPAG				AML	AML				
	comp=E,1320µm,0.3s								
MPAG				AML	AML				
	comp=N,1445µm,0.3s								
MPAG				AML	AML				
	comp=E,1622µm,0.5s								
SACS	**San Casciano d**	**0.92**	**273**	P	Pn	03 30 21.9	+0.4		
SACS				AML	AML				
	comp=N,590µm,1.1s								
SACS				AML	AML				
	comp=N,574µm,1.0s								
SACS				AML	AML				
	comp=E,450µm,0.8s								
SACS				AML	AML				
	comp=E,452µm,0.9s								
SACS				AML	AML				
	comp=N,523µm,0.6s								
SACS				AML	AML				
	comp=N,542µm,0.6s								
APEC	**Apecchio**	**0.93**	**325**	⇑P	Pg	03 30 20.4	0.0		
APEC				S	Sn	03 30 36.0	+1.0		
FSSB	**Fossombrone**	**0.93**	**343**	⇑P	Pg	03 30 20.3	-0.1		
FSSB				AML	AML				
	comp=E,2515µm,0.5s								
FSSB				AML	AML				
	comp=N,2950µm,0.3s								
INTR	**Introdacqua**	**0.97**	**145**	⇑P	Pg	03 30 20.1	-1.0		
INTR				AML	AML				
	comp=E,463nm,1.2s								
INTR				AML	AML				
	comp=N,427nm,0.5s								
INTR				AML	AML				
	comp=E,467µm,1.1s								
INTR				AML	AML				
	comp=E,466µm,1.1s								
INTR				AML	AML				
	comp=N,610µm,0.5s								
INTR				AML	AML				
	comp=E,462nm,1.1s								
INTR				AML	AML				
	comp=N,426nm,0.5s								
BADI	**Badiali**	**0.97**	**317**	P	Pb	03 30 21.3	-0.1		
PE3	**Peglio**	**1.01**	**332**	⇑P	Pg	03 30 21.9	-0.1		
LATE	**Laterza**	**1.01**	**260**	⇑P	Pb	03 30 22.5	+0.3		
CAFI	**Castiglion Fio**	**1.02**	**301**	⇑P	Pb	03 30 22.2	-0.1		
CAFI				S	Sn	03 30 38.0	+0.8		
CAFI				AML	AML				
	comp=E,590µm,0.6s								
CAFI				AML	AML				
	comp=N,480µm,0.7s								
CAFI				AML	AML				
	comp=N,468µm,0.7s								
CAFI				AML	AML				

	comp=E,590µm,0.6s							
CAFI					AML	AML		
	comp=N,479µm,0.7s							
CAFI					AML	AML		
	comp=E,582µm,0.6s							
SSP9	**Sansepolcro**	**1.07**	**316**	⇑P	Pn		03 30 23.8	+0.2
SSP9				AML	AML			
	comp=E,276µm,1.4s							
SSP9				AML	AML			
	comp=N,320µm,1.5s							
LPEL	**Lama dei Pelig**	**1.07**	**135**	⇓P	Pg		03 30 22.4	-0.7
LPEL				S	Sn		03 30 39.0	+0.3
LPEL				AML	AML			
	comp=E,546µm,0.3s							
LPEL				AML	AML			
	comp=N,414µm,1.4s							
PARC	**Parchiule**	**1.08**	**322**	P	Pg		03 30 22.8	-0.4
PARC				AML	AML			
	comp=E,454µm,0.5s							
PARC				AML	AML			
	comp=N,466µm,0.9s							
MCIV	**Monte Civitell**	**1.09**	**269**	⇓P	Pn		03 30 24.4	+0.5
MCIV				AML	AML			
	comp=E,319µm,0.4s							
MCIV				AML	AML			
	comp=N,253µm,0.3s							
MCIV				AML	AML			
	comp=E,319µm,0.3s							
MCIV				AML	AML			
	comp=N,253µm,0.3s							
TOLF	**Tolfa**	**1.13**	**229**	⇑P	Pb		03 30 24.1	0.0
TOLF				AML	AML			
	comp=E,364µm,0.5s							
TOLF				AML	AML			
	comp=N,360µm,0.4s							
TOLF				AML	AML			
	comp=E,364µm,0.5s							
TOLF				AML	AML			
	comp=N,360µm,0.4s							
PESA	**Pesaro**	**1.16**	**349**	⇑P	Pn		03 30 25.3	+0.5
PESA				AML	AML			
	comp=E,1305µm,0.3s							
PESA				AML	AML			
	comp=N,1075µm,1.0s							
PESA				AML	AML			
	comp=E,1308µm,0.3s							
CPGN	**Carpegna, Ital**	**1.17**	**329**	⇑P	Pn		03 30 25.8	+0.7
CPGN				AML	AML			
	comp=E,21400µm,0.6s							
CPGN				AML	AML			
	comp=N,18900µm,0.5s							
CRE	**Caprese Michel**	**1.20**	**313**	⇑P	Pg		03 30 25.7	+0.1
CRE				AML	AML			
	comp=E,280µm,0.6s							
CRE				AML	AML			
	comp=N,301µm,0.6s							
CRE				AML	AML			
	comp=N,296µm,0.3s							
LRP	**Arpino**	**1.20**	**164**	P	Pg		03 30 26.9	+1.3
ARCI	**Arcidosso**	**1.24**	**273**	⇑P	Pg		03 30 27.4	+1.1
GIUL	**Giuliano Di Ro**	**1.25**	**177**	⇑P	Pg		03 30 28.1	+1.6
CSNT	**Castellina Chi**	**1.52**	**297**	⇓P	Pb		03 30 31.0	+0.2
CSNT				AML	AML			
	comp=N,96µm,0.9s							
CSNT				AML	AML			
	comp=E,91µm,0.5s							
TRIF	**Trifonti**	**1.68**	**281**	⇑P	Pb		03 30 32.8	-0.8
TRIF				AML	AML			
	comp=E,114µm,0.4s							
TRIF				AML	AML			
	comp=N,86µm,1.5s							
CASP	**Castiglione de**	**1.69**	**270**	⇑P	Pn		03 30 32.4	+0.4
CASP				AML	AML			
	comp=E,41µm,0.8s							
CASP				AML	AML			
	comp=N,52µm,1.0s							
BRIS	**BRISIGHELLA**	**1.80**	**319**	⇑P	Pg		03 30 37.5	+0.5
DUGI	**Dugi Otok**	**1.82**	**49**	*e*Pn	Pb		03 30 35.0	-1.0
MTCR	**Monte La Croce**	**1.99**	**309**	⇓P	Pb		03 30 39.1	+0.2
ZIRJ	**Zirje**	**2.01**	**64**	*e*Pn	Pn		03 30 37.2	+0.8
VIRC	**Vir**	**2.03**	**42**	*e*Pg	Pn		03 30 37.5	+0.8
BRJN	**Brijuni**	**2.14**	**11**	*e*Pn	Pn		03 30 38.5	+0.2
BRJN	**Brijuni**	**2.14**	**11**	⇓P	Pn		03 30 39.0	+0.7
MORI	**Morici**	**2.14**	**59**	*e*Pn	Pn		03 30 39.5	+1.2
NVLJ	**Novalja**	**2.15**	**35**	*e*Pn	Pn		03 30 39.1	+0.7
RABC	**Rab**	**2.27**	**31**	*e*Pn	Pn		03 30 40.6	+0.6
SMRN	**Sveta Marina**	**2.34**	**18**	*e*Pn	Pn		03 30 41.4	+0.4
A253A	**Karojba, Istri**	**2.53**	**11**	*e*Pn	Pn		03 30 43.7	0.0
UDBI	**Udbina**	**2.56**	**47**	*e*Pn	Pn		03 30 46.2	+2.1
A250A	**Rusevo Krmpots**	**2.61**	**28**	*e*Pn	Pn		03 30 46.1	+1.3
RIY	**Rijeka**	**2.69**	**20**	*e*Pn	Pn		03 30 46.1	+0.2
PLIT	**Plitvice**	**2.73**	**40**	*e*Pn	Pn		03 30 48.1	+1.6
LSTV	**Lastovo**	**2.75**	**90**	*e*Pn	Pn		03 30 47.7	+1.1
GRAM	**Graiana**	**2.81**	**308**	P	Pn		03 30 48.8	+1.3
KNDS	**Knezji Dol**	**2.86**	**18**	*i* Pn	Pn		03 30 49.0	+0.8
MAKA	**Makarska**	**2.87**	**79**	*e*Pn	Pn		03 30 49.7	+1.3
CMPR	**Campora**	**2.96**	**146**	S	Sn		03 31 25.0	-0.3
RICI	**Ricice**	**2.99**	**75**	*e*Pn	Pn		03 30 51.8	+1.8
BOJS	**Bojanci**	**3.09**	**28**	⇑P	Pn		03 30 53.8	+2.4
SABO	**M.te Sabotino**	**3.19**	**6**	⇓P	Pn		03 30 53.6	+0.8
SABO				AML	AML			
	comp=N,121µm,0.5s							
SABO				AML	AML			
	comp=E,103µm,1.4s							
ROVR	**Rover Verones**	**3.21**	**333**	⇓P	Pn		03 30 55.5	+2.4
CGRP	**Cima Grappa**	**3.22**	**343**	⇓P	Pn		03 30 55.0	+1.7
OZLJ	**Ozalj**	**3.26**	**30**	*e*Pn	Pn		03 30 55.1	+1.4
STON	**Ston**	**3.34**	**87**	*e*Pn	Pn		03 30 55.0	+0.2
DOSS	**Dosso del Somm**	**3.38**	**336**	⇑P	Pn		03 30 58.1	+2.6
LJU	**Ljubljana**	**3.38**	**16**	P	Pn		03 30 56.5	+1.1
SALO	**Salr**	**3.39**	**327**	⇑P	Pn		03 30 58.4	+2.9
CTI	**Castel Tesino**	**3.42**	**342**	P	Pn		03 30 57.4	+1.5
LEOD	**Capriano del C**	**3.44**	**322**	S	Sb		03 31 41.0	-4.2
MPRI	**Monte Prat**	**3.44**	**358**	⇑P	Pn		03 30 57.4	+1.3
CADS	**Cadrg**	**3.45**	**7**	*i* Pn	Pn		03 30 56.8	+0.5
STAL	**STALIGIAL**	**3.47**	**355**	⇑P	Pn		03 30 58.2	+1.7
MAGA	**Magasa**	**3.48**	**329**	P	Pn		03 30 58.4	+1.6
LUSI	**Trento, Gardas**	**3.53**	**334**	⇑P	Pn		03 30 60.0	+2.5
CIMO	**Cimolais**	**3.54**	**352**	⇑P	Pn		03 30 59.0	+1.4
PTCC	**Patocco-Chiusa**	**3.60**	**2**	⇑P	Pn		03 30 59.3	+0.9
PTCC				AML	AML			
	comp=N,30µm,0.9s							
PTCC				AML	AML			
	comp=E,33µm,0.5s							
GAGG	**Gaggia**	**3.63**	**335**	⇓P	Pn		03 31 02.1	+3.1
ZONE	**Zone**	**3.67**	**325**	⇑P	Pn		03 31 01.4	+2.0
ORI	**Oriolo Calabro**	**3.69**	**137**	S	Sn		03 31 44.0	+0.8
ACOM	**Acomizza, Ital**	**3.75**	**4**	⇓P	Pn		03 31 01.8	+1.2
MABI	**Malga Bissina**	**3.76**	**331**	⇓P	Pn		03 31 03.1	+2.4
OBKA	**Obir**	**3.83**	**15**	*i* Pn	Pn		03 31 03.0	+1.4
	comp=E,0.8nm,0.2s							
OBKA				Sg	Sg		03 32 07.9	+2.3
	comp=E,19nm,0.7s							
MYKA	**Terra Mystica**	**3.84**	**5**	*i* Pn	Pn		03 31 03.6	+1.9
	comp=E,1.6nm,0.2s							
MYKA				*i* Sn	Sn		03 31 50.3	+3.4
	comp=E,2.6nm,0.3s							
KOSI	**Kohlern**	**3.87**	**341**	⇓P	Pn		03 31 04.3	+2.1
LOBO	**Lobor**	**3.94**	**31**	*e*Pn	Pn		03 31 03.6	+0.6
ABTA	**Abfaltersbach**	**3.97**	**354**	*i* Pn	Pn		03 31 05.7	+2.2
	comp=E,10nm,0.3s,SNR=18							
ABTA				*i* Sn	Sn		03 31 53.3	+3.2
	comp=E,3.4nm,0.4s							
BRES	**Bressanone**	**4.02**	**346**	⇑P	Pn		03 31 06.6	+2.2
RISI	**Rein**	**4.21**	**350**	P	Pn		03 31 09.3	+2.4
MUGIO	**Muggio**	**4.29**	**318**	⇓P	Pn		03 31 10.0	+2.1
VSL	**Villasalto**	**4.37**	**222**	⇓P	Pn		03 31 10.5	+1.6
FETA	**Feichten**	**4.55**	**339**	*e*Pn	Pn		03 31 15.0	+3.4
	comp=E,1.6nm,0.4s							
FETA				*i* Sn	Sn		03 32 10.3	+5.7
	comp=E,2.4nm,0.4s							
WTTA	**Wattenberg**	**4.59**	**347**	*i* Pn	Pn		03 31 15.6	+3.5
	comp=E,0.9nm,0.1s							
WTTA				*i* Sn	Sn		03 32 10.4	+4.9
	comp=E,4.7nm,0.4s							
SQTA	**Sankt Quirin**	**4.62**	**343**	Pn	Pn		03 31 14.5	+2.0
	SNR=5.4							
WATA	**Walderalm**	**4.67**	**347**	*i* Pn	Pn		03 31 16.8	+3.7
	comp=E,2.0nm,0.2s							
WATA				*i* Sn	Sn		03 32 12.5	+5.1
	comp=E,3.8nm,0.2s							
MOTA	**Moosalm**	**4.77**	**343**	*i* Pn	Pn		03 31 17.8	+3.3
	comp=E,0.6nm,0.1s							
BIOA	**Bad Ischl, Aus**	**4.90**	**4**	*i* Pn	Pn		03 31 17.4	+1.2
	comp=E,3.1nm,0.2s							
RETA	**Reutte**	**4.98**	**341**	*i* Pn	Pn		03 31 20.7	+3.3
	comp=E,0.2nm,0.1s							
RETA				*i* Sn	Sn		03 32 20.0	+5.0
	comp=E,0.9nm,0.2s							
DAVA	**Damuels**	**5.05**	**334**	*i* Pn	Pn		03 31 22.0	+3.6
	comp=E,0.6nm,0.1s							
DAVA				*i* Sn	Sn		03 32 22.2	+5.5
	comp=E,4.1nm,0.3s							
MOA	**Mollin**	**5.11**	**8**	*i* Pn	Pn		03 31 20.9	+1.9
	comp=E,0.8nm,0.2s							
MOA				*i* Sn	Sn		03 32 20.6	+2.6
	comp=E,4.0nm,0.4s							
CONA	**Conrad Observa**	**5.47**	**19**	*i* Pn	Pn		03 31 25.2	+1.2
	comp=E,1.3nm,0.3s							
CKRC	**Cesky Krumlov**	**6.07**	**7**	*e*PN	Pn		03 31 32.1	-0.2
CKRC				*e*SN	Sn		03 32 41.0	-0.8
KHC	**Kasperske Hory**	**6.33**	**3**	*e*PN	Pn		03 31 35.8	-0.1
KHC				*e*SN	Sn		03 32 47.5	-0.8

ROM 20 03:30:19.6±0.1, 42°.807N±0°.002×13°.153E±0°.004, h10km, ML3.4/3, 8C-1D, Error ellipse: s-maj=0.2km s-min=0.1km az=109.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**313**	P	Pg	03 30 21.9	+0.2
NRCA				S	Sg	03 30 23.0	-0.2
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1242	**Castelluccio d**	**0.04**	**60**	P	Pg	03 30 21.9	+0.1
T1242				S	Sg	03 30 23.2	-0.1
T1242				AML	AML		
	comp=N,51256µm,0.3s						
T1242				AML	AML		
	comp=E,47204µm,0.2s						
T1242				AML	AML		
	comp=N,50956µm,0.3s						
T1242				AML	AML		
	comp=E,47882µm,0.2s						
MC2	**Monte Cornacci**	**0.11**	**15**	P	Pg	03 30 23.0	+0.5
MC2				S	Sg	03 30 25.4	+0.7
T1202	**Accumoli, Fraz**	**0.12**	**153**	P	Pg	03 30 23.1	+0.5
T1202				S	Sg	03 30 25.4	+0.8
T1202				AML	AML		
	comp=N,47590µm,0.2s						
T1202				AML	AML		
	comp=E,45095µm,0.2s						
T1216	**Preci, Frazion**	**0.13**	**310**	⇑P	Pg	03 30 23.4	+0.7
T1216				AML	AML		
T1216				AML	AML		
	comp=N,14924µm,0.3s						
T1216				AML	AML		
T1216				AML	AML		
	comp=E,14218µm,0.5s						
MMO1	**Montemonaco**	**0.16**	**54**	P	Pg	03 30 23.7	+0.6
MMO1				S	Sg	03 30 26.4	+0.8
FEMA	**Monte Fema**	**0.17**	**334**	P	Pg	03 30 24.2	+0.7
FEMA				S	Sg	03 30 27.1	+1.0
FEMA				AML	AML		
	comp=E,15154µm,0.1s						
FEMA				AML	AML		
	comp=N,9656µm,0.3s						
T1204	**Amatrice, Fraz**	**0.18**	**137**	P	Pg	03 30 24.1	+0.6
T1204				S	Sg	03 30 27.3	+1.1
T1204				AML	AML		
	comp=E,12348µm,0.3s						
T1204				AML	AML		
	comp=N,6695µm,0.2s						
T1217	**Poggiodomo (PG**	**0.19**	**240**	P	Pg	03 30 24.4	+0.7
T1217				S	Sg	03 30 27.6	+1.2
T1217				AML	AML		
	comp=E,10887µm,0.1s						
T1217				AML	AML		
	comp=N,9399µm,0.2s						
T1217				AML	AML		
	comp=E,10501µm,0.1s						
T1217				AML	AML		
	comp=N,9473µm,0.2s						
T1215	**Vallo di Nera,**	**0.21**	**269**	P	Pg	03 30 24.7	+0.7
T1215				S	Sg	03 30 28.1	+1.1
T1215				AML	AML		
	comp=E,8265µm,0.2s						
T1215				AML	AML		
	comp=E,8405µm,0.2s						
T1215				AML	AML		
	comp=N,7083µm,0.1s						
T1215				AML	AML		
	comp=N,7027µm,0.1s						
T1241	**Roccafluvione,**	**0.21**	**76**	P	Pg	03 30 24.7	+0.6
T1241				S	Sg	03 30 28.1	+1.1
T1241				AML	AML		
	comp=E,21750µm,0.2s						
T1241				AML	AML		
	comp=N,12150µm,0.3s						
T1241				AML	AML		
	comp=E,21350µm,0.2s						
T1241				AML	AML		
	comp=N,11200µm,0.3s						
T1241				AML	AML		
	comp=N,11211µm,0.3s						
T1241				AML	AML		
	comp=E,21381µm,0.2s						
T1241				AML	AML		
	comp=E,21730µm,0.2s						
T1241				AML	AML		
	comp=N,12132µm,0.3s						
LNSS	**Leonessa**	**0.22**	**202**	P	Pg	03 30 25.0	+0.7
LNSS				S	Sg	03 30 28.8	+1.4
LNSS				AML	AML		
	comp=N,65541µm,0.2s						
LNSS				AML	AML		
	comp=E,50856µm,0.2s						
AM05	**Amandola Campo**	**0.23**	**41**	P	Pg	03 30 25.2	+0.9
AM05				S	Sg	03 30 28.8	+1.3
AM05				AML	AML		
	comp=N,4859µm,0.2s						
AM05				AML	AML		
	comp=N,19331µm,0.2s						
AM05				AML	AML		
	comp=E,12047µm,0.1s						
AM05				AML	AML		
	comp=E,2917µm,0.1s						
FDMO	**Fiordimonte**	**0.23**	**348**	P	Pg	03 30 25.1	+0.6
FDMO				S	Sg	03 30 29.1	+1.3
FDMO				AML	AML		
	comp=E,7873µm,0.2s						
FDMO				AML	AML		
	comp=N,6398µm,0.2s						
T1243	**Rocca Santa Ma**	**0.24**	**117**	P	Pg	03 30 25.2	+0.5
T1243				S	Sg	03 30 29.4	+1.3
CESI	**CESI - Serrava**	**0.27**	**317**	⇑P	Pb	03 30 26.0	-0.7
CESI				AML	AML		
	comp=N,9102µm,0.3s						
CESI				AML	AML		
	comp=E,4126µm,0.2s						
RM33	**Pellescritta (**	**0.30**	**171**	⇑P	Pg	03 30 26.3	+0.6
RM33				AML	AML		
	comp=E,6650µm,0.1s						
RM33				AML	AML		
	comp=N,7201µm,0.3s						
RM33				AML	AML		
	comp=N,6998µm,0.3s						
RM33				AML	AML		
	comp=E,6675µm,0.1s						
SEF1	**Sefro**	**0.37**	**336**	S	Sb	03 30 34.0	-0.2
TERO	**Teramo**	**0.38**	**119**	⇓P	Pg	03 30 27.4	+0.3
TERO				AML	AML		
	comp=N,3051µm,0.1s						
TERO				AML	AML		
	comp=E,3900µm,0.1s						
TERO				AML	AML		
	comp=N,3411µm,0.2s						
TERO				AML	AML		
	comp=E,3384µm,0.1s						
MNTP	**Montappone**	**0.40**	**35**	⇑P	Pb	03 30 28.9	+0.1
MNTP				AML	AML		
	comp=E,5921µm,0.4s						
MNTP				AML	AML		
	comp=N,5580µm,0.2s						
GIGS	**Gran Sasso**	**0.47**	**139**	P	Pg	03 30 28.9	0.0
GIGS				AML	AML		
	comp=N,384µm,0.1s						
GIGS				AML	AML		

	comp=E,556µm,0.2s							
TRTR	**Tortoreto Alta**	**0.56**	**90**	⇑P	Pb		03 30 32.4	+0.8
TRTR				AML	AML			
	comp=E,4845µm,0.7s							
TRTR				AML	AML			
	comp=N,3850µm,0.8s							
MMUR	**Monte Murano**	**0.64**	**350**	S	Sn		03 30 44.0	-1.2
MURB	**Monte Urbino**	**0.65**	**315**	S	Sn		03 30 44.0	-1.3
ARVD	**Arcevia**	**0.71**	**347**	S	Sn		03 30 46.0	-0.7
AOI	**Ancona**	**0.81**	**24**	⇑P	Pg		03 30 32.8	-2.5
MPAG	**Monte Paganucc**	**0.87**	**341**	S	Sn		03 30 51.0	+0.2
SENI	**Senigallia**	**0.90**	**4**	⇑P	Pb		03 30 37.2	-0.1
SENI				AML	AML			
	comp=E,3420µm,1.5s							
SENI				AML	AML			
	comp=N,3405µm,1.2s							
VIVA	**Pratoni del Vi**	**1.09**	**195**	⇑P	Pn		03 30 42.4	+1.3

IDC 20 03:31:24.5±1.8, 29°.41S×60°.90E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=90.7km s-min=32.7km az=25.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**44.97**	**111**	T	T	04 27 21.4	
	baz=261,slow=75,SNR=8.7						
H01W3	**Cape Leeuwin H**	**44.97**	**111**	T	T	04 27 20.2	
	baz=261,slow=75,SNR=8.6						
H01W1	**Cape Leeuwin H**	**44.98**	**111**	T	T	04 27 21.2	
	baz=261,slow=75,SNR=8.6						
ASAR	**Alice Springs**	**64.61**	**104**	P	P	03 42 03.5	-0.7
	0.6nm,0.8s,baz=226,slow=6.7,SNR=5.2						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**66.45**	**100**	P	P	03 42 17.2	+1.1
	0.3nm,0.8s,baz=244,slow=6.0,SNR=1.9						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**71.05**	**298**	P	P	03 42 44.9	+0.1
	0.8nm,0.8s,baz=121,slow=6.5,SNR=4.0						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**78.28**	**15**	P	P	03 43 25.9	-0.2
	0.2nm,0.6s,baz=186,slow=4.3,SNR=2.4						
	0.2nm,0.6s						

TEH 20 03:35:40.6, 32°.05N×50°.72E, h8km, ML3.2, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHK1	**Shahrekord**	**0.31**	**28**	*e*Pg	Pg	03 35 47.0	+0.2
SHK1				*e*Sg	Sg	03 35 52.4	+1.4
SHK1				*e*		03 35 53.5	
	comp=Z,84µm,0.4s						
IBRJ	**Brojen**	**0.48**	**107**	*e*Pg	Pg	03 35 50.2	+0.1
IPIR	**Pirpir**	**0.65**	**13**	*e*Pg	Pg	03 35 53.6	+0.5
IPIR				*e*Sg	Sb	03 36 03.7	+0.1
IPIR				*e*		03 36 06.9	
	comp=Z,18µm,0.3s						
IGAR	**Gharneh**	**1.18**	**72**	*e*		03 36 23.1	
	comp=Z,4µm,0.2s						
IGAR				*e*Pg	Pn	03 36 03.5	-0.1
AMIS	**Naft Sefid**	**1.28**	**253**	*e*Sg	Sn	03 36 23.8	+1.7
AMIS				*e*Pg	Pg	03 36 05.3	+0.2
AMIS				*e*		03 36 32.0	
	comp=Z,6µm,0.4s						
KLNJ	**Kolanjah**	**1.28**	**144**	*e*		03 36 34.3	
	comp=Z,6µm,0.5s						
KLNJ				*e*Pg	Pn	03 36 05.0	-0.2
IRAM	**Ramesheh**	**1.44**	**99**	*e*Pg	Pn	03 36 07.4	+0.2
IKLH	**Kolahrood**	**1.46**	**30**	*e*		03 36 10.9	
	comp=Z,4µm,0.4s						
IKLH				*e*Pg	Pg	03 36 08.6	0.0
ABEH	**Behbahan**	**1.50**	**195**	*e*Sg	Sg	03 36 32.3	+3.4
ABEH				*e*Pg	Pb	03 36 09.0	+0.2
IZEF	**Zefreh**	**1.60**	**58**	*e*Pg	Pb	03 36 10.9	+0.3
IZEF				*e*		03 36 38.1	
	comp=Z,1µm,0.4s						
QAMS	**Qamsar**	**1.77**	**19**	*e*Pn	Pb	03 36 13.2	-0.3
QAMS				*e*		03 36 42.2	
	comp=Z,4µm,0.4s						
KHMZ	**Khomeyn**	**1.80**	**339**	*e*Pn	Pg	03 36 14.5	-0.6
NASN	**Na'in**	**1.92**	**67**	*e*Pn	Pb	03 36 16.6	+0.5
KRSH	**Karshahi**	**2.25**	**32**	*e*Pn	Pb	03 36 21.5	-0.1
KRSH				*e*		03 36 28.0	
	comp=Z,1µm,0.4s						
GHVR	**GHOM**	**2.47**	**11**	*e*Pn	Pb	03 36 23.9	-1.4
ISAD	**Sadrabad**	**2.53**	**92**	*e*Pn	Pb	03 36 24.9	-1.5
ISAD				*e*		03 36 35.0	
	comp=Z,753nm,0.4s						
ASAO	**Ashtian**	**2.55**	**347**	*e*Pn	Pb	03 36 25.3	-1.5
ISFB	**Sefidab**	**2.62**	**29**	*e*Pn	Pb	03 36 25.9	-2.0
ISFB				*e*		03 37 07.5	
	comp=Z,472nm,0.6s						
IDOB	**Doab**	**2.75**	**310**	*e*Pn	Pn	03 36 26.9	+1.7
IDOB				*e*		03 37 17.9	
	comp=Z,802nm,0.8s						
ANAR	**Anarak**	**2.78**	**65**	*e*Pn	Pn	03 36 28.1	+2.5
ANAR				*e*		03 36 34.2	
	comp=Z,569nm,0.3s						
HSAM	**Samen**	**2.79**	**321**	*e*Pn	Pn	03 36 27.2	+1.4
HSAM				*e*		03 36 35.7	
	comp=Z,545nm,0.5s						
IQOM	**Qom**	**2.80**	**6**	*e*Pn	Pn	03 36 26.9	+1.0
IQOM				*e*		03 36 34.2	
	comp=Z,822nm,0.5s						
IKFM	**Kafar-mosalman**	**2.83**	**302**	*e*Pn	Pn	03 36 27.6	+1.6
IKFM				*e*		03 37 18.2	
	comp=Z,2µm,0.6s						
IVRN	**Varamin**	**3.05**	**16**	*e*Pn	Pn	03 36 32.0	+2.7
IVRN				*e*		03 36 43.4	
	comp=Z,609nm,0.4s						
HAGD	**Aghdareh**	**3.06**	**335**	*e*Pn	Pn	03 36 31.7	+2.2
HAGD				*e*		03 37 29.9	
	comp=Z,905nm,0.8s						
ICHK	**Chekchek**	**3.14**	**86**	*e*Pn	Pn	03 36 33.4	+2.8
ICHK				*e*		03 37 26.0	
	comp=Z,309nm,0.5s						
YZKH	**Yazd**	**3.30**	**83**	*e*Pn	Pn	03 36 35.6	+2.9
IMEH	**Mehriz**	**3.39**	**100**	*e*Pn	Pn	03 36 37.0	+3.0
IBZA	**Bozab**	**3.39**	**316**	*e*Pn	Pn	03 36 36.0	+1.9
IBZA				*e*		03 37 48.9	
	comp=Z,479nm,0.8s						
IKOM	**Komasi**	**3.42**	**309**	*e*Pn	Pn	03 36 35.4	+1.0
IKOM				*e*		03 37 49.4	
	comp=Z,728nm,0.8s						
IDMV	**Damavand**	**3.68**	**17**	*e*Pn	Pn	03 36 40.4	+2.3
DAMV	**Damavand**	**3.72**	**16**	*e*Pn	Pn	03 36 41.8	+3.2
CHTH	**Charan**	**3.86**	**5**	*e*Pn	Pn	03 36 43.5	+3.0
SNGE	**Sanandaj**	**4.13**	**318**	*e*Pn	Pn	03 36 46.2	+2.0
IGHG	**Ghaleghazi**	**4.15**	**304**	*e*Pn	Pn	03 36 47.6	+3.1
IGHG				*e*		03 38 25.4	
	comp=Z,399nm,0.8s						
ILIN	**Lien**	**4.24**	**313**	*e*Pn	Pn	03 36 47.5	+1.7
QALM	**Alamut, Qazvin**	**4.37**	**359**	*e*Pn	Pn	03 36 49.6	+2.1
IDHR	**Dehrash**	**4.48**	**307**	*e*Pn	Pn	03 36 51.6	+2.6
IDHR				*e*		03 37 46.2	
	comp=Z,413nm,0.3s						
TABS	**Tabas**	**5.62**	**72**	*e*Pn	Pn	03 37 07.9	+3.3
SHRO	**Shahrood**	**5.89**	**47**	*e*Pn	Pn	03 37 11.7	+3.4

*IDC **20** 03:47:51.7±0.7, 67°.84N×20°.47E, h0km, mb3.4/3, mbtmp3.3/9, ML3.0/6, Error ellipse: s-maj=12.5km s-min=6.0km az=115.0*
*DNK **20** 03:47:51.5±0.3, 67°.83N×20°.20E, h0km, ML3.0(UPP), Susp

KOVU				S		Sg	03 48 04.0	-0.1	
KOVU	**Salmi**	**0.41**	**355**	*i* P		**Pg**	**03 47 58.7**	**-0.2**	
KOVU				*i* S		**Sg**	**03 48 04.0**	**-0.1**	
NIKU	**Nikkaluokta**	**0.47**	**277**	P		**Pg**	**03 47 59.6**	**-0.3**	
NIKU	**Nikkaluokta**	**0.47**	**277**	*i* P		**Pg**	**03 47 59.6**	**-0.3**	
LANU	**Lannavaara**	**0.69**	**70**	P		**Pg**	**03 48 04.5**	**+0.2**	
LANU				S		**Sg**	**03 48 14.0**	**+0.8**	
LANU	**Lannavaara**	**0.69**	**70**	*eP*		**Pg**	**03 48 04.5**	**+0.2**	
LANU				*eS*		**Sg**	**03 48 14.2**	**+0.9**	
LANU	**Lannavaara**	**0.69**	**70**	*eP*		**Pg**	**03 48 04.5**	**+0.2**	
LANU				*eS*		**Sg**	**03 48 14.2**	**+0.9**	
DUNU	**Dundret**	**0.71**	**170**	P		**Pg**	**03 48 04.7**	**+0.1**	
DUNU				S		**Sg**	**03 48 14.7**	**+0.9**	
DUNU	**Dundret**	**0.71**	**170**	*i* P		**Pg**	**03 48 04.7**	**+0.1**	
DUNU				*i* S		**Sg**	**03 48 14.7**	**+0.9**	
MASU	**Masugnsbyn**	**0.76**	**118**	P		**Pg**	**03 48 05.8**	**+0.3**	
MASU				S		**Sg**	**03 48 16.5**	**+1.1**	
MASU	**Masugnsbyn**	**0.76**	**118**	*i* P		**Pg**	**03 48 05.8**	**+0.3**	
MASU				*i* S		**Sg**	**03 48 16.5**	**+1.1**	
SALU	**Saltoluokta**	**0.80**	**238**	P		**Pg**	**03 48 06.0**	**-0.4**	
SALU	**Saltoluokta**	**0.80**	**238**	*i* P		**Pg**	**03 48 06.0**	**-0.4**	
KIF	**Kilpisjarvi**	**1.21**	**9**	*eP*		**Pg**	**03 48 14.2**	**+0.1**	
KIF				*eS*		**Sg**	**03 48 30.1**	**+0.3**	
KIF				MSG			03 48 33.2		
	comp=Z,59nm,0.1s								
KIF	**Kilpisjarvi**	**1.21**	**9**	*eP*		**Pg**	**03 48 14.2**	**+0.1**	
KIF				*eS*		**Sg**	**03 48 30.1**	**+0.3**	
KIF				MSG			03 48 33.2		
	comp=Z,59nm,0.1s								
PAJU	**Pajala**	**1.36**	**125**	P		**Pg**	**03 48 16.4**	**-0.7**	
PAJU	**Pajala**	**1.36**	**125**	*eP*		**Pg**	**03 48 16.2**	**-0.8**	
PAJU				*eS*		**Sg**	**03 48 34.7**	**0.0**	
HEF	**Hetta**	**1.41**	**64**	*eP*		**Pn**	**03 48 17.1**	**-0.8**	
HEF				*eS*		**Sg**	**03 48 35.7**	**-0.5**	
HEF				MSG			03 48 41.2		
	comp=Z,30nm,0.1s								
HEF	**Hetta**	**1.41**	**64**	*eP*		**Pn**	**03 48 17.1**	**-0.8**	
HEF				*eS*		**Sg**	**03 48 35.7**	**-0.5**	
HEF				MSG			03 48 41.2		
	comp=Z,30nm,0.1s								
ERTU	**Ertsjaerv**	**1.48**	**148**	P		**Pn**	**03 48 18.4**	**-0.4**	
ERTU	**Ertsjaerv**	**1.48**	**148**	*eP*		**Pn**	**03 48 18.1**	**-0.8**	
ERTU				*eS*		**Sg**	**03 48 38.0**	**-0.4**	
KLF	**Kolari**	**1.54**	**111**	*eP*		**Pn**	**03 48 19.4**	**-0.3**	
KLF				*eS*		**Sn**	**03 48 40.2**	**-0.2**	
KLF	**Kolari**	**1.54**	**111**	*eP*		**Pn**	**03 48 19.4**	**-0.3**	
KLF				*eS*		**Sn**	**03 48 40.2**	**-0.2**	
KTK1	**Kautokeino**	**1.63**	**41** ⇓	*iP*		**Pn**	**03 48 20.7**	**-0.3**	
KTK1				*eS*		**Sn**	**03 48 42.3**	**-0.3**	
KTK1				IAML			03 48 46.0		
	comp=Z,99nm,0.4s								
KTK1	**Kautokeino**	**1.63**	**41**	*eP*		**Pn**	**03 48 20.6**	**-0.3**	
KTK1				*eS*		**Sn**	**03 48 42.2**	**-0.3**	
JETT	**Jettan, Norway**	**1.75**	**2** ⇓	*iP*		**Pn**	**03 48 22.4**	**-0.1**	
JETT				*eS*		**Sn**	**03 48 44.7**	**-0.8**	
JETT				IAML			03 48 49.4		
	comp=Z,288nm,0.4s								
TRO	**Tromso**	**1.89**	**346** ⇓	*iP*		**Pn**	**03 48 24.2**	**-0.2**	
TRO				*eS*		**Sn**	**03 48 48.6**	**-0.3**	
TRO				IAML			03 48 51.8		
	comp=Z,92nm,0.5s								
TRO	**Tromso**	**1.89**	**346**	*eP*		**Pn**	**03 48 24.6**	**+0.2**	
TRO				*eS*		**Sb**	**03 48 49.6**	**-0.7**	
FAUS	**Fauske**	**1.95**	**259**	*eP*		**Pn**	**03 48 26.0**	**+0.7**	
KALU	**Kalix**	**2.32**	**147**	*eP*		**Pn**	**03 48 31.6**	**+1.3**	
KALU	**Kalix**	**2.32**	**147**	*eP*		**Pn**	**03 48 31.6**	**+1.3**	
KALU				*eSG*		**Sb**	**03 49 03.2**	**+0.5**	
SGF	**Sodankyl**	**2.43**	**96**	MSG			03 49 07.8		
	comp=Z,31nm,0.2s								
SGF	**Sodankyl**	**2.43**	**96**	MSG			03 49 07.8		
	comp=Z,31nm,0.2s								
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn		**Pn**	**03 48 34.5**	**+0.6**	
	comp=Z,3.3nm,0.3s,baz=222,slow=16,SNR=142								
ARCES				Lg		Lg	03 49 09.8		
	comp=Z,8.3nm,0.3s,baz=227,slow=24,SNR=22								
	comp=Z,7.2nm,0.3s								
ARCES	**ARCESS Array B**	**2.58**	**46**	P		**Pn**	**03 48 34.6**	**+0.6**	
ARCES				S		**Sn**	**03 49 05.8**	**-0.2**	
KONS	**Konsvik**	**3.08**	**248**	*eP*		**Pn**	**03 48 41.7**	**+0.8**	
STOK	**Stokkvaagen**	**3.20**	**246**	*eP*		**Pn**	**03 48 43.6**	**+1.1**	
APAO	**Apatity Array**	**4.85**	**87**	P		**Pn**	**03 49 04.3**	**-0.9**	
APAO				S		**Sn**	**03 49 58.6**	**-3.4**	
TERR	**Teriberka**	**5.63**	**69**	P		**Pn**	**03 49 15.4**	**-0.4**	
TERR				S		**Sn**	**03 50 17.7**	**-3.4**	
FINES	**FINESS Array B**	**6.87**	**156**	Pn		**Pn**	**03 49 34.0**	**+1.2**	
	comp=Z,0.5nm,0.3s,baz=349,slow=13,SNR=24								
FINES				Pg		**Pb**	**03 49 51.9**	**+0.8**	
	comp=Z,0.6nm,0.3s,baz=344,slow=16,SNR=9.4								
FINES				Sn		**Sn**	**03 50 51.1**	**-0.5**	
	comp=Z,0.8nm,0.3s,baz=349,slow=22,SNR=6.0								
FINES				Lg		Lg	03 51 25.9		
	comp=Z,1.9nm,0.3s,baz=345,slow=26,SNR=13								
	comp=Z,2.0nm,0.5s								
DOMB	**Dombas**	**7.49**	**225**	*eP*		**Pn**	**03 49 40.1**	**-1.2**	
DOMB				*e*			03 51 03.5		
DOMB				IAML			03 51 51.2		
	comp=Z,4.9nm,0.5s								
NC303	**NORSAR Array S**	**7.64**	**214**	*eP*		**Pn**	**03 49 44.2**	**+0.8**	
NC303				*e*			03 51 07.4		
NC303				IAML			03 52 01.1		
	comp=Z,5.9nm,0.5s								
NC204	**NORSAR Array S**	**7.73**	**216**	*eP*		**Pn**	**03 49 45.3**	**+0.7**	
NC204				*e*			03 51 12.5		
NC204				IAML			03 51 57.6		
	comp=Z,6.2nm,0.4s								
NOA	**NORSAR Array B**	**7.84**	**214**	Pn		**Pn**	**03 49 45.7**	**-0.5**	
	baz=20,slow=11,SNR=14								
NOA				Sn		**Sn**	**03 51 16.4**	**+0.8**	
	baz=223,slow=17,SNR=4.2								
NOA				Lg		Lg	03 51 55.6		
	comp=Z,0.1nm,0.3s,baz=85,slow=11,SNR=4.9								
	comp=Z,0.2nm,0.5s								
HFS	**Hagfors**	**8.23**	**204**	Pn		**Pn**	**03 49 50.9**	**-0.7**	
	comp=Z,0.3nm,0.3s,baz=15,slow=12,SNR=11								
HFS				Sn		**Sn**	**03 51 23.3**	**-1.8**	
	comp=Z,0.6nm,0.3s,baz=32,slow=23,SNR=6.2								
HFS				Lg		Lg	03 52 10.4		
	comp=Z,0.9nm,0.3s,baz=22,slow=26,SNR=5.4								
	comp=Z,0.9nm,0.4s								
SPITS	**Spitsbergen Ar**	**10.47**	**356**	Pn		**Pn**	**03 50 21.6**	**-0.5**	
	baz=152,slow=14								
	comp=Z,2.4nm,0.7s								
AKASG	**Malin Array Be**	**17.73**	**161**	P		**Pn**	**03 51 58.2**	**-0.9**	
	comp=Z,0.3nm,0.3s,baz=347,slow=11,SNR=2.4								
	comp=Z,0.2nm,0.3s								
MKAR	**Makanchi Array**	**37.39**	**92**	P		**P**	**03 55 05.9**	**+0.7**	
	comp=Z,0.2nm,0.5s,baz=350,slow=7.3,SNR=2.0								
	comp=Z,0.2nm,0.5s								
ILAR	**Eielson Array**	**47.38**	**353**	P		**P**	**03 56 26.8**	**+0.7**	
	comp=Z,0.3nm,0.6s,baz=353,slow=7.1,SNR=5.0								
	comp=Z,0.3nm,0.6s								
TORD	**Torodi Ar. Bea**	**55.96**	**202**	P		**P**	**03 57 30.0**	**-0.8**	
	comp=Z,0.3nm,0.7s,baz=23,slow=6.8,SNR=2.2								
	comp=Z,0.3nm,0.7s								
TXAR	**Lajitas Array**	**74.58**	**311**	P		**P**	**03 59 31.4**	**-0.2**	
	comp=Z,0.1nm,0.5s,baz=24,slow=4.9,SNR=2.5								

IDC 20 03:57:05.4±2.0, 6.86S×129.41E, h0km, mb3.2/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=112.8km s-min=31.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.85**	**160**	Pn	Pn	04 00 23.7	+0.5
	0.1nm,0.3s,baz=339,slow=13,SNR=8.9						
WRA				Sn	Sn	04 02 46.9	-11
	0.1nm,0.3s,baz=339,slow=21,SNR=2.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**17.26**	**166**	P	Pn	04 01 07.5	-0.4
	0.1nm,0.3s,baz=341,slow=9.6,SNR=4.4						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	04 08 05.2	0.0
	0.2nm,0.6s,baz=146,slow=7.2,SNR=2.5						
	0.2nm,0.6s						

IDC 20 04:01:01.5±1.4, 54.76S×30.38W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=101.4km s-min=36.7km az=105.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**47.77**	**184**	P	P	04 09 39.5	-0.1
	0.6nm,0.8s,baz=180,slow=4.0,SNR=3.8						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.89**	**33**	P	P	04 12 32.2	0.0
	0.4nm,0.5s,baz=198,slow=6.8,SNR=6.8						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**147.90**	**314**	PKPbc	PKPbc	04 20 46.4	-0.7
	0.8nm,0.6s,baz=122,slow=1.9,SNR=6.6						

IDC 20 04:21:27.2±6.5, 2.12S×140.99E, h0km, mb3.2/2, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=169.0km s-min=76.4km az=132.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.87**	**200**	P	P	04 25 48.4	-0.9
	0.1nm,0.3s,baz=23,slow=12,SNR=3.1						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**22.50**	**197**	P	P	04 26 28.3	-0.3
	0.3nm,0.6s,baz=29,slow=10.0,SNR=5.3						
	0.3nm,0.6s						
VNDA	**Vanda**	**76.17**	**175**	P	P	04 33 17.4	+0.6
	0.4nm,0.9s,baz=8.2,slow=5.1,SNR=1.8						
	0.4nm,0.9s						

IDC 20 04:22:12.4±3.9, 2.49S×141.14E, h0km, mb3.7/2, mbtmp3.7/3, ML3.8/1, MS3.4/3, Error ellipse: s-maj=127.6km s-min=46.9km az=128.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**18.19**	**164**	LR	LR	04 33 10.9	
	comp=Z,92nm,19.6s,baz=170,slow=36						
WRA	**Warramunga Arr**	**18.57**	**200**	P	P	04 26 30.6	-0.5
	0.3nm,0.3s,baz=24,slow=12,SNR=8.9						
WRA				LR	LR	04 34 15.1	
	comp=Z,92nm,21.8s,baz=263,slow=39						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**22.18**	**198**	P	P	04 27 10.2	-0.1
	1.0nm,0.4s,baz=27,slow=11,SNR=12						
	1.0nm,0.4s						
STKA	**Stephens Creek**	**29.23**	**179**	LR	LR	04 41 44.4	
	comp=Z,105nm,18.4s,baz=200,slow=40						
VNDA	**Vanda**	**75.79**	**175**	P	P	04 33 59.4	-0.4
	0.6nm,0.6s,baz=346,slow=7.4,SNR=8.5						
	0.6nm,0.6s						
LPAZ	**La Paz**	**145.58**	**124**	PKPbc	PKPab	04 41 55.0	0.0
	0.4nm,0.8s,baz=270,slow=2.0,SNR=1.4						

*IDC **20** 04:26:22.7±0.7, 31.41N×96.81E, h0km, mb3.9/17, mbtmp3.9/20, ML3.9/2, MS3.4/19, Error ellipse: s-maj=22.6km s-min=14.3km az=42.0*
*NEIC **20** 04:26:29.0±2.0, 31.5N±0.1×96.9E±0.1, h46km±11km, mb4.0/19, Error ellipse: s-maj=19.4km s-min=13.8km az=166.0*
ISC 20 04:26:24.2±0.4, 31.37N±0.03×96.81E±0.03, h10km, n81, σ2s 40/91, mb4.0/22, MS3.4/16, 2C, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKP	**Lekhapani**	**4.11**	**192**	*eP*	**Pb**	**04 27 35.4**	**-1.3**
LKP				*eS*	**Sb**	**04 28 27.1**	**+0.7**
LKP				IAML		04 28 41.0	
	comp=E,933nm,0.8s						
ZIRO	**ZIRO**	**4.62**	**215**	*eP*	**Pn**	**04 27 37.2**	**+2.9**
ZIRO				*eS*	**Sn**	**04 28 33.5**	**+5.4**
ITAN	**ITANAGAR**	**5.00**	**213**	*eP*	**Pn**	**04 27 42.6**	**+3.2**
ITAN				IAML		04 29 05.0	
	comp=N,347nm,0.5s						
GOMU	**GeErMu**	**5.09**	**342**	Pn	**Pn**	**04 27 39.4**	**-1.5**
GOMU				Pg	**Pg**	**04 28 03.3**	**+1.5**
GOMU				Sn	**Sn**	**04 28 44.4**	**+4.4**
GOMU				Sg	**Sg**	**04 29 10.4**	**+2.6**
GOMU				smax	smax		
	comp=N,23nm,1.6s						
GOMU				smax	smax		
	comp=E,33nm,1.8s						
GOMU				LR	LR		
	comp=N,1μm,9.9s						
GOMU				LR	LR		
	comp=E,2μm,10.6s						
GOMU				LR	LR		
	comp=Z,650nm,9.3s						
LSA	**Lhasa**	**5.16**	**253**	Pn	**Pn**	**04 27 44.4**	**+2.5**
LSA				Sn	**Sn**	**04 28 45.0**	**+3.3**
LSA	**Lhasa**	**5.16**	**253**	Pn	**Pn**	**04 27 44.8**	**+2.9**
LSA				Pg	**Pb**	**04 27 52.8**	**-2.0**
LSA				Sn	**Sn**	**04 28 47.3**	**+5.6**
LSA				Sg	**Sb**	**04 28 53.4**	**-3.6**
LSA				smax	smax		
	comp=N,63nm,1.0s						
LSA				smax	smax		
	comp=E,57nm,0.9s						
MOKO	**MOKOCHONG**	**5.42**	**202**	*eP*	**Pn**	**04 27 46.0**	**+0.8**
MOKO				IAML		04 29 18.6	
	comp=E,322nm,0.7s						
MOKO				IAML		04 29 20.9	
	comp=N,252nm,0.5s						
TEZP	**TEZPUR**	**5.89**	**218**	*eP*	**Pn**	**04 27 52.0**	**+0.3**
TEZP				*eS*	**Sn**	**04 29 03.0**	**+3.8**
CD2	**Chengdu**	**5.98**	**93**	Pn	**Pn**	**04 27 50.5**	**-2.3**
CD2				Pg	**Pg**	**04 28 14.8**	**-3.9**
CD2				Sg	**Sg**	**04 29 30.3**	**-5.9**
CD2				smax	smax		
	comp=N,140nm,1.6s						
CD2				smax	smax		
	comp=E,110nm,1.4s						
KOHI	**KOHIMA**	**6.11**	**204**	*eP*	**Pn**	**04 27 54.5**	**-0.2**
KOHI				*eS*	**Sn**	**04 29 12.8**	**+8.0**
PZH	**PanZhiHua**	**6.50**	**137**	Pg	**Pb**	**04 28 19.3**	**+1.8**
PZH				Sg	**Sg**	**04 29 50.1**	**-2.8**
PZH				smax	smax		
	comp=N,30nm,1.2s						
PZH				smax	smax		
	comp=E,30nm,1.0s						
PZH				LR	LR		
	comp=N,630nm,12.7s						
PZH				LR	LR		
	comp=E,550nm,11.0s						
PZH				LR	LR		
	comp=Z,490nm,9.0s						
IMP	**Imphal**	**6.99**	**202**	*eP*	**Pn**	**04 28 05.7**	**-1.0**
LZH	**Lanzhou**	**7.51**	**49**	*ePn*	**Pn**	**04 28 16.1**	**+2.1**
LZH				Pg	**Pg**	**04 28 46.6**	**-1.5**
LZH				Sg	**Sg**	**04 30 28.9**	**+3.5**
LZH				smax	smax		
	comp=N,33nm,1.3s						
LZH				smax	smax		
	comp=E,40nm,1.1s						
LZH				LR	LR		
	comp=N,1μm,8.7s						
LZH				LR	LR		
	comp=E,560nm,8.3s						
LZH				LR	LR		
	comp=Z,440nm,9.6s						
DHUB	**DHUBRI**	**8.01**	**230**	*eP*	**Pn**	**04 28 20.6**	**-0.1**
DHUB				*eS*	**Sn**	**04 29 51.9**	**+0.5**
KMI	**Kunming**	**8.13**	**138** ⇑	*iP*	**Pn**	**04 28 22.3**	**-0.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KMI				LR	LR		
	comp=N,750nm,10.6s						
KMI				LR	LR		
	comp=E,920nm,10.3s						
KMI				LR	LR		
	comp=Z,410nm,6.6s						
GTA	**Gaotai**	**8.39**	**16**	*eP*	Pb	04 28 42.5	-7.1
GTA				pP	Pb	04 28 52.4	+2.8
GTA				sP	Pg	04 28 56.8	-8.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,74nm,5.3s						
GTA				LR	LR		
	comp=N,280nm,12.0s						
GTA				LR	LR		
	comp=E,680nm,12.0s						
GTA				LR	LR		
	comp=Z,290nm,10.9s						
TAPN	**Taplejung**	**8.89**	**245**	*eP*	**Pn**	**04 28 33.1**	**+0.1**
	comp=Z,22nm,0.3s						
RAMN	**Ramite**	**9.95**	**246**	*eP*	**Pn**	**04 28 47.8**	**+0.3**
	comp=Z,28nm,0.4s						

JIRN	**Jiri**	**9.96**	**251**	*eP*		**Pn**	**04 28 46.6**	**-1.2**	
	comp=Z,26nm,0.5s								
GUN	**Gumba**	**10.11**	**253**	*eP*		**Pn**	**04 28 48.2**	**-1.6**	
	comp=Z,40nm,0.4s								
XAN	**Xi'an**	**10.55**	**72** ⇑	P		Pn	04 29 00.3	+4.8	
XAN				pP			04 29 09.6		
XAN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
PKI	**Pulchoki**	**10.63**	**252**	*eP*		**Pn**	**04 28 55.0**	**-1.9**	
	comp=Z,33nm,0.4s								
PKIN	**Phulchoki**	**10.64**	**252**	*eP*		**Pn**	**04 28 55.1**	**-1.9**	
	comp=Z,25nm,0.3s								
PKIN				*eS*		**Sn**	**04 30 51.4**	**-4.9**	
DMN	**Daman**	**10.86**	**253**	*eP*		**Pn**	**04 28 57.4**	**-2.6**	
	comp=Z,27nm,0.6s								
GKN	**Gorkha**	**11.10**	**255**	*eP*		**Pn**	**04 29 01.1**	**-2.1**	
	comp=Z,18nm,0.4s								
DANN	**Dangsing**	**11.72**	**258**	*eP*		**Pn**	**04 29 07.8**	**-4.0**	
	comp=Z,38nm,0.4s								
PYUN	**Piuthan**	**12.44**	**258**	*eP*		**Pn**	**04 29 17.9**	**-3.7**	
	comp=Z,46nm,0.6s								
CMAR	**Chiang Mai Arr**	**13.00**	**171**	Pn		**Pn**	**04 29 31.2**	**+2.1**	
	comp=Z,0.9nm,0.4s,baz=340,slow=13,SNR=6.5								
CMAR				LR		LR	04 35 05.9		
	comp=Z,62nm,19.4s,baz=270,slow=40								
WMQ	**Urumqi**	**14.36**	**332**	*eP*		**Pn**	**04 29 46.3**	**-1.3**	
WMQ				pP		P	04 29 54.8	+0.1	
WMQ				smax		smax			
	comp=N,19nm,0.7s								
WMQ				smax		smax			
	comp=E,19nm,0.7s								
WMQ				LR		LR			
	comp=N,370nm,8.9s								
WMQ				LR		LR			
	comp=E,320nm,13.9s								
WMQ				LR		LR			
	comp=Z,110nm,12.9s								
HNS	**HongShan**	**15.95**	**63**	*eP*		**P**	**04 30 16.9**	**+4.7**	
HNS				*eS*		**S**	**04 33 17.4**	**-2.2**	
HNS				pmax		pmax			
	comp=Z,6.0nm,0.5s								
HNS				LR		LR			
	comp=N,650nm,9.2s								
HNS				LR		LR			
	comp=E,360nm,10.1s								
HNS				LR		LR			
	comp=Z,340nm,11.2s								
SMLA	**Simla**	**16.80**	**274**	*eP*		**Pn**	**04 30 18.2**	**-1.4**	
QIZ	**Qiongzhong**	**17.02**	**133**	P		**Pn**	**04 30 19.8**	**-2.6**	
QIZ				S		**Sn**	**04 33 35.5**	**+3.9**	
QIZ				LR		LR			
	comp=N,370nm,11.2s								
QIZ				LR		LR			
	comp=E,290nm,12.7s								
QIZ				LR		LR			
	comp=Z,270nm,13.5s								
UBPT	**Khong Chiam**	**17.87**	**152**			**P**	**04 30 34.8**	**+1.1**	
UBPT				IAmb		IAmb	04 30 36.3		
	comp=Z,9.6nm,0.8s								
SONM	**Songino Array**	**18.00**	**21**	P		**Pn**	**04 30 33.6**	**-1.0**	
	comp=Z,0.4nm,0.3s,baz=208,slow=12,SNR=13								
SONM				LR		LR	04 38 07.8		
	comp=Z,118nm,18.7s,baz=173,slow=39								
	comp=Z,1.2nm,0.5s								
ULN	**Ulaanbaatar**	**18.24**	**23**			**Pn**	**04 30 35.3**	**-2.2**	
TARG	**Taragay, Kyrgy**	**18.40**	**309**	P		**P**	**04 30 40.2**	**+0.4**	
TARG				IAmb		IAmb	04 30 50.6		
	comp=Z,10.0nm,1.2s								
KSH	**Kashi**	**18.79**	**301**	P		**Pn**	**04 30 47.5**	**+3.2**	
KSH				pP		sP	04 30 51.3	+1.5	
KSH				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MK31	**Makanchi Array**	**19.03**	**328**	P		**P**	**04 30 45.7**	**-0.6**	
MKAR	**Makanchi Array**	**19.03**	**328**	P		**P**	**04 30 45.7**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=134,slow=14,SNR=15								
MKAR				LR		LR	04 38 24.2		
	comp=Z,76nm,20.7s,baz=172,slow=38								
	comp=Z,1.4nm,0.5s								
MKAR	**Makanchi Array**	**19.03**	**328**	P		**P**	**04 30 45.9**	**-0.4**	
MAKZ	**Makanchi**	**19.19**	**328**	P		**P**	**04 30 46.8**	**-1.2**	
NRN	**Naryn**	**19.48**	**307**	P		**Pn**	**04 30 52.5**	**-0.4**	
NRN				IAmb		IAmb	04 31 22.3		
	comp=Z,6.7nm,1.1s								
BOOM	**Boomskoye usch**	**19.98**	**310**	Pn		**Pn**	**04 30 58.7**	**+0.1**	
BOOM				IAmb		IAmb	04 31 07.3		
	comp=Z,12nm,1.4s								
NIL	**Nilore**	**19.99**	**283**	P		**P**	**04 30 56.3**	**-0.6**	
AAK	**Ala-Archa**	**21.01**	**309**	P		**P**	**04 31 08.9**	**+0.9**	
	comp=Z,0.9nm,0.3s,baz=153,slow=9.0,SNR=1.9								
AAK				LR		LR	04 40 49.4		
	comp=Z,166nm,19.9s,baz=113,slow=41								
	comp=Z,0.9nm,0.3s								
AAK	**Ala-Archa**	**21.01**	**309**			**P**	**04 31 06.3**	**-1.7**	
AAK				IAmb		IAmb	04 31 20.4		
	comp=Z,6.1nm,0.8s								
GAR	**Garm**	**22.89**	**297**	P		**P**	**04 31 28.2**	**0.0**	
GAR				IAmb		IAmb	04 31 34.8		
	comp=Z,12nm,0.8s								
KBL	**Kabul**	**23.48**	**285**	P		**P**	**04 31 34.8**	**+0.5**	
KURBB	**Kurchatov Arra**	**23.55**	**330**	P		**P**	**04 31 33.2**	**-1.4**	
	comp=Z,4.5nm,0.8s,baz=139,slow=11,SNR=30								
KURBB				LR		LR	04 40 46.6		
	comp=Z,109nm,19.8s,baz=112,slow=37								
	comp=Z,4.5nm,0.8s								
KURK	**Kurchatov**	**23.58**	**330**	P		**P**	**04 31 33.7**	**-1.2**	
KURK				IAmb		IAmb	04 31 44.8		
	comp=Z,7.4nm,0.8s								
CHGR	**Chuyangaron**	**23.72**	**295**	P		**P**	**04 31 34.4**	**-2.2**	
KK31	**Karatay Array**	**23.89**	**307**	P		**P**	**04 31 36.6**	**-1.4**	
KK31				IAmb		IAmb	04 31 47.2		
	comp=Z,2.1nm,0.7s								
KKAR	**Karatay Array**	**23.89**	**307**	P		**P**	**04 31 35.3**	**-2.7**	
ZALV	**Zalesovo Beam**	**24.16**	**343**	P		**P**	**04 31 40.4**	**+0.1**	
	comp=Z,2.1nm,0.7s,baz=153,slow=9.7,SNR=2.7								
	comp=Z,2.1nm,0.7s								
KSRS	**Korea Array**	**26.30**	**68

ARCES ARCESS Array B 54.45 336 P **P** **04 35 51.4 0.0**
comp=Z,2.8nm,1.0s,baz=81,slow=7.5,SNR=4.9
ARCES LR LR 05 01 47.7
comp=Z,71nm,19.9s,baz=88,slow=39
comp=Z,2.8nm,1.0s
NB2 NORSAR Subarra 61.02 326 P **P** **04 36 38.8 +1.1**
comp=Z,0.3nm,0.5s,baz=77,slow=6.9
NOA NORSAR Array B 61.02 326 P **P** **04 36 36.4 -1.3**
comp=Z,0.8nm,0.8s,baz=76,slow=6.8,SNR=5.6
NOA LR LR 05 04 02.6
comp=Z,25nm,20.3s,baz=280,slow=37
comp=Z,0.8nm,0.8s
WRA Warramunga Arr 62.45 140 P **P** **04 36 46.7 -1.1**
comp=Z,0.7nm,0.7s,baz=329,slow=7.5,SNR=9.4
comp=Z,0.7nm,0.7s
CLL Collm 62.53 315 eP **P** **04 36 48.0 0.0**
GERES GERESS Array B 62.82 313 P **P** **04 36 49.9 -0.2**
comp=Z,0.5nm,0.6s,baz=72,slow=4.3,SNR=4.5
comp=Z,0.5nm,0.6s
ASAR Alice Springs 65.24 142 P **P** **04 37 07.0 +0.8**
comp=Z,0.5nm,0.6s,baz=325,slow=6.2,SNR=5.9
comp=Z,0.5nm,0.6s
DAVOX Davos/Dischmat 65.93 311 LR LR 05 11 39.8
comp=Z,56nm,19.4s,baz=292,slow=41
ILAR Eielson Array 72.21 24 P **P** **04 37 50.1 +1.1**
comp=Z,0.8nm,0.8s,baz=301,slow=4.8,SNR=7.4
comp=Z,0.8nm,0.8s
TORD Torodi Ar. Bea 87.54 284 P **P** **04 39 14.9 +2.0**
comp=Z,0.6nm,0.7s,baz=259,slow=1.1,SNR=4.1
comp=Z,0.6nm,0.7s

---

*IDC **20** 04:59:09.9±0.6, 37.09N×97.95W, h0km, mb4.2/11, mbtmp4.1/18, ML4.2/7, MS3.3/16, Error ellipse: s-maj=12.6km s-min=8.5km az=169.0*

*ANF **20** 04:59:10.2±0.2, 36.96N×97.88W, h3km, ML5.2/28, Error ellipse: s-maj=2.9km s-min=2.7km az=154.0*

*TUL **20** 04:59:10.8±1.1, 36.94N±0.02×97.91W±0.02, h5km±5km, ML4.4, mb4.0/32(NEIC), mb_Lg4.3/116(NEIC), Mwr3.9/75(NEIC), Error ellipse: s-maj=2.2km s-min=1.9km az=165.0*

*NEIC **20** 04:59:11.1±1.0, 36.92N±0.01×97.89W±0.01, h2km±5km, Error ellipse: s-maj=2.0km s-min=0.8km az=137.0*

*NEIC **20** 04:59:11.3, 36.93N×97.90W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=7.31; Mθθ=7.89; Mφφ=-0.57; Mrθ=-3.24; Mrφ=3.13; Mθφ=0.33; Fault plane solution: M0=8.85000×10^14^ NP1:φ=82.49000°, δ=56.07000°, λ=-76.74000°. NP2:φ=239.60000°, δ=36.14000°, λ=-108.82000°. Principal axes: T 9.4497, Plg10.0000°, Azm163.0000°; N -1.3462, Plg11.0000°, Azm255.0000°; P -8.1035, Plg75.0000°, Azm31.0000°;*

ISC 20 04:59:10.7±0.7, 36.94N±0.02×97.89W±0.02, h9km±4km, n332,σ1ϟ33/331, mb4.1/14, MS3.5/10, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN14	**Manchester OK**	**0.06**	**290**	Pg	**Pg**	**04 59 12.5**	**-0.3**
KAN14				Sg	**Sg**	**04 59 13.6**	**-0.7**
GC02	**Grant County #**	**0.09**	**163**	Pg	**Pg**	**04 59 13.2**	**+0.1**
GC02				Sg	**Sg**	**04 59 14.7**	**-0.1**
KAN17	**Caldwell West**	**0.15**	**43**	Pg	**Pg**	**04 59 14.4**	**+0.4**
KAN17				Sg	**Sg**	**04 59 16.8**	**+0.5**
KAN01	**Argonia South**	**0.24**	**26**	Pg	**Pg**	**04 59 16.1**	**+0.4**
KAN01				Sg	**Sg**	**04 59 19.6**	**+0.6**
KAN10	**Anthony SW Sta**	**0.25**	**319**	Pg	**Pg**	**04 59 16.1**	**+0.3**
KAN10				Sg	**Sg**	**04 59 19.7**	**+0.5**
OK032	**Salt Plains WL**	**0.29**	**243**	Pg	**Pg**	**04 59 16.8**	**+0.2**
OK032				Sg	**Sg**	**04 59 20.7**	**+0.3**
KAN09	**Caldwell North**	**0.30**	**47**	Pg	**Pg**	**04 59 17.2**	**+0.5**
KAN09				Sg	**Sg**	**04 59 21.0**	**+0.3**
KAN08	**Anthony NE Sta**	**0.30**	**348**		**Pg**	**04 59 17.1**	**+0.4**
KAN08				Sg	**Sg**	**04 59 21.4**	**+0.7**
KAN06	**Argonia West S**	**0.31**	**5**		**Pg**	**04 59 17.4**	**+0.4**
KAN06				Sg	**Sb**	**04 59 22.1**	**-1.6**
KAN16	**Harper SW Stat**	**0.32**	**334**	Pg	**Pg**	**04 59 17.4**	**+0.3**
KAN16				Sg	**Sg**	**04 59 22.0**	**+0.6**
KAN13	**South Haven SW**	**0.34**	**77**	Pg	**Pg**	**04 59 18.0**	**+0.6**
KAN13				Sg	**Sg**	**04 59 22.6**	**+0.6**
KAN12	**Harper NE Stat**	**0.37**	**347**	Pg	**Pg**	**04 59 18.5**	**+0.4**
KAN12				Sg	**Sg**	**04 59 23.6**	**+0.6**
KS21	**Milan North St**	**0.40**	**27**	Pg	**Pb**	**04 59 19.0**	**-0.9**
KS20	**Mayfield South**	**0.40**	**42**	Pg	**Pg**	**04 59 19.1**	**+0.5**
KS20				Sg	**Sg**	**04 59 24.3**	**+0.4**
CROK	**Carrier**	**0.44**	**190**	Pg	**Pg**	**04 59 19.6**	**+0.3**
CROK				Sg	**Sg**	**04 59 25.7**	**+0.7**
BLOK	**Blackwell**	**0.57**	**108**	Pg	**Pg**	**04 59 22.2**	**+0.4**
BLOK				Sg	**Sg**	**04 59 30.0**	**+0.7**
OK035	**E0210 Rd and N**	**0.69**	**251**	Pg	**Pg**	**04 59 24.2**	**+0.1**
OK035				Sg	**Sg**	**04 59 33.5**	**+0.3**
OK049	**E0420 Rd and N**	**0.71**	**138**	Pg	**Pg**	**04 59 24.7**	**+0.3**
OK049				Sg	**Sg**	**04 59 34.4**	**+0.7**
OK038	**West end E0370**	**0.82**	**237**	Pg	**Pg**	**04 59 26.7**	**+0.1**
OK038				Sg	**Sg**	**04 59 37.4**	**+0.1**
NOKA	**Waynoka**	**0.89**	**251**		**Pg**	**04 59 27.7**	**-0.1**
NOKA				Sg	**Sg**	**04 59 39.5**	**+0.1**
OK050	**Pawnee Station**	**0.91**	**126**		**Pg**	**04 59 28.3**	**+0.1**
OK050				Sg	**Sg**	**04 59 40.6**	**+0.5**
OK045	**Pawnee Station**	**0.92**	**122**		**Pg**	**04 59 28.5**	**+0.1**
OK045				Sg	**Sg**	**04 59 40.9**	**+0.6**
OK048	**Pawnee Station**	**0.92**	**124**	Pg	**Pg**	**04 59 28.5**	**0.0**
OK048				Sg	**Sg**	**04 59 40.8**	**+0.4**
OK051	**E0350 and S346**	**0.95**	**117**		**Pg**	**04 59 29.0**	**0.0**
OK047	**Pawnee, Statio**	**1.05**	**116**	Pg	**Pg**	**04 59 30.9**	**0.0**
U32A	**Winter Ranch,** baz=58,SNR=405	**1.05**	**238**	P	**Pg**	**04 59 30.5**	**-0.5**
U32A				S	**Sg**	**04 59 44.8**	**+0.2**
T35B	**Sooner Cattle** baz=271,SNR=1000	**1.10**	**91**	P	**Pg**	**04 59 31.8**	**-0.1**
T35B				S	**Sg**	**04 59 46.5**	**+0.2**
QUOK	**Quay**	**1.22**	**128**	Pg	**Pg**	**04 59 33.9**	**-0.2**
BCOK	**Bluff Creek, N**	**1.30**	**170**		**Pg**	**04 59 35.0**	**-0.6**
BCOK				IAmb_Lg		04 59 51.6	
OK025	comp=Z,787nm,0.8s **Westminster Rd** comp=Z,1μm,0.8s	**1.42**	**162**	IAmb_Lg		04 59 57.8	
CSTR	**Hydro, Custer**	**1.44**	**207**	Pn	**Pn**	**04 59 37.7**	**+0.7**
DEOK	**Depew**	**1.57**	**134**		**Pn**	**04 59 39.5**	**+0.8**
R32A	**Long Quarter,** baz=156,SNR=480	**1.62**	**337**	P	**Pb**	**04 59 40.7**	**-0.1**
R32A				S	**Sg**	**05 00 02.0**	**-0.8**
TUL1	baz=156 **Leonard** baz=302,SNR=584	**1.98**	**121**	P	**Pn**	**04 59 45.4**	**+1.1**
TUL1				S	**Sb**	**05 00 13.2**	**+1.6**
TUL1	baz=302 **Leonard** baz=302,SNR=453	**1.98**	**121**	P	**Pn**	**04 59 45.4**	**+1.1**
TUL1				S	**Sb**	**05 00 12.2**	**+0.6**
WMOK	baz=302 **Wichita Mounta**	**2.31**	**199**	Pn	**Pn**	**04 59 49.9**	**+0.9**
WMOK	**Wichita Mounta** baz=18,SNR=590	**2.31**	**199**	P	**Pn**	**04 59 49.7**	**+0.8**
WMOK	**Wichita Mounta** baz=18,SNR=195	**2.31**	**199**	P	**Pn**	**04 59 49.6**	**+0.7**
WMOK				S	**Sn**	**05 00 19.2**	**+1.7**
X34A	baz=18 **Smith Ranch, M**	**2.33**	**179**	Pn	**Pn**	**04 59 50.5**	**+1.3**
X34A				IAmb_Lg		05 00 26.7	
CBKS	comp=Z,1μm,0.8s **Cedar Bluff**	**2.38**	**323**	Pn	**Pn**	**04 59 51.1**	**+1.3**
CBKS				IAmb_Lg		05 00 31.0	
CBKS	comp=Z,1μm,0.8s **Cedar Bluff** baz=142,SNR=163	**2.38**	**323**	P	**Pn**	**04 59 51.0**	**+1.1**
CBKS				S	**Sb**	**05 00 24.2**	**+1.0**
CBKS	baz=142 **Cedar Bluff** baz=142,SNR=122	**2.38**	**323**	P	**Pn**	**04 59 50.9**	**+1.1**
KSU1	**Kansas State U**	**2.39**	**25**	Pn	**Pn**	**04 59 51.5**	**+1.5**
KSU1	**Kansas State U** baz=205,SNR=203	**2.39**	**25**	P	**Pn**	**04 59 51.5**	**+1.5**
KSU1				S	**Sb**	**05 00 24.5**	**+1.1**
KSU1	baz=205 **Kansas State U** baz=205,SNR=462	**2.39**	**25**	P	**Pn**	**04 59 51.5**	**+1.5**
RLO	**Rose Lookout**	**2.43**	**108**	Pn	**Pn**	**04 59 51.7**	**+1.1**
U38A	**Gravette**	**2.86**	**99**	Pn	**Pn**	**04 59 57.6**	**+1.1**
U38A	**Gravette** baz=281,SNR=96	**2.86**	**99**	P	**Pn**	**04 59 57.8**	**+1.4**
LOOK	**Love County**	**2.99**	**169**	Pn	**Pn**	**04 59 59.7**	**+1.4**
LOOK	comp=Z,436nm,0.9s			IAmb_Lg		05 00 50.7	
X37A	**Clayton**	**3.11**	**138**	Pn	**Pn**	**05 00 01.1**	**+1.1**
X37A	**Clayton** baz=320,SNR=446	**3.11**	**138**	P	**Pn**	**05 00 01.0**	**+1.1**
HHAR	**Hobbs** comp=Z,815nm,0.8s	**3.25**	**100**	IAmb_Lg		05 01 01.3	
HHAR	**Hobbs** baz=283	**3.25**	**100**	S	**Sn**	**05 00 42.9**	**+2.3**
Z35A	**Perchaven, San** baz=352,SNR=73	**3.63**	**172**	P	**Pn**	**05 00 08.3**	**+1.2**
Z35A				S	**Sn**	**05 00 52.1**	**+2.0**
AMTX	baz=352 **Amarillo**	**3.69**	**237**	Pn	**Pn**	**05 00 09.6**	**+1.5**
AMTX				IAmb_Lg		05 01 17.3	
AMTX	comp=Z,1μm,0.9s **Amarillo** baz=55,SNR=68	**3.69**	**237**	P	**Pn**	**05 00 09.0**	**+0.9**
AMTX	**Amarillo** baz=55	**3.69**	**237**	P	**Pn**	**05 00 09.6**	**+1.5**
S39A	**Bolivar** baz=260,SNR=38	**3.72**	**77**	P	**Pn**	**05 00 09.1**	**+0.8**
S39A				S	**Sn**	**05 00 53.8**	**+1.6**
N33B	baz=260 **J Bar K, Exete** baz=185,SNR=28	**3.81**	**5**	P	**Pn**	**05 00 10.0**	**+0.4**
N33A	**J Bar K, Exete** comp=Z,831nm,0.7s	**3.81**	**5**	IAmb_Lg		05 01 21.0	
MIAR	**Mount Ida**	**4.24**	**123**		**Pn**	**05 00 16.4**	**+0.9**
MIAR	comp=Z,659nm,0.7s			IAmb_Lg		05 01 34.9	
MIAR	**Mount Ida** baz=305,SNR=116	**4.24**	**123**	P	**Pn**	**05 00 16.4**	**+0.9**
MIAR	**Mount Ida** baz=305,SNR=48	**4.24**	**123**	P	**Pn**	**05 00 16.3**	**+0.8**
KSCO	**Kaye Shedlock'**	**4.28**	**300**		**Pn**	**05 00 17.2**	**+1.1**
KSCO	comp=Z,578nm,0.7s			IAmb_Lg		05 01 36.0	
KSCO	**Kaye Shedlock'** baz=118,SNR=17	**4.28**	**300**	P	**Pn**	**05 00 17.3**	**+1.2**
KSCO	**Kaye Shedlock'** baz=118,SNR=9.4	**4.28**	**300**	P	**Pn**	**05 00 17.2**	**+1.1**
KSCO	baz=118			S	**Sn**	**05 01 07.6**	**+1.4**
N35A	**Tabor** baz=205,SNR=18	**4.29**	**23**	P	**Pn**	**05 00 17.1**	**+0.9**
P38A	**Dawn**	**4.36**	**51**		**Pn**	**05 00 18.3**	**+1.3**
P38A	comp=Z,485nm,0.8s			IAmb_Lg		05 01 27.5	
P38A	**Dawn** baz=233,SNR=180	**4.36**	**51**	P	**Pn**	**05 00 18.2**	**+1.2**
Z38A	**Mt. Pleasant**	**4.37**	**146**		**Pn**	**05 00 17.9**	**+0.6**
Z38A	**Mt. Pleasant** baz=328,SNR=19	**4.37**	**146**	P	**Pn**	**05 00 18.1**	**+0.8**
BGNE	**Belgrade**	**4.47**	**357**	Pn	**Pn**	**05 00 19.4**	**+0.8**
BGNE	**Belgrade** baz=177,SNR=76	**4.47**	**357**	P	**Pn**	**05 00 19.5**	**+0.8**
BGNE	**Belgrade** baz=177,SNR=21	**4.47**	**357**	P	**Pn**	**05 00 19.3**	**+0.8**
MGMO	**Mountain Grove** comp=Z,583nm,1.0s	**4.50**	**86**	IAmb_Lg		05 01 34.9	
ABTX	**Abilene, Hawle** comp=Z,651nm,1.1s	**4.54**	**199**	IAmb_Lg		05 01 38.9	
R40A	**Maddies Statio** baz=255,SNR=140	**4.66**	**71**	P	**Pn**	**05 00 22.0**	**+0.8**
FCAR	**Ozark Folk Cen** comp=Z,423nm,0.8s	**4.77**	**101**	IAmb_Lg		05 01 44.6	
WHTX	**Lake Whitney,** baz=356,SNR=379	**4.95**	**176**	P	**Pn**	**05 00 25.7**	**+0.5**
WHTX	**Lake Whitney,** baz=356,SNR=128	**4.95**	**176**	P	**Pn**	**05 00 25.6**	**+0.5**
WHTX	baz=356			S	**Sn**	**05 01 22.3**	**-0.2**
MSTX	**Muleshoe** baz=52,SNR=38	**4.96**	**235**	P	**Pn**	**05 00 26.4**	**+0.9**
MSTX	**Muleshoe** baz=52,SNR=44	**4.96**	**235**	P	**Pn**	**05 00 26.4**	**+0.9**
UALR	**University of**	**5.00**	**114**	Pn	**Pn**	**05 00 26.6**	**+0.8**
UALR	comp=Z,383nm,0.8s			IAmb_Lg		05 02 00.9	
OGNE	**Ogallala**	**5.14**	**322**	Pn	**Pn**	**05 00 29.5**	**+1.5**
OGNE	**Ogallala** baz=140,SNR=31	**5.14**	**322**	P	**Pn**	**05 00 29.2**	**+1.3**
OGNE	**Ogallala** baz=140,SNR=6.9	**5.14**	**322**	P	**Pn**	**05 00 29.4**	**+1.5**
OGNE	baz=140			S	**Sn**	**05 01 27.9**	**+0.5**
L34A	**Svendsen Farm,**	**5.16**	**13**	Pn	**Pn**	**05 00 27.9**	**-0.2**
L34A	**Svendsen Farm,** baz=194,SNR=43	**5.16**	**13**	P	**Pn**	**05 00 27.6**	**-0.5**
237A	**Washetta, Mont** comp=Z,399nm,1.0s	**5.21**	**160**	IAmb_Lg		05 02 05.9	
237A	**Washetta, Mont** baz=341,SNR=26	**5.21**	**160**	P	**Pn**	**05 00 28.8**	**-0.1**
T25A	**Trinidad**	**5.22**	**274**		**Pn**	**05 00 30.0**	**+0.9**
T25A	comp=Z,439nm,1.0s			IAmb_Lg		05 02 05.3	
T25A	**Trinidad** baz=90,SNR=10.0	**5.22**	**274**	P	**Pn**	**05 00 29.7**	**+0.6**
P40A	**Paris** comp=Z,520nm,0.8s	**5.28**	**59**	IAmb_Lg		05 02 01.1	
P40A	**Paris** baz=242,SNR=49	**5.28**	**59**	P	**Pn**	**05 00 29.8**	**+0.1**
N38A	**Joes South For** comp=Z,625nm,0.7s	**5.29**	**42**	IAmb_Lg		05 02 07.0	
N38A	**Joes South For** baz=225,SNR=105	**5.29**	**42**	P	**Pn**	**05 00 30.5**	**+0.6**
CCM	**Cathedral Cave**	**5.40**	**76**	Pn	**Pn**	**05 00 31.8**	**+0.4**
CCM	comp=Z,345nm,0.7s			IAmb_Lg		05 02 06.9	
CCM	**Cathedral Cave** baz=260,SNR=28	**5.40**	**76**	P	**Pn**	**05 00 31.6**	**+0.2**
CCM	**Cathedral Cave** baz=260	**5.40**	**76**	P	**Pn**	**05 00 31.6**	**+0.2**
LCAR	**Lake Charles** comp=Z,308nm,0.8s	**5.50**	**97**	IAmb_Lg		05 02 08.9	
NATX	**Nacogdoches** baz=334	**5.81**	**152**	P	**Pn**	**05 00 37.2**	**+0.1**
NATX	baz=334			S	**Sn**	**05 01 42.2**	**-1.6**
CCAR	**Cane Creek** comp=Z,432nm,0.9s	**5.83**	**119**	IAmb_Lg		05 02 21.1	
PBMO	**Poplar Bluff** comp=Z,483nm,0.7s	**5.99**	**89**	IAmb_Lg		05 02 31.8	
FVM	**French Village**	**6.03**	**78**	Pn	**Pn**	**05 00 40.2**	**+0.2**
FVM	comp=Z,359nm,0.7s			IAmb_Lg		05 02 20.0	
FVM	**French Village** baz=262,SNR=18	**6.03**	**78**	P	**Pn**	**05 00 40.3**	**+0.2**
Q24A	**Divide** comp=Z,278nm,0.8s	**6.08**	**292**	IAmb_Lg		05 02 27.0	
Q24A	**Divide** baz=107	**6.08**	**292**	P	**Pn**	**05 00 41.3**	**+0.3**
SDCO	**Great Sand Dun**	**6.12**	**280**	Pn	**Pn**	**05 00 42.7**	**+1.2**
SDCO	**Great Sand Dun** baz=95,SNR=27	**6.12**	**280**	P	**Pn**	**05 00 42.7**	**+1.2**
SDCO	**Great Sand Dun** baz=95,SNR=23	**6.12**	**280**	P	**Pn**	**05 00 42.7**	**+1.2**
435B	**Jarrell** baz=358,SNR=20	**6.14**	**178**	P	**Pn**	**05 00 41.4**	**-0.2**
435B	**Jarrell** baz=358	**6.14**	**178**	P	**Pn**	**05 00 41.4**	**-0.2**
435B	baz=358			S	**Sn**	**05 01 49.8**	**-2.2**
SCIA	**State Center** baz=218,SNR=20	**6.14**	**35**	P	**Pn**	**05 00 41.9**	**+0.3**
SCIA	**State Center** baz=218,SNR=23	**6.14**	**35**	P	**Pn**	**05 00 41.8**	**+0.3**
CPRX	**Cap Rock**	**6.26**	**233**	Pn	**Pn**	**05 00 44.2**	**+0.8**
SLM	**Saint Louis** comp=Z,338nm,0.8s	**6.30**	**72**	IAmb_Lg		05 02 34.1	
HTMS	**Hat Mesa**	**6.50**	**228**	Pn	**Pn**	**05 00 47.2**	**+0.7**
CGM3	**Cape Girardeau** comp=Z,383nm,0.8s	**6.59**	**84**	IAmb_Lg		05 02 41.8	
JCT	**Junction City** comp=Z,319nm,0.9s	**6.63**	**194**	IAmb_Lg		05 02 44.6	
JCT	**Junction City** baz=13,SNR=28	**6.63**	**194**	P	**Pn**	**05 00 48.3**	**-0.1**
JCT	**Junction City** baz=13,SNR=15	**6.63**	**194**	P	**Pn**	**05 00 48.3**	**-0.1**
N41A	**Harden Midland** comp=Z,506nm,0.7s	**6.66**	**53**	IAmb_Lg		05 02 49.0	
N41A	**Harden Midland** baz=238,SNR=24	**6.66**	**53**	P	**Pn**	**05 00 49.8**	**+1.2**
ISCO	**Idaho Springs** comp=Z,298nm,0.8s	**6.71**	**298**	IAmb_Lg		05 03 01.6	
143A	**Socs Landing,** comp=Z,283nm,0.8s	**6.80**	**126**	IAmb_Lg		05 02 59.6	
143A	**Socs Landing,** baz=310,SNR=6.7	**6.80**	**126**	P	**Pn**	**05 00 51.8**	**+1.1**
ECSD	**EROS Data Cent**	**6.86**	**8**	Pn	**Pn**	**05 00 51.2**	**-0.3**
ECSD	comp=Z,231nm,0.9s			IAmb_Lg		05 02 54.0	
ECSD	**EROS Data Cent** baz=189,SNR=37	**6.86**	**8**	P	**Pn**	**05 00 51.2**	**-0.3**
ECSD	**EROS Data Cent** baz=189,SNR=33	**6.86**	**8**	P	**Pn**	**05 00 51.0**	**-0.5**
ECSD	baz=189			S	**Sn**	**05 02 08.0**	**-1.6**
S44A	**Carbondale** comp=Z,406nm,0.9s	**6.92**	**81**	IAmb_Lg		05 02 56.4	
K38A	**Parkersburg**	**6.93**	**33**		**Pn**	**05 00 51.8**	**-0.6**
K38A	**Parkersburg** baz=216,SNR=9.5	**6.93**	**33**	P	**Pn**	**05 00 51.9**	**-0.5**
GLAT	**Glass** comp=Z,486nm,0.8s	**6.95**	**93**	IAmb_Lg		05 03 05.4	
SIUC	**Southern Illin** comp=Z,282nm,0.9s	**6.96**	**81**	IAmb_Lg		05 02 47.8	
HALT	**Halls** comp=Z,323nm,0.8s	**6.97**	**96**	IAmb_Lg		05 03 09.9	
P43A	**Skaggs, Pawnee** comp=Z,475nm,0.8s	**7.12**	**65**	IAmb_Lg		05 03 07.2	
P43A	**Skaggs, Pawnee** baz=250,SNR=23	**7.12**	**65**	P	**Pn**	**05 00 54.9**	**0.0**
S22A	**4UR Ranch, Cre** baz=94	**7.17**	**279**	P	**Pn**	**05 00 58.2**	**+2.2**
ANMO	**Albuquerque** comp=Z,0.7nm,0.3s,baz=87,slow=14,SNR=15	**7.23**	**257**	Pn	**Pn**	**05 00 57.6**	**+0.9**
ANMO	comp=Z,7.0nm,0.3s,baz=330,slow=21,SNR=8.0 comp=Z,2.1nm,0.4s			Lg	Lg	05 02 57.2	
ANMO	**Albuquerque** baz=72	**7.23**	**257**	P	**Pn**	**05 00 59.4**	**+2.7**
L40A	**Anamosa** comp=Z,442nm,0.9s	**7.26**	**43**	IAmb_Lg		05 03 09.8	
L40A	**Anamosa** baz=227,SNR=13	**7.26**	**43**	P	**Pn**	**05 00 57.0**	**+0.1**
W45A	**Hickory Valley** baz=287,SNR=13	**7.27**	**102**	P	**Pn**	**05 00 57.3**	**+0.2**
Q44A	**Meyer Farm, Va** baz=257,SNR=25	**7.28**	**72**	P	**Pn**	**05 00 57.4**	**+0.1**
OXF	**Oxford** baz=292	**7.31**	**107**	P	**Pn**	**05 00 57.3**	**-0.3**
OXF	**Oxford** baz=292	**7.31**	**107**	P	**Pn**	**05 00 57.5**	**-0.1**
PHWY	**Pilot Hill** comp=Z,334nm,1.0s	**7.32**	**309**	IAmb_Lg		05 03 12.5	
T45A	**Paducah** comp=Z,467nm,0.8s	**7.40**	**87**	IAmb_Lg		05 03 20.7	
N23A	**Red Feather La**	**7.42**	**305**		**Pn**	**05 01 00.8**	**+1.4**
N23A	**Red Feather La** baz=120,SNR=14	**7.42**	**305**	P	**Pn**	**05 01 00.6**	**+1.2**
Y45A	**Yeager Farm, C** comp=Z,399nm,1.1s	**7.47**	**112**	IAmb_Lg		05 03 20.4	
SMCO	**Snowmass**	**7.51**	**290**	Pn	**Pn**	**05 01 01.7**	**+1.0**
SUSD	**Miller** comp=Z,330nm,0.9s	**7.54**	**354**	IAmb_Lg		05 03 14.7	
SUSD	**Miller** baz=174	**7.54**	**354**	P	**Pn**	**05 01 01.2**	**+0.4**
HDIL	**Hopedale** baz=244,SNR=54	**7.63**	**59**	P	**Pn**	**05 01 02.2**	**+0.2**
HDIL	baz=244			S	**Sn**	**05 02 27.7**	**-0.8**
BNM	**Barren Site**	**7.64**	**251**	Pn	**Pn**	**05 01 03.8**	**+1.3**
VBMS	**Vicksburg** baz=310	**7.69**	**126**	S	**Sn**	**05 02 28.3**	**-1.6**
CRNM	**Carthage**	**7.81**	**250**	Pn	**Pn**	**05 01 05.9**	**+1.3**
I37A	**Lemond, Waseca** comp=Z,311nm,0.8s	**7.85**	**24**	IAmb_Lg		05 03 27.8	
OLIL	**Olney** comp=Z,267nm,0.9s	**7.95**	**74**	IAmb_Lg		05 03 38.1	
OLIL	**Olney** baz=260	**7.95**	**74**	P	**Pn**	**05 01 06.7**	**+0.2**
O44A	**Mansfield** comp=Z,331nm,0.7s	**8.05**	**64**	IAmb_Lg		05 03 33.9	
O44A	**Mansfield** baz=249,SNR=10	**8.05**	**64**	P	**Pn**	**05 01 07.8**	**0.0**
735A	**Kenedy** comp=Z,282nm,1.1s	**8.06**	**179**	IAmb_Lg		05 03 49.0	
735A	**Kenedy** baz=360,SNR=10.0	**8.06**	**179**	P	**Pn**	**05 01 09.2**	**+1.3**
344A	**Westbrok Farm** baz=315	**8.06**	**131**	P	**Pn**	**05 01 09.8**	**+1.8**
L42A	**Oliver, Polo** comp=Z,435nm,0.9s	**8.13**	**49**	IAmb_Lg		05 03 30.2	
L42A	**Oliver, Polo** baz=234,SNR=14	**8.13**	**49**	P	**Pn**	**05 01 09.4**	**+0.6**
WVT	**Waverly**	**8.14**	**93**	Pn	**Pn**	**05 01 09.6**	**+0.6**
WVT	**Waverly** baz=279	**8.14**	**93**	P	**Pn**	**05 01 08.4**	**-0.6**
WVT	baz=279			S	**Sn**	**05 02 36.2**	**-4.9**
JFWS	**Jewell Farm** comp=Z,283nm,0.8s	**8.37**	**42**	IAmb_Lg		05 03 52.4	
JFWS	**Jewell Farm** baz=227,SNR=78	**8.37**	**42**	P	**Pn**	**05 01 11.7**	**-0.4**
JFWS	**Jewell Farm** baz=227,SNR=32	**8.37**	**42**	P	**Pn**	**05 01 12.1**	**-0.1**
JFWS	baz=227			S	**Sn**	**05 02 44.0**	**-2.7**
RSSD	**Black Hills**	**8.56**	**329**	Pn	**Pn**	**05 01 16.6**	**+1.6**
RSSD	comp=Z,221nm,0.9s			IAmb_Lg		05 03 49.7	
RSSD	**Black Hills** baz=145,SNR=11	**8.56**	**329**	P	**Pn**	**05 01 16.7**	**+1.7**
RSSD	**Black Hills** baz=145	**8.56**	**329**	P	**Pn**	**05 01 16.0**	**+0.9**
RWWY	**Rawlins** comp=Z,300nm,1.3s	**8.64**	**306**	IAmb_Lg		05 03 52.0	
833A	**Chaparral WMA,** comp=Z,211nm,1.0s	**8.68**	**189**	IAmb_Lg		05 03 57.9	
833A	**Chaparral WMA,** baz=8.0	**8.68**	**189**	P	**Pn**	**05 01 16.0**	**-0.5**
833A	baz=8.0			S	**Sn**	**05 02 51.8**	**-2.7**
O20A	**White River Ci** baz=108	**8.72**	**295**	P	**Pn**	**05 01 17.9**	**+0.8**
K22A	**Casper** comp=Z,221nm,0.9s	**8.76**	**313**	IAmb_Lg		05 04 08.5	
K22A	**Casper** baz=128,SNR=9.8	**8.76**	**313**	P	**Pn**	**05 01 18.0**	**+0.4**
K22A	**Casper** baz=128,SNR=16	**8.76**	**313**	P	**Pn**	**05 01 18.0**	**+0.4**
M44A	**Midewin, Midew** comp=Z,322nm,0.9s	**8.85**	**57**	IAmb_Lg		05 03 53.2	
M44A	**Midewin, Midew** baz=243,SNR=7.8	**8.85**	**57**	P	**Pn**	**05 01 18.7**	**0.0**
Z47A	**Carrollton** comp=Z,153nm,0.9s	**8.87**	**112**	IAmb_Lg		05 04 09.7	
I40A	**Norwalk** comp=Z,176nm,0.9s	**8.89**	**36**	IAmb_Lg		05 04 02.5	
I40A	**Norwalk** baz=221,SNR=19	**8.89**	**36**	P	**Pn**	**05 01 18.5**	**-0.8**
F33A	**5 Mile Ranch,** baz=188,SNR=15	**8.98**	**7**	P	**Pn**	**05 01 18.9**	**-1.6**
TXAR	**Lajitas Array** comp=Z,2.9nm,0.3s,baz=24,slow=12,SNR=107	**8.99**	**214**	Pn	**Pn**	**05 01 20.6**	**-0.3**
TXAR	comp=Z,7.5nm,0.3s,baz=47,slow=31,SNR=7.2			Lg	Lg	05 03 51.9	
TXAR	comp=Z,75nm,20.9s,baz=348,slow=39 comp=Z,5.0nm,0.4s			LR	LR	05 05 03.3	
TX31	**Lajitas Ar. Si** baz=31,SNR=41	**8.99**	**214**	P	**Pn**	**05 01 19.7**	**-1.1**
SFIN	**Lafayette** baz=251,SNR=16	**9.12**	**65**	P	**Pn**	**05 01 22.0**	**-0.4**
SFIN	**Lafayette** baz=251,SNR=11	**9.12**	**65**	P	**Pn**	**05 01 21.9**	**-0.4**
SPMN	**Marine on St.** comp=Z,188nm,0.8s	**9.13**	**23**	IAmb_Lg		05 04 06.4	
SPMN	**Marine on St.** baz=206,SNR=19	**9.13**	**23**	P	**Pn**	**05 01 21.8**	**-0.8**
SPMN	**Marine on St.** baz=206,SNR=26	**9.13**	**23**	P	**Pn**	**05

baz=239,SNR=10
L44A Lake County Fo 9.31 53 P Pn 05 01 25.1 0.0
baz=239,SNR=6.1
K43A Burlington 9.34 49 IAmb_Lg 05 04 22.2
comp=Z,260nm,0.9s
U49A Red Boiling Sp 9.73 89 P Pn 05 01 31.8 +0.9
baz=276
LRAL Lakeview Retre 9.75 110 P Pn 05 01 31.1 +0.1
baz=297
LRAL Lakeview Retre 9.75 110 P Pn 05 01 31.1 +0.1
baz=297
I42A Draeger Farm, 9.75 42 IAmb_Lg 05 04 28.4
comp=Z,285nm,1.2s
I42A Draeger Farm, 9.75 42 P Pn 05 01 30.7 -0.3
baz=228,SNR=39
E28A Huff 9.86 349 IAmb_Lg 05 04 32.6
comp=Z,237nm,0.9s
P48A Milroy 10.13 72 P Pn 05 01 34.4 -1.9
baz=259,SNR=9.2
P48A P Pn 05 01 34.4 -1.9
baz=259,SNR=9.2
R49A Shelbyville 10.18 79 Pn Pn 05 01 36.4 -0.6
R49A Shelbyville 10.18 79 P Pn 05 01 36.7 -0.3
baz=266
R49A P Pn 05 01 36.7 -0.3
baz=266
T50A Nancy 10.45 86 P Pn 05 01 41.3 +0.7
baz=273
T50A P Pn 05 01 41.3 +0.7
baz=273
O48B Farmland 10.51 68 P Pn 05 01 39.2 -2.2
baz=256
BRAL Brewton 10.67 119 Pn 05 01 44.8 +1.1
P49A Miami Univ. Ec 10.68 72 P Pn 05 01 42.3 -1.5
baz=260,SNR=5.7
BW06 Boulder Array 10.69 307 P Pn 05 01 43.4 -0.8
baz=119
PD31 Pinedale Array 10.69 307 Pn Pn 05 01 44.4 +0.2
PDAR Pinedale Array 10.69 307 Pn Pn 05 01 42.1 -2.1
comp=Z,0.6nm,0.3s,baz=114,slow=16,SNR=16
PDAR LR LR 05 06 06.7
comp=Z,146nm,18.5s,baz=118,slow=40
comp=Z,1.5nm,0.5s
PDAR Pinedale Array 10.69 307 Pn Pn 05 01 43.4 -0.8
H43A Windswept, Lux 10.75 42 P Pn 05 01 43.3 -1.4
baz=229,SNR=22
E38A The Farm, Brul 10.75 24 P Pn 05 01 43.4 -1.4
baz=208
250A Grady 10.79 114 P Pn 05 01 45.7 +0.4
baz=300
R50A Paris 10.85 79 P Pn 05 01 45.6 -0.5
baz=267
R50A P Pn 05 01 45.6 -0.5
baz=267
V51A Loudon 10.98 92 Pn Pn 05 01 48.3 +0.4
V51A Loudon 10.98 92 P Pn 05 01 48.4 +0.5
baz=280,SNR=16
COWI Conover 11.26 33 P Pn 05 01 50.1 -1.6
baz=219
I45A Fountain 11.35 48 P Pn 05 01 52.1 -0.9
baz=235
I45A P Pn 05 01 52.1 -0.9
baz=235
N49A Columbus Grove 11.39 65 P Pn 05 01 51.5 -2.0
baz=254,SNR=9.6
N49A P Pn 05 01 51.5 -2.0
baz=254,SNR=9.6
S51A Beattyville 11.41 82 P Pn 05 01 54.4 +0.6
baz=271
S51A P Pn 05 01 54.4 +0.6
baz=271
AGMN Agassiz Nation 11.45 7 P Pn 05 01 51.3 -3.0
baz=188,SNR=11
TKL Tuckaleechee C 11.46 92 Pn Pn 05 01 54.3 -0.3
comp=Z,3.6nm,0.3s,baz=227,slow=6.3,SNR=61
TKL Sn Sn 05 03 59.3 -3.4
comp=Z,1.8nm,0.3s,baz=161,slow=4.8,SNR=4.2
TKL Lg Lg 05 05 07.8
comp=Z,3.2nm,0.3s,baz=127,slow=7.3,SNR=18
comp=Z,14nm,0.4s
TKL Tuckaleechee C 11.46 92 P Pn 05 01 55.0 +0.4
baz=280,SNR=12
TZTN Tazewell 11.52 88 Pn Pn 05 01 56.1 +0.8
TZTN Tazewell 11.52 88 P Pn 05 01 55.9 +0.6
baz=276
TZTN Tazewell 11.52 88 P Pn 05 01 55.5 +0.2
baz=276
L48A N Adams 11.54 60 P Pn 05 01 54.1 -1.5
baz=249,SNR=25
L48A P Pn 05 01 54.1 -1.5
baz=249,SNR=25
LAO LASA Array 11.55 330 Pn Pn 05 01 56.4 +0.6
LAO LASA Array 11.55 330 P Pn 05 01 54.9 -0.9
baz=145,SNR=10.0
V52A Sevierville 11.57 91 P Pn 05 01 55.7 -0.4
baz=280,SNR=7.7
B35A Bob, Littlefor 11.82 14 P Pn 05 01 56.6 -2.8
baz=196
RLMT Red Lodge 11.85 317 Pn Pn 05 01 59.1 -0.9
RLMT Red Lodge 11.85 317 P Pn 05 01 59.5 -0.5
baz=130
TPAW Teton Pass 11.93 307 Pn Pn 05 01 59.6 -1.6
HPIG 11.95 216 Pn Pn 05 02 00.5 -1.0
EYMN Ely 11.97 21 P Pn 05 01 58.2 -3.2
baz=205,SNR=15
EYMN Ely 11.97 21 P Pn 05 01 58.2 -3.2
baz=205
ACSO Alum Creek Sta 12.12 70 P Pn 05 02 00.8 -2.7
baz=259,SNR=6.9
AAM Ann Arbor 12.21 60 P Pn 05 02 04.1 -0.6
baz=249
AAM Ann Arbor 12.21 60 P Pn 05 02 03.5 -1.3
baz=249,SNR=8.9
D41A Chassel 12.26 31 P Pn 05 02 02.8 -2.5
baz=218
G45A Suttons Bay 12.28 45 Pn Pn 05 02 03.5 -2.1
G45A Suttons Bay 12.28 45 P Pn 05 02 03.2 -2.4
baz=233,SNR=16
G45A P Pn 05 02 03.2 -2.4
baz=233,SNR=16
DGMT Dagmar 12.42 340 Pn Pn 05 02 06.3 -1.3
DGMT Dagmar 12.42 340 P Pn 05 02 06.3 -1.3
baz=156
DGMT Dagmar 12.42 340 P Pn 05 02 06.0 -1.5
baz=156,SNR=11
E43A Lone Tree Farm 12.45 37 P Pn 05 02 04.9 -3.1
baz=224,SNR=38
Q52A Bidwell 12.50 76 Pn Pn 05 02 07.2 -1.6
Q52A Bidwell 12.50 76 P Pn 05 02 07.1 -1.6
baz=266
Q52A P Pn 05 02 07.1 -1.6
baz=266
P52A Corning 12.67 73 P Pn 05 02 08.6 -2.4
baz=263,SNR=7.6
R53A Hurricane 12.71 79 P Pn 05 02 10.9 -0.8
baz=269
R53A P Pn 05 02 10.9 -0.8
baz=269
GLMI Grayling 12.76 48 P Pn 05 02 09.7 -2.5
baz=236,SNR=6.7
GLMI Grayling 12.76 48 P Pn 05 02 09.9 -2.2
baz=236,SNR=22
U54A Nelsons Funny 12.90 87 P Pn 05 02 13.6 -0.7
baz=277,SNR=7.4
U54A P Pn 05 02 13.6 -0.7
baz=277,SNR=7.4
K50A Casco 13.09 59 P Pn 05 02 14.7 -2.0
baz=248
K50A P Pn 05 02 14.7 -2.0
baz=248
PAULI Pauline 13.21 94 Pn Pn 05 02 17.2 -1.2
S54A Dingess, Beckl 13.22 81 P Pn 05 02 18.0 -0.6
baz=271
S54A P Pn 05 02 18.0 -0.6
baz=271
P53A Whipple 13.23 74 P Pn 05 02 16.6 -2.0
baz=264
P53A P Pn 05 02 16.6 -2.0
baz=264
ULM Lac du Bonnet 13.39 6 Pn Pn 05 02 16.4 -4.4
comp=Z,2.4nm,0.3s,baz=189,slow=11,SNR=14
ULM Lg Lg 05 05 59.3
comp=Z,1.8nm,0.3s,baz=198,slow=3.2,SNR=2.3
ULM LR LR 05 06 45.4
comp=Z,62nm,18.1s,baz=114,slow=34
I49A Point Hope 13.43 54 P Pn 05 02 18.9 -2.5
baz=244
I49A P Pn 05 02 18.9 -2.5
baz=244
O53A New Philadelph 13.46 71 P Pn 05 02 18.5 -3.3
baz=261
M52A Chesterland 13.61 65 P Pn 05 02 21.7 -2.2
baz=256
M52A P Pn 05 02 21.7 -2.2
baz=256
N53A Lisbon 13.84 69 P Pn 05 02 24.4 -2.6
baz=259
N53A P Pn 05 02 24.4 -2.6
baz=259
M53A WI Miller and 14.09 66 P Pn 05 02 27.8 -2.5
baz=257,SNR=13
EGMT Eagleton 14.10 325 Pn 05 02 29.8 -0.9
EGMT Eagleton 14.10 325 P Pn 05 02 29.7 -0.9
baz=138,SNR=8.1
ERPA Erie 14.75 64 Pn Pn 05 02 35.7 -3.7
S57A Dark Hollow, R 15.09 81 IAmb IAmb 05 03 05.3
comp=Z,13nm,1.1s
M55A Ridgway 15.50 67 IAmb IAmb 05 03 13.2
comp=Z,11nm,0.7s
LCH Last Change Ra 15.77 277 P P 05 02 56.8 -0.2
SSPA Standing Stone 16.03 71 P Pn 05 02 51.7 -4.6
baz=263
SADO Sadowa 16.18 55 Pn Pn 05 02 52.7 -5.4
comp=Z,1.1nm,0.3s,baz=269,slow=12,SNR=8.7
SADO Lg Lg 05 07 32.5
comp=Z,0.9nm,0.3s,baz=317,slow=19,SNR=2.9
comp=Z,5.6nm,0.6s
NVAR Mina Array Bea 16.23 281 Pn Pn 05 02 59.6 +0.5
comp=Z,0.1nm,0.3s,baz=90,slow=11,SNR=13
NVAR LR LR 05 09 47.3
comp=Z,66nm,20.2s,baz=105,slow=40
comp=Z,2.0nm,0.9s
LHV Little Huntoon 16.39 281 IAmb IAmb 05 03 07.6
comp=Z,4.3nm,0.7s
LPIG La Paz 16.65 223 LR LR 05 09 57.0
comp=Z,64nm,20.6s,baz=28,slow=39
M57A Sunshine Farm, 16.69 68 P Pn 05 03 02.1 -2.6
baz=261
M57A P Pn 05 03 02.1 -2.6
baz=261
F10A Beach Ranch, E 17.04 308 IAmb IAmb 05 03 16.4
comp=Z,6.8nm,1.1s
BINY Binghamton 17.67 66 P Pn 05 03 14.4 -2.6
baz=260
L59A Walton 18.36 66 Pn 05 03 23.3 -2.2
L59A IAmb IAmb 05 03 55.9
comp=Z,13nm,1.1s
L59A Walton 18.36 66 P Pn 05 03 23.9 -1.6
baz=261
L59A P Pn 05 03 23.9 -1.6
baz=261
TEIG Tepich 18.65 151 IAmb IAmb 05 04 09.8
comp=Z,18nm,1.3s
PINE Pine Mountain 18.82 298 IAmb IAmb 05 03 38.4
comp=Z,4.3nm,0.8s
LONY Lake Ozonia 19.21 59 IAmb IAmb 05 03 37.6
comp=Z,6.1nm,0.8s
NCB Newcomb 19.30 61 IAmb IAmb 05 03 36.0
comp=Z,7.6nm,0.8s
KSCT Kent School, K 19.45 68 IAmb IAmb 05 03 39.6
comp=Z,11nm,0.9s
EDM Edmonton 19.53 331 P P 05 03 39.2 +0.9
EDM IAmb IAmb 05 03 40.0
comp=Z,6.5nm,0.7s
TRQ Mont Tremblant 19.71 55 P P 05 03 40.1 -0.3
TRQ IAmb IAmb 05 03 45.4
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 19.76 292 P P 05 03 40.6 -0.4
comp=Z,0.1nm,0.3s,baz=323,slow=5.1,SNR=6.5
YBH LR LR 05 12 18.1
comp=Z,58nm,19.4s,baz=98,slow=40
comp=Z,6.6nm,0.8s
CMIG Matias Romero 19.95 172 P Pn 05 03 48.9 +4.2
comp=Z,3.4nm,0.5s,baz=356,slow=13,SNR=11
FRNY Flat Rock 19.95 59 P P 05 03 42.4 -0.4
baz=255
MNTQ Montreal, Queb 20.10 57 P P 05 03 45.1 +0.5
L61B Northampton 20.13 66 P P 05 03 45.7 +0.8
BBB Bella Bella 26.14 315 LR LR 05 16 47.8
comp=Z,39nm,18.4s,baz=140,slow=41
YKA Yellowknife Ar 27.60 343 P P 05 04 58.4 +0.5
comp=Z,3.6nm,0.7s,baz=145,slow=8.3,SNR=9.5
comp=Z,3.6nm,0.7s
SCHQ Schefferville 27.73 40 P P 05 04 58.7 -0.5
comp=Z,6.4nm,1.0s,baz=256,slow=14,SNR=3.1
comp=Z,6.4nm,1.0s
DLBC Dease Lake 30.03 326 LR LR 05 18 15.3
comp=Z,48nm,18.9s,baz=344,slow=38
FRB Frobisher Bay 32.16 24 LR LR 05 17 57.2
comp=Z,83nm,18.3s,baz=22,slow=35
INK Inuvik 37.10 339 LR LR 05 22 24.8
comp=Z,76nm,21.6s,baz=80,slow=38
IL31 40.01 330 P P 05 06 46.9 +1.4
ILAR Eielson Array 40.01 330 P P 05 06 45.4 -0.1
comp=Z,3.7nm,0.9s,baz=108,slow=7.3,SNR=23
ILAR PcP PcP 05 08 50.2 -0.1
comp=Z,0.8nm,0.9s,baz=120,slow=1.6,SNR=4.3
ILAR LR LR 05 24 52.0
comp=Z,30nm,20.4s,baz=356,slow=39
comp=Z,3.7nm,0.9s
ILAR Eielson Array 40.01 330 P P 05 06 46.6 +1.1
BMAR Burnt Mountain 40.17 334 P P 05 06 48.8 +2.0
MDM Murphy Dome 40.62 330 P P 05 06 52.1 +1.6
TRF Thorofare Moun 41.04 327 P P 05 06 56.4 +2.1
H23K Yukon River 41.41 331 P P 05 06 57.8 +0.7
H23K IAmb IAmb 05 07 35.5
comp=Z,5.7nm,1.4s
J20K Nowinta River 42.88 328 P P 05 07 10.3 +1.3
J20K IAmb IAmb 05 07 41.9
comp=Z,5.5nm,1.1s
SUMG Summit 46.11 21 P P 05 07 35.0 -0.1
SUMG IAmb IAmb 05 07 52.5
comp=Z,2.4nm,0.8s
LPAZ La Paz 59.92 147 LR LR 05 38 45.5
comp=Z,31nm,18.6s,baz=134,slow=40
ESK Eskdalemuir 63.03 40 P P 05 09 37.5 -0.3
ARCES ARCESS Array B 66.11 19 P P 05 09 57.9 +0.2
comp=Z,2.2nm,0.7s,baz=311,slow=4.8,SNR=16
comp=Z,2.2nm,0.7s
NOA NORSAR Array B 66.73 30 P P 05 10 02.1 +0.3
comp=Z,0.8nm,0.8s,baz=304,slow=6.5,SNR=3.5
comp=Z,0.8nm,0.8s
ESDC Sonseca Array 70.24 55 P P 05 10 24.6 +0.5
comp=Z,0.7nm,0.6s,baz=302,slow=8.5,SNR=5.1
comp=Z,0.7nm,0.6s
FINES FINESS Array B 71.96 25 P P 05 10 34.6 +0.5
comp=Z,2.7nm,0.8s,baz=176,slow=5.7,SNR=5.7
FINES LR LR 05 42 55.7
comp=Z,44nm,20.1s,baz=300,slow=37
comp=Z,2.7nm,0.8s
GERES GERESS Array B 75.26 39 P P 05 10 55.0 +1.1
comp=Z,0.6nm,0.5s,baz=328,slow=4.7,SNR=7.4
comp=Z,0.6nm,0.5s
VRAC Vranov 76.41 38 LR LR 05 46 03.7
comp=Z,45nm,18.4s,baz=342,slow=37
AKASG Malin Array Be 81.12 31 P P 05 11 26.6 +0.4
comp=Z,2.0nm,0.6s,baz=315,slow=4.5,SNR=14
comp=Z,2.0nm,0.6s
USRK Ussuriysk Ar. 87.46 327 LR LR 05 57 18.0
comp=Z,22nm,18.4s,baz=287,slow=40
TORD Torodi Ar. Bea 89.70 74 P P 05 12 09.6 0.0
comp=Z,0.9nm,1.1s,baz=299,slow=11,SNR=4.9
comp=Z,0.9nm,1.1s
KURBB Kurchatov Arra 92.76 2 LR LR 05 57 44.9
comp=Z,28nm,18.8s,baz=92,slow=38
MKAR Makanchi Array 96.65 360 P P 05 12 41.2 +0.1
comp=Z,0.4nm,0.7s,baz=16,slow=6.3,SNR=3.9
comp=Z,0.4nm,0.7s

*IDC **20** 05:04:32.4±1.1,2.2°29S×140.96E,h0km,mb3.9/5, mbtmp3.9/6,ML3.8/1,MS3.2/8,Error ellipse: s-maj=57.6km s-min=23.8km az=93.0*

ISC 20 05:04:33.9±1.1,2.3S±0.1×141.0E±0.4,h10km,n13, σ0.8 88/7,mb3.8/5,MS3.2/4,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	9.34	139	LR	LR	05 11 20.6	
	comp=Z,99nm,21.6s,baz=264,slow=44						
GUMO	Guam	16.26	14	LR	LR	05 13 52.2	
	comp=Z,42nm,21.4s,baz=304,slow=34						
CTA	Charters Tower	18.40	164	LR	LR	05 16 40.3	
	comp=Z,51nm,21.5s,baz=78,slow=40						
WRA	Warramunga Arr	18.69	200	P	Pn	05 08 52.2	-0.6
	0.3nm,0.3s,baz=24,slow=12,SNR=28						
WRA LR LR 05 16 59.5
comp=Z,183nm,21.9s,baz=298,slow=40
1.9nm,0.6s
FITZ Fitzroy Crossi 21.74 223 LR LR 05 17 17.6
comp=Z,68nm,21.2s,baz=40,slow=35
ASAR Alice Springs 22.31 197 P P 05 09 31.4 -0.3
1.6nm,0.5s,baz=29,slow=11,SNR=22
ASAR LR LR 05 18 32.0
comp=Z,115nm,19.1s,baz=101,slow=38
1.6nm,0.5s
JCJ Chichijima 29.26 2 LR LR 05 18 57.9
comp=Z,184nm,21.2s,baz=119,slow=30
STKA Stephens Creek 29.41 179 P P 05 10 38.3 +0.7
2.6nm,0.7s,baz=334,slow=18,SNR=3.6
2.6nm,0.7s
KSRS Korea Array 41.38 344 LR LR 05 26 33.5
comp=Z,14nm,21.6s,baz=5.0,slow=32
MKAR Makanchi Array 70.88 322 P P 05 15 51.3 +0.1
0.5nm,0.7s,baz=102,slow=11,SNR=4.2
0.5nm,0.7s
VNDA Vanda 75.98 175 P P 05 16 21.3 +0.6
1.6nm,0.7s,baz=330,slow=6.4,SNR=19
1.6nm,0.7s
ILAR Eielson Array 84.54 24 P P 05 17 07.0 +0.1
0.5nm,0.8s,baz=267,slow=5.2,SNR=3.0
0.5nm,0.8s
LPAZ La Paz 145.81 124 PKPbc PKPab 05 24 14.2 -1.3
1.5nm,0.8s,baz=280,slow=5.5,SNR=5.9

*IDC **20** 05:05:20.3±2.1,17.4°40S×70.37W,h93km±19km,mb4.0/15, mbtmp4.4/18,MS2.6/2,Error ellipse: s-maj=17.1km s-min=14.4km az=64.0*

*VAO **20** 05:05:21.1±0.5,17.3°38S×70.45W,h106km,mb4.5*

*NEIC **20** 05:05:21.0±3.5,17.5°52S±0.04×70.49W±0.08,h101km±8km, mb5.0/15,ML4.7(GUC),Error ellipse: s-maj=12.5km s-min=2.8km az=69.0*

*GUC **20** 05:05:23.2±0.8,17.6°55S×70.52W,h112km±4km,ML4.7*

ISC 20 05:05:20.1±0.7,17.55S±0.04×70.63W±0.06,h102km±6km, n129,σ1.8 70/133,mb4.5/27,11C-3D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	Chacalluta	0.86	161		Pn	05 05 41.1	+1.9
AP01	Chacalluta	0.86	161	⇑*i*P	Pn	05 05 41.2	+1.9
AP01				*i* S	Sn	05 05 56.0	+2.4
AP01				IAML		05 05 57.2	
	comp=N,62μm,0.5s						
PB12	IPOC Station P	1.09	165		Pn	05 05 43.6	+1.7
PB12	IPOC Station P	1.09	165	⇑*i*P	Pn	05 05 43.5	+1.7
PB12				*i* S	Sn	05 05 59.9	+1.7
PB12				IAML		05 06 01.9	
	comp=N,9μm,0.4s						
PB16	IPOC Station P	1.32	126	Pn	Pn	05 05 46.5	+1.5
PB16	IPOC Station P	1.32	126	⇓*i*P	Pn	05 05 46.9	+1.9
PB16				*i* S	Sn	05 06 05.7	+2.0
GO01	Chusmiza	2.51	147		Pn	05 06 03.0	+3.1
GO01	Chusmiza	2.51	147	⇓*i*P	Pn	05 06 01.9	+2.0
GO01				*i* S	Sn	05 06 31.3	+1.0
GO01				IAML		05 06 36.0	
	comp=N,4μm,0.2s						
LPAZ	La Paz	2.71	63	P	Pn	05 06 04.8	+2.1
	comp=N,583nm,0.4s,baz=261,slow=9.2,SNR=4765						
LPAZ				S	Sn	05 06 36.5	+1.3
	comp=N,112nm,0.6s,baz=143,slow=20,SNR=6.5						
LPAZ	La Paz	2.71	63	Pn	Pn	05 06 04.3	+1.7
LPAZ	La Paz	2.71	63	⇑*i*P	Pn	05 06 04.8	+2.1
LPAZ				*i* S	Sn	05 06 36.3	+1.1
TA02	Huaiquique	2.74	170		Pn	05 06 03.4	+0.8
TA02	Huaiquique	2.74	170	*e*P	Pn	05 06 03.8	+1.2
TA02				*i* S	Sn	05 06 34.7	-0.4
TA02				IAML		05 06 36.2	
	comp=N,3μm,0.2s						
PB08	IPOC Station P	2.93	152	Pn	Pn	05 06 07.5	+2.1
PB08	IPOC Station P	2.93	152	⇑*i*P	Pn	05 06 06.8	+1.4
PB08				*i* S	Sn	05 06 40.6	+0.4
PB08				IAML		05 06 44.5	
	comp=N,2μm,0.1s						
TA01	Diego Aracena	3.03	172	Pn	Pn	05 06 07.6	+1.3
TA01	Diego Aracena	3.03	172	⇑*i*P	Pn	05 06 07.6	+1.3
TA01				*i* S	Sn	05 06 41.0	-0.9
TA01				IAML		05 06 42.5	
	comp=N,2μm,0.2s						
PATCX	Punta Patache	3.28	172		Pn	05 06 10.9	+1.0
PATCX	Punta Patache	3.28	172	⇑*i*P	Pn	05 06 10.8	+1.0
PATCX				*i* S	Sn	05 06 47.2	-0.9
PATCX				IAML		05 06 55.1	
	comp=N,692nm,0.5s						
PB01	IPOC Station P	3.64	163		Pn	05 06 15.2	+0.7
PB01	IPOC Station P	3.64	163	⇑*i*P	Pn	05 06 15.3	+0.7
PB01				*i* S	Sn	05 06 54.9	-1.8
PB02	IPOC Station P	3.81	170		Pn	05 06 17.9	+0.9
PB02	IPOC Station P	3.81	170	⇑*i*P	Pn	05 06 17.9	+0.9
PB02				*i* S	Sn	05 06 59.5	-1.4
PB07	IPOC Station P	4.21	171		Pn	05 06 23.3	+1.0
PB07	IPOC Station P	4.21	171	⇑*i*P	Pn	05 06 23.3	+1.0
PB07				*i* S	Sn	05 07 08.2	-2.5
PB09	IPOC Station P	4.42	163		Pn	05 06 27.1	+1.9
PB04	IPOC Station P	4.78	175	Pn	Pn	05 06 30.7	+0.7
PB06	IPOC Station P	5.22	169	Pn	Pn	05 06 36.3	+0.2
LVC	Limon Verde	5.28	162	P	Pn	05 06 38.8	+1.8
	comp=N,44nm,0.3s,baz=16,slow=9.2,SNR=280						
LVC				S	Sn	05 07 35.3	-1.6
	comp=N,154nm,0.4s,baz=221,slow=23,SNR=28						
LVC	Limon Verde	5.28	162	Pn	Pn	05 06 38.7	+1.6
LVC	Limon Verde	5.28	162	*e*P	Pn	05 06 38.5	+1.4
PB15	IPOC Station P	5.73	169		Pn	05 06 43.3	+0.3
AF01	San Pedro de A	5.84	157		Pn	05 06 46.7	+2.1
PB14	IPOC Station P	7.04	178	Pn	Pn	05 07 00.1	-0.9
GO02	Mina Guanaco	7.63	173	Pn	Pn	05 07 08.6	-0.4
NNA	Nana	8.16	312	P	Pn	05 07 16.2	+0.2
	comp=N,7.1nm,0.3s,baz=138,slow=12,SNR=6.1						
NNA				S	Sn	05 08 41.5	-5.2
	comp=N,8.6nm,0.8s,baz=243,slow=11,SNR=1.5						
NNA				LR	LR	05 10 18.3	
	comp=N,10nm,18.7s,baz=182,slow=36						
AC01	Pan de Azucar	8.55	180	Pn	Pn	05 07 19.6	-1.5
ETMB	Extrema	8.81	30	Pn	Pn	05 07 22.5	-2.2
ETMB	Extrema	8.81	30	*e*P	Pn	05 07 23.0	-1.7
SIV	San Ignacio	9.29	82	P	Pn	05 07 28.5	-2.7
	comp=N,34nm,0.4s,baz=263,slow=11,SNR=230						
AC06	Mina Casimiro	9.76	179	Pn	Pn	05 07 36.0	-1.6
CZSB	Cruzeiro do Su	9.97	348	Pn	Pn	05 07 39.1	-1.4
CZSB	Cruzeiro do Su	9.97	348	*e*P	Pn	05 07 39.1	-1.4
VILB	Vilhena	11.06	67	Pn	Pn	05 07 51.4	-3.8
VILB	Vilhena	11.06	67	*e*P	Pn	05 07 52.0	-3.2
PTLB	Pontes e Lacer	11.22	81	Pn	Pn	05 07 54.5	-2.9
PTLB	Pontes e Lacer	11.22	81	*e*P	Pn	05 07 55.9	-1.6
SALV	Santo Antonio	14.40	86	*e*P	Pn	05 08 38.0	-1.3
PDRB	Porto dos Gac	14.69	68	*e*P	Pn	05 08 41.9	-1.1
CLDB	Colider	15.84	67	*e*P	Pn	05 08 55.8	-1.6
MACA	Manacapuru-AM	17.32	35		P	05 09 14.9	-0.5
MACA	Manacapuru-AM	17.32	35	*e*P	P	05 09 12.6	-2.9
H03N1	Juan Fernandez	17.48	204	T	T	05 27 06.3	
	baz=28,slow=73,SNR=84						
H03N2	Juan Fernandez	17.49	204	T	T	05 27 05.8	
	baz=28,slow=73,SNR=61						
H03N3	Juan Fernandez	17.50	204	T	T	05 27 05.1	
	baz=28,slow=73,SNR=74						
ITQB	Itaqui	17.59	136	P	P	05 09 18.4	0.0
NPGB	Novo Progresso	18.20	57	*e*P	P	05 09 23.4	-1.8
CRSM	Crissiumal (Br	18.22	126	*e*P	Pn	05 09 26.6	+0.2
SLOR	San Lorenzo -	18.42	334	P	Pn	05 09 29.8	+0.5
PTGB	Pitanga	18.72	116	*e*P	Pn	05 09 31.8	-0.6
OTAV	Otavalo	19.28	336		Pn	05 09 41.5	+2.0
ITRB	Iturama	19.33	100	*e*P	P	05 09 36.7	-0.8
TULM	Tulcn-Chalpat	19.47	338		Pn	05 09 45.4	+3.6
SNDB	Serra Nova Dou	19.50	76	*e*P	P	05 09 37.6	-1.8
ITTB	Itatiuba	19.61	50	*e*P	P	05 09 39.2	-1.4
ALGR	Alto Alegre (B	19.65	128	*e*P	P	05 09 41.5	+0.5
CPSB	Cacapava Do Su	20.23	132	*e*P	P	05 09 47.0	-0.1
PLTB	Pedras Altas	20.93	136	*e*P	P	05 09 54.7	+0.1
BB19B	Bebedouro	21.15	103	*e*P	P	05 09 55.9	-1.3
IPMB	Ipameri, GO	21.36	95	*e*P	P	05 09 57.6	-1.8
BDFB	Brasilia	21.76	88	P	P	05 10 00.9	-2.9
	comp=N,14nm,0.5s,baz=263,slow=10.0,SNR=32						
	comp=N,14nm,0.5s						
BDFB	Brasilia	21.76	88	P	P	05 10 00.8	-3.0
BDFB	Brasilia	21.76	88	*e*P	P	05 10 02.3	-1.5
BOAV	Boa Vista	22.19	28	P	P	05 10 06.7	-1.5
BOAV	Boa Vista	22.19	28	*e*P	P	05 10 06.1	-2.1
MALB	Monte Alegre	22.41	48	*e*P	P	05 10 08.1	-2.4
PMNB	Patos De Minas	23.02	96	*e*P	P	05 10 15.2	-1.6

PLCA	**Paso Flores**	**23.10**	**180**	P		**P**	**05 10 19.9**	**+2.7**
	comp=N,6.1nm,0.6s,baz=354,slow=9.2,SNR=40							
	comp=N,6.1nm,0.6s							
PLCA	**Paso Flores**	**23.10**	**180**	*e*P		**P**	**05 10 19.5**	**+2.3**
PLCA	**Paso Flores**	**23.10**	**180**	*e*P		**P**	**05 10 20.1**	**+2.9**
PRPB	**Parauapebas**	**23.27**	**63**	*e*P		**P**	**05 10 16.4**	**-2.6**
SMTB	**Santa Maria do**	**24.02**	**72**	*e*P		**P**	**05 10 24.3**	**-1.5**
SDBA	**SAO DESIDERIO**	**25.36**	**82**	*e*P		**P**	**05 10 37.6**	**-0.4**
JANB	**Januaria**	**25.38**	**88**	*e*P		**P**	**05 10 37.2**	**-0.9**
DIAM	**Diamantina, MG**	**25.66**	**96**	*e*P		**P**	**05 10 41.5**	**+0.7**
BAUV	**El Baul**	**26.45**	**6**	P		**P**	**05 10 46.5**	**-1.2**
BAUV				IAmb		IAmb	05 10 48.4	
	comp=Z,20nm,0.7s							
TMAB	**Tom-Au,PA,Br**	**26.78**	**58**	*e*P		**P**	**05 10 50.9**	**+0.1**
BIRV	**Birongo**	**28.18**	**9**	IAmb		IAmb	05 11 03.7	
	comp=Z,18nm,0.7s							
PCRV	**Puerto La Cruz**	**28.18**	**13**	P		**P**	**05 11 03.2**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=200,slow=3.9,SNR=1.3							
	comp=Z,2.1nm,0.5s							
MDP	**Montagnes des**	**28.68**	**40**	P		**P**	**05 11 06.6**	**-1.1**
	comp=Z,10nm,0.7s,baz=216,slow=9.1,SNR=16							
MDP				LR		LR	05 22 19.6	
	comp=Z,39nm,19.5s,baz=112,slow=36							
	comp=Z,10nm,0.7s							
RIB01	**Linhares ES**	**28.72**	**98**	*e*P		**P**	**05 11 07.8**	**-0.3**
NAN01	**Guarapari, ES**	**29.05**	**95**	*e*P		**P**	**05 11 10.3**	**-0.7**
GUA01	**Guaratinga, BA**	**29.47**	**93**	*e*P		**P**	**05 11 14.0**	**-0.7**
GDU01	**Guandu, BA**	**30.13**	**87**	*e*P		**P**	**05 11 19.6**	**-1.0**
GRGR	**Grenville**	**30.80**	**17**	P		**P**	**05 11 26.4**	**0.0**
NBLA	**Lagarto - SE**	**32.46**	**83**	*e*P		**P**	**05 11 39.3**	**-1.7**
MPOM	**Morne Pois Mar**	**33.23**	**17**	P		**P**	**05 11 45.6**	**-2.0**
MPOM				IAmb		IAmb	05 12 32.2	
	comp=Z,62nm,1.2s							
NBAN	**Anadia - AL**	**34.26**	**81**	*e*P		**P**	**05 11 55.0**	**-1.6**
ICMP	**Isla Caja de M**	**35.45**	**7**	P		**P**	**05 12 06.6**	**-0.1**
MLPR	**Magueyes Islan**	**35.48**	**6**	P		**P**	**05 12 04.7**	**-2.2**
MLPR				IAmb		IAmb	05 12 05.2	
	comp=Z,19nm,1.0s							
CELP	**Cerrillos**	**35.63**	**7**	IAmb		IAmb	05 12 09.6	
	comp=Z,10.0nm,0.5s							
SJG	**San Juan**	**35.72**	**7**	P		**P**	**05 12 07.4**	**-1.6**
SJG				IAmb		IAmb	05 12 31.6	
	comp=Z,32nm,1.5s							
CBYP	**Canovanas**	**35.91**	**8**	IAmb		IAmb	05 12 09.1	
	comp=Z,11nm,0.7s							
GCPR	**Guaynabo City**	**35.92**	**7**	P		**P**	**05 12 09.0**	**-1.7**
GCPR				IAmb		IAmb	05 12 09.1	
	comp=Z,11nm,0.6s							
TXAR	**Lajitas Array**	**56.48**	**325**	P		**P**	**05 14 52.4**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=151,slow=9.7,SNR=5.1							
TXAR				PcP		**PcP**	**05 15 49.0**	**+1.5**
	comp=Z,0.4nm,0.9s,baz=146,slow=2.1,SNR=2.0							
	comp=Z,0.4nm,0.6s							
S44A	**Carbondale**	**57.68**	**343**	P		**P**	**05 15 00.1**	**+0.1**
S44A				IAmb		IAmb	05 15 01.5	
	comp=Z,12nm,0.6s							
LIC	**Lamto**	**68.93**	**76**	⇑*i*P		**P**	**05 16 17.3**	**+2.5**
	comp=Z,8.6nm,0.5s							
TIC	**Toumodi**	**69.09**	**76**	⇓*i*P		**P**	**05 16 18.0**	**+2.2**
	comp=Z,4.0nm,0.6s							
KIC	**Kosan Boka**	**69.25**	**76**	⇑*e*P		**P**	**05 16 15.8**	**-0.9**
	comp=Z,12nm,0.5s							
DBIC	**Dimbokro**	**69.25**	**76**	P		**P**	**05 16 16.1**	**-0.6**
	comp=Z,5.4nm,0.3s,baz=240,slow=4.6,SNR=17							
	comp=Z,5.4nm,0.3s							
DBIC	**Dimbokro**	**69.25**	**76**	P		**P**	**05 16 15.2**	**-1.5**
PDAR	**Pinedale Array**	**69.89**	**330**	P		**P**	**05 16 21.6**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=123,slow=8.2,SNR=5.8							
	comp=Z,0.4nm,0.5s							
ULM	**Lac du Bonnet**	**71.09**	**343**	P		**P**	**05 16 28.3**	**+1.2**
	comp=Z,3.1nm,0.6s,baz=103,slow=0.7,SNR=3.3							
	comp=Z,3.1nm,0.6s							
NVAR	**Mina Array Bea**	**71.40**	**322**	P		**P**	**05 16 31.8**	**+2.3**
	comp=Z,0.7nm,0.9s,baz=152,slow=6.6,SNR=5.3							
	comp=Z,0.7nm,0.9s							
SCHQ	**Schefferville**	**72.17**	**2**	P		**P**	**05 16 32.6**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=174,slow=10,SNR=1.3							
	comp=Z,3.3nm,0.8s							
TOA0	**Torodi Ar. Sit**	**77.62**	**72**	P		**P**	**05 17 05.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**77.62**	**72**	P		**P**	**05 17 04.9**	**-0.9**
	comp=Z,5.0nm,0.7s,baz=256,slow=5.9,SNR=30							
	comp=Z,5.0nm,0.7s							
VNDA	**Vanda**	**80.43**	**190**	P		**P**	**05 17 22.1**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=116,slow=3.6,SNR=3.6							
	comp=Z,0.8nm,0.8s							
ESDC	**Sonseca Array**	**84.20**	**45**	P		**P**	**05 17 41.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=252,slow=5.5,SNR=5.0							
	comp=Z,0.4nm,0.5s							
YKA	**Yellowknife Ar**	**86.95**	**341**	P		**P**	**05 17 54.0**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=136,slow=4.8,SNR=3.7							
	comp=Z,2.4nm,0.9s							
MAW	**Mawson**	**88.56**	**164**	P		**P**	**05 18 03.0**	**+2.0**
	comp=Z,2.3nm,0.6s,baz=212,slow=6.2,SNR=9.7							
	comp=Z,2.3nm,0.6s							
H11N3	**WAKE ISLAND Hyl**	**25.65**	**282**	T		T	07 44 00.1	
	baz=97							
H11N2	**WAKE ISLAND Hyl**	**25.67**	**282**	T		T	07 44 03.5	
	baz=97							
H11N1	**WAKE ISLAND Hyl**	**25.67**	**282**	T		T	07 44 00.1	
	baz=97,SNR=2.6							
H11S2	**WAKE ISLAND Hyl**	**25.67**	**280**	T		T	07 43 37.8	
	baz=101,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hyl**	**25.68**	**280**	T		T	07 43 35.4	
	baz=101,slow=75,SNR=7.1							
H11S3	**WAKE ISLAND Hyl**	**25.69**	**280**	T		T	07 43 34.8	
	baz=101,slow=75,SNR=8.6							
ASAR	**Alice Springs**	**132.54**	**211**	PKP		**PKiKP**	**05 24 24.2**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=139,slow=2.4,SNR=7.8							
WRA	**Warramunga Arr**	**135.40**	**214**	PKP		**PKiKP**	**05 24 30.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=134,slow=1.5,SNR=15							

IDC ***20*** *05:16:45.0±1.2,38.°93N×71.°72E,h0km,mb4.0/12, mbtmp4.0/20,ML3.7/8,MS3.0/9,Error ellipse: s-maj=20.7km s-min=11.1km az=145.0*

KRNET ***20*** *05:16:47.0±0.1,39.°20N×71.°57E,h13km,mb4.3*

SOME ***20*** *05:16:47.5,39.°38N×71.°53E,h0km*

MOS ***20*** *05:16:48.2±1.3,39.°23N×71.°44E,h12km,mb4.2/11,Error ellipse: s-maj=6.5km s-min=3.4km az=69.6*

MOS Felt (III) at Korgon; (II-III) at Sary-Talaa; (II) at Kara-Teyit.

NNC ***20*** *05:16:49.5±1.7,39.°19N×71.°64E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=13.5km s-min=8.5km az=7.0*

NEIC ***20*** *05:16:50.8±2.8,39.°27N±0.°03×71.°43E±0.°08,h10km±2km, mb4.1/2,Error ellipse: s-maj=11.1km s-min=3.3km az=105.0*

ISC 20 05:16:48.5±0.8,39°26N±0.°03×71°42E±0.°02,h2km±5km, n206,σ2s51/258,mb4.0/22,MS3.0/6,43C-20D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.37**	**53**	Pg	**Pg**	**05 16 53.7**	**-1.9**
DRK	**Karamyk**	**0.37**	**53**	⇓*i*P	**Pg**	**05 16 53.6**	**-2.0**
	baz=33						
DRK				⇓*i*S	**Sg**	**05 16 58.8**	**-1.6**
	baz=33						
GAR	**Garm**	**0.90**	**253**	Pg	**Pg**	**05 17 06.3**	**+0.6**
GAR	**Garm**	**0.90**	**253**	*i* PG	**Pg**	**05 17 06.0**	**+0.3**
GAR				*i* S	**Sg**	**05 17 19.8**	**+2.5**
GAR	**Garm**	**0.90**	**253**	⇑*i*P	**Pg**	**05 17 06.0**	**+0.3**
	baz=59						
GAR				⇑*i*S	**Sg**	**05 17 19.8**	**+2.5**
	baz=59						
BTK	**Batken**	**0.92**	**330**		**Pg**	**05 17 07.1**	**+0.9**
BTK	**Batken**	**0.92**	**330**	PG	**Pg**	**05 17 07.1**	**+0.9**
BTK	**Batken**	**0.92**	**330**	⇓*i*P	**Pg**	**05 17 07.0**	**+0.9**
	baz=26						
BTK				⇓*i*S	**Sb**	**05 17 21.5**	**+1.4**
	baz=26						
OHH	**Osh**	**1.64**	**39**	*i* PN	**Pn**	**05 17 17.5**	**-1.0**
OHH	**Osh**	**1.64**	**39**	⇑*i*P	**Pn**	**05 17 17.5**	**-1.0**
	baz=35						
OHH				⇑*i*S	**Sn**	**05 17 39.8**	**-0.5**
	baz=35						
CHGR	**Chuyangaron**	**1.86**	**252**		**Pn**	**05 17 23.7**	**+2.1**
CHGR	**Chuyangaron**	**1.86**	**252**	PN	**Pn**	**05 17 23.7**	**+2.1**
CHGR	**Chuyangaron**	**1.86**	**252**	⇑*i*P	**Pn**	**05 17 23.3**	**+1.7**
	baz=55						
CHGR				⇑*i*S	**Sb**	**05 17 49.7**	**+2.5**
	baz=55						
TRKS	**Terek-Say**	**2.28**	**355**	*e*PN	**Pn**	**05 17 28.0**	**+0.7**
TRKS				*i* S	**Sn**	**05 17 58.2**	**+2.1**
TRKS	**Terek-Say**	**2.28**	**355**	⇑*e*P	**Pn**	**05 17 28.0**	**+0.7**
	baz=53						
TRKS				⇑*i*S	**Sn**	**05 17 58.2**	**+2.1**
	baz=53						
TAS	**Tashkent**	**2.63**	**322**	*i* PN	**Pn**	**05 17 34.3**	**+2.3**
TAS				*i* S	**Sb**	**05 18 09.2**	**+0.2**
TAS	**Tashkent**	**2.63**	**322**	⇑*i*P	**Pn**	**05 17 34.3**	**+2.3**
	baz=22						
TAS				⇑*i*S	**Sb**	**05 18 09.2**	**+0.2**
	baz=22						
IUG	**luzhnay**	**3.07**	**340**	*i* PN	**Pb**	**05 17 43.5**	**-0.4**
IUG				*e*		05 18 14.4	
IUG				*e*		05 18 26.1	
IUG	**luzhnay**	**3.07**	**340**	*e*P	**Pb**	**05 17 44.6**	**+0.7**
	4μm,0.3s						
IUG				*e*S	**Sb**	**05 18 25.5**	**+3.6**
	937nm,0.5s						
IUG	**luzhnay**	**3.07**	**340**	*i* Pg	**Pb**	**05 17 43.5**	**-0.4**
	baz=341						
IUG				*e*Sn	**Sn**	**05 18 14.4**	**-1.2**
	baz=341						
IUG				*e*Lg	Lg	05 18 26.2	
	baz=341						
AML	**Almayashu**	**3.35**	**30**	P	**Pn**	**05 17 45.2**	**+3.0**
	SNR=106						
AML	**Almayashu**	**3.35**	**30**	*i* PN	**Pn**	**05 17 43.1**	**+0.8**
AML				*i* S	**Sn**	**05 18 24.1**	**+1.3**
CHM	**Chimkent**	**3.35**	**336**	*e*P	**Pb**	**05 17 48.7**	**0.0**
	164nm,0.2s						
CHM				*e*S	**Sb**	**05 18 32.3**	**+2.3**
	277nm,0.8s						
ARLS	**Aral**	**3.41**	**39**	⇓*e*PN	**Pn**	**05 17 43.3**	**+0.4**
ARLS				*e*S	**Sn**	**05 18 24.6**	**+0.5**
ARLS	**Aral**	**3.41**	**39**	⇓*e*P	**Pn**	**05 17 43.3**	**+0.4**
	baz=38						
ARLS				⇓*e*S	**Sn**	**05 18 24.6**	**+0.5**
	baz=38						
KSH	**Kashi**	**3.54**	**84**	Pn	**Pn**	**05 17 41.5**	**-3.1**
KSH				pP	Pb	05 17 45.9	-6.0
KSH				Sn	**Sn**	**05 18 28.0**	**+0.9**
KSH				smax	smax		
	comp=N,230nm,0.5s						
KSH				smax	smax		
	comp=E,240nm,0.9s						
DZA	**Taraz**	**3.63**	**359**	*e*PN	**Pn**	**05 17 49.9**	**+4.1**
DZA	**Taraz**	**3.63**	**359**	*e*P	**Pb**	**05 17 52.2**	**-1.2**
	comp=E,109nm,0.3s						
DZA				*e*S	**Sb**	**05 18 38.3**	**+0.3**
	comp=E,413nm,0.2s						
DZA	**Taraz**	**3.63**	**359**	*e*Pn	**Pn**	**05 17 50.0**	**+4.1**
	baz=359						
UCH	**Uchtor**	**3.78**	**37**	P	**Pn**	**05 17 50.4**	**+2.2**
	SNR=154						
UCH	**Uchtor**	**3.78**	**37**	*e*PN	**Pn**	**05 17 48.9**	**+0.6**
UCH				*e*S	**Sn**	**05 18 33.9**	**+0.3**
UCH	**Uchtor**	**3.78**	**37**	⇑*e*P	**Pn**	**05 17 48.9**	**+0.6**
	baz=36						
UCH				⇑*e*S	**Sn**	**05 18 33.9**	**+0.3**
	baz=36						
EKS2	**Erkin-Say**	**3.84**	**27**	P	**Pn**	**05 17 51.6**	**+2.8**
	SNR=45						
EKS2	**Erkin-Say**	**3.84**	**27**	*e*PN	**Pn**	**05 17 49.8**	**+1.1**
EKS2	**Erkin-Say**	**3.84**	**27**	⇑*e*P	**Pn**	**05 17 49.8**	**+1.1**
	baz=25						
EKS2				⇑*i*S	**Sn**	**05 18 35.5**	**+1.0**
	baz=25						
KK31	**Karatay Array**	**3.90**	**350**	Pn	**Pn**	**05 17 52.7**	**+3.2**
KK31	**Karatay Array**	**3.90**	**350**	PN	**Pn**	**05 17 52.7**	**+3.2**
KK31	**Karatay Array**	**3.90**	**350**	⇓Pn	**Pn**	**05 17 52.4**	**+2.9**
	comp=E,13nm,0.2s,baz=162,slow=11,SNR=245						
KK31				⇑Sn	**Sb**	**05 18 41.5**	**-4.2**
	comp=E,24nm,0.4s,baz=173,slow=24,SNR=5.3						
KK31				⇑Lg	Lg	05 18 56.0	
	comp=E,173nm,0.7s						
KKAR	**Karatay Array**	**3.90**	**350**	Pn	**Pn**	**05 17 52.4**	**+2.9**
KKAR	**Karatay Array**	**3.90**	**350**		**Pn**	**05 17 52.8**	**+3.3**
KKAR	**Karatay Array**	**3.90**	**350**	PN	**Pn**	**05 17 52.4**	**+2.9**
KKAR	**Karatay Array**	**3.90**	**350**	⇑*e*P	**Pn**	**05 17 51.5**	**+2.0**
	baz=49						
KKAR				⇑*i*S	**Sn**	**05 18 38.7**	**+2.8**
	baz=49						
AAK	**Ala-Archa**	**4.10**	**34**	P	**Pn**	**05 17 55.1**	**+2.7**
	SNR=17						
AAK	**Ala-Archa**	**4.10**	**34**	Pn	**Pn**	**05 17 54.9**	**+2.6**
	comp=E,20nm,0.3s,baz=210,slow=4.7,SNR=70						
AAK				Sn	**Sn**	**05 18 46.4**	**+5.4**
	comp=E,6.0nm,0.3s,baz=180,slow=20,SNR=1.4						
	comp=E,51nm,0.4s						
AAK	**Ala-Archa**	**4.10**	**34**	Pn	**Pn**	**05 17 55.1**	**+2.7**
AAK	**Ala-Archa**	**4.10**	**34**	*e*PN	**Pn**	**05 17 54.5**	**+2.1**
AAK				pmax	pmax		
	comp=Z,24nm,0.4s						
AAK	**Ala-Archa**	**4.10**	**34**	⇑*e*P	**Pn**	**05 17 53.2**	**+0.8**
	baz=32						
AAK				⇑*i*S	**Sn**	**05 18 41.5**	**+0.5**
	baz=32						
NRN	**Naryn**	**4.12**	**57**	Pn	**Pn**	**05 17 53.3**	**+0.5**
NRN	**Naryn**	**4.12**	**57**	PN	**Pn**	**05 17 53.3**	**+0.5**
NRN	**Naryn**	**4.12**	**57**	⇓*e*P	**Pn**	**05 17 52.4**	**-0.4**
	baz=55						
NRN				⇓*i*S	**Sn**	**05 18 40.1**	**-1.6**
	baz=55						
KBK	**Karagaybulak**	**4.32**	**37**	P	**Pn**	**05 17 58.5**	**+3.1**
	SNR=32						
KBK	**Karagaybulak**	**4.32**	**37**	*e*PN	**Pn**	**05 17 56.2**	**+0.8**
KBK	**Karagaybulak**	**4.32**	**37**	⇓*e*P	**Pn**	**05 17 56.2**	**+0.8**
	baz=35						
KBK				⇓*i*S	**Sn**	**05 18 46.5**	**+0.1**
	baz=35						
CHMS	**Chumysh**	**4.50**	**33**	P	**Pn**	**05 18 00.8**	**+3.0**
	SNR=15						
CHMS	**Chumysh**	**4.50**	**33**	*e*PN	**Pn**	**05 17 58.7**	**+0.9**
CHMS	**Chumysh**	**4.50**	**33**	⇑Pn	**Pn**	**05 18 00.5**	**+2.7**
	comp=Z,71nm,0.6s						
CHMS				⇑Sn	**Sn**	**05 18 54.8**	**+4.0**
	comp=Z,98nm,1.1s						
CHMS	**Chumysh**	**4.50**	**33**	⇓*i*P	**Pn**	**05 17 58.7**	**+0.9**
	baz=31						
CHMS				⇓*i*S	**Sn**	**05 18 51.1**	**+0.3**
	baz=31						
USP	**Ospenovka**	**4.63**	**29**	P	**Pn**	**05 18 02.0**	**+2.5**
	SNR=38						
USP	**Ospenovka**	**4.63**	**29**	*e*PN	**Pn**	**05 18 00.6**	**+1.1**
USP	**Ospenovka**	**4.63**	**29**	⇑*e*P	**Pn**	**05 18 00.6**	**+1.1**
	baz=28						
USP				⇑*i*S	**Sn**	**05 18 54.3**	**+0.4**
	baz=28						
BOOM	**Boomskoye usch**	**4.71**	**45**	Pn	**Pn**	**05 18 02.6**	**+1.9**
BOOM	**Boomskoye usch**	**4.71**	**45**	PN	**Pn**	**05 18 02.6**	**+1.9**
BOOM	**Boomskoye usch**	**4.71**	**45**	⇑*e*P	**Pn**	**05 18 01.1**	**+0.4**
	baz=44						
BOOM				⇑*e*S	**Sn**	**05 18 55.5**	**-0.5**
	baz=44						
ULHL	**Ulahol**	**4.72**	**49**	P	**Pn**	**05 18 02.3**	**+1.3**
	SNR=30						
ULHL	**Ulahol**	**4.72**	**49**	*e*PN	**Pn**	**05 18 01.4**	**+0.4**
ULHL				*e*S	**Sn**	**05 18 55.7**	**-0.7**
ULHL	**Ulahol**	**4.72**	**49**	⇑*e*P	**Pn**	**05 18 01.4**	**+0.4**
	baz=48						
ULHL				⇑*e*S	**Sn**	**05 18 55.7**	**-0.7**
	baz=48						
TKM2	**Tokmak 2**	**4.83**	**39**	P	**Pn**	**05 18 04.8**	**+2.4**
	SNR=7.0						
TKM2	**Tokmak 2**	**4.83**	**39**	*e*PN	**Pn**	**05 18 03.3**	**+0.8**
TKM2	**Tokmak 2**	**4.83**	**39**	⇑Pn	**Pn**	**05 18 04.5**	**+2.0**
	comp=Z,27nm,0.6s						
TKM2				⇓Lg	Lg	05 19 24.8	
	comp=Z,24nm,0.5s						
TKM2	**Tokmak 2**	**4.83**	**39**	⇑*e*P	**Pn**	**05 18 03.3**	**+0.8**
	baz=38						
TKM2				⇑*e*S	**Sn**	**05 18 58.9**	**-0.2**
	baz=38						
SGDS	**Sogindy**	**4.83**	**29**	*i* PN	**Pn**	**05 18 04.4**	**+2.1**
SGDS	**Sogindy**	**4.83**	**29**	*e*P	**Pb**	**05 18 15.3**	**+1.3**
	comp=Z,11nm,0.2s						
SGDS				*e*S	**Sb**	**05 19 18.3**	**+5.7**
	comp=Z,48nm,0.7s						
SGDS	**Sogindy**	**4.83**	**29**	*i* Pn	**Pn**	**05 18 04.5**	**+2.1**
	baz=29						
KBL	**Kabul**	**5.08**	**203**	Pn	**Pn**	**05 18 08.0**	**+2.1**
KBL	**Kabul**	**5.08**	**203**	PN	**Pn**	**05 18 08.0**	**+2.1**
KST	**Kastek**	**5.10**	**41**	*e*P	**Pb**	**05 18 20.8**	**+2.2**
	comp=Z,18nm,0.5s						
KST				*e*S	**Sg**	**05 19 27.7**	**-4.7**
	comp=Z,59nm,0.8s						
KST	**Kastek**	**5.10**	**41**	Pg	**Pb**	**05 18 20.8**	**+2.2**
	comp=Z,18nm,0.5s						
KST				Lg	Lg	05 19 27.7	
	comp=Z,59nm,0.8s						
DGS	**Degeres**	**5.15**	**38**	*e*P	**Pb**	**05 18 21.7**	**+2.2**
	comp=Z,41nm,0.6s						
DGS				*e*S	**Sg**	**05 19 30.1**	**-3.9**
	comp=Z,29nm,0.5s						
DGS	**Degeres**	**5.15**	**38**	Pg	**Pb**	**05 18 21.7**	**+2.2**
	comp=Z,41nm,0.6s						
DGS				Lg	Lg	05 19 30.1	
	comp=Z,29nm,0.5s						
MTBS	**Maitube**	**5.40**	**43**	*e*P	**Pb**	**05 18 25.6**	**+1.9**
	comp=Z,22nm,0.4s						
MTBS				*e*S	**Sb**	**05 19 35.5**	**+6.5**
	comp=Z,12nm,0.4s						
MTBS	**Maitube**	**5.40**	**43**	Pg	**Pb**	**05 18 25.6**	**+1.9**
	comp=Z,22nm,0.4s						
MTBS				Lg	Lg	05 19 35.5	
	comp=Z,12nm,0.4s						
CEP	**Cherat**	**5.44**	**176**	P	**Pn**	**05 18 14.8**	**+4.0**
CEP				S	**Sb**	**05 19 24.0**	**-6.2**
TARG	**Taragay, Kyrgy**	**5.46**	**61**		**Pn**	**05 18 12.2**	**+0.9**
TARG	**Taragay, Kyrgy**	**5.46**	**61**	PN	**Pn**	**05 18 12.2**	**+0.9**
AAA	**Alma-Ata**	**5.72**	**45**	*e*PN	**Pn**	**05 18 13.2**	**-1.3**
AAA	**Alma-Ata**	**5.72**	**45**	*e*Pn	**Pn**	**05 18 13.2**	**-1.3**
	baz=44						
MDOK	**Medeo**	**5.76**	**46**	*i* PN	**Pn**	**05 18 17.2**	**+2.0**
MDOK				*i*		05 18 33.5	
MDOK	**Medeo**	**5.76**	**46**	*e*P	**Pb**	**05 18 31.9**	**+2.0**
	comp=Z,14nm,0.6s						
MDOK				*e*S	**Sb**	**05 19 46.7**	**+7.3**
	comp=Z,28nm,0.7s						
MDOK	**Medeo**	**5.76**	**46**	*i* Pn	**Pn**	**05 18 17.3**	**+2.0**
	baz=45						
MDOK				*i* Pg	**Pb**	**05 18 33.5**	**+3.7**
	baz=45						
MDOK	**Medeo**	**5.76**	**46**	⇑Pn	**Pn**	**05 18 17.0**	**+1.7**
	comp=Z,6.0nm,0.5s						
MDOK				Pg	**Pb**	**05 18 31.8**	**+2.0**
	comp=Z,14nm,0.6s						
MDOK				⇑Pg	Pg	05 18 34.0	-4.9
	comp=Z,12nm,0.5s						
MDOK				Lg	Lg	05 19 46.7	
	comp=Z,28nm,0.7s						
MDOK				⇓Lg	Lg	05 19 54.1	
	comp=Z,40nm,1.0s						
CHCP	**Chirah Chowk**	**5.79**	**165**	P	**Pn**	**05 18 19.3**	**+3.9**
NIL	**Nilore**	**5.79**	**165**	Pn	**Pn**	**05 18 17.5**	**+2.0**
NIL	**Nilore**	**5.79**	**165**	PN	**Pn**	**05 18 17.5**	**+2.0**
KOTS	**Kotyrbulak**	**5.84**	**45**	*e*P	**Pb**	**05 18 34.1**	**+2.9**
	comp=Z,4.2nm,0.5s						
KOTS				*e*S	**Sg**	**05 19 51.0**	**-5.1**
	comp=Z,69nm,0.9s						
KOTS	**Kotyrbulak**	**5.84**	**45**	Pg	**Pb**	**05 18 34.1**	**+2.9**
	comp=Z,4.2nm,0.5s						
KOTS				Lg	Lg	05 19 51.0	
	comp=Z,69nm,0.9s						
KUU	**Kurty**	**5.92**	**37**	*i* PN	**Pn**	**05 18 18.7**	**+1.5**
KUU				*e*		05 18 36.7	
KUU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KUU	**Kurty**	**5.92**	**37**	*e*P	**Pb**	**05 18 34.4**	**+2.1**
	comp=Z,6.5nm,0.4s						
KUU				*e*S	**Sb**	**05 19 51.1**	**+7.4**
	comp=Z,23nm,0.7s						
KUU	**Kurty**	**5.92**	**37**	*i* Pn	**Pn**	**05 18 18.8**	**+1.5**
	comp=Z,3.8nm,0.6s,baz=37						
KUU				*i* Pb	**Pb**	**05 18 31.5**	**-0.9**
	baz=37						
KUU				*e*Pg	Pg	05 18 36.7	-5.1
	baz=37						
KUU	**Kurty**	**5.92**	**37**	Pg	**Pb**	**05 18 34.4**	**+2.1**
	comp=Z,6.5nm,0.4s						
KUU				Lg	Lg	05 19 51.1	
	comp=Z,23nm,0.7s						
KTBS	**Karatobe**	**5.95**	**40**	*e*P	**Pb**	**05 18 35.9**	**+2.9**
	comp=Z,10nm,0.6s						
KTBS				*e*S	**Sg**	**05 19 53.4**	**-6.1**
	comp=Z,51nm,0.6s						
KTBS	**Karatobe**	**5.95**	**40**	Pg	**Pb**	**05 18 35.9**	**+2.9**
	comp=Z,10nm,0.6s						
KTBS				Lg	Lg	05 19 53.4	
	comp=Z,51nm,0.6s						
BTLS	**Baital**	**6.10**	**18**	*i* PN	**Pn**	**05 18 21.2**	**+1.6**
BTLS				*i*		05 18 39.8	
BTLS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BTLS	**Baital**	**6.10**	**18**	*e*P	**Pb**	**05 18 37.3**	**+1.9**
	comp=Z,2.3nm,0.4s						
BTLS				*e*S	**Sb**	**05 19 56.4**	**+7.6**
	comp=Z,16nm,0.5s						
BTLS	**Baital**	**6.10**	**18**	*i* Pn	**Pn**	**05 18 21.3**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=18						
BTLS

baz=53
UZB Uzynbulak 6.92 53 Pg **Pb 05 18 52.1 +2.5**
comp=Z,3.8nm,0.4s
UZB Lg Lg 05 20 21.1
comp=Z,15nm,0.7s
BLB Baldybastay 7.16 45 *e*P **Pb 05 18 58.3 +4.7**
comp=Z,11nm,0.6s
BLB *e*S **Sg 05 20 33.0 -5.3**
comp=Z,28nm,1.1s
BLB Baldybastay 7.16 45 Pg **Pb 05 18 58.3 +4.7**
comp=Z,11nm,0.6s
BLB Lg Lg 05 20 33.0
comp=Z,28nm,1.1s
SHLS Shalkode 7.20 55 *e*P Pn 05 18 39.7 +4.7
SHLS Shalkode 7.20 55 *e*P Pg 05 19 03.2 -3.3
comp=Z,4.7nm,0.6s
SHLS *e*S **Sg 05 20 40.2 +0.4**
comp=Z,16nm,0.7s
SHLS Shalkode 7.20 55 *e*Pn Pn 05 18 39.7 +4.7
baz=55
SHLS *e*Pg **Pg 05 19 03.6 -2.8**
baz=55
SHLS Shalkode 7.20 55 Pg Pg 05 19 03.2 -3.3
comp=Z,4.7nm,0.6s
SHLS Lg Lg 05 20 40.2
comp=Z,16nm,0.7s
PDGK Podgornoye 7.31 54 P **Pn 05 18 36.7 +0.3**
PDGK Podgornoye 7.31 54 ⇑Pn **Pn 05 18 36.1 -0.3**
comp=Z,7.7nm,0.7s
PDGK ⇑Lg Lg 05 20 41.6
comp=Z,29nm,0.9s
THN Thein Dam 7.65 152 *e*P **Pn 05 18 41.9 +0.9**
THN *e*S **Sn 05 20 10.1 +1.7**
KTMS Ketmen 7.91 55 *e*P **Pb 05 19 10.7 +4.3**
comp=Z,108nm,0.7s
KTMS *e*S Sg 05 20 54.4 -8.1
comp=Z,2.5nm,0.6s
KTMS Ketmen 7.91 55 Pg **Pb 05 19 10.7 +4.3**
comp=Z,108nm,0.7s
KTMS Lg Lg 05 20 54.3
comp=Z,2.5nm,0.6s
DJR Jarkent 8.04 48 *e*P Pb 05 19 13.5 +4.8
comp=Z,3.7nm,0.8s
DJR *e*S Sg 05 20 58.7 -8.0
comp=Z,17nm,1.0s
DJR Jarkent 8.04 48 Pg Pb 05 19 13.5 +4.8
comp=Z,3.7nm,0.8s
DJR Lg Lg 05 20 58.7
comp=Z,17nm,1.0s
SMLA Simla 9.38 148 *e*P **Pn 05 19 04.1 -0.5**
SMLA *e*S **Sn 05 20 45.5 -5.2**
SMLA IAML 05 20 48.8
comp=E,48nm,0.6s
GEYT Alibeck 10.50 267 Pn **Pn 05 19 20.8 +0.6**
comp=E,0.6nm,0.3s,baz=122,slow=5.4,SNR=2.7
GEYT Sn **Sn 05 21 15.5 -2.8**
comp=E,0.9nm,0.3s,baz=30,slow=27,SNR=2.1
GEYT LR LR 05 24 04.5
comp=E,71nm,20.5s,baz=142,slow=41
comp=E,1.6nm,0.5s
BRZS Berezniki 10.76 4 *e*P **Pn 05 19 24.1 +0.6**
BRZS Berezniki 10.76 4 *e*Pn **Pn 05 19 24.2 +0.6**
baz=4.4
MAKZ Makanchi 10.79 42 Pn 05 19 25.6 +1.6
MAKZ Makanchi 10.79 42 P **Pn 05 19 25.6 +1.6**
MK31 Makanchi Array 10.95 43 Pn **Pn 05 19 26.9 +0.8**
MK31 Makanchi Array 10.95 43 *i* P **Pn 05 19 26.1 -0.1**
MK31 Makanchi Array 10.95 43 Pn **Pn 05 19 27.4 +1.2**
comp=E,2.1nm,0.7s,baz=231,slow=13,SNR=17
MK31 ⇓Lg Lg 05 22 38.8
comp=E,3.7nm,0.9s,baz=242,slow=38,SNR=5.3
MKAR Makanchi Array 10.95 43 Pn **Pn 05 19 26.7 +0.6**
comp=E,0.2nm,0.3s,baz=234,slow=14,SNR=15
MKAR LR LR 05 24 04.5
comp=E,36nm,18.8s,baz=282,slow=40
comp=E,1.9nm,0.7s
KUDL Kundal 11.86 158 *e*P Pn 05 19 33.9 -4.8
KUDL *e*S **Sn 05 21 43.9 -7.7**
KURBB Kurchatov Arra 12.42 22 Pn **Pn 05 19 44.9 -1.4**
comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=7.0
KURBB Lg Lg 05 23 21.7
comp=E,0.1nm,0.3s,baz=204,slow=29,SNR=4.7
comp=E,0.4nm,0.3s
KURBB Kurchatov Arra 12.42 22 P **Pn 05 19 48.4 +2.2**
KURBB Kurchatov Arra 12.42 22 ⇑Pn **Pn 05 19 48.4 +2.2**
comp=E,2.7nm,0.8s
KURBB ⇓Lg Lg 05 23 26.5
comp=E,17nm,0.8s
KURK Kurchatov 12.53 22 P **Pn 05 19 44.9 -2.8**
KURK Kurchatov 12.53 22 ⇓Lg Lg 05 23 30.6
comp=E,17nm,1.0s
AB31 Akbulak array 12.93 324 P **Pn 05 19 52.8 -0.4**
AB31 Akbulak array 12.93 324 Pn **Pn 05 19 52.9 -0.4**
comp=E,2.4nm,0.4s,baz=132,slow=12,SNR=116
AB31 ⇑Sn **Sn 05 22 19.3 +1.7**
comp=E,9.3nm,0.7s,baz=138,slow=23,SNR=14
ABKAR Akbulak array 12.93 324 Pn **Pn 05 19 52.3 -0.9**
ABKAR Akbulak array 12.93 324 Pn **Pn 05 19 53.1 -0.1**
BVAR Borovoye Array 13.79 357 Pn **Pn 05 20 04.2 -0.7**
comp=E,0.6nm,0.3s,baz=160,slow=9.3,SNR=8.1
BVAR Sn **Sn 05 22 36.9 -1.7**
comp=E,0.2nm,0.3s,baz=165,slow=22,SNR=3.7
comp=E,1.4nm,0.4s
BRVK Borovoye 13.82 357 P **Pn 05 20 06.9 +1.5**
BRVK Borovoye 13.82 357 *ce*P **Pn 05 20 05.3 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.3s
AKTO Aktyubinsk 14.64 324 Pn **Pn 05 20 17.0 +0.3**
comp=Z,1.0nm,0.3s,baz=142,slow=8.8,SNR=13
AKTO Sn **Sn 05 22 56.3 -3.1**
comp=Z,0.3nm,0.3s,baz=234,slow=19,SNR=2.4
AKTO LR LR 05 26 29.1
comp=Z,52nm,19.7s,baz=134,slow=39
comp=Z,2.5nm,0.4s
AKTO Aktyubinsk 14.64 324 ⇑Pn **Pn 05 20 16.5 -0.2**
comp=Z,15nm,0.5s
AKTO ⇓Sn **Sn 05 23 03.8 +4.4**
comp=Z,8.9nm,0.7s
PYUN Piuthan 14.70 136 *e*P Pn 05 20 11.3 -6.5
comp=Z,9.9nm,0.4s
DANN Dangsing 14.94 133 *e*P Pn 05 20 14.7 -6.3
comp=Z,13nm,0.4s
DGZ Jazzator, Alta 15.44 42 *i* P **Pn 05 20 27.0 -0.5**
DGZ pmax pmax
comp=Z,4.0nm,0.4s
JIRN Jiri 16.88 129 *e*P Pn 05 20 38.2 -8.1
comp=Z,9.3nm,0.4s
ZAA0 Zalesovo Array 17.29 27 Pn **Pn 05 20 51.7 +0.8**
ZAA0 IAmb IAmb 05 20 56.3
comp=Z,8.3nm,0.8s
ZALV Zalesovo Beam 17.29 27 P **Pn 05 20 50.0 -1.0**
comp=Z,1.5nm,0.3s,baz=232,slow=11,SNR=20
comp=Z,7.3nm,0.6s
ZALV Zalesovo Beam 17.29 27 Pn **Pn 05 20 50.3 -0.6**
RAMN Ramite 17.64 130 *e*P Pn 05 20 49.1 -6.7
comp=Z,10nm,0.5s
GOMU GeErMu 18.75 92 P **P 05 21 05.6 -3.5**
GOMU pP Pn 05 21 08.1 -1.3
GOMU pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 19.17 338 P **P 05 21 13.2 +0.1**
baz=301,slow=19,SNR=7.0
ARU LR LR 05 29 12.4
comp=Z,35nm,18.3s,baz=174,slow=38
comp=Z,3.3nm,0.3s
ARU Arti 19.17 338 *c* *i*P **P 05 21 13.8 +0.7**
ARU pmax pmax
comp=Z,3.0nm,0.5s
GNI Garni 20.52 281 LR LR 05 30 57.0
comp=Z,20nm,19.8s,baz=16,slow=41
GNI Garni 20.52 281 *ce*P **P 05 21 29.8 +1.5**
GNI pmax pmax
comp=Z,6.0nm,0.9s
ZEI Tsey 21.02 289 *e*P **P 05 21 38.1 +4.4**
ZEI pmax pmax
comp=Z,6.0nm,1.2s
BELG Belogornoye 21.03 316 P **P 05 21 33.6 +0.2**
comp=Z,9.7nm,0.7s,baz=344,slow=1.7,SNR=3.9
BELG LR LR 05 31 17.6
comp=Z,43nm,18.8s,baz=127,slow=41
comp=Z,9.7nm,0.7s
BELG Belogornoye 21.03 316 *i* P **P 05 21 31.7 -1.7**
BELG pmax pmax
comp=Z,3.0nm,0.9s
BELG MLR MLR
comp=Z,8.0nm,6.0s
ONI Oni 21.35 288 P **P 05 21 39.4 +2.3**
ONI IAmb IAmb 05 21 40.8
comp=Z,12nm,0.8s
ONI Oni 21.35 288 P **P 05 21 39.4 +2.3**
ONI pmax pmax
comp=Z,12nm,0.8s
KNGR Kungurtug, Tuv 21.56 50 *i* P **P 05 21 38.1 -1.2**
KNGR pmax pmax
comp=Z,10.0nm,0.9s
GTA Gaotai 21.93 81 *e*P **P 05 21 43.9 +0.5**
GTA pP pP 05 21 48.0 +3.5
GTA sP sP 05 21 51.3 +6.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
KIV Kislovodsk 21.93 292 *e*P **P 05 21 41.4 -2.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s
SHA1 Shidzhatmaz 21.95 291 *i* P **P 05 21 41.3 -2.4**
VSR Storozhevoye 25.45 309 *e*P **P 05 22 18.9 +1.3**
VSR pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 28.12 316 *e*P **P 05 22 39.7 -2.0**
OBN *e* 05 23 32.4
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,38nm,16.0s
BRTR Keskin Array B 29.02 283 P **P 05 22 48.5 -1.6**
comp=Z,0.8nm,0.6s,baz=87,slow=6.1,SNR=4.1
comp=Z,0.8nm,0.6s
NRIK Noril'sk 31.36 11 *i* P **P 05 23 09.4 -0.8**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
NRIK MLR MLR
comp=Z,37nm,5.0s
AKASG Malin Array Be 31.55 305 P **P 05 23 11.7 -0.3**
comp=Z,0.2nm,0.3s,baz=77,slow=7.7,SNR=4.2
comp=Z,0.2nm,0.3s
CMAR Chiang Mai Arr 31.59 123 LR LR 05 36 30.0
comp=Z,23nm,18.1s,baz=185,slow=38
FINES FINESS Array B 35.42 324 P **P 05 23 46.0 +0.4**
comp=Z,1.1nm,0.5s,baz=107,slow=10,SNR=6.1
comp=Z,1.1nm,0.5s
ARCES ARCESS Array B 38.74 336 P **P 05 24 13.6 -0.2**
comp=Z,0.4nm,0.3s,baz=112,slow=8.0,SNR=8.1
comp=Z,0.4nm,0.3s
ARCES ARCESS Array B 38.74 336 *e*P **P 05 24 14.0 +0.2**
GERES GERESS Array B 41.66 303 P **P 05 24 37.6 -0.8**
comp=Z,0.4nm,0.4s,baz=82,slow=9.6,SNR=3.8
comp=Z,0.4nm,0.4s
NB2 NORSAR Subarra 42.41 321 P **P 05 24 43.6 -0.7**
comp=Z,0.2nm,0.4s,baz=93,slow=8.6
NOA NORSAR Array B 42.41 321 P **P 05 24 43.5 -0.8**
comp=Z,0.3nm,0.5s,baz=109,slow=7.7,SNR=3.6
NOA LR LR 05 43 28.8
comp=Z,25nm,18.3s,baz=315,slow=38
comp=Z,0.3nm,0.5s
TIXI Tiksi 43.10 23 *ce*P **P 05 24 49.0 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI MLR MLR
comp=Z,18nm,5.0s
KLR Kul'dur 43.29 56 *ce*P **P 05 24 49.5 -2.0**
KLR pmax pmax
comp=Z,4.0nm,1.7s
DAVOX Davos/Dischmat 44.59 301 LR LR 05 47 03.0
comp=Z,85nm,18.1s,baz=290,slow=40
ESDC Sonseca Array 56.50 296 P **P 05 26 32.1 -0.1**
comp=Z,1.3nm,0.5s,baz=57,slow=7.2,SNR=14
comp=Z,1.3nm,0.5s
TORD Torodi Ar. Bea 66.14 268 P **P 05 27 36.5 -1.2**
comp=Z,1.7nm,0.5s,baz=54,slow=5.6,SNR=35
comp=Z,1.7nm,0.5s
INK Inuvik 71.13 10 P **P 05 28 07.0 -1.0**
comp=Z,5.3nm,0.9s,baz=8.7,slow=5.4,SNR=8.0
comp=Z,5.3nm,0.9s
INK Inuvik 71.13 10 P **P 05 28 07.0 -1.0**
ILAR Eielson Array 72.04 16 P **P 05 28 12.2 -1.5**
comp=Z,0.9nm,0.9s,baz=318,slow=4.0,SNR=6.4
comp=Z,0.9nm,0.9s
ILAR Eielson Array 72.04 16 *e*P **P 05 28 11.8 -1.8**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 78.48 3 P **P 05 28 47.6 -3.1**
comp=Z,1.6nm,0.6s,baz=178,slow=12,SNR=3.7
comp=Z,1.6nm,0.6s

*IDC **20** 05:24:30.9±1.5, 2°.57S×140°.45E, h0km, mb3.8/5, mbtmp3.8/6, ML3.9/1, MS3.1/10, Error ellipse: s-maj=50.2km s-min=28.9km az=92.0*
ISC 20 05:24:31.3±1.5, 2°.5S×140°.7E±0.3, h10km, n19, σ0=74/7, mb3.7/5, MS3.2/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.41**	**137**	LR	LR		05 30 40.8	
	comp=Z,106nm,20.5s,baz=226,slow=39							
KRVT	**Keravat (AS076**	**11.48**	**99**	LR	LR		05 31 05.3	
	comp=Z,158nm,21.2s,baz=184,slow=34							
GUMO	**Guam**	**16.53**	**14**	LR	LR		05 32 46.0	
	comp=Z,65nm,21.8s,baz=174,slow=30							
DAV	**Davao City (W)**	**17.82**	**302**	LR	LR		05 35 19.6	
	comp=Z,27nm,18.8s,baz=156,slow=37							
CTA	**Charters Tower**	**18.30**	**163**	LR	LR		05 37 03.4	
	comp=Z,31nm,19.1s,baz=62,slow=41							
WRA	**Warramunga Arr**	**18.39**	**199**	P	**P**		**05 28 47.5**	**+0.9**
	0.4nm,0.3s,baz=26,slow=12,SNR=26							
	1.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**21.38**	**223**	P	**P**		**05 29 18.4**	**-0.7**
	1.8nm,0.6s,baz=34,slow=12,SNR=6.8							
	1.8nm,0.6s							
ASAR	**Alice Springs**	**22.02**	**197**	P	**P**		**05 29 26.8**	**+0.7**
	1.7nm,0.5s,baz=27,slow=11,SNR=21							
ASAR				LR	LR		05 39 25.9	
	comp=Z,91nm,19.3s,baz=116,slow=41							
	1.7nm,0.5s							
STKA	**Stephens Creek**	**29.22**	**178**	P	**P**		**05 30 33.3**	**0.0**
	1.7nm,0.6s,baz=350,slow=11,SNR=3.4							
	1.7nm,0.6s							
DZM	**Mont Dzumac**	**31.70**	**130**	LR	LR		05 43 15.8	
	comp=Z,69nm,18.2s,baz=110,slow=35							
H11S3	**WAKE ISLAND Hy**	**33.04**	**50**	T	T		06 05 48.9	
	baz=231,slow=74,SNR=4.5							
H11S2	**WAKE ISLAND Hy**	**33.06**	**50**	T	T		06 05 52.8	
	baz=231,SNR=1.6							
H11S1	**WAKE ISLAND Hy**	**33.06**	**50**	T	T		06 05 47.7	
	baz=231,slow=74,SNR=1.9							
KLR	**Kul'dur**	**52.12**	**353**	LR	LR		05 51 57.9	
	comp=Z,17nm,19.8s,baz=276,slow=32							
SONM	**Songino Array**	**58.40**	**334**	LR	LR		06 00 24.2	
	comp=Z,19nm,20.2s,baz=68,slow=37							
YAK	**Yakutsk**	**64.92**	**354**	LR	LR		06 01 27.4	
	comp=Z,14nm,19.2s,baz=90,slow=34							
MKAR	**Makanchi Array**	**70.84**	**322**	P	**P**		**05 35 48.8**	**+0.4**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.5							
	0.2nm,0.4s							
VNDA	**Vanda**	**75.81**	**175**	P	**P**		**05 36 16.7**	**-0.4**
	0.6nm,0.6s,baz=326,slow=7.1,SNR=9.2							
	0.6nm,0.6s							
LPAZ	**La Paz**	**145.96**	**124**	PKPbc	**PKiKP**		**05 44 16.1**	**-0.4**
	1.2nm,0.9s,baz=217,slow=3.5,SNR=4.8							

*IDC **20** 05:51:39.5±0.8, 22°.05N×45°.68W, h0km, mb4.0/13, mbtmp4.0/13, MS3.5/15, Error ellipse: s-maj=23.0km s-min=17.9km az=164.0*
ISC 20 05:51:41.1±0.7, 22°.0N±0°.1×45°.7W±0°.1, h10km, n31, σ0=67/14, mb4.1/13, MS3.6/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**16.25**	**245**	T	T		06 11 56.4	
	SNR=20							
MDP	**Montagnes des**	**18.14**	**203**	LR	LR		06 00 39.5	
	comp=Z,61nm,18.9s,baz=327,slow=30							
SJG	**San Juan**	**19.61**	**262**	LR	LR		06 01 58.4	
	comp=Z,24nm,19.3s,baz=90,slow=32							
SADO	**Sadowa**	**35.58**	**318**	LR	LR		06 10 12.0	
	comp=Z,42nm,19.1s,baz=109,slow=31							
TKL	**Tuckaleechee C**	**35.78**	**301**	LR	LR		06 11 46.0	
	comp=Z,38nm,18.2s,baz=57,slow=34							
BDFB	**Brasilia**	**37.52**	**184**	P	**P**		**05 58 56.9**	**+1.4**
	2.3nm,0.7s,baz=16,slow=8.0,SNR=3.4							
	2.3nm,0.7s							
H10N3	**ASCENSION HYDR**	**42.63**	**131**	T	T		06 44 46.9	
	baz=314,slow=75,SNR=547							
H10N2	**ASCENSION HYDR**	**42.63**	**131**	T	T		06 44 46.9	
	baz=314,slow=75,SNR=550							
H10N1	**ASCENSION HYDR**	**42.65**	**131**	T	T		06 44 48.0	
	baz=314,slow=75,SNR=568							
H10S3	**ASCENSION HYDR**	**43.30**	**132**	T	T		06 45 34.0	
	baz=314,slow=74,SNR=179							
H10S2	**ASCENSION HYDR**	**43.32**	**132**	T	T		06 45 35.4	
	baz=266,slow=74,SNR=77							
LPAZ	**La Paz**	**43.98**	**212**	P	**P**		**05 59 48.2**	**-1.3**
	1.2nm,0.8s,baz=46,slow=5.6,SNR=4.3							
LPAZ				LR	LR		06 17 58.3	
	comp=Z,61nm,18.4s,baz=171,slow=36							
	1.2nm,0.8s							
BORG	**Borgarnes**	**45.60**	**14**	LR	LR		06 14 04.7	
	comp=Z,62nm,19.3s,baz=177,slow=30							
TORD	**Torodi Ar. Bea**	**45.87**	**93**	P	**P**		**06 00 03.4**	**-0.7**
	1.0nm,1.0s,baz=258,slow=7.4,SNR=3.7							
	1.0nm,1.0s							
LVC	**Limon Verde**	**49.82**	**208**	LR	LR		06 22 21.3	
	comp=Z,82nm,18.4s,baz=228,slow=37							
TXAR	**Lajitas Array**	**52.30**	**291**	P	**P**		**06 00 53.4**	**+0.1**
	0.9nm,0.8s,baz=101,slow=8.1,SNR=15							
TXAR				PcP	**PcP**		**06 02 04.4**	**-0.1**
	0.3nm,0.8s,baz=64,slow=4.1,SNR=3.4							
	0.9nm,0.8s							
GERES	**GERESS Array B**	**53.69**	**45**	P	**P**		**06 01 03.3**	**+0.1**
	0.3nm,0.2s,baz=259,slow=9.9,SNR=5.5							
	0.3nm,0.2s							
NOA	**NORSAR Array B**	**55.07**	**30**	LR	LR		06 19 17.1	
	comp=Z,50nm,20.4s,baz=255,slow=30							
HFS	**Hagfors**	**55.98**	**31**	LR	LR		06 20 10.9	
	comp=Z,65nm,19.0s,baz=282,slow=31							
PDAR	**Pinedale Array**	**56.40**	**307**	P	**P**		**06 01 23.0**	**-0.1**
	2.1nm,1.0s,baz=110,slow=7.5,SNR=11							
	2.1nm,1.0s							
ELK	**Elko**	**60.73**	**305**	P	**P**		**06 01 53.7**	**+0.4**
	1.9nm,0.7s,baz=80,slow=7.0,SNR=10.0							
ELK				LR	LR		06 25 53.9	
	comp=Z,27nm,21.3s,baz=320,slow=34							
	1.9nm,0.7s							
FINES	**FINESS Array B**	**62.18**	**31**	P	**P**		**06 02 02.6**	**+0.2**
	0.8nm,0.6s,baz=260,slow=7.0,SNR=5.4							
FINES				LR	LR		06 23 40.8	
	comp=Z,59nm,20.2s,baz=213,slow=31							
	0.8nm,0.6s							
ARCES	**ARCESS Array B**	**62.97**	**22**	P	**P**		**06 02 07.5**	**-0.1**
	2.5nm,0.8s,baz=240,slow=4.8,SNR=4.2							
ARCES				LR	LR		06 25 21.2	
	comp=Z,35nm,18.2s,baz=50,slow=32							
	2.5nm,0.8s							
NVAR	**Mina Array Bea**	**63.34**	**303**	P	**P**		**06 02 10.9**	**+0.1**
	0.5nm,0.7s,baz=101,slow=4.7,SNR=4.6							
	0.5nm,0.7s							
AKASG	**Malin Array Be**	**63.80**	**43**	P	**P**		**06 02 12.9**	**-0.5**
	1.5nm,0.6s,baz=273,slow=5.5,SNR=8.5							
	1.5nm,0.6s							
H09W1	**TRISTAN DA CUN**	**66.70**	**151**	T	T		07 14 58.0	
	SNR=7.8							
BRTR	**Keskin Array B**	**68.28**	**55**	P	**P**		**06 02 43.2**	**+0.6**
	1.3nm,0.7s,baz=280,slow=6.2,SNR=4.8							
	1.3nm,0.7s							
BBB	**Bella Bella**	**68.32**	**319**	LR	LR		06 32 18.4	
	comp=Z,30nm,18.8s,baz=155,slow=36							
INK	**Inuvik**	**68.93**	**337**	LR	LR		06 32 10.6	
	comp=Z,50nm,18.7s,baz=356,slow=35							
ILAR	**Eielson Array**	**74.93**	**334**	P	**P**		**06 03 22.2**	**+0.1**
	4.5nm,0.8s,baz=76,slow=4.9,SNR=34							
	4.5nm,0.8s							
AAK	**Ala-Archa**	**95.30**	**40**	LR	LR		06 45 41.4	
	comp=Z,19nm,18.3s,baz=313,slow=34							

WEL 20 06:00:39.4±1.2, 37°.5S±5°×17°.9E±°, h16km±9km, M3.4/26, ML3.6/30, MLv3.4/26, Error ellipse: s-maj=0.0km s-min=0.0km az=115.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**236**	P	Pb		06 00 55.3	-1.0
MXZ				S	Sb		06 01 06.0	-1.8
WMGZ	**Waiomatatini S**	**0.98**	**221**	P	Pn		06 00 58.8	+0.3
WMGZ				S	Sn		06 01 12.9	+0.8
PKGZ	**Pakihiroa**	**1.22**	**228**	P	Pn		06 01 01.9	0.0
PKGZ				S	Sg		06 01 18.5	-0.3
PUZ	**Puketiti**	**1.26**	**217**	P	Pn		06 01 02.2	-0.1
PUZ				S	Sg		06 01 19.6	-0.4
HAZ	**Te Kaha**	**1.33**	**239**	P	Pn		06 01 02.2	-1.2
HAZ				S	Sg		06 01 21.9	-0.5
TWGZ	**Tauwhareparae**	**1.48**	**221**	P	Pb		06 01 06.1	-0.4
TWGZ				S	Sb		06 01 25.5	+0.4
RUGZ	**Raukumara Rang**	**1.52**	**234**	P	Pn		06 01 06.5	+0.5
RUGZ				S	Sb		06 01 26.3	0.0
CNGZ	**Carnagh Statio**	**1.62**	**209**	P	Pb		06 01 08.4	-0.6
WIZ	**White Island**	**1.68**	**254**	P	Pn		06 01 07.2	-1.0
TKGZ	**Te Karaka**	**1.74**	**218**	P	Pn		06 01 09.1	0.0
TKGZ				S	Sn		06 01 31.3	+0.3
MWZ	**Matawai**	**1.84**	**226**	P	Pn		06 01 10.5	+0.1
MWZ				S	Sn		06 01 33.0	-0.4
WHRZ	**Whale Island**	**1.95**	**246**	P	Pn		06 01 12.7	+0.8
RIGZ	**Rimuhau**	**2.00**	**215**	P	Pn		06 01 12.2	-0.3
RAGZ	**Rawiri**	**2.02**	**225**	P	Pn		06 01 12.8	-0.1
RAGZ				S	Sn		06 01 36.9	-0.9
URZ	**Urewera**	**2.05**	**234**	P	Pn		06 01 13.5	+0.2
MARZ	**Manawahe**	**2.22**	**245**	P	Pb		06 01 18.0	-1.2
EDRZ	**Edgecumbe**	**2.22**	**242**	P	Pn		06 01 16.2	+0.5
OPRZ	**Ohinepanea**	**2.26**	**249**	P	Pn		06 01 16.1	0.0
SNGZ	**Shannon Statio**	**2.26**	**221**	P	Pn		06 01 16.2	0.0
KNZ	**Kokohu**	**2.30**	**212**	P	Pn		06 01 15.5	-1.1
MHGZ	**Mahia Peninsul**	**2.32**	**206**	P	Pn		06 01 16.5	-0.5
RTZ	**Ruatahuna**	**2.35**	**228**	P	Pn		06 01 17.5	+0.1
MUGZ	**Murupara**	**2.39**	**233**	P	Pn		06 01 17.8	-0.2
TGRZ	**Tauranga**	**2.45**	**254**	P	Pn		06 01 18.7	0.0
TARZ	**Mount Tarawera**	**2.45**	**241**	P	Pn		06 01 19.4	+0.6
RAHZ	**Arahi**	**2.50**	**222**	P	Pn		06 01 20.0	+0.6
MTHZ	**Maungataniwha**	**2.59**	**226**	P	Pn		06 01 20.6	-0.1
PRRZ	**Plateau Road**	**2.65**	**237**	P	Pn		06 01 21.6	0.0
ALRZ	**Allen Road**	**2.72**	**236**	P	Pn		06 01 22.5	0.0
GRRZ	**Galatos Road**	**2.78**	**242**	P	Pb		06 01 29.5	+0.9
NMHZ	**Naumai**	**2.78**	**223**	P	Pn		06 01 23.0	-0.3
ARHZ	**Aropaoanui**	**2.80**	**218**	P	Pn		06 01 23.1	-0.5
KUZ	**Kuaotunu**	**2.82**	**276**	P	Pn		06 01 22.8	-1.1
MRHZ	**Matea Rd**	**2.83**	**231**	P	Pn		06 01 23.8	-0.2
BKZ	**Black Stump Fm**	**3.00**	**225**	P	Pn		06 01 25.7	-0.6
TOZ	**Tahuroa Road**	**3.03**	**256**	P	Pn		06 01 26.9	+0.2
MCHZ	**McNeill Hill**	**3.09**	**219**	P	Pn		06 01 26.6	-0.9
GRZ	**Great Barrier**	**3.13**	**284**	P	Pn		06 01 28.0	+0.8
KWHZ	**Kawekaforest**	**3.22**	**222**	P	Pn		06 01 28.3	-1.1
MKAZ	**Moumakai**	**3.25**	**268**	P	Pn		06 01 29.0	-0.6
KAHZ	**Kahuranaki**	**3.28**	**213**	P	Pn		06 01 28.5	-1.8
TMVZ	**Te Maari**	**3.44**	**233**	P	Pn		06 01 31.8	-0.7
ETVZ	**East Tongariro**	**3.45**	**232**	P	Pn		06 01 31.8	-0.8
NTVZ	**North Tongarir**	**3.45**	**233**	P	Pn		06 01 32.0	-0.7
BHHZ	**Black Hill Sta**	**3.46**	**225**	P	Pn		06 01 32.2	-0.6
KRVZ	**Karewarewa**	**3.47**	**233**	P	Pn		06 01 32.7	-0.2
MBAZ	**Motutapu North**	**3.48**	**274**	P	Pn		06 01 33.6	+0.8
PXZ	**Pawanui**	**3.48**	**211**	P	Pn		06 01 30.5	-2.5
OTVZ	**Oturere**	**3.50**	**232**	P	Pn		06 01 32.5	-0.8
NNVZ	**North Ngauruho**	**3.51**	**233**	P	Pn		06 01 33.4	0.0
SNVZ	**South Ngauruho**	**3.52**	**232**	P	Pn		06 01 32.9	-0.8
NGZ	**Ngauruhoe**	**3.54**	**233**	P	Pn		06 01 33.2	-0.7
MOVZ	**Moawhango**	**3.59**	**228**	P	Pn		06 01 33.5	-1.0
PNHZ	**Pukenui**	**3.69**	**219**	P	Pn		06 01 33.8	-2.1
RVAZ	**Riverhead Bore**	**3.73**	**273**	P	Pn		06 01 37.5	+1.2
HIZ	**Hauiti**	**3.74**	**246**	P	Pn		06 01 37.6	+1.1
MTVZ	**Mangateitei**	**3.75**	**231**	P	Pn		06 01 36.6	-0.1
PKE	**Pukeiti**	**4.64**	**241**	P	Pn		06 01 50.7	+1.9
HOWZ	**Holdsworth Sta**	**4.79**	**216**	P	Pn		06 01 48.3	-2.6
OUZ	**Omahuta**	**4.91**	**290**	P	Pn		06 01 53.5	+0.9
CTZ	**Chatham Island**	**7.37**	**156**	P	Pn		06 02 26.4	+0.1

IDC 20 06:03:29.4±6.2, 2°.04S×141°.22E, h0km, mb3.4/3, mbtmp3.4/4, ML3.4/1, MS2.9/2, Error ellipse: s-maj=130.4km s-min=67.6km az=150.0, Near north coast of New Guinea

| Code | Station Name | Δ° | AZ° |

ASAR	**Alice Springs**	**22.63**	**198**	P		P		06 08 32.5	+0.2
	0.6nm,0.6s,baz=25,slow=11,SNR=11								
	0.6nm,0.6s								
MA2	**Magadan**	**61.89**	**5**	LR		LR		06 38 24.9	
	comp=Z,17nm,20.2s,baz=98,slow=34								
VNDA	**Vanda**	**76.23**	**175**	P		P		06 15 19.2	-0.1
	0.3nm,0.6s,baz=324,slow=6.0,SNR=0.9								
	0.3nm,0.6s								

IDC 20 06:04:20.0±5.0, 1.77S×140.31E, h0km, mb3.6/3, mbtmp3.7/4, ML3.5/1, MS3.3/2, Error ellipse: s-maj=107.1km s-min=60.4km az=148.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.98**	**197**	P	P	06 08 43.1	-0.1
	0.2nm,0.3s,baz=20,slow=12,SNR=7.9						
	1.7nm,0.8s						
CTA	**Charters Tower**	**19.11**	**163**	LR	LR	06 15 36.3	
	comp=Z,89nm,19.1s,baz=72,slow=35						
FITZ	**Fitzroy Crossi**	**21.69**	**221**	P	P	06 09 13.2	+0.5
	1.4nm,0.7s,baz=63,slow=8.5,SNR=1.7						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**22.63**	**195**	P	P	06 09 21.8	-1.0
	1.6nm,0.8s,baz=28,slow=10.0,SNR=9.7						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**70.03**	**322**	LR	LR	06 46 27.9	
	comp=Z,17nm,20.3s,baz=333,slow=36						
VNDA	**Vanda**	**76.57**	**175**	P	P	06 16 12.2	+0.4
	1.0nm,0.8s,baz=320,slow=6.8,SNR=6.8						
	1.0nm,0.8s						

*KEA **20** 06:05:15.6, 38.39N×128.06E, h17km, ML2.5/3*
*KMA **20** 06:05:17.6±0.1, 38.34N×128.09E, h0km, Error ellipse: s-maj=2.2km s-min=0.7km az=9.0*

ISC 20 06:05:17.5±1.1, 38.39N±0.05×128.11E±0.05, h10km, n19, σ0s94/22, North Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSCHC	**Chuncheon**	**0.65**	**201**	P	**Pg**	**06 05 29.4**	**-0.7**
	SNR=90						
KSJMJ	**Jumunjin**	**0.71**	**135**	P	**Pg**	**06 05 30.9**	**-0.4**
	SNR=39						
KSDGY	**Daegwallycong**	**0.82**	**147**	P	**Pg**	**06 05 32.8**	**-0.5**
	SNR=22						
KSWJU	**Wonju**	**0.98**	**183**	P	**Pg**	**06 05 36.0**	**-0.4**
	SNR=18						
KSMUS	**Musan**	**1.18**	**245**	P	**Pn**	**06 05 39.2**	**-0.8**
	SNR=7.1						
BURB	**Buron**	**1.19**	**194**	P	**Pb**	**06 05 39.3**	**-0.8**
	SNR=25						
KSICN	**Icheon**	**1.22**	**207**	P	**Pn**	**06 05 40.0**	**-0.6**
	SNR=16						
JECH	**Jecheon**	**1.23**	**177**	P	**Pb**	**06 05 40.1**	**-0.7**
	SNR=12						
KSTBA	**Taebaek**	**1.43**	**152**	P	**Pn**	**06 05 44.5**	**+0.9**
	SNR=9.8						
KSSWO	**Suwon**	**1.44**	**219**	P	**Pn**	**06 05 43.6**	**0.0**
	SNR=6.8						
EMSB	**Eumseong**	**1.46**	**196**	P	**Pn**	**06 05 44.5**	**+0.6**
	SNR=17						
KSCHJ	**Chungju**	**1.51**	**184**	P	**Pn**	**06 05 45.0**	**+0.3**
	SNR=19						
CHYB	**Chungyang**	**1.57**	**156**	P	**Pn**	**06 05 46.6**	**+1.1**
	SNR=14						
HHU	**Hamhung**	**1.60**	**344**	Pg	**Pn**	**06 05 45.5**	**-0.4**
HHU				Sg	**Sn**	**06 06 06.5**	**-0.2**
HHU				AML	AML		
	comp=N,41nm,0.3s						
HHU				AML	AML		
	comp=E,103nm,0.4s						
HHU				AML	AML		
	comp=Z,56nm,0.2s						
HAWB	**Hwaseong-si**	**1.68**	**220**	P	**Pn**	**06 05 48.0**	**+1.1**
	SNR=7.9						
KSCEA	**Cheonan**	**1.70**	**204**	P	**Pn**	**06 05 46.8**	**-0.5**
	SNR=30						
KSMGY	**Mungyeong**	**1.73**	**181**	P	**Pn**	**06 05 49.2**	**+1.6**
	SNR=30						
HJU	**Haeju**	**1.91**	**260**	Pg	**Pn**	**06 05 50.8**	**+0.7**
HJU				Sg	**Sn**	**06 06 15.4**	**+1.2**
HJU				AML	AML		
	comp=N,155nm,0.3s						
HJU				AML	AML		
	comp=E,106nm,0.2s						
HJU				AML	AML		
	comp=Z,179nm,0.3s						
PYAG	**Pyongyang**	**1.96**	**291**	Pg	**Pn**	**06 05 52.1**	**+1.4**
PYAG				Sg	**Sn**	**06 06 17.1**	**+1.7**
PYAG				AML	AML		
	comp=N,73nm,0.2s						
PYAG				AML	AML		
	comp=E,54nm,0.3s						
PYAG				AML	AML		
	comp=Z,35nm,0.3s						

*NEIC **20** 06:18:01.4±1.0, 16.71S±0.09×174.05W±0.09, h94km±8km, mb4.3/26, Error ellipse: s-maj=13.0km s-min=12.0km az=201.0*
*IDC **20** 06:18:01.3±2.6, 16.67S×174.05W, h96km±24km, mb3.9/11, mbtmp4.3/14, MS3.0/5, Error ellipse: s-maj=23.9km s-min=13.3km az=140.0*
*NOU **20** 06:18:02.2, 16.71S×173.54W, h0km, MLv4.9/12, Tonga Islands*

ISC 20 06:18:01.3±0.5, 16.81S±0.06×173.78W±0.05, h100km, n60, σ1s62/50, mb4.2/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.47**	**34**	P	**Pn**	**06 18 54.2**	**+0.7**
	142nm,0.3s,baz=219,slow=4.1,SNR=66						
AFI				S	**Sn**	**06 19 30.5**	**-3.4**
	727nm,0.3s,baz=250,slow=24,SNR=15						
AFI				LR	LR	06 19 45.6	
	comp=Z,60nm,18.3s,baz=122,slow=30						
AFI	**Afiamalu**	**3.47**	**34**	P	**Pn**	**06 18 54.0**	**+0.5**
NIUE	**Niue**	**4.31**	**122**		**Pn**	**06 19 07.5**	**+2.9**
NIUE	**Niue**	**4.31**	**122**	P	**Pn**	**06 19 07.7**	**+3.1**
FUTU	**Fugatoga**	**4.87**	**300**	P	Pn	06 19 19.2	+7.0
LKBA	**Tubou, Lakemba**	**5.01**	**253**	P	Pn	06 19 22.4	+8.3
TAVE	**Taveuni**	**5.87**	**270**	P	Pn	06 19 32.6	+6.8
MSVF	**Nonsavu**	**7.86**	**262**	P	**Pn**	**06 19 53.0**	**0.0**
	3.9nm,1.0s,baz=270,slow=20,SNR=1.8						
MSVF				LR	LR	06 21 47.2	
	comp=Z,60nm,20.8s,baz=20,slow=30						
MSVF	**Nonsavu**	**7.86**	**262**	Pn	Pn	06 19 49.3	-3.7
MSVF	**Nonsavu**	**7.86**	**262**	P	Pn	06 20 01.6	+8.6
FUNA	**Funafuti**	**10.71**	**319**	Pn	Pn	06 20 26.5	-5.2
RAR	**Rarotonga**	**13.95**	**110**	P	**P**	**06 21 18.3**	**-1.1**
	22nm,1.0s,baz=253,slow=11,SNR=1.8						
RAR				S	**Sn**	**06 23 44.3**	**-4.0**
	14nm,0.9s,baz=135,slow=13,SNR=1.7						
RAR	**Rarotonga**	**13.95**	**110**	Pn	**P**	**06 21 18.0**	**-1.4**
MARNC	**Mare, Loyalty**	**17.80**	**252**	P	**P**	**06 22 00.2**	**-1.8**
DZM	**Mont Dzumac**	**19.36**	**251**	eLR	LR	06 27 46.8	
	comp=Z,71nm,24.4s						
DZM	**Mont Dzumac**	**19.36**	**251**	P	**P**	**06 22 18.6**	**-0.7**
	3.2nm,0.8s,baz=233,slow=20,SNR=1.8						
DZM				LR	LR	06 28 23.1	
	comp=Z,88nm,19.5s,baz=203,slow=32						
DZM	**Mont Dzumac**	**19.36**	**251**	P	**P**	**06 22 16.6**	**-2.7**
DZM				IAmb	IAmb	06 22 25.4	
	comp=Z,14nm,1.1s						
URZ	**Urewera**	**22.82**	**199**	P	**P**	**06 22 56.5**	**+0.8**
	comp=Z,7.9nm,0.5s,baz=178,slow=4.1,SNR=8.1						
	comp=Z,7.9nm,0.5s						
URZ	**Urewera**	**22.82**	**199**	P	**P**	**06 22 56.7**	**+1.0**
PPT2	**Papeete2**	**23.13**	**95**	eLR	LR	06 28 17.2	
	comp=Z,52nm,24.8s						
PPT	**Papeete**	**23.14**	**95**	LR	LR	06 30 44.9	
	comp=Z,43nm,18.0s,baz=325,slow=33						
TBI	**Tubuai**	**23.73**	**110**	eLR	LR	06 28 43.4	
	comp=Z,82nm,39.5s						
WHZ	**Wether Hill Ro**	**32.76**	**204**	P	**P**	**06 24 23.7**	**-0.9**
ARMA	**Armidale**	**34.32**	**240**	P	**P**	**06 24 37.2**	**-1.3**
STKA	**Stephens Creek**	**43.03**	**241**	P	**P**	**06 25 50.0**	**-1.2**
	comp=Z,3.8nm,0.8s,baz=89,slow=13,SNR=5.5						
	comp=Z,3.8nm,0.8s						
STKA	**Stephens Creek**	**43.03**	**241**	P	**P**	**06 25 50.4**	**-0.8**
WR0	**Warramunga Arr**	**48.99**	**258**	P	**P**	**06 26 36.6**	**-1.5**
WR0				IAmb	IAmb	06 27 09.8	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**49.14**	**258**	P	**P**	**06 26 37.6**	**-1.8**
WB0				IAmb	IAmb	06 27 11.1	
	comp=Z,3.0nm,0.9s						
WB2	**Warramunga Arr**	**49.17**	**258**	P	**P**	**06 26 37.9**	**-1.6**
WB2				IAmb	IAmb	06 27 11.1	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**49.18**	**258**	P	P	06 26 37.1	-2.5
	comp=Z,0.7nm,0.4s,baz=95,slow=7.1,SNR=22						
	comp=Z,0.7nm,0.4s						
WRA	**Warramunga Arr**	**49.18**	**258**	P	P	06 26 37.3	-2.3
AS31	**Alice Springs**	**49.34**	**253**	P	**P**	**06 26 39.3**	**-1.5**
ASAR	**Alice Springs**	**49.34**	**253**	P	**P**	**06 26 38.9**	**-1.9**
	comp=Z,17nm,0.6s,baz=88,slow=8.4,SNR=352						
ASAR				LR	LR	06 45 32.6	
	comp=Z,25nm,18.5s,baz=136,slow=34						
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**49.34**	**253**	P	**P**	**06 26 39.0**	**-1.8**
FORT	**Forrest**	**54.46**	**244**	P	**P**	**06 27 17.1**	**-1.6**
KNRA	**Kununurra**	**55.00**	**262**	P	**P**	**06 27 20.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**57.57**	**259**	P	**P**	**06 27 39.4**	**-1.6**
SBA	**Scott Base**	**61.82**	**185**	P	**P**	**06 28 09.9**	**+0.6**
SBA				IAmb	IAmb	06 28 40.4	
	comp=Z,3.5nm,1.4s						
VNDA	**Vanda**	**61.94**	**186**	P	**P**	**06 28 12.2**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=17,slow=10,SNR=2.9						
	comp=Z,0.5nm,0.8s						
PSA00	**Pilbara Seismi**	**62.46**	**254**	P	**P**	**06 28 13.1**	**-1.3**
MBWA	**Marble Bar**	**62.62**	**255**	P	**P**	**06 28 13.6**	**-2.0**
QSPA	**South Pole Qui**	**73.24**	**180**	P	**P**	**06 29 22.5**	**+1.1**
QSPA				IAmb	IAmb	06 29 36.0	
	comp=Z,8.1nm,1.4s						
PETK	**Petropavlovsk-**	**73.86**	**343**	P	**P**	**06 29 25.0**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=154,slow=8.0,SNR=6.1						
	comp=Z,5.2nm,0.8s						
RYN	**Ryan**	**75.59**	**42**	P	**P**	**06 29 36.3**	**+0.8**
NVAR	**Mina Array Bea**	**75.62**	**42**	P	**P**	**06 29 36.8**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=227,slow=9.4,SNR=26						
	comp=Z,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**75.62**	**42**	P	**P**	**06 29 35.9**	**+0.1**
KVN	**Kaiserville**	**76.11**	**41**	P	**P**	**06 29 38.9**	**+0.4**
TPH	**Tonopah**	**76.11**	**43**	P	**P**	**06 29 39.5**	**+0.9**
CCUT	**Cedar City**	**78.39**	**45**	P	**P**	**06 29 52.5**	**+1.3**
U15A	**North Rim**	**78.54**	**46**	P	**P**	**06 29 53.1**	**+0.9**
U15A				IAmb	IAmb	06 29 54.5	
	comp=Z,3.7nm,1.0s						
MTPU	**Mount Pierson**	**79.44**	**45**	P	**P**	**06 29 59.0**	**+1.8**
MTPU				IAmb	IAmb	06 29 59.8	
	comp=Z,5.0nm,1.3s						
TXAR	**Lajitas Array**	**81.70**	**56**	P	**P**	**06 30 10.5**	**+1.3**
	comp=Z,1.1nm,1.0s,baz=214,slow=7.9,SNR=8.2						
	comp=Z,1.1nm,1.0s						
S22A	**4UR Ranch, Cre**	**82.99**	**47**	P	**P**	**06 30 17.1**	**+1.1**
S22A				IAmb	IAmb	06 30 18.0	
	comp=Z,2.2nm,0.8s						
PD31	**Pinedale Array**	**83.56**	**42**	P	**P**	**06 30 18.7**	**0.0**
PD31				IAmb	IAmb	06 30 19.4	
	comp=Z,1.8nm,0.8s						
PDAR	**Pinedale Array**	**83.56**	**42**	P	**P**	**06 30 18.8**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=202,slow=3.0,SNR=19						
	comp=Z,2.1nm,0.8s						
YHL	**Hebgen Lake**	**83.60**	**39**	P	**P**	**06 30 20.0**	**+1.1**
YHL				IAmb	IAmb	06 30 21.0	
	comp=Z,5.3nm,0.9s						
ILAR	**Eielson Array**	**83.89**	**11**	P	**P**	**06 30 18.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=242,slow=6.1,SNR=7.4						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.71**	**288**	P	**P**	**06 31 03.2**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=100,slow=2.1,SNR=4.9						
	comp=Z,1.0nm,0.3s						
BRTR	**Keskin Array B**	**147.00**	**319**	PKPbc	**PKPdf**	**06 37 32.5**	**+1.7**
	comp=Z,2.8nm,0.7s,baz=111,slow=1.3,SNR=11						
TORD	**Torodi Ar. Bea**	**174.31**	**129**	PKPab	**PKPab**	**06 39 33.8**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=248,slow=2.9,SNR=5.1						

*IDC **20** 06:50:31.4±2.5, 51.39N×82.02E, h0km, mbtmp2.4/1, ML2.3/1, Error ellipse: s-maj=51.6km s-min=14.1km az=109.0*
*NNC **20** 06:50:31.9±5.6, 51.34N×81.92E, h0km, mb2.9, mpv2.4, Error ellipse: s-maj=58.3km s-min=27.9km az=14.0, Suspected Mining explosion.*

ISC 20 06:50:34.0±1.4, 51.21N±0.08×81.71E±0.06, h0km, n7, σ0s36/8, 2C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.01**	**257**	⇑Pn	**Pn**	**06 51 08.9**	**-0.3**
	0.6nm,0.3s						
KURK				⇑Sn	**Sb**	**06 51 37.7**	**+0.7**
	8.7nm,0.7s						
KURBB	**Kurchatov Arra**	**2.10**	**255**	⇓Pn	**Pn**	**06 51 10.2**	**-0.1**
	1.7nm,0.3s						
KURBB				⇓Sn	**Sg**	**06 51 40.9**	**-0.3**
	19nm,0.8s						
ZALV	**Zalesovo Beam**	**3.33**	**34**	Pg	**Pn**	**06 51 27.2**	**-0.1**
	0.3nm,0.3s,baz=214,slow=16,SNR=2.4						
ZALV				Lg	Lg	06 52 09.9	
	0.4nm,0.3s,baz=211,slow=25,SNR=3.6						
I46RU	**ZALESOVO INFRA**	**3.33**	**34**	*i*		07 08 55.0	
	baz=214,slow=319,SNR=7.7						
MAKZ	**Makanchi**	**4.41**	**178**	⇓Lg	Lg	06 52 54.9	
	1.3nm,0.6s						
MK31	**Makanchi Array**	**4.44**	**175**	Pn	**Pn**	**06 51 42.6**	**0.0**
	0.4nm,0.7s,baz=344,slow=15,SNR=11						
MK31				⇓Lg	Lg	06 52 55.1	
	1.1nm,0.6s,baz=331,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**4.44**	**175**	Pn	**Pn**	**06 51 42.4**	**-0.1**
	0.1nm,0.3s,baz=359,slow=11,SNR=10						
MKAR				Pg	**Pb**	**06 51 52.8**	**0.0**
	0.2nm,0.3s,baz=355,slow=16,SNR=4.5						
MKAR				Lg	Lg	06 52 51.8	
	0.1nm,0.3s,baz=4.1,slow=26,SNR=4.9						
	0.2nm,0.2s						

IDC 20 06:55:31.8±6.0, 2.10S×140.95E, h0km, mb3.2/2, mbtmp3.3/3, ML3.3/1, MS3.3/1, Error ellipse: s-maj=143.1km s-min=74.9km az=134.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.88**	**200**	P	P	06 59 53.5	-0.5
	0.1nm,0.3s,baz=24,slow=12,SNR=6.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**22.50**	**197**	P	P	07 00 32.5	-0.8
	0.4nm,0.6s,baz=26,slow=10.0,SNR=8.4						
ASAR				LR	LR	07 09 13.1	
	comp=Z,76nm,19.9s,baz=296,slow=36						
	0.4nm,0.6s						
VNDA	**Vanda**	**76.20**	**175**	P	P	07 07 22.4	+0.8
	0.3nm,0.6s,baz=339,slow=7.2,SNR=2.7						
	0.3nm,0.6s						

*BJI **20** 07:18:09.7±0.0, 49.99N×88.01E, h3km, mb4.6/55, mB4.7/34, ML5.4/8, Ms5.0/64, Ms7 4.6/60*
*IDC **20** 07:18:11.6±0.4, 49.94N×88.20E, h0km, mb4.5/30, mbtmp4.5/36, ML4.7/7, MS4.1/84, Error ellipse: s-maj=9.6km s-min=6.6km az=169.0*
*MOS **20** 07:18:11.7±1.5, 49.84N×88.07E, h12km, mb5.0/41, MS4.2/11, Error ellipse: s-maj=4.6km s-min=3.8km az=60.1*
*NNC **20** 07:18:12.7±1.0, 49.94N×88.06E, h0km, mb5.5, mpv5.4, Error ellipse: s-maj=8.9km s-min=5.7km az=95.0*
*ASRS **20** 07:18:12.3±0.2, 50.0N±0.9×88.1E±0.9, h8km, MLh5.2/13, Error ellipse: s-maj=2.1km s-min=2.0km az=107.1, confirmed*
*GCMT **20** 07:18:13.5±0.2, 49.90N±0.01×88.06E±0.02, h19km±1km, MW4.8/105, Moment Tensor Solution. s31,c34; s105,c151; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.21±.09; Mθθ-1.88±.08; Mϕϕ 1.67±.07; Mrθ-0.13±.17; Mθϕ 1.42±.06; Mϕr 0.16±.14; Best double couple: M0 2.28200×10^16 NP1:ϕs154.00000°, δ90.00000°, λ-175.00000°. NP2:ϕs64.00000°, δ85.00000°, λ0.00000°. Principal axes: T 2.1740, Plg3.0000°, Azm289.0000°; N 0.2200, Plg85.0000°, Azm159.0000°; P -2.3900, Plg4.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 07:18:14.5±2.7, 50.00N±0.07×88.1E±0.1, h16km±4km, mb4.8/65 Error ellipse: s-maj=10.7km s-min=10.3km az=127.0*
*SOME **20** 07:18:23.7, 50.03N×86.18E, h15km*

ISC 20 07:18:12.8±0.6, 49.87N±0.02×88.02E±0.02, h5km±3km, n503, σ2s01/551, mb4.8/117, MS4.1/101, 79C-32D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLNR	**Muhor-Tarhata,**	**0.30**	**108**	⇑Pg	**Pg**	**07 18 16.6**	**-2.1**
SLNR				Sg	**Sg**	**07 18 21.1**	**-1.7**
CUR	**Chagan-Uzun**	**0.31**	**42**	PG	**Pg**	**07 18 17.4**	**-1.5**
CUR	**Chagan-Uzun**	**0.31**	**42**	Pg	**Pg**	**07 18 17.4**	**-1.5**
CUR				Sg	**Sg**	**07 18 21.6**	**-1.5**
DGZ	**Jazzator, Alta**	**0.42**	**246**	*c* iPG	**Pg**	**07 18 19.9**	**-1.0**
DGZ	**Jazzator, Alta**	**0.42**	**246**	⇑Pg	**Pg**	**07 18 20.0**	**-0.9**
DGZ				Sg	**Sg**	**07 18 25.6**	**-0.8**
AKAR	**Aktash**	**0.52**	**330**	PG	**Pg**	**07 18 22.4**	**-0.4**
AKAR						07 18 28.8	
AKAR	**Aktash**	**0.52**	**330**	⇑Pg	**Pg**	**07 18 22.0**	**-0.8**
AKAR				Sg	**Sg**	**07 18 29.6**	**0.0**
CHBI	**Chibit, Altay**	**0.56**	**323**	PG	**Pg**	**07 18 24.0**	**+0.5**
CHBI						07 18 31.4	
CHBI	**Chibit, Altay**	**0.56**	**323**	⇑Pg	**Pg**	**07 18 23.7**	**+0.2**
CHBI				Sg	**Sb**	**07 18 31.8**	**-1.6**
ULGR	**Ulagan, Altay**	**0.76**	**357**	PG	**Pg**	**07 18 26.9**	**-0.4**
ULGR						07 19 37.1	
ULGR	**Ulagan, Altay**	**0.76**	**357**	⇓Pg	**Pg**	**07 18 26.9**	**-0.4**
ULGR				Sg	**Sg**	**07 18 37.7**	**+0.5**
ARTR	**Artybash**	**1.99**	**347**	PN	**Pb**	**07 18 48.6**	**-0.8**
ARTR						07 19 14.7	
ARTR	**Artybash**	**1.99**	**347**	⇓Pg	**Pn**	**07 18 47.9**	**+0.9**
ARTR				Sg	**Sg**	**07 19 15.5**	**-1.1**
GALT	**Gorno-Altaysk,**	**2.47**	**329**	PN	**Pb**	**07 18 57.6**	**0.0**
GALT						07 19 31.7	
GALT	**Gorno-Altaysk,**	**2.47**	**329**	Pg	**Pb**	**07 18 57.6**	**0.0**
GALT				Sg	**Sg**	**07 19 31.5**	**-0.6**
TASR	**Tashtagol**	**2.90**	**358**	PN	**Pb**	**07 19 02.1**	**-2.8**
TASR						07 19 42.0	
TASR	**Tashtagol**	**2.90**	**358**	Pg	**Pn**	**07 19 01.9**	**+2.3**
TASR				Sg	**Sg**	**07 19 43.1**	**-2.7**
ZSN	**Zaisan**	**3.20**	**222**	*e*PN	**Pn**	**07 19 05.9**	**+2.2**
ZSN				*e*		07 19 11.3	
ZSN				*e*		07 19 53.9	
ZSN	**Zaisan**	**3.20**	**222**	*e*P	**Pg**	**07 19 13.2**	**-0.9**
	860nm,0.3s						
ZSN				*e*S	**Sb**	**07 19 51.8**	**+2.4**
	6μm,0.9s						
ZSN	**Zaisan**	**3.20**	**222**	*e*Pn	**Pn**	**07 19 06.0**	**+2.2**
	baz=223						
ZSN				*i* Pb	**Pb**	**07 19 10.0**	**-0.1**
	baz=223						
ZSN				*e*Pg	**Pg**	**07 19 11.4**	**-2.7**
	baz=223						
ZSN				*e*Lg	Lg	07 19 53.9	
	baz=223						
DJO	**Djoy, Khakassi**	**3.54**	**33**	Pn	**Pn**	**07 19 09.7**	**+1.4**
DJO				Pg	**Pb**	**07 19 17.1**	**+1.2**
DJO				Sg	**Sg**	**07 20 04.1**	**-2.2**
ELT	**Eltsovka**	**3.58**	**343**	Pn	**Pn**	**07 19 10.2**	**+1.4**
ELT				Sg	**Sg**	**07 20 03.8**	**-3.7**
MALIN	**Malinovka, Kuz**	**3.59**	**353**	Pn	**Pn**	**07 19 10.8**	**+1.8**
MALIN				Sg	**Sg**	**07 20 04.3**	**-3.7**
DJOS	**Djoyskaya Sosn**	**3.61**	**35**	Pn	**Pn**	**07 19 11.6**	**+2.2**
DJOS				Pg	**Pb**	**07 19 19.0**	**+1.9**
DJOS				Sg	**Sg**	**07 20 06.5**	**-2.2**
TAIL	**Tailep, Kuzbas**	**3.62**	**352**	Pn	**Pn**	**07 19 09.9**	**+0.4**
TAIL				Pg	**Pb**	**07 19 18.2**	**+0.9**
TAIL				Sg	**Sg**	**07 20 06.3**	**-2.7**
CERR	**Cheremushki**	**3.67**	**34**	Pn	**Pn**	**07 19 12.5**	**+2.4**
CERR				Pg	**Pg**	**07 19 20.6**	**-2.4**
CERR				Sg	**Sg**	**07 20 10.1**	**-0.4**
LUZB	**Luzhba, Kemero**	**3.84**	**8**	Pn	**Pn**	**07 19 14.2**	**+1.7**
LUZB				Pg	**Pb**	**07 19 20.5**	**-0.4**
LUZB				Sg	**Sg**	**07 20 12.6**	**-3.3**
HVS	**Khovu-Aksy**	**3.84**	**69**	*i* PN	**Pb**	**07 19 20.2**	**-0.8**
HVS				*i* S	**Sb**	**07 20 09.6**	**+1.8**
VCHU	**Verkh-Chumysh,**	**4.21**	**347**	Pn	**Pn**	**07 19 19.7**	**+2.1**
VCHU				Pg	**Pg**	**07 19 30.5**	**-2.8**
VCHU				Sg	**Sb**	**07 20 20.7**	**+2.3**
ERU	**Erunakovo, Kuz**	**4.30**	**355**	Pn	**Pn**	**07 19 21.2**	**+2.4**
ERU				Pg	**Pg**	**07 19 32.0**	**-3.0**
ERU				Sg	**Sg**	**07 20 27.1**	**-3.5**
ARDR	**Aradan**	**4.35**	**49**	Pn	**Pn**	**07 19 20.1**	**+0.6**
ARDR				Pg	**Pb**	**07 19 30.9**	**+1.3**
ARDR				Sg	**Sb**	**07 20 27.2**	**+4.8**
KOTO	**Kotino, Kuzbas**	**4.38**	**351**	Pn	**Pn**	**07 19 22.8**	**+2.9**
KOTO				Pg	**Pb**	**07 19 31.2**	**+1.1**
KOTO				Sg	**Sg**	**07 20 29.5**	**-3.8**
ABNR	**Abakan**	**4.40**	**27**	*i* PN	**Pb**	**07 19 31.4**	**+0.9**
KZLR	**Kyzyl**	**4.47**	**63**	*i* PN	**Pb**	**07 19 32.3**	**+0.5**
KZLR				*i* S	**Sb**	**07 20 30.6**	**+4.6**
KZLR	**Kyzyl**	**4.47**	**63**	Sg	**Sb**	**07 20 30.8**	**+4.8**
ZAA0	**Zalesovo Array**	**4.54**	**335**		**Pn**	**07 19 22.4**	**+0.3**
ZAA0	**Zalesovo Array**	**4.54**	**335**	⇓Pn	**Pn**	**07 19 22.6**	**+0.5**
	23nm,0.5s						
ZAA0				⇑Lg	Lg	07 20 34.3	
	387nm,0.8s						
ZALV	**Zalesovo Beam**	**4.54**	**335**	Pn	**Pn**	**07 19 22.8**	**+0.7**
	34nm,0.3s,baz=156,slow=13,SNR=106						
ZALV				Lg	Lg	07 20 33.9	
	112nm,0.3s,baz=161,slow=31,SNR=6.1						
ZALV				LR	LR	07 21 16.2	
	comp=Z,2μm,18.6s,baz=156,slow=41						
	105nm,0.3s						
ZALV	**Zalesovo Beam**	**4.54**	**335**		**Pn**	**07 19 22.5**	**+0.4**
I46RU	**ZALESOVO INFRA**	**4.54**	**335**	Pn	**Pn**	**07 19 22.9**	**+0.8**
I46RU				Sn	**Sn**	**07 20 16.0**	**+0.7**
	baz=150,slow=26						
BJR1	**Bachatsky 1, K**	**4.54**	**345**	Pn	**Pn**

KEM	**Kemerovo**	**5.61**	**349**		Pn	**Pn**	**07 19 38.6**	**+1.8**
KEM					Sg	**Sg**	**07 21 07.2**	**-5.5**
NVSII	**Novosibirsk**	**5.78**	**331**		Pn	**Pn**	**07 19 40.5**	**+1.4**
NVSII					S	**Sn**	**07 20 47.4**	**+1.7**
NVSII					Sg	**Sg**	**07 21 18.5**	**+0.4**
WMQ	**Urumqi**	**6.05**	**182**	*e*	Pn	**Pn**	**07 19 46.0**	**+3.0**
WMQ					Sn	**Sn**	**07 20 55.9**	**+3.2**
WMQ	comp=Z,2μm,0.9s				smax	smax		
WMQ	comp=Z,2μm,1.3s				smax	smax		
WMQ	comp=Z,5μm,8.9s				LR	LR		
WMQ	comp=Z,6μm,11.9s				LR	LR		
WMQ	comp=Z,3μm,14.1s				LR	LR		
KURK	**Kurchatov**	**6.09**	**282**			**Pn**	**07 19 44.8**	**+1.4**
KURK	**Kurchatov**	**6.09**	**282**	*c i*	PN	**Pn**	**07 19 44.6**	**+1.3**
KURK	comp=Z,1μm,2.5s				pmax	pmax		
KURK	**Kurchatov**	**6.09**	**282**	⇓	Pn	**Pn**	**07 19 44.6**	**+1.3**
KURK	comp=Z,177nm,0.5s			⇑	Sn	**Sn**	**07 20 56.2**	**+2.9**
KURK	comp=Z,388nm,0.6s			⇓	Lg	Lg	07 21 24.6	
KNGR	**Kungurtug, Tuv**	**6.14**	**79**	*c i*	PN	**Pn**	**07 19 43.7**	**-0.4**
KNGR	comp=Z,33nm,0.8s				pmax	pmax		
KURBB	**Kurchatov Arra**	**6.14**	**281**		Pn	**Pn**	**07 19 45.9**	**+1.8**
KURBB	comp=Z,23nm,0.3s,baz=94,slow=14,SNR=293				Sn	**Sn**	**07 20 56.5**	**+2.0**
KURBB	comp=Z,18nm,0.3s,baz=90,slow=26,SNR=9.5				Lg	Lg	07 21 28.4	
KURBB	comp=Z,24nm,0.3s,baz=88,slow=32,SNR=6.0 **Kurchatov Arra**	**6.14**	**281**		PN	**Pn**	**07 19 45.5**	**+1.4**
KURBB							07 20 58.0	
KURBB	**Kurchatov Arra**	**6.14**	**281**	⇓	Pn	**Pn**	**07 19 45.4**	**+1.4**
KURBB	comp=Z,524nm,0.6s			⇑	Sn	**Sn**	**07 20 57.9**	**+3.3**
KURBB	comp=Z,807nm,0.6s			⇓	Lg	Lg	07 21 28.9	
DJR	**Jarkent**	**7.89**	**229**	*e*	P	Pb	07 20 36.0	+6.0
DJR	comp=Z,105nm,0.9s			*e*	S	**Sg**	**07 22 21.4**	**-4.4**
MOY	**Mondy**	**8.42**	**73**	*e*	P	Pb	07 20 31.5	-7.5
MOY	comp=Z,470nm,1.0s			*e*	S	**Sn**	**07 21 50.1**	**-0.7**
PDGK	**Podgornoye**	**8.79**	**225**		P	**Pn**	**07 20 20.9**	**+0.3**
PDGK	**Podgornoye**	**8.79**	**225**	⇓	Pn	**Pn**	**07 20 20.7**	**+0.1**
PDGK	comp=Z,205nm,0.8s			⇑	Lg	Lg	07 22 54.0	
SHLS	**Shalkode**	**8.94**	**225**	*e*	P	**Pn**	**07 20 20.0**	**-2.6**
SHLS	comp=Z,904nm,1.2s			*e*	S	**Sn**	**07 22 00.2**	**-3.4**
SHLS	**Shalkode**	**8.94**	**225**	*e*	P	**Pn**	**07 20 20.0**	**-2.6**
SHLS	baz=223			*e*	S	**Sn**	**07 22 00.3**	**-3.4**
ARXS	**Arharly**	**8.97**	**235**	*e*	P	**Pn**	**07 20 23.5**	**+0.5**
KPKS	**Kokpek**	**9.06**	**229**	*i*	P	**Pn**	**07 20 24.0**	**-0.3**
KPKS				*e*	S	**Sn**	**07 22 06.9**	**+0.1**
KPKS	**Kokpek**	**9.06**	**229**	*i*	P	**Pn**	**07 20 24.1**	**-0.3**
KPKS	baz=229			*e*	S	**Sn**	**07 22 06.9**	**+0.1**
UZB	**Uzynbulak**	**9.15**	**226**	*i*	P	**Pn**	**07 20 25.2**	**-0.3**
UZB				*e*	S	**Sn**	**07 22 07.3**	**-1.5**
UZB	**Uzynbulak**	**9.15**	**226**	*i*	P	**Pn**	**07 20 25.3**	**-0.3**
UZB	baz=226			*e*	S	**Sn**	**07 22 07.3**	**-1.5**
ZHN	**Zhinishke**	**9.41**	**228**	*e*	P	**Pn**	**07 20 28.6**	**-0.4**
ZHN	**Zhinishke**	**9.41**	**228**	*e*	P	**Pn**	**07 20 28.7**	**-0.4**
SATY	**Saty**	**9.50**	**228**	*i*	P	**Pn**	**07 20 30.1**	**-0.2**
SATY	baz=228			*e*	S	**Sn**	**07 22 16.8**	**-0.8**
SATY	**Saty**	**9.50**	**228**	*i*	P	**Pn**	**07 20 30.2**	**-0.2**
SATY	baz=228			*e*	S	**Sn**	**07 22 16.9**	**-0.8**
CHKK	**Chushkaly**	**9.66**	**236**	*e*	P	**Pn**	**07 20 31.9**	**-0.4**
CHKK				*e*	S	**Sn**	**07 22 19.2**	**-1.9**
CHKK	**Chushkaly**	**9.66**	**236**	*e*	P	**Pn**	**07 20 31.9**	**-0.4**
CHKK	baz=236			*e*	S	**Sn**	**07 22 19.2**	**-1.9**
ZAK	**Zakamensk**	**9.82**	**81**	*e*	P	Pn	07 20 42.2	+7.6
ZAK	comp=Z,86nm,0.9s				pmax	pmax		
BRZS	**Berezniki**	**9.90**	**277**	*i*	P	**Pn**	**07 20 34.6**	**-1.0**
BRZS	**Berezniki**	**9.90**	**277**	*i*	P	**Pn**	**07 20 34.7**	**-1.0**
KUU	**Kurty**	**9.98**	**238**	*i*	P	**Pn**	**07 20 36.4**	**-0.4**
KUU	**Kurty**	**9.98**	**238**	*i*	P	**Pn**	**07 20 36.5**	**-0.4**
MDOK	**Medeo**	**10.10**	**233**		P	**Pn**	**07 20 38.4**	**-0.2**
MDOK	**Medeo**	**10.10**	**233**	*i*	P	**Pn**	**07 20 38.5**	**-0.2**
MDOK	baz=233 **Medeo**	**10.10**	**233**	⇑	Pn	**Pn**	**07 20 38.5**	**-0.2**
MDOK	comp=Z,126nm,0.9s			⇓	Lg	Lg	07 23 37.5	
KNDC	comp=Z,634nm,1.2s **Almaty**	**10.11**	**233**		P	**Pn**	**07 20 41.3**	**+2.7**
KNDC	**Almaty**	**10.11**	**233**	⇑	Pn	**Pn**	**07 20 41.3**	**+2.7**
KNDC	comp=Z,167nm,0.8s			⇑	Lg	Lg	07 23 33.9	
AAA	comp=Z,1μm,1.2s **Alma-Ata**	**10.14**	**233**	*e*	P	**Pn**	**07 20 39.3**	**+0.3**
AAA	**Alma-Ata**	**10.14**	**233**	*e*	P	**Pn**	**07 20 39.4**	**+0.3**
OTUK	baz=233 **Ortayu**	**10.43**	**267**		P	**Pn**	**07 20 42.5**	**-0.4**
OTUK	**Ortayu**	**10.43**	**267**	⇑	Pn	**Pn**	**07 20 42.6**	**-0.4**
OTUK	comp=Z,106nm,0.8s			⇑	Lg	Lg	07 23 43.4	
BTLS	comp=Z,630nm,1.1s **Baital**	**10.62**	**248**	*e*	P	**Pn**	**07 20 45.3**	**-0.2**
BTLS	**Baital**	**10.62**	**248**	*e*	P	**Pn**	**07 20 45.4**	**-0.2**
TARG	baz=248 **Taragay, Kyrgy**	**10.81**	**225**		Pn	**Pn**	**07 20 50.8**	**+2.2**
TARG	**Taragay, Kyrgy**	**10.81**	**225**		P	**Pn**	**07 20 50.8**	**+2.2**
TKM2	**Tokmak 2**	**11.03**	**236**		P	**Pn**	**07 20 54.0**	**+2.6**
TKM2	SNR=6.2 **Tokmak 2**	**11.03**	**236**		P	**Pn**	**07 20 51.2**	**-0.2**
TKM2	**Tokmak 2**	**11.03**	**236**	⇓	Pn	**Pn**	**07 20 51.2**	**-0.2**
TKM2	comp=Z,58nm,0.9s			⇑	Lg	Lg	07 24 04.4	
BOOM	comp=Z,524nm,1.4s **Boomskoye usch**	**11.15**	**233**			**Pn**	**07 20 53.9**	**+0.9**
BOOM	**Boomskoye usch**	**11.15**	**233**		P	**Pn**	**07 20 53.9**	**+0.9**
ULHL	**Ulahol**	**11.18**	**231**		P	**Pn**	**07 20 56.3**	**+3.0**
SGDS	SNR=7.5 **Sogindy**	**11.21**	**240**	*e*	P	**Pn**	**07 20 52.4**	**-1.3**
USP	**Ospenovka**	**11.40**	**240**		P	**Pn**	**07 21 00.0**	**+3.7**
CHMS	SNR=7.2 **Chumysh**	**11.44**	**238**		P	**Pn**	**07 20 59.1**	**+2.3**
CHMS	SNR=17 **Chumysh**	**11.44**	**238**	⇑	Pn	**Pn**	**07 20 58.6**	**+1.9**
CHMS	comp=Z,50nm,0.7s			⇑	Lg	Lg	07 24 16.6	
BVA0	comp=Z,200nm,1.1s **Borovoye Array**	**11.45**	**293**	*e*	P	**Pn**	**07 20 55.9**	**-0.9**
BVA0				*e*			07 23 05.2	
BVA0	**Borovoye Array**	**11.45**	**293**	⇑	Pn	**Pn**	**07 20 55.7**	**-1.1**
BVA0	comp=Z,68nm,0.8s,baz=107,slow=14,SNR=115			⇑	Sn	**Sn**	**07 23 05.1**	**+0.1**
BVA0	comp=Z,89nm,0.8s,baz=98,slow=22,SNR=4.5			⇑	Lg	Lg	07 24 17.4	
BVAR	comp=Z,145nm,1.1s,baz=101,slow=24,SNR=4.7 **Borovoye Array**	**11.45**	**293**		Pn	**Pn**	**07 20 56.1**	**-0.7**
BVAR	comp=Z,4.5nm,0.3s,baz=105,slow=14,SNR=57				Sn	**Sn**	**07 23 00.4**	**-4.5**
BVAR	comp=Z,4.3nm,0.3s,baz=100,slow=25,SNR=6.3				LR	LR	07 25 53.6	
	comp=Z,677nm,20.8s,baz=98,slow=40 comp=Z,23nm,0.5s							
BRVK	**Borovoye**	**11.52**	**293**			**Pn**	**07 20 57.3**	**-0.4**
BRVK	**Borovoye**	**11.52**	**293**	*d i*	P	**Pn**	**07 20 57.2**	**-0.5**
BRVK	**Borovoye**	**11.52**	**293**	⇑	Pn	**Pn**	**07 20 56.7**	**-1.0**
BRVK	comp=Z,71nm,0.7s			⇓	Sn	**Sn**	**07 23 08.5**	**+1.9**
BRVK	comp=Z,80nm,0.7s			⇓	Lg	Lg	07 24 18.5	
	comp=Z,218nm,1.3s							

KBK	**Karagaybulak**	**11.56**	**236**		P	**Pn**	**07 21 01.8**	**+3.2**
AAK	SNR=31 **Ala-Archa**	**11.82**	**237**		P	**Pn**	**07 21 05.2**	**+3.1**
AAK	SNR=32 **Ala-Archa**	**11.82**	**237**		Pn	**Pn**	**07 21 03.4**	**+1.3**
AAK	comp=Z,14nm,0.3s,baz=94,slow=6.2,SNR=54				Sn	**Sn**	**07 23 10.6**	**-3.9**
AAK	comp=Z,1.0nm,0.3s,baz=152,slow=22,SNR=3.7				Lg	Lg	07 24 24.0	
AAK	comp=Z,0.6nm,0.3s,baz=312,slow=19,SNR=6.1				LR	LR	07 25 48.8	
AAK	comp=Z,805nm,19.8s,baz=40,slow=38 **Ala-Archa**	**11.82**	**237**			**Pn**	**07 21 02.6**	**+0.5**
AAK	**Ala-Archa**	**11.82**	**237**	*c i*	P	**Pn**	**07 21 04.6**	**+2.5**
NRN	**Naryn**	**11.90**	**229**			**Pn**	**07 21 06.4**	**+3.1**
NRN	**Naryn**	**11.90**	**229**		P	**Pn**	**07 21 06.4**	**+3.1**
UCH	**Uchtor**	**12.09**	**236**		P	**Pn**	**07 21 09.3**	**+3.2**
EKS2	SNR=11 **Erkin-Say**	**12.20**	**239**		P	**Pn**	**07 21 08.8**	**+1.5**
SONM	SNR=35 **Songino Array**	**12.27**	**93**		Pn	**Pn**	**07 21 08.4**	**+0.2**
SONM	comp=Z,0.4nm,0.3s,baz=282,slow=14,SNR=64				Pg		07 21 56.0	
SONM	comp=Z,1.0nm,0.3s,baz=285,slow=17,SNR=5.6				Lg	Lg	07 24 34.5	
SONM	comp=Z,2.4nm,0.3s,baz=283,slow=20,SNR=7.2				LR	LR	07 25 57.0	
SONM	comp=Z,1μm,18.8s,baz=287,slow=38 **Songino Array**	**12.27**	**93**			**Pn**	**07 21 08.2**	**0.0**
SONM	**Songino Array**	**12.27**	**93**		P	**Pn**	**07 21 08.2**	**0.0**
AML	**Almayashu**	**12.60**	**238**		P	**Pn**	**07 21 15.4**	**+2.4**
ULN	SNR=35 **Ulaanbaatar**	**12.69**	**92**			**Pn**	**07 21 14.3**	**+0.4**
ULN	**Ulaanbaatar**	**12.69**	**92**	*de*	P	**Pn**	**07 21 14.7**	**+0.8**
ULN	comp=Z,34nm,2.5s				pmax	pmax		
GTA	**Gaotai**	**13.39**	**137**	*e*	P	**Pn**	**07 21 24.0**	**+0.5**
GTA					pP	P	07 21 31.5	-1.7
GTA					sP		07 21 34.1	
GTA	comp=Z,6.0nm,1.5s				pmax	pmax		
GTA	comp=Z,65nm,5.6s				pmax	pmax		
GTA	comp=Z,3μm,11.6s				LR	LR		
GTA	comp=Z,6μm,11.6s				LR	LR		
GTA	comp=Z,2μm,13.1s				LR	LR		
KSH	comp=Z,9μm,14.4s **Kashi**	**13.42**	**224**		P	**P**	**07 21 32.3**	**-1.2**
KSH	comp=Z,38nm,1.1s				pmax	pmax		
KSH	comp=Z,4μm,13.7s				LR	LR		
KSH	comp=Z,9μm,14.4s				LR	LR		
KSH	comp=Z,2μm,13.7s				LR	LR		
DZA	**Taraz**	**13.46**	**245**	*e*	P	**Pn**	**07 21 22.7**	**-1.6**
DZA	**Taraz**	**13.46**	**245**	*e*	P	**Pn**	**07 21 22.7**	**-1.6**
KK31	baz=245 **Karatay Array**	**13.82**	**247**			**Pn**	**07 21 27.5**	**-1.7**
KK31	**Karatay Array**	**13.82**	**247**	*i*	P	**Pn**	**07 21 27.7**	**-1.5**
KK31	**Karatay Array**	**13.82**	**247**	⇑	Pn	**Pn**	**07 21 28.9**	**-0.4**
KK31	comp=Z,27nm,0.5s,baz=50,slow=15,SNR=284			⇓	Sn	**Sn**	**07 24 05.6**	**+2.6**
KK31	comp=Z,29nm,0.7s,baz=56,slow=23,SNR=6.7			⇑	Lg	Lg	07 25 33.9	
KKAR	comp=Z,91nm,0.8s,baz=50,slow=24,SNR=7.5 **Karatay Array**	**13.82**	**247**			**Pn**	**07 21 27.9**	**-1.3**
KKAR	**Karatay Array**	**13.82**	**247**			**Pn**	**07 21 27.3**	**-1.9**
KKAR	**Karatay Array**	**13.82**	**247**		P	**Pn**	**07 21 27.9**	**-1.3**
GOMU	**GeErMu**	**14.53**	**158**		P	**Pn**	**07 21 38.8**	**-0.5**
GOMU					S	**Sn**	**07 24 24.3**	**+3.4**
GOMU	comp=Z,5.0nm,0.7s				pmax	pmax		
GOMU	comp=Z,2μm,14.0s				LR	LR		
GOMU	comp=Z,2μm,11.9s				LR	LR		
GOMU	comp=Z,820nm,10.7s				LR	LR		
IUG	**Iuzhnay**	**14.67**	**245**	*i*	P	**Pn**	**07 21 41.2**	**+0.2**
IUG	**Iuzhnay**	**14.67**	**245**	*i*	P	**Pn**	**07 21 41.2**	**+0.2**
BTK	baz=245 **Batken**	**15.60**	**238**			**Pn**	**07 21 52.4**	**-1.0**
BTK	comp=Z,67nm,1.2s				IAmb	IAmb	07 22 00.1	
BTK	**Batken**	**15.60**	**238**		P	**Pn**	**07 21 52.4**	**-1.0**
BTK	comp=Z,67nm,1.2s				pmax	pmax		
GAR	**Garm**	**16.63**	**236**		Pn	**Pn**	**07 22 05.6**	**-1.1**
BOD	**Bodaibo**	**17.18**	**53**	*e*	P	**Pn**	**07 22 12.9**	**-0.5**
BOD	comp=Z,31nm,1.0s				pmax	pmax		
CHGR	**Chuyangaron**	**17.50**	**237**			**Pn**	**07 22 16.3**	**-1.3**
CHGR	**Chuyangaron**	**17.50**	**237**		P	**Pn**	**07 22 16.3**	**-1.3**
CHGR	comp=Z,141nm,1.0s				pmax	pmax		
LZH	**Lanzhou**	**17.94**	**134**	⇑	P	**Pn**	**07 22 22.1**	**-1.0**
LZH					sP	sP	07 22 27.8	+1.1
LZH	comp=Z,45nm,1.5s				pmax	pmax		
LZH	comp=Z,200nm,4.1s				pmax	pmax		
LZH	comp=Z,5μm,16.5s				LR	LR		
LZH	comp=Z,5μm,15.1s				LR	LR		
LZH	comp=Z,2μm,16.8s				LR	LR		
BTO	**Baotou**	**17.99**	**113**	*e*	P	**Pn**	**07 22 21.3**	**-2.3**
BTO					S	**Sn**	**07 25 43.8**	**-0.8**
BTO	comp=Z,4μm,7.6s				LR	LR		
BTO	comp=Z,3μm,5.4s				LR	LR		
AB31	**Akbulak array**	**18.19**	**279**	*i*	P	**Pn**	**07 22 25.6**	**-0.2**
AB31	**Akbulak array**	**18.19**	**279**	⇓	Pn	**Pn**	**07 22 25.6**	**-0.2**
ABKAR	comp=Z,18nm,0.7s,baz=83,slow=10,SNR=131 **Akbulak array**	**18.19**	**279**		Pn	**Pn**	**07 22 24.1**	**-1.7**
ABKAR	comp=Z,103nm,1.7s				IAmb	IAmb	07 22 30.6	
ABKAR	**Akbulak array**	**18.19**	**279**		Pn	**Pn**	**07 22 24.3**	**-1.5**
HHC	**Hu-ho-hao-te**	**18.78**	**110**	*e*	P	**P**	**07 22 32.5**	**-0.3**
HHC					S	**Sn**	**07 25 57.0**	**-6.5**
HHC					SS	**SnSn**	**07 26 21.8**	**+4.7**
HHC	comp=Z,40nm,0.9s				pmax	pmax		
HHC	comp=Z,2μm,6.7s				LR	LR		
HHC	comp=Z,3μm,7.0s				LR	LR		
HHC	comp=Z,2μm,7.9s				LR	LR		
AKTO	**Aktyubinsk**	**19.18**	**283**		P	**Pn**	**07 22 38.0**	**0.0**
AKTO	comp=Z,2.1nm,0.3s,baz=84,slow=12,SNR=56				S	**Sn**	**07 26 04.2**	**-8.8**
AKTO	comp=Z,4.3nm,0.8s,baz=72,slow=19,SNR=1.7				Lg	Lg	07 28 19.3	
AKTO	comp=Z,0.2nm,0.3s,baz=149,slow=19,SNR=2.0				LR	LR	07 30 29.0	
AKTO	comp=Z,553nm,18.7s,baz=84,slow=38 **Aktyubinsk**	**19.18**	**283**		P	**Pn**	**07 22 38.0**	**0.0**
AKTO	**Aktyubinsk**	**19.18**	**283**	⇓	Pn	**Pn**	**07 22 37.7**	**-0.2**
AKTO	comp=Z,62nm,0.8s			⇓	Lg	Lg	07 28 23.4	
CHCP	comp=Z,56nm,1.3s **Chirah Chowk**	**19.53**	**219**		P	**P**	**07 22 41.7**	**+0.7**
NRIK	**Noril'sk**	**19.53**	**360**		P	**P**	**07 22 41.2**	**+0.5**
NRIK	comp=Z,1.1nm,0.3s,baz=149,slow=8.9,SNR=12				Lg		07 28 29.5	
NRIK	comp=Z,0.1nm,0.3s,baz=242,slow=19,SNR=3.6				LR	LR	07 30 35.5	
NRIK	comp=Z,1μm,18.0s,baz=180,slow=38 comp=Z,9.0nm,0.6s							
NRIK	**Noril'sk**	**19.53**	**360**		P	**P**	**07 22 39.8**	**-1.0**
NRIK	**Noril'sk**	**19.53**	**360**	*ce*	P	**P**	**07 22 39.9**	**-0.9**
NRIK	comp=Z,70nm,3.3s				pmax	pmax		
NIL	**Nilore**	**19.54**	**219**		P	**P**	**07 22 41.1**	**0.0**
NIL	**Nilore**	**19.54**	**219**		P	**P**	**07 22 41.1**	**0.0**
NIL	comp=Z,135nm,0.9s				pmax	pmax		

CEP	**Cherat**	**19.96**	**223**		P	**P**	**07 22 46.5**	**+0.7**
XLT	**XiLinHaoTe**	**20.02**	**97**	⇓ *i*	P	Pn	07 22 47.9	-0.1
XLT					pP	sP	07 22 52.0	+2.6
XLT					sP	pP	07 22 57.8	+9.4
XLT					S	Sn	07 26 33.3	0.0
XLT	comp=Z,21nm,1.1s				pmax	pmax		
XLT	comp=Z,170nm,4.0s				pmax	pmax		
XLT	comp=Z,220nm,7.0s				LR	LR		
XLT	comp=Z,1μm,8.8s				LR	LR		
XLT	comp=Z,2μm,8.4s				LR	LR		
LSA	**Lhasa**	**20.28**	**172**			Pn	07 22 52.4	+0.7
LSA	**Lhasa**	**20.28**	**172**		P	Pn	07 22 52.4	+0.8
LSA	comp=Z,21nm,0.8s				pmax	pmax		
HIA	**Hailar**	**20.50**	**79**		P	**P**	**07 22 51.0**	**-0.5**
HIA	**Hailar**	**20.50**	**79**		P	**P**	**07 22 51.0**	**-0.5**
HIA	comp=Z,19nm,0.8s				pmax	pmax		
KBL	**Kabul**	**20.70**	**229**		P	**P**	**07 22 54.3**	**+0.3**
KBL	comp=Z,49nm,0.8s				IAmb	IAmb	07 22 59.3	
KBL	**Kabul**	**20.70**	**229**		P	**P**	**07 22 54.3**	**+0.3**
KBL	comp=Z,49nm,0.8s				pmax	pmax		
TIY	**Taiyuan**	**21.30**	**116**	⇓	P	**P**	**07 23 03.4**	**+3.2**
TIY					PP	**PnPn**	**07 23 25.5**	**+5.9**
TIY					S	Sn	07 27 02.8	-1.4
TIY	comp=Z,480nm,5.1s				LR	LR		
TIY	comp=Z,1μm,7.3s				LR	LR		
TIY	comp=Z,1μm,10.4s				LR	LR		
DANN	**Dangsing**	**21.74**	**190**	*e*	P	**P**	**07 23 07.5**	**+2.3**
GKN	comp=Z,148nm,1.0s **Gorkha**	**21.99**	**188**	*e*	P	**P**	**07 23 09.8**	**+2.0**
GUN	comp=Z,107nm,0.9s **Gumba**	**21.99**	**185**	*e*	P	**P**	**07 23 08.7**	**+0.7**
XAN	comp=Z,302nm,1.0s **Xi'an**	**22.06**	**128**	⇑	P	**P**	**07 23 07.5**	**-0.9**
XAN					pP	sP	07 23 17.8	+6.3
XAN					S	**S**	**07 27 13.6**	**+1.5**
XAN	comp=Z,14nm,0.9s				pmax	pmax		
XAN	comp=Z,3μm,13.6s				LR	LR		
XAN	comp=Z,3μm,13.6s				LR	LR		
XAN	comp=Z,3μm,10.2s				LR	LR		
PYUN	**Piuthan**	**22.08**	**192**	*e*	P	**P**	**07 23 10.4**	**+1.6**
BJI	comp=Z,257nm,0.9s **Beijing**	**22.09**	**106**		P	**P**	**07 23 09.5**	**+0.8**
BJI					S	**S**	**07 27 15.3**	**+2.8**
BJI	comp=Z,39nm,0.9s				pmax	pmax		
BJI	comp=Z,220nm,11.9s				LR	LR		
BJI	comp=Z,1μm,8.8s				LR	LR		
BJI	comp=Z,1μm,9.2s				LR	LR		
BJT	**Baijiatuau**	**22.10**	**106**		P	**P**	**07 23 10.0**	**+1.2**
BJT	comp=Z,30nm,0.8s				IAmb	IAmb	07 23 13.4	
BJT	**Baijiatuau**	**22.10**	**106**		P	**P**	**07 23 10.0**	**+1.2**
BJT	comp=Z,30nm,0.8s				pmax	pmax		
JIRN	**Jiri**	**22.22**	**184**	*e*	P	**P**	**07 23 10.4**	**-0.1**
CD2	comp=Z,281nm,1.1s **Chengdu**	**22.33**	**142**		P	**P**	**07 23 11.5**	**+0.2**
CD2					S	**S**	**07 27 19.1**	**+1.9**
CD2	comp=Z,40nm,1.0s				pmax	pmax		
CD2	comp=Z,3μm,12.6s				LR	LR		
CD2	comp=Z,4μm,12.8s				LR	LR		
CD2	comp=Z,2μm,10.3s				LR	LR		
DMN	**Daman**	**22.34**	**187**	*e*	P	**P**	**07 23 13.6**	**+1.9**
PKIN	comp=Z,112nm,0.7s **Phulchoki**	**22.35**	**186**	*e*	P	**P**	**07 23 12.8**	**+1.0**
PKI	comp=Z,64nm,0.7s **Pulchoki**	**22.36**	**186**	*e*	P	**P**	**07 23 12.7**	**+0.8**
TAPN	comp=Z,193nm,1.2s **Taplejung**	**22.49**	**181**	*e*	P	**P**	**07 23 13.9**	**+0.6**
HNS	comp=Z,207nm,1.2s **HongShan**	**22.85**	**113**	⇓	P	**P**	**07 23 18.5**	**+1.8**
HNS					S	**S**	**07 27 29.8**	**+3.3**
HNS	comp=Z,36nm,1.2s				pmax	pmax		
HNS	comp=Z,230nm,4.9s				pmax	pmax		
HNS	comp=Z,1μm,10.6s				LR	LR		
HNS	comp=Z,630nm,10.0s				LR	LR		
HNS	comp=Z,610nm,15.1s				LR	LR		
RAMN	**Ramite**	**22.91**	**183**	*e*	P	**P**	**07 23 19.1**	**+1.4**
LYN	comp=Z,142nm,0.9s **LuoYang**	**23.56**	**121**	*e*	P	**P**	**07 23 23.4**	**-0.6**
LYN	comp=Z,160nm,4.2s				pmax	pmax		
LYN	comp=Z,990nm,8.4s				LR	LR		
LYN	comp=Z,700nm,9.4s				LR	LR		
LYN	comp=Z,860nm,17.9s				LR	LR		
KIRV	**Kirov**	**23.89**	**306**		P	**P**	**07 23 26.4**	**-0.6**
KIRV	comp=Z,18nm,0.6s,baz=106,slow=8.0,SNR=8.1				LR	LR	07 33 30.1	
KIRV	comp=Z,1μm,18.3s,baz=97,slow=38 comp=Z,18nm,0.6s **Kirov**	**23.89**	**306**	*c i*	P	**P**	**07 23 26.2**	**-0.8**
ZEA	**Zeya**	**24.34**	**66**	*e*	P	**P**	**07 23 32.8**	**+1.5**
ZEA				*e*			07 27 54.9	
ZEA	comp=Z,20nm,0.6s				pmax	pmax		
ZEA	comp=E,700nm,8.0s				MLR	MLR		
ZEA	comp=Z,600nm,12.0s				MLR	MLR		
HRA	**Herat**	**24.43**	**240**		P	**P**	**07 23 33.4**	**+0.9**
HRA	comp=Z,33nm,1.2s				IAmb	IAmb	07 23 48.3	
GEYT	**Alibeck**	**24.46**	**252**		P	**P**	**07 23 34.5**	**+2.0**
GEYT	comp=Z,28nm,0.7s,baz=27,slow=5.0,SNR=35				LR	LR	07 33 04.2	
GEYT	comp=Z,261nm,18.1s,baz=64,slow=36 comp=Z,28nm,0.7s							
GEYT	**Alibeck**	**24.46**	**252**		P	**P**	**07 23 34.4**	**+1.8**
GEYT	comp=Z,34nm,0.8s				IAmb	IAmb	07 23 37.6	
GYA0	**ALIBECK ARRAY**	**24.46**	**252**		P	**P**	**07 23 34.4**	**+1.8**
GYA0B	**ALIBECK ARRAY**	**24.46**	**252**		P	**P**	**07 23 34.1**	**+1.6**
GYA0B					IAmb	IAmb	07 23 36.5	
TIA	comp=Z,27nm,0.7s **Tai'an**	**25.08**	**112**		P	**P**	**07 23 38.8**	**+0.7**
TIA	comp=Z,7.0nm,0.5s				pmax	pmax		
TIA	comp=Z,640nm,14.1s				LR	LR		
TIA	comp=Z,610nm,11.7s				LR	LR		
TIA	comp=Z,610nm,10.2s				LR	LR		
BELG	**Belogornoye**	**25.25**	**291**		P	**P**	**07 23 39.7**	**+0.3**
BELG	comp=Z,125nm,0.7s,baz=289,slow=1.6,SNR=38				LR	LR	07 33 55.2	
BELG	comp=Z,516nm,18.5s,baz=124,slow=37				pmax	pmax		
BELG	comp=Z,33nm,1.0s **Belogornoye**	**25.25**	**291**	*c i*	P	**P**	**07 23 40.1**	**+0.7**
PZH	**PanZhiHua**	**25.62**	**151**		P	**P**	**07 23 44.5**	**+1.3**
PZH					S	**S**	**07 28 09.5**	**-2.3**
PZH	comp=Z,20nm,1.0s				pmax	pmax		
PZH					pmax	pmax		

comp=Z,90nm,5.5s
PZH LR LR
comp=Z,1μm,14.5s
PZH LR LR
comp=Z,4μm,14.5s
PZH LR LR
comp=Z,2μm,20.0s
YAK Yakutsk 25.80 46 P **P 07 23 43.5 -0.9**
comp=Z,7.9nm,0.3s,baz=255,slow=1.2,SNR=4.6
YAK LR LR 07 34 13.2
comp=Z,445nm,21.7s,baz=269,slow=38
comp=Z,7.9nm,0.3s
YAK Yakutsk 25.80 46 P **P 07 23 42.5 -1.9**
YAK Yakutsk 25.80 46 *e*P **P 07 23 43.0 -1.4**
YAK *e**PP **pP 07 23 46.2 -0.5**
YAK *e* 07 24 18.8
YAK *e* 07 27 12.9
YAK *e*S **S 07 28 12.8 -1.1**
YAK *e**SS **pS 07 28 16.5 +0.6**
YAK *e* 07 34 43.7
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,21nm,1.2s
YAK pmax pmax
comp=Z,67nm,1.9s
YAK pmax pmax
comp=N,35nm,1.9s
YAK pmax pmax
comp=E,41nm,1.4s
YAK smax smax
comp=E,27nm,1.7s
YAK MLR MLR
comp=Z,397nm,16.0s
YAK MLR MLR
comp=N,283nm,18.0s
YAK MLR MLR
comp=E,122nm,14.0s
SNY Shenyang 25.84 94 ⇑P **P 07 23 46.6 +1.7**
SNY pmax pmax
comp=E,43nm,1.0s
SNY pmax pmax
comp=E,270nm,5.0s
SNY LR LR
comp=E,2μm,10.0s
SNY LR LR
comp=E,1μm,11.5s
SNY LR LR
comp=E,1μm,13.9s
PRGR Permogore 26.09 313 *e*P **P 07 23 47.6 +0.6**
PRGR *e*S **S 07 28 19.5 +1.0**
PRGR pmax pmax
comp=Z,36nm,0.9s
CN2 Changchun 26.11 89 *e*P **P 07 23 45.3 -2.1**
CN2 *e*PP **PnPn 07 24 25.4 +0.1**
CN2 *e*S **S 07 28 13.3 -5.8**
CN2 *e*SS **SnSn 07 29 17.3 +0.7**
CN2 LR LR
comp=Z,3μm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,1μm,14.0s
KMI Kunming 27.22 150 ⇓P **P 07 23 57.4 -0.4**
KMI pP sP 07 24 04.3 +3.4
KMI sP pP 07 24 07.5 +7.5
KMI pmax pmax
comp=Z,10.0nm,1.2s
KMI LR LR
comp=Z,1μm,15.7s
KMI LR LR
comp=Z,3μm,16.1s
KMI LR LR
comp=Z,550nm,21.1s
BRDH Bariadhala 27.29 173 LR LR 07 37 09.1
comp=Z,447nm,19.0s,baz=88,slow=42
GYA Guiyang 27.44 142 P **P 07 23 57.5 -2.1**
GYA pP sP 07 24 05.0 +2.2
GYA S **S 07 28 37.5 -3.0**
GYA pmax pmax
comp=Z,300nm,4.7s
GYA LR LR
comp=Z,2μm,11.2s
KLR Kul'dur 28.08 74 P **P 07 24 03.7 -1.3**
comp=Z,1.3nm,0.6s,baz=303,slow=9.4,SNR=5.9
comp=Z,1.3nm,0.6s
KLR Kul'dur 28.08 74*ce*P **P 07 24 03.7 -1.3**
KLR pmax pmax
comp=Z,13nm,2.5s
MAK Makhachkala 28.50 272 *e*P P 07 24 03.7 -5.1
MAK *e*S **S 07 28 49.9 -6.9**
MAK pmax pmax
comp=Z,272nm,1.4s
MAK MLR MLR
comp=Z,814nm,13.0s
TIXI Tiksi 28.57 26 P **P 07 24 08.0 -1.2**
comp=Z,5.2nm,0.6s,baz=272,slow=20,SNR=6.1
TIXI LR LR 07 36 04.4
comp=Z,1μm,19.5s,baz=182,slow=38
comp=Z,5.2nm,0.6s
TIXI Tiksi 28.57 26 P **P 07 24 07.4 -1.7**
TIXI IAmb IAmb 07 24 32.8
comp=Z,15nm,1.2s
TIXI Tiksi 28.57 26*de*P **P 07 24 07.9 -1.2**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 28.99 311 *e*P **P 07 24 11.6 -1.4**
KLMR S **S 07 29 07.3 +3.1**
KLMR pmax pmax
comp=Z,34nm,1.4s
KLMR MLR MLR
comp=Z,1μm,14.0s
KLMR Klimovskoe 28.99 311 *e*P **P 07 24 11.6 -1.4**
KLMR *e*P **P 07 24 11.6 -1.4**
KLMR *e*P **P 07 24 11.6 -1.4**
KLMR AMP 07 24 21.2
comp=Z,34nm,1.4s
KLMR S **S 07 29 07.3 +3.1**
KLMR S **S 07 29 07.3 +3.1**
KLMR LQ LQ 07 34 01.3
KLMR LQ LQ 07 34 01.3
KLMR LR LR 07 34 22.9
KLMR AMP 07 36 39.4
comp=Z,1μm,13.8s
NJ2 Nanjing 29.02 116 *e*P **P 07 24 12.6 -0.9**
NJ2 pmax pmax
comp=Z,12nm,0.5s
VRH Novokhopyorsk 29.09 291 *e*P **P 07 24 15.0 +1.1**
VRH pmax pmax
comp=Z,20nm,0.5s
GROC Groznyy 29.49 273 *e*P **P 07 24 16.4 -1.2**
GROC *e* 07 25 09.9
GROC MLR MLR
comp=Z,327nm,9.0s
USRK Ussuriysk Ar. 30.15 84 P **P 07 24 23.4 0.0**
comp=Z,10nm,1.0s,baz=287,slow=7.3,SNR=12
USRK LR LR 07 36 56.8
comp=Z,310nm,20.5s,baz=289,slow=38
comp=Z,10nm,1.0s
LPSR Galich'ya Gora 30.39 294 *e*P **P 07 24 27.0 +1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.5s
MOS Moscow 30.45 301 *e*P **P 07 24 26.3 +0.3**
MOS *e* 07 25 30.8
MOS *e*S **S 07 29 29.7 +2.5**
MOS MLR MLR
comp=Z,400nm,19.0s
VORR Voronezh 30.47 292 *e*P **P 07 24 29.0 +2.8**
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 30.63 292 *e*P **P 07 24 28.9 +1.3**
VSR pmax pmax
comp=Z,30nm,1.3s
NCK Nalchik 30.77 275⇑ *e*P **P 07 24 29.1 +0.1**
NCK pmax pmax
comp=Z,13nm,1.0s
ZEI Tsey 30.91 274 *e*P **P 07 24 28.6 -1.8**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
KSRS Korea Array 31.05 98 P **P 07 24 31.4 -0.1**
comp=Z,3.4nm,0.6s,baz=300,slow=7.2,SNR=7.3
KSRS LR LR 07 38 00.9
comp=Z,559nm,19.8s,baz=300,slow=38
comp=Z,3.4nm,0.6s

KBZ Khabaz 31.11 276 P **P 07 24 33.4 +1.5**
comp=Z,3.9nm,0.7s,baz=46,slow=7.6,SNR=6.2
KBZ LR LR 07 38 12.3
comp=Z,457nm,21.0s,baz=89,slow=38
comp=Z,3.9nm,0.7s
KBZ Khabaz 31.11 276 *i* P **P 07 24 32.6 +0.7**
KBZ pmax pmax
comp=Z,12nm,1.5s
KVAR Kislovodsk Arr 31.14 277 LR LR 07 38 02.9
comp=Z,543nm,18.4s,baz=30,slow=38
KIV Kislovodsk 31.15 277 *e*P **P 07 24 34.8 +2.4**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,341nm,15.0s
OBN Obninsk 31.16 300 LR LR 07 37 32.2
comp=Z,98nm,21.2s,baz=39,slow=37
OBN Obninsk 31.16 300 *e*P **P 07 24 32.8 +0.6**
OBN *e*PPP PPP 07 25 41.1
OBN *e* 07 27 32.5
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,359nm,19.0s
NEY Neytrino 31.45 275⇓ *e*P **P 07 24 37.7 +2.5**
NEY pmax pmax
comp=Z,5.0nm,0.8s
GNI Garni 31.71 269 LR LR 07 38 25.8
comp=Z,167nm,21.9s,baz=86,slow=38
GNI Garni 31.71 269⇓ *e*P **P 07 24 39.0 +1.6**
GNI pmax pmax
comp=Z,15nm,1.1s
APA Apatity 32.02 324⇓ *i*P **P 07 24 44.3 +4.6**
APA pmax pmax
comp=Z,3.0nm,1.0s
APA MLR MLR
comp=Z,2μm,13.0s
CHTO Chiang Mai 32.20 160 P **P 07 24 42.1 +0.5**
CHTO Chiang Mai 32.20 160 P **P 07 24 42.2 +0.5**
CHTO pmax pmax
comp=Z,1.0nm,1.4s
CMAR Chiang Mai Arr 32.54 160 P **P 07 24 45.2 +0.6**
comp=Z,4.5nm,0.9s,baz=344,slow=9.3,SNR=23
CMAR PP **PnPn 07 25 51.5 -0.4**
comp=Z,2.7nm,0.8s,baz=331,slow=11,SNR=4.6
CMAR LR LR 07 39 23.8
comp=Z,137nm,18.1s,baz=0.0,slow=39
comp=Z,4.5nm,0.9s
CMAR Chiang Mai Arr 32.54 160 P **P 07 24 44.1 -0.6**
PHRA Phrae 32.80 158 P **P 07 24 48.3 +1.4**
ANN Anapa 34.12 281 *e*P **P 07 25 00.8 +2.6**
ANN pmax pmax
comp=Z,104nm,1.1s
ANN MLR MLR
comp=Z,529nm,14.0s
ARCES ARCESS Array B 35.04 327 P **P 07 25 08.0 +2.0**
comp=Z,2.4nm,1.0s,baz=90,slow=8.1,SNR=1.7
ARCES LR LR 07 42 52.5
comp=Z,182nm,19.3s,baz=94,slow=42
WSAR Wadi Sarin 35.15 232 LR LR 07 40 45.0
comp=Z,408nm,18.5s,baz=72,slow=38
QIZ Qiongzhong 35.37 143 P **P 07 25 08.9 -0.4**
QIZ S **S 07 30 43.9 -0.3**
QIZ pmax pmax
comp=Z,20nm,1.2s
QIZ LR LR
comp=Z,920nm,15.1s
QIZ LR LR
comp=Z,2μm,15.1s
QIZ LR LR
comp=Z,1μm,15.1s
FIA1 FINESS Array S 35.42 313 P **P 07 25 10.5 +1.2**
FIA1 IAmb IAmb 07 25 17.6
comp=Z,30nm,1.4s
FINES FINESS Array B 35.42 313 P **P 07 25 08.5 -0.8**
comp=Z,2.2nm,0.4s,baz=79,slow=8.9,SNR=14
FINES LR LR 07 41 05.6
comp=Z,163nm,19.7s,baz=81,slow=39
comp=Z,2.2nm,0.4s
FINES FINESS Array B 35.42 313 P **P 07 25 10.3 +1.0**
VSU Vasula 35.71 308⇑ *e*P **P 07 25 11.5 -0.3**
VSU pmax pmax
comp=Z,79nm,1.0s
KTK1 Kautokeino 35.85 326 *e*P **P 07 25 12.7 -0.3**
MARD Mardin 35.86 268 P **P 07 25 14.0 +0.5**
MNK Minsk 36.17 301 *i* P P 07 25 23.1 +7.2
MNK *i* 07 26 44.7
MNK *i* PPP PPP 07 26 58.8
MNK *i* 07 27 38.7
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,27nm,0.9s
MNK MLR MLR
comp=E,37nm,15.0s
MNK MLR MLR
comp=Z,262nm,15.0s
MNK Minsk 36.17 301 *i* P P 07 25 23.1 +7.3
comp=E,3.0nm,0.9s
MNK *i* P P 07 25 23.1 +7.3
MNK *i* P P 07 25 23.1 +7.3
comp=Z,27nm,0.9s,baz=72
MNK *i* PP **PP 07 26 44.7 +6.9**
MNK *i* PPP PPP 07 26 58.9
MNK *i* S S 07 31 11.2 +15
MNK *i* LQ LQ 07 37 27.9
MNK *i* LR LR 07 39 16.5
MNK *i* LRM MLR 07 39 47.6
MNK *i* LRM MLR 07 40 25.6
comp=E,37nm,15.4s
MNK *i* LRM MLR 07 40 31.4
comp=Z,262nm,15.4s
MA2 Magadan 36.18 50 LR LR 07 40 12.9
comp=Z,93nm,21.2s,baz=266,slow=37
MA2 Magadan 36.18 50⇑ *e*P **P 07 25 15.4 -0.5**
MA2 pmax pmax
comp=Z,26nm,1.1s
SEY Seymchan 36.29 44 P **P 07 25 14.7 -2.0**
comp=Z,2.1nm,0.7s,baz=263,slow=15,SNR=4.7
comp=Z,2.1nm,0.7s
NACGM Naroch 36.66 302⇑ *e*P **P 07 25 21.3 +1.3**
baz=71
AKASG Malin Array Be 36.72 295 P **P 07 25 19.9 -0.7**
comp=Z,1.4nm,0.3s,baz=59,slow=8.8,SNR=18
AKASG PP **PnPn 07 26 42.0 -1.6**
comp=Z,3.6nm,0.7s,baz=60,slow=10,SNR=5.0
AKASG LR LR 07 40 45.7
comp=Z,501nm,20.3s,baz=70,slow=37
comp=Z,1.4nm,0.3s
AKBB Malin Array Si 36.72 295 P **P 07 25 20.2 -0.3**
AKBB IAmb IAmb 07 25 23.1
comp=Z,18nm,1.1s
AKBB Malin Array Si 36.72 295⇑ *e*P **P 07 25 22.2 +1.7**
JETT Jettan, Norway 36.83 327 *e*P **P 07 25 21.4 0.0**
SPITS Spitsbergen Ar 38.00 341 LR LR 07 43 17.8
comp=Z,372nm,20.4s,baz=50,slow=40
MJAR Matsushiro Arr 38.22 91 LR LR 07 41 03.7
comp=Z,183nm,20.7s,baz=310,slow=36
JOW Kunigami 38.41 112 LR LR 07 42 28.9
comp=Z,244nm,18.3s,baz=268,slow=38
MILM Milestii Mici 38.54 289 ⇑P **P 07 25 38.1 +2.1**
MILM Milestii Mici 38.54 289 ⇑P **P 07 25 38.1 +2.1**
STEI Steigen 38.90 325 *e*P **P 07 25 38.6 -0.1**
STEI IAmb IAmb 07 25 46.7
comp=Z,14nm,0.9s
FAUS Fauske 38.98 324 *e*P **P 07 25 39.3 -0.1**
FAUS IAmb IAmb 07 25 45.0
comp=Z,16nm,1.0s
BR131 Keskin Array S 39.11 276 P **P 07 25 42.0 +1.0**
BR131 IAmb IAmb 07 25 46.5
comp=Z,16nm,0.8s
BR131 Keskin Array S 39.11 276*de*P **P 07 25 41.4 +0.4**
BRTR Keskin Array B 39.11 276 P **P 07 25 41.2 +0.2**
comp=Z,7.3nm,0.8s,baz=96,slow=7.6,SNR=22
BRTR LR LR 07 44 50.4
comp=Z,287nm,20.7s,baz=66,slow=41
comp=Z,7.3nm,0.8s
BRTR Keskin Array B 39.11 276 P **P 07 25 41.5 +0.5**
CFR Carcaliu 39.77 287 ⇑P **P 07 25 46.1 -0.2**
CFR Carcaliu 39.77 287 ⇑P **P 07 25 46.1 -0.2**
KONS Konsvik 40.00 323 *e*P **P 07 25 48.0 +0.1**
KONS IAmb IAmb 07 25 58.3
comp=Z,48nm,1.4s
TESR Tescani 40.05 290 ⇑P **P 07 25 51.2 +2.6**
BIZ Bicaz 40.18 290 ⇑P **P 07 25 51.9 +2.2**
VRI Vrincioaia 40.31 289 ⇓P **P 07 25 53.2 +2.4**

VRI Vrincioaia 40.31 289 ⇓P **P 07 25 53.2 +2.4**
KLNR Kaliningrad 40.34 304⇑ *e*P **P 07 25 51.3 +0.5**
KLNR pmax pmax
comp=Z,34nm,0.4s
PLOR Plostina 40.36 289 ⇑P **P 07 25 54.6 +3.3**
PLOR Plostina 40.36 289 ⇑P **P 07 25 54.6 +3.3**
BUR08 Bucovina Ar. S 40.40 292 P **P 07 25 52.2 +0.6**
BURAR Bucovina Array 40.40 292 ⇑P **P 07 25 54.5 +2.8**
BURAR Bucovina Array 40.40 292 P **P 07 25 53.6 +1.9**
BURAR Bucovina Array 40.40 292 ⇑P **P 07 25 54.5 +2.8**
COVR Voineasa-Covas 40.64 289 ⇑P **P 07 25 55.9 +2.4**
BILL Bilibino 40.88 34 *e*P **P 07 25 54.6 -0.7**
BILL *e* 07 27 31.0
BILL *e*PPP PPP 07 27 52.3
BILL pmax pmax
comp=Z,64nm,2.9s
BILL MLR MLR
comp=Z,203nm,21.0s
MLR Muntele Rosu 40.97 289 ⇑P **P 07 25 57.1 +0.7**
MLR Muntele Rosu 40.97 289 LR LR 07 44 59.2
comp=Z,288nm,18.8s,baz=54,slow=39
MLR Muntele Rosu 40.97 289 P **P 07 25 57.5 +1.0**
MLR IAmb IAmb 07 26 06.2
comp=Z,34nm,1.4s
MLR Muntele Rosu 40.97 289 ⇑P **P 07 25 57.1 +0.7**
ARCR ARCALIA 41.17 292 ⇑P **P 07 26 00.0 +2.1**
VOIR 41.55 289 ⇑P **P 07 26 00.8 -0.3**
VOIR 41.55 289 ⇑P **P 07 26 00.8 -0.3**
KOLS Kolonicke sedl 41.55 295 *e*P **P 07 26 03.4 +2.4**
KOLS pmax pmax
comp=Z,12nm,1.3s
KOLS Kolonicke sedl 41.55 295 *e*P **P 07 26 03.4 +2.4**
KOLS *e*PP **PP 07 27 36.6 0.0**
HFS Hagfors 41.62 313 LR LR 07 42 23.7
comp=Z,244nm,18.8s,baz=70,slow=35
UZH Uzhgorod 41.67 295 *e*P **P 07 26 02.0 0.0**
UZH *e* 07 26 09.4
UZH *i* 07 27 34.6
TRPA Tarpa 41.76 294 ⇑P **P 07 26 06.3 +3.6**
TRPA Tarpa 41.76 294 P **P 07 26 04.7 +2.0**
PETK Petropavlovsk- 41.94 58 P **P 07 26 03.5 -0.6**
comp=Z,4.7nm,0.8s,baz=233,slow=11,SNR=7.5
PETK LR LR 07 43 19.2
comp=Z,215nm,19.5s,baz=294,slow=36
comp=Z,4.7nm,0.8s
MMAI Mount Meron Ar 41.97 267 LR LR 07 46 04.9
comp=Z,228nm,18.9s,baz=305,slow=40
BLEU Blekinge 41.99 308 *i* P **P 07 26 02.9 -1.6**
CRVS Cervenica-Dubn 42.04 295 *e*P **P 07 26 08.0 +3.0**
CRVS *e* 07 27 42.3
CRVS Cervenica-Dubn 42.04 295 *e*P **P 07 26 08.0 +3.0**
CRVS *e*PP **PP 07 27 42.3 +0.4**
NC405 NORSAR Array S 42.19 315 P **P 07 26 05.6 -0.5**
DRGR 42.30 292 ⇑P **P 07 26 08.1 +0.9**
DRGR 42.30 292 ⇑P **P 07 26 08.1 +0.9**
LOT Lotru 42.32 290 ⇑P **P 07 26 08.9 +1.5**
OJC Ojcow 42.40 298 *e*P **P 07 26 06.7 -1.2**
OJC Ojcow 42.40 298 P **P 07 26 08.6 +0.7**
OJC Ojcow 42.40 298 P **P 07 26 08.6 +0.7**
OJC pmax pmax
comp=Z,10.0nm,0.8s
NC602 NORSAR Array S 42.41 315 *e*P **P 07 26 07.3 -0.6**
NC602 IAmb IAmb 07 26 08.2
comp=Z,8.9nm,0.8s
NB2 NORSAR Subarra 42.45 315 P **P 07 26 06.9 -1.3**
comp=Z,3.4nm,0.8s,baz=61,slow=7.9
NB2 NORSAR Subarra 42.45 315 P **P 07 26 06.9 -1.3**
baz=61,slow=7.9
NOA NORSAR Array B 42.45 315 P **P 07 26 07.1 -1.1**
comp=Z,4.1nm,1.0s,baz=64,slow=7.7,SNR=25
NOA LR LR 07 45 09.4
comp=Z,195nm,19.4s,baz=70,slow=38
comp=Z,4.1nm,1.0s
NIE Niedzica 42.47 296 *e*P **P 07 26 10.1 +1.5**
PALK Pallekele 42.90 191 LR LR 07 45 23.4
comp=Z,193nm,21.9s,baz=98,slow=38
DEL Delary 42.92 308 *i* P **P 07 26 11.0 -1.0**
BSD Bornholm Skovb 42.94 306 *i* P **P 07 26 13.5 +1.3**
BSD IAmb IAmb 07 26 20.1
comp=Z,10nm,0.7s
GZR Gura Zlata 42.95 290 ⇑P **P 07 26 13.5 +1.0**
GZR Gura Zlata 42.95 290 ⇑P **P 07 26 13.5 +1.0**
DOMB Dombas 43.04 317 *e*P **P 07 26 12.6 -0.4**
DOMB IAmb IAmb 07 26 19.7
comp=Z,9.4nm,0.9s
SIRR Siria 43.19 292 ⇑P **P 07 26 15.9 +1.5**
STRU Stroemstad 43.22 313 *i* P **P 07 26 16.7 +2.3**
FABU Falkenberg 43.28 309 *i* P **P 07 26 13.5 -1.4**
PSZ Piszkesteto 43.42 295 P **P 07 26 19.8 +3.5**
LUNU Lund 43.48 307 *i* P **P 07 26 14.7 -1.9**
BJUU Bjuv 43.51 308 *i* P **P 07 26 16.1 -0.7**
ONAU Onsala 43.52 310 *i* P **P 07 26 19.6 +2.8**
BZS Buzias 43.54 291 ⇓P **P 07 26 17.6 +0.4**
BZS Buzias 43.54 291 ⇓P **P 07 26 17.6 +0.4**
KONO Kongsberg 43.72 314⇑ *e*P **P 07 26 19.0 +0.6**
KONO pmax pmax
comp=Z,15nm,1.5s
VYHS Vyhne 43.76 296 *e*P **P 07 26 22.0 +3.0**
VYHS pmax pmax
comp=Z,32nm,1.9s
VYHS Vyhne 43.76 296 *e*P **P 07 26 22.0 +3.0**
VYHS *e*PP **PP 07 28 02.0 +1.5**
MORC Moravsky Berou 43.89 298 ⇑P **P 07 26 22.9 +2.9**
MORC Moravsky Berou 43.89 298 P **P 07 26 20.7 +0.7**
MORC Moravsky Berou 43.89 298 *e*P **P 07 26 22.3 +2.3**
MORC *e* 07 28 02.0
MORC Moravsky Berou 43.89 298 P **P 07 26 20.7 +0.7**
MORC pmax pmax
comp=Z,7.0nm,0.9s
AKN Aaknes 43.89 318 *e*P **P 07 26 19.8 0.0**
SKAR Skarslia 43.90 316 *e*P **P 07 26 20.0 0.0**
SKAR IAmb IAmb 07 26 26.5
comp=Z,7.9nm,0.6s
BLKB Belogradchik 43.93 288 ⇑P **P 07 26 17.6 -2.8**
KSP Ksiaz 44.09 300 *e*P **P 07 26 25.1 +3.5**
KRLC Kraliky 44.18 299 *e*P **P 07 26 24.5 +2.2**
KRLC Kraliky 44.18 299 *e*P **P 07 26 24.5 +2.2**
JAVC Velka Javorina 44.26 297 *e*P **P 07 26 26.7 +3.7**
DPC Dobruska-Polom 44.31 299 *e*P **P 07 26 24.2 +0.8**
DPC Dobruska-Polom 44.31 299 *e*P **P 07 26 24.2 +0.8**
UPC Upice 44.41 300 *e*P **P 07 26 26.5 +2.4**
UPC Upice 44.41 300 *e*P **P 07 26 26.5 +2.4**
EIL Elat 44.45 263 LR LR 07 48 28.3
comp=Z,197nm,19.9s,baz=84,slow=41
BOVS Bovan 44.52 289 ⇑P **P 07 26 23.4 -1.7**
VRAC Vranov 44.66 298 LR LR 07 45 57.4
comp=Z,534nm,19.1s,baz=82,slow=37
VRAC Vranov 44.66 298 *e*P **P 07 26 27.4 +1.3**
HOMB Homborsund 44.81 312 *i* P **P 07 26 31.0 +3.9**
HOMB Homborsund 44.81 312 *e*P **P 07 26 27.2 +0.1**
KRUC Moravsky 44.89 298 *e*P **P 07 26 30.8 +2.8**
MORH Mrgy, Hungar 45.02 293 ⇑P **P 07 26 31.6 +2.6**
MORH Mrgy, Hungar 45.02 293 P **P 07 26 30.5 +1.5**
MUD Monsted U'grnd 45.28 310 *i* P **P 07 26 30.0 -0.9**
BRG Berggiesshubel 45.39 301 *e*P **P 07 26 34.5 +2.6**
BRG Amp 07 26 35.6
comp=Z,5.0nm,0.7s
BRG PP PP 07 28 36.1 +18
BRG Amp 07 28 39.4
comp=Z,6.1nm,1.1s
BRG *ex* x 07 40 15.0
BRG Amp 07 40 18.2
comp=Z,8.2nm,1.2s
BRG Amp 07 46 35.0
comp=Z,0.6nm,9.2s
BRG Amp 07 46 40.0
comp=E,0.3nm,9.3s
BRG Amp 07 46 41.0
comp=N,0.3nm,8.4s
BRG Berggiesshubel 45.39 301 *e*P **P 07 26 34.4 +2.6**
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG MLR MLR
comp=Z,604nm,9.2s
BRG MLR MLR
comp=E,317nm,9.3s
BRG MLR MLR
comp=N,270nm,8.4s
KOVH Kovagotottos 45.41 293 P **P 07 26 34.3 +2.2**
RONA Rosalia, Austr 45.63 296 *e*P **P 07 26 37.4 +3.4**
comp=N,16nm,1.1s
CLL Collm 45.69 302 P **P 07 26 33.8 -0.5**
CLL IAmb IAmb 07 26 37.4

	comp=Z,11nm,0.6s							
CLL	**Collm**	**45.69**	**302**	*e*P		**P**	**07 26 34.0**	**-0.3**
CLL				*e*S		**S**	**07 33 23.0**	**+5.5**
CLL				pmax	pmax			
	comp=Z,11nm,0.9s							
CLL	**Collm**	**45.69**	**302**	*e*P		**P**	**07 26 34.0**	**-0.3**
	comp=Z,11nm,0.9s							
CLL				*e*sP		**sP**	**07 26 41.0**	**+3.3**
CLL				*e*PP		**PP**	**07 28 22.0**	**+1.1**
CLL				*e*S		**S**	**07 33 23.0**	**+5.5**
CLL				*e*SS		**SS**	**07 36 49.0**	**+7.9**
CLL				LmH			07 44 00.0	
	comp=N,300nm,18.5s							
CLL				LmH			07 44 00.0	
	comp=E,300nm,18.7s							
CONA	**Conrad Observa**	**45.77**	**297**	*e*P		**P**	**07 26 38.7**	**+3.6**
	comp=E,6.9nm,0.8s							
CKRC	**Cesky Krumlov**	**46.20**	**298**	*e*P		**P**	**07 26 41.2**	**+2.8**
ARSA	**Arzberg**	**46.31**	**296**	*i* P		**P**	**07 26 42.2**	**+2.9**
	comp=E,5.5nm,1.0s							
KHC	**Kasperske Hory**	**46.46**	**299**	*e*P		**P**	**07 26 42.7**	**+2.3**
KHC				*e*			07 28 29.0	
KHC	**Kasperske Hory**	**46.46**	**299**	*e*P		**P**	**07 26 42.7**	**+2.3**
KHC				*e*PP		**PP**	**07 28 29.0**	**-0.2**
GERES	**GERESS Array B**	**46.54**	**299**	P		**P**	**07 26 41.9**	**+0.8**
	comp=E,1.6nm,0.7s,baz=71,slow=8.6,SNR=11							
GERES				PP		**PP**	**07 28 30.9**	**+0.8**
	comp=E,3.2nm,1.0s,baz=73,slow=11,SNR=3.2							
GERES				LR		LR	07 47 05.2	
	comp=E,514nm,20.8s,baz=86,slow=37							
	comp=E,1.6nm,0.7s							
GERES	**GERESS Array B**	**46.54**	**299**	P		**P**	**07 26 41.3**	**+0.2**
GERES	**GERESS Array B**	**46.54**	**299**	P		**P**	**07 26 41.3**	**+0.2**
MOA	**Molln**	**46.73**	**297**	*i* P		**P**	**07 26 44.7**	**+2.1**
	comp=E,9.7nm,1.1s							
SOKA	**Soboth**	**46.90**	**296**	*i* P		**P**	**07 26 45.1**	**+1.2**
	comp=E,4.7nm,0.7s							
JCJ	**Chichijima**	**46.91**	**98**	LR		LR	07 46 57.3	
	comp=E,195nm,19.5s,baz=118,slow=37							
BIOA	**Bad Ischl, Aus**	**47.17**	**297**	*e*P		**P**	**07 26 48.5**	**+2.5**
	comp=E,9.0nm,1.0s							
OBKA	**Obir**	**47.27**	**296**	*e*P		**P**	**07 26 49.4**	**+2.5**
	comp=E,11nm,0.9s							
PSI	**Prapat**	**47.81**	**165**	LR		LR	07 48 56.1	
	comp=E,141nm,18.8s,baz=318,slow=38							
ABTA	**Abfaltersbach**	**48.33**	**297**	*e*P		**P**	**07 26 57.1**	**+2.1**
	comp=E,8.7nm,1.0s							
WTTA	**Wattenberg**	**48.55**	**298**	*e*P		**P**	**07 26 57.4**	**+0.6**
	comp=E,5.0nm,0.6s							
CIMO	**Cimolais**	**48.61**	**297**	P		**P**	**07 26 58.6**	**+1.5**
CIMO				IAmb		IAmb	07 27 00.9	
	comp=Z,9.7nm,0.9s							
MOTA	**Moosalm**	**48.81**	**298**	*i* P		**P**	**07 27 01.6**	**+2.8**
	comp=Z,13nm,1.2s							
SQTA	**Sankt Quirin**	**48.82**	**298**	*e*P		**P**	**07 27 01.7**	**+2.9**
	comp=Z,4.8nm,0.6s							
RETA	**Reutte**	**48.92**	**299**	*e*P		**P**	**07 27 01.6**	**+2.0**
	comp=Z,6.1nm,0.8s							
FETA	**Feichten**	**49.20**	**298**	*e*P		**P**	**07 27 03.5**	**+1.6**
	comp=Z,17nm,1.2s							
DAVA	**Damuels**	**49.54**	**299**	*i* P		**P**	**07 27 04.7**	**+0.3**
	comp=Z,12nm,0.9s							
DAVOX	**Davos/Dischmat**	**49.82**	**298**	LR		LR	07 49 22.5	
	comp=Z,486nm,20.2s,baz=41,slow=38							
SHEM	**Shemya Is, Ala**	**50.79**	**52**	LR		LR	07 48 33.0	
	comp=Z,124nm,19.0s,baz=292,slow=36							
EKA	**Eskdalemuir Ar**	**51.82**	**313**	LR		LR	07 51 01.8	
	comp=Z,240nm,19.9s,baz=48,slow=38							
VAE	**Valguarnera**	**52.61**	**286**	LR		LR	07 54 28.2	
	comp=Z,126nm,18.2s,baz=154,slow=41							
BNI	**Bardonecchia**	**52.64**	**298**	P		**P**	**07 27 28.5**	**+0.8**
BNI				IAmb		IAmb	07 27 37.6	
	comp=Z,14nm,0.9s							
BNI	**Bardonecchia**	**52.64**	**298**	P		**P**	**07 27 28.5**	**+0.8**
BNI				pmax	pmax			
	comp=Z,14nm,0.9s							
DAV	**Davao City (W)**	**52.96**	**131**	LR		LR	07 51 53.8	
	comp=Z,155nm,19.7s,baz=358,slow=38							
ATD	**Arta Tunnel**	**53.24**	**240**	LR		LR	07 51 44.9	
	comp=Z,196nm,19.6s,baz=36,slow=38							
BORG	**Borgarnes**	**53.36**	**330**	LR		LR	07 50 06.9	
	comp=Z,75nm,20.2s,baz=52,slow=36							
RES	**Resolute Bay**	**55.72**	**1**	LR		LR	07 53 10.1	
	comp=Z,94nm,18.4s,baz=4.0,slow=38							
TOLI2	**Tolitoli**	**56.03**	**139**	P		**P**	**07 27 51.5**	**-1.1**
TOLI2				IAmb		IAmb	07 27 57.7	
	comp=Z,8.1nm,0.8s							
KEST	**Kesra**	**56.86**	**288**	P		**P**	**07 28 00.1**	**+1.7**
	comp=Z,4.5nm,0.6s,baz=1.1,slow=1.3,SNR=6.1							
	comp=Z,4.5nm,0.6s							
COLA	**College**	**57.69**	**25**↑	*e*P		**P**	**07 28 03.1**	**-0.6**
COLA				pmax	pmax			
	comp=Z,14nm,1.9s							
IL31		**58.03**	**24**	P		**P**	**07 28 04.8**	**-1.2**
ILAR	**Eielson Array**	**58.03**	**24**	P		**P**	**07 28 04.5**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=317,slow=5.2,SNR=26							
ILAR				LR		LR	07 56 36.5	
	comp=Z,276nm,18.8s,baz=289,slow=40							
	comp=Z,1.7nm,0.6s							
INK	**Inuvik**	**58.15**	**17**	P		**P**	**07 28 05.3**	**-1.5**
	comp=Z,10nm,1.1s,baz=352,slow=10.0,SNR=6.8							
INK				LR		LR	07 57 07.4	
	comp=Z,91nm,18.4s,baz=308,slow=40							
	comp=Z,10nm,1.1s							
GUMO	**Guam**	**58.53**	**107**	LR		LR	07 55 35.9	
	comp=Z,54nm,18.1s,baz=340,slow=38							
LEM	**Lembang**	**58.98**	**157**	LR		LR	07 55 33.7	
	comp=Z,143nm,19.2s,baz=319,slow=38							
J26L	**Joseph Creek**	**59.12**	**23**	P		**P**	**07 28 12.4**	**-1.4**
SFJD	**Kangerlussuaq**	**59.32**	**342**	LR		LR	07 55 31.3	
	comp=Z,147nm,21.8s,baz=24,slow=38							
KDAK	**Kodiak Island**	**61.73**	**32**	LR		LR	07 59 13.4	
	comp=Z,138nm,18.8s,baz=338,slow=40							
ESDC	**Sonseca Array**	**62.13**	**299**	P		**P**	**07 28 34.4**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=45,slow=6.2,SNR=19							
ESDC				LR		LR	07 55 36.4	
	comp=Z,216nm,20.7s,baz=46,slow=36							
	comp=Z,3.1nm,0.5s							
ESDC	**Sonseca Array**	**62.13**	**299**	P		**P**	**07 28 34.3**	**-0.3**
ESDC				IAmb		IAmb	07 28 42.1	
	comp=Z,5.1nm,0.9s							
SWI	**Sorong**	**62.62**	**130**	P		**P**	**07 28 35.9**	**-2.2**
	comp=Z,970nmcomp=Z,16nm,0.7s							
SIJI	**Sorong**	**62.62**	**130**	LR		LR	07 58 03.5	
	comp=Z,34nm,18.5s,baz=296,slow=38							
HYT	**Haines Junctio**	**62.73**	**23**	P		**P**	**07 28 44.5**	**-0.6**
FRB	**Frobisher Bay**	**65.24**	**349**	LR		LR	07 59 31.6	
	comp=Z,122nm,18.7s,baz=14,slow=38							
SRPI	**Serui, Papua**	**66.03**	**125**	P		P	07 29 11.3	+11
YKA	**Yellowknife Ar**	**66.55**	**11**	P		**P**	**07 29 01.2**	**-2.0**
	comp=Z,2.0nm,0.8s,baz=345,slow=7.1,SNR=3.2							
YKA				LR		LR	07 58 54.7	
	comp=Z,104nm,19.4s,baz=320,slow=37							
	comp=Z,2.0nm,0.8s							
KMBO	**Kilima Mbogo**	**66.78**	**237**	P		**P**	**07 29 06.4**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=5.6,slow=7.5,SNR=6.5							
KMBO				LR		LR	07 59 43.1	
	comp=Z,192nm,18.3s,baz=11,slow=37							
	comp=Z,3.6nm,0.7s							
KMBO	**Kilima Mbogo**	**66.78**	**237**	P		**P**	**07 29 07.1**	**+1.6**
KMBO				IAmb		IAmb	07 29 10.8	
	comp=Z,4.2nm,0.8s							
KMBO	**Kilima Mbogo**	**66.78**	**237**↑	*e*P		**P**	**07 29 05.7**	**+0.1**
MDT	**Midelt**	**67.28**	**294**	LR		LR	08 00 07.7	
	comp=Z,66nm,19.3s,baz=50,slow=37							
BATI	**Baumata**	**67.45**	**142**	LR		LR	08 01 36.1	
	comp=Z,160nm,18.4s,baz=306,slow=39							
DLBC	**Dease Lake**	**67.64**	**21**	LR		LR	08 03 10.3	
	comp=Z,127nm,18.6s,baz=314,slow=40							
MBAR	**Mbarara**	**70.02**	**244**	LR		LR	08 00 20.9	
	comp=Z,155nm,21.3s,baz=92,slow=36							
SCHQ	**Schefferville**	**73.56**	**345**	P		**P**	**07 29 47.0**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=21,slow=8.6,SNR=2.1							
SCHQ				LR		LR	08 05 01.4	
	comp=Z,110nm,20.0s,baz=34,slow=38							
	comp=Z,2.2nm,0.6s							
BBB	**Bella Bella**	**73.80**	**22**	LR		LR	08 04 48.3	
	comp=Z,106nm,18.8s,baz=322,slow=38							
KNRA	**Kununurra**	**74.48**	**139**	P		**P**	**07 29 50.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**75.40**	**143**	LR		LR	08 05 14.2	
	comp=Z,81nm,20.1s,baz=316,slow=37							
FITZ	**Fitzroy Crossi**	**75.40**	**143**	P		**P**	**07 29 56.7**	**-0.6**
FITZ				IAmb		IAmb	07 30 02.5	
	comp=Z,9.6nm,0.8s							
EDM	**Edmonton**	**75.71**	**13**	P		**P**	**07 29 57.9**	**-1.0**
EDM				IAmb		IAmb	07 30 03.8	
	comp=Z,6.3nm,0.7s							
EDM	**Edmonton**	**75.71**	**13**	P		**P**	**07 29 57.9**	**-1.0**
EDM				pmax	pmax			
	comp=Z,6.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.72**	**276**	P		**P**	**07 30 09.4**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=38,slow=6.2,SNR=9.2							
	comp=Z,1.8nm,0.5s							
NEW	**Newport**	**79.87**	**17**	LR		LR	08 10 53.2	
	comp=Z,117nm,18.1s,baz=20,slow=40							
ULM	**Lac du Bonnet**	**80.20**	**3**	P		**P**	**07 30 21.6**	**-2.3**
	comp=Z,3.1nm,0.8s,baz=284,slow=4.2,SNR=2.5							
	comp=Z,3.1nm,0.8s							
ULM	**Lac du Bonnet**	**80.20**	**3**↑	*e*P		**P**	**07 30 22.1**	**-1.8**
WB0	**Warramunga Arr**	**80.55**	**136**	P		**P**	**07 30 25.6**	**-0.5**
WB0				IAmb		IAmb	07 30 30.7	
	comp=Z,6.9nm,0.7s							
WRAB	**Tennant Creek**	**80.68**	**136**↑	*e*P		**P**	**07 30 24.9**	**-1.8**
WRAB				pmax	pmax			
	comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**80.68**	**136**	P		**P**	**07 30 24.6**	**-2.1**
	comp=Z,7.0nm,0.8s,baz=341,slow=5.9,SNR=26							
	comp=Z,7.0nm,0.8s							
WRA	**Warramunga Arr**	**80.68**	**136**	P		**P**	**07 30 24.8**	**-1.9**
WRA	**Warramunga Arr**	**80.68**	**136**	P		**P**	**07 30 24.8**	**-1.9**
WB2	**Warramunga Arr**	**80.69**	**136**	P		**P**	**07 30 24.8**	**-2.0**
WR0	**Warramunga Arr**	**80.79**	**136**	P		**P**	**07 30 24.9**	**-2.3**
WR0				IAmb		IAmb	07 30 31.9	
	comp=Z,8.4nm,0.7s							
PLID	**Pearl Lake**	**83.14**	**17**	P		**P**	**07 30 38.1**	**-1.7**
BOZ	**Bozeman (W)**	**83.39**	**14**	P		**P**	**07 30 38.9**	**-1.2**
BOZ				IAmb		IAmb	07 30 45.7	
	comp=Z,3.4nm,0.7s							
BOZ	**Bozeman (W)**	**83.39**	**14**	P		**P**	**07 30 39.8**	**-1.2**
BOZ				pmax	pmax			
	comp=Z,3.0nm,0.7s							
LSZ	**Lusaka**	**83.44**	**237**	LR		LR	08 09 33.1	
	comp=Z,82nm,21.7s,baz=148,slow=37							
AS31	**Alice Springs**	**83.76**	**139**	P		**P**	**07 30 41.5**	**-1.3**
ASAR	**Alice Springs**	**83.76**	**139**	P		**P**	**07 30 40.7**	**-2.1**
	comp=Z,4.9nm,0.7s,baz=332,slow=4.9,SNR=21							
ASAR				LR		LR	08 13 25.8	
	comp=Z,60nm,18.1s,baz=106,slow=40							
	comp=Z,4.9nm,0.7s							
ASAR	**Alice Springs**	**83.76**	**139**	P		**P**	**07 30 42.0**	**-0.8**
ASAR	**Alice Springs**	**83.76**	**139**	P		**P**	**07 30 42.0**	**-0.8**
YBH	**Yreka Blue Hor**	**84.88**	**23**	LR		LR	08 10 54.3	
	comp=Z,118nm,19.5s,baz=348,slow=37							
SADO	**Sadowa**	**85.08**	**351**	LR		LR	08 11 46.5	
	comp=Z,112nm,18.1s,baz=12,slow=38							
IMW	**Indian Meadow**	**85.16**	**14**	P		**P**	**07 30 49.3**	**-0.8**
HNR	**Honiara**	**85.76**	**110**	LR		LR	08 09 36.6	
	comp=Z,457nm,20.2s,baz=110,slow=36							
RSSD	**Black Hills**	**85.80**	**9**	P		**P**	**07 30 51.5**	**-1.8**
RSSD				IAmb		IAmb	07 31 01.6	
	comp=Z,15nm,1.6s							
RSSD	**Black Hills**	**85.80**	**9**	P		**P**	**07 30 51.5**	**-1.8**
RSSD				pmax	pmax			
	comp=Z,15nm,1.6s							
BW06	**Boulder Array**	**86.47**	**13**	P		**P**	**07 30 54.8**	**-1.8**
PD31	**Pinedale Array**	**86.47**	**13**	P		**P**	**07 30 54.3**	**-2.3**
PDAR	**Pinedale Array**	**86.47**	**13**	P		**P**	**07 30 54.4**	**-2.3**
	comp=Z,0.6nm,0.6s,baz=43,slow=2.6,SNR=9.9							
PDAR				LR		LR	08 15 30.5	
	comp=Z,82nm,18.0s,baz=350,slow=40							
	comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**86.47**	**13**	P		**P**	**07 30 54.2**	**-2.4**
CTA	**Charters Tower**	**86.57**	**127**	LR		LR	08 13 44.2	
	comp=Z,42nm,18.5s,baz=268,slow=38							
ECSD	**EROS Data Cent**	**86.69**	**3**	P		**P**	**07 30 55.9**	**-1.5**
ECSD				IAmb		IAmb	07 31 05.0	
	comp=Z,12nm,1.4s							
DBIC	**Dimbokro**	**86.81**	**276**	LR		LR	08 15 31.1	
	comp=Z,89nm,18.7s,baz=43,slow=40							
ELK	**Elko**	**87.47**	**17**	LR		LR	08 13 23.5	
	comp=Z,57nm,19.6s,baz=353,slow=38							
ELK	**Elko**	**87.47**	**17**	P		**P**	**07 31 00.8**	**-0.8**
ELK				IAmb		IAmb	07 31 02.2	
	comp=Z,13nm,1.9s							
ELK	**Elko**	**87.47**	**17**	P		**P**	**07 31 00.8**	**-0.8**
ELK				pmax	pmax			
	comp=Z,13nm,2.0s							
TCUT	**Toone Canyon**	**87.80**	**15**	P		**P**	**07 31 03.5**	**+0.4**
TCUT				IAmb		IAmb	07 31 10.2	
	comp=Z,7.6nm,1.0s							
JLU	**Jordanelle**	**88.29**	**15**	P		**P**	**07 31 04.7**	**-0.7**
JLU				IAmb		IAmb	07 31 07.5	
	comp=Z,13nm,1.6s							
PHWY	**Pilot Hill**	**88.44**	**10**	P		**P**	**07 31 05.0**	**-1.2**
PHWY				IAmb		IAmb	07 31 14.0	
	comp=Z,5.9nm,1.0s							
DUG	**Dugway, Tooele**	**88.46**	**16**	P		**P**	**07 31 05.0**	**-1.0**
DUG				IAmb		IAmb	07 31 19.8	
	comp=Z,6.6nm,1.1s							
DUG	**Dugway, Tooele**	**88.46**	**16**	P		**P**	**07 31 05.1**	**-1.0**
DUG				pmax	pmax			
	comp=Z,7.0nm,1.1s							
RDMU	**Red Mountain**	**88.62**	**13**	P		**P**	**07 31 05.9**	**-1.1**
NVAR	**Mina Array Bea**	**89.06**	**20**	P		**P**	**07 31 08.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=344,slow=4.2,SNR=7.5							
NVAR				LR		LR	08 15 10.8	
	comp=Z,107nm,18.6s,baz=338,slow=38							
	comp=Z,0.5nm,0.7s							
NVAR	**Mina Array Bea**	**89.06**	**20**	P		**P**	**07 31 07.4**	**-1.6**
SPR3	**Spring Creek 3**	**89.34**	**17**	P		**P**	**07 31 10.9**	**+0.4**
SPR3				IAmb		IAmb	07 31 18.4	
	comp=Z,18nm,1.6s							
ISCO	**Idaho Springs**	**89.91**	**10**	P		**P**	**07 31 11.1**	**-2.0**
ISCO				IAmb		IAmb	07 31 18.3	
	comp=Z,2.6nm,0.7s							
ISCO	**Idaho Springs**	**89.91**	**10**	P		**P**	**07 31 11.1**	**-2.0**
ISCO				pmax	pmax			
	comp=Z,3.0nm,0.7s							
SMCO	**Snowmass**	**90.35**	**12**	P		**P**	**07 31 15.1**	**-0.3**
SMCO				IAmb		IAmb	07 31 21.4	
	comp=Z,21nm,1.9s							
TSUM	**Tsumeb**	**92.55**	**243**	LR		LR	08 16 23.4	
	comp=Z,95nm,18.1s,baz=143,slow=38							
LBTB	**Lobatse**	**92.80**	**234**	LR		LR	08 14 22.4	
	comp=Z,54nm,21.2s,baz=15,slow=36							
PFO	**Pinyon Flats O**	**94.09**	**20**	LR		LR	08 17 40.5	
	comp=Z,56nm,18.7s,baz=351,slow=38							
STKA	**Stephens Creek**	**94.23**	**137**	P		**P**	**07 31 33.0**	**+0.4**
	comp=Z,5.4nm,0.9s,baz=328,slow=7.1,SNR=6.2							
	comp=Z,5.4nm,0.9s							
STKA	**Stephens Creek**	**94.23**	**137**	P		**P**	**07 31 33.0**	**+0.4**
TKL	**Tuckaleechee C**	**94.53**	**353**	LR		LR	08 15 32.7	
	comp=Z,93nm,21.5s,baz=4.0,slow=36							
ANMO	**Albuquerque**	**94.58**	**12**	LR		LR	08 17 31.9	
	comp=Z,73nm,19.2s,baz=2.5,slow=38							
ANMO	**Albuquerque**	**94.58**	**12**↑	*e*P		**P**	**07 31 34.1**	**-0.6**
ANMO				pmax	pmax			
	comp=Z,12nm,3.3s							
BOSA	**Boshof**	**95.91**	**232**	LR		LR	08 18 58.5	
	comp=Z,36nm,18.9s,baz=10,slow=38							
DZM	**Mont Dzumac**	**99.46**	**113**	*e*LR		LR	08 04 13.2	
	comp=Z,162nm,27.4s							
DZM	**Mont Dzumac**	**99.46**	**113**	LR		LR	08 14 59.3	
	comp=Z,40nm,20.8s,baz=28,slow=34							
TXAR	**Lajitas Array**	**100.47**	**10**	P		**Pdif**	**07 32 05.6**	**+4.4**
	comp=Z,0.3nm,0.6s,baz=33,slow=3.9,SNR=4.8							
PPT2	**Papeete2**	**124.03**	**76**	*e*LR		LR	08 15 37.5	
	comp=Z,87nm,25.8s							
TBI	**Tubuai**	**128.33**	**81**	*e*LR		LR	08 17 35.6	
	comp=Z,63nm,30.2s							
CPUP	**Villa Florida**	**144.50**	**299**	PKP		**PKPab**	**07 37 47.2**	**-1.2**
	comp=Z,8.8nm,0.7s,baz=41,slow=2.9,SNR=22							

DJA 20 07:30:54.5±0.4,5°S±4°×12°8E±°, h332km±4km, M4.2/12, mb4.2/7, mB4.9/4, MLv4.1/12, Mw(mB)4.2/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.37**	**1**	P	Pn	07 31 41.7	+1.5
MSAI	**Masohi**	**1.88**	**24**	P	Pn	07 31 43.4	+0.1
MSAI				S	S	07 32 21.4	-1.0
NLAI	**Namlea**	**2.10**	**330**	P	Pn	07 31 47.1	+2.1
NLAI				S	S	07 32 26.2	+0.9
SANI	**Sanana**	**3.70**	**324**	P	Pn	07 31 58.8	-0.6
FAKI	**Fak Fak**	**4.61**	**63**	P	Pn	07 32 09.7	+0.7
FAKI				S	S	07 33 07.9	-1.1
SWI	**Sorong** 0.2nm1µm63nm,0.7s	**5.20**	**37**	P	Pn	07 32 16.1	+0.5
BATI	**Baumata** 0.1nm36nm,0.8s	**6.78**	**221**	P	Pn	07 32 34.5	+0.6
GTOI	**Gorontalo** 0.1nm372nm22nm,0.8s	**7.65**	**318**	P	Pn	07 32 46.2	+1.9
MRSI	**Marisa**	**8.30**	**311**	P	Pn	07 32 50.6	-1.5

*ASRS **20** 07:33:19.7±0.3,50°N×2°×8°8E±°, h10km, MLh3.1/11, Error ellipse: s-maj=3.5km s-min=2.8km az=25.2, confirmed*
*NNC **20** 07:33:23.9±1.6,49°.89N×87°.88E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=11.9km s-min=7.6km az=80.0*
ISC 20 07:33:21.2±0.9,49°.88N±0°.03×88°.13E±0.03, h10km, n14, σ1§96/27, 8C-10D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLNR	**Muhor-Tarhata,**	**0.24**	**114**	⇑Pg	**Pg**	**07 33 24.8**	**-1.4**
SLNR				Sg	**Sg**	**07 33 28.2**	**-1.4**
CUR	**Chagan-Uzun**	**0.27**	**32**	⇓Pg	**Pg**	**07 33 25.9**	**-0.8**
CUR				Sg	**Sg**	**07 33 30.2**	**-0.2**
DGZ	**Jazzator, Alta**	**0.49**	**249**	⇑Pg	**Pg**	**07 33 28.4**	**-2.4**
DGZ				Sg	**Sg**	**07 33 34.3**	**-2.9**
AKAR	**Aktash**	**0.55**	**324**	⇓Pg	**Pg**	**07 33 30.5**	**-1.6**
AKAR				Sg	**Sg**	**07 33 38.3**	**-1.1**
CHBI	**Chibit, Altay**	**0.60**	**318**	⇓Pg	**Pb**	**07 33 32.1**	**-1.7**
CHBI				Sg	**Sb**	**07 33 40.0**	**-2.4**
ULGR	**Ulagan, Altay**	**0.76**	**352**	⇓Pg	**Pb**	**07 33 35.4**	**-1.2**
ULGR				Sg	**Sb**	**07 33 46.1**	**-1.0**
ARTR	**Artybash**	**2.00**	**345**	Pg	**Pg**	**07 33 59.2**	**-0.4**
ARTR				Sg	**Sg**	**07 34 23.8**	**-1.7**
GALT	**Gorno-Altaysk,**	**2.50**	**327**	Pg	**Pg**	**07 34 11.2**	**+2.0**
GALT				Sg	**Sg**	**07 34 40.9**	**-0.7**
TASR	**Tashtagol**	**2.89**	**357**	Pg	**Pb**	**07 34 12.1**	**-0.9**
TASR				Sg	**Sg**	**07 34 51.2**	**-3.0**
ELT	**Eltsovka**	**3.59**	**342**	Sg	**Sb**	**07 35 10.3**	**+1.9**
MK31	**Makanchi Array** 0.3nm,0.2s,baz=51,slow=12,SNR=25	**4.97**	**234**	⇑Pn	**Pn**	**07 34 38.5**	**+2.6**
MK31	0.9nm,0.3s,baz=187,slow=85,SNR=4.2			⇑Sn	**Sn**	**07 35 37.0**	**+3.6**
MK31	2.4nm,0.5s,baz=50,slow=29,SNR=5.2			⇓Lg	Lg	07 35 57.6	
MAKZ	**Makanchi** 5.5nm,1.1s	**5.12**	**236**	⇓Pn	**Pn**	**07 34 40.4**	**+2.3**
MAKZ	0.8nm,0.3s			⇓Sn	**Sn**	**07 35 39.1**	**+1.9**
MAKZ				⇑Lg	Lg	07 36 00.3	
KURK	**Kurchatov** 7.7nm,1.2s	**6.15**	**281**	⇓Pn	**Pn**	**07 34 53.4**	**+1.3**
KURK	4.0nm,0.9s			⇓Sn	**Sn**	**07 36 03.7**	**+1.3**
KURK	3.9nm,0.8s			⇓Lg	Lg	07 36 35.7	
KURBB	**Kurchatov Arra** 5.1nm,0.9s	**6.21**	**281**	⇑Pn	**Pn**	**07 34 54.0**	**+1.2**
KURBB	1.9nm,0.3s			⇑Sn	**Sn**	**07 36 05.9**	**+2.2**
KURBB	14nm,0.8s			⇑Lg	Lg	07 36 36.4	

*NEIC **20** 07:36:46.8±0.8, 17°.3S±0°.3×178°.7W±0°.1, h557km±16km, mb4.3/18, Error ellipse: s-maj=40.6km s-min=4.9km az=158.0*
*IDC **20** 07:36:52.7±9.2, 17°.17S×179°.49W, h576km±28km, mb3.7/3, mbtmp4.5/5, Error ellipse: s-maj=180.6km s-min=93.8km az=86.0*
ISC 20 07:36:47.0±0.9, 17°.2S±0°.2×178°.6W±0°.1, h600km, n28, σ1§08/28, mb4.3/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 32nm,0.6s,baz=50,slow=3.4,SNR=33	**3.27**	**261**	P	**P**	**07 38 06.8**	**-1.0**
AFI	**Afiamalu**	**7.32**	**64**	P	**P**	**07 38 39.0**	**-1.1**
NIUE	**Niue**	**8.41**	**104**	P	**P**	**07 38 50.4**	**+0.1**
MARNC	**Mare, Loyalty**	**13.34**	**249**	P	**P**	**07 39 36.8**	**-2.5**
PINNC	**Pines Island,**	**14.21**	**246**	P	**P**	**07 39 45.5**	**-2.3**
DZM	**Mont Dzumac** 5.6nm,0.7s,baz=81,slow=19,SNR=14	**14.92**	**249**	P	**P**	**07 39 52.9**	**-1.7**
ARMA	**Armidale**	**30.16**	**239**	P	**P**	**07 42 09.8**	**-0.5**
ARMA	comp=Z,8.3nm,1.2s			IAmb	IAmb	07 42 51.9	
CTAO	**Charters Tower**	**33.42**	**260**	P	**P**	**07 42 37.5**	**-0.4**
CTAO	comp=Z,10nm,1.4s			IAmb	IAmb	07 43 18.8	
COEN	**Coen**	**36.96**	**270**	P	**P**	**07 43 07.6**	**+0.4**
COEN	comp=Z,8.0n

MRZ	**Mangatainoka R**	**2.39**	**80**	P	Pn	07 39 49.8	0.0
TMWZ	**Te Maipa**	**2.57**	**91**	P	Pn	07 39 52.1	+0.3
MQZ	**McQueen's Vall**	**2.57**	**177**	P	Pn	07 39 51.1	-0.7
TIWZ	**Tintock**	**2.59**	**83**	P	Pn	07 39 52.4	+0.3
PRWZ	**Pori Road**	**2.70**	**79**	P	Pn	07 39 53.7	+0.4
RPZ	**Rata Peaks**	**2.79**	**202**	P	Pn	07 39 53.8	-0.4
BFZ	**Birch Farm**	**2.88**	**82**	P	Pn	07 39 55.5	+0.2
DVHZ	**Dannevirke**	**2.92**	**75**	P	Pn	07 39 55.9	+0.2
ARCZ	**Arundel**	**2.98**	**199**	P	Pn	07 39 55.7	-0.7
MOVZ	**Moawhango**	**3.03**	**56**	P	Pn	07 39 56.5	-0.7
PNHZ	**Pukenui**	**3.08**	**68**	P	Pn	07 39 57.4	-0.2
FOZ	**Fox Glacier**	**3.11**	**219**	P	Pn	07 39 57.1	-0.8
OTVZ	**Oturere**	**3.13**	**52**	P	Pn	07 39 57.9	-0.4
BHHZ	**Black Hill Sta**	**3.19**	**60**	P	Pn	07 39 58.3	-0.6
WPHZ	**Waipukurau**	**3.19**	**72**	P	Pn	07 39 56.6	-2.3
TMZ	**Timaru**	**3.43**	**198**	P	Pn	07 40 00.9	-0.7
KWHZ	**Kaweka Forest**	**3.46**	**62**	P	Pn	07 40 02.1	-0.1
MCHZ	**McNeill Hill**	**3.63**	**64**	P	Pn	07 40 04.7	+0.5
BKZ	**Black Stump Fm**	**3.64**	**59**	P	Pn	07 40 03.2	-1.1
NMHZ	**Naumai**	**3.88**	**60**	P	Pn	07 40 07.5	+0.1
JCZ	**Jackson Bay**	**4.01**	**222**	P	Pn	07 40 07.9	-1.0
MTHZ	**Maungataniwha**	**4.04**	**57**	P	Pn	07 40 08.4	-0.8
ODZ	**Otahua Downs**	**4.14**	**198**	P	Pn	07 40 09.4	-0.8
MUGZ	**Murupara**	**4.23**	**53**	P	Pn	07 40 11.4	-0.2
RTZ	**Ruatahuna**	**4.27**	**55**	P	Pn	07 40 10.6	-1.5

*IPEC **20** 07:52:30.7±0.3,51°.52N×16°.14E,h0km,ML2.5/5,Error ellipse: s-maj=2.1km s-min=1.1km az=39.0*
*PRU **20** 07:52:31.0±0.0,51°.51N×16°.09E,h0km*
*VIE **20** 07:52:32.6±1.0,51°.38N×16°.01E,h0km,mb2.4/4,ml2.9/3,Error ellipse: s-maj=10.6km s-min=6.3km az=65.0 77 km WNW of Wroclaw Suspected Mining induced.*

ISC 20 07:52:30.4±1.2,**51°.51N**±0°.05×**16°.11E**±0°.03,**h0**km,**n25,** σ0**s58**/51,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**170**	*e*Pg	**Pb**	**07 52 44.1**	**-0.9**
KSP				*e*Sg	**Sg**	**07 52 53.3**	**+1.3**
CHVC	**Chvalec**	**0.92**	**182**	*e*PG	**Pb**	**07 52 48.8**	**-0.4**
CHVC				*e*SG	**Sb**	**07 53 01.3**	**-0.7**
	comp=Z,62nm,0.8s						
OSTC	**Ostas**	**0.95**	**176**	*e*PG	**Pb**	**07 52 49.5**	**-0.3**
OSTC				*e*SG	**Sb**	**07 53 02.4**	**-0.5**
	comp=Z,108nm,0.4s						
UPC	**Upice**	**1.00**	**184**	*e*PG	**Pb**	**07 52 50.2**	**-0.4**
UPC				*e*SG	**Sb**	**07 53 03.8**	**-0.5**
	comp=Z,139nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	**Pg**	**07 52 52.9**	**+0.2**
DPC				*e*SG	**Sg**	**07 53 08.2**	**+0.4**
	comp=Z,37nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	**Pb**	**07 52 56.9**	**-0.1**
PVCC				*e*SG	**Sb**	**07 53 15.0**	**-0.2**
	comp=Z,160nm,0.3s						
KRLC	**Kraliky**	**1.49**	**163**	*e*PG	**Pn**	**07 52 58.3**	**-0.2**
KRLC				*e*SG	**Sn**	**07 53 18.8**	**+0.1**
	comp=Z,30nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**246**	Pg	**Pg**	**07 52 59.2**	**+0.1**
BRG				Sg	**Sn**	**07 53 19.0**	**+0.1**
BRG				Amp		07 53 21.4	
	comp=Z,83nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	*e*PG	**Pn**	**07 53 02.9**	**+0.2**
GOPC				*e*SG	**Sg**	**07 53 29.1**	**+0.9**
	comp=Z,27nm,0.8s						
PRU	**Pruhonice**	**1.82**	**214**	*e*PG	**Pn**	**07 53 03.2**	**+0.3**
PRU				*e*SG	**Sg**	**07 53 28.7**	**0.0**
	comp=Z,21nm,0.6s						
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**07 53 04.0**	**-0.8**
CLL				*e*Pg	**Pb**	**07 53 07.0**	**+0.1**
CLL				*e*Sg	**Sg**	**07 53 33.0**	**-0.2**
	comp=Z,46nm,0.4s						
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**07 53 05.0**	**+0.1**
	baz=333						
MORC				*e*Sg	**Sb**	**07 53 32.1**	**+0.2**
	comp=Z,33nm,0.5s,baz=333						
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pb**	**07 53 09.3**	**-0.3**
OKC				*e*SG	**Sg**	**07 53 38.0**	**-0.3**
	comp=Z,30nm,0.6s						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**07 53 08.9**	**+0.4**
	baz=353						
VRAC				*e*Sg	**Sg**	**07 53 40.7**	**-1.0**
	comp=Z,22nm,0.4s,baz=353						
TREC	**Trest**	**2.25**	**190**	*e*PG	**Pb**	**07 53 11.3**	**-0.6**
TREC				*e*SG	**Sg**	**07 53 41.8**	**-0.8**
	comp=Z,21nm,0.4s						
MAUC	**Maruska**	**2.41**	**152**	*e*PG	**Pb**	**07 53 15.2**	**+0.6**
MAUC				*e*SG	**Sg**	**07 53 46.9**	**-0.8**
	comp=Z,59nm,0.8s						
KRUC	**Moravsky**	**2.45**	**176**	*e*Pn	**Pn**	**07 53 12.3**	**+0.6**
	baz=356						
KRUC				*e*Sg	**Sg**	**07 53 48.1**	**-1.1**
	comp=Z,14nm,0.3s,baz=356						
NKC	**Novy Kostel**	**2.65**	**243**	*e*PN	**Pn**	**07 53 14.5**	**+0.2**
NKC				*e*SG	**Sg**	**07 53 55.9**	**+0.6**
	comp=Z,36nm,0.5s						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**07 53 21.5**	**0.0**
OJC				*e*Sg	**Sg**	**07 53 56.5**	**+0.4**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	**07 53 17.7**	**+0.2**
KHC				*e*PG	**Pb**	**07 53 23.3**	**+0.7**
KHC				*e*SN	**Sn**	**07 53 52.6**	**-0.3**
KHC				*e*SG	**Sg**	**07 54 02.5**	**-0.3**
	comp=Z,10.0nm,0.5s						
CKRC	**Cesky Krumlov**	**2.93**	**204**	*e*PN	**Pn**	**07 53 18.5**	**+0.3**
CKRC				*e*SG	**Sg**	**07 54 03.3**	**-1.1**
MODS	**Modra-Piesok**	**3.23**	**166**	*e*SG	**Sg**	**07 54 14.4**	**+0.5**
CONA	**Conrad Observa**	**3.58**	**183**	*i* Pn	**Pn**	**07 53 28.1**	**+0.9**
	comp=Z,0.4nm,0.1s						
CONA				Sg	**Sg**	**07 54 25.2**	**-0.3**
	comp=Z,15nm,0.4s						
RONA	**Rosalia, Austr**	**3.81**	**178**	Sg	**Sg**	**07 54 33.8**	**+1.0**
	comp=Z,8.1nm,0.4s						
MOA	**Molln**	**3.85**	**199**	*e*Pn	**Pn**	**07 53 31.5**	**+0.6**
	comp=Z,2.0nm,0.2s						
MOA				Sg	**Sg**	**07 54 34.8**	**+0.8**
	comp=Z,12nm,0.5s						

*IDC **20** 08:07:03.0±0.8,54°.72S×30°.31W,h0km,mb4.1/6,mbtmp4.2/7,ML4.2/1,Error ellipse: s-maj=32.0km s-min=19.7km az=83.0*
*NEIC **20** 08:07:05.3±1.0,54°.8S×0°.1×30°.4W±0°.2,h14km±5km,mb4.6/19,Error ellipse: s-maj=19.3km s-min=12.2km az=54.0*

ISC 20 08:07:04.5±0.7,**54°.8S**±0°.1×**30°.5W**±0°.1,**h10**km,**n32,** σ0**s78**/32,**mb4.5**/14,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.52**	**276**		**Pn**	**08 07 57.3**	**-1.9**
VNA3	**Neumayer Olymp**	**18.84**	**159**	P	**Pn**	**08 11 25.2**	**+0.4**
PMSA	**Palmer Station**	**19.38**	**226**	P	**Pn**	**08 11 31.3**	**+0.2**
	0.7nm,0.3s,baz=67,slow=6.4,SNR=5.3 12nm,0.7s						
PMSA	**Palmer Station**	**19.38**	**226**	P	**P**	**08 11 30.2**	**+0.2**
PMSA				IAmb	IAmb	08 11 35.2	
	comp=Z,62nm,1.4s						
SNAA	**Sanae**	**20.69**	**155**	P	**P**	**08 11 43.1**	**-1.2**
SNAA	**Sanae**	**20.69**	**155**	P	**P**	**08 11 43.3**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=298,slow=12,SNR=14 comp=Z,2.1nm,0.5s						
SNAA	**Sanae**	**20.69**	**155**	P	**P**	**08 11 43.4**	**-0.9**
TROLL	**Troll, Antarti**	**22.24**	**153**	P	**P**	**08 11 59.6**	**-1.4**
BELA	**Belgrano 2**	**23.25**	**182**	P	**P**	**08 12 12.2**	**+0.7**
GO07	**Milladeo Hill,**	**30.17**	**275**	P	**P**	**08 13 14.7**	**+0.2**
ITQB	**Itaqui**	**31.33**	**313**	P	**P**	**08 13 25.9**	**+1.0**
BO02	**Sierra Bellavi**	**34.23**	**289**	P	**P**	**08 13 51.6**	**+1.3**
BO02				IAmb	IAmb	08 13 54.6	
	comp=Z,17nm,1.5s						
MT09	**Talagante**	**35.11**	**290**	P	**P**	**08 13 58.3**	**+0.3**
MT09				IAmb	IAmb	08 14 15.9	
	comp=Z,19nm,1.2s						
QSPA	**South Pole Qui**	**35.48**	**180**	P	**P**	**08 14 01.8**	**+1.0**
	comp=Z,12nm,0.9s,baz=256,slow=0.4,SNR=57 comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	**35.48**	**180**	P	**P**	**08 14 01.9**	**+1.0**
VA06	**Catapilco**	**36.20**	**291**	P	**P**	**08 14 07.2**	**+0.1**
AC05	**El Transito**	**38.57**	**296**	P	**P**	**08 14 27.5**	**0.0**
AC05				IAmb	IAmb	08 14 37.9	
	comp=Z,20nm,1.5s						
LCO	**Las Campanas**	**38.66**	**295**	P	**P**	**08 14 28.3**	**0.0**
LCO				IAmb	IAmb	08 15 01.6	
	comp=Z,23nm,1.4s						

MAW	**Mawson**	**42.29**	**145**	P	**P**	**08 14 57.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=247,slow=9.7,SNR=4.4 comp=Z,1.9nm,0.7s						
MAW	**Mawson**	**42.29**	**145**	P	**P**	**08 14 57.4**	**-0.2**
PB01	**IPOC Station P**	**44.63**	**303**	P	**P**	**08 15 17.0**	**-0.1**
PB01				IAmb	IAmb	08 15 42.3	
	comp=Z,13nm,1.5s						
GO01	**Chusmiza**	**45.66**	**305**	P	**P**	**08 15 26.3**	**+0.5**
GO01				IAmb	IAmb	08 15 38.4	
	comp=Z,6.2nm,1.1s						
PB16	**IPOC Station P**	**46.96**	**305**	P	**P**	**08 15 36.0**	**-0.1**
PB16				IAmb	IAmb	08 16 07.1	
	comp=Z,5.9nm,1.4s						
SBA	**Scott Base**	**47.21**	**185**	P	**P**	**08 15 35.7**	**-1.0**
SBA				IAmb	IAmb	08 16 00.9	
	comp=Z,6.6nm,1.4s						
VNDA	**Vanda**	**47.75**	**184**	P	**P**	**08 15 41.4**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=187,slow=7.2,SNR=17 comp=Z,1.9nm,0.8s						
VNDA	**Vanda**	**47.75**	**184**	P	**P**	**08 15 41.8**	**+0.9**
VNDA				IAmb	IAmb	08 15 42.2	
	comp=Z,4.1nm,1.1s						
LPAZ	**La Paz**	**48.10**	**308**	P	**P**	**08 15 45.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=104,slow=7.3,SNR=5.6 comp=Z,1.3nm,0.7s						
LPAZ	**La Paz**	**48.10**	**308**	P	**P**	**08 15 45.4**	**+0.4**
TOA0	**Torodi Ar. Sit**	**72.94**	**33**	P	**P**	**08 18 33.7**	**-0.2**
TOA0				IAmb	IAmb	08 18 35.6	
	comp=Z,3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**72.94**	**33**	P	**P**	**08 18 33.9**	**0.0**
	comp=Z,2.1nm,0.9s,baz=199,slow=6.5,SNR=13 comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**147.86**	**314**	PKPbc	**PKPbc**	**08 26 47.8**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=117,slow=1.3,SNR=17						
SONM	**Songino Array**	**152.54**	**87**	PKPbc	**PKPbc**	**08 26 59.3**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=256,slow=3.4,SNR=6.0						

*IDC **20** 08:17:43.8±2.9,53°.72N×88°.29E,h0km,mbtmp3.4/3,ML3.0/3,Error ellipse: s-maj=26.6km s-min=18.7km az=82.0*
*NNC **20** 08:17:45.0±2.5,53°.68N×88°.08E,h0km,mb3.5,mpv3.2,Error ellipse: s-maj=20.2km s-min=13.6km az=68.0,Suspected Mining explosion.*

ISC 20 08:17:44.4±3.8,**53°.8N**±0°.1×**88°.2E**±0°.2,**h0**km,**n9,** σ1**s15**/13, **7C-5D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**277**	*i*		08 31 25.0	
	baz=91,slow=326,SNR=17						
ZAA0	**Zalesovo Array**	**1.98**	**277**	⇑Pn	**Pn**	**08 18 19.1**	**-0.2**
	2.8nm,0.7s						
ZAA0				⇓Lg	Lg	08 18 46.6	
	14nm,0.6s						
ZALV	**Zalesovo Beam**	**1.98**	**277**	Pn	**Pn**	**08 18 18.7**	**-0.5**
	7.0nm,0.3s,baz=97,slow=15,SNR=46						
ZALV				Sn	**Sb**	**08 18 46.9**	**+0.2**
	10nm,0.3s,baz=96,slow=26,SNR=23 14nm,0.4s						
KURK	**Kurchatov**	**6.59**	**246**	⇑Pn	**Pn**	**08 19 22.9**	**+0.4**
	2.2nm,0.9s						
KURK				⇑Lg	Lg	08 21 11.4	
	10nm,0.9s						
KURBB	**Kurchatov Arra**	**6.69**	**246**	Pn	**Pn**	**08 19 24.4**	**+0.6**
	0.5nm,0.3s,baz=63,slow=14,SNR=18						
KURBB				Sn	**Sn**	**08 20 41.4**	**+0.7**
	0.1nm,0.3s,baz=53,slow=19,SNR=6.4						
KURBB				Lg	Lg	08 21 19.3	
	0.1nm,0.3s,baz=59,slow=30,SNR=7.0 1.9nm,0.3s						
KURBB	**Kurchatov Arra**	**6.69**	**246**	⇓Pn	**Pn**	**08 19 23.9**	**+0.1**
	2.6nm,0.3s						
KURBB				⇑Sn	**Sn**	**08 20 41.2**	**+0.4**
	6.1nm,0.6s						
KURBB				⇓Lg	Lg	08 21 15.5	
	22nm,1.1s						
MK31	**Makanchi Array**	**7.91**	**211**	⇑Pn	**Pn**	**08 19 41.2**	**+0.7**
	0.5nm,0.5s,baz=34,slow=14,SNR=9.4						
MK31				⇑Sn	**Sn**	**08 21 08.9**	**-1.8**
	1.3nm,0.7s,baz=34,slow=24,SNR=3.6						
MK31				⇓Lg	Lg	08 21 54.9	
	6.0nm,1.1s,baz=28,slow=34,SNR=4.9						
MKAR	**Makanchi Array**	**7.91**	**211**	Pn	**Pn**	**08 19 42.0**	**+1.5**
	0.4nm,0.3s,baz=30,slow=14,SNR=13						
MKAR				Sn	**Sn**	**08 21 08.2**	**-2.4**
	0.5nm,0.3s,baz=33,slow=25,SNR=8.5						
MKAR				Lg	Lg	08 21 55.9	
	0.1nm,0.3s,baz=34,slow=31,SNR=2.0 0.8nm,0.4s						
MAKZ	**Makanchi**	**7.99**	**212**	⇑Sn	**Sn**	**08 21 12.7**	**-0.1**
	3.7nm,0.9s						
MAKZ				⇓Lg	Lg	08 21 55.7	
	6.0nm,1.1s						

*NEIC **20** 08:33:23.9±2.3,14°.1S±0°.1×167°.4E±0°.2,h178km±11km,mb4.3/15,Error ellipse: s-maj=27.5km s-min=20.4km az=104.0*
*IDC **20** 08:33:26.4±6.5,14°.08S×167°.07E,h196km±66km,mb3.7/4,mbtmp4.2/5,Error ellipse: s-maj=57.0km s-min=35.3km az=153.0*

ISC 20 08:33:25.5±1.0,**14°.16S**±0°.09×**167°.4E**±0°.2,**h200**km,**n27,** σ1**s74**/27,**mb4.2**/12,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**6.58**	**181**	Pn	**Pn**	**08 34 59.2**	**-1.2**
KOUNC	**Koumac, New Ca**	**7.00**	**204**		**Pn**	**08 35 07.2**	**+1.4**
DZM	**Mont Dzumac**	**7.92**	**186**	P	**Pn**	**08 35 19.5**	**+1.7**
	2.1nm,0.3s,baz=73,slow=12,SNR=18						
DZM				S	**Sn**	**08 36 49.5**	**+2.3**
	3.2nm,0.4s,baz=107,slow=20,SNR=1.2						
DZM	**Mont Dzumac**	**7.92**	**186**	Pn	**Pn**	**08 35 20.8**	**+3.0**
ONTNC	**Ouen Toro**	**8.15**	**186**	Pn	Pn	08 35 25.1	+4.4
EIDS	**Eidsvold**	**18.92**	**231**	P	**Pn**	**08 37 32.0**	**-2.4**
EIDS				IAmb	IAmb	08 38 09.9	
	comp=Z,7.8nm,1.2s						
COEN	**Coen**	**23.45**	**268**	P	**P**	**08 38 17.9**	**+0.7**
COEN				IAmb	IAmb	08 38 27.2	
	comp=Z,6.5nm,1.1s						
QRZ	**Quartz Range**	**26.95**	**171**	P	**P**	**08 38 43.3**	**-5.1**
STKA	**Stephens Creek**	**29.43**	**229**	P	**P**	**08 39 11.2**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=61,slow=10.0,SNR=12 comp=Z,2.1nm,0.5s						
STKA	**Stephens Creek**	**29.43**	**229**	P	**P**	**08 39 10.9**	**+0.4**
TOO	**Toolangi**	**30.36**	**216**	P	**P**	**08 39 19.2**	**+0.5**
TOO				IAmb	IAmb	08 39 19.7	
	comp=Z,21nm,1.2s						
WR0	**Warramunga Arr**	**31.86**	**255**	P	**P**	**08 39 31.1**	**-1.0**
WR0				IAmb	IAmb	08 39 45.7	
	comp=Z,9.3nm,1.0s						
WB0	**Warramunga Arr**	**31.98**	**255**	P	**P**	**08 39 32.2**	**-0.9**
WB0				IAmb	IAmb	08 39 45.8	
	comp=Z,8.4nm,0.8s						
WB2	**Warramunga Arr**	**32.04**	**255**	P	**P**	**08 39 32.6**	**-1.0**
WB2				IAmb	IAmb	08 39 54.2	
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**32.04**	**255**	P	**P**	**08 39 32.5**	**-1.1**
WRAB				IAmb	IAmb	08 39 57.8	
	comp=Z,9.1nm,0.8s						
WRA	**Warramunga Arr**	**32.05**	**255**	P	**P**	**08 39 32.4**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=86,slow=9.6,SNR=19 comp=Z,1.6nm,0.4s						
WRA	**Warramunga Arr**	**32.05**	**255**	P	**P**	**08 39 32.3**	**-1.4**
AS31	**Alice Springs**	**32.95**	**248**	P	**P**	**08 39 40.2**	**-1.4**
AS31				IAmb	IAmb	08 40 21.2	
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**32.95**	**248**	P	**P**	**08 39 40.5**	**-1.2**
	comp=Z,2.1nm,0.4s,baz=76,slow=9.3,SNR=59 comp=Z,2.1nm,0.4s						
ASAR	**Alice Springs**	**32.95**	**248**	P	**P**	**08 39 40.9**	**-0.8**
BBOO	**Buckleboo**	**33.99**	**231**	P	**P**	**08 39 50.2**	**-0.2**
FORT	**Forrest**	**39.66**	**239**	P	**P**	**08 40 37.8**	**-0.4**
SONM	**Songino Array**	**82.09**	**324**	P	**P**	**08 45 25.1**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=131,slow=4.4,SNR=3.8 comp=Z,0.5nm,0.4s						
MAW	**Mawson**	**82.44**	**202**	P	**P**	**08 45 26.4**	**+1.3**
IL31		**85.96**	**18**	P	**P**	**08 45 44.0**	**+1.3**
IL31				IAmb	IAmb	08 45 47.6	
	comp=Z,4.1nm,1.4s						
ILAR	**Eielson Array**	**85.96**	**18**	P	**P**	**08 45 43.4**	**+0.6**
ARCES	**ARCESS Array B**	**119.72**	**346**	PKP	**PKiKP**	**08 51 50.5**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=64,slow=2.1,SNR=4.5						

*IDC **20** 08:35:17.3±0.7,1°.97S×140°.77E,h0km,mb4.1/11,mbtmp4.1/13,ML4.0/2,MS3.5/31,Error ellipse: s-maj=31.7km s-min=14.8km az=83.0*
*NEIC **20** 08:35:19.4±1.2,2°.0S±0°.1×140°.5E±0°.2,h10km±2km,mb4.5/9,Error ellipse: s-maj=37.0km s-min=23.8km az=93.0*
*DJA **20** 08:35:21.1±0.7,2°.S±7°×14°.1E±°,h10km,M4.3/7,mB4.6/1,mb4.4/7,MLv4.3/3,Mw(mB)3.8/1*

ISC 20 08:35:19.0±0.6,**2°.00S**±0°.07×**140°.6E**±0°.1,**h10**km,**n58,** σ1**s11**/33,**mb4.3**/16,**MS3.6**/25,**1C,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.72**	**215**	P	**Pn**	**08 35 35.4**	**+0.1**
SMPI	**Sarmi**	**1.87**	**270**	P	**Pb**	**08 35 52.2**	**-1.1**
WAMI	**Wamena**	**2.65**	**225**	P	**Pb**	**08 36 07.0**	**+0.4**
SIJI	**Sorong**	**9.38**	**277**	LR	LR	08 41 24.5	
	comp=Z,180nm,18.3s,baz=67,slow=38						
KRVT	**Keravat (AS076**	**11.65**	**102**	LR	LR	08 42 04.9	
	comp=Z,143nm,20.9s,baz=55,slow=36						
MTN	**Manton Dam**	**14.27**	**221**	Pn	**Pn**	**08 38 40.2**	**-1.1**
GUMO	**Guam**	**16.06**	**15**	LR	LR	08 44 21.0	
	comp=Z,145nm,19.1s,baz=218,slow=34						
DAV	**Davao City (W)**	**17.47**	**301**	LR	LR	08 46 30.3	
	comp=Z,79nm,19.3s,baz=134,slow=38						
KNRA	**Kununurra**	**17.90**	**220**	P	**Pn**	**08 39 27.9**	**-0.5**
KNRA				IAmb	IAmb	08 39 43.4	
	comp=Z,35nm,1.4s						
CTA	**Charters Tower**	**18.82**	**163**	P	**P**	**08 39 38.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=344,slow=14,SNR=3.0						
CTA				LR	LR	08 47 49.8	
	comp=Z,187nm,18.1s,baz=360,slow=40 comp=Z,4.5nm,1.0s						
WRA	**Warramunga Arr**	**18.85**	**198**	P	**P**	**08 39 39.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=19,slow=12,SNR=35						
WRA				LR	LR	08 47 46.4	
	comp=Z,488nm,18.6s,baz=28,slow=40 comp=Z,6.1nm,0.8s						
HNR	**Honiara**	**20.62**	**112**	LR	LR	08 48 45.4	
	comp=Z,1μm,18.6s,baz=288,slow=40						
TTSI	**Tana Toraja**	**20.77**	**267**	P	Pn	08 40 15.6	+13
MPSI	**Mapaga**	**20.81**	**276**	P	Pn	08 40 07.0	+3.7
KAPI	**Kappang**	**21.00**	**261**	LR	LR	08 49 53.6	
	comp=Z,60nm,19.1s,baz=74,slow=41						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**08 40 10.4**	**0.0**
	comp=Z,5.5nm,0.8s,baz=36,slow=12,SNR=10.0						
FITZ				LR	LR	08 49 55.5	
	comp=Z,155nm,20.1s,baz=38,slow=40 comp=Z,5.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**08 40 10.7**	**+0.2**
FITZ				IAmb	IAmb	08 40 17.9	
	comp=Z,15nm,1.2s						
AS31	**Alice Springs**	**22.49**	**196**	P	**P**	**08 40 19.0**	**+0.1**
ASAR	**Alice Springs**	**22.49**	**196**	P	**P**	**08 40 18.6**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=28,slow=11,SNR=50						
ASAR				LR	LR	08 50 01.1	
	comp=Z,464nm,19.6s,baz=64,slow=39 comp=Z,3.4nm,0.7s						
ASAR	**Alice Springs**	**22.49**	**196**	P	**P**	**08 40 18.0**	**-0.9**
EIDS	**Eidsvold**	**25.35**	**157**	P	**P**	**08 40 49.3**	**+3.0**
EIDS				IAmb	IAmb	08 40 49.9	
	comp=Z,23nm,0.9s						
JCJ	**Chichijima**	**28.96**	**3**	LR	LR	08 50 47.6	
	comp=Z,25nm,19.0s,baz=118,slow=32						
STKA	**Stephens Creek**	**29.74**	**178**	P	**P**	**08 41 24.8**	**-0.8**
	comp=Z,6.4nm,0.9s,baz=360,slow=7.8,SNR=6.4						
STKA				LR	LR	08 53 53.2	
	comp=Z,196nm,20.6s,baz=23,slow=38 comp=Z,6.4nm,0.9s						
STKA	**Stephens Creek**	**29.74**	**178**	P	**P**	**08 41 24.5**	**-1.2**
BBOO	**Buckleboo**	**30.95**	**187**	P	**P**	**08 41 35.1**	**-1.2**
FORT	**Forrest**	**30.99**	**201**		**P**	**08 41 36.2**	**-0.5**
JOW	**Kunigami**	**31.02**	**338**	LR	LR	08 52 14.3	
	comp=Z,68nm,19.3s,baz=98,slow=33						
NWAO	**Narrogin (SRO)**	**37.77**	**213**	LR	LR	08 59 51.7	
	comp=Z,297nm,19.2s,baz=83,slow=39						
MJAR	**Matsushiro Arr**	**38.41**	**357**	LR	LR	08 57 19.0	
	comp=Z,56nm,19.4s,baz=158,slow=34						
KSRS	**Korea Array**	**40.97**	**345**	LR	LR	08 57 39.8	
	comp=Z,54nm,20.2s,baz=155,slow=33						
CMAR	**Chiang Mai Arr**	**45.73**	**298**	P	**P**	**08 43 43.4**	**+2.5**
	comp=Z,0.8nm,0.3s,baz=115,slow=6.4,SNR=5.1						
CMAR				LR	LR	09 05 55.3	
	comp=Z,9.3nm,18.1s,baz=245,slow=40 comp=Z,0.8nm,0.3s						
XAN	**Xi'an**	**46.60**	**323**	⇑P	**P**	**08 43 47.8**	**+0.3**
XAN				pP	pwP	08 43 52.8	-1.1
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**46.63**	**351**	LR	LR	08 59 52.0	
	comp=Z,102nm,21.8s,baz=162,slow=32						
URZ	**Urewera**	**49.19**	**142**	LR	LR	09 03 53.4	
	comp=Z,39nm,20.9s,baz=47,slow=35						
LZH	**Lanzhou**

mb3.5/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.85**	**289**	LR	LR	08 56 26.6	
	comp=Z,51nm,18.2s,baz=163,slow=38						
CMAR	**Chiang Mai Arr**	**16.42**	**11**	Pn	**Pn**	**08 50 18.9**	**0.0**
	0.9nm,0.3s,baz=201,slow=9.7,SNR=4.5						
	1.9nm,0.3s						
H08S2	**Diego Garcia H**	**25.23**	**247**	T	T	09 18 19.9	
	baz=68,slow=75,SNR=52						
H08S3	**Diego Garcia H**	**25.23**	**247**	T	T	09 18 23.4	
	baz=68,slow=75,SNR=111						
H08S1	**Diego Carcia H**	**25.25**	**247**	T	T	09 18 21.6	
	baz=68,slow=75,SNR=56						
H01W3	**Cape Leeuwin H**	**40.73**	**157**	T	T	09 37 28.4	
	baz=332,slow=76,SNR=43						
H01W2	**Cape Leeuwin H**	**40.75**	**157**	T	T	09 37 31.4	
	baz=332,slow=76,SNR=68						
H01W1	**Cape Leeuwin H**	**40.75**	**157**	T	T	09 37 28.4	
	baz=332,slow=76,SNR=79						
WRA	**Warramunga Arr**	**43.77**	**122**	P	**P**	**08 54 34.0**	**+0.1**
	0.2nm,0.6s,baz=301,slow=9.2,SNR=2.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**45.13**	**127**	P	**P**	**08 54 44.7**	**-0.1**
	0.4nm,1.0s,baz=300,slow=9.2,SNR=2.3						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**45.92**	**347**	P	**P**	**08 54 50.6**	**0.0**
	0.3nm,0.3s,baz=165,slow=8.4,SNR=8.0						
	0.3nm,0.3s						
SONM	**Songino Array**	**46.34**	**10**	P	**P**	**08 54 54.0**	**0.0**
	0.5nm,0.4s,baz=184,slow=10,SNR=1.9						
	0.5nm,0.4s						
NOA	**NORSAR Array B**	**85.43**	**331**	LR	LR	09 41 53.1	
	comp=Z,20nm,19.2s,baz=260,slow=39						

*NEIC **20** 08:55:55.5±1.1, 12°.0S±0°.1×166°.6E±0°.1, h54km±13km, mb4.5/26, Error ellipse: s-maj=25.8km s-min=14.3km az=46.0*

*IDC **20** 08:55:56.2±4.4, 12°.09S×166°.55E, h60km±34km, mb4.1/6, mbtmp4.4/7, ML4.9/2, MS3.4/15, Error ellipse: s-maj=40.3km s-min=23.7km az=63.0*

*NOU **20** 08:55:57.4, 12°.20S×166°.35E, h0km, mb4.6/9, Santa Cruz Islands*

ISC 20 08:55:59.3±1.0, 12°.16S±0°.10×166°.4E±0°.1, h83km, n60, σ1s33/50, mb4.4/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**5.79**	**163**	P	**Pn**	**08 57 24.7**	**+2.0**
HNR	**Honiara**	**6.89**	**293**	P	**Pn**	**08 57 35.0**	**-2.7**
	223nm,0.3s,baz=173,slow=7.1,SNR=4.9						
HNR				LR	LR	09 00 47.8	
	comp=Z,3μm,18.3s,baz=158,slow=42						
HNR	**Honiara**	**6.89**	**293**	Pn	**Pn**	**08 57 35.3**	**-2.5**
KOUNC	**Koumac, New Ca**	**8.58**	**193**		**Pn**	**08 57 59.2**	**-1.5**
KOUNC	**Koumac, New Ca**	**8.58**	**193**	P	**Pn**	**08 58 01.8**	**+1.0**
LIFNC	**LIFOU**	**8.60**	**175**	Pn	**Pn**	**08 57 58.8**	**-2.3**
MARNC	**Mare, Loyalty**	**9.40**	**171**	Pn	**Pn**	**08 58 10.3**	**-1.6**
YATNC	**Mamie plateau,**	**9.85**	**177**	P	**Pn**	**08 58 19.8**	**+1.7**
DZM	**Mont Dzumac**	**9.85**	**180**	P	**Pn**	**08 58 17.5**	**-0.7**
	1.2nm,0.3s,baz=140,slow=23,SNR=27						
DZM				S	**Sn**	**09 00 03.6**	**-3.5**
	2.4nm,0.4s,baz=323,slow=20,SNR=1.2						
DZM				LR	LR	09 01 46.7	
	comp=Z,162nm,21.7s,baz=29,slow=35						
	4.8nm,0.5s						
DZM	**Mont Dzumac**	**9.85**	**180**		**Pn**	**08 58 17.4**	**-0.8**
DZM	**Mont Dzumac**	**9.85**	**180**	P	**Pn**	**08 58 20.0**	**+1.8**
ONTNC	**Ouen Toro**	**10.09**	**180**	Pn	**Pn**	**08 58 22.1**	**+0.8**
ONTNC	**Ouen Toro**	**10.09**	**180**	P	**Pn**	**08 58 24.3**	**+3.0**
PINNC	**Pines Island,**	**10.44**	**175**	Pn	**Pn**	**08 58 24.5**	**-1.6**
PINNC	**Pines Island,**	**10.44**	**175**	P	**Pn**	**08 58 27.0**	**+0.9**
MSVF	**Nonsavu**	**12.54**	**118**	LR	LR	09 02 40.3	
	comp=Z,203nm,20.3s,baz=279,slow=32						
PMG	**Port Moresby**	**19.10**	**276**	LR	LR	09 07 21.6	
	comp=Z,77nm,18.8s,baz=107,slow=36						
EIDS	**Eidsvold**	**19.54**	**226**	P	**P**	**09 00 21.9**	**+1.5**
CTA	**Charters Tower**	**20.88**	**245**	LR	LR	09 08 01.1	
	comp=Z,111nm,18.3s,baz=78,slow=34						
ARMA	**Armidale**	**22.74**	**215**	P	**P**	**09 00 54.5**	**-0.2**
THZ	**Tophouse**	**30.03**	**170**	P	**P**	**09 02 00.6**	**+0.2**
THZ				IAmb	IAmb	09 02 29.6	
	comp=Z,25nm,1.2s						
STKA	**Stephens Creek**	**30.09**	**225**	P	**P**	**09 02 01.8**	**+0.7**
	comp=Z,8.5nm,0.7s,baz=41,slow=9.1,SNR=18						
STKA				LR	LR	09 13 18.9	
	comp=Z,91nm,18.4s,baz=26,slow=34						
	comp=Z,8.5nm,0.7s						
STKA	**Stephens Creek**	**30.09**	**225**	P	**P**	**09 02 01.7**	**+0.7**
LTZ	**Lake Taylor**	**30.93**	**172**	P	**P**	**09 02 07.5**	**-0.8**
OXZ	**Oxford**	**31.43**	**172**	P	**P**	**09 02 12.6**	**-0.1**
OXZ				IAmb	IAmb	09 02 56.0	
	comp=Z,19nm,1.2s						
TOO	**Toolangi**	**31.47**	**213**	P	**P**	**09 02 13.5**	**+0.4**
TOO				IAmb	IAmb	09 02 31.8	
	comp=Z,4.7nm,1.0s						
WR0	**Warramunga Arr**	**31.54**	**252**	P	**P**	**09 02 14.6**	**+0.7**
WR0				IAmb	IAmb	09 02 54.8	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**31.64**	**252**	P	**P**	**09 02 15.3**	**+0.5**
WB0				IAmb	IAmb	09 02 16.0	
	comp=Z,5.6nm,0.8s						
WRAB	**Tennant Creek**	**31.71**	**252**	P	**P**	**09 02 15.6**	**+0.2**
WRAB				IAmb	IAmb	09 02 16.1	
	comp=Z,5.1nm,1.0s						
WB2	**Warramunga Arr**	**31.71**	**252**	P	**P**	**09 02 15.5**	**0.0**
WB2				IAmb	IAmb	09 02 16.1	
	comp=Z,4.5nm,1.1s						
WRA	**Warramunga Arr**	**31.72**	**252**	P	**P**	**09 02 15.7**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=84,slow=9.1,SNR=24						
	comp=Z,2.5nm,0.8s						
WRA	**Warramunga Arr**	**31.72**	**252**	P	**P**	**09 02 15.8**	**+0.2**
AS31	**Alice Springs**	**32.88**	**245**	P	**P**	**09 02 25.9**	**+0.1**
ASAR	**Alice Springs**	**32.88**	**245**	P	**P**	**09 02 25.8**	**0.0**
	comp=Z,3.4nm,0.7s,baz=69,slow=9.6,SNR=58						
ASAR				LR	LR	09 15 26.8	
	comp=Z,20nm,21.5s,baz=92,slow=35						
	comp=Z,3.4nm,0.7s						
ASAR	**Alice Springs**	**32.88**	**245**	P	**P**	**09 02 26.1**	**+0.3**
GUMO	**Guam**	**33.32**	**319**	LR	LR	09 15 33.4	
	comp=Z,29nm,20.7s,baz=138,slow=35						
BBOO	**Buckleboo**	**34.55**	**229**	P	**P**	**09 02 41.4**	**+1.4**
TAU	**Tasmania Unive**	**34.82**	**205**	P	**P**	**09 02 43.1**	**+1.0**
SIJI	**Sorong**	**36.60**	**285**	LR	LR	09 18 35.3	
	comp=Z,40nm,20.6s,baz=155,slow=37						
KNRA	**Kununurra**	**36.67**	**260**	P	**P**	**09 02 58.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**39.72**	**256**	LR	LR	09 19 04.2	
	comp=Z,76nm,18.1s,baz=114,slow=35						
FITZ	**Fitzroy Crossi**	**39.72**	**256**	P	**P**	**09 03 24.9**	**+0.9**
FITZ				IAmb	IAmb	09 03 45.2	
	comp=Z,6.7nm,1.1s						
FORT	**Forrest**	**39.94**	**236**	P	**P**	**09 03 26.7**	**+1.1**
PSA00	**Pilbara Seismi**	**45.38**	**252**	P	**P**	**09 04 10.5**	**+0.7**
PSA00				IAmb	IAmb	09 04 22.5	
	comp=Z,9.4nm,1.4s						
NWAO	**Narrogin (SRO)**	**49.38**	**237**	P	**P**	**09 04 41.8**	**+1.0**
MORW	**Morawa**	**49.66**	**242**	P	**P**	**09 04 43.8**	**+0.9**
MORW				IAmb	IAmb	09 04 44.8	
	comp=Z,10nm,0.9s						
VNDA	**Vanda**	**65.39**	**181**	P	**P**	**09 06 32.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=6.2,slow=5.1,SNR=11						
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**65.39**	**181**	P	**P**	**09 06 33.4**	**+0.9**
VNDA				IAmb	IAmb	09 06 42.6	
	comp=Z,3.5nm,1.2s						
PETK	**Petropavlovsk-**	**65.44**	**354**	LR	LR	09 32 09.2	
	comp=Z,11nm,18.9s,baz=40,slow=33						
SBA	**Scott Base**	**65.69**	**180**	P	**P**	**09 06 35.1**	**+0.6**
SBA				IAmb	IAmb	09 06 36.1	
	comp=Z,6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**73.14**	**294**	P	**P**	**09 07 22.6**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=128,slow=4.8,SNR=13						
	comp=Z,3.5nm,0.8s						
QSPA	**South Pole Qui**	**77.85**	**180**	P	**P**	**09 07 47.5**	**-0.2**
QSPA				IAmb	IAmb	09 07 56.0	
	comp=Z,6.3nm,1.4s						
MAW	**Mawson**	**83.93**	**202**	P	**P**	**09 08 20.6**	**+0.8**
PFO	**Pinyon Flats O**	**86.20**	**55**	LR	LR	09 44 39.8	
	comp=Z,30nm,18.8s,baz=292,slow=34						
NVAR	**Mina Array Bea**	**86.25**	**50**	LR	LR	09 43 34.7	
	comp=Z,29nm,18.1s,baz=289,slow=33						
MKAR	**Makanchi Array**	**94.77**	**317**	P	**P**	**09 09 11.2**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=99,slow=7.5,SNR=8.7						
	comp=Z,1.3nm,0.7s						
TXAR	**Lajitas Array**	**95.80**	**61**	LR	LR	09 44 31.5	
	comp=Z,16nm,20.6s,baz=261,slow=30						
SNAA	**Sanae**	**96.05**	**183**	P	**P**	**09 09 15.4**	**-1.7**
SNAA				IAmb	IAmb	09 09 52.9	
	comp=Z,5.0nm,1.4s						
AAK	**Ala-Archa**	**99.51**	**312**	LR	LR	09 55 51.4	
	comp=Z,22nm,19.6s,baz=110,slow=36						
ARCES	**ARCESS Array B**	**117.57**	**346**	PKP	**PKPdf**	**09 14 33.5**	**-1.6**
	comp=Z,2.0nm,1.0s,baz=96,slow=2.4,SNR=3.6						

*IDC **20** 09:02:42.9±2.9, 53°.56N×87°.98E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=27.9km s-min=18.1km az=88.0*

*NNC **20** 09:02:45.6±1.9, 53°.49N×87°.69E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=14.3km s-min=6.9km az=62.0, Suspected Mining explosion.*

ISC 20 09:02:45.8±3.5, 53°.6N±0°.1×87°.7E±0°.2, h0km, n9, σ0s54/14, 5C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**284**	*i*		09 15 35.0	
	baz=98,slow=328,SNR=10						
ZAA0	**Zalesovo Array**	**1.74**	**284**	⇑P	**Pn**	**09 03 16.8**	**-0.4**
	0.7nm,0.5s						
ZAA0				⇓S	**Sb**	**09 03 41.3**	**+0.4**
	2.2nm,0.4s						
ZALV	**Zalesovo Beam**	**1.74**	**284**	Pn	**Pn**	**09 03 17.1**	**-0.1**
	3.2nm,0.3s,baz=97,slow=19,SNR=27						
ZALV				Sn	**Sg**	**09 03 42.4**	**+0.8**
	8.0nm,0.3s,baz=104,slow=24,SNR=21						
KURK	**Kurchatov**	**6.26**	**247**	⇑Sn	**Sn**	**09 05 31.1**	**-0.3**
	1.8nm,0.8s						
KURK				⇓Lg	Lg	09 06 03.9	
	8.9nm,1.2s						
KURBB	**Kurchatov Arra**	**6.35**	**246**	Pn	**Pn**	**09 04 20.4**	**-0.2**
	0.1nm,0.3s,baz=62,slow=14,SNR=12						
KURBB				Sn	**Sn**	**09 05 33.4**	**-0.4**
	0.1nm,0.3s,baz=65,slow=24,SNR=2.8						
KURBB				Lg	Lg	09 06 10.8	
	0.1nm,0.3s,baz=64,slow=33,SNR=5.9						
	2.5nm,0.6s						
KURBB	**Kurchatov Arra**	**6.35**	**246**	⇓Pn	**Pn**	**09 04 20.0**	**-0.5**
	2.3nm,0.5s						
KURBB				⇓Sn	**Sn**	**09 05 32.9**	**-0.9**
	4.4nm,0.5s						
KURBB				⇓Lg	Lg	09 06 08.3	
	9.5nm,0.8s						
MK31	**Makanchi Array**	**7.60**	**209**	⇓Pn	**Pn**	**09 04 38.4**	**+0.6**
	0.1nm,0.3s,baz=32,slow=14,SNR=5.5						
MK31				⇓Sn	**Sn**	**09 06 04.6**	**+0.1**
	0.3nm,0.4s,baz=177,slow=31,SNR=3.3						
MK31				⇑Lg	Lg	09 06 45.9	
	1.5nm,0.7s,baz=43,slow=32,SNR=3.9						
MKAR	**Makanchi Array**	**7.60**	**209**	Pn	**Pn**	**09 04 37.5**	**-0.2**
	0.2nm,0.3s,baz=27,slow=12,SNR=5.1						
MKAR				Sn	**Sn**	**09 06 03.8**	**-0.7**
	0.2nm,0.3s,baz=32,slow=29,SNR=3.4						
MKAR				Lg	Lg	09 06 46.8	
	0.2nm,0.3s,baz=32,slow=33,SNR=5.1						
	0.3nm,0.4s						
MAKZ	**Makanchi**	**7.68**	**211**	⇑Sn	**Sn**	**09 06 06.7**	**+0.2**
	0.8nm,0.4s						
MAKZ				⇑Lg	Lg	09 06 45.8	
	3.3nm,0.9s						

*IDC **20** 09:10:06.1±0.8, 13°.05N×93°.01E, h0km, mb3.9/10, mbtmp3.9/11, ML3.8/1, MS3.1/2, Error ellipse: s-maj=30.8km s-min=17.5km az=52.0*

*NEIC **20** 09:10:11.2±1.8, 13°.30N±0°.04×93°.1E±0°.1, h35km±2km, mb4.3/8, Error ellipse: s-maj=17.9km s-min=5.5km az=72.0*

ISC 20 09:10:10.9±1.1, 13°.23N±0°.07×93°.04E±0°.09, h31km±8km, n31, σ1s56/28, mb4.0/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.11**	**244**	*e*P	**Pn**	**09 10 16.5**	**-0.1**
DGPR				*e*S	**Sb**	**09 10 20.8**	**+0.6**
DGPR				IAML		09 10 21.4	
	comp=N,17μm,0.3s						
DGPR				IAML		09 10 22.0	
	comp=E,18μm,0.3s						
PBA	**Port Blair**	**1.59**	**190**	Pn	**Pb**	**09 10 38.0**	**-1.6**
PBA	**Port Blair**	**1.59**	**190**	*e*P	**Pb**	**09 10 39.0**	**-0.7**
PBA				*e*S	**Sb**	**09 11 03.0**	**+3.7**
PBA				IAML		09 11 04.3	
	comp=N,10μm,0.3s						
PBA				IAML		09 11 05.0	
	comp=E,10μm,0.2s						
CMAR	**Chiang Mai Arr**	**7.70**	**47**	Pn	**Pn**	**09 12 02.6**	**+1.5**
	comp=E,0.3nm,0.3s,baz=238,slow=15,SNR=12						
	comp=E,2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.70**	**47**	Pn	**Pn**	**09 12 01.1**	**0.0**
H08S3	**Diego Garcia H**	**29.09**	**226**	T	T	09 45 55.7	
	baz=43,slow=76,SNR=6.0						
H08S2	**Diego Garcia H**	**29.09**	**226**	T	T	09 45 57.0	
	baz=43,slow=76,SNR=6.1						
H08S1	**Diego Carcia H**	**29.10**	**226**	T	T	09 45 56.9	
	baz=43,slow=76,SNR=4.7						
MKAR	**Makanchi Array**	**34.66**	**347**	P	**P**	**09 16 58.2**	**+0.6**
	comp=E,0.7nm,0.7s,baz=161,slow=7.7,SNR=7.0						
	comp=E,0.7nm,0.7s						
MAKZ	**Makanchi**	**34.74**	**347**	P	**P**	**09 16 56.0**	**-2.3**
MAKZ				IAmb	IAmb	09 16 56.3	
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**39.12**	**345**	P	**P**	**09 17 34.7**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=164,slow=8.6,SNR=4.3						
	comp=Z,0.4nm,0.4s						
KSRS	**Korea Array**	**39.34**	**46**	LR	LR	09 35 10.1	
	comp=Z,21nm,19.5s,baz=120,slow=38						
FITZ	**Fitzroy Crossi**	**44.76**	**133**	P	**P**	**09 18 19.7**	**-2.3**
	comp=Z,2.1nm,0.9s,baz=22,slow=5.4,SNR=2.1						
	comp=Z,2.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**44.76**	**133**	P	**P**	**09 18 19.9**	**-2.1**
FITZ				IAmb	IAmb	09 18 22.1	
	comp=Z,5.5nm,1.2s						
ABKAR	**Akbulak array**	**45.06**	**330**	P	**P**	**09 18 23.0**	**-1.0**
WB0	**Warramunga Arr**	**52.27**	**128**	P	**P**	**09 19 18.5**	**-1.3**
WB0				IAmb	IAmb	09 19 46.8	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**52.33**	**128**	P	**P**	**09 19 19.1**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=310,slow=8.4,SNR=5.9						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**52.33**	**128**	P	**P**	**09 19 18.5**	**-1.8**
WRAB	**Tennant Creek**	**52.33**	**128**	P	**P**	**09 19 19.6**	**-0.6**
WRAB				IAmb	IAmb	09 19 34.7	
	comp=Z,7.2nm,1.4s						
WB2	**Warramunga Arr**	**52.34**	**128**	P	**P**	**09 19 18.6**	**-1.7**
WR0	**Warramunga Arr**	**52.49**	**128**	P	**P**	**09 19 20.9**	**-0.5**
AS31	**Alice Springs**	**54.24**	**132**	P	**P**	**09 19 33.9**	**-0.4**
ASAR	**Alice Springs**	**54.24**	**132**	P	**P**	**09 19 33.6**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=308,slow=6.9,SNR=26						
	comp=Z,0.8nm,0.4s						
ASAR	**Alice Springs**	**54.24**	**132**	P	**P**	**09 19 32.2**	**-2.1**
KMBO	**Kilima Mbogo**	**57.11**	**260**	LR	LR	09 43 47.9	
	comp=Z,21nm,18.1s,baz=94,slow=35						
BRTR	**Keskin Array B**	**58.19**	**309**	P	**P**	**09 20 03.2**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=125,slow=7.5,SNR=4.1						
	comp=Z,1.1nm,0.7s						
ARCES	**ARCESS Array B**	**69.90**	**340**	P	**P**	**09 21 19.9**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=90,slow=4.9,SNR=4.2						
	comp=Z,1.4nm,0.9s						
GERES	**GERESS Array B**	**73.16**	**317**	P	**P**	**09 21 39.8**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=72,slow=4.3,SNR=4.9						
	comp=Z,0.6nm,0.5s						
BOSA	**Boshof**	**77.56**	**236**	P	**P**	**09 22 03.2**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=80,slow=6.1,SNR=4.6						
	comp=Z,2.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**88.33**	**283**	P	**P**	**09 23 02.0**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=72,slow=4.7,SNR=2.7						
	comp=Z,0.5nm,0.8s						
TXAR	**Lajitas Array**	**134.72**	**21**	PKP	**PKiKP**	**09 29 29.5**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=35,slow=3.3,SNR=1.9						

*IDC **20** 09:14:16.9±3.5, 16°.65S×177°.24W, h446km±26km, mb2.9/5, mbtmp3.7/6, Error ellipse: s-maj=199.5km s-min=22.5km az=155.0*

ISC 20 09:14:17.8±2.5, 16°.S±1°.×177°.4W±0°.7, h450km, n6, σ1s31/6, mb2.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.56**	**251**	P	**P**	**09 15 37.5**	**-0.7**
	6.9nm,0.5s,baz=140,slow=23,SNR=20						
CTA	**Charters Tower**	**34.67**	**258**	P	**P**	**09 20 30.1**	**+1.6**
	2.5nm,0.7s,baz=71,slow=8.4,SNR=3.9						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**45.87**	**258**	P	**P**	**09 21 57.3**	**-1.4**
	0.2nm,0.4s,baz=96,slow=7.4,SNR=8.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**46.16**	**253**	P	**P**	**09 22 00.8**	**0.0**
	3.7nm,0.6s,baz=86,slow=8.4,SNR=57						
	3.7nm,0.6s						
NVAR	**Mina Array Bea**	**77.60**	**44**	P	**P**	**09 25 26.7**	**-0.1**
	0.2nm,0.6s,baz=225,slow=8.9,SNR=2.5						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**84.33**	**57**	P	**P**	**09 26 02.0**	**+0.2**
	0.1nm,0.4s,baz=218,slow=5.7,SNR=2.7						
	0.1nm,0.4s						

*IDC **20** 09:16:54.9±2.0, 21°.60N×143°.15E, h296km±18km, mb3.1/9, mbtmp3.8/10, Error ellipse: s-maj=26.2km s-min=13.6km az=84.0*

ISC 20 09:16:56.3±0.8, 21°.7N±0°.1×143°.2E±0°.2, h311km, n12, σ0s71/13, mb3.4/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.47**	**351**	P	**Pn**	**09 18 18.9**	**-0.8**
	28nm,0.4s,baz=270,slow=20,SNR=5.4						
JCJ				S	**S**	**09 19 26.1**	**-0.8**
	65nm,0.7s,baz=306,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**42.24**	**192**	P	**P**	**09 24 19.1**	**-0.9**
	0.3nm,0.4s,baz=14,slow=9.4,SNR=14						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**45.95**	**192**	P	**P**	**09 24 48.4**	**-0.8**
	0.3nm,0.7s,baz=16,slow=10,SNR=5.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**54.69**	**313**	P	**P**	**09 25 54.8**	**+0.8**
	0.3nm,0.5s,baz=91,slow=11,SNR=4.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**57.52**	**317**	P	**P**	**09 26 13.9**	**+0.2**
	1.1nm,0.5s,baz=94,slow=7.5,SNR=13						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**62.08**	**27**	P	**P**	**09 26 44.2**	**-0.1**
	0.3nm,0.5s,baz=262,slow=6.2,SNR=3.0						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**62.67**	**320**	P	**P**	**09 26 49.0**	**+0.6**
	1.5nm,0.3s,baz=95,slow=8.2,SNR=9.1						
	1.5nm,0.3s						
ARCES	**ARCESS Array B**	**78.94**	**341**	P	**P**	**09 28 26.4**	**+1.0**
	1.4nm,0.8s,baz=64,slow=2.8,SNR=8.0						
	1.4nm,0.8s						
NVAR	**Mina Array Bea**	**83.19**	**51**	P	**P**	**09 28 49.1**	**+0.5**
	0.5nm,0.8s,baz=268,slow=4.3,SNR=5.4						
	0.5nm,0.8s						
FINES	**FINESS Array B**	**83.19**	**334**	P	**P**	**09 28 47.5**	**-0.3**
	1.1nm,0.5s,baz=66,slow=4.0,SNR=11						
	1.1nm,0.5s						
PLCA	**Paso Flores**	**145.76**	**131**	PKPbc	**PKPbc**	**09 35 59.8**	**+0.4**
	0.5nm,0.4s,baz=191,slow=5.2,SNR=3.6						
LPAZ	**La Paz**	**149.97**	**85**	PKPbc	**PKPbc**	**09 36 11.6**	**-0.1**
	0.7nm,0.5s,baz=278,slow=3.6,SNR=5.1						

IDC 20 09:27:10.2±2.6, 53°.63N×86°.95E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.7km s-min=14.8km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**285**	*i*		09 35 50.0	
	baz=103,slow=319,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.30**	**285**	Pg	Pg	09 27 33.6	-1.6
	0.9nm,0.3s,baz=106,slow=17,SNR=11						
ZALV				Lg	Lg	09 27 51.7	
	0.8nm,0.3s,baz=108,slow=28,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.00**	**243**	Pn	Pn	09 28 41.3	+1.1
	0.1nm,0.3s,baz=62,slow=14,SNR=4.6						
KURBB				Lg	Lg	09 30 23.8	
	baz=54,slow=31,SNR=4.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.47**	**205**	Pn	Pn	09 29 01.8	+1.4
	0.1nm,0.3s,baz=28,slow=14,SNR=5.3						
MKAR				Lg	Lg	09 31 05.3	
	0.1nm,0.3s,baz=25,slow=31,SNR=5.9						
	0.2nm,0.3s						

IDC 20 09:36:47.9±2.7, 53°.72N×86°.95E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=24.0km s-min=14.9km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**281**	*i*		09 45 25.0	
	baz=100,slow=319,SNR=12						
ZALV	**Zalesovo Beam**	**1.28**	**281**	Pg	Pg	09 37 10.9	-1.6
	1.1nm,0.3s,baz=101,slow=16,SNR=6.4						
ZALV				Lg	Lg	09 37 29.9	
	1.0nm,0.3s,baz=99,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**6.04**	**242**	Pn	Pn	09 38 18.7	+0.3
	0.1nm,0.3s,baz=58,slow=13,SNR=4.1						
KURBB				Lg	Lg	09 39 58.6	
	baz=63,slow=35						
	0.4nm,0.4s

IUG Iuzhnay 4.78 343 *i* P Pn 09 43 42.7 +1.6
baz=342
IUG eS Sn 09 44 36.3 +1.0
baz=342
CHM Chimkent 5.05 340 *e*P Pn 09 43 49.2 +4.6
119nm,0.2s
CHM eS Sn 09 44 43.4 +1.7
912nm,0.4s
UCH Uchtor 5.07 23 P Pn 09 43 46.6 +1.3
SNR=192
EKS2 Erkin-Say 5.29 15 P Pn 09 43 49.5 +1.6
SNR=157
DZA Taraz 5.33 356 *e*PN Pn 09 43 48.6 +0.3
DZA Taraz 5.33 356 *e*P Pn 09 43 51.6 +3.3
301nm,0.2s
DZA eS Sn 09 44 47.7 -0.8
1µm,0.3s
DZA Taraz 5.33 356 *e*P Pn 09 43 48.6 +0.3
baz=355
AAK Ala-Archa 5.44 21 P Pn 09 43 51.8 +1.8
SNR=112
AAK Ala-Archa 5.44 21 P Pn 09 43 51.8 +1.8
96nm,0.4s,baz=202,slow=4.1,SNR=152
AAK S Sn 09 44 50.5 -0.8
111nm,0.5s,baz=190,slow=12,SNR=4.3
AAK Ala-Archa 5.44 21*c i*PN Pn 09 43 51.6 +1.6
AAK Ala-Archa 5.44 21 P Pn 09 43 51.5 +1.6
JMU Jammu 5.44 152 P Pn 09 43 50.4 +0.5
JMU eS Sn 09 44 47.6 -3.6
JMU eS Sn 09 44 47.7 -3.6
KBK Karagaybulak 5.59 24 P Pn 09 43 53.7 +1.6
SNR=26
KK31 Karatay Array 5.62 350 Pn Pn 09 43 53.6 +1.3
KK31 Karatay Array 5.62 350 PN Pn 09 43 53.6 +1.3
KK31 Karatay Array 5.62 350 ⇓P Pn 09 43 51.8 -0.5
210nm,0.5s,baz=175,slow=12,SNR=1995
KK31 ⇓S Sn 09 44 54.0 -1.5
346nm,0.7s,baz=171,slow=22,SNR=9.3
KKAR Karatay Array 5.62 350 Pn Pn 09 43 53.6 +1.3
KKAR Karatay Array 5.62 350 PN Pn 09 43 53.6 +1.3
ULHL Ulahol 5.75 34 P Pn 09 43 55.9 +1.7
SNR=17
BOOM Boomskoye usch 5.81 31 Pn 09 43 56.1 +1.0
BOOM Boomskoye usch 5.81 31 PN Pn 09 43 56.1 +1.0
CHMS Chumysh 5.84 21 P Pn 09 43 57.0 +1.6
SNR=77
CHMS Chumysh 5.84 21 *i* PN Pn 09 43 56.8 +1.5
CHMS pmax pmax
comp=Z,65nm,0.3s
CHMS Chumysh 5.84 21 ⇑P Pn 09 43 56.9 +1.5
comp=Z,64nm,0.3s
CHMS ⇓S Sn 09 44 59.1 -1.9
comp=Z,145nm,0.7s
THN Thein Dam 6.02 147 *e*P Pn 09 43 58.3 +0.6
THN *e*P Pn 09 44 00.0 +2.3
THN eS Sn 09 45 01.6 -3.7
THN eS Sn 09 45 02.0 -3.2
USP Ospenovka 6.03 19 P Pn 09 43 58.8 +1.0
SNR=114
TKM2 Tokmak 2 6.05 27 P Pn 09 43 59.9 +1.5
SNR=80
TKM2 Tokmak 2 6.05 27 *i* PN Pn 09 43 59.8 +1.5
TKM2 pmax pmax
comp=Z,25nm,0.4s
TKM2 Tokmak 2 6.05 27 ⇓P Pn 09 43 59.8 +1.5
comp=Z,25nm,0.4s
TKM2 ⇑S Sn 09 45 05.2 -1.1
comp=Z,88nm,1.1s
TARG Taragay, Kyrgy 6.17 46 Pn Pn 09 44 01.4 +1.2
TARG Taragay, Kyrgy 6.17 46 PN Pn 09 44 01.4 +1.2
SGDS Sogindy 6.23 19 *i* PN Pn 09 44 01.3 +0.7
SGDS pmax pmax
comp=Z,13nm,0.3s
SGDS Sogindy 6.23 19 *e*P Pn 09 44 03.0 +2.3
comp=Z,53nm,0.0s
SGDS eS Sn 09 45 08.1 -2.5
comp=Z,56nm,0.5s
SGDS Sogindy 6.23 19 *i* P Pn 09 44 01.4 +0.7
comp=Z,13nm,0.3s,baz=19
SGDS eS Sn 09 45 08.2 -2.3
baz=19
KST Kastek 6.29 28 *e*P Pn 09 44 05.8 +4.3
comp=Z,30nm,0.5s
KST eS Sn 09 45 13.3 +1.3
comp=Z,100nm,0.5s
DGS Degeres 6.39 26 *e*P Pn 09 44 08.5 +5.6
comp=Z,31nm,0.4s
DGS eS Sn 09 45 18.3 +3.9
comp=Z,45nm,0.8s
MTBS Maitube 6.55 31 *e*P Pn 09 44 09.7 +4.8
comp=Z,27nm,0.4s
MTBS eS Sn 09 45 20.3 +2.2
comp=Z,53nm,0.4s
KRBS Karabastau 6.76 24 *e*P Pn 09 44 15.7 +7.9
comp=Z,10nm,0.6s
KRBS eS Sn 09 45 31.5 +8.1
comp=Z,32nm,0.8s
AAA Alma-Ata 6.81 33 *e*PN Pn 09 44 08.9 +0.3
AAA Alma-Ata 6.81 33 *e*P Pn 09 44 08.9 +0.3
baz=33
ANVS Anan'yevo 6.83 39 PN Pn 09 44 10.8 +1.9
ANVS pmax pmax
comp=Z,32nm,0.4s
MDOK Medeo 6.83 34 PN Pn 09 44 11.2 +2.3
MDOK Medeo 6.83 34 *e*P Pn 09 44 10.0 +1.0
baz=34
MDOK Medeo 6.83 34 ⇑P Pn 09 44 11.4 +2.5
comp=Z,18nm,0.8s
MDOK ⇓S Sn 09 45 28.7 +3.4
comp=Z,65nm,0.8s
KUU Kurty 7.16 27 *i* PN Pn 09 44 13.4 +0.2
KUU pmax pmax
comp=Z,6.0nm,0.3s
KUU Kurty 7.16 27 *e*P Pn 09 44 24.2 +11
comp=Z,6.5nm,0.6s
KUU eS Sn 09 45 46.9 +14
comp=Z,28nm,0.9s
KUU Kurty 7.16 27 *i* P Pn 09 44 13.4 +0.2
comp=Z,6.2nm,0.3s,baz=27
BHK Bhakra 7.19 147 *e*PN Pn 09 44 12.2 -1.6
BHK *e*P Pn 09 44 14.0 +0.2
BHK eS Sn 09 45 27.9 -6.0
BHK eSN Sn 09 45 29.0 -4.9
CHKK Chushkaly 7.37 30 *e*PN Pn 09 44 16.3 +0.2
CHKK Chushkaly 7.37 30 *e*P Pn 09 44 16.4 +0.2
baz=30
SATY Saty 7.41 40 *e*PN Pn 09 44 16.5 -0.1
SATY Saty 7.41 40 *e*P Pn 09 44 16.6 -0.1
baz=40
ZHN Zhinishke 7.50 40 *e*PN Pn 09 44 17.5 -0.4
ZHN Zhinishke 7.50 40 *e*P Pn 09 44 17.5 -0.4
baz=40
BTLS Baital 7.63 12 *i* PN Pn 09 44 19.8 +0.2
BTLS Baital 7.63 12 *i* P Pn 09 44 19.9 +0.2
baz=11
SMLA Simla 7.77 144 *e*P Pn 09 44 20.8 -0.8
SMLA eS Sn 09 45 39.7 -8.3
SMLA IAML 09 45 45.4
comp=N,1µm,0.7s
UZB Uzynbulak 7.79 42 *e*PN Pn 09 44 22.0 +0.1
UZB Uzynbulak 7.79 42 *e*P Pn 09 44 22.0 +0.1
baz=42
KPKS Kokpek 7.84 39 *i* PN Pn 09 44 22.8 +0.3
KPKS pmax pmax
comp=Z,3.0nm,0.2s
KPKS Kokpek 7.84 39 *i* P Pn 09 44 22.8 +0.3
comp=Z,3.4nm,0.2s,baz=40
SHLS Shalkode 8.03 44 *e*PN Pn 09 44 28.8 +3.6
SHLS Shalkode 8.03 44 *e*P Pn 09 44 28.9 +3.6
baz=45
PDGK Podgornoye 8.16 43 PN Pn 09 44 26.9 -0.1
PDGK S Sn 09 46 01.8 +4.2
PDGK Podgornoye 8.16 43 ⇓P Pn 09 44 26.9 -0.1
comp=Z,18nm,0.5s
PDGK ⇓S Sn 09 46 01.8 +4.2
comp=Z,130nm,1.2s
HRA Herat 8.43 251 Pn Pn 09 44 31.7 +0.9
DDI Dehra Dun 8.87 143 *e*P Pn 09 44 35.8 -0.7
DDI eS Sn 09 46 05.7 -9.0
DDI IAML 09 46 14.3
comp=E,761nm,0.2s
NDI New Delhi 9.93 152 *e*P Pn 09 44 50.0 -1.0
NDI eS Sn 09 46 31.0 -10
KUDL Kundal 10.17 156 *e*P Pn 09 44 51.1 -3.1
KUDL eS Sn 09 46 35.7 -11
SONA Sohna 10.27 153 *e*P Pn 09 44 53.6 -2.0
SONA eS Sn 09 46 38.2 -11
PTH Pithoragarh 10.60 137 *e*P Pn 09 44 57.6 -2.6
LGTI Lohaghat 10.69 137 *e*P Pn 09 44 57.8 -3.5
LGTI eS Sn 09 46 47.9 -11
GEYT Alibeck 10.90 276 P Pn 09 45 02.1 -2.1
comp=E,20nm,0.3s,baz=102,slow=9.0,SNR=63
GEYT S Sn 09 46 59.3 -4.9
comp=E,26nm,0.5s,baz=96,slow=15,SNR=4.3
GEYT LR LR 09 50 08.0
comp=E,50nm,20.4s,baz=40,slow=41
GEYT Alibeck 10.90 276 Pn Pn 09 45 01.6 -2.6
GYA0 ALIBECK ARRAY 10.90 276 P Pn 09 45 01.8 -2.4
GYA0B ALIBECK ARRAY 10.90 276 Pn Pn 09 45 01.7 -2.5
AJM Ajmer 11.31 167 *e*P Pn 09 45 07.5 -2.2
AJM eS Sn 09 47 03.3 -11
MAKZ Makanchi 11.87 36 Pn 09 45 16.4 -0.7
MAKZ Makanchi 11.87 36 P Pn 09 45 16.4 -0.7
MAKZ Makanchi 11.87 36 ⇑P Pn 09 45 16.1 -1.0
comp=E,11nm,1.0s
MK31 Makanchi Array 12.01 37 Pn Pn 09 45 18.5 -0.4
MK31 Makanchi Array 12.01 37*ce*P Pn 09 45 18.4 -0.5
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 12.01 37 ⇑P Pn 09 45 18.4 -0.5
comp=Z,2.7nm,0.5s,baz=217,slow=14,SNR=46
MKAR Makanchi Array 12.01 37 P Pn 09 45 18.1 -0.9
comp=Z,6.4nm,0.8s,baz=224,slow=12,SNR=30
BRZS Berezniki 12.42 2 *i* P Pn 09 45 22.8 -1.4
BRZS Berezniki 12.42 2 *i* P Pn 09 45 22.9 -1.4
baz=2.2
PYUN Piuthan 13.28 132 *e*P Pn 09 45 31.4 -4.5
comp=Z,113nm,0.3s
JHNI Jhansi 13.34 153 *e*P Pn 09 45 33.5 -3.0
JHNI eS Sn 09 47 50.2 -13
WMQ Urumqi 13.52 58 *e*P Pn 09 45 38.8 0.0
WMQ pmax pmax
comp=Z,34nm,0.7s
DANN Dangsing 13.56 129 *e*P Pn 09 45 35.4 -4.3
comp=Z,140nm,0.4s
KURBB Kurchatov Arra 13.88 18 P Pn 09 45 40.4 -3.1
comp=Z,2.9nm,0.7s,baz=207,slow=12,SNR=15
KURBB Kurchatov Arra 13.88 18 P Pn 09 45 43.3 -0.1
KURBB Kurchatov Arra 13.88 18 ⇑P Pn 09 45 43.3 -0.1
comp=Z,15nm,1.1s
KURK Kurchatov 13.99 18 Pn Pn 09 45 41.6 -3.2
KURK Kurchatov 13.99 18*de*P Pn 09 45 41.6 -3.2
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 13.99 18 ⇓P Pn 09 45 44.0 -0.8
comp=Z,12nm,0.8s
SEM Semipalatinsk 14.16 22 *e*P Pn 09 45 46.3 -0.9
SEM Semipalatinsk 14.16 22 *e*P Pn 09 45 46.3 -0.9
baz=22
GKN Gorkha 14.35 128 *e*P Pn 09 45 45.0 -4.8
comp=Z,120nm,0.4s
AB31 Akbulak array 14.52 327 *e*P Pn 09 45 49.7 -1.9
AB31 Akbulak array 14.52 327 P Pn 09 45 49.8 -1.9
comp=Z,5.3nm,0.5s,baz=141,slow=12,SNR=219
AB31 S Sn 09 48 28.3 -3.3
comp=Z,17nm,0.5s,baz=149,slow=20,SNR=19
ABKAR Akbulak array 14.52 327 Pn 09 45 49.6 -2.1
ALBI Allahabad 14.86 143 *e*P Pn 09 45 51.8 -4.4
ALBI eS Sn 09 48 25.0 -15
DMN Daman 14.92 128 *e*P Pn 09 45 52.2 -5.0
comp=Z,65nm,0.4s
BHPL Bhopal 15.06 160 *e*P Pn 09 45 54.7 -4.0
BHPL IAmb IAmb 09 46 00.9
comp=Z,34nm,0.7s
BHPL eS Sn 09 48 31.3 -14
PKIN Phulchoki 15.12 127 *e*P Pn 09 45 54.5 -5.3
comp=Z,79nm,0.4s
PKI Pulchoki 15.14 127 *e*P Pn 09 45 54.3 -5.7
comp=Z,59nm,0.4s
GUN Gumba 15.20 125 *e*P Pn 09 45 55.7 -5.1
comp=Z,55nm,0.3s
BVA0 Borovoye Array 15.49 357 *i* P Pn 09 46 02.2 -1.6
BVA0 Borovoye Array 15.49 357 P Pn 09 46 02.2 -1.6
comp=Z,5.1nm,0.4s,baz=152,slow=12,SNR=37
BVAR Borovoye Array 15.49 357 P Pn 09 46 02.5 -1.3
comp=Z,4.6nm,0.3s,baz=160,slow=14,SNR=25
BRVK Borovoye 15.52 356 Pn Pn 09 46 02.4 -1.9
BRVK IAmb IAmb 09 46 07.8
comp=Z,17nm,0.8s
BRVK Borovoye 15.52 356*c i*P Pn 09 46 02.6 -1.7
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 15.52 356 ⇑P Pn 09 46 02.7 -1.7
comp=Z,17nm,0.8s
JIRN Jiri 15.57 125 *e*P Pn 09 46 00.5 -5.0
comp=Z,124nm,0.4s
AKTO Aktyubinsk 16.23 327 P Pn 09 46 13.5 +0.3
comp=Z,6.0nm,0.4s,baz=146,slow=5.7,SNR=31
AKTO S Sn 09 49 02.8 -10
comp=Z,10nm,0.8s,baz=203,slow=12,SNR=5.0
AKTO Aktyubinsk 16.23 327 ⇑P Pn 09 46 13.1 -0.1
comp=Z,8.3nm,0.6s
AKTO ⇑S Sn 09 49 09.3 -3.6
comp=Z,32nm,0.7s
RAMN Ramite 16.33 126 *e*P Pn 09 46 09.2 -5.6
comp=Z,88nm,0.4s
DGZ Jazzator, Alta 16.50 38⇑*e*P Pn 09 46 14.2 -2.5
DGZ pmax pmax
comp=Z,14nm,0.6s
TAPN Taplejung 16.78 123 *e*P Pn 09 46 15.1 -5.3
comp=Z,60nm,0.6s
AKL Akola 17.39 164 *e*P P 09 46 27.9 +0.4
BANOM Banah 17.59 233 P P 09 46 29.4 -0.2
SHME Shamm 17.61 234 P P 09 46 30.5 +0.8
LSA Lhasa 17.84 110 P P 09 46 33.4 +0.5
LSA IAmb IAmb 09 46 38.6
comp=Z,17nm,0.8s
LSA Lhasa 17.84 110 P P 09 46 33.4 +0.5
LSA pmax pmax
comp=Z,17nm,0.8s
LKRN Lenkeran, Azer 18.20 281 P P 09 46 37.8 +1.6
WSAR Wadi Sarin 18.27 222 P P 09 46 39.5 +2.5
comp=Z,3.2nm,0.6s,baz=82,slow=11,SNR=4.1
UOSS Minazif 18.35 231 P P 09 46 40.5 +2.5
GOMU GeErMu 18.39 87 P P 09 46 39.5 +0.8
GOMU pP pP 09 46 56.1 -2.6
GOMU sP sP 09 47 12.8 +1.0
GOMU pmax pmax
comp=Z,18nm,0.9s
HATD Hatta, Dubai 18.49 231 P Pn 09 46 42.8 +2.0
ASHO Ashiyiah 18.64 231 P P 09 46 42.4 +1.3
ZAA0 Zalesovo Array 18.65 24 P P 09 46 39.1 -1.9
ZAA0 IAmb IAmb 09 47 06.2
comp=Z,45nm,1.3s
ZALV Zalesovo Beam 18.65 24 P P 09 46 40.6 -0.3
comp=Z,5.8nm,0.3s,baz=236,slow=11,SNR=9.2
ZALV Zalesovo Beam 18.65 24 P P 09 46 40.1 -0.8
MAK Makhachkala 19.33 294 *e*P P 09 46 48.5 0.0
MAK eS S 09 50 21.5 -0.3
MAK pmax pmax
comp=Z,335nm,1.3s
SEKA Sheki 19.40 288 P P 09 46 51.3 +2.0
ZKTA Zakatala 19.86 290 P P 09 46 56.2 +2.0
GROC Groznyy 20.61 294 *e*P P 09 47 02.8 +0.5
GROC *e**PP pP 09 47 24.2 +2.0
GROC eS S 09 50 45.9 -1.1
GROC pmax pmax
comp=Z,310nm,1.2s
NAX Nakhchivan 20.73 283 P P 09 47 05.9 +2.2
ARU Arti 20.86 339 P P 09 47 06.1 +1.2
comp=Z,3.8nm,0.3s,baz=290,slow=1.0,SNR=6.9
comp=Z,3.8nm,0.3s
ARU Arti 20.86 339 P P 09 47 02.6 -2.3
ARU Arti 20.86 339*d i*P P 09 47 05.7 +0.8
ARU 09 47 36.7
ARU S S 09 50 52.5 +0.7
ARU pmax pmax
comp=Z,5.0nm,0.7s
HYBB Hyderabad (bro 20.92 162 *e*P P 09 47 05.4 -0.5
GNI Garni 21.26 285 P P 09 47 10.7 +1.2
comp=Z,18nm,0.7s,baz=169,slow=2.3,SNR=7.4
comp=Z,18nm,0.7s
GNI Garni 21.26 285 P P 09 47 07.1 -2.4
GNI Garni 21.26 285*d i*P P 09 47 12.6 +3.1
GNI pmax pmax
comp=Z,64nm,1.3s
GTA Gaotai 21.91 77 *e*P P 09 47 17.9 +1.5
GTA pP pP 09 47 43.6 +6.7
GTA sP sP 09 47 58.8 +8.9
GTA pmax pmax
comp=Z,15nm,1.0s
ZEI Tsey 21.95 292 *e*P P 09 47 17.6 +0.7
ZEI pmax pmax
comp=Z,10.0nm,1.0s
ONI Oni 22.27 292 P P 09 47 17.0 -3.1
ONI IAmb IAmb 09 47 30.6
comp=Z,16nm,0.9s
ONI Oni 22.27 292 P P 09 47 17.0 -3.1
ONI pmax pmax
comp=Z,16nm,0.9s
KNGR Kungurtug, Tuv 22.42 46⇑*e*P P 09 47 21.8 +0.2
KNGR pmax pmax
comp=Z,6.0nm,0.8s
BELG Belogornoye 22.52 319*c i*P P 09 47 23.1 +0.7
BELG pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 22.76 295 P P 09 47 25.6 +0.6
comp=Z,2.1nm,0.5s,baz=144,slow=9.6,SNR=3.1
comp=Z,2.1nm,0.5s
KBZ Khabaz 22.76 295⇑*e*P P 09 47 23.6 -1.4
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 22.94 295 P P 09 47 22.8 -4.1
KIV IAmb IAmb 09 47 39.3
comp=Z,16nm,0.9s
KIV Kislovodsk 22.94 295 *e*P P 09 47 24.0 -2.9
KIV *e*S S 09 51 25.5 -3.7
KIV pmax pmax
comp=Z,10.0nm,1.1s
GURO Guroymak-BITLI 23.48 282 P P 09 47 28.1 -3.9
KOPT Kop Dagi 24.52 285 P P 09 47 38.7 -2.9
MARD Mardin 24.64 279 P P 09 47 40.3 -2.2
KIRV Kirov 25.60 332 LR LR 09 57 54.7
comp=Z,37nm,20.4s,baz=360,slow=36
ZAK Zakamensk 25.76 50 *e*P P 09 47 52.4 -0.1
ZAK pmax pmax
comp=Z,3.0nm,1.4s
RAYN Ar Rayn 26.58 246 P P 09 47 57.8 -2.2
RAYN Ar Rayn 26.58 246 P P 09 47 58.8 -1.3
RAYN pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 26.58 246 P P 09 48 00.4 +0.3
VORR Voronezh 26.92 312 *e*P P 09 48 07.4 +4.6
VORR pmax pmax
comp=Z,80nm,0.4s
SONM Songino Array 27.15 57 P P 09 48 05.1 0.0
comp=Z,0.5nm,0.4s,baz=266,slow=10,SNR=2.8
comp=Z,0.5nm,0.4s
SONM Songino Array 27.15 57 P P 09 48 03.0 -2.1
PZH PanZhiHua 27.51 105 P P 09 48 08.6 +0.1
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.5s
ULN Ulaanbaatar 27.59 57⇑*e*P P 09 48 08.7 -0.4
ULN *i* *PP pP 09 48 36.7 +4.0
ULN pmax pmax
comp=Z,7.0nm,2.3s
OBN Obninsk 29.60 318 *e*P P 09 48 25.3 -1.2
OBN *e**PP pP 09 48 53.4 +3.6
OBN *e**SP sP 09 49 08.4 +6.7
OBN *e* 09 49 21.7
OBN pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 29.80 286 P P 09 48 30.4 +1.7
comp=Z,2.0nm,0.7s,baz=106,slow=8.0,SNR=9.4
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 30.38 121 P P 09 48 32.2 -1.6
comp=Z,0.6nm,0.3s,baz=322,slow=9.1,SNR=4.6
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 30.38 121*ce*P P 09 48 34.9 +1.0
CMAR pmax pmax
comp=Z,1.0nm,0.5s
HHC Hu-ho-hao-te 30.74 71 *e*P P 09 48 37.3 +0.3
HHC pmax pmax
comp=Z,31nm,0.6s
HHC pmax pmax
comp=Z,81nm,5.3s
HHC LR LR
comp=Z,270nm,13.3s
HHC LR LR
comp=Z,330nm,14.0s
HHC LR LR
comp=Z,170nm,13.3s
AKASG Malin Array Be 32.84 307 P P 09 48 55.3 +0.3
comp=Z,1.2nm,0.6s,baz=80,slow=7.0,SNR=5.8
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 32.84 307*ce*P P 09 48 55.5 +0.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
NRIK Noril'sk 32.95 10 P P 09 48 55.8 0.0
comp=Z,2.7nm,0.4s,baz=230,slow=8.5,SNR=4.5
comp=Z,2.7nm,0.4s
NRIK Noril'sk 32.95 10 P P 09 48 55.0 -0.8
NRIK IAmb IAmb 09 48 57.0
comp=Z,5.5nm,0.7s
NRIK Noril'sk 32.95 10⇓*e*P P 09 48 56.1 +0.3
ELL Elmali 33.26 282 P P 09 48 56.3 -2.8
ELL Elmali 33.26 282 P P 09 48 56.3 -2.8
ELL pmax pmax
comp=Z,19nm,0.6s
APA Apatity 36.92 337⇑*i*P P 09 49 22.0 -8.0
APA pmax pmax
comp=Z,2.0nm,1.4s
APA MLR MLR
comp=Z,300nm,16.0s
FIA1 FINESS Array S 36.99 325 P P 09 49 30.9 +0.3
FIA1 IAmb IAmb 09 50 06.3
comp=Z,11nm,1.3s
FINES FINESS Array B 37.00 325 P P 09 49 31.2 +0.5
comp=Z,1.2nm,0.3s,baz=114,slow=9.4,SNR=15
comp=Z,1.2nm,0.3s
IDI Anoyia 37.57 281 P P 09 49 36.8 +0.9
comp=Z,5.2nm,0.7s,baz=72,slow=6.4,SNR=1.0
comp=Z,5.2nm,0.7s
KEV Kevo 40.07 338 P P 09 49 56.9 +0.7
KEV Kevo 40.07 338 P P 09 49 56.9 +0.7
KEV pmax pmax
comp=Z,28nm,1.5s
ARA0 ARCESS Array S 40.43 337 *e*P P 09 49 59.9 +0.7
ARA0 IAmb IAmb 09 50 06.9
comp=Z,46nm,1.6s
ARCES ARCESS Array B 40.43 337 P P 09 49 59.8 +0.6
comp=Z,1.9nm,0.4s,baz=117,slow=8.9,SNR=28
comp=Z,1.9nm,0.4s
ARCES ARCESS Array B 40.43 337 P P 09 49 59.8 +0.6
ARCES IAmb IAmb 09 50 12.9
comp=Z,12nm,1.4s
ZEA Zeya 40.83 48 *e*P P 09 50 03.2 +0.5
KTK1 Kautokeino 40.92 336 *e*P P 09 50 03.6 +0.3
KTK1 IAmb IAmb 09 50 04.3
comp=Z,5.5nm,0.7s
HAMF Hammerfest 41.49 338 *e*P P 09 50 08.6 +0.7
HAMF IAmb IAmb 09 50 09.6
comp=Z,12nm,0.7s
YAK Yakutsk 42.68 36*de*P P 09 50 16.7 -1.0
YAK pmax pmax
comp=Z,16nm,0.7s
GSI Gunungsitoli 43.16 141 P P 09 50 22.3 +0.2
MOR8 Moi Rana 43.23 330 *e*P P 09 50 21.9 -0.2
MOR8 IAmb IAmb 09 50 22.7
comp=Z,6.4nm,0.7s
NORES NORESS Array B 43.77 322 P P 09 50 27.2 +0.7
NC303 NORSAR Array S 43.89 323 P P 09 50 28.2 +0.8
NB201 NORSAR Array S 43.92 322 P P 09 50 27.8 +0.1
NB201 IAmb IAmb 09 50 57.0
comp=Z,12nm,1.2s
KLR Kul'dur 43.95 55 P P 09 50 27.4 -0.6
comp=Z,0.8nm,0.4s,baz=301,slow=8.8,SNR=4.8
comp=Z,0.8nm,0.4s
NB2 NORSAR Subarra 43.95 322 P P 09 50 28.0 0.0
comp=Z,0.7nm,0.5s,baz=94,slow=7.9
NB2 NORSAR Subarra 43.95 322 P P 09 50 28.0 0.0
baz=94,slow=7.9
NOA NORSAR Array B 43.95 322 P P 09 50 28.3 +0.3
comp=Z,0.8nm,0.6s,baz=93,slow=7.7,SNR=6.4
comp=Z,0.8nm,0.6s
NBO00 NORSAR Array S 44.17 322 P P 09 50 29.7 +0.1
NC204 NORSAR Array S 44.19 323 P P 09 50 29.6 -0.3
NC204 IAmb IAmb 09 50 44.3
comp=Z,14nm,1.2s
TIXI Tiksi 44.52 22 P P 09 50 30.7 -1.6
comp=Z,4.1nm,0.3s,baz=88,slow=23,SNR=8.1
comp=Z,4.1nm,0.3s
TIXI Tiksi 44.52 22 P P 09 50 30.9 -1.4
TIXI IAmb IAmb 09 50 32.4
comp=Z,6.6nm,0.5s

TIXI	**Tiksi**	**44.52**	**22**	*e*P		**P**	**09 50 31.3**	**-0.9**
TIXI				pmax		pmax		
	comp=Z,7.0nm,0.8s							
SAOF	**Saorge**	**48.03**	**299**	P		**P**	**09 51 01.2**	**+1.0**
SAOF				pmax		pmax		
	comp=Z,12nm,1.5s							
KMBO	**Kilima Mbogo**	**50.07**	**228**	P		**P**	**09 51 16.5**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=50,slow=8.2,SNR=4.3							
	comp=Z,1.3nm,0.5s							
KMBO	**Kilima Mbogo**	**50.07**	**228**	*i* P		**P**	**09 51 17.2**	**+0.8**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ESDC	**Sonseca Array**	**57.58**	**298**	P		**P**	**09 52 11.2**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=55,slow=7.4,SNR=6.0							
	comp=Z,0.4nm,0.4s							
A21K	**Barrow**	**66.10**	**15**	P		**P**	**09 53 06.6**	**-0.4**
	baz=320							
TOA0	**Torodi Ar. Sit**	**66.45**	**269**	P		**P**	**09 53 09.1**	**-1.1**
TOA0				IAmb		IAmb	09 53 49.3	
	comp=Z,7.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**66.45**	**269**	P		**P**	**09 53 09.3**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=45,slow=5.8,SNR=21							
	comp=Z,2.9nm,0.7s							
TNA	**Tin City**	**67.30**	**23**	P		**P**	**09 53 14.4**	**-0.4**
	baz=312							
C23K	**Itkillik River**	**68.51**	**15**	P		**P**	**09 53 21.9**	**-0.4**
	baz=325							
C24K	**Franklin Bluff**	**68.98**	**14**	P		**P**	**09 53 25.1**	**-0.1**
	baz=326							
D23K	**Nanushuk River**	**69.21**	**15**	P		**P**	**09 53 26.3**	**-0.3**
	baz=325							
D24K	**Happy Valley**	**69.43**	**14**	P		**P**	**09 53 27.6**	**-0.3**
	baz=326							
TOLK	**Toolik Lake Re**	**69.70**	**15**	P		**P**	**09 53 29.6**	**-0.2**
TOLK	**Toolik Lake Re**	**69.70**	**15**	P		**P**	**09 53 29.4**	**-0.4**
	baz=326							
D25K	**Kavik River**	**69.76**	**14**	P		**P**	**09 53 30.0**	**-0.1**
	baz=328							
C27K	**Jago River**	**69.97**	**13**	P		**P**	**09 53 31.8**	**+0.4**
	baz=331							
F21K	**Alatna River**	**70.01**	**17**	P		**P**	**09 53 30.9**	**-0.7**
	baz=323,SNR=6.2							
F22K	**John River**	**70.08**	**17**	P		**P**	**09 53 31.7**	**-0.3**
	baz=324,SNR=6.8							
E23K	**Chandalar**	**70.18**	**15**	P		**P**	**09 53 32.3**	**-0.4**
	baz=326							
E24K	**Your Creek**	**70.40**	**15**	P		**P**	**09 53 33.6**	**-0.5**
	baz=327							
G21K	**Allakaket**	**70.57**	**18**	P		**P**	**09 53 34.6**	**-0.5**
	baz=323							
COLD	**Coldfoot**	**70.75**	**16**	P		**P**	**09 53 35.8**	**-0.2**
COLD				IAmb		IAmb	09 53 36.6	
	comp=Z,8.0nm,0.9s							
COLD	**Coldfoot**	**70.75**	**16**	P		**P**	**09 53 35.6**	**-0.5**
	baz=326,SNR=6.5							
IMAR	**Indian Mountai**	**70.94**	**18**	P		**P**	**09 53 36.4**	**-0.8**
E25K	**Arctic Village**	**70.94**	**14**	P		**P**	**09 53 36.9**	**-0.4**
	baz=329							
F24K	**Squaw Lake**	**71.00**	**15**	P		**P**	**09 53 37.2**	**-0.4**
	baz=328							
G23K	**Bananza Creek**	**71.21**	**16**	P		**P**	**09 53 38.7**	**-0.3**
	baz=326							
F25K	**Christian River**	**71.38**	**14**	P		**P**	**09 53 39.9**	**-0.1**
	baz=329							
H21K	**Melozitna Rive**	**71.43**	**18**	P		**P**	**09 53 39.4**	**-0.8**
	baz=324							
H22K	**Ishtalitna Cre**	**71.58**	**17**	P		**P**	**09 53 41.2**	**+0.1**
	baz=325							
F26K	**Sheenjek River**	**71.58**	**14**	P		**P**	**09 53 40.7**	**-0.5**
	baz=331							
E27K	**Coleen River**	**71.61**	**13**	P		**P**	**09 53 41.1**	**-0.2**
	baz=333							
BMAR	**Burnt Mountain**	**71.73**	**14**	P		**P**	**09 53 42.6**	**+0.6**
G24K	**Hadweenzic Riv**	**71.78**	**15**	P		**P**	**09 53 42.0**	**-0.3**
	baz=328,SNR=5.6							
I21K	**Tanana**	**72.02**	**18**	P		**P**	**09 53 43.4**	**-0.3**
	baz=325							
H23K	**Yukon River**	**72.06**	**17**	P		**P**	**09 53 44.0**	**-0.1**
H23K				IAmb		IAmb	09 53 45.0	
	comp=Z,5.4nm,0.8s							
H23K	**Yukon River**	**72.06**	**17**	P		**P**	**09 53 43.9**	**-0.2**
	baz=327							
J20K	**Nowinta River**	**72.29**	**19**	P		**P**	**09 53 45.2**	**-0.1**
	baz=323							
G26K	**Porcupine Rive**	**72.30**	**14**	P		**P**	**09 53 45.5**	**+0.1**
	baz=331							
H24K	**Noodor Dome**	**72.42**	**16**	P		**P**	**09 53 46.4**	**+0.1**
H24K				IAmb		IAmb	09 53 47.0	
	comp=Z,5.4nm,0.7s							
H24K	**Noodor Dome**	**72.42**	**16**	P		**P**	**09 53 46.0**	**-0.2**
	baz=328							
MLY	**Manley**	**72.44**	**18**	P		**P**	**09 53 46.0**	**-0.4**
MLY	**Manley**	**72.44**	**18**	P		**P**	**09 53 45.9**	**-0.4**
	baz=326							
INK	**Inuvik**	**72.73**	**10**	P		**P**	**09 53 47.8**	**-0.1**
	comp=Z,9.5nm,0.5s,baz=342,slow=5.2,SNR=48							
	comp=Z,9.5nm,0.5s							
INK	**Inuvik**	**72.73**	**10**	P		**P**	**09 53 47.7**	**-0.2**
INK	**Inuvik**	**72.73**	**10**	P		**P**	**09 53 47.8**	**-0.1**
	baz=339							
C36M	**Paulatuk**	**72.74**	**6**	P		**P**	**09 53 47.7**	**-0.3**
	baz=347							
G27K	**Doyon Strip**	**72.83**	**13**	P		**P**	**09 53 48.5**	**-0.1**
	baz=333							
K20K	**Telida**	**72.97**	**20**	P		**P**	**09 53 49.2**	**-0.3**
K20K	**Telida**	**72.97**	**20**	P		**P**	**09 53 49.2**	**-0.3**
	baz=323							
CHUM	**Lake Minchumin**	**73.00**	**19**	P		**P**	**09 53 49.1**	**-0.5**
	baz=325							
MDM	**Murphy Dome**	**73.09**	**17**	P		**P**	**09 53 49.7**	**-0.5**
BPAW	**Bear Paw Mtn.**	**73.16**	**18**	P		**P**	**09 53 49.8**	**-0.7**
BPAW				IAmb		IAmb	09 53 50.6	
	comp=Z,6.1nm,1.0s							
BPAW	**Bear Paw Mtn.**	**73.16**	**18**	P		**P**	**09 53 49.8**	**-0.7**
	baz=326							
PRP	**Porcupine Dome**	**73.20**	**15**	P		**P**	**09 53 50.5**	**-0.5**
	baz=330							
NEA2	**Nenana**	**73.21**	**17**	P		**P**	**09 53 49.7**	**-1.1**
NEA2				IAmb		IAmb	09 53 50.9	
	comp=Z,8.9nm,0.7s							
NEA2	**Nenana**	**73.21**	**17**	P		**P**	**09 53 50.5**	**-0.3**
	baz=327							
TCOL	**CIGO, UAF Yank**	**73.25**	**17**	P		**P**	**09 53 50.6**	**-0.4**
TCOL	**CIGO, UAF Yank**	**73.25**	**17**	P		**P**	**09 53 50.8**	**-0.2**
	baz=328							
COLA	**College**	**73.25**	**17**	P		**P**	**09 53 50.6**	**-0.4**
COLA	**College**	**73.25**	**17**	P		**P**	**09 53 50.6**	**-0.4**
COLA				pmax		pmax		
	comp=Z,14nm,0.8s							
COLA	**College**	**73.25**	**17**	P		**P**	**09 53 50.8**	**-0.2**
	baz=328							
H27K	**Steamboat Moun**	**73.37**	**13**	P		**P**	**09 53 51.9**	**+0.1**
	baz=333							
CAST	**Castle Rocks**	**73.44**	**19**	P		**P**	**09 53 51.8**	**-0.5**
CAST				IAmb		IAmb	09 53 52.7	
	comp=Z,16nm,1.2s							
CAST	**Castle Rocks**	**73.44**	**19**	P		**P**	**09 53 51.7**	**-0.5**
	baz=325							
CCB	**Clear Creek Bu**	**73.45**	**17**	P		**P**	**09 53 51.1**	**-1.1**
F31M	**Tsiigehtchic**	**73.51**	**10**	P		**P**	**09 53 52.2**	**-0.3**
	baz=339							
WRH	**Wood River Hil**	**73.54**	**17**	P		**P**	**09 53 50.9**	**-1.9**
IL31		**73.55**	**16**	P		**P**	**09 53 51.3**	**-1.5**
ILAR	**Eielson Array**	**73.55**	**16**	P		**P**	**09 53 51.8**	**-1.1**
	comp=Z,3.1nm,0.8s,baz=322,slow=4.6,SNR=28							
	comp=Z,3.1nm,0.8s							
ILAR	**Eielson Array**	**73.55**	**16**	P		**P**	**09 53 51.4**	**-1.5**
KTH	**Kantishna Hill**	**73.62**	**18**	P		**P**	**09 53 53.0**	**-0.4**
KTH				IAmb		IAmb	09 53 53.4	
	comp=Z,9.4nm,0.7s							
L20K	**Farewell, AK**	**73.73**	**20**	P		**P**	**09 53 52.8**	**-1.1**
	baz=324							
HDA	**Harding Lake**	**73.85**	**16**	P		**P**	**09 53 53.6**	**-1.0**
	baz=329							
N16K	**Nishlik Lake**	**73.86**	**23**	P		**P**	**09 53 53.7**	**-1.1**
	baz=320							
TRF	**Thorofare Moun**	**73.87**	**18**	P		**P**	**09 53 53.3**	**-1.6**
	baz=326							
I26K	**Coal Creek Min**	**73.87**	**15**	P		**P**	**09 53 54.6**	**-0.1**
I26K	**Coal Creek Min**	**73.87**	**15**	P		**P**	**09 53 53.8**	**-0.9**
	baz=332							
I27K	**Kandik River**	**73.91**	**14**	P		**P**	**09 53 54.0**	**-1.0**
	baz=333							
MCK	**McKinley**	**73.97**	**18**	P		**P**	**09 53 54.8**	**-0.5**
MCK				IAmb		IAmb	09 53 55.0	
	comp=Z,4.9nm,0.5s							
MCK	**McKinley**	**73.97**	**18**	P		**P**	**09 53 54.8**	**-0.5**
MCK				pmax		pmax		
	comp=Z,5.0nm,0.5s							
MCK	**McKinley**	**73.97**	**18**	P		**P**	**09 53 54.3**	**-1.0**
	baz=327							
J25K	**Salcha River,**	**74.02**	**16**	P		**P**	**09 53 54.5**	**-1.1**
J25K				IAmb		IAmb	09 53 56.2	
	comp=Z,4.1nm,0.6s							
J25K	**Salcha River,**	**74.02**	**16**	P		**P**	**09 53 54.3**	**-1.4**
	baz=330,SNR=7.0							
RND	**Reindeer**	**74.26**	**18**	P		**P**	**09 53 55.9**	**-1.2**
RND				IAmb		IAmb	09 53 56.4	
	comp=Z,5.8nm,0.5s							
RND	**Reindeer**	**74.26**	**18**	P		**P**	**09 53 55.9**	**-1.2**
RND				pmax		pmax		
	comp=Z,6.0nm,0.5s							
SVW2	**Sparrevohn**	**74.35**	**22**	P		**P**	**09 53 55.5**	**-2.0**
M20K	**Styx River**	**74.42**	**20**	P		**P**	**09 53 57.1**	**-1.0**
	baz=324							
J26L	**Joseph Creek**	**74.50**	**15**	P		**P**	**09 53 57.8**	**-0.7**
J26L				IAmb		IAmb	09 53 58.6	
	comp=Z,4.6nm,0.8s							
J26L	**Joseph Creek**	**74.50**	**15**	P		**P**	**09 53 57.3**	**-1.2**
	baz=332,SNR=6.9							
I29M	**Ogilvie Camp,**	**74.73**	**13**	P		**P**	**09 53 59.0**	**-0.7**
I29M				IAmb		IAmb	09 53 59.3	
	comp=Z,5.2nm,0.6s							
I29M	**Ogilvie Camp,**	**74.73**	**13**	P		**P**	**09 53 58.6**	**-1.1**
	baz=336							
EGAK	**Eagle**	**74.74**	**14**	P		**P**	**09 53 58.7**	**-1.0**
	baz=333							
CUT	**Chulitna**	**74.75**	**19**	P		**P**	**09 53 58.4**	**-1.4**
CUT	**Chulitna**	**74.75**	**19**	P		**P**	**09 53 58.4**	**-1.4**
	baz=327							
SKT	**Skwentna**	**74.77**	**20**	P		**P**	**09 53 58.7**	**-1.3**
SKT	**Skwentna**	**74.77**	**20**	P		**P**	**09 53 58.4**	**-1.6**
	baz=326,SNR=7.4							
WAT1	**Susitna Watana**	**74.82**	**18**	P		**P**	**09 53 58.5**	**-1.8**
	baz=328							
SCRK	**Sand Creek**	**74.88**	**16**	P		**P**	**09 54 00.2**	**-0.5**
SCRK				IAmb		IAmb	09 54 00.6	
	comp=Z,4.5nm,0.6s							
SCRK	**Sand Creek**	**74.88**	**16**	P		**P**	**09 53 59.9**	**-0.8**
	baz=331,SNR=6.4							
DHY	**Denali Highway**	**74.90**	**17**	P		**P**	**09 53 59.7**	**-1.2**
DHY	**Denali Highway**	**74.90**	**17**	P		**P**	**09 53 59.7**	**-1.2**
	baz=329,SNR=7.1							
RIDG	**Independent Ri**	**74.90**	**16**	P		**P**	**09 53 59.6**	**-1.1**
RIDG				IAmb		IAmb	09 53 59.9	
	comp=Z,5.0nm,0.6s							
RIDG	**Independent Ri**	**74.90**	**16**	P		**P**	**09 53 59.4**	**-1.3**
	baz=331							
K27K	**Chicken**	**75.22**	**15**	P		**P**	**09 54 02.6**	**0.0**
K27K	**Chicken**	**75.22**	**15**	P		**P**	**09 54 02.2**	**-0.4**
	baz=333							
WAT6	**Susitna Watana**	**75.23**	**18**	P		**P**	**09 54 01.6**	**-1.2**
	baz=328							
M22K	**Willow**	**75.33**	**19**	P		**P**	**09 54 01.9**	**-1.2**
	baz=327							
SUA	**Susitna One**	**75.41**	**20**	P		**P**	**09 54 02.6**	**-1.2**
	baz=326							
PAX	**Paxson**	**75.43**	**17**	P		**P**	**09 54 03.0**	**-0.9**
PAX				IAmb		IAmb	09 54 03.4	
	comp=Z,5.8nm,0.6s							
PAX	**Paxson**	**75.43**	**17**	P		**P**	**09 54 03.0**	**-0.9**
PAX				pmax		pmax		
	comp=Z,6.0nm,0.6s							
PAX	**Paxson**	**75.43**	**17**	P		**P**	**09 54 02.8**	**-1.0**
	baz=330,SNR=7.9							
GHO	**Glory Hole Cre**	**75.63**	**19**	P		**P**	**09 54 03.9**	**-1.0**
GHO				IAmb		IAmb	09 54 04.9	
	comp=Z,8.5nm,0.6s							
DAWY	**Dawson**	**75.72**	**14**	P		**P**	**09 54 04.9**	**-0.5**
DAWY				IAmb		IAmb	09 54 05.3	
	comp=Z,5.2nm,0.7s							
DAWY	**Dawson**	**75.72**	**14**	P		**P**	**09 54 04.5**	**-0.9**
	baz=335							
PMR	**Palmer**	**75.72**	**19**	P		**P**	**09 54 04.5**	**-0.9**
PMR				IAmb		IAmb	09 54 05.0	
	comp=Z,6.3nm,0.8s							
PMR	**Palmer**	**75.72**	**19**	P		**P**	**09 54 04.5**	**-0.9**
PMR				pmax		pmax		
	comp=Z,6.0nm,0.8s							
PMR	**Palmer**	**75.72**	**19**	P		**P**	**09 54 04.3**	**-1.1**
	baz=328							
SML	**Sawmill**	**75.75**	**18**	P		**P**	**09 54 04.4**	**-1.2**
SML	**Sawmill**	**75.75**	**18**	P		**P**	**09 54 04.4**	**-1.2**
SML				pmax		pmax		
	comp=Z,16nm,0.6s							
SML	**Sawmill**	**75.75**	**18**	P		**P**	**09 54 04.6**	**-1.0**
	baz=328,SNR=6.2							
P18K	**Big Mountain,**	**75.82**	**23**	P		**P**	**09 54 05.5**	**-0.6**
	baz=323							
L26K	**Log Cabin Wild**	**75.85**	**16**	P		**P**	**09 54 05.8**	**-0.4**
	baz=332							
M23K	**Glacier View**	**75.91**	**18**	P		**P**	**09 54 05.4**	**-1.1**
	baz=329,SNR=14							
SCM	**Sheep Creek Mo**	**75.97**	**18**	P		**P**	**09 54 06.2**	**-0.7**
SCM	**Sheep Creek Mo**	**75.97**	**18**	P		**P**	**09 54 06.2**	**-0.7**
SCM				pmax		pmax		
	comp=Z,15nm,0.5s							
SCM	**Sheep Creek Mo**	**75.97**	**18**	P		**P**	**09 54 06.1**	**-0.9**
	baz=329,SNR=6.3							
RC01	**Rabbit Creek A**	**75.99**	**19**	P		**P**	**09 54 06.0**	**-0.9**
RC01				IAmb		IAmb	09 54 09.0	
	comp=Z,14nm,1.0s							
HARP	**HAARP**	**76.00**	**17**	P		**P**	**09 54 07.0**	**0.0**
	baz=331,SNR=7.6							
M24K	**Tolsona, Glenn**	**76.02**	**17**	P		**P**	**09 54 07.0**	**-0.2**
M24K	**Tolsona, Glenn**	**76.02**	**17**	P		**P**	**09 54 07.0**	**-0.2**
	baz=330,SNR=5.4							
KNK	**Knik Glacier**	**76.05**	**19**	P		**P**	**09 54 07.0**	**-0.4**
KNK				IAmb		IAmb	09 54 08.0	
	comp=Z,10.0nm,0.8s							
KNK	**Knik Glacier**	**76.05**	**19**	P		**P**	**09 54 06.6**	**-0.7**
	baz=328							
L27K	**Beaver Creek,**	**76.14**	**15**	P		**P**	**09 54 07.8**	**0.0**
L27K	**Beaver Creek,**	**76.14**	**15**	P		**P**	**09 54 07.6**	**-0.2**
	baz=333							
BCAR	**Beaver Creek A**	**76.14**	**15**	P		**P**	**09 54 07.8**	**0.0**
K29M	**Barlow Dome**	**76.26**	**13**	P		**P**	**09 54 08.3**	**-0.3**
	baz=336							
PWL	**Port Wells**	**76.55**	**19**	P		**P**	**09 54 09.4**	**-0.8**
PWL				IAmb		IAmb	09 54 09.9	
	comp=Z,7.1nm,0.7s							
PWL	**Port Wells**	**76.55**	**19**	P		**P**	**09 54 09.0**	**-1.1**
	baz=328							
KLU	**Klutina**	**76.61**	**18**	P		**P**	**09 54 10.4**	**-0.1**
KLU				IAmb		IAmb	09 54 10.6	
	comp=Z,5.0nm,0.6s							
KLU	**Klutina**	**76.61**	**18**	P		**P**	**09 54 10.1**	**-0.5**
	baz=330							
M27K	**Edge Creek, AK**	**76.76**	**15**	P		**P**	**09 54 10.6**	**-0.9**
M27K				IAmb		IAmb	09 54 12.5	
	comp=Z,9.6nm,1.1s							
M27K	**Edge Creek, AK**	**76.76**	**15**	P		**P**	**09 54 11.1**	**-0.4**
	baz=333							
MAYO	**Mayo, Yukon**	**76.77**	**12**	P		**P**	**09 54 11.3**	**-0.1**
MAYO				IAmb		IAmb	09 54 12.0	
	comp=Z,10nm,0.8s							
N25K	**Chitina, Valde**	**76.82**	**17**	P		**P**	**09 54 12.1**	**+0.4**
N25K	**Chitina, Valde**	**76.82**	**17**	P		**P**	**09 54 11.8**	**0.0**
	baz=331							
L29M	**L29M**	**76.82**	**14**	P		**P**	**09 54 11.5**	**-0.2**
	baz=336							
GLI	**Glacier Island**	**76.85**	**18**	P		**P**	**09 54 11.0**	**-0.8**
GLI				IAmb		IAmb	09 54 27.6	
	comp=Z,8.9nm,0.9s							
GLI	**Glacier Island**	**76.85**	**18**	P		**P**	**09 54 10.9**	**-0.9**
	baz=329							
BVCY	**Beaver Creek**	**76.92**	**15**	P		**P**	**09 54 12.0**	**-0.2**
	baz=334							
DIV	**Divide**	**76.96**	**18**	P		**P**	**09 54 11.4**	**-1.1**
DIV				IAmb		IAmb	09 54 12.4	
	comp=Z,5.3nm,0.6s							
M29M	**Somme Creek**	**77.37**	**14**	P		**P**	**09 54 14.7**	**-0.2**
	baz=336							
BMRM	**Bremner River**	**77.38**	**17**	P		**P**	**09 54 14.6**	**-0.3**
BMRM				IAmb		IAmb	09 54 15.4	
	comp=Z,8.3nm,1.2s							
BMRM	**Bremner River**	**77.38**	**17**	P		**P**	**09 54 14.4**	**-0.5**
	baz=331							
EYAK	**Cordova Ski Ar**	**77.47**	**18**	P		**P**	**09 54 14.0**	**-1.2**
EYAK	**Cordova Ski Ar**	**77.47**	**18**	P		**P**	**09 54 14.8**	**-0.4**
	baz=330							
M30M	**Minto, Yukon**	**77.56**	**13**	P		**P**	**09 54 15.0**	**-0.8**
M30M	**Minto, Yukon**	**77.56**	**13**	P		**P**	**09 54 15.4**	**-0.4**
	baz=337							
YUK3	**Moose Creek**	**77.58**	**15**	P		**P**	**09 54 15.6**	**-0.5**
	baz=334							
CTG	**Chitna Glacier**	**78.12**	**16**	P		**P**	**09 54 18.8**	**-0.3**
	baz=334							
M31M	**Drury Creek, Y**	**78.33**	**12**	P		**P**	**09 54 19.7**	**-0.3**
	baz=339							
YUK4	**Talbot Arm**	**78.34**	**14**	P		**P**	**09 54 19.8**	**-0.6**
	baz=336							
MMPY	**Sheldon Lake,**	**78.43**	**11**	P		**P**	**09 54 20.6**	**-0.1**
	baz=342							
FARO	**Faro, Yukon**	**78.47**	**12**	P		**P**	**09 54 20.2**	**-0.6**
FARO	**Faro, Yukon**	**78.47**	**12**	P		**P**	**09 54 20.5**	**-0.3**
	baz=340							
N30M	**Aishikik Lake**	**78.53**	**14**	P		**P**	**09 54 21.3**	**0.0**
	baz=337							
MESA	**MESA**	**78.69**	**16**	P		**P**	**09 54 21.5**	**-0.8**
	baz=333							
N31M	**Braeburn, Yuko**	**78.75**	**13**	P		**P**	**09 54 22.2**	**-0.2**
	baz=338							
YUK6	**Outpost Mounta**	**78.76**	**15**	P		**P**	**09 54 22.3**	**-0.4**
	baz=336							
WRGLY	**Wrigley**	**78.79**	**7**	P		**P**	**09 54 22.3**	**-0.2**
	baz=348							
HYT	**Haines Junctio**	**79.04**	**14**	P		**P**	**09 54 24.1**	**-0.1**
HYT				IAmb		IAmb	09 54 25.5	
	comp=Z,8.5nm,0.8s							
HYT	**Haines Junctio**	**79.04**	**14**	P		**P**	**09 54 24.2**	**+0.1**
	baz=337							
PINM	**Pinnacle**	**79.14**	**16**	P		**P**	**09 54 24.6**	**0.0**
	baz=335							
O29M	**Mount Kennedy**	**79.31**	**15**	P		**P**	**09 54 25.2**	**-0.4**
	baz=336							
O30N	**Mendenhall**	**79.36**	**14**	P		**P**	**09 54 25.5**	**-0.3**
	baz=338							
PNL	**Peninsula**	**79.71**	**16**	P		**P**	**09 54 27.7**	**0.0**
	baz=335							
YKA	**Yellowknife Ar**	**80.14**	**3**	P		**P**	**09 54 29.4**	**-0.4**
	comp=Z,6.6nm,0.5s,baz=351,slow=5.6,SNR=36							
	comp=Z,6.6nm,0.5s							
YKA	**Yellowknife Ar**	**80.14**	**3**	P		**P**	**09 54 29.6**	**-0.2**
P33M	**Teslin, Yukon**	**80.46**	**12**	P		**P**	**09 54 29.6**	**-2.1**
P33M				IAmb		IAmb	09 54 31.9	
	comp=Z,4.4nm,0.8s							
P33M	**Teslin, Yukon**	**80.46**	**12**	P		**P**	**09 54 31.0**	**-0.8**
	baz=340							
PLBC	**Pleasant Camp**	**80.53**	**14**	P		**P**	**09 54 31.7**	**-0.2**
	baz=338							
WTLY	**Watson Lake, Y**	**81.18**	**10**	P		**P**	**09 54 34.5**	**-1.0**
WTLY				IAmb		IAmb	09 54 35.4	
	comp=Z,4.1nm,0.6s							
WTLY	**Watson Lake, Y**	**81.18**	**10**	P		**P**	**09 54 34.7**	**-0.8**
	baz=344							
R33M	**Jennings River**	**81.54**	**12**	P		**P**	**09 54 37.1**	**-0.4**
	baz=342							
Q32M	**Nakina River**	**81.74**	**12**	P		**P**	**09 54 38.3**	**-0.4**
	baz=341							
WRA	**Warramunga Arr**	**81.97**	**123**	P		P	09 54 37.5	-2.6
	comp=Z,0.8nm,0.6s,baz=325,slow=5.0,SNR=13							
	comp=Z,0.8nm,0.6s							
WRA	**Warramunga Arr**	**81.97**	**123**	*i* P		**P**	**09 54 39.5**	**-0.6**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
S34M	**Telegraph Cree**	**82.93**	**12**	P		**P**	**09 54 44.7**	**+0.1**
	baz=342							
T35M	**Bob Quinn**	**83.96**	**12**	P		**P**	**09 54 50.2**	**+0.3**
	baz=343							
WRAK	**Wrangell Islan**	**84.13**	**13**	P		**P**	**09 54 51.0**	**+0.2**
	baz=341							
ASAR	**Alice Springs**	**84.30**	**126**	P		P	09 54 49.4	-2.7
ASAR	**Alice Springs**	**84.30**	**126**	P		P	09 54 49.4	-2.7
EDM	**Edmonton**	**89.46**	**3**	P		**P**	**09 55 16.6**	**-0.2**
EDM	**Edmonton**	**89.46**	**3**	P		**P**	**09 55 16.6**	**-0.2**
EDM				pmax		pmax		
	comp=Z,10.0nm,0.6s							
LONY	**Lake Ozonia**	**92.75**	**337**	P		**P**	**09 55 31.9**	**-0.2**
	baz=26							

IDC 20 09:49:56.0±9.9, 2.72S×141.96E, h0km, mb3.2/2, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=295.8km s-min=77.4km az=135.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.67**	**203**	P	P	09 54 15.3	-0.5
	0.1nm,0.3s,baz=25,slow=12,SNR=9.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**22.23**	**200**	P	P	09 54 54.9	+0.3
	0.3nm,0.5s,baz=28,slow=11,SNR=5.8						
	0.3nm,0.5s						
VNDA	**Vanda**	**75.50**	**176**	P	P	10 01 41.7	0.0
	0.3nm,0.8s,baz=324,slow=4.1,SNR=1.7						
	0.3nm,0.8s						

DDA ***20*** *09:52:39.2±0.0, 41.26N×43.73E, h8km±5km, ML1.9*
TIF ***20*** *09:52:39.4, 41.27N×43.76E, h14km±1km*
NORS 09:52:41.8±0.0, 41.30N×43.90E, h8km, MPVA3.6
ISC 20 09:52:39.3±0.9, 41.27N±0.02×43.77E±0.02, h12km±8km, n28, σ1°61/53, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.25**	**305**	P	**Pg**	**09 52 45.2**	**+0.6**
AKH				S	**Sg**	**09 52 49.0**	**+0.8**
DMNI	**Dmanisi**	**0.32**	**79**	P	**Pg**	**09 52 46.7**	**+0.8**
DMNI				S	**Sg**	**09 52 51.4**	**+1.1**
BRNG	**Burnasheti**	**0.36**	**7**	P

DBAD				*i* AML	AML	09 53 32.0			
	comp=E,34nm,0.5s								
DBOC	**Borcka**	**1.58**	**274**	P	**Pb**	**09 53 08.5**	**0.0**		
DBOC				S	**Sb**	**09 53 29.1**	**+0.5**		
DBOC				*i* AML	AML	09 53 36.0			
	comp=E,17nm,0.3s								
BATM	**Batumi**	**1.60**	**283**	P	**Pb**	**09 53 09.2**	**+0.5**		
LACR	**Lac**	**1.61**	**14**	*e*Pg	**Pg**	**09 53 10.4**	**+0.3**		
LACR				*e*Sg	**Sg**	**09 53 32.1**	**+1.0**		
DIGR	**Digorskoe uzhe**	**1.64**	**355**	*e*Pg	**Pg**	**09 53 11.3**	**+0.6**		
DIGR				*e*Sg	**Sg**	**09 53 33.1**	**+1.2**		
EATA	**Eleskirt**	**1.71**	**215**	P	**Pg**	**09 53 13.4**	**+1.3**		
EATA				*i* AML	AML	09 53 38.0			
	comp=N,5.0nm,1.3s								
EATA				S	Sg	09 53 47.0	+13		
EATA				*i* AML	AML	09 53 49.0			
	comp=E,9.8nm,1.0s								
KORR	**Kora**	**1.83**	**7**	*e*Pg	**Pg**	**09 53 15.3**	**+0.9**		
KORR				*e*Sg	**Sg**	**09 53 39.5**	**+1.3**		
LGD	**Lagodekhi**	**1.94**	**72**	P	**Pb**	**09 53 15.3**	**+0.7**		
LGD				S	**Sg**	**09 53 41.2**	**-0.4**		
NEY	**Neytrino**	**2.13**	**339**	*e*Pg	**Pg**	**09 53 19.4**	**-0.7**		
NEY				*e*Sg	**Sg**	**09 53 46.9**	**-0.8**		

IDC 20 09:55:22.2±2.5, 54°28N×85°93E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=18.1km s-min=10.7km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.74**	**243**	*i*		10 00 40.0	
	baz=62,slow=320,SNR=4.2						
ZALV	**Zalesovo Beam**	**0.74**	**243**	Pg	Pg	09 55 34.9	-1.4
	1.3nm,0.3s,baz=63,slow=17,SNR=6.2						
ZALV				Lg	Lg	09 55 46.8	
	5.0nm,0.3s,baz=63,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**5.82**	**234**	Pn	Pn	09 56 51.1	+1.5
	0.1nm,0.3s,baz=50,slow=13,SNR=4.4						
KURBB				Lg	Lg	09 58 28.1	
	0.1nm,0.3s,baz=44,slow=30,SNR=2.1						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.85**	**199**	Pn	Pn	09 57 18.2	+0.7
	0.2nm,0.3s,baz=23,slow=15,SNR=6.5						
	0.2nm,0.3s						

IDC 20 10:08:23.4±8.2, 2°96S×141°71E, h0km, mb3.4/2, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=238.8km s-min=71.0km az=135.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.35**	**203**	P	Pn	10 12 39.2	-0.4
	0.1nm,0.3s,baz=24,slow=12,SNR=8.1						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**21.93**	**199**	P	P	10 13 18.8	+0.1
	0.6nm,0.6s,baz=27,slow=11,SNR=13						
	0.6nm,0.6s						
VNDA	**Vanda**	**75.28**	**176**	P	P	10 20 08.0	0.0
	0.7nm,1.0s,baz=320,slow=6.4,SNR=5.6						
	0.7nm,1.0s						

IDC 20 10:10:49.8±3.1, 22°78N×11°91W, h0km, mb3.8/2, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=109.0km s-min=45.2km az=79.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**16.09**	**124**	Pn	Pn	10 14 37.3	-0.3
	0.3nm,0.3s,baz=313,slow=12,SNR=13						
TORD				Sn	S	10 17 49.9	-0.8
	0.2nm,0.3s,baz=303,slow=23,SNR=4.1						
	0.9nm,0.6s						
FINES	**FINESS Array B**	**46.59**	**24**	P	P	10 19 19.1	-0.1
	1.3nm,0.9s,baz=241,slow=3.9,SNR=4.9						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**76.51**	**45**	P	P	10 22 41.9	+0.1
	0.5nm,0.5s,baz=297,slow=5.0,SNR=6.4						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**148.48**	**91**	PKPbc	PKPbc	10 30 38.0	-1.3
	0.5nm,0.7s,baz=292,slow=2.3,SNR=6.2						
ASAR	**Alice Springs**	**148.62**	**98**	PKPbc	PKPbc	10 30 39.4	-0.1
	0.7nm,0.7s,baz=309,slow=1.8,SNR=12						

MAN 20 10:14:41.4, 16°62N×119°90E, h23km, mb4.1, ML2.9, MS2.5, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPP	**San Manuel, Pa**	**0.88**	**122**	↑*e*P	Pb	10 14 58.2	+0.1
SMPP				*e*S	Sn	10 15 10.9	+0.3
SAMP	**Sagada Mountai**	**1.06**	**65**	↑*e*P	Pn	10 14 59.8	-1.1
SAMP				*e*S	Sn	10 15 14.8	-0.1
APYP	**Conner**	**1.78**	**46**	↑*e*P	Pn	10 15 10.6	-0.2
APYP				*i* S	Sn	10 15 33.1	+0.4
BALP	**Baler**	**1.83**	**118**	↓*e*P	Pb	10 15 13.7	-0.6
BALP				*e*S	Sb	10 15 38.5	+1.7
PACPP	**Pamplona Cagay**	**2.29**	**37**	↑*e*P	Pn	10 15 17.1	-0.7
PACPP				*i* S	Sb	10 15 48.9	-1.1

IDC 20 10:17:56.4±8.2, 2°50S×141°31E, h0km, mb3.4/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=233.5km s-min=76.7km az=133.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.63**	**201**	P	P	10 22 15.6	-0.2
	0.1nm,0.3s,baz=24,slow=12,SNR=16						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**22.23**	**198**	P	P	10 22 55.1	+0.2
	0.7nm,0.6s,baz=26,slow=11,SNR=20						
	0.7nm,0.6s						
VNDA	**Vanda**	**75.78**	**175**	P	P	10 29 43.7	0.0
	0.4nm,0.6s,baz=331,slow=7.8,SNR=1.7						
	0.4nm,0.6s						

*GUC **20** 10:22:58.4±0.6, 30°67S×71°30W, h34km±3km, ML3.9*
*NEIC **20** 10:22:58.8±1.8, 30°70S±0°03×71°46W±0°08, h48km±4km, mb4.2/2, ML3.9(GUC), Error ellipse: s-maj=9.4km s-min=4.4km az=85.0*
*IDC **20** 10:23:02.5±3.2, 30°36S×71°31W, h64km±28km, mb3.3/2, mbtmp3.6/6, ML3.5/4, MS3.0/1, Error ellipse: s-maj=47.7km s-min=27.6km az=92.0*

ISC 20 10:22:58.9±0.8, 30°68S±0°03×71°47W±0°06, h44km±7km, n46, σ1°46/61, mb4.0/4, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.14**	**272**		**Pn**	**10 23 06.5**	**+0.3**
CO06				Sn	**Sn**	**10 23 13.3**	**+1.9**
CO06	**Fray Jorge**	**0.14**	**272**	↑*i*P	**Pn**	**10 23 06.5**	**+0.3**
CO06				*e*S	**Sn**	**10 23 12.4**	**+1.0**
CO06				IAML		10 23 13.6	
	comp=E,11μm,0.2s						
CO02	**Combarbal**	**0.66**	**143**		**Pn**	**10 23 11.4**	**-0.7**
CO02				Sn	**Sn**	**10 23 20.4**	**-1.1**
CO02	**Combarbal**	**0.66**	**143**	↓*i*P	**Pn**	**10 23 11.4**	**-0.7**
CO02				*i* S	**Sn**	**10 23 20.4**	**-1.1**
CO02				IAML		10 23 20.9	
	comp=E,37μm,0.1s						
GO04	**Tololo Observa**	**0.77**	**49**		**Pn**	**10 23 13.5**	**-0.1**
GO04				Sn	**Sn**	**10 23 24.1**	**0.0**
GO04	**Tololo Observa**	**0.77**	**49**	*i* P	**Pn**	**10 23 13.5**	**-0.1**
GO04				*e*S	**Sn**	**10 23 23.3**	**-0.9**
GO04				IAML		10 23 26.9	
	comp=N,9μm,0.4s						
CO05	**La Serena**	**0.78**	**15**		**Pn**	**10 23 13.8**	**+0.2**
CO05				Sn	**Sn**	**10 23 25.1**	**+0.9**
CO01	**Juntas del Tor**	**1.38**	**60**		**Pn**	**10 23 22.7**	**+0.7**
CO01				Sn	**Sn**	**10 23 39.9**	**+0.8**
LCO	**Las Campanas**	**1.79**	**22**	Pn	**Pn**	**10 23 28.3**	**+0.6**
LCO	**Las Campanas**	**1.79**	**22**	*i* P	**Pn**	**10 23 28.2**	**+0.6**
LCO				*e*S	**Sn**	**10 23 50.6**	**+1.3**
VA06	**Catapilco**	**1.88**	**176**	Pn	**Pn**	**10 23 28.7**	**0.0**
VA06	**Catapilco**	**1.88**	**176**	*e*P	**Pn**	**10 23 28.6**	**0.0**
VA06				*e*S	**Sn**	**10 23 53.0**	**+1.8**
VA06				IAML		10 23 58.8	
	comp=E,1μm,0.3s						
AC05	**El Transito**	**2.11**	**30**	Pn	**Pn**	**10 23 33.3**	**+1.5**
AC05	**El Transito**	**2.11**	**30**	↓*i*P	**Pn**	**10 23 33.4**	**+1.5**
AC05				*e*S	**Sn**	**10 24 00.0**	**+3.1**
AC05				IAML		10 24 02.8	
	comp=N,535nm,0.7s						
VA03	**San Esteban**	**2.22**	**160**		**Pn**	**10 23 34.0**	**+0.6**
VA03	**San Esteban**	**2.22**	**160**	*e*P	**Pn**	**10 23 34.0**	**+0.6**
VA03				*e*S	**Sn**	**10 24 00.2**	**+0.5**
VA03				IAML		10 24 04.8	
	comp=E,1μm,0.3s						
ROCH	**El Roble**	**2.32**	**170**	*e*P	**Pn**	**10 23 35.1**	**+0.3**
ROCH				*e*P	**Pn**	**10 23 35.1**	**+0.3**
ROCH				*e*S	**Sn**	**10 24 05.2**	**+3.0**
ROCH				*e*S	**Sn**	**10 24 05.3**	**+3.0**
ROCH				IAML		10 24 14.5	
	comp=N,728nm,0.7s						
ROCH				IAML		10 24 19.8	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**2.32**	**171**		**Pn**	**10 23 35.0**	**0.0**
AC04	**Llanos de Chal**	**2.49**	**8**	Pn	**Pn**	**10 23 36.6**	**-0.4**
PEL	**Peldehue**	**2.55**	**165**	Pn	**Pn**	**10 23 36.9**	**-0.9**
MT02	**Curacav**	**2.59**	**174**	Pn	**Pn**	**10 23 38.3**	**0.0**
MT05	**Renca**	**2.77**	**167**		**Pn**	**10 23 41.2**	**+0.3**
MT05	**Renca**	**2.77**	**167**	*e*P	**Pn**	**10 23 43.5**	**+2.6**
MT05				*e*S	**Sn**	**10 24 15.5**	**+2.2**
MT05				IAML		10 24 28.4	
	comp=E,765nm,0.3s						
MT03	**Universidad Ad**	**2.92**	**164**		**Pn**	**10 23 43.1**	**+0.1**
VA05	**Santo Domingo**	**2.97**	**182**	Pn	**Pn**	**10 23 42.8**	**-0.8**
MT09	**Talagante**	**3.12**	**173**		**Pn**	**10 23 42.8**	**-2.9**
MT01	**Popeta**	**3.18**	**177**		**Pn**	**10 23 46.0**	**-0.5**
LMEL	**Las Melosas**	**3.34**	**162**		**Pn**	**10 23 45.8**	**-3.0**
BO04	**La Punta**	**3.38**	**168**		**Pn**	**10 23 47.8**	**-1.4**
VCA	**Vinchina**	**3.44**	**57**	*e*P	**Pn**	**10 23 54.1**	**+4.0**
VCA				*e*S	Sn	10 24 38.3	+8.7
AC06	**Mina Casimiro**	**3.45**	**17**	Pn	**Pn**	**10 23 51.0**	**+0.8**
BO02	**Sierra Bellavi**	**4.14**	**172**	Pn	**Pn**	**10 24 00.7**	**+0.9**
AC02	**Maricunga**	**4.34**	**29**	Pn	**Pn**	**10 24 04.1**	**+1.2**
AC01	**Pan de Azucar**	**4.58**	**10**	Pn	**Pn**	**10 24 04.8**	**-0.9**
GO02	**Mina Guanaco**	**5.74**	**17**	Pn	**Pn**	**10 24 20.2**	**-1.8**
PB14	**IPOC Station P**	**6.10**	**9**	Pn	**Pn**	**10 24 25.0**	**-2.0**
VA04	**Juan Fernndez**	**6.91**	**243**	Pn	**Pn**	**10 24 36.5**	**-1.1**
LVC	**Limon Verde**	**8.36**	**16**	P	**Pn**	**10 24 54.6**	**-3.2**
	comp=E,0.2nm,0.3s,baz=214,slow=7.3,SNR=1.5						
	comp=E,1.4nm,0.5s						
PLCA	**Paso Flores**	**10.06**	**176**	P	Pn	10 25 28.7	+7.8
	comp=E,0.1nm,0.3s,baz=5.2,slow=11,SNR=5.0						
PLCA				LR	LR	10 29 25.9	
	comp=E,94nm,20.6s,baz=292,slow=37						
	comp=E,1.2nm,0.7s						
LPAZ	**La Paz**	**14.65**	**13**	P	**Pn**	**10 26 24.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=192,slow=9.3,SNR=4.4						
	comp=E,1.0nm,0.7s						
SIV	**San Ignacio**	**17.44**	**35**	P	**Pn**	**10 26 58.7**	**-0.4**
	baz=206,slow=10,SNR=6.4						
	comp=E,1.3nm,0.7s						
SNAA	**Sanae**	**54.48**	**159**	P	**P**	**10 32 21.4**	**-0.4**
SNAA				IAmb	IAmb	10 32 28.1	
	comp=Z,3.4nm,1.4s						
QSPA	**South Pole Qui**	**59.55**	**180**	P	**P**	**10 32 57.0**	**-0.8**
QSPA				IAmb	IAmb	10 33 06.4	
	comp=Z,2.2nm,1.2s						
TXAR	**Lajitas Array**	**67.10**	**330**	P	**P**	**10 33 48.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=156,slow=8.9,SNR=4.8						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**82.62**	**70**	P	**P**	**10 35 18.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=254,slow=5.2,SNR=6.2						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**151.13**	**30**	PKPbc	**PKPbc**	**10 42 46.2**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=321,slow=4.2,SNR=4.5						

*KRNET **20** 10:54:19.9±0.1, 39°52N×73°46E, mb3.1*
*ISU **20** 10:54:19, 39°58N×73°53E, h2km*
*SOME **20** 10:54:20.6, 39°68N×73°45E, h0km*
*NNC **20** 10:54:27.1±3.6, 39°84N×73°67E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=27.3km s-min=13.5km az=172.0*

ISC 20 10:54:18.4±1.4, 39°57N±0°05×73°55E±0°03, h14km±11km, n40, σ1°71/66, 17C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.12**	**329**	↑*i*P	**Pn**	**10 54 41.4**	**+1.7**
	baz=33						
OHH				↑*e*S	**Sn**	**10 54 56.9**	**+2.0**
	baz=33						
OHH	**Osh**	**1.12**	**329**	P	**Pn**	**10 54 40.0**	**+0.3**
OHH				S	**Sn**	**10 54 57.0**	**+2.0**
DRK	**Karamyk**	**1.36**	**267**	↑*e*P	**Pb**	**10 54 44.0**	**+0.2**
	baz=69						
DRK				↑*i*S	**Sg**	**10 55 02.0**	**-0.2**
	baz=69						
ANR	**Andizhan**	**1.49**	**323**	P	**Sg**	**10 55 13.5**	**+7.0**
FRG	**Fergana**	**1.58**	**301**	P	**Pg**	**10 54 49.9**	**+1.2**
FRG				S	**Sg**	**10 55 11.4**	**+2.3**
CHMI	**Chimion**	**1.71**	**295**	P	**Sg**	**10 55 16.3**	**+2.9**
BTK	**Batken**	**2.16**	**284**	↑*e*P	**Pb**	**10 54 57.9**	**+0.6**
	baz=86						
BTK				↑*e*S	**Sg**	**10 55 26.0**	**-1.8**
	baz=86						
BTK	**Batken**	**2.16**	**284**	P	**Pg**	**10 54 59.5**	**-0.3**
BTK				S	**Sg**	**10 55 29.2**	**+1.4**
ARLS	**Aral**	**2.36**	**14**	↑*e*P	**Pg**	**10 55 02.5**	**-1.2**
	baz=16						
ARLS				↑*e*S	**Sg**	**10 55 33.6**	**-0.7**
	baz=16						
GAR	**Garm**	**2.57**	**258**	↑*e*P	**Pb**	**10 55 03.4**	**-1.0**
	baz=59						
GAR				↑*e*S	**Sb**	**10 55 35.1**	**-0.8**
	baz=59						
TRKS	**Terek-Say**	**2.68**	**318**	↑*e*P	**Pb**	**10 55 05.1**	**-1.2**
	baz=19						
TRKS				↑*i*S	**Sb**	**10 55 38.0**	**-1.1**
	baz=19						
UCH	**Uchtor**	**2.75**	**15**	↑*e*P	**Pb**	**10 55 08.3**	**+0.7**
	baz=16						
UCH				↑*e*S	**Sb**	**10 55 43.4**	**+2.0**
	baz=16						
MRKS	**Merke**	**3.18**	**356**	*e*P	**Pg**	**10 55 18.5**	**-0.8**
	4.9nm,0.4s						
MRKS				*e*S	**Sg**	**10 56 00.5**	**0.0**
	17nm,0.1s						
MRKS	**Merke**	**3.18**	**356**	Pg	**Pg**	**10 55 18.5**	**-0.8**
	4.9nm,0.4s						
MRKS				Lg	Lg	10 56 00.5	
	17nm,0.1s						
IUG	**luzhnay**	**3.71**	**315**	*e*P	**Pg**	**10 55 28.1**	**-1.2**
	100nm,0.6s						
IUG				*e*S	**Sg**	**10 56 17.2**	**-0.2**
	11nm,0.3s						
SGDS	**Sogindy**	**3.96**	**11**	*e*P	**Pg**	**10 55 33.4**	**-0.8**
	1.8nm,0.2s						
SGDS				*e*S	**Sg**	**10 56 26.2**	**+0.7**
	4.8nm,0.3s						
SGDS	**Sogindy**	**3.96**	**11**	Pg	**Pg**	**10 55 33.4**	**-0.8**
	1.8nm,0.2s						
SGDS				Lg	Lg	10 56 26.2	
	4.8nm,0.3s						
DGS	**Degeres**	**4.03**	**24**	*e*P	**Pg**	**10 55 35.3**	**-0.3**
	3.5nm,0.4s						
DGS				*e*S	**Sg**	**10 56 28.9**	**+1.1**
	9.4nm,0.5s						
DGS	**Degeres**	**4.03**	**24**	Pg	**Pg**	**10 55 35.3**	**-0.3**
	3.5nm,0.4s						
DGS				Lg	Lg	10 56 28.9	
	9.4nm,0.5s						
CHM	**Chimkent**	**4.06**	**314**	*e*P	**Pg**	**10 55 33.3**	**-2.8**
	206nm,0.3s						
CHM				*e*S	**Sg**	**10 56 25.9**	**-2.8**
	169nm,0.3s						
IZV	**Izvestkoviy**	**4.16**	**33**	*e*P	**Pg**	**10 55 38.5**	**+0.4**
	32nm,0.1s						
IZV				*e*S	**Sg**	**10 56 34.3**	**+2.4**
	10nm,0.3s						
IZV	**Izvestkoviy**	**4.16**	**33**	Pg	**Pg**	**10 55 38.5**	**+0.4**
	32nm,0.1s						
IZV				Lg	Lg	10 56 34.3	
	10nm,0.3s						
MTBS	**Maitube**	**4.16**	**30**	*e*P	**Pg**	**10 55 38.1**	**-0.1**
	1.7nm,0.1s						
MTBS				*e*S	**Sg**	**10 56 34.0**	**+2.0**
	5.1nm,0.3s						
MTBS	**Maitube**	**4.16**	**30**	Pg	**Pg**	**10 55 38.1**	**-0.1**
	1.7nm,0.1s						
MTBS				Lg	Lg	10 56 34.0	
	5.1nm,0.3s						
KK31	**Karatay Array**	**4.20**	**328**	↑Pn	**Pb**	**10 55 29.5**	**-2.6**
	0.2nm,0.2s,baz=107,slow=7.8,SNR=6.2						
KK31				↑Pg	**Pg**	**10 55 38.3**	**-0.6**
	0.4nm,0.3s,baz=135,slow=15,SNR=3.5						
KK31				↓Sn	**Sb**	**10 56 19.2**	**-3.5**
	1.2nm,0.4s,baz=174,slow=32,SNR=3.9						
KK31				↑Lg	Lg	10 56 33.8	
	1.5nm,0.4s,baz=131,slow=28						
TNSS	**Tian-Shan**	**4.30**	**35**	Pg	**Pg**	**10 55 40.0**	**-0.9**
	1.6nm,0.3s						
TNSS				Lg	Lg	10 56 37.3	
	7.2nm,0.5s						
MDOK	**Medeo**	**4.45**	**35**	*e*P	**Pg**	**10 55 43.3**	**-0.3**
	2.1nm,0.2s						
MDOK				*e*S	**Sg**	**10 56 42.7**	**+1.4**
	6.3nm,0.7s						
MDOK	**Medeo**	**4.45**	**35**	Pg	**Pg**	**10 55 43.3**	**-0.3**
	2.1nm,0.2s						
MDOK				Lg	Lg	10 56 42.7	
	6.3nm,0.7s						
KTBS	**Karatobe**	**4.76**	**29**	*e*P	**Pg**	**10 55 49.2**	**-0.3**
	1.1nm,0.2s						
KTBS				*e*S	**Sg**	**10 56 53.2**	**+2.1**
	8.3nm,0.5s						
KTBS	**Karatobe**	**4.76**	**29**	Pg	**Pg**	**10 55 49.2**	**-0.3**
	1.1nm,0.2s						
KTBS				Lg	Lg	10 56 53.2	
	8.3nm,0.5s						
KUU	**Kurty**	**4.79**	**25**	*e*P	**Pg**	**10 55 48.9**	**-1.4**
	2.5nm,0.1s						
KUU				*e*S	**Sg**	**10 56 51.9**	**-0.4**
	9.1nm,0.5s						
KUU	**Kurty**	**4.79**	**25**	Pg	**Pg**	**10 55 48.9**	**-1.4**
	2.5nm,0.1s						
KUU				Lg	Lg	10 56 51.9	
	9.1nm,0.5s						
CHKK	**Chushkaly**	**4.99**	**30**	*e*P	**Pg**	**10 55 52.6**	**-1.3**
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**10 56 58.6**	**0.0**
	4.8nm,0.5s						
CHKK	**Chushkaly**	**4.99**	**30**	Pg	**Pg**	**10 55 52.6**	**-1.3**
	0.7nm,0.1s						
CHKK				Lg	Lg	10 56 58.6	
	4.8nm,0.5s						
KURS	**Kuram**	**5.23**	**40**	*e*P	**Pg**	**10 55 56.5**	**-2.0**
	1.5nm,0.4s						
KURS				*e*S	**Sg**	**10 57 05.2**	**-0.9**
	4.7nm,0.7s						
KURS	**Kuram**	**5.23**	**40**	Pg	**Pg**	**10 55 56.5**	**-2.0**
	1.5nm,0.4s						
KURS				Lg	Lg	10 57 05.2	
	4.7nm,0.7s						
BTLS	**Baital**	**5.48**	**4**	*e*P	**Pg**	**10 56 01.4**	**-1.9**
	0.7nm,0.2s						
BTLS				*e*S	**Sg**	**10 57 13.6**	**-0.6**
	1.9nm,0.4s						
BTLS	**Baital**	**5.48**	**4**	Pg	**Pg**	**10 56 01.4**	**-1.9**
	0.7nm,0.2s						
BTLS				Lg	Lg	10 57 13.6	
	1.9nm,0.4s						
ARXS	**Arharly**	**5.63**	**33**	*e*P	**Pg**	**10 56 04.2**	**-2.0**
	1.8nm,0.4s						
ARXS				*e*S	**Sg**	**10 57 18.8**	**-0.2**
	4.9nm,0.5s						
ARXS	**Arharly**	**5.63**	**33**	Pg	**Pg**	**10 56 04.2**	**-2.0**
	1.8nm,0.4s						
ARXS				Lg	Lg	10 57 18.8	
	4.9nm,0.5s						

*DDA **20** 10:58:08.6±0.0, 41°17N×40°83E, h16km±3km, ML2.4*
*ISK **20** 10:58:09.1, 41°22N×40°80E, h16km, ML2.9/6*
*TIF **20** 10:58:09.6, 41°13N×40°91E, h14km±2km*

ISC 20 10:58:09.6±1.1, 41°17N±0°04×40°82E±0°02, h19km±2km, n19, σ0°82/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOM	**Cayeli-Rize**	**0.09**	**212**	PG	**Pg**	**10 58 13.2**	**-0.1**
CHOM				SG	**Sg**	**10 58 15.9**	**+0.1**
CHAY	**Cayeli-Rize**	**0.11**	**221**	PG	**Pg**	**10 58 13.4**	**-0.1**
HOPA	**Hopa-Artvin**	**0.52**	**65**	PG	**Pg**	**10 58 19.8**	**-0.2**
DBOC	**Borcka**	**0.66**	**74**	P	**Pb**	**10 58 22.1**	**-0.4**
DBOC				S	**Sg**	**10 58 30.7**	**-0.8**
DBOC				*i* AML	AML	10 58 31.0	
	comp=E,174nm,0.2s						
DBAD	**Bademkaya**	**0.68**	**103**	P	**Pb**	**10 58 22.1**	**-0.7**
DBAD				*i* AML	AML	10 58 30.0	
	comp=E,343nm,0.3s						
DBAD				S	**Sb**	**10 58 30.6**	**-1.3**
DBAD				*i* AML	AML	10 58 31.0	
	comp=N,365nm,0.5s						
BATM	**Batumi**	**0.79**	**56**	P	**Pb**	**10 58 24.6**	**-0.1**
BATM				S	**Sg**	**10 58 35.9**	**+0.4**
DAGI	**Agillar**	**0.83**	**96**	P	**Pb**	**10 58 24.8**	**-0.7**
DAGI				S	**Sb**	**10 58 35.6**	**-0.7**
DAGI				*i* AML	AML	10 58 36.0	
	comp=N,164nm,0.2s						
DAGI				*i* AML	AML	10 58 36.0	
	comp=E,266nm,0.2s						
MACK	**Trabzon**	**0.83**	**254**	P	**Pb**	**10 58 25.4**	**-0.1**
MACK				S	**Sb**	**10 58 36.2**	**0.0**
MACK				*i* AML	AML	10 58 38.0	
	comp=N,1μm,0.2s						
MACK				*i* AML	AML	10 58 38.0	
	comp=E,908nm,0.2s						
KRIK	**Erzurum-spir**	**0.84**	**175**	P	**Pb**	**10 58 24.9**	**-0.8**
KRIK				S	**Sb**	**10 58 34.5**	**-2.1**
BAYB	**BAYBURT**	**1.01**	**205**	P	**Pb**	**10 58 28.0**	**-0.7**
BAYB				S	**Sb**	**10 58 40.5**	**-1.1**
BAYB				*i* AML	AML	10 58 41.0	
	comp=E,91nm,0.4s						
BAYB				*i* AML	AML	10 58 42.0	
	comp=N,72nm,0.3s						
KOPT	**Kop Dagi**	**1.18**	**192**	P	**Pn**	**10 58 31.8**	**+0.4**
GUMT	**Gumushane**	**1.24**	**236**	PN	**Pn**	**10 58 32.5**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.31**	**117**	PN	**Pn**	**10 58 33.7**	**+0.6**
SENK				SN	**Sb**	**10 58 51.7**	**+1.5**
ERZM	**Erzurum**	**1.33**	**162**	P	**Pb**	**10 58 34.4**	**+0.2**
ERZM				S	**Sg**	**10 58 52.7**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.42**	**146**	PN	**Pb**	**10 58 35.8**	**+0.3**
KOPR				SN	**Sb**	**10 58 54.9**	**+1.6**
KELT	**Kelkit**	**1.57**	**230**	P	**Pn**	**10 58 37.3**	**+0.6**
KELT				S	**Sn**	**10

Q23K Middleton Isla 1.27 39 P **Pn** **11 14 18.5 -1.6**
baz=219,SNR=13
Q23K S **Sb** **11 14 34.6 -2.0**
baz=219
MID Middleton Isla 1.27 40 **Sb** **11 14 34.6 -2.1**
MID Middleton Isla 1.27 40 Pg **Pn** **11 14 18.5 -1.6**
MID Middleton Isla 1.27 40 IAML 11 14 35.1
comp=N,2µm,0.6s
MID IAML 11 14 36.4
comp=E,1µm,0.8s
P23K Montague Islan 1.56 10 **Pn** **11 14 23.1 -1.2**
P23K **Sn** **11 14 42.2 -1.9**
P23K Montague Islan 1.56 10 P **Pn** **11 14 23.2 -1.0**
baz=189,SNR=61
P23K S **Sn** **11 14 42.6 -1.5**
baz=189
SEW Seward 1.83 335 **Pn** **11 14 26.8 -1.0**
SEW Seward 1.83 335 P **Pn** **11 14 26.7 -1.0**
baz=154,SNR=53
SEW S **Sn** **11 14 48.5 -2.0**
baz=154
BRSE Bradley Lake S 1.94 313 **Pn** **11 14 28.9 -0.5**
BRSE Bradley Lake S 1.94 313 P **Pn** **11 14 28.6 -0.8**
baz=130,SNR=6.9
BRSE S **Sn** **11 14 51.7 -1.7**
baz=130
BRLK Bradley Lake 2.01 312 **Pn** **11 14 29.6 -0.8**
BRLK IAML 11 14 54.5
comp=E,783nm,0.7s
CNPM China Poot 2.02 303 **Pn** **11 14 29.6 -0.9**
CNPM IAML 11 15 32.5
comp=N,634nm,1.1s
CNPM China Poot 2.02 303 **Sn** **11 14 52.9 -2.5**
HIN Hinchinbrook I 2.07 20 Pn **Pn** **11 14 30.5 -0.8**
HIN IAML 11 14 56.3
comp=E,603nm,0.6s
HIN Hinchinbrook I 2.07 20 **Sn** **11 14 55.1 -1.5**
O22K Cooper Landing 2.23 336 **Pn** **11 14 32.5 -0.8**
O22K **Sn** **11 14 59.6 -0.8**
O22K Cooper Landing 2.23 336 P **Pn** **11 14 32.6 -0.7**
baz=154,SNR=45
O22K S **Sn** **11 14 59.8 -0.5**
baz=154
HOM Homer 2.27 304 S **Sn** **11 15 01.0 -0.4**
baz=121
KAIM Kayak Island 2.33 49 **Pn** **11 14 33.8 -0.9**
KAIM Kayak Island 2.33 49 P **Pn** **11 14 33.8 -0.9**
baz=231,SNR=52
KAIM S **Sn** **11 15 02.1 -0.7**
baz=231
SYI Shuyak Island 2.35 276 **Pn** **11 14 34.5 -0.5**
Q20K Shuyak Island 2.35 276 P **Pn** **11 14 34.5 -0.5**
baz=92
Q20K S **Sn** **11 15 01.4 -2.0**
baz=92
EYAK Cordova Ski Ar 2.37 27 **Pn** **11 14 34.5 -0.7**
EYAK Cordova Ski Ar 2.37 27 P **Pn** **11 14 34.5 -0.7**
baz=208,SNR=154
EYAK S **Sn** **11 15 01.8 -2.0**
baz=208
FID Port Fidalgo 2.41 17 **Pn** **11 14 34.6 -1.2**
FID IAML 11 15 09.1
comp=N,525nm,0.7s
FID IAML 11 15 10.1
comp=E,595nm,0.6s
PWL Port Wells 2.42 355 **Pn** **11 14 35.0 -0.9**
PWL IAML 11 15 04.5
comp=E,686nm,0.5s
PWL IAML 11 15 05.3
comp=N,518nm,0.6s
PWL Port Wells 2.42 355 P **Pn** **11 14 35.1 -0.9**
baz=174,SNR=125
PWL S **Sn** **11 15 03.3 -1.8**
baz=174
GLI Glacier Island 2.46 9 **Pn** **11 14 35.7 -0.9**
GLI IAML 11 15 05.4
comp=E,698nm,0.5s
GLI IAML 11 15 06.7
comp=N,455nm,0.3s
GLI Glacier Island 2.46 9 P **Pn** **11 14 35.6 -0.9**
baz=189,SNR=39
GLI S **Sn** **11 15 04.4 -1.8**
baz=189
RAGM Ragged Mountai 2.54 39 **Pn** **11 14 36.8 -1.0**
RAGM IAML 11 15 16.3
comp=E,893nm,0.7s
KDAK Kodiak Island 2.57 257 Pn **Pn** **11 14 36.0 -2.0**
comp=E,12nm,0.3s,baz=94,slow=13,SNR=145
KDAK Sn **Sn** **11 15 04.6 -4.2**
comp=E,11nm,0.3s,baz=103,slow=14,SNR=12
KDAK LR LR 11 15 59.6
comp=E,366nm,18.6s,baz=68,slow=49
comp=E,39nm,0.3s
KDAK Kodiak Island 2.57 257 Pn **Pn** **11 14 36.5 -1.5**
KDAK Kodiak Island 2.57 257 P **Pn** **11 14 36.2 -1.7**
baz=73
HMT Hamilton 2.65 43 **Pn** **11 14 38.6 -0.6**
SUCK Suckling Hills 2.67 51 **Pn** **11 14 38.8 -0.6**
SUCK IAML 11 15 10.7
comp=N,464nm,0.5s
SUCK IAML 11 15 12.4
comp=E,436nm,0.9s
GOAT Goat Mountain 2.68 36 **Pn** **11 14 39.1 -0.5**
JPK Jack Peak 2.69 14 **Pn** **11 14 39.1 -0.6**
NICHA Nichawak Mount 2.70 47 **Pn** **11 14 39.2 -0.6**
VMT TAPS Tl Valdez 2.75 16 **Pn** **11 14 40.2 -0.2**
RC01 Rabbit Creek A 2.79 342 **Pn** **11 14 40.7 -0.4**
RC01 IAML 11 15 18.2
comp=N,316nm,0.8s
RC01 IAML 11 15 27.4
comp=E,294nm,0.6s
RC01 Rabbit Creek A 2.79 342 P **Pn** **11 14 40.7 -0.4**
baz=160,SNR=46
RC01 S **Sn** **11 15 12.9 -1.5**
baz=160
CAPN Captain Cook N 2.84 326 Pn **Pn** **11 14 42.9 +1.2**
CAPN Captain Cook N 2.84 326 P **Pn** **11 14 42.2 +0.6**
baz=143
DIV Divide 2.89 21 **Pn** **11 14 41.9 -0.6**
BERG Berg Lake 2.90 46 **Pn** **11 14 41.6 -0.9**
BGLC Bering Glacier 2.90 53 P **Pn** **11 14 42.0 -0.6**
baz=236
BGLC S **Sn** **11 15 16.4 -0.5**
baz=236
O20K Slope Mountain 2.91 306 **Pn** **11 14 42.9 +0.1**
O20K Slope Mountain 2.91 306 P **Pn** **11 14 42.9 +0.1**
baz=122
O20K S **Sn** **11 15 16.8 -0.6**
baz=122
FIS Fire Island 2.93 338 Pn **Pn** **11 14 43.3 +0.4**
FIS IAML 11 15 28.2
comp=N,677nm,0.6s
KNK Knik Glacier 2.97 355 **Pn** **11 14 43.2 -0.4**
KNK IAML 11 15 19.3
comp=E,276nm,0.6s
KNK IAML 11 15 22.3
comp=N,252nm,0.5s
KNK Knik Glacier 2.97 355 P **Pn** **11 14 43.2 -0.4**
baz=174,SNR=21
KNK S **Sn** **11 15 17.2 -1.6**
baz=174
GRIN Grindle Hills 2.98 50 **Pn** **11 14 43.2 -0.5**
OPT Oil Point 2.99 296 **Pn** **11 14 44.2 +0.4**
P19K Oil Pt 2.99 296 **Pn** **11 14 45.0 +1.1**
P19K IAML 11 15 25.8
comp=E,516nm,0.5s
P19K IAML 11 15 59.3
comp=N,659nm,0.9s
P19K Oil Pt 2.99 296 P **Pn** **11 14 44.1 +0.3**
baz=112
BMRM Bremner River 3.02 32 **Pn** **11 14 43.8 -0.6**
BMRM Bremner River 3.02 32 P **Pn** **11 14 43.9 -0.4**
baz=214,SNR=438
BMRM S **Sn** **11 15 18.1 -2.0**
baz=214
Q19K Cape Douglas, 3.02 281 **Pn** **11 14 42.5 -1.8**
Q19K IAML 11 16 03.2
comp=N,491nm,0.8s
Q19K Cape Douglas, 3.02 281 P **Pn** **11 14 44.2 -0.1**
baz=97
Q19K S **Sn** **11 15 18.1 -2.0**
baz=97
IVE Iliamna Volcan 3.05 303 **Pn** **11 14 44.5 -0.1**
ILSW Iliamna Southw 3.09 302 Pn **Pn** **11 14 43.5 -1.8**
ILSW IAML 11 15 21.6
comp=N,253nm,0.4s
ILSW IAML 11 15 53.5
comp=E,200nm,0.9s
KHIT Khitrov Hills 3.10 48 **Pn** **11 14 44.5 -0.9**
SNH Sunshine Point 3.12 54 **Pn** **11 14 44.9 -0.8**
SNH IAML 11 15 21.9
comp=E,465nm,0.5s
SNH IAML 11 15 22.3
comp=N,304nm,0.5s
OHAK Old Harbor 3.13 249 **Pn** **11 14 43.3 -2.3**
OHAK Old Harbor 3.13 249 P **Pn** **11 14 43.1 -2.6**
baz=65,SNR=8.4
OHAK S **Sn** **11 15 18.1 -4.5**
baz=65
RED Redoubt Volcan 3.16 310 **Pn** **11 14 45.5 -0.7**
RDSO Redoubt South 3.17 311 **Pn** **11 14 45.8 -0.6**
RSO Redoubt South 3.18 311 **Pn** **11 14 45.8 -0.8**
PMR Palmer 3.20 350 **Pn** **11 14 46.2 -0.4**
PMR Palmer 3.20 350 IAML 11 15 23.5
comp=N,283nm,0.6s
PMR Palmer 3.20 350 P **Pn** **11 14 46.2 -0.4**
baz=168,SNR=69
PMR S **Sn** **11 15 22.2 -2.1**
baz=168
KLU Klutina 3.20 17 **Pn** **11 14 46.6 -0.2**
KLU IAML 11 15 26.2
comp=N,435nm,0.4s
KLU Klutina 3.20 17 P **Pn** **11 14 46.5 -0.2**
baz=198,SNR=293
KLU S **Sn** **11 15 22.8 -1.8**
baz=198
CYK Cape Yakataga 3.23 57 **Pn** **11 14 46.1 -0.9**
DFR Drift River 3.23 313 **Pn** **11 14 46.8 -0.4**
WAX Waxell Ridge 3.27 50 **Pn** **11 14 46.8 -0.9**
WAX IAML 11 15 24.5
comp=E,477nm,0.7s
RDJH Redoubt Jeurge 3.28 313 **Pn** **11 14 47.3 -0.6**
PS12 TAPS Pump St12 3.33 24 **Pn** **11 14 47.8 -0.7**
SUA Susitna One 3.33 336 **Pn** **11 14 48.2 -0.4**
SUA Susitna One 3.33 336 P **Pn** **11 14 48.1 -0.4**
baz=153,SNR=21
M23K Glacier View 3.34 2 **Pn** **11 14 49.2 +0.6**
M23K Glacier View 3.34 2 P **Pn** **11 14 49.1 +0.4**
baz=181,SNR=256
M23K S **Sn** **11 15 27.4 -0.6**
baz=181
GHO Glory Hole Cre 3.36 352 **Pn** **11 14 49.2 +0.3**
GHO IAML 11 15 28.0
comp=E,417nm,0.7s
SML Sawmill 3.36 357 **Pn** **11 14 49.1 +0.1**
SML IAML 11 15 28.8
comp=N,296nm,0.6s
SML IAML 11 15 31.9
comp=E,292nm,0.4s
SML Sawmill 3.36 357 P **Pn** **11 14 49.1 +0.1**
baz=176,SNR=164
SML S **Sn** **11 15 27.4 -1.1**
baz=176
BARK Barkley Ridge 3.39 53 **Pn** **11 14 48.6 -0.8**
SCM Sheep Creek Mo 3.40 5 **Pn** **11 14 49.9 +0.4**
SCM IAML 11 15 30.3
comp=E,449nm,0.5s
SCM IAML 11 15 33.8
comp=N,239nm,0.8s
SCM Sheep Creek Mo 3.40 5 P **Pn** **11 14 49.8 +0.4**
baz=185,SNR=119
SCM S **Sn** **11 15 29.3 -0.1**
baz=185
SPU Mount Spurr 3.44 324 **Pn** **11 14 49.3 -0.7**
TGL Tana Glacier 3.46 46 **Pn** **11 14 49.7 -0.6**
TGL IAML 11 15 28.6
comp=E,427nm,0.8s
TGL IAML 11 15 30.7
comp=N,365nm,0.6s
M22K Willow 3.48 342 **Pn** **11 14 50.6 +0.1**
M22K Willow 3.48 342 IAML 11 15 33.1
comp=E,431nm,0.5s
M22K IAML 11 15 38.2
comp=N,440nm,0.6s
M22K Willow 3.48 342 P **Pn** **11 14 50.3 -0.2**
baz=160,SNR=13
N20K Mount Spurr 3.50 324 P **Pn** **11 14 50.1 -0.8**
baz=140,SNR=8.7
SPCR Spurr Chakacha 3.50 324 **Pn** **11 14 50.5 -0.3**
SPCR Spurr Chakacha 3.50 324 **Pn** **11 14 50.2 -0.6**
SPCR Spurr Chakacha 3.50 324 P **Pn** **11 14 50.0 -0.9**
baz=140,SNR=8.9
MESA MESA 3.51 58 **Pn** **11 14 50.2 -0.9**
MESA IAML 11 15 34.0
comp=N,248nm,0.3s
MESA MESA 3.51 58 P **Pn** **11 14 50.0 -1.1**
baz=242,SNR=12
MESA S **Sn** **11 15 29.6 -2.7**
baz=242
SPCP Crater Peak Br 3.53 325 **Pn** **11 14 51.5 +0.1**
CKL Chakachamna La 3.54 323 **Pn** **11 14 50.9 -0.5**
ISLE Juniper Island 3.56 51 **Pn** **11 14 50.9 -0.9**
ISLE IAML 11 15 35.2
comp=N,245nm,0.4s
ISLE IAML 11 15 35.7
comp=E,296nm,0.9s
N25K Chitina, Valde 3.57 26 **Pn** **11 14 51.7 -0.1**
N25K IAML 11 15 35.2
comp=E,223nm,0.5s
N25K Chitina, Valde 3.57 26 P **Pn** **11 14 51.7 -0.1**
baz=209,SNR=286
N25K S **Sn** **11 15 31.8 -1.7**
baz=209
BAGL Bagley Icefiel 3.60 53 **Pn** **11 14 51.5 -0.7**
STLK Strandline Lak 3.63 329 **Pn** **11 14 52.7 +0.1**
GLB Gilahina Butte 3.63 33 **Pn** **11 14 52.2 -0.5**
GLB IAML 11 15 37.9
comp=E,165nm,0.5s
YAH Yahtse 3.69 56 **Pn** **11 14 52.5 -1.0**
YAH Yahtse 3.69 56 IAML 11 15 37.8
comp=N,249nm,0.5s
YAH IAML 11 15 38.1
comp=E,164nm,0.4s
O19K Port Alsworth 3.71 301 **Pn** **11 14 54.3 +0.6**
O19K Port Alsworth 3.71 301 P **Pn** **11 14 53.4 -0.3**
baz=115
M24K Tolsona, Glenn 3.76 13 **Pn** **11 14 55.3 +0.8**
M24K IAML 11 15 40.5
comp=E,352nm,0.6s
M24K Tolsona, Glenn 3.76 13 P **Pn** **11 14 55.2 +0.8**
baz=194,SNR=427
MCARA McCarthy VSAT 3.83 38 **Pn** **11 14 54.9 -0.4**
MCARA McCarthy VSAT 3.83 38 P **Pn** **11 14 54.6 -0.7**
baz=222,SNR=82
PS11 TAPS Pump St11 3.83 18 **Pn** **11 14 56.4 +1.1**
CHX Chaix Hills 3.84 62 **Pn** **11 14 54.5 -1.1**
PTPK Patty Peak 3.88 43 **Pn** **11 14 55.8 -0.4**
SII Sitkinak Islan 3.88 243 Pn **Pn** **11 14 57.0 +0.9**
SII IAML 11 15 42.4
comp=N,171nm,1.1s
SII IAML 11 16 56.4
comp=E,155nm,1.9s
SII Sitkinak Islan 3.88 243 P **Pn** **11 14 55.7 -0.3**
baz=58
P18K Big Mountain, 3.90 287 Pn **Pn** **11 14 55.9 -0.4**
WASW Wrangell South 3.95 27 **Pn** **11 14 57.1 0.0**
SKT Skwentna 3.96 334 Pn **Pn** **11 14 57.1 0.0**
SKT IAML 11 15 44.5
comp=N,137nm,0.4s
SKT IAML 11 15 45.0
comp=E,150nm,0.5s
SKT Skwentna 3.96 334 P **Pn** **11 14 57.7 +0.5**
baz=151,SNR=26
WACK Wrangell Chich 3.96 25 **Pn** **11 14 57.2 -0.1**
TABL Table Mountain 3.99 57 **Pn** **11 14 56.9 -0.8**
TABL IAML 11 15 46.2
comp=N,288nm,0.7s
O18K Koktuh Hills 4.00 294 **Pn** **11 14 57.3 -0.4**
O18K Koktuh Hills 4.00 294 P **Pn** **11 14 58.4 +0.7**
baz=108
SAMH Samovar Hills 4.02 62 **Pn** **11 14 57.7 -0.4**
N19K Bonanza Creek 4.08 308 Pn **Pn** **11 14 58.3 -0.6**
N19K Bonanza Creek 4.08 308 P **Pn** **11 14 58.2 -0.7**
baz=122
CUT Chulitna 4.12 345 **Pn** **11 15 00.1 +0.7**
CUT Chulitna 4.12 345 P **Pn** **11 14 59.8 +0.5**
baz=162,SNR=18
WAT6 Susitna Watana 4.13 1 **Pn** **11 14 59.7 +0.1**
WAT6 Susitna Watana 4.13 1 P **Pn** **11 14 59.8 +0.1**
baz=181,SNR=77
CTG Chitna Glacier 4.17 50 P **Pn** **11 14 59.5 -0.6**
baz=235,SNR=71
CTGM Chitina Glacie 4.17 50 **Pn** **11 14 59.5 -0.7**
CTGM IAML 11 15 47.6
comp=E,218nm,0.5s
CTGM IAML 11 15 48.2
comp=N,234nm,0.5s
HARP HAARP 4.18 18 **Pn** **11 15 00.7 +0.6**
HARP HAARP 4.18 18 P **Pn** **11 15 00.9 +0.7**
baz=200,SNR=215
LOGN Logan Glacier 4.24 53 **Pn** **11 15 00.2 -0.8**
PCA Pinnacle 4.26 64 **Pn** **11 15 00.7 -0.6**
PINM Pinnacle 4.26 64 P **Pn** **11 15 00.2 -1.1**
baz=250,SNR=30
M20K Styx River 4.31 325 **Pn** **11 15 02.3 +0.4**
M20K Styx River 4.31 325 P **Pn** **11 15 02.2 +0.2**
baz=140,SNR=15
WAT1 Susitna Watana 4.39 356 **Pn** **11 15 03.6 +0.5**
WAT1 Susitna Watana 4.39 356 P **Pn** **11 15 03.5 +0.4**
baz=175
YKU2 Yakutat 4.39 73 Pn **Pn** **11 15 03.2 +0.2**
WAT7 Susitna Watana 4.41 354 **Pn** **11 15 03.9 +0.5**
P17K Kvichak River 4.49 283 P **Pn** **11 15 04.8 +0.5**
baz=96
BCPM Bancas Point 4.51 67 **Pn** **11 15 03.8 -0.9**
BCPM IAML 11 15 53.7
comp=N,173nm,0.3s
BCPM IAML 11 15 56.4
comp=E,173nm,0.4s
O28M Mount Upton 4.56 56 **Pn** **11 15 04.8 -0.7**
O28M Mount Upton 4.56 56 P **Pn** **11 15 04.7 -0.9**
baz=242,SNR=71
PNL Peninsula 4.56 71 **Pn** **11 15 04.6 -0.8**
PNL Peninsula 4.56 71 P **Pn** **11 15 04.3 -1.1**
baz=258,SNR=16
N18K Kilae Creek 4.62 302 **Pn** **11 15 05.7 -0.6**
N18K IAML 11 17 00.8
comp=E,70nm,1.1s
N18K Kilae Creek 4.62 302 P **Pn** **11 15 05.2 -1.0**
baz=115
DHY Denali Highway 4.64 3 Pn **Pn** **11 15 07.1 +0.5**
DHY IAML 11 16 01.6
comp=E,91nm,0.4s
DHY IAML 11 16 01.8
comp=N,79nm,0.6s
DHY Denali Highway 4.64 3 P **Pn** **11 15 07.0 +0.5**
baz=183,SNR=179
M26K Nabesna, AK 4.64 30 **Pn** **11 15 06.6 0.0**
M26K IAML 11 16 10.4
comp=E,71nm,0.7s
M26K Nabesna, AK 4.64 30 P **Pn** **11 15 06.6 0.0**
baz=213,SNR=70
PAX Paxson 4.68 14 **Pn** **11 15 07.1 0.0**
PAX Paxson 4.68 14 P **Pn** **11 15 07.0 -0.1**
baz=196,SNR=165
SVW2 Sparrevohn 4.69 308 **Pn** **11 15 06.5 -0.6**
M19K Big River Lodg 4.73 320 **Pn** **11 15 07.3 -0.3**
M19K Big River Lodg 4.73 320 P **Pn** **11 15 07.5 -0.2**
baz=134
YUK2 White River 4.86 44 **Pn** **11 15 09.8 +0.3**
O17K Koliganek Bris 4.91 289 **Pn** **11 15 10.0 -0.1**
O17K Koliganek Bris 4.91 289 P **Pn** **11 15 09.9 -0.1**
baz=102
M27K Edge Creek, AK 4.92 35 **Pn** **11 15 10.9 +0.5**
M27K Edge Creek, AK 4.92 35 P **Pn** **11 15 10.3 -0.1**
baz=220,SNR=66
MENT Mentasta 4.94 23 **Pn** **11 15 10.5 -0.1**
MENT IAML 11 16 11.7
comp=E,112nm,0.6s
MENT IAML 11 16 20.8
comp=N,124nm,0.5s
RND Reindeer 4.98 355 **Pn** **11 15 11.8 +0.6**
RND Reindeer 4.98 355 IAML 11 16 10.4
comp=N,113nm,0.7s
RND IAML 11 16 11.4
comp=E,77nm,0.9s
L20K Farewell, AK 4.99 326 **Pn** **11 15 11.2 -0.2**
L20K Farewell, AK 4.99 326 P **Pn** **11 15 11.1 -0.2**
baz=141
YUK3 Moose Creek 5.00 45 **Pn** **11 15 11.9 +0.4**
YUK3 Moose Creek 5.00 45 P **Pn** **11 15 11.8 +0.3**
baz=231,SNR=93
L19K White Mountain 5.08 320 **Pn** **11 15 13.3 +0.8**
L19K White Mountain 5.08 320 P **Pn** **11 15 12.7 +0.2**
baz=134,SNR=8.9
L26K Log Cabin Wild 5.10 24 **Pn** **11 15 13.3 +0.6**
L26K IAML 11 16 17.8
comp=N,61nm,0.5s
L26K IAML 11 16 20.1
comp=E,58nm,0.5s
L26K Log Cabin Wild 5.10 24 P **Pn** **11 15 13.1 +0.4**
baz=208,SNR=28
O29M Mount Kennedy 5.12 65 **Pn** **11 15 12.6 -0.6**
O29M Mount Kennedy 5.12 65 P **Pn** **11 15 12.5 -0.6**
baz=252,SNR=80
TRF Thorofare Moun 5.14 348 **Pn** **11 15 13.8 +0.4**
TRF IAML 11 16 25.0
comp=E,100nm,0.7s
TRF Thorofare Moun 5.14 348 P **Pn** **11 15 13.8 +0.4**
baz=166,SNR=55
P16K Nushagak River 5.28 280 **Pn** **11 15 15.0 -0.2**
P16K Nushagak River 5.28 280 P **Pn** **11 15 15.5 +0.3**
baz=92
BVCY Beaver Creek 5.28 38 **Pn** **11 15 15.4 +0.1**
BVCY Beaver Creek 5.28 38 P **Pn** **11 15 15.6 +0.3**
baz=224,SNR=126
MCK McKinley 5.31 355 **Pn** **11 15 16.4 +0.8**
MCK McKinley 5.31 355 P **Pn** **11 15 16.7 +1.0**
baz=174,SNR=37
KTH Kantishna Hill 5.31 345 **Pn** **11 15 16.5 +0.8**
KTH Kantishna Hill 5.31 345 IAML 11 16 18.2
comp=N,104nm,0.6s
CAST Castle Rocks 5.37 340 **Pn** **11 15 16.3 -0.2**
CAST Castle Rocks 5.37 340 P **Pn** **11 15 16.1 -0.5**
baz=156,SNR=23
O16K Kokwok River B 5.38 287 P **Pn** **11 15 16.6 0.0**
baz=98
P29M Windy Craggy 5.39 73 **Pn** **11 15 16.1 -0.6**
P29M IAML 11 16 15.6
comp=E,100nm,0.5s
P29M IAML 11 16 16.7
comp=N,105nm,0.4s
P29M Windy Craggy 5.39 73 P **Pn** **11 15 15.4 -1.3**
baz=261,SNR=22
YUK6 Outpost Mounta 5.44 59 **Pn** **11 15 17.3 -0.4**
YUK6 Outpost Mounta 5.44 59 P **Pn** **11 15 17.3 -0.4**
baz=246,SNR=20
K24K Donnelly Dome 5.46 10 P **Pn** **11 15 17.9 +0.1**
baz=192,SNR=13
YUK4 Talbot Arm 5.49 54 P **Pn** **11 15 19.7 +1.4**
baz=241,SNR=57
L27K Beaver Creek, 5.50 30 **Pn** **11 15 18.2 0.0**
L27K Beaver Creek, 5.50 30 P **Pn** **11 15 17.8 -0.4**
baz=215,SNR=29
RIDG Independent Ri 5.50 14 **Pn** **11 15 18.7 +0.3**
RIDG Independent Ri 5.50 14 P **Pn** **11 15 18.6 +0.3**
baz=197,SNR=212
BCAR Beaver Creek A 5.51 30 Pn **Pn** **11 15 18.3 -0.2**
DOT Dot Lake 5.53 18 **Pn** **11 15 19.6 +0.8**
YUK5 Granite Creek 5.74 58 **Pn** **11 15 21.5 -0.2**
K20K Telida 5.75 331 **Pn** **11 15 22.2 +0.4**
K20K Telida 5.75 331 P **Pn** **11 15 21.9 +0.2**
baz=146,SNR=13
BWN Browne 5.78 353 **Pn** **11 15 22.8 +0.7**
HYT Haines Junctio 5.79 61 **Pn** **11 15 22.3 -0.1**
HYT Haines Junctio 5.79 61 P **Pn** **11 15 21.9 -0.5**
baz=250,SNR=13
CHUM Lake Minchumin 5.84 341 **Pn** **11 15 22.8 -0.1**
CHUM Lake Minchumin 5.84 341 P **Pn** **11 15 22.6 -0.3**
baz=157,SNR=25
BPAW Bear Paw Mtn. 5.85 347 **Pn** **11 15 22.8 -0.3**
BPAW Bear Paw Mtn. 5.85 347 P **Pn** **11 15 22.8 -0.3**
baz=164,SNR=31
SCRK Sand Creek 5.85 17 **Pn** **11 15 23.6 +0.4**
SCRK Sand Creek 5.85 17 P **Pn** **11 15 23.2 0.0**
baz=200,SNR=46
P30M Million Dollar 5.86 69 **Pn** **11 15 22.4 -0.9**
P30M Million Dollar 5.86 69 P **Pn** **11 15 22.7 -0.5**
baz=258
N16K Nishlik Lake 5.89 295 P **Pn** **11 15 22.9 -0.7**
baz=106
HDA Harding Lake 5.99 4 **Pn** **11 15 25.2 +0.3**
HDA Harding Lake 5.99 4 P **Pn** **11 15 25.3 +0.3**
baz=185,SNR=53
WRH Wood River Hil 6.03 359 **Pn** **11 15 26.0 +0.4**
PLBC Pleasant Camp 6.06 76 **Pn** **11 15 24.9 -1.1**
PLBC Pleasant Camp 6.06 76 P **Pn** **11 15 25.8 -0.2**
baz=265,SNR=21

M29M	**Somme Creek**	6.15	46			Pn	11 15 26.9	-0.3
M29M	**Somme Creek**	6.15	46	P		Pn	11 15 26.8	-0.5
	baz=233,SNR=68							
NEA2	**Nenana**	6.18	355			Pn	11 15 27.3	-0.3
NEA2	**Nenana**	6.18	355	P		Pn	11 15 27.2	-0.3
	baz=174,SNR=29							
CCB	**Clear Creek Bu**	6.21	0			Pn	11 15 27.6	-0.3
N30M	**Aishikik Lake**	6.21	56			Pn	11 15 27.1	-1.0
N30M	**Aishikik Lake**	6.21	56	P		Pn	11 15 27.0	-1.1
	baz=246,SNR=10.0							
K27K	**Chicken**	6.26	24			Pn	11 15 28.8	+0.1
K27K	**Chicken**	6.26	24	P		Pn	11 15 28.5	-0.1
	baz=209							
J25K	**Salcha River,**	6.29	10			Pn	11 15 28.6	-0.6
J25K	**Salcha River,**	6.29	10	P		Pn	11 15 28.7	-0.5
	baz=192,SNR=19							
IL31		6.35	4			Pn	11 15 29.6	-0.3
ILAR	**Eielson Array**	6.35	4	Pn		Pn	11 15 28.3	-1.6
	comp=N,4.3nm,0.3s,baz=187,slow=13,SNR=200							
ILAR				Sn		Sn	11 16 38.2	-3.7
	comp=N,3.5nm,0.3s,baz=192,slow=16,SNR=5.9							
ILAR				LR		LR	11 17 21.6	
	comp=N,56nm,19.2s,baz=258,slow=33							
	comp=N,9.0nm,0.5s							
ILAR	**Eielson Array**	6.35	4			Pn	11 15 29.7	-0.2
R31K	**City Hall, Gus**	6.40	85	P		Pn	11 15 29.4	-1.2
	baz=275							
J26L	**Joseph Creek**	6.41	17			Pn	11 15 30.4	-0.4
J26L	**Joseph Creek**	6.41	17	P		Pn	11 15 30.3	-0.5
	baz=201,SNR=91							
O30N	**Mendenhall**	6.43	64			Pn	11 15 30.2	-0.9
O30N	**Mendenhall**	6.43	64	P		Pn	11 15 30.2	-0.9
	baz=254,SNR=24							
COLA	**College**	6.44	0			Pn	11 15 30.8	-0.3
COLA	**College**	6.44	0	P		Pn	11 15 31.0	0.0
	baz=180							
TCOL	**CIGO, UAF Yank**	6.44	0			Pn	11 15 31.2	+0.2
TCOL	**CIGO, UAF Yank**	6.44	0	P		Pn	11 15 30.9	-0.2
	baz=180,SNR=17							
J20K	**Nowinta River**	6.47	335			Pn	11 15 31.6	0.0
J20K	**Nowinta River**	6.47	335	P		Pn	11 15 31.2	-0.4
	baz=150,SNR=27							
MDM	**Murphy Dome**	6.52	359			Pn	11 15 32.3	0.0
SKAG	**Skagway**	6.59	76			Pn	11 15 33.3	+0.1
SKAG	**Skagway**	6.59	76	P		Pn	11 15 32.9	-0.2
	baz=266,SNR=23							
L29M	**L29M**	6.68	42			Pn	11 15 34.3	-0.3
L29M	**L29M**	6.68	42	P		Pn	11 15 34.2	-0.3
	baz=230,SNR=88							
POKR	**Poker Plat Res**	6.68	2			Pn	11 15 34.6	+0.1
POKR	**Poker Plat Res**	6.68	2	P		Pn	11 15 34.6	+0.1
	baz=182,SNR=8.4							
MLY	**Manley**	6.73	350			Pn	11 15 35.3	+0.2
MLY	**Manley**	6.73	350	P		Pn	11 15 35.3	+0.2
	baz=167,SNR=62							
N31M	**Braeburn, Yuko**	6.80	58			Pn	11 15 35.6	-0.5
N31M	**Braeburn, Yuko**	6.80	58	P		Pn	11 15 35.4	-0.8
	baz=249,SNR=15							
BESE	**Bessie Mountai**	6.85	83			Pn	11 15 35.8	-1.0
M30M	**Minto, Yukon**	6.87	48	Pn		Pn	11 15 36.3	-0.7
M30M	**Minto, Yukon**	6.87	48	P		Pn	11 15 36.5	-0.6
	baz=238,SNR=20							
SIT	**Sitka**	6.89	96			Pn	11 15 34.0	-3.2
SIT	**Sitka**	6.89	96	P		Pn	11 15 34.8	-2.5
	baz=287							
DAWY	**Dawson**	6.96	33			Pn	11 15 38.1	-0.2
DAWY	**Dawson**	6.96	33	P		Pn	11 15 38.1	-0.2
	baz=220,SNR=79							
WHY	**Whitehorse**	6.98	66			Pn	11 15 38.0	-0.6
WHY	**Whitehorse**	6.98	66	P		Pn	11 15 37.7	-1.0
	baz=257,SNR=23							
I21K	**Tanana**	7.01	346			Pn	11 15 39.0	0.0
I21K	**Tanana**	7.01	346	P		Pn	11 15 38.9	0.0
	baz=162,SNR=32							
R32K	**Eaglecrest**	7.05	86			Pn	11 15 38.3	-1.2
R32K	**Eaglecrest**	7.05	86	P		Pn	11 15 38.6	-0.9
	baz=277							
EGAK	**Eagle**	7.11	24			Pn	11 15 40.7	+0.5
EGAK	**Eagle**	7.11	24	P		Pn	11 15 40.6	+0.4
	baz=210,SNR=14							
JIS	**Juneau Island**	7.12	86			Pn	11 15 39.2	-1.3
S32K	**Killisnoo**	7.17	92			Pn	11 15 39.6	-1.5
S32K	**Killisnoo**	7.17	92	P		Pn	11 15 39.4	-1.7
	baz=283							
PRP	**Porcupine Dome**	7.17	8			Pn	11 15 40.3	-1.0
PRP	**Porcupine Dome**	7.17	8	P		Pn	11 15 41.2	-0.1
	baz=190							
I26K	**Coal Creek Min**	7.23	16			Pn	11 15 41.6	-0.3
I26K	**Coal Creek Min**	7.23	16	P		Pn	11 15 41.9	0.0
	baz=200							
K29M	**Barlow Dome**	7.37	39	P		Pn	11 15 44.1	+0.1
	baz=227							
CNBA	**Chernabura Isl**	7.39	245			Pn	11 15 45.0	+0.8
H24K	**Noodor Dome**	7.40	0			Pn	11 15 44.0	-0.4
H24K	**Noodor Dome**	7.40	0	P		Pn	11 15 44.3	-0.1
	baz=180,SNR=13							
P32M	**Atlin**	7.42	75			Pn	11 15 43.0	-1.6
P32M	**Atlin**	7.42	75	P		Pn	11 15 43.6	-1.0
	baz=267,SNR=5.8							
H23K	**Yukon River**	7.43	355			Pn	11 15 46.0	+1.3
H23K	**Yukon River**	7.43	355	P		Pn	11 15 44.9	+0.2
	baz=173,SNR=11							
SDPT	**Sand Point**	7.55	251	Pn		Pn	11 15 46.7	+0.3
H21K	**Melozitna Rive**	7.58	344			Pn	11 15 46.4	-0.3
H21K	**Melozitna Rive**	7.58	344	P		Pn	11 15 46.1	-0.6
	baz=160,SNR=16							
J29M	**Klondike Camp**	7.59	34	P		Pn	11 15 46.6	-0.4
	baz=222							
H22K	**Ishtalitna Cre**	7.63	349			Pn	11 15 47.3	-0.2
H22K	**Ishtalitna Cre**	7.63	349	P		Pn	11 15 47.3	-0.2
	baz=166,SNR=8.6							
M31M	**Drury Creek, Y**	7.69	55			Pn	11 15 47.9	-0.4
M31M	**Drury Creek, Y**	7.69	55	P		Pn	11 15 47.6	-0.7
	baz=246,SNR=17							
I27K	**Kandik River**	7.75	20			Pn	11 15 49.0	-0.1
I27K	**Kandik River**	7.75	20	P		Pn	11 15 49.4	+0.2
	baz=205,SNR=26							
MAYO	**Mayo, Yukon**	7.78	44			Pn	11 15 49.6	+0.1
MAYO	**Mayo, Yukon**	7.78	44	P		Pn	11 15 49.2	-0.3
	baz=234,SNR=11							
H25K	**Birch Creek**	7.89	6			Pn	11 15 50.9	-0.1
H25K	**Birch Creek**	7.89	6	P		Pn	11 15 51.2	+0.1
	baz=188							
P33M	**Teslin, Yukon**	7.92	71			Pn	11 15 51.0	-0.4
P33M	**Teslin, Yukon**	7.92	71	P		Pn	11 15 50.1	-1.4
	baz=264							
N32M	**Quiet Lake**	7.95	64			Pn	11 15 50.8	-1.1
IMAR	**Indian Mountai**	8.02	343			Pn	11 15 52.6	-0.2
FARO	**Faro, Yukon**	8.15	56			Pn	11 15 54.2	-0.4
FARO	**Faro, Yukon**	8.15	56	P		Pn	11 15 54.2	-0.4
	baz=249,SNR=11							
Q32M	**Nakina River**	8.16	80			Pn	11 15 53.8	-1.1
Q32M	**Nakina River**	8.16	80	P		Pn	11 15 54.4	-0.6
	baz=273,SNR=6.6							
FYU	**Fort Yukon**	8.23	8	Pn		Pn	11 15 55.7	+0.1
I29M	**Ogilvie Camp,**	8.27	29			Pn	11 15 57.1	+0.9
I29M	**Ogilvie Camp,**	8.27	29	P		Pn	11 15 56.5	+0.3
	baz=217,SNR=11							
G24K	**Hadweenzic Riv**	8.27	1			Pn	11 15 56.1	-0.1
G24K	**Hadweenzic Riv**	8.27	1	P		Pn	11 15 56.1	-0.1
	baz=181,SNR=11							
G23K	**Bananza Creek**	8.34	354			Pn	11 15 57.2	+0.1
G23K	**Bananza Creek**	8.34	354	P		Pn	11 15 57.2	+0.1
	baz=172,SNR=60							
H27K	**Steamboat Moun**	8.34	18			Pn	11 15 57.7	+0.5
H27K	**Steamboat Moun**	8.34	18	P		Pn	11 15 57.5	+0.3
	baz=204,SNR=22							
U33K	**Whale Pass**	8.35	100			Pn	11 15 53.9	-3.4
U33K	**Whale Pass**	8.35	100	P		Pn	11 15 54.0	-3.4
	baz=292							
G21K	**Allakaket**	8.48	345			Pn	11 15 57.7	-1.4
G21K	**Allakaket**	8.48	345	P		Pn	11 15 59.4	+0.3
	baz=160							
CRAG	**Craig**	8.62	104			Pn	11 15 58.4	-2.6
CRAG	**Craig**	8.62	104	P		Pn	11 16 00.2	-0.8
	baz=296							
WRAK	**Wrangell Islan**	8.64	97	P		Pn	11 16 00.4	-1.0
	baz=290							
G22K	**Bettles**	8.65	351	P		Pn	11 16 01.4	+0.1
	baz=167							
G26K	**Porcupine Rive**	8.73	11			Pn	11 16 01.8	-0.6
G26K	**Porcupine Rive**	8.73	11	P		Pn	11 16 01.5	-0.9
	baz=194							
R33M	**Jennings River**	8.82	77			Pn	11 16 03.0	-0.9
R33M	**Jennings River**	8.82	77	P		Pn	11 16 03.0	-0.9
	baz=271,SNR=11							
G27K	**Doyon Strip**	8.86	16			Pn	11 16 03.8	-0.4
G27K	**Doyon Strip**	8.86	16	P		Pn	11 16 04.6	+0.4
	baz=202							
COLD	**Coldfoot**	8.86	354			Pn	11 16 04.7	+0.4
COLD	**Coldfoot**	8.86	354	P		Pn	11 16 04.7	+0.4
	baz=172,SNR=28							
S34M	**Telegraph Cree**	8.89	86			Pn	11 16 02.8	-1.9
S34M	**Telegraph Cree**	8.89	86	P		Pn	11 16 04.0	-0.7
	baz=280							
F24K	**Squaw Lake**	9.09	0			Pn	11 16 07.2	-0.3
F24K	**Squaw Lake**	9.09	0	P		Pn	11 16 07.9	+0.4
	baz=180,SNR=10							
BMAR	**Burnt Mountain**	9.13	8	Pn		Pn	11 16 08.3	+0.3
F21K	**Alatna River**	9.15	346			Pn	11 16 08.5	+0.3
F21K	**Alatna River**	9.15	346	P		Pn	11 16 08.1	-0.1
	baz=161,SNR=17							
MMPY	**Sheldon Lake,**	9.19	56	P		Pn	11 16 08.5	-0.4
	baz=250,SNR=6.4							
F25K	**Christian Rive**	9.22	5			Pn	11 16 09.7	+0.3
F25K	**Christian Rive**	9.22	5	P		Pn	11 16 09.1	-0.3
	baz=187							
F22K	**John River**	9.28	350			Pn	11 16 08.5	-1.6
F22K	**John River**	9.28	350	P		Pn	11 16 08.9	-1.1
	baz=166							
DLBC	**Dease Lake**	9.38	83	Pn		Pn	11 16 11.3	-0.2
	comp=N,1.8nm,0.3s,baz=294,slow=6.8,SNR=52							
	comp=N,10nm,0.6s							
DLBC	**Dease Lake**	9.38	83			Pn	11 16 11.4	-0.1
DLBC	**Dease Lake**	9.38	83	P		Pn	11 16 11.2	-0.3
	baz=278,SNR=13							
F26K	**Sheenjek River**	9.42	9			Pn	11 16 10.6	-1.5
F26K	**Sheenjek River**	9.42	9	P		Pn	11 16 12.0	-0.1
	baz=192							
V35K	**Ketchikan**	9.45	102	P		Pn	11 16 11.5	-0.9
	baz=296							
EPYK	**Eagle Plains**	9.47	28	Pn		Pn	11 16 13.0	+0.4
E24K	**Your Creek**	9.65	359			Pn	11 16 14.9	-0.3
E24K	**Your Creek**	9.65	359	P		Pn	11 16 15.3	+0.1
	baz=178,SNR=7.9							
E23K	**Chandalar**	9.66	356	P		Pn	11 16 15.2	-0.2
	baz=174,SNR=7.7							
E25K	**Arctic Village**	9.75	5			Pn	11 16 16.3	-0.3
E25K	**Arctic Village**	9.75	5	P		Pn	11 16 16.4	-0.1
	baz=187							
DIB	**Dawson Inlet,**	10.15	115			Pn	11 16 20.7	-1.3
E27K	**Coleen River**	10.16	13	P		Pn	11 16 21.7	-0.4
	baz=199							
TOLK	**Toolik Lake Re**	10.25	357	Pn		Pn	11 16 24.5	+1.2
TOLK	**Toolik Lake Re**	10.25	357	P		Pn	11 16 23.0	-0.3
	baz=175,SNR=5.3							
D24K	**Happy Valley**	10.74	358	P		Pn	11 16 30.4	+0.4
	baz=177							
C24K	**Franklin Bluff**	11.31	359	P		Pn	11 16 38.2	+0.4
	baz=178							
INK	**Inuvik**	11.76	27	Pn		Pn	11 16 44.0	+0.2
	comp=N,0.5nm,0.3s,baz=213,slow=9.8,SNR=8.7							
INK				LR		LR	11 21 35.6	
	comp=N,60nm,21.7s,baz=272,slow=39							
	comp=N,2.8nm,0.7s							
YKA	**Yellowknife Ar**	16.78	62	Pn		P	11 17 53.3	+0.1
	comp=N,0.5nm,0.3s,baz=268,slow=9.9,SNR=11							
YKA	**Yellowknife Ar**	16.78	62			P	11 17 52.5	-0.7
NEW	**Newport**	20.83	106	P		Pn	11 18 41.2	+1.0
	comp=N,7.3nm,0.9s,baz=312,slow=8.4,SNR=12							
NEW				LR		LR	11 25 54.7	
	comp=N,49nm,20.5s,baz=310,slow=34							
	comp=N,7.3nm,0.9s							
NEW	**Newport**	20.83	106	P		Pn	11 18 42.0	+1.7
NEW				IAmb		IAmb	11 18 43.8	
	comp=Z,12nm,1.1s							
WALA	**Waterton Lakes**	21.97	100	P		P	11 18 51.2	+1.1
WALA				IAmb		IAmb	11 19 00.2	
	comp=Z,6.3nm,0.9s							
G08A	**Pilot Rock**	21.99	114	P		P	11 18 52.1	+1.7
PINE	**Pine Mountain**	22.20	120	P		P	11 18 55.2	+2.5
PINE				IAmb		IAmb	11 19 03.6	
	comp=Z,6.8nm,1.0s							
F10A	**Beach Ranch, E**	22.34	111	P		P	11 18 54.8	+0.8
F10A				IAmb		IAmb	11 18 57.8	
	comp=Z,9.9nm,1.2s							
I07A	**Izee**	22.64	117	P		P	11 18 59.2	+1.9
I07A				IAmb		IAmb	11 19 01.8	
	comp=Z,7.6nm,1.3s							
PLID	**Pearl Lake**	23.58	111	P		P	11 19 05.7	-1.3
MOD	**Modoc Plateau**	23.97	122	P		P	11 19 08.1	-2.6
HRY	**Holter Researc**	24.55	103	P		P	11 19 15.6	-0.3
LRM	**Limekiln Ridge**	24.84	105	P		P	11 19 19.1	+0.5
HLID	**Hailey**	25.47	111	P		P	11 19 25.9	+1.6
HLID				IAmb		IAmb	11 19 28.8	
	comp=Z,4.5nm,1.2s							
GCMT	**Greycliff**	26.28	102	P		P	11 19 30.4	-1.2
YHH	**Holmes Hill**	26.37	105	P		P	11 19 30.9	-1.7
YHH				IAmb		IAmb	11 19 35.1	
	comp=Z,3.1nm,0.9s							
IMW	**Indian Meadow**	26.96	106	P		P	11 19 40.3	+2.4
ELK	**Elko**	27.22	116	P		P	11 19 42.4	+2.2
	comp=Z,1.3nm,0.7s,baz=294,slow=8.3,SNR=6.8							
	comp=Z,1.3nm,0.7s							
ELK	**Elko**	27.22	116	P		P	11 19 42.2	+2.0
NVAR	**Mina Array Bea**	27.69	123	P		P	11 19 46.5	+2.1
	comp=Z,1.3nm,0.9s,baz=315,slow=8.9,SNR=5.4							
NVAR				PcP		PcP	11 23 01.7	+0.8
	comp=Z,0.4nm,0.6s,baz=288,slow=2.3,SNR=6.6							
	comp=Z,1.3nm,0.9s							
NVAR	**Mina Array Bea**	27.69	123	P		P	11 19 45.7	+1.3
PDAR	**Pinedale Array**	28.47	107	P		P	11 19 52.4	+1.0
	comp=Z,0.4nm,0.6s,baz=311,slow=6.3,SNR=6.0							
	comp=Z,0.4nm,0.6s							
PDAR	**Pinedale Array**	28.47	107	P		P	11 19 52.6	+1.2
R11A	**Troy Canyon, C**	28.97	120	P		P	11 19 57.3	+1.5
R11A				IAmb		IAmb	11 19 58.7	
	comp=Z,4.1nm,1.3s							
SPR3	**Spring Creek 3**	29.03	117	P		P	11 19 59.1	+2.7
SPR3				IAmb		IAmb	11 20 00.1	
	comp=Z,3.2nm,0.7s							
PSUT	**Pine Spring**	29.62	117	P		P	11 20 03.3	+1.7
PSUT				IAmb		IAmb	11 20 04.0	
	comp=Z,1.9nm,0.7s							
WCT	**Wildcat Mounta**	29.79	123	P		P	11 20 04.5	+1.6
WCT				IAmb		IAmb	11 20 40.4	
	comp=Z,4.4nm,1.4s							
TMUT	**Trail Mountain**	30.28	113	P		P	11 20 09.7	+2.2
TMUT				IAmb		IAmb	11 20 10.2	
	comp=Z,2.2nm,0.7s							
PETK	**Petropavlovsk-**	30.31	284	P		P	11 20 07.5	+0.1
	comp=Z,1.7nm,0.8s,baz=344,slow=15,SNR=2.4							
	comp=Z,1.7nm,0.8s							
MSU	**Marysvale**	30.43	115	P		P	11 20 11.5	+2.7
CCUT	**Cedar City**	30.64	118	P		P	11 20 12.8	+2.1
CCUT				IAmb		IAmb	11 20 13.5	
	comp=Z,1.6nm,0.7s							
SHPR	**Sheep Range**	30.68	121	P		P	11 20 12.1	+1.3
SRU	**San Rafael Swe**	30.75	112	P		P	11 20 13.8	+2.2
LCMT	**Little Creek M**	31.14	118	P		P	11 20 16.7	+1.8
PV13	**Radium Mtn., P**	32.33	112	P		P	11 20 26.5	+1.0
WUAZ	**Wupatki**	33.23	118	P		P	11 20 35.4	+2.1
SDCO	**Great Sand Dun**	34.29	108	P		P	11 20 44.5	+1.8
SDCO				IAmb		IAmb	11 20 45.6	
	comp=Z,2.5nm,1.1s							
U38A	**Gravette**	40.97	98	P		P	11 21 38.8	-0.1
TX31	**Lajitas Ar. Si**	41.98	114	P		P	11 21 47.9	+0.6
TX32	**Lajitas Array**	41.98	114	P		P	11 21 47.3	+0.1
TXAR	**Lajitas Array**	41.98	114	P		P	11 21 49.1	+1.9
	comp=Z,1.3nm,0.8s,baz=330,slow=6.8,SNR=17							
	comp=Z,1.3nm,0.8s							
TXAR	**Lajitas Array**	41.98	114	P		P	11 21 46.5	-0.7
KSRS	**Korea Array**	56.10	287	P		P	11 23 35.9	+0.7
	comp=Z,2.6nm,0.8s,baz=35,slow=6.4,SNR=5.8							
	comp=Z,2.6nm,0.8s							
SONM	**Songino Array**	57.80	310	P		P	11 23 48.6	+1.4
	comp=Z,3.2nm,0.8s,baz=45,slow=7.1,SNR=17							
	comp=Z,3.2nm,0.8s							
ZALV	**Zalesovo Beam**	60.13	327	P		P	11 24 03.5	+0.4
	comp=Z,1.2nm,0.5s,baz=28,slow=6.7,SNR=4.0							
	comp=Z,1.2nm,0.5s							
FINES	**FINESS Array B**	60.34	3	P		P	11 24 04.6	+0.2
	comp=Z,1.4nm,0.7s,baz=352,slow=8.6,SNR=1.4							
	comp=Z,1.4nm,0.7s							
HFS	**Hagfors**	60.87	10	LR		LR	11 52 44.6	
	comp=Z,22nm,18.6s,baz=312,slow=38							
ARU	**Arti**	63.51	344	P		P	11 24 26.2	+0.3
	comp=Z,1.8nm,0.3s,baz=327,slow=6.3,SNR=3.7							
	comp=Z,1.8nm,0.3s							
BVAR	**Borovoye Array**	64.61	336	P		P	11 24 33.3	+0.2
	comp=Z,1.2nm,0.6s,baz=32,slow=8.7,SNR=6.1							
BVAR				LR		LR	11 57 43.9	
	comp=Z,16nm,19.3s,baz=33,slow=41							
	comp=Z,1.2nm,0.6s							
KURBB	**Kurchatov Arra**	64.84	329	P		P	11 24 34.5	-0.2
	comp=Z,1.9nm,0.2s,baz=26,slow=7.3,SNR=4.5							
	comp=Z,1.9nm,0.2s							
MKAR	**Makanchi Array**	67.23	325	P		P	11 24 49.6	-0.5
	comp=Z,0.7nm,0.6s,baz=38,slow=6.7,SNR=7.4							
	comp=Z,0.7nm,0.6s							
AKTO	**Aktyubinsk**	69.41	343	P		P	11 25 04.1	+0.5
	comp=Z,0.8nm,0.6s,baz=22,slow=5.3,SNR=3.6							
	comp=Z,0.8nm,0.6s							
AKASG	**Malin Array Be**	71.17	2	P		P	11 25 13.4	-1.1
	comp=Z,0.2nm,0.3s,baz=358,slow=5.9,SNR=1.9							
	comp=Z,0.2nm,0.3s							
ESDC	**Sonseca Array**	77.70	28	P		P	11 25 54.0	+1.3
	comp=Z,1.2nm,0.7s,baz=339,slow=4.8,SNR=6.4							
	comp=Z,1.2nm,0.7s							
MDT	**Midelt**	84.04	30	P		P	11 26 28.4	+1.7
	comp=Z,1.1nm,0.5s,baz=224,slow=3.4,SNR=4.9							
	comp=Z,1.1nm,0.5s							
CMAR	**Chiang Mai Arr**	85.89	299	P		P	11 26 36.6	+0.6
	comp=Z,0.9nm,0.5s,baz=360,slow=4.6,SNR=6.7							
	comp=Z,0.9nm,0.5s							

IDC 20 11:17:33.1±3.3, 17°28S×179°03W, h558km±18km, mb3.0/3, mbtmp3.9/4, Error ellipse: s-maj=123.0km s-min=36.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	2.82	260	P	P	11 18 47.8	+0.1
	37nm,0.8s,baz=94,slow=4.8,SNR=34						
STKA	**Stephens Creek**	38.42	240	P	P	11 24 07.1	-0.4
	1.9nm,0.9s,baz=63,slow=9.0,SNR=2.1						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	44.17	259	P	P	11 24 52.9	-0.2
	0.3nm,0.5s,baz=94,slow=6.8,SNR=22						
WRA				PcP	PcP	11 26 25.9	+0.1
	0.1nm,0.6s,baz=97,slow=1.3,SNR=1.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	44.39	254	P	P	11 24 54.8	-0.1
	4.6nm,0.5s,baz=87,slow=8.4,SNR=55						
	4.6nm,0.5s						
GERES	**GERESS Array B**	146.85	345	PKPbc	PKPbc	11 36 12.2	-1.0
	0.4nm,0.5s,baz=5.7,slow=1.3,SNR=3.7						

*DNK **20** 11:28:26.8±0.4, 58°.99N×18°.20E, h0km, ML2.7(UPP), Explosion*
*UPP **20** 11:28:26.4±0.1, 58°.99N×18°.20E, h0km, ML2.7, Explosion*
*HEL **20** 11:28:27.4±0.1, 59°.00N×18°.16E, h0km, ML2.0, ML2.7(UPP), Explosion*
*IDC **20** 11:28:28.3±1.3, 59°.00N×18°.30E, h0km, mbtmp2.7/4, ML1.8/4, Error ellipse: s-maj=19.0km s-min=7.5km az=180.0*

ISC 20 11:28:25.7±0.7, 58°.98N±0°.02×18°.21E±0°.02, h0km, n63, σ1§16/79, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	0.11	284	P	Pg	11 28 28.5	+0.8
NYNU				S	Sg	11 28 29.9	+0.8
NYNU	**Nynaeshamn**	0.11	284	P	Pg	11 28 28.5	+0.8
NYNU				S	Sg	11 28 29.9	+0.8
NYNU	**Nynaeshamn**	0.11	284	*i* P	Pg	11 28 28.5	+0.8
NYNU				*i* S	Sg	11 28 29.9	+0.8
NRTU	**Norrtaelje**	0.73	17	P	Pg	11 28 40.0	+0.3
NRTU				S	Sg	11 28 49.6	+0.4
NRTU	**Norrtaelje**	0.73	17	P	Pg	11 28 40.0	+0.3
NRTU				S	Sg	11 28 49.6	+0.4
NRTU	**Norrtaelje**	0.73	17	*e*P	Pg	11 28 40.0	+0.3
NRTU				*e*S	Sg	11 28 49.3	+0.1
VIKU	**Vikbolandet**	0.92	239	P	Pb	11 28 43.8	-0.7
VIKU	**Vikbolandet**	0.92	239	P	Pb	11 28 43.8	-0.7
VIKU	**Vikbolandet**	0.92	239	*e*P	Pb	11 28 43.8	-0.7
UPP	**Uppsala**	0.93	342	P	Pg	11 28 44.0	+0.5
UPP	**Uppsala**	0.93	342	*e*P	Pg	11 28 44.0	+0.5
ESKU	**Eskilstuna**	0.97	286	P	Pg	11 28 44.2	-0.1
ESKU	**Eskilstuna**	0.97	286	P	Pg	11 28 44.2	-0.1
ESKU	**Eskilstuna**	0.97	286	*e*P	Pg	11 28

*IDC **20** 11:33:56.0±0.7,35°.76N×142°.74E,h0km,mb4.2/17, mbtmp4.2/21,ML3.3/4,MS3.2/8,Error ellipse: s-maj=18.0km s-min=16.1km az=170.0*
*MOS **20** 11:33:58.2±1.3,35°.94N×142°.75E,h26km,mb4.7/24,Error ellipse: s-maj=9.8km s-min=5.8km az=111.8*
*JMA **20** 11:33:59.6±0.3,35°.9N±0°.9×14°.3E±°,h76km,MD4.4/37, MV4.5/37,FAR E OFF CENTRAL HONSHU*
*NIED **20** 11:33:59.6,35°.87N×142°.71E,h76km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.86; Mθθ=0.28; Mϕϕ 1.14; Mrθ -1.37; Mθϕ 0.24; Mϕr=0.44; Fault plane solution: M0 1.74000×10¹⁵ NP1: ϕs165.00000°,δ33.00000°,λ-150.00000°. NP2: ϕs50.00000°,δ74.00000°,λ-60.00000°.*
*NEIC **20** 11:34:01.3±2.1,35°.87N±0°.05×142°.8E±0°.1,h35km±4km, mb4.6/38 Error ellipse: s-maj=12.6km s-min=6.9km az=95.0*

ISC 20 11:33:58.0±2.6,35°.83N±0°.05×142°.81E±0°.06,h13km±16km, n168,σ1§34/175,mb4.5/54,MS3.5/7,10C-10D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.59**	**266**	P			**Pn**	**11 34 25.5**	**-0.4**
CHOJ				S			**Sn**	**11 34 44.7**	**-1.6**
JIHU	**Itakohorinouch**	**1.86**	**275**	P			**Pn**	**11 34 29.5**	**-0.1**
JIHU				S			**Sn**	**11 34 51.5**	**-1.4**
JHYU	**Hitachinakayam**	**1.87**	**287**	*i* P			**Pn**	**11 34 28.9**	**-0.8**
JHYU				S			**Sn**	**11 34 50.3**	**-2.9**
JHYU	**Hitachinakayam**	**1.87**	**287**	A			A	11 34 28.9	
	comp=E,9.0nm,1.8s,comp=E,7.0nm,1.0s								
BSO1	**Boso 1**	**1.90**	**233**	P			**Pn**	**11 34 29.0**	**-0.6**
BSO1				eS			**Sn**	**11 34 52.4**	**-0.8**
JSMT	**Sammumatsuo**	**1.93**	**265**	P			**Pn**	**11 34 30.6**	**0.0**
JSMT				eS			**Sn**	**11 34 54.1**	**-0.6**
JHO	**Hitachi**	**1.97**	**294**	P			**Pn**	**11 34 29.8**	**-1.4**
JHO				S			**Sn**	**11 34 52.0**	**-3.8**
JYT	**Yasato**	**2.16**	**281**				**Pn**	**11 34 32.8**	**-0.8**
JYT	**Yasato**	**2.16**	**281**	A			A	11 34 32.9	
	comp=E,9.0nm,0.6s,comp=E,7.0nm,0.4s								
JMM	**Marumori**	**2.60**	**322**				**Pn**	**11 34 38.7**	**-1.1**
JAG	**Ashikaga**	**2.78**	**283**	*i* P			**Pn**	**11 34 41.4**	**-0.9**
JAG				S			**Sn**	**11 35 12.1**	**-3.7**
JOD2	**Odawara 2**	**3.09**	**261**	*i* P			**Pn**	**11 34 46.1**	**-0.4**
JOD2				S			**Sn**	**11 35 20.1**	**-3.2**
JRY	**Ryogami san**	**3.18**	**275**	P			**Pn**	**11 34 47.6**	**-0.1**
JRY				eS			**Sn**	**11 35 23.9**	**-1.7**
JMK	**Ichinoseki**	**3.37**	**338**	P			**Pn**	**11 34 49.0**	**-1.3**
JFNN	**Fujinakano**	**3.42**	**261**	*e*P			**Pn**	**11 34 50.5**	**-0.5**
JFNN				S			**Sn**	**11 35 29.4**	**-2.1**
JNS	**Sasagawa**	**3.44**	**306**	P			**Pn**	**11 34 52.0**	**+0.7**
JNS				eS			**Sn**	**11 35 30.3**	**-1.6**
JYN	**Shimob**	**3.49**	**266**	P			**Pn**	**11 34 52.0**	**-0.1**
JYN				eS			**Sn**	**11 35 31.6**	**-1.7**
JYK	**Kaneyama**	**3.65**	**328**	P			**Pn**	**11 34 53.4**	**-0.8**
JHJ2	**Mitsune**	**3.67**	**223**	Pn			**Pn**	**11 34 54.0**	**-0.5**
JHJ	**Hachijo jima 2**	**3.68**	**224**	Pn			**Pn**	**11 34 53.0**	**-1.6**
	32nm,0.3s,baz=335,slow=23,SNR=12								
JHJ				Sn			**Sn**	**11 35 32.0**	**-5.9**
	112nm,0.3s,baz=86,slow=24,SNR=6.9								
	102nm,0.4s								
MJAR	**Matsushiro Arr**	**3.79**	**282**	Pn			**Pn**	**11 34 54.1**	**-2.0**
	2.8nm,0.3s,baz=109,slow=8.4,SNR=32								
MJAR				Sn			**Sn**	**11 35 40.3**	**-0.3**
	3.2nm,0.3s,baz=130,slow=23,SNR=2.9								
MJAR				LR			LR	11 36 18.8	
	comp=Z,130nm,20.0s,baz=184,slow=38								
	29nm,0.6s								
MAJO	**Matsushiro**	**3.79**	**282**				**Pn**	**11 34 55.5**	**-0.7**
MAJO	**Matsushiro**	**3.79**	**282**	*d* P			**Pn**	**11 34 56.2**	**0.0**
MAT	**Matsushiro**	**3.79**	**282**	P			**Pn**	**11 34 56.5**	**+0.3**
MJB9	**Matsu-Tunnel**	**3.79**	**282**				**Pn**	**11 34 56.3**	**+0.1**
JOM	**Ohasama**	**3.83**	**342**	P			**Pn**	**11 34 56.5**	**-0.2**
JOM				eS			**Sn**	**11 35 38.9**	**-2.8**
JAW	**Awa shima**	**3.87**	**314**	P			**Pn**	**11 34 57.5**	**+0.2**
JSD	**Sado**	**4.26**	**303**	Pn			**Pn**	**11 35 02.6**	**0.0**
JSD	**Sado**	**4.26**	**303**	P			**Pn**	**11 35 02.0**	**-0.5**
JGF	**Kuroka**	**4.44**	**269**				**Pn**	**11 35 04.2**	**-1.0**
TK02	**Tokai 2**	**4.56**	**247**	*e*P			**Pn**	**11 35 07.4**	**+0.9**
INU	**Inuyama**	**4.75**	**266**				**Pn**	**11 35 09.1**	**-0.1**
JTM	**Tenmabayashi**	**5.14**	**345**	Pn			**Pn**	**11 35 15.0**	**+0.4**
ERM	**Erimo**	**6.18**	**2**				**Pn**	**11 35 27.1**	**-1.9**
ERM	**Erimo**	**6.18**	**2**	*de*P			**Pn**	**11 35 26.6**	**-2.4**
JEW	**Eniwo**	**7.08**	**352**	Pn			**Pn**	**11 35 40.1**	**-1.2**
JMN	**Monobe**	**7.64**	**257**	Pn			**Pn**	**11 35 49.4**	**+0.3**
JHS	**Saijyo**	**7.96**	**267**				**Pn**	**11 35 54.4**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**8.53**	**15**	*i* P			**Pn**	**11 35 58.4**	**-2.7**
JCJ	**Chichijima**	**8.72**	**184**	Pn			Pn	11 35 58.8	-5.1
	12nm,0.3s,baz=270,slow=20,SNR=2.1								
JCJ				Sn			Sn	11 37 29.7	-12
	13nm,0.3s,baz=60,slow=20,SNR=1.8								
KUR	**Kuril'sk**	**10.15**	**21**	*e*P			**Pn**	**11 36 24.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**11.12**	**360**	Pn			**Pn**	**11 36 36.3**	**-0.3**
YSS	**Yuzh-Sakhalins**	**11.12**	**360**	*e*P			**Pn**	**11 36 35.3**	**-1.3**
YSS				pmax			pmax		
	comp=Z,20nm,0.9s								
YSS				MLR			MLR		
	comp=Z,200nm,14.0s								
USA0B	**Ussuriysk Arra**	**11.77**	**319**	Pn			**Pn**	**11 36 43.5**	**-2.1**
USA0B	**Ussuriysk Arra**	**11.77**	**319**	P			**Pn**	**11 36 43.5**	**-2.1**
USRK	**Ussuriysk Ar.**	**11.77**	**319**	Pn			**Pn**	**11 36 44.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=5.6								
	comp=Z,2.5nm,0.7s								
USRK	**Ussuriysk Ar.**	**11.77**	**319**	Pn			**Pn**	**11 36 43.4**	**-2.1**
KSRS	**Korea Array**	**12.07**	**282**	Pn			**Pn**	**11 36 50.8**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=96,slow=14,SNR=17								
KSRS				LR			LR	11 41 13.0	
	comp=Z,60nm,21.0s,baz=100,slow=36								
	comp=Z,12nm,1.0s								
TYV	**Tymovskoe**	**15.03**	**360**	*e*P			**Pn**	**11 37 27.9**	**-2.1**
TYV				pmax			pmax		
	comp=Z,9.0nm,0.8s								
TYV				pmax			pmax		
	comp=Z,200nm,5.4s								
KLR	**Kul'dur**	**15.65**	**332**	Pn			**Pn**	**11 37 35.8**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=6.5								
KLR				LR			LR	11 43 39.9	
	comp=Z,122nm,18.0s,baz=147,slow=37								
KLR	**Kul'dur**	**15.65**	**332**	*e*P			**Pn**	**11 37 35.9**	**-2.3**
KLR				pmax			pmax		
	comp=Z,1.0nm,0.8s								
NJ2	**Nanjing**	**20.22**	**266**	*e*P			**P**	**11 38 33.3**	**+0.6**
NJ2				pmax			pmax		
	comp=Z,7.0nm,0.5s								
ZEA	**Zeya**	**20.96**	**334**	*e*P			**P**	**11 38 40.9**	**+0.4**
ZEA				pmax			pmax		
	comp=N,20nm,0.6s								
ZEA				pmax			pmax		
	comp=E,10.0nm,0.6s								
ZEA				pmax			pmax		
	comp=Z,30nm,0.6s								
ZEA				MLR			MLR		
	comp=Z,100nm,11.0s								
XLT	**XiLinHaoTe**	**21.98**	**300**	*i* P			**P**	**11 38 50.5**	**-1.2**
XLT				pP			pwP	11 38 59.3	-1.4
XLT				S			**S**	**11 42 59.4**	**+5.4**
XLT				pmax			pmax		
	comp=Z,22nm,0.5s								
XLT				pmax			pmax		
	comp=Z,100nm,5.2s								
XLT				LR			LR		
	comp=N,15nm,9.3s								
XLT				LR			LR		
	comp=E,240nm,13.2s								
XLT				LR			LR		
	comp=Z,170nm,12.2s								
GUMO	**Guam**	**22.22**	**175**	LR			LR	11 49 41.4	
	comp=Z,26nm,18.6s,baz=25,slow=43								
WHN	**Wuhan**	**24.35**	**266**	*i* P			**P**	**11 39 16.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**24.94**	**291**	*e*P			**P**	**11 39 21.4**	**+0.3**
HHC				pmax			pmax		
	comp=Z,27nm,0.7s								
HHC				pmax			pmax		
	comp=Z,130nm,5.0s								
H11N2	**WAKE ISLAND Hy**	**26.56**	**121**	T			T	12 07 28.0	
	baz=312,slow=75,SNR=14								
H11N1	**WAKE ISLAND Hy**	**26.57**	**121**	T			T	12 07 26.4	
	baz=312,slow=75,SNR=16								
H11N3	**WAKE ISLAND Hy**	**26.58**	**121**	T			T	12 07 27.9	
	baz=312,slow=75,SNR=12								
H11S1	**WAKE ISLAND Hy**	**27.26**	**123**	T			T	12 08 16.1	
	baz=314,slow=75,SNR=25								
H11S3	**WAKE ISLAND Hy**	**27.26**	**123**	T			T	12 08 19.9	
	baz=314,slow=75,SNR=17								
H11S2	**WAKE ISLAND Hy**	**27.27**	**123**	T			T	12 08 19.6	
	baz=314,slow=75,SNR=20								
YAK	**Yakutsk**	**27.50**	**347**	LR			LR	11 51 40.5	
	comp=Z,49nm,18.3s,baz=256,slow=39								
YAK	**Yakutsk**	**27.50**	**347**	*ce*P			**P**	**11 39 44.0**	**+0.2**
YAK				pmax			pmax		
	comp=Z,10.0nm,0.6s								
XAN	**Xi'an**	**27.76**	**276**	⇑P			**P**	**11 39 46.8**	**+0.2**
XAN				pP			pwP	11 39 58.8	+2.4
XAN				pmax			pmax		
	comp=Z,9.0nm,0.7s								
ENH	**Enshi**	**28.39**	**268**	P			**P**	**11 39 51.9**	**-0.3**
ENH				lAmb			lAmb	11 39 52.6	
	comp=Z,12nm,0.6s								
ULN	**Ulaanbaatar**	**28.97**	**306**	P			**P**	**11 39 57.6**	**+0.4**
ULN				lAmb			lAmb	11 40 00.2	
	comp=Z,11nm,1.2s								
ULN	**Ulaanbaatar**	**28.97**	**306**	*ce*P			**P**	**11 39 58.6**	**+1.3**
ULN				pmax			pmax		
	comp=Z,10.0nm,1.3s								
BOD	**Bodaibo**	**29.15**	**328**	*e*P			**P**	**11 39 58.4**	**-0.2**
BOD				pmax			pmax		
	comp=Z,10.0nm,1.6s								
SONM	**Songino Array**	**29.40**	**305**	P			**P**	**11 40 02.4**	**+1.3**
	comp=Z,4.4nm,0.6s,baz=107,slow=8.8,SNR=25								
SONM				LR			LR	11 51 20.5	
	comp=Z,33nm,18.7s,baz=42,slow=36								
	comp=Z,4.4nm,0.6s								
SONM	**Songino Array**	**29.40**	**305**	P			**P**	**11 40 01.4**	**+0.3**
LZH	**Lanzhou**	**31.40**	**282**	*e*P			**P**	**11 40 23.4**	**+4.4**
LZH				pP			pwP	11 40 32.3	+3.6
LZH				pmax			pmax		
	comp=Z,19nm,1.1s								
ZAK	**Zakamensk**	**31.90**	**310**	*e*P			**P**	**11 40 22.2**	**-0.9**
ZAK				pmax			pmax		
	comp=Z,3.0nm,1.2s								
GTA	**Gaotai**	**34.01**	**289**	*e*P			**P**	**11 40 43.3**	**+1.6**
GTA				pP			pwP	11 40 49.9	-1.4
GTA				pmax			pmax		
	comp=Z,9.0nm,1.2s								
PZH	**PanZhiHua**	**36.13**	**267**	P			**P**	**11 41 01.8**	**+1.7**
PZH				pmax			pmax		
	comp=Z,10.0nm,1.0s								
PZH				pmax			pmax		
	comp=Z,100nm,5.3s								
DGZ	**Jazzator, Alta**	**42.01**	**307**	*d* P			**P**	**11 41 49.9**	**+0.8**
DGZ				pmax			pmax		
	comp=Z,12nm,0.8s								
CMAR	**Chiang Mai Arr**	**42.31**	**258**	P			**P**	**11 41 51.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=48,slow=7.5,SNR=5.4								
	comp=Z,0.6nm,0.5s								
WMQ	**Urumqi**	**42.40**	**298**	*e*P			**P**	**11 41 53.4**	**+1.2**
ZAA0	**Zalesovo Array**	**43.56**	**313**	P			**P**	**11 42 00.9**	**-0.5**
ZAA0				lAmb			lAmb	11 42 02.2	
	comp=Z,6.0nm,0.7s								
ZALV	**Zalesovo Beam**	**43.56**	**313**	P			**P**	**11 42 01.4**	**0.0**
	comp=Z,5.3nm,0.5s,baz=90,slow=6.9,SNR=19								
	comp=Z,5.3nm,0.5s								
ZALV	**Zalesovo Beam**	**43.56**	**313**	P			**P**	**11 42 01.1**	**-0.2**
MK31	**Makanchi Array**	**45.72**	**303**	P			**P**	**11 42 17.4**	**-1.4**
MK31	**Makanchi Array**	**45.72**	**303**	*ce*P			**P**	**11 42 18.6**	**-0.2**
MKAR	**Makanchi Array**	**45.72**	**303**	P			**P**	**11 42 18.1**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=89,slow=9.9,SNR=12								
	comp=Z,1.3nm,0.7s								
MAKZ	**Makanchi**	**45.93**	**303**	P			**P**	**11 42 19.7**	**-0.7**
MAKZ				lAmb			lAmb	11 42 25.5	
	comp=Z,4.9nm,0.9s								
MAKZ	**Makanchi**	**45.93**	**303**	P			**P**	**11 42 19.7**	**-0.7**
MAKZ				pmax			pmax		
	comp=Z,5.0nm,0.9s								
IMAR	**Indian Mountai**	**47.12**	**30**	P			**P**	**11 42 30.6**	**+1.1**
KURK	**Kurchatov**	**47.56**	**309**	P			**P**	**11 42 32.7**	**-0.4**
KURK	**Kurchatov**	**47.56**	**309**	*d* P			**P**	**11 42 32.7**	**-0.4**
KURK				pmax			pmax		
	comp=Z,14nm,1.3s								
MLY	**Manley**	**48.28**	**31**	P			**P**	**11 42 39.0**	**+0.4**
MLY				lAmb			lAmb	11 42 40.6	
	comp=Z,6.0nm,1.2s								
PMR	**Palmer**	**48.93**	**36**	P			**P**	**11 42 44.0**	**+0.5**
PMR				lAmb			lAmb	11 42 52.0	
	comp=Z,6.9nm,1.3s								
PMR	**Palmer**	**48.93**	**36**	P			**P**	**11 42 44.0**	**+0.5**
PMR				pmax			pmax		
	comp=Z,7.0nm,1.3s								
RND	**Reindeer**	**49.05**	**34**	P			**P**	**11 42 44.1**	**-0.4**
RND				lAmb			lAmb	11 42 45.8	
	comp=Z,8.4nm,1.4s								
RND	**Reindeer**	**49.05**	**34**	P			**P**	**11 42 44.1**	**-0.4**
RND				pmax			pmax		
	comp=Z,8.0nm,1.4s								
SML	**Sawmill**	**49.30**	**36**	P			**P**	**11 42 48.0**	**+1.5**
SML				lAmb			lAmb	11 42 48.5	
	comp=Z,4.3nm,0.7s								
SML	**Sawmill**	**49.30**	**36**	P			**P**	**11 42 47.0**	**+0.5**
SML				pmax			pmax		
	comp=Z,4.0nm,0.7s								
PWL	**Port Wells**	**49.33**	**37**	P			**P**	**11 42 47.8**	**+1.2**
PWL				lAmb			lAmb	11 43 27.9	
	comp=Z,8.7nm,1.2s								
MDM	**Murphy Dome**	**49.34**	**32**	P			**P**	**11 42 48.2**	**+1.6**
MDM				lAmb			lAmb	11 42 49.3	
	comp=Z,3.8nm,0.9s								
COEN	**Coen**	**49.51**	**180**	P			**P**	**11 42 48.9**	**+0.4**
COEN				lAmb			lAmb	11 42 49.8	
	comp=Z,5.8nm,0.8s								
SCM	**Sheep Creek Mo**	**49.78**	**36**	P			**P**	**11 42 51.4**	**+1.3**
SCM				lAmb			lAmb	11 42 51.9	
	comp=Z,8.8nm,1.0s								
SCM	**Sheep Creek Mo**	**49.78**	**36**	P			**P**	**11 42 51.4**	**+1.3**
SCM				pmax			pmax		
	comp=Z,9.0nm,1.0s								
HDA	**Harding Lake**	**49.89**	**32**	P			**P**	**11 42 51.2**	**+0.4**
IL31		**49.92**	**32**	P			**P**	**11 42 50.8**	**-0.1**
ILAR	**Eielson Array**	**49.92**	**32**	P			**P**	**11 42 51.5**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=260,slow=6.5,SNR=13								
	comp=Z,1.2nm,0.7s								
ILAR	**Eielson Array**	**49.92**	**32**	P			**P**	**11 42 51.8**	**+0.8**
ILAR	**Eielson Array**	**49.92**	**32**	P			**P**	**11 42 51.8**	**+0.8**
TARG	**Taragay, Kyrgy**	**49.95**	**298**	P			**P**	**11 42 51.6**	**-0.5**
TARG				lAmb			lAmb	11 42 59.6	
	comp=Z,11nm,1.5s								
TARG	**Taragay, Kyrgy**	**49.95**	**298**	P			**P**	**11 42 51.7**	**-0.5**
TARG				pmax			pmax		
	comp=Z,11nm,1.5s								
BMRM	**Bremner River**	**51.14**	**37**	P			**P**	**11 42 59.2**	**-1.2**
BMRM				lAmb			lAmb	11 43 25.9	
	comp=Z,14nm,1.2s								
BERG	**Berg Lake**	**51.65**	**37**	P			**P**	**11 43 04.1**	**0.0**
BERG				lAmb			lAmb	11 43 18.9	
	comp=Z,11nm,1.0s								
MCARA	**McCarthy VSAT**	**51.86**	**36**	P			**P**	**11 43 06.1**	**+0.4**
MCARA				lAmb			lAmb	11 43 31.4	
	comp=Z,5.2nm,0.8s								
AAK	**Ala-Archa**	**52.06**	**300**	⇑*e*P			**P**	**11 43 08.1**	**+0.4**
AAK				pmax			pmax		
	comp=Z,7.0nm,2.5s								
BCAR	**Beaver Creek A**	**52.26**	**34**	P			**P**	**11 43 09.4**	**+0.7**
BRVK	**Borovoye**	**52.27**	**313**	⇓*e*P			**P**	**11 43 09.4**	**+0.5**
BRVK				pmax			pmax		
	comp=Z,8.0nm,2.5s								
HYT	**Haines Junctio**	**54.60**	**36**	P			**P**	**11 43 25.2**	**-0.8**
KK31	**Karatay Array**	**54.71**	**301**	P			**P**	**11 43 26.8**	**-0.2**
KK31				lAmb			lAmb	11 43 28.1	
	comp=Z,4.7nm,0.9s								
KK31	**Karatay Array**	**54.71**	**301**	P			**P**	**11 43 26.8**	**-0.2**
KK31				pmax			pmax		
	comp=Z,5.0nm,1.0s								
KKAR	**Karatay Array**	**54.71**	**301**	P			**P**	**11 43 26.2**	**-0.7**
KKAR	**Karatay Array**	**54.71**	**301**	P			**P**	**11 43 26.3**	**-0.7**
P29M	**Windy Craggy**	**54.72**	**38**	P			**P**	**11 43 25.8**	**-1.1**
CTAO	**Charters Tower**	**55.70**	**176**	P			**P**	**11 43 34.2**	**0.0**
CTAO				pmax			pmax		
	comp=Z,5.0nm,1.0s								
WR0	**Warramunga Arr**	**56.03**	**189**	P			**P**	**11 43 34.8**	**-1.7**
WRAB	**Tennant Creek**	**56.03**	**190**	P			**P**	**11 43 35.6**	**-0.9**
WRAB	**Tennant Creek**	**56.03**	**190**	⇑*e*P			**P**	**11 43 36.1**	**-0.5**
WRAB				pmax			pmax		
	comp=Z,5.0nm,1.0s								
WB2	**Warramunga Arr**	**56.04**	**190**	P			**P**	**11 43 34.8**	**-1.9**
WRA	**Warramunga Arr**	**56.04**	**190**	P			**P**	**11 43 35.4**	**-1.2**
	comp=Z,8.8nm,0.5s,baz=8.4,slow=7.4,SNR=7.8								
	comp=Z,2.8nm,0.5s								
WRA	**Warramunga Arr**	**56.04**	**190**	P			**P**	**11 43 35.8**	**-0.8**
WRA				pmax			pmax		
	comp=Z,1.0nm,1.5s								
FITZ	**Fitzroy Crossi**	**56.04**	**200**	P			**P**	**11 43 35.8**	**-0.9**
CHGR	**Chuyangaron**	**57.21**	**297**	P			**P**	**11 43 44.8**	**-0.2**
CHGR	**Chuyangaron**	**57.21**	**297**	P			**P**	**11 43 44.8**	**-0.2**
CHGR				pmax			pmax		
	comp=Z,17nm,0.7s								
ARU	**Arti**	**58.01**	**319**	P			**P**	**11 43 50.0**	**-0.2**
ARU				lAmb			lAmb	11 43 51.0	
	comp=Z,10.0nm,1.1s								
ARU	**Arti**	**58.01**	**319**	*c* P			**P**	**11 43 50.4**	**+0.2**
ARU				S			**S**	**11 51 48.7**	**-1.5**
ARU				SS			**SS**	**11 55 39.0**	**-1.8**
ARU				pmax			pmax		
	comp=Z,11nm,1.2s								
ABKAR	**Akbulak array**	**59.58**	**311**	P			**P**	**11 44 01.1**	**-0.2**
ASAR	**Alice Springs**	**59.77**	**189**	P			**P**	**11 44 02.2**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=13,slow=6.1,SNR=4.6								
	comp=Z,1.5nm,0.6s								
ASAR	**Alice Springs**	**59.77**	**189**	P			**P**	**11 44 01.8**	**-1.0**
KIRV	**Kirov**	**61.89**	**324**	⇓*e*P			**P**	**11 44 16.1**	**-0.7**
PCHI	**Peechi**	**64.85**	**265**	*e*P			**P**	**11 44 39.8**	**+2.7**
GEYT	**Alibeck**	**65.41**	**300**	LR			LR	12 14 38.0	
	comp=Z,82nm,20.5s,baz=182,slow=37								
ARCES	**ARCESS Array B**	**65.52**	**340**	P			**P**	**11 44 40.8**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=34,slow=8.8,SNR=4.2								
	comp=Z,3.2nm,0.9s								
FIA1	**FINESS Array S**	**70.40**	**333**	P			**P**	**11 45 11.0**	**-0.4**
FIA1				lAmb			lAmb	11 45 12.3	
	comp=Z,6.0nm,0.8s								
FINES	**FINESS Array B**	**70.40**	**333**	P			**P**	**11 45 11.7**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=48,slow=5.7,SNR=13								
	comp=Z,3.7nm,0.7s								
FINES	**FINESS Array B**	**70.40**	**333**	P			**P**	**11 45 11.8**	**+0.4**
KBZ	**Khabaz**	**72.54**	**312**	P			**P**	**11 45 24.5**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=65,slow=3.7,SNR=4.8								
	comp=Z,2.6nm,0.7s								
KBZ	**Khabaz**	**72.54**	**312**	*ce*P			**P**	**11 45 25.2**	**+0.6**
KBZ				pmax			pmax		
	comp=Z,4.0nm,0.9s								
HRY	**Holter Researc**	**74.05**	**44**	P			**P**	**11 45 33.7**	**0.0**
LRM	**Limekiln Ridge**	**74.22**	**45**	P			**P**	**11 45 35.2**	**+0.3**
NVAR	**Mina Array Bea**	**74.80**	**54**	P			**P**	**11 45 39.7**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=289,slow=5.9,SNR=12								
	comp=Z,0.9nm,0.7s								
NC204	**NORSAR Array S**	**75.68**	**338**	P			**P**	**11 45 42.7**	**-0.1**
NC204				lAmb			lAmb	11 45 44.2	
	comp=Z,7.4nm,0.8s								
NB201	**NORSAR Array S**	**75.70**	**338**	P			**P**	**11 45 43.1**	**+0.2**
NB2	**NORSAR Subarra**	**75.73**	**338**	P			**P**	**11 45 42.9**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=40,slow=5.9								
NOA	**NORSAR Array B**	**75.73**	**338**	P			**P**	**11 45 43.1**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=39,slow=5.7,SNR=11								
NOA				LR			LR	12 22 05.3	
	comp=Z,29nm,19.1s,baz=130,slow=38								
	comp=Z,2.0nm,0.7s								
AKASG	**Malin Array Be**	**75.94**	**323**	P			**P**	**11 45 43.9**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=45,slow=6.6,SNR=7.1								
	comp=Z,1.2nm,0.5s								
AKASG	**Malin Array Be**	**75.94**	**323**	*ce*P			**P**	**11 45 44.5**	**+0.2**
AKASG				pmax			pmax		
	comp=Z,1.0nm,0.5s								
BW06	**Boulder Array**	**77.70**	**46**	P			**P**	**11 45 53.0**	**-1.8**
PD31	**Pinedale Array**	**77.70**	**46**	P			**P**	**11 45 54.1**	**-0.7**
PDAR	**Pinedale Array**	**77.70**	**46**	P			**P**	**11 45 55.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=271,slow=2.9,SNR=8.3								
	comp=Z,0.6nm,0.7s								
PDAR	**Pinedale Array**	**77.70**	**46**	P			**P**	**11 45 54.2**	**-0.5**
BRTR	**Keskin Array B**	**80.49**	**312**	P			**P**	**11 46 10.2**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=130,slow=3.1,SNR=6.0								
	comp=Z,1.6nm,0.7s								
BRTR	**Keskin Array B**	**80.49**	**312**	P			**P**	**11 46 08.6**	**-1.4**
CLL	**Collm**	**82.70**	**331**	*i* P			**P**	**11 46 21.1**	**-0.1**

CASY Casey 47.61 155 P P 11 45 00.2 -0.4
PSI Prapat 48.35 55 LR LR 12 02 17.9
comp=Z,56nm,18.9s,baz=222,slow=32
HYBB Hyderabad (bro 49.42 22 eP P 11 45 15.8 +0.7
WSAR Wadi Sarin 52.26 357 LR LR 12 02 55.1
comp=Z,52nm,18.4s,baz=210,slow=30
TROLL Troll, Antarti 52.81 199 P P 11 45 39.7 -0.4
SNAA Sanae 54.31 200 P P 11 45 50.7 -0.3
SNAA Sanae 54.31 200 P P 11 45 51.3 +0.3
comp=Z,5.2nm,1.0s,baz=113,slow=4.6,SNR=11
SNAA LR LR 12 04 00.1
comp=Z,169nm,21.1s,baz=13,slow=30
comp=Z,5.2nm,1.0s
SNAA Sanae 54.31 200 P P 11 45 50.1 -0.9
RAYN Ar Rayn 54.56 343 P P 11 45 52.9 -0.5
VNA2 Neumayer--Watz 55.58 202 P P 11 46 00.2 0.0
CM31 Chiang Mai Arr 59.95 42 P P 11 46 32.2 +0.7
CM31 IAmb IAmb 11 46 36.0
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 59.95 42 P P 11 46 32.0 +0.5
comp=Z,3.9nm,0.7s,baz=230,slow=7.2,SNR=24
CMAR LR LR 12 10 38.5
comp=Z,65nm,18.3s,baz=225,slow=34
comp=Z,3.9nm,0.7s
CMAR Chiang Mai Arr 59.95 42 P P 11 46 32.7 +1.1
PYUN Piuthan 60.81 22 eP P 11 46 37.1 -0.4
comp=Z,98nm,0.8s
QSPA South Pole Qui 60.88 180 P P 11 46 37.6 +0.1
comp=Z,6.1nm,0.8s,baz=264,slow=1.0,SNR=22
QSPA LR LR 12 10 21.3
comp=Z,146nm,18.6s,baz=282,slow=33
comp=Z,6.1nm,0.8s
QSPA South Pole Qui 60.88 180 P P 11 46 37.0 -0.5
QSPA IAmb IAmb 11 46 41.7
comp=Z,13nm,1.1s
RAMN Ramite 61.06 26 eP P 11 46 39.3 +0.1
comp=Z,50nm,0.8s
DMN Daman 61.10 24 eP P 11 46 39.4 -0.1
comp=Z,59nm,0.9s
PKI Pulchoki 61.17 25 eP P 11 46 39.3 -0.8
comp=Z,13nm,0.8s
PKIN Phulchoki 61.17 25 eP P 11 46 39.4 -0.6
comp=Z,9.4nm,0.7s
GKN Gorkha 61.29 24 eP P 11 46 40.1 -0.5
comp=Z,86nm,0.9s
DANN Dangsing 61.30 23 eP P 11 46 40.2 -0.7
comp=Z,72nm,0.8s
JIRN Jiri 61.54 25 eP P 11 46 42.3 -0.3
comp=Z,24nm,0.7s
GUN Gumba 61.65 25 eP P 11 46 43.2 -0.1
comp=Z,55nm,1.0s
CRAI Chiangrai 62.17 42 P P 11 46 47.7 +1.2
BELA Belgrano 2 62.78 194 P P 11 46 50.3 +0.4
BBOO Buckleboo 63.14 114 P P 11 46 52.4 -0.7
NIL Nilore 63.65 11 P P 11 46 55.8 -0.4
EIL Elat 63.66 335 LR LR 12 11 24.0
comp=Z,147nm,19.4s,baz=88,slow=33
KBL Kabul 63.93 7 P P 11 46 58.5 +0.4
KBL IAmb IAmb 11 47 02.8
comp=Z,9.3nm,1.2s
VNDA Vanda 63.96 166 P P 11 46 57.7 -0.1
comp=Z,3.4nm,0.9s,baz=267,slow=7.2,SNR=18
VNDA LR LR 12 12 41.6
comp=Z,204nm,18.8s,baz=262,slow=34
comp=Z,3.4nm,0.9s
VNDA Vanda 63.96 166 P P 11 46 57.5 -0.2
VNDA IAmb IAmb 11 47 08.7
comp=Z,7.9nm,1.2s
TOLI2 Tolitoli 64.53 73 P P 11 47 02.4 0.0
TOLI2 IAmb IAmb 11 47 04.0
comp=Z,8.3nm,1.1s
ASAR Alice Springs 64.57 104 P P 11 47 02.0 -0.6
comp=Z,4.4nm,0.8s,baz=241,slow=6.3,SNR=14
comp=Z,4.4nm,0.8s
AS31 Alice Springs 64.57 104 P P 11 47 02.2 -0.5
SBA Scott Base 64.84 167 P P 11 47 05.2 +1.7
ASF Jabal al Asfar 65.25 338 LR LR 12 13 03.2
comp=Z,72nm,21.1s,baz=107,slow=34
WRA Warramunga Arr 66.40 100 P P 11 47 13.8 -0.7
comp=Z,5.5nm,1.0s,baz=248,slow=5.8,SNR=6.8
comp=Z,5.5nm,1.0s
WRA Warramunga Arr 66.40 100 P P 11 47 13.2 -1.3
WB2 Warramunga Arr 66.41 100 P P 11 47 14.1 -0.5
WB2 IAmb IAmb 11 47 15.1
comp=Z,9.2nm,0.9s
WRAB Tennant Creek 66.41 100 P P 11 47 14.0 -0.6
WB0 Warramunga Arr 66.52 100 P P 11 47 15.0 -0.2
WB0 IAmb IAmb 11 47 15.8
comp=Z,9.9nm,1.0s
MMAI Mount Meron Ar 66.53 337 LR LR 12 12 51.1
comp=Z,84nm,19.6s,baz=181,slow=33
WR0 Warramunga Arr 66.57 100 P P 11 47 15.5 -0.1
WR0 IAmb IAmb 11 47 16.1
comp=Z,11nm,1.2s
GEYT Alibeck 66.91 358 P P 11 47 16.5 -0.7
GYA0B ALIBECK ARRAY 66.91 358 P P 11 47 16.6 -0.6
GYA0B IAmb IAmb 11 48 53.1
comp=Z,4.7nm,0.7s
PZH PanZhiHua 67.85 39 P P 11 47 26.3 +2.8
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,160nm,4.9s
CHGR Chuyangaron 68.01 7 P P 11 47 24.1 -0.1
GAR Garm 68.48 8 P P 11 47 26.8 -0.4
GAR IAmb IAmb 11 47 30.4
comp=Z,10nm,1.1s
MARD Mardin 68.89 343 P P 11 47 30.9 +1.0
CSS Mathiatis 69.02 336 P P 11 47 30.8 +0.3
BTK Batken 69.58 8 P P 11 47 34.8 +0.8
GURO Guroymak-BITLI 69.76 344 P P 11 47 36.8 +1.6
GURO IAmb IAmb 11 47 38.7
comp=Z,5.1nm,0.7s
KSH Kashi 69.85 12 P P 11 47 33.0 -2.7
KSH pmax pmax
comp=Z,18nm,0.9s
KSH LR LR
comp=Z,290nm,17.2s
KSH LR LR
comp=Z,170nm,17.9s
GNI Garni 70.70 347 LR LR 12 17 01.7
comp=Z,130nm,19.9s,baz=178,slow=34
GNI Garni 70.70 347 P P 11 47 40.3 -0.6
TOA0 Torodi Ar. Sit 71.05 298 P P 11 47 43.5 +0.1
TOA0 IAmb IAmb 11 47 44.8
comp=Z,7.0nm,0.9s
TORD Torodi Ar. Bea 71.05 298 P P 11 47 44.1 +0.6
comp=Z,5.3nm,0.8s,baz=112,slow=5.5,SNR=26
comp=Z,5.3nm,0.8s
CD2 Chengdu 72.39 38 P P 11 47 53.5 +2.3
SIJI Sorong 72.42 81 P P 11 47 50.2 -1.6
comp=Z,4.4nm,0.3s,baz=186,slow=3.4,SNR=7.3
comp=Z,4.4nm,0.3s
KK31 Karatay Array 72.55 7 P P 11 47 52.2 +0.4
KK31 IAmb IAmb 11 47 53.2
comp=Z,9.2nm,1.1s
KKAR Karatay Array 72.55 7 P P 11 47 52.4 +0.5
DBIC Dimbokro 72.60 288 P P 11 47 55.5 +2.8
comp=Z,6.8nm,1.0s,baz=138,slow=4.0,SNR=3.9
DBIC LR LR 12 19 35.0
comp=Z,66nm,18.3s,baz=146,slow=36
comp=Z,6.8nm,1.0s
AAK Ala-Archa 72.63 10 LR LR 12 16 19.3
comp=Z,64nm,19.1s,baz=172,slow=33
AAK Ala-Archa 72.63 10 P P 11 47 53.3 +0.8
AAK IAmb IAmb 11 47 54.3
comp=Z,9.0nm,1.1s
BOOM Boomskoye usch 72.73 12 P P 11 47 52.0 -1.1
BOOM IAmb IAmb 11 47 54.4
comp=Z,9.4nm,1.3s
BR131 Keskin Array S 73.21 338 P P 11 47 55.5 -0.5
BR131 IAmb IAmb 11 47 56.5
comp=Z,14nm,1.2s
BRTR Keskin Array B 73.21 338 P P 11 47 55.4 -0.7
comp=Z,3.1nm,0.8s,baz=155,slow=8.5,SNR=11
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 73.21 338 P P 11 47 55.6 -0.4
ONI Oni 73.31 347 P P 11 47 57.1 +0.7
ONI IAmb IAmb 11 47 57.9
comp=Z,18nm,1.6s
LZH Lanzhou 76.50 35 eP P 11 48 16.8 +1.6
LZH pP pwP 11 48 22.8 -1.4
LZH pmax pmax
comp=Z,21nm,0.9s
WMQ Urumqi 76.75 20 eP P 11 48 16.6 +0.3
WMQ pmax pmax
comp=Z,42nm,0.7s
PMSA Palmer Station 77.02 201 LR LR 12 13 48.2
comp=Z,92nm,21.2s,baz=112,slow=29
GTA Gaotai 77.31 30 eP P 11 48 20.8 +1.2
GTA pP pwP 11 48 27.8 -0.9
GTA sP PcP 11 48 31.8 +1.6
GTA pmax pmax
comp=Z,5.0nm,1.2s
XAN Xi'an 77.59 39 P P 11 48 23.6 +2.4
XAN pP PcP 11 48 34.6 +3.2
XAN pmax pmax
comp=Z,7.0nm,1.3s
MAKZ Makanchi 78.07 15 P P 11 48 23.8 +0.2
MAKZ IAmb IAmb 11 48 24.5
comp=Z,12nm,1.5s
EIDS Eidsvold 78.12 112 P P 11 48 23.9 -0.6
EIDS IAmb IAmb 11 48 25.6
comp=Z,15nm,1.2s
MK31 Makanchi Array 78.12 15 P P 11 48 23.6 -0.2
MKAR Makanchi Array 78.12 15 P P 11 48 23.6 -0.3
comp=Z,3.3nm,0.9s,baz=180,slow=4.9,SNR=23
comp=Z,3.3nm,0.9s
ABKAR Akbulak array 78.18 359 P P 11 48 24.1 +0.1
ABKAR IAmb IAmb 11 48 24.9
comp=Z,9.1nm,0.9s
AKTO Aktyubinsk 79.40 358 LR LR 12 21 17.6
comp=Z,49nm,19.6s,baz=124,slow=34
KURBB Kurchatov Arra 81.05 11 LR LR 12 20 30.9
comp=Z,52nm,20.5s,baz=161,slow=33
KURK Kurchatov 81.15 11 P P 11 48 40.6 +0.4
KURK IAmb IAmb 11 48 41.3
comp=Z,11nm,1.1s
DIVS Divibare 82.08 332 P P 11 48 45.1 -0.2
DIVS IAmb IAmb 11 48 46.6
comp=Z,15nm,1.4s
NJ2 Nanjing 82.09 47 eP P 11 48 46.3 +0.7
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BVAR Borovoye Array 82.36 6 LR LR 12 22 47.8
comp=Z,95nm,20.0s,baz=183,slow=34
BRVK Borovoye 82.38 6 P P 11 48 46.3 -0.3
HHC Hu-ho-hao-te 84.04 36 eP P 11 48 57.9 +2.3
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.1s
HHC LR LR
comp=Z,310nm,14.6s
HHC LR LR
comp=Z,530nm,15.2s
HHC LR LR
comp=Z,580nm,14.3s
AKASG Malin Array Be 84.44 340 P P 11 48 57.0 -0.3
comp=Z,1.7nm,0.6s,baz=153,slow=4.2,SNR=7.5
comp=Z,1.7nm,0.6s
ARU Arti 85.39 359 P P 11 49 02.1 +0.2
ARU IAmb IAmb 11 49 03.1
comp=Z,14nm,1.2s
ZAA0 Zalesovo Array 85.41 14 P P 11 49 02.2 +0.2
ZAA0 IAmb IAmb 11 49 05.7
comp=Z,8.1nm,1.0s
ZALV Zalesovo Beam 85.41 14 P P 11 49 01.3 -0.8
comp=Z,2.1nm,0.5s,baz=220,slow=3.9,SNR=8.9
comp=Z,2.1nm,0.5s
ZALV Zalesovo Beam 85.41 14 P P 11 49 02.0 -0.1
VYHS Vyhne 86.12 333 eP P 11 49 04.9 -0.8
BBTS Babate 86.53 289 LR LR 12 27 41.7
comp=Z,102nm,18.2s,baz=84,slow=36
SONM Songino Array 86.92 29 P P 11 49 10.9 +1.0
comp=Z,0.6nm,0.6s,baz=258,slow=4.3,SNR=2.5
comp=Z,0.6nm,0.6s
MDT Midelt 87.61 310 LR LR 12 28 24.0
comp=Z,112nm,18.8s,baz=127,slow=36
VRAC Vranov 87.66 333 LR LR 12 27 23.8
comp=Z,39nm,18.8s,baz=148,slow=35
MNK Minsk 88.18 341 iP P 11 49 15.1 -0.4
comp=E,1.0nm,0.9s
MNK iP P 11 49 15.1 -0.4
MNK iP P 11 49 15.1 -0.4
comp=Z,15nm,0.9s,baz=152
MNK iPP PP 11 52 42.2 -0.9
MNK iPPP PPP 11 54 37.6
MNK iSKS 11 58 58.2
MNK iS SKSac 11 59 43.3 0.0
MNK iSKKS 12 01 09.9
MNK iSS SS 12 05 50.6 +1.7
MNK iSSS SSS 12 09 45.2
MNK iLQ LQ 12 22 02.5
MNK iLR LR 12 24 25.7
MNK iLRM MLR 12 28 56.0
comp=Z,71nm,17.4s
MNK iLRM MLR 12 29 29.5
comp=E,17nm,17.7s
MNK iLRM MLR 12 31 28.1
NACGM Naroch 88.84 341⇑ eP P 11 49 16.9 -1.8
baz=151
BRG Berggiesshubel 89.95 332 eP P 11 49 25.2 +1.2
BRG Amp 11 49 29.0
comp=Z,7.0nm,1.3s
KSRS Korea Array 91.28 47 LR LR 12 30 50.5
comp=Z,22nm,18.3s,baz=65,slow=36
ESDC Sonseca Array 91.36 316 P P 11 49 31.9 +0.9
comp=Z,2.5nm,0.9s,baz=107,slow=3.7,SNR=12
ESDC LR LR 12 34 20.0
comp=Z,34nm,18.3s,baz=136,slow=38
comp=Z,2.5nm,0.9s
ESDC Sonseca Array 91.36 316 P P 11 49 31.6 +0.7
ESDC IAmb IAmb 11 49 36.2
comp=Z,5.5nm,1.2s
KLMR Klimovskoe 91.50 350 eP P 11 49 26.0 -4.9
KLMR AMP 11 49 32.7
comp=Z,20nm,1.9s
NOA NORSAR Array B 98.64 338 LR LR 12 35 13.0
comp=Z,27nm,18.3s,baz=270,slow=36
ILAR Eielson Array 140.40 18 PKP PKPdf 11 55 51.2 -2.2
comp=Z,0.7nm,1.0s,baz=263,slow=3.6,SNR=3.2
TGL Tana Glacier 144.71 20 PKPdf PKPbc 11 56 00.4 +0.2
SSPA Standing Stone 144.73 300 PKPdf PKPab 11 56 00.4 -0.3
BERG Berg Lake 144.73 21 PKPdf PKPbc 11 56 00.7 +0.6
BOAB BOACO BROADBAND 144.79 249 PKPdf PKPbc 11 56 02.3 +0.6
J54A Appleton 144.92 305 PKPdf PKPdf 11 56 02.0 -0.1
WAX Waxell Ridge 144.95 20 PKPdf PKPdf 11 56 02.2 +0.5
CTGM Chitina Glacie 144.98 19 PKPbc PKPdf 11 56 02.3 +0.4
ISLE Juniper Island 144.98 20 PKPbc PKPdf 11 56 01.9 +0.1
WVNY West Valley, N 145.04 303 PKPbc PKPbc 11 56 02.0 +0.2
LOGN Logan Glacier 145.19 19 PKPbc PKPdf 11 56 02.8 +0.6
YAH Yahtse 145.35 20 PKPbc PKPab 11 56 03.2 +0.6
M31M Drury Creek, Y 145.55 13 PKPdf PKPdf 11 56 02.7 +0.1
HYT Haines Junctio 146.11 16 PKPdf PKPdf 11 56 03.9 +0.2
YKA Yellowknife Ar 146.65 356 PKPbc PKPbc 11 56 05.8 -0.2
comp=Z,6.7nm,0.9s,baz=357,slow=2.8,SNR=10
LCCO2 Lakeland CC 2, 147.19 302 PKPbc PKPbc 11 56 07.9 -0.3
E46A Sault Ste Mari 148.03 312 PKPbc PKPbc 11 56 10.9 +0.6
P52A Corning 148.07 299 PKPdf PKPdf 11 56 07.9 +0.3
V51A Loudon 150.16 292 PKPdf PKPdf 11 56 11.5 +0.5
U49A Red Boiling Sp 151.27 293 PKPbc PKiKP 11 56 19.6 +0.4
CLTN Cedars of Leba 151.75 292 PKPbc PKPbc 11 56 19.9 +0.1
CLTN PKPab PKPab 11 56 27.8 -0.9
EYMN Ely 151.77 319 PKPdf PKPdf 11 56 12.1 -1.1
EYMN PKPbc PKPbc 11 56 19.8 +0.3
EYMN PKPab PKPab 11 56 27.9 -0.5
ULM Lac du Bonnet 152.72 327 PKPbc PKPbc 11 56 20.8 -0.7
comp=Z,7.1nm,0.8s,baz=25,slow=5.4,SNR=6.7
RLMT Red Lodge 162.40 337 PKPdf PKPdf 11 56 23.5 -3.5
RLMT PKPab PKPab 11 57 15.7 +1.2
MOOW Moose Ponds 164.11 338 PKPdf PKPdf 11 56 25.4 -3.2
MOOW PKPab PKPab 11 57 20.7 -1.2
AMTX Amarillo 164.28 295 PKPdf PKPdf 11 56 27.5 -1.4
AMTX PKPab PKPab 11 57 20.9 -2.1
FXWY Fox Creek 164.30 338 PKPdf PKPdf 11 56 30.0 +1.2
FXWY PKPab PKPab 11 57 23.7 +0.9
PD31 Pinedale Array 164.53 333 PKPdf PKPdf 11 56 28.0 -1.0
PD31 PKPab PKPab 11 57 23.2 -0.7
PDAR Pinedale Array 164.53 333 PKP PKPdf 11 56 29.4 +0.4
comp=Z,1.6nm,0.9s,baz=132,slow=2.2,SNR=11
TXAR Lajitas Array 166.60 274 PKP PKPdf 11 56 32.2 +1.3
comp=Z,0.5nm,0.8s,baz=111,slow=1.8,SNR=5.7
SPR3 Spring Creek 3 169.55 339 PKPdf PKPdf 11 56 30.8 -2.2
SPR3 PKPab PKPab 11 57 44.9 -1.3
NVAR Mina Array Bea 170.85 356 PKP PKPdf 11 56 35.6 +2.0
comp=Z,0.5nm,0.8s,baz=207,slow=3.0,SNR=4.0
PRN Pahroc Range 171.24 339 PKPdf PKPdf 11 56 30.5 -3.3
PRN PKPab PKPab 11 57 52.6 -0.9
319A Douglas 171.33 286 PKPdf PKPdf 11 56 31.9 -2.1

IDC **20** *11:38:09.7±2.9, 5.69S×130.97E, h54km±32km, mb3.7/4, mbtmp4.2/8, ML4.4/4, Error ellipse: s-maj=54.6km s-min=18.6km az=77.0*

DJA **20** *11:38:12.8±0.3, 5.2S×13.1E±, h107km±8km, M4.4/9, mb4.6/6, mB5.0/4, MLv4.4/9, Mw(mB)4.4/4*

ISC 20 11:38:13.1±0.8, 5.49S±0.04×131.10E±0.06, h100km, n18, σ274/25, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	Bandanaira	1.53	309	P	Pn	11 38 40.9	+1.1
BNDI				S	Sn	11 39 00.9	+0.9
SAUI	Saumlaki	2.48	175	P	Pn	11 38 52.8	+0.7
SAUI				S	Sn	11 39 21.4	-0.5
FAKI	Fak Fak	2.80	24	P	Pn	11 38 56.4	+0.1
FAKI				S	Sn	11 39 26.3	-3.1
MSAI	Masohi	3.04	314	P	Pn	11 39 00.0	+0.6
MSAI				S	Sn	11 39 33.5	-1.6
AAI	Ambon	3.41	302	S	Sn	11 39 41.4	-2.6
SIJI	Sorong	4.59	2	P	Pn	11 39 19.9	-0.5
	40nm,0.3s,baz=199,slow=9.2,SNR=41						
SIJI				S	Sn	11 40 09.2	-3.5
	151nm,0.2s,baz=290,slow=23,SNR=15						
	77nm,0.3s						
LBMI	Labuha	6.01	323	P	Pn	11 39 40.6	+0.9
	0.2nm622nm31nm,0.4s						
LBMI				S	Sn	11 40 43.3	-3.9
	0.2nm622nm31nm,0.4s						
SANI	Sanana	6.14	304	P	Pn	11 39 42.9	+1.5
	0.1nm28nm,0.6s						
SANI				S	Sn	11 40 45.2	-5.1
	0.1nm28nm,0.6s						
BAKI	Biak	6.57	50	P	Pn	11 39 50.7	+3.4
	0.2nm34nm,0.4s						
BATI	Baumata	8.73	237	P	Pn	11 40 16.9	+0.2
	38nm,0.5s,baz=126,slow=1.4,SNR=5.5						
BATI				S	Sn	11 41 53.2	-0.3
	34nm,0.4s,baz=75,slow=19,SNR=3.6						
BATI	Baumata	8.73	237	P	Pn	11 40 17.1	+0.4
	26nm,0.6s						
FITZ	Fitzroy Crossi	13.62	203	P	Pn	11 41 16.9	-5.3
	1.8nm,0.3s,baz=34,slow=11,SNR=36						
FITZ				S	Sn	11 43 37.4	-15
	10.0nm,0.3s,baz=129,slow=13,SNR=10						
	4.8nm,0.3s						
WRA	Warramunga Arr	14.71	168	P	Pn	11 41 30.7	-5.5
	1.1nm,0.3s,baz=349,slow=13,SNR=49						
WRA				S	Sn	11 44 06.0	-13
	2.7nm,0.4s,baz=353,slow=23,SNR=7.4						
	2.6nm,0.3s						
ASAR	Alice Springs	18.27	172	P	P	11 42 17.8	-1.3
	1.9nm,0.3s,baz=345,slow=8.3,SNR=46						
ASAR				S	S	11 45 35.2	-7.8
	1.2nm,0.5s,baz=360,slow=28,SNR=5.8						
	3.9nm,0.4s						
STKA	Stephens Creek	28.03	161	P	P	11 43 55.0	0.0
	1.7nm,0.7s,baz=335,slow=17,SNR=2.0						
	1.7nm,0.7s						
CMAR	Chiang Mai Arr	39.65	308	P	P	11 45 37.1	+1.6
	0.7nm,0.6s,baz=137,slow=7.9,SNR=6.2						
	0.7nm,0.6s						
SONM	Songino Array	57.38	340	P	P	11 47 53.5	+2.3
	0.4nm,0.5s,baz=165,slow=12,SNR=2.6						
	0.4nm,0.5s						
MKAR	Makanchi Array	67.58	326	P	P	11 49 01.1	+2.1
	2.0nm,0.5s,baz=116,slow=8.3,SNR=16						
	2.0nm,0.5s						

NEIC **20** *11:38:56.4±1.9, 53.94N±0.05×161.81W±0.10, h20km±13km, Error ellipse: s-maj=10.1km s-min=5.5km az=128.0*

AEIC 20 11:38:56.3±1.3, 53.86N±0.09×161.81W±0.08, h26km±9km, ML3.2/31, ML3.3/6(NEIC), Error ellipse: s-maj=14.0km s-min=4.2km az=156.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DT1	Dutton Round H	1.29	348		Pn	11 39 17.8	-0.8
HAG	Hague Volcano	1.47	358		Pn	11 39 21.4	+0.3
PS4A	Pavlof South-4	1.50	359		Pn	11 39 21.3	-0.1
ISNN	Isanotski Nort	1.52	311		Pn	11 39 21.6	-0.1
ISNN					Sn	11 39 40.8	+0.1
PN7A	Pavlof North-7	1.58	356		Pn	11 39 23.1	+0.3
SSLN	Shishaldin Nor	1.60	308		Pn	11 39 23.3	+0.3
CNBA	Chernabura Isl	1.62	52	Pn	Pn	11 39 23.3	+0.2
CNBA				IAML		11 39 59.7	
	comp=N,196nm,1.1s						
SSBA	Shishaldin	1.64	305		Pn	11 39 23.7	+0.1
SSBA					Sn	11 39 44.1	+0.3
SDPT	Sand Point	1.69	27		Sn	11 39 46.0	+1.2
SDPT	Sand Point	1.69	27		Pn	11 39 24.1	+0.1
SDPT	Sand Point	1.69	27	IAML		11 39 52.4	
	comp=N,888nm,0.6s						
SDPT				IAML		11 39 52.7	
	comp=E,1μm,0.9s						
WESN	West Dahl Nort	1.78	295		Pn	11 39 25.5	+0.1
WESP	Westdahl Peak	1.83	292		Pn	11 39 26.0	-0.1
WECS	Westdahl Cape	1.87	292		Pn	11 39 26.9	+0.2
AKSA	Akutan Strait	2.31	279		Pn	11 39 33.1	+0.4
AKSA	Akutan Strait	2.31	279		Pn	11 39 33.4	+0.7
AKUT	Akutan	2.36	278	Pn	Pn	11 39 32.2	-1.1
AKUT				IAML		11 40 11.9	
	comp=N,147nm,2.5s						
AKUT				IAML		11 40 20.3	
	comp=E,146nm,0.9s						
AKLV	Akutan Long Va	2.47	279		Pn	11 39 35.9	+1.0
UNV	Unalaska Valle	2.78	272		Pn	11 39 39.3	+0.2
UNV					Sn	11 40 13.3	+1.4
MNAT	Makushin Natee	2.89	273		Pn	11 39 41.1	+0.5
MNAT					Sn	11 40 16.7	+2.2
MGOD	Makushin Gods	3.00	271		Pn	11 39 42.7	+0.4
MAPS	Pakushin South	3.04	271		Pn	11 39 43.1	+0.4
OHAK	Old Harbor	5.89	52		Pn	11 40 20.9	-1.0
KDAK	Kodiak Island	6.52	49	Pn	Pn	11 40 30.1	-0.3
BRLK	Bradley Lake	8.42	41	Pn	Pn	11 40 56.2	-0.3
M19K	Big River Lodg	8.98	23	Pn	Pn	11 41 03.0	-1.2
SEW	Seward	9.19	42	Pn	Pn	11 41 05.4	-1.7
M20K	Styx River	9.27	26	Pn	Pn	11 41 06.5	-1.8
PWL	Port Wells	10.10	41	Pn	Pn	11 41 18.5	-1.0
CAST	Castle Rocks	10.83	24	Pn	Pn	11 41 27.9	-1.6
EYAK	Cordova Ski Ar	10.97	46	Pn	Pn	11 41 30.2	-1.1
SCM	Sheep Creek Mo	11.09	38	Pn	Pn	11 41 30.3	-2.7
KLU	Klutina	11.41	42	Pn	Pn	11 41 35.8	-1.8
BMRM	Bremner River	11.67	46	Pn	Pn	11 41 40.3	-0.6
MLY	Manley	12.52	22	Pn	Pn	11 41 51.1	-1.4
YAH	Yahtse	12.67	51	Pn	Pn	11 41 54.0	-0.9
IMAR	Indian Mountai	12.80	15	Pn	Pn	11 41 55.9	-0.5
TABL	Table Mountain	12.97	51	Pn	Pn	11 41 59.0	0.0
CTGM	Chitina Glacie	13.09	49	Pn	Pn	11 41 59.2	-1.3
RIDG	Independent Ri	13.19	35	Pn	Pn	11 41 59.4	-2.4
SCRK	Sand Creek	13.64	35	Pn	Pn	11 42 08.1	+0.1
L27K	Beaver Creek,	13.88	40	Pn	Pn	11 42 11.0	-0.1
BCAR	Beaver Creek A	13.90	40	Pn	Pn	11 42 09.9	-1.5
J26L	Joseph Creek	14.12	34	Pn	Pn	11 42 13.3	-1.2
K27K	Chicken	14.34	37	Pn	Pn	11 42 15.8	-1.5
P29M	Windy Craggy	14.37	57	Pn	Pn	11 42 17.8	0.0

NEIC **20** *11:45:37.7±1.0, 37.13S±0.07×179.53E±0.08, h10km±1km, mb4.3/12, Error ellipse: s-maj=12.4km s-min=10.1km az=334.0*

IDC **20** *11:45:39.0±3.3, 36.72S×179.03E, h0km, mb4.0/2, mbtmp4.0/3, ML3.8/1, Error ellipse: s-maj=73.4km s-min=42.6km az=123.0*

WEL **20** *11:45:43.8±0.9, 37.3S±4.1×17.9E±, h25km±9km, M3.6/32, ML3.8/36, MLv3.6/32, Error ellipse: s-maj=0.0km s-min=0.0km az=87.8*

ISC 20 11:45:40.8±2.1, 37.11S±0.06×179.43E±0.08, h32km±14km, n120, σ120/135, mb4.3/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.01	243		Pn	11 45 58.2	-0.5
MXZ	Matakaoa Point	1.01	243	P	Pn	11 45 58.1	-0.5
MXZ				S	Sn	11 46 09.4	-2.3
WMGZ	Waiomatatini S	1.08	228	P	Pb	11 46 01.3	+0.4
WMGZ				S	Sn	11 46 14.6	+1.1
PKGZ	Pakihiroa	1.33	234	P	Pn	11 46 04.3	+1.2
PKGZ				S	Sn	11 46 20.0	+0.1
PUZ	Puketiti	1.34	224	P	Pn	11 46 04.7	+1.4
PUZ				S	Sn	11 46 21.4	+1.4

HAZ	**Te Kaha**	**1.47**	**243**	P	**Pn**	**11 46 05.0**	**0.0**		
HAZ				S	**Sn**	**11 46 23.9**	**+0.9**		
TWGZ	**Tauwhareparae**	**1.57**	**227**	P	**Pn**	**11 46 08.4**	**+1.9**		
TWGZ				S	**Sn**	**11 46 26.7**	**+0.9**		
RUGZ	**Raukumara Rang**	**1.64**	**238**	P	**Pn**	**11 46 09.0**	**+1.6**		
RUGZ				S	**Sn**	**11 46 28.2**	**+0.7**		
CNGZ	**Carnagh Statio**	**1.68**	**215**	P	**Pb**	**11 46 10.4**	**-0.7**		
TKGZ	**Te Karaka**	**1.83**	**223**	P	**Pn**	**11 46 11.2**	**+1.2**		
TKGZ				S	**Sn**	**11 46 32.2**	**+0.2**		
WIZ	**White Island**	**1.84**	**256**	P	**Pn**	**11 46 09.6**	**-0.5**		
WIZ				S	**Sn**	**11 46 30.1**	**-2.2**		
MWZ	**Matawai**	**1.94**	**230**	P	**Pn**	**11 46 13.0**	**+1.3**		
RIGZ	**Rimuhau**	**2.07**	**219**	P	**Pn**	**11 46 14.6**	**+1.2**		
RIGZ				S	**Sn**	**11 46 38.1**	**0.0**		
WHRZ	**Whale Island**	**2.09**	**248**	P	**Pn**	**11 46 15.0**	**+1.3**		
WHRZ				S	**Sn**	**11 46 37.9**	**-0.7**		
RAGZ	**Rawiri**	**2.12**	**228**	P	**Pn**	**11 46 15.1**	**+1.1**		
RAGZ				S	**Sn**	**11 46 38.6**	**-0.6**		
URZ	**Urewera**	**2.17**	**237**	Pn	**Pn**	**11 46 15.9**	**+1.2**		
	31nm,0.3s,baz=355,slow=4.9,SNR=116								
URZ				Sn	**Sn**	**11 46 39.1**	**-1.4**		
	36nm,0.3s,baz=333,slow=8.4,SNR=11								
	112nm,0.4s								
URZ	**Urewera**	**2.17**	**237**		**Pn**	**11 46 15.6**	**+0.9**		
URZ	**Urewera**	**2.17**	**237**	P	**Pn**	**11 46 15.8**	**+1.2**		
PRGZ	**Paritu Road**	**2.19**	**214**	P	**Pn**	**11 46 16.3**	**+1.3**		
PRGZ				S	**Sn**	**11 46 41.4**	**+0.5**		
SNGZ	**Shannon Statio**	**2.35**	**224**	P	**Pn**	**11 46 18.1**	**+0.9**		
EDRZ	**Edgecumbe**	**2.36**	**244**	P	**Pn**	**11 46 18.6**	**+1.2**		
EDRZ				S	**Sn**	**11 46 44.6**	**-0.6**		
MARZ	**Manawahe**	**2.36**	**247**	P	**Pn**	**11 46 18.2**	**+0.8**		
KNZ	**Kokohu**	**2.36**	**215**	P	**Pn**	**11 46 17.9**	**+0.6**		
MHGZ	**Mahia Peninsul**	**2.37**	**210**	P	**Pn**	**11 46 18.7**	**+1.3**		
OPRZ	**Ohinepanea**	**2.41**	**251**	P	**Pn**	**11 46 18.2**	**+0.3**		
RTZ	**Ruatahuna**	**2.46**	**231**	P	**Pn**	**11 46 19.9**	**+1.2**		
MUGZ	**Murupara**	**2.51**	**236**	P	**Pn**	**11 46 20.2**	**+0.8**		
TARZ	**Mount Tarawera**	**2.58**	**243**	P	**Pn**	**11 46 22.2**	**+1.8**		
RAHZ	**Arahi**	**2.59**	**225**	P	**Pn**	**11 46 22.0**	**+1.6**		
TGRZ	**Tauranga**	**2.60**	**255**	P	**Pn**	**11 46 21.1**	**+0.5**		
RRRZ	**Republican Roa**	**2.62**	**241**	P	**Pn**	**11 46 22.1**	**+1.2**		
WHHZ	**Waihua**	**2.62**	**221**	P	**Pn**	**11 46 22.1**	**+1.2**		
OMRZ	**Omania**	**2.63**	**247**	P	**Pn**	**11 46 22.8**	**+1.8**		
MTHZ	**Maungataniwha**	**2.69**	**229**	P	**Pn**	**11 46 23.1**	**+1.3**		
KARZ	**Kaharoa**	**2.69**	**249**	P	**Pn**	**11 46 22.8**	**+0.9**		
NGRZ	**Ngongotaha**	**2.76**	**248**	P	**Pn**	**11 46 25.6**	**+2.7**		
PRRZ	**Plateau Road**	**2.78**	**239**	P	**Pn**	**11 46 23.8**	**+0.8**		
HRRZ	**Handcock Road**	**2.81**	**242**	P	**Pn**	**11 46 24.4**	**+0.9**		
ALRZ	**Allen Road**	**2.84**	**238**	P	**Pn**	**11 46 24.7**	**+0.7**		
NMHZ	**Naumai**	**2.87**	**225**	P	**Pn**	**11 46 25.3**	**+0.9**		
ARHZ	**Aropaoanui**	**2.88**	**221**	P	**Pn**	**11 46 25.7**	**+1.2**		
MRHZ	**Matea Rd**	**2.94**	**233**	P	**Pn**	**11 46 26.7**	**+1.3**		
KUZ	**Kuaotunu**	**3.00**	**276**	P	**Pn**	**11 46 25.6**	**-0.4**		
BKZ	**Black Stump Fm**	**3.10**	**228**		**Pn**	**11 46 27.8**	**+0.3**		
BKZ	**Black Stump Fm**	**3.10**	**228**	P	**Pn**	**11 46 28.1**	**+0.6**		
KUTZ	**Kaahu Road**	**3.17**	**243**	P	**Pn**	**11 46 29.7**	**+1.2**		
MCHZ	**McNeill Hill**	**3.17**	**222**	P	**Pn**	**11 46 29.4**	**+0.9**		
TOZ	**Tahuroa Road**	**3.19**	**258**	P	**Pn**	**11 46 28.8**	**+0.1**		
GRZ	**Great Barrier**	**3.31**	**284**	P	**Pn**	**11 46 31.2**	**+0.9**		
KWHZ	**Kaweka Forest**	**3.31**	**225**	P	**Pn**	**11 46 30.7**	**+0.3**		
TLZ	**Tolley Road**	**3.32**	**247**	P	**Pn**	**11 46 31.4**	**+0.9**		
KAHZ	**Kahuranaki**	**3.35**	**216**	P	**Pn**	**11 46 31.0**	**+0.1**		
MKAZ	**Moumakai**	**3.42**	**269**	P	**Pn**	**11 46 31.8**	**0.0**		
WIAZ	**Waiheke Island**	**3.46**	**274**	P	**Pn**	**11 46 32.6**	**+0.2**		
KRHZ	**Kereru**	**3.49**	**223**	P	**Pn**	**11 46 33.0**	**+0.1**		
PXZ	**Pawanui**	**3.55**	**214**	P	**Pn**	**11 46 33.1**	**-0.5**		
TMVZ	**Te Maari**	**3.56**	**235**	P	**Pn**	**11 46 34.6**	**+0.7**		
BHHZ	**Black Hill Sta**	**3.56**	**227**	P	**Pn**	**11 46 34.3**	**+0.5**		
ETVZ	**East Tongariro**	**3.57**	**234**	P	**Pn**	**11 46 34.6**	**+0.6**		
NTVZ	**North Tongariro**	**3.57**	**235**	P	**Pn**	**11 46 34.9**	**+0.9**		
ETAZ	**East Tamaki Re**	**3.61**	**271**	P	**Pn**	**11 46 35.1**	**+0.7**		
OTVZ	**Oturere**	**3.61**	**234**	P	**Pn**	**11 46 34.8**	**+0.2**		
NNVZ	**North Ngauruho**	**3.63**	**235**	P	**Pn**	**11 46 37.2**	**+2.3**		
WTVZ	**West Tongariro**	**3.63**	**235**	P	**Pn**	**11 46 38.1**	**+3.2**		
SNVZ	**South Ngauruho**	**3.64**	**234**	P	**Pn**	**11 46 35.6**	**+0.5**		
MBAZ	**Motutapu North**	**3.65**	**274**	P	**Pn**	**11 46 35.8**	**+0.8**		
NGZ	**Ngauruhoe**	**3.66**	**234**	P	**Pn**	**11 46 36.1**	**+0.8**		
TUVZ	**Tukino**	**3.68**	**233**	P	**Pn**	**11 46 37.2**	**+1.7**		
MOVZ	**Moawhango**	**3.70**	**230**	P	**Pn**	**11 46 36.1**	**+0.4**		
ABAZ	**Army Bay**	**3.73**	**276**	P	**Pn**	**11 46 37.7**	**+1.6**		
WNVZ	**Wahianoa**	**3.75**	**233**	P	**Pn**	**11 46 37.1**	**+0.6**		
EPAZ	**Eden Park BICE**	**3.76**	**272**	P	**Pn**	**11 46 38.2**	**+1.7**		
WPHZ	**Waipukurau**	**3.77**	**218**	P	**Pn**	**11 46 36.1**	**-0.6**		
HBAZ	**Herne Bay Bore**	**3.77**	**272**	P	**Pn**	**11 46 38.3**	**+1.6**		
PNHZ	**Pukenui**	**3.78**	**221**	P	**Pn**	**11 46 36.5**	**-0.3**		
AWAZ	**Awhitu Peninsu**	**3.83**	**269**	P	**Pn**	**11 46 38.2**	**+0.7**		
MTVZ	**Mangateitei**	**3.86**	**233**	P	**Pn**	**11 46 38.6**	**+0.6**		
HIZ	**Hauiti**	**3.89**	**247**	Pn	**Pn**	**11 46 38.6**	**+0.3**		
HIZ	**Hauiti**	**3.89**	**247**	P	**Pn**	**11 46 40.0**	**+1.7**		
WTAZ	**Waiatarua**	**3.89**	**271**	P	**Pn**	**11 46 39.4**	**+1.1**		
RVAZ	**Riverhead Bore**	**3.90**	**274**	P	**Pn**	**11 46 39.4**	**+0.9**		
TSZ	**Takapari Road**	**4.01**	**222**	P	**Pn**	**11 46 39.3**	**-0.7**		
DVHZ	**Dannevirke**	**4.08**	**218**	P	**Pn**	**11 46 40.2**	**-0.8**		
WCZ	**Waipu Caves**	**4.26**	**284**	P	**Pn**	**11 46 44.6**	**+1.2**		
BFZ	**Birch Farm**	**4.35**	**214**	Pn	**Pn**	**11 46 43.8**	**-0.9**		
POWZ	**Post Office Ro**	**4.35**	**220**	P	**Pn**	**11 46 44.4**	**-0.3**		
PRWZ	**Pori Road**	**4.38**	**217**	P	**Pn**	**11 46 44.2**	**-0.8**		
AWZ	**Wanganui**	**4.39**	**242**	P	**Pn**	**11 46 46.1**	**+1.1**		
NEZ	**North Egmont**	**4.73**	**241**	P	**Pn**	**11 46 54.1**	**+4.2**		
KHEZ	**Kahui Hut**	**4.79**	**241**	P	**Pn**	**11 46 54.2**	**+3.3**		
OGWZ	**Otaki Gorge**	**4.97**	**221**	P	**Pn**	**11 46 52.6**	**-0.7**		
OUZ	**Omahuta**	**5.08**	**290**	Pn	**Pn**	**11 46 56.1**	**+1.4**		
OUZ	**Omahuta**	**5.08**	**290**	P	**Pn**	**11 46 56.7**	**+2.0**		
MSWZ	**Moikau Station**	**5.39**	**216**	Pn	**Pn**	**11 46 57.9**	**-1.0**		
PLWZ	**Palliser**	**5.51**	**215**	Pn	**Pn**	**11 47 00.1**	**-0.5**		
SNZO	**South Karori**	**5.58**	**220**	Pn	**Pn**	**11 47 00.8**	**-0.7**		
TUWZ	**Tuamarina**	**6.06**	**223**	Pn	**Pn**	**11 47 07.4**	**-0.8**		
BSWZ	**Blackbirch Sta**	**6.30**	**221**	Pn	**Pn**	**11 47 11.2**	**-0.2**		
CTZ	**Chatham Island**	**7.27**	**157**	P	**Pn**	**11 47 28.4**	**+3.7**		
LTZ	**Lake Taylor**	**7.90**	**222**	Pn	**Pn**	**11 47 32.3**	**-1.1**		
MQZ	**McQueen's Vall**	**8.38**	**216**	Pn	**Pn**	**11 47 39.5**	**-0.4**		
OXZ	**Oxford**	**8.40**	**220**	Pn	**Pn**	**11 47 39.9**	**-0.3**		
RPZ	**Rata Peaks**	**9.18**	**221**	Pn	**Pn**	**11 47 49.4**	**-1.6**		
ODZ	**Otahua Downs**	**10.33**	**217**	Pn	**Pn**	**11 48 05.4**	**-1.2**		
AFI	**Afiamalu**	**24.40**	**21**	P	**P**	**11 50 55.7**	**-0.7**		
COEN	**Coen**	**39.66**	**296**	P	**P**	**11 53 03.3**	**-1.6**		
AS31	**Alice Springs**	**41.12**	**276**	P	**P**	**11 53 22.1**	**+0.1**		
ASAR	**Alice Springs**	**41.12**	**276**	P	**P**	**11 53 21.9**	**-0.1**		
	1.3nm,0.5s,baz=119,slow=8.1,SNR=37								
	1.3nm,0.5s								
ASAR	**Alice Springs**	**41.12**	**276**	P	**P**	**11 53 21.9**	**-0.2**		
VNDA	**Vanda**	**41.22**	**186**	P	**P**	**11 53 22.4**	**+0.3**		
WR0	**Warramunga Arr**	**42.56**	**281**	P	**P**	**11 53 33.0**	**-0.7**		
WR0				IAmb	IAmb	11 53 41.5			
	comp=Z,9.8nm,1.4s								
WB2	**Warramunga Arr**	**42.72**	**281**	P	**P**	**11 53 35.1**	**+0.1**		
WB2				IAmb	IAmb	11 53 35.3			
	comp=Z,2.7nm,0.9s								
WRAB	**Tennant Creek**	**42.72**	**281**	P	**P**	**11 53 34.7**	**-0.3**		
WRAB				IAmb	IAmb	11 53 38.9			
	comp=Z,7.3nm,1.4s								
WRA	**Warramunga Arr**	**42.73**	**281**	P	**P**	**11 53 35.0**	**-0.1**		
	comp=Z,1.1nm,0.5s,baz=121,slow=7.8,SNR=17								
	comp=Z,1.1nm,0.5s								
WRA	**Warramunga Arr**	**42.73**	**281**	P	**P**	**11 53 34.3**	**-0.8**		
WB0	**Warramunga Arr**	**42.78**	**281**	P	**P**	**11 53 35.4**	**-0.2**		
WB0				IAmb	IAmb	11 54 18.8			
	comp=Z,12nm,1.4s								
KNRA	**Kununurra**	**49.51**	**282**	P	**P**	**11 54 28.8**	**+0.3**		
FITZ	**Fitzroy Crossi**	**50.61**	**277**	P	**P**	**11 54 36.6**	**-0.2**		
FITZ				IAmb	IAmb	11 55 09.1			
	comp=Z,9.3nm,1.5s								
QSPA	**South Pole Qui**	**53.02**	**180**	P	**P**	**11 54 55.5**	**+1.1**		
QSPA				IAmb	IAmb	11 55 21.3			
	comp=Z,5.3nm,1.4s								
FINES	**FINESS Array B**	**150.48**	**334**	PKPbc	**PKiKP**	**12 05 30.0**	**+1.1**		
	comp=Z,0.5nm,0.5s,baz=20,slow=4.4,SNR=3.6								

IDC 20 11:51:50.6±1.6, 29°73S×60°95E, h0km, mb3.7/4, mbtmp3.7/4, MS3.2/1, Error ellipse: s-maj=85.0km s-min=28.2km az=24.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**24.49**	**29**	T	T	12 22 05.3	
	baz=203,slow=76,SNR=4.1						
H08S2	**Diego Garcia H**	**24.50**	**29**	T	T	12 22 09.2	
	baz=203						
H08S3	**Diego Garcia H**	**24.51**	**29**	T	T	12 22 05.9	
	baz=203,slow=76,SNR=3.3						
LSZ	**Lusaka**	**33.37**	**288**	LR	LR	12 12 11.8	
	comp=Z,35nm,18.1s,baz=154,slow=37						

2016 SEP

H01W2	**Cape Leeuwin H**	**44.81**	**111**	T	T	12 47 46.4			
	baz=261,slow=75,SNR=8.3								
H01W3	**Cape Leeuwin H**	**44.82**	**111**	T	T	12 47 46.7			
	baz=261,slow=75,SNR=6.7								
H01W1	**Cape Leeuwin H**	**44.83**	**111**	T	T	12 47 48.2			
	baz=261,slow=75,SNR=8.0								
ASAR	**Alice Springs**	**64.49**	**104**	P	P	12 02 29.4	-0.2		
	0.8nm,0.8s,baz=243,slow=5.6,SNR=8.7								
	0.8nm,0.8s								
WRA	**Warramunga Arr**	**66.35**	**100**	P	P	12 02 41.8	+0.2		
	0.7nm,0.9s,baz=248,slow=5.3,SNR=5.0								
	0.7nm,0.9s								
TORD	**Torodi Ar. Bea**	**71.23**	**298**	P	P	12 03 12.0	0.0		
	0.4nm,0.6s,baz=113,slow=4.5,SNR=3.0								
	0.4nm,0.6s								
MKAR	**Makanchi Array**	**78.57**	**15**	P	P	12 03 53.8	0.0		
	0.5nm,0.8s,baz=181,slow=5.8,SNR=3.7								
	0.5nm,0.8s								

*IDC **20** 11:53:30.9±0.8, 48°.08S×104°.24E, h0km, mb4.1/7, mbtmp4.1/7, MS3.6/14, Error ellipse: s-maj=32.0km s-min=19.0km az=114.0*
*NEIC **20** 11:53:32.5±0.5, 48°.1S±0°.1×104°.2E±0°.3, h10km±2km, mb4.3/8, Error ellipse: s-maj=41.7km s-min=9.6km az=315.0*

ISC 20 11:53:32.2±0.8, 48°.1S±0°.1×104°.3E±0°.2, h10km, n31, σ0°.45/18, mb4.1/10, MS3.5/13, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.08**	**33**	T	T	12 12 38.1	
	baz=206,slow=74,SNR=51						
H01W1	**Cape Leeuwin H**	**15.09**	**33**	T	T	12 12 38.9	
	baz=206,slow=74,SNR=166						
H01W3	**Cape Leeuwin H**	**15.09**	**33**	T	T	12 12 39.1	
	baz=206,slow=74,SNR=46						
NWAO	**Narrogin (SRO)**	**18.01**	**37**	LR	LR	12 03 03.2	
	comp=Z,261nm,19.6s,baz=86,slow=32						
MORW	**Morawa**	**21.04**	**30**	P	**P**	**11 58 16.3**	**+0.1**
MORW				IAmb	IAmb	11 58 24.2	
	comp=Z,13nm,1.0s						
MAW	**Mawson**	**28.61**	**212**	LR	LR	12 08 43.0	
	comp=Z,167nm,19.2s,baz=34,slow=32						
STKA	**Stephens Creek**	**32.46**	**74**	LR	LR	12 12 01.2	
	comp=Z,99nm,19.3s,baz=207,slow=34						
ASAR	**Alice Springs**	**33.83**	**54**	P	**P**	**12 00 15.4**	**+0.7**
	comp=Z,1.8nm,1.0s,baz=210,slow=7.4,SNR=8.7						
ASAR				LR	LR	12 12 48.5	
	comp=Z,94nm,18.3s,baz=270,slow=34						
	comp=Z,1.8nm,1.0s						
VNDA	**Vanda**	**36.63**	**162**	P	**P**	**12 00 38.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=282,slow=8.6,SNR=7.3						
	comp=Z,1.2nm,0.9s						
VNDA	**Vanda**	**36.63**	**162**	P	**P**	**12 00 38.4**	**+0.2**
WRA	**Warramunga Arr**	**37.09**	**51**	P	**P**	**12 00 43.2**	**+0.5**
	comp=Z,4.3nm,1.1s,baz=216,slow=8.3,SNR=16						
WRA				LR	LR	12 14 23.5	
	comp=Z,205nm,18.4s,baz=250,slow=34						
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**37.09**	**51**	P	**P**	**12 00 42.0**	**-0.7**
WB2	**Warramunga Arr**	**37.10**	**51**	P	**P**	**12 00 43.0**	**+0.2**
WRAB	**Tennant Creek**	**37.11**	**51**	P	**P**	**12 00 43.0**	**+0.1**
WR0	**Warramunga Arr**	**37.18**	**52**	P	**P**	**12 00 43.5**	**0.0**
WR0				IAmb	IAmb	12 00 45.5	
	comp=Z,8.8nm,1.3s						
WB0	**Warramunga Arr**	**37.27**	**51**	P	**P**	**12 00 44.2**	**0.0**
WB0				IAmb	IAmb	12 00 46.4	
	comp=Z,9.3nm,1.2s						
LEM	**Lembang**	**41.21**	**5**	LR	LR	12 14 17.4	
	comp=Z,74nm,20.6s,baz=183,slow=30						
QSPA	**South Pole Qui**	**42.05**	**180**	P	**P**	**12 01 24.0**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=321,slow=1.9,SNR=11						
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**42.05**	**180**	P	**P**	**12 01 23.2**	**-0.5**
QSPA				IAmb	IAmb	12 01 25.5	
	comp=Z,4.0nm,1.0s						
KAPI	**Kappang**	**44.91**	**22**	LR	LR	12 21 15.8	
	comp=Z,40nm,19.0s,baz=232,slow=37						
SNAA	**Sanae**	**50.11**	**203**	P	**P**	**12 02 27.0**	**0.0**
	comp=Z,2.1nm,0.8s,baz=150,slow=7.5,SNR=7.0						
SNAA				LR	LR	12 21 04.7	
	comp=Z,80nm,19.9s,baz=185,slow=33						
	comp=Z,2.1nm,0.8s						
PSI	**Prapat**	**50.90**	**353**	LR	LR	12 21 17.5	
	comp=Z,53nm,19.5s,baz=232,slow=33						
PALK	**Pallekele**	**58.93**	**332**	LR	LR	12 24 59.5	
	comp=Z,38nm,18.4s,baz=238,slow=32						
BOSA	**Boshof**	**62.27**	**257**	LR	LR	12 25 31.6	
	comp=Z,26nm,18.6s,baz=185,slow=31						
SUR	**Sutherland**	**62.64**	**251**	LR	LR	12 24 31.5	
	comp=Z,23nm,20.8s,baz=178,slow=30						
CMAR	**Chiang Mai Arr**	**66.42**	**354**	P	**P**	**12 04 20.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=190,slow=5.8,SNR=5.1						
CMAR				LR	LR	12 29 02.6	
	comp=Z,16nm,21.6s,baz=55,slow=32						
	comp=Z,0.4nm,0.3s						
LSZ	**Lusaka**	**69.55**	**270**	P	**P**	**12 04 42.0**	**+0.5**
	comp=Z,2.5nm,0.5s,baz=91,slow=1.7,SNR=3.7						
	comp=Z,2.5nm,0.5s						
PLCA	**Paso Flores**	**91.44**	**184**	LR	LR	12 46 13.6	
	comp=Z,66nm,18.1s,baz=194,slow=35						
LPIG	**La Paz**	**143.66**	**119**	PKP	**PKPdf**	**12 13 06.7**	**-0.5**
	comp=Z,26nm,0.4s,baz=168,slow=2.9,SNR=4.1						
NVAR	**Mina Array Bea**	**147.86**	**91**	PKPbc	**PKPbc**	**12 13 17.7**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=217,slow=4.8,SNR=13						
TXAR	**Lajitas Array**	**151.48**	**121**	PKPbc	**PKPbc**	**12 13 25.7**	**-0.6**
	comp=Z,0.8nm,1.1s,baz=198,slow=3.6,SNR=4.8						

*IDC **20** 12:07:49.3±1.2, 34°.62N×23°.86E, h0km, mb3.8/8, mbtmp3.8/13, ML3.8/4, MS4.1/1, Error ellipse: s-maj=24.3km s-min=11.4km az=151.0*
*ATH **20** 12:07:53.7, 34°.59N×24°.04E, h40km±2km, ML3.5/6, Error ellipse: s-maj=4.3km s-min=2.1km az=12.0*
*THE **20** 12:07:56.4, 34°.67N×24°.12E, h17km, ML3.2/10, Error ellipse: s-maj=2.2km s-min=0.9km az=190.0*
*GII **20** 12:08:00.1±0.0, 34°.79N×25°.03E, h20km*

ISC 20 12:07:53.0±1.2, 34°.52N±0°.06×24°.11E±0°.04, h30km±7km, n47, σ1°91/68, mb3.8/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.32**	**356**	P	**Pb**	**12 08 01.3**	**+0.7**
GVD				S	**Sb**	**12 08 03.6**	**-2.2**
	19μm,0.4s						
GVD	**Gavdhos**	**0.32**	**356**	P	**Pb**	**12 08 01.3**	**+0.7**
GVD				S	**Sn**	**12 08 06.7**	**-0.5**
GVD				AML	AML	12 08 07.6	
	comp=N,44279μm,0.4s						
GVD				AML	AML	12 08 08.2	
	comp=E,33346μm,0.3s						
GVDS	**Gavdos**	**0.32**	**357**	P	**Pb**	**12 08 01.3**	**+0.6**
GVDS				S	**Sb**	**12 08 04.2**	**-1.7**
	comp=E,16μm,0.2s						
SIVA	**Sivas**	**0.76**	**49**	P	**Pn**	**12 08 09.9**	**+2.3**
SIVA				S	**Sn**	**12 08 18.9**	**+0.8**
	comp=E,12μm,0.7s						
SIVA	**Sivas**	**0.76**	**49**	P	**Pn**	**12 08 09.7**	**+2.1**
SIVA				S	**Sn**	**12 08 21.1**	**+3.0**
SIVA				AML	AML	12 08 25.0	
	comp=E,23473μm,0.5s						
SIVA				AML	AML	12 08 25.1	
	comp=N,10665μm,0.8s						
TMBK	**Timbaki Herakl**	**0.77**	**44**	P	**Pn**	**12 08 09.6**	**+1.8**
TMBK				S	**Sb**	**12 08 18.7**	**+0.8**
	comp=N,2μm,0.6s						
KNDR	**Palaiochora Ch**	**0.79**	**334**	P	**Pn**	**12 08 09.1**	**+1.0**
KNDR				S	**Sn**	**12 08 20.0**	**+1.1**
	comp=N,3μm,0.8s						
PRNS	**Prines Rethymn**	**0.90**	**21**	P	**Pb**	**12 08 09.4**	**-0.6**
PRNS				S	**Sb**	**12 08 20.8**	**-0.9**
	comp=N,1μm,0.7s						
IMMV	**Iera Moni Meta**	**0.94**	**354**	P	**Pb**	**12 08 10.2**	**-0.6**
IMMV				S	**Sn**	**12 08 23.6**	**+0.9**
	comp=N,7μm,0.7s						
IMMV	**Iera Moni Meta**	**0.94**	**354**	P	**Pb**	**12 08 10.6**	**-0.1**
IMMV				S	**Sn**	**12 08 23.9**	**+1.2**
IMMV				AML	AML	12 08 25.2	
	comp=E,15025μm,0.5s						
IMMV				AML	AML	12 08 25.7	
	comp=N,12658μm,0.4s						
IDI	**Anoyia**	**1.00**	**40**	Pg	**Pn**	**12 08 11.8**	**+0.8**
	comp=N,40nm,0.3s,baz=225,slow=13,SNR=123						
IDI				Lg	Lg	12 08 25.8	
	comp=N,59nm,0.3s,baz=322,slow=19,SNR=11						
IDI				LR	LR	12 08 56.7	
	comp=N,293nm,21.2s,baz=261,slow=63						
IDI	**Anoyia**	**1.00**	**40**	P	**Pb**	**12 08 12.2**	**+0.5**
IDI				S	**Sn**	**12 08 25.2**	**+1.1**
	comp=N,1μm,0.6s						
IDI	**Anoyia**	**1.00**	**40**	P	**Pb**	**12 08 12.3**	**+0.5**
IDI				S	**Sn**	**12 08 25.4**	**+1.3**
IDI				AML	AML	12 08 30.8	
	comp=N,2416μm,0.6s						
IDI				AML	AML	12 08 33.5	
	comp=E,2267μm,0.7s						
ANKY	**Antikythira Is**	**1.50**	**334**	P	**Pb**	**12 08 19.5**	**-0.6**
ANKY				S	**Sb**	**12 08 37.4**	**-1.3**
ANKY	**Antikythira Is**	**1.50**	**334**	P	**Pb**	**12 08 19.5**	**-0.6**
ANKY				AML	AML	12 08 47.8	
	comp=N,1466μm,0.7s						
ANKY				AML	AML	12 09 07.8	
	comp=E,1237μm,0.9s						
ZKR	**Zakros**	**1.83**	**71**	P	**Pb**	**12 08 25.4**	**-0.4**
KTHA	**Kythira Island**	**1.93**	**334**	P	**Pn**	**12 08 25.4**	**+1.6**
KTHA	**Kythira Island**	**1.93**	**334**	P	**Pn**	**12 08 25.6**	**+1.8**
KTHA				AML	AML	12 09 01.1	
	comp=E,1348μm,0.8s						
KTHA				AML	AML	12 09 04.8	
	comp=N,510μm,1.1s						
KTHR	**Kythira**	**1.96**	**333**	P	**Pn**	**12 08 26.2**	**+2.1**
KTHR				S	**Sn**	**12 08 49.5**	**+1.8**
	comp=N,270nm,0.5s						
THR6	**Thira Island,**	**2.11**	**29**	P	**Pn**	**12 08 27.9**	**+1.7**
THR5	**Thira Island,**	**2.14**	**28**	P	**Pn**	**12 08 27.8**	**+1.1**
SANT	**Santorini**	**2.15**	**30**	P	**Pn**	**12 08 28.0**	**+1.2**
MHLO	**Agia Marina, M**	**2.17**	**6**	P	**Pn**	**12 08 27.4**	**+0.3**
MHLO				S	**Sn**	**12 08 53.4**	**+0.3**
THR8	**Santorini-Mono**	**2.19**	**30**	P	**Pn**	**12 08 28.3**	**+1.0**
VLI	**Veliai**	**2.39**	**337**	P	**Pn**	**12 08 32.1**	**+2.0**
VLI				S	**Sn**	**12 08 59.3**	**+0.9**
	comp=N,168nm,0.9s						
VLI	**Veliai**	**2.39**	**337**	P	**Pn**	**12 08 31.8**	**+1.7**
KARP	**Karpathos**	**2.70**	**67**	P	**Pn**	**12 08 37.4**	**+2.9**
KARP				S	**Sn**	**12 09 09.1**	**+3.0**
APE	**Apeiranthos**	**2.79**	**24**	Pn	**Pn**	**12 08 35.6**	**0.0**
APE				Sn	**Sn**	**12 09 05.8**	**-2.5**
APE	**Apeiranthos**	**2.79**	**24**	P	**Pn**	**12 08 35.7**	**0.0**
DION	**Dionisos Attik**	**3.55**	**358**	P	**Pn**	**12 08 46.1**	**0.0**
BRTR	**Keskin Array B**	**9.21**	**53**	Pn	**Pn**	**12 10 06.1**	**+2.2**
	comp=N,1.2nm,0.8s,baz=232,slow=14,SNR=5.6						
DSI	**Dead Sea**	**9.90**	**104**	Pn	**Pn**	**12 10 12.9**	**-0.4**
DSI				Sn	Sn	12 11 56.7	-6.8
KRMI	**Paran Flat**	**9.99**	**113**	Pn	**Pn**	**

JOB eS Sn 12 13 21.5 +1.9
JCH Churui 5.16 249 eP Pn 12 12 33.1 +1.0
JCH eS Sn 12 13 31.4 +1.0
JKK2 Kamakawa 2 5.19 264 eP Pn 12 12 36.5 +3.9
YSS Yuzh-Sakhalins 5.48 297 Pn Pn 12 12 36.5 -0.1
YSS Yuzh-Sakhalins 5.48 297 ePN Pn 12 12 37.8 +1.2
YSS eS Sn 12 13 41.1 +2.7
YSS pmax pmax
comp=Z,40nm,1.2s
YSS smax smax
comp=E,40nm,0.8s
YSS MLR MLR
comp=Z,1µm,15.0s
YSS Yuzh-Sakhalins 5.48 297 eP Pn 12 12 38.0 +1.4
YSS eS Sn 12 13 40.5 +2.1
ERM Erimo 5.58 244 Pn Pn 12 12 40.4 +2.5
ERM Erimo 5.58 244 dePN Pn 12 12 40.9 +3.0
ERM pmax pmax
comp=Z,72nm,0.7s
JAB Ashibetsu 5.64 261 eP Pn 12 12 43.2 +4.4
JNBK Urakawa-nobuka 5.71 248 eP Pn 12 12 40.5 +0.7
JRBN Rebuntou 6.29 280 eP Pn 12 12 53.4 +5.6
JEW Eniwo 6.38 256 Pn Pn 12 12 50.8 +1.9
UGL Uglegorsk 6.94 312 eP Pn 12 12 59.5 +2.9
UGL AMB AMB 12 13 01.6
comp=Z,60nm,0.7s
SKR Severo-Kuril's 7.34 33 ePN Pn 12 13 02.9 +0.8
SKR pmax pmax
comp=Z,54nm,0.7s
SKR Severo-Kuril's 7.34 33 eP Pn 12 13 01.7 -0.4
SKR AMB AMB 12 13 04.4
comp=Z,50nm,0.7s
SKR AMB AMB 12 13 05.0
comp=Z,160nm,2.0s
SKR eS Sn 12 14 19.7 -4.4
SKR A A 12 14 26.8
comp=Z,160nm,2.0s
SKR A A 12 14 26.8
comp=Z,140nm,2.0s
SKR A A 12 14 27.4
comp=Z,60nm,0.8s
SKR A A 12 14 27.4
comp=Z,80nm,0.8s
JANG Nango 7.52 238 eP Pn 12 13 04.0 -0.7
JANG eS Sn 12 14 23.9 -4.8
JTM Tenmabayashi 7.56 242 Pn Pn 12 13 05.8 +0.6
JTH Tanohata 7.59 234 eP Pn 12 13 04.5 -1.1
JTH eS Sn 12 14 24.4 -6.0
TYV Tymovskoe 7.88 324 ePN Pn 12 13 11.3 +1.8
TYV eS Sn 12 14 40.4 +3.0
TYV pmax pmax
comp=Z,12nm,0.5s
TYV pmax pmax
comp=Z,100nm,3.9s
TYV smax smax
comp=N,100nm,5.0s
TYV smax smax
comp=N,10.0nm,1.3s
TYV smax smax
comp=E,14nm,1.3s
TYV MLR MLR
comp=N,600nm,15.0s
TYV MLR MLR
comp=Z,600nm,15.0s
TYV Tymovskoe 7.88 324 eP Pn 12 13 11.3 +1.8
TYV AMB AMB 12 13 14.9
comp=Z,10.0nm,0.5s
TYV AMB AMB 12 13 17.8
comp=Z,100nm,3.9s
TYV eS Sn 12 14 38.4 +1.0
TYV A A 12 14 49.7
comp=Z,110nm,3.0s
TYV A A 12 14 49.7
comp=Z,100nm,3.0s
PAU Pauzhetka 8.23 32 eP Pn 12 13 14.9 +0.6
PAU AMB AMB 12 13 24.2
comp=Z,30nm,0.4s
PAU eS Sn 12 14 42.9 -3.1
PAU A A 12 14 47.1
comp=Z,100nm,0.4s
PAU A A 12 14 47.1
comp=Z,50nm,0.4s
TEY Ternei 9.44 277 ePN Pn 12 13 32.6 +1.7
TEY Ternei 9.44 277 eP Pn 12 13 33.8 +2.9
JMM Marumori 9.64 228 Pn Pn 12 13 33.6 0.0
PEA0B Petropavlovsk- 9.89 29 Pn Pn 12 13 35.7 -1.3
PEA0B Petropavlovsk- 9.89 29⇑ ePN Pn 12 13 35.5 -1.5
PETK Petropavlovsk- 9.89 29 Pn Pn 12 13 34.9 -2.1
comp=Z,0.6nm,0.3s,baz=204,slow=14,SNR=6.9
PETK Sn Sn 12 15 30.5 +3.9
baz=202,slow=11
PETK LR LR 12 17 20.3
comp=Z,407nm,20.5s,baz=218,slow=38
comp=Z,2.2nm,0.7s
PETK Petropavlovsk- 9.89 29 Pn Pn 12 13 36.5 -0.5
PETK Petropavlovsk- 9.89 29 PN Pn 12 13 36.5 -0.5
PET Petropavlovsk 10.16 31 ePN Pn 12 13 48.4 +7.7
PET eS Sn 12 15 38.1 +4.8
PET MLR MLR
comp=Z,600nm,19.0s
PET MLR MLR
comp=Z,600nm,16.0s
PET Petropavlovsk 10.16 31 eP Pn 12 13 40.9 +0.2
PET eS Sn 12 15 29.0 -4.3
JSD Sado 10.96 237 Pn Pn 12 13 52.0 +0.3
MJAR Matsushiro Arr 12.01 232 Pn Pn 12 14 06.2 0.0
comp=Z,0.1nm,0.3s,baz=348,slow=19,SNR=1.8
MJAR LR LR 12 19 01.0
comp=Z,194nm,21.9s,baz=44,slow=39
comp=Z,0.9nm,0.4s
USA0B Ussuriysk Arra 12.80 274 Pn Pn 12 14 15.7 -1.2
USA0B Ussuriysk Arra 12.80 274 PN Pn 12 14 15.7 -1.2
USRK Ussuriysk Ar. 12.80 274 Pn Pn 12 14 17.0 +0.1
comp=Z,0.5nm,0.3s,baz=84,slow=14,SNR=10
USRK LR LR 12 19 37.1
comp=Z,321nm,18.0s,baz=74,slow=40
comp=Z,8.7nm,0.7s
USRK Ussuriysk Ar. 12.80 274 Pn Pn 12 14 18.8 +1.9
USRK Ussuriysk Ar. 12.80 274 PN Pn 12 14 18.8 +1.9
KLR Kul'dur 13.20 297 Pn Pn 12 14 21.5 -0.8
baz=124,slow=16,SNR=1.7
KLR LR LR 12 19 46.1
comp=Z,329nm,18.6s,baz=109,slow=39
comp=Z,0.2nm,0.2s
KLR Kul'dur 13.20 297⇑ ePN Pn 12 14 21.8 -0.4
KLR pmax pmax
comp=Z,5.0nm,2.0s
KLR Kul'dur 13.20 297 eP Pn 12 14 21.8 -0.4
MA2 Magadan 14.94 2 Pn Pn 12 14 43.6 -2.3
comp=Z,3.4nm,0.7s,baz=217,slow=16,SNR=1.4
MA2 LR LR 12 20 10.6
comp=Z,188nm,20.2s,baz=186,slow=36
MA2 Magadan 14.94 2 Pn Pn 12 14 45.4 -0.5
MA2 Magadan 14.94 2 P Pn 12 14 45.4 -0.5
MA2 Magadan 14.94 2 eP Pn 12 14 45.4 -0.5
ZEA Zeya 17.29 310 eP P 12 15 18.1 +1.0
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,100nm,12.0s
ZEA MLR MLR
comp=N,100nm,13.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
ZEA Zeya 17.29 310 eP Pn 12 15 13.2 -2.7
CN2 Changchun 17.52 276 eP Pn 12 15 17.8 -1.1
CN2 ePP pwP 12 15 33.3 +1.6
CN2 eS Sn 12 18 28.0 -4.8
CN2 eSS S 12 18 42.5 +2.6
CN2 LR LR
comp=Z,290nm,16.0s
CN2 LR LR
comp=Z,350nm,16.0s
CN2 LR LR
comp=Z,310nm,16.0s
SHEM Shemya Is, Ala 17.84 55 LR LR 12 23 37.1
comp=Z,46nm,18.0s,baz=282,slow=42
KSRS Korea Array 18.03 254 P Pn 12 15 25.2 +0.1
comp=Z,0.3nm,0.3s,baz=58,slow=11,SNR=8.5
comp=Z,2.4nm,0.7s
KSCHJ Chungju 18.30 252 P P 12 15 28.1 -0.2
KSCHJ IAmb IAmb 12 16 01.1
comp=Z,60nm,1.5s
SEY Seymchan 18.36 4 P P 12 15 27.0 -1.8
comp=Z,0.3nm,0.3s,baz=189,slow=11,SNR=6.5
comp=Z,1.7nm,0.4s
JCJ Chichijima 18.59 202 P P 12 15 30.1 -1.6
YAK Yakutsk 21.00 333 P P 12 15 54.9 -2.7
comp=Z,8.9nm,0.4s,baz=136,slow=1.2,SNR=6.4
YAK LR LR 12 24 36.4
comp=Z,215nm,18.6s,baz=90,slow=39
comp=Z,8.9nm,0.4s
YAK Yakutsk 21.00 333 P P 12 15 56.4 -1.2
YAK Yakutsk 21.00 333 eP P 12 15 55.9 -1.7
YAK e 12 16 14.8
YAK eS S 12 19 47.7 -1.7
YAK e*SS pS 12 20 02.5 -0.6
YAK eSS SnSn 12 20 14.5 +3.1
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,22nm,1.6s
YAK pmax pmax
comp=E,16nm,1.1s
YAK smax smax
comp=E,31nm,1.9s
YAK smax smax
comp=N,23nm,1.8s
YAK MLR MLR
comp=Z,253nm,19.0s
YAK MLR MLR
comp=N,326nm,19.0s
YAK MLR MLR
comp=E,97nm,17.0s
XLT XiLinHaoTe 24.12 280⇓ iP P 12 16 30.8 +0.8
XLT pP sP 12 16 41.3 -0.8
XLT S S 12 20 44.5 -0.9
XLT pmax pmax
comp=E,15nm,0.8s
XLT pmax pmax
comp=E,61nm,3.8s
XLT LR LR
comp=E,370nm,13.2s
XLT LR LR
comp=E,270nm,12.7s
BILL Bilibino 24.96 15 eP P 12 16 36.9 -0.3
BILL e 12 16 55.6
BILL e 12 17 11.6
BILL ePPP PPP 12 17 20.1
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,148nm,18.0s
BILL Bilibino 24.96 15 eP P 12 16 36.9 -0.3
HNS HongShan 27.35 267⇓ P P 12 17 02.6 +3.5
HNS pmax pmax
comp=Z,12nm,1.2s
HHC Hu-ho-hao-te 28.22 276 eP P 12 17 07.8 +0.8
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,100nm,3.6s
HHC LR LR
comp=Z,310nm,15.2s
HHC LR LR
comp=Z,540nm,15.9s
HHC LR LR
comp=Z,580nm,15.9s
H11N2 WAKE ISLAND Hy 28.61 145 T T 12 48 01.9
baz=335,slow=76,SNR=846
H11N1 WAKE ISLAND Hy 28.62 145 T T 12 48 08.0
baz=335,slow=76,SNR=706
H11N3 WAKE ISLAND Hy 28.63 145 T T 12 48 03.1
baz=335,slow=76,SNR=690
TIXI Tiksi 28.90 346 P P 12 17 09.1 -3.5
comp=Z,5.2nm,0.7s,baz=92,slow=22,SNR=3.8
comp=Z,5.2nm,0.7s
TIXI Tiksi 28.90 346⇓ eP P 12 17 11.0 -1.6
TIXI pmax pmax
comp=Z,6.0nm,1.1s
BTO Baotou 29.40 276 eP P 12 17 26.3 +8.8
ULN Ulaanbaatar 29.50 292⇓ eP P 12 17 19.0 +0.6
ULN pmax pmax
comp=Z,8.0nm,2.5s
ULN Ulaanbaatar 29.50 292 eP P 12 17 19.0 +0.6
H11S1 WAKE ISLAND Hy 29.63 146 T T 12 49 26.5
baz=336,slow=76,SNR=914
H11S3 WAKE ISLAND Hy 29.64 146 T T 12 49 16.2
baz=336,slow=76,SNR=501
H11S2 WAKE ISLAND Hy 29.65 146 T T 12 49 15.0
baz=336,slow=76,SNR=452
YOJ Yonaguni jima 29.71 236 P P 12 17 18.7 -1.5
YOJ Yonaguni jima 29.71 236 P P 12 17 18.7 -1.5
YOJ pmax pmax
comp=Z,106nm,0.9s
SONM Songino Array 29.95 292 P P 12 17 21.8 -0.5
comp=Z,1.0nm,0.6s,baz=88,slow=7.9,SNR=6.5
SONM PcP PcP 12 20 24.0 -0.1
comp=Z,0.3nm,0.4s,baz=122,slow=2.4,SNR=3.8
SONM LR LR 12 30 20.1
comp=Z,151nm,20.0s,baz=138,slow=38
comp=Z,1.0nm,0.6s
SONM Songino Array 29.95 292 P P 12 17 19.9 -2.5
LYN LuoYang 30.31 264⇑ eP P 12 17 25.9 +0.4
LYN S S 12 22 27.6 +4.4
LYN pmax pmax
comp=Z,10.0nm,0.3s
LYN pmax pmax
comp=Z,110nm,6.5s
LYN LR LR
comp=Z,170nm,9.5s
LYN LR LR
comp=Z,130nm,13.0s
XAN Xi'an 33.09 266 P P 12 17 50.6 +0.6
XAN pP pP 12 18 00.0 +1.3
XAN pmax pmax
comp=Z,6.0nm,0.8s
CHNA Chernabura Isl 33.50 54 P P 12 17 54.0 +0.8
baz=274
O17K Koliganek Bris 34.77 45 P P 12 18 05.0 +0.8
baz=269
LZH Lanzhou 35.70 272 eP P 12 18 14.1 +1.4
LZH pP pwP 12 18 29.0 +3.0
LZH sP sP 12 18 32.9 +8.0
LZH pmax pmax
comp=Z,26nm,1.5s
O18K Koktuh Hills 35.72 45 P P 12 18 13.2 +0.8
baz=270
N19K Bonanza Creek 36.09 43 P P 12 18 16.5 +0.8
baz=269
M19K Big River Lodg 36.16 42 P P 12 18 17.0 +0.8
baz=268
K20K Telida 36.39 39 P P 12 18 19.1 +1.0
K20K IAmb IAmb 12 18 20.2
comp=Z,18nm,1.5s
K20K Telida 36.39 39 P P 12 18 18.6 +0.5
baz=266
J20K Nowinta River 36.42 38 P P 12 18 19.0 +0.7
J20K IAmb IAmb 12 18 20.0
comp=Z,9.1nm,0.8s
J20K Nowinta River 36.42 38 P P 12 18 19.1 +0.9
baz=265,SNR=5.5
SII Sitkinak Islan 36.42 51 P P 12 18 20.1 +1.7
baz=276
M20K Styx River 36.76 42 P P 12 18 21.3 0.0
M20K IAmb IAmb 12 18 23.6
comp=Z,8.6nm,0.8s
M20K Styx River 36.76 42 P P 12 18 22.1 +0.8
baz=269
IMAR Indian Mountai 36.78 35 P P 12 18 20.9 -0.4
A21K Barrow 36.87 26 P P 12 18 22.1 +0.1
A21K Barrow 36.87 26 P P 12 18 22.9 +0.8
baz=253
G21K Allakaket 36.94 34 P P 12 18 23.5 +0.7
baz=263,SNR=6.5
F21K Alatna River 37.05 33 P P 12 18 24.3 +0.6
baz=262
GTA Gaotai 37.08 280⇑ P P 12 18 25.6 +1.2
GTA pP sP 12 18 37.0 +0.4
GTA sP pwP 12 18 40.8 +3.0
GTA PcP PcP 12 20 45.8 +1.4
GTA pmax pmax
comp=Z,17nm,0.9s
GTA pmax pmax
comp=Z,51nm,4.0s
GTA LR LR
comp=Z,140nm,16.7s
GTA LR LR
comp=Z,130nm,16.0s
GTA LR LR
comp=Z,170nm,14.2s
H21K Melozitna Rive 37.13 35 P P 12 18 23.4 -1.0
H21K IAmb IAmb 12 18 26.0
comp=Z,8.9nm,0.9s
H21K Melozitna Rive 37.13 35 P P 12 18 25.1 +0.8
baz=264,SNR=5.8
KDAK Kodiak Island 37.18 48 P P 12 18 22.9 -1.9
comp=Z,13nm,0.8s,baz=290,slow=8.3,SNR=5.5
comp=Z,13nm,0.8s
KDAK Kodiak Island 37.18 48 P P 12 18 25.1 +0.3
KDAK Kodiak Island 37.18 48 P P 12 18 25.1 +0.3
KDAK pmax pmax
comp=Z,35nm,1.3s
KDAK Kodiak Island 37.18 48 P P 12 18 25.2 +0.3
baz=275
N20K Mount Spurr 37.20 43 P P 12 18 26.0 +0.9
baz=271
SPCR Spurr Chakacha 37.20 43 P P 12 18 25.9 +0.8
baz=271
CHUM Lake Minchumin 37.20 38 P P 12 18 25.8 +0.8
baz=267
Q20K Shuyak Island 37.21 47 P P 12 18 25.5 +0.4
baz=274
CAST Castle Rocks 37.28 39 P P 12 18 27.1 +1.4
CAST Castle Rocks 37.28 39 P P 12 18 26.7 +1.0
baz=268,SNR=11
I21K Tanana 37.43 36 P P 12 18 27.2 +0.3
I21K Tanana 37.43 36 P P 12 18 27.8 +0.9
baz=266
SKT Skwentna 37.52 41 P P 12 18 27.2 -0.5
SKT IAmb IAmb 12 18 30.1
comp=Z,8.6nm,1.2s
SKT Skwentna 37.52 41 P P 12 18 29.0 +1.3
baz=270
F22K John River 37.59 32 P P 12 18 29.0 +0.8
baz=263
CAPN Captain Cook N 37.72 43 P P 12 18 29.7 +0.4
baz=272
H22K Ishtalitna Cre 37.73 35 P P 12 18 29.9 +0.4
baz=266
G22K Bettles 37.78 33 P P 12 18 30.2 +0.4
baz=264
BPAW Bear Paw Mtn. 37.80 38 P P 12 18 29.5 -0.5
BPAW IAmb IAmb 12 19 06.1
comp=Z,6.4nm,1.0s
BPAW Bear Paw Mtn. 37.80 38 P P 12 18 30.7 +0.7
baz=268
KTH Kantishna Hill 37.81 39 P P 12 18 29.9 -0.3
SUA Susitna One 37.90 42 P P 12 18 30.4 -0.6
SUA IAmb IAmb 12 18 52.2
comp=Z,12nm,1.2s
SUA Susitna One 37.90 42 P P 12 18 31.6 +0.5
baz=272
MLY Manley 37.94 36 P P 12 18 31.2 -0.1
MLY IAmb IAmb 12 18 33.2
comp=Z,5.6nm,0.7s
MLY Manley 37.94 36 P P 12 18 32.1 +0.8
baz=267,SNR=7.8
TRF Thorofare Moun 38.09 39 P P 12 18 33.2 +0.4
TRF IAmb IAmb 12 18 35.2
comp=Z,5.2nm,0.6s
TRF Thorofare Moun 38.09 39 P P 12 18 33.1 +0.4
baz=270
CUT Chulitna 38.10 41 P P 12 18 32.8 +0.2
baz=271
COLD Coldfoot 38.32 33 P P 12 18 34.7 +0.3
COLD IAmb IAmb 12 18 35.9
comp=Z,8.3nm,0.8s
COLD Coldfoot 38.32 33 P P 12 18 34.9 +0.5
baz=265,SNR=6.0
D23K Nanushuk River 38.34 30 P P 12 18 35.0 +0.5
baz=262
G23K Bananza Creek 38.34 34 P P 12 18 35.2 +0.6
baz=266,SNR=5.4
RC01 Rabbit Creek A 38.40 43 P P 12 18 35.6 +0.5
RC01 IAmb IAmb 12 18 35.8
comp=Z,7.5nm,0.9s
RC01 Rabbit Creek A 38.40 43 P P 12 18 35.4 +0.3
baz=273
O22K Cooper Landing 38.44 44 P P 12 18 36.2 +0.8
baz=274
CD2 Chengdu 38.45 265 P P 12 18 36.8 +0.9
CD2 pmax pmax
comp=Z,30nm,0.7s
BWN Browne 38.46 38 P P 12 18 35.8 +0.1
H23K Yukon River 38.48 35 P P 12 18 35.2 -0.6
H23K IAmb IAmb 12 18 37.9
comp=Z,7.9nm,0.8s
H23K Yukon River 38.48 35 P P 12 18 37.0 +1.2
baz=267,SNR=7.4
C23K Itkillik River 38.49 29 P P 12 18 36.3 +0.5
baz=261
E23K Chandalar 38.62 32 P P 12 18 37.9 +0.8
baz=264,SNR=5.4
NEA2 Nenana 38.64 37 P P 12 18 37.9 +0.7
NEA2 IAmb IAmb 12 18 38.6
comp=Z,8.1nm,0.7s
NEA2 Nenana 38.64 37 P P 12 18 37.8 +0.7
baz=269,SNR=13
PMR Palmer 38.67 42 P P 12 18 37.2 -0.1
PMR Palmer 38.67 42 P P 12 18 37.2 -0.1
PMR pmax pmax
comp=Z,5.0nm,0.8s
PMR Palmer 38.67 42 P P 12 18 38.2 +0.9
baz=273
MCK McKinley 38.70 39 P P 12 18 38.1 +0.5
MCK IAmb IAmb 12 18 40.1
comp=Z,6.5nm,0.7s
MCK McKinley 38.70 39 P P 12 18 38.1 +0.5
MCK pmax pmax
comp=Z,7.0nm,0.7s
MCK McKinley 38.70 39 P P 12 18 37.9 +0.3
baz=270
TOLK Toolik Lake Re 38.70 31 P P 12 18 38.2 +0.6
TOLK IAmb IAmb 12 18 39.2
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 38.70 31 P P 12 18 38.2 +0.6
baz=264
RND Reindeer 38.74 39 P P 12 18 37.8 -0.2
RND IAmb IAmb 12 18 38.9
comp=Z,7.6nm,0.9s
RND Reindeer 38.74 39 P P 12 18 37.8 -0.2
RND pmax pmax
comp=Z,8.0nm,0.9s
GHO Glory Hole Cre 38.76 42 P P 12 18 38.5 +0.3
GHO IAmb IAmb 12 18 39.4
comp=Z,10nm,0.9s
WAT1 Susitna Watana 38.89 40 P P 12 18 39.0 -0.3
baz=272
KNK Knik Glacier 39.00 42 P P 12 18 39.3 -0.9
KNK IAmb IAmb 12 18 56.1
comp=Z,18nm,1.1s
KNK Knik Glacier 39.00 42 P P 12 18 40.4 +0.2
baz=274
MDM Murphy Dome 39.01 37 P P 12 18 40.8 +0.6
MDM IAmb IAmb 12 18 41.8
comp=Z,10nm,0.7s
D24K Happy Valley 39.03 30 P P 12 18 40.7 +0.4
baz=264
SML Sawmill 39.03 42 P P 12 18 40.8 +0.3
SML Sawmill 39.03 42 P P 12 18 41.0 +0.5
SML pmax pmax
comp=Z,29nm,0.8s
SML Sawmill 39.03 42 P P 12 18 40.8 +0.3
baz=273,SNR=15
E24K Your Creek 39.05 32 P P 12 18 41.6 +1.0
baz=266,SNR=9.1
WRH Wood River Hil 39.06 37 P P 12 18 41.1 +0.5
WRH IAmb IAmb 12 18 43.1
comp=Z,6.6nm,0.6s
PWL Port Wells 39.10 43 P P 12 18 40.5 -0.5
PWL IAmb IAmb 12 18 42.2
comp=Z,8.3nm,0.7s
PWL Port Wells 39.10 43 P P 12 18 41.4 +0.4
baz=275
C24K Franklin Bluff 39.13 29 P P 12 18 41.4 +0.3
baz=263
TCOL CIGO, UAF Yank 39.16 37 P P 12 18 42.4 +0.9
TCOL CIGO, UAF Yank 39.16 37 P P 12 18 42.1 +0.7
baz=270,SNR=5.3
COLA College 39.17 37 P P 12 18 42.2 +0.8
COLA College 39.17 37 P P 12 18 42.3 +0.8

COLA pmax pmax
comp=Z,13nm,0.7s
COLA College 39.17 37 P **P** **12 18 42.2 +0.8**
baz=270
H24K Noodor Dome 39.17 35 P **P** **12 18 42.4 +0.8**
H24K IAmb IAmb 12 19 00.6
comp=Z,6.1nm,0.8s
H24K Noodor Dome 39.17 35 P **P** **12 18 42.6 +1.0**
baz=269
CCB Clear Creek Bu 39.19 37 P **P** **12 18 42.0 +0.3**
F24K Squaw Lake 39.23 33 P **P** **12 18 42.5 +0.4**
baz=267
WAT6 Susitna Watana 39.27 40 P **P** **12 18 42.6 0.0**
baz=273
M23K Glacier View 39.32 42 P **P** **12 18 43.3 +0.5**
baz=274
POKR Poker Plat Res 39.34 36 P **P** **12 18 44.0 +1.0**
POKR Poker Plat Res 39.34 36 P **P** **12 18 43.8 +0.8**
baz=270,SNR=6.1
G24K Hadweenzic Riv 39.36 34 P **P** **12 18 44.5 +1.4**
baz=268,SNR=14
DHY Denali Highway 39.41 40 P **P** **12 18 43.7 -0.1**
DHY IAmb IAmb 12 18 44.8
comp=Z,8.2nm,0.7s
DHY Denali Highway 39.41 40 P **P** **12 18 43.9 +0.1**
baz=273,SNR=6.7
SCM Sheep Creek Mo 39.51 42 P **P** **12 18 45.4 +0.9**
SCM IAmb IAmb 12 19 03.4
comp=Z,10nm,0.8s
SCM Sheep Creek Mo 39.51 42 P **P** **12 18 45.4 +0.9**
SCM pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 39.51 42 P **P** **12 18 45.2 +0.7**
baz=274
HDA Harding Lake 39.56 37 P **P** **12 18 44.7 -0.1**
HDA Harding Lake 39.56 37 P **P** **12 18 45.0 +0.1**
baz=271,SNR=12
IL31 39.58 37 P **P** **12 18 45.0 +0.2**
IL31 IAmb IAmb 12 18 47.4
comp=Z,7.7nm,0.9s
ILAR Eielson Array 39.58 37 P **P** **12 18 44.6 -0.4**
comp=Z,4.6nm,0.8s,baz=264,slow=8.0,SNR=40
comp=Z,4.6nm,0.8s
ILAR Eielson Array 39.58 37 P **P** **12 18 45.1 +0.2**
ILAR Eielson Array 39.58 37 P **P** **12 18 45.1 +0.2**
D25K Kavik River 39.91 30 P **P** **12 18 48.1 +0.4**
baz=266
H25K Birch Creek 40.01 35 P **P** **12 18 49.6 +1.1**
baz=270
M24K Tolsona, Glenn 40.03 41 P **P** **12 18 47.7 -1.1**
M24K Tolsona, Glenn 40.03 41 P **P** **12 18 49.8 +1.0**
baz=275
F25K Christian Rive 40.10 32 P **P** **12 18 50.4 +1.1**
baz=269,SNR=7.1
E25K Arctic Village 40.14 32 P **P** **12 18 50.9 +1.3**
baz=268,SNR=5.1
PRP Porcupine Dome 40.14 36 P **P** **12 18 50.3 +0.5**
PRP IAmb IAmb 12 18 51.9
comp=Z,6.5nm,0.8s
PRP Porcupine Dome 40.14 36 P **P** **12 18 50.3 +0.5**
baz=271
KLU Klutina 40.21 42 P **P** **12 18 50.1 -0.1**
KLU Klutina 40.21 42 P **P** **12 18 50.9 +0.7**
baz=276,SNR=7.2
J25K Salcha River, 40.24 37 P **P** **12 18 50.2 -0.3**
J25K Salcha River, 40.24 37 P **P** **12 18 49.9 -0.6**
baz=273,SNR=7.2
FYU Fort Yukon 40.25 34 P **P** **12 18 51.0 +0.6**
PAX Paxson 40.29 40 P **P** **12 18 50.4 -0.6**
PAX Paxson 40.29 40 P **P** **12 18 50.4 -0.6**
PAX pmax pmax
comp=Z,7.0nm,1.2s
PAX Paxson 40.29 40 P **P** **12 18 51.4 +0.4**
baz=274
HARP HAARP 40.48 41 P **P** **12 18 53.1 +0.7**
baz=275
BMAR Burnt Mountain 40.51 33 P **P** **12 18 52.0 -0.7**
RIDG Independent Ri 40.51 38 P **P** **12 18 52.7 -0.1**
RIDG IAmb IAmb 12 19 10.5
comp=Z,7.7nm,0.8s
RIDG Independent Ri 40.51 38 P **P** **12 18 52.6 -0.1**
baz=274
F26K Sheenjek River 40.67 32 P **P** **12 18 55.2 +1.2**
baz=270,SNR=5.1
G26K Porcupine Rive 40.82 33 P **P** **12 18 56.5 +1.4**
baz=271,SNR=7.1
N25K Chitina, Valde 40.83 42 P **P** **12 18 55.4 0.0**
N25K Chitina, Valde 40.83 42 P **P** **12 18 56.0 +0.6**
baz=277
C27K Jago River 40.87 29 P **P** **12 18 56.0 +0.4**
baz=268
DOT Dot Lake 40.87 39 P **P** **12 18 55.4 -0.3**
SCRK Sand Creek 40.88 38 P **P** **12 18 55.3 -0.6**
SCRK Sand Creek 40.88 38 P **P** **12 18 55.9 0.0**
baz=274,SNR=8.6
BMRM Bremner River 40.90 43 P **P** **12 18 57.0 +1.0**
BMRM IAmb IAmb 12 18 58.7
comp=Z,10nm,0.8s
BMRM Bremner River 40.90 43 P **P** **12 18 56.4 +0.4**
baz=278,SNR=5.7
J26L Joseph Creek 41.02 37 P **P** **12 18 56.7 -0.3**
J26L Joseph Creek 41.02 37 P **P** **12 18 57.0 -0.1**
baz=274,SNR=6.5
MENT Mentasta 41.09 40 P **P** **12 18 56.3 -1.2**
I26K Coal Creek Min 41.14 36 P **P** **12 18 57.5 -0.4**
I26K Coal Creek Min 41.14 36 P **P** **12 18 57.9 +0.1**
baz=274
GLB Gilahina Butte 41.22 42 P **P** **12 18 59.2 +0.6**
L26K Log Cabin Wild 41.25 39 P **P** **12 18 58.4 -0.4**
L26K IAmb IAmb 12 19 01.1
comp=Z,6.0nm,0.6s
L26K Log Cabin Wild 41.25 39 P **P** **12 18 59.3 +0.5**
baz=276
M26K Nabesna, AK 41.48 40 P **P** **12 19 00.8 0.0**
M26K IAmb IAmb 12 19 03.2
comp=Z,14nm,0.9s
M26K Nabesna, AK 41.48 40 P **P** **12 19 01.9 +1.2**
baz=277,SNR=13
MCARA McCarthy VSAT 41.60 42 P **P** **12 19 03.0 +1.3**
baz=278
E27K Coleen River 41.63 32 P **P** **12 19 02.6 +0.7**
baz=272
G27K Doyon Strip 41.66 34 P **P** **12 19 02.9 +0.7**
baz=273
K27K Chicken 41.71 38 P **P** **12 19 02.9 +0.4**
K27K IAmb IAmb 12 19 04.5
comp=Z,15nm,0.8s
K27K Chicken 41.71 38 P **P** **12 19 03.3 +0.7**
baz=276
H27K Steamboat Moun 41.75 35 P **P** **12 19 04.3 +1.3**
baz=274,SNR=9.9
L27K Beaver Creek, 41.93 39 P **P** **12 19 05.8 +1.4**
L27K IAmb IAmb 12 19 07.8
comp=Z,12nm,0.8s
L27K Beaver Creek, 41.93 39 P **P** **12 19 06.0 +1.6**
baz=277,SNR=23
BCAR Beaver Creek A 41.95 39 P **P** **12 19 05.9 +1.3**
M27K Edge Creek, AK 42.00 40 P **P** **12 19 06.8 +1.7**
M27K Edge Creek, AK 42.00 40 P **P** **12 19 06.4 +1.2**
baz=278,SNR=6.0
ZALV Zalesovo Beam 42.02 307 P **P** **12 19 02.6 -2.5**
comp=Z,0.5nm,0.4s,baz=49,slow=9.7,SNR=1.5
ZALV PcP **PcP** **12 20 59.7 +0.1**
comp=Z,3.3nm,0.6s,baz=86,slow=3.3,SNR=13
ZALV LR LR 12 37 41.9
comp=Z,91nm,18.5s,baz=63,slow=38
comp=Z,0.5nm,0.4s
EGAK Eagle 42.03 37 P **P** **12 19 05.4 +0.3**
EGAK IAmb IAmb 12 19 06.1
comp=Z,12nm,0.7s
EGAK Eagle 42.03 37 P **P** **12 19 05.2 0.0**
baz=276,SNR=12
ISLE Juniper Island 42.05 43 P **P** **12 19 06.5 +0.9**
ISLE IAmb IAmb 12 19 29.9
comp=Z,14nm,1.0s
GOMU GeErMu 42.06 278 P **P** **12 19 07.0 +0.8**
GOMU PcP **PcP** **12 21 01.4 +0.8**
GOMU pmax pmax
comp=Z,8.0nm,0.9s
GOMU LR LR
comp=Z,130nm,15.0s
GOMU LR LR
comp=Z,170nm,15.7s
GOMU LR LR
comp=Z,200nm,16.5s
YAH Yahtse 42.38 43 P **P** **12 19 08.7 +0.4**
YAH IAmb IAmb 12 19 10.6
comp=Z,14nm,0.9s
BVCY Beaver Creek 42.46 40 P **P** **12 19 09.8 +1.1**
baz=279
PZH PanZhiHua 42.47 261 P **P** **12 19 11.1 +1.8**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.3s
CTG Chitna Glacier 42.47 42 P **P** **12 19 10.0 +1.0**
baz=280,SNR=5.6
CTGM Chitina Glacie 42.48 42 P **P** **12 19 09.3 +0.3**
CTGM IAmb IAmb 12 19 11.7
comp=Z,10nm,0.8s
KMI Kunming 42.63 259 ⇑P **P** **12 19 11.8 +1.1**
KMI pP sP 12 19 22.3 -1.0
KMI sP pwP 12 19 29.1 +4.1
KMI pmax pmax
comp=Z,11nm,1.0s
KMI LR LR
comp=Z,160nm,19.1s
LOGN Logan Glacier 42.66 42 P **P** **12 19 09.9 -0.7**
TABL Table Mountain 42.66 43 P **P** **12 19 11.3 +0.7**
TABL IAmb IAmb 12 19 30.9
comp=Z,30nm,1.5s
DAWY Dawson 42.88 38 P **P** **12 19 12.0 -0.1**
DAWY Dawson 42.88 38 P **P** **12 19 12.6 +0.5**
baz=278
O28M Mount Upton 43.06 42 P **P** **12 19 14.5 +0.6**
baz=282
I29M Ogilvie Camp, 43.16 36 P **P** **12 19 15.6 +1.2**
I29M Ogilvie Camp, 43.16 36 P **P** **12 19 15.3 +1.0**
baz=278,SNR=11
M29M Somme Creek 43.56 40 P **P** **12 19 18.5 +0.8**
baz=281
WMQ Urumqi 43.58 292 *e*P **P** **12 19 19.8 +1.7**
WMQ LR LR
comp=Z,270nm,15.7s
WMQ LR LR
comp=Z,140nm,19.5s
L29M L29M 43.59 39 P **P** **12 19 19.2 +1.4**
baz=280
EPYK Eagle Plains 43.67 34 P **P** **12 19 19.5 +1.1**
EPYK Eagle Plains 43.67 34 P **P** **12 19 19.4 +1.0**
baz=278,SNR=6.1
K29M Barlow Dome 43.73 38 P **P** **12 19 19.7 +0.7**
baz=280
YUK6 Outpost Mounta 43.90 42 P **P** **12 19 20.0 -0.7**
baz=282
M30M Minto, Yukon 44.29 39 P **P** **12 19 24.7 +1.2**
baz=282
HYT Haines Junctio 44.34 42 P **P** **12 19 25.3 +1.3**
HYT IAmb IAmb 12 19 45.9
comp=Z,9.0nm,0.9s
HYT Haines Junctio 44.34 42 P **P** **12 19 25.6 +1.6**
baz=283,SNR=7.2
MAYO Mayo, Yukon 44.49 38 P **P** **12 19 24.8 -0.2**
MAYO IAmb IAmb 12 19 49.2
comp=Z,11nm,0.8s
P29M Windy Craggy 44.51 44 P **P** **12 19 26.8 +1.6**
P29M IAmb IAmb 12 19 28.1
comp=Z,13nm,0.8s
P29M Windy Craggy 44.51 44 P **P** **12 19 26.8 +1.6**
baz=284,SNR=7.7
INK Inuvik 44.61 31 P **P** **12 19 25.1 -0.8**
comp=Z,5.5nm,0.8s,baz=284,slow=6.3,SNR=11
comp=Z,5.5nm,0.8s
INK Inuvik 44.61 31 P **P** **12 19 26.9 +1.0**
INK IAmb IAmb 12 19 45.7
comp=Z,9.9nm,0.9s
INK Inuvik 44.61 31 P **P** **12 19 26.9 +1.0**
INK pmax pmax
comp=Z,10.0nm,0.9s
INK Inuvik 44.61 31 P **P** **12 19 26.4 +0.5**
baz=279
F31M Tsiigehtchic 44.67 32 P **P** **12 19 26.9 +0.6**
baz=280
P30M Million Dollar 44.77 43 P **P** **12 19 28.9 +1.5**
baz=284
N31M Braeburn, Yuko 45.00 41 P **P** **12 19 30.5 +1.4**
baz=284
PLBC Pleasant Camp 45.23 44 P **P** **12 19 32.5 +1.6**
baz=285
M31M Drury Creek, Y 45.47 40 P **P** **12 19 33.5 +0.7**
M31M IAmb IAmb 12 19 35.2
comp=Z,7.0nm,1.1s
M31M Drury Creek, Y 45.47 40 P **P** **12 19 34.2 +1.3**
baz=284
WHY Whitehorse 45.63 42 P **P** **12 19 35.6 +1.4**
baz=285
SKAG Skagway 45.74 43 P **P** **12 19 36.3 +1.4**
baz=286
MK31 Makanchi Array 45.90 298 P **P** **12 19 36.5 0.0**
MK31 Makanchi Array 45.90 298 *d* *i*P **P** **12 19 36.7 +0.3**
MKAR Makanchi Array 45.90 298 P **P** **12 19 35.7 -0.8**
comp=Z,3.4nm,0.7s,baz=71,slow=8.3,SNR=28
MKAR PcP **PcP** **12 21 13.3 +0.3**
comp=Z,2.1nm,0.8s,baz=56,slow=5.0,SNR=4.5
comp=Z,3.4nm,0.7s
MKAR Makanchi Array 45.90 298 P **P** **12 19 36.3 -0.1**
MKAR Makanchi Array 45.90 298 *i* P **P** **12 19 36.7 +0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 45.90 298 *e*P **P** **12 19 36.4 -0.1**
FARO Faro, Yukon 45.93 39 P **P** **12 19 37.6 +1.1**
FARO Faro, Yukon 45.93 39 P **P** **12 19 37.5 +1.0**
baz=285
MAKZ Makanchi 46.09 298 P **P** **12 19 36.9 -1.1**
MAKZ Makanchi 46.09 298 P **P** **12 19 36.9 -1.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
R32K Eaglecrest 46.48 45 P **P** **12 19 41.9 +1.1**
baz=288
KURK Kurchatov 46.65 304 P **P** **12 19 41.7 -0.5**
KURK Kurchatov 46.65 304 ⇓*e*P **P** **12 19 42.1 -0.1**
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURK Kurchatov 46.65 304 *e*P **P** **12 19 42.1 -0.1**
P33M Teslin, Yukon 46.74 42 P **P** **12 19 44.3 +1.4**
P33M IAmb IAmb 12 19 45.5
comp=Z,7.5nm,1.1s
P33M Teslin, Yukon 46.74 42 P **P** **12 19 43.8 +0.9**
baz=287,SNR=5.7
MMPY Sheldon Lake, 46.77 39 P **P** **12 19 43.4 +0.3**
baz=286
C36M Paulatuk 47.74 29 P **P** **12 19 50.9 +0.5**
baz=286
T33K Petersburg 47.75 46 P **P** **12 19 52.3 +1.6**
baz=290
R33M Jennings River 47.88 43 P **P** **12 19 52.1 +0.3**
baz=289
SIJI Sorong 48.27 205 LR LR 12 38 41.2
comp=Z,20nm,20.6s,baz=358,slow=34
TGTN Hyland Airport 48.44 39 P **P** **12 19 57.3 +1.2**
baz=289
DLBC Dease Lake 48.67 44 P **P** **12 19 59.6 +1.7**
baz=291
WTLY Watson Lake, Y 48.67 41 P **P** **12 19 58.1 +0.3**
baz=290
CMAR Chiang Mai Arr 49.66 255 P **P** **12 20 06.8 +0.9**
comp=Z,0.9nm,0.5s,baz=30,slow=7.8,SNR=6.1
comp=Z,0.9nm,0.5s
CMAR Chiang Mai Arr 49.66 255 *i* P **P** **12 20 07.6 +1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 50.44 310 LR LR 12 45 28.3
comp=Z,40nm,18.4s,baz=54,slow=41
BRVK Borovoye 50.48 310 ⇑*e*P **P** **12 20 11.4 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,2.5s
BRVK Borovoye 50.48 310 *e*P **P** **12 20 11.4 -0.3**
BOOM Boomskoye usch 51.87 295 P **P** **12 20 21.1 -1.4**
BOOM IAmb IAmb 12 20 24.5
comp=Z,4.9nm,0.7s
BOOM Boomskoye usch 51.87 295 P **P** **12 20 21.1 -1.4**
BOOM pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 52.73 296 P **P** **12 20 27.1 -1.7**
AAK Ala-Archa 52.73 296 ⇓*e*P **P** **12 20 29.7 +0.9**
AAK pmax pmax
comp=Z,6.0nm,1.7s
AAK Ala-Archa 52.73 296 *e*P **P** **12 20 29.7 +0.9**
JIRN Jiri 52.84 274 *e*P **P** **12 20 31.2 +1.1**
comp=Z,24nm,0.7s
GUN Gumba 52.91 274 *e*P **P** **12 20 31.6 +1.0**
comp=Z,37nm,0.7s
RAMN Ramite 52.97 273 *e*P **P** **12 20 31.7 +0.8**
comp=Z,36nm,0.5s
KSH Kashi 53.35 292 P **P** **12 20 38.0 +4.6**
PKI Pulchoki 53.45 274 *e*P **P** **12 20 35.3 +0.8**
comp=Z,11nm,0.5s
GKN Gorkha 53.74 275 *e*P **P** **12 20 37.5 +1.0**
YKA Yellowknife Ar 53.94 35 P **P** **12 20 36.5 -0.7**
comp=Z,2.8nm,0.8s,baz=292,slow=6.3,SNR=5.1
comp=Z,2.8nm,0.8s
DANN Dangsing 54.16 276 *e*P **P** **12 20 41.0 +1.3**
comp=Z,27nm,0.7s
PYUN Piuthan 54.85 276 *e*P **P** **12 20 45.7 +1.1**
comp=Z,12nm,0.7s
KK31 Karatay Array 55.01 299 P **P** **12 20 45.5 +0.2**
KK31 Karatay Array 55.01 299 P **P** **12 20 45.5 +0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 55.01 299 P **P** **12 20 44.9 -0.4**
KKAR Karatay Array 55.01 299 P **P** **12 20 44.9 -0.4**
ARU Arti 55.01 317 P **P** **12 20 44.9 -0.2**
ARU IAmb IAmb 12 20 46.2
comp=Z,5.8nm,0.6s
ARU Arti 55.01 317 *d* *i*P **P** **12 20 45.3 +0.2**
ARU *PP **sP** **12 20 56.5 -1.3**
ARU S **S** **12 28 24.1 -0.5**
ARU SS **SS** **12 32 06.9 -0.9**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU MLR MLR
comp=Z,108nm,16.0s
ARU Arti 55.01 317 *e*P **P** **12 20 45.3 +0.2**
GAR Garm 57.33 294 P **P** **12 21 02.2 +0.1**
ABKAR Akbulak array 58.01 309 P **P** **12 21 06.7 +0.2**
CHGR Chuyangaron 58.27 295 P **P** **12 21 08.3 -0.4**
CHGR Chuyangaron 58.27 295 P **P** **12 21 08.3 -0.4**
CHGR pmax pmax
comp=Z,23nm,0.9s
NIL Nilore 58.40 288 P **P** **12 21 10.8 +1.3**
NIL Nilore 58.40 288 P **P** **12 21 10.8 +1.3**
NIL pmax pmax
comp=Z,17nm,1.0s
AKTO Aktyubinsk 58.42 311 P **P** **12 21 09.1 -0.2**
comp=Z,1.6nm,0.5s,baz=65,slow=6.7,SNR=6.2
AKTO LR LR 12 48 09.6
comp=Z,102nm,18.2s,baz=63,slow=38
comp=Z,1.6nm,0.5s
B08A Colville Reser 58.97 51 P **P** **12 21 14.1 +0.8**
B08A IAmb IAmb 12 21 14.7
comp=Z,4.6nm,0.9s
EDM Edmonton 59.39 44 P **P** **12 21 16.4 +0.4**
EDM Edmonton 59.39 44 P **P** **12 21 16.5 +0.4**
EDM pmax pmax
comp=Z,12nm,0.8s
C09A Chrisman Ranch 59.87 51 P **P** **12 21 20.0 +0.5**
C09A IAmb IAmb 12 21 34.6
comp=Z,4.3nm,0.8s
F07A Phinny Hill Vi 60.01 54 P **P** **12 21 21.9 +1.5**
NEW Newport 60.24 50 P **P** **12 21 22.5 +0.5**
NEW IAmb IAmb 12 21 24.0
comp=Z,6.4nm,0.9s
NEW Newport 60.24 50 P **P** **12 21 22.5 +0.5**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 60.24 50 P **P** **12 21 22.8 +0.8**
baz=305
PINE Pine Mountain 60.62 56 P **P** **12 21 26.6 +1.7**
E09A Wood Farm, Sta 60.68 52 P **P** **12 21 25.3 +0.4**
E09A IAmb IAmb 12 21 26.7
comp=Z,7.0nm,0.9s
KBL Kabul 60.71 291 P **P** **12 21 25.3 -0.4**
KBL Kabul 60.71 291 P **P** **12 21 25.3 -0.4**
KBL pmax pmax
comp=Z,7.0nm,0.7s
J05D Fort Rock, OR 60.74 57 P **P** **12 21 27.2 +1.6**
baz=305
F10A Beach Ranch, E 61.51 52 P **P** **12 21 31.2 +0.5**
F10A IAmb IAmb 12 21 56.5
comp=Z,3.5nm,0.8s
WALA Waterton Lakes 61.51 48 P **P** **12 21 30.4 -0.4**
WALA IAmb IAmb 12 21 46.1
comp=Z,5.5nm,0.8s
MOD Modoc Plateau 62.10 58 P **P** **12 21 34.2 -0.7**
MOD IAmb IAmb 12 21 49.2
comp=Z,4.7nm,1.0s
BMO Blue Mountains 62.12 53 P **P** **12 21 35.0 +0.1**
BMO Blue Mountains 62.12 53 P **P** **12 21 35.0 +0.1**
BMO pmax pmax
comp=Z,2.0nm,0.9s
J08A Circle Bar Ran 62.33 55 P **P** **12 21 36.5 +0.2**
J08A IAmb IAmb 12 21 51.3
comp=Z,5.1nm,1.0s
PLID Pearl Lake 62.73 53 P **P** **12 21 39.0 -0.1**
PLID IAmb IAmb 12 21 40.6
comp=Z,8.5nm,1.1s
WVOR Wild Horse Val 62.78 56 P **P** **12 21 39.8 +0.4**
WVOR IAmb IAmb 12 21 56.3
comp=Z,8.5nm,1.1s
WVOR Wild Horse Val 62.78 56 P **P** **12 21 39.8 +0.4**
WVOR pmax pmax
comp=Z,8.0nm,1.2s
MSO Missoula 62.83 50 P **P** **12 21 39.9 +0.3**
MSO Missoula 62.83 50 P **P** **12 21 40.2 +0.6**
baz=307
SUMG Summit 62.91 3 P **P** **12 21 39.6 -0.5**
SUMG Summit 62.91 3 P **P** **12 21 39.6 -0.5**
SUMG pmax pmax
comp=Z,13nm,1.4s
HRY Holter Researc 64.05 49 P **P** **12 21 48.4 +0.7**
LRM Limekiln Ridge 64.26 50 P **P** **12 21 50.0 +0.8**
EGMT Eagleton 64.33 47 P **P** **12 21 49.5 0.0**
EGMT IAmb IAmb 12 21 51.0
comp=Z,7.1nm,0.8s
EGMT Eagleton 64.33 47 P **P** **12 21 50.2 +0.7**
baz=309
HLID Hailey 64.56 53 P **P** **12 21 50.5 -0.6**
HLID Hailey 64.56 53 P **P** **12 21 52.0 +0.9**
baz=308
BCYI Bear Canyon 64.67 52 P **P** **12 21 51.3 -0.6**
BMN Battle Mountai 64.84 57 P **P** **12 21 51.9 -1.1**
BMN Battle Mountai 64.84 57 P **P** **12 21 51.9 -1.1**
BMN pmax pmax
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 64.85 50 P **P** **12 21 52.8 -0.2**
BOZ IAmb IAmb 12 21 54.8
comp=Z,4.4nm,0.8s
BOZ Bozeman (W) 64.85 50 P **P** **12 21 52.8 -0.2**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 64.85 50 P **P** **12 21 53.9 +0.9**
baz=309
FINES FINESS Array B 64.94 334 P **P** **12 21 51.0 -2.0**
comp=Z,2.0nm,0.6s,baz=28,slow=8.6,SNR=9.2
comp=Z,2.0nm,0.6s
FINES FINESS Array B 64.94 334 *i* P **P** **12 21 51.5 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KVN Kaiserville 65.16 59 P **P** **12 21 55.2 +0.1**
KVN IAmb IAmb 12 22 12.7
comp=Z,5.1nm,1.0s
KVN Kaiserville 65.16 59 P **P** **12 21 55.2 +0.1**
KVN pmax pmax
comp=Z,5.0nm,1.0s
ILULI Ilulissat 65.38 8 P **P** **12 21 55.1 -0.7**
ILULI Ilulissat 65.38 8 P **P** **12 21 55.1 -0.7**
ILULI pmax pmax
comp=Z,47nm,1.5s
LHV Little Huntoon 65.41 60 P **P** **12 21 55.9 -0.6**
LHV IAmb IAmb 12 22 11.6
comp=Z,5.9nm,1.0s
NVAR Mina Array Bea 65.42 60 P **P** **12 21 56.8 0.0**
comp=Z,0.8nm,0.7s,baz=294,slow=7.4,SNR=7.1
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 65.42 60 P **P** **12 21 56.5 -0.4**
QLMT Earthquake Lak 65.44 51 P **P** **12 21 58.2 +1.3**
YHL Hebgen Lake 65.57 51 P **P** **12 21 57.3 -0.5**
YHL IAmb IAmb 12 21 59.7
comp=Z,4.3nm,1.0s
WB0 Warramunga Arr 65.66 196 P **P** **12 21 57.9 -0.3**
GEYT Alibeck 65.70 300 P **P** **12 21 58.2 -0.3**
comp=Z,6.4nm,0.8s,baz=28,slow=3.5,SNR=8.5
comp=Z,6.4nm,0.8s
GEYT Alibeck 65.70 300 P **P** **12 21 57.5 -1.0**
GEYT IAmb IAmb 12 22 00.0
comp=Z,6.5nm,0.7s
GYA0B ALIBECK ARRAY 65.70 300 P **P** **12 21 59.0 +0.5**

GYA0B IAmb IAmb 12 22 00.0
comp=Z,6.7nm,0.7s
OBN Obninsk 65.72 325 *i* P **P** **12 21 58.6 +0.4**
OBN *e* 12 22 11.6
OBN *e* 12 22 29.7
OBN *e*PPP PPP 12 25 54.5
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,68nm,16.0s
YHH Holmes Hill 65.79 50 P **P** **12 21 59.4 +0.2**
GCMT Greycliff 65.80 49 P **P** **12 21 59.4 +0.4**
WR0 Warramunga Arr 65.82 196 P **P** **12 21 59.9 +0.7**
WR0 IAmb IAmb 12 22 14.3
comp=Z,7.3nm,1.1s
WRAB Tennant Creek 65.83 196 P **P** **12 21 59.7 +0.4**
WRAB IAmb IAmb 12 22 01.4
comp=Z,7.7nm,0.9s
WRAB Tennant Creek 65.83 196ǁ *e*P **P** **12 22 00.5 +1.2**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WB2 Warramunga Arr 65.84 196 P **P** **12 22 00.6 +1.2**
WRA Warramunga Arr 65.84 196 P **P** **12 22 00.5 +1.2**
comp=Z,6.1nm,0.9s,baz=16,slow=6.8,SNR=35
comp=Z,6.1nm,0.9s
WRA Warramunga Arr 65.84 196 P **P** **12 22 00.3 +1.0**
H17A Grant Village 66.19 51 P **P** **12 22 03.5 +1.7**
baz=310
HEL Helsinki 66.26 333 P P 12 22 09.4 +7.8
HEL pmax pmax
comp=Z,4.0nm,1.1s
FITZ Fitzroy Crossi 66.26 205 P **P** **12 22 03.5 +1.5**
comp=Z,2.7nm,0.9s,baz=343,slow=6.7,SNR=4.6
comp=Z,2.7nm,0.9s
IMW Indian Meadow 66.31 51 P **P** **12 22 03.0 +0.4**
IMW IAmb IAmb 12 22 17.8
comp=Z,6.5nm,1.3s
FXWY Fox Creek 66.43 51 P **P** **12 22 03.0 -0.3**
FXWY IAmb IAmb 12 22 06.4
comp=Z,6.0nm,1.4s
RLMT Red Lodge 66.44 49 P **P** **12 22 04.4 +1.0**
RLMT IAmb IAmb 12 22 06.0
comp=Z,5.7nm,1.1s
RLMT Red Lodge 66.44 49 P **P** **12 22 04.3 +1.0**
baz=310
MOOW Moose Ponds 66.51 51 P **P** **12 22 03.8 0.0**
MOOW IAmb IAmb 12 22 06.8
comp=Z,5.7nm,1.3s
TPAW Teton Pass 66.56 52 P **P** **12 22 03.5 -0.7**
TPAW IAmb IAmb 12 22 06.3
comp=Z,11nm,1.2s
HVU Hansel Valley 66.62 54 P **P** **12 22 03.1 -1.3**
HVU Hansel Valley 66.62 54 P **P** **12 22 03.1 -1.3**
HVU pmax pmax
comp=Z,2.0nm,0.9s
LOHW Long Hollow 66.68 51 P **P** **12 22 04.1 -0.7**
LOHW IAmb IAmb 12 22 18.9
comp=Z,6.1nm,1.4s
REDW Red Top Meadow 66.70 52 P **P** **12 22 04.8 -0.2**
REDW IAmb IAmb 12 22 07.9
comp=Z,7.8nm,1.2s
DGMT Dagmar 66.88 44 P **P** **12 22 06.3 +0.4**
DGMT Dagmar 66.88 44 P **P** **12 22 06.6 +0.8**
baz=312
LAO LASA Array 67.03 47 P **P** **12 22 06.6 -0.2**
LAO IAmb IAmb 12 22 08.8
comp=Z,7.7nm,0.9s
LAO LASA Array 67.03 47 P **P** **12 22 07.7 +0.8**
baz=311
R11A Troy Canyon, C 67.14 58 P **P** **12 22 08.4 +0.6**
R11A Troy Canyon, C 67.14 58 P **P** **12 22 08.6 +0.8**
baz=310
MPMC Manual Prospec 67.42 61 P **P** **12 22 09.8 +0.2**
baz=310
WCT Wildcat Mounta 67.49 60 P **P** **12 22 09.5 -0.5**
FURC Furnace Creek, 67.55 61 P **P** **12 22 10.8 +0.7**
baz=310
DUG Dugway, Tooele 67.61 55 P **P** **12 22 10.5 -0.2**
DUG IAmb IAmb 12 22 27.8
comp=Z,8.0nm,1.4s
DUG Dugway, Tooele 67.61 55 P **P** **12 22 10.5 -0.2**
DUG pmax pmax
comp=Z,8.0nm,1.4s
DUG Dugway, Tooele 67.61 55 P **P** **12 22 11.4 +0.6**
baz=310
TPNV Topopah Spring 67.62 60 P **P** **12 22 12.0 +1.1**
baz=310
BW06 Boulder Array 67.81 51 P **P** **12 22 12.3 +0.2**
BW06 Boulder Array 67.81 51 P **P** **12 22 12.5 +0.4**
baz=311
PD31 Pinedale Array 67.81 51 P **P** **12 22 11.6 -0.5**
PDAR Pinedale Array 67.81 51 P **P** **12 22 12.0 -0.1**
comp=Z,1.6nm,0.9s,baz=321,slow=2.1,SNR=12
comp=Z,1.6nm,0.9s
PDAR Pinedale Array 67.81 51 P **P** **12 22 11.3 -0.7**
BFSC Mount Baldy Ra 68.47 63 P **P** **12 22 16.8 +0.6**
baz=310
SHPR Sheep Range 68.57 60 P **P** **12 22 16.5 -0.4**
HEC Hector,Ludlow 68.92 62 P **P** **12 22 19.5 +0.6**
baz=310
CCUT Cedar City 68.99 58 P **P** **12 22 18.2 -1.3**
CCUT IAmb IAmb 12 22 36.0
comp=Z,7.2nm,1.3s
RDMU Red Mountain 69.24 53 P **P** **12 22 22.2 +1.1**
RDMU IAmb IAmb 12 22 38.4
comp=Z,7.7nm,0.8s
NC405 NORSAR Array S 69.25 340 P **P** **12 22 19.4 -1.0**
GMRC Granite Mounta 69.38 61 P **P** **12 22 22.0 +0.1**
baz=311
NB201 NORSAR Array S 69.41 340 P **P** **12 22 20.4 -1.1**
LCMT Little Creek M 69.42 58 P **P** **12 22 21.3 -0.8**
NB2 NORSAR Subarra 69.44 340 P **P** **12 22 20.8 -0.9**
comp=Z,0.9nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 69.44 340 P **P** **12 22 19.9 -1.8**
comp=Z,1.3nm,0.6s,baz=29,slow=6.4,SNR=7.7
NOA LR LR 12 57 10.5
comp=Z,19nm,20.0s,baz=260,slow=40
comp=Z,1.3nm,0.6s
MDND Maddock 69.55 42 P **P** **12 22 22.8 +0.2**
baz=315
ASAR Alice Springs 69.55 196 P **P** **12 22 24.5 +1.8**
comp=Z,3.3nm,0.8s,baz=12,slow=5.4,SNR=35
comp=Z,3.3nm,0.8s
ASAR Alice Springs 69.55 196 P **P** **12 22 22.6 -0.1**
HFS Hagfors 69.59 338 P **P** **12 22 20.3 -2.3**
comp=Z,2.3nm,0.7s,baz=29,slow=3.4,SNR=7.1
comp=Z,2.3nm,0.7s
NORES NORESS Array B 69.62 340 P **P** **12 22 22.1 -0.6**
PFO Pinyon Flats O 69.63 63 P **P** **12 22 23.2 -0.3**
baz=311
TPFO Pinon Flats 69.64 63 P **P** **12 22 23.4 0.0**
baz=311
SRU San Rafael Swe 69.66 55 P **P** **12 22 24.1 +0.5**
SRU IAmb IAmb 12 22 40.1
comp=Z,7.7nm,1.3s
SRU San Rafael Swe 69.66 55 P **P** **12 22 24.1 +0.5**
SRU pmax pmax
comp=Z,8.0nm,1.3s
RSSD Black Hills 69.90 47 P **P** **12 22 25.3 +0.3**
RSSD IAmb IAmb 12 22 26.1
comp=Z,7.9nm,1.1s
RSSD Black Hills 69.90 47 P **P** **12 22 25.3 +0.3**
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 69.90 47 P **P** **12 22 24.9 -0.1**
baz=313
O20A White River Ci 70.29 53 P **P** **12 22 27.9 +0.4**
baz=312
U15A North Rim 70.38 58 P **P** **12 22 29.2 +1.1**
KIV Kislovodsk 70.60 313 *e*P **P** **12 22 31.0 +1.9**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,79nm,18.0s
KIV Kislovodsk 70.60 313 *e*P **P** **12 22 31.0 +1.9**
KBZ Khabaz 70.64 313 P **P** **12 22 30.0 +0.8**
comp=Z,16nm,0.8s,baz=73,slow=3.7,SNR=24
KBZ LR LR 12 58 08.1
comp=Z,124nm,18.8s,baz=44,slow=40
KBZ Khabaz 70.64 313*c* *i*P **P** **12 22 30.3 +1.1**
KBZ pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 70.64 313 *e*P **P** **12 22 30.3 +1.1**
BORG Borgarnes 70.71 356 LR LR 12 53 19.1
comp=Z,16nm,18.7s,baz=90,slow=36
ZEI Tsey 70.76 311 *e*P **P** **12 22 27.5 -2.8**
ZEI pmax pmax
comp=Z,12nm,0.8s
N23A Red Feather La 71.07 51 P **P** **12 22 32.5 +0.2**
baz=313
PV13 Radium Mtn., P 71.28 55 P **P** **12 22 32.7 -0.9**
PV13 IAmb IAmb 12 22 43.6
comp=Z,11nm,1.4s
WUAZ Wupatki 71.54 58 P **P** **12 22 36.3 +1.3**
baz=312
SMCO Snowmass 71.66 53 P **P** **12 22 34.5 -1.5**
AKASG Malin Array Be 71.98 325 P **P** **12 22 36.6 -0.7**
comp=Z,2.5nm,0.5s,baz=36,slow=6.1,SNR=14
comp=Z,2.5nm,0.5s
AKASG Malin Array Be 71.98 325 *i* P **P** **12 22 37.0 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
ISCO Idaho Springs 72.00 52 P **P** **12 22 38.4 +0.5**
baz=314
MVCO Mesa Verde 72.11 55 P **P** **12 22 37.5 -1.0**
MVCO IAmb IAmb 12 22 54.6
comp=Z,7.6nm,1.3s
MVCO Mesa Verde 72.11 55 P **P** **12 22 38.6 0.0**
baz=313
GNI Garni 72.12 309 LR LR 12 59 00.7
comp=Z,51nm,18.4s,baz=62,slow=40
S22A 4UR Ranch, Cre 72.72 54 P **P** **12 22 41.5 -0.8**
214A Organ Pipe Nat 73.03 62 P **P** **12 22 44.3 +0.4**
baz=312
OGNE Ogallala 73.17 49 P **P** **12 22 44.7 +0.1**
baz=315
EYMN Ely 73.21 38 P **P** **12 22 44.6 -0.1**
baz=319
SDCO Great Sand Dun 73.48 53 P **P** **12 22 47.5 +0.7**
baz=314
ECSD EROS Data Cent 73.96 44 P **P** **12 22 48.9 -0.2**
ECSD IAmb IAmb 12 22 49.8
comp=Z,10nm,1.1s
ECSD EROS Data Cent 73.96 44 P **P** **12 22 49.0 -0.2**
baz=317
TUC Tucson 74.06 60 P **P** **12 22 50.5 +0.5**
baz=313
T25A Trinidad 74.53 53 P **P** **12 22 52.9 +0.1**
T25A Trinidad 74.53 53 P **P** **12 22 52.3 -0.5**
baz=315
ANMO Albuquerque 74.87 56 P **P** **12 22 55.2 +0.4**
baz=314
319A Douglas 75.63 60 P **P** **12 22 58.9 -0.2**
319A IAmb IAmb 12 23 15.4
comp=Z,6.8nm,1.0s
121A Cookes Peak, D 75.75 58 P **P** **12 22 58.9 -0.9**
121A IAmb IAmb 12 23 16.4
comp=Z,6.0nm,1.1s
121A Cookes Peak, D 75.75 58 P **P** **12 23 00.2 +0.4**
baz=314
OJC Ojcow 76.01 330 *e*P **P** **12 22 59.5 -1.3**
OJC Ojcow 76.01 330 P **P** **12 22 59.6 -1.2**
OJC IAmb IAmb 12 23 00.8
comp=Z,8.9nm,0.8s
OJC Ojcow 76.01 330 P **P** **12 22 59.6 -1.2**
BUR08 Bucovina Ar. S 76.02 325 P **P** **12 23 01.6 +0.5**
BURAR Bucovina Array 76.04 325 P **P** **12 23 01.1 0.0**
SCHQ Schefferville 76.08 21 LR LR 12 59 58.1
comp=Z,47nm,18.4s,baz=79,slow=38
KOLS Kolonicke sedl 76.14 327 *e*P **P** **12 23 02.0 +0.4**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 76.14 327 *e*P **P** **12 23 02.0 +0.4**
CRVS Cervenica-Dubn 76.48 328 *e*P **P** **12 23 04.2 +0.7**
CRVS Cervenica-Dubn 76.48 328 *e*P **P** **12 23 04.2 +0.7**
NIE Niedzica 76.49 329 *e*P **P** **12 23 04.4 +0.8**
STKA Stephens Creek 76.55 187 P **P** **12 23 05.5 +1.6**
comp=Z,5.3nm,0.9s,baz=1.7,slow=9.5,SNR=6.6
comp=Z,5.3nm,0.9s
CHVC Chvalec 77.01 332 *e*P **P** **12 23 06.5 0.0**
DPC Dobruska-Polom 77.12 332 *e*P **P** **12 23 07.5 +0.4**
DPC Dobruska-Polom 77.12 332 *e*P **P** **12 23 07.5 +0.4**
MORC Moravsky Berou 77.18 331 P **P** **12 23 06.5 -0.9**
MORC IAmb IAmb 12 23 08.9
comp=Z,9.1nm,0.9s
MORC Moravsky Berou 77.18 331 *e*P **P** **12 23 08.2 +0.7**
MORC Moravsky Berou 77.18 331 P **P** **12 23 06.6 -0.9**
MORC pmax pmax
comp=Z,9.0nm,0.9s
KECS Kecovo 77.19 328 *e*P **P** **12 23 08.5 +1.0**
KECS Kecovo 77.19 328 *e*P **P** **12 23 08.5 +1.0**
KRLC Kraliky 77.20 331 *e*P **P** **12 23 08.0 +0.4**
KRLC Kraliky 77.20 331 *e*P **P** **12 23 08.0 +0.4**
CLL Collm 77.38 334 P **P** **12 23 07.2 -1.3**
CLL Collm 77.38 334 *i* P **P** **12 23 08.2 -0.3**
CLL *e*S **SS** **12 37 55.0 +1.2**
CLL pmax pmax
comp=Z,14nm,0.7s
CLL MLR MLR
comp=Z,1μm,18.8s
CLL Collm 77.38 334 *i* P **P** **12 23 08.2 -0.3**
comp=Z,14nm,0.7s
MSTX Muleshoe 77.71 54 P **P** **12 23 11.2 +0.4**
baz=316
EKA Eskdalemuir Ar 77.79 345 P **P** **12 23 09.6 -1.1**
comp=Z,3.9nm,0.8s,baz=22,slow=4.2,SNR=13
comp=Z,3.9nm,0.8s
VYHS Vyhne 77.80 329 *e*P **P** **12 23 11.6 +0.7**
VYHS pmax pmax
comp=Z,11nm,1.4s
VYHS Vyhne 77.80 329 *e*P **P** **12 23 11.6 +0.7**
VOIR 77.85 324 P **P** **12 23 11.6 +0.3**
VOIR pmax pmax
comp=Z,9.0nm,1.5s
PSZ Piszkesteto 77.88 328 P **P** **12 23 10.9 -0.6**
PSZ IAmb IAmb 12 23 13.2
comp=Z,6.4nm,0.9s
PSZ Piszkesteto 77.88 328 P **P** **12 23 10.9 -0.6**
PSZ pmax pmax
comp=Z,6.0nm,0.9s
JAVC Velka Javorina 77.91 330 *e*P **P** **12 23 13.1 +1.5**
VRAC Vranov 77.91 331 *e*P **P** **12 23 11.8 +0.3**
VRAC Vranov 77.91 331 P **P** **12 23 11.8 +0.3**
VRAC pmax pmax
comp=Z,11nm,1.1s
GOPC GO Pecny, Ondr 78.01 332 *e*P **P** **12 23 12.6 +0.5**
GOPC GO Pecny, Ondr 78.01 332 *e*P **P** **12 23 12.6 +0.5**
PRU Pruhonice 78.03 332 *e*P **P** **12 23 12.4 +0.3**
PRU Pruhonice 78.03 332 *e*P **P** **12 23 12.4 +0.3**
KRUC Moravsky 78.19 331 *e*P **P** **12 23 13.7 +0.6**
BR131 Keskin Array S 78.31 315ǁ *e*P **P** **12 23 15.8 +1.7**
BRTR Keskin Array B 78.31 315 P **P** **12 23 13.6 -0.5**
comp=Z,1.7nm,0.9s,baz=74,slow=5.3,SNR=5.3
comp=Z,1.7nm,0.9s
BRTR Keskin Array B 78.31 315 *i* P **P** **12 23 15.1 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 79.08 332 P **P** **12 23 18.3 +0.3**
KHC IAmb IAmb 12 23 19.5
comp=Z,7.2nm,0.7s
KHC Kasperske Hory 79.08 332 *e*P **P** **12 23 18.3 +0.3**
KHC *e* 12 23 34.2
KHC Kasperske Hory 79.08 332 *e*P **P** **12 23 18.3 +0.3**
KHC *es*P **pwP** **12 23 34.2 +2.8**
CKRC Cesky Krumlov 79.11 332 *e*P **P** **12 23 18.6 +0.4**
GEC2 GERESS Array S 79.29 332 P **P** **12 23 18.7 -0.6**
GERES GERESS Array B 79.29 332 P **P** **12 23 18.8 -0.5**
comp=Z,1.7nm,0.4s,baz=35,slow=4.9,SNR=20
comp=Z,1.7nm,0.4s
GERES GERESS Array B 79.29 332 P **P** **12 23 18.6 -0.6**
WMOK Wichita Mounta 79.42 51 P **P** **12 23 20.5 +0.4**
baz=318
HDIL Hopedale 79.91 42 P **P** **12 23 22.5 -0.1**
baz=322
MEM Membach 80.05 338 *d*P **P** **12 23 24.0 +0.8**
comp=Z,8.9nm,0.6s
R40A Maddies Statio 80.21 45 P **P** **12 23 23.9 -0.3**
R40A IAmb IAmb 12 23 24.8
comp=Z,8.0nm,1.1s
TX31 Lajitas Ar. Si 80.50 58 P **P** **12 23 26.1 0.0**
TX32 Lajitas Array 80.50 58 P **P** **12 23 26.5 +0.4**
TXAR Lajitas Array 80.50 58 P **P** **12 23 26.4 +0.2**
comp=Z,3.0nm,0.6s,baz=301,slow=4.1,SNR=41
comp=Z,3.0nm,0.6s
BMRD Maredsous 80.67 338 *d*P **P** **12 23 27.1 +0.6**
RCHB Rochefort 80.68 338 *d*P **P** **12 23 26.4 -0.1**
VTS Vitosha 80.89 323 P **P** **12 23 27.9 -0.2**
VTS IAmb IAmb 12 23 30.1
comp=Z,6.3nm,0.8s
VTS Vitosha 80.89 323 P **P** **12 23 27.9 -0.2**
VTS pmax pmax
comp=Z,6.0nm,0.8s
CCM Cathedral Cave 80.91 44 P **P** **12 23 28.2 +0.2**
baz=321
DIVS Divibare 81.02 326 P **P** **12 23 27.9 -0.8**
PMOR Pomariorio Ree 81.89 120 *e*T T 13 54 04.5
comp=Z,6.5nm,0.2s
JCT Junction City 81.97 55 P **P** **12 23 33.2 -0.6**
baz=318
O48B Farmland 82.06 39 P **P** **12 23 33.6 -0.5**
baz=324
WHTX Lake Whitney, 82.20 52 P **P** **12 23 35.2 +0.2**
baz=319
MIAR Mount Ida 82.40 48 P **P** **12 23 35.7 -0.2**
baz=320
LONY Lake Ozonia 82.72 30 P **P** **12 23 37.1 -0.3**
baz=330
P49A Miami Univ. Ec 82.85 39 P **P** **12 23 37.6 -0.6**
baz=324
PPT2 Papeete2 82.86 123 *e*LR LR 12 49 43.0
comp=Z,52nm,21.8s
ACSO Alum Creek Sta 83.05 38 P **P** **12 23 38.8 -0.4**
baz=325
O53A New Philadelph 83.81 37 P **P** **12 23 42.7 -0.4**
baz=326
WVT Waverly 84.11 43 P **P** **12 23 44.4 -0.3**
baz=323
NRCA Norcia 84.71 330 P **P** **12 23 46.9 -0.9**
U49A Red Boiling Sp 84.79 42 P **P** **12 23 47.9 -0.3**
T50A Nancy 84.83 41 P **P** **12 23 47.5 -0.9**
SSPA Standing Stone 84.86 34 P **P** **12 23 48.5 0.0**
baz=328
CAMP Campotosto 84.87 329 P **P** **12 23 47.8 -0.9**
TZTN Tazewell 85.81 40 P **P** **12 23 53.9 +0.5**
baz=325
BLA Blacksburg 86.67 38 P **P** **12 23 57.9 +0.3**
baz=327
LRAL Lakeview Retre 86.98 45 P **P** **12 23 58.7 -0.4**
baz=324
TBI Tubuai 87.40 127 *e*LR LR 12 51 48.7
comp=Z,59nm,30.0s
KMSC Kings Mountain 87.99 40 P **P** **12 24 04.1 +0.2**
baz=326
BDFB Brasilia 147.34 33 PKPbc **PKPbc** **12 30 58.0 +0.2**
comp=Z,1.9nm,0.4s,baz=53,slow=4.8,SNR=3.9
BDFB Brasilia 147.34 33 PKP2 **PKPbc** **12 30 58.0 +0.2**
TROLL Troll, Antarti 148.50 199 PKPbc **PKiKP** **12 31 00.6 -0.2**
TROLL Troll, Antarti 148.50 199 sPKPdf sPKPdf 12 31 14.0 +4.8
SNAA Sanae 149.91 197 PKPbc **PKiKP** **12 31 03.4 -0.2**
SNAA Sanae 149.91 197 sPKPdf sPKPdf 12 31 16.7 +5.4
PLCA Paso Flores 150.24 97 PKPbc **PKPbc** **12 31 04.5 0.0**
comp=Z,3.9nm,0.8s,baz=267,slow=2.4,SNR=10.0
VNA2 Neumayer--Watz 151.41 195 PKPbc **PKiKP** **12 31 07.3 +0.6**
baz=124,slow=2.0
CPUP Villa Florida 151.47 59 PKPbc **PKPbc** **12 31 06.9 -0.8**
comp=Z,3.4nm,0.8s,baz=240,slow=0.8,SNR=5.2
VNA3 Neumayer Olymp 151.55 194 PKPbc **PKiKP** **12 31 07.5 +0.5**
VNA1 Neumayer--Stat 151.80 195 PKPbc **PKiKP** **12 31 08.2 +0.8**

IDC ***20*** *12:21:17.6±0.8, 1˚.88S×140˚.73E, h0km, mb3.9/9, mbtmp4.0/12, ML4.2/3, MS3.3/14, Error ellipse: s-maj=32.7km s-min=15.8km az=89.0*
DJA ***20*** *12:21:22.6±1.0, 2˚.5S×14˚.1E±˚, h10km, M4.2/6, mb4.2/3, ML4.2/6*
ISC 20 12:21:19.1±0.8, 2˚.00S±0˚.06×140˚.72E±0˚.08, h10km, n42, σ2s46/33, mb3.9/9, MS3.3/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.81**	**223**	P	**Pn**	**12 21 37.0**	**+0.5**
GENI				S	**Sn**	**12 21 49.2**	**+0.6**
GENI	**Genyem**	**0.81**	**223**	P	**Pn**	**12 21 37.4**	**+0.9**
SMPI	**Sarmi**	**2.01**	**270**	P	**Pb**	**12 21 54.0**	**-1.7**
SMPI				S	**Sn**	**12 22 18.1**	**-0.2**
WAMI	**Wamena**	**2.74**	**227**	P	**Pb**	**12 22 06.6**	**-1.7**
SRPI	**Serui, Papua**	**4.48**	**272**	P	**Pn**	**12 22 28.4**	**+1.3**
MMPI	**Merauke**	**6.43**	**183**	P	**Pn**	**12 22 58.5**	**+4.6**
	0.1nm15nm,0.9s						
FAKI	**Fak Fak**	**8.51**	**264**	P	**Pn**	**12 23 24.7**	**+2.2**
SIJI	**Sorong**	**9.52**	**277**	LR	LR	12 27 26.4	
	comp=Z,53nm,18.0s,baz=48,slow=39						
PMG	**Port Moresby**	**9.75**	**139**	LR	LR	12 28 28.3	
	comp=Z,55nm,19.8s,baz=280,slow=44						
KDU	**Kakadu**	**13.39**	**217**	P	**Pn**	**12 24 28.9**	**-0.5**
GUMO	**Guam**	**16.03**	**15**	LR	LR	12 30 34.5	
	comp=Z,124nm,19.5s,baz=264,slow=35						
DAV	**Davao City (W)**	**17.59**	**301**	LR	LR	12 32 32.9	
	comp=Z,49nm,18.1s,baz=119,slow=38						
KNRA	**Kununurra**	**17.99**	**220**	P	**P**	**12 25 30.4**	**+0.4**
CTA	**Charters Tower**	**18.77**	**164**	P	**Pn**	**12 25 41.6**	**+2.6**
	0.3nm,0.3s,baz=336,slow=10,SNR=7.5						
CTA				LR	LR	12 33 40.6	
	comp=Z,152nm,18.4s,baz=1.0,slow=39						
	3.2nm,0.7s						
BATI	**Baumata**	**18.80**	**244**	P	**Pn**	**12 25 41.3**	**+1.8**
	3.9nm,0.3s,baz=90,slow=6.1,SNR=5.4						
	27nm,0.6s						
BATI	**Baumata**	**18.80**	**244**	P	**Pn**	**12 25 45.6**	**+6.1**
WRAB	**Tennant Creek**	**18.88**	**199**	P	**Pn**	**12 25 40.9**	**+0.6**
WRA	**Warramunga Arr**	**18.89**	**199**	P	**Pn**	**12 25 40.6**	**+0.1**
	0.6nm,0.3s,baz=24,slow=12,SNR=42						
WRA				S	**Sn**	**12 29 03.6**	**-8.5**
	1.3nm,0.9s,baz=16,slow=22,SNR=1.5						
WRA				LR	LR	12 33 49.4	
	comp=Z,202nm,19.7s,baz=64,slow=40						
	5.1nm,0.8s						
TTSI	**Tana Toraja**	**20.91**	**267**	P	Pn	12 26 07.0	+2.5
MPSI	**Mapaga**	**20.95**	**276**	P	Pn	12 26 06.7	+1.8
FITZ	**Fitzroy Crossi**	**21.79**	**222**	P	**P**	**12 26 11.4**	**0.0**
	3.6nm,0.8s,baz=37,slow=11,SNR=12						
FITZ				LR	LR	12 35 15.9	
	comp=Z,38nm,21.0s,baz=44,slow=38						
	3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.79**	**222**	P	**P**	**12 26 11.9**	**+0.5**
ASAR	**Alice Springs**	**22.53**	**196**	P	**P**	**12 26 19.9**	**+0.5**
	3.5nm,0.7s,baz=28,slow=11,SNR=55						
ASAR				S	**S**	**12 30 25.0**	**-1.6**
	0.6nm,1.0s,baz=18,slow=22,SNR=3.2						
ASAR				LR	LR	12 35 53.7	
	comp=Z,230nm,18.8s,baz=86,slow=39						
	3.5nm,0.7s						
INKA	**Innaminka**	**25.59**	**180**	P	**P**	**12 26 50.8**	**+2.2**
WRKA	**Warakurna**	**25.85**	**207**	P	**P**	**12 26 51.9**	**+0.9**
OOD	**Oodnadatta**	**26.10**	**190**	P	**P**	**12 26 54.6**	**+1.4**
MULG	**Mulgathing**	**28.83**	**192**	P	**P**	**12 27 19.2**	**+1.5**
STKA	**Stephens Creek**	**29.73**	**178**	P	**P**	**12 27 26.1**	**+0.5**
	3.6nm,0.8s,baz=331,slow=12,SNR=4.7						
STKA				LR	LR	12 38 52.0	
	comp=Z,110nm,21.8s,baz=25,slow=35						
	3.6nm,0.8s						
DZM	**Mont Dzumac**	**31.99**	**131**	LR	LR	12 39 56.1	
	comp=Z,80nm,18.5s,baz=34,slow=35						
H11N1	**WAKE ISLAND Hy**	**33.55**	**49**	T	T	13 03 24.0	
	baz=228						
H11N2	**WAKE ISLAND Hy**	**33.57**	**49**	T	T	13 03 23.0	
	baz=228						
H11N3	**WAKE ISLAND Hy**	**33.57**	**49**	T	T	13 03 25.3	
	baz=228						
MJAR	**Matsushiro Arr**	**38.42**	**357**	LR	LR	12 43 22.0	
	comp=Z,41nm,18.2s,baz=192,slow=35						
KSRS	**Korea Array**	**41.01**	**344**	P	**P**	**12 29 02.8**	**+0.3**
	0.5nm,0.6s,baz=155,slow=8.2,SNR=1.7						
KSRS				LR	LR	12 43 22.9	
	comp=Z,32nm,21.6s,baz=185,slow=32						
	0.5nm,0.6s						
KLR	**Kul'dur**	**51.62**	**353**	LR	LR	12 48 44.1	
	comp=Z,28nm,21.4s,baz=110,slow=32						
SONM	**Songino Array**	**57.96**	**333**	P	**P**	**12 31 10.0**	**-1.9**
	0.2nm,0.3s,baz=155,slow=11,SNR=1.6						
	0.2nm,0.3s						
MA2	**Magadan**	**61.90**	**6**	LR	LR	12 57 42.4	
	comp=Z,9.7nm,19.2s,baz=168,slow=35						
MKAR	**Makanchi Array**	**70.47**	**322**	P	**P**	**12 32 34.3**	**+0.3**
	0.6nm,0.7s,baz=105,slow=6.8,SNR=5.7						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**72.35**	**329**	P	**P**	**12 32 44.7**	**-0.4**
	0.3nm,0.3s,baz=90,slow=4.8,SNR=1.7						
	0.3nm,0.3s						
VNDA	**Vanda**	**76.31**	**175**	P	**P**	**12 33 08.7**	**+0.9**
	2.3nm,0.6s,baz=328,slow=6.8,SNR=29						
	2.3nm,0.6s						
ILAR	**Eielson Array**	**84.36**	**24**	P	**P**	**12 33 49.3**	**-2.0**
	0.9nm,0.9s,baz=261,slow=5.3,SNR=6.5						
	0.9nm,0.9s						
LPAZ	**La Paz**	**146.20**	**124**	PKPbc	**PKiKP**	**12 41 02.6**	**-2.3**
	2.0nm,0.8s,baz=245,slow=3.0,SNR=6.2						

IDC 20 12:54:02.4±3.5, 2°36′S×141°08′E, h0km, mb3.2/3, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=100.5km s-min=31.1km az=92.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.68**	**200**	P	Pn	12 58 22.7	+0.1
	0.1nm,0.3s,baz=24,slow=12,SNR=12						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.77**	**223**	P	P	12 58 54.9	-1.1
	1.0nm,0.9s,baz=59,slow=12,SNR=1.4						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**22.29**	**198**	P	P	12 59 01.6	0.0
	0.5nm,0.7s,baz=26,slow=10,SNR=12						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**70.97**	**322**	P	P	13 05 22.4	+0.4
	0.3nm,0.8s,baz=134,slow=4.2,SNR=2.6						
	0.3nm,0.8s						

*IDC **20** 12:55:51.1±1.8, 2°07′S×140°71′E, h0km, mb3.6/4, mbtmp3.7/6, ML3.7/2, MS2.6/1, Error ellipse: s-maj=56.9km s-min=28.0km az=82.0*

ISC 20 12:55:53.1±1.8, 2°18′S±0°2′×140°6′E±0°3, h10km, n7, σ0§36/6, mb3.6/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.16**	**15**	LR	LR	13 06 13.4	
	comp=Z,19nm,18.9s,baz=182,slow=39						
CTA	**Charters Tower**	**18.71**	**163**	P	**Pn**	**13 00 12.4**	**+0.2**
	0.1nm,0.3s,baz=350,slow=11,SNR=2.1						
	1.7nm,0.9s						
WRA	**Warramunga Arr**	**18.75**	**199**	P	**Pn**	**13 00 12.6**	**-0.1**
	0.3nm,0.3s,baz=24,slow=12,SNR=14						
	1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.62**	**222**	P	**P**	**13 00 43.4**	**-0.2**
	1.8nm,0.7s,baz=47,slow=15,SNR=3.1						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**22.39**	**196**	P	**P**	**13 00 52.3**	**+0.4**
	1.4nm,0.6s,baz=28,slow=11,SNR=12						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**70.47**	**322**	P	**P**	**13 07 08.0**	**+0.1**
	0.4nm,0.6s,baz=99,slow=6.3,SNR=4.0						
	0.4nm,0.6s						
VNDA	**Vanda**	**76.22**	**175**	P	**P**	**13 07 40.9**	**-0.3**
	0.7nm,0.6s,baz=331,slow=5.9,SNR=9.8						
	0.7nm,0.6s						

*IDC **20** 12:59:42.3±2.6, 12°18′S×166°54′E, h84km±22km, mb4.0/17, mbtmp4.3/19, MS3.8/6, Error ellipse: s-maj=17.1km s-min=15.4km az=71.0*

*NEIC **20** 12:59:43.9±1.7, 12°2′S±0°1′×166°4′E±0°1, h84km±9km, mb4.5/28, Error ellipse: s-maj=20.6km s-min=12.4km az=59.0*

ISC 20 12:59:42.8±0.5, 12°24′S±0°07′×166°44′E±0°07, h83km, n93, σ1§20/81, mb4.5/39, 2C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.96**	**293**	P	**Pn**	**13 01 21.9**	**-0.3**
	3μm,0.4s,baz=137,slow=6.6,SNR=18						
HNR				S	**Sn**	**13 02 37.1**	**-2.9**
	1μm,0.4s,baz=117,slow=20,SNR=3.5						
HNR				LR	LR	13 04 21.8	
	comp=Z,5μm,21.7s,baz=138,slow=40						
HNR	**Honiara**	**6.96**	**293**	Pn	**Pn**	**13 01 22.3**	**+0.1**
KOUNC	**Koumac, New Ca**	**8.52**	**194**	Pn	**Pn**	**13 01 43.9**	**+0.5**
LIFNC	**LIFOU**	**8.52**	**175**	Pn	**Pn**	**13 01 44.1**	**+0.7**
MARNC	**Mare, Loyalty**	**9.31**	**171**	Pn	**Pn**	**13 01 54.7**	**+0.4**
DZM	**Mont Dzumac**	**9.77**	**180**	*e*LR	LR	13 04 17.5	
	comp=Z,581nm,25.6s						
DZM	**Mont Dzumac**	**9.77**	**180**	P	**Pn**	**13 02 00.3**	**-0.4**
	3.0nm,0.5s,baz=22,slow=19,SNR=14						
DZM				S	**Sn**	**13 03 46.7**	**-2.0**
	3.8nm,0.5s,baz=286,slow=22,SNR=1.4						
DZM	**Mont Dzumac**	**9.77**	**180**		**Pn**	**13 02 01.3**	**+0.7**
ONTNC	**Ouen Toro**	**10.01**	**180**	Pn	**Pn**	**13 02 05.2**	**+1.4**
PINNC	**Pines Island,**	**10.36**	**175**	Pn	**Pn**	**13 02 08.2**	**-0.3**
MSVF	**Nonsavu**	**12.47**	**117**	P	**Pn**	**13 02 37.1**	**-0.2**
	6.7nm,1.0s,baz=291,slow=5.3,SNR=4.9						
MSVF				LR	LR	13 06 23.6	
	comp=Z,417nm,20.8s,baz=293,slow=32						
MSVF	**Nonsavu**	**12.47**	**117**	Pn	**Pn**	**13 02 39.1**	**+1.8**
EIDS	**Eidsvold**	**19.51**	**226**	P	**Pn**	**13 04 05.1**	**-0.5**
EIDS				IAmb	IAmb	13 04 26.1	
	comp=Z,16nm,0.7s						
CTA	**Charters Tower**	**20.88**	**245**	P	Pn	13 04 20.3	-1.4
	comp=Z,8.3nm,1.1s,baz=71,slow=13,SNR=5.7						
	comp=Z,8.3nm,1.1s						
CTAO	**Charters Tower**	**20.88**	**245**	P	**P**	**13 04 18.8**	**+0.3**
AFI	**Afiamalu**	**21.28**	**97**	LR	LR	13 10 58.6	
	comp=Z,113nm,18.4s,baz=262,slow=32						
ARMA	**Armidale**	**22.70**	**215**	P	**P**	**13 04 37.8**	**-0.1**
ARMA				IAmb	IAmb	13 04 42.9	
	comp=Z,15nm,0.8s						
COEN	**Coen**	**22.72**	**263**	P	**P**	**13 04 37.0**	**-1.2**
URZ	**Urewera**	**27.60**	**162**	LR	LR	13 13 43.2	
	comp=Z,103nm,20.9s,baz=40,slow=30						
GENI	**Genyem**	**27.73**	**288**	P	**P**	**13 05 26.1**	**+2.3**
	comp=Z,2μmcomp=Z,64nm,0.7s						
SMPI	**Sarmi**	**29.31**	**288**	P	**P**	**13 05 39.6**	**+1.8**
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**30.07**	**226**	P	**P**	**13 05 45.9**	**+1.5**
	comp=Z,10nm,0.7s,baz=61,slow=9.0,SNR=22						
	comp=Z,10nm,0.7s						
STKA	**Stephens Creek**	**30.07**	**226**	P	**P**	**13 05 46.1**	**+1.8**
H11S2	**WAKE ISLAND Hy**	**30.54**	**0**	T	T	13 36 49.1	
	baz=181						
H11S3	**WAKE ISLAND Hy**	**30.54**	**0**	T	T	13 36 43.1	
	baz=181						
H11S1	**WAKE ISLAND Hy**	**30.56**	**0**	T	T	13 36 49.1	
	baz=181						
WR0	**Warramunga Arr**	**31.55**	**252**	P	**P**	**13 05 57.5**	**-0.1**
WR0				IAmb	IAmb	13 05 58.2	
	comp=Z,5.6nm,1.1s						
WB0	**Warramunga Arr**	**31.66**	**252**	P	**P**	**13 05 58.9**	**+0.3**
WB0				IAmb	IAmb	13 05 59.6	
	comp=Z,6.8nm,0.8s						
WRAB	**Tennant Creek**	**31.73**	**252**	P	**P**	**13 05 58.8**	**-0.4**
WRAB				IAmb	IAmb	13 05 60.0	
	comp=Z,3.9nm,0.8s						
WB2	**Warramunga Arr**	**31.73**	**252**	P	**P**	**13 05 58.9**	**-0.2**
WRA	**Warramunga Arr**	**31.74**	**252**	P	**P**	**13 05 59.1**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=83,slow=8.3,SNR=22						
WRA				PcP	**PcP**	**13 08 48.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=73,slow=3.5,SNR=1.4						
	comp=Z,3.1nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**31.76**	**1**	T	T	13 38 23.4	
	baz=182						
H11N3	**WAKE ISLAND Hy**	**31.76**	**1**	T	T	13 38 18.3	
	baz=182						
H11N2	**WAKE ISLAND Hy**	**31.77**	**1**	T	T	13 38 23.4	
	baz=182						
AS31	**Alice Springs**	**32.89**	**245**	P	**P**	**13 06 09.4**	**+0.1**
ASAR	**Alice Springs**	**32.89**	**245**	P	**P**	**13 06 09.1**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=70,slow=9.6,SNR=47						
ASAR				PcP	**PcP**	**13 08 51.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=69,slow=2.8,SNR=1.5						
	comp=Z,4.3nm,0.7s						
ASAR	**Alice Springs**	**32.89**	**245**	P	**P**	**13 06 08.7**	**-0.6**
RAR	**Rarotonga**	**33.50**	**110**	LR	LR	13 17 06.2	
	comp=Z,83nm,19.8s,baz=288,slow=31						
BBOO	**Buckleboo**	**34.53**	**229**	P	**P**	**13 06 24.1**	**+0.7**
SIJI	**Sorong**	**36.67**	**285**	P	**P**	**13 06 41.8**	**-0.1**
	comp=Z,6.4nm,0.7s,baz=55,slow=9.7,SNR=5.6						
	comp=Z,6.4nm,0.7s						
KNRA	**Kununurra**	**36.69**	**260**	P	**P**	**13 06 42.5**	**+0.4**
KNRA				IAmb	IAmb	13 06 51.0	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.75**	**256**	P	**P**	**13 07 07.8**	**+0.1**
	comp=Z,6.4nm,0.7s,baz=84,slow=6.5,SNR=23						
	comp=Z,6.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.75**	**256**	P	**P**	**13 07 06.7**	**-1.0**
FORT	**Forrest**	**39.93**	**236**	P	**P**	**13 07 09.5**	**+0.4**
NLAI	**Namlea**	**39.95**	**280**	P	**P**	**13 07 11.0**	**+1.6**
	comp=Z,3μmcomp=Z,19nm,1.2s						
LBMI	**Labuha**	**40.30**	**284**	P	**P**	**13 07 14.3**	**+1.9**
	comp=Z,19nm,0.8s						
SANI	**Sanana**	**41.33**	**281**	P	**P**	**13 07 21.1**	**+0.2**
	comp=Z,8.9nm,1.0s						
BATI	**Baumata**	**41.98**	**268**	LR	LR	13 24 36.9	
	comp=Z,4μm,20.4s,baz=66,slow=36						
PPT	**Papeete**	**42.76**	**103**	LR	LR	13 21 01.8	
	comp=Z,108nm,21.6s,baz=167,slow=30						
PPT2	**Papeete2**	**42.76**	**103**	*e*LR	LR	13 19 25.0	
	comp=Z,317nm,30.0s						
TBI	**Tubuai**	**43.26**	**111**	*e*LR	LR	13 19 39.7	
	comp=Z,167nm,28.2s						
PSA00	**Pilbara Seismi**	**45.39**	**252**	P	**P**	**13 07 54.5**	**+1.0**
PSA00				IAmb	IAmb	13 07 55.8	
	comp=Z,7.1nm,1.1s						
MBWA	**Marble Bar**	**45.47**	**252**	P	**P**	**13 07 53.5**	**-0.6**
MPSI	**Mapaga**	**47.85**	**282**	P	**P**	**13 08 12.8**	**+0.1**
	comp=Z,7.2nm,0.9s						
NWAO	**Narrogin (SRO)**	**49.37**	**237**	P	**P**	**13 08 24.2**	**0.0**
	comp=Z,9.1nm,0.7s,baz=0.0,slow=13,SNR=6.4						
	comp=Z,9.1nm,0.7s						
MORW	**Morawa**	**49.66**	**242**	P	**P**	**13 08 27.1**	**+0.6**
TAOE	**Nuku Hiva Isla**	**52.55**	**92**	*e*LR	LR	13 23 55.7	
	comp=Z,166nm,27.3s						
KSRS	**Korea Array**	**61.24**	**326**	P	**P**	**13 09 48.8**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=136,slow=7.5,SNR=7.2						
	comp=Z,1.7nm,0.7s						
VNDA	**Vanda**	**65.32**	**181**	P	**P**	**13 10 15.4**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=358,slow=6.7,SNR=14						
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**65.32**	**181**	P	**P**	**13 10 16.1**	**+0.5**
VNDA				IAmb	IAmb	13 10 17.5	
	comp=Z,3.3nm,0.9s						
CASY	**Casey**	**65.52**	**202**	P	**P**	**13 10 17.3**	**+0.2**
CASY				IAmb	IAmb	13 10 17.9	
	comp=Z,3.1nm,0.6s						
SBA	**Scott Base**	**65.61**	**180**	P	**P**	**13 10 18.4**	**+0.9**
SBA				IAmb	IAmb	13 10 19.7	
	comp=Z,6.8nm,0.8s						
IPM	**Ipoh**	**67.10**	**280**	P	**P**	**13 10 28.7**	**+0.5**
RPSI	**Rantau Prapat**	**68.68**	**278**	P	**P**	**13 10 38.1**	**0.0**
RPSI				IAmb	IAmb	13 10 39.4	
	comp=Z,12nm,0.9s						
SRIT	**Nakonsritamara**	**69.58**	**284**	P	**P**	**13 10 44.5**	**+0.9**
GSI	**Gunungsitoli**	**69.66**	**276**	P	**P**	**13 10 43.5**	**-0.6**
XAN	**Xi'an**	**71.43**	**312**	P	**P**	**13 10 55.1**	**+0.6**
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
KMI	**Kunming**	**72.32**	**301**	⇑P	**P**	**13 11 01.6**	**+1.3**
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
CRAI	**Chiangrai**	**72.55**	**296**	P	**P**	**13 11 01.9**	**+0.5**
CRAI				IAmb	IAmb	13 11 03.4	
	comp=Z,12nm,0.9s						
HHC	**Hu-ho-hao-te**	**73.18**	**320**	*e*P	**P**	**13 11 09.1**	**+4.2**
CM31	**Chiang Mai Arr**	**73.21**	**294**	P	**P**	**13 11 07.0**	**+1.6**
CM31				IAmb	IAmb	13 11 07.6	
	comp=Z,9.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.21**	**294**	P	**P**	**13 11 06.3**	**+0.8**
	comp=Z,6.3nm,0.8s,baz=125,slow=4.7,SNR=34						
	comp=Z,6.3nm,0.8s						
CHTO	**Chiang Mai**	**73.33**	**294**	P	**P**	**13 11 07.0**	**+0.9**
PZH	**PanZhiHua**	**73.69**	**302**	P	**P**	**13 11 11.0**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
LZH	**Lanzhou**	**76.06**	**312**	*e*P	**P**	**13 11 23.4**	**+1.6**
LZH				pP	PcP	13 11 32.3	-1.4
LZH				pmax	pmax		
	comp=Z,21nm,1.6s						
QSPA	**South Pole Qui**	**77.77**	**180**	P	**P**	**13 11 30.1**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=114,slow=0.3,SNR=12						
	comp=Z,1.7nm,0.7s						
ULN	**Ulaanbaatar**	**79.67**	**324**	P	**P**	**13 11 41.7**	**+0.3**
ULN				IAmb	IAmb	13 11 42.4	
	comp=Z,3.9nm,0.8s						
SONM	**Songino Array**	**80.03**	**324**	P	**P**	**13 11 43.0**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=115,slow=4.6,SNR=8.6						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**80.03**	**324**	P	**P**	**13 11 42.9**	**-0.4**
GTA	**Gaotai**	**80.37**	**314**	⇑P	**P**	**13 11 46.9**	**+1.4**
GTA				sP	pP	13 12 03.0	-3.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MAW	**Mawson**	**83.87**	**202**	P	**P**	**13 12 03.2**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=62,slow=12,SNR=3.2						
	comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**84.43**	**18**	P	**P**	**13 12 03.7**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=242,slow=4.5,SNR=7.1						
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**86.27**	**50**	P	**P**	**13 12 16.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=233,slow=8.0,SNR=4.3						
	comp=Z,0.4nm,0.7s						
WMQ	**Urumqi**	**90.42**	**315**	*e*P	**P**	**13 12 37.3**	**+2.0**
MKAR	**Makanchi Array**	**94.86**	**317**	P	**P**	**13 12 54.9**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=92,slow=6.4,SNR=34						
	comp=Z,3.3nm,0.7s						
ZALV	**Zalesovo Beam**	**94.92**	**324**	P	**P**	**13 12 53.8**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=94,slow=6.2,SNR=1.8						
	comp=Z,0.6nm,0.6s						
TROLL	**Troll, Antarti**	**95.26**	**185**	P	**P**	**13 12 56.1**	**-1.1**
SNAA	**Sanae**	**95.97**	**183**	P	**P**	**13 12 58.9**	**-1.5**
ARCES	**ARCESS Array B**	**117.66**	**346**	PKP	**PKPdf**	**13 18 16.5**	**-2.3**
	comp=Z,0.5nm,0.4s,baz=108,slow=2.3,SNR=5.1						
FINES	**FINESS Array B**	**123.13**	**339**	PKP	**PKPdf**	**13 18 28.1**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=104,slow=8.0,SNR=4.0						
KEST	**Kesra**	**148.78**	**322**	PKPbc	**PKPbc**	**13 19 21.2**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=73,slow=2.7,SNR=4.1						
ESDC	**Sonseca Array**	**151.39**	**344**	PKPbc	**PKPbc**	**13 19 26.7**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=5.7,slow=3.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**165.09**	**275**	PKPab	**PKPab**	**13 20 34.7**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=90,slow=3.7,SNR=5.1						

IDC 20 13:04:39.7±1.6, 5°53N×126°40E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=153.8km s-min=24.3km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.49**	**163**	P	P	13 10 19.8	+0.8
	0.3nm,0.7s,baz=344,slow=11,SNR=5.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**29.93**	**166**	P	P	13 10 48.8	-0.9
	0.1nm,0.3s,baz=338,slow=7.0,SNR=1.4						
	0.1nm,0.3s						
SONM	**Songino Array**	**45.50**	**341**	P	P	13 13 01.1	+0.1
	0.2nm,0.4s,baz=138,slow=6.7,SNR=1.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.90**	**325**	P	P	13 14 19.2	-0.3
	0.5nm,0.8s,baz=120,slow=8.7,SNR=1.8						
	0.5nm,0.8s						

*BJI **20** 13:10:42.5±0.0, 2°18′S×139°19′E, h10km, mb5.0/81, mB5.2/57, Ms5.1/85, Ms7 4.9/80*

*NEIC **20** 13:10:47.7, 1°99′S×138°76′E, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.87; Mθθ 1.16; Mϕϕ-0.28; Mrθ-0.44; Mrϕ-0.11; Mθϕ 0.69; Fault plane solution: M₀1.33000×10¹⁷ NP1:ϕ₁247.31000°, δ39.28000°, λ-138.79000°. NP2:ϕ₂123.18000°, δ65.35000°, λ-58.39000°. Principal axes: T 1.2944, Plg15.0000°, Azm191.0000°; N 0.0752, Plg28.0000°, Azm289.0000°; P -1.3695, Plg57.0000°, Azm77.0000°;*

*MOS **20** 13:10:47.9±0.9, 1°99′S×138°72′E, h27km, mb5.5/63, MS5.0/5 Error ellipse: s-maj=8.0km s-min=4.4km az=109.3*

*NEIC **20** 13:10:47.7±1.5, 1°99′S±0°07′×138°75′E±0°06, h10km±1km, mb5.5/190, Mwb5.4/33, Error ellipse: s-maj=11.7km s-min=10.0km az=10.0*

*IDC **20** 13:10:50.7±2.0, 2°00′S×138°78′E, h35km±16km, mb4.7/21, mbtmp5.0/27, ML4.9/4, MS5.0/44, Error ellipse: s-maj=13.8km s-min=7.6km az=78.0*

*DJA **20** 13:10:51.4±0.2, 2°S±2°×13°9E±°, h40km±2km, M5.3/100, mb5.5/100, mB5.7/69, MLv5.7/6, Mw5.3/42, Mw(mB)5.3/69, MwMwp5.2/28, Mwp5.4/28*

*GCMT **20** 13:10:51.7±0.1, 1°85S±0°01×138°76E±0°01, h19km, MW5.4/139, Moment Tensor Solution. s122,c192; s139,c249; Duration: 1§3 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.36±.01; Mθθ 0.80±.01; Mϕϕ-0.43±.01; Mrθ-1.22±.06; Mrϕ-0.01±.01; Mθϕ 1.08±.05; Best double couple: M₀1.76900×10¹⁷ NP1:ϕ₁129.00000°, δ84.00000°, λ-70.00000°. NP2:ϕ₂235.00000°, δ21.00000°, λ-163.00000°. Principal axes: T 1.7480, Plg36.0000°, Azm201.0000°; N 0.0450, Plg20.0000°, Azm306.0000°; P -1.7910, Plg47.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*KLM **20** 13:10:54.2°12S×138°91E, h51km, mb5.6*

ISC 20 13:10:49.8±0.4, 2°00S±0°03×138°74E±0°03, h29km±2km, h29km:pP-P, n847, σ1§49/906, mb5.4/223, MS5.0/76, 30C-28D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.03**	**292**	P	**Pb**	**13 10 55.8**	**+1.1**
GENI	**Genyem**	**1.54**	**112**	P	**Pn**	**13 11 15.5**	**+0.2**
GENI				S	**Sn**	**13 11 35.2**	**+0.8**
SRPI	**Serui, Papua**	**2.50**	**273**	P	**Pn**	**13 11 29.7**	**+1.2**
SRPI				S	**Sn**	**13 12 00.4**	**+2.3**
BAKI	**Biak**	**2.75**	**287**	P	**Pn**	**13 11 31.8**	**-0.2**
FAKI	**Fak Fak**	**6.55**	**262**	Pn	**Pn**	**13 12 24.9**	**+0.7**
FAKI	**Fak Fak**	**6.55**	**262**	P	**Pn**	**13 12 26.2**	**+2.0**
	4.7nm8μm15μm1μm,0.5s						
SIJI	**Sorong**	**7.55**	**278**	Pn	**Pn**	**13 12 40.8**	**+2.7**
	21nm,0.3s,baz=68,slow=13,SNR=86						
SIJI				Sn	**Sn**	**13 14 02.5**	**-0.2**
	baz=94,slow=19						
SIJI				LR	LR	13 16 15.0	
	comp=Z,12μm,19.0s,baz=90,slow=43						
	100nm,0.6s						
MANU	**Manus Island**	**8.62**	**90**	Pn	**Pn**	**13 12 52.1**	**-0.6**
BNDI	**Bandanaira**	**9.17**	**254**	P	**Pn**	**13 13 03.1**	**+2.9**
	5μm9μm452nm,0.4s						
SAUI	**Saumlaki**	**9.50**	**231**	Pn	**Pn**	**13 13 04.5**	**-0.2**
SAUI	**Saumlaki**	**9.50**	**231**	P	**Pn**	**13 13 08.4**	**+3.7**
	8μm14μm1μm,0.8s						
MSAI	**Masohi**	**9.89**	**262**	P	**Pn**	**13 13 13.8**	**+3.7**
	2μm134nm,0.5s						
AAI	**Ambon**	**10.66**	**261**	P	**Pn**	**13 13 24.2**	**+3.5**
AAI				pmax	pmax		
	comp=Z,446nm,0.4s						
AAI	**Ambon**	**10.66**	**261**	P	**Pn**	**13 13 23.4**	**+2.7**
	comp=Z,6μmcomp=Z,469nm,0.5s						
PMG	**Port Moresby**	**11.14**	**132**	Pn	**Pn**	**13 13 27.9**	**+0.6**
	comp=Z,27nm,0.8s,baz=311,slow=11,SNR=11						
PMG				LR	LR	13 19 05.7	
	comp=Z,15μm,18.9s,baz=334,slow=44						
PMG	**Port Moresby**	**11.14**	**132**	Pn	**Pn**	**13 13 26.5**	**-0.7**
PMG	**Port Moresby**	**11.14**	**132**	*e*P	**Pn**	**13 13 27.0**	**-0.3**
PMG				pmax	pmax		
	comp=Z,36nm,1.1s						
LBMI	**Labuha**	**11.32**	**277**	P	**Pn**	**13 13 33.2**	**+3.6**
	comp=Z,2μmcomp=Z,81nm,0.8s						
NLAI	**Namlea**	**11.69**	**264**	P	**Pn**	**13 13 37.5**	**+2.7**
	comp=Z,188nm,0.8s						
TNTI	**Ternate**	**11.70**	**284**	Pn	**Pn**	**13 13 36.2**	**+1.3**
TNTI	**Ternate**	**11.70**	**284**	P	**Pn**	**13 13 37.6**	**+2.7**
	comp=Z,2μmcomp=Z,135nm,1.5s						
KDU	**Kakadu**	**12.30**	**210**	P	**Pn**	**13 13 42.3**	**-0.8**
	baz=12,SNR=916						
COEN	**Coen**	**12.66**	**160**	P	**Pn**	**13 13 48.3**	**+0.2**
	baz=13,SNR=47						
COEN	**Coen**	**12.66**	**160**	Pn	**Pn**	**13 13 48.2**	**+0.2**
SANI	**Sanana**	**12.74**	**270**	P	**Pn**	**13 13 50.9**	**+1.8**
	comp=Z,2μmcomp=Z,2μmcomp=Z,181nm,0.7s						
MTN	**Manton Dam**	**13.14**	**215**	P	**Pn**	**13 13 54.6**	**0.0**
	baz=13,SNR=320						
MTN	**Manton Dam**	**13.14**	**215**	Pn	**Pn**	**13 13 54.6**	**0.0**
KRVT	**Keravat (AS076**	**13.46**	**100**	Pn	**Pn**	**13 14 00.3**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=248,slow=12,SNR=7.7						
KRVT				LR	LR	13 18 40.0	
	comp=Z,6μm,20.9s,baz=61,slow=35						
	comp=Z,22nm,0.7s						
RABL	**Rabaul**	**13.58**	**100**		**Pn**	**13 14 01.0**	**+0.4**
KMSI	**Cibinong**	**14.98**	**280**	P	**Pn**	**13 14 21.2**	**+1.6**
	comp=Z,4μmcomp=Z,254nm,0.7s						
DAV	**Davao City (W)**	**15.93**	**305**	Pn	**P**	**13 14 33.9**	**-1.4**
	comp=Z,141nm,0.3s,baz=56,slow=24,SNR=0.9						
BIPH	**Bislig**	**15.96**	**309**	*e*P	**Pn**	**13 14 31.8**	**-0.6**
LUWI	**Luwuk**	**15.99**	**273**	Pn	**Pn**	**13 14 33.0**	**+0.2**
LUWI	**Luwuk**	**15.99**	**273**	P	**P**	**13 14 34.6**	**-1.4**
	comp=Z,2μmcomp=Z,3μmcomp=Z,264nm,2.1s						
GUMO	**Guam**	**16.64**	**21**	Pn	**Pn**	**13 14 41.9**	**+0.9**
	comp=Z,9.2nm,0.3s,baz=185,slow=8.6,SNR=7.5						
GUMO				LR	LR	13 20 44.7	
	comp=Z,5μm,18.1s,baz=192,slow=36						
	comp=Z,63nm,0.5s						
GUMO	**Guam**	**16.64**	**21**		**P**	**13 14 42.9**	**-0.3**
GUMO				IAmb	IAmb	13 14 46.0	
	comp=Z,524nm,1.4s						
GUMO	**Guam**	**16.64**	**21**	P	**P**	**13 14 42.9**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,524nm,1.4s						
KNRA	**Kununurra**	**16.77**	**215**	P	**Pn**	**13 14 42.4**	**-0.3**
	baz=17,SNR=196						
KNRA	**Kununurra**	**16.77**	**215**	Pn	**Pn**	**13 14 42.2**	**-0.5**
MTSU	**Mount Surprise**	**16.94**	**162**	P	**P**	**13 14 47.0**	**+0.4**
	baz=17,SNR=57						
MRSI	**Marisa**	**16.98**	**278**	P	**P**	**13 14 46.3**	**-0.7**
	comp=Z,2μmcomp=Z,1μmcomp=Z,107nm,1.1s						
BATI	**Baumata**	**17.05**	**241**	Pn	**Pn**	**13 14 47.0**	**+0.7**
	comp=Z,22nm,0.3s,baz=94,slow=18,SNR=33						
BATI				Sn	**Sn**	**13 17 50.7**	**-4.5**
	comp=Z,1.4nm,0.3s,baz=70,slow

CTAO	**Charters Tower**	**19.42**	**158**	P	**Pn**	**13 15 14.8**	**-0.4**
CTAO				pmax	pmax			
	comp=Z,92nm,1.0s							
CNOP	**Candoni, Negro**	**19.88**	**307**	⇓*e*P	**Pn**	**13 15 23.2**	**+2.5**
FITZ	**Fitzroy Crossi**	**20.52**	**218**	P	**P**	**13 15 26.5**	**+0.7**
	comp=Z,77nm,0.9s,baz=46,slow=10,SNR=58							
FITZ				S	**S**	**13 19 03.8**	**-10**	
	comp=Z,247nm,0.7s,baz=157,slow=8.7,SNR=9.2							
FITZ				LR	LR	13 24 20.2		
	comp=Z,8µm,21.1s,baz=34,slow=39							
	comp=Z,77nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.52**	**218**	P	**P**	**13 15 26.5**	**+0.7**
	baz=21,SNR=57							
FITZ	**Fitzroy Crossi**	**20.52**	**218**	P	**P**	**13 15 26.1**	**+0.2**
RCP	**Roxas**	**20.84**	**311**	⇓*e*P	Pn	13 15 31.7	-0.2
PATS	**Pohnpei**	**21.42**	**66**	P	**P**	**13 15 32.8**	**-2.8**
	baz=21,SNR=4.6							
PATS	**Pohnpei**	**21.42**	**66**	P	**P**	**13 15 35.7**	**+0.1**
MYLDM	**Lahad Datu**	**21.44**	**290**	P	**P**	**13 15 36.7**	**+0.9**
SMKI	**Samarinda**	**21.58**	**274**	P	**P**	**13 15 40.7**	**+3.3**
	comp=Z,6µmcomp=Z,9µmcomp=Z,325nm,1.2s							
BKB	**Balikpapan**	**21.85**	**272**	P	**P**	**13 15 43.3**	**+3.1**
	comp=Z,6µmcomp=Z,6µmcomp=Z,345nm,0.9s							
PLAI	**Plampang**	**21.93**	**251**	P	**P**	**13 15 40.1**	**-1.0**
	comp=Z,3µmcomp=Z,2µmcomp=Z,164nm,1.1s							
AS31	**Alice Springs**	**22.04**	**192**	P	**P**	**13 15 42.4**	**+0.2**
AS31				IAmb	IAmb	13 15 50.4		
	comp=Z,106nm,0.7s							
ASAR	**Alice Springs**	**22.04**	**192**	P	**P**	**13 15 42.8**	**+0.5**
	comp=Z,384nm,0.9s,baz=22,slow=8.5,SNR=934							
ASAR				S	**S**	**13 19 43.3**	**-0.7**	
	comp=Z,54nm,1.0s,baz=16,slow=26,SNR=7.6							
ASAR				LR	LR	13 25 12.6		
	comp=Z,12µm,18.3s,baz=10,slow=39							
ASAR	**Alice Springs**	**22.04**	**192**	P	**P**	**13 15 42.4**	**+0.2**
HNR	**Honiara**	**22.34**	**110**	P	**P**	**13 15 44.9**	**-0.6**
	comp=Z,722nm,0.3s,baz=156,slow=12,SNR=7.5							
HNR				S	**S**	**13 19 50.3**	**+0.5**	
	comp=Z,619nm,0.8s,baz=329,slow=19,SNR=1.7							
HNR				LR	LR	13 25 44.8		
	comp=Z,36µm,18.8s,baz=296,slow=40							
JCNP	**Jose Panganiba**	**22.68**	**316**	⇑*e*P	**P**	**13 15 49.4**	**+0.2**
TWSI	**Taliwang, Sumb**	**22.75**	**252**	P	**P**	**13 15 49.3**	**-0.6**
	comp=Z,967nmcomp=Z,55nm,0.9s							
PPR	**Puerto Princes**	**23.11**	**301**	⇓*e*P	**P**	**13 15 58.8**	**+5.3**
LQP	**Lukban**	**23.39**	**314**	⇓*e*P	**P**	**13 15 57.0**	**+0.4**
PGP	**Puerto Galera**	**23.42**	**312**	⇓*e*P	**P**	**13 15 57.6**	**+0.9**
TGY	**Tagaytay City**	**23.82**	**313**	P	**P**	**13 16 00.7**	**+0.1**
	baz=90,slow=18							
MTKI	**Muara Teweh, K**	**23.86**	**272**	P	**P**	**13 16 01.7**	**+0.8**
	comp=Z,1µmcomp=Z,4µmcomp=Z,83nm,1.4s							
KKM	**Kota Kinabalu**	**23.87**	**290**	P	**P**	**13 16 01.1**	**-0.1**
KKM				IAmb	IAmb	13 16 27.6		
	comp=Z,194nm,1.2s							
BBKI	**Banjar Baru**	**23.91**	**266**	P	**P**	**13 16 03.7**	**+2.2**
	comp=Z,7µmcomp=Z,415nm,1.9s							
LUBP	**Lubang**	**24.10**	**311**	⇑*e*P	**P**	**13 16 03.9**	**+0.8**
SRBI	**Singaraja**	**24.19**	**255**	P	**P**	**13 16 05.1**	**+1.1**
	comp=Z,3µmcomp=Z,136nm,1.1s							
DNP	**Denpasar**	**24.33**	**253**	P	**P**	**13 16 05.5**	**+0.2**
	comp=Z,484nm,1.2s							
IGBI	**Denpasar**	**24.43**	**253**	P	**P**	**13 16 06.9**	**+0.7**
	comp=Z,3µmcomp=Z,141nm,1.3s							
PCPH	**Palayan**	**24.68**	**316**	⇓*e*P	**P**	**13 16 09.3**	**+0.9**
QLP	**Quilpie**	**25.00**	**168**	P	**P**	**13 16 13.3**	**+2.1**
	baz=25,SNR=60							
WRKA	**Warakurna**	**25.02**	**203**	P	**P**	**13 16 11.4**	**-0.1**
	baz=25,SNR=243							
ABJI	**Asem Bagus**	**25.07**	**256**	P	**P**	**13 16 13.8**	**+1.8**
	comp=Z,159nm,1.1s							
KMMI	**Kalianget**	**25.19**	**258**	P	**P**	**13 16 15.1**	**+2.0**
	comp=Z,3µmcomp=Z,9µmcomp=Z,777nm,1.2s							
JAGI	**Jajag, Banyuwa**	**25.30**	**254**	P	**P**	**13 16 14.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**25.30**	**254**	P	**P**	**13 16 15.3**	**+1.2**
	comp=Z,2µmcomp=Z,176nm,1.0s							
BLJI	**Banyuglugur**	**25.68**	**256**	P	**P**	**13 16 18.8**	**+1.2**
	comp=Z,79nm,1.1s							
EIDS	**Eidsvold**	**26.10**	**154**	P	**P**	**13 16 22.3**	**+1.0**
	baz=26,SNR=50							
EIDS	**Eidsvold**	**26.10**	**154**	P	**P**	**13 16 21.9**	**+0.7**
RMQ	**Roma**	**26.18**	**159**	P	**P**	**13 16 23.8**	**+1.9**
	baz=26,SNR=42							
BWJI	**Bawean**	**26.29**	**261**	P	**P**	**13 16 23.0**	**-0.1**
	comp=Z,2µmcomp=Z,4µmcomp=Z,186nm,1.1s							
MBWA	**Marble Bar**	**26.57**	**223**	P	**P**	**13 16 25.9**	**+0.4**
MBWA				IAmb	IAmb	13 16 39.2		
	comp=Z,144nm,1.1s							
PSA00	**Pilbara Seismi**	**26.77**	**222**	P	**P**	**13 16 27.8**	**+0.5**
PSA00	**Pilbara Seismi**	**26.77**	**222**	P	**P**	**13 16 27.6**	**+0.3**
PSA00				IAmb	IAmb	13 16 40.4		
	comp=Z,97nm,1.4s							
SBUM	**Sibu**	**26.88**	**279**	P	**P**	**13 16 28.6**	**+0.2**
SBUM	**Sibu**	**26.88**	**279**	P	**P**	**13 16 31.0**	**+2.6**
TBJI	**Tambak Boyo**	**27.23**	**259**	P	**P**	**13 16 33.3**	**+1.8**
	comp=Z,3µmcomp=Z,208nm,1.1s							
STKI	**Sintang**	**27.33**	**274**	P	**P**	**13 16 34.6**	**+2.1**
	comp=Z,13µmcomp=Z,34nm,1.3s							
PWJI	**Pagerwojo**	**27.48**	**256**	P	**P**	**13 16 34.9**	**+1.1**
	comp=Z,72nm,0.9s							
NGJI	**Ngawi**	**27.69**	**258**	P	**P**	**13 16 38.3**	**+2.6**
	comp=Z,119nm,1.0s							
PCJI	**Pacitan**	**28.12**	**256**	P	**P**	**13 16 40.7**	**+1.2**
	comp=Z,116nm,1.1s							
JCJ	**Chichijima**	**29.12**	**6**	P	**P**	**13 16 48.6**	**+0.4**
	comp=Z,76nm,0.9s,baz=296,slow=20,SNR=2.8							
JCJ				LR	LR	13 27 25.7		
	comp=Z,3µm,20.0s,baz=159,slow=34							
	comp=Z,76nm,0.9s							
STKA	**Stephens Creek**	**29.84**	**175**	P	**P**	**13 16 54.8**	**+0.2**
	comp=Z,58nm,0.8s,baz=344,slow=9.3,SNR=37							
STKA				LR	LR	13 30 11.6		
	comp=Z,11µm,19.2s,baz=350,slow=39							
	comp=Z,58nm,0.8s							
STKA	**Stephens Creek**	**29.84**	**175**	P	**P**	**13 16 54.9**	**+0.3**
	baz=30,SNR=57							
STKA	**Stephens Creek**	**29.84**	**175**	P	**P**	**13 16 54.3**	**-0.2**
STKA	**Stephens Creek**	**29.84**	**175**	*ce*P	**P**	**13 16 54.9**	**+0.3**
CMSA	**Cobar Meteorol**	**30.10**	**168**	P	**P**	**13 16 58.3**	**+1.4**
	baz=30,SNR=71							
FORT	**Forrest**	**30.36**	**198**	P	**P**	**13 17 00.6**	**+1.4**
	baz=31,SNR=28							
FORT	**Forrest**	**30.36**	**198**	P	**P**	**13 16 59.4**	**+0.3**
JOW	**Kunigami**	**30.39**	**341**	LR	LR	13 26 43.6		
	comp=Z,3µm,20.5s,baz=134,slow=31							
BBOO	**Buckleboo**	**30.75**	**184**	P	**P**	**13 17 03.2**	**+0.6**
	baz=31,SNR=24							
BBOO	**Buckleboo**	**30.75**	**184**	P	**P**	**13 17 02.4**	**-0.3**
ARMA	**Armidale**	**30.79**	**158**	P	**P**	**13 17 04.0**	**+0.8**
	baz=31,SNR=18							
ARMA	**Armidale**	**30.79**	**158**	P	**P**	**13 17 03.2**	**+0.1**
ARMA				IAmb	IAmb	13 17 08.3		
	comp=Z,64nm,1.1s							
NACB	**Ninganchiao**	**30.90**	**328**	P	**P**	**13 17 03.2**	**-0.8**
KOUNC	**Koumac, New Ca**	**31.01**	**128**	P	**P**	**13 17 05.6**	**+0.6**
TPI	**Tanjungpandan**	**31.07**	**268**	P	**P**	**13 17 06.2**	**+0.5**
	comp=Z,340nmcomp=Z,31nm,1.1s							
MEEK	**Meekatharra**	**31.20**	**216**	P	**P**	**13 17 08.1**	**+1.4**
	baz=32,SNR=13							
HTT	**Hallett**	**31.27**	**180**	P	**P**	**13 17 08.0**	**+0.8**
	baz=32,SNR=56							
LEM	**Lembang**	**31.39**	**260**	LR	LR	13 32 43.9		
	comp=Z,967nm,19.2s,baz=51,slow=42							
GIRL	**Giralia**	**31.42**	**227**	P	**P**	**13 17 12.6**	**+4.0**
	baz=32,SNR=5.4							
GIRL	**Giralia**	**31.42**	**227**	P	**P**	**13 17 09.0**	**+0.4**
CBJI	**Citeko**	**32.09**	**261**	P	P	13 17 26.9	+12
PPBI	**Pangkal Pinang**	**32.58**	**269**	P	**P**	**13 17 20.0**	**+1.0**
	comp=Z,13µmcomp=Z,64nm,0.9s							
LIFNC	**LIFOU**	**33.48**	**126**	P	**P**	**13 17 26.1**	**-0.6**
DZM	**Mont Dzumac**	**33.52**	**129**	*e*S	**S**	**13 22 50.5**	**+2.9**
	comp=Z,331nm,38.5s							
DZM				*e*LR	LR	13 26 18.8		
	comp=Z,2µm,30.2s							
DZM	**Mont Dzumac**	**33.52**	**129**	P	**P**	**13 17 27.5**	**+0.3**
	comp=Z,6.7nm,1.0s,baz=294,slow=18,SNR=3.3							
	comp=Z,6.7nm,1.0s							
DZM	**Mont Dzumac**	**33.52**	**129**	P	**P**	**13 17 27.0**	**-0.2**
RIV	**Riverview**	**33.73**	**161**	P	P	13 17 33.6	+4.9
	baz=34,SNR=4.9							
DSRI	**Dabo**	**34.19**	**272**	P	**P**	**13 17 34.4**	**+1.4**
	comp=Z,19nm,1.3s							
H11S3	**WAKE ISLAND Hy**	**34.22**	**52**	T	T	13 53 24.4		
	baz=236,slow=75,SNR=397							
H11S2	**WAKE ISLAND Hy**	**34.23**	**52**	T	T	13 53 29.7		
	baz=236,slow=75,SNR=382							
H11S1	**WAKE ISLAND Hy**	**34.24**	**52**	T	T	13 53 29.6		
	baz=236,slow=75,SNR=340							

TPRI	**Tanjung Pinang**	**34.33**	**275**	P	P	13 17 45.4	+11	
CAN	**Canberra**	**34.50**	**165**	P	**P**	**13 17 35.4**	**-0.1**	
CAN	**Canberra**	**34.50**	**165**	P	**P**	**13 17 35.4**	**-0.1**	
CAN				pmax	pmax			
	comp=Z,143nm,1.2s							
MORW	**Morawa**	**34.52**	**217**	P	**P**	**13 17 36.2**	**+0.5**	
	baz=35,SNR=14							
MORW	**Morawa**	**34.52**	**217**	P	**P**	**13 17 35.8**	**+0.1**	
CNB	**Canberra Magne**	**34.59**	**165**	P	**P**	**13 17 37.6**	**+1.4**	
	baz=35,SNR=36							
WAKE	**Wake Island**	**34.64**	**51**	P	**P**	**13 17 36.1**	**-0.6**	
ARPS	**Mount Arapiles**	**34.72**	**176**	P	**P**	**13 17 38.8**	**+1.6**	
	baz=35,SNR=62							
JHJ2	**Mitsune**	**34.94**	**2**	P	**P**	**13 17 38.5**	**-0.7**	
JHJ	**Hachijo jima 2**	**34.95**	**2**	LR	LR	13 28 32.8		
	comp=Z,3µm,21.8s,baz=206,slow=30							
JMBI	**JAMBI**	**35.08**	**270**	P	**P**	**13 17 42.7**	**+2.0**	
	comp=Z,165nm,1.0s							
MYKOM	**Kota Tinggi**	**35.09**	**276**	P	**P**	**13 17 40.6**	**-0.1**	
MYKOM				IAmb	IAmb	13 17 57.2		
	comp=Z,115nm,1.5s							
LHSI	**Lahat**	**35.21**	**266**	P	**P**	**13 17 43.2**	**+1.3**	
	comp=Z,3µmcomp=Z,211nm,1.4s							
QIZ	**Qiongzhong**	**35.26**	**308**	P	**P**	**13 17 42.8**	**+0.6**	
QIZ				S	**S**	**13 23 12.0**	**-2.5**	
QIZ				LR	LR			
	comp=Z,1µm,24.7s							
QIZ				LR	LR			
	comp=Z,740nm,16.7s							
QIZ				LR	LR			
	comp=Z,970nm,16.7s							
BLDU	**Ballidu**	**35.29**	**214**	P	**P**	**13 17 42.8**	**+0.5**	
	baz=36,SNR=22							
KLBR	**Kellerberrin**	**35.47**	**212**	P	**P**	**13 17 44.6**	**+0.7**	
	baz=36,SNR=16							
JMN	**Monobe**	**35.83**	**353**	P	**P**	**13 17 46.7**	**-0.2**	
TOO	**Toolangi**	**35.94**	**171**	P	**P**	**13 17 48.9**	**+1.1**	
	baz=36,SNR=18							
MILA	**Mila**	**36.18**	**166**	P	**P**	**13 17 51.2**	**+1.2**	
	baz=36,SNR=12							
MASI	**Maura Aman, Be**	**36.48**	**267**	P	**P**	**13 17 55.6**	**+2.8**	
	comp=Z,110nm,1.4s							
MUN	**Mundaring**	**36.60**	**213**	P	**P**	**13 17 54.3**	**+0.8**	
	baz=37,SNR=6.6							
JRMM	**Jerantut**	**36.71**	**279**	P	**P**	**13 17 58.0**	**+3.3**	
NWAO	**Narrogin (SRO)**	**36.80**	**211**	P	**P**	**13 17 55.8**	**+0.6**	
	comp=Z,52nm,0.9s,baz=256,slow=9.7,SNR=5.9							
NWAO				LR	LR	13 34 13.9		
	comp=Z,10µm,19.7s,baz=256,slow=38							
	comp=Z,52nm,0.9s							
NWAO	**Narrogin (SRO)**	**36.80**	**211**	P	**P**	**13 17 57.4**	**+2.2**	
	baz=37,SNR=7.0							
NWAO				P	**P**	**13 17 57.4**	**+2.2**	
	baz=37,SNR=7.0							
NWAO	**Narrogin (SRO)**	**36.80**	**211**	P	**P**	**13 17 55.4**	**+0.2**	
NWAO				IAmb	IAmb	13 17 59.1		
	comp=Z,70nm,0.9s							
SSE	**Sheshan**	**36.91**	**334**	P	P	13 18 04.0	+7.9	
SSE				S	S	13 23 50.9	+12	
SSE				pmax	pmax			
	comp=Z,22nm,1.1s							
SSE				pmax	pmax			
	comp=Z,540nm,4.5s							
SSE				LR	LR			
	comp=N,680nm,21.8s							
SSE				LR	LR			
	comp=E,470nm,21.6s							
KRJI	**Kerinci**	**37.25**	**269**	P	**P**	**13 18 00.8**	**+1.4**	
	comp=E,255nm,1.1s							
SDSI	**Sungai Dareh**	**37.31**	**271**	P	**P**	**13 18 00.6**	**+0.8**	
	comp=E,775nmcomp=E,48nm,1.4s							
BKNI	**Bangkinang**	**37.76**	**273**	P	**P**	**13 18 04.3**	**+0.6**	
	comp=E,178nm,1.2s							
IPM	**Ipoh**	**38.23**	**280**	P	**P**	**13 18 07.7**	**+0.1**	
IPM				IAmb	IAmb	13 18 18.3		
	comp=Z,83nm,1.1s							
RKGY	**Rocky Gully**	**38.26**	**210**	P	**P**	**13 18 08.8**	**+1.3**	
	baz=38,SNR=4.7							
PDSI	**Padang**	**38.28**	**271**	P	**P**	**13 18 08.8**	**+0.8**	
	comp=Z,826nmcomp=Z,51nm,0.8s							
MJAR	**Matsushiro Arr**	**38.35**	**359**	P	**P**	**13 18 06.7**	**-1.6**	
	comp=Z,2.9nm,0.5s,baz=172,slow=10,SNR=8.0							
MJAR				LR	LR	13 31 35.9		
	comp=Z,2µm,20.1s,baz=156,slow=32							
	comp=Z,2.9nm,0.5s							
MAJO	**Matsushiro**	**38.35**	**359**	P	**P**	**13 18 07.2**	**-1.1**	
MAJO	**Matsushiro**	**38.35**	**359**	⇑*e*P	**P**	**13 18 07.0**	**-1.3**	
MAJO				pmax	pmax			
	comp=Z,11nm,0.6s							
MJB9	**Matsu-Tunnel**	**38.35**	**359**	P	**P**	**13 18 07.2**	**-1.1**	
NAWB	**Namwon**	**38.71**	**345**	P	**P**	**13 18 11.0**	**-0.3**	
NAWB				IAmb	IAmb	13 19 02.9		
	comp=Z,184nm,1.7s							
KULM	**Kulim**	**38.73**	**281**	P	**P**	**13 18 11.4**	**-0.4**	
KULM				IAmb	IAmb	13 18 23.0		
	comp=Z,129nm,1.2s							
NJ2	**Nanjing**	**38.76**	**333**	⇑*i*P	**P**	**13 18 13.5**	**+1.7**	
NJ2				sP	**pP**	**13 18 21.3**	**+0.9**	
NJ2				PP	**PnPn**	**13 19 45.4**	**+2.2**	
NJ2				PcP	**PcP**	**13 20 18.4**	**-4.6**	
NJ2				S	**S**	**13 24 06.1**	**-1.3**	
NJ2				pmax	pmax			
	comp=Z,26nm,0.8s							
NJ2				pmax	pmax			
	comp=Z,300nm,4.2s							
NJ2				LR	LR			
	comp=Z,2µm,15.9s							
NJ2				LR	LR			
	comp=Z,2µm,18.0s							
NJ2				LR	LR			
	comp=Z,2µm,19.3s							
SISI	**Saibi**	**39.64**	**270**	P	**P**	**13 18 19.4**	**0.0**	
	comp=Z,2µmcomp=Z,173nm,1.3s							
JSD	**Sado**	**39.84**	**359**	P	**P**	**13 18 20.0**	**-0.7**	
WHN	**Wuhan**	**39.85**	**326**	⇑P	**P**	**13 18 23.1**	**+2.2**	
WHN				sP	**sP**	**13 18 31.9**	**-1.2**	
WHN				S	**S**	**13 24 28.9**	**+5.1**	
WHN				pmax	pmax			
	comp=Z,250nm,1.9s							
WHN				LR	LR			
	comp=Z,2µm,17.9s							
RPSI	**Rantau Prapat**	**40.08**	**277**	P	**P**	**13 18 22.4**	**-0.6**	
RPSI				IAmb	IAmb	13 18 33.4		
	comp=Z,113nm,1.0s							
PSI	**Prapat**	**40.09**	**277**	P	**P**	**13 18 22.4**	**-0.9**	
PSI				pmax	pmax			
	comp=Z,113nm,1.0s							
KSAR	**Wonju Array Be**	**40.52**	**347**	P	**P**	**13 18 26.6**	**+0.3**	
KSAR	**Wonju Array Be**	**40.52**	**347**	P	**P**	**13 18 26.6**	**+0.3**	
KSRS	**Korea Array**	**40.52**	**347**	P	**P**	**13 18 24.9**	**-1.4**	
	comp=Z,1.2nm,0.5s,baz=166,slow=11,SNR=7.2							
KSRS				PcP	**PcP**	**13 20 29.6**	**+1.1**	
	comp=Z,2.3nm,0.8s,baz=185,slow=2.2,SNR=2.9							
	comp=Z,1.2nm,0.5s							
MOO	**Moorlands**	**40.97**	**170**	P	**P**	**13 18 31.3**	**+1.3**	
	baz=41,SNR=6.9							
SEHB	**SEOHWA**	**41.23**	**347**	P	**P**	**13 18 31.9**	**-0.2**	
SEHB				IAmb	IAmb	13 18 34.6		
	comp=Z,129nm,1.7s							
GSI	**Gunungsitoli**	**41.29**	**274**	P	**P**	**13 18 32.6**	**-0.4**	
GSI	**Gunungsitoli**	**41.29**	**274**	P	**P**	**13 18 32.7**	**-0.4**	
	comp=Z,188nm,1.1s							
KCSI	**Kotacane, Aceh**	**41.31**	**278**	P	**P**	**13 18 32.7**	**-0.6**	
	comp=Z,1µmcomp=Z,83nm,1.4s							
TAU	**Tasmania Unive**	**41.45**	**170**	P	**P**	**13 18 34.3**	**+0.4**	
TAU				IAmb	IAmb	13 18 41.3		
	comp=Z,80nm,1.1s							
TAU	**Tasmania Unive**	**41.45**	**170**	P	**P**	**13 18 34.3**	**+0.4**	
TAU				pmax	pmax			
	comp=Z,80nm,1.1s							
HJU	**Haeju**	**41.62**	**344**	P	**P**	**13 18 32.9**	**-2.5**	
MSVF	**Nonsavu**	**41.63**	**115**	LR	LR	13 34 52.8		
	comp=Z,2µm,22.0s,baz=285,slow=35							
MSVF	**Nonsavu**	**41.63**	**115**	P	**P**	**13 18 36.6**	**+0.8**	
MSVF				IAmb	IAmb	13 18 53.1		
	comp=Z,77nm,1.1s							
MSVF	**Nonsavu**	**41.63**	**115**	*de*P	**P**	**13 18 37.8**	**+1.9**	
MSVF				pmax	pmax			
	comp=Z,58nm,1.2s							
GYA	**Guiyang**	**41.95**	**315**	⇑P	**P**	**13 18 39.3**	**+0.9**	
GYA				sP	sP	13 18 49.5	-1.2	
GYA				PP	**PP**	**13 20 15.1**	**-0.7**	
GYA				S	**S**	**13 24 56.1**	**+0.7**	
GYA				pmax	pmax			
	comp=Z,15nm,0.6s							
GYA				LR	LR			
	comp=Z,700nm,17.6s							
GYA				LR	LR			
	comp=Z,640nm,20.4s							
GYA				LR	LR			
	comp=Z,1µm,16.5s							
ENH	**Enshi**	**42.53**	**321**	P	**P**	**13 18 41.3**	**-1.7**	
PYAG	**Pyongyang**	**42.56**	**345**	P	**P**	**13 18 43.9**	**+0.9**	
JTM	**Tenmabayashi**	**42.64**	**3**	P	**P**	**13 18 43.1**	**-0.5**	
JTM				IAmb	IAmb	13 18 45.1		
	comp=Z,154nm,1.4s							
HHU	**Hamhung**	**42.97**	**347**	P	**P**	**13 18 45.5**	**-0.8**	
HHU				pP	**pP**	**13 18 49.7**	**-5.4**	
HHU				S	**S**	**13 25 11.0**	**+1.2**	
HHU				AmB				
	comp=Z,634nm,1.9s							
HHU				AMS	AMS			
	comp=N,287nm,3.3s							
HHU				AMS	AMS			
	comp=E,266nm,3.1s							
HHU				AMS	AMS			
	comp=Z,367nm,4.2s							
TIA	**Tai'an**	**43.03**	**334**	⇑P	**P**	**13 18 46.8**	**-0.1**	
TIA				S	**S**	**13 25 14.8**	**+4.0**	
TIA				pmax	pmax			
	comp=Z,15nm,0.8s							
TIA				pmax	pmax			
	comp=Z,170nm,3.5s							
TIA				LR	LR			
	comp=Z,1µm,18.8s							
TIA				LR	LR			
	comp=Z,750nm,19.5s							
TIA				LR	LR			
	comp=Z,2µm,19.7s							
CRAI	**Chiangrai**	**43.62**	**302**	P	**P**	**13 18 52.0**	**+0.1**	
DL2	**Dalian**	**43.65**	**341**	*e*P	P	13 18 44.3	-7.5	
DL2				S	**S**	**13 25 11.5**	**-8.3**	
DL2				sS	pS	13 25 20.6	-9.4	
DL2				SS	SS	13 28 15.8	-20	
DL2				pmax	pmax			
	comp=Z,37nm,1.0s							
DL2				pmax	pmax			
	comp=Z,350nm,6.1s							
DL2				LR	LR			
	comp=N,920nm,22.5s							
DL2				LR	LR			
	comp=E,890nm,22.5s							
DL2				LR	LR			
	comp=Z,1µm,16.9s							
SUJ	**Sinuiju**	**43.89**	**344**	P	**P**	**13 18 53.9**	**+0.2**	
SUJ				sP	**pP**	**13 18 59.4**	**-3.0**	
SUJ				S	**S**	**13 25 25.4**	**+2.2**	
SUJ				AmB				
	comp=Z,403nm,1.5s							
SUJ				AMS	AMS			
	comp=N,415nm,4.2s							
SUJ				AMS	AMS			
	comp=E,296nm,3.0s							
SUJ				AMS	AMS			
	comp=Z,374nm,3.8s							
LYN	**LuoYang**	**43.94**	**328**	⇑*i*P	**P**	**13 18 54.5**	**+0.3**	
LYN				S	**S**	**13 25 24.3**	**+0.2**	
LYN				SS	**SS**	**13 28 37.8**	**-3.7**	
LYN				pmax	pmax			
	comp=Z,20nm,1.4s							
LYN				pmax	pmax			
	comp=Z,260nm,13.3s							
LYN				LR	LR			
	comp=Z,580nm,17.2s							
LYN				LR	LR			
	comp=Z,650nm,16.0s							
LYN				LR	LR			
	comp=Z,810nm,17.3s							
KMI	**Kunming**	**44.09**	**310**	⇑P	**P**	**13 18 57.9**	**+2.0**	
KMI				sP	sP	13 19 06.5	-1.7	
KMI				pmax	pmax			
	comp=Z,17nm,1.2s							
KMI				pmax	pmax			
	comp=Z,91nm,3.8s							
KMI				LR	LR			
	comp=Z,400nm,20.2s							
KMI				LR	LR			
	comp=Z,960nm,20.8s							
KMI				LR	LR			
	comp=Z,1µm,21.0s							
CM31	**Chiang Mai Arr**	**44.12**	**299**	P	**P**	**13 18 56.1**	**+0.2**	
CMAR	**Chiang Mai Arr**	**44.12**	**299**	P	**P**	**13 18 56.5**	**+0.6**	
	comp=Z,14nm,0.9s,baz=113,slow=7.6,SNR=5.4							
CMAR				PcP	**PcP**	**13 20 41.6**	**+0.8**	
	comp=Z,5.3nm,0.9s,baz=128,slow=2.1,SNR=2.2							
	comp=Z,14nm,0.9s							
CMAR	**Chiang Mai Arr**	**44.12**	**299**	P	**P**	**13 18 56.1**	**+0.1**	
CMAR	**Chiang Mai Arr**	**44.12**	**299**	*ce*P	**P**	**13 18 54.5**	**-1.4**	
CMAR				pmax	pmax			
	comp=Z,14nm,1.0s							
CHTO	**Chiang Mai**	**44.26**	**300**	P	**P**	**13 18 57.0**	**-0.1**	
CHTO	**Chiang Mai**	**44.26**	**300**	P	**P**	**13 18 57.0**	**-0.1**	
CHTO				pmax	pmax			
	comp=Z,2.0nm,1.3s							
JEW	**Eniwo**	**44.70**	**3**	P	**P**	**13 18 59.9**	**-0.3**	
HNS	**HongShan**	**45.09**	**333**	⇓P	**P**	**13 19 03.8**	**+0.4**	
HNS				PP	**PP**	**13 20 54.3**	**+5.1**	
HNS				S	**S**	**13 25 38.9**	**-1.9**	
HNS

TIY pmax pmax
comp=Z,240nm,7.9s
TIY LR LR
comp=Z,1μm,18.6s
TIY LR LR
comp=Z,740nm,19.6s
TIY LR LR
comp=Z,2μm,20.1s
BJT Baijiatuau 46.65 336 P **P** **13 19 15.7 0.0**
BJT IAmb IAmb 13 19 26.8
comp=Z,59nm,1.2s
BJT Baijiatuau 46.65 336 P **P** **13 19 15.7 0.0**
BJT pmax pmax
comp=Z,59nm,1.2s
BJI Beijing 46.66 336 P **P** **13 19 16.0 +0.3**
BJI S **S** **13 26 01.3 -2.0**
BJI pmax pmax
comp=Z,37nm,1.5s
BJI pmax pmax
comp=Z,300nm,4.4s
BJI LR LR
comp=Z,250nm,17.6s
BJI LR LR
comp=Z,1μm,17.7s
BJI LR LR
comp=Z,2μm,18.3s
CD2 Chengdu 46.68 317 P **P** **13 19 16.6 +0.4**
CD2 S **S** **13 26 06.4 +2.3**
CD2 pmax pmax
comp=Z,70nm,1.1s
CD2 pmax pmax
comp=Z,200nm,4.9s
CD2 LR LR
comp=Z,760nm,17.2s
CD2 LR LR
comp=Z,1μm,17.6s
CD2 LR LR
comp=Z,1μm,21.1s
TEY Ternei 46.87 358⇑ *e*P **P** **13 19 18.0 +0.7**
TEY *e* 13 26 25.9
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=Z,20nm,1.4s
MDJ Mudanjiang 47.13 351 P **P** **13 19 18.8 -0.5**
MDJ IAmb IAmb 13 19 21.3
comp=Z,46nm,1.1s
MDJ Mudanjiang 47.13 351 P **P** **13 19 20.5 +1.2**
MDJ pP pP 13 19 23.5 -4.6
MDJ sP sP 13 19 25.1 -6.5
MDJ S **S** **13 26 11.9 +2.1**
MDJ sS pS 13 26 18.3 -1.9
MDJ pmax pmax
comp=Z,47nm,1.2s
MDJ pmax pmax
comp=Z,130nm,3.7s
MDJ LR LR
comp=Z,740nm,23.0s
MDJ LR LR
comp=Z,540nm,19.5s
MDJ LR LR
comp=Z,1μm,23.3s
CN2 Changchun 47.13 347 *e*P **P** **13 19 18.5 -0.9**
CN2 *e*PP **PP** **13 21 09.3 -1.3**
CN2 *e*S **S** **13 26 10.3 +0.4**
CN2 *e*sS pS 13 26 17.8 -2.5
CN2 *e*SS **SS** **13 29 30.6 -6.9**
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 LR LR
comp=Z,2μm,22.0s
CN2 LR LR
comp=Z,1μm,22.0s
CN2 LR LR
comp=Z,1μm,23.0s
KUR Kuril'sk 47.73 9 P **P** **13 19 24.8 +0.9**
KUR pmax pmax
comp=Z,194nm,1.5s
KUR pmax pmax
comp=Z,1μm,4.2s
KUR MLR MLR
comp=Z,407nm,19.0s
BNX BinXian 48.59 349⇑P **P** **13 19 31.4 +0.8**
BNX pP **pP** **13 19 35.9 -3.5**
BNX sP **sP** **13 19 38.8 -4.1**
BNX S **S** **13 26 32.4 +1.9**
BNX sS **pS** **13 26 38.3 -2.6**
BNX pmax pmax
comp=Z,50nm,1.3s
BNX pmax pmax
comp=Z,310nm,2.9s
BNX LR LR
comp=Z,1μm,16.3s
BNX LR LR
comp=Z,390nm,16.3s
BNX LR LR
comp=Z,1μm,16.3s
YSS Yuzh-Sakhalins 48.88 4 P **P** **13 19 31.9 -0.9**
YSS Yuzh-Sakhalins 48.88 4 *e*P **P** **13 19 31.9 -0.9**
YSS *e*S **S** **13 26 31.4 -3.1**
YSS pmax pmax
comp=Z,400nm,4.9s
YSS pmax pmax
comp=Z,80nm,1.1s
RAO Raoul Island 49.31 128 LR LR 13 39 53.8
comp=Z,533nm,19.5s,baz=290,slow=35
HHC Hu-ho-hao-te 49.32 333 *e*P **P** **13 19 37.8 +1.3**
HHC S **S** **13 26 42.0 +0.8**
HHC pmax pmax
comp=Z,39nm,1.0s
HHC pmax pmax
comp=Z,510nm,6.4s
HHC LR LR
comp=Z,3μm,19.0s
HHC LR LR
comp=Z,1μm,18.4s
HHC LR LR
comp=Z,4μm,19.0s
BTO Baotou 49.85 331 *e*P **P** **13 19 41.8 +1.3**
BTO S **S** **13 26 53.4 +4.8**
BTO LR LR
comp=Z,4μm,19.0s
BTO LR LR
comp=Z,4μm,19.6s
LZH Lanzhou 49.94 323⇑P **P** **13 19 38.0 -3.3**
LZH pP pP 13 19 43.5 -6.7
LZH sP sP 13 19 47.3 -6.4
LZH S **S** **13 26 50.8 +0.6**
LZH pmax pmax
comp=Z,55nm,1.3s
LZH pmax pmax
comp=Z,330nm,6.8s
LZH LR LR
comp=Z,940nm,17.5s
LZH LR LR
comp=Z,940nm,17.6s
LZH LR LR
comp=Z,2μm,18.3s
DCZ Deep Cove 49.97 154 P **P** **13 19 42.3 +1.1**
XLT XiLinHaoTe 50.01 339⇑ *i*P **P** **13 19 42.3 +0.7**
XLT pP pP 13 19 46.8 -3.7
XLT PcP **PcP** **13 21 03.8 +2.5**
XLT S **S** **13 26 53.3 +2.6**
XLT sS pS 13 26 59.3 -1.9
XLT pmax pmax
comp=Z,29nm,2.0s
XLT pmax pmax
comp=Z,310nm,4.9s
XLT LR LR
comp=Z,110nm,21.5s
XLT LR LR
comp=Z,790nm,18.5s
XLT LR LR
comp=Z,1μm,19.8s
AFI Afiamalu 50.30 106 LR LR 13 39 38.6
comp=Z,1μm,20.1s,baz=274,slow=34
MLZ Mavora Lakes 50.32 153 P **P** **13 19 44.3 +0.4**
URZ Urewera 50.34 141 P **P** **13 19 44.6 +0.5**
comp=Z,6.4nm,0.6s,baz=263,slow=17,SNR=1.9
URZ LR LR 13 43 44.2
comp=Z,1μm,18.1s,baz=34,slow=39
comp=Z,6.4nm,0.6s
URZ Urewera 50.34 141 P **P** **13 19 44.5 +0.3**
TUWZ Tuamarina 50.44 146 P **P** **13 19 43.8 -1.0**
LTZ Lake Taylor 50.45 148 P **P** **13 19 45.2 +0.3**
LTZ IAmb IAmb 13 20 13.4
comp=Z,103nm,1.4s
RPZ Rata Peaks 50.48 150 P **P** **13 19 45.3 +0.1**
comp=Z,18nm,1.0s,baz=315,slow=1.4,SNR=5.1
RPZ LR LR 13 40 58.8
comp=Z,2μm,19.2s,baz=308,slow=36
comp=Z,18nm,1.0s
RPZ Rata Peaks 50.48 150 P **P** **13 19 45.4 +0.2**
BKZ Black Stump Fm 50.50 142 P **P** **13 19 45.1 -0.4**
BKZ IAmb IAmb 13 19 51.3
comp=Z,99nm,1.8s
WHZ Wether Hill Ro 50.65 154 P **P** **13 19 45.4 -1.0**
WHZ IAmb IAmb 13 21 34.4
comp=Z,99nm,1.8s
OXZ Oxford 50.71 149 P **P** **13 19 47.2 +0.4**
OXZ IAmb IAmb 13 20 02.0
comp=Z,98nm,1.7s
UGL Uglegorsk 50.96 3 *e*P **P** **13 19 49.7 +1.2**
UGL pmax pmax
comp=Z,100nm,0.8s
MOKO MOKOCHONG 51.13 306 *e*P **P** **13 19 51.3 +0.8**
MOKO IAmb IAmb 13 20 00.8
comp=Z,60nm,1.0s
KOHI KOHIMA 51.20 306 *e*P **P** **13 19 51.4 +0.3**
KOHI IAmb IAmb 13 20 02.1
comp=Z,226nm,1.3s
PLWZ Palliser 51.27 145 P **P** **13 19 50.6 -0.6**
BFZ Birch Farm 51.28 144 P **P** **13 19 50.0 -1.3**
BFZ IAmb IAmb 13 20 20.1
comp=Z,59nm,1.1s
KLR Kul'dur 51.39 354 LR LR 13 37 58.1
comp=Z,2μm,21.6s,baz=172,slow=32
KLR Kul'dur 51.39 354 *de*P **P** **13 19 52.0 +0.2**
KLR pmax pmax
comp=Z,93nm,1.7s
BRDH Bariadhala 52.04 301 LR LR 13 43 00.2
comp=Z,465nm,20.6s,baz=172,slow=37
ITAN ITANAGAR 52.14 307 *e*P **P** **13 19 59.5 +1.7**
ZIRO ZIRO 52.20 308 *e*P **P** **13 19 59.5 +1.0**
ZIRO IAmb IAmb 13 20 11.1
comp=Z,320nm,1.7s
GRNR Gornyy 52.61 358⇓ *i*P **P** **13 20 00.7 -0.2**
GRNR *e* 13 21 56.1
GRNR *e*S **S** **13 27 28.3 +2.1**
GRNR pmax pmax
comp=Z,10.0nm,1.4s
GRNR smax smax
comp=N,1.0nm,1.2s
TEZP TEZPUR 52.65 306 *e*P **P** **13 20 01.7 +0.1**
TEZP IAmb IAmb 13 20 12.0
comp=Z,36nm,0.9s
TYV Tymovskoe 52.77 3 *e*P **P** **13 20 02.4 +0.4**
TYV *e*S **S** **13 27 29.7 +1.3**
TYV pmax pmax
comp=Z,500nm,2.9s
TYV pmax pmax
comp=Z,46nm,1.2s
TYV smax smax
comp=N,400nm,5.5s
TYV smax smax
comp=E,300nm,5.5s
GUWA GUWAHATI 53.37 305 *e*P **P** **13 20 07.7 +0.7**
GUWA IAmb IAmb 13 20 18.5
comp=Z,166nm,1.4s
HIA Hailar 53.65 345 P **P** **13 20 08.4 -0.2**
HIA IAmb IAmb 13 20 10.7
comp=Z,76nm,1.6s
HIA Hailar 53.65 345 P **P** **13 20 08.4 -0.2**
HIA pmax pmax
comp=Z,76nm,1.6s
GTA Gaotai 54.52 323⇓P **P** **13 20 15.8 +0.5**
GTA pP sP 13 20 26.8 -0.9
GTA sP pP 13 20 30.8 +6.6
GTA PP **PP** **13 22 16.3 -1.6**
GTA S **S** **13 27 51.1 -1.8**
GTA sS sS 13 28 09.3 +1.7
GTA ScS **ScS** **13 30 03.8 +0.9**
GTA pmax pmax
comp=Z,17nm,1.5s
GTA pmax pmax
comp=Z,160nm,5.3s
GTA LR LR
comp=Z,580nm,19.3s
GTA LR LR
comp=Z,480nm,20.0s
GTA LR LR
comp=Z,640nm,21.5s
LSA Lhasa 55.30 309 P **P** **13 20 23.6 +2.1**
LSA pmax pmax
comp=Z,17nm,1.3s
LSA LR LR
comp=Z,290nm,21.4s
LSA LR LR
comp=Z,290nm,22.8s
LSA LR LR
comp=Z,560nm,21.4s
GOMU GeErMu 55.82 317 P **P** **13 20 26.8 +1.8**
GOMU pP pP 13 20 32.4 -1.6
GOMU PcP **PcP** **13 21 23.5 -0.3**
GOMU S **S** **13 28 15.8 +5.0**
GOMU pmax pmax
comp=Z,13nm,1.2s
GOMU pmax pmax
comp=Z,240nm,4.4s
GOMU LR LR
comp=Z,400nm,18.8s
GOMU LR LR
comp=Z,490nm,18.0s
GOMU LR LR
comp=Z,480nm,17.7s
GTK Tadong 56.35 305 *e*P **P** **13 20 29.9 +1.1**
GTK IAmb IAmb 13 20 41.1
comp=Z,97nm,1.2s
ZEA Zeya 56.37 352 *e*P **P** **13 20 28.1 0.0**
ZEA *e* 13 21 21.5
ZEA *e* 13 22 33.0
ZEA *e*S **S** **13 28 16.5 -0.2**
ZEA *e* 13 30 14.3
ZEA *e*SS **SS** **13 32 08.7 +4.6**
ZEA pmax pmax
comp=N,10.0nm,1.9s
ZEA pmax pmax
comp=Z,30nm,1.5s
ZEA pmax pmax
comp=E,100nm,6.8s
ZEA pmax pmax
comp=N,100nm,5.0s
ZEA pmax pmax
comp=Z,200nm,6.8s
ZEA smax smax
comp=E,100nm,11.9s
ZEA smax smax
comp=N,200nm,16.7s
ULN Ulaanbaatar 56.84 335 P **P** **13 20 32.3 +0.5**
ULN IAmb IAmb 13 20 34.6
comp=Z,70nm,1.6s
ULN Ulaanbaatar 56.84 335 *d i*P **P** **13 20 32.7 +0.9**
ULN pmax pmax
comp=Z,52nm,1.7s
SONM Songino Array 57.10 335 P **P** **13 20 33.9 +0.3**
comp=Z,4.5nm,0.5s,baz=155,slow=7.4,SNR=32
comp=Z,4.5nm,0.5s
SONM Songino Array 57.10 335 P **P** **13 20 34.1 +0.5**
SONM IAmb IAmb 13 20 36.3
comp=Z,77nm,1.9s
SONM Songino Array 57.10 335 P **P** **13 20 34.1 +0.5**
SONM pmax pmax
comp=Z,77nm,1.9s
PEA0B Petropavlovsk- 57.17 13 P **P** **13 20 33.7 -0.1**
PEA0B Petropavlovsk- 57.17 13⇑ *e*P **P** **13 20 34.7 +0.8**
PETK Petropavlovsk- 57.17 13 P **P** **13 20 33.5 -0.4**
comp=Z,5.9nm,0.7s,baz=134,slow=4.3,SNR=10
PETK LR LR 13 41 12.9
comp=Z,2μm,21.8s,baz=195,slow=32
comp=Z,5.9nm,0.7s
PET Petropavlovsk 57.32 14 P **P** **13 20 34.6 -0.3**
PET IAmb IAmb 13 20 36.5
comp=Z,48nm,1.3s
PET Petropavlovsk 57.32 14 *e*P **P** **13 20 35.5 +0.6**
PET *e*S **S** **13 28 29.1 -0.2**
PET *e*PS **PnS** **13 28 50.5 +7.8**
PET pmax pmax
comp=Z,39nm,1.4s
PET pmax pmax
comp=Z,200nm,12.0s
PET MLR MLR
comp=Z,900nm,16.0s
BOK Bokaro 57.39 300 *e*P **P** **13 20 37.9 +1.8**
BOK IAmb IAmb 13 20 41.2
comp=Z,33nm,0.3s
RAMN Ramite 57.87 304 *e*P **P** **13 20 41.3 +1.7**
comp=Z,96nm,1.1s
CIT Chita 57.89 342 *e*P **P** **13 20 41.1 +2.1**
CIT *e* 13 20 50.4
CIT pmax pmax
comp=Z,200nm,1.9s
RAGD RAYAGADA 58.24 294 *e*P **P** **13 20 42.2 +0.2**
JIRN Jiri 58.47 304 *e*P **P** **13 20 45.6 +1.7**
comp=Z,61nm,1.0s
GUN Gumba 58.81 304 *e*P **P** **13 20 48.1 +1.8**
comp=Z,132nm,1.0s
PKI Pulchoki 59.08 304 *e*P **P** **13 20 49.3 +1.2**
comp=Z,61nm,1.2s
PKIN Phulchoki 59.09 304 *e*P **P** **13 20 49.3 +1.1**
comp=Z,134nm,1.3s
DMN Daman 59.34 304 *e*P **P** **13 20 51.5 +1.6**
comp=Z,258nm,1.1s
GKN Gorkha 59.87 304 *e*P **P** **13 20 55.0 +1.6**
comp=Z,289nm,1.1s
BLSP Bilaspur 60.20 297 *e*P **P** **13 20 56.1 +0.5**
ZAK Zakamensk 60.36 335 *e*P **P** **13 20 56.2 -0.1**
ZAK pmax pmax
comp=Z,62nm,1.4s
DANN Dangsing 60.72 304 *e*P **P** **13 21 00.8 +1.4**
comp=Z,324nm,1.4s
PYUN Piuthan 61.27 304 *e*P **P** **13 21 03.7 +0.7**
comp=Z,282nm,0.9s
IRK Irkutsk 61.36 337 *e*P **P** **13 21 04.3 +1.4**
IRK pmax pmax
comp=Z,123nm,1.8s
SHEM Shemya Is, Ala 62.09 23 LR LR 13 42 49.2
comp=Z,1μm,21.2s,baz=252,slow=31
MA2 Magadan 62.12 7 LR LR 13 46 16.7
comp=Z,655nm,20.9s,baz=196,slow=34
MA2 Magadan 62.12 7 P **P** **13 21 08.4 +0.6**
MA2 IAmb IAmb 13 21 09.6
comp=Z,38nm,1.2s
MA2 Magadan 62.12 7⇑ *e*P **P** **13 21 08.3 +0.5**
MA2 pmax pmax
comp=Z,51nm,1.4s
KOD Kodaikanal 62.18 283 *e*P **P** **13 21 10.0 +0.5**
MOY Mondy 62.29 334 *e*P **P** **13 21 10.2 +0.9**
MOY pmax pmax
comp=Z,138nm,2.2s
HYB Hyderabad 62.35 291 *e*P **P** **13 21 10.7 +0.5**
HYB IAmb IAmb 13 21 20.3
comp=Z,49nm,1.1s
HYBB Hyderabad (bro 62.35 291 *e*P **P** **13 21 10.1 -0.2**
BOD Bodaibo 62.84 345 *e*P **P** **13 21 12.5 -0.2**
BOD pmax pmax
comp=Z,53nm,1.9s
PCHI Peechi 63.31 283 *e*P **P** **13 21 18.1 +1.4**
PCHI *e*S **S** **13 29 46.6 -0.9**
YAK Yakutsk 64.23 355 LR LR 13 45 42.4
comp=Z,1μm,21.6s,baz=140,slow=33
YAK Yakutsk 64.23 355 P **P** **13 21 21.6 -0.2**
YAK Yakutsk 64.23 355 *d i*P **P** **13 21 21.3 -0.5**
YAK *e**PP **pP** **13 21 32.5 +1.6**
YAK *e* 13 21 55.7
YAK *e* 13 23 43.2
YAK *e*PPP PPP 13 25 12.6
YAK *e*S **S** **13 29 56.2 -1.0**
YAK *e**SS **sS** **13 30 17.1 +4.9**
YAK *e* 13 31 07.8
YAK *e*SS **SS** **13 34 06.9 -0.3**
YAK pmax pmax
comp=Z,70nm,1.0s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,50nm,2.2s
YAK pmax pmax
comp=N,33nm,1.4s
YAK pmax pmax
comp=E,19nm,1.8s
YAK smax smax
comp=E,118nm,3.6s
YAK smax smax
comp=N,40nm,2.2s
JHNI Jhansi 64.27 299 *e*P **P** **13 21 21.0 -1.8**
WMQ Urumqi 64.48 321 *e*P **P** **13 21 25.9 +2.0**
WMQ sP sP 13 21 35.8 -0.6
WMQ S **S** **13 30 02.9 +1.7**
WMQ pmax pmax
comp=N,49nm,1.3s
WMQ pmax pmax
comp=N,290nm,5.3s
WMQ LR LR
comp=N,540nm,18.7s
WMQ LR LR
comp=N,480nm,21.5s
WMQ LR LR
comp=N,370nm,18.7s
BHPL Bhopal 64.68 297 *e*P **P** **13 21 25.3 -0.3**
ADK Adak 65.54 29 P **P** **13 21 30.0 -0.5**
ADK Adak 65.54 29 P **P** **13 21 30.0 -0.5**
ADK pmax pmax
comp=Z,105nm,1.4s
SEY Seymchan 65.58 7⇑ *e*P **P** **13 21 31.5 +1.0**
SEY pmax pmax
comp=Z,34nm,1.7s
KIP Kipapa 66.01 66⇑ *e*P **P** **13 21 35.7 +1.6**
KIP pmax pmax
comp=Z,109nm,1.7s
DDI Dehra Dun 66.06 304 *e*P **P** **13 21 36.0 +1.6**
KUDL Kundal 66.76 302 *e*P **P** **13 21 38.2 -0.6**
SMLA Simla 67.04 305 *e*P **P** **13 21 41.4 +0.9**
SMLA IAmb IAmb 13 21 51.7
comp=Z,78nm,1.1s
CASY Casey 67.17 192 P **P** **13 21 40.5 -0.2**
CASY IAmb IAmb 13 22 02.1
comp=Z,42nm,1.2s
DGZ Jazzator, Alta 67.71 327 *de*P **P** **13 21 45.0 +0.4**
DGZ pmax pmax
comp=Z,29nm,1.2s
DGZ MLR MLR
comp=Z,773nm,18.0s
ZSN Zaisan 68.01 324 *e*P **P** **13 21 46.9 +0.5**
ZSN pmax pmax
comp=Z,21nm,1.6s
ZSN Zaisan 68.01 324 *e*P **P** **13 21 47.0 +0.5**
comp=Z,21nm,1.6s,baz=324
THN Thein Dam 68.60 306 *e*P **P** **13 21 50.7 +0.3**
MK31 Makanchi Array 69.25 322 P **P** **13 21 54.4 +0.2**
MK31 IAmb IAmb 13 21 56.7
comp=Z,44nm,1.2s
MK31 Makanchi Array 69.25 322 *de*P **P** **13 21 54.6 +0.4**
MK31 pmax pmax
comp=Z,44nm,1.0s
MKAR Makanchi Array 69.25 322 P **P** **13 21 54.1 +0.1**
comp=Z,16nm,0.8s,baz=115,slow=7.5,SNR=98
comp=Z,16nm,0.8s
MKAR Makanchi Array 69.25 322 P **P** **13 21 54.5 +0.3**
MKAR Makanchi Array 69.25 322 P **P** **13 21 54.5 +0.3**
MAKZ Makanchi 69.45 322 P **P** **13 21 55.6 +0.3**
MAKZ IAmb IAmb 13 21 57.8
comp=Z,42nm,0.9s
MAKZ Makanchi 69.45 322 P **P** **13 21 55.7 +0.3**
MAKZ pmax pmax
comp=Z,42nm,1.0s
SHLS Shalkode 69.51 318 *e*P **P** **13 21 54.3 -1.7**
SHLS *e*S **S** **13 30 58.5 -3.6**
SHLS pmax pmax
comp=Z,15nm,1.2s
SHLS Shalkode 69.51 318 *e*P **P** **13 21 54.4 -1.7**
comp=Z,15nm,1.2s,baz=318
SHLS *e*S **S** **13 30 58.6 -3.6**
baz=318
PDGK Podgornoye 69.56 318 P **P** **13 21 56.7 +0.4**
UZB Uzynbulak 69.81 318 *e*P **P** **13 21 58.1 +0.3**
UZB Uzynbulak 69.81 318 *e*P **P** **13 21 58.2 +0.3**
baz=318
TARG Taragay, Kyrgy 70.10 316 P **P** **13 22 00.1 +0.1**
TARG IAmb IAmb 13 22 22.4
comp=Z,31nm,1.0s
TARG Taragay, Kyrgy 70.10 316 P **P** **13 22 00.1 +0.1**
TARG pmax pmax
comp=Z,31nm,1.0s
KPKS Kokpek 70.16 318 *e*P **P** **13 22 00.2 +0.3**
KPKS *e*S **S** **13 31 09.8 +0.3**

KPKS pmax pmax
comp=Z,31nm,1.8s
KPKS Kokpek 70.16 318 *e*P **P 13 22 00.2 +0.3**
comp=Z,31nm,1.8s,baz=318
KPKS *e*S **S 13 31 09.9 +0.3**
baz=318
SATY Saty 70.19 317 *e*P **P 13 22 00.5 +0.4**
SATY *e*S **S 13 31 10.2 +0.2**
SATY pmax pmax
comp=Z,24nm,1.1s
SATY Saty 70.19 317 *e*P **P 13 22 00.6 +0.4**
comp=Z,24nm,1.1s,baz=317
SATY *e*S **S 13 31 10.2 +0.2**
baz=317
ZHN Zhinishke 70.21 318 *e*P **P 13 22 00.5 +0.3**
ZHN Zhinishke 70.21 318 *e*P **P 13 22 00.6 +0.3**
baz=318
KSH Kashi 70.62 313 P **P 13 22 05.8 +2.9**
KSH sP sP 13 22 14.6 -0.9
KSH S **S 13 31 19.3 +4.1**
KSH pmax pmax
comp=Z,29nm,1.2s
KSH LR LR
comp=Z,330nm,19.9s
KSH LR LR
comp=Z,510nm,20.6s
KSH LR LR
comp=Z,790nm,23.4s
TDK Taldyqorghan 70.94 319 *e*P **P 13 22 05.1 +0.5**
TDK pmax pmax
comp=Z,23nm,0.7s
TDK Taldyqorghan 70.94 319 *e*P **P 13 22 05.1 +0.5**
comp=Z,23nm,0.7s,baz=319
MDOK Medeo 71.15 317 P **P 13 22 06.5 +0.5**
MDOK Medeo 71.15 317 *e*P **P 13 22 05.6 -0.5**
baz=317
MDOK *e*S **S 13 31 20.9 -0.4**
baz=317
AAA Alma-Ata 71.25 317 *e*P **P 13 22 06.6 0.0**
AAA Alma-Ata 71.25 317 *e*P **P 13 22 06.6 0.0**
baz=317
ZALV Zalesovo Beam 71.34 330 P **P 13 22 06.3 -0.4**
comp=Z,4.7nm,0.4s,baz=108,slow=6.4,SNR=22
comp=Z,4.7nm,0.4s
CHKK Chushkaly 71.44 318 *e*P **P 13 22 07.7 +0.1**
CHKK Chushkaly 71.44 318 *e*P **P 13 22 07.7 +0.1**
baz=318
BOOM Boomskoye usch 71.67 316 P **P 13 22 09.7 +0.5**
BOOM IAmb IAmb 13 22 25.4
comp=Z,17nm,0.7s
BOOM Boomskoye usch 71.67 316 P **P 13 22 09.7 +0.5**
BOOM pmax pmax
comp=Z,17nm,0.7s
KUU Kurty 71.89 318 *e*P **P 13 22 10.7 +0.4**
KUU *e*S **S 13 31 29.6 0.0**
KUU pmax pmax
comp=Z,31nm,1.3s
KUU Kurty 71.89 318 *e*P **P 13 22 10.8 +0.4**
comp=Z,31nm,1.3s,baz=318
KUU *e*S **S 13 31 29.6 0.0**
baz=318
PPT Papeete 71.94 108 LR LR 13 50 11.8
comp=Z,392nm,21.3s,baz=267,slow=33
PPT2 Papeete2 71.94 108 *e*S **S 13 31 32.4 +1.3**
comp=Z,146nm,26.0s
PPT2 Papeete2 71.94 108 *e*LR LR 13 44 05.2
comp=Z,1μm,26.8s
TKM2 Tokmak 2 72.05 316 P **P 13 22 12.2 +0.6**
SNR=20
TKM2 Tokmak 2 72.05 316 *i* P **P 13 22 11.9 +0.3**
TKM2 pmax pmax
comp=Z,12nm,0.6s
SEM Semipalatinsk 72.09 325 *e*P **P 13 22 11.2 -0.4**
SEM Semipalatinsk 72.09 325 *e*P **P 13 22 11.3 -0.4**
baz=325
BILL Bilibino 72.47 11 *e*P **P 13 22 12.6 -0.7**
BILL *e* 13 22 31.8
BILL *e* 13 24 52.3
BILL *e*PPP PPP 13 26 34.7
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,586nm,19.0s
TBI Tubuai 72.51 114 *e*S **S 13 31 39.1 +1.8**
comp=Z,104nm,25.2s
TBI Tubuai 72.51 114 *e*LR LR 13 44 20.9
comp=Z,540nm,26.5s
UCH Uchtor 72.57 315 P **P 13 22 16.0 +1.0**
SNR=33
CHMS Chumysh 72.66 316 P **P 13 22 16.4 +1.4**
SNR=7.3
CHMS Chumysh 72.66 316 *i* P **P 13 22 15.7 +0.7**
CHMS pmax pmax
comp=Z,38nm,1.3s
AAK Ala-Archa 72.72 316 P **P 13 22 17.5 +2.0**
SNR=6.9
AAK Ala-Archa 72.72 316 LR LR 13 56 57.0
comp=Z,420nm,19.4s,baz=106,slow=38
AAK Ala-Archa 72.72 316 *d* i P **P 13 22 16.6 +1.1**
AAK pmax pmax
comp=Z,29nm,1.7s
SGDS Sogindy 72.90 317 *e*P **P 13 22 16.4 0.0**
SGDS *e*S **S 13 31 41.2 0.0**
SGDS Sogindy 72.90 317 *e*P **P 13 22 16.4 0.0**
baz=317
SGDS *e*S **S 13 31 41.2 0.0**
baz=317
USP Ospenovka 72.93 317 P **P 13 22 17.1 +0.6**
SNR=25
AML Almayashu 73.11 315 P **P 13 22 19.1 +0.9**
SNR=33
KURK Kurchatov 73.16 325 P **P 13 22 17.5 -0.2**
KURK IAmb IAmb 13 22 19.7
comp=Z,48nm,1.1s
KURK Kurchatov 73.16 325 *d* i P **P 13 22 17.9 +0.2**
KURK pmax pmax
comp=Z,55nm,1.2s
KURBB Kurchatov Arra 73.17 325 P **P 13 22 17.6 -0.1**
EKS2 Erkin-Say 73.23 316 P **P 13 22 20.8 +2.3**
SNR=15
TIXI Tiksi 73.80 357 LR LR 13 52 16.5
comp=Z,1μm,21.9s,baz=180,slow=34
TIXI Tiksi 73.80 357 P **P 13 22 20.7 -0.4**
TIXI Tiksi 73.80 357⇑ *e*P **P 13 22 21.9 +0.9**
TIXI pmax pmax
comp=Z,15nm,1.0s
TIXI MLR MLR
comp=Z,743nm,18.0s
BTLS Baital 73.83 318 *e*P **P 13 22 21.6 -0.2**
BTLS pmax pmax
comp=Z,11nm,0.9s
BTLS Baital 73.83 318 *e*P **P 13 22 21.6 -0.2**
comp=Z,11nm,0.9s,baz=318
KBL Kabul 74.53 307 P **P 13 22 26.1 -0.3**
KBL IAmb IAmb 13 22 37.2
comp=Z,51nm,1.4s
KBL Kabul 74.53 307 P **P 13 22 26.1 -0.3**
KBL pmax pmax
comp=Z,51nm,1.4s
BTK Batken 74.57 312 P **P 13 22 26.9 +0.6**
BTK Batken 74.57 312 P **P 13 22 26.9 +0.6**
GAR Garm 74.65 311 P **P 13 22 27.2 +0.3**
DZA Taraz 75.01 315 *e*P **P 13 22 29.0 +0.2**
DZA Taraz 75.01 315 *e*P **P 13 22 29.0 +0.2**
baz=315
CHGR Chuyangaron 75.44 311 P **P 13 22 31.8 +0.4**
CHGR Chuyangaron 75.44 311 P **P 13 22 31.8 +0.4**
CHGR pmax pmax
comp=Z,82nm,0.9s
SDPT Sand Point 75.52 31 P **P 13 22 31.5 +0.2**
KK31 Karatay Array 75.65 315 P **P 13 22 32.4 0.0**
KK31 Karatay Array 75.65 315 *i* P **P 13 22 32.7 +0.3**
KKAR Karatay Array 75.65 315 P **P 13 22 32.8 +0.4**
KKAR Karatay Array 75.65 315 P **P 13 22 32.7 +0.4**
KKAR Karatay Array 75.65 315 P **P 13 22 32.7 +0.4**
KKAR pmax pmax
comp=Z,40nm,1.5s
IUG Iuzhnay 75.72 314 *e*P **P 13 22 32.7 -0.2**
IUG Iuzhnay 75.72 314 *e*P **P 13 22 32.8 -0.2**
baz=314
BRZS Berezniki 76.39 323 *e*P **P 13 22 36.0 -0.4**
BRZS *e*S **S 13 32 19.4 -0.4**
BRZS pmax pmax
comp=Z,19nm,1.3s
BRZS Berezniki 76.39 323 *e*P **P 13 22 36.1 -0.4**
comp=Z,19nm,1.3s,baz=323
BRZS *e*S **S 13 32 19.5 -0.4**
baz=323
VNDA Vanda 76.48 175 P **P 13 22 36.3 -0.1**
comp=Z,8.5nm,0.8s,baz=328,slow=6.5,SNR=49
comp=Z,8.5nm,0.8s
VNDA Vanda 76.48 175 P **P 13 22 36.3 -0.1**
SBA Scott Base 77.24 174 P **P 13 22 41.6 +0.9**
SBA Scott Base 77.24 174 P **P 13 22 41.6 +0.9**
SBA pmax pmax
comp=Z,32nm,1.3s
O16K Kokwok River B 78.49 28 P **P 13 22 48.9 +1.0**
baz=246
N16K Nishlik Lake 78.55 27 P **P 13 22 49.4 +1.0**
baz=245
BVA0 Borovoye Array 78.75 325 *i* P **P 13 22 50.0 +0.4**
BRVK Borovoye 78.82 325 P **P 13 22 49.9 0.0**
BRVK IAmb IAmb 13 22 52.2
comp=Z,44nm,0.8s
BRVK Borovoye 78.82 325 *d* i P **P 13 22 50.0 0.0**
BRVK pmax pmax
comp=Z,40nm,0.9s
O17K Koliganek Bris 79.02 28 P **P 13 22 51.9 +1.1**
baz=246
NRIK Noril'sk 79.05 344 P **P 13 22 50.9 0.0**
comp=Z,18nm,0.9s,baz=130,slow=6.2,SNR=24
comp=Z,18nm,0.9s
NRIK Noril'sk 79.05 344 P **P 13 22 50.8 0.0**
NRIK IAmb IAmb 13 23 08.5
comp=Z,58nm,1.1s
NRIK Noril'sk 79.05 344 *d* i P **P 13 22 50.4 -0.5**
NRIK pmax pmax
comp=Z,37nm,1.2s
NRIK MLR MLR
comp=Z,1μm,18.0s
N18K Kilae Creek 79.93 27 P **P 13 22 56.4 +0.5**
N18K Kilae Creek 79.93 27 P **P 13 22 56.9 +1.0**
baz=247
O18K Koktuh Hills 79.93 28 P **P 13 22 56.5 +0.6**
baz=248
OHAK Old Harbor 79.94 31 P **P 13 22 56.5 +0.6**
OHAK IAmb IAmb 13 22 58.0
comp=Z,53nm,1.1s
OHAK Old Harbor 79.94 31 P **P 13 22 56.5 +0.6**
baz=250
HRA Herat 80.01 305 P **P 13 22 57.5 +0.4**
Q19K Cape Douglas, 80.34 29 P **P 13 22 59.2 +1.0**
Q19K IAmb IAmb 13 24 18.7
comp=Z,52nm,0.9s
KDAK Kodiak Island 80.48 30 LR LR 13 54 06.5
comp=Z,2μm,20.9s,baz=255,slow=32
KDAK Kodiak Island 80.48 30 P **P 13 22 59.3 +0.5**
KDAK Kodiak Island 80.48 30 P **P 13 22 59.3 +0.5**
KDAK pmax pmax
comp=Z,36nm,1.2s
KDAK Kodiak Island 80.48 30 P **P 13 22 59.7 +0.8**
baz=251
N19K Bonanza Creek 80.62 27 P **P 13 23 00.2 +0.5**
N19K IAmb IAmb 13 23 02.1
comp=Z,61nm,1.2s
N19K Bonanza Creek 80.62 27 P **P 13 23 00.7 +1.0**
baz=248,SNR=6.3
P19K Oil Pt 80.80 28 P **P 13 23 01.6 +1.1**
baz=250
Q20K Shuyak Island 80.85 30 P **P 13 23 02.1 +1.3**
baz=251
TAOE Nuku Hiva Isla 80.92 99 *e*LR LR 13 48 13.9
comp=Z,628nm,25.6s
L19K White Mountain 80.97 26 P **P 13 23 02.1 +0.6**
L19K IAmb IAmb 13 23 03.9
comp=Z,50nm,1.3s
L19K White Mountain 80.97 26 P **P 13 23 02.0 +0.6**
baz=248,SNR=7.7
M19K Big River Lodg 81.07 26 P **P 13 23 02.8 +0.9**
M19K IAmb IAmb 13 23 04.7
comp=Z,76nm,1.8s
M19K Big River Lodg 81.07 26 P **P 13 23 03.0 +1.1**
baz=248
GCSA Galena City Sc 81.14 23 P **P 13 23 02.9 +0.7**
baz=246
L20K Farewell, AK 81.50 26 P **P 13 23 05.0 +0.8**
baz=249
HOM Homer 81.56 29 P **P 13 23 04.8 +0.3**
HOM Homer 81.56 29 P **P 13 23 05.7 +1.2**
baz=251
M20K Styx River 81.62 26 P **P 13 23 05.2 +0.3**
M20K IAmb IAmb 13 23 41.5
comp=Z,74nm,1.6s
M20K Styx River 81.62 26 P **P 13 23 06.1 +1.1**
baz=250,SNR=6.7
WSAR Wadi Sarin 81.70 294 LR LR 14 05 16.4
comp=Z,40nm,18.4s,baz=116,slow=40
K20K Telida 81.74 25 P **P 13 23 05.7 +0.2**
K20K IAmb IAmb 13 23 08.1
comp=Z,65nm,1.5s
K20K Telida 81.74 25 P **P 13 23 06.6 +1.1**
baz=249,SNR=9.0
J20K Nowinta River 82.01 24 P **P 13 23 07.5 +0.7**
J20K IAmb IAmb 13 23 40.8
comp=Z,65nm,1.6s
J20K Nowinta River 82.01 24 P **P 13 23 07.7 +0.9**
baz=248,SNR=8.7
BRSE Bradley Lake S 82.02 29 P **P 13 23 07.7 +0.7**
baz=252
SKT Skwentna 82.36 27 P **P 13 23 07.6 -1.1**
SKT Skwentna 82.36 27 P **P 13 23 09.4 +0.6**
baz=251
CAST Castle Rocks 82.60 25 P **P 13 23 09.9 0.0**
CAST IAmb IAmb 13 23 11.7
comp=Z,38nm,1.5s
CAST Castle Rocks 82.60 25 P **P 13 23 10.4 +0.4**
baz=250,SNR=7.3
CHUM Lake Minchumin 82.66 25 P **P 13 23 10.8 +0.6**
baz=250,SNR=9.5
O22K Cooper Landing 82.73 28 P **P 13 23 09.8 -0.8**
O22K Cooper Landing 82.73 28 P **P 13 23 10.7 0.0**
baz=253
SEW Seward 82.75 29 P **P 13 23 10.2 -0.6**
SEW IAmb IAmb 13 23 12.2
comp=Z,48nm,1.3s
SEW Seward 82.75 29 P **P 13 23 10.6 -0.1**
baz=253
MAW Mawson 82.79 202 P **P 13 23 11.7 +0.9**
comp=Z,5.0nm,1.0s,baz=103,slow=7.9,SNR=13
MAW LR LR 13 58 12.6
comp=Z,2μm,19.3s,baz=68,slow=34
comp=Z,5.0nm,1.0s
MAW Mawson 82.79 202 P **P 13 23 11.8 +0.9**
baz=83,SNR=12
MAW Mawson 82.79 202 P **P 13 23 10.9 +0.1**
IMAR Indian Mountai 82.83 22 P **P 13 23 10.8 -0.3**
RC01 Rabbit Creek A 82.90 28 P **P 13 23 10.4 -1.1**
RC01 IAmb IAmb 13 23 15.8
comp=Z,24nm,0.8s
RC01 Rabbit Creek A 82.90 28 P **P 13 23 11.4 -0.2**
baz=253
M22K Willow 82.92 27 P **P 13 23 11.6 0.0**
baz=252
CUT Chulitna 83.06 26 P **P 13 23 12.0 -0.3**
CUT Chulitna 83.06 26 P **P 13 23 12.2 -0.2**
baz=252
H21K Melozitna Rive 83.08 23 P **P 13 23 12.8 +0.4**
baz=249
G21K Allakaket 83.12 22 P **P 13 23 13.0 +0.4**
baz=249
KTH Kantishna Hill 83.14 25 P **P 13 23 12.6 -0.2**
KTH IAmb IAmb 13 26 10.6
comp=Z,24nm,0.6s
I21K Tanana 83.23 23 P **P 13 23 13.1 -0.1**
I21K IAmb IAmb 13 23 17.6
comp=Z,58nm,1.6s
I21K Tanana 83.23 23 P **P 13 23 13.9 +0.7**
baz=250
BPAW Bear Paw Mtn. 83.28 25 P **P 13 23 13.1 -0.5**
BPAW IAmb IAmb 13 23 16.2
comp=Z,56nm,1.7s
BPAW Bear Paw Mtn. 83.28 25 P **P 13 23 13.6 +0.1**
baz=251
PMR Palmer 83.33 27 P **P 13 23 12.7 -1.0**
PMR IAmb IAmb 13 23 30.0
comp=Z,24nm,1.0s
PMR Palmer 83.33 27 P **P 13 23 12.7 -1.0**
PMR pmax pmax
comp=Z,24nm,1.0s
PMR Palmer 83.33 27 P **P 13 23 13.5 -0.2**
baz=253,SNR=7.9
TRF Thorofare Moun 83.37 25 P **P 13 23 13.6 -0.6**
TRF IAmb IAmb 13 23 40.6
comp=Z,32nm,1.3s
TRF Thorofare Moun 83.37 25 P **P 13 23 13.8 -0.4**
baz=252
F21K Alatna River 83.38 21 P **P 13 23 14.7 +0.8**
baz=249
GHO Glory Hole Cre 83.47 27 P **P 13 23 14.3 -0.3**
GHO IAmb IAmb 13 23 16.0
comp=Z,81nm,1.9s
PWL Port Wells 83.49 28 P **P 13 23 14.6 -0.1**
PWL Port Wells 83.49 28 P **P 13 23 14.7 +0.1**
baz=254,SNR=7.5
KNK Knik Glacier 83.59 28 P **P 13 23 15.3 +0.2**
KNK IAmb IAmb 13 23 29.5
comp=Z,47nm,1.2s
KNK Knik Glacier 83.59 28 P **P 13 23 15.2 +0.1**
baz=254,SNR=5.8
MLY Manley 83.68 24 P **P 13 23 15.9 +0.3**
MLY IAmb IAmb 13 23 18.5
comp=Z,44nm,1.6s
MLY Manley 83.68 24 P **P 13 23 16.5 +0.9**
baz=251
P23K Montague Islan 83.71 29 P **P 13 23 15.5 -0.2**
baz=255
H22K Ishtalitna Cre 83.71 23 P **P 13 23 15.8 +0.2**
baz=251
SML Sawmill 83.75 27 P **P 13 23 16.0 -0.1**
SML IAmb IAmb 13 23 28.6
comp=Z,42nm,1.0s
SML Sawmill 83.75 27 P **P 13 23 15.0 -1.0**
SML pmax pmax
comp=Z,42nm,1.0s
SML Sawmill 83.75 27 P **P 13 23 16.3 +0.3**
baz=254,SNR=8.8
GEYT Alibeck 83.83 308 P **P 13 23 17.2 +0.3**
comp=Z,5.5nm,0.6s,baz=96,slow=1.4,SNR=21
comp=Z,5.5nm,0.6s
GEYT Alibeck 83.83 308 P **P 13 23 15.9 -1.0**
GEYT IAmb IAmb 13 23 34.0
comp=Z,38nm,1.1s
WAT1 Susitna Watana 83.94 26 P **P 13 23 16.8 -0.1**
baz=254
F22K John River 83.96 21 P **P 13 23 18.3 +1.4**
baz=250
RND Reindeer 83.97 26 P **P 13 23 16.7 -0.4**
RND Reindeer 83.97 26 P **P 13 23 16.7 -0.4**
RND pmax pmax
comp=Z,111nm,0.5s
G22K Bettles 84.00 22 P **P 13 23 17.4 +0.3**
baz=250
M23K Glacier View 84.03 27 P **P 13 23 17.4 0.0**
baz=254,SNR=5.8
MCK McKinley 84.03 25 P **P 13 23 17.3 -0.1**
MCK McKinley 84.03 25 P **P 13 23 17.3 -0.1**
MCK pmax pmax
comp=Z,46nm,0.3s
MCK McKinley 84.03 25 P **P 13 23 16.9 -0.5**
baz=253,SNR=7.8
Q23K Middleton Isla 84.08 30 P **P 13 23 18.1 +0.5**
baz=256
GLI Glacier Island 84.08 28 P **P 13 23 17.6 -0.1**
GLI Glacier Island 84.08 28 P **P 13 23 17.9 +0.2**
baz=255
AB31 Akbulak array 84.20 320 *i* P **P 13 23 18.8 +0.3**
ABKAR Akbulak array 84.20 320 P **P 13 23 18.5 0.0**
ABKAR Akbulak array 84.20 320 P **P 13 23 18.4 -0.1**
ABKAR IAmb IAmb 13 23 20.4
comp=Z,40nm,1.2s
SCM Sheep Creek Mo 84.22 27 P **P 13 23 18.8 +0.4**
SCM IAmb IAmb 13 23 31.2
comp=Z,35nm,1.0s
SCM Sheep Creek Mo 84.22 27 P **P 13 23 18.8 +0.4**
SCM pmax pmax
comp=Z,35nm,1.0s
SCM Sheep Creek Mo 84.22 27 P **P 13 23 18.7 +0.2**
baz=255,SNR=8.8
NEA2 Nenana 84.23 24 P **P 13 23 17.8 -0.5**
baz=253
WAT6 Susitna Watana 84.23 26 P **P 13 23 18.3 -0.3**
baz=254,SNR=10
HIN Hinchinbrook I 84.24 29 P **P 13 23 19.1 +0.6**
H23K Yukon River 84.41 23 P **P 13 23 19.3 +0.1**
H23K Yukon River 84.41 23 P **P 13 23 20.2 +0.9**
baz=252
G23K Bananza Creek 84.49 22 P **P 13 23 20.2 +0.6**
baz=252
DHY Denali Highway 84.53 26 P **P 13 23 20.3 +0.3**
DHY IAmb IAmb 13 23 21.7
comp=Z,40nm,1.3s
DHY Denali Highway 84.53 26 P **P 13 23 20.1 +0.1**
baz=255,SNR=13
COLD Coldfoot 84.59 22 P **P 13 23 21.1 +1.0**
COLD IAmb IAmb 13 23 47.8
comp=Z,39nm,1.7s
COLD Coldfoot 84.59 22 P **P 13 23 20.8 +0.8**
baz=252
WRH Wood River Hil 84.60 25 P **P 13 23 19.9 -0.3**
WRH IAmb IAmb 13 23 21.0
comp=Z,37nm,1.4s
EYAK Cordova Ski Ar 84.64 29 P **P 13 23 21.1 +0.7**
EYAK IAmb IAmb 13 23 53.1
comp=Z,26nm,1.2s
EYAK Cordova Ski Ar 84.64 29 P **P 13 23 20.4 0.0**
baz=256
CCB Clear Creek Bu 84.77 24 P **P 13 23 20.5 -0.5**
CCB IAmb IAmb 13 23 54.7
comp=Z,29nm,1.2s
DIV Divide 84.77 28 P **P 13 23 21.4 +0.2**
KLU Klutina 84.78 28 P **P 13 23 21.1 -0.1**
KLU IAmb IAmb 13 23 23.3
comp=Z,44nm,1.4s
KLU Klutina 84.78 28 P **P 13 23 21.0 -0.3**
baz=256,SNR=9.4
TCOL CIGO, UAF Yank 84.81 24 P **P 13 23 20.7 -0.5**
baz=254
COLA College 84.81 24⇑ *i* P **P 13 23 21.0 -0.2**
COLA pmax pmax
comp=Z,13nm,1.2s
COLA College 84.81 24 P **P 13 23 21.2 0.0**
baz=254
M24K Tolsona, Glenn 84.82 27 P **P 13 23 22.0 +0.6**
M24K Tolsona, Glenn 84.82 27 P **P 13 23 22.2 +0.8**
baz=256,SNR=5.5
D23K Nanushuk River 84.97 20 P **P 13 23 23.7 +1.7**
baz=251,SNR=10
POKR Poker Plat Res 85.05 24 P **P 13 23 22.4 -0.1**
baz=254
E23K Chandalar 85.06 21 P **P 13 23 22.8 +0.3**
baz=252,SNR=12
HDA Harding Lake 85.06 25 P **P 13 23 21.7 -0.9**
HDA Harding Lake 85.06 25 P **P 13 23 22.1 -0.4**
baz=255
H24K Noodor Dome 85.06 23 P **P 13 23 21.8 -0.8**
H24K Noodor Dome 85.06 23 P **P 13 23 22.1 -0.5**
baz=254,SNR=5.9
KAIM Kayak Island 85.15 29 P **P 13 23 24.0 +0.9**
baz=258
IL31 85.18 24 P **P 13 23 22.1 -0.9**
ILAR Eielson Array 85.18 24 P **P 13 23 22.3 -0.8**
comp=Z,4.2nm,0.9s,baz=260,slow=4.6,SNR=21
ILAR LR LR 14 03 46.0
comp=Z,522nm,18.3s,baz=223,slow=37
comp=Z,4.2nm,0.9s
ILAR Eielson Array 85.18 24 P **P 13 23 22.2 -0.9**
TOLK Toolik Lake Re 85.25 20 P **P 13 23 24.1 +0.7**
TOLK Toolik Lake Re 85.25 20 P **P 13 23 24.2 +0.7**
baz=252,SNR=5.1
C23K Itkillik River 85.28 19 P **P 13 23 24.1 +0.6**
baz=251
BMRM Bremner River 85.28 28 P **P 13 23 23.8 0.0**
BMRM IAmb IAmb 13 23 45.0
comp=Z,43nm,1.2s
BMRM Bremner River 85.28 28 P **P 13 23 24.1 +0.3**
baz=257
HMT Hamilton 85.31 29 P **P 13 23 23.7 -0.1**
HMT IAmb IAmb 13 23 26.0
comp=Z,39nm,1.2s
PAX Paxson 85.34 26 P **P 13 23 23.7 -0.4**
PAX IAmb IAmb 13 23 57.1
comp=Z,38nm,1.5s
PAX Paxson 85.34 26 P **P 13 23 23.7 -0.4**
PAX pmax pmax
comp=Z,38nm,1.5s
PAX Paxson 85.34 26 P **P 13 23 24.2 +0.1**
baz=256,SNR=6.6
HARP HAARP 85.35 27 P **P 13 23 24.4 +0.4**

baz=257
K24K **Donnelly Dome** 85.41 26 P P 13 23 24.1 -0.2
baz=256
N25K **Chitina, Valde** 85.43 28 P P 13 23 24.4 -0.1
N25K **Chitina, Valde** 85.43 28 P P 13 23 25.4 +0.8
baz=257,SNR=5.8
G24K **Hadweenzic Riv** 85.46 23 P P 13 23 25.4 +1.0
baz=254
E24K **Your Creek** 85.47 21 P P 13 23 25.5 +0.9
baz=253
F24K **Squaw Lake** 85.53 22 P P 13 23 26.0 +1.1
baz=254,SNR=8.5
BERG **Berg Lake** 85.60 29 P P 13 23 25.2 -0.1
AKTO **Aktyubinsk** 85.62 321 P P 13 23 25.7 +0.1
D24K **Happy Valley** 85.67 20 P P 13 23 26.5 +1.1
baz=253
GLB **Gilahina Butte** 85.76 28 P P 13 23 26.1 0.0
J25K **Salcha River,** 85.77 25 P P 13 23 25.8 -0.3
J25K **Salcha River,** 85.77 25 P P 13 23 25.6 -0.6
baz=256,SNR=7.9
RIDG **Independent Ri** 85.79 26 P P 13 23 26.2 -0.1
RIDG **Independent Ri** 85.79 26 P P 13 23 26.1 -0.1
baz=257,SNR=7.0
C24K **Franklin Bluff** 85.88 19 P P 13 23 26.7 +0.3
baz=253
SNH **Sunshine Point** 85.97 29 P P 13 23 27.8 +0.6
SNH IAmb IAmb 13 23 32.1
comp=Z,42nm,1.0s
H25K **Birch Creek** 85.99 23 P P 13 23 27.7 +0.6
baz=256
WAX **Waxell Ridge** 86.02 29 P P 13 23 27.6 +0.1
WAX IAmb IAmb 13 23 29.8
comp=Z,44nm,1.3s
TGL **Tana Glacier** 86.09 29 P P 13 23 27.6 -0.3
TGL IAmb IAmb 13 23 29.9
comp=Z,48nm,1.3s
DOT **Dot Lake** 86.11 26 P P 13 23 27.8 0.0
DOT IAmb IAmb 13 23 29.4
comp=Z,36nm,1.5s
MENT **Mentasta** 86.11 27 P P 13 23 27.9 +0.1
MCARA **McCarthy VSAT** 86.12 28 P P 13 23 28.6 +0.7
baz=259
SCRK **Sand Creek** 86.22 26 P P 13 23 28.0 -0.4
SCRK **Sand Creek** 86.22 26 P P 13 23 28.8 +0.3
baz=258
ARU **Arti** 86.22 327 LR LR 14 03 08.1
comp=Z,593nm,21.7s,baz=89,slow=36
ARU **Arti** 86.22 327 P P 13 23 28.2 -0.3
ARU IAmb IAmb 13 23 41.1
comp=Z,22nm,1.0s
ARU **Arti** 86.22 327 *d iP* P 13 23 28.3 -0.1
ARU 13 26 46.8
ARU S **SKSac** 13 33 51.7 -0.8
ARU SS **SS** 13 39 34.9 -5.9
ARU pmax pmax
comp=Z,16nm,0.9s
ARU MLR MLR
comp=Z,617nm,21.0s
ISLE **Juniper Island** 86.30 29 P P 13 23 28.9 0.0
L26K **Log Cabin Wild** 86.30 27 P P 13 23 29.3 +0.5
baz=258
M26K **Nabesna, AK** 86.33 27 P P 13 23 29.1 +0.1
M26K **Nabesna, AK** 86.33 27 P P 13 23 29.3 +0.4
baz=259
F25K **Christian Rive** 86.38 22 P P 13 23 30.3 +1.2
baz=256,SNR=6.2
MESA **MESA** 86.41 29 P P 13 23 30.3 +0.7
baz=260
J26L **Joseph Creek** 86.51 25 P P 13 23 29.8 0.0
J26L **Joseph Creek** 86.51 25 P P 13 23 29.9 +0.1
baz=258,SNR=7.3
E25K **Arctic Village** 86.54 21 P P 13 23 30.9 +1.1
baz=256,SNR=9.8
D25K **Kavik River** 86.55 20 P P 13 23 29.8 -0.1
baz=255
BMAR **Burnt Mountain** 86.74 22 P P 13 23 31.4 +0.5
M27K **Edge Creek, AK** 86.84 27 P P 13 23 32.0 +0.5
M27K IAmb IAmb 13 23 59.2
comp=Z,42nm,1.4s
M27K **Edge Creek, AK** 86.84 27 P P 13 23 32.1 +0.5
baz=260,SNR=9.3
CTG **Chitna Glacier** 86.84 29 P P 13 23 32.2 +0.6
baz=260,SNR=21
I26K **Coal Creek Min** 86.84 24 P P 13 23 32.4 +1.1
baz=258
CTGM **Chitina Glacie** 86.85 29 P P 13 23 32.5 +0.9
CTGM IAmb IAmb 13 23 37.6
comp=Z,31nm,0.9s
TABL **Table Mountain** 86.85 29 P P 13 23 32.3 +0.5
TABL IAmb IAmb 13 23 33.8
comp=Z,29nm,1.1s
G26K **Porcupine Rive** 86.94 23 P P 13 23 32.9 +1.2
baz=258,SNR=13
F26K **Sheenjek River** 86.96 22 P P 13 23 33.4 +1.5
baz=257,SNR=13
LOGN **Logan Glacier** 86.98 29 P P 13 23 32.4 +0.1
L27K **Beaver Creek,** 86.99 27 P P 13 23 32.5 +0.4
L27K IAmb IAmb 13 23 34.6
comp=Z,70nm,2.0s
L27K **Beaver Creek,** 86.99 27 P P 13 23 33.0 +0.9
baz=260,SNR=7.6
BCAR **Beaver Creek A** 87.01 27 P P 13 23 32.6 +0.4
K27K **Chicken** 87.05 26 P P 13 23 33.0 +0.7
baz=259
C26K **Camden Bay** 87.20 20 P P 13 23 33.6 +0.7
baz=256
PCA **Pinnacle** 87.23 30 P P 13 23 33.9 +0.4
PCA IAmb IAmb 13 23 39.0
comp=Z,22nm,1.0s
PINM **Pinnacle** 87.23 30 P P 13 23 34.9 +1.5
baz=261
BVCY **Beaver Creek** 87.31 27 P P 13 23 34.7 +0.9
baz=261
O28M **Mount Upton** 87.37 29 P P 13 23 34.9 +0.6
baz=261,SNR=6.8
YUK3 **Moose Creek** 87.40 28 P P 13 23 35.0 +0.6
baz=261,SNR=7.6
I27K **Kandik River** 87.53 24 P P 13 23 35.7 +1.0
baz=260,SNR=12
C27K **Jago River** 87.54 20 P P 13 23 35.2 +0.6
baz=258
EGAK **Eagle** 87.58 25 P P 13 23 35.6 +0.7
EGAK IAmb IAmb 13 23 47.1
comp=Z,26nm,1.1s
EGAK **Eagle** 87.58 25 P P 13 23 35.5 +0.6
baz=260,SNR=8.5
PNL **Peninsula** 87.60 30 P P 13 23 36.1 +1.0
baz=262
H27K **Steamboat Moun** 87.68 24 P P 13 23 36.1 +0.7
baz=260,SNR=19
G27K **Doyon Strip** 87.73 23 P P 13 23 36.7 +1.0
baz=260,SNR=8.0
QSPA **South Pole Qui** 87.94 180 LR LR 14 03 56.6
comp=Z,3µm,19.7s,baz=7.0,slow=36
QSPA **South Pole Qui** 87.94 180 P P 13 23 36.3 -0.4
E27K **Coleen River** 88.00 22 P P 13 23 38.0 +1.1
baz=260
O29M **Mount Kennedy** 88.09 30 P P 13 23 38.4 +0.8
baz=263,SNR=7.7
YUK4 **Talbot Arm** 88.19 29 P P 13 23 39.5 +1.3
baz=263,SNR=10
DAWY **Dawson** 88.22 26 P P 13 23 38.2 +0.2
DAWY **Dawson** 88.22 26 P P 13 23 39.2 +1.2
baz=262,SNR=20
YUK6 **Outpost Mounta** 88.28 29 P P 13 23 39.3 +0.7
baz=263
M29M **Somme Creek** 88.42 27 P P 13 23 39.9 +0.8
baz=263,SNR=15
P29M **Windy Craggy** 88.43 30 P P 13 23 39.7 +0.6
P29M IAmb IAmb 13 24 06.8
comp=Z,38nm,1.2s
P29M **Windy Craggy** 88.43 30 P P 13 23 39.7 +0.6
baz=263,SNR=6.7
L29M **L29M** 88.66 27 P P 13 23 40.9 +0.8
baz=263,SNR=12
HYT **Haines Junctio** 88.68 29 P P 13 23 39.6 -0.8
HYT IAmb IAmb 13 24 07.9
comp=Z,38nm,1.2s
HYT **Haines Junctio** 88.68 29 P P 13 23 41.0 +0.6
baz=264,SNR=12
I29M **Ogilvie Camp,** 88.86 25 P P 13 23 41.7 +0.7
baz=263
P30M **Million Dollar** 88.87 30 P P 13 23 42.1 +0.9
baz=264,SNR=6.8
N30M **Aishikik Lake** 88.95 29 P P 13 23 42.6 +1.0
baz=264,SNR=9.3
K29M **Barlow Dome** 89.02 26 P P 13 23 43.0 +1.1
baz=264,SNR=17
PLBC **Pleasant Camp** 89.11 31 P P 13 23 42.8 +0.6
baz=265,SNR=10.0
M30M **Minto, Yukon** 89.21 27 P P 13 23 43.5 +0.8
M30M IAmb IAmb 13 23 45.2
comp=Z,56nm,1.8s
M30M **Minto, Yukon** 89.21 27 P P 13 23 43.7 +1.0
baz=264,SNR=9.8
O30N **Mendenhall** 89.37 29 P P 13 23 43.9 +0.4
baz=265,SNR=8.7
SIT **Sitka** 89.45 33 P P 13 23 44.4 +0.6
baz=266
N31M **Braeburn, Yuko** 89.58 29 P P 13 23 44.9 +0.5
N31M IAmb IAmb 13 23 47.0
comp=Z,40nm,1.4s
N31M **Braeburn, Yuko** 89.58 29 P P 13 23 45.1 +0.7
baz=265
EPYK **Eagle Plains** 89.62 24 P P 13 23 45.0 +0.4
baz=264
SKAG **Skagway** 89.64 31 P P 13 23 45.5 +0.9
SKAG IAmb IAmb 13 23 47.2
comp=Z,35nm,1.2s
SKAG **Skagway** 89.64 31 P P 13 23 45.5 +0.9
baz=266,SNR=12
MAYO **Mayo, Yukon** 89.71 26 P P 13 23 45.9 +0.9
MAYO **Mayo, Yukon** 89.71 26 P P 13 23 45.9 +0.9
baz=265
BESE **Bessie Mountai** 89.81 32 P P 13 23 46.2 +0.6
BESE IAmb IAmb 13 23 47.9
comp=Z,30nm,1.3s
S32K **Killisnoo** 89.88 33 P P 13 23 46.4 +0.6
baz=266
WHY **Whitehorse** 89.95 29 P P 13 23 47.2 +0.9
baz=266,SNR=6.1
R32K **Eaglecrest** 89.97 32 P P 13 23 46.9 +0.6
baz=266
M31M **Drury Creek, Y** 90.29 28 P P 13 23 47.9 +0.1
baz=266
P32M **Atlin** 90.47 31 P P 13 23 49.1 +0.5
baz=267
U33K **Whale Pass** 90.61 34 P P 13 23 49.9 +0.7
baz=267
FARO **Faro, Yukon** 90.78 28 P P 13 23 50.3 +0.3
FARO IAmb IAmb 13 23 52.0
comp=Z,23nm,1.4s
FARO **Faro, Yukon** 90.78 28 P P 13 23 50.7 +0.6
baz=267,SNR=9.4
N32M **Quiet Lake** 90.86 29 P P 13 23 51.2 +0.8
baz=267
P33M **Teslin, Yukon** 90.95 30 P P 13 23 51.6 +0.6
P33M **Teslin, Yukon** 90.95 30 P P 13 23 51.5 +0.6
baz=268,SNR=6.6
INK **Inuvik** 91.00 22 LR LR 14 02 28.9
comp=Z,528nm,20.1s,baz=218,slow=34
INK **Inuvik** 91.00 22 P P 13 23 51.9 +1.1
baz=267
WRAK **Wrangell Islan** 91.05 34 P P 13 23 52.0 +0.7
baz=268
Q32M **Nakina River** 91.18 31 P P 13 23 51.7 -0.5
baz=268
KIRV **Kirov** 91.34 328⇓ *eP* P 13 23 52.0 -0.6
S34M **Telegraph Cree** 91.75 32 P P 13 23 55.4 +0.8
baz=269
MMPY **Sheldon Lake,** 91.76 28 P P 13 23 55.3 +0.7
baz=269
R33M **Jennings River** 91.86 31 P P 13 23 55.8 +0.6
baz=269
T35M **Bob Quinn** 92.22 33 P P 13 23 57.5 +0.7
baz=270
BELG **Belogornoye** 92.25 322 LR LR 14 07 12.2
comp=Z,407nm,21.4s,baz=109,slow=37
BELG **Belogornoye** 92.25 322 *de*P P 13 23 56.0 -1.0
BELG pmax pmax
comp=Z,4.0nm,0.9s
MAK **Makhachkala** 92.25 313 *eP* P 13 23 54.5 -2.7
MAK *e* 13 27 41.7
MAK *e*PPP PPP 13 29 37.7
MAK *e* 13 34 25.0
MAK pmax pmax
comp=Z,356nm,1.2s
DLBC **Dease Lake** 92.34 32 LR LR 14 02 38.1
comp=Z,783nm,19.5s,baz=283,slow=34
DLBC **Dease Lake** 92.34 32 P P 13 23 57.8 +0.4
baz=270
WTLY **Watson Lake, Y** 92.96 30 P P 13 24 01.0 +0.9
WTLY IAmb IAmb 13 24 02.3
comp=Z,26nm,1.1s
WTLY **Watson Lake, Y** 92.96 30 P P 13 24 01.0 +0.9
baz=271
TGTN **Hyland Airport** 93.18 29 P P 13 24 02.1 +1.0
baz=272
PRGR **Permogore** 93.23 331 *eP* P 13 23 59.4 -1.9
PRGR pmax pmax
comp=Z,6.0nm,0.6s
BBB **Bella Bella** 93.50 38 LR LR 14 00 44.0
comp=Z,1µm,19.5s,baz=280,slow=32
RAYN **Ar Rayn** 93.76 293 P P 13 24 02.8 -1.9
RAYN **Ar Rayn** 93.76 293 P P 13 24 02.8 -1.9
RAYN pmax pmax
comp=Z,7.0nm,0.9s
ZEI **Tsey** 94.91 313 *eP* P 13 24 08.1 -1.6
ZEI pmax pmax
comp=Z,9.0nm,1.0s
KIV **Kislovodsk** 95.75 314 *eP* P 13 24 12.0 -1.4
KIV pmax pmax
comp=Z,5.0nm,1.1s
ATD **Arta Tunnel** 96.17 281 LR LR 14 09 05.2
comp=Z,70nm,19.2s,baz=70,slow=36
KLMR **Klimovskoe** 96.24 331 *eP* P 13 24 11.5 -3.5
KLMR *e* 13 28 08.3
KLMR pmax pmax
comp=Z,20nm,1.6s
KLMR **Klimovskoe** 96.24 331 *eP* P 13 24 11.6 -3.5
KLMR AMP 13 24 16.0
comp=Z,20nm,1.6s
KLMR *e*PP PP 13 28 08.4 +0.1
KLMR LR LR 14 00 18.9
KLMR AMP 14 12 57.0
comp=Z,750nm,17.1s
I02E **Swisshome, OR** 96.72 46 P P 13 24 17.9 +0.3
baz=274
L02F **Cave Junction** 97.05 48 P Pdif 13 24 19.5 +0.2
baz=274
I03D **Drain, OR** 97.10 46 P Pdif 13 24 20.0 +0.5
baz=274
VORR **Voronezh** 97.48 322 *eP* P 13 24 20.6 -0.3
VORR pmax pmax
comp=Z,50nm,0.4s
APA **Apatity** 97.67 338⇓ *iP* Pdif 13 24 23.8 +2.3
APA pmax pmax
comp=Z,5.0nm,1.1s
YBH **Yreka Blue Hor** 97.71 48 LR LR 13 59 59.1
comp=Z,2µm,21.8s,baz=321,slow=30
MOS **Moscow** 97.91 326 *eP* Pdif 13 24 28.3 +5.5
SOC **Sochi** 97.92 314 *i* P P 13 24 19.4 -3.7
SOC *e* 13 28 21.9
SOC *e*PPP PPP 13 30 24.9
SOC *e*S **SKSac** 13 34 53.9 -5.0
SPITS **Spitsbergen Ar** 98.30 350 LR LR 14 07 36.9
comp=Z,962nm,21.9s,baz=18,slow=35
OBN **Obninsk** 98.59 325 LR LR 14 10 40.6
comp=Z,192nm,21.4s,baz=33,slow=36
OBN **Obninsk** 98.59 325 *eP* Pdif 13 24 26.2 +0.4
OBN *e* 13 28 28.6
OBN *e*PPP PPP 13 30 36.2
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,791nm,19.0s
AFDM **Forest Hills D** 99.26 51 **Pdif** 13 24 29.2 -0.1
AFDM IAmb IAmb 13 24 31.4
comp=Z,17nm,1.6s
B08A **Colville Reser** 99.42 41 P **Pdif** 13 24 29.6 -0.2
YKA **Yellowknife Ar** 99.42 27 P **Pdif** 13 24 30.8 +1.4
comp=Z,1.8nm,0.8s,baz=287,slow=4.5,SNR=3.9
YKA PP **PP** 13 28 29.7 -2.9
comp=Z,1.2nm,0.9s,baz=298,slow=6.9,SNR=2.0
comp=Z,1.8nm,0.8s
MOD **Modoc Plateau** 99.49 48 **Pdif** 13 24 30.2 -0.2
TROLL **Troll, Antarti** 101.02 193 Pdiff **Pdif** 13 24 44.0 +7.4
NVAR **Mina Array Bea** 101.39 51 P **Pdif** 13 24 38.0 -1.0
comp=Z,2.0nm,0.9s,baz=262,slow=5.4,SNR=15
NVAR PKiKP **PKiKP** 13 29 05.8 +2.4
comp=Z,0.9nm,0.9s,baz=272,slow=6.0,SNR=4.9
SNAA **Sanae** 102.40 192 Pdiff **Pdif** 13 24 49.9 +7.3
FINES **FINESS Array B** 102.44 333 P **Pdif** 13 24 41.5 -1.3
comp=Z,0.6nm,0.4s,baz=64,slow=3.2,SNR=6.2
FINES **FINESS Array B** 102.44 333 *i* P **Pdif** 13 24 43.0 +0.2
FINES pmax pmax
comp=Z,1.0nm,0.4s
R11A **Troy Canyon, C** 103.52 51 P **Pdif** 13 24 48.8 +0.4
baz=278
MONP2 **Monument Peak** 103.54 57 P **Pdif** 13 24 49.3 +0.6
baz=276
HLID **Hailey** 103.56 46 P **Pdif** 13 24 49.2 +0.8
baz=280
BELC **Belle Mtn. Jos** 103.76 56 P **Pdif** 13 24 49.6 +0.1
baz=277
AKASG **Malin Array Be** 103.83 322 Pdiff **Pdif** 13 24 47.8 -1.5
comp=Z,0.1nm,0.3s,baz=69,slow=5.1,SNR=5.0
NACGM **Naroch** 104.13 326⇓ *eP* **Pdif** 13 24 44.9 -5.6
baz=73
BW06 **Boulder Array** 107.19 46 P **PKiKP** 13 29 14.1 +0.2
baz=284
PDAR **Pinedale Array** 107.19 46 PKiKP **PKiKP** 13 29 15.3 +1.5
comp=Z,0.6nm,0.9s,baz=203,slow=3.1,SNR=3.9
WUAZ **Wupatki** 107.30 53 P **PKiKP** 13 29 14.6 +0.4
baz=280
NOA **NORSAR Array B** 109.06 336 PP **PP** 13 29 38.8 -5.6
comp=Z,1.0nm,0.9s,baz=56,slow=7.9,SNR=4.2
S22A **4UR Ranch, Cre** 110.42 50 P **PKiKP** 13 29 20.1 0.0
baz=284
RSSD **Black Hills** 110.69 43 P **PKiKP** 13 29 20.9 +0.5
baz=288
121A **Cookes Peak, D** 110.79 56 P **PKiKP** 13 29 21.4 +0.6
baz=281
ANMO **Albuquerque** 111.36 53⇓ *i* PKiKP **PKiKP** 13 29 24.2 +2.3
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO **Albuquerque** 111.36 53 P **PKiKP** 13 29 22.6 +0.7
baz=283
SDCO **Great Sand Dun** 111.44 50 P **PKiKP** 13 29 22.1 +0.1
baz=285
T25A **Trinidad** 112.43 50 P **PKiKP** 13 29 24.4 +0.5
baz=285
CLL **Collm** 113.17 326 *i* PP **PP** 13 30 10.8 -3.3
comp=Z,12nm,1.6s
CLL *e*PPP PPP 13 32 38.0
CLL *e*SKSac **SKSac** 13 36 12.0 +4.8
CLL *e*Sdif **Sdif** 13 37 55.0 +0.1
CLL *ex* x 13 40 12.0
CLL *e*SS **SS** 13 46 00.0 +3.3
CLL *e*SKKSdf **SKKSdf** 13 47 42.0 -1.6
CLL *e*SSS SSS 13 50 06.0
CLL *e*SSSS 13 53 30.0
CLL Lm MLR 14 21 00.0
comp=N,700nm,19.0s
CLL Lm MLR 14 21 00.0
comp=E,600nm,20.3s
CLL Lm MLR 14 21 00.0
comp=Z,1µm,18.8s
GERES **GERESS Array B** 113.90 324 PKiKP **PKiKP** 13 29 27.1 +0.9
comp=Z,0.3nm,0.3s,baz=180,slow=0.8,SNR=4.9
AGMN **Agassiz Nation** 114.36 37 P **PKiKP** 13 29 27.3 +0.4
baz=297
MSTX **Muleshoe** 114.55 53 P **PKiKP** 13 29 28.0 +0.1
baz=285
TXAR **Lajitas Array** 114.91 59 PKP PKPdf 13 29 28.0 -0.6
comp=Z,1.9nm,0.9s,baz=270,slow=1.8,SNR=12
TXAR PKKPbc **PKKPbc** 13 40 03.2 -2.5
comp=Z,0.1nm,0.7s,baz=165,slow=7.2,SNR=3.0
STAL **STALIGIAL** 115.65 322 **PKiKP** 13 29 29.1 -0.4
ECSD **EROS Data Cent** 115.83 41 P **PKPdf** 13 29 29.9 0.0
baz=294
EYMN **Ely** 117.09 35 P **PKiKP** 13 29 32.5 +0.3
baz=300
WMOK **Wichita Mounta** 117.50 52 **PKPdf** 13 29 33.3 -0.1
WMOK **Wichita Mounta** 117.50 52 PKIKP **PKPdf** 13 29 33.3 -0.1
WMOK **Wichita Mounta** 117.50 52 P **PKiKP** 13 29 33.4 0.0
baz=288
JCT **Junction City** 117.89 56 PKPdf **PKPdf** 13 29 34.0 -0.3
JCT **Junction City** 117.89 56 PKIKP **PKPdf** 13 29 34.0 -0.3
JCT **Junction City** 117.89 56 P **PKiKP** 13 29 34.7 +0.3
baz=285
OK047 **Pawnee, Statio** 118.51 49 **PKPdf** 13 29 35.1 -0.1
833A **Chaparral WMA,** 118.79 59 P **PKiKP** 13 29 36.7 +0.6
baz=284
TUL1 **Leonard** 119.41 49 P **PKiKP** 13 29 38.0 +0.9
baz=291
P38A **Dawn** 119.63 45 PKPdf **PKPdf** 13 29 37.2 -0.1
RLO **Rose Lookout** 119.90 49 **PKiKP** 13 29 38.0 0.0
X37A **Clayton** 120.20 51 **PKPdf** 13 29 37.7 -0.9
U38A **Gravette** 120.27 48 PKPdf **PKPdf** 13 29 38.1 -0.6
JFWS **Jewell Farm** 120.36 40 P **PKiKP** 13 29 38.9 +0.2
baz=299
S39A **Bolivar** 120.57 47 PKPdf **PKPdf** 13 29 38.6 -0.6
P40A **Paris** 120.71 44 **PKPdf** 13 29 39.4 0.0
R40A **Maddies Statio** 121.08 46 PKPdf **PKPdf** 13 29 40.0 -0.2
MGMO **Mountain Grove** 121.55 47 PKPdf **PKPdf** 13 29 40.3 -0.8
MIAR **Mount Ida** 121.59 50 PKPdf **PKiKP** 13 29 41.3 -0.1
MIAR **Mount Ida** 121.59 50 PKIKP **PKiKP** 13 29 41.3 -0.1
MIAR **Mount Ida** 121.59 50 P **PKiKP** 13 29 41.7 +0.3
baz=292
NATX **Nacogdoches** 121.72 54 P **PKiKP** 13 29 41.9 +0.2
baz=290
CCM **Cathedral Cave** 121.91 45 PKPdf **PKPdf** 13 29 41.5 -0.3
CCM **Cathedral Cave** 121.91 45 PKIKP **PKPdf** 13 29 41.5 -0.3
CCM **Cathedral Cave** 121.91 45 P **PKiKP** 13 29 42.0 +0.1
baz=296
GLMI **Grayling** 122.78 36 P **PKPdf** 13 29 43.0 -0.2
baz=305
LCAR **Lake Charles** 122.82 48 **PKPdf** 13 29 43.0 -0.6
SFIN **Lafayette** 123.66 41 P **PKiKP** 13 29 45.3 0.0
baz=301
OLIL **Olney** 123.80 43 PKPdf **PKPdf** 13 29 45.3 -0.1
L48A **N Adams** 124.53 38 **PKPdf** 13 29 46.8 +0.1
OXF **Oxford** 124.77 48 **PKPdf** 13 29 46.5 -0.8
OXF **Oxford** 124.77 48 PKIKP **PKPdf** 13 29 46.5 -0.8
OXF **Oxford** 124.77 48 P **PKPdf** 13 29 47.4 0.0
baz=295
O48B **Farmland** 124.99 40 P **PKPdf** 13 29 47.7 +0.1
baz=302
WVT **Waverly** 125.21 46 PKPdf **PKPdf** 13 29 47.5 -0.7
WVT **Waverly** 125.21 46 PKIKP **PKPdf** 13 29 47.5 -0.7
P48A **Milroy** 125.24 41 **PKPdf** 13 29 47.7 -0.4
WCI **Wyandotte Cave** 125.28 43 P **PKiKP** 13 29 48.5 -0.1
baz=300
PLAL **Pickwick Lake** 125.55 47 PKPdf **PKPdf** 13 29 48.1 -0.7
O49A **Covington** 125.56 40 **PKPdf** 13 29 48.7 0.0
P49A **Miami Univ. Ec** 125.66 41 **PKPdf** 13 29 48.7 -0.2
P49A **Miami Univ. Ec** 125.66 41 P **PKiKP** 13 29 49.5 +0.2
baz=302
V48A **Smith Brothers** 126.12 46 **PKPdf** 13 29 49.7 -0.2
CLTN **Cedars of Leba** 126.30 45 **PKPdf** 13 29 49.9 -0.4
ACSO **Alum Creek Sta** 126.40 39 P **PKiKP** 13 29 50.6 -0.1
baz=304
U49A **Red Boiling Sp** 126.49 45 **PKPdf** 13 29 50.4 -0.2
X48A **Hartselle** 126.55 47 PKPdf **PKPdf** 13 29 50.4 -0.4
T50A **Nancy** 126.89 44 **PKPdf** 13 29 51.1 -0.2
ERPA **Erie** 127.10 36 P **PKiKP** 13 29 51.9 -0.2
baz=308
M53A **WI Miller and** 127.11 37 P **PKiKP** 13 29 51.9 -0.2
baz=307
LRAL **Lakeview Retre** 127.21 49 P **PKiKP** 13 29 52.7 +0.1
baz=296
P52A **Corning** 127.28 39 P **PKiKP** 13 29 52.4 -0.2
baz=305
Y49A **Blount Mountai** 127.28 48 **PKPdf** 13 29 51.9 -0.3
S51A **Beattyville** 127.42 42 **PKPdf** 13 29 52.4 +0.1
W50A **Signal Mountai** 127.46 46 **PKPdf** 13 29 51.9 -0.6
O53A **New Philadelph** 127.50 38 P **PKiKP** 13 29 52.9 -0.1
baz=306
P53A **Whipple** 127.83 39 **PKPdf** 13 29 53.2 +0.1
TZTN **Tazewell** 128.02 43 P **PKPdf** 13 29 53.3 -0.2
baz=302
TKL **Tuckaleechee C** 128.32 45 **PKPdf** 13 29 54.4 +0.3
TKL **Tuckaleechee C** 128.32 45 PKIKP **PKPdf** 13 29 54.4 +0.3
LONY **Lake Ozonia** 128.37 30 P **PKiKP** 13 29 54.5 -0.1
baz=316
NCB **Newcomb** 129.01 30 **PKiKP** 13 29 55.6 -0.3
J59A **Piesco** 129.22 31 **PKiKP** 13 29 56.1 -0.3
SSPA **Standing Stone** 129.26 36 PKPdf **PKPdf** 13 29 55.9 +0.2
SSPA **Standing Stone** 129.26 36 P **PKiKP** 13 29 56.1 -0.3
baz=310
BINY **Binghamton** 129.31 33 P **PKiKP** 13 29 56.2 -0.4
baz=313
ESDC **Sonseca Array** 129.47 323 PKP **PKPdf** 13 29 55.3 -1.0
comp=Z,0.3nm,0.3s,baz=31,slow=3.0,SNR=2.6
ESDC PP **PP** 13 32 12.3 +6.9
comp=Z,1.1nm,1.0s,baz=43,slow=7.8,SNR=5.2
GOGA **Godfrey** 129.66 47 P **PKPdf** 13 29 57.0 +0.3

	baz=299							
BLA	**Blacksburg**	**129.76**	**41**	P		**PKiKP**	**13 29 57.6**	**0.0**
	baz=305							
LBNH	**Lisbon**	**129.94**	**29**	P		**PKiKP**	**13 29 57.7**	**0.0**
	baz=318							
KMSC	**Kings Mountain**	**130.29**	**44**	P		**PKiKP**	**13 29 58.5**	**-0.2**
	baz=303							
PKME	**Peaks-Kenny Pk**	**130.36**	**26**	P		**PKiKP**	**13 29 58.9**	**+0.4**
	baz=322							
PAL	**Palisades**	**131.27**	**33**	P		**PKiKP**	**13 30 00.9**	**+0.4**
	baz=314							
HRV	**Adam Dziewonsk**	**131.41**	**30**	P		**PKiKP**	**13 30 01.1**	**+0.4**
	baz=318							
TOA0	**Torodi Ar. Sit**	**136.08**	**287**	PKPdf		**PKPdf**	**13 30 08.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**136.08**	**287**	PKP		**PKPdf**	**13 30 09.2**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=66,slow=1.9,SNR=18							
TORD				PP		**PP**	**13 32 50.2**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=199,slow=3.3,SNR=2.6							
TORD				SKPbc		**SKPbc**	**13 33 38.8**	**-0.6**
	comp=Z,3.2nm,1.2s,baz=120,slow=5.2,SNR=3.7							
DBIC	**Dimbokro**	**143.42**	**278**	PKP		**PKPdf**	**13 30 22.2**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=109,slow=1.6,SNR=9.6							
DBIC	**Dimbokro**	**143.42**	**278**		PKPbc	**PKPbc**	13 30 20.5	+0.7
DR12	**Loma Pena Alta**	**147.80**	**57**			**PKPbc**	**13 30 31.6**	**-1.4**
LPAZ	**La Paz**	**147.83**	**125**	PKPbc		**PKPbc**	**13 30 34.4**	**+0.6**
	comp=Z,21nm,1.0s,baz=257,slow=1.2,SNR=4.4							
CPUP	**Villa Florida**	**147.84**	**152**	PKPbc		**PKPbc**	**13 30 31.5**	**-1.3**
	comp=Z,29nm,1.1s,baz=228,slow=1.2,SNR=4.9							
CPUP	**Villa Florida**	**147.84**	**152**	PKPbc		**PKPbc**	**13 30 32.7**	**-0.1**
SDV	**Santo Domingo**	**149.99**	**76**	PKP		**PKPdf**	**13 30 34.5**	**+0.6**
	comp=Z,23nm,0.9s,baz=280,slow=3.9,SNR=20							
AOPR	**Arecibo Observ**	**150.19**	**55**			**PKPbc**	**13 30 38.3**	**-0.7**
OBIP	**Obispado Ponce**	**150.46**	**56**			**PKPbc**	**13 30 38.6**	**-1.0**
CELP	**Cerrillos**	**150.47**	**56**			**PKPbc**	**13 30 39.5**	**-0.1**
HUMP	**Col San Antoni**	**151.03**	**55**	PKPdf		**PKPdf**	**13 30 34.1**	**-1.1**
MTP	**Monte Pirata**	**151.30**	**55**			**PKPbc**	**13 30 41.7**	**+0.2**
CDVI	**St. Croix**	**152.12**	**54**			**PKPbc**	**13 30 43.1**	**-0.3**
BAUV	**El Baul**	**152.48**	**74**	PKPdf		**PKPdf**	**13 30 36.5**	**-1.0**
SMRT	**St. Maarten**	**153.31**	**52**			**PKPbc**	**13 30 45.4**	**-0.7**

SKHL ***20*** *13:15:54.4±0.4, 44.70N×150.00E, h46km±2km, mb4.4/2*
JMA ***20*** *13:15:54.8±0.8, 45.4N×15.0E, h30km, MV3.9/14, SE OFF ETOROFU*

ISC 20 13:15:52.1±4.2, 44.5N±0.1×150.2E±0.2, h35km, n16, α2°62/25, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.81**	**294**	*i* P		**Pn**	**13 16 19.5**	**-1.2**
KUR					AMB	AMB	13 16 24.8	
	100nm,0.4s							
KUR				*e*S		**Sn**	**13 16 38.5**	**-3.8**
KUR					A	A	13 16 47.2	
	320nm,0.4s							
KUR					A	A	13 16 47.2	
	420nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.16**	**262**	*e*P		**Pn**	**13 16 40.5**	**+1.2**
YUK					AMB	AMB	13 16 42.5	
	70nm,0.4s							
YUK				*e*S		**Sn**	**13 17 15.2**	**-0.6**
YUK					A	A	13 17 25.6	
	200nm,0.4s							
YUK					A	A	13 17 25.6	
	320nm,0.4s							
NEM2	**Nemuro 2**	**3.43**	**252**	*e*P		**Pn**	**13 16 44.3**	**+1.3**
NEM2				*e*S		**Sn**	**13 17 21.0**	**-1.4**
NMR	**Nemuro--Hokkai**	**3.44**	**252**	*e*P		**Pn**	**13 16 44.4**	**+1.3**
NMR				*e*S		**Sn**	**13 17 21.5**	**-1.1**
JRA	**Rausu**	**3.70**	**263**	*e*P		**Pn**	**13 16 49.8**	**+3.0**
JNK	**Nakash**	**4.07**	**258**	*e*P		**Pn**	**13 16 54.1**	**+2.3**
JNK				*e*S		**Sn**	**13 17 39.5**	**+1.3**
AKK	**Akkeshi**	**4.17**	**251**	*e*P		**Pn**	**13 16 54.5**	**+1.3**
JAK	**Akkeshi**	**4.28**	**251**	*e*P		**Pn**	**13 16 56.2**	**+1.5**
JAK				*e*S		**Sn**	**13 17 42.0**	**-1.4**
JTKR	**Abashiri--Toko**	**4.56**	**265**	*e*P		**Pn**	**13 17 01.9**	**+3.4**
JAR	**Ashorobuto**	**4.81**	**257**	*e*P		**Pn**	**13 17 04.9**	**+2.9**
JAR				*e*S		**Sn**	**13 17 58.3**	**+1.7**
JOB	**Onbets**	**4.90**	**253**	*e*P		**Pn**	**13 17 05.6**	**+2.4**
JCH	**Churui**	**5.33**	**251**	*e*P		**Pn**	**13 17 11.8**	**+2.6**
JCH				*e*S		**Sn**	**13 18 08.4**	**-0.9**
JKK2	**Kamakawa 2**	**5.41**	**266**	*e*P		**Pn**	**13 17 13.8**	**+3.6**
JNBK	**Urakawa-nobuka**	**5.88**	**250**	*e*P		**Pn**	**13 17 18.3**	**+1.6**
JANG	**Nango**	**7.65**	**240**	*e*P		**Pn**	**13 17 41.5**	**+0.4**
JANG				*e*S		**Sn**	**13 19 01.4**	**-5.1**
JTH	**Tanohata**	**7.71**	**236**	*e*S		**Sn**	**13 19 02.7**	**-5.1**

DDA 20 13:15:53.5±0.0, 38.88N×27.77E, h6km±2km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.04**	**92**	P		Pg	13 15 54.6	-0.2
AKHS				*i* AML		AML	13 15 56.0	
	comp=E,460nm,0.2s							
AKHS					S	Sg	13 15 56.1	+0.3
STEP	**BALIKESIR_Sava**	**0.50**	**356**	P		Pg	13 16 03.0	-0.1
STEP					S	Sg	13 16 10.0	+0.4
STEP				*i* AML		AML	13 16 11.0	
	comp=N,34nm,0.5s							
STEP				*i* AML		AML	13 16 11.0	
	comp=E,30nm,0.2s							
DEMI	**Demirci**	**0.76**	**77**	P		Pg	13 16 08.5	+0.4
DEMI					S	Sg	13 16 17.8	-0.1
DEMI				*i* AML		AML	13 16 21.0	
	comp=N,12nm,0.2s							
DEMI				*i* AML		AML	13 16 22.0	
	comp=E,20nm,0.3s							
BALY	**Balya**	**0.87**	**352**	P		Pb	13 16 10.9	-0.1
BALY					S	Sg	13 16 20.1	-1.3
BALY				*i* AML		AML	13 16 24.0	
	comp=N,17nm,0.2s							
BALY				*i* AML		AML	13 16 24.0	
	comp=E,13nm,0.3s							
DURS	**Dursunbey**	**0.91**	**37**	P		Pn	13 16 14.2	+1.4
DURS					S	Sb	13 16 24.8	+0.8
BAYC	**CANAKKALE_Bayr**	**1.28**	**313**	P		Pn	13 16 16.8	-1.1
BAYC					S	Sg	13 16 34.1	-0.5
BAYC				*i* AML		AML	13 16 35.0	
	comp=N,9.9nm,0.5s							
BAYC				*i* AML		AML	13 16 35.0	
	comp=E,10nm,0.2s							

NEIC ***20*** *13:24:42.9±1.6, 23.58S±0.05×68.18W±0.07, h127km±4km, mb5.1/75, Mwr5.0(GUC), Error ellipse: s-maj=9.8km s-min=6.1km az=62.0*
GUC ***20*** *13:24:43.1±0.8, 23.58S×68.20W, h134km±4km, ML5.1*
VAO ***20*** *13:24:43.4±0.3, 23.42S×67.93W, h115km, mb5.2*
IDC ***20*** *13:24:44.3±0.5, 23.43S×68.00W, h125km±3km, mb4.7/16, mbtmp5.1/18, MS4.4/9, Error ellipse: s-maj=10.5km s-min=8.0km az=58.0*
GCMT ***20*** *13:24:48.9±0.3, 23.65S±0.02×68.10W±0.04, h129km±5km, MW4.9/72, Moment Tensor Solution. s9,c10; s72,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.99±.15; $M_{\theta\theta}$0.22±.20; $M_{\phi\phi}$0.77±.22; $M_{r\theta}$1.73±.09; $M_{\theta\phi}$-1.19±.15; $M_{\phi r}$-1.49±.11; Best double couple: M_o2.67100×10^{16} NP1:ϕ_s310.00000°, δ75.00000°, λ-100.00000°. NP2: ϕ_s165.00000°, δ18.00000°, λ-56.00000°. Principal axes: T 2.9960, Plg30.0000°, Azm48.0000°; N -0.6500, Plg10.0000°, Azm312.0000°; P -2.3460, Plg59.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 13:24:43.1±0.3, 23.57S±0.03×68.11W±0.05, h125km±2km, h125km:pP-P, n408, σ1°44/448, mb5.0/59, 11C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.62**	**354**			**Pn**	**13 25 03.4**	**+0.6**
AF01					Sn	**Sn**	**13 25 17.6**	**0.0**
AF01	**San Pedro de A**	**0.62**	**354**	*i* P		**Pn**	**13 25 03.5**	**+0.7**
AF01				*e*S		**Sn**	**13 25 17.9**	**+0.4**
LVC	**Limon Verde**	**1.21**	**322**	P		**Pn**	**13 25 08.7**	**+0.6**
	3μm,0.3s,baz=146,slow=7.0							
LVC					S	**Sn**	**13 25 27.0**	**+0.1**
	8μm,0.3s,baz=94,slow=10,SNR=99							
LVC	**Limon Verde**	**1.21**	**322**	Pn		**Pn**	**13 25 08.6**	**+0.5**
LVC	**Limon Verde**	**1.21**	**322**	*e*P		**Pn**	**13 25 07.7**	**-0.4**
LVC				*i* S		**Sn**	**13 25 26.9**	**-0.1**
LVC	**Limon Verde**	**1.21**	**322**	*e*P		**Pn**	**13 25 08.6**	**+0.5**
PB15	**IPOC Station P**	**1.30**	**286**			**Pn**	**13 25 08.9**	**0.0**
PB15	**IPOC Station P**	**1.30**	**286**	⇑*i*P		**Pn**	**13 25 09.1**	**+0.1**
PB15				*i* S		**Sn**	**13 25 27.9**	**-0.6**
PB06	**IPOC Station P**	**1.60**	**302**	Pn		**Pn**	**13 25 12.2**	**0.0**
PB06	**IPOC Station P**	**1.60**	**302**	*e*P		**Pn**	**13 25 12.4**	**+0.2**
PB06				*i* S		**Sn**	**13 25 33.7**	**-0.6**
PB06				IAML			13 25 36.5	
	comp=N,16μm,0.1s							
PB09	**IPOC Station P**	**2.05**	**329**			**Pn**	**13 25 18.3**	**+0.6**
PB09	**IPOC Station P**	**2.05**	**329**	⇓*i*P		**Pn**	**13 25 18.7**	**+1.0**
PB09				*e*S		**Sn**	**13 25 44.5**	**+0.4**
GO02	**Mina Guanaco**	**2.09**	**220**	Pn		**Pn**	**13 25 18.2**	**-0.1**
GO02	**Mina Guanaco**	**2.09**	**220**	⇑*i*P		**Pn**	**13 25 18.5**	**+0.3**
GO02				*i* S		**Sn**	**13 25 44.9**	**-0.2**
GO02				IAML			13 25 46.8	
	comp=E,11μm,0.5s							
PB04	**IPOC Station P**	**2.25**	**303**			**Pn**	**13 25 19.7**	**-0.4**
PB04	**IPOC Station P**	**2.25**	**303**	⇑*i*P		**Pn**	**13 25 19.7**	**-0.4**
PB04				*e*S		**Sn**	**13 25 46.3**	**-2.1**
PB04				IAML			13 25 49.0	
	comp=E,11μm,0.3s							
PB14	**IPOC Station P**	**2.35**	**243**	Pn		**Pn**	**13 25 20.6**	**-1.0**
PB14	**IPOC Station P**	**2.35**	**243**	⇑*i*P		**Pn**	**13 25 20.8**	**-0.7**
PB14				*e*S		**Sn**	**13 25 48.5**	**-2.4**
PB07	**IPOC Station P**	**2.46**	**318**			**Pn**	**13 25 22.2**	**-0.6**
PB07	**IPOC Station P**	**2.46**	**318**	*e*P		**Pn**	**13 25 22.8**	**-0.1**
PB07				*e*S		**Sn**	**13 25 51.6**	**-1.6**
PB07				IAML			13 25 55.8	
	comp=N,7μm,0.3s							
PB02	**IPOC Station P**	**2.78**	**323**			**Pn**	**13 25 26.3**	**-0.6**
PB02	**IPOC Station P**	**2.78**	**323**	⇓*e*P		**Pn**	**13 25 26.5**	**-0.4**
PB02				*e*S		**Sn**	**13 25 58.4**	**-2.2**
PB02				IAML			13 26 04.5	
	comp=E,10μm,0.3s							
PB01	**IPOC Station P**	**2.82**	**333**			**Pn**	**13 25 27.0**	**-0.3**
PB01	**IPOC Station P**	**2.82**	**333**	*e*P		**Pn**	**13 25 27.1**	**-0.3**
PB01				*e*S		**Sn**	**13 25 59.9**	**-1.5**
PB01				IAML			13 26 04.0	
	comp=N,5μm,0.3s							
PATCX	**Punta Patache**	**3.33**	**325**			**Pn**	**13 25 32.7**	**-1.3**
PATCX	**Punta Patache**	**3.33**	**325**	⇑*i*P		**Pn**	**13 25 32.7**	**-1.3**
AC02	**Maricunga**	**3.38**	**196**	⇑*i*P		**Pn**	**13 25 35.8**	**+0.7**
AC01	**Pan de Azucar**	**3.42**	**221**	Pn		**Pn**	**13 25 33.4**	**-1.8**
AC01	**Pan de Azucar**	**3.42**	**221**	⇑*i*P		**Pn**	**13 25 33.5**	**-1.6**
AC01				*e*S		**Sn**	**13 26 11.8**	**-3.6**
PB08	**IPOC Station P**	**3.55**	**344**	*e*P		**Pn**	**13 25 37.6**	**+0.5**
TA01	**Diego Aracena**	**3.55**	**327**	Pn		**Pn**	**13 25 34.9**	**-2.0**
TA01	**Diego Aracena**	**3.55**	**327**	*e*P		**Pn**	**13 25 35.2**	**-1.7**
TA02	**Huaiquique**	**3.78**	**330**			**Pn**	**13 25 37.6**	**-2.3**
TA02	**Huaiquique**	**3.78**	**330**	*e*P		**Pn**	**13 25 38.1**	**-1.8**
GO01	**Chusmiza**	**4.01**	**345**			**Pn**	**13 25 42.6**	**-0.8**
AC06	**Mina Casimiro**	**4.29**	**208**	Pn		**Pn**	**13 25 44.2**	**-2.4**
AC06	**Mina Casimiro**	**4.29**	**208**	*e*P		**Pn**	**13 25 44.2**	**-2.4**
AC04	**Llanos de Chal**	**5.33**	**209**	Pn		**Pn**	**13 25 56.7**	**-4.0**
AC04	**Llanos de Chal**	**5.33**	**209**	*e*P		**Pn**	**13 25 56.8**	**-3.9**
PB12	**IPOC Station P**	**5.35**	**337**	Pn		**Pn**	**13 25 58.1**	**-2.9**
PB16	**IPOC Station P**	**5.37**	**346**	Pn		**Pn**	**13 25 59.5**	**-2.2**
AC05	**El Transito**	**5.60**	**200**	Pn		**Pn**	**13 26 02.1**	**-2.2**
LCO	**Las Campanas**	**5.90**	**203**			**Pn**	**13 26 05.2**	**-3.3**
CO01	**Juntas del Tor**	**6.63**	**195**			**Pn**	**13 26 16.5**	**-1.8**
CO05	**La Serena**	**6.92**	**203**			**Pn**	**13 26 17.2**	**-4.7**
GO04	**Tololo Observa**	**7.00**	**199**			**Pn**	**13 26 19.2**	**-4.2**
LPAZ	**La Paz**	**7.24**	**360**	P		**Pn**	**13 26 27.2**	**+0.2**
	comp=N,53nm,0.4s,baz=185,slow=6.0,SNR=164							
LPAZ					S	**Sn**	**13 27 48.6**	**+0.5**
	comp=N,32nm,0.7s,baz=210,slow=18,SNR=1.7							
LPAZ	**La Paz**	**7.24**	**360**			**Pn**	**13 26 26.8**	**-0.3**
CO06	**Fray Jorge**	**7.74**	**203**	Pn		Pn	13 26 27.9	-5.3
ZO01	**Zonda**	**7.96**	**184**			**Pn**	**13 26 33.1**	**-3.0**
CO02	**Combarbal**	**8.03**	**198**			**Pn**	**13 26 32.5**	**-4.6**
VA06	**Catapilco**	**9.39**	**197**			Pn	13 26 50.0	-5.4
VA03	**San Esteban**	**9.41**	**193**			**Pn**	**13 26 51.2**	**-4.5**
ROC1	**El Roble**	**9.72**	**195**			Pn	13 26 54.7	-5.2
MT02	**Curacav**	**10.02**	**195**			Pn	13 26 58.0	-5.7
SIV	**San Ignacio**	**10.03**	**43**	P		**Pn**	**13 27 01.2**	**-2.9**
	comp=N,154nm,0.6s,baz=239,slow=11,SNR=434							
SIV					S	Sn	13 28 44.8	-10
	comp=N,29nm,0.8s,baz=0.0,slow=20,SNR=1.6							
CPUP	**Villa Florida**	**10.16**	**108**	P		**Pn**	**13 27 04.7**	**-1.0**
	comp=N,2.4nm,0.6s,baz=287,slow=11,SNR=4.7							
CPUP					LR	LR	13 31 23.8	
	comp=N,42nm,21.0s,baz=292,slow=40							
CPUP	**Villa Florida**	**10.16**	**108**	Pn		**Pn**	**13 27 05.0**	**-0.7**
CPUP	**Villa Florida**	**10.16**	**108**	*e*P		**Pn**	**13 27 05.4**	**-0.3**
LMEL	**Las Melosas**	**10.41**	**190**			**Pn**	**13 27 07.2**	**-2.0**
MT09	**Talagante**	**10.48**	**193**			Pn	13 27 04.1	-6.0
BO04	**La Punta**	**10.61**	**191**			Pn	13 27 06.3	-5.5
MT01	**Popeta**	**10.62**	**194**			Pn	13 27 05.7	-6.2
PTLB	**Pontes e Lacer**	**11.69**	**48**			**Pn**	**13 27 22.6**	**-3.6**
AQDB	**Aquidauana**	**11.91**	**77**	Pn		**Pn**	**13 27 25.9**	**-3.1**
UNIS	**Unistalda (Bra**	**12.91**	**118**	*e*P		**Pn**	**13 27 42.1**	**+0.1**
VILB	**Vilhena**	**12.95**	**37**			**Pn**	**13 27 40.9**	**-1.8**
RODS	**Rosario do Sul**	**13.34**	**123**	*e*P		**Pn**	**13 27 48.4**	**+0.8**
ETMB	**Extrema**	**13.79**	**8**	P		**Pn**	**13 27 49.8**	**-3.7**
SALV	**Santo Antonio**	**13.95**	**59**	*e*P		**Pn**	**13 27 53.4**	**-2.1**
TRCB	**Terra Rica**	**14.25**	**90**	P		**P**	**13 28 03.6**	**+0.7**
CPSB	**Cacapava Do Su**	**14.73**	**121**	*e*P		**Pn**	**13 28 35.5**	**+0.1**
ITAB	**Conceicao da**	**14.89**	**108**	P		**P**	**13 28 09.2**	**-0.7**
PLTB	**Pedras Altas**	**15.21**	**126**	P		**P**	**13 28 12.9**	**-0.5**
SAML	**Samuel**	**15.28**	**19**	Pn		**Pn**	**13 28 09.8**	**-2.5**
TRQA	**Tornquist**	**15.37**	**161**	Pn		**Pn**	**13 28 10.9**	**-2.3**
PDRB	**Porto dos Gac**	**16.08**	**44**	*e*P		**Pn**	**13 28 20.5**	**-1.8**
GO06	**Curarrehue**	**16.22**	**189**	P		**Pn**	**13 28 22.9**	**-1.1**
CZSB	**Cruzeiro do Su**	**16.36**	**344**	P		**Pn**	**13 28 23.8**	**-1.9**
CLDB	**Colider**	**17.23**	**45**	*e*P		**P**	**13 28 34.6**	**-1.3**
PLCA	**Paso Flores**	**17.24**	**186**	P		**P**	**13 28 35.5**	**-0.3**
	comp=N,11nm,0.9s,baz=1.9,slow=12,SNR=19							
PLCA					PcP	**PcP**	**13 33 13.7**	**+1.4**
	comp=N,0.8nm,0.6s,baz=320,slow=1.4,SNR=4.8							
PLCA	**Paso Flores**	**17.24**	**186**	*e*P		**Pn**	**13 28 37.6**	**+1.3**
TER01	**Tubaro-SC**	**17.75**	**111**	*e*P		**P**	**13 28 41.5**	**0.0**
LL03	**Petrohue**	**17.89**	**191**	P		**P**	**13 28 41.5**	**-1.4**
RCLB	**Rio Claro- Sao**	**18.98**	**91**	*e*P		**P**	**13 28 55.5**	**+0.5**
PET01	**Itanhaem-SP**	**19.06**	**96**	*e*P		**P**	**13 28 55.5**	**-0.3**
ATAH	**Atahualpa**	**19.10**	**327**	P		**Pn**	**13 28 58.2**	**-0.7**
	comp=N,5.9nm,0.7s,baz=90,slow=16,SNR=4.8							
TBTG	**Tabatinga, AM**	**19.35**	**355**	P		**P**	**13 28 57.9**	**-1.1**
IPMB	**Ipameri, GO**	**19.41**	**77**	*e*P		**P**	**13 28 59.7**	**0.0**
SNDB	**Serra Nova Dou**	**19.70**	**57**	*e*P		**P**	**13 29 01.8**	**-1.2**
BDFB	**Brasilia**	**20.49**	**71**	P		**P**	**13 29 10.5**	**-1.0**
	comp=N,188nm,0.7s,baz=244,slow=12,SNR=156							
BDFB					LR	LR	13 38 59.4	
	comp=N,121nm,21.0s,baz=313,slow=42							
	comp=N,188nm,0.7s							
BDFB	**Brasilia**	**20.49**	**71**	P		**P**	**13 29 10.0**	**-1.5**
NPGB	**Novo Progresso**	**20.49**	**39**	*e*P		**P**	**13 29 08.9**	**-2.5**
PARB	**Paraibuna**	**20.63**	**94**	*e*P		**P**	**13 29 11.6**	**-1.3**
AY01	**Puyuhuapi**	**21.13**	**189**	P		**P**	**13 29 16.6**	**-1.4**
MACA	**Manacapuru-AM**	**21.52**	**21**	P		**P**	**13 29 20.3**	**-2.1**
MACA	**Manacapuru-AM**	**21.52**	**21**	*e*P		**P**	**13 29 20.8**	**-1.6**
COYC	**Coyhaique**	**22.19**	**187**	P		**P**	**13 29 27.7**	**-1.4**
MAN01	**Angra dos Reis**	**22.20**	**93**	*e*P		**P**	**13 29 27.0**	**-2.5**
ITTB	**Itaituba**	**22.52**	**34**	*e*P		**P**	**13 29 30.9**	**-1.8**
BOSC	**San Juan Bosco**	**22.65**	**332**	P		**P**	**13 29 34.0**	**-0.1**
VAS01	**Vassouras-RJ**	**22.75**	**92**	*e*P		**P**	**13 29 34.7**	**-0.3**
DIAM	**Diamantina, MG**	**23.40**	**82**	*e*P		**P**	**13 29 40.9**	**-0.3**
MC01	**Montes Claros**	**23.67**	**78**	*e*P		**P**	**13 29 41.8**	**-1.8**
DUB01	**Friburgo-RJ**	**23.76**	**92**	*e*P		**P**	**13 29 43.9**	**-0.4**
JANB	**Januaria**	**23.97**	**74**	*e*P		**P**	**13 29 44.8**	**-1.5**
PTGA	**Pitinga**	**24.04**	**20**	P		**P**	**13 29 46.3**	**-0.4**
	comp=N,46nm,0.3s,baz=201,slow=11,SNR=178							
PTGA					S	**S**	**13 33 54.6**	**-0.5**
	comp=N,6.4nm,0.6s,baz=135,slow=1.4,SNR=3.3							
	comp=N,46nm,0.3s							
CAM01	**Campos-RJ**	**24.45**	**91**	*e*P		**P**	**13 29 50.0**	**-0.5**
SMTB	**Santa Maria do**	**24.48**	**57**	*e*P		**P**	**13 29 49.5**	**-1.4**
SDBA	**SAO DESIDERIO**	**24.66**	**67**	*e*P		**P**	**13 29 50.9**	**-1.7**
PRPB	**Parauapebas**	**24.68**	**48**	*e*P		**P**	**13 29 51.5**	**-1.1**
MALB	**Monte Alegre**	**25.41**	**34**	*e*P		**P**	**13 29 58.7**	**-0.6**
ALF01	**Guarapari-ES**	**25.52**	**89**	*e*P		**P**	**13 29 59.8**	**-0.5**
OTAV	**Otavalo**	**25.71**	**336**	P		**P**	**13 29 59.1**	**-3.3**
OTAV	**Otavalo**	**25.71**	**336**	*e*P		**P**	**13 30 02.7**	**+0.3**
RIB01	**Linhares ES**	**26.12**	**86**	*e*P		**P**	**13 30 04.9**	**-0.7**
BOAV	**Boa Vista**	**26.84**	**17**	P		**P**	**13 30 12.2**	**0.0**
BOAV					IAmb	IAmb	13 30 14.2	
	comp=Z,55nm,0.8s							
BOAV	**Boa Vista**	**26.84**	**17**	*e*P		**P**	**13 30 12.9**	**+0.7**
GUA01	**Guaratinga, BA**	**27.44**	**81**	*e*P		**P**	**13 30 16.2**	**-1.4**
CMC01	**Camacan, BA**	**28.12**	**78**	*e*P		**P**	**13 30 23.3**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**28.62**	**46**	*e*P		**P**	**13 30 28.6**	**+0.6**
GDU01	**Guandu, BA**	**28.70**	**75**	*e*P		**P**	**13 30 26.7**	**-2.0**
ROSC	**El Rosal**	**28.88**	**347**	P		**P**	**13 30 30.9**	**+0.2**
	comp=Z,23nm,0.7s,baz=142,slow=17,SNR=12							
	comp=Z,23nm,0.7s							
ROSC	**El Rosal**	**28.88**	**347**	P		**P**	**13 30 29.9**	**-0.8**
ROSC	**El Rosal**	**28.88**	**347**	PKP2		**P**	**13 30 29.9**	**-0.8**
ROSC	**El Rosal**	**28.88**	**347**	pmax		pmax		
	comp=Z,230nm,1.8s							
MG02	**Cerro Sombrero**	**29.18**	**181**	P		**P**	**13 30 31.3**	**-1.2**
ROSB	**Rosario**	**30.99**	**52**	*e*P		**P**	**13 30 47.8**	**-1.1**
MDP	**Montagnes des**	**32.24**	**30**	P		**P**	**13 30 59.5**	**-0.4**
	comp=Z,18nm,0.3s,baz=204,slow=9.6,SNR=25							
MDP					LR	LR	13 45 16.1	
	comp=Z,223nm,20.3s,baz=144,slow=38							
	comp=Z,18nm,0.3s							
MPGF	**Montagnes des**	**32.25**	**30**	P		**P**	**13 30 59.2**	**-0.8**
BAUV	**El Baul**	**32.31**	**0**	P		**P**	**13 30 59.9**	**-0.5**
SDV	**Santo Domingo**	**32.35**	**355**	LR		LR	13 46 04.3	
	comp=Z,132nm,20.0s,baz=204,slow=40							
PCRV	**Puerto La Cruz**	**33.71**	**6**	P		**P**	**13 31 12.5**	**-0.2**
	comp=Z,21nm,0.8s,baz=225,slow=1.4,SNR=9.4							
	comp=Z,21nm,0.8s							
BIRV	**Birongo**	**33.88**	**3**	P		**P**	**13 31 13.8**	**-0.3**
BIRV					IAmb	IAmb	13 31 14.9	
	comp=Z,28nm,0.8s							
TOSP	**Speyside**	**35.43**	**13**	P		**P**	**13 31 27.7**	**+0.3**
RCBR	**Riachuelo**	**35.66**	**65**	P		**P**	**13 31 28.9**	**-0.6**
	comp=Z,32nm,0.8s,baz=267,slow=18,SNR=15							
	comp=Z,32nm,0.8s							
RCBR	**Riachuelo**	**35.66**	**65**	P		**P**	**13 31 28.8**	**-0.6**
RCBR					IAmb	IAmb	13 31 31.6	
	comp=Z,24nm,0.8s							
RCBR	**Riachuelo**	**35.66**	**65**	*e*P		**P**	**13 31 29.6**	**+0.1**
RCBR	**Riachuelo**	**35.66**	**65**	P		**P**	**13 31 28.6**	**-0.9**
RCBR				pP		**pP**	**13 31 57.1**	**-1.2**
RCBR				sP		**sP**	**13 32 12.2**	**-1.1**
GRGR	**Grenville**	**36.04**	**11**	P		**P**	**13 31 32.4**	**-0.2**
MCLT	**Moule a Chique**	**37.70**	**11**	P		**P**	**13 31 45.9**	**-0.9**
MPOM	**Morne Pois Mar**	**38.44**	**11**	P		**P**	**13 31 51.6**	**-1.2**
BIM	**Bigot**	**38.47**	**11**	P		**P**	**13 31 51.7**	**-1.4**
FDF	**Fort de France**	**38.67**	**11**	P		**P**	**13 31 53.2**	**-1.6**
FDF	**Fort de France**	**38.67**	**11**	P		**P**	**13 31 53.1**	**-1.8**
HOPE	**Hope Point**	**38.72**	**151**	P		**P**	**13 31 56.7**	**+1.9**
HOPE	**Hope Point**	**38.72**

baz=170,SNR=5.0
V52A Sevierville 60.88 346 P **P** **13 34 42.7 +0.2**
baz=164,SNR=5.3
V51A Loudon 61.02 345 P **P** **13 34 42.8 -0.6**
T57A Hurt 61.15 350 P **P** **13 34 45.6 +1.2**
baz=168,SNR=6.2
T57A P **P** **13 34 45.6 +1.2**
baz=168,SNR=6.2
U54A Nelsons Funny 61.15 347 P **P** **13 34 44.0 -0.4**
U54A Nelsons Funny 61.15 347 P **P** **13 34 45.4 +0.9**
baz=166,SNR=11
U54A P **P** **13 34 45.4 +0.9**
baz=166,SNR=11
PLAL Pickwick Lake 61.23 341 P **P** **13 34 44.1 -0.8**
BLA Blacksburg 61.56 349 P **P** **13 34 48.5 +1.4**
baz=167
V48A Smith Brothers 61.59 343 P **P** **13 34 47.7 +0.4**
baz=161,SNR=5.5
JCT Junction City 61.75 329 P **P** **13 34 49.9 +1.3**
baz=147
CLTN Cedars of Leba 61.79 343 P **P** **13 34 47.9 -0.7**
CLTN IAmb IAmb 13 34 49.8
comp=Z,20nm,0.8s
TROLL Troll, Antarti 61.81 161 P **P** **13 34 49.8 +1.3**
R58B Mineral 61.89 351 P **P** **13 34 50.5 +1.3**
baz=170,SNR=5.7
R58B P **P** **13 34 50.5 +1.3**
baz=170,SNR=5.7
U49A Red Boiling Sp 62.04 344 P **P** **13 34 49.1 -1.2**
U49A IAmb IAmb 13 34 51.2
comp=Z,18nm,1.2s
U49A Red Boiling Sp 62.04 344 P **P** **13 34 50.4 +0.1**
baz=162
WVT Waverly 62.23 342 P **P** **13 34 50.2 -1.4**
WVT IAmb IAmb 13 34 52.3
comp=Z,18nm,0.8s
WVT Waverly 62.23 342 P **P** **13 34 51.5 -0.1**
baz=160,SNR=6.8
WVT Waverly 62.23 342 P **P** **13 34 51.6 0.0**
baz=160
WVT Waverly 62.23 342 P **P** **13 34 51.0 -0.6**
WVT pP **pP** **13 35 21.8 -0.7**
WVT sP **sP** **13 35 37.2 +0.8**
T50A Nancy 62.29 345 P **P** **13 34 51.4 -0.6**
T50A Nancy 62.29 345 P **P** **13 34 52.1 +0.1**
baz=163
T50A P **P** **13 34 52.1 +0.1**
baz=163
S51A Beattyville 62.60 346 P **P** **13 34 54.2 +0.2**
baz=164
S51A P **P** **13 34 54.2 +0.2**
baz=164
MIAR Mount Ida 62.65 336 P **P** **13 34 54.5 +0.1**
MIAR Mount Ida 62.65 336 P **P** **13 34 55.0 +0.6**
baz=154
MIAR Mount Ida 62.65 336 P **P** **13 34 55.3 +0.9**
baz=154
TXAR Lajitas Array 62.74 325 P **P** **13 34 56.0 +0.8**
comp=Z,0.6nm,0.6s,baz=144,slow=7.8,SNR=12
TXAR pP **pP** **13 35 26.9 +0.6**
comp=Z,0.3nm,0.5s,baz=144,slow=7.7,SNR=2.2
TXAR Lajitas Array 62.74 325 P **P** **13 34 54.3 -0.9**
T47A Sharon Grove 62.84 343 P **P** **13 34 54.6 -1.0**
T47A IAmb IAmb 13 34 56.6
comp=Z,27nm,0.9s
T47A Sharon Grove 62.84 343 P **P** **13 34 55.8 +0.2**
baz=160,SNR=6.5
Q56A Snyder Ridge, 63.14 350 P **P** **13 34 58.8 +1.2**
baz=169,SNR=7.2
Q56A P **P** **13 34 58.8 +1.2**
baz=169,SNR=7.2
Q54A Coxs Mills 63.35 349 P **P** **13 34 59.8 +0.8**
baz=167
Q54A P **P** **13 34 59.8 +0.8**
baz=167
X37A Clayton 63.37 335 P **P** **13 34 58.3 -0.9**
WCI Wyandotte Cave 63.80 344 P **P** **13 35 00.8 -1.1**
WCI IAmb IAmb 13 35 02.4
comp=Z,17nm,1.1s
WCI Wyandotte Cave 63.80 344 P **P** **13 35 01.8 -0.1**
baz=162
WCI Wyandotte Cave 63.80 344 P **P** **13 35 02.0 +0.1**
baz=162
P53A Whipple 63.94 349 P **P** **13 35 01.1 -1.8**
P53A IAmb IAmb 13 35 04.6
comp=Z,24nm,0.9s
P53A Whipple 63.94 349 P **P** **13 35 03.8 +0.9**
baz=167,SNR=5.1
P53A P **P** **13 35 03.8 +0.9**
baz=167,SNR=5.1
P52A Corning 64.22 348 P **P** **13 35 03.1 -1.6**
P52A IAmb IAmb 13 35 06.3
comp=Z,26nm,1.2s
SSPA Standing Stone 64.52 352 P **P** **13 35 08.0 +1.5**
baz=170
SSPA Standing Stone 64.52 352 P **P** **13 35 07.2 +0.6**
MGMO Mountain Grove 64.55 339 P **P** **13 35 04.3 -2.6**
O53A New Philadelph 64.65 349 P **P** **13 35 08.4 +0.9**
baz=167
P49A Miami Univ. Ec 64.66 346 P **P** **13 35 06.8 -0.8**
P49A IAmb IAmb 13 35 08.1
comp=Z,16nm,0.9s
P49A Miami Univ. Ec 64.66 346 P **P** **13 35 07.3 -0.2**
baz=163
P49A Miami Univ. Ec 64.66 346 P **P** **13 35 07.5 0.0**
baz=163
P48A Milroy 64.76 345 P **P** **13 35 07.1 -1.0**
P48A IAmb IAmb 13 35 08.6
comp=Z,22nm,1.2s
ACSO Alum Creek Sta 64.97 347 P **P** **13 35 10.1 +0.6**
baz=165
CCM Cathedral Cave 65.04 340 P **P** **13 35 08.4 -1.5**
CCM IAmb IAmb 13 35 11.1
comp=Z,15nm,0.8s
CCM Cathedral Cave 65.04 340 P **P** **13 35 10.4 +0.4**
baz=157,SNR=8.2
CCM Cathedral Cave 65.04 340 P **P** **13 35 10.6 +0.6**
baz=157
CCM Cathedral Cave 65.04 340 P **P** **13 35 10.0 0.0**
KSPA Keystone Colle 65.18 354 P **P** **13 35 11.6 +0.8**
baz=172
O49A Covington 65.21 346 P **P** **13 35 09.5 -1.5**
O49A IAmb IAmb 13 35 11.8
comp=Z,16nm,1.0s
S39A Bolivar 65.39 338 P **P** **13 35 10.6 -1.7**
S39A IAmb IAmb 13 35 13.7
comp=Z,12nm,0.8s
S39A Bolivar 65.39 338 P **P** **13 35 13.0 +0.7**
baz=155,SNR=5.9
O48B Farmland 65.45 346 P **P** **13 35 12.0 -0.6**
baz=163
O48B Farmland 65.45 346 P **P** **13 35 12.7 +0.1**
baz=163
M55A Ridgway 65.46 351 P **P** **13 35 13.8 +1.2**
baz=169,SNR=5.2
M55A P **P** **13 35 13.8 +1.2**
baz=169,SNR=5.2
M53A WI Miller and 65.72 350 P **P** **13 35 15.7 +1.4**
baz=168
L59A Walton 65.74 354 P **P** **13 35 16.2 +1.8**
baz=173,SNR=10.0
L59A P **P** **13 35 16.2 +1.8**
baz=173,SNR=10.0
HRV Adam Dziewonsk 65.82 357 P **P** **13 35 14.3 -0.6**
HRV IAmb IAmb 13 35 17.2
comp=Z,28nm,0.8s
HRV Adam Dziewonsk 65.82 357 P **P** **13 35 16.3 +1.4**
baz=177,SNR=6.6
HRV Adam Dziewonsk 65.82 357 P **P** **13 35 16.7 +1.8**
baz=177
HRV Adam Dziewonsk 65.82 357 P **P** **13 35 15.8 +0.9**
L61B Northampton 65.82 356 P **P** **13 35 16.2 +1.3**
baz=176
L61B Northampton 65.82 356 P **P** **13 35 16.6 +1.7**
baz=176
BINY Binghamton 65.84 354 P **P** **13 35 16.3 +1.2**
baz=172
BINY Binghamton 65.84 354 P **P** **13 35 17.0 +2.0**
baz=172
T35A Sooner Cattle 65.85 335 P **P** **13 35 13.6 -1.7**
N49A Columbus Grove 65.88 347 P **P** **13 35 15.3 0.0**
baz=164
N49A P **P** **13 35 15.3 0.0**
baz=164
L56A Greenwood 65.95 352 P **P** **13 35 16.8 +1.0**
baz=171
L56A P **P** **13 35 16.8 +1.0**
baz=171
K62A Royalston 66.01 357 P **P** **13 35 17.5 +1.4**
baz=176
K62A P **P** **13 35 17.5 +1.4**
baz=176
SFIN Lafayette 66.03 344 P **P** **13 35 16.3 0.0**
baz=161
TRY Troy 66.17 356 P **P** **13 35 19.3 +2.2**
baz=174,SNR=6.5
HCNY Howe Caverns 66.19 355 P **P** **13 35 18.9 +1.7**
baz=174
ERPA Erie 66.27 350 P **P** **13 35 18.9 +1.1**
baz=168
WVNY West Valley, N 66.36 352 P **P** **13 35 19.6 +1.2**
baz=170
UNH University of 66.38 358 P **P** **13 35 19.7 +1.3**
baz=177
QSPA South Pole Qui 66.63 180 P **P** **13 35 20.8 +0.6**
QSPA IAmb IAmb 13 35 22.3
comp=Z,21nm,0.6s
QSPA South Pole Qui 66.63 180 P **P** **13 35 20.8 +0.6**
QSPA pP **pP** **13 35 53.1 +1.3**
QSPA sP **sP** **13 36 06.2 +0.3**
P40A Paris 66.64 340 P **P** **13 35 19.6 -0.6**
P40A Paris 66.64 340 P **P** **13 35 20.8 +0.6**
baz=156
J61A Chester 66.71 356 P **P** **13 35 22.3 +1.8**
baz=176
J61A P **P** **13 35 22.3 +1.8**
baz=176
J58A Remsen 66.92 354 P **P** **13 35 23.2 +1.3**
baz=173
J58A P **P** **13 35 23.2 +1.3**
baz=173
J59A Piesco 66.96 355 P **P** **13 35 24.0 +1.8**
baz=174
J59A P **P** **13 35 24.0 +1.8**
baz=174
J56A Wolcott 67.00 353 P **P** **13 35 20.7 -1.6**
J56A IAmb IAmb 13 35 24.0
comp=Z,26nm,0.8s
HNH Hanover 67.05 357 P **P** **13 35 24.7 +2.0**
baz=176,SNR=6.1
P38A Dawn 67.20 339 P **P** **13 35 22.2 -1.6**
P38A IAmb IAmb 13 35 24.9
comp=Z,11nm,0.6s
I63A Otisfield 67.32 358 P **P** **13 35 23.6 -0.8**
I63A IAmb IAmb 13 35 27.2
comp=Z,16nm,0.7s
I63A Otisfield 67.32 358 P **P** **13 35 26.5 +2.1**
baz=178,SNR=7.3
I63A P **P** **13 35 26.5 +2.1**
baz=178,SNR=7.3
MCVT Middlebury Col 67.34 356 P **P** **13 35 26.2 +1.6**
baz=175
NCB Newcomb 67.44 355 P **P** **13 35 24.2 -0.9**
NCB Newcomb 67.44 355 P **P** **13 35 26.3 +1.1**
baz=174,SNR=5.4
LBNH Lisbon 67.56 357 P **P** **13 35 27.5 +1.6**
baz=176,SNR=6.3
LBNH Lisbon 67.56 357 P **P** **13 35 28.1 +2.1**
baz=176
WCNY West Carthage 67.57 354 P **P** **13 35 27.4 +1.4**
baz=173,SNR=7.6
PECO Prince Edward 67.66 353 P **P** **13 35 25.0 -1.6**
PECO IAmb IAmb 13 35 28.4
comp=Z,21nm,0.9s
H62A Milan 67.87 358 P **P** **13 35 29.5 +1.6**
baz=177
H62A P **P** **13 35 29.5 +1.6**
baz=177
LONY Lake Ozonia 68.11 355 P **P** **13 35 29.8 +0.4**
LONY IAmb IAmb 13 35 31.7
comp=Z,16nm,0.8s
LONY Lake Ozonia 68.11 355 P **P** **13 35 31.1 +1.7**
baz=174
LIC Lamto 68.27 73⇑ *e*P **P** **13 35 31.3 +0.2**
comp=Z,58nm,0.7s
BMNY Brushton-Moira 68.33 355 P **P** **13 35 32.2 +1.5**
baz=174,SNR=7.6
G65A Princeton 68.44 0 P **P** **13 35 32.8 +1.5**
baz=181
G65A P **P** **13 35 32.8 +1.5**
baz=181
TIC Toumodi 68.48 72⇑ *e*P **P** **13 35 32.8 +0.4**
comp=Z,60nm,0.9s
G62A West of Eustis 68.49 358 P **P** **13 35 33.6 +1.9**
baz=178,SNR=10
G62A P **P** **13 35 33.6 +1.9**
baz=178,SNR=10
PKME Peaks-Kenny Pk 68.51 359 P **P** **13 35 33.2 +1.4**
baz=179
KIC Kosan Boka 68.59 73⇑ *e*P **P** **13 35 33.3 +0.3**
comp=Z,56nm,0.5s
ANMO Albuquerque 68.63 327 LR LR 14 07 43.7
comp=Z,847nm,21.5s,baz=304,slow=38
ANMO Albuquerque 68.63 327 P **P** **13 35 30.4 -2.6**
ANMO Albuquerque 68.63 327 P **P** **13 35 35.4 +2.3**
ANMO pP **pP** **13 36 06.1 +1.6**
DBIC Dimbokro 68.63 72 P **P** **13 35 33.9 +0.6**
comp=Z,40nm,0.8s,baz=247,slow=6.8,SNR=30
comp=Z,40nm,0.8s
DBIC Dimbokro 68.63 72 P **P** **13 35 32.7 -0.6**
DBIC Dimbokro 68.63 72 P **P** **13 35 33.5 +0.2**
DBIC pP **pP** **13 36 06.6 +1.1**
L40A Anamosa 68.71 342 P **P** **13 35 34.0 +0.8**
baz=157
SADO Sadowa 68.75 352 P **P** **13 35 32.3 -1.0**
F64A Sherman 69.10 360 P **P** **13 35 36.9 +1.4**
baz=180,SNR=6.1
F64A P **P** **13 35 36.9 +1.4**
baz=180,SNR=6.1
JFWS Jewell Farm 69.23 343 P **P** **13 35 36.6 +0.2**
baz=158
JFWS Jewell Farm 69.23 343 P **P** **13 35 37.2 +0.8**
baz=158
H43A Windswept, Lux 70.06 345 P **P** **13 35 41.0 -0.3**
H43A IAmb IAmb 13 36 14.6
comp=Z,13nm,0.7s
D62A Allapoint, All 70.32 359 P **P** **13 35 44.2 +1.3**
baz=179,SNR=5.3
D62A P **P** **13 35 44.2 +1.3**
baz=179,SNR=5.3
SDCO Great Sand Dun 70.40 329 pP 13 36 14.9 -0.7
Q24A Divide 71.22 330 pP 13 36 20.9 +0.2
ECSD EROS Data Cent 71.91 339 P **P** **13 35 53.6 +1.0**
baz=153
ISCO Idaho Springs 72.11 330 pP 13 36 25.2 -0.8
N23A Red Feather La 73.14 331 pP 13 36 31.2 -0.9
GMRC Granite Mounta 73.50 321 P **P** **13 36 05.0 +2.6**
baz=135
SRU San Rafael Swe 73.91 327 pP 13 36 35.7 -0.9
HEC Hector,Ludlow 73.93 320 P **P** **13 36 07.0 +2.1**
baz=135
SBA Scott Base 73.94 190 P **P** **13 36 06.1 +1.9**
SCI2 San Clemente I 73.99 318 P **P** **13 36 08.0 +2.8**
baz=133
RWWY Rawlins 74.34 331 pP 13 36 38.3 -0.9
VNDA Vanda 74.95 190 P **P** **13 36 12.5 +2.5**
comp=Z,4.2nm,0.8s,baz=140,slow=4.4,SNR=23
comp=Z,4.2nm,0.8s
MPMC Manual Prospec 75.46 321 P **P** **13 36 15.8 +2.0**
baz=134
ISA Isabella, Lake 75.77 320 P **P** **13 36 18.3 +2.9**
baz=133
R11A Troy Canyon, C 76.00 323 P **P** **13 36 19.8 +3.0**
baz=136
PKM Merson Peak 76.05 318 P **P** **13 36 19.9 +2.7**
baz=132
CWC Cottonwood Cre 76.07 320 P **P** **13 36 19.6 +2.4**
baz=134
PD31 Pinedale Array 76.26 330 pP 13 36 48.4 -1.9
PDAR Pinedale Array 76.26 330 P **P** **13 36 19.6 +1.4**
comp=Z,0.3nm,0.4s,baz=121,slow=6.4,SNR=6.0
PDAR pP **pP** **13 36 49.6 -0.6**
comp=Z,1.0nm,0.5s,baz=125,slow=8.7,SNR=7.9
PDAR Pinedale Array 76.26 330 pP pP 13 36 49.0 -1.3
BW06 Boulder Array 76.26 330 pP 13 36 49.0 -1.3
HWUT Hardware Ranch 76.32 328 pP pP 13 36 50.0 -0.6
SMMC Simmler 76.45 319 P **P** **13 36 22.3 +3.1**
baz=132
MDND Maddock 76.52 339 P **P** **13 36 21.0 +1.7**
baz=151
TOA0 Torodi Ar. Sit 77.36 70 P **P** **13 36 25.0 +0.3**
TORD Torodi Ar. Bea 77.36 70 P **P** **13 36 25.3 +0.6**
comp=Z,57nm,0.7s,baz=255,slow=5.5,SNR=175
TORD pP **pP** **13 36 57.0 -0.7**
comp=Z,8.2nm,0.7s,baz=258,slow=5.1,SNR=2.5
comp=Z,57nm,0.7s
TORD Torodi Ar. Bea 77.36 70 P **P** **13 36 24.9 +0.1**
TORD IAmb IAmb 13 36 26.9
comp=Z,38nm,0.7s
ULM Lac du Bonnet 77.50 342 P **P** **13 36 25.5 +0.8**
comp=Z,6.4nm,0.6s,baz=140,slow=7.9,SNR=8.2
comp=Z,6.4nm,0.6s
ULM Lac du Bonnet 77.50 342 P **P** **13 36 24.8 +0.1**
NVAR Mina Array Bea 77.57 322 P **P** **13 36 27.4 +1.8**
comp=Z,0.8nm,0.8s,baz=156,slow=4.6,SNR=5.6
NVAR pP **pP** **13 36 58.9 +1.1**
comp=Z,1.5nm,0.8s,baz=148,slow=5.6,SNR=5.6
FXWY Fox Creek 77.62 330 pP 13 36 56.9 -1.1
RLMT Red Lodge 77.98 332 pP 13 36 59.0 -1.0
SCHQ Schefferville 78.08 1 P **P** **13 36 27.4 -0.4**
comp=Z,8.8nm,0.7s,baz=194,slow=4.3,SNR=6.2
comp=Z,8.8nm,0.7s
DGMT Dagmar 78.66 336 P **P** **13 36 33.9 +2.8**
baz=147
HLID Hailey 79.18 328 P **P** **13 36 36.8 +2.5**
baz=138
PLID Pearl Lake 81.07 328 pP 13 37 16.6 -0.3
BOSA Boshof 81.83 118 P **P** **13 36 49.9 +0.9**
comp=Z,7.2nm,0.8s,baz=271,slow=3.4,SNR=9.1
comp=Z,7.2nm,0.8s
I07A Izee 82.13 325 pP pP 13 37 23.1 +0.7
MAW Mawson 82.15 163 P **P** **13 36 51.1 +1.5**
comp=Z,13nm,0.8s,baz=220,slow=6.8,SNR=58
MAW pP **pP** **13 37 24.7 +2.2**
comp=Z,4.4nm,0.8s,baz=223,slow=8.6,SNR=2.8
comp=Z,13nm,0.8s
MAW Mawson 82.15 163 P **P** **13 36 51.2 +1.6**
MORF Marmelete 82.42 44 *e*P **P** **13 36 51.5 0.0**
MORF IAmb IAmb 13 36 57.6
comp=Z,38nm,1.3s
MORF Marmelete 82.42 44 *e*P **P** **13 36 51.8 +0.3**
comp=Z,44nm,1.6s
PNCL Nicolau / Gran 82.98 43 *e*P **P** **13 36 55.3 +0.9**
PCVE Castro Verde 83.01 44 *e*P **P** **13 36 56.3 +1.8**
MESJ Messejana 83.02 44 *e*P **P** **13 36 54.5 -0.1**
MESJ IAmb IAmb 13 36 57.2
comp=Z,16nm,0.5s
MESJ Messejana 83.02 44 *e*P **P** **13 36 56.3 +1.8**
WALA Waterton Lakes 83.03 332 pP 13 37 26.6 -0.4
PVAQ Vaqueiros 83.08 44 *e*P **P** **13 36 56.5 +1.6**
I05D Terrebonne, OR 83.27 325 P **P** **13 36 57.7 +1.9**
baz=132
PBEJ Beja 83.35 44 *e*P **P** **13 36 58.0 +1.7**
LBTB Lobatse 83.49 114 LR LR 14 13 04.3
comp=Z,145nm,19.7s,baz=118,slow=35
PMTG Montargil 83.75 43 *e*P **P** **13 36 59.9 +1.6**
comp=Z,22nm,2.2s
PBAR Barrancos 83.96 44 *e*P **P** **13 37 00.8 +1.4**
PESTR Estremoz 84.03 43 *e*P **P** **13 37 02.2 +2.5**
PMRV Marv??o 84.48 43 *e*P **P** **13 37 01.4 -0.6**
PCBR Castelo Branco 84.67 42 *e*P **P** **13 37 04.4 +1.5**
MTE Manteigas 84.97 42 *e*P **P** **13 37 04.8 +0.3**
POLO Lamas de Olo 85.40 41 *e*P **P** **13 37 03.4 -3.2**
MVO Moncorvo 85.74 42 *e*P **P** **13 37 09.8 +1.5**
PBRG Braganca 86.29 41 *e*P **P** **13 37 11.2 +0.2**
comp=Z,28nm,1.5s
PAB San Pablo 86.47 44 P **P** **13 37 10.7 -1.2**
PAB IAmb IAmb 13 37 14.3
comp=Z,25nm,0.9s
ESDC Sonseca Array 86.79 44 P **P** **13 37 14.6 +1.2**
comp=Z,7.0nm,1.0s,baz=234,slow=5.1,SNR=23
comp=Z,7.0nm,1.0s
FRB Frobisher Bay 87.02 360 LR LR 14 16 41.2
comp=Z,658nm,21.2s,baz=336,slow=36
LSZ Lusaka 89.60 106 LR LR 14 13 55.2
comp=Z,461nm,21.4s,baz=138,slow=33
CASY Casey 90.43 179 P **P** **13 37 30.6 +0.4**
SFJD Kangerlussuaq 91.24 7 LR LR 14 18 20.7
comp=Z,374nm,21.9s,baz=335,slow=35
YKA Yellowknife Ar 93.38 340 P **P** **13 37 43.7 +0.1**
comp=Z,1.1nm,0.5s,baz=134,slow=5.0,SNR=4.7
YKA pP **pP** **13 38 16.8 +0.2**
comp=Z,3.9nm,0.9s,baz=138,slow=4.3,SNR=4.8
comp=Z,1.1nm,0.5s
DAVOX Davos/Dischmat 99.06 43 LR LR 14 22 45.9
comp=Z,354nm,20.3s,baz=54,slow=35
AKASG Malin Array Be 112.41 43 PP **PP** **13 43 48.3 -3.9**
comp=Z,0.8nm,0.6s,baz=259,slow=7.6,SNR=5.3
BRTR Keskin Array B 113.40 55 PP **PP** **13 43 58.2 -1.5**
comp=Z,0.9nm,0.7s,baz=230,slow=4.6,SNR=2.6
CTA Charters Tower 125.18 220 PKP **PKiKP** **13 43 31.0 +0.9**
baz=135,slow=4.3
ASAR Alice Springs 128.41 206 PKP **PKiKP** **13 43 36.5 0.0**
comp=Z,5.3nm,0.7s,baz=142,slow=2.0,SNR=48
WRA Warramunga Arr 131.53 209 PKP **PKiKP** **13 43 42.8 -0.1**
comp=Z,3.5nm,0.6s,baz=151,slow=1.8,SNR=50
WRA SKPbc **SKPab** **13 46 57.2 +0.7**
comp=Z,2.5nm,0.8s,baz=152,slow=3.9,SNR=17
KRVT Keravat (AS076 132.06 240 SKPbc **SKPab** **13 46 60.0 +1.0**
comp=Z,16nm,0.9s,baz=29,slow=10,SNR=3.9
GEYT Alibeck 132.23 59 PP **PP** **13 46 06.1 -0.6**
comp=Z,2.6nm,0.8s,baz=253,slow=9.1,SNR=5.9
GEYT SKPbc **SKPab** **13 46 59.2 +0.3**
comp=Z,2.4nm,0.7s,baz=297,slow=4.8,SNR=4.1
FITZ Fitzroy Crossi 136.47 199 PKP **PKiKP** **13 43 52.2 -0.6**
baz=181,slow=9.0
FITZ SKPbc **SKPbc** **13 47 13.7 +1.6**
comp=Z,1.5nm,0.7s,baz=172,slow=9.0,SNR=2.3
ZALV Zalesovo Beam 143.48 27 PKP PKPbc 13 44 01.1 +0.9
comp=Z,7.9nm,0.6s,baz=306,slow=3.5,SNR=26
ZALV pPKP pPKPdf 13 44 36.7 -0.4
comp=Z,1.6nm,0.6s,baz=286,slow=2.3,SNR=1.7
ZALV SKPbc **SKPbc** **13 47 27.7 -1.9**
comp=Z,3.3nm,0.7s,baz=306,slow=2.7,SNR=8.2
BATI Baumata 144.51 200 PKP **PKPdf** **13 44 06.1 +0.4**
comp=Z,25nm,0.7s,baz=180,slow=5.1,SNR=2.9
KSH Kashi 145.77 54 PKPbc **PKPab** **13 44 09.1 +0.6**
KSH PP **PP** **13 47 27.0 -3.1**
KSH LR LR
comp=N,330nm,19.9s
KSH LR LR
comp=E,520nm,23.4s
KSH LR LR
comp=Z,810nm,22.7s
MKAR Makanchi Array 146.83 38 PKPbc **PKPbc** **13 44 11.4 +0.7**
comp=Z,13nm,0.7s,baz=306,slow=3.3,SNR=140
MKAR SKPbc **SKiKP** **13 47 38.8 +0.8**
comp=Z,1.5nm,0.8s,baz=302,slow=3.1,SNR=3.9
SIJI Sorong 149.26 220 PKPbc **PKiKP** **13 44 18.9 -0.3**
comp=Z,21nm,0.7s,baz=166,slow=12,SNR=20
SIJI pPKPbc **pPKPbc** **13 44 52.4 +0.1**
comp=Z,8.5nm,0.7s,baz=102,slow=17,SNR=3.1
KAPI Kappang 150.58 196 PKPbc **PKiKP** **13 44 22.3 +0.4**
baz=164,slow=2.9
WMQ Urumqi 151.66 39 *e*P **PKPdf** **13 44 15.8 -0.8**
MJAR Matsushiro Arr 153.91 306 PKPab **PKPab** **13 44 42.3 +0.5**
comp=Z,1.8nm,0.6s,baz=48,slow=2.9,SNR=3.0
SONM Songino Array 155.39 9 PKPab **PKPab** **13 44 48.5 +0.7**
comp=Z,4.1nm,0.8s,baz=330,slow=4.4,SNR=18
GTA Gaotai 161.17 30 *e*P **PKPab** **13 45 14.3 +1.2**
GTA pP sPKPdf 13 45 18.4 +1.6
GTA pmax pmax
comp=Z,6.0nm,1.2s
HHC Hu-ho-hao-te 162.76 1 *e*P **PKPdf** **13 44 32.5 +1.9**
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,280nm,6.2s
LZH Lanzhou 165.71 27 *e*P **PKPdf** **13 44 32.8 -0.7**
LZH pP pPKPdf 13 44 55.9 -12
LZH pmax pmax
comp=Z,19nm,1.6s
CMAR Chiang Mai Arr 166.88 110 PKPab **PKPab** **13 45 39.5 +0.8**
comp=Z,0.5nm,0.7s,baz=251,slow=5.4,SNR=4.8
PZH PanZhiHua 170.34 70 PKP **PKPdf** **13 44 34.3 -2.6**

PDG **20** *13:56:45.2±0.1,42°.01N×21°.51E,h3km,ML2.7/11,Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
SKO **20** *13:56:46.4,42°.01N×21°.50E,h0km*
BEO **20** *13:56:46.6±0.3,41°.99N×21°.46E,h3km,3km,ML2.0/14*
ISC 20 13:56:45.9±1.1**, 42°.01N**±0°.02×**21°.49E**±0°.02,**h0**km±11km, **n33,**σ**0°72/62,5C-5D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.05**	**231**	*e*Pg	**Pg**	**13 56 46.9**	**0.0**
SKO				*e*Sg	**Sg**	**13 56 47.8**	**+0.3**
SKO	**Skopje**	**0.05**	**231**	*i* Pg	**Pg**	**13 56 47.0**	**0.0**
SKO				*e*Lg	Lg	13 56 47.8	

	comp=E,335nm,0.3s								
SKO				*i* Sg	**Sg**	13 56 47.9	**+0.3**		
SKO				*e*Lg	Lg	13 56 48.9			
	comp=N,345nm,0.2s								
BARS	**Barje**	**0.84**	**16**	*e*Pg	**Pg**	13 57 01.5	**-0.6**		
BARS				*e*Sg	**Sg**	13 57 14.1	**+1.0**		
BARS	**Barje**	**0.84**	**16**	*i* Pg	**Pg**	13 57 01.4	**-0.6**		
BARS				*i* Sg	**Sg**	13 57 13.6	**+0.5**		
BOSS	**Bosilegrad**	**0.88**	**56**	*e*Pg	**Pg**	13 57 03.5	**+0.7**		
BOSS				*e*Sg	**Sg**	13 57 15.0	**+0.8**		
OHR	**Ohrid**	**1.03**	**211**	*e*Pg	**Pg**	13 57 05.5	**-0.2**		
OHR				*e*Sg	**Sg**	13 57 19.3	**+0.2**		
OHR	**Ohrid**	**1.03**	**211**	*i* Pg	**Pg**	13 57 05.5	**-0.2**		
OHR				*i* Sg	**Sg**	13 57 19.8	**+0.7**		
OHR				*e*Lg	Lg	13 57 19.9			
	comp=E,103nm,0.7s								
OHR				*e*Lg	Lg	13 57 20.5			
	comp=N,80nm,0.3s								
VAY	**Valandovo**	**1.06**	**130**	*i* Pg	**Pg**	13 57 06.2	**0.0**		
VAY				*i* Sg	**Sg**	13 57 20.0	**+0.2**		
VAY				*e*Lg	Lg	13 57 23.6			
	comp=E,41nm,0.5s								
VAY				*e*Lg	Lg	13 57 25.0			
	comp=N,37nm,0.6s								
SELS	**Selova**	**1.25**	**347**	*e*Pg	**Pg**	13 57 09.3	**-0.5**		
SELS				*e*Sg	**Sg**	13 57 26.2	**+0.3**		
GRG	**Griva**	**1.25**	**147**	*i* Pg	**Pg**	13 57 09.1	**-0.7**		
PVY	**Plav**	**1.28**	**298**	*e*Pg	**Pg**	13 57 09.0	**-1.5**		
PVY				*i* Sg	**Sn**	13 57 29.3	**+0.2**		
VTS	**Vitosha**	**1.43**	**64**	*e*Pg	**Pn**	13 57 13.1	**-0.1**		
VTS				*e*Sg	**Sg**	13 57 32.2	**+0.4**		
VTS	**Vitosha**	**1.43**	**64**	*i* Pn	**Pn**	13 57 12.8	**-0.3**		
IVA	**Berane**	**1.47**	**307**	⫴*i*Pg	**Pn**	13 57 12.3	**-1.4**		
IVA				*i* Sg	**Sn**	13 57 35.1	**+1.5**		
ZAPS	**Zavoj**	**1.52**	**33**	*e*Pg	**Pb**	13 57 15.1	**+0.1**		
ZAPS				*e*Sg	**Sb**	13 57 34.9	**+0.1**		
BOVS	**Bovan**	**1.64**	**5**	*e*Pg	**Pn**	13 57 15.3	**-0.6**		
BOVS				*e*Sg	**Sg**	13 57 39.7	**+1.2**		
ULC	**Ulcinj**	**1.68**	**269**	*i* Pn	**Pn**	13 57 17.1	**+0.6**		
ULC	**Ulcinj**	**1.68**	**269**	⫴*i*Pn	**Pn**	13 57 16.5	**0.0**		
ULC				*i* Sn	**Sg**	13 57 41.4	**+1.6**		
SJES	**Sjenica**	**1.68**	**319**	*e*Pg	**Pb**	13 57 17.6	**-0.2**		
SJES				*e*Sg	**Sg**	13 57 40.2	**+0.2**		
KOME	**Kolasin**	**1.69**	**301**	⫴*i*Pn	**Pn**	13 57 16.5	**-0.2**		
KOME				*i* Sn	**Sg**	13 57 41.6	**+1.4**		
TTG	**Podgorica**	**1.72**	**285**	⫴*i*Pn	**Pn**	13 57 16.1	**-0.9**		
TTG				*i* Sn	**Sg**	13 57 42.0	**+1.0**		
DRME	**Dracevica, Mon**	**1.73**	**277**	⫛*i*Pn	**Pn**	13 57 17.1	**-0.1**		
DRME				*i* Sn	**Sg**	13 57 42.5	**+1.1**		
SRS	**Serrai**	**1.81**	**119**	*i* Pn	**Pn**	13 57 17.3	**-1.0**		
IVAS	**Ivanjica**	**1.85**	**328**	*e*Pn	**Pn**	13 57 18.2	**-0.8**		
IVAS				*e*Sg	**Sb**	13 57 44.7	**+0.3**		
ZAGS	**Zajecar**	**1.89**	**16**	*e*Pg	**Pb**	13 57 21.1	**-0.1**		
ZAGS				*e*Sg	**Sg**	13 57 47.2	**+0.7**		
GRUS	**Gruza**	**1.97**	**343**	*e*Pg	**Pn**	13 57 20.4	**0.0**		
GRUS				*e*Sg	**Sg**	13 57 50.3	**+1.2**		
CEME	**Cevo**	**1.99**	**287**	⫴*i*Pn	**Pn**	13 57 20.7	**-0.1**		
CEME				*i* Sn	**Sb**	13 57 48.7	**+0.5**		
NKME	**Niksic**	**2.03**	**293**	⫛*i*Pn	**Pn**	13 57 21.4	**0.0**		
NKME				*i* Sn	**Sb**	13 57 50.1	**+0.6**		
UPM	**Unac-Piva**	**2.25**	**303**	⫛*i*Pn	**Pn**	13 57 24.5	**-0.1**		
UPM				*i* Sn	**Sb**	13 57 55.3	**-0.8**		
HCY	**Herceg Novi**	**2.27**	**282**	⫛*i*Pn	**Pn**	13 57 24.6	**0.0**		
HCY				*i* Sn	**Sb**	13 57 55.9	**-0.5**		
TRUS	**Trudelj**	**2.36**	**341**	*e*Pn	**Pn**	13 57 25.1	**-0.7**		
TRUS				*e*Sg	**Sg**	13 58 01.9	**+0.3**		
BRY	**Bratogost**	**2.36**	**293**	⫛*i*Pn	**Pn**	13 57 26.2	**+0.2**		
BRY				*e*Sn	**Sb**	13 57 57.9	**-1.2**		
DIVS	**Divibare**	**2.36**	**333**	*e*Pg	**Pb**	13 57 28.4	**-1.0**		
DIVS				*e*Sg	**Sg**	13 58 02.5	**+0.7**		

*DDA **20** 13:57:28.1±0.0, 34°.63N×30°.63E, h14km±4km, ML3.0*
*NIC **20** 13:57:39.9±0.0, 35°.08N×31°.11E, h16km±1km, Ml3.2/5*
*GII **20** 13:57:41.3±0.0, 34°.89N×31°.11E, h15km, Mm3.0/3*
*ISK **20** 13:57:42.3, 35°.28N×31°.52E, h3km, ML2.9/10*

ISC 20 13:57:41.2±1.7, 35°.11N±0°.04×31°.14E±0°.07, h29km±14km, n35, σ1s41/55, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKMS	**Akamas**	**0.98**	**95**	⫛*e*P	**Pb**	**13 57 58.9**	**-0.8**
AKMS				S	**Sn**	**13 58 14.4**	**+2.4**
AKMS				AML	AML	13 58 18.6	
	2.2nm,0.4s						
AKMS				AML	AML	13 58 18.6	
	2.2nm,0.4s						
AKMS				AML	AML	13 58 25.4	
	2.1nm,0.5s						
AKMS				AML	AML	13 58 25.4	
	2.1nm,0.5s						
ALFC	**Alefka**	**1.20**	**87**	P	**Pn**	**13 58 02.0**	**-0.1**
ALFC				S	**Sn**	**13 58 19.5**	**+2.1**
ALFC				AML	AML	13 58 27.0	
	2.1nm,0.3s						
ALFC				AML	AML	13 58 27.0	
	2.1nm,0.3s						
ALFC				AML	AML	13 58 27.4	
	1.5nm,0.5s						
ALFC				AML	AML	13 58 27.4	
	1.5nm,0.5s						
NATA	**Nata**	**1.22**	**105**	P	**Pn**	**13 58 02.5**	**+0.1**
NATA				S	**Sn**	**13 58 19.5**	**+1.6**
NATA				AML	AML	13 58 31.1	
	3.2nm,0.7s						
NATA				AML	AML	13 58 31.1	
	3.2nm,0.7s						
NATA				AML	AML	13 58 44.6	
	3.9nm,1.0s						
NATA				AML	AML	13 58 44.6	
	3.9nm,1.0s						
LEF	**Lefka**	**1.44**	**89**	PN	**Pn**	**13 58 03.9**	**-1.4**
SZAC	**Souni**	**1.47**	**103**	P	**Pn**	**13 58 05.9**	**+0.1**
SZAC				S	**Sb**	**13 58 26.2**	**-0.1**
SZAC				AML	AML	13 58 29.9	
	1.1nm,0.4s						
SZAC				AML	AML	13 58 29.9	
	1.1nm,0.4s						
SZAC				AML	AML	13 58 34.5	
	1.1nm,0.5s						
SZAC				AML	AML	13 58 34.5	
	1.1nm,0.5s						
GAZI	**Gazipasa**	**1.48**	**40**	PN	**Pn**	**13 58 04.8**	**-1.1**
GAZI				SN	**Sn**	**13 58 21.7**	**-2.6**
GAZI	**Gazipasa**	**1.48**	**40**	P	**Pn**	**13 58 04.2**	**-1.7**
GAZI				S	**Sb**	**13 58 26.3**	**-0.2**
GAZI				*i* AML	AML	13 58 38.0	
	comp=E,114nm,0.8s						
GAZI				*i* AML	AML	13 58 42.0	
	comp=N,116nm,1.1s						
ASGA	**Asgata**	**1.76**	**100**	P	**Pn**	**13 58 09.2**	**-0.6**
ASGA				S	**Sb**	**13 58 33.4**	**-1.2**
ASGA				AML	AML	13 58 55.9	
	0.8nm,0.9s						
ASGA				AML	AML	13 58 55.9	
	0.8nm,0.9s						
ASGA				AML	AML	13 58 57.4	
	0.8nm,0.6s						
ASGA				AML	AML	13 58 57.4	
	0.8nm,0.6s						
CSS	**Mathiatis**	**1.80**	**94**	PN	**Pn**	**13 58 10.2**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.91**	**57**	PN	**Pn**	**13 58 11.4**	**-0.5**
LFK	**Lefkose**	**1.97**	**84**	PN	**Pn**	**13 58 13.4**	**+0.7**
BERE	**Bereket-Mersin**	**2.10**	**53**	PN	**Pn**	**13 58 14.4**	**-0.2**
BERE				SN	**Sn**	**13 58 37.6**	**-2.2**
AKKU	**Akkuyu-Mersin**	**2.23**	**61**	PN	**Pn**	**13 58 16.1**	**-0.1**
AKKU				SN	**Sn**	**13 58 40.6**	**-2.1**
OSC2	**CSNet OBS 4**	**2.23**	**155**	P	**Pn**	**13 58 16.0**	**-0.2**
GULN	**MERSIN_Gulnar**	**2.23**	**61**	P	**Pn**	**13 58 15.9**	**-0.3**
GULN				S	**Sb**	**13 58 45.5**	**-2.7**
TEVE	**Tevekalti-Mers**	**2.30**	**54**	PN	**Pn**	**13 58 17.1**	**-0.1**
IKL	**Isikli**	**2.36**	**61**	PN	**Pn**	**13 58 17.9**	**-0.1**
SEDI	**Konya, Seydise**	**2.39**	**12**	P	**Pn**	**13 58 18.3**	**-0.3**
SEDI				S	**Sb**	**13 58 54.8**	**+2.0**
SEDI				*i* AML	AML	13 59 05.0	
	comp=N,42nm,0.8s						
SEDI				*i* AML	AML	13 59 08.0	
	comp=E,48nm,1.0s						
GOLH	**Golhisar**	**2.48**	**329**	P	Pn	13 58 14.8	-5.0
GOLH				*i* AML	AML	13 59 40.0	
	comp=E,57nm,2.2s						
KEBE	**Keben-Mersin**	**2.48**	**57**	PN	**Pn**	**13 58 20.0**	**+0.2**
EREN	**Erenkoy**	**2.51**	**79**	PN	**Pn**	**13 58 20.6**	**+0.5**
KKBE	**Karaman, Kazim**	**2.56**	**34**	P	**Pn**	**13 58 21.3**	**+0.4**
KKBE				S	**Sb**	**13 59 00.3**	**+2.6**
KKBE				*i* AML	AML	13 59 07.0	
	comp=E,33nm,0.9s						
KMER	**Konya-Meram**	**2.84**	**20**	P	**Pn**	**13 58 24.0**	**-0.7**
KMER				S	**Sb**	**13 59 10.4**	**+4.8**
KMER				*i* AML	AML	13 59 13.0	
	comp=N,30nm,0.8s						
KMER				*i* AML	AML	13 59 22.0	
	comp=E,27nm,1.2s						
DOGA	**KONYA_Doganhis**	**3.02**	**8**	P	**Pn**	**13 58 26.8**	**-0.5**
DOGA				S	**Sb**	**13 59 13.2**	**+2.2**
DOGA				*i* AML	AML	13 59 17.0	
	comp=N,27nm,0.6s						
DOGA				*i* AML	AML	13 59 17.0	
	comp=E,33nm,1.0s						
YVAC	**Isparta, Yalva**	**3.16**	**1**	P	**Pn**	**13 58 27.7**	**-1.5**
KERG	**Konya-Eregli**	**3.34**	**45**	P	**Pn**	**13 58 31.7**	**+0.1**
KERG				S	**Sb**	**13 59 20.1**	**+0.1**
KERG				*i* AML	AML	13 59 25.0	
	comp=N,26nm,0.8s						
GULE	**Gulek**	**3.66**	**52**	P	**Pn**	**13 58 37.5**	**+1.4**
GULE				*i* AML	AML	13 59 42.0	
	comp=E,65nm,0.9s						
GULE				*i* AML	AML	13 59 46.0	
	comp=N,40nm,1.1s						
HNTI	**Hanita**	**3.91**	**120**	Pn	**Pn**	**13 58 39.3**	**0.0**
HNTI				Sn	**Sn**	**13 59 25.3**	**+1.1**
CMRD	**Camardi-Nigde**	**4.02**	**49**	PN	**Pn**	**13 58 41.8**	**+0.8**
MMA0B	**Mount Meron ar**	**4.11**	**119**	Pn	**Pn**	**13 58 43.5**	**+1.4**
MMA0B				Sn	**Sn**	**13 59 29.3**	**+0.1**
GEM	**Giv'at Ha'Em**	**4.20**	**115**	Pn	**Pn**	**13 58 44.2**	**+0.9**
GEM				Sn	**Sn**	**13 59 32.2**	**+0.8**
NATI	**Neve Ativ**	**4.23**	**114**	Pn	**Pn**	**13 58 44.3**	**+0.6**
NATI				Sn	**Sn**	**13 59 32.6**	**+0.5**
HMDT	**Nahal Hemdat**	**4.63**	**127**	Pn	**Pn**	**13 58 49.8**	**+0.5**
PRNI	**Paran**	**5.75**	**144**	Pn	**Pn**	**13 59 04.8**	**+0.1**
PRNI				Sn	**Sn**	**14 00 08.4**	**-1.3**
HRFI	**Mount Harif**	**6.03**	**146**	Pn	**Pn**	**13 59 08.6**	**+0.1**
HRFI				Sn	**Sn**	**14 00 14.5**	**-2.1**

*LVSN **20** 14:06:00.4±0.5, 58°.70N×25°.36E, h0km±12km, ML1.8*

HEL 20 14:05:59.2±0.2, 60°.53N×27°.41E, h0km, ML1.5, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.07**	**80**	PG	Pg	14 05 58.8	-1.8
VJF				SG	Sg	14 06 01.0	-0.6
PVF	**Pernaja**	**0.76**	**272**	PB	Pg	14 06 13.6	-0.2
PVF				SB	Sg	14 06 24.2	+0.5
FIA0	**FINESS Array S**	**1.13**	**325**	PG	Pg	14 06 19.3	-1.5
FIA0				SB	Sg	14 06 34.3	-1.0
RUFX	**Ruokolahti**	**1.18**	**39**	PG	Pg	14 06 20.4	-1.3
RUFX				SB	Sg	14 06 36.3	-0.8
NUR	**Nurmijrvi**	**1.36**	**270**	PN	Pg	14 06 25.2	-0.1
NUR				SG	Sg	14 06 42.6	-0.4
MEF	**Metsahovi**	**1.53**	**260**	*e*P	Pn	14 06 28.0	+0.3
MEF				*e*S	Sg	14 06 47.9	-0.3
MEF				AML	AML	14 06 57.2	
	comp=N,5.6nm,0.9s						
MEF				AML	AML	14 06 59.3	
	comp=E,7.3nm,0.6s						
MEF				AML	AML	14 06 59.8	
	comp=Z,9.0nm,0.6s						
MEF	**Metsahovi**	**1.53**	**260**	PN	Pg	14 06 28.7	+0.2
MEF				MSG		14 06 45.1	
	comp=Z,2.5nm,0.2s						
KAF	**Kangasniemi**	**1.68**	**342**	PG	Pn	14 06 29.2	-0.6
KAF				MSG		14 06 49.2	
	comp=Z,3.1nm,0.2s						
KAF				SN	Sn	14 06 51.0	-0.9
KEF	**Keuruu**	**2.05**	**325**	PG	Pn	14 06 35.9	+1.0
KEF				MSG		14 07 00.1	
	comp=Z,4.3nm,0.2s						
KEF				SG	Sb	14 07 02.6	-0.7
RAF	**Rauma**	**2.81**	**283**	*e*S	Sn	14 07 22.1	+2.3
RAF				AML	AML	14 07 25.9	
	comp=E,2.3nm,0.7s						
RAF				AML	AML	14 07 28.5	
	comp=N,5.6nm,0.5s						
RAF				AML	AML	14 07 28.9	
	comp=Z,2.7nm,0.6s						
RAF	**Rauma**	**2.81**	**283**	MSG		14 07 21.9	
	comp=Z,1.4nm,0.2s						
RAF				SG	Sb	14 07 26.2	+1.0
JOF	**Joensuu**	**3.04**	**36**	SB	Sb	14 07 30.0	-1.6
SLIT	**Slitere, Latvi**	**3.92**	**224**	AML	AML	14 06 56.9	
	comp=E,63nm,0.7s						
SLIT				*e*S	Pn	14 06 58.0	-2.6
SLIT				AML	AML	14 07 02.9	
	comp=Z,57nm,0.6s						
SLIT				AML	AML	14 07 19.5	
	comp=N,77nm,0.6s						
OUF	**Merijarvi**	**4.05**	**343**	PN	Pn	14 07 02.5	+0.1

IDC 20 14:23:12.7±832.0, 52°.89N×33°.58E, h0km, Error ellipse: s-maj=336.4km s-min=94.3km az=32.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.38**	**27**	*i*		14 54 00.0	
	0.3nm,0.8s,baz=211,slow=320,SNR=2.1						
I31KZ	**AKTYUBINSK INF**	**15.36**	**89**	*i*		15 55 20.0	
	baz=292,slow=321,SNR=2.7						
I46RU	**ZALESOVO INFRA**	**30.02**	**67**	*i*		17 24 30.0	
	baz=288,slow=322,SNR=0.9						

*IDC **20** 14:42:37.7±1.5, 52°.54N×169°.13W, h0km, mb3.7/12, mbtmp3.7/15, ML3.5/2, MS3.2/1, Error ellipse: s-maj=39.5km s-min=18.0km az=177.0*
*AEIC **20** 14:42:40.2±1.9, 52°.2N±0°.1×169°.1W±0°.1, h15km±6km, Error ellipse: s-maj=17.1km s-min=6.4km az=146.0*
*NEIC **20** 14:42:41.9±1.6, 52°.33N±0°.10×169°.2W±0°.1, h20km±9km, mb3.6/8, ML3.4/22(AEIC), Error ellipse: s-maj=18.8km s-min=4.4km az=138.0*

ISC 20 14:42:41.9±0.8, 52°.3N±0°.1×169°.15W±0°.07, h33km, n59, σ1s29/55, mb3.9/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKSP	**Okmok Steeple**	**1.08**	**28**		**Pb**	**14 43 01.4**	**-0.7**
OKSO	**Okmok South**	**1.21**	**29**		**Sb**	**14 43 20.8**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**1.27**	**31**		**Pb**	**14 43 04.0**	**-1.3**
OKNC	**Okmok New Cone**	**1.31**	**28**		**Pb**	**14 43 05.0**	**-0.9**
OKRE	**Okmok R'deer P**	**1.35**	**26**		**Pb**	**14 43 05.6**	**-1.1**
MAPS	**Pakushin South**	**2.01**	**41**		**Pn**	**14 43 14.1**	**+0.6**
MAPS					**Sb**	**14 43 41.5**	**-0.8**
MGOD	**Makushin Gods**	**2.02**	**42**		**Pn**	**14 43 14.7**	**+0.9**
MNAT	**Makushin Natee**	**2.17**	**42**		**Pn**	**14 43 17.2**	**+1.6**
MNAT					**Sb**	**14 43 45.9**	**-1.1**
UNV	**Unalaska Valle**	**2.21**	**45**		**Pn**	**14 43 17.5**	**+1.2**
UNV					**Sb**	**14 43 46.8**	**-1.5**
AKRB	**Akutan Reef Bi**	**2.60**	**44**		**Pn**	**14 43 23.2**	**+1.6**
ZRO	**Akutan Zero**	**2.61**	**46**		**Pn**	**14 43 24.4**	**+2.6**
AKBBA	**Akutan Broad B**	**2.64**	**46**		**Pn**	**14 43 24.2**	**+2.0**
AKGG	**Akutan Green G**	**2.68**	**44**		**Pn**	**14 43 24.7**	**+2.0**
AKUT	**Akutan**	**2.73**	**47**	Pn	**Pn**	**14 43 23.8**	**+0.4**
WECS	**Westdahl Cape**	**3.43**	**48**		**Pn**	**14 43 35.3**	**+2.2**
GSTR	**Great Sitkin T**	**4.26**	**270**	Pn	**Pn**	**14 43 45.4**	**+0.9**
ADK	**Adak**	**4.67**	**268**		**Pn**	**14 43 50.2**	**+0.2**
SPIA	**Saint Paul Isl**	**4.92**	**353**	Pn	**Pn**	**14 43 55.0**	**+1.6**
KIWB	**Kanaga Island**	**4.96**	**268**	Pn	**Pn**	**14 43 54.6**	**+0.6**
CNBA	**Chernabura Isl**	**6.22**	**62**	Pn	**Pn**	**14 44 11.8**	**+0.4**
AMKA	**Amchitka**	**7.22**	**267**	Pn	**Pn**	**14 44 25.3**	**+0.3**
OHAK	**Old Harbor**	**10.39**	**55**	Pn	**Pn**	**14 45 07.6**	**-0.8**
KDAK	**Kodiak Island**	**10.96**	**53**	Pn	**Pn**	**14 45 16.1**	**0.0**
	0.4nm,0.3s,baz=275,slow=14,SNR=5.8 12nm,1.2s						
SEW	**Seward**	**13.41**	**47**	Pn	**Pn**	**14 45 50.4**	**+0.7**
SUA	**Susitna One**	**13.56**	**40**	Pn	**Pn**	**14 45 54.1**	**+2.3**
J20K	**Nowinta River**	**14.22**	**27**	Pn	**Pn**	**14 46 02.2**	**+1.5**
PWL	**Port Wells**	**14.25**	**45**	Pn	**Pn**	**14 46 01.2**	**0.0**
HIN	**Hinchinbrook I**	**14.87**	**48**	Pn	**Pn**	**14 46 09.4**	**-0.1**
MLY	**Manley**	**15.85**	**29**	Pn	**Pn**	**14 46 23.6**	**+1.3**
MLY				IAmb	IAmb	14 46 35.8	
	comp=Z,4.5nm,1.1s						
N25K	**Chitina, Valde**	**16.20**	**45**	Pn	**Pn**	**14 46 27.3**	**+0.4**
N25K				IAmb	IAmb	14 46 48.2	
	comp=Z,8.8nm,1.5s						
GLB	**Gilahina Butte**	**16.49**	**46**	Pn	**Pn**	**14 46 30.2**	**-0.3**
ISLE	**Juniper Island**	**16.88**	**50**	Pn	**P**	**14 46 36.9**	**-0.4**
ILAR	**Eielson Array**	**16.93**	**34**	Pn	**Pn**	**14 46 30.8**	**-5.1**
	comp=Z,0.2nm,0.4s,baz=232,slow=11,SNR=1.5						
J25K	**Salcha River,**	**17.36**	**36**	Pn	**P**	**14 46 42.4**	**-0.2**
J26L	**Joseph Creek**	**17.96**	**37**		**P**	**14 46 49.5**	**+0.3**
J26L				IAmb	IAmb	14 47 22.1	
	comp=Z,7.2nm,1.5s						
HYT	**Haines Junctio**	**19.23**	**51**	Pn	**Pn**	**14 47 06.7**	**+2.4**
HYT				IAmb	IAmb	14 47 19.1	
	comp=Z,5.8nm,1.2s						
BMAR	**Burnt Mountain**	**19.32**	**29**	P	**Pn**	**14 47 05.5**	**+0.3**
PEA0B	**Petropavlovsk-**	**20.01**	**286**	P	**P**	**14 47 11.3**	**-0.2**
PETK	**Petropavlovsk-**	**20.01**	**286**	P	**P**	**14 47 10.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=84,slow=15,SNR=17 comp=Z,2.7nm,0.5s						
PETK	**Petropavlovsk-**	**20.01**	**286**	P	**P**	**14 47 10.5**	**-1.0**
DLBC	**Dease Lake**	**22.80**	**59**	LR	LR	14 56 35.9	
	comp=Z,59nm,18.3s,baz=68,slow=37						
H11N2	**WAKE ISLAND Hy**	**37.49**	**219**	T	T	15 29 46.5	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.50**	**219**	T	T	15 29 46.5	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.51**	**219**	T	T	15 29 48.8	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.68**	**218**	T	T	15 31 17.7	
	baz=22,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.69**	**218**	T	T	15 31 24.0	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.70**	**218**	T	T	15 31 18.3	
	baz=22,slow=74						
PDAR	**Pinedale Array**	**40.28**	**79**	P	**P**	**14 50 16.7**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=288,slow=3.5,SNR=3.9 comp=Z,0.2nm,0.5s						
SONM	**Songino Array**	**51.45**	**301**	P	**P**	**14 51 43.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=46,slow=6.2,SNR=3.7 comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**52.61**	**89**	P	**P**	**14 51 53.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=306,slow=7.7,SNR=3.4 comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**57.99**	**354**	P	**P**	**14 52 29.9**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=24,slow=9.2,SNR=4.7 comp=Z,1.2nm,0.9s						
KURBB	**Kurchatov Arra**	**62.62**	**318**	P	**P**	**14 53 02.5**	**0.0**
	comp=Z,0.3nm,0.2s,baz=47,slow=7.6,SNR=5.6 comp=Z,0.3nm,0.2s						
BVAR	**Borovoye Array**	**63.83**	**325**	P	**P**	**14 53 10.5**	**0.0**
	comp=Z,0.6nm,0.4s,baz=48,slow=5.3,SNR=8.8 comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**63.95**	**314**	P	**P**	**14 53 11.0**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=46,slow=5.2,SNR=4.4 comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**65.95**	**352**	P	**P**	**14 53 23.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=1.6,slow=9.7,SNR=5.2 comp=Z,0.9nm,0.7s						
NOA	**NORSAR Array B**	**67.00**	**360**	P	**P**	**14 53 30.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=359,slow=6.1,SNR=3.5 comp=Z,0.3nm,0.5s						
HFS	**Hagfors**	**67.89**	**358**	P	**P**	**14 53 36.0**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=29,slow=3.3,SNR=11 comp=Z,1.2nm,0.4s						
AKASG	**Malin Array Be**	**76.19**	**348**	P	**P**	**14 54 26.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=16,slow=5.7,SNR=2.2 comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**76.76**	**283**	P	**P**	**14 54 30.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=37,slow=7.2,SNR=2.3 comp=Z,0.4nm,0.3s						

*ANF **20** 14:43:57.9±0.2, 33°.92N×118°.29W, h15km±1km, ML3.0/26, Error ellipse: s-maj=1.6km s-min=1.2km az=84.0*
*PAS **20** 14:43:58.7±1.8, 33°.914N±0°.008×118°.298W±0°.009, h12km±1km, ML3.0/172, ML2.7/60(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=181.0*
*NEIC **20** 14:43:58.3±1.9, 33°.93N±0°.02×118°.32W±0°.02, h20km±5km, Error ellipse: s-maj=2.9km s-min=2.5km az=220.0*

ISC 20 14:43:58.7±0.8, 33°.93N±0°.01×118°.29W±0°.01, h18km±2km, n132, σ0s78/179, Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WTT2	**Watts, South G**	**0.04**	**53**		**Pg**	**14 44 02.5**	**+0.6**
BHPC	**Baldwin Hills**	**0.09**	**317**		**Pg**	**14 44 01.4**	**-0.9**
BHPC					**Sg**	**14 44 04.0**	**-0.6**
USC	**University of**	**0.09**	**2**		**Pg**	**14 44 01.7**	**-0.6**
USC					**Sg**	**14 44 04.4**	**-0.3**
LCGC	**La Cienega, Cu**	**0.10**	**315**		**Pg**	**14 44 01.7**	**-0.7**
LCGC					**Sg**	**14 44 04.7**	**-0.2**
DLAC	**Del Amo**	**0.18**	**116**		**Pg**	**14 44 03.7**	**+0.4**
DLAC					**Sg**	**14 44 07.9**	**+1.4**
GVRC	**Garvey Reservo**	**0.19**	**49**		**Pb**	**14 44 03.5**	**+0.4**
GVRC	**Gar

comp=E,187nm,0.4s
OSI Osito Audit: C 0.77 333 Pb 14 44 13.6 0.0
OSI Sg 14 44 25.3 +1.1
OSI Osito Audit: C 0.77 333 P **Pb 14 44 13.2 -0.5**
baz=153,SNR=6.4
OSI S **Sb 14 44 24.0 +0.1**
baz=153
SME Santa Rosa Min 0.79 97 Pb 14 44 12.8 -1.0
BTPC Burnt Peak 0.79 343 Pb 14 44 13.3 -0.7
STCC Santa Clara 0.83 297 Pg 14 44 14.9 -0.1
SBB Saddle Back Bu 0.85 27 Pb 14 44 14.2 -0.8
SBB **Sb 14 44 25.8 -0.3**
CSP Cedar Springs 0.86 64 Pb 14 44 14.4 -0.7
PEC Perris 0.94 92 Pb 14 44 15.6 -0.8
PEC **Sb 14 44 28.1 -0.5**
TPO Tropico Hills 0.95 3 Pb 14 44 16.2 -0.5
SCI2 San Clemente I 0.97 193 P **Pb 14 44 16.1 -0.8**
baz=12
SCI2 S **Sg 14 44 30.1 -0.1**
baz=12
MURC Murrieta 0.97 109 Pb 14 44 16.3 -0.6
MURC **Sb 14 44 30.0 +0.6**
MURC Murrieta 0.97 109 P **Pb 14 44 16.2 -0.8**
baz=289,SNR=18
MURC S **Sb 14 44 29.3 -0.1**
baz=289
EDW2 Edwards Air Fo 0.98 14 Pb 14 44 17.8 +0.5
EDW2 Edwards Air Fo 0.98 14 P **Pb 14 44 16.8 -0.4**
baz=195,SNR=58
EDW2 S **Sb 14 44 30.3 +0.4**
baz=195
CFT Crafton Hills 0.99 83 Pb 14 44 16.7 -0.5
SVD Seven Oaks Dam 1.01 79 Pb 14 44 17.6 -0.1
SVD **Sb 14 44 31.5 +1.0**
THC Tehachapi Micr 1.03 343 Pb 14 44 17.9 -0.1
BACC Bachelor Mtn. 1.09 106 Pb 14 44 18.2 -0.8
HMTC Hemet 1.09 101 Pb 14 44 18.7 -0.4
HMTC **Sn 14 44 34.1 +0.3**
DGR Domenigoni Val 1.10 104 Pn 14 44 19.1 -0.2
HYS Haystack Butte 1.11 32 Pn 14 44 19.1 -0.3
HYS **Sb 14 44 34.3 +0.8**
SCZ2 Santa Cruz Isl 1.12 274 S **Sg 14 44 34.8 -0.3**
baz=94
MPI Mount Pinos, F 1.13 322 Pn 14 44 19.9 -0.1
POB Polly Butte 1.16 102 Pn 14 44 19.3 -0.9
POB **Sn 14 44 36.0 +0.4**
GORC Green Oak Ranc 1.18 131 Pn 14 44 19.5 -0.7
SNCC San Nicolas Is 1.23 237 Pb 14 44 21.2 -0.3
SNCC IAML 14 44 38.5
comp=N,156nm,0.4s
SNCC IAML 14 44 39.0
comp=E,212nm,0.4s
SNCC San Nicolas Is 1.23 237 P **Pn 14 44 20.7 -0.3**
baz=57
SNCC S **Sn 14 44 37.5 +0.3**
baz=57
CCAC Calif City Air 1.24 10 Pn 14 44 21.8 +0.5
ARVC Arvin 1.28 340 P **Pn 14 44 21.8 +0.2**
baz=160,SNR=24
ARVC S **Sb 14 44 39.5 +1.2**
baz=160
SIL Silver Peak 1.28 71 Pn 14 44 22.2 +0.3
SBC Santa Barbara 1.29 294 Sg **Sg 14 44 40.5 +0.2**
baz=114
TEJ El Tejon 1.34 346 Pb 14 44 24.2 +0.9
CRY Cary Ranch 1.34 105 Pn 14 44 23.0 +0.4
CRY **Sb 14 44 40.8 +0.5**
BCW Bitter Crk WRg 1.37 318 Pb 14 44 23.8 -0.1
DTP Desert Tortois 1.39 15 Pn 14 44 24.0 +0.7
BZNA Buzz No.'s Pla 1.42 107 Sb 14 44 43.5 +1.0
RRX Edison Barstow 1.43 48 Sg **Sg 14 44 44.9 +0.1**
baz=228
109C Camp Elliot, M 1.43 136 Pn 14 44 22.4 -1.3
109C IAML 14 44 43.3
comp=N,188nm,0.2s
109C Camp Elliot, M 1.43 136 P **Pn 14 44 22.6 -1.2**
baz=316
109C S **Sn 14 44 41.0 -1.1**
baz=316
CPE Camp Elliot 1.43 136 Sn 14 44 41.2 -0.9
SNDA J Saunders Pla 1.45 105 Pn 14 44 24.3 +0.2
DPP Dos Picos Cty 1.46 129 Pn 14 44 22.9 -1.2
DPP **Sn 14 44 41.6 -1.2**
FRD Ford Ranch, An 1.47 107 Pb 14 44 25.3 -0.3
FRD Ford Ranch, An 1.47 107 Pn 14 44 24.3 -0.1
MATG Mataguay Scout 1.55 117 Pb 14 44 26.5 -0.5
PFO Pinyon Flats O 1.56 101 Sb 14 44 46.5 0.0
PFO Pinyon Flats O 1.56 101 Pn 14 44 25.9 +0.3
PFO IAML 14 44 55.7
comp=N,101nm,0.6s
PFO Pinyon Flats O 1.56 101 P **Pn 14 44 25.2 -0.4**
baz=282
PFO Sb **Sb 14 44 46.7 +0.2**
baz=282
XPFO Pion Flat 1.56 101 Pn 14 44 26.1 +0.4
TPFO Pinon Flats 1.56 101 P **Pn 14 44 25.7 0.0**
baz=282
EW2 E Wide Canyon 1.56 89 Pn 14 44 26.2 +0.6
PKM Mcpherson Peak 1.58 308 Pb **Pb 14 44 27.0 -0.6**
baz=128
WBSM Bird Springs 1.61 4 Pb 14 44 27.6 -0.4
PMD Palm Desert 1.62 99 Pn 14 44 26.6 +0.3
PMD IAML 14 44 57.6
comp=N,158nm,0.8s
PMD IAML 14 44 58.5
comp=E,78nm,0.5s
PMD Palm Desert 1.62 99 Sb 14 44 48.9 +0.8
LRMC Laurel Mtn Rad 1.63 18 Pb **Pn 14 44 27.4 +0.9**
baz=198
LRMC S **Sn 14 44 48.2 +1.0**
baz=198
SDRC San Diego Road 1.64 136 Sn 14 44 45.9 -1.3
ISA Isabella, Lake 1.74 355 Pn 14 44 28.9 +0.8
ISA Isabella, Lake 1.74 355 Pb **Pn 14 44 29.2 +1.2**
baz=175
ISA S **Sn 14 44 50.6 +0.8**
baz=175
WHFM Hanning Flat 1.77 358 Pn 14 44 29.7 +1.2
WASM Alta Sierra Ca 1.82 353 Pb 14 44 31.0 -0.6
BAR Barrett 1.84 132 Pn 14 44 28.6 -0.8
GSC Goldstone, Bar 1.84 41 Pn 14 44 30.0 +0.6
GSC Goldstone, Bar 1.84 41 Pg **Pb 14 44 33.1 +1.3**
baz=222
HEC Hector,Ludlow 1.85 60 P **Pn 14 44 29.6 0.0**
baz=241,SNR=12
MONP2 Monument Peak 1.87 123 P **Pn 14 44 29.6 -0.4**
baz=304,SNR=15
MONP2 S **Sn 14 44 53.9 +0.7**
baz=304
BELC Belle Mtn. Jos 1.91 87 P **Pn 14 44 30.2 -0.2**
baz=268,SNR=52
BCH Branch Mountai 1.94 311 Pn 14 44 32.2 +1.4
SMMC Simmler 1.97 315 Pg **Pg 14 44 35.7 -0.9**
baz=135
CBX Cerro Bola 2.11 139 Pn 14 44 32.5 -0.7
CBX IAML 14 45 14.1
comp=N,35nm,0.4s
CBX IAML 14 45 18.1
comp=E,50nm,0.5s
WLHM Little Horse 2.22 360 Pn 14 44 36.5 +1.6
MPMC Manual Prospec 2.23 17 Pg **Pg 14 44 40.6 -0.8**
baz=197,SNR=20
IKP In-Ko-Pah, Jac 2.23 124 P **Pn 14 44 35.1 +0.3**
baz=305,SNR=8.3
RMX La Rumorosa 2.28 125 Pn 14 44 37.0 +1.5
RMX IAML 14 45 13.9
comp=N,53nm,0.4s
RMX IAML 14 45 14.1
comp=E,44nm,0.5s
SPG2 Springville 2 2.30 350 Pn 14 44 37.4 +1.7
YUH Yuha Desert 2.36 122 Pn 14 44 37.9 +1.4
YUH IAML 14 45 22.1
comp=N,31nm,0.8s
YUH IAML 14 45 23.1
comp=E,27nm,0.9s
PAGB Antelope Grade 2.42 319 Pn 14 44 37.8 +0.5
PAGB IAML 14 45 24.4
comp=E,33nm,2.8s
PAGB IAML 14 45 28.2
comp=N,37nm,5.0s
GWY Greenwater Val 2.62 30 Pn 14 44 41.2 +1.0
GWY IAML 14 45 26.1
comp=N,54nm,0.5s
ESJX Sierra Juarez 2.75 134 Pn 14 44 42.6 +0.6
ESJX IAML 14 45 38.0
comp=E,22nm,0.9s
GLA Glamis 3.02 106 Pg 14 44 56.8 +0.1
GLA IAML 14 45 47.2
comp=E,27nm,0.8s
GLA IAML 14 46 00.7
comp=N,19nm,0.8s
BLYC Blythe 3.14 92 Pg 14 44 58.1 -0.8
BLYC IAML 14 45 47.0
comp=N,24nm,0.8s
BLYC IAML 14 45 49.9
comp=E,18nm,0.9s
WCT Wildcat Mounta 3.17 25 Pn **Pn 14 44 47.9 +0.2**
WCT IAML 14 45 43.2
comp=E,21nm,0.5s
WCT IAML 14 45 43.4
comp=N,19nm,0.7s
LCH Last Change Ra 3.34 9 Pn 14 44 51.5 +1.3
V12A Nelson 3.35 57 Pn **Pn 14 44 50.4 +0.2**
V12A IAML 14 45 54.4
comp=N,13nm,1.8s
TPNV Topopah Spring 3.44 28 Pn 14 44 53.1 +1.5
DSP Deep Springs 3.45 4 Pn 14 44 51.9 +0.5
GMN Gold Mountain 3.47 14 Pn 14 44 51.7 -0.3
W13A Hualapai Mount 3.82 71 Pn **Pn 14 44 56.8 0.0**
NVAR Mina Array Bea 4.49 360 Pn **Pn 14 45 06.1 +0.1**

*DJA **20** 14:44:48.9±0.9,2°S±4°×14°1E±°, h12km±6km, M4.4/16, mB5.2/3, mb4.5/16, MLv4.3/7, Mw(mB)4.6/3*
*IDC **20** 14:44:49.1±0.5, 1°92S×140°76E, h0km, mb4.1/19, mbtmp4.2/24, ML4.0/3, MS3.4/16, Error ellipse: s-maj=21.0km s-min=10.6km az=87.0*
*NEIC **20** 14:44:52.1±1.6, 2°00S±0°10×140°7E±0°1, h15km±4km, mb4.4/30, Error ellipse: s-maj=16.9km s-min=13.7km az=74.0*

ISC 20 14:44:51.1±0.4, 1°97S±0°05×140°69E±0°06, h10km, n110, σ1°23/102, mb4.4/35, MS3.3/10, 2C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.81**	**220**	P		P	**Pg**	**14 45 08.0**	**+1.2**
GENI				S		S	**Sn**	**14 45 21.1**	**+0.3**
GENI	**Genyem**	**0.81**	**220**	P		P	**Pb**	**14 45 08.3**	**+0.9**
SMPI	**Sarmi**	**1.98**	**269**	P		P	**Pn**	**14 45 24.3**	**-0.4**
SMPI				S		S	**Sn**	**14 45 49.9**	**+0.3**
WAMI	**Wamena**	**2.75**	**226**	P		P	**Pn**	**14 45 35.4**	**+0.1**
SRPI	**Serui, Papua**	**4.45**	**271**	P		P	**Pn**	**14 45 58.0**	**-0.7**
BAKI	**Biak**	**4.65**	**279**	P		Pn		14 45 58.3	-3.1
MMPI	**Merauke**	**6.46**	**183**	P		P	**Pn**	**14 46 25.4**	**-1.0**
0.1nm21nm,0.8s									
FAKI	**Fak Fak**	**8.49**	**263**	P		Pn		14 46 49.8	-4.5
SIJI	**Sorong**	**9.48**	**276**	Pn		Pn		**14 47 09.8**	**+1.8**
0.2nm,0.3s,baz=87,slow=18,SNR=2.0									
SIJI				LR		LR		14 50 34.6	
comp=Z,103nm,19.5s,baz=69,slow=36									
2.2nm,0.6s									
PMG	**Port Moresby**	**9.80**	**139**	Pn		Pn		**14 47 12.7**	**+0.5**
6.6nm,0.8s,baz=307,slow=15,SNR=2.5									
PMG				LR		LR		14 51 37.6	
comp=Z,155nm,21.5s,baz=302,slow=42									
KDU	**Kakadu**	**13.41**	**217**	P		P	**Pn**	**14 48 00.1**	**-1.5**
MTN	**Manton Dam**	**14.37**	**221**	Pn		P	**Pn**	**14 48 12.3**	**-2.5**
MTN	**Manton Dam**	**14.37**	**221**	P		P	**Pn**	**14 48 13.1**	**-1.7**
GUMO	**Guam**	**16.00**	**15**	LR		LR		14 53 24.8	
comp=Z,92nm,20.1s,baz=193,slow=32									
DAV	**Davao City (W)**	**17.55**	**301**	LR		LR		14 55 14.3	
comp=Z,64nm,18.4s,baz=175,slow=36									
LUWI	**Luwuk**	**17.94**	**273**	P		P	**Pn**	**14 48 59.6**	**-1.3**
2μm42nm,0.8s									
KNRA	**Kununurra**	**18.00**	**220**	Pn		Pn		**14 49 00.0**	**-1.6**
KNRA				IAmb		IAmb		14 49 04.5	
comp=Z,34nm,1.4s									
KNRA	**Kununurra**	**18.00**	**220**	P		P	**Pn**	**14 49 01.1**	**-0.5**
WB0	**Warramunga Arr**	**18.73**	**199**	P		P	**Pn**	**14 49 09.2**	**-1.0**
BATI	**Baumata**	**18.79**	**243**	P		P	**Pn**	**14 49 12.9**	**+1.5**
comp=Z,33nm,0.6s,baz=84,slow=2.1,SNR=9.0									
BATI	**Baumata**	**18.79**	**243**	P		P	**P**	**14 49 09.3**	**-1.7**
comp=Z,31nm,0.8s									
CTA	**Charters Tower**	**18.81**	**164**	P		P	**Pn**	**14 49 11.8**	**+0.3**
comp=Z,0.5nm,0.3s,baz=346,slow=11,SNR=14									
CTA				LR		LR		14 57 02.9	
comp=Z,108nm,21.2s,baz=350,slow=39									
comp=Z,5.0nm,0.7s									
CTA	**Charters Tower**	**18.81**	**164**	P		P	**Pn**	**14 49 14.0**	**+2.4**
CTAO	**Charters Tower**	**18.81**	**164**			P	**P**	**14 49 10.7**	**-0.4**
CTAO	**Charters Tower**	**18.81**	**164**	P		P	**Pn**	**14 49 13.9**	**+2.4**
WR0	**Warramunga Arr**	**18.87**	**198**	P		P	**P**	**14 49 10.1**	**-1.6**
WRAB	**Tennant Creek**	**18.90**	**199**	P		P	**P**	**14 49 10.2**	**-1.9**
WRAB				IAmb		IAmb		14 49 14.7	
comp=Z,13nm,0.8s									
WRAB	**Tennant Creek**	**18.90**	**199**	P		P	**P**	**14 49 11.7**	**-0.4**
WB2	**Warramunga Arr**	**18.91**	**199**	P		P	**P**	**14 49 10.6**	**-1.6**
WB2				IAmb		IAmb		14 49 14.7	
comp=Z,11nm,0.8s									
WRA	**Warramunga Arr**	**18.91**	**199**	P		P	**P**	**14 49 11.6**	**-0.6**
comp=Z,1.0nm,0.3s,baz=23,slow=12,SNR=109									
WRA				S		Sn		14 52 32.6	-12
comp=Z,1.7nm,0.9s,baz=13,slow=22,SNR=5.4									
WRA				LR		LR		14 57 28.2	
comp=Z,293nm,20.1s,baz=36,slow=40									
comp=Z,6.3nm,0.6s									
WRA	**Warramunga Arr**	**18.91**	**199**	P		P	**P**	**14 49 09.9**	**-2.3**
MMRI	**Maumere**	**19.52**	**249**	P		P	**P**	**14 49 17.2**	**-1.7**
comp=Z,1μmcomp=Z,23nm,1.4s									
EDFI	**Ende, Flores**	**20.07**	**250**	P		P	**P**	**14 49 23.1**	**-1.9**
comp=Z,5.2nm,1.1s									
TOLI2	**Tolitoli**	**20.14**	**279**				**P**	**14 49 25.9**	**+0.2**
TOLI2				IAmb		IAmb		14 49 34.3	
comp=Z,12nm,0.7s									
BKSI	**Bulukumba**	**20.79**	**260**	P		P	**P**	**14 49 31.5**	**-1.3**
comp=Z,14nm,0.9s									
FITZ	**Fitzroy Crossi**	**21.80**	**222**	P		P	**P**	**14 49 42.6**	**-0.9**
comp=Z,4.6nm,0.6s,baz=48,slow=11,SNR=17									
FITZ				LR		LR		14 58 59.3	
comp=Z,100nm,21.3s,baz=48,slow=39									
comp=Z,4.6nm,0.6s									
FITZ	**Fitzroy Crossi**	**21.80**	**222**	P		P	**P**	**14 49 42.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.80**	**222**	P		P	**P**	**14 49 43.2**	**-0.3**
AS31	**Alice Springs**	**22.55**	**196**	P		P	**P**	**14 49 50.8**	**-0.8**
ASAR	**Alice Springs**	**22.55**	**196**	P		P	**P**	**14 49 51.1**	**-0.5**
comp=Z,6.4nm,0.7s,baz=28,slow=11,SNR=109									
ASAR				PcP		PcP		**14 53 45.3**	**-0.1**
comp=Z,0.6nm,0.8s,baz=16,slow=2.5,SNR=4.8									
ASAR				S		S		**14 54 01.5**	**+2.4**
comp=Z,0.5nm,0.7s,baz=18,slow=27,SNR=3.2									
ASAR				LR		LR		14 59 32.9	
comp=Z,219nm,21.4s,baz=78,slow=39									
comp=Z,6.4nm,0.7s									
ASAR	**Alice Springs**	**22.55**	**196**	P		P		**14 49 50.8**	**-0.8**
EIDS	**Eidsvold**	**25.33**	**158**	P		P		**14 50 19.3**	**+1.0**
EIDS	**Eidsvold**	**25.33**	**158**	P		P		**14 50 21.2**	**+2.9**
RMQ	**Roma**	**25.58**	**163**	P		P		**14 50 22.8**	**+2.2**
comp=Z,17nm,0.8s									
INKA	**Innaminka**	**25.63**	**180**	P		P		**14 50 22.4**	**+1.4**
WRKA	**Warakurna**	**25.87**	**207**	P		P		**14 50 22.8**	**-0.5**
OOD	**Oodnadatta**	**26.12**	**190**	P		P		**14 50 26.1**	**+0.6**
LCRK	**Leigh Creek**	**28.42**	**184**	P		P		**14 50 47.3**	**+1.2**
MULG	**Mulgathing**	**28.86**	**192**	P		P		**14 50 50.0**	**0.0**
STKA	**Stephens Creek**	**29.76**	**178**	P		P		**14 50 57.5**	**-0.5**
comp=Z,6.5nm,0.8s,baz=349,slow=8.7,SNR=8.1									
STKA				LR		LR		15 04 30.7	
comp=Z,102nm,18.1s,baz=24,slow=40									
comp=Z,6.5nm,0.8s									
STKA	**Stephens Creek**	**29.76**	**178**	P		P		**14 50 57.5**	**-0.5**
ARMA	**Armidale**	**30.14**	**161**	P		P		**14 51 02.4**	**+0.9**
ARMA				IAmb		IAmb		14 51 05.0	
comp=Z,9.3nm,1.1s									
BBOO	**Buckleboo**	**30.99**	**188**	P		P		**14 51 08.4**	**-0.5**
FORT	**Forrest**	**31.05**	**201**	P		P		**14 51 08.9**	**-0.5**
DZM	**Mont Dzumac**	**32.04**	**131**	LR		LR		15 03 03.9	
comp=Z,66nm,19.0s,baz=29,slow=34									
H11N1	**WAKE ISLAND Hy**	**33.55**	**49**	T		T		15 26 51.1	
baz=228,slow=74									
H11N2	**WAKE ISLAND Hy**	**33.57**	**49**	T		T		15 26 52.2	
baz=228,slow=74									
H11N3	**WAKE ISLAND Hy**	**33.57**	**49**	T		T		15 26 51.8	
baz=228									
CAN	**Canberra**	**34.07**	**168**	P		P		**14 51 34.1**	**-1.8**
MORW	**Morawa**	**35.74**	**219**	P		P		**14 51 50.0**	**-0.4**
MORW				IAmb		IAmb		14 52 14.1	
comp=Z,13nm,1.2s									
MJAR	**Matsushiro Arr**	**38.38**	**357**	LR		LR		15 06 49.1	
comp=Z,73nm,18.7s,baz=184,slow=34									
KSRS	**Korea Array**	**40.97**	**344**	P		P		**14 52 34.0**	**-0.2**
comp=Z,1.9nm,0.7s,baz=163,slow=9.5,SNR=2.9									
KSRS				LR		LR		15 07 21.5	
comp=Z,33nm,20.5s,baz=165,slow=33									
comp=Z,1.9nm,0.7s									
CMAR	**Chiang Mai Arr**	**45.81**	**298**	P		P		**14 53 13.6**	**-0.1**
comp=E,0.6nm,0.6s,baz=132,slow=5.8,SNR=4.7									
comp=Z,0.6nm,0.6s									
HNS	**HongShan**	**45.98**	**331**	⇑P		P		**14 53 14.6**	**-0.1**
HNS				pmax		pmax			
comp=Z,8.0nm,0.6s									
USRK	**Ussuriysk Ar.**	**46.62**	**351**	P		P		**14 53 18.9**	**-0.6**
comp=Z,1.4nm,0.7s,baz=150,slow=9.4,SNR=4.1									
comp=Z,1.4nm,0.7s									
XAN	**Xi'an**	**46.64**	**323**	⇑P		P		**14 53 20.4**	**+0.4**
XAN				pP		pwP		14 53 29.1	+2.9
XAN				pmax		pmax			
comp=Z,5.0nm,1.0s									
PZH	**PanZhiHua**	**47.05**	**310**	P		P		**14 53 25.0**	**+1.6**
PZH				pmax		pmax			
comp=Z,10.0nm,0.7s									
PZH				pmax		pmax			
comp=Z,100nm,4.9s									
URZ	**Urewera**	**49.15**	**142**	LR		LR		15 12 40.9	
comp=Z,36nm,21.8s,baz=62,slow=34									
TUWZ	**Tuamarina**	**49.39**	**147**	P		P		**14 53 39.9**	**-1.1**
LTZ	**Lake Taylor**	**49.47**	**150**	P		P		**14 53 41.2**	**-0.5**
LBZ	**Lake Benmore**	**49.65**	**152**	P		P		**14 53 42.6**	**-0.4**
HHC	**Hu-ho-hao-te**	**50.20**	**331**	eP		P		**14 53 49.3**	**+1.9**
LZH	**Lanzhou**	**51.11**	**321**	eP		P		**14 53 56.3**	**+1.9**
LZH				pP		pwP		14 54 01.6	+0.9
LZH				pmax		pmax			
comp=Z,18nm,1.5s									
KLR	**Kul'dur**	**51.58**	**353**	P		P		**14 53 56.5**	**-0.9**
comp=Z,1.0nm,0.6s,baz=157,slow=7.7,SNR=5.5									
KLR				LR		LR		15 14 24.2	
comp=Z,31nm,19.2s,baz=118,slow=34									
comp=Z,1.0nm,0.6s									
GTA	**Gaotai**	**55.68**	**322**	eP		P		**14 54 28.3**	**+0.4**
GTA				pP		pwP		14 54 34.1	-0.1
GTA				sP		sP		14 54 37.0	+6.0
GTA				pmax		pmax			
comp=Z,4.0nm,0.8s									
PETK	**Petropavlovsk-**	**56.70**	**12**	LR		LR		15 17 05.8	
comp=Z,19nm,20.4s,baz=95,slow=34									
SONM	**Songino Array**	**57.92**	**333**	P		P		**14 54 43.1**	**-0.6**
comp=Z,0.2nm,0.3s,baz=134,slow=4.2,SNR=2.3									
comp=Z,0.2nm,0.3s									
WMQ	**Urumqi**	**65.68**	**321**	eP		P		**14 55 38.3**	**+2.3**
CASY	**Casey**	**67.62**	**193**	P		P		**14 55 47.7**	**-0.1**
CASY				IAmb		IAmb		14 55 48.8	
comp=Z,7.3nm,1.1s									
MKAR	**Makanchi Array**	**70.42**	**322**	P		P		**14 56 05.7**	**-0.1**
comp=Z,1.5nm,0.8s,baz=107,slow=6.3,SNR=12									
comp=Z,1.5nm,0.8s									
MAKZ	**Makanchi**	**70.63**	**322**	P		P		**14 56 06.7**	**-0.2**
MAKZ				IAmb		IAmb		14 56 13.2	
comp=Z,3.2nm,0.9s									
ZALV	**Zalesovo Beam**	**72.31**	**329**	P		P		**14 56 15.5**	**-1.3**
comp=Z,0.9nm,0.6s,baz=133,slow=7.8,SNR=2.4									
comp=Z,0.9nm,0.6s									
AAK	**Ala-Archa**	**74.06**	**315**	P		P		**14 56 27.5**	**-0.3**
comp=Z,0.8nm,0.3s,baz=103,slow=0.6,SNR=1.9									
comp=Z,0.8nm,0.3s									
KURBB	**Kurchatov Arra**	**74.28**	**324**	P		P		**14 56 27.3**	**-1.3**
comp=Z,0.7nm,0.7s,baz=116,slow=4.7,SNR=6.0									
comp=Z,0.7nm,0.7s									
VNDA	**Vanda**	**76.35**	**175**	P		P		**14 56 39.6**	**-0.4**
comp=Z,4.3nm,0.7s,baz=325,slow=6.9,SNR=50									
comp=Z,4.3nm,0.7s									
VNDA	**Vanda**	**76.35**	**175**	P		P		**14 56 40.4**	**+0.4**
VNDA				IAmb		IAmb		14 56 41.3	
comp=Z,5.4nm,0.8s									
SBA	**Scott Base**	**77.09**	**175**	P		P		**14 56 45.4**	**+1.2**
SBA				IAmb		IAmb		14 56 46.2	
comp=Z,5.3nm,1.1s									
NRIK	**Noril'sk**	**79.58**	**343**	P		P		**14 56 57.4**	**-0.7**
comp=Z,1.7nm,0.5s,baz=132,slow=6.0,SNR=2.2									
comp=Z,1.7nm,0.5s									
BVAR	**Borovoye Array**	**79.84**	**325**	P		P		**14 56 59.7**	**-0.2**
comp=Z,1.7nm,0.8s,baz=113,slow=5.6,SNR=13									
comp=Z,1.7nm,0.8s									
J20K	**Nowinta River**	**81.19**	**24**	P		P		**14 57 06.9**	**0.0**
J20K				IAmb		IAmb		14 57 16.1	
comp=Z,3.2nm,1.1s									
CAST	**Castle Rocks**	**81.74**	**25**	P		P		**14 57 09.6**	**-0.3**
CAST				IAmb		IAmb		14 57 09.8	
comp=Z,2.8nm,1.0s									
SML	**Sawmill**	**82.84**	**27**	P		P		**14 57 13.8**	**-1.9**
MLY	**Manley**	**82.87**	**23**	P		P		**14 57 13.9**	**-1.8**
MLY				IAmb		IAmb		14 57 22.0	
comp=Z,4.0nm,1.4s									
MAW	**Mawson**	**83.55**	**202**	P		P		**14 57 19.2**	**0.0**
comp=Z,1.3nm,0.8s,baz=101,slow=16,SNR=3.1									
comp=Z,1.3nm,0.8s									
MAW	**Mawson**	**83.55**	**202**	P		P		**14 57 19.9**	**+0.8**
DHY	**Denali Highway**	**83.64**	**26**	P		P		**14 57 19.4**	**-0.5**
DHY				IAmb		IAmb		14 57 19.7	
comp=Z,3.5nm,0.9s									
IL31		**84.34**	**24**	P		P		**14 57 21.6**	**-1.6**
IL31				IAmb		IAmb		14 57 29.4	
comp=Z,4.1nm,1.2s									
ILAR	**Eielson Array**	**84.34**	**24**	P		P		**14 57 20.9**	**-2.4**
comp=Z,1.0nm,0.7s,baz=256,slow=4.3,SNR=9.7									
comp=Z,1.0nm,0.7s									
ILAR	**Eielson Array**	**84.34**	**24**	P		P		**14 57 21.1**	**-2.2**
GEYT	**Allbeck**	**85.34**	**308**	P		P		**14 57 29.5**	**+0.6**
comp=Z,2.6nm,0.9s,baz=122,slow=1.9,SNR=5.3									
comp=Z,2.6nm,0.9s									
ABKAR	**Akbulak array**	**85.44**	**320**	P		P		**14 57 28.1**	**-1.0**
M27K	**Edge Creek, AK**	**85.91**	**27**	P		P		**14 57 31.3**	**-0.1**
M27K				IAmb		IAmb		14 57 33.3	
comp=Z,2.9nm,0.9s									
BMAR	**Burnt Mountain**	**85.97**	**22**	P		P		**14 57 31.9**	**+0.4**
DLBC	**Dease Lake**	**91.28**	**32**	LR		LR		15 32 16.3	
comp=Z,128nm,21.9s,baz=96,slow=31									
NVAR	**Mina Array Bea**	**99.84**	**51**	P			**Pdif**	**14 58 36.6**	**0.0**
comp=Z,0.2nm,0.4s,baz=248,slow=7.4,SNR=2.2									
comp=Z,0.2nm,0.4s									
TORD	**Torodi Ar. Bea**	**137.94**	**287**	PKP			**PKPdf**	**15 04 18.5**	**+1.3**
comp=Z,0.6nm,0.9s,baz=14,slow=0.9,SNR=3.6									
DBIC	**Dimbokro**	**145.34**	**279**	PKPbc			**PKPbc**	**15 04 29.4**	**-0.9**
comp=Z,6.8nm,1.0s,baz=40,slow=3.5,SNR=3.6									
LPAZ	**La Paz**	**146.24**	**124**	PKPbc			**PKPdf**	**15 04 33.6**	**+0.9**
comp=Z,3.6nm,0.8s,baz=251,slow=4.2,SNR=11									
CPUP	**Villa Florida**	**146.92**	**149**	PKPbc			**PKPdf**	**15 04 34.0**	**+1.2**
comp=Z,5.6nm,0.9s,baz=216,slow=4.4,SNR=6.0									
SIV	**San Ignacio**	**152.05**	**130**	PKPbc			**PKPbc**	**15 04 47.2**	**-0.7**
comp=Z,1.6nm,0.8s,baz=225,slow=2.1,SNR=7.3									

*IDC **20** 14:50:23.2±1.7, 1°93S×139°83E, h0km, mb3.5/4, mbtmp3.8/7, ML4.0/3, Error ellipse: s-maj=52.9km s-min=21.5km az=88.0*
*DJA **20** 14:50:29.0±0.7, 2°S±5°×13°9E±°, h18km±3km, M4.1/6, mb4.2/2, MLv4.1/6*

ISC 20 14:50:31.4±1.1, 2°0S±0°1×138°87E±0°06, h35km, n17, σ2°64/17, mb3.6/4, Near north coast of Irian Jaya

| Code | Station Name | Δ° | A

	2.0nm,0.8s					
H11S3	**WAKE ISLAND Hy**	**34.10**	**52**	T	T	15 33 05.5
	baz=236,slow=75,SNR=13					
H11S2	**WAKE ISLAND Hy**	**34.11**	**52**	T	T	15 33 07.1
	baz=236,slow=75,SNR=20					
H11S1	**WAKE ISLAND Hy**	**34.11**	**52**	T	T	15 33 06.0
	baz=236,slow=75,SNR=13					
MKAR	**Makanchi Array**	**69.31**	**322**	P	**P**	**15 01 35.5 +0.2**
	0.2nm,0.7s,baz=119,slow=5.1,SNR=2.4					
	0.2nm,0.7s					
KURBB	**Kurchatov Arra**	**73.22**	**325**	P	**P**	**15 01 59.5 +0.7**
	0.5nm,0.2s,baz=95,slow=5.7,SNR=2.6					
BVAR	**Borovoye Array**	**78.80**	**325**	P	**P**	**15 02 31.0 +0.4**
	0.4nm,0.5s,baz=96,slow=4.3,SNR=3.1					
	0.4nm,0.5s					

*IDC **20** 14:58:14.6±1.1,6°.00S×127°.93E,h385km±13km,mb3.0/3, mbtmp4.1/8,Error ellipse: s-maj=18.4km s-min=10.7km az=90.0*
*NEIC **20** 14:58:15.5±0.3,6°.0S±0°.1×127°.88E±0°.08,h395km±16km, mb4.0/5,Error ellipse: s-maj=18.5km s-min=6.4km az=147.0*

ISC 20 14:58:15.4±0.7,**5°.96S**±0°.06×**127°.90E**±0°.08,**h400**km,**n22,** σ1§**03**/**27**,**mb3.4**/**3**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.92**	**121**		**Pn**	**14 59 27.0**	**+0.3**
FAKI	**Fak Fak**	**5.29**	**55**		**Pn**	**14 59 40.1**	**-0.3**
BATI	**Baumata**	**5.95**	**225**	P	**Pn**	**14 59 47.0**	**-0.5**
	78nm,0.4s,baz=40,slow=3.4,SNR=42						
BATI				S	**S**	**15 00 59.2**	**-3.3**
	11nm,0.5s,baz=0.0,slow=20,SNR=1.5						
SIJI	**Sorong**	**6.07**	**34**	P	**Pn**	**14 59 48.7**	**-0.2**
	9.4nm,0.4s,baz=229,slow=14,SNR=16						
SIJI				S	**S**	**15 01 02.5**	**-2.5**
	9.5nm,0.2s,baz=211,slow=19,SNR=12						
MMRI	**Maumere**	**6.21**	**244**	Pn	**Pn**	**14 59 49.9**	**-0.4**
MTN	**Manton Dam**	**7.54**	**155**	P	**Pn**	**15 00 05.4**	**+0.2**
KNRA	**Kununurra**	**9.69**	**175**	P	**P**	**15 00 29.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.26**	**190**	P	**P**	**15 00 57.8**	**-0.1**
	0.9nm,0.3s,baz=13,slow=11,SNR=9.1						
FITZ				S	**S**	**15 03 13.9**	**+1.5**
	1.0nm,0.8s,baz=15,slow=13,SNR=1.3						
FITZ	**Fitzroy Crossi**	**12.26**	**190**	P	**P**	**15 00 58.0**	**0.0**
DAV	**Davao City (W)**	**13.15**	**350**	P	**P**	**15 01 08.1**	**+0.2**
WB0	**Warramunga Arr**	**15.10**	**156**	P	**P**	**15 01 28.9**	**-0.2**
WRAB	**Tennant Creek**	**15.23**	**156**	P	**P**	**15 01 30.4**	**-0.1**
WRAB				IAmb	IAmb	15 01 58.0	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**15.24**	**156**	P	**P**	**15 01 30.1**	**-0.4**
	comp=Z,3.8nm,0.3s,baz=335,slow=11,SNR=66						
WRA				S	**S**	**15 04 11.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=320,slow=21,SNR=2.6						
WB2	**Warramunga Arr**	**15.24**	**156**	P	**P**	**15 01 30.6**	**0.0**
WB2				IAmb	IAmb	15 01 31.7	
	comp=Z,9.4nm,1.2s						
AS31	**Alice Springs**	**18.52**	**162**	P	**P**	**15 02 05.4**	**-0.2**
AS31				IAmb	IAmb	15 02 06.2	
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**18.52**	**162**	P	**P**	**15 02 05.5**	**0.0**
	comp=Z,3.9nm,0.3s,baz=343,slow=12,SNR=95						
ASAR				S	**S**	**15 05 15.4**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=351,slow=24,SNR=2.3						
ASAR	**Alice Springs**	**18.52**	**162**	P	**P**	**15 02 05.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**37.48**	**311**	P	**P**	**15 04 54.9**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=138,slow=7.3,SNR=2.5						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**66.23**	**328**	P	**P**	**15 08 22.2**	**+0.3**
MKAR	**Makanchi Array**	**66.23**	**328**	P	**P**	**15 08 22.6**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=120,slow=8.3,SNR=15						
	comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**66.23**	**328**	P	**P**	**15 08 22.2**	**+0.3**
KURBB	**Kurchatov Arra**	**70.55**	**329**	P	**P**	**15 08 48.9**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=128,slow=6.0,SNR=3.2						
	comp=Z,0.5nm,0.5s						

*IDC **20** 15:05:23.8±0.9,53°.71S×6°.82E,h0km,mb4.0/7, mbtmp4.0/8,ML3.2/1,MS3.7/1,Error ellipse: s-maj=28.0km s-min=22.8km az=81.0*
*NEIC **20** 15:05:26.7±0.4,53°.9S±0°.2×6°.7E±0°.3,h10km±2km, mb4.4/5,Error ellipse: s-maj=41.7km s-min=22.1km az=41.0*

ISC 20 15:05:25.3±0.7,**53°.8S**±0°.1×**6°.8E**±0°.1,**h10**km,**n30,** σ0§**84**/**23**,**mb4.1**/**9**,**Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**18.24**	**196**	P	**Pn**	**15 09 38.0**	**-0.3**
VNA2	**Neumayer--Watz**	**18.34**	**195**	P	**Pn**	**15 09 38.5**	**-1.0**
	baz=12,slow=13						
TROLL	**Troll, Antarti**	**18.41**	**184**	P	**P**	**15 09 40.4**	**0.0**
SNAA	**Sanae**	**18.46**	**190**	P	**P**	**15 09 40.7**	**-0.2**
SNAA	**Sanae**	**18.46**	**190**	P	**Pn**	**15 09 40.2**	**-0.8**
	0.1nm,0.3s,baz=7.3,slow=9.4,SNR=12						
	4.0nm,0.9s						
SNAA	**Sanae**	**18.46**	**190**	P	**Pn**	**15 09 39.1**	**-1.9**
VNA3	**Neumayer Olymp**	**18.98**	**196**	P	**P**	**15 09 46.1**	**-0.5**
SUR	**Sutherland**	**23.61**	**31**	P	**P**	**15 10 34.9**	**-1.6**
	9.8nm,1.1s,baz=217,slow=8.2,SNR=3.1						
	9.8nm,1.1s						
BOSA	**Boshof**	**28.54**	**36**	LR	LR	15 19 05.8	
	comp=Z,180nm,21.6s,baz=288,slow=29						
MAW	**Mawson**	**29.52**	**140**	P	**P**	**15 11 30.0**	**+0.7**
	1.5nm,1.0s,baz=270,slow=10,SNR=4.3						
	1.5nm,1.0s						
QSPA	**South Pole Qui**	**36.47**	**180**	P	**P**	**15 12 30.3**	**0.0**
	2.5nm,0.9s,baz=236,slow=7.9,SNR=12						
	2.5nm,0.9s						
QSPA	**South Pole Qui**	**36.47**	**180**	P	**P**	**15 12 30.1**	**-0.2**
QSPA				IAmb	IAmb	15 12 41.1	
	comp=Z,3.7nm,0.8s						
CASY	**Casey**	**47.25**	**148**	P	**P**	**15 13 58.5**	**+0.5**
H10S2	**ASCENSION HYDR**	**47.90**	**331**	T	T	16 05 33.8	
	baz=165						
H10S3	**ASCENSION HYDR**	**47.91**	**331**	T	T	16 05 31.6	
	baz=55						
VNDA	**Vanda**	**48.06**	**173**	P	**P**	**15 14 04.8**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=211,slow=5.1,SNR=6.5						
	comp=Z,1.3nm,0.9s						
VNDA	**Vanda**	**48.06**	**173**	P	**P**	**15 14 04.7**	**+0.5**
VNDA				IAmb	IAmb	15 14 16.4	
	comp=Z,2.6nm,1.2s						
TRQA	**Tornquist**	**48.42**	**260**	P	**P**	**15 14 08.0**	**+0.5**
TRQA				IAmb	IAmb	15 14 23.1	
	comp=Z,11nm,1.4s						
CPUP	**Villa Florida**	**54.02**	**274**	P	**P**	**15 14 49.5**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=143,slow=10,SNR=3.0						
	comp=Z,1.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.79**	**355**	P	**P**	15 16 12.7	-4.1
	comp=Z,0.3nm,0.5s,baz=248,slow=5.9,SNR=2.9						
LPAZ	**La Paz**	**68.12**	**272**	P	**P**	**15 16 26.6**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=148,slow=8.2,SNR=5.6						
	comp=Z,1.3nm,0.7s						
H01W2	**Cape Leeuwin H**	**71.77**	**124**	T	T	16 36 20.0	
	baz=217,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**71.78**	**124**	T	T	16 36 15.1	
	baz=217,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**71.78**	**124**	T	T	16 36 17.5	
	baz=217,slow=75,SNR=13						
ASAR	**Alice Springs**	**90.42**	**133**	P	**P**	**15 18 26.4**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=193,slow=4.4,SNR=6.6						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**118.85**	**49**	PKP	**PKPdf**	**15 24 12.2**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=214,slow=1.0,SNR=2.0						
SONM	**Songino Array**	**131.40**	**62**	PKP	**PKPdf**	**15 24 37.7**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=213,slow=3.0,SNR=2.7						
PDAR	**Pinedale Array**	**137.60**	**282**	PKP	**PKPdf**	**15 24 48.7**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=115,slow=1.5,SNR=2.1						
NVAR	**Mina Array Bea**	**140.01**	**270**	PKP	**PKPdf**	**15 24 54.0**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=161,slow=3.8,SNR=1.8						
KLR	**Kul'dur**	**146.17**	**75**	PKPbc	**PKPdf**	**15 25 05.3**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=273,slow=4.3,SNR=4.0						

*DJA **20** 15:06:46.8±0.8,2°.S±6°.×13°.9E±°,h16km±4km,M3.7/6, mb3.8/1,MLv3.7/6*
*IDC **20** 15:06:51.1±3.7,2°.80S×139°.51E,h0km,mb3.5/3, mbtmp3.7/4,ML4.0/1,Error ellipse: s-maj=115.0km s-min=30.3km az=91.0*

ISC 20 15:06:49.4±1.6,**2°.0S**±0°.2×**138°.78E**±0°.07,**h35**km,**n10,** σ1§**48**/**9**,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.07**	**297**	P	**Pn**	**15 06 53.8**	**-1.5**
GENI	**Genyem**	**1.50**	**112**	P	**Pn**	**15 07 13.2**	**-0.6**
GENI				S	**Sn**	**15 07 34.7**	**+2.5**
SRPI	**Serui, Papua**	**2.54**	**273**	P	**Pn**	**15 07 29.4**	**+1.2**
SRPI				S	**Sn**	**15 07 58.9**	**+1.0**
BAKI	**Biak**	**2.79**	**287**	P	**Pn**	**15 07 31.5**	**-0.2**
FAKI	**Fak Fak**	**6.58**	**262**	P	**Pn**	**15 08 23.0**	**-0.8**
KRVT	**Keravat (AS076**	**13.42**	**100**	Pn	Pn	15 09 47.4	-10
	2.3nm,0.3s,baz=264,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**18.33**	**193**	P	**Pn**	**15 11 00.1**	**-1.0**
	0.5nm,0.3s,baz=16,slow=12,SNR=27						
WRA				S	Sn	15 14 10.8	-14
	0.4nm,0.8s,baz=8.9,slow=24,SNR=2.8						
	1.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.53**	**218**	P	Pn	15 11 30.0	+2.7
	1.0nm,0.4s,baz=42,slow=13,SNR=6.6						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**22.03**	**192**	P	**P**	**15 11 40.9**	**-0.2**
	2.7nm,0.7s,baz=21,slow=11,SNR=49						
	2.7nm,0.7s						
MKAR	**Makanchi Array**	**69.29**	**322**	P	P	15 18 07.0	+14
	0.4nm,1.0s,baz=122,slow=7.4,SNR=2.4						
	0.4nm,1.0s						

*IDC **20** 15:10:26.5±3.8,22°.26N×108°.26W,h0km,mb3.1/2, mbtmp3.4/6,ML3.5/4,Error ellipse: s-maj=64.9km s-min=34.2km az=24.0*

ISC 20 15:10:26.3±2.0,**22°.2N**±0°.2×**108°.5W**±0°.2,**h10**km,**n10,** σ2§**48**/**6**,**Off coast of central Mexico**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**2.47**	**319**	Pn	**Pb**	**15 11 09.8**	**-1.0**
	17nm,0.3s,baz=147,slow=10.0,SNR=3.5						
LPIG				Sn	**Sn**	**15 11 34.5**	**-2.3**
	11nm,0.3s,baz=146,slow=20,SNR=1.4						
	42nm,0.3s						
H06E1	**SCORRO T-PHAS**	**4.11**	**213**	T	T	15 15 33.0	
	SNR=14						
TXAR	**Lajitas Array**	**8.31**	**31**	Pn	**Pn**	**15 12 26.9**	**-0.1**
	0.2nm,0.3s,baz=207,slow=13,SNR=8.0						
	0.4nm,0.5s						
CMIG	**Matias Romero**	**13.84**	**109**	Pn	**Pn**	**15 13 41.3**	**-1.3**
	0.3nm,0.3s,baz=293,slow=13,SNR=2.0						
	1.7nm,0.6s						
NVAR	**Mina Array Bea**	**18.19**	**335**	P	**P**	**15 14 42.1**	**+2.7**
	0.1nm,0.3s,baz=155,slow=13,SNR=8.0						
	1.3nm,0.8s						
PDAR	**Pinedale Array**	**20.49**	**358**	P	Pn	15 15 08.0	+1.2
	0.2nm,0.3s,baz=167,slow=12,SNR=2.4						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**49.35**	**339**	P	**P**	**15 19 17.3**	**+1.7**
	0.2nm,0.5s,baz=136,slow=5.7,SNR=3.3						
	0.2nm,0.5s						
H03N2	**Juan Fernandez**	**62.15**	**152**	T	T	16 28 08.4	
	baz=330,slow=78,SNR=17						
H03N1	**Juan Fernandez**	**62.16**	**152**	T	T	16 28 06.0	
	baz=330,slow=78,SNR=16						
H03N3	**Juan Fernandez**	**62.16**	**152**	T	T	16 27 59.3	
	baz=330,slow=78,SNR=21						

*DRS **20** 15:18:03.6±0.0,43°.09N×43°.93E,h26km*
NORS 20 15:18:01.5±0.0,**42°.69N**×**44°.50E**,**h8**km,**MPVA3.2, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LACR	**Lac**	**0.20**	**313**	*e*Pg	Pg	15 18 07.3	+1.7
LACR				*e*Sg	Sg	15 18 11.5	+3.1
ZEI	**Tsey**	**0.45**	**283**	*e*Pg	Pb	15 18 12.2	+0.4
ZEI				*e*Sg	Sb	15 18 19.6	+0.9
KMGR	**Komgaron**	**0.46**	**37**	*e*Pg	Pb	15 18 11.7	-0.2
KMGR				*e*Sg	Sb	15 18 19.9	+1.0
KORR	**Kora**	**0.50**	**322**	*e*Pg	Pb	15 18 13.2	+0.5
KORR				*e*Sg	Sn	15 18 22.5	-1.5
ARNR	**Ardon**	**0.51**	**342**	*e*Pg	Pb	15 18 13.2	+0.4
ARNR				*e*Sg	Sb	15 18 21.7	+1.3
DIGR	**Digorskoe uzhe**	**0.70**	**287**	*e*Pg	Pb	15 18 16.8	+0.6
DIGR				*e*Sg	Sn	15 18 27.7	-1.4
STDR	**Stavd-Durt**	**0.75**	**335**	*e*Pg	Pn	15 18 19.6	+1.2
STDR				*e*Sg	Sn	15 18 33.0	+3.1
GROC	**Groznyy**	**1.08**	**61**	*e*Pg	Pn	15 18 23.8	+0.8
	29nm,0.3s						
GROC				*e*Sg	Sn	15 18 40.2	+2.0
	10.0nm,0.5s						
DVE	**Vedeno**	**1.23**	**77**	*e*Pg	Pg	15 18 27.3	+2.2
DVE				*e*Sg	Sn	15 18 44.7	+2.8
KBTC	**Kuba-Taba**	**1.38**	**325**	*e*Pg	Pg	15 18 29.3	+1.4
KBTC				*e*Sg	Sg	15 18 49.3	+3.5
UNCR	**Uncukul**	**1.69**	**88**	*e*Pg	Pg	15 18 34.2	+0.3
	34nm,0.7s						
UNCR				*e*Sg	Sg	15 18 59.4	+3.4
	6.0nm,0.5s						
SHA1	**Shidzhatmaz**	**1.70**	**309**	*e*Pg	Pg	15 18 34.7	+0.5
SHA1				*e*Sg	Sg	15 18 58.2	+1.9
DBC	**Dubki**	**1.75**	**78**	*e*Pg	Pg	15 18 34.5	-0.6
	9.0nm,0.2s						
DBC				*e*Sg	Sg	15 18 59.4	+1.8
	10.0nm,0.6s						
KRNR	**Karanay**	**1.78**	**85**	*e*Pg	Pg	15 18 35.1	-0.5
	12nm,0.4s						
KRNR				*e*Sg	Sg	15 19 00.9	+2.2
	17nm,0.8s						
ARKR	**Arakani**	**1.85**	**92**	*e*Pn	Pg	15 18 36.6	-0.3
	17nm,0.3s						
ARKR				*e*Sn	Sg	15 19 03.2	+2.3
	32nm,0.7s						
GNBR	**Gunib**	**1.85**	**99**	*e*Pn	Pg	15 18 37.0	+0.1
	4.0nm,0.3s						
GNBR				*e*Sn	Sg	15 19 04.2	+3.3
	17nm,0.9s						
KMKR	**Kumukh**	**2.01**	**105**	*e*Pn	Pg	15 18 40.3	+0.3
	10.0nm,0.5s						
KMKR				*e*Sn	Sg	15 19 10.1	+4.0
	17nm,0.9s						

*IDC **20** 15:32:58.7±1.9,11°.22S×121°.38E,h0km,mb3.5/1, mbtmp3.2/5,ML2.9/4,Error ellipse: s-maj=49.1km s-min=27.1km az=50.0*

ISC 20 15:33:00.8±1.6,**11°.35S**±0°.07×**121°.6E**±0°.1,**h10**km,**n5,** σ3§**49**/**8**,**South of Timor**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.29**	**60**	Pn	**Pn**	**15 33 40.5**	**+1.7**
	1.4nm,0.3s,baz=294,slow=20,SNR=1.8						
BATI				Sn	**Sn**	**15 34 08.1**	**+1.0**
	3.0nm,0.3s,baz=270,slow=20,SNR=6.2						
	5.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**7.74**	**150**	Pn	**Pn**	**15 34 57.2**	**+3.6**
	0.1nm,0.3s,baz=334,slow=11,SNR=11						
FITZ				Sn	**Sn**	**15 36 20.4**	**-1.1**
	0.9nm,0.3s,baz=225,slow=20,SNR=18						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**14.91**	**126**	Pn	**Pn**	**15 36 32.8**	**+0.9**
	0.1nm,0.3s,baz=304,slow=14,SNR=2.4						
WRA				Sn	Sn	15 39 07.6	-10
	0.2nm,0.3s,baz=296,slow=21,SNR=7.3						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**16.92**	**138**	Pn	**Pn**	**15 36 59.8**	**+1.9**
	0.1nm,0.3s,baz=307,slow=12,SNR=5.0						
ASAR				Sn	**Sn**	**15 40 00.2**	**-5.9**
	0.1nm,0.3s,baz=310,slow=23,SNR=8.0						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**67.73**	**332**	P	**P**	**15 43 56.5**	**-2.0**
	0.3nm,0.5s,baz=154,slow=8.2,SNR=6.1						
	0.3nm,0.5s						

SKHL 20 15:33:16.3±1.8,**54°.02N**×**123°.02E**,**h10**km,**Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUP	**Tupik**	**1.85**	**284**	*e*Pg	Pb	15 33 50.7	+0.6
TUP				*e*Sg	Sg	15 34 15.7	+0.1
TUP				A	A	15 34 16.1	
	165nm,0.2s						
KROS	**Kirovskiy**	**2.36**	**78**	*e*Pg	Pg	15 34 01.6	+0.2
KROS				*e*Sg	Sg	15 34 30.1	-1.8
KROS				A	A	15 34 31.6	
	110nm,0.3s						
ZEA	**Zeya**	**2.52**	**95**	*e*rx	rx	15 34 06.3	
ZEA				*e*Sg	Sg	15 34 36.6	-0.6
CRS	**Chara**	**3.96**	**319**	*e*Pn	Pn	15 34 18.6	+1.6
CRS				*e*Pg	Pg	15 34 29.2	-2.8
CRS				*e*Sg	Sb	15 35 17.2	+3.3

SKHL 20 15:33:28.1±0.2,**54°.24N**×**123°.05E**,**h10**km,**mb4.0**/**2, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KROS	**Kirovskiy**	**2.30**	**84**	*e*Pg	Pb	15 34 09.9	+0.2
KROS				AMB	AMB	15 34 11.4	
	35nm,0.5s						
KROS				*e*Sg	Sg	15 34 40.6	-1.5
KROS				A	A	15 34 44.9	
	285nm,0.2s						
ZEA	**Zeya**	**2.53**	**100**	*e*Pg	Pb	15 34 13.6	0.0
ZEA				AMB	AMB	15 34 17.3	
	20nm,0.4s						
ZEA				*e*Sg	Sb	15 34 46.7	+2.0
ZEA				A	A	15 34 47.8	
	240nm,0.8s						
KLR	**Kul'dur**	**7.37**	**129**	*e*Sg	Sg	15 37 18.8	-5.6

IDC 20 16:14:06.2±5.4,**2°.03S**×**140°.65E**,**h0**km,**mb3.4**/**3, mbtmp3.5**/**4**,**ML3.6**/**1**,**Error ellipse: s-maj=101.9km s-min=63.9km az=155.0**,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.84**	**199**	P	Pn	16 18 28.4	+0.1
	0.2nm,0.3s,baz=23,slow=12,SNR=11						
	0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.72**	**222**	P	P	16 18 58.0	-1.2
	1.1nm,0.9s,baz=48,slow=15,SNR=1.1						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**22.48**	**196**	P	P	16 19 06.9	-0.4
	0.8nm,0.6s,baz=26,slow=11,SNR=23						
	0.8nm,0.6s						
VNDA	**Vanda**	**76.29**	**175**	P	P	16 25 57.1	+0.8
	0.4nm,0.6s,baz=331,slow=8.1,SNR=1.9						
	0.4nm,0.6s						

*BJI **20** 16:21:14.0±0.0,30°.54N×141°.93E,h10km,mb5.9/84, mB6.1/85,Ms6.3/99,Ms7 6.2/97*
*NIED **20** 16:21:15.7,30°.55N×142°.32E,h50km,MW6.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.92; Mθθ0.01; Mϕϕ -0.93; Mrθ-0.42; Mϕθ0.19; Mrϕ0.80; Fault plane solution: M₀1.30000×10¹⁸ NP1: ϕs180.00000°,δ25.00000°,λ111.00000°. NP2: ϕs338.00000°,δ67.00000°,λ81.00000°.*
*JMA **20** 16:21:15.7±0.2,30°.6N±0°.9×14°.2E±°,h50km,MD6.5/25, MW5.9/25,NEAR TORISHIMA IS*
JMA Felt I J1 at NEAR TORISHIMA IS .
*MOS **20** 16:21:15.4±0.8,30°.48N×142°.10E,h16km,mb6.2/86, MS6.0/100,Error ellipse: s-maj=6.6km s-min=3.8km az=114.8*
*IDC **20** 16:21:15.3±0.3,30°.51N×141°.99E,h0km,mb5.7/41, mbtmp5.7/46,ML4.9/5,MS5.8/83,Error ellipse: s-maj=10.9km s-min=7.1km az=85.0*
*NEIC **20** 16:21:16.6±1.0,30°.50N±0°.05×142°.05E±0°.03,h9km±1km, mb6.0/608,Ms_20 6.0/425,Mwb6.0/87,Mww6.1,Error ellipse: s-maj=8.9km s-min=5.0km az=189.0*
*KEA **20** 16:21:16.8,30°.64N×142°.36E,h17km,MS5.6/3*
*NEIC **20** 16:21:16.9,30°.51N×142°.12E,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.02±.01; Mθθ-0.03±.01; Mϕϕ-0.99±.01; Mrθ-0.47±.01; Mϕθ0.20±.00; Mrϕ0.40±.01; Best double couple: M₀1.19600×10¹⁸ NP1:ϕs331.00000°,δ60.00000°, λ72.00000°. NP2:ϕs185.00000°,δ34.00000°,λ118.00000°. Principal axes: T 1.2440, Plg69.0000°, Azm203.0000°; N -0.0950, Plg16.0000°, Azm341.0000°; P -1.1470, Plg13.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 16:21:21,30°.61N×142°.35E,h12km,Moment Tensor Solution. Duration: 10±0 Moment tensor: Scale 10¹⁸Nm; Mrr0.93; Mθθ0.01; Mϕϕ -0.94; Mrθ-0.25; Mϕθ0.26; Mrϕ1.31; Fault plane solution: M₀1.65000×10¹⁸ NP1: ϕs162.00000°,δ18.00000°,λ83.00000°. NP2: ϕs349.00000°,δ72.00000°,λ92.00000°. Principal axes: T 1.6171, Plg63.0000°, Azm262.0000°; N 0.0689, Plg2.0000°, Azm168.0000°; P -1.6860, Plg27.0000°, Azm77.0000°;*

ISC 20 16:21:17.0±0.3,**30°.50N**±0°.02×**142°.05E**±0°.02,**h15**km±1km, **h15**km:**pP-P**,**n2773**,σ1§**65**/3070,**mb6.0**/576,**MS6.0**/385, **183C-136D**,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.77**	**316**	A	A	16 22 00.6	
	comp=E,1μm,6.5s,comp=E,894nm,7.1s						
JHCJ	**Hachijojimakas**	**3.20**	**324**	*e*P	**Pn**	**16 22 05.8**	**-1.0**
JHCJ				S	**Sn**	**16 22 43.2**	**-1.6**
JHCJ	**Hachijojimakas**	**3.20**	**324**	A	A	16 22 05.8	
	comp=E,377nm,6.8s,comp=E,318nm,5.3s						
JHJ2	**Mitsune**	**3.22**	**324**	Pn	**Pn**	**16 22 06.5**	**-0.6**
JHJ2	**Mitsune**	**3.22**	**324**	P	**Pn**	**16 22 07.4**	**+0.3**
JHJ2	**Mitsune**	**3.22**	**324**	P	**Pn**	**16 22 06.5**	**-0.6**
JHJ2	**Mitsune**	**3.22**	**324**	A	A	16 22 06.5	
	comp=E,574nm,5.7s,comp=E,580nm,5.3s						
JHJ2	**Mitsune**	**3.22**	**324**	⇓P	**Pn**	**16 22 06.2**	**-0.9**
JHJ	**Hachijo jima 2**	**3.25**	**324**	Pn	**Pn**	**16 22 06.9**	**-0.6**
	491nm,0.3s,baz=52,slow=5.4,SNR=117						
JHJ				Sn	**Sn**	**16 22 45.5**	**-0.4**
	1μm,0.3s,baz=73,slow=19,SNR=3.6						
JHJ				LR	LR	16 23 28.7	
	comp=E,131μm,21.6s,baz=144,slow=42						
	1μm,0.3s						
CBIJ	**Chichi jima**	**3.39**	**178**	P	**Pn**	**16 22 08.3**	**-

JYO **Yokosk 5.12 338** A A 16 22 32.6
comp=E,318nm,7.2s,comp=E,186nm,3.9s

JHTM **Izuhatsuma 5.13 331** A A 16 22 33.1
comp=E,148nm,7.7s,comp=E,118nm,6.2s

JCN **Nagara 5.14 343** A A 16 22 32.6
comp=E,451nm,9.7s,comp=E,361nm,7.2s

TTO3 **TONANKAI O.B.S 5.18 312** A A 16 22 34.7
comp=E,314nm,8.4s,comp=E,478nm,7.2s

TTO4 **TONANKAI O.B.S 5.18 314** A A 16 22 34.6
comp=E,314nm,13.7s,comp=E,278nm,5.9s

TTO5 **TONANKAI O.B.S 5.24 317** A A 16 22 35.3
comp=E,318nm,6.4s,comp=E,277nm,5.1s

CHOJ **Chosi 5.28 349** A A 16 22 34.2
comp=E,125nm,8.1s,comp=E,154nm,10.8s

JSG **Sagara 5.29 323** A A 16 22 35.7
comp=E,155nm,7.6s,comp=E,172nm,8.0s

JSMT **Sammumatsuo 5.30 346** A A 16 22 34.6
comp=E,410nm,6.4s,comp=E,568nm,8.3s

TTO2 **TONANKAI O.B.S 5.34 308** A A 16 22 37.1
comp=E,385nm,10.7s,comp=E,465nm,7.2s

JOD2 **Odawara 2 5.36 333** P **Pn** **16 22 36.7 +0.1**

JOD2 **Odawara 2 5.36 333** A A 16 22 36.7
comp=E,88nm,8.7s,comp=E,83nm,11.9s

TTO1 **TONANKAI O.B.S 5.45 306** P **Pn** **16 22 39.8 +2.4**

TTO1 **TONANKAI O.B.S 5.45 306** A A 16 22 39.8
comp=E,381nm,6.6s,comp=E,570nm,8.4s

JKKS **Kakegawashinom 5.45 322** A A 16 22 38.0
comp=E,183nm,6.6s,comp=E,181nm,4.7s

JFNN **Fujinakano 5.47 330** A A 16 22 37.8
comp=E,125nm,3.8s,comp=E,192nm,4.1s

TOK **Tokyo 5.52 340** A A 16 22 38.0
comp=E,441nm,6.9s,comp=E,425nm,7.6s

SHZ3 **Shizuoka 3 5.58 326** A A 16 22 39.7
comp=E,101nm,6.3s,comp=E,73nm,7.6s

JIHU **Itakohorinouch 5.60 347** A A 16 22 38.6
comp=E,341nm,4.4s,comp=E,291nm,5.6s

JSGW **Sagamiharawaka 5.62 336** A A 16 22 39.6
comp=E,56nm,10.3s,comp=E,46nm,6.4s

HMMJ **Hamamatsu 2 5.67 321** A A 16 22 41.2
comp=E,52nm,9.3s,comp=E,46nm,12.8s

JYN **Shimob 5.79 330** A A 16 22 42.3
comp=E,93nm,10.6s,comp=E,78nm,9.5s

JHU **Hanno 5.82 337** A A 16 22 42.4
comp=E,76nm,5.3s,comp=E,54nm,5.5s

JSSY **Shinshiroyabe 5.83 320** A A 16 22 43.4
comp=E,65nm,10.4s,comp=E,57nm,18.1s

JAA **Atsumi 5.84 316** A A 16 22 43.8
comp=E,53nm,9.7s,comp=E,45nm,8.9s

JYT **Yasato 5.92 345** **Pn** **16 22 42.5 -1.6**

JYT **Yasato 5.92 345** A A 16 22 43.3
comp=E,78nm,9.2s,comp=E,57nm,10.5s

JYT **Yasato 5.92 345** ⇓P **Pn** **16 22 43.4 -0.8**

JHYU **Hitachinakayam 5.95 349** A A 16 22 43.5
comp=E,71nm,3.1s,comp=E,87nm,7.9s

JIE **Ise 5.95 312** P **Pn** **16 22 46.6 +2.0**

JIE S **Sn** **16 23 54.9 +2.3**

JIE **Ise 5.95 312** A A 16 22 46.6
comp=E,43nm,14.3s,comp=E,39nm,5.4s

JNY **Yasuok 5.99 325** A A 16 22 45.4
comp=E,50nm,6.4s,comp=E,56nm,7.1s

JMMH **Miemihama 6.08 305** A A 16 22 47.7
comp=E,58nm,13.5s,comp=E,42nm,10.9s

JRY **Ryogami san 6.10 335** P **Pn** **16 22 46.1 -0.6**

JRY S **Sn** **16 23 54.5 -1.8**

JRY **Ryogami san 6.10 335** A A 16 22 46.1
comp=E,79nm,5.3s,comp=E,67nm,5.3s

JWKM **Wakayamakushim 6.10 300** A A 16 22 48.1
comp=E,51nm,14.3s,comp=E,46nm,13.8s

JKN2 **Miekihoku 6.14 309** A A 16 22 48.3
comp=E,60nm,9.6s,comp=E,37nm,7.3s

JHO **Hitachi 6.22 349** ⇓P **Pn** **16 22 46.6 -1.7**

JHO ⇓*e*S **Sn** **16 23 53.9 -5.3**

JHO **Hitachi 6.22 349** A A 16 22 46.6
comp=E,53nm,8.7s,comp=E,69nm,13.4s

JAO **Obara 6.23 321** A A 16 22 49.0
comp=E,64nm,13.1s,comp=E,61nm,5.0s

JNT **Takato 6.28 330** A A 16 22 49.3
comp=E,84nm,5.9s,comp=E,68nm,5.5s

JAG **Ashikaga 6.29 341** A A 16 22 48.8
comp=E,64nm,6.6s,comp=E,54nm,6.9s

TSUJ **Tsu 2 6.34 313** A A 16 22 50.9
comp=E,42nm,9.6s,comp=E,45nm,11.6s

TSUJ **Tsu 2 6.34 313** P **Pn** **16 22 52.1 +2.2**

JTNC **Tanabenakahech 6.38 303** P **Pn** **16 22 52.2 +1.7**

JTNC S **Sn** **16 24 04.4 +1.2**

JTNC **Tanabenakahech 6.38 303** A A 16 22 52.2
comp=E,37nm,12.0s,comp=E,37nm,9.8s

INU **Inuyama 6.42 320** Pn **Pn** **16 22 52.1 +1.0**

INU **Inuyama 6.42 320** P **Pn** **16 22 53.3 +2.2**

INU **Inuyama 6.42 320** ⇓P **Pn** **16 22 52.6 +1.5**

JNTK **Naratenkawa 6.43 307** A A 16 22 52.3
comp=E,51nm,13.9s,comp=E,34nm,15.1s

JGF **Kuroka 6.43 323** Pn **Pn** **16 22 52.1 +0.8**

JGF **Kuroka 6.43 323** A A 16 22 51.7
comp=E,49nm,13.2s,comp=E,40nm,13.3s

JGF **Kuroka 6.43 323** ⇑P **Pn** **16 22 53.0 +1.8**

JICN **Ichinomiyachia 6.49 319** A A 16 22 52.6
comp=E,67nm,14.7s,comp=E,45nm,6.2s

JWM **Minabe 6.58 302** A A 16 22 54.8
comp=E,29nm,10.4s,comp=E,28nm,7.3s

JWY **Kouya 6.60 306** A A 16 22 54.9
comp=E,35nm,13.4s,comp=E,36nm,15.1s

JEG **Eigenji 6.64 316** A A 16 22 54.9
comp=E,38nm,5.3s,comp=E,34nm,9.4s

JKT **Katashina 6.67 340** A A 16 22 54.1
comp=E,52nm,6.0s,comp=E,41nm,6.4s

JGK **Kuni 6.68 336** A A 16 22 54.5
comp=E,123nm,5.0s,comp=E,85nm,4.6s

JFFD **Fukushimafurud 6.69 350** A A 16 22 53.7
comp=E,52nm,5.8s,comp=E,62nm,10.1s

JSB **Shiboa 6.69 345** A A 16 22 54.1
comp=E,140nm,5.1s,comp=E,189nm,3.9s

JNG **Nsakai 6.75 332** A A 16 22 55.7
comp=E,65nm,7.3s,comp=E,102nm,5.1s

JYTA **Yamagatataniai 6.76 320** A A 16 22 56.3
comp=E,53nm,8.8s,comp=E,41nm,9.2s

JHE **Heguri 6.78 309** A A 16 22 57.2
comp=E,56nm,14.4s,comp=E,29nm,14.5s

MJAR **Matsushiro Arr 6.83 333** Pn **Pn** **16 22 55.4 -1.2**
53nm,0.3s,baz=261,slow=7.3,SNR=401

MJAR Sn **Sn** **16 24 14.6 +0.5**
14nm,0.3s,baz=161,slow=19,SNR=7.0

MJAR LR LR 16 25 28.7
comp=Z,82µm,19.0s,baz=202,slow=37
314nm,0.5s

MAJO **Matsushiro 6.83 333** Pn **Pn** **16 22 57.6 +0.9**

MAJO **Matsushiro 6.83 333***d*/P **Pn** **16 22 57.9 +1.2**

MAJO **Matsushiro 6.83 333** P **Pn** **16 22 58.8 +2.1**

MAJO **Matsushiro 6.83 333** ⇓P **Pn** **16 22 57.5 +0.8**

MJB9 **Matsu-Tunnel 6.83 333** **Pn** **16 22 57.9 +1.1**

JFK **Kawauchi 6.92 352** A A 16 22 56.8
comp=E,48nm,9.4s,comp=E,62nm,10.1s

JGN **Niukaw 6.95 327** A A 16 22 58.7
comp=E,62nm,9.2s,comp=E,42nm,6.3s

JUON **Uonuma 7.14 340** A A 16 23 00.5
comp=E,69nm,5.6s,comp=E,33nm,6.2s

JUON **Uonuma 7.14 340** P **Pn** **16 23 01.2 +0.2**

JFM **Mihama 7.15 316** A A 16 23 02.0
comp=E,31nm,9.6s,comp=E,42nm,14.4s

JFY **Yanaizu 7.16 345** A A 16 23 00.6
comp=E,85nm,5.8s,comp=E,58nm,6.1s

JAWN **Awajishima-nag 7.23 305** A A 16 23 03.5
comp=E,35nm,10.8s,comp=E,30nm,12.7s

JAI **Aioi 7.23 299** A A 16 23 03.9
comp=E,35nm,11.7s,comp=E,31nm,10.8s

JTT **Ttatey 7.25 328** A A 16 23 02.8
comp=E,112nm,9.1s,comp=E,53nm,4.2s

JMST **Minamisoumatoc 7.27 353** A A 16 23 01.6
comp=E,47nm,5.0s,comp=E,50nm,9.7s

JMIK **Miki 7.29 308** A A 16 23 04.4
comp=E,54nm,14.5s,comp=E,48nm,12.4s

MRT2 **Murotomisaki 2 7.31 295** A A 16 23 05.1
comp=E,40nm,11.9s,comp=E,26nm,9.6s

JJN **Nakama 7.34 335** A A 16 23 03.6
comp=E,120nm,5.9s,comp=E,74nm,6.3s

JWT **Wachi 7.35 312** A A 16 23 04.9
comp=E,32nm,15.0s,comp=E,29nm,14.2s

JMM **Marumori 7.42 352** Pn **Pn** **16 23 03.0 -1.8**

JMM **Marumori 7.42 352** A A 16 23 03.8
comp=E,102nm,4.3s,comp=E,30nm,1.9s

JMM **Marumori 7.42 352** P **Pn** **16 23 02.4 -2.4**

JMM **Marumori 7.42 352** ⇑P **Pn** **16 23 02.4 -2.4**

JMM ⇓S **Sn** **16 24 23.9 -4.8**

JKG **Kaga 7.49 322** A A 16 23 06.4
comp=E,48nm,12.2s,comp=E,45nm,10.7s

JKS **Kasai 7.54 308** A A 16 23 07.7
comp=E,41nm,14.4s,comp=E,41nm,15.7s

JKS **Kasai 7.54 308** P **Pn** **16 23 09.4 +3.1**

JIZZ **Izumozaki 7.54 339** A A 16 23 06.2
comp=E,140nm,5.6s,comp=E,134nm,7.9s

JYAR **Yonezawaarcadi 7.56 348** A A 16 23 05.9
comp=E,79nm,5.4s,comp=E,57nm,10.0s

JMAF **Mimaanabuki 7.56 300** A A 16 23 08.4
comp=E,29nm,12.1s,comp=E,38nm,11.0s

JMN **Monobe 7.64 297** Pn **Pn** **16 23 10.7 +2.9**

JMN **Monobe 7.64 297** A A 16 23 09.6
comp=E,26nm,10.8s,comp=E,24nm,9.0s

JMN **Monobe 7.64 297** ⇓P **Pn** **16 23 11.2 +3.3**

JNS **Sasagawa 7.64 344** A A 16 23 07.3
comp=E,51nm,3.7s,comp=E,52nm,9.6s

JKY **Yasaka 7.75 313** A A 16 23 10.5
comp=E,27nm,8.8s,comp=E,32nm,13.5s

JJH **Hakui 7.76 327** A A 16 23 10.0
comp=E,90nm,6.1s,comp=E,68nm,5.7s

JIKH **Ishinomakikobu 7.81 357** A A 16 23 08.8
comp=E,58nm,3.1s,comp=E,29nm,11.1s

JKHR **Kochiharuno 7.86 295** A A 16 23 12.6
comp=E,26nm,11.8s,comp=E,31nm,13.4s

JYS **Shirataka 7.88 349** A A 16 23 10.3
comp=E,52nm,2.2s,comp=E,45nm,11.5s

JYS **Shirataka 7.88 349** P **Pn** **16 23 09.8 -1.2**

JOU **Okura 7.93 352** A A 16 23 10.8
comp=E,69nm,4.0s,comp=E,49nm,2.4s

JSZ **Suzu 7.95 332** A A 16 23 12.2
comp=E,35nm,6.2s,comp=E,32nm,9.5s

JIO **Ouri 7.96 356** A A 16 23 11.0
comp=E,48nm,5.2s,comp=E,27nm,12.2s

JAD **Aida 7.98 306** A A 16 23 14.0
comp=E,26nm,9.1s,comp=E,25nm,11.9s

JKSM **Kasumi 8.01 311** A A 16 23 14.1
comp=E,29nm,9.1s,comp=E,35nm,16.0s

JKU **Kubokawa 8.13 292** A A 16 23 16.6
comp=E,24nm,9.1s,comp=E,29nm,11.2s

JOFO **Osakifurukawao 8.14 354** A A 16 23 13.5
comp=E,219nm,3.9s,comp=E,180nm,3.0s

JSD **Sado 8.14 338** Pn **Pn** **16 23 13.6 -1.1**

JSD **Sado 8.14 338** A A 16 23 14.6
comp=E,34nm,5.9s,comp=E,23nm,9.4s

JSD **Sado 8.14 338** ⇓P **Pn** **16 23 13.7 -1.1**

JSD **Sado 8.14 338** ⇑P **Pn** **16 23 13.7 -1.0**

JTO **Tosashimizu 8.22 289** A A 16 23 17.9
comp=E,26nm,10.5s,comp=E,19nm,10.9s

JAW **Awa shima 8.27 345** A A 16 23 15.9
comp=E,47nm,17.4s,comp=E,64nm,10.6s

JYA **Atsumi 8.30 347** A A 16 23 16.2
comp=E,47nm,4.9s,comp=E,32nm,10.0s

JET **Tanbara 8.30 296** A A 16 23 18.8
comp=E,13nm,9.5s,comp=E,15nm,12.5s

JKMT **Kesennumamotoy 8.30 357** A A 16 23 15.7
comp=E,49nm,5.3s,comp=E,22nm,9.7s

JKR **Kurayoshi 8.45 307** A A 16 23 20.4
comp=E,29nm,8.0s,comp=E,30nm,15.0s

UWA2 **Uwa jima 2 8.46 291** A A 16 23 21.1
comp=E,15nm,9.8s,comp=E,22nm,8.1s

JMK **Ichinoseki 8.46 356** P **Pn** **16 23 16.0 -3.1**

JMK S **Sn** **16 24 46.3 -8.0**

JMK **Ichinoseki 8.46 356** A A 16 23 16.0
comp=E,54nm,4.6s,comp=E,26nm,4.6s

JHG **Hegura jima 8.47 331** A A 16 23 19.5
comp=E,56nm,5.2s,comp=E,33nm,6.1s

JYK **Kaneyama 8.51 351** A A 16 23 18.9
comp=E,64nm,3.1s,comp=E,39nm,10.0s

JYK **Kaneyama 8.51 351** P **Pn** **16 23 17.9 -1.8**

JJG **Jouge 8.56 301** A A 16 23 22.2
comp=E,27nm,12.8s,comp=E,21nm,12.2s

OFUJ **Ofunato 8.57 358** A A 16 23 19.2
comp=E,37nm,4.6s,comp=E,26nm,11.8s

JYYZ **Yamagatayuza 8.67 349** A A 16 23 21.2
comp=E,173nm,10.5s,comp=E,161nm,11.6s

JNA **Nagahama 8.68 293** A A 16 23 24.0
comp=E,17nm,13.0s,comp=E,18nm,11.8s

JHS **Saijyo 8.76 303** **Pn** **16 23 26.2 +3.0**

JHS **Saijyo 8.76 303** A A 16 23 24.8
comp=E,19nm,10.8s,comp=E,15nm,6.1s

JHS **Saijyo 8.76 303** ⇑P **Pn** **16 23 26.9 +3.7**

JHM **Kurahashi 8.83 297** A A 16 23 26.1
comp=E,21nm,10.2s,comp=E,18nm,10.2s

JTB **Tobi-shima 8.91 347** A A 16 23 24.6
comp=E,38nm,10.6s,comp=E,45nm,12.6s

JSKE **Saikikamae 8.95 287** A A 16 23 27.9
comp=E,13nm,8.6s,comp=E,24nm,5.0s

JRG **Rokugo 8.95 353** A A 16 23 24.8
comp=E,78nm,4.2s,comp=E,42nm,5.1s

JOM **Ohasama 8.97 356** A A 16 23 25.0
comp=E,48nm,5.2s,comp=E,22nm,13.6s

MIYJ **Miyakonagasawa 9.06 359** A A 16 23 25.9
comp=E,30nm,4.5s,comp=E,29nm,5.3s

JNM **Ikuma 9.06 306** A A 16 23 28.9
comp=E,39nm,7.3s,comp=E,40nm,14.0s

JHHC **Hyugahichiya 9.10 285** A A 16 23 30.1
comp=E,12nm,8.2s,comp=E,23nm,8.9s

JHT **Toyohira 9.12 300** A A 16 23 29.9
comp=E,21nm,11.3s,comp=E,19nm,10.0s

JUS **Usuki 9.13 289** A A 16 23 30.4
comp=E,14nm,9.3s,comp=E,20nm,9.5s

JYW **Yuwa 9.14 351** A A 16 23 27.6
comp=E,93nm,5.1s,comp=E,86nm,4.9s

JTSN **Tsuno 9.18 284** A A 16 23 31.2
comp=E,14nm,10.6s,comp=E,22nm,11.1s

JISK **Izumosakaura 9.19 305** A A 16 23 30.6
comp=E,31nm,13.0s,comp=E,44nm,10.4s

JNKG **Nichinankitago 9.22 280** A A 16 23 31.9
comp=E,20nm,10.2s,comp=E,23nm,15.3s

JGT2 **ShimaneMisato 9.23 302** A A 16 23 31.3
comp=E,22nm,10.1s,comp=E,19nm,8.9s

JSZI **Iwateshizukuis 9.27 355** A A 16 23 29.0
comp=E,66nm,3.7s,comp=E,66nm,4.7s

JKIT **Kitakata 9.28 286** A A 16 23 32.6
comp=E,18nm,8.1s,comp=E,17nm,12.2s

JNAR **Kushima--Naru 9.30 279** A A 16 23 33.0
comp=E,17nm,8.8s,comp=E,21nm,8.4s

JKD **Kuamatsu 9.31 295** A A 16 23 32.7
comp=E,15nm,15.2s,comp=E,17nm,8.6s

JOI **OKI 9.35 310** A A 16 23 32.6
comp=E,27nm,12.2s,comp=E,30nm,16.7s

JTH **Tanohata 9.42 359** A A 16 23 30.9
comp=E,30nm,3.8s,comp=E,17nm,12.4s

JKI **Kunimi 9.42 292** A A 16 23 34.3
comp=E,19nm,10.4s,comp=E,25nm,6.0s

JHIK **Hikimi 9.44 298** A A 16 23 34.4
comp=E,21nm,13.7s,comp=E,20nm,10.5s

JBEP **Beppuamama 9.47 290** A A 16 23 35.1
comp=E,21nm,10.9s,comp=E,26nm,8.7s

JKZ **Kuzumaki 9.48 357** A A 16 23 31.9
comp=E,40nm,4.0s,comp=E,20nm,10.4s

JTZ **Takazaki 9.49 281** A A 16 23 35.5
comp=E,20nm,13.5s,comp=E,19nm,12.4s

JTSR **Tashiro 2 9.59 277** A A 16 23 37.0
comp=E,19nm,13.7s,comp=E,17nm,9.4s

JMTN **Minamitane 9.62 272** A A 16 23 37.5
comp=E,23nm,18.2s,comp=E,21nm,8.6s

JKEN **Kujiedanarisaw 9.69 358** A A 16 23 34.6
comp=E,30nm,4.5s,comp=E,22nm,3.4s

JOG3 **Oga3 9.71 346** A A 16 23 33.6
comp=E,53nm,5.6s,comp=E,47nm,5.7s

JAH **Hinai 9.74 354** A A 16 23 35.6
comp=E,68nm,3.3s,comp=E,23nm,4.6s

JAH **Hinai 9.74 354** P **Pn** **16 23 34.2 -2.4**

JIU3 **Izumi3 9.80 285** A A 16 23 39.7
comp=E,13nm,4.8s,comp=E,25nm,11.2s

JNU **Nakatsue 9.86 288** A A 16 23 40.3
comp=E,12nm,12.6s,comp=E,18nm,6.0s

JANG **Nango 9.86 358** A A 16 23 37.0
comp=E,20nm,13.9s,comp=E,26nm,12.6s

JNTW **Noshirotokiwa 9.87 352** A A 16 23 37.5
comp=E,194nm,4.4s,comp=E,131nm,3.9s

JZO **Okuchi 9.93 282** A A 16 23 41.5
comp=E,15nm,13.5s,comp=E,17nm,8.0s

JYAK **Yakushimahirau 9.97 271** A A 16 23 42.2
comp=E,11nm,5.1s,comp=E,9.0nm,13.6s

JSU **Suzuyama 10.00 279** Pn **Pn** **16 23 42.1 +1.9**

JSU **Suzuyama 10.00 279** A A 16 23 42.5
comp=E,18nm,8.9s,comp=E,13nm,5.0s

JSU **Suzuyama 10.00 279** ⇑P **Pn** **16 23 44.5 +4.3**

JTY **Toyota 10.02 295** A A 16 23 42.3
comp=E,19nm,13.3s,comp=E,20nm,8.0s

JFA **Akaike 10.07 291** A A 16 23 43.1
comp=E,14nm,10.2s,comp=E,15nm,12.3s

JTA **Tamana 10.11 287** A A 16 23 43.8
comp=E,16nm,8.8s,comp=E,21nm,5.7s

JHGM **Hagimishima 10.14 298** A A 16 23 43.8
comp=E,27nm,9.1s,comp=E,23nm,10.3s

JIW **Iwasaki 10.21 351** A A 16 23 42.1
comp=E,34nm,6.7s,comp=E,25nm,8.9s

JHHS **Hirosakihyakuz 10.22 353** A A 16 23 42.2
comp=E,137nm,6.2s,comp=E,81nm,4.3s

JKC **Kuchinoerabu 10.23 273** A A 16 23 45.7
comp=E,23nm,4.8s,comp=E,20nm,6.0s

JTM **Tenmabayashi 10.30 356** Pn **Pn** **16 23 41.6 -2.6**

JTM **Tenmabayashi 10.30 356** A A 16 23 43.0
comp=E,27nm,3.9s,comp=E,25nm,5.1s

JTM **Tenmabayashi 10.30 356** ⇓P **Pn** **16 23 41.5 -2.7**

JFI **Itaya 10.32 289** A A 16 23 46.6
comp=E,15nm,10.6s,comp=E,17nm,9.4s

JHD **Hondo 10.36 284** A A 16 23 47.2
comp=E,17nm,5.2s,comp=E,25nm,9.2s

JARK **Aomorirokkasho 10.50 357** A A 16 23 45.7
comp=E,27nm,9.2s,comp=E,27nm,10.8s

JKDJ **Kitadaitoujima 10.51 247** A A 16 23 49.5
comp=E,46nm,9.0s,comp=E,70nm,7.9s

JNN **Nakanoshima 10.56 270** A A 16 23 50.2
comp=E,38nm,4.7s,comp=E,20nm,5.8s

JUR **Ureshino 10.62 287** A A 16 23 50.6
comp=E,13nm,7.0s,comp=E,14nm,13.1s

JSI2 **Shiura 2 10.62 353** A A 16 23 47.5
comp=E,25nm,8.9s,comp=E,24nm,10.4s

JMZ **Minamidaito 2 10.63 247** A A 16 23 51.1
comp=E,52nm,8.3s,comp=E,47nm,10.0s

JSJ **Shimokoshiki 10.64 279** A A 16 23 51.1
comp=E,17nm,13.9s,comp=E,12nm,15.8s

NGSJ **Nagasakinomoza 10.66 285** A A 16 23 51.3
comp=E,17nm,10.4s,comp=E,16nm,12.8s

JZK **Kikaishima 10.75 261** A A 16 23 52.9
comp=E,50nm,8.8s,comp=E,56nm,7.0s

JAHD **Aomorihigashid 10.76 357** A A 16 23 49.2
comp=E,26nm,17.2s,comp=E,19nm,2.0s

JOT **Ohata 10.89 356** A A 16 23 51.0
comp=E,25nm,5.6s,comp=E,16nm,5.4s

JII **Iki 10.94 291** A A 16 23 54.9
comp=E,16nm,9.9s,comp=E,22nm,10.7s

JAM **Amami Oshima 11.04 262** A A 16 23 56.7
comp=E,15nm,5.9s,comp=E,11nm,15.9s

JSR **Shiriuchi 11.09 354** A A 16 23 53.8
comp=E,26nm,4.9s,comp=E,46nm,11.1s

JOMM **Oshimamatsumae 11.12 352** A A 16 23 54.4
comp=E,27nm,11.0s,comp=E,17nm,11.6s

JTAJ **Takarajima 11.24 266** A A 16 23 59.3
comp=Z,23nm,5.8s,comp=Z,17nm,6.7s

JTSM **Tsushimamitsus 11.36 293** A A 16 24 00.4
comp=E,11nm,9.1s,comp=E,15nm,8.9s

JKB **Kayabe 11.39 356** A A 16 23 57.8
comp=E,23nm,5.5s,comp=E,17nm,11.9s

JTU **Tsushima 11.41 294** A A 16 24 01.0
comp=E,17nm,11.6s,comp=E,14nm,10.9s

JTU **Tsushima 11.41 294** ⇑P **Pn** **16 24 03.5 +4.1**

JAMN **Amaminishikomi 11.45 262** A A 16 24 02.2
comp=E,13nm,5.0s,comp=E,7.0nm,13.2s

ERM **Erimo 11.53 4** Pn **Pn** **16 23 56.6 -4.4**

ERM **Erimo 11.53 4** *i*P Pn 16 23 56.2 -4.8

JEM **Erimo 11.53 4** A A 16 23 59.1
comp=E,14nm,4.9s,comp=E,17nm,9.6s

JFU **Fukue jima 2 11.54 284** A A 16 24 03.1
comp=E,11nm,5.6s,comp=E,13nm,13.8s

JYM2 **Yakumo 2 11.67 354** A A 16 24 01.6
comp=E,18nm,13.3s,comp=E,31nm,12.0s

JYM2 **Yakumo 2 11.67 354** P **Pn** **16 24 00.2 -2.8**

JOSM **Okushiri--Mats 11.74 351** A A 16 24 02.8
comp=E,18nm,12.4s,comp=E,25nm,13.4s

JTK **Tokunoshima 11.77 260** A A 16 24 06.4
comp=E,15nm,5.4s,comp=E,9.0nm,11.7s

JNBK **Urakawa-nobuka 11.77 5** A A 16 24 02.5
comp=E,23nm,4.6s,comp=E,26nm,13.9s

JTHR **Tokachihiroo 11.81 5** A A 16 24 02.9
comp=E,15nm,4.4s,comp=E,13nm,4.4s

JSHD **Hidakashinhida 11.89 2** A A 16 24 04.1
comp=E,26nm,4.4s,comp=E,32nm,15.8s

JNB **Noboribetsu 11.97 356** A A 16 24 05.5
comp=E,13nm,13.9s,comp=E,16nm,10.8s

JHST **Hiyamasetana 12.03 352** A A 16 24 06.4
comp=E,17nm,4.5s,comp=E,18nm,10.3s

JIAM **Iburiatsuma 12.10 360** A A 16 24 07.0
comp=E,32nm,13.6s,comp=E,39nm,14.6s

JCH **Churui 12.14 5** A A 16 24 07.3
comp=E,14nm,4.7s,comp=E,13nm,12.5s

JCH **Churui 12.14 5** P **Pn** **16 24 04.9 -4.5**

JOKE **Okinoerabujima 12.21 258** A A 16 24 12.3
comp=E,10.0nm,15.2s,comp=E,10.0nm,9.9s

JSH **Shimam 12.23 353** A A 16 24 09.1
comp=E,19nm,12.2s,comp=E,15nm,12.1s

JBT2 **Biratori 2 12.26 1** A A 16 24 09.1
comp=E,18nm,14.9s,comp=E,18nm,11.7s

JEW **Eniwo 12.33 358** **Pn** **16 24 08.0 -4.0**

JEW **Eniwo 12.33 358** A A 16 24 10.1
comp=E,23nm,6.3s,comp=E,20nm,4.6s

JOB **Onbets 12.46 6** A A 16 24 11.5
comp=E,21nm,4.3s,comp=E,19nm,17.0s

JOW **Kunigami 12.63 257** Pn **Pn** **16 24 16.6 +0.4**
1.6nm,0.3s,baz=65,slow=14,SNR=3.4

JOW Sn **Sn** **16 26 41.4 +4.7**
baz=104,slow=12

JOW LR LR 16 29 04.7
comp=Z,44µm,18.1s,baz=76,slow=37

JOW **Kunigami 12.63 257** **Pn** **16 24 18.5 +2.3**

JOW **Kunigami 12.63 257** P **Pn** **16 24 16.9 +0.6**

JOW **Kunigami 12.63 257** A A 16 24 18.0
comp=E,13nm,5.6s,comp=E,7.0nm,12.0s

JOW **Kunigami 12.63 257** ⇑P **Pn** **16 24 19.0 +2.7**

JFR **Furan 12.65 2** A A 16 24 14.2
comp=E,10.0nm,13.2s,comp=E,7.0nm,9.1s

JAK **Akkeshi 12.65 9** A A 16 24 13.9
comp=E,39nm,3.9s,comp=E,21nm,8.6s

JAK **Akkeshi 12.65 9** P Pn 16 24 10.7 -5.7

JISS **Ishikarishitsu 12.76 358** A A 16 24 15.9
comp=E,25nm,9.3s,comp=E,34nm,4.9s

JKHN **Kushirohamanak 12.80 10** A A 16 24 15.8
comp=E,37nm,3.4s,comp=E,28nm,4.6s

JKHN **Kushirohamanak 12.80 10** P Pn 16 24 13.1 -5.4

JIH **Iheya 12.82 258** A A 16 24 20.5
comp=E,12nm,9.1s,comp=E,10.0nm,13.1s

JAR **Ashorobuto 12.85 6** A A 16 24 16.6
comp=E,20nm,5.5s,comp=E,21nm,2.6s

JSK **Shakotan 12.89 355** A A 16 24 17.8
comp=E,14nm,12.8s,comp=E,16nm,14.7s

JNTH **Nagotoyohara 12.95 256** A A 16 24 22.2
comp=E,10.0nm,5.7s,comp=E,6.0nm,5.3s

JAB **Ashibetsu 12.98 1** A A 16 24 18.7
comp=E,19nm,5.3s,comp=E,20nm,5.5s

NEM2 **Nemuro 2 13.18 12** A A 16 24 20.7
comp=E,14nm,13.0s,comp=E,18nm,7.9s

JHR **Hokuryu 13.22 359** A A 16 24 22.0
comp=E,23nm,6.7s,comp=E,22nm,12.4s

JNK **Nakash 13.23 9** A A 16 24 21.6
comp=E,15nm,5.2s,comp=E,12nm,8.0s

JJT3 **Tamagusuku3 13.29 254** A A 16 24 26.6
comp=E,34nm,5.1s,comp=E,15nm,5.7s

JKK2 **Kamakawa 2 13.36 2** A A 16 24 23.6
comp=E,10.0nm,4.1s,comp=E,8.0nm,3.3s

JNSB **Nemuroshibetsu 13.46 9** A A 16 24 24.5
comp=E,45nm,4.1s,comp=E,26nm,6.0s

JMP **Maruseppu 13.52 4** A A 16 24 25.6
comp=E,10.0nm,15.5s,comp=E,8.0nm,10.1s

JTKR **Abashiri--Toko 13.53 6** A A 16 24 25.6
comp=E,14nm,5.2s,comp=E,11nm,15.4s

JTKR **Abashiri--Toko 13.53 6** P Pn 16 24 22.9 -5.5

JAGN **Aguni-jima 13.58 257** A A 16 24 30.4
comp=E,11nm,9.7s,comp=E,10.0nm,5.6s

TJN **Taejon 13.59 299**⇑ *e*P **Pn** **16 24 31.7 +2.5**

KSRS **Korea Array 13.61 304** Pn **Pn** **16 24 32.0 +2.5**
3.3nm,0.3s,baz=114,slow=13,SNR=46

KSRS LR LR 16 29 48.2
comp=Z,32µm,18.7s,baz=110,slow=38

KSRS PcP **PcP** **16 29 57.2 +2.2**
11nm,1.0s,baz=155,slow=0.9,SNR=4.5

JRA **Rausu 13.63 9** A A 16 24 26.8
comp=E,14nm,3.3s,comp=E,23nm,6.8s

KSAR **Wonju Array Be 13.63 304** **Pn** **16 24 32.6 +2.7**

KSAR **Wonju Array Be 13.63 304** P **Pn** **16 24 32.6 +2.7**

KS19 **Wonju Array Si 13.67 304** **Pn** **16 24 32.1 +1.7**

SEHB **SEOHWA 13.77 308** **Pn** **16 24 35.4 +3.6**

YUK **Yuzh-Kuril'sk 13.85 12***d*/*i*P **Pn** **16 24 28.5 -4.2**

YUK pmax pmax
comp=Z,597nm,0.3s

YUK pmax pmax
comp=N,303nm,0.4s

YUK pmax pmax
comp=E,358nm,0.4s

YUK pmax pmax
comp=Z,2µm,1.2s

JSS **Shosan 13.88 359** A A 16 24 30.5
comp=Z,30nm,12.2s,comp=Z,19nm,4.9s

JYG **Yagishiri 13.91 358** A A 16 24 31.0
comp=Z,13nm,9.9s,comp=Z,19nm,13.0s

JKE	**Kume jima 2**	**14.06**	**257**	A	A	16 24 36.6			
	comp=Z,8.0nm,5.0s,comp=Z,5.0nm,10.5s								
JSE	**Soyaes**	**14.44**	**2**	A	A	16 24 37.7			
	comp=Z,16nm,5.2s,comp=Z,6.0nm,15.1s								
INCN	**Inchon**	**14.55**	**303**		**Pn**	**16 24 44.2**	**+1.8**		
INCN	**Inchon**	**14.55**	**303**	P	**Pn**	**16 24 44.3**	**+1.8**		
INCN	**Inchon**	**14.55**	**303**	P	**P**	**16 24 46.8**	**-2.1**		
INCN				P	**P**	**16 24 46.8**	**-2.1**		
INCN	**Inchon**	**14.55**	**303**	⇑P	**Pn**	**16 24 44.8**	**+2.4**		
JRR	**Rishiri**	**14.63**	**358**	A	A	16 24 40.3			
	comp=Z,36nm,6.0s,comp=Z,62nm,5.3s								
JWK2	**Keihoku**	**14.79**	**360**	A	A	16 24 42.4			
	comp=Z,21nm,9.9s,comp=Z,18nm,13.6s								
JRBN	**Rebuntou**	**14.92**	**357**	A	A	16 24 44.1			
	comp=Z,10.0nm,13.0s,comp=Z,8.0nm,4.9s								
HHU	**Hamhung**	**15.13**	**312**	P	**Pn**	**16 24 50.7**	**+0.6**		
HHU				pP	**pP**	**16 24 56.6**	**-1.2**		
HHU				S	**Sn**	**16 27 37.4**	**0.0**		
HHU				AMS	AMS				
	comp=N,7μm,4.3s								
HHU				AMS	AMS				
	comp=E,24μm,14.7s								
HHU				AMS	AMS				
	comp=Z,14μm,8.4s								
TEY	**Ternei**	**15.13**	**345**⇑	*e*P	**Pn**	**16 24 47.1**	**-3.1**		
TEY				pmax	pmax				
	comp=N,80nm,1.7s								
TEY				pmax	pmax				
	comp=Z,100nm,1.6s								
TEY				pmax	pmax				
	comp=E,40nm,1.7s								
TEY				MLR	MLR				
	comp=E,21μm,12.0s								
TEY				MLR	MLR				
	comp=N,21μm,14.0s								
TEY				MLR	MLR				
	comp=Z,23μm,13.0s								
KUR	**Kuril'sk**	**15.40**	**16**	*e*P	**Pn**	**16 24 48.6**	**-5.1**		
KUR				pmax	pmax				
	comp=Z,7μm,6.0s								
KUR				pmax	pmax				
	comp=Z,631nm,0.9s								
KUR				pmax	pmax				
	comp=N,342nm,1.1s								
KUR				MLR	MLR				
	comp=Z,31μm,12.0s								
HJU	**Haeju**	**15.44**	**304**	P	**Pn**	**16 24 55.5**	**+1.2**		
HJU				pP	**P**	**16 24 59.2**	**+0.5**		
HJU				S	**Sn**	**16 27 50.7**	**+5.7**		
HJU				AMS	AMS				
	comp=N,15μm,5.7s								
HJU				AMS	AMS				
	comp=E,9μm,3.5s								
HJU				AMS	AMS				
	comp=Z,16μm,5.9s								
JOGS	**Gusukube**	**15.81**	**253**	A	A	16 24 59.1			
	comp=Z,28nm,5.7s,comp=Z,27nm,5.5s								
USA0B	**Ussuriysk Arra**	**15.82**	**333**	Pn	**Pn**	**16 24 58.0**	**-1.3**		
USA0B	**Ussuriysk Arra**	**15.82**	**333**	P	**Pn**	**16 24 58.0**	**-1.3**		
USA0B				pmax	pmax				
	comp=Z,166nm,1.0s								
USRK	**Ussuriysk Ar.**	**15.82**	**333**	Pn	**Pn**	**16 24 58.1**	**-1.1**		
	comp=Z,138nm,0.9s,baz=141,slow=12,SNR=94								
USRK				Sn	**Sn**	**16 27 48.3**	**-6.0**		
	baz=141,slow=9.3								
USRK				LR	LR	16 31 09.1			
	comp=Z,30μm,18.4s,baz=139,slow=38								
PYAG	**Pyongyang**	**15.86**	**307**	P	**P**	**16 25 01.7**	**-1.6**		
JIKM	**Ikemajima**	**15.88**	**254**	A	A	16 25 00.0			
	comp=Z,19nm,5.6s,comp=Z,21nm,5.5s								
JMJ2	**Miyako jima3**	**15.88**	**253**	A	A	16 25 00.1			
	comp=Z,23nm,9.0s,comp=Z,19nm,7.2s								
JIRB	**Irabujima**	**15.98**	**253**	A	A	16 25 01.3			
	comp=Z,13nm,4.0s,comp=Z,11nm,5.6s								
YSS	**Yuzh-Sakhalins**	**16.44**	**2**		**Pn**	**16 25 03.6**	**-3.5**		
YSS				IAmb	IAmb	16 25 09.8			
	comp=Z,821nm,1.0s								
YSS	**Yuzh-Sakhalins**	**16.44**	**2**⇓	*i*P	**Pn**	**16 25 04.0**	**-3.1**		
YSS				*e*S	**Sn**	**16 28 02.3**	**-6.9**		
YSS				pmax	pmax				
	comp=Z,740nm,1.0s								
YSS				MLR	MLR				
	comp=Z,28μm,15.0s								
YSS	**Yuzh-Sakhalins**	**16.44**	**2**	P	**Pn**	**16 25 05.2**	**-1.9**		
YSS	**Yuzh-Sakhalins**	**16.44**	**2**	⇑P	**Pn**	**16 25 03.6**	**-3.5**		
JTJ	**Tarama**	**16.44**	**253**	A	A	16 25 07.1			
	comp=Z,18nm,4.3s,comp=Z,11nm,4.9s								
JIJ	**Ishigaki jima**	**17.02**	**253**	A	A	16 25 14.4			
	comp=Z,12nm,7.6s,comp=Z,9.0nm,5.7s								
GUMO	**Guam**	**17.03**	**171**	P	**Pn**	**16 25 13.5**	**-1.3**		
	comp=Z,20nm,0.3s,baz=156,slow=1.7,SNR=101								
GUMO				S	**Sn**	**16 28 22.7**	**-1.2**		
	comp=Z,71nm,0.9s,baz=270,slow=20,SNR=0.6								
GUMO				LR	LR	16 31 26.3			
	comp=Z,24μm,18.1s,baz=1.0,slow=36								
	comp=Z,2μm,0.9s								
GUMO	**Guam**	**17.03**	**171**	P	**P**	**16 25 16.1**	**-0.4**		
GUMO	**Guam**	**17.03**	**171**	P	**P**	**16 25 16.1**	**-0.4**		
GUMO				pmax	pmax				
	comp=Z,3μm,1.1s								
GUMO	**Guam**	**17.03**	**171**	P	**P**	**16 25 16.6**	**+0.1**		
GUMO	**Guam**	**17.03**	**171**	⇑P	**P**	**16 25 16.2**	**-0.3**		
MDJ	**Mudanjiang**	**17.18**	**329**		**Pn**	**16 25 15.7**	**-0.8**		
MDJ				IAmb	IAmb	16 25 23.1			
	comp=Z,947nm,1.1s								
MDJ	**Mudanjiang**	**17.18**	**329**	P	**Pn**	**16 25 15.1**	**-1.3**		
MDJ				pP	P	16 25 17.8	-0.2		
MDJ				sP	pP	16 25 19.0	-1.5		
MDJ				S	**Sn**	**16 28 30.3**	**+3.1**		
MDJ				sS	S	16 28 37.3	+0.9		
MDJ				SS	**SnSn**	**16 28 39.6**	**-1.0**		
MDJ				pmax	pmax				
	comp=Z,190nm,1.4s								
MDJ				pmax	pmax				
	comp=Z,2μm,3.8s								
MDJ				LR	LR				
	comp=Z,27μm,17.1s								
MDJ				LR	LR				
	comp=Z,51μm,16.6s								
MDJ				LR	LR				
	comp=Z,75μm,17.5s								
MDJ	**Mudanjiang**	**17.18**	**329**	P	**Pn**	**16 25 15.9**	**-0.5**		
JKRS	**Kuro-shima**	**17.19**	**253**	A	A	16 25 16.4			
	comp=Z,33nm,5.6s,comp=Z,20nm,7.3s								
SUJ	**Sinuiju**	**17.21**	**309**	P	**P**	**16 25 18.0**	**-0.4**		
SUJ				pP	**pP**	**16 25 19.8**	**-1.0**		
SUJ				S	**Sn**	**16 28 32.1**	**+4.1**		
SUJ				AMS	AMS				
	comp=N,6μm,7.0s								
SUJ				AMS	AMS				
	comp=E,5μm,5.5s								
SUJ				AMS	AMS				
	comp=Z,4μm,5.1s								
IRIF	**Iriomote-Funau**	**17.38**	**254**	A	A	16 25 18.8			
	comp=Z,9.0nm,6.9s,comp=Z,11nm,6.6s								
HATJ	**Hateruma jima**	**17.43**	**253**	A	A	16 25 19.5			
	comp=Z,21nm,6.8s,comp=Z,20nm,6.8s								
YOJ	**Yonaguni jima**	**17.92**	**255**	P	**P**	**16 25 27.1**	**+0.7**		
YOJ				IAmb	IAmb	16 25 35.0			
	comp=Z,871nm,1.0s								
YOJ	**Yonaguni jima**	**17.92**	**255**	P	**P**	**16 25 27.1**	**+0.7**		
YOJ				pmax	pmax				
	comp=Z,871nm,1.0s								
YOJ	**Yonaguni jima**	**17.92**	**255**	A	A	16 25 28.0			
	comp=Z,18nm,7.8s,comp=Z,13nm,6.3s								
YOJ	**Yonaguni jima**	**17.92**	**255**	⇑P	**P**	**16 25 27.2**	**+0.9**		
SSE	**Sheshan**	**17.93**	**277**	P	**Pn**	**16 25 26.1**	**+0.2**		
SSE				S	**Sn**	**16 28 45.6**	**-0.1**		
SSE				pmax	pmax				
	comp=Z,87nm,0.9s								
SSE				pmax	pmax				
	comp=Z,7μm,11.7s								
SSE				LR	LR				
	comp=Z,6μm,17.5s								
SSE				LR	LR				
	comp=Z,4μm,17.3s								
JYNG	**Yonagunijimaku**	**17.98**	**255**	A	A	16 25 28.4			
	comp=Z,15nm,8.2s,comp=Z,16nm,6.1s								
UGL	**Uglegorsk**	**18.56**	**0**	*e*P	**Pn**	**16 25 33.4**	**0.0**		
UGL				*e*S	**S**	**16 29 05.9**	**+1.6**		
UGL				pmax	pmax				
	comp=Z,10μm,5.0s								
UGL				pmax	pmax				
	comp=Z,1μm,0.8s								
UGL				smax	smax				
	comp=N,47μm,5.0s								
UGL				smax	smax				
	comp=E,43μm,5.0s								
UGL				smax	smax				
	comp=N,450nm,3.0s								
UGL				smax	smax				
	comp=E,420nm,3.0s								
SNY	**Shenyang**	**18.67**	**312**⇓	P	**P**	**16 25 34.6**	**+0.1**		
SNY				S	**Sn**	**16 28 57.4**	**-6.0**		
SNY				pmax	pmax				
	comp=E,270nm,1.4s								
SNY				pmax	pmax				
	comp=E,7μm,11.1s								
SNY				LR	LR				
	comp=E,54μm,14.0s								
SNY				LR	LR				
	comp=E,66μm,13.9s								
SNY				LR	LR				
	comp=E,90μm,14.7s								
CN2	**Changchun**	**18.70**	**320**	*e*P	**P**	**16 25 33.4**	**-1.4**		
CN2				*e*PP	**PnPn**	**16 25 49.0**	**+1.8**		
CN2				*e*S	**Sn**	**16 28 57.6**	**-6.4**		
CN2				*es*S	S	16 29 03.5	-3.8		
CN2				pmax	pmax				
	comp=E,550nm,1.3s								
CN2				pmax	pmax				
	comp=E,5μm,5.5s								
CN2				LR	LR				
	comp=E,45μm,14.0s								
CN2				LR	LR				
	comp=E,61μm,14.0s								
CN2				LR	LR				
	comp=E,52μm,15.0s								
DL2	**Dalian**	**18.74**	**302**	P	**P**	**16 25 32.9**	**-2.4**		
DL2				S	**Sn**	**16 29 03.6**	**-1.5**		
DL2				pmax	pmax				
	comp=E,260nm,1.0s								
DL2				pmax	pmax				
	comp=E,11μm,7.0s								
DL2				LR	LR				
	comp=E,43μm,14.5s								
DL2				LR	LR				
	comp=E,53μm,14.4s								
DL2				LR	LR				
	comp=E,78μm,14.9s								
TATO	**Taipei**	**19.00**	**258**	P	**Pn**	**16 25 39.5**	**+0.5**		
TATO				P	**Pn**	**16 25 39.5**	**+0.5**		
TATO				P	**Pn**	**16 25 39.5**	**+0.5**		
BNX	**BinXian**	**19.04**	**327**⇑	P	**P**	**16 25 36.9**	**-1.6**		
BNX				pP	**Pn**	**16 25 39.6**	**+0.3**		
BNX				sP	**pwP**	**16 25 45.8**	**-2.6**		
BNX				PP	**PnPn**	**16 25 53.6**	**+1.8**		
BNX				S	**Sn**	**16 29 12.5**	**+0.3**		
BNX				sS	**sS**	**16 29 16.3**	**-1.5**		
BNX				pmax	pmax				
	comp=E,6μm,6.7s								
BNX				LR	LR				
	comp=E,23μm,17.8s								
BNX				LR	LR				
	comp=E,34μm,14.4s								
BNX				LR	LR				
	comp=E,38μm,16.1s								
YHNB	**Yeheng**	**19.21**	**257**	P	**P**	**16 25 40.6**	**0.0**		
YHNB				IAmb	IAmb	16 25 46.8			
	comp=Z,791nm,1.0s								
YHNB	**Yeheng**	**19.21**	**257**	P	**P**	**16 25 41.0**	**+0.4**		
NACB	**Ninganchiao**	**19.22**	**256**	P	**P**	**16 25 40.1**	**-0.6**		
NACB				IAmb	IAmb	16 25 52.9			
	comp=Z,805nm,1.1s								
YULB	**Yu-li**	**19.79**	**254**	P	**P**	**16 25 47.0**	**+0.1**		
YULB				IAmb	IAmb	16 25 59.5			
	comp=Z,936nm,0.9s								
NJ2	**Nanjing**	**19.88**	**280**⇑	*i*P	**P**	**16 25 47.8**	**0.0**		
NJ2				pP	**pP**	**16 25 50.8**	**+0.5**		
NJ2				sP	**pwP**	**16 25 56.5**	**-1.6**		
NJ2				PP	**PnPn**	**16 26 08.4**	**+4.9**		
NJ2				S	**S**	**16 29 26.0**	**-5.3**		
NJ2				sS	**Sn**	**16 29 33.3**	**+0.6**		
NJ2				SS		16 29 52.6			
NJ2				pmax	pmax				
	comp=Z,170nm,0.8s								
NJ2				pmax	pmax				
	comp=E,6μm,4.2s								
NJ2				LR	LR				
	comp=E,30μm,14.2s								
NJ2				LR	LR				
	comp=E,30μm,16.6s								
NJ2				LR	LR				
	comp=E,59μm,17.1s								
SSLB	**Suanglung**	**19.91**	**255**	P	**P**	**16 25 48.9**	**+0.6**		
SSLB	**Suanglung**	**19.91**	**255**	P	**Pn**	**16 25 49.5**	**-0.4**		
TWG	**Pinlang**	**20.23**	**253**	P	**P**	**16 25 52.0**	**+0.3**		
TWG				IAmb	IAmb	16 26 08.2			
	comp=Z,1μm,1.1s								
KLR	**Kul'dur**	**20.27**	**340**	P	**P**	**16 25 50.8**	**-1.2**		
	comp=Z,54nm,0.5s,baz=151,slow=11,SNR=86								
KLR				S	**S**	**16 29 33.5**	**-5.4**		
	comp=Z,19nm,0.9s,baz=330,slow=20,SNR=1.4								
	comp=Z,54nm,0.5s								
KLR	**Kul'dur**	**20.27**	**340**	*de*P	**P**	**16 25 50.6**	**-1.4**		
KLR				pmax	pmax				
	comp=Z,228nm,1.3s								
TYV	**Tymovskoe**	**20.35**	**1**	*e*P	Pn	16 25 54.7	-0.1		
TYV				*e*S	Sn	16 29 46.4	+2.7		
TYV				pmax	pmax				
	comp=Z,11μm,4.8s								
TYV				pmax	pmax				
	comp=Z,545nm,1.0s								
TYV				smax	smax				
	comp=N,9μm,5.4s								
TYV				smax	smax				
	comp=E,31μm,5.4s								
TYV				smax	smax				
	comp=N,86nm,1.8s								
TYV				MLR	MLR				
	comp=Z,27μm,16.0s								
TPUB	**Ta-pu**	**20.39**	**255**	P	**P**	**16 25 54.0**	**+0.6**		
TPUB	**Ta-pu**	**20.39**	**255**	P	Pn	16 25 55.0	-0.5		
QZH	**Quanzhou**	**21.47**	**261**⇑	*i*P	**P**	**16 26 03.8**	**-1.3**		
QZH				S	**S**	**16 30 00.8**	**-2.1**		
QZH				pmax	pmax				
	comp=Z,7μm,7.0s								
QZH				LR	LR				
	comp=Z,20μm,15.7s								
QZH				LR	LR				
	comp=Z,21μm,16.1s								
QZH				LR	LR				
	comp=Z,38μm,16.0s								
TIA	**Tai'an**	**21.56**	**292**⇑	P	**P**	**16 26 03.9**	**-2.1**		
TIA				S	**S**	**16 30 01.3**	**-3.2**		
TIA				pmax	pmax				
	comp=Z,4μm,3.9s								
TIA				LR	LR				
	comp=Z,41μm,13.5s								
TIA				LR	LR				
	comp=Z,55μm,14.1s								
TIA				LR	LR				
	comp=Z,84μm,16.1s								
CICP	**Calayan Island**	**21.71**	**244**⇑	*i*P	**P**	**16 26 09.4**	**+1.7**		
PACPP	**Pamplona Cagay**	**22.28**	**242**⇑	*e*P	**P**	**16 26 12.6**	**-1.2**		
NKL	**Nikolayevsk**	**22.66**	**358**	*e*P	**P**	**16 26 17.3**	**-0.2**		
NKL				*e*S	**S**	**16 30 27.4**	**+2.5**		
NKL				pmax	pmax				
	comp=E,22nm,1.1s								
NKL				pmax	pmax				
	comp=N,189nm,1.3s								
NKL				pmax	pmax				
	comp=Z,333nm,1.3s								
NKL				smax	smax				
	comp=E,3μm,5.4s								
NKL				smax	smax				
	comp=N,4μm,6.7s								
SKR	**Severo-Kuril's**	**22.74**	**24**	*e*P	**P**	**16 26 18.0**	**-0.5**		
SKR				*e*PPP	PPP	16 26 45.9			
SKR				*e*S	**S**	**16 30 25.5**	**-1.1**		
SKR				*e*SS	Sn	16 31 09.8	+29		
SKR				pmax	pmax				
	comp=Z,302nm,0.9s								
SKR				pmax	pmax				
	comp=Z,5μm,4.7s								
SKR				MLR	MLR				
	comp=Z,14μm,12.0s								
BJT	**Baijiatuau**	**23.10**	**301**	P	**P**	**16 26 21.1**	**-1.2**		
BJT				IAmb	IAmb	16 26 46.2			
	comp=Z,462nm,0.9s								
BJT	**Baijiatuau**	**23.10**	**301**	IAMs_20	IAMs_20	16 35 27.2			
	comp=Z,38μm,19.0s								
BJT	**Baijiatuau**	**23.10**	**301**	P	**P**	**16 26 21.1**	**-1.2**		
BJT				pmax	pmax				
	comp=Z,462nm,0.9s								
BJT				MLR	MLR				
	comp=Z,38μm,19.0s								
BJI	**Beijing**	**23.10**	**301**	P	**P**	**16 26 19.9**	**-2.4**		
BJI				PP	**PnPn**	**16 26 43.9**	**-3.6**		
BJI				S	**S**	**16 30 29.8**	**-3.2**		
BJI				pmax	pmax				
	comp=Z,370nm,1.4s								
BJI				pmax	pmax				
	comp=Z,6μm,7.3s								
BJI				LR	LR				
	comp=Z,7μm,15.8s								
BJI				LR	LR				
	comp=Z,64μm,15.6s								
BJI				LR	LR				
	comp=Z,83μm,15.8s								
SIPP	**Brgy, Tapao**	**23.28**	**242**⇓	*i*P	**P**	**16 26 24.7**	**+0.4**		
HNS	**HongShan**	**23.65**	**294**⇑	P	**P**	**16 26 25.0**	**-2.8**		
HNS				PP	**PnPn**	**16 26 57.3**	**+2.3**		
HNS				S	**S**	**16 30 34.5**	**-7.5**		
HNS				pmax	pmax				
	comp=Z,130nm,0.8s								
HNS				pmax	pmax				
	comp=Z,4μm,8.2s								
HNS				LR	LR				
	comp=Z,45μm,16.9s								
HNS				LR	LR				
	comp=Z,59μm,16.3s								
HNS				LR	LR				
	comp=Z,71μm,16.3s								
WHN	**Wuhan**	**23.84**	**277**⇑	P	**P**	**16 26 28.5**	**-1.2**		
WHN				sP	**sP**	**16 26 35.3**	**+1.9**		
WHN				PP	pwP	16 27 01.0	+21		
WHN				pmax	pmax				
	comp=Z,300nm,0.6s								
WHN				pmax	pmax				
	comp=Z,15μm,9.6s								
WHN				LR	LR				
	comp=Z,63μm,11.7s								
WHN				LR	LR				
	comp=Z,96μm,13.9s								
WHN				LR	LR				
	comp=Z,149μm,16.9s								
JCNP	**Jose Panganiba**	**24.03**	**232**⇑	*i*P	**P**	**16 26 30.6**	**-1.0**		
PCPH	**Palayan**	**24.28**	**237**⇓	*e*P	**P**	**16 26 32.8**	**-1.2**		
GQP	**Guinayangan**	**24.47**	**232**⇓	*e*P	**P**	**16 26 35.3**	**-0.4**		
XLT	**XiLinHaoTe**	**24.51**	**310**⇑	*i*P	**P**	**16 26 34.0**	**-1.9**		
XLT				pP	pP	16 26 38.3	-0.3		
XLT				sP	sP	16 26 42.8	+3.1		
XLT				S	**S**	**16 30 52.8**	**-3.1**		
XLT				pmax	pmax				
	comp=Z,60nm,1.0s								
XLT				pmax	pmax				
	comp=Z,8μm,6.7s								
XLT				LR	LR				
	comp=Z,48μm,13.7s								
XLT				LR	LR				
	comp=Z,63μm,13.6s								
H11N2	**WAKE ISLAND Hy**	**24.87**	**110**	T	T	16 52 53.4			
	baz=297,slow=73,SNR=27								
H11N1	**WAKE ISLAND Hy**	**24.87**	**110**	T	T	16 52 56.0			
	baz=297,slow=73,SNR=13								
H11N3	**WAKE ISLAND Hy**	**24.89**	**110**	T	T	16 52 57.6			
	baz=297,slow=73,SNR=18								
LQP	**Lukban**	**24.95**	**234**⇑	*e*P	**P**	**16 26 38.5**	**-1.7**		
LYN	**LuoYang**	**25.22**	**287**⇑	*i*P	**P**	**16 26 39.5**	**-2.8**		
LYN				PP	**PnPn**	**16 27 17.9**	**+1.3**		
LYN				S	**S**	**16 31 03.1**	**-4.2**		
LYN				pmax	pmax				
	comp=Z,110nm,2.1s								
LYN				pmax	pmax				
	comp=Z,4μm,8.1s								
LYN				LR	LR				
	comp=Z,23μm,15.1s								
LYN				LR	LR				
	comp=Z,23μm,14.3s								
LYN				LR	LR				
	comp=Z,44μm,14.8s								
HIA	**Hailar**	**25.22**	**324**	P	**P**	**16 26 42.8**	**+0.6**		
HIA	**Hailar**	**25.22**	**324**	P	**P**	**16 26 42.8**	**+0.6**		
HIA				pmax	pmax				
	comp=Z,1μm,1.0s								
HIA				MLR	MLR				
	comp=Z,25μm,18.0s								
PEA0B	**Petropavlovsk-**	**25.32**	**22**	P	**P**	**16 26 42.8**	**-0.2**		
PEA0B				IAmb	IAmb	16 27 16.9			
	comp=Z,557nm,1.5s								
PEA0B	**Petropavlovsk-**	**25.32**	**22***d*	*i*P	**P**	**16 26 43.0**	**0.0**		
PETK	**Petropavlovsk-**	**25.32**	**22**	P	**P**	**16 26 42.5**	**-0.4**		
	comp=Z,25nm,0.8s,baz=83,slow=28,SNR=33								
PETK				S	**S**	**16 31 08.5**	**+0.1**		
	comp=Z,5.3nm,1.0s,baz=295,slow=20,SNR=1.6								
PETK				LR	LR	16 37 07.1			
	comp=Z,17μm,20.6s,baz=218,slow=38								
	comp=Z,25nm,0.8s								
PETK	**Petropavlovsk-**	**25.32**	**22**	P	**P**	**16 26 42.4**	**-0.6**		
H11S3	**WAKE ISLAND Hy**	**25.34**	**112**	T	T	16 53 52.3			
	baz=304,slow=74,SNR=37								
H11S1	**WAKE ISLAND Hy**	**25.35**	**112**	T	T	16 53 53.1			
	baz=304,slow=74,SNR=78								
H11S2	**WAKE ISLAND Hy**	**25.36**	**112**	T	T	16 53 46.1			
	baz=304,slow=74,SNR=53								
TGY	**Tagaytay City**	**25.38**	**235**	LR	LR	16 36 55.5			
	comp=Z,18μm,19.1s,baz=106,slow=37								
CNSH	**ChangSha**	**25.46**	**272**⇑	P	**P**	**16 26 43.6**	**-0.9**		
CNSH				S	**S**	**16 31 06.4**	**-4.8**		
CNSH				pmax	pmax				
	comp=Z,15nm,0.5s								
CNSH				LR	LR				
	comp=Z,20μm,14.5s								
CNSH				LR	LR				
	comp=Z,22μm,15.3s								
CNSH				LR	LR				
	comp=Z,23μm,18.6s								
TIY	**Taiyuan**	**25.48**	**294**⇑	P	**P**	**16 26 43.8**	**-1.0**		
TIY				PP	**PnPn**	**16 27 26.0**	**+5.8**		
TIY				S	**S**	**16 31 10.0**	**-1.6**		
TIY				SS		16 32 04.3			
TIY				pmax	pmax				
	comp=Z,200nm,0.9s								
TIY				pmax	pmax				
	comp=Z,4μm,8.3s								
TIY				LR	LR				
	comp=Z,15μm,16.2s								
TIY				LR	LR				
	comp=Z,42μm,14.5s								
TIY				LR	LR				
	comp=Z,49μm,14.9s								
PET	**Petropavlovsk**	**25.57**	**24**	P	**P**	**16 26 44.8**	**-0.4**		
PET				IAmb	IAmb	16 27 00.9			
	comp=Z,497nm,1.3s								
PET	**Petropavlovsk**	**25.57**	**24**κ	*i*P	**P**	**16 26 45.3**	**+0.1**		
PET				*e*S	**S**	**16 31 07.3**	**-5.1**		
PET				*e*		16 37 45.1			
PET				pmax	pmax				
	comp=Z,7μm,7.0s								
PET				pmax	pmax				
	comp=Z,5μm,8.7s								
PET				pmax	pmax				
	comp=Z,404nm,1.4s								
PET				MLR	MLR				
	comp=Z,28μm,20.0s								
PET	**Petropavlovsk**	**25.57**	**24**⇓	P	**P**	**16 26 45.4**	**+0.2**		
ZEA	**Zeya**	**25.58**	**339**	*e*P	**P**	**16 26 46.0**	**+0.6**		
ZEA				*e*		16 27 32.4			
ZEA				*e*S	**S**	**16 31 08.6**	**-4.1**		
ZEA				pmax	pmax				
	comp=E,400nm,1.9s								
ZEA				pmax	pmax				
	comp=N,1μm,2.0s								
ZEA				pmax	pmax				
	comp=Z,2μm,1.8s								
ZEA				pmax	pmax				
	comp=E,320nm,0.8s								
ZEA				pmax	pmax				
	comp=N,1μm,1.2s								
ZEA				pmax	pmax				
	comp=Z,2μm,1.1s						

ZEA smax smax
comp=N,5μm,4.9s
ZEA smax smax
comp=E,10μm,10.0s
SCPH Surigao 25.75 220⇓ *e*P **P 16 26 47.7 +0.4**
PGP Puerto Galera 25.78 234⇑ *i*P **P 16 26 46.8 -0.8**
RCP Roxas 25.99 228⇑ *e*P **P 16 26 48.9 -0.6**
LUBP Lubang 26.12 235⇑ *e*P **P 16 26 48.3 -2.3**
TABP Talibon, Bohol 26.16 223⇑ *i*P **P 16 26 49.8 -1.2**
LLP Lapu-Lapu 26.20 224⇑ *e*P **P 16 26 50.5 -0.8**
LLP eS **S 16 31 28.1 +5.1**
GHBP Garcia Hernand 26.54 222⇑ *i*P **P 16 26 53.2 -1.2**
BIPH Bislig 26.61 217⇓ *e*P **P 16 26 53.7 -1.4**
GZH Guangzhou 26.61 261 P **P 16 26 49.9 -5.1**
GZH S **S 16 31 21.0 -8.5**
GZH LR LR
comp=E,18μm,11.1s
GZH LR LR
comp=E,37μm,21.6s
GZH LR LR
comp=E,6μm,6.2s
HHC Hu-ho-hao-te 26.71 301 *e*P **P 16 26 55.3 -0.6**
HHC S **S 16 31 26.8 -4.2**
HHC pmax pmax
comp=E,260nm,1.0s
HHC LR LR
comp=E,81μm,15.9s
HHC LR LR
comp=E,141μm,15.2s
HHC LR LR
comp=E,210μm,15.2s
TBP Tagbilaran 26.76 223 *e*P **P 16 26 55.0 -1.4**
JAP San Jose, Anti 27.12 228⇑ *e*P **P 16 27 01.1 +1.5**
CGP Cagayan de Oro 27.28 220⇓ *e*P **P 16 27 00.4 -0.7**
LSIP Lazi, Siquijor 27.34 223⇑ *i*P **P 16 27 00.2 -1.4**
CNOP Candoni, Negro 27.39 225⇑ *i*P **P 16 27 00.4 -1.6**
SNPH Sibulan 27.41 224⇑ *e*P **P 16 27 01.8 -0.5**
BTO Baotou 27.81 300 *e*P **P 16 27 05.3 -0.4**
BTO S **S 16 31 51.3 +3.0**
DCPH Dipolog City 27.94 223⇑ *e*P **P 16 27 08.6 +1.6**
DAV Davao City (W) 27.96 217 P **P 16 27 06.9 -0.3**
comp=E,178nm,0.4s,baz=89,slow=2.1,SNR=12
DAV LR LR 16 39 48.0
comp=E,16μm,18.1s,baz=68,slow=40
comp=E,178nm,0.4s
ENH Enshi 28.04 278 P **P 16 27 05.5 -2.3**
ENH IAmb IAmb 16 27 21.4
comp=Z,130nm,0.6s
PATS Pohnpei 28.06 144 IAMs_20 IAMs_20 16 37 37.5
comp=Z,39μm,20.0s
PATS Pohnpei 28.06 144 P **P 16 27 11.4 +3.4**
XAN Xi'an 28.16 286 ⇑P **P 16 27 07.0 -1.9**
XAN pP sP 16 27 13.5 +0.8
XAN sP pwP 16 27 16.8 -2.5
XAN S **S 16 31 50.1 -3.8**
XAN sS sS 16 32 00.1 +1.7
XAN SS **SnSn 16 33 14.4 +4.5**
XAN pmax pmax
comp=Z,44nm,1.3s
XAN pmax pmax
comp=Z,4μm,8.7s
XAN LR LR
comp=Z,38μm,15.6s
XAN LR LR
comp=Z,21μm,14.9s
XAN LR LR
comp=Z,27μm,16.5s
KCP Kidapawan 28.27 218⇓ *i*P **P 16 27 10.1 +0.1**
KCP Kidapawan 28.27 218⇑ *e*P **S 16 31 55.7 -0.1**
GULI GuiLin 28.42 267 ⇑P **P 16 27 08.4 -2.8**
GULI PP **PnPn 16 28 04.4 +4.0**
GULI S **S 16 32 03.5 +5.5**
GULI pmax pmax
comp=Z,50nm,0.5s
GULI LR LR
comp=Z,23μm,14.2s
GULI LR LR
comp=Z,21μm,14.9s
GULI LR LR
comp=Z,31μm,17.3s
PAGZ Pagadian 28.52 222⇑ *i*P **P 16 27 11.4 -0.7**
CTBH Cotabato--PC H 28.55 219⇑ *i*P **P 16 27 12.5 +0.1**
GSPH General Santos 29.12 217⇓ *i*P **P 16 27 19.1 +1.4**
MA2 Magadan 29.67 9 P **P 16 27 22.0 +0.1**
comp=Z,34nm,0.7s,baz=184,slow=8.3,SNR=26
MA2 S **S 16 32 09.5 -7.4**
comp=Z,10nm,1.1s,baz=248,slow=9.4,SNR=1.3
comp=Z,34nm,0.7s
MA2 Magadan 29.67 9 P **P 16 27 21.4 -0.6**
MA2 IAmb IAmb 16 27 37.7
comp=Z,418nm,1.3s
MA2 Magadan 29.67 9 *d* *i*P **P 16 27 22.3 +0.3**
MA2 pmax pmax
comp=Z,161nm,1.8s
MA2 MLR MLR
comp=Z,17μm,16.0s
MA2 Magadan 29.67 9 P **P 16 27 22.2 +0.3**
MA2 Magadan 29.67 9 ⇓P **P 16 27 22.1 +0.2**
PPR Puerto Princes 29.95 231⇓ *i*P **P 16 27 25.2 +0.4**
CIT Chita 30.03 324 *e*P **P 16 27 26.7 +1.4**
CIT pmax pmax
comp=Z,2μm,1.7s
SGSI Sangihe 30.90 214 P **P 16 27 31.3 -1.9**
comp=Z,3μmcomp=Z,207nm,0.6s
GYA Guiyang 31.28 271⇓ *i*P **P 16 27 36.5 -0.2**
GYA pP sP 16 27 41.3 +0.8
GYA S **S 16 32 39.1 -4.1**
GYA pmax pmax
comp=Z,54nm,0.8s
GYA pmax pmax
comp=Z,2μm,8.2s
GYA LR LR
comp=Z,17μm,15.6s
GYA LR LR
comp=Z,17μm,20.2s
GYA LR LR
comp=Z,32μm,17.5s
QIZ Qiongzhong 31.29 256 P **P 16 27 36.4 -0.3**
QIZ S **S 16 32 44.3 +1.2**
QIZ pmax pmax
comp=Z,52nm,3.0s
QIZ pmax pmax
comp=Z,3μm,8.4s
QIZ LR LR
comp=Z,10μm,15.9s
QIZ LR LR
comp=Z,10μm,12.7s
QIZ LR LR
comp=Z,16μm,17.5s
QIZ Qiongzhong 31.29 256 P **P 16 27 36.7 0.0**
ULN Ulaanbaatar 31.85 313 P **P 16 27 42.5 +1.0**
ULN Ulaanbaatar 31.85 313 *c* *i*P **P 16 27 42.6 +1.0**
ULN pmax pmax
comp=Z,259nm,1.1s
ULN MLR MLR
comp=Z,43μm,15.0s
ULN Ulaanbaatar 31.85 313 P **P 16 27 43.4 +1.9**
ULN P **P 16 27 43.4 +1.9**
ULN Ulaanbaatar 31.85 313 ⇑P **P 16 27 42.6 +1.1**
BAKI Biak 32.02 191 P **P 16 27 42.4 -0.7**
comp=Z,14μmcomp=Z,6μmcomp=Z,227nm,0.8s
SHEM Shemya Is, Ala 32.24 37 P **P 16 27 45.1 +0.4**
comp=Z,116nm,0.9s,baz=331,slow=5.2,SNR=5.0
SHEM LR LR 16 38 39.2
comp=Z,16μm,19.7s,baz=239,slow=32
comp=Z,116nm,0.9s
SONM Songino Array 32.25 313 P **P 16 27 46.7 +1.6**
comp=Z,103nm,0.7s,baz=113,slow=8.0,SNR=151
SONM PcP **PcP 16 30 35.5 +2.3**
comp=Z,54nm,1.1s,baz=128,slow=2.0,SNR=5.6
SONM LR LR 16 41 19.5
comp=Z,15μm,21.2s,baz=106,slow=37
SONM P3KPbc 16 59 16.1
comp=Z,1.2nm,0.8s,baz=225,slow=3.9,SNR=5.6
comp=Z,103nm,0.7s
SONM Songino Array 32.25 313 P **P 16 27 45.9 +0.8**
SONM IAmb IAmb 16 28 02.1
comp=Z,228nm,0.9s
LZH Lanzhou 32.27 290 ⇑P **P 16 27 43.8 -1.6**
LZH sP pwP 16 27 55.5 -0.2
LZH S S 16 32 47.9 -11
LZH sS sS 16 33 03.8 +0.7
LZH SS **SnSn 16 34 46.3 -3.7**
LZH pmax pmax
comp=Z,210nm,1.1s
LZH pmax pmax
comp=Z,2μm,4.7s
LZH LR LR
comp=Z,22μm,16.0s
LZH LR LR
comp=Z,40μm,17.5s
LZH LR LR
comp=Z,44μm,18.4s
SMPI Sarmi 32.46 186 P **P 16 27 46.8 -0.2**
comp=Z,7μmcomp=Z,4μmcomp=Z,173nm,1.7s
YAK Yakutsk 32.56 349 P **P 16 27 47.3 -0.1**
comp=Z,80nm,0.7s,baz=151,slow=4.7,SNR=45
YAK S **S 16 32 59.1 -2.9**
comp=Z,2.8nm,0.4s,baz=338,slow=19,SNR=1.1
YAK LR LR 16 41 10.1
comp=Z,16μm,19.0s,baz=157,slow=37
comp=Z,80nm,0.7s
YAK Yakutsk 32.56 349 P **P 16 27 46.5 -0.8**
YAK IAmb IAmb 16 28 03.5
comp=Z,243nm,0.8s
YAK Yakutsk 32.56 349 *d* *i*P **P 16 27 46.8 -0.5**
YAK *e**PP **pwP 16 27 56.4 -1.5**
YAK *e* 16 28 52.6
YAK *e* 16 30 33.0
YAK *e*S **S 16 33 03.9 +1.9**
YAK *e*SS **SnSn 16 34 59.5 +3.4**
YAK *e* 16 38 09.3
YAK pmax pmax
comp=Z,224nm,0.9s
YAK pmax pmax
comp=N,123nm,1.3s
YAK pmax pmax
comp=E,49nm,1.3s
YAK pmax pmax
comp=Z,1μm,4.9s
YAK pmax pmax
comp=N,654nm,2.7s
YAK pmax pmax
comp=E,265nm,1.9s
YAK smax smax
comp=N,2μm,3.0s
YAK smax smax
comp=E,528nm,2.8s
YAK MLR MLR
comp=Z,14μm,16.0s
YAK MLR MLR
comp=N,7μm,15.0s
YAK MLR MLR
comp=E,5μm,12.0s
YAK Yakutsk 32.56 349 ⇓P **P 16 27 47.2 -0.1**
SRPI Serui, Papua 32.66 191 P **P 16 27 48.0 -0.7**
comp=E,5μmcomp=E,4μmcomp=E,238nm,0.9s
TNTI Ternate 32.69 208 P **P 16 27 47.9 -1.0**
TNTI IAmb IAmb 16 28 05.4
comp=Z,205nm,0.9s
TNTI Ternate 32.69 208 P **P 16 27 47.9 -1.0**
comp=Z,8μmcomp=Z,5μmcomp=Z,244nm,0.9s
TNTI Ternate 32.69 208 P **P 16 27 50.3 +1.4**
MANU Manus Island 32.76 170 P **P 16 27 48.4 -1.1**
MANU Manus Island 32.76 170 ⇑P **P 16 27 48.5 -1.1**
CD2 Chengdu 32.82 281 P **P 16 27 48.4 -1.7**
CD2 PP **PP 16 29 01.8 -2.5**
CD2 S **S 16 33 04.0 -2.9**
CD2 pmax pmax
comp=Z,200nm,0.6s
CD2 pmax pmax
comp=Z,3μm,8.4s
CD2 LR LR
comp=Z,41μm,14.9s
CD2 LR LR
comp=Z,36μm,17.7s
CD2 LR LR
comp=Z,32μm,19.6s
SIJI Sorong 32.84 200 P **P 16 27 49.5 -0.8**
comp=Z,142nm,0.6s,baz=24,slow=9.3,SNR=88
SIJI PcP **PcP 16 30 36.9 +1.7**
comp=Z,49nm,0.8s,baz=11,slow=6.9,SNR=5.1
SIJI S **S 16 33 02.0 -5.3**
comp=Z,2.9nm,0.6s,baz=90,slow=20,SNR=0.8
SIJI LR LR 16 39 45.8
comp=Z,15μm,18.7s,baz=12,slow=34
comp=Z,142nm,0.6s
GENI Genyem 32.95 183 P **P 16 27 50.7 -0.6**
comp=Z,10μmcomp=Z,7μmcomp=Z,260nm,1.4s
SEY Seymchan 33.12 9 P **P 16 27 53.1 +0.8**
comp=Z,80nm,0.7s,baz=188,slow=8.7,SNR=101
SEY S **S 16 33 09.7 -1.1**
comp=Z,12nm,1.2s,baz=46,slow=18,SNR=1.7
comp=Z,80nm,0.7s
SEY Seymchan 33.12 9 *d* *i*P **P 16 27 52.9 +0.6**
SEY pmax pmax
comp=Z,84nm,0.9s
SEY MLR MLR
comp=Z,23μm,17.0s
BOD Bodaibo 33.46 333⇑ *i*P **P 16 27 55.6 +0.3**
BOD pmax pmax
comp=Z,445nm,1.6s
MYLDM Lahad Datu 33.56 226 P **P 16 27 57.7 +1.1**
MYLDM Lahad Datu 33.56 226 ⇑P **P 16 27 57.9 +1.4**
LBMI Labuha 33.92 207 P **P 16 27 59.1 -0.6**
comp=Z,7μmcomp=Z,422nm,1.0s
KMSI Cibinong 34.35 213 P **P 16 28 02.8 -0.7**
comp=Z,514nmcomp=Z,5μmcomp=Z,616nm,0.7s
KKM Kota Kinabalu 34.37 230 P **P 16 28 04.2 +0.4**
KKM IAMs_20 IAMs_20 16 43 14.8
comp=Z,19μm,19.0s
KKM Kota Kinabalu 34.37 230 P **P 16 28 05.2 +1.5**
KKM Kota Kinabalu 34.37 230 ⇑P **P 16 28 03.1 -0.7**
AMKA Amchitka 34.50 42 P **P 16 28 04.8 +0.3**
FAKI Fak Fak 34.52 197 P **P 16 28 03.5 -1.5**
FAKI IAmb IAmb 16 28 09.1
comp=Z,231nm,1.2s
FAKI IAMs_20 IAMs_20 16 39 39.7
comp=Z,18μm,19.0s
FAKI Fak Fak 34.52 197 P **P 16 28 03.1 -1.8**
comp=Z,9μmcomp=Z,5μmcomp=Z,164nm,0.9s
FAKI Fak Fak 34.52 197 P **P 16 28 03.8 -1.1**
GTOI Gorontalo 34.77 215 P **P 16 28 05.2 -1.9**
comp=Z,5μmcomp=Z,3μmcomp=Z,190nm,0.7s
ZAK Zakamensk 35.04 316 *e*P **P 16 28 10.5 +1.3**
ZAK pmax pmax
comp=Z,419nm,1.5s
KMI Kunming 35.05 271 ⇑P **P 16 28 08.3 -1.5**
KMI sP sP 16 28 16.3 +2.8
KMI S **S 16 33 35.9 -6.1**
KMI ScS **ScS 16 38 30.3 -0.6**
KMI pmax pmax
comp=Z,35nm,0.8s
KMI pmax pmax
comp=Z,2μm,7.6s
KMI LR LR
comp=Z,13μm,14.1s
KMI LR LR
comp=Z,12μm,13.9s
KMI LR LR
comp=Z,17μm,14.1s
IRK Irkutsk 35.14 319 *e*P **P 16 28 10.9 +0.9**
IRK *e*S **S 16 33 45.5 +3.2**
IRK pmax pmax
comp=Z,1μm,1.9s
MRSI Marisa 35.45 216 P **P 16 28 12.3 -0.6**
comp=Z,12μmcomp=Z,12μmcomp=Z,512nm,0.8s
GTA Gaotai 35.47 296 ⇑P **P 16 28 11.5 -1.6**
GTA sP pwP 16 28 23.6 +0.1
GTA PP **PP 16 29 32.8 -0.8**
GTA S **S 16 33 41.3 -6.6**
GTA sS sS 16 33 59.3 +6.7
GTA pmax pmax
comp=Z,110nm,1.5s
GTA pmax pmax
comp=Z,2μm,5.6s
GTA LR LR
comp=Z,19μm,17.1s
GTA LR LR
comp=Z,49μm,16.4s
GTA LR LR
comp=Z,61μm,16.7s
PZH PanZhiHua 35.51 274 P **P 16 28 12.3 -1.3**
PZH sP **sP 16 28 18.8 +1.4**
PZH PcP **PcP 16 30 41.9 -0.9**
PZH S **S 16 33 44.1 -4.7**
PZH sS **sS 16 33 56.8 +3.5**
PZH SS **SnSn 16 36 06.8 -2.1**
PZH ScS **ScS 16 38 32.5 -0.7**
PZH pmax pmax
comp=Z,120nm,0.6s
PZH pmax pmax
comp=Z,2μm,6.5s
PZH LR LR
comp=Z,33μm,17.1s
PZH LR LR
comp=Z,30μm,18.0s
PZH LR LR
comp=Z,37μm,20.4s
TOLI2 Tolitoli 35.52 219 P **P 16 28 12.4 -1.2**
TOLI2 IAmb IAmb 16 28 17.0
comp=Z,136nm,0.8s
TOLI2 Tolitoli 35.52 219 P **P 16 28 12.8 -0.7**
SANI Sanana 35.81 208 P **P 16 28 13.3 -2.7**
comp=Z,9μmcomp=Z,9μmcomp=Z,479nm,0.7s
SANI Sanana 35.81 208 P **P 16 28 14.5 -1.5**
RABL Rabaul 35.83 163 P **P 16 28 14.2 -1.9**
RABL IAmb IAmb 16 28 34.0
comp=Z,255nm,1.1s
RABL Rabaul 35.83 163 P **P 16 28 16.8 +0.6**
RABL Rabaul 35.83 163 ⇑P **P 16 28 14.8 -1.4**
KRVT Keravat (AS076 35.90 163 P **P 16 28 15.9 -0.8**
comp=Z,113nm,1.0s,baz=275,slow=8.0,SNR=20
KRVT LR LR 16 42 11.9
comp=Z,6μm,19.7s,baz=118,slow=35
comp=Z,113nm,1.0s
MSAI Masohi 35.91 203 P **P 16 28 17.3 +0.4**
comp=Z,659nmcomp=Z,63nm,0.8s
DLV T Lat 36.13 247 ⇑P **P 16 28 18.6 -0.5**
LUWI Luwuk 36.34 214 P **P 16 28 18.8 -1.7**
LUWI Luwuk 36.34 214 P **P 16 28 19.0 -1.6**
comp=Z,10μmcomp=Z,7μmcomp=Z,448nm,1.2s
LUWI Luwuk 36.34 214 P **P 16 28 19.4 -1.2**
NLAI Namlea 36.46 206 P **P 16 28 21.1 -0.5**
comp=Z,4μmcomp=Z,100nm,0.8s
AAI Ambon 36.48 204 P **P 16 28 22.1 +0.3**
comp=Z,12μmcomp=Z,6μmcomp=Z,233nm,0.7s
MPSI Mapaga 36.64 219 P **P 16 28 22.3 -0.9**
comp=Z,8μmcomp=Z,4μmcomp=Z,132nm,0.8s
BNDI Bandanaira 36.71 201 P **P 16 28 22.3 -1.4**
comp=Z,10μmcomp=Z,7μmcomp=Z,561nm,0.8s
BNDI Bandanaira 36.71 201 P **P 16 28 23.6 -0.1**
KIWB Kanaga Island 36.74 43 P **P 16 28 23.3 -0.3**
APSI Ampana 36.78 216 P **P 16 28 22.8 -1.5**
comp=Z,7μmcomp=Z,4μmcomp=Z,348nm,1.3s
MOY Mondy 36.83 317 *e*P **P 16 28 26.0 +1.5**
MOY pmax pmax
comp=Z,604nm,2.5s
ADK Adak 37.02 43 P **P 16 28 25.8 -0.2**
ADK IAmb IAmb 16 28 32.5
comp=Z,474nm,1.1s
ADK Adak 37.02 43 IAMs_20 IAMs_20 16 42 27.1
comp=Z,20μm,20.0s
ADK Adak 37.02 43 P **P 16 28 25.8 -0.2**
ADK pmax pmax
comp=Z,474nm,1.2s
ADK MLR MLR
comp=Z,20μm,20.0s
ADK Adak 37.02 43 P **P 16 28 26.4 +0.4**
ADK Adak 37.02 43 ⇓P **P 16 28 26.1 +0.1**
GSTR Great Sitkin T 37.46 43 P **P 16 28 29.2 -0.6**
SMKI Samarinda 38.80 222 P **P 16 28 42.3 +0.9**
comp=Z,20μmcomp=Z,8μmcomp=Z,269nm,1.0s
TTSI Tana Toraja 39.54 216 P **P 16 28 47.3 -0.3**
comp=Z,8μmcomp=Z,3μmcomp=Z,137nm,1.1s
GOMU GeErMu 39.56 291 P **P 16 28 47.1 -1.0**
GOMU sP sP 16 28 52.5 +0.6
GOMU PP **PP 16 30 18.0 -0.8**
GOMU PcP **PcP 16 30 57.3 +1.9**
GOMU S **S 16 34 46.1 -4.4**
GOMU pmax pmax
comp=Z,150nm,1.0s
GOMU pmax pmax
comp=Z,3μm,7.3s
GOMU LR LR
comp=Z,18μm,15.2s
GOMU LR LR
comp=Z,16μm,15.1s
GOMU LR LR
comp=Z,16μm,14.4s
SAUI Saumlaki 39.63 197 P **P 16 28 47.8 -0.4**
SAUI Saumlaki 39.63 197 P **P 16 28 48.0 -0.3**
comp=Z,20μmcomp=Z,12μmcomp=Z,598nm,1.0s
SAUI Saumlaki 39.63 197 P **P 16 28 50.4 +2.1**
BKB Balikpapan 39.64 222 P **P 16 28 46.6 -1.8**
BKB IAmb IAmb 16 28 53.9
comp=Z,682nm,1.3s
BKB Balikpapan 39.64 222 P **P 16 28 47.9 -0.5**
comp=Z,19μmcomp=Z,9μmcomp=Z,497nm,1.2s
PHRA Phrae 39.67 262 P **P 16 28 47.8 -0.9**
SBUM Sibu 39.69 231 P **P 16 28 48.2 -0.7**
SBUM Sibu 39.69 231 ⇑P **P 16 28 48.5 -0.3**
PMG Port Moresby 39.98 172 S **S 16 34 52.1 -4.1**
comp=Z,9.0nm,1.0s,baz=240,slow=5.8,SNR=3.4
PMG Port Moresby 39.98 172 P **P 16 28 50.2 -1.0**
PMG Port Moresby 39.98 172 *c* *i*P **P 16 28 50.4 -0.8**
PMG pmax pmax
comp=Z,57nm,0.8s
PMG MLR MLR
comp=Z,9μm,16.0s
PMG Port Moresby 39.98 172 P **P 16 28 52.1 +0.9**
PMG Port Moresby 39.98 172 P **P 16 28 51.5 +0.3**
BILL Bilibino 40.18 14 P **P 16 28 52.0 -0.4**
BILL IAmb IAmb 16 29 09.0
comp=Z,307nm,1.3s
BILL IAMs_20 IAMs_20 16 48 29.2
comp=Z,14μm,18.0s
BILL Bilibino 40.18 14 *c* *i*P **P 16 28 52.3 -0.1**
BILL *e* 16 30 24.7
BILL *e* 16 30 54.6
BILL *i*S **S 16 34 55.7 -2.7**
BILL pmax pmax
comp=Z,234nm,1.7s
BILL MLR MLR
comp=Z,13μm,17.0s
SPSI Sidrap Palu 40.35 216 P **P 16 28 52.7 -1.6**
comp=Z,9μmcomp=Z,5μmcomp=Z,360nm,0.7s
MTKI Muara Teweh, K 40.57 225 P **P 16 28 55.9 -0.2**
comp=Z,6μmcomp=Z,6μmcomp=Z,620nm,0.9s
CHTO Chiang Mai 40.64 264 P **P 16 28 55.4 -1.4**
CHTO Chiang Mai 40.64 264 IAMs_20 IAMs_20 16 48 25.0
comp=Z,23μm,18.0s
CHTO Chiang Mai 40.64 264 P **P 16 28 55.4 -1.4**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO MLR MLR
comp=Z,23μm,18.0s
CHTO Chiang Mai 40.64 264 P **P 16 28 56.2 -0.6**
CHTO P **P 16 28 56.2 -0.6**
CHTO Chiang Mai 40.64 264 P **P 16 28 56.1 -0.7**
CHTO Chiang Mai 40.64 264 ⇑P **P 16 28 55.5 -1.3**
CM31 Chiang Mai Arr 40.79 263 P **P 16 28 56.8 -1.3**
CMAR Chiang Mai Arr 40.79 263 P **P 16 28 56.8 -1.3**
comp=Z,32nm,0.7s,baz=57,slow=6.6,SNR=193
CMAR PcP **PcP 16 31 01.7 +2.6**
comp=Z,38nm,0.8s,baz=46,slow=1.2,SNR=10
CMAR ScP **ScP 16 34 55.1 +6.9**
comp=Z,17nm,1.2s,baz=54,slow=2.3,SNR=5.5
CMAR LR LR 16 47 07.6
comp=Z,19μm,19.2s,baz=65,slow=38
comp=Z,32nm,0.7s
CMAR Chiang Mai Arr 40.79 263 P **P 16 28 56.9 -1.2**
CMAR Chiang Mai Arr 40.79 263 P **P 16 28 56.9 -1.2**
KAPI Kappang 41.26 215 P **P 16 29 01.2 -0.6**
comp=Z,70nm,0.7s,baz=8.1,slow=3.5,SNR=31
KAPI PcP **PcP 16 31 02.7 +2.2**
comp=Z,71nm,0.8s,baz=138,slow=2.2,SNR=3.7
KAPI LR LR 16 45 35.8
comp=Z,4μm,21.1s,baz=38,slow=35
comp=Z,70nm,0.7s
KAPI Kappang 41.26 215 P **P 16 29 00.9 -0.9**
KAPI IAmb IAmb 16 29 23.4
comp=Z,286nm,1.0s
KAPI Kappang 41.26 215 *c* *i*P **P 16 29 01.1 -0.7**
KAPI pmax pmax
comp=Z,56nm,0.8s
KAPI MLR MLR
comp=Z,4μm,20.0s
KAPI Kappang 41.26 215 P **P 16 29 01.9 +0.1**
KAPI P **P 16 29 01.9 +0.1**
KAPI Kappang 41.26 215 P **P 16 29 02.0 +0.2**
KAPI Kappang 41.26 215 ⇑P **P 16 29 01.5 -0.3**
BKSI Bulukumba 41.34 214 P **P 16 29 01.5 -1.0**
comp=Z,10μmcomp=Z,4μmcomp=Z,123nm,0.8s
TIXI Tiksi 41.83 354 P **P 16 29 05.8 0.0**
comp=Z,29nm,0.5s,baz=272,slow=23,SNR=36
comp=Z,29nm,0.5s

TIXI Tiksi 41.83 354 P P 16 29 04.6 -1.2
TIXI Tiksi 41.83 354 *d* iP **P 16 29 05.6 -0.3**
TIXI pmax pmax
comp=Z,131nm,1.7s
TIXI Tiksi 41.83 354 ⇓P **P 16 29 05.5 -0.3**
BSSI Bau Bau, Buton 41.88 213 P P 16 29 05.5 -1.4
comp=Z,7μmcomp=Z,3μmcomp=Z,186nm,0.8s
STKI Sintang 41.95 230 P P 16 29 07.1 -0.4
comp=Z,5μmcomp=Z,157nm,1.4s
ZIRO ZIRO 42.01 278 *e*P **P 16 29 07.2 -1.0**
ZIRO IAmb IAmb 16 29 21.4
comp=Z,303nm,0.9s
ITAN ITANAGAR 42.22 278 *e*P **P 16 29 10.9 +1.2**
ITAN IAmb IAmb 16 29 23.3
comp=Z,301nm,0.9s
SPIA Saint Paul Isl 42.28 37 P P 16 29 10.1 +0.3
baz=252
KOHI KOHIMA 42.31 276 *e*P **P 16 29 08.7 -1.9**
KOHI IAmb IAmb 16 29 24.8
comp=Z,57nm,0.7s
BBKI Banjar Baru 42.61 222 P P 16 29 11.5 -1.4
comp=Z,6μmcomp=Z,6μmcomp=Z,121nm,1.3s
TEZP TEZPUR 43.16 278 *e*P **P 16 29 15.7 -1.6**
TEZP IAmb IAmb 16 29 23.7
comp=Z,151nm,0.7s
HNR Honiara 43.27 154 P P 16 29 17.3 -0.8
comp=Z,1μm,0.8s,baz=183,slow=2.1,SNR=5.5
HNR LR LR 16 46 35.7
comp=Z,90μm,20.3s,baz=322,slow=35
HNR Honiara 43.27 154 P P 16 29 18.4 +0.2
HNR IAmb IAmb 16 29 44.2
comp=Z,256nm,1.0s
HNR Honiara 43.27 154 IAMs_20 IAMs_20 16 44 51.3
comp=Z,16μm,21.0s
HNR Honiara 43.27 154 P P 16 29 18.4 +0.2
HNR pmax pmax
comp=Z,256nm,1.0s
HNR MLR MLR
comp=Z,16μm,21.0s
HNR Honiara 43.27 154 ⇑P **P 16 29 18.3 +0.2**
MMRI Maumere 43.31 209 P P 16 29 17.4 -1.2
MMRI IAmb IAmb 16 29 45.8
comp=Z,489nm,1.2s
MMRI Maumere 43.31 209 P P 16 29 17.3 -1.2
comp=Z,12μmcomp=Z,9μmcomp=Z,334nm,0.9s
MMRI Maumere 43.31 209 P P 16 29 19.4 +0.9
UNV Unalaska Valle 43.49 42 P P 16 29 19.4 -0.1
UNV Unalaska Valle 43.49 42 P P 16 29 18.6 -0.9
baz=259
UNV S S **16 35 44.9 -2.6**
baz=259
EDFI Ende, Flores 43.65 210 P P 16 29 19.6 -1.8
comp=Z,6μmcomp=Z,3μmcomp=Z,192nm,1.3s
LSA Lhasa 43.73 282 P P 16 29 21.8 -0.7
LSA Lhasa 43.73 282 P P 16 29 22.5 0.0
LSA pP **sP 16 29 28.3 +2.0**
LSA PP **PP 16 31 00.5 -3.7**
LSA S S **16 35 55.3 +2.6**
LSA pmax pmax
comp=Z,39nm,0.7s
LSA pmax pmax
comp=Z,2μm,2.7s
LSA LR LR
comp=Z,11μm,18.5s
LSA LR LR
comp=Z,24μm,17.1s
LSA LR LR
comp=Z,38μm,17.1s
LSA Lhasa 43.73 282 P P 16 29 21.8 -0.7
LSA pmax pmax
comp=Z,66nm,1.1s
LSA MLR MLR
comp=Z,26μm,19.0s
LSA Lhasa 43.73 282 *i* P **P 16 29 22.0 -0.4**
SNR=13
KDU Kakadu 43.91 194 P P 16 29 23.1 -0.2
KDU Kakadu 43.91 194 ⇑P **P 16 29 22.3 -1.1**
AKUT Akutan 43.97 42 P P 16 29 22.9 -0.5
AKUT IAmb IAmb 16 29 27.7
comp=Z,533nm,1.6s
AKUT Akutan 43.97 42 ⇓P **P 16 29 23.9 +0.5**
BATI Baumata 44.16 206 P P 16 29 24.1 -1.3
comp=Z,308nm,0.7s,baz=347,slow=0.5,SNR=34
BATI S **S 16 35 53.0 -5.2**
comp=Z,37nm,0.8s,baz=28,slow=21,SNR=5.7
BATI LR LR 16 45 28.4
comp=Z,6μm,21.8s,baz=359,slow=33
comp=Z,308nm,0.7s
BATI Baumata 44.16 206 P P 16 29 24.0 -1.4
comp=Z,5μmcomp=Z,5μmcomp=Z,345nm,1.3s
COEN Coen 44.21 178 P P 16 29 25.9 +0.1
COEN IAmb IAmb 16 29 30.8
comp=Z,237nm,1.1s
COEN Coen 44.21 178 P P 16 29 26.5 +0.8
COEN Coen 44.21 178 ⇑P **P 16 29 26.3 +0.6**
GUWA GUWAHATI 44.24 277 *e*P **P 16 29 25.1 -0.8**
GUWA IAmb IAmb 16 29 39.2
comp=Z,168nm,0.8s
MTN Manton Dam 44.35 195 P P 16 29 25.7 -1.1
MTN Manton Dam 44.35 195 P P 16 29 26.2 -0.7
MTN Manton Dam 44.35 195 ⇑P **P 16 29 25.5 -1.4**
WMQ Urumqi 44.56 303 ⇑P **P 16 29 29.0 +0.6**
WMQ PcP **PP 16 31 13.4 +1.1**
WMQ S S **16 35 59.5 -4.2**
WMQ ScS **ScS 16 39 28.0 +1.9**
WMQ pmax pmax
comp=Z,140nm,1.3s
WMQ pmax pmax
comp=Z,5μm,5.5s
WMQ LR LR
comp=Z,20μm,16.5s
WMQ LR LR
comp=Z,22μm,16.5s
WMQ LR LR
comp=Z,13μm,18.9s
DGZ Jazzator, Alta 44.88 311 *c* iP **P 16 29 32.5 +1.5**
DGZ pmax pmax
comp=Z,375nm,1.0s
DGZ MLR MLR
comp=Z,26μm,14.0s
AGT Agartala 45.36 274 *e*P **P 16 29 35.9 +0.9**
BRDH Bariadhala 45.44 273 LR LR 16 52 00.9
comp=Z,14μm,18.3s,baz=84,slow=41
PLAI Plampang 45.52 215 P P 16 29 34.3 -1.9
comp=Z,8μmcomp=Z,5μmcomp=Z,351nm,0.8s
PLAI Plampang 45.52 215 P P 16 29 34.7 -1.5
BWJI Bawean 45.81 223 P P 16 29 38.2 -0.3
comp=Z,5μmcomp=Z,6μmcomp=Z,523nm,1.2s
TWSI Taliwang, Sumb 45.89 216 P P 16 29 38.0 -1.1
comp=Z,6μmcomp=Z,3μmcomp=Z,157nm,0.8s
KMMI Kalianget 46.03 220 P P 16 29 38.9 -1.4
comp=Z,13μmcomp=Z,7μmcomp=Z,335nm,1.1s
MYKOM **Kota Tinggi 46.08 239 P P 16 29 40.4 -0.3**
MYKOM IAmb IAmb 16 29 58.2
comp=Z,164nm,1.1s
MYKOM IAMs_20 IAMs_20 16 47 47.2
comp=Z,15μm,19.0s
MYKOM **Kota Tinggi 46.08 239** ⇑P **P 16 29 40.8 +0.1**
TPRI Tanjung Pinang 46.17 238 P P 16 29 40.7 -0.7
comp=Z,5μmcomp=Z,3μmcomp=Z,123nm,1.1s
SRBI Singaraja 46.21 218 P P 16 29 40.9 -0.7
comp=Z,18μmcomp=Z,13μmcomp=Z,458nm,0.8s
KULM Kulim 46.29 246 P P 16 29 41.7 -0.7
KULM IAmb IAmb 16 29 58.5
comp=Z,199nm,1.1s
KULM Kulim 46.29 246 ⇑P **P 16 29 42.0 -0.4**
TNA Tin City 46.38 26 P P 16 29 42.9 +0.5
baz=246
TNA S S **16 36 32.5 +3.4**
baz=246
IPM Ipoh 46.50 244 P P 16 29 43.2 -0.8
IPM Ipoh 46.50 244 P P 16 29 44.1 +0.1
IPM Ipoh 46.50 244 ⇑P **P 16 29 43.3 -0.7**
ABJI Asem Bagus 46.50 220 P P 16 29 44.2 +0.3
comp=Z,20μmcomp=Z,13μmcomp=Z,443nm,1.4s
ZSN Zaisan 46.50 308 *c* iP **P 16 29 44.7 +1.0**
ZSN *i* S **S 16 36 32.3 +0.9**
ZSN pmax pmax
comp=Z,91nm,0.9s
ZSN Zaisan 46.50 308 ⇑*i* P **P 16 29 44.8 +1.0**
comp=Z,91nm,0.9s,baz=308
ZSN *i* S **S 16 36 32.4 +0.9**
baz=308
TPI Tanjungpandan 46.58 231 P P 16 29 44.1 -0.5
comp=Z,3μmcomp=Z,110nm,1.3s
DNP Denpasar 46.70 218 P P 16 29 45.3 -0.2
comp=Z,23μmcomp=Z,620nm,0.8s
BLJI Banyuglugur 46.81 220 P P 16 29 46.0 -0.4
comp=Z,7μmcomp=Z,3μmcomp=Z,84nm,0.9s
IGBI Denpasar 46.86 218 P P 16 29 45.7 -1.0
comp=Z,7μmcomp=Z,4μmcomp=Z,232nm,0.9s
ZAA0 Zalesovo Array 46.88 317 P P 16 29 46.5 0.0
ZAA0 IAmb IAmb 16 31 21.7
comp=Z,124nm,0.8s
ZALV Zalesovo Beam 46.88 317 P P 16 29 47.0 +0.5
comp=Z,25nm,0.4s,baz=105,slow=9.1,SNR=79
ZALV PcP **PcP 16 31 20.1 +0.9**
comp=Z,133nm,0.6s,baz=104,slow=3.4,SNR=19
ZALV LR LR 16 50 15.0
comp=Z,19μm,18.4s,baz=94,slow=37
ZALV PKPPKP P'P'df 17 00 51.9 -22
comp=Z,0.7nm,0.6s,baz=265,slow=5.1,SNR=2.4
ZALV P4KPbc 17 07 33.3
comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=3.1
comp=Z,25nm,0.4s
ZALV Zalesovo Beam 46.88 317 P P 16 29 46.7 +0.1
ANM Nome 47.00 28 P P 16 29 46.9 -0.4
ANM Nome 47.00 28 P P 16 29 46.9 -0.4
ANM pmax pmax
comp=Z,1μm,1.8s
ANM MLR MLR
comp=Z,8μm,19.0s
ANM Nome 47.00 28 P P 16 29 47.7 +0.4
baz=250
ANM S **S 16 36 41.1 +2.9**
baz=250
TBJI Tambak Boyo 47.06 223 P P 16 29 48.0 -0.3
comp=Z,5μmcomp=Z,5μmcomp=Z,370nm,1.2s
DSRI Dabo 47.09 236 P P 16 29 48.5 -0.1
comp=Z,6μmcomp=Z,3μmcomp=Z,75nm,1.8s
JAGI Jajag, Banyuwa 47.10 219 P P 16 29 47.2 -1.4
JAGI Jajag, Banyuwa 47.10 219 P P 16 29 46.9 -1.8
comp=Z,12μmcomp=Z,7μmcomp=Z,500nm,1.3s
JAGI Jajag, Banyuwa 47.10 219 P P 16 29 48.4 -0.3
PPBI Pangkal Pinang 47.18 233 P P 16 29 49.6 +0.3
comp=Z,11μmcomp=Z,170nm,2.1s
SDPT Sand Point 47.19 41 P P 16 29 48.0 -0.9
SDPT Sand Point 47.19 41 P P 16 29 47.5 -1.4
baz=263
GMJI Gumukmas 47.33 220 P P 16 29 50.1 -0.3
comp=Z,4μmcomp=Z,115nm,1.1s
CNBA Chernabura Isl 47.63 42 P P 16 29 51.2 -1.2
CNBA IAmb IAmb 16 30 17.3
comp=Z,201nm,1.0s
CNBA IAMs_20 IAMs_20 16 49 45.9
comp=Z,14μm,20.0s
CHNA Chernabura Isl 47.64 42 P P 16 29 51.9 -0.5
baz=264
CHNA S **S 16 36 46.6 -0.8**
baz=264
KNRA Kununurra 47.66 197 P P 16 29 52.1 -0.8
KNRA Kununurra 47.66 197 P P 16 29 52.8 -0.1
NGJI Ngawi 47.73 223 P P 16 29 53.4 -0.1
comp=Z,16μmcomp=Z,6μmcomp=Z,401nm,1.2s
S14K Fog Glacier 47.83 40 P P 16 29 53.3 -0.6
baz=263
PWJI Pagerwojo 48.05 222 P P 16 29 53.6 -2.5
comp=Z,5μmcomp=Z,332nm,1.0s
SMRI Semarang 48.08 224 P P 16 29 55.6 -0.7
SMRI Semarang 48.08 224 P P 16 29 55.3 -1.0
comp=Z,16μmcomp=Z,10μmcomp=Z,376nm,1.0s
MK31 Makanchi Array 48.27 307 P P 16 29 57.8 +0.3
MK31 IAmb IAmb 16 30 11.1
comp=Z,210nm,1.0s
MK31 Makanchi Array 48.27 307 *i* P **P 16 29 58.3 +0.8**
MKAR Makanchi Array 48.27 307 P P 16 29 58.0 +0.5
comp=Z,100nm,0.5s,baz=90,slow=9.4,SNR=929
MKAR PcP **PcP 16 31 25.6 +1.3**
comp=Z,29nm,0.7s,baz=72,slow=6.4,SNR=1.7
MKAR S **S 16 36 55.8 -0.9**
comp=Z,5.5nm,0.9s,baz=105,slow=16,SNR=3.1
MKAR LR LR 16 50 42.2
comp=Z,11μm,20.1s,baz=96,slow=37
MKAR P4KPbc 17 07 38.0
comp=Z,0.5nm,0.7s,baz=82,slow=5.2,SNR=5.4
comp=Z,100nm,0.5s
MKAR Makanchi Array 48.27 307 P P 16 29 57.8 +0.3
RAMN Ramite 48.35 280 *e*P **P 16 29 58.1 -0.5**
comp=Z,765nm,1.0s
MTSU Mount Surprise 48.40 177 P P 16 30 00.0 +1.3
CHGN Chignik 48.46 40 P P 16 29 58.7 0.0
CHGN IAmb IAmb 16 30 17.0
comp=Z,102nm,0.8s
CHGN Chignik 48.46 40 P P 16 29 57.8 -0.9
baz=264
JIRN Jiri 48.48 281 *e*P **P 16 29 59.2 -0.6**
comp=Z,521nm,0.6s
MAKZ Makanchi 48.48 307 P P 16 29 59.4 +0.3
MAKZ IAMs_20 IAMs_20 16 50 04.5
comp=Z,13μm,20.0s
MAKZ Makanchi 48.48 307 P P 16 30 00.0 +0.9
MAKZ Makanchi 48.48 307 ⇑P **P 16 29 59.5 +0.3**
PCJI Pacitan 48.56 223 P P 16 29 57.7 -2.2
comp=Z,8μmcomp=Z,5μmcomp=Z,204nm,1.0s
JMBI JAMBI 48.56 236 P P 16 30 01.1 +1.1
comp=Z,5μmcomp=Z,243nm,1.2s
GUN Gumba 48.67 282 *e*P **P 16 30 01.1 -0.1**
comp=Z,255nm,0.5s
UGM Wanagama 48.72 224 P P 16 30 01.1 -0.1
UGM Wanagama 48.72 224 P P 16 30 00.3 -0.9
comp=Z,10μmcomp=Z,11μmcomp=Z,614nm,1.3s
UGM Wanagama 48.72 224 P P 16 30 01.1 -0.1
YOGI Yogyakarta 48.78 224 P P 16 30 00.5 -1.2
comp=Z,7μmcomp=Z,771nm,1.1s
N16K Nishlik Lake 48.87 34 P P 16 30 03.1 +1.2
baz=260,SNR=19
N16K S **S 16 37 06.6 +1.7**
baz=260
TSI Tuntungan 49.02 245 P P 16 30 02.6 -1.0
comp=Z,9μmcomp=Z,8μmcomp=Z,155nm,1.4s
P16K Nushagak River 49.03 36 P P 16 30 04.1 +1.0
baz=262
P16K S **S 16 37 10.7 +3.8**
baz=262
R16K Pilot Point 49.06 38 P P 16 30 04.4 +1.1
baz=263
R16K S **S 16 37 07.6 +0.2**
baz=263
O16K Kokwok River B 49.06 36 P P 16 30 03.8 +0.5
baz=261,SNR=12
O16K S **S 16 37 08.4 +1.0**
baz=261
BKNI Bangkinang 49.14 240 P P 16 30 04.0 -0.5
BKNI Bangkinang 49.14 240 P P 16 30 04.5 0.0
comp=Z,9μmcomp=Z,5μmcomp=Z,317nm,1.6s
RDOG Red Dog Mine 49.17 24 P P 16 30 03.8 -0.2
baz=249
PKI Pulchoki 49.17 282 *e*P **P 16 30 04.2 -0.8**
comp=Z,123nm,0.6s
PKIN Phulchoki 49.18 282 *e*P **P 16 30 04.2 -0.8**
comp=Z,122nm,0.5s
PSI Prapat 49.18 244 LR LR 16 50 14.8
comp=Z,5μm,19.2s,baz=46,slow=35
PSI Prapat 49.18 244 P P 16 30 03.9 -1.0
PSI pmax pmax
comp=Z,268nm,1.0s
PSI Prapat 49.18 244 P P 16 30 05.4 +0.5
RPSI Rantau Prapat 49.24 244 P P 16 30 03.9 -1.4
PBA Port Blair 49.26 259 P P 16 30 04.1 -1.2
PBA IAmb IAmb 16 30 19.5
comp=Z,163nm,0.8s
PBA Port Blair 49.26 259 ⇑P **P 16 30 03.3 -2.1**
DMN Daman 49.41 282 *e*P **P 16 30 05.9 -0.9**
comp=Z,153nm,0.6s
NRIK Noril'sk 49.45 338 P P 16 30 06.8 +0.7
comp=Z,133nm,0.8s,baz=112,slow=8.7,SNR=96
NRIK S **S 16 37 10.3 -2.4**
comp=Z,9.1nm,1.1s,baz=234,slow=19,SNR=2.0
NRIK LR LR 16 50 46.2
comp=Z,10μm,19.4s,baz=119,slow=36
comp=Z,133nm,0.8s
NRIK Noril'sk 49.45 338 P P 16 30 06.2 0.0
NRIK Noril'sk 49.45 338 *d* iP **P 16 30 06.7 +0.5**
NRIK MLR MLR
comp=Z,11μm,15.0s
SEM Semipalatinsk 49.53 312 *c* iP **P 16 30 07.4 +0.1**
SEM *e*S **S 16 37 12.0 -2.6**
SEM pmax pmax
comp=Z,232nm,1.5s
SEM MLR MLR
comp=Z,9μm,15.0s
SEM Semipalatinsk 49.53 312 ⇑*i* P **P 16 30 07.5 +0.1**
comp=Z,232nm,1.5s,baz=312
SEM *e*S **S 16 37 12.1 -2.6**
baz=312
SEM LR LR 16 51 05.6
comp=Z,9μm,14.6s,baz=312
O17K Koliganek Bris 49.59 35 P P 16 30 07.8 +0.5
baz=262,SNR=12
O17K S **S 16 37 16.5 +1.7**
baz=262
KCSI Kotacane, Aceh 49.64 246 P P 16 30 06.3 -2.0
comp=Z,2μmcomp=Z,115nm,1.3s
LEM Lembang 49.66 227 LR LR 16 53 58.3
comp=Z,4μm,18.1s,baz=37,slow=40
LEM Lembang 49.66 227 P P 16 30 07.9 -0.7
comp=Z,8μmcomp=Z,10μmcomp=Z,998nm,1.0s
Q16K King Salmon 49.67 37 P P 16 30 08.4 +0.4
baz=263
Q16K S **S 16 37 17.1 +1.1**
baz=263
GKN Gorkha 49.69 282 *e*P **P 16 30 08.3 -0.5**
comp=Z,119nm,0.4s
SDSI Sungai Dareh 49.69 239 P P 16 30 07.5 -1.2
comp=Z,6μmcomp=Z,2μmcomp=Z,67nm,1.8s
R17K Ugashik Creek 49.70 38 P P 16 30 07.5 -0.7
baz=264
TNG Tangerang 49.79 229 P P 16 30 08.7 -0.7
comp=Z,8μmcomp=Z,24μmcomp=Z,1μm,0.4s
CBJI Citeko 49.84 229 P P 16 30 09.3 -0.5
comp=Z,12μmcomp=Z,10μmcomp=Z,712nm,1.0s
P17K Kvichak River 49.84 36 P P 16 30 09.7 +0.4
baz=263,SNR=15
P17K S **S 16 37 20.6 +2.3**
baz=263
CHIR Chirikof Islan 49.98 41 P P 16 30 10.7 +0.3
CHIR IAMs_20 IAMs_20 16 50 30.8
comp=Z,16μm,20.0s
CHIR Chirikof Islan 49.98 41 P P 16 30 10.6 +0.2
baz=266
BOK Bokaro 49.99 277 *e*P **P 16 30 11.3 +0.3**
BOK IAmb IAmb 16 30 16.0
comp=Z,114nm,1.0s
KLI Kotabumi 50.01 232 P P 16 30 11.1 0.0
comp=Z,9μmcomp=Z,11μmcomp=Z,978nm,1.2s
SBJI Serang 50.09 230 P P 16 30 10.9 -0.8
comp=Z,6μmcomp=Z,392nm,1.3s
BLSI Bandar Lampung 50.12 231 P P 16 30 10.6 -1.3
comp=Z,7μmcomp=Z,431nm,1.0s
LHSI Lahat 50.19 234 P P 16 30 12.4 0.0
comp=Z,13μmcomp=Z,11μmcomp=Z,431nm,1.1s
N18K Kilae Creek 50.31 34 P P 16 30 13.3 +0.4
N18K IAmb IAmb 16 30 20.7
comp=Z,412nm,1.8s
N18K Kilae Creek 50.31 34 P P 16 30 14.2 +1.4
baz=262,SNR=14
N18K S **S 16 37 26.4 +1.4**
baz=262
DANN Dangsing 50.32 283 *e*P **P 16 30 13.3 -0.5**
comp=Z,299nm,0.5s
CNJI Cibinong 50.34 228 P P 16 30 11.1 -2.5
comp=Z,7μmcomp=Z,5μmcomp=Z,536nm,0.9s
PDSI Padang 50.39 239 P P 16 30 14.6 +0.5
comp=Z,5μmcomp=Z,2μmcomp=Z,68nm,1.1s
KRJI Kerinci 50.45 237 P P 16 30 14.4 -0.2
comp=Z,10μmcomp=Z,13μmcomp=Z,491nm,2.2s
CTA Charters Tower 50.46 175 P P 16 30 14.8 +0.5
comp=Z,82nm,0.6s,baz=358,slow=7.5,SNR=100
CTA S **S 16 37 25.0 -2.7**
comp=Z,2.9nm,0.8s,baz=341,slow=18,SNR=1.4
CTA LR LR 16 49 27.0
comp=Z,3μm,21.1s,baz=348,slow=34
comp=Z,82nm,0.6s
CTA Charters Tower 50.46 175 P P 16 30 14.9 +0.5
CTAO Charters Tower 50.46 175 P P 16 30 14.6 +0.3
CTAO Charters Tower 50.46 175 P P 16 30 14.6 +0.3
CTAO pmax pmax
comp=Z,466nm,1.4s
CTAO MLR MLR
comp=Z,5μm,18.0s
CTAO Charters Tower 50.46 175 P P 16 30 14.8 +0.5
CTAO Charters Tower 50.46 175 ⇑P **P 16 30 14.8 +0.5**
SKJI Sukabumi 50.48 228 P P 16 30 12.0 -2.6
comp=Z,2μmcomp=Z,194nm,1.1s
P18K Big Mountain, 50.48 36 P P 16 30 14.6 +0.4
P18K IAmb IAmb 16 30 19.5
comp=Z,206nm,0.8s
P18K IAMs_20 IAMs_20 16 51 37.1
comp=Z,15μm,19.0s
P18K Big Mountain, 50.48 36 P P 16 30 14.9 +0.7
baz=264,SNR=17
P18K S **S 16 37 26.9 -0.5**
baz=264
WB0 Warramunga Arr 50.52 189 P P 16 30 14.3 -0.5
PDGK Podgornoye 50.54 303 P P 16 30 15.6 +0.6
O18K Koktuh Hills 50.55 36 P P 16 30 14.5 -0.1
O18K IAMs_20 IAMs_20 16 51 39.7
comp=Z,10μm,19.0s
O18K Koktuh Hills 50.55 36 P P 16 30 15.7 +1.0
baz=264
O18K S **S 16 37 29.0 +0.8**
baz=264
GCSA Galena City Sc 50.56 29 P P 16 30 14.8 +0.2
baz=258
GCSA S **S 16 37 28.3 +0.1**
baz=258
KURK Kurchatov 50.56 313 P P 16 30 15.1 +0.2
KURK Kurchatov 50.56 313 IAMs_20 IAMs_20 16 55 43.2
comp=Z,13μm,20.0s
KURK Kurchatov 50.56 313 *c* iP **P 16 30 15.5 +0.7**
KURK pmax pmax
comp=Z,512nm,1.3s
KURK MLR MLR
comp=Z,34μm,16.0s
KURK Kurchatov 50.56 313 P P 16 30 15.3 +0.5
KURK P **P 16 30 15.3 +0.5**
KURK Kurchatov 50.56 313 ⇑P **P 16 30 15.0 +0.2**
SHLS Shalkode 50.58 303 *c* iP **P 16 30 12.7 -2.6**
SHLS *e*S **S 16 37 22.9 -6.5**
SHLS Shalkode 50.58 303 ⇑*i* P **P 16 30 12.8 -2.6**
baz=303
SHLS *e*S **S 16 37 22.9 -6.5**
baz=303
MASI Maura Aman, Be 50.61 236 P P 16 30 15.1 -0.6
comp=Z,7μmcomp=Z,7μmcomp=Z,465nm,1.4s
KURBB **Kurchatov Arra 50.62 312 P P 16 30 15.8 +0.5**
comp=Z,118nm,0.6s,baz=92,slow=9.0,SNR=314
KURBB LR LR 16 50 13.3
comp=Z,5μm,20.3s,baz=65,slow=34
KURBB PKPPKP P'P'df 17 00 51.7 -17
comp=Z,2.4nm,1.0s,baz=235,slow=2.9,SNR=4.8
comp=Z,118nm,0.6s
KURBB **Kurchatov Arra 50.62 312 P P 16 30 16.0 +0.7**
LWLI Liwa 50.67 232 P P 16 30 14.5 -1.7
comp=Z,5μmcomp=Z,4μmcomp=Z,349nm,1.1s
WR0 Warramunga Arr 50.69 189 P P 16 30 15.6 -0.5
WRAB Tennant Creek 50.69 189 P P 16 30 15.5 -0.5
WRAB Tennant Creek 50.69 189 *c* iP **P 16 30 15.7 -0.4**
WRAB pmax pmax
comp=Z,542nm,0.8s
WRAB MLR MLR
comp=Z,8μm,18.0s
WRAB Tennant Creek 50.69 189 P P 16 30 15.7 -0.4
WRAB Tennant Creek 50.69 189 ⇑P **P 16 30 15.7 -0.4**
WB2 Warramunga Arr 50.70 189 P P 16 30 15.7 -0.5
WRA Warramunga Arr 50.70 189 P P 16 30 15.9 -0.3
comp=Z,546nm,0.8s,baz=7.0,slow=7.7,SNR=435
WRA ScP **ScP 16 35 32.0 +3.0**
comp=Z,23nm,1.3s,baz=7.6,slow=4.3,SNR=4.6
WRA S **S 16 37 26.9 -4.1**
comp=Z,9.3nm,0.9s,baz=11,slow=14,SNR=5.0
WRA LR LR 16 50 00.3
comp=Z,10μm,21.7s,baz=10.0,slow=34
WRA PKPPKP **P'P'df 17 01 00.4 +5.5**
comp=Z,1.5nm,0.9s,baz=153,slow=1.7,SNR=6.3
WRA P4KPbc 17 07 49.2
comp=Z,3.4nm,1.0s,baz=9.4,slow=4.8,SNR=24
WRA Warramunga Arr 50.70 189 P P 16 30 15.8 -0.4
KSI Kapahiang 50.72 235 P P 16 30 14.9 -1.6
comp=Z,5μmcomp=Z,239nm,1.0s
KASI Kota Agung 50.74 232 P P 16 30 14.9 -1.7
comp=Z,7μmcomp=Z,4μmcomp=Z,392nm,1.1s
QIS Mount Isa 50.82 183 P P 16 30 17.6 +0.5
SII Sitkinak Islan 50.82 40 P P 16 30 16.9 +0.1
SII IAMs_20 IAMs_20 16 53 39.0
comp=Z,11μm,20.0s
SII Sitkinak Islan 50.82 40 P P 16 30 17.2 +0.4
baz=267
FITZ Fitzroy Crossi 50.83 200 P P 16 30 16.9 -0.3
comp=Z,237nm,0.8s,baz=21,slow=7.0,SNR=150

FITZ S **S** **16 37 29.9 -2.9**
comp=Z,5.1nm,0.7s,baz=210,slow=18,SNR=5.9
FITZ LR LR 16 50 26.2
comp=Z,3µm,21.8s,baz=18,slow=34
comp=Z,237nm,0.8s
FITZ Fitzroy Crossi 50.83 200 P **P** **16 30 16.8 -0.3**
FITZ Fitzroy Crossi 50.83 200 P **P** **16 30 17.6 +0.4**
FITZ Fitzroy Crossi 50.83 200 ⇑P **P** **16 30 16.8 -0.3**
FITZ ⇓P **P** **16 30 17.0 -0.3**
UZB Uzynbulak 50.90 303 *i* P **P** **16 30 17.8 0.0**
UZB *e*S **S** **16 37 31.9 -2.0**
UZB Uzynbulak 50.90 303 *i* P **P** **16 30 17.8 0.0**
baz=303
UZB *e*S **S** **16 37 32.0 -2.0**
baz=303
MNAI Manna 50.96 234 P **P** **16 30 17.9 -0.5**
MNAI Manna 50.96 234 P **P** **16 30 18.4 +0.1**
L19K White Mountain 51.01 33 P **P** **16 30 18.4 +0.3**
L19K IAmb IAmb 16 30 25.6
comp=Z,355nm,1.6s
L19K IAMs_20 IAMs_20 16 52 02.9
comp=Z,10µm,19.0s
L19K White Mountain 51.01 33 P **P** **16 30 19.4 +1.2**
baz=262,SNR=20
L19K S **S** **16 37 37.2 +2.6**
baz=262
N19K Bonanza Creek 51.01 34 P **P** **16 30 18.6 +0.4**
N19K Bonanza Creek 51.01 34 P **P** **16 30 19.2 +1.0**
baz=263,SNR=12
N19K S **S** **16 37 37.6 +2.8**
baz=263
O19K Port Alsworth 51.03 35 P **P** **16 30 18.9 +0.8**
O19K IAMs_20 IAMs_20 16 49 39.3
comp=Z,10µm,18.0s
O19K Port Alsworth 51.03 35 P **P** **16 30 19.0 +0.8**
baz=264,SNR=14
O19K S **S** **16 37 36.9 +2.2**
baz=264
PYUN Piuthan 51.05 283 *e*P **P** **16 30 18.5 -0.6**
comp=Z,428nm,0.5s
KPKS Kokpek 51.10 303 *c i*P **P** **16 30 19.3 +0.1**
KPKS *e*S **S** **16 37 35.0 -1.5**
KPKS pmax pmax
comp=Z,295nm,1.9s
KPKS Kokpek 51.10 303 ⇑*i*P **P** **16 30 19.4 +0.1**
comp=Z,295nm,1.9s,baz=303
KPKS *e*S **S** **16 37 35.1 -1.5**
baz=303
TDK Taldyqorghan 51.11 305 *c i*P **P** **16 30 19.6 +0.4**
TDK *e*S **S** **16 37 36.3 -0.2**
TDK pmax pmax
comp=Z,143nm,1.3s
TDK MLR MLR
comp=Z,14µm,14.0s
TDK Taldyqorghan 51.11 305 ⇑*i*P **P** **16 30 19.6 +0.4**
comp=Z,143nm,1.3s,baz=305
TDK *e*S **S** **16 37 36.4 -0.2**
baz=305
TDK LR LR 16 52 33.4
comp=Z,14µm,14.3s,baz=305
GSI Gunungsitoli 51.16 244 P **P** **16 30 18.9 -0.9**
GSI Gunungsitoli 51.16 244 P **P** **16 30 19.3 -0.5**
comp=Z,10µmcomp=Z,11µmcomp=Z,554nm,1.2s
GSI Gunungsitoli 51.16 244 P **P** **16 30 20.0 +0.2**
M19K Big River Lodg 51.19 33 P **P** **16 30 19.9 +0.5**
M19K IAMs_20 IAMs_20 16 52 55.7
comp=Z,11µm,18.0s
M19K Big River Lodg 51.19 33 P **P** **16 30 20.8 +1.3**
baz=263,SNR=14
M19K S **S** **16 37 39.3 +2.2**
baz=263
Q19K Cape Douglas, 51.26 37 P **P** **16 30 18.8 -1.3**
Q19K IAmb IAmb 16 30 37.7
comp=Z,146nm,0.9s
Q19K IAMs_20 IAMs_20 16 49 56.5
comp=Z,16µm,21.0s
Q19K Cape Douglas, 51.26 37 P **P** **16 30 19.1 -0.9**
baz=266
ZHN Zhinishke 51.32 303 *e*P **P** **16 30 21.2 +0.3**
ZHN Zhinishke 51.32 303 *e*P **P** **16 30 21.2 +0.3**
baz=303
OHAK Old Harbor 51.34 39 P **P** **16 30 20.0 -0.6**
OHAK IAmb IAmb 16 30 35.5
comp=Z,169nm,1.0s
OHAK Old Harbor 51.34 39 P **P** **16 30 19.9 -0.7**
baz=267,SNR=15
OHAK S **S** **16 37 38.5 -0.7**
baz=267
SATY Saty 51.36 303 *c i*P **P** **16 30 21.3 +0.1**
SATY *e*S **S** **16 37 38.9 -1.3**
SATY pmax pmax
comp=Z,325nm,2.1s
SATY Saty 51.36 303 ⇑*i*P **P** **16 30 21.4 +0.1**
comp=Z,325nm,2.1s,baz=303
SATY *e*S **S** **16 37 39.0 -1.3**
baz=303
L20K Farewell, AK 51.50 32 P **P** **16 30 23.2 +1.4**
baz=263,SNR=12
L20K S **S** **16 37 45.0 +3.6**
baz=263
P19K Oil Pt 51.52 36 P **P** **16 30 21.2 -0.8**
P19K IAmb IAmb 16 30 27.0
comp=Z,126nm,0.8s
P19K IAMs_20 IAMs_20 16 52 11.4
comp=Z,11µm,19.0s
P19K Oil Pt 51.52 36 P **P** **16 30 22.0 0.0**
baz=266
P19K S **S** **16 37 42.5 +0.7**
baz=266
K20K Telida 51.53 31 P **P** **16 30 22.0 0.0**
K20K IAmb IAmb 16 30 40.8
comp=Z,190nm,1.0s
K20K Telida 51.53 31 P **P** **16 30 23.4 +1.3**
baz=262,SNR=44
K20K S **S** **16 37 44.8 +3.1**
baz=262
ILSW Iliamna Southw 51.59 35 P **P** **16 30 22.8 +0.2**
ILSW IAmb IAmb 16 30 29.0
comp=Z,470nm,2.0s
J20K Nowinta River 51.62 30 P **P** **16 30 23.2 +0.6**
J20K IAmb IAmb 16 30 41.3
comp=Z,224nm,1.1s
J20K Nowinta River 51.62 30 P **P** **16 30 24.0 +1.4**
baz=261,SNR=55
J20K S **S** **16 37 45.5 +2.6**
baz=261
SISI Saibi 51.69 240 P **P** **16 30 22.5 -1.3**
comp=Z,3µmcomp=Z,106nm,0.8s
KDAK Kodiak Island 51.75 38 P **P** **16 30 23.5 -0.1**
comp=Z,219nm,0.9s,baz=320,slow=3.1,SNR=45
KDAK LR LR 16 50 51.4
comp=Z,21µm,21.2s,baz=272,slow=34
comp=Z,219nm,0.9s
KDAK Kodiak Island 51.75 38 P **P** **16 30 23.2 -0.4**
KDAK IAmb IAmb 16 30 36.0
comp=Z,291nm,0.9s
KDAK Kodiak Island 51.75 38 P **P** **16 30 23.7 0.0**
baz=268
KDAK S **S** **16 37 44.5 -0.2**
baz=268
KDAK Kodiak Island 51.75 38 ⇓P **P** **16 30 23.3 -0.4**
KDAK ⇓p **pP** **16 30 23.8 -2.2**
M20K Styx River 51.78 33 P **P** **16 30 24.3 +0.3**
M20K IAmb IAmb 16 30 47.6
comp=Z,201nm,1.6s
M20K IAMs_20 IAMs_20 16 53 14.3
comp=Z,9µm,19.0s
M20K Styx River 51.78 33 P **P** **16 30 25.3 +1.3**
baz=264,SNR=22
M20K S **S** **16 37 46.7 +1.3**
baz=264
RSO Redoubt South 51.83 35 P **P** **16 30 24.3 -0.2**
O20K Slope Mountain 51.86 35 P **P** **16 30 24.5 -0.1**
baz=266
O20K S **S** **16 37 46.1 -0.3**
baz=266
Q20K Shuyak Island 51.89 37 P **P** **16 30 24.2 -0.5**
baz=267,SNR=9.6
Q20K S **S** **16 37 44.1 -2.6**
baz=267
IMAR Indian Mountai 52.09 28 P **P** **16 30 26.3 +0.2**
N20K Mount Spurr 52.15 34 P **P** **16 30 27.5 +0.8**
baz=265,SNR=32
N20K S **S** **16 37 52.0 +1.5**
baz=265
SPCR Spurr Chakacha 52.15 34 P **P** **16 30 27.5 +0.8**
baz=265,SNR=26
SPCR S **S** **16 37 52.4 +1.9**
baz=265
SPU Mount Spurr 52.23 34 P **P** **16 30 27.0 -0.3**
CHKK Chushkaly 52.27 304 *e*P **P** **16 30 28.0 +0.2**
CHKK Chushkaly 52.27 304 *e*P **P** **16 30 28.0 +0.2**
baz=304
G21K Allakaket 52.27 27 P **P** **16 30 28.7 +1.2**
baz=260,SNR=49
G21K S **S** **16 37 52.2 +0.4**
baz=260
A21K Barrow 52.30 21 P **P** **16 30 27.9 +0.3**
A21K IAmb IAmb 16 30 43.3
comp=Z,296nm,1.2s
A21K Barrow 52.30 21 P **P** **16 30 28.4 +0.8**
baz=253
A21K S **S** **16 37 52.9 +0.8**
baz=253
PPLA Purkeypile 52.32 32 P **P** **16 30 28.8 +0.7**
PPLA Purkeypile 52.32 32 P **P** **16 30 28.8 +0.7**
baz=264
HOM Homer 52.33 36 IAMs_20 IAMs_20 16 53 02.7
comp=Z,13µm,20.0s
HOM Homer 52.33 36 P **P** **16 30 27.6 -0.3**
baz=267
MDOK Medeo 52.33 303 *i* P **P** **16 30 29.1 +0.7**
MDOK *e*S **S** **16 37 51.3 -2.2**
MDOK MLR MLR
comp=Z,11µm,14.0s
MDOK Medeo 52.33 303 *i* P **P** **16 30 29.1 +0.7**
baz=303
MDOK *e*S **S** **16 37 51.4 -2.2**
baz=303
MDOK LR LR 16 53 33.8
comp=Z,11µm,14.0s,baz=303
CHUM Lake Minchumin 52.38 31 P **P** **16 30 29.0 +0.7**
baz=263,SNR=33
CHUM S **S** **16 37 55.9 +2.6**
baz=263
KNDC Almaty 52.38 303 P **P** **16 30 30.0 +1.3**
F21K Alatna River 52.41 26 P **P** **16 30 29.3 +0.8**
baz=259,SNR=21
F21K S **S** **16 37 55.9 +2.1**
baz=259
H21K Melozitna Rive 52.41 28 P **P** **16 30 29.3 +0.8**
H21K Melozitna Rive 52.41 28 P **P** **16 30 29.7 +1.2**
baz=261,SNR=120
H21K S **S** **16 37 56.6 +2.8**
baz=261
AAA Alma-Ata 52.42 303 *e*P **P** **16 30 29.5 +0.5**
AAA *e*S **S** **16 37 56.3 +1.7**
AAA pmax pmax
comp=Z,351nm,1.2s
AAA MLR MLR
comp=Z,12µm,16.0s
AAA Alma-Ata 52.42 303 *e*P **P** **16 30 29.5 +0.5**
comp=Z,351nm,1.2s,baz=303
AAA *e*S **S** **16 37 56.3 +1.7**
baz=303
AAA LR LR 16 53 40.6
comp=Z,12µm,16.1s,baz=303
CAST Castle Rocks 52.43 31 P **P** **16 30 29.0 +0.3**
CAST IAmb IAmb 16 30 47.3
comp=Z,148nm,0.9s
CAST Castle Rocks 52.43 31 P **P** **16 30 29.8 +1.2**
baz=264,SNR=90
CAST S **S** **16 37 55.9 +1.9**
baz=264
CNPM China Poot 52.53 36 P **P** **16 30 29.3 -0.2**
CNPM IAMs_20 IAMs_20 16 53 56.1
comp=Z,14µm,19.0s
SKT Skwentna 52.54 33 P **P** **16 30 29.2 -0.3**
SKT IAmb IAmb 16 30 46.2
comp=Z,448nm,1.9s
SKT IAMs_20 IAMs_20 16 50 17.4
comp=Z,10µm,20.0s
SKT Skwentna 52.54 33 P **P** **16 30 29.8 +0.2**
baz=265,SNR=30
SKT S **S** **16 37 55.6 0.0**
baz=265
CAPN Captain Cook N 52.63 35 P **P** **16 30 31.2 +1.0**
baz=266
CAPN S **S** **16 37 51.9 -5.0**
baz=266
I21K Tanana 52.69 29 P **P** **16 30 31.1 +0.6**
I21K IAmb IAmb 16 30 37.7
comp=Z,309nm,1.3s
I21K Tanana 52.69 29 P **P** **16 30 32.1 +1.6**
baz=262,SNR=42
I21K S **S** **16 38 00.1 +2.6**
baz=262
BRLK Bradley Lake 52.72 36 P **P** **16 30 30.4 -0.5**
BRLK IAMs_20 IAMs_20 16 54 02.8
comp=Z,12µm,19.0s
KUU Kurty 52.73 304 *c i*P **P** **16 30 31.3 +0.1**
KUU *e*S **S** **16 37 57.3 -1.4**
KUU MLR MLR
comp=Z,12µm,13.0s
KUU Kurty 52.73 304 ⇑*i*P **P** **16 30 31.4 +0.1**
baz=304
KUU *e*S **S** **16 37 57.3 -1.4**
baz=304
KUU LR LR 16 53 39.5
comp=Z,12µm,13.4s,baz=304
BRSE Bradley Lake S 52.79 36 P **P** **16 30 30.9 -0.5**
baz=268,SNR=9.8
BRSE S **S** **16 37 56.7 -2.4**
baz=268
SUA Susitna One 52.88 34 P **P** **16 30 31.8 -0.4**
SUA Susitna One 52.88 34 P **P** **16 30 31.9 -0.2**
baz=266,SNR=12
SUA S **S** **16 37 58.9 -1.6**
baz=266
F22K John River 52.96 26 P **P** **16 30 33.6 +1.1**
baz=260,SNR=26
F22K S **S** **16 38 03.2 +2.0**
baz=260
KTH Kantishna Hill 52.96 31 P **P** **16 30 32.6 -0.1**
KTH IAmb IAmb 16 30 40.0
comp=Z,449nm,1.6s
BPAW Bear Paw Mtn. 52.99 30 P **P** **16 30 33.0 +0.2**
BPAW IAmb IAmb 16 30 40.4
comp=Z,355nm,1.7s
BPAW IAMs_20 IAMs_20 16 50 51.1
comp=Z,9µm,20.0s
BPAW Bear Paw Mtn. 52.99 30 P **P** **16 30 33.8 +1.0**
baz=264,SNR=36
BPAW S **S** **16 38 02.6 +1.0**
baz=264
H22K Ishtalitna Cre 53.03 28 P **P** **16 30 34.8 +1.7**
baz=262,SNR=71
H22K S **S** **16 38 04.5 +2.2**
baz=262
ULHL Ulahol 53.06 302 P **P** **16 30 34.8 +0.9**
SNR=80
G22K Bettles 53.12 27 P **P** **16 30 34.0 +0.3**
baz=262
CUT Chulitna 53.16 33 P **P** **16 30 33.9 -0.1**
CUT Chulitna 53.16 33 P **P** **16 30 34.1 0.0**
baz=266,SNR=14
CUT S **S** **16 38 02.5 -1.6**
baz=266
MLY Manley 53.19 29 P **P** **16 30 34.9 +0.6**
MLY Manley 53.19 29 P **P** **16 30 35.5 +1.2**
baz=264,SNR=82
MLY S **S** **16 38 06.4 +1.9**
baz=264
M22K Willow 53.19 33 P **P** **16 30 34.1 -0.2**
M22K Willow 53.19 33 P **P** **16 30 33.6 -0.6**
baz=267,SNR=9.8
M22K S **S** **16 38 02.7 -1.7**
baz=267
TRF Thorofare Moun 53.23 31 P **P** **16 30 34.6 -0.3**
TRF IAmb IAmb 16 30 51.1
comp=Z,231nm,1.3s
TRF Thorofare Moun 53.23 31 P **P** **16 30 35.4 +0.6**
baz=265,SNR=28
TRF S **S** **16 38 04.5 -0.9**
baz=265
BOOM Boomskoye usch 53.24 302 P **P** **16 30 35.8 +0.5**
BOOM IAmb IAmb 16 30 49.1
comp=Z,259nm,1.0s
BOOM Boomskoye usch 53.24 302 P **P** **16 30 35.8 +0.5**
BOOM pmax pmax
comp=Z,259nm,1.0s
O22K Cooper Landing 53.33 35 P **P** **16 30 34.6 -0.7**
baz=268
RC01 Rabbit Creek A 53.34 34 P **P** **16 30 34.7 -0.7**
RC01 IAmb IAmb 16 30 41.6
comp=Z,483nm,1.8s
RC01 IAMs_20 IAMs_20 16 51 15.6
comp=Z,9µm,20.0s
RC01 Rabbit Creek A 53.34 34 P **P** **16 30 34.9 -0.5**
baz=268
RC01 S **S** **16 38 04.5 -2.1**
baz=268
TKM2 Tokmak 2 53.42 303 P **P** **16 30 37.5 +0.9**
SNR=218
TKM2 Tokmak 2 53.42 303 P **P** **16 30 38.0 +1.4**
SEW Seward 53.45 35 P **P** **16 30 35.8 -0.4**
SEW IAmb IAmb 16 30 58.3
comp=Z,298nm,1.0s
SEW Seward 53.45 35 P **P** **16 30 36.2 +0.1**
baz=268,SNR=15
SEW S **S** **16 38 06.0 -1.9**
baz=268
XMI Christmas Isla 53.65 226 ⇑P **P** **16 30 37.4 -0.9**
XMI ⇑P **pP** **16 30 38.6 -2.4**
PMR Palmer 53.66 34 P **P** **16 30 36.6 -1.1**
PMR Palmer 53.66 34 P **P** **16 30 36.6 -1.1**
PMR Palmer 53.66 34 P **P** **16 30 37.4 -0.3**
baz=268,SNR=30
PMR S **S** **16 38 08.7 -2.1**
baz=268
BWN Browne 53.66 30 P **P** **16 30 38.7 +1.0**
BWN IAMs_20 IAMs_20 16 56 55.8
comp=Z,8µm,18.0s
COLD Coldfoot 53.67 27 P **P** **16 30 39.0 +1.3**
baz=262,SNR=28
COLD S **S** **16 38 13.3 +2.4**
baz=262
G23K Bananza Creek 53.68 27 P **P** **16 30 39.2 +1.4**
baz=263,SNR=102
G23K S **S** **16 38 14.0 +3.0**
baz=263
XMIS Christmas Isla 53.70 226 P **P** **16 30 36.9 -1.7**
D23K Nanushuk River 53.75 24 P **P** **16 30 40.0 +1.7**
baz=261,SNR=26
D23K S **S** **16 38 13.8 +2.0**
baz=261
GHO Glory Hole Cre 53.76 33 P **P** **16 30 38.3 -0.3**
GHO IAmb IAmb 16 30 45.2
comp=Z,330nm,1.2s
GHO IAMs_20 IAMs_20 16 54 36.7
comp=Z,9µm,19.0s
H23K Yukon River 53.77 28 P **P** **16 30 39.2 +0.6**
H23K Yukon River 53.77 28 P **P** **16 30 40.2 +1.6**
baz=264,SNR=81
H23K S **S** **16 38 14.7 +2.4**
baz=264
KSH Kashi 53.79 299 P **P** **16 30 43.3 +4.1**
KSH sP pwP 16 30 53.9 +4.3
KSH S **S** **16 38 18.8 +5.3**
KSH ScS **ScS** **16 40 31.6 +3.1**
KSH pmax pmax
comp=Z,480nm,0.8s
KSH LR LR
comp=Z,10µm,18.2s
KSH LR LR
comp=Z,28µm,15.1s
KSH LR LR
comp=Z,34µm,15.1s
MCK McKinley 53.86 31 P **P** **16 30 38.6 -0.6**
MCK McKinley 53.86 31 P **P** **16 30 38.6 -0.6**
MCK pmax pmax
comp=Z,957nm,2.0s
MCK MLR MLR
comp=Z,7µm,22.0s
MCK McKinley 53.86 31 P **P** **16 30 39.5 +0.2**
baz=266,SNR=48
MCK S **S** **16 38 14.2 +0.7**
baz=266
NEA2 Nenana 53.86 30 P **P** **16 30 39.3 +0.1**
NEA2 IAmb IAmb 16 30 52.8
comp=Z,221nm,1.0s
NEA2 Nenana 53.86 30 P **P** **16 30 40.0 +0.8**
baz=266,SNR=130
NEA2 S **S** **16 38 14.6 +1.1**
baz=266
RND Reindeer 53.88 31 P **P** **16 30 38.8 -0.6**
RND IAmb IAmb 16 30 51.6
comp=Z,109nm,0.9s
RND Reindeer 53.88 31 P **P** **16 30 38.8 -0.6**
RND pmax pmax
comp=Z,109nm,0.9s
RND MLR MLR
comp=Z,8µm,21.0s
C23K Itkillik River 53.92 23 P **P** **16 30 40.8 +1.3**
baz=260,SNR=18
C23K S **S** **16 38 17.7 +3.6**
baz=260
KBK Karagaybulak 53.94 303 P **P** **16 30 41.2 +0.9**
SNR=186
KNK Knik Glacier 53.97 34 P **P** **16 30 39.7 -0.4**
KNK IAmb IAmb 16 30 54.0
comp=Z,203nm,1.0s
KNK IAMs_20 IAMs_20 16 51 46.3
comp=Z,12µm,21.0s
KNK Knik Glacier 53.97 34 P **P** **16 30 40.2 +0.1**
baz=268,SNR=59
KNK S **S** **16 38 16.5 +1.4**
baz=268
WAT1 Susitna Watana 53.98 32 P **P** **16 30 40.1 -0.1**
baz=267
WAT1 S **S** **16 38 15.5 +0.2**
baz=267
E23K Chandalar 54.00 26 P **P** **16 30 41.6 +1.3**
baz=262,SNR=32
E23K S **S** **16 38 19.0 +3.5**
baz=262
CHMS Chumysh 54.02 303 P **P** **16 30 42.0 +1.3**
SNR=57
PWL Port Wells 54.02 35 P **P** **16 30 39.4 -1.0**
PWL IAmb IAmb 16 30 56.2
comp=Z,114nm,1.0s
PWL IAMs_20 IAMs_20 16 53 55.6
comp=Z,14µm,19.0s
PWL Port Wells 54.02 35 P **P** **16 30 40.1 -0.3**
baz=269,SNR=14
PWL S **S** **16 38 15.4 -0.4**
baz=269
SGDS Sogindy 54.02 304 *c i*P **P** **16 30 41.2 +0.4**
SGDS *e*S **S** **16 38 16.4 0.0**
SGDS pmax pmax
comp=Z,251nm,1.9s
SGDS Sogindy 54.02 304 ⇑*i*P **P** **16 30 41.2 +0.4**
comp=Z,251nm,1.9s,baz=304
SGDS *e*S **S** **16 38 16.5 0.0**
baz=304
SML Sawmill 54.04 33 P **P** **16 30 40.1 -0.6**
SML IAmb IAmb 16 31 08.4
comp=Z,216nm,1.0s
SML IAMs_20 IAMs_20 16 55 23.2
comp=Z,10µm,19.0s
SML Sawmill 54.04 33 P **P** **16 30 40.1 -0.6**
SML pmax pmax
comp=Z,216nm,1.0s
SML Sawmill 54.04 33 P **P** **16 30 40.5 -0.1**
baz=268,SNR=62
SML S **S** **16 38 17.8 +1.6**
baz=268
TOLK Toolik Lake Re 54.10 25 P **P** **16 30 41.0 0.0**
TOLK IAmb IAmb 16 31 11.1
comp=Z,149nm,1.1s
TOLK Toolik Lake Re 54.10 25 P **P** **16 30 42.1 +1.2**
baz=262,SNR=25
TOLK S **S** **16 38 19.4 +2.7**
baz=262
KIP Kipapa 54.11 84 ⇑*e*P **P** **16 30 38.5 -3.1**
KIP pmax pmax
comp=Z,42nm,1.1s
USP Ospenovka 54.15 304 P **P** **16 30 42.5 +0.7**
SNR=115
BTLS Baital 54.17 306 *i* P **P** **16 30 42.2 +0.5**
BTLS *e*S **S** **16 38 18.9 +0.7**
BTLS pmax pmax
comp=Z,202nm,1.0s
BTLS Baital 54.17 306 *i* P **P** **16 30 42.3 +0.5**
comp=Z,202nm,1.0s,baz=306
BTLS *e*S **S** **16 38 18.9 +0.7**
baz=306
RK1H Rockhampton Ha 54.19 170 P **P** **16 30 42.5 +0.5**
MDM Murphy Dome 54.25 29 P **P** **16 30 42.1 +0.1**
AAK Ala-Archa 54.27 303 P **P** **16 30 43.5 +0.7**
SNR=89

AAK Ala-Archa 54.27 303 P **P** **16 30 43.4 +0.7**
comp=Z,98nm,0.8s,baz=130,slow=6.9,SNR=132
AAK LR LR 16 54 35.7
comp=Z,18µm,19.1s,baz=76,slow=37
comp=Z,98nm,0.8s
AAK Ala-Archa 54.27 303 P **P** **16 30 42.8 +0.1**
AAK IAmb IAmb 16 30 56.4
comp=Z,154nm,0.8s
AAK Ala-Archa 54.27 303 *c i* P **P** **16 30 43.3 +0.6**
AAK pmax pmax
comp=Z,103nm,0.7s
AAK MLR MLR
comp=Z,16µm,18.0s
AAK Ala-Archa 54.27 303 P **P** **16 30 43.5 +0.7**
AAK P **P** **16 30 43.5 +0.7**
AAK Ala-Archa 54.27 303 *i* P **P** **16 30 43.4 +0.6**
SNR=126
WRH Wood River Hil 54.28 30 P **P** **16 30 41.9 -0.3**
UCH Uchtor 54.33 302 P **P** **16 30 44.9 +1.3**
SNR=260
M23K Glacier View 54.33 33 P **P** **16 30 42.7 0.0**
baz=269,SNR=33
M23K S **S** **16 38 21.0 +1.0**
baz=269
WAT6 Susitna Watana 54.35 32 P **P** **16 30 43.2 +0.2**
baz=268,SNR=38
WAT6 S **S** **16 38 21.1 +0.7**
baz=268
TCOL CIGO, UAF Yank 54.40 30 P **P** **16 30 43.3 +0.3**
TCOL IAmb IAmb 16 31 10.2
comp=Z,260nm,1.4s
TCOL CIGO, UAF Yank 54.40 30 P **P** **16 30 43.6 +0.5**
baz=266
TCOL S **S** **16 38 21.9 +1.2**
baz=266
COLA College 54.40 30 P **P** **16 30 43.1 +0.1**
COLA IAmb IAmb 16 31 10.2
comp=Z,281nm,1.4s
COLA College 54.40 30 *i* P **P** **16 30 43.3 +0.2**
COLA pmax pmax
comp=Z,94nm,0.9s
COLA MLR MLR
comp=Z,5µm,19.0s
COLA College 54.40 30 P **P** **16 30 43.6 +0.6**
baz=266
COLA S **S** **16 38 21.9 +1.2**
baz=266
COLA College 54.40 30 ⇓P **P** **16 30 43.4 +0.3**
BRZS Berezniki 54.41 312 *i* P **P** **16 30 43.9 +0.5**
BRZS *e*S **S** **16 38 19.3 -2.0**
BRZS pmax pmax
comp=Z,145nm,1.1s
BRZS Berezniki 54.41 312 *i* P **P** **16 30 43.9 +0.5**
comp=Z,145nm,1.1s,baz=312
BRZS *e*S **S** **16 38 19.4 -2.0**
baz=312
CCB Clear Creek Bu 54.41 30 P **P** **16 30 42.3 -0.8**
AS31 Alice Springs 54.42 189 P **P** **16 30 42.9 -0.8**
AS31 IAmb IAmb 16 30 48.9
comp=Z,72nm,0.6s
ASAR Alice Springs 54.42 189 P **P** **16 30 43.4 -0.4**
comp=Z,146nm,0.6s,baz=3.3,slow=6.7,SNR=1198
ASAR PcP **PcP** **16 31 50.3 +3.0**
comp=Z,77nm,0.7s,baz=9.6,slow=4.1,SNR=5.3
ASAR S **S** **16 38 17.6 -4.3**
comp=Z,2.3nm,1.1s,baz=8.0,slow=14,SNR=1.3
ASAR LR LR 16 52 47.4
ASAR comp=Z,11µm,20.8s,baz=20,slow=35 PKPPKP **P'P'df** **17 00 44.9 -4.9**
comp=Z,1.6nm,0.9s,baz=146,slow=3.1,SNR=7.3
ASAR P4KPbc 17 08 06.1
comp=Z,1.7nm,0.8s,baz=8.6,slow=4.8,SNR=26
comp=Z,146nm,0.6s
ASAR Alice Springs 54.42 189 P **P** **16 30 43.2 -0.5**
E24K Your Creek 54.43 26 P **P** **16 30 44.8 +1.5**
baz=264,SNR=48
E24K S **S** **16 38 25.1 +3.9**
baz=264
D24K Happy Valley 54.44 24 P **P** **16 30 44.5 +1.2**
baz=262
H24K Noodor Dome 54.46 28 P **P** **16 30 44.0 +0.4**
H24K IAMs_20 IAMs_20 16 57 03.0
comp=Z,8µm,18.0s
H24K Noodor Dome 54.46 28 P **P** **16 30 44.8 +1.2**
baz=266,SNR=41
H24K S **S** **16 38 24.5 +2.9**
baz=266
P23K Montague Islan 54.48 36 P **P** **16 30 44.1 +0.3**
baz=270,SNR=12
P23K S **S** **16 38 23.5 +1.6**
baz=270
DDI Dehra Dun 54.48 287 *e*P **P** **16 30 44.5 +0.1**
DDI IAmb IAmb 16 30 50.7
comp=Z,221nm,0.7s
SCM Sheep Creek Mo 54.52 33 P **P** **16 30 44.1 -0.1**
SCM IAmb IAmb 16 31 02.0
comp=Z,167nm,0.8s
SCM IAMs_20 IAMs_20 16 53 54.8
comp=Z,9µm,20.0s
SCM Sheep Creek Mo 54.52 33 P **P** **16 30 44.1 -0.1**
SCM pmax pmax
comp=Z,167nm,0.8s
SCM MLR MLR
comp=Z,9µm,20.0s
SCM Sheep Creek Mo 54.52 33 P **P** **16 30 44.6 +0.5**
baz=269,SNR=46
SCM S **S** **16 38 24.6 +1.9**
baz=269
DHY Denali Highway 54.53 32 P **P** **16 30 43.7 -0.5**
DHY Denali Highway 54.53 32 P **P** **16 30 44.3 0.0**
baz=268,SNR=21
DHY S **S** **16 38 23.5 +0.7**
baz=268
C24K Franklin Bluff 54.55 24 P **P** **16 30 44.9 +0.8**
baz=262,SNR=23
C24K S **S** **16 38 24.5 +1.9**
baz=262
POKR Poker Plat Res 54.59 29 P **P** **16 30 44.2 -0.4**
POKR IAmb IAmb 16 31 03.0
comp=Z,112nm,0.8s
POKR Poker Plat Res 54.59 29 P **P** **16 30 45.2 +0.6**
baz=267,SNR=8.9
POKR S **S** **16 38 24.4 +1.0**
baz=267
F24K Squaw Lake 54.60 26 P **P** **16 30 46.0 +1.4**
baz=264,SNR=22
F24K S **S** **16 38 25.9 +2.5**
baz=264
GLI Glacier Island 54.63 35 P **P** **16 30 44.2 -0.6**
GLI IAmb IAmb 16 30 51.3
comp=Z,149nm,1.1s
GLI IAMs_20 IAMs_20 16 54 50.6
comp=Z,11µm,20.0s
GLI Glacier Island 54.63 35 P **P** **16 30 45.0 +0.1**
baz=270
GLI S **S** **16 38 25.3 +1.4**
baz=270
G24K Hadweenzic Riv 54.69 27 P **P** **16 30 47.0 +1.8**
baz=266,SNR=42
G24K S **S** **16 38 28.0 +3.5**
baz=266
HDA Harding Lake 54.77 30 P **P** **16 30 45.1 -0.7**
HDA IAMs_20 IAMs_20 16 53 51.2
comp=Z,9µm,19.0s
HDA Harding Lake 54.77 30 P **P** **16 30 45.6 -0.2**
baz=268,SNR=66
HDA S **S** **16 38 26.0 +0.3**
baz=268
HDA S **S** **16 38 26.0 +0.3**
baz=268
EKS2 Erkin-Say 54.78 303 P **P** **16 30 48.0 +1.6**
SNR=12
IL31 54.81 30 P **P** **16 30 45.2 -0.8**
IL31 IAmb IAmb 16 30 58.6
comp=Z,166nm,1.1s
ILAR Eielson Array 54.81 30 P **P** **16 30 45.6 -0.5**
comp=Z,70nm,0.9s,baz=260,slow=6.1,SNR=234
ILAR LR LR 16 52 08.0
comp=Z,5µm,21.9s,baz=255,slow=34
ILAR PKPPKP P'P'df 17 00 32.0 -31
comp=Z,1.9nm,1.0s,baz=154,slow=3.8,SNR=6.9
comp=Z,70nm,0.9s
ILAR Eielson Array 54.81 30 P **P** **16 30 45.2 -0.9**
OTUK Ortayu 54.85 310 P **P** **16 30 48.0 +1.3**
HIN Hinchinbrook I 54.92 35 P **P** **16 30 47.1 +0.1**
FID Port Fidalgo 54.93 35 P **P** **16 30 45.9 -1.2**
FID IAmb IAmb 16 31 09.7
comp=Z,312nm,1.3s
FID IAMs_20 IAMs_20 16 53 23.0
comp=Z,12µm,20.0s
AML Almayashu 54.95 302 P **P** **16 30 49.2 +1.3**
SNR=353
SMLA Simla 54.97 289 *e*P **P** **16 30 47.0 -0.8**
SMLA IAmb IAmb 16 30 53.8
comp=Z,200nm,0.6s
Q23K Middleton Isla 55.02 36 IAMs_20 IAMs_20 16 51 57.2
comp=Z,9µm,20.0s
Q23K Middleton Isla 55.02 36 P **P** **16 30 48.2 +0.6**
baz=272
Q23K S **S** **16 38 31.9 +2.8**
baz=272
M24K Tolsona, Glenn 55.07 33 P **P** **16 30 48.1 0.0**
M24K IAMs_20 IAMs_20 16 53 53.2
comp=Z,10µm,20.0s
M24K Tolsona, Glenn 55.07 33 P **P** **16 30 49.0 +0.9**
baz=270,SNR=18
M24K S **S** **16 38 31.9 +1.9**
baz=270
KOUNC Koumac, New Ca 55.08 154 P **P** **16 30 48.2 -0.2**
KOUNC IAmb IAmb 16 31 12.4
comp=Z,254nm,1.3s
KOUNC Koumac, New Ca 55.08 154 ⇑P **P** **16 30 50.3 +1.9**
KLU Klutina 55.19 34 P **P** **16 30 48.9 -0.1**
KLU IAmb IAmb 16 31 16.8
comp=Z,123nm,0.9s
KLU IAMs_20 IAMs_20 16 56 08.5
comp=Z,10µm,19.0s
KLU Klutina 55.19 34 P **P** **16 30 49.7 +0.7**
baz=271,SNR=40
KLU S **S** **16 38 33.1 +1.5**
baz=271
K24K Donnelly Dome 55.26 31 P **P** **16 30 49.6 +0.2**
baz=269
K24K S **S** **16 38 31.8 -0.7**
baz=269
DIV Divide 55.27 34 P **P** **16 30 49.3 -0.2**
DIV IAmb IAmb 16 31 12.7
comp=Z,205nm,1.1s
EYAK Cordova Ski Ar 55.29 35 P **P** **16 30 49.2 -0.4**
EYAK Cordova Ski Ar 55.29 35 P **P** **16 30 50.2 +0.6**
baz=271,SNR=10
EYAK S **S** **16 38 33.8 +1.1**
baz=271
H25K Birch Creek 55.32 28 P **P** **16 30 51.4 +1.6**
baz=267,SNR=40
H25K S **S** **16 38 36.3 +3.3**
baz=267
D25K Kavik River 55.32 24 P **P** **16 30 50.8 +1.0**
baz=265,SNR=14
D25K S **S** **16 38 34.1 +1.0**
baz=265
PAX Paxson 55.40 32 P **P** **16 30 50.3 -0.2**
PAX IAmb IAmb 16 30 57.4
comp=Z,460nm,1.9s
PAX Paxson 55.40 32 P **P** **16 30 50.3 -0.2**
PAX pmax pmax
comp=Z,460nm,1.9s
PAX Paxson 55.40 32 P **P** **16 30 51.0 +0.5**
baz=270,SNR=56
PAX S **S** **16 38 34.6 +0.2**
baz=270
PRP Porcupine Dome 55.41 29 P **P** **16 30 49.7 -1.0**
PRP Porcupine Dome 55.41 29 P **P** **16 30 50.6 0.0**
baz=268,SNR=6.9
PRP S **S** **16 38 33.6 -1.0**
baz=268
J25K Salcha River, 55.46 30 P **P** **16 30 49.5 -1.3**
J25K IAMs_20 IAMs_20 16 57 44.4
comp=Z,8µm,19.0s
J25K Salcha River, 55.46 30 P **P** **16 30 50.0 -0.8**
baz=269,SNR=27
J25K S **S** **16 38 33.2 -1.9**
baz=269
F25K Christian Rive 55.46 26 P **P** **16 30 52.7 +1.8**
baz=267,SNR=33
F25K S **S** **16 38 38.8 +3.8**
baz=267
BVAR Borovoye Array 55.49 316 LR LR 16 55 33.1
comp=Z,19µm,18.6s,baz=80,slow=37
BVAR PKPPKP 17 00 37.7
comp=Z,1.1nm,0.8s,baz=207,slow=2.3,SNR=8.3
BHK Bhakra 55.50 289 *e*PN **P** **16 30 49.2 -2.4**
E25K Arctic Village 55.52 26 P **P** **16 30 53.1 +1.9**
baz=266,SNR=43
E25K S **S** **16 38 38.5 +2.7**
baz=266
HARP HAARP 55.54 33 P **P** **16 30 52.2 +0.7**
baz=271,SNR=19
HARP S **S** **16 38 37.9 +1.7**
baz=271
BRVK Borovoye 55.55 316 P **P** **16 30 52.1 +0.4**
BRVK IAmb IAmb 16 31 06.8
comp=Z,157nm,0.9s
BRVK Borovoye 55.55 316 *c e* P **P** **16 30 52.3 +0.7**
BRVK pmax pmax
comp=Z,222nm,1.3s
BRVK MLR MLR
comp=Z,25µm,17.0s
BRVK Borovoye 55.55 316 P **P** **16 30 52.6 +1.0**
BRVK Borovoye 55.55 316 ⇓P **P** **16 30 52.4 +0.7**
BRVK ⇓P **pP** **16 30 52.4 -1.9**
MBWA Marble Bar 55.66 205 P **P** **16 30 52.0 -0.7**
MBWA Marble Bar 55.66 205 P **P** **16 30 52.5 -0.2**
MBWA P **P** **16 30 52.5 -0.2**
MBWA Marble Bar 55.66 205 P **P** **16 30 52.5 -0.2**
RIDG Independent Ri 55.68 31 P **P** **16 30 51.8 -0.6**
RIDG IAmb IAmb 16 30 58.1
comp=Z,140nm,1.1s
RIDG IAMs_20 IAMs_20 16 57 40.3
comp=Z,11µm,19.0s
RIDG Independent Ri 55.68 31 P **P** **16 30 52.4 0.0**
baz=270,SNR=51
RIDG S **S** **16 38 37.4 -0.7**
baz=270
NDI New Delhi 55.69 286 *e*P **P** **16 30 53.0 0.0**
N25K Chitina, Valde 55.82 34 P **P** **16 30 53.7 +0.2**
N25K IAMs_20 IAMs_20 16 57 25.2
comp=Z,10µm,18.0s
N25K Chitina, Valde 55.82 34 P **P** **16 30 54.1 +0.5**
baz=272,SNR=22
N25K S **S** **16 38 41.7 +1.6**
baz=272
RAGM Ragged Mountai 55.83 35 P **P** **16 30 53.8 +0.2**
RAGM IAmb IAmb 16 32 34.2
comp=Z,212nm,1.0s
BMRM Bremner River 55.84 34 P **P** **16 30 53.8 +0.1**
BMRM IAmb IAmb 16 31 21.1
comp=Z,240nm,1.0s
BMRM Bremner River 55.84 34 P **P** **16 30 54.1 +0.4**
baz=272,SNR=41
BMRM S **S** **16 38 41.1 +0.8**
baz=272
BMAR Burnt Mountain 55.86 27 P **P** **16 30 54.5 +0.8**
C26K Camden Bay 55.88 24 P **P** **16 30 55.4 +1.6**
baz=266,SNR=10.0
C26K S **S** **16 38 41.9 +1.4**
baz=266
KAIM Kayak Island 55.98 36 P **P** **16 30 54.1 -0.5**
KAIM IAmb IAmb 16 31 18.8
comp=Z,200nm,1.3s
KAIM IAMs_20 IAMs_20 16 58 37.4
comp=Z,14µm,18.0s
KAIM Kayak Island 55.98 36 P **P** **16 30 55.5 +0.9**
baz=273
KAIM S **S** **16 38 45.1 +3.0**
baz=273
PSA00 Pilbara Seismi 56.00 205 P **P** **16 30 54.5 -0.6**
PSA00 Pilbara Seismi 56.00 205 P **P** **16 30 54.4 -0.6**
PSA00 IAmb IAmb 16 30 59.4
comp=Z,177nm,1.1s
PSA00 Pilbara Seismi 56.00 205 P **P** **16 30 55.3 +0.2**
DOT Dot Lake 56.03 31 P **P** **16 30 54.7 -0.2**
HMT Hamilton 56.04 35 IAMs_20 IAMs_20 16 55 41.9
comp=Z,14µm,20.0s
F26K Sheenjek River 56.04 26 P **P** **16 30 56.7 +1.8**
baz=268,SNR=50
F26K S **S** **16 38 45.9 +3.2**
baz=268
SCRK Sand Creek 56.06 31 P **P** **16 30 55.7 +0.5**
SCRK IAmb IAmb 16 31 17.9
comp=Z,193nm,1.2s
SCRK IAMs_20 IAMs_20 16 57 43.3
comp=Z,8µm,19.0s
SCRK Sand Creek 56.06 31 P **P** **16 30 55.5 +0.3**
baz=271,SNR=61
SCRK S **S** **16 38 43.4 +0.2**
baz=271
G26K Porcupine Rive 56.16 27 P **P** **16 30 57.5 +1.8**
baz=269,SNR=62
G26K S **S** **16 38 47.5 +3.3**
baz=269
MENT Mentasta 56.20 32 P **P** **16 30 56.7 +0.6**
MENT IAmb IAmb 16 31 34.7
comp=Z,136nm,1.0s
GLB Gilahina Butte 56.21 34 P **P** **16 30 56.4 +0.1**
GLB IAmb IAmb 16 31 40.6
comp=Z,166nm,1.2s
GLB IAMs_20 IAMs_20 16 53 57.3
comp=Z,9µm,20.0s
EIDS Eidsvold 56.22 170 P **P** **16 30 56.8 +0.2**
EIDS Eidsvold 56.22 170 ⇑P **P** **16 30 57.4 +0.8**
EIDS Eidsvold 56.22 170 ⇑P **P** **16 30 57.4 +0.8**
EIDS ⇑P **P** **16 30 57.4 +0.8**
J26L Joseph Creek 56.24 30 P **P** **16 30 56.6 +0.1**
J26L IAmb IAmb 16 31 16.6
comp=Z,100nm,0.9s
J26L IAMs_20 IAMs_20 16 56 29.0
comp=Z,8µm,19.0s
J26L Joseph Creek 56.24 30 P **P** **16 30 56.3 -0.2**
baz=271,SNR=87
J26L S **S** **16 38 45.1 -0.4**
baz=271
C27K Jago River 56.28 24 P **P** **16 30 58.1 +1.5**
baz=267,SNR=22
C27K S **S** **16 38 47.3 +1.5**
baz=267
SUCK Suckling Hills 56.29 35 IAMs_20 IAMs_20 16 56 26.6
comp=Z,12µm,18.0s
BERG Berg Lake 56.31 35 P **P** **16 30 57.1 +0.1**
BERG IAMs_20 IAMs_20 16 57 07.2
comp=Z,10µm,18.0s
L26K Log Cabin Wild 56.36 32 P **P** **16 30 57.7 +0.4**
L26K IAmb IAmb 16 31 20.8
comp=Z,193nm,1.2s
L26K Log Cabin Wild 56.36 32 P **P** **16 30 58.5 +1.2**
baz=272,SNR=8.7
L26K S **S** **16 38 50.1 +2.9**
baz=272
I26K Coal Creek Min 56.40 29 P **P** **16 30 56.7 -0.8**
baz=270
I26K S **S** **16 38 47.4 -0.1**
baz=270
LIFNC LIFOU 56.44 151 P **P** **16 30 58.1 -0.1**
LIFNC IAmb IAmb 16 31 20.2
comp=Z,298nm,1.2s
DZA Taraz 56.50 304 *e*P **P** **16 30 59.6 +1.0**
DZA *e*S **S** **16 38 48.9 -0.6**
DZA Taraz 56.50 304 *e*P **P** **16 30 59.6 +1.0**
baz=304
DZA *e*S **S** **16 38 48.9 -0.6**
baz=304
BGLC Bering Glacier 56.54 35 P **P** **16 30 59.7 +1.2**
baz=274
M26K Nabesna, AK 56.55 33 P **P** **16 30 58.7 0.0**
M26K IAmb IAmb 16 31 07.2
comp=Z,220nm,1.5s
M26K IAMs_20 IAMs_20 16 55 39.4
comp=Z,13µm,20.0s
M26K Nabesna, AK 56.55 33 P **P** **16 30 59.5 +0.8**
baz=272,SNR=54
M26K S **S** **16 38 51.4 +1.7**
baz=272
MCARA McCarthy VSAT 56.59 34 P **P** **16 30 59.0 +0.1**
MCARA IAmb IAmb 16 31 26.9
comp=Z,182nm,1.0s
MCARA McCarthy VSAT 56.59 34 P **P** **16 30 59.9 +1.0**
baz=273,SNR=26
MCARA S **S** **16 38 52.0 +1.9**
baz=273
TGL Tana Glacier 56.72 35 P **P** **16 30 59.2 -0.8**
WAX Waxell Ridge 56.73 35 P **P** **16 30 59.2 -0.8**
SNH Sunshine Point 56.76 35 P **P** **16 31 00.4 +0.2**
SNH IAMs_20 IAMs_20 16 59 22.9
comp=Z,11µm,18.0s
WRKA Warakurna 56.77 195 P **P** **16 31 00.4 -0.2**
QLP Quilpie 56.80 178 P **P** **16 31 00.9 +0.2**
K27K Chicken 56.90 31 IAMs_20 IAMs_20 16 58 33.7
comp=Z,7µm,18.0s
K27K Chicken 56.90 31 P **P** **16 31 01.9 +0.8**
baz=272
DRK Karamyk 56.94 300 P **P** **16 31 02.4 +0.3**
ISLE Juniper Island 56.97 35 P **P** **16 31 01.7 -0.1**
ISLE IAmb IAmb 16 31 08.6
comp=Z,155nm,1.2s
ISLE IAMs_20 IAMs_20 16 56 35.6
comp=Z,11µm,19.0s
G27K Doyon Strip 57.00 27 P **P** **16 31 03.2 +1.4**
baz=271,SNR=33
G27K S **S** **16 38 57.2 +1.7**
baz=271
HMH Humu'ula Sheep 57.01 85 P **P** **16 31 02.8 0.0**
E27K Coleen River 57.01 26 P **P** **16 31 03.4 +1.6**
baz=270,SNR=22
E27K S **S** **16 38 57.3 +1.7**
baz=270
RMQ Roma 57.03 173 P **P** **16 31 03.3 +0.9**
KHU Kahuku 57.04 86 P **P** **16 31 02.7 -0.3**
KHU Kahuku 57.04 86 P **P** **16 31 02.7 -0.3**
KHU pmax pmax
comp=Z,1µm,1.9s
I27K Kandik River 57.04 29 P **P** **16 31 02.8 +0.7**
baz=272,SNR=41
I27K S **S** **16 38 57.8 +1.8**
baz=272
KK31 Karatay Array 57.04 304 P **P** **16 31 02.9 +0.4**
KK31 Karatay Array 57.04 304 P **P** **16 31 03.6 +1.1**
KKAR Karatay Array 57.04 304 P **P** **16 31 03.0 +0.6**
KKAR Karatay Array 57.04 304 P **P** **16 31 03.0 +0.6**
KKAR Karatay Array 57.04 304 ⇑P **P** **16 31 03.0 +0.6**
L27K Beaver Creek, 57.05 32 P **P** **16 31 02.9 +0.7**
L27K IAmb IAmb 16 31 09.6
comp=Z,334nm,1.6s
L27K IAMs_20 IAMs_20 16 56 48.7
comp=Z,10µm,20.0s
L27K Beaver Creek, 57.05 32 P **P** **16 31 03.3 +1.0**
baz=273,SNR=118
L27K S **S** **16 38 57.5 +1.3**
baz=273
H27K Steamboat Moun 57.06 28 P **P** **16 31 04.0 +1.7**
baz=271,SNR=89
H27K S **S** **16 39 00.6 +4.3**
baz=271
M27K Edge Creek, AK 57.07 33 P **P** **16 31 02.4 -0.1**
M27K IAmb IAmb 16 31 16.3
comp=Z,158nm,1.1s
M27K IAMs_20 IAMs_20 16 56 22.2
comp=Z,11µm,20.0s
M27K Edge Creek, AK 57.07 33 P **P** **16 31 03.5 +1.0**
baz=274,SNR=44
M27K S **S** **16 38 58.4 +1.7**
baz=274
BCAR Beaver Creek A 57.07 32 P **P** **16 31 03.0 +0.6**
MESA MESA 57.20 35 P **P** **16 31 02.7 -0.8**
MESA IAmb IAmb 16 31 09.8
comp=Z,164nm,1.4s
MESA IAMs_20 IAMs_20 16 54 43.6
comp=Z,12µm,20.0s
MESA MESA 57.20 35 P **P** **16 31 04.1 +0.6**
baz=275
MESA S **S** **16 39 00.0 +1.5**
baz=275
NOUC Port Laguerre 57.26 153 P **P** **16 31 06.4 +2.4**
EGAK Eagle 57.26 30 P **P** **16 31 03.2 -0.4**
EGAK Eagle 57.26 30 P **P** **16 31 03.9 +0.2**
baz=273,SNR=58
EGAK S **S** **16 38 58.7 -0.2**
baz=273
YAH Yahtse 57.28 35 P **P** **16 31 03.7 -0.4**
YAH IAMs_20 IAMs_20 16 54 36.8
comp=Z,13µm,20.0s
DZM Mont Dzumac 57.28 153 *e*P **P** **16 31 05.3 +1.0**
comp=Z,708nm,1.2s
DZM *e*S **S** **16 39 01.0 +0.8**
comp=Z,3µm,28.1s
DZM *e*SS **SS** **16 42 52.4 +2.4**
comp=Z,2µm,24.8s
DZM *e*LR LR 16 47 49.0
comp=Z,7µm,20.3s
DZM Mont Dzumac 57.28 153 LR LR 16 55 07.2
comp=Z,8µm,19.4s,baz=350,slow=36

DZM Mont Dzumac 57.28 153 P **P** **16 31 06.1 +1.7**
DZM Mont Dzumac 57.28 153 P **P** **16 31 06.7 +2.3**
DZM Mont Dzumac 57.28 153 ⇑P **P** **16 31 06.5 +2.2**
DZM ⇑P **P** **16 31 06.7 +2.3**
MARNC Mare, Loyalty 57.40 151 ⇑P **P** **16 31 07.5 +2.5**
BHPL Bhopal 57.43 280 *e*P **P** **16 31 03.7 -1.7**
BHPL IAmb IAmb 16 31 06.8
comp=Z,91nm,0.8s
CTG Chitna Glacier 57.43 34 P **P** **16 31 05.8 +0.7**
baz=275,SNR=17
CTG S **S** **16 39 02.0 +0.5**
baz=275
CTGM Chitina Glacie 57.43 34 P **P** **16 31 04.9 -0.2**
CTGM IAmb IAmb 16 31 12.1
comp=Z,256nm,1.8s
CTGM IAMs_20 IAMs_20 16 56 21.7
comp=Z,10µm,20.0s
YATNC Mamie plateau, 57.45 152 P **P** **16 31 07.8 +2.4**
ONTNC Ouen Toro 57.50 153 P **P** **16 31 05.7 -0.1**
ONTNC IAmb IAmb 16 31 22.1
comp=Z,156nm,1.0s
ONTNC Ouen Toro 57.50 153 ⇑P **P** **16 31 07.7 +2.0**
BTK Batken 57.53 301 P **P** **16 31 05.9 -0.1**
BTK Batken 57.53 301 P **P** **16 31 05.9 -0.1**
BTK pmax pmax
comp=Z,503nm,1.1s
BVCY Beaver Creek 57.54 33 P **P** **16 31 06.4 +0.7**
baz=274,SNR=7.3
BVCY S **S** **16 39 04.3 +1.6**
baz=274
TABL Table Mountain 57.57 35 P **P** **16 31 05.9 -0.3**
TABL IAMs_20 IAMs_20 16 54 04.5
comp=Z,13µm,21.0s
IUG luzhnay 57.60 303 *i*P **P** **16 31 07.6 +1.1**
IUG *e*S **S** **16 39 03.7 -0.5**
IUG luzhnay 57.60 303 *i*P **P** **16 31 07.6 +1.1**
baz=303
IUG *e*S **S** **16 39 03.8 -0.5**
baz=303
LOGN Logan Glacier 57.61 34 P **P** **16 31 06.1 -0.2**
LOGN IAmb IAmb 16 31 13.5
comp=Z,306nm,2.0s
LOGN IAMs_20 IAMs_20 16 55 39.4
comp=Z,9µm,19.0s
YUK3 Moose Creek 57.78 33 P **P** **16 31 08.1 +0.4**
baz=275
YUK3 S **S** **16 39 06.4 +0.1**
baz=275
INKA Innaminka 57.93 181 P **P** **16 31 08.9 +0.3**
O28M Mount Upton 58.01 34 P **P** **16 31 10.0 +0.7**
baz=276,SNR=23
O28M S **S** **16 39 10.9 +1.5**
baz=276
PCA Pinnacle 58.05 35 P **P** **16 31 09.2 -0.2**
PINM Pinnacle 58.05 35 P **P** **16 31 10.0 +0.7**
baz=276,SNR=17
PINM S **S** **16 39 09.7 +0.2**
baz=276
DAWY Dawson 58.07 31 P **P** **16 31 09.4 0.0**
DAWY Dawson 58.07 31 P **P** **16 31 10.5 +1.0**
baz=275,SNR=37
DAWY S **S** **16 39 12.1 +2.5**
baz=275
DAWY Dawson 58.07 31 ⇓P **P** **16 31 10.4 +1.0**
DAWY ⇓p **P** **16 31 10.4 +1.0**
PINNC Pines Island, 58.17 152 P **P** **16 31 11.3 +0.9**
GAR Garm 58.17 299 P **P** **16 31 11.0 +0.4**
OOD Oodnadatta 58.28 187 P **P** **16 31 11.6 +0.5**
TAS Tashkent 58.34 302 P **P** **16 31 11.8 +0.2**
TAS Tashkent 58.34 302 P **P** **16 31 11.8 +0.2**
TAS pmax pmax
comp=Z,350nm,0.8s
BCPM Bancas Point 58.38 35 P **P** **16 31 11.4 -0.1**
BCPM IAmb IAmb 16 32 33.4
comp=Z,134nm,0.9s
BCPM IAMs_20 IAMs_20 16 58 23.7
comp=Z,9µm,18.0s
I29M Ogilvie Camp, 58.43 29 P **P** **16 31 12.2 +0.4**
I29M Ogilvie Camp, 58.43 29 P **P** **16 31 12.9 +1.0**
baz=275,SNR=86
I29M S **S** **16 39 16.5 +2.2**
baz=275
PNL Peninsula 58.53 36 P **P** **16 31 13.4 +0.8**
baz=277,SNR=14
PNL S **S** **16 39 17.9 +2.2**
baz=277
J29M Klondike Camp 58.55 30 IAMs_20 IAMs_20 16 57 31.2
comp=Z,10µm,20.0s
J29M Klondike Camp 58.55 30 P **P** **16 31 14.0 +1.2**
baz=275
J29M S **S** **16 39 19.2 +3.2**
baz=275
M29M Somme Creek 58.65 32 P **P** **16 31 15.1 +1.5**
baz=276,SNR=82
M29M S **S** **16 39 18.0 +0.7**
baz=276
YUK4 Talbot Arm 58.69 34 P **P** **16 31 15.5 +1.6**
baz=277,SNR=34
YUK4 S **S** **16 39 19.6 +1.5**
baz=277
L29M L29M 58.73 32 P **P** **16 31 15.8 +1.8**
baz=276,SNR=175
L29M S **S** **16 39 20.8 +2.6**
baz=276
HYB Hyderabad 58.80 273 *e*P **P** **16 31 15.5 +0.3**
HYBB Hyderabad (bro 58.80 273 *e*P **P** **16 31 14.6 -0.6**
HYBB *e*pP **pP** **16 31 17.9 -0.2**
HYBB IVmB_BB 16 31 18.6
comp=Z,1µm,6.7s
HYBB *e*PcP **PcP** **16 32 05.4 +0.7**
HYBB IVMs_BB IVMs_BB 17 04 02.4
comp=Z,2µm,14.0s
O29M Mount Kennedy 58.86 35 P **P** **16 31 16.5 +1.5**
baz=278,SNR=32
O29M S **S** **16 39 22.4 +2.3**
baz=278
YUK6 Outpost Mounta 58.88 34 P **P** **16 31 16.8 +1.5**
baz=277,SNR=35
YUK6 S **S** **16 39 24.4 +3.8**
baz=277
K29M Barlow Dome 58.92 31 P **P** **16 31 16.9 +1.4**
baz=276,SNR=118
K29M S **S** **16 39 24.3 +3.5**
baz=276
EPYK Eagle Plains 58.99 28 P **P** **16 31 15.9 +0.2**
EPYK Eagle Plains 58.99 28 P **P** **16 31 17.1 +1.3**
baz=276,SNR=70
EPYK S **S** **16 39 24.1 +2.6**
baz=276
CHGR Chuyangaron 59.14 299 P **P** **16 31 17.6 +0.4**
CHGR Chuyangaron 59.14 299 P **P** **16 31 17.7 +0.4**
MSVF Nonsavu 59.16 139 LR LR 16 53 31.2
comp=Z,10µm,20.4s,baz=325,slow=33
MSVF Nonsavu 59.16 139 IAMs_20 IAMs_20 16 56 07.7
comp=Z,11µm,19.0s
MSVF Nonsavu 59.16 139 *de*P **P** **16 31 21.6 +4.0**
MSVF pmax pmax
comp=Z,173nm,2.8s
MSVF MLR MLR
comp=Z,10µm,18.0s
MSVF Nonsavu 59.16 139 P **P** **16 31 20.7 +3.1**
GIRL Giralia 59.21 210 P **P** **16 31 18.3 +0.7**
GIRL Giralia 59.21 210 P **P** **16 31 18.7 +1.0**
MDRS Chennai 59.28 267 *e*P **P** **16 31 19.8 +1.4**
HYT Haines Junctio 59.31 34 P **P** **16 31 19.1 +0.9**
HYT IAmb IAmb 16 31 27.5
comp=Z,357nm,1.8s
HYT Haines Junctio 59.31 34 P **P** **16 31 19.6 +1.4**
baz=278,SNR=49
HYT S **S** **16 39 28.1 +2.1**
baz=278
P29M Windy Craggy 59.37 36 P **P** **16 31 19.2 +0.7**
P29M IAmb IAmb 16 31 46.6
comp=Z,80nm,0.9s
P29M IAMs_20 IAMs_20 16 56 12.0
comp=Z,8µm,20.0s
P29M Windy Craggy 59.37 36 P **P** **16 31 20.0 +1.5**
baz=279,SNR=27
P29M S **S** **16 39 30.0 +3.4**
baz=279
M30M Minto, Yukon 59.40 32 P **P** **16 31 19.3 +0.6**
M30M IAMs_20 IAMs_20 16 56 49.8
comp=Z,9µm,20.0s
M30M Minto, Yukon 59.40 32 P **P** **16 31 20.1 +1.4**
baz=278,SNR=64
M30M S **S** **16 39 30.2 +3.3**
baz=278
N30M Aishikik Lake 59.42 33 P **P** **16 31 20.0 +1.2**
baz=278,SNR=28
N30M S **S** **16 39 29.2 +2.0**
baz=278
MAYO Mayo, Yukon 59.67 31 P **P** **16 31 22.0 +1.6**
baz=278
P30M Million Dollar 59.68 35 P **P** **16 31 22.1 +1.4**
baz=279
P30M S **S** **16 39 32.1 +1.4**
baz=279
INK Inuvik 60.00 25 P **P** **16 31 23.1 +0.6**
comp=Z,53nm,0.8s,baz=271,slow=6.5,SNR=22
INK LR LR 16 59 31.6
comp=Z,4µm,20.6s,baz=268,slow=38
comp=Z,53nm,0.8s
INK Inuvik 60.00 25 P **P** **16 31 22.6 0.0**
INK IAmb IAmb 16 31 40.6
comp=Z,110nm,1.1s
INK Inuvik 60.00 25 P **P** **16 31 23.2 +0.6**
baz=277,SNR=24
INK S **S** **16 39 34.8 +0.4**
baz=277
INK Inuvik 60.00 25 ⇑P **P** **16 31 23.1 +0.4**
INK ⇓p **P** **16 31 23.2 +0.6**
O30N Mendenhall 60.00 34 P **P** **16 31 23.9 +1.0**
baz=279,SNR=14
O30N S **S** **16 39 37.3 +2.6**
baz=279
F31M Tsiigehtchic 60.03 26 P **P** **16 31 23.0 +0.2**
baz=278,SNR=9.1
F31M S **S** **16 39 35.3 +0.6**
baz=278
N31M Braeburn, Yuko 60.03 33 P **P** **16 31 24.5 +1.4**
baz=279,SNR=25
N31M S **S** **16 39 39.8 +4.7**
baz=279
PLBC Pleasant Camp 60.09 36 P **P** **16 31 24.4 +1.0**
baz=280,SNR=44
PLBC S **S** **16 39 36.4 +0.7**
baz=280
KBL Kabul 60.44 295 P **P** **16 31 26.3 -0.2**
KBL Kabul 60.44 295 P **P** **16 31 26.3 -0.2**
KBL pmax pmax
comp=Z,220nm,0.8s
KBL Kabul 60.44 295 P **P** **16 31 27.0 +0.5**
SNR=116
M31M Drury Creek, Y 60.56 32 P **P** **16 31 27.0 +0.3**
M31M IAmb IAmb 16 32 12.5
comp=Z,89nm,1.1s
M31M IAMs_20 IAMs_20 16 57 16.5
comp=Z,13µm,20.0s
M31M Drury Creek, Y 60.56 32 P **P** **16 31 27.7 +1.1**
baz=280,SNR=50
M31M S **S** **16 39 43.4 +1.5**
baz=280
R31K City Hall, Gus 60.60 37 P **P** **16 31 28.0 +1.2**
baz=281
SKAG Skagway 60.61 36 P **P** **16 31 27.1 +0.2**
SKAG IAmb IAmb 16 32 15.4
comp=Z,125nm,1.4s
SKAG Skagway 60.61 36 P **P** **16 31 28.1 +1.2**
baz=281,SNR=15
SKAG S **S** **16 39 46.3 +3.9**
baz=281
WHY Whitehorse 60.61 34 P **P** **16 31 27.5 +0.4**
WHY IAmb IAmb 16 31 34.9
comp=Z,164nm,1.4s
WHY Whitehorse 60.61 34 P **P** **16 31 28.2 +1.2**
baz=280,SNR=20
WHY S **S** **16 39 47.8 +5.1**
baz=280
LCRK Leigh Creek 60.72 184 P **P** **16 31 28.7 +0.8**
MULG Mulgathing 60.92 188 P **P** **16 31 29.5 +0.2**
BESE Bessie Mountai 61.02 36 P **P** **16 31 29.9 +0.1**
FARO Faro, Yukon 61.04 32 P **P** **16 31 30.9 +1.0**
baz=281
MEEK Meekatharra 61.08 204 P **P** **16 31 30.4 -0.1**
SIT Sitka 61.09 38 P **P** **16 31 31.0 +0.8**
baz=282
SIT S **S** **16 39 50.7 +2.1**
baz=282
R32K Eaglecrest 61.26 37 P **P** **16 31 32.6 +1.3**
baz=282,SNR=18
R32K S **S** **16 39 55.5 +4.8**
baz=282
ARMA Armidale 61.26 171 P **P** **16 31 32.0 +0.3**
ARMA IAmb IAmb 16 31 47.3
comp=Z,92nm,0.9s
ARMA Armidale 61.26 171 P **P** **16 31 33.0 +1.2**
JIS Juneau Island 61.33 37 P **P** **16 31 32.1 +0.3**
JIS IAmb IAmb 16 31 39.4
comp=Z,371nm,2.0s
N32M Quiet Lake 61.38 33 P **P** **16 31 33.1 +0.9**
baz=282
P32M Atlin 61.39 35 P **P** **16 31 33.5 +1.2**
baz=282,SNR=13
S32K Killisnoo 61.40 38 P **P** **16 31 33.2 +1.0**
baz=282,SNR=7.9
S32K S **S** **16 39 56.1 +3.6**
baz=282
ARU Arti 61.69 321 PKPPKP P'P'df 17 00 40.4 -11
comp=Z,1.3nm,0.4s,baz=218,slow=4.0,SNR=6.5
ARU LR LR 17 00 46.5
comp=Z,14µm,18.8s,baz=78,slow=38
ARU Arti 61.69 321 P **P** **16 31 34.7 +0.4**
ARU Arti 61.69 321 *d*P **P** **16 31 34.9 +0.6**
ARU 16 32 17.7
ARU S **S** **16 39 59.7 +3.5**
ARU 16 41 19.3
ARU SS **SS** **16 43 56.6 -0.6**
ARU SSS SSS 16 46 42.4
ARU pmax pmax
comp=Z,756nm,1.5s
ARU MLR MLR
comp=Z,13µm,16.0s
PALK Pallekele 61.70 261 LR LR 16 59 48.8
comp=Z,4µm,20.3s,baz=166,slow=38
PALK Pallekele 61.70 261 P **P** **16 31 34.8 -0.3**
PALK IAmb IAmb 16 31 41.2
comp=Z,76nm,0.9s
PALK Pallekele 61.70 261 P **P** **16 31 34.8 -0.3**
PALK pmax pmax
comp=Z,76nm,1.0s
PALK MLR MLR
comp=Z,6µm,20.0s
PALK Pallekele 61.70 261 P **P** **16 31 35.1 0.0**
PALK P **P** **16 31 35.1 0.0**
P33M Teslin, Yukon 61.70 34 P **P** **16 31 34.9 +0.4**
P33M IAMs_20 IAMs_20 16 56 23.6
comp=Z,14µm,21.0s
P33M Teslin, Yukon 61.70 34 P **P** **16 31 35.5 +1.1**
baz=282,SNR=54
P33M S **S** **16 39 59.6 +3.1**
baz=282
CMSA Cobar Meteorol 61.79 176 P **P** **16 31 35.8 +0.6**
MMPY Sheldon Lake, 61.91 32 P **P** **16 31 37.1 +1.2**
baz=282
STKA Stephens Creek 62.04 180 P **P** **16 31 37.0 +0.1**
comp=Z,164nm,0.8s,baz=355,slow=7.3,SNR=130
STKA LR LR 16 58 03.0
comp=Z,9µm,20.5s,baz=11,slow=36
STKA PKP2ab P'P'ab 17 01 03.7 +9.3
comp=Z,2.7nm,0.9s,baz=189,slow=13,SNR=3.1
comp=Z,164nm,0.8s
STKA Stephens Creek 62.04 180 P **P** **16 31 36.7 -0.1**
STKA Stephens Creek 62.04 180 *ce*P **P** **16 31 36.8 0.0**
STKA Stephens Creek 62.04 180 P **P** **16 31 37.3 +0.5**
A36M Sachs Harbour 62.14 21 P **P** **16 31 37.7 +0.6**
A36M Sachs Harbour 62.14 21 P **P** **16 31 37.5 +0.4**
baz=283
A36M S **S** **16 40 03.0 +1.5**
baz=283
Q32M Nakina River 62.25 36 P **P** **16 31 39.8 +1.4**
baz=284,SNR=21
Q32M S **S** **16 40 07.0 +3.3**
baz=284
FORT Forrest 62.38 194 P **P** **16 31 39.0 -0.1**
FORT Forrest 62.38 194 P **P** **16 31 39.3 +0.2**
POO Poona 62.38 276 *e*P **P** **16 31 39.0 -0.6**
U33K Whale Pass 62.49 39 P **P** **16 31 40.7 +1.0**
baz=284
U33K S **S** **16 40 10.8 +4.5**
baz=284
AFI Afiamalu 62.63 128 LR LR 16 56 34.2
comp=Z,7µm,18.5s,baz=306,slow=34
AFI Afiamalu 62.63 128 IAMs_20 IAMs_20 16 57 01.0
comp=Z,9µm,19.0s
CRAG Craig 62.65 40 P **P** **16 31 42.0 +1.3**
CRAG IAmb IAmb 16 32 26.6
comp=Z,141nm,1.5s
CRAG Craig 62.65 40 P **P** **16 31 41.5 +0.7**
baz=285
CRAG S **S** **16 40 11.5 +3.2**
baz=285
AB31 Akbulak array 62.67 313 P **P** **16 31 42.1 +1.1**
ABKAR Akbulak array 62.67 313 P **P** **16 31 41.5 +0.5**
ABKAR Akbulak array 62.67 313 P **P** **16 31 41.4 +0.5**
ABKAR IAmb IAmb 16 31 54.6
comp=Z,282nm,0.7s
R33M Jennings River 62.80 35 P **P** **16 31 42.6 +0.7**
baz=284,SNR=33
R33M S **S** **16 40 14.0 +3.5**
baz=284
WRAK Wrangell Islan 62.83 39 IAMs_20 IAMs_20 16 58 44.6
comp=Z,12µm,19.0s
WRAK Wrangell Islan 62.83 39 P **P** **16 31 42.8 +0.8**
baz=285
WRAK S **S** **16 40 14.2 +3.6**
baz=285
S34M Telegraph Cree 63.09 37 P **P** **16 31 45.0 +1.3**
baz=285,SNR=22
S34M S **S** **16 40 17.4 +3.6**
baz=285
C36M Paulatuk 63.16 23 P **P** **16 31 43.7 -0.2**
C36M IAmb IAmb 16 31 47.1
comp=Z,85nm,0.8s
C36M Paulatuk 63.16 23 P **P** **16 31 44.1 +0.2**
baz=285,SNR=10
C36M S **S** **16 40 12.8 -1.6**
baz=285
BBOO Buckleboo 63.22 186 P **P** **16 31 44.6 -0.1**
BBOO Buckleboo 63.22 186 P **P** **16 31 45.2 +0.5**
WHYH Whyalla 63.33 184 P **P** **16 31 45.8 +0.4**
PTPS Port Pirie 63.44 184 P **P** **16 31 48.4 +2.3**
DLBC Dease Lake 63.52 36 LR LR 16 57 19.2
comp=Z,8µm,20.9s,baz=288,slow=34
DLBC Dease Lake 63.52 36 S **S** **16 40 22.1 +2.7**
baz=286
V35K Ketchikan 63.52 40 P **P** **16 31 47.1 +0.6**
baz=286
V35K S **S** **16 40 23.2 +4.0**
baz=286
AKTO Aktyubinsk 63.54 315 LR LR 17 00 30.8
comp=Z,13µm,18.2s,baz=76,slow=37
TGTN Hyland Airport 63.54 32 P **P** **16 31 47.9 +1.2**
baz=285
DIB Dawson Inlet, 63.62 42 P **P** **16 31 47.1 -0.1**
DIB IAmb IAmb 16 32 05.7
comp=Z,116nm,1.1s
HTT Hallett 63.65 183 P **P** **16 31 48.1 +0.5**
WTLY Watson Lake, Y 63.67 34 P **P** **16 31 48.7 +1.1**
baz=286
GOA Goa 63.72 273 *e*P **P** **16 31 48.5 0.0**
T35M Bob Quinn 63.80 38 P **P** **16 31 49.9 +1.5**
baz=286,SNR=24
T35M S **S** **16 40 25.8 +3.0**
baz=286
BHUJ Bhuj 64.00 283 *e*P **P** **16 31 51.2 +1.0**
BHUJ IAmb IAmb 16 31 57.2
comp=Z,219nm,1.1s
MORW Morawa 64.22 205 P **P** **16 31 50.6 -0.7**
MORW Morawa 64.22 205 P **P** **16 31 51.3 -0.1**
TRD Trivandrum 64.29 265 *e*P **P** **16 31 52.8 +0.5**
TRD IAmb IAmb 16 31 59.6
comp=Z,140nm,1.1s
SYDH Sydney Hard Ro 64.44 172 P **P** **16 31 54.7 +2.0**
RUBB Prince Rupert 64.56 40 P **P** **16 31 53.7 +0.3**
RUBB IAmb IAmb 16 32 00.5
comp=Z,90nm,1.1s
GRNB Grenville Isla 64.87 41 P **P** **16 31 55.8 +0.3**
GRNB IAmb IAmb 16 32 03.7
comp=Z,132nm,1.4s
WRGLY Wrigley 65.19 30 P **P** **16 31 58.2 +0.9**
baz=289
BLDU Ballidu 65.38 204 P **P** **16 31 58.9 0.0**
HRA Herat 65.78 297 P **P** **16 32 02.4 +0.5**
CNB Canberra Magne 65.83 173 P **P** **16 32 02.9 +1.1**
KIRV Kirov 65.83 325 PKP2ab **P'P'df** **17 00 43.6 -1.3**
comp=Z,5.2nm,0.7s,baz=135,slow=1.4,SNR=5.8
KIRV LR LR 17 03 15.8
comp=Z,17µm,18.9s,baz=68,slow=38
KIRV Kirov 65.83 325 *d*P **P** **16 32 02.4 +0.9**
KLBR Kellerberrin 65.92 203 P **P** **16 32 02.3 -0.1**
BBB Bella Bella 66.46 42 LR LR 17 01 50.9
comp=Z,3µm,18.9s,baz=298,slow=37
BBB Bella Bella 66.46 42 P **P** **16 32 05.9 +0.2**
HOPEN Hopen 66.50 347 *e*P **P** **16 32 06.7 +1.1**
HOPEN IVmB_BB 16 32 07.5
comp=Z,3µm,2.1s
HOPEN *e*S **S** **16 40 58.1 +2.8**
HOPEN *e*ScS **ScS** **16 42 03.9 +2.4**
HOPEN IVMs_BB IVMs_BB 17 09 56.7
comp=Z,6µm,12.6s
EUNU Eureka 66.56 8 P **P** **16 32 06.1 +0.1**
EUNU IAmb IAmb 16 32 20.2
comp=Z,159nm,1.0s
PRGR Permogore 66.57 329 ⇓*i*P **P** **16 32 07.2 +0.9**
PRGR *e*S **S** **16 40 57.1 +0.6**
PRGR pmax pmax
comp=Z,578nm,1.1s
MUN Mundaring 66.80 204 P **P** **16 32 08.7 +0.7**
ARPS Mount Arapiles 66.92 180 P **P** **16 32 09.5 +0.9**
HOLB Holberg 66.98 44 P **P** **16 32 09.5 +0.4**
SPA0 Spitsbergen Ar 67.02 350 *e*P **P** **16 32 09.8 +0.8**
SPA0 IVmB_BB 16 32 14.3
comp=Z,2µm,2.1s
SPA0 *e*S **S** **16 41 03.5 +1.8**
SPA0 *e*ScS **SKiKP** **16 42 07.5 -1.5**
SPA0 IVMs_BB IVMs_BB 17 11 23.8
comp=Z,3µm,16.1s
SPB2 Spitsbergen Ar 67.02 350 P **P** **16 32 09.8 +0.8**
SPB2 IAmb IAmb 16 32 29.0
comp=Z,153nm,0.9s
SPITS Spitsbergen Ar 67.02 350 LR LR 17 02 41.5
comp=Z,4µm,21.0s,baz=14,slow=37
SPITS Spitsbergen Ar 67.02 350 P **P** **16 32 09.6 +0.6**
SPITS pmax pmax
comp=Z,166nm,0.9s
KBS Kingsbay 67.17 351 P **P** **16 32 10.8 +1.0**
KBS Kingsbay 67.17 351 *de*P **P** **16 32 11.1 +1.3**
KBS pmax pmax
comp=Z,324nm,1.7s
KBS MLR MLR
comp=Z,5µm,18.0s
KBS Kingsbay 67.17 351 *i*P **P** **16 32 11.2 +1.3**
KBS Kingsbay 67.17 351 *e*P **P** **16 32 10.9 +1.0**
KBS IVmBBB 16 32 14.4
comp=Z,1µm,1.2s
KBS *e*S **S** **16 41 05.9 +2.5**
NWAO Narrogin (SRO) 67.31 202 LR LR 17 00 56.1
comp=Z,3µm,22.0s,baz=247,slow=35
NWAO Narrogin (SRO) 67.31 202 P **P** **16 32 10.8 -0.5**
NWAO Narrogin (SRO) 67.31 202 P **P** **16 32 10.8 -0.5**
NWAO pmax pmax
comp=Z,446nm,0.9s
NWAO Narrogin (SRO) 67.31 202 P **P** **16 32 11.4 +0.1**
NWAO Narrogin (SRO) 67.31 202 P **P** **16 32 11.5 +0.2**
GEYT Alibeck 67.59 302 P **P** **16 32 14.8 +1.6**
comp=Z,147nm,0.9s,baz=42,slow=4.6,SNR=94
GEYT PKP2ab **P'P'df** **17 00 40.9 -0.4**
comp=Z,2.1nm,0.9s,baz=207,slow=1.6,SNR=3.1
GEYT LR LR 17 03 43.6
comp=Z,8µm,18.3s,baz=70,slow=38
comp=Z,147nm,0.9s
GEYT Alibeck 67.59 302 P **P** **16 32 13.7 +0.5**
GYA0B ALIBECK ARRAY 67.59 302 P **P** **16 32 13.9 +0.7**
NOR Nord 67.59 357 *i*P **P** **16 32 12.2 -0.2**
NOR IAmb IAmb 16 32 27.4
comp=Z,30nm,0.9s
BRAT Ballarat 67.72 178 P **P** **16 32 16.0 +2.3**
TOO Toolangi 67.79 177 P **P** **16 32 14.9 +0.7**
TOO Toolangi 67.79 177 P **P** **16 32 14.9 +0.7**
TOO pmax pmax
comp=Z,237nm,1.2s
TOO Toolangi 67.79 177 P **P** **16 32 15.6 +1.4**
HSPB Hornsund (broa 67.94 349 *e*P **P** **16 32 16.0 +1.3**
HSPB *e*S **S** **16 41 13.1 +0.5**
HSPB *e*L L 17 07 51.0
comp=Z,9µm,18.7s
LVZ Lovozero 68.30 337 P **P** **16 32 17.6 +0.4**
LVZ IAmb IAmb 16 32 51.7

comp=Z,137nm,1.1s
LVZ Lovozero 68.30 337 *ce* P **P 16 32 18.0 +0.8**
LVZ pmax pmax
comp=Z,238nm,1.7s
RES Resolute Bay 68.79 14 LR LR 17 10 08.2
comp=Z,2µm,18.1s,baz=313,slow=43
RES Resolute Bay 68.79 14 P **P 16 32 19.5 -0.6**
RES IAmb IAmb 16 32 23.8
comp=Z,78nm,0.9s
RES Resolute Bay 68.79 14 P **P 16 32 19.5 -0.6**
RES pmax pmax
comp=Z,78nm,0.9s
CBB Campbell River 68.85 44 P **P 16 32 21.3 +0.5**
APA Apatity 68.87 337 ⇓ *i* P **P 16 32 20.5 -0.2**
APA *i* 16 32 43.9
APA *i* PPP PPP 16 36 29.0
APA *i* S **S 16 41 24.0 0.0**
APA *i* 16 42 18.0
APA *i* SSS SSS 16 48 52.0
APA pmax pmax
comp=Z,101nm,0.9s
BJO1 Bjornoya 68.91 346 *e* P **P 16 32 21.9 +1.1**
BJO1 IVmBBB 16 32 33.0
comp=Z,1µm,1.3s
BJO1 *e* S **S 16 41 24.2 0.0**
BJO1 *e* ScS **ScS 16 42 22.0 +1.7**
BJO1 *e* SS **SS 16 45 48.0 -0.7**
RKGY Rocky Gully 68.94 202 P **P 16 32 22.4 +1.0**
BELG Belogornoye 69.01 319 *c i* P **P 16 32 22.8 +1.1**
BELG pmax pmax
comp=Z,70nm,1.5s
BELG MLR MLR
comp=Z,3µm,17.0s
OZB Mount Ozzard 69.18 45 P **P 16 32 23.4 +0.3**
OZB IAmb IAmb 16 32 40.0
comp=Z,160nm,1.2s
YKA Yellowknife Ar 69.22 29 P **P 16 32 23.0 +0.1**
comp=Z,53nm,0.8s,baz=293,slow=6.2,SNR=50
YKA PKP2ab **P'P'bc 17 00 32.0 -7.0**
comp=Z,7.7nm,1.1s,baz=109,slow=4.0,SNR=6.8
comp=Z,53nm,0.8s
YKA Yellowknife Ar 69.22 29 P **P 16 32 22.8 -0.2**
KLMR Klimovskoe 69.59 329 *d i* P **P 16 32 25.8 +0.6**
KLMR *e* 16 35 01.1
KLMR S **S 16 41 32.4 -0.2**
KLMR SS **SS 16 46 00.6 +0.9**
KLMR pmax pmax
comp=Z,556nm,1.3s
KLMR MLR MLR
comp=Z,9µm,14.0s
KLMR Klimovskoe 69.59 329 ⇓ *i* P **P 16 32 25.8 +0.6**
KLMR *e* P **P 16 32 25.8 +0.6**
KLMR *e* P **P 16 32 25.8 +0.6**
KLMR AMP 16 32 39.3
comp=Z,556nm,1.3s
KLMR *e* PP **PP 16 35 01.2 +2.5**
KLMR S **S 16 41 32.5 -0.2**
KLMR S **S 16 41 32.5 -0.2**
KLMR SS **SS 16 46 00.7 +1.0**
KLMR SS **SS 16 46 00.7 +1.0**
KLMR LQ LQ 16 57 27.0
KLMR LQ LQ 16 57 27.0
KLMR LR LR 16 59 34.1
KLMR AMP 17 09 20.8
comp=Z,9µm,13.9s
KEV Kevo 69.74 340 P **P 16 32 26.6 +0.6**
KEV IAmb IAmb 16 32 41.0
comp=Z,131nm,1.0s
KEV Kevo 69.74 340 P **P 16 32 26.6 +0.6**
KEV pmax pmax
comp=Z,131nm,1.0s
KEV MLR MLR
comp=Z,11µm,19.0s
HAMF Hammerfest 70.16 342 *e* P **P 16 32 29.3 +0.7**
HAMF IVmBBB 16 32 30.6
comp=Z,2µm,2.1s
HAMF *e* S **S 16 41 39.9 +0.9**
HAMF *e* SKSac **ScS 16 42 31.1 +0.8**
HAMF *e* SS **SS 16 46 11.8 +3.7**
HAMF IVmS_BB IVmS_BB 17 13 47.4
comp=Z,5µm,15.2s
ARA0 ARCESS Array S 70.30 340 *e* P **P 16 32 30.4 +0.8**
ARA0 IVmB_BB 16 32 32.2
comp=Z,3µm,2.0s
ARA0 *e* S **S 16 41 41.3 +0.5**
ARA0 *e* SS **SS 16 46 10.9 +0.6**
ARA0 IVmS_BB IVmS_BB 17 15 05.7
comp=Z,6µm,15.6s
ARCES ARCESS Array B 70.30 340 P **P 16 32 30.5 +1.0**
comp=Z,54nm,0.7s,baz=71,slow=5.6,SNR=128
ARCES PKP2ab **P'P'ab 17 00 28.6 -6.9**
comp=Z,7.3nm,0.9s,baz=232,slow=1.4,SNR=10
ARCES LR LR 17 08 51.2
comp=Z,9µm,18.3s,baz=68,slow=41
comp=Z,54nm,0.7s
ARCES ARCESS Array B 70.30 340 P **P 16 32 29.8 +0.3**
ARCES IAmb IAmb 16 32 47.4
comp=Z,193nm,1.1s
PGC Sidney 70.55 45 P **P 16 32 31.1 -0.2**
PGC IAmb IAmb 16 32 37.9
comp=Z,344nm,2.0s
RAO Raoul Island 70.61 143 LR LR 17 03 02.4
comp=Z,6µm,18.4s,baz=5.5,slow=36
RAO Raoul Island 70.61 143 IAMs_20 IAMs_20 17 02 14.4
comp=Z,9µm,19.0s
LLLB Lillooet 70.67 42 P **P 16 32 32.2 +0.1**
LLLB IAmb IAmb 16 32 39.5
comp=Z,108nm,1.2s
B04A Port Angeles 70.76 45 P **P 16 32 32.5 -0.1**
NLWA Neilton Lookou 70.81 46 P **P 16 32 33.1 +0.1**
NLWA IAmb IAmb 16 32 47.4
comp=Z,80nm,0.9s
NLWA IAMs_20 IAMs_20 17 01 49.8
comp=Z,6µm,20.0s
RADR Rader Ridge 71.25 47 P **P 16 32 35.9 +0.1**
RADR IAmb IAmb 16 32 53.0
comp=Z,662nm,1.9s
KTK1 Kautokeino 71.26 341 *e* P **P 16 32 36.0 +0.6**
KTK1 IVmB_BB 16 32 37.8
comp=Z,2µm,2.1s
KTK1 *e* S **S 16 41 51.8 -0.2**
KTK1 *e* SKSac **ScS 16 42 39.0 -0.1**
KTK1 IVMs_BB IVMs_BB 17 13 07.7
comp=Z,4µm,19.0s
E03A Lebam 71.35 47 P **P 16 32 36.8 +0.6**
E03A IAmb IAmb 16 32 50.8
comp=Z,164nm,1.0s
TULEG Thule 71.50 7 P **P 16 32 37.0 +0.4**
TULEG IAMs_20 IAMs_20 17 06 03.2
comp=Z,6µm,19.0s
TULEG Thule 71.50 7 *i* P **P 16 32 38.8 +2.2**
JETT Jettan, Norway 71.72 342 *e* P **P 16 32 38.9 +0.7**
JETT IVmBBB 16 32 40.7
comp=Z,3µm,2.1s
JETT *e* S **S 16 41 58.7 +1.4**
JETT *e* SKSac **SKKSac 16 42 41.5 +0.3**
JETT IVMs_BB IVMs_BB 17 13 01.4
comp=Z,7µm,16.5s
KAAM Kaadhehdhoo 71.77 259 P **P 16 32 40.6 +1.4**
OUZ Omahuta 71.80 153 IAMs_20 IAMs_20 16 59 56.5
comp=Z,8µm,22.0s
F04D Rainier, OR 71.89 47 P **P 16 32 39.8 +0.3**
baz=295
F04D S **S 16 42 00.9 +1.0**
baz=295
NEEM North Greenlan 72.01 3 *i* P **P 16 32 40.7 +0.6**
NEEM IAmb IAmb 16 32 53.5
comp=Z,65nm,1.0s
D05A Enumclaw 72.05 45 P **P 16 32 41.0 +0.5**
D05A IAmb IAmb 16 32 59.8
comp=Z,207nm,1.1s
TRO Tromso 72.06 342 *e* P **P 16 32 40.9 +0.8**
TRO IVmB_BB 16 32 41.2
comp=Z,2µm,2.2s
TRO *e* S **S 16 42 01.5 +0.4**
TRO *e* SKSac **SKKSac 16 42 44.2 +0.6**
TRO *e* SS **SS 16 46 41.4 +4.1**
TRO IVMs_BB IVMs_BB 17 16 35.1
comp=Z,6µm,13.5s
G03D McMinnville, O 72.10 48 P **P 16 32 41.2 +0.4**
baz=295,SNR=5.2
I02E Swisshome, OR 72.20 49 P **P 16 32 42.9 +1.5**
baz=295
DAG Danmarks Havn 72.31 355 P **P 16 32 42.4 +0.9**
DAG Danmarks Havn 72.31 355 *i* P **P 16 32 42.1 +0.6**
DAG IAmb IAmb 16 32 48.2
comp=Z,38nm,0.8s
COR Corvallis 72.34 48 P **P 16 32 44.5 +2.2**
KEBM Edson Butte 72.40 50 P **P 16 32 43.1 +0.4**
J01E Myrtle Point 72.55 50 P **P 16 32 44.2 +0.7**
J01E IAmb IAmb 16 33 06.5
comp=Z,127nm,1.0s
J01E Myrtle Point 72.55 50 P **P 16 32 45.1 +1.6**
baz=296,SNR=7.2
J01E S **S 16 42 11.2 +3.7**
baz=296
JASK Jask - Hormozg 72.67 290 P **P 16 32 46.6 +2.1**
SNR=15
I03D Drain, OR 72.70 49 P **P 16 32 45.7 +1.3**
baz=296,SNR=14
I03D S **S 16 42 09.9 +0.6**
baz=296
BUCK Buck Mountain 72.72 49 P **P 16 32 44.8 +0.2**
WCZ Waipu Caves 72.72 153 P **P 16 32 47.3 +2.9**
H04D Lebanon 72.74 48 P **P 16 32 45.9 +1.3**
H04D IAmb IAmb 16 32 52.7
comp=Z,181nm,1.4s
H04D IAMs_20 IAMs_20 16 59 03.0
comp=Z,8µm,20.0s
H04D Lebanon 72.74 48 P **P 16 32 46.2 +1.6**
baz=296,SNR=10.0
H04D S **S 16 42 12.7 +3.0**
baz=296
MOO Moorlands 72.74 176 P **P 16 32 45.8 +1.5**
LTY Liberty 72.83 45 P **P 16 32 45.4 +0.1**
VRH Novokhopyorsk 72.83 320 *e* P **P 16 32 46.1 +1.1**
VRH *e* 16 32 47.3
VRH *e* S **S 16 42 08.8 -1.7**
VRH pmax pmax
comp=Z,330nm,0.9s
VRH pmax pmax
comp=Z,440nm,1.8s
VRH smax smax
comp=E,3µm,8.4s
VRH MLR MLR
comp=Z,15µm,16.0s
MOS Moscow 72.85 325 *e* P **P 16 32 45.0 0.0**
MOS *e* 16 32 57.1
MOS *e* 16 35 27.6
MOS *e* PPP PPP 16 37 12.0
MOS *e* S **S 16 42 09.4 -1.1**
MOS *e* SS **SS 16 46 50.8 +1.0**
MOS pmax pmax
comp=Z,1µm,1.8s
MOS pmax pmax
comp=Z,561nm,1.6s
MOS smax smax
comp=N,10µm,5.1s
MOS smax smax
comp=E,4µm,4.8s
MOS MLR MLR
comp=E,14µm,16.0s
MOS MLR MLR
comp=Z,18µm,16.0s
K02D Willamette Mer 72.92 50 P **P 16 32 47.1 +1.3**
baz=296,SNR=17
K02D S **S 16 42 13.8 +1.7**
baz=296
MAK Makhachkala 72.98 310 *e* P P 16 32 40.7 -5.4
MAK *e* S **S 16 42 04.6 -7.9**
MAK pmax pmax
comp=Z,4µm,4.3s
MAK pmax pmax
comp=Z,640nm,1.4s
MAK smax smax
comp=N,15µm,6.9s
MAK smax smax
comp=E,8µm,5.6s
MAK MLR MLR
comp=E,23µm,16.0s
MAK MLR MLR
comp=Z,32µm,15.0s
MAK MLR MLR
comp=N,25µm,13.0s
DBO Dodson Butte 73.02 50 P **P 16 32 47.2 +0.7**
H04A Detroit Lake 73.02 48 P **P 16 32 46.8 +0.4**
HOOD Mount Hood Mea 73.08 47 P **P 16 32 47.2 +0.3**
HOOD IAmb IAmb 16 33 17.5
comp=Z,127nm,0.8s
B08A Colville Reser 73.14 44 P **P 16 32 47.2 +0.2**
B08A IAmb IAmb 16 32 54.3
comp=Z,387nm,1.9s
WBK Wadi Bani Khal 73.19 287 P **P 16 32 48.6 +0.9**
SNR=18
WSAR Wadi Sarin 73.19 287 LR LR 17 09 06.4
comp=Z,5µm,19.0s,baz=80,slow=39
TAU Tasmania Unive 73.21 176 P **P 16 32 47.8 +0.7**
TAU IAmb IAmb 16 32 53.3
comp=Z,200nm,1.1s
TAU Tasmania Unive 73.21 176 P **P 16 32 47.8 +0.7**
TAU pmax pmax
comp=Z,200nm,1.1s
TAU Tasmania Unive 73.21 176 P **P 16 32 48.4 +1.3**
L02F Cave Junction 73.24 51 P **P 16 32 48.9 +1.2**
baz=296,SNR=7.6
L02F S **SKiKP 16 42 18.3 -0.7**
baz=296
I04A Tendick Farm, 73.27 49 P **P 16 32 48.9 +1.0**
baz=296,SNR=16
I04A S **S 16 42 17.3 +1.4**
baz=296
G05D Wamic, OR 73.33 47 P **P 16 32 49.5 +1.3**
baz=297,SNR=12
G05D S **SKiKP 16 42 18.8 -0.3**
baz=297
HUMO Hull Mountain 73.43 50 P **P 16 32 49.1 +0.3**
BIDO Bidbid 73.48 288 P **P 16 32 51.0 +1.6**
SNR=47
OBN Obninsk 73.68 325 LR LR 17 07 59.8
comp=Z,4µm,18.3s,baz=58,slow=38
OBN Obninsk 73.68 325 P **P 16 32 50.2 +0.2**
OBN Obninsk 73.68 325 *de* P **P 16 32 50.5 +0.6**
OBN *e* 16 33 02.7
OBN *e* 16 35 35.5
OBN *e* PPP PPP 16 37 14.0
OBN *i* S **S 16 42 19.7 -0.3**
OBN *e* SS **SS 16 47 05.3 +2.8**
OBN pmax pmax
comp=Z,494nm,1.7s
OBN MLR MLR
comp=Z,14µm,15.0s
LPSR Galich'ya Gora 73.70 322 *e* P **P 16 32 50.5 +0.4**
LPSR *e* 16 32 52.7
LPSR *e* S **SKiKP 16 42 17.3 -2.1**
LPSR pmax pmax
comp=Z,410nm,1.2s
LPSR pmax pmax
comp=Z,410nm,1.2s
LPSR smax smax
comp=N,4µm,9.3s
LPSR MLR MLR
comp=Z,6µm,16.0s
J04D Umpqua Nationa 73.71 49 P **P 16 32 50.3 -0.4**
J04D IAmb IAmb 16 33 06.7
comp=Z,88nm,0.7s
J04D Umpqua Nationa 73.71 49 P **P 16 32 51.9 +1.3**
baz=297,SNR=17
I05D Terrebonne, OR 73.72 48 P **P 16 32 51.6 +1.1**
baz=297
I05D S **S 16 42 23.7 +2.7**
baz=297
SMDO Samad 73.75 287 P **P 16 32 52.3 +1.2**
SNR=26
F07A Phinny Hill Vi 73.90 46 P **P 16 32 51.6 +0.1**
BANOM Banah 73.91 291 P **P 16 32 53.4 +1.5**
SNR=53
BANOM Banah 73.91 291 *i* P **P 16 32 53.0 +1.1**
SNR=46
HAWA Hanford 73.92 45 P **P 16 32 51.8 +0.3**
HAWA IAmb IAmb 16 33 15.1
comp=Z,257nm,1.9s
HAWA IAMs_20 IAMs_20 17 02 09.1
comp=Z,7µm,20.0s
SHME Shamm 73.98 291 P **P 16 32 54.0 +1.8**
SNR=215
SHME P **pP 16 32 54.2 -0.8**
SNR=67
SHME Shamm 73.98 291 *i* P **P 16 32 53.6 +1.4**
SNR=9.8
D08A Wollman Farm, 73.98 45 P **P 16 32 52.0 0.0**
YBH Yreka Blue Hor 73.99 51 LR LR 17 02 34.0
comp=Z,13µm,18.9s,baz=300,slow=34
YBH Yreka Blue Hor 73.99 51 P **P 16 32 52.8 +0.6**
YBH IAmb IAmb 16 32 60.0
comp=Z,216nm,1.9s
YBH Yreka Blue Hor 73.99 51 P **P 16 32 52.8 +0.6**
YBH pmax pmax
comp=Z,216nm,1.9s
YBH MLR MLR
comp=Z,15µm,19.0s
GROC Groznyy 73.99 311 *e* P **P 16 32 51.1 -0.9**
GROC *e* 16 33 05.1
GROC *e* 16 35 34.5
GROC *e* S **S 16 42 24.3 +0.3**
VORR Voronezh 74.00 321 *e* P **P 16 32 54.0 +2.1**
VORR pmax pmax
comp=Z,500nm,1.4s
JMDO Jabal Madar 74.02 287 P **P 16 32 53.1 +0.6**
JMDO P **pP 16 32 54.0 -1.3**
SNR=31
C09A Chrisman Ranch 74.03 44 P **P 16 32 52.4 +0.2**
L04D Klamath Falls 74.04 50 P **P 16 32 52.4 -0.1**
L04D IAmb IAmb 16 33 08.4
comp=Z,114nm,1.0s
L04D Klamath Falls 74.04 50 P **P 16 32 53.6 +1.0**
baz=297,SNR=16
L04D S **S 16 42 25.6 +0.7**
baz=297
PUL Pulkovo 74.10 331 *de* P **P 16 32 53.6 +1.3**
PUL pmax pmax
comp=Z,360nm,1.3s
PUL MLR MLR
comp=Z,8µm,17.0s
HOQ Hoqain 74.12 288 P **P 16 32 54.3 +1.1**
SNR=59
E08A Dider Farm, El 74.16 45 P **P 16 32 53.0 0.0**
EDM Edmonton 74.18 37 P **P 16 32 53.1 +0.1**
EDM IAmb IAmb 16 33 06.8
comp=Z,172nm,1.0s
EDM Edmonton 74.18 37 P **P 16 32 53.1 +0.1**
EDM pmax pmax
comp=Z,172nm,1.0s
MDH Madha 74.19 290 P **P 16 32 53.6 +0.1**
SNR=17
MDH P **pP 16 32 56.0 -0.2**
SNR=6.6
MDH Madha 74.19 290 *i* P **P 16 32 53.6 +0.1**
SNR=17
STEI Steigen 74.21 342 *e* P **P 16 32 53.5 +0.7**
STEI IVmBBB 16 32 55.2
comp=Z,2µm,2.3s
STEI *e* S **S 16 42 27.1 +1.6**
STEI *e* SKSac **SKKSac 16 43 00.4 +0.5**
STEI *e* SS **SS 16 47 07.9 -2.1**
STEI IVMs_BB IVMs_BB 17 15 55.2
comp=Z,4µm,18.3s
K04D Chiloquin, OR 74.22 50 P **P 16 32 54.5 +0.9**
baz=297
K04D S **S 16 42 28.1 +1.3**
baz=297
VSR Storozhevoye 74.24 320 *e* P **P 16 32 54.5 +1.2**
VSR *e* 16 32 55.9
VSR *e* S **SKiKP 16 42 22.1 +1.9**
VSR pmax pmax
comp=Z,340nm,1.0s
VSR pmax pmax
comp=Z,330nm,1.2s
VSR smax smax
comp=N,4µm,9.3s
VSR MLR MLR
comp=Z,11µm,14.0s
J05D Fort Rock, OR 74.26 49 P **P 16 32 55.1 +1.3**
baz=297,SNR=31
J05D S **S 16 42 29.4 +2.1**
baz=297
MASF Masafi 74.27 290 P **P 16 32 55.5 +1.4**
SNR=50
MSFE Esma-Masafi 74.27 290 *i* P **P 16 32 54.8 +0.8**
SNR=50
UOSS Minazif 74.42 290 P **P 16 32 54.9 0.0**
UOSS Minazif 74.42 290 P **P 16 32 55.9 +1.0**
UOSS Minazif 74.42 290 *i* P **P 16 32 55.3 +0.4**
SNR=27
NEW Newport 74.49 43 LR LR 17 05 00.5
comp=Z,3µm,19.1s,baz=309,slow=35
NEW Newport 74.49 43 P **P 16 32 55.1 +0.1**
NEW IAmb IAmb 16 33 09.0
comp=Z,109nm,1.1s
NEW Newport 74.49 43 P **P 16 32 55.1 +0.1**
NEW pmax pmax
comp=Z,109nm,1.1s
NEW MLR MLR
comp=Z,4µm,20.0s
NEW Newport 74.49 43 P **P 16 32 55.8 +0.8**
baz=298,SNR=26
NEW S **S 16 42 30.4 +0.8**
baz=298
LOF Lofoten 74.52 342 *e* P **P 16 32 55.4 +0.7**
LOF IVmB_BB 16 32 56.6
comp=Z,1µm,3.4s
LOF *e* S **S 16 42 30.0 +1.0**
LOF *e* ScS **ScS 16 43 07.2 +2.2**
LOF IVMs_BB IVMs_BB 17 16 44.2
comp=Z,3µm,16.0s
HATD Hatta, Dubai 74.53 290 P **P 16 32 56.8 +1.3**
SNR=82
HATD Hatta, Dubai 74.53 290 *i* P **P 16 32 56.3 +0.8**
SNR=82
FAUS Fauske 74.58 341 *e* P **P 16 32 55.6 +0.6**
FAUS IVmBBB 16 32 57.5
comp=Z,2µm,1.1s
FAUS *e* S **S 16 42 29.8 +0.1**
FAUS *e* SS **SS 16 47 11.8 -3.8**
FAUS IVMs_BB IVMs_BB 17 15 28.0
comp=Z,7µm,15.9s
BSY Bisya 74.59 288 P **P 16 32 57.1 +1.2**
SNR=16
UMQ Umm Al-Quwin 74.60 291 P **P 16 32 57.1 +1.2**
UMQ Umm Al-Quwin 74.60 291 *i* P **P 16 32 57.2 +1.4**
SNR=6.3
ASHO Ashiyiah 74.66 290 P **P 16 32 57.4 +1.1**
SNR=36
ASHO Ashiyiah 74.66 290 *i* P **P 16 32 57.2 +0.9**
SNR=67
E09A Wood Farm, Sta 74.71 45 P **P 16 32 56.3 +0.1**
E09A IAmb IAmb 16 33 03.5
comp=Z,409nm,1.9s
MHTO MHTO 74.75 286 P **P 16 32 57.2 +0.4**
SNR=52
G08A Pilot Rock 74.78 46 P **P 16 32 56.7 -0.1**
DBG Daneborg 74.80 355 *i* P **P 16 32 56.5 +0.3**
DBG IAmb IAmb 16 32 57.6
comp=Z,19nm,0.7s
NAZ Nazwa, Dubai 74.84 290 P **P 16 32 58.4 +1.1**
SNR=22
NAZ Nazwa, Dubai 74.84 290 *i* P **P 16 32 57.9 +0.6**
SNR=11
FIA1 FINESS Array S 74.85 333 P **P 16 32 57.0 +0.3**
FIA0 FINESS Array S 74.86 333 P **P 16 32 57.1 +0.4**
FIA0 FINESS Array S 74.86 333 P **P 16 32 57.1 +0.4**
FINES FINESS Array B 74.86 333 P **P 16 32 57.3 +0.6**
comp=Z,82nm,0.7s,baz=90,slow=6.1,SNR=258
comp=Z,82nm,0.7s
FINES FINESS Array B 74.86 333 P **P 16 32 56.9 +0.2**
ARQ Araqi 74.88 288 P **P 16 32 59.0 +1.4**
SNR=90
GOF Gofitskoye 74.90 314 ⇑ *e* P **P 16 32 58.7 +1.4**
GOF *e* S **S 16 42 33.8 -0.3**
GOF pmax pmax
comp=Z,460nm,0.9s
GOF smax smax
comp=N,96nm,0.9s
GOF smax smax
comp=E,137nm,1.1s
HOPS Hopland Field 74.97 54 P **P 16 32 57.9 0.0**
FAQ Al Faqa, Dubai 75.00 290 P **P 16 32 59.1 +0.9**
SNR=18
FAQ Al Faqa, Dubai 75.00 290 *i* P **P 16 32 58.7 +0.5**
SNR=46
I07A Izee 75.01 48 P **P 16 32 58.0 -0.1**
HIZ Hauiti 75.17 154 P **P 16 32 59.2 +0.5**
HIZ IAmb IAmb 16 33 05.7
comp=Z,147nm,0.9s
HIZ Hauiti 75.17 154 P **P 16 33 01.2 +2.5**
ALNE Al Ain 75.19 289 P **P 16 33 00.5 +1.2**
SNR=57
ALNE Al Ain 75.19 289 *i* P **P 16 33 00.2 +0.9**

SUMG MLR MLR
comp=Z,5µm,19.0s
SUMG Summit 77.20 0 *i* P **P 16 33 11.2 +0.8**
SUMG IAmb IAmb 16 33 28.6
comp=Z,76nm,0.9s
DVHZ Dannevirke 77.22 154 P **P 16 33 12.1 +1.8**
CMB Columbia Colle 77.28 53 P **P 16 33 11.1 0.0**
CMB IAmb IAmb 16 33 25.1
comp=Z,204nm,1.6s
CMB IAMs_20 IAMs_20 17 07 22.7
comp=Z,7µm,18.0s
CMB Columbia Colle 77.28 53 P **P 16 33 11.1 0.0**
CMB pmax pmax
comp=Z,204nm,1.6s
CMB MLR MLR
comp=Z,7µm,18.0s
OGWZ Otaki Gorge 77.30 155 P **P 16 33 11.8 +1.0**
MRZ Mangatainoka R 77.32 154 P **P 16 33 11.7 +0.8**
PNTR Pine Nut 77.32 52 P **P 16 33 11.7 +0.2**
THZ Tophouse 77.34 157 P **P 16 33 11.8 +0.8**
THZ Tophouse 77.34 157 P **P 16 33 11.4 +0.4**
TUWZ Tuamarina 77.40 156 P **P 16 33 11.5 +0.3**
TUWZ Tuamarina 77.40 156 P **P 16 33 11.9 +0.7**
MTSE Matsula 77.43 332 *e*P **P 16 33 12.2 +0.8**
HOWZ Holdsworth Sta 77.50 155 P **P 16 33 12.0 +0.1**
CAW Cannon Point 77.52 155 P **P 16 33 12.5 +0.6**
MZR Muzera 77.52 289 P **P 16 33 13.4 +0.8**
SNR=35
MZR Muzera 77.52 289 *i* P **P 16 33 12.7 +0.1**
SNR=9.7
GHWR Ruwais 77.56 290 P **P 16 33 13.6 +0.8**
SNZO South Karori 77.56 155 P **P 16 33 12.6 +0.4**
SNZO South Karori 77.56 155 IAMs_20 IAMs_20 17 04 56.0
comp=Z,5µm,21.0s
SNZO South Karori 77.56 155 P **P 16 33 12.7 +0.5**
NSS Namsos 77.58 340 *e*P **P 16 33 12.5 +0.4**
NSS IVmBBB 16 33 14.2
comp=Z,2µm,2.4s
NSS *e*S **S 16 43 02.2 -0.6**
NSS IVMs_BB IVMs_BB 17 16 47.1
comp=Z,5µm,17.3s
BFZ Birch Farm 77.58 154 P **P 16 33 12.9 +0.6**
BFZ IAmb IAmb 16 33 15.5
comp=Z,157nm,0.8s
BFZ Birch Farm 77.58 154 P **P 16 33 13.2 +0.9**
BFZ Birch Farm 77.58 154 P **P 16 33 13.2 +0.9**
YERR Yerington 77.61 52 P **P 16 33 13.3 +0.2**
YERR IAmb IAmb 16 33 28.9
comp=Z,66nm,0.8s
BSWZ Blackbirch Sta 77.63 156 P **P 16 33 13.1 +0.6**
BSWZ Blackbirch Sta 77.63 156 P **P 16 33 13.2 +0.6**
MFID Camas Ranch 77.66 47 P **P 16 33 13.3 +0.2**
MFID IAmb IAmb 16 33 36.7
comp=Z,200nm,1.4s
SOC Sochi 77.70 313 *e*P P 16 33 07.4 -5.8
SOC *e* 16 36 06.3
SOC *e*PPP PPP 16 37 55.2
SOC *e*S **S 16 42 56.5 -8.4**
SOC *e*SS **SS 16 48 06.6 +2.5**
SOC MLR MLR
comp=Z,8µm,16.0s
CMWZ Cape Campbell 77.78 156 P **P 16 33 13.3 -0.1**
TMWZ Te Maipa 77.82 154 P **P 16 33 16.0 +2.3**
MSWZ Moikau Station 77.85 155 P **P 16 33 14.5 +0.6**
PAWZ Paruwai Farm 77.89 155 P **P 16 33 15.5 +1.4**
FOZ Fox Glacier 77.94 160 P **P 16 33 15.1 +0.9**
FOZ IAmb IAmb 16 33 19.9
comp=Z,161nm,0.9s
FOZ Fox Glacier 77.94 160 P **P 16 33 15.4 +1.2**
PLWZ Palliser 77.99 155 P **P 16 33 14.8 +0.1**
LTZ Lake Taylor 78.03 158 IAMs_20 IAMs_20 17 06 20.8
comp=Z,6µm,19.0s
LTZ Lake Taylor 78.03 158 P **P 16 33 15.5 +0.7**
SHAO Shalim 78.08 284 P **P 16 33 16.5 +0.7**
SHAO Shalim 78.08 284 *i* P **P 16 33 16.0 +0.2**
SNR=20
GEVA Gevas 78.13 307 P **P 16 33 16.8 +0.8**
KHZ Kahutara 78.13 157 P **P 16 33 15.1 -0.2**
KHZ Kahutara 78.13 157 P **P 16 33 15.5 +0.2**
SHMA Al-Shehemyia 78.21 293 P **P 16 33 17.2 +0.8**
MNK Minsk 78.22 327 *i* P **P 16 33 17.4 +1.5**
MNK *i* 16 33 28.6
MNK *i* 16 36 15.1
MNK *i* PPP PPP 16 38 03.4
MNK *i* S **S 16 43 08.5 -1.6**
MNK *i* *SS **ScS 16 43 37.2 +1.8**
MNK *i* SS **SS 16 48 13.5 +2.3**
MNK *i* SSS SSS 16 51 38.6
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=Z,136nm,0.9s
MNK MLR MLR
comp=Z,12µm,17.0s
MNK MLR MLR
comp=E,2µm,17.0s
MNK Minsk 78.22 327 *i* P **P 16 33 17.4 +1.5**
comp=E,12nm,0.9s
MNK *i* P **P 16 33 17.4 +1.5**
MNK *i* P **P 16 33 17.4 +1.5**
comp=Z,136nm,0.9s,baz=53
MNK *i* PcP **pwP 16 33 28.7 +1.7**
MNK *i* PP **PP 16 36 15.2 +3.1**
MNK *i* PPP PPP 16 38 03.4
MNK *i* S **S 16 43 08.5 -1.6**
MNK *i* sS **ScS 16 43 37.3 +1.8**
MNK *i* SS **SS 16 48 13.5 +2.3**
MNK *i* SSS SSS 16 51 38.6
MNK *i* LQ LQ 17 01 21.6
MNK *i* LR LR 17 04 04.3
MNK *i* LRM MLR 17 10 51.0
MNK *i* LRM MLR 17 10 56.6
comp=Z,12µm,17.4s
MNK *i* LRM MLR 17 11 01.1
comp=E,2µm,17.4s
BMN Battle Mountai 78.25 50 P **P 16 33 16.7 +0.1**
BMN IAmb IAmb 16 33 24.1
comp=Z,159nm,1.6s
BMN Battle Mountai 78.25 50 P **P 16 33 16.7 +0.1**
BMN pmax pmax
comp=Z,159nm,1.6s
RYN Ryan 78.28 52 P **P 16 33 17.0 +0.3**
KVN Kaiserville 78.35 52 P **P 16 33 17.2 0.0**
KVN Kaiserville 78.35 52 P **P 16 33 17.2 0.0**
KVN pmax pmax
comp=Z,56nm,0.8s
HRY Holter Researc 78.37 42 P **P 16 33 17.3 +0.2**
ISAL Salakas 78.39 329 *e*P **P 16 33 18.4 +1.6**
OXZ Oxford 78.45 158 P **P 16 33 17.1 0.0**
OXZ IAmb IAmb 16 33 19.8
comp=Z,160nm,0.7s
OXZ IAMs_20 IAMs_20 17 06 12.5
comp=Z,6µm,20.0s
GVZ Greta Valley S 78.45 157 P **P 16 33 17.2 +0.1**
HLID Hailey 78.47 46 P **P 16 33 17.9 +0.2**
HLID IAMs_20 IAMs_20 17 08 22.6
comp=Z,8µm,19.0s
HLID Hailey 78.47 46 P **P 16 33 18.8 +1.0**
baz=301,SNR=56
HLID S **S 16 43 14.1 +0.5**
baz=301
SLWR Sila 78.47 291 P **P 16 33 18.8 +1.0**
LHV Little Huntoon 78.47 52 P **P 16 33 18.1 +0.6**
LHV IAmb IAmb 16 33 25.6
comp=Z,203nm,1.3s
IIGN Ignalina 78.48 328 *e*P **P 16 33 18.9 +1.6**
LRM Limekiln Ridge 78.48 43 P **P 16 33 18.4 +0.5**
ANN Anapa 78.49 315 *e*P **P 16 33 18.3 +0.8**
ANN *e**PP **sP 16 33 21.6 +0.3**
ANN *e* 16 36 18.1
ANN *e*PPP PPP 16 38 06.7
ANN *e*S **S 16 43 12.7 -0.6**
ANN *e* 16 43 40.0
ANN pmax pmax
comp=Z,333nm,1.1s
RPZ Rata Peaks 78.49 159 P **P 16 33 18.0 +0.7**
comp=Z,197nm,0.7s,baz=137,slow=7.3
RPZ LR LR 17 05 54.0
comp=Z,5µm,20.4s,baz=339,slow=34
comp=Z,197nm,0.7s
RPZ Rata Peaks 78.49 159 P **P 16 33 17.3 0.0**
RPZ IAMs_20 IAMs_20 17 05 12.7
comp=Z,7µm,20.0s
RPZ Rata Peaks 78.49 159 P **P 16 33 17.7 +0.4**
RPZ Rata Peaks 78.49 159 P **P 16 33 18.2 +0.9**
NACGM Naroch 78.49 328 ⇓*i* P **P 16 33 18.5 +1.1**
baz=53
PAGB Antelope Grade 78.49 55 P **P 16 33 18.4 +0.5**
PAGB IAmb IAmb 16 33 32.0
comp=Z,99nm,0.9s
NVAR Mina Array Bea 78.52 52 P **P 16 33 18.9 +0.7**
comp=Z,39nm,0.5s,baz=288,slow=5.9,SNR=159
NVAR PKKPbc **PKKPbc 16 52 15.3 +1.6**
comp=Z,0.5nm,0.7s,baz=76,slow=1.1,SNR=2.4
NVAR PKP2ab 16 59 58.1
comp=Z,0.1nm,0.3s,baz=116,slow=6.8,SNR=3.5
NVAR LR LR 17 05 08.8
comp=Z,12µm,19.1s,baz=275,slow=34
comp=Z,39nm,0.5s
NVAR Mina Array Bea 78.52 52 P **P 16 33 18.3 +0.1**
MLAC Mammoth, Mammo 78.55 53 P **P 16 33 19.5 +1.1**
baz=300
MLAC S **S 16 43 16.9 +2.1**
baz=300
NV11 Mina Array Sit 78.62 52 P **P 16 33 18.7 0.0**
NV11 IAmb IAmb 16 33 26.2
comp=Z,208nm,1.8s
BCYI Bear Canyon 78.70 45 P **P 16 33 19.0 -0.1**
SLIT Slitere, Latvi 78.74 332 *e*P **P 16 33 19.0 +0.3**
MCMT McKenzie Canyo 78.77 44 P **P 16 33 19.4 -0.1**
DMTO DMTO 78.79 284 P **P 16 33 20.5 +0.8**
VOG Valley Oaks Go 78.82 54 P **P 16 33 20.0 +0.4**
baz=300
LBZ Lake Benmore 78.83 160 P **P 16 33 19.8 +0.6**
LBZ IAmb IAmb 16 33 22.7
comp=Z,136nm,0.8s
LBZ Lake Benmore 78.83 160 P **P 16 33 19.0 -0.2**
SMRA Abu-Samra 78.85 292 P **P 16 33 20.4 +0.5**
EGMT Eagleton 78.85 41 P **P 16 33 19.8 +0.2**
EGMT IAmb IAmb 16 33 24.0
comp=Z,120nm,1.1s
EGMT IAMs_20 IAMs_20 17 10 23.4
comp=Z,6µm,19.0s
EGMT Eagleton 78.85 41 P **P 16 33 20.3 +0.7**
baz=303,SNR=45
EGMT S **S 16 43 17.2 -0.1**
baz=303
SMMC Simmler 78.88 56 P **P 16 33 21.3 +1.3**
baz=300
SMMC S **S 16 43 19.1 +1.1**
baz=300
WKZ Wanaka 78.89 161 IAMs_20 IAMs_20 17 03 35.6
comp=Z,7µm,22.0s
FFC Flin Flon 78.93 32 P **P 16 33 19.6 -0.2**
FFC Flin Flon 78.93 32 IAMs_20 IAMs_20 17 08 48.0
comp=Z,6µm,20.0s
FFC Flin Flon 78.93 32 P **P 16 33 19.6 -0.2**
FFC pmax pmax
comp=Z,97nm,1.0s
FFC MLR MLR
comp=Z,6µm,20.0s
DCZ Deep Cove 78.97 162 P **P 16 33 20.1 +0.2**
DCZ IAmb IAmb 16 33 23.0
comp=Z,107nm,0.8s
DCZ Deep Cove 78.97 162 P **P 16 33 20.7 +0.8**
MQZ McQueen's Vall 78.99 158 P **P 16 33 21.7 +1.7**
KTUT Trabzon 78.99 311 ⇓P **P 16 33 22.1 +1.7**
TBLU Trondheim 79.04 340 *e*P **P 16 33 19.4 -0.9**
TBLU IVmBBB 16 33 20.5
comp=Z,1µm,1.0s
TBLU *e*S **S 16 43 16.1 -2.5**
TBLU *e*ScS **ScS 16 43 41.6 -0.2**
TBLU IVMs_BB IVMs_BB 17 17 15.9
comp=Z,7µm,16.3s
DOK Doka 79.05 285 P **P 16 33 21.8 +0.7**
SNR=17
Q09A Carvers 79.08 51 P **P 16 33 20.9 -0.3**
BOZ Bozeman (W) 79.09 43 P **P 16 33 21.6 +0.5**
BOZ IAmb IAmb 16 33 37.0
comp=Z,246nm,1.7s
BOZ Bozeman (W) 79.09 43 P **P 16 33 21.6 +0.5**
BOZ pmax pmax
comp=Z,246nm,1.7s
BOZ MLR MLR
comp=Z,3µm,18.0s
BOZ Bozeman (W) 79.09 43 P **P 16 33 22.1 +1.0**
baz=303,SNR=95
BOZ S **S 16 43 19.7 -0.4**
baz=303
VSVD Vaisvydziai 79.10 330 *e*P **P 16 33 22.2 +1.5**
MLZ Mavora Lakes 79.14 162 P **P 16 33 21.3 +0.5**
MLZ IAmb IAmb 16 33 24.1
comp=Z,118nm,0.8s
MLZ IAMs_20 IAMs_20 17 10 42.1
comp=Z,6µm,19.0s
PKM Mcpherson Peak 79.22 56 P **P 16 33 23.1 +1.0**
baz=300,SNR=8.3
PKM S **S 16 43 23.2 +1.3**
baz=300
TIN Tinemaha, Big 79.26 53 P **P 16 33 23.0 +0.9**
baz=300
TIN S **S 16 43 22.6 +0.5**
baz=300
VES Vestal, Richgr 79.26 55 P **P 16 33 22.1 +0.1**
baz=300,SNR=6.6
VES S **S 16 43 21.9 0.0**
baz=300
DSP Deep Springs 79.28 53 P **P 16 33 22.3 +0.2**
DSP IAmb IAmb 16 33 29.9
comp=Z,263nm,1.8s
PABE Paberze 79.39 329 P **P 16 33 22.9 +0.6**
PABE IAMs_20 IAMs_20 17 11 03.5
comp=Z,6µm,18.0s
PABE Paberze 79.39 329 *e*P **P 16 33 23.3 +1.0**
ELK Elko 79.40 49 PKPPKP **P'P'df 17 00 15.7 -5.2**
comp=Z,1.3nm,0.8s,baz=114,slow=1.9,SNR=3.4
ELK LR LR 17 07 01.4
comp=Z,10µm,18.4s,baz=296,slow=35
ELK Elko 79.40 49 P **P 16 33 23.2 +0.2**
ELK Elko 79.40 49 P **P 16 33 23.2 +0.2**
ELK pmax pmax
comp=Z,145nm,1.6s
ELK MLR MLR
comp=Z,11µm,19.0s
TPH Tonopah 79.44 52 P **P 16 33 23.1 -0.1**
TPH Tonopah 79.44 52 P **P 16 33 23.1 -0.1**
TPH pmax pmax
comp=Z,266nm,0.9s
BCW Bitter Crk WRg 79.48 56 P **P 16 33 23.3 0.0**
BCW IAmb IAmb 16 33 48.1
comp=Z,377nm,1.6s
PYZ Puysegur Point 79.50 163 P **P 16 33 23.4 +0.6**
PYZ IAmb IAmb 16 33 26.2
comp=Z,150nm,0.8s
SBC Santa Barbara 79.51 56 P **P 16 33 24.5 +1.1**
baz=300
SBC S **S 16 43 24.8 +0.2**
baz=300
MZP Montezuma Peak 79.52 52 P **P 16 33 22.6 -1.1**
RBK Rabkut 79.52 284 P **P 16 33 24.3 +0.6**
SNR=12
ODZ Otahua Downs 79.57 160 P **P 16 33 24.3 +1.1**
ODZ IAmb IAmb 16 33 28.7
comp=Z,521nm,2.0s
ODZ Otahua Downs 79.57 160 P **P 16 33 24.9 +1.7**
LCH Last Change Ra 79.57 53 P **P 16 33 23.4 -0.5**
LCH IAmb IAmb 16 33 31.1
comp=Z,240nm,1.9s
QLMT Earthquake Lak 79.62 44 P **P 16 33 24.1 0.0**
CWC Cottonwood Cre 79.67 54 P **P 16 33 24.8 +0.4**
baz=300
CWC S **S 16 43 26.4 -0.2**
baz=300
WHFO Wadi Hawf 79.68 285 P **P 16 33 25.0 +0.4**
SNR=16
YHL Hebgen Lake 79.76 44 P **P 16 33 25.5 +0.6**
ISA Isabella, Lake 79.78 55 P **P 16 33 24.6 -0.3**
ISA Isabella, Lake 79.78 55 P **P 16 33 24.6 -0.3**
ISA pmax pmax
comp=Z,140nm,2.0s
ISA Isabella, Lake 79.78 55 P **P 16 33 24.6 -0.3**
baz=300,SNR=9.3
ISA S **S 16 43 26.0 -1.6**
baz=300
SCZ2 Santa Cruz Isl 79.79 57 P **P 16 33 25.4 +0.5**
baz=300
SCZ2 S **S 16 43 27.3 -0.2**
baz=300
ARVC Arvin 79.80 55 P **P 16 33 25.1 +0.1**
baz=300

GMN	**Gold Mountain**	79.80	53		P		**P**	16 33 25.2	-0.1
AKASG	**Malin Array Be**	79.81	323		P		**P**	16 33 25.2	+0.5
	comp=Z,24nm,0.5s,baz=49,slow=5.8,SNR=173								
AKASG					PP		**PP**	16 36 26.7	+1.2
	comp=Z,24nm,1.0s,baz=48,slow=8.7,SNR=4.8								
AKASG					S		**S**	16 43 26.1	-1.1
	comp=Z,0.2nm,0.2s,baz=50,slow=9.8,SNR=5.4								
AKASG					PKKPbc		**PKKPbc**	16 52 10.8	-0.1
	comp=Z,2.6nm,0.6s,baz=266,slow=2.3,SNR=13								
AKASG					PKPPKP			17 00 19.9	
	comp=Z,1.2nm,0.8s,baz=259,slow=1.6,SNR=4.3								
AKASG					LR		LR	17 11 33.7	
	comp=Z,18μm,19.9s,baz=51,slow=38								
	comp=Z,24nm,0.5s								
AKASG	**Malin Array Be**	79.81	323		P		**P**	16 33 24.9	+0.2
AKASG					IAmb		IAmb	16 33 41.3	
	comp=Z,175nm,0.9s								
AKBB	**Malin Array Si**	79.81	323		P		**P**	16 33 25.1	+0.3
AKBB					IAmb		IAmb	16 33 41.2	
	comp=Z,226nm,0.8s								
AKBB	**Malin Array Si**	79.81	323	*d*	iP		**P**	16 33 25.0	+0.3
AK05	**Malin Array Si**	79.87	323		P		**P**	16 33 25.5	+0.4
AK05					IAmb		IAmb	16 33 49.4	
	comp=Z,171nm,1.1s								
GRAC	**Grapevine Rang**	79.88	53		P		**P**	16 33 25.7	+0.3
GRAC					IAmb		IAmb	16 33 40.7	
	comp=Z,218nm,1.5s								
GRAC	**Grapevine Rang**	79.88	53		P		**P**	16 33 26.3	+0.8
	baz=301								
GRAC					S		**S**	16 43 28.6	0.0
	baz=301								
PBUR	**Paburge**	79.94	330	*e*	P		**P**	16 33 26.2	+1.0
ILULI	**Ilulissat**	80.11	5		P		**P**	16 33 26.6	+0.6
ILULI					IAmb		IAmb	16 33 33.9	
	comp=Z,257nm,1.3s								
ILULI	**Ilulissat**	80.11	5		P		**P**	16 33 26.6	+0.6
ILULI					pmax		pmax		
	comp=Z,257nm,1.3s								
ILULI					MLR		MLR		
	comp=Z,4μm,20.0s								
ILULI	**Ilulissat**	80.11	5	*i*	P		**P**	16 33 27.1	+1.1
ILULI					IAmb		IAmb	16 33 33.2	
	comp=Z,25nm,1.1s								
OSI	**Osito Audit: C**	80.13	56		P		**P**	16 33 27.5	+0.7
	baz=300								
OSI					S		**S**	16 43 31.5	+0.2
	baz=300								
GCMT	**Greycliff**	80.14	42		P		**P**	16 33 26.9	+0.1
MARD	**Mardin**	80.19	307		P		**P**	16 33 28.4	+1.2
NC405	**NORSAR Array S**	80.20	338		P		**P**	16 33 26.9	+0.3
NC303	**NORSAR Array S**	80.23	338		P		**P**	16 33 27.2	+0.4
NC303					IAmb		IAmb	16 33 43.0	
	comp=Z,123nm,0.9s								
SNCC	**San Nicolas Is**	80.24	57		P		**P**	16 33 27.1	-0.3
SNCC					IAmb		IAmb	16 33 35.5	
	comp=Z,310nm,1.6s								
SNCC	**San Nicolas Is**	80.24	57		P		**P**	16 33 28.2	+0.9
	baz=300								
SNCC					S		**S**	16 43 33.2	+0.9
	baz=300								
MPMC	**Manual Prospec**	80.27	54		P		**P**	16 33 28.5	+0.7
	baz=301,SNR=11								
MPMC					S		**S**	16 43 32.3	-0.8
	baz=301								
DOMB	**Dombas**	80.32	340	*e*	P		**P**	16 33 27.8	+0.4
DOMB					IVmBBB			16 33 29.5	
	comp=Z,2μm,2.0s								
DOMB				*e*	S		**S**	16 43 31.2	-1.1
DOMB				*e*	ScS		**ScS**	16 43 51.5	-0.9
DOMB					IVMs_BB		IVMs_BB	17 17 51.7	
	comp=Z,6μm,14.8s								
ABTO	**Aybut**	80.35	284		P		**P**	16 33 28.8	+0.6
	SNR=25								
CCAC	**Calif City Air**	80.36	55		P		**P**	16 33 28.2	+0.1
MOL	**Molde**	80.36	340	*e*	P		**P**	16 33 27.7	+0.2
MOL					IVmBBB			16 33 29.0	
	comp=Z,1μm,2.1s								
MOL				*e*	S		**S**	16 43 32.5	0.0
MOL				*e*	ScS		**ScS**	16 43 53.5	+1.0
MOL				*e*	SS		**SS**	16 48 47.7	+4.9
MOL					IVMs_BB		IVMs_BB	17 19 40.7	
	comp=Z,4μm,16.3s								
H17A	**Grant Village**	80.37	44		P		**P**	16 33 31.2	+3.1
	baz=303,SNR=65								
NC204	**NORSAR Array S**	80.38	338		P		**P**	16 33 28.2	+0.5
NB201	**NORSAR Array S**	80.38	338		P		**P**	16 33 27.9	+0.3
SIM	**Simferopol'**	80.39	317	*e*	P		**P**	16 33 29.0	+1.0
SIM				*e*	S		**S**	16 43 36.3	+2.8
SIM				*e*	SS		**SS**	16 48 50.0	+5.7
SIM					pmax		pmax		
	comp=Z,140nm,0.9s								
SIM					smax		smax		
	comp=N,5μm,7.0s								
SIM					pmax		pmax		
	comp=N,1μm,10.4s								
R11A	**Troy Canyon, C**	80.41	51		P		**P**	16 33 28.6	+0.2
R11A					IAmb		IAmb	16 33 35.7	
	comp=Z,218nm,1.7s								
R11A	**Troy Canyon, C**	80.41	51		P		**P**	16 33 29.1	+0.7
	baz=301,SNR=48								
R11A					S		**S**	16 43 33.5	-0.8
	baz=301								
NB2	**NORSAR Subarra**	80.42	338		P		**P**	16 33 28.4	+0.6
	comp=Z,853nm,2.5s,baz=41,slow=5.6								
NB2	**NORSAR Subarra**	80.42	338		P		**P**	16 33 28.4	+0.6
	baz=41,slow=5.6								
NOA	**NORSAR Array B**	80.42	338		P		**P**	16 33 28.2	+0.3
	comp=Z,55nm,0.7s,baz=41,slow=5.3,SNR=403								
NOA					PP		**PP**	16 36 32.5	+2.3
	comp=Z,18nm,1.1s,baz=43,slow=7.2,SNR=6.1								
NOA					PKKPbc		**PKKPbc**	16 52 08.8	-1.2
	comp=Z,0.6nm,0.8s,baz=221,slow=2.5,SNR=3.6								
NOA					LR		LR	17 15 09.5	
	comp=Z,8μm,18.3s,baz=55,slow=40								
	comp=Z,55nm,0.7s								
IMW	**Indian Meadow**	80.42	45		P		**P**	16 33 29.4	+0.9
IMW					IAMs_20		IAMs_20	17 06 19.2	
	comp=Z,5μm,20.0s								
HVU	**Hansel Valley**	80.43	47		P		**P**	16 33 28.9	+0.5
HVU	**Hansel Valley**	80.43	47		P		**P**	16 33 28.9	+0.5
HVU					pmax		pmax		
	comp=Z,101nm,0.9s								
LRMC	**Laurel Mtn Rad**	80.43	55		P		**P**	16 33 29.0	+0.4
	baz=301,SNR=11								
LRMC					S		**S**	16 43 33.6	-1.0
	baz=301								
WCT	**Wildcat Mounta**	80.50	53		P		**P**	16 33 29.0	+0.2
FURC	**Furnace Creek,**	80.50	53		P		**P**	16 33 29.5	+0.8
	baz=301								
FURC					S		**S**	16 43 34.6	-0.3
	baz=301								
FXWY	**Fox Creek**	80.51	45		P		**P**	16 33 29.2	+0.3
FXWY					IAMs_20		IAMs_20	17 06 59.6	
	comp=Z,6μm,19.0s								
EDW2	**Edwards Air Fo**	80.52	55		P		**P**	16 33 29.7	+0.8
	baz=301,SNR=16								
EDW2					S		**S**	16 43 35.4	+0.1
	baz=301								
NC602	**NORSAR Array S**	80.54	338		P		**P**	16 33 27.9	-0.5
NC602					IAmb		IAmb	16 33 53.0	
	comp=Z,216nm,1.3s								
NC602	**NORSAR Array S**	80.54	338	*e*	P		**P**	16 33 28.3	-0.2
NC602					IVmBBB			16 33 30.1	
	comp=Z,1μm,2.5s								
NC602				*e*	S		**S**	16 43 32.2	-2.3
NC602				*e*	ScS		**ScS**	16 43 55.1	+1.0
NC602					IVMs_BB		IVMs_BB	17 18 41.6	
	comp=Z,6μm,16.2s								
NORES	**NORESS Array B**	80.54	338		P		**P**	16 33 29.2	+0.8
NORES					pmax		pmax		
	comp=Z,2.0nm,0.6s								
NBO00	**NORSAR Array S**	80.56	338		P		**P**	16 33 28.5	-0.1
NBO00					IAmb		IAmb	16 33 32.5	
	comp=Z,165nm,0.8s								
DECC	**Green Verdugo**	80.59	56		P		**P**	16 33 29.6	+0.4
	baz=300								
DECC					S		**S**	16 43 35.4	-0.7
	baz=300								
ECR	**Eagle Creek**	80.62	45		P		**P**	16 33 29.2	-0.4
MOOW	**Moose Ponds**	80.62	45		IAMs_20		IAMs_20	17 06 35.5	
	comp=Z,5μm,20.0s								
TPAW	**Teton Pass**	80.64	45		P		**P**	16 33 29.2	-0.4
TPAW					IAMs_20		IAMs_20	17 07 01.8	
	comp=Z,6μm,20.0s								
NAO01	**NORSAR Array S**	80.67	338		P		**P**	16 33 29.2	0.0
NAO01					IAmb		IAmb	16 33 44.0	
	comp=Z,250nm,1.1s								
TPNV	**Topopah Spring**	80.68	53		P		**P**	16 33 29.9	0.0
TPNV					IAmb		IAmb	16 33 59.1	
	comp=Z,129nm,1.1s								
TPNV					IAMs_20		IAMs_20	17 07 04.4	
	comp=Z,7μm,20.0s								
TPNV	**Topopah Spring**	80.68	53		P		**P**	16 33 29.9	0.0
TPNV					pmax		pmax		
	comp=Z,129nm,1.1s								
TPNV					MLR		MLR		
	comp=Z,7μm,20.0s								
TPNV	**Topopah Spring**	80.68	53		P		**P**	16 33 30.4	+0.6
	baz=301,SNR=5.7								
TPNV					S		**S**	16 43 37.0	-0.2
	baz=301								
ICESG	**Greenland Ices**	80.70	1	*i*	P		**P**	16 33 30.4	+0.8
ICESG					IAmb		IAmb	16 33 32.3	
	comp=Z,67nm,0.8s								
PASC	**Pasadena Art C**	80.74	56		P		**P**	16 33 29.9	-0.2
PASC					IAmb		IAmb	16 33 37.0	
	comp=Z,289nm,1.9s								
RLMT	**Red Lodge**	80.74	43		P		**P**	16 33 30.5	+0.4
RLMT	**Red Lodge**	80.74	43		P		**P**	16 33 31.6	+1.5
	baz=304,SNR=57								
RLMT					S		**S**	16 43 38.6	+0.9
	baz=304								
REDW	**Red Top Meadow**	80.77	45		IAMs_20		IAMs_20	17 06 56.4	
	comp=Z,6μm,20.0s								
SNOW	**Snow King Moun**	80.77	45		IAMs_20		IAMs_20	17 07 16.5	
	comp=Z,5μm,19.0s								
GWY	**Greenwater Val**	80.78	53		P		**P**	16 33 30.5	+0.1
LOHW	**Long Hollow**	80.78	45		P		**P**	16 33 30.8	+0.4
LOHW					IAMs_20		IAMs_20	17 06 39.8	
	comp=Z,5μm,19.0s								
AKN	**Aaknes**	80.83	340	*e*	P		**P**	16 33 31.0	+1.0
AKN					IVmBBB			16 33 32.7	
	comp=Z,2μm,1.9s								
AKN				*e*	S		**S**	16 43 37.4	-0.2
AKN				*e*	ScS		**ScS**	16 43 56.5	0.0
AKN				*e*	SS		**SS**	16 48 55.2	+5.3
AKN					IVMs_BB		IVMs_BB	17 19 48.4	
	comp=Z,6μm,15.7s								
FMP	**Fort Macarthur**	80.89	56		P		**P**	16 33 31.3	+0.4
	baz=301								
FMP					S		**S**	16 43 38.9	-0.3
	baz=301								
SPR3	**Spring Creek 3**	80.90	50		P		**P**	16 33 31.3	+0.1
SPR3					IAmb		IAmb	16 34 29.3	
	comp=Z,94nm,1.4s								
AHID	**Auburn Hatcher**	80.94	46		P		**P**	16 33 31.7	+0.4
CIS	**Catalina Islan**	80.96	57		P		**P**	16 33 31.3	0.0
	baz=301,SNR=10								
CIS					S		**S**	16 43 39.2	-0.7
	baz=301								
BFSC	**Mount Baldy Ra**	81.08	56		P		**P**	16 33 32.2	+0.2
	baz=301,SNR=10.0								
BFSC					S		**S**	16 43 40.1	-1.3
	baz=301								
SCI2	**San Clemente I**	81.08	57		P		**P**	16 33 32.6	+0.7
	baz=301								
PMOR	**Pomariorio Ree**	81.11	113	*e*	T		T	18 02 46.0	
	comp=Z,6.3nm,0.2s								
GSC	**Goldstone, Bar**	81.14	54		P		**P**	16 33 32.5	+0.2
GSC	**Goldstone, Bar**	81.14	54		P		**P**	16 33 32.5	+0.2
GSC					pmax		pmax		
	comp=Z,99nm,1.4s								
GSC	**Goldstone, Bar**	81.14	54		P		**P**	16 33 32.7	+0.5
	baz=301,SNR=7.1								
GSC					S		**S**	16 43 41.6	-0.3
	baz=301								
SHOC	**Shoshone, Teco**	81.20	54		P		**P**	16 33 33.0	+0.5
	baz=301								
SHOC					S		**S**	16 43 41.7	-0.7
	baz=301								
RRX	**Edison Barstow**	81.22	55		P		**P**	16 33 33.3	+0.7
	baz=301								
RRX					S		**S**	16 43 43.4	+0.8
	baz=301								
PRN	**Pahroc Range**	81.26	52		P		**P**	16 33 33.1	+0.2
DUG	**Dugway, Tooele**	81.26	48		P		**P**	16 33 33.4	+0.5
DUG					IAmb		IAmb	16 34 08.2	
	comp=Z,138nm,1.2s								
DUG	**Dugway, Tooele**	81.26	48		P		**P**	16 33 33.4	+0.5
DUG					pmax		pmax		
	comp=Z,138nm,1.3s								
DUG					MLR		MLR		
	comp=Z,10μm,19.0s								
DUG	**Dugway, Tooele**	81.26	48		P		**P**	16 33 34.0	+1.1
	baz=303,SNR=33								
DUG					S		**S**	16 43 42.1	-0.9
	baz=303								
PPT	**Papeete**	81.26	116		LR		LR	17 06 02.9	
	comp=Z,4μm,18.9s,baz=304,slow=33								
PPT2	**Papeete2**	81.27	116	*e*	P		**P**	16 33 33.8	+0.7
	comp=Z,737nm,23.8s								
PPT2	**Papeete2**	81.27	116	*e*	S		**S**	16 43 44.0	+0.5
	comp=Z,845nm,22.2s								
PPT2				*e*	SS		**SS**	16 49 00.3	+0.6
	comp=Z,1μm,25.5s								
PPT2				*e*	LR		LR	16 58 56.0	
	comp=Z,6μm,22.8s								
PPTF	**Pamatai, Papee**	81.28	116		IAMs_20		IAMs_20	17 07 31.9	
	comp=Z,7μm,19.0s								
HWUT	**Hardware Ranch**	81.29	47		P		**P**	16 33 33.6	+0.5
HWUT					IAmb		IAmb	16 33 50.7	
	comp=Z,127nm,1.0s								
KVT	**Kavak**	81.33	313		P		**P**	16 33 35.4	+2.3
OSL	**Oslo**	81.41	338	*e*	P		**P**	16 33 33.8	+0.8
OSL					IVmBBB			16 33 35.3	
	comp=Z,2μm,2.0s								
OSL				*e*	S		**S**	16 43 43.0	-0.5
OSL					IVMs_BB		IVMs_BB	17 18 50.5	
	comp=Z,4μm,17.6s								
PSUT	**Pine Spring**	81.46	50		P		**P**	16 33 33.8	-0.3
ELS	**Elsinore Mount**	81.55	56		P		**P**	16 33 33.9	-0.5
ELS					IAmb		IAmb	16 33 42.5	
	comp=Z,245nm,1.7s								
LAO	**LASA Array**	81.59	40		P		**P**	16 33 34.7	+0.3
LAO					IAMs_20		IAMs_20	17 11 38.7	
	comp=Z,5μm,19.0s								
LAO	**LASA Array**	81.59	40		P		**P**	16 33 35.5	+1.1
	baz=306								
LAO	**LASA Array**	81.59	40		P		**P**	16 33 35.5	+1.1
	baz=306,SNR=23								
LAO					S		**S**	16 43 47.1	+1.0
	baz=306								
BBRC	**Big Bear Solar**	81.59	55		P		**P**	16 33 35.2	+0.3
	baz=301								
BBRC					S		**S**	16 43 45.9	-1.0
	baz=301								
SKAR	**Skarslia**	81.61	339	*e*	P		**P**	16 33 35.2	+1.0
SKAR					IVmBBB			16 33 37.0	
	comp=Z,2μm,2.2s								
SKAR				*e*	S		**S**	16 43 46.5	+0.7
SKAR				*e*	SS		**SS**	16 49 05.8	+4.1
SKAR					IVMs_BB		IVMs_BB	17 19 09.8	
	comp=Z,6μm,17.6s								
KLNR	**Kaliningrad**	81.61	330	*c*	iP		**P**	16 33 35.2	+1.0
KLNR					pmax		pmax		
	comp=Z,746nm,1.9s								
KLNR					MLR		MLR		
	comp=Z,5μm,19.0s								
DGMT	**Dagmar**	81.63	38		P		**P**	16 33 34.8	+0.2
DGMT					IAmb		IAmb	16 33 50.7	
	comp=Z,223nm,1.3s								
DGMT	**Dagmar**	81.63	38		IAMs_20		IAMs_20	17 08 00.8	
	comp=Z,5μm,20.0s								
DGMT	**Dagmar**	81.63	38		P		**P**	16 33 35.5	+0.9
	baz=307								
DGMT	**Dagmar**	81.63	38		P		**P**	16 33 35.2	+0.7
	baz=307								
DGMT					S		**S**	16 43 46.1	-0.3
	baz=307								
SHPR	**Sheep Range**	81.65	53		P		**P**	16 33 35.2	+0.1
TCUT	**Toone Canyon**	81.66	47		P		**P**	16 33 35.0	-0.1
TCUT					IAmb		IAmb	16 34 09.3	
	comp=Z,160nm,1.0s								
CTU	**Camp Tracy**	81.67	48		P		**P**	16 33 35.4	+0.3
CTU					IAmb		IAmb	16 33 41.6	
	comp=Z,143nm,1.2s								
TUQ	**Turquoise Moun**	81.69	54		P		**P**	16 33 36.0	+0.8
	baz=302,SNR=9.3								
TUQ					S		**S**	16 43 48.0	+0.4
	baz=302								
HEC	**Hector,Ludlow**	81.71	55		P		**P**	16 33 35.8	+0.5
	baz=301,SNR=13								
HEC					S		**S**	16 43 47.3	-0.5
	baz=301								
MURC	**Murrieta**	81.74	56		P		**P**	16 33 35.9	+0.5
	baz=301,SNR=9.8								
MURC					S		**S**	16 43 48.1	0.0
	baz=301								
FOO	**Floro**	81.85	341	*e*	P		**P**	16 33 36.3	+1.0
FOO					IVmBBB			16 33 37.8	
	comp=Z,2μm,2.3s								
FOO				*e*	S		**S**	16 43 47.6	-0.5
FOO				*e*	SS		**SS**	16 49 05.7	+0.7
FOO					IVMs_BB		IVMs_BB	17 19 46.3	
	comp=Z,4μm,16.8s								
NLU	**North Lily Min**	81.86	48		P		**P**	16 33 36.3	+0.1
HYA	**Hoyanger**	81.87	340	*e*	P		**P**	16 33 36.0	+0.6
HYA					IVmBBB			16 33 37.9	
	comp=Z,1μm,1.2s								
HYA				*e*	PP		**PP**	16 36 42.7	+0.7
HYA				*e*	S		**S**	16 43 47.9	-0.3
HYA					IVMs_BB		IVMs_BB	17 19 00.6	
	comp=Z,4μm,15.0s								
BW06	**Boulder Array**	81.89	45		P		**P**	16 33 36.1	-0.1
BW06	**Boulder Array**	81.89	45		P		**P**	16 33 36.8	+0.5
	baz=304,SNR=53								
BW06					S		**S**	16 43 49.2	-0.6
	baz=304								
PD31	**Pinedale Array**	81.89	45		P		**P**	16 33 36.2	-0.1
PDAR	**Pinedale Array**	81.89	45		P		**P**	16 33 36.6	+0.3
	comp=Z,20nm,0.7s,baz=283,slow=2.1,SNR=165								
PDAR					PKKPbc		**PKKPbc**	16 52 07.5	+1.1
	comp=Z,0.7nm,0.7s,baz=115,slow=4.0,SNR=5.8								
PDAR					PKPPKP		P'P'df	17 00 04.5	-12
	comp=Z,1.8nm,1.1s,baz=132,slow=2.2,SNR=4.2								
PDAR					LR		LR	17 07 35.5	
	comp=Z,7μm,19.3s,baz=317,slow=34								
	comp=Z,20nm,0.7s								
PDAR	**Pinedale Array**	81.89	45		P		**P**	16 33 36.1	-0.1
JLU	**Jordanelle**	81.91	48		P		**P**	16 33 36.8	+0.3
JLU					IAmb		IAmb	16 33 41.1	
	comp=Z,90nm,1.0s								
WTNK	**Soaring Height**	81.92	53		P		**P**	16 33 36.7	+0.4
WTNK					IAmb		IAmb	16 33 52.1	
	comp=Z,18nm,1.0s								
KONO	**Kongsberg**	82.00	338		P		**P**	16 33 36.8	+0.6
KONO	**Kongsberg**	82.00	338	*d*	iP		**P**	16 33 36.5	+0.3
KONO					pmax		pmax		
	comp=Z,126nm,1.7s								
KONO					MLR		MLR		
	comp=Z,9μm,18.0s								
KONO	**Kongsberg**	82.00	338	*e*	P		**P**	16 33 36.9	+0.7
KONO					IVmBBB			16 33 42.2	
	comp=Z,2μm,3.0s								
KONO				*e*	S		**S**	16 43 48.4	-1.3
KONO					IVMs_BB		IVMs_BB	17 15 54.7	
	comp=Z,5μm,15.1s								
MPU	**Maple Canyon**	82.12	48		P		**P**	16 33 37.8	+0.3
BZK	**Bozkurt**	82.13	314	⇑	P		**P**	16 33 36.6	-0.6
BZK	**Bozkurt**	82.13	314		P		**P**	16 33 36.8	-0.4
109C	**Camp Elliot, M**	82.17	57		IAMs_20		IAMs_20	17 05 19.2	
	comp=Z,7μm,20.0s								
109C	**Camp Elliot, M**	82.17	57		P		**P**	16 33 38.1	+0.5
	baz=301								
109C					S		**S**	16 43 51.1	-1.3
	baz=301								
GMRC	**Granite Mounta**	82.21	54		P		**P**	16 33 38.3	+0.3
	baz=302,SNR=18								
GMRC					S		**S**	16 43 52.9	-0.2
	baz=302								
KIS	**Kishinev**	82.23	321	⇑	iP		**P**	16 33 38.0	+0.3
	comp=Z,900nm,2.4s								
KIS	**Kishinev**	82.23	321	*e*	PP		PP	16 36 44.0	-1.5
KIS				⇓	*i*S		**S**	16 43 51.0	-1.5
	comp=Z,2μm,13.5s								
KIS				*e*	L		L	17 07 06.0	
KIS					LQM			17 12 33.0	
	comp=Z,4μm,15.0s								
KIS					LRM		MLR	17 19 35.0	
	comp=Z,4μm,15.0s								
KIS	**Kishinev**	82.23	321	*i*	P		**P**	16 33 36.3	-1.4
	comp=Z,2μm,7.9s								
KIS	**Kishinev**	82.23	321	*e*	PP		PP	16 36 31.0	-15
KIS	**Kishinev**	82.23	321	*c*	iP		**P**	16 33 38.0	+0.3
KIS				*e*				16 36 44.0	
KIS				*i*	S		**S**	16 43 51.0	-1.5
KIS					pmax		pmax		
	comp=Z,900nm,2.4s								
KIS					smax		smax		
	comp=N,2μm,13.5s								
KIS					smax		smax		
	comp=E,3μm,12.8s								
PFO	**Pinyon Flats O**	82.26	56		LR		LR	17 08 04.0	
	comp=E,13μm,18.4s,baz=282,slow=34								
PFO	**Pinyon Flats O**	82.26	56		P		**P**	16 33 38.1	-0.2
PFO	**Pinyon Flats O**	82.26	56	*d*	iP		**P**	16 33 38.5	+0.2
PFO					pmax		pmax		
	comp=Z,73nm,0.9s								
PFO					MLR		MLR		
	comp=Z,21μm,18.0s								
PFO	**Pinyon Flats O**	82.26	56		P		**P**	16 33 38.5	+0.2
	baz=302,SNR=25								
PFO					S		**S**	16 43 52.2	-1.4
	baz=302								
TPFO	**Pinon Flats**	82.26	56		P		**P**	16 33 38.5	+0.2
	baz=302,SNR=26								
TPFO					S		**S**	16 43 52.7	-1.0
	baz=302								
V12A	**Nelson**	82.28	53		P		**P**	16 33 38.6	+0.3
MILM	**Milestii Mici**	82.28	321	⇑	P		**P**	16 33 38.7	+0.8
MILM	**Milestii Mici**	82.28	321	*c*	iP		**P**	16 33 36.3	-1.6
MILM				*e*	PPP		PPP	16 38 34.0	
MILM				*i*	S		**S**	16 43 48.9	-4.1
MILM					pmax		pmax		
	comp=Z,2μm,7.9s								
MILM					smax		smax		
	comp=N,4μm,14.0s								
MILM					smax		smax		
	comp=E,4μm,12.0s								
PMD	**Palm Desert**	82.30	56		P		**P**	16 33 38.3	0.0
PMD					IAmb		IAmb	16 33 51.2	

ODD1 IVmB_BB 16 33 42.7
comp=Z,1µm,2.2s
ODD1 eS S 16 43 56.9 -0.4
BER Bergen 82.75 340 eP P 16 33 40.7 +0.6
BER IVmBBB 16 33 46.6
comp=Z,2µm,3.3s
BER eS S 16 43 57.9 +0.6
BER IVMs_BB IVMs_BB 17 22 29.1
comp=Z,6µm,17.0s
CBX Cerro Bola 82.78 57 P P 16 33 41.0 -0.1
TMUT Trail Mountain 82.78 49 P P 16 33 41.0 -0.1
IAS Iasi 82.80 321 P P 16 33 36.3 -4.3
LEOM Leova 82.86 320 ⇓P P 16 33 45.7 +4.8
LEOM Leova 82.86 320 ⇓P P 16 33 45.7 +4.8
IRM Iron Mountain 82.90 55 P P 16 33 42.3 +0.8
baz=302,SNR=11
IRM S S 16 44 02.2 +2.3
baz=302
NEE2 Needles Airpor 82.95 54 P P 16 33 42.3 +0.7
baz=302
NEE2 S S 16 44 02.8 +2.5
baz=302
BC3 Big Chuckawall 82.95 55 P P 16 33 42.4 +0.5
baz=302,SNR=24
BC3 S S 16 44 03.8 +3.2
baz=302
KNB Kanab 82.97 51 P P 16 33 42.5 +0.5
KNB Kanab 82.97 51 P P 16 33 42.5 +0.5
KNB pmax pmax
comp=Z,260nm,1.5s
LVV L'vov 82.98 325 eP P 16 33 40.3 -1.3
LVV eS S 16 43 57.4 -2.7
LVV MLR MLR
comp=Z,19µm,17.0s
P17A Butcher Ranch, 82.99 48 P P 16 33 42.5 +0.5
P17A IAmb IAmb 16 34 16.1
comp=Z,102nm,1.0s
FRB Frobisher Bay 83.00 13 LR LR 17 15 35.9
comp=Z,2µm,20.0s,baz=334,slow=39
IKP In-Ko-Pah, Jac 83.01 56 P P 16 33 42.7 +0.6
baz=302,SNR=14
IKP S S 16 44 02.8 +1.6
baz=302
VASR Vaslui 83.01 321 ⇓P P 16 33 43.2 +1.5
Q16A Castle Valley 83.02 49 P P 16 33 42.4 +0.2
Q16A IAmb IAmb 16 33 50.9
comp=Z,302nm,1.8s
RMX La Rumorosa 83.06 56 P P 16 33 42.6 +0.1
SWSC Sam W. Stewart 83.08 56 P P 16 33 42.7 +0.3
baz=302
SWSC S S 16 44 06.6 +5.0
baz=302
RDMU Red Mountain 83.12 47 P P 16 33 43.3 +0.6
DY2G Dye2 83.13 3 *i* P P 16 33 43.3 +1.1
DY2G IAmb IAmb 16 33 46.7
comp=Z,43nm,0.7s
YUH Yuha Desert 83.14 56 P P 16 33 42.5 -0.2
YUH IAmb IAmb 16 33 49.8
comp=Z,135nm,1.6s
BLS5 Blasjo 83.18 339 eP P 16 33 42.9 +0.5
BLS5 IVmBBB 16 33 45.0
comp=Z,2µm,1.8s
BLS5 eS S 16 44 02.1 +0.3
BLS5 eSS SS 16 49 30.6 +5.7
BLS5 IVMs_BB IVMs_BB 17 20 08.0
comp=Z,5µm,16.8s
BEL Belsk 83.22 328 eP P 16 33 44.2 +1.6
BEL eS S 16 44 02.5 +0.1
BEL eL L 17 13 27.6
comp=Z,10µm,19.0s
W13A Hualapai Mount 83.28 53 P P 16 33 43.6 0.0
TLCR 83.32 319 ⇓P P 16 33 44.6 +1.3
TLCR 83.32 319 ⇓P P 16 33 44.6 +1.3
BIR Birlad 83.33 321 ⇑P P 16 33 44.5 +1.1
BIR Birlad 83.33 321 ⇑P P 16 33 44.5 +1.1
SRU San Rafael Swe 83.33 48 P P 16 33 43.8 0.0
SRU IAmb IAmb 16 33 56.6
comp=Z,79nm,0.9s
SRU San Rafael Swe 83.33 48 P P 16 33 43.8 0.0
SRU pmax pmax
comp=Z,79nm,0.9s
VLDR Vladesti 83.34 320 ⇑P P 16 33 45.7 +2.3
HOMB Homborsund 83.43 337 eP P 16 33 44.0 +0.4
HOMB IVmBBB 16 33 49.4
comp=Z,2µm,3.5s
HOMB ePP PP 16 36 55.1 +0.2
HOMB eSKSac S 16 44 02.3 -1.9
HOMB IVMs_BB IVMs_BB 17 20 17.9
comp=Z,5µm,15.7s
VARL Varlezi 83.43 320 ⇓P P 16 33 45.8 +1.9
BSD Bornholm Skovb 83.45 333 P P 16 33 44.4 +0.6
BSD Bornholm Skovb 83.45 333 eP P 16 33 44.3 +0.5
BSD Bornholm Skovb 83.45 333 *i* P P 16 33 43.7 -0.1
BSD IAmb IAmb 16 33 50.3
comp=Z,38nm,0.8s
SCTR Scanteiesti 83.49 320 ⇑P P 16 33 46.5 +2.2
PDMCI Parker Dam,Lak 83.53 54 P P 16 33 45.2 +0.6
baz=303,SNR=7.6
PDMCI S S 16 44 08.9 +2.7
baz=303
JURR Jurilovca 83.54 319 ⇑P P 16 33 45.9 +1.4
BLYC Blythe 83.56 55 P P 16 33 44.9 +0.1
GHRR 83.58 320 ⇑P P 16 33 46.5 +1.9
OVD Ostervraa, Den 83.58 336 *i* P P 16 33 44.4 0.0
BR131 Keskin Array S 83.61 313 P P 16 33 45.8 +0.6
BR131 Keskin Array S 83.61 313 *d* P P 16 33 46.0 +0.8
BRTR Keskin Array B 83.61 313 P P 16 33 46.5 +1.3
comp=Z,78nm,0.8s,baz=102,slow=3.5,SNR=139
BRTR PKKPbc **PKKPbc** 16 52 04.3 +2.1
comp=Z,3.2nm,0.7s,baz=196,slow=3.0,SNR=12
BRTR PKPPKP **P'P'df** 17 00 10.6 -2.5
comp=Z,1.1nm,0.9s,baz=167,slow=6.0,SNR=4.4
BRTR LR LR 17 15 03.8
comp=Z,6µm,19.6s,baz=48,slow=39
comp=Z,78nm,0.8s
BRTR Keskin Array B 83.61 313 P P 16 33 45.8 +0.6
U15A North Rim 83.65 51 P P 16 33 45.2 -0.4
U15A IAmb IAmb 16 33 53.4
comp=Z,300nm,2.0s
RAYN Ar Rayn 83.68 293 P P 16 33 46.5 +0.8
RAYN Ar Rayn 83.68 293 P P 16 33 46.5 +0.8
RAYN pmax pmax
comp=Z,1µm,1.1s
RAYN MLR MLR
comp=Z,8µm,19.0s
RAYN Ar Rayn 83.68 293 P P 16 33 47.2 +1.5
RAYN Ar Rayn 83.68 293 *i* P P 16 33 47.0 +1.3
SNR=286
SCHL Schela 83.69 320 ⇑P P 16 33 46.8 +1.6
IZVR Izvoarele 83.69 320 ⇓P P 16 33 47.3 +2.0
CFR Carcaliu 83.71 319 ⇓P P 16 33 46.0 +0.7
CFR Carcaliu 83.71 319 ⇓P P 16 33 46.0 +0.7
TESR Tescani 83.71 321 ⇓P P 16 33 46.5 +1.1
GLA Glamis 83.71 55 P P 16 33 46.0 +0.3
GLA IAmb IAmb 16 33 50.0
comp=Z,55nm,0.8s
GLA Glamis 83.71 55 P P 16 33 46.0 +0.3
GLA pmax pmax
comp=Z,55nm,0.8s
GLA Glamis 83.71 55 P P 16 33 46.4 +0.7
baz=302,SNR=14
GLA S S 16 44 13.1 +4.9
baz=302
KMY Karmoy 83.72 339 eP P 16 33 45.5 +0.4
KMY eSKSac S 16 44 06.5 -0.6
BIZ Bicaz 83.74 322 ⇓P P 16 33 46.9 +1.3
TPGR Topolog 83.75 319 ⇓P P 16 33 47.3 +1.7
BUR08 Bucovina Ar. S 83.77 323 P P 16 33 46.5 +0.7
BUR08 IAmb IAmb 16 34 02.3
comp=Z,142nm,1.1s
BURAR Bucovina Array 83.78 323 ⇓P P 16 33 47.2 +1.3
BURAR Bucovina Array 83.78 323 P P 16 33 46.5 +0.6
BURAR IAmb IAmb 16 33 60.0
comp=Z,105nm,0.8s
BURAR Bucovina Array 83.78 323 P P 16 33 46.5 +0.6
BURAR pmax pmax
comp=Z,105nm,0.8s
K22A Casper 83.78 44 P P 16 33 46.3 +0.2
K22A Casper 83.78 44 P P 16 33 46.8 +0.8
baz=306
K22A Casper 83.78 44 P P 16 33 46.8 +0.8
baz=306,SNR=20
K22A S S 16 44 09.4 +0.5
baz=306
SNART Snartemo 83.80 338 eP P 16 33 46.0 +0.5
SNART ePP PP 16 36 58.4 +0.5
SNART eSKSac SKSac 16 44 07.9 0.0
GKP Gorka Klasztor 83.81 330 eP P 16 33 46.8 +1.1
GKP eS S 16 44 08.3 0.0
GKP eL L 17 15 28.3
comp=Z,14µm,17.6s
GKP Gorka Klasztor 83.81 330 eP P 16 33 46.4 +0.7
PANC Panciu 83.83 320 ⇑P P 16 33 48.0 +2.1
RWWY Rawlins 83.94 45 P P 16 33 45.9 -1.0
RWWY IAmb IAmb 16 33 50.3
comp=Z,127nm,1.1s
RWWY IAMs_20 IAMs_20 17 08 50.1
comp=Z,7µm,20.0s
ODBI Odobesti 83.95 320 ⇓P P 16 33 49.6 +3.0
COP Copenhagen 84.00 334 *i* P P 16 33 47.4 +0.8
COP IAmb IAmb 16 33 52.7
comp=Z,134nm,0.8s
ANTO Ankara 84.07 313 ⇑P P 16 33 48.9 +1.5
ANTO Ankara 84.07 313 P P 16 33 48.4 +1.0
ANTO Ankara 84.07 313 P P 16 33 48.4 +1.0
ANTO pmax pmax
comp=Z,350nm,1.1s
ANTO MLR MLR
comp=Z,4µm,21.0s
ANTO Ankara 84.07 313 P P 16 33 49.2 +1.8
VRI Vrincioaia 84.07 321 ⇑P P 16 33 48.7 +1.5
VRI Vrincioaia 84.07 321 ⇑P P 16 33 48.7 +1.5
TAOE Nuku Hiva Isla 84.09 104 eP P 16 33 48.4 +0.5
comp=Z,515nm,23.0s
TAOE Nuku Hiva Isla 84.09 104 eS S 16 44 11.8 -0.7
comp=Z,2µm,31.2s
TAOE eSS SS 16 49 41.5 -0.1
comp=Z,1µm,23.9s
TAOE Nuku Hiva Isla 84.09 104 eLR LR 17 00 13.3
comp=Z,7µm,27.6s
PLOR Plostina 84.12 321 ⇓P P 16 33 48.9 +1.4
PLOR Plostina 84.12 321 ⇓P P 16 33 48.9 +1.4
HARR Harsova 84.12 319 ⇑P P 16 33 48.9 +1.4
HARR Harsova 84.12 319 ⇑P P 16 33 48.9 +1.4
GOET G??ttrup 84.14 336 *i* P P 16 33 47.8 +0.5
TLBR Topalu 84.15 319 ⇓P P 16 33 49.4 +1.8
BORG Borgarnes 84.18 353 LR LR 17 12 23.7
comp=Z,1µm,20.2s,baz=21,slow=36
BORG Borgarnes 84.18 353 P P 16 33 49.8 +2.4
BORG Borgarnes 84.18 353 P P 16 33 49.8 +2.4
BORG pmax pmax
comp=Z,333nm,1.4s
ANGG Ammassalik, Gr 84.20 360 P P 16 33 47.7 +0.3
ANGG IAmb IAmb 16 34 03.6
comp=Z,178nm,1.2s
ANGG Ammassalik, Gr 84.20 360 *i* P P 16 33 47.3 -0.1
ANGG IAmb IAmb 16 33 50.5
comp=Z,32nm,0.8s
O20A White River Ci 84.20 47 P P 16 33 48.2 -0.1
O20A IAmb IAmb 16 34 19.3
comp=Z,111nm,1.0s
O20A White River Ci 84.20 47 P P 16 33 49.0 +0.7
baz=305,SNR=61
O20A S S 16 44 13.9 +0.7
baz=305
RSSD Black Hills 84.36 41 P P 16 33 48.6 -0.4
RSSD IAmb IAmb 16 34 04.3
comp=Z,171nm,1.6s
RSSD Black Hills 84.36 41 P P 16 33 48.6 -0.4
RSSD pmax pmax
comp=Z,171nm,1.7s
RSSD MLR MLR
comp=Z,4µm,21.0s
RSSD Black Hills 84.36 41 P P 16 33 49.3 +0.3
baz=308
RSSD Black Hills 84.36 41 P P 16 33 49.4 +0.4
baz=308
RSSD S S 16 44 11.9 -2.7
baz=308
COVR Voineasa-Covas 84.37 321 ⇑P P 16 33 49.7 +0.9
MDND Maddock 84.42 37 P P 16 33 47.9 -1.1
MDND Maddock 84.42 37 P P 16 33 48.1 -0.9
baz=310
MDND Maddock 84.42 37 P P 16 33 49.4 +0.4
baz=310,SNR=5.9
MDND S S 16 44 12.9 -1.8
baz=310
KOLS Kolonicke sedl 84.43 325 eP P 16 33 50.5 +1.5
KOLS pmax pmax
comp=Z,64nm,0.8s
KOLS Kolonicke sedl 84.43 325 eP P 16 33 50.5 +1.5
KOLS Kolonicke sedl 84.43 325 eS S 16 44 14.9 +0.1
OZUR 84.44 321 ⇑P P 16 33 51.1 +2.0
AMRR Amara 84.51 319 ⇑P P 16 33 51.2 +1.8
AMRR Amara 84.51 319 ⇑P P 16 33 51.2 +1.8
Y14A Wickenburg 84.52 54 P P 16 33 50.0 +0.2
ICOR Ion Corvin 84.55 319 ⇓P P 16 33 51.1 +1.5
ARCR ARCALIA 84.57 323 ⇓P P 16 33 51.9 +2.1
PSN Preselentsi 84.59 318 P P 16 33 51.6 +1.7
MUD Monsted U'grnd 84.61 336 *i* P P 16 33 50.3 +0.7
MUD IAmb IAmb 16 34 03.8
comp=Z,48nm,0.9s
113A Mohawk Valley, 84.62 55 P P 16 33 49.6 -0.6
113A IAmb IAmb 16 34 05.8
comp=Z,90nm,1.3s
UZH Uzhgorod 84.62 325 eP P 16 33 49.5 -0.4
UZH e 16 33 52.4
UZH e 16 34 01.2
UZH *i* S S 16 44 14.2 -2.4
UZH *i* PS PnS 16 45 13.0 +2.2
ISR Istrita 84.64 320 ⇑P P 16 33 52.0 +1.8
ISR Istrita 84.64 320 ⇑P P 16 33 52.0 +1.8
BMR Baia Mare 84.64 323 ⇑P P 16 33 51.1 +1.0
BMR Baia Mare 84.64 323 ⇑P P 16 33 51.1 +1.0
ULM Lac du Bonnet 84.67 33 P P 16 33 49.7 -0.5
comp=Z,12nm,0.5s,baz=311,slow=5.6,SNR=18
ULM PKKPbc **PKKPbc** 16 51 59.9 -0.1
comp=Z,3.4nm,0.6s,baz=336,slow=22,SNR=3.5
ULM LR LR 17 10 06.5
comp=Z,7µm,21.8s,baz=310,slow=35
comp=Z,12nm,0.5s
ULM Lac du Bonnet 84.67 33 P P 16 33 49.6 -0.5
ULM Lac du Bonnet 84.67 33 *de* P P 16 33 49.9 -0.2
E28A Huff 84.67 38 P P 16 33 50.2 -0.1
E28A IAmb IAmb 16 34 05.8
comp=Z,123nm,1.2s
E28A Huff 84.67 38 P P 16 33 51.2 +0.9
baz=310
MDUB Mudurnu 84.71 314 P P 16 33 50.6 -0.1
TBI Tubuai 84.73 121 eP P 16 33 51.6 +0.8
comp=Z,649nm,24.0s
TBI Tubuai 84.73 121 eS S 16 44 17.6 -0.7
comp=Z,2µm,24.5s
TBI Tubuai 84.73 121 eLR LR 17 00 31.9
comp=Z,8µm,22.2s
MLR Muntele Rosu 84.73 321 ⇓P P 16 33 52.9 +2.2
MLR ⇑P P 16 33 53.1 +2.3
MLR ⇑P PcP 16 33 53.6 -0.6
MLR Muntele Rosu 84.73 321 P P 16 33 51.0 +0.3
MLR Muntele Rosu 84.73 321 ⇑P P 16 33 53.1 +2.3
DOPR Dopca 84.73 321 ⇓P P 16 33 52.2 +1.6
LRW Lerwick 84.77 342 eP P 16 33 51.9 +1.5
WUAZ Wupatki 84.77 52 P P 16 33 50.8 -0.4
WUAZ IAmb IAmb 16 34 32.8
comp=Z,110nm,1.2s
WUAZ IAMs_20 IAMs_20 17 11 22.7
comp=Z,6µm,19.0s
WUAZ Wupatki 84.77 52 P P 16 33 52.0 +0.8
baz=304,SNR=43
OJC Ojcow 84.77 327 eP P 16 33 50.4 -0.3
OJC eS S 16 44 16.6 -1.5
OJC eL L 17 14 47.9
comp=Z,13µm,18.6s
OJC Ojcow 84.77 327 P P 16 33 50.0 -0.7
OJC Ojcow 84.77 327 P P 16 33 50.0 -0.7
SFX San Felipe 84.77 57 P P 16 33 50.6 -0.4
SFX IAmb IAmb 16 33 59.1
comp=Z,216nm,1.9s
TRPA Tarpa 84.83 324 ⇓P P 16 33 52.7 +1.7
TRPA Tarpa 84.83 324 P P 16 33 51.8 +0.8
PV11 David Mesa, Pa 84.85 48 P P 16 33 51.5 -0.1
CRVS Cervenica-Dubn 84.86 325 eP P 16 33 52.5 +1.3
CRVS pmax pmax
comp=Z,347nm,1.4s
CRVS Cervenica-Dubn 84.86 325 eP P 16 33 52.5 +1.3
CRVS Cervenica-Dubn 84.86 325 eS S 16 44 18.9 -0.1
CRVS eL L 17 15 18.8
PV07 Paradox Valley 84.92 48 P P 16 33 51.6 -0.3
PV07 IAmb IAmb 16 34 34.1
comp=Z,109nm,1.3s
SECR 84.95 320 ⇓P P 16 33 53.3 +1.6
PV13 Radium Mtn., P 84.97 48 P P 16 33 52.2 0.0
PV13 IAmb IAmb 16 33 56.5
comp=Z,112nm,0.9s
NUUK Nuuk 85.02 6 *i* P P 16 33 52.5 +1.0
NUUK IAmb IAmb 16 34 08.5
comp=Z,64nm,0.8s
SULR 85.07 320 ⇓P P 16 33 53.5 +1.2
NIE Niedzica 85.08 326 eP P 16 33 53.6 +1.3
NIE eS S 16 44 22.6 +1.4
NIE eL L 17 15 01.8
comp=Z,5µm,17.9s
PV15 Paradox Valley 85.08 48 P P 16 33 52.8 0.0
PV15 IAmb IAmb 16 34 23.3
comp=Z,75nm,0.9s
HWQ Hawqa 85.13 307 eP P 16 33 53.8 +0.9
N23A Red Feather La 85.17 45 P P 16 33 54.7 +1.5
baz=307,SNR=113
CJR Cluj-Napoca 85.21 323 ⇑P P 16 33 54.8 +1.8
CJR Cluj-Napoca 85.21 323 ⇑P P 16 33 54.8 +1.8
PHWY Pilot Hill 85.22 44 P P 16 33 53.7 +0.2
PHWY IAMs_20 IAMs_20 17 10 51.3
comp=Z,5µm,19.0s
VOIR 85.25 321 ⇓P P 16 33 55.5 +2.2
VOIR 85.25 321 ⇓P P 16 33 55.5 +2.2
MESR Meseseni 85.26 323 ⇓P P 16 33 55.5 +2.3
PRD Provadia 85.34 318 P P 16 33 54.6 +1.0
PIX Pinacate 85.49 56 P P 16 33 54.5 -0.2
BORA Eskisehir 85.52 314 P P 16 33 55.1 +0.4
ARR Arges 85.53 321 ⇓P P 16 33 56.3 +1.6
BHL Bhannes 85.54 307 eP P 16 33 55.8 +0.9
SMCO Snowmass 85.55 47 P P 16 33 55.8 +0.4
SMCO IAMs_20 IAMs_20 17 10 57.2
comp=Z,6µm,20.0s
KECS Kecovo 85.62 325 eP P 16 33 56.1 +1.2
KECS pmax pmax
comp=Z,43nm,0.9s
KECS Kecovo 85.62 325 eP P 16 33 56.1 +1.2
DRGR 85.62 323 ⇑P P 16 33 57.5 +2.4
DRGR 85.62 323 ⇑P P 16 33 57.5 +2.4
RAZG Razgrad 85.62 319 ⇑P P 16 33 55.6 +0.6
LTVH Ltavrtes, Hu 85.65 324 P P 16 33 56.0 +0.9
LANS Liptovska Anna 85.66 326 eP P 16 33 56.8 +1.6
LANS eS S 16 44 30.1 +3.1
LANS Liptovska Anna 85.66 326 eP P 16 33 56.8 +1.6
ISK Istanbul-Kandi 85.67 316 P P 16 33 56.3 +1.0
STFAR Stefanesti-Arg 85.67 321 ⇓P P 16 33 55.9 +0.6
MVCO Mesa Verde 85.72 49 P P 16 33 56.0 0.0
MVCO Mesa Verde 85.72 49 P P 16 33 56.7 +0.7
baz=305,SNR=26
214A Organ Pipe Nat 85.74 55 P P 16 33 56.1 +0.2
214A IAmb IAmb 16 34 06.8
comp=Z,84nm,1.1s
214A Organ Pipe Nat 85.74 55 P P 16 33 56.8 +0.9
baz=303,SNR=20
SHBL Chebaa 85.79 306 eP P 16 33 57.2 +1.0
OKC Ostrava-Krasne 85.81 327 eP P 16 33 56.4 +0.6
OKC eSKS SKSac 16 44 19.4 -1.6
OKC AMS AMS 17 23 20.0
comp=Z,11µm,15.4s
RUE Ruedersdorf 85.84 331 eP P 16 33 57.3 +1.4
HUMR Humele 85.87 320 ⇓P P 16 33 57.0 +0.7
LOT Lotru 85.94 322 ⇓P P 16 33 58.7 +1.9
KSP Ksiaz 85.94 329 eP P 16 33 57.5 +1.0
KSP eS S 16 44 27.9 -1.7
KSP eL L 17 14 42.9
comp=Z,7µm,20.7s
KSP Ksiaz 85.94 329 P P 16 33 57.5 +1.0
COPA Copaceanca 85.99 320 ⇓P P 16 33 57.0 +0.2
AGMN Agassiz Nation 86.00 35 P P 16 33 56.3 -0.5
AGMN IAMs_20 IAMs_20 17 14 30.2
comp=Z,5µm,20.0s
AGMN Agassiz Nation 86.00 35 P P 16 33 57.4 +0.5
baz=313
AGMN Agassiz Nation 86.00 35 P P 16 33 56.4 -0.5
baz=313
ISCO Idaho Springs 86.03 46 P P 16 33 57.8 +0.2
ISCO IAmb IAmb 16 34 14.7
comp=Z,97nm,1.1s
ISCO IAMs_20 IAMs_20 17 10 23.7
comp=Z,7µm,20.0s
ISCO Idaho Springs 86.03 46 P P 16 33 57.8 +0.2
ISCO pmax pmax
comp=Z,97nm,1.2s
ISCO MLR MLR
comp=Z,6µm,20.0s
ISCO Idaho Springs 86.03 46 P P 16 33 58.7 +1.2
baz=307
ISCO Idaho Springs 86.03 46 P P 16 33 58.8 +1.2
baz=307,SNR=49
W18A Petrified Fore 86.10 51 P P 16 33 58.0 +0.2
W18A IAmb IAmb 16 34 05.3
comp=Z,150nm,1.8s
W18A Petrified Fore 86.10 51 P P 16 33 58.7 +0.9
baz=305
MORC Moravsky Berou 86.13 328 ⇓P P 16 33 58.8 +1.3
MORC Moravsky Berou 86.13 328 P P 16 33 57.9 +0.4
MORC IAmb IAmb 16 34 13.3
comp=Z,157nm,1.3s
MORC Moravsky Berou 86.13 328 ⇓*i* P P 16 33 58.1 +0.6
MORC Moravsky Berou 86.13 328 eS S 16 44 31.4 -0.2
MORC Moravsky Berou 86.13 328 ⇓P P 16 33 58.8 +1.3
SZH Strazhica 86.14 319 P P 16 33 58.7 +1.1
OSTC Ostas 86.18 329 eP P 16 33 58.6 +0.9
OSTC eS S 16 44 30.6 -1.4
OSTC AMS AMS 17 21 30.0
comp=Z,10µm,16.4s
MMAI Mount Meron Ar 86.21 306 LR LR 17 16 23.5
comp=Z,3µm,18.2s,baz=278,slow=38
CHVC Chvalec 86.23 329 eP P 16 33 58.8 +0.8
CHVC eS S 16 44 29.3 -3.2
CHVC AMS AMS 17 21 40.0
comp=Z,11µm,15.8s
KRLC Kraliky 86.27 328 eP P 16 33 58.9 +0.7
KRLC ePP PP 16 37 31.1 +13
KRLC eS S 16 44 28.3 -4.6
KRLC AMS AMS 17 24 00.0
comp=Z,8µm,14.3s
DPC Dobruska-Polom 86.28 329 eP P 16 33 59.5 +1.2
DPC ePP PP 16 37 19.2 +0.8
DPC eS S 16 44 32.5 -0.6
DPC AMS AMS 17 19 40.0
comp=Z,10µm,15.2s
MAUC Maruska 86.28 327 eP P 16 33 58.9 +0.6
MAUC eS S 16 44 26.4 -6.7
MAUC AMS AMS 17 22 50.0
comp=Z,13µm,14.0s
X18A Snowflake 86.29 52 P P 16 33 58.7 -0.1
PSZ Piszkesteto 86.29 325 ⇓P P 16 33 59.7 +1.3
PSZ Piszkesteto 86.29 325 P P 16 33 58.7 +0.3
PSZ IAmb IAmb 16 34 18.6
comp=Z,199nm,1.4s
PSZ Piszkesteto 86.29 325 ⇓P P 16 33 59.7 +1.3
PSZ Piszkesteto 86.29 325 P P 16 33 59.4 +1.0
UPC Upice 86.31 329 eP P 16 33 58.8 +0.5
UPC eS S 16 44 31.4 -1.8
UPC AMS AMS 17 21 40.0
comp=Z,12µm,15.6s
VYHS Vyhne 86.41 326 eP P 16 34 00.3 +1.4
VYHS pmax pmax
comp=Z,454nm,2.3s
VYHS Vyhne 86.41 326 eP P 16 34 00.3 +1.4
VYHS ePP PP 16 37 22.5 +3.0
VYHS eS S 16 44 33.2 -1.1
VYHS eSS SS 16 50 09.6 -3.4
VYHS eL L 17 22 53.5
S22A 4UR Ranch, Cre 86.49 48 P P 16 34 01.0 +1.1
baz=306,SNR=96
GZR Gura Zlata 86.50 322 ⇓P P 16 33 58.8 -0.7
GZR Gura Zlata 86.50 322 ⇓P P 16 33 58.8 -0.7
PVL Pavlikeni 86.51 319 P P 16 34 01.2 +1.8
SIRR Siria 86.51 323 ⇑P P 16 34 00.4 +1.0
CSS Mathiatis 86.53 309 P P 16 33 59.6 -0.1
VLAD Vladila 86.53 320 ⇓P P 16 34 00.4 +0.9
JAVC Velka Javorina 86.71 327 ⇓*i* P P 16 34 02.3 +1.9
JAVC Velka Javorina 86.71 327 eS S 16 44 39.2 +1.9
SRE Strehaia 86.75 321 ⇑P P 16 34 02.6 +2.0
SRE Strehaia 86.75 321 ⇑P P 16 34 02.6 +2.0
Q24A Divide 86.82 46 P P 16 34 01.2 -0.3
Q24A Divide 86.82 46 P P 16 34 02.5 +1.0
baz=307,SNR=15
Q24A S S 16 44 40.8 +1.5

baz=307
EDC Edincik 86.82 316 P P 16 34 01.8 +0.7
VRAC Vranov 86.90 328 ⇑P P 16 34 02.6 +1.3
VRAC Vranov 86.90 328 LR LR 17 16 11.8
comp=Z,9µm,18.4s,baz=48,slow=38
VRAC Vranov 86.90 328 ⇓*i*P **P 16 34 02.2 +0.9**
VRAC Vranov 86.90 328 *e*S **S 16 44 38.2 -0.8**
VRAC Vranov 86.90 328 ⇑P **P 16 34 02.6 +1.3**
MLA1 Latheron 86.92 343 *e*P **P 16 34 02.5 +1.3**
PVCC Panska Ves 86.93 330 *e*P **P 16 34 05.6 +4.2**
PVCC *ex* x 16 44 33.1
PVCC AMS AMS 17 22 10.0
comp=Z,11µm,15.5s
BRG Berggiesshubel 86.95 330 *i*P **P 16 34 02.3 +0.9**
BRG Amp 16 34 02.6
comp=Z,203nm,1.8s
BRG *ex* x 16 34 14.6
BRG Amp 16 34 17.2
comp=Z,70nm,1.1s
BRG PP **PP 16 37 25.8 +2.0**
BRG Amp 16 37 29.4
comp=Z,65nm,1.3s
BRG Berggiesshubel 86.95 330 SS SS 16 50 26.0 +5.3
BRG Amp 17 21 38.0
comp=N,6.4nm,14.3s
BRG Amp 17 21 41.0
comp=Z,10nm,14.6s
BRG Amp 17 21 45.0
comp=E,5.5nm,16.1s
BRG Berggiesshubel 86.95 330 *i*P **P 16 34 02.3 +0.9**
BRG 16 37 25.7
BRG S **S 16 44 41.0 +1.6**
BRG SS **SS 16 50 26.0 +5.3**
BRG pmax pmax
comp=Z,203nm,1.8s
BRG pmax pmax
comp=Z,65nm,1.3s
BRG MLR MLR
comp=Z,10µm,14.6s
BRG MLR MLR
comp=E,6µm,16.1s
BZS Buzias 86.97 323 ⇑P **P 16 34 02.1 +0.4**
BZS Buzias 86.97 323 ⇑P **P 16 34 02.1 +0.4**
TUC Tucson 86.97 54 P **P 16 34 02.0 0.0**
TUC IAmb IAmb 16 34 09.6
comp=Z,125nm,1.8s
TUC Tucson 86.97 54 P **P 16 34 02.0 0.0**
TUC pmax pmax
comp=Z,125nm,1.8s
TUC MLR MLR
comp=Z,19µm,19.0s
TUC Tucson 86.97 54 P **P 16 34 02.9 +0.8**
baz=304
SUSD Miller 86.98 39 P **P 16 34 01.5 -0.2**
SUSD Miller 86.98 39 P **P 16 34 01.7 -0.1**
baz=311
SUSD Miller 86.98 39 P **P 16 34 02.2 +0.4**
baz=311,SNR=8.3
B35A Bob, Littlefor 86.99 34 P **P 16 34 01.1 -0.7**
B35A IAmb IAmb 16 34 08.2
comp=Z,102nm,1.4s
B35A Bob, Littlefor 86.99 34 P **P 16 34 01.3 -0.4**
baz=314
BUD Budapest 87.02 325 P **P 16 34 02.7 +0.9**
CLL Collm 87.03 331 P **P 16 34 01.7 -0.1**
CLL IAmb IAmb 16 34 06.8
comp=Z,134nm,1.2s
CLL IAMs_20 IAMs_20 17 16 43.4
comp=Z,5µm,20.0s
CLL Collm 87.03 331 *i*P **P 16 34 02.1 +0.3**
CLL *e*S **S 16 44 40.0 -0.1**
CLL pmax pmax
comp=Z,164nm,1.3s
CLL Collm 87.03 331 *i*P **P 16 34 02.1 +0.3**
comp=Z,164nm,1.3s
CLL *e*Pmax 16 34 07.0
CLL *i*x x 16 34 14.9
CLL *ex* x 16 37 17.0
CLL *e*PP **PP 16 37 25.0 +0.7**
CLL *es*PP 16 37 31.0
CLL *e*(PPP) 16 39 06.0
CLL *e*PPPP 16 41 00.0
CLL *e*S **S 16 44 40.0 -0.1**
comp=N,2µm,26.2s
CLL *e*S **S 16 44 40.0 -0.1**
comp=E,3µm,20.1s
CLL *e*PS 16 45 36.0
CLL *ex* x 16 46 54.0
CLL *e*SS **SS 16 50 21.0 -0.8**
CLL *e*PKKPbc **PKKPbc 16 51 57.0 +2.6**
CLL *e*SSS SSS 16 53 48.0
CLL *ex* x 16 55 24.0
CLL *e*SSSS 16 56 54.0
CLL Lmax 17 21 00.0
HERR Herculane 87.03 322 ⇑P **P 16 34 02.5 +0.6**
GHAJ Ghor Haditha 87.05 305 P **P 16 34 02.5 +0.2**
SMOL Smolenice 87.07 327 *e*P **P 16 34 03.5 +1.4**
SMOL *e* 16 37 28.1
SMOL *e*S **S 16 44 41.9 +1.2**
SMOL MLR MLR
comp=Z,2µm,17.4s
DJES Djerdap 87.12 322 ⇓P **P 16 34 02.7 +0.2**
SRO Srobarova 87.14 326 *e*P **P 16 34 03.7 +1.3**
SRO pmax pmax
comp=Z,85nm,1.6s
SRO Srobarova 87.14 326 *e*P **P 16 34 03.7 +1.3**
KRUC Moravsky 87.16 328 ⇓*i*P **P 16 34 03.1 +0.6**
KRUC Moravsky 87.16 328 *e*S **S 16 44 41.4 -0.2**
MODS Modra-Piesok 87.24 327 *e*P **P 16 34 04.2 +1.2**
MODS pmax pmax
comp=Z,717nm,2.3s
MODS Modra-Piesok 87.24 327 *e*P **P 16 34 04.2 +1.2**
MODS *e*PP **PP 16 37 29.8 +3.6**
MODS *e*S **S 16 44 42.8 +0.4**
MODS *e*SS **SS 16 50 29.2 +4.1**
MODS *e*L L 17 16 55.8
GOPC GO Pecny, Ondr 87.28 329 *e*P **P 16 34 03.5 +0.4**
GOPC *e*PP **PP 16 37 31.9 +5.4**
GOPC *e*S **S 16 44 38.0 -4.7**
GOPC AMS AMS 17 24 20.0
comp=Z,11µm,14.9s
MPEP Malo Peshtene 87.31 320 P **P 16 34 03.8 +0.4**
SDCO Great Sand Dun 87.33 47 IAMs_20 IAMs_20 17 10 38.3
comp=Z,7µm,20.0s
SDCO Great Sand Dun 87.33 47 P **P 16 34 04.8 +0.9**
baz=307
SDCO Great Sand Dun 87.33 47 P **P 16 34 04.9 +0.9**
baz=307,SNR=43
PRU Pruhonice 87.33 329 P **P 16 34 04.9 +1.6**
PRU Pruhonice 87.33 329 *e*P **P 16 34 03.9 +0.6**
PRU *e*PP **PP 16 37 31.0 +4.1**
PRU *e*S **S 16 44 38.7 -4.5**
PRU AMS AMS 17 22 20.0
comp=Z,13µm,15.6s
TREC Trest 87.41 328 *e*S **S 16 44 41.5 -2.5**
TREC AMS AMS 17 21 50.0
comp=Z,11µm,15.9s
ZST Bratislava 87.45 327 *e*P **P 16 34 04.6 +0.7**
ZST pmax pmax
comp=Z,3µm,3.5s
ZST Bratislava 87.45 327 *e*P **P 16 34 04.6 +0.7**
ZST *e*PP **PP 16 37 30.1 +2.3**
ZST *e*S **S 16 44 48.0 +3.7**
F33A 5 Mile Ranch, 87.45 37 P **P 16 34 03.9 -0.1**
F33A IAmb IAmb 16 34 15.6
comp=Z,106nm,1.0s
F33A 5 Mile Ranch, 87.45 37 P **P 16 34 04.5 +0.5**
baz=313
KDZ Kurdzhali 87.45 318 P **P 16 34 05.0 +0.9**
MDVR Moldovita 87.47 322 ⇓P **P 16 34 04.2 0.0**
CSKK Cskako 87.47 326 P **P 16 34 04.6 +0.5**
OGNE Ogallala 87.48 43 P **P 16 34 04.2 -0.2**
OGNE IAMs_20 IAMs_20 17 13 20.0
comp=Z,5µm,20.0s
OGNE Ogallala 87.48 43 P **P 16 34 05.1 +0.7**
baz=309
OGNE Ogallala 87.48 43 P **P 16 34 05.0 +0.6**
baz=309
OGNE S **S 16 44 44.7 -0.5**
baz=309
MCD Coleburn Disti 87.52 342⇑ *e*P **P 16 34 05.3 +1.2**
ALN Alexandroupoli 87.56 317 P **P 16 34 04.5 -0.1**
ALN Alexandroupoli 87.56 317 P **P 16 34 04.5 -0.1**
ALN pmax pmax
comp=Z,43nm,1.0s
PLD Plovdiv 87.58 319 P **P 16 34 05.0 +0.4**
PGB Panagyurishte 87.59 319 P **P 16 34 05.9 +1.1**
RDO Rodhopi 87.70 317 P **P 16 34 05.1 -0.2**
BLKB Belogradchik 87.72 321 ⇑P **P 16 34 05.9 +0.5**
RZN Rozhen 87.83 318 P **P 16 34 06.8 +0.6**
EGYH Egyhazaskeszo 87.89 326 P **P 16 34 07.1 +1.1**
DRUM Mains of Drumt 87.90 341 *e*P **P 16 34 06.3 +0.4**
MPLH Magyarpolny 87.96 326 P **P 16 34 06.7 +0.3**
NKC Novy Kostel 88.06 330 *e*P **P 16 34 07.6 +0.7**
NKC *e*S S 16 44 41.2 -9.0
NKC AMS AMS 17 22 30.0
comp=Z,10µm,15.4s
SOP Sopron 88.07 327 P **P 16 34 07.5 +0.6**
VTS Vitosha 88.07 320 ⇑P **P 16 34 08.4 +1.2**
VTS Vitosha 88.07 320 P **P 16 34 07.4 +0.2**
VTS Vitosha 88.07 320 ⇑P **P 16 34 08.4 +1.2**
VTS Vitosha 88.07 320 P **P 16 34 08.5 +1.3**
MORH Mrgy, Hungar 88.08 325 ⇑P **P 16 34 07.5 +0.5**
MORH Mrgy, Hungar 88.08 325 P **P 16 34 07.1 +0.1**
KAC Achnashellach 88.12 343 *e*P **P 16 34 07.8 +0.9**
RONA Rosalia, Austr 88.18 327 *i*P **P 16 34 08.5 +1.0**
comp=Z,90nm,1.9s,SNR=27
RONA *e*P **PP 16 37 39.0 +5.2**
comp=Z,50nm,1.5s
RONA *e*S **S 16 44 51.0 -0.5**
comp=Z,1.7nm,0.6s
FRGS Fruska Gora 88.22 323 ⇓P **P 16 34 08.2 +0.5**
FRGS Fruska Gora 88.22 323 ⇓*i*P **P 16 34 08.0 +0.3**
CONA Conrad Observa 88.22 327 *i*P **P 16 34 08.3 +0.6**
comp=Z,40nm,0.9s,SNR=43
CONA *e*P **PP 16 37 37.3 +3.1**
comp=Z,103nm,1.7s
CONA *e*S **S 16 44 54.3 +2.4**
comp=Z,5.3nm,1.3s
BOVS Bovan 88.24 321 ⇑P **P 16 34 07.5 -0.3**
K31A O'Neill 88.28 40 P **P 16 34 08.1 0.0**
K31A O'Neill 88.28 40 P **P 16 34 08.9 +0.8**
baz=311
CKRC Cesky Krumlov 88.29 328 *e*P **P 16 34 08.6 +0.6**
CKRC *e*S **SKSac 16 44 30.7 -5.7**
EYMN Ely 88.34 33 P **P 16 34 07.7 -0.5**
EYMN IAmb IAmb 16 34 12.6
comp=Z,102nm,1.1s
EYMN Ely 88.34 33 IAMs_20 IAMs_20 17 14 31.9
comp=Z,5µm,20.0s
EYMN Ely 88.34 33 P **P 16 34 08.1 -0.1**
baz=316,SNR=20
EYMN Ely 88.34 33 P **P 16 34 08.3 +0.1**
baz=316
KSCO Kaye Shedlock' 88.34 45 P **P 16 34 08.5 -0.1**
KSCO Kaye Shedlock' 88.34 45 P **P 16 34 09.0 +0.5**
baz=309
KSCO S **S 16 44 53.4 -0.1**
baz=309
KPL Plockton 88.36 343 *e*P **P 16 34 08.9 +0.9**
KPL IAmb IAmb 16 34 10.3
comp=Z,90nm,0.8s
EDU Dundee 88.36 342⇑ *e*P **P 16 34 09.6 +1.5**
ANMO Albuquerque 88.39 50 LR LR 17 11 24.8
comp=Z,17µm,19.2s,baz=318,slow=34
ANMO Albuquerque 88.39 50 *de*P **P 16 34 09.7 +0.8**
ANMO pmax pmax
comp=Z,26nm,1.3s
ANMO Albuquerque 88.39 50 P **P 16 34 09.4 +0.5**
baz=307
ANMO Albuquerque 88.39 50 P **P 16 34 09.7 +0.8**
baz=307
KHC Kasperske Hory 88.39 329 P **P 16 34 08.7 +0.2**
KHC Kasperske Hory 88.39 329 P **P 16 34 08.7 +0.2**
KHC pmax pmax
comp=Z,41nm,1.0s
KHC Kasperske Hory 88.39 329 *e*P **P 16 34 08.9 +0.4**
KHC *ex* x 16 34 20.5
KHC *ex* x 16 37 10.5
KHC *e*PP **PP 16 37 36.1 +0.7**
KHC *e*S **S 16 44 48.1 -5.3**
KHC AMS AMS 17 23 10.0
comp=Z,13µm,15.7s
T25A Trinidad 88.39 47 P **P 16 34 08.6 -0.4**
T25A IAmb IAmb 16 34 25.0
comp=Z,74nm,1.1s
T25A Trinidad 88.39 47 P **P 16 34 09.6 +0.6**
baz=308,SNR=24
T25A S **S 16 44 55.1 +0.8**
baz=308
KOVH Kovagototos 88.44 325 P **P 16 34 08.7 0.0**
MMB Musomiste 88.46 319 P **P 16 34 09.3 +0.3**
NRS Narsarsuaq 88.47 4 IAMs_20 IAMs_20 17 19 54.6
comp=Z,5µm,20.0s
NRS Narsarsuaq 88.47 4 *i*P **P 16 34 04.7 -3.8**
GEC2 GERESS Array S 88.55 329 P **P 16 34 09.3 0.0**
GERES GERESS Array B 88.55 329 P **P 16 34 09.5 +0.2**
comp=Z,5.5nm,0.7s,baz=49,slow=6.1,SNR=46
GERES PP **PP 16 37 34.8 -2.0**
comp=Z,3.5nm,0.8s,baz=52,slow=8.6,SNR=4.8
GERES PKKPbc **PKKPbc 16 51 50.9 +0.1**
comp=Z,1.5nm,0.8s,baz=174,slow=2.7,SNR=7.5
GERES PKPPKP P'P'df 16 59 52.7 -11
comp=Z,0.1nm,0.3s,baz=268,slow=2.9,SNR=3.6
GERES LR LR 17 16 41.0
comp=Z,8µm,18.9s,baz=42,slow=38
comp=Z,5.5nm,0.7s
GERES GERESS Array B 88.55 329 P **P 16 34 09.1 -0.2**
319A Douglas 88.55 54 P **P 16 34 09.5 -0.2**
Y22D IRIS PASSCAL I 88.59 51 P **P 16 34 10.7 +0.8**
baz=306
Y22D S **S 16 44 55.7 -0.4**
baz=306
Y22A Socorro 88.65 51 P **P 16 34 11.2 +1.0**
baz=306
KKB Krupnik 88.65 319 P **P 16 34 10.3 +0.5**
HSIG 88.70 57 P **P 16 34 09.9 -0.3**
ECSD EROS Data Cent 88.71 38 P **P 16 34 09.2 -0.8**
ECSD IAmb IAmb 16 34 26.0
comp=Z,103nm,1.4s
ECSD EROS Data Cent 88.71 38 IAMs_20 IAMs_20 17 12 50.1
comp=Z,5µm,20.0s
ECSD EROS Data Cent 88.71 38 P **P 16 34 10.2 +0.2**
baz=313
ECSD S **S 16 44 53.8 -2.7**
baz=313
ECSD EROS Data Cent 88.71 38 P **P 16 34 10.4 +0.3**
baz=313,SNR=21
ECSD S **S 16 44 54.3 -2.3**
baz=313
INVG Invergeldie, C 88.75 342 *e*P **P 16 34 10.2 +0.3**
BNM Barren Site 88.75 51 P **P 16 34 10.2 -0.5**
TEKS Tekeris 88.78 323 *e*P **P 16 34 09.2 -1.2**
CRNM Carthage 88.79 51 P **P 16 34 10.9 0.0**
ESY Stoneypath 88.80 341⇑ *e*P **P 16 34 11.1 +0.9**
F36A Milaca 88.84 35 P **P 16 34 10.4 -0.2**
F36A IAmb IAmb 16 34 26.4
comp=Z,84nm,1.3s
F36A Milaca 88.84 35 P **P 16 34 10.7 +0.1**
baz=315
F36A S **S 16 44 54.2 -3.5**
baz=315
DIVS Divibare 88.84 322 P **P 16 34 10.6 -0.2**
DIVS Divibare 88.84 322 ⇓*i*P **P 16 34 10.1 -0.7**
DIVS Divibare 88.84 322 ⇓P **P 16 34 10.3 -0.5**
ARSA Arzberg 88.87 327 *i*P **P 16 34 10.1 -0.6**
comp=Z,9.4nm,0.9s,SNR=17
ARSA *e*P **PP 16 37 44.6 +5.3**
comp=Z,47nm,1.6s
ARSA *e*S **S 16 44 59.9 +1.9**
comp=Z,5.7nm,0.9s
121A Cookes Peak, D 88.92 52 P **P 16 34 12.5 +1.0**
baz=306
121A Cookes Peak, D 88.92 52 P **P 16 34 12.6 +1.2**
baz=306
GRA1 Grafenberg Arr 88.99 331 P **P 16 34 11.3 0.0**
GRA1 IAmb IAmb 16 34 16.8
comp=Z,144nm,1.2s
GRF Grafenberg Arr 88.99 331 P **P 16 34 11.3 0.0**
GRF pmax pmax
comp=Z,144nm,1.2s
GRF MLR MLR
comp=Z,7µm,19.0s
GRFO Grafenberg 89.00 331 P **P 16 34 11.2 0.0**
GRFO IAmb IAmb 16 34 16.7
comp=Z,170nm,1.3s
GRFO Grafenberg 89.00 331 P **P 16 34 11.2 0.0**
GRFO pmax pmax
comp=Z,170nm,1.3s
GRFO MLR MLR
comp=Z,7µm,18.0s
MOA Molln 89.02 328 *i*P **P 16 34 12.0 +0.5**
comp=Z,29nm,0.8s,SNR=25
MOA *e*P **PP 16 37 41.4 +0.9**
comp=Z,75nm,1.4s
MOA *e*S **S 16 44 56.3 -3.1**
comp=Z,7.7nm,1.5s
A252A Venje 89.03 324 *i*P **P 16 34 11.8 +0.3**
EAB Aberfoyle 89.03 342⇑ *e*P **P 16 34 12.1 +0.9**
EBL Broad Law 89.04 341⇑ *e*P **P 16 34 12.2 +0.9**
KOGS Kog 89.10 326 *i*S **S 16 44 57.4 -2.7**
KOGS Kog 89.10 326 P **P 16 34 11.8 0.0**
LAWE Loch Awe, Argy 89.25 343 *e*P **P 16 34 12.5 +0.2**
LAWE IAmb IAmb 16 34 17.4
comp=Z,184nm,1.7s
E38A The Farm, Brul 89.27 34 P **P 16 34 13.0 +0.4**
baz=316
VAY Valandovo 89.30 319 *i*P **P 16 34 13.2 +0.3**
MSEY Mahe Island 89.39 264 P **P 16 34 13.8 +0.1**
MSEY Mahe Island 89.39 264 P **P 16 34 13.9 +0.1**
MSEY pmax pmax
comp=Z,185nm,0.9s
MSEY MLR MLR
comp=Z,3µm,20.0s
MSEY Mahe Island 89.39 264 P **P 16 34 15.2 +1.5**
MSEY P **P 16 34 15.2 +1.5**
MSEY Mahe Island 89.39 264 *i*P **P 16 34 16.0 +2.3**
SNR=10
PGBU Glenifferbraes 89.40 342 *e*P **P 16 34 13.9 +0.9**
PGBU IAmb IAmb 16 34 17.9
comp=Z,810nm,2.2s
BGNE Belgrade 89.42 41 P **P 16 34 13.3 -0.2**
BGNE IAmb IAmb 16 34 26.6
comp=Z,101nm,0.8s
BGNE Belgrade 89.42 41 P **P 16 34 14.1 +0.6**
baz=312
BGNE S **S 16 44 59.9 -3.4**
baz=312
BGNE Belgrade 89.42 41 P **P 16 34 13.3 -0.2**
baz=312
BGNE S **S 16 45 00.4 -3.0**
baz=312
BIOA Bad Ischl, Aus 89.42 328 *i*P **P 16 34 13.8 +0.5**
comp=Z,82nm,1.6s,SNR=26
BIOA *e*P **PP 16 37 45.0 +1.3**
comp=Z,60nm,1.4s
BIOA *e*S **S 16 44 56.7 -6.5**
comp=Z,4.7nm,1.1s
MOSL Moslavina 89.44 325 *i*P **P 16 34 13.6 +0.1**
EKA Eskdalemuir Ar 89.46 341 LR LR 17 17 47.9
comp=Z,3µm,18.6s,baz=36,slow=38
EKA Eskdalemuir Ar 89.46 341 P **P 16 34 14.0 +0.7**
ESK Eskdalemuir 89.49 341 *e*P **P 16 34 13.9 +0.6**
ESK IAmb IAmb 16 34 18.3
comp=Z,79nm,1.1s
ESK Eskdalemuir 89.49 341 P **P 16 34 13.9 +0.6**
ESK IAmb IAmb 16 34 28.1
comp=Z,76nm,1.1s
ESK Eskdalemuir 89.49 341 P **P 16 34 14.0 +0.6**
ESK pmax pmax
comp=Z,76nm,1.1s
ESK MLR MLR
comp=Z,4µm,20.0s
SKO Skopje 89.50 320 *i*P **P 16 34 14.6 +0.8**
RUDO Rudo 89.50 322 *e*P **P 16 34 13.6 -0.2**
SOKA Soboth 89.52 327 *i*P **P 16 34 14.2 +0.3**
comp=Z,58nm,0.8s,SNR=47
SOKA *e*P **PP 16 37 45.6 +1.1**
comp=Z,67nm,1.7s
SOKA *e*S **SKSac 16 44 39.5 -4.4**
comp=Z,5.5nm,1.3s
EDMD Edmundbyers 89.55 340 *e*P **P 16 34 14.4 +0.7**
SPMN Marine on St. 89.65 35 P **P 16 34 14.1 -0.3**
SPMN IAmb IAmb 16 34 19.0
comp=Z,109nm,1.1s
SPMN Marine on St. 89.65 35 P **P 16 34 14.8 +0.4**
baz=315,SNR=8.5
SPMN S **S 16 45 01.9 -3.4**
baz=315
SPMN Marine on St. 89.65 35 P **P 16 34 14.8 +0.4**
baz=315,SNR=8.5
SPMN S **S 16 45 03.0 -2.2**
baz=315
A051A Mrakovica 89.80 325⇑ *i*P **P 16 34 15.4 +0.2**
BLY Banja Luka 89.84 324 ⇓*i*P **P 16 34 15.2 -0.1**
OBKA Obir 89.87 327⇑ *i*P **P 16 34 15.6 +0.1**
OBKA Obir 89.87 327 *i*P **P 16 34 15.8 +0.3**
comp=Z,18nm,0.7s,SNR=16
OBKA *e*P **PP 16 37 46.4 -0.9**
comp=Z,103nm,1.4s
OBKA *e*S **SKSac 16 44 49.1 +3.2**
comp=Z,8.3nm,1.6s
NEWG New Galloway 89.95 341 *e*P **P 16 34 16.1 +0.5**
NEWG IAmb IAmb 16 34 19.5
comp=Z,113nm,1.4s
KBA Koelnbreinsper 90.01 328 *i*P **P 16 34 16.6 +0.3**
comp=Z,31nm,0.8s,SNR=26
KBA *e*P **PP 16 37 49.4 +0.9**
comp=Z,158nm,1.6s
KBA *e*S **S 16 45 08.1 -0.8**
comp=Z,12nm,1.6s
UPM Unac-Piva 90.03 322 *e*P **P 16 34 16.4 -0.1**
L34A Svendsen Farm, 90.03 39 S **S 16 45 07.0 -2.0**
baz=313
VNDS Vrh nad Dolski 90.09 326 *i*P **P 16 34 16.2 -0.3**
VNDS *ep*P **pP 16 34 19.0 -0.3**
KESW Keswick, Cumbr 90.09 341 *e*P **P 16 34 17.1 +0.9**
KESW IAmb IAmb 16 34 23.0
comp=Z,96nm,1.0s
MGRS Mrkonjic Grad 90.13 324⇑ *i*P **P 16 34 17.8 +1.1**
LIT Litokhoron 90.15 318 P **P 16 34 16.1 -0.8**
LIT Litokhoron 90.15 318 P **P 16 34 16.1 -0.8**
I37A Lemond, Waseca 90.20 36 P **P 16 34 17.1 +0.1**
I37A IAmb IAmb 16 34 33.5
comp=Z,179nm,1.2s
I37B Waseca 90.20 36 P **P 16 34 18.1 +1.1**
baz=315
I37B S **S 16 45 09.4 -1.0**
baz=315
CBKS Cedar Bluff 90.20 44 IAMs_20 IAMs_20 17 12 27.0
comp=Z,6µm,20.0s
CBKS Cedar Bluff 90.20 44 S **S 16 45 06.8 -3.9**
baz=311
CBKS Cedar Bluff 90.20 44 P **P 16 34 16.9 -0.3**
baz=311
CBKS S **S 16 45 07.9 -2.9**
baz=311
MYKA Terra Mystica 90.20 327 *i*P **P 16 34 16.8 -0.2**
comp=Z,41nm,0.7s,SNR=21
MYKA *e*P **PP 16 37 44.2 -5.8**
comp=Z,110nm,1.9s
MYKA *e*S **S 16 45 16.5 +5.9**
comp=Z,0.7nm,0.3s
LJU Ljubljana 90.22 326 *i*P **P 16 34 16.9 -0.1**
LJU *i*pP **pP 16 34 19.4 -0.4**
LJU *e* 16 34 29.0
LJU *e*PP **PP 16 37 52.9 +2.9**
LJU *e*S **S 16 45 09.6 -1.0**
LJU *e* 16 46 28.3
LJU *e*SS **SS 16 51 12.4 +3.9**
KARP Karpathos 90.22 312 P **P 16 34 17.1 -0.3**
KARP IAMs_20 IAMs_20 17 20 20.9
comp=Z,5µm,18.0s
BOJS Bojanci 90.26 326 ⇓*i*P **P 16 34 17.2 0.0**
APE Apeiranthos 90.29 314 ⇑P **P 16 34 16.4 -1.2**
APE Apeiranthos 90.29 314 ⇑P **P 16 34 16.4 -1.2**
D41A Chassel 90.34 32 P **P 16 34 16.5 -1.1**
baz=318,SNR=5.7
D41A S **S 16 45 10.0 -1.6**
baz=318
BTNL Ternell 90.35 334 *d*PcP **P 16 34 18.2 +0.6**
comp=Z,19nm,1.1s
BEBN Eben Emael 90.36 334 *d*PcP **PcP 16 34 18.3 -0.4**
comp=Z,52nm,1.0s
BEBN *dp*P **pP 16 34 19.9 -0.4**
A050A Klekovaca 90.36 324⇑ *i*P **P 16 34 18.3 +0.5**
PDG Podgorica 90.38 322 ⇓P **P 16 34 17.9 +0.1**
PDG Podgorica 90.38 322 P **P 16 34 17.5 -0.4**
PDG IAmb IAmb 16 34 24.8
comp=Z,67nm,1.0s
PDG IAMs_20 IAMs_20 17 16 38.8
comp=Z,6µm,21.0s
PRED Cave del Predi 90.38 327 P **P 16 34 16.9 -1.0**
MEM Membach 90.38 334 *d*PcP **P 16 34 18.2 +0.5**
comp=Z,31nm,0.9s

BRY Bratogost 90.44 322⇑ *i*P **P 16 34 17.8 -0.5**
CEY Cerknica 90.49 326⇓ *i*P **P 16 34 18.0 -0.3**
PLIT Plitvice 90.53 325 *i* P **P 16 34 17.8 -0.8**
VOJS Vojsko 90.53 327 *e*PP PP 16 37 54.7 +2.1
VOJS *e* 16 44 45.0
VOJS *e* 16 46 14.1
VOJS *e*SS SS 16 51 16.1 +2.9
VOJS *e* 17 18 09.2
WACR West Acre 90.55 338 *e*P **P 16 34 18.9 +0.6**
WACR IAmb IAmb 16 34 23.1
comp=Z,258nm,0.9s
STU Stuttgart 90.55 331 P **P 16 34 18.5 -0.1**
STU IAmb IAmb 16 34 23.6
comp=Z,104nm,1.1s
STU Stuttgart 90.55 331 P **P 16 34 18.5 -0.1**
STU pmax pmax
comp=Z,105nm,1.1s
STU MLR MLR
comp=Z,7µm,18.0s
DRME Dracevica, Mon 90.58 321⇓ *i*P **P 16 34 18.6 -0.2**
BHOU Houvegnez 90.59 334 *d*PcP **P 16 34 18.8 +0.1**
comp=Z,16nm,1.1s
WATA Walderalm 90.62 329 *i* P **P 16 34 19.4 +0.3**
comp=Z,13nm,0.6s,SNR=7.3
WATA *e*P **PP 16 37 56.7 +3.3**
comp=Z,176nm,1.4s
WATA *e*S **SKKSac 16 45 04.1 -0.6**
comp=Z,4.3nm,0.9s
ABTA Abfaltersbach 90.64 328 *i* P **P 16 34 18.5 -0.6**
comp=Z,35nm,0.7s,SNR=32
ABTA *e*P **PP 16 37 46.8 -6.6**
comp=Z,48nm,1.5s
ABTA *e*S **S 16 45 12.7 -1.8**
comp=Z,3.8nm,1.3s
WTTA Wattenberg 90.65 329 *i* P **P 16 34 19.4 +0.2**
comp=Z,12nm,0.6s,SNR=10
WTTA *e*P **PP 16 37 54.5 +0.9**
comp=Z,140nm,1.3s
WTTA *e*S **SKSac 16 44 55.6 +4.9**
comp=Z,7.9nm,1.2s
CLUD Cludinico 90.69 328 P **P 16 34 18.2 -1.0**
SABO M.te Sabotino 90.70 327 P **P 16 34 18.6 -0.7**
SABO IAmb IAmb 16 34 32.2
comp=Z,69nm,0.9s
UDBI Udbina 90.71 325 *i* P **P 16 34 18.4 -1.1**
RICI Ricice 90.75 323 *i* P **P 16 34 17.0 -2.6**
KIJV Kijevo 90.76 324 *i* P **P 16 34 18.5 -1.1**
KBN Korca 90.77 319 P **P 16 34 19.3 -0.5**
KBN IAmb IAmb 16 34 35.5
comp=Z,90nm,1.3s
KBN Korca 90.77 319 P **P 16 34 19.3 -0.5**
KBN pmax pmax
comp=Z,90nm,1.3s
COWI Conover 90.79 33 P **P 16 34 19.2 -0.5**
COWI IAmb IAmb 16 34 35.7
comp=Z,94nm,1.5s
COWI Conover 90.79 33 P **P 16 34 19.4 -0.3**
baz=318
COWI S **S 16 45 13.8 -2.0**
baz=318
IOMK Kirk Michael 90.79 341 *e*P **P 16 34 20.1 +0.6**
IOMK IAmb IAmb 16 34 23.5
comp=Z,202nm,1.3s
BCLA Clavier 90.80 334 *d*PcP **P 16 34 20.2 +0.5**
comp=Z,23nm,1.3s
BCLA *d*pP **pP 16 34 21.9 -0.6**
MOTA Moosalm 90.83 329 *i* P **P 16 34 20.0 0.0**
comp=Z,36nm,1.2s,SNR=27
MOTA *e*P **PP 16 37 56.1 +1.1**
comp=Z,84nm,1.4s
MOTA *e*S **S 16 45 12.4 -3.9**
comp=Z,4.3nm,1.0s
SKDS Skadanscina 90.83 326⇓ *i*P **P 16 34 19.0 -0.9**
SKDS Skadanscina 90.83 326 *e*P **P 16 34 19.3 -0.6**
TRI Trieste 90.83 327 P **P 16 34 19.4 -0.5**
RETA Reutte 90.87 329 *i* P **P 16 34 20.5 +0.4**
comp=Z,52nm,1.2s,SNR=33
RETA *e*P **PP 16 37 51.0 -4.2**
comp=Z,69nm,1.5s
RETA *e*S **SKSac 16 44 58.9 +7.2**
comp=Z,7.4nm,1.7s
SQTA Sankt Quirin 90.87 329 *i* P **P 16 34 20.0 -0.2**
comp=Z,33nm,0.9s,SNR=17
SQTA *e*P **PP 16 37 55.3 0.0**
comp=Z,138nm,1.3s
SQTA *e*S SKSac 16 45 02.9 +11
comp=Z,3.1nm,1.0s
G40A Rib Lake 90.89 34 P **P 16 34 19.7 -0.5**
G40A IAmb IAmb 16 34 37.0
comp=Z,106nm,1.3s
G40A Rib Lake 90.89 34 P **P 16 34 20.8 +0.5**
baz=317,SNR=17
G40A S **S 16 45 12.6 -4.2**
baz=317
STON Ston 90.90 323⇑ *i*P **P 16 34 18.4 -1.8**
STAL STALIGIAL 90.91 328 P **P 16 34 19.3 -1.0**
WIM Isle of Man 90.92 341 *e*P **P 16 34 21.6 +1.4**
ELMS Elmsett, Ipswi 90.96 337 *e*P **P 16 34 20.9 +0.5**
ELMS IAmb IAmb 16 34 22.9
comp=Z,173nm,0.8s
CIMO Cimolais 91.00 328 P **P 16 34 19.4 -1.3**
CIMO IAmb IAmb 16 34 35.7
comp=Z,64nm,0.9s
RCHB Rochefort 91.04 334 *d*PcP **P 16 34 20.4 -0.4**
comp=Z,31nm,1.1s
RCHB *d*pP **pP 16 34 22.9 -0.6**
R32A Long Quarter, 91.07 43 P **P 16 34 20.6 -0.6**
R32A Long Quarter, 91.07 43 S **S 16 45 14.1 -4.6**
baz=311
WLF Walferdange 91.08 333 P **P 16 34 21.0 0.0**
WLF IAmb IAmb 16 34 26.5
comp=Z,111nm,1.3s
WLF IAMs_20 IAMs_20 17 22 08.3
comp=Z,6µm,20.0s
WLF Walferdange 91.08 333 P **P 16 34 21.0 0.0**
WLF pmax pmax
comp=Z,111nm,1.3s
WLF MLR MLR
comp=Z,6µm,20.0s
WLF Walferdange 91.08 333 *d*PcP **PcP 16 34 22.1 +0.1**
comp=Z,35nm,1.1s
BMRD Maredsous 91.10 334 *d*PcP **PcP 16 34 21.5 -0.5**
comp=Z,33nm,1.0s
A253A Karojba, Istri 91.11 326 *i* P **P 16 34 20.8 -0.5**
NVLJ Novalja 91.13 325 *i* P **P 16 34 20.8 -0.5**
N35A Tabor 91.19 40 P **P 16 34 21.6 -0.1**
N35A IAmb IAmb 16 34 25.7
comp=Z,118nm,0.9s
N35A Tabor 91.19 40 S **S 16 45 15.8 -3.8**
baz=313
GMM Mts of Mourne 91.19 342⇑ *e*P **P 16 34 21.8 +0.4**
MORI Morici 91.22 324 *i* P **P 16 34 21.0 -0.7**
VIRC Vir 91.23 325 *i* P **P 16 34 20.5 -1.3**
FETA Feichten 91.24 329 *i* P **P 16 34 22.3 +0.3**
comp=Z,34nm,0.8s,SNR=36
FETA *e*P **PP 16 37 56.3 -1.9**
comp=Z,79nm,1.4s
GIVF Givet 91.24 334 *e*P **P 16 34 22.4 +0.7**
GIVF pmax pmax
comp=Z,81nm,1.4s
BFO Black Forest 91.26 331 P **P 16 34 21.8 -0.1**
BFO IAmb IAmb 16 34 26.7
comp=Z,132nm,1.2s
BFO Black Forest 91.26 331 P **P 16 34 21.8 -0.1**
BFO pmax pmax
comp=Z,132nm,1.2s
BFO MLR MLR
comp=Z,8µm,18.0s
MSTX Muleshoe 91.39 49 P **P 16 34 22.1 -0.8**
MSTX Muleshoe 91.39 49 P **P 16 34 23.2 +0.3**
baz=309
MSTX Muleshoe 91.39 49 P **P 16 34 23.0 +0.1**
baz=309,SNR=9.1
MSTX S **S 16 45 20.8 -1.2**
baz=309
ZIRJ Zirje 91.40 324 *i* P **P 16 34 20.5 -2.1**
DAVA Damuels 91.41 330 *i* P **P 16 34 23.0 +0.3**
comp=Z,73nm,1.1s,SNR=40
DAVA *e*P **PP 16 38 02.7 +3.2**
comp=Z,63nm,1.4s
BRJN Brijuni 91.42 326 *i* P **P 16 34 21.3 -1.3**
DUGI Dugi Otok 91.45 325 *i* P **P 16 34 22.2 -0.6**
SCHQ Schefferville 91.45 16 P **P 16 34 22.9 +0.3**
comp=Z,26nm,0.8s,baz=343,slow=5.2,SNR=17
SCHQ PKKP **PKKPbc 16 51 43.5 -0.3**
comp=Z,11nm,0.7s,baz=209,slow=1.6,SNR=10
SCHQ LR LR 17 16 08.0
comp=Z,2µm,21.9s,baz=343,slow=36
SCHQ Schefferville 91.45 16 P **P 16 34 22.7 0.0**
SCHQ IAmb IAmb 16 34 26.7
comp=Z,54nm,1.1s
WME Myndd Eilian 91.48 341⇑ *e*P **P 16 34 23.5 +0.8**
K38A Parkersburg 91.49 37 P **P 16 34 22.7 -0.3**
K38A IAmb IAmb 16 34 29.9
comp=Z,237nm,1.9s
K38A Parkersburg 91.49 37 S **S 16 45 19.6 -2.7**
baz=315
AMTX Amarillo 91.52 48 P **P 16 34 23.2 -0.2**
AMTX IAmb IAmb 16 34 40.3
comp=Z,88nm,1.0s
AMTX Amarillo 91.52 48 P **P 16 34 24.8 +1.3**
baz=309
AMTX S **S 16 45 23.7 +0.6**
baz=309
AMTX Amarillo 91.52 48 P **P 16 34 24.4 +1.0**
baz=309
AMTX S **S 16 45 22.0 -1.1**
baz=309
CTI Castel Tesino 91.56 328 P **P 16 34 22.7 -0.7**
CTI IAmb IAmb 16 34 38.3
comp=Z,72nm,1.0s
CTI Castel Tesino 91.56 328 P **P 16 34 22.7 -0.7**
CTI pmax pmax
comp=Z,72nm,1.0s
E43A Lone Tree Farm 91.57 32 P **P 16 34 23.2 -0.1**
E43A IAmb IAmb 16 34 27.2
comp=Z,102nm,1.4s
E43A Lone Tree Farm 91.57 32 P **P 16 34 23.5 +0.2**
baz=319
E43A S **S 16 45 18.9 -3.9**
baz=319
WLF1 Llynfaes 91.60 341 *e*P **P 16 34 23.6 +0.3**
WLF1 IAmb IAmb 16 34 28.0
comp=Z,207nm,1.2s
FOEL Foel Wylfa 91.60 340 *e*P **P 16 34 23.2 -0.1**
FOEL IAmb IAmb 16 34 27.3
comp=Z,190nm,1.1s
CDF Champ du Feu 91.63 332 *e*P **P 16 34 23.3 -0.4**
CDF pmax pmax
comp=Z,106nm,1.2s
YLL Llanberis 91.67 340⇑ *e*P **P 16 34 24.3 +0.7**
CLN7 Carlsbad 7 91.67 51 P **P 16 34 23.4 -0.8**
I40A Norwalk 91.69 35 P **P 16 34 23.4 -0.6**
I40A Norwalk 91.69 35 S **S 16 45 20.5 -3.6**
baz=317
ELSH Elham, Standar 91.70 337 *e*P **P 16 34 24.8 +1.0**
LLW Llanuwychllyn 91.78 340 *e*P **P 16 34 24.6 +0.5**
SCIA State Center 91.78 38 IAMs_20 IAMs_20 17 17 08.4
comp=Z,6µm,19.0s
SCIA State Center 91.78 38 P **P 16 34 25.2 +0.8**
baz=315
SCIA S **S 16 45 24.3 -0.7**
baz=315
DAVOX Davos/Dischmat 91.80 329 LR LR 17 20 02.0
comp=Z,6µm,19.4s,baz=33,slow=38
IDI Anoyia 91.83 313 ⇑P **P 16 34 23.3 -1.5**
IDI Anoyia 91.83 313 LR LR 17 21 18.7
comp=Z,2µm,18.4s,baz=62,slow=39
HLM1 Long Mynd 91.83 339 *e*P **P 16 34 24.8 +0.4**
HLM1 IAmb IAmb 16 34 29.6
comp=Z,58nm,1.2s
ECH Echery 91.83 332 P **P 16 34 24.5 0.0**
ECH IAmb IAmb 16 34 29.3
comp=Z,82nm,1.2s
ECH IAMs_20 IAMs_20 17 20 48.3
comp=Z,4µm,18.0s
ECH Echery 91.83 332 P **P 16 34 24.5 0.0**
ECH pmax pmax
comp=Z,82nm,1.2s
ECH MLR MLR
comp=Z,4µm,18.0s
KSU1 Kansas State U 91.84 42 P **P 16 34 24.1 -0.6**
KSU1 Kansas State U 91.84 42 P **P 16 34 25.3 +0.6**
baz=313
KSU1 S **S 16 45 20.8 -4.8**
baz=313
KSU1 Kansas State U 91.84 42 P **P 16 34 24.8 +0.1**
baz=313,SNR=9.3
KSU1 S **S 16 45 23.6 -2.0**
baz=313
LPIG La Paz 91.95 61 LR LR 17 11 04.9
comp=Z,9µm,19.4s,baz=322,slow=32
ATD Arta Tunnel 92.00 285 LR LR 17 19 11.7
comp=Z,2µm,18.2s,baz=38,slow=38
ATD Arta Tunnel 92.00 285 *e*P **P 16 34 24.6 -1.3**
ATD eS **SKSac 16 44 53.3 -5.8**
TEOL Teolo 92.07 327 P **P 16 34 25.1 -0.5**
TEOL IAmb IAmb 16 34 28.8
comp=Z,82nm,0.8s
HMNX Herstmonceux 92.21 337 *e*P **P 16 34 26.0 -0.1**
HMNX IAmb IAmb 16 34 28.2
comp=Z,181nm,0.9s
U32A Winter Ranch, 92.23 45 P **P 16 34 26.5 -0.2**
U32A IAmb IAmb 16 34 43.2
comp=Z,146nm,1.4s
U32A Winter Ranch, 92.23 45 P **P 16 34 27.8 +1.2**
baz=311
U32A S **S 16 45 28.1 -1.1**
baz=311
TUE Stuetta 92.27 329 P **P 16 34 26.6 -0.2**
TUE IAmb IAmb 16 34 46.0
comp=Z,102nm,1.0s
HINF Hinteralfeld 92.27 332 *e*P **P 16 34 26.6 0.0**
HINF pmax pmax
comp=Z,35nm,1.1s
MCH1 Michaelchurch 92.32 339 *e*P **P 16 34 27.3 +0.6**
MCH1 IAmb IAmb 16 34 31.3
comp=Z,189nm,1.3s
OK038 West end E0370 92.33 45 IAMs_20 IAMs_20 17 19 14.4
comp=Z,4µm,20.0s
HAU Haudompre 92.33 332 *e*P **P 16 34 26.9 +0.1**
HAU pmax pmax
comp=Z,90nm,1.4s
SWN1 Swindon 92.36 338 *e*P **P 16 34 27.3 +0.4**
SWN1 IAmb IAmb 16 34 31.8
comp=Z,581nm,1.3s
MONM Monmouth 92.40 339 *e*P **P 16 34 27.5 +0.5**
MONM IAmb IAmb 16 34 31.1
comp=Z,159nm,1.1s
SALO Salr 92.40 328 P **P 16 34 26.9 -0.3**
ITM Ithomi 92.41 316 P **P 16 34 26.8 -0.6**
OK032 Salt Plains WL 92.43 44 IAMs_20 IAMs_20 17 17 46.2
comp=Z,5µm,20.0s
KAN14 Manchester OK 92.48 44 P **P 16 34 27.2 -0.6**
KAN14 IAmb IAmb 16 34 43.8
comp=Z,100nm,1.4s
I42A Draeger Farm, 92.53 34 P **P 16 34 27.3 -0.5**
I42A IAmb IAmb 16 34 31.7
comp=Z,50nm,1.0s
I42A Draeger Farm, 92.53 34 P **P 16 34 28.3 +0.5**
baz=318,SNR=13
I42A S **S 16 45 29.8 -1.8**
baz=318
KAN17 Caldwell West 92.54 44 **P 16 34 27.6 -0.4**
KAN17 IAmb IAmb 16 34 44.3
comp=Z,90nm,1.2s
N38A Joes South For 92.55 39 P **P 16 34 27.8 -0.2**
N38A IAmb IAmb 16 34 32.5
comp=Z,85nm,1.1s
N38A Joes South For 92.55 39 P **P 16 34 28.7 +0.7**
baz=315
N38A S **S 16 45 29.8 -2.2**
baz=315
JFWS Jewell Farm 92.59 36 P **P 16 34 27.7 -0.4**
JFWS Jewell Farm 92.59 36 IAMs_20 IAMs_20 17 16 47.7
comp=Z,4µm,20.0s
JFWS Jewell Farm 92.59 36 P **P 16 34 27.7 -0.4**
JFWS pmax pmax
comp=Z,34nm,0.9s
JFWS MLR MLR
comp=Z,4µm,20.0s
JFWS Jewell Farm 92.59 36 P **P 16 34 28.3 +0.2**
baz=317
JFWS S **S 16 45 29.4 -2.8**
baz=317
JFWS Jewell Farm 92.59 36 P **P 16 34 27.9 -0.2**
baz=317
JFWS S **S 16 45 31.1 -1.1**
baz=317
H43A Windswept, Lux 92.65 33 P **P 16 34 27.9 -0.4**
H43A Windswept, Lux 92.65 33 P **P 16 34 29.0 +0.7**
baz=319
H43A S **S 16 45 30.8 -1.7**
baz=319
L40A Anamosa 92.71 37 P **P 16 34 28.3 -0.3**
L40A IAmb IAmb 16 34 44.4
comp=Z,96nm,1.1s
L40A Anamosa 92.71 37 P **P 16 34 28.9 +0.3**
baz=316,SNR=16
L40A S **S 16 45 30.2 -3.1**
baz=316
SGRT San Giovanni R 92.71 323 P **P 16 34 28.3 -0.5**
SGRT IAmb IAmb 16 34 47.1
comp=Z,90nm,1.0s
E46A Sault Ste Mari 92.76 30 P **P 16 34 28.3 -0.5**
E46A Sault Ste Mari 92.76 30 P **P 16 34 29.1 +0.3**
baz=321
E46A S **S 16 45 31.8 -1.7**
baz=321
CSTR Hydro, Custer 92.90 45 **P 16 34 29.6 -0.2**
CSTR IAmb IAmb 16 34 46.3
comp=Z,15nm,1.1s
BLOK Blackwell 93.06 44 **P 16 34 30.4 0.0**
BLOK IAmb IAmb 16 34 46.5
comp=Z,111nm,1.3s
FDMO Fiordimonte 93.12 325 P **P 16 34 30.9 +0.3**
FDMO IAmb IAmb 16 34 46.2
comp=Z,87nm,1.0s
ZCCA Zocca 93.15 327 P **P 16 34 31.4 +0.7**
ZCCA IAmb IAmb 16 35 14.4
comp=Z,89nm,1.1s
G45A Suttons Bay 93.19 32 S **S 16 45 34.6 -2.8**
baz=320
G45A S **S 16 45 34.6 -2.8**
baz=320
P38A Dawn 93.21 40 P **P 16 34 30.7 -0.3**
P38A Dawn 93.21 40 P **P 16 34 31.3 +0.3**
baz=315,SNR=23
P38A S **S 16 45 33.8 -4.0**
baz=315
MURB Monte Urbino 93.23 326 P **P 16 34 31.8 +0.6**
MURB IAmb IAmb 16 34 46.0
comp=Z,68nm,1.0s
SENIN Lac Senin/Sane 93.24 330 P **P 16 34 31.5 +0.2**
SENIN IAmb IAmb 16 35 13.9
comp=Z,73nm,1.2s
OK049 E0420 Rd and N 93.24 44 **P 16 34 31.3 0.0**
OK049 IAMs_20 IAMs_20 17 18 11.6
comp=Z,4µm,20.0s
NRCA Norcia 93.26 325 P **P 16 34 31.6 +0.3**
T35A Sooner Cattle 93.37 43 **P 16 34 31.9 +0.1**
T35A IAmb IAmb 16 34 35.9
comp=Z,77nm,1.1s
T35B Sooner Cattle 93.37 43 P **P 16 34 32.7 +0.8**
baz=313,SNR=9.5
T35B S **S 16 45 34.3 -5.0**
baz=313
OK045 Pawnee Station 93.44 44 IAMs_20 IAMs_20 17 16 09.8
comp=Z,4µm,20.0s
WMOK Wichita Mounta 93.44 46 **P 16 34 32.1 -0.1**
WMOK IAmb IAmb 16 34 48.4
comp=Z,139nm,1.4s
WMOK Wichita Mounta 93.44 46 P **P 16 34 32.1 -0.1**
WMOK pmax pmax
comp=Z,139nm,1.5s
WMOK MLR MLR
comp=Z,9µm,19.0s
WMOK Wichita Mounta 93.44 46 P **P 16 34 32.9 +0.6**
baz=311,SNR=41
WMOK S **S 16 45 38.2 -1.9**
baz=311
WMOK Wichita Mounta 93.44 46 P **P 16 34 32.5 +0.2**
baz=311,SNR=41
WMOK S **S 16 45 38.1 -1.9**
baz=311
OK050 Pawnee Station 93.44 44 **P 16 34 31.7 -0.5**
OK050 IAmb IAmb 16 34 48.4
comp=Z,111nm,1.2s
OK050 IAMs_20 IAMs_20 17 16 08.9
comp=Z,4µm,20.0s
OK048 Pawnee Station 93.45 44 P **P 16 34 32.2 0.0**
OK048 IAmb IAmb 16 34 48.4
comp=Z,103nm,1.2s
OK048 IAMs_20 IAMs_20 17 16 12.1
comp=Z,4µm,20.0s
OK051 E0350 and S346 93.45 44 IAMs_20 IAMs_20 17 16 11.2
comp=Z,4µm,19.0s
AQU L'Aquila 93.47 325 P **P 16 34 31.8 -0.4**
AQU IAmb IAmb 16 34 52.1
comp=Z,64nm,1.0s
AQU L'Aquila 93.47 325 P **P 16 34 31.8 -0.4**
AQU pmax pmax
comp=Z,64nm,1.0s
AQU MLR MLR
comp=Z,16µm,20.0s
OK046 Pawnee Station 93.48 44 P **P 16 34 31.8 -0.6**
OK046 IAmb IAmb 16 34 48.6
comp=Z,108nm,1.2s
OK046 IAMs_20 IAMs_20 17 16 01.0
comp=Z,4µm,20.0s
OK047 Pawnee, Statio 93.55 44 **P 16 34 32.0 -0.6**
OK047 IAmb IAmb 16 34 48.8
comp=Z,118nm,1.3s
OK047 IAMs_20 IAMs_20 17 16 20.6
comp=Z,4µm,20.0s
L42A Oliver, Polo 93.55 36 P **P 16 34 31.8 -0.8**
L42A Oliver, Polo 93.55 36 P **P 16 34 32.4 -0.2**
baz=317
L42A S **S 16 45 35.3 -5.4**
baz=317
CABF La Chapelle 93.55 331 *e*P **P 16 34 32.8 +0.2**
CABF pmax pmax
comp=Z,44nm,0.9s
OK029 Liberty Lake 93.56 45 **P 16 34 32.4 -0.3**
OK029 IAMs_20 IAMs_20 17 15 48.0
comp=Z,5µm,19.0s
OK044 Pawnee Station 93.57 44 **P 16 34 32.4 -0.4**
OK044 IAMs_20 IAMs_20 17 16 14.2
comp=Z,5µm,20.0s
OSSC Osservatorio P 93.65 327 P **P 16 34 32.6 -0.5**
OSSC IAmb IAmb 16 35 07.2
comp=Z,51nm,1.1s
TX31 Lajitas Ar. Si 93.66 53 P **P 16 34 33.3 -0.1**
TX31 Lajitas Ar. Si 93.66 53 P **P 16 34 34.7 +1.3**
baz=308,SNR=56
TX32 Lajitas Array 93.66 53 P **P 16 34 33.5 +0.1**
TXAR Lajitas Array 93.66 53 P **P 16 34 34.5 +1.1**
comp=Z,41nm,0.9s,baz=300,slow=2.7,SNR=214
TXAR PKKP **PKKPbc 16 51 37.6 +0.1**
comp=Z,2.3nm,0.9s,baz=118,slow=2.2,SNR=8.6
TXAR PKPPKP **P'P'df 16 59 47.0 -6.9**
comp=Z,0.5nm,0.9s,baz=88,slow=2.9,SNR=4.4
TXAR LR LR 17 14 45.8
comp=Z,11µm,19.0s,baz=304,slow=34
comp=Z,41nm,0.9s
TXAR Lajitas Array 93.66 53 P **P 16 34 33.7 +0.3**
CESX Cesi 93.69 325 P **P 16 34 32.7 -0.5**
K43A Burlington 93.70 35 P **P 16 34 33.3 +0.1**
K43A Burlington 93.70 35 P **P 16 34 33.6 +0.4**
baz=318
K43A S **S 16 45 36.7 -5.3**
baz=318
OK033 Mehan 93.70 44 IAMs_20 IAMs_20 17 18 05.8
comp=Z,6µm,19.0s
HPIG 93.71 56 P **P 16 34 33.9 0.0**
QUOK Quay 93.75 44 **P 16 34 32.9 -0.8**
QUOK IAmb IAmb 16 34 49.8
comp=Z,150nm,1.3s
OK031 S. Brethren Rd 93.82 44 IAMs_20 IAMs_20 17 18 11.0
comp=Z,6µm,19.0s
GLMI Grayling 93.83 31 P **P 16 34 34.3 +0.5**
baz=321
OK034 N. Norfolk Rd. 93.86 44 P **P 16 34 34.1 0.0**
OK034 IAmb IAmb 16 34 50.3
comp=Z,78nm,1.0s
OK034 IAMs_20 IAMs_20 17 18 11.0
comp=Z,6µm,20.0s
OK030 Cody Creek RV 93.87 44 **P 16 34 33.9 -0.3**
OK030 IAmb IAmb 16 34 49.6
comp=Z,123nm,1.3s
OK030 IAMs_20 IAMs_20 17 18 10.3
comp=Z,6µm,20.0s
N41A Harden Midland 93.88 37 P **P 16 34 33.9 -0.2**
N41A IAmb IAmb 16 34 38.0
comp=Z,83nm,1.1s
N41A Harden Midland 93.88 37 P **P 16 34 34.7 +0.6**
baz=316

N41A S **S** **16 45 43.7 +0.1**
baz=316
CLF Chambon-Foret 93.91 334 P **P** **16 34 34.3 +0.3**
CLF IAmb IAmb 16 34 48.8
comp=Z,115nm,1.1s
LOR Lormes 93.92 333 *e*P **P** **16 34 33.9 -0.3**
LOR pmax pmax
comp=Z,83nm,1.2s
FNO Franklin 93.95 45 **P** **16 34 34.5 0.0**
TIP Timpagrande 94.00 321 ⇑P **P** **16 34 34.9 +0.1**
TIP Timpagrande 94.00 321 IAMs_20 IAMs_20 17 23 06.8
comp=Z,6µm,20.0s
P40A Paris 94.09 39 P **P** **16 34 34.7 -0.4**
P40A IAmb IAmb 16 34 39.0
comp=Z,86nm,0.9s
P40A Paris 94.09 39 P **P** **16 34 35.7 +0.7**
baz=316,SNR=24
P40A S **S** **16 45 45.5 0.0**
baz=316
DEOK Depew 94.10 44 **P** **16 34 34.4 -0.8**
DEOK IAmb IAmb 16 34 51.3
comp=Z,192nm,1.3s
LPL La Plagne 94.15 330 *e*P **P** **16 34 35.8 +0.3**
LPL pmax pmax
comp=Z,45nm,0.8s
LPG La Plagne 94.16 330 *e*P **P** **16 34 35.3 -0.3**
LPG pmax pmax
comp=Z,59nm,0.8s
SSF Saint Saulge 94.23 333 *e*P **P** **16 34 35.2 -0.4**
SSF pmax pmax
comp=Z,87nm,1.2s
ABTX Abilene, Hawle 94.27 48 P **P** **16 34 37.4 +1.3**
baz=310,SNR=7.1
ABTX S **S** **16 45 42.7 -4.7**
baz=310
ABTX Abilene, Hawle 94.27 48 P **P** **16 34 36.9 +0.8**
baz=310,SNR=7.1
ABTX S **S** **16 45 44.8 -2.6**
baz=310
FLN La Foliniere 94.28 336 *e*P **P** **16 34 35.4 -0.3**
FLN pmax pmax
comp=Z,91nm,1.3s
L44A Lake County Fo 94.30 35 IAMs_20 IAMs_20 17 17 23.8
comp=Z,5µm,20.0s
L44A Lake County Fo 94.30 35 P **P** **16 34 35.7 -0.2**
baz=319
JVM Valle D.L. Mar 94.48 337 *e*P **P** **16 34 37.2 +0.6**
TUL1 Leonard 94.48 44 P **P** **16 34 36.5 -0.4**
TUL1 IAmb IAmb 16 34 53.0
comp=Z,78nm,1.1s
TUL1 IAMs_20 IAMs_20 17 17 01.2
comp=Z,5µm,20.0s
TUL1 Leonard 94.48 44 P **P** **16 34 37.6 +0.7**
baz=313
TUL1 Leonard 94.48 44 P **P** **16 34 37.3 +0.3**
baz=313
TUL1 S **S** **16 45 49.3 +0.3**
baz=313
JSA Saint Aubin 94.49 337 *e*P **P** **16 34 37.0 +0.4**
JSA IAmb IAmb 16 34 41.2
comp=Z,125nm,1.3s
AVF Avril sur Loir 94.51 333 *e*P **P** **16 34 37.2 +0.4**
AVF pmax pmax
comp=Z,140nm,1.2s
BNI Bardonecchia 94.54 330 P **P** **16 34 37.2 0.0**
BNI IAmb IAmb 16 34 54.7
comp=Z,51nm,1.0s
BNI IAMs_20 IAMs_20 17 18 22.1
comp=Z,6µm,20.0s
BNI Bardonecchia 94.54 330 P **P** **16 34 37.2 0.0**
BNI pmax pmax
comp=Z,51nm,1.0s
BNI MLR MLR
comp=Z,6µm,20.0s
HQIL Hanson Quary C 94.61 35 IAMs_20 IAMs_20 17 17 30.1
comp=Z,5µm,20.0s
S39A Bolivar 94.68 41 P **P** **16 34 37.8 -0.1**
baz=315,SNR=8.8
S39A S S 16 45 41.3 -9.5
baz=315
GRR Gorron 94.73 336 *e*P **P** **16 34 37.8 0.0**
GRR pmax pmax
comp=Z,130nm,1.2s
MBDF Montbardon 94.76 330 *e*P **P** **16 34 37.7 -0.5**
MBDF pmax pmax
comp=Z,18nm,0.7s
RLO Rose Lookout 94.76 43 **P** **16 34 37.2 -1.0**
RLO IAmb IAmb 16 34 54.1
comp=Z,65nm,1.2s
HDIL Hopedale 94.80 37 P **P** **16 34 38.0 -0.4**
HDIL IAmb IAmb 16 34 42.0
comp=Z,81nm,1.1s
HDIL IAMs_20 IAMs_20 17 21 17.4
comp=Z,5µm,20.0s
HDIL Hopedale 94.80 37 P **P** **16 34 38.9 +0.6**
baz=318
HDIL S **S** **16 45 50.2 -1.5**
baz=318
HDIL Hopedale 94.80 37 P **P** **16 34 38.4 +0.1**
baz=318
HDIL S **S** **16 45 51.0 -0.6**
baz=318
M44A Midewin, Midew 94.82 35 P **P** **16 34 37.8 -0.6**
M44A IAmb IAmb 16 34 42.2
comp=Z,71nm,1.1s
M44A Midewin, Midew 94.82 35 S **S** **16 45 49.7 -2.1**
baz=318
R40A Maddies Statio 94.85 40 P **P** **16 34 37.7 -0.8**
R40A IAmb IAmb 16 34 42.0
comp=Z,82nm,1.1s
R40A Maddies Statio 94.85 40 P **P** **16 34 38.5 -0.1**
baz=315,SNR=25
BGF Bois d'Agland 94.90 333 *e*P **P** **16 34 39.9 +1.2**
BGF pmax pmax
comp=Z,71nm,1.3s
U38A Gravette 94.94 42 P **P** **16 34 38.3 -0.8**
U38A IAmb IAmb 16 34 54.8
comp=Z,60nm,1.1s
U38A Gravette 94.94 42 P **P** **16 34 38.8 -0.3**
baz=314,SNR=14
CEL Celeste 95.13 320 P **P** **16 34 39.4 -0.5**
SBF Sospel 95.15 329 *e*P **P** **16 34 39.1 -0.8**
SBF pmax pmax
comp=Z,27nm,0.6s
SSB Saint Sauveur 95.26 331 P **P** **16 34 40.0 -0.4**
SSB Saint Sauveur 95.26 331 P **P** **16 34 40.0 -0.4**
SSB pmax pmax
comp=Z,37nm,1.1s
SSB MLR MLR
comp=Z,6µm,18.0s
HHAR Hobbs 95.31 42 P **P** **16 34 39.8 -1.0**
HHAR IAmb IAmb 16 34 55.5
comp=Z,134nm,1.8s
HHAR Hobbs 95.31 42 P **P** **16 34 40.7 0.0**
baz=314
I49A Point Hope 95.32 31 S **S** **16 45 54.4 -1.6**
baz=322
I49A S **S** **16 45 54.4 -1.6**
baz=322
Z35A Perchaven, San 95.32 46 P **P** **16 34 40.5 -0.3**
Z35A Perchaven, San 95.32 46 P **P** **16 34 41.6 +0.8**
baz=312,SNR=8.4
P43A Skaggs, Pawnee 95.36 37 S **S** **16 45 54.4 -2.1**
baz=317
TCF Toulx Ste Croi 95.37 333 *e*P **P** **16 34 41.3 +0.5**
TCF pmax pmax
comp=Z,98nm,1.7s
JCT Junction City 95.55 50 P **P** **16 34 41.5 -0.4**
JCT IAmb IAmb 16 34 58.2
comp=Z,94nm,1.1s
JCT Junction City 95.55 50 P **P** **16 34 41.6 -0.4**
JCT pmax pmax
comp=Z,94nm,1.2s
JCT MLR MLR
comp=Z,12µm,19.0s
JCT Junction City 95.55 50 P **P** **16 34 42.6 +0.6**
baz=310,SNR=12
JCT S **S** **16 45 56.7 -2.0**
baz=310
VIVF Saint-Julien-l 95.55 331 *e*P **P** **16 34 41.9 +0.2**
VIVF pmax pmax
comp=Z,216nm,2.0s
CCM Cathedral Cave 95.58 39 P **P** **16 34 41.6 -0.3**
CCM IAmb IAmb 16 34 45.5
comp=Z,66nm,1.1s
CCM Cathedral Cave 95.58 39 IAMs_20 IAMs_20 17 19 48.2
comp=Z,5µm,19.0s
CCM Cathedral Cave 95.58 39 P **P** **16 34 41.6 -0.3**
CCM pmax pmax
comp=Z,66nm,1.1s
CCM MLR MLR
comp=Z,5µm,19.0s
CCM Cathedral Cave 95.58 39 P **P** **16 34 42.5 +0.6**
baz=316,SNR=20
CCM Cathedral Cave 95.58 39 P **P** **16 34 41.7 -0.2**
baz=316
CCM S **S** **16 45 57.0 -1.6**
baz=316
ROSF Rostrenen 95.59 338 *e*P **P** **16 34 42.5 +0.7**
ROSF pmax pmax
comp=Z,81nm,1.2s
ANKE Ethiopia-Afar 95.62 284 *e*P **P** **16 34 41.5 -1.5**
ANKE *e*S **SKSac** **16 45 15.1 -4.5**
X37A Clayton 95.63 44 P **P** **16 34 41.9 -0.3**
X37A Clayton 95.63 44 P **P** **16 34 42.7 +0.5**
baz=313,SNR=9.4
MGMO Mountain Grove 95.66 41 P **P** **16 34 41.4 -0.9**
MGMO IAmb IAmb 16 34 57.7
comp=Z,148nm,1.7s
QUIF Quistinic 95.92 337 *e*P **P** **16 34 43.6 +0.3**
QUIF pmax pmax
comp=Z,56nm,1.3s
SFIN Lafayette 96.05 36 P **P** **16 34 43.0 -1.0**
SFIN IAmb IAmb 16 34 60.0
comp=Z,83nm,1.4s
SFIN Lafayette 96.05 36 P **P** **16 34 44.7 +0.7**
baz=319
SFIN Lafayette 96.05 36 P **P** **16 34 44.4 +0.4**
baz=319
SFIN S **S** **16 46 01.2 -1.3**
baz=319
FVM French Village 96.08 39 S **S** **16 46 02.4 -0.5**
baz=317
WHTX Lake Whitney, 96.08 47 P **P** **16 34 45.4 +1.1**
baz=312,SNR=20
WHTX Lake Whitney, 96.08 47 P **P** **16 34 45.2 +0.9**
baz=312,SNR=20
L48A N Adams 96.15 33 P **P** **16 34 44.1 -0.3**
L48A IAmb IAmb 16 34 48.8
comp=Z,49nm,1.0s
L48A N Adams 96.15 33 P **P** **16 34 44.8 +0.4**
baz=321
L48A P **P** **16 34 44.8 +0.4**
baz=321
Q44A Meyer Farm, Va 96.16 38 P **P** **16 34 44.1 -0.5**
Q44A IAmb IAmb 16 35 00.4
comp=Z,55nm,1.1s
Q44A Meyer Farm, Va 96.16 38 P **P** **16 34 45.7 +1.1**
baz=318
Q44A S **S** **16 46 02.5 -1.0**
baz=318
SADO Sadowa 96.21 28 LR LR 17 19 16.0
comp=Z,2µm,20.5s,baz=354,slow=36
AAM Ann Arbor 96.23 32 IAMs_20 IAMs_20 17 20 02.8
comp=Z,5µm,19.0s
AAM Ann Arbor 96.23 32 P **P** **16 34 45.1 +0.3**
baz=322
N47A Urbana 96.36 34 P **P** **16 34 45.3 -0.1**
N47A IAmb IAmb 16 34 48.9
comp=Z,43nm,1.1s
N47A Urbana 96.36 34 P **P** **16 34 45.4 -0.1**
baz=320
N47A P **P** **16 34 45.4 -0.1**
baz=320
RJF Les Rejaudoux 96.46 333 *e*P **P** **16 34 46.5 +0.7**
RJF pmax pmax
comp=Z,83nm,1.4s
CAF Calviac 96.56 333 *e*P **P** **16 34 47.0 +0.7**
CAF pmax pmax
comp=Z,50nm,1.2s
FCAR Ozark Folk Cen 96.63 42 P **P** **16 34 45.8 -0.9**
AAE Adis Abeba 96.73 285 *e*P **P** **16 34 44.7 -3.3**
AAE *e*S **SKSac** **16 45 21.1 -4.1**
MIAR Mount Ida 96.73 43 P **P** **16 34 46.9 -0.3**
MIAR IAmb IAmb 16 34 51.1
comp=Z,47nm,0.8s
MIAR IAMs_20 IAMs_20 17 21 54.9
comp=Z,5µm,19.0s
MIAR Mount Ida 96.73 43 P **P** **16 34 46.9 -0.3**
MIAR pmax pmax
comp=Z,47nm,0.9s
MIAR MLR MLR
comp=Z,5µm,19.0s
MIAR Mount Ida 96.73 43 P **P** **16 34 47.6 +0.4**
baz=314,SNR=29
MIAR S **S** **16 46 04.5 -4.1**
baz=314
MIAR Mount Ida 96.73 43 P **P** **16 34 47.6 +0.4**
baz=314,SNR=29
MIAR S **S** **16 46 07.2 -1.4**
baz=314
TRQ Mont Tremblant 96.75 25 P **P** **16 34 46.5 -0.7**
TRQ IAmb IAmb 16 35 02.4
comp=Z,53nm,1.2s
OLIL Olney 96.77 37 P **P** **16 34 47.9 +0.6**
baz=318
435B Jarrell 96.80 48 P **P** **16 34 47.9 +0.3**
baz=312
435B S **S** **16 46 09.0 -0.3**
baz=312
FURI Furi 96.87 284 *e*P **P** **16 34 49.3 +0.7**
FURI *e*S **SKSac** **16 45 21.9 -4.0**
S44A Carbondale 96.93 39 S **S** **16 46 07.0 -3.2**
baz=317
PBMO Poplar Bluff 96.95 40 S **S** **16 46 09.6 -0.8**
baz=316
WHAR Wooly Hollow 96.96 42 P **P** **16 34 47.6 -0.7**
WHAR IAmb IAmb 16 35 04.5
comp=Z,107nm,1.6s
LMQ La Malbaie 97.03 21 P **P** **16 34 48.1 -0.2**
LMQ IAmb IAmb 16 34 51.6
comp=Z,31nm,0.9s
LCAR Lake Charles 97.06 41 P **P** **16 34 48.2 -0.5**
N49A Columbus Grove 97.06 33 P **P** **16 34 48.2 -0.4**
N49A IAmb IAmb 16 34 52.8
comp=Z,39nm,1.1s
N49A Columbus Grove 97.06 33 P Pdif 16 34 48.7 0.0
baz=321
N49A P Pdif 16 34 48.7 0.0
baz=321
LFF La Frestale 97.06 333 *e*P Pdif 16 34 49.3 +0.7
LFF pmax pmax
comp=Z,29nm,1.2s
O48B Farmland 97.11 34 P **P** **16 34 48.7 -0.1**
baz=320
O48B S **S** **16 46 09.9 -1.8**
baz=320
833A Chaparral WMA, 97.20 51 P Pdif 16 34 49.8 +0.2
833A Chaparral WMA, 97.20 51 P Pdif 16 34 50.9 +1.4
baz=310
833A Chaparral WMA, 97.20 51 P Pdif 16 34 50.5 +0.9
baz=310,SNR=6.3
833A S **S** **16 46 11.6 -1.3**
baz=310
O49A Covington 97.56 34 P **P** **16 34 50.6 -0.3**
O49A IAmb IAmb 16 35 05.8
comp=Z,43nm,1.3s
P48A Milroy 97.58 35 S **S** **16 46 14.8 -0.9**
baz=320
P48A S **S** **16 46 14.8 -0.9**
baz=320
MTLF Montolieu 97.81 332 *e*P Pdif 16 34 52.4 +0.4
MTLF pmax pmax
comp=Z,107nm,2.1s
D62A Allapoint, All 97.84 21 P **P** **16 34 51.4 -0.6**
D62A Allapoint, All 97.84 21 P **P** **16 34 52.0 0.0**
baz=333
D62A P **P** **16 34 52.0 0.0**
baz=333
P49A Miami Univ. Ec 97.88 35 P **P** **16 34 51.7 -0.6**
P49A IAmb IAmb 16 35 08.6
comp=Z,48nm,1.3s
P49A IAMs_20 IAMs_20 17 19 53.6
comp=Z,6µm,20.0s
P49A Miami Univ. Ec 97.88 35 P Pdif 16 34 52.6 +0.2
baz=321
P49A Miami Univ. Ec 97.88 35 P **P** **16 34 52.3 0.0**
baz=321
735A Kenedy 97.92 50 S **S** **16 46 19.8 +0.9**
baz=311
BMNY Brushton-Moira 97.95 25 S **S** **16 46 14.4 -4.3**
baz=329
NATX Nacogdoches 97.99 46 IAMs_20 IAMs_20 17 21 47.5
comp=Z,5µm,20.0s
NATX Nacogdoches 97.99 46 P Pdif 16 34 53.5 +0.5
baz=313
ERPA Erie 98.02 30 P Pdif 16 34 53.0 0.0
baz=324
WCI Wyandotte Cave 98.08 36 IAMs_20 IAMs_20 17 21 00.2
comp=Z,5µm,20.0s
WCI Wyandotte Cave 98.08 36 S **S** **16 46 15.6 -4.4**
baz=319
WCI Wyandotte Cave 98.08 36 P **P** **16 34 52.5 -0.8**
baz=319
E62A Clayton Lake 98.11 21 P **P** **16 34 53.1 -0.1**
LONY Lake Ozonia 98.11 25 IAMs_20 IAMs_20 17 23 16.3
comp=Z,5µm,20.0s
LONY Lake Ozonia 98.11 25 P **P** **16 34 52.3 -1.0**
baz=329
ACSO Alum Creek Sta 98.17 33 IAMs_20 IAMs_20 17 20 54.2
comp=Z,5µm,20.0s
ACSO Alum Creek Sta 98.17 33 P Pdif 16 34 54.2 +0.5
baz=322
ACSO Alum Creek Sta 98.17 33 P **P** **16 34 52.7 -0.9**
baz=322
M53A WI Miller and 98.27 31 IAMs_20 IAMs_20 17 16 18.6
comp=Z,4µm,21.0s
M53A WI Miller and 98.27 31 P **P** **16 34 53.8 -0.2**
baz=324
WVNY West Valley, N 98.38 29 S **S** **16 46 15.8 -6.6**
baz=325
HKT Hockley 98.48 48 P **P** **16 34 54.8 -0.3**
HKT IAmb IAmb 16 35 03.7
comp=Z,100nm,1.9s
HKT Hockley 98.48 48 P **P** **16 34 54.8 -0.3**
HKT pmax pmax
comp=Z,100nm,2.0s
HKT MLR MLR
comp=Z,11µm,19.0s
PQI Presque Isle 98.52 20 P Pdif 16 34 55.2 +0.2
PQI IAMs_20 IAMs_20 17 20 36.7
comp=Z,5µm,21.0s
BATG Bathurst New B 98.54 19 P Pdif 16 34 55.5 +0.4
T47A Sharon Grove 98.60 38 S **S** **16 46 20.6 -3.8**
baz=319
F62A Pittston Farm, 98.61 22 P Pdif 16 34 56.0 +0.5
baz=332
F62A P Pdif 16 34 56.0 +0.5
baz=332
N53A Lisbon 98.70 32 S **S** **16 46 20.2 -5.0**
baz=324
N53A S **S** **16 46 20.2 -5.0**
baz=324
NCB Newcomb 98.80 26 P **P** **16 34 55.8 -0.6**
W45A Hickory Valley 98.82 40 S **S** **16 46 25.9 -0.5**
baz=317
WVT Waverly 98.85 39 IAMs_20 IAMs_20 17 19 24.6
comp=Z,4µm,20.0s
WVT Waverly 98.85 39 P **P** **16 34 56.4 -0.3**
baz=318
J58A Remsen 98.92 27 S **S** **16 46 20.9 -6.1**
baz=328
J58A S **S** **16 46 20.9 -6.1**
baz=328
Q51A Peebles 98.94 34 **P** **16 34 56.8 -0.4**
Q51A IAmb IAmb 16 35 01.3
comp=Z,42nm,1.1s
O53A New Philadelph 98.98 32 P **P** **16 34 57.2 -0.1**
O53A IAmb IAmb 16 35 12.3
comp=Z,49nm,1.4s
O53A New Philadelph 98.98 32 P **P** **16 34 56.8 -0.5**
baz=323
G62A West of Eustis 99.02 23 P **Pdif** **16 34 57.0 -0.3**
VT1 Waterbury 99.03 25 IAMs_20 IAMs_20 17 21 35.7
comp=Z,4µm,20.0s
R50A Paris 99.04 35 P **Pdif** **16 34 57.5 -0.1**
R50A IAmb IAmb 16 35 14.1
comp=Z,35nm,1.4s
R50A Paris 99.04 35 S **S** **16 46 26.7 -1.4**
baz=321
R50A S **S** **16 46 26.7 -1.4**
baz=321
P52A Corning 99.04 33 IAMs_20 IAMs_20 17 22 54.3
comp=Z,6µm,20.0s
P52A Corning 99.04 33 P **Pdif** **16 34 56.9 -0.7**
baz=323
M55A Ridgway 99.08 30 S **S** **16 46 26.3 -2.1**
baz=325
M55A S **S** **16 46 26.3 -2.1**
baz=325
F64A Sherman 99.15 21 P **Pdif** **16 34 57.7 -0.1**
OXF Oxford 99.17 41 IAMs_20 IAMs_20 17 23 30.2
comp=Z,5µm,20.0s
OXF Oxford 99.17 41 P **Pdif** **16 34 58.0 -0.1**
baz=317
H62A Milan 99.38 23 **Pdif** **16 34 59.0 0.0**
H62A IAmb IAmb 16 35 02.9
comp=Z,28nm,1.0s
H62A Milan 99.38 23 P **Pdif** **16 34 59.7 +0.8**
baz=331
H62A P **Pdif** **16 34 59.7 +0.8**
baz=331
PKME Peaks-Kenny Pk 99.39 22 P **Pdif** **16 34 58.8 -0.1**
PKME IAmb IAmb 16 35 19.7
comp=Z,33nm,1.2s
PKME IAMs_20 IAMs_20 17 27 07.7
comp=Z,4µm,20.0s
PKME Peaks-Kenny Pk 99.39 22 P **Pdif** **16 34 59.2 +0.3**
baz=333
PKME Peaks-Kenny Pk 99.39 22 P **Pdif** **16 34 58.3 -0.6**
baz=333
LBNH Lisbon 99.40 24 IAMs_20 IAMs_20 17 26 00.3
comp=Z,4µm,18.0s
LBNH Lisbon 99.40 24 P **Pdif** **16 34 58.7 -0.4**
baz=331
O54A Avella 99.41 32 S **S** **16 46 26.9 -4.4**
baz=324
O54A S **S** **16 46 26.9 -4.4**
baz=324
P53A Whipple 99.51 33 P **Pdif** **16 34 59.5 -0.1**
P53A IAmb IAmb 16 35 16.8
comp=Z,39nm,1.4s
P53A Whipple 99.51 33 P **Pdif** **16 35 00.3 +0.7**
baz=323
P53A P **Pdif** **16 35 00.3 +0.7**
baz=323
PLAL Pickwick Lake 99.56 40 IAMs_20 IAMs_20 17 23 27.7
comp=Z,5µm,19.0s
BINY Binghamton 99.62 28 IAMs_20 IAMs_20 17 22 22.3
comp=Z,5µm,20.0s
BINY Binghamton 99.62 28 P **Pdif** **16 34 58.4 -1.7**
baz=327
U49A Red Boiling Sp 99.65 37 **Pdif** **16 34 59.6 -0.7**
U49A Red Boiling Sp 99.65 37 P **Pdif** **16 35 00.6 +0.2**
baz=320
MAHO Mahon 99.74 328 PP **PP** **16 39 07.7 +3.7**
MAHO S **S** **16 46 35.6 +1.7**
MAHO Mahon 99.74 328 IAMs_20 IAMs_20 17 24 28.7
comp=Z,5µm,18.0s
HNH Hanover 99.74 25 IAMs_20 IAMs_20 17 22 05.1
comp=Z,4µm,20.0s
TRY Troy 100.08 26 IAMs_20 IAMs_20 17 24 05.2
comp=Z,5µm,20.0s
MCWV Mont Chateau 100.08 32 IAMs_20 IAMs_20 17 21 24.6
comp=Z,4µm,19.0s
MCWV Mont Chateau 100.08 32 P **Pdif** **16 35 01.5 -0.6**
baz=324
SSPA Standing Stone 100.14 30 P **Pdif** **16 35 01.9 -0.5**
baz=326
FFD Franklin Falls 100.17 24 IAMs_20 IAMs_20 17 29 44.5
comp=Z,5µm,18.0s
VBMS Vicksburg 100.18 43 P **Pdif** **16 35 01.3 -1.4**
baz=316
EMMW East Machias 100.46 21 IAMs_20 IAMs_20 17 23 31.1
comp=Z,5µm,20.0s
KEST Kesra 100.52 323 P **Pdif** **16 35 04.8 +0.5**
comp=Z,4.9nm,0.7s,baz=149,slow=1.1,SNR=5.0
KEST PP **PP** **16 39 07.5 -2.7**
comp=Z,7.8nm,0.9s,baz=52,slow=12,SNR=2.6
L61B Northampton 100.69 25 IAMs_20 IAMs_20 17 24 55.3
comp=Z,4µm,20.0s
L61B Northampton 100.69 25 P **Pdif** **16 35 04.5 -0.3**
baz=330
TZTN Tazewell 100.78 36 IAMs_20 IAMs_20 17 28 05.4
comp=Z,5µm,19.0s
TZTN Tazewell 100.78 36 P **Pdif** **16 35 04.2 -1.1**
baz=321
QUA2 Belchertown 100.95 25 IAMs_20 IAMs_20 17 21 50.0
comp=Z,4µm,18.0s
HRV Adam Dziewonsk 101.05 25 IAMs_20 IAMs_20 17 22 43.8
comp=Z,4µm,20.0s

HRV	Adam Dziewonsk	101.05	25	P		Pdif	16 35 06.1	-0.3	
	baz=331								
WES	Weston	101.24	25	IAMs_20	IAMs_20		17 22 59.8		
	comp=Z,4μm,19.0s								
PAL	Palisades	101.46	27	IAMs_20	IAMs_20		17 25 57.9		
	comp=Z,4μm,19.0s								
PAL	Palisades	101.46	27	P		Pdif	16 35 07.9	-0.3	
	baz=329								
BRYW	Bryant College	101.57	25	IAMs_20	IAMs_20		17 30 32.5		
	comp=Z,5μm,19.0s								
YLE	Yale	101.57	26	IAMs_20	IAMs_20		17 24 28.7		
	comp=Z,5μm,19.0s								
LRAL	Lakeview Retre	101.61	40	IAMs_20	IAMs_20		17 20 20.7		
	comp=Z,5μm,20.0s								
LRAL	Lakeview Retre	101.61	40	P		Pdif	16 35 08.2	-0.9	
	baz=318								
BLA	Blacksburg	101.78	33	P		Pdif	16 35 08.4	-1.5	
	baz=324								
CBN	Corbin Frederi	102.37	31	IAMs_20	IAMs_20		17 31 10.3		
	comp=Z,5μm,18.0s								
UCM	Universidad Co	102.55	334	PP		PKiKP	16 39 33.5	-0.8	
UCM				S		Sdif	16 47 00.4	+3.0	
LODK	Lodwar	102.56	282	P		Pdif	16 35 14.7	+1.0	
LODK	Lodwar	102.56	282	eP		Pdif	16 35 13.8	0.0	
LODK				eS		SKSac	16 46 01.0	+7.4	
PGAV	Gavieira, Arco	102.87	338	ePP		PP	16 39 27.9	+0.3	
PGAV				eSdif		Sdif	16 46 59.6	-0.7	
PGAV	Gavieira, Arco	102.87	338	eLR		LR	17 15 06.3		
	comp=Z,4μm,18.0s								
KMSC	Kings Mountain	102.99	35	P		Pdif	16 35 14.7	-0.5	
	baz=323								
PCAB	Cabril	103.02	337	i LQ		LQ	16 39 34.8		
MVO	Moncorvo	103.17	337	eSdif		Sdif	16 47 01.5	-1.2	
MVO	Moncorvo	103.17	337	eLR		LR	17 16 48.8		
	comp=Z,5μm,18.0s								
POLO	Lamas de Olo	103.25	337	ePP		PP	16 39 27.4	-3.0	
KMBO	Kilima Mbogo	103.31	277	Pdiff		Pdif	16 35 18.4	+1.2	
	comp=Z,4.8nm,0.8s,baz=27,slow=9.6,SNR=6.6								
KMBO	Kilima Mbogo	103.31	277	eP		Pdif	16 35 19.0	+1.7	
KMBO				eS		SKSac	16 46 04.2	+6.8	
KMBO	Kilima Mbogo	103.31	277	P		Pdif	16 35 18.1	+0.9	
ESDC	Sonseca Array	103.37	334	Pdiff		Pdif	16 35 18.4	+1.5	
	comp=Z,0.9nm,0.8s,baz=16,slow=3.5,SNR=3.7								
ESDC				PP		PP	16 39 19.3	-12	
	comp=Z,7.0nm,1.0s,baz=24,slow=7.0,SNR=9.2								
ESDC				PKKP		PKKPbc	16 51 14.3	+3.4	
	comp=Z,1.2nm,0.8s,baz=205,slow=4.8,SNR=5.6								
PVIS	Viseu	103.87	337	ePP		PP	16 39 35.6	+0.6	
CART	Cartagena	103.96	331	PP		PKiKP	16 39 39.0	+2.1	
CART				S		SKKSac	16 46 39.5	-2.3	
MTE	Manteigas	104.03	337	ePP		PKiKP	16 39 37.7	+0.6	
MTE				eSdif		Sdif	16 47 11.0	+1.1	
MTE	Manteigas	104.03	337	eLR		LR	17 16 42.2		
	comp=Z,6μm,18.0s								
PCBR	Castelo Branco	104.51	336	i LQ		LQ	16 39 43.1		
PCAS	Casmilo, Conde	104.67	337	i LQ		LQ	16 39 37.1		
PMRV	Marv??o	104.84	336	eSdif		Sdif	16 47 17.9	+1.3	
PMRV	Marv??o	104.84	336	eLR		LR	17 16 42.2		
	comp=Z,4μm,20.0s								
NHSC	New Hope	105.18	36	IAMs_20	IAMs_20		17 23 14.1		
	comp=Z,4μm,20.0s								
PMTG	Montargil	105.45	336	i LQ		LQ	16 39 39.5		
PBAR	Barrancos	105.83	335	ePP		PP	16 39 49.5	0.0	
EVO	Evora	105.86	336	PP		PP	16 39 47.0	-2.7	
EVO				S		Sdif	16 47 25.8	+0.7	
LIS	Lisbon	106.09	337	ePP		PP	16 39 52.7	+1.4	
LIS					IAMs_20	IAMs_20	17 21 45.3		
	comp=E,11μm,23.6s								
PBEJ	Beja	106.26	336	ePP		PP	16 39 53.6	+0.9	
MESJ	Messejana	106.55	336	ePdif		Pdif	16 35 31.4	+0.4	
MESJ				ePP		PP	16 39 56.4	+1.5	
MESJ					IAMs_20	IAMs_20	17 28 09.7		
	comp=N,6μm,15.6s								
MESJ	Messejana	106.55	336	eP		Pdif	16 35 31.4	+0.4	
MESJ				e			16 39 56.4		
CHAS	Isla Isabel II	106.60	330	PP		PP	16 39 49.2	-6.2	
WMELI	Melilla	106.71	331	PP		PP	16 39 55.5	-0.6	
WMELI				S		Sdif	16 47 30.0	-2.2	
PVAQ	Vaqueiros	106.76	335	ePP		PP	16 39 56.8	+0.4	
PVAQ				eSdif		Sdif	16 47 33.5	+0.9	
PVAQ	Vaqueiros	106.76	335	eLR		LR	17 18 16.1		
	comp=N,6μm,20.0s								
SFS	San Fernando	107.03	334	PP		PP	16 40 02.6	+4.3	
SFS				S		Sdif	16 47 40.7	+5.8	
MORF	Marmelete	107.18	336	ePP		PP	16 40 00.9	+1.4	
MORF					IAMs_20	IAMs_20	17 21 02.3		
	comp=E,9μm,25.7s								
MORF	Marmelete	107.18	336	ePP		PP	16 40 02.6	+3.1	
CEU	Ceuta	107.20	333	PP		PP	16 40 00.9	+1.3	
CEU				S		Sdif	16 47 35.3	-1.0	
PVLZ	Peæn de	107.40	332	PP		PP	16 40 01.5	+0.4	
PVLZ				S		Sdif	16 47 36.4	-1.6	
VNDA	Vanda	108.44	176	Pdiff		Pdif	16 35 40.4	+2.1	
	comp=E,0.6nm,0.9s,baz=244,slow=1.1,SNR=3.0								
VNDA				PKiKP		PKiKP	16 39 46.0	+2.1	
	comp=E,2.9nm,0.9s,baz=318,slow=5.3,SNR=6.2								
VNDA				PP		PP	16 40 08.2	-0.9	
	comp=E,4.5nm,0.8s,baz=339,slow=7.4,SNR=7.4								
VNDA				PKKPbc		PKKPbc	16 50 57.5	+1.0	
	comp=E,2.8nm,1.1s,baz=172,slow=3.7,SNR=3.6								
MBAR	Mbarara	108.60	281	eP		Pdif	16 35 40.5	-0.2	
IFR	Ifrane	109.17	331	PP		PP	16 40 19.2	+4.9	
IFR				S		Sdif	16 47 55.9	+2.6	
TEIG	Tepich	110.12	50	IAMs_20	IAMs_20		17 23 30.6		
	comp=Z,4μm,21.0s								
AVE	Averroes	110.28	333	PP		PP	16 40 29.0	+6.8	
AVE				S		Sdif	16 48 04.2	+2.0	
AVE	Averroes	110.28	333	IAMs_20	IAMs_20		17 34 52.5		
	comp=Z,3μm,18.0s								
TAM	Tamanrasset	112.55	317	IAMs_20	IAMs_20		17 34 33.3		
	comp=Z,3μm,18.0s								
MAW	Mawson	113.85	204	Pdiff		Pdif	16 36 06.4	+3.9	
	comp=Z,1.9nm,0.8s,baz=28,slow=8.2,SNR=5.4								
MAW				PKiKP		PKiKP	16 39 55.7	+1.4	
	comp=Z,7.2nm,1.0s,baz=58,slow=4.0,SNR=13								
MAW				PP		PP	16 40 47.9	-0.3	
	comp=Z,9.1nm,0.9s,baz=83,slow=13,SNR=4.8								
MAW				PKKPbc		PKKPbc	16 50 38.1	-0.3	
	comp=Z,6.1nm,0.9s,baz=266,slow=5.5,SNR=16								
PMOZ	Porto Moniz, M	114.03	341	eSdif		Sdif	16 48 38.1	+4.4	
PMOZ				eSS		SS	16 56 39.5	+1.8	
PMOZ	Porto Moniz, M	114.03	341	eLR		LR	17 16 27.1		
	comp=Z,3μm,16.0s								
LSZ	Lusaka	117.98	268	PKP		PKiKP	16 40 05.7	+1.7	
	comp=Z,4.7nm,0.6s,baz=46,slow=2.3,SNR=9.0								
LSZ				PP		PP	16 41 23.9	+5.3	
	comp=Z,6.9nm,0.9s,baz=66,slow=2.3,SNR=3.8								
LSZ	Lusaka	117.98	268	IAMs_20	IAMs_20		17 29 30.8		
	comp=Z,4μm,20.0s								
MTDJ	Mount Denham	118.38	43	IAMs_20	IAMs_20		17 31 02.8		
	comp=Z,3μm,20.0s								
GRTK	Grand Turk	119.25	36	IAMs_20	IAMs_20		17 42 02.4		
	comp=Z,3μm,19.0s								
JTS	Las Juntas de	119.32	56	IAMs_20	IAMs_20		17 34 36.5		
	comp=Z,2μm,19.0s								
HDC	Heredia	120.11	55	IAMs_20	IAMs_20		17 37 25.5		
	comp=Z,3μm,19.0s								
QSPA	South Pole Qui	120.26	180	PKP		PKiKP	16 40 07.6	+0.8	
	comp=Z,41nm,1.0s,baz=301,slow=0.8,SNR=29								
QSPA				PP		PP	16 41 32.5	-0.5	
	comp=Z,24nm,1.0s,baz=332,slow=4.1,SNR=6.0								
QSPA				PKKPab		PKKPab	16 50 14.4	+1.1	
	comp=Z,6.3nm,0.7s,baz=198,slow=1.4,SNR=17								
QSPA	South Pole Qui	120.26	180	PKP		PKiKP	16 40 07.2	+0.3	
QSPA	South Pole Qui	120.26	180	IAMs_20	IAMs_20		17 33 26.6		
	comp=Z,3μm,19.0s								
TOA0	Torodi Ar. Sit	122.23	313	PKPdf		PKPdf	16 40 11.8	-0.3	
TORD	Torodi Ar. Bea	122.23	313	PKP		PKiKP	16 40 12.4	+0.1	
	comp=Z,1μm,0.3s,baz=64,slow=3.4,SNR=107								
TORD				PP		PP	16 41 44.9	-1.6	
	comp=Z,21nm,0.9s,baz=37,slow=5.9,SNR=6.9								
TORD				PKKPbc		PKKPbc	16 50 04.5	-2.8	
	comp=Z,2.3nm,0.9s,baz=245,slow=2.6,SNR=4.4								
LBTB	Lobatse	124.14	259	PKP		PKiKP	16 40 17.1	+1.2	
	comp=Z,13nm,0.7s,baz=120,slow=2.6,SNR=14								
SJG	San Juan	124.57	33	IAMs_20	IAMs_20		17 39 05.3		
	comp=Z,3μm,20.0s								
BOSA	Boshof	125.64	255	PKP		PKiKP	16 40 19.9	+1.1	
	comp=Z,7.0nm,0.6s,baz=24,slow=1.0,SNR=10								
SMRT	St. Maarten	126.01	30	PKPdf		PKPdf	16 40 18.8	-0.6	
SMRT				IAMs_20	IAMs_20		17 33 29.2		
	comp=Z,4μm,22.0s								
ANWB	Willy Bob	126.90	29	IAMs_20	IAMs_20		17 37 07.6		
	comp=Z,2μm,20.0s								
ANBD	Bethesda, Anti	127.46	29	eP		PKPdf	16 40 16.4	-5.7	

HATO	Hato, Curacao	128.13	40	IAMs_20	IAMs_20		17 39 55.4		
	comp=Z,3μm,19.0s								
CBE	Ff, Capester	128.40	29	eP		PKiKP	16 40 24.5	0.0	
GDSD	La Dsirade Is	128.41	29	IAMs_20	IAMs_20		17 41 30.7		
	comp=Z,3μm,20.0s								
MAGL	Barre de l'ile	128.65	29	IAMs_20	IAMs_20		17 37 38.9		
	comp=Z,4μm,20.0s								
MAGL	Barre de l'ile	128.65	29	eP		PKPdf	16 40 23.4	-1.0	
TSUM	Tsumeb	128.81	269	PKhKP		PKPpre	16 40 18.1		
	comp=Z,3.2nm,0.9s,baz=105,slow=6.2,SNR=4.0								
TSUM				PKP		PKPdf	16 40 25.0	+0.3	
	comp=Z,4.4nm,1.0s,baz=215,slow=2.0,SNR=2.8								
TSUM	Tsumeb	128.81	269	IAMs_20	IAMs_20		17 31 31.4		
	comp=Z,3μm,22.0s								
DSLB	Salisbury	129.04	30	eP		PKPdf	16 40 15.8	-9.4	
FDF	Fort de France	129.79	30	PKPdf		PKPdf	16 40 26.2	-0.4	
FDF	Fort de France	129.79	30	PKiKP		PKPdf	16 40 26.2	-0.4	
FDF				MLR		MLR			
	comp=Z,5μm,21.0s								
FDF	Fort de France	129.79	30	eP		PKPdf	16 40 20.6	-6.0	
SDV	Santo Domingo	129.82	44	IAMs_20	IAMs_20		17 38 56.6		
	comp=Z,3μm,20.0s								
SDV	Santo Domingo	129.82	44	eP		PKPdf	16 40 27.0	+0.1	
ILAM	Ilet Lapin Mar	129.87	29	IAMs_20	IAMs_20		17 38 26.3		
	comp=Z,3μm,20.0s								
BIM	Bigot	130.01	30	eP		PKPdf	16 40 24.5	-2.5	
SUR	Sutherland	130.38	252	PKP		PKPdf	16 40 26.8	-0.6	
	comp=Z,4.8nm,0.7s,baz=97,slow=3.0,SNR=6.7								
SUR				SKPab		SKPbc	16 43 53.2	+3.0	
	comp=Z,13nm,1.0s,baz=44,slow=1.7,SNR=3.2								
ROSC	El Rosal	130.56	51	PKP		PKiKP	16 40 29.4	-0.1	
	comp=Z,9.4nm,0.3s,baz=100,slow=9.2,SNR=9.8								
OTAV	Otavalo	130.86	59	eP		PKPdf	16 40 28.8	-0.4	
MBO	M'Bour	131.00	333	IAMs_20	IAMs_20		17 44 04.3		
	comp=Z,3μm,20.0s								
BAUV	El Baul	131.29	41	PKPdf		PKPdf	16 40 29.1	-0.3	
BAUV	El Baul	131.29	41	eP		PKiKP	16 40 31.9	+1.6	
DBIC	Dimbokro	131.30	314	PKP		PKiKP	16 40 30.9	+0.5	
	comp=Z,25nm,0.7s,baz=40,slow=2.2,SNR=27								
DBIC				PP		PP	16 42 48.8	+2.2	
	comp=Z,12nm,0.8s,baz=69,slow=1.0,SNR=3.8								
NVL	N'lazarevskaya	131.39	200	ePKIKP		PKiKP	16 40 29.5	+0.7	
NVL				e			16 42 48.5		
NVL				ePPP		PPP	16 45 40.1		
NVL				e			16 47 40.9		
NVL				eSP		SP	16 52 51.9	-5.5	
NVL				pmax		pmax			
	comp=Z,31nm,0.8s								
TIC	Toumodi	131.42	314⇑	ePKIKP		PKiKP	16 40 30.7	0.0	
	comp=Z,32nm,0.6s								
KIC	Kosan Boka	131.47	313⇑	ePKIKP		PKiKP	16 40 31.0	+0.2	
	comp=Z,26nm,0.6s								
LIC	Lamto	131.75	314⇓	ePKIKP		PKiKP	16 40 31.2	-0.1	
	comp=Z,68nm,0.7s								
GRGR	Grenville	131.87	32	IAMs_20	IAMs_20		17 43 14.5		
	comp=Z,3μm,18.0s								
BBGH	Gun Hill	131.88	29	eP		PKiKP	16 40 42.9	+11	
BELA	Belgrano 2	132.51	181			PKiKP	16 40 31.2	+0.3	
SACV	Santiago Islan	132.73	341	IAMs_20	IAMs_20		17 49 10.3		
	comp=Z,3μm,20.0s								
TROLL	Troll, Antarti	133.16	196	PKPdf		PKPdf	16 40 31.9	+0.6	
TROLL	Troll, Antarti	133.16	196	PP		PP	16 42 60.0	+1.8	
TROLL	Troll, Antarti	133.16	196	SKPbc		SKPab	16 44 01.8	+1.2	
SNAA	Sanae	134.62	195	PKPdf		PKiKP	16 40 34.9	-0.6	
SNAA	Sanae	134.62	195	SKPbc		SKPbc	16 44 04.8	+1.2	
SNAA	Sanae	134.62	195	PKhKP		PKPpre	16 40 21.7		
	comp=Z,4.3nm,0.8s,baz=222,slow=7.2,SNR=11								
SNAA				PKP		PKiKP	16 40 35.7	+0.3	
	comp=Z,27nm,0.9s,baz=136,slow=2.0,SNR=20								
SNAA				PP		PP	16 43 01.7	-5.7	
	comp=Z,13nm,0.9s,baz=141,slow=6.3,SNR=4.9								
SNAA				SKP		SKPdf	16 44 11.5	+2.8	
	comp=Z,18nm,1.0s,baz=90,slow=7.4,SNR=3.1								
SNAA	Sanae	134.62	195	PKPdf		PKiKP	16 40 35.1	-0.4	
SNAA				IAMs_20	IAMs_20		17 47 34.9		
	comp=Z,3μm,18.0s								
SNAA	Sanae	134.62	195	PKIKP		PKiKP	16 40 35.1	-0.4	
SNAA				MLR		MLR			
	comp=Z,3μm,18.0s								
VNA2	Neumayer--Watz	136.16	194	PKPdf		PKiKP	16 40 37.8	-0.7	
	baz=109,slow=3.0								
VNA2	Neumayer--Watz	136.16	194	PP		PP	16 43 16.7	-0.3	
	baz=132,slow=4.0								
VNA3	Neumayer Olymp	136.36	193	PKPdf		PKPdf	16 40 36.8	-0.4	
VNA3	Neumayer Olymp	136.36	193	PP		PP	16 43 12.7	-5.5	
VNA1	Neumayer--Stat	136.56	194	PKPdf		PKiKP	16 40 38.5	-0.8	
TBTG	Tabatinga, AM	140.09	55	eP		PKPdf	16 40 45.6	-0.2	
CZSB	Cruzeiro do Su	140.38	62	eP		PKPdf	16 40 44.7	-1.6	
BOAV	Boa Vista	140.84	37	eP		PKPdf	16 40 46.8	-0.4	
PMSA	Palmer Station	142.04	162	PKP		PKPdf	16 40 45.6	-2.1	
	comp=Z,26nm,0.9s,baz=237,slow=0.7,SNR=8.2								
H03N2	Juan Fernandez	145.27	106	T		T	19 23 05.1		
	baz=281,slow=75,SNR=16								
H03N3	Juan Fernandez	145.28	106	T		T	19 23 12.9		
	baz=281,slow=75,SNR=15								
H03N1	Juan Fernandez	145.28	106	T		T	19 23 09.4		
	baz=281,slow=75,SNR=18								
MACA	Manacapuru-AM	145.34	43	eP		PKPbc	16 40 54.6	-0.3	
VA04	Juan Fernndez	145.38	106	eP		PKiKP	16 40 56.7	-1.8	
ETMB	Extrema	146.59	58	PKPdf		PKPdf	16 40 57.0	-0.2	
ETMB	Extrema	146.59	58	eP		PKPdf	16 40 57.0	-0.2	
MG05	Puerto Natales	146.91	140			PKPbc	16 40 58.6	+0.1	
GO09	Cerro Castillo	147.18	139			PKPbc	16 40 59.2	-0.1	
USHA	Ushuaia	147.38	147	PKPbc		PKPbc	16 40 59.5	-0.2	
	comp=Z,99nm,0.8s,baz=221,slow=3.9,SNR=12								
MALB	Monte Alegre	147.58	32	eP		PKPdf	16 40 58.5	-0.4	
SAML	Samuel	148.15	53			PKPdf	16 41 01.2	+1.4	
SAML	Samuel	148.15	53	PKP2		PKPdf	16 41 01.2	+1.4	
SAML				MLR		MLR			
	comp=Z,4μm,19.0s								
PB12	IPOC Station P	148.38	76			PKPbc	16 41 01.9	-1.7	
PB12	IPOC Station P	148.38	76	eP		PKPbc	16 41 02.2	-1.4	
PB16	IPOC Station P	148.93	74			PKPbc	16 41 04.0	-1.7	
PB16	IPOC Station P	148.93	74	eP		PKPbc	16 41 03.8	-1.9	
GO07	Milladeo Hill,	148.99	124	eP		PKPbc	16 41 03.6	-0.7	
LPAZ	La Paz	149.02	70	PKPbc		PKPbc	16 41 04.0	-1.9	
	comp=Z,34nm,0.8s,baz=355,slow=3.4,SNR=48								
LPAZ	La Paz	149.02	70			PKPdf	16 41 03.7	+1.8	
LPAZ	La Paz	149.02	70	PKP2		PKPdf	16 41 03.7	+1.8	
ITTB	Itaituba	149.06	36	eP		PKPdf	16 41 01.1	-0.2	
LL07	Hotel Espejo d	149.18	123	eP		PKiKP	16 41 06.8	+0.8	
TA01	Diego Aracena	149.38	79	eP		PKPdf	16 41 01.3	-0.3	
ORCD	Orcadas	149.42	173			PKPbc	16 41 04.6	-0.2	
LL05	Los Muermos	149.45	121	eP		PKiKP	16 41 08.2	+1.5	
PATCX	Punta Patache	149.51	79	eP		PKPdf	16 41 02.9	+1.0	
LR04	Corral	149.70	118	eP		PKPdf	16 41 03.3	+1.8	
GO01	Chusmiza	149.81	76			PKPdf	16 41 04.8	+1.8	
GO01	Chusmiza	149.81	76	eP		PKPdf	16 41 05.3	+2.4	
PB02	IPOC Station P	149.93	80	eP		PKPdf	16 41 04.7	+2.1	
LL01	San Ignacio de	150.05	123	eP		PKiKP	16 41 08.6	+0.8	
PB08	IPOC Station P	150.06	77			PKPdf	16 41 05.4	+2.2	
PB08	IPOC Station P	150.06	77	eP		PKPdf	16 41 05.5	+2.3	
PB07	IPOC Station P	150.10	81	eP		PKPdf	16 41 04.8	+1.9	
PB04	IPOC Station P	150.12	82	eP		PKPdf	16 41 04.8	+1.9	
PB01	IPOC Station P	150.16	79	eP		PKPdf	16 41 05.0	+2.0	
LL02	Futaleuf	150.27	125	eP		PKiKP	16 41 08.5	+0.2	
LL03	Petrohue	150.29	120	eP		PKiKP	16 41 09.3	+0.9	
LL04	Puerto Octay	150.32	120	eP		PKPdf	16 41 04.0	+1.5	
TMAB	Tom-Au,PA,Br	150.42	21	eP		PKPdf	16 41 02.9	-0.6	
LR03	Panguipulli	150.56	117	eP		PKPdf	16 41 05.5	+2.6	
PB09	IPOC Station P	150.68	80	eP		PKPdf	16 41 04.3	+0.4	
PB14	IPOC Station P	150.71	86	eP		PKPbc	16 41 07.5	-2.0	
PB06	IPOC Station P	150.75	82	eP		PKPdf	16 41 05.9	+2.0	
AC01	Pan de Azucar	151.00	90	eP		PKPbc	16 41 07.2	-2.6	
PB15	IPOC Station P	151.02	83	eP		PKPbc	16 41 07.8	-2.4	
CO06	Fray Jorge	151.06	99	eP		PKPbc	16 41 07.2	-2.6	
AC04	Llanos de Chal	151.09	94	eP		PKiKP	16 41 11.4	+0.9	
GO06	Curarrehue	151.23	118	eP		PKPbc	16 41 09.6	-0.4	
LVC	Limon Verde	151.28	82	PKP		PKPdf	16 41 06.5	+1.6	
	comp=Z,7.2nm,0.8s,baz=304,slow=1.1,SNR=5.9								
LVC				PKPbc		pPKPbc	16 41 13.2	-0.6	
	comp=Z,36nm,0.8s,baz=274,slow=2.9,SNR=13								
LVC	Limon Verde	151.28	82	IAMs_20	IAMs_20		17 38 18.7		
	comp=Z,2μm,20.0s								
CO05	La Serena	151.28	97	eP		PKPbc	16 41 07.5	-2.8	
VA05	Santo Domingo	151.38	105	eP		PKPdf	16 41 05.9	+1.6	
AC06	Mina Casimiro	151.52	92	eP		PKiKP	16 41 12.1	+0.7	
NPGB	Novo Progresso	151.52	39	eP		PKPdf	16 41 05.3	+0.1	
VA06	Catapilco	151.57	103			PKPbc	16 41 10.1	-0.8	
ML02	Panimavida	151.57	110	eP		PKPdf	16 41 01.6	-3.0	
GO02	Mina Guanaco	151.58	87	eP		PKPdf	16 41 07.5	+2.2	
CO02	Combarbal	151.68	100	eP		PKPdf	16 41 07.2	+2.1	
MT01	Popeta	151.69	106	PKPdf		PKPdf	16 41 05.2	+0.4	

MT01	Popeta	151.69	106	eP		PKPdf	16 41 06.9	+2.0	
GO04	Tololo Observa	151.70	98	eP		PKPbc	16 41 08.7	-2.9	
PLCA	Paso Flores	151.74	120	PKP		PKPdf	16 41 07.1	+2.3	
	comp=Z,9.9nm,1.0s,baz=258,slow=4.5,SNR=8.5								
PLCA				PKPbc		pPKPbc	16 41 13.4	-0.9	
	comp=Z,48nm,0.7s,baz=244,slow=3.5,SNR=44								
PLCA	Paso Flores	151.74	120			PKiKP	16 41 11.4	-0.2	
PLCA	Paso Flores	151.74	120	eP		PKPdf	16 41 05.6	+0.8	
MT02	Curacav	151.75	104	eP		PKPdf	16 41 08.0	+3.0	
ROCH	El Roble	151.84	104	eP		PKPbc	16 41 09.4	-2.4	
MT09	Talagante	151.90	105	eP		PKPdf	16 41 05.0	-0.4	
AC05	El Transito	151.91	95	eP		PKPbc	16 41 09.1	-2.9	
ROSB	Rosrio	151.93	13	eP		PKPdf	16 41 06.9	+1.1	
MT05	Renca	152.09	105	eP		PKPdf	16 41 06.8	+1.2	
VA03	San Esteban	152.21	103	eP		PKPdf	16 41 05.6	-0.2	
CO01	Juntas del Tor	152.27	97	eP		PKPdf	16 41 07.5	+1.3	
MT03	Universidad Ad	152.29	105	eP		PKPbc	16 41 10.1	-2.6	
AC02	Maricunga	152.45	90	eP		PKPdf	16 41 09.6	+2.7	
VILB	Vilhena	153.03	54	eP		PKPdf	16 41 06.2	-1.2	
VCA	Vinchina	153.68	94	eP		PKPdf	16 41 10.4	+2.3	
PDRB	Porto dos Gac	154.38	47	eP		PKPdf	16 41 10.4	+1.1	
CLDB	Colider	154.38	44	eP		PKPdf	16 41 08.8	-0.5	
SIV	San Ignacio	154.39	61	PKP		PKPdf	16 41 10.6	+1.4	
	baz=165,slow=0.6								
SIV				PKPab		PKPab	16 41 31.9	+0.2	
	comp=Z,79nm,0.8s,baz=311,slow=4.0,SNR=4.9								
RCBR	Riachuelo	155.38	355	PKP		PKPdf	16 41 12.6	+1.8	
	comp=Z,6.7nm,0.9s,baz=45,slow=5.7,SNR=0.9								
RCBR	Riachuelo	155.38	355	PKPab		PKPab	16 41 35.6	-0.3	
RCBR	Riachuelo	155.38	355	IAMs_20	IAMs_20		18 04 23.7		
	comp=Z,2μm,19.0s								
RCBR	Riachuelo	155.38	355	eP		PKPdf	16 41 12.2	+1.4	
PTLB	Pontes e Lacer

ELS	**Elsinore Mount**	**0.76**	**110**		**Pg**	**16 31 32.0 -0.7**
ELS					**Sb**	**16 31 43.3 +0.6**
ELS	**Elsinore Mount**	**0.76**	**110**	Pg	**Pg**	**16 31 31.9 -0.8**
RVR	**Riverside**	**0.76**	**83**		**Pg**	**16 31 31.9 -0.8**
RVR					**Sn**	**16 31 44.2 -0.6**
SME	**Santa Rosa Min**	**0.78**	**96**		**Pg**	**16 31 32.3 -0.7**
ALPC	**Antelope**	**0.78**	**359**		**Sg**	**16 31 42.9 -0.6**
OSI	**Osito Audit: C**	**0.80**	**333**	S	**Sb**	**16 31 44.5 +0.7**
	baz=153					
BTPC	**Burnt Peak**	**0.81**	**343**		**Pg**	**16 31 33.0 -0.8**
STCC	**Santa Clara**	**0.85**	**298**		**Pb**	**16 31 34.7 +0.5**
CSP	**Cedar Springs**	**0.86**	**63**		**Pg**	**16 31 33.9 -0.7**
SBB	**Saddle Back Bu**	**0.87**	**26**		**Pg**	**16 31 33.9 -0.9**
SBB					**Sg**	**16 31 45.5 -0.7**
PEC	**Perris**	**0.93**	**91**		**Pb**	**16 31 35.1 -0.5**
PEC					**Sn**	**16 31 48.7 -0.5**
SCI2	**San Clemente I**	**0.95**	**194**	P	**Pb**	**16 31 35.8 0.0**
	baz=13					
SCI2				S	**Sn**	**16 31 49.2 -0.4**
	baz=13					
MURC	**Murrieta**	**0.95**	**108**		**Pb**	**16 31 35.9 -0.1**
MURC	**Murrieta**	**0.95**	**108**	P	**Pb**	**16 31 35.7 -0.3**
	baz=289,SNR=13					
MURC				S	**Sg**	**16 31 49.1 +0.1**
	baz=289					
TPO	**Tropico Hills**	**0.97**	**3**		**Pn**	**16 31 37.2 +0.5**
CFT	**Crafton Hills**	**0.98**	**82**		**Pb**	**16 31 36.3 -0.1**
EDW2	**Edwards Air Fo**	**1.00**	**14**		**Pn**	**16 31 38.0 +0.8**
EDW2	**Edwards Air Fo**	**1.00**	**14**	P	**Pb**	**16 31 36.4 -0.4**
	baz=194,SNR=36					
EDW2				S	**Sg**	**16 31 50.3 -0.1**
	baz=194					
THC	**Tehachapi Micr**	**1.05**	**343**		**Pb**	**16 31 37.5 -0.1**
BACC	**Bachelor Mtn.**	**1.07**	**106**		**Pn**	**16 31 38.2 +0.1**
HMTC	**Hemet**	**1.08**	**100**		**Pb**	**16 31 37.9 -0.2**
HMTC					**Sg**	**16 31 52.7 -0.3**
DGR	**Domenigoni Val**	**1.09**	**103**		**Pb**	**16 31 37.8 -0.5**
HYS	**Haystack Butte**	**1.12**	**31**		**Pg**	**16 31 39.8 +0.2**
RYS	**Reyes Peak**	**1.15**	**310**		**Pg**	**16 31 40.4 +0.2**
MPI	**Mount Pinos, F**	**1.15**	**322**		**Pb**	**16 31 39.5 -0.1**
POB	**Polly Butte**	**1.15**	**101**		**Pb**	**16 31 38.8 -0.6**
POB					**Sn**	**16 31 55.0 +0.3**
GORC	**Green Oak Ranc**	**1.16**	**130**		**Pn**	**16 31 38.9 -0.3**
BBRC	**Big Bear Solar**	**1.18**	**72**		**Sb**	**16 31 54.2 -0.9**
BBRC	**Big Bear Solar**	**1.18**	**72**	S	**Sn**	**16 31 56.0 +0.4**
	baz=253					
SNCC	**San Nicolas Is**	**1.23**	**238**		**Pb**	**16 31 40.6 -0.1**
SNCC				IAML		16 31 58.0
	comp=N,143nm,0.3s					
SNCC				IAML		16 31 58.5
	comp=E,188nm,0.4s					
SNCC	**San Nicolas Is**	**1.23**	**238**	Pb	**Pb**	**16 31 40.7 +0.1**
	baz=57					
SNCC				S	**Sn**	**16 31 56.8 +0.3**
	baz=57					
CCAC	**Calif City Air**	**1.26**	**10**		**Pn**	**16 31 40.9 +0.1**
CCAC				IAML		16 31 59.6
	comp=N,168nm,0.6s					
SIL	**Silver Peak**	**1.28**	**70**		**Pb**	**16 31 41.8 +0.1**
ARVC	**Arvin**	**1.30**	**340**		**Pg**	**16 31 42.5 -0.5**
ARVC	**Arvin**	**1.30**	**340**	P	**Pb**	**16 31 42.1 +0.3**
	baz=160,SNR=5.3					
ARVC				S	**Sn**	**16 31 58.9 +0.7**
	baz=160					
TEJ	**El Tejon**	**1.36**	**346**		**Pg**	**16 31 43.8 -0.3**
BCW	**Bitter Crk WRg**	**1.39**	**318**		**Pn**	**16 31 42.5 -0.1**
DTP	**Desert Tortois**	**1.40**	**15**		**Pb**	**16 31 43.8 +0.1**
109C	**Camp Elliot, M**	**1.41**	**136**	Pn	**Pn**	**16 31 42.1 -0.7**
109C				IAML		16 32 02.4
	comp=E,146nm,0.4s					
109C				IAML		16 32 02.9
	comp=N,127nm,0.2s					
109C	**Camp Elliot, M**	**1.41**	**136**	P	**Pn**	**16 31 42.1 -0.7**
	baz=316,SNR=6.9					
109C				S	**Sn**	**16 32 00.5 -0.5**
	baz=316					
CPE	**Camp Elliot**	**1.41**	**136**		**Pn**	**16 31 42.2 -0.6**
CPE					**Sn**	**16 32 00.8 -0.2**
RRX	**Edison Barstow**	**1.44**	**47**		**Pg**	**16 31 44.9 -0.6**
RRX	**Edison Barstow**	**1.44**	**47**	P	**Pb**	**16 31 44.2 0.0**
	baz=228					
RRX				Sb	**Sg**	**16 32 04.4 +0.1**
	baz=228					
SNDA	**J Saunders Pla**	**1.44**	**104**		**Pb**	**16 31 43.9 -0.4**
DPP	**Dos Picos Cty**	**1.44**	**129**		**Sn**	**16 32 01.1 -0.6**
FRD	**Ford Ranch, An**	**1.46**	**106**		**Pn**	**16 31 43.8 +0.3**
MATG	**Mataguay Scout**	**1.54**	**117**		**Pb**	**16 31 46.0 +0.1**
PFO	**Pinyon Flats O**	**1.55**	**100**		**Pn**	**16 31 45.0 +0.2**
PFO				IAML		16 32 15.5
	comp=N,66nm,0.7s					
PFO	**Pinyon Flats O**	**1.55**	**100**	P	**Pn**	**16 31 44.9 +0.2**
	baz=282,SNR=17					
PFO				S	**Sb**	**16 32 05.6 +0.2**
	baz=282					
PKM	**Mcpherson Peak**	**1.60**	**308**	P	**Pn**	**16 31 46.2 +0.6**
	baz=127					
PKM				Sb	**Sg**	**16 32 08.7 -0.9**
	baz=127					
PMD	**Palm Desert**	**1.61**	**99**		**Pb**	**16 31 46.5 -0.6**
PMD				IAML		16 32 16.6
	comp=E,46nm,0.3s					
PMD				IAML		16 32 17.1
	comp=N,100nm,0.8s					
LRMC	**Laurel Mtn Rad**	**1.64**	**17**	P	**Pn**	**16 31 46.8 +0.7**
	baz=198,SNR=15					
LRMC				S	**Sb**	**16 32 08.1 -0.2**
	baz=198					
WOFM	**Oak Flat**	**1.66**	**348**		**Pn**	**16 31 47.2 +0.8**
ISA	**Isabella, Lake**	**1.76**	**355**	Pn	**Pn**	**16 31 48.4 +0.8**
ISA	**Isabella, Lake**	**1.76**	**355**	P	**Pn**	**16 31 48.7 +1.0**
	baz=175,SNR=16					
ISA				S	**Sn**	**16 32 10.7 +1.0**
	baz=175					
WORM	**Onyx Ranch**	**1.78**	**1**		**Sn**	**16 32 10.1 -0.2**
WHFM	**Hanning Flat**	**1.79**	**358**		**Pb**	**16 31 49.3 -0.9**
BAR	**Barrett**	**1.82**	**132**		**Sn**	**16 32 11.2 +0.1**
BAR	**Barrett**	**1.82**	**132**		**Pn**	**16 31 48.1 -0.3**
BAR	**Barrett**	**1.82**	**132**	IAML		16 32 11.7
	comp=E,146nm,0.2s					
BAR				IAML		16 32 11.7
	comp=N,132nm,0.2s					
GSC	**Goldstone, Bar**	**1.85**	**41**		**Pn**	**16 31 49.4 +0.5**
GSC				IAML		16 32 28.9
	comp=N,74nm,0.6s					
GSC	**Goldstone, Bar**	**1.85**	**41**	P	**Pn**	**16 31 50.0 +1.1**
	baz=222,SNR=15					
HEC	**Hector,Ludlow**	**1.85**	**60**	Pb	**Pb**	**16 31 51.7 +0.4**
	baz=241					
MONP2	**Monument Peak**	**1.86**	**123**	P	**Pn**	**16 31 49.5 +0.4**
	baz=304,SNR=7.2					
MONP2				S	**Sn**	**16 32 13.4 +1.1**
	baz=304					
TPC	**Twentynine Pal**	**1.86**	**83**		**Pb**	**16 31 51.6 0.0**
BELC	**Belle Mtn. Jos**	**1.90**	**87**	P	**Pn**	**16 31 49.8 +0.1**
	baz=268,SNR=16					
BELC				Sb	**Sb**	**16 32 17.2 +1.5**
	baz=268					
CBX	**Cerro Bola**	**2.09**	**139**		**Pn**	**16 31 52.1 -0.2**
CBX				IAML		16 32 37.6
	comp=E,32nm,0.5s					
MPMC	**Manual Prospec**	**2.24**	**17**	P	**Pn**	**16 31 55.2 +0.8**
	baz=197,SNR=14					
RMX	**La Rumorosa**	**2.26**	**125**		**Pn**	**16 31 56.3 +1.8**
RMX				IAML		16 32 33.4
	comp=N,32nm,0.5s					
RMX				IAML		16 32 33.6
	comp=E,33nm,0.5s					
GMRC	**Granite Mounta**	**2.34**	**67**	P	**Pn**	**16 31 55.9 +0.3**
	baz=249,SNR=7.6					
YUH	**Yuha Desert**	**2.34**	**122**		**Pn**	**16 31 57.3 +1.8**
GWY	**Greenwater Val**	**2.63**	**30**	Pn	**Pn**	**16 32 00.2 +0.5**
GWY				IAML		16 33 39.4
	comp=N,39nm,1.7s					
ESJX	**Sierra Juarez**	**2.73**	**133**		**Pn**	**16 32 02.0 +0.9**
PMPB	**Monarch Peak**	**3.10**	**319**	Pn	**Pn**	**16 32 06.6 +0.6**
V12A	**Nelson**	**3.35**	**56**	Pn	**Pn**	**16 32 10.4 +0.8**
V12A				IAML		16 33 53.6
	comp=N,16nm,2.5s					
V12A				IAML		16 33 57.4
	comp=E,16nm,1.8s					
W13A	**Hualapai Mount**	**3.82**	**71**		**Pn**	**16 32 16.7 +0.6**
W13A				IAML		16 34 14.6
	comp=N,13nm,3.5s					

ROM 20 16:32:04.5±0.3, 37°.20N±0°.01×14°.65E±0°.01, h19km±3km, ML1.4/1, Error ellipse: s-maj=1.3km s-min=0.4km az=133.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLNI	**Lentini**	**0.23**	**51**	P	Pg	16 32 10.0	0.0
HLNI				S	Sg	16 32 14.2	+0.5
HLNI				AML	AML		
	comp=E,104μm,0.1s						
HLNI				AML	AML		
	comp=N,158μm,0.1s						
RAFF	**Raffo Rosso**	**0.23**	**275**	P	Pg	16 32 10.4	+0.4
HMDC	**Modica**	**0.27**	**157**	P	Pb	16 32 10.4	-0.1
HMDC				S	Sg	16 32 15.2	+0.4
SSY	**Sortino**	**0.34**	**98**	P	Pg	16 32 11.8	0.0
SSY				S	Sb	16 32 17.9	+0.9
HAVL	**Avola**	**0.45**	**122**	P	Pg	16 32 13.5	-0.3
HAVL				S	Sb	16 32 20.9	+0.6

ROM 20 16:32:57.0±0.2, 42°.770N±0°.008×13°.19E±0°.02, h12km±1km, ML1.0/3, 1D, Error ellipse: s-maj=1.0km s-min=1.0km az=83.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.06**	**13**	P	Pg	16 32 59.9	+0.2
T1242				S	Sg	16 33 01.7	+0.1
T1242				AML	AML		
	comp=E,1095μm,0.6s						
T1242				AML	AML		
	comp=N,1310μm,0.6s						
T1242				AML	AML		
	comp=N,97μm,0.5s						
T1242				AML	AML		
	comp=E,1230μm,1.0s						
T1242				AML	AML		
	comp=N,1465μm,1.0s						
T1242				AML	AML		
	comp=N,100μm,0.2s						
T1242				AML	AML		
	comp=E,58μm,0.1s						
T1202	**Accumoli, Fraz**	**0.07**	**156**	P	Pg	16 32 59.9	+0.2
T1202				S	Sg	16 33 01.9	+0.3
T1202				AML	AML		
	comp=E,72μm,1.6s						
T1202				AML	AML		
	comp=N,145μm,1.5s						
MC2	**Monte Cornacci**	**0.14**	**1**	P	Pg	16 32 59.6	-1.0
T1216	**Preci, Frazion**	**0.17**	**315**	P	Pg	16 33 01.2	+0.2
T1216				AML	AML		
	comp=E,35μm,1.5s						
T1216				AML	AML		
	comp=N,45μm,1.6s						
T1243	**Rocca Santa Ma**	**0.21**	**111**	P	Pg	16 33 01.9	+0.3
T1215	**Vallo di Nera,**	**0.24**	**278**	P	Pb	16 33 03.0	-0.3
T1215				S	Sg	16 33 06.1	+0.7
T1215				AML	AML		
	comp=E,42μm,1.6s						
T1215				AML	AML		
	comp=N,48μm,1.6s						
T1215				AML	AML		
	comp=E,51μm,1.6s						
T1215				AML	AML		
	comp=N,51μm,1.6s						
T1215				AML	AML		
	comp=E,62μm,1.6s						
T1215				AML	AML		
	comp=N,64μm,1.6s						
AM05	**Amandola Campo**	**0.24**	**31**	ǁP	Pb	16 33 07.9	+4.5
AM05				AML	AML		
	comp=N,184μm,0.1s						
AM05				AML	AML		
	comp=E,354μm,1.0s						
AM05				AML	AML		
	comp=E,354μm,1.0s						
AM05				AML	AML		
	comp=N,184μm,0.1s						

*IDC **20** 16:33:57.3±1.1, 58°.21S×25°.33W, h0km, mb4.0/3, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=46.5km s-min=35.2km az=36.0*

ISC 20 16:34:03.7±0.8, 58°.2S±0°.2×25°.5W±0°.2, h49km, n13, σ1s12/13, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.46**	**157**	P	**Pn**	**16 37 24.2**	**-0.8**
VNA3	**Neumayer Olymp**	**14.66**	**160**	P	**Pn**	**16 37 26.5**	**-1.3**
VNA2	**Neumayer--Watz**	**14.85**	**157**	P	**Pn**	**16 37 29.5**	**-0.8**
	baz=321,slow=14						
SNAA	**Sanae**	**16.40**	**154**	P	**Pn**	**16 37 50.0**	**-0.3**
SNAA	**Sanae**	**16.40**	**154**	Pn	**Pn**	**16 37 49.9**	**-0.3**
	0.5nm,0.3s,baz=314,slow=14,SNR=39						
	1.9nm,0.5s						
TROLL	**Troll, Antarti**	**17.91**	**152**	P	**P**	**16 38 10.4**	**+1.3**
PLCA	**Paso Flores**	**33.33**	**282**	P	**P**	**16 40 37.9**	**+1.2**
	2.0nm,0.8s,baz=137,slow=5.3,SNR=4.6						
	2.0nm,0.8s						
RCLB	**Rio Claro- Sao**	**39.12**	**327**	*e*P	**P**	**16 41 24.9**	**-1.4**
ALF01	**Guarapari-ES**	**39.14**	**337**	*e*P	**P**	**16 41 24.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**74.49**	**27**	P	**P**	**16 45 37.9**	**+1.2**
	0.8nm,0.5s,baz=196,slow=5.9,SNR=2.3						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**96.66**	**161**	P	**P**	**16 47 28.4**	**-0.1**
	0.2nm,0.7s,baz=191,slow=3.0,SNR=4.6						
	0.2nm,0.7s						
SONM	**Songino Array**	**149.87**	**89**	PKPbc	**PKPbc**	**16 53 47.5**	**+0.1**
	0.3nm,0.4s,baz=206,slow=3.5,SNR=4.6						
ILAR	**Eielson Array**	**152.21**	**308**	PKPbc	**PKPbc**	**16 53 52.5**	**+0.3**
	1.0nm,0.4s,baz=129,slow=0.6,SNR=7.8						

*DJA **20** 16:42:41.1±0.7,2°.S±4°×13°.9E±°, h15km±3km, M4.1/6, mb4.2/2, MLv4.1/6*
*IDC **20** 16:42:49.2±4.0, 3°.04S×138°.81E, h0km, mb4.0/2, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=75.2km s-min=46.5km az=109.0*

ISC 20 16:42:41.6±2.0, 1°.8S±0°.1×138°.88E±0°.06, h27km±9km, n10, σ1s25/13, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.27**	**221**	P	**Pb**	**16 42 48.3**	**-0.1**
SMPI				S	**Sb**	**16 42 52.8**	**-0.2**
GENI	**Genyem**	**1.51**	**122**	P	**Pn**	**16 43 07.4**	**+0.5**
GENI				S	**Sb**	**16 43 28.3**	**+0.5**
SRPI	**Serui, Papua**	**2.64**	**268**	P	**Pn**	**16 43 24.7**	**+2.2**
SRPI				S	**Sn**	**16 43 53.6**	**-0.1**
BAKI	**Biak**	**2.84**	**282**	P	**Pn**	**16 43 24.9**	**-0.3**
FAKI	**Fak Fak**	**6.72**	**260**	P	**Pn**	**16 44 19.0**	**+0.4**
	0.2nm12nm,0.8s						
MMPI	**Merauke**	**6.80**	**167**	P	**Pn**	**16 44 20.7**	**+1.0**
WRA	**Warramunga Arr**	**18.58**	**194**	P	**P**	**16 46 54.5**	**-2.3**
	1.0nm,0.3s,baz=16,slow=12,SNR=32						
WRA				S	Sn	16 50 06.9	-17
	0.9nm,0.9s,baz=13,slow=22,SNR=4.7						
	2.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.78**	**218**	P	**P**	**16 47 21.0**	**+0.3**
	0.1nm,0.3s,baz=38,slow=12,SNR=4.7						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**22.28**	**192**	P	**P**	**16 47 35.4**	**-1.5**
	3.7nm,0.8s,baz=20,slow=10,SNR=60						
	3.7nm,0.8s						
STKA	**Stephens Creek**	**30.04**	**175**	P	**P**	**16 48 48.8**	**+0.4**
	2.1nm,0.8s,baz=339,slow=14,SNR=4.1						
	2.1nm,0.8s						

IDC 20 16:43:34.6±6.1, 31°.06S×177°.82W, h0km, mb3.5/2, mbtmp3.5/2, MS3.9/1, Error ellipse: s-maj=254.5km s-min=58.6km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.30**	**209**	LR	LR	16 48 33.4	
	comp=Z,797nm,18.1s,baz=129,slow=36						
ASAR	**Alice Springs**	**43.23**	**268**	P	P	16 51 36.0	-1.9
	0.3nm,0.9s,baz=111,slow=7.8,SNR=2.3						
	0.3nm,0.9s						
WRA	**Warramunga Arr**	**44.28**	**273**	P	P	16 51 47.8	+1.4
	0.9nm,0.6s,baz=113,slow=8.1,SNR=4.8						
	0.9nm,0.6s						
FINES	**FINESS Array B**	**145.82**	**340**	PKPbc	PKPdf	17 03 14.1	-0.4
	1.4nm,0.9s,baz=48,slow=4.1,SNR=8.0						

*WEL **20** 16:47:08.6±1.3, 34°.S±9°×17°.9W±1°.7, h33km, M4.4/9, ML4.6/11, MLv4.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=108.9*
*IDC **20** 16:47:18.3±2.3, 34°.61S×179°.14E, h200km±19km, mb4.1/6, mbtmp4.5/8, Error ellipse: s-maj=24.3km s-min=17.2km az=59.0*
*NEIC **20** 16:47:19.6±1.1, 34°.69S±0°.07×179°.0E±0°.1, h205km±9km, mb4.4/19, Error ellipse: s-maj=16.6km s-min=6.7km az=122.0*

ISC 20 16:47:18.4±0.7, 34°.62S±0°.06×179°.3E±0°.1, h200km, n66, σ2s00/71, mb4.4/15, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.04**	**195**		Pn	16 48 02.3	-6.0
MXZ	**Matakaoa Point**	**3.04**	**195**	P	Pn	16 48 01.8	-6.5
MXZ				S	**Sn**	**16 48 49.8**	**+2.2**
WMGZ	**Waiomatatini S**	**3.26**	**192**	P	Pn	16 48 05.8	-5.2
WMGZ				S	**Sn**	**16 48 55.7**	**+3.2**
HAZ	**Te Kaha**	**3.35**	**201**	P	**Pn**	**16 48 10.5**	**-1.6**
HAZ				S	**Sn**	**16 48 57.4**	**+3.1**
PKGZ	**Pakihiroa**	**3.40**	**196**	P	**Pn**	**16 48 09.1**	**-3.6**
PKGZ				S	**Sn**	**16 48 58.4**	**+2.9**
PUZ	**Puketiti**	**3.54**	**193**	S	**Sn**	**16 48 59.7**	**+1.2**
RUGZ	**Raukumara Rang**	**3.57**	**201**	P	**Pn**	**16 48 13.6**	**-1.4**
KUZ	**Kuaotunu**	**3.58**	**233**	P	**Pn**	**16 48 18.6**	**+3.8**
TWGZ	**Tauwhareparae**	**3.70**	**196**	P	**Pn**	**16 48 13.8**	**-2.5**
TWGZ				S	**Sn**	**16 49 05.9**	**+3.9**
CNGZ	**Carnagh Statio**	**3.95**	**192**	P	**Pn**	**16 48 15.4**	**-4.0**
MWZ	**Matawai**	**3.96**	**200**	P	**Pn**	**16 48 17.1**	**-2.5**
TKGZ	**Te Karaka**	**3.98**	**196**	P	**Pn**	**16 48 18.0**	**-1.7**
TKGZ				S	**Sn**	**16 49 09.8**	**+1.7**
URZ	**Urewera**	**4.02**	**205**	P	**Pn**	**16 48 20.3**	**0.0**
	13nm,0.4s,baz=0.9,slow=4.9,SNR=14						
URZ				S	**Sn**	**16 49 08.5**	**-0.7**
	27nm,0.5s,baz=204,slow=20,SNR=2.9						
URZ	**Urewera**	**4.02**	**205**	Pn	**Pn**	**16 48 20.0**	**-0.3**
URZ	**Urewera**	**4.02**	**205**	P	**Pn**	**16 48 20.2**	**0.0**
URZ				S	**Sn**	**16 49 10.4**	**+1.3**
WCZ	**Waipu Caves**	**4.23**	**251**	P	Pn	16 48 27.3	+4.3
RIGZ	**Rimuhau**	**4.25**	**196**	P	**Pn**	**16 48 19.5**	**-3.8**
RIGZ				S	**Sn**	**16 49 15.1**	**+0.8**
BKZ	**Black Stump Fm**	**5.05**	**205**		**Pn**	**16 48 32.5**	**-0.8**
BFZ	**Birch Farm**	**6.50**	**201**		**Pn**	**16 48 50.0**	**-2.0**
MSWZ	**Moikau Station**	**7.49**	**204**	Pn	**Pn**	**16 49 02.8**	**-2.0**
KHZ	**Kahutara**	**8.98**	**208**	Pn	**Pn**	**16 49 21.5**	**-2.7**
RPZ	**Rata Peaks**	**11.09**	**213**	P	**Pn**	**16 49 46.9**	**-4.6**
	2.8nm,0.6s,baz=310,slow=16,SNR=1.1						
RPZ				S	Sn	16 51 42.8	-12
	12nm,0.9s,baz=348,slow=20,SNR=2.2						
ODZ	**Otahua Downs**	**12.33**	**210**	Pn	**Pn**	**16 50 04.1**	**-3.1**
DZM	**Mont Dzumac**	**16.82**	**315**	P	**Pn**	**16 51 03.5**	**+0.8**
	16nm,0.6s,baz=171,slow=9.5,SNR=30						
DZM	**Mont Dzumac**	**16.82**	**315**	Pn	**Pn**	**16 51 03.0**	**+0.4**
MSVF	**Nonsavu**	**16.86**	**356**	P	**P**	**16 51 03.2**	**+1.4**
	4.5nm,0.6s,baz=223,slow=12,SNR=13						
MSVF	**Nonsavu**	**16.86**	**356**		**P**	**16 51 03.1**	**+1.3**
MSVF				IAmb	IAmb	16 51 10.3	
	comp=Z,12nm,0.8s						
KOUNC	**Koumac, New Ca**	**19.27**	**313**	P	**P**	**16 51 29.3**	**+1.4**
EIDS	**Eidsvold**	**26.02**	**283**	P	**P**	**16 52 32.8**	**-0.3**
EIDS				IAmb	IAmb	16 52 34.0	
	comp=Z,4.8nm,0.8s						
CTA	**Charters Tower**	**32.53**	**288**	P	**P**	**16 53 30.7**	**+0.1**
	comp=Z,9.1nm,0.8s,baz=118,slow=10,SNR=16						
	comp=Z,9.1nm,0.8s						
CTAO	**Charters Tower**	**32.53**	**288**	P	**P**	**16 53 30.6**	**+0.1**
CTAO				IAmb	IAmb	16 53 31.8	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**38.50**	**293**	P	**P**	**16 54 21.0**	**-0.5**
COEN				IAmb	IAmb	16 54 22.2	
	comp=Z,9.7nm,0.8s						
PMG	**Port Moresby**	**38.63**	**303**	P	**P**	**16 54 21.8**	**-0.7**
PMG				IAmb	IAmb	16 54 43.5	
	comp=Z,14nm,1.1s						
KRVT	**Keravat (AS076**	**39.34**	**314**	P	**P**	**16 54 27.9**	**-0.5**
	comp=Z,38nm,0.9s,baz=126,slow=4.9,SNR=6.6						
	comp=Z,38nm,0.9s						
AS31	**Alice Springs**	**40.79**	**273**	P	**P**	**16 54 38.9**	**-1.4**
ASAR	**Alice Springs**	**40.79**	**273**	P	**P**	**16 54 39.1**	**-1.2**
	comp=Z,9.2nm,0.6s,baz=115,slow=7.9,SNR=57						
	comp=Z,9.2nm,0.6s						
ASAR	**Alice Springs**	**40.79**	**273**	P	**P**	**16 54 38.4**	**-1.9**
WR0	**Warramunga Arr**	**42.00**	**278**	P	**P**	**16 54 48.8**	**-1.4**
WB2	**Warramunga Arr**	**42.16**	**278**	P	**P**	**16 54 49.9**	**-1.5**
WB2				IAmb	IAmb	16 54 54.0	
	comp=Z,9.9nm,0.6s						
WRA	**Warramunga Arr**	**42.17**	**278**	P	**P**	**16 54 50.0**	**-1.6**
	comp=Z,7.0nm,0.6s,baz=121,slow=7.4,SNR=34						
	comp=Z,7.0nm,0.6s						
WRA	**Warramunga Arr**	**42.17**	**278**	P	**P**	**16 54 50.0**	**-1.6**
WB0	**Warramunga Arr**	**42.22**	**279**	P	**P**	**16 54 50.4**	**-1.5**
WB0				IAmb	IAmb	16 54 54.1	
	comp=Z,9.4nm,0.8s						
FORT	**Forrest**	**42.89**	**260**	P	**P**	**16 54 55.3**	**-1.8**
KNRA	**Kununurra**	**48.91**	**280**	P	**P**	**16 55 42.5**	**-1.9**
KNRA				IAmb	IAmb	16 56 06.5	
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.22**	**275**	P	**P**	**16 55 52.8**	**-1.4**
MBWA	**Marble Bar**	**53.61**	**268**	P	**P**	**16 56 17.3**	**-1.9**
FAKI	**Fak Fak**	**53.83**	**295**	P	**P**	**16 56 19.4**	**-1.5**
FAKI				IAmb	IAmb	16 56 56.1	
	comp=Z,10nm,1.0s						
QSPA	**South Pole Qui**	**55.50**	**180**	P	**P**	**16 56 35.5**	**+3.2**
	comp=Z,6.6nm,1.0s,baz=41,slow=0.7,SNR=18						
QSPA	**South Pole Qui**	**55.50**	**180**	P	**P**	**16 56 34.9**	**+2.6**
QSPA				IAmb	IAmb	16 56 37.5	
	comp=Z,9.5nm,1.0s						
MAW	**Mawson**	**67.55**	**202**	P	**P**	**16 57 53.9**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=128,slow=9.2,SNR=4.0						
	comp=Z,1.6nm,0.8s						
TROLL	**Troll, Antarti**	**73.64**	**181**	P	**P**	**16 58 30.5**	**+0.9**
SNAA	**Sanae**	**73.99**	**179**	P	**P**	**16 58 32.5**	**+1.0**
SNAA	**Sanae**	**73.99**	**179**	P	**P**	**16 58 32.2**	**+0.8**
SNAA				IAmb	IAmb	16 58 33.5	
	comp=Z,4.8nm,1.0s						
VNA3	**Neumayer Olymp**	**74.24**	**177**	P	**P**	**16 58 34.1**	**+1.3**
VNA2	**Neumayer--Watz**	**74.64**	**178**	P	**P**	**16

PGP	**Puerto Galera**	**0.71**	**146**⇓	*eP*	**Pn**	**16 54 33.0**	**-0.7**
PGP				*i* S	**Sn**	**16 54 52.6**	**-0.1**
LQP	**Lukban**	**0.97**	**89**⇓	*eP*	**Pn**	**16 54 35.9**	**+0.4**
LQP				*i* S	**Sn**	**16 54 56.5**	**+0.5**
PCPH	**Palayan**	**1.55**	**20**⇑	*eP*	**Pn**	**16 54 40.0**	**-0.5**
GQP	**Guinayangan**	**1.86**	**96**⇓	*eP*	**Pn**	**16 54 44.1**	**+0.4**
GQP				*eS*	Sn	16 55 21.6	+11
BALP	**Baler**	**1.92**	**31**⇑	*eP*	**Pn**	**16 54 44.7**	**+0.4**
BUSP	**Coron**	**2.11**	**189**⇓	*eP*	**Pn**	**16 54 47.0**	**+0.6**
BUSP				*eS*	**Sn**	**16 55 15.6**	**0.0**
BOLP	**Bolinao**	**2.35**	**345**⇑	*eP*	**Pn**	**16 54 49.2**	**0.0**
BOLP				*eS*	**Sn**	**16 55 20.0**	**-0.7**
WRA	**Warramunga Arr**	**36.45**	**158**	P	**P**	**17 00 56.1**	**-1.4**
	0.7nm,0.5s,baz=336,slow=9.4,SNR=12 0.7nm,0.5s						
ASAR	**Alice Springs**	**39.74**	**161**	P	**P**	**17 01 24.2**	**-0.8**
	0.9nm,0.4s,baz=335,slow=7.3,SNR=47 0.9nm,0.4s						
MKAR	**Makanchi Array**	**45.62**	**323**	P	**P**	**17 02 13.4**	**+1.2**
	0.4nm,0.8s,baz=112,slow=8.7,SNR=2.0 0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**48.64**	**333**	P	**P**	**17 02 35.4**	**+0.1**
	0.7nm,0.3s,baz=123,slow=8.2,SNR=4.5 0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**49.78**	**326**	P	**P**	**17 02 45.2**	**+1.2**
	0.7nm,0.7s,baz=134,slow=7.8,SNR=10 0.7nm,0.7s						

*IDC **20** 17:06:29.7±1.7,0.°92S×120.°83E, h0km, mb3.3/3, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=52.9km s-min=25.5km az=72.0*
*DJA **20** 17:06:31.3±0.7, 1.°5S±2.°×12.°0E±.°, h10km±5km, M3.8/13, mb4.1/4, MLv3.7/13*
ISC 20 17:06:31.1±1.0, 0.°89S±0.°04×120.°26E±0.°05, h10km, n16, σ1§54/22, mb3.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MPSI	**Mapaga**	**1.27**	**344**	P		**Pn**	**Pn**	**17 06 53.6**	**-1.4**
MPSI				S		**Sn**	**Sn**	**17 07 12.2**	**0.0**
APSI	**Ampana**	**1.39**	**91**	P		**Pn**	**Pn**	**17 06 55.7**	**-0.9**
APSI				S		**Sn**	**Sn**	**17 07 15.4**	**+0.3**
MRSI	**Marisa**	**2.17**	**51**	P		**Pn**	**Pn**	**17 07 07.7**	**+0.4**
MRSI				S		**Sn**	**Sn**	**17 07 34.9**	**+0.7**
TTSI	**Tana Toraja**	**2.18**	**192**	P		**Pn**	**Pn**	**17 07 07.4**	**-0.1**
TTSI				S		**Sn**	**Sn**	**17 07 35.5**	**+0.9**
LUWI	**Luwuk**	**2.52**	**93**	P		**Pn**	**Pn**	**17 07 10.1**	**-2.0**
LUWI				S		**Sn**	**Sn**	**17 07 44.3**	**+1.4**
SPSI	**Sidrap Palu**	**3.09**	**189**	P		**Pn**	**Pn**	**17 07 19.5**	**-0.5**
GTOI	**Gorontalo**	**3.15**	**61**	P		**Pn**	**Pn**	**17 07 20.4**	**-0.4**
KMSI	**Cibinong**	**4.00**	**69**	P		**Pn**	**Pn**	**17 07 34.0**	**+1.5**
KAPI	**Kappang**	**4.12**	**187**	Pn		**Pn**	**Pn**	**17 07 34.5**	**+0.2**
	4.4nm,0.3s,baz=349,slow=7.3,SNR=12								
KAPI				Sn		**Sn**	**Sn**	**17 08 23.2**	**+0.6**
	0.6nm,0.3s,baz=296,slow=1.3,SNR=3.7 15nm,0.4s								
BKSI	**Bulukumba**	**4.40**	**182**	P		**Pn**	**Pn**	**17 07 38.6**	**+0.6**
BSSI	**Bau Bau, Buton**	**5.22**	**177**	P		**Pn**	**Pn**	**17 07 51.1**	**+1.8**
	0.1nm16nm,0.5s								
LBMI	**Labuha**	**7.25**	**88**	P		**Pn**	**Pn**	**17 08 17.5**	**+0.3**
	0.1nm6.1nm,0.7s								
TNTI	**Ternate**	**7.30**	**77**	P		**Pn**	**Pn**	**17 08 17.7**	**-0.2**
	0.1nm24nm,1.0s								
WRA	**Warramunga Arr**	**23.42**	**145**	P		**P**	**P**	**17 11 36.2**	**-4.4**
	0.8nm,0.8s,baz=327,slow=10,SNR=7.0 0.8nm,0.8s								
ASAR	**Alice Springs**	**26.22**	**151**	P		**P**	**P**	**17 12 04.7**	**-1.8**
	0.6nm,0.8s,baz=347,slow=15,SNR=13 0.6nm,0.8s								
MKAR	**Makanchi Array**	**57.97**	**330**	P		**P**	**P**	**17 16 26.3**	**+2.4**
	0.3nm,0.9s,baz=140,slow=7.4,SNR=2.2 0.3nm,0.9s								

IDC 20 17:14:56.5±4.0, 30.°29N×141.°20E, h0km, mb3.4/3, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=163.7km s-min=26.2km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MJAR	**Matsushiro Arr**	**6.72**	**339**	Pn		Pn	Pn	17 16 35.5	-1.0
	0.1nm,0.3s,baz=162,slow=10,SNR=6.2 1.4nm,0.5s								
MKAR	**Makanchi Array**	**47.82**	**307**	P		P	P	17 23 36.1	+0.3
	0.3nm,0.6s,baz=92,slow=7.6,SNR=3.7 0.3nm,0.6s								
WRA	**Warramunga Arr**	**50.37**	**188**	P		P	P	17 23 55.3	-0.2
	0.4nm,0.5s,baz=6.1,slow=7.6,SNR=12 0.4nm,0.5s								
ASAR	**Alice Springs**	**54.10**	**188**	P		P	P	17 24 23.1	-0.1
	0.1nm,0.4s,baz=1.9,slow=5.6,SNR=5.8 0.1nm,0.4s								

IDC 20 17:26:01.0±0.8, 4.°98S×151.°07E, h168km±12km, mb3.0/2, mbtmp3.8/3, Error ellipse: s-maj=58.1km s-min=15.2km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KRVT	**Keravat (AS076**	**1.16**	**55**	P		Pn	Pn	17 26 28.9	+0.1
	120nm,0.3s,baz=244,slow=0.6,SNR=108								
KRVT				S		Sn	Sn	17 26 50.2	0.0
	100nm,0.3s,baz=36,slow=23,SNR=7.6								
PMG	**Port Moresby**	**5.86**	**221**	P		Pn	Pn	17 27 26.9	+0.9
	51nm,0.5s,baz=45,slow=5.9,SNR=32								
PMG				S		Sn	Sn	17 28 33.3	+0.4
	29nm,0.6s,baz=17,slow=23,SNR=6.1								
WRA	**Warramunga Arr**	**22.06**	**226**	P		P	P	17 30 42.0	-0.5
	0.4nm,0.3s,baz=54,slow=9.8,SNR=17 0.4nm,0.3s								
ASAR	**Alice Springs**	**24.88**	**220**	P		P	P	17 31 08.4	0.0
	0.8nm,0.7s,baz=55,slow=9.1,SNR=40 0.8nm,0.7s								
TORD	**Torodi Ar. Bea**	**148.72**	**287**	PKPbc		PKPbc	PKPbc	17 45 29.3	-0.2
	0.3nm,0.6s,baz=70,slow=3.7,SNR=2.5								

MAN 20 17:38:10.9, 9.°63N×122.°49E, h11km, mb4.1, ML2.9, MS2.6, 9C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CNOP	**Candoni, Negro**	**0.25**	**38**⇑	*iP*		Pg	Pg	17 38 16.6	+0.7
CNOP				*eS*		Sg	Sg	17 38 21.1	+1.7
SNPH	**Sibulan**	**0.79**	**111**⇓	*iP*		Pg	Pg	17 38 26.0	-0.2
SNPH				*i* S		Sb	Sb	17 38 38.4	+0.9
GUIM	**Jordan**	**0.99**	**6**⇑	*eP*		Pg	Pg	17 38 27.6	-2.4
GUIM				*eS*		Sg	Sg	17 38 41.8	-1.2
JAP	**San Jose, Anti**	**1.23**	**334**⇑	*eP*		Pn	Pn	17 38 32.1	-1.9
LSIP	**Lazi, Siquijor**	**1.23**	**114**⇑	*eP*		Pn	Pn	17 38 32.8	-1.2
LSIP				*eS*		Sn	Sn	17 38 51.0	+0.3
DCPH	**Dipolog City**	**1.35**	**141**⇑	*eP*		Pn	Pn	17 38 35.5	-0.1
DCPH				*eS*		Sb	Sb	17 38 53.1	-0.3
TBP	**Tagbilaran**	**1.36**	**87**⇑	*eP*		Pn	Pn	17 38 35.9	+0.1
TBP				*eS*		Sb	Sb	17 38 53.3	-0.4
GHBP	**Garcia Hernand**	**1.81**	**90**⇑	*eP*		Pn	Pn	17 38 42.3	+0.3
GHBP				*eS*		Sg	Sg	17 39 09.2	+0.2
TABP	**Talibon, Bohol**	**1.87**	**76**⇑	*eP*		Pn	Pn	17 38 42.4	-0.5
TABP				*i* S		Sg	Sg	17 39 39.1	+28
RCP	**Roxas**	**1.93**	**8**⇑	*eP*		Pn	Pn	17 38 44.2	+0.5
PAGZ	**Pagadian**	**1.98**	**153**⇓	*eP*		Pn	Pn	17 38 44.6	+0.3
PAGZ				*eS*		Sg	Sg	17 39 13.6	-1.0
MSLP	**Maasin**	**2.39**	**78**⇓	*eP*		Pn	Pn	17 38 51.2	+1.2

*IDC **20** 17:43:47.2±3.4, 30.°24N×140.°45E, h0km, mb3.3/2, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=255.1km s-min=21.7km az=84.0*
*JMA **20** 17:43:49.0±0.4, 31.°N±2.°×14.°2E±.°, h55km, MV4.1/19, NEAR TORISHIMA IS*
ISC 20 17:43:48.8±1.6, 30.°72N±0.°09×142.°2E±0.°2, h50km, n11, σ1§87/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JHJ	**Hachijo jima 2**	**3.17**	**320**	Pn		**Pn**	**Pn**	**17 44 35.8**	**-0.4**
	6.0nm,0.3s,baz=53,slow=20,SNR=0.7								
JHJ				Sn		**Sn**	**Sn**	**17 45 11.3**	**-1.4**
	7.3nm,0.3s,baz=241,slow=19,SNR=1.8 29nm,0.3s								
BSO1	**Boso 1**	**4.06**	**345**	*eS*		**Sn**	**Sn**	**17 45 35.6**	**+1.7**
BSO3	**Boso 3**	**4.32**	**341**	*eP*		**Pn**	**Pn**	**17 44 52.6**	**+0.9**
BSO4	**Boso 4**	**4.54**	**340**	*eP*		**Pn**	**Pn**	**17 44 56.3**	**+1.4**
JHU	**Hanno**	**5.68**	**335**	*eP*		**Pn**	**Pn**	**17 45 12.0**	**+1.4**
JHU				*eS*		**Sn**	**Sn**	**17 46 16.4**	**+1.9**
JYT	**Yasato**	**5.75**	**343**	*eS*		**Sn**	**Sn**	**17 46 17.4**	**+1.2**
JHO	**Hitachi**	**6.03**	**347**	*eS*		**Sn**	**Sn**	**17 46 21.3**	**-1.9**
MJAR	**Matsushiro Arr**	**6.70**	**331**	Pn		**Pn**	**Pn**	**17 45 24.0**	**-0.6**
	0.1nm,0.3s,baz=162,slow=11,SNR=4.2 1.3nm,0.6s								
JMK	**Ichinoseki**	**8.25**	**355**	*eS*		**Sn**	**Sn**	**17 47 13.7**	**-4.0**
WRA	**Warramunga Arr**	**50.94**	**190**	P		**P**	**P**	**17 52 45.0**	**-0.3**
	0.6nm,0.8s,baz=6.4,slow=7.7,SNR=7.3 0.6nm,0.8s								
ASAR	**Alice Springs**	**54.66**	**189**	P		**P**	**P**	**17 53 13.0**	**+0.2**
	0.1nm,0.4s,baz=1.0,slow=5.5,SNR=1.4 0.1nm,0.4s								

*NEIC **20** 17:53:24.5±2.3, 5.°44S±0.°07×147.°35E±0.°08, h196km±11km, mb4.1/13, Error ellipse: s-maj=14.3km s-min=6.8km az=130.0*
*IDC **20** 17:53:25.5±2.0, 5.°42S×147.°38E, h206km±22km, mb3.3/6, mbtmp3.9/9, Error ellipse: s-maj=32.8km s-min=16.9km az=119.0*
ISC 20 17:53:24.7±0.7, 5.°45S±0.°07×147.°41E±0.°08, h200km, n39, σ1§85/41, mb3.6/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MANU	**Manus Island**	**3.38**	**359**			**Pn**	**Pn**	**17 54 19.0**	**+0.1**
PMG	**Port Moresby**	**3.94**	**184**	P		**Pn**	**Pn**	**17 54 25.8**	**0.0**
	64nm,0.3s,baz=352,slow=5.1,SNR=124								
PMG				S		**Sn**	**Sn**	**17 55 10.3**	**-3.5**
	92nm,0.5s,baz=13,slow=3.8,SNR=4.7								
PMG	**Port Moresby**	**3.94**	**184**				**Pn**	**17 54 25.8**	**0.0**
PMG						Sn	**Sn**	**17 55 11.1**	**-2.7**
PMG	**Port Moresby**	**3.94**	**184**	P		**Pn**	**Pn**	**17 54 25.7**	**0.0**
PMG	**Port Moresby**	**3.94**	**184**	P		**Pn**	**Pn**	**17 54 25.6**	**-0.1**
KRVT	**Keravat (AS076**	**4.74**	**76**	P		**Pn**	**Pn**	**17 54 38.2**	**+2.4**
	34nm,0.6s,baz=202,slow=6.0,SNR=6.3								
RABL	**Rabaul**	**4.90**	**75**				**Pn**	**17 54 38.3**	**+0.4**
COEN	**Coen**	**9.43**	**206**	Pn			**Pn**	**17 55 36.7**	**+0.1**
COEN	**Coen**	**9.43**	**206**	P			**Pn**	**17 55 38.9**	**+2.3**
MTSU	**Mount Surprise**	**12.97**	**193**	P			**P**	**17 56 27.5**	**+2.4**
HNR	**Honiara**	**13.05**	**108**				**P**	**17 56 25.1**	**-1.0**
CTA	**Charters Tower**	**14.60**	**184**	P			**P**	**17 56 43.4**	**+0.2**
	5.7nm,0.8s,baz=1.7,slow=12,SNR=14								
CTA	**Charters Tower**	**14.60**	**184**	P			**P**	**17 56 46.3**	**+3.1**
CTAO	**Charters Tower**	**14.60**	**184**				**P**	**17 56 43.5**	**+0.3**
CTAO	**Charters Tower**	**14.60**	**184**	P			**P**	**17 56 46.3**	**+3.1**
KDU	**Kakadu**	**16.40**	**243**	P			**Pn**	**17 57 04.1**	**+0.2**
MTN	**Manton Dam**	**17.66**	**244**	P			**P**	**17 57 15.4**	**-1.5**
MTN				IAmb		IAmb		17 57 58.9	
	comp=Z,24nm,1.4s								
MTN	**Manton Dam**	**17.66**	**244**	P			**Pn**	**17 57 18.8**	**0.0**
WB0	**Warramunga Arr**	**19.05**	**221**	P			**P**	**17 57 28.7**	**-3.3**
WB0				IAmb		IAmb		17 58 09.0	
	comp=Z,6.8nm,1.2s								
WR0	**Warramunga Arr**	**19.10**	**220**	P			**P**	**17 57 28.9**	**-3.6**
WR0				IAmb		IAmb		17 57 33.7	
	comp=Z,2.6nm,0.6s								
WB2	**Warramunga Arr**	**19.21**	**220**	P			**P**	**17 57 30.4**	**-3.3**
WB2				IAmb		IAmb		17 57 34.9	
	comp=Z,5.8nm,1.1s								
WRA	**Warramunga Arr**	**19.21**	**220**	P			**P**	**17 57 30.8**	**-3.0**
	comp=Z,1.6nm,0.5s,baz=50,slow=11,SNR=17								
WRA	**Warramunga Arr**	**19.21**	**220**	P			**P**	**17 57 29.4**	**-4.4**
KNRA	**Kununurra**	**20.94**	**240**	P			**P**	**17 57 53.0**	**+0.9**
AS31	**Alice Springs**	**22.30**	**214**	P			**P**	**17 58 05.2**	**-0.6**
ASAR	**Alice Springs**	**22.30**	**214**	P			**P**	**17 58 06.5**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=42,slow=10,SNR=33 comp=Z,1.1nm,0.6s								
ASAR	**Alice Springs**	**22.30**	**214**	P			**P**	**17 58 05.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**24.70**	**238**	P			**P**	**17 58 28.1**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=56,slow=10,SNR=10 comp=Z,1.8nm,0.6s								
FITZ	**Fitzroy Crossi**	**24.70**	**238**	P			**P**	**17 58 28.2**	**+0.6**
FITZ				IAmb		IAmb		17 58 53.4	
	comp=Z,4.2nm,1.1s								
JNU	**Nakatsue**	**41.44**	**339**	P			**P**	**18 00 50.5**	**-1.3**
BKZ	**Black Stump FM**	**42.64**	**146**	P			**P**	**18 01 01.6**	**0.0**
VNDA	**Vanda**	**72.44**	**177**	P			**P**	**18 04 29.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=332,slow=7.1,SNR=5.0 comp=Z,0.6nm,0.8s								
VNDA	**Vanda**	**72.44**	**177**	P			**P**	**18 04 29.0**	**+0.3**
MKAR	**Makanchi Array**	**77.33**	**320**	P			**P**	**18 04 57.5**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=100,slow=9.6,SNR=6.3 comp=Z,0.3nm,0.4s								
MKAR	**Makanchi Array**	**77.33**	**320**	P			**P**	**18 04 55.5**	**-1.8**
MAKZ	**Makanchi**	**77.54**	**320**	P			**P**	**18 04 58.0**	**-0.4**
MAKZ				IAmb		IAmb		18 04 60.0	
	comp=Z,4.6nm,1.5s								
ZALV	**Zalesovo Beam**	**78.76**	**328**	P			**P**	**18 05 04.7**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=140,slow=5.8,SNR=3.7 comp=Z,0.7nm,0.4s								
ILAR	**Eielson Array**	**84.82**	**23**	P			**P**	**18 05 35.6**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=218,slow=5.7,SNR=2.6 comp=Z,0.5nm,0.6s								
TORD	**Torodi Ar. Bea**	**145.34**	**285**	PKPbc			**PKPdf**	**18 12 38.9**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=58,slow=3.5,SNR=9.1								

*IDC **20** 17:55:36.1±1.6, 3.°95S×128.°10E, h0km, mb3.7/2, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=49.1km s-min=27.1km az=77.0*
*DJA **20** 17:55:39.7±0.4, 4.°5S±3.°×12.°8E±.°, h12km±2km, M3.9/16, mb4.2/7, MLv3.8/16*
ISC 20 17:55:37.9±1.0, 3.°94S±0.°07×128.°30E±0.°05, h10km, n19, σ1§42/23, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AAI	**Ambon**	**0.27**	**338**	P		**Pg**	**Pg**	**17 55 45.8**	**+2.4**
AAI				S		**Sg**	**Sg**	**17 55 46.1**	**-1.0**
MSAI	**Masohi**	**0.86**	**47**	P		**Pg**	**Pg**	**17 55 54.9**	**+0.3**
MSAI				S		**Sg**	**Sg**	**17 56 05.8**	**-0.1**
NLAI	**Namlea**	**1.38**	**300**	P		**Pn**	**Pn**	**17 56 01.9**	**-1.4**
NLAI				S		**Sb**	**Sb**	**17 56 21.0**	**-0.6**
BNDI	**Bandanaira**	**1.71**	**110**	P		**Pn**	**Pn**	**17 56 09.2**	**+1.5**
SANI	**Sanana**	**2.97**	**309**	P		**Pn**	**Pn**	**17 56 25.5**	**+0.3**
SANI				S		**Sn**	**Sn**	**17 56 59.8**	**-1.1**
LBMI	**Labuha**	**3.37**	**346**	P		**Pn**	**Pn**	**17 56 32.2**	**+1.5**
FAKI	**Fak Fak**	**4.08**	**76**	IAmb		IAmb	IAmb	17 57 14.8	
	comp=Z,16nm,1.0s								
FAKI	**Fak Fak**	**4.08**	**76**	P		**Pn**	**Pn**	**17 56 41.9**	**+1.5**
FAKI	**Fak Fak**	**4.08**	**76**	P		**Pn**	**Pn**	**17 56 43.3**	**+2.9**
FAKI	**Fak Fak**	**4.08**	**76**	Pn		**Pn**	**Pn**	**17 56 42.2**	**+1.8**
SIJI	**Sorong**	**4.26**	**44**	Pn		**Pn**	**Pn**	**17 56 44.0**	**+1.1**
	comp=Z,7.7nm,0.3s,baz=2.5,slow=24,SNR=139								
SIJI				Sn		**Sn**	**Sn**	**17 57 30.3**	**-2.3**
	comp=Z,3.6nm,0.3s,baz=271,slow=23,SNR=7.6 comp=Z,24nm,0.2s								
TNTI	**Ternate**	**4.77**	**349**	P		**Pn**	**Pn**	**17 56 49.4**	**-0.5**
LUWI	**Luwuk**	**6.22**	**297**	P		**Pn**	**Pn**	**17 57 10.6**	**+0.7**
	comp=Z,0.1nmcomp=Z,32nm,0.9s								
APSI	**Ampana**	**7.29**	**294**	P			**Pn**	**17 57 25.7**	**+1.1**
	comp=Z,0.1nmcomp=Z,16nm,1.0s								
MRSI	**Marisa**	**7.72**	**305**	P			**Pn**	**17 57 31.1**	**+0.7**
	comp=Z,0.1nmcomp=Z,12nm,1.0s								
SGSI	**Sangihe**	**8.06**	**340**	P			**Pn**	**17 57 35.0**	**-0.2**
WRA	**Warramunga Arr**	**16.96**	**160**	P			**Pn**	**17 59 34.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=330,slow=13,SNR=4.9 comp=Z,0.5nm,0.7s								
ASAR	**Alice Springs**	**20.35**	**165**	P			**P**	**18 00 15.3**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=340,slow=10,SNR=27 comp=Z,2.8nm,0.8s								
MKAR	**Makanchi Array**	**64.75**	**327**	P			**P**	**18 06 15.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=116,slow=6.7,SNR=6.3 comp=Z,0.5nm,0.5s								

WEL 20 17:56:10.4±0.9, 37.°5S±4.°×177.°9E±.°, h15km±5km, M3.6/27, ML3.9/31, MLv3.6/27, Error ellipse: s-maj=0.0km s-min=0.0km az=99.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MXZ	**Matakaoa Point**	**0.93**	**235**	P		Pb	Pb	17 56 26.7	-1.6
MXZ				S		Sb	Sb	17 56 37.9	-2.6
WMGZ	**Waiomatatini S**	**1.04**	**220**	P		Pg	Pg	17 56 30.9	+0.3
WMGZ				S		Sn	Sn	17 56 46.2	+1.3
PKGZ	**Pakihiroa**	**1.28**	**227**	P		Pn	Pn	17 56 33.0	-0.8
PKGZ				S		Sn	Sn	17 56 51.1	+0.3
PUZ	**Puketiti**	**1.32**	**217**	P		Pb	Pb	17 56 35.1	+0.2
PUZ				S		Sg	Sg	17 56 52.8	-0.2
HAZ	**Te Kaha**	**1.39**	**238**	P		Pn	Pn	17 56 33.4	-1.8
HAZ				S		Sg	Sg	17 56 55.8	+0.6
TWGZ	**Tauwhareparae**	**1.54**	**221**	P		Pn	Pn	17 56 38.0	+0.6
TWGZ				S		Sb	Sb	17 56 58.8	+0.8
RUGZ	**Raukumara Rang**	**1.57**	**233**	P		Pn	Pn	17 56 37.7	-0.3
RUGZ				S		Sb	Sb	17 56 59.7	+0.6
CNGZ	**Carnagh Statio**	**1.68**	**210**	P		Pb	Pb	17 56 40.3	-0.8
WIZ	**White Island**	**1.73**	**253**	P		Pn	Pn	17 56 38.9	-1.0
WIZ				S		Sn	Sn	17 57 02.6	+0.8
TKGZ	**Te Karaka**	**1.80**	**218**	P		Pn	Pn	17 56 41.3	+0.3
TKGZ				S		Sn	Sn	17 57 04.3	+0.6
MWZ	**Matawai**	**1.90**	**226**	P		Pn	Pn	17 56 42.4	0.0
MWZ				S		Sn	Sn	17 57 05.8	-0.2
RIGZ	**Rimuhau**	**2.06**	**215**	P		Pn	Pn	17 56 44.3	-0.3
RIGZ				S		Sn	Sn	17 57 10.9	+0.9
URZ	**Urewera**	**2.11**	**234**	P		Pn	Pn	17 56 45.3	+0.1
URZ				S		Sn	Sn	17 57 11.0	-0.2
PRGZ	**Paritu Road**	**2.19**	**210**	P		Pn	Pn	17 56 46.1	-0.2
PRGZ				S		Sn	Sn	17 57 12.7	-0.4
MARZ	**Manawahe**	**2.27**	**244**	P		Pn	Pn	17 56 47.1	-0.3
EDRZ	**Edgecumbe**	**2.28**	**241**	P		Pn	Pn	17 56 48.1	+0.5
EDRZ				S		Sb	Sb	17 57 17.5	-1.9
OPRZ	**Ohinepanea**	**2.31**	**248**	P		Pn	Pn	17 56 47.3	-0.6
SNGZ	**Shannon Statio**	**2.32**	**220**	P		Pn	Pn	17 56 47.8	-0.4
SNGZ				S		Sn	Sn	17 57 16.8	+0.2
KNZ	**Kokohu**	**2.36**	**212**	P		Pn	Pn	17 56 47.8	-0.8
KNZ				S		Sn	Sn	17 57 15.2	-2.1
MHGZ	**Mahia Peninsul**	**2.38**	**206**	P		Pn	Pn	17 56 48.5	-0.5
RTZ	**Ruatahuna**	**2.41**	**228**	P		Pn	Pn	17 56 49.5	+0.1
RTZ				S		Sn	Sn	17 57 18.6	0.0
MUGZ	**Murupara**	**2.45**	**233**	P		Pn	Pn	17 56 49.9	0.0
TGRZ	**Tauranga**	**2.49**	**253**	P		Pn	Pn	17 56 50.2	-0.3
TARZ	**Mount Tarawera**	**2.50**	**240**	P		Pn	Pn	17 56 51.2	+0.5
OMRZ	**Omania**	**2.54**	**244**	P		Pn	Pn	17 56 51.7	+0.5
RRRZ	**Republican Roa**	**2.55**	**238**	P		Pn	Pn	17 56 51.7	+0.5
RAHZ	**Arahi**	**2.56**	**222**	P		Pn	Pn	17 56 51.8	+0.4
KARZ	**Kaharoa**	**2.60**	**247**	P		Pn	Pn	17 56 52.2	+0.2
WHHZ	**Waihua**	**2.60**	**217**	P		Pn	Pn	17 56 52.5	+0.5
HLRZ	**Highlands Stat**	**2.62**	**241**	P		Pn	Pn	17 56 49.0	-3.2
MTHZ	**Maungataniwha**	**2.65**	**226**	P		Pn	Pn	17 56 52.6	0.0
PRRZ	**Plateau Road**	**2.71**	**236**	P		Pn	Pn	17 56 53.6	+0.2
ALRZ	**Allen Road**	**2.78**	**236**	P		Pn	Pn	17 56 54.4	-0.1
NMHZ	**Naumai**	**2.84**	**222**	P		Pn	Pn	17 56 55.2	-0.1
KUZ	**Kuaotunu**	**2.85**	**275**	P		Pn	Pn	17 56 53.5	-2.0
ARHZ	**Aropaoanui**	**2.86**	**218**	P		Pn	Pn	17 56 55.1	-0.5
MRHZ	**Matea Rd**	**2.89**	**230**	P		Pn	Pn	17 56 56.1	+0.2
BKZ	**Black Stump Fm**	**3.06**	**225**	P		Pn	Pn	17 56 57.6	-0.7
TOZ	**Tahuroa Road**	**3.08**	**256**	P		Pn	Pn	17 56 57.0	-1.6
MCHZ	**McNeill Hill**	**3.15**	**219**	P		Pn	Pn	17 56 58.9	-0.7
GRZ	**Great Barrier**	**3.16**	**283**	P		Pn	Pn	17 56 59.6	0.0
KWHZ	**Kaweka Forest**	**3.28**	**222**	P		Pn	Pn	17 57 00.2	-1.1
MKAZ	**Moumakai**	**3.28**	**267**	P		Pn	Pn	17 56 59.6	-1.7
WIAZ	**Waiheke Island**	**3.32**	**273**	P		Pn	Pn	17 57 02.0	+0.2
KAHZ	**Kahuranaki**	**3.34**	**213**	P		Pn	Pn	17 57 00.9	-1.3
KRHZ	**Kereru**	**3.47**	**220**	P		Pn	Pn	17 57 02.7	-1.3
ETAZ	**East Tamaki Re**	**3.47**	**270**	P		Pn	Pn	17 57 03.4	-0.5

LBTB	**Lobatse**	**7.74 242**		*e*P	**Pn**	**17 58 46.8**	**0.0**
LBTB	**Lobatse**	**7.74 242**	⇑	*i*P	**Pn**	**17 58 47.5**	**+0.8**
LBTB				*e*S	**Sn**	**18 00 15.6**	**+1.4**
LBTB				IAML		18 01 07.6	
	comp=Z,59nm,0.6s						
LBTB	**Lobatse**	**7.74 242**		*i*P	**Pn**	**17 58 48.2**	**+1.5**
LBTB				*i*S	**Sn**	**18 00 10.9**	**-3.2**
LBTB	**Lobatse**	**7.74 242**		*i*P	**Pn**	**17 58 48.2**	**+1.5**
LBTB				*i*S	**Sn**	**18 00 10.9**	**-3.2**
LSZ	**Lusaka**	**7.75 322**			**Pn**	**17 58 47.5**	**+0.6**
LSZ	**Lusaka**	**7.75 322**		*e*P	**Pn**	**17 58 47.1**	**+0.2**
LSZ				*e*S	**Sn**	**18 00 10.0**	**-4.5**
LSZ	**Lusaka**	**7.75 322**		*i*P	**Pn**	**17 58 49.1**	**+2.2**
LSZ				*i*S	**Sn**	**18 00 12.4**	**-2.1**
LSZ	**Lusaka**	**7.75 322**		*i*P	**Pn**	**17 58 49.1**	**+2.2**
LSZ				*i*S	**Sn**	**18 00 12.4**	**-2.1**
SNKL	**Senekal, Frees**	**8.30 215**		*e*P	**Pn**	**17 58 53.6**	**-1.0**
SNKL				*e*S	**Sn**	**18 00 29.9**	**+1.8**
SNKL				IAML		18 01 28.0	
	comp=Z,47nm,0.6s						
SWZ	**Schweizer**	**9.06 230**		*e*P	**Pn**	**17 59 04.9**	**-0.1**
SWZ				*e*S	**Sn**	**18 00 47.9**	**+1.0**
SWZ				IAML		18 01 57.2	
	comp=Z,24nm,0.7s						
KSTD	**Kokstad**	**9.70 200**	⇑	*i*P	**Pn**	**17 59 13.0**	**-0.7**
KSTD				*e*S	**Sn**	**18 01 02.1**	**-0.4**
KSTD				IAML		18 02 15.8	
	comp=Z,7.7nm,0.6s						
BOSA	**Boshof**	**10.04 224**		Pn	**Pn**	**17 59 16.5**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=50,slow=13,SNR=17						
BOSA				Sn	**Sn**	**18 01 06.1**	**-4.6**
	comp=Z,1.1nm,0.3s,baz=317,slow=14,SNR=5.1						
BOSA				Lg	Lg	18 02 11.2	
	comp=Z,1.5nm,0.3s,baz=320,slow=22,SNR=5.9						
	comp=Z,3.5nm,0.5s						
BOSA	**Boshof**	**10.04 224**		Pn	**Pn**	**17 59 16.6**	**-1.6**
BOSA	**Boshof**	**10.04 224**		*e*P	**Pn**	**17 59 16.4**	**-1.8**
BOSA				*e*S	**Sn**	**18 01 06.4**	**-4.3**
BOSA				IAML		18 02 19.1	
	comp=Z,15nm,0.6s						
BOSA	**Boshof**	**10.04 224**		*i*P	**Pn**	**17 59 18.0**	**-0.2**
BOSA				*i*S	Sn	18 01 02.5	-8.2
BOSA	**Boshof**	**10.04 224**		*i*P	**Pn**	**17 59 18.0**	**-0.2**
BOSA				*i*S	Sn	18 01 02.5	-8.2
UPI	**Upington**	**12.73 235**		*e*P	**Pn**	**17 59 55.0**	**-0.1**
UPI				*e*S	**Sn**	**18 02 12.2**	**-4.6**
UPI				IAML		18 03 51.0	
	comp=Z,6.3nm,0.6s						
KEIM	**Keimoes**	**13.12 234**		*e*P	**Pn**	**17 59 59.4**	**-1.0**
KEIM				*e*S	**Sn**	**18 02 23.9**	**-2.3**
KEIM				IAML		18 04 01.9	
	comp=Z,14nm,0.7s						
GRAF	**Camdeboo Natio**	**13.20 214**		*e*P	**Pn**	**17 59 59.8**	**-1.6**
GRAF				*e*S	**Sn**	**18 02 26.0**	**-2.1**
GRAF				IAML		18 04 11.5	
	comp=Z,9.3nm,0.7s						
BFON	**Badsfontein, M**	**13.26 217**		*e*P	Pn	17 59 59.0	-3.4
BFON				*e*S	**Sn**	**18 02 26.6**	**-3.1**
BFON				IAML		18 04 28.7	
	comp=Z,13nm,0.7s						
ARMS	**Ukamas**	**13.77 239**		*e*P	**Pn**	**18 00 11.7**	**+2.4**
ARMS				*e*S	**Sn**	**18 02 36.4**	**-5.6**
ARMS				IAML		18 04 21.9	
	comp=Z,10nm,0.6s						
ROOI	**Rooidraai Farm**	**13.86 216**		*e*P	**Pn**	**18 00 09.2**	**-1.4**
ROOI				*e*S	**Sn**	**18 02 40.3**	**-4.0**
ROOI				IAML		18 04 18.7	
	comp=Z,8.4nm,0.8s						
GRAN	**Grantham**	**14.51 220**		*e*P	**Pn**	**18 00 19.3**	**-0.1**
GRAN				*e*S	**Sn**	**18 02 59.2**	**-0.9**
GRAN				IAML		18 04 43.6	
	comp=Z,11nm,0.8s						
FRAZ	**Fraserburg**	**14.72 223**		*e*P	**Pn**	**18 00 20.1**	**-2.2**
MERW	**Merweville**	**15.16 220**		*e*P	**Pn**	**18 00 28.3**	**+0.1**
MERW				*e*S	**Sn**	**18 03 14.6**	**-1.4**
MERW				IAML		18 04 59.3	
	comp=Z,7.7nm,0.7s						
SUR	**Sutherland**	**15.40 223**		Pn	**Pn**	**18 00 30.8**	**-0.6**
SUR				IAmb	IAmb	18 00 54.1	
	comp=Z,42nm,1.4s						
CVNA	**Calvinia**	**15.53 227**		*e*P	**Pn**	**18 00 32.5**	**-0.5**
MSEY	**Mahe Island**	**27.40 56**		P	**P**	**18 02 41.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**46.22 315**		P	**P**	**18 05 18.4**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=126,slow=7.7,SNR=5.1						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**46.22 315**		P	**P**	**18 05 18.2**	**-1.0**
SNAA	**Sanae**	**54.26 193**		P	**P**	**18 06 22.8**	**+3.2**
SNAA				IAmb	IAmb	18 06 50.6	
	comp=Z,3.1nm,1.4s						
ESDC	**Sonseca Array**	**70.01 300**		P	**P**	**18 08 05.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=134,slow=3.7,SNR=1.5						
	comp=Z,0.4nm,0.5s						

*IDC **20** 18:04:17.8±2.0, 30.61N×142.21E, h0km, mb3.7/5, mbtmp3.7/7, ML3.1/2, Error ellipse: s-maj=91.0km s-min=18.5km az=74.0*

ISC 20 18:04:21.6±1.7, 30.7N±0.2×142.1E±0.4, h23km, n8, σ0s87/9, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.15**	**322**	Pn	**Pn**	**18 05 10.3**	**+0.6**
	6.2nm,0.3s,baz=27,slow=5.0,SNR=4.3						
JHJ				Sn	**Sn**	**18 05 45.6**	**-1.0**
	7.1nm,0.3s,baz=37,slow=20,SNR=1.2						
	175nm,0.8s						
MJAR	**Matsushiro Arr**	**6.71**	**332**	Pn	**Pn**	**18 05 57.6**	**-1.1**
	0.4nm,0.3s,baz=160,slow=11,SNR=18						
MJAR				Sn	**Sn**	**18 07 14.6**	**+0.1**
	0.1nm,0.3s,baz=78,slow=30,SNR=4.2						
	4.4nm,0.6s						
SONM	**Songino Array**	**32.18**	**312**	P	P	18 10 53.0	+5.3
	0.4nm,0.6s,baz=116,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**48.21**	**307**	P	**P**	**18 13 01.1**	**+0.7**
	0.6nm,0.5s,baz=92,slow=9.0,SNR=9.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**50.84**	**189**	P	**P**	**18 13 20.0**	**-0.6**
	0.9nm,0.5s,baz=5.9,slow=7.7,SNR=30						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**54.57**	**189**	P	**P**	**18 13 47.5**	**-0.5**
	0.3nm,0.5s,baz=4.5,slow=5.8,SNR=12						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**74.74**	**333**	P	**P**	**18 16 00.1**	**+0.8**
	0.6nm,0.5s,baz=46,slow=8.2,SNR=5.4						
	0.6nm,0.5s						
NOA	**NORSAR Array B**	**80.29**	**338**	P	**P**	**18 16 30.6**	**+0.2**
	0.2nm,0.5s,baz=40,slow=5.3,SNR=2.2						
	0.2nm,0.5s						

DJA 20 18:15:49.9±0.4, 1°N±2°×100°E±°, h163km±4km, M4.0/14, mb4.5/3, MLv3.7/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKNI	**Bangkinang**	**1.12**	**108**	P	Pn	18 16 17.4	+0.5
BKNI				S	Sn	18 16 37.9	+0.2
PDSI	**Padang**	**1.65**	**163**	P	Pn	18 16 22.4	+0.4
PDSI				S	Sn	18 16 47.8	+1.0
PBSI	**Pulau Batu**	**1.84**	**247**	P	Pn	18 16 25.1	+1.1
PBSI				S	Sn	18 16 50.3	0.0
SDSI	**Sungai Dareh**	**2.16**	**138**	P	Pn	18 16 28.3	+0.6
SISI	**Saibi**	**2.17**	**204**	P	Pn	18 16 27.7	-0.1
SISI				S	Sn	18 16 56.7	-0.4
GSI	**Gunungsitoli**	**2.48**	**285**	P	Pn	18 16 32.1	+0.7
KRJI	**Kerinci**	**3.12**	**151**	P	Pn	18 16 40.9	+1.5
PPSI	**Pulau Pagai**	**3.41**	**179**	P	Pn	18 16 41.7	-1.3
KCSI	**Kotacane, Aceh**	**3.58**	**322**	P	Pn	18 16 45.1	-0.1
MASI	**Maura Aman, Be**	**4.41**	**149**	P	Pn	18 16 56.9	+0.9
LHMI	**Lhok Sumawe**	**5.44**	**326**	P	Pn	18 17 09.8	+0.4
	0.6nm112nm,1.2s						
MNAI	**Manna**	**5.82**	**149**	P	Pn	18 17 12.9	-1.5
	2.7nm366nm,1.4s						

*TIR **20** 18:28:51.0, 41.11N×20.16E, h6km±2km, Md3.0, Ml2.9*
*PDG **20** 18:28:51.5±0.2, 41.13N×20.13E, h1km, ML2.8/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*THE **20** 18:28:51.7, 41.10N×20.17E, h0km±4km, ML2.3/7, Error ellipse: s-maj=4.1km s-min=1.2km az=8.0*
*BEO **20** 18:28:52.4±0.7, 41.13N×20.22E, h10km±5km, ML2.4/10*
*SKO **20** 18:28:52.4, 41.10N×20.15E, h3km*

*ATH **20** 18:28:53.6, 41.09N×20.34E, h35km±6km, ML2.2/3, Error ellipse: s-maj=6.9km s-min=1.7km az=124.0*

ISC 20 18:28:51.4±1.0, 41.10N±0.02×20.21E±0.02, h7km±9km, n59, σ0s94/100, 7C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.36**	**314**	P	**Pg**	**18 28 57.4**	**-0.9**
TIR				S	**Sg**	**18 29 04.5**	**+1.4**
	665nm,0.4s						
TIR	**Tirane**	**0.36**	**314**	*e*Pg	**Pg**	**18 28 57.2**	**-1.2**
TIR				*e*Sg	**Sg**	**18 29 04.3**	**+1.2**
TIR	**Tirane**	**0.36**	**314**	*i*Pg	**Pg**	**18 28 57.5**	**-0.9**
TIR				*i*Sg	**Sg**	**18 29 04.3**	**+1.2**
TIR	**Tirane**	**0.36**	**314**	P	**Pg**	**18 28 57.4**	**-0.9**
	baz=317						
TIR				S	**Sg**	**18 29 03.4**	**+0.3**
	baz=317						
TIR				AMP			
	comp=N,3.4nm,0.3s,baz=317						
OHR	**Ohrid**	**0.45**	**88**	*e*Pg	**Pb**	**18 29 00.9**	**-0.8**
OHR				*e*Sg	**Sb**	**18 29 09.0**	**+0.3**
OHR	**Ohrid**	**0.45**	**88**	*i*Pg	**Pb**	**18 29 01.0**	**-0.7**
OHR				*i*Sg	**Sb**	**18 29 08.5**	**-0.2**
OHR				*e*Lg	Lg	18 29 09.2	
	comp=N,415nm,0.5s						
PHP	**Peshkopia**	**0.61**	**17**	P	**Pg**	**18 29 02.5**	**-0.7**
PHP				S	**Sb**	**18 29 12.9**	**-0.4**
	comp=N,478nm,0.5s						
PHP	**Peshkopia**	**0.61**	**17**	P	**Pg**	**18 29 02.6**	**-0.6**
	baz=19						
PHP				S	**Sg**	**18 29 12.3**	**+1.2**
	baz=19						
PHP				AMP			
	comp=N,2.8nm,0.4s,baz=19						
KBN	**Korca**	**0.65**	**137**	P	**Pg**	**18 29 03.4**	**-0.5**
KBN				S	**Sb**	**18 29 14.3**	**-0.1**
	comp=N,948nm,0.6s						
KBN	**Korca**	**0.65**	**137**	P	**Pb**	**18 29 04.5**	**-0.7**
	baz=135						
KBN				S	**Sb**	**18 29 15.3**	**+0.9**
	baz=135						
KBN				AMP			
	comp=N,4.2nm,0.7s,baz=135						
NEST	**Nestorio**	**0.94**	**137**	P	**Pg**	**18 29 08.6**	**-0.8**
NEST				S	**Sn**	**18 29 24.8**	**-0.1**
	comp=N,108nm,0.9s						
NEST	**Nestorio**	**0.94**	**137**	P	**Pb**	**18 29 10.1**	**+0.1**
NEST				S	**Sb**	**18 29 22.8**	**0.0**
NEST				AML	AML	18 29 33.6	
	comp=E,224μm,0.5s						
NEST				AML	AML	18 29 39.3	
	comp=N,247μm,0.7s						
LSK	**Leskovik**	**1.00**	**162**	P	**Pg**	**18 29 09.7**	**-0.8**
LSK				S	**Sn**	**18 29 25.1**	**-1.2**
	comp=N,225nm,0.8s						
LSK	**Leskovik**	**1.00**	**162**	P	**Pb**	**18 29 10.9**	**-0.2**
	baz=160						
ULC	**Ulcinj**	**1.12**	**320**	*i*Pg	**Pg**	**18 29 11.1**	**-1.9**
ULC	**Ulcinj**	**1.12**	**320**	*i*Pg	**Pg**	**18 29 11.1**	**-1.9**
ULC				*i*Sg	**Sg**	**18 29 27.7**	**+0.1**
BCI	**Bajram Curri**	**1.27**	**355**	P	**Pg**	**18 29 18.6**	**+2.8**
	baz=357						
BCI				S	**Sn**	**18 29 34.2**	**+1.2**
	baz=357						
SKO	**Skopje**	**1.27**	**46**	*e*Pg	**Pn**	**18 29 15.6**	**-0.1**
SKO				*e*Sg	**Sb**	**18 29 30.3**	**-2.0**
SKO	**Skopje**	**1.27**	**46**	*i*Pg	**Pg**	**18 29 16.0**	**+0.2**
SKO				*i*Sg	**Sn**	**18 29 32.9**	**-0.2**
DRME	**Dracevica, Mon**	**1.33**	**325**	⇓*i*Pg	**Pn**	**18 29 14.8**	**-1.6**
DRME				*i*Sg	**Sn**	**18 29 34.5**	**+0.1**
KEK	**Kerkira**	**1.42**	**193**	P	**Pg**	**18 29 19.0**	**+0.4**
KEK				S	**Sg**	**18 29 37.6**	**+0.6**
	comp=N,92nm,0.7s						
KEK	**Kerkira**	**1.42**	**193**	P	**Pg**	**18 29 18.8**	**+0.2**
KEK				S	**Sg**	**18 29 37.1**	**+0.1**
KEK				AML	AML	18 29 44.5	
	comp=N,221μm,0.8s						
KEK				AML	AML	18 29 45.3	
	comp=E,162μm,0.5s						
KZN	**Kozani**	**1.43**	**123**	P	**Pg**	**18 29 18.8**	**0.0**
KZN				S	**Sg**	**18 29 40.0**	**+2.6**
	comp=E,108nm,0.6s						
PVY	**Plav**	**1.50**	**353**	⇓*i*Pg	**Pn**	**18 29 18.3**	**-0.7**
PVY				*i*Sg	**Sg**	**18 29 40.8**	**+1.0**
PDG	**Podgorica**	**1.51**	**332**	*e*Pg	**Pb**	**18 29 20.2**	**+0.5**
PDG				*e*Sg	**Sg**	**18 29 41.1**	**+1.2**
PDG	**Podgorica**	**1.51**	**332**	*i*Pn	**Pb**	**18 29 19.8**	**0.0**
TTG	**Podgorica**	**1.51**	**332**	⇑*i*Pg	**Pn**	**18 29 18.2**	**-0.7**
TTG				*i*Sg	**Sg**	**18 29 40.7**	**+0.8**
BUM	**Brajici-Budva**	**1.55**	**321**	⇑*i*Pg	**Pn**	**18 29 18.9**	**-0.6**
BUM				*i*Sg	**Sg**	**18 29 41.7**	**+0.5**
GRG	**Griva**	**1.67**	**94**	P	**Pn**	**18 29 20.9**	**-0.2**
SCTE	**Santa Cesarea**	**1.68**	**233**	P	**Pb**	**18 29 23.1**	**+0.5**
SCTE				S	**Sg**	**18 29 46.0**	**+0.7**
CEME	**Cevo**	**1.74**	**327**	⇑*i*Pn	**Pn**	**18 29 22.2**	**+0.1**
CEME				*i*Sn	**Sg**	**18 29 48.1**	**+0.9**
IVA	**Berane**	**1.79**	**353**	⇑*i*Pn	**Pb**	**18 29 23.9**	**-0.6**
IVA				*i*Sn	**Sg**	**18 29 49.7**	**+0.9**
VAY	**Valandovo**	**1.80**	**82**	*i*Pn	**Pb**	**18 29 24.5**	**-0.2**
KOME	**Kolasin**	**1.82**	**344**	⇑*i*Pn	**Pn**	**18 29 24.2**	**+0.9**
KOME				*i*Sn	**Sg**	**18 29 50.5**	**+0.5**
HCY	**Herceg Novi**	**1.86**	**317**	⇓*i*Pn	**Pn**	**18 29 24.4**	**+0.7**
HCY				*e*Sn	**Sb**	**18 29 50.4**	**+1.2**
NKME	**Niksic**	**1.91**	**331**	⇓*i*Pn	**Pn**	**18 29 25.0**	**+0.5**
NKME				*i*Sn	**Sg**	**18 29 52.2**	**-0.6**
KNT	**Kendrikon**	**2.04**	**87**	P	**Pn**	**18 29 26.0**	**-0.2**
THL	**Klokotos Trika**	**2.06**	**137**	P	**Pn**	**18 29 27.0**	**+0.5**
THL				AML	AML	18 30 03.8	
	comp=N,68μm,0.8s						
THL				AML	AML	18 30 04.8	
	comp=E,67μm,0.7s						
BARS	**Barje**	**2.09**	**34**	*e*Pg	**Pb**	**18 29 30.2**	**+0.4**
BARS				*e*Sg	**Sg**	**18 29 58.3**	**-0.4**
BARS	**Barje**	**2.09**	**34**	*i*Pn	**Pb**	**18 29 30.2**	**+0.4**
SJES	**Sjenica**	**2.17**	**356**	*e*Pg	**Pb**	**18 29 31.5**	**+1.9**
SJES				*e*Sg	**Sg**	**18 30 02.5**	**+1.5**
BRY	**Bratogost**	**2.19**	**326**	⇓*i*Pn	**Pn**	**18 29 29.1**	**+0.7**
BRY				*i*Sn	**Sb**	**18 29 59.2**	**+0.4**
DBRK	**Dubrovnik**	**2.19**	**316**	*e*Pn	**Pn**	**18 29 27.0**	**-1.3**
DBRK				Sn	**Sb**	**18 29 59.0**	**+0.2**
BOSS	**Bosilegrad**	**2.20**	**50**	*e*Pg	**Pb**	**18 29 31.6**	**+0.1**
BOSS				*e*Sg	**Sg**	**18 30 01.6**	**-0.5**
SELS	**Selova**	**2.22**	**17**	*e*Pg	**Pb**	**18 29 31.7**	**-0.3**
SELS				*e*Sg	**Sb**	**18 30 00.9**	**+1.1**
PLE	**Pljevlja**	**2.31**	**345**	⇓*i*Pn	**Pn**	**18 29 31.2**	**+1.2**
PLE				*i*Sn	**Sb**	**18 30 02.1**	**-0.2**
UPM	**Unac-Piva**	**2.31**	**336**	⇑*i*Pn	**Pn**	**18 29 31.2**	**+1.1**
UPM				*i*Sn	**Sb**	**18 30 02.0**	**-0.5**
IVAS	**Ivanjica**	**2.48**	**359**	*e*Pg	**Pb**	**18 29 35.2**	**-1.1**
IVAS				*e*Sg	**Sb**	**18 30 08.1**	**+1.1**
STON	**Ston**	**2.57**	**314**	*e*Pn	**Pn**	**18 29 31.9**	**-1.6**
ZAPS	**Zavoj**	**2.82**	**39**	*e*Pg	**Pb**	**18 29 40.6**	**-1.6**
BBLS	**Lazići**	**2.83**	**348**	*e*Pg	**Pb**	**18 29 42.4**	**+0.1**
BBLS				*e*Sg	**Sg**	**18 30 22.4**	**+0.2**
LSTV	**Lastovo**	**2.98**	**305**	*e*Pn	**Pn**	**18 29 38.7**	**-0.4**
ZAGS	**Zajecar**	**3.10**	**28**	*e*Pg	**Pb**	**18 29 45.0**	**-1.8**
MAKA	**Makarska**	**3.22**	**314**	*e*Pn	**Pn**	**18 29 43.2**	**+0.8**
KIJV	**Kijevo**	**4.04**	**317**	*e*Pn	**Pn**	**18 29 53.7**	**+0.1**
ZIRJ	**Zirje**	**4.23**	**309**	*e*Pn	**Pn**	**18 29 56.2**	**-0.1**
MORI	**Morici**	**4.33**	**311**	*e*Pn	**Pn**	**18 29 58.4**	**+0.8**
DUGI	**Dugi Otok**	**4.78**	**309**	*e*Pn	**Pn**	**18 30 03.1**	**-0.7**
VIRC	**Vir**	**4.96**	**312**	*e*Pn	**Pn**	**18 30 04.5**	**-1.7**

*TIR **20** 18:31:07.1, 41.10N×20.15E, h17km±1km, Md3.1, Ml2.8*
*SKO **20** 18:31:07.7, 41.07N×20.12E, h11km*
*BEO **20** 18:31:08.1±0.8, 41.04N×20.18E, h5km±4km, ML2.5/5*
*THE **20** 18:31:08.4, 41.11N×20.17E, h0km±3km, ML2.3/6, Error ellipse: s-maj=3.1km s-min=0.9km az=16.0*

ISC 20 18:31:08.1±1.0, 41.10N±0.02×20.16E±0.02, h11km±9km, n33, σ1s08/53, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.33**	**318**	P	**Pg**	**18 31 13.7**	**-1.1**
TIR				S	**Sb**	**18 31 20.8**	**-0.6**
	525nm,0.5s						
TIR	**Tirane**	**0.33**	**318**	*e*Pg	**Pg**	**18 31 13.9**	**-0.9**
TIR				*e*Sg	**Sb**	**18 31 20.5**	**-0.8**
TIR	**Tirane**	**0.33**	**318**	*i*Pg	**Pg**	**18 31 13.9**	**-0.9**
TIR				*i*Sg	**Sb**	**18 31 20.7**	**-0.6**
TIR	**Tirane**	**0.33**	**318**	P	**Pg**	**18 31 14.3**	**-0.4**
	baz=319						
TIR				S	**Sg**	**18 31 19.9**	**+0.7**
	baz=319						
TIR				AMP			
	comp=N,2.4nm,0.4s,baz=319						
OHR	**Ohrid**	**0.49**	**89**	*e*Pg	**Pg**	**18 31 17.6**	**0.0**
OHR				*e*Sg	**Sb**	**18 31 25.5**	**-0.3**
OHR	**Ohrid**	**0.49**	**89**	*i*Pg	**Pg**	**18 31 17.5**	**-0.2**
OHR				*i*Sg	**Sb**	**18 31 25.3**	**-0.5**
OHR				*e*Lg	Lg	18 31 26.1	
	comp=N,365nm,0.5s						
PHP	**Peshkopia**	**0.62**	**20**	P	**Pg**	**18 31 19.3**	**-0.9**
PHP				S	**Sb**	**18 31 29.4**	**-0.4**
	comp=N,210nm,0.6s						
PHP	**Peshkopia**	**0.62**	**20**	P	**Pg**	**18 31 19.6**	**-0.6**
	baz=20						
PHP				S	**Sb**	**18 31 29.3**	**-0.5**
	baz=20						
KBN	**Korca**	**0.68**	**135**	P	**Pg**	**18 31 21.2**	**0.0**
KBN				S	**Sb**	**18 31 31.6**	**+0.3**
	comp=N,882nm,0.5s						
KBN	**Korca**	**0.68**	**135**	P	**Pg**	**18 31 20.7**	**-0.5**
	baz=134						
KBN				S	**Sb**	**18 31 31.7**	**+0.4**
	baz=134						
KBN				AMP			
	comp=N,3.7nm,0.6s,baz=134						
VLO	**Vlora**	**0.81**	**219**	P	**Pn**	**18 31 26.4**	**+1.1**
NEST	**Nestorio**	**0.96**	**135**	P	**Pg**	**18 31 25.3**	**-1.4**
NEST				S	**Sn**	**18 31 41.2**	**-0.2**
	comp=N,175nm,0.9s						
LSK	**Leskovik**	**1.01**	**160**	P	**Pg**	**18 31 25.2**	**-2.3**
ULC	**Ulcinj**	**1.10**	**322**	*i*Pg	**Pb**	**18 31 27.7**	**-1.4**
BCI	**Bajram Curri**	**1.27**	**357**	P	**Pg**	**18 31 33.4**	**+0.9**
	baz=358						
BCI				S	**Sg**	**18 31 49.5**	**+0.6**
	baz=358						
BCI				AMP			
	comp=N,0.6nm,0.6s,baz=358						
SKO	**Skopje**	**1.30**	**47**	*i*Pg	**Pn**	**18 31 31.4**	**-0.7**
SKO				*i*Sg	**Sg**	**18 31 50.5**	**+0.5**
KEK	**Kerkira**	**1.41**	**191**	P	**Pn**	**18 31 34.0**	**+0.3**
KEK				S	**Sg**	**18 31 55.2**	**+1.6**
	comp=N,155nm,1.1s						
KZN	**Kozani**	**1.46**	**122**	P	**Pb**	**18 31 35.4**	**+0.1**
KZN				S	**Sg**	**18 31 55.9**	**+0.8**
	comp=N,110nm,0.6s						
KPRO	**Kipourio**	**1.47**	**141**	P	**Pg**	**18 31 35.8**	**-0.5**
KPRO				S	**Sg**	**18 31 56.7**	**+1.4**
PDG	**Podgorica**	**1.49**	**333**	*e*Pg	**Pg**	**18 31 36.6**	**-0.1**
PDG				*e*Sg	**Sg**	**18 31 58.4**	**+2.4**
GRG	**Griva**	**1.70**	**94**	P	**Pn**	**18 31 38.5**	**+0.7**
BARS	**Barje**	**2.11**	**35**	*e*Pg	**Pb**	**18 31 46.7**	**+0.3**
SJES	**Sjenica**	**2.16**	**356**	*e*Pg	**Pb**	**18 31 48.4**	**+1.1**
SJES				*e*Sg	**Sg**	**18 32 20.3**	**+2.7**
DBRK	**Dubrovnik**	**2.17**	**317**	*e*Pn	**Pn**	**18 31 43.4**	**-0.7**
DBRK				Sn	**Sb**	**18 32 14.7**	**+0.5**
BOSS	**Bosilegrad**	**2.23**	**50**	*e*Pg	**Pb**	**18 31 47.0**	**-1.4**
BOSS				*e*Sg	**Sg**	**18 32 18.2**	**-1.5**
SELS	**Selova**	**2.23**	**18**	*e*Pg	**Pb**	**18 31 47.9**	**-0.6**
IVAS	**Ivanjica**	**2.47**	**360**	*e*Pg	**Pb**	**18 31 52.3**	**-0.3**
STON	**Ston**	**2.55**	**315**	*e*Pn	**Pn**	**18 31 48.5**	**-0.8**
BBLS	**Lazići**	**2.82**	**349**	*e*Pg	**Pg**	**18 32 00.9**	**-1.2**
ZAPS	**Zavoj**	**2.85**	**39**	*e*Pg	**Pb**	**18 31 57.1**	**-1.8**
LSTV	**Lastovo**	**2.95**	**305**	*e*Pn	**Pn**	**18 31 55.2**	**+0.3**
ZAGS	**Zajecar**	**3.12**	**29**	*e*Pn	**Pn**	**18 31 59.6**	**+2.5**
ZIRJ	**Zirje**	**4.21**	**309**	*e*Pn	**Pn**	**18 32 13.1**	**+1.0**

*JMA **20** 18:36:50.0±0.2, 35.8N±0.9×12.9E±°, h3km±2km, MV3.4/15, S KOREAN PENINSULA REG*
*KMA **20** 18:36:51.6±0.0, 35.78N×129.17E, h14km, Error ellipse: s-maj=0.5km s-min=0.4km az=290.0*
*KEA **20** 18:36:52.0, 35.90N×129.02E, h15km, ML3.1/2*

ISC 20 18:36:51.0±1.1, 35.80N±0.02×129.11E±0.04, h17km±6km, n46, σ1s37/51, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.18**	**262**	P	**Pg**	**18 36 57.0**	**+1.6**
	SNR=2060						
YOCB	**Yeongcheon**	**0.23**	**324**	P	**Pg**	**18 36 57.8**	**+1.6**
	SNR=266						
KSDAU	**Deagu-acc**	**0.41**	**283**	P	**Pn**	**18 37 01.2**	**-1.0**
	SNR=304						
MIYA	**Miryang-si**	**0.43**	**225**	P	**Pb**	**18 37 00.8**	**+0.7**
	SNR=58						
KSPHA	**Pohang**	**0.45**	**28**	P	**Pb**	**18 37 00.7**	**+0.2**
	SNR=203						
KSBUS	**Busan**	**0.55**	**180**	P	**Pb**	**18 37 02.0**	**-0.1**
	SNR=226						
KSCHR	**CHANGNYEONG

	comp=N,146nm,0.6s						
HJU				AML	AML		
	comp=E,73nm,0.7s						
HJU				AML	AML		
	comp=Z,101nm,0.6s						
HHU	**Hamhung**	**4.31**	**344**	Pg	**Pg**	**18 38 11.6**	**-1.9**
HHU				Sg	**Sg**	**18 39 07.1**	**-2.3**
HHU				AML	AML		
	comp=N,13nm,0.1s						
HHU				AML	AML		
	comp=E,28nm,0.4s						
HHU				AML	AML		
	comp=Z,24nm,0.7s						
PYS	**Pyongsong**	**4.31**	**324**	Sg	**Sg**	**18 39 06.5**	**-3.0**
SUJ	**Sinuiju**	**5.64**	**321**	Sg	**Sg**	**18 39 49.5**	**-2.4**

MAN 20 18:37:35.0, 8.60N×122.81E, h27km, mb3.7, ML2.4, MS1.9, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.54**	**92**⇓	*e*P	Pb	18 37 46.0	0.0
DCPH				*e*S	Sn	18 37 55.9	+0.8
SNPH	**Sibulan**	**0.85**	**30**	*i* P	Pn	18 37 51.5	+0.2
SNPH				*i* S	Sn	18 38 03.6	+0.7
PAGZ	**Pagadian**	**0.94**	**143**⇓	*e*P	Pn	18 37 51.8	-0.8
PAGZ				*e*S	Sn	18 38 06.3	+1.2
LSIP	**Lazi, Siquijor**	**0.97**	**57**⇑	*e*P	Pn	18 37 52.8	-0.1
LSIP				*e*S	Sn	18 38 09.1	+3.4
CNOP	**Candoni, Negro**	**1.23**	**352**⇑	*e*P	Pn	18 37 55.5	-1.0
CNOP				*e*S	Sn	18 38 12.6	+0.4
GHBP	**Garcia Hernand**	**1.81**	**56**⇑	*e*P	Pb	18 38 10.2	+2.6
GHBP				*e*S	Sb	18 38 31.3	+1.4

*NEIC **20** 19:09:38.6±1.6, 31.78N±0.03×116.06W±0.01, h18km±4km, Error ellipse: s-maj=5.0km s-min=0.6km az=198.0*
*ANF **20** 19:09:39.6±0.9, 31.85N×116.01W, h22km±5km, ML2.8/13, Error ellipse: s-maj=5.7km s-min=3.6km az=28.0*
*ECX **20** 19:09:39.8±0.4, 31.78N×116.05W, h6km±20km, MD2.9, ML3.1*
*PAS **20** 19:09:39.3±1.8, 31.77N±0.03×116.05W±0.03, h18km±4km, Error ellipse: s-maj=4.9km s-min=2.9km az=194.0*
*MEX **20** 19:09:40.9±0.3, 31.72N×116.14W, h14km±6km, MD3.7*
ISC 20 19:09:38.7±0.9, 31.77N±0.02×116.06W±0.02, h28km±6km, n101, σ0.95/140, 12C-6D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJX	**San Joaquin**	**0.08**	**92**⇑	*i* P	**Pb**	**19 09 44.6**	**+0.9**
SJX				*e*S	**Sb**	**19 09 48.2**	**+1.2**
SJX				IAML		19 09 48.5	
	comp=N,3μm,0.1s						
SJX				⇑*e*		19 09 48.5	
SJX				IAML		19 09 48.9	
	comp=E,4μm,0.1s						
SJX				⇑*e*		19 09 48.9	
ESJX	**Sierra Juarez**	**0.26**	**21**		**Pb**	**19 09 44.5**	**-1.0**
ESJX					**Sb**	**19 09 48.3**	**-2.0**
ESJX	**Sierra Juarez**	**0.26**	**21**	IAML		19 09 48.5	
	comp=N,2μm,0.1s						
ESJX				IAML		19 09 48.9	
	comp=E,3μm,0.1s						
VTX	**Valle De La Tr**	**0.44**	**148**	*e*P	**Pb**	**19 09 47.7**	**-0.4**
VTX				*e*S	**Sb**	**19 09 54.1**	**-0.4**
VTX				⇑*e*		19 09 54.5	
VTX				IAML		19 09 54.5	
	comp=E,2μm,0.1s						
VTX				⇓*e*		19 09 54.6	
VTX				IAML		19 09 54.6	
	comp=N,3μm,0.1s						
SVX	**San Vicente**	**0.47**	**201**	*e*P	**Pb**	**19 09 48.2**	**-0.3**
CCX	**Cicese**	**0.53**	**281**		**Pb**	**19 09 49.5**	**0.0**
CCX	**Cicese**	**0.53**	**281**		**Sb**	**19 09 57.1**	**+0.3**
CCX	**Cicese**	**0.53**	**281**	IAML		19 10 02.1	
	comp=E,580nm,0.4s						
CCX	**Cicese**	**0.53**	**281**⇑	*i* P	**Pb**	**19 09 49.6**	**+0.1**
CBX	**Cerro Bola**	**0.75**	**317**		**Pb**	**19 09 53.0**	**-0.3**
CBX					**Sb**	**19 10 02.9**	**-0.3**
CBX	**Cerro Bola**	**0.75**	**317**	*e*P	**Pb**	**19 09 53.0**	**-0.3**
CBX				*e*S	**Sb**	**19 10 02.9**	**-0.3**
RHX	**Rio Hardy**	**0.75**	**61**⇑	*i* P	**Pb**	**19 09 52.8**	**-0.4**
RHX				*e*S	**Sb**	**19 10 02.8**	**-0.3**
RHX				IAML		19 10 03.4	
	comp=N,658nm,0.3s						
RHX				⇑*e*		19 10 03.4	
RHX				⇑*e*		19 10 03.6	
RHX				IAML		19 10 03.6	
	comp=E,436nm,0.7s						
RMX	**La Rumorosa**	**0.83**	**359**		**Pb**	**19 09 53.5**	**-1.3**
RMX				IAML		19 10 07.4	
	comp=N,793nm,0.2s						
RMX				IAML		19 10 07.4	
	comp=E,606nm,0.3s						
RMX	**La Rumorosa**	**0.83**	**359**		**Sb**	**19 10 03.3**	**-2.4**
RMX	**La Rumorosa**	**0.83**	**359**⇓	*i* P	**Pb**	**19 09 53.5**	**-1.3**
TJIG	**Tijuana**	**0.85**	**322**	*e*P	**Pn**	**19 09 54.3**	**-0.5**
TJIG				*e*S	**Sb**	**19 10 05.0**	**-0.9**
TJIG	**Tijuana**	**0.85**	**322**⇑	*e*P	**Pn**	**19 09 54.3**	**-0.5**
SPIG	**San Pedro Mart**	**0.88**	**145**	*e*P	**Pn**	**19 09 55.4**	**-0.1**
SPIG				*e*S	**Sb**	**19 10 06.4**	**-0.6**
SPIG	**San Pedro Mart**	**0.88**	**145**	*e*P	**Pn**	**19 09 55.5**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.88**	**357**		**Pn**	**19 09 55.2**	**-0.2**
IKP					**Sb**	**19 10 06.0**	**-1.0**
IKP	**In-Ko-Pah, Jac**	**0.88**	**357**	P	**Pn**	**19 09 55.2**	**-0.2**
	baz=176,SNR=38						
IKP				S	**Sb**	**19 10 06.1**	**-0.9**
	baz=176						
IKP	**In-Ko-Pah, Jac**	**0.88**	**357**⇓	*i* P	**Pn**	**19 09 55.2**	**-0.2**
YUH	**Yuha Desert**	**0.89**	**7**	Pg	**Pn**	**19 09 55.0**	**-0.3**
YUH				Sg	**Sb**	**19 10 05.9**	**-1.1**
YUH				IAML		19 10 06.5	
	comp=N,287nm,0.1s						
YUH				IAML		19 10 07.0	
	comp=E,310nm,0.3s						
YUH2	**Yuha Desert**	**0.89**	**7**⇓	*e*P	**Pn**	**19 09 55.0**	**-0.3**
ECBX	**El Chinero**	**0.91**	**109**⇑	*i* P	**Pn**	**19 09 55.4**	**-0.1**
ECBX				*e*S	**Sb**	**19 10 07.5**	**0.0**
ECBX				*e*		19 10 08.4	
ECBX				IAML		19 10 08.4	
	comp=E,372nm,0.5s						
CPBX	**Cerro Prieto**	**0.91**	**44**		**Pb**	**19 09 56.2**	**+0.3**
CPBX					**Sn**	**19 10 10.1**	**+2.2**
CPBX	**Cerro Prieto**	**0.91**	**44**	*e*P	**Pn**	**19 09 55.5**	**-0.1**
CPBX				*e*S	**Sb**	**19 10 07.8**	**0.0**
CPBX				IAML		19 10 11.0	
	comp=N,2μm,0.1s						
CPBX				⇓*e*		19 10 11.0	
SGL	**Mount Signal**	**0.93**	**18**		**Pn**	**19 09 56.0**	**+0.1**
SGL					**Sn**	**19 10 08.2**	**0.0**
TKX	**Tecate**	**0.93**	**330**		**Pn**	**19 09 55.7**	**-0.2**
TKX					**Sb**	**19 10 07.4**	**-0.8**
MBIG	**Mexicali**	**0.97**	**49**	*e*P	**Pb**	**19 09 57.5**	**+0.6**
MBIG				*e*S	**Sn**	**19 10 10.3**	**+1.0**
GUVIX	**Guadalupe Vict**	**0.99**	**57**	Pg	**Pn**	**19 09 56.0**	**-0.7**
GUVIX				Sg	**Sb**	**19 10 10.6**	**+0.7**
UABX	**UABC, Campus M**	**1.01**	**31**	Pg	**Pb**	**19 09 57.4**	**-0.2**
UABX					**Sb**	**19 10 11.6**	**+1.1**
WESC	**Westside Schoo**	**1.03**	**15**		**Pb**	**19 09 58.3**	**+0.4**
WESC					**Sb**	**19 10 12.2**	**+1.2**
BAR	**Barrett**	**1.05**	**330**	Pg	**Pn**	**19 09 57.4**	**-0.1**
BAR				IAML		19 10 12.2	
	comp=N,471nm,0.2s						
BAR	**Barrett**	**1.05**	**330**		**Sn**	**19 10 10.9**	**-0.4**
BAR	**Barrett**	**1.05**	**330**⇑	*e*P	**Pn**	**19 09 57.5**	**-0.1**
COK2	**Cook Ranch 2**	**1.12**	**14**		**Pb**	**19 09 59.3**	**-0.1**
COK2					**Sb**	**19 10 15.2**	**+1.7**
OLP	**Otay Lakes Par**	**1.12**	**319**		**Pn**	**19 09 58.8**	**+0.3**
OLP					**Sn**	**19 10 13.4**	**+0.4**
CRR	**Carrizo Plain**	**1.12**	**4**		**Pb**	**19 09 59.4**	**-0.1**
CRR					**Sb**	**19 10 14.4**	**+0.7**
TJX	**Tijuana**	**1.12**	**312**		**Sb**	**19 10 14.8**	**+1.0**
TJX	**Tijuana**	**1.12**	**312**	Pn	**Pn**	**19 09 58.4**	**-0.2**
TJX	**Tijuana**	**1.12**	**312**	IAML		19 10 15.1	
	comp=N,418nm,0.5s						
TJX				IAML		19 10 16.8	
	comp=E,482nm,0.5s						
MONP2	**Monument Peak**	**1.17**	**345**		**Pb**	**19 10 00.1**	**-0.3**
MONP2					**Sn**	**19 10 14.7**	**+0.2**
MONP2	**Monument Peak**	**1.17**	**345**	P	**Pn**	**19 09 59.9**	**+0.6**
	baz=164,SNR=64						
MONP2				S	**Sn**	**19 10 14.7**	**+0.2**
	baz=164						
MONP2	**Monument Peak**	**1.17**	**345**	*e*P	**Pn**	**19 09 59.9**	**+0.6**
SWSC	**Sam W. Stewart**	**1.20**	**10**		**Pn**	**19 09 59.9**	**+0.4**
SWSC					**Sb**	**19 10 16.2**	**+0.4**
SWSC	**Sam W. Stewart**	**1.20**	**10**	P	**Pn**	**19 09 59.9**	**+0.4**
	baz=190,SNR=28						
SWSC				S	**Sb**	**19 10 15.9**	**+0.1**
	baz=190						
SDRC	**San Diego Road**	**1.22**	**322**		**Pn**	**19 10 00.4**	**+0.5**
SDRC					**Sn**	**19 10 15.8**	**+0.2**
SDRC	**San Diego Road**	**1.22**	**322**⇓	*e*	**Sn**	**19 10 16.6**	**+1.1**
SDRC				IAML		19 10 16.6	
	comp=N,279nm,0.2s						
SDRC				⇑*e*		19 10 17.5	
SDRC				IAML		19 10 17.5	
	comp=E,326nm,0.2s						
SFX	**San Felipe**	**1.26**	**125**		**Pb**	**19 10 02.2**	**+0.4**
SFX				IAML		19 10 19.7	
	comp=N,214nm,0.5s						
SFX				IAML		19 10 20.4	
	comp=E,207nm,0.6s						
SFX	**San Felipe**	**1.26**	**125**		**Sb**	**19 10 18.6**	**+1.0**
SFX	**San Felipe**	**1.26**	**125**	*e*P	**Pb**	**19 10 01.9**	**+0.1**
SDMC	**San Diego Miss**	**1.37**	**318**		**Sb**	**19 10 20.4**	**-0.3**
JUEM	**Julian Eagle M**	**1.39**	**341**		**Pb**	**19 10 03.9**	**-0.2**
JUEM					**Sb**	**19 10 21.2**	**-0.3**
109C	**Camp Elliot, M**	**1.43**	**322**		**Pn**	**19 10 03.8**	**+1.0**
109C				Sn	**Sn**	**19 10 21.6**	**+1.0**
109C				IAML		19 10 23.3	
	comp=N,324nm,0.2s						
109C	**Camp Elliot, M**	**1.43**	**322**	P	**Pn**	**19 10 03.8**	**+1.0**
	baz=141						
109C				S	**Sb**	**19 10 21.8**	**-0.7**
	baz=141						
CPE	**Camp Elliot**	**1.43**	**322**		**Pn**	**19 10 03.7**	**+0.9**
CPE					**Sn**	**19 10 21.6**	**+1.0**
SLH	**Sleepy Hollow**	**1.43**	**353**		**Pb**	**19 10 04.0**	**-0.8**
SLH					**Sb**	**19 10 23.8**	**+1.2**
DPP	**Dos Picos Cty**	**1.44**	**329**		**Pn**	**19 10 04.0**	**+1.1**
DPP					**Sb**	**19 10 22.1**	**-0.7**
RUN	**Ruthven**	**1.51**	**37**		**Sn**	**19 10 21.8**	**-0.9**
MATG	**Mataguay Scout**	**1.51**	**341**		**Sb**	**19 10 25.2**	**+0.2**
BORC	**Borrego Spring**	**1.53**	**349**		**Sb**	**19 10 25.9**	**+0.5**
GLA	**Glamis**	**1.65**	**39**		**Pn**	**19 10 06.0**	**+0.2**
GLA				Sn	**Sn**	**19 10 25.2**	**-1.0**
GLA	**Glamis**	**1.65**	**39**	P	**Pn**	**19 10 06.1**	**+0.2**
	baz=219						
GLA				S	**Sn**	**19 10 25.3**	**-1.0**
	baz=219						
GORC	**Green Oak Ranc**	**1.70**	**325**		**Sb**	**19 10 29.9**	**-0.4**
PLM	**Palomar**	**1.72**	**337**		**Pb**	**19 10 08.9**	**-0.9**
PFO	**Pinyon Flats O**	**1.87**	**350**		**Pn**	**19 10 10.0**	**+1.0**
PFO				Sn	**Sb**	**19 10 35.9**	**+0.5**
PFO				IAML		19 10 38.6	
	comp=N,99nm,0.3s						
PFO	**Pinyon Flats O**	**1.87**	**350**	P	**Pn**	**19 10 09.9**	**+0.9**
	baz=169,SNR=7.8						
PFO				Sb	**Sb**	**19 10 35.9**	**+0.5**
	baz=169						
PMD	**Palm Desert**	**1.90**	**352**		**Pn**	**19 10 10.1**	**+0.9**
PMD				IAML		19 10 38.0	
	comp=N,76nm,0.3s						
PMD				IAML		19 10 38.6	
	comp=E,97nm,0.3s						
BC3	**Big Chuckawall**	**1.95**	**15**	P	**Pn**	**19 10 10.9**	**+0.8**
	baz=195						
BC3				S	**Sn**	**19 10 33.4**	**-0.3**
	baz=195						
MURC	**Murrieta**	**2.07**	**333**	Sb	**Sb**	**19 10 40.5**	**-0.3**
	baz=152						
113A	**Mohawk Valley,**	**2.18**	**62**		**Pn**	**19 10 13.7**	**+0.6**
ELS	**Elsinore Mount**	**2.20**	**329**		**Pn**	**19 10 14.7**	**+1.2**
ELS				IAML		19 10 45.4	
	comp=N,78nm,0.2s						
ELS				IAML		19 10 48.3	
	comp=E,66nm,0.3s						
PIX	**Pinacate**	**2.22**	**95**	Pn	**Pn**	**19 10 13.1**	**-0.6**
BELC	**Belle Mtn. Jos**	**2.23**	**1**	P	**Pn**	**19 10 15.0**	**+1.1**
	baz=181						
BELC				Sb	**Sb**	**19 10 47.6**	**+2.0**
	baz=181						
CIS	**Catalina Islan**	**2.57**	**310**	S	**Sn**	**19 10 49.9**	**+0.9**
	baz=129						
BBRC	**Big Bear Solar**	**2.59**	**344**	Sb	**Sb**	**19 10 58.1**	**+1.9**
	baz=163						
BREC	**Barre Substati**	**2.60**	**322**		**Pn**	**19 10 21.5**	**+2.6**
214A	**Organ Pipe Nat**	**2.77**	**85**		**Pn**	**19 10 21.1**	**-0.1**
214A	**Organ Pipe Nat**	**2.77**	**85**	*e*P	**Pn**	**19 10 21.3**	**+0.1**
214A				*e*S	**Sn**	**19 10 51.7**	**-2.0**
214A	**Organ Pipe Nat**	**2.77**	**85**	P	**Pn**	**19 10 21.4**	**+0.1**
	baz=267						
214A				S	**Sn**	**19 10 52.9**	**-0.9**
	baz=267						
BFSC	**Mount Baldy Ra**	**2.81**	**332**	Sb	**Sb**	**19 11 03.9**	**+1.6**
	baz=151						
WTT2	**Watts, South G**	**2.86**	**320**		**Pn**	**19 10 22.1**	**-0.3**
Y14A	**Wickenburg**	**3.36**	**49**	Pn	**Pn**	**19 10 30.1**	**+0.7**
EDW2	**Edwards Air Fo**	**3.50**	**333**	Sb	**Sb**	**19 11 23.3**	**+1.1**
	baz=152						
GSC	**Goldstone, Bar**	**3.58**	**350**	Pn	**Pn**	**19 10 32.9**	**+0.4**
GSC				IAML		19 11 30.8	
	comp=N,16nm,4.6s						
GSC				IAML		19 11 33.6	
	comp=E,20nm,1.0s						
CCAC	**Calif City Air**	**3.75**	**335**	Pn	**Pn**	**19 10 35.3**	**+0.5**
CCAC				IAML		19 11 39.2	
	comp=E,38nm,1.7s						
CCAC				IAML		19 11 40.6	
	comp=N,35nm,1.2s						
W13A	**Hualapai Mount**	**3.79**	**28**	Pn	**Pn**	**19 10 35.1**	**-0.4**
V12A	**Nelson**	**4.08**	**14**	Pn	**Pn**	**19 10 38.9**	**-0.4**
BCW	**Bitter Crk WRg**	**4.23**	**319**	Pn	**Pn**	**19 10 40.0**	**-1.4**
BCW				IAML		19 13 14.7	
	comp=E,26nm,4.3s						
GWY	**Greenwater Val**	**4.44**	**354**		**Pn**	**19 10 43.2**	**-1.1**
TUC	**Tucson**	**4.51**	**82**	Pn	**Pn**	**19 10 43.9**	**-1.3**
WCT	**Wildcat Mounta**	**5.04**	**355**	Pn	**Pn**	**19 10 51.4**	**-1.1**
TPNV	**Topopah Spring**	**5.17**	**358**	Pn	**Pn**	**19 10 53.0**	**-1.4**
TPNV				IAML		19 12 33.7	
	comp=E,6.4nm,4.6s						
TPNV				IAML		19 12 46.4	
	comp=E,6.1nm,4.0s						
PAGB	**Antelope Grade**	**5.28**	**320**	Pn	**Pn**	**19 10 54.6**	**-1.1**
GRAC	**Grapevine Rang**	**5.33**	**349**		**Pn**	**19 10 54.6**	**-1.8**
U15A	**North Rim**	**5.60**	**33**	Pn	**Pn**	**19 10 58.6**	**-1.8**
LCH	**Last Change Ra**	**5.61**	**347**	Pn	**Pn**	**19 10 58.2**	**-2.2**
GMN	**Gold Mountain**	**5.61**	**350**	Pn	**Pn**	**19 11 00.5**	**0.0**
KNB	**Kanab**	**5.88**	**26**	Pn	**Pn**	**19 11 06.8**	**+2.6**
W18A	**Petrified Fore**	**6.25**	**56**	Pn	**Pn**	**19 11 11.9**	**+2.7**

IDC 20 19:16:33.8±1.2, 37.88S×177.07E, h271km±25km, mb2.5/2, mbtmp3.1/2, Error ellipse: s-maj=192.9km s-min=28.1km az=180.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.38**	**175**	P	Pn	19 17 09.0	+0.3
	8.6nm,0.9s,baz=353,slow=19,SNR=3.6						
ASAR	**Alice Springs**	**39.36**	**278**	P	P	19 23 36.1	-1.3
	0.2nm,0.8s,baz=123,slow=7.6,SNR=4.7						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**41.05**	**284**	P	P	19 23 52.3	+0.9
	0.3nm,0.9s,baz=112,slow=7.2,SNR=3.0						
	0.3nm,0.9s						
BRTR	**Keskin Array B**	**151.56**	**285**	PKPbc	PKPbc	19 35 55.4	-0.4
	0.5nm,0.6s,baz=29,slow=3.3,SNR=2.1						

IDC 20 19:16:36.2±5.0, 2.60N×97.92E, h85km±35km, mb3.0/3, mbtmp3.3/3, Error ellipse: s-maj=83.6km s-min=24.4km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.02**	**78**	P	Pn	19 16 55.9	-0.1
	18nm,0.3s,baz=295,slow=8.8,SNR=15						
PSI				S	Sn	19 17 10.8	+0.1
	15nm,0.4s,baz=326,slow=23,SNR=12						
WRA	**Warramunga Arr**	**42.18**	**124**	P	P	19 24 21.6	+0.6
	0.3nm,0.5s,baz=302,slow=9.0,SNR=7.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**43.68**	**129**	P	P	19 24 32.0	-1.1
	0.4nm,1.0s,baz=301,slow=7.7,SNR=4.3						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**46.08**	**345**	P	P	19 24 51.6	-0.2
	0.1nm,0.4s,baz=157,slow=7.8,SNR=3.8						
	0.1nm,0.4s						

*MOS **20** 19:21:54.9±1.4, 45.93N×149.86E, h142km, mb4.5/32, Error ellipse: s-maj=7.8km s-min=5.8km az=91.5*
*SKHL **20** 19:21:54.6±0.4, 45.80N×150.10E, h144km±2km, mb5.6/6, mbv4.6/2, msh4.9/2, msha5.6/5*
*IDC **20** 19:21:55.4±2.8, 46.13N×149.65E, h126km±24km, mb3.6/18, mbtmp4.1/23, Error ellipse: s-maj=18.3km s-min=14.5km az=149.0*
*JMA **20** 19:21:57.3±0.6, 45.N±2.°×15.0E±.°, h145km, MV4.5/16, KURILE ISLANDS REGION*
*NEIC **20** 19:21:58.1±2.2, 46.1N±0.1×149.8E±0.1, h153km±9km, mb4.2/44, Error ellipse: s-maj=16.7km s-min=12.6km az=157.0*
ISC 20 19:21:53.9±0.7, 45.78N±0.05×150.02E±0.05, h134km±5km, n227, σ1.84/251, mb4.2/83, 12C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.61**	**251***c*	*i* PN	**Pn**	**19 22 25.6**	**+2.1**
KUR	**Kuril'sk**	**1.61**	**251**	*i* P	**Pn**	**19 22 25.6**	**+2.1**
KUR				AMB	AMB	19 22 25.9	
	2μm,0.4s						
KUR				*i* S	**Sn**	**19 22 47.5**	**+1.5**
KUR				A	A	19 22 51.6	
	5μm,1.8s						
KUR				A	A	19 22 51.6	
	2μm,0.6s						
KUR				A	A	19 22 51.6	
	2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.43**	**241***c*	*i* PN	**Pn**	**19 22 48.6**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**3.43**	**241**	*i* P	**Pn**	**19 22 48.6**	**+2.4**
YUK				AMB	AMB	19 22 49.6	
	2μm,0.3s						
YUK				*i* S	**Sn**	**19 23 29.0**	**+2.3**
YUK				A	A	19 23 35.3	
	600nm,0.5s						
YUK				A	A	19 23 35.3	
	500nm,0.5s						
RUSJ	**Misakicho**	**3.78**	**245**⇑	*i* PN	**Pn**	**19 22 54.4**	**+3.6**
RUSJ				*e*S	**Sn**	**19 23 40.9**	**+6.0**
NEM2	**Nemuro 2**	**3.89**	**233**	*e*P	**Pn**	**19 22 53.1**	**+0.8**
NEM2				*e*S	**Sn**	**19 23 36.4**	**-1.1**
NMR	**Nemuro--Hokkai**	**3.90**	**233**⇑	*i* PN	**Pn**	**19 22 53.1**	**+0.7**
NMR				*i* S	**Sn**	**19 23 36.2**	**-1.5**
NMR	**Nemuro--Hokkai**	**3.90**	**233**	*i* P	**Pn**	**19 22 53.5**	**+1.1**
NMR				*i* S	**Sn**	**19 23 37.5**	**-0.2**
JRA	**Rausu**	**3.94**	**244**	*e*P	**Pn**	**19 22 55.4**	**+2.5**
JNK	**Nakash**	**4.37**	**242**	*e*P	**Pn**	**19 23 00.8**	**+2.2**
AKK	**Akkeshi**	**4.62**	**235**	*e*P	**Pn**	**19 23 03.0**	**+1.0**
JTKR	**Abashiri--Toko**	**4.71**	**250**	*e*P	**Pn**	**19 23 05.3**	**+2.2**
JAK	**Akkeshi**	**4.72**	**236**	*e*P	**Pn**	**19 23 04.0**	**+0.7**
JAK				*e*S	**Sn**	**19 23 55.5**	**-1.7**
JAR	**Ashorobuto**	**5.11**	**243**	*e*P	**Pn**	**19 23 10.8**	**+2.3**
JAR				*e*S	**Sn**	**19 24 08.8**	**+2.2**
YSS	**Yuzh-Sakhalins**	**5.17**	**286**	Pn	**Pn**	**19 23 10.2**	**+1.0**
YSS					**Sn**	**19 24 07.9**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.17**	**286***ke*	PN	**Pn**	**19 23 10.8**	**+1.6**
YSS				*e*S	**Sn**	**19 24 09.4**	**+1.5**
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
YSS				pmax	pmax		
	comp=Z,200nm,3.1s						
YSS				smax	smax		
	comp=N,50nm,0.9s						
YSS				smax	smax		
	comp=E,80nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.17**	**286**	*e*P	**Pn**	**19 23 10.8**	**+1.6**
YSS				AMB	AMB	19 23 12.7	
	comp=E,200nm,3.1s						
YSS				*e*S	**Sn**	**19 24 09.9**	**+2.0**
YSS				A	A	19 24 10.6	
	comp=E,50nm,0.9s						
YSS				A	A	19 24 10.6	
	comp=E,80nm,0.9s						
JOB	**Onbets**	**5.29**	**239**	*e*P	**Pn**	**19 23 12.3**	**+1.5**
JOB				*e*S	**Sn**	**19 24 10.8**	**+0.1**
JKK2	**Kamakawa 2**	**5.51**	**252**	*e*P	**Pn**	**19 23 16.6**	**+2.8**
JWK2	**Keihoku**	**5.73**	**268**	*e*P	**Pn**	**19 23 20.6**	**+4.0**
JCH	**Churui**	**5.74**	**239**	*e*P	**Pn**	**19 23 17.6**	**+0.8**
JCH				*e*S	**Sn**	**19 24 19.5**	**-2.1**
JAB	**Ashibetsu**	**6.01**	**251**	*e*P	**Pn**	**19 23 23.9**	**+3.4**
ERM	**Erimo**	**6.22**	**235**	Pn	**Pn**	**19 23 23.8**	**+0.4**
ERM	**Erimo**	**6.22**	**235***ce*	PN	**Pn**	**19 23 24.9**	**+1.5**
ERM				pmax	pmax		
	comp=Z,87nm,0.7s						
JNBK	**Urakawa-nobuka**	**6.30**	**239**	*e*P	**Pn**	**19 23 24.2**	**-0.2**
JNBK				*e*S	**Sn**	**19 24 31.5**	**-3.6**
UGL	**Uglegorsk**	**6.33**	**304**	*e*PN	**Pn**	**19 23 26.1**	**+1.4**
UGL				*e*S	**Sn**	**19 24 36.2**	**+0.5**
UGL				pmax	pmax		
	comp=Z,130nm,1.2s						
UGL	**Uglegorsk**	**6.33**	**304**	*e*P	**Pn**	**19 23 26.3**	**+1.6**
UGL				AMB	AMB	19 23 27.0	
	comp=Z,130nm,0.6s						
UGL				*e*S	**Sn**	**19 24 36.2**	**+0.5**
SKR	**Severo-Kuril's**	**6.38**	**37**	*e*PN	**Pn**	**19 23 25.7**	**+0.3**
SKR				*e*S	**Sn**	**19 24 34.5**	**-2.3**
SKR				pmax	pmax		
	comp=Z,138nm,0.5s						
SKR				smax	smax		
	comp=E,38nm,0.8s						
SKR				smax	smax		
	comp=N,54nm,0.7s						
SKR	**Severo-Kuril's**	**6.38**	**37**	*e*P	**Pn**	**19 23 25.7**	**+0.3**
SKR				AMB	AMB	19 23 26.9	
	comp=N,130nm,0.5s						
SKR				*e*S	**Sn**	**19 24 34.5**	**-2.3**
SKR				A	A	19 24 38.4	
	comp=N,50nm,0.5s						
SKR				A	A	19 24 38.4	
	comp=N,40nm,0.5s						
JEW	**Eniwo**	**6.81**	**248**	Pn	**Pn**	**19 23 33.3**	**+2.0**
TYV	**Tymovskoe**	**7.07**	**319**

JYT	**Yasato**	**12.08**	**221**			**Pn**		**19 24 40.6**	**-1.0**
MJAR	**Matsushiro Arr**	**12.81**	**228**	P		**Pn**		**19 24 51.9**	**+0.8**
	comp=E,4.7nm,0.4s,baz=34,slow=14,SNR=12								
MJB9	**Matsu-Tunnel**	**12.81**	**228**			**Pn**		**19 24 50.5**	**-0.6**
MAJO	**Matsushiro**	**12.81**	**228**	Pn		**Pn**		**19 24 50.5**	**-0.6**
MAJO	**Matsushiro**	**12.81**	**228**	⇑*e*PN		**Pn**		**19 24 51.5**	**+0.4**
KLR	**Kul'dur**	**12.83**	**292**	P		**Pn**		**19 24 52.4**	**+1.2**
	comp=E,8.3nm,1.0s,baz=89,slow=15,SNR=16								
KLR	**Kul'dur**	**12.83**	**292**	*de*PN		**Pn**		**19 24 52.6**	**+1.4**
KLR				pmax	pmax				
	comp=E,15nm,1.3s								
KLR	**Kul'dur**	**12.83**	**292**	*e*P		**Pn**		**19 24 52.0**	**+0.8**
USA0B	**Ussuriysk Arra**	**12.87**	**269**	Pn		**Pn**		**19 24 49.3**	**-2.5**
USA0B	**Ussuriysk Arra**	**12.87**	**269**	PN		**Pn**		**19 24 49.3**	**-2.5**
USRK	**Ussuriysk Ar.**	**12.87**	**269**	P		**Pn**		**19 24 54.6**	**+2.8**
	comp=E,1.7nm,0.4s,baz=68,slow=11,SNR=9.0								
USRK	**Ussuriysk Ar.**	**12.87**	**269**	Pn		**P**		**19 24 54.8**	**-2.6**
USRK	**Ussuriysk Ar.**	**12.87**	**269**	PN		**P**		**19 24 54.8**	**-2.6**
KBG	**Krutoberegovo**	**13.16**	**33**	*e*P		**Pn**		**19 24 52.2**	**-3.2**
MA2	**Magadan**	**13.83**	**2**	Pn		**Pn**		**19 25 02.5**	**-1.6**
MA2	**Magadan**	**13.83**	**2**	P		**Pn**		**19 25 02.5**	**-1.6**
INU	**Inuyama**	**14.34**	**228**	Pn		**Pn**		**19 25 10.6**	**-0.1**
ZEA	**Zeya**	**16.68**	**307**	*e*P		**P**		**19 25 39.8**	**+0.3**
ZEA				pmax	pmax				
	comp=E,20nm,0.9s								
ZEA				pmax	pmax				
	comp=N,20nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,30nm,1.0s								
ZEA	**Zeya**	**16.68**	**307**	*e*P		**P**		**19 25 39.8**	**+0.3**
SEY	**Seymchan**	**17.25**	**4**	P		**P**		**19 25 45.0**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=164,slow=19,SNR=4.9								
SEY	**Seymchan**	**17.25**	**4**	P		**P**		**19 25 45.0**	**-0.7**
KSRS	**Korea Array**	**18.46**	**251**	P		**Pn**		**19 26 01.6**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=54,slow=12,SNR=3.2								
YAK	**Yakutsk**	**20.07**	**331**	P		**P**		**19 26 14.9**	**-1.4**
	comp=Z,4.7nm,0.2s,baz=127,slow=3.8,SNR=18								
YAK	**Yakutsk**	**20.07**	**331**	P		**P**		**19 26 14.8**	**-1.6**
YAK	**Yakutsk**	**20.07**	**331**	*e*P		**P**		**19 26 15.3**	**-1.1**
YAK				pmax	pmax				
	comp=Z,49nm,0.9s								
YAK				pmax	pmax				
	comp=N,10.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.0s								
BILL	**Bilibino**	**23.86**	**15**	P		**P**		**19 26 55.4**	**+0.9**
BILL	**Bilibino**	**23.86**	**15**	*ce*P		**P**		**19 26 55.6**	**+1.1**
BILL				*e**PP		**pP**		**19 27 21.9**	**+1.4**
BILL				*e*S		**S**		**19 31 00.7**	**+0.4**
BILL				*e**SS		sS		19 31 56.9	+7.6
BILL				pmax	pmax				
	comp=Z,17nm,0.4s								
BILL	**Bilibino**	**23.86**	**15**	*e*P		**P**		**19 26 55.6**	**+1.1**
NJ2	**Nanjing**	**27.66**	**251**	*e*P		**P**		**19 27 26.6**	**-2.4**
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								
HHC	**Hu-ho-hao-te**	**28.22**	**274**	*e*P		**P**		**19 27 35.8**	**+1.7**
HHC				pmax	pmax				
	comp=Z,38nm,0.9s								
HHC				pmax	pmax				
	comp=Z,350nm,5.8s								
H11N2	**WAKE ISLAND Hy**	**29.47**	**146**	T		T		19 58 58.0	
	baz=335,slow=76,SNR=663								
H11N1	**WAKE ISLAND Hy**	**29.48**	**146**	T		T		19 59 00.7	
	baz=335,slow=76,SNR=454								
H11N3	**WAKE ISLAND Hy**	**29.49**	**146**	T		T		19 58 59.4	
	baz=335,slow=76,SNR=501								
SONM	**Songino Array**	**29.64**	**290**	P		**P**		**19 27 45.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=61,slow=12,SNR=2.5								
	comp=Z,0.4nm,0.4s								
H11S1	**WAKE ISLAND Hy**	**30.51**	**148**	T		T		20 00 14.8	
	baz=336,slow=76,SNR=477								
H11S3	**WAKE ISLAND Hy**	**30.52**	**148**	T		T		20 00 19.1	
	baz=336,slow=76,SNR=159								
H11S2	**WAKE ISLAND Hy**	**30.53**	**148**	T		T		20 00 14.7	
	baz=336,slow=76,SNR=210								
K20K	**Telida**	**35.47**	**40**	P		**P**		**19 28 34.9**	**-2.2**
K20K				IAmb	IAmb			19 28 42.5	
	comp=Z,7.6nm,1.4s								
J20K	**Nowinta River**	**35.48**	**39**	P		**P**		**19 28 39.4**	**+2.3**
J20K				IAmb	IAmb			19 28 40.2	
	comp=Z,3.3nm,0.8s								
LZH	**Lanzhou**	**35.77**	**271**	*e*P		**P**		**19 28 42.3**	**+2.2**
LZH				pmax	pmax				
	comp=Z,28nm,1.1s								
IMAR	**Indian Mountai**	**35.81**	**36**	P		**P**		**19 28 41.7**	**+1.8**
H21K	**Melozitna Rive**	**36.17**	**36**	P		**P**		**19 28 41.0**	**-2.0**
PPLA	**Purkeypile**	**36.31**	**41**	P		**P**		**19 28 43.8**	**-0.5**
CAST	**Castle Rocks**	**36.37**	**40**	P		**P**		**19 28 46.3**	**+1.7**
KDAK	**Kodiak Island**	**36.37**	**50**	P		**P**		**19 28 45.7**	**+0.9**
KDAK	**Kodiak Island**	**36.37**	**50**	P		**P**		**19 28 45.7**	**+0.9**
KDAK				pmax	pmax				
	comp=Z,29nm,1.2s								
I21K	**Tanana**	**36.48**	**37**	P		**P**		**19 28 47.7**	**+2.2**
I21K				IAmb	IAmb			19 28 48.4	
	comp=Z,2.8nm,0.6s								
MLY	**Manley**	**37.00**	**37**	P		**P**		**19 28 51.2**	**+1.2**
MLY				IAmb	IAmb			19 28 53.2	
	comp=Z,2.3nm,0.6s								
GTA	**Gaotai**	**37.00**	**278**	⇑P		**P**		**19 28 52.1**	**+1.6**
GTA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
NEA2	**Nenana**	**37.70**	**38**	P		**P**		**19 28 57.8**	**+1.8**
NEA2				IAmb	IAmb			19 28 59.1	
	comp=Z,4.1nm,0.8s								
MDM	**Murphy Dome**	**38.06**	**37**	P		**P**		**19 29 00.3**	**+1.3**
MDM				IAmb	IAmb			19 29 02.3	
	comp=Z,3.0nm,0.7s								
WRH	**Wood River Hil**	**38.13**	**38**	P		**P**		**19 29 01.2**	**+1.7**
SML	**Sawmill**	**38.15**	**43**	P		**P**		**19 29 00.8**	**+1.1**
SML				IAmb	IAmb			19 29 12.9	
	comp=Z,14nm,1.2s								
SML	**Sawmill**	**38.15**	**43**	P		**P**		**19 29 00.8**	**+1.1**
SML				pmax	pmax				
	comp=Z,14nm,1.2s								
PWL	**Port Wells**	**38.23**	**44**	P		**P**		**19 29 01.8**	**+1.4**
CCB	**Clear Creek Bu**	**38.25**	**38**	P		**P**		**19 29 02.2**	**+1.8**
DHY	**Denali Highway**	**38.50**	**40**	P		**P**		**19 29 04.2**	**+1.3**
HDA	**Harding Lake**	**38.62**	**38**	P		**P**		**19 29 04.8**	**+1.1**
HDA				IAmb	IAmb			19 29 06.3	
	comp=Z,3.6nm,0.7s								
IL31		**38.64**	**38**	P		**P**		**19 29 05.6**	**+1.9**
IL31				IAmb	IAmb			19 29 45.3	
	comp=Z,5.6nm,1.4s								
ILAR	**Eielson Array**	**38.64**	**38**	P		**P**		**19 29 05.0**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=275,slow=9.4,SNR=11								
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	**38.64**	**38**	P		**P**		**19 29 05.6**	**+1.8**
ILAR	**Eielson Array**	**38.64**	**38**	P		**P**		**19 29 05.6**	**+1.8**
FYU	**Fort Yukon**	**39.28**	**35**	P		**P**		**19 29 11.7**	**+2.6**
FYU				IAmb	IAmb			19 29 25.4	
	comp=Z,16nm,1.4s								
J25K	**Salcha River,**	**39.30**	**38**	P		**P**		**19 29 10.6**	**+1.3**
J25K				IAmb	IAmb			19 29 52.8	
	comp=Z,4.0nm,1.2s								
BMAR	**Burnt Mountain**	**39.52**	**33**	P		**P**		**19 29 13.8**	**+2.7**
RIDG	**Independent Ri**	**39.59**	**39**	P		**P**		**19 29 13.0**	**+1.3**
RIDG				IAmb	IAmb			19 29 29.6	
	comp=Z,6.3nm,1.3s								
RAGM	**Ragged Mountai**	**40.08**	**44**	P		**P**		**19 29 18.4**	**+2.6**
L27K	**Beaver Creek,**	**41.02**	**40**	P		**P**		**19 29 26.1**	**+2.6**
L27K				IAmb	IAmb			19 29 28.9	
	comp=Z,3.4nm,0.6s								
BCAR	**Beaver Creek A**	**41.03**	**40**	P		**P**		**19 29 26.1**	**+2.4**
ISLE	**Juniper Island**	**41.18**	**44**	P		**P**		**19 29 27.1**	**+2.1**
ISLE				IAmb	IAmb			19 29 37.0	
	comp=Z,9.7nm,1.1s								
ZALV	**Zalesovo Beam**	**41.44**	**306**	P		**P**		**19 29 25.6**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=111,slow=7.9,SNR=3.1								
ZALV				PcP		**PcP**		**19 31 23.8**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=84,slow=3.0,SNR=9.3								
	comp=Z,0.7nm,0.4s								
GOMU	**GeErMu**	**42.01**	**277**	P		**P**		**19 29 32.8**	**+0.5**
GOMU				pmax	pmax				
	comp=Z,5.0nm,0.9s								
PZH	**PanZhiHua**	**42.74**	**260**	P		**P**		**19 29 39.3**	**+1.3**
PZH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,90nm,4.9s								
WMQ	**Urumqi**	**43.27**	**291**	*e*P		**P**		**19 29 43.1**	**+1.1**
HYT	**Haines Junctio**	**43.45**	**43**	P		**P**		**19 29 46.0**	**+2.6**
N31M	**Braeburn, Yuko**	**44.10**	**42**	P		**P**		**19 29 50.3**	**+1.9**
N31M				IAmb	IAmb			19 30 16.4	
	comp=Z,8.3nm,1.4s								
MK31	**Makanchi Array**	**45.48**	**297**	P		**P**		**19 29 58.9**	**-0.6**
MK31						**PcP**		**19 31 37.7**	**+1.7**
MK31	**Makanchi Array**	**45.48**	**297**	*c iP*		**P**		**19 29 58.7**	**-0.8**
MKAR	**Makanchi Array**	**45.48**	**297**	P		**P**		**19 29 58.6**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=56,slow=5.2,SNR=38								
MKAR				PcP		**PcP**		**19 31 37.8**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=71,slow=2.2,SNR=10.0								
	comp=Z,0.6nm,0.3s								
MAKZ	**Makanchi**	**45.67**	**297**	P		**P**		**19 30 00.1**	**-0.8**
MAKZ	**Makanchi**	**45.67**	**297**	P		**P**		**19 30 00.1**	**-0.8**
MAKZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KURK	**Kurchatov**	**46.11**	**303**	P		**P**		**19 30 02.8**	**-1.5**
KURK				IAmb	IAmb			19 30 03.7	
	comp=Z,3.7nm,0.6s								
KURK	**Kurchatov**	**46.11**	**303**	*e*P		**P**		**19 30 02.8**	**-1.5**
KURK				*i* AP		**pwP**		**19 30 36.4**	**-1.5**
KURK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KURK	**Kurchatov**	**46.11**	**303**	*e*P		**P**		**19 30 02.8**	**-1.5**
KURBB	**Kurchatov Arra**	**46.20**	**303**	P		**P**		**19 30 03.9**	**-1.1**
	comp=Z,3.6nm,0.7s,baz=70,slow=8.7,SNR=20								
KURBB				PcP		**PcP**		**19 31 40.1**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=77,slow=3.2,SNR=5.3								
	comp=Z,3.6nm,0.7s								
CRAI	**Chiangrai**	**47.85**	**255**	P		**P**		**19 30 19.7**	**+1.5**
CRAI				IAmb	IAmb			19 30 21.8	
	comp=Z,2.3nm,0.7s								
LSA	**Lhasa**	**48.17**	**272**	P		**P**		**19 30 22.1**	**+0.9**
LSA				IAmb	IAmb			19 30 24.8	
	comp=Z,4.8nm,0.7s								
LSA	**Lhasa**	**48.17**	**272**	P		**P**		**19 30 22.1**	**+0.9**
LSA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
LSA	**Lhasa**	**48.17**	**272**	*e*P		**P**		**19 30 22.1**	**+0.9**
CHTO	**Chiang Mai**	**49.80**	**255**	P		**P**		**19 30 34.8**	**+1.7**
CHTO	**Chiang Mai**	**49.80**	**255**	P		**P**		**19 30 34.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**50.05**	**254**	P		**P**		**19 30 38.1**	**+3.1**
	comp=Z,1.2nm,0.6s,baz=33,slow=7.7,SNR=10								
AAK	**Ala-Archa**	**52.33**	**295**	⇓*e*P		**P**		**19 30 52.5**	**+0.6**
AAK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
AAK	**Ala-Archa**	**52.33**	**295**	*e*P		**P**		**19 30 52.5**	**+0.6**
JIRN	**Jiri**	**52.87**	**273**	*e*P		**P**		**19 30 58.0**	**+1.7**
	comp=Z,69nm,0.6s								
GUN	**Gumba**	**52.94**	**274**	*e*P		**P**		**19 30 58.7**	**+1.9**
	comp=Z,26nm,0.4s								
RAMN	**Ramite**	**53.02**	**272**	*e*P		**P**		**19 30 59.1**	**+1.8**
	comp=Z,74nm,0.6s								
PKI	**Pulchoki**	**53.47**	**274**	*e*P		**P**		**19 31 02.3**	**+1.6**
	comp=Z,23nm,0.7s								
PKIN	**Phulchoki**	**53.48**	**274**	*e*P		**P**		**19 31 02.3**	**+1.6**
	comp=Z,22nm,0.6s								
DMN	**Daman**	**53.66**	**274**	*e*P		**P**		**19 31 04.0**	**+2.0**
	comp=Z,51nm,0.8s								
GKN	**Gorkha**	**53.75**	**275**	*e*P		**P**		**19 31 04.3**	**+1.8**
	comp=Z,31nm,0.4s								
DANN	**Dangsing**	**54.15**	**275**	*e*P		**P**		**19 31 07.7**	**+2.2**
	comp=Z,70nm,0.5s								
ARU	**Arti**	**54.27**	**317**	P		**P**		**19 31 03.9**	**-1.8**
ARU				IAmb	IAmb			19 31 04.7	
	comp=Z,4.4nm,0.8s								
ARU	**Arti**	**54.27**	**317**	*c iP*		**P**		**19 31 04.1**	**-1.5**
ARU				S		**S**		**19 38 32.4**	**-0.1**
ARU				SS		**SS**		**19 42 08.9**	**-6.7**
ARU				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KK31	**Karatay Array**	**54.58**	**298**	P		**P**		**19 31 06.5**	**-1.5**
KK31	**Karatay Array**	**54.58**	**298**	P		**P**		**19 31 06.6**	**-1.5**
KK31				pmax	pmax				
	comp=Z,2.0nm,0.9s								
KKAR	**Karatay Array**	**54.58**	**298**	P		**P**		**19 31 06.8**	**-1.3**
KKAR	**Karatay Array**	**54.58**	**298**	P		**P**		**19 31 07.0**	**-1.1**
KKAR	**Karatay Array**	**54.58**	**298**	P		**P**		**19 31 07.0**	**-1.1**
PYUN	**Piuthan**	**54.84**	**276**	*e*P		**P**		**19 31 12.3**	**+1.9**
	comp=Z,24nm,0.4s								
GAR	**Garm**	**56.97**	**294**	P		**P**		**19 31 23.9**	**-1.4**
PRGR	**Permogore**	**57.01**	**327**	*e*P		**P**		**19 31 22.4**	**-2.7**
PRGR				pmax	pmax				
	comp=Z,8.0nm,0.6s								
ABKAR	**Akbulak array**	**57.39**	**309**	P		**P**		**19 31 27.0**	**-1.0**
ABKAR	**Akbulak array**	**57.39**	**309**	P		**P**		**19 31 26.8**	**-1.2**
ABKAR				IAmb	IAmb			19 31 27.7	
	comp=Z,5.8nm,0.3s								
CHGR	**Chuyangaron**	**57.91**	**294**	P		**P**		**19 31 31.5**	**-0.4**
CHGR	**Chuyangaron**	**57.91**	**294**	P		**P**		**19 31 31.5**	**-0.4**
CHGR				pmax	pmax				
	comp=Z,18nm,0.4s								
ARCES	**ARCESS Array B**	**58.05**	**340**	P		**P**		**19 31 30.6**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=41,slow=8.4,SNR=9.9								
ARCES				PcP		**PcP**		**19 32 23.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=57,slow=4.5,SNR=5.3								
	comp=Z,0.3nm,0.4s								
KBL	**Kabul**	**60.41**	**290**	P		**P**		**19 31 49.3**	**-0.1**
KBL	**Kabul**	**60.41**	**290**	P		**P**		**19 31 49.3**	**-0.1**
KBL				pmax	pmax				
	comp=Z,9.0nm,0.5s								
FIA1	**FINESS Array S**	**63.98**	**334**	P		**P**		**19 32 10.5**	**-1.9**
FIA1				IAmb	IAmb			19 32 23.9	
	comp=Z,13nm,1.3s								
FINES	**FINESS Array B**	**63.98**	**334**	P		**P**		**19 32 10.7**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=30,slow=8.6,SNR=18								
	comp=Z,1.2nm,0.4s								
FINES	**FINESS Array B**	**63.98**	**334**	P		**P**		**19 32 10.4**	**-2.0**
FINES	**FINESS Array B**	**63.98**	**334**	*i* P		**P**		**19 32 11.1**	**-1.3**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NVAR	**Mina Array Bea**	**64.78**	**60**	P		**P**		**19 32 21.8**	**+3.5**
	comp=Z,0.2nm,0.4s,baz=291,slow=7.6,SNR=2.4								
	comp=Z,0.2nm,0.4s								
OBN	**Obninsk**	**64.88**	**324**	*e*P		**P**		**19 32 15.3**	**-3.0**
OBN				*e*				19 32 48.5	
OBN				*e**PP		**pwP**		**19 32 55.0**	**+1.3**
OBN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
GEYT	**Alibeck**	**65.24**	**300**	P		**P**		**19 32 21.6**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=7.6,slow=4.5,SNR=6.3								
	comp=Z,1.2nm,0.4s								
GEYT	**Alibeck**	**65.24**	**300**	P		**P**		**19 32 21.4**	**+0.4**
GEYT				IAmb	IAmb			19 32 22.6	
	comp=Z,5.3nm,1.2s								
WRA	**Warramunga Arr**	**66.94**	**196**	P		**P**		**19 32 35.2**	**+3.3**
	comp=Z,1.3nm,0.7s,baz=6.4,slow=7.5,SNR=7.8								
	comp=Z,1.3nm,0.7s								
NB2	**NORSAR Sambarra**	**68.43**	**340**	P		**P**		**19 32 39.5**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.43**	**340**	P		**P**		**19 32 40.0**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=27,slow=6.6,SNR=15								
	comp=Z,1.2nm,0.5s								
NOA	**NORSAR Array B**	**68.43**	**340**	P		**P**		**19 32 40.0**	**-0.9**
NORES	**NORESS Array B**	**68.62**	**340**	P		**P**		**19 32 40.1**	**-1.8**
KIV	**Kislovodsk**	**69.92**	**313**	*e*P		**P**		**19 32 47.8**	**-2.5**
KIV				pmax	pmax				
	comp=Z,4.0nm,1.1s								
KBZ	**Khabaz**	**69.97**	**312**	P		**P**		**19 32 51.0**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=66,slow=10.0,SNR=2.5								
	comp=Z,2.8nm,0.9s								
AKASG	**Malin Array Be**	**71.13**	**325**	P		**P**		**19 32 56.4**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=38,slow=6.2,SNR=10								
	comp=Z,1.2nm,0.3s								
AKASG	**Malin Array Be**	**71.13**	**325**	*ce*P		**P**		**19 32 56.7**	**-0.8**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KRLC	**Kraliky**	**76.27**	**331**	*e*P		**P**		**19 33 28.5**	**+1.0**
KRLC	**Kraliky**	**76.27**	**331**	*e*P		**P**		**19 33 28.5**	**+1.0**
CLL	**Collm**	**76.43**	**334**	*i* P		**P**		**19 33 28.4**	**+0.1**
CLL				pmax	pmax				
	comp=Z,3.0nm,0.5s								
CLL	**Collm**	**76.43**	**334**	*i* P		**P**		**19 33 28.4**	**+0.1**
	comp=Z,3.0nm,0.5s								
CLL				*e*PcP		**PcP**		**19 33 40.0**	**+0.5**
EKA	**Eskdalemuir Ar**	**76.75**	**345**	P		**P**		**19 33 29.6**	**-0.4**
VYHS	**Vyhne**	**76.89**	**329**	*e*P		**P**		**19 33 31.5**	**+0.5**
VYHS	**Vyhne**	**76.89**	**329**	*e*P		**P**		**19 33 31.5**	**+0.5**
BRTR	**Keskin Array B**	**77.60**	**315**	P		**P**		**19 33 36.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=50,slow=12,SNR=2.4								
	comp=Z,0.7nm,0.7s								
KHC	**Kasperske Hory**	**78.15**	**332**	*e*P		**P**		**19 33 38.8**	**+0.8**
KHC	**Kasperske Hory**	**78.15**	**332**	*e*P		**P**		**19 33 38.8**	**+0.8**
CKRC	**Cesky Krumlov**	**78.18**	**332**	*e*P		**P**		**19 33 38.9**	**+0.7**
GERES	**GERESS Array B**	**78.36**	**332**	P		**P**		**19 33 38.9**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=33,slow=5.5,SNR=11								
	comp=Z,0.6nm,0.4s								
CONA	**Conrad Observa**	**78.42**	**330**	*e*P		**P**		**19 33 38.3**	**-1.3**
	comp=Z,1.6nm,0.5s								
SOKA	**Soboth**	**79.79**	**330**	*e*P		**P**		**19 33 47.2**	**+0.2**
	comp=Z,2.8nm,0.9s								
TXAR	**Lajitas Array**	**79.83**	**58**	P		**P**		**19 33 50.5**	**+2.9**
	comp=Z,0.2nm,0.4s,baz=292,slow=4.9,SNR=6.4								
	comp=Z,0.2nm,0.4s								
KBA	**Koelnbreinsper**	**80.01**	**332**	*e*P		**P**		**19 33 49.0**	**+0.6**
	comp=Z,2.6nm,0.5s								
WATA	**Walderalm**	**80.36**	**333**	*e*P		**P**		**19 33 50.6**	**+0.4**
	comp=Z,1.2nm,0.4s								
WTTA	**Wattenberg**	**80.41**	**333**	*e*P		**P**		**19 33 50.9**	**+0.4**
	comp=Z,2.4nm,0.4s								
CDF	**Champ du Feu**	**80.71**	**336**	*e*P		**P**		**19 33 54.5**	**+2.6**
CDF				pmax	pmax				
	comp=Z,3.0nm,0.7s								
HAU	**Haudompre**	**81.34**	**336**	*e*P		**P**		**19 33 57.3**	**+2.1**
HAU				pmax	pmax				
	comp=Z,3.0nm,0.6s								
FLN	**La Foliniere**	**82.39**	**341**	*e*P		**P**		**19 34 01.3**	**+0.7**
FLN				pmax	pmax				
	comp=Z,4.0nm,0.7s								
LDF	**La Druitiere**	**82.46**	**341**	*e*P		**P**		**19 34 00.9**	**-0.1**
LDF				pmax	pmax				
	comp=Z,33nm,1.7s								
LOR	**Lormes**	**82.70**	**338**	*e*P		**P**		**19 34 01.9**	**-0.4**
LOR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
H06N1	**SOCORRO T-PHAS**	**82.76**	**71**	T		T		21 06 02.5	
	SNR=2.5								
GRR	**Gorron**	**82.83**	**341**	*e*P		**P**		**19 34 03.9**	**+1.0**
GRR				pmax	pmax				
	comp=Z,5.0nm,0.6s								
SSF	**Saint Saulge**	**82.98**	**338**	*e*P		**P**		**19 34 05.2**	**+1.4**
SSF				pmax	pmax				
	comp=Z,2.0nm,0.7s								
AVF	**Avril sur Loir**	**83.27**	**338**	*e*P		**P**		**19 34 05.3**	**+0.1**
AVF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SMF	**Signal de Mont**	**83.28**	**337**	*e*P		**P**		**19 34 06.8**	**+1.5**
SMF				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SGMF	**Saint Gilles**	**83.33**	**342**	*e*P		**P**		**19 34 06.2**	**+0.7**
SGMF				pmax	pmax				
	comp=Z,13nm,1.0s								
ROSF	**Rostrenen**	**83.41**	**342**	*e*P		**P**		**19 34 06.4**	**+0.5**
ROSF				pmax	pmax				
	comp=Z,20nm,1.2s								
LPL	**La Plagne**	**83.49**	**335**	*e*P		**P**		**19 34 08.6**	**+1.9**
LPL				pmax	pmax				
	comp=Z,10.0nm,1.2s								
LPG	**La Plagne**	**83.50**	**335**	*e*P		**P**		**19 34 08.9**	**+2.1**
LPG				pmax	pmax				
	comp=Z,3.0nm,0.6s								
TCF	**Toulx Ste Croi**	**84.04**	**338**	*e*P		**P**		**19 34 09.8**	**+0.6**
TCF				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MBDF	**Montbardon**	**84.19**	**335**	*e*P		**P**		**19 34 11.9**	**+1.7**
MBDF				pmax	pmax				
	comp=Z,21nm,1.8s								
ORIF	**Oris-en-Rattie**	**84.28**	**335**	*e*P		**P**		**19 34 12.2**	**+1.6**
ORIF				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MFF	**Saint Martin d**	**84.33**	**340**	*e*P		**P**		**19 34 11.4**	**+0.8**
MFF				pmax	pmax				
	comp=Z,22nm,1.7s								
CAF	**Calviac**	**85.34**	**338**

EORO	**Oroz-Betelu**	**6.76**	**331**	Pn		**Pn**	**19 25 05.3**	**+2.7**
EORO				⇑iVmb_V			19 25 14.3	
	160nm,SNR=1.9							
LMR	**La Mourre**	**6.78**	**21**	*e*Pn		**Pn**	**19 25 04.0**	**+1.2**
LMR				*e*Sn		**Sn**	**19 26 17.8**	**-2.3**
	1.3nm,0.4s							
SJPF	**Ste Jean**	**6.92**	**332**	*e*Pn		**Pn**	**19 25 08.1**	**+3.4**
SJPF				*e*Sn		**Sn**	**19 26 19.8**	**-3.7**
	0.2nm,0.2s							
LASF	**Ste Croix**	**7.04**	**4**	*e*Pn		**Pn**	**19 25 08.7**	**+2.3**
LASF				*e*Sn		**Sn**	**19 26 23.5**	**-2.9**
	1.8nm,0.6s							
PGF	**Pioggiola**	**7.10**	**38**	*e*Pn		**Pn**	**19 25 10.1**	**+2.8**
PGF				*e*Sn		Sn	19 26 25.0	-3.1
	7.5nm,0.6s							
EALK	**Alkurruntz**	**7.12**	**331**	Pn		**Pn**	**19 25 10.5**	**+3.0**
SBF	**Sospel**	**7.55**	**24**	*e*Pn		**Pn**	**19 25 16.7**	**+3.3**
SBF				*e*Sn		**Sn**	**19 26 36.2**	**-2.8**
	3.6nm,0.5s							
VIVF	**Saint-Julien-l**	**7.88**	**8**	*e*Pn		**Pn**	**19 25 20.0**	**+2.0**
VIVF				*e*Sn		Sn	19 26 43.6	-3.6
	0.7nm,0.4s							
CAF	**Calviac**	**7.91**	**354**	*e*Pn		**Pn**	**19 25 20.6**	**+2.3**
LFF	**La Frestale**	**8.09**	**348**	*e*Pn		**Pn**	**19 25 23.0**	**+2.3**
ORIF	**Oris-en-Rattie**	**8.13**	**14**	*e*Pn		**Pn**	**19 25 24.8**	**+3.4**
ORIF				*e*Sn		Sn	19 26 49.8	-3.5
	1.3nm,0.5s							
MBDF	**Montbardon**	**8.14**	**19**	*e*Pn		**Pn**	**19 25 24.0**	**+2.3**
MBDF				*e*Sn		Sn	19 26 50.4	-3.4
	0.4nm,0.4s							
LPG	**La Plagne**	**8.86**	**17**	*e*Pn		**Pn**	**19 25 34.6**	**+3.0**
LPL	**La Plagne**	**8.88**	**17**	*e*Pn		**Pn**	**19 25 34.8**	**+3.0**
LPL				*e*Sn		Sn	19 27 07.9	-4.0
	0.8nm,0.5s							
AVF	**Avril sur Loir**	**9.73**	**1**	*e*Pn		**Pn**	**19 25 45.1**	**+1.8**
MFF	**Saint Martin d**	**9.85**	**347**	*e*Pn		**Pn**	**19 25 47.2**	**+2.3**
SSF	**Saint Saulge**	**10.01**	**1**	*e*Pn		**Pn**	**19 25 48.9**	**+1.9**
HYF	**Humbligny**	**10.22**	**358**	*e*Pn		**Pn**	**19 25 52.6**	**+2.7**

TUL ***20*** *19:23:24±0.4,36°.413N±0°.008×96°.90W±0°.01,h4km±1km, ML2.3,mb_Lg2.3/14(NEIC),Error ellipse: s-maj=1.3km s-min=1.1km az=51.0*

NEIC 20 19:23:24.0±0.5,36°.422N±0°.008×96°.905W±0°.006, h6km±1km,Error ellipse: s-maj=1.2km s-min=0.6km az=177.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK046	**Pawnee Station**	**0.03**	**185**			Pg	19 23 25.3	+0.1
OK046				Sg		Sg	19 23 26.1	+0.1
OK045	**Pawnee Station**	**0.03**	**327**			Pg	19 23 25.4	+0.2
OK045				Sg		Sg	19 23 26.3	+0.2
OK048	**Pawnee Station**	**0.03**	**259**	Pg		Pg	19 23 25.4	+0.2
OK048				Sg		Sg	19 23 26.2	+0.1
OK050	**Pawnee Station**	**0.07**	**246**	Pg		Pg	19 23 26.0	+0.3
OK050				Sg		Sg	19 23 27.2	+0.4
OK051	**E0350 and S346**	**0.10**	**34**	Pg		Pg	19 23 26.6	+0.4
OK051				Sg		Sg	19 23 28.2	+0.5
OK044	**Pawnee Station**	**0.10**	**120**	Pg		Pg	19 23 26.5	+0.3
OK044				Sg		Sg	19 23 28.1	+0.4
OK047	**Pawnee, Statio**	**0.15**	**72**	Pg		Pg	19 23 27.5	+0.4
OK047				Sg		Sg	19 23 29.7	+0.5
QUOK	**Quay**	**0.30**	**148**	Pg		Pg	19 23 30.1	+0.3
OK049	**E0420 Rd and N**	**0.32**	**267**	Pg		Pg	19 23 30.7	+0.4
OK049				Sg		Sg	19 23 35.1	+0.5
OK033	**Mehan**	**0.38**	**184**	Pg		Pg	19 23 31.6	+0.3
BLOK	**Blackwell**	**0.42**	**324**	Pg		Pg	19 23 32.5	+0.4
OK034	**N. Norfolk Rd.**	**0.44**	**159**	Pg		Pg	19 23 32.8	+0.3
OK031	**S. Brethren Rd**	**0.47**	**174**	Pg		Pg	19 23 33.4	+0.3
OK031				Sg		Sg	19 23 39.8	+0.6
OK030	**Cody Creek RV**	**0.50**	**169**	Pg		Pg	19 23 33.9	+0.3
OK030				Sg		Sg	19 23 40.7	+0.5
T35A	**Sooner Cattle**	**0.58**	**33**	Pg		Pg	19 23 35.4	+0.1
T35A				Sg		Sg	19 23 43.0	+0.1
DEOK	**Depew**	**0.67**	**150**	Pg		Pg	19 23 36.9	+0.1
OK029	**Liberty Lake**	**0.77**	**216**	Pg		Pg	19 23 38.9	+0.1
CROK	**Carrier**	**0.87**	**276**	Pg		Pg	19 23 40.8	+0.1
GC02	**Grant County #**	**0.88**	**299**			Pg	19 23 40.8	0.0
OK025	**Westminster Rd**	**0.91**	**203**	Pg		Pg	19 23 41.0	-0.5
KAN09	**Caldwell North**	**0.91**	**321**	Pg		Pg	19 23 41.3	-0.2
KAN17	**Caldwell West**	**0.93**	**312**	Pg		Pg	19 23 41.9	+0.1
BCOK	**Bluff Creek, N**	**0.95**	**217**	Pg		Pg	19 23 42.2	-0.1
KS20	**Mayfield South**	**0.96**	**327**	Pg		Pg	19 23 42.4	0.0
KAN01	**Argonia South**	**1.00**	**317**	Pg		Pg	19 23 43.1	-0.1
KAN14	**Manchester OK**	**1.00**	**302**	Pg		Pg	19 23 43.0	-0.2
TUL1	**Leonard**	**1.03**	**119**	Pg		Pg	19 23 43.5	-0.3
KAN05	**Bluff City Nor**	**1.04**	**312**	Pg		Pg	19 23 42.7	-1.1
KS21	**Milan North St**	**1.05**	**325**	Pg		Pg	19 23 44.0	-0.2
KAN06	**Argonia West S**	**1.12**	**317**	Pg		Pg	19 23 45.2	-0.3
KAN08	**Anthony NE Sta**	**1.17**	**313**	Pg		Pg	19 23 46.3	-0.2
KAN10	**Anthony SW Sta**	**1.19**	**307**	Pg		Pg	19 23 46.2	-0.5
KAN16	**Harper SW Stat**	**1.23**	**311**	Pg		Pg	19 23 47.3	-0.3
FNO	**Franklin**	**1.23**	**199**	Pg		Pn	19 23 47.8	+0.1
OK035	**E0210 Rd and N**	**1.48**	**282**	Pg		Pn	19 23 50.9	-0.3
OK038	**West end E0370**	**1.48**	**273**	Pg		Pn	19 23 51.4	+0.1
RLO	**Rose Lookout**	**1.54**	**99**			Pn	19 23 52.2	+0.1
CSTR	**Hydro, Custer**	**1.64**	**242**			Pn	19 23 53.2	-0.2
U32A	**Winter Ranch,**	**1.69**	**269**			Pb	19 23 54.9	-0.6
X34A	**Smith Ranch, M**	**1.97**	**203**	IAmb_Lg			19 24 29.2	
	comp=Z,14nm,0.9s							
U38A	**Gravette**	**2.03**	**89**	Pn		Pn	19 23 58.5	-0.2
ELIS	**Ellis County**	**2.06**	**261**	Pn		Pb	19 24 01.2	-0.7
X37A	**Clayton**	**2.22**	**145**	Pn		Pn	19 24 02.7	+1.5
WMOK	**Wichita Mounta**	**2.27**	**223**	Pn		Pn	19 24 03.0	+1.0
HHAR	**Hobbs**	**2.40**	**92**	Pn		Pn	19 24 04.8	+1.0
S39A	**Bolivar**	**3.13**	**65**	Pn		Pn	19 24 14.8	+0.9
MIAR	**Mount Ida**	**3.30**	**124**	IAmb_Lg			19 25 15.7	
	comp=Z,4.8nm,0.7s							
MGMO	**Mountain Grove**	**3.79**	**78**	IAmb_Lg			19 25 23.0	
	comp=Z,4.0nm,0.9s							
FCAR	**Ozark Folk Cen**	**3.91**	**96**	IAmb_Lg			19 25 26.2	
	comp=Z,5.4nm,0.7s							
WHAR	**Wooly Hollow**	**3.92**	**105**	Pn		Pn	19 24 20.1	-4.6
WHAR				IAmb_Lg			19 25 34.7	
	comp=Z,5.0nm,0.7s							
P38A	**Dawn**	**4.16**	**39**	IAmb_Lg			19 25 41.1	
	comp=Z,6.5nm,1.1s							
N35A	**Tabor**	**4.54**	**12**	IAmb_Lg			19 26 00.3	
	comp=Z,15nm,0.8s							
LCAR	**Lake Charles**	**4.66**	**93**	Pn		Pn	19 24 33.1	-1.8
T25A	**Trinidad**	**6.07**	**279**	IAmb_Lg			19 26 39.6	
	comp=Z,7.6nm,1.0s							

IDC ***20*** *19:23:22.0±1.0,30°.55N×141°.93E,h0km,mb3.9/8, mbtmp3.9/10,ML3.2/2,Error ellipse: s-maj=42.0km s-min=16.3km az=74.0*

NEIC ***20*** *19:23:23.6±1.7,30°.54N±0°.05×142°.1E±0°.2,h10km±1km, mb4.4/17,Error ellipse: s-maj=24.4km s-min=2.9km az=70.0*

ISC 20 19:23:25.5±0.7,30°.57N±0°.08×141°.9E±0°.1,h23km,n39, σ0s94/41,mb4.1/15,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**3.11**	**325**	Pn		**Pn**	**19 24 12.1**	**-1.1**
JHJ	**Hachijo jima 2**	**3.13**	**325**	Pn		**Pn**	**19 24 12.3**	**-1.2**
	6.0nm,0.3s,baz=218,slow=19,SNR=1.9							
JHJ				Sn		**Sn**	**19 24 49.9**	**-0.3**
	11nm,0.3s,baz=72,slow=20,SNR=1.2 198nm,1.0s							
JHJ	**Hachijo jima 2**	**3.13**	**325**			**Pn**	**19 24 12.3**	**-1.2**
JHJ						**Sn**	**19 24 49.9**	**-0.3**
JCJ	**Chichijima**	**3.46**	**176**	Pn		**Pn**	**19 24 15.4**	**-2.6**
MJAR	**Matsushiro Arr**	**6.72**	**333**	Pn		**Pn**	**19 25 01.2**	**-1.7**
	0.6nm,0.3s,baz=158,slow=11,SNR=10 5.2nm,0.5s							
MAJO	**Matsushiro**	**6.72**	**333**	Pn		**Pn**	**19 25 01.2**	**-1.6**
MJB9	**Matsu-Tunnel**	**6.73**	**333**	Pn		**Pn**	**19 25 01.1**	**-1.8**
JMM	**Marumori**	**7.34**	**353**	Pn		**Pn**	**19 25 10.0**	**-1.3**
MK31	**Makanchi Array**	**48.15**	**307**	P		**P**	**19 32 03.9**	**+0.1**
MK31				IAmb		IAmb	19 32 14.7	
	comp=Z,1.6nm,1.3s							
MKAR	**Makanchi Array**	**48.15**	**307**	P		**P**	**19 32 03.9**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=86,slow=9.2,SNR=4.2 comp=Z,0.7nm,0.6s							
MKAR	**Makanchi Array**	**48.15**	**307**	P		**P**	**19 32 03.8**	**0.0**
MAKZ	**Makanchi**	**48.37**	**307**	P		**P**	**19 32 05.9**	**+0.4**
MAKZ				IAmb		IAmb	19 32 41.3	
	comp=Z,3.0nm,1.4s							
KURBB	**Kurchatov Arra**	**50.50**	**312**	P		**P**	**19 32 22.1**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=92,slow=8.3,SNR=4.1 comp=Z,0.4nm,0.4s							
CTA	**Charters Tower**	**50.53**	**175**	P		**P**	**19 32 21.8**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=346,slow=4.2,SNR=1.6 comp=Z,0.8nm,0.4s							
CTA	**Charters Tower**	**50.53**	**175**	P		**P**	**19 32 21.8**	**-0.4**
WB0	**Warramunga Arr**	**50.56**	**189**	P		**P**	**19 32 22.0**	**-0.4**
WB0				IAmb		IAmb	19 32 22.6	
	comp=Z,5.9nm,0.5s							
WR0	**Warramunga Arr**	**50.73**	**189**	P		**P**	**19 32 23.2**	**-0.5**
WR0				IAmb		IAmb	19 32 35.6	
	comp=Z,2.5nm,0.7s							
WRA	**Warramunga Arr**	**50.74**	**189**	P		**P**	**19 32 23.4**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=5.8,slow=7.6,SNR=76 comp=Z,3.1nm,0.6s							
WRA	**Warramunga Arr**	**50.74**	**189**	P		**P**	**19 32 22.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**50.86**	**200**	P		**P**	**19 32 24.9**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=8.7,slow=13,SNR=1.7 comp=Z,1.6nm,1.0s							
FITZ	**Fitzroy Crossi**	**50.86**	**200**	P		**P**	**19 32 24.8**	**+0.2**
FITZ				IAmb		IAmb	19 32 59.3	
	comp=Z,8.6nm,1.4s							
H24K	**Noodor Dome**	**54.45**	**28**	P		**P**	**19 32 50.4**	**-0.4**
H24K				IAmb		IAmb	19 33 16.5	
	comp=Z,9.5nm,1.5s							
AS31	**Alice Springs**	**54.47**	**189**	P		**P**	**19 32 51.3**	**0.0**
ASAR	**Alice Springs**	**54.47**	**189**	P		**P**	**19 32 51.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=358,slow=4.9,SNR=24 comp=Z,0.6nm,0.5s							
ASAR	**Alice Springs**	**54.47**	**189**	P		**P**	**19 32 50.8**	**-0.6**
ASAR	**Alice Springs**	**54.47**	**189**	P		**P**	**19 32 51.0**	**-0.3**
KK31	**Karatay Array**	**56.92**	**304**	P		**P**	**19 33 09.8**	**+1.0**
KKAR	**Karatay Array**	**56.92**	**304**	P		**P**	**19 33 09.9**	**+1.1**
KKAR	**Karatay Array**	**56.92**	**304**	P		**P**	**19 33 10.0**	**+1.1**
KKAR				IAmb		IAmb	19 33 35.7	
	comp=Z,0.9nm,0.8s							
CHGR	**Chuyangaron**	**59.02**	**299**	P		**P**	**19 33 24.9**	**+1.2**
FORT	**Forrest**	**62.42**	**193**	P		**P**	**19 33 46.5**	**-0.1**
ABKAR	**Akbulak array**	**62.55**	**313**	P		**P**	**19 33 47.7**	**+0.3**
ABKAR	**Akbulak array**	**62.55**	**313**	P		**P**	**19 33 48.0**	**+0.6**
ABKAR				IAmb		IAmb	19 33 53.9	
	comp=Z,2.5nm,1.4s							
GYA0B	**ALIBECK ARRAY**	**67.47**	**302**	P		**P**	**19 34 20.8**	**+1.1**
GYA0B				IAmb		IAmb	19 34 36.9	
	comp=Z,2.9nm,0.9s							
MNCI	**Minicoy**	**67.66**	**266**	P		**P**	**19 34 21.7**	**+0.6**
FIA1	**FINESS Array S**	**74.75**	**333**	P		**P**	**19 35 03.4**	**+0.1**
FINES	**FINESS Array B**	**74.75**	**333**	P		**P**	**19 35 03.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=35,slow=4.7,SNR=6.0 comp=Z,1.2nm,0.8s							
FINES	**FINESS Array B**	**74.75**	**333**	P		**P**	**19 35 03.7**	**+0.4**
NVAR	**Mina Array Bea**	**78.56**	**52**	P		**P**	**19 35 25.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=291,slow=6.5,SNR=2.6 comp=Z,0.2nm,0.4s							

ROM 20 19:25:17.9±0.1,40°.845N±0°.005×15°.27E±0°.01,h9km, ML1.2/4,1D,Error ellipse: s-maj=0.8km s-min=0.5km az=270.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAL	**S. Angelo Dei**	**0.09**	**332**	⇓P		Pg	19 25 20.3	-0.1
SNAL				S		Sg	19 25 22.9	+0.7
SNAL				AML		AML		
	comp=E,222μm,1.5s							
SNAL				AML		AML		
	comp=N,336μm,0.7s							
SNAL				AML		AML		
	comp=E,214μm,0.5s							
SNAL				AML		AML		
	comp=N,339μm,0.6s							
SNAL				AML		AML		
	comp=E,222μm,0.5s							
MCRV	**Calabrutti - M**	**0.10**	**229**	P		Pg	19 25 20.8	+0.3
MCRV				S		Sg	19 25 23.3	+1.1
MCRV				AML		AML		
	comp=E,158μm,1.4s							
MCRV				AML		AML		
	comp=N,184μm,0.1s							
MCRV				AML		AML		
	comp=E,158μm,0.6s							
CAFE	**Carife**	**0.18**	**353**	P		Pg	19 25 21.9	0.0
CAFE				S		Sg	19 25 25.6	+1.1
CAFE				AML		AML		
	comp=E,121μm,1.4s							
CAFE				AML		AML		
	comp=N,80μm,0.4s							
CAFE				AML		AML		
	comp=E,121μm,0.6s							
MRLC	**Muro Lucano**	**0.19**	**117**	P		Pg	19 25 22.3	+0.4
MRLC				S		Sg	19 25 26.1	+1.5
MRLC				AML		AML		
	comp=E,50μm,1.1s							
MRLC				AML		AML		
	comp=N,55μm,0.3s							
MRLC				AML		AML		
	comp=E,50μm,0.9s							
VULT	**Monte Vulture**	**0.29**	**68**	P		Pb	19 25 24.8	-0.5
VULT				S		Sb	19 25 29.5	-0.8
SGTA	**Sant Agata di**	**0.30**	**15**	P		Pb	19 25 25.1	-0.5
SGTA				S		Sb	19 25 29.8	-0.7
CDRU	**Civita di Ruta**	**0.36**	**175**	P		Pg	19 25 25.2	+0.2
CDRU				S		Sb	19 25 31.4	-0.8

NOU ***20*** *19:46:32.5,20°.22S×178°.90W,h672km,mb4.6/27,Fiji Islands Region*

IDC ***20*** *19:46:33.5±1.0,20°.23S×179°.17W,h656km±10km, mb3.9/20,mbtmp4.8/23,Error ellipse: s-maj=11.4km s-min=10.2km az=146.0*

NEIC ***20*** *19:46:33.4±1.6,20°.3S±0°.1×179°.0W±0°.1,h658km±6km, mb4.7/81,Error ellipse: s-maj=16.1km s-min=14.5km az=126.0*

ISC 20 19:46:32.7±0.3,20°.28S±0°.06×179°.06W±0°.06,h650km, n284,σ1s11/310,mb4.6/77,28C-37D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.04**	**6**	P		**P**	**19 47 53.2**	**+1.3**
TAVE	**Taveuni**	**3.64**	**347**	P		**P**	**19 48 01.0**	**+1.3**
MSVF	**Nonsavu**	**3.73**	**312**	P		**P**	**19 48 01.8**	**+1.5**
	235nm,0.6s,baz=160,slow=3.3,SNR=379							
MSVF	**Nonsavu**	**3.73**	**312**	P		**P**	**19 48 01.6**	**+1.3**
MSVF	**Nonsavu**	**3.73**	**312**	P		**P**	**19 48 01.8**	**+1.5**
FUTU	**Fugatoga**	**6.00**	**9**	P		**P**	**19 48 17.1**	**+0.4**
NIUE	**Niue**	**8.69**	**84**	P		**P**	**19 48 39.4**	**-0.8**
MARNC	**Mare, Loyalty**	**12.13**	**262**	P		**P**	**19 49 12.2**	**-0.3**
PINNC	**Pines Island,**	**12.78**	**257**	P		**P**	**19 49 19.8**	**+1.3**
LIFNC	**LIFOU**	**12.85**	**265**	P		**P**	**19 49 17.9**	**-1.3**
DZM	**Mont Dzumac**	**13.64**	**260**	P		**P**	**19 49 28.7**	**+2.1**
	6.8nm,0.5s,baz=94,slow=20,SNR=14							
DZM	**Mont Dzumac**	**13.64**	**260**	P		**P**	**19 49 27.0**	**+0.3**
KOUNC	**Koumac, New Ca**	**15.62**	**266**	P		**P**	**19 49 46.4**	**+1.7**
KOUNC				IAmb		IAmb	19 49 49.6	
	comp=Z,88nm,1.0s							
URZ	**Urewera**	**18.23**	**190**	P		**P**	**19 50 07.9**	**-0.2**
	comp=Z,8.2nm,0.4s,baz=342,slow=2.0,SNR=9.2							
URZ	**Urewera**	**18.23**	**190**	P		**P**	**19 50 07.2**	**-1.0**
URZ				IAmb		IAmb	19 50 14.6	
	comp=Z,33nm,1.1s							
HIZ	**Hauiti**	**18.92**	**195**	P		**P**	**19 50 15.2**	**+0.8**
BKZ	**Black Stump Fm**	**19.21**	**191**	P		**P**	**19 50 15.3**	**-1.8**
QRZ	**Quartz Range**	**21.70**	**197**	P		**P**	**19 50 39.7**	**+0.4**
QRZ				IAmb		IAmb	19 50 51.7	
	comp=Z,36nm,1.3s							
QRZ	**Quartz Range**	**21.70**	**197**	P		**P**	**19 50 40.5**	**+1.2**
NNZ	**Nelson**	**21.84**	**195**	P		**P**	**19 50 40.7**	**+0.2**
NNZ				IAmb		IAmb	19 50 59.5	
	comp=Z,63nm,1.3s							
THZ	**Tophouse**	**22.48**	**196**	P		**P**	**19 50 45.3**	**-0.9**
THZ				IAmb		IAmb	19 51 13.5	
	comp=Z,36nm,1.3s							
KHZ	**Kahutara**	**22.94**	**194**	P		**P**	**19 50 50.1**	**-0.1**
KHZ	**Kahutara**	**22.94**	**194**	P		**P**	**19 50 50.1**	**-0.1**
LTZ	**Lake Taylor**	**23.60**	**196**	P		**P**	**19 50 55.0**	**-1.1**
LTZ				IAmb		IAmb	19 51 32.9	
	comp=Z,23nm,1.2s							
OXZ	**Oxford**	**24.17**	**196**	P		**P**	**19 50 59.8**	**-1.2**
OXZ				IAmb		IAmb	19 51 00.3	
	comp=Z,22nm,1.1s							
MQZ	**McQueen's Vall**	**24.37**	**195**	P		**P**	**19 51 01.4**	**-1.4**
RPZ	**Rata Peaks**	**24.79**	**197**	P		**P**	**19 51 05.4**	**-1.2**
RPZ				IAmb		IAmb	19 51 25.4	
	comp=Z,22nm,1.1s							
FOZ	**Fox Glacier**	**24.99**	**199**	P		**P**	**19 51 07.5**	**-0.7**
ODZ	**Otahua Downs**	**26.13**	**197**	P		**P**	**19 51 18.0**	**-0.2**
ODZ				IAmb		IAmb	19 51 29.6	
	comp=Z,31nm,1.4s							
WKZ	**Wanaka**	**26.41**	**199**	P		**P**	**19 51 19.7**	**-1.0**
WKZ				IAmb		IAmb	19 51 24.8	
	comp=Z,32nm,1.0s							
MLZ	**Mavora Lakes**	**27.17**	**200**	P		**P**	**19 51 28.0**	**+0.6**
MLZ				IAmb		IAmb	19 51 36.8	
	comp=Z,18nm,1.1s							
DCZ	**Deep Cove**	**27.58**	**201**	P		**P**	**19 51 30.1**	**-0.7**
DCZ				IAmb		IAmb	19 52 00.8	
	comp=Z,20nm,1.2s							
WHZ	**Wether Hill Ro**	**27.70**	**200**	P		**P**	**19 51 31.9**	**0.0**
WHZ				IAmb		IAmb	19 51 34.2	
	comp=Z,42nm,1.3s							
EIDS	**Eidsvold**	**27.95**	**254**	P		**P**	**19 51 34.2**	**-0.2**
ARMA	**Armidale**	**28.28**	**243**	P		**P**	**19 51 38.4**	**+1.1**
ARMA				IAmb		IAmb	19 52 18.1	
	comp=Z,18nm,1.3s							
RMQ	**Roma**	**30.13**	**252**	P		**P**	**19 51 54.3**	**+1.2**
RABL	**Rabaul**	**32.26**	**296**	P		**P**	**19 52 11.1**	**-0.2**
KRVT	**Keravat (AS076**	**32.31**	**296**	P		**P**	**19 52 11.2**	**-0.5**
	comp=Z,31nm,0.6s,baz=253,slow=5.1,SNR=3.9 comp=Z,31nm,0.6s							
CTA	**Charters Tower**	**32.52**	**264**	P		**P**	**19 52 14.1**	**+0.6**
	comp=Z,25nm,0.6s,baz=93,slow=9.8,SNR=59							
CTA				ScP		**ScP**	**19 57 24.0**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=45,slow=1.4,SNR=4.2 comp=Z,25nm,0.6s							
CTA	**Charters Tower**	**32.52**	**264**	P		**P**	**19 52 14.1**	**+0.6**
CTAO	**Charters Tower**	**32.52**	**264**	P		**P**	**19 52 14.0**	**+0.6**
CTAO				IAmb		IAmb	19 52 14.8	
	comp=Z,25nm,0.8s							
CTAO	**Charters Tower**	**32.52**	**264**	P		**P**	**19 52 14.1**	**+0.6**
CMSA	**Cobar Meteorol**	**33.50**	**243**	P		**P**	**19 52 22.7**	**+1.3**
	comp=Z,10nm,0.8s							
QLP	**Quilpie**	**34.18**	**252**	P		**P**	**19 52 27.6**	**+0.5**
	comp=Z,46nm,0.7s							
PMG	**Port Moresby**	**34.32**	**283**	P		**P**	**19 52 28.9**	**+0.4**
	comp=Z,37nm,0.8s,baz=106,slow=6.0,SNR=17 comp=Z,37nm,0.8s							
PMG	**Port Moresby**	**34.32**	**283**	P		**P**	**19 52 28.5**	**0.0**
PMG	**Port Moresby**	**34.32**	**283**	P		**P**	**19 52 29.1**	**+0.6**
PMG	**Port Moresby**	**34.32**	**283**	P		**P**	**19 52 29.0**	**+0.6**
MTSU	**Mount Surprise**	**34.61**	**267**	P		**P**	**19 52 31.1**	**+0.3**
PATS	**Pohnpei**	**34.95**	**318**	P		**P**	**19 52 34.1**	**+0.6**
TOO	**Toolangi**	**35.23**	**233**	P		**P**	**19 52 37.0**	**+1.3**
COEN	**Coen**	**36.58**	**274**	P		**P**	**19 52 47.5**	**+0.6**
COEN				IAmb		IAmb	19 52 48.5	
	comp=Z,26nm,0.9s							
COEN	**Coen**	**36.58**	**274**	P		**P**	**19 52 47.6**	**+0.6**
STKA	**Stephens Creek**	**36.99**	**244**	P		**P**	**19 52 50.1**	**0.0**
	comp=Z,6.1nm,0.9s,baz=83,slow=12,SNR=6.3 comp=Z,6.1nm,0.9s							
STKA	**Stephens Creek**	**36.99**	**244**	P		**P**	**19 52 50.9**	**+0.8**
INKA	**Innaminka**	**37.34**	**251**	P		**P**	**19 52 54.4**	**+1.5**
MANU	**Manus Island**	**37.45**	**295**	P		**P**	**19 52 54.2**	**+0.2**
BBOO	**Buckleboo**	**41.76**	**243**	P		**P**	**19 53 28.1**	**+0.1**
BBOO				IAmb		IAmb	19 53 53.7	
	comp=Z,48nm,1.4s							
OOD	**Oodnadatta**	**41.82**	**251**	P		**P**	**19 53 29.6**	**+1.1**
MULG	**Mulgathing**	**43.29**	**247**	P		**P**	**19 53 40.4**	**+0.5**
WR0	**Warramunga Arr**	**43.46**	**262**	P		**P**	**19 53 40.9**	**-0.5**
WR0				IAmb		IAmb	19 53 42.4	
	comp=Z,20nm,1.2s							
GENI	**Genyem**	**43.47**	**289**	P		**P**	**19 53 41.8**	**+0.3**
	comp=Z,75nm,0.7s							
AS31	**Alice Springs**	**43.60**	**257**	P		**P**	**19 53 42.5**	**0.0**
ASAR	**Alice Springs**	**43.60**	**257**	P		**P**	**19 53 42.6**	**+0.1**
	comp=Z,24nm,0.7s,baz=90,slow=7.8,SNR=303							
ASAR				ScP		**ScP**	**19 58 07.0**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=101,slow=4.4,SNR=8.2							
ASAR				S		**S**	**19 59 24.9**	**-2.4**
	comp=Z,3.5nm,0.7s,baz=93,slow=16,SNR=23 comp=Z,24nm,0.7s							
WB0	**Warramunga Arr**	**43.62**	**262**	P		**P**	**19 53

JAGI	Jajag, Banyuwa	65.39	270	P		P		19 56 12.9	-1.0
MYLDM	Lahad Datu	66.32	285	P		P		19 56 21.8	+2.2
MYLDM				IAmb		IAmb		19 57 02.2	
	comp=Z,37nm,1.2s								
JYT	Yasato	68.14	325	P		P		19 56 30.4	+0.2
KKM	Kota Kinabalu	68.74	285	P		P		19 56 34.5	0.0
KKM				IAmb		IAmb		19 56 35.2	
	comp=Z,23nm,0.9s								
UGM	Wanagama	68.97	269	P		P		19 56 35.3	-0.4
MJAR	Matsushiro Arr	69.44	324	P		P		19 56 37.6	-0.4
	comp=Z,4.7nm,0.6s,baz=105,slow=11,SNR=14								
	comp=Z,4.7nm,0.6s								
MAJO	Matsushiro	69.45	324	P		P		19 56 37.3	-0.7
MJB9	Matsu-Tunnel	69.45	324	P		P		19 56 37.5	-0.6
QSPA	South Pole Qui	69.79	180	P		P		19 56 40.2	+0.5
QSPA				IAmb		IAmb		19 56 41.2	
	comp=Z,19nm,0.8s								
JSU	Suzuyama	70.67	316	P		P		19 56 45.2	-0.1
JSU				IAmb		IAmb		19 56 46.0	
	comp=Z,19nm,0.9s								
JHS	Saijyo	71.29	320	P		P		19 56 49.0	+0.1
JHS				IAmb		IAmb		19 56 49.5	
	comp=Z,30nm,0.8s								
KIWB	Kanaga Island	71.84	1	P		P		19 56 51.1	-0.5
ADK	Adak	71.88	2	P		P		19 56 50.6	-1.2
TWG	Pinlang	72.43	303	P		P		19 56 53.8	-1.9
YULB	Yu-li	72.55	304	P		P		19 56 55.1	-1.3
YULB				IAmb		IAmb		19 57 02.0	
	comp=Z,36nm,1.3s								
TPUB	Ta-pu	73.02	303	P		P		19 56 57.6	-1.5
SSLB	Suanglung	73.02	304	P		P		19 56 57.8	-1.3
YHNB	Yeheng	73.16	305	P		P		19 56 58.8	-1.1
UNV	Unalaska Valle	74.60	8	P		P		19 57 05.6	-1.6
PEA0B	Petropavlovsk-	75.81	346	P		P		19 57 13.3	-0.6
PEA0B				IAmb		IAmb		19 57 14.2	
	comp=Z,14nm,0.8s								
PETK	Petropavlovsk-	75.81	346	P		P		19 57 12.6	-1.3
	comp=Z,10nm,0.7s,baz=141,slow=7.6,SNR=17								
	comp=Z,10nm,0.7s								
PETK	Petropavlovsk-	75.81	346	P		P		19 57 13.1	-0.8
KSRS	Korea Array	76.06	319	P		P		19 57 16.2	+0.6
	comp=Z,3.9nm,0.7s,baz=131,slow=5.9,SNR=13								
	comp=Z,3.9nm,0.7s								
SEHB	SEOHWA	76.38	320	P		P		19 57 17.9	+0.5
SEHB				IAmb		IAmb		19 57 27.1	
	comp=Z,40nm,1.5s								
USA0B	Ussuriysk Arra	78.22	326	P		P		19 57 27.8	+0.6
USA0B				IAmb		IAmb		19 57 28.6	
	comp=Z,13nm,0.8s								
USRK	Ussuriysk Ar.	78.22	326	P		P		19 57 27.7	+0.6
	comp=Z,8.8nm,0.7s,baz=94,slow=5.0,SNR=12								
	comp=Z,8.8nm,0.7s								
USRK	Ussuriysk Ar.	78.22	326	P		P		19 57 27.9	+0.7
MDJ	Mudanjiang	79.77	325	P		P		19 57 35.6	+0.4
BELA	Belgrano 2	79.91	173	P		P		19 57 34.5	-1.0
BELA				IAmb		IAmb		19 57 35.9	
	comp=Z,15nm,1.0s								
MAW	Mawson	81.44	200	P		P		19 57 43.8	+0.3
	comp=Z,2.3nm,0.7s,baz=133,slow=7.1,SNR=7.9								
	comp=Z,2.3nm,0.7s								
CN2	Changchun	81.52	323	*e*P		P		19 57 44.1	-0.2
CN2				*e*PP		PP		20 01 06.4	+2.6
CN2				*e*S		S		20 07 04.3	+0.1
CN2	Changchun	81.52	323	*e*sS		sS		20 11 07.9	+4.5
NVAR	Mina Array Bea	81.55	44	P		P		19 57 45.3	+0.4
	comp=Z,0.3nm,0.5s,baz=226,slow=8.9,SNR=3.8								
KLR	Kul'dur	81.83	330	P		P		19 57 46.1	+0.4
	comp=Z,3.1nm,0.9s,baz=79,slow=2.2,SNR=6.1								
	comp=Z,3.1nm,0.9s								
214A	Organ Pipe Nat	81.95	52	P		P		19 57 45.9	-0.9
IPM	Ipoh	82.12	278	P		P		19 57 47.9	-0.1
IPM				IAmb		IAmb		19 57 49.1	
	comp=Z,14nm,0.8s								
HNS	HongShan	84.67	313	⇓P		P		19 58 00.3	+0.3
HNS				pmax		pmax			
	comp=Z,10.0nm,0.7s								
LYN	LuoYang	84.85	310	⇓P		P		19 58 00.6	-0.4
LYN				pmax		pmax			
	comp=Z,10.0nm,0.8s								
LYN				pmax		pmax			
	comp=Z,90nm,14.0s								
LYN				LR		LR			
	comp=Z,130nm,10.1s								
ENH	Enshi	85.09	305	P		P		19 58 02.2	-0.1
ENH				IAmb		IAmb		19 58 03.6	
	comp=Z,19nm,0.8s								
SEY	Seymchan	85.94	347	P		P		19 58 05.0	-0.5
	comp=Z,6.2nm,0.5s,baz=150,slow=6.6,SNR=26								
	comp=Z,6.2nm,0.5s								
XAN	Xi'an	87.21	308	⇑P		P		19 58 12.9	+0.7
XAN				pmax		pmax			
	comp=Z,13nm,0.8s								
HYT	Haines Junctio	87.48	19	P		P		19 58 13.0	+0.1
TXAR	Lajitas Array	87.77	58	P		P		19 58 16.1	+1.1
	comp=Z,0.7nm,0.7s,baz=224,slow=6.7,SNR=9.6								
	comp=Z,0.7nm,0.7s								
TROLL	Troll, Antarti	87.95	180	P		P		19 58 14.2	-0.9
LL02	Futaleuf	88.18	136	P		P		19 58 17.1	+0.5
LL02				IAmb		IAmb		19 58 18.4	
	comp=Z,14nm,0.8s								
SNAA	Sanae	88.26	179	P		P		19 58 15.2	-1.3
KMI	Kunming	88.36	297	⇑P		P		19 58 19.4	+1.4
KMI				pmax		pmax			
	comp=Z,9.0nm,0.7s								
VNA3	Neumayer Olymp	88.43	177	P		P		19 58 16.3	-0.9
HHC	Hu-ho-hao-te	88.49	315	*e*P		P		19 58 18.8	+0.7
HHC				pmax		pmax			
	comp=Z,21nm,0.9s								
HHC				pmax		pmax			
	comp=Z,96nm,3.8s								
VNA2	Neumayer--Watz	88.86	177	P		P		19 58 18.5	-0.7
	baz=183,slow=4.0								
M30M	Minto, Yukon	89.06	18	P		P		19 58 19.8	-0.4
M30M				IAmb		IAmb		19 58 21.1	
	comp=Z,7.2nm,0.9s								
VNA1	Neumayer--Stat	89.09	177	P		P		19 58 19.8	-0.4
CMAR	Chiang Mai Arr	89.11	290	P		P		19 58 22.4	+1.0
	comp=Z,4.2nm,0.8s,baz=123,slow=3.1,SNR=23								
	comp=Z,4.2nm,0.8s								
CMAR	Chiang Mai Arr	89.11	290	P		P		19 58 22.0	+0.7
CHTO	Chiang Mai	89.23	290	P		P		19 58 22.4	+0.5
DAWY	Dawson	89.52	16	P		P		19 58 21.8	-0.5
PLCA	Paso Flores	90.14	134	P		P		19 58 26.7	+0.8
	comp=Z,3.0nm,0.7s,baz=222,slow=4.4,SNR=8.0								
	comp=Z,3.0nm,0.7s								
YAK	Yakutsk	91.54	338	P		P		19 58 30.1	-1.3
	comp=Z,3.9nm,0.6s,baz=37,slow=1.3,SNR=7.9								
	comp=Z,3.9nm,0.6s								
YAK	Yakutsk	91.54	338	P		P		19 58 30.1	-1.3
GTA	Gaotai	96.06	310	*e*P		P		19 58 57.4	+4.6
GTA				pmax		pmax			
	comp=Z,2.0nm,1.5s								
MKAR	Makanchi Array	110.32	314	Pdiff		Pdif		19 59 57.0	+1.1
	comp=Z,0.3nm,0.6s,baz=110,slow=5.5,SNR=4.1								
MKAR				PKiKP		PKiKP		20 03 50.9	-1.7
	comp=Z,0.3nm,0.4s,baz=219,slow=6.6,SNR=7.7								
MKAR				PKKPbc		PKKPbc		20 14 54.7	-1.3
	comp=Z,0.3nm,1.0s,baz=263,slow=3.9,SNR=3.8								
FINES	FINESS Array B	135.28	343	PKP		PKPdf		20 04 39.3	-0.4
	comp=Z,2.0nm,0.7s,baz=110,slow=3.6,SNR=9.0								
FINES				SKPbc		SKPbc		20 07 11.2	0.0
	comp=Z,3.8nm,0.9s,baz=94,slow=2.9,SNR=7.8								
NB2	NORSAR Subarra	138.63	352	PKP		PKPpre		20 04 35.6	
	comp=Z,0.9nm,0.7s,baz=10,slow=3.2								
NOA	NORSAR Array B	138.63	352	PKP		PKPdf		20 04 46.8	+0.7
	comp=Z,0.4nm,0.6s,baz=13,slow=3.9,SNR=3.4								
NOA				SKPbc		SKPbc		20 07 21.1	+0.1
	comp=Z,3.6nm,0.9s,baz=15,slow=4.5,SNR=12								
AKASG	Malin Array Be	142.33	330	PKhKP		PKPpre		20 04 48.4	
	comp=Z,7.9nm,0.4s,baz=42,slow=4.5,SNR=58								
AKASG				SKPbc		SKPbc		20 07 30.3	-0.5
	comp=Z,1.4nm,0.8s,baz=42,slow=3.8,SNR=6.4								
AKASG	Malin Array Be	142.33	330			PKPpre		20 04 46.8	
AKBB	Malin Array Si	142.33	330			PKPpre		20 04 47.5	
BNN	Bunyan	144.72	309	PKPdf		PKPdf		20 04 56.1	-1.5
BEL	Belsk	144.85	339	*e*P		PKPdf		20 04 58.1	+0.8
BR131	Keskin Array S	145.95	312	PKPdf		PKPdf		20 04 59.5	-0.2
BRTR	Keskin Array B	145.95	312	PKPbc		PKPdf		20 04 59.9	+0.2
	comp=Z,3.7nm,0.8s,baz=119,slow=3.9,SNR=14								
TLCR		146.14	324	⇑P		PKPdf		20 05 01.1	+1.5
GHRR		146.35	326	⇓P		PKPbc		20 05 02.5	0.0
BUR08	Bucovina Ar. S	146.36	330			PKPdf		20 05 01.9	+1.8
BURAR	Bucovina Array	146.38	330	⇓P		PKPbc		20 05 03.9	+1.2
BURAR	Bucovina Array	146.38	330			PKPdf		20 05 01.0	+0.9
BIZ	Bicaz	146.42	328	⇓P		PKPdf		20 05 01.8	+1.7
TESR	Tescani	146.44	327	⇓P		PKPdf		20 05 01.4	+1.3
CFR	Carcaliu	146.53	324	⇑P		PKPbc		20 05 03.2	+0.2
TPGR	Topolog	146.57	323	⇓P		PKPbc		20 05 02.8	-0.3
OJC	Ojcow	146.59	338	*e*P		PKPdf		20 05 01.0	+0.7
OJC	Ojcow	146.59	338	PKPdf		PKPdf		20 05 00.0	-0.2
KOLS	Kolonicke sedl	146.68	334	*e*PKP		PKPbc		20 05 03.3	0.0
ODBI	Odobesti	146.73	326	⇓P		PKPab		20 05 08.1	+1.2
VRI	Vrincioaia	146.84	326	⇓P		PKPbc		20 05 03.2	-0.7
PLOR	Plostina	146.88	326	⇓P		PKPdf		20 04 54.1	-6.9
HARR	Harsova	146.94	324	⇓P		PKPbc		20 05 04.2	+0.1
TLBR	Topalu	146.97	323	⇑P		PKPdf		20 05 02.5	+1.5
CRVS	Cervenica-Dubn	147.03	335	*e*PKP		PKPbc		20 05 04.1	-0.2
NIE	Niedzica	147.07	337	*e*P		PKPbc		20 05 04.3	0.0
COVR	Voineasa-Covas	147.12	327	⇑P		PKPdf		20 05 02.5	+1.2
OZUR		147.16	327	⇓P		PKPbc		20 05 03.9	-0.8
KSP	Ksiaz	147.18	342	*e*P		PKPbc		20 05 04.2	-0.4
TRPA	Tarpa	147.19	333	⇑P		PKPbc		20 05 04.9	+0.3
ISR	Istrita	147.43	325	⇑P		PKPab		20 05 11.2	+1.4
DOPR	Dopca	147.45	328	⇓P		PKPbc		20 05 05.3	-0.2
OSTC	Ostas	147.46	342	⇑*e*PKP		PKPbc		20 05 04.7	-0.6
OSTC				*e*PKPAB		PKPab		20 05 14.5	+4.8
CHVC	Chvalec	147.47	342	⇑*e*PKP		PKPbc		20 05 04.9	-0.5
CHVC				*e*PKPAB		PKPab		20 05 09.2	-0.6
MLR	Muntele Rosu	147.49	326	⇑P		PKPbc		20 05 04.9	-0.8
MLR	Muntele Rosu	147.49	326			PKPdf		20 05 04.4	+2.3
UPC	Upice	147.56	342	⇑*e*PKP		PKPbc		20 05 05.3	-0.2
LANS	Liptovska Anna	147.59	337	*e*PKP		PKPbc		20 05 06.2	+0.5
LANS				*e*				20 05 11.0	
DPC	Dobruska-Polom	147.61	342	⇑*e*PKP		PKPbc		20 05 04.8	-0.9
DPC				*e*PKPAB		PKPab		20 05 10.4	0.0
CLL	Collm	147.61	346			PKPdf		20 05 04.0	+2.1
CLL	Collm	147.61	346	⇓*i*PKPbc		PKPbc		20 05 05.1	-0.5
	comp=Z,16nm,0.7s								
CLL				⇑*i*PKPab		PKPab		20 05 09.4	-0.9
	comp=Z,10.0nm,0.8s								
CLL				*ep*PKPbc		pPKPdf		20 07 30.0	0.0
CLL				*e*SKPbc		SKPbc		20 07 41.0	-1.8
CLL				*e*PKSbc		PKSbc		20 08 44.0	-0.2
KRLC	Kraliky	147.71	341	⇑*e*PKP		PKPbc		20 05 05.5	-0.5
KRLC				*e*PKPAB		PKPab		20 05 10.3	-0.5
MORC	Moravsky Berou	147.73	340	⇓P		PKPbc		20 05 07.0	+1.0
MORC	Moravsky Berou	147.73	340			PKPdf		20 05 04.3	+2.1
MORC	Moravsky Berou	147.73	340	*e*PKP		PKPbc		20 05 05.6	-0.5
MORC				*e*				20 05 10.4	
SECR		147.73	326	⇓P		PKPbc		20 05 05.6	-0.5
BRG	Berggiesshubel	147.79	344	*i* PKP		PKPbc		20 05 05.6	-0.5
BRG				Amp				20 05 06.5	
	comp=Z,5.9nm,0.7s								
BRG				*ex*		PKPab		20 05 10.5	-0.5
BRG				Amp				20 05 11.1	
	comp=Z,5.5nm,0.8s								
CJR	Cluj-Napoca	147.79	330	⇑P		PKPbc		20 05 06.7	+0.4
PVCC	Panska Ves	147.94	344	⇑*e*PKP		PKPbc		20 05 06.4	-0.1
MAUC	Maruska	147.99	339	⇑*e*PKP		PKPbc		20 05 06.0	-0.7
MAUC				*e*PKPAB		PKPab		20 05 11.6	-0.4
VOIR		147.99	327	⇓P		PKPbc		20 05 06.7	-0.2
DRGR		148.14	331	⇑P		PKPbc		20 05 06.7	-0.5
VYHS	Vyhne	148.37	337	*e*PKP		PKPbc		20 05 07.4	-0.3
VYHS				*e*				20 05 13.6	
PRU	Pruhonice	148.44	343	⇑*e*PKP		PKPbc		20 05 07.0	-0.7
PRU				*e*PKPAB		PKPab		20 05 12.8	-0.9
VRAC	Vranov	148.44	340	⇑P		PKPdf		20 05 06.0	+2.7
VRAC	Vranov	148.44	340	*e*PKP		PKPbc		20 05 06.9	-0.9
PSZ	Piszkesteto	148.45	335	⇓P		PKPbc		20 05 07.4	-0.5
PSZ	Piszkesteto	148.45	335			PKPbc		20 05 06.6	-1.3
JAVC	Velka Javorina	148.48	339	*e*PKP		PKPbc		20 05 08.8	+0.8
JAVC				*e*				20 05 14.7	
LOT	Lotru	148.62	328	⇓P		PKPbc		20 05 07.7	-0.8
KRUC	Moravsky	148.72	340	*e*PKP		PKPbc		20 05 08.1	-0.4
KRUC				*e*				20 05 14.5	
NKC	Novy Kostel	148.74	346	⇑*e*PKP		PKPbc		20 05 07.9	-0.6
NKC				*e*PKPAB		PKPab		20 05 14.2	-0.8
TREC	Trest	148.79	341	⇑*e*PKP		PKPbc		20 05 08.2	-0.5
SIRR	Siria	149.01	332	⇑P		PKPbc		20 05 09.1	-0.1
MODS	Modra-Piesok	149.03	339	*e*PKP		PKPbc		20 05 09.6	+0.4
GZR	Gura Zlata	149.15	329	⇑P		PKPbc		20 05 09.5	-0.2
SRE	Strehaia	149.47	328	⇓P		PKPbc		20 05 10.2	-0.2
MEM	Membach	149.47	354	*d*PKP		PKPbc		20 05 09.6	-0.6
BTNL	Ternell	149.48	353	*d*PKP		PKPbc		20 05 09.2	-1.0
KHC	Kasperske Hory	149.48	344			PKPbc		20 05 08.7	-1.6
KHC				PKPab		PKPab		20 05 17.7	-0.4
KHC	Kasperske Hory	149.48	344	⇑*e*PKP		PKPbc		20 05 09.3	-1.0
KHC				*e*PKPAB		PKPab		20 05 17.7	-0.4
BZS	Buzias	149.52	331	⇓P		PKPbc		20 05 10.9	+0.4
GRA1	Grafenberg Arr	149.52	347	PKPdf		PKPdf		20 05 04.3	-0.7
GRA1						PKPab		20 05 17.2	-1.1
GRFO	Grafenberg	149.53	347	PKPdf		PKPdf		20 05 04.9	-0.1
GRFO						PKPab		20 05 17.7	-0.6
BSTI	Sart Tilman	149.53	354	*d*PKP		PKPbc		20 05 09.8	-0.5
CKRC	Cesky Krumlov	149.56	342	⇑*e*PKP		PKPbc		20 05 10.0	-0.5
HERR	Herculane	149.69	329	⇓P		PKPbc		20 05 10.5	-0.4
GEC2	GERESS Array S	149.71	343			PKPdf		20 05 08.1	+2.7
GERES	GERESS Array B	149.71	343	PKPbc		PKPbc		20 05 10.4	-0.6
	comp=Z,2.6nm,0.8s,baz=64,slow=3.1,SNR=22								
GERES	GERESS Array B	149.71	343			PKPbc		20 05 09.8	-1.2
GERES				PKPab		PKPab		20 05 18.1	-1.1
BHOU	Houvegnez	149.72	354	*d*PKiKP		PKPbc		20 05 10.6	-0.2
BCLA	Clavier	149.72	354	*d*PKPab		PKPab		20 05 17.9	-1.1
BMRD	Maredsous	149.88	355	*d*PKP		PKPbc		20 05 10.5	-0.6
BMRD				*d*PKPab		PKPab		20 05 18.7	-1.0
CONA	Conrad Observa	149.89	340	*e*P		PKPbc		20 05 11.1	-0.3
	comp=Z,5.7nm,1.0s								
RONA	Rosalia, Austr	149.94	339	*e*P		PKPbc		20 05 11.0	-0.4
	comp=Z,6.3nm,1.1s								
RCHB	Rochefort	149.99	354	*d*PKP		PKPbc		20 05 10.7	-0.7
DOU	Dourbes	150.10	355	*d*PKPbc		PKPbc		20 05 10.7	-1.0
DOU				*d*PKPab		PKPab		20 05 19.6	-1.1
MDVR	Moldovita	150.11	330	⇑P		PKPbc		20 05 12.1	-1.8
MORH	Mrgy, Hungar	150.33	335	⇓P		PKPbc		20 05 11.9	-0.4
BLKB	Belogradchik	150.47	327	⇓P		PKPbc		20 05 11.9	-0.9
ARSA	Arzberg	150.59	340	*e*P		PKPbc		20 05 12.9	-0.1
	comp=Z,0.9nm,0.5s								
FRGS	Fruska Gora	150.69	332	⇓P		PKPbc		20 05 11.9	-1.3
BIOA	Bad Ischl, Aus	150.78	342	*e*P		PKPab		20 05 23.6	0.0
	comp=Z,2.9nm,0.5s								
VTS	Vitosha	150.88	325	⇓P		PKPbc		20 05 13.4	-0.6
BOVS	Bovan	150.95	328	⇓P		PKPbc		20 05 11.9	-1.9
SOKA	Soboth	151.25	340	*e*P		PKPbc		20 05 13.6	-1.0
	comp=Z,4.7nm,1.3s								
KBA	Koelnbreinsper	151.42	342	*e*P		PKPab		20 05 25.5	-1.0
	comp=Z,2.3nm,0.6s								
OBKA	Obir	151.56	340	*e*P		PKPab		20 05 25.6	-1.4
	comp=Z,6.8nm,1.3s								
WATA	Walderalm	151.65	345	*e*P		PKPab		20 05 27.2	-0.3
	comp=Z,5.4nm,0.8s								
WTTA	Wattenberg	151.71	345	*e*P		PKPbc		20 05 14.6	-1.0
	comp=Z,2.9nm,0.6s								
RETA	Reutte	151.71	346	*e*P		PKPab		20 05 26.9	-0.7
	comp=Z,3.5nm,0.6s								
MYKA	Terra Mystica	151.73	341	*e*P		PKPab		20 05 26.6	-1.1
	comp=Z,3.8nm,0.8s								
MOTA	Moosalm	151.76	345	*e*P		PKPab		20 05 26.9	-1.0
	comp=Z,3.7nm,0.6s								
SQTA	Sankt Quirin	151.85	345	*e*P		PKPbc		20 05 14.8	-1.1
	comp=Z,4.0nm,0.9s								
ABTA	Abfaltersbach	151.95	343	*e*P		PKPbc		20 05 14.8	-1.3
	comp=Z,2.8nm,0.6s								
DAVA	Damuels	152.09	347	*e*P		PKPab		20 05 28.8	-0.5
	comp=Z,4.7nm,0.8s								
FETA	Feichten	152.15	346	*e*P		PKPbc		20 05 15.3	-1.3
	comp=Z,3.6nm,1.1s								
LIT	Litokhoron	152.97	322			PKPab		20 05 31.9	-1.3
ESDC	Sonseca Array	160.21	11	PKPab		PKPab		20 06 03.7	-0.9
	comp=Z,0.4nm,0.5s,baz=336,slow=4.7,SNR=6.7								
DBIC	Dimbokro	165.35	157	PKPab		PKPab		20 06 27.9	+0.2
	comp=Z,2.4nm,0.8s,baz=214,slow=3.7,SNR=3.2								
TORD	Torodi Ar. Bea	172.88	186	PKPab		PKPab		20 07 00.3	-0.6
	comp=Z,0.7nm,0.6s,baz=169,slow=3.7,SNR=3.7								

IDC ***20*** *19:55:46.5±1.2, 59°.62N×151°.90W, h164km±24km, mb3.3/2, mbtmp3.8/3, Error ellipse: s-maj=63.9km s-min=12.5km az=114.0*

NEIC ***20*** *19:55:47.6±0.9, 59°.85N±0°.05×153°.53W±0°.09, h134km±4km, Error ellipse: s-maj=7.1km s-min=6.4km az=225.0*

AEIC ***20*** *19:55:48±1.2, 59°.83N±0°.04×153°.54W±0°.08, h132km±4km, ML3.1, ML3.3/112(NEIC), Error ellipse: s-maj=7.2km s-min=5.4km az=140.0*

ISC 20 19:55:47.5±1.0, 59°.84N±0°.04×153°.54W±0°.04, h137km±5km, n270, σ0=0.84/259, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.24	140		Pn	19 56 06.2	-0.1
OPT	Oil Point	0.24	140	P	Pn	19 56 06.2	-0.1
	baz=319						
P19K	Oil Pt	0.24	140		Pn	19 56 06.2	-0.2
P19K					Sn	19 56 20.4	-0.2
P19K	Oil Pt	0.24	140	P	Pn	19 56 06.2	-0.2
	baz=319						
P19K				S	Sn	19 56 20.4	-0.2
	baz=319						
ILSW	Iliamna Southw	0.25	53	IAML		19 55 53.8	
	comp=N,54nm,0.6s						
ILSW	Iliamna Southw	0.25	53		Sn	19 56 20.4	-0.5
ILSW	Iliamna Southw	0.25	53		Pn	19 56 05.8	-0.7
ILS	Iliamna Low So	0.27	63		Pn	19 56 06.3	-0.2
IVE	Iliamna Volcan	0.32	55		Pn	19 56 05.9	-0.8
IVE					Sn	19 56 20.6	-0.7
AUW	Augustine West	0.47	176		Pn	19 56 07.3	0.0
AU2	Augustine Isla	0.47	170		Pn	19 56 07.2	0.0
AU22	Augustine Moun	0.48	169		Pn	19 56 07.1	-0.1
AU22					Sn	19 56 21.8	-0.3
AUQ	Augustine Qik'	0.49	173		Pn	19 56 07.5	+0.1
O20K	Slope Mountain	0.52	62		Pn	19 56 07.4	-0.2
O20K	Slope Mountain	0.52	62	P	Pn	19 56 07.4	-0.2
	baz=242						
O19K	Port Alsworth	0.53	313		Pn	19 56 07.0	-0.5
O19K	Port Alsworth	0.53	313		Sn	19 56 21.2	-1.6
O19K	Port Alsworth	0.53	313	IAML		19 56 12.1	
	comp=E,36nm,0.2s						
O19K				IAML		19 56 15.4	
	comp=N,47nm,0.4s						
O19K	Port Alsworth	0.53	313	P	Pn	19 56 07.0	-0.5
	baz=133						
O19K				S	Sn	19 56 21.2	-1.6
	baz=133						
RSO	Redoubt South	0.74	32		Pn	19 56 08.8	-0.3
RDWB	Redoubt West	0.74	28		Pn	19 56 08.6	-0.5
RDWB					Sn	19 56 24.6	-0.9
NCT	North Crescent	0.79	22		Pn	19 56 09.1	-0.2
NCT					Sn	19 56 25.0	-1.1
RDJH	Redoubt Jeurge	0.84	26		Sn	19 56 26.4	-0.4
O18K	Koktuh Hills	0.84	272	Pn	Pn	19 56 09.1	-0.7
DFR	Drift River	0.87	29		Pn	19 56 09.8	-0.2
Q19K	Cape Douglas,	0.91	184		Pn	19 56 10.1	-0.3
Q19K					Sn	19 56 26.8	-0.9
Q19K	Cape Douglas,	0.91	184	IAML		19 56 35.6	
	comp=E,938nm,1.0s						
Q19K	Cape Douglas,	0.91	184	P	Pn	19 56 10.1	-0.3
	baz=3.3						
Q19K				S	Sn	19 56 26.8	-0.9
	baz=3.3						
P18K	Big Mountain,	0.97	243		Pn	19 56 10.3	-0.5
P18K					Sn	19 56 27.6	-0.9
P18K	Big Mountain,	0.97	243	P	Pn	19 56 10.3	-0.5
	baz=62						
P18K				S

PWL	**Port Wells**	**2.78**	**66**	P	**Pn**	**19 56 30.8**	**-0.7**
	baz=251							
PMR	**Palmer**	**2.79**	**49**	Pn	**Pn**	**19 56 31.7**	**+0.1**
PMR				IAML		19 57 09.0		
	comp=N,79nm,0.5s							
PMR				IAML		19 57 09.7		
	comp=E,66nm,0.5s							
KNK	**Knik Glacier**	**2.96**	**56**		**Pn**	**19 56 32.6**	**-1.2**
KNK	**Knik Glacier**	**2.96**	**56**	IAML		19 57 08.1		
	comp=N,139nm,0.3s							
KNK				IAML		19 57 08.7		
	comp=E,125nm,0.3s							
KNK	**Knik Glacier**	**2.96**	**56**	P	**Pn**	**19 56 32.6**	**-1.2**
	baz=240							
GHO	**Glory Hole Cre**	**2.98**	**47**		**Pn**	**19 56 32.7**	**-1.4**
GHO	**Glory Hole Cre**	**2.98**	**47**	IAML		19 57 08.8		
	comp=E,134nm,0.4s							
GHO				IAML		19 57 10.0		
	comp=N,97nm,0.4s							
CUT	**Chulitna**	**3.02**	**30**		**Pn**	**19 56 34.6**	**0.0**
P23K	**Montague Islan**	**3.09**	**84**		**Pn**	**19 56 35.3**	**-0.2**
P23K	**Montague Islan**	**3.09**	**84**	P	**Pn**	**19 56 35.3**	**-0.2**
	baz=270							
SML	**Sawmill**	**3.23**	**50**		**Pn**	**19 56 35.8**	**-1.5**
SML	**Sawmill**	**3.23**	**50**	IAML		19 57 17.4		
	comp=N,68nm,0.6s							
SML				IAML		19 57 20.1		
	comp=E,71nm,0.5s							
SML	**Sawmill**	**3.23**	**50**	P	**Pn**	**19 56 35.7**	**-1.5**
	baz=234							
GLI	**Glacier Island**	**3.37**	**69**		**Pn**	**19 56 38.9**	**-0.2**
GLI	**Glacier Island**	**3.37**	**69**	IAML		19 57 18.1		
	comp=E,98nm,0.2s							
GLI				IAML		19 57 18.9		
	comp=N,88nm,0.2s							
GLI	**Glacier Island**	**3.37**	**69**	P	**Pn**	**19 56 38.9**	**-0.2**
	baz=255							
K20K	**Telida**	**3.54**	**356**		**Pn**	**19 56 41.4**	**0.0**
K20K	**Telida**	**3.54**	**356**	P	**Pn**	**19 56 41.4**	**0.0**
	baz=176							
HIN	**Hinchinbrook I**	**3.56**	**78**		**Pn**	**19 56 41.2**	**-0.5**
FID	**Port Fidalgo**	**3.63**	**72**		**Pn**	**19 56 41.5**	**-1.0**
SCM	**Sheep Creek Mo**	**3.64**	**54**		**Pn**	**19 56 41.4**	**-1.3**
SCM	**Sheep Creek Mo**	**3.64**	**54**	IAML		19 57 24.0		
	comp=E,108nm,0.7s							
SCM				IAML		19 57 26.7		
	comp=N,101nm,0.7s							
SCM	**Sheep Creek Mo**	**3.64**	**54**	P	**Pn**	**19 56 41.4**	**-1.3**
	baz=239							
JPK	**Jack Peak**	**3.65**	**67**		**Pn**	**19 56 42.3**	**-0.5**
CAST	**Castle Rocks**	**3.66**	**10**		**Pn**	**19 56 43.0**	**+0.1**
CAST	**Castle Rocks**	**3.66**	**10**	P	**Pn**	**19 56 43.0**	**+0.1**
	baz=192							
Q23K	**Middleton Isla**	**3.67**	**93**		**Pn**	**19 56 42.5**	**-0.5**
Q23K	**Middleton Isla**	**3.67**	**93**	IAML		19 57 40.2		
	comp=E,112nm,1.5s							
Q23K	**Middleton Isla**	**3.67**	**93**	P	**Pn**	**19 56 42.5**	**-0.5**
	baz=279							
MID	**Middleton Isla**	**3.68**	**93**		**Pn**	**19 56 42.6**	**-0.5**
MID	**Middleton Isla**	**3.68**	**93**	IAML		19 57 24.9		
	comp=N,109nm,1.4s							
WAT7	**Susitna Watana**	**3.76**	**35**		**Pn**	**19 56 43.5**	**-0.8**
WAT1	**Susitna Watana**	**3.84**	**37**		**Pn**	**19 56 44.4**	**-0.9**
WAT1	**Susitna Watana**	**3.84**	**37**	P	**Pn**	**19 56 44.4**	**-0.9**
	baz=221							
WAT6	**Susitna Watana**	**3.93**	**43**		**Pn**	**19 56 45.4**	**-1.1**
WAT6	**Susitna Watana**	**3.93**	**43**	P	**Pn**	**19 56 45.4**	**-1.1**
	baz=228							
KTH	**Kantishna Hill**	**3.93**	**17**		**Pn**	**19 56 46.3**	**-0.2**
KTH				IAML		19 59 07.8		
	comp=N,53nm,0.2s							
TRF	**Thorofare Moun**	**3.94**	**22**		**Pn**	**19 56 46.4**	**-0.4**
TRF	**Thorofare Moun**	**3.94**	**22**	IAML		19 57 34.3		
	comp=N,25nm,0.5s							
TRF				IAML		19 57 46.0		
	comp=E,25nm,3.1s							
TRF	**Thorofare Moun**	**3.94**	**22**	P	**Pn**	**19 56 46.3**	**-0.4**
	baz=205							
EYAK	**Cordova Ski Ar**	**3.95**	**76**		**Pn**	**19 56 45.9**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.95**	**76**	P	**Pn**	**19 56 45.9**	**-0.8**
	baz=263							
DIV	**Divide**	**4.05**	**68**		**Pn**	**19 56 47.8**	**-0.4**
KLU	**Klutina**	**4.10**	**63**		**Pn**	**19 56 47.5**	**-1.2**
KLU	**Klutina**	**4.10**	**63**	IAML		19 57 34.7		
	comp=E,78nm,0.4s							
KLU	**Klutina**	**4.10**	**63**	P	**Pn**	**19 56 47.5**	**-1.2**
	baz=249							
CHUM	**Lake Minchumin**	**4.10**	**8**		**Pn**	**19 56 48.9**	**+0.3**
CHUM	**Lake Minchumin**	**4.10**	**8**	P	**Pn**	**19 56 48.9**	**+0.3**
	baz=189							
RND	**Reindeer**	**4.22**	**30**		**Pn**	**19 56 49.8**	**-0.5**
RND	**Reindeer**	**4.22**	**30**	IAML		19 57 39.4		
	comp=E,15nm,0.3s							
RND				IAML		19 57 41.3		
	comp=N,15nm,0.3s							
M24K	**Tolsona, Glenn**	**4.25**	**54**		**Pn**	**19 56 50.0**	**-0.7**
M24K	**Tolsona, Glenn**	**4.25**	**54**	P	**Pn**	**19 56 50.0**	**-0.7**
	baz=241							
J20K	**Nowinta River**	**4.37**	**356**		**Pn**	**19 56 52.0**	**-0.1**
J20K	**Nowinta River**	**4.37**	**356**	IAML		19 58 38.0		
	comp=E,12nm,3.1s							
J20K	**Nowinta River**	**4.37**	**356**	P	**Pn**	**19 56 52.0**	**-0.1**
	baz=176							
DHY	**Denali Highway**	**4.39**	**40**		**Pn**	**19 56 51.7**	**-1.0**
DHY	**Denali Highway**	**4.39**	**40**	IAML		19 57 45.2		
	comp=N,42nm,0.4s							
DHY				IAML		19 57 45.3		
	comp=E,35nm,0.4s							
DHY	**Denali Highway**	**4.39**	**40**	P	**Pn**	**19 56 51.7**	**-1.0**
	baz=225							
BPAW	**Bear Paw Mtn.**	**4.44**	**15**		**Pn**	**19 56 52.6**	**-0.6**
BPAW	**Bear Paw Mtn.**	**4.44**	**15**	IAML		19 58 01.5		
	comp=N,11nm,3.5s							
BPAW	**Bear Paw Mtn.**	**4.44**	**15**	P	**Pn**	**19 56 52.6**	**-0.6**
	baz=197							
GOAT	**Goat Mountain**	**4.46**	**77**		**Pn**	**19 56 53.0**	**-0.5**
RAGM	**Ragged Mountai**	**4.47**	**79**		**Pn**	**19 56 53.2**	**-0.4**
MCK	**McKinley**	**4.48**	**27**		**Pn**	**19 56 53.3**	**-0.4**
MCK	**McKinley**	**4.48**	**27**	IAML		19 57 45.5		
	comp=E,15nm,1.7s							
MCK				IAML		19 57 47.0		
	comp=N,17nm,0.7s							
MCK	**McKinley**	**4.48**	**27**	P	**Pn**	**19 56 53.3**	**-0.4**
	baz=211							
BMRM	**Bremner River**	**4.57**	**72**		**Pn**	**19 56 54.6**	**-0.3**
BMRM	**Bremner River**	**4.57**	**72**	P	**Pn**	**19 56 54.6**	**-0.3**
	baz=260							
KAIM	**Kayak Island**	**4.59**	**85**		**Pn**	**19 56 55.1**	**-0.1**
KAIM	**Kayak Island**	**4.59**	**85**	IAML		19 57 59.4		
	comp=N,53nm,1.8s							
KAIM				IAML		19 58 00.0		
	comp=E,46nm,1.4s							
KAIM	**Kayak Island**	**4.59**	**85**	P	**Pn**	**19 56 55.1**	**-0.1**
	baz=273							
HMT	**Hamilton**	**4.67**	**80**	Pn	**Pn**	**19 56 56.4**	**+0.1**
N25K	**Chitina, Valde**	**4.73**	**64**		**Pn**	**19 56 55.9**	**-1.2**
N25K				IAML		19 57 51.4		
	comp=E,43nm,0.5s							
N25K				IAML		19 57 53.3		
	comp=N,44nm,0.7s							
N25K	**Chitina, Valde**	**4.73**	**64**	P	**Pn**	**19 56 57.2**	**+0.1**
	baz=252							
SUCK	**Suckling Hills**	**4.91**	**83**	Pn	**Pn**	**19 56 59.2**	**-0.2**
SUCK				IAML		19 58 02.6		
	comp=N,43nm,2.0s							
SUCK				IAML		19 58 43.6		
	comp=E,43nm,1.9s							
BERG	**Berg Lake**	**4.95**	**79**	Pn	**Pn**	**19 57 00.1**	**+0.2**
WACK	**Wrangell Chich**	**4.98**	**60**		**Pn**	**19 56 59.8**	**-0.8**
PAX	**Paxson**	**4.99**	**48**		**Pn**	**19 56 59.8**	**-0.8**
PAX	**Paxson**	**4.99**	**48**	P	**Pn**	**19 56 59.7**	**-0.8**
	baz=234							
WASW	**Wrangell South**	**5.03**	**61**		**Pn**	**19 57 00.9**	**-0.4**
GLB	**Gilahina Butte**	**5.05**	**67**		**Pn**	**19 57 00.9**	**-0.4**
GLB	**Gilahina Butte**	**5.05**	**67**	IAML		19 57 57.5		
	comp=E,29nm,0.4s							
NEA2	**Nenana**	**5.21**	**22**		**Pn**	**19 57 02.4**	**-1.0**
NEA2	**Nenana**	**5.21**	**22**	IAML		19 58 09.5		
	comp=E,12nm,3.6s							
NEA2				IAML		19 58 18.6		
	comp=N,11nm,3.9s							
NEA2	**Nenana**	**5.21**	**22**	P	**Pn**	**19 57 02.4**	**-1.0**
	baz=206							
WRH	**Wood River Hil**	**5.30**	**26**		**Pn**	**19 57 03.4**	**-1.2**
WRH	**Wood River Hil**	**5.30**	**26**	IAML		19 58 27.3		
	comp=N,10nm,2.9s							
WRH				IAML		20 00 29.4		
	comp=E,15nm,3.6s							
MLY	**Manley**	**5.37**	**13**		**Pn**	**19 57 04.6**	**-1.0**
MLY	**Manley**	**5.37**	**13**	IAML		19 58 17.4		
	comp=E,8.3nm,3.9s							
MLY				IAML		19 59 20.1		
	comp=N,8.6nm,3.6s							
MLY	**Manley**	**5.37**	**13**	P	**Pn**	**19 57 04.6**	**-1.0**
	baz=195							
WAX	**Waxell Ridge**	**5.38**	**79**		**Pn**	**19 57 05.3**	**-0.4**
SNH	**Sunshine Point**	**5.38**	**82**	Pn	**Pn**	**19 57 05.8**	**+0.1**
MCARA	**McCarthy VSAT**	**5.41**	**69**		**Pn**	**19 57 05.7**	**-0.3**
MCARA	**McCarthy VSAT**	**5.41**	**69**	P	**Pn**	**19 57 05.7**	**-0.3**
	baz=258							
I21K	**Tanana**	**5.41**	**7**		**Pn**	**19 57 05.4**	**-0.7**
I21K	**Tanana**	**5.41**	**7**	P	**Pn**	**19 57 05.4**	**-0.7**
	baz=188							
CCB	**Clear Creek Bu**	**5.52**	**27**		**Pn**	**19 57 06.2**	**-1.3**
HDA	**Harding Lake**	**5.53**	**31**		**Pn**	**19 57 06.7**	**-1.0**
HDA	**Harding Lake**	**5.53**	**31**	P	**Pn**	**19 57 06.7**	**-1.0**
	baz=217							
BARK	**Barkley Ridge**	**5.55**	**79**		**Pn**	**19 57 08.0**	**-0.1**
ISLE	**Juniper Island**	**5.63**	**77**	Pn	**Pn**	**19 57 09.1**	**-0.1**
PTPK	**Patty Peak**	**5.63**	**71**		**Pn**	**19 57 09.2**	**-0.1**
PS08	**TAPS Pump Stn8**	**5.67**	**31**		**Pn**	**19 57 08.5**	**-1.1**
RIDG	**Independent Ri**	**5.68**	**43**		**Pn**	**19 57 09.0**	**-0.8**
RIDG	**Independent Ri**	**5.68**	**43**	P	**Pn**	**19 57 09.0**	**-0.8**
	baz=230							
MDM	**Murphy Dome**	**5.70**	**23**		**Pn**	**19 57 08.8**	**-1.1**
COLA	**College**	**5.70**	**25**		**Pn**	**19 57 08.8**	**-1.1**
M26K	**Nabesna, AK**	**5.72**	**59**	Pn	**Pn**	**19 57 10.7**	**+0.4**
BAGL	**Bagley Icefiel**	**5.75**	**79**		**Pn**	**19 57 11.2**	**+0.6**
MESA	**MESA**	**5.82**	**82**		**Pn**	**19 57 11.5**	**-0.3**
MESA	**MESA**	**5.82**	**82**	P	**Pn**	**19 57 11.5**	**-0.3**
	baz=272							
IL31		**5.84**	**29**		**Pn**	**19 57 10.6**	**-1.1**
ILAR	**Eielson Array**	**5.84**	**29**	P	**Pn**	**19 57 10.6**	**-1.2**
	comp=N,8.9nm,0.5s,baz=216,slow=13,SNR=135							
ILAR					S	**Sn**	**19 58 12.7**	**-4.9**
	comp=N,2.3nm,0.4s,baz=193,slow=27,SNR=9.4							
H21K	**Melozitna Rive**	**5.85**	**3**		**Pn**	**19 57 11.0**	**-0.9**
H21K	**Melozitna Rive**	**5.85**	**3**	P	**Pn**	**19 57 11.0**	**-0.9**
	baz=184							
DOT	**Dot Lake**	**5.90**	**46**	Pn	**Pn**	**19 57 12.0**	**-0.7**
YAH	**Yahtse**	**5.92**	**80**		**Pn**	**19 57 12.9**	**-0.2**
POKR	**Poker Plat Res**	**6.00**	**25**		**Pn**	**19 57 13.1**	**-0.9**
POKR	**Poker Plat Res**	**6.00**	**25**	P	**Pn**	**19 57 13.1**	**-0.9**
	baz=211							
J25K	**Salcha River,**	**6.12**	**35**		**Pn**	**19 57 14.6**	**-1.1**
J25K	**Salcha River,**	**6.12**	**35**	P	**Pn**	**19 57 14.6**	**-1.1**
	baz=222							
SCRK	**Sand Creek**	**6.13**	**43**		**Pn**	**19 57 14.8**	**-1.0**
SCRK	**Sand Creek**	**6.13**	**43**	P	**Pn**	**19 57 14.8**	**-1.0**
	baz=232							
CTG	**Chitna Glacier**	**6.15**	**74**	P	**Pn**	**19 57 16.2**	**+0.1**
	baz=265							
CTGM	**Chitina Glacie**	**6.15**	**74**		**Pn**	**19 57 16.2**	**+0.1**
H22K	**Ishtalitna Cre**	**6.16**	**8**		**Pn**	**19 57 15.2**	**-0.9**
H22K	**Ishtalitna Cre**	**6.16**	**8**	P	**Pn**	**19 57 15.2**	**-0.9**
	baz=190							
IMAR	**Indian Mountai**	**6.17**	**359**		**Pn**	**19 57 16.1**	**-0.1**
TABL	**Table Mountain**	**6.22**	**79**		**Pn**	**19 57 16.9**	**-0.2**
H23K	**Yukon River**	**6.28**	**15**		**Pn**	**19 57 17.7**	**0.0**
H23K	**Yukon River**	**6.28**	**15**	P	**Pn**	**19 57 17.7**	**0.0**
	baz=199							
LOGN	**Logan Glacier**	**6.30**	**76**		**Pn**	**19 57 18.1**	**-0.1**
SAMH	**Samovar Hills**	**6.41**	**82**		**Pn**	**19 57 20.2**	**+0.7**
L27K	**Beaver Creek,**	**6.48**	**55**	Pn	**Pn**	**19 57 19.8**	**-0.6**
BCAR	**Beaver Creek A**	**6.50**	**55**	Pn	**Pn**	**19 57 20.1**	**-0.6**
H24K	**Noodor Dome**	**6.55**	**21**		**Pn**	**19 57 20.4**	**-1.0**
H24K	**Noodor Dome**	**6.55**	**21**	P	**Pn**	**19 57 20.4**	**-1.0**
	baz=206							
J26L	**Joseph Creek**	**6.61**	**41**		**Pn**	**19 57 21.3**	**-0.8**
J26L	**Joseph Creek**	**6.61**	**41**	P	**Pn**	**19 57 21.3**	**-0.8**
	baz=229							
PCA	**Pinnacle**	**6.67**	**82**		**Pn**	**19 57 23.4**	**+0.4**
PINM	**Pinnacle**	**6.68**	**82**	P	**Pn**	**19 57 23.4**	**+0.3**
	baz=274							
O28M	**Mount Upton**	**6.70**	**76**		**Pn**	**19 57 24.2**	**+0.6**
O28M	**Mount Upton**	**6.70**	**76**	P	**Pn**	**19 57 24.2**	**+0.6**
	baz=268							
G21K	**Allakaket**	**6.71**	**0**		**Pn**	**19 57 23.5**	**+0.2**
G21K	**Allakaket**	**6.71**	**0**	P	**Pn**	**19 57 23.5**	**+0.2**
	baz=180							
PRP	**Porcupine Dome**	**6.78**	**29**	Pn	**Pn**	**19 57 23.5**	**-1.1**
K27K	**Chicken**	**6.84**	**47**	Pn	**Pn**	**19 57 23.3**	**-1.9**
BCPM	**Bancas Point**	**7.00**	**83**		**Pn**	**19 57 28.0**	**+0.7**
G23K	**Bananza Creek**	**7.08**	**11**		**Pn**	**19 57 28.0**	**-0.4**
G23K	**Bananza Creek**	**7.08**	**11**	P	**Pn**	**19 57 28.0**	**-0.4**
	baz=194							
PNL	**Peninsula**	**7.15**	**85**		**Pn**	**19 57 29.4**	**0.0**
PNL	**Peninsula**	**7.15**	**85**	P	**Pn**	**19 57 29.4**	**0.0**
	baz=277							
I26K	**Coal Creek Min**	**7.28**	**37**		**Pn**	**19 57 30.3**	**-0.8**
H25K	**Birch Creek**	**7.34**	**25**		**Pn**	**19 57 31.1**	**-0.8**
H25K	**Birch Creek**	**7.34**	**25**	P	**Pn**	**19 57 31.1**	**-0.8**
	baz=212							
G24K	**Hadweenzic Riv**	**7.41**	**19**		**Pn**	**19 57 31.7**	**-1.1**
G24K	**Hadweenzic Riv**	**7.41**	**19**	P	**Pn**	**19 57 31.7**	**-1.1**
	baz=204							
O29M	**Mount Kennedy**	**7.50**	**80**		**Pn**	**19 57 35.0**	**+0.8**
O29M	**Mount Kennedy**	**7.50**	**80**	P	**Pn**	**19 57 35.0**	**+0.8**
	baz=273							
COLD	**Coldfoot**	**7.57**	**10**	Pn	**Pn**	**19 57 33.5**	**-1.4**
EGAK	**Eagle**	**7.59**	**44**	Pn	**Pn**	**19 57 32.4**	**-2.9**
FYU	**Fort Yukon**	**7.72**	**25**	Pn	**Pn**	**19 57 35.0**	**-2.0**
M29M	**Somme Creek**	**7.75**	**64**		**Pn**	**19 57 37.4**	**-0.1**
M29M	**Somme Creek**	**7.75**	**64**	P	**Pn**	**19 57 37.4**	**-0.1**
	baz=257							
I27K	**Kandik River**	**7.96**	**38**		**Pn**	**19 57 39.6**	**-0.6**
I27K	**Kandik River**	**7.96**	**38**	P	**Pn**	**19 57 39.6**	**-0.6**
	baz=229							
P29M	**Windy Craggy**	**7.99**	**85**		**Pn**	**19 57 40.9**	**+0.2**
P29M	**Windy Craggy**	**7.99**	**85**	P	**Pn**	**19 57 40.9**	**+0.2**
	baz=278							
HYT	**Haines Junctio**	**8.02**	**76**	Pn	**Pn**	**19 57 42.8**	**+1.7**
F24K	**Squaw Lake**	**8.11**	**16**		**Pn**	**19 57 41.7**	**-0.5**
F24K	**Squaw Lake**	**8.11**	**16**	P	**Pn**	**19 57 41.7**	**-0.5**
	baz=201							
G26K	**Porcupine Rive**	**8.36**	**27**		**Pn**	**19 57 44.5**	**-1.0**
G26K	**Porcupine Rive**	**8.36**	**27**	P	**Pn**	**19 57 44.5**	**-1.0**
	baz=216							
F25K	**Christian Rive**	**8.53**	**21**		**Pn**	**19 57 46.6**	**-1.3**
F25K	**Christian Rive**	**8.53**	**21**	P	**Pn**	**19 57 46.6**	**-1.3**
	baz=208							
M30M	**Minto, Yukon**	**8.53**	**64**	Pn	**Pn**	**19 57 47.6**	**-0.3**
E24K	**Your Creek**	**8.56**	**13**		**Pn**	**19 57 47.5**	**-0.8**
E24K	**Your Creek**	**8.56**	**13**	P	**Pn**	**19 57 47.5**	**-0.8**
	baz=197							
BMAR	**Burnt Mountain**	**8.59**	**24**	Pn	**Pn**	**19 57 47.0**	**-1.7**
TOLK	**Toolik Lake Re**	**9.00**	**9**	Pn	**Pn**	**19 57 55.2**	**+1.0**
BESE	**Bessie Mountai**	**9.66**	**89**	Pn	**Pn**	**19 58 04.5**	**+1.4**
SIT	**Sitka**	**9.94**	**98**	Pn	**Pn**	**19 58 05.7**	**-1.0**
CRAG	**Craig**	**11.76**	**103**	Pn	**Pn**	**19 58 31.6**	**+0.8**
SONM	**Songino Array**	**54.67**	**306**	P	**P**	**20 05 03.7**	**+1.8**
	comp=N,0.3nm,0.4s,baz=45,slow=6.3,SNR=3.2							
	comp=N,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**57.34**	**323**	P	**P**	**20 05 21.1**	**+0.4**
	comp=N,0.8nm,0.5s,baz=23,slow=7.8,SNR=3.2							
	comp=N,0.8nm,0.5s							

*NEIC **20** 20:06:29.9±1.7, 30.59N±0.06×142.6E±0.1, h10km±1km, mb4.7/34, Error ellipse: s-maj=16.4km s-min=9.6km az=263.0*

*BJI **20** 20:06:30.7±0.0, 30.70N×142.14E, h10km, mb4.4/48, mB4.7/27, Ms3.8/11, Ms7 3.6/11*

*IDC **20** 20:06:30.2±0.5, 30.45N×142.10E, h0km, mb4.2/20, mbtmp4.3/25, ML3.7/5, MS3.3/9, Error ellipse: s-maj=18.5km s-min=11.7km az=79.0*

*JMA **20** 20:06:31.6±0.2, 30.5N±0.9×14 2.2E±, h44km, MV4.6/31, NEAR TORISHIMA IS*

*MOS **20** 20:06:32.7±1.1, 30.51N×142.18E, h31km, mb4.6/22, Error ellipse: s-maj=14.7km s-min=5.8km az=116.9*

ISC 20 20:06:33.2±0.4, 30.50N±0.04×142.18E±0.07, h23km, n181, σ1.982/190, mb4.5/69, MS3.5/11, 9C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**3.27**	**322**	*e*	P	**Pn**	**20 07 20.9**	**-2.1**
JHCJ				*e*	S	**Sn**	**20 07 58.3**	**-3.0**
JHJ2	**Mitsune**	**3.29**	**323**		Pn	**Pn**	**20 07 22.2**	**-1.2**
JHJ2					Sn	**Sn**	**20 07 58.0**	**-3.8**
JHJ2	**Mitsune**	**3.29**	**323**		P	**Pn**	**20 07 22.1**	**-1.3**
JHJ2	**Mitsune**	**3.29**	**323**	*e*	P	**Pn**	**20 07 22.0**	**-1.4**
JHJ2				*e*	S	**Sn**	**20 07 59.3**	**-2.5**
JHJ	**Hachijo jima 2**	**3.32**	**323**		Pn	**Pn**	**20 07 21.6**	**-2.1**
	26nm,0.3s,baz=88,slow=21,SNR=12							
JHJ					Sn	**Sn**	**20 07 59.2**	**-3.2**
	85nm,0.3s,baz=87,slow=13,SNR=8.1							
	94nm,0.3s							
CBIJ	**Chichi jima**	**3.39**	**180**	*e*	S	**Sn**	**20 08 01.3**	**-2.9**
JCJ	**Chichijima**	**3.39**	**180**		Pn	**Pn**	**20 07 23.1**	**-1.5**
	47nm,0.3s,baz=266,slow=24,SNR=13							
JCJ					Sn	**Sn**	**20 08 00.6**	**-3.5**
	17nm,0.3s,baz=287,slow=19,SNR=2.0							
	99nm,0.3s							
JCJ	**Chichijima**	**3.39**	**180**			**Pn**	**20 07 22.9**	**-1.7**
JCJ					Sn	**Sn**	**20 08 00.7**	**-3.4**
JHH2	**Haha-jima-NKT2**	**3.85**	**180**	*e*	P	**Pn**	**20 07 30.9**	**-0.1**
BSO1	**Boso 1**	**4.27**	**347**	*e*	P	**Pn**	**20 07 35.8**	**-0.5**
BSO3	**Boso 3**	**4.52**	**342**		P	**Pn**	**20 07 39.3**	**-0.7**
BSO4	**Boso 4**	**4.74**	**341**		P	**Pn**	**20 07 42.5**	**+0.7**
JOD2	**Odawara 2**	**5.42**	**332**		P	**Pn**	**20 07 53.6**	**+1.0**
JHU	**Hanno**	**5.87**	**336**	*e*	P	**Pn**	**20 07 57.9**	**-0.8**
JHU					S	**Sn**	**20 09 04.4**	**-0.9**
JYT	**Yasato**	**5.95**	**344**			**Pn**	**20 07 58.8**	**-1.1**
JYT					Sn	**Sn**	**20 09 02.8**	**-4.5**
JYT	**Yasato**	**5.95**	**344**		P	**Pn**	**20 07 59.5**	**-0.4**
JYT				*e*	S	**Sn**	**20 09 05.1**	**-2.3**
JNY	**Yasuok**	**6.06**	**324**		P	**Pn**	**20 08 01.8**	**+0.3**
JRY	**Ryogami san**	**6.15**	**334**		P	**Pn**	**20 08 03.4**	**+0.7**
JRY					S	**Sn**	**20 09 12.5**	**+0.1**
JHO	**Hitachi**	**6.25**	**348**		P	**Pn**	**20 08 02.6**	**-1.3**
JHO					S	**Sn**	**20 09 10.9**	**-3.6**
INU	**Inuyama**	**6.50**	**319**		Pn	**Pn**	**20 08 06.8**	**-0.7**
JGF	**Kuroka**	**6.50**	**323**		Pn	**Pn**	**20 08 08.1**	**+0.5**
MJAR	**Matsushiro Arr**	**6.88**	**332**		Pn	**Pn**	**20 08 10.9**	**-1.8**
	3.0nm,0.3s,baz=162,slow=11,SNR=75							
MJAR					Sn	**Sn**	**20 09 30.7**	**+0.5**
	0.2nm,0.3s,baz=160,slow=19,SNR=4.3							
	52nm,0.6s							
MAJO	**Matsushiro**	**6.88**	**332**		Pn	**Pn**	**20 08 13.0**	**+0.3**
MAJO					Sn	**Sn**	**20 09 27.7**	**-2.6**
MAJO	**Matsushiro**	**6.88**	**332**	*c i*	P	**Pn**	**20 08 13.6**	**+0.9**
MAJO	**Matsushiro**	**6.88**	**332**		P	**Pn**	**20 08 13.8**	**+1.1**
MJB9	**Matsu-Tunnel**	**6.89**	**332**			**Pn**	**20 08 13.4**	**+0.6**
MJB9					Sn	**Sn**	**20 09 29.0**	**-1.4**
JMM	**Marumori**	**7.44**	**351**		Pn	**Pn**	**20 08 18.7**	**-1.6**
JMM						**Sn**	**20 09 38.4**	**-5.6**
JMN	**Monobe**	**7.74**	**297**	Pn		**Pn**	**20 08 26.1**	**+1.5**
JSD	**Sado**	**8.19**	**338**			**Pn**	**20 08 29.0**	**-1.6**
JMK	**Ichinoseki**	**8.47**	**355**		P	**Pn**	**20 08 32.5**	**-2.0**
JMK					S	**Sn**	**20 10 02.8**	**-6.6**
JTM	**Tenmabayashi**	**10.31**	**355**	Pn		**Pn**	**20 08 57.3**	**-2.3**
ERM	**Erimo**	**11.52**	**4**	Pn		**Pn**	**20 09 12.4**	**-3.8**
ERM	**Erimo**	**11.52**	**4**	P		**Pn**	**20 09 12.4**	**-3.8**
ERM	**Erimo**	**11.52**	**4**	P		**Pn**	**20 09 12.8**	**-3.4**
JEW	**Eniwo**	**12.34**	**357**	Pn		**Pn**	**20 09 22.6**	**-4.7**
KSRS	**Korea Array**	**13.71**	**304**	Pn		**Pn**	**20 09 44.6**	**-1.5**
	0.1nm,0.3s,baz=113,slow=12,SNR=3.9							
KSRS					LR	LR	20 14 57.2	
	comp=Z,55nm,19.2s,baz=110,slow=37							
	4.6nm,1.0s							
SEHB	**SEOHWA**	**13.86**	**308**	Pn		**Pn**	**20 09 49.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**15.88**	**332**	Pn		**Pn**	**20 10 13.8**	**-1.3**
	0.3nm,0.3s,baz=153,slow=12,SNR=14							
	8.4nm,0.8s							
USRK	**Ussuriysk Ar.**	**15.88**	**332**			**Pn**	**20 10 14.1

comp=Z,3.1nm,0.7s,baz=122,slow=9.3,SNR=16
SONM LR LR 20 27 35.1
comp=Z,48nm,18.6s,baz=105,slow=39
comp=Z,3.1nm,0.7s
SONM Songino Array 32.34 313 P **P** **20 13 00.9 +0.1**
LZH Lanzhou 32.38 290 *e*P **P** **20 13 01.1 -0.2**
LZH pP sP 20 13 09.0 +0.9
LZH sP pwP 20 13 13.3 -1.1
LZH pmax pmax
comp=Z,16nm,1.2s
YAK Yakutsk 32.59 349 P **P** **20 13 02.8 +0.3**
comp=Z,2.9nm,0.4s,baz=127,slow=1.2,SNR=5.1
comp=Z,2.9nm,0.4s
YAK Yakutsk 32.59 349 *ce*P **P** **20 13 02.8 +0.3**
YAK pmax pmax
comp=Z,19nm,1.7s
SEY Seymchan 33.11 9 P **P** **20 13 08.1 +0.9**
comp=Z,3.1nm,0.6s,baz=13,slow=20,SNR=11
comp=Z,3.1nm,0.6s
LBMI Labuha 33.97 207 P **P** **20 13 13.4 -1.7**
comp=Z,10nm,0.8s
FAKI Fak Fak 34.55 198 P **P** **20 13 16.9 -3.3**
comp=Z,8.3nm,0.6s
FAKI Fak Fak 34.55 198 P **P** **20 13 19.3 -0.9**
GTOI Gorontalo 34.83 215 P **P** **20 13 21.0 -1.6**
comp=Z,6.2nm,0.9s
ZAK Zakamensk 35.12 316 *e*P **P** **20 13 26.5 +1.6**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
MRSI Marisa 35.51 217 P **P** **20 13 25.5 -2.9**
comp=Z,12nm,0.9s
GTA Gaotai 35.58 296 *e*P **P** **20 13 28.6 -0.4**
GTA pP pP 20 13 33.1 -1.0
GTA pmax pmax
comp=Z,2.0nm,1.5s
GTA pmax pmax
comp=Z,57nm,4.5s
GTA LR LR
comp=Z,51nm,15.6s
GTA LR LR
comp=Z,89nm,14.9s
GTA LR LR
comp=Z,92nm,14.5s
PZH PanZhiHua 35.63 274 P **P** **20 13 32.6 +3.0**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,70nm,4.7s
SANI Sanana 35.86 208 P **P** **20 13 29.2 -2.2**
comp=Z,17nm,0.7s
SANI Sanana 35.86 208 P **P** **20 13 29.5 -1.9**
LUWI Luwuk 36.40 214 P **P** **20 13 32.1 -4.0**
comp=Z,16nm,0.7s
AAI Ambon 36.52 204 P **P** **20 13 35.8 -1.3**
comp=Z,19nm,0.7s
MPSI Mapaga 36.71 219 P **P** **20 13 37.5 -1.2**
comp=Z,5.6nm,0.7s
APSI Ampana 36.84 216 P **P** **20 13 36.7 -3.1**
comp=Z,22nm,1.2s
GOMU GeErMu 39.66 291 P **P** **20 14 03.8 -0.1**
GOMU pP pP 20 14 06.6 -2.4
GOMU pmax pmax
comp=Z,6.0nm,0.9s
PMG Port Moresby 39.96 172 LR LR 20 29 28.4
comp=Z,54nm,18.1s,baz=358,slow=34
CMAR Chiang Mai Arr 40.91 263 P **P** **20 14 13.3 -0.6**
comp=Z,0.6nm,0.6s,baz=65,slow=5.7,SNR=6.7
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 40.91 263 *i* P **P** **20 14 13.5 -0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
BATI Baumata 44.21 207 P **P** **20 14 38.1 -2.6**
comp=Z,15nm,0.6s
MTN Manton Dam 44.38 195 P **P** **20 14 40.0 -2.1**
MTN IAmb IAmb 20 14 42.2
comp=Z,22nm,0.9s
WMQ Urumqi 44.66 303 *e*P **P** **20 14 46.9 +2.8**
DGZ Jazzator, Alta 44.97 311 *ce*P **P** **20 14 47.9 +1.2**
DGZ pmax pmax
comp=Z,8.0nm,0.9s
ZALV Zalesovo Beam 46.96 317 P **P** **20 15 02.7 +0.6**
comp=Z,1.5nm,0.6s,baz=33,slow=5.5,SNR=4.9
ZALV PcP **PcP** **20 16 35.2 +1.0**
comp=Z,1.2nm,0.3s,baz=117,slow=4.7,SNR=3.9
ZALV LR LR 20 35 16.6
comp=Z,50nm,18.8s,baz=93,slow=37
comp=Z,1.5nm,0.6s
KNRA Kununurra 47.69 198 P **P** **20 15 08.1 0.0**
comp=Z,9.2nm,0.5s
MK31 Makanchi Array 48.36 307 P **P** **20 15 13.1 -0.1**
MK31 Makanchi Array 48.36 307 *i* P **P** **20 15 13.6 +0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 48.36 307 P **P** **20 15 13.8 +0.7**
comp=Z,1.8nm,0.7s,baz=90,slow=9.4,SNR=20
comp=Z,1.8nm,0.7s
MKAR Makanchi Array 48.36 307 P **P** **20 15 12.9 -0.2**
MAKZ Makanchi 48.58 307 P **P** **20 15 15.5 +0.7**
MAKZ Makanchi 48.58 307 P **P** **20 15 15.5 +0.7**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
NRIK Noril'sk 49.50 338 P **P** **20 15 22.6 +1.1**
comp=Z,4.9nm,0.6s,baz=106,slow=8.6,SNR=8.3
comp=Z,4.9nm,0.6s
NRIK Noril'sk 49.50 338 P **P** **20 15 20.8 -0.6**
NRIK IAmb IAmb 20 15 23.6
comp=Z,8.1nm,0.8s
NRIK Noril'sk 49.50 338 *de*P **P** **20 15 22.9 +1.4**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 50.44 175 P **P** **20 15 29.6 +0.5**
CTAO pmax pmax
comp=Z,8.0nm,1.7s
SVW2 Sparrevohn 50.46 34 P P 20 15 23.6 -5.2
WB0 Warramunga Arr 50.53 190 P **P** **20 15 28.4 -1.4**
PDGK Podgornoye 50.64 303 *i* P **P** **20 15 31.2 +0.5**
PDGK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 50.65 313 P **P** **20 15 30.2 -0.2**
KURK IAmb IAmb 20 15 46.3
comp=Z,6.7nm,0.9s
KURK Kurchatov 50.65 313⇑ *e*P **P** **20 15 30.7 +0.3**
KURK pmax pmax
comp=Z,3.0nm,0.7s
WR0 Warramunga Arr 50.70 189 P **P** **20 15 30.0 -1.0**
WRAB Tennant Creek 50.70 190 P **P** **20 15 29.5 -1.6**
WRAB Tennant Creek 50.70 190 *ce*P **P** **20 15 30.6 -0.5**
WRAB pmax pmax
comp=Z,19nm,0.6s
WRAB Tennant Creek 50.70 190 P **P** **20 15 30.6 -0.5**
WB2 Warramunga Arr 50.71 190 P **P** **20 15 30.1 -1.0**
WRA Warramunga Arr 50.71 190 P **P** **20 15 31.0 -0.2**
comp=Z,29nm,0.7s,baz=7.3,slow=7.8,SNR=182
WRA Warramunga Arr 50.71 190 P **P** **20 15 29.4 -1.7**
WRA Warramunga Arr 50.71 190 *i* P **P** **20 15 30.2 -1.0**
WRA pmax pmax
comp=Z,29nm,0.7s
QIS Mount Isa 50.82 183 P **P** **20 15 32.2 +0.2**
FITZ Fitzroy Crossi 50.87 200 P **P** **20 15 31.9 -0.4**
FITZ IAmb IAmb 20 15 33.1
comp=Z,5.7nm,0.9s
FITZ Fitzroy Crossi 50.87 200 P **P** **20 15 32.4 0.0**
BOOM Boomskoye usch 53.34 302 P **P** **20 15 51.2 +0.3**
BOOM Boomskoye usch 53.34 302 P **P** **20 15 51.2 +0.3**
BOOM pmax pmax
comp=Z,7.0nm,1.5s
TKM2 Tokmak 2 53.52 303 *i* P **P** **20 15 53.4 +1.2**
TKM2 pmax pmax
comp=Z,8.0nm,1.4s
KSH Kashi 53.89 299 P P 20 15 59.5 +4.6
KSH pP pwP 20 16 08.8 -0.2
KSH pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 54.37 303 P **P** **20 15 58.6 +0.3**
AAK Ala-Archa 54.37 303⇓ *e*P **P** **20 15 59.3 +0.9**
AAK pmax pmax
comp=Z,2.0nm,0.7s
AS31 Alice Springs 54.43 189 P **P** **20 15 57.7 -1.1**
AS31 IAmb IAmb 20 16 00.7
comp=Z,2.9nm,0.7s
ASAR Alice Springs 54.44 189 P **P** **20 15 58.3 -0.4**
comp=Z,6.3nm,0.6s,baz=3.8,slow=5.6,SNR=153
ASAR PcP **PcP** **20 17 03.9 +1.6**
comp=Z,1.6nm,0.7s,baz=12,slow=4.1,SNR=5.1
comp=Z,6.3nm,0.6s
ASAR Alice Springs 54.44 189 P **P** **20 15 57.8 -1.0**

ILAR Eielson Array 54.76 30 P **P** **20 16 01.2 +0.6**
comp=Z,1.7nm,0.8s,baz=260,slow=6.2,SNR=17
comp=Z,1.7nm,0.8s
OTUK Ortayu 54.94 310 *i* P **P** **20 16 03.1 +0.8**
OTUK pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 55.58 316 LR LR 20 41 08.7
comp=Z,58nm,18.0s,baz=70,slow=37
BRVK Borovoye 55.63 316 *i* P **P** **20 16 07.0 -0.1**
BRVK pmax pmax
comp=Z,10.0nm,4.0s
MBWA Marble Bar 55.71 206 P **P** **20 16 07.8 -0.1**
WRKA Warakurna 56.80 195 P **P** **20 16 15.3 -0.4**
KK31 Karatay Array 57.14 304 P **P** **20 16 18.4 +0.4**
KK31 IAmb IAmb 20 16 20.4
comp=Z,4.2nm,0.8s
KK31 Karatay Array 57.14 304 *i* P **P** **20 16 19.0 +0.9**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 57.14 304 P **P** **20 16 17.8 -0.2**
KKAR Karatay Array 57.14 304 P **P** **20 16 18.1 0.0**
KKAR IAmb IAmb 20 16 20.4
comp=Z,4.2nm,0.8s
KKAR Karatay Array 57.14 304 P **P** **20 16 17.8 -0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
INKA Innaminka 57.93 182 P **P** **20 16 23.6 +0.1**
GAR Garm 58.27 299 P **P** **20 16 26.5 +0.3**
GAR IAmb IAmb 20 16 29.2
comp=Z,19nm,1.1s
OOD Oodnadatta 58.29 187 P **P** **20 16 26.5 +0.4**
CHGR Chuyangaron 59.24 299 P **P** **20 16 32.9 0.0**
CHGR Chuyangaron 59.24 299 P **P** **20 16 32.9 0.0**
CHGR pmax pmax
comp=Z,26nm,0.8s
LCRK Leigh Creek 60.72 184 P **P** **20 16 43.6 +0.8**
MULG Mulgathing 60.93 188 P **P** **20 16 44.6 +0.3**
ARU Arti 61.76 321 P **P** **20 16 49.1 -0.6**
ARU IAmb IAmb 20 16 58.5
comp=Z,7.5nm,1.1s
ARU Arti 61.76 321 *c i* P **P** **20 16 50.7 +1.0**
ARU 20 17 25.2
ARU S **S** **20 25 13.2 +2.0**
ARU SS **SS** **20 29 08.2 -4.4**
ARU pmax pmax
comp=Z,6.0nm,0.9s
STKA Stephens Creek 62.03 181 P **P** **20 16 51.7 0.0**
comp=Z,5.2nm,0.6s,baz=348,slow=7.7,SNR=13
comp=Z,5.2nm,0.6s
FORT Forrest 62.40 194 P **P** **20 16 53.4 -0.8**
ABKAR Akbulak array 62.75 313 P **P** **20 16 55.9 -0.6**
ABKAR Akbulak array 62.75 313 P **P** **20 16 56.4 -0.1**
HRA Herat 65.88 297 P **P** **20 17 17.5 0.0**
HRA IAmb IAmb 20 17 22.7
comp=Z,2.5nm,0.8s
KIRV Kirov 65.90 325⇓ *e*P **P** **20 17 18.5 +1.6**
PRGR Permogore 66.63 329 *e*P **P** **20 17 21.9 +0.4**
PRGR pmax pmax
comp=Z,8.0nm,1.3s
YKA Yellowknife Ar 69.17 29 P **P** **20 17 38.2 +0.7**
comp=Z,1.8nm,0.7s,baz=300,slow=7.1,SNR=4.1
comp=Z,1.8nm,0.7s
YKA Yellowknife Ar 69.17 29 *i* P **P** **20 17 37.4 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 69.66 329 *e*P **P** **20 17 40.1 -0.4**
KLMR pmax pmax
comp=Z,19nm,1.9s
KLMR Klimovskoe 69.66 329 *e*P **P** **20 17 40.1 -0.4**
KLMR AMP 20 17 57.6
comp=Z,19nm,1.9s
ARCES ARCESS Array B 70.34 341 P **P** **20 17 45.8 +1.2**
comp=Z,1.6nm,0.7s,baz=83,slow=11,SNR=6.9
comp=Z,1.6nm,0.7s
MAK Makhachkala 73.07 310 *e*P P 20 18 09.9 +8.4
MAK MLR MLR
comp=Z,67nm,13.0s
OBN Obninsk 73.75 325 *e*P **P** **20 18 05.9 +0.7**
OBN *e* 20 18 20.0
OBN *e* 20 20 50.6
OBN *e*PPP PPP 20 22 35.6
OBN pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 74.91 333 P **P** **20 18 12.8 +0.9**
comp=Z,1.7nm,0.5s,baz=61,slow=5.4,SNR=31
comp=Z,1.7nm,0.5s
NVAR Mina Array Bea 78.44 52 P **P** **20 18 34.5 +1.9**
comp=Z,2.5nm,0.6s,baz=292,slow=5.5,SNR=17
comp=Z,2.5nm,0.6s
AKASG Malin Array Be 79.89 324 P **P** **20 18 40.5 +0.6**
comp=Z,0.7nm,0.5s,baz=51,slow=5.3,SNR=5.8
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 79.89 324 *i* P **P** **20 18 41.5 +1.6**
HFS Hagfors 80.31 337 P **P** **20 18 43.3 +1.3**
comp=Z,1.3nm,0.6s,baz=69,slow=7.9,SNR=3.2
comp=Z,1.3nm,0.6s
NC204 NORSAR Array S 80.43 338 P **P** **20 18 41.9 -0.9**
NC204 IAmb IAmb 20 18 54.9
comp=Z,6.1nm,0.8s
NB2 NORSAR Subarra 80.46 338 P **P** **20 18 44.0 +1.1**
comp=Z,0.8nm,0.6s,baz=40,slow=5.6
NB2 NORSAR Subarra 80.46 338 P **P** **20 18 43.6 +0.7**
comp=Z,1.2nm,0.6s,baz=41,slow=5.3
NOA NORSAR Array B 80.46 338 P **P** **20 18 43.8 +0.8**
comp=Z,0.8nm,0.6s,baz=41,slow=5.4,SNR=12
NOA LR LR 20 58 45.3
comp=Z,19nm,18.7s,baz=290,slow=39
comp=Z,0.8nm,0.6s
TCUT Toone Canyon 81.57 47 P P 20 18 44.0 -5.5
TCUT IAmb IAmb 20 18 45.8
comp=Z,19nm,1.1s
PDAR Pinedale Array 81.81 45 P **P** **20 18 52.1 +1.4**
comp=Z,1.2nm,0.6s,baz=291,slow=2.1,SNR=17
comp=Z,1.2nm,0.6s
BRTR Keskin Array B 83.70 313 P **P** **20 19 02.5 +2.0**
comp=Z,0.9nm,0.8s,baz=119,slow=7.2,SNR=4.6
comp=Z,0.9nm,0.8s
BRTR Keskin Array B 83.70 313 *i* P **P** **20 19 03.7 +3.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
RAYN Ar Rayn 83.78 294 P **P** **20 19 02.1 +1.0**
RAYN IAmb IAmb 20 19 07.8
comp=Z,5.9nm,0.9s
RAYN Ar Rayn 83.78 294 P **P** **20 19 02.1 +1.0**
RAYN pmax pmax
comp=Z,6.0nm,0.9s
MSEY Mahe Island 89.50 264 *i* P **P** **20 19 30.3 +1.2**
LPAZ La Paz 148.91 70 PKPbc **PKPbc** **20 26 19.1 -1.4**
comp=Z,1.7nm,0.8s,baz=334,slow=6.7,SNR=4.1
PLCA Paso Flores 151.64 120 PKPbc **PKiKP** **20 26 27.4 +1.2**
comp=Z,1.4nm,0.7s,baz=225,slow=2.9,SNR=4.1

*IDC **20** 20:13:11.3±1.2, 44.°20N×147.°96E, h0km, mb3.7/9, mbtmp3.7/9, MS3.4/2, Error ellipse: s-maj=34.0km s-min=27.8km az=65.0*
*SKHL **20** 20:13:24.9±0.8, 44.°30N×147.°80E, h112km±5km, mb5.0/2, msha5.8/2*
*MOS **20** 20:13:24.5±1.0, 44.°40N×147.°71E, h62km, mb4.4/1, Error ellipse: s-maj=20.8km s-min=20.6km az=176.8*
*JMA **20** 20:13:25.1±0.3, 44.°N×2.°×14.°8E±.°, h84km, MV3.9/27, SE OFF ETOROFU*

ISC 20 20:13:23.3±1.2, 44.°11N±0.°09×148.°03E±0.°10, h99km±9km, n35, σ1°30/49, mb3.7/9, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.13**	**354**	*d*	P	N	**20 13 45.2**	**+0.2**
KUR					*e*S	**Sn**	**20 14 00.0**	**-1.5**
KUR					pmax	pmax		
	comp=Z,695nm,0.2s							
KUR					smax	smax		
	comp=N,2μm,0.3s							
KUR					smax	smax		
	comp=E,1μm,0.3s							
KUR	**Kuril'sk**	**1.13**	**354**	*e*	P	**Pn**	**20 13 45.2**	**+0.2**
KUR					AMB	AMB	20 13 45.4	
	comp=E,440nm,0.2s							
KUR					*e*S	**Sn**	**20 14 00.0**	**-1.5**
KUR					A	A	20 14 00.5	
	comp=E,2μm,0.3s							
KUR					A	A	20 14 00.5	
	comp=E,1μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.57**	**268**	*e*	PN	**Pn**	**20 13 50.5**	**+0.3**
YUK					*e*S	**Sn**	**20 14 09.6**	**-1.1**
YUK					pmax	pmax		
	comp=Z,379nm,0.1s							
YUK					smax	smax		
	comp=E,1μm,0.2s							
YUK					smax	smax		
	comp=N,504nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**1.57**	**268**	*e*	P	**Pn**	**20 13 50.8**	**+0.6**
YUK					AMB	AMB	20 13 51.0	
	comp=N,220nm,0.3s							
YUK					*e*S	**Sn**	**20 14 09.8**	**-0.9**
YUK					A	A	20 14 11.2	
	comp=N,460nm,0.3s							
YUK					A	A	20 14 11.2	
	comp=N,1μm,0.3s							
NEM2	**Nemuro 2**	**1.82**	**247**	*e*	P	**Pn**	**20 13 54.1**	**+0.7**
NEM2					*e*S	**Sn**	**20 14 15.8**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.83**	**247**	⇓ *i*	PN	**Pn**	**20 13 54.1**	**+0.6**
NMR					*e*S	**Sn**	**20 14 15.6**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.83**	**247**	*i*	P	**Pn**	**20 13 54.1**	**+0.6**
NMR					*e*S	**Sn**	**20 14 15.6**	**-1.0**
RUSJ	**Misakicho**	**2.00**	**271**	*e*	PN	**Pn**	**20 13 57.2**	**+1.4**
RUSJ					*i* S	**Sn**	**20 14 22.3**	**+1.6**
JRA	**Rausu**	**2.11**	**266**	*e*	P	**Pn**	**20 13 58.3**	**+1.2**
JRA					*e*S	**Sn**	**20 14 24.1**	**+1.1**
JNSB	**Nemuroshibetsu**	**2.21**	**262**	*e*	P	**Pn**	**20 14 00.2**	**+1.7**
JNSB					*e*S	**Sn**	**20 14 26.4**	**+0.9**
JKHN	**Kushirohamanak**	**2.32**	**245**	*e*	P	**Pn**	**20 14 01.1**	**+1.1**
JKHN					*e*S	**Sn**	**20 14 27.9**	**-0.2**
JNK	**Nakash**	**2.45**	**259**	*e*	P	**Pn**	**20 14 02.8**	**+1.1**
JNK					*e*S	**Sn**	**20 14 30.9**	**-0.2**
AKK	**Akkeshi**	**2.56**	**246**	*e*	P	**Pn**	**20 14 04.0**	**+0.9**
JAK	**Akkeshi**	**2.67**	**247**	*e*	P	**Pn**	**20 14 05.4**	**+0.9**
JAK					*e*S	**Sn**	**20 14 35.5**	**-0.7**
JTKR	**Abashiri--Toko**	**2.98**	**269**	*e*	P	**Pn**	**20 14 09.6**	**+1.0**
JAR	**Ashorobuto**	**3.19**	**257**	*e*	P	**Pn**	**20 14 13.5**	**+2.0**
JAR					*e*S	**Sn**	**20 14 50.3**	**+1.4**
JCH	**Churui**	**3.72**	**248**	*e*	P	**Pn**	**20 14 19.6**	**+1.0**
JCH					*e*S	**Sn**	**20 15 00.3**	**-1.1**
JNBK	**Urakawa-nobuka**	**4.27**	**246**	*e*	P	**Pn**	**20 14 26.7**	**+0.7**
JOT	**Ohata**	**5.82**	**244**	*e*	P	**Pn**	**20 14 48.0**	**+1.0**
JOT					*e*S	**Sn**	**20 15 47.5**	**-4.9**
JANG	**Nango**	**6.11**	**235**	*e*	P	**Pn**	**20 14 52.1**	**+1.1**
JANG					*e*S	Sn	20 15 54.7	-4.8
PAU	**Pauzhetka**	**9.43**	**36**	*e*	P	**Pn**	**20 15 37.9**	**+1.8**
KBG	**Krutoberegovo**	**15.32**	**32**	*e*	P	**Pn**	**20 16 52.4**	**-1.4**
SONM	**Songino Array**	**28.92**	**292**		P	**P**	**20 19 12.2**	**-0.7**
	comp=N,0.4nm,0.7s,baz=106,slow=8.3,SNR=2.6							
	comp=N,0.4nm,0.7s							
NRIK	**Noril'sk**	**39.25**	**331**		LR	LR	20 36 58.1	
	comp=N,52nm,20.8s,baz=136,slow=36							
MKAR	**Makanchi Array**	**44.98**	**298**		P	**P**	**20 21 28.2**	**-0.2**
	comp=N,0.6nm,0.5s,baz=78,slow=9.0,SNR=9.7							
	comp=N,0.6nm,0.5s							
KURK	**Kurchatov**	**45.86**	**304**		P	**P**	**20 21 35.4**	**+0.2**
KURK	**Kurchatov**	**45.86**	**304**	*e*	P	**P**	**20 21 35.4**	**+0.2**
KURBB	**Kurchatov Arra**	**45.94**	**304**		P	**P**	**20 21 35.4**	**-0.5**
	comp=N,1.2nm,0.2s,baz=74,slow=8.1,SNR=2.0							
	comp=N,1.2nm,0.2s							
DLBC	**Dease Lake**	**49.98**	**43**		LR	LR	20 43 03.5	
	comp=N,43nm,21.1s,baz=321,slow=36							
ARCES	**ARCESS Array B**	**59.13**	**340**		P	**P**	**20 23 11.8**	**-1.1**
	comp=N,0.2nm,0.3s,baz=59,slow=7.5,SNR=1.4							
	comp=N,0.2nm,0.3s							
FINES	**FINESS Array B**	**64.84**	**333**		P	**P**	**20 23 49.7**	**-1.4**
	comp=N,0.7nm,0.5s,baz=52,slow=7.5,SNR=5.9							
	comp=N,0.7nm,0.5s							
WRA	**Warramunga Arr**	**64.96**	**194**		P	**P**	**20 23 52.6**	**+0.3**
	comp=N,1.0nm,0.3s,baz=16,slow=8.5,SNR=6.0							
	comp=N,1.0nm,0.3s							
NOA	**NORSAR Array B**	**69.50**	**339**		P	**P**	**20 24 20.2**	**-0.4**
	comp=N,0.2nm,0.4s,baz=38,slow=5.6,SNR=3.8							
	comp=N,0.2nm,0.4s							
HFS	**Hagfors**	**69.60**	**338**		P	**P**	**20 24 20.7**	**-0.5**
	comp=N,1.5nm,0.9s,baz=46,slow=8.3,SNR=6.2							
	comp=N,1.5nm,0.9s							
TXAR	**Lajitas Array**	**81.92**	**57**		P	**P**	**20 25 34.3**	**+2.3**
	comp=N,0.3nm,0.5s,baz=297,slow=4.1,SNR=6.1							
	comp=N,0.3nm,0.5s							

MAN 20 20:24:41.9, 10.°59N×125.°38E, h98km, mb3.7, ML2.5, MS2.0, 4C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.68**	**229**⇑	*e*P	Pn	20 25 00.9	+2.0
MSLP				*e*S	Sn	20 25 16.8	+5.0
SCPH	**Surigao**	**0.81**	**172**⇓	*e*P	Pn	20 25 00.7	+0.5
SCPH				*e*S	Sn	20 25 15.6	+1.8
BESP	**Borongan**	**1.01**	**3**⇑	*e*P	Pn	20 25 03.6	+1.2
BESP				*e*S	Sn	20 25 18.2	+0.6
TABP	**Talibon, Bohol**	**1.14**	**245**⇑	*i*P	Pn	20 25 04.3	+0.5
TABP				*i* S	Sn	20 25 21.2	+0.9
CNP	**Catarman**	**2.04**	**340**⇑	*e*P	Pn	20 25 14.8	-0.2
CNP				*e*S	Sn	20 25 40.1	0.0

IDC 20 20:33:36.2±44.0, 15.°83S×162.°74E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=733.9km s-min=99.5km az=64.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**25.01**	**227**	P	P	20 39 01.6	-0.3
	1.1nm,0.4s,baz=49,slow=9.3,SNR=4.4						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**27.32**	**257**	P	P	20 39 23.2	+0.2
	0.3nm,0.4s,baz=86,slow=9.3,SNR=7.4						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**28.20**	**249**	P	P	20 39 30.9	0.0
	0.5nm,0.4s,baz=78,slow=9.4,SNR=10						
	0.5nm,0.4s						

IDC 20 20:33:59.4±6.1, 2.°53S×141.°09E, h0km, mb3.3/3, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=127.4km s-min=67.5km az=151.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.52**	**200**	P	Pn	20 38 17.8	+0.2
	0.1nm,0.3s,baz=25,slow=12,SNR=8.4						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.66**	**223**	P	P	20 38 51.4	-0.3
	1.4nm,0.9s,baz=45,slow=14,SNR=1.9						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**22.13**	**198**	P	P	20 38 56.9	0.0
	0.4nm,0.6s,baz=27,slow=9.9,SNR=9.8						
	0.4nm,0.6s						
VNDA	**Vanda**	**75.76**	**175**	P	P	20 45 46.6	0.0
	0.3nm,0.7s,baz=4.7,slow=7.6,SNR=2.1						
	0.3nm,0.7s						

*IDC **20** 20:49:47.0±1.9, 0.°18N×17.°09W, h0km, mb3.8/3, mbtmp4.0/4, ML4.5/1, MS3.3/5, Error ellipse: s-maj=68.7km s-min=35.1km az=159.0*

ISC 20 20:49:45.1±1.8, 0.°6S±0.°5×16.°4W±0.°2, h10km, n12, σ2°68/9, mb3.8/3, MS3.3/3, 2C-1D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**13.26**	**59**⇑	*e*P	**P**	**20 53 02.4**	**-1.1**
	12nm,0.5s						
TIC	**Toumodi**	**13.49**	**57**⇑	*e*P	**P**	**20 53 04.6**	**-1.4**
	4.7nm,0.4s						
KIC	**Kosan Boka**	**13.58**	**59**⇓	*e*P	**P**	**20 53 04.2**	**-2.8**
	13nm,0.3s						
DBIC	**Dimbokro**	**13.64**	**58**	Pn	**P**	**20 53 04.7**	**-3.0**
	2.2nm,0.3s,baz=258,slow=12,SNR=30						
DBIC					Sn	**Sn**	**20 55 30.4**	**0.0**
	0.9nm,0.3s,baz=173,slow=9.5,SNR=3.5						
DBIC					LR	LR	20 57 16.4	
	comp=Z,85nm,19.8s,baz=250,slow=32						
	6.5nm,0.3s						
KOWA	**Kowa**	**19.41**	**39**	LR	LR	21 00 23.0	
	comp=Z,87nm,19.2s,baz=300,slow=33						
TORD	**Torodi Ar. Bea**	**22.59**	**52**	P	**P**	**20 54 50.7**	**+4.7**
	2.6nm,0.8s,baz=235,slow=11,SNR=16						
	2.6nm,0.8s						
MDT	**Midelt**	**35.08**	**17**	LR	LR	21 10 51.6	
	comp=Z,47nm,18.3s,baz=282,slow=37						
KMBO	**Kilima Mbogo**	**53.69**	**91**	LR	LR	21 19 05.4	
	comp=Z,36nm,21.1s,baz=88,slow=32						
NOA	**NORSAR Array B**	**65.06**	**14**	LR	LR	21 29 24.2	
	comp=Z,15nm,18.4s,baz=255,slow=37						

FINES	**FINES Array B**	**69.83**	**20**	P		**P**	**21 00 55.2**	**-0.5**
	0.7nm,0.6s,baz=227,slow=7.4,SNR=5.3							
	0.7nm,0.6s							
TXAR	**Lajitas Array**	**87.88**	**299**	P		**P**	**21 02 35.3**	**-0.3**
	0.5nm,0.9s,baz=101,slow=4.7,SNR=4.7							
	0.5nm,0.9s							
WRA	**Warramunga Arr**	**144.82**	**127**	PKPbc		**PKiKP**	**21 09 27.9**	**+0.8**
	0.5nm,1.0s,baz=236,slow=2.2,SNR=2.5							

IDC ***20*** *20:59:41.2±2.2,4.72S×150.76E,h123km±29km, mb3.2/3, mbtmp3.6/4, Error ellipse: s-maj=94.1km s-min=14.3km az=136.0*

ISC 20 20:59:41.1±1.1,4.9S±0.3×151.1E±0.3,h150km,n6, σ1°48/8,mb3.4/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.10**	**57**	P		**Pn**	**21 00 06.0**	**-0.8**
	59nm,0.4s,baz=198,slow=21,SNR=4.5							
KRVT				S		**Sn**	**21 00 26.6**	**+0.2**
	150nm,0.7s,baz=293,slow=22,SNR=14							
PMG	**Port Moresby**	**5.94**	**221**	P		**Pn**	**21 01 06.2**	**-0.7**
	7.7nm,0.5s,baz=246,slow=20,SNR=2.9							
PMG				S		**Sn**	**21 02 13.1**	**-1.0**
	27nm,0.5s,baz=195,slow=22,SNR=9.0							
WRA	**Warramunga Arr**	**22.12**	**226**	P		**P**	**21 04 25.7**	**+1.0**
	0.9nm,0.9s,baz=50,slow=10,SNR=9.1							
	0.9nm,0.9s							
ASAR	**Alice Springs**	**24.95**	**220**	P		**P**	**21 04 52.0**	**+1.3**
	0.4nm,0.3s,baz=56,slow=8.9,SNR=8.3							
	0.4nm,0.3s							
FITZ	**Fitzroy Crossi**	**28.13**	**240**	P		**P**	**21 05 20.8**	**+1.6**
	1.0nm,0.7s,baz=75,slow=12,SNR=1.4							
	1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**148.73**	**287**	PKPbc		**PKPab**	**21 19 14.0**	**-1.9**
	0.3nm,0.5s,baz=90,slow=1.2,SNR=2.4							

IDC ***20*** *21:31:29.0±0.9,22.68S×172.75E,h0km,mb4.4/9, mbtmp4.4/10,ML3.8/1,MS3.8/41,Error ellipse: s-maj=25.1km s-min=22.6km az=126.0*
NEIC ***20*** *21:31:31.7±1.5,22.85S±0.1×172.64E±0.09,h10km±1km, mb4.8/29,Error ellipse: s-maj=19.4km s-min=13.5km az=348.0*
NOU ***20*** *21:31:35.0,23.09S×172.78E,h32km,mb5.0/31, Southeast of Loyalty Islands*

ISC 20 21:31:31.4±0.4,22.83S±0.07×172.58E±0.06,h10km,n145, σ1°39/109,mb4.8/28,MS3.9/38,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**4.43**	**287**			**Pn**	**21 32 38.6**	**0.0**
MARNC	**Mare, Loyalty**	**4.43**	**287**	P		**Pb**	**21 32 47.4**	**-1.9**
PINNC	**Pines Island,**	**4.75**	**272**	Pn		**Pn**	**21 32 43.8**	**+0.8**
PINNC	**Pines Island,**	**4.75**	**272**	P		**Pn**	**21 32 45.1**	**+2.1**
YATNC	**Mamie plateau,**	**5.32**	**277**	P		**Pn**	**21 32 52.6**	**+1.7**
LIFOU	**LIFOU**	**5.37**	**291**	Pn		**Pn**	**21 32 53.0**	**+1.4**
ONTNC	**Ouen Toro**	**5.69**	**274**	Pn		**Pn**	**21 32 56.7**	**+0.8**
ONTNC	**Ouen Toro**	**5.69**	**274**	P		Pn	21 33 02.0	+6.1
DZM	**Mont Dzumac**	**5.73**	**276**	*e*P		**Pn**	**21 32 56.4**	**-0.2**
	40nm,0.8s							
DZM				*e*Sn		**Sn**	**21 34 01.2**	**-1.3**
	102nm,1.1s							
DZM				*e*LR		LR	21 34 12.8	
DZM	**Mont Dzumac**	**5.73**	**276**	Pn		**Pn**	**21 32 57.7**	**+1.1**
	2.4nm,0.3s,baz=132,slow=17,SNR=24							
DZM				Sn		**Sn**	**21 34 03.2**	**+0.8**
	2.6nm,0.3s,baz=157,slow=22,SNR=3.4							
DZM				LR		LR	21 35 06.6	
	comp=Z,665nm,18.6s,baz=219,slow=37							
	9.9nm,0.3s							
DZM	**Mont Dzumac**	**5.73**	**276**	Pn		**Pn**	**21 32 57.3**	**+0.7**
DZM	**Mont Dzumac**	**5.73**	**276**	P		**Pn**	**21 32 57.9**	**+1.3**
NOUC	**Port Laguerre**	**5.85**	**276**	P		**Pn**	**21 33 00.5**	**+2.3**
RTV	**Rentapao**	**6.35**	**321**	P		Pn	21 33 11.1	+6.0
DVP	**Devils Point**	**6.54**	**320**	P		**Pn**	**21 33 12.0**	**+4.3**
MSVF	**Nonsavu**	**7.22**	**46**	Pn		**Pn**	**21 33 16.3**	**-0.8**
	0.5nm,0.3s,baz=206,slow=22,SNR=6.9							
MSVF				LR		LR	21 35 25.3	
	comp=Z,2μm,18.3s,baz=205,slow=34							
MSVF	**Nonsavu**	**7.22**	**46**	Pn		**Pn**	**21 33 16.6**	**-0.5**
MSVF	**Nonsavu**	**7.22**	**46**	P		**Pn**	**21 33 18.6**	**+1.5**
KOUNC	**Koumac, New Ca**	**8.04**	**285**			**Pn**	**21 33 30.1**	**+1.8**
KOUNC	**Koumac, New Ca**	**8.04**	**285**	P		Pn	21 33 35.7	+7.4
TAVE	**Taveuni**	**9.34**	**51**	P		**Pn**	**21 33 48.2**	**+2.1**
RAO	**Raoul Island**	**10.66**	**129**	LR		LR	21 37 17.4	
	comp=Z,504nm,18.0s,baz=347,slow=33							
URZ	**Urewera**	**15.86**	**167**	LR		LR	21 39 03.2	
	comp=Z,151nm,20.3s,baz=102,slow=28							
URZ	**Urewera**	**15.86**	**167**			**P**	**21 35 19.0**	**+0.5**
AFI	**Afiamalu**	**17.25**	**62**	LR		LR	21 40 43.5	
	comp=Z,550nm,20.9s,baz=247,slow=32							
HNR	**Honiara**	**18.00**	**316**	LR		LR	21 42 03.6	
	comp=Z,3μm,18.4s,baz=163,slow=35							
EIDS	**Eidsvold**	**19.79**	**258**			**Pn**	**21 36 04.5**	**+1.0**
EIDS				IAmb		IAmb	21 36 06.4	
	comp=Z,25nm,0.8s							
EIDS	**Eidsvold**	**19.79**	**258**	P		**Pn**	**21 36 05.4**	**+2.0**
	comp=Z,36nm,1.3s							
LTZ	**Lake Taylor**	**19.89**	**181**	P		**Pn**	**21 36 05.1**	**+0.4**
LTZ				IAmb		IAmb	21 36 07.6	
	comp=Z,25nm,0.9s							
ARMA	**Armidale**	**20.18**	**244**	P		Pn	21 36 09.4	+1.3
RK1H	**Rockhampton Ha**	**20.32**	**264**	P		Pn	21 36 11.8	+2.0
RPZ	**Rata Peaks**	**20.86**	**183**	LR		LR	21 43 26.2	
	comp=Z,548nm,19.4s,baz=358,slow=34							
RMQ	**Roma**	**21.94**	**256**	P		**P**	**21 36 28.8**	**+3.5**
CTA	**Charters Tower**	**24.64**	**271**	P		**P**	**21 36 53.7**	**+1.3**
	comp=Z,3.2nm,0.5s,baz=97,slow=9.9,SNR=11							
CTA				LR		LR	21 46 07.9	
	comp=Z,166nm,19.8s,baz=94,slow=35							
	comp=Z,3.2nm,0.5s							
CTAO	**Charters Tower**	**24.64**	**271**	P		**P**	**21 36 53.5**	**+1.1**
CMSA	**Cobar Meteorol**	**25.39**	**244**	P		**P**	**21 37 01.0**	**+2.0**
RAR	**Rarotonga**	**25.67**	**92**	LR		LR	21 46 19.0	
	comp=Z,74nm,19.1s,baz=306,slow=35							
QLP	**Quilpie**	**26.00**	**256**	P		**P**	**21 37 06.2**	**+1.6**
MTSU	**Mount Surprise**	**26.86**	**275**	P		**P**	**21 37 13.3**	**+0.8**
	comp=Z,24nm,0.8s							
TOO	**Toolangi**	**27.51**	**232**	P		**P**	**21 37 19.1**	**+0.9**
TOO				IAmb		IAmb	21 37 32.4	
	comp=Z,26nm,1.6s							
PMG	**Port Moresby**	**27.77**	**295**	LR		LR	21 46 42.6	
	comp=Z,151nm,18.2s,baz=110,slow=33							
STKA	**Stephens Creek**	**28.88**	**245**	P		**P**	**21 37 32.0**	**+1.6**
	comp=Z,6.0nm,0.7s,baz=88,slow=11,SNR=19							
STKA				LR		LR	21 48 32.0	
	comp=Z,316nm,18.2s,baz=56,slow=35							
	comp=Z,6.0nm,0.7s							
STKA	**Stephens Creek**	**28.88**	**245**	P		**P**	**21 37 32.0**	**+1.6**
STKA	**Stephens Creek**	**28.88**	**245**	P		**P**	**21 37 32.4**	**+2.0**
INKA	**Innaminka**	**29.15**	**254**	P		**P**	**21 37 34.8**	**+2.0**
LCRK	**Leigh Creek**	**31.55**	**249**	P		**P**	**21 37 55.9**	**+1.9**
OOD	**Oodnadatta**	**33.63**	**254**	P		**P**	**21 38 14.2**	**+1.9**
BBOO	**Buckleboo**	**33.65**	**245**	P		**P**	**21 38 12.9**	**+0.5**
TBI	**Tubuai**	**34.86**	**98**	*e*LR		LR	21 47 39.8	
	comp=Z,145nm,26.8s							
MULG	**Mulgathing**	**35.12**	**249**	P		**P**	**21 38 26.3**	**+1.1**
WR0	**Warramunga Arr**	**35.47**	**267**	P		**P**	**21 38 27.0**	**-1.3**
WR0				IAmb		IAmb	21 38 30.2	
	comp=Z,5.0nm,0.7s							
AS31	**Alice Springs**	**35.47**	**261**	P		**P**	**21 38 28.4**	**+0.1**
AS31				IAmb		IAmb	21 38 29.5	
	comp=Z,4.8nm,0.8s							
ASAR	**Alice Springs**	**35.47**	**261**	P		**P**	**21 38 28.3**	**-0.1**
	comp=Z,12nm,0.8s,baz=88,slow=9.5,SNR=146							
ASAR				LR		LR	21 52 18.5	
	comp=Z,176nm,19.7s,baz=98,slow=35							
	comp=Z,12nm,0.8s							
ASAR	**Alice Springs**	**35.47**	**261**	P		**P**	**21 38 28.2**	**-0.2**
WB0	**Warramunga Arr**	**35.65**	**268**	P		**P**	**21 38 28.5**	**-1.3**
WRA	**Warramunga Arr**	**35.66**	**267**	P		**P**	**21 38 28.6**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=97,slow=8.3,SNR=43							
WRA				LR		LR	21 53 30.1	
	comp=Z,284nm,18.2s,baz=110,slow=37							
	comp=Z,2.8nm,0.7s							
WRA	**Warramunga Arr**	**35.66**	**267**	P		**P**	**21 38 28.6**	**-1.3**
PPT2	**Papeete2**	**35.83**	**89**	*e*LR		LR	21 48 07.0	
	comp=Z,95nm,24.5s							
FORT	**Forrest**	**40.31**	**249**	P		**P**	**21 39 09.7**	**+0.6**
FORT				IAmb		IAmb	21 39 18.2	
	comp=Z,31nm,0.7s							
FORT	**Forrest**	**40.31**	**249**	P		**P**	**21 39 09.5**	**+0.4**
WRKA	**Warakurna**	**40.40**	**258**	P		**P**	**21 39 10.4**	**+0.4**
KNRA	**Kununurra**	**41.85**	**272**	P		**P**	**21 39 20.9**	**-1.1**
KNRA				IAmb		IAmb	21 40 02.9	
	comp=Z,35nm,1.3s							
H11N1	**WAKE ISLAND Hy**	**42.65**	**352**	T		T	22 24 50.2	
	baz=173,slow=76,SNR=42							
H11N3	**WAKE ISLAND Hy**	**42.65**	**352**	T		T	22 24 54.2	
	baz=173,slow=76,SNR=14							
H11N2	**WAKE ISLAND Hy**	**42.67**	**352**	T		T	22 24 54.6	
	baz=173,slow=76,SNR=29							
FITZ	**Fitzroy Crossi**	**44.09**	**267**	LR		LR	21 56 45.9	
	comp=Z,148nm,21.4s,baz=105,slow=34							
FITZ	**Fitzroy Crossi**	**44.09**	**267**	P		**P**	**21 39 40.5**	**+0.4**
FITZ				IAmb		IAmb	21 39 41.3	
	comp=Z,15nm,0.8s							
FITZ	**Fitzroy Crossi**	**44.09**	**267**	P		**P**	**21 39 40.5**	**+0.4**
	comp=Z,20nm,1.0s							
GUMO	**Guam**	**45.24**	**320**	LR		LR	21 55 53.8	
	comp=Z,104nm,20.9s,baz=98,slow=32							
SIJI	**Sorong**	**45.68**	**293**	LR		LR	21 58 29.0	
	comp=Z,89nm,20.9s,baz=25,slow=35							
BATI	**Baumata**	**48.34**	**277**	LR		LR	22 00 39.4	
	comp=Z,183nm,19.1s,baz=136,slow=36							
MBWA	**Marble Bar**	**48.81**	**261**	P		**P**	**21 40 16.9**	**-0.2**
MEEK	**Meekatharra**	**48.87**	**254**	P		**P**	**21 40 17.7**	**+0.1**
KLBR	**Kellerberrin**	**49.10**	**247**	P		**P**	**21 40 19.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**49.46**	**246**	LR		LR	22 00 29.8	
	comp=Z,267nm,19.2s,baz=0.5,slow=35							
NWAO	**Narrogin (SRO)**	**49.46**	**246**	P		**P**	**21 40 22.4**	**+0.4**
SANI	**Sanana**	**49.66**	**288**	P		**P**	**21 40 22.4**	**-1.3**
	comp=Z,18nm,0.8s							
EDFI	**Ende, Flores**	**50.68**	**278**	P		**P**	**21 40 28.3**	**-3.3**
	comp=Z,3.0nm,0.9s							
MORW	**Morawa**	**50.82**	**250**	P		**P**	**21 40 32.3**	**0.0**
MORW				IAmb		IAmb	21 40 33.8	
	comp=Z,17nm,0.8s							
MORW	**Morawa**	**50.82**	**250**	P		**P**	**21 40 32.7**	**+0.4**
KAPI	**Kappang**	**53.93**	**281**	LR		LR	22 06 11.7	
	comp=Z,64nm,18.5s,baz=118,slow=38							
DAV	**Davao City (W)**	**54.74**	**297**	LR		LR	22 03 55.8	
	comp=Z,29nm,19.9s,baz=157,slow=36							
VNDA	**Vanda**	**54.98**	**183**	LR		LR	22 01 45.6	
	comp=Z,129nm,18.5s,baz=11,slow=33							
SBA	**Scott Base**	**55.14**	**182**	P		**P**	**21 41 05.0**	**+1.5**
SBA				IAmb		IAmb	21 41 43.7	
	comp=Z,11nm,1.2s							
CASY	**Casey**	**58.14**	**205**	P		**P**	**21 41 25.3**	**+0.3**
CASY				IAmb		IAmb	21 43 21.0	
	comp=Z,11nm,1.1s							
JHJ	**Hachijo jima 2**	**63.83**	**330**	LR		LR	22 09 45.3	
	comp=Z,19nm,18.4s,baz=100,slow=36							
LEM	**Lembang**	**64.33**	**273**	LR		LR	22 11 58.8	
	comp=Z,49nm,18.3s,baz=175,slow=38							
JOW	**Kunigami**	**65.37**	**317**	LR		LR	22 08 07.3	
	comp=Z,21nm,19.6s,baz=314,slow=34							
QSPA	**South Pole Qui**	**67.24**	**180**	P		**P**	**21 42 26.0**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=9.4,slow=2.2,SNR=15							
QSPA				LR		LR	22 10 14.6	
	comp=Z,40nm,18.6s,baz=44,slow=34							
	comp=Z,4.0nm,0.8s							
QSPA	**South Pole Qui**	**67.24**	**180**	P		**P**	**21 42 26.3**	**+0.5**
IPM	**Ipoh**	**74.87**	**282**	P		**P**	**21 43 12.2**	**-0.6**
IPM				IAmb		IAmb	21 43 14.7	
	comp=Z,13nm,0.7s							
KULM	**Kulim**	**75.55**	**282**	P		**P**	**21 43 16.3**	**-0.4**
MAW	**Mawson**	**76.28**	**202**	P		**P**	**21 43 21.1**	**+1.2**
	comp=Z,4.4nm,0.7s,baz=121,slow=6.7,SNR=12							
MAW				LR		LR	22 14 13.4	
	comp=Z,58nm,18.3s,baz=114,slow=34							
	comp=Z,4.4nm,0.7s							
MAW	**Mawson**	**76.28**	**202**	P		**P**	**21 43 20.9**	**+0.9**
PEA0B	**Petropavlovsk-**	**76.72**	**351**	P		**P**	**21 43 22.4**	**-0.1**
PETK	**Petropavlovsk-**	**76.72**	**351**	P		**P**	**21 43 22.3**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=163,slow=10,SNR=8.0							
PETK				LR		LR	22 14 36.7	
	comp=Z,44nm,19.1s,baz=138,slow=34							
	comp=Z,5.4nm,0.8s							
PETK	**Petropavlovsk-**	**76.72**	**351**	P		**P**	**21 43 22.6**	**+0.1**
BELA	**Belgrano 2**	**78.25**	**174**	P		**P**	**21 43 29.8**	**-1.1**
BELA				IAmb		IAmb	21 43 30.7	
	comp=Z,5.2nm,0.8s							
PMSA	**Palmer Station**	**82.46**	**159**	P		**P**	**21 43 53.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**82.80**	**293**	P		**P**	**21 43 57.3**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=131,slow=4.0,SNR=5.3							
CMAR				LR		LR	22 23 13.8	
	comp=Z,15nm,19.2s,baz=275,slow=38							
	comp=Z,0.6nm,0.4s							
MA2	**Magadan**	**84.04**	**349**	LR		LR	22 15 23.2	
	comp=Z,26nm,21.2s,baz=90,slow=31							
PZH	**PanZhiHua**	**84.25**	**302**	P		**P**	**21 44 04.3**	**+0.5**
PZH				pmax		pmax		
	comp=Z,20nm,0.9s							
PZH				pmax		pmax		
	comp=Z,120nm,4.0s							
HHC	**Hu-ho-hao-te**	**84.97**	**318**	*e*P		**P**	**21 44 08.9**	**+1.9**
HHC				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC				pmax		pmax		
	comp=Z,200nm,5.5s							
TROLL	**Troll, Antarti**	**85.16**	**183**	P		**P**	**21 44 06.7**	**-0.9**
KDAK	**Kodiak Island**	**85.42**	**18**	LR		LR	22 15 01.0	
	comp=Z,85nm,19.5s,baz=224,slow=31							
SNAA	**Sanae**	**85.69**	**181**	P		**P**	**21 44 08.8**	**-1.4**
SNAA	**Sanae**	**85.69**	**181**	P		**P**	**21 44 08.9**	**-1.3**
SNAA				IAmb		IAmb	21 44 09.8	
	comp=Z,19nm,1.9s							
VNA3	**Neumayer Olymp**	**86.16**	**179**	P		**P**	**21 44 11.1**	**-1.4**
VNA2	**Neumayer--Watz**	**86.50**	**180**	P		**P**	**21 44 12.9**	**-1.2**
	baz=181,slow=5.0							
VNA1	**Neumayer--Stat**	**86.77**	**180**	P		**P**	**21 44 12.4**	**-3.0**
LZH	**Lanzhou**	**87.44**	**311**	*e*P		**P**	**21 44 17.6**	**-1.8**
LZH				pP		sP	21 44 23.4	+0.7
LZH				sP		pwP	21 44 28.9	+3.4
LZH				pmax		pmax		
	comp=Z,28nm,1.0s							
YBH	**Yreka Blue Hor**	**87.76**	**43**	LR		LR	22 15 43.4	
	comp=Z,70nm,20.5s,baz=250,slow=30							
PFO	**Pinyon Flats O**	**87.79**	**52**	LR		LR	22 18 38.9	
	comp=Z,44nm,18.0s,baz=250,slow=32							
LPIG	**La Paz**	**88.20**	**63**	LR		LR	22 15 50.8	
	comp=Z,44nm,19.1s,baz=232,slow=30							
NVAR	**Mina Array Bea**	**88.89**	**47**	LR		LR	22 15 40.7	
	comp=Z,109nm,20.9s,baz=270,slow=30							
SONM	**Songino Array**	**91.96**	**322**	LR		LR	22 26 34.7	
	comp=Z,15nm,18.9s,baz=122,slow=36							
ELK	**Elko**	**92.08**	**46**	LR		LR	22 17 48.2	
	comp=Z,106nm,21.1s,baz=248,slow=30							
ILAR	**Eielson Array**	**92.76**	**16**	P		**P**	**21 44 39.8**	**-3.6**
	comp=Z,0.5nm,0.6s,baz=219,slow=4.6,SNR=5.4							
ILAR				LR		LR	22 22 39.4	
	comp=Z,62nm,18.5s,baz=192,slow=33							
	comp=Z,0.5nm,0.6s							
DLBC	**Dease Lake**	**93.82**	**26**	LR		LR	22 21 15.0	
	comp=Z,50nm,18.4s,baz=97,slow=32							
LSA	**Lhasa**	**94.05**	**300**	P		**P**	**21 44 50.1**	**-0.7**
LSA				IAmb		IAmb	21 44 57.8	
	comp=Z,3.5nm,0.4s							
NEW	**Newport**	**94.55**	**39**	LR		LR	22 21 58.1	
	comp=Z,61nm,18.6s,baz=221,slow=32							
TXAR	**Lajitas Array**	**95.76**	**61**	LR		LR	22 19 34.6	
	comp=Z,45nm,21.0s,baz=236,slow=30							
ANMO	**Albuquerque**	**95.80**	**55**	LR		LR	22 19 56.9	
	comp=Z,41nm,20.6s,baz=232,slow=30							
PDAR	**Pinedale Array**	**96.79**	**46**	LR		LR	22 22 51.1	
	comp=Z,58nm,19.1s,baz=264,slow=32							
LANS	**Liptovska Anna**	**146.23**	**328**	*e*PKP		**PKPbc**	**21 51 12.5**	**+0.5**
MORC	**Moravsky Berou**	**146.72**	**330**	*e*PKP		PKPdf	21 50 58.8	-13
KRLC	**Kraliky**	**146.85**	**331**	*e*PKP		**PKPdf**	**21 51 11.8**	**-0.2**
DPC	**Dobruska-Polom**	**146.85**	**332**	*e*PKP		**PKPdf**	**21 51 12.9**	**+0.9**
VYHS	**Vyhne**	**146.98**	**327**	*e*PKP		**PKPbc**	**21 51 14.9**	**+0.7**
CLL	**Collm**	**147.47**	**336**	*e*PKPdf		**PKPdf**	**21 51 12.0**	**-0.9**
CLL				*i* PKPbc		**pPKPdf**	**21 51 14.6**	**-0.8**
	comp=Z,3.0nm,0.9s							
CLL				*i* PKPab		**sPKPdf**	**21 51 16.8**	**+0.5**
	comp=Z,3.0nm,0.9s							
CLL				*e*pPKPab		**sPKPab**	**21 51 21.0**	**+0.3**
CLL				*e*SKPdf		**SKPdf**	**21 54 48.0**	**+1.0**
CLL				*e*pSKPdf			21 54 51.0	
CLL				*e*(PKSbc)			21 54 58.0	
KRUC	**Moravsky**	**147.76**	**330**	*e*PKP		**PKPdf**	**21 51 13.1**	**-0.4**
PRU	**Pruhonice**	**147.89**	**333**	*e*PKP		**PKPdf**	**21 51 15.4**	**+1.8**
NKC	**Novy Kostel**	**148.54**	**335**	*e*PKP		**PKPbc**	**21 51 17.9**	**-0.5**
CKRC	**Cesky Krumlov**	**148.87**	**332**	*e*PKP		**PKPdf**	**21 51 16.3**	**+1.0**
KHC	**Kasperske Hory**	**148.95**	**333**	*e*PKP		**PKPbc**	**21 51 18.7**	**-0.8**
GERES	**GERESS Array B**	**149.11**	**332**	PKPbc		**PKPdf**	**21 51 17.3**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=56,slow=5.0,SNR=6.2							
SOKA	**Soboth**	**150.10**	**328**	*e*P		**PKPbc**	**21 51 21.3**	**-1.2**
	comp=Z,2.5nm,1.0s							
WATA	**Walderalm**	**151.18**	**333**	*e*P		**PKPbc**	**21 51 23.6**	**-1.5**
	comp=Z,2.2nm,0.6s							
WTTA	**Wattenberg**	**151.22**	**332**	*e*P		**PKPbc**	**21 51 22.7**	**-2.5**
	comp=Z,3.9nm,0.7s							
ABTA	**Abfaltersbach**	**151.23**	**331**	*e*P		**PKPdf**	**21 51 21.7**	**+2.5**
	comp=Z,0.7nm,0.4s							
MOTA	**Moosalm**	**151.38**	**333**	*e*P		**PKPbc**	**21 51 24.3**	**-1.3**
	comp=Z,2.3nm,0.6s							
SQTA	**Sankt Quirin**	**151.43**	**333**	*e*P		**PKPbc**	**21 51 24.7**	**-0.9**
	comp=Z,3.3nm,0.7s							
FETA	**Feichten**	**151.79**	**333**	*e*P		**PKPbc**	**21 51 25.8**	**-0.7**
	comp=Z,2.6nm,1.0s							
ESDC	**Sonseca Array**	**162.96**	**351**	PKPab		**PKPab**	**21 52 22.3**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=12,slow=3.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**167.05**	**224**	PKPab		**PKPab**	**21 52 41.5**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=113,slow=4.2,SNR=7.6							

KRSC 20 21:57:29.1±2.1,48.83N×153.73E,h356km±26km,ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**4.08**	**41**	*e*P		Pn	21 58 39.6	+0.5
KDTR				*e*S		S	21 59 34.3	-1.4
GRL	**Gorelyy**	**4.64**	**35**	*e*P		Pn	21 58 47.0	+1.9
APC	**Apacha**	**4.64**	**27**	*e*P		Pn	21 58 44.3	-0.6
RUS	**Russkaya**	**4.72**	**38**	*e*P		Pn	21 58 46.8	+1.0
RUS				*e*S		S	21 59 48.1	+0.2
UGLR	**Uglovaya**	**5.44**	**34**	*e*P		Pn	21 58 56.1	+2.3
AVH	**Avacha**	**5.45**	**34**	*e*P		Pn	21 58 56.8	+2.9
SPN	**Mys Shipunski**	**5.84**	**41**	*e*P		Pn	21 58 59.9	+1.8
SPN				S		S	22 00 09.7	-0.6
TUMR	**Tumrok**	**7.58**	**29**	P		P	21 59 20.6	+1.1
MKZ	**Mys Kozlova**	**7.59**	**38**	*e*P		P	21 59 19.6	+0.1
MKZ				S		S	22 00 44.5	-2.8

IDC ***20*** *21:59:28.3±0.9,37.67N×21.05E,h0km,mb3.7/10, mbtmp3.5/19,ML3.4/7,MS2.8/2,Error ellipse: s-maj=16.8km s-min=14.9km az=4.0*
THE ***20*** *21:59:30.5,37.51N×20.82E,h0km±2km,ML3.4/15,Error ellipse: s-maj=2.9km s-min=0.8km az=220.0*
ATH ***20*** *21:59:31.5,37.61N×20.94E,h21km±1km,ML3.4/8,Error ellipse: s-maj=1.7km s-min=0.7km az=231.0*

ISC 20 21:59:30.9±0.9,37.54N±0.03×20.86E±0.02,h17km±2km, n104,σ1°67/138,mb3.6/10,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LTHK	**Lithakia**	**0.17**	**354**	P		**Pg**	**21 59 36.3**	**+0.9**
LTHK	**Lithakia**	**0.17**	**354**	P		**Pg**	**21 59 36.3**	**+0.9**
LTHK				S		**Sg**	**21 59 39.1**	**+0.6**
LTHK				AML		AML	21 59 39.6	
	comp=E,80113μm,0.3s							
LTHK				AML		AML	21 59 39.6	
PSDA	**Pessada-Kefalo**	**0.62**	**339**	P		**Pg**	**21 59 42.9**	**-0.3**
PSDA				S		**Sg**	**21 59 51.8**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.62**	**339**	P		**Pg**	**21 59 42.9**	**-0.3**
PSDA				S		**Sg**	**21 59 51.3**	**-0.1**
VLS	**Valsamata**	**0.68**	**342**	P		**Pg**	**21 59 43.5**	**-0.7**
VLS				S		**Sb**	**21 59 54.4**	**+1.1**
	comp=E,3μm,0.4s							
VLS	**Valsamata**	**0.68**	**342**	P		**Pg**	**21 59 43.6**	**-0.6**
VLS				S		**Sg**	**21 59 52.7**	**-0.6**
VLS				AML		AML	22 00 01.7	
	comp=

TSLK					S	**Sg**	22 00 11.9	-1.1
TSLK					AML	AML	22 00 15.7	
	comp=E,4847µm,0.4s							
TSLK					AML	AML	22 00 20.3	
	comp=N,4873µm,0.4s							
THAL	**Thalero**	**1.51**	**70**	P	**Pn**	21 59 58.4	+1.2	
THAL				S	**Sg**	22 00 21.1	+1.3	
	comp=N,3µm,0.6s							
EVR	**Evrytania**	**1.57**	**28**	P	**Pn**	21 59 58.7	+0.7	
EVR				S	**Sg**	22 00 22.5	+0.9	
	comp=N,650nm,0.8s							
EVR	**Evrytania**	**1.57**	**28**	P	**Pn**	21 59 58.8	+0.7	
LOUT	**Loutraki**	**1.74**	**74**	P	**Pn**	22 00 02.3	+2.0	
LOUT	**Loutraki**	**1.74**	**74**	P	**Pn**	22 00 02.4	+2.0	
MAKR	**Makrakomi, Fth**	**1.78**	**34**	P	**Pn**	22 00 02.5	+1.6	
MAKR	**Makrakomi, Fth**	**1.78**	**34**	P	**Pn**	22 00 02.6	+1.6	
EPID	**Epidavros**	**1.80**	**87**	P	**Pn**	22 00 02.8	+1.7	
EPID	**Epidavros**	**1.80**	**87**	P	**Pn**	22 00 02.9	+1.7	
KRND	**KRANIDI**	**1.83**	**94**	P	**Pn**	22 00 03.0	+1.4	
AXAR	**Agios Charalam**	**1.88**	**49**	P	**Pn**	22 00 04.6	+2.4	
AXAR	**Agios Charalam**	**1.88**	**49**	P	**Pn**	22 00 04.3	+2.0	
LKR	**Lokris**	**2.02**	**56**	P	**Pn**	22 00 05.2	+1.0	
VIL2	**Platees**	**2.02**	**70**	P	**Pn**	22 00 06.1	+1.8	
ATAL	**Atalanti**	**2.06**	**55**	P	**Pn**	22 00 06.7	+1.9	
ATAL	**Atalanti**	**2.06**	**55**	P	**Pn**	22 00 06.6	+1.9	
THL	**Klokotos Trika**	**2.22**	**24**	P	**Pn**	22 00 09.1	+2.2	
VLY	**Voula,Athens**	**2.35**	**81**	P	**Pn**	22 00 09.9	+1.2	
ATHU	**Athens Univers**	**2.36**	**79**	P	**Pn**	22 00 09.8	+1.0	
DION	**Dionisos Attik**	**2.49**	**77**	P	**Pn**	22 00 12.2	+1.5	
KYMI	**Kymi, Euboea I**	**2.78**	**66**	P	**Pn**	22 00 16.2	+1.5	
OHR	**Ohrid**	**3.57**	**359**	*i* Pn	**Pn**	22 00 27.8	+2.2	
IDI	**Anoyia**	**3.95**	**123**	Pn	**Pn**	22 00 30.9	+0.2	
	comp=N,0.5nm,0.3s,baz=13,slow=12,SNR=1.9							
IDI				Sn	**Sn**	22 01 17.8	+1.1	
	comp=N,6.2nm,0.3s,baz=318,slow=18,SNR=12							
IDI				LR	LR	22 02 39.9		
	comp=N,18nm,20.2s,baz=268,slow=49 comp=N,9.1nm,0.9s							
VAY	**Valandovo**	**4.01**	**19**	*i* Pn	**Pn**	22 00 33.0	+1.6	
MMB	**Musomiste**	**4.62**	**28**	P	**Pn**	22 00 40.6	+0.7	
KKB	**Krupnik**	**4.65**	**21**	P	**Pn**	22 00 42.1	+1.7	
RZN	**Rozhen**	**5.11**	**34**	P	**Pn**	22 00 48.4	+1.6	
VAE	**Valguarnera**	**5.13**	**271**	Pn	**Pn**	22 00 49.0	+2.0	
	comp=N,3.8nm,0.7s,baz=160,slow=6.6,SNR=7.9							
VAE				Sn	**Sn**	22 01 45.1	-0.6	
	comp=N,2.0nm,0.3s,baz=18,slow=17,SNR=2.2							
VTS	**Vitosha**	**5.39**	**19**	P	**Pn**	22 00 51.7	+1.0	
DBRK	**Dubrovnik**	**5.53**	**339**	*e*Pn	**Pn**	22 00 50.7	-1.8	
DBRK				Sn	Sn	22 01 48.4	-7.2	
LSTV	**Lastovo**	**6.05**	**331**	*e*Pn	**Pn**	22 00 58.3	-1.2	
MPEP	**Malo Peshtene**	**6.21**	**20**	P	**Pn**	22 01 03.4	+1.6	
MAKA	**Makarska**	**6.45**	**334**	*i* Pn	**Pn**	22 01 04.4	-0.6	
HVAR	**Hvar**	**6.56**	**331**	*e*Pn	**Pn**	22 01 05.4	-1.2	
RICI	**Ricice**	**6.59**	**336**	*e*Pn	**Pn**	22 01 06.0	-1.0	
ZIRJ	**Zirje**	**7.29**	**329**	*e*Pn	**Pn**	22 01 15.4	-1.1	
KIJV	**Kijevo**	**7.29**	**334**	*e*Pn	**Pn**	22 01 16.4	-0.2	
MORI	**Morici**	**7.43**	**330**	*e*Pn	**Pn**	22 01 18.0	-0.6	
DUGI	**Dugi Otok**	**7.81**	**328**	*e*Pn	**Pn**	22 01 22.6	-1.1	
VIRC	**Vir**	**8.05**	**329**	*e*Pn	**Pn**	22 01 26.8	-0.2	
PLIT	**Plitvice**	**8.33**	**333**	*e*Pn	**Pn**	22 01 31.0	+0.2	
NVLJ	**Novalja**	**8.35**	**329**	*e*Pn	**Pn**	22 01 30.4	-0.7	
MLR	**Muntele Rosu**	**8.81**	**24**	Pn	**Pn**	22 01 36.6	-1.0	
	comp=N,0.1nm,0.3s,baz=181,slow=18,SNR=0.9 comp=N,0.5nm,0.4s							
A253A	**Karojba, Istri**	**9.38**	**328**	*e*Pn	**Pn**	22 01 44.2	-1.0	
KEST	**Kesra**	**9.43**	**262**	Pn	**Pn**	22 01 48.8	+2.8	
	comp=N,0.3nm,0.3s,baz=8.6,slow=4.5,SNR=5.0							
KEST				Sn	**Sn**	22 03 30.1	-1.5	
	comp=N,0.1nm,0.3s,baz=117,slow=18,SNR=1.7 comp=N,1.2nm,0.6s							
SOKA	**Soboth**	**10.11**	**337**	*e*Pn	**Pn**	22 01 54.8	-0.5	
	comp=N,0.1nm,0.1s							
OBKA	**Obir**	**10.12**	**334**	*e*Pn	**Pn**	22 01 57.0	+1.6	
	comp=N,0.4nm,0.2s							
BRTR	**Keskin Array B**	**10.24**	**74**	Pn	**Pn**	22 01 55.9	-1.2	
	comp=N,0.3nm,0.6s,baz=265,slow=13,SNR=1.4							
MOA	**Molln**	**11.39**	**337**	*e*Pn	**Pn**	22 02 14.2	+1.4	
	comp=N,0.2nm,0.1s							
GERES	**GERESS Array B**	**12.44**	**338**	Pn	**Pn**	22 02 27.7	+0.5	
	comp=N,0.2nm,0.3s,baz=143,slow=15,SNR=1.9							
GERES				Sn	Sn	22 04 38.2	-7.3	
	comp=N,0.1nm,0.3s,baz=161,slow=19,SNR=1.3 comp=N,0.1nm,0.3s							
MMAI	**Mount Meron Ar**	**12.71**	**106**	Pn	**Pn**	22 02 29.6	-1.3	
	comp=N,0.3nm,0.3s,baz=316,slow=13,SNR=2.6 comp=N,0.2nm,0.3s							
AKASG	**Malin Array Be**	**14.45**	**22**	Pn	Pn	22 02 51.6	-3.0	
	comp=N,0.3nm,0.3s,baz=208,slow=9.2,SNR=1.5 comp=N,0.3nm,0.4s							
ESDC	**Sonseca Array**	**19.50**	**284**	P	**P**	22 03 57.9	+0.7	
	baz=80,slow=8.5,SNR=5.0 comp=N,0.6nm,0.8s							
HFS	**Hagfors**	**23.08**	**351**	P	**P**	22 04 33.6	-1.8	
	comp=N,1.0nm,0.3s,baz=165,slow=12,SNR=13 comp=N,1.0nm,0.3s							
BELG	**Belogornoye**	**23.88**	**43**	P	**P**	22 04 42.2	-1.1	
	comp=N,8.6nm,0.8s,baz=142,slow=4.2,SNR=5.7 comp=N,8.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**24.11**	**325**	P	**P**	22 04 45.4	-0.1	
	comp=N,0.4nm,0.4s,baz=122,slow=8.6,SNR=7.7 comp=N,0.4nm,0.4s							
FINES	**FINESS Array B**	**24.16**	**6**	P	**P**	22 04 44.3	-1.5	
	comp=N,1.1nm,0.7s,baz=208,slow=11,SNR=7.0 comp=N,1.1nm,0.7s							
NB2	**NORSAR Subarra**	**24.30**	**349**	P	**P**	22 04 46.2	-1.0	
	comp=Z,0.2nm,0.5s,baz=154,slow=9.3							
NOA	**NORSAR Array B**	**24.30**	**349**	P	**P**	22 04 46.0	-1.2	
	comp=Z,0.2nm,0.5s,baz=154,slow=9.3,SNR=7.0 comp=Z,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**29.71**	**220**	P	**P**	22 05 37.8	+1.7	
	comp=Z,0.3nm,0.6s,baz=38,slow=9.1,SNR=6.9 comp=Z,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**32.16**	**3**	P	**P**	22 05 56.0	-1.3	
	comp=Z,0.2nm,0.3s,baz=195,slow=11,SNR=5.9 comp=Z,0.2nm,0.3s							
MKAR	**Makanchi Array**	**45.41**	**58**	P	**P**	22 07 46.8	-1.8	
	comp=Z,0.3nm,0.3s,baz=276,slow=7.1,SNR=14 comp=Z,0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**45.92**	**48**	P	P	22 07 49.9	-2.5	
	comp=Z,1.1nm,0.4s,baz=274,slow=9.1,SNR=5.3 comp=Z,1.1nm,0.4s							
CMAR	**Chiang Mai Arr**	**69.71**	**82**	P	**P**	22 10 39.0	-1.0	
	comp=Z,0.5nm,0.4s,baz=293,slow=6.8,SNR=4.4 comp=Z,0.5nm,0.4s							
MDP	**Montagnes des**	**73.83**	**264**	LR	LR	22 43 47.3		
	comp=Z,32nm,18.4s,baz=193,slow=36							

ROM 20 22:00:46.0±0.4, 42°.73N±0°.01×13°.30E±0°.01, h6km±3km, ML1.0/1, 1C, Error ellipse: s-maj=1.0km s-min=1.0km az=60.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.06**	**169**	P	Pg	22 00 48.0	+0.2
T1204				S	Sg	22 00 48.8	-0.2
T1202	**Accumoli, Fraz**	**0.06**	**244**	P	Pg	22 00 48.4	+0.5
T1202				S	Sg	22 00 49.7	+0.6
T1243	**Rocca Santa Ma**	**0.11**	**108**	P	Pg	22 00 49.4	+0.9
T1243				S	Sg	22 00 51.6	+1.3
T1242	**Castelluccio d**	**0.12**	**324**	P	Pg	22 00 49.9	+1.1
T1242				S	Sg	22 00 51.1	+0.6
T1242				AML	AML		
	comp=E,106µm,0.1s						
T1242				AML	AML		
	comp=N,282µm,0.6s						
T1242				AML	AML		
	comp=E,61µm,0.5s						
MMO1	**Montemonaco**	**0.17**	**6**	⇑P	Pg	22 00 50.1	+0.6
MMO1				S	Sg	22 00 51.4	-0.5
MC2	**Monte Cornacci**	**0.20**	**336**	P	Pg	22 00 50.2	+0.2
TERO	**Teramo**	**0.25**	**116**	P	Pg	22 00 51.6	+0.6
TERO				S	Sg	22 00 55.4	+1.2
T1216	**Preci, Frazion**	**0.26**	**307**	P	Pb	22 00 52.7	-0.4

ZUR 20 22:08:30.8, 46°.26N×7°.40E, h7km±1km, MLh0.4/5, 3C-2D, Error ellipse: s-maj=2.3km s-min=0.8km az=165.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIOV	**Sion-Valere**	**0.04**	**220**	⇑Pg	Pg	22 08 32.5	+0.3
SIOV				Sg	Sg	22 08 33.5	+0.1
SENIN	**Lac Senin/Sane**	**0.12**	**326**	⇓Pg	Pg	22 08 33.8	+0.2
SENIN				Sg	Sg	22 08 35.8	+0.3
DIX	**Grande Dixence**	**0.18**	**178**	⇑Pg	Pg	22 08 35.0	+0.5
DIX				Sg	Sg	22 08 37.5	+0.4
GRYON	**Gryon**	**0.20**	**267**	Pg	Pg	22 08 35.0	+0.2
GRYON				Sg	Sg	22 08 37.9	+0.3
LKBD	**Leukerbad**	**0.20**	**52**	⇓Pg	Pg	22 08 35.3	+0.5
LKBD2	**Leukerbad 2**	**0.20**	**57**	⇑Pg	Pg	22 08 35.3	+0.4
LKBD2				Sg	Sg	22 08 38.3	+0.5
LAUCH	**Lauchernalp**	**0.30**	**59**	Sg	Sg	22 08 41.2	+0.4

ROM 20 22:09:48.5±0.1, 42°.804N±0°.003×13°.202E±0°.005, h9km, ML0.9/2, Error ellipse: s-maj=0.3km s-min=0.3km az=237.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.03**	**4**	P	Pg	22 09 50.5	+0.1
T1242				S	Sg	22 09 51.6	-0.2
T1242				AML	AML		
	comp=E,310µm,0.2s						
T1242				AML	AML		
	comp=E,310µm,0.2s						
T1242				AML	AML		
	comp=N,662µm,0.3s						
NRCA	**Norcia**	**0.07**	**295**	P	Pg	22 09 51.0	+0.3
NRCA				S	Sg	22 09 52.5	+0.2
NRCA				AML	AML		
	comp=E,544µm,0.1s						
NRCA				AML	AML		
	comp=N,391µm,0.4s						
T1202	**Accumoli, Fraz**	**0.10**	**171**	P	Pg	22 09 51.7	+0.6
T1202				S	Sg	22 09 53.9	+0.9
MC2	**Monte Cornacci**	**0.11**	**355**	P	Pg	22 09 51.4	+0.1
T1216	**Preci, Frazion**	**0.16**	**303**	P	Pg	22 09 52.5	+0.6
T1241	**Roccafluvione,**	**0.18**	**73**	P	Pg	22 09 52.9	+0.7
T1241				S	Sg	22 09 56.2	+1.3
SMA1	**SAN MARTINO**	**0.20**	**150**	P	Pg	22 09 53.4	+0.8
AM05	**Amandola Campo**	**0.21**	**32**	P	Pg	22 09 53.6	+0.9
T1243	**Rocca Santa Ma**	**0.21**	**120**	P	Pg	22 09 53.3	+0.5
T1217	**Poggiodomo (PG**	**0.22**	**245**	P	Pg	22 09 53.7	+0.7
T1217				S	Sg	22 09 57.6	+1.5
LNSS	**Leonessa**	**0.23**	**211**	P	Pg	22 09 54.0	+0.8
LNSS				S	Sg	22 09 58.3	+1.8
LNSS				AML	AML		
	comp=E,39µm,0.4s						
LNSS				AML	AML		
	comp=N,45µm,0.1s						
T1215	**Vallo di Nera,**	**0.25**	**270**	P	Pg	22 09 54.1	+0.6
T1215				S	Sg	22 09 58.2	+1.3
FDMO	**Fiordimonte**	**0.25**	**340**	P	Pg	22 09 54.4	+0.9
FDMO				S	Sg	22 09 58.5	+1.6
GUMA	**Gualdo di Mace**	**0.28**	**21**	P	Pb	22 09 55.2	-0.4
CSP1	**Cessapalombo**	**0.29**	**0**	P	Pg	22 09 55.0	+0.7
CSP1				S	Sb	22 10 00.3	-0.5
CESI	**CESI - Serrava**	**0.30**	**313**	P	Pb	22 09 55.6	-0.4
CESI				S	Sb	22 10 00.1	-0.9
CAMP	**Campotosto**	**0.31**	**150**	P	Pg	22 09 55.1	+0.5
TERO	**Teramo**	**0.35**	**121**	P	Pg	22 09 55.7	+0.3
TERO				S	Sb	22 10 01.4	-1.0
FIAM	**Fiamignano**	**0.54**	**187**	S	Sb	22 10 08.0	0.0
MMUR	**Monte Murano**	**0.66**	**347**	P	Pg	22 10 00.7	-0.4

*IDC **20** 22:24:34.8±1.5, 5°.47S×152°.65E, h0km, mb3.8/6, mbtmp3.8/7, ML1.8/1, MS3.0/1, Error ellipse: s-maj=37.6km s-min=18.2km az=101.0*

ISC 20 22:24:40.7±1.4, 5°.50S±0°.09×152°.5E±0°.2, h40km, n10, σ0s76/11, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.27**	**339**	Pn	**Pn**	22 25 01.6	-0.3
	534nm,0.3s,baz=229,slow=0.5,SNR=254						
KRVT				Sn	**Sn**	22 25 18.1	+0.3
	585nm,0.3s,baz=149,slow=19,SNR=28						
PMG	**Port Moresby**	**6.55**	**233**	Pn	**Pn**	22 26 14.2	-0.4
	1.1nm,0.3s,baz=86,slow=16,SNR=1.3						
PMG				Sn	**Sn**	22 27 27.9	-0.2
	2.0nm,0.3s,baz=142,slow=20,SNR=7.6 4.4nm,0.3s						
CTA	**Charters Tower**	**15.72**	**202**	LR	LR	22 32 52.7	
	comp=Z,48nm,19.1s,baz=122,slow=32						
WRA	**Warramunga Arr**	**22.75**	**229**	P	**P**	22 29 41.4	+1.7
	1.6nm,0.6s,baz=53,slow=9.6,SNR=14 1.6nm,0.6s						
ASAR	**Alice Springs**	**25.43**	**223**	P	**P**	22 30 05.8	+0.9
	1.0nm,0.7s,baz=56,slow=9.0,SNR=15 1.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**29.05**	**242**	P	**P**	22 30 37.0	-0.4
	1.2nm,0.8s,baz=66,slow=12,SNR=1.8 1.2nm,0.8s						
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	22 36 49.9	+0.4
	0.4nm,0.8s,baz=116,slow=3.4,SNR=2.6 0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**81.56**	**326**	P	**P**	22 36 53.9	-0.2
	0.4nm,0.3s,baz=137,slow=7.7,SNR=1.3 0.4nm,0.3s						
ILAR	**Eielson Array**	**82.92**	**22**	P	**P**	22 37 00.8	-0.2
	0.9nm,0.9s,baz=274,slow=5.3,SNR=5.3 0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**150.22**	**287**	PKPbc	**PKiKP**	22 44 29.2	-0.1
	0.4nm,0.6s,baz=73,slow=3.7,SNR=5.0						

*IDC **20** 22:27:09.7±1.2, 37°.51N×20°.45E, h0km, mb3.3/6, mbtmp3.3/11, ML3.1/4, MS2.8/4, Error ellipse: s-maj=22.5km s-min=19.7km az=27.0*
*ATH **20** 22:27:10.4, 37°.28N×20°.18E, h10km±1km, ML3.3/7, Error ellipse: s-maj=3.2km s-min=1.1km az=63.0*
*THE **20** 22:27:11.1, 37°.30N×20°.21E, h0km±1km, ML3.3/9, Error ellipse: s-maj=2.9km s-min=1.0km az=239.0*

ISC 20 22:27:10.8±1.4, 37°.30N±0°.03×20°.21E±0°.04, h9km±10km, n64, σ1s59/87, mb3.4/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.65**	**51**	P	**Pg**	22 27 23.2	-0.1
LTHK	**Lithakia**	**0.65**	**51**	P	**Pg**	22 27 23.3	0.0
LTHK				S	**Sb**	22 27 32.6	-0.7
LTHK				AML	AML	22 27 36.3	
	comp=N,7686µm,0.6s						
LTHK				AML	AML	22 27 37.3	
	comp=E,4118µm,0.5s						
PSDA	**Pessada-Kefalo**	**0.87**	**20**	P	**Pg**	22 27 27.0	-0.5
PSDA				S	**Sb**	22 27 39.9	+0.2
PSDA	**Pessada-Kefalo**	**0.87**	**20**	P	**Pg**	22 27 27.1	-0.5
PSDA				S	**Sb**	22 27 39.4	-0.3
VLS	**Valsamata**	**0.93**	**19**	P	**Pg**	22 27 28.0	-0.7
VLS				S	**Sb**	22 27 41.2	-0.3
	comp=E,2µm,0.4s						
VLS	**Valsamata**	**0.93**	**19**	P	**Pg**	22 27 28.0	-0.7
VLS				S	**Sb**	22 27 41.7	+0.2
VLS				AML	AML	22 27 47.7	
	comp=E,3230µm,0.4s						
VLS				AML	AML	22 27 51.1	
	comp=N,2789µm,0.4s						
DMLN	**Damoulianata-K**	**0.95**	**8**	P	**Pg**	22 27 28.9	-0.1
DMLN				S	**Sb**	22 27 42.4	+0.4
	comp=N,4µm,0.5s						
FSK	**Fiskardo**	**1.19**	**14**	P	**Pg**	22 27 33.5	-0.2
FSK				S	**Sn**	22 27 51.0	+1.1
	comp=N,2µm,0.8s						
FSK	**Fiskardo**	**1.19**	**14**	P	**Pb**	22 27 33.7	+0.2
FSK				S	**Sb**	22 27 50.3	+1.2
FSK				AML	AML	22 27 57.7	
	comp=N,3123µm,0.9s						
FSK				AML	AML	22 27 58.0	
	comp=E,3122µm,0.6s						
RLS	**Riolos of Patr**	**1.25**	**52**	P	**Pg**	22 27 34.2	-0.7
RLS				S	**Sn**	22 27 53.0	+1.5
	comp=E,758nm,0.8s						
PYL	**PYLOS**	**1.29**	**108**	P	**Pg**	22 27 35.2	-0.4
PYL				S	**Sb**	22 27 53.2	+1.3
PYL	**PYLOS**	**1.29**	**108**	P	**Pg**	22 27 35.2	-0.4
PYL				S	**Sb**	22 27 52.4	+0.4
DRO	**Drossia**	**1.36**	**61**	P	**Pg**	22 27 36.4	-0.5
DRO				S	**Sn**	22 27 57.1	+3.0
	comp=E,1µm,0.5s						
DRO	**Drossia**	**1.36**	**61**	P	**Pg**	22 27 36.4	-0.5
DRO				S	**Sn**	22 27 56.2	+2.1
DRO				AML	AML	22 28 09.6	
	comp=N,1908µm,0.4s						
DRO				AML	AML	22 28 10.4	
	comp=E,2942µm,0.7s						
EVGI	**Lefkada island**	**1.37**	**15**	P	**Pg**	22 27 35.9	-1.1
EVGI				S	**Sn**	22 27 57.2	+2.9
EVGI	**Lefkada island**	**1.37**	**15**	P	**Pg**	22 27 35.9	-1.1
EVGI				S	**Sn**	22 27 56.4	+2.1
ITM	**Ithomi**	**1.38**	**94**	P	**Pb**	22 27 37.0	+0.3
ITM				S	**Sn**	22 27 56.7	+2.2
	comp=E,488nm,0.7s						
ITM	**Ithomi**	**1.38**	**94**	P	**Pb**	22 27 37.0	+0.3
ITM				S	**Sb**	22 27 55.4	+0.9
ITM				AML	AML	22 27 57.5	
	comp=N,848µm,1.0s						
ITM				AML	AML	22 28 03.1	
	comp=E,1125µm,0.6s						
DRAG	**Dragano-Lefkad**	**1.41**	**12**	P	**Pn**	22 27 36.9	+0.2
DRAG				S	**Sn**	22 27 58.0	+2.6
	comp=E,7µm,0.4s						
LKD2	**Lefkada island**	**1.53**	**13**	P	**Pn**	22 27 38.6	+0.3
LKD2				S	**Sn**	22 28 00.4	+2.1
	comp=E,738nm,0.6s						
LKD2	**Lefkada island**	**1.53**	**13**	P	**Pn**	22 27 38.8	+0.5
LKD2				S	**Sn**	22 28 00.0	+1.7
LKD2				AML	AML	22 28 07.7	
	comp=N,1545µm,0.7s						
LKD2				AML	AML	22 28 08.0	
	comp=E,1399µm,0.4s						
TSLK	**Tsoukalades, L**	**1.56**	**13**	P	**Pg**	22 27 40.6	-0.2
TSLK				S	**Sg**	22 28 02.1	+1.0
TSLK				AML	AML	22 28 09.9	
	comp=N,2361µm,0.9s						
TSLK				AML	AML	22 28 12.4	
	comp=E,1394µm,0.6s						
UPR	**University Cam**	**1.59**	**51**	P	**Pg**	22 27 41.7	+0.4
TRIP	**Tripoli**	**1.66**	**81**	P	**Pn**	22 27 36.3	-3.8
TRIP				S	**Sn**	22 28 00.5	-1.1
PVO	**Paravola**	**1.68**	**38**	P	**Pb**	22 27 42.3	+0.5
PVO				S	**Sb**	22 28 03.6	+0.5
	comp=E,965nm,0.5s						
PVO	**Paravola**	**1.68**	**38**	P	**Pb**	22 27 42.3	+0.5
LAKA	**Lakka**	**1.69**	**56**	P	**Pb**	22 27 42.0	-0.1
LAKA	**Lakka**	**1.69**	**56**	P	**Pb**	22 27 42.5	+0.5
KLV	**Kalavryta, Ach**	**1.71**	**64**	P	**Pn**	22 27 41.9	+1.1
KLV	**Kalavryta, Ach**	**1.71**	**64**	P	**Pn**	22 27 42.1	+1.3
EFP	**Efpalio**	**1.75**	**50**	P	**Pb**	22 27 42.9	-0.2
EFP	**Efpalio**	**1.75**	**50**	P	**Pb**	22 27 43.0	-0.1
ALIK	**Aliki, Aigiali**	**1.79**	**57**	P	**Pg**	22 27 44.8	-0.3
SERG	**Sergoula**	**1.84**	**52**	P	**Pb**	22 27 44.2	-0.4
SERG	**Sergoula**	**1.84**	**52**	P	**Pb**	22 27 44.3	-0.2
EVR	**Evrytania**	**2.05**	**38**	P	**Pb**	22 27 48.1	-0.2
EVR	**Evrytania**	**2.05**	**38**	P	**Pb**	22 27 48.1	-0.2
MAKR	**Makrakomi, Fth**	**2.29**	**41**	P	**Pb**	22 27 51.1	-1.2
AXAR	**Agios Charalam**	**2.43**	**52**	P	**Pb**	22 27 53.6	-1.1
KTHA	**Kythira Island**	**2.52**	**114**	P	**Pn**	22 27 54.3	+2.4
THL	**Klokotos Trika**	**2.67**	**32**	P	**Pn**	22 27 55.9	+1.9
IDI	**Anoyia**	**4.28**	**117**	Pn	**Pn**	22 28 16.9	+0.8
	comp=E,0.2nm,0.3s,baz=302,slow=19,SNR=1.9						
IDI				Sn	**Sn**	22 29 06.4	+0.1
	comp=E,1.0nm,0.3s,baz=20,slow=18,SNR=1.7						
IDI				LR	LR	22 30 06.0	
	comp=E,38nm,18.4s,baz=254,slow=42 comp=E,8.9nm,0.9s						
VAE	**Valguarnera**	**4.62**	**274**	Pn	**Pn**	22 28 23.6	+2.8
	comp=E,8.2nm,0.9s,baz=137,slow=9.8,SNR=2.0						
VAE				Sn	**Sn**	22 29 13.4	-1.1
	comp=E,0.6nm,0.3s,baz=56,slow=13,SNR=2.2						
LSTV	**Lastovo**	**6.03**	**336**	*e*Pn	**Pn**	22 28 39.9	-0.1
LSTV				Sn	**Sn**	22 29 41.7	-7.3
MAKA	**Makarska**	**6.46**	**339**	*e*Pn	**Pn**	22 28 46.6	+0.7
HVAR	**Hvar**	**6.54**	**335**	*e*Pn	**Pn**	22 28 46.8	-0.2
RICI	**Ricice**	**6.62**	**340**	*e*Pn	**Pn**	22 28 47.9	-0.3
ZIRJ	**Zirje**	**7.24**	**333**	*e*Pn	**Pn**	22 28 56.7	+0.1
KIJV	**Kijevo**	**7.29**	**338**	*e*Pn	**Pn**	22 28 58.2	+0.7
MORI	**Morici**	**7.40**	**334**	*e*Pn	**Pn**	22 28 58.9	0.0
DUGI	**Dugi Otok**	**7.75**	**331**	*e*Pn	**Pn**	22 29 04.0	+0.4
KEST	**Kesra**	**8.88**	**263**	Pn	**Pn**	22 29 23.4	+4.0
	comp=E,0.1nm,0.3s,baz=33,slow=17,SNR=1.3 comp=E,1.2nm,0.7s						
MLR	**Muntele Rosu**	**9.25**	**26**	Pn	**Pn**	22 29 25.3	+1.0
	comp=E,0.1nm,0.3s,baz=178,slow=19,SNR=2.0						
GERES	**GERESS Array B**	**12.47**	**340**	Pn	**Pn**	22 30 07.7	-0.7
	comp=E,0.1nm,0.3s,baz=156,slow=13,SNR=1.9 comp=E,0.1nm,0.3s						
MMAI	**Mount Meron Ar**	**13.15**	**104**	Pn	**Pn**	22 30 14.2	-3.5
	comp=E,0.1nm,0.3s,baz=294,slow=11,SNR=1.5 comp=E,0.5nm,0.4s						
ASF	**Jabal al Asfar**	**14.64**	**106**	LR	LR	22 37 06.8	
	comp=E,93nm,21.2s,baz=107,slow=41						
ESDC	**Sonseca Array**	**19.06**	**285**	LR	LR	22 39 34.1	
	comp=E,32nm,18.1s,

JBK				S	Sn	22 51 21.8	-15
EQES	**Quesada**	**2.04**	**8**	Pg	Pb	22 51 22.9	-0.6
EQES				Sg	Sb	22 51 49.1	-0.3
MD31	**MD31**	**3.11**	**201**	P	Pn	22 51 29.7	-6.3
MD31				S	Sn	22 51 57.8	-16
MDT	**Midelt**	**3.12**	**198**	P	Pn	22 51 29.7	-6.4
MDT				S	Sn	22 51 57.4	-17

*IDC **20** 23:14:01.5±7.7, 18°.92S×177°.85W, h589km±43km, mb2.5/2, mbtmp3.5/3, Error ellipse: s-maj=227.9km s-min=41.4km az=144.0*
ISC 20 23:14:00.5±1.9, **19°.0S**±0°.4×**177°.7W**±0°.3, **h600**km, **n9,** σ0**99**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.23**	**286**	P	**P**	**23 15 26.8**	**-1.0**
	7.7nm,0.5s,baz=115,slow=17,SNR=9.0						
WRA	**Warramunga Arr**	**45.13**	**260**	P	**P**	**23 21 25.5**	**+0.3**
	0.3nm,0.4s,baz=97,slow=8.4,SNR=4.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**45.19**	**255**	P	**P**	**23 21 26.3**	**+0.7**
	0.4nm,0.5s,baz=86,slow=7.9,SNR=6.8						
ASAR				PcP	**PcP**	**23 22 53.8**	**+1.0**
	0.3nm,0.5s,baz=96,slow=5.1,SNR=2.3						
	0.4nm,0.5s						
TROLL	**Troll, Antarti**	**89.27**	**180**	P	**P**	**23 25 51.9**	**-1.6**
SNAA	**Sanae**	**89.54**	**178**	P	**P**	**23 25 53.5**	**-1.2**
VNA3	**Neumayer Olymp**	**89.66**	**176**	P	**P**	**23 25 55.3**	**+0.1**
VNA2	**Neumayer--Watz**	**90.11**	**177**	P	**P**	**23 25 57.5**	**+0.3**
	baz=175,slow=5.0						
VNA1	**Neumayer--Stat**	**90.33**	**176**	P	**P**	**23 25 58.7**	**+0.5**
GERES	**GERESS Array B**	**148.79**	**345**	PKPbc	**PKiKP**	**23 32 42.9**	**+0.5**
	0.6nm,0.8s,baz=48,slow=1.5,SNR=4.9						

*IDC **20** 23:22:15.5±3.5, 2°.75N×128°.57E, h223km±31km, mb3.2/8, mbtmp3.7/8, Error ellipse: s-maj=57.4km s-min=12.5km az=67.0*
*DJA **20** 23:22:18.3±0.7, 3°.N±4°.×12°.8E±°, h207km±6km, M3.9/6, mb3.8/2, mB4.5/1, MLv3.9/6, Mw(mB)3.7/1*
ISC 20 23:22:13.0±1.2, **2°.69N**±0°.09×**128°.7E**±0°.1, **h200**km, **n11,** σ2**°19**/13, **mb3.6/7, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.36**	**287**	P	**Pn**	**23 23 08.2**	**+1.3**
SGSI				S	**Sn**	**23 23 47.6**	**-1.5**
SANI	**Sanana**	**5.45**	**210**	P	**Pn**	**23 23 34.9**	**+1.7**
	0.2nm955nm21nm,0.7s						
SANI				S	**Sn**	**23 24 32.4**	**-4.1**
	0.2nm955nm21nm,0.7s						
GTOI	**Gorontalo**	**6.08**	**251**	P	**Pn**	**23 23 44.0**	**+2.7**
GTOI				S	**Sn**	**23 24 50.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.88**	**188**	P	**P**	**23 26 40.7**	**+0.9**
	0.8nm,0.7s,baz=15,slow=12,SNR=1.8						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**23.15**	**166**	P	**P**	**23 27 03.3**	**+1.5**
	1.1nm,0.8s,baz=342,slow=10,SNR=9.9						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**26.67**	**169**	P	**P**	**23 27 35.2**	**+1.6**
	0.7nm,0.7s,baz=358,slow=7.5,SNR=11						
ASAR				PcP	**PcP**	**23 30 52.2**	**0.0**
	0.2nm,0.3s,baz=2.4,slow=2.2,SNR=4.0						
ASAR				ScP	**ScP**	**23 34 10.2**	**-3.1**
	0.2nm,0.3s,baz=12,slow=5.1,SNR=2.4						
	0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**33.13**	**300**	P	**P**	**23 28 29.5**	**-1.0**
	0.5nm,0.3s,baz=104,slow=6.1,SNR=5.7						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**36.48**	**161**	P	P	23 29 00.2	+1.2
	0.9nm,0.3s,baz=316,slow=7.6,SNR=3.8						
	0.9nm,0.3s						
SONM	**Songino Array**	**48.94**	**340**	P	P	23 30 38.3	-0.7
	0.6nm,0.6s,baz=139,slow=5.4,SNR=3.8						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**59.56**	**325**	P	**P**	**23 31 55.1**	**-0.5**
	0.9nm,0.5s,baz=118,slow=8.0,SNR=12						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**62.43**	**332**	P	P	23 32 12.6	-2.0
	0.7nm,0.7s,baz=140,slow=7.0,SNR=2.5						
	0.7nm,0.7s						

*NIED **20** 23:22:47.8, 44°.78N×150°.18E, h30km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.79; $M_{\theta\theta}$1.02; $M_{\phi\phi}$-1.82; $M_{r\theta}$1.34; $M_{\theta\phi}$-2.60; $M_{\phi r}$1.68; Fault plane solution: $M_0$3.46000×10^{14} NP1: ϕ_s162.00000°, δ63.00000°, λ-6.00000°. NP2:ϕ_s255.00000°, δ85.00000°, λ-153.00000°.*
*SKHL **20** 23:22:51.8±0.2, 44°.80N×149°.70E, h44km±9km, mb4.2/2*
*IDC **20** 23:23:05.2±4.9, 45°.86N×149°.63E, h134km±44km, mb3.4/10, mbtmp3.7/11, MS3.5/1, Error ellipse: s-maj=24.6km s-min=22.7km az=50.0*
ISC 20 23:22:51.5±0.9, **44°.9N**±0°.1×**149°.66E**±0°.09, **h50**km, **n23,** σ0**84**/18, **mb3.5**/10, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.32**	**286**	*e*P	**Pn**	**23 23 13.7**	**+0.2**
KUR				AMB	AMB	23 23 14.6	
	60nm,0.4s						
KUR				*e*S	**Sn**	**23 23 30.0**	**+0.1**
KUR				A	A	23 23 39.0	
	340nm,0.3s						
KUR				A	A	23 23 39.0	
	400nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.85**	**254**	*e*P	**Pn**	**23 23 35.3**	**+0.9**
YUK				AMB	AMB	23 23 36.0	
	60nm,0.3s						
YUK				*e*S	**Sn**	**23 24 06.9**	**-0.5**
YUK				A	A	23 24 08.2	
	120nm,0.3s						
YUK				A	A	23 24 08.2	
	90nm,0.3s						
NMR	**Nemuro--Hokkai**	**3.21**	**243**	*e*P	**Pn**	**23 23 38.8**	**-0.6**
NMR				*e*S	**Sn**	**23 24 15.8**	**-0.5**
AKK	**Akkeshi**	**3.94**	**243**	*e*P	**Pn**	**23 23 51.2**	**+1.7**
AKK				*e*S	**Sn**	**23 24 34.6**	**+0.1**
PETK	**Petropavlovsk-**	**9.78**	**30**	P	**Pn**	**23 25 10.5**	**+1.2**
	1.4nm,0.6s,baz=206,slow=16,SNR=1.7						
JOW	**Kunigami**	**24.87**	**231**	LR	LR	23 37 58.6	
	comp=Z,118nm,19.7s,baz=350,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.88**	**145**	T	T	23 59 29.8	
	baz=335,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**28.89**	**145**	T	T	23 59 37.3	
	baz=335,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**28.90**	**145**	T	T	23 59 36.9	
	baz=335,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**29.90**	**146**	T	T	00 00 50.6	
	baz=336,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**29.91**	**146**	T	T	00 00 49.9	
	baz=336,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.92**	**146**	T	T	00 00 51.6	
	baz=336,slow=76,SNR=34						
ILAR	**Eielson Array**	**39.51**	**37**	P	**P**	**23 30 16.6**	**-0.3**
	0.4nm,0.5s,baz=264,slow=7.3,SNR=5.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.66**	**298**	P	**P**	**23 31 08.1**	**+1.1**
	0.4nm,0.7s,baz=69,slow=8.3,SNR=5.0						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**53.85**	**35**	P	**P**	**23 32 09.0**	**+0.1**
	0.5nm,0.6s,baz=299,slow=5.8,SNR=1.5						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**64.67**	**334**	P	**P**	**23 33 22.4**	**-1.3**
	2.4nm,1.0s,baz=29,slow=5.5,SNR=4.6						
	2.4nm,1.0s						
WRA	**Warramunga Arr**	**66.01**	**196**	P	P	23 33 43.9	+11
	0.4nm,0.8s,baz=17,slow=7.2,SNR=2.3						
	0.4nm,0.8s						
MSVF	**Nonsavu**	**67.47**	**151**	P	P	23 33 52.0	+10
	1.7nm,0.3s,baz=336,slow=18,SNR=2.6						
	1.7nm,0.3s						
NB2	**NORSAR Subarra**	**69.18**	**340**	P	**P**	**23 33 51.8**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**69.18**	**340**	P	**P**	**23 33 51.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=29,slow=6.7,SNR=3.6						
	comp=Z,0.6nm,0.7s						
KBZ	**Khabaz**	**70.38**	**313**	P	**P**	**23 33 59.5**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=38,slow=13,SNR=2.0						
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**79.02**	**332**	P	**P**	**23 34 49.4**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=47,slow=6.0,SNR=4.6						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**80.52**	**58**	P	**P**	**23 34 58.3**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=307,slow=4.6,SNR=5.1						
	comp=Z,0.1nm,0.4s						

*HEL **20** 23:32:45.9, 67°.82N×20°.19E, h0km, ML1.5, Explosion*
UPP 20 23:32:45.6±0.0, **67°.82N**×**20°.20E**, **h0**km, **ML1.9, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 32 50.2	+0.2
RATU				S	Sg	23 32 53.5	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	23 32 50.2	+0.2
RATU				*i* S	Sg	23 32 53.5	+0.5
KOVU	**Salmi**	**0.40**	**358**	P	Pg	23 32 53.2	0.0
KOVU	**Salmi**	**0.40**	**358**	*i* P	Pg	23 32 53.2	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 32 54.1	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	23 32 54.1	0.0
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 32 59.0	-0.2
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	23 32 58.9	-0.4
LANU				*e*S	Sg	23 33 08.1	-0.3
DUNU	**Dundret**	**0.72**	**168**	P	Pg	23 32 59.0	-0.3
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	23 32 59.0	-0.3
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	23 33 00.4	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	23 33 00.4	-0.1
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 33 00.3	-0.3
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 33 00.3	-0.3
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	23 33 08.8	+0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pg	23 33 08.8	+0.1
KIF				MSG		23 33 23.8	
	comp=Z,6.2nm,0.2s						
KIF				*e*SB	Sg	23 33 24.7	+0.4
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23 33 10.9	-1.1
PAJU				S	Sg	23 33 29.6	-0.3
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 33 10.7	-1.4
PAJU				*e*SB	Sg	23 33 29.1	-0.8
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	23 33 11.9	-0.8
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	23 33 11.7	-1.0
HEF				MSG		23 33 28.9	
	comp=Z,2.0nm,0.2s						
HEF				*e*SB	Sg	23 33 30.2	-1.1
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	23 33 12.8	-0.9
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	23 33 12.8	-0.8
ERTU				*e*SB	Sg	23 33 32.9	-0.6
KLF	**Kolari**	**1.56**	**111**	*e*P	Pn	23 33 14.0	-0.6
KLF				*e*SN	Sn	23 33 35.1	-0.4
KTK1	**Kautokeino**	**1.64**	**42**	*e*PG	Pn	23 33 15.5	-0.1
KTK1				*e*SN	Sn	23 33 37.5	+0.1
HARU	**Harads**	**1.70**	**169**	P	Pn	23 33 16.5	+0.1
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	23 33 16.5	+0.1
TRO	**Tromso**	**1.88**	**346**	*e*PN	Pn	23 33 19.5	+0.6
TRO				*e*SG	Sb	23 33 44.7	+0.1
KALU	**Kalix**	**2.33**	**146**	*e*PB	Pn	23 33 26.4	+1.3
	baz=325						
KALU				*e*SG	Sb	23 33 57.5	-0.3
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	23 33 27.4	+1.6
TOF				MSG		23 33 56.6	
	comp=Z,1.6nm,0.2s						
TOF				*e*SG	Sb	23 33 59.4	0.0
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	23 33 28.9	-1.5
SGF				*e*SG	Sb	23 34 01.4	+0.3
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23 33 30.2	+1.8
RNF				*e*SG	Sb	23 34 04.4	-0.2
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*PB	Pn	23 33 30.5	+1.8
ARA0				*e*SG	Sb	23 34 05.0	-0.2
KEV	**Kevo**	**3.14**	**49**	*e*S	Sn	23 34 15.7	+1.3
KEV				MSG		23 34 18.4	
	comp=Z,1.0nm,0.2s						
MSF	**Maaselka**	**3.98**	**115**	*e*SB	Sb	23 34 40.4	-4.8

UPP 20 23:33:37.0±0.2, **67°.85N**×**20°.29E**, **h0**km, **ML2.2, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOVU	**Salmi**	**0.38**	**353**	P	Pg	23 33 44.4	+0.1
KOVU				S	Sg	23 33 49.9	+0.6
KOVU	**Salmi**	**0.38**	**353**	*i* P	Pg	23 33 44.4	+0.1
KOVU				*i* S	Sg	23 33 49.9	+0.6
LANU	**Lannavaara**	**0.67**	**72**	*e*P	Pg	23 33 50.3	+0.4
LANU				*e*S	Sg	23 33 59.5	+0.9
KIF	**Kilpisjarvi**	**1.18**	**9**	*e*P	Pb	23 34 00.1	-0.1
PAJU	**Pajala**	**1.37**	**126**	P	Pg	23 34 02.3	-0.8
PAJU	**Pajala**	**1.37**	**126**	*e*P	Pg	23 34 02.3	-0.8
HEF	**Hetta**	**1.38**	**64**	*e*P	Pg	23 34 03.0	-0.4
ERTU	**Ertsjaerv**	**1.49**	**149**	P	Pn	23 34 04.6	-0.4
ERTU	**Ertsjaerv**	**1.49**	**149**	*e*P	Pn	23 34 04.6	-0.4
HARU	**Harads**	**1.71**	**171**	P	Pn	23 34 08.5	+0.5
HARU	**Harads**	**1.71**	**171**	*e*P	Pn	23 34 08.5	+0.5
ARA0	**ARCESS Array S**	**2.55**	**46**	*e*PG	Pg	23 34 26.7	+0.9

*IDC **20** 23:35:33.3±0.9, 28°.15N×131°.25E, h0km, mb3.7/10, mbtmp3.7/12, ML3.5/2, MS3.2/14, Error ellipse: s-maj=34.5km s-min=17.4km az=81.0*
*NIED **20** 23:35:36.0, 28°.05N×131°.09E, h85km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.57; $M_{\theta\theta}$0.68; $M_{\phi\phi}$0.90; $M_{r\theta}$-0.90; $M_{\theta\phi}$0.52; $M_{\phi r}$-0.67; Fault plane solution: $M_0$1.83000×10^{15} NP1: ϕ_s214.00000°, δ27.00000°, λ-102.00000°. NP2: ϕ_s47.00000°, δ64.00000°, λ-84.00000°.*
*JMA **20** 23:35:36.0±0.1, 28°.1N±0°.4×131°.1E±0°.8, h85km±2km, MV3.9/33, N PHILIPPINE BASIN*
ISC 20 23:35:37.4±2.3, **28°.05N**±0°.03×**131°.10E**±0°.05, **h31**km±17km, **n43,** σ1**°54**/50, **mb3.8**/10, **MS3.2**/10, **Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.03**	**285**	P	**Pn**	**23 35 55.9**	**+0.1**
JZK				S	**Sb**	**23 36 11.0**	**+1.1**
JAM	**Amami Oshima**	**1.37**	**286**	P	**Pn**	**23 36 00.1**	**-0.3**
JAM				S	**Sn**	**23 36 17.1**	**-0.4**
JAMN	**Amaminishikomi**	**1.71**	**277**	P	**Pn**	**23 36 04.6**	**-0.5**
JAMN				S	**Sn**	**23 36 24.9**	**-1.1**
JTK	**Tokunoshima**	**1.92**	**263**	P	**Pn**	**23 36 07.7**	**-0.3**
JTAJ	**Takarajima**	**2.00**	**304**	P	**Pn**	**23 36 08.5**	**-0.6**
JTAJ				S	**Sn**	**23 36 32.0**	**-1.1**
JNN	**Nakanoshima**	**2.09**	**329**	P	**Pn**	**23 36 09.8**	**-0.5**
JNN				S	**Sn**	**23 36 34.5**	**-0.8**
JKDJ	**Kitadaitoujima**	**2.10**	**175**	*e*P	**Pn**	**23 36 09.9**	**-0.5**
JKDJ				S	**Sn**	**23 36 33.8**	**-1.7**
JMZ	**Minamidaito 2**	**2.22**	**177**	P	**Pn**	**23 36 11.4**	**-0.8**
JMZ				S	**Sn**	**23 36 36.5**	**-2.1**
JYAK	**Yakushimahirau**	**2.24**	**347**	P	**Pn**	**23 36 12.0**	**-0.4**
JYAK				*e*S	**Sn**	**23 36 37.4**	**-1.7**
JOKE	**Okinoerabujima**	**2.35**	**254**	*e*P	**Pn**	**23 36 13.2**	**-0.6**
JOKE				S	**Sn**	**23 36 39.6**	**-2.0**
JMTN	**Minamitane**	**2.35**	**356**	P	**Pn**	**23 36 13.2**	**-0.7**
JMTN				S	**Sn**	**23 36 39.9**	**-1.8**
JKC	**Kuchinoerabu**	**2.53**	**342**	P	**Pn**	**23 36 15.9**	**-0.5**
JKC				S	**Sn**	**23 36 44.1**	**-2.1**
JYRO	**Yoronjima**	**2.57**	**247**	P	**Pn**	**23 36 16.1**	**-0.7**
JYRO				S	**Sn**	**23 36 44.9**	**-2.1**
JOW	**Kunigami**	**2.79**	**245**	Pn	**Pn**	**23 36 19.4**	**-0.5**
	16nm,0.3s,baz=116,slow=29,SNR=27						
JOW				Sn	**Sn**	**23 36 48.8**	**-3.8**
	41nm,0.3s,baz=165,slow=29,SNR=11						
	58nm,0.5s						
JOW	**Kunigami**	**2.79**	**245**	*e*P	**Pn**	**23 36 19.2**	**-0.7**
JNTH	**Nagotoyohara**	**3.14**	**242**	P	**Pn**	**23 36 24.1**	**-0.6**
JNAR	**Kushima--Naru**	**3.47**	**2**	P	**Pn**	**23 36 29.1**	**-0.2**
JSU	**Suzuyama**	**3.49**	**351**	P	**Pn**	**23 36 29.0**	**-0.7**
JSU				S	**Sn**	**23 37 06.8**	**-3.2**
JSJ	**Shimokoshiki**	**3.81**	**342**	P	**Pn**	**23 36 32.7**	**-1.3**
JSJ				*e*S	**Sn**	**23 37 13.9**	**-3.9**
JKE	**Kume jima 2**	**4.21**	**247**	*e*P	**Pn**	**23 36 38.1**	**-1.4**
JKE				S	**Sn**	**23 37 25.0**	**-2.6**
KSRS	**Korea Array**	**9.75**	**345**	Pn	**Pn**	**23 37 54.9**	**-0.6**
	0.2nm,0.3s,baz=163,slow=14,SNR=2.5						
KSRS				LR	LR	23 42 12.7	
	comp=Z,105nm,18.5s,baz=160,slow=41						
	1.0nm,0.4s						
JCJ	**Chichijima**	**9.88**	**93**	LR	LR	23 41 14.9	
	comp=Z,113nm,19.3s,baz=119,slow=35						
USRK	**Ussuriysk Ar.**	**16.14**	**2**	Pn	**P**	**23 39 24.6**	**-0.3**
	0.1nm,0.3s,baz=159,slow=5.9,SNR=6.8						
USRK				LR	LR	23 45 23.1	
	comp=Z,49nm,19.6s,baz=102,slow=37						
GUMO	**Guam**	**19.27**	**135**	LR	LR	23 46 32.3	
	comp=Z,39nm,19.1s,baz=132,slow=34						
KLR	**Kul'dur**	**21.16**	**1**	P	**P**	**23 40 17.0**	**-2.9**
	0.9nm,0.6s,baz=133,slow=16,SNR=2.0						
KLR				LR	LR	23 48 10.4	
	comp=Z,49nm,19.0s,baz=167,slow=36						
	0.9nm,0.6s						
DAV	**Davao City (W)**	**21.51**	**195**	LR	LR	23 49 55.9	
	comp=Z,33nm,18.1s,baz=358,slow=40						
SONM	**Songino Array**	**27.55**	**322**	P	**P**	**23 41 23.3**	**+1.8**
	0.2nm,0.4s,baz=123,slow=10,SNR=2.0						
SONM				LR	LR	23 53 36.6	
	comp=Z,70nm,18.5s,baz=116,slow=39						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.97**	**259**	LR	LR	23 56 28.1	
	comp=Z,22nm,18.6s,baz=200,slow=40						
YAK	**Yakutsk**	**34.00**	**359**	LR	LR	23 55 54.4	
	comp=Z,31nm,18.9s,baz=92,slow=36						
PMG	**Port Moresby**	**40.34**	**155**	LR	LR	00 00 12.7	
	comp=Z,62nm,19.1s,baz=14,slow=37						
MKAR	**Makanchi Array**	**42.29**	**310**	P	**P**	**23 43 30.0**	**+1.8**
	0.3nm,0.5s,baz=88,slow=12,SNR=5.9						
MKAR				PcP	**PcP**	**23 45 22.3**	**+0.8**
	0.2nm,0.6s,baz=82,slow=3.5,SNR=2.3						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**42.41**	**321**	P	**P**	**23 43 30.1**	**+1.2**
	0.5nm,0.4s,baz=72,slow=4.8,SNR=3.8						
	0.5nm,0.4s						
AAK	**Ala-Archa**	**47.57**	**303**	LR	LR	00 06 30.9	
	comp=Z,28nm,19.7s,baz=84,slow=39						
WRA	**Warramunga Arr**	**47.81**	**176**	P	**P**	**23 44 14.2**	**+2.0**
	1.7nm,0.8s,baz=352,slow=8.4,SNR=8.7						
	1.7nm,0.8s						
BVAR	**Borovoye Array**	**50.66**	**317**	LR	LR	00 06 10.5	
	comp=Z,22nm,20.5s,baz=34,slow=36						
ASAR	**Alice Springs**	**51.48**	**177**	P	**P**	**23 44 41.0**	**+0.8**
	0.4nm,0.3s,baz=8.5,slow=11,SNR=9.5						
	0.4nm,0.3s						
ARU	**Arti**	**57.57**	**321**	LR	LR	00 13 45.7	
	comp=Z,36nm,18.4s,baz=70,slow=40						
AKTO	**Aktyubinsk**	**58.40**	**314**	LR	LR	00 12 08.7	
	comp=Z,57nm,19.4s,baz=78,slow=38						
ARCES	**ARCESS Array B**	**69.25**	**339**	P	**P**	**23 46 40.9**	**-0.1**
	0.6nm,0.6s,baz=59,slow=7.2,SNR=7.2						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**72.53**	**331**	P	**P**	**23 47 01.4**	**+0.3**
	1.2nm,0.6s,baz=89,slow=5.6,SNR=16						
	1.2nm,0.6s						
YKA	**Yellowknife Ar**	**75.79**	**26**	P	**P**	**23 47 20.6**	**+0.5**
	0.9nm,0.8s,baz=310,slow=13,SNR=2.6						
	0.9nm,0.8s						
NB2	**NORSAR Subarra**	**78.80**	**335**	P	**P**	**23 47 36.9**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**78.80**	**335**	P	**P**	**23 47 37.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=50,slow=5.5,SNR=8.9						
	comp=Z,0.5nm,0.5s						

*IDC **21** 00:01:02.9±10.0, 24°.38S×179°.14E, h596km±87km, mb2.9/3, mbtmp3.9/4, Error ellipse: s-maj=222.8km s-min=37.2km az=150.0*
*NEIC **21** 00:01:02.5±1.1, 24°.40S±0°.08×179°.2E±0°.2, h583km±19km, mb4.2/6, Error ellipse: s-maj=30.0km s-min=10.8km az=93.0*
ISC 21 00:01:02.5±1.5, **24°.4S**±0°.1×**179°.2E**±0°.2, **h600**km, **n21,** σ0**°70**/21, **mb3.9**/6, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.70**	**350**	P	**P**	**00 02 50.0**	**-0.1**
	3.2nm,0.3s,baz=82,slow=22,SNR=7.0						
MSVF	**Nonsavu**	**6.70**	**350**	P	**P**	**00 02 49.0**	**-1.0**
MARNC	**Mare, Loyalty**	**10.70**	**283**	P	**P**	**00 03 26.8**	**-1.5**
PINNC	**Pines Island,**	**10.94**	**277**	P	**P**	**00 03 30.2**	**-0.4**
LIFNC	**LIFOU**	**11.63**	**286**		**P**	**00 03 37.9**	**+0.4**
OUZ	**Omahuta**	**11.85**	**203**	P	**P**	**00 03 39.0**	**-0.4**
OUZ	**Omahuta**	**11.85**	**203**	P	**P**	**00 03 39.1**	**-0.4**
DZM	**Mont Dzumac**	**11.96**	**279**	P	**P**	**00 03 40.7**	**-0.4**
CTA	**Charters Tower**	**30.76**	**271**	P	**P**	**00 06 31.8**	**+0.9**
	1.6nm,0.5s,baz=97,slow=9.8,SNR=2.7						
	1.6nm,0.5s						
CTAO	**Charters Tower**	**30.76**	**271**	P	**P**	**00 06 31.6**	**+0.7**
CTAO				IAmb	IAmb	00 07 11.3	
	comp=Z,7.5nm,1.4s						
ASAR	**Alice Springs**	**41.25**	**261**	P	**P**	**00 07 56.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=92,slow=7.4,SNR=9.4						
	comp=Z,0.7nm,0.5s						
WB2	**Warramunga Arr**	**41.65**	**267**	P	**P**	**00 08 00.5**	**+0.3**
WB2				IAmb	IAmb	00 08 18.0	
	comp=Z,9.7nm,1.4s						
WRAB	**Tennant Creek**	**41.65**	**267**		**P**	**00 07 60.0**	**-0.2**
WB0	**Warramunga Arr**	**41.65**	**267**	P	**P**	**00 08

MCHZ	McNeill Hill	3.16 220	P	Pn	00 03 15.0	+0.3
GRZ	Great Barrier	3.20 283	P	Pn	00 03 14.6	-0.6
KWHZ	Kaweka Forest	3.29 223	P	Pn	00 03 16.4	-0.1
MKAZ	Moumakai	3.32 268	P	Pn	00 03 17.3	+0.5
RITZ	Rihia Road	3.35 234	P	Pn	00 03 18.6	+1.4
KAHZ	Kahuranaki	3.35 214	P	Pn	00 03 16.7	-0.6
WIAZ	Waiheke Island	3.36 273	P	Pn	00 03 17.3	0.0
KRHZ	Kereru	3.48 221	P	Pn	00 03 18.8	-0.2
ETAZ	East Tamaki Re	3.51 270	P	Pn	00 03 20.1	+0.7
TMVZ	Te Maari	3.52 233	P	Pn	00 03 18.9	-0.8
ETVZ	East Tongariro	3.53 233	P	Pn	00 03 20.3	+0.5
NTVZ	North Tongarir	3.53 233	P	Pn	00 03 20.3	+0.5
BHHZ	Black Hill Sta	3.54 225	P	Pn	00 03 20.1	+0.2
MBAZ	Motutapu North	3.55 273	P	Pn	00 03 20.9	+0.9
OTVZ	Oturere	3.58 233	P	Pn	00 03 21.1	+0.6
SNVZ	South Ngauruho	3.60 232	P	Pn	00 03 19.4	-1.5
NGZ	Ngauruhoe	3.62 233	P	Pn	00 03 21.7	+0.6
TUVZ	Tukino	3.64 231	P	Pn	00 03 21.8	+0.4
MOVZ	Moawhango	3.67 229	P	Pn	00 03 21.9	+0.2
WNVZ	Wahianoa	3.71 231	P	Pn	00 03 22.8	+0.4
AWAZ	Awhitu Peninsu	3.74 268	P	Pn	00 03 24.5	+2.0
WPHZ	Waipukurau	3.77 216	P	Pn	00 03 22.1	-0.9
PNHZ	Pukenui	3.77 219	P	Pn	00 03 21.9	-1.1
HIZ	Hauiti	3.83 246	P	Pn	00 03 25.5	+1.7
HIZ	Hauiti	3.83 246	P	Pn	00 03 25.5	+1.7
MTVZ	Mangateitei	3.83 231	P	Pn	00 03 23.3	-0.6
PRHZ	Porangahau	3.84 212	P	Pn	00 03 22.9	-1.1
WCZ	Waipu Caves	4.15 284	P	Pn	00 03 28.2	0.0
WAZ	Wanganui	4.35 230	P	Pn	00 03 31.8	+0.9
BFZ	Birch Farm	4.35 212	P	Pn	00 03 30.4	-0.6
QRZ	Quartz Range	6.50 232	P	Pn	00 03 59.2	-1.3

IDC ***21*** *00:05:51.6±0.4,54˚.76S×30˚.41W,h0km,mb4.6/13, mbtmp4.6/14,ML5.0/1,MS4.3/32,Error ellipse: s-maj=17.6km s-min=14.6km az=55.0*

NEIC ***21*** *00:05:53.9±1.7,54˚.79S±0˚.09×30˚.5W±0˚.2,h10km±1km, mb5.2/73,Error ellipse: s-maj=15.7km s-min=14.2km az=34.0*

BJI ***21*** *00:05:54.0±0.0,54˚.90S×30˚.60W,h10km,mB5.3/2, Ms5.1/5,Ms7 4.8/4*

GCMT ***21*** *00:05:56.9±0.2,54˚.80S±0˚.01×30˚.28W±0˚.04,h12km, MW5.0/134,Moment Tensor Solution. s51,c57; s134,c197; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.70±.07; Mθθ3.44±.07; Mϕϕ0.25±.07; Mrθ1.78±.25; Mθϕ0.44±.06; Mϕr-0.24±.35; Best double couple: Mo4.02100×1016 NP1:ϕ269.00000°, δ58.00000°, λ-83.00000°. NP2:ϕ76.00000°, δ32.00000°, λ-100.00000°. Principal axes: T 3.8980, Plg13.0000°, Azm354.0000°; N 0.2450, Plg6.0000°, Azm85.0000°; P -4.1440, Plg76.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 00:05:52.6±1.2,54˚.80S±0˚.06×30˚.47W±0˚.07,h7km±7km, n293,σ1º04/270,mb5.1/45,MS4.3/36,2C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	3.54	276	Pn	Pn	00 06 46.0	-1.8
ORCD	Orcadas	9.65	226	Pn	Pn	00 08 10.6	-1.0
EFI	East Falkland	16.77	269		P	00 09 50.4	+0.6
VNA1	Neumayer--Stat	18.67	157	P	Pn	00 10 11.7	+0.7
VNA1	Neumayer--Stat	18.67	157	PcP	PcP	00 14 39.4	+1.1
VNA3	Neumayer Olymp	18.81	159	P	Pn	00 10 12.2	-0.6
VNA3	Neumayer Olymp	18.81	159	PcP	PcP	00 14 39.3	+0.6
VNA2	Neumayer--Watz	19.07	157	P	Pn	00 10 14.7	-1.1
	baz=314,slow=13						
VNA2	Neumayer--Watz	19.07	157	PcP	PcP	00 14 40.0	+0.9
PMSA	Palmer Station	19.37	226	P	Pn	00 10 19.3	-0.1
	4.5nm,0.3s,baz=64,slow=8.1,SNR=40						
PMSA				PcP	PcP	00 14 40.2	+0.5
	3.1nm,0.6s,baz=51,slow=5.4,SNR=4.3						
PMSA				LR	LR	00 16 51.8	
	comp=Z,669nm,19.2s,baz=74,slow=34						
	30nm,0.5s						
PMSA	Palmer Station	19.37	226	P	Pn	00 10 20.1	+0.6
PMSA	Palmer Station	19.37	226	eP	Pn	00 10 19.4	-0.1
SNAA	Sanae	20.65	155	P	P	00 10 32.0	-0.4
SNAA	Sanae	20.65	155	PcP	PcP	00 14 42.8	+0.8
SNAA	Sanae	20.65	155	P	P	00 10 31.8	-0.6
	8.4nm,0.5s,baz=301,slow=10,SNR=95						
SNAA				PcP	PcP	00 14 42.5	+0.4
	3.9nm,0.5s,baz=263,slow=4.0,SNR=20						
SNAA				LR	LR	00 16 54.1	
	comp=Z,791nm,20.8s,baz=310,slow=32						
	8.4nm,0.5s						
SNAA	Sanae	20.65	155	P	P	00 10 32.1	-0.2
TROLL	Troll, Antarti	22.20	153	P	P	00 10 48.4	-0.7
TROLL	Troll, Antarti	22.20	153	PcP	PcP	00 14 46.0	+0.8
MG02	Cerro Sombrero	22.79	259	P	P	00 10 54.7	-0.7
BELA	Belgrano 2	23.22	182	P	P	00 11 00.9	+1.3
GO10	Punta Arenas	23.69	257	P	P	00 11 05.4	+0.8
MG05	Puerto Natales	25.07	260	P	P	00 11 16.9	-0.3
MG05				IAmb	IAmb	00 11 35.6	
	comp=Z,103nm,1.6s						
GO09	Cerro Castillo	25.15	261	P	P	00 11 16.2	-1.7
GO09				IAmb	IAmb	00 11 49.1	
	comp=Z,94nm,1.4s						
TRQA	Tornquist	27.11	295	P	P	00 11 35.6	-0.2
PLTB	Pedras Altas	28.28	315	P	P	00 11 46.2	-0.1
PLTB	Pedras Altas	28.28	315	eP	P	00 11 47.2	+0.9
CPSB	Cacapava Do Su	29.41	317	eP	P	00 11 57.4	+1.1
PLCA	Paso Flores	29.93	281	P	P	00 12 00.7	-0.3
	comp=Z,0.8nm,0.6s,baz=153,slow=5.8,SNR=4.1						
PLCA				LR	LR	00 24 49.8	
	comp=Z,251nm,18.4s,baz=124,slow=38						
	comp=Z,0.8nm,0.6s						
PLCA	Paso Flores	29.93	281	P	P	00 12 01.8	+0.8
PLCA	Paso Flores	29.93	281	eP	P	00 12 01.1	+0.1
RODS	Rosario do Sul	30.18	314	eP	P	00 12 04.0	+0.9
ALGR	Alto Alegre (B	30.68	319	eP	P	00 12 08.6	+1.0
UNIS	Unistalda (Bra	31.25	315	eP	P	00 12 12.8	+0.2
ITQB	Itaqui	31.37	313	P	P	00 12 13.7	+0.1
ITQB				IAmb	IAmb	00 12 45.1	
	comp=Z,44nm,1.4s						
ITQB	Itaqui	31.37	313	eP	P	00 12 14.0	+0.4
CRSM	Crissiumal (Br	32.24	318	eP	P	00 12 22.4	+1.1
PTGB	Pitanga	34.04	323	eP	P	00 12 39.0	+1.8
VAO	Valinhos	34.07	332	eP	P	00 12 39.5	+2.0
BO02	Sierra Bellavi	34.26	289	P	P	00 12 38.6	-0.4
BO02				IAmb	IAmb	00 12 44.0	
	comp=Z,14nm,0.7s						
CPUP	Villa Florida	34.59	314	P	P	00 12 41.0	-0.8
	comp=Z,4.7nm,0.6s,baz=155,slow=6.4,SNR=16						
CPUP				PcP	PcP	00 15 16.2	0.0
	comp=Z,0.9nm,0.5s,baz=108,slow=18,SNR=1.6						
CPUP				LR	LR	00 25 10.9	
	comp=Z,339nm,21.0s,baz=158,slow=34						
	comp=Z,4.7nm,0.6s						
CPUP	Villa Florida	34.59	314	P	P	00 12 41.4	-0.4
CPUP	Villa Florida	34.59	314	eP	P	00 12 42.2	+0.4
BO04	La Punta	34.77	290	P	P	00 12 44.6	+1.2
BO04				IAmb	IAmb	00 12 54.6	
	comp=Z,39nm,1.4s						
RCLB	Rio Claro- Sao	34.78	332	eP	P	00 12 44.2	+0.7
ALF01	Guarapari-ES	35.01	343	eP	P	00 12 45.0	-0.5
MT03	Universidad Ad	35.09	291	P	P	00 12 46.8	+0.5
MT03				IAmb	IAmb	00 13 12.1	
	comp=Z,76nm,1.6s						
MT09	Talagante	35.14	290	P	P	00 12 46.1	-0.6
MT01	Popeta	35.21	290	P	P	00 12 47.0	-0.2
QSPA	South Pole Qui	35.45	180	PcP	PcP	00 15 17.6	-0.8
	comp=Z,2.5nm,0.8s,baz=81,slow=6.2,SNR=1.8						
QSPA				LR	LR	00 26 23.1	
	comp=Z,1μm,20.4s,baz=184,slow=35						
QSPA	South Pole Qui	35.45	180	P	P	00 12 49.7	+0.6
VA05	Santo Domingo	35.57	289	P	P	00 12 50.4	+0.2
MT02	Curacav	35.61	290	P	P	00 12 50.6	0.0
MT02				IAmb	IAmb	00 13 03.9	
	comp=Z,77nm,1.4s						
ZON	Zonda	35.62	295	P	P	00 12 50.2	-0.5
ZON				IAmb	IAmb	00 12 51.3	
	comp=Z,12nm,0.5s						
VA03	San Esteban	35.67	292	P	P	00 12 52.7	+1.4
ROC1	El Roble	35.76	291	P	P	00 12 52.4	+0.2
ROC1				IAmb	IAmb	00 13 07.0	
	comp=Z,22nm,0.7s						
VA06	Catapilco	36.23	291	P	P	00 12 56.5	+0.7
BB19B	Bebedouro	36.34	331	eP	P	00 12 58.1	+1.1
PCMB	Pacaembu	36.66	326	eP	P	00 12 59.3	-0.3
SJMB	Sao Joao De Ma	36.96	343	eP	P	00 13 04.2	+2.0
CO02	Combarbal	37.12	293	P	P	00 13 04.0	+0.4
CO02				IAmb	IAmb	00 13 07.4	
	comp=Z,52nm,1.2s						
CO01	Juntas del Tor	37.60	295	P	P	00 13 09.3	+1.4
NAN01	Guarapari, ES	37.63	345	eP	P	00 13 08.5	+0.6
GO04	Tololo Observa	37.82	294	P	P	00 13 09.7	0.0
GO04				IAmb	IAmb	00 14 30.5	
	comp=Z,96nm,1.9s						
DIAM	Diamantina, MG	37.82	339	eP	P	00 13 10.3	+0.6
CO06	Fray Jorge	37.87	293	P	P	00 13 09.9	+0.1
CO06				IAmb	IAmb	00 13 19.8	
	comp=Z,51nm,1.3s						
ANTJ	Antonio Joao (	37.95	319	eP	P	00 13 10.1	-0.6
ITRB	Iturama	38.17	329	eP	P	00 13 13.2	+0.7
PMNB	Patos De Minas	38.21	335	eP	P	00 13 14.2	+1.3
RPRD	Ribas do Rio P	38.52	324	eP	P	00 13 17.2	+1.8
AC05	El Transito	38.61	296	P	P	00 13 16.9	+0.6
GUA01	Guaratinga, BA	38.82	346	eP	P	00 13 18.6	+0.6
IPMB	Ipameri, GO	39.19	333	eP	P	00 13 21.8	+0.7
AQDB	Aquidauana	39.23	321	eP	P	00 13 21.5	+0.2
MC01	Montes Claros	39.42	339	eP	P	00 13 23.3	+0.3
AC02	Maricunga	39.64	299	P	P	00 13 26.1	+0.8
C2SB	Chapadao do Su	39.82	326	eP	P	00 13 26.0	-0.3
AC06	Mina Casimiro	39.84	297	P	P	00 13 26.7	+0.3
CMC01	Camacan, BA	39.98	346	eP	P	00 13 29.4	+1.7
AC01	Pan de Azucar	40.95	298	P	P	00 13 35.9	+0.3
JANB	Januaria	41.10	339	eP	P	00 13 37.4	+0.5
GO02	Mina Guanaco	41.25	300	P	P	00 13 39.1	+0.7
BDFB	Brasilia	41.38	334	P	P	00 13 38.6	-0.7
	comp=Z,3.9nm,0.6s,baz=151,slow=6.9,SNR=7.0						
BDFB				PcP	PcP	00 15 36.9	-0.5
	comp=Z,1.8nm,0.5s,baz=242,slow=1.0,SNR=2.2						
BDFB				LR	LR	00 27 57.4	
	comp=Z,449nm,21.7s,baz=150,slow=32						
	comp=Z,3.9nm,0.6s						
BDFB	Brasilia	41.38	334	P	P	00 13 40.6	+1.3
BDFB				IAmb	IAmb	00 14 31.8	
	comp=Z,73nm,1.9s						
BDFB	Brasilia	41.38	334	eP	P	00 13 40.8	+1.4
PP1B	Ponte de Pedra	41.59	324	eP	P	00 13 41.4	+0.5
GDU01	Guandu, BA	41.61	347	eP	P	00 13 42.2	+1.2
SUR	Sutherland	42.19	79	P	P	00 13 47.3	+1.4
SUR				IAmb	IAmb	00 13 48.5	
	comp=Z,122nm,1.9s						
MAW	Mawson	42.25	145	P	P	00 13 45.7	0.0
	comp=Z,7.0nm,0.6s,baz=240,slow=7.9,SNR=22						
MAW				PcP	PcP	00 15 40.8	+1.4
	comp=Z,1.2nm,0.5s,baz=143,slow=5.1,SNR=2.1						
MAW				LR	LR	00 28 52.9	
	comp=Z,376nm,20.7s,baz=265,slow=33						
	comp=Z,7.0nm,0.6s						
MAW	Mawson	42.25	145	P	P	00 13 46.0	+0.2
PB15	IPOC Station P	42.83	302	P	P	00 13 51.7	+0.5
PB15				IAmb	IAmb	00 14 14.3	
	comp=Z,57nm,1.6s						
LVC	Limon Verde	43.05	303	LR	LR	00 30 59.0	
	comp=Z,176nm,21.9s,baz=170,slow=35						
LVC	Limon Verde	43.05	303	P	P	00 13 53.8	+0.6
LVC				IAmb	IAmb	00 14 16.9	
	comp=Z,48nm,1.3s						
LVC	Limon Verde	43.05	303	eP	P	00 13 54.5	+1.2
SALV	Santo Antonio	43.45	323	eP	P	00 13 56.4	+0.4
SDBA	SAO DESIDERIO	43.79	339	eP	P	00 13 59.1	+0.3
PB09	IPOC Station P	43.91	303	P	P	00 14 01.4	+1.5
PB09				IAmb	IAmb	00 14 14.2	
	comp=Z,64nm,1.4s						
NBLA	Lagarto - SE	44.08	350	eP	P	00 14 01.2	+0.1
PB01	IPOC Station P	44.66	303	P	P	00 14 06.6	+0.7
PB01				IAmb	IAmb	00 14 07.7	
	comp=Z,20nm,0.5s						
PTLB	Pontes e Lacer	45.11	319	P	P	00 14 08.9	-0.4
PTLB				IAmb	IAmb	00 14 31.7	
	comp=Z,20nm,1.2s						
PTLB	Pontes e Lacer	45.11	319	eP	P	00 14 10.0	+0.7
NBAN	Anadia - AL	45.25	352	eP	P	00 14 10.9	+0.5
PB08	IPOC Station P	45.27	304	P	P	00 14 12.0	+1.0
PB08				IAmb	IAmb	00 14 33.7	
	comp=Z,67nm,1.9s						
SIV	San Ignacio	45.37	317	LR	LR	00 31 17.9	
	comp=Z,214nm,19.9s,baz=96,slow=34						
GO01	Chusmiza	45.70	305	IAmb	IAmb	00 14 17.6	
	comp=Z,26nm,1.1s						
SNDB	Serra Nova Dou	45.77	331	eP	P	00 14 15.1	+0.6
NBRF	Rio Formoso -	46.15	354	eP	P	00 14 18.2	+0.6
PB16	IPOC Station P	46.99	305	IAmb	IAmb	00 14 52.0	
	comp=Z,29nm,1.7s						
SBA	Scott Base	47.18	185	P	P	00 14 27.1	+2.2
H10S2	ASCENSION HYDR	47.43	21	T	T	01 05 37.5	
	baz=28,slow=74,SNR=3.7						
H10S3	ASCENSION HYDR	47.43	21	T	T	01 05 35.7	
	baz=192,slow=74,SNR=7.3						
BOSA	Boshof	47.54	80	P	P	00 14 27.9	-0.5
	comp=Z,3.9nm,0.5s,baz=242,slow=8.7,SNR=5.1						
BOSA				PcP	PcP	00 15 57.2	-1.2
	comp=Z,2.6nm,0.7s,baz=165,slow=12,SNR=2.3						
	comp=Z,3.9nm,0.5s						
BOSA	Boshof	47.54	80	P	P	00 14 28.5	0.0
BOSA				IAmb	IAmb	00 15 19.2	
	comp=Z,27nm,1.5s						
VNDA	Vanda	47.72	184	P	P	00 14 30.4	+1.3
	comp=Z,7.1nm,0.6s,baz=177,slow=5.9,SNR=87						
VNDA				LR	LR	00 34 12.8	
	comp=Z,193nm,18.6s,baz=161,slow=36						
	comp=Z,7.1nm,0.6s						
VNDA	Vanda	47.72	184	P	P	00 14 30.8	+1.6
PDRB	Porto dos Gac	47.80	324	eP	P	00 14 31.1	+0.7
SMTB	Santa Maria do	47.81	337	eP	P	00 14 31.4	+0.9
LPAZ	La Paz	48.13	308	P	P	00 14 34.9	+1.2
	comp=Z,5.0nm,0.4s,baz=92,slow=6.6,SNR=21						
LPAZ				PcP	PcP	00 16 01.7	+0.4
	comp=Z,2.0nm,0.6s,baz=98,slow=9.2,SNR=1.0						
LPAZ				LR	LR	00 36 25.9	
	comp=Z,82nm,19.7s,baz=148,slow=38						
	comp=Z,5.0nm,0.4s						
LPAZ	La Paz	48.13	308	P	P	00 14 35.0	+1.3
LPAZ	La Paz	48.13	308	eP	P	00 14 34.9	+1.2
CLDB	Colider	48.18	326	eP	P	00 14 33.9	+0.5
H10N1	ASCENSION HYDR	48.55	21	T	T	01 06 56.3	
	baz=191,slow=76,SNR=7.5						
H10N3	ASCENSION HYDR	48.55	21	T	T	01 06 57.2	
	baz=191,slow=76,SNR=11						
H10N2	ASCENSION HYDR	48.56	21	T	T	01 07 03.8	
	baz=191,slow=76,SNR=12						
RCBR	Riachuelo	49.03	353	LR	LR	00 30 35.7	
	comp=Z,408nm,21.9s,baz=330,slow=30						
LBTB	Lobatse	50.50	77	P	P	00 14 51.5	+0.3
	comp=Z,8.1nm,0.6s,baz=228,slow=8.3,SNR=9.8						
LBTB				PcP	PcP	00 16 09.3	+0.2
	comp=Z,2.1nm,0.6s,baz=284,slow=21,SNR=1.7						
	comp=Z,8.1nm,0.6s						
LBTB	Lobatse	50.50	77	P	P	00 14 50.1	-1.1
LBTB				IAmb	IAmb	00 15 03.7	
	comp=Z,38nm,1.6s						
PRPB	Parauapebas	50.93	335	eP	P	00 14 55.1	+0.7
NPGB	Novo Progresso	51.64	328	eP	P	00 15 00.9	+1.2
ROSB	Rosrio	52.93	343	eP	P	00 15 10.4	+1.2
ETMB	Extrema	53.04	314	IAmb	IAmb	00 15 59.0	
	comp=Z,16nm,1.4s						
ETMB	Extrema	53.04	314	eP	P	00 15 10.6	+0.5
ITTB	Itaituba	54.28	328	eP	P	00 15 19.5	+0.3
CASY	Casey	55.69	162	P	P	00 15 29.9	+1.1
MALB	Monte Alegre	56.24	331	eP	P	00 15 33.8	+0.5
PTGA	Pitinga	59.06	325	LR	LR	00 39 49.2	
	comp=Z,250nm,21.9s,baz=152,slow=34						
LSZ	Lusaka	59.73	73	LR	LR	00 39 08.7	
	comp=Z,183nm,19.2s,baz=178,slow=34						
ATAH	Atahualpa	60.95	303	LR	LR	00 44 06.6	
	comp=Z,145nm,19.4s,baz=141,slow=38						
RPN	Rapa Nui	62.00	262	LR	LR	00 38 39.9	
	comp=Z,128nm,18.8s,baz=142,slow=32						
BOAV	Boa Vista	62.17	326	P	P	00 16 12.7	-1.7
BOAV				IAmb	IAmb	00 16 15.4	
	comp=Z,8.2nm,1.2s						
BOAV	Boa Vista	62.17	326	eP	P	00 16 14.9	+0.6
MDP	Montagnes des	62.48	335	LR	LR	00 41 14.8	
	comp=Z,422nm,20.9s,baz=154,slow=34						
MCRA	Macar, Loja	64.10	303	IAmb	IAmb	00 16 50.0	
	comp=Z,44nm,2.0s						
DBIC	Dimbokro	64.88	28	P	P	00 16 32.1	-0.1
	comp=Z,7.0nm,0.8s,baz=214,slow=8.7,SNR=5.6						
DBIC				LR	LR	00 38 02.0	
	comp=Z,198nm,20.7s,baz=190,slow=30						
	comp=Z,7.0nm,0.8s						
DBIC	Dimbokro	64.88	28	P	P	00 16 32.2	-0.1
VOI	Vohitsoka	65.10	93	P	P	00 16 36.2	+2.4
OTAV	Otavalo	67.41	306	P	P	00 16 49.7	+0.6
OTAV				IAmb	IAmb	00 19 14.4	
	comp=Z,22nm,1.1s						
OTAV	Otavalo	67.41	306	eP	P	00 16 49.6	+0.6
ROSC	El Rosal	69.65	313	LR	LR	00 47 44.1	
	comp=Z,229nm,21.6s,baz=178,slow=36						
BBTS	Babate	70.20	14	LR	LR	00 41 29.5	
	comp=Z,359nm,19.8s,baz=216,slow=30						
PCRV	Puerto La Cruz	70.82	324	LR	LR	00 48 25.1	
	comp=Z,289nm,20.1s,slow=36						
BAUV	El Baul	70.89	320	IAmb	IAmb	00 17 12.0	
	comp=Z,25nm,1.0s						
BIRV	Birongo	71.67	323	P	P	00 17 15.7	+1.0
BIRV				IAmb	IAmb	00 18 13.9	
	comp=Z,19nm,1.0s						
SDV	Santo Domingo	71.82	318	LR	LR	00 49 42.1	
	comp=Z,661nm,19.5s,baz=140,slow=37						
SDV	Santo Domingo	71.82	318	P	P	00 17 14.8	-1.1
SDV				IAmb	IAmb	00 17 17.9	
	comp=Z,15nm,0.9s						
SDV	Santo Domingo	71.82	318	eP	P	00 17 16.6	+0.7
KOWA	Kowa	72.59	27	LR	LR	00 42 25.0	
	comp=Z,320nm,21.5s,baz=123,slow=30						
KOWA	Kowa	72.59	27	P	P	00 17 21.3	+1.1
KOWA				IAmb	IAmb	00 17 33.3	
	comp=Z,29nm,1.6s						
TOA0	Torodi Ar. Sit	72.95	33	P	P	00 17 22.4	0.0
TOA0				IAmb	IAmb	00 17 25.1	
	comp=Z,23nm,1.2s						
TORD	Torodi Ar. Bea	72.95	33	P	P	00 17 22.9	+0.4
	comp=Z,13nm,0.9s,baz=199,slow=6.4,SNR=90						
TORD				LR	LR	00 42 49.1	
	comp=Z,312nm,20.0s,baz=209,slow=30						
	comp=Z,13nm,0.9s						
FDF	Fort de France	74.00	329	P	P	00 17 29.2	+0.7
FDF				IAmb	IAmb	00 18 31.6	
	comp=Z,41nm,1.1s						
SRBA	San Rafael, Bu	77.59	306	P	P	00 17 50.3	+1.0
SRBA				IAmb	IAmb	00 19 22.7	
	comp=Z,46nm,2.0s						
MTP	Monte Pirata	78.53	326	P	P	00 17 54.5	+0.3
MTP				IAmb	IAmb	00 18 15.9	
	comp=Z,25nm,1.3s						
SJG	San Juan	78.74	326	LR	LR	00 51 43.6	
	comp=Z,130nm,21.6s,baz=154,slow=35						
GCPR	Guaynabo City	78.90	326	P	P	00 17 56.2	0.0
GCPR				IAmb	IAmb	00 17 58.8	
	comp=Z,18nm,1.1s						
ORTG	Ortega, Santa	79.57	305	P	P	00 18 01.0	+0.8
ORTG				IAmb	IAmb	00 20 23.7	
	comp=Z,41nm,1.4s						
RPZ	Rata Peaks	80.16	196	P	P	00 18 02.8	-0.2
	comp=Z,6.2nm,0.6s,baz=354,slow=17,SNR=2.0						
RPZ				LR	LR	00 49 13.3	
	comp=Z,147nm,20.9s,baz=178,slow=32						
	comp=Z,6.2nm,0.6s						
LTZ	Lake Taylor	80.87	197	P	P	00 18 06.8	-0.1
URZ	Urewera	84.33	201	LR	LR	00 51 32.5	
	comp=Z,99nm,20.9s,baz=248,slow=32						
TBI	Tubuai	86.36	234	eLR	LR	00 45 53.5	
	comp=Z,85nm,30.2s						
NWAO	Narrogin (SRO)	88.31	153	LR	LR	00 54 44.3	
	comp=Z,97nm,19.1s,baz=228,slow=33						
TEIG	Tepich	89.46	307	P	P	00 18 50.5	+0.6
TEIG				IAmb	IAmb	00 18 51.5	
	comp=Z,14nm,0.6s						
CMIG	Matias Romero	89.94	300	LR	LR	00 55 46.2	
	comp=Z,50nm,20.7s,baz=152,slow=33						
MDT	Midelt	90.06	22	LR	LR	00 53 09.8	
	comp=Z,452nm,20.9s,baz=200,slow=32						
PPT2	Papeete2	91.36	236	eLR	LR	00 48 12.4	
	comp=Z,60nm,24.8s						
KEST	Kesra	96.44	32	LR	LR	00 58 28.6	
	comp=Z,306nm,19.5s,baz=162,slow=33						
ESDC	Sonseca Array	96.81	20	P	P	00 19 23.2	-0.2
	comp=Z,0.6nm,0.9s,baz=192,slow=4.9,SNR=4.5						
ESDC				LR	LR	00 57 48.5	
	comp=Z,380nm,20.8s,baz=199,slow=32						
	comp=Z,0.6nm,0.9s						
ASAR	Alice Springs	100.71	165	P	Pdif	00 19 40.7	-0.8
	comp=Z,0.3nm,0.5s,baz=185,slow=3.9,SNR=2.2						
ASAR				PP	PP	00 23 48.5	+0.7
	comp=Z,0.4nm,0.5s,baz=197,slow=6.7,SNR=6.1						
ASAR				PKiKP	PKiKP	00 24 07.8	+0.3
	comp=Z,0.5nm,0.7s,baz=177,slow=1.5,SNR=4.2						
DZM	Mont Dzumac	102.08	196	eLR	LR	00 53 11.4	
	comp=Z,347nm,23.9s						
WRA	Warramunga Arr	104.43	165	PP	PKiKP	00 24 13.1	-1.2
	comp=Z,0.5nm,0.8s,baz=193,slow=6.1,SNR=2.6						
GERES	GERESS Array B	109.74	29	PP	PP	00 24 55.0	-0.7
	comp=Z,0.1nm,0.3s,baz=216,slow=8.2,SNR=1.6						
CLL	Collm	111.78	28	eSS	SS	00 40 48.0	+1.5

baz=109
H27K Steamboat Moun 146.07 317 P **PKiKP 00 25 32.4 -2.5**
baz=105,SNR=13
Q23K Middleton Isla 146.10 304 P **PKPab 00 25 31.8 -0.6**
baz=111
G27K Doyon Strip 146.26 318 P **PKPab 00 25 32.9 -0.1**
baz=104,SNR=7.3
DIV Divide 146.41 308 **PKPab 00 25 33.5 -0.3**
J26L Joseph Creek 146.44 314 P **PKPab 00 25 33.6 -0.3**
baz=106
SCRK Sand Creek 146.47 313 P **PKPab 00 25 33.5 -0.5**
baz=106
I26K Coal Creek Min 146.48 315 P **PKPab 00 25 33.3 -0.6**
baz=105
E27K Coleen River 146.54 321 P **PKiKP 00 25 33.9 -2.0**
baz=102
KLU Klutina 146.59 308 P **PKiKP 00 25 34.6 -1.6**
baz=108
RIDG Independent Ri 146.78 312 **PKPab 00 25 33.7 -1.5**
RIDG Independent Ri 146.78 312 P **PKiKP 00 25 35.0 -1.4**
baz=106
PAX Paxson 146.83 311 P **PKPab 00 25 34.7 -0.8**
baz=106
M24K Tolsona, Glenn 146.89 309 P **PKiKP 00 25 35.5 -1.3**
baz=107
G26K Porcupine Rive 147.11 318 P **PKiKP 00 25 35.6 -1.4**
baz=102
J25K Salcha River, 147.22 314 P **PKiKP 00 25 36.1 -1.3**
baz=104
LYN LuoYang 147.31 113⇑ *i*PKPbc **PKPbc 00 25 35.4 -0.8**
SCM Sheep Creek Mo 147.34 308 P **PKiKP 00 25 36.5 -1.2**
baz=107
F26K Sheenjek River 147.39 320 P **PKiKP 00 25 36.6 -1.0**
baz=100
M23K Glacier View 147.50 308 P **PKPab 00 25 36.9 -1.1**
baz=107
BMAR Burnt Mountain 147.51 319 **PKiKP 00 25 36.0 -1.9**
C27K Jago River 147.54 323 P **PKPab 00 25 36.6 -1.3**
baz=98
DHY Denali Highway 147.70 311 P **PKPab 00 25 37.7 -1.3**
baz=105
WAT6 Susitna Watana 147.73 310 P **PKiKP 00 25 37.4 -1.2**
baz=106
H25K Birch Creek 147.77 317 P **PKPab 00 25 37.7 -1.2**
baz=101
SML Sawmill 147.78 308 P **PKPab 00 25 37.9 -1.3**
baz=106
HDA Harding Lake 147.84 313 P **PKPab 00 25 37.8 -1.5**
baz=103
IL31 147.90 314 **PKiKP 00 25 37.0 -1.6**
ILAR Eielson Array 147.90 314 PKPbc **PKiKP 00 25 37.0 -1.6**
comp=Z,13nm,0.5s,baz=114,slow=1.7,SNR=178
F25K Christian Rive 147.94 319 P **PKPab 00 25 38.1 -1.6**
baz=99,SNR=6.9
E25K Arctic Village 147.99 320 P **PKiKP 00 25 38.1 -0.8**
baz=98
WAT1 Susitna Watana 148.16 310 P **PKiKP 00 25 38.1 -1.2**
baz=104
POKR Poker Plat Res 148.20 314 P **PKiKP 00 25 38.3 -1.0**
baz=102
COLA College 148.32 314 **PKPbc 00 25 37.1 -0.7**
G24K Hadweenzic Riv 148.50 317 P **PKiKP 00 25 39.2 -0.6**
baz=99,SNR=8.6
H24K Noodor Dome 148.52 316 P **PKiKP 00 25 39.1 -0.9**
baz=100
MCK McKinley 148.54 311 **PKPbc 00 25 37.6 -0.9**
MCK McKinley 148.54 311 P **PKiKP 00 25 39.4 -0.7**
baz=103
Q20K Shuyak Island 148.76 301 P **PKiKP 00 25 39.9 -0.7**
baz=109
NEA2 Nenana 148.78 313 P **PKiKP 00 25 39.4 -1.1**
baz=101
F24K Squaw Lake 148.78 319 P **PKiKP 00 25 40.3 -0.1**
baz=98
TRF Throfare Moun 149.07 311 P **PKiKP 00 25 41.1 -0.2**
baz=102
E24K Your Creek 149.07 320 P **PKiKP 00 25 40.9 -0.2**
baz=96
NRIK Noril'sk 149.18 38 PKPbc **PKiKP 00 25 39.9 -1.3**
comp=Z,2.3nm,1.0s,baz=166,slow=2.7,SNR=3.8
H23K Yukon River 149.19 315 P **PKiKP 00 25 41.0 -0.4**
baz=99
C24K Franklin Bluff 149.28 323 P **PKiKP 00 25 41.5 +0.1**
baz=93
D24K Happy Valley 149.29 322 P **PKiKP 00 25 41.3 -0.2**
baz=94
SKT Skwentna 149.29 308 P **PKiKP 00 25 41.1 -0.5**
baz=104,SNR=7.3
BPAW Bear Paw Mtn. 149.50 312 P **PKiKP 00 25 41.4 -0.7**
baz=101,SNR=27
G23K Bananza Creek 149.51 317 P **PKiKP 00 25 41.6 -0.4**
baz=97,SNR=11
TOLK Toolik Lake Re 149.52 321 **PKiKP 00 25 41.4 -0.6**
TOLK Toolik Lake Re 149.52 321 P **PKiKP 00 25 41.9 -0.1**
baz=94
MLY Manley 149.56 314 P **PKiKP 00 25 41.5 -0.7**
baz=99
COLD Coldfoot 149.63 318 P **PKiKP 00 25 42.4 +0.2**
baz=96,SNR=9.0
CAST Castle Rocks 149.85 310 P **PKiKP 00 25 42.4 -0.4**
baz=101,SNR=7.1
D23K Nanushuk River 149.94 321 P **PKiKP 00 25 43.2 +0.4**
baz=93
H22K Ishtalitna Cre 149.95 315 P **PKiKP 00 25 42.6 -0.3**
baz=97,SNR=9.3
C23K Itkillik River 149.95 323 P **PKiKP 00 25 43.2 +0.5**
baz=91
M20K Styx River 150.01 307 P **PKiKP 00 25 43.2 -0.1**
baz=103
CHUM Lake Minchumin 150.04 311 P **PKiKP 00 25 42.8 -0.3**
baz=100,SNR=6.8
I21K Tanana 150.10 314 P **PKiKP 00 25 43.0 -0.2**
baz=98
G22K Bettles 150.11 317 P **PKiKP 00 25 43.1 0.0**
baz=96
F22K John River 150.42 318 P **PKiKP 00 25 44.3 +0.4**
baz=94
R17K Ugashik Creek 150.47 298 P **PKiKP 00 25 44.0 -0.2**
baz=108
L20K Farewell, AK 150.47 308 P **PKiKP 00 25 43.9 -0.2**
baz=101
H21K Melozitna Rive 150.50 315 **PKiKP 00 25 43.4 -0.7**
H21K Melozitna Rive 150.50 315 P **PKiKP 00 25 43.7 -0.4**
baz=97,SNR=14
O18K Koktuh Hills 150.50 303 P **PKiKP 00 25 44.0 -0.2**
baz=105
HNS HongShan 150.65 112 ⇑PKPbc **PKiKP 00 25 45.0 -0.2**
K20K Telida 150.72 310 P **PKiKP 00 25 44.5 -0.1**
baz=100,SNR=5.5
L19K White Mountain 150.86 307 P **PKiKP 00 25 45.5 +0.6**
baz=101
G21K Allakaket 150.87 316 P **PKiKP 00 25 45.4 +0.6**
baz=94
J20K Nowinta River 150.88 312 P **PKiKP 00 25 45.3 +0.5**
baz=98
F21K Alatna River 150.91 318 P **PKiKP 00 25 45.1 +0.3**
baz=93
TIA Tai'an 151.03 117 *e*PKPbc **PKiKP 00 25 45.8 -0.3**
HHC Hu-ho-hao-te 151.34 103 *e*PKPbc **PKPdf 00 25 39.3 -0.9**
SONM Songino Array 152.52 87 PKP **PKPdf 00 25 43.0 +1.3**
comp=Z,0.6nm,0.7s,baz=254,slow=0.8,SNR=4.6
SONM PKPbc **pPKPbc 00 25 48.6 -0.3**
comp=Z,9.6nm,0.5s,baz=224,slow=3.3,SNR=74
SONM PKPab **pPKPab 00 25 59.0 -0.4**
comp=Z,2.9nm,0.5s,baz=219,slow=3.4,SNR=6.7
SONM Songino Array 152.52 87 **PKiKP 00 25 48.5 -0.5**

IDC 21 00:07:10.2±6.5, 29°34'S×60°78E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=186.5km s-min=45.9km az=60.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**24.23**	**29**	T	T	00 37 34.5	
	baz=205						
H08S2	**Diego Garcia H**	**24.24**	**29**	T	T	00 37 34.0	
	baz=205						
H08S3	**Diego Garcia H**	**24.25**	**29**	T	T	00 37 31.3	
	baz=205						
H01W2	**Cape Leeuwin H**	**45.08**	**111**	T	T	01 03 09.0	
	baz=261,slow=75,SNR=3.9						
H01W3	**Cape Leeuwin H**	**45.09**	**111**	T	T	01 03 08.2	
	baz=261,slow=75,SNR=4.0						
H01W1	**Cape Leeuwin H**	**45.10**	**111**	T	T	01 03 09.3	
	baz=261,slow=75,SNR=4.1						
CMAR	**Chiang Mai Arr**	**60.12**	**43**	P	P	00 17 19.5	-0.1
	0.5nm,0.4s,baz=218,slow=5.7,SNR=1.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**64.72**	**104**	P	P	00 17 50.8	+0.2
	0.5nm,0.7s,baz=244,slow=6.4,SNR=6.3						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**66.56**	**100**	P	P	00 18 02.3	-0.2
	0.5nm,0.8s,baz=245,slow=6.2,SNR=2.9						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**78.24**	**15**	P	P	00 19 11.5	0.0
	0.5nm,0.9s,baz=196,slow=4.1,SNR=3.7						
	0.5nm,0.9s						

IDC 21 00:08:14.6±4.2, 1°85S×140°36E, h0km, mb3.3/2, mbtmp3.3/3, ML3.3/1, MS3.3/1, Error ellipse: s-maj=149.4km s-min=32.1km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.92**	**198**	P	P	00 12 36.5	-0.6
	0.1nm,0.3s,baz=20,slow=12,SNR=5.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**22.57**	**196**	P	P	00 13 16.8	+0.1
	0.4nm,0.5s,baz=25,slow=11,SNR=7.6						
ASAR				LR	LR	00 23 27.9	
	comp=Z,75nm,19.8s,baz=124,slow=40						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**70.13**	**322**	P	P	00 19 29.2	+0.2
	0.7nm,1.1s,baz=101,slow=7.5,SNR=2.8						
	0.7nm,1.1s						

ROM 21 00:10:09.1±0.0, 42°799N±0°002×13°232E±0°004, h10km, ML2.3/13, 3C-1D, Error ellipse: s-maj=0.3km s-min=0.0km az=250.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**327**	P	Pg	00 10 10.8	-0.3
T1242				S	Sg	00 10 12.2	-0.4
T1242				AML	AML		
	comp=E,14800μm,1.6s						
T1242				AML	AML		
	comp=N,21450μm,0.8s						
T1242				AML	AML		
	comp=E,14490μm,0.5s						
T1242				AML	AML		
	comp=N,21000μm,0.8s						
T1242				AML	AML		
	comp=E,14800μm,1.6s						
T1242				AML	AML		
	comp=N,21450μm,0.8s						
T1242				AML	AML		
	comp=E,14490μm,0.5s						
T1242				AML	AML		
	comp=N,21000μm,0.8s						
T1242				AML	AML		
	comp=N,21450μm,0.8s						
T1242				AML	AML		
	comp=N,21000μm,0.8s						
T1242				AML	AML		
	comp=E,14490μm,0.5s						
T1242				AML	AML		
	comp=E,14800μm,1.6s						
NRCA	**Norcia**	**0.09**	**292**	P	Pg	00 10 11.8	+0.2
NRCA				S	Sg	00 10 13.6	+0.1
NRCA				AML	AML		
	comp=E,8720μm,0.9s						
NRCA				AML	AML		
	comp=N,12400μm,0.1s						
NRCA				AML	AML		
	comp=E,9665μm,0.1s						
NRCA				AML	AML		
	comp=N,13150μm,0.1s						
NRCA				AML	AML		
	comp=N,13150μm,0.1s						
NRCA				AML	AML		
	comp=N,12400μm,0.1s						
NRCA				AML	AML		
	comp=E,8720μm,0.9s						
NRCA				AML	AML		
	comp=E,9665μm,0.1s						
T1202	**Accumoli, Fraz**	**0.10**	**183**	P	Pg	00 10 12.1	+0.5
T1202				S	Sg	00 10 14.4	+0.9
T1202				AML	AML		
	comp=E,6175μm,0.3s						
T1202				AML	AML		
	comp=N,10395μm,0.3s						
T1202				AML	AML		
	comp=E,6170μm,0.3s						
T1202				AML	AML		
	comp=N,10400μm,0.3s						
T1202				AML	AML		
	comp=E,6170μm,0.3s						
T1202				AML	AML		
	comp=N,10400μm,0.3s						
MC2	**Monte Cornacci**	**0.12**	**345**	P	Pg	00 10 12.3	+0.2
MMO1	**Montemonaco**	**0.12**	**35**	P	Pg	00 10 12.3	+0.2
MMO1				S	Sg	00 10 14.7	+0.6
T1204	**Amatrice, Fraz**	**0.14**	**153**	P	Pg	00 10 12.9	+0.6
T1204				S	Sg	00 10 15.0	+0.4
T1204				AML	AML		
	comp=E,2075μm,1.2s						
T1204				AML	AML		
	comp=N,1036μm,0.2s						
T1204				AML	AML		
	comp=E,2075μm,1.2s						
T1204				AML	AML		
	comp=N,1032μm,0.2s						
T1204				AML	AML		
	comp=N,1032μm,0.2s						
T1204				AML	AML		
	comp=E,2075μm,1.2s						
T1241	**Roccafluvione,**	**0.16**	**69**	P	Pg	00 10 13.2	+0.6
T1241				S	Sg	00 10 16.2	+1.3
T1241				AML	AML		
	comp=E,2950μm,0.4s						
T1241				AML	AML		
	comp=N,1545μm,0.6s						
T1241				AML	AML		
	comp=E,2925μm,0.4s						
T1241				AML	AML		
	comp=N,1460μm,0.7s						
T1241				AML	AML		
	comp=E,2950μm,0.4s						
T1241				AML	AML		
	comp=N,1545μm,0.6s						
T1241				AML	AML		
	comp=E,2925μm,0.4s						
T1241				AML	AML		
	comp=N,1460μm,0.7s						
T1241				AML	AML		
	comp=E,2925μm,0.4s						
T1241				AML	AML		
	comp=E,2950μm,0.4s						
T1241				AML	AML		
	comp=N,1545μm,0.6s						
T1241				AML	AML		
	comp=N,1460μm,0.7s						
T1216	**Preci, Frazion**	**0.18**	**300**	P	Pg	00 10 14.0	+1.1
T1216				S	Sg	00 10 16.9	+1.2
T1216				AML	AML		
	comp=E,1262μm,0.4s						
T1216				AML	AML		
	comp=N,1696μm,1.1s						
T1216				AML	AML		
	comp=N,1696μm,1.1s						
T1216				AML	AML		
	comp=E,1262μm,0.4s						
SMA1	**SAN MARTINO**	**0.18**	**156**	P	Pg	00 10 13.6	+0.5
SMA1				S	Sg	00 10 16.9	+1.2
SMA1				AML	AML		
	comp=E,1625μm,0.6s						
SMA1				AML	AML		
	comp=N,1470μm,0.3s						
SMA1				AML	AML		
	comp=E,1625μm,0.6s						
SMA1				AML	AML		
	comp=N,1470μm,0.3s						
T1243	**Rocca Santa Ma**	**0.19**	**123**	P	Pg	00 10 13.6	+0.5
AM05	**Amandola Campo**	**0.20**	**26**	P	Pg	00 10 13.9	+0.6
AM05				S	Sg	00 10 17.6	+1.5
FEMA	**Monte Fema**	**0.21**	**321**	P	Pg	00 10 14.2	+0.6
FEMA				S	Sg	00 10 18.0	+1.4
T1217	**Poggiodomo (PG**	**0.24**	**249**	P	Pg	00 10 14.6	+0.6
T1217				S	Sg	00 10 18.9	+1.6
T1217				AML	AML		
	comp=E,580μm,0.3s						
T1217				AML	AML		
	comp=N,898μm,0.3s						
T1217				AML	AML		
	comp=E,580μm,0.3s						
T1217				AML	AML		
	comp=N,900μm,0.3s						
T1217				AML	AML		
	comp=E,580μm,0.3s						
T1217				AML	AML		
	comp=N,900μm,0.3s						
T1217	**Poggiodomo (PG**	**0.24**	**249**	P	Pg	00 10 14.1	+0.2
T1217				S	Sg	00 10 18.6	+1.3
T1217				AML	AML		
	comp=E,580μm,0.3s						
T1217				AML	AML		
	comp=N,898μm,0.3s						
T1217				AML	AML		
	comp=E,567μm,0.3s						
T1217				AML	AML		
	comp=N,771μm,0.3s						
T1217				AML	AML		
	comp=N,932μm,1.7s						
T1217				AML	AML		
	comp=E,667μm,2.3s						
T1217				AML	AML		
	comp=E,578μm,16.4s						
T1217				AML	AML		
	comp=N,866μm,1.7s						
LNSS	**Leonessa**	**0.24**	**216**	P	Pg	00 10 14.6	+0.6
LNSS				S	Sg	00 10 19.1	+1.7
LNSS				AML	AML		
	comp=E,1605μm,0.2s						
LNSS				AML	AML		
	comp=N,1795μm,0.2s						
LNSS				AML	AML		
	comp=N,1795μm,0.2s						
LNSS				AML	AML		
	comp=E,1605μm,0.2s						
FDMO	**Fiordimonte**	**0.26**	**336**	P	Pg	00 10 14.8	+0.5
FDMO				S	Sb	00 10 19.5	-1.0
T1215	**Vallo di Nera,**	**0.27**	**271**	P	Pb	00 10 15.3	-0.7
T1215				S	Sb	00 10 19.8	-0.9
T1215				AML	AML		
	comp=E,365μm,0.2s						
T1215				AML	AML		
	comp=N,387μm,1.0s						
T1215				AML	AML		
	comp=E,365μm,0.2s						
T1215				AML	AML		
	comp=N,387μm,1.0s						
GUMA	**Gualdo di Mace**	**0.28**	**16**	P	Pb	00 10 15.5	-0.7
GUMA				S	Sb	00 10 20.4	-0.5
GUMA	**Gualdo di Mace**	**0.28**	**16** ⇑	P	Pb	00 10 15.6	-0.6
GUMA				S	Sb	00 10 20.6	-0.3
GUMA				AML	AML		
	comp=E,3350μm,0.2s						
GUMA				AML	AML		
	comp=E,2850μm,0.3s						
GUMA				AML	AML		
	comp=N,1825μm,0.4s						
GUMA				AML	AML		
	comp=N,1710μm,0.6s						
T1246	**Crognaleto (TE**	**0.29**	**138**	P	Pg	00 10 15.3	+0.4
T1246				S	Sb	00 10 20.3	-1.1
RM33	**Pellescritta (**	**0.29**	**183**	P	Pg	00 10 15.6	+0.6
RM33				S	Sb	00 10 20.7	-0.7
RM33				AML	AML		
	comp=E,734μm,1.2s						
RM33				AML	AML		
	comp=N,503μm,0.9s						
RM33				AML	AML		
	comp=E,693μm,1.0s						
RM33				AML	AML		
	comp=N,527μm,0.9s						
RM33				AML	AML		
	comp=E,734μm,1.2s						
RM33				AML	AML		
	comp=N,504μm,0.9s						
RM33				AML	AML		
	comp=E,693μm,1.0s						
RM33				AML	AML		
	comp=N,527μm,0.9s						
RM33				AML	AML		
	comp=N,504μm,0.9s						
RM33				AML	AML		
	comp=E,734μm,1.2s						
RM33				AML	AML		
	comp=E,693μm,1.0s						
RM33				AML	AML		
	comp=N,527μm,0.9s						
RM33	**Pellescritta (**	**0.29**	**183**	P	Pg	00 10 15.6	+0.7
RM33				S	Sb	00 10 20.4	-0.9
RM33				AML	AML		
	comp=E,734μm,1.2s						
RM33				AML	AML		
	comp=N,503μm,0.9s						
RM33				AML	AML		
	comp=E,693μm,1.0s						
RM33				AML	AML		
	comp=N,527μm,0.9s						
CAMP	**Campotosto**	**0.29**	**153**	P	Pg	00 10 15.3	+0.3
CAMP				S	Sb	00 10 20.3	-1.2
CAMP				AML	AML		
	comp=E,208μm,1.2s						
CAMP				AML	AML		
	comp=N,178μm,0.5s						
CAMP				AML	AML		
	comp=E,208μm,1.2s						
CAMP				AML	AML		
	comp=N,178μm,0.5s						
CSP1	**Cessapalombo**	**0.29**	**356**	P	Pg	00 10 15.4	+0.4
CESI	**CESI - Serrava**	**0.32**	**311**	P	Pg	00 10 15.8	+0.4
TERO	**Teramo**	**0.33**	**123**	P	Pg	00 10 16.0	+0.5
TERO				AML	AML		
	comp=E,808μm,0.2s						
TERO				AML	AML		
	comp=N,945μm,1.2s						
TERO				AML	AML		
	comp=N,945μm,1.2s						
TERO				AML	AML		
	comp=E,808μm,0.2s						
OFFI	**Offida**	**0.36**	**68**	P	Pb	00 10 17.3	-0.3
OFFI				AML	AML		
	comp=E,760μm,0.5s						
OFFI				AML	AML		
	comp=N,1410μm,0.5s						
OFFI				AML	AML		
	comp=E,760μm,0.5s						
OFFI				AML	AML		
	comp=N,1410μm,0.5s						
T1247	**Pizzolo (AQ)**	**0.36**	**172**	P	Pg	00 10 16.9	+0.7
SEF1	**Sefro**	**0.41**	**329**	P	Pg	00 10 17.6	+0.6
ARRO	**Arrone**	**0.41**	**238**	P	Pg	00 10 17.6	+0.5
ARRO				AML	AML		
	comp=E,324μm,0.2s						
ARRO				AML	AML		
	comp=N,256μm,0.2s						
ARRO				AML	AML		
	comp=E,324μm,0.2s						
ARRO				AML	AML		
	comp=N,256μm,0.2s						
GIGS	**Gran Sasso**	**0.43**	**144**	P	Pg	00 10 17.9	+0.5
GAG1	**Gagliole**	**0.46**	**345**	P	Pb	00 10 18.7	-0.5
AQU	**L'Aquila**	**0.46**	**164**	P	Pg	00 10 18.4	+0.4
SNTG	**Esanatoglia**	**0.50**	**335** ⇑	P	Pg	00 10 19.2	+0.3
SNTG				S	Sb	00 10 28.0	+0.5
SNTG				AML	AML		
	comp=N,210μm,0.5s						
SNTG				AML	AML		
	comp=E,186μm,0.6s						
CESX	**Cesi**	**0.52**	**249**	P	Pg	00 10 19.5	+0.4
CESX	**Cesi**	**0.52**	**249**	P	Pb	00 10 19.7	-0.6
CESX				S	Sb	00 10 27.8	0.0
EL6	**Elcito**	**0.54**	**350** ⇓	P	Pg	00 10 20.0	+0.4
EL6				S	Sb	00 10 29.0	+0.4
CING	**Cingoli**	**0.58**	**357**	P	Pg	00 10 20.6	+0.3
CING				S	Sb	00 10 30.3	+0.7
CING				AML	AML		
	comp=N,193μm,0.5s						
CING				AML	AML		
	comp=E,200μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.58**	**312**	P	Pg	00 10 20.7	+0.4
ATCC				S	Sb	00 10 29.9	+0.1
ATCC				AML	AML		
	comp=E,278μm,0.8s						

ATCC				AML	AML			
	comp=N,258μm,0.3s							
FOSV	**Fossato di Vic**	**0.60**	**325**	P	Pg	00 10 21.1	+0.3	
FOSV				S	Sb	00 10 30.7	+0.3	
FOSV				AML	AML			
	comp=E,316μm,0.3s							
FOSV				AML	AML			
	comp=N,329μm,0.3s							
FOSV				AML	AML			
	comp=N,328μm,0.3s							
PP3	**Marolino**	**0.64**	**25**	P	Pb	00 10 23.0	+0.7	
PP3				AML	AML			
	comp=E,606μm,1.0s							
PP3				AML	AML			
	comp=N,566μm,1.4s							
PP3				AML	AML			
	comp=N,594μm,1.4s							
PP3				AML	AML			
	comp=E,601μm,1.0s							
MURB	**Monte Urbino**	**0.70**	**312**	P	Pg	00 10 22.8	+0.3	
MURB				S	Sb	00 10 34.1	+1.1	
MURB				AML	AML			
	comp=N,413μm,0.3s							
MURB				AML	AML			
	comp=E,410μm,0.9s							
MURB				AML	AML			
	comp=N,414μm,0.3s							
SSFR	**Montelago di S**	**0.72**	**333**	P	Pg	00 10 23.1	+0.1	
SSFR				S	Sb	00 10 34.5	+0.8	
SSFR				AML	AML			
	comp=E,454μm,0.2s							
SSFR				AML	AML			
	comp=N,350μm,0.2s							
ARVD	**Arcevia**	**0.73**	**343**	P	Pg	00 10 23.3	+0.1	
ARVD				S	Sb	00 10 34.9	+0.9	
ARVD				AML	AML			
	comp=E,92μm,0.2s							
ARVD				AML	AML			
	comp=N,78μm,0.6s							
ATFO	**Monte Foce - G**	**0.75**	**320**	P	Pg	00 10 23.7	+0.3	
ATFO				S	Sb	00 10 35.3	+0.8	
ATFO				AML	AML			
	comp=N,104μm,0.2s							
ATFO				AML	AML			
	comp=N,104μm,0.2s							
ATFO				AML	AML			
	comp=E,89μm,0.2s							
FRON	**Frontone**	**0.81**	**333**	P	Pg	00 10 24.6	0.0	
FRON				S	Sb	00 10 37.2	+1.0	
FRON				AML	AML			
	comp=E,92μm,0.2s							
FRON				AML	AML			
	comp=N,166μm,0.3s							
PIEI	**Pieia**	**0.90**	**326**	P	Pg	00 10 26.3	0.0	
PIEI				S	Sn	00 10 40.7	-0.1	
PIEI				AML	AML			
	comp=E,62μm,1.6s							
PIEI				AML	AML			
	comp=N,53μm,1.5s							
FSSB	**Fossombrone**	**0.95**	**340**	P	Pg	00 10 27.5	+0.1	
FSSB				S	Sn	00 10 42.6	+0.4	
FSSB				AML	AML			
	comp=N,208μm,0.5s							
FSSB				AML	AML			
	comp=E,150μm,0.9s							
SACS	**San Casciano d**	**0.97**	**273**	⇑P	Pn	00 10 30.8	+1.9	
PE3	**Peglio**	**1.04**	**329**	P	Pb	00 10 29.4	+0.1	
CAFI	**Castiglion Fio**	**1.07**	**300**	P	Pn	00 10 30.0	-0.1	
CAFI				S	Sn	00 10 46.1	+1.0	
CAFI				AML	AML			
	comp=E,36μm,1.2s							
CAFI				AML	AML			
	comp=N,35μm,0.8s							
DUGI	**Dugi Otok**	**1.79**	**48**	*e*Pn	Pg	00 10 43.0	-0.3	
ZIRJ	**Zirje**	**1.96**	**63**	*e*Pn	Pb	00 10 44.7	-0.1	
VIRC	**Vir**	**2.00**	**41**	*e*Pn	Pn	00 10 43.8	+0.9	
MORI	**Morici**	**2.10**	**59**	*e*Pn	Pb	00 10 46.0	-1.2	
NVLJ	**Novalja**	**2.13**	**33**	*e*Pn	Pn	00 10 45.7	+1.1	
RABC	**Rab**	**2.25**	**29**	*e*Pn	Pn	00 10 47.6	+1.2	
GSCL	**Gusciola**	**2.47**	**310**	P	Pg	00 10 58.2	+1.8	
MCRV	**Calabrutti - M**	**2.48**	**144**	S	Sg	00 11 34.0	+5.2	
UDBI	**Udbina**	**2.52**	**46**	*e*Pn	Pb	00 10 52.4	-2.0	
KIJV	**Kijevo**	**2.61**	**61**	*e*Pn	Pn	00 10 53.6	+2.3	
RICI	**Ricice**	**2.94**	**75**	*e*Pn	Pn	00 10 58.4	+2.6	
RICI					Sn	00 11 34.2	+3.0	
SALO	**Salr**	**3.42**	**326**	P	Pg	00 11 14.4	-0.2	
ORZI	**Orzinuovi**	**3.53**	**319**	S	Sn	00 11 46.0	+0.3	

*IDC **21** 00:22:17.7±0.5,29°.16S×61°.00E, h0km, mb4.1/21, mbtmp4.1/22, ML4.3/1, MS3.8/12, Error ellipse: s-maj=19.2km s-min=14.2km az=77.0*
*NEIC **21** 00:22:19.9±2.7,29°.16S±0°.07×60°.7E±0°.1, h10km±1km, mb4.4/19, Error ellipse: s-maj=18.0km s-min=11.2km az=280.0*
ISC 21 00:22:19.7±0.5,**29°.14S**±0°.08×**60°.85E**±0°.10,**h10**km,**n66,** σ1**9**32/52,**mb4.3**/28,**MS3.9**/12,**1D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
RER	**Riviere de l'E**	**9.19**	**329**		Pn	**Pn**	**00 24 31.0**	**-1.4**
ROCAM	**Rodrigues Isla**	**9.62**	**14**		Pn	**Pn**	**00 24 38.4**	**+0.1**
VOI	**Vohitsoka**	**14.58**	**296**			**Pn**	**00 25 48.9**	**+2.6**
OPO	**Ambohidratompo**	**16.32**	**307**		Pn	**Pn**	**00 26 09.6**	**+0.4**
	0.1nm,0.3s,baz=126,slow=12,SNR=8.5							
OPO					Sn	Sn	00 28 56.9	-14
	baz=242,slow=20,SNR=1.9							
	4.0nm,0.5s							
H08S1	**Diego Garcia H**	**24.02**	**29**	T		T	00 52 41.7	
	baz=204,slow=75,SNR=12							
H08S2	**Diego Garcia H**	**24.03**	**29**	T		T	00 52 42.8	
	baz=204,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**24.04**	**29**	T		T	00 52 36.6	
	baz=204,slow=75,SNR=37							
BOSA	**Boshof**	**31.10**	**262**	P		**P**	**00 28 39.2**	**+0.7**
	2.7nm,0.8s,baz=126,slow=10.0,SNR=3.9							
BOSA				LR		LR	00 39 03.1	
	comp=Z,120nm,20.6s,baz=155,slow=32							
	2.7nm,0.8s							
LBTB	**Lobatse**	**31.58**	**269**	LR		LR	00 39 26.7	
	comp=Z,59nm,19.7s,baz=166,slow=32							
LBTB	**Lobatse**	**31.58**	**269**	P		**P**	**00 28 38.2**	**-4.6**
LBTB	**Lobatse**	**31.58**	**269**	⇓*i* P		**P**	**00 28 38.7**	**-4.1**
SUR	**Sutherland**	**34.42**	**254**	LR		LR	00 40 25.9	
	comp=Z,91nm,21.8s,baz=106,slow=32							
KMBO	**Kilima Mbogo**	**35.80**	**317**	P		**P**	**00 29 19.8**	**+0.1**
	0.3nm,0.3s,baz=43,slow=20,SNR=1.6							
KMBO				LR		LR	00 41 27.9	
	comp=Z,158nm,18.5s,baz=178,slow=32							
	0.3nm,0.3s							
MAW	**Mawson**	**38.51**	**179**	P		**P**	**00 29 41.6**	**-0.2**
	1.1nm,0.7s,baz=0.1,slow=11,SNR=2.5							
MAW				LR		LR	00 42 19.3	
	comp=Z,174nm,18.7s,baz=342,slow=31							
	1.1nm,0.7s							
MAW	**Mawson**	**38.51**	**179**	P		**P**	**00 29 41.6**	**-0.2**
TSUM	**Tsumeb**	**40.50**	**274**	LR		LR	00 45 18.7	
	comp=Z,131nm,19.2s,baz=144,slow=34							
ATD	**Arta Tunnel**	**44.01**	**334**	LR		LR	00 46 13.1	
	comp=Z,173nm,20.0s,baz=160,slow=33							
H01W2	**Cape Leeuwin H**	**45.11**	**112**	T		T	01 18 14.8	
	baz=261,slow=75,SNR=46							
H01W3	**Cape Leeuwin H**	**45.11**	**112**	T		T	01 18 15.4	
	baz=261,slow=75,SNR=42							
H01W1	**Cape Leeuwin H**	**45.13**	**112**	T		T	01 18 16.4	
	baz=261,slow=75,SNR=38							
UOSS	**Minazif**	**53.96**	**355**	P		**P**	**00 31 42.9**	**-0.8**
SNAA	**Sanae**	**54.39**	**200**	P		**P**	**00 31 45.8**	**-0.6**
	0.9nm,0.6s,baz=89,slow=5.5,SNR=9.6							
	0.9nm,0.6s							
SNAA	**Sanae**	**54.39**	**200**	P		**P**	**00 31 46.2**	**-0.3**
SNAA				IAmb		IAmb	00 31 48.1	
	comp=Z,7.4nm,1.5s							
BRDH	**Bariadhala**	**59.45**	**33**	LR		LR	00 56 04.8	
	comp=Z,89nm,18.2s,baz=214,slow=34							
CMAR	**Chiang Mai Arr**	**59.93**	**43**	P		**P**	**00 32 26.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=236,slow=7.4,SNR=4.4							
	comp=Z,0.8nm,0.5s							
QSPA	**South Pole Qui**	**61.02**	**180**	P		**P**	**00 32 32.4**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=272,slow=2.4,SNR=6.7							
	comp=Z,1.5nm,0.7s							
QSPA	**South Pole Qui**	**61.02**	**180**	P		**P**	**00 32 32.4**	**-0.9**
QSPA				IAmb		IAmb	00 32 34.9	
	comp=Z,3.9nm,1.1s							

BELA	**Belgrano 2**	**62.88**	**194**	P		**P**	**00 32 47.1**	**+1.7**
BELA				IAmb		IAmb	00 32 52.3	
	comp=Z,3.1nm,1.2s							
BBOO	**Buckleboo**	**63.30**	**114**	P		**P**	**00 32 50.1**	**+1.2**
VNDA	**Vanda**	**64.12**	**166**	P		**P**	**00 32 53.0**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=266,slow=6.5,SNR=9.5							
	comp=Z,1.5nm,0.7s							
VNDA	**Vanda**	**64.12**	**166**	P		**P**	**00 32 53.5**	**-0.1**
VNDA				IAmb		IAmb	00 32 56.4	
	comp=Z,1.9nm,0.8s							
ASAR	**Alice Springs**	**64.72**	**104**	P		**P**	**00 32 57.1**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=244,slow=5.9,SNR=21							
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**64.72**	**104**	P		**P**	**00 32 57.6**	**-0.8**
AS31	**Alice Springs**	**64.72**	**104**	P		**P**	**00 32 59.8**	**+1.3**
AS31				IAmb		IAmb	00 33 00.4	
	comp=Z,1.2nm,0.6s							
WRA	**Warramunga Arr**	**66.54**	**100**	P		**P**	**00 33 08.7**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=245,slow=5.7,SNR=7.6							
	comp=Z,0.7nm,0.6s							
WRA	**Warramunga Arr**	**66.54**	**100**	P		**P**	**00 33 12.4**	**+2.1**
WB2	**Warramunga Arr**	**66.55**	**101**	P		**P**	**00 33 10.4**	**+0.1**
WB0	**Warramunga Arr**	**66.66**	**100**	P		**P**	**00 33 09.6**	**-1.4**
WB0				IAmb		IAmb	00 33 50.6	
	comp=Z,4.7nm,1.2s							
GNI	**Garni**	**70.54**	**347**	LR		LR	01 03 05.8	
	comp=Z,94nm,19.7s,baz=190,slow=35							
TOA0	**Torodi Ar. Sit**	**70.88**	**298**	P		**P**	**00 33 38.3**	**+1.0**
TOA0				IAmb		IAmb	00 33 38.9	
	comp=Z,4.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**70.88**	**298**	P		**P**	**00 33 38.3**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=111,slow=4.9,SNR=17							
	comp=Z,2.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**70.88**	**298**	P		**P**	**00 33 38.0**	**+0.7**
TORD				IAmb		IAmb	00 33 38.9	
	comp=Z,3.9nm,0.9s							
KK31	**Karatay Array**	**72.43**	**7**	P		**P**	**00 33 46.0**	**0.0**
KKAR	**Karatay Array**	**72.43**	**7**	P		**P**	**00 33 46.0**	**0.0**
KKAR				IAmb		IAmb	00 33 47.4	
	comp=Z,2.5nm,1.1s							
AAK	**Ala-Archa**	**72.52**	**11**	P		**P**	**00 33 46.7**	**0.0**
	comp=Z,1.0nm,0.4s,baz=194,slow=8.8,SNR=5.5							
	comp=Z,1.0nm,0.4s							
BRTR	**Keskin Array B**	**73.04**	**338**	P		**P**	**00 33 50.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=161,slow=9.3,SNR=6.4							
	comp=Z,1.0nm,0.7s							
KBZ	**Khabaz**	**74.36**	**347**	LR		LR	01 04 34.0	
	comp=Z,95nm,22.0s,baz=175,slow=34							
KOWA	**Kowa**	**76.15**	**295**	P		**P**	**00 34 10.1**	**+1.8**
KOWA				IAmb		IAmb	00 34 10.5	
	comp=Z,5.3nm,0.8s							
CTA	**Charters Tower**	**76.63**	**106**	LR		LR	01 05 39.2	
	comp=Z,291nm,20.6s,baz=208,slow=34							
MK31	**Makanchi Array**	**78.03**	**15**	P		**P**	**00 34 18.6**	**+0.4**
MKAR	**Makanchi Array**	**78.03**	**15**	P		**P**	**00 34 17.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=190,slow=5.8,SNR=12							
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**78.03**	**15**	P		**P**	**00 34 18.5**	**+0.3**
ABKAR	**Akbulak array**	**78.04**	**359**	P		**P**	**00 34 18.4**	**+0.3**
AKTO	**Aktyubinsk**	**79.26**	**358**	P		**P**	**00 34 24.3**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=174,slow=3.9,SNR=4.7							
AKTO				LR		LR	01 06 05.8	
	comp=Z,36nm,21.1s,baz=197,slow=33							
	comp=Z,1.1nm,0.6s							
KURBB	**Kurchatov Arra**	**80.94**	**11**	P		**P**	**00 34 33.8**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=197,slow=7.5,SNR=7.8							
	comp=Z,0.9nm,0.3s							
DIVS	**Divibare**	**81.91**	**332**	P		**P**	**00 34 40.4**	**+1.1**
DIVS				IAmb		IAmb	00 34 54.0	
	comp=Z,4.1nm,1.2s							
BELG	**Belogornoye**	**82.00**	**352**	P		**P**	**00 34 38.5**	**-0.9**
	comp=Z,5.6nm,0.7s,baz=280,slow=6.1							
	comp=Z,5.6nm,0.7s							
BVAR	**Borovoye Array**	**82.24**	**6**	P		**P**	**00 34 40.5**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=177,slow=5.9,SNR=8.8							
	comp=Z,0.7nm,0.6s							
AKASG	**Malin Array Be**	**84.27**	**340**	P		**P**	**00 34 49.9**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=157,slow=4.9,SNR=4.3							
	comp=Z,1.0nm,0.6s							
ARU	**Arti**	**85.25**	**359**	P		**P**	**00 34 56.1**	**0.0**
	comp=Z,1.6nm,0.5s,baz=166,slow=2.4,SNR=6.7							
	comp=Z,1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**85.31**	**14**	P		**P**	**00 34 55.7**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=186,slow=4.9,SNR=5.3							
	comp=Z,0.9nm,0.5s							
ESDC	**Sonseca Array**	**91.18**	**316**	P		**P**	**00 35 26.4**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=91,slow=2.8,SNR=5.6							
	comp=Z,1.1nm,0.9s							
YKA	**Yellowknife Ar**	**146.51**	**356**	PKPbc		**PKPdf**	**00 41 59.8**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=353,slow=2.7,SNR=9.2							
ULM	**Lac du Bonnet**	**152.54**	**327**	PKPbc		**PKPbc**	**00 42 14.7**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=60,slow=7.0,SNR=4.5							
PDAR	**Pinedale Array**	**164.35**	**333**	PKP		**PKPdf**	**00 42 22.7**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=90,slow=0.5,SNR=4.9							
TXAR	**Lajitas Array**	**166.47**	**275**	PKP		**PKPdf**	**00 42 26.8**	**+1.0**
	comp=Z,0.1nm,0.6s,baz=104,slow=5.7,SNR=2.4							

*PRE **21** 00:26:35.6±2.5,21°.22S×33°.71E, h10km, ML3.1*
*EAF **21** 00:26:40.5±0.6,21°.57S×33°.46E, h10km, MD4.4*
*BUL **21** 00:26:42.6±1.8,21°.66S×33°.29E, h10km, MD4.8*
ISC 21 00:26:41.3±1.1,**21°.43S**±0°.05×**33°.33E**±0°.06,**h10**km,**n41,** σ2**9**26/65,**1D, Mozambique**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MOPA	**Mopani**	**2.74**	**220**	*e*P		Pn	**00 27 26.6**	**+1.2**
MOPA				*e*S		**Sb**	**00 28 05.3**	**+1.2**
MOPA				IAML			00 28 18.3	
	comp=Z,92nm,0.3s							
MOPA	**Mopani**	**2.74**	**220**	*i* Pg		**Pb**	**00 27 29.0**	**-1.4**
MOPA				*i* Sg		**Sb**	**00 28 05.3**	**+1.2**
MOPA	**Mopani**	**2.74**	**220**	*i* Pg		**Pb**	**00 27 29.0**	**-1.4**
MOPA				*i* Sg		**Sb**	**00 28 05.3**	**+1.2**
MUSN	**Musina, Limpop**	**3.34**	**255**	⇓*i* P		Pn	**00 27 36.5**	**+2.9**
MUSN				*e*S		**Sn**	**00 28 18.1**	**+4.8**
MUSN				IAML			00 28 31.9	
	comp=Z,73nm,0.3s							
MUSN	**Musina, Limpop**	**3.34**	**255**	*i* Pg		**Pb**	**00 27 40.0**	**-0.6**
MUSN				*i* Sg		**Sb**	**00 28 22.4**	**+1.1**
MUSN	**Musina, Limpop**	**3.34**	**255**	*i* Pg		**Pb**	**00 27 40.0**	**-0.6**
MUSN				*i* Sg		**Sb**	**00 28 22.4**	**+1.1**
BLWY	**Bulawayo**	**4.60**	**285**	*e*P		Pn	**00 27 53.5**	**+2.4**
BLWY				*e*S		**Sn**	**00 28 46.4**	**+1.7**
BLWY				IAML			00 29 09.2	
	comp=Z,189nm,0.5s							
BLWY	**Bulawayo**	**4.60**	**285**	*i* P		Pn	**00 27 51.7**	**+0.6**
BLWY				*i* S		**Sn**	**00 28 43.8**	**-0.9**
BLWY	**Bulawayo**	**4.60**	**285**	*i* P		Pn	**00 27 51.7**	**+0.6**
BLWY				*i* S		**Sn**	**00 28 43.8**	**-0.9**
MMAL	**MMAL**	**4.99**	**203**	*e*P		Pn	**00 27 57.5**	**+1.2**
MMAL				*e*S		**Sn**	**00 28 54.4**	**+0.2**
MMAL				IAML			00 29 21.4	
	comp=Z,30nm,0.4s							
LEPH	**Lephalale, Lim**	**5.65**	**244**	*e*P		Pn	**00 28 07.4**	**+1.9**
LEPH				*e*S		**Sn**	**00 29 12.9**	**+2.3**
LEPH				IAML			00 29 43.3	
	comp=Z,53nm,0.5s							
POGA	**Pongola**	**6.07**	**194**	*e*P		Pn	**00 28 12.8**	**+1.6**
POGA				*e*S		**Sn**	**00 29 20.3**	**-0.4**
POGA				IAML			00 30 11.8	
	comp=Z,11nm,0.5s							
SLR	**Silverton**	**6.31**	**226**	*e*P		Pn	**00 28 16.6**	**+2.1**
SLR				*e*S		**Sn**	**00 29 27.8**	**+1.1**
SLR				IAML			00 30 06.5	
	comp=Z,22nm,0.5s							
ZOMB	**Zomba**	**6.32**	**18**	*i* P		Pn	**00 28 16.1**	**+1.5**
ZOMB				S		**Sn**	**00 29 23.3**	**-3.6**
ZOMB	**Zomba**	**6.32**	**18**	*i* P		Pn	**00 28 16.1**	**+1.5**
ZOMB				S		**Sn**	**00 29 23.3**	**-3.6**
HRAO	**HartRAO**	**6.82**	**228**	*e*P		Pn	**00 28 23.3**	**+1.7**
HRAO				*e*S		**Sn**	**00 29 39.6**	**+0.3**
HRAO				IAML			00 30 26.2	
	comp=Z,26nm,0.8s							
NWCL	**Newcastle**	**7.01**	**206**	*e*P		Pn	**00 28 24.6**	**+0.4**
NWCL				*e*S		**Sn**	**00 29 42.8**	**-1.2**
NWCL				IAML			00 30 26.7	
	comp=Z,18nm,0.6s							
KSR	**Koster**	**7.36**	**232**	*e*P		Pn	**00 28 31.1**	**+2.1**
KSR				*e*S		**Sn**	**00 29 55.0**	**+2.3**
KSR				IAML			00 30 52.3	
	comp=Z,16nm,0.8s							
PRYS	**Parys**	**7.72**	**224**	*e*P		Pn	**00 28 34.3**	**+0.4**
PRYS				*e*S		**Sn**	**00 29 59.6**	**-2.0**
PRYS				IAML			00 30 59.0	
	comp=Z,9.6nm,0.6s							

LBTB	**Lobatse**	**7.96**	**242**	*e*S		**Sn**	**00 30 08.6**	**+1.3**
LBTB				IAML			00 30 50.8	
	comp=Z,11nm,0.5s							
LBTB	**Lobatse**	**7.96**	**242**	*i* P		Pn	**00 28 35.3**	**-1.8**
LBTB				*i* S		**Sn**	**00 29 58.8**	**-8.5**
LBTB	**Lobatse**	**7.96**	**242**	*i* P		Pn	**00 28 35.3**	**-1.8**
LBTB				*i* S		**Sn**	**00 29 58.8**	**-8.5**
SNKL	**Senekal, Frees**	**8.48**	**215**	*e*P		Pn	**00 28 44.0**	**-0.3**
SNKL				*e*S		**Sn**	**00 30 21.7**	**+1.5**
SNKL				IAML			00 31 17.2	
	comp=Z,16nm,0.7s							
SWZ	**Schweizer**	**9.27**	**230**	*e*P		Pn	**00 28 55.7**	**+0.5**
KSTD	**Kokstad**	**9.83**	**201**	*e*P		Pn	**00 29 04.7**	**+1.8**
KSTD				*e*S		**Sn**	**00 30 50.1**	**-3.4**
KSTD				IAML			00 32 02.3	
	comp=Z,2.9nm,0.8s							
BOSA	**Boshof**	**10.23**	**224**	*e*P		Pn	**00 29 07.9**	**-0.5**
BOSA				*e*S		**Sn**	**00 31 01.0**	**-2.2**
BOSA				IAML			00 32 09.6	
	comp=Z,6.5nm,0.7s							
BOSA	**Boshof**	**10.23**	**224**	*i* P		Pn	**00 29 05.5**	**-2.8**
BOSA				*i* S		Sn	00 30 49.8	-13
BOSA	**Boshof**	**10.23**	**224**	*i* P		Pn	**00 29 05.5**	**-2.8**
BOSA				*i* S		Sn	00 30 49.8	-13
UPI	**Upington**	**12.95**	**235**	*e*P		Pn	**00 29 45.4**	**-0.1**
KEIM	**Keimoes**	**13.33**	**235**	*e*P		Pn	**00 29 50.5**	**-0.3**
GRAF	**Camdeboo Natio**	**13.37**	**214**	*e*P		Pn	**00 29 51.0**	**-0.2**
BFON	**Badsfontein, M**	**13.44**	**218**	*e*P		Pn	**00 29 52.9**	**+0.7**
BRAK	**Brakfontein**	**13.89**	**220**	*e*P		Pn	**00 29 57.5**	**-0.9**
ARMS	**Ukamas**	**13.99**	**239**	*e*P		Pn	**00 30 00.1**	**+0.4**
ROOI	**Rooidraai Farm**	**14.04**	**216**	*e*P		Pn	**00 29 59.8**	**-0.6**
GRAN	**Grantham**	**14.70**	**220**	*e*P		Pn	**00 30 08.7**	**-0.7**
FRAZ	**Fraserburg**	**14.91**	**223**	*e*P		Pn	**00 30 11.6**	**-0.8**
MERW	**Merweville**	**15.35**	**221**	*e*P		Pn	**00 30 17.0**	**-1.2**
CVNA	**Calvinia**	**15.73**	**228**	*e*P		Pn	**00 30 22.5**	**-0.6**
MATJ	**Matjiesfontein**	**16.33**	**221**	*e*P		Pn	**00 30 30.6**	**-0.2**
AUSN	**Aus**	**16.44**	**248**	*e*P		Pn	**00 30 32.3**	**0.0**

*IDC **21** 00:37:16.5±4.7,35°.82N×71°.18E, h83km±32km, mb3.4/5, mbtmp3.7/10, MS3.6/4, Error ellipse: s-maj=56.9km s-min=24.6km az=144.0*
*NNC **21** 00:37:26.8±2.5,36°.68N×71°.02E, h172km±28km, mb3.2, mpv4.2, Error ellipse: s-maj=22.6km s-min=13.5km az=36.0*
ISC 21 00:37:21.7±1.4,**36°.4N**±0°.1×**70°.83E**±0°.08,**h100**km,**n34,** σ1**9**62/37,**mb3.7**/4,**6C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
AML	**Almayashu**	**6.14**	**20**	P		Pn	**00 38 51.5**	**+1.3**
	SNR=99							
UCH	**Uchtor**	**6.49**	**25**	P		Pn	**00 38 56.0**	**+1.0**
	SNR=34							
EKS2	**Erkin-Say**	**6.66**	**19**	P		Pn	**00 38 58.8**	**+1.8**
	SNR=16							
KK31	**Karatay Array**	**6.70**	**358**	⇓P		Pn	**00 38 59.3**	**+1.8**
	1.2nm,0.2s,baz=175,slow=12,SNR=105							
KK31				S		**Sn**	**00 40 12.1**	**-0.3**
	6.0nm,0.3s,baz=191,slow=22,SNR=9.6							
AAK	**Ala-Archa**	**6.84**	**23**	P		Pn	**00 39 01.0**	**+1.5**
	SNR=44							
AAK	**Ala-Archa**	**6.84**	**23**	P		Pn	**00 39 01.2**	**+1.6**
	35nm,0.3s,baz=192,slow=5.7,SNR=86							
AAK				S		**Sn**	**00 40 14.5**	**-1.5**
	10nm,0.3s,baz=14,slow=19,SNR=8.9							
KBK	**Karagaybulak**	**7.01**	**26**	P		Pn	**00 39 04.1**	**+2.2**
	SNR=10							
ULHL	**Ulahol**	**7.19**	**34**	P		Pn	**00 39 04.7**	**+0.4**
	SNR=7.0							
CHMS	**Chumysh**	**7.25**	**23**	P		Pn	**00 39 06.6**	**+1.6**
	SNR=24							
CHMS	**Chumysh**	**7.25**	**23**	⇑P		Pn	**00 39 06.1**	**+1.1**
	24nm,0.6s							
CHMS				⇓S		**Sn**	**00 40 24.7**	**-1.0**
	15nm,0.6s							
USP	**Ospenovka**	**7.42**	**21**	P		Pn	**00 39 08.6**	**+1.4**
	SNR=18							
TKM2	**Tokmak 2**	**7.48**	**28**	P		Pn	**00 39 09.6**	**+1.3**
	SNR=10.0							
TKM2	**Tokmak 2**	**7.48**	**28**	⇓P		Pn	**00 39 09.1**	**+0.8**
	17nm,0.5s							
TKM2				⇑S		**Sn**	**00 40 31.5**	**-0.1**
	8.3nm,0.9s							
MDOK	**Medeo**	**8.28**	**33**	⇑P		Pn	**00 39 19.0**	**-0.1**
	7.0nm,0.8s							
PDGK	**Podgornoye**	**9.60**	**41**	⇓P		Pn	**00 39 35.6**	**-1.4**
	7.0nm,1.3s							
GEYT	**Alibeck**	**10.26**	**282**	P		Pn	**00 39 45.8**	**-0.2**
	0.8nm,0.3s,baz=78,slow=7.7,SNR=5.9							
GEYT				S		**

HOPE Hope Point 2.67 283 Pn Pn 00 39 26.4 -1.2
ORCD Orcadas 8.87 224 Pn Pn 00 40 52.4 -0.4
EFI East Falkland 15.85 271 P P 00 42 32.9 +1.6
EFI IAmb IAmb 00 42 33.4
comp=Z,82nm,1.1s
PMSA Palmer Station 18.59 225 P P 00 43 02.0 +0.4
comp=Z,0.2nm,0.3s,baz=57,slow=7.1,SNR=7.4
PMSA LR LR 00 49 19.7
comp=Z,360nm,19.1s,baz=70,slow=34
comp=Z,1.1nm,0.9s
PMSA Palmer Station 18.59 225 P Pn 00 43 03.0 +1.2
PMSA Palmer Station 18.59 225 eP P 00 43 00.9 -0.6
VNA1 Neumayer--Stat 18.87 155 P Pn 00 43 08.6 +3.4
VNA3 Neumayer Olymp 18.98 158 P Pn 00 43 07.1 +0.6
VNA2 Neumayer--Watz 19.27 155 P P 00 43 08.6 -0.5
baz=316,slow=13
USHA Ushuaia 20.77 255 P P 00 43 25.8 +0.4
comp=Z,23nm,0.6s,baz=103,slow=5.9,SNR=2.8
comp=Z,23nm,0.6s
SNAA Sanae 20.88 154 P P 00 43 27.9 +1.3
SNAA Sanae 20.88 154 P P 00 43 26.8 +0.3
comp=Z,5.8nm,0.8s,baz=297,slow=9.5,SNR=25
SNAA PcP PcP 00 47 34.1 -0.1
comp=Z,0.7nm,0.7s,baz=324,slow=7.6,SNR=1.8
comp=Z,5.8nm,0.8s
SNAA Sanae 20.88 154 P P 00 43 27.2 +0.7
MG02 Cerro Sombrero 21.85 260 P P 00 43 35.2 -1.9
TROLL Troll, Antarti 22.46 152 P P 00 43 43.3 -0.3
BELA Belgrano 2 23.01 181 P P 00 43 49.6 +0.4
MG05 Puerto Natales 24.14 261 P P 00 43 59.8 -0.7
MG05 IAmb IAmb 00 44 01.4
comp=Z,61nm,1.0s
TRQA Tornquist 26.36 298 P P 00 44 21.4 +0.6
TRQA IAmb IAmb 00 44 25.9
comp=Z,30nm,1.3s
PLTB Pedras Altas 27.78 318 eP P 00 44 33.5 -0.1
AY01 Puyuhuapi 27.91 275 P P 00 44 34.7 +0.1
CPSB Cacapava Do Su 28.93 319 eP P 00 44 43.4 -0.4
PLCA Paso Flores 29.07 283 P P 00 44 44.3 -0.8
comp=Z,8.2nm,1.1s,baz=124,slow=8.5,SNR=7.7
PLCA LR LR 00 56 21.6
comp=Z,278nm,19.3s,baz=130,slow=36
comp=Z,8.2nm,1.1s
PLCA Paso Flores 29.07 283 P P 00 44 44.8 -0.3
PLCA IAmb IAmb 00 44 48.6
comp=Z,20nm,1.2s
PLCA Paso Flores 29.07 283 eP P 00 44 44.8 -0.3
RODS Rosario do Sul 29.66 317 eP P 00 44 52.1 +1.8
ALGR Alto Alegre (B 30.23 321 eP P 00 44 56.8 +1.4
UNIS Unistalda (Bra 30.75 318 eP P 00 44 59.9 0.0
ITQB Itaqui 30.83 315 eP P 00 45 01.1 +0.5
CRSM Crissiumal (Br 31.78 321 eP P 00 45 08.8 -0.3
TIJ01 Guaruva-PR 32.16 330 eP P 00 45 14.2 +1.8
FRBT Francisco Belt 32.83 323 eP P 00 45 19.7 +1.5
PTGB Pitanga 33.66 326 eP P 00 45 26.1 +0.6
VAO Valinhos 33.83 335 eP P 00 45 29.1 +2.1
CAM01 Campos-RJ 33.89 344 eP P 00 45 27.7 +0.2
CPUP Villa Florida 34.08 317 P P 00 45 29.1 0.0
comp=Z,16nm,0.8s,baz=150,slow=8.3,SNR=28
CPUP LR LR 00 59 21.8
comp=Z,209nm,20.7s,baz=174,slow=36
comp=Z,16nm,0.8s
CPUP Villa Florida 34.08 317 P P 00 45 28.0 -1.1
CPUP IAmb IAmb 00 45 31.1
comp=Z,18nm,0.8s
CPUP Villa Florida 34.08 317 eP P 00 45 28.9 -0.2
MT09 Talagante 34.34 292 P P 00 45 30.7 -0.9
MT01 Popeta 34.41 292 P P 00 45 32.0 0.0
MT01 IAmb IAmb 00 46 16.1
comp=Z,35nm,1.4s
VA05 Santo Domingo 34.77 291 P P 00 45 35.1 +0.1
ZON Zonda 34.87 297 P P 00 45 36.2 +0.1
ZON IAmb IAmb 00 45 55.8
comp=Z,22nm,1.4s
QSPA South Pole Qui 35.27 180 LR LR 00 59 41.4
comp=Z,304nm,18.1s,baz=196,slow=36
QSPA South Pole Qui 35.27 180 P P 00 45 39.4 +0.1
QSPA IAmb IAmb 00 45 53.7
comp=Z,25nm,1.2s
VA06 Catapilco 35.44 293 P P 00 45 41.8 +1.0
BB19B Bebedouro 36.07 333 eP P 00 45 47.4 +1.0
CO02 Combarbal 36.35 295 P P 00 45 49.1 +0.4
CO02 IAmb IAmb 00 46 14.0
comp=Z,40nm,1.1s
CO01 Juntas del Tor 36.85 297 P P 00 45 54.3 +1.0
SJMB Sao Joao De Ma 36.88 345 eP P 00 45 54.9 +1.6
ANTJ Antonio Joao (37.51 322 eP P 00 45 58.6 0.0
NAN01 Guarapari, ES 37.58 347 eP P 00 46 00.6 +1.3
DIAM Diamantina, MG 37.68 342 eP P 00 46 02.2 +1.9
AC05 El Transito 37.87 298 P P 00 46 02.3 +0.6
AC05 IAmb IAmb 00 46 23.0
comp=Z,16nm,0.9s
PMNB Patos De Minas 38.01 338 eP P 00 46 05.0 +2.1
RPRD Ribas do Rio P 38.14 326 eP P 00 46 05.2 +1.4
GUA01 Guaratinga, BA 38.79 348 eP P 00 46 11.1 +1.8
AQDB Aquidauana 38.81 323 P P 00 46 08.1 -1.4
AQDB IAmb IAmb 00 46 10.8
comp=Z,17nm,0.8s
AQDB Aquidauana 38.81 323 eP P 00 46 09.1 -0.4
AC02 Maricunga 38.93 301 P P 00 46 12.6 +1.5
IPMB Ipameri, GO 38.95 335 eP P 00 46 13.0 +2.2
MC01 Montes Claros 39.28 342 eP P 00 46 15.2 +1.6
GO02 Mina Guanaco 40.56 302 P P 00 46 24.2 -0.2
GO02 IAmb IAmb 00 46 42.3
comp=Z,19nm,0.8s
JANB Januaria 40.96 342 eP P 00 46 29.4 +1.9
BDFB Brasilia 41.16 336 P P 00 46 29.3 +0.1
comp=Z,7.0nm,0.9s,baz=139,slow=8.6,SNR=7.5
comp=Z,7.0nm,0.9s
BDFB Brasilia 41.16 336 P P 00 46 29.1 -0.1
BDFB Brasilia 41.16 336 eP P 00 46 28.6 -0.6
PP1B Ponte de Pedra 41.21 326 eP P 00 46 30.9 +1.4
LVC Limon Verde 42.39 305 LR LR 01 08 50.5
comp=Z,74nm,18.1s,baz=163,slow=43
LVC Limon Verde 42.39 305 P P 00 46 37.7 -1.8
LVC Limon Verde 42.39 305 eP P 00 46 39.4 -0.1
MAW Mawson 42.62 146 P P 00 46 39.6 -0.9
comp=Z,3.2nm,0.8s,baz=201,slow=5.5,SNR=7.8
comp=Z,3.2nm,0.8s
MAW Mawson 42.62 146 P P 00 46 40.1 -0.4
SALV Santo Antonio 43.06 326 eP P 00 46 45.7 +1.1
SUR Sutherland 43.12 81 P P 00 46 44.6 -0.6
comp=Z,5.9nm,0.9s,baz=28,slow=19,SNR=2.4
SUR LR LR 01 00 44.0
comp=Z,141nm,18.4s,baz=231,slow=31
comp=Z,5.9nm,0.9s
SDBA SAO DESIDERIO 43.66 342 eP P 00 46 49.4 -0.1
PB01 IPOC Station P 44.01 305 P P 00 46 51.3 -0.9
PB01 IAmb IAmb 00 46 54.2
comp=Z,14nm,0.9s
NBLA Lagarto - SE 44.12 352 eP P 00 46 53.9 +0.8
PB08 IPOC Station P 44.63 306 P P 00 46 56.6 -1.0
PTLB Pontes e Lacer 44.66 321 P P 00 46 57.0 -0.5
PTLB IAmb IAmb 00 47 00.0
comp=Z,32nm,0.8s
PTLB Pontes e Lacer 44.66 321 eP P 00 46 57.5 +0.1
SIV San Ignacio 44.88 319 LR LR 01 05 38.2
comp=Z,158nm,20.7s,baz=188,slow=36
GO01 Chusmiza 45.05 307 P P 00 47 01.1 0.0
GO01 IAmb IAmb 00 47 17.7
comp=Z,12nm,0.9s
NBAN Anadia - AL 45.32 354 eP P 00 47 03.8 +1.1
SNDB Serra Nova Dou 45.49 333 eP P 00 47 04.5 +0.4
VILB Vilhena 47.35 321 P P 00 47 17.6 -1.1
VILB IAmb IAmb 00 47 20.5
comp=Z,22nm,0.9s
VILB Vilhena 47.35 321 eP P 00 47 19.1 +0.4
PDRB Porto dos Gac 47.42 326 eP P 00 47 19.3 +0.1
VNDA Vanda 47.48 184 P P 00 47 19.7 +0.8
comp=Z,1.3nm,0.7s,baz=208,slow=5.5,SNR=9.0
comp=Z,1.3nm,0.7s
VNDA Vanda 47.48 184 P P 00 47 18.3 -0.6
LPAZ La Paz 47.53 310 P P 00 47 21.8 +1.0
comp=Z,8.7nm,0.7s,baz=155,slow=4.9,SNR=14
LPAZ LR LR 01 09 46.5
comp=Z,79nm,18.1s,baz=208,slow=39
comp=Z,8.7nm,0.7s
LPAZ La Paz 47.53 310 P P 00 47 20.9 +0.1
LPAZ La Paz 47.53 310 eP P 00 47 21.8 +1.0
SMTB Santa Maria do 47.63 339 eP P 00 47 23.0 +2.1
CLDB Colider 47.82 328 eP P 00 47 21.3 -1.0
H10S2 ASCENSION HYDR 47.95 23 T T 01 39 27.1
baz=192
H10S3 ASCENSION HYDR 47.95 23 T T 01 39 29.9
baz=28
BOSA Boshof 48.47 81 P P 00 47 26.4 -1.1
comp=Z,5.9nm,0.9s,baz=210,slow=7.7,SNR=8.2
comp=Z,5.9nm,0.9s
BOSA Boshof 48.47 81 P P 00 47 26.9 -0.5
H10N1 ASCENSION HYDR 49.06 23 T T 01 40 52.7
baz=191,slow=76,SNR=17
H10N3 ASCENSION HYDR 49.06 23 T T 01 40 54.9
baz=191,slow=76,SNR=18
H10N2 ASCENSION HYDR 49.08 23 T T 01 40 54.4
baz=191,slow=76,SNR=19
RCBR Riachuelo 49.11 355 LR LR 01 04 17.4
comp=Z,208nm,20.8s,baz=322,slow=31
PRPB Parauapebas 50.72 337 eP P 00 47 46.6 +2.1
NPGB Novo Progresso 51.32 330 eP P 00 47 50.0 +1.1
LBTB Lobatse 51.44 79 P P 00 47 49.2 -0.8
ETMB Extrema 52.52 316 P P 00 47 56.6 -1.4
ETMB IAmb IAmb 00 48 00.0
comp=Z,13nm,1.2s
ETMB Extrema 52.52 316 eP P 00 47 57.6 -0.4
ITTB Itaituba 53.97 330 eP P 00 48 09.4 +0.8
TMAB Tom-Au,PA,Br 54.05 340 eP P 00 48 11.8 +2.6
NNA Nana 55.32 303 LR LR 01 11 38.1
comp=Z,75nm,21.4s,baz=146,slow=36
CASY Casey 55.80 163 P P 00 48 20.9 -0.3
CASY IAmb IAmb 00 48 24.2
comp=Z,13nm,1.2s
MALB Monte Alegre 55.97 333 eP P 00 48 24.8 +1.8
MACA Manacapuru-AM 56.64 325 P P 00 48 26.1 -1.7
MACA IAmb IAmb 00 48 28.7
comp=Z,17nm,0.9s
MACA Manacapuru-AM 56.64 325 eP P 00 48 27.3 -0.5
PTGA Pitinga 58.69 327 LR LR 01 16 45.2
comp=Z,157nm,18.1s,baz=154,slow=39
BOAV Boa Vista 61.81 327 P P 00 49 02.5 -1.2
BOAV IAmb IAmb 00 49 04.9
comp=Z,9.4nm,1.0s
BOAV Boa Vista 61.81 327 eP P 00 49 02.7 -0.9
MDP Montagnes des 62.27 337 LR LR 01 16 57.1
comp=Z,154nm,18.3s,baz=137,slow=37
MCRA Macar, Loja 63.44 304 P P 00 49 15.3 +0.7
MCRA IAmb IAmb 00 49 32.9
comp=Z,11nm,1.1s
LIC Lamto 65.01 30 eP P 00 49 24.4 -0.4
comp=Z,107nm,0.9s
KIC Kosan Boka 65.22 30 eP P 00 49 26.9 +0.7
comp=Z,15nm,0.8s
TIC Toumodi 65.42 30 eP P 00 49 27.0 -0.4
comp=Z,53nm,0.8s
DBIC Dimbokro 65.49 30 P P 00 49 27.3 -0.5
comp=Z,14nm,0.8s,baz=198,slow=7.3,SNR=12
comp=Z,14nm,0.8s
DBIC Dimbokro 65.49 30 P P 00 49 26.8 -1.0
ROSC El Rosal 69.11 314 P P 00 49 50.7 -0.6
comp=Z,4.5nm,0.5s,baz=71,slow=23,SNR=1.8
comp=Z,4.5nm,0.5s
PCRV Puerto La Cruz 70.44 326 LR LR 01 20 52.0
comp=Z,174nm,20.8s,baz=36
SDV Santo Domingo 71.34 319 LR LR 01 26 10.2
comp=Z,147nm,18.1s,baz=150,slow=40
SDV Santo Domingo 71.34 319 P P 00 50 04.3 -0.5
SDV IAmb IAmb 00 50 07.6
comp=Z,13nm,1.1s
KOWA Kowa 73.18 28 P P 00 50 15.7 +0.3
KOWA IAmb IAmb 00 50 17.3
comp=Z,9.5nm,0.9s
TOA0 Torodi Ar. Sit 73.61 34 P P 00 50 17.1 -0.9
TOA0 IAmb IAmb 00 50 20.1
comp=Z,16nm,0.8s
TORD Torodi Ar. Bea 73.61 34 P P 00 50 17.7 -0.3
comp=Z,15nm,0.8s,baz=203,slow=5.4,SNR=59
comp=Z,15nm,0.8s
TORD Torodi Ar. Bea 73.61 34 P P 00 50 17.0 -1.0
TORD IAmb IAmb 00 50 20.1
comp=Z,12nm,0.8s
SJG San Juan 78.38 327 LR LR 01 29 26.5
comp=Z,54nm,18.2s,baz=151,slow=39
RPZ Rata Peaks 79.73 197 LR LR 01 24 13.8
comp=Z,65nm,18.3s,baz=124,slow=34
URZ Urewera 83.82 203 LR LR 01 23 46.0
comp=Z,102nm,21.0s,baz=236,slow=32
TBI Tubuai 85.51 235 eLR LR 01 18 21.8
comp=Z,106nm,30.0s
PPT2 Papeete2 90.49 238 eLR LR 01 20 40.3
comp=Z,69nm,25.2s
ESDC Sonseca Array 97.31 21 P P 00 52 17.0 -0.3
comp=Z,0.8nm,0.8s,baz=185,slow=5.1,SNR=5.4
comp=Z,0.8nm,0.8s
ASAR Alice Springs 100.75 167 P Pdif 00 52 31.8 -1.6
comp=Z,0.3nm,0.7s,baz=178,slow=4.5,SNR=2.0
DZM Mont Dzumac 101.64 197 eLR LR 01 25 50.7
comp=Z,197nm,25.9s
PDAR Pinedale Array 117.45 306 PKP PKPdf 00 57 29.2 -0.8
comp=Z,0.1nm,0.3s,baz=122,slow=3.4,SNR=2.7
NVAR Mina Array Bea 118.44 297 PKP PKPdf 00 57 32.2 +0.2
comp=Z,0.2nm,0.4s,baz=130,slow=3.6,SNR=2.0
NOA NORSAR Array B 120.64 23 PKP PKiKP 00 57 36.1 +0.7
comp=Z,0.6nm,1.0s,baz=205,slow=1.9,SNR=3.4
PLID Pearl Lake 122.25 304 PKPdf PKPdf 00 57 39.5 +0.3
FINES FINESS Array B 124.78 30 PKP PKPdf 00 57 43.1 0.0
comp=Z,0.9nm,0.7s,baz=96,slow=1.4,SNR=1.6
CMAR Chiang Mai Arr 128.03 115 PKP PKPdf 00 57 49.0 -1.7
comp=Z,0.8nm,0.5s,baz=225,slow=3.7,SNR=1.9
ARCES ARCESS Array B 131.01 23 PKP PKPdf 00 57 54.8 0.0
comp=Z,2.6nm,0.9s,baz=289,slow=3.7,SNR=6.1
YKA Yellowknife Ar 133.55 321 PKP PKPdf 00 57 59.5 -0.3
comp=Z,1.0nm,0.7s,baz=1.8,slow=27,SNR=6.7
PZH PanZhiHua 136.07 111 PKP PKPdf 00 58 04.4 -1.4
MKAR Makanchi Array 139.21 73 PKP PKPdf 00 58 08.8 -2.1
comp=Z,0.2nm,0.6s,baz=243,slow=0.6,SNR=2.4
MKAR PP PP 01 01 07.5 +2.5
comp=Z,0.2nm,0.7s,baz=232,slow=2.9,SNR=3.6
ISLE Juniper Island 144.03 308 PKPdf PKPbc 00 58 17.9 +0.7
DAWY Dawson 144.04 314 PKPdf PKPbc 00 58 17.1 +0.1
ZAA0 Zalesovo Array 144.41 65 PKPdf PKPbc 00 58 18.6 +0.2
ZALV Zalesovo Beam 144.41 65 PKP PKPbc 00 58 18.8 +0.4
comp=Z,7.8nm,0.9s,baz=250,slow=3.9,SNR=25
ZALV Zalesovo Beam 144.41 65 PKPdf PKPbc 00 58 18.5 +0.2
GTA Gaotai 144.57 96 ePKPbc PKiKP 00 58 23.3 -1.2
GTA sPKP 00 58 36.0
GTA LR LR
comp=N,270nm,21.4s
GTA LR LR
comp=E,310nm,21.8s
GTA LR LR
comp=Z,420nm,22.9s
BCAR Beaver Creek A 144.70 312 PKPdf PKPab 00 58 18.2 -0.7
L27K Beaver Creek, 144.71 312 PKPdf PKPab 00 58 18.8 -0.2
L27K Beaver Creek, 144.71 312 P PKPab 00 58 18.7 -0.4
baz=110,SNR=11
K27K Chicken 145.14 314 P PKPbc 00 58 20.6 +0.2
baz=109,SNR=12
BMRM Bremner River 145.20 308 P PKPbc 00 58 20.5 -0.3
baz=111
L26K Log Cabin Wild 145.35 312 P PKPbc 00 58 20.7 -0.5
baz=109
I27K Kandik River 145.44 316 P PKPdf 00 58 21.2 -0.2
baz=107,SNR=8.0
H27K Steamboat Moun 145.58 317 P PKPdf 00 58 21.5 -0.1
baz=106,SNR=10
G27K Doyon Strip 145.78 318 P PKPdf 00 58 22.1 +0.2
baz=105,SNR=7.1
J26L Joseph Creek 145.91 314 PKPdf PKPbc 00 58 23.1 +0.1
J26L Joseph Creek 145.91 314 P PKPdf 00 58 22.8 +0.6
baz=107,SNR=10
SCRK Sand Creek 145.93 313 P PKPbc 00 58 23.0 -0.1
baz=107
I26K Coal Creek Min 145.97 316 PKPdf PKPbc 00 58 22.9 -0.1
I26K Coal Creek Min 145.97 316 P PKPbc 00 58 22.9 -0.1
baz=106,SNR=8.3
KLU Klutina 145.98 308 P PKPbc 00 58 23.4 +0.2
baz=110
E27K Coleen River 146.10 321 P PKPbc 00 58 23.5 +0.1
baz=103
RIDG Independent Ri 146.22 312 PKPbc PKPbc 00 58 24.4 +0.5
RIDG Independent Ri 146.22 312 P PKPbc 00 58 24.2 +0.3
baz=107
PAX Paxson 146.26 311 PKPdf PKPdf 00 58 23.4 +0.5
PAX Paxson 146.26 311 P PKPbc 00 58 24.1 0.0
baz=108
J25K Salcha River, 146.69 314 P PKPbc 00 58 25.0 -0.2
baz=105
SCM Sheep Creek Mo 146.73 309 PKPbc PKPbc 00 58 25.7 +0.2
SCM Sheep Creek Mo 146.73 309 P PKPbc 00 58 25.2 -0.2
baz=108
PWL Port Wells 146.88 307 P PKPdf 00 58 25.0 +1.1
baz=109
M23K Glacier View 146.89 308 P PKPbc 00 58 25.5 -0.4
baz=108
F26K Sheenjek River 146.93 320 P PKPbc 00 58 26.2 +0.4
baz=102
BMAR Burnt Mountain 147.04 319 PKPdf PKPbc 00 58 25.4 -0.8
C27K Jago River 147.13 323 P PKPbc 00 58 26.4 +0.2
baz=99
WAT6 Susitna Watana 147.14 310 P PKPbc 00 58 26.3 -0.4
baz=107
SML Sawmill 147.17 308 PKPbc PKPbc 00 58 27.1 +0.4
ILAR Eielson Array 147.36 314 PKPbc PKPbc 00 58 26.2 -0.9
comp=Z,3.6nm,0.9s,baz=132,slow=2.2,SNR=22
ILAR Eielson Array 147.36 314 PKPbc PKPbc 00 58 27.0 0.0
GHO Glory Hole Cre 147.43 308 PKPbc PKPbc 00 58 28.0 +0.5
C26K Camden Bay 147.59 324 P PKPbc 00 58 27.8 +0.3
baz=98
CCB Clear Creek Bu 147.71 313 PKPbc PKPbc 00 58 27.2 -0.8
RND Reindeer 147.85 311 PKPbc PKPbc 00 58 29.2 +0.7
MCK McKinley 147.97 312 P PKPbc 00 58 28.5 -0.3
baz=104
M22K Willow 147.97 308 P PKPbc 00 58 28.5 -0.2
baz=106
H24K Noodor Dome 148.00 316 P PKPbc 00 58 28.4 -0.4
baz=102
G24K Hadweenzic Riv 148.01 317 P PKPbc 00 58 28.6 -0.2
baz=101
OHAK Old Harbor 148.02 299 P PKPbc 00 58 28.6 -0.4
baz=111
NEA2 Nenana 148.23 313 P PKPbc 00 58 29.1 -0.3
baz=103
H23K Yukon River 148.67 315 P PKPbc 00 58 30.2 -0.3
baz=100
SKT Skwentna 148.68 308 PKPbc PKPbc 00 58 30.3 -0.4
SKT Skwentna 148.68 308 P PKPbc 00 58 30.2 -0.4
baz=105
D24K Happy Valley 148.86 322 P PKPbc 00 58 30.4 -0.5
baz=96
C24K Franklin Bluff 148.87 323 P PKPbc 00 58 30.6 -0.2
baz=95
BPAW Bear Paw Mtn. 148.94 312 PKPbc PKPbc 00 58 31.3 0.0
BPAW Bear Paw Mtn. 148.94 312 P PKPbc 00 58 30.9 -0.3
baz=102
G23K Bananza Creek 149.01 317 P PKPbc 00 58 31.6 +0.2
baz=98
MLY Manley 149.02 314 P PKPbc 00 58 31.9 +0.4
baz=101
TOLK Toolik Lake Re 149.08 321 PKPbc PKPbc 00 58 31.3 -0.2
TOLK Toolik Lake Re 149.08 321 P PKPbc 00 58 31.6 +0.1
baz=96
COLD Coldfoot 149.15 318 P PKPbc 00 58 32.2 +0.5
baz=98
CAST Castle Rocks 149.27 310 P PKPbc 00 58 31.4 -0.7
baz=102
M20K Styx River 149.38 307 P PKPbc 00 58 31.8 -0.7
baz=104
H22K Ishtalitna Cre 149.43 315 P PKPbc 00 58 32.2 -0.2
baz=99
CHUM Lake Minchumin 149.46 311 P PKPbc 00 58 31.9 -0.6
baz=102
D23K Nanushuk River 149.51 321 P PKPbc 00 58 32.8 +0.2
baz=94
C23K Itkillik River 149.54 323 P PKPbc 00 58 32.4 -0.2
baz=93
G22K Bettles 149.62 317 P PKPbc 00 58 33.2 +0.4
baz=97
N19K Bonanza Creek 149.74 305 P PKPbc 00 58 32.4 -1.0
baz=105
O18K Koktuh Hills 149.83 303 P PKPbc 00 58 32.8 -0.7
baz=106
NRIK Noril'sk 149.89 38 PKPbc PKiKP 00 58 34.5 +0.2
comp=Z,1.9nm,0.8s,baz=298,slow=6.1,SNR=3.8
F22K John River 149.94 318 P PKPbc 00 58 33.4 -0.2
baz=95
M19K Big River Lodg 149.97 307 P PKPbc 00 58 33.6 -0.2
baz=103
H21K Melozitna Rive 149.97 315 P PKPbc 00 58 33.8 +0.1
baz=98
K20K Telida 150.13 310 P PKPbc 00 58 33.6 -0.6
baz=101
Q16K King Salmon 150.20 300 P PKPbc 00 58 33.9 -0.5
baz=107
P17K Kvichak River 150.24 301 P PKPbc 00 58 34.5 0.0
baz=106
J20K Nowinta River 150.31 311 P PKPbc 00 58 34.6 0.0
baz=100
CHGN Chignik 150.33 295 P PKPbc 00 58 34.9 +0.1
baz=110
G21K Allakaket 150.36 316 P PKPbc 00 58 35.2 +0.5
baz=96
IMAR Indian Mountai 150.40 315 PKPbc PKPbc 00 58 34.7 -0.1
F21K Alatna River 150.42 318 P PKiKP 00 58 35.5 0.0
baz=95
O17K Koliganek Bris 150.72 302 P PKPbc 00 58 36.2 +0.6
baz=105
SONM Songino Array 153.45 88 PKPbc PKPbc 00 58 41.8 -0.6
comp=Z,1.3nm,0.6s,baz=219,slow=3.3,SNR=5.4

*NEIC **21** 00:55:44.3±2.9, 54.05N±0.07×163.13W±0.08, h36km±48km, Error ellipse: s-maj=10.8km s-min=6.2km az=163.0*

AEIC 21 00:55:43.4±0.7, **53.86N**±0.04×**163.18W**±0.06, **h26**km±6km, **ML2.6**/25, **ML3.2**/6(NEIC), **Error ellipse: s-maj=6.0km s-min=5.5km az=181.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	0.86	338				Pb	00 55 57.7	-1.9
BRPK							Sb	00 56 07.8	-2.8
ISLZ	Isanotski Laza	0.93	340				Pn	00 55 58.5	-2.2
ISLZ							Sb	00 56 09.5	-3.2
SSLS	Shishaldin Sou	0.98	331				Pn	00 56 00.1	-1.5
SSLS							Sb	00 56 12.1	-2.3
WESE	West Dahl East	1.03	307				Pn	00 56 00.5	-1.8
ISNN	Isanotski Nort	1.04	340				Pn	00 56 01.1	-1.2
SSLN	Shishaldin Nor	1.07	334				Pn	00 56 01.8	-1.0
SSBA	Shishaldin	1.07	329				Pn	00 56 00.9	-1.9
WESN	West Dahl Nort	1.09	311				Pn	00 56 01.5	-1.5
WESP	Westdahl Peak	1.11	306				Pn	00 56 01.5	-1.7
WECS	Westdahl Cape	1.16	306				Pn	00 56 02.4	-1.5
WECS							Sn	00 56 18.4	-0.5
DT1	Dutton Round H	1.36	22				Pn	00 56 05.1	-1.5
AKSA	Akutan Strait	1.51	282				Pn	00 56 07.0	-1.8
AKUT	Akutan	1.56	281				Pn	00 56 07.8	-1.5
AKUT							Sn	00 56 28.8	+0.1
AKUT					IAML			00 56 31.2	
	comp=N,166nm,4.0s								
ZRO	Akutan Zero	1.67	279				Pn	00 56 09.2	-1.7
AKMO	Akutan Morgan	1.69	279				Pn	00 56 09.4	-1.7
UNV	Unalaska Valle	1.97	271				Pn	00 56 13.3	-1.7
SDPT	Sand Point	2.17	45				Pn	00 56 16.5	-1.2
SDPT					IAML			00 56 46.3	
	comp=E,200nm,1.6s								
SDPT					IAML			00 57 01.4	
	comp=N,148nm,2.8s								
MAPS	Pakushin South	2.23	270				Pn	00 56 17.0	-1.7
CHGN	Chignik	3.67	46	Pn		Pn	Pn	00 56 38.9	+0.5
CHGN					IAML			00 58 50.6	
	comp=N,91nm,2.4s								

*IDC **21** 01:01:27.9±1.7, 65.46N×144.86W, h0km, mb3.4/1, mbtmp3.3/2, ML2.8/1, Error ellipse: s-maj=15.6km s-min=11.1km az=175.0*

*AEIC **21** 01:01:27±1.9, 65.42N±0.02×144.69W±0.04, h5km±5km, ML3.3, ML3.4/112(NEIC), Error ellipse: s-maj=3.2km s-min=2.5km az=152.0*

*NEIC **21** 01:01:28.0±1.4, 65.44N±0.02×144.73W±0.05, h7km±5km, Error ellipse: s-maj=3.1km s-min=2.8km az=145.0*

ISC 21 01:01:27.4±1.1, **65.45N**±0.02×**144.71W**±0.02, **h3**km±11km, **n171**,**o087**/183, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRP	Porcupine Dome	0.34	282	Pg		**Pg**	**Pg**	**01 01 34.6**	**+0.7**
PRP				Sg			**Sg**	**01 01 38.5**	**-0.1**
PRP					IAML			01 01 39.8	
	comp=N,4μm,0.3s								
PRP					IAML			01 01 39.9	
	comp=E,6μm,0.4s								
PRP	Porcupine Dome	0.34	282	P		**Pg**		**01 01 34.7**	**+0.7**
PRP				S		**Sg**		**01 01 39.3**	**+0.7**
	baz=106								
I26K	Coal Creek Min	0.67	102			**Pg**		**01 01 40.3**	**+0.1**

I26K Sg 01 01 48.8 0.0
I26K Coal Creek Min 0.67 102 P Pg 01 01 40.4 +0.2
baz=281
I26K S Sg 01 01 49.4 +0.6
baz=281
J25K Salcha River, 0.89 199 Pg 01 01 44.5 +0.2
J25K Sg Sg 01 01 55.6 -0.2
J25K IAML 01 01 56.2
comp=E,1µm,0.4s
J25K Salcha River, 0.89 199 P Pg 01 01 44.5 +0.2
baz=19
J25K S Sg 01 01 55.6 -0.2
baz=19
H25K Birch Creek 0.94 332 Pb 01 01 46.5 +0.3
H25K Birch Creek 0.94 332 P Pb 01 01 46.5 +0.3
baz=151
J26L Joseph Creek 1.07 152 Pg 01 01 48.1 +0.2
J26L Sg Sg 01 02 01.7 0.0
J26L IAML 01 02 05.2
comp=E,798nm,0.5s
J26L Joseph Creek 1.07 152 P Pg 01 01 48.1 +0.2
baz=333
J26L S Sg 01 02 01.7 0.0
baz=333
FYU Fort Yukon 1.14 350 Pn 01 01 50.6 +0.4
FYU IAML 01 02 08.3
comp=N,1µm,0.8s
IL31 1.14 234 Pg 01 01 48.9 -0.3
IL31 Sg Sg 01 02 04.1 +0.1
ILAR Eielson Array 1.14 234 Pg Pg 01 01 49.0 -0.3
comp=N,113nm,0.3s,baz=51,slow=16,SNR=598
ILAR Lg Lg 01 02 03.7
comp=N,186nm,0.3s,baz=50,slow=27,SNR=18
ILAR Eielson Array 1.14 234 Pg 01 01 48.9 -0.4
POKR Poker Plat Res 1.19 255 Pg 01 01 50.1 -0.1
POKR Sg Sg 01 02 05.5 0.0
POKR Poker Plat Res 1.19 255 P Pg 01 01 50.0 -0.1
baz=74
PS08 TAPS Pump Stn8 1.28 225 Pg 01 01 51.7 -0.1
PS08 Sg 01 02 08.2 -0.1
I27K Kandik River 1.30 82 Pn 01 01 51.8 -0.6
I27K Kandik River 1.30 82 P Pn 01 01 51.8 -0.6
baz=263
H24K Noodor Dome 1.37 288 Pn 01 01 53.5 +0.1
H24K Sg Sg 01 02 10.5 -0.7
H24K IAML 01 02 13.1
comp=E,756nm,0.7s
H24K IAML 01 02 15.3
comp=N,867nm,0.6s
H24K Noodor Dome 1.37 288 P Pn 01 01 53.5 +0.1
baz=106
HDA Harding Lake 1.41 223 Pn 01 01 53.9 -0.1
HDA IAML 01 02 15.2
comp=N,623nm,0.3s
HDA Harding Lake 1.41 223 P Pn 01 01 54.2 +0.3
baz=42
HDA S Sb 01 02 11.8 -0.9
baz=42
HDA S Sb 01 02 11.8 -0.9
baz=42
COLA College 1.45 248 Pn 01 01 54.6 +0.3
TCOL CIGO, UAF Yank 1.45 248 Pn 01 01 54.7 +0.3
PS07 TAPS Pump Stn7 1.50 266 Pn 01 01 55.3 +0.2
SCRK Sand Creek 1.51 168 Pn Pn 01 01 55.8 +0.4
SCRK IAML 01 02 17.4
comp=E,493nm,0.5s
SCRK Sand Creek 1.51 168 P Pb 01 01 56.0 -0.1
baz=349
H27K Steamboat Moun 1.53 58 Pn 01 01 55.0 -0.5
H27K Steamboat Moun 1.53 58 P Pn 01 01 55.0 -0.5
baz=239
CCB Clear Creek Bu 1.54 240 Pn 01 01 55.1 -0.5
CCB IAML 01 02 17.5
comp=N,538nm,0.5s
CCB IAML 01 02 20.4
comp=E,533nm,0.4s
G26K Porcupine Rive 1.55 14 Pn 01 01 55.9 0.0
G26K Porcupine Rive 1.55 14 P Pn 01 01 55.9 0.0
baz=194
MDM Murphy Dome 1.56 253 Pn Pn 01 01 55.8 -0.2
MDM IAML 01 02 20.3
comp=N,518nm,0.5s
EGAK Eagle 1.65 113 Pn 01 01 57.3 +0.1
EGAK IAML 01 02 24.0
comp=N,525nm,0.9s
EGAK Eagle 1.65 113 P Pn 01 01 57.3 +0.1
baz=295
G24K Hadweenzic Riv 1.69 319 Pn 01 01 57.7 0.0
G24K Hadweenzic Riv 1.69 319 P Pn 01 01 57.7 0.0
baz=137
K24K Donnelly Dome 1.71 196 Pn 01 01 59.0 -0.4
K24K Donnelly Dome 1.71 196 P Pb 01 01 59.0 -0.4
baz=16
RIDG Independent Ri 1.72 182 Pn Pn 01 01 58.5 +0.3
RIDG IAML 01 02 24.9
comp=E,476nm,0.4s
RIDG Independent Ri 1.72 182 P Pn 01 01 58.8 +0.7
baz=2.2
WRH Wood River Hil 1.74 237 Pn Pn 01 01 58.0 -0.4
WRH IAML 01 02 23.4
comp=E,334nm,1.0s
K27K Chicken 1.82 140 Pn Pn 01 01 59.9 +0.4
K27K IAML 01 02 28.2
comp=N,310nm,0.4s
K27K IAML 01 02 28.9
comp=E,416nm,0.4s
K27K Chicken 1.82 140 P Pn 01 02 00.2 +0.7
baz=322
DOT Dot Lake 1.83 171 Pn Pn 01 01 60.0 +0.3
G27K Doyon Strip 1.85 41 Pn 01 01 59.5 -0.4
G27K Doyon Strip 1.85 41 P Pn 01 01 59.5 -0.4
baz=223
BMAR Burnt Mountain 1.99 1 Pn Pn 01 02 02.0 +0.1
H23K Yukon River 2.04 283 Pn Pn 01 02 02.2 -0.3
H23K IAML 01 02 33.5
comp=N,398nm,1.1s
H23K IAML 01 02 37.0
comp=E,311nm,0.6s
H23K Yukon River 2.04 283 P Pn 01 02 02.2 -0.3
baz=99
NEA2 Nenana 2.04 247 Pn Pn 01 02 01.8 -0.8
NEA2 IAML 01 02 39.9
comp=N,328nm,0.7s
NEA2 Nenana 2.04 247 P Pn 01 02 02.2 -0.3
baz=64
PS06 TAPS Pump Stn6 2.12 283 Pn 01 02 03.4 -0.2
F25K Christian Rive 2.19 351 Pn 01 02 05.2 +0.6
F25K Christian Rive 2.19 351 P Pn 01 02 05.2 +0.6
baz=170
F26K Sheenjek River 2.27 5 Pn 01 02 06.2 +0.5
F26K Sheenjek River 2.27 5 P Pn 01 02 06.2 +0.5
baz=186
BWN Browne 2.40 240 Pn Pn 01 02 06.7 -0.8
F24K Squaw Lake 2.44 330 Pn 01 02 08.8 +0.8
F24K Squaw Lake 2.44 330 P Pn 01 02 08.8 +0.8
baz=147
L26K Log Cabin Wild 2.51 166 Pn Pn 01 02 09.2 +0.2
L26K Log Cabin Wild 2.51 166 P Pn 01 02 09.5 +0.5
baz=347
G23K Bananza Creek 2.51 303 Pn 01 02 08.8 -0.1
G23K Bananza Creek 2.51 303 P Pn 01 02 08.8 -0.1
baz=118
MCK McKinley 2.51 228 Pn Pn 01 02 09.2 +0.3
MCK McKinley 2.51 228 P Pn 01 02 09.4 +0.4
baz=45
PAX Paxson 2.51 188 Pn Pn 01 02 09.0 -0.1
PAX Paxson 2.51 188 P Pn 01 02 07.9 -1.2
baz=7.5
MENT Mentasta 2.56 170 Pn Pn 01 02 10.0 +0.3
MLY Manley 2.57 263 Pn Pn 01 02 08.6 -1.3
MLY IAML 01 02 52.4
comp=N,159nm,0.4s
MLY IAML 01 02 56.4
comp=E,188nm,0.6s
MLY Manley 2.57 263 P Pn 01 02 09.2 -0.6
baz=78
DHY Denali Highway 2.65 207 Pn Pn 01 02 11.8 +0.7
DHY IAML 01 02 52.1
comp=E,178nm,0.5s
DHY Denali Highway 2.65 207 P Pn 01 02 12.0 +0.9
baz=25
DAWY Dawson 2.67 119 Pn Pn 01 02 10.9 -0.4
DAWY IAML 01 02 55.4
comp=E,246nm,0.5s
DAWY Dawson 2.67 119 P Pn 01 02 11.0 -0.3
baz=303

I29M Ogilvie Camp, 2.68 89 Pn Pn 01 02 11.7 +0.4
E25K Arctic Village 2.71 353 Pn 01 02 12.4 +0.8
E25K Arctic Village 2.71 353 P Pn 01 02 12.4 +0.8
baz=172
L27K Beaver Creek, 2.71 151 Pn Pn 01 02 11.8 +0.1
L27K IAML 01 02 52.9
comp=E,133nm,0.5s
L27K IAML 01 02 55.5
comp=N,133nm,0.5s
L27K Beaver Creek, 2.71 151 P Pn 01 02 12.0 +0.2
baz=333
BCAR Beaver Creek A 2.71 151 Pn Pn 01 02 11.7 -0.1
RND Reindeer 2.73 223 Pn Pn 01 02 12.5 +0.5
H22K Ishtalitna Cre 2.79 282 Pn 01 02 12.5 -0.4
H22K Ishtalitna Cre 2.79 282 P Pn 01 02 12.5 -0.4
baz=97
COLD Coldfoot 2.84 311 Pn Pn 01 02 14.1 +0.5
COLD Coldfoot 2.84 311 P Pn 01 02 13.9 +0.4
baz=127
BPAW Bear Paw Mtn. 3.01 246 Pn Pn 01 02 14.9 -0.9
BPAW IAML 01 03 06.7
comp=E,154nm,0.5s
BPAW IAML 01 03 12.1
comp=N,127nm,0.7s
BPAW Bear Paw Mtn. 3.01 246 P Pn 01 02 15.1 -0.7
baz=61
E27K Coleen River 3.01 23 Pn 01 02 15.9 0.0
E27K Coleen River 3.01 23 P Pn 01 02 15.9 0.0
baz=205
E24K Your Creek 3.03 332 Pn 01 02 17.1 +0.9
E24K Your Creek 3.03 332 P Pn 01 02 17.1 +0.9
baz=149
I21K Tanana 3.06 268 Pn Pn 01 02 15.9 -0.7
I21K Tanana 3.06 268 P Pn 01 02 16.0 -0.5
baz=82
WAT1 Susitna Watana 3.12 214 Pn 01 02 18.4 +0.9
WAT1 Susitna Watana 3.12 214 P Pn 01 02 18.4 +0.9
baz=31
TRF Thorofare Moun 3.14 233 Pn Pn 01 02 18.2 +0.4
TRF Thorofare Moun 3.14 233 P Pn 01 02 18.3 +0.4
baz=48
M26K Nabesna, AK 3.15 165 Pn Pn 01 02 18.4 +0.5
M26K IAML 01 03 11.3
comp=N,91nm,0.6s
M26K IAML 01 03 14.4
comp=E,94nm,0.5s
WAT7 Susitna Watana 3.19 216 Pn 01 02 19.2 +0.8
E23K Chandalar 3.26 326 P Pn 01 02 20.9 +1.5
baz=141
KTH Kantishna Hill 3.29 238 Pn Pn 01 02 20.9 +1.1
KTH IAML 01 03 16.4
comp=N,84nm,1.1s
KTH IAML 01 03 17.8
comp=E,107nm,0.7s
M27K Edge Creek, AK 3.35 157 Pn Pn 01 02 22.1 +1.6
M27K Edge Creek, AK 3.35 157 P Pn 01 02 22.2 +1.6
baz=339
H21K Melozitna Rive 3.37 277 Pn Pn 01 02 21.4 +0.6
H21K IAML 01 03 13.6
comp=E,98nm,0.8s
H21K IAML 01 03 20.6
comp=N,114nm,1.1s
H21K Melozitna Rive 3.37 277 P Pn 01 02 20.0 -0.8
baz=90
EPYK Eagle Plains 3.41 71 Pn 01 02 21.7 +0.3
EPYK IAML 01 03 21.8
comp=E,81nm,0.7s
EPYK IAML 01 03 24.4
comp=N,96nm,0.8s
EPYK Eagle Plains 3.41 71 P Pn 01 02 20.6 -0.7
baz=257
M24K Tolsona, Glenn 3.42 192 Pn Pn 01 02 22.9 +1.4
M24K IAML 01 03 19.9
comp=E,104nm,1.9s
M24K IAML 01 03 26.2
comp=N,96nm,1.1s
K29M Barlow Dome 3.49 114 Pn 01 02 21.7 -0.8
K29M Barlow Dome 3.49 114 P Pn 01 02 21.7 -0.8
baz=300
CHUM Lake Minchumin 3.63 248 Pn 01 02 24.7 +0.4
CHUM Lake Minchumin 3.63 248 P Pn 01 02 24.7 +0.4
baz=61
F22K John River 3.64 308 Pn 01 02 25.2 +0.8
F22K John River 3.64 308 P Pn 01 02 25.2 +0.8
baz=122
L29M L29M 3.71 126 Pn 01 02 25.5 0.0
L29M L29M 3.71 126 P Pn 01 02 25.5 0.0
baz=312
TOLK Toolik Lake Re 3.73 331 Pn Pn 01 02 25.7 0.0
TOLK Toolik Lake Re 3.73 331 P Pn 01 02 27.2 +1.5
baz=147
G21K Allakaket 3.75 291 Pn 01 02 25.9 -0.2
G21K Allakaket 3.75 291 P Pn 01 02 25.8 -0.2
baz=133
IMAR Indian Mountai 3.77 282 Pn 01 02 25.8 -0.5
CAST Castle Rocks 3.79 241 Pn Pn 01 02 24.8 -1.8
CAST IAML 01 03 33.2
comp=N,61nm,0.7s
CAST IAML 01 03 35.1
comp=E,57nm,0.7s
CAST Castle Rocks 3.79 241 P Pn 01 02 25.8 -0.7
baz=55
SCM Sheep Creek Mo 3.81 199 Pn Pn 01 02 27.8 +0.9
SCM IAML 01 03 27.1
comp=E,97nm,1.3s
SCM Sheep Creek Mo 3.81 199 P Pn 01 02 29.5 +2.6
baz=17
N25K Chitina, Valde 3.86 179 Pn Pn 01 02 28.1 +0.5
CUT Chulitna 3.92 221 Pn Pn 01 02 28.5 +0.2
F21K Alatna River 3.96 301 Pn 01 02 29.1 +0.2
F21K Alatna River 3.96 301 P Pn 01 02 29.1 +0.2
baz=113
SML Sawmill 4.00 205 Pn Pn 01 02 29.9 +0.5
SML IAML 01 03 36.2
comp=N,56nm,0.9s
SML IAML 01 03 37.7
comp=E,76nm,1.0s
SML Sawmill 4.00 205 P Pn 01 02 31.4 +1.9
baz=22
KLU Klutina 4.01 188 Pn Pn 01 02 30.8 +1.1
KLU IAML 01 03 36.1
comp=N,50nm,0.7s
M29M Somme Creek 4.09 135 Pn 01 02 31.3 +0.5
M29M Somme Creek 4.09 135 P Pn 01 02 31.3 +0.5
baz=320
C27K Jago River 4.21 5 Pn 01 02 34.1 +1.7
C27K Jago River 4.21 5 P Pn 01 02 34.1 +1.7
baz=186
D23K Nanushuk River 4.22 329 Pn 01 02 34.2 +1.7
D23K Nanushuk River 4.22 329 P Pn 01 02 34.2 +1.7
baz=144
J20K Nowinta River 4.23 257 Pn Pn 01 02 31.8 -0.7
J20K Nowinta River 4.23 257 P Pn 01 02 31.8 -0.7
baz=69
PMR Palmer 4.35 209 Pn Pn 01 02 34.0 -0.1
KNK Knik Glacier 4.39 204 Pn Pn 01 02 33.6 -1.2
KNK IAML 01 03 46.2
comp=N,41nm,0.6s
KNK IAML 01 03 46.6
comp=E,40nm,0.6s
M30M Minto, Yukon 4.52 126 Pn Pn 01 02 35.5 -1.2
M30M Minto, Yukon 4.52 126 P Pn 01 02 36.2 -0.5
baz=313
K20K Telida 4.57 247 Pn 01 02 36.6 -0.7
K20K Telida 4.57 247 IAML 01 03 55.8
comp=E,43nm,0.8s
K20K IAML 01 03 57.0
comp=N,45nm,0.6s
K20K Telida 4.57 247 P Pn 01 02 36.6 -0.7
baz=59
SKT Skwentna 4.62 224 Pn Pn 01 02 38.2 +0.3
SKT IAML 01 03 50.5
comp=E,34nm,0.9s
SKT IAML 01 03 53.1
comp=N,29nm,0.8s
SKT Skwentna 4.62 224 P Pn 01 02 39.1 +1.2
baz=38
LOGN Logan Glacier 4.94 158 Pn Pn 01 02 45.8 +3.3
ISLE Juniper Island 4.98 166 Pn Pn 01 02 45.6 +2.5
ISLE IAML 01 04 32.3
comp=N,27nm,1.6s
M20K Styx River 5.18 230 Pn 01 02 47.1 +1.3
M20K Styx River 5.18 230 IAML 01 04 19.3
M20K IAML 01 04 25.9
comp=E,24nm,1.3s
baz=43
INK Inuvik 5.26 52 Pn Pn 01 02 46.7 +0.1
INK Inuvik 5.26 52 P Pn 01 02 46.6 -0.1
baz=242
N30M Aishikik Lake 5.26 136 Pn 01 02 47.7 +0.8
N30M Aishikik Lake 5.26 136 P Pn 01 02 47.7 +0.8
baz=323
TABL Table Mountain 5.29 160 Pn Pn 01 02 47.7 +0.4
TABL IAML 01 04 25.2
comp=E,19nm,1.3s
TABL IAML 01 04 25.5
comp=N,21nm,1.5s
SPU Mount Spurr 5.41 221 Pn Pn 01 02 50.7 +1.9
L19K White Mountain 5.56 239 Pn Pn 01 02 50.9 +0.1
M19K Big River Lodg 5.58 235 Pn Pn 01 02 50.3 -0.8
M31M Drury Creek, Y 5.61 121 Pn Pn 01 02 52.2 +0.6
N31M Braeburn, Yuko 5.64 131 Pn Pn 01 02 52.8 +0.8
HYT Haines Junctio 5.67 142 Pn Pn 01 02 53.8 +1.2
WHY Whitehorse 6.56 133 Pn Pn 01 03 06.2 +1.5
DLBC Dease Lake 9.84 129 Pn Pn 01 03 51.6 +2.0
YKA Yellowknife Ar 13.47 89 Pn Pn 01 04 35.7 -3.4
comp=N,0.1nm,0.3s,baz=296,slow=13,SNR=1.7
comp=N,0.3nm,0.6s
NVAR Mina Array Bea 31.10 137 P P 01 07 49.4 +2.6
comp=N,0.3nm,0.7s,baz=310,slow=7.2,SNR=3.8
comp=N,0.3nm,0.7s

---

*IDC **21** 01:08:44.8±0.5, 12°.55S×43°.28E, h0km, mb4.5/24, mbtmp4.5/24, ML5.6/1, MS4.4/66, Error ellipse: s-maj=15.7km s-min=11.9km az=105.0*
*MOS **21** 01:08:44.2±1.6, 12°.47S×43°.33E, h10km, mb5.0/39, MS4.3/5, Error ellipse: s-maj=10.8km s-min=5.1km az=86.1*
*NEIC **21** 01:08:44.2±1.5, 12°.47S±0°.07×43°.30E±0°.03, h10km±1km, mb5.1/68, Error ellipse: s-maj=13.3km s-min=2.8km az=203.0*
*BJI **21** 01:08:45.5±0.0, 12°.50S×43°.30E, h10km, mb4.8/37, mB5.1/26, Ms4.8/23, Ms7 4.6/25*
*GCMT **21** 01:08:49.2±0.1, 12°.48S±0°.01×43°.32E±0°.01, h15km, MW5.2/142, Moment Tension Solution. s86,c128; s142,c260; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.41±.11; Mθθ-0.08±.10; Mφφ-0.32±.11; Mrθ-5.48±.30; Mθφ-5.85±.07; Mrφ2.34±.31; Best double couple: M08.12600×10^16 NP1:φs270.00000°, δ84.00000°, λ138.00000°. NP2:φs6.00000°, δ49.00000°, λ8.00000°. Principal axes: T 9.2560, Plg33.0000°, Azm219.0000°; N -2.2600, Plg48.0000°, Azm83.0000°; P -6.9970, Plg23.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 01:08:45.2±0.6, 12°.58S±0°.04×43°.25E±0°.05, h11km±3km, h11km:pP-P, n461, σ1§92/418, mb5.0/132, MS4.5/81, 42C-21D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBV	**Sambava**	**6.56**	**98**	P	**Pn**	**01 10 19.9**	**-1.8**
	SNR=100						
OPO	**Ambohidratompo**	**7.06**	**148**	Pn	**Pn**	**01 10 28.1**	**-0.6**
	10nm,0.3s,baz=310,slow=12,SNR=925						
OPO				Sn	Sn	01 11 41.1	-8.1
	7.2nm,0.3s,baz=263,slow=22,SNR=1.7						
ABPO	**Ambohimpanom**	**7.46**	**150**	Pn	**Pn**	**01 10 33.6**	**-0.6**
ABPO	**Ambohimpanom**	**7.46**	**150**	P	**Pn**	**01 10 33.6**	**-0.6**
ZOMB	**Zomba**	**8.16**	**249**	*i* P	**Pn**	**01 10 44.2**	**+0.5**
ZOMB				S	Sn	01 12 08.9	-7.1
ZOMB	**Zomba**	**8.16**	**249**	*i* P	**Pn**	**01 10 44.2**	**+0.5**
ZOMB				S	Sn	01 12 08.9	-7.1
KARM1	**KARONGA**	**9.54**	**285**	*i* P	**Pn**	**01 11 01.1**	**-1.5**
KARM1				S	Sn	01 12 40.7	-9.2
KARM1	**KARONGA**	**9.54**	**285**	*i* P	**Pn**	**01 11 01.1**	**-1.5**
KARM1				S	Sn	01 12 40.7	-9.2
VOI	**Vohitsoka**	**9.87**	**160**	Pn	**Pn**	**01 11 05.8**	**-1.5**
VOI	**Vohitsoka**	**9.87**	**160**	P	**Pn**	**01 11 06.8**	**-0.5**
KIBK	**Kibwezi**	**11.40**	**333**	Pn	Pn	01 11 23.4	-4.8
FOMA	**Nahampoana Res**	**12.82**	**165**	Pn	**Pn**	**01 11 47.3**	**-0.2**
KMBO	**Kilima Mbogo**	**12.84**	**332**	Pn	**Pn**	**01 11 43.9**	**-4.2**
	3.1nm,0.3s,baz=142,slow=13,SNR=44						
KMBO				Sn	Sn	01 13 57.8	-13
	4.0nm,0.3s,baz=50,slow=22,SNR=2.0						
KMBO				LR	LR	01 16 23.2	
	comp=Z,1µm,20.8s,baz=148,slow=36						
KMBO	**Kilima Mbogo**	**12.84**	**332**	Pn	**Pn**	**01 11 43.6**	**-4.4**
KMBO	**Kilima Mbogo**	**12.84**	**332**	‖*eP*	**Pn**	**01 11 44.0**	**-4.0**
KMBO				pmax	pmax		
	comp=Z,18nm,0.6s						
MSEY	**Mahe Island**	**14.41**	**58**	Pn	**Pn**	**01 12 04.9**	**-4.5**
MSEY	**Mahe Island**	**14.41**	**58**	P	**Pn**	**01 12 04.9**	**-4.5**
RER	**Riviere de l'E**	**14.68**	**127**		**Pn**	**01 12 10.1**	**-3.0**
RER	**Riviere de l'E**	**14.68**	**127**	P	**Pn**	**01 12 10.5**	**-2.6**
	SNR=5.1						
LSZ	**Lusaka**	**14.86**	**258**	Pn	**Pn**	**01 12 13.7**	**-1.9**
	comp=Z,15nm,0.3s,baz=86,slow=11,SNR=189						
LSZ				Sn	Sn	01 14 49.2	-11
	comp=Z,5.7nm,0.3s,baz=354,slow=23,SNR=5.8						
LSZ				LR	LR	01 17 41.1	
	comp=Z,893nm,18.7s,baz=88,slow=36						
LSZ	**Lusaka**	**14.86**	**258**	‖*iP*	**Pn**	**01 12 13.8**	**-1.7**
MOPA	**Mopani**	**15.65**	**224**	‖*iP*	**Pn**	**01 12 22.1**	**-3.7**
MOPA	**Mopani**	**15.65**	**224**	*i* P	**Pn**	**01 12 23.6**	**-2.2**
MOPA				*i* S	Sn	01 15 08.0	-11
MOPA	**Mopani**	**15.65**	**224**	*i* P	**Pn**	**01 12 23.6**	**-2.2**
MOPA				*i* S	Sn	01 15 08.0	-11
BLWY	**Bulawayo**	**15.92**	**240**	*i* P	**P**	**01 12 32.8**	**-0.4**
BLWY				*i* S	**Sn**	**01 15 24.4**	**-1.9**
BLWY	**Bulawayo**	**15.92**	**240**	*i* P	**P**	**01 12 32.8**	**-0.4**
BLWY				*i* S	**Sn**	**01 15 24.4**	**-1.9**
MUSN	**Musina, Limpop**	**16.00**	**231**	‖*iP*	**Pn**	**01 12 29.0**	**-1.5**
MUSN	**Musina, Limpop**	**16.00**	**231**	*i* P	**Pn**	**01 12 30.3**	**-0.1**
MUSN				*i* S	**Sn**	**01 15 20.3**	**-7.7**
MUSN	**Musina, Limpop**	**16.00**	**231**	*i* P	**Pn**	**01 12 30.3**	**-0.1**
MUSN				*i* S	**Sn**	**01 15 20.3**	**-7.7**
MBAR	**Mbarara**	**17.19**	**313**	P	**Pn**	**01 12 43.6**	**-2.1**
	comp=Z,22nm,0.3s,baz=120,slow=13,SNR=8.1						
MBAR	**Mbarara**	**17.19**	**313**	Pn	**Pn**	**01 12 43.1**	**-2.6**
MBAR	**Mbarara**	**17.19**	**313**	*ceP*	**Pn**	**01 12 43.4**	**-2.3**
MBAR	**Mbarara**	**17.19**	**313**	P	**Pn**	**01 12 43.7**	**-2.0**
MMAL	**MMAL**	**17.55**	**218**	*eP*	**Pn**	**01 12 49.9**	**-0.2**
LODK	**Lodwar**	**17.72**	**333**		**P**	**01 12 52.2**	**-0.9**
LODK	**Lodwar**	**17.72**	**333**	P	**P**	**01 12 54.8**	**+1.7**
	SNR=6.8						
POGA	**Pongola**	**18.24**	**215**	P	**Pn**	**01 12 57.5**	**-0.9**
POGA				IAmb	IAmb	01 13 04.1	
	comp=Z,192nm,1.0s						
POGA	**Pongola**	**18.24**	**215**	*eP*	**Pn**	**01 12 58.8**	**+0.3**
CRLN	**Carolina, Mapu**	**18.25**	**221**	*eP*	**Pn**	**01 12 58.6**	**-0.2**
LEPH	**Lephalale, Lim**	**18.45**	**230**	‖*iP*	**P**	**01 13 00.5**	**-0.6**
SLR	**Silverton**	**19.24**	**225**	*eP*	**Pn**	**01 13 12.2**	**+1.5**
NWCL	**Newcastle**	**19.58**	**218**	↑*iP*	**P**	**01 13 15.2**	**+1.7**
WDLM	**Western Deep L**	**20.27**	**225**	*eP*	**P**	**01 13 21.5**	**+0.4**
KSR	**Koster**	**20.28**	**227**	*eP*	**P**	**01 13 21.9**	**+0.7**
KSR				IAmb	IAmb	01 13 23.3	
	comp=Z,91nm,0.9s						
PRYS	**Parys**	**20.64**	**224**	↑*iP*	**P**	**01 13 25.8**	**+0.8**
PRYS				IAmb	IAmb	01 13 30.1	
	comp=Z,220nm,0.9s						
LBTB	**Lobatse**	**20.76**	**231**	P	**P**	**01 13 27.7**	**+1.4**
	comp=Z,248nm,1.0s,baz=54,slow=11,SNR=130						
LBTB				LR	LR	01 21 36.1	
	comp=Z,2µm,18.5s,baz=52,slow=37						
LBTB	**Lobatse**	**20.76**	**231**	P	**P**	**01 13 26.3**	**0.0**
LBTB	**Lobatse**	**20.76**	**231**	*eP*	**P**	**01 13 28.0**	**+1.7**
LBTB	**Lobatse**	**20.76**	**231**	*i* P	**P**	**01 13 27.3**	**+1.0**
LBTB	**Lobatse**	**20.76**	**231**	*i* P	**P**	**01 13 27.3**	**+1.0**
SNKL	**Senekal, Frees**	**21.27**	**220**	*eP*	**P**	**01 13 32.1**	**+0.1**
FURI	**Furi**	**21.81**	**348**	P	**P**	**01 13 39.2**	**+1.2**
FURI				IAmb	IAmb	01 13 51.3	
	comp=Z,91nm,1.0s						
KSTD	**Kokstad**	**22.10**	**214**	*eP*	**P**	**01 13 43.0**	**+2.3**
SWZ	**Schweizer**	**22.20**	**226**	*eP*	**P**	**01 13 40.3**	**-1.6**
BOSA	**Boshof**	**23.14**	**224**	P	**P**	**01 13 51.5**	**-0.3**
	comp=Z,237nm,0.9s,baz=53,slow=10,SNR=168						
BOSA				LR	LR	01 23 32.7	
	comp=Z,3µm,18.5s,baz=68,slow=38						
BOSA	**Boshof**	**23.14**	**224**	P	**P**	**01 13 51.0**	**-0.8**
BOSA	**Boshof**	**23.14**	**224**	*i* P	**P**	**01 13 52.2**	**+0.3**
BOSA	**Boshof**	**23.14**	**224**	*i* P	**P**	**01 13 52.2**	**+0.3**
RUDU	**RUNDU**	**23.30**	**254**	*eP*	**P**	**01 13 54.1**	**+0.7**

RUDU IAmb IAmb 01 14 08.7
comp=Z,165nm,1.0s
ATD Arta Tunnel 23.96 359 P **P 01 14 00.9 +1.1**
comp=Z,27nm,0.9s,baz=178,slow=5.5,SNR=20
comp=Z,27nm,0.9s
ATD Arta Tunnel 23.96 359 P **P 01 14 00.0 +0.2**
HVD Gariep Dam 24.31 220 *eP* **P 01 14 02.7 -0.4**
HVD IAmb IAmb 01 14 14.2
comp=Z,167nm,1.3s
TSUM Tsumeb 25.53 252 P **P 01 14 15.4 +1.1**
comp=Z,39nm,0.9s,baz=73,slow=7.5,SNR=32
TSUM LR LR 01 23 43.5
comp=Z,2µm,18.0s,baz=76,slow=35
comp=Z,39nm,0.9s
TSUM Tsumeb 25.53 252 P **P 01 14 12.7 -1.6**
TSUM Tsumeb 25.53 252 *eP* **P 01 14 13.8 -0.4**
SOE Somerset East 25.77 216 P **P 01 14 16.0 -0.2**
SOE IAmb IAmb 01 14 19.1
comp=Z,60nm,1.2s
UPI Upington 25.83 229 *eP* **P 01 14 16.9 0.0**
GRAF Camdeboo Natio 26.09 218 *eP* **P 01 14 18.8 -0.4**
GRAF IAmb IAmb 01 14 38.9
comp=Z,77nm,1.1s
KEIM Keimoes 26.23 229⇑ *iP* **P 01 14 21.2 +0.7**
KEIM IAmb IAmb 01 14 22.1
comp=Z,134nm,0.9s
WIN Windhoek 26.79 245 *eP* **P 01 14 29.2 +3.4**
ROOI Rooidraai Farm 26.81 219 *eP* **P 01 14 26.2 +0.5**
ROOI IAmb IAmb 01 14 29.1
comp=Z,105nm,1.2s
GRAN Grantham 27.55 221 *eP* **P 01 14 33.2 +0.9**
GRAN IAmb IAmb 01 14 34.3
comp=Z,38nm,0.9s
FRAZ Fraserburg 27.81 223 *eP* **P 01 14 35.2 +0.4**
FRAZ IAmb IAmb 01 14 36.4
comp=Z,325nm,1.9s
MERW Merweville 28.21 221 *eP* **P 01 14 37.8 -0.5**
SUR Sutherland 28.49 223 P **P 01 14 42.0 +1.2**
comp=Z,51nm,0.6s,baz=59,slow=9.2,SNR=70
SUR LR LR 01 26 33.4
comp=Z,1µm,19.1s,baz=54,slow=38
SUR Sutherland 28.49 223 P **P 01 14 40.2 -0.6**
CVNA Calvinia 28.66 225 *eP* **P 01 14 43.1 +0.8**
CVNA IAmb IAmb 01 14 43.8
comp=Z,116nm,0.9s
CER Ceres 30.10 223 *eP* **P 01 14 56.2 +1.3**
CER IAmb IAmb 01 14 59.6
comp=Z,12nm,0.9s
ELIM Elim 30.58 220 *eP* **P 01 14 59.3 +0.2**
ELIM IAmb IAmb 01 15 01.4
comp=Z,139nm,1.5s
DOK Doka 32.80 19 P **P 01 15 20.9 +2.1**
SNR=6.3
DOK P **P 01 15 20.9 +2.1**
SNR=6.3
RAYN Ar Rayn 35.95 4 P **P 01 15 43.5 -2.6**
RAYN IAmb IAmb 01 15 57.6
comp=Z,38nm,1.1s
RAYN Ar Rayn 35.95 4 P **P 01 15 43.5 -2.6**
RAYN pmax pmax
comp=Z,38nm,1.2s
RAYN Ar Rayn 35.95 4 P **P 01 15 48.2 +2.1**
MHTO MHTO 36.36 24 P **P 01 15 51.0 +1.5**
SNR=5.7
MHTO P **P 01 15 51.0 +1.5**
SNR=5.7
UMZA Um Al Zommool 36.97 18 P **P 01 15 54.0 -0.7**
UMZA P **P 01 15 54.0 -0.7**
BSY Bisya 37.67 21 P **P 01 16 02.0 +1.3**
SNR=7.6
BSY P **P 01 16 02.0 +1.3**
SNR=7.6
SMDO Samad 38.27 22 P **P 01 16 06.6 +0.7**
SNR=5.7
SMDO P **P 01 16 06.6 +0.7**
SNR=5.7
HOQ Hoqain 38.48 21 P **P 01 16 08.9 +1.3**
SNR=7.1
HOQ P **P 01 16 08.9 +1.3**
SNR=7.1
WSAR Wadi Sarin 38.65 23 LR LR 01 29 33.2
comp=Z,538nm,20.8s,baz=218,slow=32
UOSS Minazif 39.38 19 P **P 01 16 12.6 -2.4**
PALK Pallekele 42.13 64 LR LR 01 29 29.4
comp=Z,795nm,21.9s,baz=346,slow=30
PALK Pallekele 42.13 64⇑ *eP* **P 01 16 40.2 +2.2**
PALK pmax pmax
comp=Z,42nm,1.4s
EIL Elat 42.76 349 LR LR 01 34 28.2
comp=Z,479nm,18.0s,baz=172,slow=36
GHAJ Ghor Haditha 44.25 351 P **P 01 16 52.4 -2.3**
GHAJ IAmb IAmb 01 17 12.2
comp=Z,64nm,1.9s
ASF Jabal al Asfar 44.91 352 LR LR 01 36 16.6
comp=Z,247nm,18.2s,baz=159,slow=37
MMAI Mount Meron Ar 45.95 351 LR LR 01 36 34.2
comp=Z,617nm,18.6s,baz=36,slow=36
TOA0 Torodi Ar. Sit 48.49 300 P **P 01 17 26.7 -1.7**
TOA0 IAmb IAmb 01 17 46.2
comp=Z,17nm,1.2s
TORD Torodi Ar. Bea 48.49 300 P **P 01 17 30.4 +2.0**
comp=Z,4.4nm,0.8s,baz=124,slow=7.9,SNR=17
TORD LR LR 01 38 22.1
comp=Z,953nm,20.1s,baz=131,slow=37
comp=Z,4.4nm,0.8s
TORD Torodi Ar. Bea 48.49 300 P **P 01 17 26.7 -1.7**
MARD Mardin 49.68 357 P **P 01 17 34.6 -2.7**
MARD IAmb IAmb 01 17 53.9
comp=Z,25nm,1.0s
HRA Herat 50.08 21 P **P 01 17 38.0 -2.5**
HRA IAmb IAmb 01 17 55.3
comp=Z,19nm,1.1s
GEVA Gevas 50.62 360 P **P 01 17 41.4 -3.2**
GEVA IAmb IAmb 01 17 57.1
comp=Z,24nm,1.1s
GURO Guroymak-BITLI 50.87 359 P **P 01 17 43.7 -2.7**
GURO IAmb IAmb 01 18 04.0
comp=Z,46nm,2.0s
TAM Tamanrasset 51.00 313 **P 01 17 44.1 -3.6**
TAM Tamanrasset 51.00 313 P **P 01 17 44.1 -3.6**
TAM pmax pmax
comp=Z,7.0nm,1.1s
KIC Kosan Boka 51.27 289⇑ *eP* **P 01 17 50.9 +1.2**
comp=Z,12nm,0.8s
LIC Lamto 51.49 289⇑ *eP* **P 01 17 52.4 +1.1**
comp=Z,36nm,0.9s
DBIC Dimbokro 51.49 289 P **P 01 17 52.7 +1.4**
comp=Z,12nm,0.8s,baz=124,slow=9.1,SNR=10.0
DBIC LR LR 01 38 34.1
comp=Z,852nm,20.8s,baz=126,slow=35
comp=Z,12nm,0.8s
DBIC Dimbokro 51.49 289 P **P 01 17 48.5 -2.8**
DBIC IAmb IAmb 01 18 17.7
comp=Z,20nm,1.0s
DBIC Dimbokro 51.49 289 *eP* **P 01 17 52.5 +1.2**
TIC Toumodi 51.63 289⇑ *iP* **P 01 17 53.5 +1.1**
comp=Z,24nm,0.4s
GEYT Alibeck 52.14 15 P **P 01 17 57.0 +1.2**
comp=Z,6.2nm,0.7s,baz=202,slow=7.5,SNR=17
GEYT LR LR 01 42 03.3
comp=Z,438nm,18.5s,baz=214,slow=38
comp=Z,6.2nm,0.7s
GNI Garni 52.48 1 LR LR 01 40 15.2
comp=Z,422nm,20.8s,baz=184,slow=36
GNI Garni 52.48 1 P **P 01 17 54.2 -4.2**
GNI Garni 52.48 1⇑ *eP* **P 01 17 58.3 0.0**
GNI pmax pmax
comp=Z,11nm,1.1s
MANT Manisa 52.63 346 P **P 01 17 57.2 -2.4**
BR131 Keskin Array S 52.80 351 P **P 01 17 58.5 -2.3**
BR131 IAmb IAmb 01 18 18.5
comp=Z,31nm,1.3s
BR131 Keskin Array S 52.80 351⇑ *eP* **P 01 18 00.4 -0.3**
BRTR Keskin Array B 52.80 351 P **P 01 18 02.0 +1.3**
comp=Z,2.9nm,1.0s,baz=172,slow=10.0,SNR=7.5
comp=Z,2.9nm,1.0s
BRTR Keskin Array B 52.80 351 P **P 01 17 57.8 -2.9**
BRTR Keskin Array B 52.80 351 *i* P **P 01 18 02.2 +1.5**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
KBL Kabul 52.88 27 P **P 01 17 59.3 -2.2**
KBL IAmb IAmb 01 18 12.7
comp=Z,26nm,1.2s
KBL Kabul 52.88 27 P **P 01 17 59.3 -2.2**
KBL pmax pmax
comp=Z,27nm,1.3s
KBL Kabul 52.88 27 P **P 01 18 03.3 +1.8**
SNR=11
KOWA Kowa 53.99 298 LR LR 01 42 00.8
comp=Z,1µm,18.1s,baz=118,slow=37
KOWA Kowa 53.99 298 P **P 01 18 08.3 -1.5**
ZEI Tsey 55.10 1 *eP* **P 01 18 18.4 +0.9**
ZEI pmax pmax
comp=Z,42nm,1.3s
NCK Nalchik 55.80 0⇓ *eP* **P 01 18 23.1 +0.7**
NCK pmax pmax
comp=Z,6.0nm,1.3s
SOC Sochi 55.98 357 *eP* **P 01 18 22.1 -1.5**
SOC *e* 01 20 24.3
SOC *e*PPP PPP 01 21 38.5
SOC *e*S **S 01 26 11.3 -0.4**
SOC *e*SS **SS 01 29 54.4 -3.7**
SOC *e*SSS SSS 01 32 06.2
SOC MLR MLR
comp=Z,202nm,19.0s
KBZ Khabaz 56.04 360 P **P 01 18 26.2 +2.2**
comp=Z,2.5nm,0.9s,baz=162,slow=9.5,SNR=2.6
KBZ LR LR 01 44 04.3
comp=Z,205nm,20.5s,baz=190,slow=38
comp=Z,2.5nm,0.9s
KIV Kislovodsk 56.26 360 *eP* **P 01 18 25.7 -0.1**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,212nm,17.0s
CHGR Chuyangaron 56.43 24 P **P 01 18 23.7 -3.4**
CHGR Chuyangaron 56.43 24 P **P 01 18 23.7 -3.4**
CHGR pmax pmax
comp=Z,92nm,1.2s
MAW Mawson 56.48 171 P **P 01 18 29.5 +2.6**
comp=Z,3.4nm,0.7s,baz=313,slow=7.9,SNR=12
MAW LR LR 01 39 15.2
comp=Z,472nm,18.9s,baz=340,slow=32
comp=Z,3.4nm,0.7s
MAW Mawson 56.48 171 P **P 01 18 25.5 -1.3**
VAE Valguarnera 56.68 333 LR LR 01 43 42.4
comp=Z,396nm,18.5s,baz=128,slow=37
TIP Timpagrande 57.11 336 P **P 01 18 29.5 -2.4**
TIP IAmb IAmb 01 19 05.5
comp=Z,33nm,1.4s
GAR Garm 57.20 25 P **P 01 18 30.1 -2.5**
PSI Prapat 57.36 78 LR LR 01 40 15.3
comp=Z,154nm,18.4s,baz=240,slow=33
GOF Gofitskoye 57.36 360⇑ *eP* P 01 18 43.8 +10
GOF pmax pmax
comp=Z,35nm,1.1s
KEST Kesra 57.76 328 P **P 01 18 39.1 +2.5**
comp=Z,4.3nm,0.9s,baz=180,slow=5.1,SNR=3.2
KEST LR LR 01 45 20.1
comp=Z,526nm,18.2s,baz=96,slow=38
comp=Z,4.3nm,0.9s
BRDH Bariadhala 58.95 54 LR LR 01 43 23.7
comp=Z,328nm,18.3s,baz=262,slow=35
CFR Carcaliu 59.09 348⇓ P **P 01 18 47.0 +1.5**
BOVS Bovan 59.30 342⇑ P **P 01 18 46.9 -0.1**
MTUR Matau 59.84 345⇑ P **P 01 18 52.7 +1.8**
MLR Muntele Rosu 59.88 346⇑ P **P 01 18 52.3 +1.2**
MLR Muntele Rosu 59.88 346 LR LR 01 49 22.8
comp=Z,221nm,18.4s,baz=173,slow=41
VOIR 60.04 345⇑ P **P 01 18 52.8 +0.6**
VRI Vrincioaia 60.05 347⇓ P **P 01 18 53.1 +0.9**
PLOR Plostina 60.05 347⇓ P **P 01 18 52.4 +0.2**
ARR Arges 60.08 345⇑ P **P 01 18 53.4 +0.9**
KSH Kashi 60.12 29 P **P 01 18 53.6 +0.7**
KSH LR LR
comp=Z,250nm,16.8s
KSH LR LR
comp=Z,200nm,16.8s
KSH LR LR
comp=Z,250nm,23.4s
COVR Voineasa-Covas 60.15 346⇑ P **P 01 18 53.6 +0.7**
HERR Herculane 60.23 343⇑ P **P 01 18 54.0 +0.6**
DIVS Divibare 60.25 341 P **P 01 18 51.5 -2.2**
DIVS IAmb IAmb 01 19 05.6
comp=Z,12nm,1.0s
LOT Lotru 60.38 344⇑ P **P 01 18 55.6 +1.1**
DOPR Dopca 60.46 346⇑ P **P 01 18 55.3 +0.4**
OZUR 60.48 346⇑ P **P 01 18 54.6 -0.5**
GZR Gura Zlata 60.60 344⇑ P **P 01 18 57.6 +1.6**
KK31 Karatay Array 60.77 23 P **P 01 18 54.9 -2.2**
KK31 Karatay Array 60.77 23 *i* P **P 01 18 58.2 +1.0**
KKAR Karatay Array 60.77 23 P **P 01 18 54.6 -2.6**
KKAR Karatay Array 60.77 23 P **P 01 18 54.6 -2.6**
BZS Buzias 61.13 343⇑ P **P 01 19 00.1 +0.6**
BIZ Bicaz 61.21 347⇓ P **P 01 18 59.6 -0.5**
NVL N'lazarevskaya 61.30 191 *eP* **P 01 19 02.6 +2.3**
NVL pmax pmax
comp=Z,21nm,0.9s
CAMP Campotosto 61.30 335 P **P 01 18 58.8 -2.1**
CAMP IAmb IAmb 01 19 13.0
comp=Z,16nm,1.1s
CJR Cluj-Napoca 61.60 345⇑ P **P 01 19 04.6 +1.9**
NRN Naryn 61.66 28 P **P 01 19 00.8 -2.7**
NRN IAmb IAmb 01 19 21.5
comp=Z,16nm,1.2s
NRN Naryn 61.66 28 P **P 01 19 00.9 -2.7**
NRN pmax pmax
comp=Z,16nm,1.2s
SIRR Siria 61.71 343⇑ P **P 01 19 03.1 -0.4**
ARCR ARCALIA 61.76 345⇓ P **P 01 19 05.8 +2.1**
AAK Ala-Archa 61.97 26 LR LR 01 44 25.4
comp=Z,350nm,21.5s,baz=214,slow=35
AAK Ala-Archa 61.97 26 P **P 01 19 02.7 -2.8**
AAK IAmb IAmb 01 19 16.7
comp=Z,17nm,1.1s
AAK Ala-Archa 61.97 26⇑ *eP* **P 01 19 03.7 -1.8**
AAK pmax pmax
comp=Z,9.0nm,1.1s
AAK Ala-Archa 61.97 26 P **P 01 19 07.6 +2.1**
BURAR Bucovina Array 62.05 346⇑ P **P 01 19 07.5 +1.7**
BURAR Bucovina Array 62.05 346 P **P 01 19 03.5 -2.2**
BURAR IAmb IAmb 01 19 17.0
comp=Z,9.7nm,1.1s
BUR08 Bucovina Ar. S 62.08 346 P **P 01 19 03.7 -2.3**
BUR08 IAmb IAmb 01 19 23.4
comp=Z,9.4nm,1.1s
CHMS Chumysh 62.38 26 *i* P **P 01 19 07.8 -0.2**
CHMS pmax pmax
comp=Z,19nm,1.0s
BOOM Boomskoye usch 62.48 27 P **P 01 19 06.5 -2.4**
BOOM IAmb IAmb 01 19 19.9
comp=Z,20nm,1.1s
BOOM Boomskoye usch 62.48 27 P **P 01 19 06.5 -2.4**
BOOM pmax pmax
comp=Z,20nm,1.1s
MORH Mrgy, Hungar 62.57 341⇑ P **P 01 19 10.8 +1.6**
MORH Mrgy, Hungar 62.57 341 P **P 01 19 11.2 +2.1**
KOVH Kovagotottos 62.63 341 P **P 01 19 10.4 +0.7**
LTVH Ltavrtes, Hu 62.67 344 P **P 01 19 10.4 +0.7**
TKM2 Tokmak 2 62.68 26 P **P 01 19 10.2 -0.1**
SGDS Sogindy 62.70 25 *eP* **P 01 19 10.0 -0.2**
SGDS Sogindy 62.70 25 *eP* **P 01 19 10.0 -0.2**
baz=25
CMAR Chiang Mai Arr 62.99 62 P **P 01 19 14.1 +1.5**
comp=Z,0.6nm,0.3s,baz=257,slow=6.4,SNR=1.8
CMAR LR LR 01 41 55.0
comp=Z,199nm,21.9s,baz=260,slow=32
comp=Z,0.6nm,0.3s
CHTO Chiang Mai 63.14 61 P **P 01 19 10.1 -3.4**
CHTO Chiang Mai 63.14 61 P **P 01 19 10.1 -3.4**
CHTO pmax pmax
comp=Z,1.0nm,1.2s
TRPA Tarpa 63.18 345⇑ P **P 01 19 14.0 +0.8**
TRPA Tarpa 63.18 345 P **P 01 19 13.7 +0.5**
ABKAR Akbulak array 63.31 12 P **P 01 19 13.2 -0.9**
MDOK Medeo 63.51 27 P **P 01 19 16.4 +0.7**
MDOK Medeo 63.51 27 *eP* **P 01 19 15.2 -0.5**
baz=27
VRH Novokhopyorsk 63.53 359 *eP* P 01 19 19.4 +4.0
VRH pmax pmax
comp=Z,30nm,0.8s
LEM Lembang 63.58 91 LR LR 01 42 05.9
comp=Z,68nm,21.0s,baz=236,slow=32
VSR Storozhevoye 63.63 357 *eP* P 01 19 22.2 +6.1
VSR pmax pmax
comp=Z,20nm,1.0s
UZH Uzhgorod 63.71 345 *eP* **P 01 19 20.3 +3.6**
UZH *e* 01 19 28.0
UZH *e* 01 19 47.7
PSZ Piszkesteto 63.72 343 P **P 01 19 19.2 +2.4**
BTLS Baital 63.77 24 *eP* **P 01 19 17.0 -0.2**
BTLS pmax pmax
comp=Z,8.0nm,1.8s
BTLS Baital 63.77 24 *eP* **P 01 19 17.1 -0.2**
comp=Z,8.3nm,1.8s,baz=24
KOLS Kolonicke sedl 63.99 345 *eP* **P 01 19 22.3 +3.7**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 63.99 345 *eP* **P 01 19 22.3 +3.7**
CHKK Chushkaly 64.03 27 *eP* **P 01 19 19.5 +0.6**
CHKK Chushkaly 64.03 27 *eP* **P 01 19 19.5 +0.6**
baz=27
SATY Saty 64.04 28 *eP* **P 01 19 19.6 +0.4**
SATY Saty 64.04 28 *eP* **P 01 19 19.6 +0.4**
baz=28
AKTO Aktyubinsk 64.07 10 LR LR 01 49 47.9
comp=Z,229nm,19.1s,baz=187,slow=38
AKTO Aktyubinsk 64.07 10 P **P 01 19 19.6 +0.6**
VORR Voronezh 64.08 357 *eP* **P 01 19 19.8 +0.8**
VORR pmax pmax
comp=Z,20nm,0.5s
PHRA Phrae 64.11 62 P **P 01 19 18.0 -2.0**
TROLL Troll, Antarti 64.17 193 pP pP 01 19 22.5 +0.5
CRVS Cervenica-Dubn 64.18 344 *eP* **P 01 19 22.6 +2.8**
CRVS Cervenica-Dubn 64.18 344 *eP* **P 01 19 22.6 +2.8**
SOKA Soboth 64.19 339 *eP* **P 01 19 21.1 +1.0**
comp=Z,13nm,1.0s
AKASG Malin Array Be 64.19 350 P **P 01 19 20.7 +0.9**
comp=Z,1.0nm,0.5s,baz=171,slow=5.7,SNR=7.7
AKASG LR LR 01 50 21.4
comp=Z,111nm,18.1s,baz=164,slow=39
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 64.19 350⇓ *eP* **P 01 19 19.6 -0.2**
OBKA Obir 64.22 338 *eP* **P 01 19 21.4 +1.2**
comp=Z,11nm,1.0s
MDT Midelt 64.22 316 LR LR 01 48 11.5
comp=Z,456nm,18.2s,baz=123,slow=37
UZB Uzynbulak 64.39 28 *eP* **P 01 19 22.1 +0.6**
UZB Uzynbulak 64.39 28 *eP* **P 01 19 22.1 +0.6**
baz=28
KPKS Kokpek 64.48 28 *eP* **P 01 19 22.0 0.0**
KPKS Kokpek 64.48 28 *eP* **P 01 19 22.1 0.0**
baz=28
ARSA Arzberg 64.51 339 *eP* **P 01 19 23.4 +1.4**
comp=Z,5.7nm,0.9s
VYHS Vyhne 64.55 342 *eP* **P 01 19 24.0 +1.8**
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS Vyhne 64.55 342 *eP* **P 01 19 24.0 +1.8**
SHLS Shalkode 64.60 29 *eP* **P 01 19 24.7 +1.8**
SHLS Shalkode 64.60 29 *eP* **P 01 19 24.7 +1.8**
baz=29
RONA Rosalia, Austr 64.64 340 *eP* **P 01 19 23.9 +1.0**
comp=Z,2.8nm,0.9s
MYKA Terra Mystica 64.65 338 *eP* **P 01 19 24.1 +1.1**
comp=Z,2.2nm,0.5s
BELG Belogornoye 64.82 3 LR LR 01 51 50.3
comp=Z,227nm,18.3s,baz=168,slow=40
BELG Belogornoye 64.82 3⇑ *eP* **P 01 19 24.5 +0.7**
BELG pmax pmax
comp=Z,10.0nm,0.9s
CIMO Cimolais 64.83 337 P **P 01 19 22.4 -1.8**
CIMO IAmb IAmb 01 19 37.5
comp=Z,10nm,1.1s
MODS Modra-Piesok 64.92 341 *eP* P 01 19 28.9 +4.2
MODS pmax pmax
comp=Z,23nm,1.1s
MODS Modra-Piesok 64.92 341 *eP* P 01 19 28.9 +4.2
NIE Niedzica 64.96 344 *eP* **P 01 19 26.1 +1.2**
CONA Conrad Observa 64.98 340 *eP* **P 01 19 26.8 +1.6**
comp=Z,7.7nm,1.2s
LPSR Galich'ya Gora 65.02 357 *eP* **P 01 19 28.8 +3.6**
LPSR pmax pmax
comp=Z,20nm,1.0s
BBTS Babate 65.09 293 LR LR 01 49 09.8
comp=Z,758nm,18.2s,baz=93,slow=37
KBA Koelnbreinsper 65.14 338 *eP* **P 01 19 28.1 +1.7**
comp=Z,12nm,1.2s
ABTA Abfaltersbach 65.17 337 *eP* **P 01 19 27.6 +1.2**
comp=Z,6.5nm,1.2s
SNAA Sanae 65.19 195 pP pP 01 19 28.3 -0.4
SNAA Sanae 65.19 195 LR LR 01 42 08.9
comp=Z,292nm,21.6s,baz=46,slow=31
SNAA Sanae 65.19 195 P **P 01 19 25.3 -1.0**
SNAA Sanae 65.19 195 *eP* **P 01 19 30.4 +4.2**
SNAA Sanae 65.19 195*ce*P **P 01 19 27.0 +0.7**
SNAA pmax pmax
comp=Z,13nm,2.0s
JAVC Velka Javorina 65.22 342 *eP* **P 01 19 28.3 +1.6**
MOA Molln 65.46 339 *eP* **P 01 19 29.3 +1.1**
comp=Z,5.7nm,1.1s
BIOA Bad Ischl, Aus 65.55 338 *eP* **P 01 19 29.3 +0.5**
comp=Z,9.0nm,1.0s
MAUC Maruska 65.62 342 *eP* **P 01 19 29.9 +0.6**
KRUC Moravsky 65.80 341 *eP* **P 01 19 30.8 +0.5**
OJC Ojcow 65.83 344 *eP* **P 01 19 29.9 -0.6**
OJC Ojcow 65.83 344 P **P 01 19 27.6 -2.9**
OJC IAmb IAmb 01 19 39.6
comp=Z,13nm,1.1s
OJC Ojcow 65.83 344 P **P 01 19 27.6 -2.9**
OJC pmax pmax
comp=Z,13nm,1.1s
OTUK Ortayu 65.84 21 P **P 01 19 32.0 +1.3**
VNA2 Neumayer--Watz 65.92 196 pP pP 01 19 33.4 +0.1
baz=45,slow=6.0
WTTA Wattenberg 65.93 337 *eP* **P 01 19 31.0 -0.5**
comp=Z,6.7nm,1.1s
OKC Ostrava-Krasne 65.95 342 *eP* **P 01 19 35.2 +3.9**
OKC *e* 01 19 40.8
OKC Ostrava-Krasne 65.95 342 *eP* **P 01 19 35.2 +3.9**
OKC *ex* x 01 19 40.8
VRAC Vranov 65.95 341⇑ P **P 01 19 31.8 +0.4**
VRAC Vranov 65.95 341 *eP* **P 01 19 31.9 +0.5**
VNA1 Neumayer--Stat 66.01 197 pP pP 01 19 34.4 +0.6
WATA Walderalm 66.01 337 *eP* **P 01 19 32.1 +0.2**
comp=Z,5.4nm,0.9s
SQTA Sankt Quirin 66.06 337 *eP* **P 01 19 33.4 +1.2**
comp=Z,3.7nm,0.9s
MORC Moravsky Berou 66.08 342⇑ P **P 01 19 33.1 +0.9**
MORC Moravsky Berou 66.08 342 P **P 01 19 30.7 -1.5**
MORC IAmb IAmb 01 19 42.9
comp=Z,18nm,1.0s
MORC Moravsky Berou 66.08 342 *eP* **P 01 19 33.0 +0.8**
MORC Moravsky Berou 66.08 342 P **P 01 19 30.7 -1.5**
MORC pmax pmax
comp=Z,18nm,1.0s
FETA Feichten 66.08 336 *eP* **P 01 19 33.4 +1.0**
comp=Z,8.5nm,1.1s
MOTA Moosalm 66.20 337 *eP* **P 01 19 33.9 +0.8**
comp=Z,5.5nm,0.9s
CKRC Cesky Krumlov 66.28 340 *eP* **P 01 19 33.7 +0.2**
CKRC *ex* x 01 19 43.3
TREC Trest 66.30 341 *eP* **P 01 19 37.1 +3.5**
TREC *e* 01 19 42.6
TREC Trest 66.30 341 *eP* **P 01 19 37.1 +3.5**
TREC *ex* x 01 19 42.6
RETA Reutte 66.45 337 *eP* **P 01 19 35.4 +0.7**
comp=Z,7.3nm,1.2s
GEC2 GERESS Array S 66.51 339 P **P 01 19 33.6 -1.4**
GEC2 IAmb IAmb 01 19 45.2
comp=Z,12nm,0.9s
GERES GERESS Array B 66.51 339 P **P 01 19 35.5 +0.5**
comp=Z,3.9nm,0.9s,baz=144,slow=5.0,SNR=18
comp=Z,3.9nm,0.9s
GERES GERESS Array B 66.51 339 P **P 01 19 34.0 -1.0**
KRLC Kraliky 66.57 342 *eP* **P 01 19 35.9 +0.6**
KRLC *e* 01 19 38.7
KRLC *e* 01 19 44.6
KRLC Kraliky 66.57 342 *eP* **P 01 19 35.9 +0.6**
KRLC *ep*P **sP 01 19 38.7 +0.1**
KRLC *ex* x 01 19 44.6
DAVA Damuels 66.64 336 *eP* **P 01 19 36.1 +0.1**
comp=Z,6.5nm,1.2s
VNA3 Neumayer Olymp 66.72 196 pP pP 01 19 38.3 -0.1
KHC Kasperske Hory 66.80 339 P **P 01 19 34.2 -2.6**
KHC Kasperske Hory 66.80 339 *eP* **P 01 19 36.7 -0.1**
KHC *e* 01 19 40.4
KHC Kasperske Hory 66.80 339 *eP* **P 01 19 36.7 -0.1**
KHC *ep*P **sP 01 19 40.4 +0.4**
KHC *ex* x 01 19 45.5
DPC Dobruska-Polom 66.95 342 *eP* **P 01 19 37.5 -0.3**
DPC *e* 01 19 40.6
DPC Dobruska-Polom 66.95 342 *eP* **P 01 19 37.5 -0.3**
DPC *ep*P **sP 01 19 40.6 -0.4**

OSTC Ostas 67.17 342 *e*P **P** **01 19 38.5 -0.6**
OSTC *e*x x 01 19 48.2
CHVC Chvalec 67.24 342 *e*P **P** **01 19 43.6 +4.0**
BRZS Berezniki 67.44 20 *e*P **P** **01 19 41.2 +0.4**
BRZS pmax pmax
comp=Z,12nm,1.9s
BRZS Berezniki 67.44 20 *e*P **P** **01 19 41.2 +0.4**
comp=Z,12nm,1.9s,baz=20
OBN Obninsk 67.67 356 LR LR 01 51 43.1
comp=Z,41nm,18.4s,baz=178,slow=38
OBN Obninsk 67.67 356⇓ *e*P **P** **01 19 43.2 +1.1**
OBN *e**PP **sP** **01 19 46.0 +0.7**
OBN *e**SP **pwP** **01 19 50.4 +1.3**
OBN *e* 01 20 12.9
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,223nm,19.0s
ESDC Sonseca Array 68.02 322 P **P** **01 19 46.6 +1.8**
comp=Z,3.1nm,0.8s,baz=130,slow=5.8,SNR=24
ESDC LR LR 01 50 53.7
comp=Z,404nm,18.1s,baz=136,slow=37
comp=Z,3.1nm,0.8s
ESDC Sonseca Array 68.02 322 P **P** **01 19 43.2 -1.6**
MNK Minsk 68.08 350 *i* P **P** **01 19 45.6 +0.9**
MNK *i* 01 20 08.0
MNK *i* 01 22 19.5
MNK *i* PPP PPP 01 23 54.7
MNK *i* S **S** **01 28 41.8 -2.3**
MNK *i* SS **SS** **01 33 09.1 +2.1**
MNK pmax pmax
comp=Z,7.0nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=Z,192nm,20.0s
MNK MLR MLR
comp=E,29nm,22.0s
MNK Minsk 68.08 350 *i* P **P** **01 19 45.6 +0.9**
comp=E,2.0nm,1.0s
MNK *i* P **P** **01 19 45.6 +0.9**
MNK *i* P **P** **01 19 45.6 +0.9**
comp=Z,7.0nm,1.1s,baz=164
MNK *i* PcP **PcP** **01 20 08.1 -2.7**
MNK *i* PP **PP** **01 22 19.5 +4.3**
MNK *i* PPP PPP 01 23 54.7
MNK *i* S **S** **01 28 41.9 -2.3**
MNK *i* SS **SS** **01 33 09.1 +2.1**
MNK *i* SSS SSS 01 36 15.3
MNK *i* LQ LQ 01 44 24.2
MNK *i* LR LR 01 47 51.9
MNK *i* LRM MLR 01 53 23.5
comp=Z,192nm,19.7s
MNK *i* LRM MLR 01 53 39.2
comp=E,29nm,22.3s
BFO Black Forest 68.10 336 P **P** **01 19 43.1 -1.8**
BFO Black Forest 68.10 336 P **P** **01 19 43.2 -1.8**
BFO pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 68.16 340 *e*P **P** **01 19 46.1 +0.8**
BRG Amp 01 19 47.6
comp=Z,3.0nm,0.8s
BRG *e*x x 01 19 54.9
BRG Amp 01 19 56.4
comp=Z,6.3nm,1.1s
BRG Berggiesshubel 68.16 340 *e*P **P** **01 19 46.1 +0.8**
BRG *e* 01 19 54.8
BRG pmax pmax
comp=Z,3.0nm,0.8s
MOS Moscow 68.22 357 *e*P **P** **01 19 46.2 +0.6**
MOS pmax pmax
comp=Z,57nm,1.2s
ECH Echery 68.48 335 P **P** **01 19 46.4 -1.0**
ECH Echery 68.48 335 P **P** **01 19 46.4 -1.0**
ECH pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 68.54 28 P **P** **01 19 46.2 -1.6**
MAKZ IAmb IAmb 01 19 58.3
comp=Z,20nm,1.1s
MAKZ Makanchi 68.54 28 P **P** **01 19 47.5 -0.3**
NACGM Naroch 68.65 350 *e*P **P** **01 19 49.9 +1.6**
baz=163
MK31 Makanchi Array 68.67 28 P **P** **01 19 46.3 -2.4**
MK31 Makanchi Array 68.67 28 *i* P **P** **01 19 48.5 -0.2**
MKAR Makanchi Array 68.67 28 P **P** **01 19 48.8 +0.2**
comp=Z,3.1nm,0.8s,baz=216,slow=6.1,SNR=14
MKAR LR LR 01 49 54.7
comp=Z,106nm,19.7s,baz=252,slow=36
comp=Z,3.1nm,0.8s
MKAR Makanchi Array 68.67 28 P **P** **01 19 46.1 -2.6**
PZH PanZhiHua 68.83 55 P **P** **01 19 52.0 +1.8**
PZH S **S** **01 28 54.3 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,3.8s
PZH LR LR
comp=Z,540nm,22.9s
PZH LR LR
comp=Z,690nm,23.3s
PZH LR LR
comp=Z,930nm,23.5s
CLL Collm 68.84 340 P **P** **01 19 48.9 -0.7**
CLL Collm 68.84 340 *e*P **P** **01 19 50.0 +0.4**
CLL *i* 01 19 58.9
CLL *e*S S 01 29 02.0 +8.7
CLL pmax pmax
comp=Z,11nm,1.3s
CLL Collm 68.84 340 *e*P **P** **01 19 50.0 +0.4**
comp=Z,3.0nm,0.9s
CLL *i* x x 01 19 58.9
comp=Z,11nm,1.3s
CLL *e*x x 01 20 04.0
CLL *e*PcP **PcP** **01 20 13.0 -1.0**
CLL *e*PP **PP** **01 22 25.0 +3.1**
CLL *e*S S 01 29 02.0 +8.7
CLL *e*(ScS) 01 29 58.0
CLL *e*x x 01 31 12.0
CLL *e*SS SS 01 33 36.0 +17
CLL *e*SSS SSS 01 36 30.0
CLL *e*x x 01 39 00.0
KMI Kunming 69.03 57 ⇓P **P** **01 19 51.9 +0.3**
KMI pP pwP 01 19 55.9 -2.5
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI LR LR
comp=Z,230nm,20.1s
KMI LR LR
comp=Z,150nm,12.3s
KMI LR LR
comp=Z,200nm,20.1s
IIGN Ignalina 69.17 350 *e*P **P** **01 19 52.0 +0.5**
WMQ Urumqi 69.20 33 *e*P **P** **01 19 55.3 +3.2**
WMQ sP pwP 01 20 01.6 +2.8
WMQ pmax pmax
comp=Z,23nm,1.5s
WMQ pmax pmax
comp=Z,170nm,3.9s
WMQ LR LR
comp=Z,250nm,20.7s
WMQ LR LR
comp=Z,170nm,21.9s
WMQ LR LR
comp=Z,160nm,22.1s
GKP Gorka Klasztor 69.27 344 *e*P **P** **01 19 54.5 +2.3**
GKP Gorka Klasztor 69.27 344 *e*P **P** **01 19 52.5 +0.4**
BRVK Borovoye 69.37 17 P **P** **01 19 51.6 -1.2**
BRVK IAmb IAmb 01 20 09.1
comp=Z,11nm,1.0s
BRVK Borovoye 69.37 17 P **P** **01 19 54.6 +1.8**
BRVK Borovoye 69.37 17 P **P** **01 19 54.7 +1.9**
BVA0 Borovoye Array 69.37 17 *i* P **P** **01 19 53.7 +0.9**
BVAR Borovoye Array 69.37 17 LR LR 01 53 39.9
comp=Z,160nm,18.4s,baz=213,slow=39
NWAO Narrogin (SRO) 69.91 121 LR LR 01 43 33.9
comp=Z,179nm,21.6s,baz=248,slow=30
NWAO Narrogin (SRO) 69.91 121 P **P** **01 19 53.5 -3.2**
ARU Arti 69.93 9 LR LR 01 51 38.1
comp=Z,287nm,21.8s,baz=196,slow=37
ARU Arti 69.93 9*c* *i*P **P** **01 19 58.3 +2.1**
ARU 01 22 31.0
ARU PPP PPP 01 24 15.7
ARU S **S** **01 29 13.0 +7.0**
ARU SS **SS** **01 33 32.6 -2.9**
ARU pmax pmax
comp=Z,20nm,1.1s
ARU MLR MLR
comp=Z,296nm,20.0s
KURBB Kurchatov Arra 70.07 23 LR LR 01 50 59.2
comp=Z,107nm,21.8s,baz=203,slow=36
KURBB Kurchatov Arra 70.07 23 P **P** **01 19 57.7 +0.5**
KURK Kurchatov 70.18 23 P **P** **01 19 56.4 -1.4**
KURK IAmb IAmb 01 20 08.3
comp=Z,16nm,0.9s
KURK Kurchatov 70.18 23*c* *e*P **P** **01 19 58.2 +0.3**
KURK pmax pmax
comp=Z,6.0nm,1.0s
ZSN Zaisan 70.34 29 *e*P **P** **01 19 59.1 +0.1**
ZSN Zaisan 70.34 29 *e*P **P** **01 19 59.1 +0.1**
baz=29
SEM Semipalatinsk 70.58 24 *e*P **P** **01 20 00.6 0.0**
SEM Semipalatinsk 70.58 24 *e*P **P** **01 20 00.6 0.0**
baz=24
BHOU Houvegnez 70.63 336 *dx* x 01 20 05.8
BTNL Ternell 70.76 336 *dp*P pP 01 20 02.4 -1.4
RCHB Rochefort 70.79 335 *dp*P pP 01 20 02.9 -1.1
MEM Membach 70.83 336 *dx* x 01 20 06.1
BCLA Clavier 70.96 335 *dp*P pP 01 20 04.5 -0.5
DOU Dourbes 71.00 335 *dx* x 01 20 09.7
KIRV Kirov 71.09 3 LR LR 01 56 01.4
comp=Z,166nm,18.1s,baz=181,slow=40
KIRV Kirov 71.09 3⇑ *e*P **P** **01 20 01.5 -1.7**
BMRD Maredsous 71.09 335 *dx* x 01 20 08.4
VSU Vasula 72.07 351⇑ *e*P **P** **01 20 08.7 -0.4**
VSU pmax pmax
comp=Z,25nm,0.9s
VSU Vasula 72.07 351 *e*P **P** **01 20 09.3 +0.2**
QIZ Qiongzhong 72.74 65 P **P** **01 20 13.9 -0.1**
QIZ LR LR
comp=Z,230nm,16.7s
QIZ LR LR
comp=Z,350nm,12.7s
QIZ LR LR
comp=Z,320nm,15.9s
MTSE Matsula 72.79 350 *e*P **P** **01 20 13.8 +0.4**
MBWA Marble Bar 73.10 108 P P 01 20 10.1 -6.1
DGZ Jazzator, Alta 73.14 28⇑ *e*P **P** **01 20 16.5 +0.6**
DGZ pmax pmax
comp=Z,9.0nm,1.4s
KLMR Klimovskoe 73.25 358 *e*P **P** **01 20 16.0 0.0**
KLMR pmax pmax
comp=Z,51nm,1.3s
KLMR Klimovskoe 73.25 358 *e*P **P** **01 20 16.1 0.0**
KLMR AMP 01 20 27.1
comp=Z,51nm,1.3s
GTA Gaotai 73.75 42 *e*P **P** **01 20 22.4 +2.7**
GTA pP pwP 01 20 26.0 -0.5
GTA sP PcP 01 20 29.9 -5.5
GTA S **S** **01 29 57.4 +6.4**
GTA SKS **ScS** **01 30 28.3 -1.2**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,67nm,4.7s
GTA LR LR
comp=Z,270nm,22.5s
GTA LR LR
comp=Z,310nm,21.1s
GTA LR LR
comp=Z,420nm,21.8s
PRGR Permogore 74.00 1 *e*P **P** **01 20 21.3 +0.8**
PRGR pmax pmax
comp=Z,44nm,0.9s
MEF Metsahovi 74.11 350 *e*P **P** **01 20 22.0 +0.8**
LZH Lanzhou 74.85 47 *e*P **P** **01 20 22.3 -4.0**
LZH sP pwP 01 20 31.5 -1.6
LZH pmax pmax
comp=Z,26nm,1.0s
LZH LR LR
comp=N,220nm,18.2s
LZH LR LR
comp=E,260nm,16.5s
LZH LR LR
comp=Z,350nm,18.9s
FINES FINESS Array B 75.02 352 P **P** **01 20 27.8 +1.4**
comp=Z,1.5nm,0.8s,baz=164,slow=7.5,SNR=4.9
comp=Z,1.5nm,0.8s
FINES FINESS Array B 75.02 352 *i* P **P** **01 20 28.1 +1.7**
FINES pmax pmax
comp=Z,2.0nm,0.9s
ZAA0 Zalesovo Array 75.10 24 P **P** **01 20 26.5 -0.5**
ZAA0 IAmb IAmb 01 20 36.7
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 75.10 24 P **P** **01 20 26.7 -0.3**
comp=Z,9.0nm,0.7s,baz=219,slow=4.4,SNR=18
comp=Z,9.0nm,0.7s
ZALV Zalesovo Beam 75.10 24 *i* P **P** **01 20 29.2 +2.2**
ZALV pmax pmax
comp=Z,9.0nm,0.7s
BELA Belgrano 2 75.23 192 P **P** **01 20 29.1 +1.5**
BELA IAmb IAmb 01 20 31.1
comp=Z,18nm,1.1s
RAF Rauma 75.32 349 *e*P **P** **01 20 28.4 +0.3**
KAPI Kappang 75.77 92 LR LR 01 51 32.5
comp=Z,78nm,18.6s,baz=264,slow=34
HFS Hagfors 76.25 345 LR LR 01 58 50.8
comp=Z,115nm,19.5s,baz=146,slow=39
KONO Kongsberg 76.92 343⇑ *e*P **P** **01 20 38.2 +0.9**
KONO pmax pmax
comp=Z,5.0nm,1.0s
MPSI Mapaga 77.05 87 P P 01 20 47.6 +8.5
QSPA South Pole Qui 77.52 180 LR LR 01 53 30.2
comp=Z,323nm,18.1s,baz=264,slow=35
NB201 NORSAR Array S 77.64 345 P **P** **01 20 40.1 -1.3**
NB2 NORSAR Subarra 77.66 345 P **P** **01 20 43.2 +1.7**
comp=Z,2.9nm,1.0s,baz=176,slow=11
NOA NORSAR Array B 77.66 345 P **P** **01 20 42.6 +1.1**
comp=Z,2.0nm,0.9s,baz=146,slow=5.5,SNR=6.5
NOA LR LR 01 59 00.5
comp=Z,85nm,18.6s,baz=125,slow=39
comp=Z,2.0nm,0.9s
XAN Xi'an 77.68 51 P P 01 20 47.3 +5.0
XAN pP PcP 01 20 54.3 +1.9
XAN pmax pmax
comp=Z,6.0nm,1.7s
NBAN Anadia - AL 77.81 263 *e*P **P** **01 20 44.7 +1.3**
EKA Eskdalemuir Ar 78.05 335 LR LR 01 57 23.8
comp=Z,62nm,18.1s,baz=142,slow=37
RCBR Riachuelo 78.19 267 LR LR 01 51 35.4
comp=Z,239nm,19.4s,baz=242,slow=33
RCBR Riachuelo 78.19 267 *e*P **P** **01 20 47.0 +1.4**
BATI Baunata 78.57 98 LR LR 01 48 34.2
comp=Z,173nm,20.4s,baz=256,slow=30
FORT Forrest 79.27 119 P **P** **01 20 48.3 -2.9**
FORT IAmb IAmb 01 20 53.8
comp=Z,18nm,0.8s
BTO Baotou 81.21 45 *e*P P 01 20 55.8 -5.6
BTO Baotou 81.21 45 S **S** **01 31 04.3 -7.5**
BTO LR LR
comp=N,330nm,5.1s
BTO LR LR
comp=E,370nm,4.0s
ZAK Zakamensk 81.61 34 *e*P P 01 21 07.9 +4.6
ZAK pmax pmax
comp=Z,9.0nm,1.7s
SONM Songino Array 82.11 37 P **P** **01 21 08.1 +2.1**
comp=Z,1.9nm,0.9s,baz=234,slow=5.7,SNR=8.6
SONM LR LR 01 56 22.8
comp=Z,201nm,20.8s,baz=206,slow=35
comp=Z,1.9nm,0.9s
HHC Hu-ho-hao-te 82.38 45 *e*P **P** **01 21 08.3 +0.7**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.8s
HHC LR LR
comp=Z,610nm,16.5s
HHC LR LR
comp=Z,850nm,17.6s
ULN Ulaanbaatar 82.52 38⇑ *e*P **P** **01 21 06.7 -1.5**
ULN pmax pmax
comp=Z,6.0nm,1.3s
ARCES ARCESS Array B 82.85 354 P **P** **01 21 10.9 +1.7**
comp=Z,1.2nm,0.6s,baz=157,slow=6.5,SNR=7.1
comp=Z,1.2nm,0.6s
DIAM Diamantina, MG 83.26 253 *e*P **P** **01 21 13.7 +1.0**
HNS HongShan 83.32 49⇑ P P 01 21 19.3 +6.9
HNS HongShan 83.32 49 SS SS 01 36 54.1 -4.7
HNS pmax pmax
comp=Z,14nm,1.1s
HNS LR LR
comp=N,130nm,15.5s
HNS LR LR
comp=E,210nm,13.9s
HNS LR LR
comp=Z,220nm,12.4s
VNDA Vanda 83.71 169 P **P** **01 21 16.6 +2.8**
comp=Z,2.2nm,0.8s,baz=271,slow=5.4,SNR=14
VNDA LR LR 01 55 16.1
comp=Z,477nm,19.9s,baz=240,slow=33
comp=Z,2.2nm,0.8s
VNDA Vanda 83.71 169 P **P** **01 21 13.3 -0.4**
SBA Scott Base 84.42 170 P **P** **01 21 19.0 +1.7**
SBA IAmb IAmb 01 21 32.0
comp=Z,8.4nm,1.1s
SBA Scott Base 84.42 170 P **P** **01 21 19.0 +1.7**
SBA pmax pmax
comp=Z,8.0nm,1.1s
NJ2 Nanjing 84.73 56 *e*P **P** **01 21 21.1 +1.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
ASAR Alice Springs 85.64 113 P **P** **01 21 25.7 +1.1**
comp=Z,8.7nm,0.9s,baz=262,slow=4.6,SNR=68
ASAR LR LR 01 54 24.5
comp=Z,382nm,20.0s,baz=282,slow=32
comp=Z,8.7nm,0.9s
AS31 Alice Springs 85.64 113 P **P** **01 21 22.9 -1.7**
PMSA Palmer Station 85.92 204 LR LR 01 56 33.7
comp=Z,171nm,18.0s,baz=108,slow=33
XLT XiLinHaoTe 86.63 44 *e*P P 01 21 38.5 +9.5
XLT pP pwP 01 21 42.8 +7.0
XLT sP sP 01 21 44.9 +12
WRA Warramunga Arr 86.80 110 P **P** **01 21 31.5 +1.1**
comp=Z,5.3nm,0.9s,baz=257,slow=3.1,SNR=40
WRA LR LR 01 58 17.6
comp=Z,181nm,18.8s,baz=220,slow=34
comp=Z,5.3nm,0.9s
WRA Warramunga Arr 86.80 110 P **P** **01 21 28.4 -1.9**
WB2 Warramunga Arr 86.81 110 P **P** **01 21 28.2 -2.2**
WB2 IAmb IAmb 01 21 46.1
comp=Z,21nm,1.2s
WRAB Tennant Creek 86.81 110⇑ *e*P **P** **01 21 29.8 -0.6**
WRAB pmax pmax
comp=Z,13nm,1.0s
WB0 Warramunga Ar 86.88 109 P **P** **01 21 28.9 -1.8**
NRIK Noril'sk 87.39 14 P **P** **01 21 34.4 +2.4**
comp=Z,6.0nm,0.8s,baz=229,slow=6.4,SNR=11
NRIK LR LR 02 05 02.5
comp=Z,104nm,18.8s,baz=194,slow=39
comp=Z,6.0nm,0.8s
BDFB Brasilia 87.86 255 P **P** **01 21 39.4 +3.7**
comp=Z,19nm,0.9s,baz=94,slow=6.1,SNR=20
BDFB LR LR 01 58 15.3
comp=Z,307nm,18.7s,baz=125,slow=34
BDFB Brasilia 87.86 255 *e*P **P** **01 21 37.1 +1.4**
JMIC Jan Mayen 90.36 345 LR LR 02 10 29.2
comp=Z,39nm,18.0s,baz=106,slow=41
STKA Stephens Creek 90.39 123 LR LR 01 56 02.3
comp=Z,133nm,18.6s,baz=217,slow=31
BORG Borgarnes 90.90 337 LR LR 02 07 32.3
comp=Z,65nm,18.1s,baz=124,slow=39
SNDB Serra Nova Dou 91.78 257 *e*P **P** **01 21 55.1 +1.2**
USHA Ushuaia 91.84 213 LR LR 02 00 12.4
comp=Z,626nm,18.3s,baz=104,slow=34
KSRS Korea Array 93.38 53 LR LR 02 02 35.4
comp=Z,117nm,22.0s,baz=240,slow=35
CPUP Villa Florida 93.75 242 P **P** **01 22 05.6 +2.9**
comp=Z,2.8nm,0.9s,baz=96,slow=10.0,SNR=5.0
CPUP LR LR 01 59 19.3
comp=Z,379nm,21.0s,baz=107,slow=32
comp=Z,2.8nm,0.9s
MDJ Mudanjiang 96.14 46 P **P** **01 22 12.8 -0.5**
MDJ pP sP 01 22 16.5 -0.2
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,59nm,4.5s
MDJ LR LR
comp=Z,140nm,15.2s
MDJ LR LR
comp=Z,140nm,15.1s
MDJ LR LR
comp=Z,210nm,21.7s
MDP Montagnes des 96.83 274 LR LR 02 00 05.6
comp=Z,108nm,22.0s,baz=58,slow=32
CTA Charters Tower 97.62 112 LR LR 02 01 14.8
comp=Z,230nm,21.2s,baz=258,slow=32
KLR Kul'dur 98.44 41 LR LR 02 05 43.9
comp=Z,178nm,21.6s,baz=274,slow=35
PLCA Paso Flores 99.13 225 LR LR 02 03 41.1
comp=Z,354nm,21.8s,baz=113,slow=33
YAK Yakutsk 99.34 28 LR LR 02 08 13.4
comp=Z,75nm,20.9s,baz=273,slow=36
SIV San Ignacio 99.96 251 LR LR 02 03 25.2
comp=Z,259nm,21.4s,baz=102,slow=33
YSS Yuzh-Sakhalins 105.55 45 *e*P **Pdif** **01 22 57.3 +2.1**
YSS *e* 01 42 08.4
YSS MLR MLR
comp=Z,200nm,13.0s
DZM Mont Dzumac 114.52 121 *e*LR LR 02 01 47.4
comp=Z,214nm,23.6s
ILAR Eielson Array 127.40 5 PKP **PKiKP** **01 27 49.8 -0.5**
comp=Z,0.7nm,0.8s,baz=299,slow=2.8,SNR=2.9
PDAR Pinedale Array 141.80 327 PKP **PKPdf** **01 28 18.5 +0.9**
comp=Z,0.8nm,0.9s,baz=76,slow=1.1,SNR=5.2
TBI Tubuai 142.19 161 *e*LR LR 02 14 39.0
comp=Z,166nm,26.0s
SDCO Great Sand Dun 142.52 317 **PKPdf** **01 28 16.1 -3.0**
SDCO Great Sand Dun 142.52 317 P **PKPdf** **01 28 17.8 -1.3**
baz=56
S22A 4UR Ranch, Cre 143.39 318 P **PKPdf** **01 28 19.7 -1.0**
baz=54
HWUT Hardware Ranch 143.68 327 PKPdf PKPbc 01 28 17.9 -0.4
TCUT Toone Canyon 143.94 327 PKPab 01 28 16.6 -2.1
CLN7 Carlsbad 7 143.94 309 PKPdf PKPab 01 28 16.6 -2.1
G08A Pilot Rock 144.05 338 PKPdf PKPab 01 28 17.4 -1.3
PV07 Paradox Valley 144.12 321 PKPdf **PKPab** **01 28 17.4 -1.9**
ANMO Albuquerque 144.68 314 PKPdf **PKPab** **01 28 21.0 -0.5**
ANMO Albuquerque 144.68 314 PKIKP **PKPab** **01 28 21.0 -0.5**
ANMO Albuquerque 144.68 314 P **PKPdf** **01 28 23.1 +0.2**
baz=58
MVCO Mesa Verde 144.78 319 P **PKPdf** **01 28 23.6 +0.6**
baz=53
TXAR Lajitas Array 145.06 304 PKPbc **PKPdf** **01 28 23.7 +0.1**
comp=Z,4.8nm,0.9s,baz=104,slow=2.8,SNR=43
DUG Dugway, Tooele 145.35 327 P **PKPdf** **01 28 25.1 +1.4**
baz=44
J05D Fort Rock, OR 146.59 339 P **PKiKP** **01 28 29.6 -0.6**
baz=28
PKCU Pink Cliffs 146.97 323 **PKPdf** **01 28 26.6 -0.3**
PPT2 Papeete2 147.46 157 *e*LR LR 02 17 03.9
comp=Z,151nm,24.0s
CCUT Cedar City 147.51 324 **PKPdf** **01 28 27.3 -0.3**
L04D Klamath Falls 147.91 340 P **PKiKP** **01 28 32.2 -0.7**
baz=27
TUC Tucson 149.13 314 PKPbc **PKPdf** **01 28 31.7 +1.4**
TUC Tucson 149.13 314 PKIKP **PKPdf** **01 28 31.7 +1.4**
TPH Tonopah 149.21 329 PKPbc **PKPdf** **01 28 31.5 +1.1**
TPH Tonopah 149.21 329 PKIKP **PKPdf** **01 28 31.5 +1.1**
NVAR Mina Array Bea 149.47 331 PKPbc **PKPbc** **01 28 33.2 -2.1**
comp=Z,1.8nm,0.8s,baz=205,slow=0.7,SNR=14
GMRC Granite Mounta 150.77 323 P **PKiKP** **01 28 41.0 +2.0**
baz=46
MPMC Manual Prospec 150.88 327 P **PKiKP** **01 28 41.2 +1.9**
baz=41
IRM Iron Mountain 150.88 321 P **PKiKP** **01 28 41.1 +2.0**
baz=47
GSC Goldstone, Bar 151.06 325 P **PKiKP** **01 28 41.3 +1.7**
baz=43
HEC Hector,Ludlow 151.13 324 P **PKiKP** **01 28 42.0 +2.3**
baz=44
LRMC Laurel Mtn Rad 151.42 326 P **PKiKP** **01 28 42.8 +2.5**
baz=42
BELC Belle Mtn. Jos 151.51 322 P **PKiKP** **01 28 42.9 +2.3**
baz=46
ISA Isabella, Lake 151.70 327 P **PKiKP** **01 28 43.2 +2.3**
baz=40
EDW2 Edwards Air Fo 152.03 326 P **PKiKP** **01 28 44.0 +2.5**
baz=42

WEL 21 01:28:36.2±1.4,**32°S**±8',**17°8E**±3',**h33**km,**M4.5**/7,
mB5.0/4,**ML4.7/8,MLv4.5**/7,**Mw(mB)4.3**/4,**Error ellipse:**
s-maj=0.0km s-min=0.0km az=93.6,South of Kermadec
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.37**	**178**	P	Pn	01 29 55.6	+1.8
MXZ				S	Sn	01 30 55.4	+1.0
HAZ	**Te Kaha**	**5.56**	**183**	P	Pn	01 29 55.5	-1.1
HAZ				S	Sn	01 31 02.9	+3.6
WMGZ	**Waiomatatini S**	**5.62**	**178**	P	Pn	01 29 58.6	+1.2
WMGZ				S	Sn	01 31 02.0	+1.1
PKGZ	**Pakihiroa**	**5.69**	**180**	P	Pn	01 29 57.4	-1.0
PKGZ				S	Sn	01 31 01.9	-0.7
RUGZ	**Raukumara Rang**	**5.78**	**183**	P	Pn	01 30 00.4	+0.8
RUGZ				S	Sn	01 31 04.3	-0.5
URZ	**Urewera**	**6.11**	**187**	P	Pn	01 30 05.0	+0.8
URZ				S	Sn	01 31 15.0	+2.0
MWZ	**Matawai**	**6.15**	**184**	P	Pn	01 30 04.7	-0.1
MWZ				S	Sn	01 31 14.0	+0.1
TKGZ	**Te Karaka**	**6.24**	**182**	P	Pn	01 30 02.6	-3.3
MUGZ	**Murupara**	**6.37**	**190**	P	Pn	01 30 09.0	+1.3
MUGZ				S	Sn	01 31 20.6	+1.3
RAHZ	**Arahi**	**6.77**	**187**	P	Pn	01 30 12.7	-0.5
RAHZ				S	Sn	01 31 27.9	-1.1

IDC 21 02:01:40.0±4.5, 2.79S×141.45E, h0km, mb3.1/2, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=158.0km s-min=34.0km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.41**	**202**	P	Pn	02 05 55.7	-1.1
	0.1nm,0.3s,baz=24,slow=12,SNR=5.5						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**22.00**	**199**	P	P	02 06 36.0	-0.1
	0.1nm,0.3s,baz=29,slow=11,SNR=1.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**71.54**	**322**	P	P	02 13 03.5	+0.5
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.2						
	0.2nm,0.4s						

ROM 21 02:03:16.7±0.1, 42.846N±0.004×13.160E±0.005, h10km, ML0.5/1, 2C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=222.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**116**	P	Pg	02 03 19.1	+0.3
T1242				S	Sg	02 03 20.3	0.0
T1242				AML	AML		
	comp=E,46μm,1.1s						
T1242				AML	AML		
	comp=N,55μm,1.3s						
MC2	**Monte Cornacci**	**0.07**	**19**	P	Pg	02 03 19.6	+0.4
MC2				S	Sg	02 03 21.5	+0.4
T1216	**Preci, Frazion**	**0.11**	**294**	⇑P	Pg	02 03 20.0	+0.5
T1216				S	Sg	02 03 22.3	+0.7
T1202	**Accumoli, Fraz**	**0.15**	**161**	⇓P	Pg	02 03 20.4	+0.3
T1202				S	Sg	02 03 23.6	+1.0
FDMO	**Fiordimonte**	**0.20**	**344**	⇑P	Pg	02 03 21.4	+0.5
FDMO				S	Sg	02 03 24.9	+1.1
T1241	**Roccafluvione,**	**0.20**	**87**	P	Pg	02 03 21.5	+0.6
T1241				S	Sg	02 03 25.1	+1.2
CSP1	**Cessapalombo**	**0.25**	**8**	P	Pg	02 03 22.4	+0.6
CSP1				S	Sg	02 03 26.7	+1.4

*BEO **21** 02:04:04.5±0.3, 44.61N×17.43E, h6km±3km, ML3.0/11*
*PDG **21** 02:04:04.8±0.4, 44.66N×17.52E, h10km±1km, MB4.1/13, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*RHSSO **21** 02:04:05.2±0.2, 44.63N×17.48E, h3km±1km, ML3.1/15*
*LDG **21** 02:04:05.9±0.1, 44.64N×17.46E, h2km, Ml3.2/10, Error ellipse: s-maj=5.3km s-min=3.0km az=12.0*
*PRU **21** 02:04:08.1±0.0, 44.86N×17.47E, h0km*
ISC 21 02:04:05.3±0.9, 44.62N±0.02×17.47E±0.02, h9km±7km, n171, σ1s70/268, 21C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.24**	**302**	⇑*i*Pg	**Pg**	**02 04 10.1**	**0.0**
BLY				*e*Sg	**Sg**	**02 04 13.4**	**+0.1**
BLY	**Banja Luka**	**0.24**	**302**	*e*Pg	**Pg**	**02 04 10.1**	**0.0**
BLY				*e*Sg	**Sg**	**02 04 13.6**	**+0.3**
BLY	**Banja Luka**	**0.24**	**302**	⇑P	**Pg**	**02 04 10.1**	**0.0**
BLY				AML	AML		
	comp=E,9250μm,0.3s						
BLY				AML	AML		
	comp=N,6370μm,0.3s						
BLY				AML	AML		
	comp=E,9250μm,0.3s						
BLY				AML	AML		
	comp=N,6350μm,0.3s						
BLY				AML	AML		
	comp=N,6350μm,0.3s						
BLY				AML	AML		
	comp=N,6370μm,0.3s						
BLY				AML	AML		
	comp=E,9250μm,0.3s						
BLY				AML	AML		
	comp=E,9250μm,0.3s						
MGRS	**Mrkonjic Grad**	**0.34**	**233**	⇓*i*Pg	**Pg**	**02 04 11.5**	**-0.6**
MGRS				*e*Sg	**Sg**	**02 04 16.5**	**-0.1**
DOB	**Doboj**	**0.47**	**76**	⇓*i*Pg	**Pg**	**02 04 12.8**	**-1.6**
DOB				*e*Sg	**Sg**	**02 04 19.5**	**-1.0**
A051A	**Mrakovica**	**0.56**	**315**	⇑*i*Pg	**Pg**	**02 04 16.0**	**-0.1**
A051A				*e*Sg	**Sg**	**02 04 23.2**	**-0.2**
PRIJ	**Prijedor**	**0.64**	**304**	⇑*i*Pg	**Pg**	**02 04 17.3**	**-0.4**
PRIJ				*e*Sg	**Sg**	**02 04 26.7**	**+0.7**
A050A	**Klekovaca**	**0.68**	**258**	⇑*i*Pg	**Pg**	**02 04 17.7**	**-0.8**
A050A				*e*Sg	**Sg**	**02 04 26.9**	**-0.5**
A252A	**Venje**	**0.86**	**18**	*i* Pg	**Pb**	**02 04 22.5**	**+0.1**
A252A				Sg	**Sb**	**02 04 34.9**	**+0.9**
KIJV	**Kijevo**	**0.98**	**231**	*e*Pg	**Pg**	**02 04 23.6**	**-0.6**
KIJV				Sg	**Sg**	**02 04 35.1**	**-1.8**
MOSL	**Moslavina**	**1.11**	**333**	*i* Pg	**Pb**	**02 04 26.8**	**0.0**
MOSL				Sg	**Sb**	**02 04 41.9**	**+0.6**
RICI	**Ricice**	**1.15**	**192**	*e*Pg	**Pg**	**02 04 25.6**	**-1.9**
UDBI	**Udbina**	**1.22**	**266**	*e*Pg	**Pg**	**02 04 26.9**	**-1.8**
BLJ	**Bijeljina**	**1.29**	**82**	*e*Pg	**Pg**	**02 04 27.6**	**-2.6**
BLJ				*e*Sg	**Sg**	**02 04 44.9**	**-2.1**
A255A	**Hotnja, Vukome**	**1.34**	**312**	*i* Pg	**Pn**	**02 04 30.3**	**0.0**
A255A				Sg	**Sg**	**02 04 47.7**	**-0.6**
PLIT	**Plitvice**	**1.34**	**282**	*e*Pn	**Pn**	**02 04 29.3**	**-0.9**
PLIT				Sn	**Sg**	**02 04 48.0**	**-0.3**
MAKA	**Makarska**	**1.37**	**194**	*i* Pn	**Pn**	**02 04 30.0**	**-0.7**
MORI	**Morici**	**1.47**	**240**	*e*Pn	**Pn**	**02 04 32.1**	**0.0**
MORI				Sn	**Sb**	**02 04 51.3**	**-0.4**
TEKS	**Tekeris**	**1.48**	**92**	*e*Pg	**Pn**	**02 04 31.1**	**-1.1**
TEKS				*e*Sg	**Sb**	**02 04 51.9**	**0.0**
TEKS	**Tekeris**	**1.48**	**92**	*e*Pg	**Pn**	**02 04 31.3**	**-0.9**
TEKS				*e*Sg	**Sb**	**02 04 51.9**	**0.0**
KOVH	**Kovagotottos**	**1.53**	**17**	P	**Pn**	**02 04 32.3**	**-0.6**
KOVH				S	**Sg**	**02 04 54.9**	**+0.4**
BBLS	**Lazići**	**1.59**	**118**	*e*Pg	**Pn**	**02 04 33.6**	**-0.1**
BBLS				*e*Sg	**Sb**	**02 04 55.8**	**+0.7**
ZAG	**Zagreb**	**1.59**	**320**	*e*Pn	**Pn**	**02 04 33.3**	**-0.4**
HVAR	**Hvar**	**1.62**	**207**	*e*Pn	**Pn**	**02 04 34.2**	**+0.1**
ZIRJ	**Zirje**	**1.63**	**234**	*e*Pn	**Pn**	**02 04 34.9**	**+0.6**
PTJ	**Puntijarka**	**1.66**	**321**	*e*Pn	**Pn**	**02 04 34.1**	**-0.7**
KALN	**Kalnik**	**1.67**	**335**	*e*Pn	**Pn**	**02 04 34.4**	**-0.4**
RUDO	**Rudo**	**1.70**	**126**	*e*Pn	**Pn**	**02 04 34.6**	**-0.6**
RUDO				*e*Sn	**Sn**	**02 04 57.2**	**0.0**
OZLJ	**Ozalj**	**1.73**	**306**	*e*Pn	**Pn**	**02 04 35.5**	**-0.1**
FRGS	**Fruska Gora**	**1.75**	**71**	⇑P	**Pn**	**02 04 35.7**	**-0.2**
FRGS				⇑S	**Sg**	**02 05 02.1**	**+0.6**
FRGS	**Fruska Gora**	**1.75**	**71**	*e*Pn	**Pn**	**02 04 35.5**	**-0.4**
FRGS				*e*Sn	**Sn**	**02 04 59.1**	**+0.7**
FRGS	**Fruska Gora**	**1.75**	**71**	*e*Pg	**Pn**	**02 04 35.6**	**-0.4**
FRGS				*e*Sg	**Sg**	**02 05 02.3**	**+0.7**
VIRC	**Vir**	**1.76**	**260**	*e*Pn	**Pn**	**02 04 37.2**	**+1.3**
STON	**Ston**	**1.76**	**174**	⇑*i*Pn	**Pn**	**02 04 35.7**	**-0.3**
STON				*e*Sn	**Sn**	**02 04 59.3**	**+0.8**
STON	**Ston**	**1.76**	**174**	*e*Pn	**Pn**	**02 04 35.5**	**-0.5**
STON	**Ston**	**1.76**	**174**	*e*Pg	**Pn**	**02 04 35.5**	**-0.5**
STON				*e*Sg	**Sb**	**02 05 00.6**	**+0.6**
UPM	**Unac-Piva**	**1.76**	**143**	*e*Pn	**Pn**	**02 04 37.2**	**+1.0**
UPM				*e*Sn	**Sn**	**02 04 59.4**	**+0.5**
UPM	**Unac-Piva**	**1.76**	**143**	⇑*i*Pn	**Pn**	**02 04 36.6**	**+0.4**
UPM				*e*Sn	**Sg**	**02 05 01.7**	**-0.2**
MORH	**Mrgy, Hungar**	**1.79**	**27**	⇓P	**Pn**	**02 04 35.8**	**-0.7**
MORH	**Mrgy, Hungar**	**1.79**	**27**	*e*Pn	**Pn**	**02 04 36.5**	**0.0**
MORH				*e*Sn	**Sn**	**02 05 00.0**	**+0.6**
MORH	**Mrgy, Hungar**	**1.79**	**27**	P	**Pn**	**02 04 35.5**	**-1.0**
MORH				S	**Sb**	**02 05 01.5**	**+0.5**
BOJS	**Bojanci**	**1.80**	**300**	*e*Pn	**Pn**	**02 04 36.7**	**+0.1**
BOJS				*e*Sn	**Sn**	**02 05 00.8**	**+1.3**
LOBO	**Lobor**	**1.82**	**328**	*e*Pn	**Pn**	**02 04 36.4**	**-0.5**
DUGI	**Dugi Otok**	**1.84**	**251**	*e*Pn	**Pn**	**02 04 38.4**	**+1.3**
NVLJ	**Novalja**	**1.85**	**269**	*e*Pn	**Pn**	**02 04 38.1**	**+0.8**
CRES	**Cresnjev**	**1.86**	**311**	*i* Pn	**Pn**	**02 04 37.2**	**-0.2**
CRES				*e*Sn	**Sb**	**02 05 04.2**	**+1.3**
CRES				IAML		02 05 12.1	
	comp=Z,38nm,0.3s						
A250A	**Rusevo Krmpots**	**1.87**	**285**	*e*Pn	**Pn**	**02 04 38.5**	**+0.8**
DIVS	**Divibare**	**1.89**	**105**	*e*Pn	**Pn**	**02 04 38.4**	**+0.5**
DIVS				*e*Sn	**Sn**	**02 05 02.9**	**+1.0**
DIVS	**Divibare**	**1.89**	**105**	*e*Pg	**Pn**	**02 04 38.6**	**+0.7**
DIVS				*e*Sg	**Sg**	**02 05 05.9**	**-0.1**
DIVS	**Divibare**	**1.89**	**105**	P	**Pn**	**02 04 37.4**	**-0.5**
BRY	**Bratogost**	**1.89**	**155**	⇓*i*Pn	**Pn**	**02 04 38.2**	**+0.2**
BRY				*e*Sn	**Sn**	**02 05 03.1**	**+1.1**
BRY	**Bratogost**	**1.89**	**155**	⇑*i*Pn	**Pn**	**02 04 38.7**	**+0.7**
BRY				*i* Sn	**Sb**	**02 05 05.1**	**+1.2**
PLE	**Pljevlja**	**1.90**	**132**	⇓*i*Pn	**Pn**	**02 04 38.6**	**+0.6**
PLE				*i* Sn	**Sb**	**02 05 04.8**	**+0.7**
LSTV	**Lastovo**	**1.90**	**193**	*e*Pn	**Pn**	**02 04 38.9**	**+1.0**
RABC	**Rab**	**1.92**	**275**	*e*Pn	**Pn**	**02 04 39.4**	**+1.3**
LEGS	**Legarje**	**2.01**	**312**	*i* Pn	**Pn**	**02 04 39.4**	**-0.2**
LEGS				*e*Sn	**Sg**	**02 05 12.5**	**+2.5**
DBRK	**Dubrovnik**	**2.02**	**166**	*e*Pn	**Pn**	**02 04 40.1**	**+0.5**
NKY	**Niksic**	**2.12**	**148**	*e*Pn	**Pn**	**02 04 41.1**	**0.0**
NKY				*e*Sn	**Sb**	**02 05 10.7**	**+0.2**
TRUS	**Trudelj**	**2.15**	**100**	*e*Pg	**Pb**	**02 04 44.2**	**-0.2**
TRUS				*e*Sg	**Sg**	**02 05 13.8**	**-0.4**
NKME	**Niksic**	**2.15**	**149**	⇑*i*Pn	**Pn**	**02 04 42.5**	**+1.1**
NKME				*e*Sn	**Sb**	**02 05 11.3**	**+0.1**
BEO	**Beograd**	**2.15**	**84**	*e*Pg	**Pb**	**02 04 43.6**	**-0.9**
BEO				*e*Sg	**Sg**	**02 05 13.3**	**-1.1**
IVAS	**Ivanjica**	**2.20**	**117**	*e*Pg	**Pn**	**02 04 42.5**	**+0.3**
IVAS				*e*Sg	**Sb**	**02 05 13.5**	**+0.7**
RIY	**Rijeka**	**2.23**	**289**	*e*Pn	**Pn**	**02 04 43.3**	**+0.8**
PDKS	**Podkum**	**2.26**	**310**	*i* Pn	**Pn**	**02 04 42.9**	**0.0**
PDKS				*e*Sn	**Sg**	**02 05 17.5**	**-0.3**
PDKS				IAML		02 05 27.1	
	comp=Z,416nm,0.0s						
SJES	**Sjenica**	**2.27**	**126**	*e*Pn	**Pn**	**02 04 44.1**	**+1.0**
SJES				*e*Sn	**Sn**	**02 05 12.1**	**+0.8**
SJES	**Sjenica**	**2.27**	**126**	*e*Pg	**Sn**	**02 04 44.3**	**+1.2**
SJES				*e*Sg	**Sg**	**02 05 18.6**	**+0.5**
TIH	**Tihany**	**2.30**	**7**	P	**Pn**	**02 04 43.3**	**-0.1**
GROS	**Grobnik**	**2.30**	**324**	*i* Pn	**Pn**	**02 04 43.5**	**0.0**
HCY	**Herceg Novi**	**2.30**	**161**	⇑*i*Pn	**Pn**	**02 04 44.9**	**+1.4**
HCY				*e*Sn	**Sn**	**02 05 13.3**	**+1.4**
HCY	**Herceg Novi**	**2.30**	**161**	⇓*i*Pn	**Pn**	**02 04 44.3**	**+0.8**
HCY				*i* Sn	**Sb**	**02 05 15.2**	**-0.4**
KOME	**Kolasin**	**2.31**	**139**	⇑*i*Pn	**Pn**	**02 04 44.2**	**+0.5**
KOME				*i* Sn	**Sb**	**02 05 15.0**	**-1.0**
CEME	**Cevo**	**2.33**	**153**	⇓*i*Pn	**Pn**	**02 04 44.7**	**+0.8**
CEME				*e*Sn	**Sb**	**02 05 15.6**	**-0.9**
SMRN	**Sveta Marina**	**2.39**	**281**	*e*Pn	**Pn**	**02 04 45.1**	**+0.4**
CEY	**Cerknica**	**2.42**	**298**	*e*Pn	**Pn**	**02 04 45.6**	**+0.4**
CEY				*e*Sn	**Sn**	**02 05 16.0**	**+1.1**
GRUS	**Gruza**	**2.45**	**106**	*e*Pg	**Pn**	**02 04 47.4**	**+1.9**
GRUS				*e*Sg	**Sg**	**02 05 23.1**	**-0.9**
IVA	**Berane**	**2.48**	**134**	⇓*i*Pn	**Pn**	**02 04 46.5**	**+0.4**
IVA				*i* Sn	**Sn**	**02 05 19.3**	**+2.7**
BUM	**Brajici-Budva**	**2.54**	**155**	⇑*i*Pn	**Pn**	**02 04 47.8**	**+0.9**
BUM				*i* Sn	**Sn**	**02 05 20.6**	**+2.6**
MPLH	**Magyarpolny**	**2.55**	**1**	P	**Pn**	**02 04 47.2**	**+0.4**
PDG	**Podgorica**	**2.55**	**149**	⇓P	**Pn**	**02 04 45.0**	**-1.8**
TTG	**Podgorica**	**2.55**	**149**	⇑*i*Pn	**Pn**	**02 04 47.8**	**+0.9**
TTG				*i* Sn	**Sn**	**02 05 20.5**	**+2.4**
SKDS	**Skadanscina**	**2.61**	**292**	*e*Pn	**Pn**	**02 04 48.5**	**+0.7**
SKDS				*e*Sn	**Sn**	**02 05 19.9**	**+0.2**
BRJN	**Brijuni**	**2.66**	**277**	*i* Pn	**Pn**	**02 04 48.9**	**+0.5**
SOKA	**Soboth**	**2.67**	**321**	*e*Pn	**Pn**	**02 04 48.4**	**-0.2**
	comp=Z,2.1nm,0.2s,SNR=9.7						
SOKA				*e*Sn	**Sn**	**02 05 20.1**	**-1.0**
	comp=Z,7.8nm,0.3s						
JAVS	**Javornik**	**2.72**	**299**	*i* Pn	**Pn**	**02 04 49.4**	**+0.1**
JAVS				*e*Sn	**Sb**	**02 05 30.0**	**+2.3**
JAVS				IAML		02 05 38.8	
	comp=Z,34nm,0.5s						
PVY	**Plav**	**2.72**	**137**	⇑*i*Pn	**Pn**	**02 04 49.9**	**+0.5**
PVY				*i* Sn	**Sn**	**02 05 24.7**	**+2.2**
DRME	**Dracevica, Mon**	**2.74**	**152**	*e*Pn	**Pn**	**02 04 50.9**	**+1.4**
DRME				*e*Sn	**Sn**	**02 05 23.7**	**+0.9**
DRME	**Dracevica, Mon**	**2.74**	**152**	⇓*i*Pn	**Pn**	**02 04 50.8**	**+1.3**
DRME				*i* Sn	**Sn**	**02 05 25.6**	**+2.8**
OBKA	**Obir**	**2.78**	**314**	*e*Pn	**Pn**	**02 04 50.2**	**0.0**
OBKA				*e*Sn	**Sn**	**02 05 24.1**	**+0.1**
OBKA	**Obir**	**2.78**	**314**	*e*Pn	**Pn**	**02 04 50.5**	**+0.3**
	comp=Z,1.0nm,0.3s						
OBKA				*e*Sn	**Sn**	**02 05 25.3**	**+1.3**
	comp=Z,18nm,0.4s						
CSKK	**Cskako**	**2.79**	**11**	P	**Pn**	**02 04 50.4**	**+0.2**
EGYH	**Egyhazaskeszo**	**2.79**	**358**	P	**Pn**	**02 04 50.4**	**+0.2**
ARSA	**Arzberg**	**2.96**	**333**	⇑*i*Pn	**Pn**	**02 04 52.6**	**+0.1**
ARSA				*e*Sn	**Sn**	**02 05 28.5**	**+0.4**
ARSA	**Arzberg**	**2.96**	**333**	*e*Pn	**Pn**	**02 04 52.7**	**+0.2**
	comp=Z,16nm,0.4s,SNR=26						
ARSA				*e*Sn	**Sn**	**02 05 29.3**	**+1.2**
	comp=Z,4.7nm,0.4s						
ULC	**Ulcinj**	**2.96**	**153**	⇓*i*Pn	**Pn**	**02 04 54.1**	**+1.5**
ULC				*i* Sn	**Sn**	**02 05 31.0**	**+2.8**
SELS	**Selova**	**2.99**	**117**	*e*Pn	**Pn**	**02 04 52.8**	**-0.2**
MDVR	**Moldovita**	**3.03**	**86**	⇓P	**Pn**	**02 04 54.7**	**+1.1**
BUD	**Budapest**	**3.06**	**20**	P	**Pn**	**02 04 53.7**	**-0.2**
BZS	**Buzias**	**3.10**	**70**	⇑P	**Pn**	**02 04 54.3**	**-0.2**
SOP	**Sopron**	**3.12**	**349**	P	**Pn**	**02 04 54.9**	**+0.2**
SOP				S	**Sn**	**02 05 32.1**	**-0.1**
RONA	**Rosalia, Austr**	**3.18**	**346**	*i* Pn	**Pn**	**02 04 56.0**	**+0.4**
	comp=Z,4.9nm,0.2s,SNR=32						
RONA				*e*Sn	**Sn**	**02 05 35.3**	**+1.5**
	comp=Z,3.2nm,0.2s						
BOVS	**Bovan**	**3.21**	**106**	⇓P	**Pn**	**02 04 55.7**	**-0.2**
BOVS	**Bovan**	**3.21**	**106**	*e*Pn	**Pn**	**02 04 55.7**	**-0.2**
SRO	**Srobarova**	**3.24**	**10**	*e*PN	**Pn**	**02 04 57.4**	**+1.0**
SRO				*e*SN	**Sn**	**02 05 34.7**	**-0.5**
MYKA	**Terra Mystica**	**3.35**	**308**	*e*Pn	**Pn**	**02 04 59.4**	**+1.4**
	comp=Z,1.2nm,0.3s						
MYKA				*e*Sn	**Sn**	**02 05 39.0**	**+1.1**
	comp=Z,1.7nm,0.2s						
SIRR	**Siria**	**3.38**	**59**	⇑P	**Pn**	**02 04 58.9**	**+0.6**
CONA	**Conrad Observa**	**3.49**	**342**	*i* Pn	**Pn**	**02 05 00.2**	**+0.4**
	comp=Z,9.3nm,0.4s,SNR=38						
CONA				*e*Sn	**Sn**	**02 05 43.2**	**+1.9**
	comp=Z,1.7nm,0.2s						
ZAGS	**Zajecar**	**3.52**	**102**	*e*Pn	**Pn**	**02 04 59.7**	**-0.6**
HERR	**Herculane**	**3.54**	**84**	⇑P	**Pn**	**02 05 00.2**	**-0.2**
ZST	**Bratislava**	**3.58**	**356**	*e*PN	**Pn**	**02 05 01.2**	**+0.1**
ZST				*e*SN	**Sn**	**02 05 40.3**	**-3.2**
DJES	**Djerdap**	**3.61**	**88**	⇓P	**Pn**	**02 05 02.6**	**+1.2**
BARS	**Barje**	**3.63**	**118**	*e*Pn	**Pn**	**02 05 01.7**	**-0.1**
PSZ	**Piszkesteto**	**3.70**	**26**	⇓P	**Pn**	**02 05 01.9**	**-0.9**
PSZ	**Piszkesteto**	**3.70**	**26**	P	**Pn**	**02 05 01.6**	**-1.2**
AQU	**L'Aquila**	**3.73**	**234**	*e*Pn	**Pn**	**02 05 04.0**	**+0.9**
AQU				*e*Sn	**Sn**	**02 05 47.4**	**+0.2**
MODS	**Modra-Piesok**	**3.75**	**358**	*e*PN	**Pn**	**02 05 03.5**	**0.0**
MODS				*e*SN	**Sn**	**02 05 44.7**	**-3.1**
KBA	**Koelnbreinsper**	**3.78**	**312**	*e*Pn	**Pn**	**02 05 05.9**	**+1.9**
	comp=Z,1.9nm,0.5s						
KBA				*e*Sn	**Sn**	**02 05 47.6**	**-1.2**
	comp=Z,6.0nm,0.4s						
GZR	**Gura Zlata**	**3.84**	**77**	⇓P	**Pn**	**02 05 04.6**	**-0.2**
BLKB	**Belogradchik**	**3.88**	**103**	⇑P	**Pn**	**02 05 05.9**	**+0.6**
MOA	**Molln**	**3.92**	**327**	*i* Pn	**Pn**	**02 05 06.9**	**+1.2**
	comp=Z,15nm,0.3s,SNR=52						
MOA				*e*Sn	**Sn**	**02 05 51.6**	**-0.2**
	comp=Z,3.3nm,0.2s						
ZAPS	**Zavoj**	**3.97**	**108**	*e*Pn	**Pn**	**02 05 06.7**	**+0.3**
VYHS	**Vyhne**	**3.98**	**13**	*e*PN	**Pn**	**02 05 06.9**	**+0.3**
VYHS				*e*SN	**Sn**	**02 05 51.1**	**-2.4**
BIOA	**Bad Ischl, Aus**	**4.06**	**320**	*i* Pn	**Pn**	**02 05 08.5**	**+0.8**
	comp=Z,7.5nm,0.3s,SNR=5.9						
BIOA				*e*Sn	**Sn**	**02 05 54.4**	**-0.9**
	comp=Z,4.0nm,0.3s						
ABTA	**Abfaltersbach**	**4.07**	**303**	*i* Pn	**Pn**	**02 05 09.2**	**+1.3**
	comp=Z,0.8nm,0.2s,SNR=4.7						
ABTA				*e*Sn	**Sn**	**02 05 57.0**	**+1.4**
	comp=Z,9.0nm,0.8s						
BOSS	**Bosilegrad**	**4.22**	**119**	*e*Pn	**Pn**	**02 05 09.7**	**-0.2**
JAVC	**Velka Javorina**	**4.24**	**2**	*e*PN	**Pn**	**02 05 10.8**	**+0.6**
JAVC				*e*SN	**Sn**	**02 06 00.2**	**+0.4**
KRUC	**Moravsky**	**4.50**	**351**	*e*PN	**Pn**	**02 05 13.6**	**-0.1**
KRUC				*e*SN	**Sn**	**02 06 02.5**	**-3.7**
VRAC	**Vranov**	**4.72**	**353**	*e*PN	**Pn**	**02 05 16.1**	**-0.7**
VRAC				*e*SN	**Sn**	**02 06 08.0**	**-3.7**
CKRC	**Cesky Krumlov**	**4.72**	**334**	*e*PN	**Pn**	**02 05 17.2**	**+0.4**
CKRC				*e*SN	**Sn**	**02 06 08.9**	**-2.8**
LANS	**Liptovska Anna**	**4.73**	**16**	*e*PN	**Pn**	**02 05 17.6**	**+0.7**
MAUC	**Maruska**	**4.75**	**3**	*e*PN	**Pn**	**02 05 17.4**	**+0.2**
MAUC				*e*SN	**Sn**	**02 06 10.1**	**-2.3**
WTTA	**Wattenberg**	**4.85**	**305**	*e*Pn	**Pn**	**02 05 20.7**	**+2.0**
	comp=Z,1.0nm,0.3s						
WTTA				*e*Sn	**Sn**	**02 06 17.0**	**+2.0**
	comp=Z,4.1nm,0.4s						
WATA	**Walderalm**	**4.92**	**306**	*e*Pn	**Pn**	**02 05 21.5**	**+1.9**
	comp=Z,1.5nm,0.3s						
WATA				*e*Sn	**Sn**	**02 06 18.8**	**+2.1**
	comp=Z,3.1nm,0.3s						
SQTA	**Sankt Quirin**	**5.08**	**303**	*i* Pn	**Pn**	**02 05 22.3**	**+0.5**
	comp=Z,1.4nm,0.2s,SNR=4.8						
CRVS	**Cervenica-Dubn**	**5.08**	**31**	*e*PN	**Pn**	**02 05 22.5**	**+0.8**
MORC	**Moravsky Berou**	**5.16**	**1**	⇓P	**Pn**	**02 05 20.8**	**-2.0**
MORC	**Moravsky Berou**	**5.16**	**1**	*e*PN	**Pn**	**02 05 23.4**	**+0.7**
MORC				*e*SN	**Sn**	**02 06 18.9**	**-3.5**
MOTA	**Moosalm**	**5.20**	**304**	*e*Pn	**Pn**	**02 05 25.7**	**+2.2**
	comp=Z,2.1nm,0.5s						
KHC	**Kasperske Hory**	**5.24**	**331**	*e*PN	**Pn**	**02 05 24.3**	**+0.5**
KHC				*e*SN	**Sn**	**02 06 22.6**	**-1.8**
FETA	**Feichten**	**5.28**	**299**	*e*Pn	**Pn**	**02 05 24.8**	**+0.2**
	comp=Z,0.8nm,0.3s						
FETA				*e*Sn	**Sn**	**02 06 28.5**	**+2.8**
	comp=Z,2.6nm,0.6s						
KOLS	**Kolonicke sedl**	**5.43**	**36**	*e*PG	**Pg**	**02 05 53.6**	**+4.3**
RETA	**Reutte**	**5.47**	**304**	*e*Pn	**Pn**	**02 05 29.0**	**+1.8**
	comp=Z,0.3nm,0.2s						
RETA				*e*Sn	**Sn**	**02 06 31.3**	**+1.1**
	comp=Z,1.9nm,0.3s						
KRLC	**Kraliky**	**5.47**	**355**	*e*Pn	**Pn**	**02 05 27.6**	**+0.5**
KRLC				*e*SN	**Sn**	**02 06 26.9**	**-3.3**
DPC	**Dobruska-Polom**	**5.78**	**353**	*e*PN	**Pn**	**02 05 31.6**	**+0.3**
DPC				*e*SN	**Sn**	**02 06 33.5**	**-4.3**
DAVA	**Damuels**	**5.92**	**299**	*e*Pn	**Pn**	**02 05 34.8**	**+1.5**
	comp=Z,0.4nm,0.2s						
OSTC	**Ostas**	**6.00**	**352**	*e*PN	**Pn**	**02 05 34.4**	**+0.1**
CHVC	**Chvalec**	**6.04**	**351**	*e*PN	**Pn**	**02 05 34.5**	**-0.4**
PGF	**Pioggiola**	**6.49**	**254**	*e*Pn	**Pn**	**02 05 40.1**	**-1.0**
PGF				*e*Sn	**Sn**	**02 06 50.5**	**-4.8**
	comp=Z,15nm,0.9s						
NKC	**Novy Kostel**	**6.56**	**331**	*e

TABP Talibon, Bohol 5.37 330⇓ *eP* **Pn 02 21 23.8 -2.2**
TABP *eS* **Sn 02 22 28.5 +1.9**
SNPH Sibulan 5.45 316 *eP* **Pn 02 21 28.6 +1.4**
KMSI Cibinong 5.75 213 P **Pn 02 21 31.7 +0.5**
1.8nm401nm,0.6s
LLP Lapu-Lapu 5.75 328 *eP* **Pn 02 21 32.5 +1.3**
LLP *eS* **Sn 02 22 38.2 +2.3**
LBMI Labuha 6.05 176 P **Pn 02 21 36.7 +1.3**
0.8nm2µm164nm,0.6s
GTOI Gorontalo 6.28 221 P **Pn 02 21 37.9 -0.6**
0.2nm584nm48nm,0.5s
MRSI Marisa 7.13 226 P **Pn 02 21 50.2 +0.1**
0.9nm3µm260nm,0.6s
RCP Roxas 7.45 325⇑ *eP* **Pn 02 21 51.9 -2.5**
SWI Sorong 7.52 146 P **Pn 02 21 55.8 +0.4**
0.3nm1µm71nm,0.5s
SANI Sanana 7.52 188 P **Pn 02 21 52.8 -2.7**
0.6nm3µm60nm,0.6s
SIJI Sorong 7.53 146 P **Pn 02 21 55.0 -0.6**
25nm,0.3s,baz=97,slow=3.8,SNR=19
SIJI S **Sn 02 23 15.7 -3.8**
8.8nm,0.3s,baz=329,slow=23,SNR=1.4
SIJI LR LR 02 25 10.5
comp=Z,232nm,18.7s,baz=150,slow=40
TOLI2 Tolitoli 7.63 236 Pn 02 21 55.0 -1.9
LUWI Luwuk 7.75 214 Pn 02 21 58.7 +0.1
LUWI Luwuk 7.75 214 P **Pn 02 22 00.4 +1.7**
0.8nm6µm181nm,0.5s
APSI Ampana 8.33 221 P **Pn 02 22 07.5 +1.0**
1µm78nm,0.6s
MYLDM Lahad Datu 8.56 269 Pn **Pn 02 22 09.7 0.0**
NLAI Namlea 8.62 180 P **Pn 02 22 10.6 +0.1**
5µm54nm,0.4s
MPSI Mapaga 8.80 235 P **Pn 02 22 11.9 -1.0**
24nm,0.6s
MSAI Masohi 8.92 168 P **Pn 02 22 18.3 +3.7**
14nm,0.5s
FAKI Fak Fak 9.77 148 Pn **Pn 02 22 26.6 +0.4**
LQP Lukban 10.21 328⇓ *eP* **Pn 02 22 36.0 +3.7**
KKM Kota Kinabalu 10.84 274 Pn **Pn 02 22 42.5 +1.5**
TTSI Tana Toraja 11.13 221 P **Pn 02 22 46.9 +2.1**
2µm45nm,0.7s
SPSI Sidrap Palu 11.87 218 P **Pn 02 22 54.6 -0.2**
25nm,0.7s
BKB Balikpapan 12.17 237 Pn **Pn 02 23 01.1 +2.2**
KAPI Kappang 12.71 215 P **Pn 02 23 06.5 +0.1**
8.0nm,0.3s,baz=8.0,slow=7.1,SNR=11
KAPI Kappang 12.71 215 Pn **Pn 02 23 06.7 +0.3**
BKSI Bulukumba 12.76 213 P **P 02 23 17.8 +2.4**
SMPI Sarmi 13.75 122 P **P 02 23 24.4 -2.0**
925nm9.6nm,0.7s
MMRI Maumere 14.80 199 Pn **Pn 02 23 35.3 +1.4**
EDFI Ende, Flores 15.09 201 P **Pn 02 23 37.2 -0.6**
9.1nm,0.6s
BBKI Banjar Baru 15.10 234 P **P 02 23 41.4 -0.1**
6µm63nm,0.8s
SBUM Sibu 15.13 259 Pn **Pn 02 23 39.2 +1.0**
SOEI Soe 15.36 191 P 02 23 45.2 +0.8
SOEI Soe 15.36 191 P **P 02 23 44.9 +0.5**
876nm47nm,0.6s
BATI Baumata 15.92 192 LR LR 02 31 32.7
comp=Z,235nm,20.1s,baz=38,slow=43
BATI Baumata 15.92 192 P **Pn 02 23 48.0 -0.2**
602nm33nm,0.6s
PLAI Plampang 16.95 213 P **P 02 24 04.9 +3.0**
653nm84nm,0.7s
TWSI Taliwang, Sumb 17.38 216 P **P 02 24 06.8 +0.1**
31nm,0.7s
MTN Manton Dam 18.60 168 P **P 02 24 20.5 +0.4**
YULB Yu-li 18.70 343 P **P 02 24 21.0 -0.2**
TPUB Ta-pu 18.82 341 P **P 02 24 21.9 -0.5**
JAGI Jajag, Banyuwa 18.91 223 P **P 02 24 23.8 +0.2**
JAGI IAmb IAmb 02 24 31.2
comp=Z,159nm,1.6s
GUMO Guam 19.29 64 LR LR 02 30 33.5
comp=Z,177nm,21.3s,baz=264,slow=32
KNRA Kununurra 21.05 176 P **P 02 24 48.0 +1.4**
KNRA IAmb IAmb 02 24 54.0
comp=Z,29nm,0.6s
LEM Lembang 22.95 238 P **P 02 25 07.0 -0.1**
comp=Z,49nm,0.7s,baz=55,slow=7.6,SNR=8.0
LEM LR LR 02 34 16.6
comp=Z,129nm,20.9s,baz=100,slow=37
comp=Z,49nm,0.7s
FITZ Fitzroy Crossi 23.43 183 P **P 02 25 12.6 +1.1**
comp=Z,3.5nm,0.6s,baz=359,slow=7.4,SNR=7.5
FITZ LR LR 02 35 35.7
comp=Z,74nm,18.5s,baz=333,slow=40
comp=Z,3.5nm,0.6s
FITZ Fitzroy Crossi 23.43 183 P **P 02 25 11.4 -0.1**
PMG Port Moresby 24.85 126 LR LR 02 36 27.1
comp=Z,96nm,20.5s,baz=317,slow=39
COEN Coen 25.02 141 P **P 02 25 27.8 +1.8**
JCJ Chichijima 25.89 32 P **P 02 25 31.1 -2.6**
IPM Ipoh 25.99 269 P **P 02 25 33.9 -1.0**
WB0 Warramunga Arr 26.06 164 P **P 02 25 35.9 +0.6**
WB0 IAmb IAmb 02 25 44.4
comp=Z,24nm,0.5s
JSU Suzuyama 26.12 7 P **P 02 25 34.3 -1.5**
JSU IAmb IAmb 02 26 11.2
comp=Z,84nm,1.7s
WRAB Tennant Creek 26.21 164 P **P 02 25 39.6 +2.9**
WRAB IAmb IAmb 02 25 42.8
comp=Z,17nm,0.6s
WRA Warramunga Arr 26.21 164 P **P 02 25 36.4 -0.3**
comp=Z,3.6nm,0.6s,baz=343,slow=10,SNR=67
WRA ScP **ScP 02 32 36.9 +1.1**
comp=Z,1.3nm,0.7s,baz=345,slow=3.4,SNR=9.2
WRA LR LR 02 38 03.9
comp=Z,60nm,20.1s,baz=328,slow=41
comp=Z,3.6nm,0.6s
WRA Warramunga Arr 26.21 164 P **P 02 25 38.3 +1.6**
WB2 Warramunga Arr 26.21 164 P **P 02 25 39.5 +2.8**
WR0 Warramunga Arr 26.28 164 P **P 02 25 40.1 +2.8**
KULM Kulim 26.33 271 P **P 02 25 37.2 -0.7**
SDSI Sungai Dareh 26.41 257 P **P 02 25 41.9 +3.4**
comp=Z,7.8nm,0.6s
KRVT Keravat (AS076 26.72 111 LR LR 02 34 58.5
comp=Z,177nm,20.5s,baz=59,slow=33
MBWA Marble Bar 27.41 195 P **P 02 25 48.0 +0.6**
MBWA IAmb IAmb 02 26 14.5
comp=Z,53nm,1.6s
NJ2 Nanjing 27.57 345 *eP* **P 02 25 51.0 +2.2**
NJ2 pmax pmax
comp=Z,11nm,0.6s
PSA00 Pilbara Seismi 27.77 195 P **P 02 25 50.6 -0.1**
PSI Prapat 28.22 266 P **P 02 25 53.6 -1.3**
comp=Z,14nm,0.7s,baz=106,slow=5.0,SNR=8.1
PSI LR LR 02 39 32.9
comp=Z,54nm,20.4s,baz=62,slow=41
comp=Z,14nm,0.7s
RPSI Rantau Prapat 28.23 266 P **P 02 25 53.7 -1.2**
RPSI IAmb IAmb 02 25 54.6
comp=Z,12nm,0.6s
JMN Monobe 28.84 12 P **P 02 26 01.2 +1.1**
PHRA Phrae 29.25 299 P **P 02 26 03.6 -0.4**
PHRA IAmb IAmb 02 26 07.3
comp=Z,43nm,0.8s
AS31 Alice Springs 29.68 167 P **P 02 26 09.5 +1.8**
ASAR Alice Springs 29.68 167 P **P 02 26 07.5 -0.1**
comp=Z,1.1nm,0.5s,baz=353,slow=8.6,SNR=14
ASAR PcP **PcP 02 29 09.5 -1.1**
comp=Z,1.3nm,0.6s,baz=359,slow=2.9,SNR=5.4
ASAR ScP **ScP 02 32 47.5 +1.0**
comp=Z,1.5nm,0.7s,baz=345,slow=2.7,SNR=9.7
ASAR LR LR 02 38 52.3
comp=Z,77nm,19.3s,baz=325,slow=38
comp=Z,1.1nm,0.5s
ASAR Alice Springs 29.68 167 P **P 02 26 08.8 +1.1**
GSI Gunungsitoli 29.75 263 P **P 02 26 05.3 -3.1**
CRAI Chiangrai 29.84 302 P **P 02 26 07.8 -1.3**
CMAR Chiang Mai Arr 30.37 298 P **P 02 26 13.1 -0.7**
comp=Z,2.5nm,0.3s,baz=103,slow=7.0,SNR=8.3
CMAR LR LR 02 40 30.2
comp=Z,61nm,18.8s,baz=110,slow=40
comp=Z,2.5nm,0.3s
CMAR Chiang Mai Arr 30.37 298 P **P 02 26 14.2 +0.4**
CHTO Chiang Mai 30.50 298 P **P 02 26 13.7 -1.2**
CTA Charters Tower 31.60 144 LR LR 02 40 30.7
comp=Z,67nm,18.4s,baz=292,slow=39
KSRS Korea Array 31.87 1 P **P 02 26 27.9 +1.2**
comp=Z,1.9nm,0.5s,baz=178,slow=9.7,SNR=6.6
KSRS LR LR 02 44 32.1
comp=Z,31nm,18.0s,baz=175,slow=46
comp=Z,1.9nm,0.5s
LYN LuoYang 31.98 337⇑ *eP* **P 02 26 27.1 -0.6**
LYN S **S 02 31 35.9 +1.8**
LYN pmax pmax
comp=Z,10.0nm,0.6s
LYN pmax pmax
comp=Z,120nm,6.3s
LYN LR LR
comp=Z,170nm,20.3s
PZH PanZhiHua 32.01 314 P **P 02 26 30.5 +2.2**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.3s
MJAR Matsushiro Arr 32.59 17 LR LR 02 37 57.9
comp=Z,77nm,21.1s,baz=193,slow=33
XAN Xi'an 33.08 332 P **P 02 26 36.6 -0.9**
XAN pmax pmax
comp=Z,20nm,0.6s
XAN Xi'an 33.08 332 P **P 02 26 36.2 -1.3**
HNS HongShan 33.76 342 ⇑P **P 02 26 43.5 +0.2**
HNS pmax pmax
comp=Z,13nm,0.7s
JMM Marumori 34.60 19 P **P 02 26 50.8 +0.2**
BJT Baijiatuan 35.80 346 P **P 02 27 01.7 +0.8**
BJT IAmb IAmb 02 27 05.0
comp=Z,18nm,0.6s
BJT Baijiatuan 35.80 346 P **P 02 27 01.0 +0.1**
BJT pP **pP 02 27 16.8 -0.3**
HNR Honiara 35.92 114 LR LR 02 40 59.4
comp=Z,911nm,20.9s,baz=310,slow=35
MORW Morawa 35.92 197 P **P 02 27 02.7 +0.7**
MORW IAmb IAmb 02 27 19.5
comp=Z,43nm,1.5s
FORT Forrest 36.03 179 P **P 02 27 03.5 +0.6**
FORT IAmb IAmb 02 27 31.9
comp=Z,17nm,0.8s
LZH Lanzhou 37.24 328 ⇓P **P 02 27 13.8 +0.5**
LZH pP pP 02 27 30.3 +0.8
LZH sP sP 02 27 45.1 +7.7
LZH pmax pmax
comp=Z,27nm,1.5s
LZH LR LR
comp=Z,270nm,16.1s
LZH LR LR
comp=Z,220nm,16.8s
LZH LR LR
comp=Z,410nm,19.6s
HHC Hu-ho-hao-te 37.91 341 *eP* **P 02 27 21.3 +2.5**
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.3s
USA0B Ussuriysk Arra 38.84 6 P **P 02 27 26.9 +0.4**
USA0B IAmb IAmb 02 27 28.3
comp=Z,9.0nm,0.6s
USRK Ussuriysk Ar. 38.84 6 P **P 02 27 26.4 -0.1**
comp=Z,10nm,0.7s,baz=192,slow=6.9,SNR=28
USRK LR LR 02 44 02.9
comp=Z,38nm,21.6s,baz=182,slow=37
comp=Z,10nm,0.7s
USRK Ussuriysk Ar. 38.84 6 P **P 02 27 27.1 +0.6**
BBOO Buckleboo 38.98 168 P **P 02 27 29.0 +1.2**
MDJ Mudanjiang 39.08 3 P **P 02 27 29.1 +0.6**
MDJ IAmb IAmb 02 27 30.5
comp=Z,15nm,0.6s
MDJ Mudanjiang 39.08 3 P **P 02 27 29.3 +0.8**
MDJ pP pP 02 27 46.4 +2.1
MDJ sP sP 02 27 56.0 +4.0
MDJ S **S 02 33 24.6 +1.9**
MDJ PcS **PcS 02 33 26.3 -0.4**
MDJ sS sS 02 33 53.4 +3.1
MDJ ScS **ScS 02 37 29.0 -1.8**
MDJ pmax pmax
comp=Z,24nm,0.7s
MDJ pmax pmax
comp=Z,140nm,4.2s
MDJ LR LR
comp=Z,93nm,14.1s
MDJ LR LR
comp=Z,83nm,13.9s
MDJ LR LR
comp=Z,190nm,17.7s
NWAO Narrogin (SRO) 39.29 193 P **P 02 27 31.6 +1.2**
STKA Stephens Creek 39.60 160 P **P 02 27 33.4 +0.4**
comp=Z,3.4nm,0.5s,baz=343,slow=9.0,SNR=10.0
comp=Z,3.4nm,0.5s
STKA Stephens Creek 39.60 160 P **P 02 27 34.2 +1.2**
H11N1 WAKE ISLAND Hy 41.22 66 T T 03 12 29.0
baz=254,slow=75,SNR=5.4
H11N2 WAKE ISLAND Hy 41.23 66 T T 03 12 37.3
baz=254,slow=75,SNR=7.0
H11N3 WAKE ISLAND Hy 41.23 66 T T 03 12 41.6
baz=254,slow=75,SNR=5.3
GTA Gaotai 41.84 328 *eP* **P 02 27 51.4 -0.1**
GTA pP pP 02 28 05.3 -2.7
GTA sS sS 02 34 35.5 +3.4
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,31nm,5.3s
GTA LR LR
comp=Z,120nm,20.4s
GTA LR LR
comp=Z,120nm,21.8s
GTA LR LR
comp=Z,240nm,22.2s
GOMU GeErMu 42.59 320⇑ *eP* **P 02 27 57.9 -0.1**
GOMU pmax pmax
comp=Z,2.0nm,0.7s
GOMU pmax pmax
comp=Z,75nm,4.9s
ARMA Armidale 42.70 148 P **P 02 27 59.2 +0.6**
ARMA IAmb IAmb 02 28 51.7
comp=Z,46nm,1.8s
KLR Kul'dur 43.81 4 P **P 02 28 07.4 +0.3**
comp=Z,3.4nm,0.4s,baz=175,slow=10,SNR=21
KLR LR LR 02 50 06.7
comp=Z,26nm,18.8s,baz=193,slow=41
comp=Z,3.4nm,0.4s
RAMN Ramite 44.09 304 *eP* **P 02 28 09.2 -0.9**
comp=Z,29nm,0.6s
JIRN Jiri 44.69 304 *eP* **P 02 28 14.1 -0.9**
GUN Gumba 45.04 305 *eP* **P 02 28 16.9 -0.9**
comp=Z,27nm,0.5s
PKI Pulchoki 45.30 304 *eP* **P 02 28 18.6 -1.2**
PKIN Phulchoki 45.32 304 *eP* **P 02 28 18.6 -1.2**
DMN Daman 45.57 304 *eP* **P 02 28 20.5 -1.3**
ULN Ulaanbaatar 45.62 341 P **P 02 28 21.9 +0.1**
ULN IAmb IAmb 02 28 22.8
comp=Z,8.3nm,0.7s
ULN Ulaanbaatar 45.62 341 P **P 02 28 21.9 +0.1**
SONM Songino Array 45.81 341 P **P 02 28 23.0 -0.3**
comp=Z,5.0nm,0.7s,baz=154,slow=6.8,SNR=14
SONM PcP **PcP 02 29 59.4 -0.3**
comp=Z,1.4nm,0.6s,baz=158,slow=4.4,SNR=3.7
SONM LR LR 02 48 14.4
comp=Z,62nm,20.2s,baz=94,slow=37
comp=Z,5.0nm,0.7s
SONM Songino Array 45.81 341 P **P 02 28 23.1 -0.1**
GKN Gorkha 46.10 304 *eP* **P 02 28 24.5 -1.4**
PALK Pallekele 46.13 275 LR LR 02 49 46.5
comp=Z,41nm,18.3s,baz=189,slow=39
DANN Dangsing 46.94 304 *eP* **P 02 28 31.3 -1.4**
comp=Z,50nm,0.6s
DZM Mont Dzumac 47.24 127 *e*LR LR 02 42 04.6
comp=Z,165nm,27.9s
PYUN Piuthan 47.49 303 *eP* **P 02 28 35.1 -1.7**
comp=Z,30nm,0.6s
WMQ Urumqi 51.55 324 *eP* **P 02 29 08.8 +1.5**
WMQ LR LR
comp=Z,210nm,18.3s
WMQ LR LR
comp=Z,120nm,19.7s
WMQ LR LR
comp=Z,180nm,22.3s
PEA0B Petropavlovsk- 53.72 22 P **P 02 29 23.9 +0.9**
PETK Petropavlovsk- 53.72 22 P **P 02 29 23.9 +0.9**
comp=Z,8.2nm,0.7s,baz=182,slow=4.5,SNR=12
PETK LR LR 02 50 00.5
comp=Z,17nm,21.4s,baz=213,slow=33
comp=Z,8.2nm,0.7s
PETK Petropavlovsk- 53.72 22 P **P 02 29 23.6 +0.6**
ZSN Zaisan 55.28 326 *eP* **P 02 29 33.5 -1.1**
baz=326
MSVF Nonsavu 55.31 116 LR LR 02 52 23.4
comp=Z,65nm,20.1s,baz=314,slow=35
SHLS Shalkode 56.28 319 *eP* **P 02 29 39.3 -2.6**
baz=320
MK31 Makanchi Array 56.38 324 P **P 02 29 41.8 -0.5**
MK31 IAmb IAmb 02 29 43.0
comp=Z,9.6nm,0.7s
MKAR Makanchi Array 56.38 324 P **P 02 29 41.7 -0.6**
comp=Z,12nm,0.6s,baz=126,slow=8.2,SNR=146
comp=Z,12nm,0.6s
MKAR Makanchi Array 56.38 324 P **P 02 29 41.9 -0.5**
YAK Yakutsk 56.50 1 LR LR 02 55 15.7
comp=Z,20nm,21.8s,baz=91,slow=37
UZB Uzynbulak 56.56 319 *eP* **P 02 29 43.5 -0.4**
baz=319
MAKZ Makanchi 56.56 324 P **P 02 29 43.2 -0.5**
MAKZ IAmb IAmb 02 29 44.0
comp=Z,12nm,0.7s
MAKZ Makanchi 56.56 324 P **P 02 29 42.5 -1.2**
SATY Saty 56.92 319⇑ *iP* **P 02 29 45.7 -0.7**
comp=Z,7.7nm,0.7s,baz=319
KPKS Kokpek 56.93 319 *eP* **P 02 29 45.5 -0.9**
comp=Z,5.7nm,0.6s,baz=320
MA2 Magadan 56.97 14 LR LR 02 53 12.6
comp=Z,17nm,21.9s,baz=218,slow=35
KSH Kashi 57.11 314 P **P 02 29 48.6 +0.8**
KSH pmax pmax
comp=Z,5.0nm,0.5s
TDK Taldyqorghan 57.82 321 *eP* **P 02 29 52.2 -0.3**
baz=321
NRN Naryn 57.84 316 P **P 02 29 53.0 -0.2**
NRN IAmb IAmb 02 29 53.9
comp=Z,4.4nm,0.5s
MDOK Medeo 57.86 319 *eP* **P 02 29 52.6 -0.5**
baz=318
BOOM Boomskoye usch 58.31 317 P **P 02 29 55.5 -0.7**
BOOM IAmb IAmb 02 30 47.6
comp=Z,4.9nm,0.6s
TKM2 Tokmak 2 58.72 318 P **P 02 29 59.0 -0.2**
SNR=13
UCH Uchtor 59.18 317 P **P 02 30 03.1 +0.4**
SNR=17
ZAA0 Zalesovo Array 59.24 332 P **P 02 30 02.3 +0.1**
ZAA0 IAmb IAmb 02 30 07.2
comp=Z,5.9nm,0.6s
ZALV Zalesovo Beam 59.24 332 P **P 02 30 01.5 -0.7**
comp=Z,3.1nm,0.3s,baz=133,slow=7.3,SNR=13
ZALV LR LR 02 56 48.6
comp=Z,73nm,18.4s,baz=151,slow=37
comp=Z,3.1nm,0.3s
ZALV Zalesovo Beam 59.24 332 P **P 02 30 01.9 -0.3**
AAK Ala-Archa 59.35 317 P **P 02 30 03.3 -0.2**
comp=Z,3.5nm,0.6s,baz=154,slow=12,SNR=9.7
comp=Z,3.5nm,0.6s
AAK Ala-Archa 59.35 317 P **P 02 30 03.3 -0.2**
AAK IAmb IAmb 02 30 04.5
comp=Z,3.7nm,0.6s
AAK Ala-Archa 59.35 317 P **P 02 30 03.1 -0.4**
SGDS Sogindy 59.59 318 *eP* **P 02 30 03.9 -1.0**
baz=318
USP Ospenovka 59.60 318 P **P 02 30 04.7 -0.3**
SNR=14
AML Almayashu 59.70 316 P **P 02 30 06.5 +0.3**
SNR=14
EKS2 Erkin-Say 59.85 317 P **P 02 30 07.1 +0.3**
SNR=12
DRK Karamyk 60.11 313 P **P 02 30 09.3 +0.4**
KURK Kurchatov 60.51 327 P **P 02 30 10.5 -0.5**
KURK Kurchatov 60.51 327 P **P 02 30 10.0 -0.9**
KURK pwP **pwP 02 30 32.4 -1.6**
KURK sP **sP 02 30 36.5 +0.8**
BTLS Baital 60.61 319 *eP* **P 02 30 10.6 -1.3**
baz=319
SHEM Shemya Is, Ala 60.81 31 LR LR 02 51 36.3
comp=Z,36nm,21.3s,baz=332,slow=31
SMY Shemya 60.81 31 P **P 02 30 14.6 +1.6**
BTK Batken 61.01 313 P **P 02 30 14.0 -0.8**
BTK IAmb IAmb 02 30 15.7
comp=Z,7.3nm,0.6s
GAR Garm 61.05 312 P **P 02 30 14.7 -0.4**
CHGR Chuyangaron 61.81 311 P **P 02 30 20.0 -0.2**
KK31 Karatay Array 62.24 316 P **P 02 30 22.4 -0.6**
KK31 IAmb IAmb 02 30 23.3
comp=Z,8.9nm,0.7s
KKAR Karatay Array 62.24 316 P **P 02 30 22.1 -0.9**
IUG Iuzhnay 62.26 315⇑ *iP* **P 02 30 22.8 -0.3**
baz=315
RPZ Rata Peaks 62.95 146 LR LR 02 54 58.4
comp=Z,112nm,20.6s,baz=218,slow=33
BRZS Berezniki 63.52 324 *eP* **P 02 30 30.5 -0.8**
comp=Z,5.8nm,0.7s,baz=324
BKZ Black Stump Fm 63.61 139 P **P 02 30 33.3 +1.2**
AFI Afiamalu 63.62 108 LR LR 02 54 29.6
comp=Z,3nm,20.6s,baz=3.5,slow=32
BVAR Borovoye Array 66.10 326 LR LR 03 00 32.9
comp=Z,54nm,21.5s,baz=117,slow=37
TIXI Tiksi 66.14 1 LR LR 02 59 21.8
comp=Z,33nm,21.8s,baz=181,slow=36
TIXI Tiksi 66.14 1 P **P 02 30 46.6 -1.1**
TIXI IAmb IAmb 02 30 47.8
comp=Z,8.1nm,0.7s
TIXI Tiksi 66.14 1 P **P 02 30 47.0 -0.8**
BRVK Borovoye 66.17 326 P **P 02 30 47.9 -0.5**
BRVK IAmb IAmb 02 30 53.5
comp=Z,15nm,0.7s
BRVK Borovoye 66.17 326 P **P 02 30 47.4 -0.9**
NRIK Noril'sk 68.87 346 P **P 02 31 04.9 -0.2**
comp=Z,5.1nm,0.6s,baz=138,slow=5.7,SNR=6.4
comp=Z,5.1nm,0.6s
GEYT Alibeck 70.12 308 P **P 02 31 13.8 +0.3**
comp=Z,2.4nm,0.7s,baz=139,slow=9.8,SNR=4.9
comp=Z,2.4nm,0.7s
GEYT Alibeck 70.12 308 P **P 02 31 14.3 +0.8**
NIKH Nikolski High 70.21 35 P **P 02 31 13.6 0.0**
UOSS Minazif 70.41 294 P **P 02 31 13.9 -1.5**
UOSS IAmb IAmb 02 31 34.2
comp=Z,22nm,1.6s
ABKAR Akbulak array 71.07 320 P **P 02 31 18.4 -0.6**
UNV Unalaska Valle 71.82 35 P **P 02 31 23.5 +0.2**
AKUT Akutan 72.31 35 P **P 02 31 24.9 -1.4**
CASY Casey 72.55 187 P **P 02 31 28.6 +1.3**
ARU Arti 73.70 327 LR LR 03 05 15.7
comp=Z,68nm,21.5s,baz=110,slow=37
ARU Arti 73.70 327 P **P 02 31 33.7 -0.7**
ARU IAmb IAmb 02 31 35.6
comp=Z,14nm,0.6s
KIRV Kirov 78.96 329 LR LR 03 09 10.8
comp=Z,82nm,20.3s,baz=86,slow=37
L19K White Mountain 79.64 28 P **P 02 32 08.1 +0.2**
L19K IAmb IAmb 02 35 08.0
comp=Z,52nm,1.9s
M19K Big River Lodg 79.81 28 P **P 02 32 09.5 +0.7**
RAYN Ar Rayn 80.16 293 P **P 02 32 10.2 -1.3**
J20K Nowinta River 80.23 26 P **P 02 32 11.8 +0.9**
J20K IAmb IAmb 02 34 14.4
comp=Z,21nm,1.8s
IMAR Indian Mountai 80.64 24 P **P 02 32 13.8 +0.6**
H21K Melozitna Rive 80.98 24 P **P 02 32 15.9 +0.9**
H21K IAmb IAmb 02 33 01.9
comp=Z,36nm,2.0s
CAST Castle Rocks 81.05 27 P **P 02 32 16.1 +0.7**
CAST IAmb IAmb 02 32 16.8
comp=Z,6.6nm,0.7s
BPAW Bear Paw Mtn. 81.60 26 P **P 02 32 18.8 +0.5**
MLY Manley 81.78 25 P **P 02 32 19.9 +0.6**
KBZ Khabaz 82.08 313 P **P 02 32 20.6 -0.5**
comp=Z,3.4nm,0.7s,baz=120,slow=1.8,SNR=6.0
comp=Z,3.4nm,0.7s
KIV Kislovodsk 82.23 313 P **P 02 32 23.4 +1.3**
KIV IAmb IAmb 02 32 23.9
comp=Z,8.8nm,0.7s
H23K Yukon River 82.34 24 P **P 02 32 21.6 -0.5**
GHO Glory Hole Cre 82.39 28 P **P 02 32 20.8 -1.8**
GHO IAmb IAmb 02 33 21.3
comp=Z,25nm,1.3s
MCK McKinley 82.48 27 P **P 02 32 23.2 +0.3**
MCK IAmb IAmb 02 32 23.4
comp=Z,7.2nm,0.8s
RND Reindeer 82.50 27 P **P 02 32 22.6 -0.5**
RND IAmb IAmb 02 32 39.5
comp=Z,32nm,1.8s
TOLK Toolik Lake Re 82.53 22 P **P 02 32 23.8 +0.7**
SML Sawmill 82.67 28 P **P 02 32 24.2 +0.2**
SML IAmb IAmb 02 32 27.1
comp=Z,15nm,1.2s
GURO Guroymak-BITLI 82.78 308 P **P 02 32 26.3 +1.1**
H24K Noodor Dome 83.03 24 P **P 02 32 26.5 +0.7**
H24K IAmb IAmb 02 32 27.9
comp=Z,6.7nm,0.7s

ILAR	**Eielson Array**	**83.41**	**25**	P		**P**	**02 32 26.3**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=241,slow=5.2,SNR=16							
ILAR				LR		LR	03 06 21.3	
	comp=Z,25nm,21.5s,baz=178,slow=33							
	comp=Z,1.6nm,0.6s							
KLU	**Klutina**	**83.81**	**29**	P		**P**	**02 32 30.4**	**+0.5**
KLU				IAmb		IAmb	02 32 46.8	
	comp=Z,28nm,1.6s							
DIV	**Divide**	**83.88**	**29**	P		**P**	**02 32 31.1**	**+0.8**
DIV				IAmb		IAmb	02 34 26.4	
	comp=Z,15nm,1.0s							
J25K	**Salcha River,**	**84.06**	**26**	P		**P**	**02 32 30.4**	**-0.7**
J25K				IAmb		IAmb	02 32 47.9	
	comp=Z,23nm,1.9s							
KLMR	**Klimovskoe**	**84.10**	**331**	*e*P		**P**	**02 32 28.6**	**-2.7**
KLMR				AMP			02 32 31.9	
	comp=Z,17nm,0.6s							
BMAR	**Burnt Mountain**	**84.37**	**23**	P		**P**	**02 32 32.7**	**+0.1**
GLB	**Gilahina Butte**	**84.83**	**29**	P		**P**	**02 32 35.2**	**+0.2**
GLB				IAmb		IAmb	02 32 38.8	
	comp=Z,6.0nm,0.8s							
PPT2	**Papeete2**	**85.29**	**108**	*e*LR		LR	02 59 42.8	
	comp=Z,109nm,24.2s							
OBN	**Obninsk**	**85.88**	**325**	P		**P**	**02 32 41.0**	**+0.8**
TBI	**Tubuai**	**86.14**	**114**	*e*LR		LR	03 00 04.9	
	comp=Z,104nm,27.8s							
MMAI	**Mount Meron Ar**	**88.49**	**303**	LR		LR	03 18 19.8	
	comp=Z,21nm,18.9s,baz=345,slow=40							
SPITS	**Spitsbergen Ar**	**88.88**	**349**	LR		LR	03 18 12.0	
	comp=Z,23nm,19.9s,baz=55,slow=39							
ARA0	**ARCESS Array S**	**88.98**	**340**	*e*P		**P**	**02 32 53.5**	**-1.5**
ARCES	**ARCESS Array B**	**88.98**	**340**	P		**P**	**02 32 53.1**	**-1.9**
	comp=Z,2.6nm,0.6s,baz=93,slow=5.8,SNR=27							
	comp=Z,2.6nm,0.6s							
ARCES	**ARCESS Array B**	**88.98**	**340**	P		**P**	**02 32 53.1**	**-1.9**
BR131	**Keskin Array S**	**89.22**	**310**	P		**P**	**02 32 55.6**	**-1.3**
BR131				IAmb		IAmb	02 34 32.9	
	comp=Z,22nm,1.6s							
BRTR	**Keskin Array B**	**89.22**	**310**	P		**P**	**02 32 55.6**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=96,slow=4.8,SNR=12							
	comp=Z,1.9nm,0.7s							
KTK1	**Kautokeino**	**89.89**	**340**	*e*P		**P**	**02 32 57.1**	**-2.1**
FINES	**FINESS Array B**	**90.50**	**332**	P		**P**	**02 33 00.5**	**-1.7**
	comp=Z,2.1nm,0.4s,baz=58,slow=5.4,SNR=22							
	comp=Z,2.1nm,0.4s							
FINES	**FINESS Array B**	**90.50**	**332**	P		**P**	**02 33 00.6**	**-1.6**
JETT	**Jettan, Norway**	**90.70**	**340**	*e*P		**P**	**02 33 02.5**	**-0.6**
AKASG	**Malin Array Be**	**90.80**	**321**	P		**P**	**02 33 02.0**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=65,slow=5.1,SNR=8.6							
	comp=Z,1.0nm,0.5s							
MNK	**Minsk**	**90.94**	**325**	*i* P		**P**	**02 33 03.6**	**-0.7**
	comp=E,2.0nm,0.9s,baz=260							
MNK				*i* P		**P**	**02 33 03.6**	**-0.7**
MNK				*i* P		**P**	**02 33 03.6**	**-0.7**
	comp=Z,13nm,0.9s							
MNK				*i* pP		**pP**	**02 33 23.0**	**+0.2**
MNK				*i* PP		**PP**	**02 36 40.0**	**-1.0**
MNK				*i* PPP		PPP	02 38 38.2	
MNK				*i* S		**SKSac**	**02 43 28.6**	**-1.4**
MNK				*i* sS		**ScS**	**02 44 03.4**	**+4.5**
MNK				*i* SS		**SS**	**02 50 00.1**	**+0.2**
MNK				*i* SSS		SSS	02 53 37.8	
MNK				*i* LQ		LQ	03 08 14.9	
MNK				*i* LR		LR	03 11 39.6	
TRO	**Tromso**	**91.17**	**341**	*e*P		**P**	**02 33 03.9**	**-1.2**
TRO				IAmb		IAmb	02 33 05.4	
	comp=Z,47nm,1.7s							
STEI	**Steigen**	**93.03**	**339**	*e*P		**P**	**02 33 13.1**	**-0.7**
FAUS	**Fauske**	**93.22**	**339**	*e*P		**P**	**02 33 13.0**	**-1.6**
FAUS				IAmb		IAmb	02 33 19.7	
	comp=Z,17nm,1.4s							
MLR	**Muntele Rosu**	**93.93**	**316**	LR		LR	03 19 42.6	
	comp=Z,105nm,18.3s,baz=85,slow=38							
BUR08	**Bucovina Ar. S**	**93.98**	**318**	P		**P**	**02 33 17.7**	**-1.1**
BUR08				IAmb		IAmb	02 33 27.2	
	comp=Z,9.2nm,1.5s							
KOLS	**Kolonicke sedl**	**95.57**	**320**	*e*P		**P**	**02 33 26.6**	**+0.7**
RES	**Resolute Bay**	**96.07**	**10**	LR		LR	03 19 53.5	
	comp=Z,44nm,20.3s,baz=312,slow=37							
CRVS	**Cervenica-Dubn**	**96.10**	**320**	*e*P		**P**	**02 33 28.5**	**+0.2**
MBAR	**Mbarara**	**96.39**	**270**	LR		LR	03 11 23.1	
	comp=Z,25nm,21.9s,baz=56,slow=32							
HFS	**Hagfors**	**96.68**	**332**	LR		LR	03 24 30.9	
	comp=Z,66nm,18.9s,baz=61,slow=40							
NB2	**NORSAR Subarra**	**97.42**	**334**	P		**P**	**02 33 31.6**	**-2.4**
	comp=Z,3.5nm,1.1s,baz=65,slow=4.6							
NB2	**NORSAR Subarra**	**97.42**	**334**	P		**P**	**02 33 31.6**	**-2.4**
	baz=65,slow=4.6							
NOA	**NORSAR Array B**	**97.42**	**334**	P		**P**	**02 33 32.0**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=67,slow=4.5,SNR=4.6							
NOA				LR		LR	03 21 13.1	
	comp=Z,54nm,21.4s,baz=75,slow=38							
	comp=Z,0.5nm,0.7s							
VYHS	**Vyhne**	**97.88**	**320**	*e*P		**P**	**02 33 35.7**	**-0.6**
AKN	**Aaknes**	**98.69**	**336**	*e*P		**P**	**02 33 39.2**	**-0.5**
LSZ	**Lusaka**	**99.99**	**255**	LR		LR	03 14 55.5	
	comp=Z,42nm,18.9s,baz=186,slow=33							
GERES	**GERESS Array B**	**100.98**	**322**	P		**Pdif**	**02 33 48.8**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=86,slow=6.8,SNR=5.6							
TXAR	**Lajitas Array**	**120.26**	**52**	PKP		**PKiKP**	**02 38 52.7**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=206,slow=0.9,SNR=3.7							
TORD	**Torodi Ar. Bea**	**122.72**	**289**	PKP		**PKPdf**	**02 38 56.6**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=33,slow=2.1,SNR=24							

*IDC **21** 02:29:09.5±1.1, 42°.86N×143°.27E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=34.3km s-min=31.6km az=105.0*
*MOS **21** 02:29:12.5±1.4, 42°.78N×143°.09E, h36km, mb4.2/1, Error ellipse: s-maj=31.4km s-min=14.8km az=48.0*
*SKHL **21** 02:29:14.6±0.2, 42°.40N×143°.70E, h75km±4km, mb4.5/2*
*JMA **21** 02:29:14.9±0.1, 42°.8N±0°.2×143°.3E±0°.3, h33km, MV3.6/37, TOKACHI REGION*
JMA Felt II J1 at TOKACHI REGION .
*NIED **21** 02:29:14.9, 42°.84N×143°.33E, h33km, MW3.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr2.22; Mθθ0.19; Mθφ-2.42; Mrθ0.35; Mθφ-0.54; Mφφ0.67; Fault plane solution: M0 2.49000×10^14^ NP1: φs185.00000°, δ37.00000°, λ80.00000°. NP2: φs17.00000°, δ54.00000°, λ97.00000°.*

ISC 21 02:29:14.6±0.9, 42°.81N±0°.03×143°.33E±0°.03, h33km±5km, n32, σ1°18/40, mb3.7/7, 7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.19**	**173**	*e*P	**Pb**	**02 29 21.4**	**+0.3**
JCH				*e*S	**Sb**	**02 29 25.9**	**+0.4**
JOB	**Onbets**	**0.38**	**75**	⇓*e*P	**Pb**	**02 29 23.7**	**+0.3**
JOB				⇓*e*S	**Sn**	**02 29 30.3**	**+0.2**
JAR	**Ashorobuto**	**0.59**	**33**	⇓*e*P	**Pb**	**02 29 25.6**	**-1.0**
JAR				⇓*e*S	**Sb**	**02 29 33.3**	**-1.5**
JFR	**Furan**	**0.65**	**304**	⇓P	**Pn**	**02 29 27.3**	**-0.3**
JFR				⇓*e*S	**Sb**	**02 29 36.0**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.68**	**219**	*e*P	**Pn**	**02 29 27.5**	**-0.4**
JEM	**Erimo**	**0.80**	**189**	*e*P	**Pb**	**02 29 30.4**	**+0.3**
JEM				*e*S	**Sb**	**02 29 41.3**	**+0.7**
JAK	**Akkeshi**	**1.02**	**79**	⇓P	**Pn**	**02 29 31.7**	**-0.9**
JAB	**Ashibetsu**	**1.07**	**311**	*e*P	**Pb**	**02 29 34.6**	**-0.1**
JAB				*e*S	**Sb**	**02 29 49.6**	**+1.3**
AKK	**Akkeshi**	**1.13**	**79**	*e*P	**Pn**	**02 29 33.2**	**-0.9**
JKK2	**Kamakawa 2**	**1.15**	**338**	*e*P	**Pn**	**02 29 34.7**	**+0.3**
JMP	**Maruseppu**	**1.20**	**1**	*e*P	**Pn**	**02 29 35.2**	**0.0**
JMP				*e*S	**Sn**	**02 29 50.4**	**+0.1**
JTKR	**Abashiri--Toko**	**1.24**	**20**	*e*P	**Pn**	**02 29 35.8**	**+0.2**
JTKR				*e*S	**Sn**	**02 29 51.7**	**+0.5**
NMR	**Nemuro--Hokkai**	**1.84**	**71**	*e*PN	**Pn**	**02 29 42.8**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.84**	**71**	*e*P	**Pn**	**02 29 43.1**	**-0.9**
NMR				*e*S	**Sn**	**02 30 04.6**	**-1.5**
RUSJ	**Misakicho**	**1.91**	**46**	*e*PN	**Pn**	**02 29 46.1**	**+1.3**
RUSJ				*e*S	**Sb**	**02 30 12.7**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**2.22**	**55**	PN	**Pn**	**02 29 49.8**	**+0.7**
YUK				*e*S	**Sn**	**02 30 16.3**	**+1.0**
YUK				smax	smax		
	comp=N,380nm,0.2s						
YUK				smax	smax		
	comp=E,402nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.22**	**55**	*e*P	**Pn**	**02 29 48.8**	**-0.3**
YUK				AMB	AMB	02 29 49.8	
	comp=E,110nm,0.4s						
YUK				*e*S	**Sn**	**02 30 16.3**	**+1.0**
YUK				A	A	02 30 22.0	
	comp=E,410nm,0.4s						
YUK				A	A	02 30 22.0	
	comp=E,380nm,0.4s						
KUR	**Kuril'sk**	**4.07**	**52**	*e*PN	**Pn**	**02 30 17.9**	**+3.3**
KUR				*e*S	**Sn**	**02 31 05.3**	**+4.2**
KUR				smax	smax		
	comp=N,94nm,0.2s						
KUR	**Kuril'sk**	**4.07**	**52**	*e*P	**Pn**	**02 30 15.9**	**+1.3**
KUR				AMB	AMB	02 30 19.5	
	comp=N,50nm,0.7s						
KUR				*e*S	**Sn**	**02 31 01.1**	**0.0**
KUR				A	A	02 31 06.4	
	comp=N,50nm,0.2s						
KUR				A	A	02 31 06.4	
	comp=N,60nm,0.2s						
H11N2	**WAKE ISLAND Hy**	**30.38**	**132**	T	T	03 07 15.8	
	baz=325,slow=75,SNR=87						
H11N1	**WAKE ISLAND Hy**	**30.39**	**132**	T	T	03 07 16.5	
	baz=325,slow=75,SNR=94						
H11N3	**WAKE ISLAND Hy**	**30.40**	**132**	T	T	03 07 11.5	
	baz=325,slow=67						
H11S1	**WAKE ISLAND Hy**	**31.27**	**134**	T	T	03 08 18.4	
	baz=326,slow=76,SNR=106						
H11S3	**WAKE ISLAND Hy**	**31.28**	**134**	T	T	03 08 19.2	
	baz=326,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy**	**31.29**	**134**	T	T	03 08 19.8	
	baz=326,slow=76,SNR=57						
MKAR	**Makanchi Array**	**42.54**	**297**	P	**P**	**02 37 06.8**	**-0.2**
	comp=N,0.5nm,0.7s,baz=70,slow=6.6,SNR=2.4						
	comp=N,0.5nm,0.7s						
INK	**Inuvik**	**48.61**	**29**	P	**P**	**02 37 54.2**	**-0.4**
	comp=N,4.0nm,1.0s,baz=288,slow=4.5,SNR=2.7						
	comp=N,4.0nm,1.0s						
WRA	**Warramunga Arr**	**62.98**	**190**	P	**P**	**02 39 38.1**	**0.0**
	comp=N,0.6nm,1.0s,baz=7.8,slow=6.7,SNR=3.9						
	comp=N,0.6nm,1.0s						
FINES	**FINESS Array B**	**64.42**	**332**	P	**P**	**02 39 46.3**	**-0.8**
	comp=N,1.0nm,0.6s,baz=55,slow=7.2,SNR=6.2						
	comp=N,1.0nm,0.6s						
NOA	**NORSAR Array B**	**69.44**	**337**	P	**P**	**02 40 18.1**	**-1.1**
	comp=N,0.6nm,1.0s,baz=34,slow=6.3,SNR=2.7						
	comp=N,0.6nm,1.0s						
PDAR	**Pinedale Array**	**72.63**	**48**	P	**P**	**02 40 39.1**	**+0.1**
	comp=N,0.3nm,0.7s,baz=213,slow=3.0,SNR=3.4						
	comp=N,0.3nm,0.7s						
TXAR	**Lajitas Array**	**85.48**	**54**	P	**P**	**02 41 49.7**	**+0.3**
	comp=N,0.3nm,0.5s,baz=296,slow=3.8,SNR=6.0						
	comp=N,0.3nm,0.5s						

*SOME **21** 02:33:13.2, 39°.53N×78°.53E, h15km*
*NNC **21** 02:33:14.7±0.9, 39°.62N×78°.54E, h1km±3km, mb3.7, mpv3.3, Error ellipse: s-maj=6.2km s-min=5.2km az=146.0*

ISC 21 02:33:16.8±2.3, 39°.7N±0°.1×78°.49E±0°.05, h10km, n40, σ2°09/63, 7C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**3.33**	**359**	*e*P	**Pg**	**02 34 18.4**	**-2.3**
	2.9nm,0.3s						
SATY				*e*S	**Sg**	**02 35 05.4**	**+1.5**
	16nm,0.4s						
SATY	**Saty**	**3.33**	**359**	Pg	**Pg**	**02 34 18.3**	**-2.3**
	2.9nm,0.3s						
SATY				Lg	Lg	02 35 05.4	
	16nm,0.4s						
ZHN	**Zhinishke**	**3.44**	**359**	*e*P	**Pg**	**02 34 20.3**	**-2.4**
	5.3nm,0.2s						
ZHN				*e*S	**Sg**	**02 35 08.4**	**+1.1**
	17nm,0.2s						
UZB	**Uzynbulak**	**3.44**	**7**	*e*P	**Pb**	**02 34 18.4**	**+0.4**
	0.7nm,0.1s						
UZB				*e*S	**Sg**	**02 35 05.3**	**-2.1**
	8.6nm,0.6s						
UZB	**Uzynbulak**	**3.44**	**7**	Pg	**Pb**	**02 34 18.4**	**+0.4**
	0.7nm,0.1s						
UZB				Lg	Lg	02 35 05.3	
	8.6nm,0.6s						
SHLS	**Shalkode**	**3.51**	**12**	*e*P	**Pb**	**02 34 20.8**	**+1.8**
	5.3nm,0.2s						
SHLS				*e*S	**Sg**	**02 35 09.4**	**-0.1**
	9.6nm,0.3s						
SHLS	**Shalkode**	**3.51**	**12**	Pg	**Pb**	**02 34 20.8**	**+1.8**
	5.3nm,0.2s						
SHLS				Lg	Lg	02 35 09.4	
	9.6nm,0.3s						
MDOK	**Medeo**	**3.60**	**343**	*e*P	**Pb**	**02 34 22.7**	**+2.0**
	3.4nm,0.3s						
MDOK				*e*S	**Sg**	**02 35 13.0**	**+0.5**
	12nm,0.6s						
MDOK	**Medeo**	**3.60**	**343**	Pg	**Pb**	**02 34 22.7**	**+2.0**
	3.4nm,0.3s						
MDOK				Lg	Lg	02 35 13.0	
	12nm,0.6s						
KOTS	**Kotyrbulak**	**3.66**	**344**	*e*P	**Pb**	**02 34 23.8**	**+2.2**
	1.1nm,0.3s						
KOTS				*e*S	**Sg**	**02 35 14.8**	**+0.6**
	23nm,0.5s						
KOTS	**Kotyrbulak**	**3.66**	**344**	Pg	**Pb**	**02 34 23.8**	**+2.2**
	1.1nm,0.3s						
KOTS				Lg	Lg	02 35 14.8	
	23nm,0.5s						
PDGK	**Podgornoye**	**3.68**	**11**	⇑Pn	**Pn**	**02 34 13.8**	**-0.1**
	3.3nm,0.8s						
PDGK				⇑Pg	**Pb**	**02 34 23.7**	**+1.8**
	3.2nm,0.7s						
PDGK				⇑Sn	**Sn**	**02 35 00.5**	**+3.2**
	5.6nm,0.5s						
PDGK				⇑Lg	Lg	02 35 16.2	
	12nm,0.7s						
MTBS	**Maitube**	**3.74**	**336**	*e*P	**Pb**	**02 34 24.7**	**+1.7**
	2.8nm,0.2s						
MTBS				*e*S	**Sg**	**02 35 16.4**	**-0.5**
	14nm,0.3s						
MTBS	**Maitube**	**3.74**	**336**	Pg	**Pb**	**02 34 24.7**	**+1.7**
	2.8nm,0.2s						
MTBS				Lg	Lg	02 35 16.4	
	14nm,0.3s						
KPKS	**Kokpek**	**3.74**	**2**	*e*P	**Pb**	**02 34 25.1**	**+2.1**
	3.4nm,0.2s						
KPKS				*e*S	**Sg**	**02 35 17.1**	**+0.1**
	19nm,0.3s						
KPKS	**Kokpek**	**3.74**	**2**	Pg	**Pb**	**02 34 25.1**	**+2.1**
	3.4nm,0.2s						
KPKS				Lg	Lg	02 35 17.1	
	19nm,0.3s						
KURS	**Kuram**	**3.77**	**356**	*e*P	**Pb**	**02 34 25.4**	**+1.9**
	3.8nm,0.6s						
KURS				*e*S	**Sg**	**02 35 17.5**	**-0.3**
	6.7nm,0.5s						
KURS	**Kuram**	**3.77**	**356**	Pg	**Pb**	**02 34 25.4**	**+1.9**
	3.8nm,0.6s						
KURS				Lg	Lg	02 35 17.5	
	6.7nm,0.5s						
KST	**Kastek**	**3.82**	**331**	*e*P	**Pb**	**02 34 26.2**	**+1.8**
	2.6nm,0.3s						
KST				*e*S	**Sg**	**02 35 18.9**	**-0.7**
	13nm,0.3s						
KST	**Kastek**	**3.82**	**331**	Pg	**Pb**	**02 34 26.2**	**+1.8**
	2.6nm,0.3s						
KST				Lg	Lg	02 35 18.9	
	13nm,0.3s						
TKM2	**Tokmak 2**	**3.87**	**327**	⇑Pn	**Pn**	**02 34 16.6**	**+0.1**
	0.7nm,0.6s						
TKM2				⇑Pg	**Pg**	**02 34 28.3**	**-2.6**
	2.2nm,0.8s						
TKM2				⇑Lg	Lg	02 35 20.2	
	8.1nm,0.6s						
KTMS	**Ketmen**	**3.97**	**20**	*e*P	**Pb**	**02 34 28.7**	**+1.7**
	0.9nm,0.2s						
KTMS				*e*S	**Sg**	**02 35 23.2**	**-1.2**
	4.8nm,0.2s						
KTMS	**Ketmen**	**3.97**	**20**	Pg	**Pb**	**02 34 28.7**	**+1.7**
	0.9nm,0.2s						
KTMS				Lg	Lg	02 35 23.2	
	4.8nm,0.2s						
DGS	**Degeres**	**4.07**	**331**	*e*P	**Pb**	**02 34 30.8**	**+2.3**
	3.8nm,0.4s						
DGS				*e*S	**Sg**	**02 35 26.7**	**-0.6**
	12nm,0.5s						
DGS	**Degeres**	**4.07**	**331**	Pg	**Pb**	**02 34 30.8**	**+2.3**
	3.8nm,0.4s						
DGS				Lg	Lg	02 35 26.7	
	12nm,0.5s						
BLB	**Baldybastay**	**4.37**	**360**	*e*P	**Pb**	**02 34 35.9**	**+2.2**
	4.8nm,0.3s						
BLB				*e*S	**Sg**	**02 35 35.5**	**-1.7**
	13nm,0.6s						
BLB	**Baldybastay**	**4.37**	**360**	Pg	**Pb**	**02 34 35.9**	**+2.2**
	4.8nm,0.3s						
BLB				Lg	Lg	02 35 35.4	
	13nm,0.6s						
KUU	**Kurty**	**4.47**	**340**	*e*P	**Pb**	**02 34 37.1**	**+1.8**
	1.5nm,0.4s						
KUU				*e*S	**Sg**	**02 35 37.6**	**-2.5**
	4.4nm,0.3s						
KUU	**Kurty**	**4.47**	**340**	Pg	**Pb**	**02 34 37.1**	**+1.8**
	1.5nm,0.4s						
KUU				Lg	Lg	02 35 37.6	
	4.4nm,0.3s						
KRBS	**Karabastau**	**4.49**	**333**	*e*P	**Pb**	**02 34 39.0**	**+3.3**
	2.2nm,0.4s						
KRBS				*e*S	**Sg**	**02 35 41.2**	**+0.2**
	5.7nm,0.5s						
KRBS	**Karabastau**	**4.49**	**333**	Pg	**Pb**	**02 34 39.0**	**+3.3**
	2.2nm,0.4s						
KRBS				Lg	Lg	02 35 41.2	
	5.7nm,0.5s						
ARXS	**Arharly**	**4.51**	**354**	*e*P	**Pg**	**02 34 39.5**	**-3.7**
	3.3nm,0.5s						
ARXS				*e*S	**Sg**	**02 35 42.2**	**+0.5**
	7.9nm,0.4s						
ARXS	**Arharly**	**4.51**	**354**	Pg	**Pg**	**02 34 39.6**	**-3.7**
	3.3nm,0.5s						
ARXS				Lg	Lg	02 35 42.2	
	7.9nm,0.4s						
SGDS	**Sogindy**	**4.72**	**323**	*e*P	**Pb**	**02 34 42.2**	**+2.6**
	1.4nm,0.3s						
SGDS				*e*S	**Sg**	**02 35 46.4**	**-1.9**
	5.1nm,0.3s						
SGDS	**Sogindy**	**4.72**	**323**	Pg	**Pb**	**02 34 42.2**	**+2.6**
	1.4nm,0.3s						
SGDS				Lg	Lg	02 35 46.3	
	5.1nm,0.3s						
MRKS	**Merke**	**4.99**	**309**	*e*P	**Pb**	**02 34 46.9**	**+2.7**
	1.9nm,0.2s						
MRKS				*e*S	**Sg**	**02 35 54.8**	**-2.1**
	8.5nm,0.6s						
MRKS	**Merke**	**4.99**	**309**	Pg	**Pb**	**02 34 46.9**	**+2.7**
	1.9nm,0.2s						
MRKS				Lg	Lg	02 35 54.7	
	8.5nm,0.6s						
BTLS	**Baital**	**6.25**	**330**	*e*P	**Pg**	**02 35 12.8**	**-3.6**
	1.3nm,0.4s						
BTLS				*e*S	**Sg**	**02 36 39.0**	**+1.7**
	3.2nm,0.6s						
BTLS	**Baital**	**6.25**	**330**	Pg	**Pg**	**02 35 12.8**	**-3.6**
	1.3nm,0.4s						
BTLS				Lg	Lg	02 36 39.0	
	3.2nm,0.6s						
MK31	**Makanchi Array**	**7.59**	**20**	Pn	**Pn**	**02 35 06.8**	**-0.7**
	8.0nm,0.8s,baz=200,slow=12,SNR=33						
MK31				⇓Sn	**Sn**	**02 36 36.0**	**+2.5**
	0.6nm,0.5s,baz=202,slow=25,SNR=4.7						

*NEIC **21** 02:47:01.8±1.9, 54°.84S±0°.08×158°.6E±0°.2, h10km±1km, mb4.3/6, Error ellipse: s-maj=25.5km s-min=3.7km az=120.0*
*IDC **21** 02:47:03.8±1.6, 55°.17S×157°.10E, h0km, mb4.0/5, mbtmp4.1/5, MS3.6/12, Error ellipse: s-maj=97.8km s-min=19.6km az=72.0*

ISC 21 02:47:02.4±0.7, 54°.83S±0°.07×158°.7E±0°.1, h10km, n43, σ1°36/28, mb4.2/7, MS3.6/15, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**0.38**	**28**		**Pg**	**02 47 09.4**	**-0.5**
MCQ				Sg	**Sg**	**02 47 15.5**	**+0.6**
WHZ	**Wether Hill Ro**	**10.73**	**37**		**Pn**	**02 49 35.3**	**-0.7**
DCZ	**Deep Cove**	**10.84**	**34**	Pn	**Pn**	**02 49 36.8**	**-0.7**
MLZ	**Mavora Lakes**	**11.25**	**36**	Pn	**Pn**	**02 49 42.5**	**-0.7**
WKZ	**Wanaka**	**12.03**	**38**	Pn	**Pn**	**02 49 54.7**	**+0.8**
ODZ	**Otahua Downs**	**12.46**	**43**	Pn	**Pn**	**02 49 57.9**	**-1.7**
TAU	**Tasmania Unive**	**14.04**	**324**	Pn	**Pn**	**02 50 19.3**	**-1.9**
URZ	**Urewera**	**20.77**	**45**	LR	LR	02 59 42.8	
	comp=Z,210nm,18.3s,baz=308,slow=35						
VNDA	**Vanda**	**22.81**	**178**	P	**P**	**02 52 04.4**	**-0.5**
	1.5nm,0.9s,baz=331,slow=9.6,SNR=7.9						
VNDA				LR	LR	02 59 19.2	
	comp=Z,100nm,20.7s,baz=354,slow=33						
	1.5nm,0.9s						
VNDA	**Vanda**	**22.81**	**178**	P	**P**	**02 52 05.2**	**+0.3**
VNDA				IAmb	IAmb	02 52 25.6	
	comp=Z,8.2nm,1.4s						
STKA	**Stephens Creek**	**25.94**	**325**	P	**P**	**02 52 37.6**	**+2.8**
	comp=Z,2.2nm,0.7s,baz=175,slow=11,SNR=3.1						
STKA				LR	LR	03 01 17.3	
	comp=Z,112nm,18.8s,baz=198,slow=33						
	comp=Z,2.2nm,0.7s						
DZM	**Mont Dzumac**	**33.24**	**13**	*e*LR	LR	03 02 16.5	
	comp=Z,87nm,23.6s						
QSPA	**South Pole Qui**	**35.28**	**180**	P	**P**	**02 53 57.0**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=0.7,slow=7.0,SNR=5.2						
QSPA				LR	LR	03 06 07.4	
	comp=Z,84nm,21.5s,baz=8.0,slow=33						
	comp=Z,2.3nm,0.9s						
QSPA	**South Pole Qui**	**35.28**	**180**	P	**P**	**02 53 57.4**	**+0.4**
QSPA				IAmb	IAmb	02 54 03.2	
	comp=Z,8.9nm,1.3s						
CTA	**Charters Tower**	**35.94**	**340**	LR	LR	03 07 21.6	
	comp=Z,115nm,18.0s,baz=110,slow=34						
ASAR	**Alice Springs**	**36.16**	**319**	P	**P**	**02 54 04.9**	**0.0**
	comp=Z,5.5nm,1.0s,baz=158,slow=8.7,SNR=25						
	comp=Z,5.5nm,1.0s						
ASAR	**Alice Springs**	**36.16**	**319**	P	**P**	**02 54 03.7**	**-1.2**
AS31	**Alice Springs**	**36.17**	**319**	P	**P**	**02 54 04.2**	**-0.7**
H01W1	**Cape Leeuwin H**	**36.51**	**284**	T	T	03 32 44.9	
	baz=136,slow=76,SNR=5464						
H01W2	**Cape Leeuw

FITZ Fitzroy Crossi 11.65 196 Pn Pn 02 52 32.0 +0.5
0.1nm,0.3s,baz=341,slow=7.3,SNR=8.0
FITZ Sn Sn 02 54 30.7 -12
0.3nm,0.3s,baz=184,slow=18,SNR=2.3
0.7nm,0.3s
WRA Warramunga Arr 13.96 159 Pn Pn 02 53 02.3 -0.8
0.4nm,0.3s,baz=337,slow=12,SNR=19
WRA Sn Sn 02 55 26.4 -13
0.4nm,0.3s,baz=341,slow=20,SNR=6.3
0.4nm,0.3s
ASAR Alice Springs 17.33 165 P Pn 02 53 47.5 +0.2
0.2nm,0.3s,baz=337,slow=9.1,SNR=9.3
0.3nm,0.4s
MKAR Makanchi Array 67.62 327 P P 03 00 42.5 0.0
0.5nm,0.5s,baz=117,slow=8.0,SNR=5.3
0.5nm,0.5s

*JMA **21** 02:53:52.8±0.4,36°N±1″×12°9E±″, h15km, MV3.8/12, S KOREAN PENINSULA REG*
*KEA **21** 02:53:53.9,35°84N×129°.15E, h16km, ML3.5/2*
*NEIC **21** 02:53:53.5±1.1,35°.76N±0°.04×129°.24E±0°.05, h10km±1km, ML3.5/2, Error ellipse: s-maj=8.0km s-min=5.6km az=235.0*
*KMA **21** 02:53:54.7±0.0,35°.77N×129°.17E, h11km, Error ellipse: s-maj=0.5km s-min=0.3km az=292.0*
ISC 21 02:53:53.4±1.2,35°.82N±0°.02×129°.19E±0°.03, h15km±11km, n69, σ0s88/75, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSDAG	**Daegu** SNR=1311	**0.24**	**257**	P		**Pb**	**02 54 00.2**	**+0.6**
YOCB	**Yeongcheon** SNR=356	**0.25**	**309**	P		**Pb**	**02 54 01.0**	**+1.4**
KSPHA	**Pohang** SNR=209	**0.40**	**22**	P		**Pn**	**02 54 04.0**	**-0.7**
KSDAU	**Deagu-acc** SNR=168	**0.47**	**278**	P		**Pb**	**02 54 04.3**	**+0.9**
MIYA	**Miryang-si** SNR=38	**0.49**	**228**	P		**Pg**	**02 54 03.7**	**+0.6**
KSBUS	**Busan** SNR=246	**0.57**	**186**	P		**Pg**	**02 54 04.8**	**+0.1**
KSADO	**Andong** SNR=365	**0.62**	**342**	P		**Pn**	**02 54 07.6**	**-0.1**
KSCHR	**CHANGNYEONG** SNR=40	**0.63**	**244**	P		**Pb**	**02 54 06.4**	**+0.2**
EUSB	**Uiseong** SNR=101	**0.67**	**323**	P		**Pn**	**02 54 08.4**	**0.0**
YODB	**Yeongdeok** SNR=133	**0.73**	**14**	P		**Pn**	**02 54 09.7**	**+0.4**
YEYB	**Yeongyang** SNR=179	**0.81**	**354**	P		**Pn**	**02 54 11.0**	**+0.7**
KSGUM	**GUMI** SNR=51	**0.84**	**300**	P		**Pn**	**02 54 11.2**	**+0.5**
ADOA	**Andong Acc Bor** SNR=67	**0.85**	**332**	P		**Pn**	**02 54 11.6**	**+0.7**
EURB	**Uiryeong-eup** SNR=99	**0.89**	**236**	P		**Pb**	**02 54 10.4**	**-0.1**
KSULJ	**Uljin** SNR=245	**0.90**	**11**	P		**Pn**	**02 54 12.5**	**+1.0**
KSGIC	**Gimchen** SNR=114	**0.92**	**287**	P		**Pn**	**02 54 12.3**	**+0.4**
HACA	**Hapcheon Acc B** SNR=34	**0.98**	**246**	P		**Pb**	**02 54 12.3**	**+0.3**
KSYCH	**Yecheon** SNR=19	**1.02**	**323**	P		**Pn**	**02 54 14.5**	**+1.3**
KSSAJ	**Sangju** SNR=72	**1.02**	**305**	P		**Pn**	**02 54 14.3**	**+1.1**
KUJA	**Jangpyeong** SNR=15	**1.05**	**207**	P		**Pb**	**02 54 13.0**	**-0.3**
CHYB	**Chungyang** SNR=92	**1.14**	**349**	P		**Pg**	**02 54 16.7**	**+1.2**
DUSB	**Deogyusan** SNR=459	**1.15**	**274**	P		**Pg**	**02 54 16.0**	**+0.3**
YOJB	**Youngju** SNR=329	**1.18**	**333**	P		**Pg**	**02 54 17.1**	**+0.9**
HAMB	**Hamyang** SNR=74	**1.22**	**256**	P		**Pb**	**02 54 16.6**	**+0.5**
KSMGY	**Mungyeong** SNR=142	**1.23**	**313**	P		**Pg**	**02 54 18.0**	**+0.7**
OKCB	**Cheongsan-myeo** SNR=105	**1.25**	**295**	P		**Pg**	**02 54 18.0**	**+0.6**
JTU	**Tsushima**	**1.31**	**172**	Pn		**Pn**	**02 54 16.8**	**-0.3**
JTU				Sn		**Sn**	**02 54 33.4**	**-1.0**
JTU				IAML			02 54 35.9	
	comp=E,939nm,0.4s							
JTU	**Tsushima**	**1.31**	**172**	P		**Pn**	**02 54 17.1**	**0.0**
JTU				S		**Sn**	**02 54 33.8**	**-0.5**
KSTBA	**Taebaek** SNR=259	**1.31**	**352**	P		**Pg**	**02 54 20.0**	**+1.3**
KSBON	**Boeun** SNR=121	**1.31**	**301**	P		**Pg**	**02 54 19.4**	**+0.7**
YKDB	**Yokjido** SNR=173	**1.41**	**212**	P		**Pn**	**02 54 19.0**	**+0.4**
IMWB	**Imwonan-gil** SNR=118	**1.42**	**5**	P		**Pg**	**02 54 20.8**	**+0.1**
KSCHJ	**Chungju** SNR=55	**1.44**	**317**	P		**Pg**	**02 54 21.0**	**-0.1**
JTSM	**Tsushimamitsus**	**1.49**	**174**	P		**Pn**	**02 54 19.7**	**+0.1**
JTSM				eS		**Sn**	**02 54 39.2**	**+0.4**
GWYB	**Gwangyang** SNR=32	**1.51**	**235**	P		**Pb**	**02 54 21.2**	**+0.1**
NAWB	**Namwon** SNR=176	**1.52**	**255**	P		**Pb**	**02 54 21.6**	**+0.4**
KSJEO	**Jeonju** SNR=28	**1.54**	**275**	P		**Pg**	**02 54 23.0**	**-0.1**
JECH	**Jecheon** SNR=81	**1.56**	**329**	P		**Pb**	**02 54 22.4**	**+0.4**
KSTEJ	**Daejeon** SNR=12	**1.57**	**291**	P		**Pg**	**02 54 23.9**	**+0.4**
TJN	**Taejon**	**1.58**	**291**	Pn		**Pg**	**02 54 23.3**	**-0.5**
TJN				Sn		**Sg**	**02 54 43.4**	**-0.9**
JNPA	**Jeungpyeong Ac** SNR=18	**1.64**	**307**	P		**Pg**	**02 54 25.0**	**+0.1**
KSCHO	**Jeonju** SNR=10	**1.66**	**270**	P		**Pg**	**02 54 25.2**	**0.0**
EMSB	**Eumseong** SNR=16	**1.71**	**313**	P		**Pg**	**02 54 26.0**	**-0.3**
SUCA	**Sunchang** SNR=38	**1.73**	**256**	P		**Pb**	**02 54 25.0**	**+0.1**
YNDB	**Yeoundo** SNR=41	**1.79**	**220**	P		**Pn**	**02 54 25.0**	**+1.1**
KSWJU	**Wonju** SNR=44	**1.82**	**330**	P		**Pb**	**02 54 26.4**	**-0.2**
KSCEA	**Cheonan** SNR=29	**1.85**	**303**	P		**Pb**	**02 54 26.9**	**-0.1**
KSJEU	**Jeongeup** SNR=36	**1.87**	**261**	P		**Pb**	**02 54 26.5**	**-0.8**
JHGM	**Hagimishima**	**1.90**	**122**	eS		**Sb**	**02 54 52.4**	**+0.9**
KSKWJ	**Gwangju** SNR=115	**1.91**	**250**	P		**Pb**	**02 54 27.1**	**-0.9**
KSKWJ	**Gwangju** SNR=64	**1.91**	**250**	P		**Pb**	**02 54 27.1**	**-0.9**
KSAR	**Wonju Array Be**	**1.93**	**327**	Pn		**Pb**	**02 54 27.1**	**-1.1**
BOSB	**Boseong-gun** SNR=108	**1.93**	**237**	P		**Pn**	**02 54 27.0**	**+1.2**
KS19	**Wonju Array Si**	**1.99**	**328**	Pn		**Pn**	**02 54 27.5**	**+1.0**
JII	**Iki**	**2.07**	**167**	*eP*		**Pn**	**02 54 28.1**	**+0.4**
YSAB	**Yesan** SNR=6.9	**2.13**	**296**	P		**Pb**	**02 54 31.0**	**-0.6**
JTY	**Toyota**	**2.19**	**135**	*eP*		**Pn**	**02 54 31.0**	**+1.8**
JTY				eS		**Sb**	**02 54 59.9**	**+0.3**
KSMOK	**Mokpo** SNR=8.9	**2.27**	**243**	P		Pn	02 54 23.0	-7.4
HAWB	**Hwaseong-si** SNR=10	**2.32**	**304**	P		**Pn**	**02 54 33.0**	**+2.0**
ANMD	**Anmado** SNR=8.7	**2.62**	**260**	P		**Pn**	**02 54 37.0**	**+1.8**
INCN	**Inchon**	**2.64**	**310**	Pn		**Pn**	**02 54 37.4**	**+1.9**
BGDB	**Bigeumdo** SNR=9.3	**2.85**	**249**	P		**Pn**	**02 54 39.6**	**+1.2**
HUK2	**Heuksan-myeon** SNR=16	**3.26**	**251**	P		**Pn**	**02 54 45.0**	**+1.0**
JHS	**Saijyo**	**3.31**	**103**	Pn		**Pn**	**02 54 46.2**	**+1.5**
HJU	**Haeju**	**3.55**	**310**	Pg		**Pg**	**02 54 59.7**	**-1.8**
HJU				Sg		**Sg**	**02 55 46.6**	**-0.9**
HJU				AML	AML			
	comp=N,377nm,0.5s							
HJU				AML	AML			
	comp=E,251nm,0.5s							
HJU				AML	AML			
	comp=Z,350nm,0.7s							
HHU	**Hamhung**	**4.30**	**343**	Pg		**Pg**	**02 55 14.2**	**-1.7**
HHU				Sg		**Sg**	**02 56 10.1**	**-1.5**
HHU				AML	AML			
	comp=N,43nm,0.6s							
HHU				AML	AML			
	comp=E,63nm,0.5s							
HHU				AML	AML			
	comp=Z,88nm,0.7s							
JMN	**Monobe**	**4.39**	**117**	Pn		**Pn**	**02 54 59.5**	**0.0**
MJB9	**Matsu-Tunnel**	**7.33**	**82**	Pn		**Pn**	**02 55 39.1**	**-0.8**
MAJO	**Matsushiro**	**7.33**	**82**	Pn		**Pn**	**02 55 39.6**	**-0.4**

WEL 21 03:02:01.0±0.8,37°S±6°×17°9E±°, h20km, M3.5/39, ML3.8/48, MLv3.5/39, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.90**	**240**	P		Pb	03 02 17.0	-0.9
MXZ				S		Sb	03 02 28.3	-1.2
WMGZ	**Waiomatatini S**	**0.98**	**225**	P		Pn	03 02 20.6	+0.9
WMGZ				S		Sn	03 02 34.6	+1.6
PKGZ	**Pakihiroa**	**1.23**	**231**	P		Pn	03 02 23.4	+0.2
PKGZ				S		Sn	03 02 40.1	+0.9
PUZ	**Puketiti**	**1.25**	**221**	P		Pb	03 02 24.4	+0.5
PUZ				S		Sn	03 02 41.0	+1.3
HAZ	**Te Kaha**	**1.36**	**242**	P		Pn	03 02 23.8	-0.9
TWGZ	**Tauwhareparae**	**1.48**	**224**	P		Pb	03 02 27.7	-0.1
TWGZ				S		Sb	03 02 46.5	+0.3
RUGZ	**Raukumara Rang**	**1.53**	**236**	P		Pb	03 02 28.2	-0.6
RUGZ				S		Sn	03 02 47.0	+0.2
CNGZ	**Carnagh Statio**	**1.61**	**212**	P		Pb	03 02 29.9	-0.1
TKGZ	**Te Karaka**	**1.74**	**221**	P		Pn	03 02 30.8	+0.7
MWZ	**Matawai**	**1.85**	**229**	P		Pn	03 02 32.2	+0.6
MWZ				S		Sn	03 02 54.0	-0.4
WHRZ	**Whale Island**	**1.98**	**248**	P		Pn	03 02 33.9	+0.5
RIGZ	**Rimuhau**	**1.99**	**217**	P		Pn	03 02 34.0	+0.5
RIGZ				S		Sn	03 02 57.7	-0.2
RAGZ	**Rawiri**	**2.02**	**227**	P		Pn	03 02 34.6	+0.5
URZ	**Urewera**	**2.07**	**236**	P		Pn	03 02 35.0	+0.4
URZ				S		Sn	03 02 59.8	0.0
PRGZ	**Paritu Road**	**2.11**	**211**	P		Pn	03 02 35.7	+0.4
EDRZ	**Edgecumbe**	**2.25**	**243**	P		Pn	03 02 36.7	-0.5
SNGZ	**Shannon Statio**	**2.26**	**222**	P		Pn	03 02 37.9	+0.6
KNZ	**Kokohu**	**2.29**	**213**	P		Pn	03 02 37.5	-0.1
OPRZ	**Ohinepanea**	**2.29**	**251**	P		Pn	03 02 37.3	-0.3
MHGZ	**Mahia Peninsul**	**2.30**	**208**	P		Pn	03 02 38.3	+0.5
RTZ	**Ruatahuna**	**2.36**	**230**	P		Pn	03 02 39.1	+0.5
MUGZ	**Murupara**	**2.41**	**235**	P		Pn	03 02 39.5	+0.2
TARZ	**Mount Tarawera**	**2.47**	**242**	P		Pn	03 02 41.0	+0.8
RAHZ	**Arahi**	**2.50**	**224**	P		Pn	03 02 41.3	+0.8
RRRZ	**Republican Roa**	**2.51**	**240**	P		Pn	03 02 41.2	+0.5
OMRZ	**Omania**	**2.52**	**246**	P		Pn	03 02 41.3	+0.5
WHHZ	**Waihua**	**2.54**	**219**	P		Pn	03 02 41.2	+0.2
MTHZ	**Maungataniwha**	**2.59**	**228**	P		Pn	03 02 42.4	+0.5
NMHZ	**Naumai**	**2.78**	**224**	P		Pn	03 02 44.7	+0.3
ARHZ	**Aropaoanui**	**2.80**	**220**	P		Pn	03 02 44.8	+0.1
KUZ	**Kuaotunu**	**2.88**	**276**	P		Pn	03 02 44.7	-1.1
BKZ	**Black Stump Fm**	**3.00**	**226**	P		Pn	03 02 47.3	-0.2
KUTZ	**Kaahu Road**	**3.07**	**243**	P		Pn	03 02 48.9	+0.6
CKHZ	**Cape Kidnapper**	**3.07**	**214**	P		Pn	03 02 47.7	-0.7
MCHZ	**McNeill Hill**	**3.09**	**221**	P		Pn	03 02 48.5	-0.1
KWHZ	**Kaweka Forest**	**3.22**	**244**	P		Pn	03 02 49.9	-0.6
KAHZ	**Kahuranaki**	**3.27**	**215**	P		Pn	03 02 50.3	-0.9
MKAZ	**Moumakai**	**3.30**	**269**	P		Pn	03 02 50.6	-0.9
WIAZ	**Waiheke Island**	**3.34**	**274**	P		Pn	03 02 52.2	+0.1
KRHZ	**Kereru**	**3.41**	**221**	P		Pn	03 02 52.0	-1.0
TMVZ	**Te Maari**	**3.46**	**234**	P		Pn	03 02 53.8	0.0
ETVZ	**East Tongariro**	**3.46**	**233**	P		Pn	03 02 53.8	-0.1
NTVZ	**North Tongarir**	**3.47**	**234**	P		Pn	03 02 53.9	0.0
BHHZ	**Black Hill Sta**	**3.47**	**226**	P		Pn	03 02 53.5	-0.4
OTVZ	**Oturere**	**3.51**	**233**	P		Pn	03 02 54.1	-0.5
NNVZ	**North Ngauruho**	**3.52**	**234**	P		Pn	03 02 55.2	+0.4
WTVZ	**West Tongariro**	**3.53**	**235**	P		Pn	03 02 55.7	+0.9
SNVZ	**South Ngauruho**	**3.54**	**233**	P		Pn	03 02 54.6	-0.4
NGZ	**Ngauruhoe**	**3.56**	**234**	P		Pn	03 02 54.9	-0.3
TUVZ	**Tukino**	**3.58**	**232**	P		Pn	03 02 55.4	-0.1
MOVZ	**Moawhango**	**3.60**	**230**	P		Pn	03 02 55.3	-0.5
WNVZ	**Wahianoa**	**3.65**	**232**	P		Pn	03 02 55.6	-0.8
WPHZ	**Waipukurau**	**3.69**	**216**	P		Pn	03 02 55.6	-1.3
PNHZ	**Pukenui**	**3.69**	**220**	P		Pn	03 02 55.3	-1.6
MTVZ	**Mangateitei**	**3.76**	**232**	P		Pn	03 02 57.9	0.0
PRHZ	**Porangahau**	**3.76**	**213**	P		Pn	03 02 56.0	-1.9
HIZ	**Hauiti**	**3.78**	**247**	P		Pn	03 02 59.2	+1.1
TSZ	**Takapari Road**	**3.92**	**221**	P		Pn	03 02 58.1	-2.0
DVHZ	**Dannevirke**	**4.00**	**217**	P		Pn	03 02 59.5	-1.7
WAZ	**Wanganui**	**4.28**	**231**	P		Pn	03 03 05.3	+0.3
TIWZ	**Tintock**	**4.51**	**215**	P		Pn	03 03 06.3	-1.9
PKE	**Pukeiti**	**4.66**	**242**	P		Pn	03 03 12.7	+2.4
KHEZ	**Kahui Hut**	**4.69**	**241**	P		Pn	03 03 12.7	+2.1
OUZ	**Omahuta**	**4.98**	**291**	P		Pn	03 03 15.0	+0.4
QRZ	**Quartz Range**	**6.43**	**233**	P		Pn	03 03 32.1	-2.5
CTZ	**Chatham Island**	**7.30**	**156**	P		Pn	03 03 48.5	+2.0

*PRE **21** 03:09:39.7±2.1,21°.26S×33°.62E, h10km, ML3.9*
*EAF **21** 03:09:42.4±0.8,21°.56S×33°.62E, h10km, MD4.3*
*BUL **21** 03:09:43.0±1.7,21°.63S×33°.56E, h10km, MD4.7*
*IDC **21** 03:09:43.8±1.0,21°.53S×33°.42E, h0km, mb3.8/9, mbtmp4.1/13, ML4.5/5, MS3.5/4, Error ellipse: s-maj=26.3km s-min=21.7km az=139.0*
*NEIC **21** 03:09:44.6±1.9,21°.49S±0°.08×33°.44E±0°.09, h10km±1km, mb4.9/14, Error ellipse: s-maj=14.0km s-min=13.1km az=129.0*
ISC 21 03:09:44.6±0.4,21°.48S±0°.04×33°.32E±0°.04, h13km, n90, σ2s14/121, mb4.5/14, 2C-2D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOPA	**Mopani**	**2.70**	**221**	*eP*		**Pn**	**03 10 29.4**	**+1.6**
MOPA				eS		**Sn**	**03 11 03.8**	**+3.4**
MOPA				IAML			03 11 18.1	
	comp=Z,344nm,0.4s							
MOPA	**Mopani**	**2.70**	**221**	*i* Pg		**Pb**	**03 10 32.5**	**-0.3**
MOPA				*i* Sg		**Sg**	**03 11 10.5**	**-1.0**
MOPA	**Mopani**	**2.70**	**221**	*i* Pg		**Pb**	**03 10 32.5**	**-0.3**
MOPA				*i* Sg		**Sg**	**03 11 10.5**	**-1.0**
MUSN	**Musina, Limpop**	**3.32**	**255**	⇓*iP*		**Pn**	**03 10 39.4**	**+3.1**
MUSN				eS		**Sn**	**03 11 19.1**	**+3.5**
MUSN				IAML			03 11 40.0	
	comp=Z,372nm,0.4s							
MUSN	**Musina, Limpop**	**3.32**	**255**	*i* Pg		**Pb**	**03 10 44.6**	**+1.3**
MUSN				*i* Sg		**Sg**	**03 11 31.5**	**+0.3**
MUSN	**Musina, Limpop**	**3.32**	**255**	*i* Pg		**Pb**	**03 10 44.6**	**+1.3**
MUSN				*i* Sg		**Sg**	**03 11 31.5**	**+0.3**
BLWY	**Bulawayo**	**4.61**	**286**	*eP*		**Pn**	**03 10 54.6**	**+0.5**
BLWY				eS		**Sn**	**03 11 48.5**	**+0.9**
BLWY				IAML			03 12 17.5	
	comp=Z,771nm,0.7s							
BLWY	**Bulawayo**	**4.61**	**286**	*i* P		**Pn**	**03 10 56.3**	**+2.2**
BLWY				*i* S		**Sn**	**03 11 48.4**	**+0.9**
BLWY	**Bulawayo**	**4.61**	**286**	*i* P		**Pn**	**03 10 56.3**	**+2.2**
BLWY				*i* S		**Sn**	**03 11 48.4**	**+0.9**
MMAL	**MMAL**	**4.95**	**203**	*eP*		**Pn**	**03 10 59.2**	**+0.4**
MMAL				eS		**Sn**	**03 11 59.8**	**+3.9**
MMAL				IAML			03 12 35.6	
	comp=Z,200nm,0.6s							
CRLN	**Carolina, Mapu**	**5.42**	**213**	*eP*		**Pn**	**03 11 04.6**	**-0.7**
LEPH	**Lephalale, Lim**	**5.63**	**244**	*eP*		**Pn**	**03 11 10.7**	**+2.7**
LEPH				eS		**Sn**	**03 12 13.2**	**+0.6**
LEPH				IAML			03 12 50.5	
	comp=Z,368nm,0.7s							
POGA	**Pongola**	**6.03**	**194**			**Pn**	**03 11 14.5**	**+1.0**
POGA				Sn		**Sn**	**03 12 21.9**	**-0.4**
POGA	**Pongola**	**6.03**	**194**	⇑*iP*		**Pn**	**03 11 14.6**	**+1.1**
POGA				eS		**Sn**	**03 12 23.4**	**+1.0**
POGA				IAML			03 13 09.2	
	comp=Z,73nm,0.6s							
SLR	**Silverton**	**6.27**	**227**	*eP*		**Pn**	**03 11 19.4**	**+2.4**
SLR				eS		**Sn**	**03 12 31.4**	**+2.8**
SLR				IAML			03 13 08.3	
	comp=Z,154nm,0.5s							
ZOMB	**Zomba**	**6.36**	**18**	*i* P		**Pn**	**03 11 18.9**	**+0.8**
ZOMB				S		**Sn**	**03 12 27.4**	**-3.3**
ZOMB	**Zomba**	**6.36**	**18**	*i* P		**Pn**	**03 11 18.9**	**+0.8**
ZOMB				S		**Sn**	**03 12 27.4**	**-3.3**
HRAO	**HartRAO**	**6.78**	**229**	*eP*		**Pn**	**03 11 26.0**	**+2.0**
HRAO				eS		**Sn**	**03 12 41.7**	**+0.5**
HRAO				IAML			03 13 32.2	
	comp=Z,109nm,0.6s							
NWCL	**Newcastle**	**6.97**	**206**	⇑*iP*		**Pn**	**03 11 27.3**	**+0.8**
NWCL				eS		**Sn**	**03 12 45.6**	**-0.2**
NWCL				IAML			03 13 30.8	
	comp=Z,81nm,0.6s							
KSR	**Koster**	**7.33**	**232**	*eP*		**Pn**	**03 11 33.9**	**+2.4**
KSR				eS		**Sn**	**03 12 54.9**	**+0.3**
KSR				IAML			03 13 00.9	
	comp=Z,37nm,0.4s							
PRYS	**Parys**	**7.68**	**224**	*eP*		**Pn**	**03 11 37.7**	**+1.4**
PRYS				eS		**Sn**	**03 13 06.7**	**+3.3**
PRYS				IAML			03 13 57.5	
	comp=Z,117nm,0.6s							
LSZ	**Lusaka**	**7.86**	**321**	Pn		**Pn**	**03 11 38.8**	**0.0**
	comp=Z,8.1nm,0.3s,baz=152,slow=13,SNR=84							
LSZ				Sn		**Sn**	**03 13 02.4**	**-5.4**
	comp=Z,9.0nm,0.3s,baz=229,slow=21,SNR=9.2							
LSZ				Lg		Lg	03 13 48.7	
	comp=Z,31nm,0.3s,baz=52,slow=13,SNR=18							
LSZ	**Lusaka**	**7.86**	**321**			**Pn**	**03 11 38.6**	**-0.2**
LSZ	**Lusaka**	**7.86**	**321**	*eP*		**Pn**	**03 11 39.2**	**+0.4**
LSZ				eS		**Sn**	**03 13 02.1**	**-5.7**
LSZ				IAML			03 13 51.2	
	comp=Z,2µm,0.6s							
LBTB	**Lobatse**	**7.93**	**242**	Pn		**Pn**	**03 11 41.1**	**+1.4**
	comp=Z,6.3nm,0.3s,baz=48,slow=14,SNR=56							
LBTB				Sn		**Sn**	**03 13 09.4**	**0.0**
	comp=Z,5.9nm,0.3s,baz=149,slow=4.8,SNR=5.9							
LBTB				Lg		Lg	03 13 49.2	
	comp=Z,3.9nm,0.3s,baz=153,slow=20,SNR=4.0							
	comp=Z,57nm,0.7s							
LBTB	**Lobatse**	**7.93**	**242**			**Pn**	**03 11 40.8**	**+1.1**
LBTB	**Lobatse**	**7.93**	**242**	⇓*iP*		**Pn**	**03 11 41.3**	**+1.6**
LBTB				eS		**Sn**	**03 13 12.4**	**+3.1**
LBTB				IAML			03 14 01.8	
	comp=Z,76nm,0.6s							
LBTB	**Lobatse**	**7.93**	**242**	*i* P		**Pn**	**03 11 39.0**	**-0.7**
LBTB				*i* S		**Sn**	**03 13 04.4**	**-5.0**
LBTB	**Lobatse**	**7.93**	**242**	*i* P		**Pn**	**03 11 39.0**	**-0.7**
LBTB				*i* S		**Sn**	**03 13 04.4**	**-5.0**
SNKL	**Senekal, Frees**	**8.44**	**216**	*eP*		**Pn**	**03 11 47.5**	**+0.8**
SNKL				eS		**Sn**	**03 13 22.5**	**+0.5**
SNKL				IAML			03 14 22.4	
	comp=Z,112nm,0.9s							
SWZ	**Schweizer**	**9.24**	**230**	*eP*		**Pn**	**03 11 58.6**	**+0.9**
SWZ				eS		**Sn**	**03 13 40.3**	**-1.3**
SWZ				IAML			03 14 50.6	
	comp=Z,34nm,0.6s							
KSTD	**Kokstad**	**9.79**	**201**	*eP*		**Pn**	**03 12 06.7**	**+1.4**
KSTD				eS		**Sn**	**03 13 51.5**	**-3.8**
KSTD				IAML			03 15 04.5	
	comp=Z,20nm,0.6s							
BOSA	**Boshof**	**10.19**	**224**	Pn		**Pn**	**03 12 10.5**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=53,slow=14,SNR=51							
BOSA				Sn		**Sn**	**03 14 00.0**	**-5.1**
	comp=Z,1.6nm,0.3s,baz=342,slow=19,SNR=3.8							
BOSA				Lg		Lg	03 15 02.2	
	comp=Z,1.8nm,0.3s,baz=149,slow=15,SNR=7.6							
BOSA				LR		LR	03 16 24.1	
	comp=Z,226nm,18.3s,baz=48,slow=39							
	comp=Z,12nm,0.5s							
BOSA	**Boshof**	**10.19**	**224**			**Pn**	**03 12 10.3**	**-0.4**
BOSA	**Boshof**	**10.19**	**224**	*i* P		**Pn**	**03 12 08.0**	**-2.7**
BOSA				*i* S		Sn	03 13 55.0	-10
BOSA	**Boshof**	**10.19**	**224**	*i* P		**Pn**	**03 12 08.0**	**-2.7**
BOSA				*i* S		Sn	03 13 55.0	-10
HVD	**Gariep Dam**	**11.49**	**216**	*eP*		**Pn**	**03 12 29.9**	**+1.3**
VOI	**Vohitsoka**	**12.53**	**94**	Pn		**Pn**	**03 12 39.1**	**-3.7**
PKA	**Prieska**	**12.54**	**227**	*eP*		**Pn**	**03 12 43.8**	**+0.9**
UPI	**Upington**	**12.91**	**236**	*eP*		**Pn**	**03 12 48.5**	**+0.6**
SOE	**Somerset East**	**13.15**	**210**	Pn		**Pn**	**03 12 52.2**	**+1.1**
SOE	**Somerset East**	**13.15**	**210**	*eP*		**Pn**	**03 12 55.0**	**+3.8**
ABPO	**Ambohimpanom**	**13.28**	**82**	Pn		**Pn**	**03 12 50.2**	**-2.8**
KEIM	**Keimoes**	**13.30**	**235**	*eP*		**Pn**	**03 12 53.7**	**+0.5**
GRAF	**Camdeboo Natio**	**13.33**	**214**	*eP*		**Pn**	**03 12 54.2**	**+0.6**
OPO	**Ambohidratompo**	**13.35**	**80**	Pn		**Pn**	**03 12 53.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=262,slow=14,SNR=7.8							
OPO				Sn		Sn	03 15 08.8	-14
	comp=Z,0.1nm,0.3s,baz=235,slow=20,SNR=2.1							
	comp=Z,4.1nm,0.7s							
BFON	**Badfontein, M**	**13.40**	**218**	*eP*		**Pn**	**03 12 56.0**	**+1.3**
BRAK	**Brakfontein**	**13.86**	**220**	*eP*		**Pn**	**03 13 01.9**	**+1.1**
ARMS	**Ukamas**	**13.96**	**239**	*eP*		**Pn**	**03 13 03.3**	**+1.1**
ROOI	**Rooidraai Farm**	**14.00**	**216**	*eP*		**Pn**	**03 13 02.3**	**-0.5**
GRAN	**Grantham**	**14.66**	**220**	*eP*		**Pn**	**03 13 11.1**	**-0.8**
FRAZ	**Fraserburg**	**14.88**	**223**	*eP*		**Pn**	**03 13 14.9**	**0.0**
TSUM	**Tsumeb**	**14.94**	**276**	Pn		**Pn**	**03 13 14.4**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=122,slow=14,SNR=9.7							
TSUM				Sn		**Sn**	**03 15 55.2**	**-6.0**
	baz=52,slow=20							
TSUM				Lg		Lg	03 17 30.1	
	comp=Z,1.5nm,0.3s,baz=320,slow=17,SNR=5.2							
TSUM				LR		LR	03 19 20.2	
	comp=Z,96nm,19.1s,baz=137,slow=38							
TSUM	**Tsumeb**	**14.94**	**276**			**Pn**	**03 13 14.2**	**-1.5**
WIN	**Windhoek**	**15.09**	**263**	*eP*		**Pn**	**03 13 17.6**	**-0.1**
MERW	**Merweville**	**15.31**	**221**	*eP*		**Pn**	**03 13 22.2**	**+1.6**
SUR	**Sutherland**	**15.55**	**223**	Pn		**Pn**	**03 13 23.4**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=55,slow=13,SNR=36							
SUR				Sn		**Sn**	**03 16 07.7**	**-8.5**
	comp=Z,0.3nm,0.3s,baz=145,slow=24,SNR=2.5							
SUR				Lg		Lg	03 17 46.2	
	comp=Z,0.8nm,0.3s,baz=333,slow=21,SNR=1.4							
SUR				LR		LR	03 19 36.2	
	comp=Z,177nm,18.6s,baz=46,slow=38							
	comp=Z,10nm,0.4s

GERES	**GERESS Array B**	**72.16**	**347**	P		**P**	**03 21 11.0**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=124,slow=4.9,SNR=2.2 comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**81.05**	**32**	P		**P**	**03 21 58.8**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=208,slow=4.8,SNR=3.8 comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**90.66**	**116**	P		**P**	**03 22 48.7**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=226,slow=3.8,SNR=4.7 comp=Z,0.4nm,0.6s							
NRIK	**Noril'sk**	**98.46**	**17**	LR	LR		04 11 38.3	
	comp=Z,41nm,18.7s,baz=28,slow=38							
TXAR	**Lajitas Array**	**140.54**	**290**	PKP		**PKPdf**	**03 29 13.5**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=111,slow=4.3,SNR=3.8							
NVAR	**Mina Array Bea**	**150.34**	**311**	PKPbc		**PKiKP**	**03 29 39.4**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=60,slow=4.6,SNR=8.9							

*IDC **21** 03:14:23.4±1.0,51°.89S×139°.72E,h0km,mb4.0/6, mbtmp4.0/6,MS3.8/28,Error ellipse: s-maj=66.2km s-min=17.4km az=89.0*
*NEIC **21** 03:14:23.7±1.6,51°.90S±0°.06×139°.8E±0°.3,h10km±1km, mb4.6/11,Error ellipse: s-maj=31.7km s-min=6.1km az=256.0*

ISC 21 03:14:24.0±0.6,51°.85S±0°.08×139°.9E±0°.2,h10km,n85, σ1s27/50,mb4.3/9,MS3.8/30,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOO	**Toolangi**	**14.82**	**18**	Pn	**Pn**	**03 17 52.0**	**-1.5**
WHZ	**Wether Hill Ro**	**19.34**	**83**	P	**P**	**03 18 49.7**	**+0.5**
WHZ				IAmb	IAmb	03 19 00.7	
	comp=Z,59nm,1.5s						
STKA	**Stephens Creek**	**20.00**	**4**	P	Pn	03 18 59.1	+0.8
	comp=Z,4.4nm,0.8s,baz=199,slow=14,SNR=3.5 comp=Z,2.4nm,0.8s						
CASY	**Casey**	**20.60**	**214**	P	**P**	**03 19 01.2**	**-1.6**
CASY				IAmb	IAmb	03 19 04.6	
	comp=Z,28nm,1.3s						
RPZ	**Rata Peaks**	**22.34**	**81**	LR	LR	03 26 14.0	
	comp=Z,379nm,20.1s,baz=237,slow=32						
FORT	**Forrest**	**22.78**	**333**	P	**P**	**03 19 26.1**	**-0.5**
FORT				IAmb	IAmb	03 19 39.6	
	comp=Z,29nm,1.1s						
H01W1	**Cape Leeuwin H**	**25.03**	**303**	T	T	03 45 44.9	
	baz=140,slow=76,SNR=395						
H01W2	**Cape Leeuwin H**	**25.04**	**303**	T	T	03 45 44.8	
	baz=140,slow=76,SNR=400						
H01W3	**Cape Leeuwin H**	**25.05**	**303**	T	T	03 45 46.2	
	baz=140,slow=76,SNR=256						
NWAO	**Narrogin (SRO)**	**25.06**	**310**	LR	LR	03 27 26.9	
	comp=Z,129nm,18.9s,baz=314,slow=31						
VNDA	**Vanda**	**27.04**	**170**	P	**P**	**03 20 06.0**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=335,slow=9.4,SNR=5.7						
VNDA				LR	LR	03 28 29.6	
	comp=Z,108nm,18.2s,baz=341,slow=31 comp=Z,1.4nm,1.0s						
VNDA	**Vanda**	**27.04**	**170**	P	**P**	**03 20 04.7**	**-1.2**
ASAR	**Alice Springs**	**28.51**	**348**	P	**P**	**03 20 19.7**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=168,slow=10,SNR=6.2						
ASAR				PcP	**PcP**	**03 23 32.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=161,slow=2.3,SNR=2.4						
ASAR				LR	LR	03 30 08.3	
	comp=Z,75nm,20.9s,baz=104,slow=33 comp=Z,1.0nm,0.8s						
URZ	**Urewera**	**29.26**	**77**	LR	LR	03 31 37.5	
	comp=Z,222nm,18.1s,baz=316,slow=35						
CTA	**Charters Tower**	**32.09**	**11**	LR	LR	03 33 29.6	
	comp=Z,158nm,19.6s,baz=190,slow=36						
WR0	**Warramunga Arr**	**32.10**	**351**	P	**P**	**03 20 51.3**	**+0.1**
WR0				IAmb	IAmb	03 21 02.1	
	comp=Z,9.8nm,1.0s						
WB2	**Warramunga Arr**	**32.13**	**350**	P	**P**	**03 20 51.6**	**+0.1**
WRA	**Warramunga Arr**	**32.13**	**350**	P	**P**	**03 20 51.8**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=172,slow=7.8,SNR=17						
WRA				PcP	**PcP**	**03 23 41.0**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=180,slow=2.2,SNR=1.6 comp=Z,3.4nm,0.9s						
WRA	**Warramunga Arr**	**32.13**	**350**	P	**P**	**03 20 52.0**	**+0.5**
WRAB	**Tennant Creek**	**32.14**	**350**	P	**P**	**03 20 52.0**	**+0.4**
WB0	**Warramunga Arr**	**32.30**	**350**	P	**P**	**03 20 51.2**	**-1.8**
WB0				IAmb	IAmb	03 21 04.4	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**35.50**	**336**	LR	LR	03 34 59.9	
	comp=Z,79nm,20.2s,baz=184,slow=35						
FITZ	**Fitzroy Crossi**	**35.50**	**336**	P	**P**	**03 21 19.8**	**-1.0**
FITZ				IAmb	IAmb	03 21 27.6	
	comp=Z,4.7nm,1.0s						
DZM	**Mont Dzumac**	**36.13**	**45**	*e*LR	LR	03 31 43.4	
	comp=Z,437nm,25.6s						
DZM	**Mont Dzumac**	**36.13**	**45**	LR	LR	03 32 35.8	
	comp=Z,266nm,18.6s,baz=210,slow=30						
QSPA	**South Pole Qui**	**38.27**	**180**	P	**P**	**03 21 44.2**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=342,slow=2.5,SNR=11						
QSPA				LR	LR	03 36 07.2	
	comp=Z,176nm,20.1s,baz=2.5,slow=34 comp=Z,3.3nm,0.7s						
QSPA	**South Pole Qui**	**38.27**	**180**	P	**P**	**03 21 43.2**	**-0.9**
QSPA				IAmb	IAmb	03 21 51.2	
	comp=Z,20nm,1.2s						
RAO	**Raoul Island**	**38.48**	**71**	LR	LR	03 36 37.7	
	comp=Z,108nm,19.4s,baz=61,slow=35						
MAW	**Mawson**	**38.92**	**216**	P	**P**	**03 21 49.3**	**0.0**
	comp=Z,2.8nm,1.0s,baz=124,slow=4.6,SNR=3.9 comp=Z,2.8nm,1.0s						
PMG	**Port Moresby**	**42.74**	**11**	LR	LR	03 39 46.4	
	comp=Z,147nm,18.2s,baz=162,slow=36						
BATI	**Baumata**	**43.58**	**337**	LR	LR	03 40 40.3	
	comp=Z,148nm,19.1s,baz=198,slow=36						
HNR	**Honiara**	**45.37**	**28**	LR	LR	03 40 19.8	
	comp=Z,825nm,18.6s,baz=334,slow=34						
KAPI	**Kappang**	**49.58**	**333**	LR	LR	03 43 34.7	
	comp=Z,54nm,19.7s,baz=160,slow=35						
LEM	**Lembang**	**52.15**	**318**	LR	LR	03 42 09.2	
	comp=Z,61nm,20.7s,baz=168,slow=32						
TROLL	**Troll, Antarti**	**52.86**	**195**	P	**P**	**03 23 38.5**	**-0.9**
SNAA	**Sanae**	**53.99**	**194**	P	**P**	**03 23 47.9**	**+0.3**
SNAA	**Sanae**	**53.99**	**194**	LR	LR	03 45 57.5	
	comp=Z,190nm,20.3s,baz=136,slow=35						
AFI	**Afiamalu**	**54.01**	**64**	LR	LR	03 43 36.8	
	comp=Z,62nm,18.3s,baz=112,slow=32						
VNA2	**Neumayer--Watz**	**55.30**	**192**	P	**P**	**03 23 56.5**	**-0.5**
	baz=157,slow=8.0						
VNA3	**Neumayer Olymp**	**55.30**	**192**	P	**P**	**03 23 56.3**	**-0.8**
VNA1	**Neumayer--Stat**	**55.67**	**192**	P	**P**	**03 23 59.4**	**-0.3**
TBI	**Tubuai**	**60.15**	**90**	*e*LR	LR	03 41 43.4	
	comp=Z,68nm,35.0s						
PPT2	**Papeete2**	**64.37**	**86**	*e*LR	LR	03 43 46.8	
	comp=Z,79nm,25.0s						
PPT	**Papeete**	**64.39**	**86**	LR	LR	03 47 59.5	
	comp=Z,25nm,20.0s,baz=280,slow=31						
PSI	**Prapat**	**64.54**	**314**	LR	LR	03 48 38.3	
	comp=Z,40nm,21.8s,baz=145,slow=32						
H08S2	**Diego Garcia H**	**70.11**	**283**	T	T	04 41 50.1	
	baz=142,slow=76,SNR=8.6						
H08S1	**Diego Garcia H**	**70.12**	**283**	T	T	04 41 52.0	
	baz=142,slow=76,SNR=6.2						
H08S3	**Diego Garcia H**	**70.13**	**283**	T	T	04 41 55.2	
	baz=142,slow=76,SNR=25						
PALK	**Pallekele**	**77.48**	**299**	LR	LR	03 54 08.2	
	comp=Z,51nm,19.9s,baz=233,slow=31						
CMAR	**Chiang Mai Arr**	**78.58**	**321**	LR	LR	04 00 53.6	
	comp=Z,34nm,19.4s,baz=150,slow=36						
SUR	**Sutherland**	**80.61**	**229**	LR	LR	03 54 05.7	
	comp=Z,44nm,21.8s,baz=154,slow=30						
BOSA	**Boshof**	**81.57**	**234**	LR	LR	03 55 12.0	
	comp=Z,68nm,21.2s,baz=186,slow=30						
LBTB	**Lobatse**	**84.35**	**226**	LR	LR	03 59 14.4	
	comp=Z,45nm,18.2s,baz=159,slow=32						
H03S2	**Juan Fernandez**	**88.15**	**149**	T	T	05 05 29.5	
	baz=198,SNR=27						
H03S1	**Juan Fernandez**	**88.15**	**149**	T	T	05 05 30.9	
	baz=198,SNR=33						
H03S3	**Juan Fernandez**	**88.17**	**149**	T	T	05 05 30.3	
	baz=198,SNR=33						
KSRS	**Korea Array**	**89.54**	**351**	LR	LR	04 07 05.3	
	comp=Z,12nm,21.4s,baz=150,slow=35						
LSZ	**Lusaka**	**90.90**	**244**	LR	LR	04 02 27.1	
	comp=Z,122nm,18.1s,baz=165,slow=32						
TSUM	**Tsumeb**	**93.25**	**233**	LR	LR	04 02 46.5	
	comp=Z,62nm,20.1s,baz=146,slow=31						
KMBO	**Kilima Mbogo**	**96.90**	**259**	LR	LR	04 04 16.3	
	comp=Z,42nm,18.7s,baz=98,slow=31						
FINES	**FINESS Array B**	**143.91**	**312**	PKP	**PKiKP**	**03 33 60.0**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=140,slow=1.5,SNR=4.2						
ARSA	**Arzberg**	**144.35**	**285**	*e*P	**PKiKP**	**03 34 03.6**	**+0.5**
	comp=Z,4.4nm,0.9s						

CONA	**Conrad Observa**	**144.47**	**286**	*e*P		**PKPdf**	**03 34 01.0**	**+1.3**
	comp=Z,7.7nm,0.9s							
MYKA	**Terra Mystica**	**145.18**	**283**	*e*P		**PKiKP**	**03 34 03.6**	**-1.2**
	comp=Z,5.3nm,0.8s							
DPC	**Dobruska-Polom**	**145.27**	**290**	*e*PKP		**PKPdf**	**03 34 02.0**	**+1.0**
TREC	**Trest**	**145.31**	**288**	*e*PKP		**PKiKP**	**03 34 03.5**	**-1.5**
MOA	**Molln**	**145.38**	**285**	*e*P		**PKPab**	**03 34 02.2**	**+0.8**
	comp=Z,3.8nm,1.1s							
OSTC	**Ostas**	**145.42**	**291**	*e*PKP		**PKPab**	**03 34 01.6**	**+0.2**
ARCES	**ARCESS Array B**	**145.51**	**326**	PKPbc		**PKPab**	**03 34 02.0**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=105,slow=3.6,SNR=14							
KBA	**Koelnbreinsper**	**145.58**	**284**	*e*P		**PKPab**	**03 34 02.6**	**+0.3**
	comp=Z,3.2nm,0.7s							
BIOA	**Bad Ischl, Aus**	**145.69**	**285**	*e*P		**PKiKP**	**03 34 05.6**	**-0.2**
	comp=Z,4.5nm,0.8s							
CKRC	**Cesky Krumlov**	**145.79**	**287**	*e*PKP		**PKPab**	**03 34 04.0**	**+1.1**
ABTA	**Abfaltersbach**	**145.92**	**283**	*e*P		**PKiKP**	**03 34 06.3**	**-0.1**
	comp=Z,9.6nm,1.3s							
GERES	**GERESS Array B**	**146.17**	**287**	PKPbc		**PKPdf**	**03 34 02.6**	**0.0**
	comp=Z,1.1nm,1.0s,baz=126,slow=3.4,SNR=5.2							
KHC	**Kasperske Hory**	**146.36**	**287**	*e*PKP		**PKPab**	**03 34 04.9**	**-0.1**
WTTA	**Wattenberg**	**146.69**	**283**	*e*P		**PKiKP**	**03 34 10.1**	**+2.0**
	comp=Z,6.0nm,0.9s							
SQTA	**Sankt Quirin**	**146.93**	**283**	*e*P		**PKiKP**	**03 34 11.7**	**+3.2**
	comp=Z,5.8nm,0.7s							
MOTA	**Moosalm**	**147.05**	**283**	*e*P		**PKiKP**	**03 34 12.4**	**+3.6**
	comp=Z,5.2nm,1.1s							
FETA	**Feichten**	**147.13**	**282**	*e*P		**PKiKP**	**03 34 09.8**	**+0.8**
	comp=Z,7.4nm,1.0s							
RETA	**Reute**	**147.32**	**283**	*e*P		**PKiKP**	**03 34 12.8**	**+3.5**
	comp=Z,6.2nm,1.2s							
CLL	**Collm**	**147.58**	**290**	*e*PKPbc		**PKPab**	**03 34 10.0**	**+0.3**
CLL				*e*PKPab		**pPKPab**	**03 34 12.0**	**-0.3**
CLL				*ex*		x	03 34 17.0	
DAVA	**Damuels**	**147.77**	**282**	*e*P		**PKPbc**	**03 34 09.0**	**+0.6**
	comp=Z,4.7nm,0.9s							
NB2	**NORSAR Subarra**	**150.90**	**309**	PKP		**PKPbc**	**03 34 15.2**	**-0.3**
	comp=Z,8.0nm,1.4s,baz=78,slow=3.8							
NOA	**NORSAR Array B**	**150.90**	**309**	PKPbc		**PKPbc**	**03 34 15.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=247,slow=3.1,SNR=5.7							
ESDC	**Sonseca Array**	**152.28**	**258**	PKPbc		**PKiKP**	**03 34 22.0**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=152,slow=0.8,SNR=5.3							

IDC 21 03:23:23.8±2.8,3°.25S×129°.23E,h0km,mb3.2/2, mbtmp3.3/3,ML2.9/1,Error ellipse: s-maj=205.1km s-min=30.6km az=69.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.33**	**164**	P	Pn	03 27 25.9	-1.4
	baz=346,slow=12,SNR=3.9 0.2nm,0.4s						
ASAR	**Alice Springs**	**20.80**	**168**	P	P	03 28 07.5	+0.7
	0.5nm,0.7s,baz=349,slow=10,SNR=5.8 0.5nm,0.7s						
MKAR	**Makanchi Array**	**64.69**	**326**	P	P	03 34 03.7	0.0
	0.2nm,0.5s,baz=117,slow=5.0,SNR=2.7 0.2nm,0.5s						

*HEL **21** 03:25:42.4±0.0,67°.82N×20°.23E,h0km,ML1.9, ML2.2(UPP),Explosion*
*IDC **21** 03:25:44.1±1.4,67°.81N×21°.07E,h0km,mbtmp2.5/3, ML1.9/3,Error ellipse: s-maj=23.5km s-min=8.4km az=118.0*

ISC 21 03:25:41.8±0.8,67°.79N±0°.02×20°.28E±0°.02,h0km,n29, σ0s99/48,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.17**	**8**	*i* P	**Pg**	**03 25 44.8**	**-0.2**
KUA				*i* S	**Sg**	**03 25 46.8**	**-0.3**
RATU	**Laukkuluspa**	**0.26**	**277**	*i* P	**Pg**	**03 25 46.6**	**-0.2**
RATU				*i* S	**Sg**	**03 25 49.9**	**-0.3**
KOVU	**Salmi**	**0.43**	**354**	*i* P	**Pg**	**03 25 49.5**	**-0.6**
KOVU				*i* S	**Sg**	**03 25 54.9**	**-0.8**
NIKU	**Nikkaluokta**	**0.48**	**280**	*i* P	**Pg**	**03 25 50.5**	**-0.5**
NIKU				*i* S	**Sg**	**03 25 56.8**	**-0.3**
DUNU	**Dundret**	**0.68**	**170**	*i* P	**Pg**	**03 25 55.4**	**+0.6**
LANU	**Lannavaara**	**0.70**	**67**	*e*P	**Pg**	**03 25 55.1**	**0.0**
LANU				*e*S	**Sg**	**03 26 04.4**	**+0.2**
MASU	**Masugnsbyn**	**0.74**	**116**	*i* P	**Pg**	**03 25 56.5**	**+0.5**
MASU				*i* S	**Sb**	**03 26 07.1**	**-1.2**
SALU	**Saltoluokta**	**0.80**	**239**	*i* P	**Pg**	**03 25 56.7**	**-0.3**
KIF	**Kilpisjarvi**	**1.23**	**9**	*e*P	**Pg**	**03 26 05.7**	**+0.3**
KIF	**Kilpisjarvi**	**1.23**	**9**	*e*P	**Pg**	**03 26 04.8**	**-0.6**
KIF				MSG		03 26 19.4	
	comp=Z,15nm,0.2s						
KIF				*e*S	**Sg**	**03 26 20.8**	**-0.6**
PAJU	**Pajala**	**1.34**	**124**	*e*P	**Pg**	**03 26 06.5**	**-0.9**
	baz=301						
PAJU				*e*SB	**Sb**	**03 26 25.3**	**-0.2**
HEF	**Hetta**	**1.41**	**62**	*e*P	**Pn**	**03 26 08.1**	**-0.6**
HEF	**Hetta**	**1.41**	**62**	*e*P	**Pn**	**03 26 07.8**	**-1.0**
	baz=251						
HEF				MSG		03 26 26.3	
	comp=Z,8.7nm,0.2s						
HEF				*e*SB	**Sg**	**03 26 27.1**	**0.0**
ERTU	**Ertsjaerv**	**1.45**	**148**	*e*P	**Pn**	**03 26 08.8**	**-0.4**
ERTU				*e*SB	**Sn**	**03 26 29.3**	**+0.3**
KLF	**Kolari**	**1.52**	**110**	*e*PG	**Pn**	**03 26 10.2**	**-0.1**
KLF				*e*SN	**Sn**	**03 26 31.2**	**+0.4**
KTK1	**Kautokeino**	**1.64**	**40**	*e*PG	**Pn**	**03 26 11.8**	**-0.2**
KTK1				*e*SN	**Sn**	**03 26 34.0**	**+0.2**
HARU	**Harads**	**1.66**	**170**	*e*P	**Pn**	**03 26 12.4**	**+0.3**
KALU	**Kalix**	**2.29**	**146**	*e*PB	**Pb**	**03 26 22.4**	**-1.6**
	baz=322						
KALU				*e*SB	**Sb**	**03 26 52.7**	**-0.1**
TOF	**Tornio**	**2.34**	**135**	*e*PB	**Pb**	**03 26 23.5**	**-1.4**
TOF				MSG		03 26 52.8	
	comp=Z,6.8nm,0.2s						
TOF				*e*SB	**Sb**	**03 26 54.8**	**+0.5**
SGF	**Sodankyl**	**2.42**	**95**	*e*P	**Pn**	**03 26 23.9**	**+1.4**
SGF				*e*SB	**Sb**	**03 26 55.6**	**-0.9**
RNF	**Rovaniemi**	**2.53**	**115**	*e*PB	**Pb**	**03 26 26.2**	**-1.8**
	baz=303						
RNF				*e*SG	**Sb**	**03 27 00.1**	**+0.4**
ARCES	**ARCESS Array B**	**2.59**	**45**	Pn	**Pn**	**03 26 25.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=223,slow=16,SNR=25						
ARCES				Lg	Lg	03 26 58.2	
	comp=Z,1.3nm,0.3s,baz=225,slow=25,SNR=17 comp=Z,0.8nm,0.3s						
KEV	**Kevo**	**3.14**	**48**	*e*P	**Pn**	**03 26 33.8**	**+1.3**
KEV				*e*S	**Sn**	**03 27 11.8**	**+1.2**
OUL	**Oulu**	**3.53**	**138**	*e*SG	**Sg**	**03 27 33.6**	**-1.5**
VRF	**Varrio**	**3.55**	**86**	*e*PG	**Pb**	**03 26 45.8**	**+0.4**
OLKF	**Oulanka, Finla**	**3.87**	**108**	*e*PG	**Pb**	**03 26 52.4**	**+1.6**
OLKF				*e*SG	**Sg**	**03 27 45.0**	**-0.8**
KU6	**Riekki**	**4.18**	**111**	*e*PG	**Pb**	**03 26 57.6**	**+1.4**
	baz=294						
KU6				*e*SG	**Sg**	**03 27 53.6**	**-2.4**
FINES	**FINESS Array B**	**6.84**	**156**	Pn	**Pn**	**03 27 24.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=338,slow=13,SNR=1.8						
FINES				Lg	Lg	03 29 15.2	
	comp=Z,0.2nm,0.3s,baz=343,slow=28,SNR=4.3 comp=Z,1.4nm,1.0s						
NOA	**NORSAR Array B**	**7.82**	**214**	Pn	**Pn**	**03 27 39.2**	**+2.4**
	baz=14,slow=13,SNR=1.3						
NOA				Lg	Lg	03 29 50.4	
	baz=40,slow=24,SNR=4.3 comp=Z,0.1nm,0.6s						

*IDC **21** 03:44:39.6±3.5,35°.85N×141°.44E,h0km,mb3.5/2, mbtmp3.3/3,ML2.1/1,Error ellipse: s-maj=95.7km s-min=32.2km az=55.0*
*JMA **21** 03:44:45.0±0.2,35°.8N±0°.6×14°.1E±°,h33km±1km, MV3.0/34,NEAR CHOSHI CITY*

ISC 21 03:44:43.8±1.4,35°.83N±0°.08×141°.3E±0°.1,h26km,n16, σ0s48/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.34**	**248**	P	**Pb**	**03 44 51.9**	**+0.3**
CHOJ				S	**Sb**	**03 44 56.8**	**-0.1**
JIHU	**Itakohorinouch**	**0.60**	**283**	P	**Pn**	**03 44 56.3**	**-0.4**
JSMT	**Sammumatsuo**	**0.68**	**254**	P	**Pb**	**03 44 57.1**	**0.0**
JHYU	**Hitachinakayam**	**0.74**	**314**	P	**Pn**	**03 44 58.5**	**-0.1**
JHYU				*e*S	**Sb**	**03 45 07.4**	**-0.4**
JYT	**Yasato**	**0.94**	**295**	P	**Pn**	**03 45 00.4**	**-1.0**
JHO	**Hitachi**	**0.95**	**325**	P	**Pn**	**03 45 01.5**	**-0.1**
BSO1	**Boso 1**	**1.20**	**191**	P	**Pb**	**03 45 05.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.56**	**287**	Pn	**Pn**	**03 45 24.3**	**+0.6**
	0.3nm,0.3s,baz=99,slow=13,SNR=12 2.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.67**	**119**	T	T	04 19 31.2	
	baz=311,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**27.67**	**119**	T	T	04 19 32.3	
	baz=311,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**27.68**	**119**	T	T	04 19 33.1	
	baz=311,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	04 20 23.4	
	baz=312,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	04 20 22.3	
	baz=312,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	04 20 19.3	
	baz=312,slow=75,SNR=24						
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**	**03 52 54.7**	**+0.5**
	0.5nm,0.7s,baz=84,slow=14,SNR=4.7 0.5nm,0.7s						
WRA	**Warramunga Arr**	**55.85**	**188**	P	**P**	**03 54 19.0**	**-0.1**
	0.3nm,0.7s,baz=2.2,slow=7.5,SNR=6.5 0.3nm,0.7s						

*SNET **21** 04:42:36.1±0.9,13°.49N×90°.13W,h53km±9km,ML3.1*
*GCG **21** 04:42:38.1±0.3,13°.58N×90°.16W,h79km±18km,MD3.3*

ISC 21 04:42:37.7±2.1,13°.5N±0°.1×90°.01W±0°.07,h58km,n13, σ0s50/16,2D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.43**	**30**	*e*P	**Pn**	**04 42 48.5**	**-0.6**
NUBE				*e*S	**Sn**	**04 42 57.2**	**0.0**
CEVE	**Cerro Verde**	**0.48**	**51**	*e*P	**Pn**	**04 42 49.3**	**-0.3**
CEVE				IAML		04 43 00.7	
	comp=Z,2μm,0.2s						
SBLS	**San Blas**	**0.48**	**50**	*e*P	**Pn**	**04 42 49.3**	**-0.4**
RTR	**El Retiro**	**0.51**	**43**	*e*P	**Pn**	**04 42 49.5**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.54**	**23**	*i*P	**Pn**	**04 42 49.7**	**-0.4**
SLOZ				*e*S	**Sn**	**04 42 59.9**	**+0.9**
SNET	**Serv Nac Est T**	**0.77**	**78**	*e*P	**Pn**	**04 42 52.9**	**+0.1**
LFRS	**El Faro**	**0.92**	**84**	*e*P	**Pn**	**04 42 54.9**	**+0.1**
MTO3	**Montecristo**	**1.07**	**36**	*i*P	**Pn**	**04 42 56.5**	**-0.4**
COEG	**Centro de Oper**	**1.10**	**85**	*e*P	**Pn**	**04 42 57.3**	**+0.2**
COEG				IAML		04 43 15.0	
	comp=Z,138nm,0.2s						
NBG	**Las Nubes**	**1.11**	**343**	*e*P	**Pn**	**04 42 58.3**	**+0.9**
ESQI	**Esquipulas**	**1.21**	**32**	*e*P	**Pn**	**04 42 58.4**	**-0.3**
FUG	**Fuego 3**	**1.23**	**319**	*e*P	**Pn**	**04 42 58.8**	**-0.1**
FUG				*e*S	**Sn**	**04 43 14.9**	**+0.3**
STG3	**Santiaguito 3,**	**1.92**	**308**	*e*S	**Sn**	**04 43 30.8**	**-0.7**

IDC 21 04:53:43.3±8.3,3°.92N×94°.91E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=410.2km s-min=29.9km az=57.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**25.14**	**243**	T	T	05 25 10.3	
	baz=63,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**25.14**	**243**	T	T	05 25 12.5	
	baz=63,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**25.16**	**243**	T	T	05 25 13.4	
	baz=63,slow=75,SNR=3.9						
MKAR	**Makanchi Array**	**44.09**	**348**	P	P	05 01 53.2	-0.1
	0.2nm,0.3s,baz=165,slow=7.1,SNR=4.8 0.2nm,0.3s						
WRA	**Warramunga Arr**	**45.41**	**123**	P	P	05 02 04.2	-0.1
	0.5nm,0.7s,baz=302,slow=8.8,SNR=7.3 0.5nm,0.7s						
ASAR	**Alice Springs**	**46.85**	**128**	P	P	05 02 15.3	-0.2
	0.3nm,0.5s,baz=292,slow=7.8,SNR=4.8 0.3nm,0.5s						

*IDC **21** 05:00:12.8±2.4,15°.25S×178°.87W,h437km±24km,mb3.2/5, mbtmp3.9/6,Error ellipse: s-maj=59.8km s-min=24.2km az=149.0*

ISC 21 05:00:13.6±1.1,15°.3S±0°.3×178°.9W±0°.3,h450km,n7, σ0s65/7,mb3.2/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.77**	**230**	P	**P**	**05 01 26.0**	**-0.9**
	4.0nm,0.5s,baz=212,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**44.67**	**257**	P	**P**	**05 07 45.5**	**+0.2**
	0.5nm,0.5s,baz=95,slow=8.4,SNR=22 0.5nm,0.5s						
ASAR	**Alice Springs**	**45.08**	**252**	P	**P**	**05 07 49.1**	**+0.7**
	11nm,0.5s,baz=85,slow=8.5,SNR=224 11nm,0.5s						
ILAR	**Eielson Array**	**83.48**	**13**	P	**P**	**05 11 52.2**	**-0.3**
	0.3nm,0.6s,baz=235,slow=5.0,SNR=4.2 0.3nm,0.6s						
PDAR	**Pinedale Array**	**85.82**	**44**	P	**P**	**05 12 04.8**	**0.0**
	0.3nm,0.6s,baz=227,slow=2.2,SNR=3.7 0.3nm,0.6s						
MAW	**Mawson**	**86.12**	**200**	P	**P**	**05 12 05.9**	**+0.4**
	1.5nm,0.6s,baz=103,slow=1.2,SNR=3.7 1.5nm,0.6s						
ARCES	**

NRCA				AML	AML		
	comp=N,400μm,1.3s						
NRCA				AML	AML		
	comp=E,592μm,0.1s						
T1243	**Rocca Santa Ma**	**0.15**	**113**	P	Pg	05 06 58.8	+0.6
T1243				S	Sg	05 07 01.5	+0.9
T1243	**Rocca Santa Ma**	**0.15**	**113**	P	Pg	05 06 58.8	+0.6
T1243				S	Sg	05 07 01.7	+1.1
MMO1	**Montemonaco**	**0.15**	**18**	P	Pg	05 06 58.9	+0.7
MMO1				S	Sg	05 07 01.8	+1.0
T1241	**Roccafluvione,**	**0.16**	**50**	P	Pg	05 06 58.1	-0.2
T1241				S	Sg	05 07 02.1	+1.1
T1241	**Roccafluvione,**	**0.16**	**50**	P	Pb	05 06 59.2	-0.6
T1241				S	Sg	05 07 02.1	+1.2
MC2	**Monte Cornacci**	**0.17**	**341**	P	Pg	05 06 59.1	+0.5
MC2				S	Sg	05 07 02.6	+1.2
LNSS	**Leonessa**	**0.22**	**228**	P	Pg	05 06 59.8	+0.3
LNSS				S	Sg	05 07 03.5	+0.8
LNSS				AML	AML		
	comp=E,93μm,0.4s						
LNSS				AML	AML		
	comp=N,68μm,0.3s						
LNSS				AML	AML		
	comp=E,93μm,0.4s						
LNSS				AML	AML		
	comp=N,68μm,0.3s						
LNSS				AML	AML		
	comp=E,93μm,0.4s						
LNSS				AML	AML		
	comp=N,68μm,0.3s						
T1216	**Preci, Frazion**	**0.23**	**307**	P	Pg	05 06 59.7	+0.2
T1216				S	Sg	05 07 03.5	+0.8
AM05	**Amandola Campo**	**0.23**	**16**	AML	AML		
	comp=E,304μm,0.1s						
AM05				AML	AML		
	comp=N,1080μm,0.1s						
AM05				AML	AML		
	comp=N,266μm,0.1s						
AM05				AML	AML		
	comp=E,1260μm,0.1s						
AM05				AML	AML		
	comp=N,266μm,0.1s						
AM05				AML	AML		
	comp=N,1075μm,0.1s						
AM05				AML	AML		
	comp=E,304μm,0.1s						
AM05				AML	AML		
	comp=E,1265μm,0.1s						
T1246	**Crognaleto (TE**	**0.24**	**135**	P	Pg	05 07 00.4	+0.6
T1246				S	Sg	05 07 04.6	+1.4
CAMP	**Campotosto**	**0.24**	**154**	P	Pg	05 07 00.3	+0.5
CAMP				S	Sg	05 07 04.4	+1.2
RM33	**Pellescritta (**	**0.25**	**189**	P	Pg	05 07 00.3	+0.5
RM33				S	Sg	05 07 04.6	+1.2
RM33	**Pellescritta (**	**0.25**	**189**	P	Pg	05 07 00.3	+0.4
RM33				S	Sg	05 07 04.6	+1.3
RM33				AML	AML		
	comp=E,46μm,1.4s						
RM33				AML	AML		
	comp=N,52μm,1.1s						
T1217	**Poggiodomo (PG**	**0.25**	**260**	P	Pg	05 07 00.1	+0.2
T1217				S	Sg	05 07 04.0	+0.7
FDMO	**Fiordimonte**	**0.31**	**335**	P	Pg	05 07 01.3	+0.2
FDMO				S	Sb	05 07 06.5	-0.9
FDMO				AML	AML		
	comp=E,23μm,1.1s						
FDMO				AML	AML		
	comp=N,25μm,1.6s						
FDMO				AML	AML		
	comp=E,23μm,1.1s						
FDMO				AML	AML		
	comp=N,25μm,1.6s						
FDMO				AML	AML		
	comp=N,25μm,1.6s						
FDMO				AML	AML		
	comp=E,23μm,1.1s						
GUMA	**Gualdo di Mace**	**0.31**	**10**	P	Pb	05 07 02.0	-0.4
CSP1	**Cessapalombo**	**0.34**	**353**	P	Pg	05 07 02.0	+0.4
CSP1				S	Sb	05 07 07.9	-0.5

*IDC **21** 05:31:09.7±0.8, 15°.43S×179°.99W, h0km, mb4.0/8, mbtmp4.0/9, ML5.9/1, MS3.8/8, Error ellipse: s-maj=42.8km s-min=17.6km az=140.0*

ISC 21 05:31:14.4±0.8, 15°.6S±0°.2×179°.9W±0°.2, h35km, n29, σ1s53/16, mb3.9/8, MS4.1/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.87**	**223**	Pn	**Pn**	**05 31 56.9**	**-0.8**
	61nm,0.3s,baz=279,slow=23,SNR=124						
MSVF				Sn	**Sn**	**05 32 32.0**	**+0.9**
	46nm,0.3s,baz=335,slow=21,SNR=8.6						
MSVF				LR	LR	05 33 04.6	
	comp=Z,1μm,18.4s,baz=64,slow=39						
	121nm,0.4s						
AFI	**Afiamalu**	**8.04**	**79**	LR	LR	05 35 27.0	
	comp=Z,376nm,20.0s,baz=261,slow=32						
RAO	**Raoul Island**	**13.67**	**173**	LR	LR	05 38 51.8	
	comp=Z,515nm,19.5s,baz=82,slow=33						
DZM	**Mont Dzumac**	**14.42**	**242**	LR	LR	05 39 48.1	
	comp=Z,225nm,18.3s,baz=33,slow=36						
HNR	**Honiara**	**20.61**	**285**	LR	LR	05 42 48.9	
	comp=Z,5μm,19.2s,baz=118,slow=34						
H11S2	**WAKE ISLAND Hy**	**36.39**	**338**	T	T	06 17 10.6	
	baz=155,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**36.40**	**338**	T	T	06 17 12.0	
	baz=155,slow=76,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**36.41**	**338**	T	T	06 17 07.7	
	baz=155,slow=76,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**37.45**	**339**	T	T	06 18 27.4	
	baz=155,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**37.46**	**339**	T	T	06 18 23.6	
	baz=155,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**37.47**	**339**	T	T	06 18 27.0	
	baz=155,slow=76,SNR=10						
STKA	**Stephens Creek**	**38.54**	**238**	P	**P**	**05 38 33.5**	**-0.3**
	3.0nm,0.8s,baz=74,slow=11,SNR=4.3						
	3.0nm,0.8s						
WRA	**Warramunga Arr**	**43.69**	**257**	P	**P**	**05 39 16.4**	**0.0**
	1.3nm,0.8s,baz=90,slow=8.7,SNR=13						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**44.08**	**252**	P	**P**	**05 39 20.2**	**+0.6**
	4.2nm,0.6s,baz=84,slow=8.5,SNR=45						
	4.2nm,0.6s						
VNDA	**Vanda**	**62.58**	**184**	P	**P**	**05 41 37.0**	**+2.5**
	0.7nm,0.8s,baz=14,slow=4.6,SNR=5.5						
	0.7nm,0.8s						
MJAR	**Matsushiro Arr**	**65.25**	**324**	LR	LR	06 05 19.5	
	comp=Z,137nm,21.0s,baz=143,slow=32						
YBH	**Yreka Blue Hor**	**77.69**	**40**	LR	LR	06 09 04.1	
	comp=Z,66nm,20.9s,baz=236,slow=29						
NVAR	**Mina Array Bea**	**78.80**	**45**	P	**P**	**05 43 14.5**	**+0.4**
	1.3nm,0.9s,baz=224,slow=8.2,SNR=8.4						
	1.3nm,0.9s						
H02S1	**DAWSON INLET T**	**79.74**	**27**	T	T	07 11 03.2	
	SNR=417						
ILAR	**Eielson Array**	**84.02**	**14**	P	**P**	**05 43 40.7**	**-0.1**
	2.7nm,1.1s,baz=224,slow=6.3,SNR=9.7						
	2.7nm,1.1s						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**05 43 52.4**	**+0.6**
	0.6nm,0.8s,baz=222,slow=7.0,SNR=9.8						
TXAR				LR	LR	06 16 51.6	
	comp=Z,64nm,18.3s,baz=244,slow=32						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**86.70**	**44**	P	**P**	**05 43 54.7**	**-0.3**
	0.8nm,0.9s,baz=224,slow=4.1,SNR=6.3						
	0.8nm,0.9s						
TROLL	**Troll, Antarti**	**92.55**	**181**	P	**P**	**05 44 20.1**	**-1.9**
SNAA	**Sanae**	**92.88**	**179**	P	**P**	**05 44 20.5**	**-3.0**
VNA3	**Neumayer Olymp**	**93.08**	**177**	P	**P**	**05 44 22.5**	**-1.8**
VNA2	**Neumayer--Watz**	**93.50**	**178**	P	**P**	**05 44 24.3**	**-1.9**
	baz=172,slow=4.0						
VNA1	**Neumayer--Stat**	**93.74**	**177**	P	**P**	**05 44 25.9**	**-1.4**
ULM	**Lac du Bonnet**	**98.10**	**40**	LR	LR	06 25 22.4	
	comp=Z,30nm,18.1s,baz=4.0,slow=33						
GERES	**GERESS Array B**	**145.06**	**344**	PKP	**PKPdf**	**05 50 48.8**	**+0.5**
	0.5nm,0.6s,baz=270,slow=1.3,SNR=8.5						

*MOS **21** 05:44:02.2±0.9, 18°.06S×175°.45W, h229km, mb5.5/31, Error ellipse: s-maj=9.0km s-min=8.0km az=25.7*
*BJI **21** 05:44:03.0±0.0, 17°.60S×174°.90W, h238km, mb5.3/65, mB5.2/43*
*NEIC **21** 05:44:05.2±2.8, 18°.08S±0°.08×175°.41W±0°.08, h241km±4km, mb5.2/535, Error ellipse: s-maj=11.7km s-min=10.4km az=173.0*
*NOU **21** 05:44:05.5, 18°.14S×175°.17W, h261km, ML5.4/129, Tonga Islands*
*IDC **21** 05:44:07.1±0.5, 18°.13S×175°.44W, h264km±4km, mb5.1/33, mbtmp5.7/34, Error ellipse: s-maj=8.9km s-min=7.8km az=167.0*
*GCMT **21** 05:44:09.2±0.1, 18°.08S±0°.01×175°.12W±0°.01, h269km, MW5.5/145, Moment Tensor Solution. s145,c241; s145,c244; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.44±.02; $M_{\theta\theta}$-0.11±.02; $M_{\phi\phi}$-0.33±.02; $M_{r\theta}$-1.14±.02; $M_{\theta\phi}$-0.12±.02; $M_{\phi r}$-1.57±.02; Best double couple: $M_0$1.98300×10^{17} NP1:ϕ_s216.00000°,δ84.00000°, λ92.00000°. NP2:ϕ_s18.00000°,δ6.00000°,λ72.00000°. Principal axes: T 2.0170, Plg51.0000°, Azm128.0000°; N -0.0680, Plg2.0000°, Azm35.0000°; P -1.9490, Plg39.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 05:44:05.5±0.3, 18°.12S±0°.04×175°.39W±0°.03, h253km±2km, h253km:pP-P, n1328, σ1s30/1206, mb5.3/407, 70C-87D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.26**	**267**	P	**Pn**	**05 45 05.5**	**+4.5**
TAVE	**Taveuni**	**4.54**	**287**	P	**Pn**	**05 45 20.0**	**+4.2**
FUTU	**Fugatoga**	**4.61**	**325**	P	**Pn**	**05 45 19.7**	**+3.0**
NIUE	**Niue**	**5.26**	**101**		**Pn**	**05 45 23.0**	**-1.6**
NIUE	**Niue**	**5.26**	**101**	P	**Pn**	**05 45 23.5**	**-1.1**
AFI	**Afiamalu**	**5.43**	**40**	P	**Pn**	**05 45 22.6**	**-4.3**
	576nm,0.6s,baz=228,slow=20,SNR=89						
AFI				S	S	05 46 20.9	-11
	2μm,0.6s,baz=21,slow=22,SNR=11						
AFI	**Afiamalu**	**5.43**	**40**		**Pn**	**05 45 23.3**	**-3.6**
AFI	**Afiamalu**	**5.43**	**40**	P	**Pn**	**05 45 23.3**	**-3.6**
AFI	**Afiamalu**	**5.43**	**40**	P	**Pn**	**05 45 23.4**	**-3.5**
MSVF	**Nonsavu**	**6.26**	**272**	P	**Pn**	**05 45 41.0**	**+3.9**
	553nm,0.9s,baz=119,slow=15,SNR=173						
MSVF				S	**S**	**05 46 56.7**	**+6.3**
	100nm,1.0s,baz=147,slow=15,SNR=3.6						
MSVF	**Nonsavu**	**6.26**	**272**	*c iP*	**Pn**	**05 45 41.1**	**+4.0**
MSVF	**Nonsavu**	**6.26**	**272**	P	**Pn**	**05 45 41.4**	**+4.3**
FUNA	**Funafuti**	**10.89**	**330**		**Pn**	**05 46 36.9**	**+1.5**
FUNA	**Funafuti**	**10.89**	**330**	P	**Pn**	**05 46 37.6**	**+2.3**
GLKZ	**Green Lake**	**11.34**	**191**	P	**Pn**	**05 46 39.2**	**-1.6**
GLKZ				S	S	05 48 37.4	-10
RAR	**Rarotonga**	**15.02**	**104**	P	**P**	**05 47 24.6**	**-0.9**
	267nm,0.9s,baz=247,slow=8.7,SNR=34						
RAR	**Rarotonga**	**15.02**	**104**	P	**P**	**05 47 25.5**	**0.0**
RAR	**Rarotonga**	**15.02**	**104**	P	**P**	**05 47 25.5**	**0.0**
RAR	**Rarotonga**	**15.02**	**104**	P	**P**	**05 47 24.3**	**-1.2**
RTV	**Rentapao**	**15.41**	**269**	P	**Pn**	**05 47 32.8**	**+2.2**
DVP	**Devils Point**	**15.64**	**269**	P	**Pn**	**05 47 34.8**	**+1.4**
MARNC	**Mare, Loyalty**	**15.96**	**255**	P	**P**	**05 47 35.3**	**-0.6**
MARNC	**Mare, Loyalty**	**15.96**	**255**	P	**Pn**	**05 47 37.2**	**+0.1**
LIFNC	**LIFOU**	**16.60**	**258**	P	**P**	**05 47 42.5**	**-0.3**
LIFNC	**LIFOU**	**16.60**	**258**	P	**P**	**05 47 43.0**	**+0.2**
PINNC	**Pines Island,**	**16.71**	**252**	P	**Pn**	**05 47 45.3**	**-0.6**
PINNC	**Pines Island,**	**16.71**	**252**	P	**Pn**	**05 47 45.9**	**0.0**
YATNC	**Mamie plateau,**	**17.10**	**254**	P	**Pn**	**05 47 50.7**	**+0.2**
DZM	**Mont Dzumac**	**17.51**	**254**	*eP*	**Pn**	**05 47 54.4**	**-1.0**
	936nm,1.1s						
DZM	**Mont Dzumac**	**17.51**	**254**	P	**P**	**05 47 53.1**	**+0.3**
	260nm,0.9s,baz=80,slow=17,SNR=101						
DZM	**Mont Dzumac**	**17.51**	**254**	P	**P**	**05 47 54.1**	**+1.2**
ONTNC	**Ouen Toro**	**17.55**	**253**	P	**P**	**05 47 53.2**	**0.0**
ONTNC	**Ouen Toro**	**17.55**	**253**	P	**Pn**	**05 47 54.8**	**-0.9**
NOUC	**Port Laguerre**	**17.65**	**254**	P	**P**	**05 47 55.4**	**+1.2**
KOUNC	**Koumac, New Ca**	**19.34**	**260**	P	**P**	**05 48 12.0**	**-0.4**
KOUNC	**Koumac, New Ca**	**19.34**	**260**	P	**P**	**05 48 12.7**	**+0.3**
OUZ	**Omahuta**	**19.65**	**208**		**Pn**	**05 48 19.2**	**-1.1**
OUZ	**Omahuta**	**19.65**	**208**	P	**Pn**	**05 48 20.1**	**-0.2**
MXZ	**Matakaoa Point**	**20.15**	**195**	P	**P**	**05 48 22.0**	**+1.1**
MXZ				S	**S**	**05 51 52.9**	**+0.3**
WMGZ	**Waiomatatini S**	**20.37**	**194**	P	Pn	05 48 26.0	-2.6
WMGZ				S	**S**	**05 51 57.9**	**+1.4**
WSRZ	**White Island S**	**20.40**	**197**	P	**P**	**05 48 21.0**	**-2.6**
HAZ	**Te Kaha**	**20.46**	**196**	P	**P**	**05 48 24.9**	**+0.7**
HAZ				S	**S**	**05 51 54.7**	**-3.4**
PKGZ	**Pakihiroa**	**20.52**	**195**	P	**P**	**05 48 26.6**	**+1.7**
PKGZ				S	**S**	**05 51 58.4**	**-0.7**
PUZ	**Puketiti**	**20.65**	**194**	P	**P**	**05 48 26.7**	**+0.5**
PUZ				S	**S**	**05 51 59.6**	**-1.7**
RUGZ	**Raukumara Rang**	**20.69**	**196**	P	**P**	**05 48 27.7**	**+0.9**
RUGZ				S	**S**	**05 52 01.3**	**-0.9**
TWGZ	**Tauwhareparae**	**20.81**	**195**	P	**P**	**05 48 30.1**	**+2.1**
TWGZ				S	**S**	**05 52 03.6**	**-0.6**
OPRZ	**Ohinepanea**	**20.89**	**198**	P	**P**	**05 48 31.6**	**+3.0**
URZ	**Urewera**	**21.11**	**197**	P	**P**	**05 48 29.5**	**-1.5**
	108nm,0.8s,baz=87,slow=4.2,SNR=31						
URZ				S	**S**	**05 52 04.7**	**-4.3**
	56nm,1.0s,baz=265,slow=23,SNR=7.0						
	108nm,0.8s						
URZ	**Urewera**	**21.11**	**197**	P	**P**	**05 48 29.7**	**-1.2**
URZ	**Urewera**	**21.11**	**197**	P	**P**	**05 48 29.4**	**-1.6**
HIZ	**Hauiti**	**22.04**	**201**	P	**P**	**05 48 41.7**	**+2.1**
BKZ	**Black Stump Fm**	**22.13**	**197**	P	**P**	**05 48 39.6**	**-0.9**
BKZ	**Black Stump Fm**	**22.13**	**197**	P	**P**	**05 48 39.7**	**-0.8**
TARA	**Tarawa**	**22.51**	**328**	P	**P**	**05 48 43.4**	**-0.7**
TARA	**Tarawa**	**22.51**	**328**	P	**P**	**05 48 43.9**	**-0.2**
BFZ	**Birch Farm**	**23.62**	**196**	P	**P**	**05 48 53.9**	**0.0**
BFZ	**Birch Farm**	**23.62**	**196**	P	**P**	**05 48 53.8**	**-0.1**
PAE	**Paea**	**24.56**	**93**	*eP*	**P**	**05 49 01.8**	**-0.9**
PAE	**Paea**	**24.56**	**93**	*eT*	T	06 13 43.9	
	6.1nm,0.3s						
PPT2	**Papeete2**	**24.57**	**93**	*eP*	**P**	**05 49 00.8**	**-2.1**
	217nm,0.9s						
PPT2	**Papeete2**	**24.57**	**93**	*eP*	**P**	**05 49 04.7**	**+1.8**
	167nm,15.0s						
PPT2				*e*LR	LR	05 55 27.8	
	comp=Z,573nm,26.0s						
PPT2	**Papeete2**	**24.57**	**93**	*eT*	T	06 13 43.5	
	4.9nm,0.3s						
PPT	**Papeete**	**24.57**	**93**	P	**P**	**05 49 02.6**	**-0.2**
	247nm,0.8s,baz=307,slow=3.9,SNR=12						
	247nm,0.8s						
PPTF	**Pamatai, Papee**	**24.58**	**93**	P	**P**	**05 49 02.7**	**-0.3**
PPTF	**Pamatai, Papee**	**24.58**	**93**	P	**P**	**05 49 02.7**	**-0.3**
TBI	**Tubuai**	**24.78**	**107**	*eP*	**P**	**05 49 04.6**	**0.0**
	555nm,1.3s						
TBI	**Tubuai**	**24.78**	**107**	*eT*	T	06 13 50.3	
	9.3nm,0.3s						
TIAR	**Tiarei**	**24.79**	**93**	*eP*	**P**	**05 49 03.4**	**-1.4**
	35nm,0.8s						
TVO	**Taravao**	**24.86**	**93**	*eP*	**P**	**05 49 04.0**	**-1.5**
	206nm,1.4s						
QRZ	**Quartz Range**	**24.91**	**202**	P	**P**	**05 49 05.0**	**-0.6**
QRZ				IAmb	IAmb	05 49 18.5	
	comp=Z,74nm,0.8s						
QRZ	**Quartz Range**	**24.91**	**202**	P	**P**	**05 49 06.1**	**+0.5**
NNZ	**Nelson**	**24.96**	**200**	IAmb	IAmb	05 49 08.9	
	comp=Z,52nm,0.9s						
HNR	**Honiara**	**25.44**	**287**	P	**P**	**05 49 10.8**	**+0.1**
	comp=Z,14μm,0.7s,baz=214,slow=0.7,SNR=15						
HNR	**Honiara**	**25.44**	**287**	P	**P**	**05 49 11.6**	**+0.9**
HNR	**Honiara**	**25.44**	**287**	P	**P**	**05 49 11.6**	**+0.9**
HNR				pmax	pmax		
	comp=Z,1μm,0.8s						
HNR	**Honiara**	**25.44**	**287**	P	**P**	**05 49 13.6**	**+2.9**
	comp=Z,1μm,0.8s						
THZ	**Tophouse**	**25.61**	**201**	P	**P**	**05 49 12.3**	**+0.4**
THZ				IAmb	IAmb	05 49 26.4	
	comp=Z,52nm,1.0s						
KHZ	**Kahutara**	**25.99**	**199**	P	**P**	**05 49 15.8**	**+0.5**
KHZ				IAmb	IAmb	05 49 21.4	
	comp=Z,75nm,0.9s						
KHZ	**Kahutara**	**25.99**	**199**	P	**P**	**05 49 15.8**	**+0.5**
PMOR	**Pomariorio Ree**	**26.52**	**87**	*eP*	**P**	**05 49 20.0**	**-0.3**
	comp=Z,924nm,1.2s						
PMOR	**Pomariorio Ree**	**26.52**	**87**	*eT*	T	06 16 44.3	
	comp=Z,3.7nm,0.2s						
LHI	**Lord Howe Isla**	**26.68**	**235**	P	**P**	**05 49 22.5**	**+1.0**
LTZ	**Lake Taylor**	**26.73**	**200**	IAmb	IAmb	05 49 35.9	
	comp=Z,33nm,0.7s						
VAH	**Vaihoa**	**26.73**	**88**	*eP*	**P**	**05 49 21.3**	**-0.9**
	comp=Z,346nm,1.0s						
OXZ	**Oxford**	**27.29**	**200**	IAmb	IAmb	05 49 27.4	
	comp=Z,77nm,0.8s						
RPZ	**Rata Peaks**	**27.97**	**201**	P	**P**	**05 49 31.9**	**-0.9**
	comp=Z,45nm,0.8s,baz=69,slow=8.9,SNR=9.8						
	comp=Z,45nm,0.8s						
RPZ	**Rata Peaks**	**27.97**	**201**	IAmb	IAmb	05 49 37.6	
	comp=Z,38nm,0.8s						
FOZ	**Fox Glacier**	**28.25**	**203**	IAmb	IAmb	05 49 35.0	
	comp=Z,64nm,0.9s						
MLZ	**Mavora Lakes**	**30.45**	**203**	IAmb	IAmb	05 49 55.5	
	comp=Z,60nm,0.9s						
DCZ	**Deep Cove**	**30.91**	**204**	IAmb	IAmb	05 50 01.2	
	comp=Z,40nm,0.8s						
PYZ	**Puysegur Point**	**31.67**	**204**	IAmb	IAmb	05 51 11.9	
	comp=Z,74nm,1.1s						
EIDS	**Eidsvold**	**31.91**	**251**	P	**P**	**05 50 07.2**	**-0.6**
	baz=32,SNR=28						
EIDS	**Eidsvold**	**31.91**	**251**	IAmb	IAmb	05 50 08.5	
	comp=Z,121nm,1.2s						
EIDS	**Eidsvold**	**31.91**	**251**	P	**P**	**05 50 07.7**	**-0.1**
RK1H	**Rockhampton Ha**	**32.29**	**255**	P	**P**	**05 50 11.5**	**+0.5**
ARMA	**Armidale**	**32.35**	**242**	P	**P**	**05 50 12.3**	**+0.7**
	baz=32,SNR=31						
ARMA	**Armidale**	**32.35**	**242**	P	**P**	**05 50 12.1**	**+0.4**
ARMA				IAmb	IAmb	05 50 13.3	
	comp=Z,75nm,0.8s						
ARMA	**Armidale**	**32.35**	**242**	P	**P**	**05 50 12.3**	**+0.7**
SYDH	**Sydney Hard Ro**	**34.03**	**236**	P	**P**	**05 50 26.8**	**+0.9**
RMQ	**Roma**	**34.12**	**249**	P	**P**	**05 50 27.3**	**+0.5**
	baz=34,SNR=8.5						
RMQ	**Roma**	**34.12**	**249**	P	**P**	**05 50 27.3**	**+0.5**
RABL	**Rabaul**	**34.63**	**290**	P	**P**	**05 50 31.6**	**+0.2**
	comp=Z,356nm,0.7s						
KRVT	**Keravat (AS076**	**34.70**	**289**	P	**P**	**05 50 30.2**	**-1.7**
	comp=Z,338nm,0.8s,baz=185,slow=2.0,SNR=24						
	comp=Z,338nm,0.8s						
TAOE	**Nuku Hiva Isla**	**35.42**	**80**	P	**P**	**05 50 37.9**	**-0.3**
CNB	**Canberra Magne**	**35.61**	**234**	P	**P**	**05 50 39.7**	**+0.2**
	baz=36,SNR=12						
CNB	**Canberra Magne**	**35.61**	**234**	P	**P**	**05 50 40.2**	**+0.7**
	comp=Z,56nm,1.0s						
CAN	**Canberra**	**35.89**	**234**	P	**P**	**05 50 41.7**	**-0.2**
CAN				pP	**pP**	**05 51 27.3**	**-4.8**
PATS	**Pohnpei**	**35.90**	**311**	P	**P**	**05 50 42.3**	**+0.3**
	baz=36,SNR=19						
PATS	**Pohnpei**	**35.90**	**311**	P	**P**	**05 50 42.0**	**-0.1**
PATS	**Pohnpei**	**35.90**	**311**	P	**P**	**05 50 43.2**	**+1.1**
	comp=Z,567nm,1.1s						
CTA	**Charters Tower**	**36.25**	**261**	P	**P**	**05 50 44.5**	**-0.6**
	comp=Z,95nm,0.8s,baz=90,slow=11						
CTA				pP	**pwP**	**05 51 39.2**	**+0.9**
	comp=Z,50nm,1.0s,baz=79,slow=10,SNR=2.3						
CTA				S	**S**	**05 56 04.2**	**-2.3**
	comp=Z,6.0nm,0.9s,baz=268,slow=15,SNR=3.3						
CTA				ScP	**ScP**	**05 56 29.5**	**+2.9**
	comp=Z,12nm,1.1s,baz=96,slow=2.7,SNR=6.4						
	comp=Z,95nm,0.8s						
CTA	**Charters Tower**	**36.25**	**261**	P	**P**	**05 50 44.1**	**-1.0**
CTAO	**Charters Tower**	**36.25**	**261**	P	**P**	**05 50 43.7**	**-1.4**
CTAO				IAmb	IAmb	05 50 47.1	
	comp=Z,98nm,0.8s						
CTAO	**Charters Tower**	**36.25**	**261**	P	**P**	**05 50 43.7**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,98nm,0.8s						
CTAO	**Charters Tower**	**36.25**	**261**	P	**P**	**05 50 44.1**	**-1.0**
	comp=Z,127nm,0.8s						
CTAO	**Charters Tower**	**36.25**	**261**	P	**P**	**05 50 44.1**	**-1.0**
CTAO				pP	**pP**	**05 51 31.0**	**-4.5**
CTAO				pwP	**pwP**	**05 51 39.4**	**+1.1**
CTAO				sP	sP	05 51 56.4	-7.9
PMG	**Port Moresby**	**37.33**	**278**	P	**P**	**05 50 54.4**	**+0.1**
PMG	**Port Moresby**	**37.33**	**278**	*d iP*	**P**	**05 50 54.6**	**+0.4**
PMG				pmax	pmax		
	comp=Z,332nm,0.8s						
PMG	**Port Moresby**	**37.33**	**278**	P	**P**	**05 50 54.6**	**+0.4**
	comp=Z,411nm,0.9s						
PMG	**Port Moresby**	**37.33**	**278**	P	**P**	**05 50 54.4**	**+0.1**
PMG				pP	**pP**	**05 51 42.0**	**-2.9**
PMG				sP	**sP**	**05 52 07.9**	**-5.7**
CMSA	**Cobar Meteorol**	**37.57**	**242**	P	**P**	**05 50 55.9**	**-0.1**
	baz=38,SNR=29						
CMSA	**Cobar Meteorol**	**37.57**	**242**	P	**P**	**05 50 55.9**	**-0.1**
QLP	**Quilpie**	**38.16**	**250**	P	**P**	**05 51 00.7**	**-0.2**
	baz=38,SNR=42						
QLP	**Quilpie**	**38.16**	**250**	P	**P**	**05 51 00.8**	**-0.2**
MTSU	**Mount Surprise**	**38.24**	**264**	P	**P**	**05 51 01.0**	**-0.9**
	baz=38,SNR=47						
MTSU	**Mount Surprise**	**38.24**	**264**	P	**P**	**05 51 01.1**	**-0.7**
TOO	**Toolangi**	**39.30**	**232**	P	**P**	**05 51 10.2**	**-0.1**
	baz=39,SNR=11						
TOO	**Toolangi**	**39.30**	**232**	IAmb	IAmb	05 51 11.3	
	comp=Z,95nm,1.6s						
TOO	**Toolangi**	**39.30**	**232**	P	**P**	**05 51 09.9**	**-0.4**
CORO	**Coronation Par**	**39.54**	**226**	P	**P**	**05 51 13.1**	**+1.0**
COEN	**Coen**	**39.98**	**270**	P	**P**	**05 51 16.0**	**-0.2**
	baz=40,SNR=94						
COEN	**Coen**	**39.98**	**270**	P	**P**	**05 51 15.6**	**-0.6**
COEN	**Coen**	**39.98**	**270**	P	**P**	**05 51 16.1**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**40.41**	**333**	P	**P**	**05 51 20.2**	**+0.9**
	baz=171,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**40.43**	**333**	P	**P**	**05 51 20.3**	**+0.9**
	baz=159,slow=74,SNR=4.3						
BRAT	**Ballarat**	**40.47**	**233**	P	**P**	**05 51 20.8**	**+1.0**
	comp=Z,36nm,

WRAB	Tennant Creek	47.41	259	P	P	05	52	13.8	-1.4
WRAB	Tennant Creek	47.41	259	P	P	05	52	13.7	-1.4
WRA	Warramunga Arr	47.42	259	P	P	05	52	13.8	-1.4
	comp=Z,120nm,0.8s,baz=97,slow=7.0,SNR=583								
WRA				S	S	05	58	44.2	-5.9
	comp=Z,15nm,1.0s,baz=95,slow=13,SNR=10								
	comp=Z,120nm,0.8s								
AS31	Alice Springs	47.50	254	P	P	05	52	15.6	-0.3
ASAR	Alice Springs	47.51	254	P	P	05	52	15.5	-0.4
	comp=Z,896nm,0.7s,baz=86,slow=8.5,SNR=5411								
ASAR				ScP	ScP	05	57	14.8	+3.2
	comp=Z,4.4nm,0.9s,baz=106,slow=4.9,SNR=4.3								
ASAR				S	S	05	58	48.0	-3.3
	comp=Z,39nm,0.9s,baz=90,slow=15,SNR=38								
ASAR	Alice Springs	47.51	254	P	P	05	52	15.2	-0.6
SMPI	Sarmi	47.77	284	P	P	05	52	18.0	0.0
SRPI	Serui, Papua	50.10	283	P	P	05	52	41.1	+5.5
GUMO	Guam	50.29	306	P	P	05	52	37.1	+0.2
	comp=Z,760nm,0.8s,baz=163,slow=5.6,SNR=32								
	comp=Z,760nm,0.8s								
GUMO	Guam	50.29	306	P	P	05	52	37.4	+0.5
GUMO	Guam	50.29	306	P	P	05	52	37.4	+0.5
GUMO				pmax	pmax				
	comp=Z,828nm,0.9s								
GUMO	Guam	50.29	306	P	P	05	52	37.9	+1.0
	comp=Z,1µm,1.0s								
GUMO	Guam	50.29	306	P	P	05	52	37.0	+0.2
GUMO				pP	pP	05	53	26.3	-4.4
KDU	Kakadu	50.43	268	P	P	05	52	37.2	-0.8
	baz=50,SNR=117								
KDU	Kakadu	50.43	268	P	P	05	52	37.0	-1.0
BAKI	Biak	50.48	284	P	P	05	52	39.0	+0.6
	comp=Z,2µmcomp=Z,251nm,0.8s								
MTN	Manton Dam	51.67	268	P	P	05	52	46.1	-1.1
	baz=52,SNR=160								
MTN	Manton Dam	51.67	268	P	P	05	52	46.3	-0.9
WRKA	Warakurna	52.52	252	P	P	05	52	52.7	-0.7
	baz=52,SNR=249								
WRKA	Warakurna	52.52	252	P	P	05	52	52.9	-0.5
FORT	Forrest	52.52	245	P	P	05	52	52.5	-0.8
	baz=52,SNR=22								
FORT	Forrest	52.52	245	P	P	05	52	51.8	-1.4
FORT				IAmb	IAmb	05	52	53.5	
	comp=Z,171nm,0.9s								
FORT	Forrest	52.52	245	P	P	05	52	52.5	-0.8
SAUI	Saumlaki	52.74	274	P	P	05	52	55.2	+0.1
SAUI	Saumlaki	52.74	274	P	P	05	52	56.3	+1.2
	comp=Z,603nm,1.1s								
SAUI	Saumlaki	52.74	274	P	P	05	52	56.1	+1.0
KNRA	Kununurra	53.33	264	P	P	05	52	58.6	-0.7
	baz=53,SNR=147								
KNRA	Kununurra	53.33	264	P	P	05	52	58.6	-0.7
KNRA	Kununurra	53.33	264	P	P	05	52	58.6	-0.7
FAKI	Fak Fak	53.44	280	IAmb	IAmb	05	53	01.8	
	comp=Z,112nm,1.3s								
FAKI	Fak Fak	53.44	280	P	P	05	53	00.8	+0.6
	comp=Z,1µmcomp=Z,68nm,0.9s								
FAKI	Fak Fak	53.44	280	P	P	05	52	59.8	-0.4
FITZ	Fitzroy Crossi	55.83	260	S	S	06	00	40.7	-3.9
	comp=Z,8.0nm,1.0s,baz=0.0,slow=13,SNR=5.9								
FITZ	Fitzroy Crossi	55.83	260	P	P	05	53	17.1	-0.2
	baz=56,SNR=80								
FITZ	Fitzroy Crossi	55.83	260	P	P	05	53	15.6	-1.7
FITZ	Fitzroy Crossi	55.83	260	P	P	05	53	16.9	-0.3
DRV	Dumont d'Urvil	56.41	200	P	P	05	53	20.6	+0.1
MSAI	Masohi	56.42	278	P	P	05	53	21.5	0.0
	comp=Z,28nm,0.7s								
AAI	Ambon	57.00	278	P	P	05	53	25.7	+0.2
	comp=Z,3µmcomp=Z,239nm,1.2s								
NLAI	Namlea	58.17	278	P	P	05	53	33.5	-0.2
	comp=Z,20µmcomp=Z,156nm,1.1s								
LBMI	Labuha	58.68	281	P	P	05	53	37.6	+0.4
	comp=Z,2µmcomp=Z,186nm,1.1s								
SOEI	Soe	58.95	269	P	P	05	53	40.0	+0.8
	comp=Z,10µmcomp=Z,1µm,1.0s								
SOEI	Soe	58.95	269	P	P	05	53	40.4	+1.2
TNTI	Ternate	59.31	282	P	P	05	53	41.2	-0.3
TNTI	Ternate	59.31	282	P	P	05	53	41.6	+0.1
	comp=Z,2µmcomp=Z,238nm,0.9s								
TNTI	Ternate	59.31	282	P	P	05	53	41.8	+0.3
BATI	Baumata	59.41	269	P	P	05	53	43.3	+1.1
	comp=Z,332nm,0.8s,baz=241,slow=1.6,SNR=21								
	comp=Z,332nm,0.8s								
BATI	Baumata	59.41	269	P	P	05	53	43.6	+1.4
	comp=Z,2µmcomp=Z,244nm,1.0s								
SANI	Sanana	59.62	278	P	P	05	53	42.7	-0.9
	comp=Z,2µmcomp=Z,236nm,1.1s								
SANI	Sanana	59.62	278	P	P	05	53	43.0	-0.6
SBA	Scott Base	60.41	184	P	P	05	53	49.5	+1.6
SBA	Scott Base	60.41	184	P	P	05	53	49.5	+1.6
SBA				pmax	pmax				
	comp=Z,145nm,0.9s								
SBA	Scott Base	60.41	184	⇑P	P	05	53	50.6	+2.7
VNDA	Vanda	60.50	186	P	P	05	53	50.6	+2.0
	comp=Z,69nm,0.9s,baz=6.1,slow=6.8,SNR=279								
	comp=Z,69nm,0.9s								
VNDA	Vanda	60.50	186	P	P	05	53	49.6	+1.1
VNDA				IAmb	IAmb	05	53	51.8	
	comp=Z,95nm,0.9s								
VNDA	Vanda	60.50	186	⇑P	P	05	53	50.6	+2.0
PSA00	Pilbara Seismi	60.64	255	P	P	05	53	49.4	-1.1
PSA00	Pilbara Seismi	60.64	255	IAmb	IAmb	05	53	51.0	
	comp=Z,148nm,1.1s								
PSA00	Pilbara Seismi	60.64	255	P	P	05	53	50.0	-0.4
MBWA	Marble Bar	60.81	255	P	P	05	53	50.8	-0.7
MBWA	Marble Bar	60.81	255	P	P	05	53	51.2	-0.4
MBWA	Marble Bar	60.81	255	⇓P	P	05	53	50.9	-0.7
JCJ	Chichijima	60.94	317	P	P	05	53	51.6	-0.6
	comp=Z,126nm,0.7s,baz=232,slow=1.7,SNR=5.6								
	comp=Z,126nm,0.7s								
JCJ	Chichijima	60.94	317	P	P	05	53	52.4	+0.2
RPN	Rapa Nui	61.04	111	P	P	05	53	53.0	0.0
	comp=Z,104nm,0.7s,baz=314,slow=5.0,SNR=4.9								
	comp=Z,104nm,0.7s								
MEEK	Meekatharra	61.05	249	P	P	05	53	52.1	-1.1
	baz=61,SNR=16								
MEEK	Meekatharra	61.05	249	P	P	05	53	52.4	-0.8
MMRI	Maumere	61.18	270	P	P	05	53	53.7	-0.4
	comp=Z,4µmcomp=Z,481nm,0.8s								
MMRI	Maumere	61.18	270	P	P	05	53	53.7	-0.4
KLBR	Kellerberrin	61.31	243	P	P	05	53	54.3	-0.6
	baz=61,SNR=7.0								
KLBR	Kellerberrin	61.31	243	P	P	05	53	54.2	-0.6
	comp=Z,232nm,0.9s								
NWAO	Narrogin (SRO)	61.65	242	P	P	05	53	56.8	-0.3
	baz=62,SNR=5.7								
NWAO				P	P	05	53	56.8	-0.3
	baz=62,SNR=5.7								
NWAO	Narrogin (SRO)	61.65	242	P	P	05	53	55.6	-1.5
NWAO				IAmb	IAmb	05	53	57.7	
	comp=Z,70nm,1.4s								
NWAO	Narrogin (SRO)	61.65	242	P	P	05	53	55.6	-1.5
NWAO				pmax	pmax				
	comp=Z,70nm,1.4s								
NWAO	Narrogin (SRO)	61.65	242	P	P	05	53	56.3	-0.8
EDFI	Ende, Flores	61.67	270	P	P	05	53	56.4	-1.1
	comp=Z,2µmcomp=Z,276nm,1.0s								
RKGY	Rocky Gully	61.76	240	P	P	05	53	58.5	+0.8
	baz=62,SNR=5.4								
SGSI	Sangihe	62.10	284	P	P	05	54	00.6	+0.3
	comp=Z,206nm,0.7s								
BLDU	Ballidu	62.29	244	P	P	05	54	00.6	-0.8
	baz=62,SNR=28								
BLDU	Ballidu	62.29	244	P	P	05	54	00.5	-0.8
	comp=Z,67nm,1.2s								
MUN	Mundaring	62.59	243	P	P	05	54	03.3	0.0
	baz=63,SNR=14								
MUN	Mundaring	62.59	243	P	P	05	54	03.2	0.0
	comp=Z,76nm,0.8s								
LUWI	Luwuk	62.98	278	P	P	05	54	06.5	+0.5
	comp=Z,334nm,1.4s								
LUWI	Luwuk	62.98	278	P	P	05	54	06.6	+0.5
MORW	Morawa	63.03	246	P	P	05	54	05.6	-0.6
	baz=63,SNR=17								
MORW	Morawa	63.03	246	IAmb	IAmb	05	54	06.7	
	comp=Z,106nm,1.4s								
MORW	Morawa	63.03	246	P	P	05	54	05.6	-0.6
	comp=Z,56nm,1.2s								
GTOI	Gorontalo	63.33	280	P	P	05	54	08.9	+0.5
	comp=Z,410nmcomp=Z,48nm,0.9s								
BSSI	Bau Bau, Buton	63.54	272	P	P	05	54	09.4	-0.4
	comp=Z,1µmcomp=Z,158nm,0.9s								
APSI	Ampana	64.08	278	P	P	05	54	14.2	+0.9
	comp=Z,3µmcomp=Z,264nm,1.1s								
BKSI	Bulukumba	64.13	273	P	P	05	54	12.7	-0.9
	comp=Z,1µmcomp=Z,92nm,1.5s								
MRSI	Marisa	64.28	280	P	P	05	54	14.4	-0.2
	comp=Z,1µmcomp=Z,114nm,1.1s								
KAPI	Kappang	64.58	273	P	P	05	54	16.3	-0.2
	comp=Z,82nm,1.0s,baz=156,slow=4.2,SNR=29								
	comp=Z,82nm,1.0s								
KAPI	Kappang	64.58	273	P	P	05	54	15.8	-0.7
KAPI	Kappang	64.58	273	P	P	05	54	16.5	0.0
KAPI	Kappang	64.58	273	P	P	05	54	16.0	-0.5
KAPI				sP	sP	05	55	36.7	-3.4
SPSI	Sidrap Palu	64.88	274	P	P	05	54	17.2	-1.2
	comp=Z,1µmcomp=Z,181nm,0.9s								
TTSI	Tana Toraja	65.12	275	P	P	05	54	20.1	+0.1
	comp=Z,86nm,0.9s								
PLAI	Plampang	65.37	268	P	P	05	54	20.9	-0.7
	comp=Z,6µmcomp=Z,752nm,1.0s								
PLAI	Plampang	65.37	268	P	P	05	54	21.2	-0.4
CCD	Concordia, Ant	65.38	194	P	P	05	54	21.4	+0.3
TOLI2	Tolitoli	65.58	280	IAmb	IAmb	05	54	26.7	
	comp=Z,67nm,0.7s								
TOLI2	Tolitoli	65.58	280	P	P	05	54	22.8	-0.2
GIRL	Giralia	65.59	253	P	P	05	54	23.5	+0.7
	baz=66,SNR=10								
GIRL	Giralia	65.59	253	P	P	05	54	23.6	+0.7
MPSI	Mapaga	66.15	279	P	P	05	54	26.1	-0.4
	comp=Z,2µmcomp=Z,172nm,0.9s								
TWSI	Taliwang, Sumb	66.24	268	P	P	05	54	26.5	-0.6
	comp=Z,4µmcomp=Z,449nm,1.0s								
JHJ2	Mitsune	66.52	320	P	P	05	54	28.9	+0.4
CASY	Casey	67.16	205	P	P	05	54	31.2	-0.8
CASY				IAmb	IAmb	05	54	33.6	
	comp=Z,46nm,1.1s								
CASY	Casey	67.16	205	P	P	05	54	31.8	-0.2
CASY				pP	pP	05	55	29.6	+0.7
CASY				sP	sP	05	55	52.9	-3.1
DNP	Denpasar	67.85	268	P	P	05	54	37.5	+0.3
IGBI	Denpasar	67.87	268	P	P	05	54	37.1	-0.2
	comp=Z,5µmcomp=Z,571nm,0.9s								
SRBI	Singaraja	68.01	268	P	P	05	54	37.6	-0.6
	comp=Z,3µmcomp=Z,345nm,1.1s								
JAGI	Jajag, Banyuwa	68.91	268	P	P	05	54	42.4	-1.4
	comp=Z,4µmcomp=Z,494nm,1.0s								
JAGI	Jajag, Banyuwa	68.91	268	P	P	05	54	42.6	-1.2
MYLDM	Lahad Datu	69.16	283	IAmb	IAmb	05	54	59.8	
	comp=Z,73nm,0.7s								
KMMI	Kalianget	69.48	269	P	P	05	54	47.0	-0.3
	comp=Z,2µmcomp=Z,230nm,1.0s								
JGF	Kuroka	69.70	320	IAmb	IAmb	05	54	49.3	
	comp=Z,48nm,0.9s								
ADK	Adak	69.71	359	P	P	05	54	47.3	-0.5
ADK	Adak	69.71	359	P	P	05	54	47.3	-0.5
ADK				pmax	pmax				
	comp=Z,80nm,0.7s								
ADK	Adak	69.71	359	P	P	05	54	47.3	-0.5
ADK	Adak	69.71	359	P	P	05	54	46.9	-0.8
BBKI	Banjar Baru	69.71	273	P	P	05	54	49.5	+0.8
	comp=Z,9µmcomp=Z,233nm,1.0s								
INU	Inuyama	69.74	320	P	P	05	54	48.9	+0.5
	comp=Z,101nm,1.2s								
INU	Inuyama	69.74	320	P	P	05	54	48.3	-0.1
MJAR	Matsushiro Arr	69.82	322	P	P	05	54	48.7	-0.2
	comp=Z,120nm,0.8s,baz=156,slow=6.2,SNR=182								
MJAR				PKPPKP	P'P'df	06	22	50.9	-1.0
	comp=Z,0.5nm,0.3s,baz=292,slow=4.4,SNR=4.1								
	comp=Z,120nm,0.8s								
MAJO	Matsushiro	69.83	322	P	P	05	54	48.7	-0.2
MAJO	Matsushiro	69.83	322 *d*	iP	P	05	54	49.0	+0.1
MAJO				pmax	pmax				
	comp=Z,197nm,0.9s								
MAJO	Matsushiro	69.83	322	P	P	05	54	49.3	+0.4
MAJO	Matsushiro	69.83	322	P	P	05	54	48.5	-0.4
MTKI	Muara Teweh, K	70.45	276	P	P	05	54	54.2	+1.0
	comp=Z,96nm,0.7s								
JOW	Kunigami	70.59	308	P	P	05	54	54.5	+0.8
	comp=Z,84nm,0.8s,baz=132,slow=8.4,SNR=12								
	comp=Z,84nm,0.8s								
JOW	Kunigami	70.59	308	P	P	05	54	54.9	+1.2
NIKH	Nikolski High	71.02	4	P	P	05	54	54.3	-1.3
	baz=186								
ERM	Erimo	71.03	329 *d*	iP	P	05	54	57.1	+1.1
ERM				pmax	pmax				
	comp=Z,94nm,1.1s								
ERM	Erimo	71.03	329	P	P	05	54	57.0	+1.0
PWJI	Pagerwojo	71.27	267	P	P	05	54	57.7	-0.4
	comp=Z,3µmcomp=Z,336nm,0.9s								
TBJI	Tambak Boyo	71.56	269	P	P	05	55	01.1	+1.2
	comp=Z,3µmcomp=Z,393nm,1.2s								
KKM	Kota Kinabalu	71.59	283	IAmb	IAmb	05	55	00.9	
	comp=Z,88nm,0.9s								
KKM	Kota Kinabalu	71.59	283	P	P	05	55	00.6	+0.5
PCJI	Pacitan	71.81	267	P	P	05	55	01.4	+0.1
	comp=Z,11µmcomp=Z,1µm,1.1s								
QSPA	South Pole Qui	71.94	180	P	P	05	55	02.4	+1.0
QSPA	South Pole Qui	71.94	180	⇑P	P	05	55	02.5	+1.2
UNV	Unalaska Valle	72.07	6	P	P	05	55	01.0	-0.9
	baz=189								
UGM	Wanagama	72.51	267	P	P	05	55	05.2	-0.3
	comp=Z,482nm,0.8s								
UGM	Wanagama	72.51	267	P	P	05	55	05.6	+0.1
YOGI	Yogyakarta	72.76	267	P	P	05	55	07.5	+0.6
	comp=Z,254nm,0.9s								
SMRI	Semarang	72.84	268	P	P	05	55	08.2	+0.8
	comp=Z,489nm,0.9s								
SMRI	Semarang	72.84	268	P	P	05	55	08.2	+0.8
	comp=Z,486nm,0.8s								
PBKI	Pangkalan Bun	72.96	273	P	P	05	55	09.4	+1.3
	comp=Z,563nm,1.0s								
H06S1	SOCORRO T	73.12	63	P	P	05	55	10.1	+1.3
H06N1	SOCORRO T-PHAS	73.15	63	P	P	05	55	10.4	+1.4
H06E1	SOCORRO T-PHAS	73.17	63	P	P	05	55	10.2	+1.0
	SNR=30								
YOJ	Yonaguni jima	73.45	303	P	P	05	55	11.2	+0.5
SNCC	San Nicolas Is	73.82	46	P	P	05	55	13.6	+0.9
	baz=235								
CHNA	Chernabura Isl	73.89	9	P	P	05	55	11.9	-0.6
	baz=196								
STKI	Sintang	74.01	275	P	P	05	55	15.2	+1.0
	comp=Z,203nm,0.9s								
SBUM	Sibu	74.08	278	IAmb	IAmb	05	55	16.5	
	comp=Z,72nm,1.0s								
SCZ2	Santa Cruz Isl	74.17	46	P	P	05	55	15.5	+0.8
	baz=235,SNR=8.1								
SDPT	Sand Point	74.26	9	P	P	05	55	13.5	-1.1
SDPT	Sand Point	74.26	9	P	P	05	55	13.8	-0.8
	baz=195								
YULB	Yu-li	74.31	301	IAmb	IAmb	05	55	17.2	
	comp=Z,76nm,1.0s								
SCI2	San Clemente I	74.34	47	P	P	05	55	15.9	+0.2
	baz=236								
SBC	Santa Barbara	74.38	45	P	P	05	55	16.6	+0.8
	baz=234								
PKM	Mcpherson Peak	74.57	45	P	P	05	55	18.1	+0.9
	baz=234,SNR=15								
PEA0B	Petropavlovsk-	74.65	344 *d*	iP	P	05	55	17.0	0.0
PETK	Petropavlovsk-	74.65	344	P	P	05	55	16.4	-0.6
	comp=Z,39nm,0.8s,baz=133,slow=8.3,SNR=46								
	comp=Z,59nm,0.8s								
CIS	Catalina Islan	74.67	47	P	P	05	55	17.9	+0.3
	baz=236,SNR=9.8								
SMMC	Simmler	74.70	44	P	P	05	55	18.8	+1.0
	baz=234,SNR=11								
PMPB	Monarch Peak	74.70	43	IAmb	IAmb	05	55	19.3	
	comp=Z,30nm,0.7s								
BBGB	Big Mountain B	74.76	43	IAmb	IAmb	05	55	20.6	
	comp=Z,55nm,1.0s								
SSLB	Suanglung	74.78	302	P	P	05	55	18.4	0.0
TPUB	Ta-pu	74.81	301	P	P	05	55	18.0	-0.6
YHNB	Yeheng	74.85	303	P	P	05	55	19.4	+0.5
BCW	Bitter Crk WRg	74.87	45	IAmb	IAmb	05	55	20.9	
	comp=Z,55nm,0.9s								
YSS	Yuzh-Sakhalins	74.92	332	P	P	05	55	19.4	+0.8
YSS	Yuzh-Sakhalins	74.92	332 *d*	iP	P	05	55	19.5	+0.8
YSS				pmax	pmax				
	comp=Z,238nm,1.1s								
YSS	Yuzh-Sakhalins	74.92	332	P	P	05	55	19.8	+1.1
FMP	Fort Macarthur	74.93	46	P	P	05	55	19.6	+0.6
	baz=236								
JCJI	Jatiwangi	75.06	268	P	P	05	55	20.7	+0.5
	comp=Z,601nm,1.0s								
OSI	Osito Audit: C	75.15	45	P	P	05	55	20.9	+0.6
	baz=235								
DECC	Green Verdugo	75.21	46	P	P	05	55	20.9	+0.3
	baz=236								
KMPM	Mount Pierce	75.24	38	IAmb	IAmb	05	55	22.9	
	comp=Z,46nm,0.8s								
PASC	Pasadena Art C	75.26	46	IAmb	IAmb	05	55	22.3	
	comp=Z,46nm,1.1s								
109C	Camp Elliot, M	75.30	48	P	P	05	55	21.4	+0.2
	baz=237								
S14K	Fog Glacier	75.30	9	P	P	05	55	20.6	-0.1
	baz=196								
KMRM	Mail Ridge	75.36	38	IAmb	IAmb	05	55	23.5	
	comp=Z,74nm,0.7s								
ARVC	Arvin	75.37	45	P	P	05	55	22.1	+0.6
	baz=235,SNR=13								
ELS	Elsinore Mount	75.50	47	IAmb	IAmb	05	55	23.9	
	comp=Z,29nm,0.9s								
CHGN	Chignik	75.50	10	P	P	05	55	21.4	-0.2
	baz=197								
CHIR	Chirikof Islan	75.52	11	P	P	05	55	22.1	+0.2
	baz=199								
LEM	Lembang	75.58	267	P	P	05	55	23.7	+0.3
	comp=Z,453nm,0.8s,baz=84,slow=5.7,SNR=56								
	comp=Z,453nm,0.8s								
VES	Vestal, Richgr	75.61	44	P	P	05	55	23.3	+0.5
	baz=235,SNR=28								
MURC	Murrieta	75.63	47	P	P	05	55	23.4	+0.3
	baz=236,SNR=11								
BFSC	Mount Baldy Ra	75.66	46	P	P	05	55	23.6	+0.2
	baz=236,SNR=22								
VOG	Valley Oaks Go	75.69	44	P	P	05	55	23.5	+0.2
	baz=234								
MONP2	Monument Peak	75.79	48	P	P	05	55	24.8	+0.6
	baz=237,SNR=29								
EDW2	Edwards Air Fo	75.79	46	P	P	05	55	24.5	+0.5
	baz=236,SNR=82								
RMX	La Rumorosa	75.88	48	IAmb	IAmb	05	55	26.4	
	comp=Z,37nm,1.1s								
IKP	In-Ko-Pah, Jac	75.88	48	P	P	05	55	25.2	+0.6
	baz=237,SNR=15								
CNJI	Cibinong	75.91	267	P	P	05	55	24.8	-0.2
	comp=Z,251nm,0.9s								
ISA	Isabella, Lake	75.91	45	IAmb	IAmb	05	55	26.5	
	comp=Z,46nm,1.1s								
ISA	Isabella, Lake	75.91	45	P	P	05	55	25.4	+0.7
	baz=235,SNR=34								
CCAC	Calif City Air	75.93	45	IAmb	IAmb	05	55	26.6	
	comp=Z,84nm,1.4s								
YUH	Yuha Desert	76.01	48	IAmb	IAmb	05	55	26.8	
	comp=Z,52nm,1.4s								
PFO	Pinyon Flats O	76.15	47	P	P	05	55	26.1	0.0
PFO	Pinyon Flats O	76.15	47 *c*	iP	P	05	55	26.5	+0.4
PFO				pmax	pmax				
	comp=Z,46nm,1.3s								
PFO	Pinyon Flats O	76.15	47	P	P	05	55	26.6	+0.4
	baz=237,SNR=18								
TPFO	Pinon Flats	76.15	47	P	P	05	55	26.6	+0.5
	baz=237,SNR=19								
SLBS	Sierra La Lagu	76.18	59	P	P	05	55	26.8	+0.4
SLBS				IAmb	IAmb	05	55	28.7	
	comp=Z,63nm,1.4s								
BBRC	Big Bear Solar	76.19	47	P	P	05	55	26.9	+0.4
	baz=236,SNR=6.8								
PMD	Palm Desert	76.23	47	IAmb	IAmb	05	55	27.9	
	comp=Z,29nm,1.2s								
SWSC	Sam W. Stewart	76.26	48	P	P	05	55	27.0	+0.4
	baz=238,SNR=10								
KSXB	Camp Six Broad	76.29	37	IAmb	IAmb	05	56	20.9	
	comp=Z,54nm,1.4s								
LRMC	Laurel Mtn Rad	76.34	45	P	P	05	55	27.6	+0.4
	baz=236,SNR=18								
CBJI	Citeko	76.43	268	P	P	05	55	27.0	-1.0
	comp=Z,10µmcomp=Z,401nm,0.8s								
RRX	Edison Barstow	76.47	46	P	P	05	55	28.2	+0.5
	baz=236								
TEY	Ternei	76.52	327 ⇓ *e*	iP	P	05	55	28.4	+0.7
TEY				pmax	pmax				
	comp=N,10.0nm,1.7s								
TEY				pmax	pmax				
	comp=E,10.0nm,1.7s								
TEY				pmax	pmax				
	comp=Z,20nm,1.7s		

PAHR	Pah Rah Range	77.67	41	IAmb	IAmb	05 55 36.0	
	comp=Z,62nm,1.7s						
WCT	Wildcat Mounta	77.78	45	IAmb	IAmb	05 55 36.6	
	comp=Z,101nm,1.8s						
I03D	Drain, OR	77.78	36	P	P	05 55 35.5	+0.7
	baz=230						
HSIG		77.86	54	IAmb	IAmb	05 55 36.9	
	comp=Z,39nm,0.8s						
214A	Organ Pipe Nat	77.90	51	IAmb	IAmb	05 55 37.8	
	comp=Z,58nm,1.4s						
214A	Organ Pipe Nat	77.90	51	P	P	05 55 36.4	+0.6
	baz=240,SNR=17						
TYV	Tymovskoe	77.93	334	*e*P	P	05 55 35.9	+0.5
TYV				*e*S	S	06 05 01.1	-6.0
TYV				pmax	pmax		
	comp=Z,74nm,1.3s						
TYV				pmax	pmax		
	comp=Z,500nm,4.0s						
TYV				smax	smax		
	comp=E,13nm,1.8s						
TYV				smax	smax		
	comp=N,500nm,9.6s						
TYV				smax	smax		
	comp=E,400nm,9.6s						
K04D	Chiloquin, OR	78.01	37	P	P	05 55 36.7	+0.4
	baz=231						
Q16K	King Salmon	78.05	10	P	P	05 55 35.6	-0.2
	baz=198,SNR=5.2						
NEE2	Needles Airpor	78.06	47	P	P	05 55 37.0	+0.5
	baz=238						
KVN	Kaiserville	78.09	42	IAmb	IAmb	05 55 38.2	
	comp=Z,22nm,0.7s						
TPNV	Topopah Spring	78.12	45	IAmb	IAmb	05 55 38.6	
	comp=Z,41nm,0.7s						
TPNV	Topopah Spring	78.12	45	P	P	05 55 37.6	+0.6
	baz=236,SNR=62						
PDMCI	Parker Dam, Lak	78.15	48	P	P	05 55 37.7	+0.7
	baz=238,SNR=20						
P16K	Nushagak River	78.18	9	P	P	05 55 36.6	0.0
	baz=197						
J04D	Umpqua Nationa	78.19	37	IAmb	IAmb	05 55 39.0	
	comp=Z,34nm,0.8s						
J04D	Umpqua Nationa	78.19	37	P	P	05 55 38.0	+0.6
	baz=231,SNR=7.6						
I04A	Tendick Farm,	78.37	36	P	P	05 55 38.1	0.0
	baz=231						
PPBI	Pangkal Pinang	78.38	272	P	P	05 55 39.8	+1.0
	comp=Z,39µmcomp=Z,185nm,0.9s						
V12A	Nelson	78.40	46	IAmb	IAmb	05 55 40.4	
	comp=Z,44nm,1.2s						
MOD	Modoc Plateau	78.42	39	IAmb	IAmb	05 55 40.0	
	comp=Z,58nm,1.4s						
USA0B	Ussuriysk Arra	78.43	324	IAmb	IAmb	05 55 40.7	
	comp=Z,72nm,1.1s						
USRK	Ussuriysk Ar.	78.43	324	P	P	05 55 39.0	+0.7
	comp=Z,20nm,0.8s,baz=106,slow=4.2,SNR=53						
	comp=Z,20nm,0.8s						
USRK	Ussuriysk Ar.	78.43	324	P	P	05 55 39.0	+0.7
HHU	Hamhung	78.47	319	P	P	05 55 40.2	+1.6
HHU				pP	pwP	05 56 42.1	+1.8
HHU				S	S	06 05 21.0	+7.6
HHU				AmB			
	comp=Z,503nm,1.2s						
HHU				AMS	AMS		
	comp=N,131nm,3.3s						
HHU				AMS	AMS		
	comp=E,86nm,2.2s						
HHU				AMS	AMS		
	comp=Z,81nm,2.1s						
WTNK	Soaring Height	78.54	46	IAmb	IAmb	05 55 40.9	
	comp=Z,12nm,0.9s						
Q09A	Carvers	78.56	43	IAmb	IAmb	05 55 40.9	
	comp=Z,46nm,0.8s						
HJU	Haeju	78.56	316	P	P	05 55 40.1	+0.9
HJU				pP	pwP	05 56 46.8	+5.8
HJU				S	S	06 05 16.2	+1.9
HJU				AmB			
	comp=Z,345nm,2.1s						
HJU				AMS	AMS		
	comp=N,399nm,3.1s						
HJU				AMS	AMS		
	comp=E,456nm,3.5s						
HJU				AMS	AMS		
	comp=Z,297nm,2.3s						
K05A	Summer Lake	78.57	38	IAmb	IAmb	05 55 41.3	
	comp=Z,38nm,1.0s						
P17K	Kvichak River	78.58	10	P	P	05 55 38.7	-0.1
	baz=198,SNR=7.9						
H04D	Lebanon	78.65	35	IAmb	IAmb	05 55 48.7	
	comp=Z,68nm,1.6s						
H04D	Lebanon	78.65	35	P	P	05 55 40.2	+0.7
	baz=230						
O16K	Kokwok River B	78.71	9	P	P	05 55 38.7	-0.7
	baz=197,SNR=6.3						
J05D	Fort Rock, OR	78.72	37	P	P	05 55 40.3	+0.1
	baz=232,SNR=24						
Q20K	Shuyak Island	78.76	12	P	P	05 55 40.2	+0.4
	baz=202						
G03D	McMinnville, O	78.80	35	P	P	05 55 40.9	+0.6
	baz=230						
Q19K	Cape Douglas,	78.82	11	P	P	05 55 39.8	-0.3
	baz=201						
KASI	Kota Agung	78.93	268	P	P	05 55 40.9	-0.8
	comp=Z,358nm,0.9s						
P18K	Big Mountain,	78.97	10	P	P	05 55 40.5	-0.4
	baz=199						
O17K	Koliganek Bris	79.03	9	P	P	05 55 41.0	-0.2
	baz=198						
PYAG	Pyongyang	79.10	317	P	P	05 55 43.8	+1.8
PRN	Pahroc Range	79.17	45	IAmb	IAmb	05 55 44.8	
	comp=Z,116nm,1.8s						
PINE	Pine Mountain	79.20	37	IAmb	IAmb	05 55 44.7	
	comp=Z,32nm,0.9s						
I05D	Terrebonne, OR	79.31	36	P	P	05 55 44.0	+0.8
	baz=232						
R11A	Troy Canyon, C	79.33	44	P	P	05 55 43.8	+0.2
	baz=237,SNR=26						
BMN	Battle Mountai	79.44	41	IAmb	IAmb	05 55 45.6	
	comp=Z,32nm,0.8s						
N16K	Nishlik Lake	79.46	8	P	P	05 55 44.0	+0.4
	baz=196,SNR=5.6						
LWLI	Liwa	79.50	268	P	P	05 55 44.5	-0.5
	comp=Z,7µmcomp=Z,203nm,0.8s						
TUC	Tucson	79.57	51	P	P	05 55 45.3	+0.4
TUC				IAmb	IAmb	05 55 47.2	
	comp=Z,43nm,0.9s						
TUC	Tucson	79.57	51	P	P	05 55 45.3	+0.4
TUC				pmax	pmax		
	comp=Z,43nm,0.9s						
TUC	Tucson	79.57	51	P	P	05 55 46.0	+1.1
	baz=241						
G05D	Wamic, OR	79.89	36	P	P	05 55 46.7	+0.4
	baz=231						
MDJ	Mudanjiang	80.03	324	P	P	05 55 48.3	+1.3
MDJ				S	S	06 05 32.9	+3.3
MDJ				pmax	pmax		
	comp=Z,130nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,420nm,3.6s						
MDJ	Mudanjiang	80.03	324	P	P	05 55 48.4	+1.4
N18K	Kilae Creek	80.08	10	P	P	05 55 46.8	-0.1
N18K	Kilae Creek	80.08	10	P	P	05 55 46.7	-0.1
	baz=199						
BRSE	Bradley Lake S	80.14	12	P	P	05 55 47.4	+0.2
	baz=204						
319A	Douglas	80.25	53	IAmb	IAmb	05 55 50.9	
	comp=Z,68nm,1.0s						
NJ2	Nanjing	80.31	308	⇓*i*P	P	05 55 49.8	+1.1
NJ2				PcP	PcP	05 55 54.8	-0.2
NJ2				S	S	06 05 36.0	+3.0
NJ2				pmax	pmax		
	comp=Z,56nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,280nm,4.2s						
LHSI	Lahat	80.36	269	P	P	05 55 49.7	+0.3
	comp=Z,66nm,1.1s						
DSRI	Dabo	80.38	273	P	P	05 55 50.5	+1.0
	comp=Z,1µmcomp=Z,85nm,1.2s						
N19K	Bonanza Creek	80.44	10	IAmb	IAmb	05 55 49.4	
	comp=Z,42nm,1.2s						
N19K	Bonanza Creek	80.44	10	P	P	05 55 48.3	-0.6
	baz=200						
SUJ	Sinuiju	80.50	318	P	P	05 55 50.5	+0.9
SUJ				pP	pwP	05 56 52.0	+0.4
SUJ				S	S	06 05 40.4	+5.8
SUJ				AmB			
	comp=Z,340nm,1.4s						
SUJ				AMS	AMS		
	comp=N,322nm,4.1s						
SUJ				AMS	AMS		
	comp=E,226nm,2.9s						
SUJ				AMS	AMS		
	comp=Z,262nm,3.3s						
SPR3	Spring Creek 3	80.50	44	IAmb	IAmb	05 55 51.1	
	comp=Z,9.8nm,1.0s						
B04A	Port Angeles	80.52	32	IAmb	IAmb	05 55 52.2	
	comp=Z,54nm,1.8s						
U15A	North Rim	80.54	47	IAmb	IAmb	05 55 52.5	
	comp=Z,48nm,1.0s						
GRNR	Gornyy	80.57	331	⇓*i*P	P	05 55 50.6	+0.9
GRNR				*e*		05 56 45.3	
GRNR				*e*S	S	06 05 32.6	-2.3
GRNR				pmax	pmax		
	comp=E,10.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,50nm,1.2s						
GRNR				smax	smax		
	comp=E,4.0nm,1.0s						
WUAZ	Wupatki	80.72	48	IAmb	IAmb	05 55 53.3	
	comp=Z,36nm,1.1s						
WUAZ	Wupatki	80.72	48	P	P	05 55 52.0	+0.9
	baz=240,SNR=26						
SEW	Seward	80.74	13	P	P	05 55 50.3	0.0
	baz=205						
DLV	T Lat	80.82	286	P	P	05 55 53.5	+1.5
TPRI	Tanjung Pinang	80.86	274	P	P	05 55 53.1	+1.0
	comp=Z,92nm,1.0s						
JMBI	JAMBI	80.92	271	P	P	05 55 55.0	+2.6
	comp=Z,268nm,1.1s						
CBB	Campbell River	80.92	30	IAmb	IAmb	05 55 53.6	
	comp=Z,73nm,1.9s						
PKCU	Pink Cliffs	81.04	46	IAmb	IAmb	05 55 55.8	
	comp=Z,139nm,1.6s						
HPIG		81.08	58	IAmb	IAmb	05 55 55.1	
	comp=Z,35nm,0.9s						
N20K	Mount Spurr	81.20	11	P	P	05 55 52.0	-0.9
	baz=202						
SPCR	Spurr Chakacha	81.20	11	P	P	05 55 52.0	-0.9
	baz=202						
G08A	Pilot Rock	81.24	37	IAmb	IAmb	05 55 55.0	
	comp=Z,26nm,0.9s						
X18A	Snowflake	81.25	49	IAmb	IAmb	05 55 56.1	
	comp=Z,31nm,0.8s						
KSI	Kapahiang	81.30	269	P	P	05 55 54.1	-0.4
	comp=Z,126nm,0.8s						
MTPU	Mount Pierson	81.44	45	IAmb	IAmb	05 55 57.8	
	comp=Z,53nm,1.4s						
M19K	Big River Lodg	81.48	10	P	P	05 55 53.8	-0.4
	baz=200,SNR=6.0						
CRAG	Craig	81.56	23	IAmb	IAmb	05 58 01.2	
	comp=Z,61nm,1.7s						
CRAG	Craig	81.56	23	P	P	05 55 55.6	+0.9
	baz=220						
RC01	Rabbit Creek A	81.58	12	P	P	05 55 54.5	-0.2
	baz=204						
PWL	Port Wells	81.66	13	P	P	05 55 54.7	-0.5
	baz=206						
L19K	White Mountain	81.67	10	P	P	05 55 55.1	-0.1
	baz=200						
M20K	Styx River	81.67	10	IAmb	IAmb	05 57 12.3	
	comp=Z,62nm,2.0s						
M20K	Styx River	81.67	10	P	P	05 55 54.6	-0.7
	baz=201						
W18A	Petrified Fore	81.69	49	IAmb	IAmb	05 55 58.4	
	comp=Z,73nm,1.4s						
W18A	Petrified Fore	81.69	49	P	P	05 55 57.2	+1.0
	baz=241,SNR=8.4						
SUA	Susitna One	81.72	12	IAmb	IAmb	05 55 57.0	
	comp=Z,46nm,0.8s						
SUA	Susitna One	81.72	12	P	P	05 55 55.3	-0.4
	baz=204						
KAIM	Kayak Island	81.74	15	P	P	05 55 56.4	+0.9
	baz=210						
KLR	Kul'dur	81.78	328	P	P	05 55 56.8	+0.7
	comp=Z,22nm,1.0s,baz=96,slow=3.5,SNR=43						
	comp=Z,22nm,1.0s						
MYKOM	Kota Tinggi	81.78	275	IAmb	IAmb	05 55 58.9	
	comp=Z,94nm,1.1s						
MASI	Maura Aman, Be	81.79	269	P	P	05 55 58.1	+1.1
	comp=Z,124nm,1.1s						
121A	Cookes Peak, D	81.91	52	IAmb	IAmb	05 55 59.9	
	comp=Z,35nm,0.8s						
121A	Cookes Peak, D	81.91	52	P	P	05 55 59.0	+1.6
	baz=243						
121A	Cookes Peak, D	81.91	52	P	P	05 55 58.6	+1.2
	baz=243,SNR=19						
MOIG	Morelia	81.92	66	IAmb	IAmb	05 55 59.4	
	comp=Z,62nm,0.9s						
BMO	Blue Mountains	81.93	38	IAmb	IAmb	05 55 58.3	
	comp=Z,65nm,1.9s						
ZAIG	Zacatecas	81.93	63	IAmb	IAmb	05 56 00.6	
	comp=Z,64nm,1.2s						
GLI	Glacier Island	81.95	14	P	P	05 55 56.6	0.0
	baz=207						
BNX	BinXian	81.95	324	⇑P	P	05 55 57.4	+0.4
BNX				pP	pwP	05 56 58.3	-1.0
BNX				sP	sP	05 57 24.9	+2.1
BNX				PP	PP	05 59 10.4	+1.7
BNX				S	S	06 05 48.3	-0.9
BNX				sS	sS	06 07 27.9	-5.9
BNX				pmax	pmax		
	comp=Z,81nm,0.9s						
BNX				pmax	pmax		
	comp=Z,340nm,3.6s						
CN2	Changchun	81.97	321	*e*P	P	05 55 57.5	+0.4
CN2				*e*S	S	06 05 50.4	+0.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,100nm,14.0s						
CN2				LR	LR		
	comp=Z,100nm,14.0s						
CN2				LR	LR		
	comp=Z,100nm,15.1s						
SIT	Sitka	82.02	21	P	P	05 55 56.2	-0.8
	baz=218						
V35K	Ketchikan	82.02	24	P	P	05 55 58.0	+0.9
	baz=222						
SKT	Skwentna	82.05	11	P	P	05 55 56.5	-0.7
	baz=203						
U33K	Whale Pass	82.06	22	P	P	05 55 58.1	+0.9
	baz=220,SNR=7.0						
L20K	Farewell, AK	82.11	10	P	P	05 55 57.2	-0.3
	baz=201						
M22K	Willow	82.11	12	IAmb	IAmb	05 55 58.6	
	comp=Z,44nm,0.9s						
M22K	Willow	82.11	12	P	P	05 55 57.2	-0.3
	baz=204,SNR=8.2						
DUG	Dugway, Tooele	82.13	43	P	P	05 55 58.5	+0.2
	baz=238,SNR=17						
KNK	Knik Glacier	82.13	13	P	P	05 55 57.3	-0.3
	baz=206						
PMR	Palmer	82.16	12	P	P	05 55 57.3	-0.4
	baz=205,SNR=6.5						
MA2	Magadan	82.19	343	P	P	05 55 56.9	-1.0
MA2				IAmb	IAmb	05 55 58.7	
	comp=Z,94nm,1.3s						
MA2	Magadan	82.19	343	*ce*P	P	05 55 57.4	-0.5
MA2				pmax	pmax		
	comp=Z,85nm,1.3s						
MA2	Magadan	82.19	343	P	P	05 55 57.8	-0.1
TTA	Tatalina	82.20	9	IAmb	IAmb	05 55 59.2	
	comp=Z,25nm,0.7s						
TTA	Tatalina	82.20	9	P	P	05 55 58.7	+0.7
	baz=198,SNR=15						
GHO	Glory Hole Cre	82.36	12	IAmb	IAmb	05 55 59.8	
	comp=Z,46nm,0.8s						
DIV	Divide	82.47	14	IAmb	IAmb	05 56 00.3	
	comp=Z,51nm,0.8s						
PMSA	Palmer Station	82.48	156	P	P	05 56 00.1	+0.6
PMSA				IAmb	IAmb	05 56 01.5	
	comp=Z,84nm,0.9s						
PMSA	Palmer Station	82.48	156	*e*P	P	05 55 59.4	-0.1
SML	Sawmill	82.51	13	P	P	05 55 59.5	-0.2
	baz=206						
KIDD	KIDD Seismic O	82.53	53	P	P	05 56 01.9	+1.4
	baz=243						
WRAK	Wrangell Islan	82.57	22	P	P	05 56 00.9	+0.9
	baz=221						
WAX	Waxell Ridge	82.58	16	IAmb	IAmb	05 56 01.1	
	comp=Z,38nm,0.6s						
S32K	Killisnoo	82.59	21	P	P	05 56 00.3	+0.3
	baz=219						
BMRM	Bremner River	82.60	15	IAmb	IAmb	05 56 01.1	
	comp=Z,48nm,1.1s						
BMRM	Bremner River	82.60	15	P	P	05 55 59.9	-0.2
	baz=209,SNR=7.9						
F10A	Beach Ranch, E	82.62	37	IAmb	IAmb	05 56 01.6	
	comp=Z,37nm,0.9s						
M23K	Glacier View	82.63	13	P	P	05 56 00.6	+0.4
	baz=206						
CUT	Chulitna	82.67	11	P	P	05 55 59.9	-0.4
	baz=204						
TMUT	Trail Mountain	82.73	45	IAmb	IAmb	05 56 03.9	
	comp=Z,57nm,0.8s						
SCM	Sheep Creek Mo	82.75	13	IAmb	IAmb	05 56 02.7	
	comp=Z,54nm,0.8s						
SCM	Sheep Creek Mo	82.75	13	P	P	05 56 00.9	0.0
	baz=207,SNR=11						
KLU	Klutina	82.75	14	IAmb	IAmb	05 56 03.5	
	comp=Z,47nm,1.4s						
KLU	Klutina	82.75	14	P	P	05 56 00.7	-0.2
	baz=208,SNR=6.0						
YAH	Yahtse	82.80	16	IAmb	IAmb	05 56 10.9	
	comp=Z,29nm,0.8s						
ISLE	Juniper Island	82.85	16	IAmb	IAmb	05 56 02.7	
	comp=Z,32nm,1.0s						
TGL	Tana Glacier	82.85	15	IAmb	IAmb	05 56 02.7	
	comp=Z,37nm,1.1s						
PNL	Peninsula	82.86	17	P	P	05 56 01.8	+0.3
	baz=214,SNR=6.4						
K20K	Telida	82.90	10	IAmb	IAmb	05 56 02.8	
	comp=Z,27nm,0.7s						
K20K	Telida	82.90	10	P	P	05 56 01.6	+0.1
	baz=200,SNR=25						
HLID	Hailey	82.92	40	P	P	05 56 03.0	+0.7
	baz=237,SNR=56						
PINM	Pinnacle	82.98	17	P	P	05 56 02.1	+0.1
	baz=213						
HVU	Hansel Valley	82.99	42	IAmb	IAmb	05 56 04.2	
	comp=Z,32nm,0.9s						
TABL	Table Mountain	83.02	16	IAmb	IAmb	05 56 03.6	
	comp=Z,30nm,0.7s						
WHN	Wuhan	83.06	305	⇓P	P	05 56 04.1	+1.0
CTU	Camp Tracy	83.08	43	IAmb	IAmb	05 56 05.2	
	comp=Z,34nm,1.0s						
SRU	San Rafael Swe	83.10	45	IAmb	IAmb	05 56 05.0	
	comp=Z,62nm,0.8s						
P17A	Butcher Ranch,	83.13	45	IAmb	IAmb	05 56 06.1	
	comp=Z,39nm,0.8s						
N25K	Chitina, Valde	83.16	14	IAmb	IAmb	05 56 04.1	
	comp=Z,38nm,0.7s						
N25K	Chitina, Valde	83.16	14	P	P	05 56 03.1	+0.1
	baz=209,SNR=14						
Y22A	Socorro	83.16	51	P	P	05 56 05.1	+1.3
	baz=243						
GLB	Gilahina Butte	83.20	15	IAmb	IAmb	05 56 04.1	
	comp=Z,22nm,0.7s						
JLU	Jordanelle	83.23	44	IAmb	IAmb	05 56 05.5	
	comp=Z,30nm,0.9s						
SDSI	Sungai Dareh	83.23	271	P	P	05 56 03.5	-0.9
	comp=Z,632nmcomp=Z,43nm,1.2s						
M24K	Tolsona, Glenn	83.24	13	IAmb	IAmb	05 56 05.0	
	comp=Z,59nm,1.0s						
M24K	Tolsona, Glenn	83.24	13	P	P	05 56 04.0	+0.6
	baz=208						
R32K	Eaglecrest	83.24	20	P	P	05 56 03.9	+0.5
	baz=219,SNR=6.3						
Y22D	IRIS PASSCAL I	83.25	51	P	P	05 56 06.3	+2.1
	baz=243						
Y22D	IRIS PASSCAL I	83.25	51	P	P	05 56 05.7	+1.5
	baz=243,SNR=6.8						
CAST	Castle Rocks	83.28	10	P	P	05 56 02.0	-1.5
	baz=202,SNR=14						
P29M	Windy Craggy	83.31	18	IAmb	IAmb	05 56 05.5	
	comp=Z,25nm,0.8s						
P29M	Windy Craggy	83.31	18	P	P	05 56 04.4	+0.6
	baz=216,SNR=17						
WAT6	Susitna Watana	83.33	12	P	P	05 56 03.8	-0.1
	baz=206,SNR=9.0						
MCARA	McCarthy VSAT	83.35	15	IAmb	IAmb	05 56 05.1	
	comp=Z,30nm,1.1s						
MCARA	McCarthy VSAT	83.35	15	P	P	05 56 03.8	-0.1
	baz=211						
WAT1	Susitna Watana	83.39	12	P	P	05 56 03.7	-0.5
	baz=206						
CTG	Chitna Glacier	83.42	16	P	P	05 56 04.5	+0.1
	baz=212,SNR=6.3						
TLIG	Tlapa	83.44	69	IAmb	IAmb	05 56 08.0	
	comp=Z,59nm,1.0s						
TIA	Tai'an	83.53	311	⇓P	P	05 56 06.0	+0.6
TIA				pP	pP	05 57 06.4	+1.4
TIA				S	S	06 06 03.6	-2.1
TIA				pmax	pmax		
	comp=Z,68nm,1.1s						
TIA				pmax	pmax		
	comp=Z,290nm,4.7s						
P18A	Preston Nutter	83.54	45	IAmb	IAmb	05 56 07.4	
	comp=Z,27nm,0.9s						
O28M	Mount Upton	83.56	17	P	P	05 56 05.6	+0.3
	baz=213,SNR=10						
MVCO	Mesa Verde	83.57	48	P	P	05 56 06.2	+0.3
	baz=242,SNR=10						
PLBC	Pleasant Camp	83.59	19	P	P	05 56 05.9	+0.8
	baz=217,SNR=10						
TNA	Tin City	83.61	3	P	P	05 56 05.8	+0.8
	baz=187						
O29M	Mount Kennedy	83.62	17	P	P	05 56 06.0	+0.6
	baz=215,SNR=6.8						
TRF	Thorofare Moun	83.63	11	IAmb	IAmb	05 56 07.3	
	comp=Z,110nm,1.6s						
TRF	Thorofare Moun	83.63	11	P	P	05 56 04.9	-0.5
	baz=204,SNR=10						
J20K	Nowinta River	83.66	9	IAmb	IAmb	05 56 06.8	
	comp=Z,48nm,0.8s						
J20K	Nowinta River	83.66	9	P	P	05 56 05.6	+0.2
	baz=200,SNR=29						
CHUM	Lake Minchumin	83.68	10	P	P	05 56 04.6	-0.8
	baz=202,SNR=12						
TX31	Lajitas Ar. Si	83.69	57	P	P	05 56 08.1	+1.6
	baz=245						
TX32	Lajitas Array	83.69	57	IAmb	IAmb	05 56 09.2	
	comp=Z,51nm,1.1s						
TXAR	Lajitas Array	83.69	57	P	P	05 56 07.8	+1.3
	comp=Z,26nm,0.9s,baz=217,slow=7.9,SNR=256						
TXAR				pP	pwP	05 57 09.8	+0.5
	comp=Z,5.6nm,1.0s,baz=208,slow=5.1,SNR=1.8						
	comp=Z,26nm,0.9s						
HARP	HAARP	83.73	14	P	P	05 56 05.8	0.0
	baz=209						
T35M	Bob Quinn	83.76	23	P	P	05 56 07.2	+1.1
	baz=223						
PV13	Radium Mtn., P	83.80	47	IAmb	IAmb	05 56 08.6	
	comp=Z,35nm,1.0s						
GCSA	Galena City Sc	83.82	8	P	P	05 56 06.8	+0.7
	baz=198						
DHY	Denali Highway	83.85	12	P	P	05 56 06.3	-0.3
	baz=207						
RND	Reindeer	83.86	12	IAmb	IAmb	05 56 07.5	
	comp=Z,71nm,1.0s						
SKAG	Skagway	83.91	19	P	P	05 56 08.0	+1.3
	baz=218,SNR=11						
GO09	Cerro Castillo	83.94	142	IAmb	IAmb	05 56 09.9	
	comp=Z,66nm,1.0s						
P30M	Million Dollar	83.94	18	P	P	05 56 07.9	+0.9
	baz=216						
ANMO	Albuquerque	83.99	50	*ce*P	P	05 56 08.7	+0.7
ANMO				pmax	pmax		
	comp=Z,42nm,0.9s						
ANMO	Albuquerque	83.99	50	P	P	05 56 08.8	+0.8
	baz=243						
ANMO	Albuquerque	83.99	50	P	P	05 56 08.8	+0.8
	baz=243						
BKNI	Bangkinang	83.99	272	P	P	05 56 09.8	+1.6
	comp=Z,4µmcomp=Z,284nm,1.2s						
BKNI	Bangkinang	83.99	272	P	P	05 56 10.4	+2.2
NEW	Newport	84.01	35	P	P	05 56 07.2	-0.4
	baz=234,SNR=6.0						
PV07	Paradox Valley	84.05	46	IAmb	IAmb	05 56 09.8	
	comp=Z,28nm,0.9s						
BPAW	Bear Paw Mtn.	84.10	11	P	P	05 56 06.3	-1.4
	baz=203,SNR=9.6						
PV15	Paradox Valley	84.12	47	IAmb	IAmb	05 56 10.1	
	comp=Z,35nm,0.9s						
S34M	Telegraph Cree	84.13	22	P	P	05 56 08.9	+1.0
	baz=222,SNR=20						
MCK	McKinley	84.14	11	IAmb	IAmb	05 56 08.7	
	comp=Z,68nm,0.9s						
MCK	McKinley	84.14	11	P	P	05 56 07.6	-0.3
	baz=205,SNR=27						
PDSI	Padang	84.16	271	P	P	05 56 09.3	+0.2
	comp=Z,43nm,1.3s				

baz=208,SNR=6.3
YUK6 Outpost Mounta 84.20 17 P **P** **05 56 08.8 +0.3**
baz=215
M26K Nabesna, AK 84.23 15 IAmb IAmb 05 56 10.3
comp=Z,43nm,1.1s
M26K Nabesna, AK 84.23 15 P **P** **05 56 08.7 +0.4**
baz=211,SNR=25
YUK3 Moose Creek 84.33 16 P **P** **05 56 09.5 +0.4**
baz=213,SNR=15
HYT Haines Junctio 84.35 18 P **P** **05 56 09.8 +0.6**
baz=216,SNR=7.5
YUK4 Talbot Arm 84.46 17 P **P** **05 56 10.5 +0.8**
baz=215
RDMU Red Mountain 84.46 44 IAmb IAmb 05 56 11.5
comp=Z,31nm,0.9s
M27K Edge Creek, AK 84.46 15 IAmb IAmb 05 56 13.8
comp=Z,56nm,1.0s
M27K Edge Creek, AK 84.46 15 P **P** **05 56 10.3 +0.7**
baz=212,SNR=22
Q32M Nakina River 84.52 21 P **P** **05 56 11.1 +1.0**
baz=221,SNR=14
MENT Mentasta 84.53 14 IAmb IAmb 05 56 11.3
comp=Z,31nm,1.0s
P32M Atlin 84.53 20 P **P** **05 56 10.7 +0.7**
baz=219,SNR=5.7
AHID Auburn Hatcher 84.56 42 IAmb IAmb 05 56 12.8
comp=Z,32nm,1.1s
MAW Mawson 84.62 199 P **P** **05 56 11.4 +1.1**
comp=Z,47nm,0.7s,baz=124,slow=6.5,SNR=101
comp=Z,47nm,0.7s
MAW Mawson 84.62 199 P **P** **05 56 11.4 +1.1**
baz=85,SNR=22
SEY Seymchan 84.65 346 P **P** **05 56 10.4 0.0**
comp=Z,79nm,0.9s,baz=147,slow=5.8,SNR=141
comp=Z,79nm,0.9s
SEY Seymchan 84.65 346 *ce*P **P** **05 56 10.3 -0.1**
SEY pmax pmax
comp=Z,153nm,1.2s
L26K Log Cabin Wild 84.69 14 IAmb IAmb 05 56 12.1
comp=Z,24nm,0.8s
L26K Log Cabin Wild 84.69 14 P **P** **05 56 11.1 +0.5**
baz=210,SNR=19
O30N Mendenhall 84.72 18 P **P** **05 56 11.4 +0.6**
baz=217,SNR=14
BVCY Beaver Creek 84.76 15 P **P** **05 56 11.4 +0.4**
baz=213
K24K Donnelly Dome 84.83 13 P **P** **05 56 11.5 +0.2**
baz=208
NEA2 Nenana 84.90 11 IAmb IAmb 05 56 12.6
comp=Z,34nm,0.9s
NEA2 Nenana 84.90 11 P **P** **05 56 10.7 -0.9**
baz=205,SNR=13
DLBC Dease Lake 84.91 22 P **P** **05 56 12.4 +0.5**
baz=223,SNR=14
I21K Tanana 84.94 10 IAmb IAmb 05 56 12.8
comp=Z,44nm,0.8s
I21K Tanana 84.94 10 P **P** **05 56 11.7 0.0**
baz=202,SNR=18
RIDG Independent Ri 84.97 13 IAmb IAmb 05 56 13.1
comp=Z,33nm,1.0s
RIDG Independent Ri 84.97 13 P **P** **05 56 11.9 -0.2**
baz=209
MSO Missoula 84.98 37 IAmb IAmb 05 56 14.9
comp=Z,56nm,2.0s
MSO Missoula 84.98 37 P **P** **05 56 12.1 -0.4**
baz=237,SNR=9.6
N30M Aishikik Lake 84.99 17 P **P** **05 56 12.4 +0.3**
baz=216
S22A 4UR Ranch, Cre 85.00 48 IAmb IAmb 05 56 15.1
comp=Z,32nm,1.1s
S22A 4UR Ranch, Cre 85.00 48 P **P** **05 56 13.7 +0.6**
baz=243,SNR=39
WHY Whitehorse 85.00 19 P **P** **05 56 12.7 +0.4**
baz=218
MLY Manley 85.00 10 IAmb IAmb 05 56 12.5
comp=Z,49nm,1.0s
MLY Manley 85.00 10 P **P** **05 56 11.5 -0.6**
baz=203,SNR=36
REDW Red Top Meadow 85.02 41 IAmb IAmb 05 56 15.2
comp=Z,34nm,1.1s
DOT Dot Lake 85.07 13 IAmb IAmb 05 56 13.5
comp=Z,44nm,0.8s
L27K Beaver Creek, 85.08 15 P **P** **05 56 12.9 +0.4**
baz=212,SNR=16
SNOW Snow King Moun 85.13 41 IAmb IAmb 05 56 15.9
comp=Z,25nm,0.9s
PAYG Puerto Ayora 85.13 89 P **P** **05 56 15.5 +1.5**
PAYG IAmb IAmb 05 56 16.8
comp=Z,73nm,1.2s
HDA Harding Lake 85.13 12 P **P** **05 56 12.6 -0.1**
baz=207,SNR=51
O20A White River Ci 85.14 45 P **P** **05 56 13.9 +0.3**
baz=242,SNR=12
H21K Melozitna Rive 85.25 9 IAmb IAmb 05 56 15.2
comp=Z,130nm,1.6s
H21K Melozitna Rive 85.25 9 P **P** **05 56 13.6 +0.3**
baz=201,SNR=27
R33M Jennings River 85.29 21 P **P** **05 56 14.8 +1.0**
baz=222,SNR=12
P33M Teslin, Yukon 85.30 20 P **P** **05 56 14.0 +0.2**
baz=220,SNR=8.2
IPM Ipoh 85.30 276 P **P** **05 56 15.6 +0.8**
TCOL CIGO, UAF Yank 85.37 11 P **P** **05 56 13.6 -0.3**
baz=206,SNR=26
COLA College 85.38 11 P **P** **05 56 13.9 0.0**
COLA College 85.38 11 P **P** **05 56 13.9 0.0**
COLA pmax pmax
comp=Z,139nm,0.8s
COLA College 85.38 11 P **P** **05 56 13.7 -0.2**
baz=206
MDM Murphy Dome 85.38 11 IAmb IAmb 05 56 14.5
comp=Z,73nm,1.0s
N31M Braeburn, Yuko 85.39 18 IAmb IAmb 05 56 15.7
comp=Z,24nm,0.9s
N31M Braeburn, Yuko 85.39 18 P **P** **05 56 14.6 +0.5**
baz=217,SNR=8.5
M29M Somme Creek 85.41 16 P **P** **05 56 14.7 +0.4**
baz=215,SNR=17
IL31 85.47 12 IAmb IAmb 05 56 15.2
comp=Z,85nm,1.4s
ILAR Eielson Array 85.47 12 P **P** **05 56 13.8 -0.5**
comp=Z,15nm,0.5s,baz=221,slow=5.6,SNR=236
ILAR pP **pwP** **05 57 19.2 +1.8**
comp=Z,9.5nm,1.1s,baz=219,slow=6.1,SNR=2.4
ILAR PP **PP** **05 59 37.1 +0.2**
comp=Z,3.5nm,1.1s,baz=220,slow=8.0,SNR=5.3
comp=Z,15nm,0.5s
BW06 Boulder Array 85.54 42 P **P** **05 56 15.4 -0.2**
baz=240,SNR=21
PDAR Pinedale Array 85.54 42 P **P** **05 56 15.2 -0.3**
comp=Z,5.9nm,0.6s,baz=209,slow=3.8,SNR=49
PDAR pP **pwP** **05 57 19.2 +0.6**
comp=Z,4.5nm,1.1s,baz=207,slow=4.8,SNR=1.6
PDAR PKKPbc **PKKPbc** **06 14 17.7 -1.7**
comp=Z,0.7nm,0.7s,baz=92,slow=4.0,SNR=9.2
comp=Z,5.9nm,0.6s
YHL Hebgen Lake 85.57 40 IAmb IAmb 05 56 19.5
comp=Z,44nm,1.2s
J25K Salcha River, 85.63 12 IAmb IAmb 05 56 16.3
comp=Z,38nm,0.7s
J25K Salcha River, 85.63 12 P **P** **05 56 15.3 0.0**
baz=208,SNR=30
POKR Poker Plat Res 85.67 11 IAmb IAmb 05 56 16.1
comp=Z,48nm,0.8s
POKR Poker Plat Res 85.67 11 P **P** **05 56 15.1 -0.3**
baz=206,SNR=11
BOZ Bozeman (W) 85.69 39 P **P** **05 56 16.7 +0.6**
baz=239,SNR=22
H22K Ishtalitna Cre 85.70 10 P **P** **05 56 15.7 +0.2**
baz=203,SNR=46
H17A Grant Village 85.71 41 IAmb IAmb 05 58 56.5
comp=Z,12nm,0.5s
H17A Grant Village 85.71 41 P **P** **05 56 17.8 +1.3**
baz=240,SNR=8.6
YHH Holmes Hill 85.74 40 IAmb IAmb 05 57 23.0
comp=Z,40nm,1.6s
HNS HongShan 85.80 311 ⇑P **P** **05 56 17.4 +0.8**
HNS pP **pwP** **05 57 19.4 -0.3**
HNS S **SKSac** **06 06 19.4 +1.6**
HNS pmax pmax
comp=Z,100nm,1.3s
YNR Norris Junctio 85.81 40 IAmb IAmb 05 57 24.4
comp=Z,51nm,2.0s
K27K Chicken 85.84 14 IAmb IAmb 05 56 18.2
comp=Z,23nm,0.9s
K27K Chicken 85.84 14 P **P** **05 56 17.0 +0.8**
baz=212
J26L Joseph Creek 85.92 13 IAmb IAmb 05 56 18.6
comp=Z,51nm,0.9s
J26L Joseph Creek 85.92 13 P **P** **05 56 17.4 +0.7**
baz=210,SNR=67
SDCO Great Sand Dun 85.93 48 P **P** **05 56 18.1 +0.4**
baz=244
SDCO Great Sand Dun 85.93 48 P **P** **05 56 17.9 +0.2**
baz=244,SNR=24
H23K Yukon River 85.94 10 P **P** **05 56 16.1 -0.6**
baz=204,SNR=9.0
N32M Quiet Lake 85.94 19 P **P** **05 56 17.6 +0.7**
baz=220
G21K Allakaket 85.95 9 P **P** **05 56 17.1 +0.3**
baz=201,SNR=19
BJT Baijiatuan 85.97 314 IAmb IAmb 05 56 20.8
comp=Z,62nm,1.2s
BJI Beijing 85.97 314 P **P** **05 56 18.3 +0.9**
BJI PcP **PcP** **05 56 20.1 +0.4**
BJI S **S** **06 06 30.6 +1.2**
BJI ScS **ScS** **06 06 40.1 +2.8**
BJI pmax pmax
comp=Z,33nm,1.2s
M30M Minto, Yukon 85.97 17 P **P** **05 56 17.1 +0.1**
baz=216,SNR=22
L29M L29M 86.05 16 P **P** **05 56 18.1 +0.8**
baz=215,SNR=34
LYN LuoYang 86.20 308 ⇓*i*P **P** **05 56 19.1 +0.4**
LYN PP **PP** **05 59 47.9 +4.3**
LYN SKS **SKSac** **06 06 20.8 +0.3**
LYN S **S** **06 06 32.0 0.0**
LYN pmax pmax
comp=Z,60nm,1.3s
LYN pmax pmax
comp=Z,290nm,3.1s
H24K Noodor Dome 86.24 11 P **P** **05 56 16.9 -1.3**
baz=206
AY01 Puyuhuapi 86.25 136 IAmb IAmb 05 56 20.9
comp=Z,57nm,0.9s
MSTX Muleshoe 86.31 53 IAmb IAmb 05 56 21.2
comp=Z,94nm,1.6s
MSTX Muleshoe 86.31 53 P **P** **05 56 20.0 +0.6**
baz=245
MSTX Muleshoe 86.31 53 P **P** **05 56 19.7 +0.3**
baz=245
M31M Drury Creek, Y 86.36 18 P **P** **05 56 18.8 0.0**
baz=219,SNR=6.8
PRP Porcupine Dome 86.40 12 IAmb IAmb 05 56 20.2
comp=Z,44nm,1.3s
PRP Porcupine Dome 86.40 12 P **P** **05 56 19.1 0.0**
baz=208,SNR=9.0
T25A Trinidad 86.45 49 P **P** **05 56 20.1 0.0**
baz=244,SNR=11
DAWY Dawson 86.52 15 IAmb IAmb 05 56 21.1
comp=Z,32nm,0.8s
DAWY Dawson 86.52 15 P **P** **05 56 19.9 +0.3**
baz=214,SNR=26
F21K Alatna River 86.62 8 P **P** **05 56 19.8 -0.2**
baz=201,SNR=6.9
G22K Bettles 86.63 9 P **P** **05 56 20.3 +0.3**
baz=203
G23K Bananza Creek 86.67 10 P **P** **05 56 20.5 +0.2**
baz=204,SNR=7.3
FARO Faro, Yukon 86.69 18 P **P** **05 56 20.4 0.0**
baz=220
EGAK Eagle 86.69 14 IAmb IAmb 05 56 21.7
comp=Z,21nm,0.8s
EGAK Eagle 86.69 14 P **P** **05 56 20.7 +0.4**
baz=212,SNR=13
I26K Coal Creek Min 86.70 13 IAmb IAmb 05 56 21.9
comp=Z,20nm,0.8s
I26K Coal Creek Min 86.70 13 P **P** **05 56 20.9 +0.5**
baz=210
Q24A Divide 86.72 47 P **P** **05 56 21.8 +0.2**
baz=244
833A Chaparral WMA, 86.73 59 P **P** **05 56 22.4 +1.0**
baz=248,SNR=49
833A Chaparral WMA, 86.73 59 P **P** **05 56 22.1 +0.7**
baz=248,SNR=49
PSI Prapat 86.77 274 P **P** **05 56 21.9 -0.1**
comp=Z,155nm,0.9s,baz=132,slow=3.6,SNR=62
comp=Z,155nm,0.9s
PSI Prapat 86.77 274 P **P** **05 56 22.0 -0.1**
ISCO Idaho Springs 86.77 46 P **P** **05 56 22.1 +0.3**
baz=243
ISCO Idaho Springs 86.77 46 P **P** **05 56 21.8 0.0**
baz=243,SNR=12
ZEA Zeya 86.78 330 *e*P **P** **05 56 21.7 +0.7**
ZEA *e* 06 06 23.5
ZEA pmax pmax
comp=E,100nm,2.6s
ZEA pmax pmax
comp=N,100nm,1.9s
ZEA pmax pmax
comp=Z,300nm,1.8s
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,60nm,0.8s
ZEA pmax pmax
comp=Z,120nm,0.9s
K29M Barlow Dome 86.80 16 P **P** **05 56 21.8 +0.8**
baz=216,SNR=21
RLMT Red Lodge 86.89 40 P **P** **05 56 23.1 +1.0**
baz=240,SNR=6.8
BILL Bilibino 86.95 353 *c i*P **P** **05 56 21.5 0.0**
BILL pmax pmax
comp=Z,77nm,1.0s
H25K Birch Creek 87.01 12 P **P** **05 56 20.9 -0.9**
baz=208
MAYO Mayo, Yukon 87.04 17 IAmb IAmb 05 56 23.8
comp=Z,36nm,0.7s
MAYO Mayo, Yukon 87.04 17 P **P** **05 56 23.3 +1.2**
baz=217
N23A Red Feather La 87.04 45 P **P** **05 56 23.2 +0.3**
baz=243,SNR=10
F22K John River 87.07 9 P **P** **05 56 22.3 +0.2**
baz=202
G24K Hadweenzic Riv 87.09 11 P **P** **05 56 22.4 +0.2**
baz=206,SNR=5.9
COLD Coldfoot 87.11 10 IAmb IAmb 05 56 23.9
comp=Z,21nm,0.6s
COLD Coldfoot 87.11 10 P **P** **05 56 22.9 +0.6**
baz=204,SNR=15
J29M Klondike Camp 87.13 15 IAmb IAmb 05 56 28.7
comp=Z,35nm,0.5s
J29M Klondike Camp 87.13 15 P **P** **05 56 23.4 +0.9**
baz=215
JCT Junction City 87.22 57 IAmb IAmb 05 56 25.4
comp=Z,47nm,0.9s
JCT Junction City 87.22 57 P **P** **05 56 24.2 +0.4**
baz=247,SNR=24
JCT Junction City 87.22 57 P **P** **05 56 24.0 +0.3**
baz=247,SNR=24
I27K Kandik River 87.29 13 P **P** **05 56 23.6 +0.3**
baz=212,SNR=5.4
TSI Tuntungan 87.33 275 P **P** **05 56 25.6 +1.0**
comp=Z,313nm,0.9s
K22A Casper 87.45 44 P **P** **05 56 24.7 -0.1**
baz=242
K22A Casper 87.45 44 P **P** **05 56 24.6 -0.1**
baz=242
AMTX Amarillo 87.51 52 IAmb IAmb 05 56 26.2
comp=Z,20nm,0.8s
AMTX Amarillo 87.51 52 P **P** **05 56 25.6 +0.5**
baz=246
AMTX Amarillo 87.51 52 P **P** **05 56 24.9 -0.2**
baz=246
TIY Taiyuan 87.56 311 *e*P **P** **05 56 26.5 +1.3**
TIY pP **pwP** **05 57 28.3 -0.3**
TIY SKS **SKSac** **06 06 30.8 +2.0**
TIY S **S** **06 06 44.3 -0.7**
TIY pmax pmax
comp=Z,52nm,0.9s
GSI Gunungsitoli 87.59 272 P **P** **05 56 27.5 +1.7**
comp=Z,4μmcomp=Z,322nm,1.1s
GSI Gunungsitoli 87.59 272 P **P** **05 56 27.7 +1.9**
MMPY Sheldon Lake, 87.61 19 P **P** **05 56 25.8 +1.0**
baz=221
GYA Guiyang 87.65 299 ⇑*i*P **P** **05 56 27.8 +1.8**
GYA pP pwP 05 57 30.3 +0.9
GYA SKS **SKSac** **06 06 30.4 +0.5**
GYA pmax pmax
comp=Z,50nm,1.3s
GYA pmax pmax
comp=Z,500nm,3.8s
LL04 Puerto Octay 87.72 132 IAmb IAmb 05 56 27.9
comp=Z,65nm,1.1s
F24K Squaw Lake 87.76 10 P **P** **05 56 25.5 +0.1**
baz=206,SNR=14
TGTN Hyland Airport 87.77 21 P **P** **05 56 26.3 +0.7**
baz=224
XLT XiLinHaoTe 87.82 318 ⇓*i*P **P** **05 56 26.9 +0.6**
XLT pP pwP 05 57 30.3 +0.7
XLT PP **PP** **06 00 00.8 +4.4**
XLT SKS **SKSac** **06 06 30.5 +0.4**
XLT S **S** **06 06 49.1 +1.9**
XLT pmax pmax
comp=Z,50nm,1.1s
XLT pmax pmax
comp=Z,240nm,5.2s
H27K Steamboat Moun 87.84 13 P **P** **05 56 26.1 +0.2**
baz=212,SNR=9.2
I29M Ogilvie Camp, 87.85 15 P **P** **05 56 25.9 0.0**
baz=215,SNR=8.8
E23K Chandalar 87.97 9 P **P** **05 56 26.7 +0.3**
baz=204,SNR=16
G26K Porcupine Rive 88.00 12 P **P** **05 56 27.0 +0.5**
baz=210,SNR=10
EGMT Eagleton 88.03 38 P **P** **05 56 27.0 -0.2**
baz=240
KCSI Kotacane, Aceh 88.08 274 P **P** **05 56 28.7 +0.5**
comp=Z,1μmcomp=Z,120nm,1.6s
E24K Your Creek 88.16 10 P **P** **05 56 27.5 +0.2**
baz=205,SNR=12
F25K Christian Rive 88.22 11 P **P** **05 56 28.2 +0.6**
baz=208,SNR=5.6
735A Kenedy 88.22 59 IAmb IAmb 05 56 33.0
comp=Z,70nm,0.9s
735A Kenedy 88.22 59 P **P** **05 56 30.5 +2.1**
baz=248,SNR=6.9
HIA Hailar 88.22 324 IAmb IAmb 05 56 29.8
comp=Z,57nm,1.3s
G27K Doyon Strip 88.31 13 P **P** **05 56 28.5 +0.4**
baz=212,SNR=6.4
TOLK Toolik Lake Re 88.50 9 IAmb IAmb 05 56 30.1
comp=Z,15nm,0.7s
TOLK Toolik Lake Re 88.50 9 P **P** **05 56 29.2 +0.3**
baz=204,SNR=6.9
KSCO Kaye Shedlock' 88.52 48 IAmb IAmb 05 56 33.2
comp=Z,81nm,1.9s
KSCO Kaye Shedlock' 88.52 48 P **P** **05 56 30.0 +0.2**
baz=245
KSCO Kaye Shedlock' 88.52 48 P **P** **05 56 29.4 -0.4**
baz=245
F26K Sheenjek River 88.58 11 P **P** **05 56 30.2 +0.9**
baz=210,SNR=6.3
D23K Nanushuk River 88.64 9 P **P** **05 56 30.1 +0.6**
baz=203,SNR=14
XAN Xi'an 88.69 306 ⇓*i*P **P** **05 56 31.9 +1.3**
XAN pmax pmax
comp=Z,290nm,1.8s
E25K Arctic Village 88.70 11 P **P** **05 56 30.3 +0.5**
baz=208,SNR=9.9
EDM Edmonton 88.78 32 IAmb IAmb 05 57 37.0
comp=Z,38nm,1.3s
GO06 Curarrehue 88.89 131 IAmb IAmb 05 56 33.8
comp=Z,63nm,1.2s
EPYK Eagle Plains 89.05 15 P **P** **05 56 31.6 +0.1**
baz=216,SNR=6.7
D24K Happy Valley 89.09 9 P **P** **05 56 31.7 +0.1**
baz=205
PLCA Paso Flores 89.09 133 P **P** **05 56 33.5 +0.9**
comp=Z,24nm,1.0s,baz=243,slow=5.4,SNR=42
PLCA PP **PP** **06 00 06.0 0.0**
comp=Z,3.3nm,1.1s,baz=325,slow=4.1,SNR=3.6
comp=Z,24nm,1.0s
PLCA Paso Flores 89.09 133 P **P** **05 56 33.5 +0.9**
PLCA IAmb IAmb 05 56 34.8
comp=Z,44nm,1.0s
PLCA Paso Flores 89.09 133 *e*P **P** **05 56 33.6 +1.1**
435B Jarrell 89.11 57 IAmb IAmb 05 56 34.8
comp=Z,76nm,1.2s
435B Jarrell 89.11 57 P **P** **05 56 33.6 +1.1**
baz=248
435B Jarrell 89.11 57 P **P** **05 56 33.5 +0.9**
baz=248
C23K Itkillik River 89.45 8 P **P** **05 56 33.8 +0.6**
baz=203,SNR=7.6
HHC Hu-ho-hao-te 89.49 313 *e*P **P** **05 56 35.6 +1.4**
HHC SKS **SKSac** **06 06 42.3 +2.1**
HHC S **ScS** **06 07 09.3 +2.6**
HHC pmax pmax
comp=Z,120nm,0.9s
HHC pmax pmax
comp=Z,260nm,4.7s
E27K Coleen River 89.50 12 P **P** **05 56 34.0 +0.5**
baz=212
LAO LASA Array 89.50 40 IAmb IAmb 05 56 36.4
comp=Z,39nm,0.9s
LAO LASA Array 89.50 40 P **P** **05 56 35.2 +1.1**
baz=243
LAO LASA Array 89.50 40 P **P** **05 56 35.1 +1.0**
baz=243,SNR=16
C24K Franklin Bluff 89.62 9 P **P** **05 56 34.4 +0.4**
baz=205
D25K Kavik River 89.62 10 P **P** **05 56 33.8 -0.3**
baz=207
WMOK Wichita Mounta 89.65 53 P **P** **05 56 35.6 +0.6**
baz=248
WHTX Lake Whitney, 89.65 56 IAmb IAmb 05 56 37.0
comp=Z,73nm,1.2s
WHTX Lake Whitney, 89.65 56 P **P** **05 56 35.8 +0.8**
baz=248,SNR=15
WHTX Lake Whitney, 89.65 56 P **P** **05 56 34.8 -0.2**
baz=248,SNR=15
ELIS Ellis County 89.67 52 IAmb IAmb 05 56 37.8
comp=Z,28nm,0.8s
RSSD Black Hills 89.73 43 P **P** **05 56 35.6 +0.1**
RSSD Black Hills 89.73 43 P **P** **05 56 35.6 +0.1**
RSSD pmax pmax
comp=Z,15nm,0.9s
RSSD Black Hills 89.73 43 P **P** **05 56 35.1 -0.3**
baz=244
RSSD Black Hills 89.73 43 P **P** **05 56 34.9 -0.5**
baz=244
CSTR Hydro, Custer 90.06 52 IAmb IAmb 05 56 38.5
comp=Z,3.1nm,0.9s
TROLL Troll, Antarti 90.09 179 P **P** **05 56 36.7 +0.1**
U32A Winter Ranch, 90.10 52 IAmb IAmb 05 56 38.6
comp=Z,30nm,0.8s
U32A Winter Ranch, 90.10 52 P **P** **05 56 37.9 +0.8**
baz=248
HKT Hockley 90.22 59 *c i*P **P** **05 56 38.5 +0.8**
HKT pmax pmax
comp=Z,56nm,1.5s
HKT Hockley 90.22 59 P **P** **05 56 39.3 +1.6**
baz=249
SNAA Sanae 90.30 178 P **P** **05 56 37.3 -0.1**
SNAA Sanae 90.30 178 P **P** **05 56 37.6 +0.1**
SNAA IAmb IAmb 05 56 38.6
comp=Z,43nm,0.9s
SNAA Sanae 90.30 178 P **P** **05 56 37.6 +0.1**
SNAA pmax pmax
comp=Z,43nm,0.9s
Z35A Perchaven, San 90.30 55 P **P** **05 56 39.1 +1.0**
baz=248,SNR=11
X34A Smith Ranch, M 90.32 54 IAmb IAmb 05 56 42.0
comp=Z,37nm,1.0s
VNA3 Neumayer Olymp 90.33 175 P **P** **05 56 37.6 0.0**
OK038 West end E0370 90.33 52 IAmb IAmb 05 56 39.5
comp=Z,22nm,0.8s
C27K Jago River 90.34 11 P **P** **05 56 37.7 +0.2**
baz=210,SNR=6.4
C26K Camden Bay 90.39 10 P **P** **05 56 38.0 +0.4**
baz=209
KMI Kunming 90.50 296 ⇓P **P** **05 56 41.3 +1.9**
KMI SKS **SKSac** **06 06 46.9 0.0**
KMI S **ScS** **06 07 18.4 +2.4**
KMI pmax pmax
comp=Z,32nm,1.2s
KMI pmax pmax
comp=Z,190nm,3.5s
LOOK Love County 90.60 54 IAmb IAmb 05 56 41.3
comp=Z,31nm,1.1s
F31M Tsiigehtchic 90.62 15 P **P** **05 56 38.9 +0.2**
baz=219,SNR=14
VNA2 Neumayer--Watz 90.80 176 P **P** **05 56 40.1 +0.3**
baz=182,slow=4.0
OK032 Salt Plains WL 90.85 52 IAmb IAmb 05 56 41.8
comp=Z,42nm,0.7s
YAK Yakutsk 90.86 337 *e*P **P** **05 56 38.4 -1.5**
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s

YAK pmax pmax
comp=E,6.0nm,1.0s
BCOK Bluff Creek, N 90.88 53 IAmb IAmb 05 56 41.5
comp=Z,19nm,1.0s
FNO Franklin 90.89 53 IAmb IAmb 05 56 42.5
comp=Z,39nm,0.7s
CRAI Chiangrai 90.95 291 IAmb IAmb 05 56 44.0
comp=Z,76nm,1.4s
237A Washetta, Mont 90.96 57 P **P 05 56 42.6 +1.5**
baz=249,SNR=28
VNA1 Neumayer--Stat 91.01 176 P **P 05 56 41.4 +0.7**
PETF Flores 91.04 73 IAmb IAmb 05 56 42.7
comp=Z,48nm,0.9s
OK029 Liberty Lake 91.05 53 IAmb IAmb 05 59 04.9
comp=Z,23nm,0.4s
VA05 Santo Domingo 91.05 126 IAmb IAmb 05 56 43.3
comp=Z,52nm,0.9s
R32A Long Quarter, 91.09 50 IAmb IAmb 05 56 43.4
comp=Z,44nm,0.8s
R32A Long Quarter, 91.09 50 P **P 05 56 42.3 +0.6**
baz=248
KAN14 Manchester OK 91.09 51 IAmb IAmb 05 56 43.1
comp=Z,14nm,0.6s
NVL N'lazarevskaya 91.21 182 *e*P **P 05 56 41.3 -0.3**
NVL pmax pmax
comp=Z,100nm,1.1s
BO02 Sierra Bellavi 91.25 127 IAmb IAmb 05 56 44.5
comp=Z,39nm,0.8s
KAN17 Caldwell West 91.27 51 IAmb IAmb 05 56 43.8
comp=Z,26nm,0.6s
KAN01 Argonia South 91.32 51 IAmb IAmb 05 56 44.6
comp=Z,23nm,0.8s
INK Inuvik 91.35 14 P **P 05 56 42.0 -0.1**
comp=Z,16nm,0.9s,baz=210,slow=4.2,SNR=18
comp=Z,16nm,0.9s
INK Inuvik 91.35 14 IAmb IAmb 05 56 43.0
comp=Z,26nm,1.1s
INK Inuvik 91.35 14 P **P 05 56 42.0 -0.1**
INK Inuvik 91.35 14 P **P 05 56 41.9 -0.1**
baz=219,SNR=11
OK049 E0420 Rd and N 91.38 52 IAmb IAmb 05 56 44.5
comp=Z,18nm,0.9s
KAN13 South Haven SW 91.48 52 IAmb IAmb 05 56 44.5
comp=Z,26nm,0.6s
KS20 Mayfield South 91.50 51 IAmb IAmb 05 56 45.2
comp=Z,79nm,1.4s
DGMT Dagmar 91.52 39 P **P 05 56 44.6 +1.2**
baz=244
DGMT Dagmar 91.52 39 P **P 05 56 44.3 +0.9**
baz=244,SNR=20
OK033 Mehan 91.53 53 IAmb IAmb 05 56 45.9
comp=Z,53nm,1.6s
MT02 Curacav 91.57 126 IAmb IAmb 05 56 48.1
comp=Z,33nm,1.1s
OK031 S. Brethren Rd 91.57 53 IAmb IAmb 05 56 46.9
comp=Z,20nm,0.9s
BLOK Blackwell 91.58 52 IAmb IAmb 05 56 45.6
comp=Z,42nm,1.0s
OK030 Cody Creek RV 91.60 53 IAmb IAmb 05 56 47.0
comp=Z,29nm,1.1s
CD2 Chengdu 91.61 302 P **P 05 56 45.4 +1.1**
CD2 SKS **SKSac 06 06 49.6 -3.0**
CD2 S **ScS 06 07 24.0 -0.6**
CD2 pmax pmax
comp=Z,20nm,1.2s
CMAR Chiang Mai Arr 91.67 289 P **P 05 56 46.4 +1.6**
comp=Z,30nm,1.0s,baz=102,slow=2.9,SNR=111
CMAR PKKPbc **PKKPbc 06 14 03.5 +0.8**
comp=Z,1.9nm,0.4s,baz=285,slow=4.4,SNR=5.3
comp=Z,30nm,1.0s
OK034 N. Norfolk Rd. 91.69 53 IAmb IAmb 05 56 45.9
comp=Z,34nm,1.1s
BO04 La Punta 91.69 127 IAmb IAmb 05 56 46.5
comp=Z,73nm,1.7s
QUOK Quay 91.75 53 IAmb IAmb 05 56 46.2
comp=Z,20nm,1.0s
ROC1 El Roble 91.78 125 IAmb IAmb 05 56 49.2
comp=Z,23nm,0.8s
CHTO Chiang Mai 91.78 289 P **P 05 56 45.0 -0.2**
CHTO Chiang Mai 91.78 289 P **P 05 56 45.0 -0.2**
CHTO pmax pmax
comp=Z,3.0nm,1.4s
CHTO Chiang Mai 91.78 289 P **P 05 56 46.5 +1.3**
NATX Nacogdoches 91.79 57 P **P 05 56 46.4 +1.4**
baz=250,SNR=7.8
NATX Nacogdoches 91.79 57 P **P 05 56 46.1 +1.1**
baz=250,SNR=7.8
PZH PanZhiHua 91.80 297 P **P 05 56 46.9 +1.6**
PZH SKS **SKSac 06 06 52.3 -1.7**
PZH S **ScS 06 07 28.6 +2.0**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,140nm,4.9s
MT03 Universidad Ad 91.96 126 IAmb IAmb 05 56 48.0
comp=Z,54nm,1.1s
Z38A Mt. Pleasant 92.05 56 P **P 05 56 47.8 +1.6**
baz=250,SNR=10.0
LMEL Las Melosas 92.06 127 IAmb IAmb 05 56 52.0
comp=Z,31nm,0.9s
T35A Sooner Cattle 92.16 52 IAmb IAmb 05 56 48.1
comp=Z,32nm,0.9s
T35B Sooner Cattle 92.16 52 P **P 05 56 47.2 +0.6**
baz=249,SNR=12
X37A Clayton 92.21 54 P **P 05 56 47.5 +0.6**
baz=250,SNR=9.8
VA03 San Esteban 92.22 125 IAmb IAmb 05 56 49.3
comp=Z,47nm,1.0s
TUL1 Leonard 92.35 53 IAmb IAmb 05 56 49.1
comp=Z,24nm,1.0s
TUL1 Leonard 92.35 53 P **P 05 56 48.3 +0.8**
baz=249,SNR=9.6
TUL1 Leonard 92.35 53 P **P 05 56 48.0 +0.5**
baz=249,SNR=9.6
BGNE Belgrade 92.61 47 P **P 05 56 49.8 +1.2**
baz=248
BGNE Belgrade 92.61 47 P **P 05 56 49.2 +0.6**
baz=248,SNR=5.5
441A DeRidder 92.64 59 P **P 05 56 50.8 +1.9**
baz=250
KSU1 Kansas State U 92.87 50 IAmb IAmb 05 56 51.3
comp=Z,32nm,0.7s
KSU1 Kansas State U 92.87 50 P **P 05 56 50.5 +0.7**
baz=249
KSU1 Kansas State U 92.87 50 P **P 05 56 50.4 +0.6**
baz=249,SNR=6.9
E28A Huff 92.90 42 IAmb IAmb 05 56 50.6
comp=Z,36nm,1.1s
RLO Rose Lookout 93.02 53 IAmb IAmb 05 56 52.1
comp=Z,34nm,1.2s
ORTG Ortega, Santa 93.10 80 IAmb IAmb 05 56 53.9
comp=Z,28nm,1.0s
LZH Lanzhou 93.31 307 *e*P **P 05 56 51.8 -0.3**
LZH pP pP 05 57 51.0 -1.6
LZH sP sP 05 58 20.8 +2.1
LZH SKS **SKSac 06 07 02.4 +0.3**
LZH S **ScS 06 07 44.6 +5.8**
LZH pmax pmax
comp=Z,47nm,1.5s
LZH pmax pmax
comp=Z,240nm,4.7s
YKA Yellowknife Ar 93.33 24 P **P 05 56 51.5 +0.2**
comp=Z,2.8nm,0.7s,baz=243,slow=4.8,SNR=12
YKA pP **pwP 05 57 56.6 +1.7**
comp=Z,2.6nm,1.0s,baz=225,slow=4.4,SNR=2.4
comp=Z,2.8nm,0.7s
MATN Matagalpa 93.44 78 IAmb IAmb 05 56 54.5
comp=Z,36nm,1.4s
TEIG Tepich 93.51 70 P **P 05 56 54.4 +1.2**
342B Flagon Creek P 93.54 58 P **P 05 56 55.5 +2.4**
baz=251
JTS Las Juntas de 93.55 80 P **P 05 56 54.1 +0.6**
JTS IAmb IAmb 05 56 56.0
comp=Z,45nm,1.0s
JTS Las Juntas de 93.55 80 P **P 05 56 54.1 +0.6**
JTS pmax pmax
comp=Z,45nm,1.0s
LCO Las Campanas 93.56 122 P **P 05 56 55.3 +1.6**
LCO Las Campanas 93.56 122 P **P 05 56 55.3 +1.6**
AC04 Llanos de Chal 93.56 121 IAmb IAmb 05 56 55.6
comp=Z,37nm,0.9s
MIAR Mount Ida 93.59 55 IAmb IAmb 05 56 55.0
comp=Z,70nm,1.6s
MIAR Mount Ida 93.59 55 P **P 05 56 53.7 +0.4**
baz=250,SNR=16
MIAR Mount Ida 93.59 55 P **P 05 56 53.8 +0.6**
baz=250,SNR=16

U38A Gravette 93.60 53 IAmb IAmb 05 56 54.7
comp=Z,69nm,1.7s
U38A Gravette 93.60 53 P **P 05 56 53.6 +0.4**
baz=250,SNR=12
CO01 Juntas del Tor 93.67 123 IAmb IAmb 05 56 59.0
comp=Z,12nm,0.8s
HHAR Hobbs 93.89 53 IAmb IAmb 05 56 55.2
comp=Z,11nm,0.8s
HHAR Hobbs 93.89 53 P **P 05 56 54.8 +0.2**
baz=250
L34A Svendsen Farm, 94.05 47 P **P 05 56 55.8 +0.6**
baz=249
MDND Maddock 94.08 41 P **P 05 56 55.1 -0.1**
baz=248
MDND Maddock 94.08 41 P **P 05 56 55.0 -0.1**
baz=248,SNR=5.0
ZON Zonda 94.16 125 IAmb IAmb 05 56 57.7
comp=Z,22nm,1.1s
N35A Tabor 94.18 48 P **P 05 56 56.6 +0.8**
baz=250
AC06 Mina Casimiro 94.48 121 IAmb IAmb 05 57 00.2
comp=Z,49nm,1.4s
ECSD EROS Data Cent 94.51 45 IAmb IAmb 05 56 58.1
comp=Z,15nm,0.8s
ECSD EROS Data Cent 94.51 45 P **P 05 56 56.8 -0.4**
baz=249
ECSD EROS Data Cent 94.51 45 P **P 05 56 56.9 -0.4**
baz=249,SNR=14
UALR University of 94.62 55 IAmb IAmb 05 57 00.0
comp=Z,22nm,0.9s
CCAR Cane Creek 94.80 56 P **P 05 56 59.9 +1.1**
baz=252,SNR=5.3
S39A Bolivar 94.82 52 IAmb IAmb 05 56 59.9
comp=Z,15nm,1.1s
S39A Bolivar 94.82 52 P **P 05 56 59.0 +0.2**
baz=251,SNR=5.3
344A Westbrook Farm 94.86 59 P **P 05 57 00.7 +1.6**
baz=252
FCAR Ozark Folk Cen 95.15 54 IAmb IAmb 05 57 01.7
comp=Z,48nm,1.4s
ULN Ulaanbaatar 95.20 319 P **P 05 56 59.9 -0.6**
ULN IAmb IAmb 05 57 04.0
comp=Z,11nm,0.9s
ULN Ulaanbaatar 95.20 319 *d i*P **P 05 57 00.5 0.0**
ULN pmax pmax
comp=Z,10.0nm,0.9s
BOD Bodaibo 95.28 330 *e*P **P 05 56 58.3 -2.1**
BOD pmax pmax
comp=Z,15nm,1.8s
P38A Dawn 95.29 50 IAmb IAmb 05 57 01.8
comp=Z,20nm,1.1s
P38A Dawn 95.29 50 P **P 05 57 00.8 -0.1**
baz=251,SNR=6.5
F33A 5 Mile Ranch, 95.46 44 IAmb IAmb 05 57 02.1
comp=Z,25nm,0.9s
F33A 5 Mile Ranch, 95.46 44 P **P 05 57 01.5 0.0**
baz=250,SNR=6.4
PB14 IPOC Station P 95.49 118 IAmb IAmb 05 57 05.1
comp=Z,40nm,1.2s
SONM Songino Array 95.60 318 P **P 05 57 02.1 -0.2**
comp=Z,4.7nm,0.9s,baz=127,slow=5.1,SNR=13
SONM PP **PP 06 00 53.6 -3.7**
comp=Z,17nm,1.3s,baz=124,slow=5.7,SNR=8.6
comp=Z,4.7nm,0.9s
SONM Songino Array 95.60 318 IAmb IAmb 06 00 56.1
comp=Z,27nm,1.5s
AC02 Maricunga 95.69 120 IAmb IAmb 05 57 08.5
comp=Z,21nm,1.1s
CHSH Refugio Sur-Vo 95.73 93 IAmb IAmb 05 57 09.4
comp=Z,13nm,0.8s
R40A Maddies Statio 95.80 52 IAmb IAmb 05 57 04.3
comp=Z,22nm,1.1s
R40A Maddies Statio 95.80 52 P **P 05 57 03.1 -0.1**
baz=252,SNR=12
PORT Chimborazo Vol 95.83 93 IAmb IAmb 05 57 22.4
comp=Z,15nm,1.2s
N38A Joes South For 95.88 49 P **P 05 57 04.0 +0.4**
baz=251
LCAR Lake Charles 95.95 54 IAmb IAmb 05 57 05.3
comp=Z,22nm,1.2s
LCAR Lake Charles 95.95 54 P **P 05 57 04.1 +0.1**
baz=252,SNR=14
P40A Paris 96.35 51 P **P 05 57 05.5 -0.2**
baz=252,SNR=5.9
CCM Cathedral Cave 96.49 52 P **P 05 57 04.7 -1.7**
CCM IAmb IAmb 05 57 06.8
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 96.49 52 P **P 05 57 04.7 -1.7**
CCM pmax pmax
comp=Z,8.0nm,1.0s
CCM Cathedral Cave 96.49 52 P **P 05 57 05.9 -0.4**
baz=252,SNR=5.2
CCM Cathedral Cave 96.49 52 P **P 05 57 05.6 -0.8**
baz=252
146A Union 96.57 58 IAmb IAmb 05 57 10.0
comp=Z,18nm,0.8s
AGMN Agassiz Nation 96.58 41 IAmb IAmb 05 57 07.4
comp=Z,29nm,1.7s
AGMN Agassiz Nation 96.58 41 P **P 05 57 05.7 -0.8**
baz=250
AGMN Agassiz Nation 96.58 41 P **P 05 57 06.0 -0.5**
baz=250
K38A Parkersburg 96.80 47 P **P 05 57 08.1 +0.5**
baz=252
PB15 IPOC Station P 96.82 117 IAmb IAmb 05 57 11.6
comp=Z,20nm,0.9s
OXF Oxford 96.84 56 IAmb IAmb 05 57 10.9
comp=Z,15nm,1.0s
OXF Oxford 96.84 56 P **P 05 57 07.7 -0.3**
baz=253
TIXI Tiksi 97.10 345 ⇑ *i*P **P 05 57 08.0 -0.3**
TIXI pmax pmax
comp=Z,14nm,0.8s
ULM Lac du Bonnet 97.23 40 P **P 05 57 08.7 -0.7**
comp=Z,4.1nm,0.8s,baz=163,slow=8.7,SNR=3.3
comp=Z,4.1nm,0.8s
F36A Milaca 97.30 44 IAmb IAmb 05 57 10.8
comp=Z,20nm,0.8s
F36A Milaca 97.30 44 P Pdif 05 57 10.0 +0.2
baz=252,SNR=11
GTA Gaotai 97.39 309 ⇓ P Pdif 05 57 10.9 +0.3
GTA sP sP 05 58 30.6 -6.7
GTA SKS **SKSac 06 07 18.5 -4.9**
GTA S **ScS 06 08 11.6 -0.9**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,6.7s
GTA LR LR
comp=Z,64nm,18.5s
GTA LR LR
comp=Z,160nm,20.7s
GTA LR LR
comp=Z,62nm,19.3s
CGM3 Cape Girardeau 97.47 53 IAmb IAmb 05 57 12.1
comp=Z,27nm,1.5s
LVC Limon Verde 97.53 117 P **P 05 57 11.8 -0.1**
LVC IAmb IAmb 05 57 15.6
comp=Z,34nm,1.4s
LVC Limon Verde 97.53 117 P **P 05 57 11.8 -0.1**
LVC pmax pmax
comp=Z,34nm,1.4s
SPMN Marine on St. 97.58 45 IAmb IAmb 05 57 12.1
comp=Z,20nm,0.9s
SPMN Marine on St. 97.58 45 P Pdif 05 57 11.3 +0.2
baz=252,SNR=6.6
SPMN Marine on St. 97.58 45 P **P 05 57 10.9 -0.2**
baz=252,SNR=6.6
PB01 IPOC Station P 97.64 115 IAmb IAmb 05 57 14.9
comp=Z,15nm,1.0s
L40A Anamosa 97.72 48 IAmb IAmb 05 57 13.5
comp=Z,25nm,0.9s
L40A Anamosa 97.72 48 P **P 05 57 11.7 -0.1**
baz=253
BRAL Brewton 97.78 60 P **P 05 57 12.3 0.0**
baz=254
P43A Skaggs, Pawnee 98.25 51 IAmb IAmb 05 57 15.6
comp=Z,10nm,0.8s
P43A Skaggs, Pawnee 98.25 51 P Pdif 05 57 15.2 +1.0
baz=253
PB08 IPOC Station P 98.28 114 IAmb IAmb 05 57 20.1
comp=Z,11nm,0.9s
LRAL Lakeview Retre 98.35 58 P Pdif 05 57 14.6 -0.2
baz=254
GO01 Chusmiza 98.42 114 IAmb IAmb 05 57 20.1
comp=Z,31nm,1.8s
WVT Waverly 98.54 55 P Pdif 05 57 15.5 -0.1
baz=254

JFWS Jewell Farm 98.65 48 P Pdif 05 57 15.5 -0.5
baz=253
JFWS Jewell Farm 98.65 48 P Pdif 05 57 15.6 -0.3
baz=253
PB16 IPOC Station P 98.66 112 IAmb IAmb 05 57 21.3
comp=Z,24nm,1.2s
HDIL Hopedale 98.67 50 P Pdif 05 57 16.0 -0.1
baz=254
I40A Norwalk 98.67 47 IAmb IAmb 05 57 16.8
comp=Z,14nm,0.8s
I40A Norwalk 98.67 47 P **P 05 57 16.5 +0.4**
baz=253
T47A Sharon Grove 99.34 54 P **Pdif 05 57 19.5 +0.4**
baz=254
152A Waverly Hall 100.10 59 P **Pdif 05 57 23.4 +0.8**
baz=255
U49A Red Boiling Sp 100.24 55 P **Pdif 05 57 23.5 +0.3**
baz=255
GOMU GeErMu 100.31 305 *e*P **Pdif 05 57 25.3 +1.3**
LPAZ La Paz 100.65 111 P **Pdif 05 57 27.7 +1.5**
comp=Z,4.3nm,0.8s,baz=232,slow=4.6,SNR=9.2
LPAZ PP **PP 06 01 37.5 +0.8**
comp=Z,13nm,1.2s,baz=236,slow=7.6,SNR=17
LPAZ La Paz 100.65 111 *e*P **Pdif 05 57 25.8 -0.4**
GOGA Godfrey 101.30 58 P **Pdif 05 57 27.6 -0.4**
baz=256
TZTN Tazewell 101.99 55 P **Pdif 05 57 30.8 -0.2**
baz=256
CPUP Villa Florida 105.37 125 PP **PP 06 02 08.0 -2.6**
comp=Z,2.3nm,1.0s,baz=188,slow=7.1,SNR=2.9
SIV San Ignacio 106.98 114 PKKPbc PKKPbc 06 13 19.5 -0.2
comp=Z,1.9nm,0.7s,baz=148,slow=18,SNR=3.8
NRIK Noril'sk 109.29 338 PP **PP 06 02 35.1 -3.5**
comp=Z,13nm,1.1s,baz=96,slow=6.3,SNR=10
ZALV Zalesovo Beam 110.18 322 PKiKP **PKiKP 06 02 06.7 -0.2**
comp=Z,1.9nm,0.5s,baz=314,slow=1.7,SNR=4.3
ZALV PKKPbc **PKKPbc 06 13 09.4 -1.4**
comp=Z,1.9nm,0.6s,baz=278,slow=4.3,SNR=6.9
MK31 Makanchi Array 111.35 314 *c i*PKIKP **PKiKP 06 02 08.9 -0.5**
MKAR Makanchi Array 111.35 314 Pdiff **Pdif 05 58 11.2 -1.2**
comp=Z,0.2nm,0.4s,baz=208,slow=41,SNR=3.9
MKAR PKiKP **PKiKP 06 02 08.8 -0.6**
comp=Z,2.4nm,0.6s,baz=70,slow=1.3,SNR=13
MKAR PP **PP 06 02 48.5 -5.6**
comp=Z,2.3nm,0.9s,baz=83,slow=9.9,SNR=4.7
MKAR PKKPbc **PKKPbc 06 13 05.4 -1.4**
comp=Z,4.8nm,0.7s,baz=276,slow=3.8,SNR=32
MKAR PKKPab **PKKPab 06 13 15.3 +0.6**
comp=Z,3.2nm,0.9s,baz=272,slow=5.6,SNR=8.8
PTGA Pitinga 113.84 99 PKKPbc PKKPbc 06 12 56.7 -0.6
comp=Z,2.0nm,0.6s,baz=55,slow=4.2,SNR=8.0
PTGA PKKPab **PKKPab 06 13 06.6 +0.8**
comp=Z,2.2nm,0.3s,baz=59,slow=5.6,SNR=13
KURK Kurchatov 113.90 318 *c i*PKIKP **PKiKP 06 02 13.6 -0.5**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 113.96 318 PKKPbc PKKPbc 06 12 56.9 -1.3
comp=Z,3.6nm,0.9s,baz=267,slow=4.1,SNR=12
KURBB PKKPab **PKKPab 06 13 04.0 +1.0**
comp=Z,0.6nm,0.7s,baz=276,slow=5.1,SNR=6.2
AAK Ala-Archa 116.74 309 PKP **PKPdf 06 02 19.8 -0.2**
AAK PP **PP 06 03 30.1 -2.2**
comp=Z,0.8nm,0.3s,baz=142,slow=4.9,SNR=1.5
AAK PKKPbc **PKKPbc 06 12 47.9 -0.7**
comp=Z,4.2nm,0.7s,baz=87,slow=0.3,SNR=9.7
AAK PKKPab **PKKPab 06 12 53.4 +2.1**
comp=Z,5.8nm,1.0s,baz=248,slow=4.7,SNR=8.4
AAK Ala-Archa 116.74 309 PKPdf **PKPdf 06 02 18.8 -1.3**
AAK Ala-Archa 116.74 309 ⇑ *i*PKIKP **PKPdf 06 02 20.0 -0.1**
AAK pmax pmax
comp=Z,3.0nm,0.9s
BDFB Brasilia 118.25 120 PKP **PKPdf 06 02 23.2 -0.5**
comp=Z,5.1nm,0.8s,baz=202,slow=4.2,SNR=6.7
BVAR Borovoye Array 118.82 321 PKKPbc PKKPbc 06 12 39.4 -2.0
comp=Z,1.7nm,0.7s,baz=294,slow=4.7,SNR=10
BRVK Borovoye 118.88 321 PKPdf **PKPdf 06 02 22.1 -1.6**
BRVK Borovoye 118.88 321 *d i*PKIKP **PKPdf 06 02 23.1 -0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
SPA0 Spitsbergen Ar 119.63 357 *e*PKPdf **PKPdf 06 02 24.3 -0.2**
KBL Kabul 120.88 300 PKPdf **PKPdf 06 02 28.0 -0.4**
KBL Kabul 120.88 300 PKIKP **PKPdf 06 02 28.0 -0.4**
PRPB Parauapebas 121.13 109 *e*P **PKPdf 06 02 29.1 -0.1**
SMTB Santa Maria do 121.92 113 *e*P **PKPdf 06 02 30.6 -0.1**
NAN01 Guarapari, ES 123.32 127 *e*P **PKiKP 06 02 33.6 +0.1**
TMAB Tom-Au,PA,Br 124.26 106 *e*P **PKiKP 06 02 35.6 +0.1**
ARU Arti 124.61 327 PKP **PKPdf 06 02 34.1 -0.4**
comp=Z,9.4nm,0.7s,baz=148,slow=2.8,SNR=14
ARU Arti 124.61 327 *i*PKIKP **PKPdf 06 02 34.6 +0.1**
ARU 06 04 22.5
ARU 06 09 18.5
SOE Somerset East 125.63 202 **PKPdf 06 02 37.4 -0.1**
ABKAR Akbulak array 126.01 318 PKPdf **PKPdf 06 02 37.1 -0.3**
AKTO Aktyubinsk 126.88 320 PKP **PKiKP 06 02 39.4 -0.2**
comp=Z,3.3nm,0.7s,baz=80,slow=1.4,SNR=9.7
ARA0 ARCESS Array S 127.00 351 *e*PKPdf **PKPdf 06 02 38.5 -0.3**
ARA0 IAmb IAmb 06 02 41.4
comp=Z,23nm,1.3s
ARCES ARCESS Array B 127.00 351 PKP **PKPdf 06 02 38.5 -0.3**
comp=Z,4.4nm,0.5s,baz=31,slow=0.5,SNR=32
ARCES ARCESS Array B 127.00 351 PKPdf **PKPdf 06 02 38.0 -0.7**
APA Apatity 127.25 347 ⇓ *i*PKIKP **PKPdf 06 02 38.6 -0.7**
APA *i* 06 04 50.0
APA MLR MLR
comp=Z,300nm,28.0s
SUR Sutherland 127.45 197 PKPdf **PKPdf 06 02 41.1 0.0**
TRO Tromso 127.74 354 *e*PKPdf **PKPdf 06 02 39.6 -0.5**
KTK1 Kautokeino 127.81 352 *e*PKPdf **PKPdf 06 02 39.9 -0.4**
KTK1 IAmb IAmb 06 02 42.7
comp=Z,26nm,1.8s
PRGR Permogore 127.90 337 *e*PKIKP **PKPdf 06 02 39.7 -0.9**
PRGR *e* 06 04 42.5
PRGR pmax pmax
comp=Z,12nm,0.4s
KIRV Kirov 128.08 332 PKP **PKiKP 06 02 41.8 +0.1**
comp=Z,11nm,0.6s,baz=197,slow=10,SNR=4.2
KIRV pPKP **pPKPdf 06 03 50.6 +6.0**
comp=Z,8.3nm,0.5s,baz=184,slow=4.6,SNR=2.1
KIRV PP **PP 06 04 45.4 -2.2**
comp=Z,7.8nm,0.4s,baz=100,slow=2.6,SNR=9.3
BOSA Boshof 129.44 204 PKP **PKiKP 06 02 45.7 +0.1**
comp=Z,10.0nm,0.8s,baz=155,slow=2.7,SNR=17
BOSA Boshof 129.44 204 PKPdf **PKiKP 06 02 45.4 -0.2**
GEYT Alibeck 129.53 304 PKP **PKiKP 06 02 45.7 +0.3**
comp=Z,8.9nm,1.0s,baz=280,slow=0.9,SNR=5.5
GEYT pPKP **pPKPdf 06 03 52.4 +4.3**
comp=Z,1.0nm,0.4s,baz=153,slow=45,SNR=1.2
GEYT PP **PP 06 04 55.2 -3.0**
comp=Z,13nm,1.1s,baz=350,slow=4.5,SNR=8.8
GEYT SKPab SKPbc 06 05 43.4 +1.0
comp=Z,8.8nm,0.9s,baz=302,slow=2.8,SNR=6.7
STEI Steigen 129.75 355 *e*PKPdf **PKPdf 06 02 44.3 +0.3**
STEI IAmb IAmb 06 02 46.7
comp=Z,12nm,1.2s
FAUS Fauske 130.28 355 *e*PKPdf **PKPdf 06 02 45.0 0.0**
KLMR Klimovskoe 130.64 338 *e*PKIKP **PKPdf 06 02 40.4 -5.4**
KLMR pmax pmax
comp=Z,14nm,1.6s
KLMR Klimovskoe 130.64 338 *e*PKPdf **PKPdf 06 02 40.5 -5.4**
KLMR AMP 06 02 50.5
comp=Z,14nm,1.6s
KLMR *e*pPKPdf **pPKPdf 06 03 52.3 +2.8**
KLMR *e*PP **PP 06 04 59.1 -4.9**
KLMR *e*SKPab **SKPbc 06 05 42.5 -3.2**
MOR8 Moi Rana 131.54 355 *e*PKPdf **PKPdf 06 02 47.6 +0.2**
BELG Belogornoye 132.10 326 PKP **PKiKP 06 02 49.5 -0.5**
comp=Z,26nm,0.9s,baz=170,slow=5.2,SNR=6.8
BELG PP **PP 06 05 10.3 -3.4**
comp=Z,24nm,1.1s,baz=6.5,slow=0.9,SNR=4.2
FINES FINESS Array B 134.13 346 PKhKP PKPpre 06 02 40.8
comp=Z,1.6nm,0.7s,baz=85,slow=2.3,SNR=4.2
FINES PP **PP 06 05 21.5 -4.6**
comp=Z,4.7nm,0.9s,baz=297,slow=0.4,SNR=5.1
FINES SKPab **SKPab 06 06 00.2 -0.8**
comp=Z,21nm,1.1s,baz=56,slow=4.8,SNR=12
OBN Obninsk 135.77 334 SKP **SKPdf 06 06 05.7 -0.7**
comp=Z,6.6nm,0.4s,baz=62,slow=3.4,SNR=6.2
OBN Obninsk 135.77 334 ⇓ *i*PKIKP **PKiKP 06 02 57.3 0.0**
OBN *e* 06 05 32.8
OBN SS SS 06 23 20.0 +6.4
OBN pmax pmax
comp=Z,6.0nm,0.4s
MAK Makhachkala 136.17 314 *i*P **Pdif 06 00 03.0 +0.3**
MAK *e* 06 05 39.2
MAK *e*PPP PPP 06 08 41.6
MAK *e*SSS SSS 06 28 21.5

MAK					pmax	pmax			
	comp=Z,235nm,0.9s								
VORR	**Voronezh**	**136.83**	**329**	*e*PKIKP	**PKPdf**		**06 02 57.2**	**-0.6**
VORR					pmax	pmax			
	comp=Z,40nm,0.4s								
NB2	**NORSAR Subarra**	**136.87**	**355**	PKP	PKPpre		06 02 47.6		
	comp=Z,3.5nm,0.6s,baz=17,slow=2.6								
NB2	**NORSAR Subarra**	**136.87**	**355**	PKP	**PP**		**06 05 39.4**	**-3.8**
	comp=Z,16nm,1.4s,baz=10.0,slow=3.7								
NB2	**NORSAR Subarra**	**136.87**	**355**	*e*	PKPpre		06 02 47.6		
	baz=17,slow=2.6								
NOA	**NORSAR Array B**	**136.87**	**355**	PKhKP	PKPpre		06 02 47.9		
	comp=Z,1.4nm,0.9s,baz=30,slow=2.1,SNR=7.0								
NOA				PP	**PP**		**06 05 39.5**	**-3.7**	
	comp=Z,3.2nm,1.0s,baz=8.3,slow=6.1,SNR=5.0								
NOA				SKP	**SKPdf**		**06 06 08.1**	**-0.2**	
	comp=Z,3.0nm,0.9s,baz=3.3,slow=2.3,SNR=5.5								
SKAR	**Skarsfja**	**137.40**	**357**	*e*PKPdf	**PKiKP**		**06 02 59.7**	**-0.9**	
KBZ	**Khabaz**	**138.94**	**317**	PP	**PP**		**06 05 55.2**	**-1.7**	
	comp=Z,12nm,1.1s,baz=139,slow=6.2,SNR=4.3								
KBZ				SKPab	**SKPab**		**06 06 23.4**	**+0.6**	
	comp=Z,9.3nm,0.9s,baz=113,slow=5.4,SNR=3.6								
KIV	**Kislovodsk**	**138.98**	**317**	*i* PKIKP	**PKPdf**		**06 03 02.6**	**+0.5**	
KIV				*e*			06 05 55.7		
KIV				*e*SS	SS		06 23 49.4	-3.4	
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
MNK	**Minsk**	**139.52**	**339**	*i* PKIKP	**PKiKP**		**06 03 04.6**	**-0.4**	
MNK				*i*			06 06 05.4		
MNK				*i*			06 09 47.6		
MNK				*i*			06 16 08.2		
MNK				*i* SS	SS		06 23 59.8	+2.3	
MNK				pmax	pmax				
	comp=Z,21nm,0.7s								
MNK				pmax	pmax				
	comp=E,3.0nm,0.8s								
MNK	**Minsk**	**139.52**	**339**	*i* PKP	**PKiKP**		**06 03 04.7**	**-0.4**	
	comp=E,3.0nm,0.8s								
MNK				*i* PKP	**PKiKP**		**06 03 04.7**	**-0.4**	
MNK				*i* PKP	**PKiKP**		**06 03 04.7**	**-0.4**	
	comp=Z,21nm,0.7s,baz=215								
MNK				*i* pPKP	**pPKPdf**		**06 04 15.4**	**+9.1**	
MNK				*i* PP	**PP**		**06 06 05.5**	**+5.7**	
MNK				*i* PPP	PPP		06 09 23.7		
MNK				*i* SKS	**SKSdf**		**06 09 47.7**	**-0.9**	
MNK				*i* SPP	SPP		06 22 12.9		
MNK				*i* SS	**SS**		**06 23 59.9**	**+2.3**	
NACGM	**Naroch**	**139.55**	**340**⇑	*e*PKP	**PKPdf**		**06 02 58.1**	**-4.6**	
	comp=Z,16nm,0.8s,baz=34								
SOC	**Sochi**	**141.05**	**318**	*i* PKIKP	**PKiKP**		**06 03 08.8**	**+0.3**	
SOC				*e*			06 06 12.6		
SOC				*e*PPP	PPP		06 09 18.7		
SOC				*e*SSS	SSS		06 29 31.9		
AKASG	**Malin Array Be**	**142.03**	**335**	PKhKP	PKPpre		06 03 01.8		
	comp=Z,6.2nm,0.5s,baz=40,slow=4.2,SNR=27								
AKASG				SKPbc	**SKPbc**		**06 06 18.0**	**-2.6**	
	comp=Z,2.0nm,0.7s,baz=41,slow=5.8,SNR=6.4								
KMBO	**Kilima Mbogo**	**142.63**	**243**	PKP	**PKPdf**		**06 03 07.8**	**-2.0**	
	comp=Z,7.5nm,0.9s,baz=62,slow=4.3,SNR=14								
KMBO	**Kilima Mbogo**	**142.63**	**243**	PKPdf	**PKPdf**		**06 03 07.9**	**-1.9**	
MARD	**Mardin**	**143.01**	**309**	PKPdf	PKPbc		06 03 06.8	-0.5	
SIM	**Simferopol'**	**143.65**	**324**	*e*PKIKP	PKPbc		06 03 09.1	+0.6	
SIM				*e*			06 06 31.9		
SIM				pmax	pmax				
	comp=Z,78nm,1.2s								
SIM				pmax	pmax				
	comp=Z,36nm,15.0s								
BEL	**Belsk**	**144.01**	**343**	*e*PKP	**PKPdf**		**06 03 10.1**	**-0.6**	
LVV	**L'vov**	**144.73**	**338**⇑	*i*PKIKP	PKPbc		06 03 11.6	0.0	
KIS	**Kishinev**	**144.99**	**331** ⇓	*i* PKP	**PKPdf**		**06 03 12.6**	**0.0**	
	comp=Z,200nm,1.1s								
KIS	**Kishinev**	**144.99**	**331**	*d* PKIKP	**PKPdf**		**06 03 12.6**	**0.0**	
KIS				pmax	pmax				
	comp=Z,200nm,1.1s								
MILM	**Milestii Mici**	**145.05**	**331**	⇓P	**PKPbc**		**06 03 12.4**	**-0.3**	
MILM	**Milestii Mici**	**145.05**	**331**	⇓PKIKP	**PKPbc**		**06 03 12.4**	**-0.3**	
VASR	**Vaslui**	**145.73**	**331**	⇑P	**PKPab**		**06 03 16.3**	**+0.7**	
OJC	**Ojcow**	**145.74**	**343**	*e*PKP	**PKPdf**		**06 03 12.6**	**-0.2**	
KSP	**Ksiaz**	**146.04**	**347**	*e*PKP	**PKPab**		**06 03 16.5**	**-0.1**	
BURAR	**Bucovina Array**	**146.09**	**335**	⇑P	**PKPab**		**06 03 16.8**	**-0.2**	
BURAR	**Bucovina Array**	**146.09**	**335**	⇑PKP2	**PKPab**		**06 03 16.8**	**-0.2**	
KOLS	**Kolonicke sedl**	**146.09**	**339**	*e*PKP2	**PKPab**		**06 03 16.6**	**-0.3**	
KOLS	**Kolonicke sedl**	**146.09**	**339**	*e*PKP	**PKPab**		**06 03 16.6**	**-0.3**	
VLDR	**Vladesti**	**146.18**	**330**	⇓P	**PKPab**		**06 03 17.1**	**-0.2**	
CLL	**Collm**	**146.22**	**351**	⇓*i*PKP2	**PKPbc**		**06 03 16.4**	**+0.3**	
CLL				pmax	pmax				
	comp=Z,65nm,0.8s								
CLL	**Collm**	**146.22**	**351**	⇓*i*PKPbc	**PKPbc**		**06 03 16.4**	**+0.3**	
	comp=Z,65nm,0.8s								
CLL				*i* x	x		06 03 33.4		
CLL				*ex*	x		06 04 00.0		
CLL				*e*pPKiKP	pPKPab		06 04 20.0	+1.0	
CLL				*e*SKPbc	**SKiKP**		**06 06 34.0**	**+3.2**	
CLL				*e*PPP	PPP		06 09 57.0		
BIZ	**Bicaz**	**146.25**	**333**	⇑P	**PKPab**		**06 03 17.2**	**-0.4**	
TLCR		**146.30**	**329**	⇓P	**PKPab**		**06 03 17.6**	**-0.2**	
TLCR		**146.30**	**329**	⇓PKP2	**PKPab**		**06 03 17.6**	**-0.2**	
NIE	**Niedzica**	**146.31**	**341**	*e*PKP	**PKPbc**		**06 03 16.9**	**+0.4**	
OSTC	**Ostas**	**146.33**	**347**	*e*PKP	**PKPbc**		**06 03 16.8**	**+0.3**	
CHVC	**Chvalec**	**146.34**	**347**	*e*PKP	**PKPbc**		**06 03 17.1**	**+0.6**	
CHVC				*ex*	x		06 03 28.5		
GHRR		**146.34**	**331**	⇓P	**PKiKP**		**06 03 18.8**	**-0.5**	
TESR	**Tescani**	**146.34**	**332**	⇑P	**PKPbc**		**06 03 16.5**	**0.0**	
UZH	**Uzhgorod**	**146.34**	**339**	*d* PKIKP	**PKPdf**		**06 03 15.0**	**+0.2**	
SCTR	**Scanteiesti**	**146.35**	**330**	⇑P	**PKPab**		**06 03 17.8**	**-0.2**	
TATR	**Tatarca**	**146.38**	**330**	⇑P	**PKPab**		**06 03 18.6**	**+0.6**	
CRVS	**Cervenica-Dubn**	**146.39**	**340**	*e*PKP2	**PKPbc**		**06 03 17.4**	**+0.7**	
CRVS	**Cervenica-Dubn**	**146.39**	**340**	*e*PKP	**PKPbc**		**06 03 17.4**	**+0.7**	
UPC	**Upice**	**146.42**	**347**	*e*PKP2	**PKPbc**		**06 03 17.4**	**+0.7**	
UPC	**Upice**	**146.42**	**347**	*e*PKP	**PKPbc**		**06 03 17.4**	**+0.7**	
UPC				*ex*	x		06 03 33.3		
BRG	**Berggiesshubel**	**146.48**	**349**	*i* PKP	**PKPbc**		**06 03 17.3**	**+0.5**	
BRG				Amp			06 03 18.9		
	comp=Z,40nm,0.9s								
BRG				*i* x	x		06 03 34.2		
BRG				Amp			06 03 34.9		
	comp=Z,21nm,0.8s								
BRG				*ex*	x		06 04 07.4		
BRG				Amp			06 04 08.1		
	comp=Z,12nm,0.9s								
BRG				*ex*	x		06 04 22.7		
BRG				Amp			06 04 27.1		
	comp=Z,18nm,1.2s								
BRG	**Berggiesshubel**	**146.48**	**349**	*i* PKP2	**PKPbc**		**06 03 17.3**	**+0.5**	
BRG				pmax	pmax				
	comp=Z,40nm,0.9s								
DPC	**Dobruska-Polom**	**146.50**	**346**	*e*PKP2	**PKPab**		**06 03 17.8**	**-0.7**	
DPC	**Dobruska-Polom**	**146.50**	**346**	*e*PKP	**PKPab**		**06 03 17.8**	**-0.7**	
DPC				*ex*	x		06 03 31.8		
OKC	**Ostrava-Krasne**	**146.53**	**344**	*e*PKP2	**PKPbc**		**06 03 17.2**	**+0.2**	
OKC	**Ostrava-Krasne**	**146.53**	**344**	*e*PKP	**PKPbc**		**06 03 17.2**	**+0.2**	
LODK	**Lodwar**	**146.54**	**248**		**PKPbc**		**06 03 18.3**	**0.0**	
IZVR	**Izvoarele**	**146.55**	**330**	⇑P	**PKPab**		**06 03 18.5**	**-0.3**	
SCHL	**Schela**	**146.55**	**330**	⇓P	**PKPab**		**06 03 18.8**	**+0.1**	
PANC	**Panciu**	**146.60**	**331**	⇓P	**PKPbc**		**06 03 18.1**	**+0.8**	
CFR	**Carcaliu**	**146.64**	**329**	⇓P	**PKPbc**		**06 03 17.8**	**+0.3**	
KRLC	**Kraliky**	**146.65**	**346**	*e*PKP2	**PKPbc**		**06 03 17.9**	**+0.5**	
KRLC	**Kraliky**	**146.65**	**346**	*e*PKP	**PKPbc**		**06 03 17.9**	**+0.5**	
KRLC				*ex*	x		06 03 34.6		
TRPA	**Tarpa**	**146.68**	**338**	⇑P	**PKPbc**		**06 03 17.8**	**+0.3**	
PVCC	**Panska Ves**	**146.70**	**348**	*e*PKP2	**PKPab**		**06 03 18.5**	**-0.7**	
PVCC	**Panska Ves**	**146.70**	**348**	*e*PKP	**PKPab**		**06 03 18.5**	**-0.7**	
PVCC				*ex*	x		06 03 34.9		
ODBI	**Odobesti**	**146.72**	**331**	⇑P	**PKPab**		**06 03 19.0**	**-0.5**	
TPGR	**Topolog**	**146.73**	**328**	⇓P	**PKPbc**		**06 03 18.3**	**+0.5**	
MORC	**Moravsky Berou**	**146.74**	**345**	⇓P	**PKPbc**		**06 03 18.5**	**+0.8**	
MORC	**Moravsky Berou**	**146.74**	**345**	*e*PKP	**PKPbc**		**06 03 18.1**	**+0.4**	
MORC	**Moravsky Berou**	**146.74**	**345**	⇓PKP2	**PKPbc**		**06 03 18.5**	**+0.8**	
LANS	**Liptovska Anna**	**146.79**	**342**	*e*PKP2	**PKPab**		**06 03 19.3**	**-0.4**	
LANS	**Liptovska Anna**	**146.79**	**342**	*e*PKP	**PKPab**		**06 03 19.2**	**-0.4**	
VRI	**Vrincioaia**	**146.80**	**331**	⇑P	**PKPbc**		**06 03 18.1**	**+0.2**	
VRI	**Vrincioaia**	**146.80**	**331**	⇑PKP2	**PKPbc**		**06 03 18.1**	**+0.2**	
PLOR	**Plostina**	**146.84**	**331**	⇓P	**PKPbc**		**06 03 18.3**	**+0.2**	
ARCR	**ARCALIA**	**146.86**	**335**	⇓P	**PKPab**		**06 03 19.2**	**-0.8**	
BR131	**Keskin Array S**	**146.94**	**317**	PKPdf	**PKPdf**		**06 03 17.0**	**+0.7**	
BR131	**Keskin Array S**	**146.94**	**317**	PKIKP	**PKPdf**		**06 03 17.0**	**+0.7**	
BRTR	**Keskin Array B**	**146.94**	**317**	PKP	**PKPdf**		**06 03 16.0**	**-0.3**	
	comp=Z,30nm,0.8s,baz=45,slow=0.4,SNR=74								
BRTR				PKPbc	**PKPbc**		**06 03 18.9**	**+0.2**	
	comp=Z,54nm,0.9s,baz=137,slow=3.3,SNR=94								
BRTR				pPKPbc	pPKPab		06 04 24.3	+2.1	
	comp=Z,24nm,1.0s,baz=127,slow=3.3,SNR=3.4								
BRTR				SKPbc	**SKiKP**		**06 06 33.6**	**+0.7**	
	comp=Z,6.2nm,1.1s,baz=108,slow=2.2,SNR=3.2								
OZUR		**147.04**	**332**	⇑P	**PKPbc**		**06 03 19.4**	**+0.8**	
COVR	**Voineasa-Covas**	**147.05**	**332**	⇓P	**PKPbc**		**06 03 18.6**	**0.0**	
MAUC	**Maruska**	**147.05**	**344**	*e*PKP	**PKPbc**		**06 03 19.1**	**+0.6**	
KECS	**Kecovo**	**147.07**	**340**	*e*PKP2	**PKPbc**		**06 03 19.2**	**+0.6**	
KECS	**Kecovo**	**147.07**	**340**	*e*PKP	**PKPbc**		**06 03 19.2**	**+0.6**	
HARR	**Harsova**	**147.09**	**329**	⇓P	**PKPbc**		**06 03 19.3**	**+0.6**	
HARR	**Harsova**	**147.09**	**329**	⇓PKP2	**PKPbc**		**06 03 19.3**	**+0.6**	
TLBR	**Topalu**	**147.14**	**328**	⇓P	**PKiKP**		**06 03 20.2**	**-0.8**	
PRU	**Pruhonice**	**147.22**	**348**	*e*PKP2	**PKPbc**		**06 03 19.5**	**+0.6**	
PRU	**Pruhonice**	**147.22**	**348**	*e*PKP	**PKPbc**		**06 03 19.5**	**+0.6**	
PRU				*ex*	x		06 03 35.6		
GOPC	**GO Pecny, Ondr**	**147.24**	**348**	*e*PKP2	**PKPbc**		**06 03 19.5**	**+0.5**	
GOPC	**GO Pecny, Ondr**	**147.24**	**348**	*e*PKP	**PKPbc**		**06 03 19.5**	**+0.5**	
GOPC				*ex*	x		06 03 36.3		
DOPR	**Dopca**	**147.32**	**333**	⇑P	**PKiKP**		**06 03 20.5**	**-0.9**	
NKC	**Novy Kostel**	**147.35**	**351**	*e*PKP2	**PKPbc**		**06 03 19.4**	**+0.1**	
NKC	**Novy Kostel**	**147.35**	**351**	*e*PKP	**PKPbc**		**06 03 19.4**	**+0.1**	
MESR	**Meseseni**	**147.36**	**337**	⇑P	**PKPbc**		**06 03 20.4**	**+1.0**	
ANTO	**Ankara**	**147.41**	**318**	⇑P	**PKPbc**		**06 03 20.7**	**+0.8**	
ANTO	**Ankara**	**147.41**	**318**	⇑PKP2	**PKPbc**		**06 03 20.7**	**+0.8**	
VRAC	**Vranov**	**147.41**	**345**	⇑P	**PKPbc**		**06 03 20.5**	**+1.0**	
VRAC	**Vranov**	**147.41**	**345**	*e*PKP	**PKPbc**		**06 03 20.1**	**+0.6**	
VRAC	**Vranov**	**147.41**	**345**	⇑PKP2	**PKPbc**		**06 03 20.5**	**+1.0**	
MLR	**Muntele Rosu**	**147.44**	**332**	⇓P	**PKPbc**		**06 03 20.0**	**+0.1**	
MLR	**Muntele Rosu**	**147.44**	**332**		**PKPbc**		**06 03 19.3**	**-0.5**	
MLR	**Muntele Rosu**	**147.44**	**332**	⇓PKP2	**PKPbc**		**06 03 20.0**	**+0.1**	
ISR	**Istrita**	**147.45**	**331**	⇓P	**PKiKP**		**06 03 21.0**	**-0.7**	
ISR	**Istrita**	**147.45**	**331**	⇓PKP2	**PKiKP**		**06 03 21.0**	**-0.7**	
CJR	**Cluj-Napoca**	**147.47**	**335**	⇑P	**PKiKP**		**06 03 20.8**	**-0.9**	
CJR	**Cluj-Napoca**	**147.47**	**335**	⇑PKP2	**PKiKP**		**06 03 20.8**	**-0.9**	
JAVC	**Velka Javorina**	**147.56**	**344**	*e*PKP	**PKiKP**		**06 03 21.4**	**-0.4**	
MEM	**Membach**	**147.56**	**358**	*d*PKPbc	**PKPbc**		**06 03 19.9**	**+0.1**	
MEM				*dx*	x		06 03 37.2		
VYHS	**Vyhne**	**147.56**	**342**	*e*PKP2	**PKPbc**		**06 03 20.6**	**+0.7**	
VYHS	**Vyhne**	**147.56**	**342**	*e*PKP	**PKPbc**		**06 03 20.6**	**+0.7**	
BTNL	**Ternell**	**147.58**	**358**	*d*PKPbc	**PKPbc**		**06 03 18.5**	**-1.4**	
BTNL				*dx*	x		06 03 37.1		
BTNL				*dp*PKP	**pPKPab**		**06 04 28.7**	**+4.5**	
BSTI	**Sart Tilman**	**147.60**	**359**	*d*PKPbc	**PKPbc**		**06 03 20.6**	**+0.7**	
BSTI				*dx*	x		06 03 38.2		
KRUC	**Moravsky**	**147.69**	**345**	*e*PKP	**PKPbc**		**06 03 20.5**	**+0.3**	
SECR		**147.73**	**331**	⇑P	**PKPbc**		**06 03 21.0**	**+0.6**	
DRGR		**147.75**	**336**	⇓P	**PKPbc**		**06 03 20.7**	**+0.2**	
DRGR		**147.75**	**336**	⇓PKP2	**PKPbc**		**06 03 20.7**	**+0.2**	
PSZ	**Piszkesteto**	**147.76**	**341**	⇓P	**PKPbc**		**06 03 21.2**	**+0.7**	
PSZ	**Piszkesteto**	**147.76**	**341**	⇓PKP2	**PKPbc**		**06 03 21.2**	**+0.7**	
PSZ	**Piszkesteto**	**147.76**	**341**	PKP	**PKPbc**		**06 03 21.0**	**+0.5**	
BCLA	**Clavier**	**147.77**	**359**	*d*PKPab	**PKPab**		**06 03 23.3**	**-0.1**	
BHOU	**Houvegnez**	**147.82**	**358**	*d*PKP	**PKPbc**		**06 03 21.4**	**+0.9**	
BHOU				*d*PKPab	**PKPab**		**06 03 24.1**	**+0.4**	
BHOU				*dx*	x		06 03 31.1		
BHOU				*dx*	x		06 03 38.9		
BHOU				*dp*PKP	**pPKPab**		**06 04 26.7**	**+1.5**	
VOIR		**147.88**	**332**	⇑P	**PKiKP**		**06 03 21.8**	**-0.8**	
VOIR		**147.88**	**332**	⇑PKP2	**PKiKP**		**06 03 21.8**	**-0.8**	
BMRD	**Maredsous**	**147.89**	**360**	*d*PKPbc	**PKPbc**		**06 03 21.0**	**+0.4**	
BMRD				*dp*PKP	**pPKPab**		**06 04 26.1**	**+0.7**	
SMOL	**Smolenice**	**147.94**	**344**	*e*PKP2	**PKiKP**		**06 03 22.3**	**-0.3**	
RCHB	**Rochefort**	**148.03**	**359**	*d*PKP	**PKPbc**		**06 03 21.7**	**+0.6**	
RCHB				*d*PKPab	**PKPab**		**06 03 24.1**	**-0.4**	
RCHB				*dx*	x		06 03 29.2		
RCHB				*dx*	x		06 03 37.8		
RCHB				*dp*PKP	**pPKPab**		**06 04 29.0**	**+3.1**	
H10N3	**ASCENSION HYDR**	**148.04**	**142**	PKPbc	**PKPbc**		**06 03 22.5**	**+0.7**	
	baz=222,slow=4.5,SNR=4.6								
H10N1	**ASCENSION HYDR**	**148.05**	**142**	PKPbc	**PKPbc**		**06 03 22.5**	**+0.7**	
	baz=222,slow=4.5,SNR=5.6								
H10N2	**ASCENSION HYDR**	**148.06**	**142**	PKPbc	**PKPbc**		**06 03 22.5**	**+0.7**	
	baz=222,slow=4.5,SNR=4.7								
DOU	**Dourbes**	**148.09**	**0**	*d*PKPbc	**PKPbc**		**06 03 21.6**	**+0.4**	
DOU				*d*PKPab	**PKPab**		**06 03 24.6**	**-0.2**	
DOU				*dx*	x		06 03 39.7		
DOU				*dp*PKP	**pPKPab**		**06 04 30.4**	**+4.1**	
MODS	**Modra-Piesok**	**148.10**	**344**	*e*PKP2	**PKiKP**		**06 03 22.7**	**-0.2**	
MODS	**Modra-Piesok**	**148.10**	**344**	*e*PKP	**PKiKP**		**06 03 22.7**	**-0.2**	
MODS				*e*			06 03 26.0		
ARR	**Arges**	**148.12**	**333**	⇓P	**PKiKP**		**06 03 22.6**	**-0.5**	
KHC	**Kasperske Hory**	**148.22**	**349**		**PKPbc**		**06 03 22.0**	**+0.3**	
KHC	**Kasperske Hory**	**148.22**	**349**	*e*PKP2	**PKPbc**		**06 03 21.1**	**-0.6**	
KHC	**Kasperske Hory**	**148.22**	**349**	*e*PKP	**PKPbc**		**06 03 21.1**	**-0.6**	
KHC				*ex*	x		06 03 25.4		
KHC				*ex*	x		06 03 38.0		
KHC				*ex*	x		06 04 09.0		
KHC				*ex*	x		06 04 28.0		
MBAR	**Mbarara**	**148.28**	**237**		**PKiKP**		**06 03 23.9**	**-0.6**	
MBAR	**Mbarara**	**148.28**	**237***c*	*i*PKP2	**PKiKP**		**06 03 24.2**	**-0.3**	
MBAR				pmax	pmax				
	comp=Z,15nm,1.3s								
ZST	**Bratislava**	**148.31**	**344**	*e*PKP2	**PKiKP**		**06 03 22.9**	**-0.4**	
ZST	**Bratislava**	**148.31**	**344**	*e*PKP	**PKiKP**		**06 03 22.9**	**-0.4**	
ZST				*e*			06 03 26.6		
SRO	**Srobarova**	**148.33**	**342**	*e*PKP2	**PKPab**		**06 03 22.6**	**+1.3**	
SRO	**Srobarova**	**148.33**	**342**	*e*PKP	**PKPab**		**06 03 27.1**	**+1.3**	
CKRC	**Cesky Krumlov**	**148.38**	**348**	*e*PKP	**PKPbc**		**06 03 21.3**	**-0.7**	
CKRC				*ex*	x		06 03 22.6		
CKRC				*ex*	x		06 03 39.0		
BUD	**Budapest**	**148.41**	**341**	PKP	**PKiKP**		**06 03 24.0**	**+0.5**	
LOT	**Lotru**	**148.42**	**334**	⇑P	**PKPbc**		**06 03 22.3**	**-0.1**	
DEV	**Deva**	**148.42**	**335**	⇑P	**PKiKP**		**06 03 23.7**	**+0.1**	
DEV	**Deva**	**148.42**	**335**	⇑PKP2	**PKiKP**		**06 03 23.7**	**+0.1**	
GERES	**GERESS Array B**	**148.47**	**348**	PKPbc	**PKPbc**		**06 03 22.9**	**+0.6**	
	comp=Z,9.4nm,0.7s,baz=68,slow=12,SNR=75								
GERES				pPKPbc	**pPKPab**		**06 04 28.0**	**0.0**	
	comp=Z,4.6nm,0.9s,baz=64,slow=3.1,SNR=2.1								
GERES	**GERESS Array B**	**148.47**	**348**	PKPbc	**PKPbc**		**06 03 23.1**	**+0.7**	
WLF	**Walferdange**	**148.50**	**358**	*d*PKP	**PKiKP**		**06 03 22.6**	**-0.1**	
WLF				*dx*	x		06 03 40.6		
SIRR	**Siria**	**148.58**	**337**	⇑P	**PKPbc**		**06 03 23.3**	**+0.6**	
RAZG	**Razgrad**	**148.62**	**329**	⇑P	**PKPbc**		**06 03 23.0**	**+0.2**	
CSKK	**Cskako**	**148.75**	**342**	PKP	**PKiKP**		**06 03 24.1**	**-0.1**	
GZR	**Gura Zlata**	**148.87**	**335**	⇑P	**PKPbc**		**06 03 23.7**	**+0.2**	
GZR	**Gura Zlata**	**148.87**	**335**	⇑PKHKP	PKPpre		06 03 23.7		
CONA	**Conrad Observa**	**148.88**	**345**	*i* P	**PKiKP**		**06 03 24.2**	**-0.5**	
	comp=Z,14nm,0.7s,SNR=32								
CONA				*e*P	**PKPab**		**06 03 28.6**	**+0.5**	
	comp=Z,43nm,0.8s								
SOP	**Sopron**	**148.93**	**344**	PKP	**PKiKP**		**06 03 25.0**	**+0.4**	
EGYH	**Egyhazaskeszo**	**148.97**	**343**	PKP	**PKiKP**		**06 03 25.0**	**+0.3**	
RONA	**Rosalia, Austr**	**148.98**	**345**	*i* P	**PKiKP**		**06 03 24.4**	**-0.4**	
	comp=Z,21nm,0.8s,SNR=36								
RONA				*e*P	**PKPab**		**06 03 29.6**	**+1.1**	
	comp=Z,81nm,0.8s								
SZH	**Strazhica**	**149.12**	**329**	P	**PKPbc**		**06 03 24.1**	**+0.1**	
MPLH	**Magyarpolny**	**149.13**	**343**	PKP	**PKiKP**		**06 03 24.8**	**-0.3**	
BZS	**Buzias**	**149.14**	**336**	⇑P	**PKPbc**		**06 03 24.5**	**+0.5**	
BZS	**Buzias**	**149.14**	**336**	⇑PKP2	**PKPbc**		**06 03 24.5**	**+0.5**	
TIH	**Tihany**	**149.28**	**342**	PKP	**PKPab**		**06 03 29.0**	**-0.6**	
SRE	**Strehaia**	**149.29**	**334**	⇑P	**PKiKP**		**06 03 25.4**	**-0.1**	
SRE	**Strehaia**	**149.29**	**334**	⇑PKP2	**PKiKP**		**06 03 25.4**	**-0.1**	
MOA	**Molln**	**149.31**	**347**	*e*P	**PKPbc**		**06 03 24.9**	**+0.5**	
	comp=Z,4.1nm,0.7s								
MOA				*e*P	**PKPab**		**06 03 30.7**	**+0.9**	
	comp=Z,31nm,0.9s								
HERR	**Herculane**	**149.44**	**335**	⇓P	**PKPbc**		**06 03 24.9**	**+0.1**	
PVL	**Pavlikeni**	**149.45**	**329**	P	**PKiKP**		**06 03 26.2**	**+0.4**	
BIOA	**Bad Ischl, Aus**	**149.59**	**348**	*e*P	**PKPbc**		**06 03 25.5**	**+0.4**	
	comp=Z,7.1nm,0.7s								
BIOA				*e*P	**PKPab**		**06 03 31.6**	**+0.7**	
	comp=Z,60nm,0.9s								
ARSA	**Arzberg**	**149.59**	**345**	*e*P	**PKPbc**		**06 03 25.6**	**+0.5**	
	comp=Z,18nm,0.9s								
ARSA				*e*P	**PKPab**		**06 03 31.6**	**+0.6**	
	comp=Z,23nm,0.8s								
MORH	**Mrgy, Hungar**	**149.66**	**341**	⇑P	**PKPbc**		**06 03 25.6**	**+0.4**	
MORH	**Mrgy, Hungar**	**149.66**	**341**	PKP	**PKPbc**		**06 03 25.4**	**+0.2**	
BFO	**Black Forest**	**149.71**	**355**		**PKPbc**		**06 03 25.0**	**-0.3**	
BFO	**Black Forest**	**149.71**	**355**	PKHKP	PKPpre		06 03 25.0		
MDVR	**Moldovita**	**149.81**	**335**	⇓P	**PKPbc**		**06 03 26.1**	**+0.3**	
KOVH	**Kovagototos**	**149.95**	**341**	PKP	**PKPbc**		**06 03 26.2**	**+0.2**	
MPEP	**Malo Peshtene**	**150.09**	**331**	P	**PKiKP**		**06 03 27.5**	**+0.3**	
KOGS	**Kog**	**150.15**	**344**	*i* PKPab	**PKPab**		**06 03 33.4**	**+0.1**	
FRGS	**Fruska Gora**	**150.20**	**338**	⇑P	**PKiKP**		**06 03 27.3**	**0.0**	
DIM	**Dimitrovgrad**	**150.21**	**328**	P	**PKiKP**		**06 03 27.5**	**+0.1**	
KBA	**Koelnbreinsper**	**150.23**	**348**	*i* P	**PKPbc**		**06 03 26.5**	**-0.3**	
	comp=Z,3.9nm,0.4s,SNR=6.3								
KBA				*e*P	**PKPab**		**06 03 35.0**	**+1.2**	
	comp=Z,28nm,0.8s								
SOKA	**Soboth**	**150.25**	**345**	*i* P	**PKPbc**		**06 03 26.8**	**0.0**	
	comp=Z,2.0nm,0.3s,SNR=6.3								
SOKA				*e*P	**PKPab**		**06 03 34.0**	**+0.2**	
	comp=Z,38nm,0.8s								
RETA	**Reutte**	**150.28**	**352**	*e*P	**PKiKP**		**06 03 27.3**	**-0.2**	
	comp=Z,16nm,1.0s								
RETA				*e*P	**PKPab**		**06 03 34.1**	**+0.3**	
	comp=Z,42nm,1.0s

WRMHI	**West Rim**	**0.29**	**93**	IAML			06 04 51.4		
	comp=N,1μm,0.5s								
CPH	**Captain Cook**	**0.30**	**283**			Pg	06 04 44.8	+0.5	
UWE	**Uwekahuna**	**0.30**	**90**	Pg		Pg	06 04 44.1	-0.3	
UWE				IAML			06 04 51.2		
	comp=N,1μm,0.5s								
SDHHI	**Sand Hill**	**0.30**	**96**			Pg	06 04 44.4	0.0	
SDHHI	**Sand Hill**	**0.30**	**96**	IAML			06 04 50.0		
	comp=N,1μm,0.3s								
SDHHI				IAML			06 04 50.0		
	comp=E,992nm,0.6s								
OBL	**Observatory Le**	**0.31**	**91**			Pg	06 04 44.5	0.0	
OBL	**Observatory Le**	**0.31**	**91**	IAML			06 04 53.0		
	comp=E,2μm,0.7s								
OBL				IAML			06 04 55.0		
	comp=N,2μm,0.5s								
HLP	**Hilina Pali**	**0.31**	**114**			Pg	06 04 44.6	+0.1	
HLP	**Hilina Pali**	**0.31**	**114**	IAML			06 04 51.9		
	comp=N,1μm,0.6s								
HLP				IAML			06 04 52.1		
	comp=E,1μm,0.5s								
KHLU	**Kahalu`u**	**0.31**	**302**			Pb	06 04 45.2	-0.5	
KHLU	**Kahalu`u**	**0.31**	**302**	IAML			06 04 51.9		
	comp=N,1μm,0.1s								
KHLU				IAML			06 04 55.1		
	comp=E,2μm,0.4s								
UWB	**Uwekahuna B**	**0.32**	**90**			Pg	06 04 44.5	-0.1	
UWB						Sg	06 04 49.1	+0.1	
RSD	**Rainshed**	**0.32**	**83**			Pb	06 04 45.3	-0.5	
RIM	**Rim**	**0.32**	**95**			Pg	06 04 44.6	0.0	
RIM	**Rim**	**0.32**	**95**	IAML			06 04 55.1		
	comp=N,938nm,0.6s								
SBLHI	**Steaming Bluff**	**0.33**	**89**			Pg	06 04 44.7	-0.1	
SBLHI	**Steaming Bluff**	**0.33**	**89**	IAML			06 04 53.4		
	comp=N,828nm,0.4s								
KKO	**Keanakako`i**	**0.33**	**94**			Pg	06 04 44.8	0.0	
KKO	**Keanakako`i**	**0.33**	**94**	IAML			06 04 51.8		
	comp=E,670nm,0.8s								
KKO				IAML			06 04 54.0		
	comp=N,1μm,0.7s								
HATHI	**Halema'uma'u T**	**0.33**	**90**			Pg	06 04 44.8	-0.1	
HATHI	**Halema'uma'u T**	**0.33**	**90**	IAML			06 04 55.9		
	comp=N,589nm,0.5s								
HUH	**Hualalai**	**0.34**	**321**			Pb	06 04 46.1	0.0	
POHA	**Pohakuloa**	**0.34**	**13**			Pg	06 04 45.5	+0.4	
POHA				IAML			06 04 55.9		
	comp=N,452nm,0.4s								
POHA				IAML			06 04 56.7		
	comp=N,536nm,0.8s								
PUH	**Pauahi**	**0.38**	**97**			Pg	06 04 45.4	-0.3	
PUH	**Pauahi**	**0.38**	**97**	IAML			06 04 52.1		
	comp=E,336nm,0.8s								
PUH				IAML			06 04 52.8		
	comp=N,461nm,0.7s								
KNHH	**Kane Nui o Ham**	**0.42**	**96**			Pg	06 04 46.2	-0.3	
JCUZ	**Jacuzzi**	**0.48**	**95**			Pg	06 04 47.8	+0.1	
JCUZ						Sb	06 04 54.9	-0.7	
JCUZ	**Jacuzzi**	**0.48**	**95**	IAML			06 05 03.6		
	comp=N,387nm,0.7s								
JCUZ				IAML			06 05 04.5		
	comp=E,504nm,0.6s								
JOKA	**Jonika Flow**	**0.57**	**89**			Pg	06 04 48.8	-0.5	
HPAH	**Hawaii Prepara**	**0.61**	**352**	Pg		Pg	06 04 49.2	-0.9	

*AUST **21** 06:06:38.1±0.3,22.2°45S×148.2°5E,h0km,Error ellipse: s-maj=6.7km s-min=2.1km az=45.0*
*IDC **21** 06:06:39.1±8.6,22.2°47S×148.2°1E,h0km,mbtmp2.8/2, ML2.7/1,Error ellipse: s-maj=96.9km s-min=65.2km az=179.0*
ISC 21 06:06:39.2±1.1,22°3S±0.2°×148°5E±0.1,h10km,n7, σ1s10/6,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AUNRC	**North Rockhamp**	**2.16**	**119**	P		**Pb**	**06 07 17.9**	**-0.6**
	baz=2.3							
CTA	**Charters Tower**	**3.03**	**316**	P		**Pn**	**06 07 26.6**	**-0.6**
	baz=3.0							
CTA				S		**Sn**	**06 08 05.1**	**+1.6**
	baz=3.0							
EIDS	**Eidsvold**	**3.87**	**142**	P		**Pn**	**06 07 39.3**	**+0.5**
	baz=3.9							
MTSU	**Mount Surprise**	**5.70**	**316**	P		**Pn**	**06 08 03.6**	**-0.3**
	baz=5.7							
WRA	**Warramunga Arr**	**13.40**	**278**	Pn		Pn	06 09 45.8	-3.7
	baz=102,slow=11,SNR=1.9							
WRA				Lg		Lg	06 13 37.6	
	baz=104,slow=28,SNR=5.6 0.1nm,0.5s							
ASAR	**Alice Springs**	**13.49**	**261**	Pn		**Pn**	**06 09 50.4**	**-0.4**
	0.1nm,0.3s,baz=91,slow=13,SNR=1.8							
ASAR				Lg		Lg	06 13 38.6	
	baz=89,slow=28,SNR=2.7							
I22FR	**PORTLAGUERRE I17.01**	**93**	*i*				07 51 00.0	
	baz=265,slow=307,SNR=2.6							

*VAO **21** 06:07:59.4±0.3,24.2°20S×67.2°09W,h185km,mb4.1*
*IDC **21** 06:08:00.8±1.1,24.2°14S×66.2°89W,h180km±9km,mb3.6/10, mbtmp4.1/16,Error ellipse: s-maj=17.2km s-min=12.1km az=33.0*
*SJA **21** 06:08:00.4±0.6,24.2°24S×67.2°04W,h196km±4km,ML4.4, MW4.1*
*NEIC **21** 06:08:00.6±2.5,24.2°26S±0.2°07×67.2°00W±0.2°09,h185km±7km, mb4.4/17,ML4.5(GUC),ML4.3(SJA),Error ellipse: s-maj=12.3km s-min=10.0km az=85.0*
*GUC **21** 06:08:01.7±0.8,24.2°20S×67.2°36W,h223km±8km,ML4.5*
ISC 21 06:08:00.7±0.6,24°20S±0.04×67°06W±0.04,h191km±6km, n138,σ1s11/156,mb4.1/16,10C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLA	**San Lorenzo**	**1.51**	**110**	*e*P		**Pn**	**06 08 34.4**	**+0.4**
SLA				*e*S		**Sn**	**06 08 59.7**	**0.0**
AF01	**San Pedro de A**	**1.61**	**320**			**Pn**	**06 08 36.6**	**+1.5**
AF01	**San Pedro de A**	**1.61**	**320**	*e*P		**Pn**	**06 08 36.5**	**+1.4**
AF01				*e*S		**Sn**	**06 09 04.1**	**+2.4**
HJA	**Humahuaca**	**1.81**	**57**	*e*P		**Pn**	**06 08 37.8**	**+0.7**
HJA				*e*S		**Sn**	**06 09 06.0**	**+0.8**
LVC	**Limon Verde**	**2.32**	**313**	P		**Pn**	**06 08 43.6**	**+1.1**
	109nm,0.3s,baz=172,slow=7.9,SNR=683							
LVC				S		**Sn**	**06 09 15.2**	**+0.2**
	401nm,0.4s,baz=321,slow=18,SNR=57							
LVC	**Limon Verde**	**2.32**	**313**	*i*P		**Pn**	**06 08 43.6**	**+1.1**
LVC				*e*S		**Sn**	**06 09 14.8**	**-0.2**
LVC	**Limon Verde**	**2.32**	**313**	*e*P		**Pn**	**06 08 43.6**	**+1.1**
LVC				*e*S		**Sn**	**06 09 15.5**	**+0.6**
PB15	**IPOC Station P**	**2.42**	**294**			**Pn**	**06 08 44.6**	**+1.1**
PB15	**IPOC Station P**	**2.42**	**294**	*i*P		**Pn**	**06 08 44.4**	**+0.9**
PB15				*e*S		**Sn**	**06 09 16.2**	**-0.4**
PB15	**IPOC Station P**	**2.42**	**294**	*e*P		**Pn**	**06 08 44.5**	**+1.1**
PB15				*e*S		**Sn**	**06 09 16.8**	**+0.2**
PB15				IAML			06 09 19.5	
	comp=Z,4μm,0.2s							
YJA	**Yavi**	**2.47**	**36**	*e*P		**Pn**	**06 08 45.5**	**+1.2**
YJA				*e*S		**Sn**	**06 09 19.0**	**+1.0**
GO02	**Mina Guanaco**	**2.49**	**247**			**Pn**	**06 08 45.0**	**+0.7**
GO02	**Mina Guanaco**	**2.49**	**247**	*i*P		**Pn**	**06 08 44.9**	**+0.6**
GO02				*e*S		**Sn**	**06 09 18.3**	**0.0**
GO02				IAML			06 09 19.3	
	comp=E,2μm,0.5s							
GO02	**Mina Guanaco**	**2.49**	**247**	*e*P		**Pn**	**06 08 45.0**	**+0.7**
GO02				*e*S		**Sn**	**06 09 17.5**	**-0.8**
PB06	**IPOC Station P**	**2.74**	**302**			**Pn**	**06 08 48.1**	**+0.9**
PB06	**IPOC Station P**	**2.74**	**302**	*i*P		**Pn**	**06 08 48.0**	**+0.9**
PB06				*e*S		**Sn**	**06 09 22.3**	**-0.9**
PB06				IAML			06 09 25.1	
	comp=E,1μm,0.4s							
PB06	**IPOC Station P**	**2.74**	**302**	*e*P		**Pn**	**06 08 47.9**	**+0.8**
PB06				*e*S		**Sn**	**06 09 23.2**	**0.0**
PB06				IAML			06 09 24.3	
	comp=Z,895nm,0.5s							
PB14	**IPOC Station P**	**3.08**	**261**			**Pn**	**06 08 51.4**	**+0.1**
PB14	**IPOC Station P**	**3.08**	**261**	*i* P		**Sn**	**06 08 51.3**	**+0.1**
PB14				*e*S		**Sn**	**06 09 28.3**	**-2.2**
PB14				IAML			06 09 36.3	
	comp=E,282nm,0.4s							
PB14	**IPOC Station P**	**3.08**	**261**	*e*P		**Pn**	**06 08 51.8**	**+0.6**
PB14				*e*S		**Sn**	**06 09 29.9**	**-0.6**
PB14				IAML			06 09 39.4	
	comp=Z,332nm,0.5s							
PB09	**IPOC Station P**	**3.12**	**320**			**Pn**	**06 08 52.9**	**+1.2**
PB09	**IPOC Station P**	**3.12**	**320**	*i*P		**Pn**	**06 08 52.8**	**+1.2**
PB09				*e*S		**Sn**	**06 09 31.0**	**-0.3**
PB09				IAML			06 09 33.2	
	comp=N,630nm,0.5s							
PB09	**IPOC Station P**	**3.12**	**320**	*e*P		**Pn**	**06 08 52.9**	**+1.2**
PB09				*e*S		**Sn**	**06 09 31.5**	**+0.1**
PB09				IAML			06 09 36.9	
	comp=Z,506nm,0.5s							
AC02	**Maricunga**	**3.22**	**215**			**Pn**	**06 08 53.7**	**+0.6**
AC02	**Maricunga**	**3.22**	**215**	*i*P		**Pn**	**06 08 53.6**	**+0.5**
AC02	**Maricunga**	**3.22**	**215**	*e*P		**Pn**	**06 08 53.8**	**+0.6**
AC02				*e*S		Sn	06 09 18.0	-16
PB04	**IPOC Station P**	**3.39**	**303**			**Pn**	**06 08 55.3**	**+0.4**
PB04	**IPOC Station P**	**3.39**	**303**	*i*P		**Pn**	**06 08 55.0**	**+0.1**
PB04				*e*S		**Sn**	**06 09 34.9**	**-2.3**
PB04	**IPOC Station P**	**3.39**	**303**	*e*P		**Pn**	**06 08 55.5**	**+0.6**
PB04				*e*S		**Sn**	**06 09 36.7**	**-0.6**
PB04				IAML			06 09 38.9	
	comp=Z,562nm,0.5s							
PB07	**IPOC Station P**	**3.58**	**313**			**Pn**	**06 08 57.5**	**+0.2**
PB07	**IPOC Station P**	**3.58**	**313**	*i*P		**Pn**	**06 08 57.5**	**+0.2**
PB07				*e*S		**Sn**	**06 09 38.8**	**-2.6**
AC01	**Pan de Azucar**	**3.75**	**238**			**Pn**	**06 08 58.2**	**-0.8**
AC01	**Pan de Azucar**	**3.75**	**238**	*i*P		**Pn**	**06 08 58.2**	**-0.8**
PB01	**IPOC Station P**	**3.86**	**324**			**Pn**	**06 09 00.6**	**0.0**
PB02	**IPOC Station P**	**3.88**	**317**			**Pn**	**06 09 00.8**	**-0.1**
PB02	**IPOC Station P**	**3.88**	**317**	*i*P		**Pn**	**06 09 00.5**	**-0.4**
PB02				*e*S		**Sn**	**06 09 45.1**	**-2.9**
AC06	**Mina Casimiro**	**4.33**	**223**	Pn		**Pn**	**06 09 04.9**	**-1.4**
PATCX	**Punta Patache**	**4.41**	**319**			**Pn**	**06 09 07.7**	**+0.1**
PB08	**IPOC Station P**	**4.48**	**334**	Pn		**Pn**	**06 09 09.3**	**+0.6**
TA01	**Diego Aracena**	**4.63**	**321**	Pn		**Pn**	**06 09 10.4**	**+0.2**
AC04	**Llanos de Chal**	**5.38**	**221**	Pn		**Pn**	**06 09 18.2**	**-1.6**
LCO	**Las Campanas**	**5.79**	**213**			**Pn**	**06 09 24.0**	**-1.5**
PB16	**IPOC Station P**	**6.26**	**338**			**Pn**	**06 09 31.6**	**-0.3**
PB12	**IPOC Station P**	**6.34**	**331**			**Pn**	**06 09 31.1**	**-1.3**
GO04	**Tololo Observa**	**6.82**	**208**	Pn		**Pn**	**06 09 36.3**	**-2.4**
LPAZ	**La Paz**	**7.94**	**353**	P		**Pn**	**06 09 54.3**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=139,slow=7.0,SNR=33							
LPAZ				S		**Sn**	**06 11 21.3**	**-2.2**
	comp=Z,2.4nm,0.7s,baz=285,slow=20,SNR=2.0							
LPAZ	**La Paz**	**7.94**	**353**	*e*P		**Pn**	**06 09 51.5**	**-2.3**
CPUP	**Villa Florida**	**9.06**	**106**	P		**Pn**	**06 10 06.3**	**-1.6**
	comp=Z,4.1nm,0.7s,baz=287,slow=12,SNR=9.4							
SIV	**San Ignacio**	**9.91**	**36**	P		**Pn**	**06 10 17.1**	**-2.1**
	comp=Z,3.5nm,0.5s,baz=211,slow=10,SNR=30							
ANTJ	**Antonio Joao (**	**10.41**	**80**	*e*P		**Pn**	**06 10 23.7**	**-1.8**
ITQB	**Itaqui**	**10.79**	**123**	*e*P		**Pn**	**06 10 28.9**	**-1.3**
AQDB	**Aquidauana**	**11.15**	**73**	*e*P		**Pn**	**06 10 33.1**	**-1.9**
PTLB	**Pontes e Lacer**	**11.46**	**42**	*e*P		**Pn**	**06 10 37.4**	**-1.6**
UNIS	**Unistalda (Bra**	**11.77**	**117**	*e*P		**Pn**	**06 10 41.6**	**-1.2**
CRSM	**Crissiumal (Br**	**12.17**	**108**	*e*P		**Pn**	**06 10 48.4**	**+0.3**
RODS	**Rosario do Sul**	**12.20**	**123**	*e*P		**Pn**	**06 10 47.9**	**-0.4**
RPRD	**Ribas do Rio P**	**12.90**	**76**	*e*P		**Pn**	**06 10 57.8**	**+0.4**
VILB	**Vilhena**	**12.93**	**31**	*e*P		**Pn**	**06 10 58.1**	**+0.3**
TRCB	**Terra Rica**	**13.31**	**87**	*e*P		**Pn**	**06 11 02.4**	**-0.2**
ALGR	**Alto Alegre (B**	**13.37**	**113**	*e*P		**Pn**	**06 11 04.0**	**+0.7**
SALV	**Santo Antonio**	**13.49**	**54**	*e*P		**Pn**	**06 11 05.7**	**+0.9**
CPSB	**Cacapava Do Su**	**13.59**	**120**	*e*P		**Pn**	**06 11 04.5**	**-1.4**
PTGB	**Pitanga**	**13.67**	**95**	*e*P		**Pn**	**06 11 06.7**	**-0.4**
ITAB	**Concordia**	**13.79**	**106**	*e*P		**Pn**	**06 11 08.9**	**+0.5**
H03N1	**Juan Fernandez**	**13.87**	**226**	T		T	06 23 13.5	
	baz=43,slow=72,SNR=5.2							
H03N2	**Juan Fernandez**	**13.88**	**226**	T		T	06 23 15.1	
	baz=43,slow=72,SNR=3.6							
H03N3	**Juan Fernandez**	**13.89**	**226**	T		T	06 23 10.3	
	baz=43,slow=72,SNR=4.6							
PLTB	**Pedras Altas**	**14.07**	**125**	*e*P		**Pn**	**06 11 11.1**	**-0.7**
ETMB	**Extrema**	**14.33**	**3**	*e*P		**Pn**	**06 11 14.4**	**-0.7**
TRQA	**Tornquist**	**14.48**	**164**	P		**Pn**	**06 11 15.4**	**-1.5**
TRQA	**Tornquist**	**14.48**	**164**	*e*P		**Pn**	**06 11 16.4**	**-0.5**
PCMB	**Pacaembu**	**14.79**	**83**	*e*P		**Pn**	**06 11 19.5**	**-1.3**
CNLB	**Canela**	**15.34**	**113**	*e*P		**Pn**	**06 11 26.2**	**-1.4**
GO06	**Curarrehue**	**15.79**	**193**	P		**P**	**06 11 32.5**	**-0.4**
GO06				IAmb		IAmb	06 11 34.6	
	comp=Z,15nm,1.2s							
PDRB	**Porto dos Gac**	**15.90**	**40**	*e*P		**Pn**	**06 11 34.8**	**+0.3**
ITRB	**Iturama**	**16.12**	**77**	*e*P		**Pn**	**06 11 36.8**	**-0.3**
TIJ01	**Guaruva-PR**	**16.44**	**98**	*e*P		**P**	**06 11 38.1**	**-2.2**
LR04	**Corral**	**16.53**	**197**	P		**P**	**06 11 41.5**	**+0.6**
TER01	**Tubaro-SC**	**16.64**	**109**	*e*P		**P**	**06 11 41.4**	**-0.8**
PLCA	**Paso Flores**	**16.75**	**189**	P		**P**	**06 11 44.3**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=9.3,slow=12,SNR=7.3							
PLCA	**Paso Flores**	**16.75**	**189**	*e*P		**P**	**06 11 42.2**	**-1.2**
CLDB	**Colider**	**17.04**	**41**	*e*P		**P**	**06 11 46.0**	**-0.8**
CZSB	**Cruzeiro do Su**	**17.25**	**341**	*e*P		**P**	**06 11 48.5**	**-0.6**
BB19B	**Bebedouro**	**17.39**	**83**	*e*P		**P**	**06 11 50.1**	**-0.5**
RCLB	**Rio Claro- Sao**	**18.03**	**88**	*e*P		**P**	**06 11 56.9**	**-0.6**
PET01	**Itanhaem-SP**	**18.05**	**94**	*e*P		**P**	**06 11 56.5**	**-1.1**
VAO	**Valinhos**	**18.46**	**90**	*e*P		**P**	**06 12 01.3**	**-1.0**
IPMB	**Ipameri, GO**	**18.64**	**74**	*e*P		**P**	**06 12 03.7**	**-0.5**
SNDB	**Serra Nova Dou**	**19.27**	**54**	*e*P		**P**	**06 12 10.0**	**-1.1**
LL02	**Futaleuf**	**19.35**	**191**	P		**P**	**06 12 12.6**	**+0.9**
LL02				IAmb		IAmb	06 12 15.5	
	comp=Z,18nm,0.8s							
PARB	**Paranaiba**	**19.64**	**92**	*e*P		**P**	**06 12 15.2**	**+0.2**
BDFB	**Brasilia**	**19.81**	**68**	P		**P**	**06 12 16.5**	**-0.5**
	comp=Z,6.8nm,0.4s,baz=238,slow=10.0,SNR=18							
BDFB	**Brasilia**	**19.81**	**68**	P		**P**	**06 12 16.5**	**-0.5**
BDFB				IAmb		IAmb	06 12 17.6	
	comp=Z,13nm,0.9s							
BDFB	**Brasilia**	**19.81**	**68**	*e*P		**P**	**06 12 16.4**	**-0.6**
PMNB	**Patos De Minas**	**20.01**	**78**	*e*P		**P**	**06 12 18.9**	**-0.1**
TBTG	**Tabatinga, AM**	**20.09**	**352**	*e*P		**P**	**06 12 18.6**	**-1.1**
BSCB	**Bom Sucesso**	**20.82**	**86**	*e*P		**P**	**06 12 27.0**	**-0.6**
COYC	**Coyhaique**	**21.71**	**190**	P		**P**	**06 12 37.0**	**+0.4**
COYC				IAmb		IAmb	06 12 44.4	
	comp=Z,16nm,1.2s							
ITTB	**Itaituba**	**22.54**	**31**	*e*P		**P**	**06 12 43.1**	**-1.6**
DIAM	**Diamantina, MG**	**22.56**	**79**	*e*P		**P**	**06 12 44.2**	**-1.0**
JANB	**Januaria**	**23.25**	**71**	*e*P		**P**	**06 12 50.0**	**-1.2**
SDBA	**SAO DESIDERIO**	**24.04**	**65**	*e*P		**P**	**06 12 57.4**	**-1.1**
SMTB	**Santa Maria do**	**24.05**	**54**	*e*P		**P**	**06 12 58.4**	**-0.2**
PRPB	**Parauapebas**	**24.41**	**46**	*e*P		**P**	**06 13 01.7**	**-0.1**
MALB	**Monte Alegre**	**25.43**	**31**	*e*P		**P**	**06 13 09.1**	**-1.9**
NAN01	**Guarapari, ES**	**25.90**	**81**	*e*P		**P**	**06 13 13.8**	**-1.4**
GUA01	**Guaratinga, BA**	**26.61**	**79**	*e*P		**P**	**06 13 20.2**	**-1.5**
CMC01	**Camacan, BA**	**27.32**	**76**	*e*P		**P**	**06 13 27.0**	**-1.0**
GDU01	**Guandu, BA**	**27.95**	**73**	*e*P		**P**	**06 13 31.9**	**-1.7**
TMAB	**Tom-Au,PA,Br**	**28.41**	**43**	*e*P		**P**	**06 13 37.0**	**-0.6**
NBLA	**Lagarto - SE**	**30.76**	**70**	*e*P		**P**	**06 13 56.6**	**-1.7**
BELA	**Belgrano 2**	**55.85**	**172**	P		**P**	**06 17 17.1**	**-0.7**
VNA3	**Neumayer Olymp**	**56.98**	**161**	P		**P**	**06 17 26.8**	**+0.9**
VNA1	**Neumayer--Stat**	**57.18**	**160**	P		**P**	**06 17 28.5**	**+1.3**
VNA2	**Neumayer--Watz**	**57.55**	**160**	P		**P**	**06 17 30.7**	**+0.8**
	baz=275,slow=7.0							
SNAA	**Sanae**	**59.18**	**161**	P		**P**	**06 17 41.8**	**+0.6**
VBMS	**Vicksburg**	**60.41**	**337**	P		**P**	**06 17 50.5**	**+0.6**
TROLL	**Troll, Antarti**	**60.90**	**161**	P		**P**	**06 17 53.9**	**+1.0**
TKL	**Tuckaleechee C**	**61.60**	**345**	P		**P**	**06 17 58.4**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=173,slow=8.0,SNR=4.5							
	comp=Z,1.2nm,0.5s							
JCT	**Junction City**	**62.78**	**328**	P		**P**	**06 18 06.2**	**+0.3**
JCT				IAmb		IAmb	06 18 08.0	
	comp=Z,4.1nm,0.7s							
TXAR	**Lajitas Array**	**63.81**	**325**	P		**P**	**06 18 14.4**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=149,slow=8.4,SNR=5.9							
	comp=Z,0.3nm,0.5s							
QSPA	**South Pole Qui**	**66.01**	**180**	P		**P**	**06 18 27.8**	**+1.3**
QSPA				IAmb		IAmb	06 18 28.4	
	comp=Z,5.0nm,0.6s							
P38A	**Dawn**	**68.14**	**338**	IAmb		IAmb	06 18 41.4	
	comp=Z,6.0nm,0.9s							
ANMO	**Albuquerque**	**69.68**	**326**	P		**P**	**06 18 52.4**	**+2.5**
	comp=Z,1.1nm,0.6s,baz=146,slow=8.5,SNR=6.7							
	comp=Z,1.1nm,0.6s							
KNB	**Kanab**	**74.60**	**324**	IAmb		IAmb	06 19 23.7	
	comp=Z,6.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P		**P**	**06 19 31.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=258,slow=5.2,SNR=14							
	comp=Z,1.1nm,0.6s							
PDAR	**Pinedale Array**	**77.29**	**329**	P		**P**	**06 19 35.5**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=128,slow=7.6,SNR=5.5							
	comp=Z,0.3nm,0.5s							
ULM	**Lac du Bonnet**	**78.40**	**342**	P		**P**	**06 19 40.4**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=155,slow=2.2,SNR=5.8							
	comp=Z,2.4nm,0.5s							
NVAR	**Mina Array Bea**	**78.66**	**321**	P		**P**	**06 19 44.5**	**+2.7**
	comp=Z,0.2nm,0.4s,baz=44,slow=5.7,SNR=5.6							
	comp=Z,0.2nm,0.4s							
BOSA	**Boshof**	**80.69**	**117**	P		**P**	**06 19 53.8**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=259,slow=2.6,SNR=4.9							
	comp=Z,1.1nm,0.3s							
MAW	**Mawson**	**81.26**	**163**	P		**P**	**06 19 56.7**	**+1.7**
	comp=Z,3.2nm,0.6s,baz=188,slow=6.2,SNR=10							
	comp=Z,3.2nm,0.6s							
MAW	**Mawson**	**81.26**	**163**	P		**P**	**06 19 56.7**	**+1.7**
PLID	**Pearl Lake**	**82.11**	**327**	P		**P**	**06 20 00.7**	**+0.6**
PLID				IAmb		IAmb	06 20 02.9	
	comp=Z,3.1nm,0.8s							
YKA	**Yellowknife Ar**	**94.29**	**340**	P		**P**	**06 20 58.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=132,slow=4.9,SNR=7.7							
	comp=Z,0.5nm,0.5s							
ASAR	**Alice Springs**	**128.25**	**205**	PKP		**PKiKP**	**06 26 45.5**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=131,slow=1.7,SNR=12							
WRA	**Warramunga Arr**	**131.42**	**207**	PKP		**PKiKP**	**06 26 52.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=158,slow=1.8,SNR=12							
MKAR	**Makanchi Array**	**146.71**	**40**	PKP		**PKPbc**	**06 27 19.3**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=334,slow=2.6,SNR=28							
MKAR				PKPbc		**PKPab**	**06 27 21.0**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=305,slow=3.4,SNR=26							
KLR	**Kul'dur**	**150.98**	**334**	PKPbc		**PKiKP**	**06 27 31.3**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=94,slow=3.8,SNR=5.7							

*IDC **21** 06:14:20.7±2.5,54.0°09N×86.0°34E,h0km,mbtmp3.0/2, ML2.9/2,Error ellipse: s-maj=20.7km s-min=12.7km az=54.0*
*NNC **21** 06:14:20.4±1.3,54.2°28N×86.2°19E,h0km,mb3.2,mpv2.4, Error ellipse: s-maj=28.4km s-min=6.3km az=163.0, Suspected Mining explosion.*
ISC 21 06:14:18.5±4.0,54.4°4N±0.3°×86.3°3E±0.1,h0km,n7,σ0s86/8, 1C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**246**	*i*			06 19 20.0	
	baz=80,slow=321,SNR=1.6							
ZAA0	**Zalesovo Array**	**0.97**	**246**	⇓P		**Pg**	**06 14 37.2**	**+0.1**
	0.2nm,0.3s							
ZAA0				⇓S		**Sg**	**06 14 49.3**	**-0.5**
	1.0nm,0.5s							
ZAA0				⇓Rg		Rg	06 14 56.4	
ZALV	**Zalesovo Beam**	**0.97**	**246**	Pg		**Pb**	**06 14 37.4**	**-0.9**
	1.2nm,0.3s,baz=80,slow=18,SNR=9.8							
ZALV				Lg		Lg	06 14 51.2	
	2.1nm,0.3s,baz=81,slow=29,SNR=9.0							
ZALV				Rg		Rg	06 14 57.7	
	3.5nm,0.3s,baz=81,slow=28,SNR=12							
KURBB	**Kurchatov Arra**	**6.05**	**235**	Pn		**Pn**	**06 15 50.5**	**+1.3**
	0.1nm,0.3s,baz=54,slow=13,SNR=8.4 0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**6.05**	**235**	⇓Pn		**Pn**	**06 15 49.1**	**-0.1**
	0.7nm,0.3s							
KURBB				⇓Sn		**Sn**	**06 16 59.9**	**+0.9**
	2.5nm,0.8s							
KURBB				⇓Lg		Lg	06 17 29.9	
	2.7nm,0.7s							
MK31	**Makanchi Array**	**7.99**	**200**	⇑Pn		**Pn**	**06 16 16.1**	**+0.3**
	0.1nm,0.3s,baz=29,slow=14,SNR=14							
MKAR	**Makanchi Array**	**7.99**	**200**	Pn		**Pn**	**06 16 15.6**	**-0.2**
	0.4nm,0.3s,baz=25,slow=13,SNR=12 0.4nm,0.3s							

*ANF **21** 06:18:48.2±0.2,35.2°89N×97.2°23W,h5km,ML4.1/15,Error ellipse: s-maj=2.4km s-min=2.1km az=5.0*
*NEIC **21** 06:18:48.4±0.6,35.2°86N±0.0°01×97.2°25W±0.0°01,h5km±1km, Error

	baz=310,SNR=203							
X37A				S	**Sb**	**06 19 50.3**	**+0.1**	
	baz=310							
Z35A	**Perchaven, San**	**2.52**	**180**	IAmb_Lg		06 20 13.7		
	comp=Z,158nm,1.3s							
Z35A	**Perchaven, San**	**2.52**	**180**	P	**Pn**	**06 19 30.4**	**0.0**	
	baz=0.2,SNR=33							
HHAR	**Hobbs**	**2.70**	**80**		**Pn**	**06 19 32.8**	**0.0**	
HHAR				IAmb_Lg		06 20 18.9		
	comp=Z,89nm,0.7s							
R32A	**Long Quarter,**	**2.82**	**336**	S	**Sn**	**06 20 09.1**	**0.0**	
	baz=155							
Z38A	**Mt. Pleasant**	**3.19**	**144**	IAmb_Lg		06 20 32.3		
	comp=Z,114nm,0.8s							
Z38A	**Mt. Pleasant**	**3.19**	**144**	P	**Pn**	**06 19 39.6**	**+0.1**	
	baz=325							
MIAR	**Mount Ida**	**3.26**	**113**		**Pn**	**06 19 40.8**	**+0.2**	
MIAR				IAmb_Lg		06 20 36.7		
	comp=Z,154nm,1.0s							
MIAR	**Mount Ida**	**3.26**	**113**	P	**Pn**	**06 19 40.8**	**+0.2**	
	baz=295,SNR=56							
MIAR				S	**Sn**	**06 20 20.9**	**+0.9**	
	baz=295							
KSU1	**Kansas State U**	**3.27**	**8**		**Pn**	**06 19 40.8**	**0.0**	
KSU1				IAmb_Lg		06 20 39.5		
	comp=Z,195nm,0.8s							
KSU1	**Kansas State U**	**3.27**	**8**	P	**Pn**	**06 19 40.7**	**0.0**	
	baz=189,SNR=8.0							
KSU1	**Kansas State U**	**3.27**	**8**	P	**Pn**	**06 19 40.7**	**0.0**	
	baz=189							
CBKS	**Cedar Bluff**	**3.56**	**327**	Pn	**Pn**	**06 19 44.5**	**-0.2**	
CBKS	**Cedar Bluff**	**3.56**	**327**	P	**Pb**	**06 19 53.9**	**+1.7**	
	baz=145							
CBKS				S	**Sn**	**06 20 27.9**	**+0.5**	
	baz=145							
S39A	**Bolivar**	**3.63**	**59**	Pn	**Pn**	**06 19 45.7**	**+0.1**	
S39A	**Bolivar**	**3.63**	**59**	S	**Sn**	**06 20 29.4**	**+0.4**	
	baz=241							
AMTX	**Amarillo**	**3.77**	**256**	IAmb_Lg		06 20 51.5		
	comp=Z,111nm,0.9s							
AMTX	**Amarillo**	**3.77**	**256**	Pb	**Pb**	**06 19 54.4**	**-1.2**	
	baz=74							
AMTX				Sb	**Sb**	**06 20 45.0**	**+3.2**	
	baz=74							
WHTX	**Lake Whitney,**	**3.86**	**183**	P	**Pn**	**06 19 48.1**	**-0.7**	
	baz=2.6,SNR=20							
WHTX	**Lake Whitney,**	**3.86**	**183**	Pb	**Pb**	**06 19 55.4**	**-1.8**	
	baz=2.6							
WLAR	**White Oak Lake**	**4.02**	**121**	IAmb_Lg		06 21 01.5		
	comp=Z,79nm,0.8s							
237A	**Washetta, Mont**	**4.02**	**163**	IAmb_Lg		06 21 04.5		
	comp=Z,69nm,1.0s							
237A	**Washetta, Mont**	**4.02**	**163**	P	**Pn**	**06 19 50.2**	**-0.8**	
	baz=343,SNR=6.7							
WHAR	**Wooly Hollow**	**4.07**	**97**	IAmb_Lg		06 20 57.3		
	comp=Z,124nm,1.2s							
UALR	**University of**	**4.14**	**104**	IAmb_Lg		06 21 12.0		
	comp=Z,59nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.14**	**88**	IAmb_Lg		06 21 02.8		
	comp=Z,50nm,0.7s							
MGMO	**Mountain Grove**	**4.20**	**71**	IAmb_Lg		06 21 00.7		
	comp=Z,156nm,0.8s							
R40A	**Maddies Statio**	**4.65**	**57**	IAmb_Lg		06 21 27.5		
	comp=Z,97nm,0.8s							
R40A	**Maddies Statio**	**4.65**	**57**	P	**Pn**	**06 19 59.3**	**-0.3**	
	baz=240,SNR=23							
P38A	**Dawn**	**4.77**	**37**	IAmb_Lg		06 21 23.9		
	comp=Z,68nm,0.7s							
N33A	**J Bar K, Exete**	**4.88**	**358**	IAmb_Lg		06 21 34.5		
	comp=Z,84nm,0.9s							
CCAR	**Cane Creek**	**4.88**	**112**	IAmb_Lg		06 21 29.8		
	comp=Z,86nm,0.9s							
LCAR	**Lake Charles**	**4.93**	**86**	IAmb_Lg		06 21 31.3		
	comp=Z,53nm,0.8s							
CCM	**Cathedral Cave**	**5.27**	**64**	IAmb_Lg		06 21 36.8		
	comp=Z,122nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.33**	**308**	IAmb_Lg		06 21 42.9		
	comp=Z,67nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.33**	**308**	P	**Pg**	**06 20 27.4**	**-3.0**	
	baz=125							
BGNE	**Belgrade**	**5.59**	**353**	IAmb_Lg		06 22 01.4		
	comp=Z,125nm,0.8s							
143A	**Socs Landing,**	**5.76**	**121**	IAmb_Lg		06 22 01.9		
	comp=Z,48nm,0.8s							
JCT	**Junction City**	**5.78**	**203**	IAmb_Lg		06 22 01.6		
	comp=Z,67nm,0.7s							
FVM	**French Village**	**5.85**	**67**	P	**Pn**	**06 20 15.6**	**-0.5**	
	baz=251							
GNAR	**Gosnell**	**5.85**	**87**	IAmb_Lg		06 22 03.1		
	comp=Z,130nm,0.7s							
T25A	**Trinidad**	**5.93**	**285**	IAmb_Lg		06 21 59.6		
	comp=Z,42nm,0.7s							
T25A	**Trinidad**	**5.93**	**285**	P	**Pn**	**06 20 16.8**	**-0.5**	
	baz=100							
L34A	**Svendsen Farm,**	**6.13**	**6**	IAmb_Lg		06 22 10.8		
	comp=Z,123nm,0.9s							
CGM3	**Cape Girardeau**	**6.26**	**75**	IAmb_Lg		06 22 10.9		
	comp=Z,71nm,0.8s							
OGNE	**Ogallala**	**6.33**	**325**	IAmb_Lg		06 22 12.1		
	comp=Z,103nm,0.7s							
HALT	**Halls**	**6.40**	**87**	IAmb_Lg		06 22 28.7		
	comp=Z,102nm,0.9s							
OXF	**Oxford**	**6.54**	**100**	IAmb_Lg		06 22 26.3		
	comp=Z,34nm,0.8s							
W45A	**Hickory Valley**	**6.60**	**94**	IAmb_Lg		06 22 34.5		
	comp=Z,52nm,0.7s							
W45A	**Hickory Valley**	**6.60**	**94**	P	**Pn**	**06 20 25.2**	**-1.2**	
	baz=278							
S44A	**Carbondale**	**6.66**	**72**	IAmb_Lg		06 22 33.5		
	comp=Z,103nm,0.9s							
S44A	**Carbondale**	**6.66**	**72**	P	**Pn**	**06 20 26.8**	**-0.4**	
	baz=256							
SIUC	**Southern Illin**	**6.69**	**72**	IAmb_Lg		06 22 29.4		
	comp=Z,107nm,0.8s							
SCIA	**State Center**	**6.80**	**26**	IAmb_Lg		06 22 35.0		
	comp=Z,81nm,1.0s							
SDCO	**Great Sand Dun**	**6.90**	**288**	P	**Pn**	**06 20 31.3**	**+0.5**	
	baz=103							
SDCO	**Great Sand Dun**	**6.90**	**288**	P	**Pn**	**06 20 31.3**	**+0.5**	
	baz=109							
735A	**Kenedy**	**7.00**	**184**	IAmb_Lg		06 22 46.1		
	comp=Z,33nm,0.9s							
Q24A	**Divide**	**7.03**	**299**	IAmb_Lg		06 22 37.4		
	comp=Z,31nm,0.7s							
ANMO	**Albuquerque**	**7.59**	**266**	Pg	**Pb**	**06 21 05.1**	**+4.3**	
	comp=Z,0.5nm,0.3s,baz=87,slow=17,SNR=15							
ANMO				Lg	Lg	06 22 45.6		
	comp=Z,1.1nm,0.3s,baz=343,slow=8.7,SNR=6.5							
K38A	**Parkersburg**	**7.61**	**26**	IAmb_Lg		06 23 05.5		
	comp=Z,66nm,0.8s							
WVT	**Waverly**	**7.62**	**85**	IAmb_Lg		06 22 55.6		
	comp=Z,30nm,0.8s							
ISCO	**Idaho Springs**	**7.71**	**303**	P	**Pn**	**06 20 41.4**	**-0.6**	
	baz=118							
L40A	**Anamosa**	**7.76**	**35**	IAmb_Lg		06 23 01.7		
	comp=Z,46nm,0.7s							
ECSD	**EROS Data Cent**	**7.88**	**3**	P	**Pn**	**06 20 41.8**	**-2.2**	
	baz=184,SNR=16							
Y22D	**IRIS PASSCAL I**	**8.15**	**260**	IAmb_Lg		06 23 24.2		
	comp=Z,41nm,0.8s							
PHWY	**Pilot Hill**	**8.43**	**313**	IAmb_Lg		06 23 21.2		
	comp=Z,44nm,0.8s							
TXAR	**Lajitas Array**	**8.47**	**222**	Pn	**Pn**	**06 20 51.8**	**-0.5**	
	comp=Z,0.1nm,0.3s,baz=47,slow=11,SNR=6.8							
TXAR				Lg	Lg	06 23 12.7		
	comp=Z,1.5nm,0.3s,baz=38,slow=26,SNR=12							
	comp=Z,0.3nm,0.6s							
N23A	**Red Feather La**	**8.49**	**309**	IAmb_Lg		06 23 23.2		
	comp=Z,54nm,0.8s							
N23A	**Red Feather La**	**8.49**	**309**	P	**Pn**	**06 20 53.1**	**+0.5**	
	baz=124							
I37A	**Lemond, Waseca**	**8.66**	**19**	IAmb_Lg		06 23 28.2		
	comp=Z,36nm,0.8s							
SUSD	**Miller**	**8.68**	**352**	IAmb_Lg		06 23 37.1		
	comp=Z,41nm,0.9s							
JFWS	**Jewell Farm**	**8.88**	**35**	IAmb_Lg		06 23 30.7		
	comp=Z,48nm,0.7s							
HQIL	**Hanson Quary C**	**9.41**	**48**	IAmb_Lg		06 23 51.9		
	comp=Z,158nm,1.1s							
I40A	**Norwalk**	**9.49**	**30**	IAmb_Lg		06 23 53.6		
	comp=Z,26nm,0.8s							
K43A	**Burlington**	**9.71**	**43**	IAmb_Lg		06 24 09.8		
	comp=Z,48nm,0.8s							
RWWY	**Rawlins**	**9.72**	**310**	IAmb_Lg		06 24 12.1		
	comp=Z,22nm,0.9s							
RSSD	**Black Hills**	**9.76**	**330**	IAmb_Lg		06 24 13.6		
	comp=Z,21nm,0.8s							
SPMN	**Marine on St.**	**9.94**	**18**	IAmb_Lg		06 24 25.9		
	comp=Z,16nm,0.9s							
F33A	**5 Mile Ranch,**	**10.00**	**4**	IAmb_Lg		06 24 08.0		
	comp=Z,16nm,0.9s							
TKL	**Tuckaleechee C**	**10.94**	**87**	Pn	**Pn**	**06 21 27.2**	**+1.3**	
	comp=Z,0.1nm,0.3s,baz=110,slow=10,SNR=2.2							
TKL				Lg	Lg	06 24 29.9		
	comp=Z,1.2nm,0.3s,baz=13,slow=21,SNR=8.6							
	comp=Z,1.3nm,0.6s							
PDAR	**Pinedale Array**	**11.77**	**310**	Pn	**Pn**	**06 21 36.1**	**-1.4**	
	comp=Z,0.1nm,0.3s,baz=114,slow=15,SNR=5.1							
PDAR				Lg	Lg	06 25 01.9		
	comp=Z,0.7nm,0.3s,baz=100,slow=31,SNR=10.0							
	comp=Z,0.3nm,0.5s							
ULM	**Lac du Bonnet**	**14.42**	**3**	Pn	Pn	06 22 07.1	-6.3	
	comp=Z,0.3nm,0.3s,baz=180,slow=12,SNR=2.0							
ULM				Sn	Sn	06 24 38.8	-15	
	comp=Z,0.2nm,0.3s,baz=277,slow=22,SNR=1.8							
ULM				Lg	Lg	06 26 05.7		
	comp=Z,0.3nm,0.3s,baz=270,slow=22,SNR=2.0							
	comp=Z,1.4nm,0.5s							

*IDC **21** 06:21:37.4±4.0, 17°.98S×178°.15W, h636km±30km,*
mb2.7/3, mbtmp3.7/4, Error ellipse: s-maj=253.0km
s-min=30.0km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.63**	**273**	P	P	06 23 03.2	-0.1
	14nm,0.6s,baz=111,slow=1.5,SNR=17						
WRA	**Warramunga Arr**	**44.86**	**260**	P	P	06 28 57.6	0.0
	0.7nm,0.4s,baz=95,slow=7.0,SNR=28						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**45.01**	**254**	P	P	06 28 58.8	+0.1
	1.6nm,0.5s,baz=91,slow=7.6,SNR=25						
	1.6nm,0.5s						
TXAR	**Lajitas Array**	**85.82**	**58**	P	P	06 33 11.8	+0.1
	0.1nm,0.6s,baz=238,slow=5.2,SNR=1.5						
	0.1nm,0.6s						

*IDC **21** 06:21:52.2±1.3, 19°.01N×145°.61E, h0km, mb3.5/4,*
mbtmp3.5/4, Error ellipse: s-maj=52.7km s-min=26.8km
az=106.0
*NEIC **21** 06:22:15.6±2.0, 18°.9N±0°.1×145°.1E±0°.2, h204km±12km,*
mb4.0/5, Error ellipse: s-maj=25.0km s-min=15.8km
az=97.0
ISC 21 06:22:14.4±0.9, 18°.8N±0°.1×145°.4E±0°.2, h200km, n14,
σ1§52/14, mb3.4/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.17**	**185**	Pn	**Pn**	**06 23 29.3**	**-1.8**
WB0	**Warramunga Arr**	**39.78**	**196**	P	**P**	**06 29 29.4**	**+1.3**
WB0				IAmb	IAmb	06 29 50.5	
	comp=Z,2.5nm,1.2s						
WB2	**Warramunga Arr**	**39.96**	**196**	P	**P**	**06 29 31.0**	**+1.4**
WB2				IAmb	IAmb	06 29 57.3	
	comp=Z,7.7nm,1.5s						
WRA	**Warramunga Arr**	**39.96**	**196**	P	**P**	**06 29 31.1**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=7.0,slow=8.3,SNR=11						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**39.96**	**196**	P	**P**	**06 29 31.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**41.45**	**209**	P	**P**	**06 29 43.5**	**+1.8**
FITZ	**Fitzroy Crossi**	**41.45**	**209**	P	**P**	**06 29 42.8**	**+1.0**
ASAR	**Alice Springs**	**43.63**	**195**	P	**P**	**06 30 00.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=15,slow=7.3,SNR=4.3						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.20**	**314**	P	**P**	**06 31 48.5**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=125,slow=7.0,SNR=1.8						
	comp=Z,0.1nm,0.5s						
KTH	**Kantishna Hill**	**61.72**	**27**	P	**P**	**06 32 10.2**	**-1.1**
KTH				IAmb	IAmb	06 32 10.9	
	comp=Z,5.6nm,0.7s						
RIDG	**Independent Ri**	**64.40**	**28**	P	**P**	**06 32 29.4**	**+0.5**
BMAR	**Burnt Mountain**	**65.18**	**24**	P	**P**	**06 32 34.8**	**+0.9**
ABKAR	**Akbulak array**	**73.08**	**317**	P	**P**	**06 33 20.6**	**-2.1**
NVAR	**Mina Array Bea**	**83.34**	**52**	P	**P**	**06 34 19.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=270,slow=5.1,SNR=5.8						
	comp=Z,0.5nm,0.6s						

*IDC **21** 06:45:16.0±2.1, 16°.41S×175°.15W, h262km±24km, mb3.7/7,*
mbtmp4.3/8, Error ellipse: s-maj=38.2km s-min=15.8km
az=126.0
*NOU **21** 06:45:19.3, 16°.55S×174°.75W, h268km, MLv4.7/9, Tonga*
Islands
ISC 21 06:45:17.7±0.7, 16°.5S±0°.1×174°.76W±0°.09, h288km, n18,
σ1§29/20, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.84**	**49**	P	**Pn**	**06 46 21.8**	**+0.2**
	88nm,0.3s,baz=185,slow=1.8,SNR=28						
AFI				S	**S**	**06 47 10.6**	**-2.2**
	146nm,0.4s,baz=46,slow=22,SNR=11						
AFI	**Afiamalu**	**3.84**	**49**	P	**Pn**	**06 46 22.0**	**+0.3**
LKBA	**Tubou, Lakemba**	**4.25**	**245**	P	**Pn**	**06 46 27.0**	**+0.9**
TAVE	**Taveuni**	**4.94**	**266**	P	**Pn**	**06 46 35.3**	**+1.3**
NIUE	**Niue**	**5.29**	**120**	P	**Pn**	**06 46 39.1**	**+0.9**
MSVF	**Nonsavu**	**6.99**	**259**	P	**Pn**	**06 46 59.5**	**+0.7**
	29nm,0.6s,baz=244,slow=20,SNR=46						
MSVF	**Nonsavu**	**6.99**	**259**	P	**Pn**	**06 46 59.5**	**+0.7**
DZM	**Mont Dzumac**	**18.59**	**250**	P	**P**	**06 49 15.5**	**+1.0**
	3.5nm,0.7s,baz=95,slow=17,SNR=6.4						
URZ	**Urewera**	**22.86**	**197**	P	**P**	**06 49 56.1**	**-0.3**
	3.8nm,0.3s,baz=29,slow=2.3,SNR=6.9						
	3.8nm,0.3s						
STKA	**Stephens Creek**	**42.37**	**241**	P	**P**	**06 52 43.1**	**-1.2**
	3.8nm,0.6s,baz=94,slow=9.8,SNR=7.7						
	3.8nm,0.6s						
WRA	**Warramunga Arr**	**48.33**	**258**	P	**P**	**06 53 28.6**	**-2.5**
	0.7nm,0.5s,baz=96,slow=6.9,SNR=39						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**48.54**	**253**	P	**P**	**06 53 30.6**	**-2.1**
	3.9nm,0.5s,baz=88,slow=8.2,SNR=98						
	3.9nm,0.5s						
PETK	**Petropavlovsk-**	**73.25**	**343**	P	**P**	**06 56 18.2**	**+0.8**
	3.0nm,0.8s,baz=129,slow=7.8,SNR=2.7						
	3.0nm,0.8s						
SEY	**Seymchan**	**83.21**	**346**	P	**P**	**06 57 11.6**	**+0.1**
	2.8nm,0.8s,baz=164,slow=4.8,SNR=6.1						
	2.8nm,0.8s						
ILAR	**Eielson Array**	**83.74**	**12**	P	**P**	**06 57 14.2**	**+0.1**
	0.7nm,0.6s,baz=218,slow=5.3,SNR=6.6						
	0.7nm,0.6s						
CLL	**Collm**	**144.69**	**352**	*i* PKPbc	**PKPdf**	**07 04 20.0**	**0.0**
	comp=Z,7.0nm,1.0s						
CLL				*e*(PKPab)	**PKiKP**	**07 04 26.0**	**+2.2**
BRTR	**Keskin Array B**	**146.12**	**319**	PKPbc	**PKPbc**	**07 04 24.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=47,slow=2.2,SNR=5.2						
GERES	**GERESS Array B**	**146.97**	**350**	PKPbc	**PKPbc**	**07 04 27.5**	**+0.9**
	comp=Z,0.4nm,0.2s,baz=343,slow=4.2,SNR=4.0						

IDC 21 06:49:18.4±1.8, 29°.84N×99°.76E, h0km, mb3.5/3,
mbtmp3.5/3, Error ellipse: s-maj=57.1km s-min=29.9km
az=54.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**21.70**	**326**	P	P	06 54 10.9	0.0
	0.9nm,0.6s,baz=132,slow=10,SNR=9.6						
	0.9nm,0.6s						
KSRS	**Korea Array**	**24.58**	**65**	P	P	06 54 39.6	-0.5
	0.6nm,0.4s,baz=265,slow=10,SNR=2.3						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**59.66**	**142**	P	P	06 59 24.7	0.0
	0.5nm,0.8s,baz=330,slow=7.7,SNR=11						
	0.5nm,0.8s						

*IDC **21** 06:54:31.9±1.9, 9°.17S×106°.23E, h0km, mb3.5/4,*
mbtmp3.6/5, ML4.4/1, MS2.0/1, Error ellipse: s-maj=44.6km
s-min=24.5km az=67.0
*DJA **21** 06:54:31.6±0.3, 9°.S±3°×10°.6E±°, h10km, M4.3/9, mb4.8/3,*
MLv4.1/9
ISC 21 06:54:32.1±1.4, 9°.2S±0°.1×106°.1E±0°.1, h10km, n14,
σ1§11/14, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**2.15**	**29**	P	**Pn**	**06 55 06.2**	**-1.8**
SKJI	**Sukabumi**	**2.23**	**12**	P	**Pn**	**06 55 08.8**	**-0.3**
LEM	**Lembang**	**2.81**	**33**	Pn	**Pn**	**06 55 17.8**	**+0.5**
	61nm,0.3s,baz=73,slow=22,SNR=11						
LEM				Sn	**Sn**	**06 55 50.8**	**-0.4**
	17nm,0.3s,baz=147,slow=21,SNR=4.3						
LEM				LR	LR	06 56 13.5	
	comp=Z,27nm,21.0s,baz=352,slow=38						
	106nm,0.3s						
LEM	**Lembang**	**2.81**	**33**	P	**Pn**	**06 55 17.5**	**+0.3**
SBJI	**Serang**	**3.06**	**1**	P	**Pn**	**06 55 19.1**	**-1.4**
UGM	**Wanagama**	**4.58**	**74**	P	**Pn**	**06 55 39.5**	**-1.9**
PCJI	**Pacitan**	**5.14**	**79**	P	**Pn**	**06 55 49.2**	**+0.1**
	0.3nm59nm,1.2s						
MNAI	**Manna**	**5.72**	**327**	P	**Pn**	**06 55 57.5**	**+0.3**
	2.7nm342nm,1.1s						
PWJI	**Pagerwojo**	**5.78**	**79**	P	**Pn**	**06 55 59.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.95**	**117**	P	Pn	06 59 16.2	-1.6
	2.4nm,0.8s,baz=351,slow=0.9,SNR=4.5						
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**29.31**	**115**	P	**P**	**07 00 35.0**	**-0.1**
	0.2nm,0.6s,baz=287,slow=12,SNR=4.6						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**30.23**	**122**	P	**P**	**07 00 43.0**	**-0.3**
	0.3nm,0.4s,baz=301,slow=8.7,SNR=8.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.65**	**341**	P	**P**	**07 04 37.1**	**+0.6**
	0.3nm,0.6s,baz=135,slow=9.8,SNR=3.0						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**145.68**	**50**	PKPbc	**PKPab**	**07 14 13.5**	**+1.2**
	0.4nm,0.8s,baz=219,slow=1.2,SNR=5.5						

*IDC **21** 07:02:07.9±0.9, 7°.16S×121°.81E, h499km±14km, mb3.3/6,*
mbtmp4.2/9, Error ellipse: s-maj=45.3km s-min=15.1km
az=60.0
*DJA **21** 07:02:09.9±0.6, 7°.S±12°×12°2E±°, h469km±10km, M4.4/6,*
mb4.8/1, MLv4.2/6
ISC 21 07:02:07.9±0.7, 7°.27S±0°.09×121°.64E±0°.08, h500km, n23,
σ0§73/25, mb3.8/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.47**	**178**	P	**P**	**07 03 10.0**	**-0.8**
BATI	**Baumata**	**3.54**	**146**	P	**P**	**07 03 23.3**	**+0.5**
	104nm,0.3s,baz=292,slow=0.6,SNR=17						
BATI				S	**S**	**07 04 23.6**	**-0.1**
	133nm,0.3s,baz=224,slow=23,SNR=12						
BATI	**Baumata**	**3.54**	**146**	P	**P**	**07 03 22.9**	**+0.1**
SOEI	**Soe**	**3.59**	**134**	P	**P**	**07 03 23.3**	**+0.1**
PLAI	**Plampang**	**4.12**	**248**	P	**P**	**07 03 27.6**	**+0.3**
PLAI				S	**S**	**07 04 30.6**	**-1.4**
PLAI	**Plampang**	**4.12**	**248**	P	**P**	**07 03 27.6**	**+0.3**
TWSI	**Taliwang, Sumb**	**4.93**	**252**	P	**P**	**07 03 34.9**	**+0.6**
IGBI	**Denpasar**	**6.61**	**256**	P	**P**	**07 03 50.4**	**+0.2**
NLAI	**Namlea**	**6.75**	**54**	P	**P**	**07 03 52.9**	**+1.2**
TOLI2	**Tolitoli**	**8.37**	**354**	P	**P**	**07 04 09.1**	**+0.9**
MTN	**Manton Dam**	**10.87**	**121**	P	**P**	**07 04 35.2**	**+0.7**
KNRA	**Kununurra**	**10.89**	**141**	P	**P**	**07 04 35.4**	**+0.7**
FAKI	**Fak Fak**	**11.42**	**68**	P	**P**	**07 04 39.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.45**	**160**	P	**P**	**07 04 41.2**	**+0.6**
	11nm,0.4s,baz=0.5,slow=9.6,SNR=105						
FITZ	**Fitzroy Crossi**	**11.45**	**160**	P	**P**	**07 04 41.4**	**+0.8**
KDU	**Kakadu**	**11.95**	**118**	P	**P**	**07 04 45.9**	**-0.1**
WRA	**Warramunga Arr**	**17.62**	**137**	P	**P**	**07 05 44.2**	**-0.7**
	1.0nm,0.4s,baz=314,slow=10,SNR=52						
ASAR	**Alice Springs**	**20.11**	**145**	P	**P**	**07 06 08.0**	**+0.3**
	1.3nm,0.4s,baz=320,slow=8.3,SNR=24						
	1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**33.98**	**319**	P	**P**	**07 08 10.2**	**+0.7**
	1.0nm,0.4s,baz=141,slow=5.7,SNR=4.1						
	1.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**52.08**	**9**	P	**P**	**07 10 29.9**	**-0.8**
	2.1nm,0.4s,baz=201,slow=7.5,SNR=9.4						
	2.1nm,0.4s						
SONM	**Songino Array**	**56.49**	**348**	P	**P**	**07 11 01.7**	**-0.2**
	1.0nm,0.5s,baz=162,slow=8.4,SNR=4.2						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**64.16**	**331**	P	**P**	**07 11 52.8**	**+0.1**
	1.2nm,0.4s,baz=134,slow=7.7,SNR=18						
	1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**68.40**	**338**	P	**P**	**07 12 17.9**	**-1.0**
	1.9nm,0.5s,baz=149,slow=5.8,SNR=6.1						
	1.9nm,0.5s						

ROM 21 07:05:11.4±0.1, 42°.797N±0°.004×13°.236E±0°.009,
h10km, ML1.2/2, Error ellipse: s-maj=0.8km
s-min=0.2km az=243.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.09**	**185**	P	Pg	07 05 14.4	+0.3
T1202				S	Sg	07 05 16.8	+0.8
NRCA	**Norcia**	**0.10**	**292**	P	Pg	07 05 14.4	+0.3
NRCA				S	Sg	07 05 16.3	+0.3
NRCA				AML	AML		
	comp=E,312μm,0.1s						
NRCA				AML	AML		
	comp=N,291μm,0.8s						
NRCA				AML	AML		
	comp=E,312μm,0.1s						
MC2	**Monte Cornacci**	**0.12**	**344**	P	Pg	07 05 14.8	+0.2
MC2				S	Sg	07 05 17.3	+0.5
T1204	**Amatrice, Fraz**	**0.14**	**154**	P	Pg	07 05 15.3

NRCA AML AML
NRCA AML AML
NRCA AML AML
T1242 Castelluccio d 0.07 74 ⇓P **Pg 07 07 26.2 -0.6**
T1242 S **Sg 07 07 27.5 -1.0**
T1216 Preci, Frazion 0.11 318 ⇑P **Pg 07 07 27.5 +0.3**
T1216 S **Sg 07 07 29.9 +0.7**
T1216 AML AML
T1216 AML AML
comp=N,99650µm,1.6s
T1216 AML AML
comp=E,95250µm,0.5s
T1216 AML AML
T1216 AML AML
T1216 AML AML
comp=E,95100µm,0.5s
T1216 AML AML
T1216 AML AML
comp=N,99650µm,1.5s
T1216 AML AML
T1216 AML AML
comp=E,95100µm,0.5s
T1216 AML AML
MC2 Monte Cornacci 0.12 28 ⇓P **Pg 07 07 27.2 -0.2**
MC2 S **Sg 07 07 29.2 -0.3**
T1202 Accumoli, Fraz 0.13 144 ⇓P **Pg 07 07 27.4 -0.2**
T1202 S **Sg 07 07 29.5 -0.3**
T1244 Arquata del Tr 0.14 112 P **Pg 07 07 27.5 -0.3**
T1244 S **Sg 07 07 29.8 -0.3**
FEMA Monte Fema 0.16 342 P **Pg 07 07 28.3 +0.2**
FEMA S **Sg 07 07 31.4 +0.8**
FEMA AML AML
comp=N,48950µm,0.5s
FEMA AML AML
comp=E,34900µm,1.3s
FEMA AML AML
comp=N,49000µm,0.5s
T1217 Poggiodomo (PG 0.17 234 P **Pg 07 07 28.7 +0.5**
T1217 S **Sg 07 07 32.0 +1.2**
T1217 AML AML
comp=E,51650µm,0.4s
T1217 AML AML
comp=E,49900µm,0.4s
T1217 AML AML
comp=N,50000µm,1.4s
T1217 AML AML
comp=E,51700µm,0.4s
T1217 AML AML
comp=N,51500µm,1.4s
T1217 AML AML
comp=N,51450µm,1.4s
T1217 AML AML
comp=N,50050µm,1.4s
T1217 AML AML
comp=E,51650µm,0.4s
T1217 AML AML
comp=E,49900µm,0.4s
MMO1 Montemonaco 0.18 60 P **Pg 07 07 27.9 -0.4**
MMO1 S **Sg 07 07 30.7 -0.3**
T1215 Vallo di Nera, 0.18 267 ⇑P **Pg 07 07 29.0 +0.6**
T1215 S **Sg 07 07 32.5 +1.3**
T1215 AML AML
comp=E,43400µm,0.3s
T1215 AML AML
comp=N,25150µm,0.2s
T1215 AML AML
comp=N,25200µm,0.2s
T1215 AML AML
comp=N,27250µm,0.2s
T1215 AML AML
comp=E,43450µm,0.3s
T1215 AML AML
comp=E,42600µm,0.2s
T1204 Amatrice, Fraz 0.20 133 ⇑P **Pg 07 07 28.5 -0.2**
T1204 S **Sg 07 07 31.6 0.0**
T1204 AML AML
comp=E,61400µm,0.2s
T1204 AML AML
comp=N,36100µm,0.8s
LNSS Leonessa 0.22 195 ⇑P **Pg 07 07 29.2 +0.2**
LNSS S **Sg 07 07 33.2 +1.2**
LNSS AML AML
comp=E,96050µm,0.6s
LNSS AML AML
FDMO Fiordimonte 0.23 354 ⇑P **Pg 07 07 29.3 +0.1**
FDMO S **Sg 07 07 33.3 +1.0**
FDMO AML AML
comp=N,14150µm,0.7s
FDMO AML AML
comp=E,12305µm,1.1s
T1241 Roccafluvione, 0.23 79 ⇑P **Pg 07 07 28.9 -0.4**
T1241 S **Sg 07 07 32.5 -0.1**
T1241 AML AML
comp=E,97850µm,0.3s
T1241 AML AML
comp=N,39850µm,1.2s
T1241 AML AML
comp=N,41600µm,1.2s
T1241 AML AML
comp=E,95750µm,0.3s
AM05 Amandola Campo 0.24 46 P **Pg 07 07 29.3 -0.1**
AM05 S **Sg 07 07 32.9 +0.1**
AM05 AML AML
comp=N,8775µm,0.7s
AM05 AML AML
comp=E,25150µm,0.6s
AM05 AML AML
comp=E,6335µm,0.7s
AM05 AML AML
comp=N,8815µm,0.7s
AM05 AML AML
comp=N,35550µm,0.7s
SMA1 SAN MARTINO 0.24 138 ⇑P **Pg 07 07 29.1 -0.3**
SMA1 S **Sg 07 07 33.4 +0.6**
SMA1 AML AML
comp=N,46650µm,0.4s
SMA1 AML AML
comp=E,53300µm,0.4s
CESI CESI - Serrava 0.25 321 ⇑P **Pg 07 07 30.0 +0.4**
CESI S **Sg 07 07 34.4 +1.4**
CESI AML AML
comp=E,28850µm,0.3s
CESI AML AML
comp=N,81250µm,0.3s
T1243 Rocca Santa Ma 0.27 115 ⇑P **Pg 07 07 29.4 -0.6**
T1243 S **Sg 07 07 33.6 -0.1**
CSP1 Cessapalombo 0.29 13 P **Pg 07 07 30.4 0.0**
CSP1 S **Sg 07 07 35.2 +0.9**
CSP1 AML AML
comp=E,17850µm,0.3s
CSP1 AML AML
comp=N,23300µm,0.3s
GUMA Gualdo di Mace 0.30 32 ⇑P **Pg 07 07 30.6 +0.1**
GUMA S **Sg 07 07 35.4 +0.9**
RM33 Pellescritta (0.31 167 ⇑P **Pg 07 07 30.6 -0.2**
RM33 S **Sg 07 07 35.6 +0.7**
RM33 AML AML
comp=E,10800µm,1.0s
RM33 AML AML
comp=N,11000µm,1.4s
RM33 AML AML
comp=E,10750µm,1.0s
RM33 AML AML
comp=N,10950µm,1.4s
RM33 AML AML
comp=E,10850µm,1.0s
RM33 AML AML
comp=N,10950µm,1.4s
RM33 AML AML
comp=N,10900µm,1.4s
RM33 AML AML
comp=E,10800µm,1.0s
ARRO Arrone 0.35 228 P **Pg 07 07 31.7 +0.3**
ARRO S **Sb 07 07 37.8 -0.6**
ARRO AML AML
comp=E,13500µm,0.5s
ARRO AML AML
comp=N,18250µm,1.2s
ARRO AML AML
comp=E,13550µm,0.5s
ARRO AML AML
comp=N,18300µm,1.2s
CAMP Campotosto 0.35 142 ⇑P **Pg 07 07 30.9 -0.5**
CAMP S **Sg 07 07 36.3 +0.2**
CAMP AML AML
comp=N,10640µm,0.4s
CAMP AML AML
comp=E,10600µm,1.2s
SEF1 Sefro 0.36 340 P **Pg 07 07 31.8 +0.2**
SEF1 S **Sb 07 07 38.0 -0.7**
SEF1 AML AML
comp=E,15850µm,1.1s
SEF1 AML AML
comp=N,17000µm,0.6s
SEF1 AML AML
comp=N,17000µm,0.6s
SEF1 AML AML
comp=E,15800µm,1.1s
T1246 Crognaleto (TE 0.36 129 ⇑P **Pg 07 07 31.0 -0.6**
T1246 S **Sg 07 07 36.4 +0.1**
PIO1 Pioraco 0.38 345 P **Pg 07 07 32.2 +0.2**
PIO1 AML AML
comp=E,11450µm,0.4s
PIO1 AML AML
comp=N,10570µm,0.5s
PIO1 AML AML
comp=N,10575µm,0.5s
MDAR Monte D'Aria 0.38 3 P **Pg 07 07 32.1 +0.1**
MDAR AML AML
comp=E,6100µm,0.6s
MDAR AML AML
comp=N,9455µm,0.4s
MDAR AML AML
comp=N,9435µm,0.4s
MDAR AML AML
comp=E,6100µm,0.6s
T1247 Pizzolo (AQ) 0.39 160 ⇑P **Pg 07 07 31.9 -0.3**
T1247 S **Sg 07 07 38.2 +0.8**
T1247 AML AML
comp=E,9255µm,0.6s
T1247 AML AML
comp=N,11495µm,0.6s
FIU1 Fiuminata 0.40 340 P **Pg 07 07 32.6 +0.2**
FIU1 AML AML
comp=E,8360µm,0.2s
FIU1 AML AML
comp=N,5865µm,0.7s
FIU1 AML AML
comp=E,8365µm,0.2s
FIU1 AML AML
comp=N,5860µm,0.7s
TERO Teramo 0.41 118 ⇑P **Pg 07 07 31.7 -0.8**
TERO S **Sg 07 07 37.8 -0.1**
TERO AML AML
comp=E,13350µm,1.0s
TERO AML AML
comp=N,12900µm,0.5s
TERO AML AML
comp=N,13500µm,1.2s
TERO AML AML
comp=E,13300µm,1.0s
TERO AML AML
comp=N,12950µm,0.5s
TERO AML AML
comp=E,13900µm,1.0s
MNTP Montappone 0.42 38 P **Pg 07 07 33.0 +0.4**
MNTP AML AML
comp=E,19150µm,0.5s
MNTP AML AML
comp=N,12330µm,0.5s
GAG1 Gagliole 0.43 355 P **Pg 07 07 33.2 +0.2**
GAG1 S **Sb 07 07 40.2 -0.5**
GAG1 AML AML
comp=E,16450µm,0.4s
GAG1 AML AML
comp=N,15300µm,0.3s
OFFI Offida 0.43 73 ⇑P **Pg 07 07 33.3 +0.3**
OFFI AML AML
comp=N,26800µm,0.5s
OFFI AML AML
comp=E,25400µm,1.2s
CESX Cesi 0.45 243 P **Pg 07 07 33.3 +0.1**
CESX S **Sb 07 07 40.5 -0.7**
CESX AML AML
comp=E,9425µm,0.3s
CESX AML AML
comp=N,12950µm,0.7s
MTL1 Matelica 0.45 350 P **Pg 07 07 33.6 +0.3**
MTL1 AML AML
comp=E,12800µm,1.0s
MTL1 AML AML
comp=N,16600µm,1.6s
SNTG Esanatoglia 0.46 344 P **Pg 07 07 33.6 +0.1**
SNTG S **Sb 07 07 41.2 -0.5**
AQU L'Aquila 0.50 155 P **Pg 07 07 33.7 -0.6**
AQU S **Sg 07 07 41.3 +0.4**
AQU AML AML
comp=N,5115µm,0.9s
AQU AML AML
comp=E,6335µm,1.1s
AQU AML AML
comp=N,5105µm,0.9s
AQU AML AML
comp=E,6235µm,1.0s
AQU AML AML
comp=N,5120µm,0.9s
ATCC AVT- Casa Cast 0.51 317 ⇓P **Pg 07 07 34.7 +0.2**
ATCC S **Sb 07 07 43.1 0.0**
ATCC AML AML
comp=N,13255µm,0.4s
ATCC AML AML
comp=E,11650µm,0.8s
EL6 Elcito 0.52 359 P **Pg 07 07 34.6 0.0**
EL6 S **Sb 07 07 43.3 -0.1**
TRE1 Treia 0.52 16 P **Pg 07 07 35.1 +0.5**
TRE1 AML AML
comp=N,11650µm,0.4s
TRE1 AML AML
comp=E,10305µm,0.5s
FIAM Fiamignano 0.54 180 ⇑P **Pg 07 07 34.5 -0.5**
FIAM S **Sg 07 07 42.7 +0.5**
FIAM AML AML
comp=N,3115µm,0.8s
FIAM AML AML
comp=E,3745µm,0.4s
FOSV Fossato di Vic 0.55 332 ⇓P **Pg 07 07 35.2 0.0**
FOSV S **Sb 07 07 43.9 -0.3**
FOSV AML AML
comp=N,5100µm,0.6s
FOSV AML AML
comp=E,5420µm,1.0s
CING Cingoli 0.57 6 P **Pg 07 07 35.2 -0.3**
CING S **Sb 07 07 44.6 -0.1**
CING AML AML
comp=E,2720µm,0.7s
CING AML AML
comp=N,4520µm,0.4s
TRTR Tortoreto Alta 0.59 90 P **Pg 07 07 35.9 0.0**
TRTR AML AML
comp=E,26200µm,0.8s
TRTR AML AML
comp=N,17800µm,1.2s
CADA Capodarco di F 0.61 51 P **Pb 07 07 37.2 0.0**
MMUR Monte Murano 0.64 352 P **Pg 07 07 36.8 0.0**
CIMA Civitanova Mar 0.64 39 P **Pg 07 07 37.2 +0.3**
FAGN Fagnano 0.65 148 P **Pg 07 07 35.8 -1.2**
FAGN AML AML
comp=N,8470µm,0.3s
FAGN AML AML
comp=E,8370µm,0.6s
PP3 Marolino 0.67 32 P **Pg 07 07 37.8 +0.3**
VCEL Villa Celiera 0.68 128 P **Pg 07 07 36.6 -0.9**
VCEL S **Sg 07 07 46.9 +0.5**
VCEL AML AML
comp=E,8495µm,0.4s
VCEL AML AML
comp=N,7590µm,0.4s
VCEL AML AML
comp=E,8490µm,0.4s
ARVD Arcevia 0.70 349 P **Pg 07 07 37.7 -0.3**
ARVD S **Sb 07 07 48.8 +0.2**
ARVD AML AML
comp=E,2865µm,0.4s
ARVD AML AML
comp=N,1455µm,0.5s
MGAB Montegabbione 0.75 278 P **Pg 07 07 39.2 +0.3**
MGAB AML AML
comp=E,6185µm,0.4s
MGAB AML AML
comp=N,7660µm,1.5s
MGAB AML AML
comp=E,5915µm,1.0s
MGAB AML AML
comp=N,7030µm,1.5s
FRON Frontone 0.76 338 P **Pg 07 07 38.8 -0.4**
FRON AML AML
comp=E,2430µm,0.4s
FRON AML AML
comp=N,2840µm,1.3s
T0110 Collepietro 0.76 140 P **Pg 07 07 37.9 -1.3**
T0110 AML AML
comp=E,7120µm,0.4s
T0110 AML AML
comp=N,7040µm,0.7s
ATMI Monte Miggiano 0.81 310 P **Pb 07 07 40.6 -0.1**
ATMI AML AML
comp=E,7115µm,0.5s
ATMI AML AML
comp=N,7640µm,0.4s
PTQR Pietraquaria 0.82 165 P **Pg 07 07 39.2 -1.1**
PTQR AML AML
comp=E,1215µm,0.9s
PTQR AML AML
comp=N,989µm,0.4s
AOI Ancona 0.82 25 P **Pg 07 07 40.0 -0.3**
AOI AML AML
comp=N,2355µm,0.3s
AOI AML AML
comp=E,4420µm,0.4s
COR1 Corinaldo 0.82 354 P **Pb 07 07 40.8 -0.1**
ATPI Pietralunga - 0.83 321 ⇓P **Pg 07 07 40.1 -0.3**
ATPI AML AML
comp=N,2890µm,0.5s
ATPI AML AML
comp=E,2050µm,1.6s
MTCE Montecelio 0.84 200 ⇑P **Pg 07 07 40.2 -0.3**
MTCE AML AML
comp=E,2635µm,0.5s
MTCE AML AML
comp=N,1740µm,1.3s
PIEI Pieia 0.84 330 P **Pg 07 07 40.2 -0.5**
PIEI AML AML
comp=E,2215µm,0.4s
PIEI AML AML
comp=N,1680µm,0.5s
PCRO Pietralacroce 0.85 21 P **Pb 07 07 41.6 +0.2**
CERT Cerreto 0.87 187 P **Pg 07 07 40.3 -0.9**
CERT AML AML
comp=N,2620µm,0.9s
CERT AML AML
comp=E,3335µm,0.4s
SACS San Casciano d 0.89 273 P **Pg 07 07 41.8 +0.2**
SACS AML AML
comp=E,2360µm,0.8s
SACS AML AML
comp=N,2075µm,1.1s
SACS AML AML
comp=N,1905µm,0.8s
SACS AML AML
comp=E,2365µm,0.8s
FSSB Fossombrone 0.92 344 P **Pg 07 07 41.6 -0.5**
FSSB AML AML
comp=N,9670µm,0.3s
FSSB AML AML
comp=E,6495µm,0.4s
BADI Badiali 0.95 318 P **Pg 07 07 42.6 -0.1**
BADI AML AML
comp=N,1490µm,0.8s
BADI AML AML
comp=E,85µm,0.4s
RCAV Rocca di Cave 0.97 188 P **Pg 07 07 42.0 -1.1**
RCAV AML AML
comp=N,3135µm,1.1s
RCAV AML AML
comp=E,2607µm,1.1s
LATE Laterza 0.99 259 P **Pg 07 07 43.7 +0.2**
INTR Introdacqua 0.99 144 P **Pg 07 07 41.5 -2.0**
INTR AML AML
comp=E,2µm,0.7s
INTR AML AML
comp=N,2µm,0.8s
INTR AML AML
comp=E,2µm,0.7s
INTR AML AML
comp=N,2µm,0.8s
CAFI Castiglion Fio 0.99 302 P **Pg 07 07 43.4 -0.2**
CAFI AML AML
comp=N,2325µm,0.8s
CAFI AML AML
comp=E,1740µm,0.3s
CAFI AML AML
comp=N,2410µm,1.0s
CAFI AML AML
comp=E,1775µm,0.3s
PE3 Peglio 0.99 333 P **Pg 07 07 43.4 -0.2**
VVLD Villa Vallelon 1.01 158 P **Pg 07 07 43.4 -0.6**
VVLD AML AML
comp=E,855µm,0.7s
VVLD AML AML
comp=N,1445µm,0.4s
VVLD AML AML
comp=E,856µm,0.7s
RMP Rome, Mte Porz 1.05 197 P **Pn 07 07 45.4 +0.1**
RMP AML AML
comp=E,2300µm,1.2s
RMP AML AML
comp=N,2505µm,0.7s
PARC Parchiule 1.05 323 P **Pg 07 07 44.3 -0.5**
PARC AML AML
comp=N,2315µm,0.6s
PARC AML AML
comp=E,2925µm,1.0s
MCIV Monte Civitell 1.06 269 P **Pg 07 07 45.0 +0.1**
MCIV AML AML
comp=E,1260µm,0.3s
MCIV AML AML
comp=N,946µm,1.0s
SF04 Casetta 1.07 272 P **Pg 07 07 44.9 -0.2**
LPEL Lama dei Pelig 1.10 134 P **Pg 07 07 43.8 -1.7**
LPEL AML AML
comp=N,1530µm,0.7s
LPEL AML AML
comp=E,1670µm,1.4s
TOLF Tolfa 1.11 228 P **Pb 07 07 45.2 -0.7**
TOLF AML AML
comp=E,1615µm,0.4s
TOLF AML AML
comp=N,1535µm,0.6s
SF01 Poggio Pratacc 1.14 271 P **Pb 07 07 45.7 -0.7**
PESA Pesaro 1.15 350 P **Pb 07 07 46.0 -0.4**
PESA AML AML
comp=E,2720µm,1.2s
PESA AML AML
comp=N,3255µm,0.9s
CRE Caprese Michel 1.18 314 P **Pb 07 07 46.5 -0.5**
CRE AML AML
comp=N,1240µm,0.4s
CRE AML AML
comp=E,754µm,0.5s
POFI Posta Fibreno 1.18 158 P **Pb 07 07 45.5 -1.5**
POFI AML AML
comp=E,904µm,0.6s
POFI AML AML
comp=N,580µm,0.5s
ARCI Arcidosso 1.21 272 P **Pb 07 07 47.1 -0.4**
ARCI AML AML
comp=E,337µm,0.7s
ARCI AML AML
comp=N,302µm,0.3s
GIUL Giuliano Di Ro 1.26 175 P **Pg 07 07 49.5 +0.8**
GIUL AML AML
comp=N,1050µm,0.7s
GIUL AML AML
comp=E,812µm,0.4s
CERA Filignano 1.39 151 P **Pn 07 07 49.2 -0.7**
CERA AML AML
comp=E,1330µm,0.7s
CERA AML AML
comp=N,1052µm,1.1s
FRES Fresagrandinar 1.42 126 P **Pn 07 07 49.1 -1.3**
FRES AML AML
comp=E,732µm,0.7s
FRES AML AML
comp=N,529µm,0.6s
MIDA Miranda 1.44 144 P **Pn 07 07 49.5 -1.3**
MIDA AML AML
comp=E,718µm,0.7s

MIDA AML AML
comp=N,710µm,0.6s
TRIV Trivento 1.49 134 P **Pn 07 07 50.9 -0.5**
TRIV AML AML
comp=E,1022µm,0.8s
TRIV AML AML
comp=N,925µm,0.8s
CSNT Castellina Chi 1.49 297 S **Pn 07 07 51.7 +0.3**
CSNT Castellina Chi 1.49 297 P **Pn 07 07 51.4 0.0**
CSNT AML AML
comp=E,376µm,1.2s
CSNT AML AML
comp=N,428µm,0.6s
FROS Frosini 1.49 286 P **Pn 07 07 51.7 +0.3**
OSSC Osservatorio P 1.54 298 S **Pn 07 07 53.1 +1.0**
RUFI Rufina 1.56 312 P **Pn 07 07 52.4 +0.1**
RUFI Rufina 1.56 312 P **Pn 07 07 51.7 -0.6**
VAGA Valle Agricola 1.62 149 P **Pb 07 07 55.2 +0.6**
VAGA AML AML
comp=N,552µm,1.2s
VAGA AML AML
comp=E,394µm,0.5s
TRIF Trifonti 1.65 281 P **Pn 07 07 54.2 +0.5**
TRIF AML AML
comp=N,304µm,0.6s
TRIF AML AML
comp=E,328µm,0.6s
CASP Castiglione de 1.66 270 P **Pn 07 07 53.5 -0.1**
CASP AML AML
comp=E,162µm,1.1s
CASP AML AML
comp=N,146µm,1.2s
BSSO Busso 1.67 139 AML AML
comp=N,248µm,1.0s
BSSO AML AML
comp=E,176µm,0.8s
CIGN Sant'Elia a Pi 1.76 130 P **Pn 07 07 55.4 +0.3**
CIGN AML AML
comp=N,400µm,0.8s
CIGN AML AML
comp=E,356µm,0.7s
SEI Scarperia 1.79 315 AML AML
comp=E,610µm,1.4s
SEI AML AML
comp=N,962µm,0.6s
DUGI Dugi Otok 1.84 49 *e*Pn **Pn 07 07 55.9 -0.3**
MELA Melanico ??? S 1.86 126 P **Pn 07 07 57.1 +0.8**
MELA AML AML
comp=E,1177µm,1.1s
MELA AML AML
comp=E,1215µm,0.5s
MELA AML AML
comp=N,1295µm,0.5s
MELA AML AML
comp=N,1325µm,0.5s
TREM Isole Tremiti 1.90 110 P **Pn 07 07 57.6 +0.6**
TREM AML AML
comp=N,947µm,0.8s
TREM AML AML
comp=E,786µm,0.4s
MTCR Monte La Croce 1.96 309 P **Pn 07 07 57.9 -0.1**
MTCR Monte La Croce 1.96 309 P **Pn 07 07 57.9 -0.1**
ZIRJ Zirje 2.03 65 *e*Pn **Pn 07 07 58.5 -0.3**
VIRC Vir 2.04 43 *e*Pn **Pn 07 07 58.6 -0.3**
APRC Apricena 2.08 120 P **Pn 07 08 00.1 +0.5**
APRC AML AML
comp=N,573µm,0.6s
APRC AML AML
comp=E,515µm,0.4s
PII Pisa 2.10 297 P **Pn 07 07 59.6 -0.1**
POPM Popiglio 2.12 306 P **Pn 07 08 00.3 +0.3**
POPM AML AML
comp=N,193µm,1.2s
POPM AML AML
comp=E,184µm,0.8s
BRJN Brijuni 2.14 12 *e*Pn **Pn 07 08 00.3 0.0**
BRJN Brijuni 2.14 12 P **Pn 07 08 00.9 +0.6**
MORI Morici 2.16 60 *e*Pn **Pn 07 08 00.8 +0.2**
MORI Sn **Sn 07 08 28.5 +1.0**
NVLJ Novalja 2.17 35 *e*Pn **Pn 07 08 00.4 -0.2**
MAIM Mastiano 2.21 301 P **Pn 07 08 01.9 +0.6**
MAIM AML AML
comp=E,202µm,0.6s
MAIM AML AML
comp=N,164µm,0.7s
SGRT San Giovanni R 2.22 118 P **Pn 07 08 01.7 +0.3**
SGRT AML AML
comp=E,538µm,1.0s
SGRT AML AML
comp=N,336µm,0.8s
RABC Rab 2.28 31 *e*Pn **Pn 07 08 02.1 -0.1**
SMRN Sveta Marina 2.35 18 *i* Pn **Pn 07 08 03.0 -0.1**
VLC Villacollemand 2.40 305 ⇑P **Pn 07 08 04.4 +0.5**
VLC AML AML
comp=N,117µm,1.4s
VLC AML AML
comp=E,102µm,1.6s
VLC AML AML
comp=E,131µm,1.5s
VLC AML AML
comp=N,115µm,1.1s
SARO Sassorosso 2.41 306 P **Pn 07 08 04.0 -0.1**
HVAR Hvar 2.47 80 *e*Pn **Pn 07 08 04.8 -0.1**
A253A Karojba, Istri 2.53 11 *e*Pn **Pn 07 08 05.3 -0.3**
EQUI Equi 2.55 303 P **Pn 07 08 06.3 +0.5**
UDBI Udbina 2.58 47 *e*Pn **Pn 07 08 07.3 +1.0**
A250A Rusevo Krmpots 2.62 29 *e*Pn **Pn 07 08 07.3 +0.5**
VULT Monte Vulture 2.63 134 P **Pn 07 08 08.8 +1.6**
VULT AML AML
comp=E,253µm,0.5s
VULT AML AML
comp=N,421µm,0.9s
KIJV Kijevo 2.68 62 *e*Pn **Pn 07 08 08.3 +0.7**
RIY Rijeka 2.70 21 *e*Pn **Pn 07 08 08.0 +0.1**
PLIT Plitvice 2.75 40 *e*Pn **Pn 07 08 09.0 +0.3**
SKDS Skadanscina 2.81 13 *e*Pn **Pn 07 08 08.7 -0.8**
SKDS Skadanscina 2.81 13 *e*Pn **Pn 07 08 09.2 -0.3**
SKDS *i* Sn **Sn 07 08 43.6 +0.2**
SKDS IAML 07 08 44.0
comp=Z,73nm,0.4s
MRVN Minervino Murg 2.89 126 P **Pn 07 08 11.3 +0.7**
MRVN AML AML
comp=N,112µm,0.8s
MRVN AML AML
comp=E,91µm,0.7s
MAKA Makarska 2.90 79 *e*Pn **Pn 07 08 10.8 +0.2**
GBRS Gornja Briga 2.98 24 *e*Pn **Pn 07 08 12.3 +0.4**
GBRS *e*Sn **Sn 07 08 46.8 -0.9**
A050A Klekovaca 2.99 55 *e*Pn **Pn 07 08 12.9 +0.9**
RICI Ricice 3.02 76 *e*Pn **Pn 07 08 12.9 +0.6**
PGF Pioggiola 3.05 266 *e*P **Pn 07 08 13.8 +0.9**
PGF *e*Sn **Sn 07 08 45.4 -4.1**
comp=E,16nm,0.6s
CEY Cerknica 3.07 17 *e*Pn **Pn 07 08 11.5 -1.7**
BOJS Bojanci 3.10 29 *e*Pn **Pn 07 08 13.3 -0.2**
BOJS Bojanci 3.10 29 *i* Pn **Pn 07 08 15.1 +1.6**
BOJS IAML 07 09 11.9
comp=Z,51nm,0.6s
BOJS Bojanci 3.10 29 P **Pn 07 08 14.0 +0.5**
BOJS AML AML
comp=N,363µm,0.5s
BOJS AML AML
comp=E,460µm,1.4s
ROVR Rover Verones 3.19 333 AML AML
comp=N,86µm,0.4s
ROVR AML AML
comp=E,63µm,0.9s
CGRP Cima Grappa 3.21 343 P **Pn 07 08 15.9 +0.7**
CGRP AML AML
comp=N,338µm,1.1s
CGRP AML AML
comp=N,331µm,0.4s
CGRP AML AML
comp=E,425µm,1.2s
CGRP AML AML
comp=E,394µm,0.5s
AMUR Altamura 3.23 125 P **Pn 07 08 15.4 +0.2**
AMUR AML AML
comp=E,214µm,0.4s
AMUR AML AML
comp=N,126µm,0.6s
MGRS Mrkonjic Grad 3.30 60 *e*Pn **Pn 07 08 17.6 +1.4**
AJAC Base Areonaval 3.34 256 ⇑P **Pn 07 08 18.5 +1.7**
DOSS Dosso del Somm 3.37 336 P **Pn 07 08 17.8 +0.5**
DOSS AML AML
comp=E,197µm,0.6s
DOSS AML AML
comp=N,176µm,0.6s
STON Ston 3.37 87 *e*Pn **Pn 07 08 15.8 -1.4**
STON Ston 3.37 87 *e*Pn **Pn 07 08 16.2 -1.0**
STON Ston 3.37 87 AML AML
comp=N,80µm,0.8s
STON AML AML
comp=E,67µm,0.8s
CTI Castel Tesino 3.40 343 P **Pn 07 08 18.9 +1.1**
CTI AML AML
comp=E,198µm,0.5s
CTI AML AML
comp=N,185µm,1.6s
MPRI Monte Prat 3.43 358 P **Pn 07 08 18.8 +0.7**
MPRI AML AML
comp=N,369µm,0.4s
MPRI AML AML
comp=E,222µm,0.6s
MPRI AML AML
comp=N,295µm,0.5s
MPRI AML AML
comp=E,298µm,0.6s
RNCA Ronca, Sant'Ol 3.45 300 S **Sg 07 09 15.0 -0.3**
MAGA Magasa 3.46 330 P **Pn 07 08 19.9 +1.3**
MAGA AML AML
comp=E,500µm,0.6s
MAGA AML AML
comp=N,316µm,0.4s
STAL STALIGIAL 3.46 355 P **Pn 07 08 19.2 +0.7**
STAL AML AML
comp=E,246µm,0.3s
STAL AML AML
comp=N,222µm,0.3s
A051A Mrakovica 3.51 50 *e*Pn **Pn 07 08 19.6 +0.4**
LUSI Trento, Gardas 3.51 334 P **Pn 07 08 19.4 +0.2**
LUSI AML AML
comp=N,172µm,0.4s
LUSI AML AML
comp=E,136µm,0.7s
BLY Banja Luka 3.52 55 *e*Pn **Pn 07 08 22.7 +3.4**
CIMO Cimolais 3.53 352 P **Pn 07 08 20.1 +0.6**
CIMO AML AML
comp=N,70µm,1.0s
CIMO AML AML
comp=E,53µm,1.1s
CIMO AML AML
comp=E,55µm,1.1s
CIMO AML AML
comp=N,71µm,0.7s
LTRZ Laterza 3.54 127 P **Pn 07 08 20.4 +0.8**
NOCI Noci 3.58 123 ⇓P **Pn 07 08 20.8 +0.8**
NOCI AML AML
comp=E,99µm,0.6s
NOCI AML AML
comp=N,149µm,1.0s
PTCC Patocco-Chiusa 3.60 3 P **Pn 07 08 20.6 +0.2**
PTCC AML AML
comp=N,80µm,0.5s
PTCC AML AML
comp=E,106µm,0.5s
GAGG Gaggia 3.62 335 P **Pn 07 08 22.5 +1.7**
GAGG AML AML
comp=N,155µm,1.1s
GAGG AML AML
comp=E,204µm,0.9s
DBRK Dubrovnik 3.71 90 *e*Pn **Pn 07 08 21.1 -0.7**
EUCT Pavia 3.74 311 ⇑P **Pb 07 08 28.2 -2.4**
MABI Malga Bissina 3.74 331 P **Pn 07 08 23.6 +1.2**
MABI AML AML
comp=E,57µm,1.5s
MABI AML AML
comp=N,55µm,1.5s
ACOM Acomizza, Ital 3.75 4 P **Pn 07 08 23.3 +0.8**
ACOM AML AML
comp=N,218µm,0.6s
ACOM AML AML
comp=E,172µm,1.0s
ACOM AML AML
comp=N,238µm,0.6s
ACOM AML AML
comp=E,204µm,1.2s
ZOU Zoufplan 3.75 358 P **Pn 07 08 23.1 +0.6**
ZOU AML AML
comp=E,128µm,0.9s
ZOU AML AML
comp=N,110µm,1.0s
OBKA Obir 3.84 15 *e*Pn **Pn 07 08 23.4 -0.3**
OBKA Obir 3.84 15 *e*Pn **Pn 07 08 23.9 +0.2**
comp=N,1.4nm,0.3s
OBKA *e*Sn **Sn 07 09 09.9 +1.0**
comp=N,20nm,0.5s
MYKA Terra Mystica 3.84 5 *e*Pn **Pn 07 08 24.6 +0.9**
comp=N,1.2nm,0.2s
MYKA *e*Sn **Sn 07 09 08.7 -0.2**
comp=N,6.3nm,0.4s
KOSI Kohlern 3.86 342 P **Pn 07 08 26.2 +2.2**
KOSI AML AML
comp=N,130µm,0.5s
KOSI AML AML
comp=E,140µm,0.7s
LOBO Lobor 3.95 31 *e*Pn **Pn 07 08 24.7 -0.5**
ABTA Abfaltersbach 3.96 354 Pn **Pn 07 08 27.2 +1.8**
comp=E,16nm,0.5s,SNR=16
ABTA *e*Sn **Sn 07 09 11.4 -0.5**
comp=E,24nm,0.6s
HCY Herceg Novi 3.98 93 *e*Pn **Pn 07 08 25.4 -0.2**
HCY Herceg Novi 3.98 93 ⇓*i*Pn **Pn 07 08 26.3 +0.7**
HCY *i* Sn **Sn 07 09 13.9 +1.5**
BRY Bratogost 3.99 87 *e*Pn **Pn 07 08 26.1 +0.3**
BRY Bratogost 3.99 87 ⇓*i*Pn **Pn 07 08 26.5 +0.7**
BRY *i* Sn **Sn 07 09 14.0 +1.3**
BRES Bressanone 4.01 346 ⇓P **Pn 07 08 29.9 +3.6**
SOKA Soboth 4.10 19 *e*Pn **Pn 07 08 27.8 +0.5**
comp=E,1.7nm,0.4s
SOKA *e*Sn **Sn 07 09 13.4 -2.0**
comp=E,2.3nm,0.3s
UPM Unac-Piva 4.26 83 *e*Pn **Pn 07 08 31.1 +1.5**
UPM Unac-Piva 4.26 83 *e*Pn **Pn 07 08 31.2 +1.6**
UPM *e*Sn **Sn 07 09 19.9 +0.4**
KBA Koelnbreinsper 4.27 2 *e*Pn **Pn 07 08 31.0 +1.3**
comp=E,2.4nm,0.2s
KBA *e*Sn **Sn 07 09 19.0 -0.7**
comp=E,22nm,0.4s
SBF Sospel 4.28 286 *e*P **Pn 07 08 30.5 +0.8**
SBF *e*Sn **Sn 07 09 14.6 -5.1**
comp=E,18nm,0.5s
CEME Cevo 4.28 92 ⇑*i*Pn **Pn 07 08 30.8 +1.0**
CEME *i* Sn **Sn 07 09 20.8 +0.9**
ROSI Rosskopf 4.29 344 P **Pn 07 08 32.3 +2.2**
NKME Niksic 4.29 89 ⇑*i*Pn **Pn 07 08 31.1 +1.2**
NKME *i* Sn **Sn 07 09 21.2 +1.1**
BUM Brajici-Budva 4.30 95 ⇑*i*Pn **Pn 07 08 31.0 +1.0**
BUM *i* Sn **Sn 07 09 21.1 +0.9**
A252A Venje 4.30 51 *e*Pn **Pn 07 08 29.6 -0.3**
NKY Niksic 4.32 88 ⇓*i*Pn **Pn 07 08 32.3 +1.9**
NKY *i* Sn **Sn 07 09 21.9 +1.0**
VSL Villasalto 4.35 222 P **Pn 07 08 32.0 +1.3**
DRME Dracevica, Mon 4.53 96 *e*Pn **Pn 07 08 34.2 +1.1**
DRME Dracevica, Mon 4.53 96 ⇑*i*Pn **Pn 07 08 34.2 +1.1**
DRME *i* Sn **Sn 07 09 26.5 +0.7**
FETA Feichten 4.54 339 *e*Pn **Pn 07 08 36.9 +3.5**
comp=E,1.9nm,0.4s
FETA *e*Sn **Sn 07 09 26.4 +0.1**
comp=E,3.0nm,0.4s
TTG Podgorica 4.54 93 ⇑*i*Pn **Pn 07 08 34.3 +1.0**
TTG *i* Sn **Sn 07 09 27.3 +1.1**
WTTA Wattenberg 4.58 347 Pn **Pn 07 08 37.5 +3.5**
comp=E,4.9nm,0.4s,SNR=7.7
WTTA *e*Sn **Sn 07 09 28.0 +0.8**
comp=E,34nm,0.5s
DAVOX Davos/Dischmat 4.59 331 Pn **Pn 07 08 37.2 +3.0**
comp=E,3.7nm,0.3s,baz=152,slow=18,SNR=21
DAVOX Sn **Sn 07 09 29.6 +2.0**
comp=E,1.4nm,0.3s,baz=290,slow=23,SNR=5.8
SQTA Sankt Quirin 4.61 344 *e*Pn **Pn 07 08 34.1 -0.3**
comp=E,4.5nm,0.2s
SQTA *e*Sn **Sn 07 09 29.2 +1.2**
comp=E,14nm,0.3s
ULC Ulcinj 4.62 99 ⇑*i*Pn **Pn 07 08 35.3 +1.0**
ULC *i* Sn **Sn 07 09 28.9 +0.9**
PLE Pljevlja 4.62 81 ⇑*i*Pn **Pn 07 08 35.6 +1.1**
PLE *i* Sn **Sn 07 09 29.6 +1.3**
RUDO Rudo 4.64 78 *e*Pn **Pn 07 08 32.9 -1.8**
WATA Walderalm 4.65 347 *e*Pn **Pn 07 08 35.6 +0.6**
comp=E,0.1nm,0.2s
WATA *e*Sn **Sn 07 09 30.1 +1.0**
comp=E,14nm,0.3s
KOME Kolasin 4.71 87 ⇑*i*Pn **Pn 07 08 37.4 +1.8**
KOME *i* Sn **Sn 07 09 31.1 +0.8**
MOTA Moosalm 4.75 343 *e*Pn **Pn 07 08 37.7 +1.4**
comp=E,1.4nm,0.2s
ARSA Arzberg 4.75 20 *e*Pn **Pn 07 08 36.4 +0.2**
comp=E,1.8nm,0.3s
ARSA *e*Sn **Sn 07 09 29.7 -1.7**
comp=E,11nm,0.5s
GIB Gibilmanna 4.87 172 S **Sb 07 09 52.0 +3.5**
LMR La Mourre 4.87 278 *e*P **Pn 07 08 38.4 +0.6**
LMR *e*Sn **Sn 07 09 28.7 -5.5**
comp=E,6.0nm,0.5s
BIOA Bad Ischl, Aus 4.89 4 *e*Pn **Pn 07 08 39.9 +1.7**
comp=E,5.2nm,0.2s
BIOA *e*Sn **Sn 07 09 35.7 +0.8**
comp=E,23nm,0.5s
RETA Reutte 4.96 341 *e*Pn **Pn 07 08 39.6 +0.5**
comp=E,2.5nm,0.2s
RETA *e*Sn **Sn 07 09 39.0 +2.4**
comp=E,6.8nm,0.4s
MBDF Montbardon 4.98 295 *e*P **Pn 07 08 41.0 +1.6**
MBDF *e*Sn **Sn 07 09 31.3 -5.8**
comp=E,14nm,0.8s
IVA Berane 4.98 87 ⇓*i*Pn **Pn 07 08 40.7 +1.3**
IVA *i* Sn **Sn 07 09 38.1 +1.0**
DAVA Damuels 5.03 334 *e*Pn **Pn 07 08 41.1 +1.0**
comp=E,4.9nm,0.4s
DAVA *e*Sn **Sn 07 09 38.4 +0.1**
comp=E,12nm,0.4s
PVY Plav 5.05 90 ⇓*i*Pn **Pn 07 08 41.4 +1.1**
PVY *i* Sn **Sn 07 09 39.3 +0.5**
GMB Gambarie 5.08 155 ⇓P **Pn 07 08 40.1 -0.6**
MOA Molln 5.10 9 *e*Pn **Pn 07 08 42.4 +1.4**
comp=E,0.7nm,0.1s
MOA *e*Sn **Sn 07 09 40.8 +0.8**
comp=E,0.8nm,0.2s
DIVS Divibare 5.17 73 *e*Pn **Pn 07 08 42.9 +0.9**
LPG La Plagne 5.31 303 *e*P **Pn 07 08 46.2 +2.1**
LPG *e*Sn **Sn 07 09 39.5 -6.0**
comp=E,15nm,0.7s
LPL La Plagne 5.33 303 *e*P **Pn 07 08 46.5 +2.2**
LPL *e*Sn **Sn 07 09 40.1 -5.8**
comp=E,8.5nm,0.7s
RONA Rosalia, Austr 5.38 24 *e*Pn **Pn 07 08 44.8 0.0**
comp=E,0.6nm,0.3s
RONA *e*Sn **Sn 07 09 46.7 -0.1**
comp=E,1.5nm,0.3s
CONA Conrad Observa 5.47 20 Pn **Pn 07 08 46.0 -0.1**
comp=E,4.2nm,0.5s,SNR=5.2
CONA *e*Sn **Sn 07 09 48.2 -0.9**
comp=E,15nm,0.8s
HLNI Lentini 5.62 166 ⇓P **Pb 07 09 02.1 -0.6**
ORIF Oris-en-Rattie 5.64 294 *e*P **Pn 07 08 50.8 +2.3**
ORIF *e*Sn **Sn 07 09 47.2 -6.2**
comp=E,7.5nm,0.7s
GERES GERESS Array B 6.05 4 Pn **Pn 07 08 53.7 -0.4**
comp=E,0.7nm,0.3s,baz=174,slow=13,SNR=8.2
GERES Sn **Sn 07 10 02.8 -0.6**
comp=E,2.9nm,0.3s,baz=180,slow=26,SNR=10
comp=E,1.0nm,0.4s
CKRC Cesky Krumlov 6.07 7 *e*SN **Sn 07 10 01.9 -1.8**
CABF La Chapelle 6.29 310 *e*P **Pn 07 08 59.7 +2.4**
CABF *e*Sn **Sn 07 10 02.6 -6.6**
comp=E,10.0nm,0.7s
KHC Kasperske Hory 6.33 3 *e*PN **Pn 07 08 57.6 -0.3**
KHC *e*SN **Sn 07 10 08.3 -1.9**
VIVF Saint-Julien-l 6.44 291 *e*P **Pn 07 09 01.7 +2.3**
HINF Hinteralfeld 6.67 321 *e*P **Pn 07 09 04.7 +2.1**
HINF *e*Sn **Sn 07 10 11.6 -7.1**
comp=E,8.5nm,0.5s
LASF Ste Croix 6.86 284 *e*P **Pn 07 09 07.1 +2.0**
CDF Champ du Feu 6.94 326 *e*P **Pn 07 09 07.5 +1.2**
CDF *e*Sn **Sn 07 10 17.9 -7.4**
comp=E,4.1nm,0.3s
HAU Haudompre 7.05 320 *e*P **Pn 07 09 08.1 +0.4**
HAU *e*Sn **Sn 07 10 20.8 -7.1**
comp=E,10nm,0.3s
SMF Signal de Mont 7.64 303 *e*P **Pn 07 09 17.7 +1.9**
SMF *e*Sn **Sn 07 10 34.8 -7.6**
comp=E,5.8nm,0.5s
LOR Lormes 7.93 307 *e*P **Pn 07 09 20.6 +0.8**
baz=123
LOR *e*Sn **Sn 07 10 41.6 -7.9**
comp=E,4.5nm,0.4s
AVF Avril sur Loir 8.00 303 *e*P **Pn 07 09 23.3 +2.5**
MEZF Maizieres J'vi 8.02 318 *e*P **Pn 07 09 24.1 +3.1**
BRG Berggiesshubel 8.09 4 Amp 07 12 12.3
comp=Z,5.3nm,1.0s
BRG Berggiesshubel 8.09 4 *ex* Pn 07 09 28.8 +6.9
BRG Berggiesshubel 8.09 4 Amp 07 09 31.6
comp=Z,3.3nm,0.8s
BRG Berggiesshubel 8.09 4 *ex* **Sn 07 10 48.7 -4.6**
BRG Berggiesshubel 8.09 4 *ex* Sg 07 11 60.0 +16
BGF Bois d'Agland 8.22 301 *e*P **Pn 07 09 24.7 +0.9**
CAF Calviac 8.26 289 *e*P **Pn 07 09 26.6 +2.2**
CLL Collm 8.50 360 *e*Pn **Pn 07 09 25.0 -2.6**
CLL *e*Sg **Sg 07 11 52.0 -5.1**
FINES FINESS Array B 20.21 18 P Pn 07 12 00.5 -0.7
comp=Z,1.1nm,0.7s,baz=185,slow=14,SNR=1.9
comp=Z,1.1nm,0.7s
TORD Torodi Ar. Bea 31.17 202 P **P 07 13 44.7 +1.1**
comp=Z,0.4nm,0.5s,baz=8.9,slow=9.1,SNR=3.5
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 47.80 60 P **P 07 16 02.6 +0.7**
comp=Z,0.4nm,0.6s,baz=298,slow=5.1,SNR=3.8
comp=Z,0.4nm,0.6s
SONM Songino Array 61.83 50 P **P 07 17 45.3 +1.6**
comp=Z,0.4nm,0.3s,baz=286,slow=7.3,SNR=1.9
comp=Z,0.4nm,0.3s

IDC 21 07:15:50.7±1.3,30°39N×142°02E,h0km,mb3.5/4, mbtmp3.5/5,ML2.9/1,Error ellipse: s-maj=48.0km s-min=25.7km az=83.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.91**	**334**	Pn	Pn	07 17 33.7	+0.5
	0.2nm,0.3s,baz=159,slow=11,SNR=5.1						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**48.32**	**307**	P	P	07 24 33.5	-0.4
	0.2nm,0.6s,baz=89,slow=12,SNR=3.0						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**50.59**	**189**	P	P	07 24 51.4	+0.1
	0.7nm,0.4s,baz=7.2,slow=7.7,SNR=25						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**54.31**	**189**	P	P	07 25 18.8	-0.2
	0.3nm,0.6s,baz=3.1,slow=5.1,SNR=5.1						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**78.61**	**52**	P	P	07 27 54.6	-0.1
	0.2nm,0.5s,baz=288,slow=6.4,SNR=1.6						
	0.2nm,0.5s						

*IDC **21** 07:19:45.1±0.5,54°.75S×30°.47W,h0km,mb4.7/13, mbtmp4.8/14,ML4.9/1,MS4.2/37,Error ellipse: s-maj=17.4km s-min=13.6km az=58.0*
*MOS **21** 07:19:45.5±1.0,54°.87S×30°.60W,h14km,mb5.2/12,Error ellipse: s-maj=18.2km s-min=10.5km az=119.6*
*NEIC **21** 07:19:47.8±1.5,54°.8S±0°.1×30°.5W±0°.2,h17km±3km, mb5.1/74,Error ellipse: s-maj=16.4km s-min=12.5km az=199.0*
*GCMT **21** 07:19:50.8±0.2,54°.75S±0°.01×30°.39W±0°.04,h12km, MW5.0/130,Moment Tensor Solution. s38,c44; s130,c184; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.55±.17; $M_{\theta\theta}$3.34±.12; $M_{\phi\phi}$0.20±.09; $M_{r\theta}$2.10±.32; $M_{\theta\phi}$0.51±.06; $M_{r\phi}$0.36±.35; Best double couple: M_o4.08500×10^{16} NP1:φ261.00000°,δ61.00000°, λ-90.00000°. NP2:φ81.00000°,δ29.00000°,λ-89.00000°. Principal axes: T 4.0210, Plg16.0000°, Azm351.0000°; N 0.1290, Plg0.0000°, Azm261.0000°; P -4.1500, Plg74.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 07:19:46.4±0.3,54°.80S±0°.06×30°.54W±0°.06,h10km,n377, σ0s84/335,mb5.1/53,MS4.2/40,6C-2D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.50**	**276**	Pn	**Pn**	**07 20 39.5**	**-1.4**

HOPE **Hope Point** 3.50 276 P **Pn** 07 20 39.5 -1.4
EFI **East Falkland** 16.72 269 Pn **Pn** 07 23 39.8 -0.7
EFI **East Falkland** 16.72 269 P **Pn** 07 23 39.8 -0.7
EFI pmax pmax
comp=Z,76nm,1.1s
VNA1 **Neumayer--Stat** 18.68 157 P **Pn** 07 24 04.7 +0.1
VNA1 **Neumayer--Stat** 18.68 157 PcP **PcP** 07 28 32.9 +1.1
VNA3 **Neumayer Olymp** 18.82 159 P **P** 07 24 05.3 -0.7
VNA3 **Neumayer Olymp** 18.82 159 PcP **PcP** 07 28 32.0 -0.1
VNA2 **Neumayer--Watz** 19.08 157 P **P** 07 24 08.0 -0.7
baz=316,slow=12
VNA2 **Neumayer--Watz** 19.08 157 PcP **PcP** 07 28 33.1 +0.5
PMSA **Palmer Station** 19.34 226 P **Pn** 07 24 12.9 +0.3
comp=Z,3.2nm,0.3s,baz=66,slow=8.0,SNR=62
PMSA LR LR 07 30 44.6
comp=Z,696nm,18.8s,baz=74,slow=34
comp=Z,95nm,0.8s
PMSA **Palmer Station** 19.34 226 P **Pn** 07 24 12.5 -0.1
PMSA IAmb IAmb 07 24 14.5
comp=Z,92nm,0.9s
PMSA **Palmer Station** 19.34 226 eP **P** 07 24 11.2 -0.3
SNAA **Sanae** 20.67 155 P **P** 07 24 25.1 -1.0
SNAA **Sanae** 20.67 155 PcP **PcP** 07 28 35.9 +0.4
SNAA **Sanae** 20.67 155 P **P** 07 24 24.9 -1.2
comp=Z,26nm,1.0s,baz=302,slow=10.0,SNR=48
SNAA PcP **PcP** 07 28 36.0 +0.5
comp=Z,2.6nm,0.5s,baz=306,slow=4.3,SNR=12
SNAA LR LR 07 30 47.3
comp=Z,736nm,20.6s,baz=330,slow=32
comp=Z,26nm,1.0s
SNAA **Sanae** 20.67 155 **P** 07 24 25.2 -0.8
TROLL **Troll, Antarti** 22.22 153 P **P** 07 24 41.2 -1.5
TROLL **Troll, Antarti** 22.22 153 PcP **PcP** 07 28 39.2 +0.6
MG02 **Cerro Sombrero** 22.75 259 P **P** 07 24 47.0 -1.4
BELA **Belgrano 2** 23.22 182 P **P** 07 24 53.0 -0.1
BELA IAmb IAmb 07 24 56.8
comp=Z,62nm,1.1s
NVL **N'lazarevskaya** 24.35 147 eP **P** 07 25 02.2 -1.8
NVL eS **S** 07 29 28.8 +5.9
NVL pmax pmax
comp=Z,16nm,1.0s
NVL MLR MLR
comp=Z,663nm,17.0s
MG05 **Puerto Natales** 25.03 260 P **P** 07 25 10.8 +0.4
MG05 IAmb IAmb 07 25 27.9
comp=Z,91nm,1.4s
TRQA **Tornquist** 27.07 295 P **P** 07 25 29.8 +0.9
TRQA **Tornquist** 27.07 295 P **P** 07 25 29.8 +0.9
TRQA pmax pmax
comp=Z,46nm,1.6s
TRQA **Tornquist** 27.07 295 eP **P** 07 25 28.3 -0.6
PLTB **Pedras Altas** 28.25 315 P **P** 07 25 39.7 +0.2
PLTB **Pedras Altas** 28.25 315 eP **P** 07 25 40.1 +0.6
CPSB **Cacapava Do Su** 29.38 317 eP **P** 07 25 50.4 +0.9
CNLB **Canela** 29.38 322 eP **P** 07 25 49.6 0.0
PLCA **Paso Flores** 29.89 281 P **P** 07 25 54.0 -0.1
comp=Z,4.0nm,1.1s,baz=175,slow=2,SNR=4.1
PLCA LR LR 07 38 51.8
comp=Z,278nm,18.5s,baz=124,slow=38
comp=Z,4.0nm,1.1s
PLCA **Paso Flores** 29.89 281 P **P** 07 25 55.0 +0.9
PLCA **Paso Flores** 29.89 281 P **P** 07 25 55.0 +0.9
PLCA pmax pmax
comp=Z,34nm,1.9s
RODS **Rosario do Sul** 30.14 314 eP **P** 07 25 57.0 +0.7
ALGR **Alto Alegre (B** 30.65 319 eP **P** 07 26 01.4 +0.6
UNIS **Unistalda (Bra** 31.22 315 eP **P** 07 26 06.6 +0.8
ITQB **Itaqui** 31.34 313 P **P** 07 26 06.2 -0.6
ITQB IAmb IAmb 07 26 28.5
comp=Z,20nm,0.8s
ITQB **Itaqui** 31.34 313 eP **P** 07 26 07.5 +0.7
CRSM **Crissiumal (Br** 32.21 318 eP **P** 07 26 15.2 +0.6
TIJ01 **Guaruva-PR** 32.45 328 eP **P** 07 26 18.5 +1.7
FRBT **Francisco Belt** 33.22 321 eP **P** 07 26 24.2 +0.8
MAN01 **Angra dos Reis** 33.44 337 eP **P** 07 26 26.0 +0.7
ML02 **Panimavida** 33.85 287 P **P** 07 26 29.8 +1.0
DUB01 **Friburgo-RJ** 33.87 340 eP **P** 07 26 30.3 +1.2
PTGB **Pitanga** 34.02 323 eP **P** 07 26 31.1 +0.7
VAO **Valinhos** 34.05 332 eP **P** 07 26 30.8 +0.1
BO02 **Sierra Bellavi** 34.22 289 P **P** 07 26 32.6 +0.5
CPUP **Villa Florida** 34.56 315 P **P** 07 26 34.8 -0.2
comp=Z,9.8nm,0.9s,baz=152,slow=8.5,SNR=15
CPUP LR LR 07 39 03.3
comp=Z,308nm,21.0s,baz=152,slow=34
comp=Z,9.8nm,0.9s
CPUP **Villa Florida** 34.56 315 P **P** 07 26 34.9 -0.1
CPUP IAmb IAmb 07 26 46.9
comp=Z,22nm,0.9s
CPUP **Villa Florida** 34.56 315 P **P** 07 26 34.9 -0.1
CPUP pmax pmax
comp=Z,22nm,0.9s
CPUP **Villa Florida** 34.56 315 eP **P** 07 26 35.0 -0.1
BO04 **La Punta** 34.73 290 P **P** 07 26 36.7 +0.1
MT09 **Talagante** 35.10 290 P **P** 07 26 39.9 +0.1
MT09 IAmb IAmb 07 27 03.3
comp=Z,23nm,0.8s
MT01 **Popeta** 35.17 290 P **P** 07 26 40.2 -0.1
MT01 IAmb IAmb 07 26 53.3
comp=Z,29nm,0.9s
PEL **Peldehue** 35.41 291 P **P** 07 26 42.6 +0.2
PEL **Peldehue** 35.41 291 P **P** 07 26 42.6 +0.2
PEL pmax pmax
comp=Z,29nm,0.7s
QSPA **South Pole Qui** 35.45 180 P **P** 07 26 43.4 +0.9
comp=Z,54nm,0.7s,baz=203,slow=2.0,SNR=297
QSPA LR LR 07 40 25.9
comp=Z,973nm,19.6s,baz=184,slow=35
comp=Z,54nm,0.7s
QSPA **South Pole Qui** 35.45 180 P **P** 07 26 43.8 +1.2
MT02 **Curacav** 35.57 290 P **P** 07 26 44.0 +0.3
ZON **Zonda** 35.58 295 P **P** 07 26 43.7 -0.2
ZON **Zonda** 35.58 295 P **P** 07 26 43.7 -0.2
ZON pmax pmax
comp=Z,14nm,0.7s
VA03 **San Esteban** 35.63 292 IAmb IAmb 07 27 16.6
comp=Z,34nm,1.1s
VA06 **Catapilco** 36.19 291 P **P** 07 26 48.6 -0.4
BB19B **Bebedouro** 36.32 331 eP **P** 07 26 51.7 +1.4
PCMB **Pacaembu** 36.64 327 eP **P** 07 26 53.3 +0.4
CO01 **Juntas del Tor** 37.56 295 IAmb IAmb 07 27 14.2
comp=Z,50nm,1.5s
NAN01 **Guarapari, ES** 37.62 345 eP **P** 07 27 01.4 +0.1
PMNB **Patos De Minas** 38.19 335 eP **P** 07 27 04.7 +1.2
AC05 **El Transito** 38.57 296 P **P** 07 27 09.8 +0.5
LCO **Las Campanas** 38.65 295 P **P** 07 27 11.0 +0.8
LCO **Las Campanas** 38.65 295 P **P** 07 27 11.0 +0.8
GUA01 **Guaratinga, BA** 38.81 346 eP **P** 07 27 11.6 +0.3
IPMB **Ipameri, GO** 39.17 333 eP **P** 07 27 15.3 +1.0
AQDB **Aquidauana** 39.20 321 P **P** 07 27 13.8 -0.8
AQDB IAmb IAmb 07 27 25.5
comp=Z,58nm,1.7s
AQDB **Aquidauana** 39.20 321 eP **P** 07 27 13.5 -1.0
AC04 **Llanos de Chal** 39.49 296 P **P** 07 27 17.3 +0.4
AC04 IAmb IAmb 07 27 18.0
comp=Z,54nm,1.4s
AC02 **Maricunga** 39.60 299 P **P** 07 27 18.9 +0.5
C2SB **Chapadao do Su** 39.80 326 eP **P** 07 27 20.0 +0.5
AC06 **Mina Casimiro** 39.80 297 IAmb IAmb 07 27 31.0
comp=Z,102nm,2.0s
AC01 **Pan de Azucar** 40.91 298 P **P** 07 27 28.8 +0.1
AC01 **sP** 07 27 34.8 +4.6
AC01 IAmb IAmb 07 27 40.6
comp=Z,28nm,0.9s
JANB **Januaria** 41.08 340 eP **P** 07 27 31.0 +0.8
GO02 **Mina Guanaco** 41.22 300 P **P** 07 27 31.9 +0.3
BDFB **Brasilia** 41.36 334 P **P** 07 27 33.9 +1.3
comp=Z,6.0nm,0.7s,baz=136,slow=6.3,SNR=9.4
BDFB LR LR 07 42 11.8
comp=Z,433nm,21.2s,baz=141,slow=33
comp=Z,6.0nm,0.7s
BDFB **Brasilia** 41.36 334 eP **P** 07 27 33.2 +0.6
PB14 **IPOC Station P** 42.07 299 IAmb IAmb 07 28 15.4
comp=Z,104nm,1.9s
SUR **Sutherland** 42.23 80 P **P** 07 27 40.3 +0.6
comp=Z,6.8nm,0.7s,baz=221,slow=9.8,SNR=10
SUR LR LR 07 42 11.9
comp=Z,217nm,18.1s,baz=216,slow=32
comp=Z,6.8nm,0.7s
MAW **Mawson** 42.28 145 P **P** 07 27 39.4 0.0
comp=Z,8.9nm,0.7s,baz=228,slow=9.2,SNR=12
MAW LR LR 07 42 46.4
comp=Z,353nm,21.2s,baz=254,slow=33
comp=Z,8.9nm,0.7s
MAW **Mawson** 42.28 145 P **P** 07 27 39.2 -0.2

LVC **Limon Verde** 43.02 303 LR LR 07 44 51.6
comp=Z,167nm,21.6s,baz=166,slow=35
LVC **Limon Verde** 43.02 303 P **P** 07 27 47.4 +1.0
LVC **Limon Verde** 43.02 303 P **P** 07 27 47.4 +1.0
LVC pmax pmax
comp=Z,23nm,0.9s
LVC **Limon Verde** 43.02 303 eP **P** 07 27 47.8 +1.4
SALV **Santo Antonio** 43.42 323 eP **P** 07 27 49.7 +0.4
SDBA **SAO DESIDERIO** 43.78 339 eP **P** 07 27 52.7 +0.6
NBLA **Lagarto - SE** 44.08 350 eP **P** 07 27 55.5 +1.0
PB02 **IPOC Station P** 44.59 303 IAmb IAmb 07 28 12.0
comp=Z,52nm,1.3s
PB01 **IPOC Station P** 44.63 303 IAmb IAmb 07 28 01.0
comp=Z,28nm,0.8s
PTLB **Pontes e Lacer** 45.09 319 IAmb IAmb 07 28 14.1
comp=Z,61nm,1.7s
PTLB **Pontes e Lacer** 45.09 319 eP **P** 07 28 02.6 +0.1
PB08 **IPOC Station P** 45.24 304 IAmb IAmb 07 28 18.1
comp=Z,28nm,1.1s
SIV **San Ignacio** 45.34 317 LR LR 07 44 35.7
comp=Z,268nm,21.5s,baz=116,slow=33
GO01 **Chusmiza** 45.66 305 IAmb IAmb 07 28 20.4
comp=Z,28nm,0.8s
SNDB **Serra Nova Dou** 45.74 331 eP **P** 07 28 08.7 +0.9
PB16 **IPOC Station P** 46.96 305 IAmb IAmb 07 28 36.3
comp=Z,36nm,1.7s
SBA **Scott Base** 47.18 185 P **P** 07 28 19.4 +1.0
SBA **Scott Base** 47.18 185 P **P** 07 28 19.4 +1.0
SBA pmax pmax
comp=Z,51nm,1.5s
H10S2 **ASCENSION HYDR** 47.45 22 T T 08 19 25.9
baz=192,slow=74,SNR=4.9
H10S3 **ASCENSION HYDR** 47.45 22 T T 08 19 28.7
baz=28,slow=74,SNR=9.0
BOSA **Boshof** 47.58 80 P **P** 07 28 21.8 -0.4
comp=Z,5.2nm,0.6s,baz=220,slow=6.0,SNR=12
BOSA LR LR 07 45 45.3
comp=Z,230nm,18.1s,baz=196,slow=33
comp=Z,5.2nm,0.6s
BOSA **Boshof** 47.58 80 P **P** 07 28 21.9 -0.4
BOSA IAmb IAmb 07 29 27.6
comp=Z,35nm,1.7s
BOSA **Boshof** 47.58 80 P **P** 07 28 21.9 -0.4
BOSA pmax pmax
comp=Z,35nm,1.7s
VNDA **Vanda** 47.72 184 P **P** 07 28 23.2 +0.7
comp=Z,9.2nm,0.7s,baz=173,slow=6.3,SNR=67
VNDA LR LR 07 48 06.0
comp=Z,148nm,19.2s,baz=164,slow=36
comp=Z,9.2nm,0.7s
VNDA **Vanda** 47.72 184 P **P** 07 28 23.6 +1.1
VNDA IAmb IAmb 07 28 24.9
comp=Z,20nm,0.9s
VNDA **Vanda** 47.72 184 P **P** 07 28 23.7 +1.1
VNDA pmax pmax
comp=Z,20nm,1.0s
PDRB **Porto dos Gac** 47.77 324 eP **P** 07 28 23.2 -0.4
VILB **Vilhena** 47.77 319 IAmb IAmb 07 28 37.1
comp=Z,16nm,0.8s
VILB **Vilhena** 47.77 319 eP **P** 07 28 24.3 +0.6
SMTB **Santa Maria do** 47.79 337 eP **P** 07 28 23.8 -0.1
LPAZ **La Paz** 48.10 308 P **P** 07 28 27.3 +0.4
comp=Z,7.0nm,0.7s,baz=133,slow=6.6,SNR=31
LPAZ LR LR 07 50 56.6
comp=Z,90nm,19.2s,baz=144,slow=39
comp=Z,7.0nm,0.7s
LPAZ **La Paz** 48.10 308 eP **P** 07 28 27.6 +0.7
CLDB **Colider** 48.15 326 eP **P** 07 28 26.5 -0.1
H10N1 **ASCENSION HYDR** 48.56 21 T T 08 20 51.9
baz=191,slow=76,SNR=11
H10N3 **ASCENSION HYDR** 48.56 21 T T 08 20 52.7
baz=191,slow=76,SNR=27
H10N2 **ASCENSION HYDR** 48.58 21 T T 08 20 53.5
baz=191,slow=76,SNR=29
RCBR **Riachuelo** 49.02 353 LR LR 07 44 39.4
comp=Z,315nm,21.1s,baz=324,slow=30
LBTB **Lobatse** 50.54 77 LR LR 07 47 14.8
comp=Z,89nm,18.2s,baz=214,slow=33
LBTB **Lobatse** 50.54 77 P **P** 07 28 44.7 -0.3
LBTB IAmb IAmb 07 28 45.8
comp=Z,18nm,0.9s
LBTB **Lobatse** 50.54 77 P **P** 07 28 44.7 -0.3
LBTB pmax pmax
comp=Z,18nm,0.9s
TSUM **Tsumeb** 50.82 65 LR LR 07 46 32.7
comp=Z,101nm,18.6s,baz=142,slow=32
PRPB **Parauapebas** 50.91 335 eP **P** 07 28 48.8 +1.1
NPGB **Novo Progresso** 51.62 328 eP **P** 07 28 52.9 0.0
ETMB **Extrema** 53.01 314 IAmb IAmb 07 29 15.0
comp=Z,7.7nm,1.0s
ETMB **Extrema** 53.01 314 eP **P** 07 29 03.0 -0.4
ITTB **Itatuba** 54.26 328 eP **P** 07 29 12.6 +0.1
CASY **Casey** 55.71 162 P **P** 07 29 22.6 +0.3
NNA **Nana** 55.97 301 iP **P** 07 29 24.5 -0.4
NNA pmax pmax
comp=Z,81nm,1.9s
MALB **Monte Alegre** 56.22 331 eP **P** 07 29 27.8 +1.2
CZSB **Cruzeiro do Su** 57.71 308 eP **P** 07 29 36.8 -0.4
PTGA **Pitinga** 59.03 325 LR LR 07 53 42.4
comp=Z,256nm,21.9s,baz=152,slow=34
TBTG **Tabatinga, AM** 59.63 313 eP **P** 07 29 50.2 -0.4
LSZ **Lusaka** 59.77 73 LR LR 07 52 52.6
comp=Z,162nm,18.8s,baz=190,slow=33
LSZ **Lusaka** 59.77 73 P **P** 07 29 51.6 -0.1
LSZ IAmb IAmb 07 29 52.6
comp=Z,15nm,0.9s
LSZ **Lusaka** 59.77 73 P **P** 07 29 51.6 -0.1
LSZ pmax pmax
comp=Z,15nm,1.0s
ATAH **Atahualpa** 60.91 303 LR LR 07 57 49.5
comp=Z,123nm,19.4s,baz=142,slow=38
RPN **Rapa Nui** 61.96 262 LR LR 07 52 41.9
comp=Z,112nm,18.8s,baz=120,slow=32
BOAV **Boa Vista** 62.15 326 P **P** 07 30 06.8 -0.8
BOAV IAmb IAmb 07 30 19.2
comp=Z,19nm,1.5s
BOAV **Boa Vista** 62.15 326 eP **P** 07 30 07.3 -0.3
MDP **Montagnes des** 62.46 335 LR LR 07 55 07.8
comp=Z,395nm,21.1s,baz=152,slow=34
BOSC **San Juan Bosco** 64.42 305 P **P** 07 30 22.7 -0.3
BOSC IAmb IAmb 07 30 44.0
comp=Z,13nm,1.1s
LIC **Lamto** 64.43 28⇓ eP **P** 07 30 22.4 -0.3
comp=Z,41nm,0.8s
KIC **Koan Boka** 64.64 29⇑ eP **P** 07 30 24.1 0.0
comp=Z,7.5nm,0.8s
TIC **Toumodi** 64.83 28⇑ eP **P** 07 30 25.2 -0.2
comp=Z,23nm,0.8s
ARNL **Arenillas** 64.83 303 P **P** 07 30 26.5 +1.0
DBIC **Dimbokro** 64.90 28 P **P** 07 30 26.1 +0.3
comp=Z,4.7nm,0.7s,baz=205,slow=9.9,SNR=5.7
DBIC LR LR 07 51 55.6
comp=Z,176nm,20.6s,baz=174,slow=30
comp=Z,4.7nm,0.7s
CHSH **Refugio Sur-Vo** 66.05 305 P **P** 07 30 34.0 -0.1
CHSH IAmb IAmb 07 30 36.7
comp=Z,14nm,0.9s
OTAV **Otavalo** 67.37 306 P **P** 07 30 43.0 +0.7
OTAV **Otavalo** 67.37 306 P **P** 07 30 43.0 +0.7
OTAV pmax pmax
comp=Z,9.0nm,1.0s
OTAV **Otavalo** 67.37 306 eP **P** 07 30 40.9 -1.4
TULM **Tulcn-Chalpat** 67.49 307 P **P** 07 30 44.2 +1.2
TULM IAmb IAmb 07 30 45.4
comp=Z,17nm,0.9s
ROSC **El Rosal** 69.62 313 P **P** 07 30 56.5 +0.2
comp=Z,6.1nm,0.5s,baz=150,slow=14,SNR=4.7
ROSC LR LR 08 01 36.9
comp=Z,227nm,21.5s,baz=156,slow=36
comp=Z,6.1nm,0.5s
ROSC **El Rosal** 69.62 313 IAmb IAmb 07 30 59.0
comp=Z,13nm,1.1s
BBTS **Babate** 70.21 14 LR LR 07 55 13.0
comp=Z,332nm,20.9s,baz=222,slow=30
PCRV **Puerto La Cruz** 70.80 324 LR LR 08 02 08.2
comp=Z,295nm,20.6s,slow=36
SDV **Santo Domingo** 71.79 318 LR LR 08 02 24.6
comp=Z,699nm,21.4s,baz=108,slow=36
SDV **Santo Domingo** 71.79 318 P **P** 07 31 08.7 -0.5
SDV **Santo Domingo** 71.79 318 eP **P** 07 31 09.7 +0.6
KOWA **Kowa** 72.61 27 LR LR 07 56 28.4
comp=Z,282nm,20.8s,baz=178,slow=30
KOWA **Kowa** 72.61 27 P **P** 07 31 14.3 +0.6
KOWA IAmb IAmb 07 31 16.4
comp=Z,19nm,1.4s
TOA0 **Torodi Ar. Sit** 72.98 33 P **P** 07 31 16.1 +0.1

TOA0 IAmb IAmb 07 31 18.3
comp=Z,22nm,0.8s
TORD **Torodi Ar. Bea** 72.98 33 P **P** 07 31 15.8 -0.2
comp=Z,21nm,0.8s,baz=199,slow=6.1,SNR=81
TORD LR LR 07 56 32.7
comp=Z,272nm,20.6s,baz=212,slow=30
comp=Z,21nm,0.8s
TORD **Torodi Ar. Bea** 72.98 33 P **P** 07 31 16.2 +0.3
TORD IAmb IAmb 07 31 18.3
comp=Z,16nm,0.8s
MBAR **Mbarara** 73.34 66 iP **P** 07 31 19.1 +0.6
MBAR pmax pmax
comp=Z,15nm,1.7s
FDF **Fort de France** 73.97 329 P **P** 07 31 21.9 0.0
SJG **San Juan** 78.71 326 LR LR 08 05 35.9
comp=Z,132nm,21.6s,baz=160,slow=35
CBYP **Canovanas** 78.77 326 IAmb IAmb 07 31 50.3
comp=Z,19nm,0.8s
CELP **Cerrillos** 78.82 325 P **P** 07 31 47.5 -1.8
CRPR **Cabo Rojo, PR** 78.93 325 IAmb IAmb 07 32 00.5
comp=Z,27nm,1.0s
JTS **Las Juntas de** 79.23 305 iP **P** 07 31 50.5 -1.2
JTS pmax pmax
comp=Z,21nm,1.9s
ORTG **Ortega, Santa** 79.53 305 P **P** 07 31 53.0 -0.4
ORTG IAmb IAmb 07 33 02.0
comp=Z,36nm,1.5s
RPZ **Rata Peaks** 80.15 196 LR LR 08 03 06.3
comp=Z,106nm,21.7s,baz=166,slow=32
ACON **Acoyapa** 80.80 306 IAmb IAmb 07 32 01.1
comp=Z,14nm,0.9s
URZ **Urewera** 84.31 202 LR LR 08 05 02.6
comp=Z,105nm,21.7s,baz=242,slow=32
NWAO **Narrogin (SRO)** 88.33 153 LR LR 08 08 37.4
comp=Z,114nm,19.2s,baz=54,slow=33
TEIG **Tepich** 89.42 307 P **P** 07 32 43.5 +0.3
CMIG **Matias Romero** 89.91 300 LR LR 08 09 29.0
comp=Z,57nm,21.2s,baz=148,slow=33
MDT **Midelt** 90.08 22 LR LR 08 06 52.4
comp=Z,395nm,21.5s,baz=206,slow=31
RAO **Raoul Island** 91.70 208 LR LR 08 05 41.4
comp=Z,43nm,21.6s,baz=88,slow=30
STKA **Stephens Creek** 93.41 173 PP **PP** 07 36 44.8 0.0
comp=Z,2.1nm,0.9s,baz=193,slow=11,SNR=2.2
STKA LR LR 08 12 15.9
comp=Z,435nm,21.6s,baz=203,slow=34
ESDC **Sonseca Array** 96.83 20 LR LR 08 11 51.8
comp=Z,337nm,20.2s,baz=182,slow=32
ASAR **Alice Springs** 100.72 166 P **Pdif** 07 33 33.6 -1.4
comp=Z,0.5nm,0.7s,baz=174,slow=3.4,SNR=4.8
ASAR PP **PP** 07 37 39.9 -1.4
comp=Z,0.6nm,0.7s,baz=188,slow=6.9,SNR=7.5
TXAR **Lajitas Array** 104.52 300 PP **PKiKP** 07 38 08.6 +1.0
comp=Z,0.3nm,0.9s,baz=144,slow=7.1,SNR=3.5
TPFO **Pinon Flats** 114.50 294 P **PKiKP** 07 38 27.1 +0.9
baz=141
PFO **Pinyon Flats O** 114.51 294 P **PKiKP** 07 38 27.3 +1.1
baz=141
BELC **Belle Mtn. Jos** 114.57 294 P **PKiKP** 07 38 27.2 +0.9
baz=141
TUQ **Turquoise Moun** 115.63 295 P **PKiKP** 07 38 29.3 +0.9
baz=140
KBZ **Khabaz** 116.23 51 i PKiKP **PKiKP** 07 38 29.7 +0.7
EDW2 **Edwards Air Fo** 116.30 294 P **PKiKP** 07 38 30.0 +0.5
baz=140
SCZ2 **Santa Cruz Isl** 116.50 292 P **PKiKP** 07 38 30.6 +0.6
baz=140
RSSD **Black Hills** 116.56 309 P **PKiKP** 07 38 30.4 +0.4
baz=142
MPMC **Manual Prospec** 116.92 295 P **PKiKP** 07 38 31.8 +0.9
baz=140
TPNV **Topopah Spring** 116.95 296 **PKPdf** 07 38 30.6 -0.3
TPNV **Topopah Spring** 116.95 296 PKiKP **PKPdf** 07 38 30.6 -0.3
TPNV **Topopah Spring** 116.95 296 P **PKiKP** 07 38 31.5 +0.6
baz=140
ISA **Isabella, Lake** 117.14 294 P **PKiKP** 07 38 31.8 +0.6
baz=140
PKM **Mcpherson Peak** 117.27 292 P **PKiKP** 07 38 32.1 +0.5
baz=140
CWC **Cottonwood Cre** 117.53 295 P **PKiKP** 07 38 32.7 +0.6
baz=139
VES **Vestal, Richgr** 117.60 294 P **PKiKP** 07 38 32.7 +0.8
baz=139
R11A **Troy Canyon, C** 117.67 298 P **PKiKP** 07 38 32.8 +0.6
baz=140
DUG **Dugway, Tooele** 117.68 301 P **PKiKP** 07 38 32.7 +0.6
baz=140
PDAR **Pinedale Array** 118.06 305 PKP **PKPdf** 07 38 32.1 -0.8
comp=Z,0.4nm,0.9s,baz=101,slow=2.8,SNR=2.3
PDAR PKKPab **PKKPab** 07 48 52.5 -0.7
comp=Z,0.5nm,0.8s,baz=34,slow=0.5,SNR=4.2
NVAR **Mina Array Bea** 119.14 296 PKP **PKiKP** 07 38 36.0 +0.8
comp=Z,0.4nm,0.7s,baz=145,slow=3.1,SNR=5.1
DGMT **Dagmar** 120.01 312 P **PKiKP** 07 38 37.1 +0.9
baz=140
NOA **NORSAR Array B** 120.14 22 PKP **PKiKP** 07 38 36.6 +0.5
comp=Z,0.6nm,0.8s,baz=205,slow=1.6,SNR=3.0
HLID **Hailey** 121.00 303 P **PKiKP** 07 38 39.1 +0.5
baz=138
BOZ **Bozeman (W)** 121.17 306 P **PKiKP** 07 38 39.3 +0.5
baz=138
EGMT **Eagleton** 122.11 309 P **PKiKP** 07 38 40.9 +0.4
baz=138
MOD **Modoc Plateau** 122.73 297 PKPdf **PKPdf** 07 38 37.9 -3.9
MSO **Missoula** 123.17 305 P **PKiKP** 07 38 43.1 +0.5
baz=137
L04D **Klamath Falls** 123.99 296 P **PKiKP** 07 38 44.8 +0.3
baz=136
FINES **FINESS Array B** 124.19 29 PKP **PKPdf** 07 38 42.8 -0.9
comp=Z,2.0nm,0.8s,baz=132,slow=2.8,SNR=8.6
J05D **Fort Rock, OR** 124.20 298 P **PKiKP** 07 38 45.4 +0.6
baz=136
G08A **Pilot Rock** 124.49 301 PKPdf **PKPdf** 07 38 44.8 -0.2
L02F **Cave Junction** 124.58 296 P **PKiKP** 07 38 46.5 +1.0
baz=136
J04D **Umpqua Nationa** 124.62 297 P **PKiKP** 07 38 46.4 +0.6
baz=135
I05D **Terrebonne, OR** 125.01 299 P **PKiKP** 07 38 47.0 +0.7
baz=135
I04A **Tendick Farm,** 125.17 298 P **PKiKP** 07 38 47.3 +0.7
baz=135
J01E **Myrtle Point** 125.51 296 P **PKiKP** 07 38 47.7 +0.5
baz=135
G05D **Wamic, OR** 125.63 300 P **PKiKP** 07 38 47.8 +0.3
baz=135
NEW **Newport** 125.70 305 P **PKiKP** 07 38 47.8 +0.3
baz=135
H04D **Lebanon** 125.85 298 P **PKiKP** 07 38 48.1 +0.2
baz=135
CMAR **Chiang Mai Arr** 127.30 113 PKP **PKPdf** 07 38 50.7 -0.4
comp=Z,1.0nm,0.3s,baz=224,slow=3.8,SNR=2.1
ABKAR **Akbulak array** 128.26 57 PKPdf **PKPdf** 07 38 52.0 +0.1
ABKAR **Akbulak array** 128.26 57 PKPdf **PKPdf** 07 38 50.5 -1.4
KKAR **Karatay Array** 129.53 69 PKPdf **PKPdf** 07 38 54.5 -0.1
KKAR **Karatay Array** 129.53 69 PKiKP **PKPdf** 07 38 54.5 -0.1
KSH **Kashi** 130.09 76 PKP **PKPdf** 07 38 55.9 0.0
ARCES **ARCESS Array B** 130.51 23 PKP **PKPdf** 07 38 55.4 -0.2
comp=Z,5.6nm,1.0s,baz=180,slow=2.4,SNR=11
ARU **Arti** 132.29 49 i PKiKP **PKPdf** 07 38 59.3 0.0
ARU 07 41 25.8
ARU SS SS 07 59 00.5 -0.7
YKA **Yellowknife Ar** 133.97 320 PKP **PKPdf** 07 39 01.7 -0.6
comp=Z,4.0nm,0.8s,baz=126,slow=2.5,SNR=12
PZH **PanZhiHua** 135.31 109 PKP **PKiKP** 07 39 08.5 +0.8
BRVK **Borovoye** 135.70 58 i PKiKP **PKiKP** 07 39 06.8 -0.6
MK31 **Makanchi Array** 138.31 72 i PKiKP **PKPdf** 07 39 10.3 -0.7
MKAR **Makanchi Array** 139.31 72 PKPdf **PKPpre** 07 39 04.2
comp=Z,1.1nm,1.0s,baz=250,slow=2.9,SNR=3.8
WTLY **Watson Lake, Y** 138.36 312 **PKPdf** 07 39 11.0 +0.4
WMQ **Urumqi** 139.54 79 ePKP **PKiKP** 07 39 14.8 -0.9
WMQ LR LR
comp=Z,330nm,22.7s
WMQ LR LR
comp=Z,250nm,17.7s
DGZ **Jazzator, Alta** 142.79 71 i PKiKP **PKPdf** 07 39 17.9 -1.2
ZALV **Zalesovo Beam** 143.54 64 PKhKP **PKPpre** 07 39 17.2
comp=Z,2.9nm,0.6s,baz=259,slow=3.7,SNR=7.4
ZALV **Zalesovo Beam** 143.54 64 PKiKP PKPbc 07 39 17.3 -0.2
INK **Inuvik** 143.63 322 PKPpre 07 39 17.9
INK **Inuvik** 143.63 322 PKiKP PKPbc 07 39 18.0 +0.7
GTA **Gaotai** 143.71 94 PKP PKPbc 07 39 18.6 0.0
CTG **Chitna Glacier** 144.29 309 P PKPbc 07 39 20.3 +0.5
baz=112
I29M **Ogilvie Camp,** 144.52 317 P **PKPab** 07 39 19.5 -0.5
baz=108
DAWY **Dawson** 144.54 314 **PKPab** 07 39 19.6 -0.5
DAWY **Dawson** 144.54 314 P **PKPab** 07 39 19.9 -0.2

baz=109
BGLC Bering Glacier 144.87 307 P PKPab 07 39 21.1 -0.2
baz=112
M27K Edge Creek, AK 145.03 311 P PKPbc 07 39 22.1 0.0
baz=110,SNR=10
XAN Xi'an 145.05 110 ⇑*i* PKPbc PKPbc 07 39 22.5 -0.4
XAN pPKP PKiKP 07 39 28.8 +1.5
XAN LR LR
comp=Z,470nm,17.7s
WHN Wuhan 145.18 120 ⇑ PKPbc PKPab 07 39 23.3 -0.1
MCARA McCarthy VSAT 145.21 309 P PKPdf 07 39 22.9 +0.1
baz=110
BCAR Beaver Creek A 145.23 312 PKPbc 07 39 22.3 -0.3
L27K Beaver Creek, 145.25 312 P PKPab 07 39 22.9 +0.2
baz=109,SNR=20
KAIM Kayak Island 145.33 306 P PKPab 07 39 23.4 +0.4
baz=112
EGAK Eagle 145.49 315 P PKPdf 07 39 22.9 -0.2
baz=107,SNR=9.4
M26K Nabesna, AK 145.54 310 P PKPdf 07 39 23.4 0.0
baz=109
K27K Chicken 145.65 313 P PKPab 07 39 24.4 +0.3
baz=107
BMRM Bremner River 145.78 308 P PKPbc 07 39 24.7 +0.3
baz=110
L26K Log Cabin Wild 145.89 311 P PKPbc 07 39 24.9 +0.3
baz=108,SNR=5.8
I27K Kandik River 145.91 316 P PKPbc 07 39 24.7 +0.1
baz=106,SNR=23
N25K Chitina, Valde 145.99 309 P PKPab 07 39 25.5 -0.1
baz=109
H27K Steamboat Moun 146.04 317 P PKPbc 07 39 25.4 +0.4
baz=105,SNR=18
EYAK Cordova Ski Ar 146.17 307 P PKPab 07 39 26.2 0.0
baz=110
G27K Doyon Strip 146.23 318 P PKPbc 07 39 25.6 +0.1
baz=104,SNR=7.3
J26L Joseph Creek 146.41 314 P PKPbc 07 39 26.7 +0.5
baz=106,SNR=27
I26K Coal Creek Min 146.45 315 P PKPbc 07 39 26.5 +0.3
baz=105
HARP HAARP 146.49 310 P PKPab 07 39 27.3 -0.2
baz=108
E27K Coleen River 146.51 321 P PKPbc 07 39 26.6 +0.2
baz=102
KLU Klutina 146.56 308 P PKPbc 07 39 27.2 +0.5
baz=108,SNR=6.2
RIDG Independent Ri 146.75 312 P PKPbc 07 39 27.3 +0.2
baz=106
PAX Paxson 146.80 311 P PKPbc 07 39 27.5 +0.1
baz=106,SNR=19
M24K Tolsona, Glenn 146.86 309 P PKPbc 07 39 27.4 -0.1
baz=107
GLI Glacier Island 146.90 307 P PKPbc 07 39 27.9 +0.3
baz=108
G26K Porcupine Rive 147.08 318 P PKPbc 07 39 28.4 +0.5
baz=102,SNR=10
J25K Salcha River, 147.19 314 P PKPbc 07 39 28.9 +0.5
baz=104,SNR=9.3
SCM Sheep Creek Mo 147.30 308 P PKPbc 07 39 29.5 +0.7
baz=107
LYN LuoYang 147.35 113 ⇓*i* PKPbc PKPdf 07 39 28.0 +0.7
LYN SKS SKSdf 07 46 30.8 -4.9
F26K Sheenjek River 147.36 320 P PKPbc 07 39 29.4 +0.7
baz=100,SNR=15
PRP Porcupine Dome 147.47 315 P PKPbc 07 39 29.4 +0.2
baz=103,SNR=6.6
M23K Glacier View 147.47 308 P PKPbc 07 39 29.7 +0.5
baz=107,SNR=7.1
PWL Port Wells 147.47 306 P PKPbc 07 39 29.5 +0.3
baz=108
BMAR Burnt Mountain 147.48 319 PKPbc 07 39 28.8 -0.3
C27K Jago River 147.51 323 P PKPbc 07 39 29.3 +0.2
baz=98
DHY Denali Highway 147.66 311 P PKPbc 07 39 29.9 0.0
baz=105
KNK Knik Glacier 147.69 307 P PKPbc 07 39 29.8 0.0
baz=107
WAT6 Susitna Watana 147.70 310 P PKPbc 07 39 29.8 -0.2
baz=106
H25K Birch Creek 147.74 317 P PKPbc 07 39 29.8 +0.1
baz=101,SNR=6.2
SML Sawmill 147.75 308 P PKPbc 07 39 29.9 -0.2
baz=106
HDA Harding Lake 147.81 313 P PKPbc 07 39 29.8 -0.3
baz=103
ILAR Eielson Array 147.86 314 PKPbc PKPbc 07 39 29.5 -0.7
comp=Z,29nm,0.8s,baz=124,slow=1.6,SNR=54
F25K Christian Rive 147.91 319 P PKPbc 07 39 30.4 +0.2
baz=99,SNR=12
C26K Camden Bay 147.96 324 P PKPbc 07 39 30.5 +0.2
baz=96
E25K Arctic Village 147.96 320 P PKPbc 07 39 30.4 0.0
baz=98,SNR=19
WAT1 Susitna Watana 148.12 310 P PKPbc 07 39 30.7 -0.2
baz=105
BRSE Bradley Lake S 148.27 304 P PKPbc 07 39 31.0 -0.4
baz=108
COLA College 148.29 314 PKPbc 07 39 30.4 -0.8
COLA College 148.29 314 PKP2 PKPbc 07 39 30.4 -0.8
COLA College 148.29 314 P PKPbc 07 39 30.7 -0.5
baz=102
TCOL CIGO, UAF Yank 148.29 314 P PKPbc 07 39 30.6 -0.6
baz=102,SNR=8.6
D25K Kavik River 148.41 322 P PKPbc 07 39 31.3 -0.2
baz=96,SNR=8.4
G24K Hadweenzic Riv 148.47 317 P PKPbc 07 39 31.9 +0.2
baz=99,SNR=25
H24K Noodor Dome 148.49 316 P PKPbc 07 39 31.4 -0.4
baz=100,SNR=14
MCK McKinley 148.50 311 PKPbc 07 39 32.2 +0.3
MCK McKinley 148.50 311 PKP2 PKPbc 07 39 32.2 +0.3
MCK McKinley 148.50 311 P PKPbc 07 39 32.1 +0.2
baz=103,SNR=21
M22K Willow 148.55 308 P PKPbc 07 39 32.0 0.0
baz=105,SNR=6.7
NJ2 Nanjing 148.62 124 *e* PKPbc PKPdf 07 39 29.3 -0.1
OHAK Old Harbor 148.71 298 P PKPbc 07 39 32.2 -0.3
baz=110
NEA2 Nenana 148.74 313 P PKPbc 07 39 32.1 -0.4
baz=101,SNR=15
F24K Squaw Lake 148.75 319 P PKPbc 07 39 32.8 +0.3
baz=98,SNR=15
CUT Chulitna 148.79 309 P PKPbc 07 39 32.2 -0.3
baz=104
SII Sitkinak Islan 148.93 297 P PKPbc 07 39 32.5 -0.7
baz=111
TRF Thorofare Moun 149.03 311 P PKPbc 07 39 33.0 -0.4
baz=102
E24K Your Creek 149.04 320 P PKPbc 07 39 32.8 -0.4
baz=96,SNR=18
H23K Yukon River 149.16 315 P PKPbc 07 39 33.5 0.0
baz=99,SNR=6.8
NRIK Noril'sk 149.21 38 PKPbc PKPbc 07 39 33.9 +0.4
comp=Z,1.0nm,0.3s,baz=259,slow=1.6,SNR=5.8
NRIK Noril'sk 149.21 38 PKPbc 07 39 33.0 -0.5
C24K Franklin Bluff 149.25 323 P PKPbc 07 39 33.5 0.0
baz=93
SKT Skwentna 149.26 308 P PKPbc 07 39 33.6 -0.2
baz=104,SNR=9.5
D24K Happy Valley 149.26 322 P PKPbc 07 39 33.7 0.0
baz=94
N20K Mount Spurr 149.38 306 P PKPbc 07 39 33.9 -0.3
baz=105
E23K Chandalar 149.46 320 P PKPbc 07 39 34.2 0.0
baz=95,SNR=8.0
BPAW Bear Paw Mtn. 149.47 312 P PKPbc 07 39 33.8 -0.5
baz=101
G23K Bananza Creek 149.48 317 P PKPbc 07 39 34.1 -0.2
baz=97,SNR=32
TOLK Toolik Lake Re 149.50 321 PKPbc 07 39 33.6 -0.7
TOLK Toolik Lake Re 149.50 321 P PKPbc 07 39 34.0 -0.3
baz=94,SNR=32
MLY Manley 149.53 314 P PKPbc 07 39 34.7 +0.2
baz=99,SNR=11
COLD Coldfoot 149.60 318 P PKPbc 07 39 34.6 +0.1
baz=96,SNR=25
CAST Castle Rocks 149.82 310 P PKPbc 07 39 34.6 -0.6
baz=101,SNR=14
H22K Ishtalitna Cre 149.92 315 P PKPbc 07 39 35.1 -0.3
baz=97,SNR=14
D23K Nanushuk River 149.92 321 P PKPbc 07 39 35.3 0.0
baz=93,SNR=5.4
C23K Itkillik River 149.92 323 P PKPbc 07 39 35.1 -0.1
baz=91,SNR=9.7
M20K Styx River 149.97 307 P PKPbc 07 39 35.9 +0.2
baz=103
CHUM Lake Minchumin 150.00 311 P PKPbc 07 39 34.9 -0.6
baz=100,SNR=12
I21K Tanana 150.07 314 P PKPbc 07 39 35.5 -0.2
baz=98
G22K Bettles 150.08 317 P PKPbc 07 39 35.6 -0.1
baz=96
O19K Port Alsworth 150.13 304 P PKPbc 07 39 35.3 -0.6
baz=105
BTO Baotou 150.35 102 *e* PKPbc PKPbc 07 39 36.0 -1.3
P18K Big Mountain, 150.36 302 P PKPbc 07 39 35.7 -0.9
baz=106
N19K Bonanza Creek 150.36 305 PKPbc 07 39 35.4 -1.3
N19K Bonanza Creek 150.36 305 P PKPbc 07 39 35.7 -0.9
baz=104
F22K John River 150.39 318 P PKPbc 07 39 36.4 0.0
baz=94
R17K Ugashik Creek 150.43 298 P PKPbc 07 39 36.1 -0.7
baz=108
L20K Farewell, AK 150.44 308 P PKPbc 07 39 35.8 -0.9
baz=101
O18K Koktuh Hills 150.47 303 P PKPbc 07 39 36.4 -0.4
baz=105
H21K Melozitna Rive 150.47 315 P PKPbc 07 39 36.8 +0.1
baz=97,SNR=25
M19K Big River Lodg 150.56 307 P PKPbc 07 39 36.8 -0.2
baz=102
HNS HongShan 150.69 112 ⇑ PKPbc PKiKP 07 39 38.3 -0.4
K20K Telida 150.69 310 P PKPbc 07 39 36.9 -0.3
baz=100,SNR=11
L19K White Mountain 150.83 307 P PKPbc 07 39 37.6 -0.1
baz=101
G21K Allakaket 150.84 316 P PKPbc 07 39 37.6 +0.1
baz=94
J20K Nowinta River 150.85 312 P PKPbc 07 39 37.8 +0.2
baz=98,SNR=6.1
Q16K King Salmon 150.87 300 P PKiKP 07 39 38.2 -0.2
baz=106
F21K Alatna River 150.88 318 P PKiKP 07 39 38.1 -0.2
baz=93,SNR=23
P17K Kvichak River 150.90 301 P PKPbc 07 39 37.9 +0.1
baz=105
TIA Tai'an 151.07 117 ⇑ PKPbc PKPbc 07 39 38.9 -0.1
TIA LR LR
comp=Z,170nm,17.7s
TIA LR LR
comp=Z,140nm,16.7s
TIA LR LR
comp=Z,210nm,23.5s
CHNA Chernabura Isl 151.17 291 P PKPbc 07 39 38.8 +0.2
baz=111
O17K Koliganek Bris 151.37 302 P PKiKP 07 39 39.3 -0.1
baz=104
HHC Hu-ho-hao-te 151.38 103 *e* PKPbc PKPdf 07 39 31.1 -2.6
TTA Tatalina 151.49 309 P PKiKP 07 39 39.6 0.0
baz=99
S14K Fog Glacier 151.65 294 P PKiKP 07 39 40.4 +0.2
baz=105
SDPT Sand Point 151.83 292 P PKiKP 07 39 40.5 +0.1
baz=110
ZAK Zakamensk 152.01 80 *e* PKIKP PKPbc 07 39 40.2 -0.6
ZAK pmax pmax
comp=Z,8.0nm,1.3s
N16K Nishlik Lake 152.34 303 P PKiKP 07 39 42.0 +0.5
baz=102
SONM Songino Array 152.56 87 PKP PKPdf 07 39 34.1 -1.1
comp=Z,0.4nm,0.5s,baz=143,slow=0.7,SNR=4.6
SONM PKPbc PKPbc 07 39 41.2 -1.0
comp=Z,3.8nm,0.5s,baz=224,slow=3.4,SNR=17
SONM PKPab PKPab 07 39 52.5 -0.3
comp=Z,2.8nm,0.7s,baz=219,slow=3.4,SNR=6.5
SONM Songino Array 152.56 87 PKPbc 07 39 40.2 -2.0
KSRS Korea Array 157.27 131 PKPab PKPab 07 40 13.7 +0.8
comp=Z,0.6nm,0.3s,baz=178,slow=3.8,SNR=5.9
SEY Seymchan 171.71 351 PKPab PKPab 07 41 16.5 +0.9
comp=Z,0.8nm,0.6s,baz=80,slow=6.5,SNR=3.7

MOS ***21*** *07:41:11.6±1.1,27.°04N×59.°97E,h12km,mb4.6/13,Error ellipse: s-maj=9.2km s-min=6.0km az=78.1*
IDC ***21*** *07:41:11.4±0.5,27.°07N×59.°93E,h0km,mb4.3/30, mbtmp4.3/31,ML4.0/1,MS3.9/38,Error ellipse: s-maj=13.0km s-min=11.0km az=137.0*
TEH ***21*** *07:41:12.1,26.°90N×59.°86E,h17km, ML4.6*
NEIC ***21*** *07:41:12.8±1.8,27.°00N±0.°05×59.°8E±0.°1,h10km±1km, mb4.5/22,mb_Lg4.5(TEH),Error ellipse: s-maj=17.0km s-min=5.2km az=117.0*
OMAN ***21*** *07:41:14.2±1.5,26.°78N×59.°82E,h10km,mb5.4/9, ml4.5/19,ms3.7/3,Mwp4.9/3,Error ellipse: s-maj=11.6km s-min=8.8km az=40.0*
ISC 21 07:41:12.9±0.3,**26.°90N**±0.°04×**59.°87E**±0.°04,**h10**km,**n256,** σ1**s83**/268,**mb4.4**/51,**MS4.0**/43,**4C**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHBR	**Chabahar**	**1.41**	**157**	*e*	Pg		**Pb**	**07 41 38.9**	**-0.4**
CHBR				*e*				07 41 45.0	
	comp=Z,99nm,0.7s								
CHBR				*e*	Sg		**Sg**	**07 41 58.4**	**0.0**
NGCH	**Negor - Chabah**	**1.91**	**143**	*e*	Pn		**Pn**	**07 41 46.3**	**+0.8**
JASK	**Jask - Hormozg**	**2.08**	**241**	*e*	Pn		**Pn**	**07 41 47.9**	**+0.1**
JASK				*e*				07 42 54.3	
	comp=Z,62μm,0.8s								
KHNJ	**Kahnooj**	**2.19**	**299**	*e*	Pn		**Pn**	**07 41 46.9**	**-2.5**
SRVN	**Saravan**	**2.31**	**77**	*e*	Pn		**Pn**	**07 41 52.4**	**+1.3**
SRVN				*e*				07 42 59.8	
	comp=Z,23μm,1.2s								
KBAM	**BAM**	**2.55**	**331**	*e*	Pn		**Pn**	**07 41 54.2**	**-0.2**
KBAM				*e*				07 42 47.0	
	comp=Z,40μm,1.0s								
ZHDN	**Zahedan**	**2.62**	**18**	*e*	Pn		**Pn**	**07 41 54.9**	**-0.5**
ZHSF	**Zahedan**	**2.81**	**16**	*e*	Pn		**Pn**	**07 41 58.6**	**+0.5**
IBND	**Bandar-abas**	**3.02**	**281**	*e*	Pn		**Pn**	**07 42 01.1**	**+0.4**
IBND				*e*				07 43 24.1	
	comp=N,28μm,1.0s								
GENO	**Geno**	**3.33**	**279**	*e*	Pn		**Pn**	**07 42 05.3**	**+0.1**
GENO				*e*				07 43 35.1	
	comp=Z,6μm,1.0s								
BANOM	**Banah**	**3.35**	**254**	*e*	Pn		**Pn**	**07 42 06.8**	**+1.5**
BANOM	**Banah** SNR=10	**3.35**	**254**	P	Pn		**Pn**	**07 42 07.0**	**+1.7**
BANOM	**Banah** SNR=10	**3.35**	**254**	*i*	Pn		**Pn**	**07 42 06.5**	**+1.2**
SHME	**Shamm**	**3.45**	**257**	*e*	Pn		**Pn**	**07 42 08.5**	**+1.8**
SHME	**Shamm** SNR=24	**3.45**	**257**	P	Pn		**Pn**	**07 42 08.5**	**+1.8**
SHME	**Shamm** SNR=24	**3.45**	**257**	*i*	Pn		**Pn**	**07 42 08.0**	**+1.3**
CHMN	**Cheshme madani**	**3.59**	**326**	*e*	Pn		**Pn**	**07 42 08.6**	**-0.4**
CHMN				*e*				07 43 30.6	
	comp=Z,5μm,0.8s								
MASF	**Masafi** SNR=29	**3.67**	**246**	P	Pn		**Pn**	**07 42 10.3**	**+0.5**
MASF				S			**Sn**	**07 42 52.0**	**-1.1**
MSFE	**Esma-Masafi**	**3.67**	**246**	*e*	Pn		**Pn**	**07 42 10.4**	**+0.6**
MSFE	**Esma-Masafi** SNR=52	**3.67**	**246**	*i*	Pn		**Pn**	**07 42 10.5**	**+0.6**
BIDO	**Bidbid**	**3.72**	**206**	*e*	Pn		**Pn**	**07 42 09.2**	**-1.2**
BIDO	**Bidbid**	**3.72**	**206**	P	Pn		**Pn**	**07 42 09.2**	**-1.2**
BIDO				S			**Sn**	**07 42 55.8**	**+1.5**
WSAR	**Wadi Sarin**	**3.82**	**197**	Pn			**Pn**	**07 42 11.3**	**-0.4**
	comp=Z,36nm,0.3s,baz=54,slow=10,SNR=95								
WSAR				Sn			**Sn**	**07 42 55.4**	**-1.4**
	comp=Z,44nm,0.3s,baz=130,slow=17,SNR=8.4								
UOSS	**Minazif**	**3.84**	**240**	Pn			**Pn**	**07 42 10.8**	**-1.2**
UOSS	**Minazif**	**3.84**	**240**	*e*	Pn		**Pn**	**07 42 10.6**	**-1.4**
UOSS	**Minazif**	**3.84**	**240**	P	Pn		**Pn**	**07 42 11.0**	**-1.0**
UOSS				S			**Sn**	**07 42 55.1**	**-2.1**
UOSS	**Minazif** SNR=42	**3.84**	**240**	*i*	Pn		**Pn**	**07 42 10.6**	**-1.4**
NGRK	**Negar Kerman**	**3.89**	**315**	*e*	Pn		**Pn**	**07 42 13.1**	**0.0**
NGRK				*e*				07 43 19.3	
	comp=Z,4μm,0.8s								
HATD	**Hatta, Dubai**	**3.95**	**239**	*e*	Pn		**Pn**	**07 42 12.3**	**-1.3**
HATD	**Hatta, Dubai** SNR=13	**3.95**	**239**	P	Pn		**Pn**	**07 42 12.9**	**-0.7**
HATD				S			**Sn**	**07 42 59.4**	**-0.7**
HATD	**Hatta, Dubai** SNR=20	**3.95**	**239**	*i*	Pn		**Pn**	**07 42 12.5**	**-1.2**
UMQ	**Umm Al-Quwin**	**4.02**	**251**	*e*	Pn		**Pn**	**07 42 18.2**	**+3.7**
UMQ	**Umm Al-Quwin**	**4.02**	**251**	P	Pn		**Pn**	**07 42 18.2**	**+3.7**
UMQ				S			**Sn**	**07 43 04.8**	**+3.0**
HOQ	**Hoqain**	**4.04**	**216**	*e*	Pn		**Pn**	**07 42 12.8**	**-2.0**
HOQ	**Hoqain** SNR=19	**4.04**	**216**	P	Pn		**Pn**	**07 42 13.4**	**-1.4**
HOQ				S			**Sn**	**07 43 01.2**	**-1.0**

ASHO Ashiyiah 4.09 238 *e* Pn Pn 07 42 15.7 +0.2
ASHO Ashiyiah 4.09 238 P Pn 07 42 15.1 -0.4
SNR=20
ASHO S Sn 07 43 05.0 +1.6
ASHO Ashiyiah 4.09 238 *i* Pn Pn 07 42 14.8 -0.7
SNR=23
SOHO SOHO 4.09 228 *e* Pn Pn 07 42 14.1 -1.3
SOHO SOHO 4.09 228 P Pn 07 42 14.3 -1.2
SOHO S Sn 07 43 00.3 -3.0
SOHO SOHO 4.09 228 *i* Pn Pn 07 42 13.9 -1.5
SNR=22
KRBR Kerman 4.11 319 *e* Pn Pn 07 42 18.8 +2.7
TVBK TV Kerman 4.12 319 *e* Pn Pn 07 42 16.1 0.0
TVBK *e* 07 43 51.2
comp=Z,4μm,1.0s
SMDO Samad 4.17 204 P Pn 07 42 16.7 0.0
SNR=17
SMDO P Pn 07 42 16.7 0.0
SNR=17
SMDO S Sn 07 43 06.5 +0.9
SMDO S Sn 07 43 06.5 +0.9
NAZ Nazwa, Dubai 4.24 244 *e* Pn Pn 07 42 19.8 +2.2
NAZ Nazwa, Dubai 4.24 244 P Pn Pn 07 42 20.5 +2.9
SNR=18
NAZ S Sn 07 43 10.7 +3.5
NAZ Nazwa, Dubai 4.24 244 *i* Pn Pn 07 42 19.7 +2.2
SNR=20
WBK Wadi Bani Khal 4.35 191 *e* Pn Pn 07 42 18.0 -1.1
WBK Wadi Bani Khal 4.35 191 P Pn Pn 07 42 18.4 -0.8
SNR=176
WBK P Pn 07 42 18.4 -0.8
SNR=176
WBK S Sn 07 43 08.2 -1.8
WBK S Sn 07 43 08.2 -1.8
FAQ Al Faqa, Dubai 4.42 242 *e* Pn Pn 07 42 22.1 +2.1
FAQ Al Faqa, Dubai 4.42 242 P Pn Pn 07 42 22.2 +2.3
SNR=14
FAQ S Sn 07 43 13.9 +2.5
FAQ Al Faqa, Dubai 4.42 242 *i* Pn Pn 07 42 21.8 +1.8
SNR=30
NHDN Nehbandan 4.48 2 *e* Pn Pn 07 42 20.5 -0.4
NHDN *e* 07 43 55.1
comp=Z,9μm,1.0s
KHGB Koh Gabri 4.57 320 *e* Pn Pn 07 42 22.1 -0.2
ARQ Araqi 4.67 221 P Pn Pn 07 42 25.4 +1.8
SNR=32
ARQ S Sn 07 43 20.5 +2.7
ALNE Al Ain 4.68 234 *e* Pn Pn 07 42 25.1 +1.5
ALNE Al Ain 4.68 234 P Pn Pn 07 42 25.3 +1.6
SNR=14
ALNE S Sn 07 43 21.7 +3.6
ALNE Al Ain 4.68 234 *i* Pn Pn 07 42 24.7 +1.1
SNR=12
ASUD Al Ashush, Dub 4.68 242 *e* Pn Pn 07 42 26.0 +2.4
ASUD Al Ashush, Dub 4.68 242 P Pn Pn 07 42 26.0 +2.4
SNR=31
ASUD S Sn 07 43 22.1 +4.0
ASUD Al Ashush, Dub 4.68 242 *i* Pn Pn 07 42 26.0 +2.4
SNR=31
JLN Jalan Bani Buh 4.75 185 P Pn Pn 07 42 23.0 -1.6
SNR=28
JLN S Sn 07 43 16.5 -3.2
JMDO Jabal Madar 4.79 200 P Pn Pn 07 42 25.8 +0.7
SNR=24
JMDO P Pn Pn 07 42 25.8 +0.7
SNR=24
JMDO S Sn 07 43 21.6 +0.8
JMDO S Sn 07 43 21.6 +0.8
AJN Ajban 4.99 243 *e* Pn Pn 07 42 29.3 +1.5
AJN Ajban 4.99 243 P Pn Pn 07 42 29.4 +1.7
SNR=7.7
AJN S Sn 07 43 27.9 +2.4
AJN Ajban 4.99 243 *i* Pn Pn 07 42 29.2 +1.4
SNR=7.7
BSRN Basiran 5.08 353 *e* Pn Pn 07 42 30.1 +0.8
ESRB Sir Abu 5.34 253 *e* Pn Pn 07 42 33.6 +0.9
IKOO Kooshah 5.55 352 *e* Pn Pn 07 42 35.8 0.0
IDAH Dahanechah 5.81 360 *e* Pn Pn 07 42 40.0 +0.6
UMZA Um Al Zommool 5.98 227 *e* Pn Pn 07 42 41.4 0.0
UMZA Um Al Zommool 5.98 227 P Pn Pn 07 42 41.6 +0.2
UMZA S Sn 07 43 49.3 -0.7
ITEG Tejag 6.05 351 *e* Pn Pn 07 42 42.7 +0.1
MHTO MHTO 6.14 197 P Pn Pn 07 42 45.2 +1.5
SNR=27
MHTO S Sn 07 43 51.8 -2.3
IMEH Mehriz 6.41 315 *e* Pn Pn 07 42 49.0 +1.4
AFRZ Afriz 6.54 354 *e* Pn Pn 07 42 49.3 0.0
TPRV Parvadeh(Tabas 6.70 336 *e* Pn Pn 07 42 51.7 +0.3
SHRT Shahrakht 6.73 3 *e* Pn Pn 07 42 52.4 +0.6
GHWR Ruwais 6.97 247 *e* Pn Pn 07 42 53.4 -1.7
GHWR Ruwais 6.97 247 P Pn Pn 07 42 54.1 -1.0
GHWR S Sn 07 44 11.6 -2.8
MZR Muzera 6.98 238 *e* Pn Pn 07 42 55.7 +0.5
MZR Muzera 6.98 238 P Pn Pn 07 42 57.2 +2.0
MZR S Sn 07 44 12.0 -2.7
TKDS Koohdasht(Taba 7.10 341 *e* Pn Pn 07 42 57.4 +0.5
TABS Tabas 7.13 341 *e* Pn Pn 07 42 58.6 +1.2
YZKH Yazd 7.14 321 *e* Pn Pn 07 42 59.3 +1.8
DQM DQM 7.27 198 P Pn Pn 07 42 58.7 -0.5
ISAD Sadrabad 7.35 314 *e* Pn Pn 07 43 00.5 0.0
TNSJ Nastanj 7.58 339 *e* Pn Pn 07 43 04.0 +0.5
HRA Herat 7.73 15 Pn Pn 07 43 05.3 -0.4
SLWR Sila 7.91 251 *e* Pn Pn 07 43 08.8 +0.8
SLWR Sila 7.91 251 P Pn Pn 07 43 07.9 0.0
SLWR S Sn 07 44 34.7 -3.0
SHMA Al-Shehemyia 8.06 265 P Pn Pn 07 43 11.8 +1.8
IRAM Rameshеh 8.16 309 *e* Pn Pn 07 43 11.6 0.0
ANAR Anarak 8.22 321 *e* Pn Pn 07 43 12.3 0.0
KLNJ Kolanjah 8.33 301 *e* Pn Pn 07 43 13.5 -0.5
TBJM Torbat-e-JAM 8.35 3 *e* Pn Pn 07 43 15.0 +0.9
SMRA Abu-Samra 8.43 257 P Pn Pn 07 43 16.0 +0.9
SMRA S Sn 07 44 49.2 -1.2
NASN Na'in 8.49 315 *e* Pn Pn 07 43 19.8 +3.6
IBRJ Brojen 9.01 306 *e* Pn Pn 07 43 22.9 -0.5
IMYA Miami 9.41 1 *e* Pn Pn 07 43 29.5 +0.8
SHRO Shahrood 9.64 341 *e* Pn Pn 07 43 33.6 +1.8
SBZV Sabzevar 9.65 349 *e* Pn Pn 07 43 32.5 +0.5
IAKL Akhelmad 9.72 355 *e* Pn Pn 07 43 34.1 +1.1
DOK Doka 9.80 214 P Pn Pn 07 43 34.2 +0.3
DOK P Pn 07 43 34.2 +0.3
ISFB Sefidab 9.91 320 *e* Pn Pn 07 43 36.0 +0.5
DMTO DMTO 10.21 207 P Pn Pn 07 43 39.4 -0.2
AMIS Naft Sefid 10.39 300 *e* Pn Pn 07 43 42.5 +0.6
WHFO Wadi Hawf 10.57 213 P Pn Pn 07 43 42.9 -1.7
SNR=5.9
WHFO P Pn 07 43 42.9 -1.7
SNR=5.9
KHMZ Khomeyn 10.94 311 *e* Pn Pn 07 43 53.2 +3.5
BJRD Bojnurd 10.96 350 *e* Pn Pn 07 43 51.6 +1.7
GEYT Alibeck 11.09 353 Pn Pn 07 43 54.0 +2.4
comp=Z,1.0nm,0.3s,baz=174,slow=7.2,SNR=3.5
GEYT Alibeck 11.09 353 Pn Pn 07 43 51.4 -0.2
GYA0B ALIBECK ARRAY 11.09 353 Pn Pn 07 43 48.7 -2.9
MRVT Maraveh tapeh 11.19 344 *e* Pn Pn 07 43 55.9 +2.9
ABTO Aybut 11.29 214 P Pn Pn 07 43 52.7 -1.6
ABTO P Pn 07 43 52.7 -1.6
CHTH Charan 11.67 322 *e* Pn Pn 07 44 02.9 +3.2
CEP Cherat 12.47 54 P Pn Pn 07 44 10.0 -0.5
NIL Nilore 13.37 57 Pn Pn 07 44 22.3 -0.4
NIL Nilore 13.37 57 P Pn 07 44 22.3 -0.4
CHCP Chirah Chowk 13.38 57 P Pn 07 44 21.5 -1.4
RAYN Ar Rayn 13.44 259 Pn Pn 07 44 20.2 -3.5
RAYN Ar Rayn 13.44 259 P Pn 07 44 20.2 -3.5
RAYN Ar Rayn 13.44 259 P Pn 07 44 22.0 -1.7
RAYN Ar Rayn 13.44 259 *i* Pn Pn 07 44 19.5 -4.2
SNR=20
SNGE Sanandaj 13.48 310 *e* Pn Pn 07 44 27.7 +3.2
IGHG Ghaleghazi 13.63 306 *e* Pn Pn 07 44 26.3 -0.2
CHGR Chuyangaron 14.07 31 Pn Pn 07 44 31.6 -0.8
CHGR Chuyangaron 14.07 31 P Pn 07 44 31.6 -0.8
GAR Garm 14.90 33 Pn Pn 07 44 42.4 -1.2
GRMI Germi 15.54 323 *e* Pn **P** 07 44 56.2 -0.4
BTK Batken 15.96 32 Pn Pn 07 44 56.1 -1.5
BTK IAmb IAmb 07 45 00.1
comp=Z,24nm,0.8s
BTK Batken 15.96 32 P Pn 07 44 56.2 -1.5
BTK pmax pmax
comp=Z,24nm,0.9s
GNI Garni 18.23 320 LR LR 07 53 13.2
comp=Z,613nm,19.4s,baz=156,slow=40
GNI Garni 18.23 320 *i* P **P** 07 45 26.7 +0.3
KK31 Karatay Array 18.34 25 P Pn 07 45 25.0 -2.3
KK31 Karatay Array 18.34 25 P Pn 07 45 25.0 -2.3

KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 18.34 25 Pn 07 45 25.0 -2.3
KKAR Karatay Array 18.34 25 P **Pn 07 45 24.8 -2.5**
KKAR IAmb IAmb 07 45 33.5
comp=Z,6.4nm,0.8s
KKAR Karatay Array 18.34 25 P **Pn 07 45 24.8 -2.5**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KSH Kashi 18.39 43 P Pn 07 45 20.3 -7.9
KSH pmax pmax
comp=Z,19nm,0.7s
KSH LR LR
comp=N,990nm,15.8s
KSH LR LR
comp=E,580nm,15.1s
KSH LR LR
comp=Z,1μm,12.7s
MAK Makhachkala 18.92 331 *e*P **Pn 07 45 37.2 +2.8**
MAK pmax pmax
comp=Z,649nm,1.5s
HYBB Hyderabad (bro 19.69 115 *e*P **P 07 45 42.5 +0.1**
AAK Ala-Archa 19.72 34 P **P 07 45 41.3 -1.4**
comp=Z,0.4nm,0.3s,baz=212,slow=9.2,SNR=15
AAK LR LR 07 53 46.3
comp=Z,503nm,19.4s,baz=234,slow=39
comp=Z,7.8nm,0.8s
AAK Ala-Archa 19.72 34 P 07 45 41.8 -0.9
AAK Ala-Archa 19.72 34 P **P 07 45 41.8 -0.9**
AAK pmax pmax
comp=Z,13nm,1.1s
BOOM Boomskoye usch 20.35 36 P P 07 45 48.4 -1.2
BOOM Boomskoye usch 20.35 36 P **P 07 45 48.4 -1.2**
BOOM pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 20.51 325 *e*P **P 07 45 50.2 -1.1**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
ASF Jabal al Asfar 20.65 290 P P 07 45 54.0 +1.1
comp=Z,14nm,0.9s,baz=152,slow=3.6,SNR=9.2
ASF LR LR 07 55 59.5
comp=Z,645nm,18.0s,baz=111,slow=43
comp=Z,14nm,0.9s
KBZ Khabaz 21.69 325 LR LR 07 56 08.7
comp=Z,75nm,21.1s,baz=146,slow=42
KBZ Khabaz 21.69 325 *i* P **P 07 46 06.0 +2.2**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 21.96 325 *e*P **P 07 46 06.8 -0.1**
KIV pmax pmax
comp=Z,16nm,1.1s
MMAI Mount Meron Ar 22.03 292 P P 07 46 08.7 +1.0
comp=Z,0.7nm,0.2s,baz=113,slow=14,SNR=6.9
MMAI LR LR 07 56 54.6
comp=Z,708nm,18.3s,baz=320,slow=43
comp=Z,0.7nm,0.2s
EIL Elat 22.11 283 LR LR 07 54 58.5
comp=Z,855nm,20.3s,baz=108,slow=37
ATD Arta Tunnel 22.14 230 P P 07 46 10.9 +1.9
comp=Z,12nm,0.7s,baz=39,slow=6.8,SNR=16
ATD LR LR 07 56 39.4
comp=Z,227nm,18.9s,baz=1.5,slow=42
comp=Z,12nm,0.7s
ABKAR Akbulak array 22.32 0 P **P 07 46 08.4 -2.1**
ABKAR IAmb IAmb 07 46 26.0
comp=Z,11nm,1.0s
ABKAR Akbulak array 22.32 0 P P 07 46 07.8 -2.7
SOC Sochi 23.31 321 *e*P **P 07 46 23.1 +2.1**
SOC *e* 07 46 49.9
SOC *e*PPP PPP 07 46 56.9
SOC *e*SS Sn 07 51 11.3 +20
SOC *e*SSS SSS 07 51 21.8
SOC MLR MLR
comp=Z,267nm,18.0s
AKTO Aktyubinsk 23.54 357 P **P 07 46 22.0 -1.2**
comp=Z,4.5nm,0.8s,baz=182,slow=8.7,SNR=10
AKTO LR LR 07 57 09.2
comp=Z,551nm,19.1s,baz=164,slow=41
comp=Z,4.5nm,0.8s
BR131 Keskin Array S 25.28 307 *i* P **P 07 46 39.2 -0.3**
BRTR Keskin Array B 25.28 307 P **P 07 46 38.9 -0.6**
comp=Z,5.8nm,0.8s,baz=119,slow=10,SNR=21
BRTR PcP **PcP 07 50 13.0 +0.4**
comp=Z,1.0nm,0.7s,baz=147,slow=7.3,SNR=3.9
BRTR LR LR 07 58 10.1
comp=Z,585nm,20.9s,baz=120,slow=40
comp=Z,5.8nm,0.8s
BRTR Keskin Array B 25.28 307 P P 07 46 38.1 -1.5
MK31 Makanchi Array 26.59 36 P P 07 46 50.4 -0.9
MK31 Makanchi Array 26.59 36 P **P 07 46 50.4 -0.9**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 26.59 36 P P 07 46 50.1 -1.2
comp=Z,4.1nm,0.7s,baz=224,slow=8.4,SNR=28
MKAR LR LR 07 58 56.6
comp=Z,333nm,19.9s,baz=247,slow=40
comp=Z,4.1nm,0.7s
BELG Belogornoye 27.07 343 LR LR 08 01 01.8
comp=Z,220nm,18.2s,baz=341,slow=44
BVAR Bovoye Array 27.25 14 P 07 46 55.5 -1.5
comp=Z,4.9nm,0.9s,baz=198,slow=7.8,SNR=17
BVAR LR LR 07 59 09.4
comp=Z,349nm,19.0s,baz=202,slow=40
comp=Z,4.9nm,0.9s
BRVK Borovoye 27.26 14*ce*P **P 07 46 55.8 -1.3**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
KURBB Kurchatov Arra 27.64 26 P P 07 46 59.1 -1.5
comp=Z,5.1nm,0.9s,baz=223,slow=8.7,SNR=35
comp=Z,5.1nm,0.9s
KURK Kurchatov 27.75 26 P P 07 46 59.1 -2.4
ARU Arti 29.52 359 LR LR 08 00 55.8
comp=Z,233nm,18.1s,baz=177,slow=40
IDI Anoyia 30.98 294 LR LR 08 05 27.9
comp=Z,29nm,18.4s,baz=84,slow=47
GOMU GeErMu 31.05 64*ce*P **P 07 47 33.4 +2.0**
GOMU pP sP 07 47 36.5 +0.5
GOMU sP pP 07 47 37.8 +3.1
GOMU S S 07 52 09.8 -27
GOMU SS **SnSn 07 54 30.8 +13**
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU pmax pmax
comp=Z,42nm,5.4s
GOMU LR LR
comp=N,120nm,12.8s
GOMU LR LR
comp=E,88nm,14.6s
GOMU LR LR
comp=Z,85nm,14.5s
DGZ Jazzator, Alta 31.09 36 *i* P **P 07 47 30.4 -1.0**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
KIRV Kirov 32.50 350 LR LR 08 02 23.7
comp=Z,183nm,18.3s,baz=159,slow=39
ZAA0 Zalesovo Array 32.69 27 P P 07 47 43.6 -1.5
ZAA0 IAmb IAmb 07 47 45.0
comp=Z,9.7nm,0.8s
ZALV Zalesovo Beam 32.69 27 P P 07 47 43.3 -1.9
comp=Z,6.3nm,0.5s,baz=239,slow=10,SNR=25
comp=Z,6.3nm,0.5s
MLR Muntele Rosu 32.74 313 LR LR 08 04 16.1
comp=Z,144nm,19.0s,baz=146,slow=42
AKASG Malin Array Be 33.29 324 P **P 07 47 50.9 +0.4**
comp=Z,0.3nm,0.3s,baz=120,slow=7.7,SNR=5.8
comp=Z,0.3nm,0.3s
AKASG Malin Array Be 33.29 324 *i* P **P 07 47 53.2 +2.7**
AKBB Malin Array Si 33.29 324 P **P 07 47 48.9 -1.6**
AKBB IAmb IAmb 07 48 05.7
comp=Z,6.3nm,1.1s
AKBB Malin Array Si 33.29 324 P **P 07 47 48.9 -1.6**
AKBB pmax pmax
comp=Z,6.0nm,1.2s
ITM Ithomi 33.56 297 P P 07 47 51.2 -1.9
KMBO Kilima Mbogo 35.38 222 P P 07 48 11.6 +2.3
comp=Z,3.6nm,0.8s,baz=40,slow=11,SNR=9.4
comp=Z,3.6nm,0.8s
GTA Gaotai 35.41 59 *e*P **P 07 48 10.4 +1.2**
GTA pP sP 07 48 16.6 +2.8
GTA sP pP 07 48 19.3 +6.8
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA pmax pmax
comp=Z,52nm,4.0s
GTA LR LR
comp=N,230nm,19.3s
GTA LR LR
comp=E,140nm,19.6s
GTA LR LR
comp=Z,240nm,20.0s
KLMR Klimovskoe 36.65 343 *e*P **P 07 48 18.6 -0.7**
KLMR *e* 07 49 42.5
KLMR pmax pmax
comp=Z,14nm,1.2s
KLMR MLR MLR
comp=Z,369nm,16.0s
KLMR Klimovskoe 36.65 343 *e*P **P 07 48 18.6 -0.7**
KLMR AMP 07 48 34.4
comp=Z,14nm,1.2s
KLMR *e*PP **PP 07 49 42.6 0.0**
KLMR LR LR 08 05 29.2
KLMR AMP 08 06 11.0
comp=Z,369nm,15.8s
CMAR Chiang Mai Arr 36.90 95 P **P 07 48 21.9 -0.1**
comp=Z,1.8nm,0.2s,baz=287,slow=9.3,SNR=3.3
comp=Z,1.8nm,0.2s
KNGR Kungurtug, Tuv 37.11 40 *i* P **P 07 48 24.2 +0.6**
TIP Timpagrande 37.83 300 P **P 07 48 30.2 +0.5**
TIP IAmb IAmb 07 48 40.4
comp=Z,18nm,1.3s
LZH Lanzhou 38.33 65 *e*P **P 07 48 35.8 +1.7**
LZH pP sP 07 48 47.1 +8.4
LZH pmax pmax
comp=Z,20nm,1.2s
LZH LR LR
comp=N,300nm,16.5s
LZH LR LR
comp=E,350nm,16.8s
LZH LR LR
comp=Z,410nm,15.5s
CUC Castrocucco 38.63 301 P **P 07 48 35.4 -1.1**
MBAR Mbarara 39.17 230 LR LR 08 06 29.9
comp=Z,315nm,19.7s,baz=26,slow=39
VRAC Vranov 40.02 316 LR LR 08 07 27.4
comp=Z,134nm,20.3s,baz=148,slow=40
FINES FINESS Array B 41.30 336 P **P 07 48 57.2 -1.0**
comp=Z,1.3nm,0.5s,baz=138,slow=7.5,SNR=9.4
comp=Z,1.3nm,0.5s
FINES FINESS Array B 41.30 336 P P 07 48 55.9 -2.3
CKRC Cesky Krumlov 41.33 314 *e*P **P 07 49 00.8 +2.1**
SONM Songino Array 41.71 47 P P 07 49 02.2 +0.2
comp=Z,3.6nm,0.8s,baz=254,slow=9.4,SNR=19
SONM LR LR 08 07 52.8
comp=Z,163nm,21.3s,baz=266,slow=38
comp=Z,3.6nm,0.8s
SONM Songino Array 41.71 47 P P 07 49 02.0 0.0
SONM IAmb IAmb 07 49 09.8
comp=Z,5.3nm,1.1s
GERES GERESS Array B 41.72 314 P P 07 49 00.8 -1.3
comp=Z,1.9nm,0.8s,baz=108,slow=8.6,SNR=11
comp=Z,1.9nm,0.8s
GERES GERESS Array B 41.72 314 P P 07 48 59.4 -2.7
KHC Kasperske Hory 41.87 315 *e*P **P 07 49 03.5 +0.3**
KHC Kasperske Hory 41.87 315 *e*P **P 07 49 03.5 +0.3**
ULN Ulaanbaatar 42.15 47 P **P 07 49 05.4 -0.2**
ULN IAmb IAmb 07 49 17.5
comp=Z,8.3nm,1.0s
ULN Ulaanbaatar 42.15 47*ce*P **P 07 49 05.4 -0.2**
ULN pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 42.81 318 *e*P **P 07 49 13.0 +2.2**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 42.81 318 *e*Pmax 07 49 13.0
comp=Z,9.0nm,1.1s
CLL *e*PP **PP 07 50 51.0 +1.0**
PSI Prapat 44.40 116 LR LR 08 10 41.6
comp=Z,91nm,18.4s,baz=305,slow=40
NRIK Noril'sk 45.46 13 P P 07 49 30.7 -1.1
comp=Z,6.7nm,0.8s,baz=216,slow=4.4,SNR=9.6
NRIK LR LR 08 11 51.6
comp=Z,233nm,18.1s,baz=182,slow=41
comp=Z,6.7nm,0.8s
NRIK Noril'sk 45.46 13 P **P 07 49 30.7 -1.1**
NRIK IAmb IAmb 07 49 31.5
comp=Z,8.5nm,0.9s
OPO Ambohidratompo 46.85 197 P **P 07 49 45.1 +1.7**
comp=Z,7.0nm,0.8s,baz=19,slow=7.8,SNR=8.1
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 47.11 344 P P 07 49 42.6 -2.1
comp=Z,0.7nm,0.5s,baz=143,slow=8.4,SNR=8.5
comp=Z,0.7nm,0.5s
ARCES ARCESS Array B 47.11 344 P **P 07 49 42.7 -2.1**
ARCES IAmb IAmb 07 49 57.7
comp=Z,9.2nm,1.3s
NB2 NORSAR Subarra 47.14 330 P **P 07 49 43.8 -1.3**
comp=Z,3.0nm,0.8s,baz=112,slow=7.9
NOA NORSAR Array B 47.14 330 P **P 07 49 43.9 -1.3**
comp=Z,2.6nm,0.9s,baz=114,slow=7.8,SNR=8.0
comp=Z,2.6nm,0.9s
RGRI Rengat 49.00 117 P **P 07 50 01.7 +1.6**
comp=Z,85μmcomp=Z,947nm,0.4s
TIA Tai'an 49.05 64 *e*P **P 07 50 00.8 +0.6**
TIA pmax pmax
comp=Z,8.0nm,0.9s
VOI Vohitsoka 50.15 196 P **P 07 50 09.5 +0.8**
LSZ Lusaka 52.01 220 LR LR 08 13 14.9
comp=Z,104nm,19.2s,baz=143,slow=37
EKA Eskdalemuir Ar 53.08 320 LR LR 08 17 11.5
comp=Z,106nm,18.7s,baz=154,slow=41
ESDC Sonseca Array 53.84 301 P **P 07 50 35.2 -0.9**
comp=Z,1.8nm,0.7s,baz=66,slow=6.8,SNR=9.8
comp=Z,1.8nm,0.7s
CN2 Changchun 54.70 54 *e*P **P 07 50 46.3 +4.0**
CN2 *e*S **S 07 58 26.4 +3.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,100nm,15.0s
CN2 LR LR
comp=Z,100nm,14.4s
SPITS Spitsbergen Ar 54.97 350 LR LR 08 18 00.9
comp=Z,116nm,18.2s,baz=130,slow=40
TOA0 Torodi Ar. Sit 55.92 268 P **P 07 50 50.1 -1.4**
TOA0 IAmb IAmb 07 50 54.0
comp=Z,4.3nm,0.9s
TORD Torodi Ar. Bea 55.92 268 P **P 07 50 50.6 -0.8**
comp=Z,4.1nm,0.9s,baz=64,slow=6.8,SNR=13
comp=Z,4.1nm,0.9s
TORD Torodi Ar. Bea 55.92 268 P **P 07 50 50.4 -1.1**
TORD IAmb IAmb 07 50 53.9
comp=Z,4.0nm,1.0s
LEM Lembang 57.10 119 LR LR 08 18 05.5
comp=Z,126nm,18.1s,baz=168,slow=39
YAK Yakutsk 57.16 32 LR LR 08 17 42.7
comp=Z,118nm,18.3s,baz=268,slow=38
KSRS Korea Array 57.44 61 P **P 07 51 01.4 -0.6**
comp=Z,1.5nm,0.8s,baz=261,slow=8.9,SNR=4.7
KSRS LR LR 08 18 53.1
comp=Z,134nm,18.5s,baz=270,slow=40
comp=Z,1.5nm,0.8s
TIXI Tiksi 58.11 20 LR LR 08 19 11.3
comp=Z,191nm,18.1s,baz=356,slow=39
KLR Kul'dur 58.54 47 P **P 07 51 09.1 -0.4**
comp=Z,2.5nm,0.7s,baz=267,slow=7.7,SNR=8.3
KLR LR LR 08 18 05.0
comp=Z,85nm,20.0s,baz=248,slow=38
comp=Z,2.5nm,0.7s
KLR Kul'dur 58.54 47*ce*P **P 07 51 08.4 -1.1**
KLR pmax pmax
comp=Z,10.0nm,1.5s
USRK Ussuriysk Ar. 59.34 53 LR LR 08 19 28.2
comp=Z,138nm,18.9s,baz=275,slow=39
KOWA Kowa 60.49 272 P **P 07 51 22.2 -1.2**
KOWA IAmb IAmb 07 51 27.7
comp=Z,7.8nm,1.1s
LBTB Lobatse 61.30 216 LR LR 08 17 59.5
comp=Z,63nm,18.6s,baz=-2.0,slow=36
LBTB Lobatse 61.30 216 P **P 07 51 29.9 +1.1**
LBTB Lobatse 61.30 216 P **P 07 51 29.9 +1.1**
LBTB pmax pmax
comp=Z,12nm,1.0s
LBTB Lobatse 61.30 216 *i* P **P 07 51 30.8 +2.0**
LBTB Lobatse 61.30 216 *i* P **P 07 51 30.8 +2.0**
TSUM Tsumeb 61.50 226 LR LR 08 20 39.5
comp=Z,150nm,19.9s,baz=326,slow=38
BORG Borgarnes 62.28 331 LR LR 08 20 58.7
comp=Z,101nm,20.8s,baz=180,slow=38
BOSA Boshof 64.42 214 P **P 07 51 51.4 +1.9**
comp=Z,6.0nm,0.7s,baz=35,slow=6.5,SNR=14
comp=Z,6.0nm,0.7s
BOSA Boshof 64.42 214 P **P 07 51 49.5 0.0**
MJAR Matsushiro Arr 65.66 60 LR LR 08 23 46.1
comp=Z,51nm,18.7s,baz=268,slow=39
KAPI Kappang 65.96 109 LR LR 08 23 44.6
comp=Z,51nm,19.6s,baz=232,slow=39
YSS Yuzh-Sakhalins 66.19 48 *e*P **P 07 51 59.6 -1.1**
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,200nm,13.0s
SEY Seymchan 67.52 30 P **P 07 52 08.4 -0.6**
comp=Z,2.6nm,0.7s,baz=265,slow=9.0,SNR=8.2
comp=Z,2.6nm,0.7s
SUR Sutherland 69.71 215 LR LR 08 22 40.4
comp=Z,38nm,19.3s,baz=22,slow=36
FITZ Fitzroy Crossi 77.90 117 P **P 07 53 10.9 -0.4**
comp=Z,3.2nm,0.8s,baz=42,slow=1.5,SNR=7.6
comp=Z,3.2nm,0.8s
WRA Warramunga Arr 85.85 115 P **P 07 53 52.9 -0.2**
comp=Z,3.2nm,0.7s,baz=313,slow=4.3,SNR=79
comp=Z,3.2nm,0.7s
WRA Warramunga Arr 85.85 115 *i* P **P 07 53 53.0 -0.2**
WRA pmax pmax
comp=Z,4.0nm,0.6s
ILAR Eielson Array 86.28 11 P **P 07 53 52.5 -2.1**
comp=Z,0.7nm,0.7s,baz=323,slow=4.5,SNR=6.8
comp=Z,0.7nm,0.7s
ASAR Alice Springs 87.39 118 P **P 07 54 00.4 -0.3**
comp=Z,4.3nm,0.7s,baz=306,slow=5.1,SNR=73
comp=Z,4.3nm,0.7s
YKA Yellowknife Ar 90.81 357 P **P 07 54 15.1 -1.0**
comp=Z,1.1nm,0.9s,baz=346,slow=4.7,SNR=3.1
comp=Z,1.1nm,0.9s
DLBC Dease Lake 94.58 5 LR LR 08 42 52.3
comp=Z,99nm,21.4s,baz=96,slow=39
STKA Stephens Creek 97.31 122 LR LR 08 41 29.0
comp=Z,66nm,18.7s,baz=207,slow=37

---

*IDC **21** 07:47:58.8±0.7,54.7°73S×30.7°38W,h0km,mb4.5/8, mbtmp4.6/9,ML4.6/1,MS3.6/18,Error ellipse: s-maj=28.2km s-min=15.9km az=71.0*
*NEIC **21** 07:48:00.9±1.9,54.7°7S±0.1°×30.5°W±0.2,h14km±4km, mb4.7/37,Error ellipse: s-maj=15.8km s-min=13.2km az=195.0*

ISC 21 07:47:59.8±0.5,54.73S±0.07°×30.48W±0.08,h10km,n78, σ1s20/61,mb4.7/20,MS3.6/17,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.53**	**275**			**Pn**	**07 48 52.9**	**-1.7**
EFI	**East Falkland**	**16.76**	**269**	Pn		**Pn**	**07 51 53.9**	**-0.4**
EFI				IAmb	IAmb	IAmb	07 52 10.7	
	comp=Z,120nm,1.5s							
VNA1	**Neumayer--Stat**	**18.73**	**157**	P		**P**	**07 52 17.9**	**-0.3**
VNA1	**Neumayer--Stat**	**18.73**	**157**	PcP		**PcP**	**07 56 46.3**	**+1.1**
VNA3	**Neumayer Olymp**	**18.88**	**159**	P		**P**	**07 52 19.5**	**-0.3**
VNA2	**Neumayer--Watz** baz=314,slow=13	**19.13**	**157**	P		**P**	**07 52 21.9**	**-0.7**
VNA2	**Neumayer--Watz**	**19.13**	**157**	PcP		**PcP**	**07 56 46.8**	**+0.8**
PMSA	**Palmer Station**	**19.41**	**225**	P		**P**	**07 52 26.3**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=60,slow=7.5,SNR=24							
PMSA				LR		LR	08 00 16.1	
	comp=Z,76nm,18.4s,baz=94,slow=38 comp=Z,36nm,0.8s							
PMSA	**Palmer Station**	**19.41**	**225**	P		**Pn**	**07 52 26.7**	**-0.2**
PMSA				IAmb	IAmb	IAmb	07 52 27.5	
	comp=Z,36nm,0.8s							
SNAA	**Sanae**	**20.72**	**155**	P		**P**	**07 52 39.2**	**-0.7**
SNAA	**Sanae**	**20.72**	**155**	PcP		**PcP**	**07 56 49.8**	**+0.8**
SNAA	**Sanae**	**20.72**	**155**	P		**P**	**07 52 39.4**	**-0.5**
	comp=Z,6.7nm,0.5s,baz=299,slow=11,SNR=49							
SNAA				LR		LR	07 59 11.3	
	comp=Z,137nm,19.9s,baz=354,slow=32 comp=Z,6.7nm,0.5s							
SNAA	**Sanae**	**20.72**	**155**	P		**P**	**07 52 39.5**	**-0.4**
TROLL	**Troll, Antarti**	**22.26**	**153**	P		**P**	**07 52 55.7**	**-1.0**
BELA	**Belgrano 2**	**23.29**	**182**	P		**P**	**07 53 07.7**	**+0.5**
BELA				IAmb	IAmb	IAmb	07 53 10.1	
	comp=Z,16nm,0.8s							
MG05	**Puerto Natales**	**25.08**	**260**	P		**P**	**07 53 24.4**	**+0.3**
TRQA	**Tornquist**	**27.07**	**295**	P		**P**	**07 53 41.3**	**-1.0**
PLTB	**Pedras Altas**	**28.23**	**315**	P		**P**	**07 53 53.3**	**+0.7**
PLTB				IAmb	IAmb	IAmb	07 54 28.8	
	comp=Z,14nm,1.2s							
PLCA	**Paso Flores**	**29.91**	**281**	LR		LR	08 05 03.5	
	comp=Z,46nm,18.3s,baz=112,slow=34							
PLCA	**Paso Flores**	**29.91**	**281**	P		**P**	**07 54 08.3**	**+0.7**
ITQB	**Itaqui**	**31.31**	**312**	P		**P**	**07 54 18.7**	**-1.3**
BO02	**Sierra Bellavi**	**34.23**	**289**	P		**P**	**07 54 44.8**	**-0.8**
BO02				IAmb	IAmb	IAmb	07 55 18.9	
	comp=Z,9.3nm,1.1s							
CPUP	**Villa Florida**	**34.54**	**314**	P		**P**	**07 54 48.2**	**0.0**
	comp=Z,4.6nm,1.0s,baz=159,slow=7.7,SNR=6.1							
CPUP				LR		LR	08 07 37.9	
	comp=Z,71nm,19.7s,baz=146,slow=34 comp=Z,4.6nm,1.0s							
CPUP	**Villa Florida**	**34.54**	**314**	P		**P**	**07 54 48.0**	**-0.2**
CPUP				IAmb	IAmb	IAmb	07 54 59.4	
	comp=Z,10nm,1.1s							
MT09	**Talagante**	**35.11**	**290**	P		**P**	**07 54 53.0**	**-0.2**
MT09				IAmb	IAmb	IAmb	07 54 55.0	
	comp=Z,12nm,0.8s							
MT01	**Popeta**	**35.18**	**289**	P		**P**	**07 54 52.9**	**-0.9**
QSPA	**South Pole Qui**	**35.52**	**180**	P		**P**	**07 54 57.6**	**+1.1**
	comp=Z,23nm,0.6s,baz=206,slow=1.8,SNR=200							
QSPA				LR		LR	08 08 40.8	
	comp=Z,192nm,19.2s,baz=185,slow=35 comp=Z,23nm,0.6s							
QSPA	**South Pole Qui**	**35.52**	**180**	P		**P**	**07 54 57.6**	**+1.1**
MT02	**Curacav**	**35.58**	**290**	P		**P**	**07 54 58.2**	**+1.0**
GO02	**Mina Guanaco**	**41.21**	**300**	P		**P**	**07 55 45.6**	**+0.6**
BDFB	**Brasilia**	**41.32**	**334**	P		**P**	**07 55 46.9**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=129,slow=6.5,SNR=2.0 comp=Z,1.9nm,0.7s							
BDFB	**Brasilia**	**41.32**	**334**	P		**P**	**07 55 46.9**	**+1.3**
SUR	**Sutherland**	**42.18**	**80**	P		**P**	**07 55 51.8**	**-0.9**
MAW	**Mawson**	**42.31**	**145**	P		**P**	**07 55 53.3**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=228,slow=8.3,SNR=10							
MAW				LR		LR	08 11 00.1	
	comp=Z,81nm,20.4s,baz=235,slow=33 comp=Z,3.9nm,0.6s							
MAW	**Mawson**	**42.31**	**145**	P		**P**	**07 55 53.4**	**+0.3**
LVC	**Limon Verde**	**43.01**	**303**	LR		LR	08 13 05.0	
	comp=Z,47nm,21.1s,baz=186,slow=35							
LVC	**Limon Verde**	**43.01**	**303**	P		**P**	**07 56 00.3**	**+0.7**
LVC				IAmb	IAmb	IAmb	07 56 02.9	
	comp=Z,11nm,1.0s							
SHEL	**Horse Pasture**	**43.17**	**36**	P		**P**	**07 55 59.3**	**-1.3**
PB01	**IPOC Station P**	**44.62**	**303**	P		**P**	**07 56 12.8**	**+0.4**
PB01				IAmb	IAmb	IAmb	07 56 15.4	
	comp=Z,12nm,0.7s							
PTLB	**Pontes e Lacer**	**45.06**	**319**	P		**P**	**07 56 16.0**	**+0.3**
PTLB				IAmb	IAmb	IAmb	07 56 37.4	
	comp=Z,8.0nm,1.2s							
PB08	**IPOC Station P**	**45.23**	**304**	P		**P**	**07 56 18.4**	**+0.9**
PB08				IAmb	IAmb	IAmb	07 56 21.6	
	comp=Z,6.4nm,0.8s							
SIV	**San Ignacio**	**45.31**	**316**	LR		LR	08 15 34.3	
	comp=Z,34nm,20.4s,baz=272,slow=36							
GO01	**Chusmiza**	**45.65**	**304**	P		**P**	**07 56 21.8**	**+0.8**
GO01				IAmb	IAmb	IAmb	07 56 24.2	
	comp=Z,11nm,0.8s							
PB16	**IPOC Station P**	**46.95**	**305**	P		**P**	**07 56 32.9**	**+1.6**
PB16				IAmb	IAmb	IAmb	07 56 40.2	
	comp=Z,8.1nm,1.4s							
SBA	**Scott Base**	**47.25**	**185**	P		**P**	**07 56 33.4**	**+1.1**
SBA				IAmb	IAmb	IAmb	07 56 35.0	
	comp=Z,7.5nm,1.1s							
H10S2	**ASCENSION HYDR** baz=195	**47.37**	**21**	T		T	08 47 44.9	
H10S3	**ASCENSION HYDR** baz=25,SNR=3.2	**47.37**	**21**	T		T	08 47 44.0	
VNDA	**Vanda**	**47.79**	**184**	P		**P**	**07 56 37.3**	**+0.8**
	comp=Z,6.8nm,0.8s,baz=176,slow=6.3,SNR=46 comp=Z,6.8nm,0.8s							
VNDA	**Vanda**	**47.79**	**184**	P		**P**	**07 56 37.5**	**+1.1**
VNDA				IAmb	IAmb	IAmb	07 56 38.4	
	comp=Z,7.1nm,0.7s							
LPAZ	**La Paz**	**48.08**	**308**	P		**P**	**07 56 41.2**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=96,slow=5.1,SNR=20							
LPAZ				LR		LR	08 17 58.5	
	comp=Z,60nm,20.3s,baz=104,slow=37 comp=Z,3.8nm,0.7s							

LPAZ	**La Paz**	**48.08**	**308**	P	**P**	**07 56 41.2**	**+1.1**	
LPAZ				IAmb	IAmb	07 56 52.6		
	comp=Z,5.8nm,0.8s							
H10N1	**ASCENSION HYDR**	**48.48**	**21**	T	T	08 49 06.0		
	baz=191,slow=76,SNR=5.5							
H10N3	**ASCENSION HYDR**	**48.48**	**21**	T	T	08 49 05.9		
	baz=191,slow=76,SNR=8.5							
H10N2	**ASCENSION HYDR**	**48.50**	**21**	T	T	08 49 05.7		
	baz=191,slow=76,SNR=10							
RCBR	**Riachuelo**	**48.96**	**353**	LR	LR	08 13 04.5		
	comp=Z,57nm,21.5s,baz=325,slow=31							
LBTB	**Lobatse**	**50.49**	**77**	P	**P**	**07 56 58.1**	**+0.1**	
LBTB				IAmb	IAmb	07 56 59.4		
	comp=Z,10nm,0.9s							
ETMB	**Extrema**	**52.99**	**314**	P	**P**	**07 57 16.1**	**-0.5**	
ETMB				IAmb	IAmb	07 57 28.1		
	comp=Z,6.1nm,1.5s							
CASY	**Casey**	**55.76**	**162**	P	**P**	**07 57 36.3**	**+0.2**	
PTGA	**Pitinga**	**58.99**	**325**	LR	LR	08 21 44.9		
	comp=Z,63nm,21.8s,baz=140,slow=34							
BOAV	**Boa Vista**	**62.11**	**326**	P	**P**	**07 58 20.4**	**-0.3**	
BOAV				IAmb	IAmb	07 58 42.9		
	comp=Z,3.6nm,1.1s							
MDP	**Montagnes des**	**62.41**	**335**	LR	LR	08 22 39.4		
	comp=Z,67nm,21.5s,baz=174,slow=33							
PCRV	**Puerto La Cruz**	**70.76**	**324**	LR	LR	08 30 11.4		
	comp=Z,78nm,21.3s,slow=36							
BAUV	**El Baul**	**70.83**	**320**	P	**P**	**07 59 16.1**	**-0.4**	
SDV	**Santo Domingo**	**71.72**	**318**	LR	LR	08 31 38.4		
	comp=Z,125nm,19.6s,baz=118,slow=36							
TOA0	**Torodi Ar. Sit**	**72.90**	**33**	P	**P**	**07 59 29.7**	**+0.8**	
TOA0				IAmb	IAmb	07 59 30.9		
	comp=Z,6.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**72.90**	**33**	P	**P**	**07 59 29.5**	**+0.6**	
	comp=Z,5.8nm,0.8s,baz=201,slow=6.2,SNR=23							
	comp=Z,5.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.90**	**33**	P	**P**	**07 59 29.6**	**+0.8**	
TORD				IAmb	IAmb	07 59 30.9		
	comp=Z,5.8nm,1.0s							
MTP	**Monte Pirata**	**78.47**	**326**	P	**P**	**08 00 00.8**	**+0.2**	
CUPR	**Culebra, Puert**	**78.58**	**326**	P	**P**	**08 00 00.9**	**-0.4**	
CUPR				IAmb	IAmb	08 00 19.8		
	comp=Z,9.7nm,0.8s							
SJG	**San Juan**	**78.67**	**326**	LR	LR	08 35 00.6		
	comp=Z,16nm,21.6s,baz=116,slow=36							
MDT	**Midelt**	**90.00**	**22**	LR	LR	08 34 43.9		
	comp=Z,112nm,20.4s,baz=208,slow=31							
ESDC	**Sonseca Array**	**96.75**	**20**	LR	LR	08 40 14.3		
	comp=Z,57nm,18.1s,baz=173,slow=32							
VAE	**Valguarnera**	**99.60**	**35**	LR	LR	08 46 40.4		
	comp=Z,35nm,18.1s,baz=348,slow=35							
ASAR	**Alice Springs**	**100.78**	**165**	PP	**PP**	**08 05 48.2**	**-6.8**	
	comp=Z,0.3nm,0.7s,baz=192,slow=6.1,SNR=2.2							
WRA	**Warramunga Arr**	**104.50**	**165**	PP	**PP**	**08 06 23.9**	**+0.9**	
	comp=Z,0.3nm,1.0s,baz=194,slow=5.6,SNR=1.8							
YKA	**Yellowknife Ar**	**133.94**	**320**	PKP	**PKPdf**	**08 07 15.6**	**-0.1**	
	comp=Z,1.9nm,0.7s,baz=129,slow=2.4,SNR=7.6							
ILAR	**Eielson Array**	**147.84**	**314**	PKPbc	**PKPbc**	**08 07 43.5**	**0.0**	
	comp=Z,12nm,0.7s,baz=126,slow=1.9,SNR=104							
SONM	**Songino Array**	**152.52**	**87**	PKPbc	**PKPbc**	**08 07 55.4**	**-0.1**	
	comp=Z,3.2nm,0.6s,baz=224,slow=3.5,SNR=13							

*BUL **21** 07:49:38.6±1.8,21°.72S×33°.41E,h10km,MD5.0*
*PRE **21** 07:49:40.0±2.5,21°.48S×33°.54E,h10km,ML2.9*
ISC 21 07:49:42.6±1.6,21°.48S±0°.07×33°.29E±0°.09,h13km,n28,
σ2s32/39,Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.68**	**220**	*e*P		**Pn**	**07 50 26.2**	**+0.7**
MOPA				*e*S		**Sn**	**07 51 00.4**	**+2.5**
MOPA				IAML			07 51 10.4	
	comp=Z,70nm,0.4s							
MUSN	**Musina, Limpop**	**3.28**	**255**	*e*P		**Pn**	**07 50 36.6**	**+2.8**
MUSN				*e*S		**Sb**	**07 51 17.5**	**-3.2**
MUSN				IAML			07 51 31.2	
	comp=Z,54nm,0.5s							
MUSN	**Musina, Limpop**	**3.28**	**255**	*i* Pg		**Pn**	**07 50 37.3**	**+3.5**
MUSN				*i* Sg		**Sb**	**07 51 21.9**	**+1.2**
MUSN	**Musina, Limpop**	**3.28**	**255**	*i* Pg		**Pn**	**07 50 37.3**	**+3.5**
MUSN				*i* Sg		**Sb**	**07 51 21.9**	**+1.2**
MMAL	**MMAL**	**4.94**	**202**	*e*P		**Pn**	**07 50 59.9**	**+3.3**
MMAL				*e*S		**Sn**	**07 51 53.2**	**-0.4**
MMAL				IAML			07 52 17.2	
	comp=Z,16nm,0.4s							
LEPH	**Lephalale, Lim**	**5.60**	**244**	*e*P		**Pn**	**07 51 06.8**	**+1.1**
LEPH				*e*S		**Sn**	**07 52 10.4**	**+0.4**
LEPH				IAML			07 52 42.2	
	comp=Z,46nm,0.5s							
POGA	**Pongola**	**6.02**	**194**	*e*P		**Pn**	**07 51 12.2**	**+0.8**
POGA				*e*S		**Sn**	**07 52 18.9**	**-1.4**
POGA				IAML			07 53 06.9	
	comp=Z,8.1nm,0.7s							
SLR	**Silverton**	**6.25**	**226**	*e*P		**Pn**	**07 51 18.4**	**+3.8**
SLR				*e*S		**Sn**	**07 52 26.0**	**-0.1**
SLR				IAML			07 53 11.2	
	comp=Z,18nm,0.4s							
HRAO	**HartRAO**	**6.76**	**228**	*e*P		**Pn**	**07 51 20.6**	**-1.1**
HRAO				*e*S		**Sn**	**07 52 37.4**	**-1.2**
HRAO				IAML			07 53 25.0	
	comp=Z,14nm,0.6s							
NWCL	**Newcastle**	**6.96**	**206**	*e*P		**Pn**	**07 51 24.1**	**-0.3**
NWCL				*e*S		**Sn**	**07 52 41.3**	**-2.2**
NWCL				IAML			07 53 37.9	
	comp=Z,11nm,0.5s							
KSR	**Koster**	**7.30**	**232**	*e*P		**Pn**	**07 51 32.5**	**+3.4**
KSR				*e*S		**Sn**	**07 52 52.8**	**+0.8**
KSR				IAML			07 53 43.5	
	comp=Z,13nm,0.7s							
PRYS	**Parys**	**7.66**	**224**	*e*P		**Pn**	**07 51 33.1**	**-1.0**
PRYS				*e*S		**Sn**	**07 52 57.1**	**-3.8**
PRYS				IAML			07 53 53.2	
	comp=Z,9.7nm,0.6s							
LSZ	**Lusaka**	**7.84**	**321**	*e*P		**Pn**	**07 51 40.0**	**+3.5**
LSZ	**Lusaka**	**7.84**	**321**	*i* P		**Pn**	**07 51 34.5**	**-2.0**
LSZ				*i* S		**Sn**	**07 53 00.9**	**-4.3**
LSZ	**Lusaka**	**7.84**	**321**	*i* P		**Pn**	**07 51 34.5**	**-2.0**
LSZ				*i* S		**Sn**	**07 53 00.9**	**-4.3**
LBTB	**Lobatse**	**7.90**	**242**	*e*P		**Pn**	**07 51 38.2**	**+0.8**
LBTB				*e*S		**Sn**	**07 53 07.3**	**+0.6**
LBTB				IAML			07 53 59.9	
	comp=Z,11nm,0.7s							
LBTB	**Lobatse**	**7.90**	**242**	*i* S		Sn	07 52 56.6	-10
LBTB	**Lobatse**	**7.90**	**242**	*i* S		Sn	07 52 56.6	-10
SNKL	**Senekal, Frees**	**8.42**	**215**	*e*P		**Pn**	**07 51 43.9**	**-0.6**
SWZ	**Schweizer**	**9.21**	**230**	*e*P		**Pn**	**07 51 54.7**	**-0.7**
SWZ				*e*S		**Sn**	**07 53 36.6**	**-2.4**
SWZ				IAML			07 54 41.4	
	comp=Z,9.4nm,0.7s							
BOSA	**Boshof**	**10.17**	**224**	*e*P		**Pn**	**07 52 09.1**	**+0.6**
BOSA	**Boshof**	**10.17**	**224**	*i* P		Pn	07 52 01.1	-7.4
BOSA				*i* S		Sn	07 52 46.2	-16
BOSA	**Boshof**	**10.17**	**224**	*i* S		Sn	07 53 46.2	-16
BOSA	**Boshof**	**10.17**	**224**	*i* P		Pn	07 52 01.1	-7.4
GRAF	**Camdeboo Natio**	**13.31**	**214**	*e*P		**Pn**	**07 52 51.2**	**-0.2**
BFON	**Badsfontein, M**	**13.38**	**218**	*e*P		**Pn**	**07 52 55.5**	**+3.1**
BRAK	**Brakfontein**	**13.84**	**220**	*e*P		**Pn**	**07 52 57.0**	**-1.6**
GRAN	**Grantham**	**14.64**	**220**	*e*P		**Pn**	**07 53 09.8**	**+0.2**

*IDC **21** 07:56:49.4±1.6,34°.64N×44°.35E,h0km,mb3.9/7,*
mbtmp3.9/10,ML4.0/3,MS3.9/1,Error ellipse:
s-maj=38.4km s-min=18.1km az=161.0
*TEH **21** 07:56:51.5,34°.48N×44°.12E,h14km,ML3.9*
*ISN **21** 07:56:51.9±1.4,34°.75N×44°.28E,h15km±26km,ML3.8*
ISC 21 07:56:52.2±0.7,34°.62N±0°.03×44°.24E±0°.05,h10km,n48,
σ1s97/48,mb4.1/8,Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BHD	**Baghdad**	**1.35**	**175**	*e*Pg		**Pn**	**07 57 18.0**	**+0.9**
BHD				*e*Sg		**Sg**	**07 57 39.0**	**+3.3**
BHD				AML		AML	07 57 42.1	
	comp=E,4μm,0.6s							
IDHR	**Dehrash**	**1.77**	**87**	*e*Pn		**Pn**	**07 57 24.6**	**+1.6**
IGHG	**Ghaleghazi**	**1.94**	**98**	*e*Pn		**Pb**	**07 57 27.7**	**-0.1**
IGHG				*e*Sg		**Sg**	**07 57 56.5**	**+1.9**
IGHG				*e*			07 57 57.7	
	comp=Z,13μm,0.8s							
IBDR	**Badra**	**2.06**	**137**	*e*Pn		**Pn**	**07 57 29.0**	**+2.2**
IBDR				*e*Sn		**Sb**	**07 57 55.5**	**+0.2**
IBDR				AML		AML	07 58 05.2	
	comp=E,437nm,0.5s							
IBDR				AML		AML	07 58 14.8	
	comp=N,454nm,0.6s							
ILIN	**Lien**	**2.26**	**82**	*e*Pn		**Pn**	**07 57 32.2**	**+2.4**
ILIN				*e*			07 58 11.3	
	comp=Z,8μm,0.9s							
KCHF	**Cheshme Sefid,**	**2.34**	**98**	*e*Pn		**Pn**	**07 57 32.4**	**+1.6**
KCHF				*e*			07 58 12.1	
	comp=Z,8μm,0.7s							
KER	**Kermanshah**	**2.40**	**95**	*e*Pn		**Pn**	**07 57 32.2**	**+0.6**
MAHB	**Mahabad**	**2.45**	**29**	*e*Pn		**Pn**	**07 57 33.0**	**+0.7**
IKOM	**Komasi**	**2.74**	**98**	*e*Pn		**Pn**	**07 57 37.8**	**+1.5**
IKOM				*e*			07 58 46.2	
	comp=Z,5μm,1.0s							
IBZA	**Bozab**	**2.99**	**92**	*e*Pn		**Pn**	**07 57 41.3**	**+1.4**
IBZA				*e*			07 58 43.2	
	comp=Z,3μm,0.6s							
IKFM	**Kafar-mosalman**	**3.19**	**109**	*e*Pn		**Pn**	**07 57 43.5**	**+1.2**
IKFM				*e*			07 58 44.9	
	comp=Z,3μm,0.6s							
RAFI	**Al-Rafai**	**3.29**	**151**	*e*Pn		**Pn**	**07 57 47.0**	**+3.3**
RAFI				*e*Sn		**Sn**	**07 58 26.0**	**+3.1**
RAFI				AML		AML	07 58 48.2	
	comp=E,522nm,0.4s							
IAZR	**Azarshahr**	**3.36**	**24**	*e*Pn		**Pn**	**07 57 48.1**	**+3.2**
IDOB	**Doab**	**3.36**	**103**	*e*Pn		**Pn**	**07 57 45.9**	**+0.9**
HSAM	**Samen**	**3.63**	**95**	*e*Pn		**Pn**	**07 57 49.5**	**+0.9**
IHSH	**Hashtrud**	**3.63**	**42**	*e*		**Sg**	**07 58 49.5**	**+0.8**
	comp=Z,1μm,0.6s							
IBST	**Bostanabad**	**3.74**	**34**	*e*Pn		**Pn**	**07 57 52.6**	**+2.4**
IBST				*e*			07 58 56.9	
	comp=Z,1μm,0.6s							
ISHB	**Shabestar**	**3.82**	**16**	*e*		**Sn**	**07 58 37.8**	**+1.5**
	comp=Z,1μm,0.5s							
ITBZ	**Tabriz**	**3.92**	**23**	*e*Pn		**Pn**	**07 57 55.8**	**+3.3**
ITBZ				*e*			07 59 00.2	
	comp=Z,820nm,0.5s							
HAGD	**Aghdareh**	**4.04**	**86**	*e*Pn		**Pn**	**07 57 55.8**	**+1.5**
HAGD				*e*			07 57 58.2	
	comp=Z,954nm,0.4s							
ISRB	**Sarab**	**4.23**	**40**	*e*		Pg	07 58 25.1	+12
	comp=Z,854nm,0.7s							
IMRD	**Marand**	**4.25**	**16**	*e*Pn		**Pn**	**07 57 59.3**	**+2.2**
IMRD				*e*			07 58 36.9	
	comp=Z,870nm,0.6s							
IHRS	**Heris**	**4.32**	**31**	*e*		**Sg**	**07 59 17.1**	**+6.2**
	comp=N,1μm,0.7s							
AMIS	**Naft Sefid**	**5.16**	**123**	*e*Pn		**Pn**	**07 58 10.5**	**+1.1**
GNI	**Garni**	**5.53**	**4**	Pg		**Pg**	**07 58 37.7**	**-0.4**
	comp=N,1.3nm,0.3s,baz=282,slow=3.9,SNR=6.0							
IPIR	**Pirpir**	**5.87**	**107**	*e*Pn		**Pn**	**07 58 20.0**	**+0.5**
IPIR				*e*			07 59 32.2	
	comp=Z,313nm,0.4s							
QAMS	**Qamsar**	**5.99**	**96**	*e*Pn		**Pn**	**07 58 22.4**	**+1.2**
IVRN	**Varamin**	**6.17**	**84**	*e*Pn		**Pn**	**07 58 24.0**	**+0.6**
IKLH	**Kolahrood**	**6.23**	**100**	*e*Pn		**Pn**	**07 58 25.2**	**+0.8**
KRSH	**Karshahi**	**6.56**	**93**	*e*Pn		**Pn**	**07 58 29.3**	**+0.4**
ISFB	**Sefidab**	**6.61**	**90**	*e*Pn		**Pn**	**07 58 29.4**	**-0.1**
ASF	**Jabal al Asfar**	**6.61**	**250**	Pn		**Pn**	**07 58 29.9**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=46,slow=2.5,SNR=6.4							
ASF				Sn		**Sn**	**07 59 47.8**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=17,slow=4.7,SNR=1.4							
ASF				Lg		Lg	08 00 23.2	
	comp=Z,1.6nm,0.3s,baz=274,slow=22,SNR=8.3							
	comp=Z,2.5nm,0.4s							
IZEF	**Zefreh**	**6.95**	**102**	*e*Pn		**Pn**	**07 58 34.9**	**+0.6**
KLNJ	**Kolanjah**	**7.16**	**118**	*e*Pn		**Pn**	**07 58 37.7**	**+0.4**
IRAM	**Ramesheh**	**7.37**	**110**	*e*Pn		**Pn**	**07 58 40.2**	**+0.1**
MMAI	**Mount Meron Ar**	**7.53**	**260**	Lg		Lg	08 00 46.3	
	comp=Z,3.1nm,0.3s,baz=72,slow=25,SNR=3.3							
EIL	**Elat**	**9.30**	**240**	Lg		Lg	08 01 42.8	
	comp=Z,0.8nm,0.3s,baz=300,slow=23,SNR=3.2							
AKTO	**Aktyubinsk**	**18.73**	**28**	P		**P**	**08 01 09.0**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=206,slow=8.6,SNR=6.2							
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**19.44**	**330**	P		**P**	**08 01 16.5**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=137,slow=10,SNR=7.6							
	comp=Z,0.7nm,0.4s							
ARU	**Arti**	**23.91**	**20**	P		**P**	**08 02 05.4**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=233,slow=7.7,SNR=3.1							
	comp=Z,1.9nm,0.3s							
BVAR	**Borovoye Array**	**26.11**	**37**	P		**P**	**08 02 24.4**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=232,slow=9.3,SNR=4.9							
	comp=Z,0.8nm,0.6s							
DAVOX	**Davos/Dischmat**	**28.51**	**306**	LR		LR	08 16 54.3	
	comp=Z,255nm,21.1s,baz=250,slow=42							
FINES	**FINESS Array B**	**29.25**	**342**	P		**P**	**08 02 54.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=162,slow=13,SNR=5.1							
	comp=Z,0.6nm,0.5s							
NOA	**NORSAR Array B**	**33.84**	**332**	P		**P**	**08 03 32.0**	**-2.5**
	comp=Z,0.3nm,0.4s,baz=126,slow=8.7,SNR=3.4							
	comp=Z,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**34.26**	**43**	P		**P**	**08 03 36.4**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=243,slow=9.5,SNR=4.4							
	comp=Z,0.8nm,0.3s							
LZH	**Lanzhou**	**47.96**	**70**	*e*P		P	08 05 25.4	-5.8
LZH				pP		pP	08 05 33.3	-1.1
LZH				pmax		pmax		
	comp=Z,20nm,1.4s							
USRK	**Ussuriysk Ar.**	**65.40**	**52**	P		**P**	**08 07 32.7**	**-2.2**
	comp=Z,1.5nm,0.5s,baz=296,slow=8.4,SNR=4.7							
	comp=Z,1.5nm,0.5s							
KSRS	**Korea Array**	**65.50**	**60**	P		**P**	**08 07 33.6**	**-2.0**
	comp=Z,1.1nm,0.6s,baz=289,slow=7.2,SNR=4.5							
	comp=Z,1.1nm,0.6s							

*BJI **21** 07:59:24.4±0.0,38°.06N×69°.53E,h10km,mb4.1/12,*
mB4.5/6,ML3.9/3,Ms3.9/4,Ms7 3.8/4
*IDC **21** 07:59:27.9±0.8,37°.67N×70°.32E,h0km,mb4.1/17,*
mbtmp4.1/24,ML3.9/7,MS3.4/3,Error ellipse:
s-maj=16.0km s-min=11.7km az=152.0
*NNC **21** 07:59:33.1±1.4,38°.02N×69°.94E,h20km,mb4.4,mpv4.2,*
Error ellipse: s-maj=16.5km s-min=7.3km az=149.0
ISC 21 07:59:29.5±0.5,37°.91N±0°.05×70°.19E±0°.04,h10km,n86,
σ2s77/87,mb4.1/18,5C-8D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**4.24**	**358**	*i* Pn		**Pn**	**08 00 37.7**	**+3.5**
	baz=359							
IUG				*i* Pg		**Pg**	**08 00 49.2**	**-1.5**
	baz=359							
IUG				*e*Sn		**Sn**	**08 01 21.9**	**-1.9**
	baz=359							
IUG	**luzhnay**	**4.24**	**358**	Pg		**Pn**	**08 00 38.2**	**+4.0**
	818nm,0.2s							
IUG				Lg		Lg	08 01 47.1	
	298nm,0.5s							
CEP	**Cherat**	**4.31**	**161**	P		**Pb**	**08 00 43.3**	**-2.1**
KSH	**Kashi**	**4.80**	**69**	Pn		**Pn**	**08 00 41.8**	**-0.2**
KSH				Sn		**Sn**	**08 01 35.8**	**-2.0**
KSH				LR		LR		
	comp=N,490nm,4.0s							
KSH				LR		LR		
	comp=E,810nm,4.8s							
KSH				LR		LR		
	comp=Z,660nm,5.5s							
CHCP	**Chirah Chowk**	**4.92**	**149**	P		Pn	08 00 50.0	+6.4
AML	**Almayashu**	**5.00**	**31**	P		**Pn**	**08 00 48.7**	**+3.7**
	SNR=50							
KK31	**Karatay Array**	**5.20**	**3**	Pn		**Pn**	**08 00 50.0**	**+2.7**
	3.7nm,0.4s,baz=195,slow=20,SNR=50							
KK31				⇑Pg		**Pg**	**08 01 06.1**	**-3.0**
	14nm,0.5s							
KK31				⇓Lg		Lg	08 02 16.8	
	36nm,0.6s,baz=161,slow=28,SNR=6.5							
MRKS	**Merke**	**5.36**	**25**	Pg		Pn	08 00 55.3	+5.6
	5.1nm,0.4s							
MRKS				Lg		Lg	08 02 20.4	
	74nm,0.7s							
UCH	**Uchtor**	**5.44**	**36**	P		**Pn**	**08 00 55.0**	**+3.8**
	SNR=42							
EKS2	**Erkin-Say**	**5.49**	**29**	P		Pn	08 00 57.0	+5.6
	SNR=7.7							
AAK	**Ala-Archa**	**5.76**	**34**	P		Pn	08 01 00.7	+5.4
	SNR=26							
AAK	**Ala-Archa**	**5.76**	**34**	Pn		**Pn**	**08 00 59.4**	**+4.2**
	7.8nm,0.3s,baz=201,slow=4.9,SNR=34							
AAK				Lg		Lg	08 02 35.2	
	0.4nm,0.3s,baz=350,slow=14,SNR=11							
	22nm,0.4s							
CHMS	**Chumysh**	**6.16**	**33**	P		**Pn**	**08 01 04.5**	**+3.9**
	SNR=15							
CHMS	**Chumysh**	**6.16**	**33**	⇓Pn		**Pn**	**08 01 03.9**	**+3.2**
	27nm,0.6s							
CHMS				⇑Sn		**Sn**	**08 02 15.2**	**+4.0**
	37nm,0.7s							
CHMS				⇓Lg		Lg	08 02 51.2	
	104nm,1.0s							
USP	**Ospenovka**	**6.28**	**30**	P		**Pn**	**08 01 06.7**	**+4.4**
	SNR=15							
SGDS	**Sogindy**	**6.49**	**30**	*e*Pn		**Pn**	**08 01 08.3**	**+3.2**
	3.5nm,0.6s,baz=31							
SGDS				*e*Pg		**Pg**	**08 01 31.6**	**-2.1**
	baz=31							
SGDS				*e*Lg		Lg	08 02 56.4	
	baz=31							
SGDS				*e*Lg		Lg	08 02 56.5	
	baz=31							
SGDS	**Sogindy**	**6.49**	**30**	Pg		Pb	08 01 16.8	-5.7
	12nm,0.5s							
SGDS				Pg		Pb	08 01 18.2	-4.3
	14nm,0.4s							
SGDS				Lg		Lg	08 02 56.4	
	60nm,1.0s							
SGDS				Lg		Lg	08 02 56.6	
	59nm,0.6s							
TKM2	**Tokmak 2**	**6.49**	**38**	P		**Pn**	**08 01 09.0**	**+3.7**
	SNR=22							
TKM2	**Tokmak 2**	**6.49**	**38**	⇓Pn		**Pn**	**08 01 08.7**	**+3.4**
	8.6nm,0.4s							
TKM2				⇑Lg		Lg	08 03 01.8	
	67nm,1.2s							
KST	**Kastek**	**6.76**	**39**	Pg		**Pb**	**08 01 24.8**	**-2.4**
	8.3nm,0.7s							
KST				Lg		Lg	08 03 09.6	
	44nm,0.9s							
DGS	**Degeres**	**6.82**	**37**	Pg		Pb	08 01 23.7	-4.5
	5.4nm,0.5s							
DGS				Pg		**Pb**	**08 01 25.9**	**-2.3**
	5.4nm,0.3s							
DGS				Lg		Lg	08 03 07.4	
	45nm,0.8s							
DGS				Lg		Lg	08 03 09.1	
	28nm,0.7s							
KRBS	**Karabastau**	**7.12**	**34**	Pg		Pb	08 01 29.0	-4.4
	6.6nm,0.6s							
KRBS				Pg		Pb	08 01 29.4	-4.0
	6.6nm,0.7s							
KRBS				Lg		Lg	08 03 18.4	
	20nm,1.2s							
KRBS				Lg		Lg	08 03 18.5	
	24nm,1.1s							
TNSS	**Tian-Shan**	**7.26**	**43**	Pg		**Pb**	**08 01 32.9**	**-3.1**
	5.6nm,0.6s							
TNSS				Lg		Lg	08 03 22.9	
	41nm,0.9s							
MDOK	**Medeo**	**7.41**	**43**	*i* Pn		**Pn**	**08 01 22.2**	**+4.4**
	baz=44							
MDOK				*e*Pg		**Pg**	**08 01 48.4**	**-2.9**
	baz=44							
MDOK				*e*Lg		Lg	08 03 26.7	
	baz=44							
MDOK	**Medeo**	**7.41**	**43**	⇑Pn		**Pn**	**08 01 21.8**	**+4.0**
	8.2nm,0.6s							
KOTS	**Kotyrbulak**	**7.49**	**43**	Pg		Pb	08 01 34.4	-5.2
	3.4nm,0.8s							
KOTS				Lg		Lg	08 03 26.4	
	63nm,1.0s							
KUU	**Kurty**	**7.58**	**36**	*e*Pn		**Pn**	**08 01 22.7**	**+2.6**
	4.1nm,0.7s,baz=37							
KUU				*e*Pg		Pg	08 01 51.2	-3.4
	baz=37							
KUU				*e*Lg		Lg	08 03 30.8	
	baz=37							
KUU	**Kurty**	**7.58**	**36**	Pg		Pb	08 01 36.7	-4.3
	3.8nm,0.3s							
KUU				Lg		Lg	08 03 30.1	
	26nm,1.5s							
KTBS	**Karatobe**	**7.61**	**38**	Pg		**Pb**	**08 01 38.9**	**-2.6**
	2.8nm,0.8s							
KTBS				Lg		Lg	08 03 33.8	
	26nm,0.8s							
BTLS	**Baital**	**7.69**	**21**	*e*Pn		**Pn**	**08 01 25.2**	**+3.6**
	baz=22							
BTLS				*e*Pg		Pg	08 01 52.3	-4.5
	baz=22							
BTLS	**Baital**	**7.69**	**21**	Pg		**Pb**	**08 01 39.5**	**-3.5**
	6.6nm,0.3s							
BTLS				Lg		Lg	08 03 33.7	
	12nm,1.1s							
CHKK	**Chushkaly**	**7.86**	**39**	*e*Pn		**Pn**	**08 01 26.6**	**+2.7**
	baz=40							
CHKK				*e*Pg		**Pg**	**08 01 56.9**	**-3.2**
	baz=40							
SATY	**Saty**	**8.10**	**48**	*e*Pn		**Pn**	**08 01 32.1**	**+4.7**
	1.7nm,1.2s,baz=50							
SATY				*e*Pg		Pg	08 02 01.3	-3.3
	baz=50							
KPKS	**Kokpek**	**8.51**	**47**	*e*Pn		**Pn**	**08 01 36.0**	**+3.1**
	1.7nm,0.7s,baz=48							
KPKS				*e*Pg		**Pg**	**08 02 09.3**	**-3.2**
	baz=48							
UZB	**Uzynbulak**	**8.52**	**49**	*e*Pn

GTA	**Gaotai**	**23.14**	**77**	*eP*	**P**	**08 04 38.3 +2.2**
GTA				pP	sP	08 04 42.4 +1.4
GTA				sP	pP	08 04 45.8 +6.3
GTA				pmax	pmax	
	comp=Z,5.0nm,1.3s					
KIRV	**Kirov**	**24.69**	**334**	P	**P**	**08 04 52.9 +2.5**
	9.8nm,0.6s,baz=120,slow=2.1,SNR=4.5					
	9.8nm,0.6s					
SONM	**Songino Array**	**28.10**	**58**	P	**P**	**08 05 23.0 +1.5**
	0.7nm,0.5s,baz=266,slow=8.7,SNR=3.8					
	0.7nm,0.5s					
BRTR	**Keskin Array B**	**28.41**	**285**	P	**P**	**08 05 27.1 +2.7**
	0.9nm,0.6s,baz=94,slow=7.1,SNR=3.6					
	0.9nm,0.6s					
KLMR	**Klimovskoe**	**29.94**	**330**	*eP*	**P**	**08 05 35.3 -2.2**
KLMR				AMP		08 05 39.7
	comp=Z,14nm,1.7s					
AKASG	**Malin Array Be**	**31.57**	**307**	P	**P**	**08 05 53.4 +1.4**
	comp=Z,0.8nm,0.4s,baz=80,slow=7.4,SNR=14					
	comp=Z,0.8nm,0.4s					
FINES	**FINESS Array B**	**35.96**	**325**	P	**P**	**08 06 31.7 +1.7**
	comp=Z,4.2nm,0.6s,baz=109,slow=9.9,SNR=17					
	comp=Z,4.2nm,0.6s					
ARCES	**ARCESS Array B**	**39.60**	**337**	P	**P**	**08 07 02.6 +1.9**
	comp=Z,3.8nm,0.6s,baz=116,slow=8.3,SNR=13					
	comp=Z,3.8nm,0.6s					
KTK1	**Kautokeino**	**40.07**	**336**	*eP*	**P**	**08 07 06.2 +1.5**
KTK1				lAmb	lAmb	08 07 06.5
	comp=Z,7.1nm,0.7s					
HAMF	**Hammerfest**	**40.68**	**338**	*eP*	**P**	**08 07 11.9 +2.3**
JETT	**Jettan, Norway**	**41.21**	**336**	*eP*	**P**	**08 07 16.8 +2.7**
NC602	**NORSAR Array S**	**42.69**	**322**	*eP*	**P**	**08 07 27.6 +1.4**
NB2	**NORSAR Subarra**	**42.87**	**322**	P	**P**	**08 07 29.0 +1.2**
	comp=Z,1.5nm,0.5s,baz=96,slow=8.6					
NB2	**NORSAR Subarra**	**42.87**	**322**	P	**P**	**08 07 29.0 +1.2**
	baz=96,slow=8.6					
NOA	**NORSAR Array B**	**42.87**	**322**	P	**P**	**08 07 28.9 +1.1**
	comp=Z,4.7nm,0.8s,baz=96,slow=8.1,SNR=24					
	comp=Z,4.7nm,0.8s					
KONO	**Kongsberg**	**43.59**	**320**	*eP*	**P**	**08 07 35.2 +1.7**
SKAR	**Skarslia**	**44.27**	**322**	*eP*	**P**	**08 07 40.9 +1.8**
KMBO	**Kilima Mbogo**	**49.32**	**226**	LR	LR	08 31 31.7
	comp=Z,66nm,18.9s,baz=91,slow=39					
ESDC	**Sonseca Array**	**56.24**	**297**	P	**P**	**08 09 11.5 +1.5**
	comp=Z,0.8nm,0.5s,baz=66,slow=7.5,SNR=8.1					
	comp=Z,0.8nm,0.5s					
TORD	**Torodi Ar. Bea**	**65.12**	**267**	P	**P**	**08 10 11.2 +0.4**
	comp=Z,1.1nm,0.5s,baz=51,slow=6.4,SNR=15					
	comp=Z,1.1nm,0.5s					
INK	**Inuvik**	**72.62**	**9**	P	**P**	**08 10 59.9 +3.3**
	comp=Z,1.7nm,0.7s,baz=332,slow=7.3,SNR=3.7					
	comp=Z,1.7nm,0.7s					
ILAR	**Eielson Array**	**73.60**	**16**	P	**P**	**08 11 05.2 +2.6**
	comp=Z,0.8nm,1.0s,baz=290,slow=5.8,SNR=4.2					
	comp=Z,0.8nm,1.0s					
YKA	**Yellowknife Ar**	**79.87**	**2**	P	**P**	**08 11 39.2 +1.3**
	comp=Z,1.3nm,0.6s,baz=352,slow=5.4,SNR=4.2					
	comp=Z,1.3nm,0.6s					
WRA	**Warramunga Arr**	**83.28**	**122**	P	**P**	**08 11 55.1 -1.6**
	comp=Z,0.5nm,0.7s,baz=324,slow=4.8,SNR=9.9					
	comp=Z,0.5nm,0.7s					
ASAR	**Alice Springs**	**85.59**	**124**	P	**P**	**08 12 06.9 -1.4**
	comp=Z,0.6nm,0.6s,baz=311,slow=4.5,SNR=12					
	comp=Z,0.6nm,0.6s					

*ROM **21** 08:01:35.8±0.7,42°.91N±0°.03×6°.52E±0°.07,h0km,ML2.6/8, Error ellipse: s-maj=5.6km s-min=2.6km az=249.0*
*STR **21** 08:01:37.9±0.5,43°.N±°×±°, h0km, MLv2.8/6, Error ellipse: s-maj=0.0km s-min=0.0km az=126.9, preliminary*
*GEN **21** 08:01:38.1, 43°.07N×6°.22E, h17km±21km, Ml0.0*
ISC 21 08:01:37.0±0.8, 43°.01N±0°.03×6°.44E±0°.02, h0km, n71, σ1s12/75, 7C-5D, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASEAF	**Site Antares,**	**0.29**	**223**	P	**Pb**	**08 01 44.8**	**-0.1**
ASEAF	**Site Antares,**	**0.29**	**223**	Pg	**Pb**	**08 01 44.7**	**-0.1**
ASEAF				Sg	**Sb**	**08 01 49.5**	**-0.6**
FLAF	**Flassans-sur-I**	**0.40**	**341**	Pg	**Pg**	**08 01 44.9**	**+0.3**
FLAF				Sg	**Sg**	**08 01 49.0**	**-0.8**
ARTF	**Artigues**	**0.74**	**322**	Pg	**Pg**	**08 01 51.2**	**0.0**
TRIGF	**Trigance**	**0.74**	**358**	Pg	**Pg**	**08 01 51.2**	**0.0**
EILF	**Villa Eilenroc**	**0.74**	**43**	P	**Pb**	**08 01 53.1**	**+0.3**
ARBF	**Arbois**	**0.94**	**301**	Pg	**Pb**	**08 01 55.6**	**-0.6**
BLAF	**les Blancs**	**0.99**	**343**	Pg	**Pg**	**08 01 55.8**	**-0.1**
BLAF				Pn	**Pn**	**08 01 57.3**	**-0.9**
MVIF	**Mont Vial**	**1.03**	**30**	P	**Pn**	**08 01 58.2**	**-0.7**
MVIF	**Mont Vial**	**1.03**	**30**	Pg	**Pb**	**08 01 57.6**	**-0.3**
MVIF				Pn	**Pn**	**08 01 58.4**	**-0.5**
BSTF	**la Bastide-des**	**1.05**	**327**	Pg	**Pg**	**08 01 55.3**	**-1.7**
BSTF				Pn	**Pb**	**08 01 57.2**	**-0.8**
ESCA	**l'Escarene**	**1.07**	**39**	P	**Pn**	**08 01 59.1**	**-0.2**
ESCA	**l'Escarene**	**1.07**	**39**	Pg	**Pb**	**08 01 58.4**	**0.0**
OGDI	**Digne**	**1.11**	**355**	P	**Pg**	**08 01 58.1**	**-0.1**
BURY	**Giardini Botan**	**1.13**	**46**	P	**Pb**	**08 01 58.9**	**-0.4**
BURY	**Giardini Botan**	**1.13**	**46**	P	**Pb**	**08 01 58.9**	**-0.4**
TURF	**col de Turini**	**1.19**	**35**	P	**Pn**	**08 02 00.6**	**-0.5**
TURF	**col de Turini**	**1.19**	**35**	Pg	**Pn**	**08 02 00.6**	**-0.5**
TURF				Pn	**Pb**	**08 02 01.3**	**+0.7**
SPIF	**crte de Spivo**	**1.20**	**29**	Pg	**Pb**	**08 02 00.3**	**-0.4**
ISO	**Isola**	**1.26**	**21**	P	**Pb**	**08 02 01.4**	**-0.3**
SAOF	**Saorge**	**1.27**	**39**	P	**Pb**	**08 02 01.5**	**-0.4**
SAOF	**Saorge**	**1.27**	**39**	P	**Pb**	**08 02 01.5**	**-0.4**
SAOF	**Saorge**	**1.27**	**39**	AML	AML		
	comp=E,206μm,0.7s						
SAOF				AML	AML		
	comp=N,164μm,0.8s						
SAOF	**Saorge**	**1.27**	**39**	Pg	**Pb**	**08 02 01.6**	**-0.4**
SAUF	**chteau de Sau**	**1.34**	**314**	Pg	**Pg**	**08 02 02.1**	**-0.6**
IMI	**Imperia**	**1.40**	**49**	P	**Pg**	**08 02 02.5**	**-1.2**
IMI	**Imperia**	**1.40**	**49**	P	**Pg**	**08 02 02.5**	**-1.2**
IMI				AML	AML		
	comp=E,102μm,1.2s						
IMI				AML	AML		
	comp=N,115μm,0.3s						
STV	**Sant Anna di V**	**1.40**	**27**	P	**Pb**	**08 02 03.6**	**-0.4**
STV	**Sant Anna di V**	**1.40**	**27**	⇑P	**Pb**	**08 02 03.7**	**-0.4**
STV				AML	AML		
	comp=E,122μm,1.1s						
STV				AML	AML		
	comp=N,168μm,0.7s						
STV				AML	AML		
	comp=E,122μm,0.9s						
ENR	**Entracque**	**1.41**	**30**	P	**Pb**	**08 02 04.0**	**-0.3**
ENR	**Entracque**	**1.41**	**30**	P	**Pb**	**08 02 03.9**	**-0.4**
ENR				AML	AML		
	comp=E,203μm,0.7s						
ENR				AML	AML		
	comp=N,350μm,1.2s						
ENR				AML	AML		
	comp=N,350μm,0.8s						
ENR				AML	AML		
	comp=E,202μm,0.7s						
MGRO	**Montegrosso**	**1.44**	**43**	P	**Pn**	**08 02 03.8**	**-0.7**
MGRO	**Montegrosso**	**1.44**	**43**	P	**Pn**	**08 02 03.8**	**-0.7**
OGAG	**Argentiere**	**1.45**	**3**	Pn	Pb	08 02 09.3	+4.3
SURF	**Saint Ours**	**1.50**	**10**	P	**Pg**	**08 02 05.3**	**-0.4**
SURF	**Saint Ours**	**1.50**	**10**	Pn	**Pg**	**08 02 05.3**	**-0.4**
PZZ	**Stroppo**	**1.58**	**18**	P	**Pg**	**08 02 07.1**	**-0.2**
PZZ				AML	AML		
	comp=N,202μm,0.3s						
PZZ				AML	AML		
	comp=E,308μm,1.6s						
RORO	**Rocca Rossa**	**1.62**	**46**	P	**Pn**	**08 02 06.0**	**-0.9**
CANO	**Canova, Maglio**	**1.78**	**47**	P	**Pn**	**08 02 08.4**	**-0.7**
CANO				AML	AML		
	comp=E,137μm,0.7s						
CANO				AML	AML		
	comp=N,100μm,0.7s						
CANO				AML	AML		
	comp=E,137μm,1.3s						
QLNO	**Quiliano**	**1.91**	**46**	P	**Pn**	**08 02 10.4**	**-0.5**
QLNO				AML	AML		
	comp=N,56μm,0.8s						
QLNO				AML	AML		
	comp=E,45μm,1.1s						
QLNO				AML	AML		
	comp=N,56μm,1.2s						
QLNO				AML	AML		
	comp=E,45μm,0.9s						
RRL	**Rocca Remolon**	**1.93**	**8**	P	**Pn**	**08 02 11.7**	**+0.4**
RRL				AML	AML		
	comp=E,83μm,0.6s						
RRL				AML	AML		
	comp=N,80μm,0.7s						
RRL				AML	AML		
	comp=E,83μm,1.4s						
ORIF	**Oris-en-Rattie**	**1.95**	**348**	Pn	**Pn**	**08 02 12.0**	**+0.5**
AJAC	**Base Areonaval**	**2.03**	**121**	P	**Pn**	**08 02 10.4**	**-2.1**
PCP	**Piancastagn**	**2.17**	**44**	P	**Pn**	**08 02 14.0**	**-0.4**
PCP				AML	AML		
	comp=E,52μm,1.0s						
PCP				AML	AML		
	comp=N,43μm,0.6s						
PCP				AML	AML		
	comp=N,43μm,1.4s						
PCP				AML	AML		
	comp=E,52μm,1.0s						
GDM	**Grand'Maison**	**2.21**	**354**	Pn	**Pn**	**08 02 15.7**	**+0.6**
SMPL	**Sampolo**	**2.29**	**112**	P	**Pn**	**08 02 16.2**	**0.0**
GROG	**Isola di Gorgo**	**2.56**	**79**	P	**Pn**	**08 02 18.6**	**-1.2**
MSSA	**Maissana**	**2.59**	**59**	P	**Pn**	**08 02 19.4**	**-0.9**
OGSM	**Saint Maurice**	**2.66**	**349**	Pn	**Pn**	**08 02 20.4**	**-0.7**
EUCT	**Pavia**	**2.93**	**41**	S	**Sn**	**08 03 03.0**	**+2.2**
FIVI	**Fivizzano**	**2.95**	**64**	P	**Pg**	**08 02 35.3**	**+1.7**
GRAM	**Grviana**	**3.02**	**59**	⇓P	**Pn**	**08 02 27.1**	**+0.9**
MTLF	**Montolieu**	**3.10**	**278**	⇑P	**Pn**	**08 02 26.6**	**-0.7**
MTLF	**Montolieu**	**3.10**	**278**	Pn	**Pn**	**08 02 27.6**	**+0.4**
FNEB	**Nbias**	**3.18**	**270**	Pn	**Pn**	**08 02 28.3**	**0.0**
OSSC	**Osservatorio P**	**3.55**	**80**	⇓P	**Pg**	**08 02 47.7**	**+2.6**
ZCCA	**Zocca**	**3.56**	**66**	S	**Sg**	**08 03 33.0**	**+1.7**
LEOD	**Capriano del C**	**3.61**	**46**	S	**Sn**	**08 03 20.0**	**+2.5**
PAND	**Andorre**	**3.63**	**264**	Pn	**Pn**	**08 02 34.5**	**-0.2**
NDIM	**Novi di Modena**	**3.73**	**58**	S	**Sn**	**08 03 22.0**	**+1.5**
ZONE	**Zone**	**3.82**	**42**	⇑P	**Pg**	**08 02 50.7**	**+0.5**
MLS	**Moulis**	**3.92**	**271**	Pn	**Pn**	**08 02 39.5**	**+1.0**
ASQU	**Asqua**	**3.98**	**77**	⇓P	**Pb**	**08 02 44.7**	**-3.4**
MONQ	**Montcuq**	**4.04**	**291**	Pn	**Pn**	**08 02 40.3**	**+0.3**
VSL	**Villasalto**	**4.15**	**147**	⇑P	**Pn**	**08 02 42.1**	**+0.5**
PE3	**Peglio**	**4.47**	**79**	⇓P	**Pg**	**08 03 03.1**	**+0.3**
T1215	**Vallo di Nera,**	**4.73**	**90**	⇑P	**Pn**	**08 02 49.3**	**-0.4**
SEF1	**Sefro**	**4.77**	**86**	P	**Pb**	**08 02 58.1**	**-3.4**
T1216	**Preci, Frazion**	**4.83**	**89**	⇑P	**Pb**	**08 02 47.7**	**-3.3**
T1202	**Accumoli, Fraz**	**5.00**	**91**	⇓P	**Pb**	**08 03 06.4**	**+0.9**
T1202				AML	AML		
	comp=E,215μm,1.5s						
T1202				AML	AML		
	comp=N,165μm,0.1s						
T1202				AML	AML		
	comp=E,215μm,0.5s						
MPRI	**Monte Prat**	**5.69**	**53**	⇑P	**Pg**	**08 03 24.7**	**-1.2**

ROM 21 08:06:43.2±0.1, 42°.811N±0°.002×13°.148E±0°.004, h10km, ML1.2/1, 4C-2D, Error ellipse: s-maj=0.3km s-min=0.2km az=246.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.03**	**312**	⇑P	Pg	08 06 45.3	+0.1
NRCA				S	Sg	08 06 46.4	-0.2
NRCA				AML	AML		
	comp=E,932μm,0.2s						
NRCA				AML	AML		
	comp=N,756μm,0.1s						
MC2	**Monte Cornacci**	**0.11**	**17**	P	Pg	08 06 46.4	+0.4
T1202	**Accumoli, Fraz**	**0.12**	**152**	P	Pg	08 06 46.6	+0.5
T1202				S	Sg	08 06 49.1	+0.8
T1216	**Preci, Frazion**	**0.12**	**310**	⇑P	Pg	08 06 46.7	+0.5
T1216				S	Sg	08 06 48.9	+0.7
T1204	**Amatrice, Fraz**	**0.18**	**137**	P	Pg	08 06 47.7	+0.5
T1204				S	Sg	08 06 50.9	+1.0
T1217	**Poggiodomo (PG**	**0.19**	**238**	P	Pg	08 06 48.0	+0.8
T1217				S	Sg	08 06 51.3	+1.3
T1215	**Vallo di Nera,**	**0.21**	**268**	P	Pg	08 06 49.8	+2.3
T1215				S	Sg	08 06 51.6	+1.2
LNSS	**Leonessa**	**0.22**	**201**	⇑P	Pg	08 06 48.5	+0.7
LNSS				S	Sg	08 06 52.6	+1.6
LNSS				AML	AML		
	comp=E,83μm,0.2s						
LNSS				AML	AML		
	comp=N,106μm,1.4s						
LNSS				AML	AML		
	comp=N,106μm,1.4s						
FDMO	**Fiordimonte**	**0.23**	**349**	⇑P	Pg	08 06 48.6	+0.7
FDMO				S	Sg	08 06 52.8	+1.7
CSP1	**Cessapalombo**	**0.28**	**8**	⇓P	Pg	08 06 49.5	+0.6
CSP1				S	Sb	08 06 54.4	-1.0
TERO	**Teramo**	**0.39**	**119**	⇓P	Pg	08 06 50.9	+0.1
TERO				S	Sb	08 06 57.0	-1.1

ROM 21 08:10:24.3±0.1, 42°.902N±0°.004×13°.224E±0°.010, h8km, ML0.8/1, 2C-1D, Error ellipse: s-maj=0.7km s-min=0.4km az=79.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.03**	**294**	⇓P	Pg	08 10 26.1	0.0
MC2				S	Sg	08 10 27.2	-0.1
T1216	**Preci, Frazion**	**0.15**	**266**	⇑P	Pg	08 10 28.2	+0.7
T1216				S	Sg	08 10 30.5	+0.8
T1216				AML	AML		
	comp=E,51μm,1.4s						
T1216				AML	AML		
	comp=N,62μm,1.6s						
FDMO	**Fiordimonte**	**0.17**	**323**	P	Pg	08 10 28.3	+0.4
FDMO				S	Sg	08 10 31.7	+1.4
CSP1	**Cessapalombo**	**0.19**	**356**	⇑P	Pg	08 10 28.8	+0.5
CSP1				S	Sg	08 10 32.1	+1.1
T1202	**Accumoli, Fraz**	**0.20**	**180**	P	Pg	08 10 28.9	+0.5
T1202				S	Sg	08 10 32.8	+1.7
T1215	**Vallo di Nera,**	**0.28**	**249**	P	Pg	08 10 30.6	+0.7

*NEIC **21** 08:17:17.0±1.9,5°.7S±0°.1×146°.3E±0°.1, h88km±14km, mb4.4/17, Error ellipse: s-maj=20.4km s-min=14.7km az=94.0*
*IDC **21** 08:17:17.8±2.3,5°.65S×146°.27E, h103km±23km, mb4.0/11, mbtmp4.3/14, MS3.5/2, Error ellipse: s-maj=23.7km s-min=14.5km az=101.0*
*DJA **21** 08:17:19.5±0.4,6°.S±3°×14°.6E±°, h90km±9km, M4.8/12, mB4.7/1, mb4.7/12, MLv4.9/4, Mw(mB)3.9/1*
ISC 21 08:17:17.9±0.5, 5°.71S±0°.06×146°.21E±0°.08, h100km, n56, σ1s22/57, mb4.3/16, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.79**	**166**	P	**Pn**	**08 18 13.9**	**-0.5**
	35nm,0.3s,baz=18,slow=6.3,SNR=20						
PMG				S	**Sn**	**08 18 55.5**	**-2.5**
	76nm,0.4s,baz=325,slow=10,SNR=3.1						
PMG	**Port Moresby**	**3.79**	**166**	Pn	**Pn**	**08 18 13.7**	**-0.7**
PMG	**Port Moresby**	**3.79**	**166**	P	**Pn**	**08 18 14.1**	**-0.2**
KRVT	**Keravat (AS076**	**5.96**	**77**	P	**Pn**	**08 18 44.5**	**+0.9**
	60nm,0.5s,baz=265,slow=5.7,SNR=7.6						
RABL	**Rabaul**	**6.12**	**76**	P	**Pn**	**08 18 49.3**	**+3.4**
COEN	**Coen**	**8.73**	**200**	Pn	**Pn**	**08 19 22.6**	**+1.3**
COEN	**Coen**	**8.73**	**200**	P	**Pn**	**08 19 23.1**	**+1.7**
MTSU	**Mount Surprise**	**12.49**	**188**	P	**Pn**	**08 20 14.3**	**+2.1**
CTA	**Charters Tower**	**14.29**	**180**	P	**P**	**08 20 40.1**	**+0.2**
	56nm,0.5s,baz=359,slow=14,SNR=222						
CTAO	**Charters Tower**	**14.29**	**180**	P	**P**	**08 20 39.6**	**-0.3**
KDU	**Kakadu**	**15.23**	**242**	P	**Pn**	**08 20 48.4**	**+0.8**
SIJI	**Sorong**	**15.67**	**287**	P	**P**	**08 20 56.7**	**+1.4**
	15nm,0.4s,baz=80,slow=9.4,SNR=8.7						
QIS	**Mount Isa**	**16.09**	**203**	P	**P**	**08 21 00.8**	**+0.9**
MTN	**Manton Dam**	**16.48**	**243**	Pn	**Pn**	**08 21 02.6**	**-0.7**
MTN				lAmb	lAmb	08 21 04.8	
	comp=Z,28nm,0.6s						
MTN	**Manton Dam**	**16.48**	**243**	P	**Pn**	**08 21 03.5**	**+0.3**
PATS	**Pohnpei**	**17.35**	**44**	P	**Pn**	**08 21 13.0**	**-1.0**
WB0	**Warramunga Arr**	**18.10**	**218**	P	**P**	**08 21 21.1**	**-0.9**
WR0	**Warramunga Arr**	**18.15**	**218**	P	**P**	**08 21 22.0**	**-0.6**
WR0				lAmb	lAmb	08 21 32.0	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**18.25**	**218**	P	**P**	**08 21 22.5**	**-1.2**
WRAB				lAmb	lAmb	08 21 33.8	
	comp=Z,10nm,0.7s						
WRAB	**Tennant Creek**	**18.25**	**218**	P	**P**	**08 21 23.3**	**-0.4**
WB2	**Warramunga Arr**	**18.25**	**218**	P	**P**	**08 21 22.8**	**-0.9**
WB2				lAmb	lAmb	08 21 33.9	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**18.26**	**218**	P	**P**	**08 21 23.2**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=37,slow=11,SNR=41						
WRA				PcP	**PcP**	**08 25 52.6**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=23,slow=1.9,SNR=19						
WRA				LR	LR	08 29 36.4	
	comp=Z,129nm,18.3s,baz=40,slow=40						
WRA	**Warramunga Arr**	**18.26**	**218**	P	**P**	**08 21 23.8**	**0.0**
KNRA	**Kununurra**	**19.78**	**239**	P	**P**	**08 21 40.3**	**-0.1**
KNRA				lAmb	lAmb	08 21 52.4	
	comp=Z,23nm,0.8s						
KNRA	**Kununurra**	**19.78**	**239**	P	**P**	**08 21 40.6**	**+0.2**
EIDS	**Eidsvold**	**20.10**	**167**	P	**P**	**08 21 44.3**	**+0.5**
EIDS				lAmb	lAmb	08 22 17.4	
	comp=Z,12nm,1.4s						
SANI	**Sanana**	**20.50**	**279**	P	Pn	08 21 50.7	-0.5
	comp=Z,19nm,0.7s						
RMQ	**Roma**	**20.80**	**174**	P	Pn	08 21 54.9	+0.2
AS31	**Alice Springs**	**21.43**	**212**	P	**P**	**08 21 58.4**	**+0.3**
ASAR	**Alice Springs**	**21.43**	**212**	P	**P**	**08 21 58.1**	**0.0**
	comp=Z,2.7nm,0.6s,baz=58,slow=8.8,SNR=44						
ASAR				S	**S**	**08 25 47.7**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=34,slow=20,SNR=4.0						
ASAR				LR	LR	08 30 04.1	
	comp=Z,131nm,21.8s,baz=68,slow=36						
	comp=Z,2.7nm,0.6s						
INKA	**Innaminka**	**22.52**	**193**	P	**P**	**08 22 10.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.56**	**237**	P	**P**	**08 22 19.5**	**-0.1**
	comp=Z,19nm,0.9s,baz=0.8,slow=4.4,SNR=43						
	comp=Z,19nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.56**	**237**	P	**P**	**08 22 18.9**	**-0.7**
FITZ				lAmb	lAmb	08 22 22.7	
	comp=Z,18nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.56**	**237**	P	**P**	**08 22 19.7**	**+0.1**
GTOI	**Gorontalo**	**24.01**	**284**	P	**P**	**08 22 27.2**	**+3.5**
	comp=Z,270nmcomp=Z,21nm,0.7s						
OOD	**Oodnadatta**	**24.14**	**203**	P	**P**	**08 22 24.7**	**+0.1**
EDFI	**Ende, Flores**	**24.51**	**261**	P	**P**	**08 22 27.8**	**-0.6**
	comp=Z,7.9nm,0.7s						
ARMA	**Armidale**	**25.10**	**169**	P	**P**	**08 22 33.8**	**+0.2**
ARMA				lAmb	lAmb	08 22 58.9	
	comp=Z,15nm,1.3s						
LCRK	**Leigh Creek**	**25.73**	**196**	P	**P**	**08 22 39.2**	**0.0**
STKA	**Stephens Creek**	**26.39**	**189**	P	**P**	**08 22 45.2**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=353,slow=7.4,SNR=4.8						
	comp=Z,2.4nm,0.5s						
BBOO	**Buckleboo**	**28.58**	**198**	P	**P**	**08 23 04.5**	**-0.1**
BBOO				lAmb	lAmb	08 23 31.6	
	comp=Z,17nm,1.3s						
MBWA	**Marble Bar**	**29.91**	**237**	P	**P**	**08 23 19.0**	**+2.4**
FORT	**Forrest**	**30.22**	**212**	P	**P**	**08 23 19.3**	**+0.2**
MORW	**Morawa**	**36.79**	**227**	P	**P**	**08 24 15.4**	**-0.8**
JHS	**Saijyo**	**42.33**	**344**	P	**P**	**08 25 01.3**	**-0.7**
KSRS	**Korea Array**	**46.20**	**340**	P	**P**	**08 25 32.7**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=157,slow=8.5,SNR=14						
	comp=Z,4.0nm,0.7s						
HNS	**HongShan**	**51.98**	**328**	⇓P	**P**	**08 26 16.8**	**-0.2**
HNS				pmax	pmax		
	comp=Z,15nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.42**	**298**	P	**P**	**08 26 21.4**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=129,slow=5.7,SNR=9.8						
	comp=Z,1.4nm,0.4s						
SONM	**Songino Array**	**63.77**	**331**	P	**P**	**08 27 39.3**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=140,slow=7.7,SNR=5.1						
	comp=Z,0.7nm,0.5s						
VNDA	**Vanda**	**72.25**	**176**	P	**P**	**08 28 32.5**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=336,slow=7.2,SNR=10						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**76.78**	**321**	P	**P**	**08 28 57.8**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=97,slow=8.2,SNR=9.0						
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**78.35**	**328**	P	**P**	**08 29 05.3**	**-1.8**
	comp=Z,1.5nm,0.5s,baz=104,slow=4.7,SNR=3.8						
	comp=Z,1.5nm,0.5s						
NRIK	**Noril'sk**	**84.76**	**342**	P	**P**	**08 29 39.8**	**-0.7**
	comp=Z,3.1nm,0.4s,baz=92,slow=4.2,SNR=6.3						
	comp=Z,3.1nm,0.4s						
ILAR	**Eielson Array**	**85.52**	**23**	P	**P**	**08 29 41.8**	**-2.7**
	comp=Z,4.2nm,0.7s,baz=254,slow=5.1,SNR=33						
	comp=Z,4.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**144.26**	**285**	PKP	**PKPab**	**08 36 40.9**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=68,slow=2.9,SNR=26						
DBIC	**Dimbokro**	**151.22**	**273**	PKPbc	**PKiKP**	**08 37 01.2**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=121,slow=6.4,SNR=5.5						

IDC 21 08:28:24.2±4.7, 30°.38N×141°.92E, h0km, mb3.7/3, mbtmp3.6/4, ML2.7/1, Error ellipse: s-maj=190.4km s-min=26.0km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.88**	**334**	Pn	Pn	08 30 04.1	-2.2
	0.1nm,0.3s,baz=160,slow=11,SNR=9.7						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**48.26**	**307**	P	P	08 37 08.0	+1.1
	0.2nm,0.5s,baz=75,slow=7.6,SNR=1.6						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**50.56**	**189**	P	P	08 37 24.4	-0.2
	2.5nm,0.7s,baz=6.1,slow=7.6

CO01					IAmb	IAmb	08 51 36.8	
	comp=Z,34nm,1.8s							
AC02	**Maricunga**	**39.60**	**299**	P	**P**		**08 51 32.0**	**+0.4**
AC02					IAmb	IAmb	08 51 44.5	
	comp=Z,24nm,1.6s							
C2SB	**Chapadao do Su**	**39.80**	**326**	*eP*	**P**		**08 51 34.4**	**+1.7**
GO02	**Mina Guanaco**	**41.21**	**300**	P	**P**		**08 51 44.6**	**-0.1**
BDFB	**Brasilia**	**41.37**	**334**	LR	LR		09 05 25.1	
	comp=Z,69nm,20.1s,baz=192,slow=31							
SUR	**Sutherland**	**42.24**	**80**	P	**P**		**08 51 53.5**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=217,slow=14,SNR=6.2							
SUR				LR	LR		09 06 52.3	
	comp=Z,44nm,19.7s,baz=250,slow=33							
	comp=Z,4.2nm,0.7s							
SUR	**Sutherland**	**42.24**	**80**	P	**P**		**08 51 53.1**	**+0.2**
MAW	**Mawson**	**42.27**	**145**	P	**P**		**08 51 52.3**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=223,slow=7.1,SNR=15							
MAW				LR	LR		09 06 47.8	
	comp=Z,82nm,20.9s,baz=246,slow=32							
	comp=Z,3.7nm,0.7s							
MAW	**Mawson**	**42.27**	**145**	P	**P**		**08 51 52.0**	**-0.5**
LVC	**Limon Verde**	**43.01**	**303**	LR	LR		09 10 22.1	
	comp=Z,71nm,19.4s,baz=165,slow=37							
LVC	**Limon Verde**	**43.01**	**303**	P	**P**		**08 51 59.8**	**+0.3**
LVC	**Limon Verde**	**43.01**	**303**	*eP*	**P**		**08 51 59.6**	**+0.1**
SALV	**Santo Antonio**	**43.43**	**324**	*eP*	**P**		**08 52 02.2**	**-0.2**
SDBA	**SAO DESIDERIO**	**43.78**	**340**	*eP*	**P**		**08 52 06.9**	**+1.6**
PB09	**IPOC Station P**	**43.87**	**303**	P	**P**		**08 52 06.7**	**+0.5**
PB01	**IPOC Station P**	**44.62**	**303**	P	**P**		**08 52 11.4**	**-0.7**
PB01					IAmb	IAmb	08 52 34.2	
	comp=Z,9.7nm,0.8s							
PTLB	**Pontes e Lacer**	**45.09**	**319**	P	**P**		**08 52 14.8**	**-0.8**
PTLB					IAmb	IAmb	08 52 36.7	
	comp=Z,6.6nm,0.9s							
PTLB	**Pontes e Lacer**	**45.09**	**319**	*eP*	**P**		**08 52 15.7**	**+0.1**
SIV	**San Ignacio**	**45.34**	**317**	LR	LR		09 12 13.4	
	comp=Z,24nm,19.8s,baz=273,slow=37							
GO01	**Chusmiza**	**45.66**	**305**	P	**P**		**08 52 20.9**	**+0.2**
GO01					IAmb	IAmb	08 52 47.7	
	comp=Z,9.5nm,0.8s							
SNDB	**Serra Nova Dou**	**45.75**	**331**	*eP*	**P**		**08 52 22.8**	**+1.8**
SBA	**Scott Base**	**47.16**	**185**	P	**P**		**08 52 32.7**	**+1.3**
H10S2	**ASCENSION HYDR**	**47.46**	**22**	T	T		09 43 42.7	
	baz=198							
H10S3	**ASCENSION HYDR**	**47.46**	**22**	T	T		09 43 40.3	
	baz=22,SNR=4.4							
BOSA	**Boshof**	**47.59**	**80**	P	**P**		**08 52 34.8**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=212,slow=8.3,SNR=6.3							
BOSA				LR	LR		09 09 58.9	
	comp=Z,39nm,18.2s,baz=197,slow=33							
	comp=Z,3.1nm,0.7s							
BOSA	**Boshof**	**47.59**	**80**	P	**P**		**08 52 34.6**	**-0.9**
VNDA	**Vanda**	**47.70**	**184**	P	**P**		**08 52 36.3**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=173,slow=6.2,SNR=32							
VNDA				LR	LR		09 11 17.8	
	comp=Z,40nm,18.1s,baz=178,slow=34							
	comp=Z,3.5nm,0.6s							
VNDA	**Vanda**	**47.70**	**184**	P	**P**		**08 52 36.3**	**+0.7**
VNDA					IAmb	IAmb	08 53 00.2	
	comp=Z,6.4nm,0.8s							
PDRB	**Porto dos Gac**	**47.77**	**324**	*eP*	**P**		**08 52 36.3**	**-0.6**
SMTB	**Santa Maria do**	**47.80**	**337**	*eP*	**P**		**08 52 38.0**	**+1.0**
LPAZ	**La Paz**	**48.09**	**308**	P	**P**		**08 52 40.5**	**+0.4**
	comp=Z,5.0nm,0.9s,baz=126,slow=6.6,SNR=18							
LPAZ				LR	LR		09 13 35.9	
	comp=Z,38nm,21.6s,baz=190,slow=37							
	comp=Z,5.0nm,0.9s							
LPAZ	**La Paz**	**48.09**	**308**	P	**P**		**08 52 40.4**	**+0.3**
LPAZ	**La Paz**	**48.09**	**308**	*eP*	**P**		**08 52 41.0**	**+0.9**
CLDB	**Colider**	**48.15**	**326**	*eP*	**P**		**08 52 39.2**	**-0.6**
H10N1	**ASCENSION HYDR**	**48.58**	**21**	T	T		09 45 04.3	
	baz=191,slow=76,SNR=5.6							
H10N3	**ASCENSION HYDR**	**48.58**	**21**	T	T		09 45 04.1	
	baz=191,slow=76,SNR=12							
H10N2	**ASCENSION HYDR**	**48.59**	**21**	T	T		09 45 04.6	
	baz=191,slow=76,SNR=13							
RCBR	**Riachuelo**	**49.03**	**353**	LR	LR		09 09 54.2	
	comp=Z,51nm,20.1s,baz=322,slow=32							
LBTB	**Lobatse**	**50.55**	**77**	P	**P**		**08 52 57.3**	**-0.9**
LBTB					IAmb	IAmb	08 52 58.6	
	comp=Z,12nm,0.9s							
TSUM	**Tsumeb**	**50.83**	**65**	LR	LR		09 10 44.2	
	comp=Z,36nm,18.9s,baz=160,slow=32							
PRPB	**Parauapebas**	**50.92**	**335**	*eP*	**P**		**08 53 02.1**	**+1.2**
NPGB	**Novo Progresso**	**51.62**	**328**	*eP*	**P**		**08 53 06.2**	**+0.1**
ETMB	**Extrema**	**53.01**	**314**	*eP*	**P**		**08 53 16.5**	**0.0**
CASY	**Casey**	**55.70**	**162**	P	**P**		**08 53 35.9**	**+0.5**
CASY					IAmb	IAmb	08 54 13.4	
	comp=Z,11nm,1.4s							
MALB	**Monte Alegre**	**56.23**	**331**	*eP*	**P**		**08 53 39.4**	**-0.4**
PTGA	**Pitinga**	**59.03**	**325**	LR	LR		09 22 20.5	
	comp=Z,29nm,18.6s,baz=158,slow=39							
MDP	**Montagnes des**	**62.47**	**335**	LR	LR		09 19 31.9	
	comp=Z,48nm,21.2s,baz=172,slow=34							
DBIC	**Dimbokro**	**64.92**	**28**	LR	LR		09 18 54.0	
	comp=Z,37nm,18.3s,baz=143,slow=32							
OTAV	**Otavalo**	**67.37**	**307**	*eP*	**P**		**08 54 56.5**	**+1.1**
PCRV	**Puerto La Cruz**	**70.80**	**324**	LR	LR		09 28 39.4	
	comp=Z,78nm,19.0s,slow=38							
SDV	**Santo Domingo**	**71.79**	**318**	LR	LR		09 27 37.5	
	comp=Z,133nm,19.5s,baz=166,slow=36							
SDV	**Santo Domingo**	**71.79**	**318**	*eP*	**P**		**08 55 22.6**	**+0.3**
KOWA	**Kowa**	**72.62**	**27**	LR	LR		09 20 42.0	
	comp=Z,64nm,19.9s,baz=182,slow=30							
TOA0	**Torodi Ar. Sit**	**72.99**	**33**	P	**P**		**08 55 28.3**	**-0.9**
TOA0					IAmb	IAmb	08 55 30.0	
	comp=Z,7.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**72.99**	**33**	P	**P**		**08 55 28.5**	**-0.7**
	comp=Z,6.4nm,0.9s,baz=193,slow=6.3,SNR=23							
TORD				LR	LR		09 20 55.3	
	comp=Z,59nm,18.9s,baz=225,slow=30							
	comp=Z,6.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**72.99**	**33**	P	**P**		**08 55 29.1**	**-0.1**
TORD					IAmb	IAmb	08 55 51.0	
	comp=Z,6.3nm,1.0s							
KMBO	**Kilima Mbogo**	**76.44**	**72**	LR	LR		09 27 31.4	
	comp=Z,75nm,18.1s,baz=87,slow=34							
SJG	**San Juan**	**78.71**	**326**	LR	LR		09 34 18.6	
	comp=Z,17nm,18.4s,baz=195,slow=38							
RPZ	**Rata Peaks**	**80.13**	**196**	LR	LR		09 28 55.4	
	comp=Z,31nm,19.4s,baz=122,slow=34							
TEIG	**Tepich**	**89.42**	**307**	P	**P**		**08 56 56.6**	**+0.3**
MDT	**Midelt**	**90.09**	**22**	LR	LR		09 31 25.6	
	comp=Z,86nm,20.3s,baz=220,slow=32							
STKA	**Stephens Creek**	**93.40**	**173**	LR	LR		09 36 59.9	
	comp=Z,69nm,19.3s,baz=203,slow=34							
ASAR	**Alice Springs**	**100.71**	**166**	PP	**PP**		**09 01 54.5**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=192,slow=6.7,SNR=4.9							
NVAR	**Mina Aray Bea**	**119.13**	**296**	PKP	**PKiKP**		**09 02 48.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=126,slow=4.0,SNR=4.0							
FINES	**FINESS Array B**	**124.21**	**29**	PKP	**PKPdf**		**09 02 56.0**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=127,slow=5.0,SNR=4.4							
CMAR	**Chiang Mai Arr**	**127.31**	**113**	PKP	**PKiKP**		**09 03 04.5**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=260,slow=2.4,SNR=5.0							
ARCES	**ARCESS Array B**	**130.52**	**23**	PKP	**PKPdf**		**09 03 08.5**	**-0.2**
	comp=Z,4.1nm,1.0s,baz=155,slow=3.7,SNR=6.8							
YKA	**Yellowknife Ar**	**133.97**	**320**	PKP	**PKPdf**		**09 03 14.6**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=128,slow=2.4,SNR=6.5							
ZALV	**Zalesovo Beam**	**143.55**	**64**	PKhKP	PKPpre		09 03 29.9	
	comp=Z,1.3nm,0.5s,baz=219,slow=3.6,SNR=5.4							
LYN	**LuoYang**	**147.36**	**113**‖	*e*PKPbc	**PKPdf**		**09 03 40.9**	**+0.5**
ILAR	**Eielson Array**	**147.86**	**314**	PKPbc	**PKPbc**		**09 03 42.3**	**-0.9**
	comp=Z,14nm,0.9s,baz=127,slow=1.9,SNR=65							
SONM	**Songino Array**	**152.57**	**87**	PKPbc	**PKPbc**		**09 03 54.3**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=212,slow=2.7,SNR=8.2							

*UPA **21** 08:48:25.6±0.7,9.35N×83.77W,h13km±2km, MW3.8*
*UCR **21** 08:48:26.5±1.4,9.39N×83.72W,h20km±1km, MW3.9*
*INET **21** 08:48:27.2±0.8,9.49N×83.72W,h11km±3km, MW3.3*
ISC 21 08:48:26.6±0.9,**9°37**'N±0'.03×**83°73**'W±0'.03,**h26**km±5km,
n75,σ0**°75**/96,**4C**,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEZE	**Perez Zeledon,**	**0.05**	**79**	*eP*	**Pb**	**08 48 30.8**	**-0.4**
PEZE				*eS*	**Sb**	**08 48 34.4**	**0.0**
PEZE	**Perez Zeledon,**	**0.05**	**79**	*eP*	**Pb**	**08 48 30.8**	**-0.4**
EDDO	**Dominical**	**0.18**	**228**	*eP*	**Pb**	**08 48 32.0**	**-0.2**
EDDO				*eS*	**Sb**	**08 48 36.3**	**+0.5**
CDM	**Cerro de Muert**	**0.18**	**350**	*eP*	**Pb**	**08 48 32.0**	**-0.6**
CDM				*eS*	**Sb**	**08 48 36.6**	**-0.2**
CDM	**Cerro de Muert**	**0.18**	**350**	*eP*	**Pb**	**08 48 32.1**	**-0.6**
SRBA	**San Rafael, Bu**	**0.39**	**111**	*eP*	**Pb**	**08 48 34.5**	**-0.7**
SRBA				*eS*	**Sb**	**08 48 40.5**	**-0.5**
RIMA	**Rio Macho**	**0.41**	**341**	*eP*	**Pb**	**08 48 34.6**	**-1.0**
RIMA	**Rio Macho**	**0.41**	**341**	*eP*	**Pb**	**08 48 34.6**	**-1.0**
LCR2	**La Lucha 2**	**0.46**	**324**	*eP*	**Pb**	**08 48 35.2**	**-1.1**
EDPN	**Palmar Norte**	**0.49**	**147**	*eP*	**Pb**	**08 48 36.3**	**-0.4**
DRK0	**Durika**	**0.49**	**103**	*eP*	**Pb**	**08 48 36.9**	**+0.1**
DRK0	**Durika**	**0.49**	**103**	*eP*	**Pb**	**08 48 36.9**	**+0.1**
DRK0				*eS*	**Sb**	**08 48 44.3**	**+0.5**
DRK0	**Durika**	**0.49**	**103**	*eP*	**Pb**	**08 48 36.9**	**+0.1**
EDBA	**Buenos Aires**	**0.49**	**115**	*eP*	**Pb**	**08 48 35.6**	**-1.2**
MRVA	**Moravia de Chi**	**0.53**	**32**	*eP*	**Pb**	**08 48 36.6**	**-0.9**
OCM	**Ochomogo**	**0.57**	**336**	*eP*	**Pb**	**08 48 37.1**	**-1.1**
RAFA	**San Farael, Vo**	**0.59**	**352**	*eP*	**Pb**	**08 48 37.7**	**-0.8**
VTCV	**VTCV, Calle Va**	**0.61**	**0**	*eP*	**Pb**	**08 48 38.1**	**-0.7**
VTRT	**Volcan Turrial**	**0.63**	**354**	*eP*	**Pb**	**08 48 38.4**	**-0.9**
CVTR	**Volcan Turrial**	**0.64**	**357**	*eP*	**Pb**	**08 48 38.8**	**-0.8**
SJS	**Escuela Geolog**	**0.65**	**330**	*eP*	**Pb**	**08 48 38.6**	**-0.8**
VTUN	**Crater Central**	**0.65**	**357**	*eP*	**Pb**	**08 48 38.8**	**-0.9**
VTUC	**Crater, Volcan**	**0.65**	**357**	*eP*	**Pb**	**08 48 38.8**	**-0.8**
POTG	**Potrero Grande**	**0.68**	**118**	*eP*	**Pb**	**08 48 39.0**	**-0.9**
HDC	**Heredia**	**0.73**	**329**	*eP*	**Pb**	**08 48 39.9**	**-0.9**
HDC	**Heredia**	**0.73**	**329**	*eP*	**Pb**	**08 48 40.0**	**-0.9**
HDC				*eS*	**Sb**	**08 48 50.7**	**+0.2**
HDC3	**Heredia 3**	**0.73**	**329**	*eP*	**Pb**	**08 48 40.0**	**-0.8**
HDC3	**Heredia 3**	**0.73**	**329**	*eP*	**Pb**	**08 48 40.0**	**-0.8**
BATAN	**Batan**	**0.80**	**26**	*eP*	**Pb**	**08 48 41.3**	**-0.6**
BATAN				*eS*	**Sn**	**08 48 53.4**	**0.0**
EDSV	**San Vito**	**0.93**	**126**	*eP*	**Pb**	**08 48 43.5**	**-0.6**
PTJ1	**Puerto Jimnez**	**0.93**	**153**	*eP*	**Pb**	**08 48 43.0**	**-1.1**
CRPO	**Crater poas**	**0.95**	**329**	*eP*	**Pb**	**08 48 43.8**	**-0.8**
RIFO	**Rio Frio, Sara**	**0.96**	**349**	*eP*	**Pb**	**08 48 43.6**	**-0.8**
RGM0	**Gandoca**	**1.13**	**79**	*eP*	**Pb**	**08 48 47.5**	**0.0**
RGM0				*eS*	**Sb**	**08 49 02.4**	**+0.7**
RGM0	**Gandoca**	**1.13**	**79**	*eP*	**Pb**	**08 48 47.4**	**0.0**
CDITO	**Canoas**	**1.16**	**133**	*eP*	**Pn**	**08 48 46.4**	**-0.8**
CDITO				*eS*	**Sn**	**08 49 02.4**	**+0.2**
BRU2	**Volcan**	**1.18**	**119**	*eP*	**Pn**	**08 48 46.6**	**-1.0**
BRU2	**Volcan**	**1.18**	**119**	*eP*	**Pn**	**08 48 47.1**	**-0.5**
BRU2				*eS*	**Sb**	**08 49 03.9**	**+0.6**
LAFE	**Finca La Fe, P**	**1.24**	**290**	*eP*	**Pn**	**08 48 48.3**	**0.0**
LAFE	**Finca La Fe, P**	**1.24**	**290**	*eP*	**Pn**	**08 48 48.7**	**+0.4**
CNI2	**El Empalme, Bo**	**1.24**	**88**	*eP*	**Pn**	**08 48 47.7**	**-0.6**
CNI2				*eS*	**Sn**	**08 49 04.4**	**+0.2**
BCO2	**Palmira**	**1.35**	**119**	*eP*	**Pn**	**08 48 49.9**	**-0.1**
BCO2				*eS*	**Sb**	**08 49 08.3**	**-0.1**
PTAR3	**Potrerillos Ar**	**1.39**	**119**	*i* P	**Pn**	**08 48 50.5**	**0.0**
PTAR3				*eS*	**Sb**	**08 49 09.1**	**-0.4**
LNBQ3	**Los Naranjos,**	**1.40**	**114**	*eP*	**Pn**	**08 48 50.2**	**-0.4**
LNBQ3				*eS*	**Sb**	**08 49 09.1**	**-0.6**
FORC	**Fortuna**	**1.43**	**320**‖	*eP*	**Pn**	**08 48 51.3**	**+0.4**
FORC				*eS*	**Sb**	**08 49 10.3**	**-0.1**
CASC	**Castillo**	**1.45**	**317**‖	*eP*	**Pn**	**08 48 51.1**	**0.0**
CEDE	**Laguna Cedeo**	**1.47**	**319**	*eP*	**Pn**	**08 48 52.1**	**+0.6**
CEDE				*eS*	**Sb**	**08 49 12.1**	**+0.6**
COVE	**Coope Vega, Sa**	**1.49**	**334**	*eP*	**Pn**	**08 48 51.9**	**+0.1**
JTS	**Las Juntas de**	**1.51**	**307**	*eP*	**Pn**	**08 48 51.6**	**-0.4**
JTS	**Las Juntas de**	**1.51**	**307**	*eP*	**Pn**	**08 48 51.7**	**-0.4**
JTS				*eS*	**Sn**	**08 49 10.7**	**-0.2**
JTS	**Las Juntas de**	**1.51**	**307**	*eP*	**Pn**	**08 48 51.7**	**-0.4**
DVD	**David**	**1.57**	**126**	*eP*	**Pn**	**08 48 52.6**	**-0.2**
DVD				⇑*eS*	**Sn**	**08 49 12.7**	**+0.4**
CHGR2	**Aguacate**	**1.62**	**105**	*eP*	**Pn**	**08 48 53.4**	**-0.2**
CHGR2				*eS*	**Sn**	**08 49 14.7**	**+1.0**
CHIR3	**Chiriqui UPA,**	**1.69**	**125**	*eP*	**Pn**	**08 48 54.6**	**+0.1**
CHIR3				*eS*	**Sn**	**08 49 16.1**	**+0.8**
ACAL	**Aguas Claras**	**1.79**	**314**	*eP*	**Pn**	**08 48 56.8**	**+0.8**
INDI	**Punta indio, G**	**1.81**	**286**	*eP*	**Pn**	**08 48 55.4**	**-0.8**
PTEN	**Parque Tenorio**	**1.82**	**317**‖	*eP*	**Pn**	**08 48 57.1**	**+0.8**
VERA	**Finca Concepci**	**1.85**	**323**	*eP*	**Pn**	**08 48 57.1**	**+0.4**
NICO	**Nicoya**	**1.85**	**294**	*eP*	**Pn**	**08 48 57.1**	**+0.4**
DUNO	**Dulce Nombre,**	**1.88**	**292**	*eP*	**Pn**	**08 48 56.9**	**-0.2**
DUNO	**Dulce Nombre,**	**1.88**	**292**	*eP*	**Pn**	**08 48 56.8**	**-0.2**
CUI	**Cuipilapa**	**1.90**	**312**	*eP*	**Pn**	**08 48 58.2**	**+0.7**
COLC	**Colonia**	**1.94**	**312**	*eP*	**Pn**	**08 48 59.0**	**+1.0**
HORNC	**Hornillas**	**1.95**	**313**	*eP*	**Pn**	**08 48 59.2**	**+1.0**
ORTG	**Ortega, Santa**	**1.97**	**300**	*eP*	**Pn**	**08 48 58.7**	**+0.3**
ORTG	**Ortega, Santa**	**1.97**	**300**	*eP*	**Pn**	**08 48 59.0**	**+0.6**
GUAB	**Guayabo de Bag**	**1.98**	**312**	*eP*	**Pn**	**08 49 00.1**	**+1.5**
GPS3	**Bodega del ICE**	**2.12**	**311**	*eP*	**Pn**	**08 49 01.6**	**+1.2**
BUAI	**Buenos Aires**	**2.17**	**314**	*eP*	**Pn**	**08 49 02.9**	**+1.8**
LAPC	**Finca la Perla**	**2.17**	**310**	*eP*	**Pn**	**08 49 02.5**	**+1.3**
BUEV	**Buena Vista**	**2.18**	**311**	*eP*	**Pn**	**08 49 02.8**	**+1.5**
GBS3	**Finca Las Img**	**2.20**	**310**	*eP*	**Pn**	**08 49 03.1**	**+1.5**
HZTE	**Horizontes, Gu**	**2.27**	**306**	*eP*	**Pn**	**08 49 04.5**	**+2.0**
PNME	**Penonome**	**3.48**	**104**	*eP*	**Pn**	**08 49 19.9**	**+0.8**
PNME				*eS*	**Sn**	**08 49 60.0**	**+0.6**
BCIP	**Isla Barro Col**	**3.85**	**93**	*eP*	**Pn**	**08 49 24.4**	**+0.2**

*UPP **21** 09:14:53.8±0.1,64°93N×20°57E,h1km, ML2.2,Explosion*
*BER **21** 09:14:53.6±1.0,64°72N×20°94E,h0km, ML1.3, Suspected explosion*
*IDC **21** 09:14:54.9±0.9,64°92N×20°68E,h0km, mbtmp2.5/4, ML1.8/4, Error ellipse: s-maj=13.2km s-min=8.2km az=98.0*
*HEL **21** 09:14:54.3±0.1,64°94N×20°57E,h0km, ML1.9, ML2.2(UPP), Explosion*
ISC 21 09:14:53.5±0.7,**64°93N**±0°.02×**20°62E**±0°.02,**h0**km,**n51**,
σ1**°05**/84,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LILU	**Lilltraesk**	**0.48**	**317**	P	**Pg**	**09 15 02.7**	**0.0**
LILU				S	**Sg**	**09 15 08.3**	**-0.6**
LILU	**Lilltraesk**	**0.48**	**317**	*i* P	**Pg**	**09 15 02.7**	**0.0**
LILU				*i* S	**Sg**	**09 15 08.3**	**-0.6**
ODEU	**Stanfors**	**0.53**	**176**	P	**Pg**	**09 15 03.8**	**+0.2**
ODEU				S	**Sg**	**09 15 10.6**	**+0.2**
ODEU	**Stanfors**	**0.53**	**176**	*i* P	**Pg**	**09 15 03.8**	**+0.2**
ODEU				*i* S	**Sg**	**09 15 10.6**	**+0.2**
SVAU	**Svanoeiden**	**0.63**	**226**	P	**Pg**	**09 15 05.4**	**-0.1**
SVAU				S	**Sg**	**09 15 13.4**	**-0.3**
SVAU	**Svanoeiden**	**0.63**	**226**	*i* P	**Pg**	**09 15 05.4**	**-0.1**
SVAU				*i* S	**Sg**	**09 15 13.4**	**-0.3**
SJUU	**Sjulsmark**	**0.71**	**35**	P	**Pg**	**09 15 07.3**	**+0.3**
SJUU	**Sjulsmark**	**0.71**	**35**	*i* P	**Pg**	**09 15 07.3**	**+0.3**
HARU	**Harads**	**1.24**	**7**	P	**Pg**	**09 15 16.9**	**-0.4**
HARU				S	**Sg**	**09 15 33.0**	**-0.3**
HARU	**Harads**	**1.24**	**7**	*e*P	**Pg**	**09 15 16.9**	**-0.4**
HARU				*e*S	**Sg**	**09 15 33.0**	**-0.3**
OBF8	**Ulkokalla**	**1.36**	**115**	*e*PG	**Pg**	**09 15 19.1**	**-0.3**
OBF8				*e*SB	**Sb**	**09 15 37.7**	**+0.1**
BREU	**Bredtraesk**	**1.37**	**221**	P	**Pg**	**09 15 18.9**	**-0.9**
BREU				S	**Sg**	**09 15 36.9**	**-0.6**
BREU	**Bredtraesk**	**1.37**	**221**	*e*P	**Pg**	**09 15 18.9**	**-0.9**
BREU				*e*S	**Sg**	**09 15 36.9**	**-0.6**
KALU	**Kalix**	**1.47**	**50**	P	**Pn**	**09 15 21.2**	**0.0**
KALU	**Kalix**	**1.47**	**50**	*e*P	**Pn**	**09 15 20.9**	**0.0**
KALU				*e*SB	**Sg**	**09 15 41.0**	**+0.3**
OBF0	**Syolatti, Pyha**	**1.61**	**104**	*e*PG	**Pn**	**09 15 23.6**	**+0.5**
OBF0				*e*SN	**Sg**	**09 15 45.7**	**+0.5**
HUSU	**Husum**	**1.71**	**202**	P	**Pn**	**09 15 25.0**	**+0.5**
HUSU	**Husum**	**1.71**	**202**	*e*PG	**Pn**	**09 15 24.8**	**+0.3**
	baz=19						
HUSU				*e*SN	**Sn**	**09 15 47.5**	**+0.4**
ERTU	**Ertsjaerv**	**1.75**	**21**	P	**Pn**	**09 15 25.7**	**+0.6**
ERTU	**Ertsjaerv**	**1.75**	**21**	*e*P	**Pn**	**09 15 25.4**	**+0.4**
ERTU				*e*SN	**Sn**	**09 15 49.2**	**+1.2**
OUF	**Merijarvi**	**1.86**	**106**	*e*P	**Pn**	**09 15 27.0**	**+0.6**
OUF				MSG		09 15 49.7	
	comp=Z,5.8nm,0.2s						
OUF				*e*SG	**Sb**	**09 15 52.2**	**+0.3**
OBF4	**Vikkela, Lumij**	**1.92**	**92**	*e*P	**Pn**	**09 15 28.1**	**+0.9**
OBF4				*e*SG	**Sg**	**09 15 55.0**	**+0.1**
TOF	**Tornio**	**1.93**	**52**	*e*PN	**Pn**	**09 15 28.7**	**+1.3**
	baz=234						
TOF				MSG		09 15 51.7	
	comp=Z,12nm,0.2s						
TOF				*e*SG	**Sb**	**09 15 54.2**	**+0.4**
VAF	**Ylistaro**	**2.10**	**154**	*e*PB	**Pb**	**09 15 31.5**	**-0.9**
VAF				MSG		09 15 56.4	
	comp=Z,5.5nm,0.2s						
VAF				*e*SG	**Sb**	**09 15 59.1**	**+0.1**
DUNU	**Dundret**	**2.20**	**359**	P	**Pn**	**09 15 32.3**	**+1.1**
DUNU	**Dundret**	**2.20**	**359**	*e*P	**Pn**	**09 15 32.3**	**+1.1**
OUL	**Oulu**	**2.25**	**84**	*e*P	**Pn**	**09 15 32.7**	**+0.9**
OUL				*e*SG	**Sg**	**09 16 04.9**	**-0.6**
SOLU	**Sollefteaa**	**2.25**	**223**	P	**Pn**	**09 15 32.6**	**+0.8**
SOLU	**Sollefteaa**	**2.25**	**223**	*e*P	**Pn**	**09 15 32.6**	**+0.8**
PAJU	**Pajala**	**2.33**	**25**	*e*P	**Pn**	**09 15 33.6**	**+0.5**
	baz=209						
PAJU				*e*SG	**Sb**	**09 16 05.7**	**0.0**
SALU	**Saltoluokta**	**2.60**	**342**	*e*P	**Pn**	**09 15 38.3**	**+1.5**
SALU				*e*S	**Sn**	**09 16 11.8**	**+2.8**
KLF	**Kolari**	**2.68**	**29**	*e*P	**Pn**	**09 15 39.0**	**+1.2**
KLF				*e*S	**Sn**	**09 16 12.4**	**+1.5**
RNF	**Rovaniemi**	**2.79**	**50**	*e*PB	**Pn**	**09 15 42.1**	**+2.8**
RNF				*e*SG	**Sb**	**09 16 19.7**	**+1.0**
MOR8	**Moi Rana**	**2.86**	**299**	*e*P	**Pn**	**09 15 41.4**	**+1.1**
MOR8				IAML		09 16 27.2	
	comp=Z,2.4nm,0.2s						
LANU	**Lannavaara**	**3.18**	**9**	*e*P	**Pn**	**09 15 45.7**	**+1.0**
LANU				*e*S	**Sn**	**09 16 24.8**	**+1.6**
FAUS	**Fauske**	**3.28**	**321**	*e*P	**Pn**	**09 15 47.5**	**+1.5**
FAUS				*e*		09 16 33.6	
FAUS				IAML		09 16 42.1	
	comp=Z,2.2nm,0.3s						
KEF	**Keuruu**	**3.37**	**144**	*e*P	**Pn**	**09 15 48.6**	**+1.4**
HEF	**Hetta**	**3.69**	**18**	*e*P	**Pn**	**09 15 52.3**	**+0.6**
HEF				*e*S	**Sn**	**09 16 35.7**	**-0.2**
HEF	**Hetta**	**3.69**	**18**	*e*P	**Pn**	**09 15 52.3**	**+0.6**
	baz=202						
HEF				*e*SG	**Sg**	**09 16 50.0**	**-2.0**
STEI	**Steigen**	**3.70**	**327**	*e*P	**Pn**	**09 15 52.9**	**+1.0**
STEI				IAML		09 16 59.8	
	comp=Z,1.0nm,0.3s						
OLKF	**Oulanka, Finla**	**3.90**	**65**	*e*P	**Pn**	**09 15 55.0**	**+0.5**
OLKF				*e*S	**Sn**	**09 16 42.0**	**+1.1**
KU6	**Riekki**	**4.02**	**70**	*e*P	**Pn**	**09 15 56.7**	**+0.6**
KU6				*e*S	**Sn**	**09 16 44.6**	**+0.7**
KTK1	**Kautokeino**	**4.22**	**13**	*e*P	**Pn**	**09 16 00.5**	**+1.5**
FIA0	**FINESS Array S**	**4.29**	**142**	*e*P	**Pn**	**09 16 01.6**	**+1.8**
FIA0				*e*SG	**Sg**	**09 17 07.4**	**-3.6**
FINES	**FINESS Array B**	**4.29**	**142**	Pn	**Pn**	**09 16 00.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=326,slow=12,SNR=1.7					

KUR					AMB	AMB	09 20 06.6	
	40nm,0.7s							
KUR				*e*S		**Sn**	**09 20 46.6**	**+0.7**
KUR				A		A	09 21 09.6	
	100nm,0.5s							
KUR				A		A	09 21 09.6	
	40nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.75**	**245**	*e*P		**Pn**	**09 20 28.6**	**+2.6**
YUK					AMB	AMB	09 20 31.3	
	50nm,0.4s							
YUK				*e*S		**Sn**	**09 21 29.7**	**-1.0**
YUK				A		A	09 21 35.4	
	60nm,0.7s							
YUK				A		A	09 21 35.4	
	150nm,0.7s							
NMR	**Nemuro--Hokkai**	**6.19**	**240**	*e*P		**Pn**	**09 20 32.2**	**+0.2**
NMR				*e*S		**Sn**	**09 21 39.3**	**-2.2**
AKK	**Akkeshi**	**6.92**	**241**	*e*P		**Pn**	**09 20 43.0**	**+1.0**
AKK				*e*S		**Sn**	**09 21 57.9**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**29.16**	**153**	T		T	09 56 17.9	
	baz=340,slow=75,SNR=25							
H11N1	**WAKE ISLAND Hy**	**29.17**	**153**	T		T	09 56 20.1	
	baz=340,slow=75,SNR=26							
H11N3	**WAKE ISLAND Hy**	**29.17**	**153**	T		T	09 56 16.5	
	baz=340,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**30.24**	**154**	T		T	09 57 47.5	
	baz=341,slow=76,SNR=39							
H11S3	**WAKE ISLAND Hy**	**30.25**	**154**	T		T	09 57 50.0	
	baz=341,slow=76,SNR=40							
H11S2	**WAKE ISLAND Hy**	**30.26**	**154**	T		T	09 57 49.1	
	baz=341,slow=76,SNR=36							
ARU	**Arti**	**55.07**	**318**	LR		LR	09 54 03.0	
	comp=Z,30nm,20.4s,baz=344,slow=38							
FINES	**FINESS Array B**	**64.11**	**335**	P		**P**	**09 29 32.1**	**-1.1**
	0.8nm,0.6s,baz=38,slow=2.5,SNR=1.8							
	0.8nm,0.6s							
NOA	**NORSAR Array B**	**68.30**	**341**	P		**P**	**09 29 58.9**	**-1.3**
	0.6nm,0.6s,baz=28,slow=6.3,SNR=3.8							
	0.6nm,0.6s							
TXAR	**Lajitas Array**	**77.53**	**61**	P		**P**	**09 30 56.0**	**+0.6**
	0.1nm,0.6s,baz=303,slow=4.4,SNR=4.0							
	0.1nm,0.6s							
H03N2	**Juan Fernandez**	**138.75**	**90**	T		T	12 13 22.9	
	baz=311							
H03N1	**Juan Fernandez**	**138.77**	**90**	T		T	12 13 22.4	
	baz=311,SNR=4.0							
H03N3	**Juan Fernandez**	**138.77**	**90**	T		T	12 13 42.5	
	baz=311							

IDC 21 09:19:11.8±6.0,2°17S×140°43E,h0km,mb3.4/2, mbtmp3.4/3,ML3.6/1,Error ellipse: s-maj=179.9km s-min=70.5km az=125.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.64**	**198**	P	Pn	09 23 31.4	-0.1
	0.2nm,0.3s,baz=18,slow=11,SNR=18						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**22.29**	**196**	P	P	09 24 11.3	+0.4
	0.6nm,0.5s,baz=25,slow=11,SNR=19						
	0.6nm,0.5s						
VNDA	**Vanda**	**76.17**	**175**	P	P	09 31 00.9	-0.4
	0.4nm,0.8s,baz=350,slow=6.1,SNR=1.9						
	0.4nm,0.8s						

NNC 21 09:37:41.1±1.3,53°28N×91°05E,h0km,mb3.7,mpv3.4, 6C-3D,Error ellipse: s-maj=10.5km s-min=6.8km az=55.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.77**	**283**	⇑Pn	Pn	09 38 40.7	+0.3
	3.3nm,0.8s						
ZAA0				⇓Sn	Sn	09 39 26.5	+1.0
	17nm,0.8s						
ZAA0				⇑Rg	Rg	09 40 01.7	
KURBB	**Kurchatov Arra**	**8.18**	**256**	⇑Pn	Pn	09 39 40.2	-0.8
	4.7nm,0.6s						
KURBB				⇑Sn	Sn	09 41 14.8	+0.8
	39nm,0.8s						
KURBB				⇑Lg	Lg	09 42 01.9	
	75nm,0.9s						
MK31	**Makanchi Array**	**8.59**	**224**	⇓Pn	Pn	09 39 46.9	+0.2
	0.5nm,0.5s,baz=205,slow=40,SNR=7.8						
MK31				⇓Sn	Sn	09 41 25.9	+1.7
	8.2nm,1.2s						
MK31				⇑Lg	Lg	09 42 13.7	
	23nm,1.1s,baz=46,slow=31,SNR=5.2						

*NEIC **21** 09:42:28.8±1.5,22°0S±0°1×179°4W±0°1,h586km±5km, mb4.5/64,Error ellipse: s-maj=17.8km s-min=13.9km az=134.0*

*IDC **21** 09:42:29.1±1.4,21°88S×179°53W,h590km±15km, mb3.6/20,mbtmp4.6/22,Error ellipse: s-maj=15.3km s-min=11.1km az=135.0*

*NOU **21** 09:42:29.7,21°80S×179°57W,h607km,mb4.5/11,Fiji Islands Region*

ISC 21 09:42:28.4±0.3,22°00S±0°06×179°39W±0°07,h592km, n179,σ1°12/197,mb4.4/53,17C-14D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.79**	**8**	P	**P**	**09 43 52.7**	**+0.8**
MSVF	**Nonsavu**	**4.88**	**330**	P	**P**	**09 44 00.7**	**+0.7**
	101nm,0.4s,baz=79,slow=23,SNR=395						
MSVF				S	**S**	**09 45 16.1**	**+1.4**
	74nm,1.1s,baz=329,slow=23,SNR=12						
TAVE	**Taveuni**	**5.29**	**355**	P	**P**	**09 44 04.1**	**+0.9**
NIUE	**Niue**	**9.33**	**74**	P	**P**	**09 44 40.1**	**-0.3**
AFI	**Afiamalu**	**10.83**	**43**	P	**P**	**09 44 53.1**	**-2.4**
	18nm,0.5s,baz=94,slow=2.4,SNR=5.9						
AFI				S	**S**	**09 46 52.1**	**-4.1**
	14nm,0.5s,baz=269,slow=22,SNR=4.2						
AFI	**Afiamalu**	**10.83**	**43**	P	**P**	**09 44 52.1**	**-3.3**
MARNC	**Mare, Loyalty**	**11.70**	**270**	P	**P**	**09 45 03.6**	**-0.5**
MARNC	**Mare, Loyalty**	**11.70**	**270**	P	**P**	**09 45 04.0**	**-0.1**
PINNC	**Pines Island,**	**12.20**	**265**	P	**P**	**09 45 08.6**	**-0.6**
RTV	**Rentapao**	**12.20**	**288**	P	**P**	**09 45 09.4**	**+0.2**
LIFNC	**LIFOU**	**12.51**	**273**	P	**P**	**09 45 10.7**	**-1.7**
LIFNC	**LIFOU**	**12.51**	**273**	P	**P**	**09 45 11.2**	**-1.1**
YATNC	**Mamie plateau,**	**12.72**	**267**	P	**P**	**09 45 14.5**	**0.0**
DZM	**Mont Dzumac**	**13.14**	**267**	P	**P**	**09 45 17.1**	**-1.6**
	28nm,0.6s,baz=108,slow=19,SNR=16						
DZM	**Mont Dzumac**	**13.14**	**267**	P	**P**	**09 45 17.8**	**-0.9**
NOUC	**Port Laguerre**	**13.27**	**267**	P	**P**	**09 45 19.2**	**-0.8**
OUZ	**Omahuta**	**14.53**	**203**	P	**P**	**09 45 34.5**	**+2.2**
KOUNC	**Koumac, New Ca**	**15.28**	**272**	P	**P**	**09 45 40.1**	**+0.6**
URZ	**Urewera**	**16.48**	**190**	P	**P**	**09 45 48.0**	**-2.2**
	5.1nm,0.2s,baz=358,slow=2.9,SNR=9.6						
URZ				S	**S**	**09 48 29.7**	**-5.0**
	11nm,0.9s,baz=64,slow=24,SNR=8.2						
URZ	**Urewera**	**16.48**	**190**	P	**P**	**09 45 47.4**	**-2.8**
EIDS	**Eidsvold**	**27.22**	**257**	P	**P**	**09 47 26.5**	**0.0**
ARMA	**Armidale**	**27.26**	**246**	P	**P**	**09 47 28.1**	**+1.1**
ARMA				IAmb	IAmb	09 47 29.1	
	comp=Z,16nm,0.8s						
CTAO	**Charters Tower**	**32.08**	**267**	P	**P**	**09 48 08.4**	**0.0**
TOO	**Toolangi**	**33.97**	**235**	P	**P**	**09 48 23.9**	**-0.2**
TOO				IAmb	IAmb	09 48 25.7	
	comp=Z,14nm,0.7s						
PMG	**Port Moresby**	**34.46**	**286**	P	**P**	**09 48 28.2**	**-0.2**
	comp=Z,26nm,0.8s,baz=96,slow=6.4,SNR=9.5						
	comp=Z,26nm,0.8s						
PMG	**Port Moresby**	**34.46**	**286**	P	**P**	**09 48 28.0**	**-0.4**
STKA	**Stephens Creek**	**35.98**	**246**	P	**P**	**09 48 41.4**	**+0.6**
	comp=Z,10.0nm,0.6s,baz=93,slow=11,SNR=43						
	comp=Z,10.0nm,0.6s						
STKA	**Stephens Creek**	**35.98**	**246**	P	**P**	**09 48 41.2**	**+0.4**
COEN	**Coen**	**36.42**	**276**	P	**P**	**09 48 44.6**	**0.0**
COEN				IAmb	IAmb	09 48 45.9	
	comp=Z,16nm,0.8s						
AS31	**Alice Springs**	**42.93**	**258**	P	**P**	**09 49 36.1**	**-0.5**
ASAR	**Alice Springs**	**42.93**	**258**	P	**P**	**09 49 36.2**	**-0.3**
	comp=Z,20nm,0.8s,baz=99,slow=8.0,SNR=260						
ASAR				ScP	**ScP**	**09 54 11.4**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=118,slow=4.1,SNR=6.2						
ASAR				S	**S**	**09 55 17.2**	**-2.7**
	comp=Z,1.3nm,1.0s,baz=98,slow=15,SNR=6.8						
	comp=Z,20nm,0.8s						
WR0	**Warramunga Arr**	**42.94**	**264**	P	**P**	**09 49 35.1**	**-1.6**
WR0				IAmb	IAmb	09 49 36.6	
	comp=Z,7.5nm,0.9s						
WB2	**Warramunga Arr**	**43.12**	**264**	P	**P**	**09 49 37.2**	**-0.8**
WB2				IAmb	IAmb	09 49 38.0	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**43.13**	**264**	P	**P**	**09 49 37.1**	**-1.0**
	comp=Z,13nm,0.8s,baz=97,slow=7.8,SNR=112						
WRA				ScP	**ScP**	**09 54 12.3**	**+2.7**
	comp=Z,2.3nm,0.9s,baz=97,slow=3.6,SNR=7.6						
WRA				S	**S**	**09 55 19.5**	**-3.3**
	comp=Z,0.7nm,0.8s,baz=95,slow=12,SNR=2.2						
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**43.13**	**264**	P	**P**	**09 49 37.3**	**-0.9**
KHLU	**Kahalu`u**	**47.29**	**31**	P	**P**	**09 50 10.1**	**+0.3**
FORT	**Forrest**	**47.52**	**248**	P	**P**	**09 50 10.9**	**-0.5**
MTN	**Manton Dam**	**47.90**	**272**	P	**P**	**09 50 13.6**	**-0.8**
MTN				IAmb	IAmb	09 50 14.1	
	comp=Z,16nm,0.6s						
KNRA	**Kununurra**	**49.28**	**268**	P	**P**	**09 50 24.2**	**-0.4**
KNRA				IAmb	IAmb	09 50 25.0	
	comp=Z,15nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.56**	**264**	P	**P**	**09 50 41.0**	**-0.1**
FITZ				IAmb	IAmb	09 50 42.1	
	comp=Z,14nm,1.4s						
MBWA	**Marble Bar**	**56.27**	**259**	P	**P**	**09 51 13.1**	**-1.1**
MBWA				IAmb	IAmb	09 51 14.3	
	comp=Z,11nm,0.8s						
VNDA	**Vanda**	**56.31**	**185**	P	**P**	**09 51 15.7**	**+2.2**
	comp=Z,0.7nm,0.4s,baz=356,slow=6.5,SNR=15						
	comp=Z,0.7nm,0.4s						
VNDA	**Vanda**	**56.31**	**185**	P	**P**	**09 51 15.1**	**+1.5**
EDFI	**Ende, Flores**	**58.00**	**273**	P	**P**	**09 51 26.4**	**+0.2**
MORW	**Morawa**	**58.07**	**249**	P	**P**	**09 51 25.8**	**-0.5**
GIRL	**Giralia**	**60.91**	**256**	P	**P**	**09 51 46.2**	**+0.9**
CASY	**Casey**	**62.06**	**206**	P	**P**	**09 51 52.0**	**0.0**
QSPA	**South Pole Qui**	**68.07**	**180**	P	**P**	**09 52 31.2**	**+1.5**
ADK	**Adak**	**73.60**	**2**	P	**P**	**09 53 01.7**	**-0.3**
UNV	**Unalaska Valle**	**76.35**	**8**	P	**P**	**09 53 16.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**77.40**	**346**	P	**P**	**09 53 23.1**	**0.0**
PEA0B				IAmb	IAmb	09 53 24.6	
	comp=Z,44nm,1.4s						
PETK	**Petropavlovsk-**	**77.40**	**346**	P	**P**	**09 53 23.1**	**+0.1**
	comp=Z,7.7nm,0.7s,baz=141,slow=5.7,SNR=13						
	comp=Z,7.7nm,0.7s						
BELA	**Belgrano 2**	**78.24**	**173**	P	**P**	**09 53 27.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**79.48**	**327**	P	**P**	**09 53 35.1**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=83,slow=6.0,SNR=4.3						
	comp=Z,2.6nm,0.8s						
MAW	**Mawson**	**79.72**	**200**	P	**P**	**09 53 36.2**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=115,slow=11,SNR=7.0						
	comp=Z,1.2nm,0.6s						
ISA	**Isabella, Lake**	**81.31**	**46**			**P**	**09 53 45.1**	**+1.0**
ISA				IAmb	IAmb	09 53 46.5	
	comp=Z,7.7nm,0.8s						
CMB	**Columbia Colle**	**81.44**	**43**	P	**P**	**09 53 45.9**	**+1.2**
CMB				IAmb	IAmb	09 53 46.8	
	comp=Z,8.3nm,1.0s						
PFO	**Pinyon Flats O**	**81.54**	**49**	P	**P**	**09 53 46.6**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=250,slow=3.5,SNR=1.4						
	comp=Z,1.1nm,0.6s						
OMMB	**Old Mammoth Mi**	**82.08**	**44**	P	**P**	**09 53 49.2**	**+0.9**
YBH	**Yreka Blue Hor**	**82.27**	**39**	P	**P**	**09 53 50.5**	**+1.7**
	comp=Z,5.8nm,0.8s,baz=171,slow=2.6,SNR=14						
	comp=Z,5.8nm,0.8s						
YBH	**Yreka Blue Hor**	**82.27**	**39**	P	**P**	**09 53 50.5**	**+1.7**
J01E	**Myrtle Point**	**82.47**	**37**	P	**P**	**09 53 51.2**	**+1.6**
BEKR	**Beckworth**	**82.55**	**42**		**P**	**09 53 50.9**	**+0.5**
PNTR	**Pine Nut**	**82.56**	**43**		**P**	**09 53 51.6**	**+1.0**
PNTR				IAmb	IAmb	09 53 52.9	
	comp=Z,21nm,0.8s						
DSP	**Deep Springs**	**82.61**	**45**		**P**	**09 53 51.8**	**+1.3**
HUMO	**Hull Mountain**	**82.67**	**38**	P	**P**	**09 53 52.5**	**+1.8**
HUMO				IAmb	IAmb	09 53 53.8	
	comp=Z,16nm,1.4s						
L04D	**Klamath Falls**	**82.81**	**39**	P	**P**	**09 53 52.5**	**+0.9**
L04D				IAmb	IAmb	09 53 53.6	
	comp=Z,12nm,0.8s						
NVAR	**Mina Array Bea**	**83.00**	**44**	P	**P**	**09 53 53.9**	**+1.1**
	comp=Z,4.3nm,0.8s,baz=225,slow=8.7,SNR=34						
	comp=Z,4.3nm,0.8s						
NVAR	**Mina Array Bea**	**83.00**	**44**	P	**P**	**09 53 54.2**	**+1.4**
PAHR	**Pah Rah Range**	**83.06**	**42**	P	**P**	**09 53 54.1**	**+1.1**
KLR	**Kul'dur**	**83.17**	**330**	P	**P**	**09 53 53.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=93,slow=4.6,SNR=6.0						
	comp=Z,1.3nm,0.7s						
KVN	**Kaiserville**	**83.49**	**43**		**P**	**09 53 55.8**	**+0.6**
MOD	**Modoc Plateau**	**83.80**	**40**		**P**	**09 53 57.3**	**+0.7**
K05A	**Summer Lake**	**83.94**	**39**		**P**	**09 53 58.7**	**+1.4**
K05A				IAmb	IAmb	09 54 00.1	
	comp=Z,14nm,1.0s						
H04A	**Detroit Lake**	**84.40**	**37**	P	**P**	**09 54 00.4**	**+1.1**
H04A				IAmb	IAmb	09 54 00.7	
	comp=Z,6.3nm,0.6s						
PINE	**Pine Mountain**	**84.56**	**38**	P	**P**	**09 54 01.5**	**+1.2**
NLWA	**Neilton Lookou**	**85.20**	**34**	P	**P**	**09 54 04.3**	**+1.2**
NLWA				IAmb	IAmb	09 54 05.5	
	comp=Z,16nm,1.3s						
I07A	**Izee**	**85.57**	**39**	P	**P**	**09 54 06.0**	**+1.0**
I07A				IAmb	IAmb	09 54 07.5	
	comp=Z,7.7nm,1.1s						
J08A	**Circle Bar Ran**	**85.75**	**40**	P	**P**	**09 54 07.0**	**+1.1**
J08A				IAmb	IAmb	09 54 08.2	
	comp=Z,10nm,1.3s						
L19K	**White Mountain**	**86.15**	**11**	P	**P**	**09 54 07.7**	**+0.5**
L19K				IAmb	IAmb	09 54 08.6	
	comp=Z,8.5nm,0.8s						
TROLL	**Troll, Antarti**	**86.23**	**181**	P	**P**	**09 54 07.7**	**-0.1**
TROLL	**Troll, Antarti**	**86.23**	**181**	pP	pP	09 56 16.0	+1.9
SNAA	**Sanae**	**86.55**	**179**	P	**P**	**09 54 08.8**	**-0.4**
G08A	**Pilot Rock**	**86.59**	**38**	P	**P**	**09 54 11.0**	**+1.1**
G08A				IAmb	IAmb	09 54 12.1	
	comp=Z,9.3nm,1.0s						
VNA3	**Neumayer Olymp**	**86.73**	**177**	P	**P**	**09 54 09.6**	**-0.5**
VNA3	**Neumayer Olymp**	**86.73**	**177**	pP	pP	09 56 18.7	+1.8
VNA2	**Neumayer--Watz**	**87.16**	**177**	P	**P**	**09 54 11.9**	**-0.2**
	baz=186,slow=5.0						
VNA2	**Neumayer--Watz**	**87.16**	**177**	pP	pP	09 56 21.5	+2.7
	baz=186,slow=3.0						
BMO	**Blue Mountains**	**87.29**	**39**	P	**P**	**09 54 14.3**	**+1.1**
K20K	**Telida**	**87.38**	**11**	P	**P**	**09 54 12.8**	**-0.2**
SEY	**Seymchan**	**87.54**	**347**	P	**P**	**09 54 14.3**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=139,slow=5.1,SNR=8.3						
	comp=Z,3.7nm,0.7s						
CAST	**Castle Rocks**	**87.80**	**12**	P	**P**	**09 54 13.8**	**-1.2**
N25K	**Chitina, Valde**	**87.87**	**16**	P	**P**	**09 54 15.7**	**+0.3**
N25K				IAmb	IAmb	09 54 16.6	
	comp=Z,7.4nm,0.7s						
Q16A	**Castle Valley**	**87.96**	**46**	IAmb	IAmb	09 54 19.5	
	comp=Z,4.8nm,0.9s						
F10A	**Beach Ranch, E**	**87.98**	**38**	P	**P**	**09 54 16.5**	**+0.2**
F10A				IAmb	IAmb	09 54 17.9	
	comp=Z,9.9nm,0.8s						
TRF	**Thorofare Moun**	**88.19**	**13**	P	**P**	**09 54 16.0**	**-0.9**
PLID	**Pearl Lake**	**88.19**	**39**	P	**P**	**09 54 18.6**	**+1.1**
PLID				IAmb	IAmb	09 54 19.3	
	comp=Z,11nm,1.4s						
B08A	**Colville Reser**	**88.20**	**35**	P	**P**	**09 54 17.5**	**+0.3**
B08A				IAmb	IAmb	09 54 18.6	
	comp=Z,9.0nm,0.8s						
HLID	**Hailey**	**88.31**	**41**	P	**P**	**09 54 19.4**	**+1.4**
HLID				IAmb	IAmb	09 54 20.4	
	comp=Z,5.2nm,0.8s						
P17A	**Butcher Ranch,**	**88.53**	**46**	IAmb	IAmb	09 54 22.3	
	comp=Z,7.7nm,1.2s						
TXAR	**Lajitas Array**	**88.95**	**58**	P	**P**	**09 54 22.9**	**+1.6**
	comp=Z,3.4nm,0.9s,baz=216,slow=5.9,SNR=38						
	comp=Z,3.4nm,0.9s						
TXAR	**Lajitas Array**	**88.95**	**58**	P	**P**	**09 54 22.6**	**+1.3**
HWUT	**Hardware Ranch**	**89.07**	**44**	P	**P**	**09 54 22.1**	**+0.5**
HWUT				IAmb	IAmb	09 54 22.8	
	comp=Z,3.7nm,0.7s						
PLCA	**Paso Flores**	**89.18**	**134**	P	**P**	**09 54 24.1**	**+1.9**
	comp=Z,1.5nm,0.7s,baz=242,slow=3.4,SNR=5.9						
	comp=Z,1.5nm,0.7s						
ANMO	**Albuquerque**	**89.35**	**52**	P	**P**	**09 54 24.1**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=214,slow=6.1,SNR=14						
	comp=Z,2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.40**	**290**	P	**P**	**09 54 25.1**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=170,slow=3.3,SNR=6.4						
	comp=Z,1.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**89.48**	**315**	*e*P	**P**	**09 54 22.6**	**-0.8**
HHC				pmax	pmax		
	comp=Z,36nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,4.7s						
H21K	**Melozitna Rive**	**89.71**	**11**	P	**P**	**09 54 24.1**	**+0.3**
H21K				IAmb	IAmb	09 54 24.8	
	comp=Z,3.2nm,0.8s						
DLBC	**Dease Lake**	**89.94**	**24**	P	**P**	**09 54 25.5**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=250,slow=6.0,SNR=4.2						
	comp=Z,1.5nm,0.8s						
ILAR	**Eielson Array**	**90.06**	**13**	P	**P**	**09 54 24.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=221,slow=5.3,SNR=11						
	comp=Z,1.6nm,0.7s						
PZH	**PanZhiHua**	**90.27**	**298**	P	**P**	**09 54 28.8**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,4.3s						
PDAR	**Pinedale Array**	**90.94**	**44**	P	**P**	**09 54 30.9**	**+0.5**
	comp=Z,2.0nm,0.9s,baz=204,slow=3.3,SNR=14						
	comp=Z,2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**110.84**	**321**	PKiKP	**PKiKP**	**09 59 53.4**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=60,slow=3.6,SNR=3.9						
MKAR	**Makanchi Array**	**111.28**	**313**	PKiKP	**PKiKP**	**09 59 54.5**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=96,slow=1.4,SNR=2.0						
KKAR	**Karatay Array**	**119.15**	**308**		**PKPdf**	**10 00 10.3**	**-0.7**
SVB	**Belmont**	**120.74**	**87**		**PKPdf**	**10 00 14.1**	**-0.7**
ARCES	**ARCESS Array B**	**130.15**	**349**	PKP	**PKPdf**	**10 00 30.7**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=71,slow=1.0,SNR=19						
FINES	**FINESS Array B**	**136.82**	**342**	PKhKP	PKPpre	10 00 34.3	
	comp=Z,0.5nm,0.4s,baz=64,slow=4.4,SNR=3.4						
FINES				PKP	**PKPdf**	**10 00 44.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=90,slow=1.4,SNR=8.0						
NB2	**NORSAR Subarra**	**140.29**	**352**	PKP	PKPpre	10 00 43.8	
	comp=Z,0.2nm,0.4s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**140.29**	**352**	PKhKP	PKPpre	10 00 43.9	
	comp=Z,0.2nm,0.5s,baz=7.0,slow=4.7,SNR=7.0						
NOA				PKP	**PKiKP**	**10 00 52.0**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=14,slow=3.8,SNR=3.5						
AKASG	**Malin Array Be**	**143.66**	**329**	PKP	PKPbc	10 00 54.6	-0.9
	comp=Z,5.8nm,0.5s,baz=42,slow=4.4,SNR=45						
AKASG	**Malin Array Be**	**143.66**	**329**		PKPbc	10 00 54.8	-0.8
AKBB	**Malin Array Si**	**143.66**	**329**		PKPbc	10 00 55.2	-0.4
BR131	**Keskin Array S**	**146.84**	**310**	PKPdf	**PKPdf**	**10 01 02.3**	**-0.2**
BR131					**PKPbc**	**10 01 04.8**	**-0.6**
BRTR	**Keskin Array B**	**146.84**	**310**	PKPbc	**PKPbc**	**10 01 05.0**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=130,slow=3.8,SNR=10						
BUR08	**Bucovina Ar. S**	**147.68**	**328**	PKPdf	**PKPdf**	**10 01 03.9**	**+0.4**
BUR08				PKPbc	**PKiKP**	**10 01 08.1**	**-0.6**
BURAR	**Bucovina Array**	**147.69**	**328**	⇓P	**PKiKP**	**10 01 08.2**	**-0.6**
BIZ	**Bicaz**	**147.70**	**326**	⇑P	**PKPbc**	**10 01 07.9**	**+0.7**
VRI	**Vrincioaia**	**148.07**	**324**	⇑P	**PKPbc**	**10 01 08.8**	**+0.6**
KOLS	**Kolonicke sedl**	**148.08**	**333**	*e*PKP	**PKiKP**	**10 01 09.3**	**-0.1**
CRVS	**Cervenica-Dubn**	**148.44**	**333**	*e*PKP	**PKiKP**	**10 01 09.9**	**-0.2**
OSTC	**Ostas**	**148.98**	**341**	⇑*e*PKP	**PKPbc**	**10 01 10.6**	**+0.3**
CHVC	**Chvalec**	**149.00**	**341**	⇑*e*PKP	**PKPbc**	**10 01 09.9**	**-0.5**
LANS	**Liptovska Anna**	**149.04**	**336**	*e*PKP	**PKiKP**	**10 01 11.9**	**+0.5**
UPC	**Upice**	**149.09**	**341**	⇑*e*PKP	**PKPbc**	**10 01 10.8**	**+0.3**
DPC	**Dobruska-Polom**	**149.13**	**340**	⇑*e*PKP	**PKPbc**	**10 01 11.2**	**-0.3**
DPC				*e*PKPAB	**PKPab**	**10 01 17.9**	**+0.4**
CLL	**Collm**	**149.19**	**345**	*i* PKPbc	**PKPbc**	**10 01 10.9**	**+0.2**
	comp=Z,21nm,1.0s						
CLL				*i* PKPab	**PKPab**	**10 01 17.5**	**-0.2**
	comp=Z,9.0nm,0.9s						
CLL				*e*SKPdf	**SKPdf**	**10 03 42.0**	**-2.0**
KRLC	**Kraliky**	**149.22**	**339**	⇑*e*PKP	**PKPbc**	**10 01 11.0**	**+0.1**
MORC	**Moravsky Berou**	**149.22**	**338**	⇓P	**PKPbc**	**10 01 11.2**	**+0.2**
MORC	**Moravsky Berou**	**149.22**	**338**		**PKiKP**	**10 01 11.8**	**+0.1**
MORC	**Moravsky Berou**	**149.22**	**338**	*e*PKP	**PKPbc**	**10 01 11.2**	**+0.2**
BRG	**Berggiesshubel**	**149.35**	**343**	*i* PKP	**PKiKP**	**10 01 11.6**	**-0.4**
BRG				Amp		10 01 12.4	
	comp=Z,12nm,0.7s						
BRG				*i* x	**PKPab**	**10 01 18.9**	**+0.6**
BRG				Amp		10 01 19.3	
	comp=Z,7.5nm,0.8s						
MAUC	**Maruska**	**149.47**	**338**	⇑*e*PKP	**PKiKP**	**10 01 12.0**	**-0.3**
DRGR		**149.48**	**329**	⇓P	**PKPbc**	**10 01 11.6**	**-0.1**
PVCC	**Panska Ves**	**149.49**	**342**	⇑*e*PKP	**PKiKP**	**10 01 12.0**	**-0.2**
ARR	**Arges**	**149.51**

ZAPS	**Zavoj**	**0.30**	**29**	*e*Pg	Pg	09 45 37.2	+0.4
ZAPS				*e*Sg	Sg	09 45 41.7	+0.8
BARS	**Barje**	**0.50**	**247**	*e*Pg	Pg	09 45 40.8	+0.3
BARS				*e*Sg	Sg	09 45 47.2	+0.2
BOSS	**Bosilegrad**	**0.52**	**177**	*e*Pg	Pg	09 45 40.4	-0.4
BOSS				*e*Sg	Sg	09 45 47.2	-0.5
BLKB	**Belogradchik**	**0.63**	**16**	⇑P	Pg	09 45 43.5	+0.4
BLKB				⇑S	Sg	09 45 52.2	+0.8
VTS	**Vitosha**	**0.71**	**124**	⇑P	Pg	09 45 44.3	-0.2
VTS				⇑S	Sg	09 45 54.2	+0.4
VTS	**Vitosha**	**0.71**	**124**	*e*Pg	Pg	09 45 44.3	-0.2
VTS				*e*Sg	Sg	09 45 54.2	+0.5
ZAGS	**Zajecar**	**0.81**	**349**	*e*Pg	Pg	09 45 45.8	-0.7
ZAGS				*e*Sg	Sg	09 45 57.0	-0.1
BOVS	**Bovan**	**0.82**	**320**	⇓P	Pg	09 45 45.8	-0.9
BOVS				⇑S	Sg	09 45 57.2	-0.1
BOVS	**Bovan**	**0.82**	**320**	*e*Pg	Pg	09 45 45.8	-0.8
BOVS				*e*Sg	Sg	09 45 56.9	-0.4
GRUS	**Gruza**	**1.53**	**306**	*e*Pg	Pn	09 45 58.1	-0.1
GRUS				*e*Sg	Sb	09 46 19.1	+0.4
IVAS	**Ivanjica**	**1.76**	**289**	*e*Pg	Pb	09 46 03.5	+0.3
IVAS				*e*Sg	Sg	09 46 27.6	+0.2
MDVR	**Moldovita**	**1.84**	**344**	⇑P	Pn	09 46 02.5	-0.1
MDVR				⇓S	Sn	09 46 26.7	+0.7
HERR	**Herculane**	**1.87**	**360**	⇑P	Pn	09 46 02.0	-0.9
HERR				⇑S	Sn	09 46 26.7	+0.2
GZR	**Gura Zlata**	**2.39**	**6**	⇑P	Pn	09 46 09.9	-0.2
GZR				⇓S	Sn	09 46 39.7	+0.2
BZS	**Buzias**	**2.67**	**348**	⇑P	Pn	09 46 14.2	+0.3
BZS				⇑S	Sn	09 46 47.3	+1.1

IDC 21 09:59:02.9±30.0, 21°.52S×175°.84W, h0km, mb4.1/3, mbtmp4.1/4, ML4.3/1, Error ellipse: s-maj=557.2km s-min=61.2km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.76**	**198**	P	Pn	10 03 11.1	-0.4
	1.0nm,0.3s,baz=0.0,slow=6.1,SNR=6.0 3.5nm,0.4s						
STKA	**Stephens Creek**	**39.19**	**246**	P	P	10 06 31.9	-1.0
	0.9nm,0.6s,baz=92,slow=9.5,SNR=4.2 0.9nm,0.6s						
ASAR	**Alice Springs**	**46.26**	**257**	P	P	10 07 30.4	0.0
	1.2nm,0.4s,baz=92,slow=7.5,SNR=36 1.2nm,0.4s						
WRA	**Warramunga Arr**	**46.47**	**263**	P	P	10 07 32.5	+0.4
	2.1nm,0.5s,baz=95,slow=8.3,SNR=68 2.1nm,0.5s						

IDC 21 10:13:58.1±1.9, 0°.04S×125°.90E, h0km, mb3.3/3, mbtmp3.4/3, MS2.7/4, Error ellipse: s-maj=158.3km s-min=27.1km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.88**	**231**	LR	LR	10 20 03.1	
	comp=Z,70nm,18.9s,baz=20,slow=46						
BATI	**Baumata**	**10.34**	**192**	LR	LR	10 20 45.2	
	comp=Z,59nm,19.6s,baz=6.0,slow=39						
WRA	**Warramunga Arr**	**21.44**	**158**	P	P	10 18 47.3	-0.7
	1.2nm,0.8s,baz=336,slow=11,SNR=16 1.2nm,0.8s						
ASAR	**Alice Springs**	**24.74**	**162**	P	P	10 19 22.1	+0.6
	0.2nm,0.4s,baz=341,slow=11,SNR=5.7 0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.24**	**306**	LR	LR	10 32 49.6	
	comp=Z,4.8nm,20.6s,baz=115,slow=35						
SONM	**Songino Array**	**50.61**	**343**	LR	LR	10 45 36.6	
	comp=Z,14nm,18.6s,baz=260,slow=38						
MKAR	**Makanchi Array**	**60.20**	**327**	P	P	10 24 07.9	-0.1
	0.3nm,0.4s,baz=122,slow=7.6,SNR=4.4 0.3nm,0.4s						

*IDC **21** 10:22:49.3±1.5, 28°.45S×111°.68W, h0km, mb3.7/5, mbtmp3.7/5, MS3.6/15, Error ellipse: s-maj=50.2km s-min=33.6km az=26.0*
ISC 21 10:22:48.3±1.4, 28°.9S±0°.3×112°.0W±0°.2, h10km, n27, σ0°75/9, mb3.9/5, MS3.7/14, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**2.92**	**54**	LR	LR	10 23 43.1	
	comp=Z,217nm,19.1s,baz=240,slow=22						
H03N2	**Juan Fernandez**	**28.57**	**108**	T	T	10 59 04.9	
	baz=275,slow=74,SNR=62						
H03N3	**Juan Fernandez**	**28.58**	**108**	T	T	10 59 06.0	
	baz=275,slow=74,SNR=57						
H03N1	**Juan Fernandez**	**28.59**	**108**	T	T	10 59 05.8	
	baz=275,slow=74,SNR=78						
PLCA	**Paso Flores**	**35.70**	**121**	LR	LR	10 40 20.9	
	comp=Z,86nm,19.2s,baz=260,slow=30						
PPT	**Papeete**	**36.19**	**280**	LR	LR	10 39 46.5	
	comp=Z,84nm,18.6s,baz=128,slow=28						
NNA	**Nana**	**36.79**	**70**	LR	LR	10 40 56.9	
	comp=Z,106nm,20.9s,baz=271,slow=30						
ATAH	**Atahualpa**	**38.35**	**62**	LR	LR	10 42 23.3	
	comp=Z,134nm,18.4s,baz=255,slow=31						
LPAZ	**La Paz**	**42.16**	**82**	P	**P**	**10 30 42.1**	**+0.1**
	4.0nm,1.3s,baz=239,slow=7.0,SNR=3.9 4.0nm,1.3s						
SIV	**San Ignacio**	**48.44**	**86**	P	**P**	**10 31 30.8**	**-0.5**
	1.0nm,0.8s,baz=267,slow=11,SNR=2.3 1.0nm,0.8s						
CMIG	**Matias Romero**	**48.60**	**22**	LR	LR	10 46 54.8	
	comp=Z,54nm,19.5s,baz=179,slow=30						
ROSC	**El Rosal**	**49.34**	**53**	LR	LR	10 48 28.4	
	comp=Z,93nm,19.7s,baz=46,slow=32						
SDV	**Santo Domingo**	**54.77**	**53**	LR	LR	10 51 18.3	
	comp=Z,103nm,21.8s,baz=262,slow=32						
TXAR	**Lajitas Array**	**58.44**	**9**	P	**P**	**10 32 44.1**	**-0.3**
	0.2nm,0.8s,baz=184,slow=10,SNR=3.0 0.2nm,0.8s						
URZ	**Urewera**	**58.52**	**241**	LR	LR	10 52 21.6	
	comp=Z,111nm,18.6s,baz=202,slow=30						
RPZ	**Rata Peaks**	**61.68**	**233**	LR	LR	10 53 00.5	
	comp=Z,55nm,20.9s,baz=86,slow=29						
MSVF	**Nonsavu**	**64.42**	**263**	LR	LR	10 55 50.1	
	comp=Z,9.4nm,20.4s,baz=61,slow=31						
NVAR	**Mina Array Bea**	**67.23**	**355**	P	**P**	**10 33 43.5**	**+0.5**
	1.8nm,0.9s,baz=187,slow=8.8,SNR=7.6 1.8nm,0.9s						
YBH	**Yreka Blue Hor**	**70.96**	**352**	LR	LR	10 58 07.1	
	comp=Z,48nm,18.7s,baz=196,slow=30						
PDAR	**Pinedale Array**	**71.33**	**2**	P	**P**	**10 34 08.0**	**-0.4**
	0.5nm,0.9s,baz=187,slow=6.4,SNR=2.7 0.5nm,0.9s						
NEW	**Newport**	**76.94**	**356**	LR	LR	11 03 16.5	
	comp=Z,45nm,20.2s,baz=183,slow=32						
PMG	**Port Moresby**	**94.88**	**257**	LR	LR	11 08 36.6	
	comp=Z,28nm,21.1s,baz=218,slow=29						
ILAR	**Eielson Array**	**97.24**	**346**	LR	LR	11 09 18.7	
	comp=Z,74nm,19.9s,baz=180,slow=29						
SONM	**Songino Array**	**144.92**	**313**	PKP	**PKPdf**	**10 42 26.7**	**+1.0**
	1.2nm,0.8s,baz=125,slow=2.3,SNR=5.3						
BRTR	**Keskin Array B**	**149.78**	**60**	PKPbc	**PKiKP**	**10 42 40.6**	**+0.9**
	1.3nm,0.8s,baz=3.9,slow=5.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**149.92**	**257**	PKPbc	**PKPab**	**10 42 44.3**	**-0.8**
	0.4nm,0.3s,baz=64,slow=2.1,SNR=0.9						
ZALV	**Zalesovo Beam**	**152.11**	**339**	PKPbc	**PKPbc**	**10 42 43.1**	**-0.4**
	1.1nm,0.6s,baz=18,slow=3.3,SNR=4.9						

*GEN **21** 10:23:25.6, 43°.06N×5°.87E, h-3km±24km, MI0.0*
*STR **21** 10:23:26.2±0.9, 43°N±7°×±°, h0km, MLv2.1/17, Error ellipse: s-maj=0.0km s-min=0.0km az=21.5, preliminary*
*MDD **21** 10:23:28.0±0.4, 42°.99N×5°.96E, h3km±3km, Mb3.5/5, M_mb2.7/5, Error ellipse: s-maj=2.9km s-min=2.1km az=165.0*
ISC 21 10:23:26.2±1.0, 43°.02N±0°.04×5°.95E±0°.04, h0km, n29, σ0°66/32, 2C, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASEAF	**Site Antares,**	**0.27**	**145**	P	**Pb**	**10 23 34.2**	**+0.5**
ASEAF	**Site Antares,**	**0.27**	**145**	Pg	**Pb**	**10 23 34.3**	**+0.5**
ASEAF				Sg	**Sb**	**10 23 37.3**	**-1.4**
FLAF	**Flassans-sur-I**	**0.43**	**31**	Pg	**Pg**	**10 23 34.9**	**+0.5**
ARTF	**Artigues**	**0.58**	**349**	Pg	**Pg**	**10 23 38.0**	**+0.7**
TRIGF	**Trigance**	**0.80**	**24**	Pg	**Pg**	**10 23 41.8**	**+0.2**
BSTF	**la Bastide-des**	**0.89**	**346**	Pg	**Pg**	**10 23 42.5**	**-0.9**
BLAF	**les Blancs**	**0.94**	**4**	Pg	**Pg**	**10 23 44.3**	**+0.1**
MLYF	**Mely**	**0.98**	**352**	Pg	**Pg**	**10 23 45.6**	**+0.6**
RUSF	**Rustrel**	**0.99**	**340**	Pg	**Pg**	**10 23 45.8**	**+0.7**
SAUF	**chteau de Sau**	**1.11**	**327**	Pg	**Pb**	**10 23 48.4**	**+0.1**
OGDI	**Digne**	**1.12**	**13**	P	**Pg**	**10 23 48.2**	**+0.5**
OGDI	**Digne**	**1.12**	**13**	Pg	**Pg**	**10 23 48.0**	**+0.3**
MVIF	**Mont Vial**	**1.24**	**44**	P	**Pn**	**10 23 51.0**	**0.0**
ESCA	**l'Escarene**	**1.32**	**51**	P	**Pn**	**10 23 52.0**	**+0.1**
ESCA	**l'Escarene**	**1.32**	**51**	Pg	**Pg**	**10 23 51.4**	**0.0**
SPIF	**crte de Spivo**	**1.40**	**41**	Pn	**Pg**	**10 23 52.5**	**-0.5**
ISO	**Isola**	**1.41**	**34**	Pn	**Pn**	**10 23 53.2**	**-0.1**
TURF	**col de Turini**	**1.42**	**47**	Pn	**Pg**	**10 23 52.9**	**-0.5**
TURF				Pg	**Pb**	**10 23 53.8**	**+0.1**
OGAG	**Argentiere**	**1.50**	**16**	Pg	Pb	10 24 01.3	+6.3
SAOF	**Saorge**	**1.52**	**50**	Pn	**Pn**	**10 23 54.5**	**-0.1**
SURF	**Saint Ours**	**1.59**	**23**	Pn	**Pg**	**10 23 56.8**	**+0.1**
ORIF	**Oris-en-Rattie**	**1.90**	**358**	Pn	**Pg**	**10 24 02.5**	**-0.2**
BNI	**Bardonecchia**	**2.10**	**14**	P	**Pn**	**10 24 03.5**	**+0.7**
BNI				S	**Sb**	**10 24 31.1**	**-0.9**
GDM	**Grand'Maison**	**2.19**	**3**	Pn	**Pb**	**10 24 06.1**	**-0.7**
GDM				Pg	**Pg**	**10 24 08.3**	**+0.1**
EJON	**La Jonquera**	**2.33**	**257**	P	**Pn**	**10 24 04.1**	**-1.7**
EJON				⇑*i*Vmb_V		10 24 05.3	
	227nm,SNR=1.6						
SMPL	**Sampolo**	**2.63**	**109**	Pn	**Pn**	**10 24 10.0**	**+0.1**
VLC	**Villacollemand**	**3.42**	**69**	S	**Sn**	**10 25 03.0**	**+1.0**
MLS	**Moulis**	**3.56**	**271**	Pn	**Pn**	**10 24 23.5**	**+0.7**
ECHI	**Chisagues Biel**	**4.25**	**267**	P	**Pn**	**10 24 33.1**	**+0.9**
ECHI				⇑*i*Vmb_V		10 24 35.2	
	61nm,SNR=1.5						

*KOLA **21** 10:24:45.3, 67°.86N×18°.11E, h0km, ML2.4*
*IDC **21** 10:24:47.0±0.9, 67°.22N×21°.05E, h0km, mbtmp3.1/5, ML2.4/4, Error ellipse: s-maj=14.9km s-min=6.5km az=116.0*
*HEL **21** 10:24:47.7±0.0, 67°.19N×20°.67E, h0km, ML2.2, ML2.7(UPP), Confirmed Induced event*
*NAO **21** 10:24:47.7±0.8, 67°.17N×20°.93E, ML3.1*
*BER **21** 10:24:51.8±3.6, 67°.05N×21°.06E, h15km, ML2.4, ML3.1(NAO), Confirmed Induced event*
ISC 21 10:24:46.3±0.6, 67°.18N±0°.02×20°.68E±0°.02, h0km, n52, σ1°30/93, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**216**	*i* P	**Pg**	**10 24 49.0**	**+1.3**
DUNU				*i* S	**Sg**	**10 24 50.2**	**+1.6**
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	**Pg**	**10 24 58.2**	**+0.7**
MASU				*i* S	**Sg**	**10 25 05.8**	**+0.7**
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P	**Pg**	**10 25 01.3**	**+0.2**
RATU				*i* S	**Sg**	**10 25 11.4**	**+0.4**
ERTU	**Ertsjaerv**	**0.87**	**136**	*e*P	**Pg**	**10 25 03.1**	**+0.2**
ERTU				*e*S	**Sg**	**10 25 14.7**	**+0.6**
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	**Pg**	**10 25 04.4**	**+0.2**
PAJU	**Pajala**	**0.97**	**98**	*e*P	**Pg**	**10 25 05.0**	**+0.1**
PAJU				*e*S	**Sg**	**10 25 17.8**	**+0.5**
LANU	**Lannavaara**	**1.01**	**29**	*e*P	**Pg**	**10 25 05.5**	**-0.1**
LANU				*e*S	**Sg**	**10 25 18.4**	**-0.3**
HARU	**Harads**	**1.03**	**173**	*e*P	**Pg**	**10 25 06.0**	**0.0**
HARU				*e*S	**Sb**	**10 25 20.6**	**-0.3**
KLF	**Kolari**	**1.28**	**86**	*e*P	**Pg**	**10 25 10.6**	**-0.3**
KLF				*e*S	**Sg**	**10 25 26.5**	**-1.0**
HEF	**Hetta**	**1.68**	**41**	Pn	**Pn**	**10 25 17.3**	**+0.4**
HEF				Sn	**Sn**	**10 25 39.0**	**0.0**
HEF	**Hetta**	**1.68**	**41**	*e*P	**Pn**	**10 25 17.2**	**+0.2**
HEF				*e*S	**Sn**	**10 25 39.3**	**+0.2**
HEF	**Hetta**	**1.68**	**41**	*e*P	**Pn**	**10 25 17.1**	**+0.2**
HEF				*e*S	**Sn**	**10 25 38.4**	**-0.7**
HEF				MSG		10 25 44.2	
	comp=Z,12nm,0.2s						
KALU	**Kalix**	**1.71**	**140**	*e*P	**Pn**	**10 25 17.9**	**+0.7**
KALU				*e*S	**Sb**	**10 25 40.6**	**+0.2**
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	**Pb**	**10 25 18.4**	**-0.3**
TOF	**Tornio**	**1.83**	**125**	*e*P	**Pb**	**10 25 20.2**	**-0.4**
TOF				*e*S	**Sb**	**10 25 43.8**	**-0.1**
KIF	**Kilpisjarvi**	**1.84**	**1**	Pn	**Pb**	**10 25 20.6**	**-0.1**
KIF				Sn	**Sg**	**10 25 46.5**	**+1.3**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*S	**Sg**	**10 25 46.8**	**+1.6**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	**Pb**	**10 25 20.5**	**-0.2**
KIF				*e*S	**Sb**	**10 25 44.3**	**+0.1**
KIF				MSG		10 25 49.2	
	comp=Z,31nm,0.2s						
KTK1	**Kautokeino**	**2.08**	**26**	*e*P	**Pb**	**10 25 24.2**	**-0.6**
KTK1				*e*S	**Sg**	**10 25 52.4**	**-0.6**
KTK1				IAML		10 25 53.0	
	comp=Z,51nm,0.3s						
KTK1	**Kautokeino**	**2.08**	**26**	*e*P	**Pb**	**10 25 24.2**	**-0.6**
KTK1				*e*S	**Sn**	**10 25 49.5**	**+0.5**
FAUS	**Fauske**	**2.10**	**278**	*e*P	**Pb**	**10 25 24.9**	**-0.4**
FAUS				*e*S	**Sg**	**10 25 53.1**	**-0.7**
FAUS				IAML		10 25 58.8	
	comp=Z,51nm,1.0s						
RNF	**Rovaniemi**	**2.18**	**103**	*e*P	**Pb**	**10 25 25.5**	**-1.1**
RNF				*e*S	**Sn**	**10 25 52.9**	**+1.4**
STEI	**Steigen**	**2.22**	**292**	*e*P	**Pb**	**10 25 27.0**	**-0.2**
STEI				*e*S	**Sg**	**10 25 57.1**	**-0.4**
STEI				IAML		10 25 58.1	
	comp=Z,53nm,0.6s						
SGF	**Sodankyl**	**2.29**	**81**	*e*P	**Pb**	**10 25 27.2**	**-1.1**
SGF				*e*S	**Sn**	**10 25 55.8**	**+1.8**
SGF				MSG		10 25 59.5	
	comp=Z,13nm,0.2s						
JETT	**Jettan, Norway**	**2.39**	**358**	*e*P	**Pb**	**10 25 28.8**	**-1.4**
JETT				*e*S	**Sg**	**10 26 01.8**	**-1.2**
JETT				IAML		10 26 04.5	
	comp=Z,60nm,0.3s						
TRO	**Tromso**	**2.55**	**346**	*e*P	**Pb**	**10 25 32.4**	**-0.5**
TRO				*e*S	**Sb**	**10 26 05.7**	**+1.0**
TRO				IAML		10 26 07.6	
	comp=Z,36nm,0.8s						
MOR8	**Moi Rana**	**2.68**	**251**	*e*P	**Pn**	**10 25 31.8**	**+1.1**
MOR8				*e*		10 26 06.2	
MOR8				IAML		10 26 12.0	
	comp=Z,45nm,0.6s						
LOF	**Lofoten**	**2.89**	**293**	*e*P	**Pb**	**10 25 38.6**	**-0.1**
LOF				*e*		10 26 18.6	
LOF				IAML		10 26 30.5	
	comp=Z,24nm,0.6s						
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**10 25 35.5**	**+0.9**
	baz=212,slow=16						
ARA0				Sn	**Sn**	**10 26 12.3**	**+1.4**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**10 25 35.5**	**+0.9**
	baz=212,slow=16						
ARA0				Sn	**Sn**	**10 26 12.3**	**+1.4**
	baz=214,slow=28						
ARA0				IAML		10 26 30.8	
	comp=Z,13nm,0.5s						
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P	**Pn**	**10 25 35.8**	**+1.2**
ARA0				*e*S	**Sn**	**10 26 11.5**	**+0.6**
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**10 25 35.5**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=213,slow=13,SNR=92						
ARCES				Lg	Lg	10 26 14.0	
	comp=Z,1.9nm,0.3s,baz=217,slow=21,SNR=8.8 comp=Z,4.3nm,0.4s						
ARCES	**ARCESS Array B**	**2.97**	**35**	P	**Pn**	**10 25 35.2**	**+0.6**
ARCES				S	**Sb**	**10 26 14.4**	**-2.4**
OUL	**Oulu**	**2.99**	**132**	*e*PB	**Pb**	**10 25 39.2**	**-1.1**
OUL				*e*SG	**Sb**	**10 26 19.5**	**+2.2**
KONS	**Konsvik**	**3.06**	**261**	*e*P	**Pb**	**10 25 39.8**	**-1.8**
KONS				IAML		10 26 31.6	
	comp=Z,22nm,0.5s						
KEV	**Kevo**	**3.48**	**39**	*e*P	**Pn**	**10 25 42.7**	**+1.1**
KEV				*e*S	**Sn**	**10 26 23.9**	**+0.3**
APA0	**Apatity Array**	**4.77**	**79**	Pn	**Pn**	**10 25 59.1**	**-0.3**
	baz=266,slow=12						
APA0				Sn	**Sn**	**10 26 54.2**	**-1.1**
	baz=270,slow=16						
APA0				Lg	Lg	10 27 13.1	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.77**	**79**	Pn	**Pn**	**10 25 59.1**	**-0.3**
	baz=266,slow=12						
APA0	**Apatity Array**	**4.77**	**79**	P	**Pb**	**10 26 10.7**	**0.0**
APA0				S	**Sb**	**10 27 12.6**	**+4.0**
LVZ	**Lovozero**	**5.41**	**76**	P	Pb	10 26 15.9	-5.6
LVZ				S	**Sb**	**10 27 24.8**	**-2.1**
FIA0	**FINESS Array S**	**6.22**	**155**	Pn	**Pn**	**10 26 21.1**	**+1.9**
	baz=344,slow=16						
FIA0				Sn	**Sn**	**10 27 31.1**	**+0.3**
	baz=346,slow=28						
FIA0				Lg	Lg	10 27 59.7	
	baz=341,slow=28						
FIA0	**FINESS Array S**	**6.22**	**155**	Pn	**Pn**	**10 26 21.0**	**+1.9**
	baz=344,slow=16						
FINES	**FINESS Array B**	**6.22**	**155**	Pn	**Pn**	**10 26 21.0**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=348,slow=14,SNR=8.7						
FINES				Sn	**Sn**	**10 27 29.2**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=346,slow=24,SNR=14						
FINES				Lg	Lg	10 28 00.4	
	comp=Z,1.0nm,0.3s,baz=343,slow=30,SNR=7.7 comp=Z,4.0nm,0.8s						
NB2	**NORSAR Subarra**	**7.42**	**218**	Pn	**Pn**	**10 26 37.5**	**+1.8**
NB2				Sn	**Sn**	**10 27 57.1**	**-3.3**
	baz=37,slow=28						
NB2				Lg	Lg	10 28 37.5	
	baz=26,slow=37						
NB2	**NORSAR Subarra**	**7.42**	**218**	Pn	**Pn**	**10 26 37.5**	**+1.8**
NB2				Sn	**Sn**	**10 27 57.1**	**-3.3**
	baz=37,slow=28						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**10 26 37.1**	**+1.4**
	baz=30,slow=11,SNR=5.0						
NOA				Sn	**Sn**	**10 27 58.1**	**-2.3**
	baz=29,slow=22,SNR=5.9						
NOA				Lg	Lg	10 28 40.2	
	comp=Z,0.1nm,0.3s,baz=44,slow=27,SNR=5.1 comp=Z,0.2nm,0.5s						
NRA0	**NORESS Array S**	**7.61**	**216**	Pn	**Pn**	**10 26 39.5**	**+1.3**
	baz=46,slow=16						
NRA0				Sn	**Sn**	**10 28 03.1**	**-1.9**
	baz=16,slow=22						
NRA0				Lg	Lg	10 28 45.4	
	baz=20,slow=28						
NRA0	**NORESS Array S**	**7.61**	**216**	Pn	**Pn**	**10 26 39.5**	**+1.3**
	baz=46,slow=16						
NRA0				Sn	**Sn**	**10 28 03.1**	**-1.9**
	baz=16,slow=22						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**10 26 39.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=20,slow=14,SNR=2.2						
HFS				Sn	**Sn**	**10 28 05.6**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=23,slow=24,SNR=9.8						
HFS				Lg	Lg	10 28 44.2	
	comp=Z,0.6nm,0.3s,baz=31,slow=28,SNR=4.7 comp=Z,0.5nm,0.4s						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**10 26 39.9**	**+0.2**
	baz=23,slow=16						
HFS				Sn	**Sn**	**10 28 05.2**	**-2.6**
	baz=17,slow=22						
HFS				Lg	Lg	10 28 44.6	
	baz=29,slow=37						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**10 26 39.9**	**+0.2**
	baz=23,slow=16						
HFS				Sn	**Sn**	**10 28 05.2**	**-2.6**
	baz=17,slow=22						
AKASG	**Malin Array Be**	**17.07**	**161**	P	**P**	**10 28 47.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=345,slow=11,SNR=2.3						

ROM 21 10:28:43.1±0.1, 43°.417N±0°.004×12°.434E±0°.006, h6km±1km, ML0.7/1, Error ellipse: s-maj=0.5km s-min=0.2km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.04**	**210**	S	Sg	10 28 45.5	0.0
ATVO				AML	AML		
	comp=E,384μm,0.1s						
ATVO				AML	AML		
	comp=N,246μm,0.3s					

T1216					AML	AML		
	comp=N,342μm,0.7s							
MC2	**Monte Cornacci**	**0.11**	**64**	⇑P	Pg	10 28 47.2	+0.5	
MC2				S	Sg	10 28 49.4	+0.5	
T1242	**Castelluccio d**	**0.11**	**108**	⇓P	Pg	10 28 47.0	+0.3	
T1242				S	Sg	10 28 49.0	+0.2	
T1242				AML	AML			
	comp=E,90μm,1.2s							
T1242				AML	AML			
	comp=N,86μm,1.0s							
T1242				AML	AML			
	comp=E,149μm,0.1s							
T1242				AML	AML			
	comp=N,128μm,0.3s							
FDMO	**Fiordimonte**	**0.17**	**7**	P	Pb	10 28 48.4	-0.7	
FDMO				S	Sg	10 28 51.2	+1.0	
T1217	**Poggiodomo (PG**	**0.18**	**211**	P	Pg	10 28 48.3	+0.7	
T1217				S	Sg	10 28 51.3	+0.9	
T1202	**Accumoli, Fraz**	**0.20**	**143**	P	Pb	10 28 49.6	0.0	
T1202				S	Sg	10 28 52.0	+1.0	
CSP1	**Cessapalombo**	**0.25**	**25**	⇓P	Pg	10 28 49.7	+0.7	
CSP1				S	Sb	10 28 53.9	-1.0	
T1241	**Roccafluvione,**	**0.28**	**92**	P	Pg	10 28 49.8	+0.4	
T1241				S	Sg	10 28 54.2	+1.1	
T1243	**Rocca Santa Ma**	**0.33**	**120**	⇑P	Pg	10 28 50.7	+0.3	
T1243				S	Sg	10 28 56.0	+1.1	
TERO	**Teramo**	**0.47**	**121**	P	Pg	10 28 52.9	0.0	
TERO				S	Sb	10 29 00.2	-0.9	

ROM 21 10:29:20.0±0.1, 41°.705N±0°.006×13°.851E±0°.004, h10km, ML1.9/6, 3C, Error ellipse: s-maj=0.7km s-min=0.2km az=190.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POFI	**Posta Fibreno**	**0.10**	**277**	P	Pg	10 29 22.7	0.0
POFI				S	Sg	10 29 25.4	+0.7
POFI				AML	AML		
	comp=E,852μm,0.5s						
POFI				AML	AML		
	comp=N,1325μm,0.3s						
POFI				AML	AML		
	comp=E,916μm,0.2s						
POFI				AML	AML		
	comp=E,853μm,0.5s						
POFI				AML	AML		
	comp=N,1230μm,0.2s						
CERA	**Filignano**	**0.17**	**130**	⇑P	Pg	10 29 23.9	+0.3
CERA				S	Sg	10 29 27.1	+1.0
CERA				AML	AML		
	comp=E,617μm,0.6s						
CERA				AML	AML		
	comp=N,934μm,1.6s						
CERA				AML	AML		
	comp=N,996μm,1.6s						
CERA				AML	AML		
	comp=E,618μm,0.6s						
CERA				AML	AML		
	comp=N,932μm,1.6s						
CERA				AML	AML		
	comp=E,626μm,0.6s						
CERA				AML	AML		
	comp=E,627μm,0.6s						
CERA				AML	AML		
	comp=E,617μm,0.6s						
CERA				AML	AML		
	comp=N,930μm,0.2s						
CERA				AML	AML		
	comp=N,986μm,0.2s						
CERA				AML	AML		
	comp=N,996μm,1.6s						
LRP	**Arpino**	**0.21**	**254**	⇑P	Pg	10 29 25.0	+0.7
LRP				S	Sg	10 29 28.6	+1.4
LRP				AML	AML		
	comp=E,632μm,0.3s						
LRP				AML	AML		
	comp=N,728μm,0.8s						
LRP				AML	AML		
	comp=E,632μm,0.3s						
RNI2	**Rionero Sannit**	**0.23**	**90**	P	Pb	10 29 25.7	-0.5
RNI2				S	Sg	10 29 29.7	+1.8
VVLD	**Villa Vallelon**	**0.24**	**314**	P	Pg	10 29 25.6	+0.7
VVLD				S	Sg	10 29 29.5	+1.2
INTR	**Introdacqua**	**0.31**	**7**	⇑P	Pg	10 29 26.7	+0.5
INTR				S	Sb	10 29 31.7	-1.1
INTR				AML	AML		
	comp=E,189nm,0.1s						
INTR				AML	AML		
	comp=N,193nm,0.6s						
INTR				AML	AML		
	comp=N,316μm,0.5s						
INTR				AML	AML		
	comp=N,316μm,0.5s						
INTR				AML	AML		
	comp=N,162nm,0.9s						
INTR				AML	AML		
	comp=E,198μm,0.1s						
INTR				AML	AML		
	comp=E,189nm,0.1s						
MIDA	**Miranda**	**0.31**	**102**	P	Pg	10 29 26.7	+0.5
MIDA				S	Sb	10 29 31.7	-1.1
MIDA				AML	AML		
	comp=E,158μm,0.3s						
MIDA				AML	AML		
	comp=N,157μm,0.4s						
MIDA				AML	AML		
	comp=E,158μm,0.3s						
GUAR	**Guarcino**	**0.41**	**283**	P	Pb	10 29 29.0	-0.4
GUAR				S	Sb	10 29 35.1	-0.7
T0110	**Collepietro**	**0.52**	**354**	P	Pg	10 29 30.4	+0.2
T0110				S	Sb	10 29 38.7	-0.2
CERT	**Cerreto**	**0.69**	**291**	P	Pg	10 29 33.3	-0.1
CERT				AML	AML		
	comp=E,135μm,0.5s						
CERT				AML	AML		
	comp=N,77μm,0.2s						

*IDC **21** 10:34:09.9±0.7, 54°.80S×30°.31W, h0km, mb4.2/7, mbtmp4.3/8, ML4.1/1, MS3.5/15, Error ellipse: s-maj=29.1km s-min=17.4km az=74.0*
*NEIC **21** 10:34:12.8±2.0, 55°.05S±0°.1×30°.9W±0°.2, h10km±1km, mb4.5/21, Error ellipse: s-maj=19.5km s-min=16.3km az=56.0*
ISC 21 10:34:11.8±0.6, 54°.90S±0°.09×30°.7W±0°.1, h10km, n53, σ0s97/40, mb4.5/13, MS3.4/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.41**	**278**		**Pn**	**10 35 03.9**	**-1.0**
ORCD	**Orcadas**	**9.48**	**226**	Pn	**Pn**	**10 36 26.2**	**-1.9**
VNA1	**Neumayer--Stat**	**18.64**	**157**	P	**Pn**	**10 38 29.2**	**-0.2**
VNA3	**Neumayer Olymp**	**18.77**	**159**	P	**P**	**10 38 30.6**	**-0.1**
VNA2	**Neumayer--Watz**	**19.04**	**156**	P	**Pn**	**10 38 34.0**	**-0.3**
	baz=315,slow=12						
PMSA	**Palmer Station**	**19.20**	**226**	P	**Pn**	**10 38 37.6**	**+1.4**
	0.6nm,0.3s,baz=68,slow=6.3,SNR=7.7 16nm,0.8s						
PMSA	**Palmer Station**	**19.20**	**226**	P	**P**	**10 38 34.7**	**-0.6**
SNAA	**Sanae**	**20.62**	**155**	P	**P**	**10 38 50.5**	**-0.4**
SNAA	**Sanae**	**20.62**	**155**	P	**P**	**10 38 50.0**	**-1.0**
	5.1nm,0.8s,baz=302,slow=10,SNR=22						
SNAA				PcP	**PcP**	**10 43 00.7**	**-0.1**
	0.9nm,0.6s,baz=244,slow=4.5,SNR=6.0						
SNAA				pPcP		10 43 12.0	
	0.9nm,0.6s,baz=220,slow=3.8,SNR=6.7						
SNAA				LR	LR	10 45 12.2	
	comp=Z,91nm,20.4s,baz=8.0,slow=32 5.1nm,0.8s						
SNAA	**Sanae**	**20.62**	**155**	P	**P**	**10 38 50.6**	**-0.4**
TROLL	**Troll, Antarti**	**22.18**	**153**	P	**P**	**10 39 06.8**	**-0.9**
PLCA	**Paso Flores**	**29.81**	**282**	LR	LR	10 51 50.0	
	comp=Z,66nm,18.0s,baz=84,slow=35						
CPUP	**Villa Florida**	**34.55**	**315**	P	**P**	**10 41 00.1**	**-0.2**
	1.0nm,0.5s,baz=154,slow=5.9,SNR=3.3						
CPUP				LR	LR	10 56 29.2	
	comp=Z,35nm,19.1s,baz=182,slow=39 1.0nm,0.5s						
CPUP	**Villa Florida**	**34.55**	**315**	P	**P**	**10 40 59.7**	**-0.7**
QSPA	**South Pole Qui**	**35.35**	**180**	P	**P**	**10 41 07.5**	**+0.4**
	11nm,0.5s,baz=203,slow=3.3,SNR=102 11nm,0.5s						
QSPA	**South Pole Qui**	**35.35**	**180**	P	**P**	**10 41 07.9**	**+0.9**

VA06	**Catapilco**	**36.12**	**291**	P	**P**	**10 41 14.3**	**+0.5**	
CO02	**Combarbal**	**37.02**	**293**	P	**P**	**10 41 21.9**	**+0.3**	
AC05	**El Transito**	**38.52**	**296**	P	**P**	**10 41 34.5**	**+0.3**	
AC05				IAmb	IAmb	10 41 45.8		
	comp=Z,11nm,1.3s							
AC02	**Maricunga**	**39.56**	**299**	P	**P**	**10 41 45.1**	**+1.6**	
GO02	**Mina Guanaco**	**41.17**	**300**	P	**P**	**10 41 58.4**	**+1.7**	
GO02				IAmb	IAmb	10 42 09.4		
	comp=Z,12nm,1.0s							
MAW	**Mawson**	**42.26**	**145**	P	**P**	**10 42 03.6**	**-1.0**	
	comp=Z,2.5nm,0.7s,baz=226,slow=4.5,SNR=9.7							
MAW				LR	LR	10 57 10.5		
	comp=Z,42nm,20.0s,baz=231,slow=33 comp=Z,2.5nm,0.7s							
MAW	**Mawson**	**42.26**	**145**	P	**P**	**10 42 04.8**	**+0.2**	
LVC	**Limon Verde**	**42.98**	**303**	LR	LR	10 59 47.4		
	comp=Z,57nm,19.9s,baz=278,slow=36							
PB04	**IPOC Station P**	**43.82**	**302**	P	**P**	**10 42 17.6**	**-0.4**	
PB01	**IPOC Station P**	**44.59**	**304**	P	**P**	**10 42 24.4**	**+0.3**	
PB01				IAmb	IAmb	10 42 37.1		
	comp=Z,6.5nm,0.7s							
PB08	**IPOC Station P**	**45.21**	**305**	P	**P**	**10 42 29.6**	**+0.3**	
PB08				IAmb	IAmb	10 42 33.6		
	comp=Z,5.2nm,0.9s							
SIV	**San Ignacio**	**45.34**	**317**	LR	LR	11 03 28.4		
	comp=Z,12nm,18.3s,baz=279,slow=39							
GO01	**Chusmiza**	**45.63**	**305**	P	**P**	**10 42 33.0**	**+0.2**	
SBA	**Scott Base**	**47.07**	**185**	P	**P**	**10 42 44.6**	**+1.7**	
SBA				IAmb	IAmb	10 43 01.5		
	comp=Z,4.2nm,1.1s							
VNDA	**Vanda**	**47.61**	**184**	P	**P**	**10 42 48.0**	**+0.9**	
	comp=Z,3.7nm,0.9s,baz=179,slow=5.9,SNR=28							
VNDA				LR	LR	11 00 24.8		
	comp=Z,33nm,21.4s,baz=146,slow=33 comp=Z,3.7nm,0.9s							
VNDA	**Vanda**	**47.61**	**184**	P	**P**	**10 42 48.8**	**+1.7**	
VNDA				IAmb	IAmb	10 42 49.7		
	comp=Z,4.0nm,0.8s							
LPAZ	**La Paz**	**48.08**	**308**	P	**P**	**10 42 53.0**	**+0.9**	
	comp=Z,2.0nm,0.7s,baz=187,slow=5.7,SNR=9.1 comp=Z,2.0nm,0.7s							
LPAZ	**La Paz**	**48.08**	**308**	P	**P**	**10 42 53.1**	**+1.0**	
LPAZ				IAmb	IAmb	10 43 14.5		
	comp=Z,3.3nm,0.8s							
H10N1	**ASCENSION HYDR**	**48.69**	**22**	T	T	11 35 17.6		
	SNR=3.2							
H10N3	**ASCENSION HYDR**	**48.69**	**22**	T	T	11 35 15.4		
	baz=261,slow=74,SNR=5.5							
H10N2	**ASCENSION HYDR**	**48.71**	**22**	T	T	11 35 17.0		
	baz=193,slow=74,SNR=5.1							
RCBR	**Riachuelo**	**49.11**	**353**	LR	LR	11 01 50.3		
	comp=Z,26nm,18.3s,baz=326,slow=34							
CASY	**Casey**	**55.65**	**162**	P	**P**	**10 43 48.2**	**+1.0**	
CASY				IAmb	IAmb	10 44 11.8		
	comp=Z,5.1nm,1.0s							
PTGA	**Pitinga**	**59.05**	**325**	LR	LR	11 11 55.3		
	comp=Z,26nm,18.7s,baz=172,slow=38							
MDP	**Montagnes des**	**62.51**	**335**	LR	LR	11 09 32.1		
	comp=Z,39nm,20.4s,baz=167,slow=34							
SDV	**Santo Domingo**	**71.79**	**318**	LR	LR	11 17 00.8		
	comp=Z,76nm,21.0s,baz=94,slow=36							
TOA0	**Torodi Ar. Sit**	**73.12**	**33**	P	**P**	**10 45 43.4**	**+1.3**	
TOA0				IAmb	IAmb	10 46 04.9		
	comp=Z,6.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**73.12**	**33**	P	**P**	**10 45 41.2**	**-1.0**	
	comp=Z,2.3nm,0.7s,baz=198,slow=6.1,SNR=12							
TORD				LR	LR	11 11 27.9		
	comp=Z,50nm,19.8s,baz=210,slow=31 comp=Z,2.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**73.12**	**33**	P	**P**	**10 45 42.9**	**+0.7**	
TORD				IAmb	IAmb	10 45 54.5		
	comp=Z,3.5nm,0.9s							
MDT	**Midelt**	**90.21**	**22**	LR	LR	11 21 49.5		
	comp=Z,47nm,20.8s,baz=227,slow=32							
STKA	**Stephens Creek**	**93.32**	**173**	LR	LR	11 27 02.6		
	comp=Z,46nm,20.3s,baz=204,slow=34							
ESDC	**Sonseca Array**	**96.95**	**20**	LR	LR	11 25 34.1		
	comp=Z,57nm,21.0s,baz=186,slow=32							
ARCES	**ARCESS Array B**	**130.64**	**23**	PKP	**PKPdf**	**10 53 20.5**	**-0.7**	
	comp=Z,1.3nm,0.8s,baz=222,slow=1.6,SNR=4.1							
YKA	**Yellowknife Ar**	**133.98**	**320**	PKP	**PKPdf**	**10 53 26.6**	**-1.0**	
	comp=Z,0.9nm,0.7s,baz=133,slow=2.8,SNR=4.3							
ZALV	**Zalesovo Beam**	**143.68**	**64**	PKP	PKPbc	10 53 43.1	-0.1	
	comp=Z,0.4nm,0.3s,baz=224,slow=4.0,SNR=1.9							
ILAR	**Eielson Array**	**147.85**	**314**	PKPbc	**PKPbc**	**10 53 54.9**	**-0.6**	
	comp=Z,6.7nm,0.8s,baz=126,slow=1.7,SNR=36							
SONM	**Songino Array**	**152.67**	**87**	PKPbc	**PKPbc**	**10 54 06.3**	**-1.5**	
	comp=Z,1.3nm,0.5s,baz=214,slow=3.7,SNR=5.1							

*IDC **21** 10:56:38.4±2.1, 41°.38N×141°.78E, h0km, mb3.4/4, mbtmp3.4/5, ML2.3/1, MS3.3/3, Error ellipse: s-maj=69.0km s-min=27.7km az=76.0*
*JMA **21** 10:56:57.9±0.1, 39°.4N±0°.2×142°.1E±0°.5, h39km, MV3.3/40, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
ISC 21 10:56:56.8±1.4, 39°.42N±0°.04×142°.20E±0°.10, h33km±3km, n22, σ0s94/25, MS3.4/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.33**	**299**	⇓*i*P	**Pn**	**10 57 05.6**	**+0.3**
MIYJ				⇓S	**Sn**	**10 57 10.7**	**+0.2**
OFUJ	**Ofunato**	**0.53**	**231**	*i* P	**Pn**	**10 57 08.1**	**+0.1**
OFUJ				S	**Sb**	**10 57 15.1**	**-0.4**
JTH	**Tanohata**	**0.58**	**334**	*i* P	**Pb**	**10 57 09.0**	**+0.3**
JTH				S	**Sb**	**10 57 16.9**	**0.0**
JOM	**Ohasama**	**0.70**	**275**	*i* P	**Pn**	**10 57 10.2**	**-0.2**
JOM				S	**Sn**	**10 57 18.8**	**-1.3**
JKMT	**Kesennumamotoy**	**0.83**	**223**	*i* P	**Pn**	**10 57 12.2**	**+0.1**
JKMT				S	**Sn**	**10 57 22.4**	**-0.6**
JKZ	**Kuzumaki**	**0.88**	**311**	*i* P	**Pn**	**10 57 13.2**	**+0.3**
JKZ				S	**Sn**	**10 57 24.0**	**-0.4**
JMK	**Ichinoseki**	**0.89**	**239**	*i* P	**Pn**	**10 57 13.0**	**0.0**
JMK				S	**Sn**	**10 57 23.7**	**-1.0**
JANG	**Nango**	**1.09**	**331**	*i* P	**Pn**	**10 57 15.9**	**+0.2**
JANG				*e*S	**Sn**	**10 57 29.1**	**-0.6**
JIO	**Ouri**	**1.17**	**215**	*i* P	**Pn**	**10 57 17.0**	**+0.3**
JIO				S	**Sn**	**10 57 31.1**	**-0.3**
JRG	**Rokugo**	**1.21**	**270**	⇓*i*P	**Pn**	**10 57 17.6**	**+0.2**
JRG				⇓S	**Sn**	**10 57 32.8**	**+0.1**
JAH	**Hinai**	**1.43**	**303**	P	**Pn**	**10 57 21.3**	**+1.0**
JAH				S	**Sn**	**10 57 38.5**	**+0.5**
MJAR	**Matsushiro Arr**	**4.26**	**229**	Pn	**Pn**	**10 58 02.7**	**+3.4**
	0.1nm,0.3s,baz=32,slow=11,SNR=9.6 2.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.93**	**126**	T	T	11 33 26.0	
	baz=318,slow=76,SNR=169						
H11N1	**WAKE ISLAND Hy**	**28.94**	**126**	T	T	11 33 19.0	
	baz=318,slow=76,SNR=136						
H11N3	**WAKE ISLAND Hy**	**28.95**	**126**	T	T	11 33 27.2	
	baz=318,slow=76,SNR=138						
H11S1	**WAKE ISLAND Hy**	**29.73**	**127**	T	T	11 34 22.6	
	baz=319,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.73**	**128**	T	T	11 34 23.3	
	baz=319,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.74**	**127**	T	T	11 34 25.8	
	baz=319,slow=76,SNR=12						
KAPI	**Kappang**	**48.83**	**210**	LR	LR	11 29 57.6	
	comp=Z,12nm,18.6s,baz=159,slow=40						
CTA	**Charters Tower**	**59.31**	**176**	LR	LR	11 34 49.5	
	comp=Z,29nm,20.2s,baz=168,slow=37						
WRA	**Warramunga Arr**	**59.50**	**189**	P	**P**	**11 06 55.4**	**-1.3**
	0.3nm,0.6s,baz=2.6,slow=6.9,SNR=5.2						
WRA				LR	LR	11 34 44.1	
	comp=Z,40nm,18.1s,baz=54,slow=37 0.3nm,0.6s						
ASAR	**Alice Springs**	**63.23**	**189**	P	**P**	**11 07 21.8**	**0.0**
	0.2nm,0.8s,baz=17,slow=6.9,SNR=2.4 0.2nm,0.8s						

*IDC **21** 10:57:56.1±4.5, 11°.06S×165°.47E, h0km, mb3.6/3, mbtmp3.7/4, ML3.9/1, MS3.3/5, Error ellipse: s-maj=89.7km s-min=43.4km az=70.0*
*NOU **21** 10:58:08.5, 11°.85S×165°.90E, h0km, mb4.3/10, Santa Cruz Islands*
ISC 21 10:58:01.4±2.1, 11°.2S±0°.2×165°.6E±0°.2, h35km, n16, σ1s65/12, mb3.7/3, MS3.2/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.79**	**287**	LR	LR	11 01 31.4	
	comp=Z,818nm,21.6s,baz=174,slow=38						

DVP	**Devils Point**	**6.97**	**159**	P	**Pn**	**10 59 42.6**	**+1.5**	
KOUNC	**Koumac, New Ca**	**9.38**	**187**	P	**Pn**	**11 00 16.9**	**+2.7**	
MARNC	**Mare, Loyalty**	**10.50**	**167**	P	**Pn**	**11 00 30.1**	**+0.6**	
DZM	**Mont Dzumac**	**10.85**	**176**	Pn	**Pn**	**11 00 34.5**	**+0.1**	
	0.9nm,0.3s,baz=308,slow=18,SNR=30							
DZM				Sn	**Sn**	**11 02 32.3**	**-2.4**	
	1.2nm,0.3s,baz=328,slow=23,SNR=9.1 2.5nm,0.3s							
DZM	**Mont Dzumac**	**10.85**	**176**	P	**Pn**	**11 00 35.6**	**+1.2**	
NOUC	**Port Laguerre**	**10.87**	**176**	P	**Pn**	**11 00 36.4**	**+1.8**	
YATNC	**Mamie plateau,**	**10.88**	**173**	P	**Pn**	**11 00 36.0**	**+1.3**	
PINNC	**Pines Island,**	**11.50**	**171**	P	**Pn**	**11 00 44.5**	**+1.3**	
AFI	**Afiamalu**	**22.29**	**99**	LR	LR	11 09 23.4		
	comp=Z,45nm,19.0s,baz=268,slow=31							
WRA	**Warramunga Arr**	**31.26**	**250**	P	**P**	**11 04 17.8**	**-0.4**	
	1.2nm,0.8s,baz=80,slow=9.1,SNR=12 1.2nm,0.8s							
ASAR	**Alice Springs**	**32.56**	**243**	P	**P**	**11 04 28.9**	**-0.7**	
	0.3nm,0.7s,baz=65,slow=9.6,SNR=4.8 0.3nm,0.7s							
BATI	**Baumata**	**41.15**	**267**	LR	LR	11 23 12.4		
	comp=Z,69nm,18.7s,baz=212,slow=37							
JOW	**Kunigami**	**52.34**	**317**	LR	LR	11 26 11.2		
	comp=Z,25nm,21.5s,baz=354,slow=32							
MA2	**Magadan**	**71.53**	**352**	LR	LR	11 38 06.9		
	comp=Z,11nm,18.8s,baz=42,slow=34							
CMAR	**Chiang Mai Arr**	**72.00**	**294**	P	**P**	**11 09 21.7**	**-0.5**	
	0.4nm,0.4s,baz=90,slow=2.7,SNR=2.5 0.4nm,0.4s							

*JMA **21** 11:02:46.6±0.0, 33°.0N±0°.1×131°.1E±0°.1, h9km, MV3.6/20, NE KUMAMOTO PREF*
JMA Felt II J1 at NE KUMAMOTO PREF .
*NIED **21** 11:02:46.6, 32°.96N×131°.08E, h9km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.01; $M_{\theta\theta}$3.38; $M_{\phi\phi}$-3.38; $M_{r\theta}$-0.75; $M_{\theta\phi}$0.19; $M_{\phi r}$1.09; Fault plane solution: $M_0$3.63000×10^{14} NP1: ϕ_s133.00000°, δ87.00000°, λ-21.00000°. NP2: ϕ_s224.00000°, δ69.00000°, λ-176.00000°.*
*IDC **21** 11:02:51.7±1.6, 32°.37N×131°.80E, h0km, mb3.2/2, mbtmp3.2/4, ML2.9/2, MS3.1/1 Error ellipse: s-maj=44.4km s-min=26.1km az=80.0*
ISC 21 11:02:47.8±1.0, 33°.02N±0°.05×131°.05E±0°.05, h10km, n9, σ2s00/10, 4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.18**	**306**	⇓P	**Pg**	**11 02 51.5**	**-0.2**
JNU				⇓*e*S	**Sg**	**11 02 54.9**	**+0.6**
JTA	**Tamana**	**0.44**	**263**	⇓*i*P	**Pg**	**11 02 55.5**	**-0.9**
JIU3	**Izumi3**	**0.51**	**204**	*i* P	**Pg**	**11 02 55.6**	**-2.1**
JUS	**Usuki**	**0.59**	**85**	⇓*i*P	**Pg**	**11 02 57.3**	**-1.9**
KSRS	**Korea Array**	**5.12**	**331**	Pn	**Pg**	**11 04 23.1**	**-2.7**
	0.6nm,0.3s,baz=147,slow=16,SNR=8.5							
KSRS				Sn	**Sg**	**11 05 30.1**	**-1.9**
	1.1nm,0.3s,baz=152,slow=30,SNR=5.1 2.9nm,0.7s							
MJAR	**Matsushiro Arr**	**6.86**	**57**	Pn	**Pn**	**11 04 31.1**	**+2.6**	
	0.1nm,0.3s,baz=241,slow=13,SNR=4.8 1.2nm,0.4s							
MKAR	**Makanchi Array**	**39.23**	**305**	LR	LR	11 27 13.8		
	comp=Z,25nm,18.8s,baz=266,slow=36							
WRA	**Warramunga Arr**	**52.75**	**176**	P	**P**	**11 12 04.1**	**+1.1**	
	0.3nm,0.9s,baz=354,slow=7.7,SNR=2.5 0.3nm,0.9s							
ASAR	**Alice Springs**	**56.43**	**177**	P	**P**	**11 12 29.6**	**-0.1**	
	0.1nm,0.3s,baz=11,slow=13,SNR=2.0 0.1nm,0.3s							

*IDC **21** 11:27:02.9±0.6, 55°.06S×31°.10W, h0km, mb4.2/10, mbtmp4.2/11, ML4.1/1, MS3.3/6, Error ellipse: s-maj=24.0km s-min=15.7km az=64.0*
*NEIC **21** 11:27:05.2±1.5, 55°.1S±0°.1×31°.2W±0°.2, h10km±1km, mb4.6/35, Error ellipse: s-maj=23.6km s-min=15.8km az=36.0*
ISC 21 11:27:04.7±0.5, 55°.04S±0°.08×31°.16W±0°.09, h10km, n68, σ0s76/58, mb4.6/25, MS3.3/5, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.19**	**282**		**Pn**	**11 27 54.2**	**-0.6**
EFI	**East Falkland**	**16.37**	**271**		**P**	**11 30 56.9**	**-0.3**
EFI				IAmb	IAmb	11 31 11.0		
	comp=Z,108nm,1.4s							
VNA1	**Neumayer--Stat**	**18.61**	**156**	P	**Pn**	**11 31 22.8**	**+0.8**	
VNA3	**Neumayer Olymp**	**18.73**	**158**	P	**Pn**	**11 31 23.6**	**0.0**	
PMSA	**Palmer Station**	**18.92**	**226**	P	**Pn**	**11 31 26.9**	**+1.0**	
	comp=Z,0.5nm,0.3s,baz=333,slow=3.5,SNR=6.3							
PMSA				LR	LR	11 36 47.7		
	comp=Z,111nm,20.6s,baz=60,slow=31 comp=Z,6.9nm,0.6s							
PMSA	**Palmer Station**	**18.92**	**226**	P	**P**	**11 31 25.1**	**-0.1**	
PMSA				IAmb	IAmb	11 31 37.7		
	comp=Z,26nm,1.2s							
VNA2	**Neumayer--Watz**	**19.01**	**156**	P	**Pn**	**11 31 27.3**	**+0.4**	
	baz=310,slow=11							
SNAA	**Sanae**	**20.60**	**155**	P	**P**	**11 31 43.3**	**-0.4**	
SNAA	**Sanae**	**20.60**	**155**	P	**P**	**11 31 43.2**	**-0.4**	
	comp=Z,3.9nm,0.6s,baz=300,slow=9.7,SNR=34 comp=Z,3.9nm,0.6s							
SNAA	**Sanae**	**20.60**	**155**	P	**P**	**11 31 42.9**	**-0.7**	
TROLL	**Troll, Antarti**	**22.17**	**153**	P	**P**	**11 32 00.2**	**-0.3**	
MG02	**Cerro Sombrero**	**22.36**	**260**	P	**P**	**11 32 03.8**	**+1.3**	
BELA	**Belgrano 2**	**22.97**	**182**	P	**P**	**11 32 09.2**	**+0.4**	
MG05	**Puerto Natales**	**24.64**	**261**	P	**P**	**11 32 24.8**	**-0.3**	
AY01	**Puyuhuapi**	**28.44**	**275**	P	**P**	**11 32 59.1**	**-0.2**	
AY01				IAmb	IAmb	11 33 00.6		
	comp=Z,15nm,1.2s							
CPUP	**Villa Florida**	**34.48**	**316**	LR	LR	11 49 51.8		
	comp=Z,32nm,18.1s,baz=202,slow=40							
MT09	**Talagante**	**34.85**	**291**	P	**P**	**11 33 55.1**	**-0.8**	
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**11 33 57.4**	**-1.4**	
	comp=Z,2.7nm,0.7s,baz=198,slow=1.1,SNR=20							
QSPA				LR	LR	11 48 52.8		
	comp=Z,48nm,18.1s,baz=186,slow=37 comp=Z,2.7nm,0.7s							
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**11 33 58.9**	**+0.1**	
QSPA				IAmb	IAmb	11 34 20.9		
	comp=Z,8.4nm,1.2s							
MT02	**Curacav**	**35.32**	**291**	P	**P**	**11 34 00.3**	**+0.4**	
ROC1	**El Roble**	**35.47**	**292**	P	**

SIV	**San Ignacio**	**45.27**	**318**	P	**P**	**11 35 22.0**	**-0.4**		
	comp=Z,1.6nm,0.5s,baz=173,slow=9.7,SNR=3.9								
	comp=Z,1.6nm,0.5s								
GO01	**Chusmiza**	**45.51**	**306**	P	**P**	**11 35 25.8**	**+1.0**		
GO01				IAmb	IAmb	11 35 26.4			
	comp=Z,6.8nm,0.8s								
SBA	**Scott Base**	**46.91**	**185**	P	**P**	**11 35 35.8**	**+1.2**		
VNDA	**Vanda**	**47.46**	**184**	P	**P**	**11 35 38.9**	**0.0**		
	comp=Z,1.0nm,0.9s,baz=172,slow=6.1,SNR=6.3								
	comp=Z,1.0nm,0.9s								
VNDA	**Vanda**	**47.46**	**184**	P	**P**	**11 35 39.1**	**+0.2**		
H10S2	**ASCENSION HYDR**	**47.80**	**22**	T	T	12 27 49.7			
	baz=28,slow=74,SNR=4.7								
H10S3	**ASCENSION HYDR**	**47.80**	**22**	T	T	12 27 39.3			
	baz=192,slow=74,SNR=13								
BOSA	**Boshof**	**47.97**	**80**	LR	LR	11 52 42.9			
	comp=Z,13nm,18.6s,baz=195,slow=32								
LPAZ	**La Paz**	**47.97**	**309**	P	**P**	**11 35 45.1**	**+0.9**		
	comp=Z,11nm,0.5s,baz=103,slow=4.9,SNR=42								
	comp=Z,11nm,0.5s								
LPAZ	**La Paz**	**47.97**	**309**	P	**P**	**11 35 45.2**	**+1.0**		
H10N1	**ASCENSION HYDR**	**48.91**	**22**	T	T	12 28 55.5			
	baz=191,slow=76,SNR=16								
H10N3	**ASCENSION HYDR**	**48.91**	**22**	T	T	12 28 43.5			
	baz=191,slow=76,SNR=25								
H10N2	**ASCENSION HYDR**	**48.93**	**22**	T	T	12 28 51.6			
	baz=191,slow=76,SNR=27								
LBTB	**Lobatse**	**50.94**	**78**	P	**P**	**11 36 07.5**	**+1.2**		
	comp=Z,3.9nm,0.7s,baz=221,slow=9.6,SNR=4.9								
	comp=Z,3.9nm,0.7s								
SAML	**Samuel**	**52.52**	**319**	P	**P**	**11 36 18.1**	**+0.2**		
SAML				IAmb	IAmb	11 36 18.6			
	comp=Z,7.9nm,0.7s								
ETMB	**Extrema**	**52.92**	**315**	P	**P**	**11 36 20.9**	**-0.1**		
ETMB				IAmb	IAmb	11 36 22.5			
	comp=Z,2.0nm,0.9s								
CASY	**Casey**	**55.59**	**162**	P	**P**	**11 36 39.6**	**-0.2**		
CASY				IAmb	IAmb	11 36 45.3			
	comp=Z,4.2nm,1.2s								
MACA	**Manacapuru-AM**	**56.98**	**324**	P	**P**	**11 36 50.5**	**+0.2**		
MACA				IAmb	IAmb	11 37 10.4			
	comp=Z,8.3nm,0.6s								
PTGA	**Pitinga**	**59.02**	**326**	P	**P**	**11 37 03.4**	**-1.3**		
	comp=Z,1.6nm,0.5s,baz=254,slow=24,SNR=5.1								
	comp=Z,1.6nm,0.5s								
BOAV	**Boa Vista**	**62.14**	**326**	P	**P**	**11 37 25.4**	**-0.5**		
BOAV				IAmb	IAmb	11 37 25.7			
	comp=Z,2.7nm,0.7s								
KOWA	**Kowa**	**72.98**	**28**	LR	LR	12 04 23.7			
	comp=Z,37nm,20.8s,baz=188,slow=31								
TOA0	**Torodi Ar. Sit**	**73.37**	**33**	P	**P**	**11 38 37.6**	**+1.0**		
TOA0				IAmb	IAmb	11 38 53.0			
	comp=Z,4.3nm,1.1s								
TORD	**Torodi Ar. Bea**	**73.37**	**33**	P	**P**	**11 38 36.5**	**-0.1**		
	comp=Z,0.9nm,0.8s,baz=202,slow=6.6,SNR=7.7								
	comp=Z,0.9nm,0.8s								
TORD	**Torodi Ar. Bea**	**73.37**	**33**	P	**P**	**11 38 37.1**	**+0.5**		
KMBO	**Kilima Mbogo**	**76.84**	**73**	LR	LR	12 12 41.0			
	comp=Z,41nm,18.0s,baz=90,slow=36								
FINES	**FINESS Array B**	**124.57**	**29**	PKP	**PKPdf**	**11 46 01.3**	**-1.4**		
	comp=Z,1.6nm,0.8s,baz=126,slow=2.6,SNR=5.1								
ARCES	**ARCESS Array B**	**130.86**	**23**	PKP	**PKPdf**	**11 46 13.9**	**-0.6**		
	comp=Z,0.8nm,0.6s,baz=324,slow=4.5,SNR=2.1								
MKAR	**Makanchi Array**	**138.72**	**73**	PKP	**PKPdf**	**11 46 29.8**	**-0.2**		
	comp=Z,0.3nm,0.6s,baz=227,slow=3.6,SNR=2.4								
ZALV	**Zalesovo Beam**	**143.96**	**65**	PKP	PKPbc	11 46 36.8	-0.2		
	comp=Z,1.1nm,0.5s,baz=241,slow=3.1,SNR=4.6								
ILAR	**Eielson Array**	**147.77**	**314**	PKPbc	**PKPbc**	**11 46 48.1**	**-0.1**		
	comp=Z,4.2nm,0.6s,baz=119,slow=1.7,SNR=43								
SONM	**Songino Array**	**152.93**	**88**	PKPbc	**PKPbc**	**11 47 00.8**	**-0.5**		
	comp=Z,0.9nm,0.5s,baz=220,slow=4.8,SNR=5.4								

MAN 21 11:31:54.8, 18.32N×122.37E, 0 km, mb 4.5, ML 3.4, MS 3.2, 1C-7D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Gonzaga**	**0.32**	**256**	⇓*e*P	Pg	11 32 01.8	+0.4
SGCP				*e*S	Sb	11 32 07.3	-0.1
PACPP	**Pamplona Cagay**	**0.98**	**278**	⇓*e*P	Pb	11 32 13.1	-0.5
PACPP				*e*S	Sn	11 32 27.4	-0.6
APYP	**Conner**	**1.16**	**247**	⇑*e*P	Pb	11 32 15.8	-0.9
APYP				*e*S	Sg	11 32 32.4	-0.1
PALP	**Palanan**	**1.25**	**178**	⇓*e*P	Pn	11 32 16.5	-1.5
PALP				*e*S	Sb	11 32 34.1	-0.1
CAUP	**Cauayan**	**1.46**	**201**	⇓*e*P	Pb	11 32 21.4	-0.5
CAUP				*e*S	Sg	11 32 42.3	+0.4
SAMP	**Sagada Mountai**	**1.86**	**229**	⇓*e*P	Pn	11 32 26.4	0.0
BALP	**Baler**	**2.67**	**197**	⇓*e*P	Pn	11 32 38.4	+0.9
BALP				*e*S	Sn	11 33 10.6	+0.8
PCPH	**Palayan**	**3.00**	**204**	⇓*e*P	Pn	11 32 44.5	+2.5

IDC 21 11:51:41.5±7.3, 26.64S×177.82W, h72km±77km, mb 3.2/3, mbtmp3.5/3, ML 4.8/1, Error ellipse: s-maj=63.2km s-min=49.8km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.60**	**182**	P	Pn	11 52 21.5	+0.1
	180nm,0.3s,baz=82,slow=8.4,SNR=16						
RAO				S	Sn	11 52 52.5	+0.6
	647nm,0.2s,baz=270,slow=24,SNR=10						
ASAR	**Alice Springs**	**43.60**	**263**	P	P	11 59 38.7	-0.2
	0.1nm,0.3s,baz=91,slow=7.4,SNR=1.8						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**44.24**	**268**	P	P	11 59 43.6	-0.5
	0.2nm,0.6s,baz=105,slow=7.8,SNR=5.4						
	0.2nm,0.6s						
KSRS	**Korea Array**	**81.61**	**319**	P	P	12 03 52.7	+1.2
	0.7nm,0.5s,baz=135,slow=6.3,SNR=4.6						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**145.07**	**352**	PKPbc	PKPbc	12 11 07.8	-1.8
	0.3nm,0.5s,baz=5.3,slow=4.5,SNR=2.8						

*SOME **21** 11:54:34.3, 43.62N×69.77E*

NNC 21 11:54:35.8±1.7, 43.65N×69.85E, h0km, mb 3.7, mpv 3.1, 2C, Error ellipse: s-maj=9.8km s-min=5.3km az=132.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.73**	**138**	⇑P	Pg	11 54 49.4	-0.3
	1.6nm,0.5s,baz=312,slow=17,SNR=59						
KK31				⇑S	Sg	11 55 00.3	+1.2
	12nm,0.5s,baz=322,slow=30,SNR=104						
IUG	**Iuzhnay**	**1.50**	**175**	P	Pn	11 55 03.3	-0.8
	208nm,0.5s						
IUG				S	Sg	11 55 24.1	+0.1
	35nm,0.4s						
MRKS	**Merke**	**2.63**	**109**	Pg	Pb	11 55 24.6	+0.8
	1.9nm,0.5s						
MRKS				Lg	Lg	11 56 00.6	
	11nm,0.5s						
BTLS	**Baital**	**3.32**	**64**	Pg	Pg	11 55 38.8	-0.5
	6.1nm,0.7s						
BTLS				Lg	Lg	11 56 25.2	
	3.8nm,0.4s						
SGDS	**Sogindy**	**3.48**	**92**	Pg	Pb	11 55 39.4	+1.1
	1.1nm,0.5s						
SGDS				Lg	Lg	11 56 25.9	
	5.2nm,0.5s						
KRBS	**Karabastau**	**4.23**	**87**	Pg	Pb	11 55 53.0	+2.0
	1.4nm,0.6s						
KRBS				Lg	Lg	11 56 50.0	
	7.7nm,0.5s						
DGS	**Degeres**	**4.33**	**93**	Pg	Pb	11 55 54.8	+2.0
	1.9nm,0.3s						
DGS				Lg	Lg	11 56 52.8	
	18nm,0.7s						
KUU	**Kurty**	**4.71**	**85**	Pg	Pb	11 56 02.5	+3.4
	1.0nm,0.2s						

*HVO **21** 11:56:34.0±1.1, 19.33N±0.03×155.14W±0.01, h5km±2km, ML 2.5/21, ML 2.5/40(NEIC), Error ellipse: s-maj=4.3km s-min=1.2km az=158.0*

NEIC 21 11:56:34.9±1.9, 19.43N±0.02×155.161W±0.004, h6km±2km, Error ellipse: s-maj=2.2km s-min=0.5km az=175.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNHH	**Kane Nui o Ham**	**0.05**	**190**		Pg	11 56 36.1	-0.3
NPOC	**North of Pu'u**	**0.06**	**124**	Pg	Pg	11 56 36.1	-0.4
JCUZ	**Jacuzzi**	**0.07**	**126**	Pg	Pg	11 56 36.0	-0.7
PUH	**Pauahi**	**0.07**	**225**		Pg	11 56 36.4	-0.4
PUH					Sg	11 56 38.3	+0.3
PUH				IAML		11 56 38.6	
	comp=E,3μm,0.3s						
PUH				IAML		11 56 38.9	
	comp=N,2μm,0.7s						
BYL	**Byron's Ledge**	**0.09**	**262**		Pg	11 56 37.3	+0.2
BYL					Sg	11 56 39.9	+1.3
BYL				IAML		11 56 40.2	
	comp=E,2μm,0.5s						
HATHI	**Halema'uma'u T**	**0.09**	**268**		Pg	11 56 37.4	+0.3
HATHI					Sg	11 56 40.0	+1.4
HATHI				IAML		11 56 41.3	
	comp=N,1μm,0.7s						
HATHI				IAML		11 56 41.9	
	comp=E,2μm,0.6s						
SBLHI	**Steaming Bluff**	**0.10**	**271**		Pg	11 56 37.4	+0.2
SBLHI					Sg	11 56 40.1	+1.3
SBLHI				IAML		11 56 40.5	
	comp=E,1μm,0.5s						
SBLHI				IAML		11 56 40.7	
	comp=N,1μm,0.2s						
KKO	**Keanakako'i**	**0.10**	**254**		Pg	11 56 37.3	0.0
KKO				IAML		11 56 40.6	
	comp=N,1μm,1.2s						
UWB	**Uwekahuna B**	**0.11**	**270**		Pg	11 56 37.5	+0.1
UWB					Sg	11 56 40.2	+1.2
RIM	**Rim**	**0.11**	**254**		Pg	11 56 37.4	0.0
RIM					Sg	11 56 39.9	+0.8
RIM				IAML		11 56 40.2	
	comp=E,1μm,0.6s						
RIM				IAML		11 56 41.0	
	comp=N,2μm,1.1s						
OBL	**Observatory Le**	**0.12**	**266**		Pg	11 56 37.3	-0.2
RSD	**Rainshed**	**0.12**	**289**		Pg	11 56 38.1	+0.6
RSD					Sg	11 56 38.3	-1.0
SDHHI	**Sand Hill**	**0.13**	**254**		Pg	11 56 37.6	-0.1
SDHHI				IAML		11 56 40.8	
	comp=N,2μm,0.7s						
SDHHI				IAML		11 56 40.9	
	comp=E,2μm,0.8s						
WRMHI	**West Rim**	**0.13**	**262**		Pg	11 56 37.5	-0.3
WRMHI				IAML		11 56 41.2	
	comp=E,2μm,1.6s						
JOKA	**Jonika Flow**	**0.15**	**87**		Pg	11 56 37.4	-0.6
JOKA					Sg	11 56 39.9	-0.1
HLP	**Hilina Pali**	**0.19**	**227**		Pg	11 56 38.0	-0.7
HLP				IAML		11 56 42.4	
	comp=N,1μm,0.2s						
MLH	**Mauna Loa**	**0.22**	**288**		Pg	11 56 39.9	+0.5
AIN	**Ainahou**	**0.28**	**259**	Pg	Pg	11 56 40.3	-0.3
AIN				Sg	Sb	11 56 46.3	-1.4
HTC	**Hot Caves**	**0.29**	**230**		Pg	11 56 39.9	-0.8
HMH	**Humu'ula Sheep**	**0.35**	**300**		Pg	11 56 42.2	+0.3
MLOA	**Mauna Loa Obse**	**0.41**	**286**		Pg	11 56 43.2	+0.2
MLOA				IAML		11 56 50.7	
	comp=N,477nm,0.7s						
MLOA				IAML		11 56 50.9	
	comp=E,382nm,0.5s						
MWH	**Moku'aweowe**	**0.42**	**278**		Pg	11 56 43.0	-0.1
KHU	**Kahuku**	**0.46**	**247**		Pg	11 56 42.7	-1.2
KHU				IAML		11 56 54.5	
	comp=N,384nm,0.9s						
ALEP	**Alea Permanent**	**0.47**	**284**		Pg	11 56 43.7	-0.4
ALEP					Sb	11 56 52.1	-1.1
POHA	**Pohakuloa**	**0.48**	**313**		Pg	11 56 44.4	+0.1
HUH	**Hualalai**	**0.69**	**292**		Pg	11 56 47.6	-0.6
KHLU	**Kahalu`u**	**0.71**	**284**		Pg	11 56 47.0	-1.6
CPH	**Captain Cook**	**0.72**	**275**		Pg	11 56 47.7	-1.0
CPH					Sb	11 56 59.1	-0.8
HPAH	**Hawaii Prepara**	**0.79**	**320**		Pg	11 56 48.6	-1.4
MHA	**Mahukona**	**1.03**	**317**	Pg	Pg	11 56 52.3	-2.5

MAN 21 12:29:27.8, 9.81N×123.82E, 4 km, mb 4.4, ML 3.2, MS 2.9, 6C-7D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.12**	**163**	⇑*i*P	Pg	12 29 31.2	+0.9
TBP				*i* S	Sg	12 29 33.2	+1.3
GHBP	**Garcia Hernand**	**0.52**	**110**	⇓*e*P	Pg	12 29 38.2	+0.4
GHBP				*e*S	Sb	12 29 46.6	-0.8
LLP	**Lapu-Lapu**	**0.52**	**16**	⇑*i*P	Pg	12 29 38.2	+0.4
LLP				*i* S	Sg	12 29 45.8	+1.2
TABP	**Talibon, Bohol**	**0.57**	**61**	⇑*e*P	Pg	12 29 38.8	0.0
TABP				*e*S	Sg	12 29 46.8	+0.6
LSIP	**Lazi, Siquijor**	**0.70**	**196**	⇓*e*P	Pg	12 29 41.3	0.0
LSIP				*e*S	Sb	12 29 52.0	-0.6
SNPH	**Sibulan**	**0.74**	**231**	⇓*i*P	Pb	12 29 42.8	-0.5
SNPH				*i* S	Sb	12 29 53.4	-0.4
MSLP	**Maasin**	**1.07**	**72**	⇓*e*P	Pg	12 29 48.5	+0.2
MSLP				*e*S	Sn	12 30 05.0	+0.1
CNOP	**Candoni, Negro**	**1.17**	**271**	⇓*e*P	Pb	12 29 50.4	-0.1
CNOP				*e*S	Sn	12 30 07.4	+0.1
DCPH	**Dipolog City**	**1.31**	**201**	⇑*e*P	Pn	12 29 51.0	-1.8
OCLP	**Ormoc**	**1.45**	**32**	⇓*e*P	Pn	12 29 54.2	-0.7
OCLP				*e*S	Sg	12 30 16.6	+2.1
GUIM	**Jordan**	**1.46**	**304**	⇓*e*P	Pn	12 29 54.0	-0.9
GUIM				*e*S	Sn	12 30 14.6	+0.1
CGP	**Cagayan de Oro**	**1.60**	**147**	⇑*e*P	Pg	12 29 58.6	+0.2
CGP				*e*S	Sn	12 30 14.0	-3.9
RCP	**Roxas**	**2.04**	**329**	⇑*e*P	Pn	12 30 03.0	+0.1
RCP				*e*S	Sn	12 30 29.1	+0.4

*JMA **21** 12:34:06.1±0.2, 43.5N±0.5×146.0E±0.9, h73km±1km, MV 2.5/36, NEMURO REGION*
*SKHL **21** 12:34:06.7±0.8, 43.50N×146.20E, h57km±5km, mb 3.7/2*

ISC 21 12:34:05.3±3.6, 43.54N±0.07×146.1E±0.2, h73km±18km, n12, σ0.954/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.31**	**235**	P	**Pn**	**12 34 17.3**	**+0.5**
NEM2				S	**Sn**	**12 34 25.2**	**0.0**
NMR	**Nemuro--Hokkai**	**0.31**	**237**	*e*P	**Pn**	**12 34 17.3**	**+0.5**
NMR				*e*S	**Sn**	**12 34 25.3**	**0.0**
YUK	**Yuzh-Kuril'sk**	**0.52**	**342**	*e*P	**Pn**	**12 34 18.5**	**0.0**
YUK				AMB	AMB	12 34 20.0	
	120nm,0.8s						
YUK				*e*S	**Sn**	**12 34 27.2**	**-1.1**
YUK				A	A	12 34 31.4	
	220nm,0.2s						
YUK				A	A	12 34 31.4	
	220nm,0.2s						
JRA	**Rausu**	**0.81**	**300**	*e*P	**Pn**	**12 34 22.0**	**+0.4**
JRA				*e*S	**Sn**	**12 34 33.8**	**+0.2**
JKHN	**Kushirohamanak**	**0.82**	**236**	*i* P	**Pn**	**12 34 22.0**	**+0.3**
JKHN				*e*S	**Sn**	**12 34 33.5**	**-0.4**
JNSB	**Nemuroshibetsu**	**0.82**	**287**	P	**Pn**	**12 34 22.1**	**+0.3**
JNSB				*e*S	**Sn**	**12 34 34.0**	**+0.1**
JNK	**Nakash**	**1.00**	**273**	P	**Pn**	**12 34 23.5**	**-0.3**
AKK	**Akkeshi**	**1.05**	**241**	*e*P	**Pn**	**12 34 24.7**	**+0.2**
AKK				*e*S	**Sn**	**12 34 37.6**	**-1.3**
JAK	**Akkeshi**	**1.15**	**242**	P	**Pn**	**12 34 25.8**	**0.0**
JAK				*e*S	**Sn**	**12 34 40.4**	**-0.7**
JTKR	**Abashiri--Toko**	**1.64**	**286**	*e*P	**Pn**	**12 34 32.5**	**+0.4**
JTKR				*e*S	**Sn**	**12 34 52.4**	**0.0**
JAR	**Ashorobuto**	**1.71**	**263**	*e*P	**Pn**	**12 34 33.4**	**+0.5**
JOB	**Onbets**	**1.77**	**250**	*e*P	**Pn**	**12 34 34.4**	**+0.6**
JOB				*e*S	**Sn**	**12 34 55.2**	**-0.3**

*IDC **21** 12:34:24.4±0.7, 54.75S×30.47W, h0km, mb 4.3/8, mbtmp4.4/9, ML 4.4/1, MS 3.4/9, Error ellipse: s-maj=22.9km s-min=18.8km az=86.0*
*NEIC **21** 12:34:26.6±1.6, 54.80S±0.05×30.8W±0.2, h10km±1km, mb 4.5/21, Error ellipse: s-maj=17.2km s-min=2.9km az=64.0*

ISC 21 12:34:25.9±0.5, 54.78S±0.08×30.72W±0.09, h10km, n44, σ1.924/39, mb 4.5/14, MS 3.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.40**	**276**		**Pn**	**12 35 18.1**	**-0.7**
VNA3	**Neumayer Olymp**	**18.88**	**159**	P	**Pn**	**12 38 47.0**	**+0.5**
VNA2	**Neumayer--Watz**	**19.14**	**157**	P	**P**	**12 38 45.3**	**-3.5**
	baz=315,slow=11						
PMSA	**Palmer Station**	**19.28**	**225**	P	**Pn**	**12 38 51.7**	**+0.3**
	1.0nm,0.3s,baz=75,slow=8.0,SNR=7.3						
PMSA				LR	LR	12 45 00.6	
	comp=Z,30nm,18.7s,baz=358,slow=33						
	18nm,0.7s						
PMSA	**Palmer Station**	**19.28**	**225**	P	**P**	**12 38 50.5**	**+0.2**
SNAA	**Sanae**	**20.73**	**155**	P	**P**	**12 39 04.6**	**-1.5**
SNAA	**Sanae**	**20.73**	**155**	P	**P**	**12 39 05.0**	**-1.2**
	3.3nm,0.5s,baz=296,slow=10,SNR=30						
SNAA				PcP	**PcP**	**12 43 15.0**	**-0.1**
	0.6nm,0.5s,baz=255,slow=4.5,SNR=5.1						
SNAA				LR	LR	12 45 26.6	
	comp=Z,66nm,20.0s,baz=12,slow=32						
	3.3nm,0.5s						
SNAA	**Sanae**	**20.73**	**155**	P	**P**	**12 39 04.9**	**-1.2**
TROLL	**Troll, Antarti**	**22.28**	**153**	P	**P**	**12 39 20.8**	**-2.1**
BELA	**Belgrano 2**	**23.24**	**182**	P	**P**	**12 39 32.9**	**+0.2**
BELA				IAmb	IAmb	12 39 35.9	
	comp=Z,15nm,1.2s						
GO09	**Cerro Castillo**	**25.01**	**261**	P	**P**	**12 39 48.0**	**-1.6**
CPUP	**Villa Florida**	**34.47**	**315**	P	**P**	**12 41 15.6**	**+1.9**
	comp=Z,1.7nm,0.5s,baz=156,slow=6.1,SNR=3.2						
CPUP				LR	LR	12 55 53.3	
	comp=Z,35nm,18.4s,baz=164,slow=37						
	comp=Z,1.7nm,0.5s						
CPUP	**Villa Florida**	**34.47**	**315**	P	**P**	**12 41 14.0**	**+0.3**
QSPA	**South Pole Qui**	**35.47**	**180**	P	**P**	**12 41 23.1**	**+1.0**
	comp=Z,7.8nm,0.5s,baz=209,slow=2.3,SNR=106						
QSPA				LR	LR	12 54 33.6	
	comp=Z,94nm,21.0s,baz=187,slow=34						
	comp=Z,7.8nm,0.5s						
QSPA	**South Pole Qui**	**35.47**	**180**	P	**P**	**12 41 23.2**	**+1.0**
GO02	**Mina Guanaco**	**41.12**	**300**	P	**P**	**12 42 11.5**	**+1.3**
GO02				IAmb	IAmb	12 42 12.3	
	comp=Z,21nm,1.4s						
AF01	**San Pedro de A**	**42.28**	**304**	P	**P**	**12 42 18.8**	**-0.9**
SUR	**Sutherland**	**42.32**	**80**	P	**P**	**12 42 20.1**	**+0.2**
	comp=Z,6.8nm,0.9s,baz=190,slow=17,SNR=3.4						
	comp=Z,6.8nm,0.9s						
SUR	**Sutherland**	**42.32**	**80**	P	**P**	**12 42 20.8**	**+0.9**
SUR				IAmb	IAmb	12 42 21.2	
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**42.35**	**145**	LR	LR	12 57 14.2	
	comp=Z,36nm,20.4s,baz=256,slow=32						
LVC	**Limon Verde**	**42.92**	**303**	LR	LR	13 03 31.5	
	comp=Z,41nm,18.6s,baz=250,slow=41						
LVC	**Limon Verde**	**42.92**	**303**	P	**P**	**12 42 23.6**	**-1.4**
PB08	**IPOC Station P**	**45.14**	**305**	P	**P**	**12 42 43.3**	**+0.4**
PB08				IAmb	IAmb	12 42 56.8	
	comp=Z,9.7nm,1.3s						
GO01	**Chusmiza**	**45.57**	**305**	P	**P**	**12 42 47.0**	**+0.7**
GO01				IAmb	IAmb	12 42 50.1	
	comp=Z,5.1nm,0.8s						
SBA	**Scott Base**	**47.19**	**185**	P	**P**	**12 42 59.6**	**+1.7**
SBA				IAmb	IAmb	12 42 59.7	
	comp=Z,9.1nm,1.4s						
VNDA	**Vanda**	**47.73**	**184**	P	**P**	**12 43 02.6**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=174,slow=6.4,SNR=27						
	comp=Z,2.4nm,0.6s						
VNDA	**Vanda**	**47.73**	**184**	P	**P**	**12 43 03.0**	**+0.9**
VNDA				IAmb	IAmb	12 43 04.0	
	comp=Z,3.1nm,0.7s						
LPAZ	**La Paz**	**48.00**	**308**	P	**P**	**12 43 06.1**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=109,slow=4.3,SNR=6.8						
	comp=Z,1.1nm,0.5s						
LPAZ	**La Paz**	**48.00**	**308**	P	**P**	**12 43 02.7**	**-2.9**
LPAZ				IAmb	IAmb	12 43 24.6	
	comp=Z,2.6nm,0.8s						
ASCN	**Ascension**	**48.52**	**22**	P	**P**	**12 43 09.5**	**+0.5**
LBTB	**Lobatse**	**50.63**	**78**	P	**P**	**12 43 24.1**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=209,slow=6.8,SNR=4.6						
	comp=Z,3.9nm,0.8s						
LBTB	**Lobatse**	**50.63**	**78**	P	**P**	**12 43 24.2**	**-0.9**
CASY	**Casey**	**55.76**	**162**	P	**P**	**12 44 03.0**	**+0.9**
CASY				IAmb	IAmb	12 44 04.6	
	comp=Z,5.2nm,1.1s						
MDP	**Montagnes des**	**62.40**	**335**	LR	LR	13 11 32.8	
	comp=Z,43nm,19.0s,baz=158,slow=36						
SDV	**Santo Domingo**	**71.70**	**318**	LR	LR	13 18 14.5	
	comp=Z,68nm,19.8s,baz=113,slow=37						
KOWA	**Kowa**	**72.64**	**27**	LR	LR	13 11 29.5	
	comp=Z,52nm,18.1s,baz=197,slow=31						
TOA0	**Torodi Ar. Sit**	**73.02**	**33**	P	**P**	**12 45 56.7**	**+1.0**
TOA0				IAmb	IAmb	12 46 15.1	
	comp=Z,5.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**73.02**	**33**	P	**P**	**12 45 55.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=203,slow=6.3,SNR=10						
	comp=Z,1.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.02**	**33**	P	**P**	**12 45 56.1**	**+0.5**
TORD				IAmb	IAmb	12 45 57.3	
	comp=Z,5.7nm,1.5s						
LODK	**Lodwar**	**79.27**	**68**	P	**P**	**12 46 31.3**	**-0.2**
YKA	**Yellowknife Ar**	**133.89**	**320**	PKP	**PKPdf**	**12 53 41.2**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=129,slow=2.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**143.62**	**64**	PKP	PKPab	12 53 56.7	+0.4
	comp=Z,0.4nm,0.4s,baz=145,slow=3.5,SNR=1.8						
ILAR	**Eielson Array**	**147.78**	**314**	PKPbc	**PKPbc**	**12 54 09.1**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=128,slow=1.9,SNR=43						
SONM	**Songino Array**	**152.66**	**87**	PKPbc	**PKPbc**	**12 54 20.8**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=

az=148.0

ISC 21 12:55:32.9±0.9, 48°56N±0°10×153°24E±0°10, h200km, n42, σ1°43/49, mb3.5/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.83**	**40**	*e*PN	**Pn**	**12 56 20.6**	**+0.1**
SKR				*e*S	**Sn**	**12 56 56.5**	**-1.2**
SKR	comp=Z,90nm,0.7s			pmax	pmax		
SKR	comp=E,95nm,0.6s			smax	smax		
SKR	comp=N,81nm,0.6s			smax	smax		
SKR	**Severo-Kuril's**	**2.83**	**40**	*e*P	**Pn**	**12 56 20.3**	**-0.2**
SKR	comp=N,90nm,0.6s			AMB	AMB	12 56 22.0	
SKR				*e*S	**Sn**	**12 56 56.8**	**-0.9**
SKR	comp=N,160nm,0.3s			A	A	12 57 00.3	
SKR	comp=N,210nm,0.3s			A	A	12 57 00.3	
PAU	**Pauzhetka**	**3.71**	**37**	PN	**Pn**	**12 56 30.9**	**-0.1**
PAU				S	**Sn**	**12 57 15.5**	**-1.2**
PAU	**Pauzhetka**	**3.71**	**37**	*e*P	**Pn**	**12 56 30.9**	**-0.1**
PAU	comp=N,170nm,0.4s			AMB	AMB	12 56 31.6	
PAU				*e*S	**Sn**	**12 57 15.5**	**-1.2**
PAU	comp=N,220nm,0.2s			A	A	12 57 18.3	
PAU	comp=N,120nm,0.2s			A	A	12 57 18.3	
KDTR	**Khodutka, Kamc**	**4.50**	**42**	PN	**Pn**	**12 56 39.8**	**-1.0**
KUR	**Kuril'sk**	**4.96**	**230**	*e*P	**Pn**	**12 56 47.1**	**+0.4**
KUR	comp=N,40nm,0.3s			AMB	AMB	12 56 49.6	
KUR				*e*S	**Sn**	**12 57 44.8**	**-0.1**
KUR	comp=N,30nm,0.6s			A	A	12 57 47.2	
KUR	comp=N,40nm,0.6s			A	A	12 57 47.2	
APC	**Apacha**	**5.03**	**28**	PN	**Pn**	**12 56 48.0**	**+0.5**
RUS	**Russkaya**	**5.14**	**39**	PN	**Pn**	**12 56 48.2**	**-0.7**
RUS	**Russkaya**	**5.14**	**39**	*e*P	**Pn**	**12 56 48.2**	**-0.7**
KRMR	**Karymshinskiy**	**5.29**	**34**	PN	**Pn**	**12 56 50.2**	**-0.6**
PETK	**Petropavlovsk-** comp=N,22nm,0.5s,baz=207,slow=12,SNR=28	**5.36**	**30**	P	**Pn**	**12 56 52.3**	**+0.5**
PET	**Petropavlovsk**	**5.64**	**35**	PN	**Pn**	**12 56 55.6**	**+0.3**
PET				S	**Sn**	**12 57 57.7**	**-2.8**
PET	**Petropavlovsk**	**5.64**	**35**	*e*P	**Pn**	**12 56 56.6**	**+1.3**
PET				*e*S	**Sn**	**12 57 59.7**	**-0.8**
DALK	**Dalny**	**5.68**	**36**	PN	**Pn**	**12 56 56.1**	**+0.2**
UGLR	**Uglovaya**	**5.85**	**35**	PN	**Pn**	**12 57 00.0**	**+1.9**
AVH	**Avacha**	**5.86**	**34**	PN	**Pn**	**12 56 59.5**	**+1.3**
KRX	**Arik**	**5.90**	**33**	PN	**Pn**	**12 57 00.2**	**+1.4**
GNL	**Ganaly**	**5.94**	**28**	PN	**Pn**	**12 57 01.9**	**+2.6**
SPN	**Mys Shipunski**	**6.25**	**41**	PN	**Pn**	**12 57 02.6**	**-0.7**
SPN	**Mys Shipunski**	**6.25**	**41**	*e*P	**Pn**	**12 57 02.6**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**6.82**	**231**	*e*PN	**Pn**	**12 57 07.8**	**-3.0**
YUK				*e*S	Sn	12 58 20.0	-8.4
YUK	comp=E,144nm,0.4s			pmax	pmax		
YUK	comp=Z,357nm,0.4s			pmax	pmax		
YUK	comp=N,119nm,0.3s			pmax	pmax		
YUK	comp=Z,326nm,0.4s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**6.82**	**231**	*e*P	**Pn**	**12 57 08.8**	**-2.0**
YUK	comp=Z,280nm,0.4s			AMB	AMB	12 57 09.7	
YUK				*e*S	**Sn**	**12 58 28.9**	**+0.5**
YUK	comp=Z,100nm,0.6s			A	A	12 58 30.0	
YUK	comp=Z,60nm,0.6s			A	A	12 58 30.0	
RUSJ	**Misakicho**	**7.10**	**234**	*e*PN	**Pn**	**12 57 11.4**	**-3.0**
RUSJ				*e*S	Sn	12 58 26.0	-8.9
YSS	**Yuzh-Sakhalins**	**7.25**	**261**	*e*P	**Pn**	**12 57 15.9**	**-0.3**
YSS	comp=Z,10.0nm,0.5s			AMB	AMB	12 57 18.7	
NMR	**Nemuro--Hokkai**	**7.37**	**228**	*e*PN	Pn	12 57 13.2	-4.6
UGL	**Uglegorsk**	**7.40**	**278**	*e*P	**Pn**	**12 57 18.3**	**+0.2**
UGL	comp=Z,80nm,0.6s			AMB	AMB	12 57 19.3	
TUMR	**Tumrok**	**7.97**	**30**	PN	**Pn**	**12 57 28.2**	**+2.5**
MKZ	**Mys Kozlova**	**8.00**	**38**	PN	**Pn**	**12 57 24.0**	**-1.9**
OKH	**Okha**	**8.19**	**311**	*e*P	**Pn**	**12 57 27.5**	**-0.9**
KBG	**Krutoberegovo**	**9.63**	**33**	*e*P	**Pn**	**12 57 46.9**	**-0.2**
KBTR	**Krutoberegovo**	**9.64**	**34**	PN	**Pn**	**12 57 45.8**	**-1.4**
KLR	**Kul'dur** comp=Z,1.3nm,0.4s,baz=80,slow=12,SNR=6.7	**14.15**	**281**	P	**P**	**12 58 45.0**	**-1.2**
SEY	**Seymchan** comp=Z,1.1nm,0.5s,baz=176,slow=14,SNR=6.4	**14.42**	**358**	P	**P**	**12 58 48.4**	**-0.6**
USRK	**Ussuriysk Ar.** comp=Z,1.4nm,0.6s,baz=64,slow=12,SNR=1.3	**15.29**	**261**	P	**P**	**12 58 59.3**	**+0.5**
KSRS	**Korea Array** comp=Z,0.9nm,0.5s,baz=48,slow=9.4,SNR=5.9 comp=Z,0.9nm,0.5s	**21.48**	**248**	P	**P**	**13 00 07.0**	**+1.3**
SONM	**Songino Array** comp=Z,0.5nm,0.7s,baz=91,slow=8.6,SNR=2.2 comp=Z,0.5nm,0.7s	**30.86**	**287**	P	**P**	**13 01 29.3**	**-1.0**
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.4s,baz=55,slow=7.4,SNR=4.2 comp=Z,0.7nm,0.4s	**41.65**	**304**	P	**P**	**13 03 00.1**	**-1.1**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.5s,baz=68,slow=7.2,SNR=10 comp=Z,0.9nm,0.5s	**46.21**	**296**	P	**P**	**13 03 37.3**	**-0.3**
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.6s,baz=34,slow=7.3,SNR=8.2 comp=Z,1.1nm,0.6s	**52.90**	**255**	P	**P**	**13 04 29.9**	**+1.5**
ARCES	**ARCESS Array B** comp=Z,0.5nm,0.4s,baz=31,slow=7.3,SNR=3.8 comp=Z,0.5nm,0.4s	**56.18**	**340**	P	**P**	**13 04 51.3**	**0.0**
FINES	**FINESS Array B** comp=Z,1.1nm,0.4s,baz=37,slow=6.9,SNR=14 comp=Z,1.1nm,0.4s	**62.44**	**334**	P	**P**	**13 05 34.5**	**+0.4**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.4s,baz=285,slow=2.5,SNR=4.9 comp=Z,0.2nm,0.4s	**76.53**	**61**	P	**P**	**13 07 05.3**	**+4.3**

*IDC **21** 12:57:30.5±0.9, 32°47S×177°84W, h0km, mb4.1/6, mbtmp4.2/8, ML4.4/2, MS3.7/16, Error ellipse: s-maj=30.6km s-min=23.5km az=126.0*

*NEIC **21** 12:57:32.8±1.3, 32°4S±0°1×177°8W±0°2, h10km±2km, mb4.5/19, Error ellipse: s-maj=27.9km s-min=18.6km az=124.0*

ISC 21 12:57:33.5±0.6, 32°36S±0°07×177°8W±0°1, h20km, n59, σ0°96/39, mb4.5/17, MS3.6/17, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 75nm,0.3s,baz=100,slow=21,SNR=2.2	**3.10**	**358**	Pn	**Pn**	**12 58 20.4**	**-1.0**
RAO	168nm,0.3s,baz=108,slow=23,SNR=4.6 220nm,0.3s			Sn	**Sn**	**12 58 56.6**	**-1.3**
URZ	**Urewera** 3.6nm,0.3s,baz=20,slow=4.8,SNR=2.2 8.7nm,0.4s	**7.21**	**214**	Pn	**Pn**	**12 59 16.7**	**-1.1**
URZ	**Urewera**	**7.21**	**214**	Pn	**Pn**	**12 59 19.0**	**+1.2**
BKZ	**Black Stump Fm**	**8.23**	**213**		**Pn**	**12 59 32.2**	**+0.4**
NIUE	**Niue**	**14.99**	**30**		**P**	**13 01 10.6**	**+0.9**
MSVF	**Nonsavu** comp=Z,270nm,18.1s,baz=169,slow=33	**15.05**	**345**	LR	LR	13 05 51.0	
DZM	**Mont Dzumac** 99nm,26.9s	**17.36**	**302**	*e*P	**P**	**13 01 38.8**	**+2.8**
DZM	comp=Z,501nm,22.9s			*e*LR	LR	13 05 40.9	
DZM	**Mont Dzumac** comp=Z,603nm,18.9s,baz=210,slow=33	**17.36**	**302**	LR	LR	13 07 05.5	
TBI	**Tubuai** 67nm,44.2s	**26.54**	**77**	*e*P	P	13 03 20.6	+11
TBI	comp=Z,115nm,23.5s			*e*LR	LR	13 10 17.8	
PPT2	**Papeete2** comp=Z,84nm,22.2s	**29.38**	**67**	*e*LR	LR	13 11 42.7	
PPT	**Papeete** comp=Z,65nm,18.8s,baz=247,slow=35	**29.39**	**67**	LR	LR	13 14 54.8	
HNR	**Honiara** comp=Z,2μm,18.4s,baz=182,slow=34	**30.75**	**313**	LR	LR	13 14 40.2	
STKA	**Stephens Creek** 1.4nm,0.7s,baz=122,slow=16,SNR=3.6	**34.27**	**260**	P	**P**	**13 04 18.4**	**+0.1**
STKA				LR	LR	13 16 36.4	
STKA	**Stephens Creek** comp=Z,139nm,19.8s,baz=54,slow=34 1.4nm,0.7s	**34.27**	**260**	P	**P**	**13 04 17.8**	**-0.5**
CTA	**Charters Tower** comp=Z,118nm,18.5s,baz=108,slow=33	**34.34**	**282**	LR	LR	13 16 33.8	
CTAO	**Charters Tower**	**34.34**	**282**	P	**P**	**13 04 19.8**	**+0.7**
CTAO	comp=Z,7.0nm,1.1s			IAmb	IAmb	13 04 33.1	
BBOO	**Buckleboo**	**38.66**	**257**	P	**P**	**13 04 55.4**	**-0.4**
BBOO	comp=Z,21nm,1.2s			IAmb	IAmb	13 04 56.5	
PMG	**Port Moresby** comp=Z,81nm,20.1s,baz=119,slow=33	**39.64**	**297**	LR	LR	13 19 33.6	
COEN	**Coen**	**40.02**	**288**	P	**P**	**13 05 07.8**	**+0.5**
COEN	comp=Z,13nm,1.3s			IAmb	IAmb	13 05 23.7	
AS31	**Alice Springs**	**43.23**	**269**	P	**P**	**13 05 32.2**	**-1.4**
ASAR	**Alice Springs** comp=Z,4.3nm,1.1s,baz=116,slow=8.0,SNR=18 comp=Z,4.3nm,1.1s	**43.23**	**269**	P	**P**	**13 05 33.0**	**-0.6**
ASAR	**Alice Springs**	**43.23**	**269**	P	**P**	**13 05 33.4**	**-0.2**
WR0	**Warramunga Arr**	**44.21**	**274**	P	**P**	**13 05 40.7**	**-0.9**
WR0	comp=Z,9.7nm,1.2s			IAmb	IAmb	13 05 42.2	
WB2	**Warramunga Arr**	**44.38**	**274**	P	**P**	**13 05 42.1**	**-0.7**
WB2	comp=Z,6.6nm,1.0s			IAmb	IAmb	13 05 44.6	
WRAB	**Tennant Creek**	**44.39**	**274**	P	**P**	**13 05 42.7**	**-0.2**
WRAB	comp=Z,6.0nm,0.9s			IAmb	IAmb	13 05 44.7	
WRA	**Warramunga Arr** comp=Z,2.0nm,0.4s,baz=112,slow=8.0,SNR=52	**44.39**	**274**	P	**P**	**13 05 42.1**	**-0.9**
WRA	comp=Z,118nm,18.5s,baz=50,slow=35			LR	LR	13 23 13.4	
WRA	**Warramunga Arr**	**44.39**	**274**	P	**P**	**13 05 42.2**	**-0.8**
WB0	**Warramunga Arr**	**44.42**	**274**	P	**P**	**13 05 42.6**	**-0.6**
WB0	comp=Z,11nm,1.1s			IAmb	IAmb	13 05 43.4	
FORT	**Forrest**	**45.76**	**257**	P	**P**	**13 05 52.9**	**-0.8**
SBA	**Scott Base**	**46.10**	**184**	P	**P**	**13 05 56.5**	**+0.7**
SBA	comp=Z,3.2nm,1.4s			IAmb	IAmb	13 06 13.2	
VNDA	**Vanda** comp=Z,43nm,21.0s,baz=8.0,slow=32	**46.17**	**186**	LR	LR	13 21 41.6	
VNDA	**Vanda**	**46.17**	**186**	P	**P**	**13 05 57.9**	**+1.6**
MTN	**Manton Dam**	**50.50**	**280**	P	**P**	**13 06 29.8**	**-0.7**
MTN	comp=Z,7.7nm,1.2s			IAmb	IAmb	13 06 50.3	
KNRA	**Kununurra**	**51.06**	**276**	P	**P**	**13 06 34.7**	**0.0**
FITZ	**Fitzroy Crossi**	**52.57**	**271**	P	**P**	**13 06 45.7**	**-0.3**
FITZ	comp=Z,4.3nm,1.1s			IAmb	IAmb	13 07 00.2	
CASY	**Casey**	**53.50**	**209**	P	**P**	**13 06 50.8**	**-1.4**
CASY	comp=Z,4.6nm,0.9s			IAmb	IAmb	13 07 00.6	
NWAO	**Narrogin (SRO)** comp=Z,37nm,20.7s,baz=266,slow=33	**53.90**	**251**	LR	LR	13 27 16.6	
SIJI	**Sorong** comp=Z,42nm,21.8s,baz=342,slow=34	**57.24**	**293**	LR	LR	13 30 09.5	
QSPA	**South Pole Qui** comp=Z,1.1nm,1.0s,baz=48,slow=8.0,SNR=2.4	**57.75**	**180**	P	**P**	**13 07 21.2**	**-1.7**
QSPA	comp=Z,81nm,18.6s,baz=50,slow=34 comp=Z,1.1nm,1.0s			LR	LR	13 30 08.2	
BATI	**Baumata** comp=Z,189nm,18.6s,baz=110,slow=36	**58.11**	**278**	LR	LR	13 32 24.3	
RPN	**Rapa Nui** comp=Z,37nm,19.5s,baz=40,slow=32	**58.75**	**104**	LR	LR	13 28 22.7	
TROLL	**Troll, Antarti**	**75.92**	**180**	P	P	13 09 31.4	+13
SNAA	**Sanae**	**76.19**	**178**	P	P	13 09 33.2	+13
SNAA	**Sanae**	**76.19**	**178**		**P**	**13 09 20.4**	**+0.4**
VNA3	**Neumayer Olymp**	**76.34**	**176**	P	P	13 09 33.8	+13
VNA2	**Neumayer--Watz** baz=172,slow=5.0	**76.78**	**177**	P	P	13 09 36.6	+13
VNA1	**Neumayer--Stat**	**77.00**	**176**	P	P	13 09 36.0	+12
KSRS	**Korea Array** comp=Z,12nm,21.8s,baz=195,slow=32	**85.96**	**320**	LR	LR	13 43 40.6	
PETK	**Petropavlovsk-** comp=Z,2.2nm,0.7s,baz=87,slow=5.9,SNR=2.4 comp=Z,2.2nm,0.7s	**87.75**	**345**	P	**P**	**13 10 21.2**	**+0.7**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.8s,baz=207,slow=6.3,SNR=4.7 comp=Z,0.7nm,0.8s	**89.55**	**43**	P	**P**	**13 10 30.6**	**+1.0**
KLR	**Kul'dur** comp=Z,23nm,18.9s,baz=178,slow=35	**92.82**	**330**	LR	LR	13 51 11.2	
NEW	**Newport** comp=Z,49nm,19.6s,baz=190,slow=31	**96.85**	**36**	LR	LR	13 48 10.6	
FINES	**FINESS Array B** comp=Z,2.8nm,0.6s,baz=57,slow=3.8,SNR=23	**147.04**	**339**	PKPbc	**PKPab**	**13 17 14.8**	**-0.9**
NB2	**NORSAR Subarra**	**150.71**	**351**	PKP	**PKiKP**	**13 17 24.6**	**+0.4**
NOA	comp=Z,6.0nm,1.2s,baz=16,slow=4.1 **NORSAR Array B** comp=Z,0.9nm,0.7s,baz=15,slow=4.1,SNR=5.9	**150.71**	**351**	PKPbc	**PKiKP**	**13 17 24.2**	**0.0**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.4s,baz=43,slow=2.7,SNR=4.4	**152.95**	**321**	PKPbc	**PKiKP**	**13 17 29.9**	**+0.7**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.6s,baz=165,slow=6.4,SNR=4.3	**153.65**	**295**	PKPbc	**PKPbc**	**13 17 30.6**	**-0.4**
CLL	**Chiang Mai Arr** comp=Z,4.0nm,0.9s	**159.48**	**340**	*i* PKPab	**PKPab**	**13 18 08.2**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,1.0s,baz=190,slow=2.9,SNR=1.9	**160.87**	**178**	PKPab	**PKPab**	**13 18 14.4**	**-0.6**

MAN 21 13:03:32.4, 13°05N×125°40E, h1km, mb4.5, ML3.4, MS3.2, 1C-6D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.89**	**234**	*e*P	Pg	13 03 49.8	+0.3
CNP				*e*S	Sg	13 03 58.4	-2.7
PVCP	**Virac**	**1.33**	**294**	*e*P	Pb	13 03 59.1	+0.9
PVCP				*e*S	Sn	13 04 19.6	+3.2
BESP	**Borongan**	**1.44**	**179**	*e*P	Pn	13 03 59.0	-0.5
BESP				*e*S	Sg	13 04 11.8	-6.8
MSLP	**Maasin**	**2.94**	**190**	*e*P	Pn	13 04 22.0	+1.7
MSLP				*e*S	Sb	13 05 00.8	-1.4
RCP	**Roxas**	**2.99**	**241**	*e*P	Pn	13 04 21.6	+0.7
TABP	**Talibon, Bohol**	**3.12**	**200**	*e*P	Pn	13 04 21.1	-1.6
GUIM	**Jordan**	**3.66**	**229**	*e*P	Pn	13 04 30.8	+0.7

*IDC **21** 13:15:41.8±2.1, 32°21S×178°14W, h0km, mb3.9/4, mbtmp3.9/5, ML3.8/1, MS3.2/3, Error ellipse: s-maj=47.6km s-min=32.9km az=52.0*

*WEL **21** 13:17:09.1, 38°S×29°×17°8E±1°8, h34km±20km, M2.1/7, ML2.2/11, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=175.3*

ISC 21 13:15:46.0±2.0, 32°4S±0°2×178°2W±0°3, h20km, n23, σ1°12/20, mb3.8/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**6.08**	**206**	P	**Pn**	**13 17 15.5**	**+0.8**
PKGZ	**Pakihiroa**	**6.27**	**208**	P	**Pn**	**13 17 16.7**	**-0.7**
HAZ	**Te Kaha**	**6.28**	**210**	P	**Pn**	**13 17 17.3**	**-0.1**
PUZ	**Puketiti**	**6.36**	**206**	P	**Pn**	**13 17 17.2**	**-1.4**
RUGZ	**Raukumara Rang**	**6.50**	**210**	P	**Pn**	**13 17 20.2**	**-0.4**
TWGZ	**Tauwhareparae**	**6.56**	**207**	P	**Pn**	**13 17 22.3**	**+0.9**
CNGZ	**Carnagh Statio**	**6.75**	**204**	P	**Pn**	**13 17 22.5**	**-1.3**
MWZ	**Matawai**	**6.87**	**209**	P	**Pn**	**13 17 24.4**	**-1.2**
URZ	**Urewera** 1.7nm,0.3s,baz=31,slow=2.1,SNR=10 10nm,0.7s	**6.99**	**212**	Pn	**Pn**	**13 17 26.9**	**-0.2**
URZ	**Urewera**	**6.99**	**212**	P	**Pn**	**13 17 26.3**	**-0.9**
RIGZ	**Rimuhau**	**7.10**	**206**	P	**Pn**	**13 17 27.9**	**-0.9**
MUGZ	**Murupara**	**7.32**	**212**	P	**Pn**	**13 17 30.1**	**-1.6**
SNGZ	**Shannon Statio**	**7.33**	**208**	P	**Pn**	**13 17 32.8**	**+0.8**
HLRZ	**Highlands Stat**	**7.34**	**215**	P	Pn	13 17 39.4	+7.4
RTZ	**Ruatahuna**	**7.34**	**211**	P	**Pn**	**13 17 33.4**	**+1.2**
MTHZ	**Maungataniwha**	**7.60**	**210**	P	**Pn**	**13 17 37.9**	**+2.2**
DZM	**Mont Dzumac** comp=Z,147nm,18.8s,baz=206,slow=33	**17.03**	**303**	LR	LR	13 25 06.2	
PPT	**Papeete** comp=Z,18nm,19.1s,baz=184,slow=34	**29.76**	**67**	LR	LR	13 32 27.1	
STKA	**Stephens Creek** 0.8nm,0.6s,baz=101,slow=10,SNR=3.4	**33.88**	**260**	P	**P**	**13 22 28.4**	**+1.0**
STKA	comp=Z,61nm,18.1s,baz=199,slow=35 0.8nm,0.6s			LR	LR	13 35 35.1	
ASAR	**Alice Springs** 1.0nm,0.8s,baz=106,slow=7.6,SNR=15 1.0nm,0.8s	**42.83**	**269**	P	**P**	**13 23 42.2**	**-0.7**
WRA	**Warramunga Arr** 1.5nm,0.3s,baz=112,slow=8.0,SNR=72 1.5nm,0.3s	**44.00**	**274**	P	**P**	**13 23 51.4**	**-0.9**
QSPA	**South Pole Qui** 0.9nm,0.9s,baz=322,slow=0.9,SNR=7.7 0.9nm,0.9s	**57.74**	**180**	P	**P**	**13 25 35.5**	**+0.2**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=48,slow=4.5,SNR=3.4	**146.91**	**339**	PKPbc	**PKPdf**	**13 35 24.4**	**+0.1**

*IDC **21** 13:42:44.9±2.9, 18°69N×145°48E, h182km±27km, mb3.1/6, mbtmp3.6/7, Error ellipse: s-maj=35.9km s-min=19.7km az=101.0*

*NEIC **21** 13:42:46.9±1.1, 18°63N±0°10×145°3E±0°1, h188km±8km, mb3.9/7, Error ellipse: s-maj=19.5km s-min=10.8km az=53.0*

ISC 21 13:42:47.1±0.7, 18°59N±0°09×145°4E±0°2, h200km, n20, σ1°04/21, mb3.3/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 71nm,1.0s,baz=16,slow=19,SNR=1.4	**4.99**	**186**	P	**Pn**	**13 44 01.5**	**-0.1**
GUMO	28nm,0.5s,baz=24,slow=13,SNR=1.7			S	**Sn**	**13 44 59.2**	**-1.0**
WB0	**Warramunga Arr**	**39.62**	**196**	P	**P**	**13 49 59.6**	**+0.1**
WB0	comp=Z,6.3nm,1.5s			IAmb	IAmb	13 50 05.6	
WB2	**Warramunga Arr**	**39.80**	**196**	P	**P**	**13 50 00.8**	**-0.2**
WB2	comp=Z,4.2nm,1.2s			IAmb	IAmb	13 50 41.4	
WRA	**Warramunga Arr** comp=Z,0.4nm,0.4s,baz=12,slow=8.2,SNR=20 comp=Z,0.4nm,0.4s	**39.80**	**196**	P	**P**	**13 50 01.5**	**+0.5**
WRA	**Warramunga Arr**	**39.80**	**196**	P	**P**	**13 50 01.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.31**	**209**	P	**P**	**13 50 13.5**	**+0.2**
FITZ	comp=Z,4.8nm,1.4s			IAmb	IAmb	13 50 17.3	
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=10,slow=6.8,SNR=7.6 comp=Z,0.2nm,0.5s	**43.47**	**195**	P	**P**	**13 50 30.8**	**0.0**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,baz=101,slow=7.2,SNR=2.8 comp=Z,0.3nm,0.6s	**58.34**	**314**	P	**P**	**13 52 21.8**	**+0.4**
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=258,slow=4.4,SNR=2.8 comp=Z,0.3nm,0.5s	**63.87**	**26**	P	**P**	**13 52 56.1**	**-2.0**
BMAR	**Burnt Mountain**	**65.33**	**24**	P	**P**	**13 53 07.9**	**+0.3**
BCAR	**Beaver Creek A**	**65.81**	**28**	P	**P**	**13 53 10.1**	**-0.6**
LOGN	**Logan Glacier**	**65.95**	**31**	P	**P**	**13 53 14.6**	**+2.7**
BVAR	**Borovoye Array** comp=Z,0.2nm,0.4s,baz=98,slow=10,SNR=2.5 comp=Z,0.2nm,0.4s	**66.39**	**320**	P	**P**	**13 53 13.5**	**-1.1**
MAYO	**Mayo, Yukon**	**68.50**	**28**	P	**P**	**13 53 28.4**	**+0.8**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.7s,baz=261,slow=6.0,SNR=7.3 comp=Z,0.7nm,0.7s	**83.43**	**52**	P	**P**	**13 54 52.2**	**-0.5**
CASY	**Casey**	**88.56**	**193**	P	**P**	**13 55 18.3**	**+1.6**
BELA	**Belgrano 2**	**120.67**	**180**	PKPdf	**PKiKP**	**14 01 14.8**	**+0.4**
PB12	**IPOC Station P**	**146.17**	**96**	PKPbc	**PKPab**	**14 02 05.7**	**-0.2**
BOAV	**Boa Vista**	**147.05**	**53**	PKPbc	**PKPbc**	**14 02 06.5**	**-0.8**
PB01	**IPOC Station P**	**147.12**	**100**	PKPbc	**PKPbc**	**14 02 07.1**	**-0.3**

MAN 21 13:51:55.6, 15°52N×119°87E, h4km, mb4.2, ML3.0, MS2.7, 2C-6D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**1.00**	**51**	*e*P	Pb	13 52 15.3	-0.2
SMPP				*e*S	Sn	13 52 30.2	-0.7
PCPH	**Palayan**	**1.18**	**88**	*e*P	Pg	13 52 17.6	-0.7
PCPH				*e*S	Sg	13 52 33.6	0.0
MACP	**Maragondon, Ca**	**1.50**	**147**	*e*P	Pn	13 52 22.8	-0.5
MACP				*e*S	Sn	13 52 42.9	-0.3
BALP	**Baler**	**1.66**	**82**	*e*P	Pn	13 52 25.6	+0.1
BALP				*e*S	Sg	13 52 48.5	-0.3
LUBP	**Lubang**	**1.81**	**168**	*e*P	Pn	13 52 24.5	-3.1
LUBP	**Lubang**	**1.81**	**168**	*e*P	Pn	13 52 27.8	+0.2
SAMP	**Sagada Mountai**	**1.84**	**32**	*e*P	Pn	13 52 27.6	-0.4
SAMP				*e*S	Sb	13 52 52.6	-0.6
APYP	**Conner**	**2.67**	**291**	*e*P	Pn	13 52 41.2	+1.8
APYP				*e*S	Sb	13 53 16.4	-0.8

*IDC **21** 13:55:13.9±1.4, 8°84S×124°16E, h63km±13km, mb4.3/18, mbtmp4.6/19, MS3.2/18, Error ellipse: s-maj=16.8km s-min=10.2km az=82.0*

*DJA **21** 13:55:16.9±0.2, 9°S±2°×12°4E±°, h96km±2km, M4.6/53, mB5.1/22, mb4.9/53, MLv4.8/19, Mw(mB)4.5/22*

*NEIC **21** 13:55:17.1±1.8, 9°17S±0°06×124°09E±0°07, h104km±7km, mb4.8/31, Error ellipse: s-maj=10.4km s-min=9.0km az=69.0*

ISC 21 13:55:16.9±0.3, 9°18S±0°04×124°11E±0°05, h100km, n204, σ1°72/209, mb4.7/44, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 3μm,0.4s,baz=30,slow=2.2,SNR=888	**1.11**	**203**	P	**Pn**	**13 55 39.5**	**+0.9**
BATI	5μm,0.4s,baz=222,slow=0.8,SNR=13			S	**Sn**	**13 55 55.8**	**+0.8**
BATI	comp=Z,996nm,18.2s,baz=119,slow=42			LR	LR	13 56 14.3	
BATI	**Baumata**	**1.11**	**203**	P	**Pn**	**13 55 38.6**	**0.0**
MMRI	**Maumere**	**1.93**	**286**	Pn	**Pn**	**13 55 47.6**	**-0.9**
MMRI	**Maumere**	**1.93**	**286**	P	**Pn**	**13 55 47.6**	**-0.9**
MMRI				S	**Sn**	**13 56 11.4**	**-1.3**
EDFI	**Ende, Flores**	**2.43**	**280**	P	**Pn**	**13 55 54.7**	**-0.4**
EDFI				S	**Sn**	**13 56 23.4**	**-1.1**
BBSI	**Bau Bau**	**3.97**	**337**	P	**Pn**	**13 56 15.6**	**-0.1**
BBSI				S	**Sn**	**13 57 01.3**	**0.0**
BSSI	**Bau Bau, Buton**	**4.69**	**310**	P	**Pn**	**13 56 26.0**	**+0.6**
BKSI	**Bulukumba** 0.6nm1μm164nm,0.7s	**5.51**	**314**	P	**Pn**	**13 56 36.5**	**0.0**
KAPI	**Kappang** 38nm,0.5s,baz=151,slow=8.2,SNR=28	**5.99**	**313**	P	Pn	**13 56 40.8**	**-2.2**
KAPI	**Kappang**	**5.99**	**313**	Pn	**Pn**	**13 56 44.3**	**+1.3**
PLAI	**Plampang** 0.9nm4μm169nm,0.6s	**6.27**	**273**	P	**Pn**	**13 56 46.4**	**-0.4**
NLAI	**Namlea** 0.4nm90nm,0.6s	**6.61**	**27**	P	**Pn**	**13 56 53.3**	**+1.9**
SPSI	**Sidrap Palu** 0.2nm54nm,0.7s	**6.74**	**320**	P	**Pn**	**13 56 53.6**	**+0.3**
AAI	**Ambon** 0.4nm81nm,0.5s	**6.80**	**37**	P	**Pn**	**13 56 55.9**	**+1.8**
TWSI	**Taliwang, Sumb** 0.5nm1μm59nm,0.5s	**7.16**	**273**	P	**Pn**	**13 56 58.6**	**-0.3**
SAUI	**Saumlaki**	**7.21**	**81**		**Pn**	**13 56 58.9**

KMSI	Cibinong	9.69	359	P		Pn	13 57 35.0	+1.6
	61nm,0.6s							
GTOI	Gorontalo	9.81	354	P		Pn	13 57 38.5	+3.4
	172nm18nm,0.6s							
MRSI	Marisa	9.83	347	P		Pn	13 57 36.1	+0.7
	30nm,0.7s							
JAGI	Jajag, Banyuwa	9.87	273		Pn	Pn	13 57 31.7	-4.1
FAKI	Fak Fak	10.20	53		Pn	Pn	13 57 39.1	-1.3
FAKI	Fak Fak	10.20	53		P	Pn	13 57 40.0	-0.4
	13nm,0.5s							
MPSI	Mapaga	10.34	336	P		Pn	13 57 42.8	+0.5
	27nm,0.9s							
TNTI	Ternate	10.40	18		Pn	Pn	13 57 44.3	+1.2
TNTI	Ternate	10.40	18		P	Pn	13 57 42.5	-0.6
	18nm,1.1s							
TOLI2	Tolitoli	10.75	342		Pn	Pn	13 57 50.8	+2.9
BBKI	Banjar Baru	10.82	301		P	Pn	13 58 01.9	+13
SIJI	Sorong	10.90	41	P		Pn	13 57 46.8	-3.1
	1.9nm,0.3s,baz=311,slow=20,SNR=2.2							
SIJI				LR		LR	14 02 11.0	
	comp=Z,59nm,20.6s,baz=260,slow=39							
PWJI	Pagerwojo	12.22	274	P		Pn	13 58 06.3	-1.3
	46nm,0.7s							
MTKI	Muara Teweh, K	12.29	311	P		P	13 58 18.7	+2.1
MBWA	Marble Bar	12.64	199		Pn	Pn	13 58 12.2	-0.8
PCJI	Pacitan	12.82	273	P		Pn	13 58 12.5	-3.0
	128nm,0.8s							
SGSI	Sangihe	12.86	6	P		Pn	13 58 18.0	+2.0
	3µm58nm,0.7s							
PSA00	Pilbara Seismi	12.99	198			Pn	13 58 16.9	-0.8
PSA00	Pilbara Seismi	12.99	198			Pn	13 58 16.6	-1.0
UGM	Wanagama	13.50	274		Pn	Pn	13 58 21.9	-2.5
UGM	Wanagama	13.50	274		P	Pn	13 58 24.5	+0.1
	172nm,2.2s							
BAKI	Biak	14.33	57	P		Pn	13 58 37.5	+2.3
	39nm,0.8s							
WB0	Warramunga Arr	14.48	138		Pn	Pn	13 58 33.6	-3.4
WRA	Warramunga Arr	14.57	138		P	Pn	13 58 34.3	-3.9
	20nm,0.3s,baz=315,slow=15,SNR=259							
WRA				S		Sn	14 01 07.9	-11
	36nm,0.3s,baz=309,slow=24,SNR=15							
WRA				LR		LR	14 05 11.9	
	comp=Z,202nm,18.8s,baz=248,slow=40							
MYLDM	Lahad Datu	15.32	338			Pn	13 58 46.7	-1.1
STKI	Sintang	15.58	305	P		P	13 59 00.2	+7.1
SMPI	Sarmi	16.18	65	P		P	13 59 00.9	+1.1
	9.9nm,0.8s							
DAV	Davao City (W)	16.21	5	LR		LR	14 06 06.0	
	comp=Z,46nm,18.5s,baz=176,slow=41							
WRKA	Warakurna	16.27	166	P		Pn	13 58 57.6	-1.9
	baz=16,SNR=194							
GIRL	Giralia	16.40	214	P		Pn	13 59 01.9	+0.7
	baz=16,SNR=8.0							
LEM	Lembang	16.50	277	P		Pn	13 59 01.1	-1.5
	63nm,0.7s,baz=21,slow=11,SNR=13							
LEM				LR		LR	14 06 01.0	
	comp=Z,62nm,18.5s,baz=84,slow=39							
LEM	Lembang	16.50	277	P		Pn	13 59 02.9	+0.3
	44nm,0.8s							
SBUM	Sibu	16.55	314			Pn	13 59 03.5	+0.4
AS31	Alice Springs	17.18	148			Pn	13 59 09.5	-1.3
ASAR	Alice Springs	17.18	148	P		Pn	13 59 09.6	-1.2
	55nm,0.7s,baz=320,slow=11,SNR=279							
ASAR				S		Sn	14 02 11.4	-11
	20nm,0.4s,baz=313,slow=19,SNR=15							
ASAR				LR		LR	14 06 10.4	
	comp=Z,124nm,21.5s,baz=275,slow=38							
ASAR	Alice Springs	17.18	148			Pn	13 59 09.4	-1.4
CBJI	Citeko	17.32	278	P		P	13 59 11.0	-1.4
	156nm,0.9s							
MEEK	Meekatharra	18.13	196	P		Pn	13 59 22.8	+0.6
	baz=18,SNR=31							
QIS	Mount Isa	18.75	129	P		Pn	13 59 30.0	+0.4
	baz=19,SNR=84							
COEN	Coen	19.27	106	P		P	13 59 35.3	+1.5
	baz=19,SNR=100							
COEN	Coen	19.27	106	P		P	13 59 33.8	0.0
KASI	Kota Agung	19.79	279	P		P	13 59 38.1	-1.3
	68nm,0.8s							
MORW	Morawa	21.19	200	P		P	13 59 55.8	+1.5
	baz=21,SNR=11							
MORW	Morawa	21.19	200	P		P	13 59 55.1	+0.7
MTSU	Mount Surprise	21.54	117	P		P	13 59 59.5	+1.3
	baz=22,SNR=31							
FORT	Forrest	21.80	171	P		P	14 00 02.5	+1.6
	baz=22,SNR=54							
FORT	Forrest	21.80	171	P		P	14 00 01.0	+0.1
BLDU	Ballidu	22.42	197	P		P	14 00 08.6	+1.2
	baz=23,SNR=17							
PMG	Port Moresby	22.75	92	LR		LR	14 09 48.8	
	comp=Z,42nm,20.2s,baz=278,slow=38							
KLBR	Kellerberrin	23.07	194	P		P	14 00 15.2	+1.4
	baz=23,SNR=13							
MUN	Mundaring	23.84	197	P		P	14 00 22.7	+1.7
	baz=24,SNR=3.7							
CTA	Charters Tower	23.98	119	P		P	14 00 22.4	+0.1
	16nm,0.8s,baz=289,slow=11,SNR=32							
	16nm,0.8s							
CTAO	Charters Tower	23.98	119	P		P	14 00 24.2	+1.9
SDSI	Sungai Dareh	24.02	289	P		P	14 00 21.6	-1.1
	9.4nm,0.9s							
NWAO	Narrogin (SRO)	24.47	194	P		P	14 00 28.5	+1.9
	7.1nm,0.7s,baz=261,slow=6.0,SNR=7.7							
NWAO				LR		LR	14 11 25.7	
	comp=Z,42nm,19.7s,baz=34,slow=39							
	7.1nm,0.7s							
NWAO	Narrogin (SRO)	24.47	194	P		P	14 00 28.2	+1.6
	baz=25,SNR=5.2							
NWAO				P		P	14 00 28.2	+1.6
	baz=25,SNR=5.2							
QLP	Quilpie	25.75	135	P		P	14 00 40.0	+1.8
	baz=26,SNR=4.1							
BBOO	Buckleboo	25.98	157	P		P	14 00 42.7	+2.3
	baz=26,SNR=26							
HTT	Hallett	27.73	153	P		P	14 00 59.0	+3.0
	baz=28,SNR=14							
PSI	Prapat	27.78	294	P		P	14 00 55.0	-1.8
	2.9nm,0.3s,baz=90,slow=4.0,SNR=1.6							
PSI				LR		LR	14 12 17.6	
	comp=Z,66nm,18.1s,baz=94,slow=37							
	2.9nm,0.3s							
STKA	Stephens Creek	27.81	147	P		P	14 00 59.5	+2.8
	3.6nm,0.4s,baz=322,slow=8.0,SNR=17							
STKA				LR		LR	14 12 56.9	
	comp=Z,93nm,20.0s,baz=17,slow=38							
	3.6nm,0.4s							
STKA	Stephens Creek	27.81	147	P		P	14 00 59.5	+2.8
	baz=28,SNR=14							
STKA	Stephens Creek	27.81	147	P		P	14 00 59.0	+2.2
CMSA	Cobar Meteorol	29.95	141	P		P	14 01 18.9	+3.2
	baz=30,SNR=70							
ARPS	Mount Arapiles	31.83	152	P		P	14 01 35.6	+3.4
	baz=32,SNR=22							
CNB	Canberra Magne	34.76	142	P		P	14 01 58.8	+0.9
	baz=35,SNR=6.2							
HNR	Honiara	35.36	93	LR		LR	14 17 05.1	
	comp=Z,455nm,19.0s,baz=282,slow=37							
JOW	Kunigami	36.02	6	LR		LR	14 15 52.2	
	comp=Z,21nm,21.2s,baz=267,slow=35							
CMAR	Chiang Mai Arr	37.03	318	P		P	14 02 17.1	-0.1
	9.4nm,0.8s,baz=143,slow=6.8,SNR=55							
CMAR				ScP		ScP	14 08 16.9	+2.7
	0.4nm,0.8s,baz=158,slow=4.2,SNR=5.0							
CMAR				LR		LR	14 19 25.1	
	comp=Z,26nm,19.3s,baz=140,slow=39							
	9.4nm,0.8s							
CMAR	Chiang Mai Arr	37.03	318	P		P	14 02 17.9	+0.7
CHTO	Chiang Mai	37.28	318	P		P	14 02 19.2	-0.2
CHTO	Chiang Mai	37.28	318	P		P	14 02 19.9	+0.5
CRAI	Chiangrai	37.41	322	P		P	14 02 20.1	-0.4
CRAI					IAmb	IAmb	14 02 22.8	
	comp=Z,7.3nm,1.1s							
KMI	Kunming	39.95	329	⇓P		P	14 02 44.8	+2.9
KMI				pmax		pmax		
	comp=Z,11nm,0.9s							
NJ2	Nanjing	41.30	353	eP		P	14 02 54.4	+1.8
NJ2				pmax		pmax		
	comp=Z,17nm,0.5s							
DZM	Mont Dzumac	42.59	113	P		P	14 03 05.2	+1.8
	comp=Z,7.3nm,1.1s,baz=126,slow=20,SNR=3.9							
DZM				LR		LR	14 21 38.0	
	comp=Z,57nm,18.3s,baz=46,slow=37							
	comp=Z,7.3nm,1.1s							
JMN	Monobe	43.67	12	P		P	14 03 11.3	-0.5
JHS	Saijyo	44.76	11	P		P	14 03 19.5	-0.9
JHS					IAmb	IAmb	14 03 21.1	
	comp=Z,35nm,1.0s							
XAN	Xi'an	45.34	342	P		P	14 03 23.0	-2.1
XAN				pmax		pmax		
	comp=Z,9.0nm,0.6s							
INU	Inuyama	45.94	15	P		P	14 03 29.8	0.0
PALK	Pallekele	46.24	289	LR		LR	14 25 09.2	
	comp=Z,17nm,18.7s,baz=221,slow=39							
KSRS	Korea Array	46.52	4	P		P	14 03 32.3	-2.0
	comp=Z,1.3nm,0.5s,baz=183,slow=8.7,SNR=7.1							
KSRS				LR		LR	14 25 23.2	
	comp=Z,7.8nm,18.7s,baz=185,slow=39							
	comp=Z,1.3nm,0.5s							
SHL	Shillong	46.66	319	P		P	14 03 34.9	-0.9
MAJO	Matsushiro	47.37	15	P		P	14 03 39.5	-1.5
MJAR	Matsushiro Arr	47.37	15	P		P	14 03 39.3	-1.7
	comp=Z,7.8nm,0.7s,baz=188,slow=8.5,SNR=16							
	comp=Z,7.8nm,0.7s							
LZH	Lanzhou	48.90	338	eP		P	14 03 54.0	+1.0
LZH				pmax		pmax		
	comp=Z,21nm,1.4s							
LSA	Lhasa	50.01	322	P		P	14 04 01.9	0.0
LSA	Lhasa	50.01	322	P		P	14 04 02.3	+0.5
LSA				pmax		pmax		
	comp=Z,55nm,0.7s							
LSA	Lhasa	50.01	322	P		P	14 04 02.9	+1.0
TAPN	Taplejung	50.62	317	eP		P	14 04 06.1	-0.2
	comp=Z,91nm,0.5s							
RAMN	Ramite	51.12	316	eP		P	14 04 10.0	0.0
	comp=Z,223nm,0.6s							
JIRN	Jiri	51.85	316	eP		P	14 04 15.2	-0.4
	comp=Z,101nm,0.6s							
GUN	Gumba	52.22	316	eP		P	14 04 18.0	-0.3
	comp=Z,172nm,0.6s							
PKI	Pulchoki	52.33	315	eP		P	14 04 18.4	-0.7
	comp=Z,144nm,0.5s							
PKIN	Phulchoki	52.35	315	eP		P	14 04 18.4	-0.7
	comp=Z,130nm,0.4s							
DMN	Daman	52.57	315	eP		P	14 04 20.3	-0.5
	comp=Z,87nm,0.6s							
CN2	Changchun	52.74	1	eP		P	14 04 23.9	+2.5
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GKN	Gorkha	53.14	315	eP		P	14 04 24.2	-0.6
	comp=Z,153nm,0.6s							
RPZ	Rata Peaks	53.28	139	LR		LR	14 27 51.9	
	comp=Z,53nm,18.1s,baz=262,slow=37							
GTA	Gaotai	53.35	337	eP		P	14 04 26.8	+0.7
GTA				pmax		pmax		
	comp=Z,6.0nm,1.2s							
USRK	Ussuriysk Ar.	53.60	7	P		P	14 04 27.3	-0.4
	comp=Z,12nm,0.7s,baz=192,slow=6.9,SNR=30							
	comp=Z,12nm,0.7s							
USRK	Ussuriysk Ar.	53.60	7	P		P	14 04 27.1	-0.6
MDJ	Mudanjiang	53.77	5	P		P	14 04 28.1	-0.8
MDJ	Mudanjiang	53.77	5	P		P	14 04 28.7	-0.2
DANN	Dangsing	53.96	315	eP		P	14 04 30.5	-0.5
	comp=Z,218nm,0.6s							
PYUN	Piuthan	54.35	314	eP		P	14 04 33.3	-0.4
	comp=Z,116nm,0.8s							
URZ	Urewera	55.56	130	LR		LR	14 28 57.1	
	comp=Z,46nm,18.7s,baz=10,slow=36							
KLR	Kul'dur	58.55	6	P		P	14 05 01.7	-1.1
	comp=Z,2.8nm,0.8s,baz=218,slow=2.6,SNR=11							
	comp=Z,2.8nm,0.8s							
ULN	Ulaanbaatar	58.77	347	P		P	14 05 04.1	-0.6
ULN				IAmb		IAmb	14 05 05.6	
	comp=Z,7.1nm,0.9s							
SONM	Songino Array	58.90	346	P		P	14 05 04.6	-0.8
	comp=Z,4.3nm,0.6s,baz=163,slow=8.8,SNR=22							
	comp=Z,4.3nm,0.6s							
SONM	Songino Array	58.90	346	P		P	14 05 04.5	-0.9
SONM				IAmb		IAmb	14 05 05.9	
	comp=Z,4.9nm,0.8s							
KSH	Kashi	65.84	321	P		P	14 05 51.9	0.0
KSH				pmax		pmax		
	comp=Z,14nm,0.7s							
SHLS	Shalkode	66.05	326	eP		P	14 05 50.9	-2.2
	baz=326							
TARG	Taragay, Kyrgy	66.08	324	P		P	14 05 53.3	-0.5
TARG				IAmb		IAmb	14 06 02.0	
	comp=Z,5.2nm,0.7s							
ZSN	Zaisan	66.26	332	eP		P	14 05 52.9	-1.4
	baz=332							
UZB	Uzynbulak	66.28	326	eP		P	14 05 53.9	-0.8
	baz=325							
SATY	Saty	66.57	325	eP		P	14 05 55.9	-0.7
	comp=Z,4.2nm,0.7s,baz=325							
KPKS	Kokpek	66.68	326	eP		P	14 05 56.3	-0.9
	comp=Z,6.1nm,0.7s,baz=326							
MK31	Makanchi Array	67.02	330	P		P	14 05 58.3	-0.9
MK31				IAmb		IAmb	14 05 59.9	
	comp=Z,12nm,0.8s							
MKAR	Makanchi Array	67.02	330	P		P	14 05 58.6	-0.6
	comp=Z,17nm,0.7s,baz=134,slow=7.6,SNR=105							
	comp=Z,17nm,0.7s							
MAKZ	Makanchi	67.19	330	P		P	14 05 58.9	-1.3
MAKZ				IAmb		IAmb	14 06 00.8	
	comp=Z,8.2nm,0.8s							
MAKZ	Makanchi	67.19	330	P		P	14 05 59.4	-0.8
MAKZ				sP		sP	14 06 34.7	-0.1
MDOK	Medeo	67.41	325	eP		P	14 06 00.9	-1.0
	baz=324							
TDK	Taldyqorghan	67.82	327	eP		P	14 06 01.4	-2.8
	comp=Z,7.5nm,0.8s,baz=327							
KBL	Kabul	67.84	313	P		P	14 06 03.8	-1.0
CHKK	Chushkaly	67.88	325	eP		P	14 06 03.8	-0.8
	baz=325							
TKM2	Tokmak 2	68.10	324	P		P	14 06 06.0	-0.3
	SNR=7.5							
KUU	Kurty	68.27	325	eP		P	14 06 06.2	-0.9
	comp=Z,13nm,0.7s,baz=325							
PETK	Petropavlovsk-	68.32	21	P		P	14 06 06.7	-0.5
	comp=Z,4.3nm,0.6s,baz=209,slow=4.9,SNR=16							
	comp=Z,4.3nm,0.6s							
UCH	Uchtor	68.33	323	P		P	14 06 08.0	-0.1
	SNR=9.3							
AAK	Ala-Archa	68.59	323	P		P	14 06 09.4	+0.1
	SNR=9.6							
AAK	Ala-Archa	68.59	323	P		P	14 06 08.8	-0.5
AAK				IAmb		IAmb	14 06 10.6	
	comp=Z,13nm,0.7s							
AAK	Ala-Archa	68.59	323	P		P	14 06 09.3	0.0
AML	Almayashu	68.77	322	P		P	14 06 10.7	0.0
	SNR=22							
USP	Ospenovka	68.95	323	P		P	14 06 10.5	-0.9
	SNR=9.5							
SGDS	Sogindy	68.99	324	eP		P	14 06 10.5	-1.1
	baz=324							
EKS2	Erkin-Say	69.03	323	P		P	14 06 12.1	+0.1
	SNR=11							
GAR	Garm	69.20	318	P		P	14 06 12.6	-0.5
GAR				IAmb		IAmb	14 06 13.6	
	comp=Z,9.5nm,0.6s							
BTK	Batken	69.43	319	P		P	14 06 13.4	-1.0
CHGR	Chuyangaron	69.80	317	P		P	14 06 15.7	-1.0
CHGR				IAmb		IAmb	14 06 17.0	
	comp=Z,15nm,0.9s							
BTLS	Baital	70.27	325	eP		P	14 06 18.2	-1.2
	baz=325							
SEM	Semipalatinsk	70.50	332	eP		P	14 06 19.0	-1.9
	baz=332							
MAW	Mawson	70.83	201	P		P	14 06 25.0	+2.6
	comp=Z,2.1nm,0.9s,baz=38,slow=5.4,SNR=7.3							
	comp=Z,2.1nm,0.9s							
IUG	Iuzhnay	71.05	320	eP		P	14 06 23.5	-0.8
	baz=320							
VNDA	Vanda	71.06	172	P		P	14 06 26.4	+2.7
	comp=Z,0.8nm,0.6s,baz=308,slow=7.9,SNR=12							
	comp=Z,0.8nm,0.6s							
VNDA	Vanda	71.06	172	P		P	14 06 26.3	+2.7
VNDA				sP		sP	14 07 01.6	+1.0
ZAA0	Zalesovo Array	71.10	337	P		P	14 06 22.3	-2.0
ZAA0				IAmb		IAmb	14 06 23.9	
	comp=Z,13nm,0.9s							
ZALV	Zalesovo Beam	71.10	337	P		P	14 06 22.5	-1.7
	comp=Z,15nm,0.9s,baz=130,slow=4.3,SNR=42							
	comp=Z,15nm,0.9s							
ZALV	Zalesovo Beam	71.10	337	P		P	14 06 22.3	-2.0
YAK	Yakutsk	71.12	3	P		P	14 06 23.7	-0.5
YAK	Yakutsk	71.12	3	P		P	14 06 23.3	-0.8
KK31	Karatay Array	71.26	322	P		P	14 06 24.2	-1.3
KKAR	Karatay Array	71.26	322	P		P	14 06 24.9	-0.6
KKAR	Karatay Array	71.26	322	P		P	14 06 24.6	-0.9
KKAR				IAmb		IAmb	14 06 26.4	
	comp=Z,3.4nm,0.6s							
KURK	Kurchatov	71.48	331	P		P	14 06 25.9	-0.6
KURK				IAmb		IAmb	14 06 27.1	
	comp=Z,17nm,0.7s							
KURK	Kurchatov	71.48	331	P		P	14 06 25.7	-0.9
KURK				pP		pP	14 06 51.0	+0.1
KURK				pwP		pwP	14 06 54.7	-0.5
MA2	Magadan	71.78	14	P		P	14 06 28.1	-0.1
SBA	Scott Base	72.02	171	P		P	14 06 33.2	+3.8
SBA				sP		sP	14 07 06.3	0.0
BRZS	Berezniki	73.96	328	eP		P	14 06 40.1	-1.2
	baz=328							
BRVK	Borovoye	76.97	330	P		P	14 06 57.8	-0.6
GEYT	Alibeck	77.25	312	P		P	14 07 00.5	+0.1
	comp=Z,2.8nm,0.5s,baz=123,slow=5.5,SNR=5.4							
	comp=Z,2.8nm,0.5s							
GEYT	Alibeck	77.25	312	P		P	14 06 59.8	-0.6
GEYT				IAmb		IAmb	14 07 11.4	
	comp=Z,8.2nm,0.5s							
ABKAR	Akbulak array	80.67	323	P		P	14 07 17.6	-1.1
AKTO	Aktyubinsk	82.30	324	LR		LR	14 48 50.6	
	comp=Z,18nm,18.2s,baz=79,slow=39							
RAYN	Ar Rayn	83.33	295	P		P	14 07 33.4	0.0
RAYN				IAmb		IAmb	14 07 36.8	
	comp=Z,13nm,0.6s							
KIBK	Kibwezi	85.75	268	P		P	14 07 44.6	-1.2
KIBK				IAmb		IAmb	14 07 52.4	
	comp=Z,6.3nm,0.7s							
BELG	Belogornoye	89.08	323	P		P	14 08 00.4	-0.3
	comp=Z,12nm,0.7s,baz=239,slow=2.3,SNR=4.6							
	comp=Z,12nm,0.7s							
NVAR	Mina Array Bea	117.21	52	PKP		PKiKP	14 13 53.3	+2.2
	comp=Z,0.5nm,0.8s,baz=256,slow=0.6,SNR=3.6							
TORD	Torodi Ar. Bea	123.46	280	PKP		PKiKP	14 14 04.7	+1.0
	comp=Z,2.6nm,0.7s,baz=72,slow=1.8,SNR=17							
DBIC	Dimbokro	129.43	271	PKP		PKiKP	14 14 16.4	+0.8
	comp=Z,1.7nm,0.6s,baz=90,slow=3.3,SNR=4.6							
TXAR	Lajitas Array	131.04	59	PKP		PKiKP	14 14 19.8	+1.1
	comp=Z,0.3nm,0.4s,baz=175,slow=1.9,SNR=4.8							
CPUP	Villa Florida	144.68	178	PKPbc		PKiKP	14 14 45.4	-1.0
	comp=Z,5.7nm,0.8s,baz=167,slow=3.5,SNR=11							
LPAZ	La Paz	151.94	154	PKPbc		PKiKP	14 15 04.1	+1.7
	comp=Z,1.1nm,0.5s,baz=216,slow=2.6,SNR=5.4							

IDC 21 14:17:56.5±18.0, 18.80S×179.79E, h545km±83km,
mb3.1/3, mbtmp4.1/3, Error ellipse: s-maj=411.8km
s-min=102.4km az=86.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	1.96	302	P		P	14 19 05.8	0.0
	11nm,0.5s,baz=125,slow=14,SNR=23							
STKA	Stephens Creek	36.70	242	P		P	14 24 17.9	+0.1
	1.2nm,0.6s,baz=60,slow=8.1,SNR=5.7							
	1.2nm,0.6s							
WRA	Warramunga Arr	42.79	261	P		P	14 25 06.5	-0.3
	0.9nm,0.5s,baz=97,slow=7.3,SNR=38							
	0.9nm,0.5s							
ASAR	Alice Springs	42.91	255	P		P	14 25 07.5	-0.2
	1.8nm,0.4s,baz=93,slow=7.5,SNR=65							
	1.8nm,0.4s							

IDC 21 14:25:20.1±3.8, 36.71N×34.83E, h0km, mb3.7/1,
mbtmp3.4/3, ML3.5/2, MS2.7/2, Error ellipse: s-maj=49.5km
s-min=37.2km az=81.0
ISK 21 14:25:23.9, 36.91N×34.45E, h5km, ML3.5/35
NIC 21 14:25:23.3±0.0, 36.53N×34.99E, h5km±31km, Ml3.7/6
DDA 21 14:25:24.2±0.0, 36.90N×34.44E, h14km±1km, ML3.6
ISC 21 14:25:24.5±0.9, 36.86N±0.02×34.48E±0.02, h9km±6km,
n73, σ1s21/102, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MERS	Mersin	0.04	79	PG		Pg	14 25 26.1	-0.3
DED	Mersin	0.28	69	P		Pg	14 25 30.5	+0.4
DED				S		Sg	14 25 34.8	+0.9
KIZK	Mersin	0.46	215	PG		Pb	14 25 34.6	-0.3
KIZK				SG		Sb	14 25 41.3	-0.6
KIZK	Mersin	0.46	215	P		Pb	14 25 34.4	-0.5
KIZK				S		Sb	14 25 41.7	-0.2
GULE	Gulek	0.49	30	P		Pg	14 25 33.7	-0.4
GULE				S		Sg	14 25 40.6	+0.1
GULE				*i* AML		AML	14 25 43.0	
	comp=E,7µm,0.2s							
KERG	Konya-Eregli	0.62	333	P		Pg	14 25 35.6	-1.0
KERG				S		Sg	14 25 43.6	-1.1
KERG				*i* AML		AML	14 25 44.0	
	comp=E,6µm,0.1s							
SILI	Silifke-Mersin	0.66	222	PG		Pb	14 25 38.0	-0.3
SILI				SG		Sb	14 25 47.5	-0.1
KEBE	Keben-Mersin	0.74	236	PG		Pg	14 25 39.3	+0.5
KEBE				SG		Sb	14 25 49.9	0.0
CMRD	Camardi-Nigde	0.90	27	PG		Pg	14 25 40.6	-1.3
CMRD				SG		Sg	14 25 52.9	-0.7
KARG	Kargicak-Mersi	0.90	224	PG		Pb	14 25 42.4	0.0
KARG				SG		Sb	14 25 55.2	+0.7
YURE	YUREGIR	0.93	92	P		Pb	14 25 43.7	+0.8
YURE				S		Sn	14 25 59.0	+1.7
YURE				*i* AML		AML	14 26 01.0	
	comp=E,2µm,0.6s							
TEVE	Tevekalti-Mers	0.93	243	PG		Pg	14 25 42.6	+0.1
YESI	Yesilovacik-Me	0.94	226	PG		Pg	14 25 42.4	-0.3
TISA	Tisan-Mersin	0.95	223	PG		Pg	14 25 42.8	0.0
AKO	Adana	0.98	52	P		Pg	14 25 41.9	-1.5
AKO				S		Sg	14 25 55.8	-0.4
TEPK	Tepekoy-MERSIN	0.98	230	PG		Pg	14 25 43.4	0.0
GULN	MERSIN_Gulnar	1.01	228	P		Pg	14 25 43.6	-0.4
GULN				S		Sb	14 25 57.4	-0.2
KRMN

0.6nm,0.4s
AVNS Nevsehir-Avano 1.96 8 P **Pn** **14 25 59.1 +1.0**
AVNS S **Sn** **14 26 26.4 +3.4**
AVNS *i* AML AML 14 26 35.0
comp=E,512nm,0.7s
KONT Konya--Tatoy 2.00 303 PN **Pn** **14 25 59.3 +0.7**
KMRS Kahramanmaras 2.04 71 PN **Pn** **14 25 59.9 +0.8**
KUZU Kuzuini 2.09 92 P **Pn** **14 26 00.2 +0.4**
KUZU S **Sn** **14 26 25.6 -0.3**
KUZU *i* AML AML 14 26 30.0
comp=N,430nm,0.5s
CSS Mathiatis 2.11 206 PN **Pn** **14 26 00.5 +0.4**
CSS Mathiatis 2.11 206 P **Pn** **14 25 58.1 -2.0**
CSS S **Sn** **14 26 25.7 -0.8**
CHBY Cihanbeyli 2.13 324 PN **Pn** **14 26 00.3 -0.1**
LADK Ladik-KONYA 2.15 309 PN **Pn** **14 26 00.7 0.0**
SEYD Seydisehir-KON 2.18 285 PN **Pn** **14 26 01.5 +0.4**
SARI SarD1z-Kayseri 2.18 44 PN **Pn** **14 26 01.8 +0.6**
SERE Sereflikochisa 2.20 341 PN **Pn** **14 26 01.7 +0.2**
SEDI Konya, Seydise 2.25 286 P **Pn** **14 26 03.4 +1.3**
SEDI S **Sn** **14 26 32.2 +2.1**
BNN Bunyan 2.27 28 PN **Pn** **14 26 02.8 +0.5**
ALFC Alefka 2.28 222 P **Pn** **14 26 02.8 +0.3**
ALFC AML AML 14 26 30.1
1.2nm,0.4s
ALFC AML AML 14 26 30.1
1.2nm,0.4s
ALFC S **Sn** **14 26 32.5 +1.8**
ALFC AML AML 14 26 39.3
1.0nm,0.4s
ALFC AML AML 14 26 39.3
1.0nm,0.4s
ASGA Asgata 2.30 206 S **Sn** **14 26 30.6 -0.5**
ASGA AML AML 14 26 39.2
1.5nm,0.6s
ASGA AML AML 14 26 42.8
1.1nm,0.7s
KEPZ Antalya-Kepez 2.30 272 P **Pn** **14 26 05.4 +2.6**
KEPZ S **Sb** **14 26 36.9 +2.0**
SZAC Souni 2.47 212 S **Sn** **14 26 36.5 +1.2**
AKMS Akamas 2.53 224 P **Pn** **14 26 06.3 +0.5**
AKMS S **Sb** **14 26 40.5 -0.9**
AKMS AML AML 14 26 47.0
1.0nm,0.9s
AKMS AML AML 14 26 47.0
1.0nm,0.9s
AKMS AML AML 14 26 55.2
1.4nm,0.6s
AKMS AML AML 14 26 55.2
1.4nm,0.6s
DOGA KONYA_Doganhis 2.56 300 P **Pn** **14 26 07.4 +1.1**
DOGA S **Sg** **14 26 49.9 +3.2**
KAMT Kaman 2.58 347 PN **Pn** **14 26 06.9 +0.3**
HWQ Hawqa 2.84 155 *eP* **Pn** **14 26 11.0 +0.7**
BRTR Keskin Array B 2.94 347 Pn **Pn** **14 26 12.8 +1.3**
1.0nm,0.3s,baz=160,slow=19,SNR=12
BRTR Lg Lg 14 27 00.1
1.8nm,0.3s,baz=163,slow=32,SNR=2.6
BRTR LR LR 14 27 38.9
comp=E,84nm,20.2s,baz=152,slow=44
1.5nm,0.3s
RCY Rachaya 3.54 161 *eP* **Pn** **14 26 20.6 +0.8**
SHBL Chebaa 3.66 163 *eP* **Pn** **14 26 21.9 +0.5**
ELL Elmali 3.67 270 P **Pb** **14 26 27.1 -2.5**
OSC2 CSNet OBS 4 4.19 206 P **Pn** **14 26 27.2 -1.4**
OSC1 CSNet OBS 1 4.25 219 P **Pn** **14 26 30.0 +0.4**
MLR Muntele Rosu 10.75 326 LR LR 14 33 09.2
comp=Z,49nm,18.6s,baz=274,slow=42
GERES GERESS Array B 19.30 315 P **P** **14 29 49.8 0.0**
0.2nm,0.3s,baz=117,slow=10.0,SNR=5.4
0.8nm,0.6s
FINES FINESS Array B 25.17 351 P **P** **14 30 48.5 -1.4**
1.1nm,0.8s,baz=161,slow=13,SNR=1.7
1.1nm,0.8s

IDC 21 14:30:29.7±4.8, 33°58S×177°79W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=193.3km s-min=60.8km az=164.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.60**	**284**	P	P	14 37 21.3	+0.8
	1.2nm,0.6s,baz=130,slow=10,SNR=2.7						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**43.21**	**270**	P	P	14 38 33.0	+0.3
	1.2nm,0.7s,baz=108,slow=7.3,SNR=22						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**44.48**	**275**	P	P	14 38 41.8	-1.1
	1.4nm,0.6s,baz=117,slow=7.4,SNR=16						
	1.4nm,0.6s						
FINES	**FINESS Array B**	**148.17**	**338**	PKPbc	PKPbc	14 50 16.2	-0.5
	1.0nm,0.6s,baz=85,slow=2.9,SNR=2.6						

*IDC **21** 14:46:02.3±0.5, 55°76S×27°46W, h0km, mb4.7/14, mbtmp4.7/16, ML4.5/2, MS3.7/36, Error ellipse: s-maj=16.9km s-min=14.5km az=56.0*
*NEIC **21** 14:46:08.0±1.3, 55°81S±0°09×27°6W±0°1, h35km±4km, mb5.0/54, Error ellipse: s-maj=14.3km s-min=6.1km az=146.0*
*BJI **21** 14:46:10.0±0.0, 55°80S×27°50W, h40km, mB5.2/1, Ms5.0/2, Ms7 4.8/2*
ISC 21 14:46:07.9±0.3, 55°79S±0°06×27°58W±0°07, h35km, n231, σ0s76/211, mb5.0/38, MS3.8/34, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.34**	**283**	Pn	**Pn**	**14 47 25.7**	**+0.7**
ORCD	**Orcadas**	**10.29**	**234**		**Pn**	**14 48 32.4**	**-0.4**
VNA1	**Neumayer--Stat**	**17.12**	**158**	P	**P**	**14 50 06.0**	**+0.7**
VNA3	**Neumayer Olymp**	**17.31**	**160**	P	**P**	**14 50 07.2**	**-0.3**
VNA2	**Neumayer--Watz**	**17.51**	**158**	P	**P**	**14 50 09.5**	**-0.3**
	baz=310,slow=13						
EFI	**East Falkland**	**18.41**	**270**	P	**Pn**	**14 50 20.3**	**+0.3**
SNAA	**Sanae**	**19.07**	**156**	P	**P**	**14 50 26.6**	**-0.3**
SNAA	**Sanae**	**19.07**	**156**	P	**P**	**14 50 26.3**	**-0.6**
	1.4nm,0.3s,baz=307,slow=8.0,SNR=130						
SNAA				LR	LR	14 56 27.6	
	comp=Z,200nm,20.8s,baz=334,slow=33						
	13nm,0.6s						
SNAA	**Sanae**	**19.07**	**156**	P	**P**	**14 50 26.8**	**-0.1**
PMSA	**Palmer Station**	**19.91**	**228**	P	**P**	**14 50 36.9**	**+1.0**
	1.2nm,0.3s,baz=121,slow=7.6,SNR=3.2						
PMSA				LR	LR	14 57 12.3	
	comp=Z,390nm,18.6s,baz=41,slow=34						
	12nm,0.7s						
PMSA	**Palmer Station**	**19.91**	**228**		**P**	**14 50 36.5**	**+0.6**
TROLL	**Troll, Antarti**	**20.57**	**154**	P	**P**	**14 50 42.7**	**-0.7**
BELA	**Belgrano 2**	**22.32**	**184**	P	**P**	**14 51 01.7**	**-0.2**
USHA	**Ushuaia**	**23.04**	**255**	P	**P**	**14 51 09.9**	**+0.3**
	19nm,0.8s,baz=85,slow=4.7,SNR=3.6						
	19nm,0.8s						
MG02	**Cerro Sombrero**	**24.23**	**260**	P	**P**	**14 51 19.6**	**-1.4**
MG05	**Puerto Natales**	**26.52**	**260**	P	**P**	**14 51 41.1**	**-0.7**
MG05				IAmb	IAmb	14 51 55.1	
	comp=Z,45nm,1.2s						
GO09	**Cerro Castillo**	**26.62**	**261**	P	**P**	**14 51 41.5**	**-1.2**
GO09				IAmb	IAmb	14 52 16.9	
	comp=Z,73nm,1.6s						
TRQA	**Tornquist**	**29.02**	**293**	P	**P**	**14 52 04.1**	**-0.2**
COYC	**Coyhaique**	**29.50**	**271**	P	**P**	**14 52 07.5**	**-1.0**
COYC				IAmb	IAmb	14 52 43.7	
	comp=Z,56nm,1.9s						
PLTB	**Pedras Altas**	**30.16**	**312**	P	**P**	**14 52 14.3**	**-0.2**
PLTB				IAmb	IAmb	14 52 16.1	
	comp=Z,18nm,0.7s						
PLTB	**Pedras Altas**	**30.16**	**312**	*eP*	**P**	**14 52 15.4**	**+1.0**
CPSB	**Cacapava Do Su**	**31.28**	**313**	*eP*	**P**	**14 52 25.8**	**+1.5**
PLCA	**Paso Flores**	**31.74**	**280**	P	**P**	**14 52 27.7**	**-0.6**
	comp=Z,1.9nm,1.0s,baz=177,slow=5.2,SNR=3.2						
PLCA				PcP	**PcP**	**14 55 18.7**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=109,slow=1.5,SNR=6.9						
PLCA				LR	LR	15 05 02.7	
	comp=Z,115nm,19.4s,baz=132,slow=36						
	comp=Z,1.9nm,1.0s						
RODS	**Rosario do Sul**	**32.06**	**311**	*eP*	**P**	**14 52 32.2**	**+1.0**
ALGR	**Alto Alegre (B**	**32.53**	**315**	*eP*	**P**	**14 52 36.0**	**+0.6**
UNIS	**Unistalda (Bra**	**33.13**	**312**	*eP*	**P**	**14 52 41.7**	**+1.2**
ITQB	**Itaqui**	**33.26**	**310**	P	**P**	**14 52 42.1**	**+0.5**
ITQB	**Itaqui**	**33.26**	**310**	*eP*	**P**	**14 52 42.3**	**+0.7**
CRSM	**Crissiumal (Br**	**34.10**	**315**	*eP*	**P**	**14 52 49.5**	**+0.6**
QSPA	**South Pole Qui**	**34.46**	**180**	P	**P**	**14 52 52.3**	**+0.4**
	comp=Z,12nm,0.6s,baz=190,slow=3.2,SNR=131						
QSPA				LR	LR	15 06 15.9	
	comp=Z,189nm,19.3s,baz=192,slow=35						
	comp=Z,12nm,0.6s						
QSPA	**South Pole Qui**	**34.46**	**180**	P	**P**	**14 52 52.4**	**+0.4**
QSPA				IAmb	IAmb	14 53 04.4	
	comp=Z,18nm,0.7s						
QSPA	**South Pole Qui**	**34.46**	**180**	P	**P**	**14 52 52.3**	**+0.4**
QSPA				pP	**pP**	**14 53 03.6**	**+1.9**
FRBT	**Francisco Belt**	**35.08**	**318**	*eP*	**P**	**14 52 58.2**	**+0.7**
VAO	**Valinhos**	**35.75**	**328**	*eP*	**P**	**14 53 05.0**	**+1.7**
PTGB	**Pitanga**	**35.85**	**320**	*eP*	**P**	**14 53 04.8**	**+0.6**
CPUP	**Villa Florida**	**36.48**	**311**	P	**P**	**14 53 09.5**	**0.0**
	comp=Z,23nm,0.9s,baz=151,slow=7.6,SNR=32						
CPUP				LR	LR	15 05 40.0	
	comp=Z,135nm,21.0s,baz=204,slow=32						
	comp=Z,23nm,0.9s						
CPUP	**Villa Florida**	**36.48**	**311**	P	**P**	**14 53 09.3**	**-0.1**
CPUP	**Villa Florida**	**36.48**	**311**	*eP*	**P**	**14 53 09.7**	**+0.3**
CPUP	**Villa Florida**	**36.48**	**311**	P	**P**	**14 53 09.4**	**0.0**
CPUP				sP	**sP**	**14 53 23.2**	**+0.1**
MT09	**Talagante**	**37.02**	**288**	P	**P**	**14 53 12.7**	**-1.5**
MT09				IAmb	IAmb	14 54 27.9	
	comp=Z,43nm,1.4s						
MT02	**Curacav**	**37.50**	**288**	P	**P**	**14 53 17.2**	**-0.9**
MT02				IAmb	IAmb	14 54 10.7	
	comp=Z,32nm,1.2s						
ZON	**Zonda**	**37.53**	**293**	P	**P**	**14 53 17.8**	**-0.7**
ROC1	**El Roble**	**37.65**	**289**	P	**P**	**14 53 19.0**	**-0.6**
ROC1				IAmb	IAmb	14 53 46.5	
	comp=Z,13nm,0.8s						
TRCB	**Terra Rica**	**37.81**	**320**	P	**P**	**14 53 20.6**	**-0.3**
TRCB				IAmb	IAmb	14 53 22.2	
	comp=Z,22nm,0.8s						
TRCB	**Terra Rica**	**37.81**	**320**	*eP*	**P**	**14 53 21.7**	**+0.9**
CO02	**Combarbal**	**39.02**	**291**	P	**P**	**14 53 30.6**	**-0.5**
CO02				IAmb	IAmb	14 54 36.1	
	comp=Z,49nm,1.6s						
CO01	**Juntas del Tor**	**39.51**	**293**	P	**P**	**14 53 35.8**	**+0.5**
MAW	**Mawson**	**40.49**	**144**	P	**P**	**14 53 43.0**	**+0.4**
	comp=Z,4.7nm,0.5s,baz=236,slow=8.1,SNR=24						
MAW				LR	LR	15 07 56.2	
	comp=Z,135nm,21.6s,baz=245,slow=32						
	comp=Z,4.7nm,0.5s						
MAW	**Mawson**	**40.49**	**144**	P	**P**	**14 53 42.8**	**+0.1**
AC05	**El Transito**	**40.52**	**294**	P	**P**	**14 53 43.8**	**+0.3**
LCO	**Las Campanas**	**40.60**	**293**	P	**P**	**14 53 43.6**	**-0.8**
LCO				pP	**pP**	**14 53 51.8**	**-2.3**
LCO				sP	**pwP**	**14 53 56.5**	**+0.1**
SUR	**Sutherland**	**40.78**	**76**	P	**P**	**14 53 45.5**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=184,slow=9.8,SNR=7.1						
SUR				LR	LR	15 06 31.5	
	comp=Z,208nm,19.7s,baz=186,slow=30						
	comp=Z,5.1nm,0.8s						
MC01	**Montes Claros**	**40.97**	**336**	*eP*	**P**	**14 53 47.4**	**+0.2**
AQDB	**Aquidauana**	**41.06**	**318**	P	**P**	**14 53 46.6**	**-1.3**
AQDB				IAmb	IAmb	14 53 48.6	
	comp=Z,54nm,1.4s						
AQDB	**Aquidauana**	**41.06**	**318**	*eP*	**P**	**14 53 47.6**	**-0.3**
AC04	**Llanos de Chal**	**41.45**	**293**	P	**P**	**14 53 50.6**	**-0.4**
AC04				IAmb	IAmb	14 53 53.1	
	comp=Z,50nm,1.4s						
AC02	**Maricunga**	**41.56**	**297**	P	**P**	**14 53 52.8**	**+0.3**
AC02				IAmb	IAmb	14 53 54.5	
	comp=Z,35nm,0.9s						
AC06	**Mina Casimiro**	**41.76**	**295**	P	**P**	**14 53 53.2**	**-0.4**
JANB	**Januaria**	**42.64**	**336**	*eP*	**P**	**14 54 01.7**	**+0.8**
BDFB	**Brasilia**	**43.03**	**330**	P	**P**	**14 54 04.1**	**0.0**
	comp=Z,4.2nm,0.6s,baz=181,slow=6.5,SNR=4.9						
	comp=Z,4.2nm,0.6s						
GO02	**Mina Guanaco**	**43.18**	**298**	P	**P**	**14 54 05.5**	**0.0**
PB15	**IPOC Station P**	**44.75**	**299**	P	**P**	**14 54 18.1**	**+0.1**
PB15				IAmb	IAmb	14 54 23.8	
	comp=Z,24nm,1.2s						
LVC	**Limon Verde**	**44.98**	**300**	LR	LR	15 13 59.9	
	comp=Z,45nm,20.9s,baz=174,slow=37						
LVC	**Limon Verde**	**44.98**	**300**	P	**P**	**14 54 20.3**	**+0.3**
LVC				IAmb	IAmb	14 54 23.0	
	comp=Z,31nm,1.1s						
LVC	**Limon Verde**	**44.98**	**300**	*eP*	**P**	**14 54 21.0**	**+1.0**
LVC	**Limon Verde**	**44.98**	**300**	P	**P**	**14 54 20.9**	**+1.0**
LVC				pP	**pP**	**14 54 31.2**	**+1.4**
SDBA	**SAO DESIDERIO**	**45.34**	**336**	*eP*	**P**	**14 54 23.1**	**+0.6**
NBLA	**Lagarto - SE**	**45.40**	**346**	*eP*	**P**	**14 54 23.5**	**+0.6**
PB04	**IPOC Station P**	**45.82**	**299**	P	**P**	**14 54 26.2**	**-0.2**
PB09	**IPOC Station P**	**45.83**	**301**	P	**P**	**14 54 27.2**	**+0.7**
PB09				IAmb	IAmb	14 54 28.8	
	comp=Z,31nm,1.1s						
BOSA	**Boshof**	**46.12**	**76**	P	**P**	**14 54 27.2**	**-1.5**
	comp=Z,5.4nm,0.9s,baz=206,slow=6.7,SNR=6.3						
BOSA				LR	LR	15 09 58.5	
	comp=Z,236nm,20.7s,baz=193,slow=31						
	comp=Z,5.4nm,0.9s						
BOSA	**Boshof**	**46.12**	**76**	P	**P**	**14 54 28.2**	**-0.5**
PB07	**IPOC Station P**	**46.20**	**300**	P	**P**	**14 54 29.2**	**-0.3**
SBA	**Scott Base**	**46.32**	**184**	P	**P**	**14 54 30.2**	**+0.7**
SBA	**Scott Base**	**46.32**	**184**	P	**P**	**14 54 30.5**	**+1.0**
SBA				pP	**sP**	**14 54 42.4**	**-1.2**
PB02	**IPOC Station P**	**46.55**	**300**	P	**P**	**14 54 32.4**	**+0.2**
PB02				IAmb	IAmb	14 54 33.8	
	comp=Z,28nm,1.0s						
PB01	**IPOC Station P**	**46.59**	**301**	P	**P**	**14 54 32.4**	**0.0**
VNDA	**Vanda**	**46.82**	**183**	P	**P**	**14 54 34.0**	**+0.5**
	comp=Z,4.4nm,0.6s,baz=183,slow=6.8,SNR=81						
VNDA				LR	LR	15 15 06.3	
	comp=Z,34nm,18.2s,baz=160,slow=37						
	comp=Z,4.4nm,0.6s						
VNDA	**Vanda**	**46.82**	**183**	P	**P**	**14 54 33.5**	**+0.1**
VNDA	**Vanda**	**46.82**	**183**	P	**P**	**14 54 34.0**	**+0.5**
VNDA				pP	**pP**	**14 54 45.1**	**+1.6**
PTLB	**Pontes e Lacer**	**46.96**	**316**	P	**P**	**14 54 34.7**	**-0.5**
PTLB				IAmb	IAmb	14 54 36.4	
	comp=Z,42nm,1.0s						
PTLB	**Pontes e Lacer**	**46.96**	**316**	*eP*	**P**	**14 54 35.2**	**0.0**
PB08	**IPOC Station P**	**47.20**	**302**	P	**P**	**14 54 37.1**	**-0.4**
PB08				IAmb	IAmb	14 54 39.2	
	comp=Z,16nm,0.7s						
SIV	**San Ignacio**	**47.24**	**314**	LR	LR	15 17 12.0	
	comp=Z,36nm,18.1s,baz=130,slow=40						
SNDB	**Serra Nova Dou**	**47.46**	**328**	*eP*	**P**	**14 54 40.1**	**+0.9**
GO01	**Chusmiza**	**47.62**	**302**	P	**P**	**14 54 41.1**	**+0.2**
H10S2	**ASCENSION HYDR**	**47.82**	**17**	T	T	15 46 54.2	
	baz=190,slow=74,SNR=88						
H10S3	**ASCENSION HYDR**	**47.82**	**17**	T	T	15 46 54.6	
	baz=30,slow=74,SNR=216						
CCD	**Concordia, Ant**	**47.97**	**170**	P	**P**	**14 54 42.5**	**-0.4**
CCD				pP	**pP**	**14 54 53.1**	**+0.1**
PB16	**IPOC Station P**	**48.92**	**303**	P	**P**	**14 54 50.4**	**-0.6**
PB16				IAmb	IAmb	14 54 53.0	
	comp=Z,27nm,1.6s						
H10N1	**ASCENSION HYDR**	**48.94**	**17**	T	T	15 48 18.5	
	baz=188,slow=76,SNR=132						
H10N3	**ASCENSION HYDR**	**48.94**	**17**	T	T	15 48 02.2	
	baz=188,slow=76,SNR=158						
H10N2	**ASCENSION HYDR**	**48.95**	**17**	T	T	15 48 19.9	
	baz=188,slow=76,SNR=180						
LBTB	**Lobatse**	**49.15**	**74**	LR	LR	15 11 52.7	
	comp=Z,29nm,20.3s,baz=214,slow=32						
LBTB	**Lobatse**	**49.15**	**74**	P	**P**	**14 54 51.9**	**-0.3**
LBTB				x	x	14 54 55.9	
LBTB				pP	**pwP**	**14 55 03.5**	**-0.8**
SMTB	**Santa Maria do**	**49.40**	**334**	*eP*	**P**	**14 54 54.9**	**+0.8**
PDRB	**Porto dos Gac**	**49.59**	**321**	*eP*	**P**	**14 54 55.7**	**+0.3**
VILB	**Vilhena**	**49.64**	**316**	*eP*	**P**	**14 54 55.3**	**-0.6**
TSUM	**Tsumeb**	**49.75**	**61**	LR	LR	15 11 49.7	
	comp=Z,54nm,21.4s,baz=149,slow=31						
CLDB	**Colider**	**49.95**	**323**	*eP*	**P**	**14 54 57.9**	**-0.4**
LPAZ	**La Paz**	**50.05**	**305**	P	**P**	**14 55 00.4**	**+0.8**
	comp=Z,15nm,0.5s,baz=142,slow=5.4,SNR=60						
LPAZ				LR	LR	15 15 35.7	
	comp=Z,51nm,21.8s,baz=134,slow=35						
	comp=Z,15nm,0.5s						
LPAZ	**La Paz**	**50.05**	**305**	P	**P**	**14 54 59.9**	**+0.2**
LPAZ	**La Paz**	**50.05**	**305**	*eP*	**P**	**14 55 00.2**	**+0.5**
LPAZ	**La Paz**	**50.05**	**305**	P	**P**	**14 55 00.5**	**+0.8**
RCBR	**Riachuelo**	**50.27**	**349**	LR	LR	15 11 17.9	
	comp=Z,74nm,21.8s,baz=320,slow=30						
RCBR	**Riachuelo**	**50.27**	**349**	*eP*	**P**	**14 55 01.7**	**+1.0**
PRPB	**Parauapebas**	**52.56**	**332**	*eP*	**P**	**14 55 16.6**	**-1.2**
NPGB	**Novo Progresso**	**53.38**	**325**	*eP*	**P**	**14 55 23.9**	**+0.1**
CASY	**Casey**	**54.23**	**161**	P	**P**	**14 55 29.6**	**+0.2**
CASY				pP	**pP**	**14 55 39.8**	**+0.3**
ROSB	**Rosrio**	**54.40**	**340**	*eP*	**P**	**14 55 31.0**	**-0.3**
SAML	**Samuel**	**54.47**	**315**	P	**P**	**14 55 31.4**	**-0.3**
SAML				pP	**sP**	**14 55 45.2**	**-0.5**
ETMB	**Extrema**	**54.93**	**311**	P	**P**	**14 55 34.9**	**-0.3**
ETMB				IAmb	IAmb	14 55 36.0	
	comp=Z,26nm,1.4s						
ETMB	**Extrema**	**54.93**	**311**	*eP*	**P**	**14 55 35.0**	**-0.1**
TMAB	**Tom-Au,PA,Br**	**55.78**	**335**	*eP*	**P**	**14 55 41.9**	**+0.7**
ITTB	**Itaituba**	**56.02**	**325**	*eP*	**P**	**14 55 43.2**	**+0.2**
DRV	**Dumont d'Urvil**	**57.51**	**174**	P	**P**	**14 55 52.1**	**-0.7**
NNA	**Nana**	**57.93**	**299**	LR	LR	15 20 45.9	
	comp=Z,78nm,21.5s,baz=158,slow=36						
MALB	**Monte Alegre**	**57.94**	**328**	*eP*	**P**	**14 55 57.2**	**+0.7**
LSZ	**Lusaka**	**58.49**	**69**	LR	LR	15 17 34.3	
	comp=Z,126nm,21.6s,baz=200,slow=32						
MACA	**Manacapuru-AM**	**58.83**	**320**	*eP*	**P**	**14 56 02.4**	**-0.4**
RPN	**Rapa Nui**	**63.48**	**260**	LR	LR	15 19 27.2	
	comp=Z,22nm,20.5s,baz=102,slow=32						
BOAV	**Boa Vista**	**63.94**	**323**	P	**P**	**14 56 36.2**	**-1.0**
BOAV				IAmb	IAmb	14 56 37.5	
	comp=Z,11nm,0.8s						
BOAV	**Boa Vista**	**63.94**	**323**	*eP*	**P**	**14 56 36.5**	**-0.8**
MDP	**Montagnes des**	**64.11**	**332**	LR	LR	15 22 04.5	
	comp=Z,86nm,21.1s,baz=133,slow=34						
DBIC	**Dimbokro**	**65.02**	**25**	P	**P**	**14 56 44.7**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=155,slow=12,SNR=3.0						
DBIC				LR	LR	15 17 57.2	
	comp=Z,92nm,21.5s,baz=176,slow=30						
	comp=Z,3.4nm,0.8s						
MCRA	**Macar, Loja**	**66.03**	**300**	P	**P**	**14 56 50.6**	**-0.4**
MCRA				IAmb	IAmb	14 56 51.5	
	comp=Z,15nm,0.7s						
OPO	**Ambohidratompo**	**66.30**	**88**	LR	LR	15 19 51.3	
	comp=Z,98nm,19.6s,baz=3.0,slow=31						
OTAV	**Otavalo**	**69.33**	**304**	P	**P**	**14 57 13.0**	**+0.7**
OTAV				IAmb	IAmb	14 57 14.0	
	comp=Z,26nm,1.6s						
OTAV	**Otavalo**	**69.33**	**304**	*eP*	**P**	**14 57 12.9**	**+0.7**
TULM	**Tulcn-Chalpat**	**69.44**	**305**	P	**P**	**14 57 13.5**	**+0.5**
TULM				IAmb	IAmb	14 59 28.7	
	comp=Z,18nm,0.8s						
BBTS	**Babate**	**70.80**	**11**	LR	LR	15 21 45.1	
	comp=Z,94nm,20.9s,baz=223,slow=30						
ROSC	**El Rosal**	**71.55**	**310**	LR	LR	15 28 42.9	
	comp=Z,53nm,20.6s,baz=221,slow=36						
MBAR	**Mbarara**	**72.23**	**63**	LR	LR	15 26 40.3	
	comp=Z,50nm,21.6s,baz=168,slow=34						
BAUV	**El Baul**	**72.72**	**318**	P	**P**	**14 57 31.5**	**-0.6**
KOWA	**Kowa**	**72.78**	**24**	LR	LR	15 22 26.0	
	comp=Z,79nm,21.1s,baz=196,slow=30						
KOWA	**Kowa**	**72.78**	**24**	P	**P**	**14 57 32.3**	**-0.1**
KOWA				IAmb	IAmb	14 57 34.1	
	comp=Z,25nm,1.7s						
TOA0	**Torodi Ar. Sit**	**72.94**	**30**	P	**P**	**14 57 33.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.94**	**30**	P	**P**	**14 57 33.6**	**+0.2**
	comp=Z,16nm,0.6s,baz=198,slow=6.5,SNR=16						
	comp=Z,16nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.94**	**30**	P	**P**	**14 57 33.5**	**+0.1**
TORD				IAmb	IAmb	14 57 34.5	
	comp=Z,15nm,0.6s						
SDV	**Santo Domingo**	**73.67**	**315**	LR	LR	15 31 56.6	
	comp=Z,117nm,18.9s,baz=183,slow=37						
SDV	**Santo Domingo**	**73.67**	**315**	P	**P**	**14 57 37.5**	**-0.5**
SDV				IAmb	IAmb	14 57 38.6	
	comp=Z,15nm,0.8s						
SDV	**Santo Domingo**	**73.67**	**315**	*eP*	**P**	**14 57 37.8**	**-0.2**
KMBO	**Kilima Mbogo**	**75.15**	**69**	LR	LR	15 27 50.2	
	comp=Z,82nm,20.9s,baz=91,slow=33						
RPZ	**Rata Peaks**	**79.62**	**194**	LR	LR	15 28 36.8	
	comp=Z,47nm,21.6s,baz=130,slow=32						
SJG	**San Juan**	**80.50**	**323**	LR	LR	15 37 00.5	
	comp=Z,16nm,18.8s,baz=134,slow=38						
ATD	**Arta Tunnel**	**88.77**	**67**	LR	LR	15 35 33.5	
	comp=Z,48nm,21.8s,baz=97,slow=34						
CMIG	**Mias Romero**	**91.87**	**298**	LR	LR	15 39 48.6	
	comp=Z,31nm,18.8s,baz=172,slow=35						
PPT	**Papeete**	**92.17**	**234**	LR	LR	15 32 51.0	
	comp=Z,34nm,18.3s,baz=113,slow=30						
STKA	**Stephens Creek**	**92.19**	**171**	P	**P**	**14 59 12.5**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=155,slow=3.5,SNR=4.6						
	comp=Z,2.0nm,0.7s						
RAR	**Rarotonga**	**93.27**	**224**	LR	LR	15 33 31.3	
	comp=Z,37nm,19.2s,baz=200,slow=30						
KEST	**Kesra**	**96.46**	**29**	LR	LR	15 39 53.9	
	comp=Z,51nm,18.1s,baz=300,slow=34						
ESDC	**Sonseca Array**	**97.20**	**18**	LR	LR	15 38 10.3	
	comp=Z,59nm,19.6s,baz=163,slow=32						
ASAR	**Alice Springs**	**99.30**	**163**	P	**Pdif**	**14 59 44.1**	**-2.1**
ASAR	comp=Z,1.8nm,0.8s,baz=183,slow=4.2,SNR=26			LR	LR	15 42 31.1	
	comp=Z,31nm,18.9s,baz=117,slow=34						
	comp=Z,1.8nm,0.8s						
AS31	**Alice Springs**	**99.30**	**163**	P	**Pdif**	**14 59 45.2**	**-1.1**
WRA	**Warramunga Arr**	**103.02**	**163**	Pdiff	**Pdif**	**15 00 01.1**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=195,slow=4.4,SNR=6.0						
PDAR	**Pinedale Array**	**120.02**	**303**	PKP	**PKPdf**	**15 04 52.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=119,slow=4.9,SNR=3.9						
NVAR	**Mina Array Bea**	**121.09**	**293**	PKP	**PKPdf**	**15 04 56.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=118,slow=2.2,SNR=6.2						
FINES	**FINESS Array B**	**124.26**	**28**	PKP	**PKPdf**	**15 05 00.

F26K	**Sheenjek River**	**149.22 318**	P	**PKPbc**	**15 05 51.2**	**+0.1**
	baz=99					
C27K	**Jago River**	**149.33 322**	P	**PKPbc**	**15 05 51.3**	**0.0**
	baz=96					
PRP	**Porcupine Dome**	**149.37 314**	P	**PKPbc**	**15 05 51.1**	**-0.6**
	baz=102					
HHC	**Hu-ho-hao-te**	**149.51 102**	*e*PKPbc	**PKPdf**	**15 05 49.8**	**+1.6**
WAT6	**Susitna Watana**	**149.64 308**	P	**PKPbc**	**15 05 52.4**	**0.0**
	baz=105					
F25K	**Christian Rive**	**149.78 318**	P	**PKPbc**	**15 05 52.6**	**+0.1**
	baz=98					
IL31		**149.78 312**		**PKPbc**	**15 05 51.6**	**-0.8**
ILAR	**Eielson Array**	**149.78 312**	PKPbc	**PKPbc**	**15 05 51.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=190,slow=16,SNR=4.7					
E25K	**Arctic Village**	**149.82 319**	P	**PKPbc**	**15 05 52.2**	**-0.3**
	baz=97					
POKR	**Poker Plat Res**	**150.08 313**	P	**PKPbc**	**15 05 52.7**	**-0.5**
	baz=101					
G24K	**Hadweenzic Riv**	**150.36 316**	P	**PKPbc**	**15 05 54.1**	**+0.3**
	baz=98					
H24K	**Noodor Dome**	**150.39 314**	P	**PKPbc**	**15 05 54.1**	**+0.1**
	baz=99					
MCK	**McKinley**	**150.44 310**	P	**PKPbc**	**15 05 54.4**	**+0.3**
	baz=102					
F24K	**Squaw Lake**	**150.62 317**	P	**PKPbc**	**15 05 54.5**	**0.0**
	baz=96					
NEA2	**Nenana**	**150.67 311**	P	**PKPbc**	**15 05 54.0**	**-0.6**
	baz=101					
E24K	**Your Creek**	**150.90 319**	P	**PKPbc**	**15 05 55.5**	**+0.3**
	baz=95					
SONM	**Songino Array**	**150.93 86**	PKPbc	**PKPbc**	**15 05 54.8**	**-1.1**
	comp=Z,4.5nm,0.6s,baz=222,slow=3.6,SNR=23					
H23K	**Yukon River**	**151.06 314**	P	**PKPbc**	**15 05 55.7**	**+0.1**
	baz=98					
D24K	**Happy Valley**	**151.10 321**	P	**PKPbc**	**15 05 55.6**	**+0.2**
	baz=93					
SKT	**Skwentna**	**151.21 306**	P	**PKPbc**	**15 05 55.9**	**-0.1**
	baz=104					
E23K	**Chandalar**	**151.32 318**	P	**PKPbc**	**15 05 56.0**	**-0.1**
	baz=94					
TOLK	**Toolik Lake Re**	**151.34 320**	P	**PKPbc**	**15 05 55.6**	**-0.5**
	baz=93					
G23K	**Bananza Creek**	**151.36 316**	P	**PKiKP**	**15 05 56.8**	**+0.1**
	baz=96					
BPAW	**Bear Paw Mtn.**	**151.40 310**	P	**PKPbc**	**15 05 56.1**	**-0.2**
	baz=100					
COLD	**Coldfoot**	**151.48 317**	P	**PKiKP**	**15 05 56.9**	**0.0**
	baz=95					
C23K	**Itkillik River**	**151.74 322**	P	**PKPbc**	**15 05 56.8**	**-0.1**
	baz=90					
CAST	**Castle Rocks**	**151.76 308**	P	**PKPbc**	**15 05 56.7**	**-0.5**
	baz=100					
H22K	**Ishtalitna Cre**	**151.82 314**	P	**PKPbc**	**15 05 57.4**	**+0.2**
	baz=96					
M20K	**Styx River**	**151.93 305**	P	**PKPbc**	**15 05 57.2**	**-0.5**
	baz=103					
G22K	**Bettles**	**151.97 316**	P	**PKiKP**	**15 05 57.9**	**+0.1**
	baz=94					
F22K	**John River**	**152.26 317**	P	**PKiKP**	**15 05 58.6**	**+0.1**
	baz=93					
H21K	**Melozitna River**	**152.38 313**	P	**PKPbc**	**15 05 58.6**	**0.0**
	baz=96					
M19K	**Big River Lodg**	**152.51 305**	P	**PKPbc**	**15 05 58.5**	**-0.5**
	baz=102					
G21K	**Allakaket**	**152.73 315**	P	**PKPbc**	**15 05 59.3**	**+0.1**
	baz=94					
F21K	**Alatna River**	**152.76 316**	P	**PKiKP**	**15 05 59.8**	**+0.3**
	baz=92					
IMAR	**Indian Mountai**	**152.80 314**	PKPdf	**PKPdf**	**15 05 52.6**	**+0.4**
IMAR			PKPbc	**PKiKP**	**15 05 59.7**	**+0.1**

IDC 21 14:46:23.9±5.7, 1°.87S×140°.88E, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, MS3.0/2, Error ellipse: s-maj=118.6km s-min=63.8km az=152.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**9.66**	**276**	LR	LR	14 52 42.4	
	comp=Z,32nm,18.4s,baz=69,slow=39						
WRA	**Warramunga Arr**	**19.06**	**199**	P	Pn	14 50 48.4	-0.3
	0.3nm,0.3s,baz=24,slow=12,SNR=34						
	1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.99**	**222**	P	P	14 51 19.1	-0.6
	2.2nm,0.8s,baz=2.0,slow=1.4,SNR=5.9						
	2.2nm,0.8s						
ASAR	**Alice Springs**	**22.70**	**197**	P	P	14 51 27.8	+0.5
	1.4nm,0.7s,baz=25,slow=11,SNR=40						
	1.4nm,0.7s						
VNDA	**Vanda**	**76.43**	**175**	P	P	14 58 14.7	-0.1
	1.1nm,0.8s,baz=333,slow=7.7,SNR=3.8						
	1.1nm,0.8s						
MAW	**Mawson**	**83.71**	**202**	LR	LR	15 33 48.9	
	comp=Z,16nm,18.8s,baz=223,slow=34						

IDC 21 14:53:52.4±6.2, 2°.01S×140°.55E, h0km, mb3.4/2, mbtmp3.4/3, ML3.4/1, MS3.4/2, Error ellipse: s-maj=157.5km s-min=75.5km az=131.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.82**	**198**	P	P	14 58 13.1	-0.8
	0.1nm,0.3s,baz=21,slow=12,SNR=9.6						
	0.3nm,0.4s						
HNR	**Honiara**	**20.65**	**112**	LR	LR	15 05 42.0	
	comp=Z,509nm,21.3s,baz=48,slow=34						
ASAR	**Alice Springs**	**22.47**	**196**	P	P	14 58 53.5	0.0
	0.5nm,0.6s,baz=26,slow=12,SNR=14						
	0.5nm,0.6s						
JCJ	**Chichijima**	**28.98**	**3**	LR	LR	15 09 33.5	
	comp=Z,13nm,18.4s,baz=108,slow=32						
VNDA	**Vanda**	**76.31**	**175**	P	P	15 05 43.2	+0.4
	0.4nm,0.7s,baz=333,slow=7.6,SNR=1.7						
	0.4nm,0.7s						

*DDA **21** 14:56:51.7±0.0, 38°.93N×27°.73E, h9km±1km, MW3.6*
*ISK **21** 14:56:51.8, 38°.91N×27°.72E, h9km, ML3.5/31*
*THE **21** 14:56:53.2, 38°.93N×27°.64E, h2km±1km, ML3.2/10, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0*
*ATH **21** 14:56:54.0, 38°.89N×27°.76E, h20km±31km, ML3.4/4, Error ellipse: s-maj=31.6km s-min=2.5km az=0.0*

ISC 21 14:56:52.0±0.8, 38°.91N±0°.02×27°.71E±0°.02, h9km±6km, n80, σ0°80/115, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.08**	**110**	PG	**Pg**	**14 56 54.2**	**-0.1**
AKHS	**Akhisar**	**0.08**	**110**	P	**Pg**	**14 56 54.2**	**-0.1**
AKHS				S	**Sg**	**14 56 55.8**	**-0.2**
GOMA	**Golmarmara-Man**	**0.26**	**141**	PG	**Pg**	**14 56 57.6**	**+0.4**
GOMA				SG	**Sg**	**14 57 01.6**	**+1.0**
STEP	**BALIKESIR_Sava**	**0.47**	**1**	P	**Pg**	**14 57 00.4**	**-0.8**
STEP				S	**Sg**	**14 57 08.1**	**+0.7**
ZEDA	**zmir-Bergama**	**0.50**	**277**	P	**Pg**	**14 57 01.4**	**-0.3**
ZEDA				S	**Sb**	**14 57 09.6**	**-0.7**
DKL	**Dikili**	**0.65**	**285**	PG	**Pg**	**14 57 04.9**	**+0.3**
DKL				SG	**Sb**	**14 57 14.6**	**0.0**
BLCB	**Balcova**	**0.74**	**225**	P	**Pb**	**14 57 07.1**	**+0.1**
BLCB				S	**Sn**	**14 57 17.4**	**-2.5**
BLCB	**Balcova**	**0.74**	**225**	PG	**Pb**	**14 57 06.6**	**-0.4**
BLCB				SG	**Sn**	**14 57 17.6**	**-2.3**
BUHA	**Balikesir, Bur**	**0.77**	**320**	P	**Pg**	**14 57 06.6**	**-0.3**
MANT	**Manisa**	**0.78**	**122**	P	**Pg**	**14 57 07.6**	**+0.5**
MANT				S	**Sg**	**14 57 17.8**	**+0.5**
FOCM	**Foa**	**0.79**	**256**	PG	**Pb**	**14 57 07.6**	**-0.3**
FOCM				SG	**Sn**	**14 57 18.9**	**-2.3**
DEMI	**Demirci**	**0.79**	**80**	P	**Pg**	**14 57 07.7**	**+0.3**
DEMI				S	**Sg**	**14 57 16.5**	**-1.1**
BALY	**Balya**	**0.83**	**355**	P	**Pb**	**14 57 07.2**	**-1.5**
BALY				S	**Sg**	**14 57 18.0**	**-1.0**
AYVA	**Ayvalik**	**0.89**	**297**	P	**Pg**	**14 57 09.7**	**+0.5**
AYVA				S	**Sn**	**14 57 22.1**	**-1.5**
DURS	**Dursunbey**	**0.91**	**40**	P	**Pb**	**14 57 08.9**	**-1.1**
DURS				S	**Sb**	**14 57 21.4**	**-0.9**
KRBN	**Karaburun**	**0.96**	**251**	PG	**Pn**	**14 57 10.9**	**-0.7**
KRBN				SG	**Sn**	**14 57 24.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**172**	PG	**Pg**	**14 57 11.1**	**+0.4**
AYDB				SG	**Sn**	**14 57 24.7**	**-1.1**
DST	**Dursunbey**	**0.99**	**45**	PG	**Pb**	**14 57 11.2**	**-0.1**
DST				SG	**Sb**	**14 57 25.2**	**+0.7**
URLA	**Izmir**	**1.03**	**238**	PG	**Pb**	**14 57 11.4**	**-0.6**
URLA				SG	**Sn**	**14 57 27.0**	**-0.2**
URLA	**Izmir**	**1.03**	**238**	P	**Pb**	**14 57 10.8**	**-1.2**
USAK	**Uak-Merkez**	**1.04**	**100**	P	**Pb**	**14 57 12.3**	**+0.2**
USAK				S	**Sb**	**14 57 24.3**	**-1.6**
GONE	**Gonen-Balikesi**	**1.14**	**359**	PN	**Pn**	**14 57 13.9**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**1.16**	**235**	P	**Pb**	**14 57 13.6**	**-0.6**
ZEYE				S	**Sn**	**14 57 30.1**	**-0.2**
PRK	**Paraskevi**	**1.17**	**287**	P	**Pg**	**14 57 15.0**	**+0.5**
PRK				S	**Sg**	**14 57 30.5**	**+0.8**
	2µm,0.6s						
PRK	**Paraskevi**	**1.17**	**287**	P	**Pg**	**14 57 16.4**	**+1.9**
PRK				S	**Sg**	**14 57 31.4**	**+1.7**
PRK				AML	AML	14 57 34.3	
	comp=E,5697µm,0.5s						
PRK				AML	AML	14 57 36.2	
	comp=N,3867µm,0.7s						
BAYC	**CANAKKALE_Bayr**	**1.23**	**313**	P	**Pn**	**14 57 15.2**	**-0.2**
GCAM	**G?zelcaml?**	**1.26**	**198**	PN	**Pb**	**14 57 15.8**	**-0.1**
GCAM				SN	**Sg**	**14 57 33.7**	**+1.1**
GCAM	**G?zelcaml?**	**1.26**	**198**	P	**Pg**	**14 57 16.1**	**-0.1**
GEDZ	**Gediz**	**1.33**	**84**	PN	**Pn**	**14 57 17.3**	**+0.5**
GPNR	**Gulpinar-Canak**	**1.34**	**295**	PN	**Pb**	**14 57 17.5**	**+0.2**
KOCA	**Canakkale, Ayv**	**1.36**	**296**	P	**Pn**	**14 57 17.1**	**-0.1**
KNL	**Balıkesir**	**1.37**	**354**	P	**Pn**	**14 57 16.9**	**-0.3**
SMG	**Samos**	**1.38**	**210**	P	**Pg**	**14 57 18.3**	**-0.2**
SMG				S	**Sg**	**14 57 38.2**	**+1.8**
	comp=N,780nm,0.4s						
SMG	**Samos**	**1.38**	**210**	P	**Pg**	**14 57 18.3**	**-0.2**
SMG				S	**Sg**	**14 57 37.2**	**+0.8**
SMG				AML	AML	14 57 41.2	
	comp=E,1525µm,0.4s						
SMG				AML	AML	14 57 41.2	
	comp=N,1295µm,0.4s						
GDZ	**Gediz**	**1.39**	**82**	P	**Pn**	**14 57 17.6**	**-0.1**
CHOS	**Chios island**	**1.40**	**249**	P	**Pg**	**14 57 18.9**	**+0.1**
CHOS				S	**Sg**	**14 57 36.8**	**-0.2**
	comp=N,2µm,0.5s						
CHOS	**Chios Island**	**1.40**	**249**	PN	**Pg**	**14 57 18.5**	**-0.3**
CHOS	**Chios island**	**1.40**	**249**	P	**Pg**	**14 57 19.2**	**+0.4**
CHOS				S	**Sg**	**14 57 38.9**	**+1.9**
CHOS				AML	AML	14 57 40.7	
	comp=E,3997µm,0.6s						
CHOS				AML	AML	14 57 41.3	
	comp=N,2801µm,0.3s						
EZN	**Ezine**	**1.41**	**311**	P	**Pn**	**14 57 17.7**	**-0.1**
EZN				S	**Sb**	**14 57 36.3**	**-0.3**
	comp=N,425nm,0.3s						
EZN	**Ezine**	**1.41**	**311**	PN	**Pn**	**14 57 17.9**	**+0.1**
EDC	**Edincik**	**1.44**	**5**	PN	**Pn**	**14 57 18.8**	**+0.5**
ORLT	**Orhaneli**	**1.46**	**38**	PN	**Pn**	**14 57 19.1**	**+0.5**
TVSB	**Tavsanli**	**1.46**	**68**	PN	**Pn**	**14 57 18.8**	**+0.1**
SIGR	**SIGRI**	**1.48**	**282**	P	**Pn**	**14 57 18.5**	**-0.2**
SIGR				S	**Sg**	**14 57 39.3**	**-0.2**
	comp=N,1µm,0.3s						
SIGR	**SIGRI**	**1.48**	**282**	PN	**Pb**	**14 57 19.3**	**-0.3**
SIGR	**SIGRI**	**1.48**	**282**	P	**Pg**	**14 57 21.4**	**+1.1**
SIGR				S	**Sg**	**14 57 40.0**	**+0.5**
SIGR				AML	AML	14 57 42.1	
	comp=N,2021µm,0.3s						
SIGR				AML	AML	14 57 43.6	
	comp=E,2267µm,0.4s						
DDIM	**Aydin, Didim**	**1.49**	**195**	P	**Pg**	**14 57 20.8**	**+0.2**
PASA	**Karahalli, USA**	**1.50**	**111**	P	**Pb**	**14 57 20.4**	**+0.4**
BOZC	**Bozcaada**	**1.59**	**306**	PN	**Pb**	**14 57 21.0**	**-0.5**
BOZC	**Bozcaada**	**1.59**	**306**	P	**Pb**	**14 57 22.0**	**+0.5**
ECEA	**Canakkale, Ece**	**1.65**	**314**	P	**Pn**	**14 57 21.4**	**+0.4**
ULDT	**Uludag**	**1.65**	**41**	P	**Pn**	**14 57 22.4**	**+1.1**
MRMT	**Marmara Adasi**	**1.70**	**357**	PN	**Pn**	**14 57 22.5**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.72**	**31**	PN	**Pn**	**14 57 22.4**	**+0.4**
PSRA	**Psara**	**1.72**	**258**	P	**Pg**	**14 57 24.6**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.72**	**146**	P	**Pb**	**14 57 24.1**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.77**	**328**	PN	**Pn**	**14 57 23.3**	**+0.6**
ANDZ	**Kutahya, Merke**	**1.80**	**70**	P	**Pb**	**14 57 25.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.82**	**347**	PN	**Pn**	**14 57 24.1**	**+0.5**
YER	**Yerkesik**	**1.83**	**166**	P	**Pn**	**14 57 23.8**	**+0.2**
YER				S	**Sg**	**14 57 50.2**	**-0.5**
YER	**Yerkesik**	**1.83**	**166**	PN	**Pn**	**14 57 24.0**	**+0.4**
BODT	**Bodrum**	**1.87**	**190**	PN	**Pn**	**14 57 24.5**	**-0.4**
ARMT	**Armutlu**	**1.88**	**28**	PN	**Pn**	**14 57 24.5**	**+0.2**
GADA	**Gvkgeada**	**1.90**	**313**	PN	**Pn**	**14 57 25.2**	**+0.7**
APMY	**Acipayam-Deniz**	**1.90**	**138**	PN	**Pn**	**14 57 25.1**	**+0.4**
AUBOZ	**BOZOYUK**	**2.06**	**60**	PN	**Pn**	**14 57 27.5**	**+0.7**
CAVI	**Cavuskoy**	**2.09**	**51**	PN	**Pn**	**14 57 28.0**	**+0.8**
YLV	**Yalova**	**2.09**	**37**	PN	**Pn**	**14 57 28.0**	**+0.7**
TURN	**Turunc**	**2.17**	**169**	PN	**Pn**	**14 57 28.6**	**+0.4**
ADVT	**Abdulvahap**	**2.18**	**45**	PN	**Pn**	**14 57 29.3**	**+0.9**
ENEZ	**Enez**	**2.19**	**327**	P	**Pn**	**14 57 29.1**	**+0.6**
ENEZ				S	**Sn**	**14 57 56.8**	**+1.2**
	comp=E,1µm,0.3s						
LIA	**Limnos Island**	**2.19**	**298**	P	**Pn**	**14 57 28.7**	**+0.1**
LIA				S	**Sn**	**14 57 56.4**	**+0.6**
	comp=E,220nm,0.4s						
DALY	**Dalyan (Mula)**	**2.21**	**160**	PN	**Pn**	**14 57 29.8**	**+0.9**
SMTH	**Samothraki Isl**	**2.30**	**314**	P	**Pn**	**14 57 30.0**	**0.0**
SMTH				S	**Sn**	**14 57 58.1**	**-0.3**
	comp=E,142nm,0.3s						
ALN	**Alexandroupoli**	**2.37**	**328**	P	**Pn**	**14 57 31.0**	**+0.1**
ALN				S	**Sn**	**14 58 01.1**	**+1.1**
	comp=E,342nm,0.3s						
RDO	**Rodhopi**	**2.79**	**324**	P	**Pn**	**14 57 37.0**	**+0.2**
RDO				S	**Sn**	**14 58 11.4**	**+0.9**
	comp=E,120nm,0.2s						
KDZ	**Kurdzhali**	**3.25**	**328**	P	**Pn**	**14 57 43.8**	**+0.6**
DIM	**Dimitrovgrad**	**3.55**	**333**	*e*P	**Pn**	**14 57 47.9**	**+0.6**
RZN	**Rozhen**	**3.60**	**321**	P	**Pn**	**14 57 48.5**	**+0.4**
MPEP	**Malo Peshtene**	**5.36**	**327**	P	**Pn**	**14 58 12.9**	**+0.8**

*JMA **21** 15:01:29.2±0.3, 36°N±1°×12°9E±°, h13km±4km, MV2.7/9, S KOREAN PENINSULA REG*
*KMA **21** 15:01:30.6±0.0, 35°.76N×129°.18E, h18km, Error ellipse: s-maj=0.6km s-min=0.4km az=297.0*

ISC 21 15:01:29.2±1.0, 35°.77N±0°.03×129°.21E±0°.04, h10km, n28, σ0°90/30, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDAG	**Daegu**	**0.25**	**271**	P	**Pb**	**15 01 36.1**	**+0.3**
	SNR=754						
YOCB	**Yeongcheon**	**0.30**	**315**	P	**Pn**	**15 01 37.0**	**-2.6**
	SNR=107						
KSPHA	**Pohang**	**0.45**	**17**	P	**Pn**	**15 01 39.9**	**-1.8**
	SNR=106						
MIYA	**Miryang-si**	**0.47**	**234**	P	**Pb**	**15 01 39.7**	**+0.3**
	SNR=30						
KSDAU	**Deagu-acc**	**0.49**	**284**	P	**Pn**	**15 01 40.4**	**-1.9**
	SNR=124						
KSBUS	**Busan**	**0.52**	**189**	P	**Pb**	**15 01 40.7**	**+0.3**
	SNR=122						
KSCHR	**CHANGNYEONG**	**0.62**	**249**	P	**Pb**	**15 01 42.3**	**+0.1**
	SNR=122						
KSADO	**Andong**	**0.68**	**342**	P	**Pn**	**15 01 43.6**	**-1.2**
	SNR=253						
EUSB	**Uiseong**	**0.72**	**325**	P	**Pn**	**15 01 44.3**	**-1.2**
	SNR=96						
YODB	**Yeongdeok**	**0.78**	**12**	P	**Pn**	**15 01 45.6**	**-0.7**
	SNR=49						
YEYB	**Yeongyang**	**0.86**	**354**	P	**Pn**	**15 01 47.1**	**-0.3**
	SNR=14						
EURB	**Uiryeong-eup**	**0.87**	**240**	P	**Pn**	**15 01 46.7**	**-0.8**
	SNR=12						
KSGUM	**GUMI**	**0.88**	**302**	P	**Pn**	**15 01 47.1**	**-0.5**
	SNR=14						
ADOA	**Andong Acc Bor**	**0.90**	**333**	P	**Pn**	**15 01 48.0**	**0.0**
	SNR=7.6						
KSULJ	**Uljin**	**0.95**	**10**	P	**Pn**	**15 01 48.5**	**-0.1**
	SNR=104						
KSGIC	**Gimchen**	**0.95**	**290**	P	**Pn**	**15 01 48.2**	**-0.4**
	SNR=94						
HACA	**Hapcheon Acc B**	**0.97**	**249**	P	**Pn**	**15 01 48.2**	**-0.6**
	SNR=25						
KUJA	**Jangpyeong**	**1.00**	**210**	P	**Pn**	**15 01 49.1**	**-0.2**
	SNR=9.0						
KSSAJ	**Sangju**	**1.06**	**307**	P	**Pn**	**15 01 50.3**	**+0.1**
	SNR=33						
DUSB	**Deogyusan**	**1.17**	**277**	P	**Pn**	**15 01 52.1**	**+0.4**
	SNR=103						
CHYB	**Chungyang**	**1.20**	**349**	P	**Pn**	**15 01 53.0**	**+0.9**
	SNR=19						
HAMB	**Hamyang**	**1.22**	**258**	P	**Pg**	**15 01 52.7**	**+0.1**
	SNR=20						
YOJB	**Youngju**	**1.24**	**333**	P	**Pg**	**15 01 53.4**	**+0.4**
	SNR=58						
JTU	**Tsushima**	**1.25**	**173**	*e*P	**Pg**	**15 01 53.0**	**-0.2**
JTU				*e*S	**Sn**	**15 02 09.8**	**+0.3**
OKCB	**Cheongsan-myeo**	**1.28**	**297**	P	**Pg**	**15 01 54.0**	**+0.2**
	SNR=39						
YKDB	**Yokjido**	**1.37**	**214**	P	**Pg**	**15 01 55.1**	**-0.5**
	SNR=46						
JTSM	**Tsushimamitsus**	**1.43**	**174**	*e*P	**Pb**	**15 01 55.6**	**-0.3**
JTSM				*e*S	**Sb**	**15 02 15.2**	**+1.0**
JTY	**Toyota**	**2.14**	**134**	*e*S	**Sb**	**15 02 35.1**	**+0.5**

*IDC **21** 15:06:57.6±0.8, 54°.77S×30°.37W, h0km, mb4.2/7, mbtmp4.3/8, ML4.0/1, MS3.2/2, Error ellipse: s-maj=28.5km s-min=19.6km az=90.0*
*NEIC **21** 15:06:59.9±1.1, 54°.85S±0°.1×30°.5W±0°.2, h10km±1km, mb4.5/21, Error ellipse: s-maj=20.8km s-min=15.6km az=19.0*

ISC 21 15:06:59.2±0.6, 54°.77S±0°.09×30°.50W±0°.08, h10km, n39, σ0°82/38, mb4.4/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.52**	**275**	Pn	**Pn**	**15 07 51.7**	**-2.2**
EFI	**East Falkland**	**16.75**	**269**	Pn	**Pn**	**15 10 54.9**	**+1.3**
EFI				IAmb	IAmb	15 11 27.0	
	comp=Z,41nm,1.1s						
VNA1	**Neumayer--Stat**	**18.71**	**157**	P	**Pn**	**15 11 17.6**	**0.0**
VNA3	**Neumayer Olymp**	**18.85**	**159**	P	**Pn**	**15 11 19.5**	**+0.1**
VNA2	**Neumayer--Watz**	**19.10**	**157**	P	**P**	**15 11 20.9**	**-0.8**
	baz=317,slow=12						
PMSA	**Palmer Station**	**19.38**	**226**	P	**P**	**15 11 25.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=39,slow=8.5,SNR=4.2						
	comp=Z,13nm,0.9s						
PMSA	**Palmer Station**	**19.38**	**226**	P	**Pn**	**15 11 25.8**	**0.0**
PMSA				IAmb	IAmb	15 11 46.4	
	comp=Z,46nm,1.3s						
SNAA	**Sanae**	**20.69**	**155**	P	**P**	**15 11 37.7**	**-1.3**
SNAA	**Sanae**	**20.69**	**155**	P	**P**	**15 11 37.6**	**-1.3**
	comp=Z,2.6nm,0.5s,baz=292,slow=9.7,SNR=11						
SNAA				LR	LR	15 17 48.1	
	comp=Z,38nm,21.5s,baz=4.5,slow=32						
	comp=Z,2.6nm,0.5s						
SNAA	**Sanae**	**20.69**	**155**	P	**P**	**15 11 38.1**	**-0.9**
TROLL	**Troll, Antarti**	**22.24**	**153**	P	**P**	**15 11 54.6**	**-1.1**
BELA	**Belgrano 2**	**23.25**	**182**	P	**P**	**15 12 06.8**	**+0.6**
MG04	**Isla Riesco**	**24.08**	**258**	P	**P**	**15 12 15.2**	**+0.8**
TRQA	**Tornquist**	**27.08**	**295**	P	**P**	**15 12 42.6**	**+0.9**
CPUP	**Villa Florida**	**34.55**	**314**	P	**P**	**15 13 47.4**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=142,slow=6.3,SNR=2.0						
	comp=Z,0.8nm,0.3s						
MT01	**Popeta**	**35.19**	**289**	P	**P**	**15 13 52.2**	**-1.0**
QSPA	**South Pole Qui**	**35.48**	**180**	P	**P**	**15 13 55.5**	**-0.1**
	comp=Z,10nm,0.5s,baz=205,slow=3.3,SNR=65						
QSPA				LR	LR	15 27 17.2	
	comp=Z,60nm,19.2s,baz=156,slow=34						
	comp=Z,10nm,0.5s						
QSPA	**South Pole Qui**	**35.48**	**180**	P	**P**	**15 13 56.3**	**+0.7**
CO01	**Juntas del Tor**	**37.57**	**295**	P	**P**	**15 14 15.0**	**+1.2**
CO01				IAmb	IAmb	15 14 46.0	
	comp=Z,12nm,1.4s						
GO02	**Mina Guanaco**	**41.22**	**300**	P	**P**	**15 14 44.6**	**+0.2**
GO02				IAmb	IAmb	15 14 45.9	
	comp=Z,6.2nm,0.8s						
SUR	**Sutherland**	**42.19**	**80**	P	**P**	**15 14 52.4**	**+0.2**
MAW	**Mawson**	**42.29**	**145**	P	**P**	**15 14 51.0**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=258,slow=9.8,SNR=4.4						
	comp=Z,1.5nm,0.5s						
MAW	**Mawson**	**42.29**	**145**	P	**P**	**15 14 52.4**	**+0.2**
PB01	**IPOC Station P**	**44.63**	**303**	P	**P**	**15 15 12.3**	**+0.5**
PB01				IAmb	IAmb	15 15 24.0	
	comp=Z,4.7nm,0.8s						
GO01	**Chusmiza**	**45.66**	**305**	P	**P**	**15 15 20.0**	**-0.4**
GO01				IAmb	IAmb	15 15 22.9	
	comp=Z,6.0nm,1.1s						
BOSA	**Boshof**	**47.55**	**80**	P	**P**	**15 15 34.8**	**+0.1**
BOSA				IAmb	IAmb	15 16 17.2	
	comp=Z,5.6nm,1.1s						
VNDA	**Vanda**	**47.75**	**184**	P	**P**	**15 15 36.5**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=175,slow=5.6,SNR=23						
	comp=Z,1.6nm,0.6s						
VNDA	**Vanda**	**47.75**	**184**	P	**P**	**15 15 36.4**	**+0.8**
VNDA				IAmb	IAmb	15 15 37.2	
	comp=Z,2.1nm,0.7s						
LBTB	**Lobatse**	**50.51**	**77**	P	**P**	**15 15 57.2**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=237,slow=5.6,SNR=4.5						
	comp=Z,2.7nm,0.7s						
LBTB	**Lobatse**	**50.51**	**77**	P	**P**	**15 15 57.6**	**+0.1**
LBTB				IAmb	IAmb	15 16 11.7	
	comp=Z,12nm,1.5s						
CASY	**Casey**	**55.73**	**162**	P	**P**	**15 16 35.0**	**-0.3**
CASY				IAmb	IAmb	15 16 48.6	
	comp=Z,5.2nm,1.3s						
BAUV	**El Baul**	**70.85**	**320**	P	**P**	**15 18 15.8**	**-0.1**
TOA0	**Torodi Ar. Sit**	**72.93**	**33**	P	**P**	**15 18 29.2**	**+0.8**
TOA0				IAmb	IAmb	15 18 30.4	
	comp

NCBC	Barkley Canyon	1.21	65			Pn		15 22 16.1	-0.3
NCBC						Sb		15 22 30.9	-1.8
NCBC	Barkley Canyon	1.21	65	P		Pn		15 22 16.1	-0.3
NCBC				S		Sb		15 22 30.9	-1.8
ETB	Estevan Point	1.69	30	Pn		Pn		15 22 23.6	+0.7
ETB	Estevan Point	1.69	30	Pn		Pn		15 22 23.6	+0.7
TOFB	Tofino	1.77	45	Pn		Pn		15 22 23.7	-0.4
TOFB				Sn		Sn		15 22 42.9	-2.8
TOFB	Tofino	1.77	45	Pn		Pn		15 22 23.7	-0.4
TOFB				Sn		Sn		15 22 42.9	-2.8
B012	Ucluelet	1.82	56	Pn		Pn		15 22 24.2	-0.5
B012	Ucluelet	1.82	56	Pn		Pn		15 22 24.2	-0.5
OZB	Mount Ozzard	1.86	55			Pn		15 22 25.0	-0.4
OZB					IAML			15 22 54.1	
	comp=N,150nm,0.6s								
OZB	Mount Ozzard	1.86	55	Pn		Pn		15 22 25.1	-0.4
OZB	Mount Ozzard	1.86	55	Pn		Pn		15 22 25.1	-0.4
BFSB	Bamfield	2.01	62	Pn		Pn		15 22 27.1	-0.2
BFSB				Sn		Sn		15 22 49.8	-1.7
BFSB	Bamfield	2.01	62	Pn		Pn		15 22 27.1	-0.2
BFSB				Sn		Sn		15 22 49.8	-1.7
EDB	Eliza Dome	2.01	13	Pn		Pn		15 22 27.9	+0.5
EDB				Sn		Sn		15 22 49.2	-2.4
EDB	Eliza Dome	2.01	13	Pn		Pn		15 22 27.9	+0.5
EDB				Sn		Sn		15 22 49.2	-2.4
B928	Bamfield	2.01	62	Pn		Pn		15 22 27.2	-0.1
B928				Sn		Sn		15 22 49.6	-1.9
B928	Bamfield	2.01	62	Pn		Pn		15 22 27.2	-0.1
B928				Sn		Sn		15 22 49.6	-1.9
BTB	Buttle Lake	2.17	44	Pn		Pn		15 22 29.7	-0.1
BTB				Sn		Sn		15 22 53.6	-2.2
BTB	Buttle Lake	2.17	44	Pn		Pn		15 22 29.7	-0.1
BTB				Sn		Sn		15 22 53.6	-2.2
OCP	Olym-Cheeka Pk	2.17	79	Pn		Pn		15 22 29.6	0.0
OCP	Olym-Cheeka Pk	2.17	79	Pn		Pn		15 22 29.6	0.0
GDR	Gold River	2.20	32	Pn		Pn		15 22 30.7	+0.6
GDR				Sn		Sn		15 22 54.6	-1.8
GDR	Gold River	2.20	32	Pn		Pn		15 22 30.7	+0.6
GDR				Sn		Sn		15 22 54.6	-1.8
BPBC	Brooks Peninsu	2.24	1	Pn		Pn		15 22 31.0	+0.4
MGB	Mount Grey	2.34	61	Pn		Pn		15 22 31.8	-0.3
MGB				Sn		Sn		15 22 58.3	-1.7
MGB	Mount Grey	2.34	61	Pn		Pn		15 22 31.8	-0.3
MGB				Sn		Sn		15 22 58.3	-1.7
PFB	Port Renfrew	2.35	73	Pn		Pn		15 22 31.4	-0.7
PFB				Sn		Sn		15 22 57.6	-2.4
PFB	Port Renfrew	2.35	73	Pn		Pn		15 22 31.4	-0.7
PFB				Sn		Sn		15 22 57.6	-2.4
B927	Port Alberni	2.38	56	Pn		Pn		15 22 32.1	-0.3
B927				Sn		Sn		15 22 59.1	-1.6
B927	Port Alberni	2.38	56	Pn		Pn		15 22 32.1	-0.3
B927				Sn		Sn		15 22 59.1	-1.6
WOSB	Woss	2.39	20	Pn		Pn		15 22 33.6	+0.9
WOSB	Woss	2.39	20	Pn		Pn		15 22 33.6	+0.9
SPLB	Strathcona Par	2.43	35	Pn		Pn		15 22 33.5	+0.3
SPLB	Strathcona Par	2.43	35	Pn		Pn		15 22 33.5	+0.3
MWAB	Mount Washingt	2.46	41	Pn		Pn		15 22 34.1	+0.4
MWAB				Sn		Sn		15 23 00.9	-2.0
MWAB	Mount Washingt	2.46	41	Pn		Pn		15 22 34.1	+0.4
MWAB				Sn		Sn		15 23 00.9	-2.0
OBC	Olympics--Boni	2.52	86	Pn		Pn		15 22 34.3	-0.1
OBC				Sn		Sn		15 23 03.6	-0.6
OBC	Olympics--Boni	2.52	86	Pn		Pn		15 22 34.3	-0.1
OBC				Sn		Sn		15 23 03.6	-0.6
MAYB	Maynard	2.52	9	Pn		Pn		15 22 35.6	+1.0
MAYB				Sn		Sn		15 23 04.1	-0.2
MAYB	Maynard	2.52	9	Pn		Pn		15 22 35.6	+1.0
MAYB				Sn		Sn		15 23 04.1	-0.2
PACB	Port Alice, BC	2.52	5	Pn		Pn		15 22 35.4	+1.0
PACB				Sn		Sn		15 23 03.5	-0.7
PACB	Port Alice, BC	2.52	5	Pn		Pn		15 22 35.4	+1.0
PACB				Sn		Sn		15 23 03.5	-0.7
B926	Mesachie Lake	2.62	69	Pn		Pn		15 22 35.7	0.0
B926				Sn		Sn		15 23 04.6	-2.0
B926	Mesachie Lake	2.62	69	Pn		Pn		15 22 35.7	0.0
B926				Sn		Sn		15 23 04.6	-2.0
CBB	Campbell River	2.66	36	Pn		Pn		15 22 36.4	0.0
CBB	Campbell River	2.66	36	IAML				15 23 09.0	
	comp=E,122nm,0.8s								
CBB				IAML				15 23 10.6	
	comp=N,99nm,0.7s								
CBB	Campbell River	2.66	36	Pn		Pn		15 22 37.4	+1.0
CBB				Sn		Sn		15 23 06.8	-0.8
NLWA	Neilton Lookou	2.72	100	Pn		Pn		15 22 36.7	-0.5
NLWA				IAML				15 23 13.6	
	comp=N,60nm,0.5s								
HOLB	Holberg	2.73	356	Pn		Pn		15 22 38.3	+0.9
HOLB	Holberg	2.73	356	Pn		Pn		15 22 38.3	+0.9
NCRB	Newcastle Ridg	2.74	24	Pn		Pn		15 22 39.2	+1.6
NCRB				Sn		Sn		15 23 10.2	+0.4
NCRB	Newcastle Ridg	2.74	24	Pn		Pn		15 22 39.2	+1.6
NCRB				Sn		Sn		15 23 10.2	+0.4
GHNB	Nanoose	2.75	58	Pn		Pn		15 22 38.0	+0.5
GHNB				Sn		Sn		15 23 09.3	-0.5
GHNB	Nanoose	2.75	58	Pn		Pn		15 22 38.0	+0.5
GHNB				Sn		Sn		15 23 09.3	-0.5
OSD	Olympics--Snow	2.77	91	Pn		Pn		15 22 38.3	+0.2
OSD				Sn		Sn		15 23 09.4	-1.3
OSD	Olympics--Snow	2.77	91	Pn		Pn		15 22 38.3	+0.2
OSD				Sn		Sn		15 23 09.4	-1.3
STW	Striped Peak	2.79	84	Pn		Pn		15 22 38.4	+0.2
STW	Striped Peak	2.79	84	Pn		Pn		15 22 38.4	+0.2
PHC	Port Hardy	2.80	5	Pn		Pn		15 22 39.5	+1.3
PHC				Sn		Sn		15 23 10.2	-0.8
TXB	Texada	2.85	50	Pn		Pn		15 22 40.0	+1.0
TXB	Texada	2.85	50	Pn		Pn		15 22 40.0	+1.0
NLLB	Nanaimo Lost L	2.86	61	Pn		Pn		15 22 39.4	+0.3
NLLB				Sn		Sn		15 23 11.7	-0.8
NLLB	Nanaimo Lost L	2.86	61	Pn		Pn		15 22 39.4	+0.3
NLLB				Sn		Sn		15 23 11.7	-0.8
B04A	Port Angeles	2.90	86	Pn		Pn		15 22 39.9	+0.2
B009	North Saanich	3.00	74	Pn		Pn		15 22 41.1	+0.1
B009	North Saanich	3.00	74	Pn		Pn		15 22 41.1	+0.1
PGC	Sidney	3.00	74	Pn		Pn		15 22 40.7	-0.4
PGC	Sidney	3.00	74	Pn		Pn		15 22 41.1	0.0
B011	North Saanich	3.01	74	Pn		Pn		15 22 40.9	-0.2
B011	North Saanich	3.01	74	Pn		Pn		15 22 40.9	-0.2
GOBB	Galiano Island	3.05	69	Pn		Pn		15 22 41.2	-0.4
GOBB	Galiano Island	3.05	69	Pn		Pn		15 22 41.2	-0.4
VGZ	Gonzales	3.05	79	Pn		Pn		15 22 41.4	-0.3
VGZ				Sn		Sn		15 23 15.5	-1.7
VGZ	Gonzales	3.05	79	Pn		Pn		15 22 41.4	-0.3
VGZ				Sn		Sn		15 23 15.5	-1.7
SHB	Sechelt	3.10	56	Pn		Pn		15 22 43.6	+1.1
SHB				Sn		Sn		15 23 18.1	-0.5
RADR	Rader Ridge	3.12	117	Pn		Pn		15 22 42.6	-0.2
RADR				IAML				15 23 24.4	
	comp=N,56nm,0.4s								
RADR				IAML				15 23 27.0	
	comp=E,57nm,0.6s								
SNB	Saturna Island	3.21	73	Pn		Pn		15 22 44.5	+0.5
SNB	Saturna Island	3.21	73	Pn		Pn		15 22 44.5	+0.5
HDW	Hoodsport	3.22	93	Pn		Pn		15 22 44.9	+0.7
HDW				Sn		Sn		15 23 20.6	-1.1
HDW	Hoodsport	3.22	93	Pn		Pn		15 22 44.9	+0.7
HDW				Sn		Sn		15 23 20.6	-1.1
CPW	Capitol Peak	3.31	105	Pn		Pn		15 22 45.6	+0.2
CPW				Sn		Sn		15 23 24.0	+0.1
CPW	Capitol Peak	3.31	105	Pn		Pn		15 22 45.6	+0.2
CPW				Sn		Sn		15 23 24.0	+0.1
BIB	Bowen Island	3.34	62	Pn		Pn		15 22 46.5	+0.9
BIB				Sn		Sn		15 23 24.3	0.0
BIB	Bowen Island	3.34	62	Pn		Pn		15 22 46.5	+0.9
BIB				Sn		Sn		15 23 24.3	0.0
GNW	Green Mountain	3.39	94	Pn		Pn		15 22 47.3	+1.0
GNW	Green Mountain	3.39	94	Pn		Pn		15 22 47.3	+1.0
MCW	Mount Constitu	3.41	75	Pn		Pn		15 22 47.2	+0.4
MCW	Mount Constitu	3.41	75	Pn		Pn		15 22 47.2	+0.4
WPB	Watts Point	3.51	59	Pn		Pn		15 22 49.0	+1.0
WPB	Watts Point	3.51	59	Pn		Pn		15 22 49.0	+1.0
HNBB	Haney	3.74	67	Pn		Pn		15 22 51.8	+0.6
HNBB	Haney	3.74	67	Pn		Pn		15 22 51.8	+0.6
CMW	Cultus Mountai	3.85	80	Pn		Pn		15 22 54.2	+1.4
CMW	Cultus Mountai	3.85	80	Pn		Pn		15 22 54.2	+1.4
HEBO	Mount Hebo	3.90	133	Pn		Pn		15 22 55.4	+2.0
WSLR	Whistler	3.90	54	Pn		Pn		15 22 55.1	+1.6
WSLR	Whistler	3.90	54	Pn		Pn		15 22 55.1	+1.6
VDB	Vedder Mountai	3.96	72	Pn		Pn		15 22 54.8	+0.6
VDB	Vedder Mountai	3.96	72	Pn		Pn		15 22 54.8	+0.6
A05A	Maple Falls	3.96	72	Pn		Pn		15 22 55.2	+0.9
MBW	Mount Baker	4.04	75	Pn		Pn		15 22 56.9	+1.4
MBW	Mount Baker	4.04	75	Pn		Pn		15 22 56.9	+1.4
RPW	Rockport	4.25	81	Pn		Pn		15 22 59.4	+1.1
RPW	Rockport	4.25	81	Pn		Pn		15 22 59.4	+1.1
BBB	Bella Bella	4.27	358	Pn		Pn		15 23 00.1	+1.6
BBB	Bella Bella	4.27	358	Pn		Pn		15 23 00.4	+2.0
BBB				Sn		Sn		15 23 45.3	-2.0
FMW	Mount Fremont	4.29	101	Pn		Pn		15 22 59.7	+0.8
FMW	Mount Fremont	4.29	101	Pn		Pn		15 22 59.7	+0.8
HOPB	Hope	4.49	69	Pn		Pn		15 23 02.4	+1.0
HOPB	Hope	4.49	69	Pn		Pn		15 23 02.4	+1.0
GPW	Glacier Peak	4.49	85	Pn		Pn		15 23 03.1	+1.4
GPW	Glacier Peak	4.49	85	Pn		Pn		15 23 03.1	+1.4
LLLB	Lillooet	4.73	53	Pn		Pn		15 23 06.4	+1.6
LLLB	Lillooet	4.73	53	Pn		Pn		15 23 06.5	+1.8
LLLB					IAML			15 24 04.4	
	comp=E,13nm,0.5s								
LLLB					IAML			15 24 08.9	
	comp=N,22nm,0.6s								
LLLB	Lillooet	4.73	53	Pn		Pn		15 23 06.4	+1.6
LTY	Liberty	4.88	95	Pn		Pn		15 23 08.5	+1.6
LTY					IAML			15 24 05.7	
	comp=E,17nm,3.0s								
LTY					IAML			15 24 06.4	
	comp=N,9.9nm,1.2s								
LTY	Liberty	4.88	95	Pn		Pn		15 23 08.6	+1.6
HG4B	Hotspring	4.89	335	Pn		Pn		15 23 10.9	+4.0
HG4B	Hotspring	4.89	335	Pn		Pn		15 23 09.4	+2.5
HG4B					IAML			15 24 25.7	
	comp=N,24nm,2.6s								
HG4B					IAML			15 24 43.7	
	comp=E,29nm,3.2s								
HG4B	Hotspring	4.89	335	Pn		Pn		15 23 10.9	+4.0
HOOD	Mount Hood Mea	4.98	119	Pn		Pn		15 23 10.9	+2.6
BUTB	Butedale	5.16	356	Pn		Pn		15 23 12.1	+1.2
BUTB				Sn		Sn		15 24 07.0	-2.4
BUTB	Butedale	5.16	356	Pn		Pn		15 23 12.1	+1.2
BUTB				Sn		Sn		15 24 07.0	-2.4
UBRB	Upper Baezaeko	5.52	24	Pn		Pn		15 23 18.1	+2.4
UBRB	Upper Baezaeko	5.52	24	Pn		Pn		15 23 18.1	+2.4
BNKB	Banks Island	5.58	347	Pn		Pn		15 23 18.4	+2.0
BNKB				Sn		Sn		15 24 17.7	-1.8
BNKB	Banks Island	5.58	347	Pn		Pn		15 23 18.4	+2.0
BNKB				Sn		Sn		15 24 17.7	-1.8
PNT	Penticton	5.61	73	Pn		Pn		15 23 17.6	+0.7
PNT	Penticton	5.61	73	Pn		Pn		15 23 17.6	+0.7
B08A	Colville Reser	5.70	82	Pn		Pn		15 23 19.5	+1.4
B08A	Colville Reser	5.70	82	Pn		Pn		15 23 20.1	+2.0
B08A				Sn		Sn		15 24 24.6	+2.1
HWKB	Hawksbury Isla	5.75	352	Pn		Pn		15 23 21.0	+2.2
HWKB	Hawksbury Isla	5.75	352	Pn		Pn		15 23 21.0	+2.2
DBO	Dodson Butte	5.78	145	Pn		Pn		15 23 23.0	+3.7
BNAB	Bonilla	5.86	343	Pn		Pn		15 23 22.0	+1.8
BNAB	Bonilla	5.86	343	Pn		Pn		15 23 22.0	+1.8
GRNB	Grenville Isla	6.08	348	Pn		Pn		15 23 25.8	+2.5
GRNB				Sn		Sn		15 24 30.3	-1.7
GRNB	Grenville Isla	6.08	348	Pn		Pn		15 23 25.1	+1.8
GRNB	Grenville Isla	6.08	348	Pn		Pn		15 23 25.8	+2.5
GRNB				Sn		Sn		15 24 30.3	-1.7
PINE	Pine Mountain	6.33	128	Pn		Pn		15 23 28.0	+1.0
RUBB	Prince Rupert	6.59	347	Pn		Pn		15 23 33.9	+3.6
RUBB	Prince Rupert	6.59	347	Pn		Pn		15 23 32.5	+2.2
RUBB	Prince Rupert	6.59	347	Pn		Pn		15 23 33.9	+3.6
FSB	Fort Saint Jam	6.92	17	Pn		Pn		15 23 38.2	+3.4
FSB	Fort Saint Jam	6.92	17	Pn		Pn		15 23 38.2	+3.4
I07A	Izee	6.95	121	Pn		Pn		15 23 36.2	+0.9
SLEB	Sale Mountain	7.09	59	Pn		Pn		15 23 38.5	+1.2
SLEB	Sale Mountain	7.09	59	Pn		Pn		15 23 38.5	+1.2
NEW	Newport	7.17	83	Pn		Pn		15 23 37.6	-0.7
MNB	Mounoet Dainar	7.43	51	Pn		Pn		15 23 44.3	+2.3
MNB	Mounoet Dainar	7.43	51	Pn		Pn		15 23 44.3	+2.3
CRAG	Craig	8.24	338	Pn		Pn		15 23 56.2	+3.3
PLID	Pearl Lake	8.63	105	Pn		Pn		15 24 00.1	+1.6
BSMT	Bassoo Peak	8.76	86	Pn		Pn		15 23 59.7	-0.6
BSMT	Bassoo Peak	8.76	86	Pn		Pn		15 23 59.7	-0.6
JTMT	Jette	9.11	86	Pn		Pn		15 24 04.8	-0.2
S34M	Telegraph Cree	10.21	350	Pn		Pn		15 24 24.9	+5.1
S34M	Telegraph Cree	10.21	350	Pn		Pn		15 24 24.9	+5.1
YHL	Hebgen Lake	11.89	99	Pn		Pn		15 24 44.1	+0.8
GCMT	Greycliff	12.61	93	Pn		Pn		15 24 54.5	+1.6

IDC **21** *15:22:16.2±1.4,29°.39S×178°.89W,h352km±17km,mb3.2/3, mbtmp4.2/5,Error ellipse: s-maj=41.8km s-min=21.7km az=107.0*

ISC 21 15:22:15.1±0.9,**29°.36S**±0°.09×**178°.8W**±0°.1,**h350km,n52,** σ1$^{\text{st}}$**67**/55,**mb3.3**/3,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.74	81	P	Pn	15 23 02.0	+2.0
	300nm,0.3s,baz=83,slow=22,SNR=2.9						
RAO				S	S	15 23 28.9	-7.0
	230nm,0.3s,baz=107,slow=23,SNR=1.9						
WMGZ	Waiomatatini S	8.76	195	P	P	15 24 20.8	+0.2
TWGZ	Tauwhareparae	9.20	196	P	P	15 24 26.5	+0.9
OPRZ	Ohinepanea	9.32	204	P	P	15 24 27.0	+0.1
CNGZ	Carnagh Statio	9.44	195	P	P	15 24 27.7	-0.5
MWZ	Matawai	9.46	198	P	Pn	15 24 26.3	-0.4
TKGZ	Te Karaka	9.48	196	P	P	15 24 29.3	+0.6
URZ	Urewera	9.51	200	P	P	15 24 27.6	-1.4
	18nm,0.3s,baz=345,slow=2.9,SNR=36						
URZ				S	S	15 26 13.2	-2.1
	11nm,0.4s,baz=317,slow=23,SNR=13						
URZ	Urewera	9.51	200	P	Pn	15 24 26.4	-0.7
RIGZ	Rimuhau	9.76	196	P	P	15 24 31.1	-0.7
MUGZ	Murupara	9.82	201	P	P	15 24 31.8	-0.6
RTZ	Ruatahuna	9.88	200	P	P	15 24 32.4	-0.8
HRRZ	Handcock Road	9.90	203	P	P	15 24 34.8	+1.4
PRGZ	Paritu Road	9.93	195	P	P	15 24 35.6	+1.9
SNGZ	Shannon Statio	9.94	198	P	P	15 24 33.4	-0.4
TLZ	Tolley Road	10.12	206	P	P	15 24 37.0	+1.1
RAHZ	Arahi	10.13	199	P	P	15 24 34.8	-1.1
MTHZ	Maungataniwha	10.14	200	P	P	15 24 35.8	-0.3
MHGZ	Mahia Peninsul	10.15	195	P	P	15 24 37.3	+1.2
NMHZ	Naumai	10.38	200	P	Pn	15 24 37.1	-0.4
ARHZ	Aropaoanui	10.48	198	P	P	15 24 39.5	-0.3
BKZ	Black Stump Fm	10.54	201	P	Pn	15 24 37.4	-2.0
HIZ	Hauiti	10.55	208	P	P	15 24 44.2	+3.6
MCHZ	McNeill Hill	10.73	199	P	P	15 24 41.8	-0.8
NTVZ	North Tongarir	10.75	204	P	P	15 24 42.7	-0.2
TMVZ	Te Maari	10.75	204	P	P	15 24 43.0	+0.1
KWHZ	Kaweka Forest	10.79	200	P	Pn	15 24 42.2	-0.3
NNVZ	North Ngauruho	10.80	204	P	P	15 24 43.5	+0.1
OTVZ	Oturere	10.81	204	P	Pn	15 24 42.4	-0.3
SNVZ	South Ngauruho	10.84	204	P	P	15 24 43.7	-0.2
NGZ	Ngauruhoe	10.84	204	P	P	15 24 44.1	+0.2
TUVZ	Tukino	10.90	204	P	P	15 24 44.0	-0.6
BHHZ	Black Hill Sta	10.97	202	P	Pn	15 24 43.4	-1.1
MOVZ	Moawhango	10.99	203	P	P	15 24 44.8	-0.8
KAHZ	Kahuranaki	11.01	198	P	P	15 24 45.6	-0.1
KRHZ	Kereru	11.01	200	P	Pn	15 24 43.7	-1.3
PKVZ	Pokaka	11.03	205	P	P	15 24 45.8	-0.2
PXZ	Pawanui	11.23	198	P	Pn	15 24 46.9	-0.7
PNHZ	Pukenui	11.31	200	P	Pn	15 24 47.4	-1.2
WPHZ	Waipukurau	11.38	199	P	P	15 24 49.7	-0.1
PRHZ	Porangahau	11.52	198	P	P	15 24 50.8	-0.4
TSZ	Takapari Road	11.52	201	P	Pn	15 24 50.2	-0.9
WAZ	Wanganui	11.57	205	P	P	15 24 51.5	-0.4
MSVF	Nonsavu	11.94	345	P	P	15 24 55.8	-0.5
	12nm,0.7s,baz=146,slow=15,SNR=12						
STKA	Stephens Creek	34.09	256	P	P	15 28 28.5	+0.5
	1.4nm,0.5s,baz=104,slow=11,SNR=5.4						
	1.4nm,0.5s						
ASAR	Alice Springs	42.52	266	P	P	15 29 37.3	-0.4
	0.9nm,0.5s,baz=105,slow=6.8,SNR=63						
ASAR				PcP	PP	15 31 24.0	-0.8
	0.2nm,0.6s,baz=118,slow=3.9,SNR=4.2						
	0.9nm,0.5s						
WRA	Warramunga Arr	43.41	271	P	P	15 29 44.4	-0.4
	1.0nm,0.6s,baz=111,slow=7.5,SNR=11						
	1.0nm,0.6s						
TROLL	Troll, Antarti	78.90	180	P	P	15 33 43.5	+3.4
VNA3	Neumayer Olymp	79.38	176	P	P	15 33 45.8	+3.2
VNA2	Neumayer--Watz	79.81	177	P	P	15 33 48.2	+3.5
	baz=166,slow=5.0						
VNA1	Neumayer--Stat	80.04	177	P	P	15 33 49.5	+3.5
FINES	FINESS Array B	143.95	340	PKP	PKPdf	15 41 07.8	-0.7
	1.3nm,0.8s,baz=110,slow=10,SNR=4.2						

ROM 21 15:48:09.6±0.1,**42°.800N**±0°.003×**13°.232E**±0°.004, **h10km,ML1.5/3,Error ellipse: s-maj=0.3km s-min=0.2km az=210.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	Castelluccio d	0.04	325	P	Pg	15 48 11.6	0.0
T1242				S	Sg	15 48 12.5	-0.5
NRCA	Norcia	0.09	291	P	Pg	15 48 12.5	+0.3
NRCA				S	Sg	15 48 14.3	+0.4
T1202	Accumoli, Fraz	0.10	183	P	Pg	15 48 12.7	+0.5
T1202				S	Sg	15 48 14.8	+0.7
T1202				AML	AML		
	comp=N,8405μm,0.9s						
T1202				AML	AML		
	comp=N,8390μm,0.9s						
T1202				AML	AML		
	comp=E,8775μm,0.2s						
T1202				AML	AML		
	comp=E,471μm,2.1s						
T1202				AML	AML		
	comp=N,592μm,0.3s						
MC2	Monte Cornacci	0.12	345	P	Pg	15 48 13.0	+0.5
MC2				S	Sg	15 48 15.3	+0.6
T1204	Amatrice, Fraz	0.14	153	P	Pg	15 48 13.4	+0.6
T1204				S	Sg	15 48 16.0	+0.9
T1241	Roccafluvione,	0.16	69	P	Pg	15 48 13.7	+0.7
T1241				S	Sg	15 48 16.6	+1.1
T1215	Preci, Frazion	0.18	300	S	Sg	15 48 15.0	-1.1
T1243	Rocca Santa Ma	0.19	123	P	Pg	15 48 14.2	+0.5
T1243				S	Sg	15 48 17.3	+0.9
T1217	Poggiodomo (PG	0.24	248	P	Pg	15 48 15.3	+0.8
T1217				S	Sg	15 48 19.4	+1.6
LNSS	Leonessa	0.24	216	P	Pg	15 48 15.3	+0.7
LNSS				S	Sg	15 48 19.4	+1.5
FDMO	Fiordimonte	0.26	336	P	Pg	15 48 15.6	+0.7
FDMO				S	Sb	15 48 20.0	-1.0
T1215	Vallo di Nera,	0.27	270	P	Pb	15 48 16.0	-0.6
T1215				S	Sb	15 48 20.1	-1.2
CSP1	Cessapalombo	0.29	356	P	Pb	15 48 16.3	-0.8
CSP1				S	Sb	15 48 21.2	-0.9
TERO	Teramo	0.33	123	P	Pg	15 48 16.6	+0.4
TERO				S	Sb	15 48 21.9	-1.0

ROM 21 15:49:07.2±0.1,**42°.859N**±0°.004×**13°.069E**±0°.005, **h10km,ML2.8/51,30C-12D,Error ellipse: s-maj=0.4km s-min=0.4km az=285.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.04	127	⇓P	Pg	15 49 09.5	+0.2
NRCA				S	Sg	15 49 10.8	+0.1
NRCA				AML	AML		
	comp=E,86550μm,1.1s						
NRCA				AML	AML		
	comp=E,86500μm,1.1s						
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
	comp=E,94300μm,1.1s						
T1216	Preci, Frazion	0.05	311	P	Pg	15 49 09.6	+0.3
T1216				S	Sg	15 49 11.0	+0.2
T1216				AML	AML		
	comp=E,67100μm,0.4s						
T1216				AML	AML		
	comp=N,72450μm,0.3s						
T1216				AML	AML		
	comp=E,67100μm,0.4s						
T1216				AML	AML		
	comp=N,72500μm,0.3s						
FEMA	Monte Fema	0.10	352	⇓P	Pg	15 49 10.5	+0.5
FEMA				S	Sg	15 49 12.6	+0.5
FEMA				AML	AML		
	comp=E,

CSP1 AML AML
comp=N,9000µm,0.5s
CSP1 AML AML
comp=N,8970µm,0.5s
CSP1 AML AML
comp=E,7660µm,0.4s
LNSS Leonessa 0.26 185 ⇑P Pg 15 49 12.9 +0.4
LNSS S Sb 15 49 17.3 -1.2
LNSS AML AML
comp=E,7275µm,0.4s
LNSS AML AML
comp=N,5910µm,0.4s
T1204 Amatrice, Fraz 0.26 135 ⇑P Pg 15 49 13.1 +0.6
T1204 S Sb 15 49 17.5 -1.0
T1204 AML AML
comp=E,5085µm,0.8s
T1204 AML AML
comp=E,5075µm,0.8s
T1204 AML AML
comp=N,3980µm,1.2s
T1204 AML AML
comp=E,5070µm,0.8s
T1204 AML AML
comp=N,3985µm,1.2s
T1241 Roccafluvione, 0.27 90 ⇑P Pg 15 49 13.2 +0.5
T1241 S Sb 15 49 17.6 -1.0
T1241 AML AML
comp=E,11200µm,0.4s
T1241 AML AML
comp=N,5750µm,1.4s
T1241 AML AML
comp=E,11200µm,0.3s
T1241 AML AML
comp=N,5965µm,0.3s
T1241 AML AML
comp=E,10750µm,0.3s
GUMA Gualdo di Mace 0.28 44 ⇑P Pb 15 49 13.8 -0.6
GUMA AML AML
comp=E,13500µm,0.8s
GUMA AML AML
comp=N,14400µm,0.5s
GUMA AML AML
comp=N,16450µm,0.6s
GUMA AML AML
comp=E,15750µm,0.3s
SEF1 Sefro 0.30 343 P Pg 15 49 13.9 +0.6
SEF1 AML AML
comp=N,2875µm,1.2s
SEF1 AML AML
comp=E,3470µm,1.5s
SEF1 AML AML
comp=N,2870µm,1.2s
T1243 Rocca Santa Ma 0.32 120 P Pg 15 49 13.9 +0.2
T1243 S Sb 15 49 19.3 -1.0
ARRO Arrone 0.36 219 ⇑P Pg 15 49 14.7 +0.4
ARRO AML AML
comp=E,2030µm,0.2s
ARRO AML AML
comp=N,2240µm,0.1s
ARRO AML AML
comp=E,2035µm,0.2s
ARRO AML AML
comp=N,2235µm,0.1s
RM33 Pellescritta (0.37 163 ⇑P Pg 15 49 14.7 +0.3
RM33 S Sb 15 49 20.8 -0.8
RM33 AML AML
comp=N,1465µm,0.9s
RM33 AML AML
comp=N,1450µm,0.9s
RM33 AML AML
comp=E,1670µm,0.4s
RM33 AML AML
comp=N,1460µm,0.9s
RM33 AML AML
comp=E,1605µm,0.4s
GAG1 Gagliole 0.38 360 ⇑P Pb 15 49 15.5 -0.5
MNTP Montappone 0.41 46 ⇑P Pb 15 49 16.4 0.0
MNTP AML AML
comp=E,3505µm,0.4s
MNTP AML AML
comp=N,4045µm,0.3s
SNTG Esanatoglia 0.41 347 P Pg 15 49 15.5 +0.3
SNTG AML AML
comp=E,762µm,1.4s
SNTG AML AML
comp=N,895µm,0.9s
SNTG AML AML
comp=N,816µm,0.9s
SNTG AML AML
comp=E,694µm,1.4s
CAMP Campotosto 0.41 142 ⇑P Pg 15 49 15.4 +0.2
CAMP S Sg 15 49 21.7 +1.1
CAMP AML AML
comp=E,584µm,0.4s
CAMP AML AML
comp=N,595µm,0.4s
CAMP AML AML
comp=N,596µm,0.4s
CESX Cesi 0.44 236 ⇑P Pg 15 49 15.9 +0.1
CESX AML AML
comp=E,2205µm,1.3s
CESX AML AML
comp=N,2465µm,0.3s
T1247 Pizzolo (AQ) 0.45 158 P Pb 15 49 17.2 0.0
T1247 S Sb 15 49 24.5 +0.5
T1247 AML AML
comp=N,1365µm,0.4s
T1247 AML AML
comp=E,1205µm,0.3s
T1247 AML AML
comp=N,1370µm,0.4s
ATCC AVT- Casa Cast 0.45 316 ⇑P Pg 15 49 16.4 +0.4
ATCC AML AML
comp=E,1540µm,0.5s
ATCC AML AML
comp=N,1475µm,0.6s
OFFI Offida 0.46 80 ⇑P Pb 15 49 17.4 +0.1
OFFI AML AML
comp=E,2595µm,0.3s
OFFI AML AML
comp=N,3010µm,0.7s
TERO Teramo 0.46 121 ⇑P Pg 15 49 16.2 0.0
TERO AML AML
comp=N,2105µm,0.6s
TERO AML AML
comp=E,1745µm,0.7s
TERO AML AML
comp=E,2020µm,0.7s
TERO AML AML
comp=N,2310µm,0.6s
TERO AML AML
comp=N,2110µm,0.6s
EL6 Elcito 0.47 3 ⇑P Pg 15 49 16.7 +0.3
CING Cingoli 0.53 10 ⇑P Pg 15 49 17.7 +0.3
CING AML AML
comp=E,942µm,0.2s
CING AML AML
comp=N,778µm,1.5s
GIGS Gran Sasso 0.55 138 ⇓P Pg 15 49 17.6 -0.3
GIGS AML AML
comp=N,199µm,0.7s
GIGS AML AML
comp=E,260µm,1.1s
AQU L'Aquila 0.56 154 ⇓P Pb 15 49 19.7 +0.6
AQU AML AML
comp=E,526µm,0.3s
AQU AML AML
comp=N,500µm,0.3s
AQU AML AML
comp=E,537µm,0.3s
AQU AML AML
comp=N,495µm,0.3s
MURB Monte Urbino 0.57 316 ⇑P Pg 15 49 18.6 +0.4
MURB S Sb 15 49 29.0 +1.6
MURB AML AML
comp=N,1845µm,1.1s
MURB AML AML
comp=E,2195µm,0.3s
MURB AML AML
comp=N,2015µm,1.1s
MURB AML AML
comp=E,1910µm,0.3s
FIAM Fiamignano 0.59 177 ⇑P Pg 15 49 18.5 -0.2
FIAM S Sb 15 49 29.0 +0.9
FIAM AML AML
comp=N,552µm,0.4s
FIAM AML AML
comp=E,744µm,0.6s
FIAM AML AML
comp=N,552µm,0.4s
TRTR Tortoreto Alta 0.62 94 ⇑P Pb 15 49 19.9 -0.2
TRTR AML AML
comp=N,2195µm,0.5s
TRTR AML AML
comp=E,2720µm,0.4s
ATFO Monte Foce - G 0.62 324 ⇓P Pb 15 49 19.9 -0.4
ATFO AML AML
comp=E,468µm,1.4s
ATFO AML AML
comp=N,433µm,0.5s
ARVD Arcevia 0.65 352 ⇑P Pb 15 49 20.3 -0.2
ARVD S Sb 15 49 31.0 +1.4
ARVD AML AML
comp=E,454µm,0.6s
ARVD AML AML
comp=N,314µm,1.2s
FAGN Fagnano 0.70 147 ⇑P Pb 15 49 21.8 +0.2
FAGN AML AML
comp=N,835µm,0.4s
FAGN AML AML
comp=N,836µm,0.4s
FAGN AML AML
comp=E,1130µm,0.5s
FRON Frontone 0.70 339 ⇑P Pb 15 49 21.2 -0.4
FRON AML AML
comp=E,340µm,1.6s
FRON AML AML
comp=N,516µm,0.6s
MGAB Montegabbione 0.71 275 ⇓P Pg 15 49 20.8 0.0
MGAB AML AML
comp=E,947µm,0.4s
MGAB AML AML
comp=N,1270µm,0.5s
MGAB AML AML
comp=N,1250µm,0.5s
MGAB AML AML
comp=E,932µm,0.4s
ATVO AVT- Monte Val 0.71 317 ⇑P Pg 15 49 20.9 -0.1
ATVO AML AML
comp=N,338µm,0.8s
ATVO AML AML
comp=E,348µm,0.9s
VCEL Villa Celiera 0.73 129 P Pg 15 49 21.4 0.0
VCEL AML AML
comp=E,1122µm,0.8s
VCEL AML AML
comp=N,754µm,1.5s
VCEL AML AML
comp=E,1118µm,0.8s
VCEL AML AML
comp=N,753µm,1.5s
ATMI Monte Miggiano 0.76 309 ⇑P Pn 15 49 24.5 +0.6
ATPI Pietralunga - 0.77 321 ⇑P Pb 15 49 22.3 -0.3
ATPI S Sn 15 49 35.0 -0.7
ATPI AML AML
comp=N,274µm,0.6s
ATPI AML AML
comp=E,279µm,0.7s
PIEI Pieia 0.78 330 ⇓P Pg 15 49 22.2 0.0
PIEI AML AML
comp=N,212µm,0.4s
PIEI AML AML
comp=E,274µm,0.2s
MPAG Monte Paganucc 0.80 344 ⇓P Pb 15 49 23.6 +0.3
MPAG S Sn 15 49 36.0 -0.6
MPAG AML AML
comp=N,470µm,0.4s
MPAG AML AML
comp=E,327µm,0.6s
T0110 Collepietro 0.82 140 ⇓P Pg 15 49 22.8 -0.2
T0110 AML AML
comp=E,852µm,0.3s
T0110 AML AML
comp=N,756µm,0.4s
NARO Abbazia di Nar 0.83 335 P Pb 15 49 23.7 0.0
NARO AML AML
comp=N,212µm,0.3s
NARO AML AML
comp=E,196µm,1.1s
SACS San Casciano d 0.85 270 ⇓P Pb 15 49 24.1 0.0
SACS AML AML
comp=E,460µm,0.5s
SACS AML AML
comp=N,542µm,0.7s
FSSB Fossombrone 0.86 346 ⇓P Pg 15 49 23.9 +0.2
FSSB AML AML
comp=E,870µm,0.3s
FSSB AML AML
comp=N,1155µm,0.4s
CERT Cerreto 0.91 184 ⇓P Pg 15 49 24.5 -0.2
CERT AML AML
comp=E,829µm,0.6s
CERT AML AML
comp=N,500µm,0.3s
CERT AML AML
comp=N,501µm,0.3s
CAFI Castiglion Fio 0.94 301 ⇑P Pb 15 49 25.4 0.0
CAFI AML AML
comp=E,262µm,0.6s
CAFI AML AML
comp=N,286µm,0.7s
CAFI AML AML
comp=E,263µm,0.6s
INTR Introdacqua 1.05 144 ⇑P Pg 15 49 26.3 -1.0
INTR AML AML
comp=N,446µm,0.8s
INTR AML AML
comp=E,260µm,0.6s
TOLF Tolfa 1.12 225 P Pb 15 49 28.3 -0.3
TOLF S Sn 15 49 47.0 +2.7
TOLF AML AML
comp=E,245µm,0.7s
TOLF AML AML
comp=N,236µm,0.4s
LPEL Lama dei Pelig 1.16 134 ⇑P Pb 15 49 28.9 -0.4
LPEL AML AML
comp=N,308µm,1.1s
LPEL AML AML
comp=E,334µm,0.4s
DUGI Dugi Otok 1.84 51 *e*Pn Pn 15 49 39.5 +0.7
VIRC Vir 2.03 45 *e*Pn Pn 15 49 41.8 +0.4
ZIRJ Zirje 2.04 66 *e*Pn Pn 15 49 42.1 +0.6
BRJN Brijuni 2.10 13 *e*Pn Pn 15 49 42.8 +0.4
NVLJ Novalja 2.15 37 *e*Pn Pn 15 49 43.3 +0.3
MORI Morici 2.17 61 *e*Pn Pn 15 49 44.4 +1.0
RABC Rab 2.26 33 *e*Pn Pn 15 49 44.9 +0.4
SMRN Sveta Marina 2.31 19 *e*Pn Pn 15 49 45.1 -0.1
A253A Karojba, Istri 2.49 12 *e*Pn Pn 15 49 47.7 0.0
HVAR Hvar 2.50 82 *e*Pn Pn 15 49 49.1 +1.3
UDBI Udbina 2.57 49 *e*Pn Pn 15 49 49.7 +0.9
A250A Rusevo Krmpots 2.59 30 *e*Pn Pn 15 49 49.8 +0.7
KLJV Kijevo 2.69 64 *e*Pn Pn 15 49 51.8 +1.4
LSTV Lastovo 2.81 91 *e*Pn Pn 15 49 52.7 +0.6
STON Ston 3.40 88 *e*Pn Pn 15 50 00.3 0.0

*IDC **21** 15:52:03.5±0.9, 3°.38S×135°.56E, h0km, mb3.8/9, mbtmp3.9/12, ML4.1/3, MS3.3/9, Error ellipse: s-maj=31.0km s-min=16.3km az=69.0*
*DJA **21** 15:52:05.5±1.7, 4°.5S×134°.5E±°, h13km±13km, M4.4/12, mB4.8/3, mb4.3/12, MLv4.4/5, Mw(mB)4.1/3*
*NEIC **21** 15:52:05.4±1.9, 3°.53S±0°.08×135°.5E±0°.1, h10km±2km, mb4.1/12, Error ellipse: s-maj=20.8km s-min=11.2km az=59.0*
ISC 21 15:52:06.4±0.5,**3°.55S**±0°.07×**135°.48E**±0°.07,**h22**km,**n60,** σ**1**§**74**/55,**mb3.8**/10,**MS3.2**/5,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.29**	**281**	Pn	**Pn**	**15 52 57.4**	**+0.7**
FAKI	**Fak Fak**	**3.29**	**281**	P	**Pn**	**15 52 57.5**	**+0.8**
FAKI				S	**Sn**	**15 53 36.9**	**+1.7**
FAKI	**Fak Fak**	**3.29**	**281**	P	**Pn**	**15 52 58.0**	**+1.3**
SMPI	**Sarmi**	**3.58**	**64**	P	**Pn**	**15 53 00.3**	**-0.3**
GENI	**Genyem**	**4.77**	**79**	P	**Pn**	**15 53 17.7**	**+0.6**
SIJI	**Sorong**	**4.98**	**302**	Pn	**Pn**	**15 53 20.6**	**+0.6**
	10nm,0.3s,baz=98,slow=10,SNR=43						
SIJI				Sn	**Sn**	**15 54 16.1**	**-0.9**
	17nm,0.3s,baz=302,slow=23,SNR=5.5						
SIJI				LR	LR	15 55 46.9	
	comp=Z,333nm,19.5s,baz=90,slow=45						
	28nm,0.2s						

BNDI Bandanaira 5.65 260 P **Pn** **15 53 28.3 -0.8**
1.4nm106nm,1.0s
BNDI Bandanaira 5.65 260 P **Pn** **15 53 26.3 -2.8**
MSAI Masohi 6.54 272 P **Pn** **15 53 39.9 -1.6**
0.0nm503nm9.3nm,0.6s
AAI Ambon 7.28 269 P **Pn** **15 53 52.1 +0.6**
LBMI Labuha 8.48 290 P **Pn** **15 54 08.3 +0.2**
441nm22nm,0.7s
KDU Kakadu 9.55 198 P **Pn** **15 54 23.6 +0.8**
SANI Sanana 9.60 279 P **Pn** **15 54 23.3 -0.1**
23nm,0.7s
SANI Sanana 9.60 279 P **Pn** **15 54 24.3 +0.9**
MTN Manton Dam 10.19 205 Pn **Pn** **15 54 31.2 -0.2**
MTN Manton Dam 10.19 205 P **Pn** **15 54 31.9 +0.4**
COEN Coen 12.83 144 Pn **Pn** **15 55 05.6 -2.1**
LUWI Luwuk 12.94 281 Pn **Pn** **15 55 10.4 +1.2**
BATI Baumata 13.46 240 Pn **Pn** **15 55 16.5 +0.1**
3.1nm,0.3s,baz=348,slow=4.2,SNR=3.7
7.5nm,0.3s
BATI Baumata 13.46 240 P **Pn** **15 55 15.8 -0.6**
21nm,0.9s
KNRA Kununurra 13.75 208 Pn **Pn** **15 55 17.8 -2.4**
KNRA Kununurra 13.75 208 P **Pn** **15 55 18.2 -2.0**
EDFI Ende, Flores 14.65 249 P **Pn** **15 55 32.6 0.0**
9.9nm,1.0s
WB0 Warramunga Arr 16.15 184 Pn **Pn** **15 55 47.8 -4.4**
WB0 IAmb IAmb 15 56 01.5
comp=Z,15nm,1.0s
WRAB Tennant Creek 16.32 184 Pn **Pn** **15 55 52.6 -1.8**
WRAB IAmb IAmb 15 55 59.9
comp=Z,18nm,0.8s
WB2 Warramunga Arr 16.33 184 Pn **Pn** **15 55 50.6 -3.9**
WB2 IAmb IAmb 15 56 03.6
comp=Z,15nm,0.8s
WRA Warramunga Arr 16.33 184 Pn **Pn** **15 55 49.7 -4.8**
comp=Z,0.2nm,0.3s,baz=4.4,slow=13,SNR=19
WRA Sn Sn 15 58 43.9 -11
comp=Z,0.5nm,0.3s,baz=7.2,slow=22,SNR=7.4
WRA LR LR 16 02 43.1
comp=Z,180nm,18.3s,baz=175,slow=39
WRA Warramunga Arr 16.33 184 Pn **Pn** **15 55 50.9 -3.6**
WR0 Warramunga Arr 16.34 183 Pn **Pn** **15 55 53.0 -1.5**
WR0 IAmb IAmb 15 56 03.2
comp=Z,8.6nm,0.7s
KRVT Keravat (AS076 16.52 93 LR LR 16 03 00.1
comp=Z,91nm,20.4s,baz=220,slow=40
FITZ Fitzroy Crossi 17.38 213 P **Pn** **15 56 05.5 -2.2**
comp=Z,3.6nm,0.7s,baz=90,slow=23,SNR=17
FITZ S Sn 15 59 10.1 -11
comp=Z,10nm,1.0s,baz=180,slow=14,SNR=6.6
FITZ Fitzroy Crossi 17.38 213 Pn **Pn** **15 56 05.2 -2.5**
FITZ Fitzroy Crossi 17.38 213 P **Pn** **15 56 04.9 -2.8**
GUMO Guam 19.41 29 P **Pn** **15 56 32.0 -0.5**
CTA Charters Tower 19.51 148 P **P** **15 56 32.4 +0.1**
comp=Z,0.1nm,0.3s,baz=325,slow=14,SNR=4.3
CTA LR LR 16 04 49.5
comp=Z,72nm,20.2s,baz=336,slow=39
comp=Z,2.2nm,0.9s
CTAO Charters Tower 19.51 148 P **Pn** **15 56 34.0 +0.3**
AS31 Alice Springs 20.05 184 P **P** **15 56 39.4 +1.1**
AS31 IAmb IAmb 15 56 44.8
comp=Z,8.3nm,0.7s
ASAR Alice Springs 20.06 184 P **P** **15 56 39.2 +0.8**
comp=Z,6.8nm,0.7s,baz=7.6,slow=11,SNR=72
ASAR LR LR 16 04 59.7
comp=Z,204nm,18.1s,baz=58,slow=38
comp=Z,6.8nm,0.7s
ASAR Alice Springs 20.06 184 P **P** **15 56 39.1 +0.7**
PSA00 Pilbara Seismi 23.49 219 P **P** **15 57 15.2 +0.3**
OOD Oodnadatta 24.11 180 P P 15 57 30.9 +10
MULG Mulgathing 26.62 183 P P 15 57 53.6 +10
STKA Stephens Creek 28.76 169 P **P** **15 58 04.5 +1.9**
comp=Z,1.2nm,0.8s,baz=335,slow=14,SNR=2.0
comp=Z,1.2nm,0.8s
JOW Kunigami 31.00 347 LR LR 16 08 28.8
comp=Z,29nm,21.7s,baz=44,slow=32
JCJ Chichijima 31.15 12 LR LR 16 08 10.4
comp=Z,16nm,21.6s,baz=155,slow=31
NWAO Narrogin (SRO) 33.85 208 LR LR 16 12 07.9
comp=Z,64nm,18.2s,baz=342,slow=35
JHJ Hachijo jima 2 36.70 6 LR LR 16 10 56.5
comp=Z,48nm,21.7s,baz=292,slow=31
MJAR Matsushiro Arr 39.97 3 P **P** **15 59 38.1 -1.3**
comp=Z,0.9nm,0.7s,baz=177,slow=7.7,SNR=2.7
comp=Z,0.9nm,0.7s
KSRS Korea Array 41.40 351 P **P** **15 59 51.2 0.0**
comp=Z,0.8nm,0.8s,baz=187,slow=9.3,SNR=2.9
comp=Z,0.8nm,0.8s
CMAR Chiang Mai Arr 42.11 303 P **P** **15 59 57.2 -0.1**
comp=Z,0.7nm,0.6s,baz=116,slow=5.4,SNR=5.8
comp=Z,0.7nm,0.6s
GTA Gaotai 53.89 326 *e*P **P** **16 01 29.1 +0.7**
GTA pP pP 16 01 35.3 -0.1
GTA pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 68.52 324 P **P** **16 03 07.5 +0.2**
MK31 IAmb IAmb 16 03 18.8
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 68.52 324 P **P** **16 03 07.2 -0.2**
comp=Z,1.0nm,0.6s,baz=116,slow=7.8,SNR=11
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 68.52 324 P **P** **16 03 06.9 -0.4**
MAKZ Makanchi 68.71 324 P **P** **16 03 08.2 -0.3**
ZALV Zalesovo Beam 71.07 331 P **P** **16 03 23.4 +0.6**
comp=Z,0.7nm,0.6s,baz=126,slow=7.5,SNR=3.9
comp=Z,0.7nm,0.6s
KK31 Karatay Array 74.49 316 P **P** **16 03 42.9 -0.5**
KKAR Karatay Array 74.49 316 P **P** **16 03 43.1 -0.3**
VNDA Vanda 75.25 174 P **P** **16 03 50.7 +3.6**
comp=Z,0.6nm,0.8s,baz=333,slow=2.2,SNR=4.8
comp=Z,0.6nm,0.8s
ILAR Eielson Array 87.93 25 P **P** **16 04 52.5 -1.9**
comp=Z,0.5nm,0.7s,baz=270,slow=4.5,SNR=4.3
comp=Z,0.5nm,0.7s

*IDC **21** 15:59:09.5±1.2, 12°.25N×140°.92E, h0km, mb3.6/5, mbtmp3.6/6, ML3.9/1, MS2.9/1, Error ellipse: s-maj=38.2km s-min=22.6km az=83.0*
*NEIC **21** 15:59:12.0±1.5, 12°.3N±0°.1×141°.1E±0°.1, h10km±2km, mb4.2/11, Error ellipse: s-maj=23.7km s-min=19.4km az=238.0*
ISC 21 15:59:14.2±0.9,**12°.4N**±0°.1×**141°.22E**±0°.08,**h35**km,**n22,** σ**1**§**66**/23,**mb4.0**/11,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.76**	**71**	Pn	**Pn**	**16 00 13.1**	**+3.4**
	7.5nm,0.3s,baz=62,slow=2.8,SNR=13						
GUMO				Sn	**Sn**	**16 00 51.0**	**-1.9**
	31nm,0.3s,baz=132,slow=19,SNR=19						
	22nm,0.3s						
GUMO	**Guam**	**3.76**	**71**	Pn	**Pn**	**16 00 12.8**	**+3.0**
GUMO				Sn	**Sn**	**16 00 50.2**	**-2.6**
JCJ	**Chichijima**	**14.69**	**3**	Pn	**P**	**16 02 42.2**	**-3.0**
TPUB	**Ta-pu**	**22.38**	**302**	P	**P**	**16 04 09.9**	**+0.3**
MJAR	**Matsushiro Arr**	**24.23**	**354**	LR	LR	16 12 50.9	
	comp=Z,28nm,20.8s,baz=170,slow=34						
MAJO	**Matsushiro**	**24.23**	**354**	P	**P**	**16 04 28.4**	**+0.7**
MJB9	**Matsu-Tunnel**	**24.23**	**354**	P	**P**	**16 04 28.5**	**+0.7**
MJB9					IAmb	IAmb	16 04 47.3
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**32.62**	**192**	P	**P**	**16 05 41.5**	**-1.3**
WB0					IAmb	IAmb	16 06 13.3
	comp=Z,7.5nm,1.4s						
WB2	**Warramunga Arr**	**32.80**	**192**	P	**P**	**16 05 43.4**	**-1.0**
WB2					IAmb	IAmb	16 05 56.8
	comp=Z,6.8nm,1.3s						
WRA	**Warramunga Arr**	**32.81**	**192**	P	**P**	**16 05 43.1**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=12,slow=9.8,SNR=6.7						
	comp=Z,0.9nm,0.8s						
WRA	**Warramunga Arr**	**32.81**	**192**	P	**P**	**16 05 43.1**	**-1.3**
AS31	**Alice Springs**	**36.51**	**191**	P	**P**	**16 06 16.1**	**-0.3**
ASAR	**Alice Springs**	**36.51**	**191**	P	**P**	**16 06 15.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=21,slow=11,SNR=8.5						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**36.51**	**191**	P	**P**	**16 06 15.8**	**-0.7**
SONM	**Songino Array**	**45.76**	**328**	P	**P**	**16 07 34.0**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=116,slow=4.0,SNR=2.9						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**45.76**	**328**	P	**P**	**16 07 33.2**	**+0.9**
SONM					IAmb	IAmb	16 07 49.4
	comp=Z,2.2nm,1.4s						
MK31	**Makanchi Array**	**59.93**	**317**	P	**P**	**16 09 17.6**	**+0.7**
MK31					IAmb	IAmb	16 09 37.4
	comp=Z,2.1nm,1.3s						

MKAR	**Makanchi Array**	**59.93 317**	P	**P**	**16 09 16.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=89,slow=9.8,SNR=4.6						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.93 317**	P	**P**	**16 09 18.2**	**+1.3**
ZALV	**Zalesovo Beam**	**60.58 326**	P	**P**	**16 09 20.0**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=111,slow=8.0,SNR=1.9						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**63.25 321**	P	**P**	**16 09 39.5**	**+0.4**
KURK			IAmb	IAmb	16 09 40.2		
	comp=Z,1.7nm,0.8s						
BRVK	**Borovoye**	**68.76 322**	P	**P**	**16 10 14.7**	**+0.2**
BRVK			IAmb	IAmb	16 10 14.9		
	comp=Z,1.0nm,0.8s						

*IDC **21** 16:12:56.3±2.7, 32.20S×177.95W, h0km, mb4.0/5, mbtmp4.0/7, ML4.0/2, MS3.2/1, Error ellipse: s-maj=57.8km s-min=25.2km az=116.0*

*NEIC **21** 16:12:57.1±0.3, 32.24S±0.05×177.9W±0.2, h10km±2km, mb4.4/13, Error ellipse: s-maj=27.4km s-min=5.4km az=102.0*

*WEL **21** 16:14:24.7, 38.5S±29.1×17.8E±2.0, h29km±21km, M2.2/7, ML2.2/9, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=162.4*

ISC 21 16:12:56.4±1.0, 32.35S±0.07×177.7W±0.1, h10km, n45, σ1§56/42, mb4.4/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.09 357**		Pn	**Pn**	**16 13 44.1**	**-1.2**
	51nm,0.3s,baz=101,slow=22,SNR=1.7						
RAO				Sn	**Sn**	**16 14 21.6**	**-0.7**
	37nm,0.3s,baz=99,slow=24,SNR=1.3						
	149nm,0.3s						
RAO	**Raoul Island**	**3.09 357**		Pn	**Pn**	**16 13 43.8**	**-1.4**
WMGZ	**Waiomatatini S**	**6.31 209**		P	**Pn**	**16 14 30.8**	**+1.3**
PKGZ	**Pakihiroa**	**6.51 211**		P	**Pn**	**16 14 31.1**	**-1.2**
HAZ	**Te Kaha**	**6.53 213**		P	**Pn**	**16 14 32.8**	**+0.2**
RUGZ	**Raukumara Rang**	**6.75 213**		P	**Pn**	**16 14 35.4**	**-0.3**
TWGZ	**Tauwhareparae**	**6.79 210**		P	**Pn**	**16 14 36.0**	**-0.2**
CNGZ	**Carnagh Static**	**6.96 207**		P	**Pn**	**16 14 37.7**	**-0.8**
MWZ	**Matawai**	**7.12 212**		P	**Pn**	**16 14 40.4**	**-0.3**
URZ	**Urewera**	**7.25 214**		Pn	**Pn**	**16 14 42.4**	**0.0**
	1.1nm,0.3s,baz=338,slow=4.6,SNR=8.0						
URZ				Sn	**Sn**	**16 16 03.2**	**-1.7**
	3.0nm,0.3s,baz=333,slow=3.6,SNR=8.9						
URZ				LR	LR	16 17 50.9	
	comp=Z,155nm,18.0s,baz=99,slow=40						
	3.5nm,0.4s						
URZ	**Urewera**	**7.25 214**		Pn	**Pn**	**16 14 41.8**	**-0.6**
RIGZ	**Rimuhau**	**7.33 209**		P	**Pn**	**16 14 43.6**	**0.0**
SNGZ	**Shannon Statio**	**7.57 211**		P	**Pn**	**16 14 46.6**	**-0.3**
MUGZ	**Murupara**	**7.59 215**		P	**Pn**	**16 14 45.1**	**-2.0**
OUZ	**Omahuta**	**7.77 246**		Pn	**Pn**	**16 14 53.6**	**+4.0**
RAHZ	**Arahi**	**7.80 211**		P	**Pn**	**16 14 51.9**	**+1.9**
MTHZ	**Maungataniwha**	**7.85 213**		P	**Pn**	**16 14 52.4**	**+1.6**
BKZ	**Black Stump Fm**	**8.27 213**		Pn	**Pn**	**16 14 57.2**	**+0.8**
KWHZ	**Kaweka Forest**	**8.51 212**		P	**Pn**	**16 14 58.6**	**-1.2**
RPZ	**Rata Peaks**	**14.37 215**		Pn	**Pn**	**16 16 16.4**	**-3.5**
	0.3nm,0.3s,baz=233,slow=9.3,SNR=1.7						
RPZ				Sn	Sn	16 18 43.7	-16
	0.4nm,0.3s,baz=72,slow=23,SNR=1.1						
STKA	**Stephens Creek**	**34.32 260**		P	**P**	**16 19 44.9**	**+1.7**
	1.6nm,0.9s,baz=84,slow=10,SNR=4.1						
	1.6nm,0.9s						
STKA	**Stephens Creek**	**34.32 260**		P	**P**	**16 19 44.3**	**+1.2**
CTA	**Charters Tower**	**34.39 282**		P	**P**	**16 19 44.8**	**+0.9**
	1.3nm,0.5s,baz=98,slow=10.0,SNR=8.0						
	1.3nm,0.5s						
CTAO	**Charters Tower**	**34.39 282**		P	**P**	**16 19 44.1**	**+0.2**
CTAO				IAmb	IAmb	16 20 03.0	
	comp=Z,7.6nm,1.4s						
BBOO	**Buckleboo**	**38.71 256**		P	**P**	**16 20 19.2**	**-1.4**
ASAR	**Alice Springs**	**43.27 269**		P	**P**	**16 20 57.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=109,slow=7.8,SNR=19						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**43.27 269**		P	**P**	**16 20 57.4**	**-1.0**
WR0	**Warramunga Arr**	**44.26 274**		P	**P**	**16 21 05.2**	**-1.1**
WB2	**Warramunga Arr**	**44.43 274**		P	**P**	**16 21 06.6**	**-1.1**
WB2				IAmb	IAmb	16 21 08.8	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**44.44 274**		P	**P**	**16 21 06.7**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=112,slow=8.0,SNR=66						
	comp=Z,1.6nm,0.3s						
WRA	**Warramunga Arr**	**44.44 274**		P	**P**	**16 21 06.7**	**-1.1**
WB0	**Warramunga Arr**	**44.47 274**		P	**P**	**16 21 06.9**	**-1.2**
WB0				IAmb	IAmb	16 21 22.1	
	comp=Z,6.5nm,1.2s						
FORT	**Forrest**	**45.81 257**		P	**P**	**16 21 17.0**	**-1.5**
MTN	**Manton Dam**	**50.54 280**		P	**P**	**16 21 53.4**	**-1.9**
MTN				IAmb	IAmb	16 22 32.9	
	comp=Z,8.3nm,1.4s						
KNRA	**Kununurra**	**51.11 276**		P	**P**	**16 21 58.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.62 271**		P	**P**	**16 22 09.6**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=180,slow=10.0,SNR=2.3						
	comp=Z,1.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.62 271**		P	**P**	**16 22 09.7**	**-1.1**
FITZ				IAmb	IAmb	16 22 26.3	
	comp=Z,4.3nm,1.2s						
QSPA	**South Pole Qui**	**57.77 180**		P	**P**	**16 22 49.1**	**+1.5**
QSPA				IAmb	IAmb	16 23 30.7	
	comp=Z,5.2nm,1.3s						
TROLL	**Troll, Antarti**	**75.93 180**		P	P	16 24 56.1	+13
SNAA	**Sanae**	**76.21 178**		P	P	16 24 57.2	+13
SNAA	**Sanae**	**76.21 178**		P	**P**	**16 24 48.5**	**+3.9**
SNAA				IAmb	IAmb	16 25 10.9	
	comp=Z,4.0nm,1.2s						
VNA3	**Neumayer Olymp**	**76.35 176**		P	P	16 24 58.9	+14
VNA2	**Neumayer--Watz**	**76.79 177**		P	P	16 25 01.4	+14
	baz=181,slow=6.0						
VNA1	**Neumayer--Stat**	**77.02 176**		P	P	16 25 02.8	+14
FINES	**FINESS Array B**	**147.05 339**		PKPbc	**PKPbc**	**16 32 39.1**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=46,slow=4.0,SNR=19						

*MOS **21** 16:19:45.4±1.0, 4.24S×152.89E, h22km, mb5.1/21, Error ellipse: s-maj=10.2km s-min=6.8km az=106.5*

*IDC **21** 16:19:48.9±1.2, 4.35S×152.93E, h35km±8km, mb4.5/23, mbtmp4.7/25, ML3.7/2, MS4.1/54, Error ellipse: s-maj=10.5km s-min=8.9km az=106.0*

*BJI **21** 16:19:48.6±0.0, 4.04S×153.17E, h47km, mb4.8/63, mB5.0/44, Ms4.7/51, Ms7 4.4/50*

*NEIC **21** 16:19:49.7±1.6, 4.31S±0.07×152.92E±0.05, h41km±5km, mb5.2/113, Error ellipse: s-maj=11.0km s-min=7.5km az=194.0*

*DJA **21** 16:19:49.5±0.4, 4.5S±3.3×15.3E±.9, h44km±3km, M5.1/68, mb5.2/68, mB5.5/27, MLv5.8/3, Mw(mB)5.0/27, MwMwp5.0/6, Mwp5.2/6*

*GCMT **21** 16:19:52.7±0.2, 4.40S±0.01×152.85E±0.01, h38km±1km, MW5.1/114, Moment Tensor Solution. s68,c83; s114,c191; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.57±.14; $M_{\theta\theta}$2.65±.10; $M_{\phi\phi}$-4.22±.11; $M_{r\theta}$-1.31±.12; $M_{\theta\phi}$2.02±.09; $M_{r\phi}$-3.11±.14; Best double couple: M_o5.33700×10^{16} NP1:ϕ_s202.00000°, δ79.00000°, λ135.00000°. NP2:ϕ_s303.00000°, δ46.00000°, λ15.00000°. Principal axes: T 4.8800, Plg38.0000°, Azm152.0000°; N 0.9160, Plg44.0000°, Azm12.0000°; P -5.7950, Plg21.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 16:19:48.7±0.3, 4.32S±0.04×152.90E±0.04, h41km±2km, h41km:pP-P, n636, σ1§36/623, mb5.1/139, MS4.2/77, 21C-21D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.74 280**		Pn	**Pn**	**16 20 02.8**	**0.0**
RABL					**Sn**	**16 20 13.8**	**+0.8**
RABL	**Rabaul**	**0.74 280**		P	**Pn**	**16 20 03.3**	**+0.5**
KRVT	**Keravat (AS076**	**0.87 271**		Pn	**Pn**	**16 20 05.5**	**+0.9**
	2μm,0.3s,baz=351,slow=2.0,SNR=3626						
KRVT				Sn	**Sn**	**16 20 18.0**	**+1.9**
	12μm,0.3s,baz=303,slow=22,SNR=12						
MANU	**Manus Island**	**5.97 292**		Pn	**Pn**	**16 21 18.8**	**+4.2**
PMG	**Port Moresby**	**7.62 228**		Pn	**Pn**	**16 21 39.4**	**+2.1**
	14nm,0.3s,baz=36,slow=6.3,SNR=40						
PMG				Sn	**Sn**	**16 23 03.9**	**+1.5**
	33nm,0.3s,baz=227,slow=20,SNR=11						
PMG				LR	LR	16 24 46.4	
	comp=Z,2μm,20.4s,baz=49,slow=39						
	163nm,0.7s						

PMG	**Port Moresby**	**7.62 228**		P	**Pn**	**16 21 41.4**	**+4.1**
HNR	**Honiara**	**8.65 126**		Pn	**Pn**	**16 21 54.1**	**+2.7**
	411nm,0.3s,baz=245,slow=2.3,SNR=17						
HNR				Sn	**Sn**	**16 23 30.3**	**+2.6**
	772nm,0.3s,baz=12,slow=15,SNR=6.5						
HNR				LR	LR	16 25 28.7	
	comp=Z,56μm,19.8s,baz=298,slow=40						
HNR	**Honiara**	**8.65 126**		Pn	**Pn**	**16 21 54.0**	**+2.6**
HNR	**Honiara**	**8.65 126**		P	**Pn**	**16 21 55.7**	**+4.3**
PATS	**Pohnpei**	**12.33 26**		P	**Pn**	**16 22 40.6**	**-1.2**
	baz=12,SNR=4.4						
PATS	**Pohnpei**	**12.33 26**		Pn	**Pn**	**16 22 41.0**	**-0.8**
PATS	**Pohnpei**	**12.33 26**		P	**Pn**	**16 22 41.0**	**-0.8**
GENI	**Genyem**	**12.82 277**		P	**Pn**	**16 22 49.6**	**+1.0**
	2μm4μm243nm,1.2s						
COEN	**Coen**	**13.55 224**		P	**Pn**	**16 23 01.7**	**+3.1**
	baz=14,SNR=32						
COEN	**Coen**	**13.55 224**		Pn	**Pn**	**16 23 00.8**	**+2.2**
COEN	**Coen**	**13.55 224**		P	**Pn**	**16 23 01.5**	**+2.9**
SMPI	**Sarmi**	**14.35 279**		P	**Pn**	**16 23 11.4**	**+2.0**
	1μm2μm150nm,1.2s						
MTSU	**Mount Surprise**	**16.10 211**		P	**P**	**16 23 35.0**	**-0.1**
	baz=16,SNR=29						
MTSU	**Mount Surprise**	**16.10 211**		P	**P**	**16 23 35.4**	**+0.3**
SRPI	**Serui, Papua**	**16.81 278**		P	**P**	**16 23 43.1**	**+0.1**
	119nm,1.0s						
CTA	**Charters Tower**	**16.96 202**		Pn	**P**	**16 23 45.1**	**+0.5**
	0.7nm,0.3s,baz=22,slow=13,SNR=53						
CTA				LR	LR	16 30 16.6	
	comp=Z,353nm,18.6s,baz=22,slow=37						
	17nm,0.7s						
CTA	**Charters Tower**	**16.96 202**		P	**P**	**16 23 45.6**	**+1.0**
CTAO	**Charters Tower**	**16.96 202**			**P**	**16 23 45.0**	**+0.5**
CTAO	**Charters Tower**	**16.96 202**		P	**P**	**16 23 45.0**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,48nm,1.1s						
CTAO	**Charters Tower**	**16.96 202**		P	**P**	**16 23 45.7**	**+1.1**
BAKI	**Biak**	**17.05 280**		P	**P**	**16 23 45.2**	**-0.5**
RK1H	**Rockhampton Ha**	**19.10 187**		P	**Pn**	**16 24 10.0**	**+0.7**
GUMO	**Guam**	**19.49 336**		LR	LR	16 32 21.5	
	comp=Z,424nm,18.8s,baz=147,slow=38						
KOUNC	**Koumac, New Ca**	**19.57 146**		P	**Pn**	**16 24 14.2**	**-0.7**
KOUNC				IAmb	IAmb	16 24 22.4	
	comp=Z,162nm,0.8s						
KOUNC	**Koumac, New Ca**	**19.57 146**		P	**Pn**	**16 24 14.7**	**-0.2**
DVP	**Devils Point**	**20.04 133**		P	**P**	**16 24 19.2**	**+0.7**
RTV	**Rentapao**	**20.26 133**		P	Pn	16 24 25.5	+2.5
FAKI	**Fak Fak**	**20.66 273**		P	**P**	**16 24 26.1**	**+0.8**
FAKI	**Fak Fak**	**20.66 273**		P	Pn	16 24 26.5	-1.3
	comp=Z,2μmcomp=Z,4μmcomp=Z,225nm,1.8s						
FAKI	**Fak Fak**	**20.66 273**		P	Pn	16 24 27.0	-0.8
QIS	**Mount Isa**	**20.68 218**		P	Pn	16 24 26.8	-1.3
	baz=21,SNR=46						
QIS	**Mount Isa**	**20.68 218**		P	Pn	16 24 27.1	-1.0
EIDS	**Eidsvold**	**21.00 185**		P		16 24 30.5	
	baz=21,SNR=45						
EIDS	**Eidsvold**	**21.00 185**		P	**P**	**16 24 29.6**	**+0.7**
EIDS				IAmb	IAmb	16 24 34.4	
	comp=Z,70nm,0.8s						
EIDS	**Eidsvold**	**21.00 185**		P		16 24 30.6	
LIFNC	**LIFOU**	**21.50 141**		P	**P**	**16 24 34.1**	**-0.1**
LIFNC	**LIFOU**	**21.50 141**		P	**P**	**16 24 34.6**	**+0.4**
KDU	**Kakadu**	**21.83 246**		P	**P**	**16 24 37.3**	**-0.5**
	baz=22,SNR=97						
KDU	**Kakadu**	**21.83 246**		P	**P**	**16 24 37.8**	**0.0**
SIJI	**Sorong**	**21.88 278**		P	**P**	**16 24 40.7**	**+2.3**
	comp=Z,89nm,0.9s,baz=101,slow=7.8,SNR=42						
SIJI				LR	LR	16 32 02.5	
	comp=Z,2μm,21.9s,baz=85,slow=34						
	comp=Z,89nm,0.9s						
NOUC	**Port Laguerre**	**21.94 145**		P	**P**	**16 24 39.0**	**+0.1**
DZM	**Mont Dzumac**	**22.00 145**		*e*P	**P**	**16 24 39.4**	**-0.2**
	comp=Z,460nm,1.1s						
DZM				*e*LR	LR	16 29 59.3	
	comp=Z,3μm,26.6s						
DZM	**Mont Dzumac**	**22.00 145**		P	**P**	**16 24 39.9**	**+0.3**
	comp=Z,109nm,0.6s,baz=317,slow=7.6,SNR=208						
	comp=Z,109nm,0.6s						
DZM	**Mont Dzumac**	**22.00 145**		P	**P**	**16 24 40.0**	**+0.3**
DZM				IAmb	IAmb	16 24 44.2	
	comp=Z,153nm,0.8s						
DZM	**Mont Dzumac**	**22.00 145**		P	**P**	**16 24 40.0**	**+0.3**
ONTNC	**Ouen Toro**	**22.19 145**		P	**P**	**16 24 41.2**	**-0.3**
ONTNC				IAmb	IAmb	16 24 44.3	
	comp=Z,151nm,0.9s						
ONTNC	**Ouen Toro**	**22.19 145**		P	**P**	**16 24 41.9**	**+0.3**
YATNC	**Mamie plateau,**	**22.25 144**		P	**P**	**16 24 42.1**	**-0.2**
RMQ	**Roma**	**22.40 190**		P	**P**	**16 24 45.0**	**+1.2**
	baz=23,SNR=38						
RMQ	**Roma**	**22.40 190**		P	**P**	**16 24 45.2**	**+1.4**
MARNC	**Mare, Loyalty**	**22.51 141**		P	**P**	**16 24 44.4**	**-0.7**
PINNC	**Pines Island,**	**23.00 144**		P	**P**	**16 24 49.5**	**-0.7**
PINNC				IAmb	IAmb	16 24 52.6	
	comp=Z,114nm,1.0s						
PINNC	**Pines Island,**	**23.00 144**		P	**P**	**16 24 50.3**	**+0.1**
MTN	**Manton Dam**	**23.11 247**		P	**P**	**16 24 50.9**	**-0.4**
	baz=23,SNR=56						
MTN	**Manton Dam**	**23.11 247**		P	**P**	**16 24 50.5**	**-0.9**
MTN				IAmb	IAmb	16 24 53.2	
	comp=Z,289nm,1.4s						
MTN	**Manton Dam**	**23.11 247**		P	**P**	**16 24 51.2**	**-0.2**
QLP	**Quilpie**	**23.64 200**		P	**P**	**16 24 57.2**	**+0.9**
	baz=24,SNR=18						
QLP	**Quilpie**	**23.64 200**		P	**P**	**16 24 57.7**	**+1.3**
WR0	**Warramunga Arr**	**23.70 227**		P	**P**	**16 24 57.0**	**-0.1**
WRAB	**Tennant Creek**	**23.82 228**		P	**P**	**16 24 58.5**	**+0.3**
WRAB	**Tennant Creek**	**23.82 228**		P	**P**	**16 24 58.6**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,323nm,0.7s						
WRAB	**Tennant Creek**	**23.82 228**		P	**P**	**16 24 58.5**	**+0.3**
WB2	**Warramunga Arr**	**23.83 228**		P	**P**	**16 24 58.4**	**+0.1**
WRA	**Warramunga Arr**	**23.84 228**		P	**P**	**16 24 58.5**	**+0.1**
	comp=Z,255nm,0.7s,baz=51,slow=9.9,SNR=267						
WRA				PcP	**PcP**	**16 28 42.2**	**+1.3**
	comp=Z,6.1nm,0.8s,baz=45,slow=2.4,SNR=1.6						
WRA				S	**S**	**16 29 12.7**	**+1.0**
	comp=Z,73nm,1.2s,baz=47,slow=16,SNR=11						
WRA				ScP	**ScP**	**16 32 17.2**	**+0.9**
	comp=Z,16nm,1.0s,baz=52,slow=2.7,SNR=12						
WRA				LR	LR	16 34 24.6	
	comp=Z,377nm,21.9s,baz=80,slow=37						
WRA	**Warramunga Arr**	**23.84 228**		P	**P**	**16 24 58.5**	**+0.1**
WRA	**Warramunga Arr**	**23.84 228**		P	**P**	**16 24 58.5**	**+0.1**
WRA				pmax	pmax		
	comp=Z,30nm,0.7s						
AAI	**Ambon**	**24.65 271**		P	**P**	**16 25 05.7**	**-0.2**
	comp=Z,815nmcomp=Z,50nm,0.8s						
LBMI	**Labuha**	**25.63 278**		P	**P**	**16 25 15.2**	**+0.4**
	comp=Z,1μmcomp=Z,150nm,1.0s						
NLAI	**Namlea**	**25.76 271**		P	**P**	**16 25 16.6**	**+0.6**
	comp=Z,2μmcomp=Z,23nm,0.8s						
ARMA	**Armidale**	**25.99 183**		P	**P**	**16 25 19.6**	**+1.7**
	baz=26,SNR=4.9						
ARMA	**Armidale**	**25.99 183**		IAmb	IAmb	16 25 22.0	
	comp=Z,45nm,0.8s						
ARMA	**Armidale**	**25.99 183**		P	**P**	**16 25 20.0**	**+2.1**
TNTI	**Ternate**	**26.01 281**		P	**P**	**16 25 18.3**	**+0.1**
TNTI				IAmb	IAmb	16 25 34.0	
	comp=Z,82nm,1.1s						
TNTI	**Ternate**	**26.01 281**		P	**P**	**16 25 19.2**	**+1.0**
	comp=Z,684nmcomp=Z,69nm,1.1s						
INKA	**Innaminka**	**26.02 205**		P	**P**	**16 25 19.3**	**+1.3**
KNRA	**Kununurra**	**26.27 243**		P	**P**	**16 25 20.2**	**-0.3**
	baz=26,SNR=366						
KNRA	**Kununurra**	**26.27 243**		P	**P**	**16 25 20.1**	**-0.4**
KNRA	**Kununurra**	**26.27 243**		P	**P**	**16 25 21.1**	**+0.6**
FUNA	**Funafuti**	**26.46 100**		P	**P**	**16 25 23.3**	**+1.1**
AS31	**Alice Springs**	**26.57 222**		P	**P**	**16 25 23.2**	**0.0**
ASAR	**Alice Springs**	**26.57 222**		P	**P**	**16 25 23.4**	**+0.1**
	comp=Z,45nm,0.8s,baz=55,slow=9.3,SNR=443						
ASAR				PcP	**PcP**	**16 28 48.2**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=43,slow=5.6,SNR=1.8						
ASAR				S	**S**	**16 29 55.1**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=43,slow=15,SNR=4.5						
ASAR				ScP	**ScP**	**16 32 25.6**	**+1.6**
	comp=Z,7.4nm,0.9s,baz=45,slow=3.5,SNR=11						
ASAR				LR	LR	16 35 58.2	
	comp=Z,361nm,20.2s,baz=58,slow=36						
	comp=Z,45nm,0.8s						
SANI	**Sanana**	**26.96 274**		P	**P**	**16 25 28.0**	**+1.2**
	comp=Z,1μmcomp=Z,96nm,0.9s						
SANI	**Sanana**	**26.96 274**		P	**P**	**16 25 29.9**	**+3.1**
CMSA	**Cobar Meteorol**	**27.91 193**		P	**P**	**16 25 35.7**	**+0.6**
	baz=28,SNR=20						
CMSA	**Cobar Meteorol**	**27.91 193**		P	**P**	**16 25 35.9**	**+0.8**

MSVF	**Nonsavu**	**28.00 120**		P	**P**	**16 25 36.6**	**+0.5**
	comp=Z,7.1nm,0.5s,baz=123,slow=23,SNR=11						
MSVF				LR	LR	16 36 27.8	
	comp=Z,689nm,19.3s,baz=297,slow=36						
	comp=Z,7.1nm,0.5s						
MSVF	**Nonsavu**	**28.00 120**		P	**P**	**16 25 35.8**	**-0.3**
MSVF	**Nonsavu**	**28.00 120**		P	**P**	**16 25 35.8**	**-0.3**
MSVF				pmax	pmax		
	comp=Z,30nm,1.1s						
MSVF	**Nonsavu**	**28.00 120**		P	**P**	**16 25 37.4**	**+1.3**
OOD	**Oodnadatta**	**28.53 213**		P	**P**	**16 25 41.3**	**+0.7**
KMSI	**Cibinong**	**29.30 279**		P	**P**	**16 25 49.2**	**+1.6**
	comp=Z,1μmcomp=Z,128nm,0.8s						
STKA	**Stephens Creek**	**29.40 200**		P	**P**	**16 25 48.6**	**+0.3**
	comp=Z,12nm,0.8s,baz=37,slow=14,SNR=33						
STKA				PcP	**PcP**	**16 28 56.3**	**+2.5**
	comp=Z,7.7nm,1.1s,baz=352,slow=6.3,SNR=3.3						
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**29.40 200**		P	**P**	**16 25 48.4**	**+0.1**
	baz=30,SNR=34						
STKA	**Stephens Creek**	**29.40 200**		P	**P**	**16 25 48.0**	**-0.2**
STKA	**Stephens Creek**	**29.40 200**	*i*	P	**P**	**16 25 48.1**	**-0.2**
STKA	**Stephens Creek**	**29.40 200**		P	**P**	**16 25 48.4**	**+0.1**
LCRK	**Leigh Creek**	**29.45 206**		P	**P**	**16 25 49.2**	**+0.4**
BATI	**Baumata**	**29.57 257**		P	**P**	**16 25 51.8**	**+1.7**
	comp=Z,8.6nm,0.4s,baz=57,slow=10.0,SNR=3.1						
BATI				LR	LR	16 40 15.0	
	comp=Z,893nm,21.1s,baz=104,slow=41						
	comp=Z,8.6nm,0.4s						
BATI	**Baumata**	**29.57 257**		P	P	16 25 58.3	+8.2
FITZ	**Fitzroy Crossi**	**29.98 241**		P	**P**	**16 25 53.0**	**-0.6**
	comp=Z,111nm,0.9s,baz=360,slow=3.0,SNR=209						
FITZ				LR	LR	16 39 33.8	
	comp=Z,251nm,18.4s,baz=358,slow=40						
FITZ	**Fitzroy Crossi**	**29.98 241**		P	**P**	**16 25 53.0**	**-0.6**
	baz=30,SNR=178						
FITZ	**Fitzroy Crossi**	**29.98 241**		P	**P**	**16 25 52.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**29.98 241**		P	**P**	**16 25 53.2**	**-0.4**
BBSI	**Bau Bau**	**30.24 267**		P	**P**	**16 25 57.3**	**+1.3**
	comp=Z,29nm,1.2s						
LUWI	**Luwuk**	**30.27 275**		IAmb	IAmb	16 26 14.1	
	comp=Z,54nm,0.8s						
LUWI	**Luwuk**	**30.27 275**		P	**P**	**16 25 57.6**	**+1.4**
	comp=Z,72nm,0.8s						
GTOI	**Gorontalo**	**30.27 279**		P	**P**	**16 25 57.3**	**+1.1**
	comp=Z,196nmcomp=Z,21nm,0.7s						
CNB	**Canberra Magne**	**31.02 186**		P	**P**	**16 26 04.3**	**+1.7**
	baz=31,SNR=7.2						
CNB	**Canberra Magne**	**31.02 186**		P	**P**	**16 26 04.4**	**+1.7**
CAN	**Canberra**	**31.06 186**		P	**P**	**16 26 04.2**	**+1.2**
MRSI	**Marisa**	**31.30 278**		P	**P**	**16 26 06.0**	**+0.7**
	comp=Z,25nm,1.1s						
EDFI	**Ende, Flores**	**31.31 260**		P	**P**	**16 26 03.9**	**-1.6**
	comp=Z,223nmcomp=Z,15nm,0.8s						
WRKA	**Warakurna**	**31.36 227**		P	**P**	**16 26 05.5**	**-0.3**
	baz=32,SNR=122						
WRKA	**Warakurna**	**31.36 227**		P	**P**	**16 26 05.6**	**-0.2**
MULG	**Mulgathing**	**31.36 212**		P	**P**	**16 26 05.7**	**0.0**
APSI	**Ampana**	**31.39 275**		P	**P**	**16 26 07.1**	**+0.9**
	comp=Z,502nmcomp=Z,57nm,1.1s						
HTT	**Hallett**	**31.76 203**		P	**P**	**16 26 09.7**	**+0.5**
	baz=32,SNR=13						
HTT	**Hallett**	**31.76 203**		P	**P**	**16 26 09.9**	**+0.7**
PTPS	**Port Pirie**	**31.90 204**		P	**P**	**16 26 09.2**	**-1.2**
BSSI	**Bau Bau, Buton**	**32.32 265**		P	**P**	**16 26 15.1**	**+0.8**
	comp=Z,377nmcomp=Z,29nm,1.4s						
BBOO	**Buckleboo**	**32.43 207**		P	**P**	**16 26 15.1**	**+0.1**
	baz=33,SNR=15						
BBOO	**Buckleboo**	**32.43 207**		P	**P**	**16 26 14.9**	**-0.1**
BBOO				IAmb	IAmb	16 26 30.4	
	comp=Z,19nm,0.8s						
BBOO	**Buckleboo**	**32.43 207**		P	**P**	**16 26 15.0**	**0.0**
BKSI	**Bulukumba**	**32.67 267**		P	**P**	**16 26 17.2**	**-0.2**
	comp=Z,23nm,1.1s						
TTSI	**Tana Toraja**	**33.03 271**		P	**P**	**16 26 22.1**	**+1.5**
	comp=Z,20nm,1.1s						
KAPI	**Kappang**	**33.04 267**		LR	LR	16 42 10.0	
	comp=Z,246

PKGZ	**Pakihiroa**	**40.56**	**149**	P	**P**	**16 27 25.4**	**+1.1**
RTZ	**Ruatahuna**	**40.56**	**151**	P	P	16 27 10.9	-13
WMGZ	**Waiomatatini S**	**40.68**	**148**	P	**P**	**16 27 26.1**	**+0.8**
BKZ	**Black Stump Fm**	**40.76**	**152**	IAmb	IAmb	16 27 29.4	
	comp=Z,30nm,0.7s						
BKZ	**Black Stump Fm**	**40.76**	**152**	P	**P**	**16 27 26.5**	**+0.5**
PUZ	**Puketiti**	**40.79**	**149**	P	**P**	**16 27 26.8**	**+0.6**
PWJI	**Pagerwojo**	**41.01**	**263**	P	**P**	**16 27 26.6**	**-1.7**
	comp=Z,46nm,1.1s						
NNZ	**Nelson**	**41.08**	**156**	P	**P**	**16 27 29.1**	**+0.6**
NNZ				IAmb	IAmb	16 27 31.0	
	comp=Z,139nm,1.1s						
PBKI	**Pangkalan Bun**	**41.18**	**271**	P	**P**	**16 27 30.3**	**+0.6**
	comp=Z,231nm,1.0s						
SBUM	**Sibu**	**41.20**	**279**	P	**P**	**16 27 30.4**	**+0.5**
THZ	**Tophouse**	**41.35**	**157**	P	**P**	**16 27 31.4**	**+0.5**
GIRL	**Giralia**	**41.59**	**240**	P	**P**	**16 27 33.7**	**+0.7**
	baz=42,SNR=14						
GIRL	**Giralia**	**41.59**	**240**	P	**P**	**16 27 33.5**	**+0.5**
GIRL	**Giralia**	**41.59**	**240**	P	**P**	**16 27 33.6**	**+0.7**
STKI	**Sintang**	**41.61**	**275**	P	**P**	**16 27 33.8**	**+0.5**
	comp=Z,32nm,1.3s						
PCJI	**Pacitan**	**41.63**	**263**	P	**P**	**16 27 33.6**	**+0.1**
	comp=Z,135nm,0.9s						
SNZO	**South Karori**	**41.70**	**155**	P	**P**	**16 27 33.6**	**+0.1**
SNZO				pP	**pP**	**16 27 44.7**	**-0.6**
SNZO				sP	**sP**	**16 27 49.2**	**-1.0**
BFZ	**Birch Farm**	**41.85**	**153**	IAmb	IAmb	16 27 36.1	
	comp=Z,49nm,0.6s						
BFZ	**Birch Farm**	**41.85**	**153**	P	**P**	**16 27 34.9**	**0.0**
LTZ	**Lake Taylor**	**42.00**	**159**	P	**P**	**16 27 36.8**	**+0.8**
KHZ	**Kahutara**	**42.16**	**157**	P	**P**	**16 27 37.5**	**+0.2**
RPZ	**Rata Peaks**	**42.39**	**160**	P	**P**	**16 27 40.0**	**+0.8**
	comp=Z,212nm,0.8s,baz=333,slow=2.4,SNR=62						
RPZ				LR	LR	16 43 34.9	
	comp=Z,918nm,20.4s,baz=322,slow=34						
RPZ	**Rata Peaks**	**42.39**	**160**	P	**P**	**16 27 39.2**	**0.0**
RPZ	**Rata Peaks**	**42.39**	**160**	P	**P**	**16 27 40.4**	**+1.2**
KLBR	**Kellerberrin**	**42.71**	**226**	P	**P**	**16 27 41.3**	**-0.7**
	baz=43,SNR=17						
KLBR	**Kellerberrin**	**42.71**	**226**	P	**P**	**16 27 41.3**	**-0.7**
LBZ	**Lake Benmore**	**42.71**	**162**	P	**P**	**16 27 41.5**	**-0.3**
LBZ				IAmb	IAmb	16 27 44.6	
	comp=Z,102nm,0.8s						
MORW	**Morawa**	**42.72**	**231**	P	**P**	**16 27 41.7**	**-0.5**
	baz=43,SNR=28						
MORW	**Morawa**	**42.72**	**231**	P	**P**	**16 27 41.4**	**-0.8**
MORW				IAmb	IAmb	16 27 42.9	
	comp=Z,65nm,1.1s						
MORW	**Morawa**	**42.72**	**231**	P	**P**	**16 27 41.9**	**-0.3**
WKZ	**Wanaka**	**42.76**	**163**	P	**P**	**16 27 42.9**	**+0.7**
DCZ	**Deep Cove**	**42.84**	**165**	IAmb	IAmb	16 27 46.0	
	comp=Z,62nm,0.7s						
MJAR	**Matsushiro Arr**	**42.90**	**343**	P	**P**	**16 27 43.8**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=154,slow=9.5,SNR=5.2						
MJAR				ScP	**ScP**	**16 33 23.7**	**+1.9**
	comp=Z,3.8nm,1.0s,baz=154,slow=4.8,SNR=4.7						
MJAR				LR	LR	16 43 31.8	
	comp=Z,278nm,21.2s,baz=166,slow=33						
	comp=Z,2.4nm,0.8s						
BLDU	**Ballidu**	**42.97**	**228**	P	**P**	**16 27 43.5**	**-0.6**
	baz=43,SNR=26						
BLDU	**Ballidu**	**42.97**	**228**	P	**P**	**16 27 43.4**	**-0.7**
WHZ	**Wether Hill Ro**	**43.44**	**165**	IAmb	IAmb	16 27 50.2	
	comp=Z,79nm,0.7s						
ODZ	**Otahua Downs**	**43.44**	**162**	P	**P**	**16 27 48.3**	**+0.6**
ODZ	**Otahua Downs**	**43.44**	**162**	P	**P**	**16 27 48.5**	**+0.8**
NWAO	**Narrogin (SRO)**	**43.79**	**225**	P	**P**	**16 27 51.0**	**+0.2**
	baz=44,SNR=3.6						
NWAO				P	**P**	**16 27 51.0**	**+0.2**
	baz=44,SNR=3.6						
NWAO	**Narrogin (SRO)**	**43.79**	**225**	P	**P**	**16 27 52.0**	**+1.3**
	comp=Z,39nm,1.9s						
NWAO	**Narrogin (SRO)**	**43.79**	**225**	P	**P**	**16 27 50.6**	**-0.1**
NWAO				sP	**pP**	**16 28 05.1**	**+2.4**
MUN	**Mundaring**	**44.03**	**227**	P	**P**	**16 27 52.6**	**0.0**
	baz=44,SNR=9.8						
MUN	**Mundaring**	**44.03**	**227**	P	**P**	**16 27 52.2**	**-0.4**
MTKN	**Mount Kenneth**	**44.33**	**227**	P	**P**	**16 27 56.4**	**+1.4**
RKGY	**Rocky Gully**	**44.90**	**223**	P	**P**	**16 28 00.3**	**+0.8**
	baz=45,SNR=5.4						
RKGY	**Rocky Gully**	**44.90**	**223**	P	**P**	**16 28 00.3**	**+0.8**
LEM	**Lembang**	**45.12**	**265**	LR	LR	16 49 07.1	
	comp=Z,143nm,21.2s,baz=76,slow=39						
TPI	**Tanjungpandan**	**45.18**	**270**	P	**P**	**16 28 03.2**	**+1.1**
	comp=Z,43nm,1.1s						
CNJI	**Cibinong**	**45.62**	**264**	P	**P**	**16 28 04.3**	**-1.2**
	comp=Z,202nm,1.1s						
ERM	**Erimo**	**46.96**	**350**	*ce*P	**P**	**16 28 18.0**	**+2.4**
ERM				pmax	pmax		
	comp=Z,34nm,1.7s						
TJN	**Taejon**	**47.00**	**332**	P	**P**	**16 28 17.3**	**+1.3**
TJN	**Taejon**	**47.00**	**332**	P	**P**	**16 28 17.3**	**+1.3**
TJN				pmax	pmax		
	comp=Z,239nm,1.1s						
KSRS	**Korea Array**	**47.62**	**333**	P	**P**	**16 28 22.3**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=150,slow=8.1,SNR=13						
KSRS				ScP	**ScP**	**16 33 44.0**	**+2.8**
	comp=Z,2.4nm,1.0s,baz=151,slow=5.3,SNR=5.7						
KSRS				LR	LR	16 47 47.4	
	comp=Z,143nm,18.6s,baz=150,slow=35						
	comp=Z,2.9nm,0.7s						
INCN	**Inchon**	**48.24**	**332**	P	**P**	**16 28 25.0**	**-0.6**
QIZ	**Qiongzhong**	**48.31**	**300**	P	**P**	**16 28 25.1**	**-1.4**
QIZ				S	**S**	**16 35 25.3**	**+1.3**
QIZ				LR	LR		
	comp=Z,360nm,18.3s						
QIZ				LR	LR		
	comp=Z,530nm,23.9s						
QIZ				LR	LR		
	comp=Z,810nm,24.7s						
NJ2	**Nanjing**	**48.53**	**321**	*e*P	**P**	**16 28 30.8**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,230nm,7.1s						
NJ2				LR	LR		
	comp=Z,320nm,19.9s						
NJ2				LR	LR		
	comp=Z,160nm,19.0s						
NJ2				LR	LR		
	comp=Z,400nm,20.8s						
RAR	**Rarotonga**	**48.89**	**114**	LR	LR	16 46 30.0	
	comp=Z,143nm,20.7s,baz=290,slow=33						
SDSI	**Sungai Dareh**	**51.52**	**272**	P	**P**	**16 28 50.2**	**-0.7**
	comp=Z,14nm,1.0s						
USRK	**Ussuriysk Ar.**	**51.83**	**341**	P	**P**	**16 28 54.0**	**+1.3**
	comp=Z,4.2nm,0.7s,baz=172,slow=8.8,SNR=18						
USRK				ScP	**ScP**	**16 34 01.6**	**+2.5**
	comp=Z,2.5nm,1.0s,baz=186,slow=4.3,SNR=4.5						
USRK				LR	LR	16 46 50.9	
	comp=Z,115nm,21.9s,baz=146,slow=31						
	comp=Z,4.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.83**	**341**	P	**P**	**16 28 53.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**51.83**	**341**	P	**P**	**16 28 53.3**	**+0.6**
USA0B	**Ussuriysk Arra**	**51.83**	**341**	P	**P**	**16 28 53.6**	**+0.9**
USA0B	**Ussuriysk Arra**	**51.83**	**341**	P	**P**	**16 28 53.6**	**+0.9**
USA0B				pmax	pmax		
	comp=Z,12nm,1.0s						
YSS	**Yuzh-Sakhalins**	**51.83**	**351**	*e*P	P	16 29 01.2	+8.5
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=Z,100nm,20.0s						
TIA	**Tai'an**	**52.39**	**323**	⇑P	**P**	**16 28 58.1**	**+1.0**
TIA				pmax	pmax		
	comp=Z,11nm,1.0s						
TIA				LR	LR		
	comp=Z,130nm,22.1s						
TIA				LR	LR		
	comp=Z,150nm,27.9s						
TIA				LR	LR		
	comp=Z,240nm,23.0s						
MDJ	**Mudanjiang**	**53.01**	**339**	P	**P**	**16 29 01.8**	**+0.3**
MDJ				ScP	**ScP**	**16 33 57.6**	**-6.6**
MDJ				PcS	**PcS**	**16 34 04.9**	**-3.5**
MDJ				S	**S**	**16 36 33.3**	**+5.0**
MDJ				ScS	**ScS**	**16 38 43.8**	**-4.0**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,60nm,4.2s						
MDJ				LR	LR		
	comp=Z,120nm,12.0s						
MDJ				LR	LR		
	comp=Z,120nm,10.0s						
MDJ				LR	LR		
	comp=Z,160nm,15.3s						
ENH	**Enshi**	**53.90**	**313**	P	**P**	**16 29 08.5**	**+0.1**
ENH				IAmb	IAmb	16 29 32.2	
	comp=Z,20nm,1.0s						
CN2	**Changchun**	**53.90**	**336**	*e*P	**P**	**16 29 09.3**	**+1.3**
CN2				*e*S	**S**	**16 36 39.0**	**-1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,100nm,17.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
CN2				LR	LR		
	comp=Z,200nm,15.1s						
GYA	**Guiyang**	**54.18**	**307**	P	**P**	**16 29 12.5**	**+1.9**
GYA				sP	sP	16 29 26.9	-0.8
GYA				S	**S**	**16 36 41.8**	**-3.4**
GYA				pmax	pmax		
	comp=Z,170nm,5.2s						
GYA				LR	LR		
	comp=Z,320nm,17.5s						
GYA				LR	LR		
	comp=Z,370nm,17.3s						
GYA				LR	LR		
	comp=Z,540nm,17.5s						
LYN	**LuoYang**	**54.25**	**319**	*e*P	P	16 29 20.9	+10
LYN				S	S	16 37 00.6	+15
LYN	**LuoYang**	**54.25**	**319**	SS	SS	16 40 41.5	+13
LYN				pmax	pmax		
	comp=Z,110nm,6.0s						
LYN				LR	LR		
	comp=N,200nm,18.7s						
LYN				LR	LR		
	comp=E,200nm,17.9s						
LYN				LR	LR		
	comp=Z,380nm,28.4s						
PSI	**Prapat**	**54.40**	**277**	LR	LR	16 53 36.4	
	comp=Z,128nm,21.4s,baz=109,slow=37						
HNS	**HongShan**	**54.62**	**323**	⇓P	**P**	**16 29 14.8**	**+1.4**
HNS				pP	**pP**	**16 29 23.4**	**-2.1**
HNS				*e*S	**S**	**16 36 52.1**	**+1.7**
HNS				pmax	pmax		
	comp=Z,21nm,1.3s						
HNS				LR	LR		
	comp=Z,240nm,18.4s						
HNS				LR	LR		
	comp=Z,250nm,24.5s						
BNX	**BinXian**	**54.76**	**338**	⇑P	**P**	**16 29 15.1**	**+0.8**
BNX				pmax	pmax		
	comp=Z,14nm,1.0s						
BNX				pmax	pmax		
	comp=Z,88nm,5.1s						
XAN	**Xi'an**	**56.34**	**316**	P	**P**	**16 29 27.5**	**+1.6**
XAN				S	**S**	**16 37 21.1**	**+7.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,63nm,3.7s						
XAN				LR	LR		
	comp=Z,260nm,21.3s						
XAN				LR	LR		
	comp=Z,340nm,20.9s						
XAN				LR	LR		
	comp=Z,540nm,17.7s						
KLR	**Kul'dur**	**56.41**	**344**	P	**P**	**16 29 27.2**	**+1.1**
	comp=Z,11nm,0.8s,baz=167,slow=3.3,SNR=32						
KLR				LR	LR	16 52 39.3	
	comp=Z,73nm,19.7s,baz=169,slow=35						
	comp=Z,11nm,0.8s						
KLR	**Kul'dur**	**56.41**	**344**	*ce*P	**P**	**16 29 26.2**	**+0.1**
KLR				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI	**Kunming**	**56.80**	**304**	⇓P	**P**	**16 29 31.4**	**+1.8**
KMI				sP	sP	16 29 45.4	-1.4
KMI				S	**S**	**16 37 26.3**	**+5.9**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,100nm,4.9s						
KMI				LR	LR		
	comp=Z,170nm,23.0s						
KMI				LR	LR		
	comp=Z,370nm,21.9s						
KMI				LR	LR		
	comp=Z,470nm,22.1s						
CRAI	**Chiangrai**	**57.04**	**297**	P	**P**	**16 29 31.8**	**+0.7**
PEA0B	**Petropavlovsk-**	**57.36**	**3**	*ce*P	**P**	**16 29 33.3**	**+0.6**
PETK	**Petropavlovsk-**	**57.36**	**3**	P	**P**	**16 29 33.7**	**+1.1**
	comp=Z,16nm,1.0s,baz=171,slow=8.1,SNR=28						
PETK				LR	LR	16 53 17.3	
	comp=Z,38nm,18.9s,baz=182,slow=35						
	comp=Z,16nm,1.0s						
PETK	**Petropavlovsk-**	**57.36**	**3**	P	**P**	**16 29 33.4**	**+0.7**
PETK	**Petropavlovsk-**	**57.36**	**3**	P	**P**	**16 29 33.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**57.76**	**295**	P	**P**	**16 29 38.2**	**+2.0**
	comp=Z,4.1nm,0.8s,baz=117,slow=5.0,SNR=19						
CMAR				LR	LR	16 53 14.8	
	comp=Z,179nm,20.8s,baz=110,slow=35						
	comp=Z,4.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.76**	**295**	P	**P**	**16 29 35.9**	**-0.3**
PPT	**Papeete**	**57.78**	**108**	LR	LR	16 52 12.5	
	comp=Z,130nm,18.6s,baz=294,slow=34						
PPT2	**Papeete2**	**57.78**	**108**	*e*S	**S**	**16 37 33.8**	**+0.6**
	comp=Z,105nm,28.5s						
PPT2				*e*LR	LR	16 46 35.0	
	comp=Z,420nm,32.2s						
CHTO	**Chiang Mai**	**57.87**	**295**	P	**P**	**16 29 37.6**	**+0.7**
CHTO	**Chiang Mai**	**57.87**	**295**	P	**P**	**16 29 37.6**	**+0.7**
PZH	**PanZhiHua**	**58.18**	**305**	P	**P**	**16 29 41.4**	**+2.3**
PZH				S	**S**	**16 37 39.5**	**+1.3**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,5.1s						
PZH				LR	LR		
	comp=Z,740nm,21.2s						
PZH				LR	LR		
	comp=Z,740nm,23.1s						
PZH				LR	LR		
	comp=Z,2µm,24.5s						
XLT	**XiLinHaoTe**	**58.30**	**329**	⇑*i*P	**P**	**16 29 41.0**	**+1.4**
XLT				pP	pP	16 29 51.0	-0.7
XLT				sP	sP	16 29 56.0	-0.5
XLT				PcP	**PcP**	**16 30 30.0**	**-0.4**
XLT				pmax	pmax		
	comp=Z,16nm,0.9s						
XLT				pmax	pmax		
	comp=Z,54nm,3.7s						
XLT				LR	LR		
	comp=Z,180nm,17.3s						
XLT				LR	LR		
	comp=Z,210nm,18.0s						
CD2	**Chengdu**	**58.50**	**310**	P	**P**	**16 29 45.5**	**+4.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				LR	LR		
	comp=Z,310nm,20.6s						
CD2				LR	LR		
	comp=Z,390nm,19.6s						
CD2				LR	LR		
	comp=Z,400nm,20.6s						
TBI	**Tubuai**	**58.67**	**115**	*e*S	**S**	**16 37 45.4**	**+0.9**
	comp=Z,66nm,37.0s						
TBI				*e*LR	LR	16 46 59.1	
	comp=Z,776nm,25.5s						
HHC	**Hu-ho-hao-te**	**58.72**	**324**	*e*P	**P**	**16 29 45.8**	**+3.2**
HHC				S	**S**	**16 37 51.3**	**+6.6**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,240nm,6.7s						
HHC				LR	LR		
	comp=Z,340nm,18.2s						
HHC				LR	LR		
	comp=Z,430nm,14.3s						
HHC				LR	LR		
	comp=Z,560nm,19.4s						
PMOR	**Pomariorio Ree**	**59.17**	**105**	*e*T	T	17 33 49.8	
	comp=Z,5.8nm,0.3s						
BTO	**Baotou**	**59.48**	**323**	*e*P	**P**	**16 29 50.3**	**+2.4**
BTO				S	**S**	**16 37 59.8**	**+5.2**
BTO				LR	LR		
	comp=Z,460nm,13.9s						
BTO				LR	LR		
	comp=Z,520nm,12.9s						
SHEM	**Shemya Is, Ala**	**59.60**	**15**	LR	LR	16 51 18.4	
	comp=Z,321nm,21.1s,baz=206,slow=32						
LZH	**Lanzhou**	**60.95**	**316**	*e*P	**P**	**16 29 59.9**	**+1.8**
LZH				sP	sP	16 30 15.4	+0.1
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
LZH				LR	LR		
	comp=Z,360nm,17.9s						
LZH				LR	LR		
	comp=Z,250nm,19.6s						
LZH				LR	LR		
	comp=Z,380nm,19.2s						
ZEA	**Zeya**	**61.71**	**343**	*e*P	**P**	**16 30 03.9**	**+1.2**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
DRV	**Dumont d'Urvil**	**62.88**	**186**	P	**P**	**16 30 11.3**	**+1.0**
DRV				pP	**pP**	**16 30 22.0**	**-0.7**
MA2	**Magadan**	**63.72**	**359**	LR	LR	16 57 45.6	
	comp=Z,82nm,19.1s,baz=176,slow=36						
MA2	**Magadan**	**63.72**	**359**	P	**P**	**16 30 16.5**	**+0.6**
MA2				IAmb	IAmb	16 30 17.9	
	comp=Z,22nm,1.0s						
MA2	**Magadan**	**63.72**	**359**	*ce*P	**P**	**16 30 16.5**	**+0.6**
MA2				pmax	pmax		
	comp=Z,23nm,0.9s						
MA2	**Magadan**	**63.72**	**359**	P	**P**	**16 30 16.7**	**+0.7**
MA2				pP	**pP**	**16 30 26.8**	**-1.4**
GTA	**Gaotai**	**65.37**	**317**	⇑P	**P**	**16 30 29.5**	**+2.2**
GTA				pP	pP	16 30 38.3	-1.4
GTA				sP	sP	16 30 43.8	-0.7
GTA				ScP		16 35 01.5	
GTA				S	**S**	**16 39 15.5**	**+6.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,78nm,5.8s						
GTA				LR	LR		
	comp=Z,130nm,20.7s						
GTA				LR	LR		
	comp=Z,200nm,22.2s						
GTA				LR	LR		
	comp=Z,240nm,19.6s						
BRDH	**Bariadhala**	**65.53**	**297**	LR	LR	16 57 37.8	
	comp=Z,163nm,21.7s,baz=103,slow=35						
ULN	**Ulaanbaatar**	**65.64**	**328**	*ce*P	**P**	**16 30 30.1**	**+1.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ULN	**Ulaanbaatar**	**65.64**	**328**	P	**P**	**16 30 30.4**	**+1.5**
ULN				pP	**pP**	**16 30 41.1**	**-0.1**
SONM	**Songino Array**	**65.97**	**328**	P	**P**	**16 30 31.4**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=144,slow=4.4,SNR=9.3						
SONM				LR	LR	16 59 33.2	
	comp=Z,185nm,18.8s,baz=120,slow=36						
	comp=Z,1.1nm,0.6s						
SONM	**Songino Array**	**65.97**	**328**	P	**P**	**16 30 32.1**	**+1.1**
SONM	**Songino Array**	**65.97**	**328**	P	**P**	**16 30 32.1**	**+1.1**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SEY	**Seymchan**	**67.07**	**360**	*ce*P	**P**	**16 30 38.1**	**+0.6**
SEY				pmax	pmax		
	comp=Z,17nm,1.3s						
GOMU	**GeErMu**	**67.51**	**312**	⇓*e*P	**P**	**16 30 42.8**	**+1.4**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,77nm,6.7s						
GOMU				LR	LR		
	comp=Z,62nm,16.3s						
GOMU				LR	LR		
	comp=Z,130nm,18.4s						
GOMU				LR	LR		
	comp=Z,120nm,16.2s						
SPIA	**Saint Paul Isl**	**68.17**	**21**	P	**P**	**16 30 45.1**	**+0.5**
	baz=220						
CASY	**Casey**	**68.50**	**197**	P	**P**	**16 30 46.2**	**-0.4**
CASY				IAmb	IAmb	16 30 52.2	
	comp=Z,26nm,1.3s						
CASY	**Casey**	**68.50**	**197**	P	**P**	**16 30 47.0**	**+0.4**
CASY				sP	**sP**	**16 31 02.7**	**-1.2**
YAK	**Yakutsk**	**68.52**	**348**	P	**P**	**16 30 46.9**	**+0.2**
YAK				IAmb	IAmb	16 30 59.1	
	comp=Z,31nm,1.2s						
YAK	**Yakutsk**	**68.52**	**348**	*e*P	**P**	**16 30 47.6**	**+0.9**
YAK				pmax	pmax		
	comp=Z,19nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
ZAK	**Zakamensk**	**69.14**	**329**	*e*P	**P**	**16 30 50.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,11nm,1.3s						
BOD	**Bodaibo**	**69.38**	**339**	*e*P	**P**	**16 30 52.0**	**-0.1**
BOD				pmax	pmax		
	comp=Z,15nm,1.6s						
SDPT	**Sand Point**	**70.75**	**26**	P	**P**	**16 31 01.1**	**+0.6**
	baz=230						
CHNA	**Chernabura Isl**	**70.81**	**27**	P	**P**	**16 31 01.5**	**+0.6**
	baz=231						
MOY	**Mondy**	**71.06**	**329**	*e*P	**P**	**16 31 04.0**	**+1.3**
MOY				pmax	pmax		
	comp=Z,15nm,1.5s						
BILL	**Bilibino**	**72.81**	**5**	P	**P**	**16 31 13.5**	**+0.9**
BILL				IAmb	IAmb	16 31 15.1	
	comp=Z,20nm,0.9s						
BILL	**Bilibino**	**72.81**	**5**	*d i*P	**P**	**16 31 14.0**	**+1.3**
BILL				*e**PP	**pP**	**16 31 23.6**	**-1.7**
BILL				*e*		16 31 27.9	
BILL				*i*		16 33 54.8	
BILL				S	**S**	**16 40 38.0**	**+2.6**
BILL				pmax	pmax		
	comp=Z,14nm,1.3s						
BILL				MLR	MLR		
	comp=Z,122nm,17.0s						
PALK	**Pallekele**	**72.96**	**279**	LR	LR	17 03 42.3	
	comp=Z,62nm,21.8s,baz=225,slow=36						
VNDA	**Vanda**	**73.31**	**178**	P	**P**	**16 31 16.8**	**+1.2**
	comp=Z,38nm,0.8s,baz=327,slow=6.4,SNR=107						
VNDA				LR	LR	17 00 49.9	
	comp=Z,84nm,19.2s,baz=349,slow=34						
	comp=Z,38nm,0.8s						
VNDA	**Vanda**	**73.31**	**178**	P	**P**	**16 31 16.3**	**+0.7**
VNDA				IAmb	IAmb	16 31 19.6	
	comp=Z,44nm,0.8s						
VNDA	**Vanda**	**73.31**	**178**	P	**P**	**16 31 16.3**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,44nm,0.9s						
SBA	**Scott Base**	**73.85**	**177**	P	**P**	**16 31 20.3**	**+1.6**
SBA				IAmb	IAmb	16 31 23.8	
	comp=Z,36nm,0.9s						
SBA	**Scott Base**	**73.85**	**177**	P	**P**	**16 31 20.3**	**+1.6**
SBA				pmax	pmax		
	comp=Z,36nm,0.9s						
N16K	**Nishlik Lake**	**74.73**	**23**	P	**P**	**16 31 25.7**	**+1.5**
	baz=230						
WMQ	**Urumqi**	**75.46**	**317**	*e*P	**P**	**16 31 30.4**	**+1.6**
WMQ				sP	sP	16 31 44.5	-1.6
WMQ				pmax	pmax		
	comp=Z,19nm,1.5s						
WMQ				LR	LR		
	comp=Z,190nm,22.5s						
L19K	**White Mountain**	**77.27**	**22**	P	**P**	**16 31 39.8**	**+1.2**
L19K				IAmb	IAmb	16 32 09.5	
	comp=Z,54nm,1.8s						
L19K	**White Mountain**	**77.27**	**22**	P	**P**	**16 31 40.0**	**+1.4**
	baz=234						
M19K	**Big River Lodg**	**77.28**	**23**	P	**P**	**16 31 40.0**	**+1.3**
	baz=234						
TIXI	**Tiksi**	**77.44**	**352**	LR	LR	17 02 51.5	
	comp=Z,52nm,21.9s,baz=181,slow=33						
BRSE	**Bradley Lake S**	**77.57**	**26**	P	**P**	**16 31 40.8**	**+0.5**
	baz=238						
PCHI	**Peechi**	**77.61**	**282**	*e*P	**P**	**16 31 43.2**	**+1.7**
PCHI				*e*S	**S**	**16 41 28.9**	**-1.9**
N20K	**Mount Spurr**	**77.74**	**24**	P	**P**	**16 31 41.8**	**+0.5**
	baz=236						
SPCR	**Spurr Chakacha**	**77.74**	**24**	P	**P**	**16 31 41.5**	**+0

comp=Z,7.0nm,1.3s
L20K Farewell, AK 77.81 22 P **P** **16 31 42.9 +1.3**
baz=235
GCSA Galena City Sc 78.10 20 P **P** **16 31 44.4 +1.3**
baz=232
K20K Telida 78.25 22 P **P** **16 31 45.2 +1.1**
baz=234
ZSN Zaisan 78.56 320 *e*P **P** **16 31 46.6 +0.5**
ZSN pmax pmax
comp=Z,10.0nm,1.4s
ZSN Zaisan 78.56 320 *e*P **P** **16 31 46.7 +0.5**
comp=Z,9.8nm,1.4s,baz=320
J20K Nowinta River 78.70 21 P **P** **16 31 47.7 +1.2**
baz=234,SNR=7.0
CAST Castle Rocks 79.02 22 P **P** **16 31 49.5 +1.2**
baz=236
PWL Port Wells 79.17 25 P **P** **16 31 50.3 +1.2**
baz=240
CHUM Lake Minchumin 79.20 22 P **P** **16 31 50.2 +1.1**
baz=236
KNK Knik Glacier 79.40 25 P **P** **16 31 51.3 +0.9**
baz=240
SML Sawmill 79.65 24 P **P** **16 31 52.3 +0.5**
baz=240
TRF Thorofare Moun 79.72 22 P **P** **16 31 52.5 +0.2**
baz=238
M23K Glacier View 79.89 25 P **P** **16 31 53.5 +0.5**
baz=241
IMAR Indian Mountai 79.90 19 P **P** **16 31 53.6 +0.6**
H21K Melozitna Rive 80.03 20 P **P** **16 31 54.7 +1.0**
baz=235
MK31 Makanchi Array 80.03 319 *i* P **P** **16 31 54.8 +0.7**
MKAR Makanchi Array 80.03 319 P **P** **16 31 55.1 +1.0**
comp=Z,3.6nm,0.8s,baz=104,slow=5.1,SNR=24
MKAR PKKPbc **PKKPbc** **16 50 40.0 -0.7**
comp=Z,0.8nm,0.8s,baz=259,slow=2.5,SNR=5.5
MKAR LR LR 17 06 58.5
comp=Z,150nm,20.2s,baz=110,slow=35
comp=Z,3.6nm,0.8s
I21K Tanana 80.04 21 P **P** **16 31 54.9 +1.2**
baz=236
MAKZ Makanchi 80.24 319 P **P** **16 31 55.4 +0.2**
MAKZ Makanchi 80.24 319 P **P** **16 31 55.4 +0.2**
MAKZ pmax pmax
comp=Z,12nm,1.2s
WAT6 Susitna Watana 80.27 24 P **P** **16 31 56.1 +0.9**
baz=240
G21K Allakaket 80.29 19 P **P** **16 31 56.0 +0.9**
baz=234
MCK McKinley 80.38 23 P **P** **16 31 55.4 -0.2**
MCK IAmb IAmb 16 31 56.5
comp=Z,22nm,0.9s
MCK McKinley 80.38 23 P **P** **16 31 55.4 -0.2**
MCK pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 80.38 23 P **P** **16 31 55.7 +0.1**
baz=239,SNR=6.0
MLY Manley 80.40 21 P **P** **16 31 56.4 +0.6**
baz=237,SNR=6.1
H22K Ishtalitna Cre 80.65 20 P **P** **16 31 57.9 +0.9**
baz=237
F21K Alatna River 80.71 19 P **P** **16 31 57.9 +0.6**
baz=234
NEA2 Nenana 80.78 22 P **P** **16 31 58.0 +0.3**
baz=239,SNR=5.4
ZALV Zalesovo Beam 80.81 326 P **P** **16 31 58.3 +0.2**
comp=Z,1.1nm,0.4s,baz=99,slow=6.5,SNR=6.3
ZALV LR LR 17 08 44.0
comp=Z,72nm,19.0s,baz=108,slow=36
comp=Z,1.1nm,0.4s
SHLS Shalkode 80.96 315 *e*P **P** **16 31 58.0 -1.4**
SHLS Shalkode 80.96 315 *e*P **P** **16 31 58.0 -1.4**
baz=315
WRH Wood River Hil 81.08 22 IAmb IAmb 16 32 38.9
comp=Z,32nm,1.5s
N25K Chitina, Valde 81.12 25 P **P** **16 32 00.8 +1.1**
baz=244
G22K Bettles 81.18 19 P **P** **16 32 00.7 +1.0**
baz=236
HARP HAARP 81.24 25 P **P** **16 32 01.4 +1.1**
baz=243
H23K Yukon River 81.25 21 IAmb IAmb 16 32 12.6
comp=Z,33nm,1.8s
H23K Yukon River 81.25 21 P **P** **16 32 01.1 +0.8**
baz=238
UZB Uzynbulak 81.27 315 *e*P **P** **16 32 00.8 -0.2**
UZB Uzynbulak 81.27 315 *e*P **P** **16 32 00.9 -0.2**
baz=315
F22K John River 81.29 19 P **P** **16 32 01.5 +1.1**
baz=236
COLA College 81.37 22 *i* P **P** **16 32 00.2 -0.6**
COLA pmax pmax
comp=Z,15nm,0.9s
HDA Harding Lake 81.48 22 P **P** **16 32 01.6 +0.2**
baz=241
G23K Bananza Creek 81.55 20 P **P** **16 32 02.8 +0.9**
baz=238
KPKS Kokpek 81.59 315 *e*P **P** **16 32 02.1 -0.5**
KPKS Kokpek 81.59 315 *e*P **P** **16 32 02.2 -0.5**
baz=315
ILAR Eielson Array 81.68 22 P **P** **16 32 01.6 -0.8**
comp=Z,5.1nm,0.7s,baz=250,slow=5.4,SNR=31
ILAR PKKPbc **PKKPbc** **16 50 35.5 -2.2**
comp=Z,0.9nm,0.8s,baz=64,slow=0.6,SNR=5.9
ILAR LR LR 17 05 17.3
comp=Z,82nm,18.9s,baz=262,slow=33
comp=Z,5.1nm,0.7s
ILAR Eielson Array 81.68 22 P **P** **16 32 01.1 -1.4**
ILAR Eielson Array 81.68 22 P **P** **16 32 01.1 -1.4**
SATY Saty 81.69 314 *e*P **P** **16 32 02.9 -0.3**
SATY Saty 81.69 314 *e*P **P** **16 32 03.0 -0.3**
baz=314
E22K Anaktuvuk Pass 81.76 18 P **P** **16 32 04.0 +1.1**
baz=236
COLD Coldfoot 81.77 19 P **P** **16 32 04.1 +1.2**
baz=238
H24K Noodor Dome 81.84 21 P **P** **16 32 04.2 +0.8**
baz=240
RIDG Independent Ri 81.98 23 P **P** **16 32 04.8 +0.6**
baz=243
M26K Nabesna, AK 82.15 25 P **P** **16 32 05.8 +0.7**
baz=245
J25K Salcha River, 82.18 23 IAmb IAmb 16 32 16.2
comp=Z,21nm,1.0s
J25K Salcha River, 82.18 23 P **P** **16 32 05.4 +0.2**
baz=242,SNR=14
DOT Dot Lake 82.25 24 IAmb IAmb 16 32 07.0
comp=Z,13nm,0.9s
L26K Log Cabin Wild 82.27 24 P **P** **16 32 06.6 +1.0**
baz=244
CTG Chitna Glacier 82.27 27 P **P** **16 32 07.1 +1.2**
baz=246
E23K Chandalar 82.41 19 P **P** **16 32 07.5 +1.1**
baz=238
G24K Hadweenzic Riv 82.42 20 P **P** **16 32 07.4 +1.0**
baz=240
SCRK Sand Creek 82.43 23 P **P** **16 32 07.1 +0.5**
baz=244
D23K Nanushuk River 82.57 18 P **P** **16 32 08.6 +1.5**
baz=237
M27K Edge Creek, AK 82.60 25 IAmb IAmb 16 32 37.3
comp=Z,54nm,1.5s
M27K Edge Creek, AK 82.60 25 P **P** **16 32 08.7 +1.2**
baz=246,SNR=5.9
PNL Peninsula 82.67 28 P **P** **16 32 08.9 +1.0**
baz=248
MDOK Medeo 82.68 314 *e*P **P** **16 32 08.2 -0.2**
MDOK Medeo 82.68 314 *e*P **P** **16 32 08.2 -0.2**
baz=314
F24K Squaw Lake 82.69 19 P **P** **16 32 09.0 +1.2**
baz=240
KSH Kashi 82.70 311 P **P** **16 32 11.5 +2.9**
KSH pP pP 16 32 23.6 +2.3
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=Z,200nm,19.2s
O28M Mount Upton 82.72 27 P **P** **16 32 09.0 +0.6**
baz=248
TOLK Toolik Lake Re 82.73 18 P **P** **16 32 08.6 +0.6**
TOLK Toolik Lake Re 82.73 18 P **P** **16 32 09.0 +1.0**
baz=238
E24K Your Creek 82.78 19 P **P** **16 32 09.1 +0.8**
baz=239
H25K Birch Creek 82.79 21 P **P** **16 32 09.6 +1.3**
baz=242
J26L Joseph Creek 82.82 23 IAmb IAmb 16 34 46.4
comp=Z,25nm,1.8s
J26L Joseph Creek 82.82 23 P **P** **16 32 09.5 +0.9**
baz=244
CHKK Chushkaly 82.88 315 *e*P **P** **16 32 09.3 +0.1**
CHKK Chushkaly 82.88 315 *e*P **P** **16 32 09.4 +0.1**
baz=315
L27K Beaver Creek, 82.91 25 IAmb IAmb 16 32 38.8
comp=Z,28nm,1.7s
L27K Beaver Creek, 82.91 25 P **P** **16 32 10.0 +0.9**
baz=246
YUK3 Moose Creek 82.98 26 P **P** **16 32 10.4 +0.7**
baz=247
C23K Itkillik River 83.06 17 P **P** **16 32 10.8 +1.2**
baz=237
K27K Chicken 83.21 24 P **P** **16 32 11.8 +1.3**
baz=246
D24K Happy Valley 83.23 18 P **P** **16 32 11.9 +1.4**
baz=239
O29M Mount Kennedy 83.29 28 P **P** **16 32 12.0 +0.8**
baz=249
I26K Coal Creek Min 83.33 22 P **P** **16 32 11.5 +0.5**
baz=244
KUU Kurty 83.34 315 *e*P **P** **16 32 11.5 -0.2**
KUU pmax pmax
comp=Z,12nm,1.2s
KUU Kurty 83.34 315 *e*P **P** **16 32 11.5 -0.2**
comp=Z,12nm,1.2s,baz=315
P29M Windy Craggy 83.44 29 P **P** **16 32 13.1 +1.2**
baz=250
KURK Kurchatov 83.45 322 P **P** **16 32 12.2 +0.2**
KURK Kurchatov 83.45 322 P **P** **16 32 12.2 +0.2**
KURK pmax pmax
comp=Z,13nm,1.2s
F25K Christian Rive 83.48 20 P **P** **16 32 13.3 +1.4**
baz=242
KURBB Kurchatov Arra 83.48 322 LR LR 17 08 03.9
comp=Z,76nm,21.6s,baz=85,slow=35
C24K Franklin Bluff 83.56 17 P **P** **16 32 13.4 +1.3**
baz=239
TKM2 Tokmak 2 83.67 314 P **P** **16 32 14.9 +1.2**
SNR=6.2
E25K Arctic Village 83.75 19 P **P** **16 32 14.6 +1.3**
baz=242
SIT Sitka 83.81 31 P **P** **16 32 14.5 +0.8**
baz=252
G26K Porcupine Rive 83.82 21 P **P** **16 32 14.7 +1.1**
baz=244
EGAK Eagle 83.88 23 IAmb IAmb 16 32 17.5
comp=Z,20nm,1.4s
EGAK Eagle 83.88 23 P **P** **16 32 14.9 +1.0**
baz=246
HYT Haines Junctio 83.97 28 IAmb IAmb 16 32 16.9
comp=Z,19nm,1.0s
HYT Haines Junctio 83.97 28 P **P** **16 32 15.5 +0.9**
baz=250,SNR=8.6
P30M Million Dollar 83.98 28 P **P** **16 32 15.6 +1.0**
baz=250
F26K Sheenjek River 84.03 20 P **P** **16 32 15.9 +1.2**
baz=243
I27K Kandik River 84.04 22 P **P** **16 32 15.7 +0.9**
baz=246
PLBC Pleasant Camp 84.05 29 P **P** **16 32 15.9 +1.0**
baz=251
D25K Kavik River 84.07 18 P **P** **16 32 15.9 +1.0**
baz=241
M29M Somme Creek 84.10 26 P **P** **16 32 16.4 +1.1**
baz=249
CHMS Chumysh 84.29 314 P **P** **16 32 17.9 +1.3**
SNR=5.9
DAWY Dawson 84.31 24 IAmb IAmb 16 32 28.6
comp=Z,22nm,1.6s
DAWY Dawson 84.31 24 P **P** **16 32 17.0 +0.8**
baz=248
UCH Uchtor 84.32 313 P **P** **16 32 19.4 +2.1**
SNR=14
S32K Killisnoo 84.33 31 P **P** **16 32 17.2 +1.0**
baz=253
H27K Steamboat Moun 84.33 22 P **P** **16 32 17.3 +1.1**
baz=246
AAK Ala-Archa 84.41 313 LR LR 17 10 16.1
comp=Z,137nm,20.8s,baz=102,slow=36
AAK Ala-Archa 84.41 313 P **P** **16 32 18.1 +0.7**
AAK Ala-Archa 84.41 313 *ce*P **P** **16 32 18.3 +1.0**
AAK pmax pmax
comp=Z,9.0nm,0.9s
SGDS Sogindy 84.47 314 *e*P **P** **16 32 17.4 -0.1**
SGDS Sogindy 84.47 314 *e*P **P** **16 32 17.5 -0.1**
baz=314
L29M L29M 84.49 25 P **P** **16 32 18.0 +0.9**
baz=249,SNR=5.2
G27K Doyon Strip 84.52 21 P **P** **16 32 18.4 +1.2**
baz=246
USP Ospenovka 84.53 314 P **P** **16 32 19.2 +1.5**
SNR=8.2
CRAG Craig 84.53 33 P **P** **16 32 18.1 +0.7**
baz=254
O30N Mendenhall 84.60 28 P **P** **16 32 18.7 +1.0**
baz=251
U33K Whale Pass 84.71 33 P **P** **16 32 18.8 +0.5**
baz=254
C26K Camden Bay 84.81 18 P **P** **16 32 20.0 +1.5**
baz=242
M30M Minto, Yukon 84.88 26 P **P** **16 32 20.1 +1.0**
baz=250
AML Almayashu 84.90 313 P **P** **16 32 22.1 +2.0**
SNR=26
EKS2 Erkin-Say 84.93 313 P **P** **16 32 21.7 +1.8**
SNR=5.5
N31M Braeburn, Yuko 84.97 27 P **P** **16 32 20.7 +1.1**
baz=252
K29M Barlow Dome 85.00 25 P **P** **16 32 20.8 +1.0**
baz=250,SNR=6.6
C27K Jago River 85.05 18 P **P** **16 32 21.1 +1.4**
baz=244
E27K Coleen River 85.11 20 P **P** **16 32 21.3 +1.2**
baz=246
WHY Whitehorse 85.13 28 P **P** **16 32 21.2 +0.7**
baz=252
BTLS Baital 85.18 316 *e*P **P** **16 32 21.3 +0.4**
BTLS pmax pmax
comp=Z,10.0nm,1.2s
BTLS Baital 85.18 316 *e*P **P** **16 32 21.3 +0.4**
comp=Z,9.6nm,1.2s,baz=316
I29M Ogilvie Camp, 85.22 23 IAmb IAmb 16 32 22.3
comp=Z,16nm,1.4s
I29M Ogilvie Camp, 85.22 23 P **P** **16 32 21.3 +0.6**
baz=249
V35K Ketchikan 85.33 34 P **P** **16 32 22.2 +0.8**
baz=256
NRIK Noril'sk 85.54 341 P **P** **16 32 22.0 -0.2**
comp=Z,3.1nm,0.8s,baz=104,slow=7.1,SNR=4.4
NRIK LR LR 17 11 38.1
comp=Z,92nm,18.9s,baz=136,slow=36
comp=Z,3.1nm,0.8s
NRIK Noril'sk 85.54 341 IAmb IAmb 16 32 34.1
comp=Z,12nm,1.1s
NRIK Noril'sk 85.54 341 *ce*P **P** **16 32 23.0 +0.8**
NRIK pmax pmax
comp=Z,9.0nm,1.1s
QSPA South Pole Qui 85.64 180 LR LR 17 09 41.1
comp=Z,108nm,18.8s,baz=16,slow=35
QSPA South Pole Qui 85.64 180 P **P** **16 32 22.9 -0.1**
M31M Drury Creek, Y 85.82 27 P **P** **16 32 24.7 +0.9**
baz=253
DRK Karamyk 85.87 310 IAmb IAmb 16 32 39.6
comp=Z,25nm,1.0s
Q32M Nakina River 85.92 30 P **P** **16 32 25.7 +1.2**
baz=255
P33M Teslin, Yukon 85.98 29 P **P** **16 32 25.6 +0.9**
baz=254
MAW Mawson 86.05 203 P **P** **16 32 25.7 +0.9**
comp=Z,10nm,0.9s,baz=99,slow=5.9,SNR=8.5
MAW LR LR 17 08 48.2
comp=Z,106nm,19.5s,baz=87,slow=34
comp=Z,10nm,0.9s
MAW Mawson 86.05 203 P **P** **16 32 26.2 +1.5**
baz=86,SNR=4.4
MAW Mawson 86.05 203 P **P** **16 32 25.1 +0.3**
MAW Mawson 86.05 203 P **P** **16 32 25.1 +0.3**
MAW pmax pmax
comp=Z,3.0nm,0.7s
EPYK Eagle Plains 86.19 22 IAmb IAmb 16 32 27.9
comp=Z,48nm,1.5s
EPYK Eagle Plains 86.19 22 P **P** **16 32 26.7 +1.2**
baz=250
S34M Telegraph Cree 86.23 31 P **P** **16 32 26.8 +1.0**
baz=256,SNR=6.7
FARO Faro, Yukon 86.30 27 P **P** **16 32 27.1 +1.0**
baz=254
BBB Bella Bella 86.66 37 LR LR 17 03 27.7
comp=Z,84nm,20.7s,baz=267,slow=30
R33M Jennings River 86.67 30 P **P** **16 32 29.3 +1.1**
baz=256
BTK Batken 86.70 310 IAmb IAmb 16 33 11.0
comp=Z,12nm,1.1s
DLBC Dease Lake 86.92 31 LR LR 17 04 11.3
comp=Z,241nm,21.9s,baz=278,slow=31
DLBC Dease Lake 86.92 31 IAmb IAmb 16 32 32.2
comp=Z,11nm,1.1s
DLBC Dease Lake 86.92 31 P **P** **16 32 30.3 +1.0**
baz=257,SNR=6.7
GAR Garm 86.94 309 IAmb IAmb 16 32 43.8
comp=Z,41nm,1.3s
BRZS Berezniki 87.01 320 *e*P **P** **16 32 28.6 -1.2**
BRZS Berezniki 87.01 320 *e*P **P** **16 32 28.6 -1.2**
baz=320
MMPY Sheldon Lake, 87.34 27 P **P** **16 32 32.1 +0.9**
baz=255
KKAR Karatay Array 87.37 313 P **P** **16 32 31.5 -0.3**
KKAR Karatay Array 87.37 313 P **P** **16 32 31.5 -0.3**
IUG Iuzhnay 87.59 312 *e*P **P** **16 32 33.2 +0.2**
IUG Iuzhnay 87.59 312 *e*P **P** **16 32 33.2 +0.2**
baz=312
F31M Tsiigehtchic 87.64 22 P **P** **16 32 33.8 +1.4**
baz=253
CHGR Chuyangaron 87.79 309 IAmb IAmb 16 32 47.7
comp=Z,26nm,1.0s
WTLY Watson Lake, Y 87.91 29 P **P** **16 32 35.4 +1.4**
baz=258
INK Inuvik 87.97 21 LR LR 17 07 17.9
comp=Z,68nm,20.9s,baz=255,slow=32
INK Inuvik 87.97 21 P **P** **16 32 34.0 +0.1**
INK IAmb IAmb 16 32 45.5
comp=Z,16nm,1.2s
INK Inuvik 87.97 21 P **P** **16 32 34.1 +0.1**
INK pmax pmax
comp=Z,16nm,1.3s
INK Inuvik 87.97 21 P **P** **16 32 35.3 +1.3**
baz=253
L02F Cave Junction 88.07 48 P **P** **16 32 35.8 +0.6**
baz=262
K02D Willamette Mer 88.08 47 P **P** **16 32 35.4 +0.1**
baz=262
YBH Yreka Blue Hor 88.66 48 LR LR 17 07 58.7
comp=Z,62nm,18.6s,baz=270,slow=33
BVAR Borovoye Array 88.92 323 LR LR 17 14 52.8
comp=Z,74nm,18.7s,baz=98,slow=37
BRVK Borovoye 88.98 323 P **P** **16 32 38.5 -0.7**
BRVK IAmb IAmb 16 33 14.5
comp=Z,7.8nm,0.8s
BRVK Borovoye 88.98 323 *ce*P **P** **16 32 38.5 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
J05D Fort Rock, OR 89.92 47 P **P** **16 32 44.9 +0.9**
baz=264
SBC Santa Barbara 90.26 56 P **P** **16 32 46.3 +0.8**
baz=265
SCZ2 Santa Cruz Isl 90.29 56 P **P** **16 32 46.4 +0.7**
baz=265
I07A Izee 91.25 46 P **P** **16 32 49.8 -0.3**
I07A IAmb IAmb 16 33 39.8
comp=Z,11nm,1.5s
NVAR Mina Array Bea 91.71 52 P **P** **16 32 52.8 +0.2**
comp=Z,0.9nm,0.7s,baz=254,slow=6.5,SNR=6.6
NVAR LR LR 17 08 49.2
comp=Z,115nm,19.6s,baz=270,slow=32
comp=Z,0.9nm,0.7s
LRMC Laurel Mtn Rad 92.00 55 P **P** **16 32 54.4 +0.5**
baz=266
E09A Wood Farm, Sta 92.38 44 P **P** **16 32 54.9 -0.3**
E09A IAmb IAmb 16 32 56.7
comp=Z,9.2nm,1.1s
MONP2 Monument Peak 92.89 57 P **P** **16 32 59.1 +1.0**
baz=267
PFO Pinyon Flats O 92.90 57 LR LR 17 07 09.6
comp=Z,170nm,20.9s,baz=264,slow=31
PFO Pinyon Flats O 92.90 57 P **P** **16 32 58.9 +0.9**
baz=267
TPFO Pinon Flats 92.90 57 P **P** **16 32 58.8 +0.8**
baz=267
HEC Hector,Ludlow 93.07 55 P **P** **16 32 59.4 +0.7**
baz=267
NEW Newport 93.18 42 LR LR 17 08 38.8
comp=Z,102nm,20.1s,baz=260,slow=31
TPNV Topopah Spring 93.25 53 P **P** **16 33 00.3 +0.7**
baz=267
BELC Belle Mtn. Jos 93.30 56 P **P** **16 33 00.7 +0.8**
baz=267
R11A Troy Canyon, C 93.84 52 P **P** **16 33 02.9 +0.6**
baz=268
IRM Iron Mountain 94.02 56 P **P** **16 33 03.8 +0.8**
baz=268
ELK Elko 94.20 50 LR LR 17 09 04.2
comp=Z,77nm,20.8s,baz=256,slow=31
YKA Yellowknife Ar 94.96 28 P **P** **16 33 06.8 +0.2**
comp=Z,1.5nm,0.8s,baz=277,slow=4.9,SNR=2.5
comp=Z,1.5nm,0.8s
ABKAR Akbulak array 95.17 319 P **P** **16 33 06.2 -1.7**
ARU Arti 95.97 326 LR LR 17 17 06.7
comp=Z,174nm,21.2s,baz=80,slow=36
GEYT Alibeck 96.40 308 LR LR 17 16 33.6
comp=Z,74nm,21.9s,baz=122,slow=35
AKTO Aktyubinsk 96.42 320 LR LR 17 15 54.7
comp=Z,91nm,21.8s,baz=86,slow=35
BELA Belgrano 2 97.81 178 IAmb IAmb 16 33 22.2
comp=Z,6.9nm,0.9s
PDAR Pinedale Array 98.45 48 P **P** **16 33 22.1 -1.2**
comp=Z,0.6nm,0.8s,baz=197,slow=2.8,SNR=4.5
PDAR LR LR 17 12 01.1
comp=Z,75nm,20.7s,baz=269,slow=32
comp=Z,0.6nm,0.8s
TROLL Troll, Antarti 101.44 189 Pdiff **Pdif** **16 33 33.1 -2.7**
SNAA Sanae 102.52 188 PKiKP **PKiKP** **16 38 01.8 +0.2**
SNAA Sanae 102.52 188 Pdiff **Pdif** **16 33 40.2 -0.4**
VNA3 Neumayer Olymp 103.71 186 PKiKP **PKiKP** **16 38 05.1 +1.4**
VNA3 Neumayer Olymp 103.71 186 Pdiff **Pdif** **16 33 47.5 +1.8**
VNA2 Neumayer--Watz 103.77 187 PKiKP **PKiKP** **16 38 05.5 +1.7**
baz=144,slow=2.0
VNA2 Neumayer--Watz 103.77 187 Pdiff **Pdif** **16 33 45.2 -0.8**
baz=166,slow=4.0
VNA1 Neumayer--Stat 104.13 186 PKiKP **PKiKP** **16 38 07.2 +2.8**
ARCES ARCESS Array B 106.44 343 PKiKP **PKiKP** **16 38 09.7 +1.0**
comp=Z,1.8nm,0.8s,baz=57,slow=3.3,SNR=8.2
ARCES PKKPbc **PKKPbc** **16 49 30.6 -1.3**
comp=Z,1.2nm,0.9s,baz=232,slow=4.0,SNR=3.9
FINES FINESS Array B 110.66 336 PKiKP **PKiKP** **16 38 17.1 +0.4**
comp=Z,0.9nm,0.6s,baz=11,slow=3.9,SNR=5.3
AKASG Malin Array Be 114.16 325 PKiKP **PKiKP** **16 38 23.7 0.0**
comp=Z,2.7nm,0.7s,baz=62,slow=2.4,SNR=10.0
AKASG PKKPbc **PKKPbc** **16 49 03.3 -2.9**
comp=Z,0.2nm,0.3s,baz=278,slow=2.5,SNR=4.4
BRTR Keskin Array B 115.06 312 PKP **PKiKP** **16 38 25.7 -0.3**
comp=Z,0.5nm,0.4s,baz=48,slow=2.1,SNR=4.2
NB2 NORSAR Subarra 116.50 340 PKPdf **PKPdf** **16 38 27.6 -0.4**
comp=Z,0.4nm,0.6s,baz=39,slow=1.9
NOA NORSAR Array B 116.50 340 PKP **PKPdf** **16 38 28.0 -0.1**
comp=Z,0.7nm,0.6s,baz=46,slow=2.0,SNR=6.9
NOA PKKPbc **PKKPab** **16 49 01.1 +0.2**
comp=Z,0.6nm,0.7s,baz=217,slow=3.2,SNR=4.3
BIZ Bicaz 117.63 322 ⇓P **PKiKP** **16 38 32.0 +1.4**
BURAR Bucovina Array 117.87 323 ⇓P **PKiKP** **16 38 33.0 +1.8**
BURAR Bucovina Array 117.87 323 ⇓PKiKP **PKiKP** **16 38 33.0 +1.8**
MLR Muntele Rosu 118.35 320 ⇑P **PKPdf** **16 38 30.6 -1.6**
MLR Muntele Rosu 118.35 320 ⇑PKiKP **PKPdf** **16 38 30.6 -1.6**
KOLS Kolonicke sedl 118.97 325 *e*PKiKP **PKiKP** **16 38 34.2 +1.0**
KOLS Kolonicke sedl 118.97 325 *e*PKP **PKiKP** **16 38 34.2 +1.0**
ARR Arges 119.23 321 ⇓P **PKiKP** **16 38 35.9 +2.0**
CRVS Cervenica-Dubn 119.45 325 *e*PKiKP **PKiKP** **16 38 34.8 +0.7**
CRVS Cervenica-Dubn 119.45 325 *e*PKP **PKiKP** **16 38 34.8 +0.7**
DRGR 119.77 323 ⇑P **PKiKP** **16 38 36.0 +1.1**
DRGR 119.77 323 ⇑PKiKP **PKiKP** **16 38 36.0 +1.1**
BOSA Boshof 119.99 233 PKP **PKiKP** **16 38 36.6 +0.7**
comp=Z,3.1nm,0.8s,baz=118,slow=4.8,SNR=5.9
PLCA Paso Flores 120.10 143 PKP **PKiKP** **16 38 36.5 +0.8**
comp=Z,3.4nm,0.6s,baz=224,slow=1.5,SNR=12
PLCA Paso Flores 120.10 143 PKiKP **PKiKP** **16 38 36.4 +0.6**
LANS Liptovska Anna 120.43 326 *e*PKiKP **PKiKP** **16 38 37.5 +1.4**
LANS Liptovska Anna 120.43 326 *e*PKP **PKiKP** **16 38 37.5 +1.4**
SIRR Siria 120.66 323 ⇓P **PKiKP** **16 38 37.3 +0.8**
MORC Moravsky Berou 121.12 328 *e*PKP **PKiKP** **16 38 38.1 +0.7**
VYHS Vyhne 121.14 326 *e*PKiKP **PKiKP** **16 38 38.5 +1.1**
VYHS Vyhne 121.14 326 *e*PKP **PKiKP** **16 38 38.5 +1.1**
KRLC Kraliky 121.35 328 *e*PKiKP **PKiKP** **16 38 38.0 +0.2**
KRLC Kraliky 121.35 328 *e*PKPDF **PKiKP** **16 38 38.0 +0.2**
VTS Vitosha 121.35 318 PKPdf **PKPdf** **16 38 37.6 -0.5**

VTS	**Vitosha**	**121.35**	**318**	PKIKP	**PKPdf**	**16 38 37.6**	**-0.5**
JAVC	**Velka Javorina**	**121.58**	**327**	*e*PKP	**PKiK**	**16 38 39.9**	**+1.6**
VRAC	**Vranov**	**121.90**	**328**	*e*PKP	**PKiK**	**16 38 39.9**	**+1.0**
MODS	**Modra-Piesok**	**122.07**	**327**	*e*PKIKP	**PKiK**	**16 38 40.9**	**+1.6**
MODS	**Modra-Piesok**	**122.07**	**327**	*e*PKP	**PKiK**	**16 38 40.9**	**+1.6**
KRUC	**Moravsky**	**122.15**	**328**	*e*PKP	**PKiK**	**16 38 39.9**	**+0.5**
ZST	**Bratislava**	**122.27**	**327**	*e*PKIKP	**PKiK**	**16 38 42.1**	**+2.4**
ZST	**Bratislava**	**122.27**	**327**	*e*PKP	**PKiK**	**16 38 42.0**	**+2.4**
BRG	**Berggiesshubel**	**122.30**	**331**	Amp		16 38 52.8	
	comp=Z,6.8nm,1.0s						
BRG	**Berggiesshubel**	**122.30**	**331**	*e*PKIKP	**PKiK**	**16 38 40.4**	**+0.8**
BRG				*e*		16 38 50.8	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRG	**Berggiesshubel**	**122.30**	**331**	*e*PKP	**PKiK**	**16 38 40.4**	**+0.8**
BRG	**Berggiesshubel**	**122.30**	**331**	Amp		16 38 41.7	
	comp=Z,4.1nm,0.7s						
BRG	**Berggiesshubel**	**122.30**	**331**	*ex*	x	16 38 50.8	
CLL	**Collm**	**122.48**	**331**	PKPdf	**PKPdf**	**16 38 39.2**	**-0.5**
CLL	**Collm**	**122.48**	**331**	*e*PKIKP	**PKiK**	**16 38 40.0**	**+0.1**
CLL				*i*		16 38 50.2	
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CLL	**Collm**	**122.48**	**331**	*e*PKPdf	**PKiK**	**16 38 40.0**	**+0.1**
	comp=Z,6.0nm,0.9s						
CLL				*i* pPKPdf	**pPKPdf**	**16 38 50.2**	**-2.9**
CLL				*ex*	x	16 39 01.0	
CLL				*e*PS	**PS**	**16 50 14.0**	**+2.2**
CLL				*e*SS	SS	16 57 00.0	+6.3
CLL				*e*SSS	SSS	17 01 42.0	
CLL				Lm	MLR	17 36 00.0	
	comp=Z,100nm,18.7s						
MORH	**Mrgy, Hungar**	**122.48**	**324**	⇑P	**PKiK**	**16 38 40.6**	**+0.6**
RONA	**Rosalia, Austr**	**123.00**	**326**	*e*P	**PKiK**	**16 38 41.1**	**0.0**
	comp=Z,4.2nm,0.8s						
CONA	**Conrad Observa**	**123.10**	**327**	*e*P	**PKiK**	**16 38 42.2**	**+0.8**
	comp=Z,2.9nm,0.7s						
CKRC	**Cesky Krumlov**	**123.40**	**328**	*e*PKPDF	**PKiK**	**16 38 42.4**	**+0.5**
KHC	**Kasperske Hory**	**123.58**	**329**	*e*PKIKP	**PKiK**	**16 38 42.1**	**-0.2**
KHC	**Kasperske Hory**	**123.58**	**329**	*e*PKPDF	**PKiK**	**16 38 42.1**	**-0.2**
ARSA	**Arzberg**	**123.68**	**326**	*e*P	**PKPdf**	**16 38 42.2**	**0.0**
	comp=Z,3.5nm,0.8s						
GERES	**GERESS Array B**	**123.70**	**329**	PKP	**PKiK**	**16 38 42.9**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=73,slow=1.8,SNR=28						
GERES				PKKPbc	**PKKPbc**	**16 48 31.5**	**0.0**
	comp=Z,0.1nm,0.2s,baz=243,slow=5.8,SNR=4.2						
GERES	**GERESS Array B**	**123.70**	**329**	PKPdf	**PKPdf**	**16 38 42.1**	**-0.2**
GERES	**GERESS Array B**	**123.70**	**329**	PKIKP	**PKPdf**	**16 38 42.1**	**-0.2**
KBA	**Koelnbreinsper**	**124.98**	**327**	*e*P	**PKiK**	**16 38 46.5**	**+1.3**
ABTA	**Abfaltersbach**	**125.63**	**327**	*e*P	**PKPdf**	**16 38 45.6**	**-0.5**
	comp=Z,3.2nm,1.0s						
WATA	**Walderalm**	**125.75**	**328**	*e*P	**PKiK**	**16 38 47.6**	**+0.9**
	comp=Z,2.5nm,0.6s						
WTTA	**Wattenberg**	**125.77**	**328**	*e*P	**PKiK**	**16 38 47.3**	**+0.4**
	comp=Z,14nm,1.2s						
CIMO	**Cimolais**	**125.94**	**327**	PKPdf	**PKPdf**	**16 38 46.3**	**-0.3**
MOTA	**Moosalm**	**126.00**	**329**	*e*P	**PKiK**	**16 38 47.2**	**0.0**
	comp=Z,6.2nm,0.8s						
SQTA	**Sankt Quirin**	**126.02**	**329**	*e*P	**PKiK**	**16 38 47.7**	**+0.4**
	comp=Z,2.3nm,0.5s						
RETA	**Reutte**	**126.08**	**329**	*e*P	**PKiK**	**16 38 47.7**	**+0.4**
	comp=Z,1.1nm,0.5s						
BTNL	**Ternell**	**126.11**	**334**	*d*PKP	**PKiK**	**16 38 47.3**	**+0.1**
MEM	**Membach**	**126.15**	**334**	*d*PKP	**PKiK**	**16 38 47.8**	**+0.5**
MEM				*dp*PKP	**pPKPdf**	**16 38 58.1**	**-2.0**
BHOU	**Houvegnez**	**126.33**	**334**	*d*PKP	**PKiK**	**16 38 48.5**	**+0.8**
FETA	**Feichten**	**126.40**	**329**	*e*P	**PKiK**	**16 38 47.9**	**-0.2**
	comp=Z,4.0nm,0.7s						
MCRA	**Macar, Loja**	**126.50**	**99**	PKPdf	**PKPdf**	**16 38 46.1**	**-2.5**
BCLA	**Clavier**	**126.59**	**335**	*d*PKP	**PKiK**	**16 38 48.2**	**+0.1**
BCLA				*dp*PKP	**pPKPdf**	**16 38 58.9**	**-2.1**
DAVA	**Damuels**	**126.66**	**329**	*e*P	**PKiK**	**16 38 49.3**	**+0.7**
	comp=Z,4.4nm,0.6s						
RCHB	**Rochefort**	**126.82**	**335**	*d*PKP	**PKPdf**	**16 38 47.2**	**-0.9**
RCHB				*dp*PKP	**pPKPdf**	**16 38 58.7**	**-2.7**
BMRD	**Maredsous**	**126.90**	**335**	*d*PKP	**PKiK**	**16 38 49.4**	**+0.6**
BMRD				*dp*PKP	**pPKPdf**	**16 38 58.8**	**-2.8**
DOU	**Dourbes**	**127.13**	**335**	*d*PKP	**PKiK**	**16 38 50.0**	**+0.8**
DOU				*dp*PKP	**pPKPdf**	**16 39 00.2**	**-1.8**
KEST	**Kesra**	**134.12**	**318**	PKP	**PKPdf**	**16 39 02.8**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=90,slow=7.1,SNR=3.5						
KEST				SKPbc	**SKPab**	**16 42 30.7**	**-0.9**
	comp=Z,13nm,1.0s,baz=87,slow=3.3,SNR=7.8						
LPAZ	**La Paz**	**134.56**	**118**	PKP	**PKiK**	**16 39 05.5**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=230,slow=2.4,SNR=16						
SDV	**Santo Domingo**	**136.54**	**82**	PKP	**PKiK**	**16 39 09.2**	**-0.3**
	comp=Z,16nm,0.8s,baz=38,slow=1.2,SNR=10						
CPUP	**Villa Florida**	**137.75**	**138**	PKP	**PKPdf**	**16 39 10.3**	**+0.8**
	comp=Z,8.1nm,0.9s,baz=278,slow=1.5,SNR=12						
ETMB	**Extrema**	**138.58**	**110**	PKPdf	**PKPdf**	**16 39 11.2**	**-0.1**
ESDC	**Sonseca Array**	**139.05**	**332**	PKP	**PKiK**	**16 39 13.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=14,slow=3.6,SNR=6.0						
ESDC				SKPbc	**SKPab**	**16 42 43.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=48,slow=1.9,SNR=4.4						
PTLB	**Pontes e Lacer**	**142.69**	**122**	PKPdf	**PKPdf**	**16 39 17.4**	**-1.2**
MACA	**Manacapuru-AM**	**145.63**	**102**	PKPdf	**PKPdf**	**16 39 22.9**	**-1.0**
TOSP	**Speyside**	**146.18**	**76**	PKPdf	**PKPdf**	**16 39 23.3**	**-1.5**
BOAV	**Boa Vista**	**146.58**	**92**		**PKPdf**	**16 39 25.8**	**+0.3**
TOA0	**Torodi Ar. Sit**	**150.25**	**289**	PKPbc	**PKPbc**	**16 39 36.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**150.25**	**289**	PKPbc	**PKPbc**	**16 39 36.4**	**-0.1**
	comp=Z,39nm,0.8s,baz=70,slow=2.2,SNR=55						
BDFB	**Brasilia**	**151.33**	**134**	PKP	**PKPdf**	**16 39 32.9**	**-0.2**
	comp=Z,39nm,0.7s,baz=204,slow=1.4,SNR=8.3						
BDFB				PKPbc	**PKiK**	**16 39 39.7**	**0.0**
	comp=Z,39nm,0.7s,baz=238,slow=2.9,SNR=42						
KIC	**Kosan Boka**	**157.65**	**276**	⇑*i*PKP1	**PKPab**	**16 40 14.5**	**+0.3**
	comp=Z,10nm,0.4s						
DBIC	**Dimbokro**	**157.74**	**277**	PKP	**PKPdf**	**16 39 42.1**	**+0.1**
	comp=Z,5.2nm,1.0s,baz=153,slow=4.5,SNR=3.1						
DBIC				PKPab	**PKPab**	**16 40 14.8**	**+0.2**
	comp=Z,14nm,1.0s,baz=100,slow=6.8,SNR=7.1						
TIC	**Toumodi**	**157.90**	**277**	⇑*i*PKP1	**PKPab**	**16 40 15.4**	**+0.1**
	comp=Z,2.4nm,0.2s						
LIC	**Lamto**	**157.94**	**276**	⇑*i*PKP1	**PKPab**	**16 40 15.4**	**-0.1**
	comp=Z,15nm,0.4s						

*NEIC **21** 16:30:52.9±1.5,30.07N±0.05×79.50W±0.09,h0km±2km, mb_Lg3.1/71,ML3.8/48,Error ellipse: s-maj=12.8km s-min=8.8km az=86.0*

*IDC **21** 16:30:54.8±1.1,30.17N×79.57W,h0km,mb3.3/2, mbtmp3.6/3,ML3.8/1,Error ellipse: s-maj=25.5km s-min=4.2km az=24.0*

ISC 21 16:30:53.4±1.2,30.14N±0.08×79.55W±0.10,h0km,n103, σ0.84/89,Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
456A	**Hilliard**	**2.21**	**286**		**Pb**	**16 31 33.7**	**-0.6**
456A				IAML		16 32 31.4	
	comp=N,682nm,1.0s						
257A	**Skidaway Islan**	**2.22**	**326**	Pn	**Pn**	**16 31 31.4**	**-0.1**
257A				IAML		16 32 35.5	
	comp=N,545nm,1.0s						
DWPF	**Disney Wildern**	**2.61**	**220**		**Pn**	**16 31 34.8**	**-2.0**
DWPF				IAML		16 32 33.3	
	comp=N,353nm,0.7s						
DWPF				IAML		16 32 46.1	
	comp=N,438nm,0.6s						
656A	**Willston**	**2.71**	**254**		**Pn**	**16 31 38.0**	**-0.1**
NHSC	**New Hope**	**3.00**	**350**	Pn	**Pn**	**16 31 42.6**	**+0.4**
NHSC				IAML		16 32 45.9	
	comp=N,193nm,0.6s						
NHSC				IAML		16 33 09.6	
	comp=N,187nm,1.4s						
255A	**Hazlehurst**	**3.08**	**306**		**Pn**	**16 31 43.1**	**-0.1**
255A				IAML		16 32 47.1	
	comp=E,275nm,1.2s						
255A				IAML		16 33 07.2	
	comp=N,267nm,1.1s						
060A	**Indiantown**	**3.18**	**193**	Pn	**Pn**	**16 31 44.1**	**-0.5**
060A				IAML		16 32 44.8	
	comp=N,262nm,0.8s						
060A				IAML		16 32 47.9	
	comp=E,306nm,0.8s						
TIGA	**Tifton**	**3.71**	**291**		**Pn**	**16 31 51.4**	**-0.6**
TIGA				IAmb_Lg		16 33 02.0	
	comp=Z,51nm,0.9s						
Y58A	**Scranton**	**3.75**	**359**		**Pn**	**16 31 53.2**	**+0.6**
Y58A				IAmb_Lg		16 32 55.4	
	comp=Z,35nm,0.9s						
Y58A				IAML		16 33 25.4	
	comp=N,164nm,0.7s						
Y58A				IAML		16 33 27.0	
	comp=E,108nm,0.7s						
Y59A	**Loris**	**3.88**	**8**	IAmb_Lg		16 33 00.2	
	comp=Z,48nm,1.1s						
154A	**Montrose**	**3.91**	**310**		**Pn**	**16 31 54.9**	**+0.2**
154A				IAmb_Lg		16 33 04.8	
	comp=Z,36nm,0.8s						
Y57A	**Sumter**	**3.93**	**350**	Pn	**Pn**	**16 31 54.9**	**-0.1**
Y57A				IAML		16 33 37.4	
	comp=N,158nm,0.9s						
JSC	**Jenkinsville**	**4.37**	**341**		**Pn**	**16 32 00.2**	**-0.9**
X58A	**Rowland**	**4.40**	**2**	Pn	**Pn**	**16 32 01.7**	**+0.3**
X58A				IAML		16 33 30.7	
	comp=N,110nm,1.1s						
061Z	**Ochoppi**	**4.43**	**196**		**Pn**	**16 32 01.4**	**-0.4**
061Z				IAmb_Lg		16 33 24.6	
	comp=Z,44nm,0.8s						
061Z				IAML		16 33 38.5	
	comp=E,94nm,1.0s						
BIRD	**Birdtown, Kers**	**4.55**	**350**		**Pn**	**16 32 03.7**	**+0.1**
BIRD				IAmb_Lg		16 33 27.1	
	comp=Z,31nm,1.2s						
BIRD				IAML		16 33 31.5	
	comp=E,56nm,0.3s						
GOGA	**Godfrey**	**4.66**	**315**		**Pn**	**16 32 05.5**	**+0.4**
HODGE	**Hodges**	**4.68**	**331**		**Pn**	**16 32 06.0**	**+0.7**
352A	**Blakely**	**4.81**	**287**	Pn	**Pn**	**16 32 07.3**	**+0.2**
352A				IAmb_Lg		16 33 34.6	
	comp=Z,28nm,0.8s						
352A				IAML		16 33 59.7	
	comp=E,83nm,1.4s						
W57A	**Gilead**	**5.01**	**356**	Pn	**Pn**	**16 32 09.7**	**-0.1**
W57A				IAmb_Lg		16 33 43.4	
	comp=Z,33nm,1.1s						
W57A				IAML		16 33 48.5	
	comp=N,60nm,0.8s						
W57A				IAML		16 34 02.2	
	comp=E,52nm,1.4s						
PAULI	**Pauline**	**5.04**	**338**		**Pn**	**16 32 10.9**	**+0.7**
PAULI				IAmb_Lg		16 33 47.1	
	comp=Z,28nm,0.9s						
PAULI				IAML		16 34 11.9	
	comp=E,41nm,1.1s						
152A	**Waverly Hall**	**5.09**	**301**		**Pn**	**16 32 11.4**	**+0.6**
152A				IAmb_Lg		16 33 48.0	
	comp=Z,25nm,1.2s						
152A				IAML		16 33 49.1	
	comp=N,62nm,0.3s						
152A				IAML		16 34 02.8	
	comp=E,59nm,0.3s						
KMSC	**Kings Mountain**	**5.21**	**344**		**Pn**	**16 32 12.1**	**-0.4**
CNNC	**Cliffs of the**	**5.27**	**15**	Pn	**Pn**	**16 32 13.3**	**0.0**
CNNC				IAML		16 33 55.6	
	comp=E,59nm,0.5s						
CNNC				IAML		16 34 34.6	
	comp=E,53nm,1.1s						
Y52A	**Lilburn**	**5.33**	**315**		**Pn**	**16 32 14.9**	**+0.6**
Y52A				IAmb_Lg		16 33 58.8	
	comp=Z,39nm,1.1s						
BG3	**Lake Jocassee**	**5.62**	**330**		**Pn**	**16 32 19.1**	**+0.9**
V58A	**Windy Hill, Pi**	**5.65**	**4**		**Pn**	**16 32 18.2**	**-0.3**
V58A				IAmb_Lg		16 34 01.4	
	comp=Z,21nm,1.2s						
Z51A	**Franklin**	**5.74**	**305**	IAmb_Lg		16 34 02.7	
	comp=Z,19nm,0.9s						
V55A	**Taylorsville**	**5.86**	**347**	Pn	**Pn**	**16 32 21.0**	**-0.5**
V53A	**Saluda**	**6.16**	**334**		**Pn**	**16 32 26.3**	**+0.7**
V53A				IAmb_Lg		16 34 20.5	
	comp=Z,18nm,0.8s						
V61A	**Roper**	**6.16**	**23**	Pn	**Pn**	**16 32 25.0**	**-0.6**
W52A	**Murphy**	**6.17**	**324**	IAmb_Lg		16 34 22.0	
	comp=Z,27nm,1.1s						
U56A	**King**	**6.23**	**354**		**Pn**	**16 32 27.1**	**+0.5**
U56A				IAmb_Lg		16 34 18.8	
	comp=Z,19nm,0.9s						
X51A	**Calhoun**	**6.29**	**316**	Pn	**Pn**	**16 32 28.2**	**+0.7**
X51A				IAmb_Lg		16 34 24.6	
	comp=Z,33nm,0.8s						
U59A	**Littleton**	**6.37**	**13**		**Pn**	**16 32 27.2**	**-1.3**
TKL	**Tuckaleechee C**	**6.55**	**328**	Pn	**Pn**	**16 32 31.5**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=181,slow=7.3,SNR=14						
TKL				Sn	**Sn**	**16 33 45.8**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=39,slow=3.0,SNR=3.9						
TKL				Lg	Lg	16 34 19.3	
	comp=Z,2.0nm,0.3s,baz=101,slow=12,SNR=2.2						
	comp=Z,6.3nm,0.5s						
TKL	**Tuckaleechee C**	**6.55**	**328**		**Pn**	**16 32 30.8**	**-0.2**
TKL				IAmb_Lg		16 34 34.6	
	comp=Z,17nm,0.8s						
V52A	**Sevierville**	**6.62**	**330**	Pn	**Pn**	**16 32 32.8**	**+0.8**
V52A				IAmb_Lg		16 34 44.7	
	comp=Z,24nm,0.9s						
U54A	**Nelsons Funny**	**6.64**	**344**	Pn	**Pn**	**16 32 33.4**	**+1.1**
CPCT	**Cooper Cave**	**6.75**	**323**		**Pn**	**16 32 34.5**	**+0.8**
FPAL	**Fort Paine**	**6.75**	**312**	Pn	**Pn**	**16 32 34.4**	**+0.7**
FPAL				IAmb_Lg		16 34 42.7	
	comp=Z,16nm,0.8s						
T57A	**Hurt**	**6.84**	**2**		**Pn**	**16 32 34.2**	**-0.8**
Y49A	**Blount Mountai**	**6.91**	**304**		**Pn**	**16 32 36.5**	**+0.6**
Y49A				IAmb_Lg		16 34 47.1	
	comp=Z,20nm,1.0s						
V51A	**Loudon**	**6.94**	**326**	Pn	**Pn**	**16 32 36.1**	**-0.2**
LRAL	**Lakeview Retre**	**6.98**	**296**	Pn	**Pn**	**16 32 37.4**	**+0.6**
W50A	**Signal Mountai**	**7.00**	**318**	Pn	**Pn**	**16 32 38.8**	**+1.6**
T59A	**Double "B" Far**	**7.01**	**13**	Pn	**Pn**	**16 32 36.6**	**-0.7**
BLA	**Blacksburg**	**7.09**	**354**	Pn	**Pn**	**16 32 37.5**	**-1.0**
BLA				IAmb_Lg		16 34 46.5	
	comp=Z,20nm,0.8s						
TZTN	**Tazewell**	**7.21**	**333**	Pn	**Pn**	**16 32 41.3**	**+1.3**
SWET	**Sewanee**	**7.38**	**315**	Pn	**Pn**	**16 32 43.1**	**+0.6**
SWET				IAmb_Lg		16 35 07.5	
	comp=Z,15nm,0.7s						
S57A	**Dark Hollow, R**	**7.62**	**4**	Pn	**Pn**	**16 32 45.2**	**-0.4**
JSRW	**J. Sargeant Re**	**7.66**	**10**		**Pn**	**16 32 46.5**	**+0.3**
X48A	**Hartselle**	**7.66**	**306**	Pn	**Pn**	**16 32 45.4**	**-0.9**
S54A	**Dingess, Beckl**	**7.78**	**350**	Pn	**Pn**	**16 32 46.7**	**-1.2**
S54A				IAmb_Lg		16 35 22.9	
	comp=Z,18nm,0.8s						
R58B	**Mineral**	**7.92**	**10**		**Pn**	**16 32 49.9**	**+0.1**
SOR	**Soroa**	**7.95**	**204**		**Pn**	**16 32 49.5**	**-0.8**
R55A	**Marlinton**	**8.13**	**357**	Pn	**Pn**	**16 32 53.7**	**+0.9**
R55A				IAmb_Lg		16 35 24.0	
	comp=Z,20nm,1.0s						
T50A	**Nancy**	**8.15**	**329**	Pn	**Pn**	**16 32 52.5**	**-0.5**
T50A				IAmb_Lg		16 35 26.3	
	comp=Z,21nm,1.1s						
S51A	**Beattyville**	**8.20**	**337**	Pn	**Pn**	**16 32 53.4**	**-0.2**
U49A	**Red Boiling Sp**	**8.22**	**322**	Pn	**Pn**	**16 32 54.5**	**+0.7**
CLTN	**Cedars of Leba**	**8.22**	**318**	IAmb_Lg		16 35 28.1	
	comp=Z,14nm,0.9s						
V48A	**Smith Brothers**	**8.28**	**314**	IAmb_Lg		16 35 41.3	
	comp=Z,17nm,1.1s						
R53A	**Hurricane**	**8.41**	**347**	Pn	**Pn**	**16 32 56.4**	**0.0**
PLAL	**Pickwick Lake**	**8.66**	**306**	Pn	**Pn**	**16 32 59.4**	**-0.5**
PLAL				IAmb_Lg		16 35 47.5	
	comp=Z,14nm,1.3s						
Q56A	**Snyder Ridge,**	**8.88**	**2**	Pn	**Pn**	**16 33 02.8**	**-0.2**
Q54A	**Coxs Mills**	**8.88**	**354**	Pn	**Pn**	**16 33 03.0**	**0.0**
R50A	**Paris**	**9.03**	**335**	IAmb_Lg		16 35 55.1	
	comp=Z,16nm,1.2s						
Q52A	**Bidwell**	**9.08**	**346**	Pn	**Pn**	**16 33 05.3**	**-0.3**
WVT	**Waverly**	**9.15**	**313**	Pn	**Pn**	**16 33 07.1**	**+0.3**
T47A	**Sharon Grove**	**9.29**	**319**	Pn	**Pn**	**16 33 08.8**	**+0.2**
R49A	**Shelbyville**	**9.36**	**332**	IAmb_Lg		16 36 11.5	
	comp=Z,11nm,0.9s						
Q51A	**Peebles**	**9.40**	**342**	Pn	**Pn**	**16 33 10.2**	**+0.1**
Q51A				IAmb_Lg		16 36 17.4	
	comp=Z,11nm,0.7s						
P57A	**Homestead Farm**	**9.40**	**7**	Pn	**Pn**	**16 33 11.1**	**+1.0**
OXF	**Oxford**	**9.41**	**300**	Pn	**Pn**	**16 33 11.1**	**+0.9**
OXF				IAmb_Lg		16 36 02.4	
	comp=Z,19nm,0.8s						
P53A	**Whipple**	**9.44**	**351**	Pn	**Pn**	**16 33 10.3**	**-0.4**
P53A				IAmb_Lg		16 36 06.1	
	comp=Z,10nm,0.9s						
SDMD	**Soldier's Deli**	**9.51**	**13**	Pn	**Pn**	**16 33 10.7**	**-0.9**
P52A	**Corning**	**9.70**	**348**	Pn	**Pn**	**16 33 13.7**	**-0.5**
P51A	**Williamsport**	**9.75**	**344**	IAmb_Lg		16 36 16.9	
	comp=Z,15nm,0.8s						
WCI	**Wyandotte Cave**	**9.81**	**327**	IAmb_Lg		16 36 33.0	
	comp=Z,17nm,0.9s						
O52A	**Adamsville**	**10.12**	**350**	Pn	**Pn**	**16 33 20.9**	**+0.9**
O53A	**New Philadelph**	**10.18**	**353**	Pn	**Pn**	**16 33 21.5**	**+0.8**
P49A	**Miami Univ. Ec**	**10.28**	**337**	Pn	**Pn**	**16 33 22.8**	**+0.6**
P48A	**Milroy**	**10.47**	**334**	Pn	**Pn**	**16 33 24.1**	**-0.7**
SSPA	**Standing Stone**	**10.56**	**7**	Pn	**Pn**	**16 33 26.2**	**+0.3**
M53A	**WI Miller and**	**11.31**	**356**	Pn	**Pn**	**16 33 35.2**	**-1.0**
N49A	**Columbus Grove**	**11.40**	**342**	Pn	**Pn**	**16 33 36.8**	**-0.7**
Q44A	**Meyer Farm, Va**	**11.71**	**321**	Pn	**Pn**	**16 33 40.7**	**-1.0**
TRNY	**Table Rock, Ra**	**11.80**	**20**	Pn	**Pn**	**16 33 42.0**	**-0.9**
WHAR	**Wooly Hollow**	**11.89**	**299**	Pn	**Pn**	**16 33 44.4**	**+0.2**
FCAR	**Ozark Folk Cen**	**12.01**	**302**	Pn	**Pn**	**16 33 44.4**	**-1.4**
WVNY	**West Valley, N**	**12.26**	**3**	Pn	**Pn**	**16 33 49.6**	**+0.3**
J58A	**Remsen**	**13.62**	**13**	Pn	**Pn**	**16 34 07.1**	**-0.7**
P40A	**Paris**	**13.88**	**316**	Pn	**Pn**	**16 34 09.8**	**-1.6**
E43A	**Lone Tree Farm**	**17.22**	**342**	Pn	**Pn**	**16 34 51.7**	**-3.5**
TXAR	**Lajitas Array**	**20.95**	**274**	P	Pn	16 35 40.2	-0.3
	comp=Z,1.0nm,0.8s,baz=88,slow=13,SNR=8.1						
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**32.88**	**295**	P	**P**	**16 37 31.6**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=9.9,SNR=2.6						
	comp=Z,0.5nm,0.7s						
H10N3	**ASCENSION HYDR**	**72.88**	**110**	H	H	18 01 45.8	
	baz=304,slow=75,SNR=1473						
H10N2	**ASCENSION HYDR**	**72.89**	**110**	H	H	18 01 46.1	
	baz=304,slow=75,SNR=1591						
H10N1	**ASCENSION HYDR**	**72.90**	**110**	H	H	18 01 47.3	
	baz=304,slow=75,SNR=2221						
H10S3	**ASCENSION HYDR**	**73.38**	**111**	H	H	18 02 24.9	
	baz=302,slow=74,SNR=94						
H10S2	**ASCENSION HYDR**	**73.40**	**111**	H	H	18 02 25.0	
	baz=278,slow=74,SNR=42						
WRA	**Warramunga Arr**	**147.77**	**280**	PKPbc	**PKPbc**	**16 50 41.6**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=69,slow=3.2,SNR=5.7						
ASAR	**Alice Springs**	**149.55**	**274**	PKPbc	**PKPbc**	**16 50 45.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=84,slow=2.8,SNR=8.8						

ROM 21 16:36:18.9±0.1,42.856N±0.004×13.227E±0.005, h9km,ML1.6/7,5C-2D,Error ellipse: s-maj=0.4km s-min=0.2km az=209.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.03**	**212**	P	Pg	16 36 20.6	-0.2
T1242				S	Sg	16 36 21.4	-0.8
T1242				AML	AML		
	comp=E,5240μm,0.1s						
T1242				AML	AML		
	comp=N,5475μm,0.3s						
T1242				AML	AML		
	comp=E,5275μm,0.1s						
T1242				AML	AML		
	comp=N,5415μm,0.3s						
MMO1	**Montemonaco**	**0.09**	**59**	P	Pg	16 36 21.6	+0.3
MMO1				S	Sg	16 36 23.3	+0.3
NRCA	**Norcia**	**0.09**	**255**	P	Pg	16 36 21.7	+0.3
NRCA				S	Sg	16 36 23.3	+0.3
T1241	**Roccafluvione,**	**0.15**	**90**	P	Pg	16 36 22.9	+0.7
T1241				S	Sg	16 36 25.7	+1.2
T1241				AML	AML		
	comp=N,294μm,0.2s						
T1241				AML	AML		
	comp=E,312μm,0.2s						
T1202	**Accumoli, Fraz**	**0.15**	**181**	P	Pg	16 36 23.0	+0.7
T1202				S	Sg	16 36 26.2	+1.6
T1202				AML	AML		
	comp=E,380μm,1.3s						
T1202				AML	AML		
	comp=N,348μm,1.1s						
AM05	**Amandola Campo**	**0.15**	**37**	P	Pg	16 36 22.5	+0.2
AM05				S	Sg	16 36 26.0	+1.4
AM05				AML	AML		
	comp=E,188μm,1.5s						
AM05				AML	AML		
	comp=N,212μm,0.3s						
AM05				AML	AML		
	comp=N,880μm,0.3s						
AM05				AML	AML		
	comp=E,638μm,0.4s						
T1216	**Preci, Frazion**	**0.16**	**283**	P	Pg	16 36 23.0	+0.6
T1216				S	Sg	16 36 26.0	+1.3
T1204	**Amatrice, Fraz**	**0.19**	**160**	P	Pg	16 36 23.7	+0.7
T1204				S	Sg	16 36 27.4	+1.6
FDMO	**Fiordimonte**	**0.21**	**330**	P	Pg	16 36 23.9	+

BOVS	**Bovan**	**0.84**	**319**	*e*Pg		Pg	16 39 03.2	-1.0
BOVS				*e*Sg		Sg	16 39 15.0	-0.1
BOVS	**Bovan**	**0.84**	**319**	⇑P		Pg	16 39 03.1	-1.1
SELS	**Selova**	**1.01**	**283**	*e*Pg		Pg	16 39 06.5	-0.9
SELS				*e*Sg		Sb	16 39 20.8	-0.2
KUBS	**Kucevo**	**1.52**	**338**	*e*Pg		Pn	16 39 14.9	-0.3
KUBS				*e*Sg		Sb	16 39 36.1	+0.6
GRUS	**Gruza**	**1.55**	**305**	*e*Pg		Pn	16 39 16.2	+0.5
GRUS				*e*Sg		Sg	16 39 37.2	-0.7
IVAS	**Ivanjica**	**1.78**	**289**	*e*Pg		Pb	16 39 21.1	+0.3
IVAS				*e*Sg		Sg	16 39 44.6	-0.8
MDVR	**Moldovita**	**1.85**	**343**	⇓P		Pn	16 39 18.9	-1.0
MDVR				⇑S		Sb	16 39 44.6	-0.7
HERR	**Herculane**	**1.87**	**359**	⇑P		Pn	16 39 20.5	+0.4
HERR				⇓S		Sn	16 39 44.0	+0.2
GZR	**Gura Zlata**	**2.40**	**5**	⇓P		Pn	16 39 28.0	+0.7
GZR				⇓S		Sn	16 39 57.3	+0.6
LOT	**Lotru**	**2.61**	**21**	⇑P		Pn	16 39 29.7	-0.7
LOT				⇓S		Sn	16 40 03.3	+1.1
SGRR	**Singureni**	**2.82**	**63**	⇓S		Sn	16 40 08.3	+1.2

ROM 21 16:40:28.3±0.1, 42°798N±0.′004×13°276E±0.′005, h11km, ML0.7/1, Error ellipse: s-maj=0.4km s-min=0.4km az=316.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.06**	**301**	P	Pg	16 40 30.8	+0.1
T1242				S	Sg	16 40 32.6	+0.1
T1242				AML	AML		
	comp=E,44μm,0.4s						
T1242				AML	AML		
	comp=N,112μm,0.1s						
T1242				AML	AML		
	comp=E,47μm,1.4s						
T1202	**Accumoli, Fraz**	**0.10**	**202**	P	Pg	16 40 31.4	+0.3
T1202				S	Sg	16 40 33.9	+0.8
T1241	**Roccafluvione,**	**0.13**	**63**	P	Pg	16 40 32.0	+0.5
T1241				S	Sg	16 40 34.6	+0.9
T1243	**Rocca Santa Ma**	**0.16**	**128**	P	Pg	16 40 32.4	+0.4
T1243				S	Sg	16 40 35.4	+0.8
T1217	**Poggiodomo (PG**	**0.27**	**251**	P	Pg	16 40 33.7	-0.2
TERO	**Teramo**	**0.30**	**126**	P	Pg	16 40 34.9	+0.5
TERO				S	Sb	16 40 39.7	-1.0

*NEIC **21** 16:50:00.9±1.4, 0.′44N±0.′08×100.′09E±0.′07, h162km±7km, mb4.1/23, Error ellipse: s-maj=12.1km s-min=8.8km az=212.0*
*DJA **21** 16:50:01.1±0.4, 0.′7N±3.′×10.′0E±.′, h155km±5km, M4.3/15, mb4.9/2, mB5.4/1, MLv4.0/15, Mw(mB)4.9/1*
*IDC **21** 16:50:01.0±1.6, 0.′43N×99.′96E, h168km±12km, mb3.5/12, mbtmp3.9/14, MS3.6/2, Error ellipse: s-maj=29.8km s-min=13.3km az=51.0*

ISC 21 16:50:00.4±0.7, 0.′43N±0.′04×100.′07E±0.′05, h163km±6km, n79, σ0°63/86, mb3.9/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKNI	**Bangkinang**	**0.97**	**96**	Pn	**Pn**	**16 50 26.6**	**+0.3**
BKNI	**Bangkinang**	**0.97**	**96**	P	**Pn**	**16 50 26.5**	**+0.3**
BKNI				S	**Sn**	**16 50 45.7**	**-0.3**
BKNI	**Bangkinang**	**0.97**	**96**	P	**Pn**	**16 50 26.8**	**+0.6**
PDSI	**Padang**	**1.38**	**164**	P	**Pn**	**16 50 29.9**	**0.0**
PDSI				S	**Sn**	**16 50 52.3**	**-0.4**
PBSI	**Pulau Batu**	**1.85**	**255**	P	**Pn**	**16 50 35.1**	**+0.4**
PBSI				S	**Sn**	**16 51 00.8**	**-0.4**
SDSI	**Sungai Dareh**	**1.91**	**135**	P	**Pn**	**16 50 35.6**	**+0.2**
SISI	**Saibi**	**2.00**	**209**	P	**Pn**	**16 50 36.5**	**+0.1**
SISI				S	**Sn**	**16 51 03.8**	**-0.3**
RPSI	**Rantau Prapat**	**2.53**	**333**		**Pn**	**16 50 43.3**	**+0.7**
RPSI					**Sn**	**16 51 15.5**	**+0.2**
RPSI	**Rantau Prapat**	**2.53**	**333**	Pn	**Pn**	**16 50 42.8**	**+0.2**
PSI	**Prapat**	**2.62**	**334**	P	**Pn**	**16 50 43.3**	**-0.6**
	21nm,0.4s,baz=147,slow=11,SNR=17						
PSI				S	**Sn**	**16 51 15.5**	**-2.0**
	9.4nm,0.5s,baz=1.6,slow=18,SNR=1.8						
PSI	**Prapat**	**2.62**	**334**	P	**Pn**	**16 50 43.3**	**-0.6**
GSI	**Gunungsitoli**	**2.65**	**289**	Pn	**Pn**	**16 50 44.7**	**+0.8**
GSI	**Gunungsitoli**	**2.65**	**289**	P	**Pn**	**16 50 44.6**	**+0.6**
GSI	**Gunungsitoli**	**2.65**	**289**	P	**Pn**	**16 50 44.9**	**+0.9**
KRJI	**Kerinci**	**2.86**	**151**	P	**Pn**	**16 50 47.0**	**+0.3**
KCSI	**Kotacane, Aceh**	**3.84**	**323**	P	**Pn**	**16 50 59.4**	**+0.4**
MYKOM	**Kota Tinggi**	**4.01**	**70**	Pn	**Pn**	**16 51 01.4**	**+0.2**
IPM	**Ipoh**	**4.14**	**13**	Pn	**Pn**	**16 51 03.7**	**+0.8**
IPM	**Ipoh**	**4.14**	**13**	P	**Pn**	**16 51 04.1**	**+1.2**
MASI	**Maura Aman, Be**	**4.15**	**149**	P	**Pn**	**16 51 03.5**	**+0.4**
TPRI	**Tanjung Pinang**	**4.48**	**84**	P	**Pn**	**16 51 07.7**	**+0.4**
KULM	**Kulim**	**4.87**	**7**	Pn	**Pn**	**16 51 12.4**	**0.0**
MLSI	**Meulaboh, Aceh**	**5.29**	**316**	P	**Pn**	**16 51 18.3**	**+0.4**
	1.3nm6μm183nm,0.5s						
LHSI	**Lahat**	**5.45**	**141**	P	**Pn**	**16 51 20.3**	**+0.2**
MNAI	**Manna**	**5.56**	**149**	Pn	**Pn**	**16 51 21.3**	**-0.2**
MNAI	**Manna**	**5.56**	**149**	P	**Pn**	**16 51 22.5**	**+1.0**
	382nm,1.6s						
LHMI	**Lhok Sumawe**	**5.70**	**327**	Pn	**Pn**	**16 51 22.6**	**-0.8**
LHMI	**Lhok Sumawe**	**5.70**	**327**	P	**Pn**	**16 51 23.0**	**-0.4**
SBUM	**Sibu**	**12.31**	**80**	Pn	**Pn**	**16 52 50.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.95**	**357**	P	**P**	**16 53 59.0**	**+0.6**
	0.6nm,0.6s,baz=185,slow=10.0,SNR=6.0						
TAPN	**Taplejung**	**29.29**	**337**	*e*P	**P**	**16 55 48.7**	**+0.8**
	8.8nm,0.4s						
JIRN	**Jiri**	**30.18**	**335**	*e*P	**P**	**16 55 56.4**	**+0.5**
	13nm,0.3s						
PKI	**Pulchoki**	**30.44**	**334**	*e*P	**P**	**16 55 58.4**	**+0.3**
	3.8nm,0.4s						
PKIN	**Phulchoki**	**30.45**	**334**	*e*P	**P**	**16 55 58.3**	**+0.1**
	4.5nm,0.4s						
GUN	**Gumba**	**30.53**	**335**	*e*P	**P**	**16 55 59.9**	**+1.0**
	32nm,0.4s						
DMN	**Daman**	**30.61**	**333**	*e*P	**P**	**16 55 59.9**	**+0.4**
	10nm,0.4s						
GKN	**Gorkha**	**31.16**	**333**	*e*P	**P**	**16 56 04.7**	**+0.5**
	11nm,0.3s						
DANN	**Dangsing**	**31.86**	**332**	*e*P	**P**	**16 56 11.0**	**+0.5**
	14nm,0.4s						
PYUN	**Piuthan**	**32.02**	**331**	*e*P	**P**	**16 56 12.5**	**+0.7**
	10nm,0.3s						
MTN	**Manton Dam**	**33.51**	**114**	P	**P**	**16 56 24.8**	**0.0**
MTN				IAmb	IAmb	16 56 42.8	
	comp=Z,6.2nm,1.2s						
WB0	**Warramunga Arr**	**39.16**	**123**	P	**P**	**16 57 12.3**	**-0.4**
WB0				IAmb	IAmb	16 57 35.3	
	comp=Z,6.6nm,1.5s						
WRA	**Warramunga Arr**	**39.20**	**123**	P	**P**	**16 57 14.0**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=302,slow=9.0,SNR=7.7						
WRA				PcP	**PcP**	**16 59 19.1**	**0.0**
	comp=Z,0.1nm,0.4s,baz=315,slow=2.4,SNR=5.3						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**39.20**	**123**	P	**P**	**16 57 12.9**	**-0.1**
WB2	**Warramunga Arr**	**39.21**	**123**	P	**P**	**16 57 13.5**	**+0.4**
WB2				IAmb	IAmb	16 57 48.8	
	comp=Z,3.2nm,1.2s						
WR0	**Warramunga Arr**	**39.38**	**123**	P	**P**	**16 57 15.2**	**+0.8**
WR0				IAmb	IAmb	16 57 57.2	
	comp=Z,4.2nm,1.4s						
ASAR	**Alice Springs**	**40.65**	**128**	P	**P**	**16 57 25.4**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=308,slow=7.9,SNR=6.4						
ASAR				PcP	**PcP**	**16 59 23.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=309,slow=2.4,SNR=6.4						
ASAR				ScP	**ScP**	**17 02 56.5**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=304,slow=4.1,SNR=5.8						
	comp=Z,0.1nm,0.4s						
KSRS	**Korea Array**	**44.92**	**32**	P	**P**	**16 57 58.0**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=222,slow=8.6,SNR=1.8						
	comp=Z,0.4nm,0.5s						
TARG	**Taragay, Kyrgy**	**45.77**	**337**	P	**P**	**16 58 04.6**	**-1.5**
TARG				IAmb	IAmb	16 58 07.9	
	comp=Z,2.6nm,0.9s						
DRK	**Karamyk**	**46.67**	**330**	P	**P**	**16 58 14.3**	**+1.2**
SONM	**Songino Array**	**47.54**	**6**	P	**P**	**16 58 20.2**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=192,slow=8.6,SNR=11						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**47.54**	**6**	P	**P**	**16 58 20.4**	**+1.0**
MK31	**Makanchi Array**	**48.73**	**344**	P	**P**	**16 58 28.4**	**-0.1**
MKAR	**Makanchi Array**	**48.73**	**344**	P	**P**	**16 58 28.6**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=155,slow=8.4,SNR=126						
	comp=Z,1.8nm,0.3s						
MKAR	**Makanchi Array**	**48.73**	**344**	P	**P**	**16 58 28.4**	**-0.1**
MAKZ	**Makanchi**	**48.83**	**344**	P	**P**	**16 58 29.7**	**+0.4**
KK31	**Karatay Array**	**50.05**	**332**	P	**P**	**16 58 39.0**	**+0.4**
KK31				IAmb	IAmb	16 58 47.6	
	comp=Z,4.9nm,1.4s						
KKAR	**Karatay Array**	**50.05**	**332**	P	**P**	**16 58 38.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**52.00**	**29**	P	**P**	**16 58 53.9**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=253,slow=9.4,SNR=4.4						
	comp=Z,0.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**52.00**	**29**	P	**P**	**16 58 52.1**	**-1.0**
KURK	**Kurchatov**	**53.32**	**343**	P	**P**	**16 59 02.5**	**-0.1**
KURK				IAmb	IAmb	16 59 03.3	
	comp=Z,2.5nm,0.8s						
ZAA0	**Zalesovo Array**	**54.82**	**349**	P	**P**	**16 59 12.9**	**-0.4**
ZAA0				IAmb	IAmb	16 59 14.3	
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**54.82**	**349**	P	**P**	**16 59 12.6**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=166,slow=6.9,SNR=12						
	comp=Z,1.7nm,0.3s						
ZALV	**Zalesovo Beam**	**54.82**	**349**	P	**P**	**16 59 12.9**	**-0.4**
JKA	**Kamikawa-asahi**	**57.60**	**35**	P	**P**	**16 59 33.2**	**-0.1**
ATD	**Arta Tunnel**	**57.86**	**283**	LR	LR	17 20 44.2	
	comp=Z,29nm,21.5s,baz=60,slow=32						
BRVK	**Borovoye**	**58.02**	**339**	P	**P**	**16 59 35.6**	**-0.4**
ABKAR	**Akbulak array**	**59.57**	**331**	P	**P**	**16 59 46.2**	**-0.6**
EIL	**Elat**	**68.30**	**302**	LR	LR	17 30 51.8	
	comp=Z,76nm,21.4s,baz=79,slow=36						
BR131	**Keskin Array S**	**71.76**	**312**	P	**P**	**17 01 05.1**	**-0.2**
BR131				IAmb	IAmb	17 01 05.8	
	comp=Z,4.4nm,0.8s						
BRTR	**Keskin Array B**	**71.76**	**312**	P	**P**	**17 01 04.8**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=135,slow=6.7,SNR=12						
	comp=Z,2.5nm,0.6s						
BRTR	**Keskin Array B**	**71.76**	**312**	P	**P**	**17 01 05.2**	**-0.2**
AKASG	**Malin Array Be**	**77.63**	**322**	P	**P**	**17 01 37.9**	**-0.8**
	comp=Z,0.2nm,0.2s,baz=90,slow=4.9,SNR=1.6						
	comp=Z,0.2nm,0.2s						
IDI	**Anoyia**	**77.68**	**306**	P	**P**	**17 01 39.1**	**-0.3**
FIA1	**FINESS Array S**	**82.01**	**332**	P	**P**	**17 02 02.2**	**+0.2**
FIA1				IAmb	IAmb	17 02 03.9	
	comp=Z,11nm,1.3s						
FINES	**FINESS Array B**	**82.01**	**332**	P	**P**	**17 02 02.1**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=91,slow=7.2,SNR=10						
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**82.01**	**332**	P	**P**	**17 02 01.9**	**-0.2**
ARCES	**ARCESS Array B**	**84.23**	**340**	P	**P**	**17 02 12.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=101,slow=4.9,SNR=4.6						
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**84.23**	**340**	P	**P**	**17 02 12.9**	**-0.4**
ARCES				IAmb	IAmb	17 02 29.1	
	comp=Z,4.5nm,1.2s						
GERES	**GERESS Array B**	**87.29**	**319**	P	**P**	**17 02 29.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=123,slow=2.9,SNR=4.3						
	comp=Z,0.3nm,0.5s						

IDC 21 16:56:12.1±13.0, 20°37S×178°67E, h446km±131km, mb2.9/3, mbtmp3.6/4, Error ellipse: s-maj=370.9km s-min=113.4km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.69**	**347**	P	P	16 57 16.8	0.0
	2.7nm,0.4s,baz=170,slow=18,SNR=11						
STKA	**Stephens Creek**	**35.04**	**243**	P	P	17 02 25.5	-0.5
	0.7nm,0.7s,baz=85,slow=12,SNR=1.6						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**41.51**	**257**	P	P	17 03 19.1	0.0
	1.4nm,0.5s,baz=94,slow=7.1,SNR=49						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**41.52**	**263**	P	P	17 03 19.0	-0.2
	0.3nm,0.3s,baz=97,slow=7.5,SNR=19						
	0.3nm,0.3s						

*KRSC **21** 17:21:01.7±1.0, 53.′68N×159.′09E, h170km±10km, ML4.4*
*MOS **21** 17:21:01.8±0.8, 53.′77N×158.′71E, h171km, mb4.2/8, Error ellipse: s-maj=13.3km s-min=5.3km az=79.1*
*IDC **21** 17:21:03.2±0.6, 53.′87N×158.′54E, h163km±6km, mb3.6/23, mbtmp4.0/24, MS3.6/1, Error ellipse: s-maj=13.6km s-min=11.0km az=166.0*
*NEIC **21** 17:21:03.2±1.2, 53.′7N±0.′1×158.′5E±0.′2, h170km±11km, mb4.3/29, Error ellipse: s-maj=20.7km s-min=12.0km az=139.0*

ISC 21 17:21:02.5±0.6, 53.°69N±0.′04×158.°99E±0.′04, h167km±5km, n143, σ1s45/173, mb4.0/38, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRX	**Arik**	**0.39**	**212**	PN	**Pn**	**17 21 26.1**	**+0.6**
KRX	**Arik**	**0.39**	**212**	*e*P	**Pn**	**17 21 26.1**	**+0.6**
KRER	**Koryakskii**	**0.41**	**201**	PN	**Pn**	**17 21 26.3**	**+0.6**
KRER	**Koryakskii**	**0.41**	**201**	*e*P	**Pn**	**17 21 26.3**	**+0.6**
SDLR	**Sedlovina**	**0.41**	**189**	PN	**Pn**	**17 21 26.2**	**+0.6**
SDLR	**Sedlovina**	**0.41**	**189**	*e*P	**Pn**	**17 21 26.2**	**+0.6**
SMAR	**Somma**	**0.44**	**195**	PN	**Pn**	**17 21 26.5**	**+0.7**
SMAR	**Somma**	**0.44**	**195**	*e*P	**Pn**	**17 21 26.5**	**+0.7**
KII	**Karymskiy**	**0.45**	**38**	PN	**Pn**	**17 21 26.1**	**+0.5**
KII	**Karymskiy**	**0.45**	**38**	*e*P	**Pn**	**17 21 26.1**	**+0.5**
AVH	**Avacha**	**0.45**	**200**	PN	**Pn**	**17 21 26.5**	**+0.8**
AVH	**Avacha**	**0.45**	**200**	*e*P	**Pn**	**17 21 26.5**	**+0.8**
KOK	**Koryaka**	**0.45**	**208**	PN	**Pn**	**17 21 26.4**	**+0.7**
KOK	**Koryaka**	**0.45**	**208**	*e*P	**Pn**	**17 21 26.4**	**+0.7**
UGLR	**Uglovaya**	**0.49**	**192**	PN	**Pn**	**17 21 26.7**	**+0.8**
UGLR	**Uglovaya**	**0.49**	**192**	*e*P	**Pn**	**17 21 26.7**	**+0.8**
NLC	**Nalytchevo**	**0.56**	**157**	PN	**Pn**	**17 21 26.4**	**+0.4**
NLC				S	**Sn**	**17 21 44.3**	**+0.3**
NLC	**Nalytchevo**	**0.56**	**157**	*e*P	**Pn**	**17 21 26.4**	**+0.4**
NLC				*e*S	**Sn**	**17 21 44.3**	**+0.3**
GNL	**Ganaly**	**0.62**	**271**	PN	**Pn**	**17 21 26.6**	**+0.1**
GNL				S	**Sn**	**17 21 44.5**	**-0.5**
GNL	**Ganaly**	**0.62**	**271**	*e*P	**Pn**	**17 21 26.6**	**+0.1**
GNL				*e*S	**Sn**	**17 21 44.5**	**-0.5**
DALK	**Dalny**	**0.67**	**192**	PN	**Pn**	**17 21 27.1**	**+0.5**
DALK	**Dalny**	**0.67**	**192**	*e*P	**Pn**	**17 21 27.1**	**+0.5**
PET	**Petropavlovsk**	**0.69**	**197**		**Pn**	**17 21 27.2**	**+0.5**
PET	**Petropavlovsk**	**0.69**	**197**	PN	**Pn**	**17 21 27.3**	**+0.5**
PET	**Petropavlovsk**	**0.69**	**197**	*e*P	**Pn**	**17 21 27.3**	**+0.5**
SPN	**Mys Shipunski**	**0.85**	**133**	PN	**Pn**	**17 21 27.7**	**-0.1**
SPN				S	**Sn**	**17 21 46.6**	**-0.6**
SPN	**Mys Shipunski**	**0.85**	**133**	*e*P	**Pn**	**17 21 27.7**	**-0.1**
SPN				*e*S	**Sn**	**17 21 46.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**0.96**	**234**		**Pn**	**17 21 28.9**	**+0.3**
PEA0B	**Petropavlovsk-**	**0.96**	**234**	PN	**Pn**	**17 21 28.9**	**+0.3**
PETK	**Petropavlovsk-**	**0.96**	**234**	LR	LR	17 21 22.8	
	comp=Z,14nm,20.2s,baz=87,slow=21						
PETK				P	**Pn**	**17 21 28.1**	**-0.5**
	360nm,0.3s,baz=68,slow=10,SNR=3120						
PETK				S	**Sn**	**17 21 48.8**	**0.0**
	49nm,0.7s,baz=61,slow=15,SNR=1.8						
PETK	**Petropavlovsk-**	**0.96**	**234**		**Pn**	**17 21 27.9**	**-0.8**
KRMR	**Karymshinskiy**	**1.00**	**211**	PN	**Pn**	**17 21 28.4**	**-0.5**
KRMR				S	**Sn**	**17 21 49.2**	**+0.1**
KRMR	**Karymshinskiy**	**1.00**	**211**	*e*P	**Pn**	**17 21 28.4**	**-0.5**
KRMR				*e*S	**Sn**	**17 21 49.2**	**+0.1**
GRL	**Gorelyy**	**1.26**	**206**	PN	**Pn**	**17 21 32.5**	**+1.2**
GRL	**Gorelyy**	**1.26**	**206**	*e*P	**Pn**	**17 21 32.5**	**+1.2**
RUS	**Russkaya**	**1.29**	**193**	PN	**Pn**	**17 21 31.4**	**+0.1**
RUS				S	**Sn**	**17 21 53.0**	**-0.5**
RUS	**Russkaya**	**1.29**	**193**	*e*P	**Pn**	**17 21 31.4**	**+0.1**
RUS				*e*S	**Sn**	**17 21 53.0**	**-0.5**
MTVR	**Mutnovka**	**1.30**	**202**	PN	**Pn**	**17 21 32.9**	**+1.3**
MTVR				S	**Sn**	**17 21 55.9**	**+1.9**
MTVR	**Mutnovka**	**1.30**	**202**	*e*P	**Pn**	**17 21 32.9**	**+1.3**
MTVR				*e*S	**Sn**	**17 21 55.9**	**+1.9**
APC	**Apacha**	**1.34**	**236**	PN	**Pn**	**17 21 32.6**	**+0.9**
APC				S	**Sn**	**17 21 55.2**	**+0.9**
APC	**Apacha**	**1.34**	**236**	*e*P	**Pn**	**17 21 32.6**	**+0.9**
APC				*e*S	**Sn**	**17 21 55.2**	**+0.9**
ASAK	**Asacha**	**1.46**	**207**	PN	**Pn**	**17 21 34.1**	**+1.0**
ASAK				S	**Sn**	**17 21 58.3**	**+1.7**
ASAK	**Asacha**	**1.46**	**207**	*e*P	**Pn**	**17 21 34.1**	**+1.0**
ASAK				*e*S	**Sn**	**17 21 58.3**	**+1.7**
TUMR	**Tumrok**	**1.74**	**22**	PN	**Pn**	**17 21 37.0**	**+1.1**
TUMR				S	**Sn**	**17 22 02.7**	**+0.9**
TUMR	**Tumrok**	**1.74**	**22**	*e*P	**Pn**	**17 21 37.0**	**+1.1**
TUMR				*e*S	**Sn**	**17 22 02.7**	**+0.9**
MKZ	**Mys Kozlova**	**1.83**	**61**	PN	**Pn**	**17 21 36.9**	**+0.2**
MKZ				S	**Sn**	**17 22 01.1**	**-2.2**
MKZ	**Mys Kozlova**	**1.83**	**61**	*e*P	**Pn**	**17 21 36.9**	**+0.2**
MKZ				*e*S	**Sn**	**17 22 01.1**	**-2.2**
KDTR	**Khodutka, Kamc**	**1.96**	**197**	PN	**Pn**	**17 21 38.0**	**-0.2**
KDTR				S	**Sn**	**17 22 04.3**	**-1.4**
KDTR	**Khodutka, Kamc**	**1.96**	**197**	*e*P	**Pn**	**17 21 38.0**	**-0.2**
KDTR				*e*S	**Sn**	**17 22 04.3**	**-1.4**
KMNR	**Kamenistaya**	**2.20**	**19**	PN	**Pn**	**17 21 42.1**	**+1.2**
KMNR	**Kamenistaya**	**2.20**	**19**	*e*P	**Pn**	**17 21 42.1**	**+1.2**
ESO	**Esso**	**2.25**	**356**	PN	**Pn**	**17 21 42.1**	**+0.7**
ESO	**Esso**	**2.25**	**356**	*e*P	**Pn**	**17 21 42.1**	**+0.7**
KOZ	**Kozyrevsk**	**2.43**	**12**	PN	**Pn**	**17 21 44.2**	**+0.6**
KOZ	**Kozyrevsk**	**2.43**	**12**	*e*P	**Pn**	**17 21 44.2**	**+0.6**
SRDR	**Sredinnyy**	**2.67**	**9**	PN	**Pn**	**17 21 46.9**	**+0.4**
SRDR	**Sredinnyy**	**2.67**	**9**	*e*P	**Pn**	**17 21 46.9**	**+0.4**
KLY	**Klyuchi**	**2.80**	**19**	PN	**Pn**	**17 21 49.6**	**+1.6**
KLY	**Klyuchi**	**2.80**	**19**	*e*P	**Pn**	**17 21 49.6**	**+1.6**
SRKR	**Sorokina**	**3.23**	**22**	PN	**Pn**	**17 21 54.2**	**+0.9**
SRKR	**Sorokina**	**3.23**	**22**	*e*P	**Pn**	**17 21 54.2**	**+0.9**
SMKR	**Semkarok**	**3.23**	**25**	PN	**Pn**	**17 21 54.6**	**+1.2**
SMKR	**Semkarok**	**3.23**	**25**	*e*P	**Pn**	**17 21 54.6**	**+1.2**
KBG	**Krutoberegovo**	**3.35**	**38**	PN	**Pn**	**17 21 54.8**	**+0.1**
KBG				S	**Sn**	**17 22 35.0**	**-0.5**
KBG	**Krutoberegovo**	**3.35**	**38**	*e*P	**Pn**	**17 21 54.8**	**+0.1**
KBG				*e*S	**Sn**	**17 22 35.0**	**-0.5**
KBTR	**Krutoberegovo**	**3.36**	**40**	PN	**Pn**	**17 21 54.9**	**0.0**
KBTR				S	**Sn**	**17 22 33.8**	**-1.9**
KBTR	**Krutoberegovo**	**3.36**	**40**	*e*P	**Pn**	**17 21 54.9**	**0.0**
KBTR				*e*S	**Sn**	**17 22 33.8**	**-1.9**
SKR	**Severo-Kuril's**	**3.49**	**212**	*e*PN	**Pn**	**17 21 58.9**	**+2.3**
SKR				*e*S	**Sn**	**17 22 37.6**	**-1.1**
SKR				smax	smax		
	comp=N,111nm,0.3s						
SKR				smax	smax		
	comp=E,225nm,0.3s						
BKI	**Bering**	**4.35**	**67**	PN	**Pn**	**17 22 07.4**	**-0.2**
BKI	**Bering**	**4.35**	**67**	*e*P	**Pn**	**17 22 07.4**	**-0.2**
BKI				*e*S	**Sn**	**17 22 54.4**	**-4.1**
YUK	**Yuzh-Kuril'sk**	**12.94**	**227**	PN	**P**	**17 24 04.8**	**+0.4**
YUK				*e*S	**S**	**17 26 28.0**	**-4.3**
RUSJ	**Misakicho**	**13.15**	**229**	*e*PN	**P**	**17 24 10.4**	**+3.6**
NMR	**Nemuro--Hokkai**	**13.53**	**226**	*e*PN	**Pn**	**17 24 03.0**	**-4.6**
ERM	**Erimo**	**15.74**	**229**		**Pn**	**17 24 33.8**	**-1.2**
ERM				IAmb	IAmb	17 24 55.5	
	comp=Z,24nm,0.9s						
ERM	**Erimo**	**15.74**	**229**	P	**Pn**	**17 24 33.8**	**-1.2**
ERM				pmax	pmax		
	comp=Z,24nm,1.0s						
YAK	**Yakutsk**	**17.55**	**310**	P	**P**	**17 24 54.0**	**-1.1**
	comp=Z,3.3nm,0.3s,baz=120,slow=3.9,SNR=4.0						
TIXI	**Tiksi**	**22.26**	**335**	P	**P**	**17 25 44.5**	**-0.8**
	comp=Z,5.0nm,0.5s,baz=93,slow=23,SNR=2.3						
	comp=Z,5.0nm,0.5s						
MJB9	**Matsu-Tunnel**	**22.42**	**229**	P	**P**	**17 25 44.8**	**-2.3**
MJB9				IAmb	IAmb	17 25 48.0	
	comp=Z,18nm,1.4s						
MAJO	**Matsushiro**	**22.42**	**229**	P	**P**	**17 25 45.1**	**-2.1**
MAJO				IAmb	IAmb	17 26 20.1	
	comp=Z,21nm,1.5s						
MAJO	**Matsushiro**	**22.42**	**229**	P	**P**	**17 25 45.1**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,21nm,1.5s						
MJAR	**Matsushiro Arr**	**22.42**	**229**	P	**P**	**17 25 48.1**	**+1.0**
	comp=Z,1.5nm,0.4s,baz=34,slow=9.2,SNR=7.6						
	comp=Z,1.5nm,0.4s						
ILAR	**Eielson Array**	**28.87**	**46**	P	**P**	**17 26 46.2**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=266,slow=8.9,SNR=6.9						
	comp=Z,1.1nm,0.8s						
BMAR	**Burnt Mountain**	**29.71**

NC204	**NORSAR Array S**	**62.64**	**343**	P	**P**	**17 31 07.3**	**-1.2**
NC204				IAmb	IAmb	17 31 08.4	
	comp=Z,4.9nm,0.8s						
NB201	**NORSAR Array S**	**62.76**	**343**	P	**P**	**17 31 08.8**	**-0.4**
NB2	**NORSAR Subarra**	**62.78**	**343**	P	**P**	**17 31 09.0**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**62.78**	**343**	P	**P**	**17 31 09.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=25,slow=6.6,SNR=15						
	comp=Z,0.6nm,0.3s						
NOA	**NORSAR Array B**	**62.78**	**343**	P	**P**	**17 31 09.0**	**-0.5**
NBO00	**NORSAR Array S**	**62.87**	**343**	P	**P**	**17 31 09.3**	**-0.7**
SCHQ	**Schefferville**	**65.43**	**27**	P	**P**	**17 31 26.8**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=294,slow=10.0,SNR=1.6						
	comp=Z,2.3nm,0.5s						
AKASG	**Malin Array Be**	**67.76**	**328**	P	**P**	**17 31 40.5**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=35,slow=5.1,SNR=4.2						
	comp=Z,1.3nm,0.6s						
TXAR	**Lajitas Array**	**71.01**	**66**	P	**P**	**17 32 04.4**	**+2.4**
	comp=Z,1.0nm,0.5s,baz=289,slow=5.0,SNR=14						
	comp=Z,1.0nm,0.5s						
CLL	**Collm**	**71.56**	**338**	*i* P	**P**	**17 32 04.8**	**+0.1**
GERES	**GERESS Array B**	**73.71**	**337**	P	**P**	**17 32 17.8**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=38,slow=6.8,SNR=4.5						
	comp=Z,0.4nm,0.4s						
WRA	**Warramunga Arr**	**76.35**	**204**	P	**P**	**17 32 33.9**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=16,slow=5.8,SNR=7.8						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**80.03**	**203**	P	**P**	**17 32 54.8**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=18,slow=4.9,SNR=24						
	comp=Z,0.7nm,0.6s						
ESDC	**Sonseca Array**	**85.85**	**347**	P	**P**	**17 33 24.1**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=2.2,slow=4.6,SNR=4.3						
ESDC				LR	LR	18 17 31.7	
	comp=Z,30nm,19.0s,baz=237,slow=40						
	comp=Z,0.6nm,0.7s						

*IDC **21** 17:27:50.0±3.2, 37.88N×72.95E, h95km±29km, mb3.3/7, mbtmp3.7/13, Error ellipse: s-maj=26.0km s-min=16.5km az=169.0*
*SOME **21** 17:27:54.5, 39.00N×72.85E, h20km*
*NNC **21** 17:27:57.0±4.6, 39.18N×72.84E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=34.1km s-min=23.5km az=1.0*
ISC 21 17:27:45.1±0.7, 38.47N±0.04×72.95E±0.04, h10km, n53,
σ2ş85/60, mb3.7/7, 7C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRKS	**Merke**	**4.27**	**3**	*eP*		**Pb**	**17 29 03.6**	**+3.2**
	12nm,0.3s							
MRKS				*eS*		**Sb**	**17 29 53.5**	**+1.4**
	51nm,0.3s							
MRKS	**Merke**	**4.27**	**3**	Pg		**Pb**	**17 29 03.6**	**+3.2**
	12nm,0.3s							
MRKS				Lg		Lg	17 29 53.5	
	51nm,0.3s							
IUG	**Iuzhnay**	**4.29**	**330**	*eP*		**Pb**	**17 29 03.2**	**+2.5**
	159nm,0.3s							
IUG				*eS*		**Sb**	**17 29 53.0**	**+0.3**
	155nm,0.4s							
IUG	**Iuzhnay**	**4.29**	**330**	Pg		**Pb**	**17 29 03.2**	**+2.5**
	159nm,0.3s							
IUG				Lg		Lg	17 29 53.0	
	155nm,0.4s							
AAK	**Ala-Archa**	**4.33**	**15**	P		**Pb**	**17 29 03.3**	**+2.1**
	4.9nm,0.3s,baz=184,slow=10,SNR=9.1							
AAK				S		**Sb**	**17 29 56.1**	**+2.6**
	23nm,0.6s,baz=340,slow=13,SNR=4.4							
DZA	**Taraz**	**4.58**	**345**	*eP*		**Pb**	**17 29 07.7**	**+2.1**
	47nm,0.2s							
DZA				*eS*		**Sb**	**17 30 00.3**	**-0.5**
	195nm,0.6s							
CEP	**Cherat**	**4.71**	**191**	S		**Sn**	**17 29 51.0**	**-0.2**
CEP	**Cherat**	**4.71**	**191**	P		Pn	17 29 01.7	+5.3
CHMS	**Chumysh**	**4.72**	**16**	⇑Pg		**Pb**	**17 29 09.5**	**+1.5**
	2.8nm,0.2s							
CHMS				⇑Lg		Lg	17 30 02.9	
	13nm,0.8s							
CHCP	**Chirah Chowk**	**4.81**	**177**	P		Pn	17 29 02.8	+5.2
TKM2	**Tokmak 2**	**4.88**	**24**	⇑Pg		**Pb**	**17 29 11.2**	**+0.5**
	3.1nm,0.2s							
TKM2				⇓Lg		Lg	17 30 07.6	
	11nm,0.7s							
KK31	**Karatay Array**	**4.98**	**339**	S		**Sb**	**17 30 09.0**	**-3.3**
	42nm,0.4s,baz=162,slow=18,SNR=26							
KK31	**Karatay Array**	**4.98**	**339**	⇑P		**Pb**	**17 29 12.5**	**+0.1**
	8.5nm,0.4s,baz=153,slow=12,SNR=388							
KST	**Kastek**	**5.11**	**26**	*eP*		**Pg**	**17 29 18.6**	**-4.3**
	6.6nm,0.4s							
KST				*eS*		**Sb**	**17 30 18.8**	**+2.7**
	22nm,0.8s							
KST	**Kastek**	**5.11**	**26**	Pg		**Pg**	**17 29 18.6**	**-4.3**
	6.6nm,0.4s							
KST				Lg		Lg	17 30 19.7	
	22nm,0.8s							
DGS	**Degeres**	**5.22**	**23**	*eP*		**Pb**	**17 29 19.4**	**+2.9**
	3.5nm,0.6s							
DGS				*eS*		**Sb**	**17 30 20.5**	**+1.1**
	16nm,0.8s							
DGS	**Degeres**	**5.22**	**23**	Pg		**Pb**	**17 29 19.4**	**+2.9**
	3.5nm,0.6s							
DGS				Lg		Lg	17 30 21.3	
	16nm,0.8s							
MTBS	**Maitube**	**5.35**	**28**	*eP*		**Pg**	**17 29 23.4**	**-4.2**
	3.5nm,0.2s							
MTBS				*eS*		**Sb**	**17 30 27.7**	**+4.7**
	7.6nm,0.5s							
KRBS	**Karabastau**	**5.61**	**21**	*eP*		**Pg**	**17 29 30.9**	**-1.6**
	1.0nm,0.2s							
KRBS				*eS*		**Sg**	**17 30 40.3**	**-4.9**
	5.9nm,0.8s							
KRBS	**Karabastau**	**5.61**	**21**	Pg		**Pg**	**17 29 30.9**	**-1.6**
	1.0nm,0.2s							
KRBS				Lg		Lg	17 30 40.3	
	5.9nm,0.8s							
MDOK	**Medeo**	**5.62**	**32**	*eP*		**Pg**	**17 29 34.9**	**+2.1**
	0.9nm,0.1s							
MDOK				*eS*		**Sg**	**17 30 46.7**	**+1.1**
	8.2nm,0.5s							
KOTS	**Kotyrbulak**	**5.71**	**32**	*eP*		**Pg**	**17 29 33.1**	**-1.3**
	1.1nm,0.5s							
KOTS				*eS*		**Sg**	**17 30 43.9**	**-4.4**
	26nm,0.5s							
KOTS	**Kotyrbulak**	**5.71**	**32**	Pg		**Pg**	**17 29 33.1**	**-1.3**
	1.1nm,0.5s							
KOTS				Lg		Lg	17 30 45.0	
	26nm,0.5s							
THW	**Thamme Wali**	**5.75**	**190**	P		**Pn**	**17 29 13.2**	**+2.7**
KTBS	**Karatobe**	**5.95**	**27**	*eP*		**Pg**	**17 29 36.9**	**-2.0**
	2.5nm,0.4s							
KTBS				*eS*		**Sg**	**17 30 51.0**	**-4.9**
	14nm,0.6s							
KUU	**Kurty**	**5.99**	**24**	*eP*		**Pg**	**17 29 38.9**	**-0.9**
	2.0nm,0.3s							
KUU				*eS*		**Sg**	**17 30 54.1**	**-3.2**
	8.6nm,0.8s							
CHKK	**Chushkaly**	**6.18**	**28**	*eP*		**Pg**	**17 29 42.7**	**-0.7**
	1.4nm,0.2s							
CHKK				*eS*		**Sg**	**17 31 00.2**	**-3.2**
	7.6nm,0.5s							
BTLS	**Baital**	**6.62**	**7**	*eP*		Pg	17 29 46.2	-5.5
	0.8nm,0.2s							
BTLS				*eS*		**Sb**	**17 31 06.3**	**+7.1**
	6.7nm,0.5s							
PDGK	**Podgornoye**	**6.94**	**44**	⇑Pn		Pb	17 29 35.4	-10
	12nm,0.9s							
PDGK				⇑Lg		Lg	17 31 23.0	
	16nm,1.2s							
MKAR	**Makanchi Array**	**10.79**	**37**	P		Pn	17 30 28.2	+8.7
	1.3nm,0.7s,baz=222,slow=14,SNR=14							
GEYT	**Alibeck**	**11.68**	**272**	P		**Pn**	**17 30 34.9**	**+3.1**
	3.7nm,0.3s,baz=108,slow=9.3,SNR=9.4							
GEYT				S		**Sn**	**17 32 38.0**	**-4.3**
	3.9nm,0.7s,baz=146,slow=14,SNR=5.9							
GYA0B	**ALIBECK ARRAY**	**11.68**	**272**	⇑P		**Pn**	**17 30 34.9**	**+3.1**
KURBB	**Kurchatov Arra**	**12.78**	**16**	P		Pn	17 30 52.4	+5.7
	0.5nm,0.7s,baz=198,slow=12,SNR=4.4							
PYUN	**Piuthan**	**13.32**	**138**	*eP*		**Pn**	**17 30 51.4**	**-3.0**
	13nm,0.3s							
DANN	**Dangsing**	**13.54**	**135**	*eP*		**Pn**	**17 30 54.2**	**-3.2**
	13nm,0.3s							
AB31	**Akbulak array**	**14.27**	**323**	⇓S		**Sn**	**17 33 49.0**	**+3.7**
	1.7nm,0.4s,baz=134,slow=24,SNR=10.0							
AB31	**Akbulak array**	**14.27**	**323**	⇓P		**P**	**17 31 14.3**	**0.0**
	0.4nm,0.3s,baz=136,slow=12,SNR=19							
GKN	**Gorkha**	**14.29**	**133**	*eP*		**Pn**	**17 31 05.5**	**-2.2**
	10nm,0.3s							
BVAR	**Borovoye Array**	**14.66**	**354**	P		**P**	**17 31 20.7**	**+2.0**
	0.3nm,0.5s,baz=168,slow=8.4,SNR=2.4							
DMN	**Daman**	**14.86**	**133**	*eP*		**Pn**	**17 31 12.6**	**-2.9**
PKIN	**Phulchoki**	**15.05**	**133**	*eP*		**Pn**	**17 31 16.5**	**-1.6**
PKI	**Pulchoki**	**15.06**	**133**	*eP*		**Pn**	**17 31 16.0**	**-2.3**
GUN	**Gumba**	**15.09**	**130**	*eP*		**Pn**	**17 31 17.4**	**-1.2**
JIRN	**Jiri**	**15.46**	**130**	*eP*		**Pn**	**17 31 22.0**	**-1.6**
AKTO	**Aktyubinsk**	**15.98**	**323**	P		**P**	**17 31 37.0**	**+3.6**
	1.3nm,0.6s,baz=126,slow=14,SNR=3.0							
AKTO				S		**Sn**	**17 34 25.3**	**-1.7**
	1.2nm,0.6s,baz=56,slow=7.8,SNR=3.3							
ZALV	**Zalesovo Beam**	**17.48**	**24**	P		**P**	**17 31 52.7**	**+2.7**
	4.4nm,0.6s,baz=211,slow=11,SNR=19							
SONM	**Songino Array**	**25.96**	**58**	P		**P**	**17 33 16.4**	**-1.4**
	0.2nm,0.4s,baz=261,slow=9.5,SNR=2.2							
	0.2nm,0.4s							
FINES	**FINESS Array B**	**36.75**	**324**	P		**P**	**17 34 52.0**	**-0.3**
	1.6nm,1.0s,baz=128,slow=9.0,SNR=3.3							
	1.6nm,1.0s							
ARCES	**ARCESS Array B**	**39.94**	**336**	P		**P**	**17 35 19.2**	**+0.1**
	2.4nm,1.0s,baz=101,slow=12,SNR=2.6							
	2.4nm,1.0s							
ESDC	**Sonseca Array**	**57.91**	**297**	P		**P**	**17 37 34.5**	**-2.9**
	0.3nm,0.5s,baz=62,slow=8.0,SNR=1.2							
	0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**67.31**	**269**	P		P	17 38 34.8	-5.6
	0.7nm,0.5s,baz=44,slow=5.5,SNR=9.3							
	0.7nm,0.5s							
WRA	**Warramunga Arr**	**81.75**	**123**	P		P	17 39 56.3	-7.8
	0.5nm,0.8s,baz=323,slow=5.1,SNR=6.4							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**84.14**	**126**	P		P	17 40 08.7	-7.8
	0.2nm,0.8s,baz=319,slow=5.0,SNR=2.3							
	0.2nm,0.8s							

*IDC **21** 18:07:04.9±0.5, 8.72S×111.69E, h0km, mb4.2/20, mbtmp4.2/21, ML5.1/2, MS3.5/45, Error ellipse: s-maj=19.9km s-min=12.4km az=49.0*
*DJA **21** 18:07:08.2±0.8, 9.3S×111.2E±, h23km±7km, M4.8/35, mB5.3/15, mb4.9/35, MLv5.2/19, Mw(mB)4.7/15*
*NEIC **21** 18:07:11.4±1.7, 9.0S±0.1×111.4E±0.0, h53km±8km, mb4.6/46, Error ellipse: s-maj=15.5km s-min=10.6km az=208.0*
ISC 21 18:07:11.2±0.3, 8.96S±0.05×111.57E±0.04, h50km, n210,
σ1ş65/174, mb4.5/45, MS3.6/43, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.85**	**333**	P		**Pn**	**18 07 24.0**	**-2.9**
PCJI				S		**Sn**	**18 07 35.4**	**-3.0**
PWJI	**Pagerwojo**	**0.96**	**14**	P		**Pn**	**18 07 26.1**	**-2.3**
PWJI				S		**Sn**	**18 07 39.4**	**-1.6**
UGM	**Wanagama**	**1.47**	**315**			**Pn**	**18 07 33.5**	**-1.8**
UGM	**Wanagama**	**1.47**	**315**	P		**Pn**	**18 07 33.5**	**-1.8**
UGM	**Wanagama**	**1.47**	**315**	P		**Pn**	**18 07 34.6**	**-0.7**
NGJI	**Ngawi**	**1.58**	**356**	P		**Pn**	**18 07 35.6**	**-1.3**
YOGI	**Yogyakarta**	**1.70**	**312**	P		**Pn**	**18 07 36.7**	**-1.7**
GMJI	**Gumukmas**	**1.98**	**70**	P		**Pn**	**18 07 40.9**	**-1.3**
TBJI	**Tambak Boyo**	**2.15**	**7**	P		**Pn**	**18 07 43.4**	**-1.1**
SMRI	**Semarang**	**2.20**	**329**			**Pn**	**18 07 46.0**	**+0.7**
SMRI	**Semarang**	**2.20**	**329**	P		**Pn**	**18 07 43.5**	**-1.8**
SMRI	**Semarang**	**2.20**	**329**	P		**Pn**	**18 07 46.4**	**+1.1**
BLJI	**Banyuglugur**	**2.34**	**59**	P		**Pn**	**18 07 47.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**2.60**	**79**	Pn		**Pn**	**18 07 49.4**	**-1.3**
JAGI	**Jajag, Banyuwa**	**2.60**	**79**	P		**Pn**	**18 07 49.6**	**-1.2**
JAGI	**Jajag, Banyuwa**	**2.60**	**79**	P		**Pn**	**18 07 50.2**	**-0.6**
ABJI	**Asem Bagus**	**2.88**	**67**	P		**Pn**	**18 07 54.7**	**+0.1**
KMMI	**Kalianget**	**3.04**	**52**	P		**Pn**	**18 07 55.6**	**-1.2**
BWJI	**Bawean**	**3.27**	**19**	P		**Pn**	**18 07 59.9**	**-0.1**
IGBI	**Denpasar**	**3.54**	**88**	P		**Pn**	**18 08 02.4**	**-1.2**
DNP	**Denpasar**	**3.61**	**86**	P		**Pn**	**18 08 05.1**	**+0.5**
SRBI	**Singaraja**	**3.71**	**77**	P		**Pn**	**18 08 05.6**	**-0.4**
JCJI	**Jatiwangi**	**4.09**	**307**	P		**Pn**	**18 08 08.0**	**-3.2**
LEM	**Lembang**	**4.45**	**298**	Pn		**Pn**	**18 08 15.7**	**-0.6**
	30nm,0.3s,baz=97,slow=12,SNR=36							
LEM				Sn		**Sn**	**18 09 08.4**	**+1.5**
	26nm,0.3s,baz=324,slow=8.2,SNR=4.5							
LEM				LR		LR	18 10 09.2	
	comp=Z,767nm,18.3s,baz=118,slow=41							
	176nm,0.6s							
LEM	**Lembang**	**4.45**	**298**	P		**Pn**	**18 08 13.9**	**-2.4**
CNJI	**Cibinong**	**4.69**	**290**	P		**Pn**	**18 08 16.5**	**-2.9**
TWSI	**Taliwang, Sumb**	**5.26**	**88**	P		**Pn**	**18 08 26.8**	**-0.4**
	1.0nm3µm141nm,0.6s							
CBJI	**Citeko**	**5.31**	**298**	P		Pn	18 08 22.9	-5.1
	2.9nm9µm700nm,0.6s							
SKJI	**Sukabumi**	**5.33**	**291**	P		**Pn**	**18 08 26.8**	**-1.4**
	2.5nm5µm304nm,1.0s							
XMI	**Christmas Isla**	**5.98**	**255**	P		**Pn**	**18 08 33.3**	**-3.9**
XMIS	**Christmas Isla**	**6.03**	**255**	Pn		Pn	18 08 33.0	-4.8
XMIS	**Christmas Isla**	**6.03**	**255**	P		**Pn**	**18 08 33.7**	**-4.1**
PLAI	**Plampang**	**6.14**	**89**	P		**Pn**	**18 08 39.7**	**+0.4**
	1.6nm3µm366nm,0.8s							
PLAI	**Plampang**	**6.14**	**89**	P		**Pn**	**18 08 40.0**	**+0.7**
PBKI	**Pangkalan Bun**	**6.21**	**1**	P		**Pn**	**18 08 39.5**	**-0.9**
	1.1nm16µm192nm,0.6s							
BBKI	**Banjar Baru**	**6.36**	**31**	P		**Pn**	**18 08 41.8**	**-0.5**
	0.4nm3µm122nm,0.9s							
KASI	**Kota Agung**	**7.80**	**295**	P		**Pn**	**18 09 00.9**	**-1.2**
	0.5nm91nm,0.9s							
KLI	**Kotabumi**	**7.81**	**301**	P		Pn	18 09 09.5	+7.3
MTKI	**Muara Teweh, K**	**8.63**	**23**	P		Pn	18 09 21.2	+7.7
PPBI	**Pangkal Pinang**	**8.65**	**321**	P		**Pn**	**18 09 13.2**	**-0.6**
	97nm,0.7s							
STKI	**Sintang**	**8.97**	**359**	P		Pn	18 09 26.7	+8.6
KAPI	**Kappang**	**9.02**	**65**	Pn		**Pn**	**18 09 20.3**	**+1.5**
	1.9nm,0.3s,baz=246,slow=11,SNR=1.8							
KAPI				Sn		**Sn**	**18 10 58.3**	**-0.7**
	0.7nm,0.3s,baz=260,slow=23,SNR=1.0							
KAPI				LR		LR	18 13 07.2	
	comp=Z,190nm,20.0s,baz=260,slow=41							
KAPI	**Kappang**	**9.02**	**65**	Pn		**Pn**	**18 09 21.3**	**+2.5**
BKSI	**Bulukumba**	**9.22**	**68**	P		**Pn**	**18 09 21.0**	**-0.7**
	417nm32nm,0.7s							
BSSI	**Bau Bau, Buton**	**9.28**	**73**	P		**Pn**	**18 09 22.7**	**+0.3**
	747nm25nm,0.5s							
SPSI	**Sidrap Palu**	**9.54**	**59**	P		**Pn**	**18 09 25.6**	**-0.4**
	36nm,1.1s							
MNAI	**Manna**	**9.70**	**298**	Pn		**Pn**	**18 09 27.3**	**-0.8**
MNAI	**Manna**	**9.70**	**298**	P		**Pn**	**18 09 28.6**	**+0.5**
EDFI	**Ende, Flores**	**10.01**	**90**	P		**Pn**	**18 09 30.3**	**-2.1**
	1µm92nm,0.6s							
KSI	**Kapahiang**	**10.36**	**300**	P		**Pn**	**18 09 36.3**	**-1.0**
	4µm138nm,0.7s							
MMRI	**Maumere**	**10.55**	**89**	Pn		**Pn**	**18 09 36.9**	**-2.9**
MMRI	**Maumere**	**10.55**	**89**	P		**Pn**	**18 09 38.5**	**-1.3**
	2µm169nm,1.2s							
MMRI	**Maumere**	**10.55**	**89**	P		**Pn**	**18 09 37.8**	**-2.0**
SBUM	**Sibu**	**11.35**	**3**	Pn		**Pn**	**18 09 53.9**	**+3.1**
BBSI	**Bau Bau**	**11.45**	**73**	P		**Pn**	**18 09 51.6**	**-0.5**
	21nm,0.8s							
BATI	**Baumata**	**11.99**	**97**	Pn		**Pn**	**18 09 57.4**	**-2.2**
	30nm,0.3s,baz=299,slow=2.1,SNR=53							
BATI				Sn		**Sn**	**18 12 06.7**	**-5.3**
	4.8nm,0.3s,baz=208,slow=20,SNR=1.7							
BATI	**Baumata**	**11.99**	**97**	P		**Pn**	**18 09 57.8**	**-1.8**
	1µm90nm,0.6s							
TPRI	**Tanjung Pinang**	**12.06**	**324**	P		**Pn**	**18 09 59.5**	**-1.0**
	19nm,1.0s							
MPSI	**Mapaga**	**12.42**	**42**	P		**P**	**18 10 18.2**	**+2.3**
MYKOM	**Kota Tinggi**	**13.16**	**324**	Pn		**Pn**	**18 10 15.6**	**+0.1**
GIRL	**Giralia**	**13.84**	**170**	Pn		Pn	18 10 20.7	-4.1
GIRL	**Giralia**	**13.84**	**170**	P		Pn	18 10 20.0	-4.8
MRSI	**Marisa**	**13.95**	**48**	P		**P**	**18 10 34.1**	**+1.1**
MBWA	**Marble Bar**	**14.46**	**148**	Pn		Pn	18 10 25.3	-7.7
MBWA	**Marble Bar**	**14.46**	**148**			Pn	18 10 25.5	-7.5
GTOI	**Gorontalo**	**14.86**	**51**	P		**Pn**	**18 10 37.6**	**-0.7**
	282m22nm,0.8s							
PSA00	**Pilbara Seismi**	**14.86**	**148**	Pn		Pn	18 10 31.6	-6.6
PSA00	**Pilbara Seismi**	**14.86**	**148**	Pn		Pn	18 10 31.2	-7.0
KKM	**Kota Kinabalu**	**15.61**	**17**	Pn		**Pn**	**18 10 46.5**	**-1.6**
KKM				IAmb		IAmb	18 11 13.5	
	comp=Z,23nm,0.9s							
KKM	**Kota Kinabalu**	**15.61**	**17**	P		**P**	**18 10 50.4**	**-1.1**
MYLDM	**Lahad Datu**	**15.65**	**26**	P		**P**	**18 10 53.6**	**+1.7**
MYLDM				IAmb		IAmb	18 11 24.8	
	comp=Z,63nm,1.2s							
SANI	**Sanana**	**15.90**	**65**	P		**Pn**	**18 10 52.0**	**+0.2**
	comp=Z,46nm,1.1s							
FITZ	**Fitzroy Crossi**	**16.41**	**125**	Pn		**Pn**	**18 10 54.8**	**-3.4**
	comp=Z,1.4nm,0.3s,baz=358,slow=5.8,SNR=49							
FITZ				Sn		Sn	18 13 43.6	-16
	comp=Z,0.3nm,0.3s,baz=0.3,slow=23,SNR=1.7							
FITZ				LR		LR	18 17 21.0	
	comp=Z,84nm,21.3s,baz=276,slow=38							
FITZ	**Fitzroy Crossi**	**16.41**	**125**	Pn		**Pn**	**18 10 54.2**	**-4.0**
FITZ				IAmb		IAmb	18 11 04.0	
	comp=Z,14nm,0.6s							
FITZ	**Fitzroy Crossi**	**16.41**	**125**	P		**Pn**	**18 10 55.4**	**-2.8**
NLAI	**Namlea**	**16.45**	**71**	P		P	18 11 12.8	+12
PSI	**Prapat**	**17.19**	**312**	LR		LR	18 18 32.7	
	comp=Z,484nm,19.5s,baz=142,slow=40							
GSI	**Gunungsitoli**	**17.27**	**305**	Pn		Pn	18 10 59.6	-9.4
KULM	**Kulim**	**17.86**	**322**			**Pn**	**18 11 14.6**	**-1.6**
LBMI	**Labuha**	**17.89**	**63**	P		**P**	**18 11 22.3**	**+5.6**
KNRA	**Kununurra**	**18.07**	**113**	P		**P**	**18 11 17.5**	**-1.1**
KNRA	**Kununurra**	**18.07**	**113**	P		**P**	**18 11 17.6**	**-1.1**
TNTI	**Ternate**	**18.47**	**59**			**Pn**	**18 11 23.4**	**-0.3**
TNTI				IAmb		IAmb	18 11 43.5	
	comp=Z,46nm,1.2s							
TNTI	**Ternate**	**18.47**	**59**	P		**Pn**	**18 11 23.8**	**+0.1**
	comp=Z,585nmcomp=Z,30nm,0.7s							
TNTI	**Ternate**	**18.47**	**59**	P		**Pn**	**18 11 25.2**	**+1.5**
MEEK	**Meekatharra**	**18.81**	**160**	P		**P**	**18 11 24.8**	**-1.9**
SAUI	**Saumlaki**	**19.54**	**89**	P		**P**	**18 11 35.1**	**+0.3**
MTN	**Manton Dam**	**19.59**	**103**			**P**	**18 11 34.9**	**-0.5**
MTN	**Manton Dam**	**19.59**	**103**	P		**P**	**18 11 35.5**	**+0.1**
MORW	**Morawa**	**20.44**	**169**	P		**P**	**18 11 43.4**	**-1.1**
MORW	**Morawa**	**20.44**	**169**	P		**P**	**18 11 44.9**	**+0.4**
KDU	**Kakadu**	**20.86**	**102**	P		**P**	**18 11 48.9**	**-0.2**
SIJI	**Sorong**	**21.19**	**69**	P		**P**	**18 11 50.2**	**-2.5**
	comp=Z,3.7nm,0.4s,baz=238,slow=13,SNR=1.6							
	comp=Z,3.7nm,0.4s							
FAKI	**Fak Fak**	**21.42**	**75**	P		**P**	**18 11 54.8**	**-0.4**
FAKI				IAmb		IAmb	18 12 03.5	
	comp=Z,24nm,1.1s							
FAKI	**Fak Fak**	**21.42**	**75**	P		**P**	**18 11 55.2**	**+0.1**
BLDU	**Ballidu**	**22.07**	**168**	P		**P**	**18 12 02.7**	**+0.7**
WRKA	**Warakurna**	**22.57**	**137**	P		**P**	**18 12 07.6**	**+0.1**
WB0	**Warramunga Arr**	**24.55**	**118**	P		**P**	**18 12 26.6**	**+0.2**
WB0				IAmb		IAmb	18 12 28.5	
	comp=Z,14nm,0.6s							
WRA	**Warramunga Arr**	**24.57**	**119**	P		**P**	**18 12 26.9**	**+0.2**
	comp=Z,13nm,1.0s,baz=294,slow=11,SNR=147							
WRA				S		S	18 16 57.7	+13
	comp=Z,1.1nm,0.8s,baz=289,slow=24,SNR=3.7							
WRA				LR		LR	18 22 11.7	
	comp=Z,189nm,21.7s,baz=336,slow=37							
	comp=Z,13nm,1.0s							
WRA	**Warramunga Arr**	**24.57**	**119**	P		**P**	**18 12 26.6**	**-0.1**
WRAB	**Tennant Creek**	**24.58**	**119**	P		**P**	**18 12 26.0**	**-0.7**
WRAB				IAmb		IAmb	18 12 45.8	
	comp=Z,15nm,0.7s							
WRAB	**Tennant Creek**	**24.58**	**119**	P		**P**	**18 12 27.3**	**+0.6**
WB2	**Warramunga Arr**	**24.58**	**119**	P		**P**	**18 12 26.8**	**0.0**
WB2				IAmb		IAmb	18 12 55.1	
	comp=Z,17nm,0.8s							
WR0	**Warramunga Arr**	**24.75**	**119**	P		**P**	**18 12 28.6**	**+0.3**
WR0				IAmb		IAmb	18 12 30.0	
	comp=Z,19nm,0.7s							
AS31	**Alice Springs**	**25.89**	**127**	P		**P**	**18 12 38.5**	**-0.2**
ASAR	**Alice Springs**	**25.89**	**127**	P		**P**	**18 12 39.0**	**+0.3**
	comp=Z,9.8nm,0.7s,baz=303,slow=8.4,SNR=143							
ASAR				PcP		**PcP**	**18 16 08.4**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=328,slow=1.4,SNR=4.0							
ASAR				S		S	18 17 31.4	+26
	comp=Z,2.5nm,0.8s,baz=304,slow=22,SNR=7.8							
ASAR				LR	

HHC pmax pmax
comp=Z,190nm,6.5s
JHJ Hachijo jima 2 49.73 31 LR LR 18 38 33.1
comp=Z,23nm,19.8s,baz=221,slow=38
MJAR Matsushiro Arr 51.73 27 P **P 18 16 11.1 -2.5**
comp=Z,0.7nm,0.4s,baz=198,slow=8.3,SNR=3.0
MJAR LR LR 18 37 49.0
comp=Z,22nm,21.0s,baz=226,slow=36
comp=Z,0.7nm,0.4s
DZM Mont Dzumac 54.19 111 LR LR 18 41 20.1
comp=Z,43nm,18.0s,baz=226,slow=38
MDJ Mudanjiang 55.76 16 P **P 18 16 44.6 +1.7**
MDJ pP sP 18 17 00.8 -1.2
MDJ sP pP 18 17 05.5 +9.1
MDJ ScP **ScP 18 21 34.3 -2.3**
MDJ PcS **PcS 18 21 41.1 -0.6**
MDJ S **S 18 24 31.1 +5.0**
MDJ sS sS 18 24 57.8 +8.5
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ pmax pmax
comp=Z,43nm,3.7s
MDJ LR LR
comp=N,44nm,4.0s
MDJ LR LR
comp=E,93nm,5.1s
MDJ LR LR
comp=Z,69nm,5.9s
USRK Ussuriysk Ar. 56.05 18 P **P 18 16 44.6 -0.4**
comp=Z,2.5nm,0.8s,baz=203,slow=3.4,SNR=2.8
comp=Z,2.5nm,0.8s
ULN Ulaanbaatar 56.72 356 P **P 18 16 49.5 -0.3**
ULN lAmb lAmb 18 16 55.1
comp=Z,3.5nm,0.5s
SONM Songino Array 56.73 356 P **P 18 16 49.0 -0.9**
comp=Z,1.6nm,0.5s,baz=176,slow=8.8,SNR=11
SONM PcP **PcP 18 17 45.8 +0.3**
comp=Z,1.5nm,0.5s,baz=195,slow=3.8,SNR=6.3
comp=Z,1.6nm,0.5s
SONM Songino Array 56.73 356 P **P 18 16 49.2 -0.7**
WMQ Urumqi 56.83 340 *eP* **P 18 16 52.5 +1.9**
KLR Kul'dur 60.59 15 LR LR 18 44 55.8
comp=Z,25nm,20.8s,baz=202,slow=38
WSAR Wadi Sarin 60.86 303 P **P 18 17 19.1 +0.2**
comp=Z,3.8nm,0.6s,baz=0.0,slow=1.0,SNR=2.5
comp=Z,3.8nm,0.6s
MK31 Makanchi Array 61.34 337 P **P 18 17 21.2 -0.6**
MK31 lAmb lAmb 18 17 36.3
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 61.34 337 P **P 18 17 20.1 -1.6**
comp=Z,1.4nm,0.4s,baz=153,slow=7.0,SNR=25
comp=Z,1.4nm,0.4s
MKAR Makanchi Array 61.34 337 P **P 18 17 21.0 -0.7**
MAKZ Makanchi 61.47 337 P **P 18 17 20.9 -1.7**
AAK Ala-Archa 61.49 330 LR LR 18 47 37.7
comp=Z,39nm,18.3s,baz=130,slow=40
AAK Ala-Archa 61.49 330 P **P 18 17 22.5 -0.5**
AAK lAmb lAmb 18 17 34.4
comp=Z,2.2nm,0.8s
CHGR Chuyangaron 61.65 323 P **P 18 17 21.0 -3.1**
CHGR lAmb lAmb 18 17 48.1
comp=Z,7.5nm,1.1s
RPZ Rata Peaks 61.95 135 LR LR 18 43 41.1
comp=Z,121nm,20.3s,baz=278,slow=35
UOSS Minazif 63.59 303 P **P 18 17 35.3 -1.9**
KK31 Karatay Array 63.88 328 P **P 18 17 38.2 -0.5**
KKAR Karatay Array 63.88 328 P **P 18 17 37.9 -0.8**
KKAR Karatay Array 63.88 328 P **P 18 17 38.8 0.0**
KKAR lAmb lAmb 18 17 47.0
comp=Z,3.4nm,1.3s
URZ Urewera 65.33 128 LR LR 18 45 48.5
comp=Z,23nm,20.7s,baz=10.0,slow=36
KURBB Kurchatov Arra 65.90 338 LR LR 18 48 19.6
comp=Z,41nm,19.0s,baz=172,slow=38
KURK Kurchatov 65.94 338 P **P 18 17 50.8 -1.2**
ZAA0 Zalesovo Array 66.63 343 P **P 18 17 55.7 -0.6**
ZAA0 lAmb lAmb 18 18 04.3
comp=Z,2.7nm,0.5s
ZALV Zalesovo Beam 66.63 343 P **P 18 17 54.7 -1.5**
comp=Z,1.6nm,0.4s,baz=153,slow=5.4,SNR=11
comp=Z,1.6nm,0.4s
ZALV Zalesovo Beam 66.63 343 P **P 18 17 54.5 -1.7**
MAW Mawson 66.87 198 P **P 18 17 58.9 +1.2**
comp=Z,1.3nm,0.7s,baz=124,slow=3.6,SNR=1.8
MAW LR LR 18 42 49.9
comp=Z,39nm,20.8s,baz=21,slow=32
comp=Z,1.3nm,0.7s
GEYT Alibeck 68.25 317 P **P 18 18 08.3 +1.4**
comp=Z,1.7nm,0.7s,baz=156,slow=3.9,SNR=5.2
GEYT LR LR 18 50 06.3
comp=Z,19nm,19.8s,baz=152,slow=38
comp=Z,1.7nm,0.7s
GEYT Alibeck 68.25 317 P **P 18 18 07.0 0.0**
GEYT lAmb lAmb 18 18 33.0
comp=Z,6.0nm,1.2s
RAO Raoul Island 68.70 118 LR LR 18 48 59.9
comp=Z,45nm,18.1s,baz=332,slow=37
BVAR Borovoye Array 70.98 335 LR LR 18 53 27.8
comp=Z,30nm,18.2s,baz=131,slow=39
BRVK Borovoye 71.05 335 P **P 18 18 23.1 -0.8**
RAYN Ar Rayn 72.15 298 P **P 18 18 29.5 -1.7**
RAYN lAmb lAmb 18 18 39.0
comp=Z,6.2nm,1.0s
YAK Yakutsk 72.17 9 P **P 18 18 30.6 +0.3**
YAK lAmb lAmb 18 18 38.9
comp=Z,9.6nm,1.0s
PETK Petropavlovsk- 73.18 27 P **P 18 18 35.7 -0.9**
VNDA Vanda 73.24 170 P **P 18 18 38.9 +2.3**
comp=Z,0.7nm,0.8s,baz=282,slow=5.5,SNR=4.8
VNDA LR LR 18 47 31.7
comp=Z,37nm,21.1s,baz=7.5,slow=33
comp=Z,0.7nm,0.8s
ABKAR Akbulak array 73.44 328 P **P 18 18 36.5 -1.7**
ABKAR Akbulak array 73.44 328 P **P 18 18 36.4 -1.8**
ABKAR lAmb lAmb 18 18 42.3
comp=Z,8.7nm,0.7s
KMBO Kilima Mbogo 74.33 271 P **P 18 18 46.1 +1.7**
comp=Z,1.8nm,0.9s,baz=37,slow=20,SNR=3.0
KMBO LR LR 18 45 52.2
comp=Z,76nm,20.1s,baz=94,slow=31
comp=Z,1.8nm,0.9s
AFI Afiamalu 75.03 102 LR LR 18 50 50.4
comp=Z,19nm,19.6s,baz=261,slow=35
MA2 Magadan 75.14 19 P **P 18 18 47.8 0.0**
MA2 lAmb lAmb 18 19 14.9
comp=Z,14nm,1.2s
AKTO Aktyubinsk 75.14 328 LR LR 18 54 49.4
comp=Z,21nm,20.3s,baz=122,slow=38
ARU Arti 78.37 333 LR LR 18 57 05.6
comp=Z,30nm,21.4s,baz=102,slow=38
ARU Arti 78.37 333 P **P 18 19 04.9 -1.2**
ARU lAmb lAmb 18 19 23.8
comp=Z,5.5nm,1.3s
MBAR Mbarara 80.85 271 LR LR 18 49 46.4
comp=Z,32nm,19.1s,baz=92,slow=32
MBAR Mbarara 80.85 271 P **P 18 19 18.4 -2.4**
MBAR lAmb lAmb 18 19 30.8
comp=Z,6.3nm,0.8s
QSPA South Pole Qui 81.04 180 P **P 18 19 22.9 +2.2**
comp=Z,1.9nm,1.0s,baz=318,slow=2.6,SNR=5.9
comp=Z,1.9nm,1.0s
LSZ Lusaka 81.35 256 LR LR 18 52 47.2
comp=Z,65nm,18.2s,baz=146,slow=34
BOSA Boshof 82.55 242 P **P 18 19 31.2 +1.7**
comp=Z,2.4nm,0.9s,baz=102,slow=4.7,SNR=4.6
BOSA LR LR 18 49 41.1
comp=Z,55nm,21.9s,baz=146,slow=31
comp=Z,2.4nm,0.9s
LBTB Lobatse 82.64 246 LR LR 18 50 50.2
comp=Z,14nm,19.5s,baz=74,slow=32
MMAI Mount Meron Ar 83.42 305 LR LR 19 02 52.7
comp=Z,20nm,18.2s,baz=160,slow=40
SUR Sutherland 85.90 238 LR LR 18 51 34.1
comp=Z,41nm,19.9s,baz=80,slow=31
BRTR Keskin Array B 86.51 311 P **P 18 19 50.8 +1.6**
comp=Z,0.7nm,0.8s,baz=122,slow=5.7,SNR=2.5
BRTR LR LR 19 02 20.5
comp=Z,34nm,18.7s,baz=134,slow=38
comp=Z,0.7nm,0.8s
SNAA Sanae 88.99 197 PcP **PcP 18 20 02.6 +0.8**
SNAA Sanae 88.99 197 LR LR 18 56 56.1
comp=Z,23nm,21.6s,baz=95,slow=34
VNA2 Neumayer--Watz 90.64 197 PcP **PcP 18 20 11.0 +2.0**
baz=98,slow=4.0
TSUM Tsumeb 90.82 251 LR LR 18 56 10.6
comp=Z,17nm,20.8s,baz=123,slow=32
VNA3 Neumayer Olymp 91.11 196 PcP **PcP 18 20 12.2 +1.1**

AKASG Malin Array Be 92.05 321 P **P 18 20 14.8 0.0**
comp=Z,0.4nm,0.5s,baz=82,slow=5.0,SNR=1.8
AKASG LR LR 19 07 13.6
comp=Z,20nm,21.0s,baz=348,slow=39
comp=Z,0.4nm,0.5s
FINES FINESS Array B 95.64 331 P **P 18 20 33.2 +2.1**
comp=Z,0.9nm,0.8s,baz=93,slow=9.0,SNR=1.3
FINES LR LR 19 07 23.2
comp=Z,30nm,19.2s,baz=112,slow=38
comp=Z,0.9nm,0.8s
SPITS Spitsbergen Ar 99.78 348 LR LR 19 11 18.1
comp=Z,20nm,20.3s,baz=76,slow=39
TXAR Lajitas Array 141.26 54 PKhKP PKPpre 18 26 33.2
comp=Z,0.2nm,0.5s,baz=217,slow=2.3,SNR=2.9

*NEIC **21** 18:08:07.9±2.4,34.98N±0.07×31.55E±0.05,h10km±1km, Error ellipse: s-maj=11.5km s-min=6.9km az=194.0*
*IDC **21** 18:08:07.2±0.8,35.32N×31.64E,h0km,mb3.9/13, mbtmp4.0/19,ML4.0/6,MS3.2/19,Error ellipse: s-maj=18.2km s-min=13.8km az=25.0*
*ISK **21** 18:08:08.3,35.25N×31.64E,h2km,ML4.0/33*
*ATH **21** 18:08:08.0,35.33N×31.48E,h12km±4km,ML4.5/4,Error ellipse: s-maj=7.9km s-min=2.3km az=204.0*
*HLW **21** 18:08:09.5,35.11N×31.48E,h10km±14km,Md3.8*
*GII **21** 18:08:10.7±0.0,34.89N×31.56E,h10km,MD3.6/8, Mm3.5/16*
*NIC **21** 18:08:10.3±0.0,35.17N×31.56E,h20km±1km,Ml4.2/9*
*DDA **21** 18:08:11.2±0.0,35.28N×31.84E,h19km±1km,MW4.0*
*GRAL **21** 18:08:13.6±0.9,35.07N×32.00E,h0km±127km,MD4.1*
ISC 21 18:08:10.5±1.1,**35.14N**±0.02×**31.56E**±0.02,**h28**km±8km, **n251**,σ1§**74**/299,**mb3.9**/20,**MS3.2**/11,**4C-4D**,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.65**	**100**	⇓P		**Pb**	**18 08 22.5**	**-0.8**
AKMS				S		**Sn**	**18 08 32.7**	**-0.4**
AKMS				AML	AML		18 08 33.5	
	44nm,0.4s							
AKMS				AML	AML		18 08 33.5	
	44nm,0.4s							
AKMS				AML	AML		18 08 34.8	
	74nm,0.6s							
AKMS				AML	AML		18 08 34.8	
	74nm,0.6s							
AKMS	**Akamas**	**0.65**	**100**	P		**Pb**	**18 08 22.5**	**-0.8**
AKMS				S		**Sb**	**18 08 32.3**	**+0.3**
AKMS				AML	AML		18 08 34.8	
	comp=N,73891μm,0.6s							
AKMS				AML	AML		18 08 35.0	
	comp=E,48289μm,0.4s							
ALFC	**Alefka**	**0.85**	**88**	P		**Pb**	**18 08 25.3**	**-1.5**
ALFC				S		**Sn**	**18 08 39.1**	**+0.9**
ALFC				AML	AML		18 08 39.7	
	comp=E,87nm,0.6s							
ALFC				AML	AML		18 08 39.7	
	comp=E,87nm,0.6s							
ALFC				AML	AML		18 08 40.9	
	comp=E,62nm,0.5s							
ALFC				AML	AML		18 08 40.9	
	comp=E,62nm,0.5s							
NATA	**Nata**	**0.91**	**113**	⇓P		**Pn**	**18 08 28.0**	**+0.7**
NATA				S		**Sn**	**18 08 42.2**	**+2.7**
NATA				AML	AML		18 08 49.9	
	comp=E,111nm,0.7s							
NATA				AML	AML		18 08 49.9	
	comp=E,111nm,0.7s							
NATA				AML	AML		18 08 53.7	
	comp=E,85nm,0.6s							
NATA				AML	AML		18 08 53.7	
	comp=E,85nm,0.6s							
NATA	**Nata**	**0.91**	**113**	P		**Pn**	**18 08 28.0**	**+0.7**
NATA				S		**Sn**	**18 08 41.7**	**+2.2**
NATA				AML	AML		18 08 49.9	
NATA				AML	AML		18 08 53.7	
	comp=N,84977μm,0.6s							
LEF	**Lefka**	**1.09**	**91**	PG		**Pn**	**18 08 28.6**	**-1.3**
LEF				SG		**Sb**	**18 08 43.4**	**-1.2**
SZAC	**Souni**	**1.15**	**109**	⇓P		**Pb**	**18 08 31.2**	**-0.6**
SZAC				S		**Sn**	**18 08 47.9**	**+2.3**
SZAC				AML	AML		18 08 55.0	
	comp=N,16nm,0.7s							
SZAC				AML	AML		18 08 55.0	
	comp=N,16nm,0.7s							
SZAC				AML	AML		18 08 58.6	
	comp=N,19nm,0.6s							
SZAC				AML	AML		18 08 58.6	
	comp=N,19nm,0.6s							
GAZI	**Gazipasa**	**1.26**	**29**	PN		**Pn**	**18 08 30.5**	**-1.7**
GAZI	**Gazipasa**	**1.26**	**29**	P		**Pn**	**18 08 30.6**	**-1.5**
GAZI				S		**Sn**	**18 08 40.5**	**-7.6**
ASGA	**Asgata**	**1.43**	**104**	P		**Pn**	**18 08 35.4**	**+0.9**
ASGA				S		**Sb**	**18 08 54.6**	**+0.2**
ASGA				AML	AML		18 09 02.4	
	comp=N,16nm,0.8s							
ASGA				AML	AML		18 09 02.4	
	comp=N,16nm,0.8s							
ASGA				AML	AML		18 09 03.0	
	comp=N,11nm,0.9s							
ASGA				AML	AML		18 09 03.0	
	comp=N,11nm,0.9s							
ASGA	**Asgata**	**1.43**	**104**	P		**Pn**	**18 08 35.1**	**+0.5**
CSS	**Mathiatis**	**1.47**	**96**	PN		**Pn**	**18 08 35.8**	**+0.8**
CSS	**Mathiatis**	**1.47**	**96**	Pn		**Pn**	**18 08 35.0**	**0.0**
CSS	**Mathiatis**	**1.47**	**96**	P		**Pn**	**18 08 35.7**	**+0.6**
CSS				S		**Sb**	**18 08 55.1**	**-0.3**
CSS				AML	AML		18 09 00.7	
	comp=N,3.4nm,0.8s							
CSS				AML	AML		18 09 00.7	
	comp=N,3.4nm,0.8s							
CSS				AML	AML		18 09 05.2	
	comp=N,2.8nm,0.8s							
CSS				AML	AML		18 09 05.2	
	comp=N,2.8nm,0.8s							
CSS	**Mathiatis**	**1.47**	**96**	Pn		**Pn**	**18 08 35.2**	**+0.2**
CSS				Sn		**Sb**	**18 08 54.7**	**-0.6**
ATHAL	**Athalassa**	**1.51**	**89**	P		**Pb**	**18 08 36.9**	**-0.8**
ATHAL				S		**Sb**	**18 08 56.9**	**+0.4**
ATHAL				AML	AML		18 09 06.8	
	comp=N,14nm,1.1s							
ATHAL				AML	AML		18 09 06.8	
	comp=N,14nm,1.1s							
ATHAL				AML	AML		18 09 17.4	
	comp=N,19nm,0.7s							
ATHAL				AML	AML		18 09 17.4	
	comp=N,19nm,0.7s							
TEKE	**Tekeli-Mersin**	**1.62**	**51**	PN		**Pn**	**18 08 36.1**	**-1.0**
TEKE				SN		**Sn**	**18 08 58.1**	**+1.1**
LFK	**Lefkose**	**1.62**	**84**	PN		**Pn**	**18 08 38.1**	**+0.8**
OSC1	**CSNet OBS 1**	**1.65**	**188**	P		**Pn**	**18 08 38.2**	**+0.7**
MVOU	**Mavrovouni**	**1.71**	**93**	P		**Pn**	**18 08 39.0**	**+0.6**
MVOU				S		**Sn**	**18 09 00.7**	**+1.5**
MVOU				AML	AML		18 09 11.8	
	comp=N,8.6nm,0.9s							
MVOU				AML	AML		18 09 11.8	
	comp=N,8.6nm,0.9s							
MVOU				AML	AML		18 09 12.4	
	comp=N,7.0nm,1.1s							
MVOU				AML	AML		18 09 12.4	
	comp=N,7.0nm,1.1s							
MVOU	**Mavrovouni**	**1.71**	**93**	P		**Pn**	**18 08 39.1**	**+0.8**
KEPZ	**Antalya-Kepez**	**1.76**	**1**	P		**Pn**	**18 08 38.7**	**-0.5**
BERE	**Bereket-Mersin**	**1.81**	**48**	PN		**Pn**	**18 08 39.2**	**-0.8**
ERMK	**Ermenek**	**1.86**	**36**	P		**Pn**	**18 08 41.0**	**+0.3**
ERMK				S		**Sn**	**18 09 02.1**	**-1.2**
OREN	**Orenkoy-Mersin**	**1.88**	**55**	PN		**Pn**	**18 08 41.2**	**+0.5**
AKK2	**Akkuyu-Mersin**	**1.90**	**58**	PN		**Pn**	**18 08 41.4**	**+0.4**
ANTB	**Antalya**	**1.91**	**338**	PN		**Pn**	**18 08 42.0**	**+1.0**
AKKU	**Akkuyu-Mersin**	**1.92**	**57**	PN		**Pn**	**18 08 41.7**	**+0.5**
GULN	**MERSIN_Gulnar**	**1.93**	**57**	P		**Pn**	**18 08 42.1**	**+0.8**
GULN				S		**Sn**	**18 08 59.6**	**-5.0**
AKAS	**Kas**	**1.93**	**305**	PN		**Pb**	**18 08 43.5**	**-1.5**
AKAS	**Kas**	**1.93**	**305**			**Pn**	**18 08 42.0**	**+0.5**
AKAS	**Kas**	**1.93**	**305**	P		**Pb**	**18 08 44.8**	**-0.2**
TEPK	**Tepekoy-MERSIN**	**1.95**	**56**	PN		**Pn**	**18 08 41.9**	**+0.2**
YESI	**Yesilovacik-Me**	**2.00**	**58**	PN		**Pn**	**18 08 42.8**	**+0.5**
TEVE	**Tevekalti-Mers**	**2.01**	**49**	PN		**Pn**	**18 08 42.5**	**0.0**
TISA	**Tisan-Mersin**	**2.01**	**59**	PN		**Pn**	**18 08 42.8**	**+0.3**
PARAL	**Paralimni**	**2.04**	**93**	P		**Pn**	**18 08 44.3**	**+1.4**
PARAL				S		**Sb**	**18 09 20.2**	**+8.3**
PARAL				AML	AML		18 09 24.9	
	comp=N,12nm,0.8s							
PARAL				AML	AML		18 09 24.9	
	comp=N,12nm,0.8s							
PARAL				AML	AML		18 09 28.4	
	comp=N,8.5nm,0.9s							
PARAL				AML	AML		18 09 28.4	
	comp=N,8.5nm,0.9s							
KARG	**Kargicak-Mersi**	**2.05**	**58**	PN		**Pn**	**18 08 43.2**	**+0.1**
IKL	**Isikli**	**2.05**	**57**	PN		**Pn**	**18 08 43.1**	**0.0**
ELL	**Elmali**	**2.09**	**321**	PN		**Pn**	**18 08 45.1**	**+1.4**
ELL	**Elmali**	**2.09**	**321**			**Pn**	**18 08 44.3**	**+0.5**
KORT	**Korkueli**	**2.10**	**333**	P		**Pb**	**18 08 48.9**	**+0.9**
KORT				S		**Sb**	**18 09 19.5**	**+5.8**
OSC2	**CSNet OBS 4**	**2.14**	**164**	P		**Pn**	**18 08 42.9**	**-1.4**
EREN	**Erenkoy**	**2.17**	**79**	PN		**Pn**	**18 08 45.7**	**+1.0**
KEBE	**Keben-Mersin**	**2.19**	**53**	PN		**Pn**	**18 08 45.3**	**+0.3**
SEYD	**Seydisehir-KON**	**2.27**	**6**	PN		**Pn**	**18 08 46.6**	**+0.3**
SILI	**Silifke-Mersin**	**2.28**	**57**	PN		**Pn**	**18 08 46.9**	**+0.7**
SEDI	**Konya, Seydise**	**2.31**	**4**	P		**Pn**	**18 08 49.1**	**+2.2**
SEDI				S		**Sb**	**18 09 18.4**	**-1.4**
BUCA	**Burdur, Bucak-**	**2.33**	**340**	P		**Pb**	**18 08 52.1**	**+0.2**
BUCA				S		**Sb**	**18 09 20.6**	**+0.4**
KKBE	**Karaman, Kazim**	**2.36**	**28**	P		**Pn**	**18 08 48.6**	**+1.1**
KKBE				S		**Sn**	**18 09 15.9**	**+0.4**
KRMN	**Karaman**	**2.46**	**34**	PN		**Pn**	**18 08 48.9**	**+0.1**
KIZK	**Mersin**	**2.49**	**57**	PN		**Pn**	**18 08 49.6**	**+0.5**
KIZK	**Mersin**	**2.49**	**57**	P		**Pn**	**18 08 49.6**	**+0.5**
KIZK				S		**Sn**	**18 09 19.1**	**+0.4**
FETY	**Fethiye**	**2.50**	**307**	PN		**Pn**	**18 08 50.9**	**+1.6**
CAME	**Cameli-Denizli**	**2.57**	**315**	PN		**Pn**	**18 08 51.9**	**+1.6**
GOLH	**Golhisar**	**2.65**	**323**	P		**Pb**	**18 08 55.4**	**-1.8**
CAEL	**Denizli, Camel**	**2.68**	**318**	P		**Pb**	**18 08 57.1**	**-0.8**
KMER	**Konya-Meram**	**2.71**	**14**	P		**Pn**	**18 08 54.9**	**+2.7**
KMER				S		**Sb**	**18 09 27.7**	**-3.4**
ISP	**Isparta**	**2.81**	**343**	Pn		**Pn**	**18 08 54.8**	**+1.3**
ISP	**Isparta**	**2.81**	**343**	Pn		**Pb**	**18 08 58.6**	**-1.4**
BRDR	**BURDUR-Merkez**	**2.82**	**335**	P		**Pb**	**18 08 57.7**	**-2.6**
DALY	**Dalyan (Mula)**	**2.89**	**306**	PN		**Pn**	**18 08 56.9**	**+2.3**
BAGO	**Egridir - ISPA**	**2.91**	**348**	P		**Pb**	**18 08 59.0**	**-2.8**
BAGO				S		**Sb**	**18 09 36.7**	**-0.3**
APMY	**Acipayam-Deniz**	**2.96**	**323**	PN		**Pn**	**18 08 57.3**	**+1.7**
MERS	**Mersin**	**2.96**	**53**	PN		**Pn**	**18 08 56.2**	**+0.6**
DOGA	**KONYA_Doganhis**	**2.96**	**2**	P		**Pn**	**18 08 58.7**	**+2.9**
DOGA				S		**Sn**	**18 09 33.4**	**+3.0**
ARG	**Arkhangelos**	**2.99**	**292**	PN		**Pn**	**18 08 58.8**	**+2.8**
ARG	**Arkhangelos**	**2.99**	**292**			**Pn**	**18 08 57.4**	**+1.4**
ARG	**Arkhangelos**	**2.99**	**292**	P		**Pn**	**18 08 58.5**	**+2.5**
KERG	**Konya-Eregli**	**3.08**	**42**	P		**Pn**	**18 08 59.3**	**+2.0**
KERG				S		**Sn**	**18 09 33.4**	**+0.2**
YVAC	**Isparta, Yalva**	**3.14**	**355**	P		**Pn**	**18 09 01.1**	**+3.0**
TURN	**Turunc**	**3.15**	**302**	PN		**Pn**	**18 09 00.8**	**+2.7**
TAVA	**DENIZLI_Tavas**	**3.15**	**318**	P		**Pn**	**18 09 01.5**	**+3.2**
DED	**Mersin**	**3.20**	**54**	P		**Pn**	**18 08 59.7**	**+0.9**
DED				S		**Sn**	**18 09 32.0**	**-4.0**
YER	**Yerkesik**	**3.32**	**308**	PN		**Pn**	**18 09 02.9**	**+2.4**
ALIN	**Konya, Altinte**	**3.33**	**18**	P		**Pn**	**18 09 02.7**	**+1.9**
GULE	**Gulek**	**3.37**	**50**	P		**Pn**	**18 09 04.3**	**+2.9**
GULE				S		**Sn**	**18 09 42.9**	**+2.4**
KDHN	**Kadinhani**	**3.41**	**7**	P		**Pn**	**18 09 04.9**	**+3.0**
BHL	**Bhannes**	**3.60**	**109**	*eP*		**Pn**	**18 09 03.8**	**-0.7**
PASA	**Karahalli, USA**	**3.61**	**333**	P		**Pn**	**18 09 06.5**	**+1.9**
DQRL	**Deir Qamar**	**3.61**	**112**	*eP*		**Pn**	**18 09 04.1**	**-0.5**
DQRL				*eS*		**Sn**	**18 09 42.6**	**-3.8**
KARP	**Karpathos**	**3.62**	**278**	PN		**Pn**	**18 09 07.3**	**+2.7**
KARP	**Karpathos**	**3.62**	**278**			**Pn**	**18 09 04.1**	**-0.5**
HNTI	**Hanita**	**3.63**	**123**	Pn		**Pn**	**18 09 05.5**	**+0.6**
HNTI				Sn		**Sn**	**18 09 45.8**	**-1.0**
YURE	**YUREGIR**	**3.71**	**62**	P		**Pn**	**18 09 06.5**	**+0.6**
HWQ	**Hawqa**	**3.72**	**102**	*eP*		**Pn**	**18 09 06.4**	**+0.3**
HWQ				*eS*		**Sn**	**18 09 44.7**	**-4.3**
CMRD	**Camardi-Nigde**	**3.74**	**47**	PN		**Pn**	**18 09 07.6**	**+1.1**
QRWL	**Qaraoun**	**3.76**	**114**	*eP*		**Pn**	**18 09 06.8**	**+0.1**
OFRI	**`Ofer**	**3.80**	**130**	Pn		**Pn**	**18 09 07.3**	**+0.1**
OFRI				Sn		**Sn**	**18 09 50.0**	**-0.9**
MMA0	**Mount Meron ar**	**3.83**	**122**	Pn		**Pn**	**18 09 07.9**	**+0.3**
MMAI	**Mount Meron Ar**	**3.83**	**122**	Pn		**Pn**	**18 09 07.7**	**0.0**
	comp=N,30nm,0.3s,baz=311,slow=12,SNR=109							
MMAI						Sn		**Sn**	**18 09 50.8**	**-0.9**
	comp=N,40nm,0.3s,baz=303,slow=30,SNR=12							
MMAI				LR	LR		18 11 03.6	
	comp=N,136nm,19.9s,baz=124,slow=46							
	comp=N,24nm,0.4s							
NIS1	**Nisyros Isl.**	**3.84**	**294**	PN		**Pn**	**18 09 10.3**	**+2.5**
BDRM	**Kayabasi**	**3.85**	**301**	P		**Pn**	**18 09 09.9**	**+2.1**
NIDE	**Nigde/Merkez-G**	**3.86**	**41**	P		**Pn**	**18 09 11.4**	**+3.3**
BLGI	**Bet Lehem HaGe**	**3.86**	**127**	Pn		**Pn**	**18 09 08.3**	**+0.4**
BLGI				Sn		**Sn**	**18 09 50.9**	**-1.4**
CEYT	**Ceyhan**	**3.88**	**60**	PN		**Pn**	**18 09 09.5**	**+1.4**
SHBL	**Chebaa**	**3.90**	**116**	*eP*		**Pn**	**18 09 08.9**	**+0.2**
RCY	**Rachaya**	**3.90**	**114**	*eP*		**Pn**	**18 09 08.8**	**+0.2**
AKO	**Adana**	**3.90**	**52**	P		**Pn**	**18 09 10.0**	**+2.4**
AKO				S		**Sn**	**18 09 51.0**	**-2.5**
GEM	**Giv'at Ha'Em**	**3.91**	**118**	Pn		**Pn**	**18 09 09.0**	**+0.4**
GEM				Sn		**Sn**	**18 09 53.6**	**0.0**
AKSY	**AKSARAY - Alti**	**3.92**	**26**	P		**Pn**	**18 09 10.7**	**+1.7**
NATI	**Neve Ativ**	**3.94**	**117**	Pn		**Pn**	**18 09 09.5**	**+0.5**
BODT	**Bodrum**	**3.94**	**300**	PN		**Pn**	**18 09 10.7**	**+1.7**
TAHT	**Tahtakopru-Hat**	**3.96**	**70**	PN		**Pn**	**18 09 10.9**	**+1.6**
SLTI	**Sal'it**	**4.10**	**134**	Pn		**Pn**	**18 09 11.6**	**+0.4**
SLTI				Sn		**Sn**	**18 09 57.3**	**-0.9**
USAK	**Uak-Merkez**	**4.11**	**331**	P		**Pn**	**18 09 12.9**	**+1.5**
MANT	**Manisa**	**4.12**	**325**			**Pn**	**18 09 10.7**	**-1.1**
KSHT	**Keshet**	**4.13**	**120**	Pn		**Pn**	**18 09 12.7**	**+0.9**
KOZT	**Kozan**	**4.17**	**55**	PN		**Pn**	**18 09 13.7**	**+1.5**
KKUL	**Konya-Kulu**	**4.17**	**15**	P		**Pn**	**18 09 15.1**	**+2.8**
MMLI	**Mount Malkishu**	**4.20**	**129**	Pn		**Pn**	**18 09 13.4**	**+0.8**
MMLI				Sn		**Sn**	**18 10 00.0**	**-0.7**
YAHY	**KAYSERI_Yahyal**	**4.25**	**45**	P		**Pn**	**18 09 15.9**	**+2.5**
GDZ	**Gediz**	**4.28**	**338**	P		**Pn**	**18 09 15.2**	**+1.3**
SALP	**Salfit**	**4.31**	**134**	Pn		**Pn**	**18 09 14.5**	**+0.3**
SALP				Sn		**Sn**	**18 10 02.6**	**-0.9**
HMDT	**Nahal Hemdat**	**4.38**	**130**	Pn		**Pn**	**18 09 15.5**	**+0.3**
HMDT				Sn		**Sn**	**18 10 04.9**	**-0.4**
KIRS	**Kirsehir-Merke**	**4.41**	**25**	P		**Pn**	**18 09 17.8**	**+2.2**
DEMI	**Demirci**	**4.51**	**331**	P		**Pn**	**18 09 18.7**	**+1.8**
UJAP	**Al Uja**	**4.55**	**133**	Pn		**Pn**	**18 09 18.0**	**+0.6**
UJAP				Sn		**Sn**	**18 10 08.2**	**-1.2**
AMAZ	**Amatzia**	**4.56**	**141**	Pn		**Pn**	**18 09 16.5**	**-1.2**
AMAZ				Sn		**Sn**	**18 10 08.8**	**-1.0**
ANDN	**Andirin**	**4.57**	**56**	P		**Pn**	**18 09 19.5**	**+1.7**
KUZU	**Kuzuini**	**4.76**	**68**	P		**Pn**	**18 09 22.3**	**+1.9**

baz=167
IDI Anoyia 5.46 273 Pn **Pn** 18 09 32.0 +2.0
comp=N,2.6nm,0.3s,baz=92,slow=19,SNR=22
IDI Sn **Sn** 18 10 31.7 -0.2
comp=N,10nm,0.3s,baz=309,slow=12,SNR=15
comp=N,6.3nm,0.3s
IDI Anoyia 5.46 273 Pn **Pn** 18 09 30.5 +0.5
IDI **Sn** 18 10 32.9 +1.0
ZFRI Zfri 5.49 145 Sn **Sn** 18 10 30.6 -2.0
HSAF As Saff 5.50 180 P **Pn** 18 09 31.9 +1.3
baz=179
GLL Jalalah 5.55 179 P **Pn** 18 09 32.5 +1.3
baz=177
PRNI Paran 5.59 148 Pn **Pn** 18 09 32.2 +0.5
PRNI Sn **Sn** 18 10 32.7 -2.3
KRMI Paran Flat 5.67 151 Pn **Pn** 18 09 33.4 +0.5
KRMI Sn **Sn** 18 10 35.4 -1.8
ZNM Zenema 5.85 169 P **Pn** 18 09 36.9 +1.5
baz=167
HRFI Mount Harif 5.87 149 Pn **Pn** 18 09 36.0 +0.3
HRFI Sn **Sn** 18 10 39.9 -2.2
ZAF Zafarana 5.90 172 P **Pn** 18 09 36.9 +0.9
baz=170
MBRI Mt Berech 6.04 151 Pn **Pn** 18 09 38.2 +0.3
MBRI Sn **Sn** 18 10 44.2 -1.9
RYAN Fayoum 6.13 191 P **Pn** 18 09 41.0 +1.8
baz=190
EIL Elat 6.16 151 Pn **Pn** 18 09 40.5 +0.9
comp=N,9.8nm,0.3s,baz=78,slow=16,SNR=94
EIL Sn **Sn** 18 10 47.8 -1.3
comp=N,5.5nm,0.3s,baz=35,slow=20,SNR=5.6
EIL LR LR 18 12 46.0
comp=N,139nm,18.5s,baz=61,slow=44
comp=N,73nm,0.6s
EIL Elat 6.16 151 Pn **Pn** 18 09 39.8 +0.2
EIL Sn **Sn** 18 10 46.8 -2.3
SLUM Salum 6.44 237 P **Pn** 18 09 43.5 +0.2
baz=238
SLUM S **Sn** 18 10 51.1 -4.8
baz=238
NBNS Bani Suef 6.50 182 P **Pn** 18 09 45.4 +1.2
baz=182
NUB Nuweibaa 6.63 156 P **Pn** 18 09 47.8 +1.8
baz=155
HDHB Dhahab 6.91 157 P **Pn** 18 09 50.9 +1.1
baz=156
HKAT Jabal Katrina 6.91 162 P **Pn** 18 09 50.6 +0.5
baz=161
HKAT S **Sn** 18 11 04.6 -3.3
baz=161
TR2 Tor 2 6.98 164 P **Pn** 18 09 50.9 +0.1
baz=163
RDO Rodhopi 7.64 323 Pn 18 10 08.9 +9.0
MARD Mardin 7.76 71 Pn **Pn** 18 10 02.7 +1.1
SWA2 7.83 223 P **Pn** 18 10 02.8 +0.3
baz=223
HFRF Wahat Farafira 8.44 200 P **Pn** 18 10 11.5 +0.7
baz=200
KEK Kerkira 10.40 299 Pn **Pn** 18 10 37.9 +0.1
MLR Muntele Rosu 11.19 339 LR LR 18 16 12.7
comp=N,90nm,18.9s,baz=178,slow=44
BOVS Bovan 11.40 321 ⇑P Pn 18 11 02.8 +11
SCTE Santa Cesarea 11.49 299 Pn **Pn** 18 10 52.9 +0.3
GNI Garni 11.58 61 LR LR 18 15 53.9
comp=N,39nm,19.4s,baz=280,slow=41
GZR Gura Zlata 12.23 329 ⇑P **P** 18 11 13.8 -1.1
KBZ Khabaz 12.26 42 LR LR 18 16 33.4
comp=N,78nm,19.1s,baz=258,slow=42
TIP Timpagrande 12.47 293 Pn **Pn** 18 11 04.6 -1.6
BURAR Bucovina Array 13.34 341 ⇓P **P** 18 11 29.8 +2.6
CUC Castrocucco 13.39 296 Pn **Pn** 18 11 18.6 0.0
SGRT San Giovanni R 14.03 303 Pn **Pn** 18 11 28.1 +0.7
TRPA Tarpa 14.61 335 ⇑P **P** 18 11 42.4 +1.1
MORH Mrgy, Hungar 14.76 322 ⇑P **P** 18 11 44.4 +1.6
KOLS Kolonicke sedl 15.40 336 *e*P **P** 18 11 51.6 +1.6
CRVS Cervenica-Dubn 15.64 335 *e*P **P** 18 11 54.3 +1.6
AKASG Malin Array Be 15.65 354 Pn **P** 18 11 51.4 -1.4
comp=N,1.0nm,0.3s,baz=178,slow=9.7,SNR=25
AKASG LR LR 18 18 45.3
comp=N,82nm,19.7s,baz=183,slow=41
AKASG Malin Array Be 15.65 354 Pn **Pn** 18 11 51.0 +2.2
AKBB Malin Array Si 15.65 354 P 18 11 51.4 -1.3
AKBB IAmb IAmb 18 11 58.2
comp=Z,9.6nm,0.8s
VYHS Vyhne 16.34 329 *e*P **P** 18 12 01.7 +1.3
LANS Liptovska Anna 16.59 331 *e*P **P** 18 12 05.5 +2.2
MODS Modra-Piesok 16.94 326 *e*P **P** 18 12 09.0 +1.9
RONA Rosalia, Austr 16.95 322 *e*Pn **P** 18 12 09.4 +2.2
comp=Z,3.7nm,0.8s
SOKA Soboth 16.96 318 *e*Pn **P** 18 12 08.8 +1.4
comp=Z,6.3nm,1.0s
ARSA Arzberg 17.05 320 *e*Pn **P** 18 12 10.2 +1.8
comp=Z,6.6nm,0.7s
CONA Conrad Observa 17.32 322 *e*Pn **P** 18 12 14.3 +2.9
comp=Z,6.4nm,1.4s
VRAC Vranov 17.93 327 LR LR 18 20 38.9
comp=Z,56nm,18.2s,baz=146,slow=42
KRLC Kraliky 18.42 329 *e*P **Pn** 18 12 26.2 +2.6
DPC Dobruska-Polom 18.82 329 *e*P **Pn** 18 12 28.6 +0.1
GEC2 GERESS Array S 19.01 322 P **Pn** 18 12 31.1 +0.2
GEC2 IAmb IAmb 18 12 33.8
comp=Z,7.2nm,1.1s
GERES GERESS Array B 19.01 322 P **Pn** 18 12 30.8 0.0
comp=Z,0.3nm,0.3s,baz=129,slow=10,SNR=26
GERES LR LR 18 21 10.4
comp=Z,78nm,21.8s,baz=142,slow=41
comp=Z,3.1nm,0.8s
GERES GERESS Array B 19.01 322 P **Pn** 18 12 31.1 +0.2
WTTA Wattenberg 19.21 315 *e*Pn **Pn** 18 12 33.9 +0.6
comp=Z,11nm,1.2s
KHC Kasperske Hory 19.25 322 P **P** 18 12 32.9 +0.3
KHC IAmb IAmb 18 12 36.1
comp=Z,4.8nm,0.6s
KHC Kasperske Hory 19.25 322 *e*P **P** 18 12 32.6 0.0
WATA Walderalm 19.28 315 *e*Pn **Pn** 18 12 34.9 +0.8
comp=Z,12nm,1.1s
PRU Pruhonice 19.36 325 *e*P **Pn** 18 12 34.9 0.0
SQTA Sankt Quirin 19.43 315 *e*Pn **Pn** 18 12 36.4 +0.4
comp=Z,6.2nm,0.7s
MOTA Moosalm 19.56 315 *e*Pn **P** 18 12 36.9 +0.8
comp=Z,9.7nm,0.8s
FETA Feichten 19.62 314 *e*Pn **Pn** 18 12 38.4 +0.2
comp=Z,7.5nm,1.0s
RETA Reutte 19.83 315 *e*Pn **Pn** 18 12 40.3 -0.3
comp=Z,4.2nm,0.6s
DAVOX Davos/Dischmat 20.01 312 P Pn 18 12 42.5 -0.4
comp=Z,0.2nm,0.3s,baz=150,slow=14,SNR=5.1
DAVOX LR LR 18 22 20.6
comp=Z,109nm,19.8s,baz=136,slow=43
comp=Z,2.4nm,0.7s
BRG Berggiesshubel 20.25 326 *e*P **P** 18 12 44.1 +0.7
BRG Amp 18 12 46.1
comp=Z,5.6nm,0.8s
DAVA Damuels 20.25 313 *e*Pn **P** 18 12 44.7 +1.1
comp=Z,3.0nm,0.6s
BELG Belogornoye 20.71 29 P **P** 18 12 48.0 -0.3
comp=Z,15nm,0.5s,baz=128,slow=2.5,SNR=4.9
BELG LR LR 18 23 43.2
comp=Z,36nm,18.4s,baz=147,slow=46
comp=Z,15nm,0.5s
CLL Collm 20.98 326 *e*P **P** 18 12 52.0 +0.8
CLL *e*pP Pn 18 12 55.0 +1.1
comp=Z,4.0nm,0.8s
CLL *ex* x 18 13 05.0
CLL *es*PP 18 13 16.0
CLL Lm MLR 18 21 00.0
comp=Z,100nm,19.6s
SENIN Lac Senin/Sane 21.44 309 P **P** 18 12 57.1 +0.6
SENIN IAmb IAmb 18 13 20.4
comp=Z,12nm,1.4s
GEYT Alibeck 21.50 75 P **P** 18 12 57.8 +0.8
comp=Z,2.2nm,0.7s,baz=272,slow=10,SNR=4.1
comp=Z,2.2nm,0.7s
GEYT Alibeck 21.50 75 P **P** 18 12 57.7 +0.6
GEYT IAmb IAmb 18 13 18.7
comp=Z,3.6nm,0.9s
GYA0B ALIBECK ARRAY 21.50 75 P **P** 18 12 57.3 +0.2
GYA0B IAmb IAmb 18 13 18.7
comp=Z,5.2nm,0.8s
AKTO Aktyubinsk 24.54 43 P **P** 18 13 26.5 -1.0
comp=Z,1.5nm,0.5s,baz=239,slow=10.0,SNR=7.3
AKTO LR LR 18 24 55.3
comp=Z,37nm,19.7s,baz=269,slow=41
comp=Z,1.5nm,0.5s
ABKAR Akbulak array 25.14 47 P **P** 18 13 32.7 -0.3
ABKAR Akbulak array 25.14 47 P **P** 18 13 32.8 -0.2
ABKAR IAmb IAmb 18 13 35.9
comp=Z,2.3nm,0.8s
KLMR Klimovskoe 26.24 9 *e* **P** 18 13 40.6 -2.2
KLMR AMP 18 13 42.3
comp=Z,11nm,0.7s
FINES FINESS Array B 26.56 354 P **P** 18 13 44.1 -1.6
comp=Z,2.9nm,0.8s,baz=159,slow=12,SNR=14
comp=Z,2.9nm,0.8s
FIA1 FINESS Array S 26.56 354 P **P** 18 13 44.2 -1.5
FIA1 IAmb IAmb 18 13 50.1
comp=Z,4.6nm,0.8s
HFS Hagfors 27.57 341 P **P** 18 13 53.8 -1.0
comp=Z,2.4nm,0.8s,baz=145,slow=10,SNR=5.7
comp=Z,2.4nm,0.8s
ARU Arti 28.11 32 P **P** 18 13 59.1 -0.5
comp=Z,1.2nm,0.3s,baz=234,slow=12,SNR=4.1
ARU LR LR 18 27 54.3
comp=Z,29nm,18.4s,baz=182,slow=42
comp=Z,1.2nm,0.3s
ARU Arti 28.11 32 P **P** 18 13 59.1 -0.5
ARU IAmb IAmb 18 14 04.8
comp=Z,3.9nm,0.7s
ESDC Sonseca Array 28.46 290 P **P** 18 14 05.1 +2.1
comp=Z,0.3nm,0.6s,baz=82,slow=9.2,SNR=2.4
comp=Z,0.3nm,0.6s
NB2 NORSAR Array B 29.01 340 P **P** 18 14 06.3 -1.3
comp=Z,1.2nm,0.6s,baz=142,slow=9.3
NOA NORSAR Array B 29.01 340 P **P** 18 14 06.4 -1.3
comp=Z,0.8nm,0.7s,baz=141,slow=9.3,SNR=8.6
NOA LR LR 18 28 10.7
comp=Z,48nm,18.7s,baz=340,slow=42
comp=Z,0.8nm,0.7s
KK31 Karatay Array 31.03 63 P **P** 18 14 26.2 +0.5
KKAR Karatay Array 31.03 63 P **P** 18 14 26.7 +1.0
KKAR Karatay Array 31.03 63 P **P** 18 14 26.4 +0.7
KKAR IAmb IAmb 18 14 31.1
comp=Z,1.2nm,0.9s
EKA Eskdalemuir Ar 31.22 321 LR LR 18 28 52.1
comp=Z,80nm,19.3s,baz=191,slow=40
LODK Lodwar 31.75 173 P **P** 18 14 28.7 -3.6
COI Coimbra 31.85 291 P **P** 18 14 32.6 -0.2
ARCES ARCESS Array B 34.61 356 P **P** 18 14 55.1 -1.6
comp=Z,0.4nm,0.4s,baz=163,slow=8.9,SNR=12
ARCES LR LR 18 30 16.8
comp=Z,47nm,20.2s,baz=246,slow=39
comp=Z,0.4nm,0.4s
TORD Torodi Ar. Bea 34.73 238 P **P** 18 14 59.4 +1.2
comp=Z,1.5nm,0.9s,baz=42,slow=7.5,SNR=7.6
TORD LR LR 18 31 13.8
comp=Z,48nm,19.1s,baz=214,slow=40
comp=Z,1.5nm,0.9s
KURK Kurchatov 37.14 50 P **P** 18 15 18.3 -0.2
KURK IAmb IAmb 18 15 19.4
comp=Z,2.7nm,0.8s
MAKZ Makanchi 39.19 57 P **P** 18 15 35.7 -0.2
MAKZ IAmb IAmb 18 15 36.6
comp=Z,1.4nm,0.8s
MK31 Makanchi Array 39.40 57 P **P** 18 15 37.1 -0.6
MKAR Makanchi Array 39.40 57 P **P** 18 15 37.4 -0.3
comp=Z,1.0nm,0.6s,baz=282,slow=5.9,SNR=11
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 39.40 57 P **P** 18 15 37.1 -0.6
ZALV Zalesovo Beam 41.24 46 P **P** 18 15 51.7 -1.0
comp=Z,0.6nm,0.4s,baz=280,slow=8.7,SNR=2.7
comp=Z,0.6nm,0.4s
WMQ Urumqi 43.46 61 *e*P **P** 18 16 13.1 +2.1
NRIK Noril'sk 45.71 24 P **P** 18 16 28.7 +0.2
SACV Santiago Islan 53.16 262 P **P** 18 17 24.4 -1.8
PZH PanZhiHua 59.78 77 P **P** 18 18 14.8 +1.4
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,70nm,3.5s
HHC Hu-ho-hao-te 61.24 58 *e*P **P** 18 18 24.3 +1.3
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,98nm,4.6s
CMAR Chiang Mai Arr 61.35 87 P **P** 18 18 25.1 +1.1
comp=Z,0.5nm,0.8s,baz=291,slow=9.9,SNR=4.6
comp=Z,0.5nm,0.8s
FRB Frobisher Bay 63.30 331 LR LR 18 47 20.2
comp=Z,51nm,18.2s,baz=162,slow=37
KSRS Korea Array 74.06 55 LR LR 18 56 07.7
comp=Z,21nm,20.1s,baz=205,slow=39

*MDD **21** 18:30:23.7±0.4,35°.33N×3°.78W,h16km±4km,mb_Lg2.9/20,*
Error ellipse: s-maj=4.1km s-min=2.1km az=169.0
*CNRM **21** 18:30:23.9,35°.44N×3°.83W,h19km,ml3.0*
*SFS **21** 18:30:23.0,35°.32N×3°.77W,h15km,ML2.9,ALHUCEMAS*
*IGIL **21** 18:30:24.4,35°.33N×3°.78W,h15km,ML2.8*
*INMG **21** 18:30:24.3±1.9,35°.35N×3°.77W,h16km±11km,ML2.6,*
Error ellipse: s-maj=6.9km s-min=5.8km az=154.0

ISC 21 18:30:23.4±1.0,35°.43N±0°.02×3°.77W±0°.02,h18km±6km,
n69,σ1s44/123,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.26**	**213**	P	**Pg**	**18 30 29.2**	**-0.1**
PALE				S	**Sg**	**18 30 34.0**	**+0.8**
PVLZ	**Peæn de**	**0.51**	**239**	P	**Pg**	**18 30 33.3**	**-0.3**
PVLZ				S	**Sg**	**18 30 39.9**	**-0.5**
GOG	**Mont Gurugu**	**0.67**	**108**	P	**Pg**	**18 30 36.1**	**-0.5**
GOG	**Mont Gurugu**	**0.67**	**108**	P	**Pg**	**18 30 36.2**	**-0.5**
GOG				S	**Sb**	**18 30 47.2**	**+1.7**
EMEL	**Melilla**	**0.68**	**101**	Pg	**Pb**	**18 30 36.4**	**-0.3**
EMEL				Sg	**Sg**	**18 30 45.8**	**+0.1**
WMELI	**Melilla**	**0.68**	**99**	P	**Pb**	**18 30 36.6**	**-0.1**
WMELI				S	**Sg**	**18 30 44.3**	**-1.5**
CHAS	**Isla Isabel II**	**1.12**	**102**	P	**Pn**	**18 30 43.0**	**-1.2**
CHAS				S	**Sb**	**18 30 59.2**	**+0.6**
TAF	**Taforalt**	**1.27**	**119**	P	**Pn**	**18 30 46.0**	**-0.4**
TAF	**Taforalt**	**1.27**	**119**	P	**Pn**	**18 30 45.8**	**-0.6**
TAF				S	**Sg**	**18 31 04.5**	**-0.1**
CHEFC	**Chefchaouen**	**1.32**	**256**	P	**Pn**	**18 30 47.8**	**+0.6**
CHEFC				S	**Sn**	**18 31 02.4**	**-2.0**
SMIR	**Smir Dam**	**1.34**	**281**	P	**Pn**	**18 30 45.6**	**-1.6**
SMIR				S	**Sn**	**18 31 02.5**	**-2.0**
CEU	**Ceuta**	**1.39**	**290**	P	**Pn**	**18 30 45.3**	**-2.5**
CEU				S	**Sn**	**18 31 02.1**	**-3.7**
ECEU	**Ceuta**	**1.39**	**290**	Pn	**Pn**	**18 30 46.7**	**-1.3**
ECEU				Sn	**Sn**	**18 31 03.6**	**-2.2**
ECEU				*i* Vmb_Lg		18 31 04.4	
EMIJ	**Mijas**	**1.39**	**325**	Pn	**Pn**	**18 30 47.6**	**-0.4**
EMIJ				Sn	**Sn**	**18 31 06.5**	**+0.5**
EMIJ				*i* Vmb_Lg		18 31 11.2	
EMAL	**Malaga-Limoner**	**1.43**	**338**	P	**Pn**	**18 30 48.5**	**0.0**
EMAL				S	**Sb**	**18 31 08.0**	**+0.5**
ELGU	**Los Guajares,**	**1.44**	**5**	Pn	**Pn**	**18 30 47.9**	**-0.8**
ELGU				Sn	**Sb**	**18 31 08.3**	**+0.5**
ELGU				*i* Vmb_Lg		18 31 11.1	
JBK	**JBK**	**1.48**	**138**	P	**Pn**	**18 30 49.0**	**-0.4**
JBK	**JBK**	**1.48**	**138**	P	**Pn**	**18 30 48.9**	**-0.4**
JBK				S	**Sg**	**18 31 11.0**	**-0.1**
EBER	**Berja**	**1.63**	**26**	Pn	**Pn**	**18 30 51.0**	**-0.4**
EBER				Sn	**Sn**	**18 31 11.7**	**-0.3**
EBER				*i* Vmb_Lg		18 31 14.8	
EGOR	**Sierra Gorda,**	**1.70**	**351**	Pn	**Pn**	**18 30 52.3**	**0.0**
EGOR				Sn	**Sb**	**18 31 15.7**	**+0.4**
EGOR				*i* Vmb_Lg		18 31 22.7	
EJIF	**Jimena Fronter**	**1.71**	**307**	Pn	**Pb**	**18 30 53.9**	**-0.5**
EJIF				Sn	**Sn**	**18 31 13.7**	**-0.2**
EQUE	**Quentar**	**1.79**	**8**	Pn	**Pn**	**18 30 54.3**	**+0.7**
EQUE				Sn	**Sb**	**18 31 17.8**	**-0.1**
EQUE				*i* Vmb_Lg		18 31 26.9	
LCRM	**LCR**	**1.96**	**208**	P	**Pg**	**18 31 02.0**	**+0.9**
LCRM	**LCR**	**1.96**	**208**	P	**Pb**	**18 30 59.8**	**+1.1**
LCRM				S	**Sg**	**18 31 25.9**	**-0.7**
ENIJ	**Nijar**	**1.99**	**39**	Pn	**Pn**	**18 30 56.6**	**+0.4**
ENIJ				Sn	**Sn**	**18 31 22.0**	**+1.2**
ENIJ				*i* Vmb_Lg		18 31 23.3	
ESPR	**Espera**	**2.21**	**311**	Pn	**Pn**	**18 31 00.4**	**+1.1**
ESPR				Sn	**Sn**	**18 31 27.4**	**+1.2**
ESPR				*i* Vmb_Lg		18 31 37.5	
IFR	**Ifrane**	**2.21**	**211**	P	**Pn**	**18 30 59.4**	**-0.1**
IFR				S	**Sn**	**18 31 25.5**	**-1.0**
EQES	**Quesada**	**2.43**	**13**	Pn	**Pn**	**18 31 04.2**	**+1.8**
EQES				Sn	**Sn**	**18 31 34.0**	**+2.2**
EQES				*i* Vmb_Lg		18 31 37.5	
MD31	**MD31**	**2.69**	**198**	P	**Pn**	**18 31 07.8**	**+1.9**
MD31				S	**Sn**	**18 31 41.0**	**+3.0**
MDT	**Midelt**	**2.70**	**195**	P	**Pb**	**18 31 10.0**	**-1.3**
EADA	**Adamuz**	**2.81**	**347**	Pn	**Pn**	**18 31 09.1**	**+1.7**
EADA				Sn	**Sn**	**18 31 43.1**	**+2.2**
EADA				*i* Vmb_Lg		18 31 54.9	
ECAB	**El Cabril**	**2.95**	**334**	Pn	**Pn**	**18 31 10.8**	**+1.4**
ECAB				Sn	**Sn**	**18 31 45.7**	**+1.2**
ECAB				*i* Vmb_Lg		18 32 01.2	
EZAR	**Zarzadilla de**	**2.96**	**34**	Pn	**Pn**	**18 31 08.8**	**-0.7**
EZAR				Sn	**Sn**	**18 31 43.3**	**-1.3**
ZHG	**ZHG**	**3.09**	**231**	P	**Pn**	**18 31 12.3**	**+0.9**
ZHG				S	**Sn**	**18 31 48.4**	**+0.4**
EMUR	**La Murta**	**3.15**	**39**	Pn	**Pn**	**18 31 13.1**	**+0.9**
EMUR				Sn	**Sn**	**18 31 46.6**	**-2.8**
EMUR				*i* Vmb_Lg		18 31 48.3	
EMIN	**Mina Concepcio**	**3.30**	**316**	Pn	**Pn**	**18 31 14.4**	**+0.1**
EMIN				Sn	**Sn**	**18 31 52.0**	**-1.0**
EMIN				*i* Vmb_Lg		18 31 57.3	
EGRO	**El Granado**	**3.66**	**306**	Pn	**Pn**	**18 31 19.0**	**-0.1**
EGRO				Sn	**Sn**	**18 31 59.3**	**-2.4**
EGRO				*i* Vmb_Lg		18 32 02.7	
ETOB	**Tobarra**	**3.67**	**28**	Pn	**Pn**	**18 31 21.6**	**+2.3**
ETOB				Sn	**Sn**	**18 31 59.8**	**-2.3**
ETOB				*i* Vmb_Lg		18 32 06.1	
PVAQ	**Vaqueiros**	**3.74**	**303**	*e*Pn	**Pn**	**18 31 20.9**	**+0.6**
PVAQ				*e*Sn	**Sn**	**18 32 01.9**	**-2.0**
PVAQ				A	A	18 32 04.2	
	16nm,0.5s						
PVAQ	**Vaqueiros**	**3.74**	**303**	P	**Pn**	**18 31 20.8**	**+0.5**
PVAQ				S	**Sn**	**18 32 03.1**	**-0.9**
PBAR	**Barrancos**	**3.79**	**317**	*e*Pn	**Pn**	**18 31 21.8**	**+0.8**
PBAR				*e*Sn	**Sn**	**18 32 03.9**	**-1.2**
PBAR				A	A	18 32 07.5	
	6.8nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.81**	**299**	*e*Sn	**Sn**	**18 32 04.2**	**-1.6**
PCVE	**Castro Verde**	**4.08**	**304**	*e*Pn	**Pn**	**18 31 25.6**	**+0.7**
PCVE				*e*Sn	**Sn**	**18 32 10.9**	**-1.3**
PCVE				A	A	18 32 16.1	
	6.7nm,0.3s						
PAB	**San Pablo**	**4.13**	**354**	Pn	**Pn**	**18 31 27.7**	**+1.9**
PAB				Sn	**Sn**	**18 32 14.6**	**+1.0**
PAB	**San Pablo**	**4.13**	**354**	P	**Pn**	**18 31 27.7**	**+1.9**
PAB	**San Pablo**	**4.13**	**354**	P	**Pn**	**18 31 27.7**	**+1.9**
PBEJ	**Beja**	**4.19**	**309**	*e*Sn	**Sn**	**18 32 15.6**	**+0.7**
PBEJ				A	A	18 32 18.8	
	7.0nm,0.5s						
EBAD	**Badajoz**	**4.21**	**323**	Pn	**Pn**	**18 31 27.4**	**+0.7**
EBAD				Sn	**Sn**	**18 32 13.4**	**-2.1**
EBAD				*i* Vmb_Lg		18 32 18.1	
ESDC	**Sonseca Array**	**4.24**	**358**	Pn	**Pn**	**18 31 28.6**	**+1.4**
ESDC				Sn	**Sn**	**18 32 16.3**	**+0.1**
ESDC				*i* Vmb_Lg		18 33 11.2	
MESJ	**Messejana**	**4.31**	**305**	*e*P	**Pn**	**18 31 28.4**	**+0.3**
MESJ				*e*S	**Sn**	**18 32 15.0**	**-3.0**
MESJ				IAML		18 32 22.7	
	comp=N,15nm,0.4s						
MESJ	**Messejana**	**4.31**	**305**	*e*Pn	**Pn**	**18 31 29.1**	**+1.0**
MESJ				*e*Sn	**Sn**	**18 32 16.6**	**-1.3**
MESJ				A	A	18 32 22.9	
	comp=N,8.7nm,0.4s						
MORF	**Marmelete**	**4.36**	**297**	*e*S	**Sn**	**18 32 16.3**	**-2.9**
MORF				IAML		18 32 19.8	
	comp=N,20nm,0.4s						
MORF	**Marmelete**	**4.36**	**297**	*e*Sn	**Sn**	**18 32 18.2**	**-1.0**
MORF				A	A	18 32 26.9	
	comp=N,7.8nm,0.2s						
PFVI	**Vila Bisbo**	**4.42**	**294**	*e*Pn	**Pn**	**18 31 30.7**	**+1.0**
PFVI	**Vila Bisbo**	**4.42**	**294**	P	**Pn**	**18 31 30.8**	**+1.1**
PFVI				S	**Sn**	**18 32 20.9**	**+0.2**
PTEO	**Sao Teotonio**	**4.51**	**299**	*e*Pn	**Pn**	**18 31 32.4**	**+1.5**
PTEO				*e*Sn	**Sn**	**18 32 21.8**	**-1.2**
PTEO				A	A	18 32 28.3	
	comp=N,7.5nm,0.4s						
PESTR	**Estremoz**	**4.59**	**319**	*e*Pn	**Pn**	**18 31 33.6**	**+1.6**
PESTR				*e*Sn	**Sn**	**18 32 23.6**	**-1.2**
PESTR				A	A	18 32 57.6	
	comp=N,5.8nm,0.5s						
PESTR	**Estremoz**	**4.59**	**319**	P	**Pn**	**18 31 33.6**	**+1.6**
PESTR				S	**Sn**	**18 32 25.7**	**+0.9**
EVO	**Evora**	**4.59**	**314**	*e*Pn	**Pn**	**18 31 32.9**	**+0.9**
EVO				*e*Sn	**Sn**	**18 32 23.5**	**-1.4**
EVO				A	A	18 32 25.0	
	comp=N,6.3nm,0.3s						
PNCL	**Nicolau / Gran**	**4.66**	**306**	*e*Pn	**Pn**	**18 31 33.4**	**+0.5**
PNCL				*e*Sn	**Sn**	**18 32 24.4**	**-2.2**
PNCL				A	A	18 32 33.7	
	comp=N,5.5nm,0.5s						
UCM	**Universidad Co**	**4.88**	**5**	P	**Pn**	**18 31 38.2**	**+2.2**
UCM				S	**Sn**	**18 32 32.4**	**+0.2**
PMRV	**Marv??o**	**4.92**	**325**	*e*Pn	**Pn**	**18 31 38.0**	**+1.5**
PMRV				*e*Sn	**Sn**	**18 32 31.9**	**-1.1**
PMRV				A	A	18 32 47.5	
	comp=N,4.2nm,0.5s						
PMTG	**Montargil**	**5.08**	**317**	*e*Pn	**Pn**	**18 31 40.2**	**+1.5**
PMTG				*e*Sn	**Sn**	**18 32 35.4**	**-1.5**
PMTG				A	A	18 32 36.2	
	comp=N,4.1nm,0.5s						
GUD	**Guadarrama**	**5.21**	**357**	Pn	**Pn**	**18 31 42.3**	**+1.7**
GUD				Sn	**Sn**	**18 32 38.1**	**-2.2**
PACT	**Alcochete**	**5.24**	**311**	*e*Pn	**Pn**	**18 31 42.7**	**+1.8**
EIBI	**Ibiza**	**5.43**	**47**	Pn	**Pn**	**18 31 43.9**	**+0.4**
EIBI				Sn	**Sn**	**18 32 42.3**	**-3.3**
ETOR	**Torete**	**5.55**	**14**	Pn	**Pn**	**18 31 46.2**	**+1.0**
ETOR				Sn	**Sn**	**18 32 46.8**	**-1.7**
PMAFR	**Mafra**	**5.63**	**310**	*e*Pn	**Pn**	**18 31 49.0**	**+2.7**
PSBE	**So Bento**	**5.71**	**317**	*e*Pn	**Pn**	**18 31 49.7**	**+2.4**

*IDC **21** 19:09:52.8±1.1,1°.89S×140°.69E,h0km,mb3.7/8,*
mbtmp3.8/10,ML3.8/2,MS3.1/9,Error ellipse:
s-maj=36.7km s-min=19.0km az=95.0
*DJA **21** 19:09:57.4±1.3,2°.5S×14°.0E±°,h10km,M3.6/2,MLv3.6/2*

ISC 21 19:09:54.6±0.9,1°.95S±0°.08×140°.54E±0°.08,h10km,n21,
σ1s85/17,mb3.7/8,MS3.0/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.74**	**210**	P	**Pn**	**19 10 11.8**	**+0.6**
GENI				S	**Sn**	**19 10 23.7**	**+1.2**
SMPI	**Sarmi**	**1.83**	**269**	P	**Pn**	**19 10 27.7**	**+1.5**
SMPI				S	**Sb**	**19 10 51.2**	**-0.1**
WAMI	**Wamena**	**2.65**	**224**	P	**Pb**	**19 10 41.4**	**-0.9**
BAKI	**Biak**	**4.50**	**280**	P	**Pn**	**19 11 04.6**	**+1.7**
PMG	**Port Moresby**	**9.91**	**139**	LR	LR	19 16 11.9	
	comp=Z,66nm,19.3s,baz=262,slow=38						
GUMO	**Guam**	**16.02**	**15**	LR	LR	19 19 20.0	
	comp=Z,54nm,18.0s,baz=116,slow=36						
BATI	**Baumata**	**18.67**	**243**	P	**Pn**	**19 14 15.3**	**+2.0**
	0.8nm,0.3s,baz=90,slow=5.1,SNR=5.3						
BATI				S	**Sn**	**19 17 37.2**	**-5.2**
	3.2nm,0.3s,baz=347,slow=23,SNR=1.3						
	10.0nm,0.8s						
CTA	**Charters Tower**	**18.87**	**163**	LR	LR	19 21 13.2	
	comp=Z,52nm,20.2s,baz=72,slow=36						
WRA	**Warramunga Arr**	**18.88**	**198**	P	**P**	**19 14 15.5**	**+0.1**
	0.2nm,0.3s,baz=17,slow=12,SNR=11						
WRA				S	Sn	19 17 34.5	-13
	0.4nm,0.9s,baz=356,slow=25,SNR=3.7						
WRA				LR	LR	19 22 30.3	
	comp=Z,98nm,20.6s,baz=22,slow=40						
	1.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.71**	**221**	P	**P**	**19 14 46.3**	**+0.2**
	2.2nm,1.0s,baz=14,slow=4.2,SNR=9.0						
	2.2nm,1.0s						
ASAR	**Alice Springs**	**22.52**	**196**	P	**P**	**19 14 54.7**	**-0.1**
	1.2nm,0.5s,baz=28,slow=11,SNR=29						
ASAR				LR	LR	19 24 25.7	
	comp=Z,88nm,20.8s,baz=88,slow=39						
	1.2nm,0.5s						
STKA	**Stephens Creek**	**29.78**	**178**	LR	LR	19 29 29.5	
	comp=Z,98nm,18.7s,baz=24,slow=39						
JHJ	**Hachijo jima 2**	**34.89**	**359**	LR	LR	19 28 27.8	
	comp=

VNDA	**Vanda**	**76.38**	**175**	P		**P**	**19 21 44.5**	**+0.8**
	0.7nm,0.6s,baz=326,slow=7.2,SNR=9.0							
	0.7nm,0.6s							
ILAR	**Eielson Array**	**84.39**	**24**	P		**P**	**19 22 24.7**	**-2.3**
	0.5nm,0.7s,baz=258,slow=4.5,SNR=2.8							
	0.5nm,0.7s							
QSPA	**South Pole Qui**	**87.99**	**180**	P		**P**	**19 22 45.8**	**+0.9**
	1.4nm,1.1s,baz=311,slow=2.7,SNR=1.9							
	1.4nm,1.1s							

WEL 21 19:13:13.4±0.9, 35°S±6″×17°9E±1′4, h33km, M4.0/11, ML4.1/16, MLv4.0/11, Error ellipse: s-maj=0.0km s-min=0.0km az=104.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.38**	**187**	P	Pn	19 13 50.7	+0.6
MXZ				S	Sn	19 14 18.9	+0.7
WMGZ	**Waiomatatini S**	**2.63**	**185**	P	Pn	19 13 54.1	+0.6
HAZ	**Te Kaha**	**2.66**	**196**	P	Pn	19 13 54.6	+0.7
HAZ				S	Sb	19 14 29.3	-3.1
PKGZ	**Pakihiroa**	**2.73**	**190**	P	Pn	19 13 55.5	+0.5
PKGZ				S	Sn	19 14 29.8	+2.8
RUGZ	**Raukumara Rang**	**2.88**	**196**	P	Pn	19 13 57.5	+0.4
PUZ	**Puketiti**	**2.89**	**187**	P	Pn	19 13 56.9	-0.3
PUZ				S	Sn	19 14 30.6	-0.2
TWGZ	**Tauwhareparae**	**3.03**	**191**	P	Pn	19 13 59.5	+0.4
TWGZ				S	Sn	19 14 37.0	+2.8
OPRZ	**Ohinepanea**	**3.15**	**212**	P	Pn	19 14 03.3	+2.6
MWZ	**Matawai**	**3.27**	**196**	P	Pn	19 14 02.5	+0.2
MWZ				S	Sn	19 14 42.8	+2.7
CNGZ	**Carnagh Statio**	**3.31**	**187**	P	Pn	19 14 02.2	-0.6
TKGZ	**Te Karaka**	**3.31**	**191**	P	Pn	19 14 02.5	-0.3
TKGZ				S	Sn	19 14 42.0	+1.0
URZ	**Urewera**	**3.31**	**202**	P	Pn	19 14 03.0	+0.1
URZ				S	Sn	19 14 42.6	+1.5
KARZ	**Kaharoa**	**3.44**	**214**	P	Pn	19 14 07.0	+2.4
RIGZ	**Rimuhau**	**3.58**	**192**	P	Pn	19 14 05.5	-1.1
RIGZ				S	Sn	19 14 47.9	+0.1
MUGZ	**Murupara**	**3.62**	**205**	P	Pn	19 14 07.4	+0.3
SNGZ	**Shannon Statio**	**3.74**	**196**	P	Pn	19 14 08.5	-0.3
SNGZ				S	Sn	19 14 51.4	-0.3
WHHZ	**Waihua**	**4.04**	**196**	P	Pn	19 14 11.9	-1.1
WHHZ				S	Sn	19 15 01.2	+2.0
ARHZ	**Aropaoanui**	**4.28**	**198**	P	Pn	19 14 14.5	-1.7
ARHZ				S	Sn	19 15 05.5	+0.5
BKZ	**Black Stump Fm**	**4.33**	**203**	P	Pn	19 14 15.7	-1.3
BKZ				S	Sn	19 15 07.4	+1.0
MCHZ	**McNeill Hill**	**4.53**	**200**	P	Pn	19 14 17.6	-2.0
MCHZ				S	Sn	19 15 12.8	+1.7
NTVZ	**North Tongarir**	**4.58**	**211**	P	Pn	19 14 20.6	+0.2
TMVZ	**Te Maari**	**4.58**	**210**	P	Pn	19 14 20.5	+0.1
KWHZ	**Kaweka Forest**	**4.59**	**202**	P	Pn	19 14 18.6	-1.9
KWHZ				S	Sn	19 15 12.9	+0.2
ETVZ	**East Tongariro**	**4.59**	**210**	P	Pn	19 14 20.6	0.0
WTVZ	**West Tongariro**	**4.63**	**211**	P	Pn	19 14 21.3	+0.2
NNVZ	**North Ngauruho**	**4.63**	**211**	P	Pn	19 14 21.6	+0.4
OTVZ	**Oturere**	**4.64**	**210**	P	Pn	19 14 21.0	-0.3
SNVZ	**South Ngauruho**	**4.67**	**211**	P	Pn	19 14 21.5	-0.2
NGZ	**Ngauruhoe**	**4.67**	**211**	P	Pn	19 14 21.9	+0.1
TUVZ	**Tukino**	**4.73**	**210**	P	Pn	19 14 22.4	-0.1
FWVZ	**Far West T-bar**	**4.76**	**211**	P	Pn	19 14 23.2	+0.1
BHHZ	**Black Hill Sta**	**4.77**	**205**	P	Pn	19 14 21.2	-1.8
WNVZ	**Wahianoa**	**4.80**	**210**	P	Pn	19 14 24.7	+1.1
KRHZ	**Kereru**	**4.81**	**202**	P	Pn	19 14 20.0	-2.9
KRHZ				S	Sn	19 15 15.4	-2.7
MOVZ	**Moawhango**	**4.81**	**208**	P	Pn	19 14 22.1	-1.5
KAHZ	**Kahuranaki**	**4.81**	**197**	P	Pn	19 14 21.1	-2.4
KAHZ				S	Sn	19 15 16.5	-1.6
PKVZ	**Pokaka**	**4.88**	**212**	P	Pn	19 14 24.9	+0.4
PXZ	**Pawanui**	**5.04**	**196**	P	Pn	19 14 22.7	-4.0
PXZ				S	Sn	19 15 19.6	-4.1
PNHZ	**Pukenui**	**5.11**	**202**	P	Pn	19 14 24.2	-3.4
PRHZ	**Porangahau**	**5.32**	**197**	P	Pn	19 14 26.4	-4.1
WAZ	**Wanganui**	**5.42**	**212**	P	Pn	19 14 31.2	-0.7
DVHZ	**Dannevirke**	**5.47**	**201**	P	Pn	19 14 28.6	-4.0
BFZ	**Birch Farm**	**5.81**	**199**	P	Pn	19 14 32.4	-4.8
MRZ	**Mangatainoka R**	**5.98**	**203**	P	Pn	19 14 34.6	-5.0
TIWZ	**Tintock**	**5.99**	**201**	P	Pn	19 14 35.9	-3.9
HOWZ	**Holdsworth Sta**	**6.22**	**203**	P	Pn	19 14 37.5	-5.3
OGWZ	**Otaki Gorge**	**6.26**	**205**	P	Pn	19 14 39.1	-4.3
TMWZ	**Te Maipa**	**6.30**	**200**	P	Pn	19 14 38.6	-5.4
KIW	**Kapiti Island**	**6.39**	**207**	P	Pn	19 14 40.4	-4.9
MTW	**Mount Morrison**	**6.46**	**202**	P	Pn	19 14 40.3	-5.8
DUWZ	**D'Urville Isla**	**6.74**	**212**	P	Pn	19 14 45.9	-4.2
TCW	**Tory Channel**	**6.94**	**209**	P	Pn	19 14 47.3	-5.4
THZ	**Tophouse**	**7.97**	**213**	P	Pn	19 15 02.1	-4.8
KHZ	**Kahutara**	**8.25**	**208**	P	Pn	19 15 03.9	-6.8

*NOU **21** 19:16:59.8, 37°.02S×179°.49W, h61km, MLv4.5/7, East of North Island, N.Z.*
*NEIC **21** 19:17:07.9±1.3, 37°.4S±0°.1×179°.40E±0°.07, h10km±1km, mb4.5/12, Error ellipse: s-maj=26.0km s-min=5.1km az=342.0*
*IDC **21** 19:17:11.3±1.6, 36°.97S×178°.64E, h0km, mb4.1/6, mbtmp4.1/6, Error ellipse: s-maj=34.2km s-min=27.5km az=72.0*
*WEL **21** 19:17:13.6±0.9, 37°S±3″×17°9E±′, h18km±5km, M3.6/25, ML3.9/28, MLv3.6/25, Error ellipse: s-maj=0.0km s-min=0.0km az=93.6*

ISC 21 19:17:13.5±2.1, 37°.23S±0°.06×178°.99E±0°.08, h27km±12km, n126, σ1°75/141, mb4.4/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.64**	**239**		**Pb**	**19 17 24.8**	**-1.4**
MXZ	**Matakaoa Point**	**0.64**	**239**	P	**Pb**	**19 17 25.4**	**-0.7**
MXZ				S	**Sb**	**19 17 33.6**	**-1.1**
WMGZ	**Waiomatatini S**	**0.74**	**218**	P	**Pb**	**19 17 29.4**	**+1.5**
WMGZ				S	**Sn**	**19 17 41.6**	**+2.9**
PKGZ	**Pakihiroa**	**0.98**	**228**	P	**Pb**	**19 17 32.2**	**+0.3**
PKGZ				S	**Sb**	**19 17 46.6**	**+2.1**
PUZ	**Puketiti**	**1.02**	**215**	P	**Pb**	**19 17 33.2**	**+0.6**
PUZ				S	**Sb**	**19 17 47.6**	**+2.0**
HAZ	**Te Kaha**	**1.09**	**241**	P	**Pn**	**19 17 32.3**	**-0.8**
HAZ				S	**Sb**	**19 17 49.6**	**+1.9**
TWGZ	**Tauwhareparae**	**1.24**	**220**	P	**Pb**	**19 17 36.3**	**0.0**
RUGZ	**Raukumara Rang**	**1.27**	**235**	P	**Pb**	**19 17 36.6**	**-0.3**
RUGZ				S	**Sb**	**19 17 55.2**	**+2.2**
CNGZ	**Carnagh Statio**	**1.39**	**206**	P	**Pb**	**19 17 38.9**	**0.0**
CNGZ				S	**Sb**	**19 17 58.6**	**+2.3**
WIZ	**White Island**	**1.47**	**258**	P	**Pb**	**19 17 38.9**	**-1.2**
TKGZ	**Te Karaka**	**1.51**	**217**	P	**Pn**	**19 17 39.5**	**+0.7**
TKGZ				S	**Sb**	**19 17 60.0**	**+0.5**
MWZ	**Matawai**	**1.60**	**226**	P	**Pn**	**19 17 41.0**	**+0.9**
RIGZ	**Rimuhau**	**1.76**	**213**	P	**Pn**	**19 17 42.8**	**+0.5**
RIGZ				S	**Sn**	**19 18 05.7**	**+1.8**
URZ	**Urewera**	**1.81**	**235**	Pn	**Pn**	**19 17 43.8**	**+0.9**
	43nm,0.3s,baz=349,slow=1.4,SNR=74						
URZ				Sn	**Sn**	**19 18 06.5**	**+1.5**
	64nm,0.3s,baz=224,slow=20,SNR=29						
URZ	**Urewera**	**1.81**	**235**	P	**Pn**	**19 17 44.1**	**+1.2**
URZ				S	**Sb**	**19 18 06.8**	**-1.4**
URZ	**Urewera**	**1.81**	**235**	P	**Pn**	**19 17 43.9**	**+1.0**
SNGZ	**Shannon Statio**	**2.02**	**220**	P	**Pn**	**19 17 46.8**	**+0.9**
OPRZ	**Ohinepanea**	**2.03**	**252**	P	**Pn**	**19 17 46.6**	**+0.6**
OPRZ				S	**Sn**	**19 18 10.0**	**-0.4**
KNZ	**Kokohu**	**2.07**	**210**	P	**Pn**	**19 17 46.4**	**0.0**
MHGZ	**Mahia Peninsul**	**2.10**	**204**	P	**Pn**	**19 17 47.5**	**+0.6**
RTZ	**Ruatahuna**	**2.11**	**228**	P	**Pn**	**19 17 48.1**	**+1.0**
RTZ				S	**Sn**	**19 18 14.8**	**+2.4**
MUGZ	**Murupara**	**2.15**	**234**	P	**Pn**	**19 17 48.4**	**+0.7**
TARZ	**Mount Tarawera**	**2.21**	**242**	P	**Pn**	**19 17 50.6**	**-2.2**
RAHZ	**Arahi**	**2.25**	**221**	P	**Pn**	**19 17 49.8**	**+0.7**
RAHZ				S	**Sn**	**19 18 17.6**	**+1.6**
WHHZ	**Waihua**	**2.30**	**216**	P	**Pn**	**19 17 50.4**	**+0.7**
MTHZ	**Maungataniwha**	**2.34**	**226**	P	**Pn**	**19 17 51.3**	**+0.9**
MTHZ				S	**Sn**	**19 18 19.5**	**+1.3**
PRRZ	**Plateau Road**	**2.41**	**238**	P	**Pn**	**19 17 52.1**	**+0.8**
NMHZ	**Naumai**	**2.54**	**222**	P	**Pn**	**19 17 54.0**	**+1.0**
ARHZ	**Aropaoanui**	**2.56**	**217**	P	**Pn**	**19 17 53.7**	**+0.4**
MRHZ	**Matea Rd**	**2.59**	**231**	P	**Pn**	**19 17 54.7**	**+1.0**
KUZ	**Kuaotunu**	**2.66**	**280**	P	**Pn**	**19 17 53.2**	**-1.5**
BKZ	**Black Stump Fm**	**2.76**	**225**		**Pn**	**19 17 55.6**	**-0.4**
BKZ	**Black Stump Fm**	**2.76**	**225**	P	**Pn**	**19 17 56.5**	**+0.4**
BKZ	**Black Stump Fm**	**2.76**	**225**	P	**Pn**	**19 17 56.6**	**+0.6**
TOZ	**Tahuroa Road**	**2.82**	**259**	P	**Pn**	**19 17 57.3**	**+0.5**
CKHZ	**Cape Kidnapper**	**2.85**	**211**	P	**Pn**	**19 17 56.7**	**-0.5**
MCHZ	**McNeill Hill**	**2.85**	**219**	P	**Pn**	**19 17 57.4**	**+0.1**
KWHZ	**Kaweka Forest**	**2.98**	**222**	P	**Pn**	**19 17 58.9**	**-0.2**
GRZ	**Great Barrier**	**3.00**	**288**	P	**Pn**	**19 18 00.0**	**+0.7**
RATZ	**Rangitukua**	**3.02**	**236**	P	**Pn**	**19 18 00.7**	**+1.1**
RITZ	**Rihia Road**	**3.02**	**234**	P	**Pn**	**19 18 00.6**	**+0.9**
KAHZ	**Kahuranaki**	**3.05**	**212**	P	**Pn**	**19 17 59.5**	**-0.6**
MKAZ	**Moumakai**	**3.06**	**271**	P	**Pn**	**19 17 59.3**	**-0.8**
WIAZ	**Waiheke Island**	**3.12**	**277**	P	**Pn**	**19 18 00.1**	**-0.8**
KRHZ	**Kereru**	**3.17**	**220**	P	**Pn**	**19 18 00.8**	**-0.9**
TMVZ	**Te Maari**	**3.20**	**233**	P	**Pn**	**19 18 02.5**	**+0.3**
ETVZ	**East Tongariro**	**3.21**	**233**	P	**Pn**	**19 18 02.5**	**+0.2**
NTVZ	**North Tongarir**	**3.21**	**234**	P	**Pn**	**19 18 02.8**	**+0.5**
BHHZ	**Black Hill Sta**	**3.22**	**225**	P	**Pn**	**19 18 03.3**	**-0.1**
KRVZ	**Karewarewa**	**3.23**	**234**	P	**Pn**	**19 18 03.3**	**+0.8**
OTVZ	**Oturere**	**3.25**	**233**	P	**Pn**	**19 18 03.0**	**+0.1**
PXZ	**Pawanui**	**3.25**	**210**	P	**Pn**	**19 18 01.3**	**-1.5**
ETAZ	**East Tamaki Re**	**3.26**	**274**	P	**Pn**	**19 18 04.2**	**+1.3**
NNVZ	**North Ngauruho**	**3.27**	**234**	P	**Pn**	**19 18 03.9**	**+0.7**
WTVZ	**West Tongariro**	**3.27**	**234**	P	**Pn**	**19 18 04.5**	**+1.3**
SNVZ	**South Ngauruho**	**3.28**	**233**	P	**Pn**	**19 18 03.5**	**+0.1**
NGZ	**Ngauruhoe**	**3.30**	**233**	P	**Pn**	**19 18 04.0**	**+0.4**
MBAZ	**Motutapu North**	**3.31**	**277**	P	**Pn**	**19 18 04.5**	**+1.0**
TUVZ	**Tukino**	**3.32**	**231**	P	**Pn**	**19 18 04.1**	**+0.3**
MOVZ	**Moawhango**	**3.35**	**229**	P	**Pn**	**19 18 04.1**	**0.0**
WNVZ	**Wahianoa**	**3.39**	**231**	P	**Pn**	**19 18 04.9**	**0.0**
ABAZ	**Army Bay**	**3.39**	**279**	P	**Pn**	**19 18 04.9**	**+0.2**
PNHZ	**Pukenui**	**3.46**	**218**	P	**Pn**	**19 18 04.1**	**-1.5**
WPHZ	**Waipukurau**	**3.46**	**214**	P	**Pn**	**19 18 04.7**	**-0.9**
AWAZ	**Awhitu Peninsu**	**3.48**	**271**	P	**Pn**	**19 18 05.6**	**-0.2**
MTVZ	**Mangateitei**	**3.50**	**231**	P	**Pn**	**19 18 06.5**	**+0.1**
HIZ	**Hauiti**	**3.51**	**247**	Pn	**Pn**	**19 18 07.7**	**+1.4**
HIZ	**Hauiti**	**3.51**	**247**	P	**Pn**	**19 18 08.3**	**+1.9**
HIZ	**Hauiti**	**3.51**	**247**	P	**Pn**	**19 18 08.5**	**+2.1**
PKVZ	**Pokaka**	**3.53**	**233**	P	**Pn**	**19 18 07.5**	**+0.9**
PRHZ	**Porangahau**	**3.54**	**211**	P	**Pn**	**19 18 05.2**	**-1.6**
WTAZ	**Waiatarua**	**3.55**	**274**	P	**Pn**	**19 18 08.0**	**+1.2**
RVAZ	**Riverhead Bore**	**3.56**	**276**	P	**Pn**	**19 18 08.3**	**+1.2**
DVHZ	**Dannevirke**	**3.77**	**215**	P	**Pn**	**19 18 08.2**	**-1.8**
WCZ	**Waipu Caves**	**3.96**	**288**	P	**Pn**	**19 18 12.3**	**-0.1**
WAZ	**Wanganui**	**4.03**	**230**	P	**Pn**	**19 18 14.1**	**+0.7**
POWZ	**Post Office Ro**	**4.04**	**218**	P	**Pn**	**19 18 12.4**	**-1.2**
BFZ	**Birch Farm**	**4.05**	**211**		**Pn**	**19 18 11.1**	**-2.7**
BFZ	**Birch Farm**	**4.05**	**211**	P	**Pn**	**19 18 11.3**	**-2.5**
PRWZ	**Pori Road**	**4.07**	**214**	P	**Pn**	**19 18 12.7**	**-1.3**
TIWZ	**Tintock**	**4.29**	**213**	P	**Pn**	**19 18 15.7**	**-1.3**
MRZ	**Mangatainoka R**	**4.33**	**217**	P	**Pn**	**19 18 15.4**	**-2.3**
KHEZ	**Kahui Hut**	**4.42**	**241**	P	**Pn**	**19 18 21.4**	**+2.5**
OUZ	**Omahuta**	**4.80**	**293**	Pn	**Pn**	**19 18 23.9**	**-0.2**
OUZ	**Omahuta**	**4.80**	**293**	P	**Pn**	**19 18 24.3**	**+0.2**
OUZ	**Omahuta**	**4.80**	**293**	P	**Pn**	**19 18 24.3**	**+0.2**
MSWZ	**Moikau Station**	**5.09**	**214**	Pn	**Pn**	**19 18 24.9**	**-3.1**
MSWZ				Sn	**Sn**	**19 19 20.5**	**-5.3**
PLWZ	**Palliser**	**5.21**	**213**	Pn	**Pn**	**19 18 25.5**	**-4.2**
TUWZ	**Tuamarina**	**5.73**	**221**	Pn	**Pn**	**19 18 34.4**	**-2.4**
NNZ	**Nelson**	**5.90**	**226**	Pn	**Pn**	**19 18 36.3**	**-2.8**
BSWZ	**Blackbirch Sta**	**5.97**	**220**	Pn	**Pn**	**19 18 35.7**	**-4.5**
TKNZ	**Takaka Hill**	**6.03**	**229**	P	**Pn**	**19 18 39.1**	**-1.9**
QRZ	**Quartz Range**	**6.18**	**233**	Pn	**Pn**	**19 18 41.0**	**-2.0**
THZ	**Tophouse**	**6.53**	**224**	Pn	**Pn**	**19 18 43.6**	**-4.2**
KHZ	**Kahutara**	**6.66**	**217**	Pn	**Pn**	**19 18 48.2**	**-1.4**
KHZ	**Kahutara**	**6.66**	**217**	P	**Pn**	**19 18 48.1**	**-1.5**
CTZ	**Chatham Island**	**7.30**	**154**	P	**Pn**	**19 18 59.0**	**+0.6**
LTZ	**Lake Taylor**	**7.57**	**221**	Pn	**Pn**	**19 18 57.8**	**-4.3**
MQZ	**McQueen's Vall**	**8.07**	**215**	Pn	**Pn**	**19 19 04.6**	**-4.3**
QXZ	**Oxford**	**8.08**	**219**	Pn	**Pn**	**19 19 05.3**	**-3.7**
RPZ	**Rata Peaks**	**8.86**	**221**	Sn	Sn	19 20 48.4	-10
	2.5nm,0.3s,baz=248,slow=3.3,SNR=6.1						
LBZ	**Lake Benmore**	**9.77**	**220**	Pn	**Pn**	**19 19 28.1**	**-4.2**
ODZ	**Otahua Downs**	**10.02**	**216**	Pn	**Pn**	**19 19 31.2**	**-4.5**
ODZ	**Otahua Downs**	**10.02**	**216**	P	**Pn**	**19 19 33.0**	**-2.6**
STKA	**Stephens Creek**	**31.12**	**269**	P	**P**	**19 23 30.4**	**+0.6**
	2.3nm,0.8s,baz=110,slow=9.0,SNR=5.1						
	2.3nm,0.8s						
STKA	**Stephens Creek**	**31.12**	**269**	P	**P**	**19 23 27.4**	**-2.5**
BBOO	**Buckleboo**	**35.21**	**264**	P	**P**	**19 24 04.2**	**-1.3**
BBOO				IAmb	IAmb	19 24 44.4	
	comp=Z,15nm,1.4s						
COEN	**Coen**	**39.40**	**296**	P	**P**	**19 24 40.7**	**-0.4**
COEN				IAmb	IAmb	19 24 42.2	
	comp=Z,9.5nm,1.2s						
AS31	**Alice Springs**	**40.79**	**276**	P	**P**	**19 24 51.2**	**-1.4**
ASAR	**Alice Springs**	**40.79**	**276**	P	**P**	**19 24 51.5**	**-1.2**
	comp=Z,2.5nm,0.6s,baz=118,slow=8.0,SNR=56						
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**40.79**	**276**	P	**P**	**19 24 51.3**	**-1.4**
WR0	**Warramunga Arr**	**42.24**	**281**	P	**P**	**19 25 03.5**	**-1.0**
WR0				IAmb	IAmb	19 25 04.0	
	comp=Z,4.2nm,0.5s						
WB2	**Warramunga Arr**	**42.39**	**281**	P	**P**	**19 25 04.6**	**-1.2**
WRA	**Warramunga Arr**	**42.40**	**281**	P	**P**	**19 25 04.7**	**-1.2**
	comp=Z,5.0nm,0.3s,baz=121,slow=7.8,SNR=181						
	comp=Z,5.0nm,0.3s						
WRA	**Warramunga Arr**	**42.40**	**281**	P	**P**	**19 25 04.3**	**-1.7**
WB0	**Warramunga Arr**	**42.46**	**282**	P	**P**	**19 25 05.0**	**-1.3**
KNRA	**Kununurra**	**49.19**	**282**	P	**P**	**19 25 58.5**	**-1.0**
KNRA				IAmb	IAmb	19 26 35.6	
	comp=Z,15nm,1.4s						
NWAO	**Narrogin (SRO)**	**49.94**	**255**	P	**P**	**19 26 04.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.27**	**277**	P	**P**	**19 26 07.1**	**-0.6**
MORW	**Morawa**	**52.49**	**259**	P	**P**	**19 26 22.4**	**-1.8**
MORW				IAmb	IAmb	19 26 25.5	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**52.89**	**180**	P	**P**	**19 26 30.0**	**+3.1**
	comp=Z,1.0nm,0.8s,baz=79,slow=23,SNR=2.2						
	comp=Z,1.0nm,0.8s						
MAW	**Mawson**	**65.05**	**202**	P	**P**	**19 27 53.1**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=285,slow=9.7,SNR=1.9						
	comp=Z,0.6nm,0.3s						
MAW	**Mawson**	**65.05**	**202**	P	**P**	**19 27 50.7**	**-0.2**
MAW				IAmb	IAmb	19 28 05.5	
	comp=Z,0.9nm,1.2s						
CMAR	**Chiang Mai Arr**	**93.36**	**291**	P	**P**	**19 30 25.1**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=149,slow=4.2,SNR=3.1						
	comp=Z,0.3nm,0.6s						
MMAI	**Mount Meron Ar**	**150.04**	**273**	PKPbc	**PKiKP**	**19 37 03.9**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=110,slow=4.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**155.89**	**186**	PKPab	**PKPab**	**19 37 36.7**	**+4.3**
	comp=Z,0.2nm,0.5s,baz=178,slow=4.0,SNR=1.6						

*PNSN **21** 19:20:43.3, 48°.64N×122°.97W, h15km, MD2.1, Fault plane solution: NP1:ϕs355.0000°, δ25.0000°, λ0.0000°.*
*SEA **21** 19:20:43.3±1.5, 48°.64N±0°.02×122°.97W±0°.02, h15km±2km, ML2.1/29, ML2.0/8(NEIC), Error ellipse: s-maj=2.2km s-min=2.1km az=172.0*

NEIC 21 19:20:42.3±2.1, 48°.63N±0°.01×123°.00W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.2km az=195.0, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWFH	**University of**	**0.08**	**185**		Pg	19 20 46.0	+1.9
UWFH					Sg	19 20 48.1	+2.8
SNB	**Saturna Island**	**0.18**	**323**		Sg	19 20 51.0	+2.6
B011	**North Saanich**	**0.30**	**275**		Pg	19 20 49.1	+1.0
B011					Sg	19 20 53.5	+1.6
PGC	**Sidney**	**0.30**	**275**		Pb	19 20 49.1	-1.0
PGC					Sg	19 20 53.6	+1.7
VGZ	**Gonzales**	**0.30**	**225**		Pb	19 20 49.2	-1.0
VGZ					Sg	19 20 53.7	+1.6
ERW	**Mount Erie**	**0.30**	**124**		Pg	19 20 48.9	+0.7
SVOH	**Skagit Valley**	**0.42**	**144**		Pg	19 20 51.1	+0.7
SQM	**Sequim**	**0.55**	**183**		Pb	19 20 53.7	-0.8
STW	**Striped Peak**	**0.65**	**223**		Pg	19 20 55.3	+0.5
B04A	**Port Angeles**	**0.66**	**211**		Pg	19 20 55.1	+0.2
B04A					Sg	19 21 04.4	+0.8
B04A	**Port Angeles**	**0.66**	**211**		Pg	19 20 55.1	+0.1
B04A	**Port Angeles**	**0.66**	**211**	IAML		19 21 04.6	
	comp=N,87nm,0.3s						
VDB	**Vedder Mountai**	**0.72**	**56**		Pg	19 20 55.9	-0.2
MBW	**Mount Baker**	**0.75**	**77**		Pg	19 20 56.7	+0.1
B926	**Mesachie Lake**	**0.77**	**285**		Pg	19 20 57.1	0.0
B013	**Quilcene**	**0.82**	**176**		Pg	19 20 57.4	-0.5
B013					Sg	19 21 08.6	+0.1
B013	**Quilcene**	**0.82**	**176**		Pg	19 20 57.5	-0.5
NLLB	**Nanaimo Lost L**	**0.89**	**313**		Pg	19 20 58.6	-0.7
SHUK	**Shuksan-Mt. Ba**	**0.91**	**75**		Pg	19 20 59.7	0.0
C04A	**Brinnon**	**0.91**	**179**		Pg	19 20 58.9	-0.8
OBC	**Olympics--Boni**	**0.93**	**231**		Pg	19 20 60.0	-0.1
OSD	**Olympics--Snow**	**0.93**	**210**		Pg	19 21 00.2	0.0
P403	**Sandy Floe Qua**	**0.95**	**234**		Pg	19 20 59.9	-0.5
HDW	**Hoodsport**	**0.98**	**182**		Pg	19 21 00.1	-1.0
RPW	**Rockport**	**1.01**	**100**		Pg	19 21 01.2	-0.4
GNW	**Green Mountain**	**1.07**	**174**		Pg	19 21 01.4	-1.4
GMW	**Gold Mountain**	**1.09**	**172**		Pg	19 21 01.8	-1.4
SHB	**Sechelt**	**1.13**	**330**		Pg	19 21 02.5	-1.4
HTW	**Haystack Looko**	**1.17**	**134**		Pg	19 21 03.8	-0.9
MGB	**Mount Grey**	**1.18**	**289**		Pg	19 21 03.5	-1.4
C05A	**Tolt Reservoir**	**1.28**	**136**		Pg	19 21 06.2	-0.6
B927	**Port Alberni**	**1.33**	**297**		Pn	19 21 06.6	-0.9
GPW	**Glacier Peak**	**1.34**	**112**		Pn	19 21 07.1	-0.9
NLWA	**Neilton Lookou**	**1.37**	**206**	Pn	Pn	19 21 05.4	-2.6
RATT	**Rattlesnake La**	**1.45**	**146**		Pn	19 21 08.5	-0.7
WRW	**Wenatchee Ridg**	**1.61**	**118**		Pn	19 21 11.1	-0.4
OZB	**Mount Ozzard**	**1.68**	**282**	Pn	Pn	19 21 11.6	-0.8
OBSR	**Observation Ro**	**1.91**	**155**		Pn	19 21 16.3	+0.6
LTY	**Liberty**	**2.08**	**130**		Pn	19 21 17.5	-0.4
LTY				IAML		19 21 46.1	
	comp=E,8.8nm,0.7s						
LTY				IAML		19 21 48.0	
	comp=N,11nm,1.2s						
LLLB	**Lillooet**	**2.11**	**20**	Pn	Pn	19 21 17.7	-0.7
KSXB	**Camp Six Broad**	**6.82**	**186**	Pn	Pn	19 22 20.8	-2.3

*IDC **21** 19:26:53.4±1.2, 29°.01S×112°.41W, h0km, mb4.0/6, mbtmp4.0/6, MS4.2/43, Error ellipse: s-maj=40.2km s-min=26.2km az=24.0*
*NEIC **21** 19:26:58.7±2.4, 28°.48S±0°.08×111°.7W±0°.1, h10km±2km, mb4.6/34, Error ellipse: s-maj=18.1km s-min=11.9km az=236.0*
*GCMT **21** 19:27:00.7±0.2, 28°.66S±0°.01×112°.30W±0°.01, h15km±1km, MW5.0/120, Moment Tensor Solution. s49,c56; s120,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.50±.11; $M_{\theta\theta}$-1.23±.11; $M_{\phi\phi}$1.73±.11; $M_{r\theta}$0.52±.21; $M_{\theta\phi}$-3.51±.10; $M_{r\phi}$0.29±.18; Best double couple: M_o3.86500×10^{16} NP1:ϕs282.00000°, δ83.00000°, λ-172.00000°. NP2:ϕs191.00000°, δ82.00000°, λ-7.00000°. Principal axes: T 4.0600, Plg1.0000°, Azm56.0000°; N -0.3930, Plg79.0000°, Azm324.0000°; P -3.6700, Plg11.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

**ISC 21 19:26:57.6±0.8, 28°.5S±0°.1×111°.8W±0°.1, h10km, n100, σ1°57/

S22A					IAmb	IAmb	19 38 05.4		
	comp=Z,6.4nm,1.4s								
TPH	**Tonopah**	**66.37**	**355**		P	**P**	**19 37 46.9**	**+0.1**	
R11A	**Troy Canyon, C**	**66.55**	**357**		P	**P**	**19 37 49.5**	**+1.7**	
R11A					IAmb	IAmb	19 38 23.9		
	comp=Z,5.4nm,1.5s								
HHAR	**Hobbs**	**66.56**	**16**	P		**P**	**19 37 48.2**	**+0.5**	
HHAR					IAmb	IAmb	19 37 57.1		
	comp=Z,3.8nm,0.9s								
NV11	**Mina Array Sit**	**66.80**	**355**		P	**P**	**19 37 50.3**	**+0.9**	
NV11					IAmb	IAmb	19 37 57.4		
	comp=Z,9.9nm,1.4s								
NVAR	**Mina Array Bea**	**66.81**	**354**		P	**P**	**19 37 50.5**	**+1.0**	
	comp=Z,0.7nm,0.8s,baz=183,slow=5.9,SNR=8.9								
	comp=Z,0.7nm,0.8s								
NVAR	**Mina Array Bea**	**66.81**	**354**		P	**P**	**19 37 49.5**	**-0.1**	
RYN	**Ryan**	**67.02**	**354**		P	**P**	**19 37 52.9**	**+2.1**	
RYN					IAmb	IAmb	19 38 01.3		
	comp=Z,6.8nm,1.4s								
SPR3	**Spring Creek 3**	**67.14**	**358**		P	**P**	**19 37 54.0**	**+2.2**	
SPR3					IAmb	IAmb	19 38 02.7		
	comp=Z,4.9nm,1.3s								
SRU	**San Rafael Swe**	**67.22**	**1**	P		**P**	**19 37 53.5**	**+1.3**	
SRU					IAmb	IAmb	19 38 10.3		
	comp=Z,4.2nm,0.8s								
KVN	**Kaiserville**	**67.41**	**355**		P	**P**	**19 37 55.1**	**+1.8**	
KVN					IAmb	IAmb	19 38 12.9		
	comp=Z,7.7nm,1.4s								
RDMU	**Red Mountain**	**68.70**	**2**	P		**P**	**19 38 02.3**	**+0.8**	
BMN	**Battle Mountai**	**68.72**	**356**		P	**P**	**19 38 03.1**	**+1.6**	
BMN					IAmb	IAmb	19 38 07.5		
	comp=Z,5.7nm,1.2s								
ELK	**Elko**	**68.92**	**357**		LR	LR	20 02 39.2		
	comp=Z,158nm,18.8s,baz=184,slow=31								
SNAA	**Sanae**	**68.97**	**161**		LR	LR	20 03 47.1		
	comp=Z,71nm,19.8s,baz=263,slow=32								
TKL	**Tuckaleechee C**	**69.04**	**24**		LR	LR	20 04 18.2		
	comp=Z,146nm,20.8s,baz=208,slow=32								
SIUC	**Southern Illin**	**69.15**	**19**		P	**P**	**19 38 04.2**	**+0.1**	
Q44A	**Meyer Farm, Va**	**70.31**	**19**		P	**P**	**19 38 10.7**	**-0.5**	
YBH	**Yreka Blue Hor**	**70.52**	**357**		LR	LR	20 01 59.5		
	comp=Z,292nm,21.5s,baz=168,slow=30								
PD31	**Pinedale Array**	**70.90**	**2**		P	**P**	**19 38 14.7**	**-0.2**	
PD31					IAmb	IAmb	19 38 24.6		
	comp=Z,5.3nm,1.4s								
PDAR	**Pinedale Array**	**70.90**	**2**		P	**P**	**19 38 14.3**	**-0.7**	
K22A	**Casper**	**70.92**	**4**		P	**P**	**19 38 16.0**	**+1.0**	
R49A	**Shelbyville**	**70.93**	**22**		P	**P**	**19 38 14.2**	**-0.8**	
R49A					IAmb	IAmb	19 38 15.9		
	comp=Z,9.3nm,1.1s								
HLID	**Hailey**	**71.70**	**358**		P	**P**	**19 38 19.1**	**-0.6**	
DZM	**Mont Dzumac**	**72.86**	**254**	*e*	LR	LR	20 00 11.0		
	comp=Z,563nm,27.4s								
DZM	**Mont Dzumac**	**72.86**	**254**		LR	LR	20 02 10.1		
	comp=Z,250nm,21.7s,baz=134,slow=29								
RCBR	**Riachuelo**	**74.89**	**88**		LR	LR	20 10 25.9		
	comp=Z,163nm,18.8s,baz=354,slow=35								
NEW	**Newport**	**76.51**	**356**		LR	LR	20 07 35.8		
	comp=Z,166nm,18.0s,baz=147,slow=32								
BBB	**Bella Bella**	**81.55**	**350**		LR	LR	20 08 08.3		
	comp=Z,64nm,18.1s,baz=168,slow=30								
MAW	**Mawson**	**84.15**	**178**		LR	LR	20 14 32.7		
	comp=Z,95nm,18.1s,baz=186,slow=34								
DLBC	**Dease Lake**	**87.88**	**351**		LR	LR	20 11 55.3		
	comp=Z,96nm,21.5s,baz=124,slow=31								
STKA	**Stephens Creek**	**87.97**	**235**		LR	LR	20 11 40.4		
	comp=Z,131nm,21.5s,baz=188,slow=31								
CTA	**Charters Tower**	**90.51**	**247**		LR	LR	20 12 56.6		
	comp=Z,137nm,21.5s,baz=86,slow=31								
H11S2	**WAKE ISLAND Hy**	**91.45**	**290**		T	T	21 20 55.6		
	baz=120,slow=74								
H11S1	**WAKE ISLAND Hy**	**91.46**	**290**		T	T	21 20 58.7		
	baz=120,slow=74								
H11S3	**WAKE ISLAND Hy**	**91.47**	**290**		T	T	21 21 06.8		
	baz=120								
SCHQ	**Schefferville**	**91.51**	**24**		LR	LR	20 21 04.3		
	comp=Z,52nm,18.2s,baz=147,slow=35								
H11N3	**WAKE ISLAND Hy**	**91.88**	**291**		T	T	21 21 47.5		
	baz=119								
H11N1	**WAKE ISLAND Hy**	**91.89**	**291**		T	T	21 21 25.9		
	baz=119								
H11N2	**WAKE ISLAND Hy**	**91.90**	**291**		T	T	21 21 27.0		
	baz=119								
KRVT	**Keravat (AS076**	**93.35**	**263**		LR	LR	20 14 19.8		
	comp=Z,115nm,21.8s,baz=250,slow=31								
ILAR	**Eielson Array**	**96.85**	**346**		LR	LR	20 16 57.5		
	comp=Z,56nm,18.2s,baz=92,slow=31								
INK	**Inuvik**	**97.80**	**352**		LR	LR	20 19 19.5		
	comp=Z,77nm,18.1s,baz=122,slow=32								
FRB	**Frobisher Bay**	**98.02**	**18**		LR	LR	20 21 51.3		
	comp=Z,92nm,20.3s,baz=193,slow=33								
ASAR	**Alice Springs**	**98.19**	**238**		LR	LR	20 17 45.6		
	comp=Z,130nm,21.5s,baz=104,slow=31								
WRA	**Warramunga Arr**	**100.02**	**241**		LR	LR	20 21 30.8		
	comp=Z,343nm,18.2s,baz=136,slow=33								
AKASG	**Malin Array Be**	**143.26**	**42**		PKP	PKPbc	19 46 29.6	+0.8	
	comp=Z,0.3nm,0.3s,baz=292,slow=1.1,SNR=2.6								
SONM	**Songino Array**	**144.71**	**314**		PKP	**PKPab**	**19 46 31.3**	**-2.1**	
	comp=Z,1.4nm,0.8s,baz=113,slow=2.3,SNR=7.0								
BRTR	**Keskin Array B**	**149.45**	**59**		PKPbc	**PKPbc**	**19 46 46.5**	**-0.7**	
	comp=Z,1.3nm,0.9s,baz=354,slow=4.3,SNR=3.8								
CMAR	**Chiang Mai Arr**	**150.14**	**257**		PKPbc	**PKPdf**	**19 46 45.5**	**+1.2**	
	comp=Z,0.9nm,0.8s,baz=239,slow=1.7,SNR=7.1								
ZALV	**Zalesovo Beam**	**151.76**	**339**		PKPbc	**PKPbc**	**19 46 49.5**	**-2.5**	
	comp=Z,0.9nm,0.6s,baz=0.0,slow=3.1,SNR=4.7								

AZER ***21*** *19:27:27.3±0.7, 42.°69N×39.°84E, h12km, Error ellipse: s-maj=11.3km s-min=5.4km az=33.0*
TIF ***21*** *19:27:33.6, 42.°43N×40.°88E, h12km±1km*
IDC ***21*** *19:27:34.0±0.6, 42.°42N×41.°00E, h0km, mb3.8/17, mbtmp3.9/23, ML3.5/5, MS3.2/20, Error ellipse: s-maj=9.5km s-min=7.0km az=172.0*
MED_RC ***21*** *19:27:35.0±0.9, 42.°61N×40.°72E, h10km, MW4.2/13, Moment Tensor Solution. Mantle waves: s13,c16; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr=0.48±.17; Mθθ 1.77±.16; Mθφ -1.30±.12; Mrθ 0.99±.49; Mθθ 1.25±.10; Mφr -1.23±.43; Best double couple: M≤2.54000×10^15 NP1:φ≈292.00000°, δ76.00000°, λ=-35.00000°. NP2:φ≈31.00000°, δ57.00000°, λ=-164.00000°. Principal axes: T 2.3300, Plg13.0000°, Azm345.0000°; N 0.4100, Plg53.0000°, Azm93.0000°; P -2.7500, Plg34.0000°, Azm246.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
MOS ***21*** *19:27:36.0±0.0, 42.°48N×41.°01E, h9km, MPVA5.4*
NEIC ***21*** *19:27:36.7±1.7, 42.°56N±0.°06×40.°92E±0.°08, h14km±5km, mb4.3/35, Error ellipse: s-maj=9.2km s-min=7.7km az=134.0*
ISK ***21*** *19:27:36.0, 42.°35N×40.°90E, h13km, ML4.2/22*
DDA ***21*** *19:27:37.8±0.0, 42.°15N×40.°92E, h16km±1km, MW4.3*
CFUSG ***21*** *19:27:39.0, 42.°39N×40.°58E, h5km, mb4.1/7, Black Sea East Magtype MSH 3.6 from 6 stations*

ISC 21 19:27:34.9±0.7, **42.°38N**±0.°01×**40.°99E**±0.°01, **h9**km±4km, **n460**, σ**2800**/598, **mb4.1**/40, **MS3.3**/16, **28C-28D**, **Black Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATM	**Batumi**	**0.93**	**146**	P		**Pn**	**19 27 54.4**	**+0.2**
BATM				S		**Sn**	**19 28 08.4**	**+0.8**
BATM	**Batumi**	**0.93**	**146**	*e*PG		**Pn**	**19 27 54.3**	**+0.2**
BATM				*e*S		**Sn**	**19 28 08.3**	**+0.8**
DOMR	**Dombai**	**1.02**	**27**	*i* PG		**Pb**	**19 27 54.7**	**-0.2**
DOMR	**Dombai**	**1.02**	**27**	*i* Pg		**Pb**	**19 27 54.7**	**-0.2**
DOMR				*e*Sg		**Sg**	**19 28 07.3**	**-0.6**
HOPA	**Hopa-Artvin**	**1.05**	**161**	PG		**Pn**	**19 27 56.3**	**+0.7**
DBOC	**Borcka**	**1.15**	**154**	P		**Pg**	**19 27 57.4**	**+0.5**
DBOC				S		**Sg**	**19 28 12.4**	**+0.6**
ARXR	**Arkhyz**	**1.20**	**10**	*i* PG		**Pg**	**19 27 58.0**	**0.0**
ARXR				*i* S		**Sb**	**19 28 13.0**	**-0.6**
ARXR	**Arkhyz**	**1.20**	**10**	*i* Pg		**Pg**	**19 27 58.0**	**0.0**
ARXR				*i* Sg		**Sb**	**19 28 13.0**	**-0.6**
CHOM	**Cayeli-Rize**	**1.29**	**188**	PN		**Pg**	**19 27 59.7**	**+0.1**
CHOM				SN		**Sg**	**19 28 17.2**	**+0.8**
VSLR	**Vesyoloye**	**1.29**	**327**	*i* PG		**Pg**	**19 27 59.8**	**+0.1**
VSLR				*e*S		**Sg**	**19 28 17.2**	**+0.7**
VSLR	**Vesyoloye**	**1.29**	**327**	*i* Pg		**Pg**	**19 27 59.8**	**+0.1**
VSLR				*e*Sg		**Sg**	**19 28 17.2**	**+0.7**
CHAY	**Cayeli-Rize**	**1.31**	**189**	PN		**Pg**	**19 28 00.0**	**+0.1**
CHAY				SN		**Sg**	**19 28 17.4**	**+0.6**
DBAD	**Bademkaya**	**1.46**	**159**	P		**Pb**	**19 28 01.9**	**-0.2**
DBAD				S		**Sn**	**19 28 19.8**	**-0.8**
DAGI	**Agillar**	**1.47**	**152**	P		**Pb**	**19 28 02.3**	**-0.1**
DAGI				S		**Sn**	**19 28 20.7**	**-0.3**
TKB	**Tkibuli**	**1.48**	**90**	P		**Pn**	**19 28 01.9**	**+0.2**
TKB				S		**Sb**	**19 28 22.0**	**+0.5**
TKB	**Tkibuli**	**1.48**	**90**	*e*PG		**Pn**	**19 28 01.9**	**+0.2**
ABS	**Abastumani**	**1.49**	**114**	P		**Pb**	**19 28 02.6**	**-0.2**
ABS				S		**Sg**	**19 28 23.6**	**+0.8**
ABS	**Abastumani**	**1.49**	**114**	*e*PG		**Pb**	**19 28 02.6**	**-0.2**
ABS				*e*S		**Sg**	**19 28 23.6**	**+0.8**
SOC	**Sochi**	**1.53**	**323**	*i* PG		**Pb**	**19 28 03.2**	**-0.1**
SOC				*i* S		**Sg**	**19 28 23.3**	**-0.6**
SOC	**Sochi**	**1.53**	**323**	*i* Pg		**Pb**	**19 28 03.2**	**-0.1**
SOC				*i* Sg		**Sg**	**19 28 23.3**	**-0.6**
NEY	**Neytrino**	**1.54**	**55**	*i* PN		**Pb**	**19 28 03.6**	**-0.1**
NEY				*i* S		**Sg**	**19 28 25.4**	**+0.9**
NEY	**Neytrino**	**1.54**	**55**	*i* Pg		**Pb**	**19 28 03.4**	**-0.3**
NEY				*e*Sg		**Sn**	**19 28 22.8**	**-0.1**
KTUT	**Trabzon**	**1.67**	**214**	PN		**Pb**	**19 28 04.8**	**-0.8**
KTUT				SN		**Sn**	**19 28 25.4**	**-0.2**
MACK	**Trabzon**	**1.70**	**213**	P		**Pn**	**19 28 05.2**	**+0.5**
GUZR	**Guzeripl'**	**1.74**	**339**	*i* PN		**Pb**	**19 28 07.0**	**0.0**
GUZR				*i* S		**Sg**	**19 28 29.9**	**-0.9**
GUZR	**Guzeripl'**	**1.74**	**339**	*i* Pg		**Pb**	**19 28 06.8**	**-0.2**
GUZR				*e*Sg		**Sb**	**19 28 28.7**	**-0.3**
AHMR	**Akhmetovskaya**	**1.78**	**1**	*i* PN		**Pb**	**19 28 07.8**	**+0.2**
AHMR				*i* S		**Sg**	**19 28 31.0**	**-1.1**
AHMR	**Akhmetovskaya**	**1.78**	**1**	*i* Pg		**Pb**	**19 28 07.7**	**0.0**
AHMR				*e*Sg		**Sb**	**19 28 30.1**	**+0.1**
SHA1	**Shidzhatmaz**	**1.83**	**41**	*i* PN		**Pb**	**19 28 08.7**	**+0.1**
SHA1	**Shidzhatmaz**	**1.83**	**41**	*i* Pg		**Pb**	**19 28 08.7**	**+0.1**
SHA1				*e*Sg		**Sb**	**19 28 30.7**	**-0.9**
ONI	**Oni**	**1.83**	**83**	PN		**Pb**	**19 28 08.2**	**-0.3**
ONI				SN		**Sg**	**19 28 32.2**	**-0.5**
ONI	**Oni**	**1.83**	**83**	Pn		**Pn**	**19 28 07.0**	**+0.5**
ONI	**Oni**	**1.83**	**83**	P		**Pn**	**19 28 07.2**	**+0.6**
ONI				S		**Sb**	**19 28 32.7**	**+1.1**
ONI	**Oni**	**1.83**	**83**	*e*PN		**Pn**	**19 28 07.1**	**+0.6**
KBZ	**Khabaz**	**1.94**	**45**	Pn		**Pb**	**19 28 09.3**	**-1.0**
	132nm,0.3s,baz=190,slow=2.8,SNR=601							
KBZ				Lg		Lg	19 28 35.0	
	524nm,0.3s,baz=209,slow=19,SNR=19							
KBZ	**Khabaz**	**1.94**	**45**	*e*PN		**Pb**	**19 28 10.3**	**-0.1**
KBZ	**Khabaz**	**1.94**	**45**	*e*Pg		**Pb**	**19 28 10.0**	**-0.3**
KBZ				*e*Sg		**Sb**	**19 28 34.4**	**-0.2**
LZRR	**Lazarevskoye**	**1.95**	**323**	*i* PN		**Pb**	**19 28 09.1**	**-1.5**
LZRR				*e*S		**Sb**	**19 28 34.8**	**-0.2**
LZRR	**Lazarevskoye**	**1.95**	**323**	*i* Pg		**Pb**	**19 28 09.1**	**-1.5**
LZRR				*e*Sg		**Sb**	**19 28 34.8**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.98**	**74**	*e*PN		**Pb**	**19 28 10.2**	**-0.9**
DIGR				*e*S		**Sb**	**19 28 36.6**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.98**	**74**	*e*Pg		**Pb**	**19 28 10.0**	**-1.1**
DIGR				*e*Sg		**Sb**	**19 28 36.7**	**+0.7**
BKRG	**Bakuriani**	**1.98**	**107**	P		**Pb**	**19 28 10.1**	**-1.1**
BKRG				S		**Sg**	**19 28 37.9**	**-0.7**
BKRG	**Bakuriani**	**1.98**	**107**	*e*PN		**Pb**	**19 28 10.0**	**-1.1**
BKRG				*e*S		**Sg**	**19 28 37.9**	**-0.7**
ALIG	**Mtskhetisjvari**	**1.99**	**97**	P		**Pn**	**19 28 09.3**	**+0.6**
ALIG				S		**Sb**	**19 28 36.7**	**+0.5**
KIV	**Kislovodsk**	**2.01**	**38**	PN		**Pb**	**19 28 11.6**	**+0.1**
KIV				SN		**Sb**	**19 28 37.1**	**+0.5**
KIV	**Kislovodsk**	**2.01**	**38**	Pn		**Pn**	**19 28 09.7**	**+0.8**
KIV	**Kislovodsk**	**2.01**	**38**	*e*PN		**Pb**	**19 28 10.3**	**-1.2**
KIV				*e*S		**Sb**	**19 28 36.9**	**+0.3**
KIV	**Kislovodsk**	**2.01**	**38**	*e*Pg		**Pb**	**19 28 10.1**	**-1.3**
KIV				*e*Sg		**Sb**	**19 28 35.9**	**-0.8**
KIV0	**Kislovodsk Arr**	**2.01**	**38**	*e*Pg		**Pb**	**19 28 10.3**	**-1.3**
KIV0				*e*Sg		**Sb**	**19 28 36.4**	**-0.4**
KVAR	**Kislovodsk Arr**	**2.01**	**38**	LR		LR	19 28 52.7	
	comp=Z,450nm,18.4s,baz=258,slow=40							
AZMN	**Azmana**	**2.02**	**121**	P		**Pn**	**19 28 08.9**	**-0.3**
AZMN				S		**Sb**	**19 28 36.2**	**-0.8**
KRIK	**Erzurum-spir**	**2.04**	**181**	P		**Pb**	**19 28 11.8**	**-0.4**
KRIK				S		**Sb**	**19 28 36.3**	**-1.4**
SENK	**Senkaya-Erzuru**	**2.08**	**150**	PN		**Pb**	**19 28 11.9**	**-1.0**
AKH	**Akhalkalaki**	**2.10**	**117**	PN		**Pb**	**19 28 12.9**	**-0.3**
AKH	**Akhalkalaki**	**2.10**	**117**	P		**Pb**	**19 28 12.7**	**-0.5**
AKH				S		**Sg**	**19 28 41.5**	**-0.9**
AKH	**Akhalkalaki**	**2.10**	**117**	*e*PN		**Pb**	**19 28 12.7**	**-0.5**
AKH				*e*S		**Sb**	**19 28 40.9**	**+1.4**
AKH	**Akhalkalaki**	**2.10**	**117**	*e*Pg		**Pb**	**19 28 12.7**	**-0.5**
AKH				*e*Sg		**Sb**	**19 28 40.9**	**+1.4**
BEYR	**Belyy Ugol+**	**2.11**	**39**	*i* PN		**Pn**	**19 28 11.5**	**+1.2**
BEYR				*i* S		**Sb**	**19 28 40.5**	**+0.9**
BEYR	**Belyy Ugol+**	**2.11**	**39**	*e*Pg		**Pb**	**19 28 11.8**	**-1.5**
BEYR				*e*Sg		**Sb**	**19 28 39.4**	**-0.1**
ZEI	**Tsey**	**2.19**	**78**	*e*PN		**Pb**	**19 28 14.1**	**-0.6**
ZEI				*e*S		**Sb**	**19 28 42.5**	**+0.6**
ZEI	**Tsey**	**2.19**	**78**	*e*Pg		**Pb**	**19 28 13.3**	**-1.3**
ZEI				*e*Sg		**Sb**	**19 28 42.6**	**+0.6**
BAYB	**BAYBURT**	**2.19**	**195**	P		**Pb**	**19 28 13.8**	**-0.9**
GOYR	**Goytkh**	**2.21**	**328**	*i* PN		**Pb**	**19 28 13.2**	**-1.7**
GOYR				*e*S		**Sb**	**19 28 40.5**	**-1.9**
GOYR	**Goytkh**	**2.21**	**328**	*i* Pg		**Pb**	**19 28 13.2**	**-1.7**
GOYR				*e*Sg		**Sb**	**19 28 40.5**	**-1.9**
NCK	**Nalchik**	**2.21**	**59**	*e*PN		**Pb**	**19 28 13.6**	**-1.4**
NCK				*e*S		**Sn**	**19 28 40.6**	**+1.4**
NCK	**Nalchik**	**2.21**	**59**	*e*Pg		**Pb**	**19 28 13.6**	**-1.4**
NCK				*e*Sg		**Sn**	**19 28 40.6**	**+1.4**
GUMT	**Gumushane**	**2.23**	**211**	PN		**Pn**	**19 28 13.1**	**+1.1**
ESPY	**Espiye-Giresun**	**2.24**	**230**	PN		**Pn**	**19 28 12.4**	**+0.3**
ESPY				SN		**Sn**	**19 28 39.6**	**-0.2**
BRNG	**Burnasheti**	**2.24**	**109**	P		**Pb**	**19 28 14.8**	**-0.8**
BRNG				S		**Sg**	**19 28 46.2**	**-0.8**
LABN	**Labinsk**	**2.27**	**355**	*e*PN		**Pb**	**19 28 14.2**	**-1.8**
LABN				*e*S		**Sn**	**19 28 41.7**	**+1.1**
LABN	**Labinsk**	**2.27**	**355**	*e*Pg		**Pb**	**19 28 14.2**	**-1.8**
LABN				*e*Sg		**Sn**	**19 28 41.7**	**+1.1**
KBTC	**Kuba-Taba**	**2.28**	**50**	*e*PN		**Pb**	**19 28 14.6**	**-1.6**
KBTC				*e*S		**Sb**	**19 28 45.6**	**+1.1**
KBTC	**Kuba-Taba**	**2.28**	**50**	*e*Pg		**Pb**	**19 28 14.4**	**-1.8**
KBTC				*e*Sg		**Sb**	**19 28 43.7**	**-0.7**
NVNR	**Nevinnomyssk**	**2.34**	**17**	*i* PN		**Pn**	**19 28 15.1**	**+1.6**
NVNR				*e*S		**Sb**	**19 28 46.4**	**+0.1**
NVNR	**Nevinnomyssk**	**2.34**	**17**	*i* Pn		**Pn**	**19 28 15.1**	**+1.6**
NVNR				*e*Sn		**Sb**	**19 28 46.4**	**+0.1**
KARS	**Kars**	**2.35**	**137**	PN		**Pb**	**19 28 16.1**	**-1.3**
KARS	**Kars**	**2.35**	**137**	Pn		**Pb**	**19 28 16.7**	**-0.7**
KARS	**Kars**	**2.35**	**137**	PN		**Pb**	**19 28 16.7**	**-0.7**
KORR	**Kora**	**2.37**	**72**	*e*PN		**Pb**	**19 28 17.4**	**-0.4**
KORR				*e*S		**Sb**	**19 28 46.7**	**-0.5**
KORR	**Kora**	**2.37**	**72**	*e*Pn		**Pn**	**19 28 15.8**	**+1.9**
KORR				*e*Sn		**Sb**	**19 28 46.1**	**-1.1**
KOPT	**Kop Dagi**	**2.39**	**189**	Pn		**Pb**	**19 28 17.7**	**-0.4**
KOPT	**Kop Dagi**	**2.39**	**189**	P		**Pb**	**19 28 17.8**	**-0.4**
HOMI	**Horasan**	**2.43**	**163**	P		**Pn**	**19 28 16.6**	**+1.7**
STDR	**Stavd-Durt**	**2.46**	**65**	*e*PN		**Pn**	**19 28 17.1**	**+1.9**
STDR				*e*S		**Sb**	**19 28 49.4**	**-0.3**
STDR	**Stavd-Durt**	**2.46**	**65**	*e*Pn		**Pn**	**19 28 17.1**	**+1.9**
STDR				*e*Sn		**Sb**	**19 28 49.4**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**2.47**	**164**	PN		**Pb**	**19 28 17.4**	**-2.1**
LACR	**Lac**	**2.48**	**78**	*e*PN		**Pb**	**19 28 18.1**	**-1.5**
LACR				*e*S		**Sb**	**19 28 50.6**	**+0.2**
LACR	**Lac**	**2.48**	**78**	*e*Pn		**Pb**	**19 28 18.2**	**-2.0**
LACR				*e*Sn		**Sb**	**19 28 50.5**	**+0.2**
ERZM	**Erzurum**	**2.49**	**173**	P		**Pb**	**19 28 18.3**	**-1.6**
ARNR	**Ardon**	**2.55**	**71**	*e*PN		**Pn**	**19 28 18.2**	**+1.8**
ARNR				*e*S		**Sb**	**19 28 53.2**	**+0.9**
ARNR	**Ardon**	**2.55**	**71**	*e*Pn		**Pn**	**19 28 18.2**	**+1.8**
ARNR				*e*Sn		**Sb**	**19 28 53.2**	**+0.9**
GUDG	**Gudauri**	**2.58**	**87**			**Pn**	**19 28 18.6**	**+1.6**
GUDG	**Gudauri**	**2.58**	**87**	P		**Pn**	**19 28 18.6**	**+1.6**
GUDG				S		**Sb**	**19 28 54.7**	**+1.4**
GUDG	**Gudauri**	**2.58**	**87**	PN		**Pn**	**19 28 18.6**	**+1.6**
KELT	**Kelkit**	**2.58**	**211**	P		**Pn**	**19 28 18.6**	**+1.6**
EAK	**Akyaka**	**2.59**	**130**	P		**Pb**	**19 28 19.5**	**-2.0**
EAK				S		**Sb**	**19 28 51.7**	**-1.8**
DMNI	**Dmanisi**	**2.61**	**113**	P		**Pn**	**19 28 19.5**	**+2.3**
DMNI				S		**Sb**	**19 28 55.6**	**+1.6**
DMNI	**Dmanisi**	**2.61**	**113**	*e*PN		**Pn**	**19 28 19.5**	**+2.3**
DMNI				*e*S		**Sb**	**19 28 55.6**	**+1.6**
ALUC	**Giresun/Alucra**	**2.63**	**220**	P		**Pn**	**19 28 19.4**	**+1.8**
DIGO	**Kars**	**2.66**	**137**	P		**Pb**	**19 28 22.1**	**-0.6**
PNSH	**Pansheti**	**2.69**	**83**	P		**Pn**	**19 28 20.1**	**+1.7**
PNSH	**Pansheti**	**2.69**	**83**	*e*PN		**Pn**	**19 28 20.1**	**+1.7**
ORDU	**Ordu-Boztepe**	**2.73**	**241**	P		**Pn**	**19 28 18.9**	**+0.1**
KZRT	**Kazreti**	**2.73**	**110**	P		**Pn**	**19 28 21.2**	**+2.3**
KZRT				S		**Sb**	**19 28 59.3**	**+1.9**
KZRT	**Kazreti**	**2.73**	**110**	*e*PN		**Pn**	**19 28 21.1**	**+2.3**
KZRT				*e*S		**Sb**	**19 28 59.3**	**+1.9**
EATA	**Eleskirt**	**2.76**	**155**	P		**Pb**	**19 28 22.5**	**-2.0**
ALER	**Alexandrovskoy**	**2.76**	**30**	*e*PN		**Pn**	**19 28 20.8**	**+1.5**
ALER				*i* S		**Sb**	**19 28 55.4**	**-3.0**
ALER	**Alexandrovskoy**	**2.76**	**30**	*e*Pn		**Pn**	**19 28 20.6**	**+1.3**
ALER				*e*Sn		**Sn**	**19 28 54.9**	**+2.1**
ECAT	**Cat-ERZURUM**	**2.77**	**180**	P		**Pn**	**19 28 21.6**	**+2.0**
PRTR	**Priterechnaya**	**2.77**	**59**	*e*PN		**Pb**	**19 28 22.0**	**-2.5**
PRTR				*e*S		**Sb**	**19 29 00.1**	**+1.5**
PRTR	**Priterechnaya**	**2.77**	**59**	*e*Pn		**Pb**	**19 28 22.0**	**-2.5**
BTKR	**Batakoyurt**	**2.79**	**68**	*e*PN		**Pn**	**19 28 21.7**	**+2.0**
BTKR				*e*S		**Sb**	**19 28 57.4**	**-1.8**
BTKR	**Batakoyurt**	**2.79**	**68**	*e*Pn		**Pn**	**19 28 21.7**	**+2.0**
BTKR				*e*Sn		**Sb**	**19 28 57.4**	**-1.8**
EUZM	**Uzumlu**	**2.84**	**201**	P		**Pn**	**19 28 22.4**	**+1.9**
SEAG	**Tbilisi Sea**	**2.90**	**101**	P		**Pn**	**19 28 23.5**	**+2.2**
SEAG				S		**Sb**	**19 29 00.7**	**-1.7**
SEAG	**Tbilisi Sea**	**2.90**	**101**	*e*PN		**Pn**	**19 28 23.4**	**+2.2**
SEAG				*e*S		**Sb**	**19 29 00.6**	**-1.7**
BTNK	**Botanikuri**	**2.92**	**102**	P		Pn	19 28 14.6	-6.8
BTNK				S		**Sn**	**19 28 55.5**	**-1.2**
BTNK	**Botanikuri**	**2.92**	**102**	*e*PN		Pn	19 28 14.6	-6.8
KMGR	**Komgaron**	**2.93**	**75**	*e*PN		**Pn**	**19 28 23.8**	**+2.1**
KMGR				*e*S		**Sg**	**19 29 08.3**	**-0.8**
KMGR	**Komgaron**	**2.93**	**75**	*e*Pn		**Pn**	**19 28 23.8**	**+2.1**
ERZN	**Erzincan**	**2.95**	**199**	PN		**Pn**	**19 28 23.5**	**+1.5**
YEDI	**Yedisu-Bingol**	**2.96**	**187**	PN		**Pn**	**19 28 23.7**	**+1.6**
REFA	**Refahiye_ERZN**	**2.99**	**215**	P		**Pb**	**19 28 25.2**	**-3.1**
SUSE	**Susehri**	**3.02**	**225**	P		**Pn**	**19 28 24.0**	**+1.1**
TRKR	**Terskaya**	**3.05**	**63**	*e*PN		**Pb**	**19 28 30.7**	**+1.4**
TRKR				*e*S		**Sb**	**19 29 08.6**	**+2.0**
GOF	**Gofitskoye**	**3.06

ARKR Arakani 4.44 85 *e*Pn **Pn** 19 28 45.8 +3.4
CUAYA Sivas-Altinyay 4.48 227 P **Pn** 19 28 45.3 +2.4
BUJR Buynaksk 4.54 82 *e*PN **Pb** 19 28 53.4 -1.2
BUJR *e*S **Sn** 19 29 39.3 +2.8
KMKR Kumukh 4.54 91 *e*PN **Pn** 19 28 47.6 +3.7
KMKR *e*S **Sb** 19 29 46.5 -3.1
SBZ Shahbuz 4.56 129 ⇓P **Pn** 19 28 48.4 +4.3
SBZ S **Sb** 19 29 52.0 +1.8
PERV Siirt/Pervari- 4.58 164 P **Pn** 19 28 46.8 +2.4
CUSAR Sarkisla-SIVAS 4.66 232 P **Pn** 19 28 47.4 +2.0
NAX Nakhchivan 4.68 132 P **Pn** 19 28 49.2 +3.5
NAX S **Sb** 19 29 55.2 +1.5
AKCD Akcadag 4.70 211 P **Pn** 19 28 48.6 +2.6
BOYA Sinop/Boyabat- 4.78 262 P **Pn** 19 28 48.6 +1.6
BOYA S **Sn** 19 29 37.3 -5.3
SEKA Sheki 4.78 102 P Pb 19 28 53.3 -5.5
SEKA S **Sb** 19 29 58.8 +2.3
MNGR Mingechevir, A 4.84 107 P Pn 19 28 53.3 +5.4
MNGR S **Sb** 19 29 59.3 +1.2
FEO Feodosiya 4.84 305⇑ *e*P **Pn** 19 28 49.4 +1.6
FEO Pm 19 28 49.8
comp=Z,116nm,0.3s
FEO *e*S **Sn** 19 29 44.2 +0.2
FEO Sm 19 29 46.8
comp=N,179nm,0.3s
FEO Sm 19 29 46.8
comp=E,125nm,0.4s
FEO Feodosiya 4.84 305 *e*PN **Pn** 19 28 49.4 +1.6
FEO *e*S **Sn** 19 29 44.2 +0.2
FEO Feodosiya 4.84 305 *e*Pn **Pn** 19 28 49.4 +1.6
FEO *e*Sn **Sn** 19 29 44.2 +0.2
COAL Corum-Alaca 5.00 247 P **Pn** 19 28 51.2 +1.1
SUDU Sudak 5.02 302⇑ *e*P **Pn** 19 28 47.9 -2.4
SUDU Pm 19 28 49.1
comp=Z,45nm,0.2s
SUDU *e*S **Sn** 19 29 44.1 -4.3
SUDU Sm 19 29 47.1
comp=N,279nm,0.5s
SUDU Sm 19 29 47.1
comp=E,62nm,0.4s
SUDU Sudak 5.02 302⇑ *e*PN **Pn** 19 28 47.9 -2.4
SUDU *e*S **Sn** 19 29 44.1 -4.3
MARD Mardin 5.06 182 Pn **Pn** 19 28 55.4 +4.4
AKT Akhty 5.11 98 *e*PN **Pn** 19 28 54.2 +2.7
AKT *e*S **Sn** 19 29 52.9 +2.2
AKT Akhty 5.11 98 *e*Pn **Pn** 19 28 54.2 +2.7
AKT *e*Sn **Sn** 19 29 52.9 +2.2
BRDA Brd 5.12 112 P Pn 19 28 56.6 +5.1
BRDA S **Sb** 19 30 04.3 -1.7
ORD Ordubad 5.13 131 P **Pn** 19 28 56.0 +4.1
ORD S **Sb** 19 30 05.0 -1.6
AGDM Agdam 5.14 114 P Pn 19 28 57.2 +5.3
AGDM S **Sb** 19 30 05.9 -0.7
BZK Bozkurt 5.21 268 Pn **Pn** 19 28 52.5 -0.4
BNN Bunyan 5.27 230 **Pn** 19 28 55.2 +1.4
ALU Alushta 5.32 298⇑ *e*P **Pn** 19 28 55.6 +1.3
ALU Pm 19 29 00.6
comp=Z,267nm,0.4s
ALU *e*S **Sn** 19 29 54.4 -1.2
ALU Sm 19 29 55.9
comp=N,729nm,0.4s
ALU Sm 19 29 55.9
comp=E,205nm,0.3s
ALU Alushta 5.32 298⇑ *e*PN **Pn** 19 28 55.6 +1.3
ALU *e*S **Sn** 19 29 54.4 -1.2
ALU Alushta 5.32 298 *e*Pn **Pn** 19 28 55.6 +1.3
ALU *e*Sn **Sn** 19 29 54.4 -1.2
QBL Gabala 5.32 103 P **Pn** 19 28 58.3 +3.8
QBL S **Sb** 19 30 11.3 -0.7
YAL Yalta 5.41 295⇑ *e*P **Pn** 19 28 55.7 +0.1
YAL Pm 19 28 57.8
comp=Z,95nm,0.3s
YAL *e*S **Sn** 19 29 55.6 -2.3
YAL Sm 19 29 59.6
comp=N,237nm,0.3s
YAL Sm 19 29 59.6
comp=E,270nm,0.3s
YAL Yalta 5.41 295⇑ *e*PN **Pn** 19 28 55.7 +0.1
YAL *e*S **Sn** 19 29 55.6 -2.3
ZRD Zardab 5.46 110 P Pn 19 29 01.5 +5.3
ZRD S **Sb** 19 30 14.4 -1.4
XNQ Khinaliq 5.48 100 P **Pn** 19 29 00.7 +3.9
XNQ S **Sb** 19 30 15.5 -1.2
QSAR Qusar 5.49 97 P **Pn** 19 29 00.7 +4.0
QSAR S **Sb** 19 30 16.0 -0.9
ILGA Ilgaz 5.60 259 **Pn** 19 28 59.6 +1.1
QRD Qoradiz 5.61 119 P Pn 19 29 03.3 +4.9
QRD S **Sb** 19 30 17.4 -2.8
SIM Simferopol' 5.61 300 *e*P **Pn** 19 28 58.9 +0.5
SIM Pm 19 29 00.9
comp=Z,49nm,0.3s
SIM *e*S **Sn** 19 30 00.0 -3.0
SIM Sm 19 30 01.0
comp=N,61nm,0.4s
SIM Sm 19 30 01.0
comp=E,77nm,0.3s
SIM Simferopol' 5.61 300 *e*P **Pn** 19 28 59.1 +0.7
SIM *e*S **Sn** 19 29 59.9 -3.0
SIM *e*S **Sn** 19 30 00.7 -2.2
SIM pmax pmax
comp=Z,53nm,0.3s
SIM smax smax
comp=E,89nm,0.4s
SIM smax smax
comp=N,65nm,0.3s
IML Ismayilli 5.62 104 P **Pn** 19 29 03.2 +4.6
IML S **Sb** 19 30 19.2 -1.3
BLQ Beylaqan 5.63 116 P Pn 19 29 03.5 +4.8
BLQ P Pn 19 29 03.5 +4.8
BLQ S **Sb** 19 30 18.2 -2.6
BLQ S **Sb** 19 30 18.2 -2.6
QUBA Quba, Azerbaij 5.69 98 P **Pn** 19 29 04.2 +4.7
QUBA S **Sb** 19 30 18.4 -4.2
SEV Sevastopol' 5.75 295 *e*P **Pn** 19 29 00.5 +0.2
SEV Pm 19 29 02.5
comp=Z,43nm,0.3s
SEV *e*S **Sn** 19 30 04.3 -2.1
SEV Sm 19 30 11.3
comp=N,62nm,0.4s
SEV Sm 19 30 11.3
comp=E,60nm,0.3s
SEV Sevastopol' 5.75 295 *e*P **Pn** 19 29 00.5 +0.2
SEV *e*S **Sn** 19 30 04.3 -2.1
KDMR Kurdemir 5.77 108 P **Pn** 19 29 05.2 +4.6
KDMR S **Sb** 19 30 23.2 -1.5
PQL Pirkuli 5.92 103 P Pn 19 29 07.5 +4.8
SIZA Siyzn 6.06 100 P **Pn** 19 29 07.8 +3.2
SIZA S **Sb** 19 30 28.7 -4.5
ATGJ Altiaghaj 6.14 102 P **Pn** 19 29 09.3 +3.4
ATGJ S **Sb** 19 30 31.4 -4.3
BR131 Keskin Array S 6.16 247 Pn **Pn** 19 29 06.2 +0.2
BR131 Keskin Array S 6.16 247 *i* P **Pn** 19 29 06.9 +0.9
BRTR Keskin Array B 6.16 247 Pn **Pn** 19 29 08.3 +2.2
comp=E,2.6nm,0.3s,baz=42,slow=8.8,SNR=46
BRTR Sn **Sn** 19 30 18.4 +1.7
comp=E,2.3nm,0.3s,baz=42,slow=17,SNR=6.9
BRTR LR LR 19 32 14.8
comp=E,242nm,18.6s,baz=61,slow=45
comp=E,3.0nm,0.4s
BRTR Keskin Array B 6.16 247 Pn **Pn** 19 29 06.4 +0.3
GBS Qobustan 6.25 104 P Pn 19 29 12.1 +4.9
GBS S **Sb** 19 30 33.4 -5.3
GLBA Clilabad 6.43 117 P Pn 19 29 14.7 +5.1
GLBA S **Sb** 19 30 40.0 -3.7
YRD Yardimli 6.51 120 P Pn 19 29 15.7 +4.8
YRD S **Sb** 19 30 38.2 -8.0
ALIB Äli-Bayra 6.51 109 P Pn 19 29 16.5 +5.8
ALIB S **Sb** 19 30 39.2 -6.9
ANTO Ankara 6.68 251 Pn **Pn** 19 29 14.1 +1.0
ANTO Ankara 6.68 251 P **Pn** 19 29 14.1 +1.0
LRK Lerik 6.73 121 P Pn 19 29 18.7 +4.8
LRK S **Sb** 19 30 44.4 -8.1
VRH Novokhopyorsk 8.84 3 *e*P **Pn** 19 29 42.0 -0.7
VRH pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 8.93 353 *e*P **Pn** 19 29 42.4 -1.5
VSR pmax pmax
comp=Z,50nm,0.5s
JURR Jurilovca 9.11 289 ⇓P **Pn** 19 29 45.1 -1.3
TLCR 9.24 292 ⇑P **Pn** 19 29 47.5 -0.7
TLCR 9.24 292 ⇑P **Pn** 19 29 47.5 -0.7
VORR Voronezh 9.38 353 *e*P **Pn** 19 29 47.1 -2.9
VORR pmax pmax
comp=Z,100nm,0.4s
TIRR Tirgusor 9.39 287 ⇑P **Pn** 19 29 48.6 -1.6
TIRR Tirgusor 9.39 287 Pn **Pn** 19 29 48.3 -1.9
TIRR Tirgusor 9.39 287 ⇑P **Pn** 19 29 48.6 -1.6
TPGR Topolog 9.45 289 ⇑P **Pn** 19 29 49.7 -1.4
PSN Preselentsi 9.47 282 P **Pn** 19 29 50.0 -1.4
TLBR Topalu 9.66 287 ⇓P **Pn** 19 29 52.0 -1.9
CFR Carcaliu 9.71 291 ⇓P **Pn** 19 29 53.5 -1.1
CFR Carcaliu 9.71 291 ⇓P **Pn** 19 29 53.5 -1.1
HARR Harsova 9.77 288 ⇑P **Pn** 19 29 54.0 -1.4
HARR Harsova 9.77 288 ⇑P **Pn** 19 29 54.0 -1.4
MILM Milestii Mici 9.79 302 ⇑P **Pn** 19 29 55.1 -0.6
MILM Milestii Mici 9.79 302 *de*P **Pn** 19 29 55.0 -0.7
MILM *e* 20 31 45.0
MILM pmax pmax
comp=Z,14nm,0.6s
KIS Kishinev 9.82 302 *e*P **Pn** 19 29 56.0 -0.1
KIS Kishinev 9.82 302 *e*P **Pn** 19 29 56.0 -0.1
KIS *e* 19 31 45.0
VLDR Vladesti 9.91 295 ⇓P **Pn** 19 29 57.9 +0.5
SCTR Scanteiesti 9.92 294 ⇓P **Pn** 19 29 57.6 0.0
PRD Provadia 10.03 279 P **Pn** 19 29 57.3 -1.7
VARL Varlezi 10.08 295 ⇑P **Pn** 19 29 59.4 -0.3
LPSR Galich'ya Gora 10.32 353 *e*P **Pn** 19 30 00.7 -2.3
LPSR pmax pmax
comp=Z,70nm,0.7s
MMAI Mount Meron Ar 10.34 207 LR LR 19 34 54.1
comp=Z,99nm,19.1s,baz=31,slow=42
VASR Vaslui 10.35 299 ⇓P **Pn** 19 30 02.0 -1.3
GHRR 10.42 295 ⇓P **Pn** 19 30 02.4 -2.0
ODBI Odobesti 10.58 293 ⇓P **Pn** 19 30 07.6 +1.0
ISR Istrita 10.81 290 ⇓P **Pn** 19 30 08.2 -1.4
ISR Istrita 10.81 290 ⇓P **Pn** 19 30 08.3 -1.4
VRI Vrincioaia 10.83 294 ⇑P **Pn** 19 30 09.8 -0.1
VRI ⇓P **Pn** 19 30 11.1 +1.1
VRI Vrincioaia 10.83 294 ⇑P **Pn** 19 30 11.1 +1.1
PLOR Plostina 10.88 293 ⇑P **Pn** 19 30 10.5 -0.2
PLOR Plostina 10.88 293 ⇑P **Pn** 19 30 10.5 -0.2
BELG Belogornoye 10.98 22 Pn **Pn** 19 30 10.6 -1.3
comp=Z,0.8nm,0.3s,baz=220,slow=7.9,SNR=4.8
BELG Sn **Sn** 19 32 16.4 +1.8
comp=Z,1.1nm,0.3s,baz=162,slow=20,SNR=3.7
comp=Z,8.5nm,0.7s
TESR Tescani 11.05 297 ⇑P **Pn** 19 30 13.0 0.0
SZH Strazhica 11.10 280 P **Pn** 19 30 11.2 -2.5
SGRR Singureni 11.10 285 ⇓P **Pn** 19 30 12.5 -1.2
MLR Muntele Rosu 11.29 291 ⇑P **Pn** 19 30 16.3 0.0
MLR Muntele Rosu 11.29 291 Sn **Sn** 19 32 17.1 -5.5
comp=Z,0.9nm,0.3s,baz=196,slow=23,SNR=2.4
MLR Muntele Rosu 11.29 291 Pn **Pn** 19 30 17.0 +0.7
MLR Muntele Rosu 11.29 291 P **Pn** 19 30 17.0 +0.7
OZUR 11.52 294 ⇑P **Pn** 19 30 18.7 -0.8
BIZ Bicaz 11.54 298 ⇓P **Pn** 19 30 20.9 +1.3
AK05 Malin Array Si 11.56 320 Pn **Pn** 19 30 17.3 -2.6
AKASG Malin Array Be 11.61 320 Pn **Pn** 19 30 18.4 -2.1
comp=Z,2.0nm,0.3s,baz=123,slow=14,SNR=23
AKASG Sn **Sn** 19 32 22.9 -7.2
comp=Z,2.0nm,0.3s,baz=130,slow=25,SNR=5.1
AKASG LR LR 19 36 06.9
comp=Z,90nm,18.2s,baz=149,slow=44
AKASG Malin Array Be 11.61 320 **Pn** 19 30 17.7 -2.8
AKBB Malin Array Si 11.61 320 Pn **Pn** 19 30 18.0 -2.5
AKBB Malin Array Si 11.61 320 P **Pn** 19 30 18.0 -2.5
DOPR Dopca 11.77 293 ⇑P **Pn** 19 30 21.5 -1.3
VOIR 11.90 290 ⇓P **Pn** 19 30 24.5 -0.2
VOIR 11.90 290 ⇓P **Pn** 19 30 24.5 -0.2
BURAR Bucovina Array 12.33 301 ⇑P **Pn** 19 30 29.3 -1.3
BURAR Bucovina Array 12.33 301 **Pn** 19 30 29.1 -1.5
BUR08 Bucovina Ar. S 12.35 301 Pn **Pn** 19 30 29.2 -1.6
OBN Obninsk 13.07 349 ⇓ *e*P **Pn** 19 30 41.5 +1.0
OBN S **Sn** 19 33 05.0 -0.9
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,130nm,15.0s
VTS Vitosha 13.11 277 Pn **Pn** 19 30 40.4 -0.9
VTS Vitosha 13.11 277 P **Pn** 19 30 40.4 -0.9
GZR Gura Zlata 13.48 289 ⇑P **Pn** 19 30 44.7 -1.5
MOS Moscow 13.55 352 *e*P Pn 19 30 40.7 -6.3
HERR Herculane 13.69 287 ⇓P **Pn** 19 30 47.0 -2.0
DRGR 13.75 295 ⇓P **Pn** 19 30 50.1 +0.2
DRGR 13.75 295 ⇓P **Pn** 19 30 50.1 +0.2
GEYT Alibeck 13.83 103 Pn **Pn** 19 30 50.1 -0.9
comp=Z,0.3nm,0.3s,baz=287,slow=17,SNR=6.5
comp=Z,2.1nm,0.6s
GEYT Alibeck 13.83 103 **Pn** 19 30 51.0 0.0
GYA0B ALIBECK ARRAY 13.83 103 **Pn** 19 30 50.7 -0.2
LVV L'vov 13.90 308 *e*P **Pn** 19 30 50.9 -1.0
LVV *e*S **Sn** 19 33 26.2 -0.1
BOVS Bovan 14.17 282 ⇑P **Pn** 19 30 55.2 -0.4
TRPA Tarpa 14.20 300 ⇓P **Pn** 19 30 52.9 -3.1
TRPA Tarpa 14.20 300 P **Pn** 19 30 53.6 -2.4
AKTO Aktyubinsk 14.22 50 Pn **Pn** 19 30 53.5 -2.7
comp=Z,0.2nm,0.3s,baz=234,slow=14,SNR=3.4
AKTO LR LR 19 37 51.1
comp=Z,35nm,20.1s,baz=270,slow=44
comp=Z,1.3nm,0.4s
UZH Uzhgorod 14.51 302 *e*P **Pn** 19 30 57.7 -2.5
KWP Kalwaria Pacla 14.61 306 Pn **Pn** 19 30 55.5 -6.1
KWP Kalwaria Pacla 14.61 306 P Pn 19 30 55.5 -6.1
KOLS Kolonicke sedl 14.62 303 *e*P **Pn** 19 31 02.1 +0.3
KOLS Kolonicke sedl 14.62 303 *e*PN **Pn** 19 31 02.1 +0.3
ABKAR Akbulak array 14.88 56 Pn **Pn** 19 31 03.2 -2.0
ABKAR Akbulak array 14.88 56 Pn **Pn** 19 31 02.6 -2.5
CRVS Cervenica-Dubn 15.12 302 *e*P **Pn** 19 31 07.3 -1.2
CRVS Cervenica-Dubn 15.12 302 *e*PN **Pn** 19 31 07.3 -1.2
DIVS Divibare 15.40 284 **Pn** 19 31 11.7 -0.6
IIGN Ignalina 16.17 328 *e*P **Pn** 19 31 18.0 -4.0
MORH Mrgy, Hungar 16.44 291 ⇓P **P** 19 31 26.6 -1.7
MORH Mrgy, Hungar 16.44 291 P **P** 19 31 31.8 +3.4
LANS Liptovska Anna 16.45 302 *e*P **P** 19 31 28.3 -0.2
LANS Liptovska Anna 16.45 302 *e*PN **P** 19 31 28.3 -0.2
OJC Ojcow 16.57 306 **Pn** 19 31 23.9 -3.4
OJC Ojcow 16.57 306 P **Pn** 19 31 23.9 -3.4
OJC pmax pmax
comp=Z,10.0nm,0.7s
VYHS Vyhne 16.68 299 *e*P **P** 19 31 33.0 +1.9
VYHS Vyhne 16.68 299 *e*PN **P** 19 31 33.0 +1.9
KOVH Kovagotottos 16.81 291 P **P** 19 31 35.1 +2.7
CSKK Cskako 16.84 295 P **P** 19 31 35.2 +2.4
KIRV Kirov 17.07 15 P **P** 19 31 35.0 -0.2
comp=Z,44nm,0.7s,baz=219,slow=6.5,SNR=21
KIRV Kirov 17.07 15 P **P** 19 31 35.0 -0.2
PABE Paberze 17.19 326 **Pn** 19 31 30.5 -4.4
PABE IAmb IAmb 19 31 43.3
comp=Z,14nm,0.6s
PABE Paberze 17.19 326 *e*P **Pn** 19 31 31.4 -3.5
MPLH Magyarpolny 17.30 294 P **P** 19 31 42.4 +4.4
ARU Arti 18.05 33 Pn **Pn** 19 31 41.8 -3.8
baz=230,slow=11,SNR=7.3
ARU LR LR 19 39 02.4
comp=Z,62nm,21.6s,baz=140,slow=38
comp=Z,2.6nm,0.5s
ARU Arti 18.05 33 **Pn** 19 31 42.0 -3.6
ARU Arti 18.05 33 *d* iP **Pn** 19 31 41.9 -3.6
ARU S **Sn** 19 35 00.5 -6.3
ARU pmax pmax
comp=Z,3.0nm,0.9s
VRAC Vranov 18.31 301 LR LR 19 40 25.7
comp=Z,50nm,18.9s,baz=96,slow=42
KRLC Kraliky 18.38 303 *e*P **P** 19 31 50.6 +0.8
KRLC Kraliky 18.38 303 *e*P **P** 19 31 50.6 +0.8
VSU Vasula 18.42 336 *e*P **P** 19 31 48.7 -1.4
KLMR Klimovskoe 18.53 358 *e*P **P** 19 31 49.3 -2.0
KLMR *e* 19 35 19.4
KLMR pmax pmax
comp=Z,16nm,0.7s
KLMR Klimovskoe 18.53 358 *e*Pn **P** 19 31 49.3 -2.0
KLMR *e*Pn **P** 19 31 49.3 -2.0
KLMR *e*Pn **P** 19 31 49.3 -2.0
KLMR AMP 19 31 51.7
comp=Z,16nm,0.7s
KLMR *e*Sn **Sn** 19 35 19.4 +1.1
KLMR *e*Sn **Sn** 19 35 19.4 +1.1
DPC Dobruska-Polom 18.74 304 *e*P **Pn** 19 31 55.9 +1.8
DPC Dobruska-Polom 18.74 304 *e*P **Pn** 19 31 55.9 +1.8
OSTC Ostas 18.86 304 *e*P **Pn** 19 31 55.9 +0.3
CHVC Chvalec 18.97 304 *e*P **Pn** 19 31 57.7 +0.8
PRGR Permogore 19.49 7 *e*P **P** 19 31 59.3 -2.5
PRGR *e* 19 35 41.8
PRGR pmax pmax
comp=Z,7.0nm,0.7s
MTSE Matsula 19.56 333 *e*P **P** 19 32 01.5 -1.1
CKRC Cesky Krumlov 19.69 298 *e*P **Pn** 19 32 06.4 +0.8
GEC2 GERESS Array S 20.09 298 P Pn 19 32 10.4 0.0
GERES GERESS Array B 20.09 298 P Pn 19 32 10.6 +0.2
comp=Z,1.8nm,0.8s,baz=106,slow=9.8,SNR=20
comp=Z,1.8nm,0.8s
GERES GERESS Array B 20.09 298 P **P** 19 32 08.4 -0.2
KHC Kasperske Hory 20.21 299 P Pn 19 32 10.4 -1.4
KHC Kasperske Hory 20.21 299 *e*P Pn 19 32 11.8 0.0
KHC Kasperske Hory 20.21 299 *e*P Pn 19 32 11.8 0.0
MEF Metsahovi 20.55 336 *e*P **P** 19 32 12.7 -0.7
CLL Collm 21.02 305 P **P** 19 32 19.9 +1.3
CLL lAmb lAmb 19 32 24.4
comp=Z,7.8nm,0.9s
CLL Collm 21.02 305⇑ *i*P **P** 19 32 19.8 +1.3
CLL *i* 19 32 23.1
CLL *e*S **S** 19 36 12.0 -0.5
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 21.02 305⇑ *i*P **P** 19 32 19.8 +1.3
comp=Z,9.0nm,1.0s
CLL *i* sP **sP** 19 32 23.1 +1.0
comp=Z,9.0nm,0.9s
CLL *e*(PP) 19 32 33.0
CLL *e*S **S** 19 36 12.0 -0.5
FIA0 FINESS Array S 21.10 340 P **P** 19 32 17.7 -1.6
FIA0 FINESS Array S 21.10 340 P **P** 19 32 17.7 -1.6
FIA1 FINESS Array S 21.10 340 P **P** 19 32 20.2 +0.9
FIA1 lAmb lAmb 19 32 23.8
comp=Z,10nm,0.7s
FINES FINESS Array B 21.10 340 P **P** 19 32 19.1 -0.2
comp=Z,9.4nm,0.5s,baz=149,slow=13,SNR=36
comp=Z,9.4nm,0.5s
FINES FINESS Array B 21.10 340 P **P** 19 32 19.2 -0.1
FINES FINESS Array B 21.10 340 P **P** 19 32 19.2 -0.1
BSD Bornholm Skovb 21.25 316 *e*P **P** 19 32 21.2 +0.2
BSD Bornholm Skovb 21.25 316 *i* P **P** 19 32 23.0 +2.1
WTTA Wattenberg 21.32 293 *e*P **P** 19 32 25.1 +3.1
comp=Z,2.1nm,0.4s
BLEU Blekinge 21.36 319 *i* P **P** 19 32 22.6 +0.5
WATA Walderalm 21.36 294 *e*P **P** 19 32 27.9 +5.4
comp=Z,0.9nm,0.2s
UOSS Minazif 21.45 139 P **P** 19 32 26.3 +2.9
UOSS lAmb lAmb 19 32 38.2
comp=Z,7.3nm,0.9s
SQTA Sankt Quirin 21.61 293 *e*P **P** 19 32 27.7 +2.6
comp=Z,2.5nm,0.4s
KK31 Karatay Array 21.65 78 P **P** 19 32 26.3 +0.9
KK31 Karatay Array 21.65 78 P **P** 19 32 26.3 +0.9
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 21.65 78 P **P** 19 32 26.3 +0.9
KKAR Karatay Array 21.65 78 P **P** 19 32 26.2 +0.8
KKAR Karatay Array 21.65 78 P **P** 19 32 26.2 +0.8
KKAR pmax pmax
comp=Z,6.0nm,0.9s
MOTA Moosalm 21.69 293 *e*P **P** 19 32 27.8 +1.8
comp=Z,3.1nm,0.5s
CHGR Chuyangaron 21.69 90 P **P** 19 32 27.6 +1.6
CHGR lAmb lAmb 19 33 02.6
comp=Z,17nm,0.8s
CHGR Chuyangaron 21.69 90 P **P** 19 32 27.6 +1.6
CHGR pmax pmax
comp=Z,17nm,0.8s
FETA Feichten 21.93 293 *e*P **P** 19 32 31.4 +2.8
RAF Rauma 21.99 335 *e*P **P** 19 32 29.2 +0.3
LUNU Lund 22.23 316 *i* P **P** 19 32 30.1 -1.4
BRVK Borovoye 22.26 51 P **P** 19 32 32.0 +0.2
BRVK lAmb lAmb 19 32 39.0
comp=Z,7.7nm,0.7s
BRVK Borovoye 22.26 51 *i* P **P** 19 32 35.4 +3.5
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 22.31 51 P **P** 19 32 31.1 -1.3
comp=Z,0.6nm,0.5s,baz=234,slow=6.9,SNR=3.3
BVAR LR LR 19 40 57.0
comp=Z,34nm,21.4s,baz=268,slow=36
comp=Z,0.6nm,0.5s
DEL Delary 22.39 318 *i* P **P** 19 32 33.4 +0.2
GAR Garm 22.44 89 P **P** 19 32 35.4 +1.3
BTK Batken 22.50 86 P **P** 19 32 37.5 +2.8
BTK lAmb lAmb 19 32 49.9
comp=Z,16nm,1.1s
BTK Batken 22.50 86 P **P** 19 32 37.5 +2.8
BTK pmax pmax
comp=Z,16nm,1.1s
DAVOX Davos/Dischmat 22.51 292 P **P** 19 32 34.5 -0.4
comp=Z,1.1nm,0.4s,baz=174,slow=6.2,SNR=2.7
DAVOX LR LR 19 43 28.6
comp=Z,72nm,22.0s,baz=82,slow=42
comp=Z,1.1nm,0.4s
BJUU Bjuv 22.63 317 *i* P **P** 19 32 35.6 -0.2
FABU Falkenberg 23.20 319 *i* P **P** 19 32 42.6 +0.9
DRK Karamyk 23.39 87 P **P** 19 32 46.1 +2.0
DRK lAmb lAmb 19 32 59.5
comp=Z,5.9nm,0.7s
ONAU Onsala 23.76 319 *i* P **P** 19 32 48.5 +1.3
TJOU Tjoern 24.19 320 *i* P **P** 19 32 51.8 +0.5
SENIN Lac Senin/Sane 24.30 291 P **P** 19 32 53.7 +1.0
HFS Hagfors 24.37 326 P **P** 19 32 53.1 +0.2
comp=Z,6.3nm,0.6s,baz=132,slow=12,SNR=32
HFS LR LR 19 43 39.1
comp=Z,75nm,18.1s,baz=124,slow=40
comp=Z,6.3nm,0.6s
AAK Ala-Archa 24.61 78 P **P** 19 32 56.9 +1.4
comp=Z,0.5nm,0.3s,baz=234,slow=12,SNR=1.4
comp=Z,0.5nm,0.3s
AAK Ala-Archa 24.61 78 P **P** 19 32 57.9 +2.5
AAK lAmb lAmb 19 33 04.4
comp=Z,6.2nm,1.2s
AAK Ala-Archa 24.61 78 *i* P **P** 19 32 58.0 +2.5
AAK pmax pmax
comp=Z,13nm,1.8s
STRU Stroemstad 24.87 322 *i* P **P** 19 32 57.9 +0.4
NC602 NORSAR Array S 25.59 326 P **P** 19 33 02.8 -1.1
NC405 NORSAR Array S 25.72 327 P **P** 19 33 02.9 -2.3
LVZ Lovozero 25.80 354 P **P** 19 33 06.6 +0.7
LVZ Lovozero 25.80 354 P **P** 19 33 06.6 +0.7
LVZ pmax pmax
comp=Z,14nm,0.8s
NB201 NORSAR Array S 25.86 326 P **P** 19 33 04.9 -1.6
KONO Kongsberg 25.88 323 P **P** 19 33 06.2 -0.4
KONO Kongsberg 25.88 323 P **P** 19 33 06.2 -0.4
KONO pmax pmax
comp=Z,25nm,1.5s
NB2 NORSAR Subarra 25.89 326 P **P** 19 33 07.0 +0.3
comp=Z,4.5nm,0.7s,baz=126,slow=10
NOA NORSAR Array B 25.89 326 P **P** 19 33 06.0 -0.7
comp=Z,2.9nm,0.8s,baz=127,slow=9.5,SNR=21
comp=Z,2.9nm,0.8s
NAO01 NORSAR Array S 25.92 326 P **P** 19 33 05.1 -1.8
NC303 NORSAR Array S 25.93 327 P **P** 19 33 05.9 -1.1
NC303 lAmb lAmb 19 33 10.3
comp=Z,9.2nm,0.8s
NRN Naryn 25.96 80 P **P** 19 33 12.5 +4.5
NRN lAmb lAmb 19 33 18.4
comp=Z,4.3nm,1.0s
NRN Naryn 25.96 80 P **P** 19 33 12.5 +4.5
NRN pmax pmax
comp=Z,4.0nm,1.0s
NBO00 NORSAR Array S 26.06 326 P **P** 19 33 06.2 -2.1
NBO00 lAmb lAmb 19 33 10.9
comp=Z,16nm,1.1s
NC204 NORSAR Array S 26.20 327 P **P** 19 33 10.5 +0.9
KURBB Kurchatov Arra 26.88 59 P **P** 19 33 16.6 +0.9
comp=Z,3.0nm,0.6s,baz=273,slow=9.3,SNR=38
KURBB LR LR 19 46 09.9
comp=Z,69nm,18.6s,baz=259,slow=42
comp=Z,3.0nm,0.6s
KURK Kurchatov 26.95 59 P **P** 19 33 16.3 0.0
KURK lAmb lAmb 19 33 23.8
comp=Z,9.0nm,0.8s
KURK Kurchatov 26.95 59 P **P** 19 33 16.6 +0.3
ARCES ARCESS Array B 28.39 349 P **P** 19 33 29.2 +0.2
comp=Z,1.3nm,0.7s,baz=158,slow=10,SNR=5.9
ARCES LR LR 19 44 29.5
comp=Z,55nm,18.9s,baz=160,slow=36
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 29.49 67 P **P** 19 33 39.1 0.0
comp=Z,0.5nm,0.7s,baz=267,slow=9.4,SNR=4.2
MKAR LR LR 19 47 09.4
comp=Z,36nm,21.4s,baz=297,slow=40
comp=Z,0.5nm,0.7s
ATD Arta Tunnel 30.77 176 LR LR 19 47 00.8

comp=Z,43nm,21.6s,baz=136,slow=38
ZAA0 Zalesovo Array 30.95 53 P P 19 33 52.2 +0.4
ZAA0 IAmb IAmb 19 33 58.6
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 30.95 53 P P 19 33 51.9 +0.1
comp=Z,0.5nm,0.5s,baz=267,slow=9.5,SNR=2.3
ZALV LR LR 19 48 42.4
comp=Z,9.9nm,18.2s,baz=265,slow=41
comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam 30.95 53 P P 19 33 51.4 -0.5
DGZ Jazzator, Alta 32.62 61 *i* P **P 19 34 09.6 +2.8**
DGZ pmax pmax
comp=Z,4.0nm,1.4s
ESDC Sonseca Array 33.73 281 P P 19 34 16.4 0.0
comp=Z,0.4nm,0.7s,baz=60,slow=10,SNR=4.9
comp=Z,0.4nm,0.7s
WMQ Urumqi 33.78 71 *e*P **P 19 34 19.9 +3.0**
WMQ LR LR
comp=Z,78nm,20.1s
JMIC Jan Mayen 37.61 336 LR LR 19 50 06.0
comp=Z,60nm,18.3s,baz=286,slow=36
TORD Torodi Ar. Bea 44.74 241 P P 19 35 49.5 +0.9
comp=Z,1.5nm,0.9s,baz=44,slow=7.5,SNR=6.1
comp=Z,1.5nm,0.9s
SONM Songino Array 45.25 60 P P 19 35 52.2 -0.2
comp=Z,0.2nm,0.3s,baz=280,slow=8.9,SNR=3.1
SONM LR LR 19 56 00.9
comp=Z,50nm,18.0s,baz=304,slow=38
comp=Z,0.2nm,0.3s
ULN Ulaanbaatar 45.66 59 P P 19 35 56.3 +0.5
ULN IAmb IAmb 19 36 03.9
comp=Z,2.8nm,0.9s
ULN Ulaanbaatar 45.66 59 P P 19 35 56.3 +0.5
ULN pmax pmax
comp=Z,3.0nm,1.0s
HHC Hu-ho-hao-te 51.35 66 *e*P **P 19 36 41.5 +1.8**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,98nm,4.7s
PZH PanZhiHua 51.50 87 P P 19 36 43.6 +2.6
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,150nm,4.6s
WHN Wuhan 58.49 76 ⇓P P 19 37 39.4 +8.1
KLR Kul'dur 59.95 49 LR LR 20 07 22.1
comp=Z,39nm,19.7s,baz=327,slow=40
NJ2 Nanjing 60.86 72 *e*P **P 19 37 47.9 +0.3**
NJ2 pmax pmax
comp=Z,13nm,0.5s
KSRS Korea Array 64.01 62 P P 19 38 07.8 -0.8
comp=Z,1.1nm,0.8s,baz=294,slow=6.4,SNR=3.0
KSRS LR LR 20 07 46.7
comp=Z,19nm,18.2s,baz=110,slow=38
comp=Z,1.1nm,0.8s
IMAR Indian Mountai 71.37 6 P P 19 38 55.2 +0.6
YKA Yellowknife Ar 73.65 348 P P 19 39 08.9 +0.7
comp=Z,1.1nm,0.5s,baz=17,slow=6.5,SNR=2.4
comp=Z,1.1nm,0.5s
SIJI Sorong 90.78 90 LR LR 20 27 34.2
comp=Z,42nm,18.1s,baz=182,slow=40
GUMO Guam 90.92 71 LR LR 20 25 07.3
comp=Z,32nm,18.6s,baz=103,slow=38
BATI Baumata 91.44 102 LR LR 20 31 37.6
comp=Z,240nm,18.0s,baz=178,slow=42
NVAR Mina Array Bea 97.39 344 P Pdif 19 41 09.8 +0.8
comp=Z,0.2nm,0.4s,baz=316,slow=6.3,SNR=1.6
comp=Z,0.2nm,0.4s

---

*ISK **21** 19:31:49.9, 42˚.33N×40˚.94E, h11km, ML3.2/8*
*MOS **21** 19:31:50.8±0.0, 42˚.52N×41˚.01E, h5km, MPVA4.0*
*DDA **21** 19:31:50.9±0.0, 42˚.21N×40˚.90E, h18km±2km, ML2.6*
*NORS **21** 19:31:51.6±0.0, 42˚.53N×41˚.06E, h3km, MPVA3.7*
*AZER **21** 19:32:02.2±2.6, 41˚.72N×40˚.70E, h20km, Error ellipse: s-maj=76.8km s-min=20.8km az=11.0*

ISC 21 19:31:49.3±1.1, **42˚.40N**±0˚.02×**41˚.09E**±0˚.02, **h10**km±10km, **n47**, σ1**s19**/84, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.92**	**150**	P			**Pn**	**19 32 08.7**	**+0.5**
BATM				S			**Sn**	**19 32 21.8**	**+0.3**
DOMR	**Dombai**	**0.97**	**24**	*i* Pg			**Pn**	**19 32 08.8**	**-0.4**
DOMR				*e*Sg			**Sg**	**19 32 20.8**	**0.0**
HOPA	**Hopa-Artvin**	**1.05**	**165**	PG			**Pn**	**19 32 09.8**	**-0.2**
HOPA				SG			**Sn**	**19 32 24.4**	**-0.3**
DBOC	**Borcka**	**1.14**	**158**	P			**Pn**	**19 32 11.5**	**+0.1**
DBOC				S			**Sn**	**19 32 26.4**	**-0.7**
ARXR	**Arkhyz**	**1.17**	**7**	*i* Pg			**Pg**	**19 32 12.4**	**+0.7**
ARXR				*e*Sg			**Sg**	**19 32 27.0**	**+0.1**
VSLR	**Vesyoloye**	**1.31**	**324**	*i* Pg			**Pg**	**19 32 14.2**	**-0.3**
VSLR				*e*Sg			**Sg**	**19 32 31.3**	**-0.2**
CHOM	**Cayeli-Rize**	**1.33**	**191**	PN			**Pb**	**19 32 13.9**	**-0.4**
CHOM				SN			**Sn**	**19 32 31.0**	**-0.6**
TKB	**Tkibuli**	**1.41**	**91**	P			**Pg**	**19 32 16.6**	**+0.2**
TKB				S			**Sg**	**19 32 36.1**	**+1.4**
ABS	**Abastumani**	**1.44**	**116**	P			**Pg**	**19 32 17.1**	**+0.2**
ABS				S			**Sg**	**19 32 37.9**	**+2.3**
DBAD	**Bademkaya**	**1.45**	**162**	P			**Pb**	**19 32 16.3**	**-0.2**
DBAD				S			**Sn**	**19 32 34.2**	**-0.8**
DBAD				*i* AML			AML	19 32 38.0	
	comp=E,96nm,0.3s								
DBAD				*i* AML			AML	19 32 42.0	
	comp=N,98nm,0.6s								
DAGI	**Agillar**	**1.46**	**155**	P			**Pb**	**19 32 16.1**	**-0.5**
DAGI				S			**Sn**	**19 32 33.2**	**-1.8**
DAGI				*i* AML			AML	19 32 37.0	
	comp=N,83nm,0.2s								
NEY	**Neytrino**	**1.47**	**54**	*e*Pg			**Pg**	**19 32 17.6**	**+0.1**
NEY				*e*Sg			**Sg**	**19 32 37.5**	**+0.9**
SOC	**Sochi**	**1.55**	**320**	*i* Pg			**Pb**	**19 32 17.5**	**-0.7**
SOC				*e*Sg			**Sb**	**19 32 37.8**	**0.0**
KTUT	**Trabzon**	**1.73**	**215**	PN			**Pn**	**19 32 19.1**	**-0.3**
GUZR	**Guzeripl'**	**1.75**	**336**	*i* Pg			**Pb**	**19 32 21.1**	**-0.3**
GUZR				*e*Sg			**Sb**	**19 32 43.4**	**-0.1**
AHMR	**Akhmetovskaya**	**1.76**	**359**	*i* Pg			**Pb**	**19 32 22.0**	**+0.3**
AHMR				*e*Sg			**Sb**	**19 32 44.2**	**+0.4**
ONI	**Oni**	**1.76**	**83**	PN			**Pg**	**19 32 22.6**	**-0.4**
ONI				SN			**Sg**	**19 32 47.0**	**+1.2**
ONI	**Oni**	**1.76**	**83**	P			**Pb**	**19 32 21.5**	**-0.2**
ONI				S			**Sg**	**19 32 45.5**	**-0.3**
MACK	**Trabzon**	**1.76**	**215**	P			**Pn**	**19 32 19.4**	**-0.5**
SHA1	**Shidzhatmaz**	**1.76**	**40**	*i* Pg			**Pg**	**19 32 23.2**	**+0.1**
SHA1				*e*Sg			**Sg**	**19 32 45.5**	**-0.5**
KBZ	**Khabaz**	**1.88**	**44**	*e*Pg			**Pg**	**19 32 25.6**	**+0.4**
KBZ				*e*Sg			**Sg**	**19 32 49.2**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.91**	**74**	*e*Pg			**Pg**	**19 32 25.6**	**-0.2**
DIGR				*e*Sg			**Sg**	**19 32 50.6**	**+0.1**
ALIG	**Mtskhetisjvari**	**1.93**	**98**	P			**Pb**	**19 32 23.8**	**-0.7**
ALIG				S			**Sg**	**19 32 50.9**	**-0.3**
KIV	**Kislovodsk**	**1.94**	**36**	PN			**Pb**	**19 32 25.7**	**+0.8**
KIV				SN			**Sg**	**19 32 51.4**	**-0.4**
KIV	**Kislovodsk**	**1.94**	**36**	*i* Pg			**Pg**	**19 32 26.2**	**-0.4**
KIV				*e*Sg			**Sg**	**19 32 51.3**	**-0.5**
KIV0	**Kislovodsk Arr**	**1.95**	**37**	*i* Pg			**Pg**	**19 32 26.3**	**-0.3**
KIV0				*e*Sg			**Sg**	**19 32 51.4**	**-0.5**
LZRR	**Lazarevskoye**	**1.98**	**321**	*e*Pg			**Pb**	**19 32 24.5**	**-0.8**
LZRR				*e*Sg			**Sb**	**19 32 49.2**	**-0.9**
BEYR	**Belyy Ugol+**	**2.05**	**38**	*i* Pg			**Pg**	**19 32 28.1**	**-0.4**
BEYR				*e*Sg			**Sg**	**19 32 54.6**	**-0.4**
AKH	**Akhalkalaki**	**2.05**	**118**	PN			**Pb**	**19 32 26.4**	**-0.3**
AKH	**Akhalkalaki**	**2.05**	**118**	*e*Pg			**Pb**	**19 32 27.4**	**+0.7**
AKH				*e*Sg			**Sg**	**19 32 55.9**	**+0.7**
KRIK	**Erzurum-spir**	**2.06**	**183**	P			**Pb**	**19 32 25.7**	**-1.3**
KRIK				S			**Sn**	**19 32 50.9**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.07**	**152**	PN			**Pb**	**19 32 25.6**	**-1.4**
SENK				SN			**Sb**	**19 32 51.4**	**-1.5**
ZEI	**Tsey**	**2.11**	**79**	*e*Pg			**Pb**	**19 32 28.6**	**+0.7**
ZEI				*e*Sg			**Sg**	**19 32 56.5**	**-0.7**
GOYR	**Goytkh**	**2.23**	**327**	*e*Pg			**Pb**	**19 32 27.9**	**-1.7**
GOYR				*e*Sg			**Sn**	**19 32 53.7**	**-0.2**
BAYB	**BAYBURT**	**2.23**	**197**	P			**Pn**	**19 32 27.1**	**+0.6**
ESPY	**Espiye-Giresun**	**2.31**	**231**	PN			**Pn**	**19 32 26.9**	**-0.5**
LACR	**Lac**	**2.41**	**79**	*e*Pn			**Pg**	**19 32 34.1**	**-1.3**
LACR				*e*Sn			**Sg**	**19 33 04.7**	**-1.9**
HOMI	**Horasan**	**2.43**	**165**	P			**Pb**	**19 32 33.4**	**+0.1**
ERZM	**Erzurum**	**2.50**	**175**	P			**Pg**	**19 32 39.6**	**+2.4**
EAK	**Akyaka**	**2.55**	**131**	P			**Pb**	**19 32 33.9**	**-1.4**
EAK				*i* AML			AML	19 33 19.0	
	comp=E,34nm,0.9s								
EAK				*i* AML			AML	19 33 20.0	
	comp=N,28nm,0.7s								
DMNI	**Dmanisi**	**2.55**	**114**	P			**Pb**	**19 32 36.1**	**+0.9**
DMNI				S			**Sb**	**19 33 08.8**	**+2.0**
ALER	**Alexandrovskoy**	**2.71**	**29**	*e*Sn			**Sb**	**19 33 09.1**	**-2.1**
QZX	**Qazax, Azerbai**	**3.48**	**111**	P			**Pg**	**19 32 57.7**	**+1.8**
QZX				S			**Sg**	**19 33 38.6**	**-2.3**
ANN	**Anapa**	**3.58**	**313**	*e*Pn			**Pn**	**19 32 47.5**	**+2.7**
ANN				*e*Sn			**Sn**	**19 33 29.8**	**+2.6**
GDB	**GEDABAY**	**3.88**	**114**	P			**Pg**	**19 33 01.6**	**-2.0**
GDB				S			**Sb**	**19 33 48.8**	**+3.7**
ZKTA	**Zakatala**	**4.19**	**99**	P			**Pg**	**19 33 07.6**	**-1.9**
ZKTA				S			**Sg**	**19 34 00.5**	**-3.4**
GANJ	**Ganja**	**4.30**	**112**	S			**Sb**	**19 33 58.4**	**+1.3**

TAP 21 19:35:04.1, 23˚.07N×120˚.95E, h10km, ML3.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.18**	**302**	*i* P			Pg	19 35 07.5	-0.6
	baz=302								
STYH				*i* S			Sg	19 35 10.2	-0.4
	baz=302								
STYT	**Tauyuan**	**0.20**	**298**	*i* P			Pg	19 35 08.6	+0.4
	baz=298								
STYT				*i* S			Sg	19 35 11.7	+0.6
	baz=298								
LONT	**Longtian**	**0.24**	**134**	*i* P			Pg	19 35 09.6	+0.6
	baz=133								
LONT				*i* S			Sg	19 35 13.3	+1.1
	baz=133								
ECS	**Chishang**	**0.25**	**84**	P			Pg	19 35 09.6	+0.4
	baz=85								
ECS				S			Sg	19 35 13.7	+1.0
	baz=85								
TWG	**Pinlang**	**0.28**	**155**	*i* P			Pb	19 35 10.4	-0.8
	baz=153								
TWG				*i* S			Sg	19 35 14.4	+1.1
	baz=153								
TWGBT	**Beinan**	**0.28**	**154**	P			Pg	19 35 10.4	+0.6
	baz=153								
TWGBT				S			Sg	19 35 14.4	+0.9
	baz=153								
SGST	**Jiashian**	**0.33**	**272**	*e*P			Pg	19 35 11.1	+0.3
	baz=272								
SGST				*i* S			Sb	19 35 16.7	-1.0
	baz=272								
EDH	**Donghe**	**0.34**	**106**	*i* P			Pb	19 35 12.0	-0.4
	baz=111								
EDH				*i* S			Sb	19 35 17.8	-0.1
	baz=111								
FULB	**Fuli**	**0.34**	**68**	*i* P			Pg	19 35 11.6	+0.6
	baz=69								
FULB				*i* S			Sb	19 35 16.8	-1.2
	baz=69								
WTP	**Ta-pu**	**0.35**	**300**	*e*P			Pb	19 35 12.2	-0.4
	baz=300								
WTP				*i* S			Sb	19 35 18.4	+0.1
	baz=300								
TPUB	**Ta-pu**	**0.37**	**308**	P			Pb	19 35 12.5	-0.4
TPUB	**Ta-pu**	**0.37**	**308**	P			Pb	19 35 12.5	-0.4
	baz=308								
TPUB				S			Sb	19 35 18.5	-0.2
	baz=308								
CHN1	**Nanshi**	**0.40**	**287**	*e*P			Pb	19 35 13.6	+0.2
	baz=290								
CHN1				*i* S			Sb	19 35 20.9	+1.3
	baz=290								
YUS	**Yu-Shan**	**0.42**	**1**	*e*P			Pg	19 35 12.1	-0.3
	baz=6.0								
YUS				S			Sg	19 35 17.5	-0.5
	baz=6.0								
SSD	**Sandimen**	**0.43**	**222**	*i* P			Pg	19 35 12.9	+0.3
	baz=220								
SSD				*i* S			Sg	19 35 18.7	+0.4
	baz=220								
SNST	**Tainan City**	**0.44**	**290**	*i* P			Pb	19 35 14.6	+0.6
	baz=293								
SNST				*i* S			Sb	19 35 22.7	+2.1
	baz=293								
EYUL	**Yuli**	**0.44**	**51**	*i* P			Pg	19 35 12.7	-0.1
	baz=52								
EYUL				*i* S			Sg	19 35 18.2	-0.4
	baz=52								
YULB	**Yu-li**	**0.46**	**45**	P			Pg	19 35 12.5	-0.5
	baz=47								
YULB				S			Sg	19 35 17.8	-1.2
	baz=47								
ALS	**Alishan**	**0.46**	**344**	*i* P			Pg	19 35 13.4	+0.3
	baz=342								
ALS				*i* S			Sg	19 35 19.8	+0.6
	baz=342								
SCST	**Cishan**	**0.46**	**246**	*i* P			Pb	19 35 14.5	+0.3
	baz=246								
TSMG	**Majia**	**0.46**	**217**	*i* P			Pg	19 35 13.4	+0.3
	baz=217								
TSMG				*i* S			Sg	19 35 19.4	+0.3
	baz=217								
TWK	**Hsinying**	**0.46**	**295**	*e*P			Pb	19 35 14.8	+0.3
	baz=295								
TWK				*i* S			Sb	19 35 23.6	+2.2
	baz=295								
ECL	**Taimali**	**0.47**	**179**	*i* P			Pg	19 35 13.7	+0.4
	baz=177								
ECL				*i* S			Sg	19 35 20.0	+0.5
	baz=177								
WCKO	**Fanlu**	**0.48**	**319**	P			Pg	19 35 14.0	+0.5
	baz=327								
WCKO				S			Sb	19 35 21.4	-0.6
	baz=327								
CHN3	**Shinhua**	**0.54**	**271**	*i* P			Pn	19 35 17.7	-0.2
	baz=272								
CHN3				S			Sn	19 35 27.1	+0.1
	baz=272								
MASBT	**Mashibuluo**	**0.54**	**212**	P			Pg	19 35 14.8	+0.2
	baz=212								
MASBT				S			Sg	19 35 22.1	+0.3
	baz=212								
SGLT	**Jiouru**	**0.54**	**231**	*i* P			Pb	19 35 16.3	+0.6
	baz=230								
SGLT				S			Sn	19 35 25.5	-1.7
	baz=230								
EHY	**Hungye**	**0.55**	**39**	*i* P			Pg	19 35 14.3	-0.6
	baz=41								
EHY				*i* S			Sg	19 35 21.1	-1.2
	baz=41								
TSPT	**Pingtung City**	**0.57**	**227**	P			Pb	19 35 16.9	+0.7
	baz=226								
HGSD	**Ruisui**	**0.61**	**46**	P			Pg	19 35 16.1	+0.2
	baz=40								
HGSD				S			Sb	19 35 25.2	-0.3
	baz=40								
SSHA	**Shanhua**	**0.61**	**276**	P			Pn	19 35 18.9	0.0
	baz=288								
SSHA				S			Sn	19 35 28.6	-0.2
	baz=288								
LDUT	**Ludao**	**0.62**	**129**	*i* P			Pb	19 35 16.8	-0.4
	baz=129								
LDUT				S			Sn	19 35 27.7	-1.5
	baz=129								
WHYT	**Xinyi Township**	**0.63**	**352**	*i* P			Pg	19 35 16.5	+0.2
	baz=351								
WHYT				*i* S			Sg	19 35 24.9	+0.4
	baz=351								
CHY	**Chiayi**	**0.64**	**312**	*i* P			Pb	19 35 18.1	+0.7
	baz=311								
CHY				*i* S			Sn	19 35 28.3	-1.3
	baz=311								
ICHU	**Yijhu**	**0.68**	**295**	*i* P			Pn	19 35 19.0	-0.8
	baz=295								
ICHU				S			Sn	19 35 30.4	-0.1
	baz=295								
EAST	**Anshuo**	**0.69**	**188**	*i* P			Pb	19 35 17.9	-0.4
	baz=179								
EAST				S			Sb	19 35 27.7	-0.3
	baz=179								
TAI	**Tainan**	**0.69**	**264**	*e*P			Pn	19 35 21.8	+1.8
	baz=264								
TAI				*e*S			Sn	19 35 34.5	+3.6
	baz=264								
SCLT	**Jiali**	**0.70**	**279**	P			Pn	19 35 19.6	-0.5
	baz=290								
SCLT				S			Sn	19 35 31.1	+0.1
	baz=290								
VWDT	**VWDT**	**0.70**	**15**	P			Pg	19 35 16.9	-0.9
	baz=15								
VWDT				S			Sb	19 35 29.2	+1.0
	baz=15								
SSLB	**Suanglung**	**0.71**	**1**	P			Pg	19 35 17.6	-0.3
SSLB	**Suanglung**	**0.71**	**1**	P			Pg	19 35 17.3	-0.6
	baz=1.0								
WDLH	**Douliu**	**0.72**	**329**	*i* P			Pn	19 35 19.9	-0.5
	baz=329								
CHN8	**Yiju**	**0.73**	**292**	*i* P			Pn	19 35 20.0	-0.5
	baz=293								
TAWH	**Dawu Township**	**0.73**	**184**	P			Pg	19 35 17.7	-0.5
	baz=184								
EGFH	**Guangfu**	**0.74**	**37**	*i* P			Pg	19 35 17.7	-0.8
	baz=38								
EGFH				*i* S			Sg	19 35 27.0	-1.1
	baz=38								
SCZT	**Fangliau**	**0.76**	**203**	*i* P			Pg	19 35 18.9	+0.2
	baz=197								
SCZT				*i* S			Sg	19 35 29.2	+0.5
	baz=197								
KAU	**Kaohsiung**	**0.77**	**230**	P			Pn	19 35 21.4	+0.3
	baz=227								
WJS	**Zhushan**	**0.77**	**345**	*i* P			Pn	19 35 20.5	-0.7
	baz=345								
TSCK	**Chigu Township**	**0.80**	**276**	P			Pn	19 35 21.2	-0.2
	baz=290								
TSCK				S			Sn	19 35 34.3	+0.9
	baz=290								
WSL	**Shuilin Townsh**	**0.80**	**304**	P			Pb	19 35 20.2	+0.1
	baz=304								
WSL				S			Sn	19 35 33.6	+0.2
	baz=304								
SMLT	**Sun Moon Lake**	**0.81**	**357**	*i* P			Pg	19 35 19.6	-0.1
	baz=3.0								
SMLT				S			Sn	19 35 33.1	-0.8
	baz=3.0								
TYC	**Yuchr**	**0.83**	**354**	*i* P			Pg	19 35 20.3	+0.1
	baz=353								
TYC				*i* S			Sn	19 35 34.6	+0.2
	baz=353								
WNT	**Mingjian**	**0.84**	**343**	*i* P			Pn	19 35 22.0	-0.1
	baz=342								
WNT				*i* S			Sn	19 35 34.7	+0.2
	baz=342								
SLIU	**Shizi**	**0.86**	**189**	*i* P			Pb	19 35 21.1	-0.1
	baz=188								
ESL	**Shilin**	**0.86**	**31**	*i* P			Pg	19 35 19.8	-1.0
	baz=39								
ESL				S			Sg	19 35 31.1	-0.9
	baz=39								
WSF	**Szhu**	**0.87**	**310**	*i* P			Pn	19 35 22.4	-0.2
	baz=310								
WSF				S			Sn	19 35 36.5	+1.2
	baz=310								
WLCH	**Liuqiu**	**0.89**	**216**	*i* P			Pn	19 35 26.1	+3.4
	baz=213								
OWD	**Renai**	**0.90**	**13**	*e*P			Pg	19 35 20.3	-1.3
	baz=25								
OWD				S			Sb	19 35 34.9	+0.7
	baz=25								
WUSB	**Renai**	**0.93**	**10**	*e*P			Pg	19 35 20.9	-1.1
	baz=10.0								
WRL	**Guolierlin Hig**	**0.98**	**328**	*i* P			Pb	19 35 23.4	+0.2
	baz=326								
WRL				S			Sb	19 35 37.0	+0.8
	baz=326								
WCS	**Beigang Elemen**	**0.98**	**358**	*i* P			Pg	19 35 22.9	-0.2
	baz=359								
CHGB	**Renai**	**1.01**	**12**	P			Pg	19 35 22.3	-1.2
	baz=12								
WCHH	**Zhanghua**	**1.06**	**341**	P			Pn	19 35 25.5	+0.3
	baz=338								
WCHH				S			Sn	19 35 42.0	+2.0
	baz=338								
HEN	**Hengchun**	**1.08**	**190**	*i* P			Pn	19 35 26.6	+1.3
	baz=177								
HWA	**Hwalien**	**1.09**	**34**	*i* P			Pg	19 35 24.6	-0.4
	baz=44								
HWA				S			Sn	19 35 40.9	+0.3
	baz=44								
TCU	**Taichung**	**1.10**	**347**	*i* P			Pn	19 35 26.9	+1.2
	baz=345								
TCU				*i* S			Sn	19 35 42.4	+1.4
	baz=345								
WHF	**Hehuan Shan**	**1.11**	**15**	*i* P			Pg	19 35 24.5	-1.0
	baz=30								
WHF				S			Sn	19 35 42.9	+1.1
	baz=30								
TSEB	**Hengchuen, Pin**	**1.17**	**182**	*i* P			Pn	19 35 27.9	+1.3
	baz=169								
TSEB				S			Sn	19 35 45.4	+2.9
	baz=169								
TWD	**Chiawan**	**1.17**	**31**	*i* P			Pb	19 35 25.5	-1.0
	baz=33								
TWD				*i* S			Sb	19 35 40.9	-0.8
	baz=33								
LAY	**Lan-yu**	**1.17**	**151**	*i* P			Pb	19 35 25.6	-0.9
	baz=152								
TDCB	**Techi**	**1.19**	**9**	P			Pn	19 35 27.2	+0.1
	baz=7.0								
TDCB				S			Sn	19 35 43.7	+0.3
	baz=7.0								
TWT	**Tachien**	**1.20**	**10**	*i* P			Pn	19 35 27.3	+0.1
	baz=7.0								
TWT				S			Sn	19 35 44.5	+1.0
	baz=7.0								
WDGT	**Dungji**	**1.20**	**279**	*i* P			Pg	19 35 27.4	+0.3
	baz=279								
WDGT				*i* S			Sn	19 35 43.6	+0.3
	baz=279								
WHP	**Taichung City**	**1.20**	**360**	*i* P			Pn	19 35 28.2	+1.0
	baz=357								
WHP				S			Sn	19 35 45.8	+2.2
	baz=357								
FUSS	**Fushou**	**1.20**	**13**	*e*P			Pb	19 35 25.7	-1.5
	baz=11								
FUSS				S			Sn	19 35 43.8	0.0
	baz=11								
LYUB	**Lan-yu**	**1.22**	**151**	P			Pn	19 35 23.5	-3.8
	baz=151								
ETLH	**Xiulin Townshi**	**1.23**	**23**	P			Pn	19 35 26.9	-0.7
	baz=36								
ETLH				S			Sg	19 35 43.9	+0.1
	baz=36								
ETL	**Fush Village**	**1.25**	**30**	P			Pn	19 35 27.7	0.0
	baz=31								
ETL				S			Sb	19 35 43.9	-0.1
	baz=31								
NACB	**Ninganchiao**	**1.25**	**28**	P			Pn	19 35 27.3	-0.4
	baz=30								
NACB				S			Sb	19 35 44.1	+0.1
	baz=30								
TWQ1	**Liyutan**	**1.28**	**353**	*i* P			Pg	19 35 30.0	+1.2
	baz=351								
TWQ1				*e*S			Sn	19 35 50.0	+4.5
	baz=351								
WDJ	**Dajia District**	**1.30**	**348**	*i* S			Sg	19 35 50.1	+4.0
	baz=346								
PHUB	**P'eng-hu**	**1.34**	**289**	P			Pb	19 35 29.3	0.0
	baz=289								
PHUB				S			Sb	19 35 46.6	0.0
	baz=289								
NSY	**Sanyi**	**1.35**	**353**	*i* P			Pg	19 35 30.8	+0.7
	baz=351								
NSY				*i* S			Sg	19 35 51.5	+3.9
	baz=351								
PNG	**Penghu**	**1.37**	**291**	*i* P			Pb	19 35 29.9	0.0
	baz=291								
PNG				*i* S			Sg	19 35 48.3	+0.1
	baz=291								
VCHM

	baz=35							
NSTT	**Nanjuang**	**1.55**	**2**	*i* P		Pg	19 35 34.1	+0.2
	baz=360							
NSTT				S		Sg	19 35 56.5	+2.4
	baz=360							
NFF	**Wufeng Townshi**	**1.56**	**6**	P		Pb	19 35 33.1	-0.1
	baz=8.0							
EWUT	**Wuta**	**1.57**	**29**	*i* P		Pn	19 35 32.2	+0.2
	baz=29							
LIOB	**Emei**	**1.57**	**2**	*i* P		Pg	19 35 34.7	+0.5
LIOB				*i* S		Sg	19 35 56.5	+1.9
NDT	**Datong Townshi**	**1.61**	**19**	P		Pb	19 35 33.9	-0.1
	baz=34							
NDT				S		Sg	19 35 56.5	+0.5
	baz=34							
YHNB	**Yeheng**	**1.64**	**14**	P		Pg	19 35 35.1	-0.5
	baz=15							
NSK	**Sanguang**	**1.64**	**13**	*i* P		Pn	19 35 33.7	+0.5
	baz=11							
NSK				*i* S		Sb	19 35 56.0	+0.7
	baz=11							
ENTT	**Nioudou**	**1.66**	**20**	*i* P		Pn	19 35 33.6	+0.2
	baz=35							
ENTT				S		Sg	19 35 56.8	-0.8
	baz=35							
TWC	**Suao**	**1.74**	**28**	*i* P		Pb	19 35 35.8	-0.4
	baz=31							
TWC				*i* S		Sg	19 35 59.3	-0.8
	baz=31							
TWE	**Neicheng**	**1.77**	**22**	*i* P		Pb	19 35 36.3	-0.4
	baz=41							
TWE				*i* S		Sg	19 36 00.7	-0.4
	baz=41							
FUSB	**Fushanzhiwuyua**	**1.78**	**19**	P		Pb	19 35 37.2	+0.2
	baz=36							

*NEIC **21** 19:44:07.7±1.5,55.°07S±0.°1×31.°1W±0.°2, h10km±1km, mb4.5/16, Error ellipse: s-maj=24.5km s-min=17.8km az=39.0*
*IDC **21** 19:44:14.7±6.0,55.°18S×31.°33W, h67km±55km, mb3.8/8, mbtmp4.1/8, Error ellipse: s-maj=30.2km s-min=17.0km az=57.0*
ISC 21 19:44:07.5±0.5, 55.°07S±0.°09×31.°2W±0.°1, h10km, n42, σ0s97/36, mb4.5/14, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**3.15**	**282**			**Pn**	**19 44 56.8**	**-0.2**
VNA1	**Neumayer--Stat**	**18.60**	**156**	P		**Pn**	**19 48 24.8**	**+0.1**
VNA3	**Neumayer Olymp**	**18.72**	**158**	P		**Pn**	**19 48 26.2**	**0.0**
VNA2	**Neumayer--Watz**	**19.00**	**156**	P		**Pn**	**19 48 29.3**	**-0.2**
	baz=307,slow=12							
SNAA	**Sanae**	**20.59**	**155**	P		**P**	**19 48 46.3**	**-0.1**
SNAA	**Sanae**	**20.59**	**155**	P		**P**	**19 48 46.3**	**-0.1**
	2.5nm,0.7s,baz=301,slow=11,SNR=17							
	2.5nm,0.7s							
SNAA	**Sanae**	**20.59**	**155**	P		**P**	**19 48 46.2**	**-0.1**
TROLL	**Troll, Antarti**	**22.16**	**153**	P		**P**	**19 49 03.2**	**0.0**
BELA	**Belgrano 2**	**22.94**	**182**	P		**P**	**19 49 13.1**	**+1.8**
CPUP	**Villa Florida**	**34.47**	**316**	P		**P**	**19 50 55.3**	**0.0**
	1.8nm,0.6s,baz=149,slow=8.0,SNR=4.6							
	1.8nm,0.6s							
QSPA	**South Pole Qui**	**35.18**	**180**	P		**P**	**19 51 01.6**	**+0.3**
	1.2nm,0.7s,baz=203,slow=2.5,SNR=12							
	1.2nm,0.7s							
QSPA	**South Pole Qui**	**35.18**	**180**	P		**P**	**19 51 01.0**	**-0.3**
QSPA				IAmb		IAmb	19 51 11.3	
	comp=Z,5.4nm,1.1s							
CO01	**Juntas del Tor**	**37.32**	**296**	P		**P**	**19 51 20.8**	**+0.8**
CO01				IAmb		IAmb	19 51 20.8	
	comp=Z,17nm,1.5s							
AC05	**El Transito**	**38.33**	**297**			**P**	**19 51 28.8**	**+0.4**
AC05				IAmb		IAmb	19 52 01.5	
	comp=Z,18nm,1.4s							
GO02	**Mina Guanaco**	**41.01**	**301**	P		**P**	**19 51 52.0**	**+1.1**
GO02				IAmb		IAmb	19 51 53.5	
	comp=Z,5.2nm,0.7s							
PB01	**IPOC Station P**	**44.44**	**304**	P		**P**	**19 52 17.9**	**-0.7**
PTLB	**Pontes e Lacer**	**45.03**	**320**	P		**P**	**19 52 23.3**	**+0.1**
PTLB				IAmb		IAmb	19 52 24.1	
	comp=Z,5.0nm,0.6s							
SIV	**San Ignacio**	**45.27**	**318**	P		**P**	**19 52 24.9**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=171,slow=11,SNR=5.1							
	comp=Z,0.9nm,0.4s							
GO01	**Chusmiza**	**45.49**	**306**	P		**P**	**19 52 27.4**	**0.0**
GO01				IAmb		IAmb	19 52 31.3	
	comp=Z,5.0nm,0.9s							
VNDA	**Vanda**	**47.42**	**184**	P		**P**	**19 52 41.1**	**-0.2**
H10S2	**ASCENSION HYDR**	**47.84**	**22**	T		T	20 44 22.5	
	baz=191							
H10S3	**ASCENSION HYDR**	**47.85**	**22**	T		T	20 44 24.8	
	baz=29							
LPAZ	**La Paz**	**47.95**	**309**	P		**P**	**19 52 47.9**	**+1.1**
	comp=Z,6.0nm,0.5s,baz=110,slow=5.2,SNR=17							
	comp=Z,6.0nm,0.5s							
LPAZ	**La Paz**	**47.95**	**309**	P		**P**	**19 52 48.0**	**+1.2**
BOSA	**Boshof**	**48.02**	**80**	P		**P**	**19 52 48.6**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=257,slow=15,SNR=1.2							
	comp=Z,0.8nm,0.6s							
H10N1	**ASCENSION HYDR**	**48.96**	**22**	T		T	20 45 42.5	
	baz=191,slow=76,SNR=8.8							
H10N3	**ASCENSION HYDR**	**48.96**	**22**	T		T	20 45 52.1	
	baz=191,slow=76,SNR=11							
H10N2	**ASCENSION HYDR**	**48.98**	**22**	T		T	20 45 50.7	
	baz=191,slow=76,SNR=12							
RCBR	**Riachuelo**	**49.24**	**354**	P		**P**	**19 52 58.1**	**+2.0**
	comp=Z,7.7nm,0.8s,baz=188,slow=10,SNR=2.4							
	comp=Z,7.7nm,0.8s							
SAML	**Samuel**	**52.51**	**319**	P		**P**	**19 53 20.8**	**+0.1**
SAML				IAmb		IAmb	19 53 21.5	
	comp=Z,3.9nm,0.8s							
BOAV	**Boa Vista**	**62.14**	**326**	P		**P**	**19 54 28.4**	**-0.3**
BOAV				IAmb		IAmb	19 54 29.9	
	comp=Z,7.1nm,1.5s							
DBIC	**Dimbokro**	**65.33**	**29**	P		**P**	**19 54 48.5**	**-1.1**
TOA0	**Torodi Ar. Sit**	**73.42**	**34**	P		**P**	**19 55 39.6**	**-0.1**
TOA0				IAmb		IAmb	19 55 49.5	
	comp=Z,7.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**73.42**	**34**	P		**P**	**19 55 39.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=200,slow=6.8,SNR=6.9							
	comp=Z,0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**73.42**	**34**	P		**P**	**19 55 39.2**	**-0.4**
ASAR	**Alice Springs**	**100.56**	**166**	P		**Pdif**	**19 57 52.9**	**-2.4**
	comp=Z,0.3nm,0.9s,baz=184,slow=3.4,SNR=4.3							
FINES	**FINESS Array B**	**124.62**	**29**	PKP		**PKPdf**		**20 03 05.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=161,slow=5.1,SNR=1.6							
AKTO	**Aktyubinsk**	**128.62**	**55**	PKP		**PKPdf**		**20 03 13.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=270,slow=6.1,SNR=1.8							
MKAR	**Makanchi Array**	**138.78**	**73**	PKP		**PKPdf**		**20 03 30.6**	**-2.2**
	comp=Z,0.1nm,0.5s,baz=302,slow=1.4,SNR=1.7							
ZALV	**Zalesovo Beam**	**144.01**	**65**	PKP		PKPbc	20 03 39.8	-0.1
	comp=Z,0.8nm,0.4s,baz=271,slow=3.3,SNR=3.4							
ILAR	**Eielson Array**	**147.76**	**314**	PKPbc		**PKPbc**	**20 03 50.3**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=121,slow=1.8,SNR=18							
SONM	**Songino Array**	**152.97**	**88**	PKPbc		**PKPbc**	**20 04 02.8**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=222,slow=4.3,SNR=4.9							

*PRU **21** 19:56:47.9±0.0,50.°05N×18.°47E, h0km*
*IPEC **21** 19:56:47.3±0.2,50.°06N×18.°56E, h1km, ML2.3/4, Error ellipse: s-maj=2.0km s-min=1.1km az=164.0*
*VIE **21** 19:56:50.0,50.°05N×18.°17E, h0km, ML2.8/1 25 km NNW of Ostrava Suspected Mining induced.*
ISC 21 19:56:47.2±0.8, 50.°07N±0.°03×18.°49E±0.°02, h0km, n45, σ0s84/86, 11C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.32**	**223**	*e*PG		**Pg**	**19 56 54.2**	**+0.8**
OKC				*e*SG		**Sg**	**19 56 57.6**	**+0.1**
	comp=Z,247nm,1.0s							
MORC	**Moravsky Berou**	**0.68**	**245**	*e*Pg		**Pg**	**19 57 00.7**	**+0.6**
	baz=66							
MORC				*e*Sg		**Sg**	**19 57 09.7**	**+0.7**
	49nm,0.5s,baz=66							
MORC	**Moravsky Berou**	**0.68**	**245**	*e*PG		**Pg**	**19 57 00.8**	**+0.6**
MORC				*e*SG		**Sg**	**19 57 09.8**	**+0.7**
MAUC	**Maruska**	**0.83**	**212**	*e*PG		**Pg**	**19 57 03.3**	**+0.3**
MAUC				*e*SG		**Sg**	**19 57 13.7**	**-0.1**
	comp=Z,93nm,0.4s							
OJC	**Ojcow**	**0.85**	**80**	*e*Pg		**Pg**	**19 57 02.5**	**-1.0**
OJC				*e*Sg		**Sg**	**19 57 14.8**	**+0.3**
KRLC	**Kraliky**	**1.10**	**271**	*e*PG		**Pg**	**19 57 08.0**	**-0.3**
KRLC				*e*SG		**Sg**	**19 57 22.8**	**+0.3**
	comp=Z,21nm,0.3s							

LANS	**Liptovska Anna**	**1.12**	**145**	*e*PG		**Pg**	**19 57 08.9**	**+0.3**
LANS				*e*SG		**Sb**	**19 57 24.9**	**+0.3**
LANS				*e*Lg		Lg	19 57 27.9	
JAVC	**Velka Javorina**	**1.33**	**204**	*e*Pg		**Pg**	**19 57 12.6**	**0.0**
	baz=25							
NIE	**Niedzica**	**1.34**	**119**	*e*Pg		**Pg**	**19 57 12.8**	**-0.1**
NIE				*e*Sg		**Sn**	**19 57 32.5**	**+0.8**
DPC	**Dobruska-Polom**	**1.42**	**282**	*e*PG		**Pn**	**19 57 13.9**	**-0.4**
DPC				*e*SG		**Sb**	**19 57 33.2**	**0.0**
	comp=Z,31nm,0.6s							
VRAC	**Vranov**	**1.45**	**239**	⇑P		**Pn**	**19 57 14.4**	**-0.3**
VRAC				⇑S		**Sn**	**19 57 34.4**	**0.0**
VRAC	**Vranov**	**1.45**	**239**	*e*Pg		**Pn**	**19 57 14.3**	**-0.4**
	baz=59							
VRAC				*e*Sg		**Sg**	**19 57 33.5**	**-0.2**
	31nm,0.4s,baz=59							
VRAC	**Vranov**	**1.45**	**239**	*e*PG		**Pn**	**19 57 14.4**	**-0.3**
VRAC				*e*SG		**Sg**	**19 57 33.6**	**-0.2**
OSTC	**Ostas**	**1.54**	**289**	*e*PG		**Pn**	**19 57 15.9**	**0.0**
OSTC				*e*SG		**Sb**	**19 57 38.3**	**+1.8**
	comp=Z,37nm,1.1s							
VYHS	**Vyhne**	**1.60**	**172**	*e*PG		**Pn**	**19 57 16.1**	**-0.6**
VYHS				*e*SG		**Sg**	**19 57 38.6**	**+0.2**
VYHS				*e*Lg		Lg	19 57 45.1	
KSP	**Ksiaz**	**1.60**	**300**	*e*Pg		**Pn**	**19 57 16.5**	**-0.3**
KSP				*e*Sg		**Sg**	**19 57 39.9**	**+1.2**
CHVC	**Chvalec**	**1.65**	**289**	*e*PG		**Pn**	**19 57 17.7**	**+0.4**
CHVC				*e*SG		**Sg**	**19 57 41.0**	**+1.0**
	comp=Z,41nm,1.2s							
UPC	**Upice**	**1.65**	**286**	*e*PG		**Pb**	**19 57 18.2**	**-0.2**
UPC				*e*SG		**Sg**	**19 57 41.7**	**+1.6**
	comp=Z,52nm,1.1s							
KRUC	**Moravsky**	**1.70**	**234**	*e*Pn		**Pn**	**19 57 18.4**	**+0.3**
	baz=54							
KRUC				*e*Sg		**Sb**	**19 57 41.3**	**+0.1**
	18nm,0.4s,baz=54							
MODS	**Modra-Piesok**	**1.88**	**206**	*e*PG		**Pg**	**19 57 23.4**	**+0.3**
MODS				*e*SG		**Sn**	**19 57 45.5**	**+0.6**
KECS	**Kecovo**	**2.06**	**140**	*e*PN		**Pn**	**19 57 22.5**	**-0.5**
KECS				*e*SN		**Sn**	**19 57 47.7**	**-1.7**
ZST	**Bratislava**	**2.09**	**206**	*e*SG		**Sn**	**19 57 49.0**	**-1.1**
CRVS	**Cervenica-Dubn**	**2.26**	**120**	*e*PN		**Pb**	**19 57 29.5**	**+0.6**
PSZ	**Piszkesteto**	**2.35**	**156**	⇑P		**Pn**	**19 57 27.4**	**+0.4**
PSZ				⇓S		**Sn**	**19 57 56.0**	**-0.6**
PSZ	**Piszkesteto**	**2.35**	**156**	P		**Pn**	**19 57 27.7**	**+0.7**
GOPC	**GO Pecny, Ondr**	**2.40**	**268**	*e*PG		**Pb**	**19 57 30.4**	**-0.8**
GOPC				*e*SG		**Sg**	**19 58 03.2**	**-0.9**
	comp=Z,11nm,0.6s							
PRU	**Pruhonice**	**2.55**	**270**	*e*PN		**Pn**	**19 57 29.9**	**+0.2**
PRU				*e*PG		**Pb**	**19 57 33.6**	**-0.1**
PRU				*e*SG		**Sg**	**19 58 08.2**	**-0.8**
	comp=Z,9.0nm,0.8s							
PVCC	**Panska Ves**	**2.56**	**282**	*e*PG		**Pb**	**19 57 34.9**	**+1.0**
PVCC				*e*SG		**Sg**	**19 58 09.8**	**+0.6**
	comp=Z,19nm,0.5s							
KOLS	**Kolonicke sedl**	**2.72**	**113**	*e*PG		**Pg**	**19 57 40.3**	**+1.1**
CONA	**Conrad Observa**	**2.76**	**220**	*e*Pn		**Pn**	**19 57 32.2**	**-0.5**
	0.5nm,0.3s							
CONA				Sg		**Sg**	**19 58 15.0**	**-0.8**
	4.4nm,0.4s							
RONA	**Rosalia, Austr**	**2.78**	**212**	*e*Pn		**Pn**	**19 57 33.0**	**0.0**
	0.8nm,0.3s							
RONA				*e*Sn		**Sn**	**19 58 07.1**	**-0.1**
	2.3nm,0.3s							
CKRC	**Cesky Krumlov**	**3.00**	**247**	*e*PN		**Pn**	**19 57 36.1**	**+0.1**
CKRC				*e*PG		**Pb**	**19 57 41.4**	**-0.1**
CKRC				*e*SG		**Sg**	**19 58 22.1**	**-1.5**
BRG	**Berggiesshubel**	**3.01**	**287**	Pg		**Pg**	**19 57 43.4**	**-1.6**
BRG				Sg		**Sg**	**19 58 23.7**	**-0.2**
BRG				Amp			19 58 29.8	
	comp=Z,5.4nm,0.4s							
TRPA	**Tarpa**	**3.29**	**125**	⇑P		**Pn**	**19 57 40.0**	**+0.1**
TRPA				⇑S		**Sn**	**19 58 18.4**	**-1.4**
TRPA	**Tarpa**	**3.29**	**125**	PN		**Pn**	**19 57 40.5**	**+0.5**
TRPA				PG		**Pg**	**19 57 50.9**	**+0.6**
KHC	**Kasperske Hory**	**3.33**	**255**	*e*PN		**Pn**	**19 57 40.3**	**-0.2**
KHC				*e*PG		**Pb**	**19 57 47.9**	**+0.8**
KHC				*e*SN		**Sn**	**19 58 18.0**	**-2.8**
KHC				*e*SG		**Sg**	**19 58 32.6**	**-1.6**
	comp=Z,8.0nm,0.4s							
ARSA	**Arzberg**	**3.44**	**216**	*i* Pn		**Pn**	**19 57 42.6**	**+0.5**
	comp=Z,0.6nm,0.3s							
MOA	**Molln**	**3.56**	**233**	*i* Pn		**Pn**	**19 57 43.2**	**-0.5**
	comp=Z,0.4nm,0.2s							
MOA				*e*Pg		**Pb**	**19 57 53.1**	**+2.0**
	comp=Z,1.4nm,0.3s							
MOA				*e*Sg		**Sg**	**19 58 39.4**	**-2.2**
	comp=Z,3.6nm,0.5s							
CLL	**Collm**	**3.70**	**292**	*e*Pn		**Pb**	**19 57 54.0**	**+0.6**
CLL				*e*Pg		**Pg**	**19 57 59.0**	**+0.9**
CLL				*e*Sg		**Sg**	**19 58 46.0**	**0.0**
	comp=Z,7.0nm,0.8s							
NKC	**Novy Kostel**	**3.89**	**275**	*e*SG		**Sg**	**19 58 51.5**	**-0.6**
	comp=Z,11nm,0.9s							
DRGR		**4.32**	**138**	⇑P		**Pn**	**19 57 54.2**	**0.0**
DRGR				⇑S		**Sn**	**19 58 43.9**	**-1.3**
SIRR	**Siria**	**4.36**	**150**	⇑P		**Pn**	**19 57 54.3**	**-0.3**
SIRR				⇑S		**Sn**	**19 58 45.3**	**-0.8**
BZS	**Buzias**	**4.93**	**154**	⇑P		**Pn**	**19 58 02.2**	**-0.2**
BURAR	**Bucovina Array**	**5.08**	**116**	⇑P		**Pn**	**19 58 03.4**	**-1.1**
GZR	**Gura Zlata**	**5.50**	**147**	⇓P		**Pn**	**19 58 10.2**	**-0.2**

*NOU **21** 20:15:18.3,37.°33S×179.°97E, h103km, MLv4.2/6, Off E. Coast of N. Island, N.Z.*
*WEL **21** 20:15:27.2±1.2,37.°5S±5.°1×17.°9E±.°, h13km±4km, M3.2/15, ML3.5/20, MLv3.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=92.7*
ISC 21 20:15:25.6±2.6, 37.°34S±0.°08×179.°1E±0.°1, h21km±6km, n51, σ0s92/60, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.66**	**250**	P		**Pb**	**20 15 37.5**	**-0.8**
MXZ				S		**Sb**	**20 15 44.6**	**-2.4**
WMGZ	**Waiomatatini S**	**0.71**	**228**	P		**Pn**	**20 15 40.8**	**+0.4**
WMGZ				S		**Sn**	**20 15 50.7**	**0.0**
PKGZ	**Pakihiroa**	**0.97**	**235**	P		**Pn**	**20 15 43.9**	**0.0**
PKGZ				S		**Sb**	**20 15 56.1**	**+0.2**
PUZ	**Puketiti**	**0.98**	**222**	P		**Pn**	**20 15 44.7**	**+0.7**
PUZ				S		**Sn**	**20 15 57.3**	**0.0**
HAZ	**Te Kaha**	**1.11**	**248**	P		**Pn**	**20 15 45.0**	**-0.8**
HAZ				S		**Sb**	**20 15 59.7**	**-0.4**
TWGZ	**Tauwhareparae**	**1.21**	**226**	P		**Pb**	**20 15 48.0**	**+0.3**
TWGZ				S		**Sb**	**20 16 03.8**	**+0.9**
RUGZ	**Raukumara Rang**	**1.28**	**240**	P		**Pb**	**20 15 48.9**	**-0.1**
CNGZ	**Carnagh Statio**	**1.33**	**211**	P		**Pb**	**20 15 50.6**	**+0.8**
CNGZ				S		**Sb**	**20 16 08.8**	**+2.3**
TKGZ	**Te Karaka**	**1.47**	**221**	P		**Pb**	**20 15 51.3**	**-0.8**
TKGZ				S		**Sn**	**20 16 09.2**	**-0.1**
MWZ	**Matawai**	**1.58**	**231**	P		**Pn**	**20 15 52.9**	**+0.5**
RIGZ	**Rimuhau**	**1.71**	**217**	P		**Pn**	**20 15 54.5**	**+0.3**
URZ	**Urewera**	**1.81**	**239**	P		**Pn**	**20 15 56.3**	**+0.9**
URZ				S		**Sn**	**20 16 18.1**	**+0.4**
URZ	**Urewera**	**1.81**	**239**	P		**Pn**	**20 15 56.4**	**+0.9**
SNGZ	**Shannon Statio**	**1.99**	**223**	P		**Pn**	**20 15 58.8**	**+0.9**
EDRZ	**Edgecumbe**	**2.01**	**247**	P		**Pn**	**20 15 59.2**	**+0.9**
OPRZ	**Ohinepanea**	**2.07**	**255**	P		**Pn**	**20 15 59.2**	**+0.2**
RTZ	**Ruatahuna**	**2.09**	**232**	P		**Pn**	**20 16 00.3**	**+0.9**
MUGZ	**Murupara**	**2.15**	**238**	P		**Pn**	**20 16 00.7**	**+0.6**
RAHZ	**Arahi**	**2.22**	**224**	P		**Pn**	**20 16 01.9**	**+0.7**
TARZ	**Mount Tarawera**	**2.23**	**246**	P		**Pn**	**20 16 02.4**	**+1.1**
MTHZ	**Maungataniwha**	**2.32**	**229**	P		**Pn**	**20 16 03.4**	**+0.8**
NMHZ	**Naumai**	**2.51**	**225**	P		**Pn**	**20 16 05.9**	**+0.8**
ARHZ	**Aropaoanui**	**2.52**	**220**	P		**Pn**	**20 16 05.6**	**+0.3**
BKZ	**Black Stump Fm**	**2.73**	**227**	P		**Pn**	**20 16 08.4**	**+0.3**
BKZ	**Black Stump Fm**	**2.73**	**227**	P		**Pn**	**20 16 08.5**	**+0.3**
KUZ	**Kuaotunu**	**2.75**	**281**	P		**Pn**	**20 16 06.8**	**-1.7**
MCHZ	**McNeill Hill**	**2.81**	**221**	P		**Pn**	**20 16 09.2**	**-0.1**
KAHZ	**Kahuranaki**	**3.00**	**215**	P		**Pn**	**20 16 11.2**	**-0.7**
GRZ	**Great Barrier**	**3.11**	**289**	P		**Pn**	**20 16 14.4**	**+1.1**
KRHZ	**Kereru**	**3.13**	**222**	P		**Pn**	**20 16 12.6**	**-1.0**
MKAZ	**Moumakai**	**3.14**	**273**	P		**Pn**	**20 16 14.3**	**+0.6**
TMVZ	**Te Maari**	**3.19**	**235**	P		**Pn**	**20 16 14.9**	**+0.3**
BHHZ	**Black Hill Sta**	**3.20**	**227**	P		**Pn**	**20 16 14.3**	**-0.3**
ETVZ	**East Tongariro**	**3.20**	**235**	P		**Pn**	**20 16 14.9**	**+0.2**
NTVZ	**North Tongarir**	**3.20**	**236**	P		**Pn**	**20 16 14.8**	**+0.1**
WIAZ	**Waiheke Island**	**3.21**	**279**	P		**Pn**	**20 16 15.7**	**+1.0**
OTVZ	**Oturere**	**3.25**	**235**	P		**Pn**	**20 16 15.3**	**0.0**
NNVZ	**North Ngauruho**	**3.26**	**236**	P		**Pn**	**20 16 16.1**	**+0.5**
SNVZ	**South Ngauruho**	**3.27**	**235**	P		**Pn**	**20 16 15.8**	**+0.1**
NGZ	**Ngauruhoe**	**3.29**	**235**	P		**Pn**	**20 16 16.4**	**+0.3**
TUVZ	**Tukino**	**3.31**	**233**	P		**Pn**	**20 16 16.5**	**+0.3**
MOVZ	**Moawhango**	**3.33**	**231**	P		**Pn**	**20 16 16.5**	**+0.1**
WNVZ	**Wahianoa**	**3.38**	**233**	P		**Pn**	**20 16 17.0**	**-0.2**
PNHZ	**Pukenui**	**3.42**	**220**	P		**Pn**	**20 16 16.0**	**-1.6**
HIZ	**Hauiti**	**3.54**	**249**	P		**Pn**	**20 16 20.6**	**+1.4**
HIZ	**Hauiti**	**3.54**	**249**	P		**Pn**	**20 16 20.6**	**+1.4**
AWAZ	**Awhitu Peninsu**	**3.56**	**273**	P		**Pn**	**20 16 21.0**	**+1.5**
BFZ	**Birch Farm**	**4.00**	**213**	P		**Pn**	**20 16 23.2**	**-2.4**
WAZ	**Wanganui**	**4.01**	**232**	P		**Pn**	**20 16 26.4**	**+0.7**
OUZ	**Omahuta**	**4.91**	**294**	P		**Pn**	**20 16 38.6**	**+0.5**
QRZ	**Quartz Range**	**6.17**	**234**	P		**Pn**	**20 16 54.5**	**-0.9**
	33nm,2.2s							

*NEIC **21** 20:18:02.5±0.7, 37.°12S±0.°05×179.°3E±0.°1, h6km±7km, mb4.4/12, Error ellipse: s-maj=13.1km s-min=4.3km az=117.0*
*IDC **21** 20:18:03.5±3.4, 36.°89S×178.°78E, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=72.7km s-min=31.3km az=119.0*
*WEL **21** 20:18:07.0±1.0, 37.°5S±4.°×17.°9E±.°, h20km, M3.4/19, ML3.8/25, MLv3.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=85.4*
ISC 21 20:18:03.8±1.9, 37.°15S±0.°06×179.°19E±0.°08, h17km±11km, n79, σ1s25/87, mb4.4/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.81**	**240**	Pg		**Pb**	**20 18 19.2**	**-0.2**
MXZ	**Matakaoa Point**	**0.81**	**240**	P		**Pb**	**20 18 19.2**	**-0.2**
MXZ				S		**Sb**	**20 18 27.1**	**-3.0**
WMGZ	**Waiomatatini S**	**0.91**	**223**	P		**Pn**	**20 18 23.4**	**+1.6**
WMGZ				S		**Sn**	**20 18 35.7**	**+1.3**
PKGZ	**Pakihiroa**	**1.15**	**230**	P		**Pb**	**20 18 25.6**	**+0.3**
PKGZ				S		**Sb**	**20 18 40.5**	**+0.7**
PUZ	**Puketiti**	**1.18**	**219**	P		**Pg**	**20 18 27.0**	**+0.5**
PUZ				S		**Sn**	**20 18 41.9**	**+0.7**
HAZ	**Te Kaha**	**1.27**	**241**	P		**Pb**	**20 18 26.1**	**-0.6**
HAZ				S		**Sb**	**20 18 42.6**	**-0.7**
TWGZ	**Tauwhareparae**	**1.40**	**223**	P		**Pb**	**20 18 30.2**	**+0.7**
TWGZ				S		**Sg**	**20 18 48.6**	**-0.4**
RUGZ	**Raukumara Rang**	**1.45**	**236**	P		**Pb**	**20 18 30.3**	**-0.1**
RUGZ				S		**Sb**	**20 18 49.0**	**+0.4**
CNGZ	**Carnagh Statio**	**1.54**	**210**	P		**Pb**	**20 18 32.8**	**+0.9**
CNGZ				S		**Sg**	**20 18 53.2**	**-0.2**
TKGZ	**Te Karaka**	**1.67**	**219**	P		**Pn**	**20 18 33.4**	**+1.2**
MWZ	**Matawai**	**1.77**	**228**	P		**Pb**	**20 18 35.2**	**-0.5**
URZ	**Urewera**	**1.98**	**236**	Pn		**Pn**	**20 18 37.6**	**+1.0**
	28nm,0.3s,baz=19,slow=0.6,SNR=32							
URZ				Sn		**Sn**	**20 19 00.9**	**-0.2**
	30nm,0.3s,baz=283,slow=18,SNR=17							
URZ	**Urewera**	**1.98**	**236**	P		**Pn**	**20 18 37.8**	**+1.2**
SNGZ	**Shannon Statio**	**2.19**	**221**	P		**Pn**	**20 18 40.9**	**+1.5**
OPRZ	**Ohinepanea**	**2.20**	**251**	P		**Pn**	**20 18 40.2**	**+0.6**
KNZ	**Kokohu**	**2.21**	**212**	P		**Pn**	**20 18 40.3**	**+0.6**
RTZ	**Ruatahuna**	**2.28**	**229**	P		**Pn**	**20 18 42.3**	**+1.6**
MUGZ	**Murupara**	**2.33**	**235**	P		**Pn**	**20 18 42.3**	**+1.0**
TARZ	**Mount Tarawera**	**2.38**	**242**	P		**Pn**	**20 18 44.2**	**+2.0**
RAHZ	**Arahi**	**2.42**	**223**	P		**Pn**	**20 18 44.3**	**+1.7**

mbtmp3.6/9,ML3.4/4,MS3.3/3,Error ellipse: s-maj=39.0km s-min=17.8km az=70.0
*DJA **21** 20:34:05.8±0.6,8˚S±3˚×11˚9E±˚,h12km±6km,M3.9/11, MLv3.9/11*
ISC 21 20:34:08.3±0.8,**7˚79S**±0.05˚×**118˚60E**±0.05˚,**h35**km,**n20,** σ1§**32**/21,**mb3.7**/5,**Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.31**	**218**	P	**Pn**	**20 34 29.7**	**-0.5**
PLAI				S	**Sn**	**20 34 48.4**	**+1.9**
TWSI	**Taliwang, Sumb**	**1.94**	**241**	P	**Pn**	**20 34 38.7**	**-0.2**
BSSI	**Bau Bau, Buton**	**2.49**	**49**	P	**Pn**	**20 34 46.8**	**+0.4**
BKSI	**Bulukumba**	**2.88**	**32**	P	**Pn**	**20 34 51.4**	**-0.4**
KAPI	**Kappang**	**2.99**	**23**	Pn	**Pn**	**20 34 52.6**	**-0.7**
	3.6nm,0.3s,baz=281,slow=14,SNR=4.3						
KAPI				Sn	**Sn**	**20 35 27.0**	**-0.8**
	22nm,0.3s,baz=162,slow=20,SNR=6.3						
KAPI				LR	LR	20 36 11.4	
	comp=Z,209nm,18.4s,baz=155,slow=44 12nm,0.3s						
EDFI	**Ende, Flores**	**3.20**	**108**	P	**Pn**	**20 34 56.5**	**+0.2**
SRBI	**Singaraja**	**3.37**	**265**	P	**Pn**	**20 34 57.7**	**-0.8**
MMRI	**Maumere**	**3.69**	**103**	P	**Pn**	**20 35 03.2**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.46**	**261**	P	**Pn**	**20 35 12.8**	**-0.7**
KMMI	**Kalianget**	**4.66**	**279**	P	**Pn**	**20 35 16.0**	**-0.2**
BATI	**Baumata**	**5.54**	**116**	Pn	**Pn**	**20 35 28.9**	**+0.5**
	1.3nm,0.3s,baz=27,slow=19,SNR=1.8 4.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.32**	**147**	Pn	**Pn**	**20 36 59.7**	**-1.7**
	0.1nm,0.3s,baz=3.6,slow=12,SNR=5.4						
FITZ				Sn	**Sn**	**20 39 13.5**	**-4.1**
	0.1nm,0.3s,baz=270,slow=20,SNR=3.9 0.7nm,0.6s						
WRA	**Warramunga Arr**	**19.45**	**130**	P	**P**	**20 38 32.7**	**+0.5**
	0.2nm,0.3s,baz=302,slow=10,SNR=7.5 0.5nm,0.7s						
ASAR	**Alice Springs**	**21.55**	**139**	P	**P**	**20 38 55.2**	**+0.3**
	3.9nm,0.7s,baz=313,slow=8.7,SNR=39 3.9nm,0.7s						
STKA	**Stephens Creek**	**32.13**	**141**	P	**P**	**20 40 33.6**	**+1.0**
	1.5nm,0.6s,baz=312,slow=6.9,SNR=5.1 1.5nm,0.6s						
SONM	**Songino Array**	**56.43**	**350**	P	**P**	**20 43 46.9**	**+0.3**
	1.0nm,1.2s,baz=175,slow=7.2,SNR=2.9 1.0nm,1.2s						
MKAR	**Makanchi Array**	**63.21**	**333**	P	**P**	**20 44 33.1**	**0.0**
	0.3nm,0.6s,baz=137,slow=6.5,SNR=2.7 0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**67.78**	**339**	LR	LR	21 16 28.3	
	comp=Z,40nm,18.1s,baz=234,slow=38						
OPO	**Ambohidratompo**	**69.99**	**253**	LR	LR	21 13 23.6	
	comp=Z,20nm,18.1s,baz=118,slow=34						
VNDA	**Vanda**	**73.23**	**171**	P	**P**	**20 45 37.2**	**+1.8**
	0.4nm,0.5s,baz=311,slow=8.1,SNR=5.4 0.4nm,0.5s						

WEL 21 20:52:07.8,39˚S±2˚×17˚8E±˚,h23km±4km,**M3.4**/74, **ML3.9**/19,**MLv3.4**/74,**Error ellipse: s-maj=0.0km s-min=0.0km az=84.6,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	**Rimuhau**	**0.10**	**331**	P	Pb	20 52 12.2	0.0
RIGZ				S	Sb	20 52 16.6	+1.4
KNZ	**Kokohu**	**0.26**	**207**	P	Pb	20 52 14.4	+0.4
KNZ				S	Sn	20 52 20.5	-0.9
TKGZ	**Te Karaka**	**0.35**	**3**	P	Pb	20 52 16.2	+0.7
TKGZ				S	Sn	20 52 23.2	-0.6
MHGZ	**Mahia Peninsul**	**0.36**	**170**	P	Pn	20 52 16.7	-0.9
SNGZ	**Shannon Statio**	**0.38**	**272**	P	Pb	20 52 16.3	+0.4
CNGZ	**Carnagh Statio**	**0.43**	**44**	P	Pn	20 52 18.2	-0.3
MWZ	**Matawai**	**0.52**	**333**	P	Pb	20 52 18.3	+0.1
MWZ				S	Sn	20 52 27.2	-0.6
WHHZ	**Waihua**	**0.54**	**238**	P	Pn	20 52 19.4	-0.7
WHHZ				S	Sn	20 52 29.0	+0.6
RAHZ	**Arahi**	**0.59**	**258**	P	Pb	20 52 20.0	+0.5
RAHZ				S	Sn	20 52 30.1	+0.4
TWGZ	**Tauwhareparae**	**0.63**	**11**	P	Pb	20 52 20.9	-0.4
TWGZ				S	Sn	20 52 32.0	+1.4
RTZ	**Ruatahuna**	**0.68**	**285**	P	Pb	20 52 21.1	0.0
RTZ				S	Sn	20 52 31.9	-0.2
MTHZ	**Maungataniwha**	**0.77**	**265**	P	Pb	20 52 22.6	0.0
MTHZ				S	Sn	20 52 34.5	+0.3
URZ	**Urewera**	**0.77**	**313**	P	Pb	20 52 22.5	-0.1
URZ				S	Sn	20 52 33.8	-0.3
ARHZ	**Aropaoanui**	**0.80**	**234**	P	Pb	20 52 23.3	+0.3
PUZ	**Puketiti**	**0.80**	**25**	P	Pb	20 52 22.7	-0.2
PUZ				S	Sn	20 52 35.0	+0.2
RUGZ	**Raukumara Rang**	**0.83**	**352**	P	Pb	20 52 23.2	-0.5
NMHZ	**Naumai**	**0.85**	**249**	P	Pb	20 52 24.0	+0.1
MUGZ	**Murupara**	**0.88**	**291**	P	Pb	20 52 24.4	0.0
PKGZ	**Pakihiroa**	**0.93**	**12**	P	Pb	20 52 24.9	-0.3
HAZ	**Te Kaha**	**1.04**	**358**	P	Pn	20 52 26.4	-0.5
CKHZ	**Cape Kidnapper**	**1.04**	**214**	P	Pn	20 52 26.0	-1.0
WMGZ	**Waiomatatini S**	**1.08**	**26**	P	Pn	20 52 26.9	-0.5
MCHZ	**McNeill Hill**	**1.09**	**233**	P	Pn	20 52 27.2	-0.4
EDRZ	**Edgecumbe**	**1.09**	**309**	P	Pb	20 52 28.5	+0.4
MRHZ	**Matea Rd**	**1.10**	**267**	P	Pn	20 52 27.0	+0.2
BKZ	**Black Stump Fm**	**1.10**	**250**	P	Pb	20 52 27.3	-0.5
RRRZ	**Republican Roa**	**1.12**	**293**	P	Pb	20 52 29.3	+0.8
WHRZ	**Whale Island**	**1.15**	**324**	P	Pb	20 52 30.2	+1.2
PRRZ	**Plateau Road**	**1.16**	**284**	P	Pn	20 52 28.5	0.0
TARZ	**Mount Tarawera**	**1.18**	**298**	P	Pn	20 52 28.8	0.0
ALRZ	**Allen Road**	**1.18**	**281**	P	Pn	20 52 29.1	+0.2
MARZ	**Manawahe**	**1.21**	**311**	P	Pb	20 52 31.3	+1.2
KAHZ	**Kahuranaki**	**1.24**	**216**	P	Pn	20 52 28.7	-1.0
MKRZ	**Makatiti**	**1.25**	**301**	P	Pb	20 52 32.5	+1.8
KWHZ	**Kaweka Forest**	**1.26**	**240**	P	Pn	20 52 29.4	-0.6
HRRZ	**Handcock Road**	**1.27**	**288**	P	Pb	20 52 32.2	+1.1
HLRZ	**Highlands Stat**	**1.27**	**295**	P	Pb	20 52 32.0	+0.9
HSRZ	**Hossack Road**	**1.33**	**291**	P	Pb	20 52 33.2	+1.2
WPRZ	**Whakapapatarin**	**1.33**	**281**	P	Pb	20 52 34.1	+2.1
OMRZ	**Omania**	**1.33**	**301**	P	Pb	20 52 33.3	+1.2
HATZ	**Hinemaiaia**	**1.36**	**265**	P	Pb	20 52 33.1	+0.6
WIZ	**White Island**	**1.36**	**338**	P	Pb	20 52 33.3	+0.8
OPRZ	**Ohinepanea**	**1.38**	**313**	P	Pb	20 52 30.9	-0.7
KRHZ	**Kereru**	**1.41**	**233**	P	Pn	20 52 31.1	-1.0
GRRZ	**Galatos Road**	**1.42**	**288**	P	Pb	20 52 36.0	+2.5
PXZ	**Pawanui**	**1.44**	**211**	P	Pn	20 52 30.8	-1.6
KARZ	**Kaharoa**	**1.46**	**301**	P	Pb	20 52 36.3	+2.1
WHTZ	**Whakaora**	**1.47**	**274**	P	Pb	20 52 38.2	+3.8
BHHZ	**Black Hill Sta**	**1.54**	**243**	P	Pn	20 52 33.2	-0.6
RATZ	**Rangitukua**	**1.60**	**267**	P	Pb	20 52 38.0	+1.2
TGRZ	**Tauranga**	**1.63**	**310**	P	Pb	20 52 41.7	+4.7
KATZ	**Kakaramea**	**1.67**	**263**	P	Pb	20 52 39.0	+1.1
KATZ	**Kakaramea**	**1.67**	**263**	P	Pb	20 52 38.7	+0.7
ETVZ	**East Tongariro**	**1.68**	**258**	P	Pn	20 52 36.7	+0.8
ETVZ	**East Tongariro**	**1.68**	**258**	P	Pn	20 52 35.7	-0.2
PNHZ	**Pukenui**	**1.68**	**228**	P	Pn	20 52 34.4	-1.5
TMVZ	**Te Maari**	**1.68**	**258**	P	Pn	20 52 36.8	+0.9
TMVZ	**Te Maari**	**1.68**	**258**	P	Pn	20 52 36.7	+0.8
NTVZ	**North Tongarir**	**1.70**	**259**	P	Pn	20 52 36.3	+0.1
NTVZ	**North Tongarir**	**1.70**	**259**	P	Pn	20 52 36.2	+0.1
OTVZ	**Oturere**	**1.72**	**257**	P	Pb	20 52 36.5	0.0
OTVZ	**Oturere**	**1.72**	**257**	P	Pn	20 52 36.6	+0.1
MOVZ	**Moawhango**	**1.72**	**249**	P	Pn	20 52 36.9	+0.5
KRVZ	**Karewarewa**	**1.73**	**259**	P	Pb	20 52 38.7	-0.2
KRVZ	**Karewarewa**	**1.73**	**259**	P	Pb	20 52 38.4	-0.5
PRHZ	**Porangahau**	**1.73**	**212**	P	Pn	20 52 34.5	-2.0
SNVZ	**South Ngauruho**	**1.75**	**256**	P	Pn	20 52 36.9	+0.1
SNVZ	**South Ngauruho**	**1.75**	**256**	P	Pn	20 52 36.9	+0.1
NNVZ	**North Ngauruho**	**1.75**	**258**	P	Pn	20 52 38.1	+1.2
NNVZ	**North Ngauruho**	**1.75**	**258**	P	Pn	20 52 36.8	-0.1
TUVZ	**Tukino**	**1.75**	**254**	P	Pn	20 52 37.2	+0.3
TUVZ	**Tukino**	**1.75**	**254**	P	Pn	20 52 36.8	-0.1
KMRZ	**Kaimai**	**1.76**	**302**	P	Pb	20 52 42.4	+3.0
WTVZ	**West Tongariro**	**1.77**	**259**	P	Pb	20 52 38.4	-1.3
WTVZ	**West Tongariro**	**1.77**	**259**	P	Pn	20 52 37.5	+0.4
NGZ	**Ngauruhoe**	**1.77**	**257**	P	Pn	20 52 37.3	+0.2
NGZ	**Ngauruhoe**	**1.77**	**257**	P	Pn	20 52 37.3	+0.1
WHVZ	**Whangaehu Hut**	**1.81**	**254**	P	Pb	20 52 39.4	-0.9
WHVZ	**Whangaehu Hut**	**1.81**	**254**	P	Pn	20 52 38.5	+0.8
WNVZ	**Wahianoa**	**1.81**	**252**	P	Pn	20 52 38.2	+0.5
FWVZ	**Far West T-bar**	**1.83**	**255**	P	Pb	20 52 42.4	+1.8
TLZ	**Tolley Road**	**1.85**	**284**	P	Pn	20 52 38.6	+0.5
MTVZ	**Mangateitei**	**1.92**	**251**	P	Pn	20 52 40.2	+1.1
DVHZ	**Dannevirke**	**1.98**	**220**	P	Pn	20 52 37.8	-2.0
PKVZ	**Pokaka**	**1.99**	**255**	P	Pn	20 52 40.5	+0.4
BFZ	**Birch Farm**	**2.24**	**212**	P	Pn	20 52 40.6	-2.9
PRWZ	**Pori Road**	**2.27**	**219**	P	Pn	20 52 41.8	-2.0
HIZ	**Hauiti**	**2.34**	**276**	P	Pb	20 52 47.2	-2.1
WAZ	**Wanganui**	**2.40**	**246**	P	Pn	20 52 46.9	+1.2
TIWZ	**Tintock**	**2.48**	**216**	P	Pn	20 52 44.4	-2.4
MRZ	**Mangatainoka R**	**2.54**	**222**	P	Pn	20 52 45.1	-2.5
KHEZ	**Kahui Hut**	**3.01**	**259**	P	Pn	20 52 55.6	+1.5
PKE	**Pukeiti**	**3.02**	**261**	P	Pn	20 52 55.9	+1.8
CTZ	**Chatham Island**	**6.47**	**141**	P	Pn	20 53 40.4	-1.2

*IDC **21** 20:55:15.7±0.8,4˚08S×152˚27E,h193km±2km,mb3.3/7, mbtmp3.9/8,Error ellipse: s-maj=29.9km s-min=13.4km az=117.0*
*NEIC **21** 20:55:16.7±1.2,4˚01S±0˚08×152˚2E±0˚1,h192km±7km, mb4.4/19,Error ellipse: s-maj=18.0km s-min=8.0km az=120.0*
ISC 21 20:55:16.1±0.8,**3˚94S**±0˚07×**152˚20E**±0˚10,**h195**km±6km, **n52,**σ1§**00**/56,**mb4.2**/19,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.26**	**189**	Pn	**Pn**	**20 55 41.2**	**-0.9**
KRVT	**Keravat (AS076**	**0.41**	**205**	P	**Pn**	**20 55 42.4**	**-0.1**
	559nm,0.3s,baz=333,slow=4.5,SNR=87						
KRVT				S	**Sn**	**20 56 02.4**	**-0.5**
	233nm,0.5s,baz=38,slow=20,SNR=20						
MANU	**Manus Island**	**5.18**	**291**	Pn	**Pn**	**20 56 32.1**	**-0.8**
PMG	**Port Moresby**	**7.39**	**222**	P	**Pn**	**20 57 01.9**	**+0.4**
	12nm,0.4s,baz=62,slow=11,SNR=8.3						
PMG				S	**Sn**	**20 58 25.6**	**+0.5**
	21nm,0.4s,baz=3.2,slow=23,SNR=8.2						
PMG	**Port Moresby**	**7.39**	**222**	Pn	**Pn**	**20 57 00.6**	**-0.9**
PMG	**Port Moresby**	**7.39**	**222**	P	**Pn**	**20 57 04.2**	**+2.7**
PMG	**Port Moresby**	**7.39**	**222**	P	**Pn**	**20 57 02.3**	**+0.8**
PATS	**Pohnpei**	**12.32**	**30**	P	**P**	**20 58 10.7**	**+1.1**
COEN	**Coen**	**13.36**	**221**	P	**P**	**20 58 20.7**	**-0.5**
CTA	**Charters Tower**	**17.07**	**199**	P	**Pn**	**20 59 06.3**	**+2.7**
	2.2nm,0.8s,baz=63,slow=4.5,SNR=3.3						
FAKI	**Fak Fak**	**19.94**	**272**	P	**P**	**20 59 34.5**	**+1.0**
FAKI				IAmb	IAmb	20 59 53.0	
	comp=Z,12nm,1.0s						
FAKI	**Fak Fak**	**19.94**	**272**	P	**P**	**20 59 34.6**	**+1.1**
KDU	**Kakadu**	**21.35**	**245**	P	**P**	**20 59 47.5**	**-0.9**
MTN	**Manton Dam**	**22.62**	**246**	P	**P**	**21 00 00.9**	**+0.1**
MTN				IAmb	IAmb	21 00 40.1	
	comp=Z,7.9nm,1.2s						
WB0	**Warramunga Arr**	**23.44**	**226**	P	**P**	**21 00 08.2**	**+0.2**
WR0	**Warramunga Arr**	**23.45**	**226**	P	**P**	**21 00 08.6**	**+0.5**
WR0				IAmb	IAmb	21 00 09.6	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**23.57**	**226**	P	**P**	**21 00 09.1**	**-0.2**
WRAB	**Tennant Creek**	**23.57**	**226**	P	**P**	**21 00 09.8**	**+0.5**
WB2	**Warramunga Arr**	**23.58**	**226**	P	**P**	**21 00 09.9**	**+0.6**
WRA	**Warramunga Arr**	**23.59**	**226**	P	**P**	**21 00 09.7**	**+0.3**
	comp=Z,32nm,0.6s,baz=48,slow=9.6,SNR=312						
WRA				S	**S**	**21 04 07.7**	**-1.6**
	comp=Z,1.2nm,1.0s,baz=51,slow=16,SNR=6.4						
WRA	**Warramunga Arr**	**23.59**	**226**	P	**P**	**21 00 08.6**	**-0.8**
KNRA	**Kununurra**	**25.84**	**242**	P	**P**	**21 00 28.9**	**-0.9**
KNRA				IAmb	IAmb	21 00 56.2	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**25.84**	**242**	P	**P**	**21 00 29.1**	**-0.7**
INKA	**Innaminka**	**26.07**	**204**	P	**P**	**21 00 32.2**	**+0.4**
AS31	**Alice Springs**	**26.40**	**220**	P	**P**	**21 00 34.6**	**-0.2**
ASAR	**Alice Springs**	**26.40**	**220**	P	**P**	**21 00 35.0**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=51,slow=8.1,SNR=19						
ASAR				S	**S**	**21 04 51.1**	**-2.7**
	comp=Z,0.2nm,0.6s,baz=46,slow=14,SNR=2.4 comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**26.40**	**220**	P	**P**	**21 00 34.4**	**-0.4**
OOD	**Oodnadatta**	**28.48**	**212**	P	**P**	**21 00 53.8**	**+0.6**
LCRK	**Leigh Creek**	**29.49**	**205**	P	**P**	**21 01 02.2**	**+0.1**
STKA	**Stephens Creek**	**29.53**	**199**	P	**P**	**21 01 01.9**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=35,slow=14,SNR=4.6 comp=Z,1.3nm,0.8s						
STKA	**Stephens Creek**	**29.53**	**199**	P	**P**	**21 01 02.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**29.56**	**240**	P	**P**	**21 01 02.1**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=6.0,slow=4.7,SNR=25 comp=Z,1.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**29.56**	**240**	P	**P**	**21 01 02.1**	**-0.8**
FITZ				IAmb	IAmb	21 01 03.0	
	comp=Z,2.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.56**	**240**	P	**P**	**21 01 02.3**	**-0.6**
WRKA	**Warakurna**	**31.12**	**225**	P	**P**	**21 01 15.9**	**-0.7**
MULG	**Mulgathing**	**31.32**	**211**	P	**P**	**21 01 17.7**	**-0.5**
BBOO	**Buckleboo**	**32.46**	**206**	P	**P**	**21 01 27.8**	**-0.4**
BBOO				IAmb	IAmb	21 01 54.0	
	comp=Z,16nm,1.3s						
FORT	**Forrest**	**35.09**	**218**	P	**P**	**21 01 50.6**	**-0.3**
FORT	**Forrest**	**35.09**	**218**	P	**P**	**21 01 50.1**	**-0.8**
	comp=Z,32nm,1.1s						
MBWA	**Marble Bar**	**35.89**	**239**	P	**P**	**21 01 56.9**	**-1.0**
MBWA				IAmb	IAmb	21 02 32.9	
	comp=Z,10nm,1.1s						
PSA00	**Pilbara Seismi**	**35.97**	**238**	P	**P**	**21 01 57.8**	**-0.6**
PSA00				IAmb	IAmb	21 02 00.4	
	comp=Z,13nm,1.2s comp=Z,2.0nm,0.6s						
MEEK	**Meekatharra**	**39.26**	**231**	P	**P**	**21 02 25.2**	**-0.9**
	comp=Z,9.9nm,1.9s						
MORW	**Morawa**	**42.43**	**230**	P	**P**	**21 02 51.2**	**-0.8**
MORW				IAmb	IAmb	21 03 34.2	
	comp=Z,9.7nm,1.2s						
KULM	**Kulim**	**52.30**	**280**	P	**P**	**21 04 08.1**	**-0.1**
KULM				IAmb	IAmb	21 04 31.2	
	comp=Z,40nm,1.5s						
CMAR	**Chiang Mai Arr**	**56.97**	**295**	P	**P**	**21 04 44.2**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=108,slow=5.8,SNR=2.8 comp=Z,0.4nm,0.7s						
SONM	**Songino Array**	**65.28**	**328**	P	**P**	**21 05 37.7**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=138,slow=6.8,SNR=2.0 comp=Z,0.2nm,0.5s						
CASY	**Casey**	**68.66**	**197**	P	**P**	**21 05 57.4**	**-0.6**
CASY				IAmb	IAmb	21 05 57.9	
	comp=Z,2.7nm,0.6s						
VNDA	**Vanda**	**73.71**	**178**	P	**P**	**21 06 28.8**	**+0.7**
MKAR	**Makanchi Array**	**79.29**	**319**	P	**P**	**21 06 59.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=91,slow=7.2,SNR=2.6 comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**86.02**	**180**	P	**P**	**21 07 33.4**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=6.2,slow=0.3,SNR=8.5 comp=Z,0.9nm,0.6s						
GERES	**GERESS Array B**	**123.01**	**329**	PKP	**PKPdf**	**21 13 48.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=91,slow=5.1,SNR=1.7						
TORD	**Torodi Ar. Bea**	**149.47**	**289**	PKPbc	**PKPbc**	**21 14 42.1**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=76,slow=2.4,SNR=6.2						

*TEH **21** 20:56:04.2,32˚58N×48˚71E,h11km,ML3.5*
*DSN **21** 20:56:11.1±2.5,31˚82N×48˚87E,h15km,ML3.7/1,Error ellipse: s-maj=30.6km s-min=13.1km az=7.0*
ISC 21 20:56:04.0±0.8,**32˚55N**±0˚05×**48˚69E**±0˚04,**h10**km,**n39,** σ1§**66**/42,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**1.02**	**150**	*e*Pg	**Pg**	**20 56 24.0**	**+0.5**
AMIS				*e*Sg	**Sn**	**20 56 39.7**	**+1.0**
AMIS				*e*		20 56 52.4	
	comp=Z,22μm,0.5s						
IKFM	**Kafar-mosalman**	**1.20**	**324**	*e*Pg	**Pb**	**20 56 26.8**	**0.0**
IKFM				*e*Sg	**Sn**	**20 56 44.5**	**+1.3**
AHWZ	**Ahwaz**	**1.22**	**182**	*e*Pg	**Pg**	**20 56 28.5**	**+1.1**
AHWZ				*e*Sg	**Sn**	**20 56 46.5**	**+2.9**
IDOB	**Doab**	**1.31**	**341**	*e*Pg	**Pn**	**20 56 28.4**	**-0.1**
IDOB				*e*		20 56 50.1	
	comp=Z,7μm,0.3s						
HSAM	**Samen**	**1.66**	**357**	*e*Pn	**Pb**	**20 56 34.4**	**-0.4**
HSAM				*e*		20 56 36.2	
	comp=Z,3μm,0.2s						
IPIR	**Pirpir**	**1.86**	**85**	*e*Pn	**Pb**	**20 56 38.1**	**-0.1**
IPIR				*e*		20 57 14.8	
	comp=Z,4μm,0.7s						
SHK1	**Shahrekord**	**1.87**	**96**	*e*Pn	**Pb**	**20 56 37.7**	**-0.6**
SHK1				*e*		20 57 07.2	
	comp=Z,5μm,0.6s						
IKOM	**Komasi**	**1.90**	**329**	*e*Pn	**Pb**	**20 56 38.7**	**-0.1**
IKOM				*e*		20 57 13.9	
	comp=Z,4μm,0.5s						
IBZA	**Bozab**	**2.04**	**340**	*e*Pn	**Pb**	**20 56 40.6**	**-0.6**
IBZA				*e*		20 57 13.7	
	comp=Z,2μm,0.7s						
KCHF	**Cheshme Sefid,**	**2.21**	**322**	*e*Pn	**Pb**	**20 56 43.3**	**-0.8**
KCHF				*e*		20 57 18.9	
	comp=Z,5μm,0.4s						
KER	**Kermanshah**	**2.25**	**325**	*e*Pn	**Pb**	**20 56 44.0**	**-0.7**
IBRJ	**Brojen**	**2.27**	**106**	*e*Pn	**Pn**	**20 56 43.1**	**+1.3**
IBRJ				*e*		20 57 25.7	
	comp=Z,2μm,0.8s						
HAGD	**Aghdareh**	**2.29**	**9**	*e*Pn	**Pb**	**20 56 44.3**	**-1.3**
HAGD				*e*		20 57 20.9	
	comp=Z,2μm,0.4s						
ABEH	**Behbahan**	**2.36**	**145**	*e*Pg	**Pg**	**20 56 49.1**	**-0.1**
IGHG	**Ghaleghazi**	**2.51**	**316**	*e*Pn	**Pb**	**20 56 47.4**	**-1.9**
IGHG				*e*		20 57 38.2	
	comp=Z,2μm,0.9s						
IKLH	**Kolahrood**	**2.54**	**72**	*e*Pn	**Pb**	**20 56 47.7**	**-2.2**
QAMS	**Qamsar**	**2.56**	**62**	*e*Pn	**Pb**	**20 56 47.9**	**-2.2**
QAMS				*e*		20 57 28.3	
	comp=Z,4μm,0.4s						
ILIN	**Lien**	**2.77**	**329**	*e*Pn	**Pb**	**20 56 51.4**	**-2.3**
ILIN				*e*		20 57 38.0	
	comp=Z,1μm,0.5s						
IGAR	**Gharneh**	**2.83**	**92**	*e*Pn	**Pn**	**20 56 51.1**	**+1.6**
IGAR				*e*		20 56 58.7	
	comp=Z,2μm,0.2s						
IDHR	**Dehrash**	**2.88**	**319**	*e*Pn	**Pn**	**20 56 51.4**	**+1.3**
IDHR				*e*		20 57 28.9	
	comp=Z,2μm,0.3s						
KLNJ	**Kolanjah**	**2.91**	**121**	*e*Pn	**Pn**	**20 56 52.2**	**+1.5**
KLNJ				*e*		20 57 41.9	
	comp=Z,2μm,0.4s						
IQOM	**Qom**	**3.02**	**40**	*e*Pn	**Pn**	**20 56 54.0**	**+1.8**
IQOM				*e*		20 57 44.8	
	comp=Z,1μm,0.6s						
IZEF	**Zefreh**	**3.08**	**83**	*e*Pn	**Pn**	**20 56 55.0**	**+2.0**
IZEF				*e*		20 57 01.5	
	comp=Z,1μm,0.4s						
KRSH	**Karshahi**	**3.21**	**63**	*e*Pn	**Pn**	**20 56 56.9**	**+2.2**
KRSH				*e*		20 57 57.4	
	comp=Z,857nm,0.8s						
IRAM	**Ramesheh**	**3.21**	**102**	*e*Pn	**Pn**	**20 56 55.8**	**+1.1**
IRAM				*e*		20 57 08.2	
	comp=Z,660nm,0.4s						
ISFB	**Sefidab**	**3.47**	**58**	*e*Pn	**Pn**	**20 56 59.7**	**+1.6**
ISFB				*e*		20 58 02.3	
	comp=Z,410nm,0.7s						
IVRN	**Varamin**	**3.51**	**45**	*e*Pn	**Pn**	**20 57 01.0**	**+2.3**
IVRN				*e*		20 58 02.0	
	comp=Z,659nm,0.7s						
ISAD	**Sadrabad**	**4.28**	**97**	*e*Pn	**Pn**	**20 57 11.5**	**+2.1**
ANAR	**Anarak**	**4.29**	**80**	*e*Pn	**Pn**	**20 57 10.9**	**+1.5**
AHBU	**AHRAM**	**4.30**	**148**	*e*Pn	**Pn**	**20 57 10.5**	**+1.0**
ICHK	**Chekchek**	**4.84**	**92**	*e*Pn	**Pn**	**20 57 18.2**	**+1.1**
IMEH	**Mehriz**	**5.16**	**101**	*e*Pn	**Pn**	**20 57 22.0**	**+0.5**
IMEH				*e*		20 58 23.8	
	comp=Z,152nm,0.3s						
ISRB	**Sarab**	**5.33**	**351**	*e*Pn	**Pn**	**20 57 25.3**	**+1.5**
IHRS	**Heris**	**5.91**	**347**	*e*Pn	**Pn**	**20 57 33.6**	**+1.8**
BANOM	**Banah**	**9.37**	**133**	P	**Pn**	**20 58 16.9**	**-2.2**
RAYN	**Ar Rayn**	**9.43**	**198**	P	**Pn**	**20 58 17.3**	**-2.6**
ASUD	**Al Ashush, Dub**	**9.81**	**142**	P	**Pn**	**20 58 24.2**	**-1.0**
ASHO	**Ashiyiah**	**10.16**	**139**	P	**Pn**	**20 58 26.4**	**-3.5**
ASHO				S	Sn	21 00 15.5	-8.6
MZR	**Muzera**	**10.41**	**155**	P	**Pn**	**20 58 31.5**	**-1.9**

*NEIC **21** 20:59:25.8±1.9,30˚19S±0˚05×70˚82W±0˚08,h90km±6km, Error ellipse: s-maj=10.7km s-min=7.1km az=105.0*
*GUC **21** 20:59:26.4±0.8,30˚17S×70˚76W,

PB02	**IPOC Station P**	**8.86**	**5**	Pn	**Pn**	**21 01 26.9**	**-3.3**
PB01	**IPOC Station P**	**9.17**	**8**	Pn	Pn	21 01 28.4	-6.0
PLCA	**Paso Flores**	**10.53**	**179**	Pn	**Pn**	**21 01 51.4**	**-1.5**
TRQA	**Tornquist**	**10.72**	**139**	Pn	**Pn**	**21 01 54.7**	**-0.7**
ITQB	**Itaqui**	**12.30**	**91**	Pn	**Pn**	**21 02 16.1**	**-0.6**
CPUP	**Villa Florida**	**12.46**	**75**	Pn	**Pn**	**21 02 19.2**	**+0.2**
PLTB	**Pedras Altas**	**14.83**	**100**	Pn	**Pn**	**21 02 49.8**	**-0.2**
SNAA	**Sanae**	**54.74**	**159**	P	**P**	**21 08 44.0**	**-0.8**
SNAA				IAmb	IAmb	21 08 49.8	
	comp=Z,3.6nm,1.4s						
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**21 09 23.9**	**+1.5**
QSPA				IAmb	IAmb	21 09 23.9	
	comp=Z,2.7nm,1.3s						
VNDA	**Vanda**	**68.05**	**191**	P	**P**	**21 10 14.8**	**+0.4**
VNDA				IAmb	IAmb	21 10 17.8	
	comp=Z,2.6nm,1.3s						

*IDC **21** 21:01:48.8±2.2, 10˚41S×112˚96E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=109.8km s-min=24.9km az=47.0*
*DJA **21** 21:02:00.0±1.4, 11˚S±16˚×11˚3E±1˚5, h18km±27km, M3.9/7, mb4.2/2, mB4.4/1, MLv3.7/7, Mw(mB)3.5/1*
ISC 21 21:01:49.9±1.5, 10˚59S±0˚08×112˚8E±0˚1, h10km, n14, σ1§55/16, mb3.7/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.52**	**33**	P	**Pb**	**21 02 35.4**	**0.0**
JAGI				S	**Sn**	**21 03 02.8**	**+0.9**
BLJI	**Banyuglugur**	**2.95**	**17**	P	**Pb**	**21 02 42.0**	**-0.7**
BLJI				S	**Sb**	**21 03 17.2**	**-1.6**
IGBI	**Denpasar**	**2.95**	**54**	P	**Pn**	**21 02 38.3**	**+1.4**
ABJI	**Asem Bagus**	**3.14**	**28**	P	**Pb**	**21 02 45.0**	**-0.9**
SRBI	**Singaraja**	**3.48**	**45**	P	**Pn**	**21 02 47.6**	**+3.4**
KMMI	**Kalianget**	**3.72**	**19**	P	**Pb**	**21 02 54.1**	**-1.7**
TWSI	**Taliwang, Sumb**	**4.47**	**66**	P	**Pn**	**21 02 59.9**	**+2.0**
PLAI	**Plampang**	**5.26**	**71**	P	**Pn**	**21 03 10.1**	**+1.4**
EDFI	**Ende, Flores**	**9.01**	**79**	P	**Pn**	**21 04 01.5**	**+1.2**
BATI	**Baumata**	**10.75**	**89**	Sn	**Sn**	**21 06 23.0**	**-1.5**
	2.2nm,0.3s,baz=292,slow=22,SNR=2.1						
WRA	**Warramunga Arr**	**22.79**	**117**	P	**P**	**21 06 52.4**	**-0.5**
	1.8nm,0.6s,baz=291,slow=11,SNR=22						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**23.99**	**126**	P	**P**	**21 07 04.9**	**-0.1**
	0.6nm,0.7s,baz=301,slow=9.4,SNR=12						
	0.6nm,0.7s						
STKA	**Stephens Creek**	**34.04**	**133**	P	**P**	**21 08 34.1**	**-0.3**
	0.7nm,0.7s,baz=315,slow=7.1,SNR=2.8						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**63.28**	**337**	P	**P**	**21 12 18.9**	**0.0**
	0.2nm,0.4s,baz=153,slow=7.1,SNR=4.9						
	0.2nm,0.4s						

*SOME **21** 21:06:31.9, 41˚00N×73˚77E, h5km*
*NNC **21** 21:06:31.9±1.2, 40˚88N×73˚70E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=9.8km s-min=5.0km az=170.0*
*KRNET **21** 21:06:32.2±0.1, 40˚90N×73˚72E, h20km, mb3.4*
*ISU **21** 21:06:33, 40˚85N×73˚74E, h8km*
*KNET **21** 21:06:34.8±0.3, 41˚09N×73˚83E, h1km±1km, ml2.8, Error ellipse: s-maj=2.4km s-min=1.7km az=90.0*
ISC 21 21:06:31.5±1.2, 40.96N±0.03×73.77E±0.02, h2km±10km, n80, σ1§58/136, 37C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.87**	**240**	⇑*i*P	**Pg**	**21 06 47.4**	**-0.7**
	baz=42						
OHH				⇑*i*S	**Sg**	**21 06 58.1**	**-1.3**
	baz=42						
ARLS	**Aral**	**0.99**	**24**	⇑*i*P	**Pb**	**21 06 51.6**	**+0.1**
	baz=25						
ARLS				⇑*i*S	**Sn**	**21 07 05.7**	**-1.5**
	baz=25						
AML	**Almayashu**	**1.17**	**357**	P	**Pn**	**21 06 55.0**	**-0.3**
	136nm,0.1s,SNR=423						
AML				⇑S	**Sn**	**21 07 11.6**	**-0.5**
	104nm,0.2s						
UCH	**Uchtor**	**1.38**	**23**	⇓P	**Pb**	**21 06 59.2**	**+0.9**
	14nm,0.1s,SNR=43						
UCH				⇑S	**Sn**	**21 07 18.1**	**+0.8**
	55nm,0.2s						
UCH	**Uchtor**	**1.38**	**23**	⇓*i*P	**Pb**	**21 06 59.0**	**+0.7**
	baz=24						
UCH				⇓*i*S	**Sn**	**21 07 18.1**	**+0.8**
	baz=24						
ARK	**Arkit**	**1.60**	**302**	⇑*i*P	**Pb**	**21 07 01.5**	**-0.3**
	baz=5.0						
ARK				⇑*i*S	**Sg**	**21 07 22.9**	**0.0**
	baz=5.0						
FRG	**Fergana**	**1.62**	**250**	P	**Pb**	**21 07 02.5**	**+0.3**
FRG				S	**Sg**	**21 07 24.7**	**+1.1**
EKS2	**Erkin-Say**	**1.70**	**0**	⇑P	**Pg**	**21 07 04.5**	**+0.4**
	11nm,0.1s,SNR=27						
EKS2				⇓S	**Sg**	**21 07 28.2**	**+2.1**
	22nm,0.2s						
EKS2	**Erkin-Say**	**1.70**	**0**	⇑*i*P	**Pg**	**21 07 04.1**	**0.0**
	baz=1.0						
EKS2				⇑*i*S	**Sg**	**21 07 27.4**	**+1.3**
	baz=1.0						
AAK	**Ala-Archa**	**1.76**	**18**	⇓P	**Pg**	**21 07 05.9**	**+0.6**
	18nm,0.2s,SNR=18						
AAK				⇑S	**Sg**	**21 07 29.9**	**+1.8**
	41nm,0.2s						
AAK	**Ala-Archa**	**1.76**	**18**	⇑*i*P	**Pg**	**21 07 05.3**	**+0.1**
	baz=18						
AAK				⇑*i*S	**Sg**	**21 07 29.6**	**+1.5**
	baz=18						
MRKS	**Merke**	**1.83**	**347**	*e*P	**Pg**	**21 07 06.6**	**0.0**
	35nm,0.3s						
MRKS				*e*S	**Sg**	**21 07 32.3**	**+2.0**
	173nm,0.3s						
MRKS	**Merke**	**1.83**	**347**	Pg	**Pg**	**21 07 06.6**	**0.0**
	35nm,0.3s						
MRKS				Lg	Lg	21 07 32.3	
	173nm,0.3s						
CHMI	**Chimion**	**1.85**	**249**	P	**Pg**	**21 07 07.8**	**+0.9**
CHMI				S	**Sg**	**21 07 32.2**	**+1.3**
KBK	**Karagaybulak**	**1.91**	**27**	⇑P	**Pg**	**21 07 08.9**	**+0.8**
	28nm,0.2s,SNR=18						
KBK				⇓S	**Sg**	**21 07 35.3**	**+2.5**
	136nm,0.2s						
KBK	**Karagaybulak**	**1.91**	**27**	⇓*i*P	**Pg**	**21 07 07.4**	**-0.7**
	baz=27						
KBK				⇓*i*S	**Sg**	**21 07 32.9**	**+0.1**
	baz=27						
FRU1	**Bishkek**	**1.96**	**19**	⇓*i*P	**Pg**	**21 07 08.3**	**-0.7**
	baz=19						
FRU1				⇓*i*S	**Sg**	**21 07 34.6**	**+0.3**
	baz=19						
TRKS	**Terek-Say**	**2.07**	**287**	⇓*i*P	**Pn**	**21 07 07.9**	**+0.5**
	baz=87						
TRKS				⇓*i*S	**Sn**	**21 07 33.7**	**-0.1**
	baz=87						
DRK	**Karamyk**	**2.11**	**226**	⇑*i*P	**Pn**	**21 07 08.7**	**+0.6**
	baz=27						
DRK				⇑*i*S	**Sn**	**21 07 34.8**	**-0.3**
	baz=27						
CHMS	**Chumysh**	**2.16**	**19**	⇓P	**Pg**	**21 07 13.0**	**0.0**
	15nm,0.2s,SNR=17						
CHMS				⇑S	**Sg**	**21 07 42.2**	**+1.2**
	23nm,0.2s						
CHMS	**Chumysh**	**2.16**	**19**	⇑Pn	**Pg**	**21 07 12.4**	**-0.6**
	18nm,0.5s						
CHMS				⇑Sn	**Sg**	**21 07 41.9**	**+0.9**
	66nm,0.8s						
CHMS	**Chumysh**	**2.16**	**19**	⇑*i*P	**Pb**	**21 07 10.7**	**-0.7**
	baz=20						
CHMS				⇑*i*S	**Sg**	**21 07 39.1**	**-1.9**
	baz=20						
BOOM	**Boomskoye usch**	**2.23**	**46**	⇑*i*P	**Pb**	**21 07 11.9**	**-0.7**
	baz=46						
BOOM				⇑*i*S	**Sb**	**21 07 40.6**	**-0.1**
	baz=46						
ULHL	**Ulahol**	**2.25**	**54**	⇑P	**Pg**	**21 07 14.9**	**+0.3**
	8.6nm,0.2s						
ULHL				⇓S	**Sg**	**21 07 45.5**	**+1.6**
	58nm,0.2s						
ULHL	**Ulahol**	**2.25**	**54**	⇑*i*P	**Pb**	**21 07 12.1**	**-0.9**
	baz=54						
ULHL				⇑*i*S	**Sb**	**21 07 41.0**	**-0.4**
	baz=54						
USP	**Ospenovka**	**2.37**	**13**	⇑P	**Pg**	**21 07 15.7**	**-1.1**
	32nm,0.3s,SNR=49						
USP				⇑S	**Sg**	**21 07 48.5**	**+0.9**
	41nm,0.3s						
USP	**Ospenovka**	**2.37**	**13**	⇑*i*P	**Pb**	**21 07 13.8**	**-1.1**
	baz=13						
USP				⇑*i*S	**Sb**	**21 07 43.9**	**-0.7**
	baz=13						
TKM2	**Tokmak 2**	**2.38**	**34**	⇑P	**Pg**	**21 07 16.4**	**-0.8**
	16nm,0.3s,SNR=17						
TKM2				⇑S	**Sg**	**21 07 49.1**	**+1.0**
	22nm,0.1s						
TKM2	**Tokmak 2**	**2.38**	**34**	⇓Pn	**Pb**	**21 07 15.8**	**+0.5**
	11nm,0.5s						
TKM2				⇓Lg	Lg	21 07 51.3	
	43nm,0.7s						
TKM2	**Tokmak 2**	**2.38**	**34**	⇑*i*P	**Pb**	**21 07 14.3**	**-1.0**
	baz=34						
TKM2				⇑*i*S	**Sb**	**21 07 44.6**	**-0.6**
	baz=34						
BTK	**Batken**	**2.43**	**249**	⇓*i*P	**Pn**	**21 07 12.8**	**+0.6**
	baz=50						
BTK				⇓*i*S	**Sn**	**21 07 42.3**	**-0.2**
	baz=50						
BTK	**Batken**	**2.43**	**249**	P	**Pb**	**21 07 14.6**	**-1.3**
BTK				S	**Sb**	**21 07 47.2**	**+0.9**
SGDS	**Sogindy**	**2.57**	**14**	*e*P	**Pg**	**21 07 19.7**	**-1.0**
	21nm,0.6s						
SGDS				*e*S	**Sg**	**21 07 55.1**	**+1.0**
	17nm,0.4s						
SGDS	**Sogindy**	**2.57**	**14**	Pg	**Pg**	**21 07 19.7**	**-1.0**
	21nm,0.6s						
SGDS				Lg	Lg	21 07 55.1	
	17nm,0.4s						
KST	**Kastek**	**2.64**	**37**	*e*P	**Pg**	**21 07 22.1**	**0.0**
	12nm,0.4s						
KST				*e*S	**Sg**	**21 07 58.9**	**+2.4**
	50nm,0.8s						
KST	**Kastek**	**2.64**	**37**	Pg	**Pg**	**21 07 22.1**	**0.0**
	12nm,0.4s						
KST				Lg	Lg	21 07 58.9	
	50nm,0.8s						
DZA	**Taraz**	**2.66**	**317**	*e*P	**Pg**	**21 07 21.3**	**-1.1**
	96nm,0.3s						
DZA				*e*S	**Sg**	**21 07 57.3**	**+0.5**
	174nm,0.3s						
DZA	**Taraz**	**2.66**	**317**	Pg	**Pg**	**21 07 21.3**	**-1.1**
	96nm,0.3s						
DZA				Lg	Lg	21 07 57.3	
	174nm,0.3s						
DGS	**Degeres**	**2.72**	**32**	*e*P	**Pg**	**21 07 22.4**	**-1.3**
	25nm,0.6s						
DGS				*e*S	**Sg**	**21 07 59.3**	**+0.4**
	72nm,0.5s						
DGS	**Degeres**	**2.72**	**32**	Pg	**Pg**	**21 07 22.4**	**-1.3**
	25nm,0.6s						
DGS				Lg	Lg	21 07 59.3	
	72nm,0.5s						
CHMG	**Chimgan**	**2.90**	**283**	P	**Pb**	**21 07 24.3**	**+0.3**
CHMG				S	**Sg**	**21 08 04.3**	**-0.3**
MTBS	**Maitube**	**2.93**	**41**	*e*P	**Pg**	**21 07 27.2**	**-0.5**
	9.6nm,0.3s						
MTBS				*e*S	**Sg**	**21 08 06.9**	**+1.1**
	65nm,0.3s						
CHRV	**Charvak**	**2.96**	**285**	P	**Pb**	**21 07 23.2**	**-1.8**
IUG	**Iuzhnay**	**3.05**	**294**	*e*P	**Pb**	**21 07 27.6**	**+1.1**
	143nm,0.5s						
IUG				*e*S	**Sg**	**21 08 08.1**	**-1.4**
	138nm,0.3s						
IUG	**Iuzhnay**	**3.05**	**294**	Pg	**Pb**	**21 07 27.6**	**+1.1**
	143nm,0.5s						
IUG				Lg	Lg	21 08 08.1	
	138nm,0.3s						
KRBS	**Karabastau**	**3.08**	**27**	*e*P	**Pg**	**21 07 29.2**	**-1.3**
	12nm,0.3s						
KRBS				*e*S	**Sg**	**21 08 10.6**	**+0.3**
	30nm,0.4s						
KRBS	**Karabastau**	**3.08**	**27**	Pg	**Pg**	**21 07 29.2**	**-1.3**
	12nm,0.3s						
KRBS				Lg	Lg	21 08 10.6	
	30nm,0.4s						
KK31	**Karatay Array**	**3.24**	**312**	⇓Pn	**Pn**	**21 07 24.0**	**+0.6**
	0.1nm,0.4s,baz=129,slow=13,SNR=122						
KK31				⇓Pg	**Pb**	**21 07 30.7**	**+1.0**
	3.1nm,0.3s,baz=131,slow=17,SNR=5.8						
KK31				⇓Lg	Lg	21 08 13.5	
	9.0nm,0.4s,baz=336,slow=49,SNR=8.2						
AAA	**Alma-Ata**	**3.24**	**45**	*e*P	**Pg**	**21 07 33.5**	**-0.1**
	30nm,0.2s						
AAA				*e*S	**Sg**	**21 08 17.6**	**+1.9**
	97nm,0.6s						
KNDC	**Almaty**	**3.27**	**45**	⇓Pg	**Pg**	**21 07 33.8**	**-0.5**
	17nm,0.5s						
KNDC				⇓Lg	Lg	21 08 18.5	
	79nm,0.5s						
MDOK	**Medeo**	**3.28**	**47**	*e*P	**Pg**	**21 07 33.4**	**-1.0**
	8.6nm,0.6s						
MDOK				*e*S	**Sg**	**21 08 17.8**	**+0.8**
	24nm,0.5s						
MDOK	**Medeo**	**3.28**	**47**	Pg	**Pg**	**21 07 33.4**	**-1.0**
	8.7nm,0.7s						
MDOK				Pg	**Pg**	**21 07 33.4**	**-1.0**
	8.6nm,0.6s						
MDOK				Lg	Lg	21 08 17.8	
	24nm,0.5s						
MDOK				Lg	Lg	21 08 18.7	
	23nm,0.6s						
KOTS	**Kotyrbulak**	**3.37**	**46**	*e*P	**Pg**	**21 07 35.0**	**-1.0**
	2.4nm,0.4s						
KOTS				*e*S	**Sg**	**21 08 20.7**	**+1.1**
	69nm,0.5s						
KOTS	**Kotyrbulak**	**3.37**	**46**	Pg	**Pg**	**21 07 35.0**	**-1.0**
	2.4nm,0.4s						
KOTS				Lg	Lg	21 08 20.7	
	69nm,0.5s						
KUU	**Kurty**	**3.49**	**32**	*e*P	**Pg**	**21 07 36.9**	**-1.6**
	9.4nm,0.4s						
KUU				*e*S	**Sg**	**21 08 23.7**	**0.0**
	21nm,0.3s						
KUU	**Kurty**	**3.49**	**32**	Pg	**Pg**	**21 07 36.8**	**-1.6**
	9.4nm,0.4s						
KUU				Lg	Lg	21 08 23.7	
	21nm,0.3s						
KTBS	**Karatobe**	**3.49**	**37**	*e*P	**Pg**	**21 07 36.8**	**-1.6**
	4.6nm,0.4s						
KTBS				*e*S	**Sg**	**21 08 23.7**	**-0.1**
	39nm,0.6s						
KTBS	**Karatobe**	**3.49**	**37**	Pg	**Pg**	**21 07 36.8**	**-1.6**
	4.6nm,0.4s						
KTBS				Lg	Lg	21 08 23.7	
	39nm,0.6s						
CHKK	**Chushkaly**	**3.75**	**38**	*e*P	**Pg**	**21 07 41.6**	**-1.6**
	1.1nm,0.2s						
CHKK				*e*S	**Sg**	**21 08 31.6**	**-0.2**
	20nm,0.3s						
CHKK	**Chushkaly**	**3.75**	**38**	Pg	**Pg**	**21 07 41.6**	**-1.6**
	1.1nm,0.2s						
CHKK				Lg	Lg	21 08 31.6	
	20nm,0.3s						
SATY	**Saty**	**4.04**	**57**	*e*P	**Pg**	**21 07 46.7**	**-2.2**
	1.2nm,0.1s						
SATY				*e*S	**Sg**	**21 08 40.5**	**-0.7**
	26nm,0.4s						
SATY	**Saty**	**4.04**	**57**	Pg	**Pg**	**21 07 46.7**	**-2.2**
	1.2nm,0.1s						
SATY				Lg	Lg	21 08 40.5	
	26nm,0.4s						
BTLS	**Baital**	**4.08**	**3**	*e*P	**Pg**	**21 07 49.2**	**-0.5**
	4.1nm,0.4s						
BTLS				*e*S	**Sg**	**21 08 44.4**	**+1.8**
	3.9nm,0.5s						
BTLS	**Baital**	**4.08**	**3**	Pg	**Pg**	**21 07 49.2**	**-0.5**
	4.1nm,0.4s						
BTLS				Lg	Lg	21 08 44.4	
	3.9nm,0.5s						
ZHN	**Zhinishke**	**4.11**	**56**	*e*P	**Pg**	**21 07 47.3**	**+2.7**
	2.1nm,0.1s						
ZHN				*e*S	**Sg**	**21 08 41.4**	**-2.2**
	32nm,0.3s						
KURS	**Kuram**	**4.13**	**51**	*e*P	**Pg**	**21 07 48.6**	**-2.0**
	1.3nm,0.5s						
KURS				*e*S	**Sg**	**21 08 43.9**	**-0.2**
	6.6nm,0.4s						
KURS	**Kuram**	**4.13**	**51**	Pg	**Pg**	**21 07 48.6**	**-2.0**
	1.3nm,0.5s						
KURS				Lg	Lg	21 08 43.9	
	6.6nm,0.4s						
ARXS	**Arharly**	**4.42**	**41**	*e*P	**Pg**	**21 07 52.9**	**-3.3**
	3.6nm,0.5s						
ARXS				*e*S	**Sg**	**21 08 50.9**	**-2.5**
	28nm,0.4s						
ARXS	**Arharly**	**4.42**	**41**	Pg	**Pg**	**21 07 52.9**	**-3.3**
	3.6nm,0.5s						
ARXS				Lg	Lg	21 08 50.9	
	28nm,0.4s						
KPKS	**Kokpek**	**4.42**	**54**	*e*P	**Pg**	**21 07 54.2**	**-2.1**
	3.3nm,0.4s						
KPKS				*e*S	**Sg**	**21 08 53.1**	**-0.4**
	27nm,0.4s						
UZB	**Uzynbulak**	**4.48**	**59**	*e*P	**Pb**	**21 07 53.9**	**+3.0**
	1.2nm,0.2s						
UZB				*e*S	**Sg**	**21 08 52.7**	**-2.5**
	16nm,0.5s						
UZB	**Uzynbulak**	**4.48**	**59**	Pg	**Pb**	**21 07 53.9**	**+3.0**
	1.2nm,0.2s						
UZB				Lg	Lg	21 08 52.7	
	16nm,0.5s						
BLB	**Baldybastay**	**4.68**	**46**	*e*P	**Pb**	**21 07 57.6**	**+3.2**
	6.0nm,0.6s						
BLB				*e*S	**Sg**	**21 08 59.1**	**-2.7**
	16nm,0.3s						
BLB	**Baldybastay**	**4.68**	**46**	Pg	**Pb**	**21 07 57.6**	**+3.2**
	6.0nm,0.6s						
BLB				Lg	Lg	21 08 59.1	
	16nm,0.3s						
SHLS	**Shalkode**	**4.77**	**61**	*e*P	**Pg**	**21 08 04.3**	**+1.4**
	1.3nm,0.2s						
SHLS				*e*S	**Sg**	**21 09 10.7**	**+6.0**
	23nm,0.7s						
SHLS	**Shalkode**	**4.77**	**61**	Pg	**Pg**	**21 08 04.3**	**+1.4**
	1.3nm,0.2s						
SHLS				Lg	Lg	21 09 10.7	
	23nm,0.7s						
PDGK	**Podgornoye**	**4.86**	**59**	⇓Pg	**Pg**	**21 08 02.4**	**-2.2**
	1.9nm,0.7s						
PDGK				⇑Lg	Lg	21 09 06.5	
	9.0nm,0.6s						
TDK	**Taldyqorghan**	**5.28**	**39**	*e*P	**Pg**	**21 08 08.5**	**-4.1**
	12nm,0.2s						
TDK				*e*S	**Sg**	**21 09 17.7**	**-3.3**
	22nm,0.9s						
DJR	**Jarkent**	**5.57**	**51**	*e*P	**Pg**	**21 08 14.1**	**-4.1**
	0.6nm,0.1s						
DJR				*e*S	**Sg**	**21 09 27.2**	**-3.1**
	9.7nm,0.5s						
OTUK	**Ortayu**	**7.36**	**352**	⇑Lg	Lg	21 10 25.7	
	8.3nm,0.6s						

*IDC **21** 21:10:17.4±1.6, 2˚05S×140˚92E, h0km, mb3.6/6, mbtmp3.7/8, ML3.8/2, MS3.2/1, Error ellipse: s-maj=53.9km s-min=21.4km az=103.0*
ISC 21 21:10:20.8±1.4, 2˚1S±0˚2×140˚8E±0˚3, h20km, n8, σ0§44/8, mb3.6/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.85**	**199**	P	**Pn**	**21 14 39.7**	**-0.6**
	0.2nm,0.3s,baz=27,slow=12,SNR=9.8						
	0.6nm,0.5s						
BATI	**Baumata**	**18.85**	**244**	P	**Pn**	**21 14 40.6**	**+0.2**
	0.9nm,0.3s,baz=80,slow=11,SNR=4.8						
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.79**	**222**	P	**P**	**21 15 11.4**	**-0.3**
	0.7nm,0.6s,baz=0.0,slow=20,SNR=2.5						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**22.48**	**197**	P	**P**	**21 15 19.7**	**+0.7**
	0.5nm,0.5s,baz=29,slow=11,SNR=14						
ASAR				LR	LR	21 25 22.3	
	comp=Z,68nm,21.0s,baz=96,slow=40						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**70.59**	**322**	P	**P**	**21 21 34.5**	**-0.2**
	0.8nm,1.0s,baz=100,slow=8.0,SNR=3.9						
	0.8nm,1.0s						
KURBB	**Kurchatov Arra**	**74.44**	**324**	P	**P**	**21 21 57.5**	**0.0**
	1.8nm,1.3s,baz=99,slow=5.7,SNR=4.4						
	1.8nm,1.3s						
BVAR	**Borovoye Array**	**80.01**	**325**	P	**P**	**21 22 28.9**	**+0.2**
	0.4nm,0.6s,baz=116,slow=6.6,SNR=4.4						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**84.40**	**24**	P	**P**	**21 22 51.5**	**0.0**
	0.3nm,0.8s,baz=258,slow=3.6,SNR=1.9						
	0.3nm,0.8s						

*NEIC **21** 21:14:50.6±1.4, 3˚20N±0˚05×126˚7E±0˚1, h43km±8km, mb4.1/17, Error ellipse: s-maj=21.7km s-min=7.0km az=83.0*
*DJA **21** 21:14:51.1±0.8, 3˚N±6˚×12˚7E±˚, h38km±27km, M3.9/9, mb4.1/5, mB4.6/2, MLv3.8/9, Mw(mB)3.8/2*
*IDC **21** 21:14:53.0±4.0, 3˚13N×126˚94E, h76km±42km, mb3.5/12, mbtmp3.8/13, ML3.6/1, MS3.0/5, Error ellipse: s-maj=36.3km s-min=14.6km az=74.0*
*MAN **21** 21:14:55.7, 3˚60N×126˚70E, h30km, mb4.8, ML3.7, MS3.6*
ISC 21 21:14:50.9±0.5, 3˚26N±0˚04×126˚94E±0˚07, h48km, n50, σ1§42/54, mb4.1/20, MS3.0/4, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.47**	**287**	P	**Pn**	**21 15 15.5**	**+0.5**
SGSI				S	**Sn**	**21 15 35.0**	**+1.8**
TNTI	**Ternate**	**2.50**	**170**	Pn	**Pn**	**21 15 28.2**	**-0.9**
TNTI				Sn	**Sn**	**21 15 58.5**	**0.0**
TNTI	**Ternate**	**2.50**	**170**	P	**Pn**	**21 15 30.0**	**+0.8**
TNTI				S	**Sn**	**21 16 00.4**	**+1.9**
DDMP	**Don Marcelino,**	**3.08**	**337**	⇓*e*P	**Pn**	**21 15 38.8**	**+1.6**
DDMP				*e*S	Sn	21 16 32.8	+20
LBMI	**Labuha**	**3.91**	**172**	P	**Pn**	**21 15 49.9**	**+1.4**
SKMP	**Bagumbayan, Su**	**4.03**	**324**	⇓*e*P	**Pn**	**21 15 51.4**	**+1.3**
SKMP				*e*S	**Sn**	**21 16 37.9**	**+1.9**
KCP	**Kidapawan**	**4.16**	**334**	⇑*i*P	**Pn**	**21 15 53.7**	**+1.7**
KCP				*i* S	Sn	21 16 50.6	+11
GTOI	**Gorontalo**	**4.71**	**237**	P	**Pn**	**21 16 01.1**	**+1.6**
MRSI	**Marisa**	**5.71**	**241**	P	**Pn**	**21 16 15.6**	**+2.4**
	0.1nm461nm28nm,0.8s						
SIJI	**Sorong**	**5.96**	**133**	P	**Pn**	**21 16 17.2**	**+0.7**
	1.6nm,0.3s,baz=352,slow=19,SNR=5.8						
SIJI				S	**Sn**	**21 17 24.4**	**+0.9**
	1.6nm,0.2s,baz=278,slow=23,SNR=1.1						
SIJI				LR	LR	21 19 00.4	
	comp=Z,80nm,21.0s,baz=334,slow=42						
	3.6nm,0.2s						
APSI	**Ampana**	**6.72**	**232**	P	**Pn**	**21 16 29.8**	**+2.8**
	0.1nm27nm,0.6s						
FAKI	**Fak Fak**	**8.11**	**139**	Pn	**Pn**	**21 16 47.9**	**+1.7**
FAKI	**Fak Fak**	**8.11**	**139**	P	**Pn**	**21 16 47.4**	**+1.3**
MTN	**Manton Dam**	**16.53**	**165**	Pn	**Pn**	**21 18 37.6**	**-1.9**
KNRA	**Kununurra**	**18.90**	**175**	P	**P**	**21 19 06.1**	**-1.5**
KNRA				IAmb	IAmb	21 19 13.1	
	comp=Z,5.5nm,0.9s						
GUMO	**Guam**	**20.47**	**59**	LR	LR	21 26 13.9	
	comp=Z,27

STKA	**Stephens Creek**	**37.62**	**159**	P	**P**	**21 22 00.4**	**-0.8**
BJT	**Baijiatuau**	**37.87**	**346**	P	**P**	**21 22 03.3**	**+0.1**
BJT				IAmb	IAmb	21 22 05.1	
	comp=Z,4.5nm,0.8s						
SHL	**Shillong**	**40.33**	**307**	P	**P**	**21 22 23.0**	**-1.2**
KLR	**Kul'dur**	**45.99**	**4**	P	**P**	**21 23 09.8**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=233,slow=8.3,SNR=5.4						
	comp=Z,1.9nm,0.9s						
PALK	**Pallekele**	**46.20**	**277**	LR	LR	21 45 24.9	
	comp=Z,32nm,18.2s,baz=154,slow=40						
ULN	**Ulaanbaatar**	**47.63**	**342**	P	**P**	**21 23 22.0**	**-0.4**
ULN				IAmb	IAmb	21 23 24.3	
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**47.81**	**341**	P	**P**	**21 23 23.7**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=157,slow=11,SNR=5.2						
SONM				LR	LR	21 47 31.0	
	comp=Z,11nm,18.1s,baz=136,slow=41						
	comp=Z,0.9nm,0.9s						
MK31	**Makanchi Array**	**58.06**	**325**	P	**P**	**21 24 38.2**	**-1.1**
MK31				IAmb	IAmb	21 24 42.1	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**58.06**	**325**	P	**P**	**21 24 39.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=120,slow=7.6,SNR=14						
MKAR				PcP	**PcP**	**21 25 31.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=132,slow=6.7,SNR=2.1						
MKAR				LR	LR	21 52 29.7	
	comp=Z,15nm,18.4s,baz=66,slow=39						
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**58.06**	**325**	P	**P**	**21 24 38.3**	**-0.9**
ZALV	**Zalesovo Beam**	**61.10**	**333**	P	**P**	**21 24 59.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=122,slow=5.6,SNR=4.6						
	comp=Z,0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**61.10**	**333**	P	**P**	**21 24 59.2**	**-0.7**
KURBB	**Kurchatov Arra**	**62.25**	**327**	P	**P**	**21 25 07.3**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=124,slow=6.4,SNR=22						
	comp=Z,2.5nm,0.8s						
KURK	**Kurchatov**	**62.25**	**328**	P	**P**	**21 25 07.0**	**-0.8**
BVAR	**Borovoye Array**	**67.83**	**327**	P	**P**	**21 25 43.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=141,slow=9.6,SNR=8.0						
	comp=Z,0.7nm,0.7s						
BRVK	**Borovoye**	**67.90**	**327**	P	**P**	**21 25 44.0**	**-0.4**
BRVK				IAmb	IAmb	21 25 48.3	
	comp=Z,1.5nm,0.7s						
ABKAR	**Akbulak array**	**72.65**	**321**	P	**P**	**21 26 13.2**	**-0.3**
ABKAR	**Akbulak array**	**72.65**	**321**	P	**P**	**21 26 13.2**	**-0.3**
ABKAR				IAmb	IAmb	21 26 14.5	
	comp=Z,1.0nm,0.6s						
BMAR	**Burnt Mountain**	**86.43**	**23**	P	**P**	**21 27 29.4**	**+1.3**

IDC 21 21:20:16.3±2.0, 2°68'N×125°42'E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=195.6km s-min=27.6km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.12**	**159**	P	P	21 25 33.6	-0.5
	0.2nm,0.5s,baz=338,slow=11,SNR=5.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**27.46**	**163**	P	P	21 26 05.7	+1.4
	0.1nm,0.3s,baz=338,slow=11,SNR=2.1						
	0.1nm,0.3s						
STKA	**Stephens Creek**	**37.64**	**157**	P	P	21 27 32.7	-0.5
	1.6nm,1.1s,baz=340,slow=12,SNR=1.6						
	1.6nm,1.1s						
MKAR	**Makanchi Array**	**57.69**	**326**	P	P	21 30 08.3	-0.5
	0.2nm,0.5s,baz=121,slow=7.9,SNR=2.4						
	0.2nm,0.5s						

*IDC **21** 21:50:41.9±2.3, 7°30'S×155°31'E, h0km, mb3.6/7, mbtmp3.6/7, MS3.4/2, Error ellipse: s-maj=73.7km s-min=29.7km az=121.0*

ISC 21 21:50:44.6±1.6, 7°1'S±0°2'×155°2'E±0°4, h10km, n10, σ1°27/9, mb3.8/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.26**	**116**	LR	LR	21 53 59.9	
	comp=Z,654nm,18.4s,baz=160,slow=39						
WRA	**Warramunga Arr**	**23.87**	**236**	P	**P**	**21 55 56.5**	**-2.1**
	0.6nm,0.9s,baz=60,slow=9.7,SNR=4.7						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**26.20**	**229**	P	**P**	**21 56 19.3**	**-0.5**
	0.4nm,0.8s,baz=56,slow=9.3,SNR=2.7						
	0.4nm,0.8s						
STKA	**Stephens Creek**	**27.68**	**205**	P	**P**	**21 56 34.2**	**+1.2**
	2.1nm,1.1s,baz=15,slow=16,SNR=3.0						
STKA				LR	LR	22 06 00.7	
	comp=Z,47nm,19.2s,baz=210,slow=33						
CMAR	**Chiang Mai Arr**	**60.99**	**296**	P	**P**	**22 01 00.4**	**+1.7**
	0.5nm,0.6s,baz=114,slow=5.0,SNR=4.1						
	0.5nm,0.6s						
SONM	**Songino Array**	**69.54**	**327**	P	**P**	**22 01 53.6**	**-0.2**
	0.3nm,0.5s,baz=125,slow=5.4,SNR=2.1						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**83.44**	**21**	P	**P**	**22 03 12.0**	**-0.1**
	0.3nm,0.6s,baz=248,slow=5.2,SNR=2.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**83.62**	**319**	P	**P**	**22 03 13.0**	**-0.4**
	0.5nm,0.7s,baz=87,slow=6.3,SNR=6.1						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**84.39**	**326**	P	**P**	**22 03 16.5**	**-0.6**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=2.2						
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**153.22**	**285**	PKPbc	**PKPbc**	**22 10 43.7**	**-0.3**
	0.4nm,0.7s,baz=14,slow=2.3,SNR=2.5						

*SJA **21** 22:04:47.5±0.8, 31°71'S×70°61'W, h6km±3km, ML4.1, MW4.3*
*GUC **21** 22:04:48.6±0.7, 31°72'S×70°63'W, h7km±3km, ML4.1*
*VAO **21** 22:04:49.8±0.4, 31°89'S×70°50'W, h10km, mb4.5*
*IDC **21** 22:04:49.7±0.6, 31°66'S×70°40'W, h0km, mb4.2/9, mbtmp4.2/14, ML4.3/5, MS3.9/33, Error ellipse: s-maj=23.2km s-min=17.5km az=102.0*
*NEIC **21** 22:04:50.7±2.2, 31°75'S±0°02'×70°63'W±0°06, h10km±1km, mb4.7/34, ML4.1(GUC), Error ellipse: s-maj=8.1km s-min=2.8km az=254.0*

ISC 21 22:04:50.4±0.3, 31°74'S±0°02'×70°60'W±0°02, h10km, n231, σ1°30/250, mb4.7/26, MS4.0/30, 3C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.64**	**328**		**Pg**	**22 05 01.3**	**-1.5**
CO02				Sg	**Sg**	**22 05 10.8**	**-0.3**
CO02	**Combarbal**	**0.64**	**328**	*e*P	**Pg**	**22 05 00.8**	**-2.0**
CO02				*i* S	**Sg**	**22 05 10.0**	**-1.2**
CO02				IAML		22 05 12.7	
	comp=E,33μm,0.4s						
CO02	**Combarbal**	**0.64**	**328**	*e*P	**Pg**	**22 05 00.0**	**-2.8**
CO02				*e*S	**Sg**	**22 05 11.3**	**+0.2**
CO02				IAML		22 05 12.4	
	comp=Z,9μm,0.3s						
VA06	**Catapilco**	**1.00**	**216**	Pg	**Pg**	**22 05 08.3**	**-1.4**
VA06					**Sb**	**22 05 22.9**	**-0.3**
VA06	**Catapilco**	**1.00**	**216**	*e*P	**Pg**	**22 05 07.8**	**-1.9**
VA06				*i* S	**Sb**	**22 05 22.8**	**-0.4**
VA06				IAML		22 05 32.5	
	comp=E,4μm,0.6s						
VA03	**San Esteban**	**1.02**	**178**		**Pg**	**22 05 08.1**	**-2.0**
VA03				Sg	**Sg**	**22 05 22.4**	**-0.9**
VA03	**San Esteban**	**1.02**	**178**	*e*P	**Pg**	**22 05 08.0**	**-2.0**
VA03				*i* S	**Sg**	**22 05 22.4**	**-0.9**
VA03				IAML		22 05 23.7	
	comp=N,16μm,0.6s						
VA03	**San Esteban**	**1.02**	**178**	*e*P	**Pg**	**22 05 08.0**	**-2.0**
VA03				IAML		22 05 26.4	
	comp=Z,4μm,0.7s						
RTLS	**Leoncito**	**1.11**	**93**	*e*P	Pg	22 05 07.0	-4.8
RTLS				IAML		22 05 27.1	
	comp=Z,3μm,1.4s						
ROCH	**El Roble**	**1.27**	**196**	*ǁ i*P	**Pn**	**22 05 12.6**	**-1.9**
ROCH				*i* S	**Sb**	**22 05 30.8**	**-0.4**
ROC1	**El Roble**	**1.28**	**196**		**Pn**	**22 05 12.6**	**-2.0**
ROC1	**El Roble**	**1.28**	**196**	*e*P	**Pn**	**22 05 13.0**	**-1.6**
CO06	**Fray Jorge**	**1.39**	**320**		**Pn**	**22 05 14.1**	**-1.7**
CO06				Sn	**Sb**	**22 05 33.2**	**-0.9**
CO06	**Fray Jorge**	**1.39**	**320**	*e*P	**Pn**	**22 05 13.9**	**-1.9**
CO06				*i* S	**Sb**	**22 05 33.4**	**-0.7**
CO06				IAML		22 05 35.4	
	comp=E,5μm,0.5s						
PEL	**Peldehue**	**1.40**	**183**		**Pn**	**22 05 14.6**	**-1.4**
PEL	**Peldehue**	**1.40**	**183**	*ǁ i*P	**Pn**	**22 05 14.6**	**-1.4**
PEL				*i* S	**Sb**	**22 05 33.2**	**-1.4**
PEL				IAML		22 05 44.6	
	comp=N,2μm,0.8s						
PEL	**Peldehue**	**1.40**	**183**	*e*P	**Pn**	**22 05 14.8**	**-1.3**
GO04	**Tololo Observa**	**1.57**	**354**		**Pn**	**22 05 16.7**	**-1.9**
GO04	**Tololo Observa**	**1.57**	**354**	*e*P	**Pn**	**22 05 16.5**	**-2.1**
GO04				*i* S	**Sn**	**22 05 38.2**	**-1.0**
GO04	**Tololo Observa**	**1.57**	**354**	*e*P	**Pn**	**22 05 16.8**	**-1.9**
GO04				*e*S	**Sn**	**22 05 38.3**	**-1.0**
MT02	**Curacav**	**1.58**	**197**	Pn	**Pn**	**22 05 17.4**	**-1.0**
MT02	**Curacav**	**1.58**	**197**	*ǁ i*P	**Pn**	**22 05 17.5**	**-1.0**
MT02				*i* S	**Sn**	**22 05 39.1**	**+0.1**
MT02				IAML		22 05 42.1	
	comp=E,2μm,0.5s						
MT02	**Curacav**	**1.58**	**197**	*e*P	Pn	22 05 12.3	-6.2
MT02				*e*P	**Pb**	**22 05 18.0**	**-1.7**
MT02				*e*S	**Sb**	**22 05 39.9**	**+0.2**
MT02				IAML		22 05 40.9	
	comp=Z,2μm,0.3s						
FCH	**Farellones**	**1.60**	**171**	*ǁ i*P	**Pn**	**22 05 18.1**	**-1.0**
FCH				*i* S	**Sn**	**22 05 39.4**	**-0.6**
MT05	**Renca**	**1.65**	**184**		**Pn**	**22 05 18.9**	**-0.6**
MT05	**Renca**	**1.65**	**184**	*e*P	**Pn**	**22 05 18.9**	**-0.6**
MT05				*i* S	**Sb**	**22 05 42.0**	**+0.2**
MT05				IAML		22 05 46.9	
	comp=E,5μm,0.5s						
MT05	**Renca**	**1.65**	**184**	*e*P	**Pn**	**22 05 19.3**	**-0.2**
MT05				*e*S	**Sg**	**22 05 43.2**	**-0.2**
MT05				IAML		22 05 47.4	
	comp=Z,2μm,0.5s						
ZON	**Zonda**	**1.65**	**84**	Pn	**Pn**	**22 05 17.8**	**-1.8**
ASAL	**Salagasta**	**1.72**	**120**	*e*P	**Pn**	**22 05 20.4**	**-0.1**
ASAL				*e*S	**Sn**	**22 05 40.8**	**-1.8**
MT03	**Universidad Ad**	**1.75**	**177**		**Pn**	**22 05 20.6**	**-0.3**
MT03	**Universidad Ad**	**1.75**	**177**	*ǁ i*P	**Pn**	**22 05 20.5**	**-0.3**
MT03				*i* S	**Sb**	**22 05 44.2**	**-0.4**
MT03				IAML		22 05 50.5	
	comp=N,4μm,0.1s						
MT03	**Universidad Ad**	**1.75**	**177**	*e*P	**Pn**	**22 05 21.0**	**+0.1**
MT03				*e*S	**Sg**	**22 05 45.8**	**-0.8**
MT03				IAML		22 05 52.3	
	comp=Z,2μm,0.2s						
ACCO	**Cerro Coronel**	**1.75**	**49**	*e*P	**Pn**	**22 05 19.8**	**-1.4**
ACCO				*e*S	**Sb**	**22 05 45.8**	**+0.9**
ARCO	**CERRO ARCO**	**1.79**	**128**	*e*P	**Pn**	**22 05 21.0**	**-0.5**
ARCO				*e*P	**Pb**	**22 05 21.8**	**-1.5**
ARCO				IAML		22 06 05.4	
	comp=Z,818nm,1.8s						
CO01	**Juntas del Tor**	**1.81**	**14**		**Pn**	**22 05 21.5**	**-0.4**
CO01	**Juntas del Tor**	**1.81**	**14**	*e*P	**Pn**	**22 05 21.3**	**-0.6**
CO01	**Juntas del Tor**	**1.81**	**14**	*e*P	**Pn**	**22 05 21.6**	**-0.4**
CO01				*e*S	**Sn**	**22 05 45.8**	**+0.7**
CO01				*e*S	**Sb**	**22 05 47.0**	**+0.3**
CO01				IAML		22 05 56.1	
	comp=Z,979nm,0.8s						
AROD	**Rodeo**	**1.85**	**32**	*e*P	**Pn**	**22 05 20.2**	**-2.3**
AROD				*e*S	**Sb**	**22 05 49.6**	**+1.8**
RTLL	**Cerro Villicun**	**1.86**	**78**	*e*P	Pn	22 05 10.1	-12
RTLL				*e*P	**Pb**	**22 05 21.0**	**-3.6**
CO05	**La Serena**	**1.90**	**343**		**Pn**	**22 05 22.4**	**-0.5**
CO05	**La Serena**	**1.90**	**343**	*ǁ i*P	**Pn**	**22 05 21.9**	**-0.9**
CO05				*i* S	**Sn**	**22 05 47.4**	**+0.6**
CO05				IAML		22 05 55.0	
	comp=N,5μm,0.4s						
AAGR	**Agrelo**	**2.01**	**132**	*e*P	**Pn**	**22 05 25.4**	**+0.9**
AAGR				*e*S	**Sg**	**22 05 55.7**	**+0.6**
MT09	**Talagante**	**2.05**	**189**		**Pn**	**22 05 25.7**	**+0.5**
MT09	**Talagante**	**2.05**	**189**	*ǁ i*P	**Pn**	**22 05 25.3**	**+0.2**
MT09				*i* S	**Sb**	**22 05 53.3**	**-0.2**
MT09				IAML		22 05 56.5	
	comp=N,3μm,0.3s						
VA05	**Santo Domingo**	**2.09**	**204**		**Pn**	**22 05 26.2**	**+0.8**
VA05	**Santo Domingo**	**2.09**	**204**	*e*P	**Pn**	**22 05 25.9**	**+0.5**
VA05				*i* S	**Sb**	**22 05 53.8**	**-0.6**
VA05				IAML		22 05 59.5	
	comp=E,3μm,0.6s						
LMEL	**Las Melosas**	**2.12**	**171**		**Pn**	**22 05 27.7**	**+1.5**
LMEL	**Las Melosas**	**2.12**	**171**	*e*P	**Pn**	**22 05 27.2**	**+1.1**
LMEL				*i* S	**Sb**	**22 05 56.4**	**+0.8**
LMEL				IAML		22 06 05.4	
	comp=E,2μm,0.6s						
MT01	**Popeta**	**2.18**	**194**		**Pn**	**22 05 27.6**	**+0.8**
MT01	**Popeta**	**2.18**	**194**	*ǁ i*P	**Pn**	**22 05 27.3**	**+0.5**
MT01				*i* S	**Sb**	**22 05 56.4**	**-0.7**
MT01				IAML		22 06 01.2	
	comp=E,1μm,0.6s						
MT01	**Popeta**	**2.18**	**194**	*e*P	**Pn**	**22 05 27.0**	**+0.2**
MT01				*e*S	**Sb**	**22 05 57.1**	**-0.1**
MT01				IAML		22 06 01.0	
	comp=Z,1μm,0.5s						
BO04	**La Punta**	**2.24**	**180**		**Pn**	**22 05 28.4**	**+0.8**
BO04	**La Punta**	**2.24**	**180**	*i* P	**Pn**	**22 05 28.2**	**+0.6**
BO04				*i* S	**Sb**	**22 05 58.3**	**-0.5**
BO04				IAML		22 06 01.9	
	comp=E,3μm,0.7s						
LCO	**Las Campanas**	**2.73**	**358**	Pn	**Pn**	**22 05 35.3**	**+0.8**
LCO	**Las Campanas**	**2.73**	**358**	*e*P	**Pn**	**22 05 34.8**	**+0.4**
LCO				*i* S	**Sn**	**22 06 10.8**	**+3.2**
LCO	**Las Campanas**	**2.73**	**358**	*e*P	**Pn**	**22 05 36.0**	**+1.5**
AVFE	**Valle Fertil**	**2.91**	**69**	*e*P	**Pn**	**22 05 38.9**	**+2.1**
AVFE				*e*S	**Sb**	**22 06 16.5**	**-1.5**
AVFE				IAML		22 06 19.7	
	comp=Z,1μm,0.9s						
AC05	**El Transito**	**2.91**	**6**	Pn	**Pn**	**22 05 38.1**	**+1.2**
AC05	**El Transito**	**2.91**	**6**	*e*P	**Pn**	**22 05 38.5**	**+1.5**
AC05				*i* S	**Sn**	**22 06 15.2**	**+3.1**
AC05	**El Transito**	**2.91**	**6**	*e*P	**Pn**	**22 05 38.7**	**+1.8**
AC05				*e*S	**Sn**	**22 06 12.3**	**+0.2**
AC05				IAML		22 06 21.1	
	comp=Z,2μm,1.0s						
BO03	**Pichilemu**	**2.97**	**202**	*e*P	**Pn**	**22 05 38.1**	**+0.5**
BO03				*i* S	**Sb**	**22 06 20.7**	**+0.9**
BO03				IAML		22 06 31.3	
	comp=N,466nm,0.6s						
BO02	**Sierra Bellavi**	**3.04**	**183**	Pn	**Pn**	**22 05 40.0**	**+1.3**
BO02	**Sierra Bellavi**	**3.04**	**183**	*e*P	**Pn**	**22 05 40.1**	**+1.4**
BO02				*i* S	**Sb**	**22 06 19.7**	**-2.2**
BO02	**Sierra Bellavi**	**3.04**	**183**	*e*P	**Pn**	**22 05 40.5**	**+1.8**
BO02				*e*S	**Sn**	**22 06 16.8**	**+1.5**
BO02				IAML		22 06 25.1	
	comp=Z,805nm,0.6s						
ACHE	**Chepes**	**3.42**	**81**	*e*P	**Pn**	**22 05 46.0**	**+2.1**
ACHE				*e*S	**Sb**	**22 06 32.1**	**-0.7**
RFA	**San Rafael**	**3.51**	**150**	*e*P	**Pn**	**22 05 48.0**	**+2.9**
RFA				*e*S	**Sg**	**22 06 45.3**	**+2.1**
RFA				IAML		22 06 49.9	
	comp=Z,329nm,0.7s						
AC04	**Llanos de Chal**	**3.55**	**353**	Pn	**Pn**	**22 05 46.3**	**+0.7**
AC04	**Llanos de Chal**	**3.55**	**353**	*e*P	**Pn**	**22 05 47.0**	**+1.5**
AC04				*i* S	**Sn**	**22 06 28.8**	**+1.1**
AC04	**Llanos de Chal**	**3.55**	**353**	*e*P	**Pn**	**22 05 47.1**	**+1.5**
AC04				*e*P	Pb	22 05 48.0	-5.3
AC04				*e*S	**Sn**	**22 06 28.8**	**+1.1**
AC04				IAML		22 06 44.5	
	comp=Z,591nm,0.7s						
APLL	**PUNTA DE LOS L**	**3.75**	**70**	*e*P	**Pn**	**22 05 50.0**	**+1.7**
APLL				*e*S	**Sb**	**22 06 39.4**	**-2.8**
ACLC	**CERRO LA CRUZ**	**3.91**	**55**	*e*P	**Pn**	**22 05 51.2**	**+0.6**
ACLC				IAML		22 06 51.8	
	comp=Z,347nm,0.5s						
MRA	**San Martin**	**4.20**	**101**	*e*P	**Pn**	**22 05 56.5**	**+1.9**
MRA				*e*S	**Sb**	**22 06 57.9**	**+2.6**
AC06	**Mina Casimiro**	**4.38**	**3**	Pn	**Pn**	**22 05 57.8**	**+0.8**
AC02	**Maricunga**	**5.06**	**15**	Pn	**Pn**	**22 06 08.6**	**+1.8**
TCA	**Tanti**	**5.14**	**87**	*e*P	Pn	22 06 03.3	-4.3
TCA				*e*S	**Sb**	**22 07 22.3**	**-0.2**
CYA	**Choya**	**5.30**	**53**	*e*P	**Pn**	**22 06 11.4**	**+1.6**
AC01	**Pan de Azucar**	**5.58**	**0**		**Pn**	**22 06 13.6**	**+0.1**
GO02	**Mina Guanaco**	**6.62**	**8**	Pn	**Pn**	**22 06 28.4**	**+0.4**
PB14	**IPOC Station P**	**7.09**	**1**	Pn	**Pn**	**22 06 33.3**	**-1.3**
H03N1	**Juan Fernandez** baz=86,slow=73,SNR=214	**7.21**	**254**	T	T	22 13 18.1	
H03N3	**Juan Fernandez**	**7.23**	**254**	Pn	**Pn**	**22 06 36.7**	**+0.9**
H03N3				T	T	22 13 19.3	
	baz=86,slow=73,SNR=200						
H03N2	**Juan Fernandez**	**7.23**	**254**	Pn	**Pn**	**22 06 38.1**	**+2.2**
H03N2				T	T	22 13 19.0	
	baz=86,slow=73,SNR=180						
H03S3	**Juan Fernandez** baz=84	**7.30**	**251**	T	T	22 13 19.7	
H03S1	**Juan Fernandez** baz=84	**7.30**	**251**	T	T	22 13 18.2	
H03S2	**Juan Fernandez** baz=84	**7.31**	**251**	T	T	22 13 14.9	
GO06	**Curarrehue**	**7.86**	**185**		**Pn**	**22 06 44.8**	**0.0**
LR04	**Corral**	**8.44**	**195**	Pn	**Pn**	**22 06 51.8**	**-0.8**
PB15	**IPOC Station P**	**8.56**	**7**		**Pn**	**22 06 54.2**	**-0.4**
PLCA	**Paso Flores**	**8.97**	**180**	Pn	**Pn**	**22 07 01.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=357,slow=11,SNR=6.4						
PLCA				LR	LR	22 10 44.4	
	comp=Z,572nm,18.6s,baz=7.0,slow=39						
	comp=Z,1.1nm,0.7s						
PLCA	**Paso Flores**	**8.97**	**180**	Pn	**Pn**	**22 07 01.3**	**+1.2**
LVC	**Limon Verde**	**9.22**	**10**	Pn	**Pn**	**22 07 02.2**	**-1.6**
	comp=Z,1.7nm,0.3s,baz=181,slow=7.9,SNR=11						
LVC				Lg	Lg	22 09 20.0	
	comp=Z,2.5nm,0.3s,baz=277,slow=9.9,SNR=4.3						
	comp=Z,5.3nm,0.5s						
LVC	**Limon Verde**	**9.22**	**10**	Pn	**Pn**	**22 07 02.1**	**-1.7**
PB04	**IPOC Station P**	**9.38**	**3**	Pn	**Pn**	**22 07 03.8**	**-2.1**
TRQA	**Tornquist**	**9.47**	**134**	Pn	**Pn**	**22 07 07.9**	**+1.0**
PB01	**IPOC Station P**	**10.70**	**6**		**Pn**	**22 07 20.5**	**-3.4**
ITQB	**Itaqui**	**12.21**	**84**	Pn	**Pn**	**22 07 43.4**	**-1.0**
ITQB	**Itaqui**	**12.21**	**84**	*e*P	**Pn**	**22 07 43.9**	**-0.5**
CPUP	**Villa Florida**	**12.80**	**68**	Pn	**Pn**	**22 07 49.0**	**-3.5**
	comp=Z,1.1nm,0.3s,baz=235,slow=10,SNR=12						
CPUP				Lg	Lg	22 11 15.6	
	comp=Z,0.4nm,0.3s,baz=203,slow=13,SNR=2.6						
	comp=Z,3.0nm,0.5s						
CPUP	**Villa Florida**	**12.80**	**68**	Pn	**Pn**	**22 07 50.6**	**-1.9**
CPUP	**Villa Florida**	**12.80**	**68**	*e*P	**Pn**	**22 07 50.7**	**-1.8**
RODS	**Rosario do Sul**	**13.28**	**88**	*e*P	**Pn**	**22 07 58.2**	**-0.9**
PB16	**IPOC Station P**	**13.39**	**4**	Pn	**Pn**	**22 08 02.8**	**+1.7**
UNIS	**Unistalda (Bra**	**13.67**	**83**	*e*P	**Pn**	**22 08 01.8**	**-2.6**
PLTB	**Pedras Altas**	**14.47**	**95**	Pn	**Pn**	**22 08 11.4**	**-3.8**
PLTB	**Pedras Altas**	**14.47**	**95**	*e*P	**Pn**	**22 08 12.0**	**-3.3**
CPSB	**Cacapava Do Su**	**14.77**	**89**	*e*P	**Pn**	**22 08 16.3**	**-3.1**
CRSM	**Crissiumal (Br**	**15.01**	**78**	*e*P	**Pn**	**22 08 21.8**	**-0.9**
ALGR	**Alto Alegre (B**	**15.47**	**84**	*e*P	**Pn**	**22 08 27.1**	**-1.6**
LPAZ	**La Paz**	**15.55**	**9**	Pn	**Pn**	**22 08 31.7**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=191,slow=6.5,SNR=66						
LPAZ				LR	LR	22 14 47.0	
	comp=Z,269nm,18.6s,baz=194,slow=39						
	comp=Z,17nm,0.8s						
LPAZ	**La Paz**	**15.55**	**9**	Pn	**Pn**	**22 08 30.9**	**+0.6**
LPAZ	**La Paz**	**15.55**	**9**	*e*P	**Pn**	**22 08 31.5**	**+1.1**
ANTJ	**Antonio Joao (**	**16.23**	**57**	*e*P	**Pn**	**22 08 39.1**	**+0.5**
FRBT	**Francisco Belt**	**16.40**	**74**	*e*P	**Pn**	**22 08 38.6**	**-2.2**
ITAB	**Concordia**	**16.70**	**79**		**Pn**	**22 08 45.4**	**+0.9**
ITAB	**Concordia**	**16.70**	**79**	*e*P	**Pn**	**22 08 43.0**	**-1.5**
AQDB	**Aquidauana**	**17.44**	**54**	*e*P	**Pn**	**22 08 53.4**	**-0.5**
PTGB	**Pitanga**	**17.76**	**71**	*e*P	**Pn**	**22 08 57.3**	**-0.6**
SIV	**San Ignacio**	**17.92**	**31**	P	**Pn**	**22 08 59.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=205,slow=9.8,SNR=35						
SIV				LR	LR	22 16 49.9	
	comp=Z,203nm,20.9s,baz=240,slow=40						
	comp=Z,9.6nm,0.6s						
PTLB	**Pontes e Lacer**	**19.30**	**35**	P	**P**	**22 09 14.1**	**-1.4**
PTLB				IAmb	IAmb	22 09 27.4	
	comp=Z,14nm,1.3s						
PTLB	**Pontes e Lacer**	**19.30**	**35**	*e*P	**P**	**22 09 15.8**	**+0.2**
PCMB	**Pacaembu**	**19.99**	**64**	*e*P	**P**	**22 09 23.9**	**+0.8**
TIJ01	**Guaruva-PR**	**20.01**	**77**	*e*P	**P**	**22 09 21.1**	**-2.3**
PP1B	**Ponte de Pedra**	**20.02**	**49**	*e*P	**P**	**22 09 23.9**	**+0.3**
NNA	**Nana**	**20.49**	**342**	LR	LR	22 15 46.8	
	comp=Z,286nm,20.3s,baz=166,slow=32						
SALV	**Santo Antonio**	**20.81**	**44**	*e*P	**P**	**22 09 32.2**	**+0.2**
VILB	**Vilhena**	**21.01**	**29**	P	**P**	**22 09 33.8**	**-0.4**
VILB				IAmb	IAmb	22 09 34.9	
	comp=Z,70nm,0.7s						
VILB	**Vilhena**	**21.01**	**29**	*e*P	**P**	**22 09 34.1**	**-0.1**
ITRB	**Iturama**	**21.78**	**61**	*e*P	**P**	**22 09 42.8**	**+0.2**
PET01	**Itanhaem-SP**	**21.86**	**76**	*e*P	**P**	**22 09 44.0**	**+0.7**
EFI	**East Falkland**	**21.95**	**159**	P	**P**	**22 09 43.0**	**-1.0**
ETMB	**Extrema**	**22.20**	**12**	P	**P**	**22 09 46.0**	**-0.9**
ETMB				IAmb	IAmb	22 09 52.2	
	comp=Z,28nm,1.4s						
ETMB	**Extrema**	**22.20**	**12**

CCM					IAmb	IAmb	22 16 17.8	
	comp=Z,8.3nm,1.2s							
R40A	**Maddies Statio**	**72.54**	**342**	P		**P**	**22 16 17.4**	**0.0**
R40A					IAmb	IAmb	22 16 18.6	
	comp=Z,5.8nm,0.8s							
LIC	**Lamto**	**72.91**	**71⇑**	*eP*		**P**	**22 16 20.2**	**0.0**
	comp=Z,13nm,0.5s							
TIC	**Toumodi**	**73.16**	**71⇑**	*iP*		**P**	**22 16 21.8**	**+0.1**
	comp=Z,3.0nm,0.3s							
KIC	**Kosan Boka**	**73.22**	**71⇑**	*iP*		**P**	**22 16 22.1**	**+0.1**
	comp=Z,4.4nm,0.4s							
DBIC	**Dimbokro**	**73.31**	**71**	P		**P**	**22 16 22.5**	**0.0**
	comp=Z,3.8nm,0.5s,baz=228,slow=6.4,SNR=7.9							
DBIC					LR	LR	22 44 43.1	
	comp=Z,119nm,21.5s,baz=222,slow=33							
	comp=Z,3.8nm,0.5s							
DBIC	**Dimbokro**	**73.31**	**71**	P		**P**	**22 16 22.5**	**0.0**
DBIC					IAmb	IAmb	22 16 22.7	
	comp=Z,7.4nm,0.9s							
ANMO	**Albuquerque**	**74.41**	**330**	LR		LR	22 45 25.1	
	comp=Z,70nm,18.3s,baz=156,slow=33							
SUR	**Sutherland**	**74.86**	**119**	LR		LR	22 44 18.7	
	comp=Z,80nm,21.3s,baz=232,slow=32							
SUR	**Sutherland**	**74.86**	**119**	P		**P**	**22 16 31.7**	**+0.1**
MAW	**Mawson**	**74.99**	**163**	P		**P**	**22 16 33.0**	**+1.5**
	comp=Z,6.7nm,0.8s,baz=250,slow=6.7,SNR=11							
MAW					LR	LR	22 49 46.0	
	comp=Z,47nm,20.4s,baz=216,slow=36							
	comp=Z,6.7nm,0.8s							
MAW	**Mawson**	**74.99**	**163**	P		**P**	**22 16 32.7**	**+1.2**
PFO	**Pinyon Flats O**	**78.07**	**322**	LR		LR	22 44 24.0	
	comp=Z,73nm,19.3s,baz=156,slow=30							
KOWA	**Kowa**	**78.60**	**65**	LR		LR	22 50 49.9	
	comp=Z,70nm,18.2s,baz=301,slow=35							
KOWA	**Kowa**	**78.60**	**65**	P		**P**	**22 16 52.4**	**-0.3**
KOWA					IAmb	IAmb	22 16 53.6	
	comp=Z,3.9nm,0.7s							
TSUM	**Tsumeb**	**78.66**	**106**	LR		LR	22 47 55.0	
	comp=Z,104nm,19.0s,baz=328,slow=33							
ECSD	**EROS Data Cent**	**78.79**	**341**	P		**P**	**22 16 52.8**	**-0.4**
ECSD					IAmb	IAmb	22 16 54.4	
	comp=Z,6.9nm,0.9s							
BOSA	**Boshof**	**80.04**	**117**	P		**P**	**22 17 01.1**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=244,slow=7.6,SNR=4.5							
BOSA					LR	LR	22 49 21.4	
	comp=Z,85nm,18.8s,baz=198,slow=33							
	comp=Z,3.5nm,0.8s							
BOSA	**Boshof**	**80.04**	**117**	P		**P**	**22 16 60.0**	**-0.7**
BOSA					IAmb	IAmb	22 17 03.7	
	comp=Z,9.7nm,1.1s							
LBTB	**Lobatse**	**82.14**	**114**	LR		LR	22 49 44.3	
	comp=Z,150nm,18.5s,baz=224,slow=33							
LBTB	**Lobatse**	**82.14**	**114**	P		**P**	**22 17 11.9**	**+0.1**
LBTB					IAmb	IAmb	22 17 16.6	
	comp=Z,10.0nm,1.4s							
CASY	**Casey**	**82.29**	**180**	P		**P**	**22 17 12.4**	**+0.7**
CASY					IAmb	IAmb	22 17 14.3	
	comp=Z,8.0nm,1.1s							
TOA0	**Torodi Ar. Sit**	**82.30**	**69**	P		**P**	**22 17 12.3**	**-0.2**
TOA0					IAmb	IAmb	22 17 13.4	
	comp=Z,5.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**82.30**	**69**	P		**P**	**22 17 12.3**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=271,slow=6.4,SNR=32							
TORD					LR	LR	22 50 50.4	
	comp=Z,84nm,20.6s,baz=218,slow=34							
	comp=Z,3.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**82.30**	**69**	P		**P**	**22 17 12.5**	**-0.1**
TORD					IAmb	IAmb	22 17 13.4	
	comp=Z,3.5nm,0.7s							
PDAR	**Pinedale Array**	**82.32**	**332**	P		**P**	**22 17 13.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=134,slow=5.2,SNR=2.9							
PDAR					LR	LR	22 50 27.6	
	comp=Z,56nm,19.6s,baz=184,slow=33							
	comp=Z,0.2nm,0.6s							
NVAR	**Mina Array Bea**	**82.75**	**324**	P		**P**	**22 17 16.2**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=120,slow=5.3,SNR=2.1							
	comp=Z,0.4nm,0.4s							
ELK	**Elko**	**83.09**	**327**	LR		LR	22 51 35.5	
	comp=Z,57nm,18.5s,baz=116,slow=34							
BCYI	**Bear Canyon**	**85.17**	**331**	P		**P**	**22 17 27.6**	**+0.7**
J08A	**Circle Bar Ran**	**86.64**	**327**	P		**P**	**22 17 34.8**	**+0.8**
J08A					IAmb	IAmb	22 17 36.7	
	comp=Z,9.7nm,1.3s							
LSZ	**Lusaka**	**89.35**	**107**	LR		LR	22 54 59.7	
	comp=Z,98nm,18.2s,baz=238,slow=34							
MDT	**Midelt**	**89.46**	**50**	LR		LR	22 57 57.9	
	comp=Z,52nm,18.3s,baz=226,slow=36							
NEW	**Newport**	**89.87**	**331**	LR		LR	22 54 55.2	
	comp=Z,71nm,19.4s,baz=129,slow=33							
MBAR	**Mbarara**	**99.33**	**97**	LR		LR	23 00 13.4	
	comp=Z,58nm,20.5s,baz=234,slow=34							
BRTR	**Keskin Array B**	**119.67**	**59**	PKP		**PKPdf**	**22 23 41.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=282,slow=11,SNR=1.9							
ASAR	**Alice Springs**	**120.12**	**206**	PKP		**PKPdf**	**22 23 40.8**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=134,slow=2.0,SNR=2.9							
WRA	**Warramunga Arr**	**123.31**	**208**	PKP		**PKPdf**	**22 23 47.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=178,slow=1.7,SNR=15							
BVAR	**Borovoye Array**	**144.80**	**41**	PKP		**PKPdf**	**22 24 27.1**	**0.0**
	comp=Z,2.1nm,0.4s,baz=284,slow=1.8,SNR=14							
AAK	**Ala-Archa**	**150.34**	**59**	PKPbc		**PKiKP**	**22 24 43.6**	**+0.8**
	comp=Z,5.1nm,0.7s,baz=190,slow=2.7,SNR=14							
KURBB	**Kurchatov Arra**	**150.39**	**41**	PKPbc		**PKPbc**	**22 24 42.2**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=300,slow=2.9,SNR=21							
ZALV	**Zalesovo Beam**	**151.68**	**31**	PKPbc		**PKPbc**	**22 24 44.6**	**+0.1**
	comp=Z,5.1nm,0.5s,baz=305,slow=3.3,SNR=26							
KSH	**Kashi**	**151.87**	**65**	PKPbc		**PKPbc**	**22 24 46.0**	**+0.3**
MKAR	**Makanchi Array**	**154.35**	**46**	PKPbc		**PKPbc**	**22 24 50.3**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=341,slow=3.0,SNR=6.5							
MKAR					PKPab	**PKPab**	**22 25 05.2**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=316,slow=3.3,SNR=3.8							
MJAR	**Matsushiro Arr**	**155.72**	**289**	PKPab		**PKPab**	**22 25 12.9**	**+1.8**
	comp=Z,5.4nm,0.9s,baz=30,slow=9.7,SNR=9.5							
SONM	**Songino Array**	**163.77**	**7**	PKPab		**PKPab**	**22 25 46.2**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=338,slow=3.1,SNR=2.7							
PZH	**PanZhiHua**	**171.51**	**126**	PKP		**PKPdf**	**22 24 58.8**	**-0.9**

*IDC **21** 22:11:55.6±1.3,55.°39N×157.°93W,h0km,mb4.0/18, mbtmp4.1/20,ML4.0/2,MS3.3/12,Error ellipse: s-maj=34.5km s-min=20.3km az=174.0*
*AEIC **21** 22:11:60.0±1.5,55.°13N±0.°07×157.°65W±0.°09,h40km±6km, Error ellipse: s-maj=11.0km s-min=6.6km az=155.0*
*NEIC **21** 22:11:59.6±1.2,55.°14N±0.°06×157.°69W±0.°09,h35km±8km, mb4.2/11,ML3.9/20,ML3.7/31(AEIC),Error ellipse: s-maj=9.7km s-min=6.2km az=152.0*

ISC 21 22:11:59.9±0.6,55.°19N±0.°07×157.°67W±0.°05,h35km, n134,σ0§90/125,mb4.1/23,MS3.4/10,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHNA	**Chernabura Isl**	**1.17**	**253**	P		P	**Pn**	**22 12 18.8**	**-0.8**
	baz=74								
CNBA	**Chernabura Isl**	**1.17**	**252**				**Pn**	**22 12 18.8**	**-0.9**
CNBA				IAML				22 12 39.3	
	comp=N,2μm,0.5s								
CNBA				IAML				22 12 40.2	
	comp=E,2μm,0.7s								
CHGN	**Chignik**	**1.19**	**339**				**Pn**	**22 12 19.8**	**-0.1**
CHGN	**Chignik**	**1.19**	**339**				**Sn**	**22 12 35.4**	**+0.6**
CHGN	**Chignik**	**1.19**	**339**	IAML				22 12 35.8	
	comp=E,3μm,0.7s								
CHGN				IAML				22 12 35.8	
	comp=N,3μm,0.6s								
CHGN	**Chignik**	**1.19**	**339**	P		**P**	**Pn**	**22 12 19.8**	**-0.1**
	baz=160								
CHGN				S		**Sn**		**22 12 35.4**	**+0.6**
	baz=160								
CHIR	**Chirikof Islan**	**1.32**	**61**				**Pn**	**22 12 21.7**	**-0.1**
CHIR				IAML				22 12 51.6	
	comp=E,1μm,0.8s								
CHIR	**Chirikof Islan**	**1.32**	**61**	P		**P**	**Pn**	**22 12 21.5**	**-0.3**
	baz=240								
S14K	**Fog Glacier**	**1.53**	**317**	P		**P**	**Pn**	**22 12 25.3**	**+0.6**
	baz=136								
S14K				S		**Sn**		**22 12 44.9**	**+1.5**
	baz=136								
VNFG	**Fog Glacier, M**	**1.53**	**317**				**Pn**	**22 12 25.3**	**+0.6**
VNFG							**Sn**	**22 12 44.9**	**+1.5**
SDPT	**Sand Point**	**1.61**	**277**				**Pn**	**22 12 24.9**	**-0.9**
SDPT							**Sn**	**22 12 44.7**	**-0.7**
SDPT				IAML				22 12 55.1	
	comp=N,2μm,0.6s								
SDPT				IAML				22 12 56.1	
	comp=E,1μm,0.5s								
SDPT	**Sand Point**	**1.61**	**277**	P		**P**	**Pn**	**22 12 25.6**	**-0.2**
	baz=97								
SDPT				S			**Sn**	**22 12 45.8**	**+0.4**
	baz=97								
ANPB	**Aniakchak Plen**	**1.65**	**348**				**Pn**	**22 12 26.9**	**+0.5**
ANNE	**Aniakchak Nort**	**1.74**	**353**				**Pn**	**22 12 28.2**	**+0.6**
R16K	**Pilot Point**	**2.38**	**1**				**Pn**	**22 12 36.8**	**+0.4**
R16K	**Pilot Point**	**2.38**	**1**	P			**Pn**	**22 12 36.8**	**+0.4**
	baz=181								
SII	**Sitkinak Islan**	**2.39**	**54**				**Pn**	**22 12 36.6**	**+0.1**
SII				IAML				22 13 40.3	
	comp=E,772nm,0.8s								
SII	**Sitkinak Islan**	**2.39**	**54**	P			**Pn**	**22 12 36.6**	**+0.1**
	baz=235								
PS4A	**Pavlof South-4**	**2.40**	**275**				**Pn**	**22 12 36.5**	**-0.2**
PN7A	**Pavlof North-7**	**2.49**	**277**				**Pn**	**22 12 38.4**	**+0.5**
R17K	**Ugashik Creek**	**2.55**	**16**				**Pn**	**22 12 39.6**	**+0.8**
R17K	**Ugashik Creek**	**2.55**	**16**	P			**Pn**	**22 12 39.6**	**+0.8**
	baz=196								
OHAK	**Old Harbor**	**3.18**	**48**	Pn			**Pn**	**22 12 47.2**	**-0.2**
OHAK				IAML				22 13 49.4	
	comp=N,250nm,0.9s								
OHAK	**Old Harbor**	**3.18**	**48**	P			**Pn**	**22 12 47.1**	**-0.2**
	baz=231								
KABR	**Katmai Barrier**	**3.30**	**26**				**Pn**	**22 12 49.6**	**+0.6**
ISLZ	**Isanotski Laza**	**3.52**	**265**				**Pn**	**22 12 51.7**	**-0.3**
ISNN	**Isanotski Nort**	**3.54**	**267**				**Pn**	**22 12 53.0**	**+0.8**
SSBA	**Shishaldin**	**3.75**	**266**				**Pn**	**22 12 54.9**	**-0.3**
P16K	**Nushagak River**	**3.85**	**358**				**Pn**	**22 12 56.2**	**-0.4**
P16K	**Nushagak River**	**3.85**	**358**	P			**Pn**	**22 12 56.2**	**-0.4**
	baz=177								
P17K	**Kvichak River**	**4.07**	**9**				**Pn**	**22 13 00.2**	**+0.7**
P17K	**Kvichak River**	**4.07**	**9**	P			**Pn**	**22 13 00.2**	**+0.7**
	baz=190								
WECS	**Westdahl Cape**	**4.16**	**264**				**Pn**	**22 13 01.1**	**+0.3**
Q19K	**Cape Douglas,**	**4.34**	**29**				**Pn**	**22 13 05.5**	**+2.1**
P18K	**Big Mountain,**	**4.41**	**16**				**Pn**	**22 13 04.1**	**-0.2**
P18K	**Big Mountain,**	**4.41**	**16**	P			**Pn**	**22 13 03.7**	**-0.6**
	baz=198								
O16K	**Kokwok River B**	**4.42**	**357**				**Pn**	**22 13 04.6**	**+0.2**
O16K	**Kokwok River B**	**4.42**	**357**	P			**Pn**	**22 13 04.6**	**+0.2**
	baz=177								
O17K	**Koliganek Bris**	**4.60**	**4**				**Pn**	**22 13 06.6**	**-0.3**
O17K	**Koliganek Bris**	**4.60**	**4**	P			**Pn**	**22 13 06.6**	**-0.3**
	baz=184								
AKSA	**Akutan Strait**	**4.78**	**260**				**Pn**	**22 13 10.1**	**+0.8**
O18K	**Koktuh Hills**	**4.86**	**15**				**Pn**	**22 13 10.4**	**0.0**
O18K				IAML				22 14 15.5	
	comp=N,50nm,0.8s								
P19K	**Oil Pt**	**5.07**	**26**	Pn			**Pn**	**22 13 14.1**	**+0.7**
P19K				IAML				22 14 44.2	
	comp=E,94nm,1.2s								
P19K				IAML				22 16 50.1	
	comp=N,85nm,3.2s								
UNV	**Unalaska Valle**	**5.32**	**259**	Pn			**Pn**	**22 13 15.5**	**-1.2**
N16K	**Nishlik Lake**	**5.33**	**354**				**Pn**	**22 13 17.3**	**+0.4**
N16K	**Nishlik Lake**	**5.33**	**354**	P			**Pn**	**22 13 17.3**	**+0.4**
	baz=173								
ILSW	**Iliama Southw**	**5.38**	**25**				**Pn**	**22 13 18.6**	**+0.9**
CNPM	**China Poot**	**5.56**	**36**	Pn			**Pn**	**22 13 19.7**	**-0.4**
N18K	**Kilae Creek**	**5.58**	**9**	Pn			**Pn**	**22 13 20.8**	**+0.5**
N19K	**Bonanza Creek**	**5.88**	**15**	Pn			**Pn**	**22 13 24.8**	**+0.2**
SVW2	**Sparrevohn**	**6.02**	**10**				**Pn**	**22 13 26.5**	**+0.1**
SEW	**Seward**	**6.61**	**38**	Pn			**Pn**	**22 13 35.1**	**+0.8**
M19K	**Big River Lodg**	**6.94**	**13**	Pn			**Pn**	**22 13 41.1**	**+2.1**
M20K	**Styx River**	**7.12**	**18**	Pn			**Pn**	**22 13 42.5**	**+1.0**
L19K	**White Mountain**	**7.16**	**11**	Pn			**Pn**	**22 13 42.3**	**+0.3**
RC01	**Rabbit Creek A**	**7.25**	**32**	Pn			**Pn**	**22 13 44.3**	**+1.2**
SUA	**Susitna One**	**7.26**	**27**	Pn			**Pn**	**22 13 44.4**	**+1.0**
SPIA	**Saint Paul Isl**	**7.30**	**291**	Pn			**Pn**	**22 13 44.4**	**+0.5**
SKT	**Skwentna**	**7.52**	**23**	Pn			**Pn**	**22 13 48.7**	**+1.8**
TTA	**Tatalina**	**7.81**	**6**				**Pn**	**22 13 52.0**	**+1.1**
GHO	**Glory Hole Cre**	**8.03**	**31**	Pn			**Pn**	**22 13 54.9**	**+1.0**
K20K	**Telida**	**8.39**	**11**	Pn			**Pn**	**22 13 59.8**	**+1.0**
SCM	**Sheep Creek Mo**	**8.57**	**35**	Pn			**Pn**	**22 14 01.5**	**+0.2**
CAST	**Castle Rocks**	**8.73**	**17**				**Pn**	**22 14 04.0**	**+0.6**
J20K	**Nowinta River**	**9.19**	**10**	Pn			**Pn**	**22 14 10.8**	**+1.1**
PAX	**Paxson**	**9.99**	**34**	Pn			**Pn**	**22 14 20.8**	**0.0**
I21K	**Tanana**	**10.40**	**13**				**Pn**	**22 14 26.5**	**+0.1**
MLY	**Manley**	**10.45**	**16**	Pn			**Pn**	**22 14 26.5**	**-0.5**
WRH	**Wood River Hil**	**10.46**	**23**	Pn			**Pn**	**22 14 26.4**	**-0.8**
H21K	**Melozitna Rive**	**10.77**	**11**				**Pn**	**22 14 31.3**	**0.0**
MDM	**Murphy Dome**	**10.85**	**22**	Pn			**Pn**	**22 14 33.1**	**+0.6**
IMAR	**Indian Mountai**	**10.99**	**8**	Pn			**Pn**	**22 14 34.6**	**+0.2**
ILAR	**Eielson Array**	**11.00**	**25**	Pn			**Pn**	**22 14 30.6**	**-3.9**
	comp=N,0.1nm,0.3s,baz=243,slow=22,SNR=3.0								
ILAR						Sn	**Sn**	**22 16 33.1**	**-3.0**
	comp=N,0.1nm,0.3s,baz=213,slow=24,SNR=1.9								
ILAR						LR	LR	22 18 47.3	
	comp=N,96nm,19.3s,baz=222,slow=38								
ILAR	**Eielson Array**	**11.00**	**25**	Pn			**Pn**	**22 14 35.8**	**+1.3**
BCAR	**Beaver Creek A**	**11.32**	**39**	Pn			**Pn**	**22 14 38.9**	**0.0**
H23K	**Yukon River**	**11.38**	**17**				**Pn**	**22 14 38.9**	**-0.8**
TNA	**Tin City**	**11.55**	**338**	Pn			**Pn**	**22 14 42.0**	**0.0**
J26L	**Joseph Creek**	**11.69**	**31**	Pn			**Pn**	**22 14 43.7**	**-0.3**
ADK	**Adak**	**11.78**	**262**	Pn			**Pn**	**22 14 45.1**	**-0.2**
BMAR	**Burnt Mountain**	**13.74**	**22**	Pn			**Pn**	**22 15 11.2**	**-0.8**
EPYK	**Eagle Plains**	**15.07**	**34**				**Pn**	**22 15 31.8**	**+1.9**
EPYK						IAmb	IAmb	22 15 39.5	
	comp=Z,15nm,1.0s								
DLBC	**Dease Lake**	**15.43**	**67**	Pn			**Pn**	**22 15 36.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=327,slow=27,SNR=1.9								
	comp=Z,1.4nm,0.5s								
INK	**Inuvik**	**17.24**	**31**	P			**Pn**	**22 15 57.2**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=225,slow=16,SNR=9.3								
INK						LR	LR	22 23 08.7	
	comp=Z,68nm,19.6s,baz=148,slow=39								
	comp=Z,5.2nm,0.5s								
INK	**Inuvik**	**17.24**	**31**	Pn			**Pn**	**22 15 57.6**	**+0.1**
C36M	**Paulatuk**	**20.70**	**34**	P			**P**	**22 16 36.3**	**-0.3**
C36M						IAmb	IAmb	22 16 52.2	
	comp=Z,19nm,1.1s								
YKA	**Yellowknife Ar**	**23.05**	**54**	LR		LR	LR	22 27 10.3	
	comp=Z,37nm,19.6s,baz=336,slow=40								
PETK	**Petropavlovsk-**	**25.89**	**284**	P			**P**	**22 17 27.2**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=70,slow=13,SNR=4.9								
	comp=Z,4.7nm,0.8s								
YBH	**Yreka Blue Hor**	**26.48**	**106**	LR			LR	22 25 45.6	
	comp=Z,61nm,19.7s,baz=326,slow=31								
MA2	**Magadan**	**27.55**	**300**	LR			LR	22 29 07.1	
	comp=Z,24nm,18.7s,baz=109,slow=38								
ELK	**Elko**	**31.32**	**100**	LR			LR	22 29 54.9	
	comp=Z,37nm,18.4s,baz=236,slow=34								
FRB	**Frobisher Bay**	**42.46**	**41**	LR			LR	22 39 09.8	
	comp=Z,41nm,18.1s,baz=194,slow=38								
H11N2	**WAKE ISLAND Hy**	**44.35**	**231**	T			T	23 07 13.4	
	baz=28,slow=75,SNR=8.1								
H11N3	**WAKE ISLAND Hy**	**44.36**	**231**	T			T	23 07 15.0	
	baz=28,slow=75,SNR=5.1								
H11N1	**WAKE ISLAND Hy**	**44.37**	**231**	T			T	23 07 07.9	
	baz=28,slow=75,SNR=2.5								
H11S1	**WAKE ISLAND Hy**	**45.51**	**231**	T			T	23 08 48.7	
	baz=28,slow=75,SNR=5.2								
H11S2	**WAKE ISLAND Hy**	**45.53**	**231**	T			T	23 08 46.4	
	baz=28,slow=75,SNR=6.2								
H11S3	**WAKE ISLAND Hy**	**45.53**	**231**	T			T	23 08 53.3	
	baz=28,slow=75,SNR=3.6								
TXAR	**Lajitas Array**	**46.08**	**101**	P			**P**	**22 20 22.9**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=310,slow=6.0,SNR=4.5								
	comp=Z,0.4nm,0.7s								
TXAR	**Lajitas Array**	**46.08**	**101**	P			**P**	**22 20 21.2**	**+0.8**
NRIK	**Noril'sk**	**47.10**	**334**	P			**P**	**22 20 27.1**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=47,slow=8.4,SNR=5.4								
	comp=Z,5.0nm,0.8s								
KSRS	**Korea Array**	**51.77**	**283**	P			**P**	**22 21 04.3**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=53,slow=6.4,SNR=4.9								
	comp=Z,1.1nm,0.5s								
TKL	**Tuckaleechee C**	**52.77**	**79**	LR			LR	22 43 24.7	
	comp=Z,63nm,19.4s,baz=163,slow=36								
ARCES	**ARCESS Array B**	**55.56**	**359**	P			**P**	**22 21 30.0**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=25,slow=6.8,SNR=6.6								
	comp=Z,0.5nm,0.5s								
ARCES	**ARCESS Array B**	**55.56**	**359**	P			**P**	**22 21 30.4**	**-0.6**
SONM	**Songino Array**	**55.57**	**306**	P			**P**	**22 21 30.1**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=55,slow=7.2,SNR=4.7								
SONM						PcP	**PcP**	**22 22 32.6**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=70,slow=2.7,SNR=4.0								
	comp=Z,0.4nm,0.5s								
SONM	**Songino Array**	**55.57**	**306**	P			**P**	**22 21 30.4**	**-1.1**
ZALV	**Zalesovo Beam**	**59.72**	**323**	LR			LR	22 47 39.6	
	comp=Z,24nm,18.6s,baz=84,slow=36								
FINES	**FINESS Array B**	**63.67**	**358**	P			**P**	**22 22 26.7**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=358,slow=9.5,SNR=8.3								
	comp=Z,2.0nm,0.7s								
FINES	**FINESS Array B**	**63.67**	**358**	P			**P**	**22 22 26.5**	**-0.4**
NB2	**NORSAR Subarra**	**63.78**	**6**	P			**P**	**22 22 27.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=353,slow=6.5								
NOA	**NORSAR Array B**	**63.78**	**6**	P			**P**	**22 22 27.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=352,slow=6.5,SNR=6.0								
	comp=Z,0.8nm,0.7s								
KURK	**Kurchatov**	**64.53**	**324**	P			**P**	**22 22 33.1**	**+0.4**
KURK						IAmb	IAmb	22 22 47.9	
	comp=Z,1.8nm,0.9s								
HFS	**Hagfors**	**64.81**	**5**	P			**P**	**22 22 33.9**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=10,slow=8.8,SNR=3.0								
	comp=Z,1.4nm,0.8s								
ARU	**Arti**	**64.90**	**339**	P			**P**	**22 22 35.2**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=352,slow=7.1,SNR=3.2								
ARU						LR	LR	22 53 23.9	
	comp=Z,26nm,20.0s,baz=110,slow=38								
	comp=Z,1.0nm,0.3s								
ARU	**Arti**	**64.90**	**339**	P			**P**	**22 22 35.2**	**+0.2**
BVAR	**Borovoye Array**	**65.08**	**330**	P			**P**	**22 22 36.6**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=46,slow=11,SNR=11								
	comp=Z,2.0nm,0.7s								
MK31	**Makanchi Array**	**66.54**	**320**	P			**P**	**22 22 45.7**	**-0.2**
MK31						IAmb	IAmb	22 22 45.9	
	comp=Z,2.5nm,1.4s								
MKAR	**Makanchi Array**	**66.54**	**320**	P			**P**	**22 22 45.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=45,slow=4.3,SNR=7.6								
	comp=Z,0.3nm,0.5s								
MKAR	**Makanchi Array**	**66.54**	**320**				**P**	**22 22 46.2**	**+0.3**
AKTO	**Aktyubinsk**	**70.61**	**337**	P			**P**	**22 23 10.8**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=13,slow=6.3,SNR=5.5								
	comp=Z,1.4nm,0.7s								
BELG	**Belogornoye**	**70.75**	**344**	P			**P**	**22 23 11.5**	**-0.4**
	comp=Z,4.1nm,0.5s,baz=299,slow=9.2,SNR=6.4								
	comp=Z,4.1nm,0.5s								
ABKAR	**Akbulak array**	**71.26**	**335**	P			**P**	**22 23 15.2**	**+0.1**
ABKAR						IAmb	IAmb	22 23 15.6	
	comp=Z,1.7nm,0.6s								
ABKAR	**Akbulak array**	**71.26**	**335**	P			**P**	**22 23 15.0**	**-0.1**
AAK	**Ala-Archa**	**72.94**	**322**	LR			LR	22 58 13.8	
	comp=Z,33nm,18.2s,baz=33,slow=38								
KKAR	**Karatay Array**	**73.87**	**325**	P			**P**	**22 23 30.7**	**-0.1**
KKAR	**Karatay Array**	**73.87**	**325**	P			**P**	**22 23 30.9**	**+0.2**
KKAR						IAmb	IAmb	22 23 58.5	
	comp=Z,2.8nm,1.1s								
AKASG	**Malin Array Be**	**74.32**	**355**	P			**P**	**22 23 32.3**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=8.0,slow=5.7,SNR=6.1								
	comp=Z,1.4nm,0.5s								
AKBB	**Malin Array Si**	**74.32**	**355**	P			**P**	**22 23 33.3**	**+0.1**
AKBB						IAmb	IAmb	22 24 00.1	
	comp=Z,3.6nm,1.1s								
CMAR	**

IRIF	**Iriomote-Funau**	**1.53**	**133**	P		**Pn**	**22 29 47.6**	**+0.8**
IRIF				S		**S**	**22 30 14.0**	**-1.4**
FUSS	**Fushou**	**1.60**	**225**	P		**Pn**	**22 29 48.7**	**+1.0**
	baz=225							
FUSS				S		**S**	**22 30 16.5**	**-0.5**
	baz=225							
ETM	**Tongmen**	**1.68**	**213**	*e*P		**Pn**	**22 29 48.1**	**0.0**
	baz=213							
ETM				*e*S		**S**	**22 30 16.0**	**-1.8**
	baz=213							
HATJ	**Hateruma jima**	**1.78**	**138**	P		**Pn**	**22 29 50.2**	**+1.3**
HATJ				*e*S		**S**	**22 30 18.3**	**-0.9**
CHGB	**Renai**	**1.78**	**223**	P		**Pn**	**22 29 50.4**	**+1.2**
	baz=222							
CHGB				*e*S		**S**	**22 30 19.9**	**+0.1**
	baz=222							
JKRS	**Kuro-shima**	**1.79**	**129**	P		**Pn**	**22 29 50.2**	**+1.2**
JKRS				S		**S**	**22 30 18.5**	**-0.8**
JIJ	**Ishigaki jima**	**1.81**	**124**	*i* P		**Pn**	**22 29 49.8**	**+0.6**
JIJ				S		**S**	**22 30 17.8**	**-1.9**
JISG	**Ishigakijimahi**	**1.83**	**115**	P		**Pn**	**22 29 50.0**	**+0.7**
JISG				S		**S**	**22 30 18.9**	**-1.1**
ESL	**Shilin**	**1.84**	**212**	*e*P		**Pn**	**22 29 49.3**	**-0.1**
	baz=211							
ESL				*e*S		**S**	**22 30 18.3**	**-1.9**
	baz=211							
OWD	**Renai**	**1.86**	**220**	P		**Pn**	**22 29 50.8**	**+1.0**
	baz=220							
OWD				S		**S**	**22 30 20.5**	**-0.4**
	baz=220							
WUSB	**Renai**	**1.87**	**222**	*e*P		**Pn**	**22 29 51.2**	**+1.3**
	baz=222							
WUSB				*e*S		**S**	**22 30 21.4**	**+0.5**
	baz=222							
TEGC	**Jichi Village**	**1.88**	**208**	P		**Pn**	**22 29 50.9**	**+1.1**
	baz=207							
TEGC				*e*S		**S**	**22 30 21.4**	**+0.5**
	baz=207							
VWDT	**VWDT**	**2.04**	**218**	*e*P		**Pn**	**22 29 52.8**	**+1.5**
	baz=217							
VWDT				*e*S		**S**	**22 30 24.0**	**+0.5**
	baz=217							
SMLT	**Sun Moon Lake**	**2.08**	**225**	P		**Pn**	**22 29 52.7**	**+0.8**
	baz=224							
SMLT				*e*S		**S**	**22 30 24.6**	**+0.1**
	baz=224							
SSLB	**Suanglung**	**2.12**	**222**	P		**Pn**	**22 29 53.0**	**+0.8**
SSLB	**Suanglung**	**2.12**	**222**	*i* P		**Pn**	**22 29 52.9**	**+0.8**
	baz=221							
SSLB				S		**S**	**22 30 24.4**	**-0.6**
	baz=221							
JTJ	**Tarama**	**2.13**	**110**	P		**Pn**	**22 29 54.0**	**+1.8**
JTJ				S		**S**	**22 30 24.6**	**-0.5**
ALS	**Alishan**	**2.42**	**220**	P		**Pn**	**22 29 56.2**	**+0.8**
	baz=219							
ALS				*e*S		**S**	**22 30 31.5**	**+0.6**
	baz=219							
MATB	**Ma-tsu**	**2.42**	**289**	*e*P		**Pn**	**22 29 55.7**	**+0.6**
	baz=288							
MATB				*i* S		**S**	**22 30 30.2**	**-0.1**
	baz=288							
JIRB	**Irabujima**	**2.49**	**102**	P		**Pn**	**22 29 57.1**	**+1.3**
JIRB				S		**S**	**22 30 30.4**	**-1.1**
JIKM	**Ikemajima**	**2.54**	**100**	*e*P		**Pn**	**22 29 58.0**	**+1.7**
JIKM				S		**S**	**22 30 32.2**	**-0.2**
WCKO	**Fanlu**	**2.59**	**222**	*e*P		**Pn**	**22 29 57.0**	**0.0**
	baz=222							
WCKO				S		**S**	**22 30 31.9**	**-1.7**
	baz=222							
JMJ	**Miyako jima 2**	**2.60**	**102**	P		**Pn**	**22 29 59.2**	**+2.2**
JMJ	**Miyako jima 2**	**2.60**	**102**	*e*P		**Pn**	**22 29 59.0**	**+2.0**
	baz=101							
JMJ				*e*S		**S**	**22 30 34.0**	**+0.4**
	baz=101							
EDH	**Donghe**	**2.63**	**205**	*e*P		**Pn**	**22 29 58.0**	**+0.6**
	baz=204							
EDH				*e*S		**S**	**22 30 34.5**	**0.0**
	baz=204							
JMJ2	**Miyako jima3**	**2.65**	**103**	P		**Pn**	**22 29 59.2**	**+1.7**
JMJ2				S		**S**	**22 30 34.0**	**-0.6**
TPUB	**Ta-pu**	**2.68**	**220**	P		**Pn**	**22 29 58.8**	**+0.9**
TPUB	**Ta-pu**	**2.68**	**220**	*i* P		**Pn**	**22 29 58.8**	**+0.9**
	baz=219							
TPUB				*e*S		**S**	**22 30 35.2**	**-0.2**
	baz=219							
STYH	**Taoyuan**	**2.70**	**216**	*e*P		**Pn**	**22 29 58.5**	**+0.4**
	baz=215							
STYH				S		**S**	**22 30 34.7**	**-1.1**
	baz=215							
JOGS	**Gusukube**	**2.71**	**103**	*e*S		**S**	**22 30 35.5**	**-0.4**
WTP	**Ta-pu**	**2.73**	**219**	*e*P		**Pn**	**22 29 59.3**	**+0.8**
	baz=219							
WTP				*e*S		**S**	**22 30 36.2**	**-0.2**
	baz=219							
TWK	**Hsinying**	**2.79**	**221**	P		**Pn**	**22 30 00.0**	**+0.9**
	baz=221							
TWK				*e*S		**S**	**22 30 37.4**	**-0.2**
	baz=221							
CHN1	**Nanshi**	**2.83**	**220**	P		**Pn**	**22 30 00.5**	**+1.0**
	baz=219							
CHN1				S		**S**	**22 30 37.6**	**-0.8**
	baz=219							
SGST	**Jiashian**	**2.88**	**218**	P		**Pn**	**22 30 00.6**	**+0.5**
	baz=217							
SGST				S		**S**	**22 30 38.5**	**-0.8**
	baz=217							
MASBT	**Mashibuluo**	**3.24**	**212**	*e*P		**Pn**	**22 30 05.6**	**+1.4**
	baz=211							
MASBT				*e*S		**S**	**22 30 45.9**	**-0.7**
	baz=211							
JKE	**Kume jima 2**	**3.98**	**75**	P		**Pn**	**22 30 13.3**	**+0.6**
JKE				*e*S		**S**	**22 31 01.7**	**-0.5**
JAGN	**Aguni-jima**	**4.44**	**73**	P		**Pn**	**22 30 18.5**	**+0.3**
JOW	**Kunigami**	**5.39**	**73**	*e*P		**Pn**	**22 30 29.5**	**-0.7**
	baz=74							
SONM	**Songino Array**	**25.77**	**335**	P		**P**	**22 34 19.9**	**+0.1**
	0.3nm,0.4s,baz=148,slow=8.5,SNR=2.7 0.3nm,0.4s							
MKAR	**Makanchi Array**	**38.33**	**314**	P		**P**	**22 36 08.6**	**-0.1**
	0.3nm,0.6s,baz=94,slow=11,SNR=5.0							
MKAR				LR		LR	22 54 02.6	
	comp=Z,31nm,18.5s,baz=36,slow=39 0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**39.91**	**326**	P		**P**	**22 36 20.5**	**-1.0**
	0.7nm,0.6s,baz=131,slow=9.8,SNR=2.2 0.7nm,0.6s							
WRA	**Warramunga Arr**	**46.50**	**165**	P		**P**	**22 37 15.4**	**+0.9**
	0.3nm,0.6s,baz=349,slow=8.6,SNR=4.6 0.3nm,0.6s							
FINES	**FINESS Array B**	**71.02**	**330**	P		**P**	**22 40 02.9**	**+0.4**
	0.5nm,0.3s,baz=64,slow=5.7,SNR=10 0.5nm,0.3s							
HFS	**Hagfors**	**77.11**	**331**	P		**P**	**22 40 37.0**	**-0.7**
	0.8nm,0.7s,baz=103,slow=4.6,SNR=1.9 0.8nm,0.7s							
NOA	**NORSAR Array B**	**77.72**	**332**	P		**P**	**22 40 40.2**	**-1.0**
	0.3nm,0.7s,baz=58,slow=5.3,SNR=2.0 0.3nm,0.7s							

*IDC **21** 22:46:39.8±2.4,5°.35S×36°.25E,h0km,mb3.5/3,*
mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=50.9km
s-min=26.4km az=124.0

ISC 21 22:46:40.2±0.9,**5°.41S**±0°.07×**36°.0E**±0°.1,**h10**km,**n15,**
s5°**14/16,mb3.5/3,Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**4.43**	**16**	Pn	**Pn**	**22 47 47.2**	**-0.6**
	3.6nm,0.3s,baz=190,slow=16,SNR=33						
KMBO				Sn	**Sn**	**22 48 38.3**	**-1.3**
	8.8nm,0.3s,baz=232,slow=11,SNR=5.0						
KMBO				Lg	Lg	22 48 56.8	
	21nm,0.3s,baz=248,slow=18,SNR=12 8.4nm,0.3s						
KARM1	**KARONGA**	**4.98**	**205**	*i* P	**Pn**	**22 47 52.6**	**-2.5**
KARM1				S	**Sn**	**22 48 47.7**	**-5.1**
KARM1	**KARONGA**	**4.98**	**205**	*i* P	**Pn**	**22 47 52.6**	**-2.5**
KARM1				S	**Sn**	**22 48 47.7**	**-5.1**
MBAR	**Mbarara**	**7.11**	**312**	*e*P	**Pn**	**22 48 21.5**	**-3.0**
MBAR				*e*S	Sn	22 49 37.2	-8.3
ZOMB	**Zomba**	**9.93**	**184**	*i* P	**Pn**	**22 49 00.2**	**-3.1**
ZOMB				S	Sn	22 50 47.2	-7.7
ZOMB	**Zomba**	**9.93**	**184**	*i* P	**Pn**	**22 49 00.2**	**-3.1**
ZOMB				S	Sn	22 50 47.2	-7.7
BLWY	**Bulawayo**	**16.31**	**206**	*i* P	P	22 50 47.2	+14
BLWY				*i* S	**S**	**22 53 51.4**	**+7.7**
BLWY	**Bulawayo**	**16.31**	**206**	*i* P	P	22 50 47.2	+14
BLWY				*i* S	**S**	**22 53 51.4**	**+7.7**
MATP	**Matopo**	**16.61**	**205**	*i* P	P	22 50 51.5	+15
MATP				*i* S	**S**	**22 53 57.5**	**+7.7**
MATP	**Matopo**	**16.61**	**205**	*i* P	P	22 50 51.5	+15
MATP				*i* S	**S**	**22 53 57.5**	**+7.7**
LBTB	**Lobatse**	**21.90**	**206**	*i* P	P	22 51 50.1	+16
LBTB				*i* S	Sn	22 55 56.6	+11
LBTB	**Lobatse**	**21.90**	**206**	*i* P	P	22 51 50.1	+16
LBTB				*i* S	Sn	22 55 56.6	+11
TORD	**Torodi Ar. Bea**	**38.75**	**299**	P	**P**	**22 54 06.2**	**+1.0**
	0.5nm,0.9s,baz=120,slow=8.8,SNR=3.3 0.5nm,0.9s						
ESDC	**Sonseca Array**	**58.04**	**324**	P	**P**	**22 56 37.0**	**+3.4**
	0.3nm,0.6s,baz=131,slow=5.8,SNR=4.5 0.3nm,0.6s						
MKAR	**Makanchi Array**	**66.13**	**33**	P	**P**	**22 57 27.6**	**-0.2**
	0.9nm,0.9s,baz=238,slow=5.9,SNR=5.2 0.9nm,0.9s						

*IDC **21** 23:29:26.7±0.6,43°.52N×45°.82E,h0km,mb3.6/12,*
mbtmp3.8/20,ML4.0/7,MS2.6/4,Error ellipse:
s-maj=10.0km s-min=7.7km az=140.0
*NORS **21** 23:29:26.9±0.0,43°.53N×46°.00E,h9km,MPVA4.9*
*MOS **21** 23:29:28.3±0.0,43°.49N×45°.84E,h10km,MPVA4.7*
*AZER **21** 23:29:29.5±0.7,43°.55N×45°.55E,h10km,Error ellipse:*
s-maj=6.7km s-min=5.6km az=38.0
*TIF **21** 23:29:29.4,43°.55N×45°.80E,h27km±1km*
*NNC **21** 23:29:34.7±3.6,43°.89N×46°.53E,h0km,mb3.9,Error*
ellipse: s-maj=82.2km s-min=28.5km az=125.0

ISC 21 23:29:28.7±1.0,**43°.60N**±0°.02×**45°.90E**±0°.01,**h15**km±7km,
n194,σ1**s96**/325,**mb3.6**/17,**14C-3D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.40**	**191**	*e*PG	**Pg**	**23 29 36.3**	**-0.5**
GROC				*e*S	**Sg**	**23 29 43.1**	**+0.8**
GROC	**Groznyy**	**0.40**	**191**	*e*Pg	**Pg**	**23 29 35.7**	**-1.2**
GROC				*e*Sg	**Sg**	**23 29 41.1**	**-1.2**
DVE	**Vedeno**	**0.66**	**165**	*e*PG	**Pg**	**23 29 40.7**	**-1.0**
DVE				*e*S	**Sg**	**23 29 49.5**	**-1.0**
DVE	**Vedeno**	**0.66**	**165**	*e*Pg	**Pg**	**23 29 40.1**	**-1.6**
DVE				*e*Sg	**Sg**	**23 29 49.4**	**-1.0**
DLMR	**Dylym**	**0.75**	**134**	*e*PG	**Pb**	**23 29 43.3**	**-0.1**
DLMR				*e*S	**Sn**	**23 29 56.2**	**+0.3**
DLMR				pmax	pmax		
	comp=Z,371nm,0.4s						
DLMR				smax	smax		
	comp=E,2μm,0.4s						
DLMR	**Dylym**	**0.75**	**134**	*e*Pg	**Pb**	**23 29 43.4**	**-0.1**
DLMR				*e*Sg	**Sn**	**23 29 55.1**	**-0.8**
TRKR	**Terskaya**	**0.86**	**279**	*e*PG	**Pn**	**23 29 46.7**	**+0.5**
TRKR	**Terskaya**	**0.86**	**279**	*e*Pg	**Pn**	**23 29 46.6**	**+0.4**
TRKR				*e*Sg	**Sn**	**23 29 59.9**	**+1.4**
DBC	**Dubki**	**0.89**	**130**	*e*PG	**Pn**	**23 29 46.4**	**-0.4**
DBC				*e*S	**Sn**	**23 30 01.1**	**+1.6**
DBC				pmax	pmax		
	comp=Z,218nm,0.3s						
DBC				smax	smax		
	comp=E,468nm,0.5s						
DBC	**Dubki**	**0.89**	**130**	*e*Pg	**Pb**	**23 29 45.9**	**-0.1**
DBC				*e*Sg	**Sn**	**23 29 58.7**	**-0.7**
KMGR	**Komgaron**	**0.93**	**235**	*e*PG	**Pb**	**23 29 47.0**	**+0.4**
KMGR				*e*S	**Sn**	**23 30 01.4**	**+1.0**
KMGR	**Komgaron**	**0.93**	**235**	*e*Pg	**Pg**	**23 29 46.8**	**+0.1**
KMGR				*e*Sg	**Sg**	**23 29 59.3**	**+0.4**
BTKR	**Batakoyurt**	**1.01**	**258**	*i* PG	**Pn**	**23 29 49.5**	**+1.1**
BTKR				*e*S	**Sn**	**23 30 05.0**	**+2.5**
BTKR	**Batakoyurt**	**1.01**	**258**	*i* Pg	**Pn**	**23 29 49.0**	**+0.5**
BTKR				*e*Sg	**Sn**	**23 30 02.8**	**+0.3**
VLKR	**Vladikavkaz**	**1.05**	**239**	*e*PG	**Pn**	**23 29 49.5**	**+0.5**
VLKR				*i* S	**Sn**	**23 30 05.1**	**+1.8**
VLKR	**Vladikavkaz**	**1.05**	**239**	*e*Pg	**Pn**	**23 29 49.4**	**+0.5**
VLKR				*e*Sg	**Sn**	**23 30 05.4**	**+2.1**
KRNR	**Karanay**	**1.06**	**136**	*e*PG	**Pn**	**23 29 49.4**	**+0.2**
KRNR				*e*S	**Sn**	**23 30 06.2**	**+2.4**
KRNR				pmax	pmax		
	comp=Z,251nm,0.2s						
KRNR				smax	smax		
	comp=N,580nm,0.4s						
KRNR	**Karanay**	**1.06**	**136**	*e*Pg	**Pg**	**23 29 48.5**	**-0.8**
KRNR				*e*Sg	**Sn**	**23 30 04.4**	**+0.6**
UNCR	**Uncukul**	**1.10**	**143**	*e*PG	**Pb**	**23 29 49.4**	**-0.1**
UNCR				*e*S	**Sn**	**23 30 05.5**	**+0.9**
UNCR				pmax	pmax		
	comp=Z,321nm,0.2s						
UNCR				smax	smax		
	comp=N,1μm,0.4s						
UNCR	**Uncukul**	**1.10**	**143**	*e*Pg	**Pb**	**23 29 49.2**	**-0.2**
UNCR				*e*Sg	**Sg**	**23 30 03.7**	**-0.6**
BUJR	**Buynaksk**	**1.17**	**131**	*e*PG	**Pg**	**23 29 52.1**	**+0.7**
BUJR				*e*S	**Sn**	**23 30 10.1**	**+3.7**
BUJR				pmax	pmax		
	comp=Z,436nm,0.3s						
BUJR				pmax	pmax		
	comp=N,2μm,0.3s						
BUJR				smax	smax		
	comp=E,2μm,0.5s						
BUJR	**Buynaksk**	**1.17**	**131**	*e*Pg	**Pg**	**23 29 52.1**	**+0.7**
BUJR				*e*Sg	**Sn**	**23 30 08.9**	**+2.5**
PRTR	**Priterechnaya**	**1.18**	**278**	*e*PG	**Pg**	**23 29 52.4**	**+0.8**
PRTR				*e*S	**Sn**	**23 30 10.9**	**+4.3**
PRTR	**Priterechnaya**	**1.18**	**278**	*e*Pg	**Pg**	**23 29 52.0**	**+0.4**
PRTR				*e*Sg	**Sn**	**23 30 09.9**	**+3.4**
KANR	**Karaman**	**1.23**	**109**	*e*PG	**Pg**	**23 29 54.2**	**+1.9**
KANR				*e*S	**Sn**	**23 30 13.2**	**+5.6**
KANR				pmax	pmax		
	comp=Z,751nm,0.8s						
KANR				pmax	pmax		
	comp=N,2μm,0.4s						
KANR				smax	smax		
	comp=E,2μm,0.4s						
KANR				smax	smax		
	comp=N,1μm,0.3s						
KANR	**Karaman**	**1.23**	**109**	*e*Pg	**Pg**	**23 29 54.3**	**+2.0**
KANR				*e*Sg	**Sn**	**23 30 13.1**	**+5.5**
ARNR	**Ardon**	**1.25**	**251**	*e*PG	**Pn**	**23 29 52.3**	**+0.6**
ARNR				*e*S	**Sg**	**23 30 11.2**	**+2.1**
ARNR	**Ardon**	**1.25**	**251**	*e*Pg	**Pn**	**23 29 52.3**	**+0.6**
ARNR				*e*Sg	**Sg**	**23 30 11.2**	**+2.1**
ARKR	**Arakani**	**1.28**	**141**	*e*PG	**Pg**	**23 29 53.0**	**-0.3**
ARKR				*e*S	**Sg**	**23 30 12.6**	**+2.6**
ARKR				pmax	pmax		
	comp=E,196nm,0.3s						
ARKR				pmax	pmax		
	comp=Z,124nm,0.3s						
ARKR				smax	smax		
	comp=N,599nm,0.3s						
ARKR	**Arakani**	**1.28**	**141**	*e*Pg	**Pg**	**23 29 53.1**	**-0.3**
ARKR				*e*Sg	**Sg**	**23 30 11.5**	**+1.5**
MAK	**Makhachkala**	**1.33**	**118**	*e*PG	**Pg**	**23 29 54.4**	**0.0**
MAK				*e*		23 30 14.6	
MAK				pmax	pmax		
	comp=Z,253nm,0.4s						
MAK				smax	smax		
	comp=N,2μm,0.4s						
MAK				smax	smax		
	comp=N,2μm,0.4s						
MAK	**Makhachkala**	**1.33**	**118**	*e*Pg	**Pg**	**23 29 54.2**	**-0.2**
MAK				*e*Sg	**Sg**	**23 30 15.1**	**+3.3**
PNSH	**Pansheti**	**1.34**	**225**	P	**Pn**	**23 29 52.2**	**-1.0**
PNSH				S	**Sb**	**23 30 09.9**	**-1.0**
PNSH	**Pansheti**	**1.34**	**225**	*e*PG	**Pn**	**23 29 52.1**	**-1.0**
PNSH				*e*S	**Sb**	**23 30 09.8**	**-1.0**
STDR	**Stavd-Durt**	**1.36**	**261**	*i* PG	**Pg**	**23 29 55.1**	**+0.3**
STDR				*e*S	**Sg**	**23 30 15.9**	**+3.4**
STDR	**Stavd-Durt**	**1.36**	**261**	*i* Pg	**Pg**	**23 29 55.1**	**+0.3**
STDR				*e*Sg	**Sg**	**23 30 12.7**	**+0.2**
LACR	**Lac**	**1.40**	**237**	*e*PG	**Pn**	**23 29 54.3**	**+0.4**
LACR				*e*S	**Sn**	**23 30 12.5**	**+0.3**
LACR	**Lac**	**1.40**	**237**	*e*Pg	**Pn**	**23 29 53.8**	**-0.1**
LACR				*e*Sg	**Sn**	**23 30 13.1**	**+0.9**
KORR	**Kora**	**1.43**	**250**	*e*PG	**Pb**	**23 29 55.7**	**+0.6**
KORR				*e*S	**Sg**	**23 30 16.5**	**+1.6**
KORR	**Kora**	**1.43**	**250**	*e*Pg	**Pb**	**23 29 55.3**	**+0.2**
KORR				*e*Sg	**Sg**	**23 30 16.4**	**+1.6**
GNBR	**Gunib**	**1.44**	**147**	*e*PG	**Pg**	**23 29 55.8**	**-0.6**
GNBR				*e*S	**Sg**	**23 30 16.6**	**+1.5**
GNBR				pmax	pmax		
	comp=Z,205nm,0.4s						
GNBR				smax	smax		
	comp=E,2μm,0.6s						
GNBR	**Gunib**	**1.44**	**147**	*e*Pg	**Pg**	**23 29 55.8**	**-0.6**
GNBR				*e*Sg	**Sg**	**23 30 15.1**	**0.0**
GUDG	**Gudauri**	**1.54**	**223**	P	**Pn**	**23 29 55.9**	**+0.1**
GUDG				S	**Sn**	**23 30 15.6**	**-0.1**
GUDG	**Gudauri**	**1.54**	**223**	*e*PG	**Pn**	**23 29 55.9**	**+0.1**
ZEI	**Tsey**	**1.67**	**242**	*e*PN	**Pn**	**23 29 57.3**	**-0.3**
ZEI				*e*S	**Sn**	**23 30 20.4**	**+1.5**
ZEI	**Tsey**	**1.67**	**242**	*e*Pg	**Pn**	**23 29 57.4**	**-0.3**
ZEI				*e*Sg	**Sn**	**23 30 20.4**	**+1.5**
NCK	**Nalchik**	**1.68**	**267**	*e*PN	**Pb**	**23 29 59.5**	**+0.2**
NCK				*e*S	**Sg**	**23 30 23.7**	**+0.9**
NCK	**Nalchik**	**1.68**	**267**	*e*Pg	**Pn**	**23 29 58.4**	**+0.8**
NCK				*e*Sg	**Sg**	**23 30 22.5**	**-0.3**
KMKR	**Kumukh**	**1.71**	**149**	*e*PN	**Pb**	**23 30 00.3**	**+0.3**
KMKR				*e*S	**Sg**	**23 30 24.0**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,327nm,0.4s						
KMKR				smax	smax		
	comp=N,2μm,1.2s						
KMKR	**Kumukh**	**1.71**	**149**	*e*Pg	**Pb**	**23 30 00.3**	**+0.3**
KMKR				*e*Sg	**Sb**	**23 30 22.2**	**+0.8**
SGKR	**Sergokala**	**1.72**	**131**	*e*PN	**Pg**	**23 30 00.9**	**-0.8**
SGKR				*e*S	**Sg**	**23 30 26.6**	**+2.5**
SGKR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SGKR				pmax	pmax		
	comp=E,30nm,0.1s						
SGKR				smax	smax		
	comp=N,629nm,0.5s						
SGKR	**Sergokala**	**1.72**	**131**	*e*Pg	**Pg**	**23 30 00.9**	**-0.8**
SGKR				*e*Sg	**Sg**	**23 30 23.4**	**-0.7**
LGD	**Lagodekhi**	**1.78**	**172**	P	**Pn**	**23 29 60.0**	**+1.0**
LGD				S	**Sn**	**23 30 22.4**	**+1.1**
LGD	**Lagodekhi**	**1.78**	**172**	*e*PN	**Pn**	**23 29 59.9**	**+1.0**
KBTC	**Kuba-Taba**	**1.82**	**278**	*e*PN	**Pn**	**23 30 00.9**	**+1.4**
KBTC				*e*S	**Sg**	**23 30 27.4**	**+0.1**
KBTC	**Kuba-Taba**	**1.82**	**278**	*e*Pg	**Pn**	**23 30 00.3**	**+0.8**
KBTC				*e*Sg	**Sg**	**23 30 26.8**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.83**	**248**	*e*PN	**Pn**	**23 30 01.1**	**+1.2**
DIGR				*e*S	**Sb**	**23 30 25.1**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.83**	**248**	*e*Pg	**Pn**	**23 29 59.5**	**-0.4**
DIGR				*e*Sg	**Sn**	**23 30 23.6**	**+0.7**
URKR	**Urkarakh**	**1.92**	**138**	*e*PN	**Pb**	**23 30 03.8**	**+0.4**
URKR				*e*S	**Sg**	**23 30 31.5**	**+1.1**
URKR				pmax	pmax		
	comp=Z,164nm,0.7s						
URKR				smax	smax		
	comp=N,384nm,0.9s						
URKR	**Urkarakh**	**1.92**	**138**	*e*Pg	**Pb**	**23 30 03.7**	**+0.2**
URKR				*e*Sg	**Sg**	**23 30 30.0**	**-0.3**
SEAG	**Tbilisi Sea**	**2.00**	**204**	P	**Pb**	**23 30 04.3**	**-0.6**
SEAG	**Tbilisi Sea**	**2.00**	**204**	*e*PN	**Pb**	**23 30 04.3**	**-0.6**
ZKTA	**Zakatala**	**2.03**	**165**	P	**Pb**	**23 30 04.2**	**-1.1**
ZKTA				S	**Sg**	**23 30 32.5**	**-1.5**
ONI	**Oni**	**2.06**	**242**	P	**Pn**	**23 30 03.8**	**+0.9**
ONI				S	**Sb**	**23 30 32.1**	**+0.9**
ONI	**Oni**	**2.06**	**242**	*e*PN	**Pn**	**23 30 03.7**	**+0.9**
DDFL	**Dedoflistskaro**	**2.16**	**176**	P	**Pb**	**23 30 08.4**	**+0.8**
DDFL	**Dedoflistskaro**	**2.16**	**176**	*e*PN	**Pb**	**23 30 08.3**	**+0.8**
DGRG	**David-gareji**	**2.18**	**190**	P	**Pn**	**23 30 05.8**	**+1.2**
DGRG	**David-gareji**	**2.18**	**190**	*e*PN	**Pn**	**23 30 05.7**	**+1.2**
KBZ	**Khabaz**	**2.18**	**274**	Pn	**Pn**	**23 30 04.8**	**+0.4**
	comp=N,11nm,0.3s,baz=123,slow=6.1,SNR=62						
KBZ				Sn	**Sb**	**23 30 34.7**	**-0.1**
	comp=N,42nm,0.3s,baz=74,slow=20,SNR=15 comp=N,34nm,0.4s						
KBZ	**Khabaz**	**2.18**	**274**	*e*Pg	**Pn**	**23 30 04.7**	**+0.2**
KBZ				*e*Sg	**Sn**	**23 30 33.5**	**+2.3**
ALIG	**Mtskhetisjvari**	**2.23**	**229**	P	**Pn**	**23 30 05.3**	**+0.2**
ALIG				S	**Sb**	**23 30 36.3**	**+0.1**
BEYR	**Belyy Ugol+**	**2.27**	**282**	*e*PN	**Pn**	**23 30 06.0**	**+0.3**
BEYR				*e*S	**Sn**	**23 30 34.2**	**+0.7**
BEYR	**Belyy Ugol+**	**2.27**	**282**	*e*Pn	**Pn**	**23 30 06.0**	**+0.3**
BEYR				*e*Sn	**Sn**	**23 30 34.1**	**+0.7**
NEY	**Neytrino**	**2.34**	**263**	*e*PN	**Pn**	**23 30 08.6**	**+1.8**
NEY				*e*S	**Sb**	**23 30 40.2**	**+0.7**
NEY	**Neytrino**	**2.34**	**263**	*e*Pn	**Pn**	**23 30 08.3**	**+1.5**
NEY				*e*Sn	**Sn**	**23 30 37.2**	**+1.8**
KIV0	**Kislovodsk Arr**	**2.35**	**280**	*e*Pn	**Pn**	**23 30 07.2**	**+0.4**
KIV0				*e*Sn	**Sn**	**23 30 36.6**	**+1.1**
KIV	**Kislovodsk**	**2.35**	**280**	*e*PN	**Pn**	**23 30 07.3**	**+0.4**
KIV				*e*S	**Sn**	**23 30 37.2**	**+1.6**
KIV	**Kislovodsk**	**2.35**	**280**	*e*Pn	**Pn**	**23 30 07.3**	**+0.4**
KIV				*e*Sn	**Sn**	**23 30 37.2**	**+1.6**
SHA1	**Shidzhatmaz**	**2.36**	**275**	*e*PN	**Pn**	**23 30 07.4**	**+0.3**
SHA1				*e*S	**Sb**	**23 30 41.2**	**+1.2**
SHA1	**Shidzhatmaz**	**2.36**	**275**	*e*Pn	**Pn**	**23 30 07.2**	**+0.1**
SHA1				*e*Sn	**Sn**	**23 30 38.2**	**+2.3**
DRN	**Derbent**	**2.38**	**130**	*e*PN	**Pb**	**23 30 10.1**	**-1.1**
DRN				*e*S	**Sb**	**23 30 42.1**	**+1.8**
DRN				*e*S	**Sg**	**23 30 44.2**	**-0.9**
DRN				pmax	pmax		
	comp=Z,124nm,0.6s						
DRN				smax	smax		
	comp=N,412nm,0.3s						
DRN				smax	smax		
	comp=E,504nm,

MNGR	**Mingechevir, A**	**2.96**	**162**	P		**Pn**	23 30 17.7	**+2.6**
MNGR				S		**Sb**	**23 30 55.4**	**-1.7**
GANJ	**Ganja**	**2.97**	**174**	P		**Pn**	**23 30 16.7**	**+1.4**
GANJ				S		**Sn**	**23 30 52.3**	**+1.7**
NVNR	**Nevinnomyssk**	**3.01**	**291**	*e*PN		**Pn**	**23 30 17.1**	**+1.2**
NVNR				*e*S		**Sn**	**23 30 54.5**	**+2.8**
QBL	**Gabala**	**3.01**	**151**	P		**Pb**	**23 30 19.5**	**-2.7**
QBL				S		**Sb**	**23 30 57.3**	**-1.5**
DOMR	**Dombai**	**3.13**	**266**	*e*PN		**Pb**	**23 30 21.4**	**-2.7**
DOMR				*e*S		**Sn**	**23 30 55.9**	**+1.1**
DOMR	**Dombai**	**3.13**	**266**	*e*Sn		**Sn**	**23 30 55.9**	**+1.1**
IML	**Ismayilli**	**3.27**	**148**	P		**Pn**	**23 30 22.3**	**+2.8**
IML				S		**Sb**	**23 31 04.3**	**-1.9**
SIZA	**Siyzn**	**3.36**	**138**	P		**Pb**	**23 30 25.1**	**-2.9**
SIZA				S		**Sb**	**23 31 07.8**	**-1.0**
ARXR	**Arkhyz**	**3.36**	**271**	*e*PN		**Pn**	**23 30 23.5**	**+2.7**
ARXR				*e*S		**Sn**	**23 31 03.0**	**+2.5**
ARXR	**Arkhyz**	**3.36**	**271**	*e*Pn		**Pn**	**23 30 23.6**	**+2.7**
ARXR				*e*Sn		**Sn**	**23 31 03.0**	**+2.5**
PQL	**Pirkuli**	**3.45**	**144**	P		**Pn**	**23 30 25.1**	**+3.1**
PQL				S		**Sb**	**23 31 09.2**	**-2.1**
BRDA	**Brd**	**3.47**	**164**	P		**Pn**	**23 30 24.7**	**+2.6**
BRDA				S		**Sb**	**23 31 07.9**	**-3.8**
ATGJ	**Altiaghaj**	**3.54**	**139**	P		**Pn**	**23 30 26.9**	**+3.6**
ATGJ				S		**Sb**	**23 31 11.7**	**-2.4**
GNI	**Garni**	**3.55**	**194**	Pn		**Pn**	**23 30 25.3**	**+1.8**
	comp=E,12nm,0.6s,baz=332,slow=6.3,SNR=16							
GNI				Sn		**Sn**	**23 31 08.0**	**+2.7**
	comp=E,3.2nm,0.3s,baz=242,slow=23,SNR=3.4							
GNI				Lg		Lg	23 31 17.2	
	comp=E,5.7nm,0.3s,baz=267,slow=17,SNR=3.5							
GNI				LR		LR	23 32 00.2	
	comp=E,111nm,19.7s,baz=30,slow=44							
GNI	**Garni**	**3.55**	**194**	*e*PN		**Pn**	**23 30 25.8**	**+2.3**
GNI				*e*S		**Sn**	**23 31 09.1**	**+3.8**
GNI	**Garni**	**3.55**	**194**	*e*Pn		**Pn**	**23 30 25.8**	**+2.3**
AHMR	**Akhmetovskaya**	**3.56**	**281**	*e*PN		**Pn**	**23 30 24.9**	**+1.5**
AHMR				*e*S		**Sn**	**23 31 06.3**	**+1.1**
AHMR	**Akhmetovskaya**	**3.56**	**281**	*e*Pn		**Pn**	**23 30 24.9**	**+1.5**
AHMR				*e*Sn		**Sn**	**23 31 06.3**	**+1.1**
ZRD	**Zardab**	**3.57**	**158**	P		**Pn**	**23 30 25.8**	**+2.2**
ZRD				S		**Sn**	**23 31 10.5**	**+5.0**
AGDM	**Agdam**	**3.60**	**165**	P		**Pn**	**23 30 26.1**	**+2.1**
AGDM				S		**Sn**	**23 31 10.6**	**+4.3**
LABN	**Labinsk**	**3.87**	**287**	*e*PN		**Pn**	**23 30 30.2**	**+2.5**
LABN				*e*S		**Sn**	**23 31 15.7**	**+2.8**
LABN	**Labinsk**	**3.87**	**287**	*e*Pn		**Pn**	**23 30 30.2**	**+2.5**
LABN				*e*Sn		**Sn**	**23 31 15.7**	**+2.8**
BLQ	**Beylaqan**	**4.07**	**162**	P		**Pn**	**23 30 32.5**	**+2.1**
BLQ				S		**Sn**	**23 31 20.2**	**+2.4**
GUZR	**Guzeripl'**	**4.21**	**277**	*e*PN		**Pn**	**23 30 34.1**	**+1.8**
GUZR				*e*S		**Sn**	**23 31 25.9**	**+4.7**
GUZR	**Guzeripl'**	**4.21**	**277**	*e*Pn		**Pn**	**23 30 34.1**	**+1.8**
SBZ	**Shahbuz**	**4.21**	**184**	P		**Pn**	**23 30 34.1**	**+1.7**
SBZ				S		**Sn**	**23 31 23.3**	**+2.0**
QRD	**Qoradiz**	**4.27**	**165**	P		**Pn**	**23 30 35.9**	**+2.8**
QRD				S		**Sn**	**23 31 26.7**	**+4.0**
ERBR	**Yeremizino-Bor**	**4.41**	**301**	*e*PN		**Pn**	**23 30 36.6**	**+1.6**
ERBR				*e*S		**Sn**	**23 31 28.7**	**+2.7**
ERBR	**Yeremizino-Bor**	**4.41**	**301**	*e*Pn		**Pn**	**23 30 36.6**	**+1.6**
ERBR				*e*Sn		**Sn**	**23 31 28.7**	**+2.7**
NAX	**Nakhchivan**	**4.43**	**184**	P		**Pn**	**23 30 36.9**	**+1.4**
NAX				S		**Sn**	**23 31 29.5**	**+2.7**
SOC	**Sochi**	**4.49**	**272**	*e*PN		**Pn**	**23 30 36.1**	**-0.1**
SOC				*e*PPP		PPP	23 30 50.9	
SOC				*e*			23 31 30.1	
SOC				*e*SS		**Sb**	**23 31 42.2**	**+1.0**
SOC				*e*SSS		SSS	23 31 53.0	
SOC				MLR		MLR		
	comp=Z,58nm,11.0s							
ORD	**Ordubad**	**4.67**	**179**	P		**Pn**	**23 30 40.1**	**+1.4**
ORD				S		**Sn**	**23 31 35.7**	**+3.1**
GLBA	**Clilabad**	**4.74**	**156**	P		**Pn**	**23 30 41.8**	**+2.2**
GLBA				S		**Sn**	**23 31 38.4**	**+4.2**
YRD	**Yardimli**	**5.00**	**159**	P		**Pn**	**23 30 44.4**	**+1.0**
YRD				S		**Sn**	**23 31 42.7**	**+1.8**
LRK	**Lerik**	**5.28**	**159**	P		**Pn**	**23 30 48.6**	**+1.4**
LKRN	**Lenkeran, Azer**	**5.34**	**155**	P		**Pn**	**23 30 50.2**	**+2.2**
LKRN				S		**Sn**	**23 31 51.4**	**+2.2**
ASTR	**Astara**	**5.49**	**156**	P		**Pn**	**23 30 51.8**	**+2.0**
ASTR				S		**Sn**	**23 31 58.4**	**+5.8**
VRH	**Novokhopyorsk**	**8.12**	**341**	*e*P		**Pn**	**23 31 25.2**	**-0.7**
VRH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
BELG	**Belogornoye**	**8.88**	**7**	Pn		**Pn**	**23 31 37.0**	**+0.7**
	comp=Z,3.8nm,0.3s,baz=213,slow=0.9,SNR=23							
BELG				Sn		**Sn**	**23 33 13.6**	**-2.4**
	comp=Z,2.3nm,0.3s,baz=122,slow=16,SNR=6.9							
	comp=Z,12nm,0.4s							
BELG	**Belogornoye**	**8.88**	**7**	*i* P		**Pn**	**23 31 38.4**	**+2.1**
VSR	**Storozhevoye**	**8.88**	**331**	*e*P		**Pn**	**23 31 39.6**	**+3.2**
VSR				pmax		pmax		
	comp=Z,8.0nm,0.9s							
VORR	**Voronezh**	**9.25**	**333**	*e*P		**Pn**	**23 31 39.5**	**-2.0**
VORR				pmax		pmax		
	comp=Z,10.0nm,0.4s							
BRTR	**Keskin Array B**	**9.96**	**251**	LR		LR	23 36 10.9	
	comp=Z,30nm,21.9s,baz=124,slow=41							
LPSR	**Galich'ya Gora**	**10.14**	**335**	*e*P		**Pn**	**23 31 54.2**	**+0.6**
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
AKTO	**Aktyubinsk**	**10.72**	**46**	Pn		**Pn**	**23 32 00.4**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=223,slow=8.3,SNR=8.0							
AKTO				Sn		**Sn**	**23 33 58.6**	**-2.8**
	comp=Z,1.0nm,0.3s,baz=230,slow=22,SNR=6.2							
AKTO				LR		LR	23 37 24.3	
	comp=Z,35nm,20.3s,baz=231,slow=44							
	comp=Z,2.1nm,0.3s							
AKTO	**Aktyubinsk**	**10.72**	**46**	⇑Pn		**Pn**	**23 32 00.3**	**-1.4**
	comp=Z,2.0nm,0.5s							
AKTO				⇑Sn		**Sn**	**23 33 57.1**	**-4.3**
	comp=Z,11nm,1.1s							
GEYT	**Alibeck**	**10.85**	**117**	Pn		**Pn**	**23 32 02.1**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=299,slow=17,SNR=25							
	comp=Z,2.6nm,0.3s							
AB31	**Akbulak array**	**11.22**	**55**	Pn		**Pn**	**23 32 09.3**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=243,slow=11,SNR=45							
AB31				⇑Sn		**Sn**	**23 34 11.9**	**-1.5**
	comp=Z,4.0nm,0.6s,baz=246,slow=22,SNR=4.7							
OBN	**Obninsk**	**13.02**	**336**	⇑P		**Pn**	**23 32 36.0**	**+3.1**
OBN				*e*S		**Sn**	**23 35 02.4**	**+5.1**
OBN				pmax		pmax		
	comp=Z,7.0nm,0.5s							
OBN				MLR		MLR		
	comp=Z,23nm,11.0s							
AKASG	**Malin Array Be**	**13.37**	**308**	Pn		**Pn**	**23 32 34.9**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=122,slow=14,SNR=3.2							
	comp=Z,0.5nm,0.4s							
AKBB	**Malin Array Si**	**13.37**	**308**	*ce*P		**Pn**	**23 32 39.0**	**+1.2**
KIRV	**Kirov**	**15.17**	**7**	Pn		**Pn**	**23 32 58.1**	**-4.0**
	comp=Z,1.5nm,0.3s,baz=348,slow=3.4,SNR=4.2							
	comp=Z,5.1nm,0.4s							
ARU	**Arti**	**15.17**	**28**	Pn		**Pn**	**23 33 00.6**	**-1.6**
	baz=226,slow=10,SNR=6.1							
ARU	**Arti**	**15.17**	**28**	P		**Pn**	**23 32 58.9**	**-3.3**
ARU				S		**Sn**	**23 35 45.7**	**-4.1**
KLMR	**Klimovskoe**	**17.70**	**350**	*e*P		**Pn**	**23 33 32.4**	**-2.0**
KLMR				*e*			23 36 43.0	
KLMR				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KLMR	**Klimovskoe**	**17.70**	**350**	*e*Pn		**Pn**	**23 33 32.5**	**-2.0**
KLMR				*e*Pn		**Pn**	**23 33 32.5**	**-2.0**
KLMR				*e*Pn		**Pn**	**23 33 32.5**	**-2.0**
KLMR				AMP			23 33 48.6	
	comp=Z,5.0nm,0.6s							
KLMR				*e*Sn		**Sn**	**23 36 43.0**	**-8.2**
KLMR				*e*Sn		**Sn**	**23 36 43.0**	**-8.2**
KK31	**Karatay Array**	**17.89**	**83**	⇑P		**Pn**	**23 33 37.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=299,slow=12,SNR=27							
PRGR	**Permogore**	**18.07**	**360**	*e*P		**Pn**	**23 33 36.7**	**-2.2**
PRGR				*e*			23 36 53.1	
PRGR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**18.69**	**51**	*ce*P		**Pn**	**23 33 47.2**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
BRVK	**Borovoye**	**18.69**	**51**	⇑P		**Pn**	**23 33 48.1**	**+1.5**
	comp=Z,3.2nm,0.7s							
BVAR	**Borovoye Array**	**18.74**	**51**	Pn		**P**	**23 33 45.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=248,slow=11,SNR=11							
	comp=Z,0.9nm,0.5s							
AAK	**Ala-Archa**	**20.86**	**83**	P		**P**	**23 34 10.4**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=252,slow=6.2,SNR=5.4							
	comp=Z,2.4nm,0.8s							
AAK	**Ala-Archa**	**20.86**	**83**	*ce*P		Pn	23 34 11.7	-0.9
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**21.40**	**333**	P		**P**	**23 34 15.4**	**-0.2**
	comp=Z,4.8nm,0.6s,baz=138,slow=12,SNR=14							
	comp=Z,4.8nm,0.6s							
FINES	**FINESS Array B**	**21.40**	**333**	*ce*P		**P**	**23 34 20.2**	**+4.6**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.5s							
GERES	**GERESS Array B**	**22.78**	**295**	P		**P**	**23 34 29.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=92,slow=11,SNR=4.5							
	comp=Z,0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**23.16**	**61**	P		**P**	**23 34 35.6**	**+1.3**
	comp=Z,2.7nm,0.9s,baz=272,slow=12,SNR=28							
	comp=Z,2.7nm,0.9s							
KURBB	**Kurchatov Arra**	**23.16**	**61**	⇓P		**P**	**23 34 37.8**	**+3.5**
	comp=Z,3.9nm,0.7s							
KURK	**Kurchatov**	**23.22**	**61**	*ce*P		**P**	**23 34 36.3**	**+1.3**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
WTTA	**Wattenberg**	**24.21**	**291**	*e*P		**P**	**23 34 49.0**	**+4.2**
	comp=Z,1.1nm,0.4s							
RETA	**Reutte**	**24.78**	**291**	*i* P		**P**	**23 34 51.3**	**+1.4**
	comp=Z,0.2nm,0.2s							
FETA	**Feichten**	**24.84**	**290**	*i* P		**P**	**23 34 52.2**	**+1.7**
	comp=Z,0.8nm,0.6s							
DAVA	**Damuels**	**25.40**	**291**	*e*P		**P**	**23 34 57.0**	**+1.5**
	comp=Z,0.4nm,0.3s							
DAVOX	**Davos/Dischmat**	**25.45**	**290**	P		**P**	**23 34 56.9**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=73,slow=7.8,SNR=9.0							
	comp=Z,2.4nm,0.5s							
HFS	**Hagfors**	**25.50**	**322**	P		**P**	**23 34 56.9**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=116,slow=10,SNR=24							
	comp=Z,2.5nm,0.5s							
MK31	**Makanchi Array**	**25.70**	**70**	⇑P		**P**	**23 35 01.4**	**+3.2**
	comp=Z,1.0nm,0.7s,baz=269,slow=7.8,SNR=6.5							
MKAR	**Makanchi Array**	**25.70**	**70**	P		**P**	**23 34 59.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=268,slow=12,SNR=5.4							
	comp=Z,0.5nm,0.7s							
NB2	**NORSAR Subarra**	**27.00**	**322**	P		**P**	**23 35 09.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=117,slow=8.6							
NOA	**NORSAR Array B**	**27.00**	**322**	P		**P**	**23 35 09.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=119,slow=8.6,SNR=5.2							
NOA				LR		LR	23 45 45.8	
	comp=Z,13nm,18.4s,baz=230,slow=36							
	comp=Z,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**27.33**	**54**	P		**P**	**23 35 13.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=278,slow=11,SNR=1.6							
	comp=Z,0.4nm,0.4s							
ARCES	**ARCESS Array B**	**28.02**	**345**	P		**P**	**23 35 21.2**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=133,slow=10.0,SNR=1.6							
	comp=Z,0.9nm,0.7s							
ESDC	**Sonseca Array**	**37.02**	**282**	P		**P**	**23 36 37.2**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=86,slow=9.4,SNR=1.3							
	comp=Z,0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**48.50**	**245**	P		**P**	**23 38 10.0**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=41,slow=7.4,SNR=6.9							
	comp=Z,0.3nm,0.5s							

*SNET **21** 23:34:15.2±0.9, 13°.78N×89°.92W, h26km±7km, ML3.1*
*GCG **21** 23:34:17.5±0.4, 13°.28N×90°.15W, h23km±3km, MD3.6*
ISC 21 23:34:10.3±2.5, 13°.0N±0°.1×90°.03W±0°.05, h11km±12km, n15, σ0°.45/20, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.89**	**26**	*e*P	**Pn**	**23 34 29.3**	**+0.3**
CEVE				*e*S	**Sb**	**23 34 39.7**	**-0.3**
CEVE				IAML		23 34 41.6	
	comp=Z,3μm,0.2s						
SBLS	**San Blas**	**0.90**	**26**	*e*P	**Pn**	**23 34 29.3**	**+0.1**
NUBE	**Las Nubes**	**0.91**	**16**	*e*P	**Pn**	**23 34 29.2**	**+0.1**
NUBE				*e*S	**Sb**	**23 34 39.9**	**-0.4**
NUBE				IAML		23 34 41.2	
	comp=Z,2μm,0.2s						
SNJE	**San Jose**	**0.94**	**26**	*e*P	**Pn**	**23 34 29.7**	**+0.1**
RTR	**El Retiro**	**0.94**	**23**	*e*P	**Pn**	**23 34 30.2**	**+0.5**
RTR				IAML		23 34 45.1	
	comp=Z,472nm,0.3s						
CEDA	**San Andres**	**0.99**	**39**	*e*S	**Sb**	**23 34 42.3**	**-0.3**
CEDA				IAML		23 34 46.0	
	comp=Z,1μm,0.2s						
SLOZ	**Alcaldia de Sa**	**1.02**	**14**	IAML		23 34 46.4	
	comp=Z,430nm,0.3s						
LFRS	**El Faro**	**1.12**	**58**	*e*P	**Pn**	**23 34 32.4**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.44**	**62**	*e*P	**Pg**	**23 34 38.0**	**0.0**
SCLA				IAML		23 34 58.4	
	comp=Z,54nm,0.4s						
PCG	**Pacaya**	**1.47**	**338**	*e*P	**Pg**	**23 34 39.4**	**+0.9**
PCG				*e*S	**Sb**	**23 34 56.6**	**0.0**
MTO3	**Montecristo**	**1.51**	**26**	*e*P	**Pb**	**23 34 38.3**	**-0.2**
P5NO	**Presa 5 de nov**	**1.56**	**52**	*e*P	**Pb**	**23 34 39.0**	**-0.3**
NBG	**Las Nubes**	**1.58**	**349**	*e*P	**Pg**	**23 34 41.4**	**+0.7**
NBG				*e*S	**Sg**	**23 35 01.0**	**-0.3**
FUG	**Fuego 3**	**1.62**	**331**	*e*P	**Pg**	**23 34 41.0**	**-0.4**
FUG				*e*S	**Sn**	**23 34 59.8**	**-0.1**
STG3	**Santiaguito 3,**	**2.24**	**318**	*e*P	**Pb**	**23 34 50.3**	**-0.6**
STG3				*e*S	**Sn**	**23 35 15.8**	**+0.5**

*NEIC **21** 23:35:21.1±2.0, 43°.78N±0°.05×105°.30W±0°.06, h0km±2km, ML2.8/39, Error ellipse: s-maj=9.5km s-min=7.2km az=336.0*
*IDC **21** 23:35:23.1±1.6, 44°.09N×105°.80W, h0km, mb3.7/1, mbtmp3.3/5, ML3.0/4, Error ellipse: s-maj=60.7km s-min=10.1km az=147.0*
ISC 21 23:35:20.8±1.0, 43.74N±0°.05×105°.32W±0°.05, h0km, n32, σ1°.10/32, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.00**	**67**	Pg	**Pg**	**23 35 39.8**	**-0.3**
K22A	**Casper**	**1.40**	**219**		**Pg**	**23 35 46.1**	**-1.4**
K22A				IAML		23 36 09.6	
	comp=N,110nm,0.6s						
K22A				IAML		23 36 11.2	
	comp=E,145nm,0.8s						
PHWY	**Pilot Hill**	**2.44**	**182**		**Pn**	**23 36 02.1**	**0.0**
PHWY				IAML		23 36 42.8	
	comp=E,58nm,0.7s						
RWWY	**Rawlins**	**2.48**	**215**		**Pn**	**23 36 02.8**	**+0.2**
RWWY				IAML		23 36 41.5	
	comp=E,70nm,0.7s						
N23A	**Red Feather La**	**2.88**	**189**	Pn	**Pn**	**23 36 09.2**	**+1.0**
N23A				IAML		23 36 54.1	
	comp=N,51nm,0.7s						
N23A				IAML		23 36 56.3	
	comp=E,41nm,0.8s						
LAO	**LASA Array**	**3.02**	**348**	Pn	**Pn**	**23 36 08.2**	**-1.7**
RLMT	**Red Lodge**	**3.15**	**297**	Pn	**Pn**	**23 36 12.9**	**+1.1**
RLMT				IAML		23 37 05.3	
	comp=E,25nm,0.8s						
RLMT				IAML		23 37 05.3	
	comp=E,27nm,0.8s						
PD31	**Pinedale Array**	**3.24**	**254**		**Pn**	**23 36 13.3**	**+0.1**
PDAR	**Pinedale Array**	**3.24**	**254**	Pn	**Pn**	**23 36 15.8**	**+2.6**
	comp=E,2.0nm,0.3s,baz=69,slow=17,SNR=34						
PDAR				Lg	Lg	23 36 59.4	
	comp=E,2.1nm,0.3s,baz=66,slow=29,SNR=3.1						
	comp=E,2.2nm,0.3s						
PDAR	**Pinedale Array**	**3.24**	**254**	Pn	**Pn**	**23 36 12.8**	**-0.3**
BW06	**Boulder Array**	**3.24**	**254**		**Pn**	**23 36 12.8**	**-0.4**
BW06				IAML		23 37 04.8	
	comp=E,16nm,0.7s						
BW06				IAML		23 37 07.3	
	comp=E,21nm,0.7s						
YMP	**Mirror Lake Pl**	**3.62**	**288**		**Pn**	**23 36 19.4**	**+1.0**
OGNE	**Ogallala**	**3.70**	**138**		**Pn**	**23 36 19.0**	**-0.3**
GCMT	**Greycliff**	**3.71**	**305**		**Pn**	**23 36 19.6**	**+0.1**
LOHW	**Long Hollow**	**3.83**	**270**		**Pn**	**23 36 21.7**	**+0.4**
LOHW				IAML		23 37 23.4	
	comp=E,10nm,1.2s						
H17A	**Grant Village**	**3.84**	**282**		**Pn**	**23 36 22.6**	**+1.2**
H17A				IAML		23 37 27.1	
	comp=E,10nm,0.6s						
H17A				IAML		23 37 27.4	
	comp=N,12nm,0.9s						
MOOW	**Moose Ponds**	**3.93**	**272**	Pn	**Pn**	**23 36 23.7**	**+1.1**
ISCO	**Idaho Springs**	**3.94**	**183**		**Pn**	**23 36 23.7**	**+0.9**
ISCO				IAML		23 37 32.2	
	comp=N,10nm,0.7s						
YPP	**Pitchstone Pla**	**3.99**	**280**		**Pn**	**23 36 24.8**	**+1.3**
YPP				IAML		23 36 59.9	
	comp=E,8.7nm,3.8s						
REDW	**Red Top Meadow**	**4.04**	**267**		**Pn**	**23 36 23.6**	**-0.5**
REDW				IAML		23 37 44.3	
	comp=E,21nm,1.3s						
TPAW	**Teton Pass**	**4.10**	**268**		**Pn**	**23 36 25.8**	**+0.9**
TPAW				IAML		23 37 40.5	
	comp=E,10.0nm,0.9s						
TPAW				IAML		23 37 47.8	
	comp=E,18nm,0.9s						
O20A	**White River Ci**	**4.21**	**212**	Pn	**Pn**	**23 36 27.7**	**+1.3**
O20A				IAML		23 37 40.6	
	comp=N,20nm,0.8s						
HWUT	**Hardware Ranch**	**5.07**	**247**		**Pn**	**23 36 38.7**	**+0.4**
EGMT	**Eagleton**	**5.29**	**326**	Pn	**Pn**	**23 36 39.6**	**-1.5**
P18A	**Preston Nutter**	**5.52**	**224**		**Pn**	**23 36 44.7**	**+0.3**
PV23	**Carpenter Ridg**	**5.97**	**209**	Pn	**Pn**	**23 36 51.6**	**+1.0**
SRU	**San Rafael Swe**	**6.05**	**222**	Pn	**Pn**	**23 36 51.8**	**+0.1**
S22A	**4UR Ranch, Cre**	**6.09**	**191**	Pn	**Pn**	**23 36 53.0**	**+0.6**
ELK	**Elko**	**7.94**	**251**	Pn	**Pn**	**23 37 19.5**	**+1.8**
	comp=N,0.1nm,0.3s,baz=62,slow=17,SNR=1.9						
	comp=N,0.3nm,0.3s						
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**Pn**	**23 37 34.8**	**+0.5**
	comp=N,0.7nm,0.3s,baz=231,slow=11,SNR=5.1						
	comp=N,1.8nm,0.3s						
NVAR	**Mina Array Bea**	**11.14**	**246**	Pn	**Pn**	**23 38 03.5**	**+2.1**
	comp=N,0.1nm,0.3s,baz=52,slow=12,SNR=1.4						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**89.60**	**355**	P	**P**	**23 48 20.3**	**+0.1**
	comp=N,0.3nm,0.6s,baz=19,slow=6.1,SNR=3.6						
	comp=N,0.3nm,0.6s						

*NOU **21** 23:38:20.7, 35°.43S×179°.49E, h317km, mb3.7/7, Off E. Coast of N. Island, N.Z.*
*WEL **21** 23:38:36.0±0.9, 36°.5S±9°×17°.9E±°, h224km±6km, M3.9/42, mB4.5/5, ML4.2/51, MLv3.9/42, Mw(mB)3.7/5, Error ellipse: s-maj=0.0km s-min=0.0km az=125.4*
ISC 21 23:38:35.3±2.4, 36°.0S±0°.1×178°.5E±0°.1, h221km±11km, n78, σ1°.17/92, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.60**	**187**	P	**Pn**	**23 39 11.0**	**-0.6**
MXZ				S	**S**	**23 39 38.1**	**-2.0**
WMGZ	**Waiomatatini S**	**1.85**	**183**	P	**Pn**	**23 39 14.2**	**+0.3**
WMGZ				S	**S**	**23 39 44.4**	**+0.4**
HAZ	**Te Kaha**	**1.89**	**199**	P	**Pn**	**23 39 13.5**	**-0.7**
HAZ				S	**S**	**23 39 42.9**	**-1.6**
PKGZ	**Pakihiroa**	**1.95**	**191**	P	**Pn**	**23 39 14.9**	**0.0**
PKGZ				S	**S**	**23 39 44.1**	**-1.7**
RUGZ	**Raukumara Rang**	**2.11**	**199**	P	**Pn**	**23 39 15.7**	**-0.8**
RUGZ				S	**S**	**23 39 47.1**	**-1.6**
PUZ	**Puketiti**	**2.11**	**186**	P	**Pn**	**23 39 14.0**	**-2.5**
PUZ				S	**S**	**23 39 47.5**	**-1.1**
TWGZ	**Tauwhareparae**	**2.25**	**191**	P	**Pn**	**23 39 18.5**	**+0.6**
TWGZ				S	**S**	**23 39 51.3**	**+0.2**
OPRZ	**Ohinepanea**	**2.46**	**220**	P	**Pn**	**23 39 20.0**	**+0.1**
MWZ	**Matawai**	**2.50**	**199**	P	**Pn**	**23 39 20.3**	**-0.2**
MWZ				S	**S**	**23 39 55.3**	**-0.4**
MARZ	**Manawahe**	**2.51**	**216**	P	**Pn**	**23 39 21.4**	**+0.9**
CNGZ	**Carnagh Statio**	**2.52**	**186**	P	**Pn**	**23 39 21.3**	**+0.7**
TKGZ	**Te Karaka**	**2.53**	**192**	P	**Pn**	**23 39 20.8**	**+0.1**
TKGZ				S	**S**	**23 39 55.8**	**-0.4**
URZ	**Urewera**	**2.56**	**206**	P	**Pn**	**23 39 20.4**	**-0.6**
URZ				S	**S**	**23 39 55.2**	**-1.6**
URZ	**Urewera**	**2.56**	**206**	P	**Pn**	**23 39 20.5**	**-0.6**
RAGZ	**Rawiri**	**2.68**	**199**	P	**Pn**	**23 39 22.7**	**+0.3**
RAGZ				S	**S**	**23 40 00.1**	**+0.8**
TARZ	**Mount Tarawera**	**2.79**	**215**	P	**Pn**	**23 39 24.1**	**+0.4**
RIGZ	**Rimuhau**	**2.80**	**193**	P	**Pn**	**23 39 23.6**	**-0.2**
RIGZ				S	**S**	**23 40 01.3**	**-0.5**
MUGZ	**Murupara**	**2.88**	**209**	P	**Pn**	**23 39 24.2**	**-0.4**
MUGZ			

mbtmp3.5/3,Error ellipse: s-maj=326.1km s-min=28.8km az=52.0
*DJA **22** 00:21:35.7±0.6,4°S±7°×10°3E±°,h79km±10km,M3.6/8, MLv3.6/8*
ISC 22 00:21:34.4±1.3,**4°2S**±0°.1×**103°.0E**±0°.1,**h102**km±9km,**n12, σ0s70/11,mb3.5/3,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.16**	**199**	P		**Pn**	**00 21 48.4**	**-0.3**
MNAI				S		**Sn**	**00 21 59.6**	**+0.2**
LHSI	**Lahat**	**0.64**	**54**	P		**Pn**	**00 21 51.4**	**0.0**
KSI	**Kapahiang**	**0.69**	**323**	P		**Pn**	**00 21 52.1**	**+0.1**
MASI	**Maura Aman, Be**	**1.31**	**324**	P		**Pn**	**00 21 58.9**	**+0.4**
LWLI	**Liwa**	**1.32**	**128**	P		**Pn**	**00 21 59.4**	**+0.7**
KASI	**Kota Agung**	**1.98**	**131**	P		**Pn**	**00 22 07.4**	**+0.7**
KASI				S		**Sn**	**00 22 31.9**	**+0.5**
PPSI	**Pulau Pagai**	**3.32**	**296**	P		**Pn**	**00 22 24.9**	**+0.5**
SDSI	**Sungai Dareh**	**3.62**	**334**	P		**Pn**	**00 22 29.2**	**+0.8**
BKNI	**Bangkinang**	**4.92**	**336**	P		Pn	00 22 57.9	+12
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=303,slow=8.9,SNR=5.7 0.2nm,0.3s	**34.29**	**120**	P		**P**	**00 28 10.2**	**-1.0**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=293,slow=7.8,SNR=6.5 0.3nm,0.3s	**35.53**	**126**	P		P	00 28 20.6	-1.2
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=150,slow=8.7,SNR=4.8 0.2nm,0.4s	**53.99**	**343**	P		P	00 30 46.5	-1.4

*SOME **22** 00:43:21.7,40°.67N×79°.23E,h10km*
*IDC **22** 00:43:22.7±1.9,40°.62N×79°.26E,h0km,mb3.5/4, mbtmp3.5/10,ML3.0/6,MS2.5/1,Error ellipse: s-maj=22.8km s-min=16.2km az=155.0*
*KRNET **22** 00:43:23.0±0.1,41°.05N×79°.60E,mb4.0*
*NNC **22** 00:43:26.3±0.9,40°.86N×79°.17E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=6.6km s-min=5.3km az=165.0*
ISC 22 00:43:27.4±2.0,**40°.94N**±0°.05×**79°.25E**±0°.04,**h8**km±12km, **n80,σ1s79/112,24C-13D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=97	**1.34**	**307**	⇑*i*P		**Pn**	**00 43 51.4**	**-1.5**
TARG	baz=97			⇑*i*S		**Sg**	**00 44 12.1**	**+1.4**
SATY	**Saty** 208nm,0.8s	**2.21**	**344**	*e*P		**Pb**	**00 44 07.2**	**-0.5**
SATY	419nm,0.7s			*e*S		**Sg**	**00 44 39.7**	**+1.2**
SATY	**Saty** 208nm,0.8s	**2.21**	**344**	Pg		**Pb**	**00 44 07.2**	**-0.5**
SATY	419nm,0.7s			Lg		Lg	00 44 40.1	
SHLS	**Shalkode** 133nm,0.7s	**2.23**	**4**	*e*P		**Pb**	**00 44 08.6**	**+0.7**
SHLS	206nm,0.5s			*e*S		**Sg**	**00 44 42.3**	**+3.3**
SHLS	**Shalkode** 133nm,0.7s	**2.23**	**4**	Pg		**Pb**	**00 44 08.6**	**+0.7**
SHLS	206nm,0.5s			Lg		Lg	00 44 42.3	
ZHN	**Zhinishke** 77nm,0.3s	**2.31**	**345**	*e*P		**Pb**	**00 44 09.4**	**0.0**
ZHN	955nm,0.3s			*e*S		**Sg**	**00 44 43.3**	**+1.6**
ZHN	**Zhinishke** 77nm,0.3s	**2.31**	**345**	Pg		**Pb**	**00 44 09.4**	**0.0**
ZHN	955nm,0.3s			Lg		Lg	00 44 43.3	
PDGK	**Podgornoye** 49nm,0.5s	**2.40**	**4**	⇓Pn		**Pb**	**00 44 09.3**	**-1.6**
PDGK	133nm,0.5s			⇑Lg		Lg	00 44 44.4	
NRN	**Naryn** baz=79	**2.50**	**283**	⇓*e*P		**Pn**	**00 44 10.4**	**+1.7**
NRN	baz=79			⇓*i*S		**Sb**	**00 44 45.1**	**+1.3**
KPKS	**Kokpek** 137nm,0.5s	**2.56**	**351**	*e*P		**Pb**	**00 44 14.0**	**+0.3**
KPKS	706nm,0.5s			*e*S		**Sg**	**00 44 50.9**	**+1.1**
KPKS	**Kokpek** 137nm,0.5s	**2.56**	**351**	Pg		**Pb**	**00 44 14.0**	**+0.3**
KPKS	706nm,0.5s			Lg		Lg	00 44 50.9	
ULHL	**Ulahol** baz=97	**2.61**	**301**	⇑*i*P		**Pn**	**00 44 10.7**	**+0.7**
ULHL	baz=97			⇑*i*S		**Sb**	**00 44 45.7**	**-1.0**
KURS	**Kuram** 89nm,0.9s	**2.67**	**343**	*e*P		**Pb**	**00 44 16.0**	**+0.5**
KURS	287nm,0.4s			*e*S		**Sg**	**00 44 54.3**	**+1.0**
KURS	**Kuram** 89nm,0.9s	**2.67**	**343**	Pg		**Pb**	**00 44 16.0**	**+0.5**
KURS	287nm,0.4s			Lg		Lg	00 44 54.3	
MDOK	**Medeo** 102nm,0.4s	**2.76**	**324**	*e*P		**Pb**	**00 44 16.8**	**-0.3**
MDOK	395nm,0.6s			*e*S		**Sg**	**00 44 55.6**	**-0.5**
MDOK	**Medeo** 75nm,0.5s	**2.76**	**324**	⇓Pn		**Pn**	**00 44 14.6**	**+2.4**
MDOK	102nm,0.4s			Pg		**Pb**	**00 44 16.8**	**-0.3**
MDOK	395nm,0.6s			Lg		Lg	00 44 55.6	
MDOK	376nm,0.6s			⇑Lg		Lg	00 44 56.1	
KOTS	**Kotyrbulak** 31nm,0.5s	**2.79**	**326**	*e*P		**Pb**	**00 44 17.4**	**-0.2**
KOTS	261nm,0.7s			*e*S		**Sg**	**00 44 56.7**	**-0.4**
KOTS	**Kotyrbulak** 31nm,0.5s	**2.79**	**326**	Pg		**Pb**	**00 44 17.4**	**-0.2**
KOTS	261nm,0.7s			Lg		Lg	00 44 56.7	
KNDC	**Almaty** 84nm,0.6s	**2.84**	**324**	⇓Pg		**Pb**	**00 44 17.7**	**-0.8**
KNDC	530nm,0.7s			⇑Lg		Lg	00 44 58.8	
AAA	**Alma-Ata** 128nm,0.3s	**2.86**	**323**	*e*P		**Pb**	**00 44 18.7**	**0.0**
AAA	490nm,0.6s			*e*S		**Sg**	**00 44 59.1**	**-0.1**
AAA	**Alma-Ata** 128nm,0.3s	**2.86**	**323**	Pg		**Pb**	**00 44 18.7**	**0.0**
AAA	490nm,0.6s			Lg		Lg	00 44 59.1	
KSH	**Kashi**	**2.88**	**242**	Pn		**Pb**	**00 44 20.8**	**+1.7**
KSH				Sn		**Sg**	**00 45 03.3**	**+3.4**
KSH	comp=Z,8.0nm,0.7s			pmax		pmax		
KSH	comp=N,76nm,0.7s			smax		smax		
KSH	comp=E,78nm,0.6s			smax		smax		
BOOM	**Boomskoye usch** baz=99	**2.92**	**303**	⇑*e*P		**Pn**	**00 44 15.1**	**+0.8**
BOOM	baz=99			⇑*i*S		**Sn**	**00 44 53.0**	**+3.3**
MTBS	**Maitube** comp=E,26nm,0.3s	**3.04**	**317**	*e*P		**Pb**	**00 44 21.0**	**-0.7**
MTBS	comp=E,78nm,0.3s			*e*S		**Sg**	**00 45 03.2**	**-1.7**
MTBS	**Maitube** comp=E,26nm,0.3s	**3.04**	**317**	Pg		**Pb**	**00 44 21.0**	**-0.7**
MTBS	comp=E,78nm,0.3s			Lg		Lg	00 45 03.2	
BLB	**Baldybastay** comp=E,85nm,0.6s	**3.21**	**350**	*e*P		**Pb**	**00 44 25.1**	**+0.4**
BLB	comp=E,196nm,0.4s			*e*S		**Sg**	**00 45 10.1**	**-0.4**
BLB	**Baldybastay** comp=E,85nm,0.6s	**3.21**	**350**	Pg		**Pb**	**00 44 25.1**	**+0.4**
BLB	comp=E,196nm,0.4s			Lg		Lg	00 45 10.1	
KST	**Kastek** comp=E,76nm,0.5s	**3.23**	**312**	*e*P		**Pb**	**00 44 24.8**	**-0.2**
KST	comp=E,124nm,0.7s			*e*S		**Sg**	**00 45 09.4**	**-1.7**
KST	**Kastek** comp=E,76nm,0.5s	**3.23**	**312**	Pg		**Pb**	**00 44 24.8**	**-0.2**
KST	comp=E,124nm,0.7s			Lg		Lg	00 45 09.4	
CHKK	**Chushkaly** comp=E,20nm,0.4s	**3.36**	**331**	*e*P		**Pb**	**00 44 27.5**	**+0.3**
CHKK	comp=E,198nm,0.6s			*e*S		**Sg**	**00 45 14.2**	**-1.1**
CHKK	**Chushkaly** comp=E,20nm,0.4s	**3.36**	**331**	Pg		**Pb**	**00 44 27.5**	**+0.3**
CHKK	comp=E,198nm,0.6s			Lg		Lg	00 45 14.2	
TKM2	**Tokmak 2** SNR=17	**3.37**	**307**	P		**Pn**	**00 44 24.1**	**+3.6**
TKM2	**Tokmak 2** comp=E,14nm,0.4s	**3.37**	**307**	⇓Pn		**Pn**	**00 44 22.3**	**+1.8**
TKM2	comp=E,72nm,0.6s			⇑Lg		Lg	00 45 14.4	
TKM2	**Tokmak 2** baz=3.0	**3.37**	**307**	⇑*e*P		**Pn**	**00 44 21.1**	**+0.6**
TKM2	baz=3.0			⇑*i*S		**Sn**	**00 45 03.5**	**+2.7**
DJR	**Jarkent** comp=E,13nm,0.7s	**3.42**	**7**	*e*P		**Pb**	**00 44 28.3**	**+0.1**
DJR	comp=E,72nm,0.4s			*e*S		**Sg**	**00 45 15.6**	**-1.6**
DJR	**Jarkent** comp=E,13nm,0.7s	**3.42**	**7**	Pg		**Pb**	**00 44 28.3**	**+0.1**
DJR	comp=E,72nm,0.4s			Lg		Lg	00 45 15.6	
ARXS	**Arharly** comp=E,43nm,0.5s	**3.44**	**343**	*e*P		**Pb**	**00 44 29.1**	**+0.5**
ARXS	comp=E,279nm,0.5s			*e*S		**Sg**	**00 45 17.0**	**-0.9**
ARXS	**Arharly** comp=E,43nm,0.5s	**3.44**	**343**	Pg		**Pb**	**00 44 29.1**	**+0.5**
ARXS	comp=E,279nm,0.5s			Lg		Lg	00 45 17.0	
DGS	**Degeres** comp=E,49nm,0.6s	**3.46**	**313**	*e*P		**Pb**	**00 44 28.1**	**-0.9**
DGS	comp=E,79nm,0.8s			*e*S		**Sb**	**00 45 15.3**	**+3.9**
DGS	**Degeres** comp=E,49nm,0.6s	**3.46**	**313**	Pg		**Pb**	**00 44 28.1**	**-0.9**
DGS	comp=E,79nm,0.8s			Lg		Lg	00 45 15.3	
KBK	**Karagaybulak** SNR=14	**3.65**	**300**	P		**Pb**	**00 44 32.3**	**+0.1**
KBK	**Karagaybulak** baz=96	**3.65**	**300**	⇓*e*P		**Pn**	**00 44 25.3**	**+1.0**
KBK	baz=96			⇓*i*S		**Sn**	**00 45 10.8**	**+3.3**
KUU	**Kurty** comp=E,12nm,0.6s	**3.66**	**325**	*e*P		**Pb**	**00 44 31.6**	**-0.6**
KUU	comp=E,102nm,0.6s			*e*S		**Sb**	**00 45 21.1**	**+4.3**
KUU	**Kurty** comp=E,12nm,0.6s	**3.66**	**325**	Pg		**Pb**	**00 44 31.6**	**-0.6**
KUU	comp=E,102nm,0.6s			Lg		Lg	00 45 21.1	
UCH	**Uchtor** SNR=19	**3.78**	**292**	P		**Pb**	**00 44 36.7**	**+2.1**
UCH	**Uchtor** baz=89	**3.78**	**292**	⇑*e*P		**Pn**	**00 44 27.5**	**+1.2**
UCH	baz=89			⇑*i*S		**Sn**	**00 45 14.4**	**+3.2**
ARLS	**Aral** baz=83	**3.82**	**286**	⇑*e*P		**Pn**	**00 44 28.2**	**+1.6**
ARLS	baz=83			⇑*i*S		**Sn**	**00 45 15.9**	**+4.1**
KRBS	**Karabastau** comp=E,19nm,0.5s	**3.83**	**317**	*e*P		**Pb**	**00 44 35.2**	**+0.1**
KRBS	comp=E,54nm,0.8s			*e*S		**Sg**	**00 45 27.3**	**-2.9**
KRBS	**Karabastau** comp=E,19nm,0.5s	**3.83**	**317**	Pg		**Pb**	**00 44 35.2**	**+0.1**
KRBS	comp=E,54nm,0.8s			Lg		Lg	00 45 27.3	
CHMS	**Chumysh** SNR=12	**3.94**	**303**	P		**Pb**	**00 44 35.7**	**-1.3**
CHMS	**Chumysh** comp=E,9.2nm,0.5s	**3.94**	**303**	⇓Pg		**Pb**	**00 44 36.0**	**-1.0**
CHMS	comp=E,29nm,0.8s			⇓Lg		Lg	00 45 30.9	
CHMS	**Chumysh** baz=0.0	**3.94**	**303**	⇑*e*P		**Pn**	**00 44 29.1**	**+1.0**
CHMS	baz=0.0			⇑*i*S		**Sn**	**00 45 17.1**	**+2.6**
AAK	**Ala-Archa** SNR=13	**3.94**	**297**	P		**Pb**	**00 44 37.5**	**+0.3**
AAK	**Ala-Archa** comp=E,0.7nm,0.3s,baz=102,slow=4.7,SNR=5.3	**3.94**	**297**	Pn		**Pn**	**00 44 28.8**	**+0.5**
AAK	comp=E,3.6nm,0.3s,baz=159,slow=18,SNR=21			Pg		**Pb**	**00 44 37.0**	**-0.2**
AAK	comp=E,2.2nm,0.3s,baz=280,slow=24,SNR=12			Lg		Lg	00 45 33.5	
AAK	comp=E,59nm,18.1s,baz=72,slow=41 comp=E,1.5nm,0.3s			LR		LR	00 46 10.1	
TDK	**Taldyqorghan** comp=E,86nm,0.4s	**4.11**	**352**	*e*P		**Pb**	**00 44 41.3**	**+1.3**
TDK	comp=E,142nm,0.6s			*e*S		**Sg**	**00 45 38.3**	**-1.1**
TDK	**Taldyqorghan** comp=E,86nm,0.4s	**4.11**	**352**	Pg		**Pb**	**00 44 41.3**	**+1.3**
TDK	comp=E,142nm,0.6s			Lg		Lg	00 45 38.3	
SGDS	**Sogindy** comp=E,19nm,0.6s	**4.25**	**308**	*e*P		**Pb**	**00 44 43.1**	**+0.7**
SGDS	comp=E,39nm,0.6s			*e*S		**Sg**	**00 45 41.4**	**-2.6**
SGDS	**Sogindy** comp=E,19nm,0.6s	**4.25**	**308**	Pg		**Pb**	**00 44 43.1**	**+0.7**
SGDS	comp=E,39nm,0.6s			Lg		Lg	00 45 41.4	
AML	**Almayashu** SNR=25	**4.34**	**288**	P		**Pb**	**00 44 44.2**	**+0.1**
EKS2	**Erkin-Say** SNR=38	**4.44**	**295**	P		**Pb**	**00 44 46.8**	**+1.1**
MRKS	**Merke** comp=E,29nm,0.7s	**4.85**	**294**	*e*P		**Pb**	**00 44 54.1**	**+1.5**
MRKS	comp=E,39nm,0.7s			*e*S		**Sg**	**00 45 59.6**	**-3.4**
MRKS	**Merke** comp=E,29nm,0.7s	**4.85**	**294**	Pg		**Pb**	**00 44 54.1**	**+1.5**
MRKS	comp=E,39nm,0.7s			Lg		Lg	00 45 59.6	
BTLS	**Baital** comp=E,5.5nm,0.7s	**5.60**	**319**	*e*P		**Pb**	**00 45 08.2**	**+2.8**
BTLS	comp=E,18nm,0.6s			*e*S		**Sg**	**00 46 24.0**	**-3.2**
BTLS	**Baital** comp=E,5.5nm,0.7s	**5.60**	**319**	Pg		**Pb**	**00 45 08.2**	**+2.8**
BTLS	comp=E,18nm,0.6s			Lg		Lg	00 46 24.0	
MAKZ	**Makanchi** comp=E,0.8nm,0.4s	**6.19**	**18**	⇓Pn		**Pn**	**00 44 59.2**	**+0.1**
MAKZ	comp=E,2.7nm,0.7s			⇑Lg		Lg	00 46 37.9	
MK31	**Makanchi Array** comp=E,0.4nm,0.2s,baz=200,slow=12,SNR=42	**6.26**	**20**	Pn		**Pn**	**00 45 00.9**	**+1.0**
MK31	comp=E,4.9nm,0.6s,baz=202,slow=24,SNR=6.0			⇓Sn		**Sn**	**00 46 15.4**	**+3.8**
MK31	comp=E,3.0nm,0.6s,baz=146,slow=39,SNR=3.8			⇓Lg		Lg	00 46 41.6	
MKAR	**Makanchi Array** comp=E,0.9nm,0.3s,baz=197,slow=12,SNR=33	**6.26**	**20**	Pn		**Pn**	**00 45 01.2**	**+1.2**
MKAR	comp=E,0.8nm,0.3s,baz=204,slow=20,SNR=5.6			Sn		**Sn**	**00 46 16.2**	**+4.6**
MKAR	comp=E,0.7nm,0.3s,baz=200,slow=21,SNR=2.4 comp=E,1.0nm,0.3s			Lg		Lg	00 46 50.2	
KK31	**Karatay Array** comp=E,4.0nm,0.7s,baz=106,slow=15,SNR=37	**6.86**	**291**	Pg		**Pb**	**00 45 30.6**	**+3.8**
KK31	comp=E,7.1nm,0.7s,baz=106,slow=28,SNR=8.3			⇑Lg		Lg	00 47 00.3	
IUG	**Iuzhnay** comp=E,241nm,0.8s	**7.02**	**283**	Pg		Pg	00 45 36.2	-5.6
IUG	comp=E,36nm,0.9s			Lg		Lg	00 47 11.8	
OTUK	**Ortayu** comp=E,1.3nm,0.5s	**8.81**	**328**	⇑Pn		**Pn**	**00 45 35.9**	**+0.9**
OTUK	comp=E,7.7nm,0.7s			⇑Lg		Lg	00 48 05.5	
KURBB	**Kurchatov Arra** baz=185,slow=12,SNR=5.2	**9.70**	**357**	Pn		**Pn**	**00 45 47.1**	**0.0**
KURBB	comp=E,0.3nm,0.3s,baz=171,slow=30,SNR=6.1 comp=E,0.2nm,0.5s			Lg		Lg	00 48 39.1	
KURBB	**Kurchatov Arra** comp=E,31nm,0.8s	**9.70**	**357**	⇑Lg		Lg	00 48 35.2	
KURK	**Kurchatov** comp=E,14nm,0.8s	**9.79**	**358**	⇑Lg		Lg	00 48 38.6	
BVAR	**Borovoye Array** comp=E,0.1nm,0.3s,baz=156,slow=11,SNR=4.2	**13.51**	**337**	Pn		**Pn**	**00 46 38.1**	**-1.1**
BVAR	comp=E,0.1nm,0.3s,baz=145,slow=28,SNR=4.1 comp=E,0.9nm,0.6s			Lg		Lg	00 50 43.2	
ZALV	**Zalesovo Beam** comp=E,0.1nm,0.3s,baz=201,slow=16,SNR=2.5 comp=E,0.6nm,0.4s	**13.55**	**14**	Pn		**Pn**	**00 46 39.4**	**-0.3**
GEYT	**Alibeck** comp=E,0.2nm,0.3s,baz=91,slow=13,SNR=2.2 comp=E,0.5nm,0.4s	**16.59**	**266**	Pn		**Pn**	**00 47 17.1**	**-3.2**
SONM	**Songino Array** comp=E,2.7nm,0.7s,baz=258,slow=11,SNR=15 comp=E,2.7nm,0.7s	**20.52**	**61**	P		**P**	**00 48 04.7**	**-1.4**
ARU	**Arti** comp=E,1.5nm,0.4s,baz=133,slow=4.2,SNR=5.2 comp=E,1.5nm,0.4s	**20.53**	**326**	P		**P**	**00 48 04.7**	**-1.3**
BRTR	**Keskin Array B** comp=E,0.6nm,0.7s,baz=80,slow=11,SNR=2.7 comp=E,0.6nm,0.7s	**34.49**	**283**	P		**P**	**00 50 13.4**	**-2.5**
ESDC	**Sonseca Array** comp=E,0.2nm,0.6s,baz=51,slow=6.8,SNR=2.0 comp=E,0.2nm,0.6s	**61.04**	**299**	P		**P**	**00 53 38.6**	**-3.0**

*CNRM **22** 00:48:30.0,35°.49N×3°.72W,h19km,ml2.6*
*MDD **22** 00:48:31.4±0.5,35°.27N×3°.76W,h32km±4km,mb_Lg2.8/16, Error ellipse: s-maj=4.6km s-min=2.9km az=178.0*
*SFS **22** 00:48:31.0,35°.27N×3°.75W,ML2.8,ALHUCEMAS (MARRUECOS)*
*INMG **22** 00:48:32.3±1.5,35°.36N×3°.67W,h31km,ML2.3,Error ellipse: s-maj=5.1km s-min=3.1km az=11.0*
ISC 22 00:48:30.1±1.1,**35°.45N**±0°.02×**3°.75W**±0°.02,**h14**km±9km, **n57,σ1s57/103,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**215**	P		**Pg**	**00 48 35.1**	**-0.8**
PALE				S		**Sb**	**00 48 41.2**	**-0.2**
PVLZ	**Peæn de**	**0.53**	**239**	P		**Pg**	**00 48 40.1**	**-0.4**
PVLZ				S		**Sg**	**00 48 47.8**	**+0.3**
EMEL	**Melilla**	**0.66**	**103**	Pg		**Pb**	**00 48 43.3**	**-0.1**
EMEL				Sg		**Sb**	**00 48 52.8**	**+0.4**
EMEL				*i* Vmb_Lg			00 48 57.5	
WMELI	**Melilla**	**0.66**	**101**	P		**Pb**	**00 48 43.3**	**-0.1**
WMELI				S		**Sb**	**00 48 52.8**	**+0.4**
AKLM	**AKL**	**0.94**	**186**	P		**Pn**	**00 48 49.0**	**0.0**
AKLM				S		**Sn**	**00 49 04.0**	**+1.8**
AKLM	**AKL**	**0.94**	**186**	P		**Pn**	**00 48 48.8**	**-0.2**
AKLM				S		**Sb**	**00 48 60.0**	**-0.6**
CHAS	**Isla Isabel II**	**1.11**	**103**	P		**Pb**	**00 48 49.9**	**-1.1**
CHAS				S		**Sb**	**00 49 04.2**	**-1.1**
TAF	**Taforalt**	**1.26**	**120**	P		**Pn**	**00 48 53.0**	**-0.4**
TAF	**Taforalt**	**1.26**	**120**	P		**Pn**	**00 48 52.8**	**-0.6**
TAF				S		**Sg**	**00 49 11.8**	**+1.0**
CHEFC	**Chefchaouen**	**1.35**	**256**	P		**Pg**	**00 48 56.0**	**0.0**
CHEFC	**Chefchaouen**	**1.35**	**256**	P		**Pg**	**00 48 56.0**	**0.0**
CHEFC				S		**Sn**	**00 49 12.5**	**+0.2**
EMIJ	**Mijas**	**1.39**	**324**	Pn		**Pn**	**00 48 54.1**	**-1.0**
EMIJ				Sn		**Sn**	**00 49 12.4**	**-0.9**
EMIJ				*i* Vmb_Lg			00 49 18.1	
CEU	**Ceuta**	**1.40**	**289**	P		**Pn**	**00 48 51.5**	**-3.7**
CEU				S		**Sn**	**00 49 09.1**	**-4.3**
ECEU	**Ceuta**	**1.40**	**289**	Pn		**Pn**	**00 48 53.5**	**-1.7**
ECEU				Sn		**Sn**	**00 49 09.5**	**-4.0**
ECEU				*i* Vmb_Lg			00 49 13.5	
ELGU	**Los Guajares,**	**1.42**	**4**	Pn		**Pn**	**00 48 54.7**	**-0.9**
ELGU				Sn		**Sn**	**00 49 13.8**	**-0.3**
ELGU				*i* Vmb_Lg			00 49 18.1	
EMAL	**Malaga-Limoner**	**1.42**	**337**	P		**Pn**	**00 48 55.7**	**+0.2**
EMAL				S		**Sn**	**00 49 13.2**	**-0.8**
JBK	**JBK**	**1.47**	**139**	P		**Pn**	**00 48 56.0**	**-0.5**
JBK	**JBK**	**1.47**	**139**	P		**Pn**	**00 48 55.9**	**-0.5**
JBK				S		**Sn**	**00 49 14.4**	**-1.1**
EBER	**Berja**	**1.61**	**25**	Pn		**Pn**	**00 48 57.7**	**-0.5**
EBER				Sn		**Sn**	**00 49 17.7**	**-1.1**
EBER				*i* Vmb_Lg			00 49 21.6	
EGOR	**Sierra Gorda,**	**1.69**	**350**	Pn		**Pn**	**00 48 60.0**	**+0.7**
EGOR				Sn		**Sn**	**00 49 21.2**	**+0.5**
EGOR				*i* Vmb_Lg			00 49 28.2	
EJIF	**Jimena Fronter**	**1.72**	**306**	Pn		**Pn**	**00 48 59.5**	**-0.1**
ENIJ	**Nijar**	**1.97**	**39**	Pn		**Pn**	**00 49 02.2**	**-0.8**
ENIJ				Sn		**Sn**	**00 49 26.0**	**-1.5**
ENIJ				*i* Vmb_Lg			00 49 30.2	
LCRM	**LCR**	**1.98**	**208**	P		**Pb**	**00 49 07.0**	**+1.0**
LCRM	**LCR**	**1.98**	**208**	P		**Pb**	**00 49 05.3**	**-0.7**
LCRM				S		**Sb**	**00 49 31.6**	**+1.0**
ESPR	**Espera**	**2.22**	**310**	Pn		**Pn**	**00 49 07.9**	**+1.4**
ESPR				Sn		**Sb**	**00 49 37.1**	**-0.2**
ESPR				*i* Vmb_Lg			00 49 42.6	
EQES	**Quesada**	**2.41**	**13**	Pn		**Pb**	**00 49 11.8**	**-1.6**
EQES				Sn		**Sb**	**00 49 41.9**	**-1.1**
EQES				*i* Vmb_Lg			00 49 44.3	
MD31	**MD31**	**2.71**	**198**	P		**Pn**	**00 49 13.8**	**+0.5**
MD31				S		**Sn**	**00 49 46.6**	**+0.7**
MDT	**Midelt**	**2.72**	**195**	P		**Pn**	**00 49 14.8**	**+1.3**
MDT				S		**Sn**	**00 49 46.8**	**+0.6**
EADA	**Adamuz**	**2.80**	**346**	Pn		**Pn**	**00 49 16.3**	**+1.8**
EADA				Sn		**Sn**	**00 49 48.7**	**+0.7**
EADA				*i* Vmb_Lg			00 50 03.1	
EZAR	**Zarzadilla de**	**2.93**	**34**	Pn		**Pn**	**00 49 16.3**	**-0.1**
EZAR				Sn		**Sn**	**00 49 50.7**	**-0.8**
ECAB	**El Cabril**	**2.95**	**333**	Pn		**Pn**	**00 49 18.2**	**+1.7**
ECAB				Sn		**Sn**	**00 49 53.1**	**+1.4**
ECAB				*i* Vmb_Lg			00 50 03.6	
CART	**Cartagena**	**3.07**	**45**	P		**Pn**	**00 49 18.3**	**+0.1**
CART				S		**Sn**	**00 49 50.7**	**-4.0**
ZHG	**ZHG**	**3.12**	**231**	P		**Pn**	**00 49 20.5**	**+1.7**
EMUR	**La Murta**	**3.13**	**39**	Pn		**Pn**	**00 49 20.2**	**+1.2**
EMUR				Sn		**Sn**	**00 49 54.1**	**-2.1**
EMUR				*i* Vmb_Lg			00 49 57.6	
EMIN	**Mina Concepcio**	**3.30**	**315**	Pn		**Pn**	**00 49 22.1**	**+0.7**
EMIN				Sn		**Sn**	**00 49 57.5**	**-3.0**
EMIN				*i* Vmb_Lg			00 50 12.5	
ETOB	**Tobarra**	**3.64**	**28**	Pn		**Pn**	**00 49 28.4**	**+2.2**
ETOB				Sn		**Sn**	**00 50 11.5**	**+2.5**
EGRO	**El Granado**	**3.66**	**306**	Pn		**Pn**	**00 49 25.5**	**-0.8**
EGRO				Sn		**Sn**	**00 50 05.2**	**-4.0**
PVAQ	**Vaqueiros**	**3.75**	**303**	*e*Pn		**Pn**	**00 49 28.2**	**+0.7**
PVAQ				*e*Sn		**Sn**	**00 50 09.5**	**-2.0**
PVAQ	5.5nm,0.6s			A		A	00 50 14.5	
PVAQ	**Vaqueiros**	**3.75**	**303**	P		**Pn**	**00 49 27.5**	**0.0**
PBAR	**Barrancos**	**3.79**	**317**	*e*Pn		**Pn**	**00 49 28.9**	**+0.8**
PBAR				*e*Sn		**Sn**	**00 50 12.0**	**-0.5**
PBAR	3.7nm,0.3s			A		A	00 50 16.0	
PCVE	**Castro Verde**	**4.09**	**304**	*e*Pn		**Pn**	**00 49 32.8**	**+0.7**
PCVE				*e*Sn		**Sn**	**00 50 19.0**	**-0.8**
PCVE	3.4nm,0.3s			A		A	00 50 22.9	
PAB	**San Pablo**	**4.12**	**354**	Pn		**Pn**	**00 49 34.4**	**+1.7**
PAB				Sn		**Sn**	**00 50 22.2**	**+1.5**
EBAD	**Badajoz**	**4.21**	**323**	Pn		**Pn**	**00 49 34.2**	**+0.4**
EBAD				Sn		**Sn**	**00 50 20.2**	**-2.6**
EBAD				*i* Vmb_Lg			00 50 24.5	
MESJ	**Messejana**	**4.32**	**305**	*e*Pn		**Pn**	**00 49 36.6**	**+1.3**
MESJ				*e*Sn		**Sn**	**00 50 24.7**	**-0.8**
MESJ	3.8nm,0.7s			A		A	00 50 28.9	
PTEO	**Sao Teotonio**	**4.52**	**299**	*e*Pn		**Pn**	**00 49 40.2**	**+2.1**
PTEO				*e*Sn		**Sn**	**00 50 29.7**	**-0.8**
PESTR	**Estremoz**	**4.59**	**319**	*e*Pn		**Pn**	**00 49 40.6**	**+1.5**
PESTR				*e*Sn		**Sn**	**00 50 32.1**	**-0.1**
EVO	**Evora**	**4.60**	**313**	*e*Pn		**Pn**	**00 49 40.4**	**+1.2**
EVO				*e*Sn		**Sn**	**00 50 32.2**	**-0.2**
EVO	3.7nm,0.5s			A		A	00 50 34.7	
PNCL	**Nicolau / Gran**	**4.67**	**306**	*e*Pn		**Pn**	**00 49 40.7**	**+0.6**
PNCL				*e*Sn		**Sn**	**00 50 32.9**	**-1.2**
PNCL	2.8nm,

	2.0nm,0.9s							
PCBR	**Castelo Branco**	**5.29**	**327**	*e*Pn		**Pn**	**00 49 50.1**	**+1.4**
PCBR				*e*Sn		**Sn**	**00 50 49.0**	**-0.4**
PCBR				A		A	00 50 52.3	
	2.1nm,0.3s							
EIBI	**Ibiza**	**5.41**	**47**	Pn		**Pn**	**00 49 51.1**	**+0.8**
EIBI				Sn		**Sn**	**00 50 49.3**	**-3.1**
ETOR	**Torete**	**5.53**	**13**	Pn		**Pn**	**00 49 54.1**	**+2.0**
PSBE	**So Bento**	**5.71**	**317**	*e*Pn		**Pn**	**00 49 56.5**	**+2.0**
MVO	**Moncorvo**	**6.26**	**337**	*e*Pn		**Pn**	**00 50 03.9**	**+1.8**
MVO				*e*Sn		**Sn**	**00 51 12.4**	**-1.1**
MVO				A		A	00 51 56.6	
	1.8nm,0.7s							
PBRG	**Braganca**	**6.77**	**341**	*e*Pn		**Pn**	**00 50 11.6**	**+2.6**

NEIC 22 00:53:52.5±2.5,**2.38S**±0.05×**79.84W**±0.05,**h80**km±10km,
mb4.3/3,**Error ellipse: s-maj=10.3km s-min=3.6km az=137.0,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COHC	**Cochancay**	**0.59**	**98**		Pn	00 54 06.4	-0.7
ARNL	**Arenillas**	**1.18**	**191**		Pn	00 54 13.8	0.0
ARNL				Sn	Sn	00 54 29.6	-0.2
CHSH	**Refugio Sur-Vo**	**1.31**	**48**		Pn	00 54 15.9	-0.2
CHSH				Sn	Sn	00 54 33.3	-0.3
PORT	**Chimborazo Vol**	**1.40**	**49**		Pn	00 54 17.6	+0.4
BOSC	**San Juan Bosco**	**1.54**	**120**		Pn	00 54 20.7	+2.0
BOSC				Sn	Sn	00 54 40.7	+2.4
MCRA	**Macar, Loja**	**1.98**	**183**		Pn	00 54 24.1	-0.1
MCRA				Sn	Sn	00 54 47.3	-1.0
SLOR	**San Lorenzo -**	**2.12**	**39**		Pn	00 54 28.4	+1.8
OTAV	**Otavalo**	**2.95**	**28**	Pn	Pn	00 54 38.9	+1.2
IMBA	**Imbabura, San**	**3.11**	**32**	Pn	Pn	00 54 40.8	+1.0
TULM	**Tulcn-Chalpat**	**3.70**	**34**	Pn	Pn	00 54 48.1	+0.2
CZSB	**Cruzeiro do Su**	**8.87**	**127**	Pn	Pn	00 55 56.7	-1.3
TBTG	**Tabatinga, AM**	**10.07**	**100**	Pn	Pn	00 56 11.8	-2.6
ETMB	**Extrema**	**15.42**	**119**	Pn	Pn	00 57 21.5	-4.1
ETMB				IAmb	IAmb	00 57 38.4	
	comp=Z,3.5nm,1.2s						
BIRV	**Birongo**	**18.59**	**46**		P	00 58 01.8	-1.8
BIRV				IAmb	IAmb	00 58 18.3	
	comp=Z,32nm,1.4s						
MACA	**Manacapuru-AM**	**19.15**	**93**		P	00 58 08.8	-0.9
MACA				IAmb	IAmb	00 58 10.1	
	comp=Z,35nm,0.6s						

*RSNC **22** 01:01:57.1±0.6, 10.74N×72.24W, h10km±7km, ML2.0*
*FUNV **22** 01:02:03.8, 10.82N×71.72W, h5km, MW3.1*

ISC 22 01:01:53.6±1.6,**10.78N**±0.05×**72.18W**±0.03,**h7**km±13km,
n10,σ**1s62/20,Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRJC	**Cerrejon, Guaj**	**0.72**	**289**	*e*P	**Pn**	**01 02 09.3**	**-1.0**
CRJC				*e*S	**Sb**	**01 02 19.3**	**+0.5**
CRJC				IAML		01 02 20.3	
	comp=Z,93nm,0.1s						
URIC	**Uribia, Colomb**	**0.93**	**12**	*e*P	**Pn**	**01 02 13.9**	**+0.9**
URIC				*e*S	**Sn**	**01 02 28.0**	**+1.4**
URIC				IAML		01 02 29.2	
	comp=Z,32nm,0.1s						
LL6C	**La Loma 6 Bece**	**1.49**	**226**	*e*P	**Pg**	**01 02 21.9**	**-0.4**
LL6C				*e*S	**Sb**	**01 02 41.0**	**+0.3**
LL6C				IAML		01 02 42.2	
	comp=Z,13nm,0.2s						
SMRC	**Santa Marta, M**	**2.04**	**281**	*e*P	**Pb**	**01 02 29.7**	**-1.2**
SMRC				*e*S	**Sn**	**01 02 54.6**	**+0.6**
CURV	**Curarigua**	**2.32**	**109**	*e*P	**Pg**	**01 02 36.8**	**-1.2**
CURV				*e*S	**Sn**	**01 03 01.0**	**0.0**
SIQV	**Siquisique**	**2.34**	**93**	*e*P	**Pb**	**01 02 36.0**	**-0.1**
SIQV				*e*S	**Sn**	**01 03 01.1**	**-0.4**
SOCV	**Socops**	**2.81**	**152**	*e*P	**Pg**	**01 02 46.6**	**-0.8**
SOCV				*e*S	**Sb**	**01 03 17.8**	**-0.9**
CAPV	**Capacho**	**2.90**	**183**	*e*P	**Pg**	**01 02 52.0**	**+2.7**
CAPV				*e*S	**Sg**	**01 03 26.6**	**-0.3**
MAPV	**Macapo**	**3.79**	**104**	*e*P	**Pn**	**01 02 55.4**	**+3.0**
MAPV				*e*S	**Sn**	**01 03 34.7**	**-2.5**
BAUV	**El Baul**	**4.47**	**114**	*e*P	**Pn**	**01 03 03.3**	**+1.5**
BAUV				*e*S	**Sn**	**01 03 51.3**	**-2.8**

*MAN **22** 01:04:45.8, 13.87N×120.49E, h75km, mb4.7, ML3.6, MS3.5*
*IDC **22** 01:04:46.6±0.9, 13.91N×120.72E, h112km±10km, mb3.4/6, mbtmp3.8/6,Error ellipse: s-maj=45.4km s-min=15.6km az=64.0*

ISC 22 01:04:46.0±0.8,**13.83N**±0.03×**120.39E**±0.05,**h93**km±6km,
n24,σ**1s26/42,mb3.8/6,8C-9D,Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.17**	**236**	⇑*i*P	**Pn**	**01 04 59.9**	**+0.7**
LUBP				*i* S	**Sn**	**01 05 09.2**	**+0.1**
MACP	**Maragondon, Ca**	**0.53**	**36**	⇓*e*P	**Pn**	**01 05 00.7**	**-0.6**
MACP				*e*S	**Sn**	**01 05 11.8**	**-0.9**
TGY	**Tagaytay City**	**0.59**	**63**	P	**Pn**	**01 05 02.0**	**+0.2**
	baz=270,slow=0.6						
TGY				S	**Sn**	**01 05 16.7**	**+3.0**
	baz=90,slow=8.1						
TGY	**Tagaytay City**	**0.59**	**63**	⇑*e*P	**Pn**	**01 05 02.2**	**+0.4**
TGY				*i* S	**Sn**	**01 05 15.1**	**+1.4**
PGP	**Puerto Galera**	**0.64**	**121**	⇑*e*P	**Pn**	**01 05 01.0**	**-1.1**
PGP				*i* S	**Sn**	**01 05 12.9**	**-1.4**
BOAC	**Boac**	**1.46**	**105**	⇓*e*P	**Pn**	**01 05 11.8**	**+0.4**
BOAC				*e*S	**Sn**	**01 05 30.7**	**+0.2**
SJMP	**San Jose**	**1.54**	**152**	⇓*e*P	**Pn**	**01 05 13.1**	**+0.8**
SJMP				*e*S	**Sn**	**01 05 32.5**	**+0.2**
BUSP	**Coron**	**1.83**	**186**	⇑*e*P	**Pn**	**01 05 16.4**	**+0.4**
BUSP				*e*S	**Sn**	**01 05 39.3**	**+0.4**
PCPH	**Palayan**	**1.85**	**21**	⇑*e*P	**Pn**	**01 05 15.7**	**-0.6**
PCPH				*e*S	**Sn**	**01 05 37.9**	**-1.6**
SCZP	**Santa Cruz**	**1.99**	**347**	⇑*e*P	**Pn**	**01 05 18.7**	**+0.6**
SCZP				*e*S	**Sn**	**01 05 43.1**	**+0.5**
GQP	**Guinayangan**	**2.00**	**88**	⇓*e*P	**Pn**	**01 05 19.1**	**+0.9**
GQP				*e*S	**Sn**	**01 05 42.5**	**-0.3**
BALP	**Baler**	**2.22**	**31**	⇓*e*P	**Pn**	**01 05 21.9**	**+0.8**
BALP				*e*S	**Sn**	**01 05 49.7**	**+1.7**
JCNP	**Jose Panganiba**	**2.28**	**78**	⇑*e*P	**Pn**	**01 05 22.9**	**+1.0**
SMPP	**San Manuel, Pa**	**2.32**	**7**	⇓*e*P	**Pn**	**01 05 22.2**	**-0.4**
SMPP				*e*S	**Sn**	**01 05 49.3**	**-1.2**
BOLP	**Bolinao**	**2.58**	**350**	⇑*e*P	**Pn**	**01 05 26.1**	**+0.2**
BOLP				*e*S	**Sn**	**01 05 56.2**	**-0.4**
SAMP	**Sagada Mountai**	**3.27**	**9**	⇓*e*P	**Pn**	**01 05 35.3**	**+0.1**
SAMP				*e*S	**Sn**	**01 06 14.4**	**+1.2**
JAP	**San Jose, Anti**	**3.42**	**153**	⇓*e*P	**Pn**	**01 05 38.8**	**+1.6**
APYP	**Conner**	**4.09**	**11**	⇓*e*P	**Pn**	**01 05 47.1**	**+0.8**
APYP				*e*S	**Sn**	**01 06 35.8**	**+2.7**
CMAR	**Chiang Mai Arr**	**21.11**	**285**	P	**P**	**01 09 26.4**	**+3.2**
	0.7nm,0.3s,baz=95,slow=7.8,SNR=4.8 0.7nm,0.3s						
SONM	**Songino Array**	**35.85**	**344**	P	**P**	**01 11 36.6**	**-0.2**
	3.1nm,0.6s,baz=162,slow=10,SNR=22 3.1nm,0.6s						
WRA	**Warramunga Arr**	**36.26**	**157**	P	**P**	**01 11 38.4**	**-2.1**
	0.3nm,0.5s,baz=316,slow=13,SNR=7.7						
WRA				pP	**pP**	**01 12 01.8**	**-0.1**
	0.7nm,0.7s,baz=336,slow=9.5,SNR=4.8 0.3nm,0.5s						
ASAR	**Alice Springs**	**39.54**	**160**	P	**P**	**01 12 07.2**	**-0.8**
	0.5nm,0.4s,baz=339,slow=7.8,SNR=8.7						
ASAR				pP	**pP**	**01 12 30.0**	**+0.2**
	1.1nm,0.7s,baz=337,slow=7.1,SNR=9.9 0.5nm,0.4s						
MKAR	**Makanchi Array**	**45.75**	**324**	P	**P**	**01 12 58.0**	**0.0**
	0.3nm,0.6s,baz=108,slow=9.3,SNR=3.9 0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**48.80**	**333**	P	**P**	**01 13 19.3**	**-2.3**
	1.3nm,0.3s,baz=117,slow=8.5,SNR=6.3 1.3nm,0.3s						

*IDC **22** 01:11:17.8±1.2, 54.36N×35.29W, h0km, mb3.2/6, mbtmp3.3/8, ML3.0/2, MS3.1/16, Error ellipse: s-maj=44.6km s-min=22.1km az=9.0*

ISC 22 01:11:18.8±1.0,**54.4N**±0.3×**35.4W**±0.1,**h10**km,**n21,**
σ**0s94/9,mb3.2/6,MS2.9/13,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**12.53**	**29**	LR	LR	01 17 35.2	

	comp=Z,70nm,19.9s,baz=298,slow=30							
SCHQ	**Schefferville**	**18.16**	**284**	P		**Pn**	**01 15 29.7**	**-1.1**
	0.1nm,0.3s,baz=56,slow=15,SNR=2.1 3.2nm,0.8s							
EKA	**Eskdalemuir Ar**	**18.46**	**74**	P		**Pn**	**01 15 34.3**	**-0.2**
	baz=279,slow=10							
EKA				LR		LR	01 21 10.1	
	comp=Z,79nm,21.2s,baz=316,slow=32 0.7nm,0.6s							
FRB	**Frobisher Bay**	**19.23**	**312**	LR		LR	01 21 00.8	
	comp=Z,68nm,21.4s,baz=246,slow=30							
NOA	**NORSAR Array B**	**25.26**	**56**	P		**P**	**01 16 45.4**	**+0.6**
	0.2nm,0.7s,baz=273,slow=8.1,SNR=2.1							
NOA				LR		LR	01 25 16.4	
	comp=Z,21nm,19.4s,baz=280,slow=33 0.2nm,0.7s							
ESDC	**Sonseca Array**	**25.70**	**112**	P		**P**	**01 16 48.9**	**-0.1**
	0.2nm,0.5s,baz=319,slow=9.0,SNR=5.7							
ESDC				LR		LR	01 24 33.5	
	comp=Z,32nm,20.0s,baz=321,slow=31 0.2nm,0.5s							
HFS	**Hagfors**	**26.60**	**58**	LR		LR	01 26 41.3	
	comp=Z,34nm,20.1s,baz=298,slow=35							
DAVOX	**Davos/Dischmat**	**29.27**	**86**	LR		LR	01 28 03.4	
	comp=Z,79nm,18.2s,baz=278,slow=34							
SADO	**Sadowa**	**29.54**	**269**	LR		LR	01 28 24.5	
	comp=Z,61nm,18.2s,baz=20,slow=35							
RES	**Resolute Bay**	**30.59**	**333**	LR		LR	01 28 40.0	
	comp=Z,23nm,21.3s,baz=20,slow=34							
ARCES	**ARCESS Array B**	**30.73**	**37**	LR		LR	01 26 47.9	
	comp=Z,23nm,20.0s,baz=276,slow=30							
VRAC	**Vranov**	**31.87**	**77**	LR		LR	01 29 06.1	
	comp=Z,17nm,21.5s,baz=294,slow=34							
ULM	**Lac du Bonnet**	**36.22**	**289**	LR		LR	01 31 00.1	
	comp=Z,28nm,19.4s,baz=64,slow=33							
TKL	**Tuckaleechee C**	**38.11**	**261**	LR		LR	01 32 23.4	
	comp=Z,35nm,18.8s,baz=110,slow=33							
AKASG	**Malin Array Be**	**38.21**	**68**	P		**P**	**01 18 37.4**	**-0.9**
	0.2nm,0.4s,baz=284,slow=8.1,SNR=2.3							
AKASG				LR		LR	01 33 01.7	
	comp=Z,26nm,20.0s,baz=242,slow=34 0.2nm,0.4s							
IDI	**Anoyia**	**45.25**	**89**	LR		LR	01 38 32.6	
	comp=Z,12nm,18.5s,baz=84,slow=36							
BELG	**Belogornoye**	**46.77**	**57**	LR		LR	01 37 19.8	
	comp=Z,18nm,19.7s,baz=182,slow=33							
BRTR	**Keskin Array B**	**47.30**	**78**	P		**P**	**01 19 53.2**	**+0.8**
	0.4nm,0.7s,baz=329,slow=8.9,SNR=2.6 0.4nm,0.7s							
PDAR	**Pinedale Array**	**48.24**	**288**	P		**P**	**01 20 01.0**	**+1.2**
	0.2nm,0.7s,baz=36,slow=17,SNR=2.0 0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**50.36**	**130**	P		**P**	**01 20 15.9**	**0.0**
	0.2nm,0.6s,baz=336,slow=7.4,SNR=1.3 0.2nm,0.6s							
ASAR	**Alice Springs**	**148.26**	**19**	PKPbc		**PKiKP**	**01 31 05.8**	**-0.8**
	0.5nm,0.5s,baz=350,slow=2.0,SNR=8.8							

*TAP **22** 01:21:23.7, 24.86N×122.23E, h14km, ML2.8, C*
*JMA **22** 01:21:24.4±0.0, 24.8N±0.4×122.3E±0.2, h16km, MV2.3/4, TAIWAN REGION*

ISC 22 01:21:23.5±1.0,**24.82N**±0.03×**122.27E**±0.02,**h13**km±8km,
n51,σ**0s52/94,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGS		**0.31**	**274**	*e*P	**Pg**	**01 21 30.3**	**+0.4**
	baz=261						
EGS				*e*S	**Sg**	**01 21 34.9**	**+0.7**
	baz=261						
TWB1	**Santiao Chiao**	**0.32**	**306**	*i* P	**Pg**	**01 21 29.7**	**-0.3**
	baz=304						
TWB1				*i* S	**Sg**	**01 21 33.7**	**-0.8**
	baz=304						
NTC	**Toucheng**	**0.40**	**275**	*i* P	**Pg**	**01 21 31.9**	**+0.3**
	baz=276						
NTC				*i* S	**Sb**	**01 21 37.9**	**-0.7**
	baz=276						
TIPB	**Shuangxi**	**0.43**	**290**	P	**Pg**	**01 21 32.1**	**0.0**
	baz=286						
TIPB				*e*S	**Sg**	**01 21 38.7**	**+0.7**
	baz=286						
TWC	**Suao**	**0.44**	**241**	P	**Pg**	**01 21 32.2**	**-0.1**
	baz=234						
TWC				S	**Sg**	**01 21 37.7**	**-0.5**
	baz=234						
SXI1	**Grass Mountain**	**0.45**	**307**	*i* P	**Pg**	**01 21 32.6**	**+0.1**
	baz=304						
SXI1				S	**Sg**	**01 21 38.3**	**-0.3**
	baz=304						
NWF	**Wu-fen Shan**	**0.51**	**299**	P	**Pg**	**01 21 34.1**	**+0.5**
	baz=296						
NWF				*e*S	**Sg**	**01 21 40.2**	**-0.3**
	baz=296						
WFSB	**Wu-fen Shan**	**0.51**	**299**	*i* P	**Pg**	**01 21 34.0**	**+0.4**
	baz=296						
WFSB				*i* S	**Sg**	**01 21 40.9**	**+0.5**
	baz=296						
TNOU	**National Taiwa**	**0.56**	**306**	P	**Pg**	**01 21 34.5**	**-0.1**
	baz=303						
TNOU				*e*S	**Sg**	**01 21 42.2**	**+0.3**
	baz=303						
TWE	**Neicheng**	**0.56**	**260**	*i* P	**Pg**	**01 21 34.3**	**-0.2**
	baz=246						
TWE				*i* S	**Sg**	**01 21 42.2**	**+0.2**
	baz=246						
EWUT	**Wuta**	**0.59**	**230**	*e*P	**Pg**	**01 21 34.1**	**-0.9**
	baz=218						
EWUT				*e*S	**Sg**	**01 21 42.0**	**-0.8**
	baz=218						
ENA	**Nanau**	**0.62**	**231**	P	**Pg**	**01 21 35.9**	**+0.2**
	baz=219						
ENA				S	**Sg**	**01 21 43.8**	**-0.2**
	baz=219						
FUSB	**Fushanzhiwuyua**	**0.63**	**264**	*i* P	**Pg**	**01 21 36.1**	**+0.3**
	baz=260						
FUSB				S	**Sb**	**01 21 45.0**	**0.0**
	baz=260						
ENTT	**Nioudou**	**0.67**	**254**	*e*P	**Pg**	**01 21 36.0**	**-0.5**
	baz=250						
NWRT	**Kuosheng**	**0.67**	**304**	*i* P	**Pg**	**01 21 36.8**	**+0.1**
	baz=302						
NWRT				S	**Sg**	**01 21 45.8**	**+0.2**
	baz=302						
YM01	**YM01**	**0.71**	**297**	P	**Pg**	**01 21 37.7**	**+0.3**
	baz=294						
YM01				S	**Sg**	**01 21 46.9**	**0.0**
	baz=294						
JYNG	**Yonagunijimaku**	**0.71**	**121**	P	**Pg**	**01 21 37.6**	**+0.2**
JYNG				*e*S	**Sg**	**01 21 46.7**	**-0.1**
YM08	**YM08**	**0.72**	**301**	*i* P	**Pg**	**01 21 37.6**	**0.0**
	baz=298						
YM08				*i* S	**Sg**	**01 21 47.0**	**0.0**
	baz=298						
NDT	**Datong Townshi**	**0.72**	**253**	*e*P	**Pb**	**01 21 38.3**	**+0.3**
	baz=249						
NDT				S	**Sb**	**01 21 47.8**	**0.0**
	baz=249						
TATO	**Taipei**	**0.73**	**282**	*i* P	**Pg**	**01 21 37.9**	**+0.2**
	baz=279						
TATO				S	**Sb**	**01 21 48.1**	**+0.2**
	baz=279						
LATG	**Datong**	**0.74**	**247**	*e*P	**Pg**	**01 21 38.1**	**+0.3**
	baz=243						
LATG				*e*S	**Sg**	**01 21 47.7**	**+0.1**
	baz=243						
TWY	**Chenhua**	**0.76**	**307**	P	**Pg**	**01 21 38.5**	**+0.2**
	baz=305						
TWY				*e*S	**Sb**	**01 21 48.8**	**0.0**
	baz=305						
YOJ	**Yonaguni jima**	**0.76**	**118**	*i* P	**Pg**	**01 21 38.8**	**+0.5**
	baz=120						
YOJ				*e*S	**Sg**	**01 21 48.5**	**+0.1**
	baz=120						
YOJ	**Yonaguni jima**	**0.76**	**118**	P	**Pg**	**01 21 38.5**	**+0.1**
YOJ				*e*S	**Sg**	**01 21 48.3**	**-0.1**
YHNB	**Yeheng**	**0.83**	**260**	P	**Pg**	**01 21 39.6**	**0.0**
	baz=273						
YHNB				*e*S	**Sn**	**01 21 51.8**	**-1.3**
	baz=273						
NSK	**Sanguang**	**0.84**	**260**	*e*P	**Pg**	**01 21 39.0**	**-0.9**
	baz=265						
ETL	**Fush Village**	**0.89**	**222**	P	**Pb**	**01 21 40.7**	**-0.1**
	baz=220						
ETL				S	**Sg**	**01 21 52.6**	**+0.2**
	baz=220						
NACB	**Ninganchiao**	**0.89**	**224**	P	**Pb**	**01 21 40.7**	**-0.1**
	baz=222						
NACB				S	**Sb**	**01 21 52.2**	**-0.5**
	baz=222						
NNSB	**Datong**	**0.90**	**244**	*e*P	**Pb**	**01 21 40.9**	**-0.2**
	baz=231						
NNSB				*e*S	**Sn**	**01 21 54.2**	**-0.7**
	baz=231						
NNS	**Nan Shan**	**0.90**	**245**	*e*P	**Pb**	**01 21 39.8**	**-1.3**
	baz=232						
NNS				*e*S	**Sg**	**01 21 53.4**	**+0.5**
	baz=232						
ETLH	**Xiulin Townshi**	**0.95**	**230**	*e*P	**Pb**	**01 21 41.7**	**-0.1**
	baz=218						
ETLH				*e*S	**Sb**	**01 21 53.8**	**-0.5**
	baz=218						
TWD	**Chiawan**	**0.96**	**220**	P	**Pb**	**01 21 41.9**	**-0.1**
	baz=218						
TWD				*e*S	**Sg**	**01 21 55.0**	**+0.2**
	baz=218						
NFF	**Wufeng Townshi**	**1.07**	**260**	*e*P	**Pg**	**01 21 44.6**	**+0.4**
	baz=270						
NFF				*e*S	**Sn**	**01 21 59.7**	**+0.8**
	baz=270						
FUSS	**Fushou**	**1.10**	**239**	*e*P	**Pg**	**01 21 45.3**	**+0.6**
	baz=236						
FUSS				*e*S	**Sn**	**01 21 59.5**	**-0.4**
	baz=236						
ETM	**Tongmen**	**1.11**	**220**	*e*P	**Pb**	**01 21 44.6**	**0.0**
	baz=219						
ETM				*e*S	**Sn**	**01 21 59.8**	**-0.1**
	baz=219						
WHF	**Hehuan Shan**	**1.14**	**234**	*e*P	**Pn**	**01 21 45.6**	**+0.1**
	baz=231						
WHF				*e*S	**Sb**	**01 22 00.2**	**+0.1**
	baz=231						
TWT	**Tachien**	**1.15**	**241**	*e*P	**Pg**	**01 21 46.9**	**+1.2**
	baz=229						
TWT				*e*S	**Sn**	**01 22 02.1**	**+1.0**
	baz=229						
LIOB	**Emei**	**1.16**	**261**	*e*P	**Pb**	**01 21 44.9**	**-0.4**
	baz=279						
NSTT	**Nanjuang**	**1.17**	**261**	*e*P	**Pg**	**01 21 46.4**	**+0.2**
	baz=278						
CHGB	**Renai**	**1.26**	**233**	P	**Pb**	**01 21 47.6**	**+0.5**
	baz=231						
CHGB				*e*S	**Sn**	**01 22 03.8**	**0.0**
	baz=231						
OWD	**Renai**	**1.32**	**229**	*e*P	**Pg**	**01 21 49.0**	**0.0**
	baz=228						
OWD				*e*S	**Sg**	**01 22 06.0**	**-0.2**
	baz=228						
WHP	**Taichung City**	**1.32**	**246**	*e*P	**Pg**	**01 21 49.3**	**+0.3**
	baz=244						
WHP				*e*S	**Sg**	**01 22 07.4**	**+1.2**
	baz=244						
WUSB	**Renai**	**1.34**	**232**	P	**Pg**	**01 21 49.3**	**0.0**
	baz=230						
WUSB				*e*S	**Sg**	**01 22 06.3**	**-0.5**
	baz=230						
WCS	**Beigang Elemen**	**1.46**	**239**	P	**Pg**	**01 21 51.4**	**-0.2**
	baz=236						
WCS				*e*S	**Sg**	**01 22 10.0**	**-0.5**
	baz=236						
VWDT	**VWDT**	**1.48**	**224**	P	**Pg**	**01 21 51.8**	**-0.2**
	baz=230						
VWDT				*e*S	**Sg**	**01 22 12.6**	**+1.3**
	baz=230						
SMLT	**Sun Moon Lake**	**1.56**	**234**	*e*P	**Pg**	**01 21 54.6**	**+1.0**
	baz=221						
TYC	**Yuchr**	**1.58**	**235**	*e*P	**Pg**	**01 21 53.8**	**-0.1**
	baz=233						
SSLB	**Suanglung**	**1.58**	**230**	P	**Pb**	**01 21 53.5**	**+0.8**
	baz=228						
YULB	**Yu-li**	**1.68**	**212**	*e*P	**Pb**	**01 21 54.1**	**-0.2**
	baz=213						
WHYT	**Xinyi Township**	**1.71**	**229**	*e*P	**Pg**	**01 21 56.0**	**-0.5**
	baz=238						
WHYT				*e*S	**Sg**	**01 22 20.3**	**+1.6**
	baz=238						
YUS	**Yu-Shan**	**1.79**	**223**	*e*P	**Pb**	**01 21 55.8**	**-0.7**
	baz=222						
YUS				*e*S	**Sg**	**01 22 21.5**	**+0.2**
	baz=222						

IDC 22 01:54:04.0±11.0,**21.76S×179.91E,h595**km±101km,
mb3.0/4,mbtmp4.0/5,Error ellipse: s-maj=264.9km s-min=99.6km az=83.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.37**	**336**	P	P	01 55 32.0	-0.1
	8.8nm,0.3s,baz=193,slow=6.5,SNR=24						
CTA	**Charters Tower**	**31.45**	**267**	P	P	01 59 38.7	+0.1
	1.7nm,0.4s,baz=105,slow=11,SNR=5.1 1.7nm,0.4s						
STKA	**Stephens Creek**	**35.49**	**245**	P	P	02 00 11.8	-0.4
	1.3nm,0.5s,baz=88,slow=8.5,SNR=4.9 1.3nm,0.5s						
ASAR	**Alice Springs**	**42.34**	**258**	P	P	02 01 07.5	+0.1
	1.8nm,0.6s,baz=99,slow=7.9,SNR=19 1.8nm,0.6s						
WRA	**Warramunga Arr**	**42.51**	**264**	P	P	02 01 08.6	-0.3
	0.5nm,0.3s,baz=96,slow=8.1,SNR=34 0.5nm,0.3s						

*BGS **22** 01:57:33.9±0.4, 47.01N×2.39W, h5km, ML2.6*
*STR **22** 01:57:34.7±0.4, 47°N±4°×±°, h5km, MLv3.4/22, Error ellipse: s-maj=0.0km s-min=0.0km az=60.4, preliminary*
*LDG **22** 01:57:34.7±0.1, 47.01N×2.42W, h3km, Md3.4/3, Ml3.3/59, Error ellipse: s-maj=1.3km s-min=0.9km az=58.0*
*INMG **22** 01:57:36.7±1.1, 46.93N×2.58W, h10km±8km, ML2.2, Error ellipse: s-maj=4.7km s-min=2.9km az=100.0*

ISC 22 01:57:32.2±0.8,**46.99N**±0.02×**2.37W**±0.02,**h12**km±6km,
n128,σ**1s96/208,11D,Bay of Biscay**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QUIF	**Quistinic**	**1.07**	**330**	*e*Pg	**Pn**	**01 57 53.8**	**+0.7**
QUIF	**Quistinic**	**1.07**	**330**	*e*Pn	**Pn**	**01 57 54.5**	**+1.4**
QUIF				*e*Sg	**Sb**	**01 58 07.4**	**+0.7**
	189nm,0.2s						
SGMF	**Saint Gilles**	**1.27**	**354**	*e*Pg	**Pg**	**01 57 57.6**	**+1.0**
SGMF	**Saint Gilles**	**1.27**	**354**	*e*P	**Pg**	**01 57 58.9**	**+2.3**
SGMF				*e*Sg	**Sn**	**01 58 14.6**	**+1.9**
	120nm,0.2s						
ROSF	**Rostrenen**	**1.48**	**336**	*e*Pn	**Pn**	**01 57 59.8**	**+1.1**
ROSF	**Rostrenen**	**1.48**	**336**	*e*Pg	**Pg**	**01 58 01.7**	**+1.1**
ROSF				*e*Sn	**Sn**	**01 58 18.1**	**+0.2**
	73nm,0.2s						
ROSF				*

JSA					IAML		01 58 46.6	
	comp=N,64nm,0.2s							
JSA					IAML		01 58 50.0	
	comp=E,48nm,0.4s							
JSA	**Saint Aubin**	**2.20**	**3**	Sn		**Sn**	**01 58 36.5 +0.9**	
JSA	**Saint Aubin**	**2.20**	**3**	Pn		**Pn**	**01 58 09.9 +1.3**	
JSA				Pg		**Pg**	**01 58 17.3 +2.9**	
LDF	**La Druitiere**	**2.20**	**43**	*e*Pn		**Pn**	**01 58 11.1 +2.5**	
LDF	**La Druitiere**	**2.20**	**43**	*e*Pg		**Pg**	**01 58 16.0 +1.6**	
LDF				*e*Sn		**Sn**	**01 58 36.9 +1.1**	
LDF				*e*Sg		**Sg**	**01 58 44.0 +1.0**	
	comp=E,49nm,0.2s							
JRS	**Jersey**	**2.21**	**5**	*e*P		**Pn**	**01 58 10.1 +1.4**	
JRS					IAML		01 58 44.2	
	comp=E,53nm,0.1s							
JRS					IAML		01 58 46.8	
	comp=N,47nm,0.2s							
JQE	**Queens East**	**2.22**	**6**	*e*P		**Pn**	**01 58 10.1 +1.3**	
JVM	**Valle D.L. Mar**	**2.23**	**3**	*e*P		**Pn**	**01 58 10.2 +1.3**	
JLP	**Les Platons**	**2.26**	**4**	*e*P		**Pn**	**01 58 10.8 +1.5**	
LRVF	**chteau la Riv**	**2.50**	**144**	Pg		**Pg**	**01 58 22.3 +2.2**	
LFF	**La Frestale**	**2.98**	**132**	*e*Pn		**Pn**	**01 58 21.7 +2.3**	
LFF	**La Frestale**	**2.98**	**132**	*e*Pg		**Pg**	**01 58 30.5 +1.1**	
LFF				*e*Sn		**Sn**	**01 58 55.8 +0.7**	
LFF				*e*Sg		**Sg**	**01 59 09.3 +1.2**	
	comp=N,60nm,0.3s							
RJF	**Les Rejaudoux**	**3.18**	**121**	*e*Pn		**Pn**	**01 58 25.2 +3.1**	
RJF	**Les Rejaudoux**	**3.18**	**121**	*e*Pg		**Pg**	**01 58 34.2 +1.0**	
RJF				*e*Sn		**Sn**	**01 59 00.6 +0.6**	
RJF				*e*Sg		**Sg**	**01 59 15.4 +1.0**	
	comp=N,53nm,0.3s							
TCF	**Toulx Ste Croi**	**3.23**	**101**	*e*Pn		**Pn**	**01 58 26.0 +3.2**	
TCF	**Toulx Ste Croi**	**3.23**	**101**	*e*Pg		**Pg**	**01 58 35.1 +1.0**	
TCF				*e*Sn		**Sn**	**01 59 01.9 +0.7**	
	comp=N,9.7nm,0.3s							
TCF				*e*Sg		**Sg**	**01 59 17.1 +1.2**	
	comp=N,46nm,0.3s							
CLF	**Chambon-Foret**	**3.30**	**70**	Pn		**Pn**	**01 58 26.9 +3.2**	
CLF				Pg		Pg	01 58 39.7 +4.2	
HYF	**Humbligny**	**3.43**	**84**	*e*Pn		**Pn**	**01 58 27.4 +1.9**	
HYF	**Humbligny**	**3.43**	**84**	*e*Pg		**Pg**	**01 58 39.1 +1.2**	
HYF				*e*Sn		**Sn**	**01 59 06.9 +0.9**	
HYF				*e*Sg		**Sg**	**01 59 23.2 +0.9**	
TERF	**Tercis-les-Bai**	**3.43**	**165**	Pn		**Pn**	**01 58 28.1 +2.7**	
DYA	**Yadsworthy**	**3.60**	**344**	*e*P		**Pn**	**01 58 29.2 +1.5**	
DYA					IAML		01 59 34.7	
	comp=N,10nm,0.3s							
DYA					IAML		01 59 34.7	
	comp=E,10nm,0.6s							
DYA	**Yadsworthy**	**3.60**	**344**	Pn		**Pn**	**01 58 28.8 +1.0**	
BGF	**Bois d'Agland**	**3.61**	**95**	*e*Pn		**Pn**	**01 58 30.9 +3.0**	
BGF	**Bois d'Agland**	**3.61**	**95**	*e*Pg		**Pg**	**01 58 42.1 +0.8**	
BGF				*e*Sn		**Sn**	**01 59 11.1 +0.7**	
BGF				*e*Sg		**Sg**	**01 59 29.3 +1.3**	
	comp=E,83nm,0.3s							
MONQ	**Montcuq**	**3.62**	**135**	Pn		**Pn**	**01 58 31.0 +2.9**	
MONQ				Pg		**Pg**	**01 58 44.9 +3.2**	
CAF	**Calviac**	**3.72**	**122**	*e*Pn		**Pn**	**01 58 32.2 +2.7**	
CAF	**Calviac**	**3.72**	**122**	*e*Pg		**Pg**	**01 58 44.2 +0.8**	
CAF				*e*Sn		**Sn**	**01 59 13.7 +0.5**	
CAF				*e*Sg		**Sg**	**01 59 31.0 -0.6**	
	comp=E,45nm,0.5s							
CCA1	**Carnmenellis**	**3.72**	**330**	*e*P		**Pn**	**01 58 30.8 +1.3**	
CCA1	**Carnmenellis**	**3.72**	**330**	Pn		**Pn**	**01 58 30.7 +1.3**	
OSSF	**Osses**	**3.82**	**168**	Pn		**Pn**	**01 58 32.3 +1.5**	
EALK	**Alkurruntz**	**3.82**	**171**	Pn		**Pn**	**01 58 32.4 +1.4**	
AGO	**Saint Agoulin**	**3.91**	**102**	Pn		**Pn**	**01 58 35.2 +3.1**	
PYM	**Petit Puy Mans**	**3.92**	**107**	Sn		**Sn**	**01 59 17.7 -0.6**	
PYM	**Petit Puy Mans**	**3.92**	**107**	||Pn		**Pn**	**01 58 35.7 +3.3**	
AVF	**Avril sur Loir**	**3.93**	**91**	*e*Pn		**Pn**	**01 58 34.2 +1.9**	
AVF				*e*Sn		**Sn**	**01 59 18.6 +0.4**	
	comp=E,5.8nm,0.2s							
AVF				*e*Sg		**Sg**	**01 59 38.6 +0.4**	
	comp=E,21nm,0.5s							
SJPF	**Ste Jean**	**3.96**	**168**	*e*Pn		**Pn**	**01 58 33.9 +1.1**	
SJPF	**Ste Jean**	**3.96**	**168**	*e*Pg		**Pg**	**01 58 48.4 +0.3**	
SJPF				*e*Sn		**Sn**	**01 59 19.0 -0.2**	
	comp=E,5.2nm,0.2s							
SSF	**Saint Saulge**	**4.02**	**87**	*e*Pn		**Pn**	**01 58 36.0 +2.5**	
SSF	**Saint Saulge**	**4.02**	**87**	*e*Pg		**Pg**	**01 58 49.5 +0.4**	
SSF				*e*Sn		**Sn**	**01 59 20.8 +0.3**	
	comp=E,8.0nm,0.2s							
SSF				*e*Sg		**Sg**	**01 59 41.6 +0.5**	
	comp=E,46nm,0.6s							
ATE	**Arette**	**4.08**	**163**	Pn		**Pn**	**01 58 35.9 +1.5**	
PYLO	**Lourdes**	**4.23**	**156**	Pn		**Pn**	**01 58 38.7 +2.2**	
LOR	**Lormes**	**4.26**	**84**	*e*Pn		**Pn**	**01 58 39.3 +2.4**	
	baz=264							
LOR	**Lormes**	**4.26**	**84**	*e*Pg		**Pg**	**01 58 53.8 0.0**	
LOR				*e*Sn		**Sn**	**01 59 25.9 -0.6**	
	comp=E,4.2nm,0.2s							
LOR				*e*Sg		**Sg**	**01 59 49.0 +0.1**	
	comp=E,19nm,0.4s							
LOR	**Lormes**	**4.26**	**84**	Pn		**Pn**	**01 58 40.0 +3.1**	
SMF	**Signal de Mont**	**4.28**	**92**	*e*Pn		**Pn**	**01 58 39.1 +2.0**	
SMF	**Signal de Mont**	**4.28**	**92**	*e*Pg		**Pg**	**01 58 55.0 +0.9**	
SMF				*e*Sn		**Sn**	**01 59 26.5 -0.4**	
	comp=E,3.7nm,0.2s							
SMF				*e*Sg		**Sg**	**01 59 49.5 +0.1**	
	comp=E,6.4nm,0.2s							
ETSF	**Etsaut**	**4.29**	**162**	*e*Pn		**Pn**	**01 58 38.3 +0.9**	
ETSF	**Etsaut**	**4.29**	**162**	*e*Pg		**Pg**	**01 58 54.3 -0.1**	
ETSF				*e*Sn		**Sn**	**01 59 26.8 -0.6**	
	comp=E,2.9nm,0.2s							
ETSF				*e*Sg		**Sg**	**01 59 49.7 -0.3**	
EPF	**Esparros**	**4.40**	**153**	*e*Pn		**Pn**	**01 58 40.4 +1.5**	
EPF	**Esparros**	**4.40**	**153**	*e*Pg		**Pg**	**01 58 56.9 +0.4**	
EPF				*e*Sn		**Sn**	**01 59 29.8 -0.3**	
	comp=E,5.0nm,0.2s							
EPF				*e*Sg		**Sg**	**01 59 53.4 -0.1**	
	comp=E,17nm,0.4s							
VIEF	**Viey**	**4.45**	**157**	Pn		**Pn**	**01 58 40.7 +1.1**	
SWN1	**Swindon**	**4.54**	**4**	Sn		**Sn**	**01 59 30.6 -2.8**	
MENF	**Mencas**	**4.65**	**38**	Sn		**Sn**	**01 59 36.4 +0.2**	
MENF	**Mencas**	**4.65**	**38**	Pn		**Pn**	**01 58 44.3 +2.1**	
ECHI	**Chisagues Biel**	**4.70**	**156**	Pn		**Pn**	**01 58 44.8 +1.8**	
MLS	**Moulis**	**4.72**	**147**	Pn		**Pn**	**01 58 45.6 +2.3**	
MTLF	**Montolieu**	**4.88**	**137**	*e*Pn		**Pn**	**01 58 47.4 +1.9**	
MTLF	**Montolieu**	**4.88**	**137**	*e*Pg		**Pg**	**01 59 06.4 +0.7**	
MTLF				*e*Sn		**Sn**	**01 59 41.3 -0.6**	
	comp=E,4.8nm,0.3s							
MTLF				*e*Sg		**Sg**	**02 00 08.2 -0.7**	
	comp=E,13nm,0.5s							
MTLF	**Montolieu**	**4.88**	**137**	Sn		**Sn**	**01 59 40.1 -1.8**	
MTLF	**Montolieu**	**4.88**	**137**	Pn		**Pn**	**01 58 48.0 +2.5**	
MCH1	**Michaelchurch**	**5.03**	**356**	Sn		**Sn**	**01 59 42.3 -3.0**	
MCH1	**Michaelchurch**	**5.03**	**356**	Pn		**Pn**	**01 58 48.7 +1.3**	
SFTF	**Sexfontaines**	**5.15**	**74**	*e*Pn		**Pn**	**01 58 51.6 +2.4**	
SFTF	**Sexfontaines**	**5.15**	**74**	*e*Pg		**Pg**	**01 59 10.2 -0.7**	
SFTF				*e*Sn		**Sn**	**01 59 47.9 -0.6**	
	comp=E,5.6nm,0.3s							
SFTF				*e*Sg		**Sg**	**02 00 17.0 -0.6**	
	comp=E,6.8nm,0.3s							
FNEB	**Nbias**	**5.18**	**141**	Pn		**Pn**	**01 58 52.5 +3.0**	
MEZF	**Maizieres J'vi**	**5.22**	**71**	*e*Pn		**Pn**	**01 58 51.4 +1.3**	
	baz=251							
MEZF	**Maizieres J'vi**	**5.22**	**71**	*e*P		Pn	01 58 57.5 +7.4	
MEZF	**Maizieres J'vi**	**5.22**	**71**	*e*Pg		**Pg**	**01 59 11.8 -0.5**	
MEZF				*e*Sn		**Sn**	**01 59 49.5 -0.8**	
	comp=E,6.3nm,0.4s							
MEZF				*e*Sg		**Sg**	**02 00 19.2 -0.7**	
	comp=E,12nm,0.4s							
LASF	**Ste Croix**	**5.25**	**121**	*e*Pn		**Pn**	**01 58 52.2 +1.6**	
LASF	**Ste Croix**	**5.25**	**121**	*e*Pg		**Pg**	**01 59 12.1 -0.7**	
LASF				*e*Sn		**Sn**	**01 59 50.5 -0.6**	
LASF				*e*Sg		**Sg**	**02 00 20.3 -0.6**	
	comp=E,24nm,0.6s							
PAND	**Andorre**	**5.27**	**147**	Pn		**Pn**	**01 58 53.4 +2.5**	
SAVF	**Savonnieres en**	**5.30**	**69**	*e*Pn		**Pn**	**01 58 52.5 +1.3**	
SAVF	**Savonnieres en**	**5.30**	**69**	*e*Pg		Pb	01 59 09.6 +4.8	
SAVF				*e*Sn		**Sn**	**01 59 51.2 -0.9**	
	comp=E,9.2nm,0.4s							
BAIF	**Baives**	**5.34**	**53**	*e*Pn		**Pn**	**01 58 54.1 +2.5**	
BAIF				*e*Sn		**Sn**	**01 59 51.6 -1.4**	
	comp=E,3.7nm,0.3s							
BAIF				*e*Sg		**Sg**	**02 00 21.9 -1.5**	
	comp=E,3.9nm,0.4s							
VIVF	**Saint-Julien-l**	**5.36**	**111**	*e*Pn		**Pn**	**01 58 54.1 +2.1**	
VIVF	**Saint-Julien-l**	**5.36**	**111**	*e*Pg		**Pg**	**01 59 13.9 -0.9**	
VIVF				*e*Sn		**Sn**	**01 59 52.6 -1.0**	
VIVF				*e*Sg		**Sg**	**02 00 23.4 -0.7**	
	comp=E,33nm,0.8s							
DOU	**Dourbes**	**5.57**	**54**	*d*P		**Pn**	**01 58 57.5 +2.7**	
DOU				*d*S		**Sn**	**01 59 56.0 -2.6**	
PAGF	**Fort de Pagny**	**5.67**	**71**	*e*P		Pn	01 59 03.9 +7.6	
	baz=251							
PAGF	**Fort de Pagny**	**5.67**	**71**	*e*Pg		**Pg**	**01 59 20.0 -0.8**	
PAGF				*e*Sn		**Sn**	**02 00 00.1 -1.2**	
PAGF				*e*Sg		**Sg**	**02 00 33.1 -1.1**	
	comp=E,18nm,0.7s							
GIVF	**Givet**	**5.70**	**54**	*e*Pn		**Pn**	**01 58 58.2 +1.6**	
GIVF	**Givet**	**5.70**	**54**	*e*Pg		**Pg**	**01 59 18.8 -2.5**	
	comp=E,3.6nm,0.2s							
GIVF				*e*Sg		**Sg**	**02 00 33.1 -1.9**	
	comp=E,9.1nm,0.5s							
BMRD	**Maredsous**	**5.77**	**52**	*d*P		**Pn**	**01 59 00.4 +2.8**	
CABF	**La Chapelle**	**5.82**	**91**	*e*Pn		**Pn**	**01 59 00.9 +2.5**	
CABF				*e*Sn		**Sn**	**02 00 03.7 -1.3**	
CABF				*e*Sg		**Sg**	**02 00 37.4 -1.5**	
	comp=E,10nm,0.6s							
SJAF	**Saint Jean de**	**5.86**	**138**	Pn		**Pn**	**01 59 01.6 +2.8**	
RCHB	**Rochefort**	**5.95**	**55**	*d*P		**Pn**	**01 59 02.6 +2.5**	
HAU	**Haudompre**	**5.99**	**77**	*e*Pn		**Pn**	**01 59 02.3 +1.6**	
HAU	**Haudompre**	**5.99**	**77**	*e*Pg		**Pg**	**01 59 26.1 -0.8**	
HAU				*e*Sn		**Sn**	**02 00 07.9 -1.3**	
	comp=E,2.2nm,0.2s							
HAU				*e*Sg		**Sg**	**02 00 43.0 -1.4**	
	comp=E,10nm,0.4s							
PBRG	**Braganca**	**6.06**	**213**	*e*Pn		**Pn**	**01 59 03.4 +1.7**	
PBRG				*e*Sn		**Sn**	**02 00 06.4 -4.6**	
PBRG				A		A	02 00 19.3	
	comp=E,1.5nm,0.5s							
ORIF	**Oris-en-Rattie**	**6.11**	**107**	*e*P		Pn	01 59 08.4 +6.0	
ORIF				*e*Sn		**Sn**	**02 00 12.5 +0.2**	
ORIF				*e*Sg		**Sg**	**02 00 47.1 -1.2**	
	comp=E,6.4nm,0.6s							
BCLA	**Clavier**	**6.12**	**53**	*d*P		**Pn**	**01 59 03.8 +1.3**	
WLF	**Walferdange**	**6.28**	**62**	*d*P		**Pn**	**01 59 07.7 +3.1**	
WLF				*d*S		**Sn**	**02 00 15.1 -1.0**	
HINF	**Hinteralfeld**	**6.31**	**79**	*e*Pn		**Pn**	**01 59 06.3 +1.2**	
HINF	**Hinteralfeld**	**6.31**	**79**	*e*Pg		**Pg**	**01 59 31.3 -1.7**	
HINF				*e*Sn		**Sn**	**02 00 15.2 -1.9**	
	comp=E,1.4nm,0.2s							
HINF				*e*Sg		**Sg**	**02 00 52.9 -1.8**	
	comp=E,4.2nm,0.3s							
LPL	**La Plagne**	**6.48**	**100**	*e*P		Pn	01 59 13.3 +5.7	
LPL				*e*Sn		**Sn**	**02 00 21.4 -0.1**	
LPL				*e*Sg		**Sg**	**02 00 58.5 -1.6**	
	comp=E,1.6nm,0.4s							
BHOU	**Houvegnez**	**6.48**	**56**	*d*P		**Pn**	**01 59 10.3 +2.9**	
LPG	**La Plagne**	**6.50**	**100**	*e*P		Pn	01 59 14.8 +6.9	
LPG				*e*Sn		**Sn**	**02 00 19.5 -2.5**	
LPG				*e*Sg		**Sg**	**02 00 59.4 -1.3**	
	comp=E,3.9nm,0.5s							
PGAV	**Gavieira, Arco**	**6.56**	**222**	*e*Pn		**Pn**	**01 59 09.2 +0.6**	
PGAV				*e*Sn		**Sn**	**02 00 18.3 -5.1**	
PGAV				A		A	02 00 36.7	
	comp=E,2.2nm,0.6s							
CDF	**Champ du Feu**	**6.66**	**74**	*e*Pn		**Pn**	**01 59 11.9 +2.0**	
CDF	**Champ du Feu**	**6.66**	**74**	*e*Pg		**Pg**	**01 59 37.8 -1.9**	
CDF				*e*Sn		**Sn**	**02 00 24.1 -1.7**	
	comp=E,2.8nm,0.4s							
CDF				*e*Sg		**Sg**	**02 01 04.4 -1.5**	
	comp=E,3.9nm,0.5s							
PCAB	**Cabril**	**6.66**	**220**	*e*Pn		**Pn**	**01 59 10.1 +0.2**	
PCAB				*e*Sn		**Sn**	**02 00 19.7 -6.0**	
PCAB				A		A	02 00 26.5	
	comp=E,3.1nm,0.3s							
BTNL	**Ternell**	**6.66**	**54**	*d*P		**Pn**	**01 59 12.4 +2.5**	
MVO	**Moncorvo**	**6.72**	**212**	*e*Pn		**Pn**	**01 59 11.3 +0.5**	
MVO				*e*Sn		**Sn**	**02 00 22.3 -5.1**	
MVO				A		A	02 00 35.5	
	comp=E,1.8nm,0.7s							
MBDF	**Montbardon**	**6.77**	**106**	*e*Pn		**Pn**	**01 59 15.0 +3.5**	
MBDF				*e*Sn		**Sn**	**02 00 27.1 -1.5**	
MBDF				*e*Sg		**Sg**	**02 01 08.3 -1.2**	
	comp=E,0.6nm,0.4s							
POLO	**Lamas de Olo**	**6.84**	**217**	*e*Pn		**Pn**	**01 59 12.9 +0.5**	
POLO				*e*Sn		**Sn**	**02 00 24.7 -5.5**	
POLO				A		A	02 00 47.5	
	comp=E,0.6nm,0.4s							
LMR	**La Mourre**	**7.26**	**117**	*e*Pn		**Pn**	**01 59 19.5 +1.4**	
LMR	**La Mourre**	**7.26**	**117**	*e*Pg		**Pg**	**01 59 49.3 -1.9**	
LMR				*e*Sn		**Sn**	**02 00 38.6 -1.8**	
LMR				*e*Sg		**Sg**	**02 01 23.2 -1.9**	
	comp=E,0.2nm,0.2s							
SBF	**Sospel**	**7.57**	**111**	*e*P		Pn	01 59 29.1 +6.7	
SBF				*e*Sg		**Sg**	**02 01 31.3 -3.8**	
	comp=E,0.7nm,0.3s							
MTE	**Manteigas**	**7.58**	**211**	*e*Pn		**Pn**	**01 59 22.3 -0.3**	
PMRV	**Marv??o**	**8.40**	**208**	*e*Sn		**Sn**	**02 01 02.5 -6.1**	

IDC ***22*** *01:58:55.8±1.3,8.˝93S×127.˝01E,h0km,mb3.9/4, mbtmp3.9/7,ML3.9/3,Error ellipse: s-maj=79.1km s-min=20.4km az=64.0*

ISC 22 01:59:02.1±0.9,9.˚04S±0.˚07×127.˚18E±0.˚10,h35km,n14, σ2s75/17,mb3.8/4,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.96**	**256**	P	**Pn**	**01 59 49.9**	**+3.2**
KNRA	**Kununurra**	**6.77**	**167**	P	**Pn**	**02 00 41.9**	**+2.9**
FITZ	**Fitzroy Crossi**	**9.12**	**189**	Pn	**Pn**	**02 01 09.3**	**-2.0**
	0.7nm,0.3s,baz=0.1,slow=9.3,SNR=25						
FITZ				Sn	**Sn**	**02 02 53.0**	**+0.1**
	2.2nm,0.3s,baz=180,slow=15,SNR=7.6 1.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**9.12**	**189**	P	**Pn**	**02 01 13.0**	**+1.7**
WRA	**Warramunga Arr**	**12.86**	**148**	Pn	**Pn**	**02 02 00.8**	**-1.6**
	0.9nm,0.3s,baz=320,slow=15,SNR=30						
WRA				Sn	**Sn**	**02 04 20.9**	**-3.5**
	0.5nm,0.3s,baz=313,slow=22,SNR=6.1 1.8nm,0.5s						
PSA00	**Pilbara Seismi**	**14.32**	**209**	P	**Pn**	**02 02 21.7**	**-0.7**
GENI	**Genyem**	**14.42**	**64**	P	**P**	**02 02 33.0**	**+2.8**
ASAR	**Alice Springs**	**15.90**	**157**	Pn	**Pn**	**02 02 42.4**	**-1.0**
	0.5nm,0.3s,baz=319,slow=10,SNR=19						
ASAR				Sn	**Sn**	**02 05 34.7**	**-3.9**
	0.2nm,0.3s,baz=316,slow=21,SNR=5.4 1.3nm,0.6s						
OOD	**Oodnadatta**	**20.31**	**158**	P	**P**	**02 03 38.0**	**+2.9**
MULG	**Mulgathing**	**22.09**	**164**	P	**P**	**02 03 57.9**	**+3.7**
STKA	**Stephens Creek**	**26.37**	**152**	P	**P**	**02 04 36.9**	**+1.7**
	1.9nm,0.9s,baz=312,slow=16,SNR=3.0 1.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.03**	**315**	P	**P**	**02 06 23.4**	**-2.3**
	0.8nm,0.3s,baz=146,slow=6.6,SNR=4.3 0.8nm,0.3s						
MKAR	**Makanchi Array**	**68.45**	**329**	P	**P**	**02 09 58.1**	**-2.4**
	0.4nm,0.6s,baz=130,slow=6.2,SNR=4.8 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**72.21**	**335**	P	**P**	**02 10 21.2**	**-2.2**
	0.7nm,0.6s,baz=116,slow=3.4,SNR=1.9 0.7nm,0.6s						

IDC ***22*** *02:04:14.8±1.8,17.˚19S×179.˚10W,h552km±15km,mb3.2/8, mbtmp4.1/10,Error ellipse: s-maj=63.6km s-min=17.3km az=149.0*

NEIC ***22*** *02:04:17.0±1.4,17.˚3S±0.˚4×179.˚3W±0.˚3,h555km±14km, mb4.0/17,Error ellipse: s-maj=67.1km s-min=24.0km az=143.0*

ISC 22 02:04:12.7±1.0,17.˚4S±0.˚3×178.˚8W±0.˚2,h539km,n56, σ1s09/60,mb3.9/17,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.98**	**264**	P	**P**	**02 05 29.9**	**+3.1**
	69nm,0.8s,baz=95,slow=4.1,SNR=66						
MSVF	**Nonsavu**	**2.98**	**264**	P	**P**	**02 05 29.6**	**+2.9**
DZM	**Mont Dzumac**	**14.61**	**249**	P	**P**	**02 07 18.6**	**+0.2**
	2.6nm,0.8s,baz=78,slow=19,SNR=2.1						
EIDS	**Eidsvold**	**29.05**	**249**	P	**P**	**02 09 29.5**	**-0.1**
EIDS				IAmb	IAmb	02 09 42.3	
	comp=Z,3.9nm,1.1s						
ARMA	**Armidale**	**29.84**	**239**	P	**P**	**02 09 37.1**	**+0.7**
ARMA				IAmb	IAmb	02 09 55.5	
	comp=Z,6.2nm,1.0s						
CTA	**Charters Tower**	**33.12**	**260**	P	**P**	**02 10 04.2**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=75,slow=11,SNR=4.4 comp=Z,1.9nm,0.5s						
STKA	**Stephens Creek**	**38.51**	**240**	P	**P**	**02 10 49.6**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=91,slow=10,SNR=13 comp=Z,2.5nm,0.5s						
STKA	**Stephens Creek**	**38.51**	**240**	P	**P**	**02 10 49.5**	**+0.4**
BBOO	**Buckleboo**	**43.28**	**240**	P	**P**	**02 11 26.9**	**0.0**
WB0	**Warramunga Arr**	**44.28**	**259**	P	**P**	**02 11 33.6**	**-1.3**
WB2	**Warramunga Arr**	**44.31**	**259**	P	**P**	**02 11 34.1**	**-1.0**
WB2				IAmb	IAmb	02 11 37.2	
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**02 11 34.0**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=97,slow=7.5,SNR=27						
WRA				PcP	**PcP**	**02 13 07.5**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=100,slow=2.1,SNR=4.6						
WRA				ScP	**ScP**	**02 16 09.8**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=97,slow=4.6,SNR=2.3 comp=Z,1.5nm,0.6s						
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	**02 11 34.0**	**-1.2**
AS31	**Alice Springs**	**44.53**	**254**	P	**P**	**02 11 36.7**	**-0.1**
AS31				IAmb	IAmb	02 11 37.1	
	comp=Z,5.3nm,0.5s						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**02 11 36.5**	**-0.3**
	comp=Z,13nm,0.5s,baz=88,slow=8.0,SNR=215						
ASAR				PcP	**PcP**	**02 13 08.4**	**0.0**
	comp=Z,1.0nm,0.7s,baz=103,slow=4.2,SNR=5.4 comp=Z,13nm,0.5s						
FORT	**Forrest**	**49.85**	**244**	P	**P**	**02 12 15.8**	**-0.8**
KNRA	**Kununurra**	**50.13**	**264**	P	**P**	**02 12 18.8**	**-0.1**
KNRA				IAmb	IAmb	02 12 19.3	
	comp=Z,8.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.70**	**260**	P	**P**	**02 12 37.7**	**+0.2**
FITZ				IAmb	IAmb	02 12 38.1	
	comp=Z,2.1nm,0.6s						
PSA00	**Pilbara Seismi**	**57.63**	**255**	P	**P**	**02 13 11.5**	**-0.4**
PSA00				IAmb	IAmb	02 13 12.1	
	comp=Z,8.8nm,0.8s						
PSA00	**Pilbara Seismi**	**57.63**	**255**	P	**P**	**02 13 11.7**	**-0.1**
PSA00				IAmb	IAmb	02 13 12.1	
	comp=Z,3.2nm,0.8s						
MBWA	**Marble Bar**	**57.80**	**256**	P	**P**	**02 13 12.7**	**-0.3**
MBWA				IAmb	IAmb	02 13 31.0	
	comp=Z,7.3nm,1.1s						
MORW	**Morawa**	**60.30**	**246**	P	**P**	**02 13 29.3**	**-0.4**
MORW				IAmb	IAmb	02 13 48.6	
	comp=Z,5.6nm,1.0s						
GIRL	**Giralia**	**62.64**	**253**	P	**P**	**02 13 45.6**	**+0.6**
UGM	**Wanagama**	**69.25**	**268**	P	**P**	**02 14 25.1**	**-1.2**
ILAR	**Eielson Array**	**85.51**	**13**	P	**P**	**02 15 52.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=221,slow=4.8,SNR=2.6 comp=Z,0.4nm,0.5s						
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**02 15 58.1**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=221,slow=7.0,SNR=3.9 comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**87.28**	**44**	P	**P**	**02 16 02.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=247,slow=4.6,SNR=2.4 comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**88.33**	**290**	P	**P**	**02 16 07.0**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=120,slow=2.4,SNR=4.3 comp=Z,1.4nm,0.3s						
A21K	**Barrow**	**89.82**	**7**	P	**P**	**02 16 16.5**	**+3.2**
MKAR	**Makanchi Array**	**108.50**	**314**	PKiKP	**PKiKP**	**02 21 38.8**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=62,slow=0.6,SNR=3.6						
ARCES	**ARCESS Array B**	**125.76**	**350**	PKP	**PKiKP**	**02 22 14.6**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=355,slow=1.0,SNR=4.2						
BUR08	**Bucovina Ar. S**	**143.98**	**332**		**PKPdf**	**02 22 47.3**	**+0.3**
BURAR	**Bucovina Array**	**143.99**	**332**		**PKPdf**	**02 22 47.6**	**+0.6**
BRTR	**Keskin Array B**	**144.15**	**315**	PKP	**PKPdf**	**02 22 46.8**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=107,slow=4.1,SNR=6.9						
OSTC	**Ostas**	**144.81**	**343**	*e*PKP	**PKPab**	**

ISA					IAmb	IAmb	02 32 51.1	
	comp=Z,4.9nm,0.9s							
CMB	**Columbia Colle**	**77.94**	**43**		P	**P**	**02 32 48.5**	**-0.7**
NVAR	**Mina Array Bea**	**79.53**	**44**		P	**P**	**02 32 58.3**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=225,slow=8.8,SNR=17							
	comp=Z,2.6nm,0.7s							
NVAR	**Mina Array Bea**	**79.53**	**44**		P	**P**	**02 32 57.6**	**-0.1**
NV11	**Mina Array Sit**	**79.62**	**44**		P	**P**	**02 32 58.6**	**+0.4**
NV11					IAmb	IAmb	02 32 59.7	
	comp=Z,6.5nm,1.1s							
KVN	**Kaiserville**	**80.00**	**43**		P	**P**	**02 33 00.5**	**+0.3**
MOD	**Modoc Plateau**	**80.19**	**40**		P	**P**	**02 33 00.7**	**-0.4**
MOD					IAmb	IAmb	02 33 02.4	
	comp=Z,6.0nm,0.7s							
K05A	**Summer Lake**	**80.30**	**39**		P	**P**	**02 33 01.6**	**-0.1**
K05A					IAmb	IAmb	02 33 03.4	
	comp=Z,16nm,1.1s							
S11A	**Rachel**	**80.82**	**46**		P	**P**	**02 33 04.9**	**+0.4**
S11A					IAmb	IAmb	02 33 05.9	
	comp=Z,8.1nm,1.0s							
PINE	**Pine Mountain**	**80.89**	**38**		P	**P**	**02 33 04.8**	**+0.1**
PINE					IAmb	IAmb	02 33 06.5	
	comp=Z,7.3nm,0.9s							
PRN	**Pahroc Range**	**81.18**	**46**		P	**P**	**02 33 06.7**	**+0.5**
PRN					IAmb	IAmb	02 33 08.1	
	comp=Z,4.5nm,0.8s							
BMN	**Battle Mountai**	**81.31**	**43**		P	**P**	**02 33 07.2**	**+0.3**
BMN					IAmb	IAmb	02 33 08.3	
	comp=Z,4.4nm,0.8s							
WVOR	**Wild Horse Val**	**81.51**	**40**		P	**P**	**02 33 07.2**	**-0.7**
WVOR					IAmb	IAmb	02 33 09.3	
	comp=Z,6.1nm,1.0s							
I07A	**Izee**	**81.91**	**39**		P	**P**	**02 33 09.5**	**-0.3**
I07A					IAmb	IAmb	02 33 11.3	
	comp=Z,4.6nm,0.7s							
BELA	**Belgrano 2**	**82.09**	**173**		P	**P**	**02 33 09.1**	**-1.0**
J08A	**Circle Bar Ran**	**82.12**	**40**		P	**P**	**02 33 10.8**	**-0.1**
J08A					IAmb	IAmb	02 33 12.3	
	comp=Z,10nm,1.2s							
LCMT	**Little Creek M**	**82.23**	**47**		P	**P**	**02 33 12.1**	**+0.5**
CCUT	**Cedar City**	**82.41**	**47**		P	**P**	**02 33 11.9**	**-0.8**
319A	**Douglas**	**82.52**	**54**		P	**P**	**02 33 12.3**	**-0.9**
319A					IAmb	IAmb	02 33 16.4	
	comp=Z,4.7nm,0.8s							
PSUT	**Pine Spring**	**82.56**	**46**		P	**P**	**02 33 13.4**	**+0.1**
PSUT					IAmb	IAmb	02 33 14.6	
	comp=Z,3.5nm,0.8s							
U15A	**North Rim**	**82.62**	**48**		P	**P**	**02 33 13.6**	**-0.2**
U15A					IAmb	IAmb	02 33 15.7	
	comp=Z,6.5nm,0.8s							
ELK	**Elko**	**82.76**	**43**		P	**P**	**02 33 14.0**	**-0.3**
G08A	**Pilot Rock**	**82.91**	**38**		P	**P**	**02 33 14.9**	**+0.1**
CAST	**Castle Rocks**	**83.72**	**12**		P	**P**	**02 33 16.5**	**-1.7**
CAST					IAmb	IAmb	02 33 17.7	
	comp=Z,5.1nm,0.7s							
MAW	**Mawson**	**83.76**	**200**		P	**P**	**02 33 18.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=129,slow=7.7,SNR=2.5							
	comp=Z,0.8nm,0.5s							
MAW	**Mawson**	**83.76**	**200**		P	**P**	**02 33 18.8**	**+0.2**
F10A	**Beach Ranch, E**	**84.30**	**38**		P	**P**	**02 33 21.6**	**0.0**
F10A					IAmb	IAmb	02 33 22.5	
	comp=Z,5.7nm,1.0s							
HLID	**Hailey**	**84.73**	**41**		P	**P**	**02 33 24.3**	**+0.5**
ILAR	**Eielson Array**	**85.98**	**13**		P	**P**	**02 33 28.1**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=222,slow=5.0,SNR=14							
	comp=Z,1.0nm,0.4s							
TX31	**Lajitas Ar. Si**	**86.09**	**58**		P	**P**	**02 33 30.1**	**-0.5**
TX32	**Lajitas Array**	**86.09**	**58**		P	**P**	**02 33 30.8**	**+0.2**
TX32					IAmb	IAmb	02 33 32.9	
	comp=Z,4.3nm,0.9s							
TXAR	**Lajitas Array**	**86.09**	**58**		P	**P**	**02 33 31.9**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=220,slow=6.2,SNR=47							
	comp=Z,3.3nm,0.8s							
TXAR	**Lajitas Array**	**86.09**	**58**		P	**P**	**02 33 31.2**	**+0.6**
REDW	**Red Top Meadow**	**86.89**	**42**		P	**P**	**02 33 34.7**	**+0.5**
REDW					IAmb	IAmb	02 33 35.7	
	comp=Z,6.8nm,1.1s							
IMW	**Indian Meadow**	**87.09**	**42**		P	**P**	**02 33 35.7**	**+0.5**
IMW					IAmb	IAmb	02 33 36.8	
	comp=Z,4.3nm,0.9s							
YHL	**Hebgen Lake**	**87.39**	**41**		P	**P**	**02 33 37.4**	**+0.8**
YHL					IAmb	IAmb	02 33 38.8	
	comp=Z,4.5nm,0.9s							
PD31	**Pinedale Array**	**87.45**	**43**		P	**P**	**02 33 37.3**	**+0.4**
PD31					IAmb	IAmb	02 33 37.6	
	comp=Z,2.2nm,0.7s							
PDAR	**Pinedale Array**	**87.45**	**43**		P	**P**	**02 33 37.0**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=221,slow=3.4,SNR=20							
	comp=Z,1.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**88.86**	**290**		P	**P**	**02 33 44.0**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=124,slow=3.5,SNR=7.0							
	comp=Z,1.2nm,0.3s							
BRTR	**Keskin Array B**	**144.80**	**315**		PKP	**PKPdf**	**02 40 22.2**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=78,slow=2.6,SNR=8.8							

IDC 22 02:37:55.7±1.8,30°14N×99°91E,h0km,mb3.5/4,
mbtmp3.5/4,Error ellipse: s-maj=228.2km
s-min=24.5km az=57.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.52**	**325**	P	P	02 42 47.8	+1.5
	0.6nm,0.6s,baz=128,slow=11,SNR=6.5						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**25.98**	**328**	P	P	02 43 29.1	-0.8
	0.3nm,0.3s,baz=137,slow=9.8,SNR=5.9						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**26.18**	**340**	P	P	02 43 31.4	-0.4
	0.6nm,0.5s,baz=143,slow=12,SNR=1.7						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**59.82**	**142**	P	P	02 48 03.1	+0.1
	0.4nm,0.6s,baz=326,slow=8.1,SNR=6.2						
	0.4nm,0.6s						

*DDA **22** 02:47:19.1±0.0,40°44N×29°16E,h10km±1km,MW3.7*
*ISK **22** 02:47:19.3,40°44N×29°18E,h6km,ML3.8/49*
*CFUSG **22** 02:47:24.7,40°67N×29°52E,h7km,mb3.2/5,*
Northwestern Turkey Magtype MSH 3.1 from 5 stations
ISC 22 02:47:19.2±0.8,40°44N±0°02×29°19E±0°01,h14km±5km,
n143,σ1°30/174,14C-17D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.00**	**225**	PG	**Pg**	**02 47 21.3**	**-0.2**
KURT	**Yalova, Merkez**	**0.15**	**5**	P	**Pg**	**02 47 23.2**	**+0.3**
KURT				P	**Pg**	**02 47 23.2**	**+0.3**
KURT				S	**Sg**	**02 47 25.6**	**0.0**
IGD	**Bursa**	**0.17**	**178**	P	**Pg**	**02 47 23.6**	**+0.4**
IGD				S	**Sg**	**02 47 26.2**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.24**	**254**	PG	**Pg**	**02 47 24.7**	**+0.3**
MDNY				SG	**Sg**	**02 47 28.4**	**+0.4**
ARMT	**Armutlu**	**0.28**	**297**	PG	**Pg**	**02 47 25.1**	**0.0**
ARMT				SG	**Sg**	**02 47 28.8**	**-0.3**
ULDT	**Uludag**	**0.30**	**188**	P	**Pg**	**02 47 25.9**	**+0.4**
ULDT				S	**Sg**	**02 47 27.3**	**-2.4**
ADVT	**Abdulvahap**	**0.42**	**90**	PG	**Pb**	**02 47 28.3**	**0.0**
ADVT				SG	**Sb**	**02 47 34.3**	**-0.2**
ORLT	**Orhaneli**	**0.45**	**210**	PG	**Pg**	**02 47 28.6**	**+0.4**
HRT	**Hereke**	**0.53**	**43**	PG	**Pg**	**02 47 30.0**	**+0.4**
CAVI	**Cavuskoy**	**0.55**	**115**	PG	**Pg**	**02 47 30.6**	**+0.6**
CAVI				SG	**Sb**	**02 47 38.8**	**+0.4**
BILE	**Bilecik/Merkez**	**0.59**	**118**	P	**Pg**	**02 47 31.3**	**+0.6**
BILE				S	**Sb**	**02 47 39.8**	**+0.2**
KAVV	**Kandilli-Istan**	**0.63**	**351**	PG	**Pg**	**02 47 31.9**	**+0.3**
ISK	**Istanbul-Kandi**	**0.64**	**351**	P	**Pg**	**02 47 31.9**	**+0.3**
ISK				S	**Sg**	**02 47 40.4**	**+0.4**
ISK	**Istanbul-Kandi**	**0.64**	**351**	PG	**Pg**	**02 47 31.9**	**+0.3**
AVCI	**Avcilar-stanb**	**0.66**	**328**	PG	**Pb**	**02 47 32.6**	**+0.1**
SILT	**Sile**	**0.79**	**25**	PG	**Pb**	**02 47 35.1**	**+0.3**
KLYT	**Kilyos**	**0.82**	**352**	PG	**Pg**	**02 47 35.4**	**+0.3**
AUBOZ	**BOZOYUK**	**0.83**	**129**	PG	**Pb**	**02 47 35.9**	**+0.4**
AUBOZ	**BOZOYUK**	**0.83**	**129**	P	**Pg**	**02 47 34.7**	**-0.6**
AUBOZ				S	**Sg**	**02 47 45.1**	**-1.1**
GEYV	**SAKARYA_Geyve**	**0.84**	**86**	P	**Pb**	**02 47 36.1**	**+0.5**
GEYV				S	**Sg**	**02 47 44.7**	**-1.8**
GPA	**Golpazari**	**0.87**	**100**	PG	**Pn**	**02 47 36.9**	**-0.1**
ELBA	**Catalca**	**0.92**	**321**	P	**Pb**	**02 47 36.8**	**-0.1**
ELBA				S	**Sb**	**02 47 48.3**	**-0.6**
SAUV	**Serdivan-Sakar**	**0.92**	**70**	PG	**Pb**	**02 47 37.2**	**+0.3**
DST	**Dursunbey**	**0.94**	**208**	PG	**Pb**	**02 47 37.4**	**+0.1**
CTKS	**Kestanelik-??a**	**0.95**	**327**	PG	**Pb**	**02 47 37.3**	**-0.2**
DURS	**Dursunbey**	**1.00**	**214**	P	**Pb**	**02 47 38.2**	**-0.2**
DURS				S	**Sn**	**02 47 52.4**	**-0.5**
KAND	**Kocaeli-Kandir**	**1.00**	**49**	P	**Pb**	**02 47 38.2**	**-0.1**
KAND				S	**Sb**	**02 47 51.5**	**0.0**
TVSB	**Tavsanli**	**1.01**	**168**	PG	**Pb**	**02 47 38.6**	**+0.1**
GULT	**Gulveren**	**1.01**	**90**	PG	**Pg**	**02 47 39.2**	**+0.5**
EDC	**Edincik**	**1.02**	**265**	PG	**Pb**	**02 47 38.3**	**-0.3**
KAYN	**Sakarya, Kayna**	**1.02**	**58**	P	**Pb**	**02 47 38.3**	**-0.3**
KAYN				S	**Sb**	**02 47 52.4**	**+0.5**
ANDZ	**Kutahya, Merke**	**1.07**	**149**	P	**Pg**	**02 47 41.2**	**+1.3**
ANDZ				S	**Sn**	**02 47 55.0**	**+0.3**
SLVT	**Silivri**	**1.09**	**317**	PG	**Pg**	**02 47 40.4**	**+0.3**
BORA	**Eskisehir**	**1.11**	**120**	PN	**Pg**	**02 47 41.3**	**+0.6**
BORA	**Eskisehir**	**1.11**	**120**	P	**Pb**	**02 47 40.7**	**+0.4**
BORA				S	**Sn**	**02 47 56.4**	**+0.7**
GONE	**Gonen-Balikesi**	**1.22**	**252**	PN	**Pg**	**02 47 42.8**	**+0.2**
MRMT	**Marmara Adasi**	**1.23**	**278**	PN	**Pg**	**02 47 42.9**	**+0.1**
CTYL	**Yalikoy Yolu**	**1.24**	**327**	PN	**Pb**	**02 47 42.6**	**+0.2**
KNL	**Balıkesir**	**1.28**	**263**	P	**Pn**	**02 47 42.8**	**+0.1**
CRLT	**Corlu**	**1.30**	**302**	PN	**Pg**	**02 47 44.5**	**+0.2**
SMAA	**Simav-Kutahya**	**1.34**	**187**	PN	**Pg**	**02 47 45.4**	**+0.4**
GDZ	**Gediz**	**1.36**	**171**	P	**Pn**	**02 47 44.4**	**+0.5**
BTAS	**Taskesti**	**1.39**	**84**	P	**Pb**	**02 47 45.5**	**+0.6**
BTAS				S	**Sg**	**02 48 04.0**	**+0.1**
BALY	**Balya**	**1.39**	**241**	P	**Pn**	**02 47 43.6**	**-0.7**
BALY				S	**Sb**	**02 48 02.9**	**+0.2**
GEDZ	**Gediz**	**1.40**	**173**	PN	**Pb**	**02 47 45.8**	**+0.6**
DEMI	**Demirci**	**1.44**	**195**	P	**Pg**	**02 47 46.7**	**-0.1**
DEMI				S	**Sb**	**02 48 05.0**	**+0.9**
MDUB	**Mudurnu**	**1.53**	**88**	PN	**Pb**	**02 47 48.1**	**+0.7**
VIZE	**Kirklareli, Vi**	**1.53**	**319**	P	**Pn**	**02 47 46.2**	**0.0**
STEP	**BALIKESIR_Sava**	**1.55**	**227**	P	**Pn**	**02 47 47.1**	**+0.7**
SART	**Tekirdag**	**1.55**	**280**	P	**Pn**	**02 47 47.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.56**	**280**	PN	**Pb**	**02 47 48.1**	**+0.3**
SGAZ	**Eskisehir, Sey**	**1.56**	**125**	P	**Pb**	**02 47 48.0**	**+0.2**
SGAZ				S	**Sg**	**02 48 09.8**	**+0.5**
ESKT	**Eskisehir**	**1.57**	**125**	PN	**Pb**	**02 47 48.6**	**+0.5**
USAK	**Uak-Merkez**	**1.73**	**185**	P	**Pb**	**02 47 51.2**	**+0.5**
PHSR	**Pinarhisar**	**1.74**	**314**	PN	**Pb**	**02 47 50.8**	**0.0**
YIGI	**Dzce**	**1.79**	**72**	P	**Pb**	**02 47 51.3**	**-0.5**
CIFT	**Cifteler, Eski**	**1.80**	**126**	PN	**Pb**	**02 47 51.7**	**-0.2**
AUMIH	**MIHALICIK**	**1.85**	**107**	PN	**Pb**	**02 47 52.6**	**-0.2**
AUMIH	**MIHALICIK**	**1.85**	**107**	P	**Pn**	**02 47 51.8**	**+1.2**
AFYO	**Afyonkarahisar**	**1.86**	**152**	P	**Pn**	**02 47 51.9**	**+1.2**
BUHA	**Balikesir, Bur**	**1.88**	**241**	P	**Pn**	**02 47 51.4**	**+0.5**
AKHS	**Akhisar**	**1.89**	**215**	P	**Pn**	**02 47 51.5**	**+0.5**
AKS	**Akhisar**	**1.89**	**215**	PN	**Pb**	**02 47 53.2**	**-0.2**
YUVA	**Yuva-Kibriscik**	**1.91**	**91**	PN	**Pb**	**02 47 53.3**	**-0.5**
KDZE	**Karadeniz Ereo**	**1.92**	**62**	PN	**Pb**	**02 47 53.3**	**-0.7**
ARMN	**Kirklareli, Me**	**1.95**	**318**	P	**Pn**	**02 47 52.2**	**+0.3**
KESN	**Edirne-Kesan**	**1.95**	**282**	P	**Pb**	**02 47 53.8**	**-1.0**
GOMA	**Golmarmara-Man**	**1.99**	**210**	PN	**Pb**	**02 47 54.2**	**-0.9**
MANT	**Manisa**	**2.00**	**194**	P	**Pb**	**02 47 54.9**	**-0.6**
KIBS	**BOLU**	**2.03**	**90**	P	**Pb**	**02 47 55.0**	**-1.0**
SVRH	**Sivrihisar-ESK**	**2.05**	**118**	PN	**Pb**	**02 47 55.2**	**-1.0**
AUSIV	**SIVRIHISAR**	**2.06**	**118**	PN	**Pb**	**02 47 55.3**	**-1.2**
AUSIV	**SIVRIHISAR**	**2.06**	**118**	P	**Pn**	**02 47 54.3**	**+0.7**
UKOP	**Uzunkopru-Edir**	**2.06**	**290**	PN	**Pb**	**02 47 55.5**	**-0.9**
GELI	**Tayfur-Gelibol**	**2.08**	**270**	PN	**Pb**	**02 47 55.8**	**-0.8**
KIRK	**Kırklareli**	**2.08**	**311**	P	**Pn**	**02 47 53.6**	**0.0**
PASA	**Karahalli, USA**	**2.10**	**174**	P	**Pb**	**02 47 56.3**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**2.15**	**252**	P	**Pn**	**02 47 55.2**	**+0.6**
SHUT	**Suhut-Afyon**	**2.16**	**150**	PN	**Pb**	**02 47 56.9**	**-1.2**
ZEDA	**zmir-Bergama**	**2.20**	**229**	P	**Pn**	**02 47 55.9**	**+0.7**
BCAM	**Yenicaga**	**2.22**	**79**	P	**Pn**	**02 47 57.4**	**+1.7**
DEVR	**Zonguldak/Devr**	**2.23**	**71**	P	**Pn**	**02 47 56.9**	**+1.2**
DKL	**Dikili**	**2.23**	**233**	PN	**Pn**	**02 47 57.3**	**+1.6**
AYA	**Ayvalik**	**2.23**	**240**	P	**Pn**	**02 47 56.1**	**+0.6**
EZN	**Ezine**	**2.28**	**255**	P	**Pn**	**02 47 57.2**	**+0.8**
EZN				S	**Sg**	**02 48 31.0**	**-1.5**
EZN	**Ezine**	**2.28**	**255**	PN	**Pn**	**02 47 58.3**	**+1.9**
KZIL	**AFYON_Kizioren**	**2.30**	**161**	P	**Pn**	**02 47 58.2**	**+1.4**
EDRB	**Edirne**	**2.32**	**308**	P	**Pn**	**02 47 57.0**	**0.0**
EDRB				S	**Sb**	**02 48 31.6**	**+2.2**
EDRB	**Edirne**	**2.32**	**308**	PN	**Pn**	**02 47 58.7**	**+1.7**
ENEZ	**Enez**	**2.33**	**278**	P	**Pn**	**02 47 58.0**	**+0.9**
ENEZ				S	**Sg**	**02 48 33.4**	**-0.8**
ENEZ	**Enez**	**2.33**	**278**	PN	**Pn**	**02 47 59.1**	**+2.0**
ECEA	**Canakkale, Ece**	**2.34**	**261**	P	**Pb**	**02 48 02.3**	**+1.2**
AFYN	**Afyon-Dinar-K**	**2.39**	**154**	P	**Pn**	**02 47 56.4**	**-1.7**
ALN	**Alexandroupoli**	**2.44**	**282**	P	**Pb**	**02 48 00.8**	**-2.0**
ALN				S	**Sb**	**02 48 34.7**	**+2.0**
ALN	**Alexandroupoli**	**2.44**	**282**	PN	**Pn**	**02 48 00.5**	**+1.9**
BOZC	**Bozcaada**	**2.48**	**257**	PN	**Pn**	**02 48 01.0**	**+1.8**
GADA	**Gvkgeada**	**2.53**	**265**	PN	**Pn**	**02 48 02.1**	**+2.2**
PRK	**Paraskevi**	**2.54**	**240**	P	**Pn**	**02 48 00.9**	**+0.9**
GPNR	**Gulpinar-Canak**	**2.55**	**248**	PN	**Pb**	**02 48 02.5**	**-2.2**
FOCM	**Foa**	**2.57**	**229**	PN	**Pn**	**02 48 02.6**	**+2.3**
KIZT	**Kizilcal**	**2.59**	**126**	PN	**Pn**	**02 48 02.9**	**+2.1**
BASM	**Basmaki-Afyon**	**2.60**	**165**	PN	**Pn**	**02 48 03.2**	**+2.3**
BLCB	**Balcova**	**2.64**	**220**	P	**Pn**	**02 48 01.5**	**+0.1**
BLCB	**Balcova**	**2.64**	**220**	PN	**Pn**	**02 48 03.7**	**+2.3**
AYDB	**Zeytinkoy-Aydi**	**2.69**	**203**	PN	**Pn**	**02 48 04.4**	**+2.3**
ANTO	**Ankara**	**2.82**	**100**	⇓P	**Pb**	**02 48 09.8**	**+0.4**
SIGR	**SIGRI**	**2.85**	**246**	P	**Pn**	**02 48 04.8**	**+0.6**
RDO	**Rodhopi**	**2.86**	**285**	P	**Pn**	**02 48 05.8**	**+1.4**
LIA	**Limnos Island**	**3.12**	**261**	P	**Pn**	**02 48 08.8**	**+0.9**
CHOS	**Chios island**	**3.18**	**231**	P	**Pn**	**02 48 09.0**	**+0.2**
TIRR	**Tirgusor**	**4.06**	**352**	⇓P	**Pn**	**02 48 22.1**	**+1.2**
TLBR	**Topalu**	**4.19**	**349**	⇓P	**Pn**	**02 48 23.8**	**+1.2**
HARR	**Harsova**	**4.35**	**348**	⇑P	**Pn**	**02 48 26.5**	**+1.6**
TPGR	**Topolog**	**4.45**	**353**	⇓P	**Pn**	**02 48 28.0**	**+1.7**
SGRR	**Singureni**	**4.47**	**329**	⇓P	**Pn**	**02 48 28.7**	**+2.1**
COPA	**Copaceanca**	**4.73**	**323**	⇑P	**Pn**	**02 48 32.8**	**+2.3**
TLCR		**4.75**	**357**	⇑P	**Pn**	**02 48 33.1**	**+2.7**
CFR	**Carcaliu**	**4.80**	**351**	⇓P	**Pn**	**02 48 32.5**	**+1.4**
VTS	**Vitosha**	**4.97**	**298**	⇑P	**Pn**	**02 48 35.0**	**+1.4**
ISR	**Istrita**	**5.07**	**338**	⇓P	**Pn**	**02 48 35.7**	**+0.9**
SEV	**Sevastopol'**	**5.27**	**37**	*eP*	**Pn**	**02 48 38.6**	**+1.1**
SEV				Pm		02 48 40.5	
	comp=Z,8.0nm,0.3s						
SEV				*eS*	**Sn**	**02 49 36.8**	**-1.2**
SEV				Sm		02 49 41.7	
	comp=N,18nm,0.4s						
SEV				Sm		02 49 41.7	
	comp=E,2.0nm,0.2s						
YAL	**Yalta**	**5.46**	**41**	⇓*eP*	**Pn**	**02 48 40.7**	**+0.6**
YAL				Pm		02 48 41.5	
	comp=Z,18nm,0.4s						
YAL				*eS*	**Sn**	**02 49 40.2**	**-2.6**
YAL				Sm		02 49 44.4	
	comp=N,13nm,0.3s						
YAL				Sm		02 49 44.4	
	comp=E,34nm,0.4s						
VARL	**Varlezi**	**5.55**	**350**	⇑P	**Pn**	**02 48 44.1**	**+2.8**
MLR	**Muntele Rosu**	**5.58**	**336**	⇓P	**Pn**	**02 48 44.0**	**+2.1**
VRI	**Vrincioaia**	**5.72**	**342**	⇑P	**Pn**	**02 48 45.9**	**+2.2**
PLOR	**Plostina**	**5.72**	**342**	⇓P	**Pn**	**02 48 46.1**	**+2.3**
ALU	**Alushta**	**5.73**	**40**	*eP*	**Pn**	**02 48 45.2**	**+1.5**
ALU				Pm		02 48 47.2	
	comp=Z,9.0nm,0.4s						
ALU				*eS*	**Sn**	**02 49 48.0**	**-1.2**
ALU				Sm		02 49 52.9	
	comp=N,42nm,0.3s						
ALU				Sm		02 49 52.9	
	comp=E,18nm,0.3s						
SIM	**Simferopol'**	**5.79**	**37**	*eP*	**Pn**	**02 48 45.6**	**+1.0**
SIM				Pm		02 48 49.7	
	comp=Z,48nm,0.4s						
SIM				*eS*	**Sn**	**02 49 47.8**	**-3.0**
SIM				Sm		02 49 49.6	
	comp=N,11nm,0.4s						
SIM				Sm		02 49 49.6	
	comp=E,36nm,0.5s						
BLKB	**Belogradchik**	**5.80**	**305**	⇑P	**Pn**	**02 48 45.2**	**+0.4**
COVR	**Voineasa-Covas**	**5.83**	**339**	⇓P	**Pn**	**02 48 47.9**	**+2.7**
VOIR		**5.85**	**330**	⇑P	**Pn**	**02 48 47.9**	**+2.4**
ARR	**Arges**	**5.96**	**327**	⇓P	**Pn**	**02 48 48.3**	**+1.3**
SUDU	**Sudak**	**6.17**	**42**	⇓*eP*	**Pn**	**02 48 47.6**	**-2.3**
SUDU				Pm		02 48 52.2	
	comp=Z,13nm,0.3s						
SUDU				Sm		02 49 00.8	
	comp=E,15nm,0.3s						
SUDU				*eS*	**Sn**	**02 49 54.1**	**-6.2**
SUDU				Sm		02 50 00.8	
	comp=N,70nm,0.6s						
TESR	**Tescani**	**6.35**	**344**	⇓P	**Pn**	**02 48 53.8**	**+1.5**
BOVS	**Bovan**	**6.42**	**302**	⇑P	**Pn**	**02 48 53.6**	**+0.2**
MILM	**Milestii Mici**	**6.49**	**358**	⇓P	**Pn**	**02 48 56.0**	**+1.8**
HERR	**Herculane**	**6.68**	**314**	⇑P	**Pn**	**02 48 58.8**	**+1.9**
GZR	**Gura Zlata**	**6.83**	**319**	⇓P	**Pn**	**02 48 59.5**	**+0.5**
BIZ	**Bicaz**	**6.87**	**342**	⇑P	**Pn**	**02 49 02.0**	**+2.5**
MDVR	**Moldovita**	**7.02**	**311**	⇓P	**Pn**	**02 49 02.9**	**+1.4**
BZS	**Buzias**	**7.59**	**316**	⇑P	**Pn**	**02 49 10.1**	**+0.8**
BURAR	**Bucovina Array**	**7.72**	**340**	⇑P	**Pn**	**02 49 14.0**	**+2.7**
DRGR		**7.90**	**326**	⇑P	**Pn**	**02 49 15.5**	**+1.8**

*NEIC **22** 02:50:30.0±1.4,21°5S±0°1×170°6E±0°1,h155km±11km,*
mb4.4/31,Error ellipse: s-maj=22.1km s-min=11.8km
az=210.0
*NOU **22** 02:50:32.8,21°41S×170°43E,h132km,MLv4.6/8,*
Southeast of Loyalty Islands
*IDC **22** 02:50:32.6±1.8,21°55S×170°34E,h171km±14km,mb3.8/7,*
mbtmp4.3/10,MS3.1/1,Error ellipse: s-maj=23.6km
s-min=15.9km az=6.0
ISC 22 02:50:29.0±1.1,21°4S±0°1×170°53E±0°10,h150km,n63,
σ1°52/64,mb4.3/21,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.33**	**268**		**Pn**	**02 51 09.4**	**+1.4**
MARNC	**Mare, Loyalty**	**2.33**	**268**	P	**Pn**	**02 51 10.1**	**+2.1**
PINNC	**Pines Island,**	**3.09**	**247**	Pn	**Pn**	**02 51 19.1**	**+1.6**
PINNC	**Pines Island,**	**3.09**	**247**	P	**Pn**	**02 51 19.6**	**+2.1**
LIFNC	**LIFOU**	**3.14**	**281**	Pn	**Pn**	**02 51 19.6**	**+1.5**
LIFNC	**LIFOU**	**3.14**	**281**	P	**Pn**	**02 51 19.9**	**+1.8**
YATNC	**Mamie plateau,**	**3.44**	**259**	P	**Pn**	**02 51 23.5**	**+1.5**
DZM	**Mont Dzumac**	**3.85**	**260**	P	**Pn**	**02 51 29.5**	**+2.1**
	72nm,0.7s,baz=91,slow=15,SNR=125						
DZM				S	**Sn**	**02 52 13.2**	**+0.5**
	126nm,0.9s,baz=178,slow=8.9,SNR=6.8						
DZM	**Mont Dzumac**	**3.85**	**260**	Pn	**Pn**	**02 51 28.0**	**+0.6**
DZM	**Mont Dzumac**	**3.85**	**260**	P	**Pn**	**02 51 29.9**	**+2.5**
ONTNC	**Ouen Toro**	**3.88**	**256**	Pn	**Pn**	**02 51 29.5**	**+1.8**
ONTNC	**Ouen Toro**	**3.88**	**256**	P	**Pn**	**02 51 30.1**	**+2.4**
NOUC	**Port Laguerre**	**3.98**	**260**	P	**Pn**	**02 51 31.3**	**+2.3**
KOUNC	**Koumac, New Ca**	**5.90**	**277**	Pn	**Pn**	**02 51 56.7**	**+2.4**
MSVF	**Nonsavu**	**7.99**	**64**	P	Pn	02 52 28.4	+6.1
	2.8nm,0.6s,baz=150,slow=20,SNR=4.0						
OUZ	**Omahuta**	**14.01**	**170**	Pn	**Pn**	**02 53 40.1**	**-0.8**
URZ	**Urewera**	**17.71**	**163**	P	**Pn**	**02 54 27.5**	**+1.3**
	12nm,1.0s,baz=297,slow=4.5,SNR=2.2						
EIDS	**Eidsvold**	**18.27**	**254**	Pn	**P**	**02 54 33.7**	**+2.4**
EIDS				IAmb	IAmb	02 54 34.9	
	comp=Z,11nm,0.8s						
BKZ	**Black Stump Fm**	**18.41**	**165**	Pn	**Pn**	**02 54 34.4**	**-0.2**

AUCH	Augustine Cone	0.54	303			Pn	03 03 19.3	-0.2
AUH	Augustine H	0.54	303			Pn	03 03 19.4	-0.1
AUL	Augustine Lava	0.55	305			Pn	03 03 19.3	-0.2
Q19K	Cape Douglas,	0.58	256			Pn	03 03 19.6	-0.3
Q19K						Sn	03 03 29.3	-0.2
Q19K	Cape Douglas, comp=E,5µm,0.6s	0.58	256	IAML			03 03 32.2	
Q19K	Cape Douglas, baz=73	0.58	256	P		Pn	03 03 19.6	-0.3
Q19K	baz=73			S		Sn	03 03 29.3	-0.2
OPT	Oil Point	0.68	330			Pn	03 03 20.7	-0.2
OPT	Oil Point baz=150	0.68	330	P		Pn	03 03 20.7	-0.2
P19K	Oil Pt	0.68	330			Pn	03 03 20.7	-0.2
P19K						Sn	03 03 31.9	+0.4
P19K	Oil Pt comp=E,3µm,0.5s	0.68	330	IAML			03 03 33.2	
P19K	comp=N,3µm,0.2s			IAML			03 03 33.8	
P19K	Oil Pt baz=150	0.68	330	P		Pn	03 03 20.7	-0.2
P19K	baz=150			S		Sn	03 03 31.9	+0.4
HOM	Homer	0.76	38			Pn	03 03 21.9	+0.1
HOM						Sn	03 03 33.5	+0.5
HOM	Homer baz=221	0.76	38	P		Pn	03 03 21.9	+0.1
HOM	baz=221			S		Sn	03 03 33.5	+0.5
CNPM	China Poot	0.82	56			Pn	03 03 22.6	0.0
CNPM	China Poot comp=N,3µm,0.5s	0.82	56	IAML			03 03 35.7	
CNPM	comp=E,2µm,0.2s			IAML			03 03 36.1	
ILSW	Iliamna Southw	0.96	342			Pn	03 03 23.7	-0.8
ILSW	Iliamna Southw comp=E,684nm,0.4s	0.96	342	IAML			03 03 38.2	
ILSW	comp=N,745nm,0.3s			IAML			03 03 38.9	
IVE	Iliamna Volcan	0.98	347			Pn	03 03 24.1	-0.6
IVE						Sn	03 03 37.7	-0.4
O20K	Slope Mountain	1.01	358			Pn	03 03 25.1	0.0
O20K	Slope Mountain baz=180	1.01	358	P		Pn	03 03 25.1	0.0
ILIM	Iliamna	1.03	349			Pn	03 03 24.9	-0.5
KAPH	Katmai Pasha	1.04	244			Pn	03 03 25.8	+0.3
KAPH						Sn	03 03 40.6	+1.1
BRLK	Bradley Lake	1.10	50			Pn	03 03 25.8	-0.4
BRLK	Bradley Lake comp=E,3µm,0.4s	1.10	50	IAML			03 03 42.8	
BRLK	comp=N,2µm,0.1s			IAML			03 03 44.3	
BRSE	Bradley Lake S	1.15	53			Pn	03 03 26.5	-0.3
BRSE	Bradley Lake S baz=236	1.15	53	P		Pn	03 03 26.5	-0.3
KAHG	Katmai Hook Gl	1.18	242			Pn	03 03 27.7	+0.4
KDAK	Kodiak Island	1.29	180			Pn	03 03 28.7	+0.1
KAHC	Katmai Hardscr	1.34	253			Pn	03 03 29.3	-0.1
KAHC	Katmai Hardscr baz=70	1.34	253	P		Pn	03 03 29.3	-0.1
RED	Redoubt Volcan	1.36	356			Pn	03 03 29.2	-0.3
RED						Sn	03 03 46.7	-0.1
P18K	Big Mountain,	1.41	284			Pn	03 03 29.2	-1.0
P18K	Big Mountain, baz=102	1.41	284	P		Pn	03 03 29.3	-1.0
RDWB	Redoubt West	1.43	354			Pn	03 03 30.2	-0.4
O19K	Port Alsworth	1.44	322			Pn	03 03 30.2	-0.4
O19K						Sn	03 03 47.8	-0.7
O19K	Port Alsworth baz=141	1.44	322	P		Pn	03 03 30.2	-0.4
O19K	baz=141			S		Sn	03 03 47.8	-0.7
NCT	North Crescent	1.51	353			Pn	03 03 31.4	-0.2
KAKN	Katmai Knife C	1.52	240			Pn	03 03 31.9	+0.2
DFR	Drift River	1.53	358			Pn	03 03 31.9	0.0
DFR						Sn	03 03 51.6	+0.7
RDJH	Redoubt Jeurge	1.53	356			Pn	03 03 31.9	0.0
KCG	Knife Ck. Glac	1.54	241			Pn	03 03 32.2	+0.3
O18K	Koktuh Hills	1.56	301			Pn	03 03 31.7	-0.5
O18K						Sn	03 03 50.6	-1.0
O18K	Koktuh Hills comp=N,1µm,0.3s	1.56	301	IAML			03 03 51.4	
O18K	comp=E,758nm,0.2s			IAML			03 03 51.6	
O18K	Koktuh Hills baz=119	1.56	301	P		Pn	03 03 31.7	-0.5
O18K	baz=119			S		Sn	03 03 50.6	-1.0
ANCK	Angle Creek	1.77	242			Pn	03 03 35.5	+0.5
KELA	Mount Kelaz	1.77	250			Pn	03 03 35.2	0.0
CAPN	Captain Cook N	1.84	22			Pn	03 03 37.9	+1.9
CAPN	Captain Cook N baz=204	1.84	22	P		Pn	03 03 37.9	+1.9
SEW	Seward	1.89	55			Pn	03 03 35.8	-0.9
SEW	Seward baz=239	1.89	55	P		Pn	03 03 35.7	-0.9
OHAK	Old Harbor	1.89	192			Pn	03 03 36.6	0.0
OHAK	Old Harbor comp=N,437nm,0.6s	1.89	192	IAML			03 04 08.1	
OHAK	comp=E,406nm,1.0s			IAML			03 04 10.8	
OHAK	Old Harbor baz=11	1.89	192	P		Pn	03 03 36.6	0.0
N19K	Bonanza Creek	2.00	332			Pn	03 03 37.9	-0.3
N19K	Bonanza Creek baz=151	2.00	332	P		Pn	03 03 37.9	-0.3
P17K	Kvichak River	2.00	275			Pn	03 03 38.0	-0.1
P17K	Kvichak River baz=92	2.00	275	P		Pn	03 03 38.0	-0.1
O22K	Cooper Landing	2.02	44			Pn	03 03 38.2	-0.1
O22K	Cooper Landing baz=227	2.02	44	P		Pn	03 03 38.2	-0.1
CKL	Chakachamna La	2.14	3			Pn	03 03 40.6	+0.6
N20K	Mount Spurr baz=186	2.14	5	P		Pn	03 03 40.6	+0.5
SPCR	Spurr Chakacha	2.14	5			Pn	03 03 40.6	+0.5
SPCR	Spurr Chakacha	2.14	5			Pn	03 03 40.7	+0.5
SPCR	Spurr Chakacha baz=186	2.14	5	P		Pn	03 03 40.7	+0.5
Q16K	King Salmon	2.16	261			Pn	03 03 40.6	+0.3
Q16K	King Salmon baz=27	2.16	261	P		Pn	03 03 40.6	+0.3
SPCN	Chakachatna No	2.17	5			Pn	03 03 41.4	+0.9
SPCP	Crater Peak Br	2.21	5			Pn	03 03 41.9	+0.8
CRP	Crater Peak	2.21	5			Pn	03 03 42.1	+1.0
N18K	Kilae Creek	2.33	315			Pn	03 03 42.1	-0.5
N18K	Kilae Creek baz=133	2.33	315	P		Pn	03 03 42.1	-0.5
O17K	Koliganek Bris	2.42	289			Pn	03 03 43.6	-0.2
O17K	Koliganek Bris baz=105	2.42	289	P		Pn	03 03 43.6	-0.2
STLK	Strandline Lak	2.46	8			Pn	03 03 45.4	+1.0
RC01	Rabbit Creek A	2.47	34			Pn	03 03 44.8	+0.3
RC01	Rabbit Creek A comp=N,739nm,0.4s	2.47	34	IAML			03 04 23.0	
RC01	Rabbit Creek A baz=217	2.47	34	P		Pn	03 03 44.8	+0.3
R17K	Ugashik Creek	2.47	236			Pn	03 03 45.3	+0.7
R17K	Ugashik Creek baz=52	2.47	236	P		Pn	03 03 45.3	+0.7
PLK1	Peulik 1	2.48	241			Pn	03 03 45.6	+1.0
SVW2	Sparrevohn	2.53	325			Pn	03 03 44.8	-0.6
SII	Sitkinak Islan	2.66	200			Pn	03 03 47.0	-0.2
SII	Sitkinak Islan comp=E,598nm,0.7s	2.66	200	IAML			03 04 39.4	
SII	Sitkinak Islan baz=18	2.66	200	P		Pn	03 03 47.0	-0.2
PWL	Port Wells	2.78	48			Pn	03 03 48.2	-0.5
PWL	Port Wells comp=E,448nm,0.6s	2.78	48	IAML			03 04 31.2	
PWL	comp=N,550nm,0.6s			IAML			03 04 33.1	
PWL	Port Wells baz=232	2.78	48	P		Pn	03 03 48.2	-0.5
P16K	Nushagak River	2.80	272			Pn	03 03 49.6	+0.6
P16K	Nushagak River baz=86	2.80	272	P		Pn	03 03 49.6	+0.6
O16K	Kokwok River B	2.88	283			Pn	03 03 50.0	0.0
O16K	Kokwok River B baz=98	2.88	283	P		Pn	03 03 50.0	0.0
M22K	Willow	2.95	23			Pn	03 03 51.8	+0.8
M22K	Willow baz=206	2.95	23	P		Pn	03 03 51.8	+0.8
SKT	Skwentna	2.96	9			Pn	03 03 52.2	+1.0
SKT	Skwentna comp=E,234nm,0.3s	2.96	9	IAML			03 04 32.6	
SKT	comp=N,194nm,0.4s			IAML			03 04 36.8	
SKT	Skwentna baz=191	2.96	9	P		Pn	03 03 52.2	+1.0
M19K	Big River Lodg	2.98	343			Pn	03 03 51.7	+0.2
M19K	Big River Lodg baz=162	2.98	343	P		Pn	03 03 51.7	+0.2
PMR	Palmer	3.05	33			Pn	03 03 52.0	-0.4
PMR	Palmer comp=E,316nm,0.3s	3.05	33	IAML			03 04 37.2	
PMR	comp=N,298nm,0.4s			IAML			03 04 37.8	
PMR	Palmer baz=216	3.05	33	P		Pn	03 03 52.0	-0.4
KNK	Knik Glacier	3.12	39			Pn	03 03 52.8	-0.5
KNK	Knik Glacier baz=223	3.12	39	P		Pn	03 03 52.8	-0.5
GLI	Glacier Island	3.29	54			Pn	03 03 54.2	-1.5
GLI	Glacier Island comp=N,186nm,0.9s	3.29	54	IAML			03 04 31.1	
GLI	comp=E,202nm,0.8s			IAML			03 04 45.0	
GLI	Glacier Island baz=239	3.29	54	P		Pn	03 03 54.2	-1.5
L19K	White Mountain	3.32	341			Pn	03 03 56.1	+0.1
L19K	White Mountain baz=159	3.32	341	P		Pn	03 03 56.1	+0.1
N16K	Nishlik Lake	3.44	297			Pn	03 03 58.2	+0.5
N16K	Nishlik Lake baz=111	3.44	297	P		Pn	03 03 58.2	+0.5
SML	Sawmill	3.45	36			Pn	03 03 57.7	-0.2
SML	Sawmill comp=E,216nm,0.4s	3.45	36	IAML			03 04 50.9	
SML	Sawmill baz=220	3.45	36	P		Pn	03 03 57.7	-0.2
L20K	Farewell, AK	3.48	350			Pn	03 03 58.8	+0.5
L20K	Farewell, AK baz=169	3.48	350	P		Pn	03 03 58.8	+0.5
FID	Port Fidalgo	3.50	59			Pn	03 03 56.7	-1.8
FID	Port Fidalgo comp=E,227nm,0.7s	3.50	59	IAML			03 04 51.9	
FID	comp=N,166nm,0.7s			IAML			03 04 52.6	
CUT	Chulitna	3.53	18			Pn	03 03 59.5	+0.6
CUT	Chulitna baz=200	3.53	18	P		Pn	03 03 59.5	+0.6
M23K	Glacier View	3.63	39			Pn	03 04 00.3	0.0
M23K	Glacier View baz=224	3.63	39	P		Pn	03 04 00.3	0.0
SCM	Sheep Creek Mo	3.79	41			Pn	03 04 02.6	0.0
SCM	Sheep Creek Mo comp=E,185nm,0.8s	3.79	41	IAML			03 05 00.2	
SCM	comp=N,246nm,0.9s			IAML			03 05 01.4	
SCM	Sheep Creek Mo baz=226	3.79	41	P		Pn	03 04 02.6	0.0
DIV	Divide	3.98	56			Pn	03 04 04.6	-0.5
KLU	Klutina	4.10	51			Pn	03 04 06.5	-0.3
KLU	Klutina comp=N,160nm,0.7s	4.10	51	IAML			03 05 07.3	
KLU	comp=E,103nm,0.8s			IAML			03 05 11.3	
KLU	Klutina baz=237	4.10	51	P		Pn	03 04 06.5	-0.3
WAT7	Susitna Watana	4.19	24			Pn	03 04 08.5	+0.6
TTA	Tatalina	4.22	338			Pn	03 04 08.4	0.0
TTA	Tatalina baz=155	4.22	338	P		Pn	03 04 08.4	0.0
WAT6	Susitna Watana	4.24	32			Pn	03 04 08.8	0.0
WAT6	Susitna Watana baz=216	4.24	32	P		Pn	03 04 08.8	0.0
WAT1	Susitna Watana	4.25	26			Pn	03 04 09.0	+0.3
WAT1	Susitna Watana baz=210	4.25	26	P		Pn	03 04 09.0	+0.3
K20K	Telida	4.36	351			Pn	03 04 10.7	+0.4
K20K	Telida baz=170	4.36	351	P		Pn	03 04 10.7	+0.4
CAST	Castle Rocks	4.37	3			Pn	03 04 10.8	+0.4
CAST	Castle Rocks baz=184	4.37	3	P		Pn	03 04 10.8	+0.4
M24K	Tolsona, Glenn	4.38	43			Pn	03 04 11.1	+0.5
M24K	Tolsona, Glenn baz=229	4.38	43	P		Pn	03 04 11.1	+0.5
BMRM	Bremner River	4.42	61			Pn	03 04 10.5	-0.7
BMRM	Bremner River baz=248	4.42	61	P		Pn	03 04 10.5	-0.7
TRF	Thorofare Moun	4.53	13			Pn	03 04 12.7	-0.1
TRF	Thorofare Moun comp=E,88nm,1.2s	4.53	13	IAML			03 05 43.7	
TRF	Thorofare Moun baz=195	4.53	13	P		Pn	03 04 12.7	-0.1
KTH	Kantishna Hill	4.57	9			Pn	03 04 13.6	+0.5
KTH	Kantishna Hill comp=N,93nm,0.6s	4.57	9	IAML			03 05 15.9	
KTH	comp=E,81nm,1.0s			IAML			03 05 38.2	
PS11	TAPS Pump St11	4.62	46			Pn	03 04 14.9	+1.1
N25K	Chitina, Valde	4.70	54			Pn	03 04 14.8	-0.2
N25K	Chitina, Valde comp=N,62nm,1.6s	4.70	54	IAML			03 05 36.5	
N25K	comp=E,66nm,4.3s			IAML			03 06 23.1	
N25K	Chitina, Valde baz=241	4.70	54	P		Pn	03 04 14.8	-0.2
DHY	Denali Highway	4.74	30			Pn	03 04 15.7	+0.1
DHY	Denali Highway comp=E,72nm,1.1s	4.74	30	IAML			03 05 22.2	
DHY	comp=N,81nm,0.8s			IAML			03 05 26.9	
DHY	Denali Highway baz=215	4.74	30	P		Pn	03 04 15.7	+0.1
CHUM	Lake Minchumin	4.83	1			Pn	03 04 17.7	+1.0
CHUM	Lake Minchumin baz=182	4.83	1	P		Pn	03 04 17.7	+1.0
HARP	HAARP	4.93	44			Pn	03 04 18.5	+0.4
HARP	HAARP baz=231	4.93	44	P		Pn	03 04 18.5	+0.4
GLB	Gilahina Butte	4.96	58			Pn	03 04 17.9	-0.7
GLB	Gilahina Butte comp=E,64nm,4.6s	4.96	58	IAML			03 05 23.4	
GLB	comp=N,60nm,3.4s			IAML			03 05 43.0	
MCK	McKinley	4.99	19			Pn	03 04 19.1	+0.2
MCK	McKinley comp=E,53nm,2.8s	4.99	19	IAML			03 05 38.8	
MCK	comp=N,56nm,1.0s			IAML			03 05 53.6	
MCK	McKinley baz=202	4.99	19	P		Pn	03 04 19.1	+0.2
BPAW	Bear Paw Mtn.	5.10	8			Pn	03 04 20.6	+0.1
BPAW	Bear Paw Mtn. comp=E,43nm,1.8s	5.10	8	IAML			03 05 59.0	
BPAW	comp=N,36nm,2.3s			IAML			03 06 03.7	
BPAW	Bear Paw Mtn. baz=189	5.10	8	P		Pn	03 04 20.6	+0.1
J20K	Nowinta River	5.18	352			Pn	03 04 21.8	+0.3
J20K	Nowinta River comp=E,24nm,0.7s	5.18	352	IAML			03 05 58.0	
J20K	comp=N,26nm,2.2s			IAML			03 05 59.1	
J20K	Nowinta River baz=171	5.18	352	P		Pn	03 04 21.8	+0.3
PAX	Paxson	5.21	38			Pn	03 04 21.7	-0.3
PAX	Paxson baz=225	5.21	38	P		Pn	03 04 21.7	-0.3
MCARA	McCarthy VSAT	5.29	60			Pn	03 04 22.2	-0.7
MCARA	McCarthy VSAT baz=248	5.29	60	P		Pn	03 04 22.2	-0.7
PTPK	Patty Peak	5.48	63			Pn	03 04 25.1	-0.6
YAH	Yahtse	5.63	72			Pn	03 04 28.2	+0.4
M26K	Nabesna, AK	5.76	50			Pn	03 04 29.7	+0.3
M26K	Nabesna, AK baz=239	5.76	50	P		Pn	03 04 29.7	+0.3
WRH	Wood River Hil	5.82	19			Pn	03 04 29.9	-0.2
RIDG	Independent Ri	5.97	35			Pn	03 04 32.7	+0.4
HDA	Harding Lake	5.98	24			Pn	03 04 32.5	+0.1
CCB	Clear Creek Bu	6.03	20			Pn	03 04 32.6	-0.4
MLY	Manley	6.04	7	Pn		Pn	03 04 34.0	+0.7
I21K	Tanana	6.14	2			Pn	03 04 34.8	+0.3
DOT	Dot Lake	6.14	38			Pn	03 04 34.9	+0.2
TCOL	CIGO, UAF Yank	6.23	19			Pn	03 04 35.8	+0.1
COLA	College	6.23	19			Pn	03 04 35.0	-0.8
MDM	Murphy Dome	6.25	17			Pn	03 04 36.0	0.0
IL31		6.32	23			Pn	03 04 36.6	-0.3
ILAR	Eielson Array	6.32	23			Pn	03 04 36.8	-0.1
J25K	Salcha River,	6.52	28			Pn	03 04 39.5	-0.3
POKR	Poker Plat Res	6.53	19			Pn	03 04 39.9	+0.1
H21K	Melozitna Rive	6.61	359			Pn	03 04 41.3	+0.3
J26L	Joseph Creek	6.92	34			Pn	03 04 44.9	-0.3
H23K	Yukon River	6.92	10	Pn		Pn	03 04 45.2	0.0
IMAR	Indian Mountai	6.96	356	Pn		Pn	03 04 46.1	+0.3
H24K	Noodor Dome	7.13	16			Pn	03 04 48.5	+0.4
PRP	Porcupine Dome	7.25	24			Pn	03 04 50.0	+0.2
P29M	Windy Craggy	7.60	79			Pn	03 04 54.9	+0.3

IDC ***22*** *03:56:47.7±0.8,5°.93N×73°.64W,h126$^{km}_{\pm 6}$,mb3.3/3, mbtmp3.8/5,Error ellipse: s-maj=29.4km s-min=9.0km az=129.0*

RSNC ***22*** *03:56:48.2±1.1,5°.95N×73°.76W,h114$^{km}_{\pm 4}$,ML3.5, Mw3.8,Fault plane solution: NP1:δ≈28.00000°, δ18.00000°,λ=-171.00000°.*

ISC 22 03:56:47.4±0.8,5°.96N±0°.03×73°.76W±0°.03,h121$^{km}_{\pm 6}$, n48,σ1≈53/91,mb3.4/3,8C-6D,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPBC	San Pablo de B	0.44	225	⇑*i*P		Pn	03 57 04.6	-0.7
SPBC				*e*S		Sn	03 57 17.0	-1.7
SPBC	comp=Z,2µm,0.2s			IAML			03 57 18.7	
RUSC	La Rusia	0.68	96	⇓*i*P		Pn	03 57 07.2	-0.1
RUSC				*e*S		Sn	03 57 21.3	-1.0
RUSC	comp=Z,935nm,0.3s			IAML			03 57 23.1	
BARC	Barichara	0.85	43	⇓*i*P		Pn	03 57 08.7	+0.3
BARC				*e*S		Sn	03 57 24.5	+0.2
BARC				*e*S		Sn	03 57 24.7	+0.4
BARC	comp=Z,2µm,0.5s			IAML			03 57 25.9	
PTBC	PUERTO BERRIO,	0.90	310	⇓*i*P		Pn	03 57 07.2	-1.3
PTBC				*e*S		Sn	03 57 23.6	-1.0
PTBC	comp=Z,661nm,0.2s			IAML			03 57 24.3	
BRRC	Barranca, Sant	1.14	3	⇓*i*P		Pn	03 57 10.9	0.0
BRRC				*e*S		Sn	03 57 29.1	+0.3
BRRC	comp=Z,1µm,0.4s			IAML			03 57 32.1	
NORC	Norcasia	1.17	250	*e*P		Pn	03 57 11.1	-0.2
NORC				*e*S		Sn	03 57 28.8	-0.6
ROSC	El Rosal	1.25	206	P		Pn	03 57 12.9	+0.4
ROSC	comp=Z,272nm,0.3s,baz=303,slow=11,SNR=224			S		Sn	03 57 33.1	+1.6
ROSC	comp=Z,604nm,0.3s,baz=90,slow=22,SNR=12 El Rosal	1.25	206	⇑*i*P		Pn	03 57 12.9	+0.4
ROSC				*e*S		Sn	03 57 34.0	+2.6
ROSC	comp=Z,639nm,0.3s			IAML			03 57 36.6	
CHIC	Chingaza	1.33	179	⇑*i*P		Pn	03 57 13.0	-0.4
CHIC				*e*S		Sn	03 57 32.1	-1.0
CHIC	comp=Z,279nm,0.3s			IAML			03 57 36.6	
PAMC	Pamplona, Colo	1.73	38	⇓*i*P		Pn	03 57 18.6	+0.5
PAMC				*e*S		Sn	03 57 42.1	+0.7
PAMC	comp=Z,349nm,0.4s			IAML			03 57 50.8	
GUY2C	Guyana, Caldas	1.75	245	⇑*i*P		Pn	03 57 18.1	-0.3
GUY2C				*e*S		Sn	03 57 41.8	-0.1
GUY2C	comp=Z,300nm,0.3s			IAML			03 57 47.4	
HELC	Santa Helena	1.77	277	*e*P		Pn	03 57 18.7	+0.3
HELC				*e*S		Sn	03 57 42.4	+0.3
HELC	comp=Z,262nm,0.2s			IAML			03 57 47.1	
VILC	Villavicencio,	1.84	178	⇑*i*P		Pn	03 57 19.0	-0.1
VILC				*e*S		Sn	03 57 43.5	+0.1
VILC	comp=Z,702nm,0.5s			IAML			03 57 45.8	
ZARC	Zaragoza, Cauc	1.87	324	*e*P		Pn	03 57 18.9	-0.5
ZARC				*e*S		Sn	03 57 43.2	-0.5
ZARC	comp=Z,405nm,0.3s			IAML			03 57 52.3	
TAMC	Tame, Arauca	2.02	76	⇓*i*P		Pn	03 57 21.8	+0.6
TAMC				*e*S		Sn	03 57 45.9	-1.1
TAMC	comp=Z,229nm,0.2s			IAML			03 57 51.3	
ANIL	Santa Ana	2.19	228	*e*P		Pn	03 57 23.5	-0.1
ANIL				*e*S		Sn	03 57 52.0	+0.7
ANIL	comp=Z,813nm,0.3s			IAML			03 57 55.2	
CBOC	Ciudad Bolivar	2.24	268	*e*P		Pn	03 57 24.6	+0.5
CBOC	comp=Z,89nm,0.4s			IAML			03 57 50.6	
CBOC				*e*S		Sn	03 57 52.4	+0.3
OCAC	Ocana	2.30	11	*e*P		Pn	03 57 24.9	0.0
OCAC				*e*S		Sn	03 57 54.3	+0.7
PTGC	Puerto Gaitan,	2.39	137	⇑*i*P		Pn	03 57 25.4	-0.4
PTGC				*e*S		Sn	03 57 54.4	-1.0
PTGC	comp=Z,167nm,0.5s			IAML			03 58 01.7	
UREC	San Jos de Ur	2.50	315	*e*P		Pn	03 57 25.8	-1.4
UREC				*e*S		Sn	03 57 55.0	-2.8
UREC	comp=Z,225nm,0.2s			IAML			03 58 07.4	
DBBC	Dabeiba	2.65	293	*e*P		Pn	03 57 30.9	+1.7
DBBC				*e*S		Sn	03 58 00.6	-0.7
PLMC	San Jos del P	2.72	247	*i* P		Pn	03 57 30.6	+0.4
PLMC				*e*S		Sn	03 58 00.8	-2.2
PLMC	comp=Z,58nm,0.3s			IAML			03 58 05.9	
YOTC	Yotoco, Valle	3.24	233	*e*P		Pn	03 57 36.4	-0.5
YOTC				*e*S		Sn	03 58 18.2	+3.0
LL1C	La Loma 1 Cana	3.56	3	*e*P		Pn	03 57 43.1	+2.0
LL1C				*e*S		Sn	03 58 26.4	+3.7
GUVC	San Jose del G	3.58	161	*e*P		Pn	03 57 40.7	-0.8
GUVC				*e*S		Sn	03 58 20.9	-2.3
GUVC	comp=Z,273nm,0.3s			IAML			03 58 24.0	
BETC	Betania	3.67	207	*e*P		Pn	03 57 41.4	-1.2
BETC				*e*S		Sn	03 58 21.4	-3.9
BETC	comp=Z,84nm,0.5s			IAML			03 58 28.5	
SOCV	Socops	3.69	51	*e*P		Pn	03 57 43.1	+0.2
SOCV				*e*S		Sn	03 58 24.7	-1.2
LL6C	La Loma 6 Bece	3.78	7	*e*P		Pn	03 57 44.9	+0.8
LL6C				*e*S		Sn	03 58 29.8	+1.9
LL6C	comp=Z,95nm,0.3s			IAML			03 58 38.5	
MACC	Macarena, Meta	3.79	181	⇑*i*P		Pn	03 57 42.6	-1.7
MACC				*e*S		Sn	03 58 24.4	-3.9
MACC	comp=Z,98nm,0.3s			IAML			03 58 28.8	
LCBC	Los crdobas,	3.86	318	*e*P		Pn	03 57 44.2	-1.0
LCBC				*e*S		Sn	03 58 29.4	-0.5
LCBC	comp=Z,49nm,0.4s			IAML			03 58 36.2	
ARGC	Ariguani, Magd	3.90	353	*e*P		Pn	03 57 46.7	+1.1
ARGC				*e*S		Sn	03 58 32.4	+1.6
ARGC	comp=Z,66nm,0.2s			IAML			03 58 42.4	
GARC	Garzon, Huila	4.13	205	*e*P		Pn	03 57 47.5	-1.5
GARC				*e*S		Sn	03 58 34.1	-2.6
GARC	comp=Z,191nm,0.2s			IAML			03 58 37.8	
SJCC	San Jacinto, C	4.15	340	⇑*i*P		Pn	03 57 43.3	-1.7
SJCC				*e*S		Sn	03 58 33.2	-3.7
SJCC	comp=Z,75nm,0.4s			IAML			03 58 42.2	
SDV	Santo Domingo	4.25	47	P		Pn	03 57 50.2	-0.3
SDV	comp=Z,26nm,0.3s,baz=230,slow=7.8,SNR=26			S		Sn	03 58 38.2	-1.2
SDV	comp=Z,59nm,0.3s,baz=231,slow=21,SNR=14			IAML			03 59 13.5	
POPC	Popayan, Colom	4.47	221	*e*P		Pn	03 57 54.0	+0.5
POPC				*e*S		Sn	03 58 45.9	+1.0
FLOC	Florencia	4.74	203	*e*P		Pn	03 57 56.1	-0.8
FLOC				*e*S		Sn	03 58 49.4	-1.7
FLOC	comp=Z,27nm,0.4s			IAML			03 58 53.1	
CRJC	Cerrejon, Guaj	5.10	10	*e*P		Pn	03 58 01.3	-0.5
CRJC				*e*S		Sn	03 58 57.6	-2.1
SMRC	Santa Marta, M	5.19	355	*e*P		Pn	03 58 02.3	-0.6

DABV	**Dabajuro**	**5.82**	**32**	*eP*		**Pn**	**03 58 11.8**	**+0.4**
DABV				*eS*		**Sn**	**03 59 15.3**	**-1.6**
PTLC	**Puerto Leguiza**	**5.85**	**190**	*eP*		**Pn**	**03 58 14.8**	**+3.0**
PTLC				*eS*		Sn	03 59 34.0	+16
PTLC				IAML			03 59 54.1	
	comp=Z,18nm,0.4s							
URIC	**Uribia, Colomb**	**5.96**	**17**	*eP*		**Pn**	**03 58 12.7**	**-0.7**
URIC				*eS*		**Sn**	**03 59 17.0**	**-3.5**
URIC				IAML			03 59 33.5	
	comp=Z,25nm,0.2s							
PCRV	**Puerto La Cruz**	**9.96**	**65**	P		**Pn**	**03 59 07.3**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=313,slow=2.9,SNR=8.0							
LPAZ	**La Paz**	**22.80**	**166**	P		**P**	**04 01 40.4**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=348,slow=3.3,SNR=5.5							
LPAZ				pP		**pP**	**04 02 06.5**	**+1.9**
	comp=Z,1.2nm,0.7s,baz=346,slow=9.7,SNR=4.8							
	comp=Z,0.6nm,0.4s							
SIV	**San Ignacio**	**25.17**	**150**	P		**P**	**04 02 00.7**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=305,slow=16,SNR=2.1							
	comp=Z,0.6nm,0.8s							
SCHQ	**Schefferville**	**49.05**	**5**	P		**P**	**04 05 23.1**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=192,slow=14,SNR=1.4							
	comp=Z,2.2nm,0.6s							
ASAR	**Alice Springs**	**148.09**	**234**	PKPbc		**PKPbc**	**04 16 18.8**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=116,slow=3.5,SNR=9.9							
WRA	**Warramunga Arr**	**149.36**	**240**	PKPbc		**PKPbc**	**04 16 22.2**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=108,slow=2.9,SNR=37							

IDC ***22*** *04:06:26.0±1.8, 12°.30N×72°.49W, h0km, mb3.6/1, mbtmp4.1/3, ML3.5/2, Error ellipse: s-maj=55.7km s-min=36.9km az=153.0*
FUNV ***22*** *04:06:40.0, 11°.29N×72°.05W, h11km, MW4.0*
ISC 22 04:06:39.8±1.5, 11°.34N±0°.10×72°.03W±0°.07, h100km, n20, σ1§44/37, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MCQV	**Machiques**	**1.37**	**201**	*eP*		**Pn**	**04 07 03.9**	**-0.6**
MCQV				*eS*		**Sn**	**04 07 22.3**	**-0.9**
DABV	**Dabajuro**	**1.43**	**107**	*eP*		**Pn**	**04 07 05.6**	**+0.4**
DABV				*eS*		**Sn**	**04 07 24.1**	**-0.4**
SIQV	**Siquisique**	**2.29**	**107**	*eP*		**Pn**	**04 07 17.1**	**+0.9**
SIQV				*eS*		**Sn**	**04 07 44.6**	**+0.6**
CURV	**Curarigua**	**2.42**	**123**	*eP*		**Pn**	**04 07 20.4**	**+2.4**
CURV				*eS*		**Sn**	**04 07 47.7**	**+0.4**
JACV	**Jacura**	**3.15**	**94**	*eP*		**Pn**	**04 07 28.6**	**+1.0**
JACV				*eS*		**Sn**	**04 08 06.1**	**+1.6**
SOCV	**Socops**	**3.25**	**159**	*eP*		**Pn**	**04 07 29.6**	**+0.7**
SOCV				*eS*		**Sn**	**04 08 06.0**	**-0.9**
CAPV	**Capacho**	**3.46**	**185**	*eP*		**Pn**	**04 07 31.8**	**-0.2**
CAPV				*eS*		**Sn**	**04 08 11.1**	**-1.2**
MAPV	**Macapo**	**3.82**	**113**	*eP*		**Pn**	**04 07 37.3**	**+0.7**
MAPV				*eS*		**Sn**	**04 08 20.6**	**0.0**
TURV	**Turiamo**	**4.21**	**102**	*eP*		**Pn**	**04 07 41.2**	**-0.6**
TURV				*eS*		**Sn**	**04 08 28.3**	**-1.7**
BENV	**Beln**	**4.57**	**107**	*eP*		**Pn**	**04 07 47.9**	**+1.2**
BENV				*eS*		**Sn**	**04 08 38.6**	**-0.2**
BAUV	**El Baul**	**4.59**	**121**	*eP*		**Pn**	**04 07 47.9**	**+0.9**
BAUV				*eS*		**Sn**	**04 08 37.9**	**-1.4**
TACV	**Tcata**	**5.06**	**103**	*eP*		**Pn**	**04 07 53.5**	**+0.1**
TACV				*eS*		**Sn**	**04 08 49.6**	**-1.1**
BIRV	**Birongo**	**5.72**	**98**	*eP*		**Pn**	**04 08 00.8**	**-1.6**
BIRV				*eS*		**Sn**	**04 09 05.8**	**-1.0**
MERV	**Las Mercedes**	**6.01**	**110**	*eP*		**Pn**	**04 08 06.9**	**+0.6**
MERV				*eS*		**Sn**	**04 09 10.3**	**-3.5**
ROSC	**El Rosal**	**6.84**	**200**	Pn		**Pn**	**04 08 18.9**	**+1.0**
	4.9nm,0.3s,baz=144,slow=13,SNR=11							
ROSC					Sn	**Sn**	**04 09 37.9**	**+3.3**
	2.8nm,0.3s,baz=25,slow=23,SNR=4.6							
	9.3nm,0.3s							
PCRV	**Puerto La Cruz**	**7.36**	**98**	Pn		**Pn**	**04 08 23.8**	**-0.9**
	3.5nm,0.3s,baz=273,slow=4.0,SNR=26							
	11nm,0.4s							
PCRV	**Puerto La Cruz**	**7.36**	**98**	*eP*		**Pn**	**04 08 23.8**	**-0.9**
PCRV				*eS*		**Sn**	**04 09 45.0**	**-1.6**
PRGV	**PARIAGUAN**	**7.71**	**109**	*eP*		**Pn**	**04 08 30.1**	**+0.7**
PRGV				*eS*		**Sn**	**04 09 51.6**	**-3.7**
TORD	**Torodi Ar. Bea**	**71.83**	**80**	P		**P**	**04 17 53.0**	**+0.7**
	0.3nm,0.4s,baz=276,slow=5.8,SNR=5.1							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**153.24**	**248**	PKPbc		**PKPbc**	**04 26 26.6**	**-0.4**
	0.1nm,0.4s,baz=101,slow=3.3,SNR=6.1							

IDC ***22*** *04:32:51.5±0.6, 6°.79N×72°.97W, h161km±6km, mb3.6/15, mbtmp4.2/20, Error ellipse: s-maj=10.4km s-min=9.9km az=99.0*
NEIC ***22*** *04:32:52.2±1.6, 6°.77N±0°.07×73°.04W±0°.08, h158km±10km, Error ellipse: s-maj=12.4km s-min=8.9km az=130.0*
RSNC ***22*** *04:32:52.7±1.2, 6°.82N×73°.10W, h151km±4km, ML4.1, Mw4.2, Fault plane solution: NP1:φs144.00000°, δ52.00000°, λ-142.00000°.*
VAO ***22*** *04:32:54.0±0.3, 6°.79N×72°.84W, h174km±2km, mb4.2*
ISC 22 04:32:51.0±0.5, 6°.82N±0°.03×73°.07W±0°.03, h160km±4km, h160km:pP-P, n210, σ1§63/271, mb4.4/61, 6C-14D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**207**	*i*/*iP*		**Pn**	**04 33 13.2**	**+0.3**
BARC				*eS*		**Sn**	**04 33 28.3**	**-1.3**
BARC				IAML			04 33 29.8	
	comp=Z,4μm,0.3s							
PAMC	**Pamplona, Colo**	**0.63**	**35**	*i*/*iP*		**Pn**	**04 33 16.0**	**+1.2**
PAMC				*eS*		**Sn**	**04 33 33.0**	**+0.2**
BRRC	**Barranca, Sant**	**0.70**	**294**	*i*/*iP*		**Pn**	**04 33 15.1**	**+0.5**
BRRC				*eS*		**Sn**	**04 33 32.6**	**0.0**
BRRC				IAML			04 33 34.9	
	comp=Z,2μm,0.2s							
RUSC	**La Rusia**	**0.92**	**181**	*i*/*iP*		**Pn**	**04 33 17.0**	**+0.3**
RUSC				*eS*		**Sn**	**04 33 35.8**	**-0.5**
RUSC				IAML			04 33 39.3	
	comp=Z,950nm,0.3s							
TAMC	**Tame, Arauca**	**1.32**	**107**	*i*/*iP*		Pn	04 33 21.3	+1.7
TAMC				*eS*		**Sn**	**04 33 41.8**	**+0.2**
TAMC				IAML			04 33 42.2	
	comp=Z,1μm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.41**	**259**	*i*/*iP*		**Pn**	**04 33 19.6**	**-0.8**
PTBC				*eS*		**Sn**	**04 33 41.6**	**-1.4**
PTBC				IAML			04 33 48.7	
	comp=Z,3μm,0.4s							
OCAC	**Ocana**	**1.43**	**350**	*i*/*iP*		**Pn**	**04 33 21.2**	**+0.4**
OCAC				*eS*		**Sn**	**04 33 44.4**	**+0.6**
SPBC	**San Pablo de B**	**1.53**	**221**	*i*/*iP*		**Pn**	**04 33 22.0**	**+0.2**
SPBC				*eS*		**Sn**	**04 33 44.8**	**-0.6**
SPBC				IAML			04 33 51.1	
	comp=Z,5μm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*eP*		**Pn**	**04 33 25.4**	**-0.2**
ZARC				*eS*		**Sn**	**04 33 51.9**	**-0.4**
ZARC				IAML			04 33 57.6	
	comp=Z,3μm,0.5s							
NORC	**Norcasia**	**2.18**	**235**	*eP*		**Pn**	**04 33 28.9**	**-0.1**
NORC				*eS*		**Sn**	**04 33 58.4**	**+0.3**
NORC				IAML			04 34 00.9	
	comp=Z,2μm,0.2s							
CHIC	**Chingaza**	**2.27**	**197**	*i*/*iP*		**Pn**	**04 33 30.8**	**+0.4**
CHIC				*eS*		**Sn**	**04 34 00.3**	**-0.4**
CHIC				IAML			04 34 04.6	
	comp=Z,712nm,0.4s							
ROSC	**El Rosal**	**2.33**	**212**	P		**Pn**	**04 33 32.7**	**+1.7**
	comp=Z,923nm,0.3s,baz=303,slow=6.4,SNR=498							
ROSC					S	**Sn**	**04 34 02.9**	**+1.1**
	comp=Z,1μm,0.5s,baz=110,slow=19,SNR=8.0							
ROSC	**El Rosal**	**2.33**	**212**	Pn		**Pn**	**04 33 32.6**	**+1.6**
ROSC					Sn	**Sn**	**04 33 59.9**	**-1.9**
ROSC	**El Rosal**	**2.33**	**212**	*i*/*iP*		**Pn**	**04 33 32.6**	**+1.6**
ROSC				*eS*		**Sn**	**04 34 01.7**	**-0.1**
ROSC				IAML			04 34 10.9	
	comp=Z,2μm,0.5s							
HELC	**Santa Helena**	**2.52**	**256**	*eP*		**Pn**	**04 33 33.8**	**+0.5**
HELC				*eS*		**Sn**	**04 34 07.4**	**+1.5**
HELC				IAML			04 34 13.7	
	comp=Z,972nm,0.3s							
UREC	**San Jos de Ur**	**2.62**	**291**	*i*/*iP*		**Pn**	**04 33 32.8**	**-1.2**
UREC				*eS*		**Sn**	**04 34 03.0**	**-4.3**
UREC				IAML			04 34 17.0	
	comp=Z,842nm,0.3s							
SOCV	**Socops**	**2.63**	**56**	*eP*		**Pn**	**04 33 35.6**	**+1.3**
SOCV				*eS*		**Sn**	**04 34 07.0**	**-0.6**
LL1C	**La Loma 1 Cana**	**2.75**	**350**	*eP*		**Pn**	**04 33 38.4**	**+2.8**
LL1C				*eS*		**Sn**	**04 34 13.3**	**+3.1**
VILC	**Villavicencio,**	**2.76**	**193**	*i*/*iP*		**Pn**	**04 33 36.0**	**+0.1**
VILC				*eS*		**Sn**	**04 34 12.3**	**+1.5**
VILC				IAML			04 34 20.6	
	comp=Z,759nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.77**	**160**	*i*/*iP*		**Pn**	**04 33 36.0**	**+0.1**
PTGC				*eS*		**Sn**	**04 34 09.0**	**-1.7**
PTGC				IAML			04 34 14.3	
	comp=Z,475nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.78**	**235**	*eP*		**Pn**	**04 33 37.0**	**+0.5**
GUY2C				*eS*		**Sn**	**04 34 11.2**	**-0.5**
GUY2C				IAML			04 34 19.6	
	comp=Z,2μm,0.8s							
LL6C	**La Loma 6 Bece**	**2.90**	**356**	*eP*		**Pn**	**04 33 37.5**	**-0.1**
LL6C				*eS*		**Sn**	**04 34 12.3**	**-1.4**
LL6C				IAML			04 34 26.2	
	comp=Z,325nm,0.3s							
LL5C	**La Loma 5 El P**	**2.98**	**348**	*eS*		**Sn**	**04 34 16.0**	**+0.5**
LL5C				IAML			04 34 23.6	
	comp=Z,637nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.08**	**252**	*i*/*iP*		**Pn**	**04 33 40.4**	**+0.5**
CBOC				*eS*		**Sn**	**04 34 19.1**	**+1.3**
CBOC				IAML			04 34 28.2	
	comp=Z,450nm,0.5s							
DBBC	**Dabeiba**	**3.13**	**274**	*eP*		**Pn**	**04 33 41.1**	**+0.7**
DBBC				*eS*		**Sn**	**04 34 16.4**	**-2.3**
SDV	**Santo Domingo**	**3.17**	**49**	P		**Pn**	**04 33 42.3**	**+1.3**
	comp=Z,368nm,0.3s,baz=213,slow=4.6,SNR=209							
SDV					S	**Sn**	**04 34 19.5**	**-0.3**
	comp=Z,368nm,0.4s,baz=68,slow=20,SNR=30							
SDV	**Santo Domingo**	**3.17**	**49**	Pn		**Pn**	**04 33 42.3**	**+1.3**
SDV					Sn	**Sn**	**04 34 19.1**	**-0.8**
SDV	**Santo Domingo**	**3.17**	**49**	*eP*		**Pn**	**04 33 42.4**	**+1.3**
ARGC	**Ariguani, Magd**	**3.24**	**339**	*eP*		**Pn**	**04 33 43.2**	**+1.5**
ARGC				*eS*		**Sn**	**04 34 21.4**	**+0.2**
ARGC				IAML			04 34 28.7	
	comp=Z,302nm,0.3s							
ANIL	**Santa Ana**	**3.28**	**225**	*eP*		**Pn**	**04 33 43.4**	**+0.8**
ANIL				*eS*		**Sn**	**04 34 23.8**	**+1.1**
SJCC	**San Jacinto, C**	**3.70**	**326**	*i* P		**Pn**	**04 33 46.9**	**-0.8**
SJCC				*eS*		**Sn**	**04 34 28.2**	**-3.8**
SJCC				IAML			04 34 33.4	
	comp=Z,333nm,0.3s							
PLMC	**San Jos del P**	**3.72**	**239**	*i*/*iP*		**Pn**	**04 33 48.7**	**+0.6**
PLMC				*eS*		**Sn**	**04 34 30.1**	**-2.3**
PLMC				IAML			04 34 54.5	
	comp=Z,229nm,0.5s							
LCBC	**Los crdobas,**	**3.85**	**302**	*eP*		**Pn**	**04 33 48.9**	**-0.6**
LCBC				*eS*		**Sn**	**04 34 32.2**	**-2.9**
LCBC				IAML			04 34 37.5	
	comp=Z,392nm,0.4s							
CRJC	**Cerrejon, Guaj**	**4.18**	**2**	*i*/*iP*		**Pn**	**04 33 53.2**	**-0.7**
CRJC				*eS*		**Sn**	**04 34 40.9**	**-2.1**
CRJC				IAML			04 34 46.5	
	comp=Z,372nm,0.5s							
GUVC	**San Jose del G**	**4.27**	**174**	*eP*		**Pn**	**04 33 54.5**	**-0.6**
GUVC				*eS*		**Sn**	**04 34 44.3**	**-0.7**
GUVC				IAML			04 34 51.3	
	comp=Z,158nm,0.2s							
YOTC	**Yotoco, Valle**	**4.31**	**229**	*eP*		**Pn**	**04 33 55.6**	**-0.2**
YOTC				*eS*		**Sn**	**04 34 47.2**	**+1.0**
SOLC	**Bahia Solano**	**4.35**	**262**	*eP*		**Pn**	**04 33 57.0**	**+0.9**
SMRC	**Santa Marta, M**	**4.46**	**345**	*eP*		**Pn**	**04 33 58.2**	**+0.6**
SMRC				*eS*		**Sn**	**04 34 46.0**	**-3.6**
SMRC				IAML			04 34 52.7	
	comp=Z,176nm,0.4s							
MACC	**Macarena, Meta**	**4.71**	**190**	*i*/*iP*		**Pn**	**04 33 59.7**	**-1.2**
MACC				*eS*		**Sn**	**04 34 51.6**	**-3.8**
MACC				IAML			04 35 00.0	
	comp=Z,116nm,0.3s							
PTAC	**Punta Ardita,**	**4.72**	**274**	*eP*		**Pn**	**04 34 00.8**	**-0.1**
DABV	**Dabajuro**	**4.73**	**30**	*i*/*iP*		**Pn**	**04 34 01.7**	**+0.6**
DABV				*eS*		**Sn**	**04 34 53.2**	**-2.7**
BETC	**Betania**	**4.74**	**210**	*eP*		**Pn**	**04 34 01.5**	**+0.2**
BETC				*eS*		**Sn**	**04 34 48.9**	**-7.3**
BETC				IAML			04 34 58.2	
	comp=Z,104nm,0.3s							
URIC	**Uribia, Colomb**	**4.96**	**12**	*eP*		**Pn**	**04 34 03.4**	**-0.7**
URIC				*eS*		**Sn**	**04 34 57.8**	**-3.5**
URIC				IAML			04 35 10.0	
	comp=Z,65nm,0.2s							
MALC	**Bahia Malaga**	**5.08**	**237**	*eP*		**Pn**	**04 34 07.1**	**+1.4**
MALC				*eS*		**Sn**	**04 35 01.0**	**-3.1**
GARC	**Garzon, Huila**	**5.20**	**208**	*eP*		**Pn**	**04 34 06.6**	**-0.9**
GARC				*eS*		**Sn**	**04 35 03.4**	**-3.9**
GARC				IAML			04 35 09.9	
	comp=Z,196nm,0.2s							
BAUV	**El Baul**	**5.41**	**67**	Pn		**Pn**	**04 34 08.7**	**-1.3**
POPC	**Popayan, Colom**	**5.57**	**220**	*i*/*iP*		**Pn**	**04 34 12.6**	**+0.2**
POPC				*eS*		**Sn**	**04 35 15.1**	**-0.9**
FLOC	**Florencia**	**5.81**	**206**	*i*/*iP*		**Pn**	**04 34 15.1**	**-0.3**
FLOC				*eS*		**Sn**	**04 35 19.2**	**-2.2**
FLOC				IAML			04 35 51.4	
	comp=Z,29nm,0.4s							
BBAC	**Balboa, Cauca**	**6.33**	**221**	*eP*		**Pn**	**04 34 23.4**	**+1.0**
BBAC				*eS*		**Sn**	**04 35 31.1**	**-3.0**
BBAC				IAML			04 35 40.3	
	comp=Z,31nm,0.3s							
GR1C	**Gorgona, Isla**	**6.34**	**234**	*eP*		**Pn**	**04 34 21.1**	**-1.3**
GR1C				*eS*		**Sn**	**04 35 34.2**	**+0.1**
GR1C				IAML			04 35 39.5	
	comp=Z,198nm,0.7s							
CRUC	**La Cruz**	**6.50**	**217**	*eP*		**Pn**	**04 34 26.4**	**+1.6**
CRUC				*eS*		**Sn**	**04 35 41.0**	**+2.6**
HATO	**Hato, Curacao**	**6.69**	**37**	Pn		**Pn**	**04 34 27.3**	**+0.3**
UPA	**Univ. de Panam**	**6.76**	**289**	*eP*		**Pn**	**04 34 25.8**	**-2.1**
UPA				*eS*		**Sn**	**04 35 39.7**	**-4.3**
PTLC	**Puerto Leguiza**	**6.83**	**195**	*eP*		Pn	04 34 33.9	+5.0
PTLC				*eS*		Sn	04 36 04.2	+18
PTLC				IAML			04 36 54.8	
	comp=Z,33nm,0.5s							
GCUF	**Volcan Galeras**	**7.01**	**218**	*eP*		**Pn**	**04 34 33.0**	**+1.3**
GCUF				*eS*		**Sn**	**04 35 48.4**	**-2.3**
GCUF				IAML			04 35 55.8	
	comp=Z,19nm,0.5s							
BCIP	**Isla Barro Col**	**7.10**	**290**			**Pn**	**04 34 31.0**	**-1.5**
BCIP	**Isla Barro Col**	**7.10**	**290**	*eP*		**Pn**	**04 34 30.7**	**-1.7**
BCIP				*eS*		**Sn**	**04 35 48.4**	**-3.8**
BCIP				IAML			04 36 05.1	
	comp=Z,20nm,0.6s							
BIRV	**Birongo**	**7.64**	**61**	Pn		**Pn**	**04 34 38.6**	**-1.1**
TULM	**Tulcn-Chalpat**	**7.68**	**218**			**Pn**	**04 34 42.1**	**+1.5**
CUSE	**Cuicocha Este**	**8.38**	**220**	*eP*		Pn	04 34 54.0	+4.1
CUSE				*eS*		**Sn**	**04 36 22.8**	**-0.7**
CUSE				IAML			04 36 47.7	
	comp=Z,38nm,0.3s							
OTAV	**Otavalo**	**8.46**	**220**	Pn		**Pn**	**04 34 50.8**	**-0.2**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P		**Pn**	**04 34 56.1**	**-1.4**
	comp=Z,9.3nm,0.5s,baz=265,slow=4.1,SNR=19							
PRVC	**Isla de Provid**	**10.45**	**309**	*eS*		**Sn**	**04 37 04.6**	**-8.0**
TBTG	**Tabatinga, AM**	**11.38**	**164**			**Pn**	**04 35 29.9**	**+0.9**
TBTG	**Tabatinga, AM**	**11.38**	**164**	*eP*		**Pn**	**04 35 30.9**	**+1.9**
MTDJ	**Mount Denham**	**12.14**	**339**			**Pn**	**04 35 41.2**	**+2.1**
SDDR	**Presa de Saban**	**12.21**	**8**			**Pn**	**04 35 41.8**	**+1.9**
MCRA	**Macar, Loja**	**13.07**	**212**	Pn		**Pn**	**04 35 48.6**	**-2.3**
SJG	**San Juan**	**13.09**	**30**	P		**Pn**	**04 35 49.6**	**-1.5**
	comp=Z,6.4nm,0.4s,baz=37,slow=22,SNR=4.2							
BOAV	**Boa Vista**	**13.25**	**109**			**Pn**	**04 35 52.2**	**-1.0**
BOAV	**Boa Vista**	**13.25**	**109**	*eP*		**Pn**	**04 35 51.5**	**-1.7**
CZSB	**Cruzeiro do Su**	**14.46**	**179**	*eP*		**P**	**04 36 10.1**	**-0.6**
CNGN	**Cerro Negro**	**14.57**	**294**	P		**Pn**	**04 36 11.7**	**+1.9**
PTGA	**Pitinga**	**15.07**	**119**	P		**Pn**	**04 36 14.9**	**-1.2**
	comp=Z,8.3nm,0.8s,baz=301,slow=13,SNR=18							
PTGA					S	**Sn**	**04 38 56.6**	**-7.3**
	comp=Z,4.5nm,0.6s,baz=52,slow=15,SNR=6.3							
MACA	**Manacapuru-AM**	**15.85**	**128**	*eP*		**P**	**04 36 24.8**	**-1.3**
ETMB	**Extrema**	**17.88**	**157**			**P**	**04 36 48.7**	**+0.2**
ETMB					IAmb	IAmb	04 36 58.4	
	comp=Z,5.1nm,0.7s							
ETMB	**Extrema**	**17.88**	**157**	*eP*		**Pn**	**04 36 48.9**	**-1.1**
MDP	**Montagnes des**	**20.39**	**94**	P		**P**	**04 37 15.0**	**-0.6**
	comp=Z,5.1nm,0.7s,baz=274,slow=9.0,SNR=5.9							
	comp=Z,5.1nm,0.7s							
ITTB	**Itaituba**	**20.56**	**122**	*eP*		**P**	**04 37 18.1**	**+0.7**
MALB	**Monte Alegre**	**20.65**	**114**	*eP*		**P**	**04 37 19.0**	**+0.6**
NPGB	**Novo Progresso**	**22.40**	**128**	*eP*		**P**	**04 37 36.8**	**+0.2**
NPGB				*ep*P		**pP**	**04 38 08.2**	**+2.7**
VILB	**Vilhena**	**23.44**	**147**	P		**P**	**04 37 46.5**	**+0.4**
VILB				IAmb		IAmb	04 38 19.4	
	comp=Z,19nm,1.0s							
VILB	**Vilhena**	**23.44**	**147**	*eP*		**P**	**04 37 46.9**	**+0.8**
VILB				*ep*P		**pP**	**04 38 18.3**	**+1.6**
LPAZ	**La Paz**	**23.47**	**168**	P		**P**	**04 37 46.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=335,slow=7.5,SNR=7.3							
LPAZ				pP		**pP**	**04 38 19.2**	**+1.5**
	comp=Z,4.8nm,0.7s,baz=337,slow=14,SNR=12							
	comp=Z,0.5nm,0.3s							
LPAZ	**La Paz**	**23.47**	**168**	P		**P**	**04 37 47.5**	**+0.4**
LPAZ	**La Paz**	**23.47**	**168**	*eP*		**P**	**04 37 48.0**	**+1.0**
LPAZ				*ep*P		**pP**	**04 38 20.1**	**+2.3**
656A	**Willston**	**24.14**	**339**	P		**P**	**04 37 55.4**	**+3.1**
PDRB	**Porto dos Gac**	**24.48**	**138**	*eP*		**P**	**04 37 55.5**	**-0.1**
PDRB				*ep*P		**pP**	**04 38 29.8**	**+1.8**
CLDB	**Colider**	**24.59**	**136**	*eP*		**P**	**04 37 56.2**	**-0.3**
CLDB				*ep*P		**pP**	**04 38 31.1**	**+2.0**
SIV	**San Ignacio**	**25.59**	**152**	P		**P**	**04 38 05.5**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=340,slow=12,SNR=4.3							
SIV				pP		**pP**	**04 38 39.2**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=319,slow=10,SNR=6.0							
	comp=Z,0.4nm,0.3s							
PTLB	**Pontes e Lacer**	**26.08**	**148**	P		**P**	**04 38 09.9**	**0.0**
PTLB				IAmb		IAmb	04 38 45.4	
	comp=Z,3.5nm,0.8s							
PTLB	**Pontes e Lacer**	**26.08**	**148**	*eP*		**P**	**04 38 09.5**	**-0.5**
PTLB				*ep*P		**pP**	**04 38 44.2**	**+0.5**
PRPB	**Parauapebas**	**26.55**	**119**	*eP*		**P**	**04 38 14.0**	**-0.3**
PRPB				*ep*P		**pP**	**04 38 50.1**	**+2.4**
GO01	**Chusmiza**	**26.60**	**172**	P		**P**	**04 38 14.3**	**-0.8**
GO01				IAmb		IAmb	04 38 52.5	
	comp=Z,16nm,1.5s							
152A	**Waverly Hall**	**27.91**	**339**	P		**P**	**04 38 28.5**	**+2.3**
152A				IAmb		IAmb	04 38 29.6	
	comp=Z,8.2nm,0.8s							
Y49A	**Blount Mountai**	**29.61**	**337**	P		**P**	**04 38 43.5**	**+2.3**
SMTB	**Santa Maria do**	**29.79**	**121**	*eP*		**P**	**04 38 43.5**	**+0.3**
W52A	**Murphy**	**29.86**	**342**	P		**P**	**04 38 45.8**	**+2.3**
W52A				IAmb		IAmb	04 38 47.0	
	comp=Z,6.1nm,0.8s							
X48A	**Hartselle**	**30.38**	**337**	P		**P**	**04 38 49.8**	**+1.8**
X48A				IAmb		IAmb	04 38 51.1	
	comp=Z,7.1nm,0.6s							
CPCT	**Cooper Cave**	**30.38**	**341**	P		**P**	**04 38 50.4**	**+2.4**
CPCT				IAmb		IAmb	04 38 51.4	
	comp=Z,4.9nm,0.9s							
W50A	**Signal Mountai**	**30.41**	**340**	P		**P**	**04 38 49.4**	**+1.1**
W50A				IAmb		IAmb	04 38 51.4	
	comp=Z,6.2nm,0.5s							
U54A	**Nelsons Funny**	**30.63**	**346**	P		**P**	**04 38 52.7**	**+2.5**
U54A				IAmb		IAmb	04 38 53.6	
	comp=Z,8.9nm,0.8s							
V51A	**Loudon**	**30.65**	**342**	P		**P**	**04 38 51.9**	**+1.5**
V51A				IAmb		IAmb	04 38 53.8	
	comp=Z,8.5nm,0.9s							
PLAL	**Pickwick Lake**	**31.25**	**336**	P		**P**	**04 38 57.4**	**+1.7**
PLAL				IAmb		IAmb	04 38 58.7	
	comp=Z,8.2nm,0.8s							
V48A	**Smith Brothers**	**31.43**	**338**	P		**P**	**04 38 59.0**	**+1.7**
CLTN	**Cedars of Leba**	**31.57**	**339**	P		**P**	**04 38 59.5**	**+1.1**
CLTN				IAmb		IAmb	04 39 01.8	
	comp=Z,14nm,1.3s							
W45A	**Hickory Valley**	**31.86**	**334**	P		**P**	**04 39 02.6**	**+1.5**
AQDB	**Aquidauana**	**32.05**	**148**	P		**P**	**04 39 02.8**	**0.0**
AQDB				IAmb		IAmb	04 39 41.6	
	comp=Z,7.8nm,1.1s							
AQDB	**Aquidauana**	**32.05**	**148**	*eP*		**P**	**04 39 02.7**	**-0.2**
AQDB				*ep*P		**pP**	**04 39 38.4**	**+1.1**
WVT	**Waverly**	**32.15**	**337**	P		**P**	**04 39 05.

W13A					IAmb	IAmb	04 41 41.9		
	comp=Z,6.8nm,1.0s								
P17A	**Butcher Ranch,**	**46.92**	**320**	P		**P**	**04 41 07.1**	**+1.3**	
KNB	**Kanab**	**47.02**	**316**	P		**P**	**04 41 08.2**	**+1.5**	
KNB					IAmb	IAmb	04 41 09.8		
	comp=Z,6.3nm,0.9s								
ULM	**Lac du Bonnet**	**47.30**	**340**	P		**P**	**04 41 08.7**	**+0.3**	
	comp=Z,5.5nm,0.4s,baz=145,slow=7.7,SNR=14								
	comp=Z,5.5nm,0.4s								
LCMT	**Little Creek M**	**47.31**	**315**	P		**P**	**04 41 10.5**	**+1.7**	
TCRU	**Three Creeks R**	**47.57**	**318**	P		**P**	**04 41 12.7**	**+1.7**	
TCRU					IAmb	IAmb	04 41 13.9		
	comp=Z,5.6nm,0.8s								
MPU	**Maple Canyon**	**47.79**	**320**	P		**P**	**04 41 13.7**	**+1.1**	
V12A	**Nelson**	**47.85**	**313**	P		**P**	**04 41 14.9**	**+1.9**	
V12A					IAmb	IAmb	04 41 15.5		
	comp=Z,3.7nm,0.7s								
BW06	**Boulder Array**	**48.11**	**324**	P		**P**	**04 41 16.1**	**+1.0**	
PD31	**Pinedale Array**	**48.11**	**324**	P		**P**	**04 41 15.7**	**+0.7**	
PDAR	**Pinedale Array**	**48.11**	**324**	P		**P**	**04 41 15.9**	**+0.9**	
	comp=Z,1.6nm,0.6s,baz=124,slow=9.1,SNR=19								
	comp=Z,1.6nm,0.6s								
SCHQ	**Schefferville**	**48.14**	**5**	P		**P**	**04 41 15.6**	**+0.8**	
	comp=Z,1.8nm,0.3s,baz=187,slow=8.8,SNR=9.3								
	comp=Z,1.8nm,0.3s								
PSUT	**Pine Spring**	**48.48**	**317**	P		**P**	**04 41 19.6**	**+1.7**	
AHID	**Auburn Hatcher**	**49.02**	**323**	P		**P**	**04 41 22.7**	**+0.7**	
DGMT	**Dagmar**	**49.17**	**333**	P		**P**	**04 41 23.7**	**+0.9**	
REDW	**Red Top Meadow**	**49.23**	**324**	P		**P**	**04 41 23.6**	**+0.1**	
REDW					IAmb	IAmb	04 41 25.7		
	comp=Z,6.1nm,0.7s								
SNOW	**Snow King Moun**	**49.23**	**324**	P		**P**	**04 41 24.1**	**+0.6**	
SNOW					IAmb	IAmb	04 41 26.9		
	comp=Z,4.4nm,0.7s								
LOHW	**Long Hollow**	**49.23**	**324**	P		**P**	**04 41 25.0**	**+1.5**	
LOHW					IAmb	IAmb	04 41 25.7		
	comp=Z,3.1nm,0.6s								
TPAW	**Teton Pass**	**49.36**	**324**	P		**P**	**04 41 24.8**	**+0.2**	
TPAW					IAmb	IAmb	04 41 25.8		
	comp=Z,5.8nm,1.1s								
MOOW	**Moose Ponds**	**49.39**	**324**	P		**P**	**04 41 25.8**	**+1.0**	
R11A	**Troy Canyon, C**	**49.58**	**316**	P		**P**	**04 41 27.0**	**+0.8**	
GCMT	**Greycliff**	**50.05**	**327**	P		**P**	**04 41 31.0**	**+1.4**	
DSP	**Deep Springs**	**50.83**	**313**	P		**P**	**04 41 37.2**	**+1.9**	
HLID	**Hailey**	**51.47**	**322**	P		**P**	**04 41 41.4**	**+1.0**	
NVAR	**Mina Array Bea**	**51.52**	**315**	P		**P**	**04 41 42.1**	**+1.2**	
	comp=Z,1.2nm,0.7s,baz=122,slow=7.9,SNR=7.4								
	comp=Z,1.2nm,0.7s								
HRY	**Holter Researc**	**51.80**	**327**	P		**P**	**04 41 44.4**	**+1.8**	
MFID	**Camas Ranch**	**52.26**	**321**	P		**P**	**04 41 47.0**	**+0.9**	
MFID					IAmb	IAmb	04 41 49.1		
	comp=Z,4.4nm,0.6s								
PLID	**Pearl Lake**	**53.25**	**323**	P		**P**	**04 41 54.0**	**+0.5**	
WVOR	**Wild Horse Val**	**53.56**	**319**	P		**P**	**04 41 56.6**	**+0.9**	
WVOR					IAmb	IAmb	04 41 59.3		
	comp=Z,4.5nm,1.0s								
F10A	**Beach Ranch, E**	**54.45**	**323**	P		**P**	**04 42 02.9**	**+0.9**	
F10A					IAmb	IAmb	04 42 03.5		
	comp=Z,3.5nm,0.6s								
I07A	**Izee**	**54.90**	**320**	P		**P**	**04 42 06.9**	**+1.6**	
I07A					IAmb	IAmb	04 42 07.4		
	comp=Z,2.1nm,0.6s								
G08A	**Pilot Rock**	**55.15**	**322**	P		**P**	**04 42 08.5**	**+1.4**	
G08A					IAmb	IAmb	04 42 09.1		
	comp=Z,4.1nm,0.7s								
E09A	**Wood Farm, Sta**	**55.28**	**323**	P		**P**	**04 42 08.8**	**+1.0**	
E09A					IAmb	IAmb	04 42 09.6		
	comp=Z,4.9nm,1.0s								
PINE	**Pine Mountain**	**55.69**	**319**	P		**P**	**04 42 12.1**	**+1.0**	
C09A	**Chrisman Ranch**	**56.03**	**325**	P		**P**	**04 42 14.0**	**+0.8**	
C09A					IAmb	IAmb	04 42 15.2		
	comp=Z,5.7nm,0.8s								
EDM	**Edmonton**	**56.65**	**332**	P		**P**	**04 42 18.0**	**+0.5**	
LTY	**Liberty**	**57.15**	**323**	P		**P**	**04 42 21.7**	**+0.5**	
LTY					IAmb	IAmb	04 42 23.3		
	comp=Z,3.6nm,0.8s								
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	**04 43 03.1**	**+0.7**	
	comp=Z,3.8nm,0.6s,baz=132,slow=6.5,SNR=13								
	comp=Z,3.8nm,0.6s								
DBIC	**Dimbokro**	**67.68**	**86**	P		**P**	**04 43 31.0**	**-0.6**	
	comp=Z,1.5nm,0.5s,baz=278,slow=4.7,SNR=13								
	comp=Z,1.5nm,0.5s								
SUMG	**Summit**	**68.98**	**11**	*i* P		**P**	**04 43 36.6**	**-2.5**	
TORD	**Torodi Ar. Bea**	**73.69**	**78**	P		**P**	**04 44 07.0**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=284,slow=6.6,SNR=10								
	comp=Z,0.2nm,0.3s								
ILAR	**Eielson Array**	**76.99**	**335**	P		**P**	**04 44 25.8**	**0.0**	
	comp=Z,0.5nm,0.6s,baz=113,slow=4.9,SNR=4.6								
	comp=Z,0.5nm,0.6s								
NOA	**NORSAR Array B**	**81.30**	**29**	P		**P**	**04 44 50.1**	**+0.7**	
	comp=Z,0.4nm,0.5s,baz=269,slow=5.3,SNR=3.2								
	comp=Z,0.4nm,0.5s								
ARCES	**ARCESS Array B**	**86.65**	**20**	P		**P**	**04 45 17.3**	**+1.0**	
	comp=Z,0.9nm,0.6s,baz=289,slow=3.7,SNR=6.5								
	comp=Z,0.9nm,0.6s								
MKAR	**Makanchi Array**	**122.30**	**20**	PKP		**PKPdf**	**04 51 27.4**	**0.0**	
	comp=Z,0.2nm,0.3s,baz=350,slow=2.8,SNR=5.7								
SONM	**Songino Array**	**125.58**	**0**	PKP		**PKiKP**	**04 51 34.8**	**+0.6**	
	comp=Z,0.4nm,0.4s,baz=257,slow=2.5,SNR=2.1								
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**	**04 52 21.2**	**-0.3**	
	comp=Z,0.9nm,0.5s,baz=120,slow=3.6,SNR=11								
ASAR				pPKPbc		**pPKPab**	**04 53 03.4**	**-4.2**	
	comp=Z,0.4nm,0.5s,baz=120,slow=3.6,SNR=2.5								
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc		**PKPbc**	**04 52 24.3**	**-0.2**	
	comp=Z,0.8nm,0.4s,baz=107,slow=2.8,SNR=45								
WRA				pPKPbc		**pPKPbc**	**04 53 06.5**	**-0.4**	
	comp=Z,0.5nm,0.4s,baz=106,slow=3.1,SNR=3.1								

HVO ***22*** *04:42:19.4±2.2, 19˚.787N±0˚.005×156˚.09W±0˚.03, h9km±6km, ML2.3/10, ML2.5/20(NEIC), Error ellipse: s-maj=4.6km s-min=0.8km az=94.0*

NEIC 22 04:42:15.5±0.8, 19˚.76N±0˚.03×156˚.24W±0˚.05, h27km±9km, Error ellipse: s-maj=7.4km s-min=3.1km az=74.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KHLU	**Kahalu`u**	**0.36**	**118**			Pn	04 42 24.5		-0.6
KHLU						Sb	04 42 28.3		-1.0
KHLU	**Kahalu`u**	**0.36**	**118**	IAML			04 42 30.1		
	comp=N,230nm,0.1s								
KHLU				IAML			04 42 30.1		
	comp=E,204nm,0.1s								
HUH	**Hualalai**	**0.39**	**102**			Pb	04 42 24.4		+0.3
HUH	**Hualalai**	**0.39**	**102**	IAML			04 42 31.4		
	comp=N,427nm,0.3s								
CPH	**Captain Cook**	**0.41**	**132**			Pn	04 42 26.1		+0.5
CPH						Sn	04 42 31.4		-1.0
HPAH	**Hawaii Prepara**	**0.57**	**62**			Pn	04 42 27.5		-0.5
HPAH						Sb	04 42 33.5		-1.4
HPAH	**Hawaii Prepara**	**0.57**	**62**	IAML			04 42 33.9		
	comp=E,478nm,0.5s								
HPAH				IAML			04 42 39.7		
	comp=N,334nm,0.4s								
ALEP	**Alea Permanent**	**0.60**	**111**			Pn	04 42 28.9		+0.2
ALEP						Sb	04 42 36.3		+0.3
MLOA	**Mauna Loa Obse**	**0.66**	**110**			Pn	04 42 29.5		-0.1
MLOA						Sb	04 42 37.5		-0.2
MLOA	**Mauna Loa Obse**	**0.66**	**110**	IAML			04 42 38.1		
	comp=E,351nm,0.2s								
MLOA				IAML			04 42 38.4		
	comp=N,296nm,0.5s								
MWH	**Moku'aweowe**	**0.66**	**115**			Pn	04 42 29.4		-0.2
MWH						Sb	04 42 38.2		+0.3
POHA	**Pohakuloa**	**0.66**	**90**			Pn	04 42 29.1		-0.3
POHA						Sb	04 42 36.5		-1.1
POHA	**Pohakuloa**	**0.66**	**90**	IAML			04 42 43.7		
	comp=N,368nm,0.5s								
HMH	**Humu'ula Sheep**	**0.73**	**103**			Pn	04 42 30.2		-0.1
HMH						Sb	04 42 39.5		0.0
HMH	**Humu'ula Sheep**	**0.73**	**103**	IAML			04 42 40.7		
	comp=E,270nm,0.5s								
KHU	**Kahuku**	**0.78**	**131**			Pn	04 42 31.3		+0.3
KHU						Sn	04 42 41.9		0.0
KHU	**Kahuku**	**0.78**	**131**	IAML			04 42 54.8		
	comp=N,171nm,2.8s								
AIN	**Ainahou**	**0.83**	**118**			Pb	04 42 31.5		+0.1
AIN						Sb	04 42 42.0		-0.3
AIN	**Ainahou**	**0.83**	**118**	IAML			04 42 43.9		
	comp=E,198nm,2.4s								
MLH	**Mauna Loa**	**0.84**	**108**			Pb	04 42 31.7		0.0
MLH						Sb	04 42 42.2		-0.6
MLH	**Mauna Loa**	**0.84**	**108**	IAML			04 42 42.8		
	comp=E,204nm,0.5s								
MLH				IAML			04 42 56.4		
	comp=N,165nm,1.3s								
HTC	**Hot Caves**	**0.95**	**123**			Pb	04 42 33.3		0.0
RSD	**Rainshed**	**0.95**	**108**			Pn	04 42 33.0		-0.2
RSD						Sb	04 42 45.1		-0.7
JOKA	**Jonika Flow**	**1.21**	**106**			Pn	04 42 35.9		-0.8
DHH	**Diamond Head**	**2.09**	**316**			Sn	04 43 13.5		-0.5

JMA 22 04:46:21.8±0.8, 45˚N±5˚×15˚1E±˚, h30km, MV4.2/11, KURILE ISLANDS REGION, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
NEM2	**Nemuro 2**	**4.22**	**243**	*e*P		Pn	04 47 22.9		-1.0
NEM2				*e*S		Sn	04 48 08.5		-3.7
JRA	**Rausu**	**4.38**	**253**	*e*P		Pn	04 47 28.2		+2.1
JNK	**Nakash**	**4.78**	**250**	*e*P		Pn	04 47 32.8		+1.1
JAK	**Akkeshi**	**5.07**	**244**	*e*P		Pn	04 47 34.7		-0.9
JAK				*e*S		Sn	04 48 29.4		-3.7
JAR	**Ashorobuto**	**5.53**	**250**	*e*P		Pn	04 47 43.3		+1.3
JOB	**Onbets**	**5.66**	**247**	*e*P		Pn	04 47 44.0		+0.1
JKK2	**Kamakawa 2**	**6.02**	**258**	*e*P		Pn	04 47 51.3		+2.5
JCH	**Churui**	**6.11**	**246**	*e*P		Pn	04 47 49.9		0.0
JCH				*e*S		Sn	04 48 56.5		-2.3
JNBK	**Urakawa-nobuka**	**6.67**	**245**	*e*P		Pn	04 47 56.9		-0.7

ROM 22 04:50:46.0±0.1, 41˚.730N±0˚.007×14˚.249E±0˚.006, h19km, ML1.5/2, Error ellipse: s-maj=0.6km s-min=0.5km az=6.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
RNI2	**Rionero Sannit**	**0.08**	**249**	P		Pg	04 50 49.7		0.0
RNI2				S		Sg	04 50 52.5		+0.3
RNI2				AML		AML			
	comp=E,352μm,1.0s								
RNI2				AML		AML			
	comp=N,340μm,0.8s								
RNI2				AML		AML			
	comp=E,352μm,1.0s								
RNI2				AML		AML			
	comp=N,314μm,0.4s								
RNI2				AML		AML			
	comp=E,376μm,1.0s								
RNI2				AML		AML			
	comp=N,314μm,0.4s								
RNI2				AML		AML			
	comp=N,340μm,1.2s								
RNI2				AML		AML			
	comp=E,376μm,1.0s								
RNI2				AML		AML			
	comp=E,352μm,1.0s								
CERA	**Filignano**	**0.22**	**233**	P		Pg	04 50 51.4		+0.1
CERA				S		Sg	04 50 55.3		+0.4
TRIV	**Trivento**	**0.23**	**81**	P		Pg	04 50 51.6		+0.2
TRIV				S		Sg	04 50 55.8		+0.6
VAGA	**Valle Agricola**	**0.32**	**182**	P		Pg	04 50 52.8		0.0
BSSO	**Busso**	**0.32**	**125**	P		Pb	04 50 53.2		+0.2
LPEL	**Lama dei Pelig**	**0.32**	**351**	P		Pg	04 50 52.8		-0.1
LPEL				S		Sb	04 50 58.5		+0.5
LPEL				AML		AML			
	comp=E,50μm,0.8s								
LPEL				AML		AML			
	comp=N,66μm,1.4s								
LPEL				AML		AML			
	comp=N,66μm,0.6s								
INTR	**Introdacqua**	**0.38**	**318**	P		Pg	04 50 53.9		-0.2
INTR				S		Sb	04 51 00.1		+0.3
POFI	**Posta Fibreno**	**0.40**	**268**	P		Pb	04 50 54.8		+0.2
POFI				S		Sb	04 51 00.9		+0.4
VVLD	**Villa Vallelon**	**0.49**	**287**	P		Pg	04 50 55.4		-0.5
VVLD				S		Sb	04 51 03.0		+0.2

ROM 22 04:51:00.7±0.1, 42˚.720N±0˚.004×13˚.221E±0˚.007, h13km, ML1.8/6, 9C-4D, Error ellipse: s-maj=0.6km s-min=0.2km az=232.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
T1202	**Accumoli, Fraz**	**0.02**	**169**	P		Pg	04 51 03.4		+0.2
T1202				AML		AML			
	comp=E,382μm,0.9s								
T1202				AML		AML			
	comp=N,531μm,1.3s								
T1202				AML		AML			
	comp=E,379μm,0.9s								
T1202				AML		AML			
	comp=N,530μm,1.3s								
T1202				AML		AML			
	comp=N,530μm,1.3s								
T1202				AML		AML			
	comp=E,379μm,0.9s								
T1202				AML		AML			
	comp=N,530μm,1.3s								
T1202				AML		AML			
	comp=E,379μm,0.9s								
T1202	**Accumoli, Fraz**	**0.02**	**169**	P		Pg	04 51 03.4		+0.3
T1202				S		Sg	04 51 05.0		+0.2
T1202				AML		AML			
	comp=E,379μm,0.9s								
T1202				AML		AML			
	comp=N,530μm,1.3s								
T1204	**Amatrice, Fraz**	**0.08**	**122**	P		Pg	04 51 03.9		+0.2
T1204	**Amatrice, Fraz**	**0.08**	**122**	P		Pg	04 51 04.0		+0.3
T1204				S		Sg	04 51 05.9		+0.1
T1242	**Castelluccio d**	**0.11**	**354**	⇓P		Pb	04 51 04.6		-0.2
T1242				AML		AML			
	comp=E,434μm,1.2s								
T1242				AML		AML			
	comp=N,520μm,0.5s								
T1242				AML		AML			
	comp=E,370μm,1.2s								
T1242				AML		AML			
	comp=N,528μm,0.5s								
T1242				AML		AML			
	comp=E,433μm,1.2s								
T1242				AML		AML			
	comp=N,520μm,0.5s								
T1242				AML		AML			
	comp=E,370μm,1.2s								
T1242				AML		AML			
	comp=N,528μm,0.5s								
T1242				AML		AML			
	comp=N,520μm,0.5s								
T1242				AML		AML			
	comp=N,528μm,0.5s								
T1242				AML		AML			
	comp=E,370μm,1.2s								
T1242				AML		AML			
	comp=E,433μm,1.2s								
T1242				AML		AML			
	comp=N,520μm,0.5s								
T1242				AML		AML			
	comp=N,528μm,0.5s								
T1242				AML		AML			
	comp=E,433μm,0.8s								
T1242				AML		AML			
	comp=E,370μm,0.8s								
T1242	**Castelluccio d**	**0.11**	**354**	P		Pb	04 51 04.6		-0.2
T1242				S		Sg	04 51 06.5		+0.2
T1242				AML		AML			
	comp=E,433μm,1.2s								
T1242				AML		AML			
	comp=N,520μm,0.5s								
T1242				AML		AML			
	comp=E,370μm,1.2s								
T1242				AML		AML			
	comp=N,528μm,0.5s								
NRCA	**Norcia**	**0.14**	**325**	⇑P		Pb	04 51 04.8		-0.4
NRCA				AML		AML			
	comp=E,937μm,0.7s								
NRCA				AML		AML			
	comp=N,1052μm,1.0s								
NRCA				AML		AML			
	comp=E,996μm,0.1s								
NRCA				AML		AML			
	comp=N,1130μm,0.1s								
NRCA				AML		AML			
	comp=E,938μm,0.7s								
NRCA				AML		AML			
	comp=N,1048μm,1.0s								
NRCA				AML		AML			
	comp=E,996μm,0.1s								
NRCA				AML		AML			
	comp=N,1130μm,0.1s								
NRCA				AML		AML			
	comp=N,1130μm,0.1s								
NRCA				AML		AML			
	comp=N,1048μm,1.0s								
NRCA				AML		AML			
	comp=N,1130μm,1.9s								
NRCA				AML		AML			
	comp=E,996μm,0.1s								
NRCA				AML		AML			
	comp=E,938μm,0.7s								
NRCA	**Norcia**	**0.14**	**325**	P		Pb	04 51 04.8		-0.4
NRCA				S		Sg	04 51 07.4		+0.6
NRCA				AML		AML			
	comp=E,936μm,0.7s								
NRCA				AML		AML			
	comp=N,1047μm,1.0s								
NRCA				AML		AML			
	comp=E,996μm,0.1s								
NRCA				AML		AML			
	comp=E,938μm,0.7s								
NRCA				AML		AML			
	comp=N,1048μm,1.0s								
NRCA				AML		AML			
	comp=N,1130μm,0.1s								
NRCA				AML		AML			
	comp=E,996μm,0.1s								
LNSS	**Leonessa**	**0.18**	**229**	⇑P		Pg	04 51 05.2		+0.4
LNSS				AML		AML			
	comp=E,175μm,0.2s								
LNSS				AML		AML			
	comp=N,198μm,0.2s								
LNSS				AML		AML			
	comp=E,175μm,0.2s								
LNSS				AML		AML			
	comp=N,198μm,0.2s								
LNSS				AML		AML			
	comp=E,175μm,0.2s								
LNSS				AML		AML			
	comp=N,198μm,0.2s								
LNSS				AML		AML			
	comp=E,175μm,0.2s								
LNSS	**Leonessa**	**0.18**	**229**	⇑P		Pg	04 51 05.2		+0.4
LNSS				S		Sg	04 51 08.3		+0.5
LNSS				AML		AML			
	comp=E,175μm,0.2s								
LNSS				AML		AML			
	comp=N,198μm,0.2s								
MC2	**Monte Cornacci**	**0.19**	**353**	P		Pg	04 51 05.7		+0.5
MC2	**Monte Cornacci**	**0.19**	**353**	P		Pg	04 51 05.7		+0.5
MC2				S		Sg	04 51 07.2		-1.1
MMO1	**Montemonaco**	**0.20**	**23**	P		Pg	04 51 05.4		+0.2
MMO1	**Montemonaco**	**0.20**	**23**	P		Pg	04 51 05.4		+0.2
MMO1				S		Sg	04 51 06.7		-1.5
RM33	**Pellescritta (**	**0.21**	**181**	P		Pg	04 51 05.7		+0.3
RM33				S		Sg	04 51 09.2		+0.6
RM33				AML		AML			
	comp=E,101μm,0.2s								
RM33				AML		AML			
	comp=N,66μm,0.1s								
T1217	**Poggiodomo (PG**	**0.21**	**268**	⇑P		Pg	04 51 05.8		+0.4
T1217	**Poggiodomo (PG**	**0.21**	**268**	P		Pg	04 51 05.8		+0.4
T1217				S		Sg	04 51 09.4		+0.8
T1216	**Preci, Frazion**	**0.23**	**319**	P		Pg	04 51 05.3		-0.3
T1216	**Preci, Frazion**	**0.23**	**319**	P		Pg	04 51 06.1		+0.5
CAMP	**Campotosto**	**0.23**	**143**	P		Pg	04 51 06.1		+0.4
T1246	**Cragnaleto (TE**	**0.24**	**124**	P		Pg	04 51 06.3		+0.4
T1246				S		Sg	04 51 10.2		+0.7
T1215	**Vallo di Nera,**	**0.27**	**288**	⇑P		Pg	04 51 06.8		+0.4
T1215				AML		AML			
	comp=E,48μm,1.5s								
T1215				AML		AML			
	comp=N,116μm,1.6s								
T1215				AML		AML			
	comp=E,48μm,1.5s								
T1215				AML		AML			
	comp=N,116μm,1.6s								
T1215				AML		AML			
	comp=E,48μm,0.5s								
T1215				AML		AML			
	comp=N,116μm,0.4s								
T1215	**Vallo di Nera,**	**0.27**	**288**	P		Pg	04 51 06.8		+0.4
AM05	**Amandola Campo**	**0.28**	**21**	⇓P		Pg	04 51 06.1		-0.4
AM05				AML		AML			
	comp=E,742μm,0.4s								
AM05				AML		AML			
	comp=N,580μm,0.1s								
AM05				AML		AML			
	comp=E,3105μm,0.1s								
AM05				AML		AML			
	comp=N,2555μm,0.6s								
AM05				AML		AML			
	comp=E,742μm,0.4s								
AM05				AML		AML			
	comp=N,580μm,0.1s								
AM05				AML		AML			
	comp=E,3105μm,0.1s								
AM05				AML		AML			
	comp=N,2555μm,0.6s								
AM05				AML		AML			
	comp=E,742μm,0.4s								
AM05				AML		AML			
	comp=E,3105μm,1.9s								
AM05	**Amandola Campo**	**0.28**	**21**	⇓P		Pg	04 51 06.1		-0.4
AM05				AML		AML			
	comp=E,742μm,0.4s								
AM05				AML		AML			
	comp=N,580μm,0.1s								
AM05				AML		AML			
	comp=E,3105μm,0.1s								
AM05				AML		AML			
	comp=N,2555μm,0.6s								
TERO	**Teramo**	**0.30**	**109**	S		Sg	04 51 08.0		-3.0
TERO	**Teramo**	**0.30**	**109**	⇓P		Pg	04 51 07.2		+0.4
TERO				S		Sg	04 51 11.9		+0.8
FDMO	**Fiordimonte**	**0.33**	**343**	⇑P		Pb	04 51 08.0		-0.5
FDMO				AML		AML			
	comp=E,96μm,1.0s								
FDMO				AML		AML			
	comp=N,78μm,0.2s								
FDMO				AML		AML			
	comp=E,96μm,1.0s								
FDMO				AML		AML			
	comp=N,78μm,0.2s								
FDMO				AML		AML			
	comp=N,78μm,0.2s								
FDMO				AML		AML			
	comp=E,96μm,1.0s								
FDMO				AML		AML			
	comp=N,78μm,0.2s								
FDMO				AML		AML			
	comp=E,96μm,1.0s								
FDMO	**Fiordimonte**	**0.33**	**343**	P		Pb	04 51 08.0		-0.5
FDMO				S		Sg	04 51 11.7		-0.3
FDMO				AML		AML			
	comp=E,96μm,1.0s								
FDMO				AML		AML			
	comp=N,78μm,0.2s								
ARRO	**Arrone**	**0.36**	**247**	⇑P		Pg	04 51 08.4		+0.3
ARRO	**Arrone**	**0.36**	**247**	⇑P		Pg	04 51 08.4		+0.3
CSP1	**Cessapalombo**	**0.37**	**358**	⇑P		Pg	04 51 08.4		+0.2
CSP1				S		Sg	04 51 12.3		-1.0
GIGS	**Gran Sasso**	**0.37**	**136**	S		Sg	04 51 09.0		-4.3
GIGS	**Gran Sasso**	**0.37**	**136**	P		Pb	04 51 08.9		-0.3

SOME ***22*** *04:51:39.1, 40˚.72N×69˚.17E, h15km*
ISU ***22*** *04:51:40, 40˚.77N×69˚.07E, h3km*
NNC ***22*** *04:51:41.0±4.5, 40˚.81N×69˚.06E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=29.6km s-min=23.4km az=34.0*

ISC 22 04:51:37.1±2.5, **40.6N**±0.1×**69.2E**±0.07, **h10**km, **n19**, σ≥**01**/32, **2C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NZBK	**Nazarbek**	**0.61**	**348**	P	**Pb**	**04 51 48.7**	**-1.3**
NZBK				S	**Sg**	**04 51 55.5**	**-1.6**
NZBK				S	**Sn**	**04 52 05.3**	**+3.4**
TAS	**Tashkent**	**0.70**	**0**	P	**Pb**	**04 51 50.7**	**-0.8**
TAS				S	**Sg**	**04 51 59.3**	**-0.6**
CHMG	**Chimgan**	**1.07**	**30**	P	**Pn**	**04 52 00.3**	**+1.9**
CHMG				S	**Sn**	**04 52 14.8**	**+1.3**
CHRV	**Charvak**	**1.13**	**26**	P	**Pn**	**04 52 00.9**	**+1.7**
CHRV				S	**Sn**	**04 52 15.7**	**+0.9**
IUG	**Iuzhnay** 444nm,0.4s	**1.62**	**20**	*eP*	**Pg**	**04 52 08.1**	**-0.2**
IUG				*eS*	**Sg**	**04 52 29.5**	**+0.1**
IUG	**Iuzhnay** 444nm,0.4s	**1.62**	**20**	P	**Pg**	**04 52 08.1**	**-0.2**
IUG				S	**Sg**	**04 52 29.5**	**+0.1**
KK31	**Karatay Array** 6.0nm,0.5s,baz=216,slow=16,SNR=40	**2.64**	**20**	⇑Pn	**Pg**	**04 52 26.1**	**-1.7**
KK31	33nm,0.4s,baz=210,slow=27,SNR=34			⇑Sn	**Sb**	**04 52 58.8**	**+1.8**
MRKS	**Merke** 4.3nm,0.3s	**3.63**	**53**	*eP*	**Pg**	**04 52 45.9**	**-0.9**
MRKS				*eS*	**Sg**	**04 53 34.0**	**+0.2**
MRKS	**Merke** 4.3nm,0.3s	**3.63**	**53**	Pg	**Pg**	**04 52 45.9**	**-0.9**
MRKS				Lg	Lg	04 53 34.0	
DGS	**Degeres** 2.0nm,0.5s	**5.50**	**59**	*eP*	**Pg**	**04 53 22.2**	**-0.2**
DGS				*eS*	**Sg**	**04 54 35.8**	**+2.1**
DGS	**Degeres** 2.0nm,0.5s	**5.50**	**59**	Pg	**Pg**	**04 53 22.2**	**-0.2**
DGS				Lg	Lg	04 54 35.8	
KST	**Kastek** 2.3nm,0.4s	**5.54**	**62**	*eP*	**Pg**	**04 53 22.7**	**-0.6**
KST				*eS*	**Sg**	**04 54 36.6**	**+1.6**
KST	**Kastek** 2.3nm,0.4s	**5.54**	**62**	Pg	**Pg**	**04 53 22.7**	**-0.6**
KST				Lg	Lg	04 54 36.6	
BTLS	**Baital** 2.8nm,1.1s	**5.63**	**37**	*eP*	**Pg**	**04 53 21.5**	**-3.5**
BTLS				*eS*	**Sg**	**04 54 34.9**	**-3.0**
BTLS	**Baital** 2.8nm,1.1s	**5.63**	**37**	Pg	**Pg**	**04 53 21.5**	**-3.5**
BTLS				Lg	Lg	04 54 34.9	
KRBS	**Karabastau** 1.2nm,0.6s	**5.65**	**55**	*eP*	**Pg**	**04 53 22.9**	**-2.4**
KRBS				*eS*	**Sg**	**04 54 37.1**	**-1.5**
KRBS	**Karabastau** 1.2nm,0.6s	**5.65**	**55**	Pg	**Pg**	**04 53 22.9**	**-2.4**
KRBS				Lg	Lg	04 54 37.1	
KPKS	**Kokpek** 1.1nm,0.1s	**7.55**	**65**	Pg	**Pg**	**04 53 58.0**	**-3.6**
KPKS				Lg	Lg	04 55 37.1	
BLB	**Baldybastay** 1.9nm,0.8s	**7.64**	**60**	Pg	**Pg**	**04 53 59.5**	**-3.8**
BLB				Lg	Lg	04 55 40.1	

IDC ***22*** *05:01:26.8±1.4, 29˚.29S×60˚.98E, h0km, mb3.9/7, mbtmp4.0/8, ML4.1/1, MS3.4/14, Error ellipse: s-maj=55.2km s-min=24.4km az=23.0*

ISC 22 05:01:28.4±1.6, **29.3S**±0.4×**60.9E**±0.2, **h10**km, **n27**, σ≥**84/8**, **mb4.1**/7, **MS3.4**/14, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo** 0.1nm,0.3s,baz=105,slow=19,SNR=2.8	**16.44**	**307**	Pn	**P**	**05 05 21.3**	**-0.9**
OPO	0.2nm,0.3s,baz=293,slow=23,SNR=8.0			Sn	Sn	05 08 10.4	-12
H08S1	**Diego Carcia H** baz=204,slow=75,SNR=4.4	**24.12**	**29**	T	T	05 31 28.3	
H08S2	**Diego Garcia H** baz=204,slow=75,SNR=3.0	**24.13**	**29**	T	T	05 31 28.2	
H08S3	**Diego Garcia H** baz=204,slow=75,SNR=5.5	**24.14**	**29**	T	T	05 31 28.4	
BOSA	**Boshof** comp=Z,40nm,20.9s,baz=18,slow=32	**31.13**	**262**	LR	LR	05 18 10.9	
LBTB	**Lobatse** comp=Z,36nm,18.4s,baz=142,slow=32	**31.63**	**269**	LR	LR	05 18 30.2	
LSZ	**Lusaka** comp=Z,44nm,18.2s,baz=148,slow=36	**33.19**	**288**	LR	LR	05 21 12.6	
SUR	**Sutherland** comp=Z,36nm,20.2s,baz=123,slow=32	**34.43**	**255**	LR	LR	05 19 43.9	
KMBO	**Kilima Mbogo** comp=Z,58nm,18.1s,baz=84,slow=32	**35.94**	**317**	LR	LR	05 20 36.6	
MAW	**Mawson** comp=Z,50nm,19.7s,baz=358,slow=32	**38.37**	**179**	LR	LR	05 21 35.0	
MBAR	**Mbarara** comp=Z,44nm,18.1s,baz=134,slow=35	**40.50**	**309**	LR	LR	05 25 22.0	
TSUM	**Tsumeb** comp=Z,49nm,18.1s,baz=133,slow=34	**40.55**	**274**	LR	LR	05 24 46.0	
ATD	**Arta Tunnel** comp=Z,54nm,19.7s,baz=152,slow=32	**44.16**	**334**	LR	LR	05 25 22.0	
H01W2	**Cape Leeuwin H** baz=261,slow=75,SNR=13	**45.01**	**111**	T	T	05 57 48.5	
H01W3	**Cape Leeuwin H** baz=261,slow=75,SNR=12	**45.02**	**111**	T	T	05 57 31.3	
H01W1	**Cape Leeuwin H** baz=261,slow=75,SNR=14	**45.03**	**111**	T	T	05 57 27.5	
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=238,slow=6.9,SNR=2.0 0.6nm,0.3s	**60.00**	**42**	P	**P**	**05 11 36.0**	**+0.6**
QSPA	**South Pole Qui** comp=Z,37nm,19.6s,baz=282,slow=33	**60.88**	**180**	LR	LR	05 34 47.5	
VNDA	**Vanda** comp=Z,47nm,18.4s,baz=226,slow=34	**63.97**	**166**	LR	LR	05 38 04.8	
ASAR	**Alice Springs** 0.6nm,0.6s,baz=243,slow=5.3,SNR=7.7 0.6nm,0.6s	**64.64**	**104**	P	**P**	**05 12 06.3**	**-0.2**
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=246,slow=4.5,SNR=4.3 0.7nm,0.9s	**66.47**	**100**	P	**P**	**05 12 17.9**	**-0.6**
GNI	**Garni** comp=Z,27nm,19.2s,baz=142,slow=35	**70.69**	**347**	LR	LR	05 42 14.1	
TORD	**Torodi Ar. Bea** 1.7nm,0.9s,baz=116,slow=3.6,SNR=7.6	**70.99**	**298**	P	**P**	**05 12 46.6**	**+0.1**
TORD	comp=Z,131nm,19.9s,baz=14,slow=36 1.7nm,0.9s			LR	LR	05 44 03.3	
KBZ	**Khabaz** comp=Z,30nm,21.7s,baz=159,slow=34	**74.50**	**347**	LR	LR	05 43 43.2	
MKAR	**Makanchi Array** 1.0nm,0.9s,baz=235,slow=4.3,SNR=5.6 1.0nm,0.9s	**78.15**	**15**	P	**P**	**05 13 26.9**	**-0.6**
ZALV	**Zalesovo Beam** 1.3nm,0.7s,baz=204,slow=3.3,SNR=5.2 1.3nm,0.7s	**85.43**	**14**	P	**P**	**05 14 05.3**	**-0.4**
ESDC	**Sonseca Array** 0.9nm,0.9s,baz=120,slow=2.7,SNR=5.9 0.9nm,0.9s	**91.32**	**316**	P	**P**	**05 14 35.4**	**+1.2**

KRNET ***22*** *05:14:08.9±0.1, 40˚.22N×76˚.01E, mb3.3*
NNC ***22*** *05:14:22.2±3.0, 40˚.67N×76˚.05E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=20.6km s-min=14.9km az=177.0*
SOME ***22*** *05:14:25.8, 40˚.83N×76˚.17E, h15km*

ISC 22 05:14:13.5±2.3, **40.39N**±0.09×**76.07E**±0.04, **h16**km±12km, **n46**, σ≥**14/68**, **10C-9D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=58	**1.05**	**357**	⇑*i*P	**Pb**	**05 14 32.0**	**-1.5**
NRN	baz=58			⇑*i*S	**Sn**	**05 14 48.8**	**+0.4**
ULHL	**Ulahol** SNR=23	**1.86**	**4**	P	**Pn**	**05 14 46.6**	**+1.6**
ULHL	**Ulahol** baz=5.0	**1.86**	**4**	⇑*i*P	**Pn**	**05 14 46.6**	**+1.6**
ULHL	baz=5.0			⇑*i*S	**Sg**	**05 15 14.0**	**+0.5**
TARG	**Taragay, Kyrgy** baz=41	**1.88**	**44**	⇑*e*P	**Pn**	**05 14 46.6**	**+1.2**
TARG	baz=41			⇑*i*S	**Sg**	**05 15 14.0**	**0.0**
BOOM	**Boomskoye usch** baz=59	**2.10**	**357**	⇓*i*P	**Pn**	**05 14 49.8**	**+1.5**
BOOM	baz=59			⇓*i*S	**Sg**	**05 15 19.7**	**-1.6**
UCH	**Uchtor** SNR=18	**2.18**	**328**	P	**Pn**	**05 14 50.2**	**+0.6**
UCH	**Uchtor** baz=31	**2.18**	**328**	⇑*i*P	**Pn**	**05 14 50.3**	**+0.6**
UCH	baz=31			⇑*i*S	**Sg**	**05 15 20.9**	**-2.9**
KBK	**Karagaybulak** SNR=8.6	**2.42**	**340**	P	**Pb**	**05 14 57.1**	**+0.3**
KBK	**Karagaybulak** baz=42	**2.42**	**340**	⇓*i*P	**Pn**	**05 14 54.0**	**+1.3**
KBK	baz=42			⇓*i*S	**Sb**	**05 15 26.6**	**+0.1**
AML	**Almayashu** SNR=12	**2.50**	**315**	P	**Pn**	**05 14 53.7**	**-0.2**
AAK	**Ala-Archa** SNR=10	**2.54**	**333**	P	**Pn**	**05 14 55.1**	**+0.8**
AAK	**Ala-Archa** baz=35	**2.54**	**333**	⇓*i*P	**Pn**	**05 14 55.3**	**+1.0**
AAK	baz=35			⇓*i*S	**Sb**	**05 15 29.2**	**-0.8**
TKM2	**Tokmak 2** SNR=10	**2.56**	**352**	P	**Pn**	**05 14 56.0**	**+1.4**
TKM2	**Tokmak 2** 4.7nm,0.4s	**2.56**	**352**	⇓Pn	**Pn**	**05 14 55.3**	**+0.8**
TKM2	18nm,0.6s			⇓Lg	Lg	05 15 35.3	
TKM2	**Tokmak 2** baz=54	**2.56**	**352**	⇑*i*P	**Pn**	**05 14 55.9**	**+1.4**
TKM2	baz=54			⇑*i*S	**Sb**	**05 15 30.5**	**0.0**
KST	**Kastek** 5.4nm,0.3s	**2.66**	**358**	*eP*	**Pg**	**05 15 07.3**	**+2.8**
KST	23nm,0.6s			*eS*	**Sg**	**05 15 37.2**	**-1.7**
KST	**Kastek** 5.4nm,0.3s	**2.66**	**358**	Pg	**Pg**	**05 15 07.3**	**+2.8**
KST	23nm,0.6s			Lg	Lg	05 15 37.2	
MTBS	**Maitube** 3.0nm,0.3s	**2.75**	**5**	*eP*	**Pg**	**05 15 09.4**	**+3.1**
MTBS	18nm,0.6s			*eS*	**Sg**	**05 15 40.8**	**-1.2**
MTBS	**Maitube** 3.0nm,0.3s	**2.75**	**5**	Pg	**Pg**	**05 15 09.4**	**+3.1**
MTBS	18nm,0.6s			Lg	Lg	05 15 40.8	
DGS	**Degeres** 7.9nm,0.5s	**2.86**	**356**	*eP*	**Pg**	**05 15 11.9**	**+3.5**
DGS	9.5nm,0.4s			*eS*	**Sg**	**05 15 45.2**	**-0.4**
DGS	**Degeres** 7.9nm,0.5s	**2.86**	**356**	Pg	**Pg**	**05 15 11.9**	**+3.5**
DGS	9.5nm,0.4s			Lg	Lg	05 15 45.2	
MDOK	**Medeo** 3.9nm,0.4s	**2.87**	**14**	*eP*	**Pg**	**05 15 11.6**	**+3.0**
MDOK	20nm,0.7s			*eS*	**Sg**	**05 15 44.5**	**-1.3**
MDOK	**Medeo** 3.9nm,0.4s	**2.87**	**14**	Pg	**Pg**	**05 15 11.6**	**+3.0**
MDOK	20nm,0.7s			Lg	Lg	05 15 44.5	
MRKS	**Merke** 9.5nm,0.5s	**3.18**	**319**	*eP*	**Pg**	**05 15 16.2**	**+1.7**
MRKS	18nm,0.5s			*eS*	**Sg**	**05 15 52.5**	**-3.2**
MRKS	**Merke** 9.5nm,0.5s	**3.18**	**319**	Pg	**Pg**	**05 15 16.2**	**+1.7**
MRKS	18nm,0.5s			Lg	Lg	05 15 52.5	
SATY	**Saty** 7.6nm,0.6s	**3.19**	**32**	*eP*	**Pg**	**05 15 16.9**	**+2.2**
SATY				*eS*	**Sg**	**05 15 54.1**	**-2.0**
SATY	**Saty** 7.6nm,0.6s	**3.19**	**32**	Pg	**Pg**	**05 15 16.9**	**+2.2**
SATY				Lg	Lg	05 15 54.1	
SGDS	**Sogindy** 2.6nm,0.1s	**3.25**	**341**	*eP*	**Pg**	**05 15 18.0**	**+2.2**
SGDS	12nm,0.3s			*eS*	**Sg**	**05 15 55.5**	**-2.3**
SGDS	**Sogindy** 2.6nm,0.1s	**3.25**	**341**	Pg	**Pg**	**05 15 18.0**	**+2.2**
SGDS	12nm,0.3s			Lg	Lg	05 15 55.5	
KRBS	**Karabastau** 10.0nm,0.4s	**3.32**	**355**	*eP*	**Pg**	**05 15 19.5**	**+2.4**
KRBS	8.1nm,0.6s			*eS*	**Sg**	**05 15 58.2**	**-2.0**
KRBS	**Karabastau** 10.0nm,0.4s	**3.32**	**355**	Pg	**Pg**	**05 15 19.5**	**+2.4**
KRBS	8.1nm,0.6s			Lg	Lg	05 15 58.2	
KUU	**Kurty** 2.4nm,0.1s	**3.51**	**3**	*eP*	**Pg**	**05 15 23.2**	**+2.4**
KUU	8.2nm,0.5s			*eS*	**Sg**	**05 16 04.5**	**-1.8**
KUU	**Kurty** 2.4nm,0.1s	**3.51**	**3**	Pg	**Pg**	**05 15 23.2**	**+2.4**
KUU	8.2nm,0.5s			Lg	Lg	05 16 04.5	
UZB	**Uzynbulak** 1.0nm,0.1s	**3.53**	**38**	*eP*	**Pg**	**05 15 22.4**	**+1.2**
UZB	5.0nm,0.5s			*eS*	**Sg**	**05 16 03.2**	**-3.8**
UZB	**Uzynbulak** 1.0nm,0.1s	**3.53**	**38**	Pg	**Pg**	**05 15 22.4**	**+1.2**
UZB	5.0nm,0.5s			Lg	Lg	05 16 03.2	
KPKS	**Kokpek** 4.3nm,0.3s	**3.64**	**31**	*eP*	**Pg**	**05 15 24.8**	**+1.5**
KPKS	12nm,0.6s			*eS*	**Sg**	**05 16 07.2**	**-3.3**
KPKS	**Kokpek** 4.3nm,0.3s	**3.64**	**31**	Pg	**Pg**	**05 15 24.8**	**+1.5**
KPKS	12nm,0.6s			Lg	Lg	05 16 07.2	
ARXS	**Arharly** 4.5nm,0.9s	**4.04**	**18**	*eP*	**Pg**	**05 15 32.4**	**+1.5**
ARXS	9.2nm,0.6s			*eS*	**Sg**	**05 16 20.2**	**-3.0**
ARXS	**Arharly** 4.5nm,0.9s	**4.04**	**18**	Pg	**Pg**	**05 15 32.4**	**+1.5**
ARXS	9.2nm,0.6s			Lg	Lg	05 16 20.2	
BLB	**Baldybastay** 5.4nm,0.3s	**4.12**	**25**	*eP*	**Pg**	**05 15 33.0**	**+0.6**
BLB	6.8nm,0.4s			*eS*	**Sg**	**05 16 21.2**	**-4.5**
BLB	**Baldybastay** 5.4nm,0.3s	**4.12**	**25**	Pg	**Pg**	**05 15 33.0**	**+0.6**
BLB	6.8nm,0.4s			Lg	Lg	05 16 21.2	
KTMS	**Ketmen** 1.1nm,0.5s	**4.42**	**45**	*eP*	**Pg**	**05 15 39.2**	**+1.0**
KTMS	1.7nm,0.3s			*eS*	**Sg**	**05 16 31.9**	**-3.6**
KTMS	**Ketmen** 1.1nm,0.5s	**4.42**	**45**	Pg	**Pg**	**05 15 39.2**	**+1.0**
KTMS	1.7nm,0.3s			Lg	Lg	05 16 31.9	
BTLS	**Baital** 2.5nm,0.6s	**4.89**	**343**	*eP*	**Pg**	**05 15 47.4**	**+0.3**
BTLS	2.3nm,0.5s			*eS*	**Sg**	**05 16 45.9**	**-4.4**
BTLS	**Baital** 2.5nm,0.6s	**4.89**	**343**	Pg	**Pg**	**05 15 47.4**	**+0.3**
BTLS	2.3nm,0.5s			Lg	Lg	05 16 45.9	
KK31	**Karatay Array** 0.8nm,0.4s,baz=127,slow=16,SNR=6.5	**4.97**	**305**	Pn	Pb	05 15 36.6	-3.6
KK31	3.1nm,0.6s,baz=133,slow=27,SNR=4.7			⇓Lg	Lg	05 16 46.7	

IDC ***22*** *05:26:08.8±8.5, 81˚.89N×1˚.63E, h0km, mb3.2/3, mbtmp3.4/4, ML3.0/1, MS3.1/3, Error ellipse: s-maj=192.7km s-min=58.1km az=28.0*
BER ***22*** *05:26:21.3±2.5, 80˚.09N×0˚.11W, h10km, ML2.4, Confirmed Earthquake*
IEPN ***22*** *05:26:25.0, 79˚.76N×1˚.34E, h10km*

ISC 22 05:26:17.6±0.9, **80.10N**±0.06×**0.21W**±0.04, **h10**km, **n33**, σ≥**38**/53, **1C, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.52**	**112**	Pn	**Pn**	**05 26 59.7**	**+1.2**
KBS				Sn	**Sn**	**05 27 26.6**	**-2.5**
KBS	**Kingsbay**	**2.52**	**112**	*eP*	**Pn**	**05 26 59.6**	**+1.2**
KBS				*eS*	**Sn**	**05 27 26.8**	**-2.2**
KBS	comp=Z,29nm,0.3s			IAML		05 27 32.2	
KBS	**Kingsbay**	**2.52**	**112**	*eP*	**Pn**	**05 26 59.3**	**+0.8**
KBS				*eS*	**Sn**	**05 27 25.2**	**-3.9**
NOR	**Nord**	**3.02**	**308**	Pn	**Pn**	**05 27 08.1**	**+2.7**
NOR	**Nord**	**3.02**	**308**	*i* P	**Pn**	**05 27 08.0**	**+2.7**
NOR				*e*S	**Sn**	**05 27 42.9**	**+1.3**
NOR	comp=Z,4.6nm,0.4s			IAML		05 27 45.1	
NOR	**Nord**	**3.02**	**308**	*eP*	**Pn**	**05 27 08.1**	**+2.7**
NOR				*eS*	**Sn**	**05 27 41.0**	**-0.5**
BRBB	**Barentsburg B**	**3.39**	**119**	Pn	**Pn**	**05 27 14.2**	**+3.7**
BRBB				Sn	**Sn**	**05 27 51.5**	**+0.7**
BRBB	**Barentsburg B**	**3.39**	**119**	*eP*	**Pn**	**05 27 13.9**	**+3.4**
BRBB				*eS*	**Sn**	**05 27 50.3**	**-0.4**
SPA0	**Spitsbergen Ar** baz=310,slow=7.4	**3.67**	**113**	Pn	**Pn**	**05 27 16.4**	**+2.0**
SPA0	baz=301,slow=22			Sn	**Sn**	**05 27 55.1**	**-2.5**
SPA0	**Spitsbergen Ar**	**3.67**	**113**	*eP*	**Pn**	**05 27 16.4**	**+2.0**
SPA0				*eS*	**Sn**	**05 27 55.1**	**-2.5**
SPA0	comp=Z,22nm,0.7s			IAML		05 28 04.4	
SPA0	**Spitsbergen Ar**	**3.67**	**113**	⇑*i*P	**Pn**	**05 27 16.3**	**+2.0**
SPA0				*i* S	**Sn**	**05 27 53.1**	**-4.6**
HSPB	**Hornsund (broa**	**4.40**	**127**	Pn	**Pn**	**05 27 27.7**	**+3.4**
HSPB				Sn	**Sn**	**05 28 15.3**	**-0.2**
HSPB	**Hornsund (broa**	**4.40**	**127**	*eP*	**Pn**	**05 27 27.2**	**+2.9**
HSPB				*eS*	**Sn**	**05 28 13.6**	**-2.0**
HSPB	comp=Z,17nm,0.4s			IAML		05 28 17.1	
DAG	**Danmarks Havn**	**4.97**	**237**	*i* P	**Pn**	**05 27 34.1**	**+2.0**
DAG				*i* S	**Sn**	**05 28 27.0**	**-2.5**
DAG	comp=Z,14nm,0.3s			IAML		05 28 27.9	
DAG	**Danmarks Havn**	**4.97**	**237**	*eP*	**Pn**	**05 27 34.2**	**+2.1**
DAG				*eS*	**Sn**	**05 28 26.2**	**-3.3**
HOPEN	**Hopen**	**6.21**	**112**	Pn	**Pn**	**05 27 50.5**	**+1.4**
HOPEN				Sn	**Sn**	**05 28 55.7**	**-4.2**
HOPEN	**Hopen**	**6.21**	**112**	*eP*	**Pn**	**05 27 50.9**	**+1.8**
HOPEN				*eS*	**Sn**	**05 28 55.7**	**-4.2**
HOPEN	comp=Z,15nm,0.3s			IAML		05 28 59.4	
HOPEN	**Hopen**	**6.21**	**112**	*eP*	**Pn**	**05 27 50.4**	**+1.3**
HOPEN				*eS*	**Sn**	**05 28 53.0**	**-7.0**
BJO1	**Bjornoya**	**6.99**	**133**	P	**Pn**	**05 28 03.0**	**+3.3**
BJO1				S	**Sn**	**05 29 12.9**	**-6.2**
DBG	**Daneborg**	**7.26**	**227**	Pn	**Pn**	**05 28 06.0**	**+2.5**
DBG				Sn	**Sn**	**05 29 20.4**	**-5.4**
DBG	**Daneborg** baz=36,slow=14	**7.26**	**227**	*e*	**Pn**	**05 28 03.6**	**+0.1**
DBG				*i* P	**Pn**	**05 28 05.5**	**+1.9**
DBG				*i* S	**Sn**	**05 29 21.1**	**-4.7**
DBG	comp=Z,18nm,0.4s			IAML		05 29 24.7	
DBG	**Daneborg**	**7.26**	**227**	*eP*	**Pn**	**05 28 05.9**	**+2.4**
DBG				*eS*	**Sn**	**05 29 20.1**	**-5.7**
ZFI	**Zemlya Franca-**	**7.79**	**62**	*eP*	**Pn**	**05 28 12.4**	**+1.6**
ZFI				*eS*	**Sn**	**05 29 32.7**	**-6.2**
	comp=Z,49nm,1.6s						
NEEM	**North Greenlan**	**9.95**	**281**	*eP*	**Pn**	**05 28 41.6**	**+1.0**
NEEM				*i* S	**Sn**	**05 30 26.6**	**-5.7**
NEEM	comp=Z,5.1nm,0.3s			IAML		05 30 28.0	
SUMG	**Summit**	**11.45**	**250**	*eP*	**Pn**	**05 29 01.9**	**+0.7**
SUMG				*eS*	**Sn**	**05 31 03.5**	**-5.7**
SUMG	comp=Z,3.2nm,0.3s			IAML		05 31 06.4	
ARA0	**ARCESS Array S** baz=352,slow=12	**12.36**	**135**	Pn	**Pn**	**05 29 16.6**	**+3.2**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=349,slow=14,SNR=5.1 comp=Z,1.5nm,0.8s	**12.36**	**135**	Pn	**Pn**	**05 29 18.1**	**+4.7**
SFJD	**Kangerlussuaq** comp=Z,65nm,19.7s,baz=74,slow=36	**18.38**	**254**	LR	LR	05 37 29.7	
NOA	**NORSAR Array B** comp=Z,0.2nm,0.4s,baz=358,slow=15,SNR=1.3 comp=Z,0.2nm,0.4s	**19.45**	**163**	P	Pn	05 30 54.2	+9.1
FINES	**FINESS Array B** comp=Z,1.2nm,0.8s,baz=331,slow=11,SNR=1.6 comp=Z,1.2nm,0.8s	**20.23**	**142**	P	Pn	05 30 58.3	+4.0
ZALV	**Zalesovo Beam** comp=Z,18nm,19.9s,baz=358,slow=38	**36.55**	**81**	LR	LR	05 49 12.2	
SADO	**Sadowa** comp=Z,36nm,18.8s,baz=200,slow=35	**44.36**	**269**	LR	LR	05 52 00.7	
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.7s,baz=1.7,slow=5.6,SNR=4.3 comp=Z,0.5nm,0.7s	**66.98**	**178**	P	**P**	**05 37 14.4**	**+4.2**

JMA ***22*** *05:36:17.7±0.3, 31˚.N±2˚×14˚.2E±˚, h0km, MV4.0/18, NEAR TORISHIMA IS*
IDC ***22*** *05:36:18.0±2.4, 30˚.30N×140˚.99E, h0km, mb3.5/2, mbtmp3.6/5, ML3.1/3, MS2.6/1, Error ellipse: s-maj=134.9km s-min=22.8km az=77.0*

ISC 22 05:36:17.8±1.1, **30.70N**±0.07×**142.5E**±0.2, **h35**km, **n10**, σ≥**25**/13, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.29**	**318**	*eS*	**Sn**	**05 37 44.4**	**-0.3**
JHJ	**Hachijo jima 2** 5.0nm,0.3s,baz=96,slow=16,SNR=1.8	**3.31**	**318**	Pn	**Pn**	**05 37 06.6**	**-0.6**
JHJ	8.3nm,0.3s,baz=239,slow=22,SNR=1.9 61nm,0.6s			Sn	**Sn**	**05 37 43.8**	**-1.5**
JCJ	**Chichijima** 4.2nm,0.3s,baz=319,slow=19,SNR=1.6	**3.59**	**184**	Pn	**Pn**	**05 37 11.5**	**+0.5**
JCJ	4.9nm,0.3s,baz=276,slow=22,SNR=1.9			Sn	**Sn**	**05 37 47.8**	**-4.5**
JCJ	comp=Z,85nm,19.2s,baz=146,slow=30 30nm,0.6s			LR	LR	05 37 57.2	
JHU	**Hanno**	**5.79**	**334**	*eS*	**Sn**	**05 38 46.0**	**-0.2**
JHO	**Hitachi**	**6.10**	**346**	*eP*	**Pn**	**05 37 46.8**	**+1.3**
JHO				*eS*	**Sn**	**05 38 52.1**	**-1.9**
JAG	**Ashikaga**	**6.24**	**337**	*eS*	**Sn**	**05 38 56.9**	**-0.4**
JFK	**Kawauchi**	**6.78**	**349**	*eS*	**Sn**	**05 39 06.6**	**-4.2**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=161,slow=12,SNR=7.9 0.8nm,0.3s	**6.82**	**330**	Pn	**Pn**	**05 37 56.6**	**+1.3**
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=6.5,slow=7.6,SNR=19 0.5nm,0.4s	**50.95**	**190**	P	**P**	**05 45 16.4**	**+0.6**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=360,slow=5.5,SNR=4.8 0.2nm,0.4s	**54.67**	**190**	P	**P**	**05 45 45.1**	**+1.7**

NEIC ***22*** *05:40:43.7±1.3, 15˚.49S±0˚.07×172˚.76W±0˚.09, h81km±16km, mb4.1/10, Error ellipse: s-maj=17.4km s-min=10.1km az=80.0*
IDC ***22*** *05:40:44.4±1.6, 15˚.26S×173˚.00W, h89km±21km, mb3.6/5, mbtmp4.0/6, Error ellipse: s-maj=43.5km s-min=17.1km az=137.0*

ISC 22 05:40:44.1±0.8, **15.49S**±0˚.07×**172.76W**±0˚.09, **h100**km, **n27**, σ≥**33**/23, **mb4.1**/7, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 443nm,0.3s,baz=189,slow=2.0,SNR=133	**1.84**	**31**	P	**Pn**	**05 41 14.4**	**-0.4**
AFI	893nm,0.4s,baz=44,slow=22,SNR=19			S	**Sn**	**05 41 36.5**	**-1.6**

NIUE	**Niue**	**4.48**	**143**		**Pn**		05 41 50.2	**+0.4**
NIUE				Sn	**Sn**		05 42 38.1	**-2.7**
MSVF	**Nonsavu**	**9.08**	**255**	P	**Pn**		05 42 52.5	**+0.1**
	9.4nm,0.9s,baz=77,slow=15,SNR=5.2							
MSVF	**Nonsavu**	**9.08**	**255**		**Pn**		05 42 51.5	**-1.0**
MARNC	**Mare, Loyalty**	**19.16**	**249**	P	**P**		05 44 59.4	**-0.3**
LIFNC	**LIFOU**	**19.71**	**252**	P	**Pn**		05 45 06.2	**-1.9**
PINNC	**Pines Island,**	**19.99**	**246**	P	**P**		05 45 08.1	**-0.7**
PINNC				IAmb	IAmb		05 45 27.9	
	comp=Z,12nm,1.0s							
DZM	**Mont Dzumac**	**20.73**	**248**	P	**P**		05 45 17.0	**+0.1**
	comp=Z,4.7nm,0.8s,baz=74,slow=18,SNR=5.5							
	comp=Z,4.7nm,0.8s							
DZM	**Mont Dzumac**	**20.73**	**248**	P	**P**		05 45 16.3	**-0.7**
DZM				IAmb	IAmb		05 45 22.0	
	comp=Z,7.1nm,0.9s							
ONTNC	**Ouen Toro**	**20.79**	**248**	P	**P**		05 45 16.9	**-0.4**
ONTNC				IAmb	IAmb		05 45 45.9	
	comp=Z,11nm,0.8s							
KOUNC	**Koumac, New Ca**	**22.39**	**254**	P	**P**		05 45 35.0	**+0.6**
URZ	**Urewera**	**24.38**	**200**	P	**P**		05 45 55.6	**+2.7**
	comp=Z,3.6nm,0.3s,baz=358,slow=2.0,SNR=8.7							
	comp=Z,3.6nm,0.3s							
URZ	**Urewera**	**24.38**	**200**	P	**P**		05 45 54.3	**+1.4**
BKZ	**Black Stump Fm**	**25.40**	**200**	P	**P**		05 46 04.4	**+2.1**
BKZ				IAmb	IAmb		05 46 06.1	
	comp=Z,9.1nm,1.2s							
H11S2	**WAKE ISLAND Hy**	**39.36**	**328**	T	T		06 28 27.7	
	baz=146,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**39.37**	**328**	T	T		06 28 27.6	
	baz=146,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hy**	**39.38**	**328**	T	T		06 28 27.9	
	baz=146,slow=76,SNR=8.5							
H11N3	**WAKE ISLAND Hy**	**40.30**	**330**	T	T		06 30 28.7	
	baz=147,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**40.30**	**330**	T	T		06 29 43.2	
	baz=147,slow=74,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**40.31**	**330**	T	T		06 29 44.1	
	baz=147,slow=74,SNR=3.3							
BBOO	**Buckleboo**	**49.30**	**240**	P	**P**		05 49 23.1	**0.0**
WB0	**Warramunga Arr**	**50.38**	**257**	P	**P**		05 49 31.3	**-0.2**
WB0				IAmb	IAmb		05 49 44.7	
	comp=Z,1.9nm,1.0s							
WRA	**Warramunga Arr**	**50.42**	**257**	P	**P**		05 49 31.1	**-0.8**
	comp=Z,0.4nm,0.6s,baz=93,slow=7.1,SNR=9.2							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**50.42**	**257**	P	**P**		05 49 31.4	**-0.5**
AS31	**Alice Springs**	**50.66**	**252**	P	**P**		05 49 33.9	**+0.2**
AS31				IAmb	IAmb		05 49 34.0	
	comp=Z,0.9nm,0.7s							
ASAR	**Alice Springs**	**50.67**	**252**	P	**P**		05 49 33.4	**-0.3**
	comp=Z,3.1nm,0.6s,baz=86,slow=8.2,SNR=46							
	comp=Z,3.1nm,0.6s							
ILAR	**Eielson Array**	**82.42**	**11**	P	**P**		05 52 56.9	**+2.1**
	comp=Z,0.2nm,0.7s,baz=213,slow=6.5,SNR=1.9							
	comp=Z,0.2nm,0.7s							

*NOU **22** 05:57:06.8, 37˚.15S×179˚.93W, h126km, MLv4.6/8, East of North Island, N.Z.*
*WEL **22** 05:57:14.1±1.0, 37˚.S±4˚×17˚.9E±˚, h22km±9km, M3.9/52, ML4.2/53, MLv3.9/52, Error ellipse: s-maj=0.0km s-min=0.0km az=92.7*
*IDC **22** 05:57:17.9±5.6, 37˚.73S×179˚.36E, h78km±49km, mb3.7/2, mbtmp4.0/3, ML3.9/1, MS3.0/1, Error ellipse: s-maj=91.5km s-min=38.3km az=2.0*

ISC 22 05:57:11.9±2.3, 37˚.11S±0˚.06×179˚.39E±0˚.09, h27km±13km, n114, σ1°44/124, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.97**	**242**	P	**Pn**	**05 57 29.2**	**-0.5**
MXZ				S	**Sn**	**05 57 40.8**	**-1.9**
WMGZ	**Waiomatatini S**	**1.05**	**227**	P	**Pb**	**05 57 32.7**	**+1.3**
WMGZ				S	**Sb**	**05 57 46.4**	**+1.7**
PKGZ	**Pakihiroa**	**1.30**	**233**	P	**Pb**	**05 57 35.8**	**0.0**
PKGZ				S	**Sb**	**05 57 52.0**	**0.0**
PUZ	**Puketiti**	**1.31**	**223**	P	**Pb**	**05 57 36.1**	**+0.2**
PUZ				S	**Sb**	**05 57 53.5**	**+1.1**
HAZ	**Te Kaha**	**1.43**	**243**	P	**Pn**	**05 57 36.2**	**+0.1**
HAZ				S	**Sb**	**05 57 55.2**	**-0.5**
TWGZ	**Tauwhareparae**	**1.54**	**226**	P	**Pb**	**05 57 39.5**	**-0.4**
RUGZ	**Raukumara Rang**	**1.60**	**237**	P	**Pb**	**05 57 40.3**	**-0.7**
CNGZ	**Carnagh Statio**	**1.66**	**214**	P	**Pb**	**05 57 41.9**	**+0.1**
TKGZ	**Te Karaka**	**1.80**	**222**	P	**Pn**	**05 57 42.6**	**+1.5**
WIZ	**White Island**	**1.80**	**256**	P	**Pn**	**05 57 41.4**	**+0.3**
WSRZ	**White Island S**	**1.81**	**256**	P	**Pn**	**05 57 42.9**	**+1.6**
MWZ	**Matawai**	**1.92**	**230**	P	**Pn**	**05 57 44.1**	**+1.3**
RIGZ	**Rimuhau**	**2.05**	**219**	P	**Pn**	**05 57 45.9**	**+1.3**
WHRZ	**Whale Island**	**2.06**	**248**	P	**Pn**	**05 57 46.9**	**+2.2**
WHRZ				S	**Sn**	**05 58 11.5**	**+2.0**
RAGZ	**Rawiri**	**2.09**	**228**	P	**Pn**	**05 57 46.7**	**+1.5**
URZ	**Urewera**	**2.14**	**237**	P	**Pn**	**05 57 47.3**	**+1.5**
	476nm,0.4s,baz=83,slow=1.4,SNR=268						
URZ				S	**Sn**	**05 58 11.2**	**-0.2**
	510nm,0.8s,baz=246,slow=20,SNR=10						
URZ				LR	LR	05 58 30.0	
	comp=Z,160nm,19.8s,baz=120,slow=39						
URZ	**Urewera**	**2.14**	**237**	P	**Pn**	**05 57 47.3**	**+1.5**
URZ				S	**Sn**	**05 58 12.1**	**+0.6**
URZ	**Urewera**	**2.14**	**237**	P	**Pn**	**05 57 47.7**	**+1.9**
SNGZ	**Shannon Statio**	**2.32**	**224**	P	**Pn**	**05 57 49.6**	**+1.2**
EDRZ	**Edgecumbe**	**2.33**	**244**	P	**Pn**	**05 57 50.2**	**+1.8**
MARZ	**Manawahe**	**2.33**	**247**	P	**Pn**	**05 57 49.8**	**+1.4**
KNZ	**Kokohu**	**2.34**	**215**	P	**Pn**	**05 57 49.4**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.35**	**209**	P	**Pn**	**05 57 50.3**	**+1.6**
OPRZ	**Ohinepanea**	**2.37**	**251**	P	**Pn**	**05 57 49.8**	**+0.9**
RTZ	**Ruatahuna**	**2.43**	**231**	P	**Pn**	**05 57 51.4**	**+1.6**
RTZ				S	**Sn**	**05 58 20.5**	**+1.9**
MUGZ	**Murupara**	**2.48**	**236**	P	**Pn**	**05 57 51.7**	**+1.2**
MYRZ	**Mayor Island**	**2.52**	**265**	P	**Pn**	**05 57 52.0**	**+1.0**
MKRZ	**Makatiti**	**2.54**	**245**	P	**Pb**	**05 57 54.7**	**-2.1**
TARZ	**Mount Tarawera**	**2.55**	**243**	P	**Pn**	**05 57 53.2**	**+1.7**
RAHZ	**Arahi**	**2.56**	**225**	P	**Pn**	**05 57 52.8**	**+1.2**
RAHZ				S	**Sb**	**05 58 25.1**	**-3.1**
TGRZ	**Tauranga**	**2.57**	**255**	P	**Pn**	**05 57 52.8**	**+1.2**
RRRZ	**Republican Roa**	**2.59**	**241**	P	**Pn**	**05 57 53.7**	**+1.7**
OMRZ	**Omania**	**2.59**	**247**	P	**Pn**	**05 57 54.1**	**+2.0**
WHHZ	**Waihua**	**2.59**	**220**	P	**Pn**	**05 57 53.8**	**+1.7**
KARZ	**Kaharoa**	**2.66**	**249**	P	**Pn**	**05 57 54.3**	**+1.3**
MTHZ	**Maungataniwha**	**2.66**	**228**	P	**Pn**	**05 57 54.7**	**+1.7**
MTHZ				S	**Sn**	**05 58 25.4**	**+1.0**
HLRZ	**Highlands Stat**	**2.67**	**244**	P	**Pn**	**05 57 55.0**	**+1.9**
NGRZ	**Ngongotaha**	**2.73**	**248**	P	**Pn**	**05 57 56.2**	**+2.3**
PRRZ	**Plateau Road**	**2.75**	**239**	P	**Pn**	**05 57 55.4**	**+1.3**
HSRZ	**Hossack Road**	**2.77**	**243**	P	**Pn**	**05 57 56.6**	**+2.2**
ALRZ	**Allen Road**	**2.81**	**238**	P	**Pn**	**05 57 56.4**	**+1.3**
KMRZ	**Kaimai**	**2.84**	**254**	P	**Pn**	**05 57 54.2**	**-1.3**
GRRZ	**Galatos Road**	**2.88**	**244**	P	**Pn**	**05 57 58.3**	**+2.3**
MRHZ	**Matea Rd**	**2.91**	**233**	P	**Pn**	**05 57 57.8**	**+1.3**
KUZ	**Kuaotunu**	**2.96**	**276**	P	**Pn**	**05 57 56.7**	**-0.4**
KUZ				S	**Sn**	**05 58 27.7**	**-4.1**
BKZ	**Black Stump Fm**	**3.07**	**227**	P	**Pn**	**05 57 59.8**	**+1.2**
BKZ				S	**Sn**	**05 58 33.8**	**-0.7**
BKZ	**Black Stump Fm**	**3.07**	**227**	P	**Pn**	**05 58 00.0**	**+1.4**
CKHZ	**Cape Kidnapper**	**3.12**	**215**	P	**Pn**	**05 57 59.6**	**+0.3**
CKHZ				S	**Sn**	**05 58 35.7**	**-0.1**
KUTZ	**Kaahu Road**	**3.14**	**243**	P	**Pn**	**05 58 01.1**	**+1.5**
MCHZ	**McNeill Hill**	**3.15**	**222**	P	**Pn**	**05 58 00.4**	**+0.8**
TOZ	**Tahuroa Road**	**3.16**	**258**	P	**Pn**	**05 58 00.3**	**+0.5**
GRZ	**Great Barrier**	**3.28**	**284**	P	**Pn**	**05 58 02.2**	**+0.8**
GRZ				S	**Sn**	**05 58 36.9**	**-2.6**
TLZ	**Tolley Road**	**3.29**	**247**	P	**Pn**	**05 58 03.2**	**+1.5**
RATZ	**Rangitukua**	**3.35**	**237**	P	**Pn**	**05 58 04.2**	**+1.7**
RITZ	**Rihia Road**	**3.35**	**235**	P	**Pn**	**05 58 04.0**	**+1.5**
MKAZ	**Moumakai**	**3.38**	**269**	P	**Pn**	**05 58 03.1**	**+0.2**
WIAZ	**Waiheke Island**	**3.42**	**274**	P	**Pn**	**05 58 04.0**	**+0.5**
KATZ	**Kakaramea**	**3.46**	**236**	P	**Pn**	**05 58 05.6**	**+1.6**
PXZ	**Pawanui**	**3.52**	**213**	P	**Pn**	**05 58 04.5**	**-0.3**
TMVZ	**Te Maari**	**3.53**	**234**	P	**Pn**	**05 58 05.8**	**+0.8**
BHHZ	**Black Hill Sta**	**3.53**	**227**	P	**Pn**	**05 58 05.8**	**+0.8**
ETVZ	**East Tongariro**	**3.54**	**234**	P	**Pn**	**05 58 05.9**	**+0.8**
NTVZ	**North Tongarir**	**3.54**	**235**	P	**Pn**	**05 58 06.1**	**+0.9**
KRVZ	**Karewarewa**	**3.56**	**235**	P	**Pn**	**05 58 06.5**	**+1.0**
ETAZ	**East Tamaki Re**	**3.57**	**271**	P	**Pn**	**05 58 06.6**	**+1.0**
OTVZ	**Oturere**	**3.58**	**234**	P	**Pn**	**05 58 06.2**	**+0.4**
NNVZ	**North Ngauruho**	**3.59**	**235**	P	**Pn**	**05 58 07.1**	**+1.1**
WTVZ	**West Tongariro**	**3.60**	**235**	P	**Pn**	**05 58 07.3**	**+1.3**
SNVZ	**South Ngauruho**	**3.61**	**234**	P	**Pn**	**05 58 06.9**	**+0.8**
MBAZ	**Motutapu North**	**3.62**	**274**	P	**Pn**	**05 58 06.9**	**+0.9**
NGZ	**Ngauruhoe**	**3.63**	**234**	P	**Pn**	**05 58 07.2**	**+0.8**
TUVZ	**Tukino**	**3.65**	**233**	P	**Pn**	**05 58 07.7**	**+1.0**
MOVZ	**Moawhango**	**3.67**	**230**	P	**Pn**	**05 58 06.4**	**-0.5**
TWVZ	**Taurewa**	**3.68**	**237**	P	**Pn**	**05 58 08.4**	**+1.4**
ABAZ	**Army Bay**	**3.69**	**277**	P	**Pn**	**05 58 08.2**	**+1.1**
WHVZ	**Whangaehu Hut**	**3.70**	**233**	P	**Pn**	**05 58 08.4**	**+1.0**
FWVZ	**Far West T-bar**	**3.70**	**234**	P	**Pn**	**05 58 08.5**	**+1.0**
WNVZ	**Wahianoa**	**3.71**	**232**	P	**Pn**	**05 58 08.3**	**+0.7**
EPAZ	**Eden Park BICE**	**3.73**	**272**	P	**Pn**	**05 58 08.0**	**+0.3**
HBAZ	**Herne Bay Bore**	**3.74**	**273**	P	**Pn**	**05 58 09.7**	**+1.9**
PNHZ	**Pukenui**	**3.75**	**221**	P	**Pn**	**05 58 07.7**	**-0.3**
AWAZ	**Awhitu Peninsu**	**3.80**	**269**	P	**Pn**	**05 58 09.7**	**+1.1**
PRHZ	**Porangahau**	**3.81**	**214**	P	**Pn**	**05 58 08.5**	**-0.4**
MTVZ	**Mangateitei**	**3.83**	**232**	P	**Pn**	**05 58 10.6**	**+1.5**
HIZ	**Hauiti**	**3.85**	**247**	P	**Pn**	**05 58 11.7**	**+2.3**
HIZ	**Hauiti**	**3.85**	**247**	P	**Pn**	**05 58 11.7**	**+2.3**
PKVZ	**Pokaka**	**3.85**	**234**	P	**Pn**	**05 58 10.8**	**+1.3**
WTAZ	**Waiatarua**	**3.86**	**271**	P	**Pn**	**05 58 10.8**	**+1.4**
RVAZ	**Riverhead Bore**	**3.87**	**274**	P	**Pn**	**05 58 10.9**	**+1.3**
TSZ	**Takapari Road**	**3.98**	**221**	P	**Pn**	**05 58 10.7**	**-0.5**
WCZ	**Waipu Caves**	**4.23**	**285**	P	**Pn**	**05 58 15.7**	**+1.2**
BFZ	**Birch Farm**	**4.33**	**214**	P	**Pn**	**05 58 14.4**	**-1.5**
POWZ	**Post Office Ro**	**4.33**	**220**	P	**Pn**	**05 58 15.1**	**-0.8**
WAZ	**Wanganui**	**4.35**	**231**	P	**Pn**	**05 58 17.6**	**+1.4**
PRWZ	**Pori Road**	**4.35**	**217**	P	**Pn**	**05 58 15.6**	**-0.6**
LREZ	**Lake Rotokare**	**4.57**	**238**	P	**Pn**	**05 58 21.3**	**+2.1**
PREZ	**Palmer Road**	**4.68**	**240**	P	Pn	05 58 26.0	+5.2
NEZ	**North Egmont**	**4.69**	**241**	P	**Pn**	**05 58 24.0**	**+3.0**
PKE	**Pukeiti**	**4.74**	**242**	P	**Pn**	**05 58 23.4**	**+1.9**
KHEZ	**Kahui Hut**	**4.76**	**241**	P	**Pn**	**05 58 24.3**	**+2.4**
OUZ	**Omahuta**	**5.05**	**290**	P	**Pn**	**05 58 27.5**	**+1.6**
QRZ	**Quartz Range**	**6.50**	**233**	P	**Pn**	**05 58 44.6**	**-1.2**
QRZ	**Quartz Range**	**6.50**	**233**	P	**Pn**	**05 58 44.7**	**-1.1**
KHZ	**Kahutara**	**6.95**	**219**	P	**Pn**	**05 58 50.5**	**-1.4**
RPZ	**Rata Peaks**	**9.16**	**221**	P	**Pn**	**05 59 19.5**	**-2.6**
	1.2nm,0.3s,baz=75,slow=2.2,SNR=2.7						
	2.9nm,0.4s						
ODZ	**Otahua Downs**	**10.31**	**217**	P	**Pn**	**05 59 35.5**	**-2.4**
MSVF	**Nonsavu**	**19.34**	**356**	LR	LR	06 08 15.6	
	comp=Z,47nm,20.2s,baz=141,slow=33						
ASAR	**Alice Springs**	**41.09**	**276**	P	**P**	**06 04 54.0**	**+0.6**
	1.1nm,0.6s,baz=120,slow=8.1,SNR=16						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**42.69**	**281**	P	**P**	**06 05 06.8**	**+0.2**
	1.6nm,0.7s,baz=123,slow=7.0,SNR=34						
	1.6nm,0.7s						
H03N3	**Juan Fernandez**	**78.80**	**123**	T	T	07 36 04.0	
	baz=235,slow=72,SNR=17						
H03N2	**Juan Fernandez**	**78.80**	**123**	T	T	07 36 03.3	
	baz=235,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**78.81**	**123**	T	T	07 36 06.1	
	baz=235,slow=72,SNR=19						
ARCES	**ARCESS Array B**	**144.57**	**345**	PKPbc	**PKPdf**	**06 16 45.0**	**+0.3**
	1.6nm,0.9s,baz=29,slow=2.1,SNR=7.7						
FINES	**FINESS Array B**	**150.47**	**334**	PKPbc	**PKiKP**	**06 17 01.5**	**+0.8**
	0.9nm,0.5s,baz=27,slow=5.1,SNR=6.4						

*NNC **22** 05:57:39.6±9.7, 46˚.74N×79˚.55E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=96.2km s-min=32.9km az=72.0, Suspected Mining explosion.*
*ASRS **22** 05:57:44.8±0.7, 47˚.N±2˚×8˚.0E±˚, h5km, MLh3.1/4, Error ellipse: s-maj=6.8km s-min=4.2km az=52.3, confirmed*

ISC 22 05:57:42.6±1.8, 47˚.05N±0˚.07×79˚.94E±0˚.08, h0km, n12, σ1°41/14, 4C, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**1.42**	**99**	Pg	**Pn**	**05 58 09.2**	**-0.5**
MAKZ				Sg	**Sg**	**05 58 27.5**	**-0.5**
MK31	**Makanchi Array**	**1.63**	**98**	⇑P	**Pg**	**05 58 14.2**	**+0.4**
	2.1nm,0.3s,baz=269,slow=12,SNR=26						
MK31				⇑S	**Sn**	**05 58 33.6**	**-0.7**
	0.9nm,0.3s,baz=268,slow=24,SNR=5.3						
MKAR	**Makanchi Array**	**1.63**	**98**	Pg	**Pb**	**05 58 13.4**	**-0.1**
MKAR				Sg	**Sg**	**05 58 36.3**	**+1.4**
KURBB	**Kurchatov Arra**	**3.69**	**346**	⇑Lg	Lg	05 59 42.5	
	5.8nm,0.6s						
KURK	**Kurchatov**	**3.77**	**347**	⇑Lg	Lg	05 59 45.3	
	1.4nm,0.4s						
KURK	**Kurchatov**	**3.77**	**347**	Pg	**Pg**	**05 58 54.5**	**-0.3**
KURK				Sg	**Sg**	**05 59 45.7**	**+2.1**
UKR	**Ust'-Kan**	**5.02**	**37**	Sg	**Sg**	**06 00 22.6**	**-1.3**
DGZ	**Jazzator, Alta**	**5.65**	**59**	Sg	**Sg**	**06 00 45.3**	**+1.3**
CHBI	**Chibit, Altay**	**5.98**	**54**	Sg	**Sg**	**06 00 56.2**	**+1.8**
CUR	**Chagan-Uzun**	**6.36**	**58**	Sg	**Sg**	**06 01 08.7**	**+2.0**
ULGR	**Ulagan, Altay**	**6.39**	**53**	Sg	**Sg**	**06 01 08.0**	**+0.4**
ARTR	**Artybash**	**6.74**	**43**	Sg	**Sg**	**06 01 17.0**	**-2.0**

*KNET **22** 06:29:40.5±0.4, 42˚.24N×73˚.93E, h12km±5km, ml2.9, Error ellipse: s-maj=4.4km s-min=2.8km az=140.0*
*KRNET **22** 06:29:41.3±0.1, 42˚.25N×73˚.92E, h17km, mb3.5*
*SOME **22** 06:29:41.5, 42˚.28N×73˚.95E, h15km*
*NNC **22** 06:29:43.4±0.9, 42˚.38N×73˚.95E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=8.7km s-min=4.2km az=172.0*

ISC 22 06:29:41.2±1.1, 42˚.33N±0˚.03×73˚.85E±0˚.02, h3km±10km, n82, σ1°18/138, 38C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.23**	**210**	P	**Pg**	**06 29 45.8**	**+0.1**
	572nm,0.1s,SNR=1991						
AML				⇑S	**Sg**	**06 29 48.4**	**-0.2**
	2µm,0.2s						
EKS2	**Erkin-Say**	**0.34**	**351**	⇓P	**Pb**	**06 29 49.7**	**-0.4**
	191nm,0.1s,SNR=402						
EKS2				⇓S	**Sb**	**06 29 55.5**	**-0.4**
	497nm,0.2s						
EKS2	**Erkin-Say**	**0.34**	**351**	*i* P	**Pb**	**06 29 49.6**	**-0.4**
	baz=45						
EKS2				*i* S	**Sb**	**06 29 55.5**	**-0.4**
	baz=45						
UCH	**Uchtor**	**0.50**	**101**	P	**Pg**	**06 29 50.0**	**-0.9**
	541nm,0.1s,SNR=274						
UCH				⇓S	**Sg**	**06 29 56.4**	**-1.0**
	275nm,0.2s						
UCH	**Uchtor**	**0.50**	**101**	*i* P	**Pg**	**06 29 50.0**	**-0.9**
	baz=93						
UCH				*i* S	**Sg**	**06 29 56.2**	**-1.3**
	baz=93						
AAK	**Ala-Archa**	**0.57**	**57**	⇑P	**Pg**	**06 29 52.4**	**+0.2**
	13nm,0.1s,SNR=52						
AAK				⇑S	**Sg**	**06 29 59.9**	**+0.3**
	783nm,0.4s						
AAK	**Ala-Archa**	**0.57**	**57**	*i* P	**Pg**	**06 29 52.4**	**+0.2**
	baz=48						
AAK				*i* S	**Sg**	**06 30 00.2**	**+0.6**
	baz=48						
MRKS	**Merke**	**0.62**	**313**	*e*P	**Pb**	**06 29 54.7**	**-0.1**
	48nm,0.2s						
MRKS				*e*S	**Sb**	**06 30 04.1**	**+0.1**
	742nm,0.2s						
MRKS	**Merke**	**0.62**	**313**	P	**Pb**	**06 29 54.7**	**-0.1**
	48nm,0.2s						
MRKS				S	**Sb**	**06 30 04.1**	**+0.1**
	742nm,0.2s						
FRU1	**Bishkek**	**0.75**	**50**	⇑*i*P	**Pg**	**06 29 56.0**	**+0.3**
	baz=43						
FRU1				⇑*i*S	**Sb**	**06 30 06.9**	**-0.9**
	baz=43						
KBK	**Karagaybulak**	**0.88**	**68**	⇑P	**Pg**	**06 29 57.7**	**-0.3**
	71nm,0.2s,SNR=19						
KBK				⇑S	**Sg**	**06 30 09.5**	**+0.1**
	368nm,0.2s						
KBK	**Karagaybulak**	**0.88**	**68**	*i* P	**Pg**	**06 29 57.7**	**-0.3**
	baz=62						
KBK				*i* S	**Sg**	**06 30 09.5**	**+0.1**
	baz=62						
CHMS	**Chumysh**	**0.95**	**44**	⇓P	**Pg**	**06 29 59.5**	**+0.2**
	29nm,0.2s,SNR=7.1						
CHMS				⇑S	**Sb**	**06 30 12.4**	**-0.9**
	135nm,0.2s						
CHMS	**Chumysh**	**0.95**	**44**	⇑P	**Pg**	**06 29 59.4**	**+0.1**
	5.7nm,0.3s						
CHMS				⇑S	**Sb**	**06 30 12.4**	**-0.9**
	144nm,0.2s						
CHMS	**Chumysh**	**0.95**	**44**	⇓*i*P	**Pg**	**06 29 59.5**	**+0.2**
	baz=39						
CHMS				⇓*i*S	**Sb**	**06 30 12.6**	**-0.7**
	baz=39						
USP	**Ospenovka**	**1.06**	**27**	⇓P	**Pb**	**06 30 02.0**	**-0.2**
	96nm,0.3s,SNR=58						
USP				⇓S	**Sb**	**06 30 16.6**	**+0.2**
	173nm,0.2s						
USP	**Ospenovka**	**1.06**	**27**	⇑*i*P	**Pb**	**06 30 02.0**	**-0.2**
	baz=23						
USP				⇑*i*S	**Sb**	**06 30 16.7**	**+0.3**
	baz=23						
SGDS	**Sogindy**	**1.26**	**27**	*e*P	**Pn**	**06 30 05.5**	**-0.4**
	32nm,0.2s						
SGDS				*e*S	**Sn**	**06 30 22.7**	**-0.7**
	55nm,0.1s						
SGDS	**Sogindy**	**1.26**	**27**	P	**Pn**	**06 30 05.5**	**-0.4**
	32nm,0.2s						
SGDS				S	**Sn**	**06 30 22.7**	**-0.7**
	55nm,0.1s						
TKM2	**Tokmak 2**	**1.42**	**65**	⇑P	**Pn**	**06 30 07.0**	**-1.1**
	33nm,0.1s,SNR=34						
TKM2				⇑S	**Sb**	**06 30 25.6**	**-1.5**
	144nm,0.1s						
TKM2	**Tokmak 2**	**1.42**	**65**	⇑P	**Pb**	**06 30 07.1**	**-1.1**
	13nm,0.4s						
TKM2				⇓S	**Sb**	**06 30 25.1**	**-2.0**
	36nm,0.2s						
TKM2	**Tokmak 2**	**1.42**	**65**	⇑*i*P	**Pn**	**06 30 07.2**	**-1.0**
	baz=61						
TKM2				⇑*i*S	**Sb**	**06 30 26.1**	**-1.0**
	baz=61						
ARK	**Arkit**	**1.50**	**250**	⇓*i*P	**Pn**	**06 30 09.5**	**+0.4**
	baz=53						
ARK				⇓*i*S	**Sg**	**06 30 30.0**	**+0.7**
	baz=53						
BOOM	**Boomskoye usch**	**1.56**	**83**	⇑*i*P	**Pn**	**06 30 09.3**	**-0.7**
	baz=80						
BOOM				⇑*i*S	**Sn**	**06 30 29.6**	**-1.2**
	baz=80						
DGS	**Degeres**	**1.69**	**57**	*e*P	**Pb**	**06 30 12.5**	**-0.5**
	26nm,0.2s						
DGS				*e*S	**Sb**	**06 30 34.7**	**0.0**
	104nm,0.5s						
DGS	**Degeres**	**1.69**	**57**	P	**Pb**	**06 30 12.5**	**-0.5**
	26nm,0.2s						
DGS				S	**Sb**	**06 30 34.7**	**0.0**
	104nm,0.5s						
KST	**Kastek**	**1.72**	**65**	*e*P	**Pb**	**06 30 13.0**	**-0.5**
	22nm,0.2s						
KST				*e*S	**Sb**	**06 30 35.5**	**0.0**
	93nm,0.3s						
KST	**Kastek**	**1.72**	**65**	P	**Pb**	**06 30 13.0**	**-0.5**
	22nm,0.2s						
KST				S	**Sb**	**06 30 35.5**	**0.0**
	93nm,0.3s						
ULHL	**Ulahol**	**1.78**	**92**	⇑P	**Pn**	**06 30 12.7**	**-0.3**
	62nm,0.3s,SNR=142						
ULHL	**Ulahol**	**1.78**	**92**	⇑*i*P	**Pn**	**06 30 12.8**	**-0.3**
	baz=89						
ULHL				⇑*i*S	**Sn**	**06 30 35.9**	**-0.4**
	baz=89						
NRN	**Naryn**	**1.84**	**118**	⇑*i*P	**Pn**	**06 30 13.2**	**-0.8**
	baz=18						
NRN				⇑*i*S	**Sn**	**06 30 36.5**	**-1.4**
	baz=18						
KRBS	**Karabastau**	**1.92**	**44**	*e*P	**Pb**	**06 30 16.9**	**+0.1**
	24nm,0.2s						
KRBS				*e*S	**Sg**	**06 30 42.3**	**-0.5**
	170nm,0.3s						
KRBS	**Karabastau**	**1.92**	**44**	Pg	**Pb**	**06 30 16.9**	**+0.1**
	24nm,0.2s						
KRBS				Lg	Lg	06 30 42.3	
	170nm,0.3s						
OHH	**Osh**	**1.97**	**204**	⇑P	**Pn**	**06 30 16.0**	**+0.4**
	baz=7.0						
OHH				⇑*i*S	**Sn**	**06 30 41.4**	**+0.6**
	baz=7.0		

20nm,0.5s
SATY *eS* **Sb** **06 31 27.3 +2.2**
61nm,0.3s
SATY **Saty** **3.44 76** Pg **Pb** **06 30 43.1 +0.3**
20nm,0.5s
SATY Lg Lg 06 31 27.3
61nm,0.3s
ARXS **Arharly** **3.46 56** *eP* **Pb** **06 30 44.0 +0.8**
6.6nm,0.3s
ARXS *eS* **Sb** **06 31 28.8 +3.0**
94nm,0.4s
ARXS **Arharly** **3.46 56** Pg **Pb** **06 30 44.0 +0.8**
6.6nm,0.3s
ARXS Lg Lg 06 31 28.8
94nm,0.4s
ZHN **Zhinishke** **3.48 74** *eP* **Pb** **06 30 43.7 +0.1**
35nm,0.3s
ZHN *eS* **Sb** **06 31 28.1 +1.8**
92nm,0.2s
ZHN **Zhinishke** **3.48 74** Pg **Pb** **06 30 43.7 +0.1**
35nm,0.3s
ZHN Lg Lg 06 31 28.1
92nm,0.2s
KPKS **Kokpek** **3.73 71** *eP* **Pb** **06 30 47.4 -0.4**
22nm,0.3s
KPKS *eS* **Sb** **06 31 34.6 +1.1**
101nm,0.5s
KPKS **Kokpek** **3.73 71** Pg **Pb** **06 30 47.4 -0.4**
22nm,0.3s
KPKS Lg Lg 06 31 34.6
101nm,0.5s
BLB **Baldybastay** **3.82 61** *eP* **Pb** **06 30 49.0 -0.4**
29nm,0.3s
BLB *eS* **Sb** **06 31 37.2 +1.2**
38nm,0.4s
BLB **Baldybastay** **3.82 61** Pg **Pb** **06 30 49.0 -0.4**
29nm,0.3s
BLB Lg Lg 06 31 37.2
38nm,0.4s
UZB **Uzynbulak** **3.90 76** *eP* **Pb** **06 30 50.6 -0.1**
13nm,0.4s
UZB *eS* **Sb** **06 31 40.2 +1.9**
56nm,0.4s
UZB **Uzynbulak** **3.90 76** Pg **Pb** **06 30 50.6 -0.1**
13nm,0.4s
UZB Lg Lg 06 31 40.2
56nm,0.4s
SHLS **Shalkode** **4.22 77** *eP* **Pg** **06 31 03.6 +1.6**
19nm,0.5s
SHLS *eS* **Sg** **06 32 02.3 +5.6**
18nm,0.3s
SHLS **Shalkode** **4.22 77** Pg **Pg** **06 31 03.6 +1.6**
19nm,0.5s
SHLS Lg Lg 06 32 02.3
18nm,0.3s
TDK **Taldyqorghan** **4.25 49** *eP* **Pb** **06 30 58.0 +1.4**
54nm,0.3s
TDK *eS* **Sb** **06 31 52.8 +4.4**
124nm,0.4s
TDK **Taldyqorghan** **4.25 49** Pg **Pb** **06 30 58.0 +1.4**
54nm,0.3s
TDK Lg Lg 06 31 52.8
124nm,0.4s
PDGK **Podgornoye** **4.27 75** ⇑Pg **Pb** **06 30 56.6 -0.4**
12nm,0.8s
PDGK ⇑Lg Lg 06 31 51.4
31nm,0.8s
DJR **Jarkent** **4.78 63** *eP* **Pg** **06 31 09.7 -3.0**
8.6nm,0.4s
DJR *eS* **Sg** **06 32 12.8 -1.8**
26nm,0.7s
DJR **Jarkent** **4.78 63** Pg **Pg** **06 31 09.7 -3.0**
8.6nm,0.4s
DJR Lg Lg 06 32 12.8
26nm,0.7s
KTMS **Ketmen** **4.91 75** *eP* **Pb** **06 31 08.4 +0.5**
3.7nm,0.4s
KTMS *eS* **Sb** **06 32 10.5 +3.1**
6.8nm,0.4s
KTMS **Ketmen** **4.91 75** Pg **Pb** **06 31 08.4 +0.5**
3.7nm,0.4s
KTMS Lg Lg 06 32 10.5
6.8nm,0.4s
MK31 **Makanchi Array** **7.50 51** ⇓Pn **Pn** **06 31 34.4 +2.9**
0.4nm,0.3s,baz=230,slow=13,SNR=9.2
MK31 ⇑Lg Lg 06 33 35.8
2.0nm,0.5s,baz=230,slow=27,SNR=5.1
KURBB **Kurchatov Arra** **8.90 20** ⇑Lg Lg 06 34 22.0
12nm,0.8s
KURK **Kurchatov** **9.01 20** ⇑Lg Lg 06 34 24.4
10nm,0.8s

*IDC **22** 06:31:36.9±1.7,28°.55S×72°.11W,h0km,mb3.8/3,*
mbtmp3.7/6,ML3.3/3,MS3.2/1,Error ellipse: s-maj=44.8km
s-min=42.2km az=7.0
*GUC **22** 06:31:39.1±0.5,28°.67S×72°.04W,h15km±26km,ML3.3*
ISC 22 06:31:37.2±2.5, 28°.61S±0.05×72°.08W±0.10, h5km±14km, n18, σ1s35/20, mb3.6/3, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.97**	**66**	⇑*iP*		**Pg**	**06 31 55.8**	**0.0**
AC04				*i* S		**Sg**	**06 32 08.3**	**-0.1**
AC04				IAML			06 32 09.4	
	comp=E,2μm,0.5s							
CO05	**La Serena**	**1.50**	**151**	⇑*iP*		**Pn**	**06 32 03.5**	**-1.2**
CO05				*i* S		**Sn**	**06 32 21.7**	**-3.0**
CO05				IAML			06 32 23.2	
	comp=E,599nm,0.4s							
AC05	**El Transito**	**1.60**	**99**	⇑*iP*		**Pn**	**06 32 06.4**	**+0.1**
AC05				*i* S		**Sn**	**06 32 26.0**	**-1.3**
AC05				IAML			06 32 27.9	
	comp=N,522nm,0.2s							
GO04	**Tololo Observa**	**1.92**	**145**	⇑*iP*		**Pn**	**06 32 10.3**	**-0.4**
GO04				*i* S		**Sn**	**06 32 34.2**	**-1.2**
GO04				IAML			06 32 35.8	
	comp=E,1μm,0.4s							
AC06	**Mina Casimiro**	**1.97**	**51**	⇑*iP*		**Pn**	**06 32 10.4**	**-0.8**
AC06				*i* S		**Sn**	**06 32 34.5**	**-1.7**
AC06				IAML			06 32 35.9	
	comp=N,198nm,0.3s							
CO01	**Juntas del Tor**	**2.21**	**129**	*eP*		**Pn**	**06 32 15.4**	**+0.7**
CO01				*i* S		**Sn**	**06 32 43.0**	**+0.5**
LVC	**Limon Verde**	**6.62**	**26**	Pn		**Pn**	**06 33 14.1**	**-1.3**
	comp=N,0.6nm,0.3s,baz=188,slow=6.4,SNR=6.1							
	comp=N,1.2nm,0.3s							
H03N1	**Juan Fernandez**	**7.59**	**229**	T		T	06 41 32.6	
	baz=58,slow=74,SNR=13							
H03N2	**Juan Fernandez**	**7.60**	**229**	T		T	06 41 34.2	
	baz=58,slow=74,SNR=12							
H03N3	**Juan Fernandez**	**7.61**	**229**	T		T	06 41 32.0	
	baz=58,SNR=22							
PLCA	**Paso Flores**	**12.16**	**174**	LR		LR	06 40 06.9	
	comp=N,115nm,19.3s,baz=242,slow=42							
LPAZ	**La Paz**	**12.79**	**17**	Pn		**Pn**	**06 34 39.3**	**-1.0**
	comp=N,0.1nm,0.3s,baz=219,slow=6.5,SNR=1.4							
	comp=N,0.7nm,0.6s							
SIV	**San Ignacio**	**16.15**	**41**	Pn		**Pn**	**06 35 26.8**	**+1.8**
	baz=238,slow=9.7,SNR=4.2							
	comp=N,0.5nm,0.5s							
TXAR	**Lajitas Array**	**65.05**	**330**	P		**P**	**06 42 19.2**	**+0.6**
	comp=N,0.2nm,0.5s,baz=155,slow=9.1,SNR=5.7							
	comp=N,0.2nm,0.5s							
DBIC	**Dimbokro**	**73.55**	**73**	P		**P**	**06 43 13.6**	**+2.1**
	comp=N,4.5nm,0.9s,baz=250,slow=7.2,SNR=3.0							
	comp=N,4.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**82.43**	**71**	P		**P**	**06 44 00.5**	**-0.4**
	comp=N,0.4nm,0.8s,baz=254,slow=5.4,SNR=2.8							
	comp=N,0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**149.57**	**27**	PKPbc		**PKPbc**	**06 51 27.3**	**0.0**
	comp=N,1.4nm,0.5s,baz=298,slow=3.1,SNR=5.2							
MKAR	**Makanchi Array**	**152.97**	**41**	PKPbc		**PKPbc**	**06 51 35.0**	**-0.4**
	comp=N,0.4nm,0.7s,baz=349,slow=2.9,SNR=2.8							

IDC 22 06:41:55.1±2.9, 54°.46N×87°.12E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=24.2km s-min=17.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**250**	*i*			06 50 40.0	
	baz=71,slow=327,SNR=2.7							
ZALV	**Zalesovo Beam**	**1.45**	**250**	Pg		Pn	06 42 20.8	-1.7
	1.5nm,0.3s,baz=68,slow=16,SNR=11							
ZALV				Lg		Lg	06 42 39.7	
	1.4nm,0.3s,baz=72,slow=24,SNR=7.5							
KURBB	**Kurchatov Arra**	**6.50**	**237**	Pn		Pn	06 43 32.1	+0.3
	0.1nm,0.3s,baz=55,slow=14,SNR=10							
KURBB				Sn		Sn	06 44 46.9	+0.4
	baz=50,slow=22,SNR=6.0							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**8.26**	**204**	Pn		Pn	06 43 57.4	+1.3
	0.1nm,0.3s,baz=26,slow=13,SNR=5.9							
MKAR				Sn		Sn	06 45 30.1	0.0
	0.3nm,0.3s,baz=24,slow=28,SNR=7.5							
MKAR				Lg		Lg	06 46 19.1	
	baz=27,slow=30							
	0.2nm,0.4s							

IDC 22 06:44:58.8±14.0, 21°.93S×179°.23W, h469km±117km, mb2.9/3, mbtmp3.8/4, Error ellipse: s-maj=236.5km s-min=89.4km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**13.29**	**267**	P		P	06 47 50.3	-1.2
	1.7nm,0.6s,baz=82,slow=16,SNR=2.0							
CTA	**Charters Tower**	**32.24**	**267**	P		P	06 50 49.3	+1.8
	1.7nm,0.4s,baz=92,slow=8.8,SNR=9.6							
	0.4s							
ASAR	**Alice Springs**	**43.09**	**258**	P		P	06 52 15.6	-1.1
	0.2nm,0.3s,baz=98,slow=7.4,SNR=5.8							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**43.29**	**264**	P		P	06 52 17.4	-0.8
	0.4nm,0.5s,baz=96,slow=8.0,SNR=29							
	0.4nm,0.5s							
AKASG	**Malin Array Be**	**143.68**	**329**	PKP		PKPdf	07 03 38.9	-0.4
	0.6nm,0.4s,baz=45,slow=4.4,SNR=5.1							

*IDC **22** 07:06:47.7±14.0, 18°.60S×178°.17W, h543km±179km,*
mb2.8/3, mbtmp3.8/3, Error ellipse: s-maj=221.5km
s-min=51.6km az=168.0
ISC 22 07:06:48.7±2.7, 18°.S±1°×178°.4W±0°.6, h550km, n6, σ0s48/6, mb3.2/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**44.62**	**260**	P		**P**	**07 14 12.4**	**-0.4**
	0.3nm,0.5s,baz=96,slow=8.3,SNR=16							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**44.76**	**254**	P		**P**	**07 14 14.2**	**+0.3**
	2.0nm,0.5s,baz=90,slow=8.5,SNR=47							
	2.0nm,0.5s							
TXAR	**Lajitas Array**	**86.09**	**58**	P		**P**	**07 18 31.9**	**-0.1**
	0.4nm,0.9s,baz=226,slow=4.9,SNR=3.7							
	0.4nm,0.9s							
ARCES	**ARCESS Array B**	**126.56**	**350**	PKP		**PKPdf**	**07 24 48.8**	**-0.2**
	0.4nm,0.5s,baz=57,slow=5.5,SNR=1.2							
GERES	**GERESS Array B**	**147.86**	**345**	PKPbc		**PKPbc**	**07 25 32.9**	**+0.6**
	1.2nm,0.5s,baz=38,slow=2.4,SNR=9.2							
DAVOX	**Davos/Dischmat**	**150.65**	**348**	PKPbc		**PKiKP**	**07 25 39.4**	**-0.1**
	1.5nm,0.4s,baz=292,slow=5.4,SNR=5.0							

*IDC **22** 07:08:53.6±0.7, 70°.34N×15°.68W, h0km, mb3.8/10,*
mbtmp3.9/15, ML2.6/3, MS3.7/65, Error ellipse:
s-maj=22.2km s-min=14.5km az=16.0
*NEIC **22** 07:08:54.9±1.2, 70°.26N±0°.08×15°.2W±0°.1, h10km±2km,*
mb4.4/18, Error ellipse: s-maj=14.2km s-min=3.2km
az=156.0
*REY **22** 07:08:54.7, 69°.93N×13°.79W, h10km*
*DNK **22** 07:09:02.6±4.8, 70°.68N×17°.09W, h9km±123km, ML2.0*
ISC 22 07:08:54.1±0.5, 70°.31N±0°.05×15°.34W±0°.05, h10km, n120, σ1s70/74, mb4.3/19, MS3.7/59, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SCO	**Scoresbysund**	**2.24**	**278**	Pn		**Pb**	**07 09 33.1**	**-1.4**
SCO	**Scoresbysund**	**2.24**	**278**	*i* P		**Pn**	**07 09 30.0**	**-1.1**
IGRI	**Grimsey**	**3.91**	**196**	P		**Pn**	**07 09 53.4**	**-0.8**
	baz=207							
IGRI				S		**Sn**	**07 10 39.4**	**-0.6**
	baz=207							
ILEI	**Leirhofn**	**3.94**	**187**	P		**Pn**	**07 09 52.3**	**-2.3**
	baz=197							
ILEI				S		**Sn**	**07 10 36.9**	**-3.9**
	baz=197							
IGIL	**Gilhagi**	**4.27**	**186**	P		**Pn**	**07 09 56.5**	**-2.5**
	baz=195							
DBG	**Daneborg**	**4.29**	**342**	*i* P		**Pn**	**07 09 57.0**	**-2.3**
IHED	**Heoinshofoi**	**4.31**	**191**	P		**Pn**	**07 09 57.9**	**-1.7**
	baz=201							
IHED				S		**Sn**	**07 10 48.2**	**-1.6**
	baz=201							
IBRE	**Brettingsstaoi**	**4.31**	**194**	P		**Pn**	**07 09 58.9**	**-0.7**
	baz=204							
IBRE				S		**Sn**	**07 10 48.1**	**-1.8**
	baz=204							
ISIG	**Siglufjorour**	**4.40**	**199**	P		**Pn**	**07 10 00.9**	**0.0**
	baz=209							
IDIM	**Dimmadalss**	**4.41**	**189**	P		**Pn**	**07 09 59.3**	**-1.7**
	baz=198							
IGRA	**Granastaoir**	**4.49**	**192**	P		**Pn**	**07 10 00.8**	**-1.3**
	baz=201							
IGRA				S		**Sn**	**07 10 52.3**	**-2.0**
	baz=201							
ISKI	**Skildingahlsh**	**4.50**	**189**	P		**Pn**	**07 09 59.8**	**-2.5**
	baz=198							
IGHA	**Grjothals**	**4.51**	**187**	P		**Pn**	**07 10 00.1**	**-2.3**
	baz=196							
IHLA	**Hella**	**4.53**	**196**	P		**Pn**	**07 10 02.5**	**-0.2**
	baz=206							
IHLA				S		**Sn**	**07 10 54.1**	**-1.1**
	baz=206							
IHRN	**Hraun**	**4.58**	**205**	P		**Pn**	**07 10 03.9**	**+0.6**
	baz=215							
IHRN				S		**Sn**	**07 10 57.3**	**+0.9**
	baz=215							
IKVO	**Krokottuvotn**	**4.65**	**188**	P		**Pn**	**07 10 02.7**	**-1.7**
	baz=197							
IGRS	**Grimsstaoir**	**4.70**	**184**	P		**Pn**	**07 10 02.7**	**-2.4**
	baz=193							
IREN	**Reynihlio**	**4.72**	**188**	P		**Pn**	**07 10 03.8**	**-1.5**
	baz=197							
IMEL	**Melhnausar**	**4.79**	**187**	P		**Pn**	**07 10 04.1**	**-2.1**
	baz=195							
ISVA	**Svartarkot**	**5.05**	**189**	P		**Pn**	**07 10 08.3**	**-1.5**
	baz=198							
IADA	**Aoalbol**	**5.32**	**181**	P		**Pn**	**07 10 11.0**	**-2.5**
	baz=189							
BORG	**Borgarnes**	**6.04**	**205**	Pn		**Pn**	**07 10 24.6**	**+1.3**
	15nm,0.5s,baz=8.2,slow=7.3,SNR=14							
BORG	**Borgarnes**	**6.04**	**205**	Pn		**Pn**	**07 10 23.5**	**+0.2**
SOEG	**Soedalen**	**6.07**	**257**	*i* P		**Pn**	**07 10 23.8**	**0.0**
DAG	**Danmarks Havn**	**6.56**	**353**	*i* P		**Pn**	**07 10 32.1**	**+1.6**
DAG				*i* S		**Sn**	**07 11 38.3**	**-7.0**
DAG				IAML			07 11 39.9	
	comp=Z,5.3nm,0.8s							
SUMG	**Summit**	**7.69**	**298**	Pn		**Pn**	**07 10 47.3**	**+1.0**
SUMG	**Summit**	**7.69**	**298**	*i* P		**Pn**	**07 10 45.8**	**-0.5**
ICESG	**Greenland Ices**	**8.51**	**273**	*i* P		**Pn**	**07 10 57.9**	**+0.3**
NOR	**Nord**	**11.36**	**359**	*i* P		**Pn**	**07 11 36.3**	**+0.1**
SPITS	**Spitsbergen Ar**	**11.47**	**33**	Pn		**Pn**	**07 11 38.4**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=225,slow=13,SNR=25							
SPB2	**Spitsbergen Ar**	**11.47**	**33**	Pn		**Pn**	**07 11 38.8**	**+1.1**
SFJD	**Kangerlussuaq**	**13.13**	**272**	LR		LR	07 16 49.2	
	comp=Z,692nm,18.4s,baz=60,slow=36							
ARCES	**ARCESS Array B**	**13.86**	**74**	LR		LR	07 16 29.1	
	comp=Z,322nm,18.8s,baz=282,slow=33							
ARCES	**ARCESS Array B**	**13.86**	**74**	Pn		**Pn**	**07 12 09.5**	**-0.8**
NC204	**NORSAR Array S**	**13.88**	**118**	Pn		**Pn**	**07 12 09.4**	**-1.3**
NOA	**NORSAR Array B**	**14.21**	**118**	Pn		**Pn**	**07 12 16.7**	**+1.6**
	baz=335,slow=13,SNR=3.9							
NOA				LR		LR	07 17 16.8	
	comp=Z,153nm,19.3s,baz=320,slow=35							
	comp=Z,0.5nm,0.7s							
HFS	**Hagfors**	**15.67**	**116**	Pn		**Pn**	**07 12 36.4**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=327,slow=16,SNR=5.7							
HFS				LR		LR	07 17 51.8	
	comp=Z,284nm,20.9s,baz=316,slow=34							
	comp=Z,5.6nm,1.1s							
EKA	**Eskdalemuir Ar**	**15.97**	**154**	LR		LR	07 18 18.3	
	comp=Z,264nm,18.1s,baz=358,slow=35							
ESK	**Eskdalemuir**	**15.98**	**154**			**Pn**	**07 12 39.5**	**+0.8**
IVI	**Ivigtut**	**16.04**	**252**	Pn		**P**	**07 12 41.3**	**-1.5**
IVI				IAmb		IAmb	07 12 45.9	
	comp=Z,28nm,1.0s							
FIA1	**FINESS Array S**	**18.70**	**97**	P		**P**	**07 13 11.8**	**-0.4**
FINES	**FINESS Array B**	**18.70**	**97**	*i* P		**Pn**	**07 13 13.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=316,slow=10,SNR=7.2							
FINES				LR		LR	07 19 34.1	
	comp=Z,372nm,19.3s,baz=309,slow=34							
	comp=Z,5.5nm,1.0s							
FINES	**FINESS Array B**	**18.70**	**97**	P		**P**	**07 13 11.8**	**-0.4**
FRB	**Frobisher Bay**	**21.10**	**278**	LR		LR	07 21 38.8	
	comp=Z,229nm,18.2s,baz=20,slow=36							
RES	**Resolute Bay**	**22.59**	**317**	LR		LR	07 22 38.6	
	comp=Z,258nm,19.0s,baz=42,slow=37							
CLL	**Collm**	**23.13**	**131**	P		**P**	**07 13 59.3**	**-0.7**
GRA1	**Grafenberg Arr**	**24.17**	**135**	P		**P**	**07 14 08.5**	**-1.7**
GRFO	**Grafenberg**	**24.18**	**135**	P		**P**	**07 14 08.3**	**-1.9**
KHC	**Kasperske Hory**	**25.27**	**132**	P		**P**	**07 14 21.1**	**+0.9**
GERES	**GERESS Array B**	**25.57**	**132**	P		**P**	**07 14 24.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=2.9,slow=11,SNR=5.8							
	comp=Z,0.3nm,0.3s							
GERES	**GERESS Array B**	**25.57**	**132**	P		**P**	**07 14 23.8**	**+0.8**
VRAC	**Vranov**	**25.90**	**128**	LR		LR	07 25 01.8	
	comp=Z,183nm,18.3s,baz=334,slow=37							
DAVOX	**Davos/Dischmat**	**26.60**	**139**	LR		LR	07 25 32.8	
	comp=Z,140nm,19.0s,baz=346,slow=37							
OBN	**Obninsk**	**27.11**	**97**	LR		LR	07 24 46.4	
	comp=Z,63nm,19.9s,baz=348,slow=35							
SCHQ	**Schefferville**	**27.20**	**262**	P		**P**	**07 14 37.0**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=35,slow=8.4,SNR=4.5							
SCHQ				LR		LR	07 24 49.6	
	comp=Z,218nm,18.5s,baz=62,slow=35							
	comp=Z,5.4nm,0.8s							
AKASG	**Malin Array Be**	**28.40**	**110**	LR		LR	07 25 29.0	
	comp=Z,145nm,21.6s,baz=326,slow=35							
KIRV	**Kirov**	**28.70**	**81**	LR		LR	07 25 16.7	
	comp=Z,172nm,19.9s,baz=315,slow=34							
ESDC	**Sonseca Array**	**31.27**	**163**	LR		LR	07 27 53.2	
	comp=Z,70nm,18.4s,baz=340,slow=36							
NRIK	**Noril'sk**	**31.49**	**41**	LR		LR	07 29 43.3	
	comp=Z,78nm,18.1s,baz=14,slow=40							
MLR	**Muntele Rosu**	**32.02**	**119**	LR		LR	07 28 29.8	
	comp=Z,152nm,21.1s,baz=356,slow=37							
BELG	**Belogornoye**	**33.09**	**89**	LR		LR	07 28 06.7	
	comp=Z,136nm,18.8s,baz=350,slow=35							
ARU	**Arti**	**33.44**	**76**	LR		LR	07 28 26.4	
	comp=Z,219nm,18.3s,baz=1.0,slow=35							
INK	**Inuvik**	**35.53**	**326**	LR		LR	07 32 19.5	
	comp=Z,127nm,18.6s,baz=262,slow=40							
YKA	**Yellowknife Ar**	**36.11**	**309**	P		**P**	**07 15 54.1**	**-1.4**
	comp=Z,3.9nm,0.9s,baz=31,slow=8.3,SNR=4.3							
YKA				LR		LR	07 30 41.4	
	comp=Z,145nm,18.6s,baz=60,slow=36							
	comp=Z,3.9nm,0.9s							
VAE	**Valguarnera**	**36.47**	**138**	LR		LR	07 31 57.9	
	comp=Z,45nm,18.1s,baz=344,slow=38							
KEST	**Kesra**	**37.10**	**146**	LR		LR	07 31 30.6	
	comp=Z,74nm,18.7s,baz=308,slow=36							
MDT	**Midelt**	**38.01**	**165**	LR		LR	07 30 12.1	
	comp=Z,63nm,21.6s,baz=343,slow=34							
AKTO	**Aktyubinsk**	**38.25**	**82**	LR		LR	07 31 09.0	
	comp=Z,97nm,19.1s,baz=340,slow=35							
KVAR	**Kislovodsk Arr**	**38.71**	**102**	LR		LR	07 32 23.6	
	comp=Z,102nm,18.7s,baz=269,slow=36							
KBZ	**Khabaz**	**38.98**	**102**	LR		LR	07 32 03.1	
	comp=Z,134nm,18.6s,baz=347,slow=36							
BRTR	**Keskin Array B**	**39.61**	**114**	LR		LR	07 33 19.9	
	comp=Z,71nm,20.9s,baz=334,slow=37							
SADO	**Sadowa**	**39.92**	**265**	LR		LR	07 32 35.5	
	comp=Z,230nm,19.2s,baz=20,slow=36							
BVAR	**Borovoye Array**	**40.09**	**69**	LR		LR	07 32 58.4	
	comp=Z,56nm,18.1s,baz=319,slow=36							
ULM	**Lac du Bonnet**	**40.79**	**284**	P		**P**	**07 16 36.6**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=57,slow=6.5,SNR=3.3							
ULM				LR		LR	07 33 40.9	
	comp=Z,185nm,18.5s,baz=318,slow=37							
	comp=Z,3.4nm,0.7s							
ILAR	**Eielson Array**	**41.09**	**331**	P		**P**	**07 16 38.8**	**+1.4**
	comp=Z,0.7nm,1.0s,baz=16,slow=7.7,SNR=4.2							
ILAR				LR		LR	07 36 54.7	
	comp=Z,55nm,20.2s,baz=61,slow=41							
	comp=Z,0.7nm,1.0s							
IDI	**Anoyia**	**41.17**	**127**	LR		LR	07 35 25.6	
	comp=Z,40nm,18.1s,baz=325,slow=39							
GNI	**Garni**	**42.79**	**102**	LR		LR	07 34 25.2	
	comp=Z,165nm,21.4s,baz=320,slow=36							
DLBC	**Dease Lake**	**43.47**	**316**	LR		LR	07 34 59.8	
	comp=Z,140nm,18.1s,baz=46,slow=36							
ZALV	**Zalesovo Beam**	**43.66**	**57**	LR		LR	07 37 11.6	
	comp=Z,56nm,21.4s,baz=336,slow=39							
KURBB	**Kurchatov Arra**	**44.71**	**65**	P		**P**	**07 17 08.2**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=330,slow=7.2,SNR=5.2							
KURBB				LR		LR	07 37 21.9	
	comp=Z,54nm,20.0s,baz=337,slow=38							
	comp=Z,0.4nm,0.5s							
MMAI	**Mount Meron Ar**	**46.34**	**116**	LR		LR	07 38 07.6	
	comp=Z,20nm,18.5s,baz=70,slow=38							
KDAK	**Kodiak Island**	**48.62**	**331**	LR		LR	07 42 01.7	
	comp=Z,54nm,18.2s,baz=69,slow=41							
BBB	**Bella Bella**	**48.66**	**311**	LR		LR	07 38 52.6	
	comp=Z,114nm,19.0s,baz=36,slow=37							
NEW	**Newport**	**49.18**	**300**	LR		LR	07 38 59.0	
	comp=Z,135nm,18.8s,baz=70,slow=37							
MKAR	**Makanchi Array**	**49.26**	**64**	P		**P**	**07 17 44.3**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=267,slow=4.9,SNR=4.7							
MKAR				LR		LR	07 40 51.1	
	comp=Z,48nm,19.2s,baz=262,slow=39							
	comp=Z,1.0nm,0.9s							
GEYT	**Alibeck**	**49.29**	**90**	LR		LR	07 40 13.4	
	comp=Z,214nm,18.1s,baz=330,slow=38							
EIL	**Elat**	**49.32**	**118**	LR		LR	07 39 06.4	
	comp=Z,42nm,21.6s,baz=233,slow=37							
TKL	**Tuckaleechee C**	**49.65**	**264**	LR		LR	07 38 11.7	
	comp=Z,149nm,18.4s,baz=18,slow=36							
CCM	**Cathedral Cave**	**50.01**	**272**	P		**P**	**07 17 49.2**	**+1.0**
CCM				IAmb		IAmb	07 17 49.9	
	comp=Z,4.4nm,0.9s							
CLTN	**Cedars of Leba**	**50.12**	**266**	P		**P**	**07 17 50.5**	**+1.5**
CLTN				IAmb		IAmb	07 17 54.0	
	comp=Z,4.4nm,1.0s							
R40A	**Maddies Statio**	**50.14**	**273**	P		**P**	**07 17 50.0**	**+0.9**
R40A				IAmb		IAmb	07 17 51.9	
	comp=Z,4.8nm,1.0s							
YHL	**Hebgen Lake**	**50.45**	**293**	P		**P**	**07 17 53.3**	**+1.5**
YHL				IAmb		IAmb	07 18 04.2	
	comp=Z,6.1nm,1.4s							
AAK	**Ala-Archa**	**50.53**	**73**	LR		LR	07 38 49.1	
	comp=Z,63nm,18.5s,baz=324,slow=36							
W50A	**Signal Mountai**	**50.58**	**265**	P		**P**	**07 17 54.9**	**+2.3**
PDAR	**Pinedale Array**	**51.82**	**291**	P		**P**	**07 18 00.9**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=52,slow=6.2,SNR=8.2							
PDAR				LR		LR	07 39 53.0	
	comp=Z,154nm,20.0s,

KSRS	**Korea Array**	**69.30**	**31**	LR	LR	07 52 00.3	
	comp=Z,12nm,18.8s,baz=110,slow=37						
CMIG	**Matias Romero**	**70.51**	**266**	LR	LR	07 53 10.7	
	comp=Z,52nm,19.6s,baz=252,slow=38						
BRDH	**Bariadhala**	**74.38**	**67**	LR	LR	07 59 13.3	
	comp=Z,41nm,18.5s,baz=276,slow=40						
MBAR	**Mbarara**	**76.98**	**132**	LR	LR	07 59 39.7	
	comp=Z,17nm,18.2s,baz=16,slow=40						
CMAR	**Chiang Mai Arr**	**80.58**	**61**	LR	LR	08 03 36.6	
	comp=Z,12nm,18.3s,baz=310,slow=41						
LSZ	**Lusaka**	**90.53**	**138**	LR	LR	08 06 36.5	
	comp=Z,47nm,18.2s,baz=284,slow=38						
NNA	**Nana**	**92.06**	**239**	LR	LR	08 04 50.3	
	comp=Z,37nm,18.1s,baz=326,slow=36						
TSUM	**Tsumeb**	**92.22**	**149**	LR	LR	08 04 59.0	
	comp=Z,47nm,18.4s,baz=324,slow=36						
LBTB	**Lobatse**	**99.40**	**143**	LR	LR	08 10 57.5	
	comp=Z,40nm,18.3s,baz=346,slow=37						

IDC ***22*** *07:14:38.9±3.7, 10°.01S×113°.15E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=211.9km s-min=28.1km az=46.0*
DJA ***22*** *07:14:46.0±0.9, 10°.5S×11°.4E±°, h17km±8km, M3.8/9, MLv3.8/9*
ISC 22 07:14:41.4±1.2, **9°.76S**±0°.10×**113°.73E**±0°.07, **h10**km, **n14**, σ1§**47**/20, **mb3.2/3**, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.34**	**18**	P		**Pn**	**07 15 05.3**	**-0.9**
IGBI	**Denpasar**	**1.68**	**56**	P		**Pn**	**07 15 10.5**	**-0.3**
DNP	**Denpasar**	**1.81**	**54**	P		**Pn**	**07 15 12.5**	**-0.1**
ABJI	**Asem Bagus**	**2.01**	**14**	P		**Pn**	**07 15 16.9**	**+1.5**
ABJI				S		**Sn**	**07 15 40.2**	**-0.4**
SRBI	**Singaraja**	**2.21**	**42**	P		**Pn**	**07 15 18.2**	**0.0**
PWJI	**Pagerwojo**	**2.57**	**312**	P		**Pb**	**07 15 27.7**	**+0.1**
PWJI				S		**Sb**	**07 16 00.8**	**+1.6**
KMMI	**Kalianget**	**2.70**	**5**	P		**Pn**	**07 15 26.2**	**+1.3**
KMMI				S		**Sn**	**07 15 57.4**	**-0.2**
PCJI	**Pacitan**	**2.96**	**301**	P		**Pb**	**07 15 34.2**	**-0.1**
PCJI				S		**Sb**	**07 16 11.6**	**+1.0**
TWSI	**Taliwang, Sumb**	**3.27**	**72**	P		**Pn**	**07 15 32.7**	**0.0**
UGM	**Wanagama**	**3.66**	**300**	P		**Pb**	**07 15 43.8**	**-2.5**
UGM				S		**Sb**	**07 16 28.5**	**-2.3**
PLAI	**Plampang**	**4.10**	**77**	P		**Pn**	**07 15 44.2**	**+0.1**
PLAI				S		**Sn**	**07 16 30.3**	**-1.9**
WRA	**Warramunga Arr**	**22.32**	**119**	P		**P**	**07 19 41.8**	**+2.3**
	0.1nm,0.3s,baz=293,slow=12,SNR=8.5 0.1nm,0.3s							
ASAR	**Alice Springs**	**23.71**	**128**	P		**P**	**07 19 56.4**	**+2.6**
	0.4nm,0.5s,baz=301,slow=9.0,SNR=9.7 0.4nm,0.5s							
MKAR	**Makanchi Array**	**62.90**	**336**	P		**P**	**07 25 06.9**	**-0.9**
	0.2nm,0.4s,baz=154,slow=6.6,SNR=2.5 0.2nm,0.4s							

BUC 22 07:18:45.2±0.3, **45°.66N**×**26°.53E**, **h132**km±2km, **ml3.6**/31, **36C-33D**, **Error ellipse: s-maj=2.0km s-min=1.6km az=178.0**, **Romania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.21**	**24**	⇑P		Pn	07 19 04.0	+0.5
PLOR				⇓S		Sn	07 19 17.8	+0.5
VRI	**Vrincioaia**	**0.25**	**34**	⇑P		Pn	07 19 04.0	+0.4
VRI				⇑S		Sn	07 19 18.2	+0.8
COVR	**Voineasa-Covas**	**0.29**	**310**	⇓P		Pn	07 19 03.7	0.0
COVR				⇓S		Sn	07 19 17.4	-0.3
ODBI	**Odobesti**	**0.39**	**74**	⇓P		Pn	07 19 03.9	-0.1
ODBI				⇑S		Sn	07 19 19.6	+1.4
MLR	**Muntele Rosu**	**0.44**	**248**	⇑P		Pn	07 19 04.6	+0.1
MLR				⇓S		Sn	07 19 19.1	+0.2
PANC	**Panciu**	**0.49**	**64**	⇑S		Sn	07 19 20.1	+1.1
ISR	**Istrita**	**0.54**	**179**	⇑P		Pn	07 19 04.4	-0.5
ISR				⇑S		Sn	07 19 20.4	+0.7
OZUR		**0.68**	**311**	⇑P		Pn	07 19 05.4	-0.3
OZUR				⇑S		Sn	07 19 20.6	-0.8
SECR		**0.70**	**208**	⇑P		Pn	07 19 06.5	+0.6
SECR				⇓S		Sn	07 19 22.7	+1.2
GHRR		**0.74**	**57**	⇑P		Pn	07 19 06.6	+0.5
GHRR				⇑S		Sn	07 19 23.1	+1.2
PGOR	**Pogoanele**	**0.82**	**156**	⇑S		Sn	07 19 24.2	+1.2
PLAR	**PLOIESTI**	**0.82**	**205**	⇓S		Sn	07 19 23.9	+0.8
DOPR	**Dopca**	**0.85**	**292**	⇑P		Pn	07 19 07.1	+0.1
DOPR				⇓S		Sn	07 19 23.2	-0.5
TESR	**Tescani**	**0.86**	**6**	⇑P		Pn	07 19 07.0	-0.1
TESR				⇓S		Sn	07 19 23.2	-0.6
SLCR	**Slobozia Conac**	**0.88**	**94**	⇑S		Sn	07 19 24.2	+0.3
IZVR	**Izvoarele**	**0.88**	**97**	⇓P		Pn	07 19 07.4	+0.1
IZVR				⇓S		Sn	07 19 23.6	-0.3
SCHL	**Schela**	**0.93**	**99**	⇑P		Pn	07 19 08.3	+0.6
SCHL				⇑S		Sn	07 19 24.9	+0.2
VARL	**Varlezi**	**0.96**	**75**	⇑S		Sn	07 19 25.6	+0.5
BIR	**Birlad**	**0.98**	**51**	⇓S		Sn	07 19 26.5	+0.9
SULR		**1.00**	**191**	⇓S		Sn	07 19 27.1	+1.3
SCTR	**Scanteiesti**	**1.03**	**89**	⇓P		Pn	07 19 09.4	+0.8
SCTR				⇓S		Sn	07 19 26.7	+0.3
VOIR		**1.06**	**258**	⇑P		Pn	07 19 08.7	-0.3
VOIR				⇓S		Sn	07 19 27.6	+0.6
VLDR	**Vladesti**	**1.10**	**80**	⇓P		Pn	07 19 10.0	+0.7
VLDR				⇓S		Sn	07 19 28.2	+0.6
AMRR	**Amara**	**1.19**	**151**	⇑P		Pn	07 19 10.7	+0.5
AMRR				⇓S		Sn	07 19 29.8	+0.6
LEHL	**Lehliu**	**1.20**	**170**	⇓S		Sn	07 19 29.8	+0.5
CFR	**Carcaliu**	**1.23**	**112**	⇑P		Pn	07 19 11.0	+0.4
CFR				⇓S		Sn	07 19 29.6	-0.2
VASR	**Vaslui**	**1.32**	**41**	⇓P		Pn	07 19 12.0	+0.5
VASR				⇓S		Sn	07 19 31.6	0.0
STFAR	**Stefanesti-Arg**	**1.36**	**235**	⇑P		Pn	07 19 11.5	-0.5
STFAR				⇓S		Sn	07 19 33.5	+1.2
LEOM	**Leova**	**1.45**	**55**	⇓P		Pn	07 19 13.3	+0.5
LEOM				⇑S		Sn	07 19 34.3	+0.3
TLBR	**Topalu**	**1.55**	**135**	⇓P		Pn	07 19 14.4	+0.4
TLBR				⇑S		Sn	07 19 35.4	-0.6
TPGR	**Topolog**	**1.56**	**120**	⇑P		Pn	07 19 14.3	+0.1
TPGR				⇑S		Sn	07 19 36.1	-0.1
TLCR		**1.68**	**105**	⇑P		Pn	07 19 15.9	+0.4
TLCR				⇑S		Sn	07 19 39.3	+0.7
CVDA	**Cernavoda**	**1.71**	**140**	⇓P		Pn	07 19 16.2	+0.4
CVDA				⇑S		Sn	07 19 38.5	-0.6
ICOR	**Ion Corvin**	**1.79**	**149**	⇓P		Pn	07 19 16.7	-0.1
ICOR				⇑S		Sn	07 19 40.1	-0.7
TIRR	**Tirgusor**	**1.80**	**131**	⇓P		Pn	07 19 17.1	+0.3
TIRR				⇑S		Sn	07 19 40.7	-0.3
LOT	**Lotru**	**1.95**	**265**	⇑S		Sn	07 19 44.4	-0.1
MILM	**Milestii Mici**	**2.03**	**51**	⇓P		Pn	07 19 19.8	+0.2
MILM				⇓S		Sn	07 19 45.0	-1.0
BURAR	**Bucovina Array**	**2.15**	**336**	⇑P		Pn	07 19 22.7	+1.4
GZR	**Gura Zlata**	**2.65**	**266**	⇓P		Pn	07 19 27.7	+0.3
GZR				⇑S		Sn	07 20 00.2	+0.2
HERR	**Herculane**	**3.00**	**256**	⇓P		Pn	07 19 31.1	-0.9

ROM 22 07:19:41.5±0.1, **42°.784N**±0°.004×**13°.130E**±0°.010, **h8**km, **ML2.3**/18, **13C-12D**, **Error ellipse: s-maj=0.8km s-min=0.1km az=80.0**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**347**	⇑P		Pg	07 19 43.1	-0.3
NRCA				S		Sg	07 19 44.3	-0.4
NRCA				AML		AML		
	comp=N,32750μm,0.1s							
NRCA				AML		AML		
	comp=E,42050μm,0.1s							
NRCA				AML		AML		
	comp=N,36350μm,0.1s							
NRCA				AML		AML		
	comp=E,39600μm,0.2s							
T1242	**Castelluccio d**	**0.07**	**50**	⇑P		Pg	07 19 43.6	-0.1
T1242				S		Sg	07 19 45.2	0.0
T1242				AML		AML		
	comp=E,18650μm,1.2s							
T1242				AML		AML		
	comp=E,18500μm,1.2s							
T1242				AML		AML		
	comp=N,17950μm,1.1s							
T1242				AML		AML		
	comp=N,17850μm,1.1s							
T1202	**Accumoli, Fraz**	**0.11**	**139**	⇓P		Pg	07 19 44.5	+0.4
T1202				S		Sg	07 19 47.2	+1.3
T1202				AML		AML		
	comp=E,17600μm,0.3s							
T1202				AML		AML		
	comp=N,20550μm,0.3s							
T1202				AML		AML		
	comp=E,17650μm,0.3s							
T1216	**Preci, Frazion**	**0.13**	**322**	P		Pg	07 19 44.8	+0.3
MC2	**Monte Cornacci**	**0.14**	**19**	P		Pg	07 19 44.9	+0.3
MC2				S		Sg	07 19 47.9	+1.1
T1217	**Poggiodomo (PG**	**0.16**	**244**	⇓P		Pg	07 19 45.5	+0.5
T1217				AML		AML		
	comp=E,1525μm,0.8s							
T1217				AML		AML		
	comp=N,2465μm,0.4s							
T1217				AML		AML		
	comp=E,1465μm,0.6s							
T1217				AML		AML		
	comp=N,2375μm,0.4s							
T1217				AML		AML		
	comp=E,1525μm,0.8s							
T1217				AML		AML		
	comp=E,1464μm,0.6s							
T1217				AML		AML		
	comp=N,2375μm,0.4s							
T1217				AML		AML		
	comp=N,2460μm,0.4s							
T1217				AML		AML		
	comp=E,1520μm,0.8s							
T1204	**Amatrice, Fraz**	**0.17**	**128**	P		Pg	07 19 45.9	+0.7
T1204				S		Sg	07 19 49.5	+1.8
T1204				AML		AML		
	comp=E,2890μm,1.5s							
T1204				AML		AML		
	comp=N,2330μm,1.1s							
T1204				AML		AML		
	comp=E,2900μm,1.5s							
T1204				AML		AML		
	comp=N,2335μm,1.1s							
FEMA	**Monte Fema**	**0.19**	**342**	P		Pg	07 19 46.1	+0.6
FEMA				S		Sg	07 19 49.7	+1.6
LNSS	**Leonessa**	**0.19**	**200**	⇓P		Pg	07 19 46.0	+0.5
LNSS				S		Sg	07 19 50.4	+2.1
LNSS				AML		AML		
	comp=N,4155μm,0.4s							
LNSS				AML		AML		
	comp=E,2430μm,0.4s							
T1215	**Vallo di Nera,**	**0.19**	**275**	⇓P		Pg	07 19 45.9	+0.4
T1215				AML		AML		
	comp=E,763μm,0.5s							
T1215				AML		AML		
	comp=N,803μm,1.2s							
T1215				AML		AML		
	comp=E,778μm,0.5s							
T1215				AML		AML		
	comp=N,794μm,1.2s							
T1215				AML		AML		
	comp=E,763μm,0.5s							
T1215				AML		AML		
	comp=N,802μm,1.2s							
T1215				AML		AML		
	comp=E,776μm,0.5s							
T1215				AML		AML		
	comp=N,794μm,1.2s							
T1215				AML		AML		
	comp=E,780μm,0.5s							
T1215				AML		AML		
	comp=N,796μm,1.2s							
T1215				AML		AML		
	comp=E,762μm,0.5s							
AM05	**Amandola Campo**	**0.25**	**40**	P		Pg	07 19 47.1	+0.5
AM05				S		Sg	07 19 51.4	+1.4
FDMO	**Fiordimonte**	**0.25**	**353**	⇓P		Pg	07 19 47.0	+0.4
FDMO				AML		AML		
	comp=E,1011μm,0.6s							
FDMO				AML		AML		
	comp=N,1190μm,0.8s							
FDMO				AML		AML		
	comp=E,1010μm,0.6s							
CESI	**CESI - Serrava**	**0.28**	**323**	⇓P		Pg	07 19 47.4	+0.4
CESI				AML		AML		
	comp=N,2870μm,0.3s							
CESI				AML		AML		
	comp=E,1610μm,0.3s							
RM33	**Pellescritta (**	**0.28**	**167**	⇓P		Pg	07 19 47.6	+0.4
RM33				S		Sb	07 19 52.4	-1.3
RM33				AML		AML		
	comp=E,1450μm,1.3s							
RM33				AML		AML		
	comp=N,1705μm,0.3s							
RM33				AML		AML		
	comp=E,1490μm,0.3s							
RM33				AML		AML		
	comp=N,1700μm,0.3s							
RM33				AML		AML		
	comp=N,1670μm,0.3s							
RM33				AML		AML		
	comp=E,1455μm,1.3s							
CSP1	**Cessapalombo**	**0.31**	**10**	⇑P		Pg	07 19 48.0	+0.3
CSP1				AML		AML		
	comp=E,1248μm,1.4s							
CSP1				AML		AML		
	comp=N,1090μm,0.6s							
CSP1				AML		AML		
	comp=E,1250μm,1.4s							
CSP1				AML		AML		
	comp=N,1096μm,0.6s							
CAMP	**Campotosto**	**0.32**	**140**	⇓P		Pg	07 19 48.3	+0.4
CAMP				S		Sb	07 19 53.7	-1.3
CAMP				AML		AML		
	comp=E,607μm,1.0s							
CAMP				AML		AML		
	comp=N,599μm,0.6s							
T1247	**Pizzolo (AQ)**	**0.36**	**160**	⇑P		Pg	07 19 49.2	+0.5
T1247				AML		AML		
	comp=E,1225μm,0.4s							
T1247				AML		AML		
	comp=N,1360μm,1.2s							
TERO	**Teramo**	**0.39**	**115**	⇑P		Pg	07 19 49.2	+0.2
TERO				AML		AML		
	comp=E,554μm,0.7s							
TERO				AML		AML		
	comp=N,915μm,1.5s							
TERO				AML		AML		
	comp=E,554μm,0.7s							
SEF1	**Sefro**	**0.39**	**340**	P		Pb	07 19 50.1	-0.5
SEF1				S		Sb	07 19 56.3	-0.5
MDAR	**Monte D'Aria**	**0.41**	**1**	P		Pb	07 19 51.0	0.0
MDAR				S		Sb	07 19 56.7	-0.7
OFFI	**Offida**	**0.43**	**70**	⇑P		Pb	07 19 51.3	-0.1
OFFI				AML		AML		
	comp=E,865μm,0.8s							
OFFI				AML		AML		
	comp=N,1200μm,0.5s							
GIGS	**Gran Sasso**	**0.47**	**136**	⇑P		Pg	07 19 50.8	+0.2
GIGS				AML		AML		
	comp=E,170μm,0.3s							
GIGS				AML		AML		
	comp=N,134μm,0.7s							
GIGS				AML		AML		
	comp=E,170μm,0.3s							
GIGS				AML		AML		
	comp=N,134μm,0.7s							
FIAM	**Fiamignano**	**0.52**	**181**	⇓P		Pg	07 19 51.5	0.0
FIAM				S		Sb	07 20 01.0	+0.5
ATCC	**AVT- Casa Cast**	**0.54**	**318**	P		Pg	07 19 52.1	+0.1
ATCC				AML		AML		
	comp=E,464μm,0.4s							
ATCC				AML		AML		
	comp=N,474μm,0.9s							
EL6	**Elcito**	**0.55**	**358**	⇑P		Pg	07 19 52.2	+0.2
FOSV	**Fossato di Vic**	**0.58**	**332**	⇑P		Pg	07 19 52.8	+0.1
FOSV				AML		AML		
	comp=E,256μm,1.2s							
FOSV				AML		AML		
	comp=N,274μm,0.6s							
FAGN	**Fagnano**	**0.62**	**147**	S		Sb	07 20 05.0	+1.6
VCEL	**Villa Celiera**	**0.65**	**126**	⇓P		Pb	07 19 54.8	-0.4
VCEL				AML		AML		
	comp=N,584μm,1.6s							
VCEL				AML		AML		
	comp=E,506μm,0.4s							
VCEL				AML		AML		
	comp=N,585μm,1.6s							
ARVD	**Arcevia**	**0.73**	**349**	⇓P		Pg	07 19 55.7	+0.2
ARVD				S		Sn	07 20 08.0	-1.4
ARVD				AML		AML		
	comp=E,146μm,0.2s							
ARVD				AML		AML		
	comp=E,147μm,0.2s							
ARVD				AML		AML		
	comp=N,104μm,0.8s							
T0110	**Collepietro**	**0.74**	**139**	⇑P		Pg	07 19 55.7	0.0
T0110				AML		AML		
	comp=N,438μm,0.4s							
T0110				AML		AML		
	comp=E,493μm,1.3s							
FRON	**Frontone**	**0.79**	**338**	⇑P		Pg	07 19 56.8	+0.1
FRON				AML		AML		
	comp=E,116μm,0.8s							
FRON				AML		AML		
	comp=N,171μm,1.2s							
PIEI	**Pieia**	**0.87**	**330**	⇑P		Pb	07 19 58.8	-0.1
PIEI				AML		AML		
	comp=E,96μm,0.9s							
PIEI				AML		AML		
	comp=N,71μm,0.4s							
FSSB	**Fossombrone**	**0.94**	**344**	S		Sn	07 20 15.0	+0.3
INTR	**Introdacqua**	**0.96**	**143**	⇓P		Pb	07 20 00.6	+0.2
INTR				AML		AML		
	comp=E,168μm,1.6s							
INTR				AML		AML		
	comp=N,234μm,0.9s							
CAFI	**Castiglion Fio**	**1.01**	**303**	⇑P		Pb	07 20 01.2	0.0
CAFI				AML		AML		
	comp=E,90μm,1.5s							
CAFI				AML		AML		
	comp=N,82μm,1.0s							
CAFI				AML		AML		
	comp=N,82μm,1.0s							

EAF ***22*** *07:25:14.2±5.2, 24°.78S×29°.05E, h0km±999km, MD3.1*
PRE 22 07:25:05.3±2.2, **21°.35S**×**33°.76E**, **h10**km, **ML3.1**, **Mozambique**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.07**	**225**	*e*P		Pn	07 25 54.2	+0.3
MOPA				*e*S		Sn	07 26 30.7	0.0
MOPA				IAML			07 26 41.9	
	comp=Z,74nm,0.4s							
MOPA	**Mopani**	**3.07**	**225**	*i* P		Pn	07 25 56.1	+2.2
MOPA				*i* S		Sn	07 26 25.3	-5.3
MOPA	**Mopani**	**3.07**	**225**	*i* P		Pn	07 25 56.1	+2.2
MOPA				*i* S		Sn	07 26 25.3	-5.3
MUSN	**Musina, Limpop**	**3.74**	**255**	*e*P		Pn	07 26 05.2	+2.0
MUSN				*e*S		Sn	07 26 48.8	+1.6
MUSN				IAML			07 27 07.8	
	comp=Z,61nm,0.5s							
MUSN	**Musina, Limpop**	**3.74**	**255**	*i* P		Pn	07 26 04.4	+1.2
MUSN				*i* S		Sn	07 26 42.8	-4.5
MUSN	**Musina, Limpop**	**3.74**	**255**	*i* P		Pn	07 26 04.4	+1.2
MUSN				*i* S		Sn	07 26 42.8	-4.5
BLWY	**Bulawayo**	**4.97**	**283**	*i* P		Pn	07 26 22.0	+1.9
BLWY				*i* S		Sn	07 27 13.3	-4.4
BLWY	**Bulawayo**	**4.97**	**283**	*i* P		Pn	07 26 22.0	+1.9
BLWY				*i* S		Sn	07 27 13.3	-4.4
MATP	**Matopo**	**5.00**	**280**	*e*P		Pn	07 26 21.6	+1.0
MATP				*e*S		Sn	07 27 16.1	-2.5
MATP				IAML			07 27 44.2	
	comp=Z,132nm,0.6s							
MATP	**Matopo**	**5.00**	**280**	*i* P		Pn	07 26 23.2	+2.6
MATP				*i* S		Sn	07 27 13.8	-4.8
MATP	**Matopo**	**5.00**	**280**	*i* P		Pn	07 26 23.2	+2.6
MATP				*i* S		Sn	07 27 13.8	-4.8
LEPH	**Lephalale, Lim**	**6.04**	**245**	*e*P		Pn	07 26 35.1	+0.2
LEPH				*e*S		Sn	07 27 39.8	-4.5
LEPH				IAML			07 28 16.4	
	comp=Z,56nm,0.5s							
POGA	**Pongola**	**6.25**	**197**	*e*P		Pn	07 26 38.3	+0.6
POGA				*e*S		Sn	07 27 47.3	-1.9
POGA				IAML			07 28 26.9	
	comp=Z,13nm,0.6s							

PRE 22 07:26:33.2±2.6, **26°.39S**×**27°.61E**, **h2**km, **ML2.2**, **South Africa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.17**	**258**	*e*P		Pg	07 26 37.7	+1.1
WDLM				*e*S		Sg	07 26 39.8	+1.0
HRAO	**HartRAO**	**0.50**	**8**	*e*P		Pb	07 26 44.5	-0.4
KSR	**Koster**	**0.83**	**310**	*e*P		Pg	07 26 49.6	+0.5
KSR				*e*S		Sg	07 26 59.6	-0.4
KSR				IAML			07 27 00.6	
	comp=Z,58nm,0.5s							
SLR	**Silverton**	**0.89**	**43**	*e*P		Pg	07 26 50.5	+0.2
SLR				*e*S		Sg	07 27 00.5	-1.3
SLR				IAML			07 27 08.8	
	comp=Z,24nm,0.4s							
SNKL	**Senekal, Frees**	**1.89**	**176**	*e*P		Pb	07 27 08.2	-0.3
SNKL				*e*S		Sn	07 27 30.9	-0.2
SNKL				IAML			07 27 33.8	
	comp=Z,70nm,0.7s							
SWZ	**Schweizer**	**2.18**	**248**	*e*P		Pn	07 27 11.3	+0.6
SWZ				*e*S		Sn	07 27 39.1	+0.7
SWZ				IAML			07 27 41.3	
	comp=Z,35nm,0.3s							
LBTB	**Lobatse**	**2.27**	**307**	*e*P		Pb	07 27 13.9	-1.1
LBTB				*e*S		Sn	07 27 40.7	+0.2
LBTB				IAML			07 27 44.9	
	comp=Z,34nm,0.5s							
NWCL	**Newcastle**	**2.44**	**124**	*e*P		Pn	07 27 14.4	+0.3
NWCL				*e*S		Sb	07 27 47.1	-1.4
NWCL				IAML			07 27 52.1	
	comp=Z,13nm,0.8s							
LEPH	**Lephalale, Lim**	**2.52**	**4**	*e*P		Pn	07 27 16.3	+1.0
LEPH				*e*S		Sn	07 27 47.9	+1.2
BOSA	**Boshof**	**3.05**	**223**	*e*P		Pn	07 27 22.4	-0.1
BOSA				*e*S		Sn	07 27 58.1	-1.5
BOSA				IAML			07 28 10.4	
	comp=Z,7.9nm,0.4s							

NOU ***22*** *07:35:30.0, 29°.21S×176°.57W, h0km, mb4.4/11, Kermadec Islands Region*
IDC ***22*** *07:35:36.9±1.4, 28°.65S×177°.50W, h56km±11km, mb4.2/14, mbtmp4.4/15, MS3.5/30, Error ellipse: s-maj=20.4km s-min=18.8km az=89.0*
NEIC ***22*** *07:35:39.6±2.4, 28°.83S±0°.09×177°.6W±0°.1, h73km±5km, mb4.8/26, Error ellipse: s-maj=16.6km s-min=11.1km az=116.0*
ISC 22 07:35:37.3±0.4, **28°.90S**±0°.05×**177°.36W**±0°.07, **h57**km, **n143**, σ2§**00**/110, **mb4.7**/29, **MS3.5**/29, **1D**, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.60**	**234**	P		**Pn**	**07 35 51.8**	**+1.7**
	5μm,0.2s,baz=64,slow=6.9,SNR=106							
RAO				S		**Sn**	**07 36 02.7**	**+3.3**
	37μm,0.2s,baz=276,slow=23,SNR=58							
RAO	**Raoul Island**	**0.60**	**234**	Pn		**Pn**	**07 35 51.6**	**+1.5**
RAO				Sn		**Sn**	**07 36 03.2**	**+3.8**
RAO	**Raoul Island**	**0.60**	**234**	P		**Pn**	**07 35 52.1**	**+2.0**
URZ	**Urewera**	**10.40**	**205**	P		Pn	07 37 57.6	-6.1
	7.1nm,0.8s,baz=354,slow=5.5,SNR=8.3							
URZ				S		**Sn**	**07 39 54.8**	**-3.9**
	30nm,0.5s,baz=242,slow=23,SNR=17							
URZ	**Urewera**	**10.40**	**205**	P		**Pn**	**07 38 01.2**	**-2.5**
HIZ	**Hauiti**	**11.56**	**212**	Pn		**Pn**	**07 38 20.3**	**+0.7**
OTVZ	**Oturere**	**11.75**	**208**	P		Pn	07 38 34.6	+12
BHHZ	**Black Hill Sta**	**11.88**	**206**	P		Pn	07 38 37.2	+13
MSVF	**Nonsavu**	**11.89**	**338**	P		**Pn**	**07 38 24.2**	**+0.1**
	5.6nm,0.5s,baz=158,slow=15,SNR=12							
MSVF				LR		LR	07 42 18.7	
	comp=Z,152nm,19.8s,

SNZO South Karori 13.97 206 Pn Pn 07 38 54.7 +2.5
TUWZ Tuamarina 14.37 207 P Pn 07 38 59.4 +1.9
NNZ Nelson 14.42 209 Pn Pn 07 38 59.5 +1.2
NNZ Nelson 14.42 209 P Pn 07 38 57.0 -1.2
QRZ Quartz Range 14.49 212 P Pn 07 38 55.6 -3.5
QRZ Quartz Range 14.49 212 P Pn 07 38 58.2 -0.9
MRNZ Matariki Terra 14.84 210 P Pn 07 39 04.5 +0.8
THZ Tophouse 15.07 209 P Pn 07 39 04.2 -2.6
KHZ Kahutara 15.36 206 P Pn 07 39 06.8 -3.6
KHZ Kahutara 15.36 206 P Pn 07 39 08.6 -1.8
YATNC Mamie plateau, 15.76 292 P P 07 39 23.2 +4.6
DZM Mont Dzumac 16.12 291 *e*Pn P 07 39 22.0 -0.7
34nm,1.4s
DZM *e*LR LR 07 43 07.5
comp=Z,622nm,26.1s
DZM Mont Dzumac 16.12 291 P P 07 39 22.3 -0.4
3.9nm,0.9s,baz=96,slow=20,SNR=3.8
DZM LR LR 07 44 09.7
comp=Z,332nm,21.0s,baz=211,slow=32
DZM Mont Dzumac 16.12 291 P P 07 39 27.8 +5.1
LIFNC LIFOU 16.14 297 Pn Pn 07 39 17.4 -3.0
LIFNC IAmb IAmb 07 39 32.4
comp=Z,76nm,1.1s
RPZ Rata Peaks 17.45 209 P Pn 07 39 36.8 +0.1
comp=Z,5.2nm,0.5s,baz=251,slow=1.6,SNR=5.1
RPZ S Sn 07 42 36.0 -14
comp=Z,3.5nm,0.5s,baz=28,slow=22,SNR=2.2
RPZ LR LR 07 45 56.5
comp=Z,205nm,19.6s,baz=71,slow=35
RAR Rarotonga 17.67 68 LR LR 07 44 25.9
comp=Z,201nm,21.4s,baz=262,slow=30
ODZ Otahua Downs 18.71 207 P P 07 39 49.7 -1.3
TBI Tubuai 25.62 84 *e*LR LR 07 47 34.0
comp=Z,207nm,25.2s
TBI Tubuai 25.62 84 *e*T T 08 08 05.5
comp=Z,30nm,0.3s
ARMA Armidale 26.95 259 P P 07 41 14.9 +1.3
ARMA IAmb IAmb 07 41 26.3
comp=Z,26nm,1.5s
PAE Paea 27.80 72 *e*T T 08 10 26.0
comp=Z,7.5nm,0.3s
PPT2 Papeete2 27.83 72 *e*S S 07 46 01.4 +0.6
comp=Z,60nm,28.5s
PPT2 *e*LR LR 07 48 36.2
comp=Z,121nm,23.5s
PPT2 Papeete2 27.83 72 *e*T T 08 10 35.2
comp=Z,8.5nm,0.3s
PPT Papeete 27.84 72 LR LR 07 49 22.1
comp=Z,52nm,20.5s,baz=245,slow=30
TVO Taravao 28.01 73 *e*T T 08 10 45.3
comp=Z,2.1nm,0.4s
HNR Honiara 28.79 308 LR LR 07 51 11.9
comp=Z,363nm,20.2s,baz=160,slow=33
CAN Canberra 29.11 249 P P 07 41 33.6 +0.9
CAN IAmb IAmb 07 42 07.5
comp=Z,49nm,1.5s
TOO Toolangi 32.08 245 P P 07 41 59.3 +0.4
TOO IAmb IAmb 07 42 01.5
comp=Z,12nm,0.9s
CTA Charters Tower 34.14 277 LR LR 07 53 57.8
comp=Z,129nm,20.8s,baz=92,slow=32
CTAO Charters Tower 34.14 277 P P 07 42 17.3 +0.3
CTAO IAmb IAmb 07 42 19.4
comp=Z,11nm,1.1s
CTAO Charters Tower 34.14 277 P P 07 42 17.3 +0.3
CTAO pP pP 07 42 33.5 +2.6
CTAO sP sP 07 42 39.5 +2.0
STKA Stephens Creek 35.38 255 P P 07 42 26.6 -0.9
comp=Z,2.9nm,0.5s,baz=100,slow=13,SNR=13
STKA LR LR 07 55 30.5
comp=Z,86nm,18.4s,baz=29,slow=34
comp=Z,2.9nm,0.5s
STKA Stephens Creek 35.38 255 P P 07 42 26.6 -1.0
PMG Port Moresby 38.50 293 LR LR 07 55 59.9
comp=Z,80nm,19.0s,baz=158,slow=32
BBOO Buckleboo 39.93 252 P P 07 43 04.6 -1.4
BBOO IAmb IAmb 07 43 07.7
comp=Z,7.9nm,0.7s
TAOE Nuku Hiva Isla 40.22 68 *e*LR LR 07 54 20.6
comp=Z,74nm,23.0s
AS31 Alice Springs 43.77 265 P P 07 43 36.3 -1.1
ASAR Alice Springs 43.77 265 P P 07 43 35.9 -1.6
comp=Z,7.0nm,0.5s,baz=99,slow=6.6,SNR=152
ASAR LR LR 08 00 32.5
comp=Z,106nm,20.6s,baz=92,slow=34
comp=Z,7.0nm,0.5s
ASAR Alice Springs 43.77 265 P P 07 43 36.1 -1.4
WRAB Tennant Creek 44.61 270 P P 07 43 43.1 -1.2
WRAB IAmb IAmb 07 43 43.9
comp=Z,12nm,0.8s
WRAB Tennant Creek 44.61 270 P P 07 43 42.5 -1.7
WRAB pP pP 07 43 58.4 -0.3
WRA Warramunga Arr 44.62 270 P P 07 43 43.3 -1.0
comp=Z,11nm,0.8s,baz=110,slow=7.4,SNR=89
WRA PcP PcP 07 45 26.2 -0.2
comp=Z,2.1nm,0.8s,baz=106,slow=3.5,SNR=7.0
WRA LR LR 07 59 53.8
comp=Z,50nm,21.7s,baz=197,slow=33
comp=Z,11nm,0.8s
WRA Warramunga Arr 44.62 270 P P 07 43 42.9 -1.4
DRV Dumont d'Urvil 45.73 202 P P 07 43 51.9 -0.5
DRV pP pwP 07 44 08.6 -1.4
FORT Forrest 46.98 254 P P 07 44 00.4 -2.4
FORT IAmb IAmb 07 44 02.5
comp=Z,13nm,0.9s
SBA Scott Base 49.57 184 P P 07 44 25.8 +3.8
SBA Scott Base 49.57 184 P P 07 44 25.7 +3.8
SBA pP sP 07 44 42.2 -0.1
VNDA Vanda 49.63 186 P P 07 44 24.6 +2.1
comp=Z,1.5nm,0.7s,baz=7.6,slow=6.1,SNR=18
VNDA LR LR 08 03 22.6
comp=Z,13nm,19.2s,baz=12,slow=33
comp=Z,1.5nm,0.7s
VNDA Vanda 49.63 186 P P 07 44 25.1 +2.6
VNDA IAmb IAmb 07 44 29.5
comp=Z,7.7nm,1.5s
VNDA Vanda 49.63 186 P P 07 44 25.3 +2.8
KNRA Kununurra 51.17 273 P P 07 44 34.0 -1.0
KNRA IAmb IAmb 07 44 34.6
comp=Z,16nm,1.1s
FITZ Fitzroy Crossi 52.94 268 LR LR 08 06 59.4
comp=Z,76nm,18.3s,baz=270,slow=36
FITZ Fitzroy Crossi 52.94 268 P P 07 44 46.8 -1.3
FITZ IAmb IAmb 07 44 48.1
comp=Z,10nm,0.9s
CCD Concordia, Ant 54.54 196 P P 07 44 59.8 +0.3
CCD pP sP 07 45 19.6 -0.5
NWAO Narrogin (SRO) 55.45 248 LR LR 08 07 15.3
comp=Z,81nm,18.1s,baz=190,slow=34
GUMO Guam 55.83 314 LR LR 08 05 27.8
comp=Z,32nm,21.8s,baz=143,slow=32
PSA00 Pilbara Seismi 56.71 262 P P 07 45 13.0 -2.3
CASY Casey 56.72 207 P P 07 45 14.2 -0.5
CASY Casey 56.72 207 P P 07 45 13.8 -0.9
MBWA Marble Bar 56.96 262 P P 07 45 14.9 -2.2
MORW Morawa 57.50 252 P P 07 45 18.4 -2.4
MORW IAmb IAmb 07 45 41.1
comp=Z,12nm,1.1s
BATI Baumata 58.03 276 LR LR 08 08 41.8
comp=Z,137nm,21.4s,baz=118,slow=34
RPN Rapa Nui 59.31 106 LR LR 08 06 30.6
comp=Z,25nm,18.6s,baz=323,slow=31
GIRL Giralia 61.17 259 P P 07 45 44.9 -1.4
QSPA South Pole Qui 61.20 180 P P 07 45 47.8 +1.8
QSPA South Pole Qui 61.20 180 P P 07 45 48.0 +2.0
JCJ Chichijima 67.86 321 LR LR 08 09 55.3
comp=Z,20nm,19.3s,baz=112,slow=30
BELA Belgrano 2 71.19 172 P P 07 46 49.7 +0.1
MAW Mawson 73.90 200 P P 07 47 06.6 +0.9
comp=Z,5.0nm,0.5s,baz=138,slow=8.2,SNR=31
comp=Z,5.0nm,0.5s
MAW Mawson 73.90 200 P P 07 47 06.8 +1.0
JOW Kunigami 76.08 312 LR LR 08 15 00.5
comp=Z,39nm,20.5s,baz=116,slow=31
MJAR Matsushiro Arr 77.34 325 P P 07 47 23.7 -2.1
comp=Z,2.0nm,0.7s,baz=160,slow=5.9,SNR=5.0
MJAR LR LR 08 16 24.8
comp=Z,16nm,19.7s,baz=130,slow=32
comp=Z,2.0nm,0.7s
JHS Saijyo 78.89 320 P P 07 47 34.2 -0.2
JHS IAmb IAmb 07 47 34.7
comp=Z,22nm,1.2s
TROLL Troll, Antarti 79.36 180 P P 07 47 37.5 +0.7
SNAA Sanae 79.63 178 P P 07 47 38.5 +0.4
SNAA Sanae 79.63 178 LR LR 08 24 25.1
comp=Z,14nm,18.0s,baz=170,slow=37

SNAA Sanae 79.63 178 P P 07 47 38.5 +0.4
COYC Coyhaique 79.63 136 P P 07 47 40.5 +2.0
COYC IAmb IAmb 07 47 41.3
comp=Z,8.1nm,0.8s
VNA3 Neumayer Olymp 79.75 176 P P 07 47 39.0 +0.3
VNA2 Neumayer--Watz 80.20 177 P P 07 47 41.7 +0.6
baz=168,slow=6.0
VNA1 Neumayer--Stat 80.42 176 P P 07 47 43.0 +0.7
H03S2 Juan Fernandez 80.83 123 T T 09 17 28.6
SNR=96
H03S1 Juan Fernandez 80.84 124 T T 09 17 31.0
SNR=98
H03S3 Juan Fernandez 80.84 123 T T 09 17 29.8
SNR=68
H03N3 Juan Fernandez 81.01 123 T T 09 17 46.5
baz=245,slow=72,SNR=29
H03N2 Juan Fernandez 81.01 123 T T 09 17 45.3
baz=245,slow=72,SNR=31
H03N1 Juan Fernandez 81.03 123 T T 09 17 42.9
baz=245,slow=72,SNR=30
PLCA Paso Flores 83.12 133 P P 07 47 58.4 +1.2
comp=Z,2.0nm,0.9s,baz=182,slow=9.2,SNR=5.7
comp=Z,2.0nm,0.9s
KSRS Korea Array 83.58 319 P P 07 47 58.4 -0.8
comp=Z,1.6nm,0.8s,baz=140,slow=5.2,SNR=5.3
KSRS LR LR 08 23 19.9
comp=Z,4.7nm,18.8s,baz=80,slow=34
comp=Z,1.6nm,0.8s
PETK Petropavlovsk- 84.51 345 P P 07 48 01.2 -2.3
comp=Z,3.2nm,0.8s,baz=163,slow=11,SNR=4.9
comp=Z,3.2nm,0.8s
PFO Pinyon Flats O 84.78 47 LR LR 08 19 22.7
comp=Z,42nm,18.1s,baz=194,slow=31
DSP Deep Springs 86.27 43 P P 07 48 13.2 +0.5
YBH Yreka Blue Hor 86.51 38 LR LR 08 26 29.9
comp=Z,13nm,18.1s,baz=176,slow=35
NVAR Mina Array Bea 86.77 42 P P 07 48 14.4 -1.0
comp=Z,2.0nm,0.8s,baz=222,slow=7.8,SNR=8.6
comp=Z,2.0nm,0.8s
KLR Kul'dur 90.03 329 P P 07 48 29.4 -0.9
comp=Z,1.1nm,0.6s,baz=49,slow=3.4,SNR=5.3
KLR LR LR 08 24 19.7
comp=Z,15nm,18.8s,baz=55,slow=33
comp=Z,1.1nm,0.6s
ELK Elko 90.06 42 LR LR 08 20 42.8
comp=Z,34nm,20.6s,baz=158,slow=30
TXAR Lajitas Array 91.11 57 P P 07 48 36.5 +0.4
comp=Z,0.9nm,1.0s,baz=224,slow=5.2,SNR=7.1
comp=Z,0.9nm,1.0s
MA2 Magadan 92.00 344 LR LR 08 24 38.1
comp=Z,13nm,21.9s,baz=141,slow=32
CMAR Chiang Mai Arr 93.44 289 P P 07 48 47.6 +0.7
comp=Z,1.0nm,0.3s,baz=127,slow=3.8,SNR=4.7
comp=Z,1.0nm,0.3s
NEW Newport 93.84 36 LR LR 08 22 29.2
comp=Z,23nm,20.4s,baz=166,slow=30
LVC Limon Verde 94.17 118 LR LR 08 24 45.9
comp=Z,29nm,18.3s,baz=245,slow=31
SEY Seymchan 94.65 347 P P 07 48 50.0 -1.4
comp=Z,1.8nm,0.8s,baz=139,slow=6.1,SNR=5.2
comp=Z,1.8nm,0.8s
PDAR Pinedale Array 94.67 43 LR LR 08 30 22.3
comp=Z,21nm,18.1s,baz=154,slow=35
PZH PanZhiHua 95.11 297 P P 07 48 56.5 +1.9
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,70nm,5.6s
HHC Hu-ho-hao-te 95.60 314 *e*P P 07 48 58.3 +1.9
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,140nm,6.2s
LZH Lanzhou 98.28 307 *e*P P 07 49 06.3 -2.5
LZH pP pP 07 49 24.5 +0.1
LZH sP sP 07 49 35.3 +5.0
LZH pmax pmax
comp=Z,21nm,0.9s
MKAR Makanchi Array 117.23 311 PKP PKPdf 07 54 13.9 -2.0
comp=Z,1.1nm,0.7s,baz=72,slow=4.0,SNR=8.2
AKTO Aktyubinsk 133.49 313 PKP PKPdf 07 54 44.8 -2.0
comp=Z,1.4nm,0.5s,baz=96,slow=1.0,SNR=5.4
ARCES ARCESS Array B 137.25 348 PKP PKPdf 07 54 50.8 -2.5
comp=Z,1.2nm,0.6s,baz=341,slow=1.9,SNR=4.9
H10S3 ASCENSION HYDR 138.83 153 T T 10 30 50.8
baz=205,slow=74,SNR=20
H10S2 ASCENSION HYDR 138.83 154 T T 10 30 53.6
baz=15,slow=74,SNR=5.4
H10N3 ASCENSION HYDR 139.90 153 T T 10 32 23.6
baz=203,slow=75,SNR=43
H10N1 ASCENSION HYDR 139.91 153 T T 10 32 18.4
baz=203,slow=75,SNR=54
H10N2 ASCENSION HYDR 139.92 153 T T 10 32 18.2
baz=203,slow=75,SNR=44
FINES FINESS Array B 143.92 341 PKP PKPab 07 55 01.7 -1.1
comp=Z,6.1nm,0.7s,baz=62,slow=4.5,SNR=15
NB2 NORSAR Subarra 147.35 352 PKP PKPdf 07 55 11.8 +0.3
comp=Z,1.7nm,0.5s,baz=11,slow=2.9
NOA NORSAR Array B 147.35 352 PKPbc PKPdf 07 55 12.0 +0.5
comp=Z,4.0nm,0.7s,baz=16,slow=4.6,SNR=13
NACGM Narec 148.72 333 *e*PKP PKPbc 07 55 16.8 -0.9
comp=Z,10.0nm,0.8s,baz=44
AKASG Malin Array Be 150.43 325 PKPbc PKPbc 07 55 20.4 -1.6
comp=Z,6.6nm,0.5s,baz=46,slow=3.2,SNR=29
BRTR Keskin Array B 152.34 301 PKPbc PKPbc 07 55 25.7 -1.3
comp=Z,1.8nm,0.7s,baz=137,slow=2.7,SNR=7.5
CLL Collm 156.31 344 *e*PKPab PKPab 07 55 55.0 +1.6
comp=Z,5.0nm,1.2s
TORD Torodi Ar. Bea 164.30 177 PKP PKPdf 07 55 33.8 -1.3
comp=Z,1.7nm,1.0s,baz=68,slow=0.5,SNR=6.4
TORD PKPab PKPab 07 56 29.4 +0.3
comp=Z,1.2nm,0.7s,baz=168,slow=3.2,SNR=5.6

*DNK **22** 07:43:31.2±0.7, 66°.83N×13°.23E, h0km, ML3.1(UPP), Suspected explosion*
*UPP **22** 07:43:33.1±1.6, 66°.85N×13°.57E, h0km, ML3.1, Suspected explosion*
*NAO **22** 07:43:33.6±0.7, 66°.83N×13°.74E, ML3.6*
*BER **22** 07:43:33.2±1.9, 66°.86N×13°.44E, h5km, ML2.6, ML3.4(HEL), Confirmed Earthquake*
*IDC **22** 07:43:33.7±1.4, 66°.85N×13°.77E, h0km, mbtmp3.3/4, ML2.8/4, Error ellipse: s-maj=17.7km s-min=7.4km az=119.0*
*HEL **22** 07:43:34.1, 66°.86N×13°.65E, h5km, ML3.4, Confirmed Earthquake*
*KOLA **22** 07:43:35.6, 67°.00N×13°.57E, h0km, ML2.8*

ISC 22 07:43:32.3±0.8, 66°.87N±0°.02×13°.64E±0°.03, h0km, n94, σ1§64/151, 3C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KONS	**Konsvik**	**0.42**	**209**	Pg	**Pg**	**07 43 41.4**	**+1.0**
KONS				Lg	Lg	07 43 46.7	
KONS	**Konsvik**	**0.42**	**209**	⇑*i*P	**Pg**	**07 43 41.4**	**+1.0**
KONS				*e*S	**Sg**	**07 43 46.7**	**+0.8**
KONS				IAML		07 43 47.2	
comp=Z,1μm,0.3s							
MOR8	**Moi Rana**	**0.77**	**155**	Pg	**Pg**	**07 43 46.8**	**-0.2**
MOR8				Lg	Lg	07 43 56.9	
MOR8	**Moi Rana**	**0.77**	**155**	⇑*i*P	**Pg**	**07 43 46.7**	**-0.3**
MOR8				*e*S	**Sg**	**07 43 57.4**	**+0.4**
MOR8				IAML		07 43 58.0	
comp=Z,626nm,0.2s							
FAUS	**Fauske**	**0.83**	**51**	⇑*i*P	**Pg**	**07 43 48.7**	**+0.6**
FAUS				*e*S	**Sb**	**07 44 01.1**	**0.0**
FAUS				IAML		07 44 03.3	
comp=Z,371nm,0.2s							
STEI	**Steigen**	**1.23**	**29**	Pg	**Pg**	**07 43 56.3**	**+0.5**
STEI				Lg	Lg	07 44 14.2	
STEI	**Steigen**	**1.23**	**29**	*e*P	**Pg**	**07 43 56.4**	**+0.5**
STEI				*e*S	**Sn**	**07 44 13.8**	**-0.2**
STEI				IAML		07 44 20.0	
comp=Z,142nm,0.5s							
STEI	**Steigen**	**1.23**	**29**	*e*P	**Pg**	**07 43 56.3**	**+0.5**
STEI				*e*S	**Sn**	**07 44 14.3**	**+0.3**
LOF	**Lofoten**	**1.27**	**358**	*e*P	**Pg**	**07 43 55.6**	**-1.0**
LOF				*e*S	**Sg**	**07 44 11.8**	**-1.2**
LOF				IAML		07 44 18.4	
comp=Z,197nm,0.4s							
SALU	**Saltoluokta**	**1.97**	**73**	P	**Pn**	**07 44 08.0**	**+1.1**
SALU				S	**Sg**	**07 44 34.8**	**-0.7**
SALU	**Saltoluokta**	**1.97**	**73**	P	**Pn**	**07 44 08.0**	**+1.1**
SALU				S	**Sg**	**07 44 34.8**	**-0.7**
SALU	**Saltoluokta**	**1.97**	**73**	*e*P	**Pn**	**07 44 08.0**	**+1.1**
SALU				*e*SG	**Sg**	**07 44 34.8**	**-0.7**
NIKU	**Nikkaluokta**	**2.32**	**62**	P	**Pn**	**07 44 12.9**	**+1.3**
NIKU				S	**Sb**	**07 44 43.9**	**-0.1**
NIKU	**Nikkaluokta**	**2.32**	**62**	P	**Pn**	**07 44 12.9**	**+1.3**
NIKU				S	**Sb**	**07 44 43.9**	**-0.1**
NIKU	**Nikkaluokta**	**2.32**	**62**	*e*P	**Pn**	**07 44 12.9**	**+1.3**
NIKU				*e*SB	**Sb**	**07 44 43.9**	**-0.1**
NSS	**Namsos**	**2.45**	**197**	Pn	**Pn**	**07 44 15.4**	**+2.0**
NSS				Lg	Lg	07 44 47.2	
NSS	**Namsos**	**2.45**	**197**	*e*Pg	**Pn**	**07 44 15.5**	**+2.0**
NSS				*e*Sg	**Sb**	**07 44 47.0**	**-0.8**
NSS				IAML		07 44 51.8	
comp=Z,132nm,0.2s							
NSS	**Namsos**	**2.45**	**197**	*e*P	**Pn**	**07 44 15.3**	**+1.9**
NSS				*e*S	**Sb**	**07 44 47.0**	**-0.8**
RATU	**Laukkuluspa**	**2.50**	**65**	P	**Pn**	**07 44 15.5**	**+1.4**
RATU	**Laukkuluspa**	**2.50**	**65**	P	**Pn**	**07 44 15.5**	**+1.4**
RATU	**Laukkuluspa**	**2.50**	**65**	*e*P	**Pn**	**07 44 15.5**	**+1.4**
DUNU	**Dundret**	**2.73**	**81**	P	**Pn**	**07 44 18.6**	**+1.2**
DUNU	**Dundret**	**2.73**	**81**	P	**Pn**	**07 44 18.6**	**+1.2**
DUNU	**Dundret**	**2.73**	**81**	*e*P	**Pn**	**07 44 18.6**	**+1.2**
KUA	**Kurravaara**	**2.81**	**64**	P	**Pn**	**07 44 19.5**	**+1.1**
KUA	**Kurravaara**	**2.81**	**64**	*e*P	**Pn**	**07 44 19.5**	**+1.1**
KOVU	**Salmi**	**2.85**	**59**	P	**Pn**	**07 44 20.9**	**+1.9**
KOVU	**Salmi**	**2.85**	**59**	P	**Pn**	**07 44 20.9**	**+1.9**
KOVU	**Salmi**	**2.85**	**59**	*e*P	**Pn**	**07 44 20.9**	**+1.9**
LILU	**Lilltraesk**	**2.99**	**119**	P	**Pn**	**07 44 22.0**	**+1.2**
LILU				S	**Sn**	**07 44 58.5**	**+1.2**
LILU	**Lilltraesk**	**2.99**	**119**	P	**Pn**	**07 44 22.0**	**+1.2**
LILU				S	**Sn**	**07 44 58.5**	**+1.2**
LILU	**Lilltraesk**	**2.99**	**119**	*e*P	**Pn**	**07 44 22.0**	**+1.2**
LILU				*e*SB	**Sn**	**07 44 58.5**	**+1.2**
HARU	**Harads**	**3.02**	**100**	P	**Pn**	**07 44 22.3**	**+1.0**
HARU				S	**Sn**	**07 45 00.4**	**+2.2**
HARU	**Harads**	**3.02**	**100**	P	**Pn**	**07 44 22.3**	**+1.0**
HARU				S	**Sn**	**07 45 00.4**	**+2.2**
HARU	**Harads**	**3.02**	**100**	*e*P	**Pn**	**07 44 22.3**	**+1.0**
HARU				*e*SB	**Sn**	**07 45 00.4**	**+2.2**
MASU	**Masugnsbyn**	**3.31**	**76**	P	**Pn**	**07 44 26.5**	**+1.2**
MASU	**Masugnsbyn**	**3.31**	**76**	P	**Pn**	**07 44 26.5**	**+1.2**
MASU	**Masugnsbyn**	**3.31**	**76**	*e*P	**Pn**	**07 44 26.5**	**+1.2**
TRO	**Tromso**	**3.40**	**33**	*e*	**Pn**	**07 44 28.6**	**+2.1**
TRO				*e*		07 45 02.0	
TRO				IAML		07 45 26.9	
comp=Z,38nm,0.6s							
TRO	**Tromso**	**3.40**	**33**	*e*P	**Pn**	**07 44 28.1**	**+1.6**
TRO				*e*S	**Sn**	**07 45 09.0**	**+1.5**
ERTU	**Ertsjaerv**	**3.41**	**91**	*e*P	**Pn**	**07 44 27.6**	**+0.9**
ERTU				*e*		07 45 08.7	
ERTU	**Ertsjaerv**	**3.41**	**91**	*e*P	**Pn**	**07 44 27.6**	**+0.9**
ERTU				*e*S	**Sn**	**07 45 08.7**	**+1.0**
SVAU	**Svanoeiden**	**3.42**	**131**	P	**Pn**	**07 44 27.5**	**+0.7**
SVAU				S	**Sn**	**07 45 08.1**	**+0.1**
SVAU	**Svanoeiden**	**3.42**	**131**	P	**Pn**	**07 44 27.5**	**+0.7**
SVAU				S	**Sn**	**07 45 08.1**	**+0.1**
SVAU	**Svanoeiden**	**3.42**	**131**	*e*P	**Pn**	**07 44 27.5**	**+0.7**
SVAU				*e*S	**Sn**	**07 45 08.1**	**+0.1**
LANU	**Lannavaara**	**3.43**	**66**	*e*P	**Pn**	**07 44 28.4**	**+1.5**
LANU	**Lannavaara**	**3.43**	**66**	*e*P	**Pn**	**07 44 28.4**	**+1.5**
KIF	**Kilpisjarvi**	**3.45**	**48**	Pn	**Pn**	**07 44 28.7**	**+1.6**
KIF				Pg	**Pg**	**07 44 37.3**	**-1.0**
KIF				Lg	Lg	07 45 22.4	
KIF	**Kilpisjarvi**	**3.45**	**48**	*e*P	**Pn**	**07 44 28.7**	**+1.6**
KIF				*e*Sg	**Sg**	**07 45 23.7**	**+0.7**
KIF				MSN		07 45 29.4	
comp=Z,46nm,0.2s							
KIF	**Kilpisjarvi**	**3.45**	**48**	*e*P	**Pn**	**07 44 28.9**	**+1.7**
KIF				MSN		07 45 29.4	
comp=Z,46nm,0.2s							
SJUU	**Sjulsmark**	**3.51**	**109**	P	**Pn**	**07 44 29.0**	**+1.0**
SJUU	**Sjulsmark**	**3.51**	**109**	P	**Pn**	**07 44 29.0**	**+1.0**
SJUU	**Sjulsmark**	**3.51**	**109**	*e*P	**Pn**	**07 44 29.0**	**+1.0**
JETT	**Jettan, Norway**	**3.69**	**40**	Pn	**Pn**	**07 44 33.0**	**+2.4**
JETT				Pg	**Pg**	**07 44 42.2**	**-0.8**
JETT				Lg	Lg	07 45 28.9	
JETT	**Jettan, Norway**	**3.69**	**40**	*e*P	**Pn**	**07 44 32.5**	**+1.9**
JETT				IAML		07 45 36.0	
comp=Z,70nm,0.6s							
TBLU	**Trondheim**	**3.90**	**203**	*e*Sg	**Sb**	**07 45 25.8**	**-3.8**
TBLU				IAML		07 45 33.9	
comp=Z,31nm,0.7s							
KLF	**Kolari**	**4.06**	**80**	*e*P	**Pn**	**07 44 37.0**	**+1.4**
KLF				*e*S	**Sn**	**07 45 23.5**	**-0.2**
KLF				MSN		07 45 47.1	
comp=Z,42nm,0.2s							
HEF	**Hetta**	**4.13**	**63**	Pn	**Pn**	**07 44 37.3**	**+0.8**
HEF				Pg	**Pb**	**07 44 47.5**	**+1.7**
HEF				Sn	**Sn**	**07 45 25.7**	**+0.2**
HEF				Lg	Lg	07 45 43.5	
HEF	**Hetta**	**4.13**	**63**	*e*P	**Pn**	**07 44 37.3**	**+0.8**
HEF				*e*S	**Sn**	**07 45 25.4**	**0.0**
HEF				MSN		07 45 47.0	
comp=Z,19nm,0.2s							
HEF	**Hetta**	**4.13**	**63**	*e*P	**Pn**	**07 44 37.8**	**+1.2**
HEF				*e*S	**Sn**	**07 45 25.6**	**+0.2**
HEF				MSN		07 45 47.0	
comp=Z,19nm,0.2s							
KTK1	**Kautokeino**	**4.21**	**55**	*e*P	**Pn**	**07 44 38.8**	**+1.2**
KTK1				*e*		07 45 27.4	
KTK1				IAML		07 45 49.7	
comp=Z,50nm,0.4s							
KTK1	**Kautokeino**	**4.21**	**55**	*e*P	**Pn**	**07 44 38.8**	**+1.2**
KTK1				*e*S	**Sn**	**07 45 26.8**	**-0.6**
HUSU	**Husum**	**4.25**	**144**	*e*P	**Pn**	**07 44 39.1**	**+0.9**
HUSU	**Husum**	**4.25**	**144**	*e*P	**Pn**	**07 44 39.1**	**+0.9**
HUSU				*e*S	**Sn**	**07 45 27.6**	**-0.9**
TOF	**Tornio**	**4.36**	**96**	*e*P	**Pn**	**07 44 40.4**	**+0.8**
TOF				*e*S	**Sn**	**07 45 30.7**	**-0.2**
TOF				MSN		07 45 52.5	
comp=Z,25nm,0.3s							
TOF	**Tornio**	**4.36**	**96**	*e*P	**Pn**	**07 44 40.4**	**+0.8**
TOF				*e*S	**Sn**	**07 45 30.7**	**-0.2**
TOF				MSN		07 45 52.5	
comp=Z,25nm,0.3s							
MOL	**Molde**	**5.04**	**214**	*e*P	**Pn**	**07 44 47.4**	**-1.7**
MOL				*e*S	**Sn**	**07 45 40.8**	**-7.1**
MOL				IAML		07 46 03.4	
comp=Z,8.6nm,0.5s							
ARA0	**ARCESS Array S**	**5.17**	**53**	Pn	**Pn**	**07 44 50.7**	**-0.1**
baz=240,slow=14							
ARA0				Sn	**Sn**	**07 45 48.6**	**-2.3**
ARA0				Lg	Lg	07 46 13.3	
baz=237,slow=22							
baz=235,slow=28							
ARA0	**ARCESS Array S**	**5.17**	**53**	*e*P	**Pn**	**07 44 50.9**	**+0.1**
ARA0				*e*S	**Sn**	**07 45 47.8**	**-3.2**
ARA0				IAML		07 46 18.1	
comp=Z,28nm,0.6s							
ARCES	**ARCESS Array B**	**5.17**	**53**	Pn	**Pn**	**07 44 50.8**	**0.0**
comp=Z,0.6nm,0.3s,baz=239,slow=13,SNR=22							
ARCES				Sn	**Sn**	**07 45 49.0**	**-2.0**
comp=Z,2.8nm,0.3s,baz=237,slow=20,SNR=12							
ARCES				Lg	Lg	07 46 12.8	
comp=Z,5.2nm,0.3s,baz=238,slow=28,SNR=18							
comp=Z,2.2nm,0.3s							
ARCES	**ARCESS Array B**	**5.17**	**53**	P	**Pn**	**07 44 50.7**	**0.0**
ARCES				S	**Sn**	**07 45 49.2**	**-1.7**
DOMB	**Dombas**	**5.23**	**204**	*e*P	**Pn**	**07 44 51.3**	**-0.4**
DOMB				IAML		07 46 21.1	
comp=Z,27nm,0.7s							
AKN	**Aaknes**	**5.51**	**214**	Pn	**Pn**	**07 44 55.1**	**-0.4**
AKN				Sn	**Sn**	**07 45 56.9**	**-2.6**
AKN				Lg	Lg	07 46 20.8	
AKN	**Aaknes**	**5.51**	**214**	*e*P	**Pn**	**07 44 55.2**	**-0.3**
AKN				IAML		07 46 04.1	
comp=Z,6.1nm,0.4s							
KEV	**Kevo**	**5.74**	**54**	*e*P	**Pn**	**07 44 58.8**	**+0.3**
KEV				*e*S	**Sn**	**07 46 01.4**	**-3.5**
NC303	**NORSAR Array S**	**5.75**	**191**	*e*P	**Pn**	**07 45 00.0**	**+1.2**
NC303				*e*P	**Pn**	**07 45 00.3**	**+1.4**
NC303				IAML		07 46 18.6	
comp=Z,5.0nm,0.6s							
NC303				IAML		07 46 41.8	
comp=Z,16nm,0.5s							
NC204	**NORSAR Array S**	**5.75**	**194**	*e*P	**Pn**	**07 45 00.1**	**+1.2**
NC204				*e*P	**Pn**	**07 45 00.9**	**+2.1**
NC204				IAML		07 46 18.5	
comp=Z,4.4nm,0.3s							
NC204				IAML		07 46 43.9	
comp=Z,22nm,0.5s							
NB201	**NORSAR Array S**	**5.93**	**191**	*e*P	**Pn**	**07 45 02.7**	**+1.4**
NB201				*e*P	**Pn**	**07 45 02.8**	**+1.4**

NB201				IAML		07 46 12.7	
	comp=Z,4.6nm,0.4s						
NB201				IAML		07 46 39.0	
	comp=Z,20nm,0.6s						
NB2	**NORSAR Subarra**	**5.95**	**191**	Pn	**Pn**	**07 45 03.0**	**+1.5**
	baz=11,slow=14						
NB2				Lg	Lg	07 46 37.3	
	baz=3.5,slow=37						
NOA	**NORSAR Array B**	**5.95**	**191**	Pn	**Pn**	**07 45 01.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=3.9,slow=14,SNR=10						
NOA				Lg	Lg	07 46 38.1	
	comp=Z,0.4nm,0.3s,baz=58,slow=22,SNR=6.1						
	comp=Z,0.3nm,0.4s						
NBO00	**NORSAR Array S**	**6.00**	**193**	*eP*	**Pn**	**07 45 03.7**	**+1.6**
NBO00				IAML		07 46 52.1	
	comp=Z,15nm,0.4s						
NAO01	**NORSAR Array S**	**6.17**	**193**	*eP*	**Pn**	**07 45 04.9**	**+0.4**
NAO01				*eP*	**Pn**	**07 45 05.0**	**+0.5**
NAO01				IAML		07 46 16.6	
	comp=Z,2.7nm,0.2s						
NAO01				IAML		07 46 53.2	
	comp=Z,14nm,0.8s						
NC602	**NORSAR Array S**	**6.23**	**190**	*eP*	**Pn**	**07 45 06.4**	**+1.1**
NC602				*eP*	**Pn**	**07 45 07.4**	**+2.1**
NC602				IAML		07 46 20.4	
	comp=Z,3.1nm,0.3s						
NC602				IAML		07 46 51.0	
	comp=Z,22nm,0.6s						
NRA0	**NORESS Array S**	**6.23**	**190**	Pn	**Pn**	**07 45 05.7**	**+0.4**
	baz=5.5,slow=14						
NRA0				Sn	**Sn**	**07 46 19.5**	**+2.4**
	baz=15,slow=22						
NRA0				Lg	Lg	07 46 47.1	
	baz=12,slow=28						
SKAR	**Skarslia**	**6.64**	**203**	*eP*	**Pn**	**07 45 13.8**	**+2.7**
SKAR				IAML		07 47 07.5	
	comp=Z,8.7nm,0.5s						
HFS	**Hagfors**	**6.76**	**180**	Pn	**Pn**	**07 45 12.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=6.8,slow=13,SNR=23						
HFS				Sn	**Sn**	**07 46 29.9**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=4.8,slow=20,SNR=7.4						
HFS				Lg	Lg	07 47 02.8	
	comp=Z,2.7nm,0.3s,baz=7.4,slow=24,SNR=7.3						
	comp=Z,0.9nm,0.3s						
HFS	**Hagfors**	**6.76**	**180**	Pn	**Pn**	**07 45 13.9**	**+1.3**
	baz=1.9,slow=12						
HFS				Sn	**Sn**	**07 46 27.7**	**-2.6**
	baz=5.1,slow=22						
APA0	**Apatity Array**	**7.54**	**76**	Pn	**Pn**	**07 45 22.8**	**-0.5**
	baz=271,slow=14						
APA0				Sn	**Sn**	**07 46 44.4**	**-4.8**
	baz=279,slow=22						
APA0				Lg	Lg	07 47 24.2	
	baz=285,slow=28						
APA0	**Apatity Array**	**7.54**	**76**	P	**Pn**	**07 45 23.7**	**+0.5**
APA0				S	**Sn**	**07 46 45.3**	**-3.9**
FIA0	**FINESS Array S**	**7.68**	**129**	Pn	**Pn**	**07 45 25.0**	**-0.2**
	baz=320,slow=14						
FIA0				Sn	**Sn**	**07 46 50.0**	**-2.7**
	baz=332,slow=28						
FIA0				Lg	Lg	07 47 30.9	
	baz=317,slow=28						
FINES	**FINESS Array B**	**7.68**	**129**	Pn	**Pn**	**07 45 24.1**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=319,slow=12,SNR=21						
FINES				Sn	**Sn**	**07 46 50.1**	**-2.7**
	comp=Z,1.7nm,0.3s,baz=324,slow=20,SNR=8.1						
FINES				Lg	Lg	07 47 31.0	
	comp=Z,5.0nm,0.3s,baz=325,slow=26,SNR=13						
	comp=Z,1.6nm,0.3s						
APA	**Apatity**	**7.70**	**76**	S	**Sn**	**07 46 49.6**	**-3.6**
LVZ	**Lovozero**	**8.15**	**73**	S	**Sn**	**07 47 00.8**	**-3.7**
TERR	**Teriberka**	**8.36**	**64**	P	**Pn**	**07 45 36.6**	**+2.1**
TERR				S	**Sn**	**07 47 05.2**	**-4.2**

*IDC **22** 08:01:32.7±4.1, 19°.54N×146°.51E, h91km±37km, mb3.3/6, mbtmp3.6/6, MS2.8/1, Error ellipse: s-maj=44.2km s-min=20.6km az=89.0*

ISC 22 08:01:28.6±1.2, 19°.7N±0°.1×146°.6E±0°.4, h50km, n8, σ1$44/9, mb3.8/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GUMO	**Guam**	**6.30**	**195**	P		**Pn**	**Pn**	**08 03 00.5**	**+1.6**
	56nm,0.3s,baz=146,slow=3.6,SNR=9.1								
GUMO				S		**Sn**	**Sn**	**08 04 10.1**	**+0.5**
	71nm,0.9s,baz=180,slow=20,SNR=1.0								
WRA	**Warramunga Arr**	**41.19**	**198**	P		**P**	**P**	**08 09 07.0**	**-1.5**
	0.7nm,0.6s,baz=23,slow=8.4,SNR=9.9								
WRA				PcP		**PcP**	**PcP**	**08 11 05.2**	**-1.8**
	0.4nm,0.8s,baz=13,slow=3.7,SNR=2.7								
	0.7nm,0.6s								
YAK	**Yakutsk**	**43.89**	**349**	LR		LR	LR	08 27 22.0	
	comp=Z,12nm,21.7s,baz=89,slow=35								
ASAR	**Alice Springs**	**44.85**	**197**	P		**P**	**P**	**08 09 36.5**	**-1.5**
	0.1nm,0.5s,baz=19,slow=8.8,SNR=1.6								
	0.1nm,0.5s								
ZALV	**Zalesovo Beam**	**57.72**	**322**	P		**P**	**P**	**08 11 13.8**	**-0.3**
	0.9nm,0.6s,baz=117,slow=8.3,SNR=2.4								
	0.9nm,0.6s								
MKAR	**Makanchi Array**	**58.36**	**313**	P		**P**	**P**	**08 11 19.6**	**+0.8**
	0.4nm,0.6s,baz=98,slow=7.6,SNR=4.1								
	0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**61.12**	**318**	P		**P**	**P**	**08 11 37.7**	**0.0**
	0.5nm,0.3s,baz=91,slow=7.7,SNR=6.4								
	0.5nm,0.3s								
ILAR	**Eielson Array**	**62.38**	**26**	P		**P**	**P**	**08 11 47.0**	**+1.1**
	0.6nm,0.8s,baz=249,slow=6.6,SNR=5.0								
	0.6nm,0.8s								

IDC 22 08:07:57.6±3.4, 53°.45N×87°.49E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=34.9km s-min=18.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**289**	*i*				08 19 10.0	
	baz=106,slow=329,SNR=2.1								
ZALV	**Zalesovo Beam**	**1.67**	**289**	Pn		Pn	Pn	08 08 28.5	+0.5
	0.5nm,0.3s,baz=104,slow=12,SNR=3.2								
ZALV				Lg		Lg	Lg	08 08 49.9	
	0.4nm,0.3s,baz=107,slow=30,SNR=3.0								
KURBB	**Kurchatov Arra**	**6.21**	**247**	Pn		Pn	Pn	08 09 31.0	+0.6
	baz=62,slow=14,SNR=1.7								
	0.3nm,0.2s								
MKAR	**Makanchi Array**	**7.45**	**209**	Pn		Pn	Pn	08 09 48.6	+1.1
	0.1nm,0.3s,baz=29,slow=13,SNR=4.3								
	0.3nm,0.5s								

*DJA **22** 08:11:32.5±0.3, 4°.S±4°×12°.7E±°, h10km, M4.1/12, mb4.5/7, mB4.9/2, MLv3.9/12, Mw(mB)4.1/2*

*IDC **22** 08:11:34.4±2.9, 3°.73S×127°.22E, h40km±31km, mb3.7/3, mbtmp4.0/6, ML3.6/3, MS2.8/2, Error ellipse: s-maj=26.2km s-min=23.9km az=122.0*

ISC 22 08:11:33.2±0.8, 3°.75S±0°.06×127°.28E±0°.05, h35km, n19, σ2$33/21, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NLAI	**Namlea**	**0.54**	**340**	P		**Pn**	**Pn**	**08 11 42.4**	**-2.0**
NLAI				S		**Sn**	**Sn**	**08 11 50.0**	**-2.2**
AAI	**Ambon**	**0.92**	**86**	P		**Pn**	**Pn**	**08 11 48.0**	**-1.6**
MSAI	**Masohi**	**1.69**	**76**	P		**Pn**	**Pn**	**08 12 00.7**	**+0.4**
SANI	**Sanana**	**2.12**	**323**	P		**Pn**	**Pn**	**08 12 07.9**	**+1.6**
LBMI	**Labuha**	**3.10**	**4**	P		**Pn**	**Pn**	**08 12 21.0**	**+1.3**
SIJI	**Sorong**	**4.90**	**54**	Pn		**Pn**	**Pn**	**08 12 46.0**	**+1.5**
	15nm,0.3s,baz=257,slow=14,SNR=21								
SIJI				Sn		**Sn**	**Sn**	**08 13 42.6**	**+2.5**
	3.5nm,0.3s,baz=313,slow=23,SNR=13								
	35nm,0.4s								
BBSI	**Bau Bau**	**5.00**	**250**	P		**Pn**	**Pn**	**08 12 48.6**	**+2.7**
	0.2nm44nm,0.9s								
FAKI	**Fak Fak**	**5.03**	**81**	P		**Pn**	**Pn**	**08 12 48.1**	**+1.9**
APSI	**Ampana**	**6.29**	**296**	P		**Pn**	**Pn**	**08 13 05.2**	**+1.6**
	0.1nm424nm28nm,0.9s								
MRSI	**Marisa**	**6.79**	**308**	P		**Pn**	**Pn**	**08 13 13.6**	**+3.2**
	0.3nm76nm,0.5s								
BKSI	**Bulukumba**	**7.30**	**257**	P		**Pn**	**Pn**	**08 13 21.2**	**+3.7**
	0.1nm23nm,1.0s								
KAPI	**Kappang**	**7.61**	**260**	Pn		**Pn**	**Pn**	**08 13 22.5**	**+0.8**
	2.1nm,0.3s,baz=85,slow=11,SNR=6.2								
KAPI				Sn		**Sn**	**Sn**	**08 14 46.4**	**-0.4**
	1.4nm,0.3s,baz=50,slow=22,SNR=2.1								
KAPI				LR		LR	LR	08 16 18.8	
	comp=Z,38nm,18.0s,baz=63,slow=38								
	6.4nm,0.5s								
FITZ	**Fitzroy Crossi**	**14.35**	**186**	Pn		**Pn**	**Pn**	**08 14 54.2**	**+0.2**
	baz=358,slow=12,SNR=2.2								
	1.1nm,0.7s								
STKI	**Sintang**	**16.24**	**283**	P		**Pn**	**Pn**	**08 15 13.5**	**-5.4**
WRA	**Warramunga Arr**	**17.51**	**157**	P		**Pn**	**Pn**	**08 15 32.8**	**-2.0**
	1.3nm,0.7s,baz=345,slow=13,SNR=12								
ASAR	**Alice Springs**	**20.81**	**163**	P		**P**	**P**	**08 16 13.1**	**+1.3**
	19nm,0.8s,baz=343,slow=11,SNR=183								
	19nm,0.8s								
CMAR	**Chiang Mai Arr**	**35.59**	**309**	LR		LR	LR	08 35 05.1	
	comp=Z,19nm,18.1s,baz=150,slow=40								
MKAR	**Makanchi Array**	**64.04**	**327**	P		**P**	**P**	**08 22 03.8**	**+0.2**
	0.4nm,0.4s,baz=111,slow=6.6,SNR=4.9								
	0.4nm,0.4s								
VNDA	**Vanda**	**75.99**	**173**	P		**P**	**P**	**08 23 17.0**	**+0.8**
	0.3nm,0.8s,baz=306,slow=8.7,SNR=1.7								
	0.3nm,0.8s								

*CRAAG **22** 08:14:19.9, 36°.40N×2°.45E, Ml3.2*

*MDD **22** 08:14:22.0±0.7, 36°.44N×2°.46E, h12km±12km, Mb3.8/18, M_mb3.1/19, Error ellipse: s-maj=15.5km s-min=3.6km az=148.0*

ISC 22 08:14:20.8±1.1, 36°.47N±0°.06×2°.46E±0°.05, h18km, n20, σ1$57/34, 15C-2D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
EMHD	**Djebel Mahouad**	**0.48**	**124**	P		**Pg**	**Pg**	**08 14 30.2**	**-0.5**
ABA	**Alger-Bouzarea**	**0.57**	**55**	P		**Pg**	**Pg**	**08 14 32.8**	**+0.6**
ABMS	**Boumerdes**	**0.87**	**71**	P		**Pb**	**Pb**	**08 14 37.9**	**+0.5**
EIBI	**Ibiza**	**2.70**	**341**	⇓Pn		**Pn**	**Pn**	**08 15 04.4**	**+1.1**
EIBI				⇑*i*Vmb_V				08 15 05.7	
	615nm,SNR=5.1								
EIBI				Sn		**Sn**	**Sn**	**08 15 33.4**	**-2.1**
EBEN2	**Beniarda presa**	**3.04**	**317**	Pn		**Pn**	**Pn**	**08 15 08.9**	**+0.8**
EBEN2				⇑*i*Vmb_V				08 15 09.9	
	407nm,SNR=2.8								
EBEN2				Sn		**Sn**	**Sn**	**08 15 43.1**	**-0.9**
AFON	**Font Roja**	**3.23**	**313**	Pn		**Pn**	**Pn**	**08 15 12.8**	**+2.0**
AFON				⇑*i*Vmb_V				08 15 15.2	
	193nm,SNR=2.1								
AFON				Sn		**Sn**	**Sn**	**08 15 48.0**	**-0.9**
EMUR	**La Murta**	**3.25**	**296**	Pn		**Pn**	**Pn**	**08 15 11.7**	**+0.7**
EMUR				⇑*i*Vmb_V				08 15 13.2	
	55nm,SNR=1.1								
EMUR				Sn		**Sn**	**Sn**	**08 15 49.4**	**+0.1**
ETOS	**Mallorca**	**3.30**	**5**	Pn		**Pn**	**Pn**	**08 15 12.2**	**+0.5**
ETOS				⇑*i*Vmb_V				08 15 13.2	
	333nm,SNR=3.7								
ETOS				Sn		**Sn**	**Sn**	**08 15 48.0**	**-2.4**
EZAR	**Zarzadilla de**	**3.60**	**294**	Pn		**Pn**	**Pn**	**08 15 15.0**	**-0.7**
EZAR				Sn		**Sn**	**Sn**	**08 15 55.4**	**-2.5**
ECOL	**Islas Columbre**	**3.69**	**338**	Pn		**Pn**	**Pn**	**08 15 17.9**	**-0.9**
ECOL				Sn		**Sn**	**Sn**	**08 15 58.4**	**-1.7**
ETOB	**Tobarra**	**3.85**	**305**	Pn		**Pn**	**Pn**	**08 15 20.9**	**+1.7**
ETOB				⇑*i*Vmb_V				08 15 21.6	
	129nm,SNR=2.7								
ETOB				Sn		**Sn**	**Sn**	**08 16 04.3**	**+0.3**
ECHE	**Chera**	**4.12**	**320**	Pn		**Pn**	**Pn**	**08 15 25.2**	**+2.2**
ECHE				⇑*i*Vmb_V				08 15 26.4	
	117nm,SNR=1.9								
ECHE				Sn		**Sn**	**Sn**	**08 16 09.2**	**-1.5**
EBER	**Berja**	**4.32**	**277**	Pn		**Pn**	**Pn**	**08 15 25.7**	**-0.1**
EBER				⇑*i*Vmb_V				08 15 27.1	
	46nm,SNR=0.8								
EBER				Sn		**Sn**	**Sn**	**08 16 13.5**	**-2.2**
EMOS	**Mosqueruela**	**4.51**	**330**	⇓Pn		**Pn**	**Pn**	**08 15 29.9**	**+1.5**
EMOS				⇑*i*Vmb_V				08 15 30.7	
	370nm,SNR=3.3								
EMOS				Sn		**Sn**	**Sn**	**08 16 19.3**	**-1.3**
EQES	**Quesada**	**4.61**	**288**	Pn		**Pn**	**Pn**	**08 15 32.4**	**+2.6**
EQES				⇑*i*Vmb_V				08 15 33.6	
	85nm,SNR=1.7								
EQES				Sn		**Sn**	**Sn**	**08 16 22.3**	**-0.5**
ERTA	**Horta de San J**	**4.78**	**340**	Pn		**Pn**	**Pn**	**08 15 32.9**	**+1.0**
ERTA				⇑*i*Vmb_V				08 15 34.4	
	62nm,SNR=0.6								
ERTA				Sn		**Sn**	**Sn**	**08 16 25.6**	**-1.2**
ELGU	**Los Guajares,**	**4.91**	**276**	Pn		**Pn**	**Pn**	**08 15 34.9**	**+1.1**
ELGU				⇑*i*Vmb_V				08 15 36.1	
	63nm,SNR=1.2								
EPOB	**Poblet**	**4.99**	**348**	Pn		**Pn**	**Pn**	**08 15 36.6**	**+1.7**
EPOB				⇑*i*Vmb_V				08 15 37.1	
	75nm,SNR=1.1								
EPOB				Sn		**Sn**	**Sn**	**08 16 29.9**	**-2.3**
PAB	**San Pablo**	**6.19**	**302**	Pn		**Pn**	**Pn**	**08 15 52.2**	**+0.8**
PAB				⇑*i*Vmb_V				08 15 53.2	
	35nm,SNR=1.1								
ELAN	**Lanestosa**	**8.13**	**328**	⇑*i*Vmb_V				08 16 22.2	
	71nm,SNR=0.9								
ELAN				Sn		**Sn**	**Sn**	**08 17 46.5**	**-2.8**

IDC 22 08:16:07.9±2.9, 6°.64S×130°.67E, h53km±39km, mb3.4/1, mbtmp3.8/5, ML3.8/4, Error ellipse: s-maj=84.8km s-min=24.4km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SIJI	**Sorong**	**5.76**	**6**	P		Pn		08 17 31.2	+0.3
	1.8nm,0.3s,baz=150,slow=14,SNR=7.1								
SIJI				S		Sn		08 18 29.4	-6.3
	10nm,0.2s,baz=268,slow=23,SNR=11								
	4.9nm,0.2s								
FITZ	**Fitzroy Crossi**	**12.40**	**203**	P		Pn		08 19 01.5	-0.4
	0.5nm,0.3s,baz=359,slow=10,SNR=26								
FITZ				S		Sn		08 21 14.0	-4.6
	0.6nm,0.4s,baz=180,slow=19,SNR=2.0								
	0.9nm,0.3s								
WRA	**Warramunga Arr**	**13.70**	**165**	P		Pn		08 19 18.4	-1.2
	0.4nm,0.3s,baz=351,slow=13,SNR=20								
WRA				S		Sn		08 21 45.0	-5.3
	0.3nm,0.3s,baz=336,slow=22,SNR=6.0								
	0.7nm,0.4s								
ASAR	**Alice Springs**	**17.22**	**170**	P		P		08 20 06.3	+0.4
	0.5nm,0.3s,baz=350,slow=9.3,SNR=25								
ASAR				S		Sn		08 23 09.6	-6.1
	0.4nm,0.7s,baz=360,slow=26,SNR=2.0								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**68.29**	**326**	P		P		08 27 03.4	-0.1
	0.3nm,0.3s,baz=116,slow=7.5,SNR=7.7								
	0.3nm,0.3s								

*KRSC **22** 08:17:11.3±1.5, 53°.00N×161°.87E, h60km±24km, ML3.7*

*IDC **22** 08:17:18.0±1.6, 54°.19N×160°.57E, h0km, mb3.4/3, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=57.8km s-min=23.1km az=158.0*

ISC 22 08:17:10.6±2.1, 52°.98N±0°.08×161°.88E±0°.06, h12km±11km, n31, σ1$23/40, mb3.6/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SPN	**Mys Shipunski**	**1.13**	**277**	*eP*		**Pg**		**08 17 32.3**	**0.0**
SPN				*eS*		**Sg**		**08 17 45.7**	**-1.2**
NLC	**Nalytchevo**	**1.54**	**278**	*eP*		**Pn**		**08 17 38.2**	**+0.3**
NLC				*eS*		**Sn**		**08 17 56.8**	**-1.0**
MKZ	**Mys Kozlova**	**1.58**	**357**	*eP*		**Pn**		**08 17 38.3**	**-0.1**
KII	**Karymskiy**	**1.80**	**307**	*eP*		**Pn**		**08 17 41.8**	**+0.3**
SDLR	**Sedlovina**	**1.83**	**281**	*eP*		**Pn**		**08 17 42.6**	**+0.6**
UGLR	**Uglovaya**	**1.86**	**278**	*eP*		**Pn**		**08 17 43.4**	**+1.0**
SMAR	**Somma**	**1.88**	**280**	*eP*		**Pn**		**08 17 43.4**	**+0.7**
DALK	**Dalny**	**1.89**	**273**	*eP*		**Pn**		**08 17 43.5**	**+0.8**
DALK				*eS*		**Sn**		**08 18 06.2**	**-0.2**
KRER	**Koryakskii**	**1.91**	**281**	*eP*		**Pn**		**08 17 44.4**	**+1.2**
AVH	**Avacha**	**1.92**	**280**	*eP*		**Pn**		**08 17 44.3**	**+1.2**
PET	**Petropavlovsk**	**1.95**	**273**	*eP*		**Pn**		**08 17 44.5**	**+1.0**
PET				*eS*		**Sn**		**08 18 08.2**	**+0.3**
KOK	**Koryaka**	**1.98**	**280**	*eP*		**Pn**		**08 17 45.1**	**+1.1**
KRX	**Arik**	**1.98**	**282**	*eP*		**Pn**		**08 17 44.8**	**+0.7**
RUS	**Russkaya**	**2.12**	**256**	*eP*		**Pn**		**08 17 46.5**	**+0.7**
RUS				*eS*		**Sn**		**08 18 11.6**	**-0.5**
KRMR	**Karymshinskiy**	**2.28**	**268**	*eP*		**Pn**		**08 17 47.8**	**-0.2**
KRMR				*eS*		**Sn**		**08 18 14.6**	**-1.4**
MTVR	**Mutnovka**	**2.30**	**259**	*eP*		**Pn**		**08 17 48.7**	**+0.2**
MTVR				*eS*		**Sn**		**08 18 16.5**	**-0.3**
GRL	**Gorelyy**	**2.35**	**261**	*eP*		**Pn**		**08 17 50.7**	**+1.5**
GNL	**Ganaly**	**2.47**	**288**	*eP*		**Pn**		**08 17 52.4**	**+1.7**
ASAK	**Asacha**	**2.50**	**258**	*eP*		**Pn**		**08 17 52.6**	**+1.5**
TUMR	**Tumrok**	**2.52**	**337**	*eP*		**Pn**		**08 17 53.0**	**+1.5**
PETK	**Petropavlovsk-**	**2.53**	**275**	Pn		**Pn**		**08 17 52.6**	**+1.2**
	5.5nm,0.3s,baz=92,slow=19,SNR=36								
PETK				Sn		**Sn**		**08 18 22.0**	**-0.2**
	6.5nm,0.3s,baz=75,slow=27,SNR=8.5								
	6.6nm,0.3s								
KDTR	**Khodutka, Kamc**	**2.61**	**245**	*eP*		**Pn**		**08 17 53.2**	**+0.7**
KDTR				*eS*		**Sn**		**08 18 22.8**	**-1.3**
APC	**Apacha**	**2.86**	**271**	*eP*		**Pn**		**08 17 58.2**	**+2.2**
KMNR	**Kamenistaya**	**2.94**	**342**	*eP*		**Pn**		**08 17 56.7**	**-0.6**
BKI	**Bering**	**3.28**	**46**	*eP*		**Pn**		**08 18 03.0**	**+1.2**
BKI				*eS*		**Sn**		**08 18 38.1**	**-2.6**
KBTR	**Krutoberegovo**	**3.28**	**9**	*eP*		**Pn**		**08 18 03.9**	**+2.1**
ESO	**Esso**	**3.49**	**329**	*eP*		**Pn**		**08 18 05.7**	**+1.0**
SMKR	**Semkarok**	**3.62**	**356**	*eP*		**Pn**		**08 18 09.3**	**+2.8**
SONM	**Songino Array**	**34.98**	**284**	P		**P**		**08 24 03.1**	**+0.5**
	0.5nm,0.6s,baz=66,slow=4.9,SNR=1.7								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**49.17**	**297**	P		**P**		**08 25 57.6**	**-0.6**
	0.3nm,0.4s,baz=50,slow=7.5,SNR=6.0								
	0.3nm,0.4s								
TXAR	**Lajitas Array**	**69.68**	**68**	P		P		08 28 31.3	+11
	0.2nm,0.5s,baz=306,slow=5.9,SNR=5.6								
	0.2nm,0.5s								

*ATH **22** 08:22:45.0, 36°.47N×22°.07E, h30km±1km, ML3.7/11, Error ellipse: s-maj=2.9km s-min=0.9km az=39.0*

*NEIC **22** 08:22:45.9±1.1, 36°.50N±0°.07×22°.06E±0°.09, h45km±9km, Error ellipse: s-maj=11.7km s-min=8.2km az=48.0*

*NEIC **22** 08:22:45, 36°.47N×22°.07E, h37km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=7.31; Mθθ=3.19; Mϕϕ=4.12; Mrθ=4.42; Mrϕ=-3.47; Mθϕ=-2.84; Fault plane solution: Mo 8.94000×10^14^ NP1:φs147.19000°, δ28.06000°, λ-74.45000°. NP2:φs309.68000°, δ63.05000°, λ-98.14000°. Principal axes: T 8.7696, Plg18.0000°, Azm46.0000°; N 0.3383, Plg7.0000°, Azm313.0000°; P -9.1079, Plg71.0000°, Azm202.0000°;*

*THE **22** 08:22:46.0, 36°.42N×22°.08E, h12km±1km, ML3.7/7 Error ellipse: s-maj=1.5km s-min=0.6km az=41.0*

*IDC **22** 08:22:47.3±2.0, 36°.49N×22°.12E, h61km±20km, mb3.9/16, mbtmp4.1/19, MS3.0/16, Error ellipse: s-maj=18.1km s-min=13.8km az=31.0*

ISC 22 08:22:45.4±1.0, 36°.44N±0°.05×22°.02E±0°.04, h44km±9km, n98, σ1$30/105, mb4.3/23, MS3.1/10, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PYL	**PYLOS**	**0.50**	**334**	P		**Pn**		**08 22 56.4**	**0.0**
PYL				S		**Sn**		**08 23 05.0**	**+0.8**
	6μm,0.7s								
PYL	**PYLOS**	**0.50**	**334**	P		**Pn**		**08 22 56.1**	**-0.2**
PYL				S		**Sn**		**08 23 03.2**	**-1.0**
PYL				AML		AML		08 23 05.2	
	comp=N,10008μm,0.7s								
PYL				AML		AML		08 23 10.1	
	comp=E,14923μm,0.7s								
ITM	**Ithomi**	**0.74**	**354**	P		**Pn**		**08 23 00.0**	**+0.5**
ITM				S		**Sn**		**08 23 11.7**	**+2.0**
	comp=E,3μm,0.3s								
ITM	**Ithomi**	**0.74**	**354**			**Pn**		**08 22 59.8**	**+0.3**
ITM	**Ithomi**	**0.74**	**354**	P		**Pn**		**08 22 59.7**	**+0.2**
ITM				S		**Sn**		**08 23 09.7**	**0.0**
ITM				AML		AML		08 23 12.6	
	comp=E,7766μm,0.3s								
ITM				AML		AML		08 23 18.3	
	comp=N,7816μm,0.4s								
VLI	**Veliai**	**0.79**	**69**	P		**Pn**		**08 23 00.0**	**-0.1**
VLI				S		**Sn**		**08 23 11.8**	**+1.0**
	comp=N,9μm,0.4s								
VLI	**Veliai**	**0.79**	**69**	P		**Pn**		**08 23 00.1**	**-0.1**
VLI				S		**Sn**		**08 23 11.7**	**+0.8**
VLI				AML		AML		08 23 16.0	
	comp=N,19163μm,0.5s								
VLI				AML		AML		08 23 16.5	
	comp=E,15791μm,0.4s								
KTHR	**Kythira**	**0.82**	**103**	P		**Pn**		**08 23 00.3**	**-0.2**
KTHR				S		**Sn**		**08 23 11.6**	**+0.1**
	comp=E,11μm,0.5s								
KTHA	**Kythira Island**	**0.86**	**102**	P		**Pn**		**08 23 01.1**	**-0.1**
KTHA				S		**Sn**		**08 23 13.3**	**+0.6**
	comp=E,10μm,0.7s								
KTHA	**Kythira Island**	**0.86**	**102**	P		**Pn**		**08 23 01.0**	**-0.2**
KTHA				S		**Sn**		**08 23 13.0**	**+0.3**
KTHA				AML		AML		08 23 16.9	
	comp=E,21303μm,0.8s								
KTHA				AML		AML		08 23 17.

MLR					LR	LR	08 29 36.3		
	comp=E,164nm,19.4s,baz=189,slow=43								
BRTR	**Keskin Array B**	**9.73**	**67**	P	**Pn**		**08 25 04.4**	**+1.6**	
	comp=E,0.9nm,0.8s,baz=242,slow=10,SNR=3.7								
BRTR					LR	LR	08 29 30.7		
	comp=E,131nm,18.8s,baz=290,slow=42								
VRAC	**Vranov**	**13.45**	**345**	LR	LR		08 31 52.3		
	comp=E,42nm,19.9s,baz=167,slow=41								
GERES	**GERESS Array B**	**13.81**	**336**	P	**P**		**08 26 03.8**	**-2.1**	
	comp=E,0.3nm,0.2s,baz=151,slow=16,SNR=1.9								
KHC	**Kasperske Hory**	**14.10**	**337**	*e*P	**P**		**08 26 06.9**	**-2.1**	
KHC				*ex*	x		08 28 55.0		
KRLC	**Kraliky**	**14.14**	**346**	*e*P	**P**		**08 26 11.1**	**+1.6**	
DPC	**Dobruska-Polom**	**14.50**	**345**	*e*P	**P**		**08 26 14.7**	**+1.3**	
AKASG	**Malin Array Be**	**15.17**	**18**	P	**P**		**08 26 20.6**	**-0.2**	
	comp=E,2.0nm,0.5s,baz=210,slow=8.8,SNR=10								
AKASG					LR	LR	08 32 49.9		
	comp=E,56nm,18.8s,baz=246,slow=40								
CLL	**Collm**	**16.20**	**339**	*e*Px	Px		08 26 33.0		
	comp=Z,5.0nm,0.8s								
CLL				*es*P	pP		08 26 43.0	+0.2	
CLL				L	L		08 33 00.0		
	comp=Z,100nm,18.7s								
KBZ	**Khabaz**	**17.53**	**59**	P	**P**		**08 26 47.0**	**0.0**	
	comp=Z,7.8nm,1.0s,baz=252,slow=4.5,SNR=8.3								
KBZ					LR	LR	08 35 12.0		
	comp=E,36nm,18.6s,baz=314,slow=43								
GNI	**Garni**	**18.20**	**71**	LR	LR		08 34 50.3		
	comp=Z,35nm,19.9s,baz=254,slow=40								
NACGM	**Naroch**	**18.75**	**9**⇑	*e*P	**P**		**08 26 59.2**	**-1.2**	
	baz=192								
ESDC	**Sonseca Array**	**20.69**	**287**	P	**P**		**08 27 23.3**	**+1.6**	
	comp=Z,0.2nm,0.5s,baz=90,slow=12,SNR=1.8								
OBN	**Obninsk**	**21.17**	**24**	P	**P**		**08 27 27.4**	**+0.8**	
	comp=Z,9.5nm,0.5s,baz=243,slow=6.8,SNR=3.9								
	comp=Z,9.5nm,0.5s								
BELG	**Belogornoye**	**24.08**	**40**	P	**P**		**08 27 55.9**	**-0.5**	
	comp=Z,23nm,0.6s,baz=345,slow=3.0,SNR=13								
BELG					LR	LR	08 38 41.2		
	comp=Z,25nm,18.3s,baz=279,slow=40								
	comp=Z,23nm,0.6s								
HFS	**Hagfors**	**24.31**	**350**	P	**P**		**08 27 58.0**	**-0.4**	
	comp=Z,2.7nm,0.4s,baz=153,slow=10.0,SNR=26								
HFS					LR	LR	08 38 16.4		
	comp=Z,26nm,21.0s,baz=177,slow=38								
	comp=Z,2.7nm,0.4s								
FINES	**FINESS Array B**	**25.15**	**5**	P	**P**		**08 28 05.6**	**-0.5**	
	comp=Z,5.9nm,0.6s,baz=160,slow=11,SNR=31								
FINES					LR	LR	08 37 50.4		
	comp=Z,46nm,20.9s,baz=211,slow=36								
	comp=Z,5.9nm,0.6s								
FINES	**FINESS Array B**	**25.15**	**5**	P	**P**		**08 28 05.5**	**-0.6**	
FIA1	**FINESS Array S**	**25.15**	**5**	P	**P**		**08 28 05.3**	**-0.8**	
FIA1				IAmb	IAmb		08 28 06.2		
	comp=Z,9.3nm,0.8s								
NC602	**NORSAR Array S**	**25.21**	**348**	P	**P**		**08 28 06.8**	**+0.2**	
NC602				IAmb	IAmb		08 28 23.3		
	comp=Z,25nm,1.4s								
EKA	**Eskdalemuir Ar**	**25.53**	**326**	P	**P**		**08 28 10.2**	**+0.6**	
	comp=Z,0.8nm,0.5s,baz=120,slow=9.2,SNR=5.8								
	comp=Z,0.8nm,0.5s								
NB2	**NORSAR Subarra**	**25.56**	**348**	P	**P**		**08 28 10.1**	**+0.3**	
	comp=Z,0.7nm,0.4s,baz=157,slow=11								
NOA	**NORSAR Array B**	**25.56**	**348**	P	**P**		**08 28 09.8**	**-0.1**	
	comp=Z,1.0nm,0.6s,baz=160,slow=5,SNR=10.0								
NOA					LR	LR	08 41 09.2		
	comp=Z,11nm,18.9s,baz=230,slow=43								
	comp=Z,1.0nm,0.6s								
GEYT	**Alibeck**	**28.69**	**76**	P	**P**		**08 28 37.6**	**-0.6**	
	comp=Z,2.1nm,0.5s,baz=255,slow=11,SNR=3.7								
	comp=Z,2.1nm,0.5s								
TORD	**Torodi Ar. Bea**	**29.51**	**223**	P	**P**		**08 28 46.5**	**+0.9**	
	comp=Z,1.0nm,0.9s,baz=44,slow=8.0,SNR=5.9								
	comp=Z,1.0nm,0.9s								
ABKAR	**Akbulak array**	**30.28**	**53**	P	**P**		**08 28 50.7**	**-1.4**	
ARU	**Arti**	**31.61**	**39**	P	**P**		**08 29 03.0**	**-0.7**	
	comp=Z,6.0nm,0.2s,baz=204,slow=11,SNR=3.8								
ARCES	**ARCESS Array B**	**33.20**	**2**	P	**P**		**08 29 16.9**	**-0.6**	
	comp=Z,4.4nm,0.8s,baz=183,slow=8.5,SNR=14								
	comp=Z,4.4nm,0.8s								
ARCES	**ARCESS Array B**	**33.20**	**2**	P	**P**		**08 29 16.9**	**-0.6**	
ARCES				IAmb	IAmb		08 29 17.4		
	comp=Z,20nm,1.4s								
KEV	**Kevo**	**33.48**	**3**	P	**P**		**08 29 19.9**	**0.0**	
CHGR	**Chuyangaron**	**37.12**	**72**	P	**P**		**08 29 51.5**	**-0.3**	
BRVK	**Borovoye**	**37.29**	**48**	P	**P**		**08 29 52.1**	**-0.8**	
BRVK				IAmb	IAmb		08 29 52.9		
	comp=Z,8.1nm,1.4s								
KK31	**Karatay Array**	**37.43**	**64**	P	**P**		**08 29 53.4**	**-0.9**	
KK31				IAmb	IAmb		08 29 54.9		
	comp=Z,3.2nm,0.8s								
KKAR	**Karatay Array**	**37.43**	**64**	P	**P**		**08 29 53.7**	**-0.6**	
MBAR	**Mbarara**	**37.74**	**166**	LR	LR		08 48 42.3		
	comp=Z,27nm,18.5s,baz=338,slow=41								
GAR	**Garm**	**37.94**	**71**	P	**P**		**08 29 58.4**	**-0.3**	
GAR				IAmb	IAmb		08 29 59.5		
	comp=Z,9.0nm,0.6s								
BOOM	**Boomskoye usch**	**41.47**	**65**	P	**P**		**08 30 28.1**	**0.0**	
BOOM				IAmb	IAmb		08 30 29.7		
	comp=Z,5.1nm,0.7s								
TARG	**Taragay, Kyrgy**	**42.98**	**65**	P	**P**		**08 30 41.5**	**+0.8**	
MK31	**Makanchi Array**	**45.21**	**57**	P	**P**		**08 30 57.1**	**-0.9**	
MKAR	**Makanchi Array**	**45.21**	**57**	P	**P**		**08 30 57.1**	**-1.0**	
	comp=Z,1.1nm,0.4s,baz=269,slow=7.9,SNR=18								
	comp=Z,1.1nm,0.4s								
MKAR	**Makanchi Array**	**45.21**	**57**	P	**P**		**08 30 57.0**	**-1.0**	
ZALV	**Zalesovo Beam**	**45.98**	**47**	P	**P**		**08 31 02.7**	**-1.2**	
	comp=Z,3.1nm,0.4s,baz=273,slow=10.0,SNR=3.9								
ZALV					LR	LR	08 52 25.1		
	comp=Z,31nm,18.9s,baz=66,slow=39								
	comp=Z,3.1nm,0.4s								
LSZ	**Lusaka**	**51.77**	**172**	LR	LR		08 56 25.9		
	comp=Z,32nm,19.2s,baz=124,slow=39								
SONM	**Songino Array**	**60.64**	**50**	P	**P**		**08 32 51.1**	**-0.7**	
	comp=Z,0.4nm,0.3s,baz=283,slow=9.0,SNR=4.1								
SONM					LR	LR	09 05 31.9		
	comp=Z,15nm,19.2s,baz=150,slow=42								
	comp=Z,0.4nm,0.3s								
LBTB	**Lobatse**	**61.22**	**176**	LR	LR		09 03 29.4		
	comp=Z,29nm,19.8s,baz=292,slow=40								
CMAR	**Chiang Mai Ar**	**68.94**	**82**	P	**P**		**08 33 45.7**	**-0.4**	
	comp=Z,1.1nm,0.3s,baz=297,slow=10,SNR=4.4								
	comp=Z,1.1nm,0.3s								
INK	**Inuvik**	**73.97**	**351**	P	**P**		**08 34 15.8**	**+0.3**	
	comp=Z,0.9nm,0.6s,baz=320,slow=4.2,SNR=4.1								
	comp=Z,0.9nm,0.6s								
ILAR	**Eielson Array**	**78.74**	**355**	P	**P**		**08 34 43.3**	**+0.5**	
	comp=Z,0.6nm,0.8s,baz=356,slow=6.4,SNR=4.5								
	comp=Z,0.6nm,0.8s								
KSRS	**Korea Array**	**79.50**	**51**	P	**P**		**08 34 47.3**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=319,slow=4.5,SNR=4.4								
KSRS					LR	LR	09 13 11.6		
	comp=Z,8.8nm,19.4s,baz=135,slow=38								
	comp=Z,1.1nm,0.5s								
ASAR	**Alice Springs**	**120.78**	**98**	PKP	**PKPdf**		**08 41 32.6**	**-0.3**	
	comp=Z,0.2nm,0.6s,baz=259,slow=1.9,SNR=1.9								

TRN 22 08:38:52.7, 19°.36N × 62°.44W, h3km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**1.44**	**205**	*e*P	Pg	08 39 22.3	+2.1
SMRT				*e*S	Sn	08 39 43.2	+4.2
ANBD	**Bethesda, Anti**	**2.39**	**164**	*e*P	Pb	08 39 34.7	-1.7
ANBD				*e*S	Sb	08 40 06.6	+0.3

*VAO **22** 08:45:03.8±0.7, 21°.23S × 68°.47W, h10km, mb4.0*
*GUC **22** 08:45:10.0±0.6, 21°.35S × 68°.54W, h119km±4km, ML3.7*
*IDC **22** 08:45:16.4±8.6, 20°.80S × 68°.26W, h169km±75km, mb3.7/1, mbtmp4.0/2, Error ellipse: s-maj=96.0km s-min=70.1km az=140.0*

ISC 22 08:45:09.1±0.7, 21°.29S±0°.04 × 68°.54W±0°.07, h124km±8km, n26, σ1§13/38, 5C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.83**	**232**⇑	*i*P	**Pn**	**08 45 30.4**	**+0.2**
PB09				*e*S	**Sn**	**08 45 45.7**	**-0.3**
PB09				IAML		08 45 48.3	
	comp=N,2μm,0.4s						
PB01	**IPOC Station P**	**0.92**	**285**⇓	*i*P	**Pn**	**08 45 30.5**	**-0.3**
PB01				*e*S	**Sn**	**08 45 46.7**	**-0.5**
PB01				IAML		08 45 48.1	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**1.27**	**268**⇑	*i*P	**Pn**	**08 45 34.4**	**+0.1**
PB02				*e*S	**Sn**	**08 45 53.2**	**-0.3**
PB08	**IPOC Station P**	**1.28**	**333**⇓	*i*P	**Pn**	**08 45 35.7**	**+1.0**
PB08				*i* S	**Sn**	**08 45 55.4**	**+1.2**
PB08				IAML		08 45 57.1	
	comp=E,800nm,0.5s						
PB07	**IPOC Station P**	**1.33**	**251**⇑	*i*P	**Pn**	**08 45 34.9**	**-0.2**
PB07				*e*S	**Sn**	**08 45 53.9**	**-0.9**
PB07				IAML		08 45 54.5	
	comp=N,2μm,0.3s						
LVC	**Limon Verde**	**1.36**	**195**⇑	*i*P	**Pn**	**08 45 35.5**	**-0.1**
LVC				*i* S	**Sn**	**08 45 54.9**	**-0.9**
PATCX	**Punta Patache**	**1.58**	**287**	*i* P	**Pn**	**08 45 38.0**	**+0.3**
PATCX				*e*S	**Sn**	**08 45 59.2**	**-0.3**
AF01	**San Pedro de A**	**1.69**	**169**	*e*P	**Pn**	**08 45 40.2**	**+0.9**
TA01	**Diego Aracena**	**1.69**	**295**	*e*P	**Pn**	**08 45 39.0**	**0.0**
TA01				*e*S	**Sn**	**08 46 01.4**	**-0.4**
PB06	**IPOC Station P**	**1.71**	**214**⇑	*i*P	**Pn**	**08 45 39.1**	**-0.3**
PB06				*e*S	**Sn**	**08 46 01.8**	**-0.7**
PB06				IAML		08 46 02.6	
	comp=E,574nm,0.2s						
GO01	**Chusmiza**	**1.72**	**339**	*i* P	**Pn**	**08 45 40.7**	**+0.8**
GO01				*e*S	**Sn**	**08 46 04.7**	**+1.4**
GO01				IAML		08 46 07.3	
	comp=N,885nm,0.2s						
TA02	**Huaiquique**	**1.80**	**304**	*e*P	**Pn**	**08 45 40.3**	**0.0**
TA02				*e*S	**Sn**	**08 46 03.9**	**-0.3**
PB04	**IPOC Station P**	**1.82**	**235**	*i* P	**Pn**	**08 45 40.1**	**-0.7**
PB04				IAML		08 46 09.3	
	comp=E,520nm,0.3s						
PB15	**IPOC Station P**	**2.10**	**204**	*e*P	**Pn**	**08 45 43.9**	**-0.3**
PB12	**IPOC Station P**	**3.15**	**327**	*e*P	**Pn**	**08 45 56.7**	**-0.9**
PB12				IAML		08 46 43.9	
	comp=E,176nm,0.3s						
LPAZ	**La Paz**	**4.99**	**5**	P	**Pn**	**08 46 24.5**	**+1.9**
	comp=E,4.3nm,0.3s,baz=187,slow=7.2,SNR=50						
LPAZ				S	**Sn**	**08 47 17.2**	**-2.3**
	comp=E,2.4nm,0.6s,baz=80,slow=20,SNR=1.6						
PTLB	**Pontes e Lacer**	**10.65**	**59**	*e*P	**Pn**	**08 47 35.6**	**-2.7**
ETMB	**Extrema**	**11.62**	**11**	*e*P	**Pn**	**08 47 49.0**	**-2.3**
CRSM	**Crissiumal (Br**	**14.58**	**118**	*e*P	**P**	**08 48 31.2**	**-1.3**
RODS	**Rosario do Sul**	**15.01**	**130**	*e*P	**Pn**	**08 48 35.4**	**+0.5**
ALGR	**Alto Alegre (B**	**15.91**	**121**	*e*P	**P**	**08 48 47.7**	**+0.4**
CLDB	**Colider**	**16.02**	**52**	*e*P	**P**	**08 48 48.0**	**-0.6**
PLCA	**Paso Flores**	**19.46**	**185**	*e*P	**Pn**	**08 49 31.3**	**+2.7**
TORD	**Torodi Ar. Bea**	**76.96**	**70**	P	**P**	**08 56 48.4**	**-0.1**
	comp=E,1.1nm,0.5s,baz=256,slow=5.5,SNR=4.4						
	comp=E,1.1nm,0.5s						
WRA	**Warramunga Arr**	**133.31**	**210**	PKP	**PKiKP**		**09 04 12.9**	**+0.4**
	comp=E,0.3nm,0.7s,baz=164,slow=1.7,SNR=1.5							
MKAR	**Makanchi Array**	**145.26**	**36**	PKP	**PKPdf**		**09 04 33.2**	**+1.1**
	comp=E,0.5nm,0.7s,baz=357,slow=3.2,SNR=4.9							

*MOS **22** 08:46:15.7±0.0, 42°.39N × 46°.04E, h27km, MPVA3.9*
*NORS **22** 08:46:16.1±0.0, 42°.28N × 45°.97E, h14km, MPVA3.8*
*DRS **22** 08:46:17.1±0.0, 42°.35N × 45°.97E, h14km*

ISC 22 08:46:15.6±1.2, 42°.33N±0°.03 × 45°.93E±0°.02, h1km±12km, n25, σ1§07/43, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.55**	**155**	P	**Pb**	**08 46 27.5**	**-0.5**
XNZR	**Khunzakh**	**0.61**	**69**	*e*Pg	**Pg**	**08 46 27.7**	**+0.4**
XNZR				*e*Sg	**Sg**	**08 46 35.7**	**+0.5**
SHTL	**Shatili**	**0.66**	**300**	P	**Pg**	**08 46 26.5**	**-1.8**
SHTL				S	**Sg**	**08 46 35.9**	**-1.0**
GNBR	**Gunib**	**0.77**	**85**	*e*Pg	**Pg**	**08 46 30.6**	**+0.3**
GNBR				*e*Sg	**Sg**	**08 46 40.7**	**+0.5**
ARKR	**Arakani**	**0.83**	**71**	*i* Pg	**Pg**	**08 46 31.8**	**+0.3**
ARKR				*e*Sg	**Sg**	**08 46 42.7**	**+0.4**
KRNR	**Karanay**	**0.88**	**55**	*e*Pg	**Pg**	**08 46 32.1**	**-0.2**
KRNR				*e*Sg	**Sg**	**08 46 43.5**	**-0.2**
GROC	**Groznyy**	**0.88**	**354**	*e*Pg	**Pb**	**08 46 33.6**	**-0.1**
GROC				*e*Sg	**Sb**	**08 46 45.7**	**-0.2**
KMKR	**Kumukh**	**0.89**	**103**	*e*Pg	**Pb**	**08 46 33.0**	**-0.9**
KMKR				*e*Sg	**Sb**	**08 46 44.9**	**-1.5**
DDFL	**Dedoflistskaro**	**0.89**	**171**	P	**Pn**	**08 46 37.4**	**+2.0**
DBC	**Dubki**	**0.96**	**44**	*e*Pg	**Pb**	**08 46 34.1**	**-0.9**
DBC				*e*Sg	**Sb**	**08 46 47.0**	**-1.2**
DGRG	**David-gareji**	**0.97**	**206**	P	**Pn**	**08 46 36.0**	**-0.5**
PNSH	**Pansheti**	**1.02**	**288**	P	**Pb**	**08 46 34.0**	**-2.2**
PNSH				S	**Sb**	**08 46 47.4**	**-2.8**
BTNK	**Botanikuri**	**1.06**	**233**	P	Pb	08 46 28.3	-8.5
KMGR	**Komgaron**	**1.07**	**313**	*e*Pg	**Pb**	**08 46 37.4**	**+0.4**
KMGR				*e*Sg	**Sn**	**08 46 53.7**	**+0.3**
LACR	**Lac**	**1.31**	**293**	*e*Pg	**Pb**	**08 46 41.2**	**+0.2**
LACR				*e*Sg	**Sg**	**08 46 59.5**	**+2.0**
KZRT	**Kazreti**	**1.48**	**231**	P	**Pb**	**08 46 43.8**	**-0.2**
KZRT				S	**Sg**	**08 47 04.7**	**+1.5**
KORR	**Kora**	**1.57**	**299**	*e*Pg	**Pb**	**08 46 45.7**	**+0.3**
KORR				*e*Sg	**Sg**	**08 47 07.8**	**+1.8**
ZEI	**Tsey**	**1.57**	**288**	*e*Pg	**Pn**	**08 46 44.6**	**-0.2**
ZEI				*e*Sg	**Sb**	**08 47 06.8**	**+0.9**
AKT	**Akhty**	**1.59**	**122**	*e*Pg	**Pb**	**08 46 45.7**	**-0.4**
AKT				*e*Sg	**Sg**	**08 47 07.1**	**+0.5**
DMNI	**Dmanisi**	**1.64**	**233**	P	**Pb**	**08 46 46.2**	**-0.5**
DMNI				S	**Sg**	**08 47 08.8**	**+0.5**
ALIG	**Mtskhetisjvari**	**1.71**	**263**	P	**Pb**	**08 46 46.9**	**-0.9**
ALIG				S	**Sb**	**08 47 10.3**	**+0.4**
STDR	**Stavd-Durt**	**1.72**	**308**	*e*Pg	**Pb**	**08 46 48.5**	**+0.4**
STDR				*e*Sg	**Sb**	**08 47 11.1**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.83**	**289**	*e*Pg	**Pn**	**08 46 48.9**	**+0.6**
DIGR				*e*Sg	**Sb**	**08 47 14.4**	**+1.0**
BKRG	**Bakuriani**	**1.88**	**253**	P	**Pb**	**08 46 50.2**	**-0.7**
ABS	**Abastumani**	**2.39**	**257**	P	**Pb**	**08 46 58.4**	**-1.2**

*MOS **22** 08:48:03.1±2.0, 28°.49S × 112°.23W, h10km, mb5.0/18, Error ellipse: s-maj=14.6km s-min=13.0km az=80.8*
*IDC **22** 08:48:07.2±0.8, 28°.11S × 111°.92W, h0km, mb4.1/9, mbtmp4.1/10, ML4.0/1, MS4.3/40, Error ellipse: s-maj=23.9km s-min=21.9km az=113.0*
*GCMT **22** 08:48:08.9±0.2, 28°.65S±0°.01 × 112°.34W±0°.01, h12km, MW5.0/136, Moment Tensor Solution. s55,c74; s136,c207; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.56±.09; Mθθ-1.75±.09; Mϕϕ2.31±.09; Mrθ-0.54±.25; Mθϕ-3.65±.07; Mϕr0.30±.24; Best double couple: Ms4.22000×10^16 NP1:ϕs285.00000°, δ90.00000°, λ172.00000°. NP2:ϕs15.00000°, δ82.00000°, λ0.00000°. Principal axes: T 4.5130, Plg6.0000°, Azm239.0000°; N -0.5840, Plg82.0000°, Azm101.0000°; P -3.9260, Plg5.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 08:48:09.8±2.0, 28°.15S±0°.1 × 111°.7W±0°.1, h10km±2km, mb5.0/73 Error ellipse: s-maj=23.3km s-min=18.0km az=155.0*

ISC 22 08:48:07.2±0.5, 28°.21S±0°.09 × 111°.91W±0°.08, h10km, n186, σ1§86/129, mb4.9/52, MS4.4/47, 7C-2D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**2.43**	**65**		**Pn**	**08 48 45.8**	**-1.2**
RPN	**Rapa Nui**	**2.53**	**65**	Pn	**Pn**	**08 48 48.1**	**-0.1**
	31nm,0.3s,baz=254,slow=9.5,SNR=25						
RPN				Sn	**Sb**	**08 49 22.6**	**-1.2**
	8.4nm,0.3s,baz=240,slow=20,SNR=1.5						
	272nm,0.6s						
RPN	**Rapa Nui**	**2.53**	**65**	Pn	**Pn**	**08 48 47.2**	**-1.1**
RPN	**Rapa Nui**	**2.53**	**65**	P	**Pn**	**08 48 47.2**	**-1.1**
H03N2	**Juan Fernandez**	**28.72**	**109**	T	T	09 24 24.7	
	baz=275,slow=74,SNR=191						
H03N3	**Juan Fernandez**	**28.73**	**109**	T	T	09 24 24.0	
	baz=275,slow=74,SNR=227						
H03N1	**Juan Fernandez**	**28.74**	**109**	T	T	09 24 17.5	
	baz=275,slow=74,SNR=337						
TAOE	**Nuku Hiva Isla**	**32.83**	**300**	eLR	LR	09 03 28.0	
	comp=Z,913nm,24.8s						
LL04	**Puerto Octay**	**34.62**	**122**	P	**P**	**08 54 57.5**	**+1.0**
LL04				IAmb	IAmb	08 56 00.5	
	comp=Z,42nm,1.9s						
GO06	**Curarrehue**	**35.16**	**119**	P	**P**	**08 55 02.4**	**+1.1**
COYC	**Coyhaique**	**35.83**	**130**	P	**P**	**08 55 08.4**	**+1.6**
PLCA	**Paso Flores**	**35.99**	**121**	P	**P**	**08 55 10.3**	**+1.9**
	comp=Z,6.0nm,1.2s,baz=278,slow=8.2,SNR=4.1						
PLCA				LR	LR	09 06 27.0	
	comp=Z,177nm,19.2s,baz=276,slow=30						
	comp=Z,6.0nm,1.2s						
PLCA	**Paso Flores**	**35.99**	**121**	P	**P**	**08 55 10.1**	**+1.7**
PLCA	**Paso Flores**	**35.99**	**121**	P	**P**	**08 55 10.1**	**+1.7**
PLCA				pmax	pmax		
	comp=Z,15nm,1.3s						
PPT2	**Papeete2**	**36.14**	**279**	*e*LR	LR	09 05 01.3	
	comp=Z,145nm,21.0s						
PPT	**Papeete**	**36.15**	**279**	LR	LR	09 05 08.9	
	comp=Z,598nm,19.1s,baz=114,slow=28						
NNA	**Nana**	**36.50**	**71**	LR	LR	09 06 17.6	
	comp=Z,776nm,21.1s,baz=243,slow=30						
NNA	**Nana**	**36.50**	**71**	P	**P**	**08 55 12.4**	**-0.6**
NNA	**Nana**	**36.50**	**71**	P	**P**	**08 55 12.4**	**-0.6**
NNA				pmax	pmax		
	comp=Z,107nm,1.8s						
ZON	**Zonda**	**37.45**	**106**	P	**P**	**08 55 22.1**	**+1.1**
ZON	**Zonda**	**37.45**	**106**	P	**P**	**08 55 22.1**	**+1.1**
ZON				pmax	pmax		
	comp=Z,21nm,1.4s						
MG05	**Puerto Natales**	**37.57**	**140**	P	**P**	**08 55 24.1**	**+2.5**
MG05				IAmb	IAmb	08 56 35.6	
	comp=Z,48nm,1.2s						
GO02	**Mina Guanaco**	**37.80**	**95**	P	**P**	**08 55 24.1**	**-0.1**
GO02				IAmb	IAmb	08 55 59.3	
	comp=Z,34nm,1.8s						
ATAH	**Atahualpa**	**37.98**	**63**	LR	LR	09 07 17.0	
	comp=Z,962nm,18.5s,baz=236,slow=30						
PB01	**IPOC Station P**	**39.06**	**89**	P	**P**	**08 55 33.8**	**-0.8**
LVC	**Limon Verde**	**39.09**	**92**	LR	LR	09 07 31.6	
	comp=Z,483nm,21.3s,baz=255,slow=30						
PB16	**IPOC Station P**	**40.00**	**85**	P	**P**	**08 55 41.6**	**-1.4**
LPAZ	**La Paz**	**42.01**	**83**	P	**P**	**08 56 01.5**	**+1.8**
	comp=Z,9.4nm,1.2s,baz=257,slow=6.6,SNR=18						
LPAZ				LR	LR	09 09 39.5	
	comp=Z,451nm,20.4s,baz=246,slow=31						
	comp=Z,9.4nm,1.2s						
LPAZ	**La Paz**	**42.01**	**83**	P	**P**	**08 56 00.2**	**+0.5**
LPAZ	**La Paz**	**42.01**	**83**	P	**P**	**08 56 00.2**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,19nm,1.3s						
CZSB	**Cruzeiro do Su**	**42.22**	**69**	P	**P**	**08 56 01.5**	**+0.8**
CZSB				IAmb	IAmb	08 56 03.9	
	comp=Z,44nm,1.1s						
TRQA	**Tornquist**	**42.51**	**117**	P	**P**	**08 56 03.6**	**+0.8**
TRQA	**Tornquist**	**42.51**	**117**	P	**P**	**08 56 03.6**	**+0.8**
TRQA				pmax	pmax		
	comp=Z,17nm,1.3s						
RAR	**Rarotonga**	**43.81**	**268**	LR	LR	09 08 47.0	
	comp=Z,271nm,21.7s,baz=98,slow=28						
EFI	**East Falkland**	**46.20**	**136**	*i* P	P	08 56 26.1	-6.0
EFI				pmax	pmax		
	comp=Z,41nm,1.2s						
HUEH	**Huehuetenango**	**47.57**	**27**	P	**P**	**08 56 44.7**	**+1.3**
MTO3	**Montecristo**	**47.66**	**30**	P	**P**	**08 56 45.6**	**+1.4**
MTO3				IAmb	IAmb	08 56 52.3	
	comp=Z,11nm,1.1s						
CPUP	**Villa Florida**	**48.20**	**101**	LR	LR	09 13 10.1	
	comp=Z,108nm,18.4s,baz=257,slow=31						
SIV	**San Ignacio**	**48.33**	**87**	LR	LR	09 13 27.8	
	comp=Z,285nm,21.6s,baz=273,slow=32						
ROSC	**El Rosal**	**48.90**	**54**	P	**P**	**08 56 56.0**	**+2.0**
	comp=Z,4.6nm,0.5s,baz=102,slow=13,SNR=5.6						
ROSC					LR	09 13 38.5	
	comp=Z,576nm,21.5s,baz=230,slow=31						
	comp=Z,4.6nm,0.5s						
ROSC	**El Rosal**	**48.90**	**54**	P	**P**	**08 56 55.4**	**+1.4**
ROSC				IAmb	IAmb	08 56 57.9	
	comp=Z,19nm,1.1s						
ROSC	**El Rosal**	**48.90**	**54**	P	**P**	**08 56 55.4**	**+1.4**
ROSC				pmax	pmax		
	comp=Z,19nm,1.2s						
PETF	**Flores**	**49.68**	**28**	P	**P**	**08 57 00.7**	**+1.3**
VILB	**Vilhena**	**50.37**	**83**	P	**P**	**08 57 05.0**	**+0.1**
VILB				IAmb	IAmb	08 57 09.0	
	comp=Z,62nm,1.8s						
LPIG	**La Paz**	**52.03**	**2**	LR	LR	09 14 28.4	
	comp=Z,111nm,21.1s,baz=204,slow=30						
SDV	**Santo Domingo**

R11A **Troy Canyon, C** 66.30 357 P **P** 08 58 57.9 +2.0
FCAR **Ozark Folk Cen** 66.43 17 P **P** 08 58 58.1 +1.6
FCAR IAmb IAmb 08 59 25.9
comp=Z,12nm,1.4s
KIP **Kipapa** 66.46 313 *i* P P 08 58 53.6 -3.4
KIP pmax pmax
comp=Z,25nm,1.0s
NV11 **Mina Array Sit** 66.56 355 P **P** 08 58 59.0 +1.6
NV11 IAmb IAmb 08 59 08.6
comp=Z,11nm,1.2s
NVAR **Mina Array Bea** 66.56 355 P **P** 08 58 59.2 +1.6
comp=Z,1.2nm,0.7s,baz=179,slow=10,SNR=5.7
NVAR LR LR 09 22 01.5
comp=Z,322nm,19.3s,baz=162,slow=31
comp=Z,1.2nm,0.7s
NVAR **Mina Array Bea** 66.56 355 P **P** 08 58 59.5 +1.9
W45A **Hickory Valley** 66.58 20 P **P** 08 58 56.9 -0.6
SPR3 **Spring Creek 3** 66.90 358 P **P** 08 59 01.4 +1.6
SPR3 IAmb IAmb 08 59 17.5
comp=Z,7.9nm,1.2s
SRU **San Rafael Swe** 66.99 1 P **P** 08 59 01.5 +1.2
SRU IAmb IAmb 08 59 17.7
comp=Z,12nm,1.2s
SRU **San Rafael Swe** 66.99 1 P **P** 08 59 01.5 +1.2
SRU pmax pmax
comp=Z,12nm,1.2s
KVN **Kaiserville** 67.17 355 P **P** 08 59 02.6 +1.2
KVN IAmb IAmb 08 59 20.4
comp=Z,12nm,1.2s
KVN **Kaiserville** 67.17 355 P **P** 08 59 02.6 +1.2
KVN pmax pmax
comp=Z,12nm,1.2s
VNA3 **Neumayer Olymp** 67.39 160 P **P** 08 58 58.7 -3.6
KSCO **Kaye Shedlock'** 67.44 8 P **P** 08 59 04.3 +1.2
MGMO **Mountain Grove** 67.59 17 P **P** 08 59 04.1 +0.2
MGMO IAmb IAmb 08 59 22.5
comp=Z,9.5nm,1.1s
V48A **Smith Brothers** 67.87 22 P **P** 08 59 04.9 -0.7
V48A IAmb IAmb 08 59 23.7
comp=Z,9.0nm,1.1s
MPU **Maple Canyon** 67.88 0 P **P** 08 59 08.1 +2.2
VNA1 **Neumayer--Stat** 68.04 160 P P 08 59 01.9 -4.5
VNA2 **Neumayer--Watz** 68.20 160 P **P** 08 59 03.9 -3.5
baz=262,slow=6.0
RDMU **Red Mountain** 68.47 2 P **P** 08 59 10.4 +0.8
RDMU IAmb IAmb 08 59 31.7
comp=Z,14nm,1.1s
BMN **Battle Mountai** 68.47 356 P **P** 08 59 10.9 +1.3
BMN IAmb IAmb 08 59 28.4
comp=Z,13nm,1.2s
BMN **Battle Mountai** 68.47 356 P **P** 08 59 10.9 +1.3
BMN pmax pmax
comp=Z,13nm,1.2s
R40A **Maddies Statio** 68.66 16 P **P** 08 59 09.7 -0.9
R40A IAmb IAmb 08 59 28.8
comp=Z,10nm,1.2s
ELK **Elko** 68.68 357 P **P** 08 59 12.9 +2.0
comp=Z,0.2nm,0.3s,baz=38,slow=5.0,SNR=2.0
ELK LR LR 09 24 31.2
comp=Z,185nm,18.0s,baz=184,slow=32
comp=Z,0.2nm,0.3s
CCM **Cathedral Cave** 68.70 17 P **P** 08 59 11.0 +0.2
CCM IAmb IAmb 08 59 29.1
comp=Z,16nm,1.4s
CCM **Cathedral Cave** 68.70 17 P **P** 08 59 11.0 +0.2
CCM pmax pmax
comp=Z,17nm,1.4s
TKL **Tuckaleechee C** 68.85 24 LR LR 09 25 46.3
comp=Z,183nm,19.5s,baz=202,slow=33
T47A **Sharon Grove** 68.92 21 P **P** 08 59 11.4 -0.8
U49A **Red Boiling Sp** 68.92 22 P **P** 08 59 11.6 -0.6
U49A IAmb IAmb 08 59 25.9
comp=Z,8.4nm,1.1s
SIUC **Southern Illin** 68.95 19 P **P** 08 59 12.7 +0.3
SNAA **Sanae** 69.21 161 P P 08 59 09.7 -4.1
SNAA **Sanae** 69.21 161 LR LR 09 24 35.7
comp=Z,111nm,20.2s,baz=193,slow=32
SNAA **Sanae** 69.21 161 *ce*P **P** 08 59 10.7 -3.1
SNAA pmax pmax
comp=Z,7.0nm,1.3s
V53A **Saluda** 69.21 25 P **P** 08 59 14.3 +0.1
V53A IAmb IAmb 08 59 29.0
comp=Z,13nm,1.1s
PHWY **Pilot Hill** 69.42 5 P **P** 08 59 17.4 +1.7
PHWY IAmb IAmb 08 59 33.2
comp=Z,12nm,1.8s
TZTN **Tazewell** 69.72 24 P **P** 08 59 17.2 0.0
TZTN IAmb IAmb 08 59 31.5
comp=Z,14nm,1.1s
Q44A **Meyer Farm, Va** 70.11 19 P **P** 08 59 19.8 +0.3
YBH **Yreka Blue Hor** 70.31 351 LR LR 09 23 07.9
comp=Z,383nm,21.8s,baz=168,slow=30
TROLL **Troll, Antarti** 70.52 163 P **P** 08 59 19.5 -2.4
PD31 **Pinedale Array** 70.66 2 P **P** 08 59 23.6 +0.5
PDAR **Pinedale Array** 70.66 2 P **P** 08 59 22.9 -0.3
comp=Z,0.3nm,0.5s,baz=147,slow=8.8,SNR=4.6
PDAR LR LR 09 26 45.7
comp=Z,50nm,19.0s,baz=198,slow=33
comp=Z,0.3nm,0.5s
K22A **Casper** 70.69 4 P **P** 08 59 25.1 +1.9
TPAW **Teton Pass** 71.36 1 P **P** 08 59 30.4 +3.0
HLID **Hailey** 71.46 358 P **P** 08 59 30.8 +2.9
Q51A **Peebles** 72.01 23 P **P** 08 59 31.2 +0.1
Q51A IAmb IAmb 08 59 45.4
comp=Z,23nm,1.4s
I07A **Izee** 72.28 354 P **P** 08 59 33.5 +0.8
L40A **Anamosa** 72.49 16 P **P** 08 59 34.7 +0.9
YHH **Holmes Hill** 72.66 1 P **P** 08 59 36.6 +1.4
DZM **Mont Dzumac** 72.87 254 *e*S **SKiKP** 09 09 09.5 -1.1
comp=Z,95nm,25.2s
DZM **Mont Dzumac** 72.87 254 *e*LR LR 09 22 04.4
comp=Z,554nm,24.1s
DZM **Mont Dzumac** 72.87 254 LR LR 09 24 01.4
comp=Z,244nm,19.2s,baz=104,slow=30
P52A **Corning** 72.98 24 P **P** 08 59 36.8 0.0
P52A IAmb IAmb 08 59 51.5
comp=Z,14nm,1.0s
RCBR **Riachuelo** 74.94 89 LR LR 09 29 55.4
comp=Z,161nm,20.6s,baz=14,slow=34
NEW **Newport** 76.27 356 LR LR 09 28 25.3
comp=Z,284nm,18.2s,baz=182,slow=32
SADO **Sadowa** 78.55 23 LR LR 09 30 59.1
comp=Z,150nm,21.2s,baz=201,slow=33
BBB **Bella Bella** 81.30 350 LR LR 09 28 45.8
comp=Z,105nm,20.0s,baz=184,slow=30
HNR **Honiara** 83.99 263 LR LR 09 29 40.2
comp=Z,2μm,21.0s,baz=108,slow=30
MAW **Mawson** 84.40 178 P **P** 09 00 41.7 +2.3
comp=Z,3.1nm,0.9s,baz=175,slow=6.4,SNR=3.8
comp=Z,3.1nm,0.9s
DLBC **Dease Lake** 87.64 351 LR LR 09 32 50.7
comp=Z,153nm,19.5s,baz=138,slow=31
STKA **Stephens Creek** 88.05 235 LR LR 09 32 04.8
comp=Z,207nm,21.0s,baz=181,slow=30
CTA **Charters Tower** 90.55 247 LR LR 09 39 25.4
comp=Z,155nm,18.0s,baz=114,slow=34
H11S2 **WAKE ISLAND Hy** 91.31 290 T T 10 42 05.9
baz=120,slow=76,SNR=3.7
SCHQ **Schefferville** 91.32 24 LR LR 09 41 55.7
comp=Z,65nm,18.3s,baz=205,slow=35
H11S1 **WAKE ISLAND Hy** 91.32 290 T T 10 42 06.1
baz=120,slow=76,SNR=5.6
H11S3 **WAKE ISLAND Hy** 91.32 290 T T 10 42 09.6
baz=120,slow=76,SNR=3.8
H11N3 **WAKE ISLAND Hy** 91.73 291 T T 10 42 35.3
baz=121
H11N1 **WAKE ISLAND Hy** 91.75 291 T T 10 42 36.7
baz=121
H11N2 **WAKE ISLAND Hy** 91.75 291 T T 10 42 34.7
baz=121
KDAK **Kodiak Island** 92.21 340 *i* P P 09 01 11.7 -4.9
KDAK pmax pmax
comp=Z,23nm,1.5s
ILAR **Eielson Array** 96.60 346 LR LR 09 37 01.5
comp=Z,75nm,18.6s,baz=146,slow=30
INK **Inuvik** 97.56 352 LR LR 09 38 31.5
comp=Z,150nm,19.4s,baz=166,slow=31
ASAR **Alice Springs** 98.27 238 LR LR 09 45 18.4
comp=Z,134nm,18.3s,baz=102,slow=35
WRAB **Tennant Creek** 100.07 241 *i* P **Pdif** **PKiKP** 09 01 48.7 -4.8
WRAB pmax pmax
comp=Z,2.0nm,1.0s
PET **Petropavlovsk** 111.69 319 *c i* PKIKP **PKiKP** 09 06 36.5 -5.1
PET pmax pmax
comp=Z,55nm,1.3s
TIXI **Tiksi** 125.63 340 *i* PKIKP **PKPdf** 09 07 03.2 -4.7
TIXI pmax pmax
comp=Z,9.0nm,1.0s
KONO **Kongsberg** 129.74 34 *c i* PKIKP **PKPdf** 09 07 12.5 -3.6
KONO pmax pmax
comp=Z,12nm,1.7s
BNX **BinXian** 130.63 307 ⇓PKP **PKiKP** 09 07 20.4 +1.3
NJ2 **Nanjing** 136.25 288 *e*P PKPpre 09 07 22.6
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NRIK **Noril'sk** 137.31 350 *i* PKIKP PKPpre 09 07 23.8
NRIK pmax pmax
comp=Z,2.0nm,0.9s
NACGM **Naroch** 140.07 36 ⇓*e*PKP **PKPdf** 09 07 35.5 0.0
baz=295
MNK **Minsk** 140.81 37 *i* PKHKP PKPpre 09 07 27.5
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.7s
MNK MLR MLR
comp=Z,83nm,20.0s
MNK **Minsk** 140.81 37 *i* PKP PKPpre 09 07 27.5
comp=E,3.0nm,0.9s
MNK *i* PKP PKPpre 09 07 27.5
MNK *i* PKP PKPpre 09 07 27.5
comp=Z,15nm,0.7s,baz=115
MNK *i* PP PP 09 10 24.8 -12
MNK *i* SKP 09 10 59.7
MNK *i* PKS PKSdf 09 11 04.0 -8.5
MNK *i* SS SS 09 28 53.7 -10
MNK *i* LR LR 10 06 38.4
MNK *i* LRM MLR 10 12 12.5
comp=Z,83nm,19.8s
MNK *i* LRM MLR 10 13 11.8
comp=E,22nm,22.3s
MNK *i* LRM MLR 10 13 35.9
HHC **Hu-ho-hao-te** 142.40 301 *e*PKP **PKPdf** 09 07 38.6 -1.7
HHC LR LR
comp=E,170nm,14.0s
HHC LR LR
comp=E,200nm,14.6s
HHC LR LR
comp=E,290nm,15.2s
MLR **Muntele Rosu** 142.61 51 PKP **PKPdf** 09 07 41.9 +1.3
comp=E,1.7nm,0.5s,baz=315,slow=1.4,SNR=3.2
AKASG **Malin Array Be** 143.12 42 PKhKP PKPpre 09 07 37.3
comp=E,0.2nm,0.3s,baz=290,slow=3.7,SNR=5.0
AKASG **Malin Array Be** 143.12 42 *c i* PKIKP **PKPdf** 09 07 41.0 -0.1
ULN **Ulaanbaatar** 144.07 314 *c i* PKIKP **PKPab** 09 07 40.0 -0.6
ULN pmax pmax
comp=Z,4.0nm,1.0s
SONM **Songino Array** 144.50 314 PKhKP PKPpre 09 07 40.8
comp=Z,2.6nm,0.9s,baz=103,slow=2.0,SNR=7.2
OBN **Obninsk** 144.80 31 PKP **PKPdf** 09 07 45.5 +1.7
comp=Z,4.9nm,0.4s,baz=281,slow=5.2,SNR=4.4
OBN **Obninsk** 144.80 31 *c i* PKIKP **PKPab** 09 07 41.3 -1.5
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,52nm,16.0s
VORR **Voronezh** 148.12 35 *e*PKP2 **PKiKP** 09 07 54.9 +0.3
VORR pmax pmax
comp=Z,100nm,0.5s
LZH **Lanzhou** 148.86 294 *e*PKPbc **PKPdf** 09 07 52.1 +0.5
LZH pPKP pPKPbc 09 07 58.9 +1.0
BRTR **Keskin Array B** 149.38 59 PKPbc **PKPbc** 09 07 56.6 -0.1
comp=Z,2.0nm,0.9s,baz=222,slow=1.7,SNR=7.4
PZH **PanZhiHua** 150.12 275 PKPbc **PKPdf** 09 07 55.8 +2.0
CMAR **Chiang Mai Arr** 150.13 258 PKP **PKPdf** 09 07 55.9 +2.0
comp=Z,1.0nm,0.3s,baz=224,slow=0.8,SNR=5.2
ANN **Anapa** 150.54 48 *i* PKIKP **PKPdf** 09 07 56.9 +3.2
ANN pmax pmax
comp=Z,37nm,1.1s
ARU **Arti** 150.99 11 *i* PKIKP **PKPbc** 09 07 58.2 -1.6
ARU 09 11 34.8
GTA **Gaotai** 151.51 301 ⇑PKPbc **PKPbc** 09 08 00.3 -1.4
GTA pPKP pPKPbc 09 08 05.3 +1.1
GTA PKPab **sPKPab** 09 08 17.6 +4.2
GTA LR LR
comp=Z,56nm,19.6s
GTA LR LR
comp=Z,110nm,22.2s
GTA LR LR
comp=Z,130nm,21.4s
KIV **Kislovodsk** 154.29 46 *e*PKIKP **PKPdf** 09 07 52.9 -6.5
KIV pmax pmax
comp=Z,5.0nm,1.0s
KURBB **Kurchatov Arra** 156.26 343 PKPbc PKPdf 09 08 09.9 +8.1
comp=Z,1.0nm,1.0s,baz=33,slow=1.6,SNR=4.6
WMQ **Urumqi** 157.86 320 *e*PKP **PKPdf** 09 08 06.8 +2.7
WMQ LR LR
comp=Z,110nm,17.9s
MKAR **Makanchi Array** 158.36 333 PKP **PKPdf** 09 08 03.7 -0.9
comp=Z,0.2nm,0.6s,baz=43,slow=2.8,SNR=2.1

IDC ***22*** *08:48:20.9±0.8, 32°.25S×178°.12W, h0km, mb4.3/8, mbtmp4.3/10, ML4.1/2, MS3.8/7, Error ellipse: s-maj=24.3km s-min=21.8km az=80.0*
NEIC ***22*** *08:48:22.9±1.3, 32°.63S±0°.08×178°.2W±0°.2, h10km±1km, mb4.4/7, Error ellipse: s-maj=24.4km s-min=12.1km az=106.0*
WEL ***22*** *08:48:22.4±0.8, 32°S±9°×17°8W±2°.3, h33km, M4.5/11, mB4.9/7, ML5.0/12, MLv4.8/11, Mw(mB)4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=109.5*

ISC 22 08:48:23.2±0.7, 32°.35S±0°.05×178°.1W±0°.1, h20km, n74, σ1§89/84, mb4.5/14, MS3.6/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.08**	**2**	P		**Pn**		**08 49 07.6**	**-3.2**
GLKZ				S		**Sn**		**08 49 43.0**	**-4.1**
RAO	**Raoul Island**	**3.10**	**2**	Pn		**Pb**		**08 49 15.0**	**-2.6**
	59nm,0.3s,baz=270,slow=20,SNR=2.7								
RAO				Sn		**Sn**		**08 49 47.2**	**-0.2**
	138nm,0.3s,baz=252,slow=22,SNR=4								
RAO	**Raoul Island**	**3.10**	**2**	Pn		**Pb**		**08 49 15.6**	**-2.0**
MXZ	**Matakaoa Point**	**5.99**	**209**	Pn		Pn		08 49 46.0	-4.7
MXZ	**Matakaoa Point**	**5.99**	**209**	P		**Pn**		**08 49 49.1**	**-1.6**
MXZ				S		**Sn**		**08 50 55.9**	**-2.8**
WMGZ	**Waiomatatini S**	**6.17**	**207**	P		**Pn**		**08 49 50.0**	**-3.2**
WMGZ				S		**Sn**		**08 51 02.8**	**-0.3**
PKGZ	**Pakihiroa**	**6.36**	**209**	P		**Pn**		**08 49 54.7**	**-1.2**
PKGZ				S		**Sn**		**08 51 05.8**	**-2.1**
HAZ	**Te Kaha**	**6.37**	**211**	P		**Pn**		**08 49 54.2**	**-1.7**
HAZ				S		**Sn**		**08 51 09.1**	**+0.9**
PUZ	**Puketiti**	**6.45**	**207**	P		**Pn**		**08 49 54.8**	**-2.2**
PUZ				S		**Sn**		**08 51 08.0**	**-2.1**
RUGZ	**Raukumara Rang**	**6.59**	**211**	P		**Pn**		**08 49 57.1**	**-2.0**
RUGZ				S		**Sn**		**08 51 11.8**	**-2.0**
TWGZ	**Tauwhareparae**	**6.65**	**208**	P		**Pn**		**08 49 57.9**	**-1.9**
TWGZ				S		**Sn**		**08 51 12.9**	**-2.1**
TKGZ	**Te Karaka**	**6.93**	**208**	P		**Pn**		**08 50 00.8**	**-2.8**
TKGZ				S		**Sn**		**08 51 19.0**	**-2.7**
MWZ	**Matawai**	**6.97**	**210**	P		**Pn**		**08 50 01.3**	**-2.9**
MWZ				S		**Sn**		**08 51 19.5**	**-3.4**
MARZ	**Manawahe**	**7.08**	**216**	P		**Pn**		**08 50 05.6**	**-0.1**
MARZ				S		**Sn**		**08 51 23.7**	**-1.9**
URZ	**Urewera**	**7.09**	**212**	Pn		**Pn**		**08 50 05.1**	**-0.7**
	3.8nm,0.3s,baz=143,slow=5.3,SNR=18								
URZ				Sn		**Sn**		**08 51 22.8**	**-3.0**
	4.3nm,0.3s,baz=183,slow=17,SNR=9.7								
	11nm,0.4s								
URZ	**Urewera**	**7.09**	**212**			**Pn**		**08 50 03.1**	**-2.7**
URZ	**Urewera**	**7.09**	**212**	P		**Pn**		**08 50 03.7**	**-2.1**
URZ				S		**Pn**		**08 51 22.6**	**-3.1**
RIGZ	**Rimuhau**	**7.19**	**207**	P		**Pn**		**08 50 05.2**	**-2.0**
RIGZ				S		**Sn**		**08 51 26.7**	**-1.7**
MUGZ	**Murupara**	**7.42**	**213**	P		**Pn**		**08 50 08.2**	**-2.2**
MUGZ				S		**Sn**		**08 51 29.0**	**-5.0**
SNGZ	**Shannon Statio**	**7.42**	**209**	P		**Pn**		**08 50 09.2**	**-1.3**
SNGZ				S		**Sn**		**08 51 32.0**	**-2.1**
MHGZ	**Mahia Peninsul**	**7.53**	**205**	P		**Pn**		**08 50 08.8**	**-3.1**
MTHZ	**Maungataniwha**	**7.70**	**211**	P		**Pn**		**08 50 13.6**	**-0.6**
BKZ	**Black Stump Fm**	**8.11**	**212**	Pn		**Pn**		**08 50 15.9**	**-4.0**
SNZO	**South Karori**	**10.65**	**211**	Pn		**Pn**		**08 50 51.2**	**-3.4**
RPZ	**Rata Peaks**	**14.20**	**214**	Pn		**Pn**		**08 51 43.3**	**+0.1**
	0.8nm,0.3s,baz=63,slow=6.5,SNR=5.6								
RPZ				Sn		Sn		08 54 05.2	-15
	0.7nm,0.3s,baz=212,slow=18,SNR=6.3								
	2.2nm,0.5s								
MSVF	**Nonsavu**	**14.97**	**346**	LR		LR		08 56 42.0	
	comp=Z,344nm,18.1s,baz=166,slow=34								
PINNC	**Pines Island,**	**16.09**	**303**	P		**P**		**08 52 12.2**	**+0.7**
PINNC				lAmb		lAmb		08 52 16.1	
	comp=Z,18nm,0.8s								
DZM	**Mont Dzumac**	**17.15**	**303**	*e*Pn		**P**		**08 52 25.0**	**+1.6**
	comp=Z,18nm,1.2s								
DZM				*e*LR		LR		08 56 18.0	
	comp=Z,514nm,22.9s								
DZM	**Mont Dzumac**	**17.15**	**303**	P		**Pn**		**08 52 21.3**	**-0.5**
	comp=Z,5.4nm,1.0s,baz=135,slow=20,SNR=3.7								
DZM				LR		LR		08 57 54.2	
	comp=Z,730nm,18.4s,baz=191,slow=34								
DZM	**Mont Dzumac**	**17.15**	**303**			**P**		**08 52 25.3**	**+1.9**
LIFNC	**LIFOU**	**17.46**	**308**	P		**P**		**08 52 28.9**	**+2.2**
LIFNC				lAmb		lAmb		08 52 31.8	
	comp=Z,41nm,1.2s								
KOUNC	**Koumac, New Ca**	**19.66**	**302**	P		**Pn**		**08 52 53.6**	**+1.2**
KOUNC				lAmb		lAmb		08 52 55.0	
	comp=Z,18nm,0.9s								
EIDS	**Eidsvold**	**27.84**	**277**	P		**P**		**08 54 12.8**	**+1.4**
EIDS				lAmb		lAmb		08 54 35.5	
	comp=Z,19nm,1.4s								
PPT2	**Papeete2**	**29.60**	**67**	*e*LR		LR		09 01 57.5	
	comp=Z,136nm,21.0s								
STKA	**Stephens Creek**	**34.03**	**260**	P		**P**		**08 55 06.8**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=90,slow=10,SNR=2.6								
STKA				LR		LR		09 08 12.2	
	comp=Z,170nm,18.2s,baz=30,slow=35								
	comp=Z,1.3nm,0.8s								
STKA	**Stephens Creek**	**34.03**	**260**	P		**P**		**08 55 06.8**	**+0.8**
CTA	**Charters Tower**	**34.10**	**282**	P		**P**		**08 55 07.8**	**+1.1**
	comp=Z,5.3nm,0.7s,baz=105,slow=9.7,SNR=11								
CTA				LR		LR		09 07 01.9	
	comp=Z,102nm,19.1s,baz=88,slow=33								
	comp=Z,5.3nm,0.7s								
CTAO	**Charters Tower**	**34.10**	**282**	P		**P**		**08 55 07.9**	**+1.2**
BBOO	**Buckleboo**	**38.42**	**257**	P		**P**		**08 55 42.7**	**-0.8**
BBOO				lAmb		lAmb		08 55 49.8	
	comp=Z,7.2nm,1.1s								
PMG	**Port Moresby**	**39.42**	**298**	LR		LR		09 09 32.5	
	comp=Z,98nm,19.0s,baz=142,slow=32								
KRVT	**Keravat (AS076**	**39.52**	**309**	P		**P**		**08 55 53.8**	**+0.9**
	comp=Z,50nm,0.8s,baz=180,slow=6.1,SNR=4.6								
COEN	**Coen**	**39.79**	**288**	P		**P**		**08 55 56.5**	**+1.4**
COEN				lAmb		lAmb		08 55 57.4	
	comp=Z,9.5nm,1.1s								
AS31	**Alice Springs**	**42.98**	**269**			**P**		**08 56 20.8**	**-0.5**
ASAR	**Alice Springs**	**42.98**	**269**	P		**P**		**08 56 21.6**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=107,slow=7.5,SNR=32								
	comp=Z,3.7nm,0.8s								
ASAR	**Alice Springs**	**42.98**	**269**	P		**P**		**08 56 20.7**	**-0.6**
WR0	**Warramunga Arr**	**43.97**	**274**	P		**P**		**08 56 28.8**	**-0.5**
WR0				lAmb		lAmb		08 56 30.4	
	comp=Z,7.8nm,1.0s								
WRA	**Warramunga Arr**	**44.15**	**274**	P		**P**		**08 56 30.3**	**-0.4**
	comp=Z,5.7nm,0.6s,baz=112,slow=8.0,SNR=50								
	comp=Z,5.7nm,0.6s								
WRA	**Warramunga Arr**	**44.15**	**274**	P		**P**		**08 56 30.5**	**-0.2**
FORT	**Forrest**	**45.52**	**257**	P		**P**		**08 56 40.7**	**-0.9**
MTN	**Manton Dam**	**50.26**	**281**	P		**P**		**08 57 18.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.33**	**271**	P		**P**		**08 57 33.5**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=180,slow=8.3,SNR=9.4								
	comp=Z,1.7nm,0.6s								
FITZ	**Fitzroy Crossi**	**52.33**	**271**	P		**P**		**08 57 33.8**	**-0.1**
FITZ				lAmb		lAmb		08 57 34.1	
	comp=Z,2.5nm,0.8s								
CASY	**Casey**	**53.40**	**209**	P		**P**		**08 57 41.4**	**+0.3**
CASY				lAmb		lAmb		08 57 55.5	
	comp=Z,3.9nm,0.8s								
QSPA	**South Pole Qui**	**57.76**	**180**	P		**P**		**08 58 14.0**	**+1.4**
	comp=Z,1.9nm,1.1s,baz=24,slow=2.4,SNR=2.2								
	comp=Z,1.9nm,1.1s								
QSPA	**South Pole Qui**	**57.76**	**180**	P		**P**		**08 58 12.5**	**-0.2**
RPN	**Rapa Nui**	**58.99**	**104**	LR		LR		09 20 43.6	
	comp=Z,39nm,18.2s,baz=246,slow=33								
MAW	**Mawson**	**70.47**	**201**	P		**P**		**08 59 38.5**	**+2.7**
	comp=Z,1.2nm,0.3s,baz=247,slow=15,SNR=8.7								
	comp=Z,1.2nm,0.3s								
MAW	**Mawson**	**70.47**	**201**	P		**P**		**08 59 35.9**	**+0.1**
SNAA	**Sanae**	**76.21**	**178**	P		**P**		09 00 15.8	+6.1
VNA3	**Neumayer Olymp**	**76.36**	**176**	P		**P**		**09 00 12.0**	**+1.4**
VNA2	**Neumayer--Watz**	**76.80**	**177**	P		**P**		**09 00 14.8**	**+1.8**
	baz=182,slow=6.0								
VNA1	**Neumayer--Stat**	**77.03**	**177**	P		**P**		**09 00 15.5**	**+1.2**
PETK	**Petropavlovsk-**	**87.69**	**346**	P		**P**		**09 01 10.6**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=161,slow=10,SNR=3.6								
	comp=Z,2.6nm,0.8s								
NNA	**Nana**	**92.94**	**106**	LR		LR		09 39 37.9	
	comp=Z,44nm,18.5s,baz=304,slow=33								
MKAR	**Makanchi Array**	**118.97**	**309**	PKP		**PKiKP**		**09 07 11.1**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=52,slow=2.2,SNR=4.2								
KURBB	**Kurchatov Arra**	**122.38**	**313**	PKP		**PKPdf**		**09 07 16.4**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=109,slow=1.6,SNR=9.1								
KBZ	**Khabaz**	**146.12**	**302**	PKPbc		**PKPdf**		**09 08 00.8**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=198,slow=3.7,SNR=2.6								
FINES	**FINESS Array B**	**146.95**	**339**	PKPbc		**PKPbc**		**09 08 03.7**	**+0.2**
	comp=Z,10.0nm,0.8s,baz=45,slow=4.0,SNR=48								
NB2	**NORSAR Subarra**	**150.67**	**351**	PKP		**PKiKP**		**09 08 13.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**150.67**	**351**	PKPbc		**PKiKP**		**09 08 13.7**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=14,slow=4.1,SNR=7.8								
HFS	**Hagfors**	**151.14**	**348**	PKPbc		**PKiKP**		**09 08 14.5**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=90,slow=4.4,SNR=7.9								
MMAI	**Mount Meron Ar**	**151.89**	**280**	PKPbc		**PKiKP**		**09 08 17.8**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=94,slow=4.3,SNR=2.8								
AKASG	**Malin Array Be**	**152.79**	**320**	PKPbc		**PKiKP**		**09 08 18.5**	**0.0**
	comp=Z,0.8nm,0.5s,baz=59,slow=2.5,SNR=5.4								
TORD	**Torodi Ar, Bea**	**160.88**	**179**	PKPab		**PKPab**		**09 09 06.5**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=161,slow=3.4,SNR=1.9								

IDC ***22*** *08:53:41.4±1.8, 43°.75N×86°.92E, h0km, mb3.9/7, mbtmp3.8/10, ML2.9/3, MS3.9/4, Error ellipse: s-maj=43.3km s-min=21.6km az=53.0*
NNC ***22*** *08:53:48.6±3.5, 44°.13N×86°.82E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=25.7km s-min=14.8km az=120.0*
SOME ***22*** *08:53:53.2, 44°.23N×86°.32E, h10km*

ISC 22 08:53:45.8±1.3, 44°.00N±0°.06×86°.71E±0°.07, h10km, n37, σ2§37/40, mb3.9/7, MS4.0/4, 7C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.68**	**340**	*e*P		**Pg**		**08 54 56.6**	**+0.4**
	21nm,0.6s								
ZSN				*e*S		**Sg**		**08 55 41.7**	**-2.2**
	108nm,0.9s								
ZSN	**Zaisan**	**3.68**	**340**	Pg		**Pg**		**08 54 60.0**	**+3.7**
	21nm,0.6s								
ZSN				Lg		Lg		08 55 47.4	
	108nm,0.9s								
MK31	**Makanchi Array**	**4.18**	**313**	⇑Pn		**Pn**		**08 54 51.7**	**+2.1**
	1.1nm,0.3s,baz=125,slow=15,SNR=34								
MK31				⇓Lg		Lg		08 56 02.7	
	6.7nm,0.3s,baz=126,slow=27,SNR=3.9								
MKAR	**Makanchi Array**	**4.18**	**313**	Pn		**Pn**		**08 54 52.2**	**+2.6**
	1.5nm,0.3s,baz=129,slow=14,SNR=35								
MKAR				Sn		**Sn**		**08 55 43.5**	**-6.4**
	3.3nm,0.3s,baz=131,slow=28,SNR=6.1								
MKAR				Lg		Lg		08 56 01.5	
	5.9nm,0.3s,baz=121,slow=28,SNR=6.5								
	2.2nm,0.3s								
MAKZ	**Makanchi**	**4.36**	**312**	⇓Pn		**Pn**		**08 54 53.6**	**+1.6**
	3.2nm,0.5s								
MAKZ				⇑Sn		**Sn**		**08 55 47.9**	**+5.0**
	8.5nm,0.6s								
MAKZ				⇑Lg		Lg		08 56 06.3	
	27nm,0.6s								
DJR	**Jarkent**	**4.99**	**276**	*e*P		**Pg**		**08 55 21.0**	**-0.3**
	12nm,0.6s								
DJR				*e*S		**Sg**		**08 56 23.6**	**-2.3**
	27nm,0.4s								
DJR	**Jarkent**	**4.99**	**276**	Pg		**Pg**		**08 55 22.4**	**+1.1**
	12nm,0.6s								
DJR				Lg		Lg		08 56 25.8	
	27nm,0.4s								
PDGK	**Podgornoye**	**5.28**	**265**	⇓

	5.4nm,0.8s							
UZB				*e*S	**Sg**	**08 56 46.5**	**-0.7**	
	14nm,0.7s							
KPKS	**Kokpek**	**5.84**	**268**	*e*P	**Pg**	**08 55 36.5**	**-1.1**	
	6.8nm,0.3s							
KPKS				*e*S	**Sg**	**08 56 50.7**	**-2.5**	
	26nm,0.4s							
KPKS	**Kokpek**	**5.84**	**268**	Pg	**Pg**	**08 55 40.4**	**+2.8**	
	6.8nm,0.3s							
KPKS				Lg	Lg	08 56 56.9		
	26nm,0.4s							
BLB	**Baldybastay**	**5.94**	**274**	*e*P	**Pg**	**08 55 38.8**	**-0.6**	
	18nm,0.5s							
BLB				*e*S	**Sg**	**08 56 54.7**	**-1.5**	
	30nm,0.5s							
BLB	**Baldybastay**	**5.94**	**274**	Pg	**Pg**	**08 55 42.1**	**+2.7**	
	18nm,0.5s							
BLB				Lg	Lg	08 57 00.1		
	30nm,0.5s							
SATY	**Saty**	**6.11**	**264**	*e*P	**Pg**	**08 55 42.9**	**+0.1**	
	6.3nm,0.6s							
SATY				*e*S	**Sg**	**08 57 01.1**	**-0.8**	
	12nm,0.8s							
KURS	**Kuram**	**6.21**	**268**	*e*P	**Pg**	**08 55 43.8**	**-0.8**	
	5.4nm,0.6s							
KURS				*e*S	**Sg**	**08 57 03.3**	**-1.7**	
	17nm,0.9s							
MDOK	**Medeo**	**7.07**	**267**	Lg	Lg	08 57 35.7		
	12nm,0.6s							
TKM2	**Tokmak 2**	**8.16**	**266**	⇑Pg	Pg	08 56 17.1	-4.9	
	3.5nm,0.7s							
TKM2				⇑Lg	Lg	08 58 07.5		
	6.8nm,0.7s							
KURBB	**Kurchatov Arra**	**8.64**	**323**	Pn	**Pn**	**08 55 51.5**	**+0.7**	
	0.1nm,0.3s,baz=133,slow=12,SNR=11							
KURBB				Sn	**Sn**	**08 57 31.7**	**+3.5**	
	0.3nm,0.3s,baz=112,slow=20,SNR=5.3							
KURBB				Lg	Lg	08 58 25.7		
	0.3nm,0.3s,baz=120,slow=28,SNR=7.6							
	0.9nm,0.4s							
KURBB	**Kurchatov Arra**	**8.64**	**323**	⇓Lg	Lg	08 58 26.7		
	41nm,0.7s							
KURK	**Kurchatov**	**8.67**	**324**	⇑Lg	Lg	08 58 23.8		
	14nm,0.7s							
ZALV	**Zalesovo Beam**	**10.03**	**354**	Pn	**Pn**	**08 56 10.9**	**+1.1**	
	0.1nm,0.3s,baz=165,slow=12,SNR=1.9							
ZALV				Sn	**Sn**	**08 57 58.8**	**-3.4**	
	0.5nm,0.3s,baz=169,slow=25,SNR=6.3							
	1.0nm,0.3s							
BVAR	**Borovoye Array**	**14.06**	**316**	Pn	**Pn**	**08 57 08.8**	**+4.0**	
	0.2nm,0.3s,baz=119,slow=12,SNR=1.9							
SONM	**Songino Array**	**14.22**	**67**	Lg	Lg	09 01 09.8		
	baz=278,slow=33							
ARU	**Arti**	**21.70**	**315**	P	**P**	**08 58 37.0**	**+0.4**	
	8.7nm,0.2s,baz=157,slow=6.9,SNR=4.3							
	8.7nm,0.2s							
NRIK	**Noril'sk**	**25.41**	**1**	P	**P**	**08 59 12.1**	**-0.9**	
	2.5nm,0.7s,baz=180,slow=7.6,SNR=2.4							
	2.5nm,0.7s							
JOW	**Kunigami**	**37.51**	**103**	LR	LR	09 16 21.9		
	comp=Z,32nm,21.2s,baz=358,slow=36							
AKASG	**Malin Array Be**	**38.66**	**301**	P	**P**	**09 01 08.2**	**-0.9**	
	0.1nm,0.2s,baz=66,slow=9.3,SNR=2.4							
	0.1nm,0.2s							
ARCES	**ARCESS Array B**	**39.62**	**331**	P	**P**	**09 01 16.3**	**-0.7**	
	1.4nm,0.8s,baz=94,slow=10.0,SNR=2.3							
	1.4nm,0.8s							
HFS	**Hagfors**	**45.18**	**318**	P	**P**	**09 02 01.8**	**-0.6**	
	0.8nm,0.5s,baz=83,slow=12,SNR=1.7							
	0.8nm,0.5s							
NB2	**NORSAR Subarra**	**46.16**	**319**	P	**P**	**09 02 08.0**	**-2.1**	
	comp=Z,1.2nm,0.7s,baz=76,slow=7.9							
NOA	**NORSAR Array B**	**46.16**	**319**	P	**P**	**09 02 09.3**	**-0.8**	
	comp=Z,0.5nm,0.5s,baz=74,slow=7.7,SNR=2.0							
	comp=Z,0.5nm,0.5s							
WRA	**Warramunga Arr**	**77.13**	**135**	LR	LR	09 43 07.6		
	comp=Z,445nm,18.7s,baz=168,slow=39							
TORD	**Torodi Ar. Bea**	**77.44**	**276**	P	**P**	**09 05 39.8**	**-1.6**	
	comp=Z,0.5nm,0.7s,baz=38,slow=5.2,SNR=4.1							
	comp=Z,0.5nm,0.7s							
DBIC	**Dimbokro**	**86.55**	**276**	LR	LR	09 48 35.7		
	comp=Z,62nm,21.5s,baz=258,slow=38							
BOSA	**Boshof**	**91.53**	**231**	LR	LR	09 49 07.1		
	comp=Z,54nm,18.7s,baz=196,slow=36							

DJA 22 08:55:29.7±0.4, 8°S±5°×11°6E±°, h11km±4km, M3.8/10, mb4.0/3, MLv3.7/10, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.47**	**285**	P	Pb	08 55 39.9	-0.1
DNP	**Denpasar**	**0.65**	**224**	P	Pb	08 55 43.0	-0.1
IGBI	**Denpasar**	**0.80**	**221**	P	Pg	08 55 45.0	-0.1
TWSI	**Taliwang, Sumb**	**1.31**	**114**	P	Pn	08 55 53.7	-0.2
ABJI	**Asem Bagus**	**1.48**	**286**	P	Pn	08 55 56.1	-0.2
JAGI	**Jajag, Banyuwa**	**1.52**	**260**	P	Pn	08 55 56.3	-0.6
KMMI	**Kalianget**	**2.04**	**304**	P	Pn	08 56 02.4	-1.7
PLAI	**Plampang**	**2.17**	**107**	P	Pn	08 56 06.2	+0.4
PWJI	**Pagerwojo**	**3.83**	**273**	P	Pn	08 56 28.5	-0.2
PCJI	**Pacitan**	**4.45**	**270**	P	Pn	08 56 37.3	+0.2
BSSI	**Bau Bau, Buton**	**5.21**	**67**	P	Pn	08 56 47.3	-0.3
	0.1nm14nm,1.6s						
BKSI	**Bulukumba**	**5.27**	**57**	P	Pn	08 56 48.6	+0.1

*DJA **22** 09:00:28.3±0.3, 8°S±4°×11°9E±°, h10km, M4.3/13, mb4.6/1, mB4.9/1, MLv4.1/13, Mw(mB)4.2/1*
*IDC **22** 09:00:33.1±1.8, 7.96S×120.01E, h0km, mb3.8/3, mbtmp3.9/6, ML3.8/3, MS3.4/6, Error ellipse: s-maj=85.1km s-min=17.5km az=66.0*
ISC 22 09:00:30.7±0.8, 8.19S±0.05×118.71E±0.05, h35km, n32, σ1s69/28, mb3.9/3, MS4.1/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.12**	**235**	P	**Pn**	**09 00 49.0**	**-0.9**
PLAI	**Plampang**	**1.12**	**235**	P	**Pn**	**09 00 49.5**	**-0.4**
TWSI	**Taliwang, Sumb**	**1.89**	**253**	P	**Pn**	**09 01 00.6**	**+0.1**
BSSI	**Bau Bau, Buton**	**2.69**	**41**	P	**Pn**	**09 01 11.5**	**0.0**
EDFI	**Ende, Flores**	**3.00**	**101**	P	**Pn**	**09 01 16.7**	**+0.8**
BKSI	**Bulukumba**	**3.17**	**26**	P	**Pn**	**09 01 18.3**	**+0.2**
KAPI	**Kappang**	**3.32**	**18**	Pn	**Pn**	**09 01 20.5**	**+0.4**
	7.9nm,0.3s,baz=180,slow=11,SNR=27						
KAPI				Sn	**Sn**	**09 01 58.2**	**-0.1**
	20nm,0.3s,baz=1.6,slow=23,SNR=17						
KAPI				LR	LR	09 02 55.4	
	comp=Z,150nm,20.2s,baz=188,slow=48						
	25nm,0.3s						
DNP	**Denpasar**	**3.50**	**262**	P	**Pn**	**09 01 22.4**	**-0.2**
MMRI	**Maumere**	**3.52**	**98**	P	**Pn**	**09 01 23.2**	**+0.3**
IGBI	**Denpasar**	**3.58**	**260**	P	**Pn**	**09 01 23.9**	**+0.1**
SPSI	**Sidrap Palu**	**4.32**	**14**	P	**Pn**	**09 01 34.4**	**+0.4**
ABJI	**Asem Bagus**	**4.45**	**275**	P	**Pn**	**09 01 35.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**4.52**	**266**	P	**Pn**	**09 01 36.4**	**-0.3**
KMMI	**Kalianget**	**4.83**	**283**	P	**Pn**	**09 01 42.2**	**+1.2**
TTSI	**Tana Toraja**	**5.22**	**12**	P	**Pn**	**09 01 46.6**	**+0.2**
BATI	**Baumata**	**5.29**	**113**	LR	LR	09 03 27.0	
	comp=Z,69nm,19.5s,baz=111,slow=41						
FITZ	**Fitzroy Crossi**	**11.94**	**146**	Pn	**Pn**	**09 03 19.8**	**+1.3**
	0.6nm,0.3s,baz=357,slow=7.0,SNR=16						
FITZ				Sn	**Sn**	**09 05 28.4**	**-2.2**
	0.3nm,0.3s,baz=179,slow=16,SNR=8.5						
	3.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.94**	**146**	P	**Pn**	**09 03 20.3**	**+1.8**
KNRA	**Kununurra**	**12.33**	**128**	P	**Pn**	**09 03 25.4**	**+1.5**
GIRL	**Giralia**	**15.01**	**196**	P	**Pn**	**09 04 02.2**	**+1.9**
MEEK	**Meekatharra**	**18.35**	**180**	P	**Pn**	**09 04 46.1**	**+3.5**
WRKA	**Warakurna**	**19.09**	**152**	P	**P**	**09 04 51.4**	**+0.8**
WRA	**Warramunga Arr**	**19.12**	**129**	P	**P**	**09 04 49.4**	**-1.5**
	0.3nm,0.3s,baz=306,slow=13,SNR=12						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**21.19**	**138**	P	**P**	**09 05 14.1**	**+0.7**
	1.2nm,0.3s,baz=315,slow=9.5,SNR=27						
	1.2nm,0.3s						
COEN	**Coen**	**24.67**	**106**	P	**P**	**09 05 42.8**	**-5.8**
OOD	**Oodnadatta**	**25.26**	**143**	P	**P**	**09 05 52.3**	**-1.4**
STKA	**Stephens Creek**	**31.76**	**141**	P	**P**	**09 06 52.1**	**+0.4**
	2.4nm,0.9s,baz=320,slow=10,SNR=5.1						
	2.4nm,0.9s						
JHJ	**Hachijo jima 2**	**45.71**	**25**	LR	LR	09 27 58.5	
	comp=Z,28nm,21.8s,baz=84,slow=37						
MKAR	**Makanchi Array**	**63.60**	**333**	P	P	09 11 08.8	+11
	0.6nm,0.5s,baz=126,slow=7.4,SNR=4.1						
	0.6nm,0.5s						
AKASG	**Malin Array Be**	**95.94**	**320**	LR	LR	10 03 09.2	
	comp=Z,67nm,20.0s,baz=251,slow=39						
FINES	**FINESS Array B**	**98.39**	**331**	LR	LR	10 03 59.6	
	comp=Z,56nm,18.2s,baz=266,slow=38						
ARCES	**ARCESS Array B**	**98.73**	**339**	LR	LR	10 02 56.4	
	comp=Z,70nm,20.0s,baz=302,slow=38						

IDC 22 09:14:59.6±5.7, 2.20S×141.05E, h0km, mb3.4/2, mbtmp3.4/3, ML3.4/1, MS3.4/3, Error ellipse: s-maj=134.3km s-min=71.7km az=135.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.81**	**200**	P	P	09 19 20.4	-0.5
	0.1nm,0.3s,baz=23,slow=12,SNR=12						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**22.43**	**197**	P	P	09 19 59.6	-0.6
	0.7nm,0.7s,baz=28,slow=11,SNR=12						
	0.7nm,0.7s						
JOW	**Kunigami**	**31.39**	**338**	LR	LR	09 34 40.4	
	comp=Z,18nm,18.7s,baz=54,slow=38						
URZ	**Urewera**	**48.74**	**142**	LR	LR	09 43 24.5	
	comp=Z,63nm,18.1s,baz=272,slow=35						
MA2	**Magadan**	**62.07**	**6**	LR	LR	09 50 30.3	
	comp=Z,57nm,19.9s,baz=126,slow=34						
VNDA	**Vanda**	**76.08**	**175**	P	P	09 26 49.3	+0.7
	0.4nm,0.6s,baz=333,slow=4.5,SNR=3.6						
	0.4nm,0.6s						

DJA 22 09:20:17.7±0.4, 0°S±3°×10°1E±°, h160km±4km, M3.8/13, mb4.0/2, MLv3.6/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.57**	**53**	P	Pn	09 20 41.4	+0.8
BKNI				S	Sn	09 20 59.0	+1.0
PDSI	**Padang**	**0.89**	**188**	P	Pn	09 20 42.6	-0.1
SDSI	**Sungai Dareh**	**1.24**	**137**	P	Pn	09 20 46.9	+1.4
SDSI				S	Sn	09 21 08.6	+1.7
SISI	**Saibi**	**1.98**	**229**	P	Pn	09 20 53.1	-0.1
KRJI	**Kerinci**	**2.24**	**157**	P	Pn	09 20 55.9	-0.4
PBSI	**Pulau Batu**	**2.30**	**269**	P	Pn	09 20 57.0	+0.1
PPSI	**Pulau Pagai**	**2.78**	**192**	P	Pn	09 21 02.6	-0.2
GSI	**Gunungsitoli**	**3.28**	**294**	P	Pn	09 21 09.2	+0.2
KCSI	**Kotacane, Aceh**	**4.50**	**321**	P	Pn	09 21 24.8	0.0
MNAI	**Manna**	**4.92**	**151**	P	Pn	09 21 29.7	-0.6
PCJI	**Pacitan**	**13.32**	**128**	P	Pn	09 23 19.8	-0.9

KRSC 22 09:22:36.4±1.7, 50.39N×157.13E, h59km±21km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.71**	**295**	*e*P	Pn	09 22 51.4	+0.7
SKR				*e*S	Sn	09 23 01.2	+0.1
PAU	**Pauzhetka**	**1.10**	**349**	*e*P	Pn	09 22 57.6	+2.0
PAU				*e*S	Sn	09 23 11.9	+2.0
KDTR	**Khodutka, Kamc**	**1.54**	**22**	*e*P	Pn	09 23 04.0	+2.5
KDTR				*e*S	Sn	09 23 23.0	+2.5
RUS	**Russkaya**	**2.22**	**22**	*e*P	Pn	09 23 13.1	+2.3
RUS				*e*S	Sn	09 23 38.6	+1.5
GRL	**Gorelyy**	**2.24**	**15**	*e*P	Pn	09 23 14.3	+3.1
GRL				*e*S	Sn	09 23 40.9	+3.1
DALK	**Dalny**	**2.83**	**20**	*e*P	Pn	09 23 22.4	+3.3
DALK				*e*S	Sn	09 23 55.0	+3.0
AVH	**Avacha**	**3.05**	**18**	*e*P	Pn	09 23 26.5	+4.4
KOK	**Koryaka**	**3.05**	**17**	*e*P	Pn	09 23 24.0	+1.8
SMAR	**Somma**	**3.06**	**19**	*e*P	Pn	09 23 24.5	+2.1
SDLR	**Sedlovina**	**3.09**	**20**	*e*P	Pn	09 23 25.6	+2.8
KRX	**Arik**	**3.12**	**17**	*e*P	Pn	09 23 27.8	+4.6
GNL	**Ganaly**	**3.35**	**8**	*e*P	Pn	09 23 29.8	+3.5
MKZ	**Mys Kozlova**	**5.03**	**32**	*e*P	Pn	09 23 51.1	+1.9

*AUST **22** 09:26:14.5±0.9, 26.86S×147.24E, h10km, Error ellipse: s-maj=15.3km s-min=9.1km az=159.0*
*IDC **22** 09:26:20.3±8.2, 26.67S×146.35E, h0km, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=87.9km s-min=36.4km az=77.0*
ISC 22 09:26:12.3±0.8, 26.73S±0.07×147.13E±0.04, h10km, n12, σ2s78/20, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMQ	**Roma**	**1.48**	**81**	P	**Pg**	**09 26 40.4**	**-0.2**
	baz=1.4,SNR=75						
RMQ				S	**Sg**	**09 26 59.0**	**-0.8**
	baz=1.4,SNR=14						
QLP	**Quilpie**	**2.60**	**273**	P	**Pb**	**09 26 58.4**	**-0.6**
	baz=2.7,SNR=6.3						
QLP				S	**Sb**	**09 27 30.8**	**-0.2**
	baz=2.7						
EIDS	**Eidsvold**	**3.80**	**70**	P	**Pn**	**09 27 12.8**	**+1.9**
	baz=3.8,SNR=12						
AUNRC	**North Rockhamp**	**4.56**	**43**	P	**Pn**	**09 27 24.6**	**+3.1**
	baz=4.6						
CMSA	**Cobar Meteorol**	**4.95**	**194**	P	**Pn**	**09 27 28.3**	**+1.6**
	baz=4.9						
CMSA				S	**Sn**	**09 28 25.0**	**+0.9**
	baz=4.9						
ARMA	**Armidale**	**5.39**	**134**	P	**Pn**	**09 27 33.0**	**0.0**
	baz=5.2						
ARMA				S	**Sn**	**09 28 31.1**	**-4.1**
	baz=5.2						
INKA	**Innaminka**	**5.77**	**259**	P	**Pn**	**09 27 40.9**	**+2.9**
	baz=5.8						
INKA				S	**Sn**	**09 28 45.2**	**+0.9**
	baz=5.8						
CTA	**Charters Tower**	**6.66**	**353**	Lg	Lg	09 29 44.5	
	0.3nm,0.3s,baz=90,slow=16,SNR=3.3						
STKA	**Stephens Creek**	**7.04**	**222**	Pn	**Pn**	**09 27 58.8**	**+3.3**
	0.7nm,0.3s,baz=39,slow=10,SNR=21						
STKA				Sn	**Sn**	**09 29 16.8**	**+1.1**
	1.3nm,0.3s,baz=90,slow=20,SNR=11						
	1.4nm,0.3s						
STKA	**Stephens Creek**	**7.04**	**222**	P	**Pn**	**09 27 57.9**	**+2.4**
	baz=7.0,SNR=19						
STKA				S	**Sn**	**09 29 15.3**	**-0.4**
	baz=7.0						
ASAR	**Alice Springs**	**12.36**	**281**	Pn	**Pn**	**09 29 08.9**	**+0.5**
	0.2nm,0.3s,baz=102,slow=13,SNR=8.6						
ASAR				Sn	**Sn**	**09 31 21.2**	**-5.2**
	0.1nm,0.3s,baz=104,slow=24,SNR=4.6						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**13.55**	**297**	Pn	**Pn**	**09 29 24.8**	**+0.1**
	0.1nm,0.3s,baz=124,slow=13,SNR=2.0						
WRA				Sn	**Sn**	**09 31 48.9**	**-6.6**
	0.1nm,0.3s,baz=126,slow=24,SNR=2.6						
	0.1nm,0.3s						

*HEL **22** 09:26:47.7±0.1, 58.99N×18.19E, h0km, ML2.8(UPP), Explosion*
*DNK **22** 09:26:47.5±0.4, 59.00N×18.18E, h0km, ML2.8(UPP), Explosion*
*UPP **22** 09:26:47.0±0.2, 59.00N×18.19E, h0km, ML2.8, Explosion*
*IDC **22** 09:26:48.4±2.0, 59.03N×18.13E, h0km, mbtmp2.7/2, ML2.1/3, Error ellipse: s-maj=23.1km s-min=8.5km az=175.0*
*BER **22** 09:26:48.4±1.7, 59.00N×18.17E, h0km, ML1.7, ML2.8(UPP), Suspected explosion*
ISC 22 09:26:46.6±0.8, 59.02N±0.03×18.18E±0.03, h0km, n61, σ1s17/91, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.09**	**260**	P	**Pg**	**09 26 49.1**	**+0.8**
NYNU				S	**Sg**	**09 26 50.5**	**+1.0**
NYNU	**Nynaeshamn**	**0.09**	**260**	P	**Pg**	**09 26 49.1**	**+0.8**
NYNU				S	**Sg**	**09 26 50.5**	**+1.0**
NYNU	**Nynaeshamn**	**0.09**	**260**	P	**Pg**	**09 26 49.1**	**+0.8**
NYNU				S	**Sg**	**09 26 50.5**	**+1.0**
NYNU	**Nynaeshamn**	**0.09**	**260**	*i* P	**Pg**	**09 26 49.1**	**+0.8**
NYNU				*i* S	**Sg**	**09 26 50.5**	**+1.0**
NRTU	**Norrtaelje**	**0.70**	**19**	P	**Pg**	**09 27 00.5**	**+0.6**
NRTU				S	**Sg**	**09 27 09.9**	**+0.9**
NRTU	**Norrtaelje**	**0.70**	**19**	P	**Pg**	**09 27 00.5**	**+0.6**
NRTU				S	**Sg**	**09 27 09.9**	**+0.9**
NRTU	**Norrtaelje**	**0.70**	**19**	P	**Pg**	**09 27 00.5**	**+0.6**
NRTU				S	**Sg**	**09 27 09.9**	**+0.9**
NRTU	**Norrtaelje**	**0.70**	**19**	*e*P	**Pg**	**09 27 00.5**	**+0.6**
NRTU				*e*S	**Sg**	**09 27 09.6**	**+0.7**
UPP	**Uppsala**	**0.89**	**342**	P	**Pg**	**09 27 04.1**	**+0.6**
UPP				S	**Sg**	**09 27 16.3**	**+1.3**
UPP	**Uppsala**	**0.89**	**342**	*e*P	**Pg**	**09 27 04.1**	**+0.6**
UPP				*e*S	**Sg**	**09 27 16.3**	**+1.3**
VIKU	**Vikbolandet**	**0.93**	**237**	P	**Pg**	**09 27 04.2**	**-0.1**
VIKU				S	**Sg**	**09 27 16.4**	**0.0**
VIKU	**Vikbolandet**	**0.93**	**237**	P	**Pg**	**09 27 04.2**	**-0.1**
VIKU				S	**Sg**	**09 27 16.4**	**0.0**
VIKU	**Vikbolandet**	**0.93**	**237**	P	**Pg**	**09 27 04.2**	**-0.1**
VIKU				S	**Sg**	**09 27 16.4**	**0.0**
VIKU	**Vikbolandet**	**0.93**	**237**	*e*P	**Pg**	**09 27 04.2**	**-0.1**
VIKU				*e*S	**Sg**	**09 27 16.4**	**0.0**
ESKU	**Eskilstuna**	**0.94**	**284**	P	**Pg**	**09 27 04.7**	**+0.1**
ESKU				S	**Sg**	**09 27 17.5**	**+0.7**
ESKU	**Eskilstuna**	**0.94**	**284**	P	**Pg**	**09 27 04.7**	**+0.1**
ESKU				S	**Sg**	**09 27 17.5**	**+0.7**
ESKU	**Eskilstuna**	**0.94**	**284**	P	**Pg**	**09 27 04.7**	**+0.1**
ESKU				S	**Sg**	**09 27 17.5**	**+0.7**
ESKU	**Eskilstuna**	**0.94**	**284**	*e*P	**Pg**	**09 27 04.7**	**+0.1**
ESKU				*e*S	**Sg**	**09 27 17.5**	**+0.7**
FIBU	**Brunna**	**0.98**	**335**	P	**Pg**	**09 27 05.8**	**+0.5**
FIBU				S	**Sg**	**09 27 18.8**	**+0.8**
FIBU	**Brunna**	**0.98**	**335**	P	**Pg**	**09 27 05.8**	**+0.5**
FIBU				S	**Sg**	**09 27 18.8**	**+0.8**
FIBU	**Brunna**	**0.98**	**335**	*e*P	**Pg**	**09 27 05.8**	**+0.5**
FIBU				*e*S	**Sg**	**09 27 18.8**	**+0.8**
BACU	**Backbrunna**	**1.00**	**327**	P	**Pg**	**09 27 06.1**	**+0.4**
BACU				S	**Sg**	**09 27 19.2**	**+0.6**
BACU	**Backbrunna**	**1.00**	**327**	P	**Pg**	**09 27 06.1**	**+0.4**
BACU				S	**Sg**	**09 27 19.2**	**+0.6**
BACU	**Backbrunna**	**1.00**	**327**	*e*P	**Pg**	**09 27 06.1**	**+0.4**
BACU				*e*S	**Sg**	**09 27 19.2**	**+0.6**
FLYU	**Flymyra**	**1.12**	**352**	P	**Pg**	**09 27 08.4**	**+0.4**
FLYU	**Flymyra**	**1.12**	**352**	P	**Pg**	**09 27 08.4**	**+0.4**
FLYU	**Flymyra**	**1.12**	**352**	*e*P	**Pg**	**09 27 08.4**	**+0.4**
OSTU	**Oestervaala**	**1.32**	**337**	P	**Pg**	**09 27 12.1**	**+0.2**
OSTU	**Oestervaala**	**1.32**	**337**	P	**Pg**	**09 27 12.1**	**+0.2**
OSTU	**Oestervaala**	**1.32**	**337**	*e*P	**Pg**	**09 27 12.1**	**+0.2**
FORU	**Forsmark**	**1.37**	**0**	P	**Pg**	**09 27 12.9**	**+0.1**
FORU	**Forsmark**	**1.37**	**0**	P	**Pg**	**09 27 12.9**	**+0.1**
FORU	**Forsmark**	**1.37**	**0**	*e*P	**Pg**	**09 27 12.9**	**+0.1**
AAL	**Aland**	**1.48**	**38**	P	**Pn**	**09 27 14.5**	**+0.1**
AAL	**Aland**	**1.48**	**38**	*e*P	**Pn**	**09 27 14.5**	**+0.1**
AAL				*e*S	**Sg**	**09 27 34.2**	**0.0**
LNKU	**Linkoeping**	**1.61**	**241**	P	**Pn**	**09 27 16.4**	**+0.2**
LNKU	**Linkoeping**	**1.61**	**241**	P	**Pn**	**09 27 16.4**	**+0.2**
LNKU	**Linkoeping**	**1.61**	**241**	*e*P	**Pn**	**09 27 16.4**	**+0.2**
NRAU	**Nora**	**1.70**	**290**	P	**Pn**	**09 27 18.4**	**+1.0**
NRAU	**Nora**	**1.70**	**290**	P	**Pn**	**09 27 18.4**	**+1.0**
NRAU	**Nora**	**1.70**	**290**	*e*P	**Pn**	**09 27 18.4**	**+1.0**
ASKU	**Askersund**	**1.74**	**267**	P	**Pn**	**09 27 18.7**	**+0.7**
ASKU	**Askersund**	**1.74**	**267**	P	**Pn**	**09 27 18.7**	**+0.7**
ASKU	**Askersund**	**1.74**	**267**	*e*P	**Pn**	**09 27 18.7**	**+0.7**
RAF	**Rauma**	**2.70**	**40**	*e*P	**Pn**	**09 27 32.6**	**+1.4**
RAF				*e*S	**Sn**	**09 28 06.3**	**+1.9**
MTSE	**Matsula**	**2.94**	**94**	*e*P	**Pn**	**09 27 35.5**	**+1.0**
MTSE				*e*S	**Sn**	**09 28 11.6**	**+1.1**
BLEU	**Blekinge**	**3.01**	**206**	*i* P	**Pn**	**09 27 36.0**	**+0.6**
DEL	**Delary**	**3.44**	**224**	*i* P	**Pn**	**09 27 42.5**	**+1.1**
TJOU	**Tjoern**	**3.58**	**257**	*i* P	**Pn**	**09 27 45.0**	**+1.8**
STRU	**Stroemstad**	**3.62**	**273**	*i* P	**Pn**	**09 27 45.8**	**+2.1**
NC602	**NORSAR Array S**	**3.76**	**300**	*e*P	**Pn**	**09 27 46.9**	**+1.1**
NC602				IAML		09 28 49.8	
	comp=Z,3.4nm,0.2s						
NB201	**NORSAR Array S**	**4.01**	**303**	*e*P	**Pn**	**09 27 50.5**	**+1.4**
NB201				IAML		09 28 55.1	
	comp=Z,4.5nm,0.3s						
NOA	**NORSAR Array B**	**4.04**	**303**	Pn	**Pn**	**09 27 49.1**	**-0.5**
	baz=117,slow=15,SNR=14						
NOA				Pg	**Pb**	**09 27 58.0**	**-0.5**
	baz=204,slow=19,SNR=11						
NOA				Lg	Lg	09 28 53.7	
	comp=Z,0.1nm,0.3s,baz=128,slow=24,SNR=4.7						
	comp=Z,0.1nm,0.2s						
NC303	**NORSAR Array S**	**4.06**	**306**	*e*P	**Pn**	**09 27 51.1**	**+1.2**
NC303				IAML		09 28 56.5	
	comp=Z,4.0nm,0.2s						
NAO01	**NORSAR Array S**	**4.10**	**300**	*e*P	**Pn**	**09 27 50.8**	**+0.3**
NAO01				IAML		09 28 57.6	
	comp=Z,4.8nm,0.5s						
NBO00	**NORSAR Array S**	**4.22**	**302**	*e*P	**Pn**	**09 27 52.8**	**+0.7**
NBO00				IAML		09 29 01.1	
	comp=Z,3.4nm,0.3s						
BSD	**Bornholm Skovb**	**4.30**	**206**	*i* P	**Pn**	**09 27 54.1**	**+0.9**
NC204	**NORSAR Array S**	**4.34**	**305**	*e*P	**Pn**	**09 27 54.4**	**+0.6**
NC204				IAML		09 29 06.7	
	comp=Z,3.3nm,0.2s						

ARPS	**Mount Arapiles**	**39.63**	**233**	P		**P**	**09 48 13.6**	**-0.2**
HTT	**Hallett**	**41.09**	**239**	P		**P**	**09 48 25.8**	**+0.2**
LCRK	**Leigh Creek**	**41.18**	**244**	P		**P**	**09 48 26.3**	**+0.1**
OOD	**Oodnadatta**	**43.12**	**248**	P		**P**	**09 48 42.2**	**+0.8**
BBOO	**Buckleboo**	**43.34**	**241**	P		**P**	**09 48 43.3**	**+0.2**
WR0	**Warramunga Arr**	**44.29**	**259**	P		**P**	**09 48 50.2**	**-0.4**
WR0				IAmb	IAmb		09 48 51.8	
	comp=Z,6.4nm,1.2s							
WB0	**Warramunga Arr**	**44.45**	**260**	P		**P**	**09 48 51.4**	**-0.4**
WB0				IAmb	IAmb		09 48 52.1	
	comp=Z,5.6nm,0.6s							
WB2	**Warramunga Arr**	**44.47**	**259**	P		**P**	**09 48 51.5**	**-0.5**
WB2				IAmb	IAmb		09 48 52.4	
	comp=Z,6.4nm,0.7s							
WRAB	**Tennant Creek**	**44.47**	**259**	P		**P**	**09 48 51.4**	**-0.6**
WRAB				IAmb	IAmb		09 48 52.3	
	comp=Z,5.0nm,0.6s							
WRA	**Warramunga Arr**	**44.48**	**259**	P		**P**	**09 48 51.6**	**-0.5**
	comp=Z,3.7nm,0.4s,baz=94,slow=7.8,SNR=174							
WRA				PcP		**PcP**	**09 50 23.2**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=100,slow=3.4,SNR=2.5							
	comp=Z,3.7nm,0.4s							
WRA	**Warramunga Arr**	**44.48**	**259**	P		**P**	**09 48 51.2**	**-0.9**
AS31	**Alice Springs**	**44.66**	**254**	P		**P**	**09 48 53.7**	**+0.2**
AS31				IAmb	IAmb		09 48 54.1	
	comp=Z,11nm,0.8s							
ASAR	**Alice Springs**	**44.67**	**254**	P		**P**	**09 48 53.6**	**+0.1**
	comp=Z,38nm,0.6s,baz=88,slow=8.4,SNR=721							
ASAR				PcP		**PcP**	**09 50 23.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=86,slow=3.9,SNR=4.3							
FORT	**Forrest**	**49.33**	**244**	P		**P**	**09 49 32.2**	**-0.4**
KNRA	**Kununurra**	**50.32**	**264**	P		**P**	**09 49 35.7**	**0.0**
KNRA				IAmb	IAmb		09 49 36.5	
	comp=Z,9.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.88**	**260**	P		**P**	**09 49 54.8**	**+0.8**
PSA00	**Pilbara Seismi**	**57.78**	**255**	P		**P**	**09 50 27.8**	**-0.1**
PSA00				IAmb	IAmb		09 50 28.5	
	comp=Z,7.7nm,0.7s							
SBA	**Scott Base**	**60.62**	**184**	P		**P**	**09 50 47.1**	**+1.3**
NVAR	**Mina Array Bea**	**79.40**	**44**	P		**P**	**09 52 39.7**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=230,slow=9.1,SNR=5.1							
	comp=Z,0.7nm,0.6s							
MAW	**Mawson**	**84.00**	**200**	P		**P**	**09 53 00.7**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=143,slow=5.1,SNR=1.8							
	comp=Z,0.6nm,0.4s							
ILAR	**Eielson Array**	**85.72**	**13**	P		**P**	**09 53 09.2**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=223,slow=5.0,SNR=8.6							
	comp=Z,0.4nm,0.4s							
TXAR	**Lajitas Array**	**86.04**	**58**	P		**P**	**09 53 13.6**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=218,slow=5.9,SNR=13							
	comp=Z,0.9nm,0.7s							
PDAR	**Pinedale Array**	**87.33**	**44**	P		**P**	**09 53 18.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=204,slow=2.9,SNR=8.1							
	comp=Z,0.5nm,0.6s							

*SJA **22** 09:51:26.5±0.6,20°.21S×69°.30W,h104km±2km,ML4.3, MW4.1*
*IDC **22** 09:51:26.4±2.1,20°.19S×69°.09W,h96km±22km,mb3.6/7, mbtmp4.1/10,MS3.0/1,Error ellipse: s-maj=24.4km s-min=17.1km az=120.0*
*NEIC **22** 09:51:27.9±1.7,20°.24S±0°.05×69°.25W±0°.06,h99km±8km, mb4.2/7,ML4.1(GUC),Error ellipse: s-maj=8.4km s-min=6.2km az=128.0*
*GUC **22** 09:51:27.9±0.6,20°.21S×69°.25W,h100km±2km,ML4.1*
*VAO **22** 09:51:28.6±0.3,20°.14S×69°.15W,h110km,mb4.4*

ISC 22 09:51:26.9±0.5,20°.22S±0°.03×69°.26W±0°.04,h103km±4km, n138,σ1§13/163,mb3.6/5,7C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB08	**IPOC Station P**	**0.13**	**50**			**Pn**	**09 51 42.3**	**+0.5**
PB08	**IPOC Station P**	**0.13**	**50**	⇑*iP*		**Pn**	**09 51 42.3**	**+0.5**
PB08				*eS*		**Sn**	**09 51 53.1**	**+0.2**
PB08	**IPOC Station P**	**0.13**	**50**	*eP*		**Pn**	**09 51 42.1**	**+0.3**
PB08				*eS*		**Sn**	**09 51 53.6**	**+0.7**
PB08				IAML			09 51 54.2	
	comp=Z,21μm,0.6s							
GO01	**Chusmiza**	**0.56**	**6**			**Pn**	**09 51 44.6**	**+0.5**
GO01	**Chusmiza**	**0.56**	**6**	*eP*		**Pn**	**09 51 44.2**	**+0.2**
GO01				*eS*		**Sn**	**09 51 57.1**	**+0.3**
GO01	**Chusmiza**	**0.56**	**6**	*eP*		**Pn**	**09 51 44.4**	**+0.2**
GO01				*eS*		**Sn**	**09 51 57.7**	**+0.9**
TA02	**Huaiquique**	**0.82**	**267**			**Pn**	**09 51 46.2**	**+0.5**
TA02	**Huaiquique**	**0.82**	**267**	*eP*		**Pn**	**09 51 46.1**	**+0.3**
TA02				*eS*		**Sn**	**09 52 00.1**	**+0.2**
TA02	**Huaiquique**	**0.82**	**267**	*eP*		**Pn**	**09 51 46.0**	**+0.3**
TA02				*eS*		**Sn**	**09 52 01.4**	**+1.5**
TA02				IAML			09 52 03.4	
	comp=Z,11μm,0.1s							
PB01	**IPOC Station P**	**0.84**	**195**			**Pn**	**09 51 46.7**	**+0.6**
PB01	**IPOC Station P**	**0.84**	**195**	⇑*iP*		**Pn**	**09 51 46.6**	**+0.6**
PB01				*eS*		**Sn**	**09 52 00.8**	**+0.4**
PB01				IAML			09 52 02.7	
	comp=N,18μm,0.2s							
PB01	**IPOC Station P**	**0.84**	**195**	*eP*		**Pn**	**09 51 46.0**	**-0.1**
PB01				*eP*		**Pn**	**09 51 46.7**	**+0.6**
PB01				*eS*		**Sn**	**09 52 01.6**	**+1.1**
PB01				IAML			09 52 02.3	
	comp=Z,8μm,0.2s							
TA01	**Diego Aracena**	**0.93**	**248**			**Pn**	**09 51 47.0**	**+0.1**
TA01	**Diego Aracena**	**0.93**	**248**	⇑*iP*		**Pn**	**09 51 46.9**	**+0.1**
TA01				*eS*		**Sn**	**09 52 01.5**	**-0.3**
TA01	**Diego Aracena**	**0.93**	**248**	*eP*		**Pn**	**09 51 47.0**	**+0.1**
TA01				*eS*		**Sn**	**09 52 02.4**	**+0.6**
PATCX	**Punta Patache**	**1.03**	**235**			**Pn**	**09 51 48.4**	**+0.4**
PATCX	**Punta Patache**	**1.03**	**235**	⇑*iP*		**Pn**	**09 51 48.3**	**+0.4**
PATCX				*eS*		**Sn**	**09 52 03.7**	**-0.1**
PATCX				IAML			09 52 06.0	
	comp=E,4μm,0.2s							
PATCX	**Punta Patache**	**1.03**	**235**	*eP*		**Pn**	**09 51 48.2**	**+0.3**
PATCX				*eP*		**Pn**	**09 51 48.4**	**+0.4**
PATCX				*eP*		**Pn**	**09 51 48.4**	**+0.4**
PATCX				*eP*		**Pn**	**09 51 48.4**	**+0.4**
PATCX				IAML			09 52 05.7	
	comp=Z,2μm,0.7s							
PB02	**IPOC Station P**	**1.24**	**209**			**Pn**	**09 51 51.1**	**+0.6**
PB02	**IPOC Station P**	**1.24**	**209**	⇑*iP*		**Pn**	**09 51 50.9**	**+0.5**
PB02				*eS*		**Sn**	**09 52 08.8**	**+0.6**
PB02				IAML			09 52 11.3	
	comp=E,6μm,0.4s							
PB02	**IPOC Station P**	**1.24**	**209**	*eP*		**Pn**	**09 51 51.0**	**+0.6**
PB02				*eS*		**Sn**	**09 52 09.1**	**+1.0**
PB02				IAML			09 52 19.3	
	comp=Z,3μm,0.5s							
PB09	**IPOC Station P**	**1.56**	**179**			**Pn**	**09 51 55.5**	**+1.1**
PB09	**IPOC Station P**	**1.56**	**179**	*iP*		**Pn**	**09 51 55.4**	**+1.1**
PB09				*eS*		**Sn**	**09 52 16.6**	**+1.5**
PB09	**IPOC Station P**	**1.56**	**179**	*eP*		**Pn**	**09 51 55.4**	**+1.1**
PB09				*eP*		**Pn**	**09 51 55.6**	**+1.3**
PB09				*eS*		**Sn**	**09 52 17.1**	**+2.0**
PB07	**IPOC Station P**	**1.61**	**201**			**Pn**	**09 51 55.6**	**+0.8**
PB07	**IPOC Station P**	**1.61**	**201**	*eP*		**Pn**	**09 51 55.1**	**+0.3**
PB07				*eS*		**Sn**	**09 52 16.7**	**+0.7**
PB07				IAML			09 52 19.8	
	comp=E,2μm,0.2s							
PB07	**IPOC Station P**	**1.61**	**201**	*eP*		**Pn**	**09 51 55.4**	**+0.5**
PB07				*eP*		**Pn**	**09 51 55.6**	**+0.8**
PB07				*eS*		**Sn**	**09 52 17.1**	**+1.1**
PB07				IAML			09 52 19.8	
	comp=Z,2μm,0.4s							
PB12	**IPOC Station P**	**1.89**	**328**	Pn		**Pn**	**09 51 58.5**	**+0.1**
PB12	**IPOC Station P**	**1.89**	**328**	⇑*iP*		**Pn**	**09 51 58.4**	**0.0**
PB12				*eS*		**Sn**	**09 52 21.8**	**-0.5**
PB12				IAML			09 52 29.0	
	comp=E,2μm,0.3s							
PB12	**IPOC Station P**	**1.89**	**328**	*eP*		**Pn**	**09 51 58.5**	**+0.1**
PB12				*eS*		**Sn**	**09 52 22.5**	**+0.2**
PB12				IAML			09 52 23.2	
	comp=Z,968nm,0.4s							
PB16	**IPOC Station P**	**1.89**	**353**	Pn		**Pn**	**09 52 00.0**	**+1.1**
PB16	**IPOC Station P**	**1.89**	**353**	⇑*iP*		**Pn**	**09 52 00.2**	**+1.4**
PB16				*eS*		**Sn**	**09 52 24.6**	**+1.5**
PB16	**IPOC Station P**	**1.89**	**353**	*eP*		**Pn**	**09 52 00.0**	**+1.1**
PB16				*eS*		**Sn**	**09 52 27.6**	**+4.6**
AP01	**Chacalluta**	**2.11**	**331**	*eP*		**Pn**	**09 52 01.6**	**+0.6**
PB04	**IPOC Station P**	**2.26**	**201**	Pn		**Pn**	**09 52 03.8**	**+0.7**
PB04	**IPOC Station P**	**2.26**	**201**	*eP*		**Pn**	**09 52 03.5**	**+0.4**
PB04				IAML			09 53 06.0	
	comp=E,905nm,0.3s							
PB04	**IPOC Station P**	**2.26**	**201**	*eP*		**Pn**	**09 52 04.1**	**+1.0**
PB04				*eS*		**Sn**	**09 52 31.1**	**+0.3**
PB04				IAML			09 52 42.5	
	comp=Z,777nm,0.2s							
LVC	**Limon Verde**	**2.40**	**172**	P		**Pn**	**09 52 06.5**	**+1.4**
	comp=Z,120nm,0.3s,baz=19,slow=6.6,SNR=108							
LVC				S		**Sn**	**09 52 34.1**	**-0.3**
	comp=Z,251nm,0.3s,baz=328,slow=10,SNR=21							
LVC	**Limon Verde**	**2.40**	**172**	Pn		**Pn**	**09 52 06.7**	**+1.6**
LVC	**Limon Verde**	**2.40**	**172**	*eP*		**Pn**	**09 52 06.5**	**+1.4**
LVC	**Limon Verde**	**2.40**	**172**	*eP*		**Pn**	**09 52 06.4**	**+1.3**
LVC				*eS*		**Sn**	**09 52 36.4**	**+2.1**
LVC	**Limon Verde**	**2.40**	**172**	*eP*		**Pn**	**09 52 07.2**	**+2.0**
PB06	**IPOC Station P**	**2.49**	**187**			**Pn**	**09 52 06.6**	**+0.5**
PB06	**IPOC Station P**	**2.49**	**187**	*eP*		**Pn**	**09 52 06.5**	**+0.4**
PB06				IAML			09 52 41.8	
	comp=N,810nm,0.2s							
AF01	**San Pedro de A**	**2.90**	**160**			**Pn**	**09 52 13.6**	**+2.0**
PB15	**IPOC Station P**	**2.98**	**184**			**Pn**	**09 52 13.7**	**+1.0**
PB15	**IPOC Station P**	**2.98**	**184**	*eP*		**Pn**	**09 52 13.5**	**+0.9**
PB15	**IPOC Station P**	**2.98**	**184**	*eP*		**Pn**	**09 52 13.9**	**+1.3**
PB15				*eS*		**Sn**	**09 52 45.1**	**-2.7**
PB15				IAML			09 53 00.3	
	comp=Z,1μm,0.2s							
YJA	**Yavi**	**4.00**	**120**	*eP*		**Pn**	**09 52 29.0**	**+2.5**
LPAZ	**La Paz**	**4.06**	**15**	P		**Pn**	**09 52 30.3**	**+2.7**
	comp=Z,18nm,0.5s,baz=187,slow=7.0,SNR=67							
LPAZ				S		**Sn**	**09 53 11.8**	**-2.7**
	comp=Z,34nm,1.1s,baz=240,slow=20,SNR=5.1							
LPAZ	**La Paz**	**4.06**	**15**	Pn		**Pn**	**09 52 29.6**	**+2.1**
PB14	**IPOC Station P**	**4.51**	**193**	Pn		**Pn**	**09 52 32.1**	**-1.2**
PB14	**IPOC Station P**	**4.51**	**193**	*eP*		**Pn**	**09 52 33.4**	**+0.1**
PB14				*eS*		Sn	09 53 06.4	-18
PB14				*eS*		**Sn**	**09 53 23.8**	**-1.0**
HJA	**Humahuaca**	**4.65**	**130**	*eP*		**Pn**	**09 52 37.6**	**+2.3**
GO02	**Mina Guanaco**	**4.92**	**183**	Pn		**Pn**	**09 52 38.9**	**-0.1**
GO02	**Mina Guanaco**	**4.92**	**183**	*eP*		**Pn**	**09 52 38.5**	**-0.5**
GO02	**Mina Guanaco**	**4.92**	**183**	*eP*		**Pn**	**09 52 39.0**	**+0.1**
GO02				*eS*		**Sn**	**09 53 34.6**	**-0.3**
AC05	**El Transito**	**8.62**	**186**	Pn		**Pn**	**09 53 25.7**	**-3.3**
SIV	**San Ignacio**	**8.85**	**63**	P		**Pn**	**09 53 29.9**	**-2.1**
	comp=Z,6.7nm,0.5s,baz=249,slow=12,SNR=34							
SIV				LR		LR	09 57 31.6	
	comp=Z,83nm,18.7s,baz=292,slow=42							
PTLB	**Pontes e Lacer**	**10.74**	**65**	Pn		**Pn**	**09 53 57.2**	**-0.5**
PTLB	**Pontes e Lacer**	**10.74**	**65**	*eP*		**Pn**	**09 53 57.2**	**-0.5**
ETMB	**Extrema**	**10.76**	**16**	*eP*		**Pn**	**09 53 58.9**	**+1.0**
VILB	**Vilhena**	**11.30**	**52**	Pn		**Pn**	**09 54 07.2**	**+2.0**
VILB	**Vilhena**	**11.30**	**52**	*eP*		**Pn**	**09 54 04.9**	**-0.4**
ANTJ	**Antonio Joao (**	**12.50**	**100**	*eP*		**Pn**	**09 54 20.4**	**-0.8**
CPUP	**Villa Florida**	**12.53**	**121**	P		**Pn**	**09 54 20.1**	**-1.5**
	comp=Z,4.3nm,0.8s,baz=307,slow=12,SNR=12							
CPUP	**Villa Florida**	**12.53**	**121**	Pn		**Pn**	**09 54 19.8**	**-1.7**
CZSB	**Cruzeiro do Su**	**12.86**	**344**	*eP*		**Pn**	**09 54 25.9**	**-0.1**
BO02	**Sierra Bellavi**	**14.57**	**185**	Pn		**Pn**	**09 54 49.2**	**+1.1**
RPRD	**Ribas do Rio P**	**14.60**	**94**	*eP*		**Pn**	**09 54 48.9**	**+0.4**
MCR1	**Marechal Candi**	**14.70**	**109**	*eP*		**P**	**09 54 52.4**	**-0.8**
PDRB	**Porto dos Gac**	**14.77**	**56**	*eP*		**Pn**	**09 54 51.6**	**+0.8**
C2SB	**Chapadao do Su**	**15.55**	**87**	*eP*		**Pn**	**09 54 59.9**	**-0.7**
CRSM	**Crissiumal (Br**	**15.68**	**120**	*eP*		**P**	**09 55 03.4**	**-0.6**
TRCB	**Terra Rica**	**15.68**	**102**	P		**Pn**	**09 55 02.3**	**+0.1**
TRCB	**Terra Rica**	**15.68**	**102**	*eP*		**Pn**	**09 55 01.4**	**-0.8**
H03N1	**Juan Fernandez**	**15.72**	**211**	T		T	10 11 38.2	
	baz=33,slow=72,SNR=16							
H03N2	**Juan Fernandez**	**15.73**	**211**	T		T	10 11 26.5	
	baz=33,slow=72,SNR=12							
H03N3	**Juan Fernandez**	**15.74**	**211**	T		T	10 11 19.6	
	baz=33,slow=72,SNR=7.5							
FRBT	**Francisco Belt**	**15.96**	**114**	*eP*		**P**	**09 55 06.9**	**-0.2**
RODS	**Rosario do Sul**	**16.21**	**131**	*eP*		**P**	**09 55 09.8**	**-0.1**
PTGB	**Pitanga**	**16.51**	**109**	*eP*		**P**	**09 55 14.4**	**+1.1**
ALGR	**Alto Alegre (B**	**17.05**	**123**	*eP*		**P**	**09 55 19.6**	**+0.4**
ITAB	**Concordia**	**17.16**	**117**			**P**	**09 55 20.6**	**+0.3**
ITAB				IAmb	IAmb		09 55 20.9	
	comp=Z,13nm,0.8s							
ITAB	**Concordia**	**17.16**	**117**	*eP*		**P**	**09 55 20.6**	**+0.3**
CPSB	**Cacapava Do Su**	**17.51**	**128**	*eP*		**Pn**	**09 55 24.8**	**+0.3**
PLTB	**Pedras Altas**	**18.14**	**132**	P		**P**	**09 55 31.6**	**+0.4**
PLTB				IAmb	IAmb		09 56 06.5	
	comp=Z,22nm,1.4s							
PLTB	**Pedras Altas**	**18.14**	**132**	*eP*		**Pn**	**09 55 32.1**	**-0.1**
NPGB	**Novo Progresso**	**18.80**	**48**	*eP*		**P**	**09 55 36.6**	**-1.8**
TRQA	**Tornquist**	**18.86**	**162**	P		**P**	**09 55 39.1**	**+0.2**
TRQA				IAmb	IAmb		09 55 40.5	
	comp=Z,26nm,1.4s							
MCRA	**Macar, Loja**	**18.89**	**325**	P		**Pn**	**09 55 41.9**	**+0.7**
MACA	**Manacapuru-AM**	**18.91**	**27**	*eP*		**Pn**	**09 55 41.1**	**-0.3**
CNLB	**Canela**	**18.99**	**122**	*eP*		**P**	**09 55 41.4**	**+1.0**
SNDB	**Serra Nova Dou**	**19.10**	**67**	*eP*		**P**	**09 55 40.7**	**-1.0**
TIJ01	**Guaruva-PR**	**19.35**	**109**	*eP*		**P**	**09 55 44.6**	**+0.1**
BB19B	**Bebedouro**	**19.42**	**96**	*eP*		**P**	**09 55 44.6**	**-0.6**
IPMB	**Ipameri, GO**	**20.01**	**87**	*eP*		**P**	**09 55 49.8**	**-1.9**
RCLB	**Rio Claro- Sao**	**20.36**	**80**	*eP*		**P**	**09 55 55.1**	**-0.3**
PLCA	**Paso Flores**	**20.47**	**183**	P		**P**	**09 55 57.8**	**+1.3**
	comp=Z,3.7nm,1.0s,baz=356,slow=12,SNR=7.7							
	comp=Z,3.7nm,1.0s							
PLCA	**Paso Flores**	**20.47**	**183**	P		**P**	**09 55 57.9**	**+1.5**
PLCA				IAmb	IAmb		09 56 35.7	
	comp=Z,13nm,1.5s							
PLCA	**Paso Flores**	**20.47**	**183**	*eP*		Pn	09 55 58.3	-1.2
ITTB	**Itaituba**	**20.54**	**42**	*eP*		**P**	**09 55 55.9**	**-1.4**
BDFB	**Brasilia**	**20.72**	**81**	P		**P**	**09 55 58.5**	**-0.8**
	comp=Z,9.6nm,0.6s,baz=251,slow=12,SNR=10							
	comp=Z,9.6nm,0.6s							
BDFB	**Brasilia**	**20.72**	**81**	P		**P**	**09 55 59.5**	**+0.2**
BDFB				IAmb	IAmb		09 56 01.9	
	comp=Z,9.8nm,0.7s							
BDFB	**Brasilia**	**20.72**	**81**	*eP*		**P**	**09 55 59.8**	**+0.5**
PET01	**Itanhaem-SP**	**20.74**	**105**	*eP*		**P**	**09 55 58.8**	**-0.6**
VAO	**Valinhos**	**20.91**	**102**	*eP*		**P**	**09 56 00.5**	**-0.8**
PTGA	**Pitinga**	**21.40**	**26**	P		**P**	**09 56 04.2**	**-2.3**
	comp=Z,2.0nm,0.6s,baz=205,slow=12,SNR=4.2							
	comp=Z,2.0nm,0.6s							
PMNB	**Patos De Minas**	**21.59**	**89**	*eP*		**P**	**09 56 07.4**	**-1.3**
PRPB	**Parauapebas**	**23.48**	**56**	*eP*		**P**	**09 56 27.1**	**-0.5**
SMTB	**Santa Maria do**	**23.79**	**65**	*eP*		**P**	**09 56 30.6**	**+0.3**
BOAV	**Boa Vista**	**24.06**	**22**	*eP*		**P**	**09 56 32.6**	**-0.1**
DIAM	**Diamantina, MG**	**24.23**	**90**	*eP*		**P**	**09 56 34.8**	**+0.3**
MC01	**Montes Claros**	**24.26**	**86**	*eP*		**P**	**09 56 35.2**	**+0.5**
JANB	**Januaria**	**24.31**	**82**	*eP*		**P**	**09 56 35.0**	**-0.1**
SDBA	**SAO DESIDERIO**	**24.61**	**75**	*eP*		**P**	**09 56 37.6**	**-0.3**
ALF01	**Guarapari-ES**	**26.73**	**96**	*eP*		**P**	**09 56 57.8**	**+0.9**
NAN01	**Guarapari, ES**	**27.63**	**90**	*eP*		**P**	**09 57 05.0**	**0.0**
GDU01	**Guandu, BA**	**29.09**	**82**	*eP*		**P**	**09 57 17.5**	**-0.5**
NBAN	**Anadia - AL**	**33.48**	**77**	*eP*		**P**	**09 57 56.7**	**0.0**
RCBR	**Riachuelo**	**35.41**	**71**	*eP*		**P**	**09 58 13.5**	**+0.2**
TXAR	**Lajitas Array**	**59.40**	**325**	P		**P**	**10 01 19.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=150,slow=6.7,SNR=5.0							
	comp=Z,0.4nm,0.8s							
VNA3	**Neumayer Olymp**	**61.38**	**161**	P		**P**	**10 01 32.8**	**+1.2**
VNA1	**Neumayer--Stat**	**61.59**	**161**	P		**P**	**10 01 29.4**	**-3.6**
VNA2	**Neumayer--Watz**	**61.96**	**161**	P		**P**	**10 01 36.7**	**+1.2**
	baz=289,slow=8.0							
SNAA	**Sanae**	**63.59**	**161**	P		**P**	**10 01 47.5**	**+1.1**
TROLL	**Troll, Antarti**	**65.30**	**161**	P		**P**	**10 01 59.0**	**+1.4**
DBIC	**Dimbokro**	**68.69**	**74**	P		**P**	**10 02 19.3**	**-0.6**
	comp=Z,5.6nm,1.0s,baz=227,slow=3.0,SNR=3.8							
	comp=Z,5.6nm,1.0s							
NVAR	**Mina Array Bea**	**74.29**	**322**	P		**P**	**10 02 54.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=129,slow=7.1,SNR=2.4							
	comp=Z,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**77.24**	**71**	P		**P**	**10 03 09.4**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=253,slow=5.5,SNR=34							
TORD				pP		**pP**	**10 03 37.3**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=243,slow=5.1,SNR=4.6							
	comp=Z,1.8nm,0.5s							
H11S2	**WAKE ISLAND Hyd**	**27.38**	**278**	T		T	12 30 10.2	
	baz=102,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hyd**	**27.39**	**278**	T		T	12 30 06.9	
	baz=102,slow=75,SNR=37							
H11S3	**WAKE ISLAND Hyd**	**27.40**	**278**	T		T	12 30 08.0	
	baz=102,slow=75,SNR=43							
H11N3	**WAKE ISLAND Hyd**	**27.43**	**280**	T		T	12 30 13.9	
	baz=101,slow=75,SNR=20							
H11N2	**WAKE ISLAND Hyd**	**27.45**	**280**	T		T	12 30 13.9	
	baz=101,slow=75,SNR=25							
H11N1	**WAKE ISLAND Hyd**	**27.45**	**280**	T		T	12 30 13.4	
	baz=101,slow=75,SNR=21							
MKAR	**Makanchi Array**	**144.78**	**35**	PKP		**PKPdf**	**10 10 51.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=332,slow=3.5,SNR=5.1							
MKAR				pPKP		**pPKPdf**	**10 11 20.2**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=304,slow=4.1,SNR=5.6							
USRK	**Ussuriysk Ar.**	**150.26**	**328**	pPKPbc		pPKPbc	10 11 35.3	+0.6
	comp=Z,2.5nm,0.9s,baz=69,slow=0.2,SNR=5.6							

*ATH **22** 10:00:15.9,37°.35N×20°.27E,h7km±3km,ML2.7/3,Error ellipse: s-maj=3.8km s-min=1.6km az=312.0*
*THE **22** 10:00:15.6,37°.34N×20°.25E,h6km±2km,ML2.8/5,Error ellipse: s-maj=2.7km s-min=0.8km az=19.0*

ISC 22 10:00:13.2±2.2,37°.27N±0°.08×20°.14E±0°.09,h18km±4km, n27,σ0§61/39,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LTHK	**Lithakia**	**0.70**	**51**	P		**Pg**	**10 00 27.2**	**+0.2**
LTHK				S		**Sb**	**10 00 35.8**	**-0.4**
	2μm,0.5s							
LTHK	**Lithakia**	**0.70**	**51**	P		**Pb**	**10 00 26.8**	**-0.1**
LTHK				S		**Sb**	**10 00 34.5**	**-1.7**
PSDA	**Pessada-Kefalo**	**0.91**	**22**	P		**Pn**	**10 00 30.5**	**-0.5**
PSDA				S		**Sb**	**10 00 43.2**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.91**	**22**	P		**Pn**	**10 00 30.6**	**-0.5**
PSDA				S		**Sb**	**10 00 42.4**	**+0.2**
VLS	**Valsamata**	**0.97**	**21**	P		**Pg**	**10 00 31.6**	**-0.5**
VLS				S		**Sb**	**10 00 44.4**	**+0.4**
	460nm,0.3s							
VLS	**Valsamata**	**0.97**	**21**	P		**Pn**	**10 00 31.3**	**-0.6**
VLS				S		**Sb**	**10 00 43.8**	**-0.2**
VLS				AML	AML		10 00 51.8	
	comp=E,815μm,0.3s							
VLS				AML	AML		10 00 52.8	
	comp=N,1201μm,0.3s							
DMLN	**Damoulianata-K**	**0.98**	**11**	P		**Pg**	**10 00 32.5**	**+0.2**
DMLN				S		**Sn**	**10 00 45.6**	**+0.1**
	comp=N,1μm,0.4s							
FSK	**Fiskardo**	**1.23**	**16**	P		**Pg**	**10 00 37.4**	**+0.4**
FSK				S		**Sg**	**10 00 54.1**	**+1.0**
FSK	**Fiskardo**	**1.23**	**16**	P		**Pg**	**10 00 37.3**	**+0.3**
RLS	**Riolos of Patr**	**1.31**	**53**	P		**Pb**	**10 00 37.8**	**+0.6**
RLS	**Riolos of Patr**	**1.31**	**53**	P		**Pg**	**10 00 38.3**	**-0.2**
RLS				S		**Sn**	**10 00 53.8**	**+0.3**
PYL	**PYLOS**	**1.33**	**106**	P		**Pg**	**10 00 38.9**	**0.0**
PYL				S		**Sg**	**10 00 56.7**	**+0.4**
	comp=N,242nm,0.8s							
EVGI	**Lefkada island**	**1.41**	**17**	P		**Pg**	**10 00 39.5**	**-0.8**
EVGI	**Lefkada island**	**1.41**	**17**	P		**Pg**	**10 00 39.4**	**-1.0**
DRO	**Drossia**	**1.42**	**61**	P		**Pg**	**10 00 40.4**	**-0.2**
DRO	**Drossia**	**1.42**	**61**

ARCES			Lg	Lg	10 02 57.4	
	comp=Z,0.6nm,0.3s,baz=145,slow=35,SNR=5.0					
	comp=Z,0.8nm,0.3s					
KEV	**Kevo**	**5.22 346**	*eP*	**Pn**	**10 01 38.3**	**+1.9**
SALU	**Saltoluokta**	**5.63 303**	*eP*	**Pn**	**10 01 43.7**	**+1.7**
JETT	**Jettan, Norway**	**6.27 325**	*eP*	**Pn**	**10 01 51.4**	**+0.7**
JETT			IAML		10 03 07.2	
	comp=Z,2.8nm,0.2s					
FAUS	**Fauske**	**6.81 300**	*eP*	**Pn**	**10 01 58.9**	**+0.8**
FAUS			IAML		10 03 26.4	
	comp=Z,0.9nm,0.6s					
NOA	**NORSAR Array B**	**9.64 256**	Pn	**Pn**	**10 02 37.5**	**+0.5**
	baz=54,slow=15,SNR=4.8					
	comp=Z,0.1nm,0.3s					

ROM 22 10:04:08.9±0.2, 40°57N±0°01×17°21E±0°01, h0km, ML1.5/2,2C, Error ellipse: s-maj=1.7km s-min=0.7km az=217.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAR1	**Taranto**	**0.07**	**126**	⇑P	Pg	10 04 10.4	+0.3
TAR1				S	Sg	10 04 11.6	+0.5
NOCI	**Noci**	**0.25**	**333**	P	Pg	10 04 14.2	+0.6
NOCI				S	Sg	10 04 18.8	+1.8
NOCI				AML	AML		
	comp=E,228μm,1.4s						
NOCI				AML	AML		
	comp=E,228μm,0.6s						
NOCI				AML	AML		
	comp=N,300μm,0.3s						
LTRZ	**Laterza**	**0.30**	**277**	⇑P	Pg	10 04 15.6	+0.9
LTRZ				S	Sb	10 04 21.0	-1.6
MATE	**Matera**	**0.40**	**282**	P	Pg	10 04 17.1	+0.6
MATE				AML	AML		
	comp=E,57μm,0.9s						
MATE				AML	AML		
	comp=N,66μm,1.6s						
MATE				AML	AML		
	comp=N,66μm,0.4s						
MATE				AML	AML		
	comp=E,57μm,1.1s						

DJA 22 10:12:48.4±0.4, 8°S±4°×12°7E±°, h203km±9km, M4.4/10, mb4.1/7, mB4.7/3, MLv4.6/10, Mw(mB)3.9/3, MwMwp4.7/1, Mwp5.0/1
NEIC 22 10:12:49.7±3.0, 7°73S±0°07×127°66E±0°08, h173km±9km, mb4.2/5, Error ellipse: s-maj=12.6km s-min=9.7km az=59.0
IDC 22 10:12:51.0±1.6, 7°63S×127°35E, h187km±16km, mb3.4/5, mbtmp4.1/8, Error ellipse: s-maj=16.8km s-min=15.3km az=94.0

ISC 22 10:12:48.2±0.6, 7°73S±0°05×127°53E±0°05, h162km, n44, σ2s14/50, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.75**	**94**	P	**Sn**	**10 14 32.4**	**+2.3**
SAUI	**Saumlaki**	**3.75**	**94**	P	**Pn**	**10 13 48.0**	**+2.5**
BNDI	**Bandanaira**	**3.97**	**37**	P	**Pn**	**10 13 50.4**	**+2.0**
BATI	**Baumata**	**4.54**	**237**	P	**Pn**	**10 13 58.9**	**+3.0**
	361nm,0.5s,baz=89,slow=1.1,SNR=73						
BATI				S	**Sn**	**10 14 51.1**	**+2.4**
	74nm,0.3s,baz=108,slow=20,SNR=8.6						
BATI	**Baumata**	**4.54**	**237**	P	**Pn**	**10 13 58.3**	**+2.5**
BATI				S	**Sn**	**10 14 49.9**	**+1.2**
MSAI	**Masohi**	**4.57**	**18**	P	**Pn**	**10 13 58.1**	**+1.9**
MMRI	**Maumere**	**5.31**	**260**	P	**Pn**	**10 14 06.5**	**+0.6**
	0.3nm70nm,0.7s						
EDFI	**Ende, Flores**	**5.86**	**260**	P	**Pn**	**10 14 14.4**	**+1.1**
	0.1nm693nm11nm,0.6s						
MTN	**Manton Dam**	**6.20**	**145**	Pn	**Pn**	**10 14 19.4**	**+1.8**
MTN	**Manton Dam**	**6.20**	**145**	P	**Pn**	**10 14 20.1**	**+2.4**
FAKI	**Fak Fak**	**6.70**	**45**	Pn	**Pn**	**10 14 23.3**	**-1.0**
FAKI	**Fak Fak**	**6.70**	**45**	P	**Pn**	**10 14 23.6**	**-0.8**
	0.1nm23nm,1.0s						
KDU	**Kakadu**	**6.93**	**136**	P	**Pn**	**10 14 28.9**	**+1.6**
SIJI	**Sorong**	**7.77**	**29**	P	**Pn**	**10 14 39.5**	**+1.0**
	21nm,0.3s,baz=221,slow=19,SNR=25						
SIJI				S	**Sn**	**10 16 01.6**	**-3.9**
	2.7nm,0.4s,baz=288,slow=20,SNR=1.4						
KNRA	**Kununurra**	**7.99**	**171**		**Pn**	**10 14 42.0**	**+0.5**
KNRA	**Kununurra**	**7.99**	**171**	P	**Pn**	**10 14 42.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**10.47**	**190**	P	**Pn**	**10 15 13.4**	**-0.8**
	6.9nm,0.4s,baz=0.2,slow=13,SNR=37						
FITZ				S	**Sn**	**10 17 03.2**	**-7.1**
	15nm,0.6s,baz=0.0,slow=2.0,SNR=11						
FITZ	**Fitzroy Crossi**	**10.47**	**190**		**Pn**	**10 15 13.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**10.47**	**190**	P	**Pn**	**10 15 13.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**13.26**	**266**	Pn	**P**	**10 15 53.0**	**-1.3**
WB0	**Warramunga Arr**	**13.70**	**152**	Pn	**Pn**	**10 15 55.5**	**-0.4**
WRAB	**Tennant Creek**	**13.82**	**152**		**Pn**	**10 15 57.3**	**-0.1**
WRA	**Warramunga Arr**	**13.82**	**152**	P	**Pn**	**10 15 56.2**	**-1.3**
	2.0nm,0.3s,baz=337,slow=12,SNR=87						
WRA				S	Sn	10 18 21.9	-9.1
	5.9nm,0.5s,baz=332,slow=24,SNR=9.4						
WRA	**Warramunga Arr**	**13.82**	**152**	P	**Pn**	**10 15 58.8**	**+1.4**
WB2	**Warramunga Arr**	**13.83**	**152**	P	**Pn**	**10 15 57.3**	**-0.2**
WR0	**Warramunga Arr**	**13.93**	**151**		**Pn**	**10 15 57.9**	**-0.9**
PSA00	**Pilbara Seismi**	**15.63**	**207**	P	**P**	**10 16 22.5**	**+1.8**
PSA00				IAmb	IAmb	10 16 22.9	
	comp=Z,9.9nm,0.9s						
COEN	**Coen**	**16.56**	**113**	P	**Pn**	**10 16 31.9**	**+0.6**
COEN				IAmb	IAmb	10 16 34.4	
	comp=Z,5.7nm,0.6s						
COEN	**Coen**	**16.56**	**113**	P	**Pn**	**10 16 32.5**	**+1.2**
AS31	**Alice Springs**	**16.99**	**160**		**Pn**	**10 16 37.4**	**+1.1**
AS31					**S**	**10 19 43.2**	**-1.3**
ASAR	**Alice Springs**	**16.99**	**160**	P	**Pn**	**10 16 38.1**	**+1.7**
	comp=Z,2.4nm,0.6s,baz=344,slow=12,SNR=37						
ASAR				S	**S**	**10 19 37.5**	**-7.0**
	comp=Z,2.7nm,0.6s,baz=333,slow=18,SNR=8.1						
ASAR	**Alice Springs**	**16.99**	**160**	P	**Pn**	**10 16 36.9**	**+0.5**
WRKA	**Warakurna**	**17.23**	**178**	P	**Pn**	**10 16 41.1**	**+1.9**
SBUM	**Sibu**	**18.31**	**303**	P	**P**	**10 16 50.6**	**+0.4**
SBUM				IAmb	IAmb	10 16 53.9	
	comp=Z,9.7nm,0.6s						
MTSU	**Mount Surprise**	**19.34**	**124**	P	**Pn**	**10 17 03.7**	**-0.5**
PMG	**Port Moresby**	**19.49**	**96**	P	**Pn**	**10 17 07.8**	**+1.9**
	comp=Z,16nm,0.8s,baz=288,slow=20,SNR=5.7						
OOD	**Oodnadatta**	**21.40**	**160**	P	**P**	**10 17 25.8**	**+2.5**
MULG	**Mulgathing**	**23.26**	**166**	P	**P**	**10 17 43.2**	**+2.0**
CM31	**Chiang Mai Arr**	**38.37**	**313**	P	**P**	**10 19 54.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**38.37**	**313**	P	**P**	**10 19 53.5**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=138,slow=7.1,SNR=8.8						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**67.52**	**328**	P	**P**	**10 23 25.9**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=132,slow=7.8,SNR=14						
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**71.17**	**335**	P	**P**	**10 23 47.8**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=134,slow=8.5,SNR=4.0						
	comp=Z,0.9nm,0.5s						
VNDA	**Vanda**	**72.03**	**173**	P	**P**	**10 23 54.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=320,slow=8.1,SNR=7.5						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**82.25**	**180**	P	**P**	**10 24 50.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=295,slow=9.1,SNR=2.4						
	comp=Z,0.8nm,0.7s						

NNC 22 10:13:37.5±1.2, 51°80N×75°55E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=17.5km s-min=7.0km az=19.0, Suspected Mining explosion.
IDC 22 10:13:38.8±0.9, 51°67N×75°45E, h0km, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=31.3km s-min=7.6km az=31.0

ISC 22 10:13:38.6±1.1, 51°61N±0°09×75°37E±0°05, h0km, n11, σ0s79/11, 8C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.23**	**115**	Pn	**Pn**	**10 14 16.1**	**-0.6**
	0.5nm,0.3s,baz=298,slow=19,SNR=62						
KURBB				Lg	Lg	10 14 46.2	
	0.4nm,0.3s,baz=303,slow=33,SNR=9.3						
	2.8nm,0.5s						
KURBB	**Kurchatov Arra**	**2.23**	**115**	⇑Pg	**Pb**	**10 14 19.1**	**-0.6**
	5.2nm,0.6s						
KURBB				⇑Lg	Lg	10 14 47.9	
	31nm,0.6s						
KURK	**Kurchatov**	**2.24**	**112**	⇓Pg	**Pn**	**10 14 17.3**	**+0.4**
	2.8nm,0.6s						
KURK				⇑Lg	Lg	10 14 46.3	
	13nm,0.8s						
BVA0	**Borovoye Array**	**3.37**	**297**	⇑Pg	**Pb**	**10 14 39.5**	**+0.3**
	2.4nm,0.6s,baz=103,slow=14,SNR=20						
BVA0				⇑Lg	Lg	10 15 22.5	
	11nm,0.8s,baz=113,slow=26,SNR=8.4						
BVAR	**Borovoye Array**	**3.37**	**297**	Pn	**Pn**	**10 14 31.5**	**-1.0**
	0.2nm,0.3s,baz=108,slow=14,SNR=4.4						
BVAR				Pg	**Pb**	**10 14 38.9**	**-0.3**
	0.8nm,0.3s,baz=114,slow=17,SNR=18						
BVAR				Lg	Lg	10 15 22.0	
	0.9nm,0.3s,baz=108,slow=22,SNR=5.2						
	0.6nm,0.5s						
OTUK	**Ortayu**	**3.89**	**211**	⇑Pg	**Pg**	**10 14 53.8**	**+0.5**
	0.8nm,0.6s						
OTUK				⇑Lg	Lg	10 15 46.5	
	6.0nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.20**	**64**	*i*		10 49 50.0	
	baz=250,slow=320,SNR=4.3						
ZALV	**Zalesovo Beam**	**6.20**	**64**	Pn	**Pn**	**10 15 11.9**	**+0.6**
	0.6nm,0.3s,baz=251,slow=14,SNR=6.3						
	2.1nm,0.5s						
MK31	**Makanchi Array**	**6.62**	**134**	⇓Sn	**Sn**	**10 16 33.7**	**+0.5**
	0.5nm,0.5s,baz=322,slow=17,SNR=4.5						
MK31				⇑Lg	Lg	10 17 07.0	
	3.0nm,0.7s,baz=320,slow=26,SNR=6.7						
MKAR	**Makanchi Array**	**6.62**	**134**	Pn	**Pn**	**10 15 18.1**	**+1.0**
	0.1nm,0.3s,baz=317,slow=12,SNR=5.1						
MKAR				Sn	**Sn**	**10 16 32.2**	**-1.0**
	0.2nm,0.3s,baz=318,slow=20,SNR=5.4						
MKAR				Lg	Lg	10 17 07.0	
	0.4nm,0.3s,baz=324,slow=27,SNR=8.7						
	0.5nm,0.6s						
AAK	**Ala-Archa**	**8.99**	**184**	Lg	Lg	10 18 23.1	
	0.2nm,0.3s,baz=13,slow=22,SNR=1.5						

THE 22 10:13:45.9, 41°11N×24°55E, h8km, ML2.5/11, Error ellipse: s-maj=1.2km s-min=0.5km az=198.0
ATH 22 10:13:45.7, 41°13N×24°56E, h9km±3km, ML2.5/6, Error ellipse: s-maj=4.0km s-min=0.9km az=185.0
ISK 22 10:13:45.2, 41°13N×24°57E, h8km, ML2.8/16
BEO 22 10:13:47.5±0.7, 41°10N×24°48E, h5km±3km, ML2.6/7

ISC 22 10:13:45.8±0.9, 41°12N±0°02×24°56E±0°02, h10km±6km, n54, σ0s62/84, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.13**	**195**	P	**Pg**	**10 13 49.1**	**+0.2**
KAVA				S	**Sg**	**10 13 50.9**	**-0.1**
	15μm,0.1s						
KAVA	**Kavala**	**0.13**	**195**	P	**Pg**	**10 13 49.1**	**+0.2**
KAVA				S	**Sg**	**10 13 50.8**	**-0.2**
KVLA	**Kavala**	**0.23**	**215**	P	**Pg**	**10 13 50.7**	**+0.2**
KVLA				S	**Sg**	**10 13 53.7**	**+0.1**
KVLA				AML	AML	10 13 53.8	
	comp=E,4551μm,0.1s						
KVLA				AML	AML	10 13 54.0	
	comp=N,4279μm,0.1s						
KOKK	**Kokkinochori,**	**0.52**	**234**	P	**Pg**	**10 13 55.8**	**-0.1**
KOKK				S	**Sg**	**10 14 02.8**	**0.0**
	comp=N,270nm,0.1s						
KOKK	**Kokkinochori,**	**0.52**	**234**	P	**Pg**	**10 13 55.9**	**-0.1**
KOKK				S	**Sg**	**10 14 02.5**	**-0.3**
THAS	**Thassos island**	**0.53**	**167**	P	**Pg**	**10 13 55.3**	**-0.8**
THAS				S	**Sg**	**10 14 02.8**	**-0.3**
	comp=N,798nm,0.3s						
THAS	**Thassos island**	**0.53**	**167**	P	**Pg**	**10 13 55.3**	**-0.8**
THAS				AML	AML	10 14 06.5	
	comp=N,1873μm,0.4s						
THAS				AML	AML	10 14 07.2	
	comp=E,1275μm,0.2s						
NVR	**Nevrokopi**	**0.57**	**294**	P	**Pg**	**10 13 56.1**	**-0.9**
NVR				S	**Sg**	**10 14 04.7**	**+0.2**
	comp=E,300nm,0.1s						
NVR	**Nevrokopi**	**0.57**	**294**	P	**Pg**	**10 13 56.1**	**-0.9**
NVR				S	**Sg**	**10 14 04.3**	**-0.2**
NVR				AML	AML	10 14 08.7	
	comp=N,913μm,0.2s						
NVR				AML	AML	10 14 08.9	
	comp=E,828μm,0.2s						
SRS	**Serrai**	**0.73**	**270**	P	**Pg**	**10 13 59.3**	**-0.7**
SRS				S	**Sg**	**10 14 09.7**	**+0.2**
	comp=E,508nm,0.2s						
SRS	**Serrai**	**0.73**	**270**	*e*Pg	**Pg**	**10 13 59.4**	**-0.5**
SRS				*e*Sg	**Sb**	**10 14 10.2**	**-0.5**
SRS	**Serrai**	**0.73**	**270**	P	**Pg**	**10 13 59.2**	**-0.7**
SRS				S	**Sg**	**10 14 09.3**	**-0.2**
SRS				AML	AML	10 14 10.6	
	comp=E,1175μm,0.3s						
SRS				AML	AML	10 14 13.8	
	comp=N,936μm,0.1s						
RDO	**Rodhopi**	**0.74**	**88**	P	**Pg**	**10 13 59.9**	**-0.2**
RDO	**Rodhopi**	**0.74**	**88**	PG	**Pg**	**10 14 00.2**	**+0.1**
RDO				SG	**Sg**	**10 14 10.4**	**+0.6**
RDO	**Rodhopi**	**0.74**	**88**	P	**Pg**	**10 13 59.9**	**-0.2**
RDO				S	**Sg**	**10 14 09.6**	**-0.1**
RDO				AML	AML	10 14 14.4	
	comp=E,1646μm,0.3s						
RDO				AML	AML	10 14 14.7	
	comp=N,2166μm,0.2s						
KDZ	**Kurdzhali**	**0.83**	**51**	PG	**Pg**	**10 14 00.3**	**-1.6**
KDZ				SG	**Sg**	**10 14 11.3**	**-1.5**
OUR	**Ouranopolis**	**0.90**	**209**	P	**Pg**	**10 14 03.4**	**+0.2**
OUR				S	**Sg**	**10 14 15.0**	**+0.1**
	comp=N,952nm,0.3s						
OUR	**Ouranopolis**	**0.90**	**209**	PG	**Pg**	**10 14 03.2**	**0.0**
OUR				SG	**Sb**	**10 14 16.2**	**+0.6**
SOH	**Sokhos**	**0.96**	**252**	P	**Pg**	**10 14 03.7**	**-0.6**
SOH				S	**Sb**	**10 14 17.3**	**-0.1**
	comp=N,312nm,0.3s						
SOH	**Sokhos**	**0.96**	**252**	P	**Pg**	**10 14 04.0**	**-0.3**
SOH				S	**Sg**	**10 14 16.9**	**+0.1**
SMTH	**Samothraki Isl**	**0.98**	**131**	P	**Pg**	**10 14 04.6**	**-0.2**
SMTH				S	**Sb**	**10 14 18.1**	**+0.1**
	comp=N,122nm,0.2s						
SMTH	**Samothraki Isl**	**0.98**	**131**	P	**Pg**	**10 14 04.4**	**-0.3**
SMTH				AML	AML	10 14 20.9	
	comp=E,287μm,0.2s						
SMTH				AML	AML	10 14 23.2	
	comp=N,216μm,0.3s						
PLD	**Plovdiv**	**0.99**	**6**	*e*Pg	**Pb**	**10 14 05.1**	**+0.1**
PLD				*e*Sg	**Sn**	**10 14 20.8**	**+1.0**
ALN	**Alexandroupoli**	**1.15**	**101**	P	**Pb**	**10 14 07.5**	**-0.2**
ALN				S	**Sn**	**10 14 23.9**	**+0.2**
	comp=N,248nm,0.4s						
ALN	**Alexandroupoli**	**1.15**	**101**	PN	**Pb**	**10 14 07.5**	**-0.2**
ALN				SN	**Sb**	**10 14 23.4**	**+0.7**
HORT	**Hortiatis**	**1.22**	**245**	P	**Pb**	**10 14 08.7**	**-0.4**
HORT				S	**Sb**	**10 14 25.0**	**0.0**
	comp=N,140nm,0.3s						
HORT	**Hortiatis**	**1.22**	**245**	PN	**Pb**	**10 14 08.7**	**-0.4**
KNT	**Kendrikon**	**1.25**	**272**	P	**Pn**	**10 14 09.2**	**-0.2**
KNT				S	**Sn**	**10 14 26.7**	**+0.3**
	comp=N,402nm,0.4s						
KNT	**Kendrikon**	**1.25**	**272**	PN	**Pb**	**10 14 09.7**	**+0.1**
KNT	**Kendrikon**	**1.25**	**272**	P	**Pn**	**10 14 09.4**	**0.0**
ENEZ	**Enez**	**1.27**	**107**	PN	**Pn**	**10 14 09.4**	**-0.2**
ENEZ				SN	**Sg**	**10 14 26.9**	**+0.3**
THE	**Thessaloniki**	**1.30**	**248**	P	**Pn**	**10 14 09.8**	**-0.3**
LIA	**Limnos Island**	**1.31**	**159**	P	**Pn**	**10 14 09.6**	**-0.6**
PAIG	**Paliouri**	**1.37**	**210**	P	**Pn**	**10 14 10.1**	**-0.9**
PAIG	**Paliouri**	**1.37**	**210**	P	**Pn**	**10 14 10.0**	**-1.0**
GADA	**Gvkgeada**	**1.38**	**132**	PN	**Pn**	**10 14 11.1**	**0.0**
GADA				SN	**Sb**	**10 14 29.7**	**+0.3**
VAY	**Valandovo**	**1.51**	**278**	*i* Pn	**Pn**	**10 14 13.6**	**+0.6**
UKOP	**Uzunkopru-Edir**	**1.57**	**89**	PN	**Pn**	**10 14 13.8**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.62**	**116**	PN	**Pn**	**10 14 14.6**	**+0.1**
GRG	**Griva**	**1.64**	**265**	PN	**Pn**	**10 14 14.8**	**0.0**
BOZC	**Bozcaada**	**1.71**	**138**	PN	**Pn**	**10 14 15.4**	**-0.3**
VTS	**Vitosha**	**1.79**	**327**	*e*Pg	**Pb**	**10 14 19.1**	**+0.3**
VTS				*e*Sg	**Sg**	**10 14 44.3**	**+0.9**
EDRB	**Edirne**	**1.79**	**66**	PN	**Pn**	**10 14 17.3**	**+0.5**
EZN	**Ezine**	**1.87**	**133**	PN	**Pn**	**10 14 18.3**	**+0.4**
BOSS	**Bosilegrad**	**2.07**	**312**	*e*Pg	**Pb**	**10 14 23.8**	**+0.2**
BOSS				*e*Sg	**Sg**	**10 14 52.7**	**+0.3**
SIGR	**SIGRI**	**2.15**	**152**	PN	**Pn**	**10 14 22.4**	**+0.7**
MRMT	**Marmara Adasi**	**2.36**	**102**	PN	**Pn**	**10 14 25.0**	**+0.3**
ZAPS	**Zavoj**	**2.58**	**327**	*e*Pn	**Pb**	**10 14 30.5**	**-1.7**
ZAPS				*e*Sg	**Sg**	**10 15 09.1**	**+0.3**
BARS	**Barje**	**2.66**	**311**	*e*Pn	**Pn**	**10 14 29.9**	**+1.2**
DKL	**Dikili**	**2.73**	**138**	PN	**Pn**	**10 14 30.3**	**+0.6**
BLKB	**Belogradchik**	**2.86**	**331**	*e*Pn	**Pn**	**10 14 33.2**	**+1.6**
BLKB				*e*Sn	**Sb**	**10 15 10.8**	**-1.3**
ZAGS	**Zajecar**	**3.19**	**328**	*e*Pn	**Pn**	**10 14 37.0**	**+1.0**
BOVS	**Bovan**	**3.28**	**321**	*e*Pn	**Pn**	**10 14 37.9**	**+0.6**
GRUS	**Gruza**	**3.96**	**315**	*e*Pn	**Pn**	**10 14 47.9**	**+1.2**

BJI 22 10:21:55.3±0.0, 34°53N×141°81E, h9km, mb4.5/33, mB4.7/23, Ms4.5/34, Ms7 4.3/33
NEIC 22 10:21:57.7±1.7, 34°41N±0°05×141°81E±0°04, h10km±1km, mb4.7/18, Error ellipse: s-maj=9.1km s-min=4.7km az=35.0
JMA 22 10:21:57.7±0.5, 34°N±1°×14°2E±°, h33km±2km, MV3.9/32, FAR SE OFF BOSO PEN
MOS 22 10:21:59.9±0.9, 34°42N×141°60E, h36km, mb4.6/18, MS4.0/7, Error ellipse: s-maj=13.7km s-min=6.2km az=124.3
IDC 22 10:22:03.7±1.9, 34°44N×141°51E, h54km±17km, mb3.8/21, mbtmp4.0/25, ML3.0/4, MS3.9/31, Error ellipse: s-maj=15.8km s-min=8.7km az=92.0

ISC 22 10:21:57.3±0.5, 34°45N±0°04×141°73E±0°05, h10km, n163, σ1s83/153, mb4.3/56, MS4.1/46, 5C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.65**	**288**	P	**Pg**	**10 22 11.6**	**+1.7**
BSO3	**Boso 3**	**1.06**	**289**	*eP*	**Pb**	**10 22 18.3**	**+0.5**
BSO4	**Boso 4**	**1.27**	**295**	P	**Pn**	**10 22 21.8**	**+0.8**
KTR	**Katsuura**	**1.36**	**301**	P	**Pn**	**10 22 22.8**	**+0.4**
CHOJ	**Chosi**	**1.44**	**330**	P	**Pn**	**10 22 23.5**	**0.0**
JKUC	**kamogawauchiur**	**1.45**	**300**	P	**Pn**	**10 22 23.9**	**+0.4**
JKUC				eS	**Sn**	**10 22 42.5**	**-0.1**
JSMT	**Sammumatsuo**	**1.59**	**319**	*eP*	**Pn**	**10 22 26.1**	**+0.6**
JMKN	**Mikurajimanish**	**1.86**	**253**	*eP*	**Pn**	**10 22 28.7**	**-0.6**
JIM2	**Oshima 3**	**1.92**	**279**	P	**Pn**	**10 22 29.6**	**-0.5**
JHJ2	**Mitsune**	**2.08**	**231**	Pn	**Pn**	**10 22 32.6**	**+0.2**
JHJ2	**Mitsune**	**2.08**	**231**	P	**Pn**	**10 22 32.5**	**+0.2**
JHJ	**Hachijo jima 2**	**2.10**	**231**	P	**Pn**	**10 22 32.6**	**0.0**
	390nm,0.3s,baz=78,slow=20,SNR=96						
JHJ				S	**Sn**	**10 22 58.2**	**-0.5**
	919nm,0.3s,baz=75,slow=20,SNR=14						
JYT	**Yasato**	**2.17**	**325**		**Pn**	**10 22 34.2**	**+0.7**
JOD2	**Odawara 2**	**2.32**	**291**	P	**Pn**	**10 22 36.2**	**+0.6**
JOD2				eS	**Sn**	**10 23 05.0**	**+0.8**
JIZS	**Izushimoda**	**2.37**	**277**	P	**Pn**	**10 22 35.7**	**-0.5**
JMM	**Marumori**	**3.49**	**348**	Pn	**Pn**	**10 22 52.1**	**+0.4**
MJAR	**Matsushiro Arr**	**3.55**	**307**	P	**Pn**	**10 22 53.2**	**+0.7**
	3.1nm,0.3s,baz=116,slow=11,SNR=81						
MJAR				S	**Sn**	**10 23 33.1**	**-1.5**
	27nm,0.8s,baz=121,slow=11,SNR=5.6						
	16nm,0.4s						
MAJO	**Matsushiro**	**3.55**	**307**	Pn	**Pn**	**10 22 53.5**	**+1.0**
MAJO	**Matsushiro**	**3.55**	**307**	P	**Pn**	**10 22 53.6**	**+1.0**
MJB9	**Matsu-Tunnel**	**3.56**	**307**		**Pn**	**10 22 53.7**	**+1.1**
JGF	**Kuroka**	**3.77**	**289**		**Pn**	**10 22 57.7**	**+2.1**
INU	**Inuyama**	**3.98**	**284**	Pn	**Pn**	**10 22 59.9**	**+1.6**
JSD	**Sado**	**4.54**	**323**	Pn	**Pn**	**10 23 06.2**	**0.0**
JTM	**Tenmabayashi**	**6.34**	**355**	Pn	**Pn**	**10 23 30.4**	**-0.5**
JMN	**Monobe**	**6.55**	**266**	Pn	**Pn**	**10 23 34.8**	**+0.9**
JHS	**Saijyo**	**7.12**	**277**	Pn	**Pn**	**10 23 44.5**	**+3.0**
JCJ	**Chichijima**	**7.34**	**177**	P	**Pn**	**10 23 43.2**	**-1.4**
	29nm,0.3s,baz=0.0,slow=20,SNR=15						
JCJ				S	**Sn**	**10 25 03.5**	**-4.6**
	39nm,0.3s,baz=272,slow=23,SNR=5.1						
JCJ	**Chichijima**	**7.34**	**177**	Pn	**Pn**	**10 23 44.4**	**-0.2**
ERM	**Erimo**	**7.63**	**8**	*i* P	**Pn**	**10 23 47.0**	**-1.6**
JEW	**Eniwo**	**8.38**	**359**	Pn	**Pn**	**10 23 59.6**	**+0.8**
KSRS	**Korea Array**	**11.59**	**289**	P	**Pn**	**10 24 46.1**	**+3.4**
	0.1nm,0.3s,baz=106,slow=14,SNR=14						
KSRS				LR	LR	10 29 46.6	
	comp=Z,748nm,18.2s,baz=100,slow=40						
	3.8nm,0.8s						
TJN	**Taejon**	**11.88**	**283**	*i* P	**Pn**	**10 24 47.1**	**+0.3**
USA0B	**Ussuriysk Arra**	**12.30**	**325**	Pn	**Pn**	**10 24 53.2**	**+0.7**
USA0B	**Ussuriysk Arra**	**12.30**	**325**	P	**Pn**	**10 24 53.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**12.30**	**325**	P	**Pn**	**10 24 53.6**	**+1.0**
	0.1nm,0.3s,baz=129,slow=11,SNR=8.9						
USRK				LR	LR	10 29 46.8	
	comp=Z,303nm,18.6s,baz=127,slow=38						
	1.6nm,0.7s						
YSS	**Yuzh-Sakhalins**	**12.51**	**3**	*eP*	**Pn**	**10 24 52.9**	**-2.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=N,900nm,13.0s						
YSS				MLR	MLR		
	comp=Z,900nm,13.0s						
BNX	**BinXian**	**15.70**	**320**	⇓P	**Pn**	**10 25 35.8**	**-2.7**
BNX				sP	**P**	**10 25 43.1**	**+0.5**
BNX				S	**Sn**	**10 28 31.5**	**-0.9**
BNX				sS	S	10 28 37.8	-10
BNX				pmax	pmax		
	comp=

HNS LR LR
comp=E,740nm,13.5s
HNS LR LR
comp=Z,670nm,13.3s
WHN Wuhan 23.39 268 ⇓P **P 10 27 06.9 +0.6**
WHN S **S 10 31 18.5 -0.9**
WHN LR LR
comp=Z,2μm,12.6s
WHN LR LR
comp=Z,2μm,19.5s
WHN LR LR
comp=Z,2μm,15.5s
HHC Hu-ho-hao-te 24.65 294 *e*P **P 10 27 19.8 +1.6**
HHC S **S 10 31 38.9 -0.8**
HHC pmax pmax
comp=Z,30nm,0.7s
HHC pmax pmax
comp=Z,160nm,5.7s
HHC LR LR
comp=Z,570nm,13.3s
HHC LR LR
comp=Z,880nm,14.6s
HHC LR LR
comp=Z,1μm,14.0s
MA2 Magadan 25.83 11 LR LR 10 39 27.1
comp=Z,206nm,18.1s,baz=186,slow=40
H11N2 WAKE ISLAND Hy 26.68 117 T T 10 55 41.1
baz=309,slow=75,SNR=24
H11N1 WAKE ISLAND Hy 26.68 117 T T 10 55 42.0
baz=309,slow=75,SNR=18
H11N3 WAKE ISLAND Hy 26.70 117 T T 10 55 41.3
baz=309,slow=75,SNR=20
XAN Xi'an 27.06 279 P P 10 27 31.6 -8.5
XAN pP pP 10 27 36.9 -4.2
XAN S **S 10 32 09.0 -9.0**
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN pmax pmax
comp=Z,22nm,3.7s
XAN LR LR
comp=N,480nm,15.6s
XAN LR LR
comp=E,770nm,16.5s
XAN LR LR
comp=Z,1μm,13.7s
H11S3 WAKE ISLAND Hy 27.31 119 T T 10 56 25.4
baz=312,slow=75,SNR=19
H11S1 WAKE ISLAND Hy 27.31 119 T T 10 56 25.4
baz=312,slow=75,SNR=17
H11S2 WAKE ISLAND Hy 27.32 119 T T 10 56 24.7
baz=312,slow=75,SNR=17
YAK Yakutsk 28.64 348 LR LR 10 39 58.9
comp=Z,295nm,18.4s,baz=200,slow=38
YAK Yakutsk 28.64 348*ce*P **P 10 27 54.1 +0.3**
YAK pmax pmax
comp=Z,12nm,0.6s
ULN Ulaanbaatar 29.08 308*ce*P **P 10 27 59.2 +1.1**
ULN pmax pmax
comp=Z,3.0nm,1.3s
SEY Seymchan 29.28 10 P **P 10 28 01.0 +1.6**
comp=Z,0.6nm,0.5s,baz=214,slow=18,SNR=1.5
comp=Z,0.6nm,0.5s
SHEM Shemya Is, Ala 29.37 42 LR LR 10 38 43.7
comp=Z,75nm,19.0s,baz=280,slow=34
SONM Songino Array 29.50 308 P **P 10 28 01.8 0.0**
comp=Z,1.9nm,0.7s,baz=110,slow=8.7,SNR=7.3
SONM LR LR 10 41 06.2
comp=Z,368nm,18.9s,baz=110,slow=39
comp=Z,1.9nm,0.7s
BOD Bodaibo 29.87 330 *e*P **P 10 28 05.5 +0.8**
BOD pmax pmax
comp=Z,8.0nm,1.5s
LZH Lanzhou 30.85 284 *e*P **P 10 28 14.0 +0.1**
LZH pP sP 10 28 17.9 +2.6
LZH SS SS 10 35 00.8 -28
LZH pmax pmax
comp=Z,22nm,1.4s
LZH LR LR
comp=Z,470nm,17.2s
LZH LR LR
comp=Z,510nm,15.8s
LZH LR LR
comp=Z,570nm,18.9s
DAV Davao City (W) 31.06 212 LR LR 10 41 19.4
comp=Z,144nm,18.0s,baz=40,slow=37
ZAK Zakamensk 32.12 312 *e*P **P 10 28 25.2 +0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
QIZ Qiongzhong 32.19 250 P **P 10 28 25.8 +0.2**
QIZ S **S 10 33 40.0 +1.4**
QIZ LR LR
comp=Z,330nm,13.6s
QIZ LR LR
comp=Z,380nm,14.0s
QIZ LR LR
comp=Z,290nm,15.7s
PZH PanZhiHua 35.18 268 P **P 10 28 52.8 +1.0**
PZH S **S 10 34 26.4 +1.2**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,50nm,5.1s
PZH LR LR
comp=Z,380nm,15.1s
PZH LR LR
comp=Z,350nm,14.1s
PZH LR LR
comp=Z,400nm,14.1s
KNGR Kungurtug, Tuv 35.77 311 *i* P **P 10 28 57.5 +1.0**
KNGR pmax pmax
comp=Z,6.0nm,1.1s
BILL Bilibino 36.43 15*ce*P **P 10 29 03.5 +1.6**
BILL *e* 10 30 23.0
BILL *e*S **S 10 34 41.6 -1.6**
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,129nm,17.0s
GOMU GeErMu 38.03 286⇓ *e*P **P 10 29 16.3 0.0**
GOMU pP sP 10 29 19.5 +1.8
GOMU sP pP 10 29 20.5 +3.2
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,79nm,4.9s
GOMU LR LR
comp=Z,160nm,15.9s
GOMU LR LR
comp=Z,170nm,14.7s
GOMU LR LR
comp=Z,180nm,14.5s
FAKI Fak Fak 38.23 195 P **P 10 29 18.9 +1.3**
FAKI IAmb IAmb 10 29 33.3
comp=Z,23nm,1.2s
CMAR Chiang Mai Arr 41.16 258 P **P 10 29 40.5 -1.6**
comp=Z,1.5nm,0.6s,baz=52,slow=6.9,SNR=11
CMAR LR LR 10 48 33.9
comp=Z,70nm,19.3s,baz=60,slow=39
comp=Z,1.5nm,0.6s
CMAR Chiang Mai Arr 41.16 258 *i* P **P 10 29 41.2 -0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
DGZ Jazzator, Alta 42.15 308 *i* P **P 10 29 51.0 +1.0**
DGZ pmax pmax
comp=Z,2.0nm,0.4s
WMQ Urumqi 42.28 299 *e*P **P 10 29 53.9 +2.8**
WMQ pmax pmax
comp=Z,32nm,0.9s
ZALV Zalesovo Beam 43.87 314 P **P 10 30 03.8 +0.1**
comp=Z,2.9nm,0.7s,baz=105,slow=8.0,SNR=8.2
ZALV PcP **PcP 10 31 49.5 -0.2**
comp=Z,2.1nm,0.6s,baz=101,slow=3.5,SNR=4.0
comp=Z,2.9nm,0.7s
ZALV Zalesovo Beam 43.87 314 P **P 10 30 03.6 -0.1**
KAPI Kappang 44.40 212 LR LR 10 49 17.0
comp=Z,52nm,18.9s,baz=3.0,slow=37
NRIK Noril'sk 45.72 336 *i* P **P 10 30 18.6 +0.4**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 45.75 304 P **P 10 30 19.0 +0.2**
MK31 Makanchi Array 45.75 304 P **P 10 30 19.0 +0.2**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 45.75 304 P **P 10 30 18.2 -0.6**
comp=Z,1.6nm,0.7s,baz=87,slow=8.1,SNR=15
MKAR LR LR 10 49 33.0
comp=Z,89nm,19.0s,baz=86,slow=36
comp=Z,1.6nm,0.7s
MKAR Makanchi Array 45.75 304 P **P 10 30 18.7 -0.1**
MKAR Makanchi Array 45.75 304 P **P 10 30 18.7 -0.1**
RAMN Ramite 47.50 277 *e*P **P 10 30 32.1 -1.0**
comp=Z,43nm,1.1s
JIRN Jiri 47.56 278 *e*P **P 10 30 33.0 -0.7**
GUN Gumba 47.72 278 *e*P **P 10 30 34.5 -0.4**
KURK Kurchatov 47.76 310 P **P 10 30 34.9 +0.4**
KURK IAmb IAmb 10 30 44.0
comp=Z,11nm,1.0s
KURK Kurchatov 47.76 310 P **P 10 30 35.0 +0.6**
KURBB Kurchatov Arra 47.82 310 P **P 10 30 35.0 +0.1**
comp=Z,2.7nm,0.5s,baz=85,slow=7.9,SNR=36
comp=Z,2.7nm,0.5s
MTN Manton Dam 48.10 194 P **P 10 30 37.0 -0.4**
PKI Pulchoki 48.24 278 *e*P **P 10 30 38.3 -0.6**
PKIN Phulchoki 48.24 278 *e*P **P 10 30 38.0 -0.9**
GKN Gorkha 48.70 279 *e*P **P 10 30 41.9 -0.4**
RSO Redoubt South 48.79 37 P **P 10 30 42.0 -0.5**
KDAK Kodiak Island 48.87 40 P **P 10 30 44.7 +1.8**
comp=Z,4.5nm,0.8s,baz=302,slow=15,SNR=1.4
comp=Z,4.5nm,0.8s
KDAK Kodiak Island 48.87 40 P **P 10 30 42.3 -0.6**
H21K Melozitna Rive 49.10 30 P **P 10 30 46.4 +1.8**
H21K IAmb IAmb 10 31 24.8
comp=Z,8.8nm,1.4s
DANN Dangsing 49.28 280 *e*P **P 10 30 46.7 -0.2**
comp=Z,25nm,0.5s
KOLN Koldanda 49.64 279 *e*Pg **P 10 30 49.1 -0.4**
MLY Manley 49.91 31 P **P 10 30 52.7 +1.8**
MLY IAmb IAmb 10 31 07.6
comp=Z,9.7nm,1.5s
PYUN Piuthan 50.01 280 *e*P **P 10 30 51.9 -0.4**
TRF Thorofare Moun 50.04 33 P **P 10 30 48.1 -3.8**
TRF IAmb IAmb 10 30 58.0
comp=Z,16nm,1.4s
ILAR Eielson Array 51.55 31 P **P 10 31 03.5 +0.3**
comp=Z,1.1nm,0.7s,baz=277,slow=6.1,SNR=13
comp=Z,1.1nm,0.7s
AAK Ala-Archa 51.98 300 P **P 10 31 05.7 -1.2**
comp=Z,1.4nm,0.4s,baz=105,slow=9.9,SNR=3.6
AAK LR LR 10 55 45.2
comp=Z,159nm,18.3s,baz=84,slow=39
comp=Z,1.4nm,0.4s
BVAR Borovoye Array 52.52 314 LR LR 10 56 06.2
comp=Z,94nm,18.4s,baz=77,slow=39
BRVK Borovoye 52.58 314*ce*P **P 10 31 11.4 +0.4**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
WR0 Warramunga Arr 54.54 188 P **P 10 31 25.5 -0.2**
WR0 IAmb IAmb 10 31 41.5
comp=Z,9.7nm,1.2s
WB2 Warramunga Arr 54.55 189 P **P 10 31 25.7 0.0**
WB2 IAmb IAmb 10 31 55.5
comp=Z,7.5nm,1.1s
WRA Warramunga Arr 54.55 189 P **P 10 31 25.1 -0.6**
comp=Z,1.8nm,0.5s,baz=1.1,slow=7.5,SNR=46
comp=Z,1.8nm,0.5s
WRA Warramunga Arr 54.55 189 P **P 10 31 25.8 +0.1**
WRA Warramunga Arr 54.55 189 P **P 10 31 25.8 +0.1**
WRA pmax pmax
comp=Z,1.0nm,1.0s
KK31 Karatay Array 54.67 302 IAmb IAmb 10 31 28.3
comp=Z,8.6nm,1.1s
KKAR Karatay Array 54.67 302 P **P 10 31 26.9 +0.4**
KKAR IAmb IAmb 10 31 28.3
comp=Z,8.6nm,1.1s
KKAR Karatay Array 54.67 302 P **P 10 31 26.9 +0.4**
KKAR pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 56.57 26 P **P 10 31 41.3 +1.6**
comp=Z,1.8nm,0.7s,baz=280,slow=10,SNR=3.9
INK LR LR 11 00 17.3
comp=Z,46nm,18.1s,baz=308,slow=40
comp=Z,1.8nm,0.7s
AS31 Alice Springs 58.27 188 P **P 10 31 53.1 +0.9**
ASAR Alice Springs 58.27 188 P **P 10 31 51.9 -0.4**
comp=Z,0.7nm,0.5s,baz=5.1,slow=6.3,SNR=19
comp=Z,0.7nm,0.5s
ASAR Alice Springs 58.27 188 P **P 10 31 53.0 +0.7**
ASAR Alice Springs 58.27 188 P **P 10 31 53.0 +0.7**
ARU Arti 58.48 320 LR LR 11 00 41.4
comp=Z,103nm,18.2s,baz=124,slow=40
ARU Arti 58.48 320*d i*P **P 10 31 53.9 +0.6**
ARU 10 32 41.2
ARU 10 34 00.0
ARU S **S 10 40 00.0 +3.5**
ARU SS **SS 10 43 49.7 +1.4**
ARU pmax pmax
comp=Z,11nm,1.6s
ARU MLR MLR
comp=Z,151nm,16.0s
ABKAR Akbulak array 59.82 311 P **P 10 32 03.0 +0.2**
ABKAR Akbulak array 59.82 311 P **P 10 32 02.6 -0.1**
ABKAR IAmb IAmb 10 32 05.1
comp=Z,7.8nm,1.2s
AKTO Aktyubinsk 60.61 313 LR LR 11 00 45.4
comp=Z,139nm,18.3s,baz=61,slow=38
DZM Mont Dzumac 60.93 154 *e*LR LR 10 50 09.8
comp=Z,161nm,20.5s
PALK Pallekele 62.10 259 LR LR 11 01 57.2
comp=Z,59nm,18.4s,baz=167,slow=39
SPITS Spitsbergen Ar 63.10 349 LR LR 11 04 01.3
comp=Z,105nm,18.1s,baz=356,slow=40
AFI Afiamalu 65.30 129 LR LR 10 56 53.6
comp=Z,85nm,19.0s,baz=294,slow=32
STKA Stephens Creek 65.98 180 P P 10 32 49.1 +5.4
comp=Z,1.2nm,0.5s,baz=339,slow=17,SNR=3.3
ARCES ARCESS Array B 66.50 340 P **P 10 32 46.9 +0.1**
comp=Z,1.3nm,0.7s,baz=73,slow=6.7,SNR=4.1
ARCES LR LR 11 08 25.7
comp=Z,142nm,18.3s,baz=60,slow=42
comp=Z,1.3nm,0.7s
OBN Obninsk 70.32 324*de*P **P 10 33 11.9 +1.1**
OBN *e* 10 35 47.0
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,198nm,16.0s
FINES FINESS Array B 71.22 333 P **P 10 33 15.7 -0.5**
comp=Z,1.8nm,0.8s,baz=43,slow=6.5,SNR=3.4
FINES LR LR 11 07 54.5
comp=Z,111nm,18.1s,baz=43,slow=39
comp=Z,1.8nm,0.8s
FINES FINESS Array B 71.22 333 *i* P **P 10 33 16.3 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
WSAR Wadi Sarin 71.81 286 LR LR 11 09 50.9
comp=Z,91nm,18.1s,baz=114,slow=40
KBZ Khabaz 72.79 311 P **P 10 33 26.9 +1.0**
comp=Z,2.6nm,1.0s,baz=95,slow=19,SNR=2.2
comp=Z,2.6nm,1.0s
KBZ Khabaz 72.79 311 P **P 10 33 27.0 +1.0**
KIV Kislovodsk 72.80 312 *e*P **P 10 33 27.1 +0.9**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,32nm,18.0s
SHA1 Shidzhatmaz 72.93 312 *i* P **P 10 33 27.8 +0.7**
MNK Minsk 74.78 326 *i* P P 10 33 31.4 -6.0
MNK *i* S **S 10 43 09.0 -4.8**
MNK *i* SS **SS 10 47 56.7 -3.8**
MNK *i* SSS SSS 10 51 18.4
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK pmax pmax
comp=Z,12nm,1.1s
MNK MLR MLR
comp=Z,112nm,15.0s
MNK MLR MLR
comp=E,44nm,18.0s
MNK Minsk 74.78 326 *i* P P 10 33 31.4 -6.0
comp=E,4.0nm,1.1s
MNK *i* P P 10 33 31.4 -6.0
MNK *i* P P 10 33 31.4 -6.0
comp=Z,12nm,1.1s,baz=51
MNK *i* PP **PP 10 36 18.3 -5.8**
MNK *i* PPP PPP 10 38 04.6
MNK *i* S **S 10 43 09.0 -4.8**
MNK *i* SS **SS 10 47 56.8 -3.8**
MNK *i* SSS SSS 10 51 18.4
MNK *i* LQ LQ 11 01 08.2
MNK *i* LR LR 11 06 54.9
MNK *i* LRM MLR 11 09 42.0
comp=Z,112nm,15.5s
MNK *i* LRM MLR 11 10 51.6
comp=E,44nm,18.0s
NACGM Naroch 75.02 327⇑ *e*P **P 10 33 39.1 +0.2**
baz=51
NVAR Mina Array Bea 76.33 53 P **P 10 33 49.0 +2.1**
comp=E,1.0nm,0.7s,baz=295,slow=5.5,SNR=7.4
comp=E,1.0nm,0.7s
AKASG Malin Array Be 76.50 323 P **P 10 33 46.7 -0.6**
comp=E,0.8nm,0.5s,baz=47,slow=4.6,SNR=5.7
AKASG LR LR 11 11 40.5
comp=E,193nm,18.2s,baz=62,slow=39
comp=E,0.8nm,0.5s
AKASG Malin Array Be 76.50 323 *i* P **P 10 33 48.2 +0.8**
NB2 NORSAR Subarra 76.66 338 P **P 10 33 48.3 +0.1**
comp=Z,0.6nm,0.7s,baz=40,slow=5.9
NOA NORSAR Array B 76.66 338 P **P 10 33 48.4 +0.1**
comp=Z,1.0nm,0.7s,baz=40,slow=5.7,SNR=6.3
NOA LR LR 11 11 26.5
comp=Z,135nm,18.7s,baz=40,slow=39
comp=Z,1.0nm,0.7s
FRB Frobisher Bay 79.22 13 LR LR 11 12 17.4
comp=Z,79nm,19.2s,baz=336,slow=38
PDAR Pinedale Array 79.29 45 P **P 10 34 05.1 +1.7**
comp=Z,0.6nm,0.7s,baz=280,slow=0.8,SNR=5.9
comp=Z,0.6nm,0.7s
BRTR Keskin Array B 80.76 312 P **P 10 34 11.4 +0.1**
comp=Z,0.6nm,0.6s,baz=64,slow=3.4,SNR=3.7
comp=Z,0.6nm,0.6s
BRTR Keskin Array B 80.76 312 *i* P **P 10 34 12.3 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 81.52 320 LR LR 11 15 23.9
comp=Z,134nm,18.1s,baz=58,slow=39
RAYN Ar Rayn 81.88 293 P **P 10 34 17.6 +0.3**
RAYN Ar Rayn 81.88 293 P **P 10 34 17.7 +0.3**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
PPT2 Papeete2 83.27 117 *e*LR LR 11 00 30.1
comp=Z,124nm,26.2s
VRAC Vranov 83.43 327 LR LR 11 14 25.5
comp=Z,82nm,18.7s,baz=32,slow=38
TAOE Nuku Hiva Isla 85.30 104 *e*LR LR 11 01 26.4
comp=Z,138nm,24.3s
EKA Eskdalemuir Ar 85.65 341 LR LR 11 18 27.3
comp=Z,138nm,18.0s,baz=5.5,slow=40
DAVOX Davos/Dischmat 88.27 329 LR LR 11 18 20.4
comp=Z,64nm,18.1s,baz=79,slow=38
TXAR Lajitas Array 91.48 53 P **P 10 35 05.7 +1.2**
comp=Z,0.3nm,0.6s,baz=289,slow=2.8,SNR=6.2
comp=Z,0.3nm,0.6s
ESDC Sonseca Array 99.71 334 LR LR 11 27 54.8
comp=Z,67nm,18.7s,baz=352,slow=40
TORD Torodi Ar. Bea 119.32 314 PKP **PKPdf 10 40 47.0 -0.6**
comp=Z,0.3nm,0.7s,baz=49,slow=1.2,SNR=4.8
LPAZ La Paz 147.69 63 PKPbc **PKPbc 10 41 44.3 +0.8**
comp=Z,1.5nm,0.6s,baz=297,slow=2.3,SNR=7.6
SIV San Ignacio 152.48 54 PKPbc **PKiKP 10 41 55.0 +0.3**
baz=297,slow=6.8

NOU ***22*** *10:41:35.9, 17.°21S×168.°18E, h7km, MLv3.8/5, Vanuatu Islands*
IDC ***22*** *10:41:42.4±13.0, 18.°14S×168.°16E, h0km, mb3.7/3, mbtmp3.6/4, ML2.6/1, MS3.7/9, Error ellipse: s-maj=222.4km s-min=45.1km az=82.0*
ISC 22 10:41:41.7±2.9, 18.°1S±0.°1×168.°4E±0.°5, h10km, n10, σ0s92/6, mb3.7/3, MS3.6/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**0.33**	**1**	P	**Pg**		**10 41 48.4**	**0.0**
DZM	**Mont Dzumac**	**4.34**	**205**	Pn	**Pn**		**10 42 47.4**	**-0.5**
	0.3nm,0.3s,baz=0.0,slow=20,SNR=8.0							
DZM				Sn	**Sn**		**10 43 38.9**	**+0.2**
	1.6nm,0.3s,baz=30,slow=20,SNR=3.0							
DZM				LR	LR		10 44 18.8	
	comp=Z,222nm,20.7s,baz=28,slow=37							
	2.2nm,0.8s							
HNR	**Honiara**	**11.93**	**315**	LR	LR		10 47 46.5	
	comp=Z,3μm,20.9s,baz=15,slow=31							
PMG	**Port Moresby**	**22.37**	**290**	LR	LR		10 54 35.2	
	comp=Z,133nm,18.4s,baz=106,slow=35							
STKA	**Stephens Creek**	**27.81**	**235**	P	**P**		**10 47 32.2**	**+1.0**
	2.1nm,0.9s,baz=63,slow=4.5,SNR=4.1							
STKA				LR	LR		10 57 41.6	
	comp=Z,107nm,18.6s,baz=27,slow=35							
	2.1nm,0.9s							
WRA	**Warramunga Arr**	**32.24**	**261**	P	**P**		**10 48 09.6**	**-1.0**
	0.5nm,0.8s,baz=90,slow=9.4,SNR=2.3							
WRA				LR	LR		11 00 03.7	
	comp=Z,120nm,18.3s,baz=36,slow=34							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**32.66**	**254**	P	**P**		**10 48 14.7**	**+0.4**
	0.6nm,0.6s,baz=79,slow=8.6,SNR=10							
ASAR				LR	LR		11 00 23.5	
	comp=Z,191nm,20.3s,baz=86,slow=35							
	0.6nm,0.6s							
PPT	**Papeete**	**39.93**	**96**	LR	LR		11 04 22.2	
	comp=Z,39nm,18.3s,baz=317,slow=34							
SIJI	**Sorong**	**40.31**	**291**	LR	LR		11 05 08.7	
	comp=Z,94nm,18.0s,baz=86,slow=35							
FITZ	**Fitzroy Crossi**	**40.59**	**263**	LR	LR		11 05 19.6	
	comp=Z,130nm,19.8s,baz=147,slow=35							

UPA ***22*** *10:42:15.5±0.4, 6.°85N×72.°94W, h80km±185km, MW4.2*
NEIC ***22*** *10:42:17.6±2.3, 6.°77N±0.°06×72.°97W±0.°07, h151km±8km, mb4.8/416, Error ellipse: s-maj=10.0km s-min=8.4km az=79.0*
RSNC ***22*** *10:42:17.6±1.1, 6.°82N×73.°11W, h156km±4km, ML4.9, Mw5.0, Fault plane solution: NP1:φs48.00000°, δ78.00000°, λ-2.00000°.*
IDC ***22*** *10:42:17.5±0.7, 6.°71N×73.°06W, h161km±6km, mb4.1/33, mbtmp4.6/37, MS3.4/6, Error ellipse: s-maj=9.4km s-min=6.4km az=79.0*
VAO ***22*** *10:42:17.4±0.3, 6.°76N×73.°05W, h155km±3km, mb4.7*
GCMT ***22*** *10:42:19.6±0.4, 6.°89N±0.°03×73.°10W±0.°03, h158km±5km, MW4.8/83, Moment Tensor Solution. s6,c6; s83,c107; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.62±.08; Mθθ-1.93±.09; Mφφ 1.31±.10; Mrθ-0.42±.07; Mrφ0.05±.10; Mθφ0.89±.07; Best double couple: M₀1.96800×10¹⁶ NP1:φs310.00000°, δ74.00000°, λ147.00000°. NP2: φs51.00000°, δ58.00000°, λ19.00000°. Principal axes: T 1.9270, Plg35.000° , Azm266.000°; N 0.0820, Plg53.000° , Azm107.0000°; P -2.0080, Plg10.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
FUNV ***22*** *10:42:20.5, 6.°96N×73.°06W, h18km, MW4.6*
ISC 22 10:42:17.1±0.3, 6.°82N±0.°03×73.°03W±0.°03, h157km±3km, h157km:pP-P,n728,σ1s69/634,mb4.8/232,13C-17D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**214**	*i* P		**Pn**	**10 42 38.9**	**+0.1**
BARC				*e*S		**Sn**	**10 42 54.5**	**-0.8**
BARC				IAML			10 42 56.9	
	comp=Z,22μm,0.3s							
PAMC	**Pamplona, Colo**	**0.61**	**32**⇑	*i*P		**Pn**	**10 42 41.7**	**+1.2**
PAMC				*e*S		**Sn**	**10 42 58.7**	**+0.4**
PAMC				IAML			10 43 01.2	
	comp=Z,28μm,0.5s							
BRRC	**Barranca, Sant**	**0.74**	**293**⇑	*i*P		**Pn**	**10 42 40.7**	**+0.1**
BRRC				*e*S		**Sn**	**10 42 57.9**	**-0.7**
BRRC				IAML			10 43 01.2	
	comp=Z,15μm,0.3s							
RUSC	**La Rusia**	**0.92**	**183**⇓	*e*P		**Pn**	**10 42 42.9**	**+0.3**
RUSC				*e*S		**Sn**	**10 43 00.6**	**-1.4**
RUSC				IAML			10 43 03.2	
	comp=Z,17μm,0.3s							
CAPV	**Capacho**	**1.26**	**34**	*e*S		**Sn**	**10 42 58.6**	**-8.1**
TAMC	**Tame, Arauca**	**1.29**	**107**⇑	*i*P		**Pn**	**10 42 47.3**	**+2.1**
TAMC				*e*S		**Sn**	**10 43 08.9**	**+2.3**
TAMC				IAML			10 43 10.1	
	comp=Z,5μm,0.5s							
OCAC	**Ocana**	**1.44**	**349**⇓	*e*P		**Pn**	**10 42 47.0**	**+0.1**
OCAC				*e*S		**Sn**	**10 43 08.6**	**-1.1**
OCAC				IAML			10 43 11.0	
	comp=Z,16μm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.44**	**259**	*e*P		**Pn**	**10 42 45.3**	**-1.4**
PTBC				*e*S		**Sn**	**10 43 06.7**	**-2.6**
PTBC				IAML			10 43 12.4	
	comp=Z,10μm,0.3s							

SPBC	San Pablo de B	1.56	222	⇓	eP		Pn	10 42 47.6	-0.3
SPBC					eS		Sn	10 43 09.9	-1.7
SPBC					IAML			10 43 12.6	
	comp=Z,24µm,0.3s								
ZARC	Zaragoza, Cauc	1.93	290	⇑	eP		Pn	10 42 50.9	-1.0
ZARC					eS		Sn	10 43 17.4	-1.4
ZARC					IAML			10 43 22.7	
	comp=Z,12µm,0.3s								
NORC	Norcasia	2.21	236		eP		Pn	10 42 54.5	-0.8
NORC					eS		Sn	10 43 23.5	-1.1
NORC					IAML			10 43 28.1	
	comp=Z,5µm,0.2s								
CHIC	Chingaza	2.28	198	⇓	iP		Pn	10 42 56.8	+0.3
CHIC					eS		Sn	10 43 26.2	-0.6
CHIC					IAML			10 43 30.3	
	comp=Z,7µm,0.5s								
ROSC	El Rosal	2.35	213		P		Pn	10 42 58.3	+1.2
	comp=Z,5µm,0.4s,baz=12,slow=20,SNR=1004								
ROSC					S		Sn	10 43 26.9	-1.1
	comp=Z,17µm,0.5s,baz=142,slow=19,SNR=22								
ROSC					LR		LR	10 43 34.9	
	comp=Z,485nm,18.7s,baz=30,slow=35								
ROSC	El Rosal	2.35	213	⇓	iP		Pn	10 42 58.4	+1.2
ROSC					eS		Sn	10 43 29.2	+1.1
ROSC					IAML			10 43 33.7	
	comp=Z,11µm,0.4s								
HELC	Santa Helena	2.56	256	⇑	eP		Pn	10 42 58.1	-1.6
HELC					eS		Sn	10 43 30.9	-1.6
HELC					IAML			10 43 36.4	
	comp=Z,4µm,0.4s								
SOCV	Socops	2.60	56	⇑	iP		Pn	10 43 01.7	+1.8
SOCV					eS		Sn	10 43 33.5	+0.5
SOCV	Socops	2.60	56	⇑	eP		Pn	10 43 01.7	+1.8
SOCV					eS		Sn	10 43 29.7	-3.2
UREC	San Jos de Ur	2.65	291		eP		Pn	10 42 58.5	-2.0
UREC					eS		Sn	10 43 30.3	-3.7
UREC					IAML			10 43 42.0	
	comp=Z,6µm,0.3s								
PTGC	Puerto Gaitan,	2.75	161	⇓	iP		Pn	10 43 02.0	+0.3
PTGC					eS		Sn	10 43 35.3	-1.0
PTGC					IAML			10 43 40.5	
	comp=Z,7µm,0.3s								
LL1C	La Loma 1 Cana	2.75	349	⇓	eP		Pn	10 43 03.1	+1.3
LL1C					eS		Sn	10 43 38.2	+1.8
VILC	Villavicencio,	2.77	194	⇓	iP		Pn	10 43 02.1	0.0
VILC					eS		Sn	10 43 36.0	-0.8
VILC					IAML			10 43 40.2	
	comp=Z,9µm,0.4s								
GUY2C	Guyana, Caldas	2.81	236		eP		Pn	10 43 02.9	0.0
GUY2C					eS		Sn	10 43 40.3	+2.1
GUY2C					IAML			10 43 49.3	
	comp=Z,6µm,0.5s								
LL6C	La Loma 6 Bece	2.91	355		eP		Pn	10 43 03.4	-0.2
LL6C					eS		Sn	10 43 37.1	-2.6
LL6C					IAML			10 43 44.0	
	comp=Z,2µm,0.3s								
LL5C	La Loma 5 El P	2.99	347		eP		Pn	10 43 05.5	+0.8
LL5C					eS		Sn	10 43 41.9	+0.3
LL5C					IAML			10 43 43.0	
	comp=Z,2µm,0.3s								
CBOC	Ciudad Bolivar	3.11	252	⇑	iP		Pn	10 43 06.0	-0.3
CBOC					eS		Sn	10 43 41.5	-3.1
CBOC					IAML			10 43 54.0	
	comp=Z,1µm,0.3s								
SDV	Santo Domingo	3.14	49		P		Pn	10 43 08.3	+1.6
	comp=Z,1µm,0.3s,baz=231,slow=11,SNR=612								
SDV					S		Sn	10 43 44.5	-0.6
	comp=Z,3µm,0.5s,baz=234,slow=17,SNR=29								
SDV	Santo Domingo	3.14	49		Pn		Pn	10 43 07.7	+1.0
SDV	Santo Domingo	3.14	49		eP		Pn	10 43 08.3	+1.6
SDV					eS		Sn	10 43 44.8	-0.4
DBBC	Dabeiba	3.16	274		eP		Pn	10 43 06.4	-0.6
DBBC					eS		Sn	10 43 42.2	-3.3
MCQV	Machiques	3.25	9	⇓	eP		Pn	10 43 08.9	+0.9
MCQV					eS		Sn	10 43 43.2	-4.2
ARGC	Ariguani, Magd	3.25	338		eP		Pn	10 43 08.8	+0.8
ARGC					eS		Sn	10 43 47.3	-0.1
ARGC					IAML			10 43 54.3	
	comp=Z,2µm,0.4s								
ANIL	Santa Ana	3.31	226		eP		Pn	10 43 08.6	-0.4
ANIL					eS		Sn	10 43 49.7	+0.5
SJCC	San Jacinto, C	3.73	325	⇓	eP		Pn	10 43 12.5	-1.6
SJCC					eS		Sn	10 43 53.7	-4.7
SJCC					IAML			10 43 58.5	
	comp=Z,2µm,0.4s								
PLMC	San Jos del P	3.75	240	⇑	eP		Pn	10 43 14.2	-0.3
PLMC					eS		Sn	10 43 58.3	-0.7
PLMC					IAML			10 44 00.6	
	comp=Z,1µm,0.3s								
LCBC	Los crdobas,	3.88	302		eP		Pn	10 43 13.9	-2.1
LCBC					eS		Sn	10 44 01.8	0.0
LCBC					IAML			10 44 05.2	
	comp=Z,2µm,0.3s								
CRJC	Cerrejon, Guaj	4.18	2	⇓	iP		Pn	10 43 19.0	-1.0
CRJC					eS		Sn	10 44 06.0	-3.0
CRJC					IAML			10 44 08.6	
	comp=Z,2µm,0.3s								
GUVC	San Jose del G	4.26	175		eP		Pn	10 43 20.6	-0.5
GUVC					eS		Sn	10 44 10.4	-0.5
GUVC					IAML			10 44 14.7	
	comp=Z,3µm,0.5s								
YOTC	Yotoco, Valle	4.34	230		eP		Pn	10 43 21.4	-0.8
YOTC					eS		Sn	10 44 15.1	+2.3
YOTC					IAML			10 44 23.8	
	comp=Z,534nm,0.7s								
SOLC	Bahia Solano	4.39	263		eP		Pn	10 43 22.6	-0.1
SOLC					eS		Sn	10 44 11.3	-2.4
CURV	Curarigua	4.39	44		eP		Pn	10 43 24.9	+2.1
CURV					eS		Sn	10 44 11.1	-2.9
SMRC	Santa Marta, M	4.48	345		eP		Pn	10 43 23.4	-0.4
SMRC					eS		Sn	10 44 11.9	-3.9
SMRC					IAML			10 44 16.2	
	comp=Z,856nm,0.4s								
DABV	Dabajuro	4.71	30	⇓	iP		Pn	10 43 27.6	+0.7
DABV					eS		Sn	10 44 19.8	-1.7
DABV	Dabajuro	4.71	30		eP		Pn	10 43 27.8	+0.9
DABV					eS		Sn	10 44 18.2	-3.2
MACC	Macarena, Meta	4.71	190	⇓	iP		Pn	10 43 25.6	-1.4
MACC					eS		Sn	10 44 18.0	-3.5
MACC					IAML			10 44 20.4	
	comp=Z,1µm,0.5s								
PTAC	Punta Ardita,	4.75	274		eP		Pn	10 43 26.0	-1.5
PTAC					eP		Pn	10 43 27.1	-0.4
PTAC					eS		Sn	10 44 12.8	-10
PTAC	Punta Ardita,	4.75	274		eP		Pn	10 43 25.9	-1.6
BETC	Betania	4.76	210		eP		Pn	10 43 26.6	-1.0
BETC					eS		Sn	10 44 15.3	-7.3
BETC					IAML			10 44 24.6	
	comp=Z,1µm,0.5s								
URIC	Uribia, Colomb	4.96	12	⇓	iP		Pn	10 43 29.1	-1.0
URIC					eS		Sn	10 44 23.8	-3.5
URIC					IAML			10 44 26.9	
	comp=Z,294nm,0.5s								
SIQV	Siquisique	4.96	40		eP		Pn	10 43 30.8	+0.6
SIQV					eS		Sn	10 44 24.2	-3.2
MALC	Bahia Malaga	5.11	237		eP		Pn	10 43 33.1	+0.9
MALC					eS		Sn	10 44 31.8	+1.0
MALC					IAML			10 44 44.5	
	comp=Z,325nm,0.7s								
GARC	Garzon, Huila	5.21	208	⇓	eP		Pn	10 43 32.4	-1.4
GARC					eS		Sn	10 44 28.4	-5.3
GARC					IAML			10 44 35.6	
	comp=Z,1µm,0.4s								
BAUV	El Baul	5.37	67		Pn		Pn	10 43 35.0	-0.6
BAUV	El Baul	5.37	67		eP		Pn	10 43 34.9	-0.8
BAUV	El Baul	5.37	67		eS		Sn	10 44 33.9	-3.1
BAUV	El Baul	5.37	67	‖	eP		Pn	10 43 35.0	-0.6
BAUV					eS		Sn	10 44 34.9	-2.1
MAPV	Macapo	5.42	56	⇑	eP		Pn	10 43 36.9	+0.5
MAPV					eS		Sn	10 44 35.9	-2.4
POPC	Popayan, Colom	5.59	221		eP		Pn	10 43 38.4	-0.4
POPC					eS		Sn	10 44 39.9	-2.7
POPC					IAML			10 44 48.5	
	comp=Z,190nm,0.4s								
FLOC	Florencia	5.82	207	⇓	iP		Pn	10 43 40.8	-0.9
FLOC					eS		Sn	10 44 45.7	-2.1
FLOC					IAML			10 44 54.1	
	comp=Z,234nm,0.6s								
JACV	Jacura	5.93	44		eP		Pn	10 43 44.3	+1.2
JACV					eS		Sn	10 44 47.5	-3.0
BENV	Beln	6.21	59		eS		Sn	10 44 54.6	-2.5
TURV	Turiamo	6.27	55		eP		Pn	10 43 48.0	+0.5
TURV					eS		Sn	10 44 56.0	-2.5
CNTA3	Canitas, Panam	6.27	293		eP		Pn	10 43 45.3	-2.3
CNTA3					eS		Sn	10 44 53.7	-4.8
BBAC	Balboa, Cauca	6.36	222		eP		Pn	10 43 48.4	-0.5
BBAC					eS		Sn	10 44 56.9	-3.8
BBAC					IAML			10 45 02.7	
	comp=Z,150nm,0.4s								
GR1C	Gorgona, Isla	6.37	234		eP		Pn	10 43 48.1	-0.8
GR1C					eS		Sn	10 44 56.1	-4.6
CHPO	Chepo, Panama	6.46	292		eP		Pn	10 43 47.8	-2.3
CHPO					eS		Sn	10 44 58.0	-5.0
CRUC	La Cruz	6.52	217		eP		Pn	10 43 52.5	+1.4
CRUC					eS		Sn	10 45 06.3	+1.4
HATO	Hato, Curacao	6.67	37				Pn	10 43 53.1	+0.2
TACV	Tcata	6.79	61		eS		Sn	10 45 08.0	-3.0
UPA	Univ. de Panam	6.79	289		eP		Pn	10 43 51.5	-3.0
UPA					eS		Sn	10 45 05.2	-5.6
UPA	Univ. de Panam	6.79	289		eP		Pn	10 43 51.6	-2.8
UPA					eS		Sn	10 45 06.0	-4.9
PTLC	Puerto Leguiza	6.83	195		eP		Pn	10 44 06.0	+11
PTLC					eS		Sn	10 45 31.8	+20
PTLC					IAML			10 45 59.9	
	comp=Z,404nm,0.5s								
CHOR3	La Chorrera	6.99	288		eP		Pn	10 43 55.1	-1.9
CHOR3					eS		Sn	10 45 10.6	-4.9
GCUF	Volcan Galeras	7.03	218		eP		Pn	10 43 58.7	+0.6
GCUF					eS		Sn	10 45 15.1	-2.2
GCUF					IAML			10 45 24.1	
	comp=Z,182nm,0.5s								
MERV	Las Mercedes	7.09	70		eS		Sn	10 45 15.0	-3.0
BCIP	Isla Barro Col	7.13	290		Pn		Pn	10 43 56.8	-2.2
BCIP	Isla Barro Col	7.13	290		eP		Pn	10 43 56.8	-2.2
BCIP					eS		Sn	10 45 14.3	-4.8
BCIP	Isla Barro Col	7.13	290		eP		Pn	10 43 56.8	-2.2
BCIP					eS		Sn	10 45 13.3	-5.7
VTON	El Valle, Cocl	7.24	285		eP		Pn	10 43 59.0	-1.5
VTON					eS		Sn	10 45 16.8	-5.0
PNME	Penonome	7.42	283		eP		Pn	10 43 59.7	-3.2
TUMC	Tumaco	7.54	229		eP		Pn	10 44 05.7	+1.2
TUMC					eS		Sn	10 45 22.3	-6.6
TUMC					IAML			10 45 36.3	
	comp=Z,211nm,0.6s								
BIRV	Birongo	7.61	61		Pn		Pn	10 44 04.3	-1.0
BIRV	Birongo	7.61	61		eS		Sn	10 45 26.9	-3.6
TULM	Tulcn-Chalpat	7.70	218				Pn	10 44 07.7	+0.7
CACAO	El Cacao, Vera	7.79	274		eP		Pn	10 44 06.6	-1.2
CACAO					eS		Sn	10 45 30.8	-4.0
IMBA	Imbabura, San	8.30	219				Pn	10 44 16.1	+1.1
CUSE	Cuicocha Este	8.40	220		eP		Pn	10 44 17.0	+0.7
CUSE					eS		Sn	10 45 49.3	-0.9
CUSE					IAML			10 45 59.0	
	comp=Z,90nm,0.6s								
OTAV	Otavalo	8.48	220		Pn		Pn	10 44 16.5	-0.9
OTAV	Otavalo	8.48	220		eP		Pn	10 44 16.2	-1.3
PCRV	Puerto La Cruz	8.95	68		P		Pn	10 44 22.5	-0.7
	comp=Z,72nm,0.6s,baz=264,slow=3.5,SNR=22								
PCRV					S		Sn	10 45 59.3	-3.4
	comp=Z,45nm,0.6s,baz=211,slow=19,SNR=1.3								
SLOR	San Lorenzo -	9.27	216				Pn	10 44 28.3	+0.3
BRU2	Volcan	9.77	282				Pn	10 44 34.3	0.0
BRU2	Volcan	9.77	282		eP		Pn	10 44 34.9	+0.6
BRU2					eS		Sn	10 45 55.4	-27
PORT	Chimborazo Vol	10.03	215				Pn	10 44 37.2	-0.8
DRK0	Durika	10.40	284				Pn	10 44 43.0	+0.5
PRVC	Isla de Provid	10.47	309		eP		Pn	10 44 40.2	-3.1
PRVC					eS		Sn	10 46 30.7	-8.8
PRVC					IAML			10 46 34.3	
	comp=Z,98nm,0.3s								
SRBA	San Rafael, Bu	10.51	284		Pn		Pn	10 44 43.6	-0.3
BATAN	Batan	10.74	288				Pn	10 44 46.8	-0.1
PEZE	Perez Zeledon,	10.85	284				Pn	10 44 49.8	+1.5
RIMA	Rio Macho	11.11	286				Pn	10 44 52.4	+0.5
BOSC	San Juan Bosco	11.31	209				Pn	10 44 55.2	+0.8
TBTG	Tabatinga, AM	11.37	164				Pn	10 44 52.9	-2.2
TBTG	Tabatinga, AM	11.37	164		eP		Pn	10 44 53.2	-1.9
HDC	Heredia	11.41	287				Pn	10 44 57.0	+1.2
HOJ	Hope	11.70	342		iP		Pn	10 45 01.7	+2.4
GWJ	Greenwich	11.75	342		iP		Pn	10 45 02.6	+2.4
STH	Stony Hill	11.78	342		iP		Pn	10 45 03.3	+2.8
COVE	Coope Vega, Sa	11.89	290				Pn	10 45 01.9	+0.1
MTDJ	Mount Denham	12.16	339		Pn		Pn	10 45 06.8	+1.4
MTDJ	Mount Denham	12.16	339		eP		Pn	10 45 08.0	+2.6
MTDJ					eS		Sn	10 47 10.6	-10
SDDR	Presa de Saban	12.21	8				Pn	10 45 06.4	+0.4
SDDR	Presa de Saban	12.21	8		eP		Pn	10 45 07.5	+1.4
SDDR					eS		Sn	10 47 13.2	-8.0
SDDR					IAML			10 47 22.3	
	comp=Z,22nm,0.5s								
JTS	Las Juntas de	12.28	287		Pn		Pn	10 45 09.1	+2.1
GRGR	Grenville	12.40	64		Pn		Pn	10 45 08.7	+0.3
GRGR	Grenville	12.40	64		eP		P	10 45 15.3	+1.3
ARNL	Arenillas	12.47	215				Pn	10 45 08.9	-0.4
PCDR	Punta Cana, DR	12.47	21		Pn		Pn	10 45 07.5	-1.8
MLPR	Magueyes Islan	12.53	27		Pn		Pn	10 45 07.1	-2.9
CRPR	Cabo Rojo, PR	12.53	27				Pn	10 45 05.8	-4.3
ICMP	Isla Caja de M	12.70	29				Pn	10 45 10.4	-1.9
GCMP	Grenada, Carri	12.75	63		eP		P	10 45 18.8	+0.9
OBIP	Obispado Ponce	12.79	29				Pn	10 45 11.3	-2.2
CELP	Cerrillos	12.84	29		Pn		Pn	10 45 12.7	-1.4
SJG	San Juan	13.08	30		P		Pn	10 45 14.9	-2.2
	comp=Z,44nm,0.5s,baz=204,slow=17,SNR=22								
SJG					S		Sn	10 47 28.8	-13
	comp=Z,8.9nm,0.3s,baz=234,slow=19,SNR=1.7								
SJG	San Juan	13.08	30		Pn		Pn	10 45 16.3	-0.8
SJG	San Juan	13.08	30		eP		Pn	10 45 13.0	-4.1
TOSP	Speyside	13.12	69		eP		Pn	10 45 16.5	-1.1
GTBY	Guantanamo Bay	13.19	351		Pn		Pn	10 45 19.3	+0.8
GTBY	Guantanamo Bay	13.19	351		eP		P	10 45 21.5	-1.2
GTBY					eS		Sn	10 47 35.4	-9.2
BOAV	Boa Vista	13.22	109		Pn		Pn	10 45 16.9	-2.1
SVB	Belmont	13.25	60		Pn		Pn	10 45 18.8	-0.6
SVB	Belmont	13.25	60		eP		Pn	10 45 18.6	-0.8
CDVI	St. Croix	13.53	36		Pn		Pn	10 45 23.3	+0.5
CDVI	St. Croix	13.53	36		eP		Pn	10 45 22.6	-0.3
MCLT	Moule a Chique	13.72	59		eP		P	10 45 29.8	+1.0
SLBI	Saint Lucia, B	13.85	58		eP		P	10 45 28.6	-1.5
STVI	Saint Thomas	13.90	34		Pn		Pn	10 45 27.1	-0.5
BIM	Bigot	14.02	56		eP		Pn	10 45 29.5	+0.4
FDF	Fort de France	14.07	55		eP		Pn	10 45 28.5	-1.2
MPOM	Morne Pois Mar	14.15	57		eP		P	10 45 33.6	0.0
H05S1	Guadeloupe/Mar	14.16	57		P		P	10 45 32.5	-1.1
	SNR=12								
H05S1					S		Sn	10 48 11.7	+3.5
DSLB	Salisbury	14.24	52		eP		Pn	10 45 32.5	+0.6
ILAM	Ilet Lapin Mar	14.31	55		P		P	10 45 36.5	+1.2
TDBA	Terre de Bas,	14.32	50		eP		Pn	10 45 33.2	+0.4
CZSB	Cruzeiro do Su	14.46	179		Pn		Pn	10 45 34.1	-0.5
CZSB	Cruzeiro do Su	14.46	179		eP		Pn	10 45 33.9	-0.7
CBE	Ff, Capester	14.48	50		P		P	10 45 36.1	-1.1
CNGN	Cerro Negro	14.61	294		P		P	10 45 38.4	-0.3
MAGL	Barre de l'ile	14.65	51		eP		Pn	10 45 37.9	+0.9
BBGH	Gun Hill	14.68	64		eP		P	10 45 41.8	+2.4
GRTK	Grand Turk	14.72	7		P		Pn	10 45 38.3	+0.5
SMRT	St. Maarten	14.79	40		P		Pn	10 45 39.0	+0.2
SMRT	St. Maarten	14.79	40		eP		Pn	10 45 39.0	+0.2
ABD	La Joyeuse, An	14.82	49		eP		Pn	10 45 39.4	+0.4
ATAH	Atahualpa	14.86	201		P		P	10 45 42.0	+0.1
	comp=Z,20nm,0.6s,baz=10,slow=7.5,SNR=13								
ATAH					S		Sn	10 48 28.2	+2.7
	comp=Z,13nm,0.8s,baz=135,slow=10,SNR=2.2								
ANBD	Bethesda, Anti	14.98	46		eP		Pn	10 45 41.1	0.0
CRIN	San Cristobal	15.00	294		IAmb		IAmb	10 46 03.6	
	comp=Z,59nm,0.7s								
PTGA	Pitinga	15.04	119		P		Pn	10 45 41.2	-0.6
	comp=Z,4.1nm,0.6s,baz=306,slow=18,SNR=15								
PTGA					S		Sn	10 48 22.7	-6.6
	comp=Z,40nm,0.9s,baz=348,slow=20,SNR=12								
PTGA					LR		LR	10 52 27.8	
	comp=Z,62nm,19.9s,baz=297,slow=41								
H05N1	Guadeloupe/Mar	15.05	50		P		P	10 45 43.3	-0.2
	SNR=22								
MACA	Manacapuru-AM	15.82	128		P		P	10 45 51.8	-0.2
MACA					IAmb		IAmb	10 46 11.2	
	comp=Z,29nm,0.6s								
MACA	Manacapuru-AM	15.82	128		eP		P	10 45 51.9	-0.2
MTO3	Montecristo	17.72	296		IAmb		IAmb	10 46 17.3	
	comp=Z,50nm,0.8s								
ETMB	Extrema	17.87	158		P		P	10 46 14.6	0.0
ETMB					IAmb		IAmb	10 46 24.7	
	comp=Z,43nm,0.8s								
ETMB	Extrema	17.87	158		eP		P	10 46 14.2	-0.3
SOR	Soroa	18.56	330		P		Pn	10 46 24.7	+0.5
PAYG	Puerto Ayora	18.76	247		P		Pn	10 46 26.1	-0.5
NNA	Nana	19.06	191		P		P	10 46 27.5	-0.1
	comp=Z,8.3nm,0.5s,baz=32,slow=9.5,SNR=3.9								
NNA					S		S	10 49 55.1	-0.7
	comp=Z,4.3nm,0.3s,baz=319,slow=9.3,SNR=1.8								
PETF	Flores	19.27	303		IAmb		IAmb	10 46 35.8	
	comp=Z,40nm,0.6s								
TEIG	Tepich	19.91	314		P		P	10 46 38.0	+1.3
MDP	Montagnes des	20.35	94		P		P	10 46 43.3	+1.8
	comp=Z,33nm,0.9s,baz=279,slow=12,SNR=11								
MDP					S		S	10 50 26.3	+5.1
	comp=Z,4.3nm,0.8s,baz=222,slow=20,SNR=1.6								
	comp=Z,33nm,0.9s								
ITTB	Itaituba	20.53	122		eP		P	10 46 44.4	+1.0
MALB	Monte Alegre	20.61	114		eP		P	10 46 46.0	+1.7
CCIG	Comitan	20.93	298		IAmb		IAmb	10 46 51.6	
	comp=Z,42nm,0.7s								
NPGB	Novo Progresso	22.37	128		eP		P	10 47 02.0	-0.6
DWPF	Disney Wildern	22.62	340		P		P	10 47 06.2	+1.4
	baz=158								
VILB	Vilhena	23.42	147		P		P	10 47 13.1	+0.8
VILB					IAmb		IAmb	10 47 15.0	
	comp=Z,54nm,0.8s								
VILB	Vilhena	23.42	147		eP		P	10 47 12.4	+0.2
LPAZ	La Paz	23.46	168		P		P	10 47 11.9	-1.4
	comp=Z,3.4nm,0.6s,baz=342,slow=3.6,SNR=14								
LPAZ					S		S	10 51 11.1	-4.6
	comp=Z,5.6nm,1.0s,baz=72,slow=9.6,SNR=2.7								
	comp=Z,3.4nm,0.6s								
LPAZ	La Paz	23.46	168		P		P	10 47 12.9	-0.4
LPAZ	La Paz	23.46	168		eP		P	10 47 12.7	-0.6
CMIG	Matias Romero	23.66	298		P		P	10 47 10.0	-4.5
	comp=Z,4.1nm,0.6s,baz=96,slow=6.9,SNR=7.7								
CMIG					PcP		PcP	10 50 55.6	+0.9
	comp=Z,2.7nm,0.7s,baz=72,slow=20,SNR=3.7								
656A	Willston	24.16	339		IAmb		IAmb	10 47 22.1	
	comp=Z,45nm,1.0s								
PDRB	Porto dos Gac	24.46	138		eP		P	10 47 21.5	-0.2
CLDB	Colider	24.56	136		eP		P	10 47 22.6	-0.1
PB16	IPOC Station P	25.23	172		P		P	10 47 26.5	-2.8
SIV	San Ignacio	25.57	153		P		P	10 47 30.9	-0.9
	comp=Z,6.1nm,0.9s,baz=324,slow=8.2,SNR=26								
	comp=Z,6.1nm,0.9s								
PTLB	Pontes e Lacer	26.06	148		eP		P	10 47 35.8	-0.3
TIGA	Tifton	26.41	339		P		P	10 47 41.2	+2.0
	baz=156								
PRPB	Parauapebas	26.52	119		eP		P	10 47 41.3	+0.9
GO01	Chusmiza	26.59	172		P		P	10 47 39.8	-1.6
352A	Blakely	26.94	337		IAmb		IAmb	10 47 47.1	
	comp=Z,40nm,1.0s								
NHSC	New Hope	26.99	347		P		P	10 47 46.4	+2.1
	baz=164								
TLIG	Tlapa	27.11	296		P		P	10 47 46.7	+1.0
TLIG					IAmb		IAmb	10 47 54.1	
	comp=Z,18nm,0.8s								
BRAL	Brewton	27.55	333		P		P	10 47 51.6	+2.2
	baz=149								
152A	Waverly Hall	27.93	339		IAmb		IAmb	10 47 55.8	
	comp=Z,25nm,0.8s								
GOGA	Godfrey	28.18	341		P		P	10 47 55.9	+1.0
GOGA					IAmb		IAmb	10 47 57.9	
	comp=Z,16nm,1.0s								
GOGA	Godfrey	28.18	341		P		P	10 47 57.0	+2.1
	baz=158,SNR=7.1								
SALV	Santo Antonio	28.36	143		eP		P	10 47 56.7	0.0
JSC	Jenkinsville	28.37	346		IAmb		IAmb	10 47 59.4	
	comp=Z,20nm,1.0s								
BIRD	Birdtown, Kers	28.53	347		IAmb		IAmb	10 48 00.8	
	comp=Z,20nm,1.3s								
SNDB	Serra Nova Dou	28.56	131		eP		P	10 47 58.9	+0.4
HODGE	Hodges	28.58	344		IAmb		IAmb	10 48 01.3	
	comp=Z,14nm,0.6s								
CNNC	Cliffs of the	28.64	352		P		P	10 48

comp=Z,19nm,1.1s
833A Chaparral WMA, 32.85 314 IAmb IAmb 10 48 38.4
comp=Z,11nm,0.7s
833A Chaparral WMA, 32.85 314 P P 10 48 35.8 -0.3
baz=126
Q52A Bidwell 33.07 347 IAmb IAmb 10 48 41.4
comp=Z,31nm,0.9s
435B Jarrell 33.13 319 P P 10 48 39.5 +1.0
baz=131
MVL Millersville 33.17 355 IAmb IAmb 10 48 41.3
comp=Z,7.2nm,0.6s
R49A Shelbyville 33.21 342 IAmb IAmb 10 48 41.6
comp=Z,11nm,0.7s
MCWV Mont Chateau 33.27 350 IAmb IAmb 10 48 43.0
comp=Z,35nm,1.1s
MCWV Mont Chateau 33.27 350 P P 10 48 41.9 +2.4
baz=168
Z38A Mt. Pleasant 33.27 325 IAmb IAmb 10 48 41.9
comp=Z,20nm,0.8s
BDFB Brasilia 33.35 132 P P 10 48 41.2 +0.5
comp=Z,11nm,0.6s,baz=295,slow=11,SNR=11
comp=Z,11nm,0.6s
BDFB Brasilia 33.35 132 P P 10 48 41.3 +0.7
BDFB IAmb IAmb 10 48 42.1
comp=Z,11nm,0.6s
BDFB Brasilia 33.35 132 eP P 10 48 41.2 +0.5
P53A Whipple 33.38 348 IAmb IAmb 10 48 43.8
comp=Z,22nm,1.1s
Q51A Peebles 33.39 345 IAmb IAmb 10 48 43.8
comp=Z,22nm,0.8s
WHAR Wooly Hollow 33.41 331 IAmb IAmb 10 48 43.1
comp=Z,19nm,0.6s
MIAR Mount Ida 33.48 328 P P 10 48 42.0 +0.5
baz=141,SNR=8.4
WCI Wyandotte Cave 33.50 341 P P 10 48 42.6 +1.0
WCI IAmb IAmb 10 48 44.2
comp=Z,25nm,0.8s
WCI Wyandotte Cave 33.50 341 P P 10 48 43.3 +1.7
baz=156
WCI Wyandotte Cave 33.50 341 P P 10 48 43.3 +1.7
LCAR Lake Charles 33.52 333 IAmb IAmb 10 48 43.9
comp=Z,12nm,0.6s
P52A Corning 33.68 347 P P 10 48 44.9 +1.8
baz=164,SNR=7.2
LUPA Lehigh Univers 33.70 357 IAmb IAmb 10 48 47.5
comp=Z,22nm,0.8s
P51A Williamsport 33.75 346 IAmb IAmb 10 48 46.7
comp=Z,22nm,0.7s
FCAR Ozark Folk Cen 33.82 331 IAmb IAmb 10 48 46.0
comp=Z,24nm,1.0s
WHTX Lake Whitney, 33.85 321 IAmb IAmb 10 48 46.4
comp=Z,12nm,0.8s
WHTX Lake Whitney, 33.85 321 P P 10 48 45.4 +0.6
baz=133,SNR=7.0
SDBA SAO DESIDERIO 33.86 124 eP P 10 48 45.4 +0.3
CGM3 Cape Girardeau 33.91 336 IAmb IAmb 10 48 47.0
comp=Z,23nm,0.7s
SSPA Standing Stone 33.95 353 P P 10 48 47.6 +2.2
SSPA IAmb IAmb 10 48 48.8
comp=Z,19nm,1.0s
SSPA Standing Stone 33.95 353 P P 10 48 47.7 +2.2
baz=171
SSPA Standing Stone 33.95 353 P P 10 48 47.8 +2.3
SSPA pP pP 10 49 20.7 +1.2
SSPA sP sP 10 49 37.5 -0.3
N58A Sunbury 34.04 355 IAmb IAmb 10 48 49.7
comp=Z,10nm,0.8s
PAL Palisades 34.05 359 P P 10 48 47.8 +1.5
baz=178
O53A New Philadelph 34.09 349 IAmb IAmb 10 48 49.7
comp=Z,34nm,1.1s
O53A New Philadelph 34.09 349 P P 10 48 48.8 +2.2
baz=165,SNR=6.8
ODNJ Ogdensburg 34.15 358 IAmb IAmb 10 48 50.1
comp=Z,23nm,1.5s
TRNY Table Rock, Sta 34.20 358 IAmb IAmb 10 48 50.7
comp=Z,34nm,1.1s
P49A Miami Univ. Ec 34.23 344 P P 10 48 49.3 +1.5
baz=159
ACSO Alum Creek Sta 34.45 346 IAmb IAmb 10 48 53.3
comp=Z,28nm,1.0s
ACSO Alum Creek Sta 34.45 346 P P 10 48 51.9 +2.1
baz=162,SNR=6.8
N53A Lisbon 34.55 350 IAmb IAmb 10 48 54.5
comp=Z,12nm,0.8s
M57A Sunshine Farm, 34.57 355 IAmb IAmb 10 48 54.2
comp=Z,21nm,0.9s
IPMB Ipameri, GO 34.75 136 eP P 10 48 53.2 +0.5
KSCT Kent School, K 34.76 359 IAmb IAmb 10 48 55.3
comp=Z,34nm,1.2s
UCCT U. Connecticut 34.84 1 IAmb IAmb 10 48 55.9
comp=Z,16nm,0.8s
M55A Ridgway 34.88 352 IAmb IAmb 10 48 56.5
comp=Z,26nm,1.1s
MGMO Mountain Grove 34.91 333 IAmb IAmb 10 48 55.7
comp=Z,12nm,0.8s
HHAR Hobbs 35.01 330 IAmb IAmb 10 48 56.0
comp=Z,11nm,0.8s
O48B Farmland 35.02 344 P P 10 48 55.9 +1.2
baz=159
Q44A Meyer Farm, Va 35.05 338 IAmb IAmb 10 48 57.3
comp=Z,23nm,1.0s
M53A WI Miller and 35.14 350 P P 10 48 57.6 +1.9
baz=167
CCM Cathedral Cave 35.21 335 P P 10 48 57.2 +0.9
CCM Cathedral Cave 35.21 335 P P 10 48 57.4 +1.1
baz=148
CCM Cathedral Cave 35.21 335 P P 10 48 57.4 +1.1
CCM sP sP 10 49 47.3 -0.7
L59A Walton 35.27 357 IAmb IAmb 10 49 01.1
comp=Z,8.0nm,0.7s
QUA2 Belchertown 35.32 1 IAmb IAmb 10 48 59.8
comp=Z,12nm,0.9s
BINY Binghamton 35.33 356 IAmb IAmb 10 49 00.0
comp=Z,15nm,0.6s
BINY Binghamton 35.33 356 P P 10 48 59.3 +2.0
baz=175,SNR=5.7
N49A Columbus Grove 35.39 345 IAmb IAmb 10 49 00.8
comp=Z,17nm,0.8s
PCMB Pacaembu 35.41 143 eP P 10 48 58.0 -0.2
WES Weston 35.45 2 IAmb IAmb 10 49 02.0
comp=Z,26nm,1.0s
RLO Rose Lookout 35.48 329 IAmb IAmb 10 49 00.7
comp=Z,23nm,1.0s
L61B Northampton 35.49 0 IAmb IAmb 10 49 01.4
comp=Z,19nm,0.9s
L61B Northampton 35.49 0 P P 10 49 00.2 +1.6
baz=181,SNR=5.2
HRV Adam Dziewonsk 35.56 2 P P 10 49 01.0 +1.7
HRV IAmb IAmb 10 49 02.4
comp=Z,31nm,1.0s
HRV Adam Dziewonsk 35.56 2 P P 10 49 01.3 +2.0
baz=182
HRV Adam Dziewonsk 35.56 2 P P 10 49 01.4 +2.0
ABTX Abilene, Hawle 35.66 320 IAmb IAmb 10 49 02.1
comp=Z,11nm,0.6s
ABTX Abilene, Hawle 35.66 320 P P 10 49 00.6 +0.3
baz=130,SNR=6.3
TUL1 Leonard 35.69 327 IAmb IAmb 10 49 01.6
comp=Z,15nm,0.7s
TUL1 Leonard 35.69 327 P P 10 49 00.3 -0.2
baz=139
K62A Royalston 35.71 1 IAmb IAmb 10 49 03.6
comp=Z,33nm,1.1s
SFIN Lafayette 35.71 341 P P 10 49 01.8 +1.3
baz=156,SNR=19
WVNY West Valley, N 35.78 353 IAmb IAmb 10 49 04.3
comp=Z,28nm,1.1s
JANB Januaria 35.82 128 eP P 10 49 01.9 +0.1
S39A Bolivar 35.84 332 IAmb IAmb 10 49 03.8
comp=Z,8.4nm,0.7s
R40A Maddies Statio 35.85 334 IAmb IAmb 10 49 03.4
comp=Z,19nm,1.0s
X34A Smith Ranch, M 35.88 324 IAmb IAmb 10 49 03.9
comp=Z,13nm,0.6s
K57A Scipio Center 35.90 356 IAmb IAmb 10 49 04.9
comp=Z,24nm,0.8s
DEOK Depew 36.02 327 IAmb IAmb 10 49 05.1
comp=Z,48nm,1.2s
OK030 Cody Creek RV 36.24 326 IAmb IAmb 10 49 05.9
comp=Z,13nm,0.7s
CPUP Villa Florida 36.30 156 P P 10 49 02.5 -3.3
comp=Z,1.6nm,0.4s,baz=347,slow=7.1,SNR=4.5
CPUP LR LR 11 06 09.1
comp=Z,91nm,21.4s,baz=38,slow=40
CPUP Villa Florida 36.30 156 eP P 10 49 06.0 +0.3
PMNB Patos De Minas 36.37 134 eP P 10 49 06.8 +0.3
QUOK Quay 36.38 327 IAmb IAmb 10 49 07.5
comp=Z,25nm,0.7s
J61A Chester 36.38 1 IAmb IAmb 10 49 09.5
comp=Z,17nm,0.9s
L48A N Adams 36.41 346 IAmb IAmb 10 49 08.9
comp=Z,29nm,1.3s
J56A Wolcott 36.47 355 IAmb IAmb 10 49 09.5
comp=Z,24nm,0.9s
OK029 Liberty Lake 36.51 326 IAmb IAmb 10 49 09.8
comp=Z,14nm,0.8s
J59A Piesco 36.52 358 IAmb IAmb 10 49 11.3
comp=Z,17nm,1.4s
TXAR Lajitas Array 36.53 312 P P 10 49 08.3 +0.5
comp=Z,9.3nm,0.6s,baz=127,slow=9.2,SNR=188
TXAR PcP PcP 10 51 29.1 +0.9
comp=Z,4.9nm,0.8s,baz=135,slow=6.1,SNR=11
TXAR ScP ScP 10 55 01.3 +1.1
comp=Z,0.8nm,0.8s,baz=132,slow=6.7,SNR=4.4
comp=Z,9.3nm,0.6s
TXAR Lajitas Array 36.53 312 P P 10 49 08.5 +0.7
TX32 Lajitas Array 36.53 312 IAmb IAmb 10 49 09.3
comp=Z,11nm,0.7s
WMOK Wichita Mounta 36.53 323 IAmb IAmb 10 49 08.6
comp=Z,9.9nm,0.8s
WMOK Wichita Mounta 36.53 323 P P 10 49 07.6 -0.1
baz=134,SNR=5.3
HDIL Hopedale 36.61 339 P P 10 49 08.5 +0.3
baz=152,SNR=6.5
OK048 Pawnee Station 36.68 327 IAmb IAmb 10 49 10.3
comp=Z,16nm,0.7s
OK051 E0350 and S346 36.69 327 IAmb IAmb 10 49 10.4
comp=Z,25nm,0.9s
HNH Hanover 36.74 1 IAmb IAmb 10 49 12.4
comp=Z,15nm,0.9s
T35A Sooner Cattle 36.82 328 IAmb IAmb 10 49 11.3
comp=Z,15nm,0.9s
T35A PcP PcP 10 51 30.4 +1.6
HPIG 36.90 307 IAmb IAmb 10 49 12.5
comp=Z,12nm,0.6s
NCB Newcomb 37.02 359 IAmb IAmb 10 49 14.7
comp=Z,12nm,0.7s
MC01 Montes Claros 37.07 129 eP P 10 49 12.6 +0.2
BLOK Blackwell 37.09 327 IAmb IAmb 10 49 14.7
comp=Z,18nm,0.9s
I63A Otisfield 37.15 3 IAmb IAmb 10 49 15.6
comp=Z,18nm,0.7s
LBNH Lisbon 37.29 1 IAmb IAmb 10 49 16.9
comp=Z,25nm,0.8s
LBNH Lisbon 37.29 1 P P 10 49 15.8 +1.9
baz=182,SNR=9.1
PTGB Pitanga 37.41 148 eP P 10 49 15.7 +0.5
PTGB epP pP 10 49 49.9 0.0
KAN09 Caldwell North 37.58 327 IAmb IAmb 10 49 17.2
comp=Z,15nm,0.6s
KAN17 Caldwell West 37.59 327 IAmb IAmb 10 49 17.3
comp=Z,16nm,0.8s
L44A Lake County Fo 37.60 342 P P 10 49 17.7 +1.2
baz=155
H62A Milan 37.64 2 IAmb IAmb 10 49 20.6
comp=Z,17nm,0.9s
KAN01 Argonia South 37.67 327 IAmb IAmb 10 49 18.9
comp=Z,21nm,1.0s
LONY Lake Ozonia 37.68 358 IAmb IAmb 10 49 20.1
comp=Z,19nm,1.2s
LONY Lake Ozonia 37.68 358 P P 10 49 18.9 +1.7
baz=178,SNR=6.5
WVL Waterville 37.71 4 IAmb IAmb 10 49 20.4
comp=Z,18nm,0.9s
DELO Deloro Mine 37.77 355 IAmb IAmb 10 49 20.1
comp=Z,13nm,0.6s
U32A Winter Ranch, 37.81 325 IAmb IAmb 10 49 20.0
comp=Z,27nm,1.1s
ELIS Ellis County 37.83 324 IAmb IAmb 10 49 21.2
comp=Z,19nm,0.9s
FRNY Flat Rock 37.87 359 IAmb IAmb 10 49 21.7
comp=Z,18nm,1.1s
NOKA Waynoka 37.95 325 IAmb IAmb 10 49 20.9
comp=Z,36nm,0.7s
L42A Oliver, Polo 38.02 340 IAmb IAmb 10 49 20.9
comp=Z,36nm,1.1s
SADO Sadowa 38.18 353 P P 10 49 22.6 +1.2
comp=Z,16nm,0.8s,baz=182,slow=3.0,SNR=15
comp=Z,16nm,0.8s
SADO Sadowa 38.18 353 IAmb IAmb 10 49 23.6
comp=Z,24nm,1.0s
DIAM Diamantina, MG 38.23 131 eP P 10 49 22.4 +0.1
N38A Joes South For 38.34 335 IAmb IAmb 10 49 24.1
comp=Z,21nm,0.8s
AMTX Amarillo 38.41 321 IAmb IAmb 10 49 25.2
comp=Z,19nm,0.9s
AMTX Amarillo 38.41 321 P P 10 49 24.7 +1.1
baz=130
PKME Peaks-Kenny Pk 38.44 4 IAmb IAmb 10 49 26.2
comp=Z,21nm,1.0s
PKME Peaks-Kenny Pk 38.44 4 P P 10 49 25.2 +1.7
baz=186,SNR=5.9
KSU1 Kansas State U 38.53 330 IAmb IAmb 10 49 25.5
comp=Z,26nm,0.8s
KSU1 Kansas State U 38.53 330 P P 10 49 24.0 -0.4
baz=140,SNR=6.5
MSTX Muleshoe 38.54 319 IAmb IAmb 10 49 29.4
comp=Z,14nm,0.9s
MSTX Muleshoe 38.54 319 P P 10 49 24.9 +0.1
baz=128,SNR=12
L40A Anamosa 38.63 338 IAmb IAmb 10 49 26.5
comp=Z,16nm,0.7s
F63A Nahmakanta, Br 38.89 4 IAmb IAmb 10 49 29.8
comp=Z,13nm,0.9s
GDU01 Guandu, BA 38.98 122 eP P 10 49 28.6 +0.1
F62A Pittston Farm, 39.02 3 IAmb IAmb 10 49 30.9
comp=Z,12nm,0.9s
JFWS Jewell Farm 39.03 340 P P 10 49 29.0 +0.5
baz=152,SNR=12
F64A Sherman 39.11 5 IAmb IAmb 10 49 31.6
comp=Z,24nm,0.8s
RCBR Riachuelo 39.12 108 P P 10 49 30.5 +0.8
comp=Z,2.0nm,0.3s,baz=315,slow=17,SNR=4.7
comp=Z,2.0nm,0.3s
RCBR Riachuelo 39.12 108 eP P 10 49 30.6 +0.8
SLBS Sierra La Lagu 39.20 299 P P 10 49 32.0 +1.8
SLBS IAmb IAmb 10 49 33.5
comp=Z,24nm,1.1s
SLBS Sierra La Lagu 39.20 299 P P 10 49 32.2 +2.0
SCIA State Center 39.27 336 P P 10 49 31.3 +0.8
baz=147
TRQ Mont Tremblant 39.28 358 IAmb IAmb 10 49 33.1
comp=Z,13nm,1.1s
N35A Tabor 39.45 333 IAmb IAmb 10 49 33.0
comp=Z,22nm,0.9s
I42A Draeger Farm, 39.47 342 IAmb IAmb 10 49 33.6
comp=Z,30nm,1.1s
ITQB Itaqui 39.56 157 eP P 10 49 29.6 -3.4
TIJ01 Guaruva-PR 39.59 145 eP P 10 49 33.8 +0.4
E62A Clayton Lake 39.77 4 P P 10 49 35.9 +1.4
PET01 Itanhaem-SP 39.84 142 eP P 10 49 35.7 +0.3
CMC01 Camacan, BA 39.85 124 eP P 10 49 34.3 -1.4
I40A Norwalk 40.02 340 IAmb IAmb 10 49 38.0
comp=Z,18nm,0.9s
NBAN Anadia - AL 40.11 114 eP P 10 49 37.8 -0.1
GUA01 Guaratinga, BA 40.26 126 eP P 10 49 39.3 +0.4
D62A Allapoint, All 40.26 4 P P 10 49 40.6 +2.1
LMQ La Malbaie 40.65 3 IAmb IAmb 10 49 44.6
comp=Z,24nm,0.8s
NAN01 Guarapari, ES 40.70 127 eP P 10 49 43.3 +0.7
BATG Bathurst New B 40.75 7 P P 10 49 44.2 +1.6
NBRF Rio Formoso - 40.80 112 eP P 10 49 43.9 +0.4
BGNE Belgrade 41.06 331 P P 10 49 46.0 +0.7
baz=140
G40A Rib Lake 41.11 342 IAmb IAmb 10 49 47.9
comp=Z,15nm,0.9s
121A Cookes Peak, D 41.21 313 P P 10 49 48.6 +1.7
baz=121,SNR=12
RIB01 Linhares ES 41.33 130 eP P 10 49 48.2 +0.6
COWI Conover 41.54 343 IAmb IAmb 10 49 51.5
comp=Z,28nm,1.0s
T25A Trinidad 41.55 321 P P 10 49 51.4 +1.8
baz=129,SNR=6.8
ANMO Albuquerque 41.58 317 P P 10 49 50.4 +0.6
comp=Z,2.9nm,0.6s,baz=138,slow=9.2,SNR=7.2
ANMO PcP PcP 10 51 44.2 +0.1
comp=Z,1.0nm,0.5s,baz=135,slow=6.6,SNR=2.3
comp=Z,2.9nm,0.6s
ANMO Albuquerque 41.58 317 P P 10 49 50.7 +0.9
ANMO Albuquerque 41.58 317 P P 10 49 50.6 +0.8
baz=124
ANMO Albuquerque 41.58 317 P P 10 49 50.9 +1.1
ANMO pP pP 10 50 25.5 +1.2
ANMO sP sP 10 50 43.5 +1.4
KSCO Kaye Shedlock' 41.70 325 IAmb IAmb 10 49 52.5
comp=Z,13nm,0.6s
KSCO Kaye Shedlock' 41.70 325 P P 10 49 51.7 +1.1
baz=133,SNR=6.8
319A Douglas 41.75 311 IAmb IAmb 10 49 53.7
comp=Z,20nm,0.8s
ALF01 Guarapari-ES 41.85 131 eP P 10 49 52.6 +0.7
CAM01 Campos-RJ 41.91 134 eP P 10 49 52.6 +0.2
SPMN Marine on St. 41.94 339 IAmb IAmb 10 49 54.0
comp=Z,25nm,1.4s
SPMN Marine on St. 41.94 339 P P 10 49 53.1 +0.7
baz=150
ECSD EROS Data Cent 42.19 334 P P 10 49 54.7 +0.3
baz=144,SNR=13
SDCO Great Sand Dun 42.61 321 P P 10 49 59.7 +1.5
baz=128,SNR=21
OGNE Ogallala 42.70 327 P P 10 49 58.8 +0.1
baz=135
Q24A Divide 43.15 323 P P 10 50 03.3 +0.7
baz=130
TUC Tucson 43.32 311 P P 10 50 04.7 +0.9
TUC IAmb IAmb 10 50 05.8
comp=Z,11nm,0.8s
TUC Tucson 43.32 311 P P 10 50 04.8 +1.0
baz=118
TUC Tucson 43.32 311 P P 10 50 04.8 +1.0
S22A 4UR Ranch, Cre 43.45 320 P P 10 50 06.4 +1.4
baz=127,SNR=12
SUSD Miller 43.78 333 P P 10 50 07.2 0.0
baz=141,SNR=27
X18A Snowflake 43.78 314 IAmb IAmb 10 50 10.1
comp=Z,12nm,0.8s
EYMN Ely 43.90 342 P P 10 50 08.5 +0.5
baz=153,SNR=9.5
W18A Petrified Fore 43.93 315 IAmb IAmb 10 50 11.3
comp=Z,23nm,0.8s
W18A Petrified Fore 43.93 315 P P 10 50 10.4 +1.6
baz=121,SNR=6.4
ISCO Idaho Springs 43.96 323 P P 10 50 10.4 +1.3
baz=130,SNR=17
MVCO Mesa Verde 44.22 318 P P 10 50 12.2 +1.1
baz=124,SNR=9.5
214A Organ Pipe Nat 44.70 309 IAmb IAmb 10 50 16.9
comp=Z,13nm,0.8s
214A Organ Pipe Nat 44.70 309 P P 10 50 15.9 +1.2
baz=115,SNR=11
PV15 Paradox Valley 44.85 320 IAmb IAmb 10 50 18.7
comp=Z,26nm,0.8s
N23A Red Feather La 44.86 324 P P 10 50 17.5 +1.4
baz=130,SNR=6.9
PV13 Radium Mtn., P 44.96 319 IAmb IAmb 10 50 19.2
comp=Z,22nm,0.6s
B35A Bob, Littlefor 44.97 341 IAmb IAmb 10 50 17.8
comp=Z,18nm,0.8s
PV11 David Mesa, Pa 45.08 319 IAmb IAmb 10 50 20.6
comp=Z,10nm,0.7s
WUAZ Wupatki 45.29 315 IAmb IAmb 10 50 22.4
comp=Z,31nm,0.8s
WUAZ Wupatki 45.29 315 P P 10 50 20.9 +1.4
baz=120,SNR=20
AGMN Agassiz Nation 45.66 339 IAmb IAmb 10 50 23.3
comp=Z,14nm,0.7s
AGMN Agassiz Nation 45.66 339 P P 10 50 22.2 +0.2
baz=147,SNR=8.2
O20A White River Ci 45.76 322 P P 10 50 24.3 +1.2
baz=127,SNR=9.1
RSSD Black Hills 45.99 329 P P 10 50 25.3 +0.4
RSSD Black Hills 45.99 329 P P 10 50 25.8 +0.9
baz=135
RSSD Black Hills 45.99 329 P P 10 50 25.5 +0.6
RSSD sP sP 10 51 17.9 +0.2
K22A Casper 46.32 326 P P 10 50 28.3 +0.8
baz=131
U15A North Rim 46.38 315 IAmb IAmb 10 50 30.8
comp=Z,18nm,0.9s
GLA Glamis 46.70 310 IAmb IAmb 10 50 32.5
comp=Z,22nm,0.7s
GLA Glamis 46.70 310 P P 10 50 31.6 +1.1
baz=115,SNR=6.3
PDMCI Parker Dam,Lak 46.72 312 P P 10 50 31.4 +0.9
baz=116
MDND Maddock 46.73 336 P P 10 50 31.0 +0.7
baz=142,SNR=5.5
P17A Butcher Ranch, 46.94 320 IAmb IAmb 10 50 34.4
comp=Z,12nm,0.8s
KNB Kanab 47.05 316 IAmb IAmb 10 50 35.8
comp=Z,20nm,0.8s
ULM Lac du Bonnet 47.32 340 P P 10 50 34.9 +0.1
comp=Z,18nm,0.5s,baz=143,slow=7.3,SNR=26
comp=Z,18nm,0.5s
ULM Lac du Bonnet 47.32 340 P P 10 50 34.6 -0.2
ULM IAmb IAmb 10 50 36.2
comp=Z,32nm,1.0s
LCMT Little Creek R 47.34 315 IAmb IAmb 10 50 38.4
comp=Z,16nm,0.9s
PLCA Paso Flores 47.37 177 P P 10 50 33.8 -1.7
comp=Z,2.8nm,0.8s,baz=340,slow=8.7,SNR=6.1
comp=Z,2.8nm,0.8s
PLCA Paso Flores 47.37 177 P P 10 50 33.7 -1.7
PLCA Paso Flores 47.37 177 eP P 10 50 35.1 -0.4
PLCA Paso Flores 47.37 177 P P 10 50 33.6 -1.9
SWSC Sam W. Stewart 47.41 309 P P 10 50 36.8 +1.0
baz=114,SNR=6.5
IRM Iron Mountain 47.41 311 P P 10 50 36.9 +1.0
baz=115,SNR=9.6
BC3 Big Chuckawall 47.43 310 P P 10 50 37.1 +1.0
baz=115,SNR=5.4
CCX Cicese 47.66 307 IAmb IAmb 10 50 40.2
comp=Z,18nm,0.9s
MPU Maple Canyon 47.81 320 IAmb IAmb 10 50 41.0
comp=Z,9.3nm,0.7s
MONP2 Monument Peak 47.87 309 P P 10 50 40.4 +0.8
baz=113
V12A Nelson 47.88 313 IAmb IAmb 10 50 41.6
comp=Z,21nm,0.8s
BELC Belle Mtn. Jos 47.99 310 P P 10 50 41.4 +0.9
baz=114,SNR=6.0
GMRC Granite Mounta 48.06 311 P P 10 50 41.7 +0.7
baz=115
BW06 Boulder Array 48.13 324 P P 10 50 41.8 +0.3
baz=128,SNR=9.4
PDAR Pinedale Array 48.13 324 P P 10 50 42.0 +0.4
comp=Z,3.6nm,0.5s,baz=129,slow=8.7,SNR=44
PDAR PcP PcP 10 52 05.5 -1.2
comp=Z,1.8nm,0.7s,baz=125,slow=4.7,SNR=3.8
PDAR ScP ScP 10 55 45.8 -0.8
comp=Z,1.1nm,0.8s,baz=116,slow=6.8,SNR=5.5
PDAR LR LR 11 16 02.3
comp=Z,45nm,18.3s,baz=216,slow=42
comp=Z,3.6nm,0.5s
SCHQ Schefferville 48.14 5 P P 10 50 41.9 +0.8
comp=Z,40nm,0.7s,baz=193,slow=6.6,SNR=43
SCHQ ScP ScP 10 55 45.3 -0.7
comp=Z,6.4nm,0.7s,baz=215,slow=7.8,SNR=6.5
comp=Z,40nm,0.7s
SCHQ Schefferville 48.14 5 P P 10 50 42.1 +1.0
TPFO Pinon Flats 48.17 310 P P 10 50 42.6 +0.7
baz=114
PFO Pinyon Flats O 48.18 310 P P 10 50 42.3 +0.4
comp=Z,2.9nm,0.8s,baz=119,slow=19,SNR=4.7
comp=Z,2.9nm,0.8s
PFO Pinyon Flats O 48.18 310 P P 10 50 42.8 +0.8
baz=114
PFO Pinyon Flats O 48.18 310 P P 10 50 42.7 +0.8
PSUT Pine Spring 48.51 317 IAmb IAmb 10 50 50.2
comp=Z,9.5nm,0.7s
TUQ Turquoise Moun 48.54 312 P P 10 50 45.5 +0.8
baz=116
HEC Hector Ludlow 48.58 311 P P 10 50 46.1 +1.1
baz=115
HWUT Hardware Ranch 48.66 322 IAmb IAmb 10 50 47.6
comp=Z,10nm,0.7s
DUG Dugway, Tooele 48.67 319 P P 10 50 46.7 +1.0
baz=122,SNR=15
RPN Rapa Nui 48.72 225 P P 10 50 45.0 -1.0
comp=Z,31nm,0.5s,baz=34,slow=3.6,SNR=2.1
comp=Z,31nm,0.5s
MURC Murrieta 48.74 309 P P 10 50 47.1 +0.9
baz=113
BBRC Big Bear Solar 48.79 310 P P 10 50 48.2 +1.5
baz=114
LAO LASA Array 48.88 330 P P 10 50 48.6 +1.5
baz=134
SHOC Shoshone, Teco 48.99 313 P P 10 50 49.3 +1.3
baz=116
AHID Auburn Hatcher 49.04 323 IAmb IAmb 10 50 54.1
comp=Z,8.8nm,0.7s

SPR3	Spring Creek 3	49.06	317	IAmb	IAmb	10 50 50.7
	comp=Z,8.7nm,0.9s					
RRX	Edison Barstow	49.10	311	P	P	10 50 50.1 +1.3
	baz=114					
GSC	Goldstone, Bar	49.13	312	IAmb	IAmb	10 50 51.1
	comp=Z,15nm,0.8s					
GSC	Goldstone, Bar	49.13	312	P	P	10 50 50.2 +1.1
	baz=115,SNR=9.1					
DGMT	Dagmar	49.19	333	P	P	10 50 50.6 +1.3
	baz=137,SNR=21					
BGU	Big Grassy Mou	49.20	320	IAmb	IAmb	10 50 51.3
	comp=Z,19nm,0.6s					
REDW	Red Top Meadow	49.25	324	IAmb	IAmb	10 50 51.8
	comp=Z,16nm,0.6s					
SNOW	Snow King Moun	49.25	324	IAmb	IAmb	10 50 53.3
	comp=Z,12nm,0.6s					
LOHW	Long Hollow	49.25	324	IAmb	IAmb	10 50 52.1
	comp=Z,9.6nm,0.7s					
TPAW	Teton Pass	49.38	324	IAmb	IAmb	10 50 52.5
	comp=Z,10nm,0.8s					
GWY	Greenwater Val	49.41	313	IAmb	IAmb	10 50 53.0
	comp=Z,8.4nm,0.7s					
RLMT	Red Lodge	49.43	327	P	P	10 50 52.1 +0.6
	baz=129					
TPNV	Topopah Spring	49.44	314	IAmb	IAmb	10 50 54.5
	comp=Z,13nm,0.9s					
TPNV	Topopah Spring	49.44	314	P	P	10 50 53.0 +1.4
	baz=116,SNR=8.5					
R11A	Troy Canyon, C	49.61	316	P	P	10 50 54.0 +1.2
	baz=118,SNR=21					
IMW	Indian Meadow	49.62	324	IAmb	IAmb	10 50 54.5
	comp=Z,9.4nm,0.7s					
FURC	Furnace Creek,	49.67	313	P	P	10 50 54.2 +1.2
	baz=116					
H17A	Grant Village	49.71	325	P	P	10 50 54.7 +1.1
	baz=128					
EDW2	Edwards Air Fo	49.85	311	P	P	10 50 55.2 +0.7
	baz=113					
LRMC	Laurel Mtn Rad	49.86	311	P	P	10 50 55.5 +0.8
	baz=114					
MPMC	Manual Prospec	49.95	312	P	P	10 50 56.4 +1.0
	baz=115					
YMR	Madison River	50.10	325	IAmb	IAmb	10 50 58.7
	comp=Z,8.1nm,0.6s					
GRAC	Grapevine Rang	50.26	313	P	P	10 50 59.0 +1.4
	baz=116					
ISA	Isabella, Lake	50.52	311	P	P	10 50 59.9 +0.3
	baz=114					
ELK	Elko	50.54	319	P	P	10 51 00.0 +0.1
	comp=Z,4.0nm,0.7s,baz=120,slow=5.5,SNR=23					
ELK				LR	LR	11 16 47.2
	comp=Z,53nm,18.3s,baz=204,slow=41					
	comp=Z,4.0nm,0.7s					
ARVC	Arvin	50.58	310	P	P	10 51 01.1 +1.1
	baz=113					
SCZ2	Santa Cruz Isl	50.77	309	P	P	10 51 02.4 +1.0
	baz=111					
TIN	Tinemaha, Big	50.91	313	P	P	10 51 03.8 +1.2
	baz=115					
BOZ	Bozeman (W)	51.03	326	P	P	10 51 04.4 +1.0
	baz=127,SNR=14					
VES	Vestal, Richgr	51.05	311	P	P	10 51 04.9 +1.4
	baz=113,SNR=7.5					
HLID	Hailey	51.49	322	P	P	10 51 07.7 +0.9
	baz=123,SNR=15					
SMMC	Simmler	51.53	310	P	P	10 51 08.2 +1.1
	baz=112					
NVAR	Mina Array Bea	51.55	315	P	P	10 51 07.5 +0.1
	comp=Z,5.0nm,0.7s,baz=124,slow=7.3,SNR=34					
NVAR				PcP	PcP	10 52 19.7 +0.4
	comp=Z,3.1nm,0.6s,baz=130,slow=4.9,SNR=7.4					
	comp=Z,5.0nm,0.7s					
MFID	Camas Ranch	52.29	321	IAmb	IAmb	10 51 15.5
	comp=Z,16nm,0.8s					
YERR	Yerington	52.45	315	IAmb	IAmb	10 51 16.1
	comp=Z,13nm,0.8s					
PNTR	Pine Nut	52.75	315	IAmb	IAmb	10 51 21.5
	comp=Z,15nm,0.8s					
VCNR	Virginia City	52.87	315	IAmb	IAmb	10 51 19.3
	comp=Z,13nm,1.0s					
MSO	Missoula	53.06	326	P	P	10 51 18.5 +0.2
	baz=126					
FFC	Flin Flon	53.12	339	P	P	10 51 18.6 +0.2
PLID	Pearl Lake	53.28	323	IAmb	IAmb	10 51 21.1
	comp=Z,7.4nm,0.8s					
WVOR	Wild Horse Val	53.59	319	IAmb	IAmb	10 51 26.9
	comp=Z,14nm,0.8s					
F10A	Beach Ranch, E	54.48	323	IAmb	IAmb	10 51 29.5
	comp=Z,11nm,0.6s					
I07A	Izee	54.93	320	IAmb	IAmb	10 51 33.6
	comp=Z,8.5nm,0.7s					
G08A	Pilot Rock	55.17	322	P	P	10 51 34.6 +1.0
K05A	Summer Lake	55.20	318	P	P	10 51 34.4 +0.4
E09A	Wood Farm, Sta	55.30	323	IAmb	IAmb	10 51 35.7
	comp=Z,9.2nm,0.7s					
NEW	Newport	55.65	326	P	P	10 51 36.1 -0.7
	comp=Z,4.5nm,0.8s,baz=124,slow=7.4,SNR=7.3					
	comp=Z,4.5nm,0.8s					
NEW	Newport	55.65	326	P	P	10 51 36.8 0.0
	baz=123					
J05D	Fort Rock, OR	55.68	319	P	P	10 51 38.0 +0.7
	baz=116,SNR=14					
K04D	Chiloquin, OR	55.73	318	P	P	10 51 38.3 +0.7
	baz=116					
L04D	Klamath Falls	55.93	317	IAmb	IAmb	10 51 39.8
	comp=Z,13nm,1.0s					
L04D	Klamath Falls	55.93	317	P	P	10 51 39.4 +0.3
	baz=115					
YBH	Yreka Blue Hor	56.00	317	P	P	10 51 38.7 -0.9
	comp=Z,6.0nm,0.6s,baz=130,slow=2.8,SNR=49					
	comp=Z,6.0nm,0.6s					
YBH	Yreka Blue Hor	56.00	317	IAmb	IAmb	10 51 39.5
	comp=Z,6.5nm,0.6s					
D08A	Wollman Farm,	56.04	324	IAmb	IAmb	10 51 41.7
	comp=Z,4.8nm,0.7s					
F07A	Phinny Hill Vi	56.06	322	IAmb	IAmb	10 51 43.2
	comp=Z,9.7nm,0.6s					
J04D	Umpqua Nationa	56.23	318	P	P	10 51 42.0 +0.7
	baz=116,SNR=9.7					
G05D	Wamic, OR	56.61	321	P	P	10 51 45.3 +1.6
	baz=117					
I04A	Tendick Farm,	56.67	319	P	P	10 51 44.2 0.0
	baz=116					
L02F	Cave Junction	56.75	317	P	P	10 51 44.7 0.0
	baz=114					
KSXB	Camp Six Broad	56.84	316	IAmb	IAmb	10 51 47.0
	comp=Z,16nm,0.8s					
H04A	Detroit Lake	56.91	320	IAmb	IAmb	10 51 50.2
	comp=Z,18nm,0.8s					
FRB	Frobisher Bay	56.91	2	P	P	10 51 45.4 0.0
	comp=Z,11nm,0.5s,baz=178,slow=7.4,SNR=14					
	comp=Z,11nm,0.5s					
B08A	Colville Reser	56.95	325	IAmb	IAmb	10 51 47.2
	comp=Z,9.0nm,0.7s					
K02D	Willamette Mer	57.04	317	P	P	10 51 47.1 +0.2
	baz=114					
LTY	Liberty	57.17	323	IAmb	IAmb	10 51 49.4
	comp=Z,9.2nm,0.7s					
H04D	Lebanon	57.20	320	P	P	10 51 49.5 +1.7
	baz=116					
I03D	Drain, OR	57.24	318	P	P	10 51 48.5 +0.3
	baz=115					
J01E	Myrtle Point	57.41	318	P	P	10 51 50.3 +1.0
	baz=114					
I02E	Swisshome, OR	57.74	319	P	P	10 51 52.8 +1.2
	baz=114					
D05A	Enumclaw	57.93	323	IAmb	IAmb	10 51 54.4
	comp=Z,8.0nm,0.7s					
NLWA	Neilton Lookou	59.16	322	IAmb	IAmb	10 52 03.7
	comp=Z,15nm,0.9s					
LLLB	Lillooet	59.52	326	IAmb	IAmb	10 52 15.0
	comp=Z,6.3nm,0.8s					
CBB	Campbell River	61.22	324	P	P	10 52 16.1 +0.7
CBB				IAmb	IAmb	10 52 17.9
	comp=Z,11nm,0.8s					
DY2G	Dye2	62.36	12	*i* P	P	10 52 22.5 -0.5
DY2G				IAmb	IAmb	10 52 23.5
	comp=Z,14nm,0.7s					
YKA	Yellowknife Ar	63.30	340	P	P	10 52 29.3 +0.4
	comp=Z,18nm,0.8s,baz=132,slow=6.5					
	comp=Z,18nm,0.8s					
BBB	Bella Bella	63.71	326	P	P	10 52 32.2 +0.4
	comp=Z,7.0nm,0.7s,baz=121,slow=6.9,SNR=4.9					
	comp=Z,7.0nm,0.7s					
FLDN	Fort Liard	65.31	335	P	P	10 52 43.5 +1.4
	baz=123					
ICESG	Greenland Ices	65.94	12	*i* P	P	10 52 45.4 -1.0
ICESG				IAmb	IAmb	10 52 48.6
	comp=Z,20nm,0.7s					

T35M	Bob Quinn	66.86	330	P	P	10 52 53.4 +1.4
	baz=115					
WRGLY	Wrigley	66.94	338	P	P	10 52 53.1 +0.7
	baz=124					
DLBC	Dease Lake	67.37	331	P	P	10 52 56.7 +1.4
DLBC	Dease Lake	67.37	331	P	P	10 52 56.3 +1.0
	baz=116					
TIC	Toumodi	67.48	86⇑	*i* P	P	10 52 55.9 -0.9
	comp=Z,2.4nm,0.2s					
LIC	Lamto	67.51	86⇓	*i* P	P	10 52 56.5 -0.4
	comp=Z,19nm,0.5s					
WTLY	Watson Lake, Y	67.55	333	IAmb	IAmb	10 52 58.5
	comp=Z,14nm,0.8s					
DBIC	Dimbokro	67.64	86	P	P	10 52 57.4 -0.4
	comp=Z,5.7nm,0.7s,baz=285,slow=4.7,SNR=7.4					
	comp=Z,5.7nm,0.7s					
DBIC	Dimbokro	67.64	86	P	P	10 52 56.7 -1.1
DBIC				IAmb	IAmb	10 52 58.6
	comp=Z,11nm,0.9s					
DBIC	Dimbokro	67.64	86	P	P	10 52 57.1 -0.7
DBIC				pP	pP	10 53 37.6 +1.6
S34M	Telegraph Cree	67.68	331	P	P	10 52 58.5 +1.4
	baz=114					
KIC	Kosan Boka	67.78	86⇑	*i* P	P	10 52 58.5 -0.2
	comp=Z,7.8nm,0.4s					
TGTN	Hyland Airport	67.99	335	P	P	10 52 59.8 +0.7
	baz=118					
R33M	Jennings River	68.22	332	P	P	10 53 02.0 +1.3
	baz=115					
Q32M	Nakina River	68.65	331	P	P	10 53 04.6 +1.2
	baz=114					
SUMG	Summit	68.97	11	P	P	10 53 06.2 +0.8
SUMG	Summit	68.97	11	*i* P	P	10 53 05.0 -0.4
SUMG				IAmb	IAmb	10 53 06.5
	comp=Z,24nm,0.6s					
FARO	Faro, Yukon	70.46	334	P	P	10 53 15.4 +1.2
	baz=114					
M31M	Drury Creek, Y	70.89	334	P	P	10 53 18.3 +1.4
	baz=113					
O30N	Mendenhall	71.12	332	P	P	10 53 19.9 +1.6
	baz=111					
N31M	Braeburn, Yuko	71.24	333	P	P	10 53 20.5 +1.6
	baz=111					
P29M	Windy Craggy	71.51	331	P	P	10 53 21.4 +0.8
	baz=109					
NEEM	North Greenlan	71.55	5	*i* P	P	10 53 21.2 +0.4
NEEM				IAmb	IAmb	10 53 22.8
	comp=Z,25nm,0.6s					
HYT	Haines Junctio	71.79	332	P	P	10 53 23.7 +1.2
	baz=109					
N30M	Aishikik Lake	71.82	333	P	P	10 53 23.5 +1.0
	baz=110					
M29M	Somme Creek	72.76	334	P	P	10 53 29.1 +1.0
	baz=109					
F31M	Tsiigehtchic	72.77	339	P	P	10 53 28.9 +1.0
	baz=115,SNR=5.5					
K29M	Barlow Dome	72.83	335	P	P	10 53 29.6 +1.1
	baz=110					
L29M	L29M	72.83	334	P	P	10 53 29.2 +0.7
	baz=110					
INK	Inuvik	73.06	340	P	P	10 53 30.2 +0.6
	comp=Z,6.5nm,0.6s,baz=104,slow=19,SNR=26					
	comp=Z,6.5nm,0.6s					
INK	Inuvik	73.06	340	P	P	10 53 30.6 +1.0
	baz=115,SNR=6.7					
EPYK	Eagle Plains	73.42	338	IAmb	IAmb	10 53 33.0
	comp=Z,32nm,1.4s					
EPYK	Eagle Plains	73.42	338	P	P	10 53 32.8 +0.9
	baz=112					
YUK3	Moose Creek	73.44	333	P	P	10 53 34.0 +1.6
	baz=107					
TORD	Torodi Ar. Bea	73.65	78	P	P	10 53 32.8 -1.3
	comp=Z,0.6nm,0.5s,baz=281,slow=5.9,SNR=3.5					
	comp=Z,0.6nm,0.5s					
I29M	Ogilvie Camp,	73.67	337	P	P	10 53 34.0 +0.7
	baz=110					
DAWY	Dawson	73.68	335	P	P	10 53 34.7 +1.3
	baz=109					
M27K	Edge Creek, AK	74.25	333	P	P	10 53 38.0 +1.1
	baz=106					
L27K	Beaver Creek,	74.42	334	P	P	10 53 38.7 +1.0
	baz=106					
K27K	Chicken	74.80	335	P	P	10 53 41.2 +1.4
	baz=106					
I27K	Kandik River	75.06	336	P	P	10 53 42.0 +0.6
	baz=107					
L26K	Log Cabin Wild	75.08	334	P	P	10 53 42.8 +1.3
	baz=105					
H27K	Steamboat Moun	75.20	337	P	P	10 53 42.4 +0.2
	baz=107					
G27K	Doyon Strip	75.43	338	P	P	10 53 43.2 -0.2
	baz=107					
DOT	Dot Lake	75.55	334	IAmb	IAmb	10 53 46.3
	comp=Z,10nm,0.6s					
J26L	Joseph Creek	75.55	335	P	P	10 53 45.3 +1.1
	baz=105					
SCRK	Sand Creek	75.59	334	P	P	10 53 45.3 +0.8
	baz=104					
DAG	Danmarks Havn	75.64	11	*i* P	P	10 53 44.0 -0.4
DAG				IAmb	IAmb	10 53 45.0
	comp=Z,5.1nm,0.8s					
E27K	Coleen River	75.82	339	P	P	10 53 46.7 +1.1
	baz=108					
RIDG	Independent Ri	75.91	334	P	P	10 53 47.1 +0.9
	baz=103					
PAX	Paxson	76.01	333	P	P	10 53 47.7 +0.9
	baz=103					
M24K	Tolsona, Glenn	76.14	332	P	P	10 53 49.0 +1.3
	baz=102					
K24K	Donnelly Dome	76.33	334	P	P	10 53 49.4 +0.8
	baz=103					
J25K	Salcha River,	76.33	335	P	P	10 53 49.2 +0.6
	baz=103					
F26K	Sheenjek River	76.60	338	P	P	10 53 50.7 +0.6
	baz=105					
PRP	Porcupine Dome	76.60	336	P	P	10 53 50.9 +0.7
	baz=103,SNR=5.3					
SCM	Sheep Creek Mo	76.62	332	P	P	10 53 51.2 +0.8
	baz=101					
M23K	Glacier View	76.80	332	P	P	10 53 52.3 +1.0
	baz=100					
DHY	Denali Highway	76.88	333	P	P	10 53 52.5 +0.6
	baz=101					
PWL	Port Wells	76.93	331	P	P	10 53 52.2 +0.2
	baz=100					
HDA	Harding Lake	76.96	335	IAmb	IAmb	10 54 15.0
	comp=Z,21nm,1.4s					
HDA	Harding Lake	76.96	335	P	P	10 53 52.4 +0.3
	baz=102					
C27K	Jago River	76.97	340	P	P	10 53 53.1 +1.0
	baz=106					
ILAR	Eielson Array	77.00	335	P	P	10 53 52.7 +0.4
	comp=Z,2.8nm,0.8s,baz=116,slow=4.5,SNR=21					
	comp=Z,2.8nm,0.8s					
KNK	Knik Glacier	77.08	331	P	P	10 53 53.5 +0.6
	baz=100					
F25K	Christian Rive	77.13	338	P	P	10 53 53.7 +0.6
	baz=104					
E25K	Arctic Village	77.23	338	P	P	10 53 54.8 +1.3
	baz=104					
POKR	Poker Plat Res	77.30	335	P	P	10 53 54.5 +0.5
	baz=101					
WAT1	Susitna Watana	77.36	333	P	P	10 53 55.2 +0.8
	baz=100					
PMR	Palmer	77.43	332	P	P	10 53 55.7 +1.0
	baz=99					
C26K	Camden Bay	77.45	340	P	P	10 53 56.1 +1.5
	baz=105					
RND	Reindeer	77.60	333	IAmb	IAmb	10 53 58.6
	comp=Z,16nm,0.8s					
H24K	Noodor Dome	77.62	336	P	P	10 53 56.9 +1.1
	baz=101					
G24K	Hadweenzic Riv	77.64	337	P	P	10 53 56.5 +0.7
	baz=102					
RC01	Rabbit Creek A	77.64	331	P	P	10 53 57.0 +1.0
	baz=98					
D25K	Kavik River	77.80	340	P	P	10 53 57.6 +0.8
	baz=103					
NEA2	Nenana	77.89	335	P	P	10 53 58.0 +0.7
	baz=100					
M22K	Willow	77.92	332	P	P	10 53 58.6 +1.2
	baz=98					
F24K	Squaw Lake	77.96	338	P	P	10 53 58.7 +1.0
	baz=101					
SUA	Susitna One	78.18	331	P	P	10 54 00.0 +1.0
	baz=98					
TRF	Thorofare Moun	78.24	333	P	P	10 54 00.2 +0.7
	baz=98					

E24K	Your Creek	78.29	338	P	P	10 54 00.6 +1.2
	baz=101					
H23K	Yukon River	78.30	336	P	P	10 54 00.4 +1.0
	baz=100					
SKT	Skwentna	78.61	332	P	P	10 54 02.3 +1.0
	baz=97					
G23K	Bananza Creek	78.63	337	P	P	10 54 03.0 +1.6
	baz=99,SNR=5.8					
BPAW	Bear Paw Mtn.	78.64	334	P	P	10 54 01.9 +0.5
	baz=98					
MLY	Manley	78.67	335	P	P	10 54 02.4 +0.8
	baz=98					
C24K	Franklin Bluff	78.68	340	P	P	10 54 02.8 +1.3
	baz=101					
E23K	Chandalar	78.70	338	P	P	10 54 02.7 +1.0
	baz=100					
COLD	Coldfoot	78.79	337	P	P	10 54 03.3 +1.2
	baz=99					
PPLA	Purkeypile	79.03	333	IAmb	IAmb	10 54 05.0
	comp=Z,13nm,0.6s					
PPLA	Purkeypile	79.03	333	P	P	10 54 04.5 +0.8
	baz=96					
OHAK	Old Harbor	79.03	327	P	P	10 54 03.8 +0.3
	baz=94					
CAST	Castle Rocks	79.04	333	P	P	10 54 04.2 +0.6
	baz=97					
H22K	Ishtalitna Cre	79.05	336	P	P	10 54 04.3 +0.6
	baz=98					
CHUM	Lake Minchumin	79.19	334	P	P	10 54 05.0 +0.7
	baz=97					
P19K	Oil Pt	79.20	329	P	P	10 54 05.0 +0.4
	baz=95					
I21K	Tanana	79.21	335	P	P	10 54 05.0 +0.6
	baz=97					
D23K	Nanushuk River	79.24	339	P	P	10 54 05.5 +0.9
	baz=99					
Q19K	Cape Douglas,	79.35	329	P	P	10 54 06.1 +0.8
	baz=94					
M20K	Styx River	79.35	332	IAmb	IAmb	10 54 17.4
	comp=Z,21nm,1.4s					
M20K	Styx River	79.35	332	P	P	10 54 06.2 +0.7
	baz=96					
C23K	Itkillik River	79.36	340	P	P	10 54 06.3 +1.1
	baz=99					
SII	Sitkinak Islan	79.47	326	P	P	10 54 06.6 +0.6
	baz=94					
E22K	Anaktuvuk Pass	79.53	338	P	P	10 54 07.1 +0.9
	baz=98					
F22K	John River	79.58	337	P	P	10 54 07.5 +1.0
	baz=97					
H21K	Melozitna Rive	79.61	335	P	P	10 54 07.0 +0.3
	baz=96					
L20K	Farewell, AK	79.76	332	P	P	10 54 08.0 +0.4
	baz=95					
O19K	Port Alsworth	79.79	330	P	P	10 54 07.5 -0.1
	baz=94					
N19K	Bonanza Creek	79.91	331	P	P	10 54 08.9 +0.4
	baz=94					
K20K	Telida	79.92	333	P	P	10 54 09.1 +0.7
	baz=95					
M19K	Big River Lodg	79.95	332	P	P	10 54 08.9 +0.4
	baz=94					
G21K	Allakaket	79.98	336	P	P	10 54 09.8 +1.2
	baz=96					
J20K	Nowinta River	80.03	334	IAmb	IAmb	10 54 10.1
	comp=Z,8.4nm,0.7s					
J20K	Nowinta River	80.03	334	P	P	10 54 09.7 +0.8
	baz=95,SNR=6.7					
F21K	Alatna River	80.05	337	P	P	10 54 10.7 +1.7
	baz=96,SNR=5.1					
L19K	White Mountain	80.19	332	P	P	10 54 10.0 +0.2
	baz=94					
O18K	Koktuh Hills	80.21	330	P	P	10 54 10.1 +0.1
	baz=93					
DAVOX	Davos/Dischmat	80.22	44	P	P	10 54 10.9 +0.3
	comp=Z,2.7nm,0.7s,baz=243,slow=6.8,SNR=6.5					
	comp=Z,2.7nm,0.7s					
N18K	Kilae Creek	80.59	330	P	P	10 54 12.5 +0.5
N18K	Kilae Creek	80.59	330	P	P	10 54 12.4 +0.3
	baz=93					
R17K	Ugashik Creek	80.72	327	P	P	10 54 13.1 +0.4
	baz=92					
Q16K	King Salmon	80.90	328	P	P	10 54 13.9 +0.3
	baz=92					
O17K	Koliganek Bris	81.16	329	P	P	10 54 15.2 +0.2
	baz=92					
GCSA	Galena City Sc	81.25	334	P	P	10 54 16.1 +0.8
	baz=93					
NB2	NORSAR Subarra	81.29	29	P	P	10 54 16.7 +1.0
	comp=Z,3.1nm,0.7s,baz=267,slow=5.3					
NOA	NORSAR Array B	81.29	29	P	P	10 54 17.1 +1.4
	comp=Z,2.5nm,0.8s,baz=268,slow=5.3,SNR=9.2					
	comp=Z,2.5nm,0.8s					
P16K	Nushagak River	81.60	329	P	P	10 54 17.7 +0.4
	baz=91					
GERES	GERESS Array B	82.76	42	P	P	10 54 23.1 -0.6
	comp=Z,0.3nm,0.4s,baz=267,slow=5.3,SNR=4.7					
	comp=Z,0.3nm,0.4s					
ARCES	ARCESS Array B	86.64	20	P	P	10 54 43.3 +0.7
	comp=Z,1.0nm,0.4s,baz=272,slow=3.6,SNR=15					
	comp=Z,1.0nm,0.4s					
VNA3	Neumayer Olymp	88.14	163	P	P	10 54 48.5 -1.2
VNA1	Neumayer--Stat	88.29	162	P	P	10 54 49.6 -0.7
FINES	FINESS Array B	88.40	28	P	P	10 54 51.8 +0.6
	comp=Z,3.1nm,0.9s,baz=297,slow=9.2,SNR=6.3					
	comp=Z,3.1nm,0.9s					
VNA2	Neumayer--Watz	88.67	163	P	P	10 54 51.0 -1.1
	baz=306,slow=5.0					
SNAA	Sanae	90.31	163	P	P	10 54 58.7 -1.2
SNAA	Sanae	90.31	163	P	P	10 54 59.0 -0.9
	comp=Z,4.0nm,0.8s,baz=273,slow=7.1,SNR=6.6					
	comp=Z,4.0nm,0.8s					
TROLL	Troll, Antarti	92.01	162	P	P	10 55 07.1 -0.8
ZALV	Zalesovo Beam	116.65	14	PKP	PKiKP	11 00 42.8 +0.2
	comp=Z,1.3nm,0.4s,baz=331,slow=5.6,SNR=6.8					
ZALV				SKP	SKPdf	11 04 03.9 +0.4
	comp=Z,1.1nm,0.6s,baz=350,slow=4.4,SNR=4.0					
MKAR	Makanchi Array	122.29	20	PKP	PKPdf	11 00 53.1 -0.6
	comp=Z,0.9nm,0.4s,baz=309,slow=2.3,SNR=12					
SONM	Songino Array	125.58	0	PKP	PKPdf	11 01 00.3 +0.2
	comp=Z,0.8nm,0.6s,baz=340,slow=0.4,SNR=4.2					
WMQ	Urumqi	126.66	17	*e*P	PKiKP	11 01 03.8 +1.1
KSRS	Korea Array	131.80	338	PKP	PKPdf	11 01 12.6 +0.5
	comp=Z,0.3nm,0.3s,baz=48,slow=2.6,SNR=2.5					
KSRS				SKPbc	SKPab	11 04 24.2 0.0
	comp=Z,1.2nm,0.7s,baz=34,slow=3.1,SNR=4.7					
GTA	Gaotai	133.53	8	*e*PKPbc	PKiKP	11 01 17.0 +0.2
GTA				sPKP		11 02 16.8
STKA	Stephens Creek	139.22	228	PKhKP	PKPpre	11 01 20.4
	comp=Z,3.9nm,0.7s,baz=138,slow=2.0,SNR=4.4					
PZH	PanZhiHua	146.49	9	PKP	PKPbc	11 01 40.1 -0.7
ASAR	Alice Springs	149.18	234	PKPbc	PKPbc	11 01 47.4 -0.6
	comp=Z,27nm,0.7s,baz=118,slow=2.9,SNR=121					
WRA	Warramunga Arr	150.41	241	PKPbc	PKPbc	11 01 50.2 -0.8
	comp=Z,16nm,0.5s,baz=106,slow=2.9,SNR=102					
CMAR	Chiang Mai Arr	153.66	17	PKP	PKPdf	11 01 50.9 +0.4
	comp=Z,1.0nm,0.3s,baz=316,slow=2.5,SNR=8.3					
CMAR				PKPbc	PKiKP	11 01 58.7 +0.3
	comp=Z,1.9nm,0.4s,baz=316,slow=2.9,SNR=11					

IDC ***22*** *10:47:29.9±0.7,54.°75S×30.°54W,h0km,mb4.3/8, mbtmp4.3/8,MS3.4/4,Error ellipse: s-maj=28.8km s-min=18.0km az=67.0*

NEIC ***22*** *10:47:33.4±2.1,54.°9S±0.°1×30.°8W±0.°2,h15km±5km, mb4.6/18,Error ellipse: s-maj=18.4km s-min=14.7km az=56.0*

ISC 22 10:47:31.5±0.6,54.°79S±0.°09×30.°6W±0.°1,h10km,n44, σ1°03/38,mb4.5/13,MS3.6/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	3.44	276		Pn	10 48 23.5	-1.6
ORCD	Orcadas	9.59	226	Pn	Pn	10 49 48.2	-1.3
VNA1	Neumayer--Stat	18.72	157	P	P	10 51 49.1	-0.7
VNA3	Neumayer Olymp	18.86	159	P	P	10 51 52.0	+0.7
VNA2	Neumay

BELA	**Belgrano 2**	**23.23**	**182**	P		**P**	**10 52 38.8**	**+0.5**
TRQA	**Tornquist**	**27.01**	**295**	P		**P**	**10 53 13.1**	**-0.4**
BO02	**Sierra Bellavi**	**34.16**	**289**	P		**P**	**10 54 18.1**	**+1.4**
CPUP	**Villa Florida**	**34.51**	**315**	P		**P**	**10 54 19.4**	**-0.2**
	2.9nm,0.6s,baz=147,slow=9.1,SNR=6.0							
	2.9nm,0.6s							
MT09	**Talagante**	**35.04**	**290**	P		**P**	**10 54 24.4**	**+0.1**
MT09				IAmb		IAmb	10 54 49.3	
	comp=Z,17nm,1.1s							
MT01	**Popeta**	**35.11**	**290**	P		**P**	**10 54 24.6**	**-0.3**
QSPA	**South Pole Qui**	**35.47**	**180**	P		**P**	**10 54 29.0**	**+1.2**
	comp=Z,12nm,0.6s,baz=183,slow=1.0,SNR=86							
QSPA				LR		LR	11 08 11.3	
	comp=Z,88nm,18.7s,baz=194,slow=35							
	comp=Z,12nm,0.6s							
QSPA	**South Pole Qui**	**35.47**	**180**	P		**P**	**10 54 28.9**	**+1.1**
MT02	**Curacav**	**35.51**	**290**	P		**P**	**10 54 29.0**	**+0.8**
VA06	**Catapilco**	**36.13**	**291**	P		**P**	**10 54 33.8**	**+0.3**
CO02	**Combarbal**	**37.02**	**293**	P		**P**	**10 54 42.3**	**+1.0**
AC05	**El Transito**	**38.51**	**296**	P		**P**	**10 54 55.0**	**+1.1**
AC05				IAmb		IAmb	10 55 38.2	
	comp=Z,27nm,1.5s							
GO02	**Mina Guanaco**	**41.16**	**300**	P		**P**	**10 55 16.5**	**+0.3**
GO02				IAmb		IAmb	10 55 18.3	
	comp=Z,9.4nm,0.7s							
MAW	**Mawson**	**42.32**	**145**	P		**P**	**10 55 24.8**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=239,slow=12,SNR=7.3							
	comp=Z,2.8nm,0.9s							
MAW	**Mawson**	**42.32**	**145**	P		**P**	**10 55 25.3**	**+0.4**
LVC	**Limon Verde**	**42.96**	**303**	P		**P**	**10 55 31.3**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=152,slow=5.4,SNR=4.1							
	comp=Z,2.5nm,0.6s							
LVC	**Limon Verde**	**42.96**	**303**	P		**P**	**10 55 32.4**	**+1.4**
LVC				IAmb		IAmb	10 56 02.8	
	comp=Z,11nm,1.4s							
PB01	**IPOC Station P**	**44.57**	**303**	P		**P**	**10 55 44.8**	**+1.1**
PB01				IAmb		IAmb	10 56 05.7	
	comp=Z,20nm,1.4s							
GO01	**Chusmiza**	**45.61**	**305**	P		**P**	**10 55 53.0**	**+0.6**
GO01				IAmb		IAmb	10 55 54.0	
	comp=Z,8.5nm,0.8s							
VNDA	**Vanda**	**47.73**	**184**	P		**P**	**10 56 07.8**	**0.0**
	comp=Z,2.5nm,0.7s,baz=168,slow=6.2,SNR=26							
	comp=Z,2.5nm,0.7s							
VNDA	**Vanda**	**47.73**	**184**			**P**	**10 56 08.8**	**+1.0**
VNDA				IAmb		IAmb	10 56 10.9	
	comp=Z,3.3nm,0.8s							
H10N1	**ASCENSION HYDR**	**48.57**	**22**	T		T	11 48 51.6	
	baz=192							
H10N3	**ASCENSION HYDR**	**48.57**	**22**	T		T	11 49 05.9	
	baz=192,slow=74							
H10N2	**ASCENSION HYDR**	**48.59**	**22**	T		T	11 48 46.6	
	baz=192,slow=74							
LBTB	**Lobatse**	**50.59**	**77**	P		**P**	**10 56 30.0**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=207,slow=8.6,SNR=5.0							
	comp=Z,2.3nm,0.6s							
MDP	**Montagnes des**	**62.42**	**335**	LR		LR	11 23 50.8	
	comp=Z,42nm,18.8s,baz=98,slow=35							
TOA0	**Torodi Ar. Sit**	**72.99**	**33**	P		**P**	**10 59 01.3**	**+0.1**
TOA0				IAmb		IAmb	10 59 03.4	
	comp=Z,3.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.99**	**33**	P		**P**	**10 59 01.6**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=198,slow=6.1,SNR=4.5							
	comp=Z,3.5nm,0.7s							
SJG	**San Juan**	**78.67**	**326**	LR		LR	11 34 46.2	
	comp=Z,31nm,20.5s,baz=270,slow=36							
ARCES	**ARCESS Array B**	**130.51**	**23**	PKP		**PKPdf**	**11 06 40.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=191,slow=3.2,SNR=5.4							
YKA	**Yellowknife Ar**	**133.93**	**320**	PKP		**PKPdf**	**11 06 45.7**	**-1.6**
	comp=Z,2.6nm,0.7s,baz=126,slow=2.3,SNR=5.6							
MKAR	**Makanchi Array**	**138.36**	**72**	PKP		**PKPdf**	**11 06 54.1**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=251,slow=1.7,SNR=4.2							
ZALV	**Zalesovo Beam**	**143.58**	**64**	PKP		PKPab	11 07 03.6	+1.9
	comp=Z,0.9nm,0.5s,baz=238,slow=2.7,SNR=3.8							
ILAR	**Eielson Array**	**147.81**	**314**	PKPbc		**PKPdf**	**11 07 14.5**	**+2.4**
	comp=Z,6.3nm,0.7s,baz=123,slow=1.5,SNR=73							
SONM	**Songino Array**	**152.62**	**87**	PKPbc		**PKPbc**	**11 07 26.8**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=244,slow=3.3,SNR=5.1							

NEIC ***22*** *11:05:58.2±1.3, 16°.22S±0°.06×168°.0E±0°.1, h166km±5km, mb4.9/67, Error ellipse: s-maj=14.5km s-min=8.7km az=102.0*

BJI ***22*** *11:05:59.0±0.0, 15°.89S×167°.54E, h160km, mb4.7/23, mB4.7/12*

IDC ***22*** *11:05:59.7±0.5, 16°.31S×167°.86E, h186km±4km, mb4.1/21, mbtmp4.6/25, MS3.4/6, Error ellipse: s-maj=9.2km s-min=7.7km az=81.0*

NOU ***22*** *11:05:59.7, 16°.30S×167°.88E, h177km, mb5.0/63, Vanuatu Islands*

GCMT ***22*** *11:06:01.2±0.3, 16°.33S±0°.02×167°.92E±0°.02, h194km±2km, MW5.0/98, Moment Tensor Solution. s33,c37; s98,c131; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.66±.12; Mθθ 1.02±.13; Mϕϕ -2.68±.12; Mrθ -1.47±.10; Mθϕ 2.38±.12; Mϕr -1.74±.11; Best double couple: M=4.04200×10^16 NP1:ϑs191.00000°,δ70.00000°,λ140.00000°. NP2: ϕs297.00000°,δ53.00000°,λ26.00000°. Principal axes: T 4.0710, Plg42.0000°, Azm148.0000°; N -0.0570, Plg46.0000°, Azm349.0000°; P -4.0140, Plg10.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 11:05:59.5±0.4, 16°.32S±0°.04×167°.93E±0°.05, h184km±3km, h185km:pP-P, n266, σ1≑00/280, mb4.9/83, 3C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.42**	**170**	P	**Pn**	**11 06 31.2**	**+0.1**
LIFNC	**LIFOU**	**4.49**	**188**		**Pn**	**11 07 04.9**	**-2.0**
LIFNC	**LIFOU**	**4.49**	**188**	P	**Pn**	**11 07 06.2**	**-0.7**
MARNC	**Mare, Loyalty**	**5.14**	**179**		**Pn**	**11 07 14.3**	**-1.0**
MARNC	**Mare, Loyalty**	**5.14**	**179**	P	**Pn**	**11 07 15.1**	**-0.2**
KOUNC	**Koumac, New Ca**	**5.45**	**219**		**Pn**	**11 07 20.4**	**+1.0**
KOUNC	**Koumac, New Ca**	**5.45**	**219**	P	**Pn**	**11 07 21.1**	**+1.7**
YATNC	**Mamie plateau,**	**5.80**	**190**	P	**Pn**	**11 07 23.1**	**-0.8**
DZM	**Mont Dzumac**	**5.89**	**194**	*e*Pn	**Pn**	**11 07 23.6**	**-1.7**
	144nm,1.1s						
DZM				*e*Sn	**Sn**	**11 08 31.0**	**-1.9**
	261nm,1.2s						
DZM				*e*LR	LR	11 08 45.0	
DZM	**Mont Dzumac**	**5.89**	**194**	P	**Pn**	**11 07 25.2**	**-0.1**
	39nm,0.8s,baz=44,slow=19,SNR=57						
DZM				S	**Sn**	**11 08 34.5**	**+1.6**
	62nm,1.1s,baz=323,slow=20,SNR=16						
DZM				LR	LR	11 08 54.0	
	comp=Z,216nm,19.2s,baz=108,slow=30						
DZM	**Mont Dzumac**	**5.89**	**194**	P	**Pn**	**11 07 26.6**	**+1.3**
NOUC	**Port Laguerre**	**5.96**	**195**	P	**Pn**	**11 07 26.5**	**+0.5**
ONTNC	**Ouen Toro**	**6.12**	**193**		**Pn**	**11 07 28.2**	**+0.1**
ONTNC	**Ouen Toro**	**6.12**	**193**	P	**Pn**	**11 07 29.3**	**+1.2**
PINNC	**Pines Island,**	**6.28**	**184**		**Pn**	**11 07 29.9**	**-0.3**
PINNC	**Pines Island,**	**6.28**	**184**	P	**Pn**	**11 07 30.7**	**+0.5**
MSVF	**Nonsavu**	**9.79**	**100**	P	**Pn**	**11 08 18.3**	**+2.0**
	21nm,0.9s,baz=280,slow=17,SNR=11						
MSVF	**Nonsavu**	**9.79**	**100**	Pn	Pn	11 08 04.9	-11
MSVF	**Nonsavu**	**9.79**	**100**	P	**Pn**	**11 08 19.3**	**+3.0**
HNR	**Honiara**	**10.36**	**310**	P	**Pn**	**11 08 24.7**	**+0.9**
	2μm,0.5s,baz=117,slow=9.0,SNR=8.0						
HNR				S	**S**	**11 10 20.3**	**+0.5**
	265nm,0.3s,baz=90,slow=20,SNR=1.2						
RK1H	**Rockhampton Ha**	**17.84**	**244**	P	**Pn**	**11 09 56.4**	**-0.1**
EIDS	**Eidsvold**	**18.12**	**237**	P	**Pn**	**11 09 59.7**	**-0.2**
	baz=18,SNR=21						
EIDS	**Eidsvold**	**18.12**	**237**	P	**Pn**	**11 09 59.4**	**-0.5**
EIDS	**Eidsvold**	**18.12**	**237**	P	**Pn**	**11 10 00.0**	**+0.1**
OUZ	**Omahuta**	**19.50**	**166**		**P**	**11 10 14.1**	**+1.6**
OUZ	**Omahuta**	**19.50**	**166**	P	**Pn**	**11 10 14.6**	**-1.3**
KRVT	**Keravat (AS076**	**19.65**	**306**	P	**P**	**11 10 13.9**	**-0.6**
	54nm,0.8s,baz=157,slow=7.3,SNR=7.2						
AFI	**Afiamalu**	**19.74**	**86**	P	**P**	**11 10 15.7**	**+0.2**
	13nm,0.8s,baz=270,slow=20,SNR=2.6						
ARMA	**Armidale**	**20.48**	**224**	P	**P**	**11 10 24.7**	**+1.5**
	baz=21,SNR=8.2						
ARMA	**Armidale**	**20.48**	**224**		**P**	**11 10 24.9**	**+1.7**
ARMA	**Armidale**	**20.48**	**224**	P	**P**	**11 10 25.0**	**+1.7**
RMQ	**Roma**	**20.49**	**237**	P	**P**	**11 10 24.6**	**+1.3**
	baz=21,SNR=33						
RMQ	**Roma**	**20.49**	**237**	P	**P**	**11 10 24.7**	**+1.3**
CTA	**Charters Tower**	**20.92**	**256**	P	**P**	**11 10 28.6**	**+0.6**
	23nm,0.5s,baz=80,slow=11,SNR=38						
CTA				ScP	**ScP**	**11 17 49.1**	**+1.4**
	4.7nm,0.8s,baz=90,slow=1.0,SNR=5.8						
	23nm,0.5s						
CTAO	**Charters Tower**	**20.92**	**256**		**P**	**11 10 28.7**	**+0.7**
CTAO	**Charters Tower**	**20.92**	**256**	P	**P**	**11 10 28.7**	**+0.7**
PMG	**Port Moresby**	**21.37**	**286**	P	**P**	**11 10 32.7**	**0.0**
	103nm,0.9s,baz=106,slow=4.3,SNR=27						
	103nm,0.9s						
PMG	**Port Moresby**	**21.37**	**286**	P	**P**	**11 10 32.9**	**+0.2**
PMG	**Port Moresby**	**21.37**	**286**	P	**P**	**11 10 33.6**	**+0.9**
MKAZ	**Moumakai**	**21.68**	**164**	P	**P**	**11 10 37.6**	**+1.9**
TOZ	**Tahuna Road**	**22.36**	**164**	P	**P**	**11 10 43.7**	**+1.4**
MTSU	**Mount Surprise**	**22.62**	**262**	P	**P**	**11 10 45.6**	**+0.6**
	baz=23,SNR=476						
MTSU	**Mount Surprise**	**22.62**	**262**	P	**P**	**11 10 45.6**	**+0.6**
OPRZ	**Ohinepanea**	**22.75**	**162**	P	**P**	**11 10 47.6**	**+1.7**
HIZ	**Hauiti**	**22.93**	**166**	P	**P**	**11 10 48.8**	**+1.2**
HIZ	**Hauiti**	**22.93**	**166**	P	**P**	**11 10 49.4**	**+1.9**
HIZ	**Hauiti**	**22.93**	**166**	P	**P**	**11 10 49.5**	**+1.9**
OMRZ	**Omania**	**22.95**	**163**	P	**P**	**11 10 51.1**	**+3.4**
HAZ	**Te Kaha**	**23.06**	**160**	P	**P**	**11 10 49.9**	**+1.2**
MXZ	**Matakaoa Point**	**23.06**	**159**	P	**P**	**11 10 50.3**	**+1.6**
RUGZ	**Raukumara Rang**	**23.21**	**160**	P	**P**	**11 10 50.8**	**+0.6**
URZ	**Urewera**	**23.30**	**161**	P	**P**	**11 10 51.3**	**+0.4**
	35nm,0.6s,baz=49,slow=1.7,SNR=27						
URZ				S	**S**	**11 14 51.0**	**+1.6**
	4.8nm,0.9s,baz=118,slow=23,SNR=1.4						
URZ				LR	LR	11 18 08.9	
	comp=Z,113nm,20.9s,baz=82,slow=31						
	35nm,0.6s						
URZ	**Urewera**	**23.30**	**161**	P	**P**	**11 10 51.6**	**+0.7**
URZ	**Urewera**	**23.30**	**161**	P	**P**	**11 10 51.6**	**+0.7**
URZ	**Urewera**	**23.30**	**161**	P	**P**	**11 10 51.6**	**+0.7**
WMGZ	**Waiomatatini S**	**23.33**	**159**	P	**P**	**11 10 52.4**	**+1.2**
MUGZ	**Murupara**	**23.41**	**162**	P	**P**	**11 10 53.3**	**+1.5**
RATZ	**Rangitukua**	**23.50**	**164**	P	**P**	**11 10 54.7**	**+2.0**
PUZ	**Puketiti**	**23.50**	**159**	P	**P**	**11 10 54.0**	**+1.2**
TWGZ	**Tauwhareparae**	**23.51**	**160**	P	**P**	**11 10 54.1**	**+1.3**
KATZ	**Kakaramea**	**23.58**	**165**	P	**P**	**11 10 55.5**	**+1.9**
RAGZ	**Rawiri**	**23.62**	**161**	P	**P**	**11 10 55.4**	**+1.5**
MRHZ	**Matea Rd**	**23.64**	**163**	P	**P**	**11 10 56.2**	**+2.2**
WTVZ	**West Tongariro**	**23.68**	**165**	P	**P**	**11 10 56.3**	**+1.8**
NTVZ	**North Tongarir**	**23.69**	**165**	P	**P**	**11 10 55.6**	**+1.1**
TKGZ	**Te Karaka**	**23.70**	**160**	P	**P**	**11 10 55.3**	**+0.7**
NGZ	**Ngauruhoe**	**23.74**	**165**	P	**P**	**11 10 56.8**	**+1.7**
SNVZ	**South Ngauruho**	**23.76**	**165**	P	**P**	**11 10 57.2**	**+1.9**
TUVZ	**Tukino**	**23.84**	**165**	P	**P**	**11 10 58.3**	**+2.3**
BKZ	**Black Stump Fm**	**23.97**	**163**	P	**P**	**11 10 57.9**	**+0.9**
BKZ				IAmb	IAmb	11 10 58.7	
	comp=Z,32nm,0.7s						
BKZ	**Black Stump Fm**	**23.97**	**163**	P	**P**	**11 10 57.8**	**+0.8**
COEN	**Coen**	**24.00**	**272**	P	**P**	**11 10 57.8**	**+0.2**
	baz=24,SNR=42						
COEN	**Coen**	**24.00**	**272**	P	**P**	**11 10 58.1**	**+0.5**
COEN	**Coen**	**24.00**	**272**	P	**P**	**11 10 57.8**	**+0.2**
QLP	**Quilpie**	**24.26**	**241**	P	**P**	**11 11 00.4**	**+0.6**
	baz=25,SNR=37						
QLP	**Quilpie**	**24.26**	**241**	P	**P**	**11 11 00.2**	**+0.4**
MANU	**Manus Island**	**24.72**	**303**	P	**P**	**11 11 01.2**	**-2.8**
QRZ	**Quartz Range**	**24.75**	**172**	P	**P**	**11 11 05.7**	**+1.8**
QRZ	**Quartz Range**	**24.75**	**172**	P	**P**	**11 11 05.8**	**+1.8**
CNB	**Canberra Magne**	**25.16**	**218**	P	**P**	**11 11 09.3**	**+1.4**
CMSA	**Cobar Meteorol**	**25.28**	**229**	P	**P**	**11 11 09.3**	**+0.4**
	baz=26,SNR=16						
CMSA	**Cobar Meteorol**	**25.28**	**229**	P	**P**	**11 11 09.0**	**+0.1**
BFZ	**Birch Farm**	**25.33**	**165**	P	**P**	**11 11 08.9**	**-0.3**
BFZ				IAmb	IAmb	11 11 14.2	
	comp=Z,97nm,1.5s						
BFZ	**Birch Farm**	**25.33**	**165**	P	**P**	**11 11 08.6**	**-0.7**
SNZO	**South Karori**	**25.59**	**168**	P	**P**	**11 11 11.8**	**+0.3**
THZ	**Tophouse**	**25.72**	**171**	P	**P**	**11 11 13.5**	**+0.7**
THZ				IAmb	IAmb	11 11 25.7	
	comp=Z,31nm,1.1s						
KHZ	**Kahutara**	**26.45**	**171**	IAmb	IAmb	11 11 26.0	
	comp=Z,108nm,1.9s						
KHZ	**Kahutara**	**26.45**	**171**	P	**P**	**11 11 18.8**	**-0.5**
LTZ	**Lake Taylor**	**26.64**	**173**	P	**P**	**11 11 21.4**	**+0.3**
LTZ				IAmb	IAmb	11 11 22.1	
	comp=Z,38nm,0.7s						
OXZ	**Oxford**	**27.15**	**173**	IAmb	IAmb	11 11 26.7	
	comp=Z,38nm,0.6s						
QIS	**Mount Isa**	**27.18**	**257**	P	**P**	**11 11 26.6**	**+0.5**
	baz=28,SNR=12						
QIS	**Mount Isa**	**27.18**	**257**	P	**P**	**11 11 26.5**	**+0.3**
RPZ	**Rata Peaks**	**27.44**	**175**	P	**P**	**11 11 28.7**	**+0.5**
	comp=Z,38nm,0.6s,baz=301,slow=3.3,SNR=73						
RPZ				PcP	**PcP**	**11 14 41.5**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=18,slow=3.2,SNR=2.6						
	comp=Z,38nm,0.6s						
RPZ	**Rata Peaks**	**27.44**	**175**	P	**P**	**11 11 28.7**	**+0.5**
INKA	**Innaminka**	**27.58**	**241**	P	**P**	**11 11 30.1**	**+0.5**
STKA	**Stephens Creek**	**28.49**	**232**	P	**P**	**11 11 38.2**	**+0.6**
	comp=Z,16nm,0.7s,baz=71,slow=10,SNR=39						
STKA				PcP	**PcP**	**11 14 44.1**	**-0.6**
	comp=Z,5.0nm,1.0s,baz=76,slow=4.2,SNR=3.2						
STKA				ScP	**ScP**	**11 18 09.3**	**+0.6**
	comp=Z,6.8nm,0.8s,baz=63,slow=4.5,SNR=12						
	comp=Z,16nm,0.7s						
STKA	**Stephens Creek**	**28.49**	**232**	P	**P**	**11 11 38.1**	**+0.4**
	baz=29,SNR=31						
STKA	**Stephens Creek**	**28.49**	**232**	P	**P**	**11 11 38.6**	**+0.9**
STKA	**Stephens Creek**	**28.49**	**232**	P	**P**	**11 11 38.3**	**+0.6**
ODZ	**Otahua Downs**	**28.73**	**176**	IAmb	IAmb	11 11 40.1	
	comp=Z,23nm,1.0s						
ODZ	**Otahua Downs**	**28.73**	**176**	P	**P**	**11 11 39.2**	**-0.4**
MLZ	**Mavora Lakes**	**28.96**	**180**	IAmb	IAmb	11 11 45.0	
	comp=Z,22nm,1.1s						
DCZ	**Deep Cove**	**29.07**	**181**	IAmb	IAmb	11 11 43.7	
	comp=Z,30nm,0.9s						
GENI	**Genyem**	**30.52**	**294**	P	**P**	**11 11 56.0**	**+0.2**
	comp=Z,76nm,1.0s						
LCRK	**Leigh Creek**	**30.57**	**237**	P	**P**	**11 11 56.0**	**0.0**
ARPS	**Mount Arapiles**	**30.81**	**224**	P	**P**	**11 11 58.6**	**+0.6**
	baz=31,SNR=6.1						
HTT	**Hallett**	**31.20**	**232**	P	**P**	**11 12 02.0**	**+0.5**
	baz=32,SNR=31						
HTT	**Hallett**	**31.20**	**232**	P	**P**	**11 12 01.9**	**+0.3**
OOD	**Oodnadatta**	**31.89**	**243**	P	**P**	**11 12 08.1**	**+0.5**
WR0	**Warramunga Arr**	**31.90**	**258**	IAmb	IAmb	11 12 07.8	
	comp=Z,22nm,1.2s						
WB0	**Warramunga Arr**	**32.04**	**259**	IAmb	IAmb	11 12 08.8	
	comp=Z,24nm,0.6s						
WB2	**Warramunga Arr**	**32.08**	**258**	IAmb	IAmb	11 12 09.2	
	comp=Z,39nm,1.4s						
WRAB	**Tennant Creek**	**32.08**	**258**	P	**P**	**11 12 07.7**	**-1.7**
WRAB	**Tennant Creek**	**32.08**	**258**	P	**P**	**11 12 07.2**	**-2.2**
WRAB				ScP	**ScP**	**11 18 22.0**	**+1.3**
SMPI	**Sarmi**	**32.09**	**293**	P	**P**	**11 12 10.9**	**+1.4**
WRA	**Warramunga Arr**	**32.09**	**258**	P	**P**	**11 12 07.8**	**-1.7**
	comp=Z,11nm,0.9s,baz=83,slow=8.6,SNR=188						
WRA				PcP	**PcP**	**11 14 53.9**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=87,slow=3.3,SNR=4.1						
WRA				S	**S**	**11 17 06.0**	**-2.3**
	comp=Z,1.9nm,1.0s,baz=88,slow=14,SNR=6.9						
WRA				ScP	**ScP**	**11 18 21.8**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=86,slow=3.8,SNR=12						
	comp=Z,11nm,0.9s						
AS31	**Alice Springs**	**32.74**	**252**	P	**P**	**11 12 15.0**	**-0.1**
ASAR	**Alice Springs**	**32.74**	**252**	P	**P**	**11 12 14.6**	**-0.6**
	comp=Z,111nm,0.6s,baz=76,slow=9.0,SNR=1944						
ASAR				PcP	**PcP**	**11 14 56.0**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=103,slow=3.7,SNR=2.5						
ASAR				S	**S**	**11 17 16.4**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=81,slow=17,SNR=4.3						
ASAR				ScP	**ScP**	**11 18 23.7**	**+0.8**
	comp=Z,7.3nm,0.9s,baz=93,slow=3.4,SNR=25						
ASAR				LR	LR	11 24 42.8	
	comp=Z,70nm,19.6s,baz=82,slow=34						
ASAR	**Alice Springs**	**32.74**	**252**	P	**P**	**11 12 15.2**	**0.0**
BBOO	**Buckleboo**	**33.14**	**234**	P	**P**	**11 12 18.7**	**+0.2**
	baz=34,SNR=8.9						
BBOO	**Buckleboo**	**33.14**	**234**	P	**P**	**11 12 19.0**	**+0.5**
BBOO				IAmb	IAmb	11 12 19.3	
	comp=Z,32nm,0.6s						
BBOO	**Buckleboo**	**33.14**	**234**	P	**P**	**11 12 18.7**	**+0.2**
MULG	**Mulgathing**	**33.92**	**240**	P	**P**	**11 12 25.5**	**+0.2**
KDU	**Kakadu**	**34.49**	**271**	P	**P**	**11 12 29.5**	**-0.7**
	baz=35,SNR=12						
KDU	**Kakadu**	**34.49**	**271**	P	**P**	**11 12 29.6**	**-0.7**
MTN	**Manton Dam**	**35.75**	**271**	P	**P**	**11 12 39.5**	**-1.5**
	baz=36,SNR=8.0						
MTN	**Manton Dam**	**35.75**	**271**	IAmb	IAmb	11 12 41.2	
	comp=Z,23nm,0.9s						
FAKI	**Fak Fak**	**37.52**	**287**	P	**P**	**11 12 55.2**	**-0.8**
FAKI				IAmb	IAmb	11 12 56.4	
	comp=Z,44nm,0.9s						
FAKI	**Fak Fak**	**37.52**	**287**	P	**P**	**11 12 56.1**	**0.0**
	comp=Z,60nm,0.9s						
FAKI	**Fak Fak**	**37.52**	**287**	P	**P**	**11 12 56.0**	**0.0**
KNRA	**Kununurra**	**37.62**	**265**	P	**P**	**11 12 56.0**	**-0.8**
	baz=38,SNR=30						
KNRA	**Kununurra**	**37.62**	**265**	P	**P**	**11 12 56.3**	**-0.5**
WRKA	**Warakurna**	**37.97**	**250**	P	**P**	**11 12 59.2**	**-0.6**
	baz=38,SNR=38						
WRKA	**Warakurna**	**37.97**	**250**	P	**P**	**11 12 59.6**	**-0.1**
FORT	**Forrest**	**39.06**	**241**	P	**P**	**11 13 08.9**	**+0.2**
	baz=39,SNR=28						
FORT	**Forrest**	**39.06**	**241**	P	**P**	**11 13 09.0**	**+0.3**
FORT	**Forrest**	**39.06**	**241**	P	**P**	**11 13 08.7**	**0.0**
FITZ	**Fitzroy Crossi**	**40.37**	**261**	P	**P**	**11 13 19.6**	**-0.1**
	baz=41,SNR=94						
FITZ	**Fitzroy Crossi**	**40.37**	**261**	P	**P**	**11 13 20.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.37**	**261**	P	**P**	**11 13 19.8**	**+0.1**
PPT2	**Papeete2**	**40.61**	**98**	*e*LR	LR	11 24 43.9	
	comp=Z,112nm,27.0s						
NLAI	**Namlea**	**42.17**	**284**	P	**P**	**11 13 35.7**	**+1.3**
	comp=Z,34nm,0.9s						
LBMI	**Labuha**	**42.78**	**287**	P	**P**	**11 13 40.5**	**+1.2**
	comp=Z,479nmcomp=Z,38nm,1.0s						
BATI	**Baumata**	**43.44**	**272**	LR	LR	11 30 34.0	
	comp=Z,88nm,20.8s,baz=135,slow=34						
BATI	**Baumata**	**43.44**	**272**	P	**P**	**11 13 45.9**	**+1.3**
	comp=Z,622nmcomp=Z,73nm,1.2s						
SANI	**Sanana**	**43.64**	**285**	P	**P**	**11 13 45.6**	**-0.5**
	comp=Z,469nmcomp=Z,46nm,0.7s						
PSA00	**Pilbara Seismi**	**45.64**	**256**	IAmb	IAmb	11 14 03.5	
	comp=Z,34nm,1.1s						
PSA00	**Pilbara Seismi**	**45.64**	**256**	IAmb	IAmb	11 14 03.1	
	comp=Z,17nm,1.0s						
PSA00	**Pilbara Seismi**	**45.64**	**256**	P	**P**	**11 14 02.2**	**+0.3**
EDFI	**Ende, Flores**	**45.67**	**274**	P	**P**	**11 14 02.1**	**-0.3**
	comp=Z,309nmcomp=Z,36nm,1.0s						
MBWA	**Marble Bar**	**45.76**	**256**	P	**P**	**11 14 03.3**	**+0.4**
MBWA				IAmb	IAmb	11 14 03.8	
	comp=Z,45nm,0.9s						
MBWA	**Marble Bar**	**45.76**	**256**	P	**P**	**11 14 03.4**	**+0.5**
MBWA	**Marble Bar**	**45.76**	**256**	P	**P**	**11 14 03.0**	**+0.1**
MEEK	**Meekatharra**	**46.78**	**249**	P	**P**	**11 14 10.7**	**-0.1**
	baz=47,SNR=17						
MEEK	**Meekatharra**	**46.78**	**249**	P	**P**	**11 14 10.7**	**-0.1**
BKSI	**Bulukumba**	**48.09**	**278**	P	**P**	**11 14 21.4**	**+0.4**
	comp=Z,415nmcomp=Z,28nm,0.9s						
MRSI	**Marisa**	**48.33**	**286**	P	**P**	**11 14 22.0**	**-0.8**
	comp=Z,24nm,0.6s						
NWAO	**Narrogin (SRO)**	**48.50**	**240**	P	**P**	**11 14 23.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**48.50**	**240**	P	**P**	**11 14 23.1**	**-0.8**
KAPI	**Kappang**	**48.54**	**278**	P	**P**	**11 14 24.5**	**+0.1**
KAPI				IAmb	IAmb	11 14 25.7	
	comp=Z,51nm,0.8s						
KAPI	**Kappang**	**48.54**	**278**	P	**P**	**11 14 24.4**	**0.0**
BLDU	**Ballidu**	**48.70**	**243**	P	**P**	**11 14 26.2**	**+0.7**
	comp=Z,20nm,2.9s						
SPSI	**Sidrap Palu**	**48.84**	**279**	P	**P**	**11 14 26.1**	**-0.6**
	comp=Z,43nm,0.7s						
TTSI	**Tana Toraja**	**49.08**	**280**	P	**P**	**11 14 29.9**	**+1

QSPA				IAmb	IAmb	11 17 14.3	
	comp=Z,44nm,0.9s						
XAN	**Xi'an**	**75.22**	**313**	P	**P**	**11 17 22.6**	**+0.4**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CRAI	**Chiangrai**	**75.62**	**296**	P	**P**	**11 17 25.0**	**+0.3**
KMI	**Kunming**	**75.68**	**302**	⇑P	**P**	**11 17 26.1**	**+0.9**
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
CMAR	**Chiang Mai Arr**	**76.17**	**294**	P	**P**	**11 17 29.1**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=129,slow=4.6,SNR=16						
	comp=Z,3.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**76.17**	**294**	P	**P**	**11 17 28.1**	**+0.3**
CHTO	**Chiang Mai**	**76.31**	**294**	P	**P**	**11 17 28.3**	**-0.3**
PZH	**PanZhiHua**	**77.08**	**303**	P	**P**	**11 17 34.0**	**+1.1**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,70nm,4.4s						
HHC	**Hu-ho-hao-te**	**77.20**	**320**	*e*P	**P**	**11 17 34.6**	**+1.4**
HHC				S	**S**	**11 27 07.3**	**-0.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,5.0s						
HHC				LR	LR		
	comp=Z,140nm,14.0s						
HHC				LR	LR		
	comp=Z,330nm,14.6s						
HHC				LR	LR		
	comp=Z,270nm,14.0s						
CD2	**Chengdu**	**77.47**	**308**	P	**P**	**11 17 35.5**	**+0.6**
SEY	**Seymchan**	**79.93**	**353**	P	**P**	**11 17 47.7**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=165,slow=8.6,SNR=6.2						
SEY				pP	**pP**	**11 18 31.6**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=186,slow=9.2,SNR=3.6						
	comp=Z,2.5nm,0.7s						
MAW	**Mawson**	**80.66**	**202**	P	**P**	**11 17 51.7**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=112,slow=7.8,SNR=8.8						
	comp=Z,4.9nm,0.9s						
MAW	**Mawson**	**80.66**	**202**	P	**P**	**11 17 52.6**	**+1.1**
	baz=81,SNR=5.3						
MAW	**Mawson**	**80.66**	**202**	P	**P**	**11 17 51.5**	**0.0**
BRDH	**Bariadhala**	**84.07**	**296**	P	**P**	**11 18 10.1**	**+0.1**
	comp=Z,174nm,0.4s,baz=270,slow=14,SNR=4.4						
SONM	**Songino Array**	**84.14**	**323**	P	**P**	**11 18 10.5**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=146,slow=6.8,SNR=8.7						
SONM				pP	**pP**	**11 18 53.9**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=134,slow=4.2,SNR=2.9						
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**84.14**	**323**	P	**P**	**11 18 10.3**	**+0.4**
GTA	**Gaotai**	**84.22**	**314**	*e*P	**P**	**11 18 11.6**	**+1.1**
GTA				pP	pP	11 18 56.3	+0.7
GTA				sP	sP	11 19 09.5	-5.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.6s						
SHL	**Shillong**	**84.88**	**298**	IAmb	IAmb	11 18 15.6	
	comp=Z,24nm,1.1s						
BELA	**Belgrano 2**	**85.10**	**175**	IAmb	IAmb	11 18 14.2	
	comp=Z,35nm,0.8s						
ISA	**Isabella, Lake**	**86.63**	**51**	P	**P**	**11 18 21.8**	**-0.7**
DSP	**Deep Springs**	**87.66**	**50**	IAmb	IAmb	11 18 28.6	
	comp=Z,9.6nm,1.2s						
NVAR	**Mina Array Bea**	**87.82**	**49**	P	**P**	**11 18 27.4**	**-1.0**
	comp=Z,2.6nm,1.0s,baz=231,slow=7.6,SNR=9.0						
NVAR				pP	**pwP**	**11 19 14.9**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=237,slow=7.4,SNR=3.4						
	comp=Z,2.6nm,1.0s						
ILAR	**Eielson Array**	**87.83**	**18**	P	**P**	**11 18 26.1**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=235,slow=4.8,SNR=9.0						
ILAR				pP	**pP**	**11 19 11.0**	**-2.1**
	comp=Z,2.1nm,0.8s,baz=237,slow=5.8,SNR=7.8						
	comp=Z,0.4nm,0.5s						
KVN	**Kaiserville**	**88.21**	**48**	IAmb	IAmb	11 18 30.9	
	comp=Z,12nm,1.7s						
WCT	**Wildcat Mounta**	**88.44**	**51**	P	**P**	**11 18 31.0**	**-0.1**
WCT				IAmb	IAmb	11 18 32.2	
	comp=Z,8.8nm,1.3s						
BMN	**Battle Mountai**	**89.36**	**47**	IAmb	IAmb	11 19 27.8	
	comp=Z,14nm,1.6s						
PRN	**Pahroc Range**	**89.84**	**51**	P	**P**	**11 18 37.5**	**-0.2**
PRN				IAmb	IAmb	11 19 27.9	
	comp=Z,6.8nm,1.0s						
G08A	**Pilot Rock**	**90.05**	**42**	IAmb	IAmb	11 19 29.5	
	comp=Z,7.5nm,1.0s						
TROLL	**Troll, Antarti**	**91.34**	**184**	P	**P**	**11 18 43.5**	**-0.6**
TUC	**Tucson**	**91.45**	**57**	P	**P**	**11 18 45.9**	**+0.7**
SNAA	**Sanae**	**92.01**	**183**	P	**P**	**11 18 46.1**	**-1.0**
SNAA	**Sanae**	**92.01**	**183**	P	**P**	**11 18 45.7**	**-1.4**
VNA3	**Neumayer Olymp**	**92.65**	**181**	P	**P**	**11 18 49.0**	**-0.9**
VNA2	**Neumayer--Watz**	**92.92**	**182**	P	**P**	**11 18 50.3**	**-1.0**
	baz=180,slow=5.0						
VNA1	**Neumayer--Stat**	**93.22**	**181**	P	**P**	**11 18 51.8**	**-0.7**
WMQ	**Urumqi**	**94.29**	**314**	*e*P	**P**	**11 18 59.3**	**+1.3**
TXAR	**Lajitas Array**	**96.47**	**61**	P	**P**	**11 19 08.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=221,slow=5.4,SNR=6.5						
	comp=Z,0.2nm,0.5s						
MK31	**Makanchi Array**	**98.78**	**316**	IAmb	IAmb	11 20 08.3	
	comp=Z,7.4nm,1.9s						
MKAR	**Makanchi Array**	**98.78**	**316**	P	Pdif	11 19 19.3	+1.1
	comp=Z,1.0nm,0.6s,baz=96,slow=7.6,SNR=8.8						
MKAR				pP	pP	11 20 04.2	+0.4
	comp=Z,0.5nm,0.6s,baz=101,slow=7.8,SNR=2.9						
	comp=Z,1.0nm,0.6s						
PLCA	**Paso Flores**	**101.54**	**139**	PKKPbc	PKKPbc	11 35 35.4	-3.4
	comp=Z,2.9nm,0.8s,baz=224,slow=2.4,SNR=6.0						
SPITS	**Spitsbergen Ar**	**116.57**	**354**	PKP	**PKPdf**	**11 24 19.7**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=80,slow=3.4,SNR=4.1						
ARCES	**ARCESS Array B**	**121.94**	**345**	PKP	**PKPdf**	**11 24 30.5**	**-0.8**
	comp=Z,4.8nm,0.5s,baz=106,slow=2.0,SNR=59						
ARCES				PKKPab	**PKKPab**	**11 34 30.2**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=232,slow=3.0,SNR=10						
BOSA	**Boshof**	**122.57**	**219**	PKP	**PKPdf**	**11 24 33.1**	**-0.8**
	comp=Z,4.4nm,1.0s,baz=138,slow=1.4,SNR=4.4						
SAML	**Samuel**	**123.54**	**113**		**PKPdf**	**11 24 33.7**	**-2.2**
PTLB	**Pontes e Lacer**	**123.84**	**122**		**PKPdf**	**11 24 35.0**	**-1.5**
RAYN	**Ar Rayn**	**125.69**	**287**		**PKPdf**	**11 24 39.8**	**0.0**
FINES	**FINESS Array B**	**127.42**	**338**	PKP	**PKPdf**	**11 24 41.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=48,slow=2.1,SNR=18						
BOAV	**Boa Vista**	**130.39**	**101**		**PKPdf**	**11 24 47.7**	**-1.3**
NB2	**NORSAR Subarra**	**132.31**	**345**	PKPdf	**PKPdf**	**11 24 51.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**132.31**	**345**	PKP	**PKPdf**	**11 24 51.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=31,slow=2.1,SNR=8.1						
NOA				SKPab	**SKPab**	**11 28 02.3**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=27,slow=3.3,SNR=13						
BDFB	**Brasilia**	**132.39**	**130**	PKP	**PKPdf**	**11 24 52.1**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=233,slow=5.1,SNR=3.6						
BDFB				SKPab	**SKPbc**	**11 28 01.8**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=210,slow=8.1,SNR=3.6						
AKASG	**Malin Array Be**	**132.40**	**325**	PKP	**PKPdf**	**11 24 51.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=54,slow=2.5,SNR=5.8						
AKASG				SKPab	**SKPbc**	**11 28 01.5**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=45,slow=4.2,SNR=8.9						
BRTR	**Keskin Array B**	**134.01**	**310**	SKPab	**SKPbc**	**11 28 08.0**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=90,slow=2.9,SNR=4.4						
BCLA	**Clavier**	**143.21**	**341**	*d*PKPdf	**PKPdf**	**11 25 11.3**	**-0.3**
BMRD	**Maredsous**	**143.47**	**342**	*d*PKP	**PKPdf**	**11 25 11.8**	**-0.2**
BMRD				*d*PKiKP	**PKiKP**	**11 25 15.3**	**-0.1**
KEST	**Kesra**	**152.83**	**319**	PKPbc	**PKPbc**	**11 25 35.1**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=64,slow=3.9,SNR=5.3						
ESDC	**Sonseca Array**	**155.68**	**345**	PKPbc	PKPdf	11 25 40.6	+9.0
	comp=Z,0.1nm,0.4s,baz=30,slow=3.6,SNR=4.1						
ESDC				PKPab	**PKPab**	**11 25 58.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=8.3,slow=4.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**166.32**	**259**	PKP	**PKPdf**	**11 25 42.4**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=98,slow=0.9,SNR=5.9						
TORD				PKPab	**PKPab**	**11 26 45.4**	**-0.6**
	comp=Z,2.4nm,1.0s,baz=108,slow=4.3,SNR=7.3						

*IDC **22** 11:15:33.8±0.5, 46˚.74N×152˚.96E, h0km, mb4.1/20, mbtmp4.2/25, ML3.3/3, MS3.5/43, Error ellipse: s-maj=16.3km s-min=11.3km az=131.0*
*NIED **22** 11:15:36.9, 46˚.76N×153˚.33E, h30km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr=1.10; Mθθ=1.37; Mφφ=0.27; Mrθ=-0.05; Mθφ=0.09; Mφr=0.31; Fault plane solution: M0=1.29000×10^16^ NP1: φs=249.00000°, δ=47.00000°, λ=-115.00000°. NP2: φs=104.00000°, δ=49.00000°, λ=-65.00000°.*
*JMA **22** 11:15:36.9±1.1, 47˚.N±.5˚×15˚.3E±.˚, h30km, MD5.0/19, MW4.7/19, KURILE ISLANDS REGION*
*MOS **22** 11:15:37.2±1.0, 46˚.63N×153˚.20E, h37km, mb4.6/10, MS3.4/6, Error ellipse: s-maj=8.6km s-min=6.1km az=60.3*

*BJI **22** 11:15:38.2±0.0, 46˚.66N×153˚.06E, h44km, mb4.6/40, mB4.6/25, Ms4.0/22, Ms7 3.9/22*
*SKHL **22** 11:15:38.2±0.2, 46˚.70N×153˚.30E, h41km±4km, mb5.3/8, ms4.5/3*
*NEIC **22** 11:15:40.4±2.6, 46˚.7N±0˚.1×153˚.17E±0˚.09, h44km±8km, mb4.6/83, Error ellipse: s-maj=16.9km s-min=5.6km az=152.0*

ISC 22 11:15:40.0±0.5, **46˚.61N**±0˚.05×**153˚.21E**±0˚.05, **h50**km, **n246**, σ1§**53**/199, **mb4.5**/74, **MS3.5**/45, **10C-4D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.97**	**252**	*d*	iPN	**Pn**	**11 16 38.5**		**+0.1**
KUR					*e*S	**Sn**	**11 17 23.9**		**+0.3**
KUR					pmax	pmax			
	comp=N,213nm,0.5s								
KUR					pmax	pmax			
	comp=E,225nm,0.5s								
KUR					pmax	pmax			
	comp=Z,612nm,0.5s								
KUR					smax	smax			
	comp=N,3μm,1.9s								
KUR					smax	smax			
	comp=N,2μm,0.6s								
KUR					smax	smax			
	comp=E,689nm,0.5s								
KUR	**Kuril'sk**	**3.97**	**252**	*i*	P	**Pn**	**11 16 38.5**		**+0.1**
KUR					AMB	AMB	11 16 39.8		
	comp=E,600nm,0.6s								
KUR					*e*S	**Sn**	**11 17 23.9**		**+0.3**
KUR					A	A	11 17 34.3		
	comp=E,1μm,0.5s								
KUR					A	A	11 17 34.3		
	comp=E,1μm,0.5s								
KUR					AMS	AMS	11 19 03.0		
	comp=E,3μm,14.0s								
KUR					AMS	AMS	11 19 03.0		
	comp=E,5μm,14.0s								
KUR					AMS	AMS	11 19 03.0		
	comp=E,10μm,14.0s								
SKR	**Severo-Kuril's**	**4.51**	**24**	*e*	PN	**Pn**	**11 16 44.7**		**-1.0**
SKR					pmax	pmax			
	comp=Z,590nm,0.5s								
SKR	**Severo-Kuril's**	**4.51**	**24**	*e*	P	**Pn**	**11 16 43.9**		**-1.8**
SKR					AMB	AMB	11 16 46.6		
	comp=Z,630nm,0.3s								
SKR					*e*S	**Sn**	**11 17 33.0**		**-3.8**
SKR					A	A	11 17 38.0		
	comp=Z,420nm,0.5s								
SKR					A	A	11 17 38.0		
	comp=Z,310nm,0.5s								
SKR					AMS	AMS	11 18 28.8		
	comp=Z,1μm,15.0s								
SKR					AMS	AMS	11 18 28.8		
	comp=Z,840nm,15.0s								
SKR					AMS	AMS	11 18 28.8		
	comp=Z,650nm,15.0s								
PAU	**Pauzhetka**	**5.41**	**25**	*e*	P	**Pn**	**11 16 56.0**		**-2.0**
PAU					AMB	AMB	11 17 05.1		
	comp=Z,180nm,0.7s								
PAU					*e*S	**Sn**	**11 17 55.7**		**-3.2**
PAU					A	A	11 18 02.1		
	comp=Z,460nm,0.4s								
PAU					A	A	11 18 02.1		
	comp=Z,300nm,0.4s								
PAU					AMS	AMS	11 18 58.6		
	comp=Z,1μm,12.0s								
PAU					AMS	AMS	11 18 58.6		
	comp=Z,1μm,12.0s								
PAU					AMS	AMS	11 18 58.6		
	comp=Z,1μm,12.0s								
YUK	**Yuzh-Kuril'sk**	**5.78**	**246**	*e*	PN	**Pn**	**11 17 03.6**		**+0.4**
YUK					*e*S	**Sn**	**11 18 09.2**		**+1.0**
YUK					pmax	pmax			
	comp=N,182nm,0.2s								
YUK					pmax	pmax			
	comp=E,138nm,0.2s								
YUK					pmax	pmax			
	comp=Z,336nm,0.2s								
YUK					pmax	pmax			
	comp=Z,557nm,0.4s								
YUK					smax	smax			
	comp=N,677nm,0.6s								
YUK					smax	smax			
	comp=E,635nm,0.5s								
YUK					smax	smax			
	comp=E,1μm,1.0s								
YUK					smax	smax			
	comp=N,895nm,0.8s								
YUK	**Yuzh-Kuril'sk**	**5.78**	**246**	*e*	P	**Pn**	**11 17 03.4**		**+0.2**
YUK					AMB	AMB	11 17 05.2		
	comp=N,340nm,0.4s								
YUK					*e*S	**Sn**	**11 18 08.4**		**+0.2**
YUK					A	A	11 18 19.5		
	comp=N,680nm,0.6s								
YUK					A	A	11 18 19.5		
	comp=N,640nm,0.6s								
YUK					AMS	AMS	11 18 58.0		
	comp=N,3μm,12.0s								
YUK					AMS	AMS	11 18 58.0		
	comp=N,3μm,12.0s								
YUK					AMS	AMS	11 18 58.0		
	comp=N,3μm,12.0s								
RUSJ	**Misakicho**	**6.14**	**249**		PN	**Pn**	**11 17 07.8**		**-0.3**
NEM2	**Nemuro 2**	**6.21**	**241**		P	**Pn**	**11 17 07.4**		**-1.6**
NEM2					*e*S	**Sn**	**11 18 14.9**		**-3.7**
NMR	**Nemuro--Hokkai**	**6.21**	**241**	*e*	PN	**Pn**	**11 17 07.3**		**-1.8**
NMR	**Nemuro--Hokkai**	**6.21**	**241**	*e*	P	**Pn**	**11 17 07.6**		**-1.5**
NMR					*e*S	**Sn**	**11 18 17.2**		**-1.6**
JRA	**Rausu**	**6.30**	**248**	*e*	P	**Pn**	**11 17 11.4**		**+1.2**
JRA					*e*S	**Sn**	**11 18 23.4**		**+2.5**
JNSB	**Nemuroshibetsu**	**6.45**	**247**		A	A	11 17 10.8		
	comp=N,2.0nm,3.7s,comp=N,2.0nm,5.4s								
JKHN	**Kushirohamanak**	**6.72**	**241**		A	A	11 17 14.7		
	comp=N,3.0nm,2.7s,comp=N,3.0nm,2.9s								
JNK	**Nakash**	**6.72**	**246**	*e*	P	**Pn**	**11 17 16.7**		**+0.6**
JAK	**Akkeshi**	**7.05**	**242**	*e*	P	**Pn**	**11 17 19.1**		**-1.5**
JAK					*e*S	**Sn**	**11 18 35.3**		**-3.9**
JTKR	**Abashiri--Toko**	**7.07**	**251**	*e*	P	**Pn**	**11 17 21.9**		**+1.1**
PEA0B	**Petropavlovsk-**	**7.12**	**22**		Pn	**Pn**	**11 17 19.9**		**-1.6**
PEA0B	**Petropavlovsk-**	**7.12**	**22**	*ce*	PN	**Pn**	**11 17 20.4**		**-1.1**
PETK	**Petropavlovsk-**	**7.12**	**22**		Pn	**Pn**	**11 17 20.0**		**-1.5**
	comp=N,2.7nm,0.3s,baz=195,slow=16,SNR=51								
PETK					Sn	**Sn**	**11 18 40.3**		**-0.7**
	baz=193,slow=25								
	comp=N,43nm,0.8s								
PETK	**Petropavlovsk-**	**7.12**	**22**			**Pn**	**11 17 19.5**		**-2.0**
YSS	**Yuzh-Sakhalins**	**7.18**	**277**			**Pn**	**11 17 23.9**		**+1.5**
YSS	**Yuzh-Sakhalins**	**7.18**	**277**	*e*	PN	**Pn**	**11 17 23.4**		**+1.0**
YSS					pmax	pmax			
	comp=Z,80nm,0.6s								
YSS					pmax	pmax			
	comp=Z,100nm,4.1s								
YSS					MLR	MLR			
	comp=Z,700nm,17.0s								
YSS					MLR	MLR			
	comp=E,400nm,15.0s								
YSS	**Yuzh-Sakhalins**	**7.18**	**277**	*e*	P	**Pn**	**11 17 23.4**		**+1.0**
YSS					AMB	AMB	11 17 27.2		
	comp=E,80nm,0.6s								
YSS					*e*S	**Sn**	**11 18 42.0**		**-0.6**
YSS					A	A	11 18 48.5		
	comp=E,50nm,0.5s								
YSS					AMS	AMS	11 19 40.0		
	comp=E,400nm,17.0s								
YSS					AMS	AMS	11 19 40.0		
	comp=E,700nm,17.0s								
PET	**Petropavlovsk**	**7.32**	**27**	*e*	PN	**Pn**	**11 17 24.1**		**-0.1**
PET					pmax	pmax			
	comp=Z,87nm,0.9s								
PET					MLR	MLR			
	comp=Z,400nm,12.0s								
PET					MLR	MLR			
	comp=Z,600nm,14.0s								
PET	**Petropavlovsk**	**7.32**	**27**	*e*	P	**Pn**	**11 17 22.7**		**-1.5**
PET					AMB	AMB	11 17 32.0		
	comp=Z,80nm,0.9s								
PET	**Petropavlovsk**	**7.32**	**27**			**Pn**	**11 17 24.5**		**+0.3**
JAR	**Ashorobuto**	**7.47**	**247**	*e*	P	**Pn**	**11 17 26.7**		**+0.4**
JOB	**Onbets**	**7.63**	**244**	*e*	P	**Pn**	**11 17 28.1**		**-0.4**
JOB					*e*S	**Sn**	**11 18 50.5**		**-3.0**
JKK2	**Kamakawa 2**	**7.87**	**253**	*e*	P	**Pn**	**11 17 33.5**		**+1.6**
UGL	**Uglegorsk**	**7.89**	**292**	*e*	PN	**Pn**	**11 17 33.0**		**+1.0**
UGL					pmax	pmax			
	comp=Z,170nm,0.8s								
UGL	**Uglegorsk**	**7.89**	**292**	*e*	P	**Pn**	**11 17 33.0**		**+1.0**
UGL					AMB	AMB	11 17 37.0		
	comp=Z,170nm,0.8s								
UGL					*e*S	**Sn**	**11 18 58.4**		**-1.5**
UGL					AMS	AMS	11 20 31.7		
	comp=Z,800nm,18.0s								
UGL					AMS	AMS	11 20 31.7		
	comp=Z,760nm,18.0s								
UGL					AMS	AMS	11 20 31.7		
	comp=Z,1μm,18.0s								
JWK2	**Keihoku**	**7.99**	**265**	*e*	P	**Pn**	**11 17 37.0**		**+3.7**
JCH	**Churui**	**8.08**	**244**	*e*	P	**Pn**	**11 17 33.8**		**-0.8**
JCH					*e*S	**Sn**	**11 19 00.3**		**-4.2**
TYV	**Tymovskoe**	**8.17**	**305**	*e*	PN	**Pn**	**11 17 37.1**		**+1.3**
TYV					pmax	pmax			
	comp=Z,200nm,3.8s								
TYV					pmax	pmax			
	comp=Z,21nm,0.8s								
TYV	**Tymovskoe**	**8.17**	**305**	*e*	P	**Pn**	**11 17 37.1**		**+1.3**
TYV					AMB	AMB	11 17 39.9		
	comp=Z,20nm,0.8s								
TYV					*e*S	**Sn**	**11 19 05.7**		**-1.0**
TYV					AMS	AMS	11 20 20.6		
	comp=Z,280nm,15.0s								
TYV					AMS	AMS	11 20 20.6		
	comp=Z,290nm,15.0s								
TYV					AMS	AMS	11 20 20.6		
	comp=Z,170nm,15.0s								
JAB	**Ashibetsu**	**8.37**	**252**	*e*	P	**Pn**	**11 17 40.6**		**+1.9**
JRBN	**Rebuntou**	**8.54**	**266**	*e*	P	**Pn**	**11 17 43.1**		**+2.2**
ERM	**Erimo**	**8.54**	**241**		Pn	**Pn**	**11 17 41.2**		**+0.2**
ERM	**Erimo**	**8.54**	**241**	*ce*	PN	**Pn**	**11 17 41.2**		**+0.2**
ERM					pmax	pmax			
	comp=Z,58nm,0.7s								
JNBK	**Urakawa-nobuka**	**8.64**	**244**	*e*	P	**Pn**	**11 17 40.6**		**-1.7**
JNBK					*e*S	**Sn**	**11 19 13.2**		**-5.1**
JNBK	**Urakawa-nobuka**	**8.64**	**244**		A	A	11 17 40.6		
	comp=Z,2.0nm,1.1s,comp=Z,2.0nm,5.3s								
JEW	**Eniwo**	**9.18**	**250**		Pn	**Pn**	**11 17 49.9**		**+0.2**
JANG	**Nango**	**10.53**	**238**	*e*	P	**Pn**	**11 18 04.1**		**-4.1**
JANG					*e*S	Sn	11 19 54.1		-11
JTM	**Tenmabayashi**	**10.54**	**241**		Pn	**Pn**	**11 18 04.2**		**-4.0**
JTH	**Tanohata**	**10.62**	**235**	*e*	S	Sn	11 19 56.4		-10
MA2	**Magadan**	**13.07**	**355**		Pn	**Pn**	**11 18 41.0**		**-1.8**
	comp=Z,9.6nm,0.5s,baz=166,slow=12,SNR=9.8								
MA2					LR	LR	11 23 21.4		
	comp=Z,212nm,20.0s,baz=182,slow=36								
MA2	**Magadan**	**13.07**	**355**			**Pn**	**11 18 41.9**		**-0.9**
MA2	**Magadan**	**13.07**	**355**		PN	**Pn**	**11 18 41.9**		**-0.9**
JSD	**Sado**	**13.97**	**238**		Pn	**Pn**	**11 18 53.7**		**-1.5**
KLR	**Kul'dur**	**14.62**	**288**		Pn	**Pn**	**11 19 01.7**		**-2.0**
	comp=Z,0.1nm,0.3s,baz=89,slow=14,SNR=2.8								
KLR					LR	LR	11 24 49.5		
	comp=Z,281nm,18.6s,baz=102,slow=38								
KLR	**Kul'dur**	**14.62**	**288**	*i*	P	**Pn**	**11 19 04.0**		**+0.3**
KLR					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KLR					MLR	MLR			
	comp=Z,265nm,15.0s								
KLR	**Kul'dur**	**14.62**	**288**	*e*	P	**Pn**	**11 19 02.7**		**-1.0**
SHEM	**Shemya Is, Ala**	**14.82**	**58**		Pn	**Pn**	**11 19 05.5**		**-0.8**
	comp=Z,41nm,0.5s,baz=275,slow=11,SNR=5.1								
SHEM					LR	LR	11 24 05.5		
	comp=Z,116nm,20.2s,baz=283,slow=34								
SMY	**Shemya**	**14.82**	**58**		Pn	**Pn**	**11 19 03.9**		**-2.4**
SMY	**Shemya**	**14.82**	**58**		P	**Pn**	**11 19 03.9**		**-2.4**
MJAR	**Matsushiro Arr**	**15.05**	**233**		Pn	**Pn**	**11 19 06.5**		**-2.9**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=14								
	comp=Z,5.6nm,0.9s								
MJB9	**Matsu-Tunnel**	**15.05**	**233**			**Pn**	**11 19 06.3**		**-3.1**
MAJO	**Matsushiro**	**15.05**	**233**		Pn	**Pn**	**11 19 06.7**		**-2.7**
MAJO	**Matsushiro**	**15.05**	**233**	*i*	P	**Pn**	**11 19 10.2**		**+0.8**
MAJO					pmax	pmax			
	comp=Z,26nm,0.7s								
USA0B	**Ussuriysk Arra**	**15.09**	**269**			**Pn**	**11 19 08.8**		**-1.0**
USA0B	**Ussuriysk Arra**	**15.09**	**269**		P	**Pn**	**11 19 08.9**		**-1.0**
USA0B					pmax	pmax			
	comp=Z,28nm,1.3s								
USRK	**Ussuriysk Ar.**	**15.09**	**269**		Pn	**Pn**	**11 19 08.4**		**-1.5**
	comp=Z,1.2nm,0.3s,baz=72,slow=12,SNR=16								
USRK					LR	LR	11 24 48.7		
	comp=Z,236nm,18.9s,baz=56,slow=37								
USRK	**Ussuriysk Ar.**	**15.09**	**269**		Pn	**Pn**	**11 19 09.0**		**-0.9**
USRK	**Ussuriysk Ar.**	**15.09**	**269**		P	**Pn**	**11 19 09.0**		**-0.9**
SEY	**Seymchan**	**16.36**	**359**		Pn	**Pn**	**11 19 23.4**		**-2.6**
	comp=Z,0.2nm,0.3s,baz=176,slow=14,SNR=2.3								
	comp=Z,4.1nm,0.5s								
SEY	**Seymchan**	**16.36**	**359**	*i*	P	**Pn**	**11 19 26.0**		**0.0**
SEY					pmax	pmax			
	comp=Z,7.0nm,1.0s								
SEY					MLR	MLR			
	comp=Z,203nm,14.0s				

HHC	**Hu-ho-hao-te**	**30.37**	**274**	*e*P		**P**	**11 21 47.8 +0.7**
HHC					pmax	pmax	
	comp=Z,13nm,0.9s						
HHC					pmax	pmax	
	comp=Z,150nm,5.0s						
HHC					LR	LR	
	comp=Z,170nm,13.3s						
HHC					LR	LR	
	comp=Z,330nm,13.3s						
HHC					LR	LR	
	comp=Z,270nm,14.0s						
SONM	**Songino Array**	**31.44**	**290**	P		**P**	**11 21 56.5 0.0**
	comp=Z,0.5nm,0.7s,baz=57,slow=5.3,SNR=1.5						
SONM					LR	LR	11 35 04.7
	comp=Z,152nm,19.4s,baz=86,slow=38						
	comp=Z,0.5nm,0.7s						
N18K	**Kilae Creek**	**32.38**	**46**	P		**P**	**11 22 05.7 +1.2**
GUMO	**Guam**	**33.66**	**195**	LR		LR	11 33 00.8
	comp=Z,79nm,19.8s,baz=114,slow=31						
KDAK	**Kodiak Island**	**34.14**	**51**	P		**P**	**11 22 21.2 +1.4**
	comp=Z,4.8nm,0.8s,baz=292,slow=7.3,SNR=2.6						
KDAK					LR	LR	11 35 37.7
	comp=Z,75nm,21.6s,baz=265,slow=35						
	comp=Z,4.8nm,0.8s						
H21K	**Melozitna Rive**	**34.18**	**37**	IAmb		IAmb	11 22 34.0
	comp=Z,13nm,0.9s						
I21K	**Tanana**	**34.47**	**38**	P		**P**	**11 22 23.7 +1.1**
KTH	**Kantishna Hill**	**34.82**	**40**	P		**P**	**11 22 27.0 +1.2**
MLY	**Manley**	**34.98**	**38**	P		**P**	**11 22 28.6 +1.5**
MLY				IAmb		IAmb	11 22 43.3
	comp=Z,9.4nm,1.0s						
TRF	**Thorofare Moun**	**35.10**	**41**	P		**P**	**11 22 29.1 +0.7**
COLD	**Coldfoot**	**35.41**	**34**	IAmb		IAmb	11 22 45.8
	comp=Z,8.2nm,0.9s						
XAN	**Xi'an**	**35.57**	**265**⇓	*i*P		**P**	**11 22 32.6 +0.1**
XAN					pmax	pmax	
	comp=Z,18nm,0.7s						
COLA	**College**	**36.21**	**38**	P		**P**	**11 22 38.4 +0.9**
COLA	**College**	**36.21**	**38**	P		**P**	**11 22 38.4 +0.9**
COLA					pmax	pmax	
	comp=Z,19nm,1.0s						
CCB	**Clear Creek Bu**	**36.22**	**39**	P		**P**	**11 22 39.5 +1.8**
CCB				IAmb		IAmb	11 22 50.7
	comp=Z,12nm,1.2s						
H24K	**Noodor Dome**	**36.23**	**37**	IAmb		IAmb	11 22 40.0
	comp=Z,8.8nm,1.1s						
ILAR	**Eielson Array**	**36.62**	**38**	P		**P**	**11 22 41.8 +0.8**
	comp=Z,1.9nm,0.9s,baz=270,slow=7.0,SNR=12						
ILAR					LR	LR	11 40 00.5
	comp=Z,87nm,19.1s,baz=272,slow=40						
	comp=Z,1.9nm,0.9s						
BMAR	**Burnt Mountain**	**37.60**	**34**	P		**P**	**11 22 51.0 +1.6**
DOT	**Dot Lake**	**37.89**	**40**	P		**P**	**11 22 51.6 -0.2**
DOT				IAmb		IAmb	11 23 04.9
	comp=Z,8.4nm,1.0s						
LZH	**Lanzhou**	**37.96**	**272**	*e*P		**P**	**11 22 53.8 +0.9**
LZH					pmax	pmax	
	comp=Z,18nm,1.3s						
LZH					LR	LR	
	comp=Z,130nm,14.8s						
LZH					LR	LR	
	comp=Z,210nm,15.5s						
LZH					LR	LR	
	comp=Z,230nm,18.2s						
K27K	**Chicken**	**38.74**	**40**	IAmb		IAmb	11 23 13.2
	comp=Z,17nm,1.1s						
GTA	**Gaotai**	**39.05**	**279**	*e*P		**P**	**11 23 03.6 +1.5**
GTA				pP		pP	11 23 15.1 +0.7
GTA				sP		sP	11 23 21.6 +1.7
GTA					pmax	pmax	
	comp=Z,4.0nm,1.2s						
GTA					pmax	pmax	
	comp=Z,67nm,4.4s						
GTA					LR	LR	
	comp=Z,75nm,17.8s						
GTA					LR	LR	
	comp=Z,63nm,18.9s						
GTA					LR	LR	
	comp=Z,120nm,18.2s						
EGAK	**Eagle**	**39.07**	**38**	P		**P**	**11 23 01.9 +0.2**
EGAK				IAmb		IAmb	11 23 14.8
	comp=Z,15nm,0.9s						
EPYK	**Eagle Plains**	**40.74**	**35**	P		**P**	**11 23 17.1 +1.5**
EPYK				IAmb		IAmb	11 23 32.2
	comp=Z,13nm,1.0s						
INK	**Inuvik**	**41.73**	**32**	P		**P**	**11 23 24.6 +1.1**
	comp=Z,4.6nm,0.6s,baz=299,slow=5.9,SNR=19						
INK					LR	LR	11 44 27.2
	comp=Z,57nm,18.4s,baz=288,slow=42						
	comp=Z,4.6nm,0.6s						
INK	**Inuvik**	**41.73**	**32**	P		**P**	**11 23 24.7 +1.1**
INK				IAmb		IAmb	11 23 37.3
	comp=Z,22nm,1.4s						
INK	**Inuvik**	**41.73**	**32**	P		**P**	**11 23 24.7 +1.1**
INK					pmax	pmax	
	comp=Z,22nm,1.4s						
ZALV	**Zalesovo Beam**	**42.74**	**306**	LR		LR	11 41 25.7
	comp=Z,50nm,18.9s,baz=60,slow=36						
GOMU	**GeErMu**	**44.09**	**278**⇑	*e*P		**P**	**11 23 44.3 +0.7**
GOMU					pmax	pmax	
	comp=Z,5.0nm,0.7s						
GOMU					pmax	pmax	
	comp=Z,51nm,5.8s						
WMQ	**Urumqi**	**45.04**	**291**	*e*P		**P**	**11 23 53.3 +2.6**
PZH	**PanZhiHua**	**45.06**	**262**	P		**P**	**11 23 53.1 +2.0**
PZH					pmax	pmax	
	comp=Z,10.0nm,0.9s						
PZH					pmax	pmax	
	comp=Z,80nm,6.1s						
DLBC	**Dease Lake**	**45.65**	**46**	P		**P**	**11 23 57.7 +2.4**
	comp=Z,2.2nm,0.8s,baz=270,slow=5.1,SNR=4.0						
	comp=Z,2.2nm,0.8s						
DAV	**Davao City (W)**	**45.99**	**220**	LR		LR	11 41 21.0
	comp=Z,41nm,20.7s,baz=38,slow=34						
MK31	**Makanchi Array**	**47.06**	**298**	P		**P**	**11 24 07.0 +0.5**
MK31	**Makanchi Array**	**47.06**	**298**	P		**P**	**11 24 07.0 +0.5**
MK31					pmax	pmax	
	comp=Z,5.0nm,1.4s						
MKAR	**Makanchi Array**	**47.06**	**298**	P		**P**	**11 24 05.4 -1.1**
	comp=Z,0.7nm,0.4s,baz=57,slow=9.0,SNR=6.0						
MKAR					LR	LR	11 45 07.1
	comp=Z,115nm,18.3s,baz=72,slow=38						
	comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**47.06**	**298**	P		**P**	**11 24 06.8 +0.3**
MKAR	**Makanchi Array**	**47.06**	**298**	P		**P**	**11 24 06.8 +0.3**
MKAR	**Makanchi Array**	**47.06**	**298**	*e*P		**P**	**11 24 06.8 +0.3**
KURK	**Kurchatov**	**47.49**	**304**	*ce*P		**P**	**11 24 08.8 -0.9**
KURK					pmax	pmax	
	comp=Z,7.0nm,2.5s						
KURK	**Kurchatov**	**47.49**	**304**	*e*P		**P**	**11 24 08.8 -0.9**
KURBB	**Kurchatov Arra**	**47.59**	**304**	P		**P**	**11 24 08.6 -1.8**
	comp=Z,1.0nm,0.3s,baz=68,slow=8.5,SNR=5.1						
	comp=Z,1.0nm,0.3s						
BBB	**Bella Bella**	**49.15**	**53**	LR		LR	11 43 15.8
	comp=Z,21nm,21.6s,baz=280,slow=34						
CRAI	**Chiangrai**	**50.20**	**257**	P		**P**	**11 24 31.9 +1.0**
CRAI				IAmb		IAmb	11 24 33.0
	comp=Z,5.0nm,0.8s						
RES	**Resolute Bay**	**50.95**	**19**	LR		LR	11 49 25.1
	comp=Z,44nm,18.9s,baz=42,slow=40						
BVAR	**Borovoye Array**	**51.00**	**310**	P		**P**	**11 24 35.1 -1.4**
	comp=Z,0.3nm,0.4s,baz=58,slow=12,SNR=2.7						
BVAR					LR	LR	11 48 34.5
	comp=Z,37nm,18.3s,baz=63,slow=39						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**51.00**	**37**	LR		LR	11 47 17.4
	comp=Z,51nm,21.4s,baz=310,slow=37						
CHTO	**Chiang Mai**	**52.15**	**257**	P		**P**	**11 24 46.2 +0.7**
CHTO	**Chiang Mai**	**52.15**	**257**	P		**P**	**11 24 46.2 +0.7**
CMAR	**Chiang Mai Arr**	**52.40**	**257**	P		**P**	**11 24 48.5 +1.1**
	comp=Z,4.2nm,0.8s,baz=36,slow=7.5,SNR=21						
	comp=Z,4.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.40**	**257**	P		**P**	**11 24 48.0 +0.6**
CMAR	**Chiang Mai Arr**	**52.40**	**257**	*ce*P		**P**	**11 24 49.0 +1.6**
CMAR					pmax	pmax	
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**53.95**	**296**	LR		LR	11 48 38.3
	comp=Z,54nm,20.2s,baz=64,slow=37						
BRDH	**Bariadhala**	**54.49**	**266**	LR		LR	11 49 05.5
	comp=Z,65nm,20.2s,baz=92,slow=37						
JIRN	**Jiri**	**55.02**	**275**	*e*P		**P**	**11 25 07.4 +0.5**
	comp=Z,23nm,0.5s						
GUN	**Gumba**	**55.08**	**275**	*e*P		**P**	**11 25 07.9 +0.6**
	comp=Z,17nm,0.4s						
ARU	**Arti**	**55.16**	**318**	*c* *i*P		**P**	**11 25 07.2 +0.2**
ARU							11 27 08.9
ARU					S	**S**	**11 32 49.5 +3.4**
ARU					SS	**SS**	**11 36 32.8 +2.9**
ARU					pmax	pmax	
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**55.16**	**318**	*e*P		**P**	**11 25 07.2 +0.2**
RAMN	**Ramite**	**55.19**	**274**	*e*P		**P**	**11 25 08.1 +0.1**
PKI	**Pulchoki**	**55.61**	**275**	*e*P		**P**	**11 25 11.2 +0.1**
	comp=Z,14nm,0.6s						
PKIN	**Phulchoki**	**55.62**	**275**	*e*P		**P**	**11 25 11.2 +0.1**
	comp=Z,11nm,0.4s						
DMN	**Daman**	**55.80**	**275**	*e*P		**P**	**11 25 12.9 +0.6**
	comp=Z,22nm,0.6s						
HNR	**Honiara**	**56.11**	**172**	LR		LR	11 46 50.5
	comp=Z,263nm,21.7s,baz=139,slow=33						
DANN	**Dangsing**	**56.25**	**277**	*e*P		**P**	**11 25 16.3 +0.7**
	comp=Z,18nm,0.6s						
EDM	**Edmonton**	**56.36**	**46**	P		**P**	**11 25 16.6 +0.8**
EDM	**Edmonton**	**56.36**	**46**	P		**P**	**11 25 16.6 +0.8**
EDM					pmax	pmax	
	comp=Z,10.0nm,0.6s						
KOLN	**Koldanda**	**56.73**	**277**	*e*P		**P**	**11 25 19.2 +0.3**
PYUN	**Piuthan**	**56.94**	**277**	*e*P		**P**	**11 25 20.6 +0.2**
NEW	**Newport**	**57.21**	**53**	LR		LR	11 47 22.7
	comp=Z,29nm,21.7s,baz=299,slow=33						
PINE	**Pine Mountain**	**57.61**	**59**	P		**P**	**11 25 27.0 +2.0**
PINE				IAmb		IAmb	11 25 35.7
	comp=Z,7.7nm,0.9s						
E09A	**Wood Farm, Sta**	**57.65**	**55**	IAmb		IAmb	11 25 26.9
	comp=Z,9.1nm,1.1s						
YBH	**Yreka Blue Hor**	**57.75**	**62**	LR		LR	11 44 56.4
	comp=Z,39nm,21.9s,baz=276,slow=30						
AKTO	**Aktyubinsk**	**58.87**	**312**	LR		LR	11 55 13.0
	comp=Z,39nm,18.4s,baz=45,slow=41						
BMO	**Blue Mountains**	**59.10**	**56**	IAmb		IAmb	11 25 45.8
	comp=Z,3.7nm,1.0s						
MOD	**Modoc Plateau**	**59.10**	**60**	P		**P**	**11 25 35.9 +0.6**
MOD				IAmb		IAmb	11 25 50.5
	comp=Z,3.7nm,0.9s						
J08A	**Circle Bar Ran**	**59.31**	**58**	IAmb		IAmb	11 25 47.0
	comp=Z,4.6nm,1.1s						
KAPI	**Kappang**	**59.33**	**220**	LR		LR	11 52 05.7
	comp=Z,16nm,20.6s,baz=11,slow=37						
CHGR	**Chuyangaron**	**59.56**	**295**	P		**P**	**11 25 38.6 +0.2**
CHGR	**Chuyangaron**	**59.56**	**295**	P		**P**	**11 25 38.6 +0.2**
CHGR					pmax	pmax	
	comp=Z,10.0nm,0.5s						
PLID	**Pearl Lake**	**59.70**	**55**	IAmb		IAmb	11 25 41.6
	comp=Z,7.5nm,0.9s						
WVOR	**Wild Horse Val**	**59.77**	**59**	IAmb		IAmb	11 25 55.0
	comp=Z,6.1nm,1.0s						
MSO	**Missoula**	**59.80**	**53**	IAmb		IAmb	11 25 42.2
	comp=Z,5.9nm,1.1s						
SUMG	**Summit**	**60.83**	**4**	*i* P		**P**	**11 25 46.1 -0.9**
LRM	**Limekiln Ridge**	**61.23**	**53**	P		**P**	**11 25 50.4 +0.5**
BOZ	**Bozeman (W)**	**61.82**	**52**	P		**P**	**11 25 55.0 +1.2**
BOZ				IAmb		IAmb	11 26 12.7
	comp=Z,12nm,1.5s						
BOZ	**Bozeman (W)**	**61.82**	**52**	P		**P**	**11 25 55.0 +1.2**
BOZ					pmax	pmax	
	comp=Z,12nm,1.5s						
BMN	**Battle Mountai**	**61.84**	**60**	IAmb		IAmb	11 26 04.3
	comp=Z,4.1nm,0.7s						
KVN	**Kaiserville**	**62.18**	**62**	IAmb		IAmb	11 26 06.5
	comp=Z,5.6nm,1.1s						
NVAR	**Mina Array Bea**	**62.44**	**62**	P		**P**	**11 25 59.3 +1.2**
	comp=Z,1.1nm,0.7s,baz=298,slow=6.4,SNR=7.7						
	comp=Z,1.1nm,0.7s						
YHH	**Holmes Hill**	**62.76**	**53**	IAmb		IAmb	11 26 10.2
	comp=Z,5.2nm,1.2s						
ELK	**Elko**	**62.82**	**59**	LR		LR	11 48 54.5
	comp=Z,35nm,20.9s,baz=280,slow=32						
TPAW	**Teton Pass**	**63.53**	**54**	IAmb		IAmb	11 26 07.5
	comp=Z,5.1nm,0.9s						
REDW	**Red Top Meadow**	**63.67**	**54**	IAmb		IAmb	11 26 26.7
	comp=Z,5.1nm,0.9s						
DGMT	**Dagmar**	**63.86**	**46**	P		**P**	**11 26 08.6 +1.5**
PSI	**Prapat**	**64.08**	**244**	LR		LR	11 54 41.7
	comp=Z,32nm,20.1s,baz=28,slow=37						
FINES	**FINESS Array B**	**64.19**	**335**	P		**P**	**11 26 07.9 -1.1**
	comp=Z,1.6nm,0.5s,baz=27,slow=6.5,SNR=6.0						
FINES					LR	LR	11 57 14.0
	comp=Z,47nm,18.6s,baz=14,slow=39						
	comp=Z,1.6nm,0.5s						
ICESG	**Greenland Ices**	**64.23**	**5**	*i* P		**P**	**11 26 06.1 -3.5**
HWUT	**Hardware Ranch**	**64.40**	**56**	IAmb		IAmb	11 26 21.0
	comp=Z,5.8nm,1.1s						
SPR3	**Spring Creek 3**	**64.47**	**60**	IAmb		IAmb	11 26 22.3
	comp=Z,4.2nm,0.9s						
WCT	**Wildcat Mounta**	**64.51**	**63**	IAmb		IAmb	11 26 22.2
	comp=Z,4.9nm,1.2s						
DUG	**Dugway, Tooele**	**64.59**	**58**	IAmb		IAmb	11 26 22.5
	comp=Z,6.1nm,1.1s						
PD31	**Pinedale Array**	**64.78**	**54**	IAmb		IAmb	11 26 23.6
	comp=Z,4.2nm,1.0s						
PDAR	**Pinedale Array**	**64.78**	**54**	P		**P**	**11 26 14.5 +1.0**
	comp=Z,1.6nm,0.8s,baz=306,slow=2.1,SNR=13						
PDAR					LR	LR	11 52 50.4
	comp=Z,15nm,21.7s,baz=319,slow=34						
	comp=Z,1.6nm,0.8s						
PDAR	**Pinedale Array**	**64.78**	**54**	P		**P**	**11 26 13.8 +0.4**
FRB	**Frobisher Bay**	**65.16**	**19**	LR		LR	11 58 55.1
	comp=Z,41nm,18.1s,baz=356,slow=40						
OBN	**Obninsk**	**65.46**	**326**	LR		LR	11 56 25.5
	comp=Z,6.7nm,19.9s,baz=348,slow=38						
P17A	**Butcher Ranch,**	**66.27**	**57**	IAmb		IAmb	11 26 33.1
	comp=Z,6.8nm,1.1s						
KNB	**Kanab**	**66.67**	**60**	IAmb		IAmb	11 26 36.3
	comp=Z,6.2nm,1.0s						
LEM	**Lembang**	**66.83**	**230**	LR		LR	11 58 58.1
	comp=Z,25nm,18.1s,baz=355,slow=39						
RSSD	**Black Hills**	**66.86**	**50**	P		**P**	**11 26 26.3 -0.6**
RSSD				IAmb		IAmb	11 26 43.1
	comp=Z,5.0nm,0.8s						
RSSD	**Black Hills**	**66.86**	**50**	P		**P**	**11 26 26.3 -0.6**
RSSD					pmax	pmax	
	comp=Z,5.0nm,0.8s						
MSVF	**Nonsavu**	**67.86**	**154**	LR		LR	11 50 48.1
	comp=Z,42nm,21.8s,baz=341,slow=31						
PV11	**David Mesa, Pa**	**68.14**	**57**	IAmb		IAmb	11 26 49.3
	comp=Z,9.5nm,1.1s						
PV13	**Radium Mtn., P**	**68.27**	**57**	IAmb		IAmb	11 26 46.1
	comp=Z,6.0nm,1.0s						
NB2	**NORSAR Subarra**	**68.38**	**341**	P		**P**	**11 26 34.8 -1.1**
	comp=Z,2.1nm,0.7s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.38**	**341**	P		**P**	**11 26 35.0 -0.9**
	comp=Z,0.9nm,0.6s,baz=28,slow=6.6,SNR=6.4						
NOA					LR	LR	11 59 26.7
	comp=Z,24nm,18.1s,baz=30,slow=39						
	comp=Z,0.9nm,0.6s						
WB2	**Warramunga Arr**	**68.40**	**199**	P		**P**	**11 26 38.3 +1.9**
WB2				IAmb		IAmb	11 26 48.9
	comp=Z,4.9nm,1.1s						
WRA	**Warramunga Arr**	**68.40**	**199**	P		**P**	**11 26 36.9 +0.5**
	comp=Z,2.2nm,0.9s,baz=17,slow=6.7,SNR=16						
WRA					LR	LR	11 59 43.4
	comp=Z,13nm,18.0s,baz=62,slow=39						
	comp=Z,2.2nm,0.9s						
WRA	**Warramunga Arr**	**68.40**	**199**	P		**P**	**11 26 37.0 +0.7**
WRA	**Warramunga Arr**	**68.40**	**199**	P		**P**	**11 26 37.1 +0.7**
HFS	**Hagfors**	**68.61**	**340**	LR		LR	11 58 08.3
	comp=Z,31nm,21.9s,baz=345,slow=37						
FITZ	**Fitzroy Crossi**	**69.05**	**208**	P		**P**	**11 26 41.9 +1.4**
	comp=Z,3.8nm,0.8s,baz=350,slow=4.3,SNR=10.0						
	comp=Z,3.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**69.05**	**208**	P		**P**	**11 26 41.5 +1.1**
FITZ				IAmb		IAmb	11 26 42.9
	comp=Z,5.1nm,0.9s						
NACGM	**Naroch**	**69.21**	**330**⇓	*e*P		**P**	**11 26 40.6 -0.5**
	baz=36						
ECSD	**EROS Data Cent**	**70.94**	**46**	IAmb		IAmb	11 27 06.3
	comp=Z,7.4nm,1.1s						
KIV	**Kislovodsk**	**70.94**	**314**	*e*P		**P**	**11 26 53.7 +1.7**
KIV					pmax	pmax	
	comp=Z,4.0nm,0.9s						
KIV					MLR	MLR	
	comp=Z,35nm,18.0s						
KIV	**Kislovodsk**	**70.94**	**314**	*e*P		**P**	**11 26 53.7 +1.7**
KBZ	**Khabaz**	**71.00**	**314**	LR		LR	12 00 48.1
	comp=Z,44nm,18.4s,baz=70,slow=38						
AKASG	**Malin Array Be**	**71.70**	**326**	P		**P**	**11 26 55.0 -1.3**
	comp=Z,1.5nm,0.4s,baz=34,slow=6.3,SNR=7.8						
	comp=Z,1.5nm,0.4s						
AKBB	**Malin Array Si**	**71.70**	**326**	*ce*P		**P**	**11 26 55.8 -0.5**
ANMO	**Albuquerque**	**71.85**	**58**	*i* P		**P**	**11 26 58.5 +0.7**
ANMO					pmax	pmax	
	comp=Z,1.0nm,0.9s						
AS31	**Alice Springs**	**72.10**	**199**	P		**P**	**11 27 00.5 +1.5**
ASAR	**Alice Springs**	**72.10**	**199**	P		**P**	**11 26 59.9 +0.9**
	comp=Z,2.3nm,0.8s,baz=15,slow=5.2,SNR=32						
ASAR					LR	LR	11 57 09.2
	comp=Z,17nm,21.9s,baz=353,slow=35						
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**72.10**	**199**	P		**P**	**11 27 00.1 +1.1**
ASAR	**Alice Springs**	**72.10**	**199**	P		**P**	**11 27 00.1 +1.1**
319A	**Douglas**	**72.65**	**63**	IAmb		IAmb	11 27 13.2
	comp=Z,11nm,0.9s						
GNI	**Garni**	**72.67**	**310**	LR		LR	12 04 14.0
	comp=Z,28nm,18.2s,baz=52,slow=40						
BUR08	**Bucovina Ar. S**	**75.72**	**327**	P		**P**	**11 27 19.5 -0.6**
BURAR	**Bucovina Array**	**75.74**	**327**	P		**P**	**11 27 20.0 -0.3**
CLL	**Collm**	**76.62**	**336**	*e*P		**P**	**11 27 27.0 +2.0**
CLL	**Collm**	**76.62**	**336**	*e*P		**P**	**11 27 27.0 +2.0**
VRAC	**Vranov**	**77.30**	**333**	LR		LR	12 05 08.3
	comp=Z,50nm,18.5s,baz=12,slow=39						
TX32	**Lajitas Array**	**77.50**	**61**	IAmb		IAmb	11 27 46.1
	comp=Z,5.9nm,1.0s						
TXAR	**Lajitas Array**	**77.50**	**61**	P		**P**	**11 27 31.5 +1.0**
	comp=Z,1.8nm,0.7s,baz=302,slow=4.9,SNR=34						
	comp=Z,1.8nm,0.7s						
SADO	**Sadowa**	**77.97**	**35**	LR		LR	12 03 10.2
	comp=Z,37nm,21.9s,baz=2.0,slow=37						
BRTR	**Keskin Array B**	**78.53**	**317**	P		**P**	**11 27 36.1 0.0**
	comp=Z,1.7nm,0.8s,baz=57,slow=4.6,SNR=6.6						
	comp=Z,1.7nm,0.8s						
TKL	**Tuckaleechee C**	**83.43**	**43**	LR		LR	12 09 39.1
	comp=Z,49nm,18.6s,baz=332,slow=39						
VNDA	**Vanda**	**123.97**	**178**	PKP		**PKPdf**	**11 34 31.4 +0.4**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.2,SNR=2.4						
H03N2	**Juan Fernandez**	**138.69**	**91**	T		T	14 10 18.3
	baz=309,slow=77,SNR=30						
H03N3	**Juan Fernandez**	**138.70**	**91**	T		T	14 10 03.0
	baz=309,slow=77,SNR=369						
H03N1	**Juan Fernandez**	**138.70**	**91**	T		T	14 10 07.9
	baz=309,slow=77,SNR=36						
TROLL	**Troll, Antarti**	**151.08**	**198**	PKPbc		**PKiKP**	**11 35 27.2 +0.5**
SNAA	**Sanae**	**152.44**	**196**	PKPbc		**PKPbc**	**11 35 29.5 +0.3**
VNA2	**Neumayer--Watz**	**153.88**	**194**	PKPbc		**PKPbc**	**11 35 32.9 +0.6**
	baz=118,slow=2.0						
VNA3	**Neumayer Olymp**	**153.97**	**193**	PKPbc		**PKPbc**	**11 35 33.0 +0.5**
VNA1	**Neumayer--Stat**	**154.27**	**194**	PKPbc		**PKPbc**	**11 35 33.5 +0.4**

SOME ***22*** *11:35:41.9, 40.92N×78.35E, h0km*
NNC ***22*** *11:35:42.7±1.7, 40.86N×78.29E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=11.4km s-min=8.1km az=170.0*
KRNET ***22*** *11:35:43.8±0.1, 40.90N×78.28E, mb3.0*

ISC 22 11:35:43.1±2.3, **40.89N**±0.09×**78.27E**±0.05, **h7**km±15km,
n41,σ**1s36**/63, **10C-7D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.91**	**337**	*i*P			**Pg**	**11 36 01.0**	**+0.3**
	baz=37								
TARG				⇓*i*S			**Sb**	**11 36 13.8**	**-0.2**
	baz=37								
NRN	**Naryn**	**1.80**	**288**⇑	*e*P			**Pg**	**11 36 17.7**	**+0.1**
	baz=87								
NRN				⇑*i*S			**Sg**	**11 36 42.5**	**+1.5**
	baz=87								
ULHL	**Ulahol**	**2.04**	**312**⇓	*i*P			**Pb**	**11 36 21.4**	**+0.7**
	baz=12								
ULHL				⇓*i*S			**Sg**	**11 36 48.8**	**+0.1**
	baz=12								
SATY	**Saty**	**2.17**	**3**	*e*P			**Pb**	**11 36 23.8**	**+1.0**
	14nm,0.5s								
SATY				*e*S			**Sg**	**11 36 53.1**	**+0.2**
	24nm,0.2s								
SATY	**Saty**	**2.17**	**3**	Pg			**Pb**	**11 36 23.8**	**+1.0**
	14nm,0.5s								
SATY				Lg			Lg	11 36 53.9	
	24nm,0.2s								
ZHN	**Zhinishke**	**2.28**	**3**	*e*P			**Pb**	**11 36 25.6**	**+0.9**
	22nm,0.3s								
ZHN				*e*S			**Sg**	**11 36 56.8**	**+0.4**
	71nm,0.3s								
ZHN	**Zhinishke**	**2.28**	**3**	Pg			**Pb**	**11 36 25.6**	**+0.9**
	22nm,0.3s								
ZHN				Lg			Lg	11 36 56.8	
	71nm,0.3s								
UZB	**Uzunbulak**	**2.33**	**14**	*e*P			**Pb**	**11 36 25.6**	**+0.2**
	1.8nm,0.3s								
UZB				*e*S			**Sg**	**11 36 56.9**	**-0.9**
	18nm,0.5s								
UZB	**Uzunbulak**	**2.33**	**14**	Pg			**Pb**	**11 36 25.7**	**+0.2**
	1.8nm,0.3s								
UZB				Lg			Lg	11 36 56.9	
	18nm,0.5s								
TNSS	**Tian-Shan**	**2.36**	**336**	*e*P			**Pb**	**11 36 27.3**	**+1.0**
	25nm,0.2s								
TNSS				*e*S			**Sg**	**11 36 59.5**	**+0.4**
	14nm,0.4s								
TNSS	**Tian-Shan**	**2.36**	**336**	Pg			**Pb**	**11 36 27.3**	**+1.0**
	25nm,0.2s								
TNSS				Lg			Lg	11 36 59.8	
	14nm,0.4s								
BOOM	**Boomskoye usch**	**2.37**	**313**⇑	*e*P			**Pb**	**11 36 25.9**	**-0.3**
	baz=13								
BOOM				⇑*i*S			**Sb**	**11 36 56.6**	**+0.8**

	11nm,0.4s							
DGS	**Degeres**	**3.00**	**322**	Pg	**Pb**	**11 36 38.3**	**+1.3**
DGS				Lg	Lg	11 37 18.0	
KBK	**Karagaybulak**	**3.05**	**306**	⇑*i*P	**Pb**	**11 36 35.4**	**-2.5**
	baz=6.0						
KBK				⇑*i*S	**Sb**	**11 37 13.0**	**-2.4**
	baz=6.0						
CHKK	**Chushkaly**	**3.11**	**343**	*e*P	**Pb**	**11 36 40.8**	**+1.9**
	5.9nm,0.3s						
CHKK				*e*S	**Sg**	**11 37 22.4**	**-0.7**
	18nm,0.3s						
CHKK	**Chushkaly**	**3.11**	**343**	Pg	**Pb**	**11 36 40.8**	**+1.9**
	5.9nm,0.3s						
CHKK				Lg	Lg	11 37 22.4	
	18nm,0.3s						
BLB	**Baldybastay**	**3.21**	**3**	*e*P	**Pb**	**11 36 41.8**	**+1.2**
	23nm,0.2s						
BLB				*e*S	**Sg**	**11 37 24.0**	**-2.2**
	19nm,0.4s						
BLB	**Baldybastay**	**3.21**	**3**	Pg	**Pb**	**11 36 41.8**	**+1.2**
	23nm,0.2s						
BLB				Lg	Lg	11 37 24.0	
	19nm,0.4s						
KUU	**Kurty**	**3.33**	**335**	*e*P	**Pb**	**11 36 43.6**	**+1.1**
	2.1nm,0.4s						
KUU				*e*S	**Sg**	**11 37 27.4**	**-2.6**
	17nm,0.7s						
KUU	**Kurty**	**3.33**	**335**	Pg	**Pb**	**11 36 43.6**	**+1.1**
	2.1nm,0.4s						
KUU				Lg	Lg	11 37 27.4	
	17nm,0.7s						
KRBS	**Karabastau**	**3.40**	**326**	*e*P	**Pb**	**11 36 45.4**	**+1.6**
	2.4nm,0.3s						
KRBS				*e*S	**Sg**	**11 37 30.5**	**-1.9**
	12nm,0.8s						
KRBS	**Karabastau**	**3.40**	**326**	Pg	**Pb**	**11 36 45.4**	**+1.6**
	2.4nm,0.3s						
KRBS				Lg	Lg	11 37 30.5	
	12nm,0.8s						
DJR	**Jarkent**	**3.62**	**18**	*e*P	**Pb**	**11 36 48.8**	**+1.3**
	3.6nm,0.4s						
DJR				*e*S	**Sg**	**11 37 36.1**	**-3.2**
	13nm,0.4s						
DJR	**Jarkent**	**3.62**	**18**	Pg	**Pb**	**11 36 48.8**	**+1.3**
	3.6nm,0.4s						
DJR				Lg	Lg	11 37 36.1	
	13nm,0.4s						

NNC 22 11:40:58.1±5.1, 53°97'N×91°30'E, h0km, mb3.7, mpv3.4, 7C-4D, Error ellipse: s-maj=41.3km s-min=34.6km az=11.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**3.83**	**272**	⇑Pg	**Pb**	**11 42 08.8**	**+2.3**
	1.1nm,0.7s						
ZAA0				⇑Lg	Lg	11 42 58.4	
	3.2nm,0.7s						
KURK	**Kurchatov**	**8.42**	**252**	⇓Pn	Pn	11 42 57.9	-3.3
	2.7nm,0.6s						
KURK				⇓Sn	Sn	11 44 39.8	+2.9
	0.8nm,0.3s						
KURK				⇑Lg	Lg	11 45 26.0	
	38nm,1.2s						
KURBB	**Kurchatov Arra**	**8.51**	**252**	⇑Pn	Pn	11 43 03.0	+0.5
	1.8nm,0.5s						
KURBB				⇑Sn	Sn	11 44 40.1	+0.9
	13nm,0.8s						
KURBB				⇓Lg	Lg	11 45 28.6	
	10nm,0.7s						
MK31	**Makanchi Array**	**9.20**	**222**	⇑Pn	Pn	11 43 16.7	+4.7
	0.8nm,0.6s,baz=42,slow=14,SNR=3.8						
MK31				⇑Sn	Sn	11 44 57.4	+1.2
	1.5nm,0.7s,baz=44,slow=21,SNR=4.3						
MK31				⇓Lg	Lg	11 45 44.2	
	16nm,1.2s,baz=42,slow=24,SNR=3.6						

*IDC **22** 11:42:13.4±0.9, 54°63'S×30°49'W, h0km, mb3.8/7, mbtmp3.9/7, MS3.3/1, Error ellipse: s-maj=40.8km s-min=19.3km az=66.0*
ISC 22 11:42:14.8±0.8, 54°6'S±0'.1×30°6'W±0'.2, h10km, n11, σ0§80/11, mb4.0/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**19.00**	**159**	P	**Pn**	**11 46 36.8**	**-0.2**
VNA2	**Neumayer--Watz**	**19.26**	**157**	P	**Pn**	**11 46 41.5**	**+1.5**
	baz=316,slow=12						
SNAA	**Sanae**	**20.84**	**156**	P	**P**	**11 46 55.2**	**-1.0**
	0.5nm,0.5s,baz=300,slow=13,SNR=2.3						
	0.5nm,0.5s						
CPUP	**Villa Florida**	**34.42**	**314**	P	**P**	**11 49 01.4**	**-0.8**
	3.3nm,1.0s,baz=159,slow=9.6,SNR=3.9						
	3.3nm,1.0s						
QSPA	**South Pole Qui**	**35.64**	**180**	P	**P**	**11 49 12.8**	**+0.3**
	2.7nm,0.6s,baz=184,slow=6.1,SNR=12						
QSPA				LR	LR	12 02 57.6	
	comp=Z,50nm,19.1s,baz=198,slow=35						
	2.7nm,0.6s						
MAW	**Mawson**	**42.44**	**145**	P	**P**	**11 50 08.9**	**-0.1**
	1.0nm,0.7s,baz=223,slow=11,SNR=2.3						
	1.0nm,0.7s						
VNDA	**Vanda**	**47.90**	**184**	P	**P**	**11 50 52.1**	**-0.3**
	0.5nm,0.8s,baz=194,slow=6.0,SNR=4.5						
	0.5nm,0.8s						
LPAZ	**La Paz**	**47.98**	**308**	P	**P**	**11 50 55.2**	**+0.8**
	1.8nm,0.7s,baz=159,slow=3.4,SNR=8.0						
	1.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.82**	**33**	P	**P**	**11 53 43.5**	**+0.1**
	1.0nm,0.9s,baz=178,slow=6.9,SNR=3.7						
	1.0nm,0.9s						
ILAR	**Eielson Array**	**147.73**	**314**	PKPbc	**PKPbc**	**12 01 58.3**	**+0.2**
	1.4nm,0.9s,baz=119,slow=1.4,SNR=10						
SONM	**Songino Array**	**152.56**	**86**	PKPbc	**PKiKP**	**12 02 10.9**	**+0.1**
	0.3nm,0.5s,baz=230,slow=3.6,SNR=2.6						

*IDC **22** 11:58:11.6±5.9, 36°72'N×71°69'E, h99km±56km, mb3.1/3, mbtmp3.7/6, MS2.4/1, Error ellipse: s-maj=57.3km s-min=20.9km az=158.0*
*NNC **22** 11:58:19.6±5.8, 37°26'N×71°56'E, h114km±87km, mb3.2, mpv3.9, Error ellipse: s-maj=56.2km s-min=38.0km az=157.0*
ISC 22 11:58:12.9±1.1, 36°9'N±0'.1×71°61'E±0'.08, h106km, n18, σ1§76/20, mb3.2/3, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.50**	**16**	P	**Pn**	**11 59 34.6**	**+1.9**
	SNR=18						
UCH	**Uchtor**	**5.81**	**22**	P	**Pn**	**11 59 38.4**	**+1.5**
	SNR=32						
EKS2	**Erkin-Say**	**6.03**	**15**	P	**Pn**	**11 59 41.7**	**+2.1**
	SNR=15						
AAK	**Ala-Archa**	**6.18**	**20**	P	**Pn**	**11 59 43.9**	**+2.1**
	SNR=20						
KK31	**Karatay Array**	**6.29**	**353**	P	**Pn**	**11 59 45.5**	**+2.4**
	2.1nm,0.2s,baz=165,slow=10.0,SNR=55						
KK31				⇑S	**Sn**	**12 00 50.1**	**-3.4**
	18nm,0.4s,baz=179,slow=26,SNR=5.2						
CHMS	**Chumysh**	**6.58**	**21**	P	**Pn**	**11 59 48.8**	**+1.7**
	SNR=9.1						
USP	**Ospenovka**	**6.77**	**18**	P	**Pn**	**11 59 50.8**	**+1.3**
	SNR=5.9						
TKM2	**Tokmak 2**	**6.78**	**26**	P	**Pn**	**11 59 51.6**	**+1.7**
	SNR=14						
TKM2	**Tokmak 2**	**6.78**	**26**	⇓P	**Pn**	**11 59 51.2**	**+1.3**
	11nm,0.7s						
TKM2				⇑S	**Sn**	**12 01 05.3**	**-0.4**
	3.5nm,0.7s						
GEYT	**Alibeck**	**10.79**	**280**	P	**Pn**	**12 00 44.9**	**+0.7**
	1.3nm,0.4s,baz=267,slow=29,SNR=2.5						
GEYT				S	**Sn**	**12 02 42.7**	**-0.2**
	2.0nm,0.3s,baz=151,slow=19,SNR=2.7						
MKAR	**Makanchi Array**	**12.71**	**35**	P	**Pn**	**12 01 10.2**	**+0.5**
	1.8nm,0.9s,baz=225,slow=12,SNR=10						
AB31	**Akbulak array**	**15.01**	**329**	⇑P	**P**	**12 01 40.4**	**-1.7**
	0.3nm,0.3s,baz=139,slow=14,SNR=12						
BVAR	**Borovoye Array**	**16.18**	**357**	LR	LR	12 08 58.5	
	comp=Z,14nm,21.6s,baz=64,slow=40						
AKTO	**Aktyubinsk**	**16.72**	**328**	⇑P	**P**	**12 02 03.0**	**+2.0**
	1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**19.38**	**24**	P	**P**	**12 02 29.7**	**-0.4**
	6.6nm,0.6s,baz=221,slow=9.6,SNR=28						
SONM	**Songino Array**	**27.73**	**56**	P	**P**	**12 03 51.8**	**+0.5**
	0.2nm,0.4s,baz=256,slow=12,SNR=2.3						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**66.22**	**269**	P	**P**	**12 08 50.1**	**+0.4**
	0.3nm,0.5s,baz=55,slow=5.6,SNR=2.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**84.06**	**125**	P	**P**	**12 10 30.1**	**-1.8**
	0.2nm,0.7s,baz=306,slow=3.1,SNR=4.1						
	0.2nm,0.7s						

BUC 22 12:03:47.5±0.3, 45°45N×23°06E, h16km±1km, ml1.1/4, 7C-5D, Error ellipse: s-maj=2.7km s-min=1.4km az=106.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GZR	**Gura Zlata**	**0.21**	**254**	⇑P	Pg	12 03 52.6	+0.1
GZR				⇓S	Sb	12 03 56.3	-0.3
LOT	**Lotru**	**0.50**	**90**	⇑S	Sg	12 04 02.2	-2.1
HERR	**Herculane**	**0.73**	**219**	⇑P	Pg	12 04 01.5	-0.3
HERR				⇓S	Sb	12 04 11.9	+0.3
BZS	**Buzias**	**1.03**	**280**	⇓P	Pb	12 04 06.5	-0.4
BZS				⇓S	Sb	12 04 20.3	+0.2
MDVR	**Moldovita**	**1.17**	**235**	⇑P	Pb	12 04 09.3	0.0
MDVR				⇓S	Sg	12 04 25.7	+0.4
SIRR	**Siria**	**1.27**	**310**	⇑S	Sg	12 04 28.1	-0.6
DRGR		**1.36**	**350**	⇑P	Pn	12 04 12.1	+0.2
DRGR				⇑S	Sb	12 04 30.5	+0.6

IDC 22 12:32:55.1±1.3, 17°34N×46°48W, h0km, mb3.7/5, mbtmp3.7/5, MS3.3/19, Error ellipse: s-maj=39.3km s-min=32.2km az=17.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**13.58**	**207**	P	LR	12 40 33.2	
	comp=Z,32nm,20.9s,baz=308,slow=34						
SJG	**San Juan**	**18.75**	**275**	LR	LR	12 43 43.7	
	comp=Z,29nm,18.3s,baz=82,slow=35						
BBTS	**Babate**	**28.90**	**91**	LR	LR	12 46 56.0	
	comp=Z,103nm,20.3s,baz=308,slow=29						
TKL	**Tuckaleechee C**	**37.75**	**306**	LR	LR	12 54 53.1	
	comp=Z,32nm,19.0s,baz=143,slow=35						
SADO	**Sadowa**	**38.68**	**322**	LR	LR	12 53 34.3	
	comp=Z,48nm,19.5s,baz=176,slow=32						
LPAZ	**La Paz**	**39.65**	**214**	P	P	12 40 29.4	-0.3
	0.5nm,0.5s,baz=35,slow=15,SNR=2.1						
	0.5nm,0.5s						
H10N3	**ASCENSION HYDR**	**40.31**	**126**	T	T	13 23 33.5	
	baz=308,slow=74,SNR=70						
H10N2	**ASCENSION HYDR**	**40.31**	**126**	T	T	13 23 33.8	
	baz=308,slow=74,SNR=69						
H10N1	**ASCENSION HYDR**	**40.33**	**126**	T	T	13 23 35.0	
	baz=308,slow=74,SNR=77						
KOWA	**Kowa**	**40.88**	**88**	LR	LR	12 55 00.3	
	comp=Z,67nm,18.4s,baz=214,slow=32						
H10S3	**ASCENSION HYDR**	**40.88**	**127**	T	T	13 24 12.1	
	baz=307,slow=74,SNR=18						
H10S2	**ASCENSION HYDR**	**40.90**	**127**	T	T	13 24 13.2	
	baz=273,slow=74,SNR=2.7						
NNA	**Nana**	**41.82**	**228**	LR	LR	12 58 13.1	
	comp=Z,38nm,18.1s,baz=346,slow=36						
DBIC	**Dimbokro**	**41.98**	**99**	LR	LR	12 55 20.3	
	comp=Z,40nm,19.5s,baz=312,slow=32						
ESDC	**Sonseca Array**	**42.97**	**50**	LR	LR	12 55 24.9	
	comp=Z,27nm,20.2s,baz=262,slow=31						
TORD	**Torodi Ar. Bea**	**46.58**	**88**	P	P	12 41 25.1	0.0
	0.8nm,0.9s,baz=282,slow=7.2,SNR=3.7						
TORD				LR	LR	12 57 43.1	
	comp=Z,50nm,20.4s,baz=222,slow=32						
	0.8nm,0.9s						
TXAR	**Lajitas Array**	**53.39**	**294**	P	P	12 42 17.7	+0.7
	0.4nm,0.8s,baz=94,slow=6.6,SNR=2.0						
TXAR				LR	LR	13 05 46.8	
	comp=Z,27nm,18.9s,baz=149,slow=37						
	0.4nm,0.8s						
DAVOX	**Davos/Dischmat**	**54.63**	**45**	LR	LR	13 03 41.2	
	comp=Z,26nm,19.0s,baz=257,slow=34						
ANMO	**Albuquerque**	**55.84**	**301**	LR	LR	13 04 32.7	
	comp=Z,46nm,20.6s,baz=152,slow=34						
PDAR	**Pinedale Array**	**58.74**	**310**	P	P	12 42 54.6	-0.7
	1.2nm,1.1s,baz=103,slow=11,SNR=5.0						
	1.2nm,1.1s						
PFO	**Pinyon Flats O**	**64.14**	**299**	LR	LR	13 09 24.2	
	comp=Z,59nm,20.8s,baz=182,slow=34						
RPN	**Rapa Nui**	**75.28**	**235**	LR	LR	13 14 41.8	
	comp=Z,24nm,18.3s,baz=245,slow=33						
KBZ	**Khabaz**	**77.79**	**48**	LR	LR	13 18 02.9	
	comp=Z,9.9nm,20.4s,baz=8.5,slow=35						
MBAR	**Mbarara**	**77.98**	**94**	LR	LR	13 18 46.6	
	comp=Z,16nm,18.8s,baz=222,slow=35						
ILAR	**Eielson Array**	**78.83**	**335**	P	P	12 44 59.9	+0.1
	1.3nm,0.9s,baz=56,slow=5.2,SNR=7.4						
	1.3nm,0.9s						
LBTB	**Lobatse**	**81.83**	**119**	LR	LR	13 18 03.5	
	comp=Z,17nm,19.0s,baz=246,slow=33						
KMBO	**Kilima Mbogo**	**84.35**	**93**	LR	LR	13 22 26.3	
	comp=Z,26nm,18.1s,baz=91,slow=35						

*IDC **22** 13:13:25.8±3.7, 7°07N×127°02E, h53km±32km, mb3.6/5, mbtmp3.8/6, ML3.6/1, MS2.8/6, Error ellipse: s-maj=37.1km s-min=14.5km az=46.0*
*MAN **22** 13:13:28.3, 6°88N×126°65E, h21km, mb4.4, ML3.3, MS3.0*
*DJA **22** 13:13:29.1±1.0, 7°N±8°×12°7E±°, h10km, M4.2/10, mB4.7/6, mb4.4/10, MLv4.3/7, Mw(mB)3.9/6*
ISC 22 13:13:28.0±1.1, 6°84N±0'.05×126°79E±0'.08, h60km±11km, n39, σ1§83/42, mb3.9/5, 6C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.54**	**282**	⇑*e*P	**Pn**	**13 13 38.1**	**-2.3**
MATI				*e*S	**Sn**	**13 13 46.1**	**-3.4**
DAV	**Davao City (W)**	**1.23**	**281**	P	**Pn**	**13 13 49.2**	**+0.2**
	423nm,0.3s,baz=260,slow=3.4,SNR=14						
DAV				S	**Sn**	**13 14 07.0**	**+2.3**
	1µm,0.8s,baz=71,slow=20,SNR=5.6						
DDMP	**Don Marcelino,**	**1.30**	**236**	⇓*e*P	**Pn**	**13 13 49.2**	**-0.8**
DDMP				*e*S	**Sn**	**13 14 06.8**	**+0.4**
BIPH	**Bislig**	**1.40**	**342**	⇑*e*P	**Pn**	**13 13 49.8**	**-1.7**
BIPH				*i* S	**Sn**	**13 14 06.4**	**-2.5**
KCP	**Kidapawan**	**1.70**	**276**	⇓*i*P	**Pn**	**13 13 54.8**	**-0.6**
KCP				*i* S	**Sn**	**13 14 17.0**	**+0.8**
GSPH	**General Santos**	**1.98**	**248**	⇑*i*P	**Pn**	**13 13 56.8**	**-2.5**
GSPH				*e*S	**Sn**	**13 14 23.1**	**+0.1**
SKMP	**Bagumbayan, Su**	**2.25**	**262**	⇑*e*P	**Pn**	**13 14 02.4**	**-0.6**
SKMP				*e*S	**Sn**	**13 14 30.3**	**+0.7**
BUTP	**Butuan**	**2.41**	**331**	⇓*e*P	**Pn**	**13 14 07.8**	**+2.7**
BUTP				*e*S	**Sn**	**13 14 38.9**	**+5.3**
CTBH	**Cotabato--PC H**	**2.55**	**279**	⇑*i*P	**Pn**	**13 14 06.6**	**-0.4**
CGP	**Cagayan de Oro**	**2.63**	**308**	⇓*i*P	**Pn**	**13 14 08.4**	**+0.4**
CGP				*e*S	**Sn**	**13 14 38.7**	**-0.1**
GLSP	**General Luna,**	**3.00**	**347**	⇑*e*P	**Pn**	**13 14 14.5**	**+1.3**
GLSP				*e*S	Sn	13 14 57.1	+9.2
SCPH	**Surigao**	**3.20**	**336**	*e*P	**Pn**	**13 14 17.3**	**+1.5**
SCPH				*e*S	Sn	13 15 01.1	+8.4
SGSI	**Sangihe**	**3.37**	**202**	P	**Pn**	**13 14 20.3**	**+2.0**
GHBP	**Garcia Hernand**	**3.70**	**319**	⇓*e*P	**Pn**	**13 14 23.3**	**+0.6**
GHBP				*e*S	**Sn**	**13 15 06.4**	**+1.3**
MSLP	**Maasin**	**3.79**	**330**	⇓*e*P	**Pn**	**13 14 25.5**	**+1.5**
MSLP				*e*S	Sn	13 15 15.4	+8.0
DCPH	**Dipolog City**	**3.82**	**297**	⇓*e*P	Pn	13 14 12.6	-12
TNTI	**Ternate**	**6.05**	**175**	P	**Pn**	**13 14 57.8**	**+2.8**
	0.1nm39nm,1.0s						
KMSI	**Cibinong**	**6.82**	**204**	P	**Pn**	**13 15 06.2**	**+0.7**
	0.2nm43nm,0.6s						
GTOI	**Gorontalo**	**7.22**	**212**	P	**Pn**	**13 15 11.8**	**+0.8**
	0.1nm183nm22nm,0.8s						
LBMI	**Labuha**	**7.46**	**175**	P	**Pn**	**13 15 17.0**	**+2.7**
	0.1nm13nm,0.8s						
MRSI	**Marisa**	**7.96**	**218**	P	**Pn**	**13 15 22.4**	**+1.3**
	0.1nm21nm,0.8s						
LUWI	**Luwuk**	**8.79**	**207**	P	**Pn**	**13 15 34.4**	**+1.9**
	30nm,0.9s						
SIJI	**Sorong**	**8.86**	**150**	P	**Pn**	**13 15 33.0**	**-0.5**
	0.7nm,0.3s,baz=210,slow=23,SNR=10						
SIJI				S	Sn	13 17 01.1	-11
	1.4nm,0.3s,baz=228,slow=23,SNR=1.5						
SIJI				LR	LR	13 19 37.1	
	comp=Z,34nm,21.1s,baz=162,slow=42						
	2.0nm,0.3s						
SANI	**Sanana**	**8.86**	**185**	P	**Pn**	**13 15 34.4**	**+0.9**
	490nm9.9nm,0.8s						
APSI	**Ampana**	**9.25**	**214**	P	**Pn**	**13 15 40.7**	**+1.9**
	311nm22nm,1.0s						
TTSI	**Tana Toraja**	**12.03**	**216**	P	**Pn**	**13 16 18.1**	**+1.3**
JOW	**Kunigami**	**19.93**	**4**	LR	LR	13 25 19.4	
	comp=Z,13nm,19.4s,baz=151,slow=36						
FITZ	**Fitzroy Crossi**	**24.80**	**183**	P	**P**	**13 18 46.1**	**+1.5**
	3.9nm,0.8s,baz=3.4,slow=6.2,SNR=7.4						
	3.9nm,0.8s						
WRA	**Warramunga Arr**	**27.63**	**165**	P	**P**	**13 19 09.8**	**-0.3**
	0.8nm,0.8s,baz=346,slow=10,SNR=9.9						
	0.8nm,0.8s						
JHJ	**Hachijo jima 2**	**28.80**	**23**	LR	LR	13 28 24.2	
	comp=Z,12nm,21.7s,baz=124,slow=32						
CMAR	**Chiang Mai Arr**	**29.47**	**296**	LR	LR	13 31 47.0	
	comp=Z,24nm,18.7s,baz=20,slow=37						
ASAR	**Alice Springs**	**31.10**	**167**	P	**P**	**13 19 40.4**	**-0.5**
	0.2nm,0.4s,baz=342,slow=7.4,SNR=10.0						
ASAR				PcP	**PcP**	**13 22 33.7**	**-1.6**
	0.1nm,0.3s,baz=344,slow=2.3,SNR=1.9						
	0.2nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**40.95**	**68**	T	T	14 05 29.5	
	baz=249,slow=75						
H11N2	**WAKE ISLAND Hy**	**40.96**	**68**	T	T	14 05 25.5	
	baz=249						
H11N3	**WAKE ISLAND Hy**	**40.97**	**68**	T	T	14 05 08.4	
	baz=249,slow=75						
STKA	**Stephens Creek**	**41.01**	**161**	P	**P**	**13 21 04.9**	**-0.5**
	1.4nm,0.7s,baz=342,slow=6.8,SNR=3.8						
	1.4nm,0.7s						
SONM	**Songino Array**	**44.40**	**340**	LR	LR	13 41 43.5	
	comp=Z,26nm,18.0s,baz=192,slow=38						
MKAR	**Makanchi Array**	**55.07**	**324**	P	**P**	**13 22 51.8**	**-2.1**
	0.9nm,0.5s,baz=118,slow=8.2,SNR=13						
MKAR				PcP	**PcP**	**13 23 53.5**	**-1.2**
	0.5nm,0.6s,baz=123,slow=3.1,SNR=4.2						
	0.9nm,0.5s						
NOA	**NORSAR Array B**	**96.05**	**334**	LR	LR	14 13 53.3	
	comp=Z,10nm,18.8s,baz=310,slow=38						

*IDC **22** 13:19:07.7±3.0, 30°46S×177°92W, h0km, mb3.9/4, mbtmp3.9/5, Error ellipse: s-maj=66.8km s-min=25.8km az=117.0*
ISC 22 13:19:08.9±2.6, 30°52S±0'.08×177°5W±0'.3, h35km, n10, σ1§27/9, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.32**	**342**	Pn	**Pn**	**13 19 31.8**	**+0.9**
	68nm,0.3s,baz=198,slow=20,SNR=2.3						
RAO				Sn	**Sn**	**13 19 45.2**	**-2.0**
	272nm,0.3s,baz=104,slow=22,SNR=8.2						
URZ	**Urewera**	**8.93**	**209**	Pn	**Pn**	**13 21 15.4**	**0.0**
	3.8nm,0.8s,baz=125,slow=6.8,SNR=1.6						
URZ				Sn	**Sn**	**13 22 53.3**	**-1.4**
	1.8nm,0.3s,baz=268,slow=21,SNR=20						
CTA	**Charters Tower**	**34.28**	**279**	P	**P**	**13 25 52.0**	**+0.1**
	1.3nm,0.5s,baz=90,slow=11,SNR=1.7						
	1.3nm,0.5s						
STKA	**Stephens Creek**	**34.91**	**257**	P	**P**	**13 25 58.0**	**+0.7**
	1.5nm,0.5s,baz=100,slow=12,SNR=4.3						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**43.57**	**267**	P	**P**	**13 27 10.6**	**+0.8**
	0.5nm,0.4s,baz=105,slow=7.4,SNR=16						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**44.57**	**272**	P	**P**	**13 27 18.2**	**+0.4**
	1.3nm,0.7s,baz=111,slow=7.9,SNR=20						
	1.3nm,0.7s						
H03S2	**Juan Fernandez**	**80.01**	**123**	T	T	15 00 33.6	
	baz=237						
H03S1	**Juan Fernandez**	**80.02**	**123**	T	T	15 00 42.5	
	baz=237						
H03S3	**Juan Fernandez**	**80.03**	**123**	T	T	15 00 33.8	
	baz=237						
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc	**PKiKP**	**13 38 45.2**	**-1.2**
	0.9nm,0.7s,baz=67,slow=4.7,SNR=4.0						

*IDC **22** 13:23:43.8±0.7, 25°04N×95°54E, h148km±7km, mb4.0/19, mbtmp4.4/21, MS3.3/2, Error ellipse: s-maj=13.0km s-min=10.3km az=39.0*
*BJI **22** 13:23:43.3±0.0, 25°20N×95°55E, h150km, mb4.6/37, mB4.5/19*
*MOS **22** 13:23:43.7±1.0, 25°11N×95°62E, h163km, mb4.7/22, Error ellipse: s-maj=12.5km s-min=5.1km az=118.4*
*NEIC **22** 13:23:44.0±1.9, 25°26N±0°.09×95°61E±0°.09, h141km±8km, mb4.6/32, Error ellipse: s-maj=14.1km s-min=9.7km az=220.0*
*NDI **22** 13:23:44.0±4.5, 24°99N×95°54E, h24km±60km, ML5.2, mb4.6(NEIC)*
ISC 22 13:23:43.7±0.6, 25°13N±0°.04×95°46E±0°.04, h147km±5km, n170, σ1§60/203, mb4.5/53, 5C-6D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.35**	**296**	*e*P	**Pn**	**13 24 12.4**	**+0.8**
KOHI				*e*S	**Sn**	**13 24 31.7**	**-1.2**
KOHI				IAML		13 24 35.3	
	comp=E,133µm,0.4s						
MOKO	**MOKOCHONG**	**1.45**	**325**	*e*P	**Pn**	**13 24 13.9**	**+1.3**
MOKO				*e*S	**Sn**	**13 24 34.7**	**-0.1**
MOKO				IAML		13 24 37.0	
	comp=E,18µm,0.4s						
JORH	**JORHAT**	**1.93**	**326**	*e*S	**Sn**	**13 24 43.2**	**-0.8**
JORH				IAML		13 24 44.9	
	comp=E,14µm,0.2s						
JORH				IAML		13 24 45.1	
	comp=N,23µm,0.2s						
LKP	**Lekhapani**	**2.22**	**9**	*e*P	**Pn**	**13 24 21.7**	**+0.5**
LKP				*e*S	**Sn**	**13 24 48.4**	**-1.7**
LKP				IAML		13 24 50.6	
	comp=N,168µm,0.3s						
DIBR	**DIBRUGARH**	**2.37**	**348**	*e*P	**Pn**	**13 24 23.3**	**+0.2**
DIBR				*e*P		13 24 52.3	
DIBR				IAML		13 24 52.7	
	comp=E,127µm,0.2s						
DIBR				IAML		13 24 54.4	
	comp=N,220µm,0.3s						
ZIRO	**ZIR

LSA				LR	LR		
	comp=E,230nm,4.6s						
LSA	**Lhasa**	**5.94**	**321**	P	**Pn**	**13 25 12.4**	**+2.5**
GTK	**Tadong**	**6.53**	**291**	*e*P	**Pn**	**13 25 18.7**	**+1.2**
GTK				*e*S	**Sn**	**13 26 28.4**	**-2.6**
GTK				IAML		13 26 34.6	
	comp=N,635nm,0.3s						
KMI	**Kunming**	**6.60**	**89**	⇑P	**Pn**	**13 25 19.9**	**+1.3**
KMI				sP		13 25 51.1	
KMI				pmax	pmax		
	comp=N,45nm,0.9s						
CRAI	**Chiangrai**	**6.67**	**136**	Pn	**Pn**	**13 25 19.4**	**+0.1**
CHTO	**Chiang Mai**	**7.07**	**152**	Pn	**Pn**	**13 25 25.3**	**+0.6**
CHTO	**Chiang Mai**	**7.07**	**152**	P	**Pn**	**13 25 25.3**	**+0.6**
TAPN	**Taplejung**	**7.30**	**289**	*e*Pn	**Pn**	**13 25 28.8**	**+0.9**
TAPN				*e*Sn	**Sn**	**13 26 46.2**	**-3.5**
CMAR	**Chiang Mai Arr**	**7.39**	**153**	P	**Pn**	**13 25 28.5**	**-0.5**
	comp=N,11nm,0.7s,baz=329,slow=13,SNR=85						
CMAR				S	**Sn**	**13 26 52.6**	**+1.0**
	comp=N,3.5nm,0.9s,baz=320,slow=14,SNR=0.8						
CMAR	**Chiang Mai Arr**	**7.39**	**153**		**Pn**	**13 25 28.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**7.39**	**153**	*i* P	**Pn**	**13 25 29.3**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,13nm,0.8s						
ODAN	**Odare**	**7.46**	**285**	*e*Pn	**Pn**	**13 25 31.0**	**+1.0**
ODAN				*e*Sn	**Sn**	**13 26 52.6**	**-0.9**
	comp=Z,152nm,0.6s						
PHRA	**Phrae**	**7.95**	**145**		**Pn**	**13 25 37.5**	**+1.0**
RAMN	**Ramite**	**8.17**	**285**	*e*Pn	**Pn**	**13 25 40.2**	**+0.7**
RAMN				*e*Sn	**Sn**	**13 27 10.1**	**-0.5**
	comp=Z,540nm,0.5s						
JIRN	**Jiri**	**8.68**	**289**	*e*Pn	**Pn**	**13 25 47.2**	**+0.7**
JIRN				*e*Sn	**Sn**	**13 27 19.7**	**-3.4**
	comp=Z,317nm,0.3s						
GUN	**Gumba**	**9.01**	**290**	*e*Pn	**Pn**	**13 25 51.5**	**+0.6**
GUN				*e*Sn	**Sn**	**13 27 27.2**	**-3.8**
	comp=Z,499nm,0.5s						
PKI	**Pulchoki**	**9.33**	**287**	*e*Pn	**Pn**	**13 25 55.1**	**0.0**
PKI				*e*Sn	**Sn**	**13 27 35.5**	**-3.3**
PKIN	**Phulchoki**	**9.34**	**287**	*e*Pn	**Pn**	**13 25 55.2**	**-0.1**
PKIN				*e*Sn	**Sn**	**13 27 36.1**	**-2.9**
	comp=Z,216nm,0.4s						
KKN	**Kakani**	**9.49**	**288**	*e*Pn	**Pn**	**13 25 57.3**	**+0.1**
KKN				*e*Sn	**Sn**	**13 27 39.0**	**-3.5**
DMN	**Daman**	**9.60**	**287**	*e*Pn	**Pn**	**13 25 58.8**	**+0.1**
DMN				*e*Sn	**Sn**	**13 27 42.4**	**-2.8**
	comp=Z,249nm,0.6s						
GKN	**Gorkha**	**10.10**	**289**	*e*Pn	**Pn**	**13 26 05.3**	**+0.1**
GKN				*e*Sn	**Sn**	**13 27 52.4**	**-4.6**
DANN	**Dangsing**	**10.93**	**290**	*e*Pn	**Pn**	**13 26 15.8**	**-0.5**
DANN				*e*Sn	**Sn**	**13 28 12.3**	**-5.0**
	comp=Z,186nm,0.5s						
KOLN	**Koldanda**	**10.94**	**286**	*e*Pn	**Pn**	**13 26 16.1**	**-0.3**
KOLN				*e*Sn	**Sn**	**13 28 13.2**	**-4.2**
	comp=Z,16nm,0.5s						
GOMU	**GeErMu**	**11.04**	**357**	⇓*e*P	**Pn**	**13 26 16.5**	**-1.3**
GOMU				pP	P	13 26 20.3	-6.1
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,69nm,4.5s						
PYUN	**Piuthan**	**11.54**	**288**	*e*Pn	**Pn**	**13 26 23.8**	**-0.4**
PYUN				*e*Sn	**Sn**	**13 28 27.3**	**-4.5**
LZH	**Lanzhou**	**13.08**	**31**	*e*P	Pn	13 26 49.4	+5.3
LZH				sP	P	13 26 58.6	+10
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
ENH	**Enshi**	**13.44**	**64**	Pn	**Pn**	**13 26 44.8**	**-3.8**
JBP	**Jabalpur**	**14.26**	**265**	*e*S	**Sn**	**13 29 34.3**	**-2.8**
XAN	**Xi'an**	**14.69**	**50**	⇓*i*P	**Pn**	**13 27 04.6**	**+0.3**
XAN				pP	P	13 27 08.8	+2.2
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
GTA	**Gaotai**	**14.70**	**13**	⇓P	**P**	**13 27 07.0**	**+0.2**
GTA				pmax	pmax		
	comp=Z,14nm,0.9s						
HYBB	**Hyderabad (bro**	**17.51**	**247**	*e*P	**Pn**	**13 27 40.7**	**+1.7**
WHN	**Wuhan**	**17.55**	**68**	⇓P	**Pn**	**13 27 40.1**	**+0.8**
WMQ	**Urumqi**	**19.69**	**343**	*e*P	**Pn**	**13 28 03.9**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,65nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,210nm,3.9s						
HHC	**Hu-ho-hao-te**	**20.64**	**37**	*e*P	**P**	**13 28 10.1**	**-1.6**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.0s						
NJ2	**Nanjing**	**21.65**	**66**	*e*P	**P**	**13 28 24.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSH	**Kashi**	**21.77**	**316**	P	**P**	**13 28 25.6**	**+1.8**
KSH				pP	pP	13 28 57.4	+7.1
KSH				PcP	**PcP**	**13 32 18.4**	**+0.1**
KSH				pmax	pmax		
	comp=Z,29nm,0.9s						
TARG	**Taragay, Kyrgy**	**22.09**	**323**	P	**P**	**13 28 29.2**	**+1.9**
TARG				IAmb	IAmb	13 28 51.1	
	comp=Z,23nm,1.1s						
TARG	**Taragay, Kyrgy**	**22.09**	**323**	P	**P**	**13 28 29.3**	**+1.9**
TARG				pmax	pmax		
	comp=Z,23nm,1.1s						
PDGK	**Podgornoye**	**22.37**	**328**	P	**P**	**13 28 30.8**	**+1.0**
PALK	**Pallekele**	**22.68**	**221**	*i* P	**P**	**13 28 33.6**	**+0.7**
PALK				pmax	pmax		
	comp=Z,13nm,1.0s						
ULHL	**Ulahol**	**23.30**	**322**	P	**P**	**13 28 41.4**	**+2.8**
	SNR=12						
MDOK	**Medeo**	**23.48**	**325**	P	**P**	**13 28 42.5**	**+2.3**
BOOM	**Boomskoye usch**	**23.62**	**322**	P	**P**	**13 28 43.4**	**+1.9**
BOOM				IAmb	IAmb	13 28 46.1	
	comp=Z,16nm,0.7s						
BOOM	**Boomskoye usch**	**23.62**	**322**	P	**P**	**13 28 43.4**	**+1.9**
BOOM				pmax	pmax		
	comp=Z,16nm,0.7s						
MK31	**Makanchi Array**	**24.03**	**337**	P	**P**	**13 28 46.7**	**+1.7**
MK31				IAmb	IAmb	13 28 47.8	
	comp=Z,23nm,0.7s						
MK31	**Makanchi Array**	**24.03**	**337**	P	**P**	**13 28 46.7**	**+1.7**
MK31				pmax	pmax		
	comp=Z,23nm,0.7s						
MKAR	**Makanchi Array**	**24.03**	**337**	P	**P**	**13 28 46.6**	**+1.6**
	comp=Z,27nm,0.6s,baz=147,slow=10,SNR=244						
MKAR				ScP	**ScP**	**13 35 47.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=108,slow=4.7,SNR=4.4						
	comp=Z,27nm,0.6s						
MKAR	**Makanchi Array**	**24.03**	**337**	P	**P**	**13 28 46.3**	**+1.3**
TKM2	**Tokmak 2**	**24.10**	**322**	P	**P**	**13 28 48.5**	**+2.6**
	SNR=34						
TKM2	**Tokmak 2**	**24.10**	**322**	P	**P**	**13 28 48.1**	**+2.2**
MAKZ	**Makanchi**	**24.16**	**337**	P	**P**	**13 28 47.5**	**+1.4**
SONM	**Songino Array**	**24.25**	**18**	P	**P**	**13 28 47.0**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=197,slow=9.4,SNR=34						
	comp=Z,5.8nm,0.7s						
SONM	**Songino Array**	**24.25**	**18**	P	**P**	**13 28 46.3**	**-0.8**
SONM	**Songino Array**	**24.25**	**18**	P	**P**	**13 28 47.0**	**-0.1**
UCH	**Uchtor**	**24.27**	**320**	P	**P**	**13 28 50.3**	**+2.5**
	SNR=32						
KBK	**Karagaybulak**	**24.29**	**321**	P	**P**	**13 28 50.7**	**+3.1**
	SNR=20						
ULN	**Ulaanbaatar**	**24.47**	**19**	P	**P**	**13 28 47.7**	**-1.4**
ULN	**Ulaanbaatar**	**24.47**	**19**	*ce*P	**P**	**13 28 48.7**	**-0.4**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AAK	**Ala-Archa**	**24.54**	**321**	P	**P**	**13 28 52.9**	**+3.1**
	SNR=17						
AAK	**Ala-Archa**	**24.54**	**321**	P	**P**	**13 28 52.3**	**+2.4**
	comp=Z,14nm,0.7s,baz=146,slow=6.2,SNR=34						
AAK				LR	LR	13 41 04.4	
	comp=Z,30nm,18.7s,baz=192,slow=42						
	comp=Z,14nm,0.7s						
AAK	**Ala-Archa**	**24.54**	**321**	P	**P**	**13 28 52.2**	**+2.4**
AAK				IAmb	IAmb	13 28 53.8	
	comp=Z,17nm,0.8s						
CHMS	**Chumysh**	**24.62**	**321**	P	**P**	**13 28 53.0**	**+2.6**
	SNR=9.7						
AML	**Almayashu**	**24.70**	**319**	P	**P**	**13 28 54.4**	**+2.9**
	SNR=24						
USP	**Ospenovka**	**24.93**	**322**	P	**P**	**13 28 55.5**	**+2.3**
	SNR=23						
EKS2	**Erkin-Say**	**24.97**	**320**	P	**P**	**13 28 56.2**	**+2.5**
	SNR=19						
GAR	**Garm**	**25.29**	**309**	P	**P**	**13 28 58.2**	**+1.6**
DGZ	**Jazzator, Alta**	**25.31**	**348**	*i* P	**P**	**13 28 57.3**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,16nm,1.3s						
BTK	**Batken**	**25.43**	**312**	P	**P**	**13 28 59.0**	**+1.2**
BTK				IAmb	IAmb	13 29 01.2	
	comp=Z,25nm,0.8s						
BTK	**Batken**	**25.43**	**312**	P	**P**	**13 28 59.0**	**+1.2**
BTK				pmax	pmax		
	comp=Z,25nm,0.8s						
ZAK	**Zakamensk**	**25.92**	**12**	*e*P	**P**	**13 29 02.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KK31	**Karatay Array**	**27.18**	**317**	P	**P**	**13 29 15.1**	**+1.6**
KK31				PcP	**PcP**	**13 32 29.9**	**-0.1**
KK31	**Karatay Array**	**27.18**	**317**	*e*P	**P**	**13 29 14.7**	**+1.2**
KKAR	**Karatay Array**	**27.18**	**317**	P	**P**	**13 29 14.6**	**+1.2**
KKAR	**Karatay Array**	**27.18**	**317**	P	**P**	**13 29 14.9**	**+1.5**
KKAR				IAmb	IAmb	13 29 42.1	
	comp=Z,3.2nm,0.7s						
KKAR	**Karatay Array**	**27.18**	**317**	P	**P**	**13 29 14.6**	**+1.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SBUM	**Sibu**	**27.74**	**142**	P	**P**	**13 29 18.6**	**0.0**
SBUM				IAmb	IAmb	13 29 50.6	
	comp=Z,14nm,1.4s						
KURBB	**Kurchatov Arra**	**28.60**	**337**	P	**P**	**13 29 27.1**	**+1.2**
	comp=Z,3.5nm,0.6s,baz=148,slow=9.3,SNR=20						
KURBB				ScP	**ScP**	**13 35 59.8**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=150,slow=2.5,SNR=4.6						
	comp=Z,3.5nm,0.6s						
KURK	**Kurchatov**	**28.65**	**337**	P	**P**	**13 29 26.2**	**-0.1**
KURK				IAmb	IAmb	13 29 28.0	
	comp=Z,5.2nm,0.7s						
KURK	**Kurchatov**	**28.65**	**337**	P	**P**	**13 29 27.1**	**+0.8**
JOW	**Kunigami**	**29.51**	**80**	P	**P**	**13 29 32.8**	**-1.5**
ZAA0	**Zalesovo Array**	**29.86**	**347**	P	**P**	**13 29 37.7**	**+0.7**
ZAA0				IAmb	IAmb	13 29 39.7	
	comp=Z,7.2nm,0.7s						
ZALV	**Zalesovo Beam**	**29.86**	**347**	P	**P**	**13 29 37.9**	**+0.9**
	comp=Z,5.8nm,0.4s,baz=158,slow=7.2,SNR=36						
	comp=Z,5.8nm,0.4s						
ZALV	**Zalesovo Beam**	**29.86**	**347**	*i* P	**P**	**13 29 38.0**	**+1.1**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BVA0	**Borovoye Array**	**33.63**	**332**	P	**P**	**13 30 11.2**	**+1.1**
BRVK	**Borovoye**	**33.70**	**332**	P	**P**	**13 30 11.2**	**+0.6**
BRVK				IAmb	IAmb	13 30 12.8	
	comp=Z,8.6nm,0.8s						
BRVK				PcP	**PcP**	**13 32 44.1**	**-2.8**
BRVK	**Borovoye**	**33.70**	**332**	P	**P**	**13 30 11.2**	**+0.6**
BRVK						13 32 44.1	
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GEYT	**Alibeck**	**34.06**	**301**	P	**P**	**13 30 16.5**	**+2.5**
	comp=Z,7.7nm,0.9s,baz=134,slow=6.4,SNR=12						
	comp=Z,7.7nm,0.9s						
AB31	**Akbulak array**	**36.63**	**320**	*i* P	**P**	**13 30 37.4**	**+1.7**
ABKAR	**Akbulak array**	**36.63**	**320**	P	**P**	**13 30 37.4**	**+1.7**
MAJO	**Matsushiro**	**38.15**	**62**	P	**P**	**13 30 46.9**	**-1.8**
MAJO	**Matsushiro**	**38.15**	**62**	P	**P**	**13 30 46.9**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MJAR	**Matsushiro Arr**	**38.15**	**62**	P	**P**	**13 30 47.1**	**-1.7**
	comp=Z,2.4nm,0.8s,baz=262,slow=9.5,SNR=5.9						
	comp=Z,2.4nm,0.8s						
ARU	**Arti**	**41.07**	**329**	P	**P**	**13 31 13.6**	**+1.1**
ARU				IAmb	IAmb	13 31 14.5	
	comp=Z,15nm,0.6s						
ARU	**Arti**	**41.07**	**329**	*d* P	**P**	**13 31 12.5**	**0.0**
ARU				S	**S**	**13 37 15.9**	**+1.9**
ARU				SS	**SS**	**13 40 21.0**	**-1.1**
ARU				pmax	pmax		
	comp=Z,14nm,0.7s						
YAK	**Yakutsk**	**43.46**	**23**	*i* P	**P**	**13 31 32.2**	**+0.4**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NRIK	**Noril'sk**	**44.48**	**356**	P	**P**	**13 31 40.4**	**+0.5**
	comp=Z,8.0nm,0.7s,baz=157,slow=5.7,SNR=8.1						
	comp=Z,8.0nm,0.7s						
NRIK	**Noril'sk**	**44.48**	**356**	P	**P**	**13 31 38.4**	**-1.4**
NRIK				IAmb	IAmb	13 31 40.8	
	comp=Z,8.3nm,0.7s						
BELG	**Belogornoye**	**45.03**	**320**	*i* P	**P**	**13 31 45.2**	**+0.8**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZEI	**Tsey**	**45.51**	**306**	*e*P	**P**	**13 31 49.9**	**+1.2**
ZEI				pmax	pmax		
	comp=Z,14nm,0.9s						
KBZ	**Khabaz**	**46.33**	**307**	P	**P**	**13 31 56.0**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=306,slow=11,SNR=3.3						
	comp=Z,1.9nm,0.7s						
KBZ	**Khabaz**	**46.33**	**307**	P	**P**	**13 31 56.0**	**+1.2**
KIRV	**Kirov**	**46.42**	**329**	*ce*P	**P**	**13 31 56.3**	**+1.1**
KIV	**Kislovodsk**	**46.51**	**308**	*e*P	**P**	**13 31 58.8**	**+2.5**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
PRGR	**Permogore**	**49.43**	**331**	*e*P	**P**	**13 32 16.6**	**-1.7**
PRGR				pmax	pmax		
	comp=Z,23nm,0.5s						
VSR	**Storozhevoye**	**49.85**	**317**	*e*P	**P**	**13 32 20.8**	**-0.9**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VORR	**Voronezh**	**49.90**	**317**	*e*P	**P**	**13 32 23.5**	**+1.4**
VORR				pmax	pmax		
	comp=Z,40nm,0.4s						
TIXI	**Tiksi**	**50.19**	**13**	P	**P**	**13 32 23.0**	**-0.9**
TIXI				IAmb	IAmb	13 32 47.4	
	comp=Z,14nm,1.3s						
TIXI	**Tiksi**	**50.19**	**13**	P	**P**	**13 32 23.0**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s						
LPSR	**Galich'ya Gora**	**50.23**	**319**	*e*P	**P**	**13 32 25.2**	**+0.7**
LPSR				pmax	pmax		
	comp=Z,30nm,0.6s						
GENI	**Genyem**	**51.35**	**116**	P	**P**	**13 32 35.1**	**+1.6**
KLMR	**Klimovskoe**	**51.91**	**329**	*e*P	**P**	**13 32 36.7**	**-0.2**
KLMR				*e*		13 33 46.5	
KLMR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KLMR	**Klimovskoe**	**51.91**	**329**	*e*P	**P**	**13 32 36.8**	**-0.2**
KLMR				AMP		13 32 38.5	
	comp=Z,7.0nm,0.6s						
KLMR				*e*PcP	**PcP**	**13 33 46.5**	**-1.0**
KNRA	**Kununurra**	**51.96**	**138**	P	**P**	**13 32 37.8**	**0.0**
OBN	**Obninsk**	**52.06**	**321**	⇓*e*P	**P**	**13 32 39.5**	**+1.4**
OBN				*e*		13 34 33.5	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BRTR	**Keskin Array B**	**53.20**	**302**	P	**P**	**13 32 47.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=112,slow=8.4,SNR=7.4						
	comp=Z,1.2nm,0.6s						
BRTR	**Keskin Array B**	**53.20**	**302**	P	**P**	**13 32 47.3**	**+0.3**
BRTR	**Keskin Array B**	**53.20**	**302**	*i* P	**P**	**13 32 48.2**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**56.06**	**315**	P	**P**	**13 33 07.2**	**0.0**
	comp=Z,5.4nm,0.6s,baz=78,slow=6.6,SNR=35						
	comp=Z,5.4nm,0.6s						
AKASG	**Malin Array Be**	**56.06**	**315**	*i* P	**P**	**13 33 07.4**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AKBB	**Malin Array Si**	**56.06**	**315**	P	**P**	**13 33 06.3**	**-0.9**
AKBB	**Malin Array Si**	**56.06**	**315**	*ce*P	**P**	**13 33 07.5**	**+0.3**
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NACGM	**Naroch**	**57.64**	**320**	⇑*e*P	**P**	**13 33 19.1**	**+0.8**
	baz=91						
FIA1	**FINESS Array S**	**58.41**	**328**	P	**P**	**13 33 23.6**	**+0.1**
FIA1				IAmb	IAmb	13 33 25.2	
	comp=Z,8.5nm,0.7s						
FINES	**FINESS Array B**	**58.41**	**328**	P	**P**	**13 33 24.5**	**+1.0**
	comp=Z,6.3nm,0.6s,baz=92,slow=7.0,SNR=22						
	comp=Z,6.3nm,0.6s						
FINES	**FINESS Array B**	**58.41**	**328**	P	**P**	**13 33 24.0**	**+0.5**
WB0	**Warramunga Arr**	**58.53**	**136**	P	**P**	**13 33 25.0**	**+0.1**
WRA	**Warramunga Arr**	**58.63**	**136**	P	**P**	**13 33 25.1**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=322,slow=7.3,SNR=11						
WRA				pP	**pP**	**13 33 58.6**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=325,slow=7.5,SNR=7.3						
	comp=Z,0.7nm,0.7s						
WB2	**Warramunga Arr**	**58.64**	**136**	P	**P**	**13 33 25.8**	**+0.1**
KEV	**Kevo**	**59.21**	**338**	P	**P**	**13 33 29.0**	**+0.1**
KEV				IAmb	IAmb	13 33 30.6	
	comp=Z,10nm,0.9s						
KEV	**Kevo**	**59.21**	**338**	P	**P**	**13 33 29.0**	**+0.1**
KEV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARCES	**ARCESS Array B**	**59.69**	**337**	P	**P**	**13 33 33.0**	**+0.8**
	comp=Z,3.4nm,0.3s,baz=94,slow=7.3,SNR=16						
	comp=Z,3.4nm,0.3s						
ARCES	**ARCESS Array B**	**59.69**	**337**	P	**P**	**13 33 33.0**	**+0.8**
CRVS	**Cervenica-Dubn**	**61.16**	**314**	*e*P	**P**	**13 33 44.7**	**+2.1**
CRVS	**Cervenica-Dubn**	**61.16**	**314**	*e*P	**P**	**13 33 44.7**	**+2.1**
ASAR	**Alice Springs**	**61.17**	**139**	P	**P**	**13 33 42.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=321,slow=6.6,SNR=10						
ASAR				pP	**pP**	**13 34 17.9**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=318,slow=6.8,SNR=7.1						
	comp=Z,0.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**63.34**	**347**	P	**P**	**13 33 56.2**	**-0.4**
SPITS				pmax	pmax		
	comp=Z,56nm,1.5s						
NC405	**NORSAR Array S**	**65.34**	**328**	P	**P**	**13 34 10.3**	**+0.4**
KIJV	**Kijevo**	**65.38**	**309**	*e*Pn	**P**	**13 34 11.5**	**+1.1**
NC602	**NORSAR Array S**	**65.47**	**328**	P	**P**	**13 34 10.9**	**+0.2**
NC303	**NORSAR Array S**	**65.49**	**328**	P	**P**	**13 34 10.9**	**+0.1**
NB2	**NORSAR Subarra**	**65.59**	**328**	P	**P**	**13 34 11.4**	**-0.1**
	comp=Z,7.5nm,0.7s,baz=82,slow=6.5						
NOA	**NORSAR Array B**	**65.59**	**328**	P	**P**	**13 34 11.7**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=82,slow=6.4,SNR=28						
	comp=Z,7.0nm,0.7s						
BRG	**Berggiesshubel**	**65.70**	**317**	*e*P	**P**	**13 34 13.4**	**+1.1**
BRG				Amp		13 34 14.5	
	comp=Z,5.6nm,0.8s						
BRG	**Berggiesshubel**	**65.70**	**317**	*e*P	**P**	**13 34 13.4**	**+1.1**
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NC204	**NORSAR Array S**	**65.77**	**328**	P	**P**	**13 34 13.0**	**+0.3**
NAO01	**NORSAR Array S**	**65.78**	**328**	P	**P**	**13 34 12.5**	**-0.1**
NAO01				IAmb	IAmb	13 34 13.7	
	comp=Z,14nm,0.9s						
CLL	**Collm**	**66.20**	**317**	*e*P	**P**	**13 34 16.0**	**+0.5**
CLL	**Collm**	**66.20**	**317**	*e*P	**P**	**13 34 16.0**	**+0.5**
GERES	**GERESS Array B**	**66.23**	**314**	P	**P**	**13 34 16.9**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=79,slow=6.9,SNR=21						
	comp=Z,2.6nm,0.7s						
GERES	**GERESS Array B**	**66.23**	**314**	P	**P**	**13 34 16.3**	**+0.4**
ILAR	**Eielson Array**	**78.39**	**23**	P	**P**	**13 35 24.5**	**-3.1**
	comp=Z,0.2nm,0.6s,baz=291,slow=5.5,SNR=2.1						
ESDC	**Sonseca Array**	**81.13**	**310**	P	**P**	**13 35 43.3**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=48,slow=4.6,SNR=7.5						
	comp=Z,1.3nm,0.9s						
TSUM	**Tsumeb**	**87.60**	**248**	LR	LR	14 14 39.9	
	comp=Z,32nm,19.1s,baz=327,slow=35						
TORD	**Torodi Ar. Bea**	**87.85**	**283**	P	**P**	**13 36 17.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=60,slow=4.6,SNR=9.9						
TORD				pP	**pP**	**13 36 55.8**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=79,slow=7.6,SNR=3.9						
	comp=Z,1.3nm,0.6s						

MAN 22 13:32:17.9, 19°.93N × 121°.30E, h10km, mb4.4, ML3.2, MS3.0, 1C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICP	**Calayan Island**	**0.69**	**166**	⇓*e*P	Pg	13 32 31.2	0.0
CICP				*e*S	Sb	13 32 42.3	+0.9
SGCP	**Gonzaga**	**1.82**	**157**	⇓*e*P	Pn	13 32 49.3	0.0
SGCP				*e*S	Sb	13 33 15.3	+1.0
APYP	**Conner**	**2.06**	**182**	⇓*e*P	Pn	13 32 52.9	+0.4
APYP				*e*S	Sn	13 33 19.5	+1.2
SAMP	**Sagada Mountai**	**2.86**	**188**	⇑*e*P	Pn	13 33 04.4	+0.8
SAMP				*e*S	Sn	13 33 40.0	+1.9
SMPP	**San Manuel, Pa**	**3.81**	**189**	⇓*e*P	Pn	13 33 17.4	+0.8
SMPP				*e*S	Sn	13 34 02.6	+1.1

IDC 22 13:34:11.8±1.6, 23°.56N × 101°.16E, h0km, mb3.3/3, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=31.6km s-min=22.6km az=92.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.48**	**203**	Pn	Pn	13 35 34.1	-0.6
	0.8nm,0.3s,baz=20,slow=13,SNR=8.2						
CMAR				Pg	Pg	13 35 53.2	-3.7
	0.7nm,0.3s,baz=18,slow=19,SNR=4.4						
CMAR				Lg	Lg	13 37 04.7	
	1.7nm,0.3s,baz=17,slow=27,SNR=5.3						
	1.4nm,0.3s						
MKAR	**Makanchi Array**	**27.70**	**331**	P	P	13 40 01.6	-0.1
	0.3nm,0.6s,baz=143,slow=8.7,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**54.00**	**140**	P	P	13 43 36.8	-1.1
	0.3nm,0.9s,baz=334,slow=7.9,SNR=2.2						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**56.70**	**144**	P	P	13 43 58.2	+0.8
	0.4nm,0.7s,baz=322,slow=7.0,SNR=5.3						
	0.4nm,0.7s						

*IDC **22** 13:41:33.7±1.3, 54°.75S × 30°.37W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=90.0km s-min=36.3km az=101.0*

**ISC 22 13:41:35.0±1.4, 54°.7S±0°.2 × 30

0.3nm1µm68nm,0.7s
PDSI Padang 5.40 324 P **Pn** **13 43 04.3 +0.3**
0.5nm30nm,0.6s
SISI Saibi 6.02 311 P **Pn** **13 43 12.5 +0.2**
0.4nm38nm,0.5s
BKNI Bangkinang 6.18 335 P **Pn** **13 43 16.0 +1.4**
0.6nm91nm,0.7s
TPRI Tanjung Pinang 6.29 8 P **Pn** **13 43 18.7 +2.7**
0.2nm37nm,0.4s
MYKOM Kota Tinggi 7.09 2 **Pn** **13 43 29.1 +2.1**
UGM Wanagama 7.33 111 Pn **Pn** **13 43 30.1 -0.3**
UGM Wanagama 7.33 111 P **Pn** **13 43 31.7 +1.4**
1.1nm267nm,1.9s
PBSI Pulau Batu 7.47 314 P **Pn** **13 43 31.8 -0.5**
1.0nm148nm,1.2s
PCJI Pacitan 8.04 111 P **Pn** **13 43 40.4 +0.5**
41nm,0.8s
PWJI Pagerwojo 8.57 109 P **Pn** **13 43 48.0 +0.8**
40nm,0.6s
GSI Gunungsitoli 8.94 317 Pn **Pn** **13 43 50.5 -1.8**
GSI Gunungsitoli 8.94 317 P **Pn** **13 43 50.4 -1.8**
35nm,0.6s
PSI Prapat 9.34 330 LR LR 13 47 50.5
comp=Z,176nm,19.6s,baz=113,slow=40
KMMI Kalianget 10.44 100 P **Pn** **13 44 12.8 0.0**
23nm,0.8s
KCSI Kotacane, Aceh 10.56 326 P **Pn** **13 44 14.2 -0.3**
9.7nm,0.5s
ABJI Asem Bagus 10.84 104 P **Pn** **13 44 19.4 +1.2**
104nm,0.6s
JAGI Jajag, Banyuwa 10.92 107 **Pn** **13 44 18.9 -0.5**
JAGI Jajag, Banyuwa 10.92 107 P **Pn** **13 44 19.7 +0.3**
2µm54nm,0.5s
KULM Kulim 10.96 344 Pn **Pn** **13 44 19.7 -0.3**
SBUM Sibu 11.57 48 Pn **Pn** **13 44 28.1 -0.3**
SRBI Singaraja 11.85 104 P **Pn** **13 44 32.8 +0.8**
1µm44nm,0.7s
TWSI Taliwang, Sumb 13.60 105 P **Pn** **13 44 53.9 -1.9**
10.0nm,0.6s
PLAI Plampang 14.48 105 P **Pn** **13 45 05.2 -2.2**
782nm66nm,0.8s
KAPI Kappang 16.08 90 P **Pn** **13 45 27.6 -0.3**
5.3nm,0.4s,baz=70,slow=11,SNR=2.3
KAPI LR LR 13 51 48.6
comp=Z,86nm,19.8s,baz=266,slow=38
TTSI Tana Toraja 16.33 83 P **P** **13 45 34.0 +1.1**
2µm15nm,0.8s
BKSI Bulukumba 16.45 91 P **Pn** **13 45 33.3 +0.8**
24nm,0.8s
BSSI Bau Bau, Buton 16.82 94 P **P** **13 45 39.4 +1.1**
12nm,1.1s
KKM Kota Kinabalu 16.92 48 **Pn** **13 45 38.7 +0.2**
MPSI Mapaga 17.22 71 P **P** **13 45 45.0 +2.3**
18nm,0.7s
MYLDM Lahad Datu 18.18 55 **Pn** **13 45 53.8 0.0**
EDFI Ende, Flores 18.26 102 P **P** **13 45 52.5 -1.8**
330nm20nm,0.7s
APSI Ampana 18.54 77 P **Pn** **13 45 59.7 +1.5**
302nm36nm,0.9s
MMRI Maumere 18.78 101 P **P** **13 45 58.3 -1.6**
MMRI IAmb IAmb 13 46 01.7
comp=Z,45nm,0.6s
MMRI Maumere 18.78 101 P **P** **13 45 58.1 -1.8**
comp=Z,63nm,0.5s
MRSI Marisa 19.20 73 P **Pn** **13 46 05.6 -0.5**
comp=Z,511nmcomp=Z,29nm,0.7s
LUWI Luwuk 19.60 78 P **P** **13 46 08.3 -0.6**
LUWI IAmb IAmb 13 46 17.9
comp=Z,30nm,0.9s
LUWI Luwuk 19.60 78 P **P** **13 46 09.6 +0.7**
comp=Z,1µmcomp=Z,35nm,0.8s
BATI Baumata 20.45 105 P **P** **13 46 18.0 -0.1**
comp=Z,38nm,0.3s,baz=13,slow=3.6,SNR=14
BATI S **S** **13 49 56.3 -7.2**
comp=Z,8.4nm,0.4s,baz=297,slow=18,SNR=2.1
comp=Z,38nm,0.3s
BATI Baumata 20.45 105 P **P** **13 46 17.8 -0.3**
comp=Z,592nmcomp=Z,35nm,0.6s
UBPT Khong Chiam 20.57 5 P **P** **13 46 18.9 -0.4**
SANI Sanana 22.57 83 P **P** **13 46 39.9 -1.0**
comp=Z,15nm,0.9s
NLAI Namlea 23.52 86 P **P** **13 46 48.9 -1.3**
comp=Z,5µmcomp=Z,8.6nm,0.5s
PHRA Phrae 23.92 352 P **P** **13 46 52.6 -1.1**
CM31 Chiang Mai Arr 24.09 349 P **P** **13 46 54.2 -1.1**
CM31 IAmb IAmb 13 46 55.4
comp=Z,12nm,0.6s
CMAR Chiang Mai Arr 24.09 349 P **P** **13 46 54.5 -0.8**
comp=Z,8.2nm,0.6s,baz=181,slow=9.4,SNR=78
CMAR PcP **PcP** **13 50 36.0 +0.6**
comp=Z,1.1nm,0.5s,baz=202,slow=3.1,SNR=6.5
CMAR S **S** **13 51 01.3 -7.1**
comp=Z,0.5nm,0.3s,baz=316,slow=46,SNR=1.9
comp=Z,8.2nm,0.6s
LBMI Labuha 24.31 80 P **P** **13 46 58.8 +1.4**
comp=Z,619nmcomp=Z,59nm,0.8s
CHTO Chiang Mai 24.44 349 P **P** **13 46 57.3 -1.2**
FITZ Fitzroy Crossi 24.98 122 P **P** **13 47 03.9 +0.4**
comp=Z,5.3nm,0.6s,baz=12,slow=4.2,SNR=32
FITZ PcP **PcP** **13 50 38.1 +0.8**
comp=Z,0.7nm,0.5s,baz=180,slow=17,SNR=1.6
FITZ LR LR 13 58 12.8
comp=Z,23nm,18.1s,baz=39,slow=39
comp=Z,5.3nm,0.6s
FITZ Fitzroy Crossi 24.98 122 P **P** **13 47 03.5 0.0**
DAV Davao City (W) 25.16 61 LR LR 13 56 36.7
comp=Z,45nm,21.6s,baz=178,slow=36
CRAI Chiangrai 25.61 353 P **P** **13 47 08.3 -0.8**
PALK Pallekele 26.06 299 LR LR 13 56 03.0
comp=Z,29nm,20.4s,baz=218,slow=33
KNRA Kununurra 26.75 115 P **P** **13 47 19.0 -0.4**
KNRA IAmb IAmb 13 47 26.3
comp=Z,26nm,0.5s
KNRA PcP **PcP** **13 50 42.0 +0.6**
SIJI Sorong 27.97 82 P **P** **13 47 29.3 -1.1**
comp=Z,3.4nm,0.5s,baz=247,slow=3.6,SNR=5.2
comp=Z,3.4nm,0.5s
MTN Manton Dam 28.16 107 P **P** **13 47 30.8 -1.3**
MTN IAmb IAmb 13 48 05.8
comp=Z,8.6nm,0.6s
FAKI Fak Fak 28.67 86 P **P** **13 47 36.0 -0.7**
FAKI IAmb IAmb 13 48 14.9
comp=Z,26nm,1.3s
NWAO Narrogin (SRO) 30.25 157 LR LR 13 58 53.4
comp=Z,52nm,21.5s,baz=120,slow=34
H01W3 Cape Leeuwin H 30.97 163 T T 14 20 48.3
baz=341,slow=76,SNR=8.6
H01W2 Cape Leeuwin H 30.98 163 T T 14 20 33.9
baz=341,slow=76,SNR=12
H01W1 Cape Leeuwin H 30.98 163 T T 14 20 48.6
baz=341,slow=76,SNR=10.0
H08S2 Diego Garcia H 30.99 264 T T 14 20 35.2
baz=86,slow=76,SNR=6.1
H08S3 Diego Garcia H 31.00 264 T T 14 20 35.2
baz=86,slow=76,SNR=7.8
H08S1 Diego Carcia H 31.01 264 T T 14 20 37.5
baz=86,slow=76,SNR=5.0
PZH PanZhiHua 31.71 357 P P 13 48 08.5 +5.0
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,90nm,5.4s
WB0 Warramunga Arr 33.21 118 P **P** **13 48 16.6 -0.1**
WB0 IAmb IAmb 13 48 18.3
comp=Z,8.5nm,0.5s
WB0 PcP **PcP** **13 50 59.0 +0.8**
WRA Warramunga Arr 33.23 119 P **P** **13 48 17.1 +0.3**
comp=Z,5.7nm,0.6s,baz=313,slow=9.2,SNR=145
WRA PcP **PcP** **13 50 59.1 +1.0**
comp=Z,1.3nm,0.4s,baz=302,slow=1.9,SNR=7.4
WRA S **S** **13 53 29.2 -3.0**
comp=Z,0.6nm,0.8s,baz=289,slow=15,SNR=2.8
WRA LR LR 14 03 45.0
comp=Z,33nm,18.2s,baz=184,slow=40
comp=Z,5.7nm,0.6s
WRA Warramunga Arr 33.23 119 P **P** **13 48 17.2 +0.4**
WRA PcP **PcP** **13 50 58.6 +0.4**
WRAB Tennant Creek 33.23 119 P **P** **13 48 16.9 0.0**
WRAB IAmb IAmb 13 48 18.0
comp=Z,9.0nm,0.7s
WRAB Tennant Creek 33.23 119 P **P** **13 48 17.3 +0.4**
WRAB pP **pP** **13 48 30.4 -2.4**
WB2 Warramunga Arr 33.24 119 P **P** **13 48 17.1 +0.2**
WB2 IAmb IAmb 13 48 19.4
comp=Z,7.6nm,0.7s
WB2 PcP **PcP** **13 50 59.0 +0.8**
WR0 Warramunga Arr 33.41 119 P **P** **13 48 18.5 +0.1**
WR0 IAmb IAmb 13 48 19.6
comp=Z,12nm,0.6s
WR0 PcP **PcP** **13 50 59.4 +0.7**
ASAR Alice Springs 34.40 125 P **P** **13 48 27.9 +0.9**
comp=Z,5.1nm,0.7s,baz=295,slow=7.2,SNR=152
ASAR PcP **PcP** **13 51 02.8 +1.3**
comp=Z,2.7nm,0.5s,baz=306,slow=2.5,SNR=16
ASAR S **S** **13 53 48.5 -1.9**
comp=Z,2.4nm,1.0s,baz=295,slow=16,SNR=11
ASAR ScP **ScP** **13 54 42.4 +1.4**
comp=Z,0.8nm,0.8s,baz=277,slow=3.6,SNR=5.2
ASAR LR LR 14 02 34.2
comp=Z,23nm,20.7s,baz=280,slow=36
comp=Z,5.1nm,0.7s
ASAR Alice Springs 34.40 125 P **P** **13 48 27.5 +0.6**
ASAR PcP **PcP** **13 51 03.0 +1.5**
AS31 Alice Springs 34.40 125 P **P** **13 48 27.9 +1.0**
AS31 IAmb IAmb 13 48 37.0
comp=Z,5.6nm,0.3s
AS31 PcP **PcP** **13 51 02.8 +1.3**
TAPN Taplejung 35.95 335 *eP* **P** **13 48 40.5 0.0**
comp=Z,24nm,0.6s
RAMN Ramite 36.07 334 *eP* **P** **13 48 41.6 +0.1**
comp=Z,12nm,0.4s
JIRN Jiri 36.87 334 *eP* **P** **13 48 48.4 0.0**
comp=Z,22nm,0.4s
PKI Pulchoki 37.14 333 *eP* **P** **13 48 50.3 -0.4**
comp=Z,8.6nm,0.6s
PKIN Phulchoki 37.15 333 *eP* **P** **13 48 50.0 -0.7**
comp=Z,6.2nm,0.4s
GUN Gumba 37.22 334 *eP* **P** **13 48 51.4 0.0**
comp=Z,38nm,0.5s
GKN Gorkha 37.87 332 *eP* **P** **13 48 56.5 -0.1**
KOLN Koldanda 38.17 331 *eP* **P** **13 48 59.1 -0.1**
DANN Dangsing 38.57 331 *eP* **P** **13 49 02.5 -0.2**
comp=Z,26nm,0.5s
PYUN Piuthan 38.74 330 *eP* **P** **13 49 04.2 +0.2**
comp=Z,14nm,0.4s
XAN Xi'an 39.49 7 P **P** **13 49 09.8 -0.2**
XAN pP pP 13 49 13.9 -13
XAN sP sP 13 49 16.6 -18
XAN pmax pmax
comp=Z,12nm,0.7s
COEN Coen 39.88 105 P **P** **13 49 12.6 -0.9**
COEN IAmb IAmb 13 49 35.4
comp=Z,37nm,1.9s
JOW Kunigami 39.91 36 P **P** **13 49 13.5 -0.1**
comp=Z,8.7nm,0.4s,baz=157,slow=7.1,SNR=6.6
JOW LR LR 14 06 46.0
comp=Z,13nm,18.6s,baz=232,slow=38
comp=Z,8.7nm,0.4s
JOW Kunigami 39.91 36 P **P** **13 49 14.3 +0.7**
NJ2 Nanjing 39.92 20 *eP* **P** **13 49 16.4 +2.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
BBOO Buckleboo 40.76 136 P **P** **13 49 19.2 -1.4**
BBOO IAmb IAmb 13 49 34.5
comp=Z,52nm,1.8s
BBOO PcP **PcP** **13 51 21.4 +0.6**
LZH Lanzhou 41.21 0 *eP* **P** **13 49 29.6 +5.3**
LZH pP pP 13 49 34.3 -6.7
LZH pmax pmax
comp=Z,17nm,1.0s
PMG Port Moresby 43.36 98 P **P** **13 49 41.0 -1.0**
comp=Z,11nm,0.8s,baz=225,slow=4.3,SNR=3.2
comp=Z,11nm,0.8s
PMG Port Moresby 43.36 98 P **P** **13 49 41.0 -1.0**
PMG IAmb IAmb 13 49 42.4
comp=Z,11nm,0.7s
CTA Charters Tower 43.95 113 P **P** **13 49 47.7 +1.0**
comp=Z,6.3nm,0.7s,baz=287,slow=10.0,SNR=12
CTA LR LR 14 09 59.2
comp=Z,31nm,18.3s,baz=253,slow=38
comp=Z,6.3nm,0.7s
CTAO Charters Tower 43.95 113 P **P** **13 49 45.0 -1.6**
CTAO IAmb IAmb 13 49 48.7
comp=Z,9.0nm,0.8s
CTAO Charters Tower 43.95 113 P **P** **13 49 47.8 +1.1**
CTAO pP **pP** **13 50 03.5 +0.2**
CTAO sP **sP** **13 50 11.3 +0.3**
STKA Stephens Creek 44.26 131 P **P** **13 49 50.3 +1.4**
comp=Z,10nm,0.5s,baz=308,slow=8.1,SNR=31
STKA PcP **PP** **13 51 34.0 +0.7**
comp=Z,3.9nm,0.5s,baz=309,slow=3.2,SNR=4.4
comp=Z,10nm,0.5s
STKA Stephens Creek 44.26 131 P **P** **13 49 50.6 +1.7**
GTA Gaotai 44.67 356 *eP* **P** **13 49 52.9 +0.7**
GTA pP pP 13 50 07.8 -1.2
GTA sP sP 13 50 13.1 -3.6
GTA pmax pmax
comp=Z,11nm,0.5s
GTA pmax pmax
comp=Z,55nm,4.7s
GTA LR LR
comp=N,74nm,20.4s
GTA LR LR
comp=E,48nm,17.1s
GTA LR LR
comp=Z,69nm,18.9s
JSU Suzuyama 44.71 33 P **P** **13 49 52.4 -0.1**
JSU IAmb IAmb 13 49 53.7
comp=Z,11nm,0.6s
HHC Hu-ho-hao-te 46.54 8 *eP* **P** **13 50 10.8 +3.9**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.1s
BJI Beijing 46.62 13 P **P** **13 50 08.9 +1.5**
BJI pmax pmax
comp=Z,7.0nm,0.9s
KSRS Korea Array 48.23 26 P **P** **13 50 19.1 -0.9**
comp=Z,1.6nm,0.6s,baz=227,slow=7.5,SNR=10
KSRS LR LR 14 09 30.5
comp=Z,13nm,21.3s,baz=215,slow=35
comp=Z,1.6nm,0.6s
JMN Monobe 48.27 34 P **P** **13 50 20.9 +0.5**
JHS Saijyo 48.81 33 P **P** **13 50 25.2 +0.7**
JHS IAmb IAmb 13 51 05.2
comp=Z,20nm,1.1s
JHS PcP **PcP** **13 51 49.2 +0.8**
WMQ Urumqi 51.00 345 *eP* **P** **13 50 42.1 +1.1**
WMQ pmax pmax
comp=Z,28nm,0.7s
JHJ Hachijo jima 2 51.38 39 LR LR 14 12 52.9
comp=Z,12nm,20.4s,baz=160,slow=36
KSH Kashi 51.41 333 P **P** **13 50 43.1 -1.1**
KSH pmax pmax
comp=Z,12nm,0.6s
ARMA Armidale 51.55 125 P **P** **13 50 45.3 -0.2**
TARG Taragay, Kyrgy 52.43 336 P **P** **13 50 52.6 +0.5**
MJAR Matsushiro Arr 52.76 35 P **P** **13 50 53.0 -1.2**
comp=Z,3.0nm,0.8s,baz=216,slow=7.4,SNR=4.6
MJAR LR LR 14 12 16.5
comp=Z,9.6nm,20.1s,baz=174,slow=35
comp=Z,3.0nm,0.8s
SONM Songino Array 53.01 2 P **P** **13 50 56.2 +0.3**
comp=Z,11nm,0.7s,baz=180,slow=9.0,SNR=55
SONM PcP **PcP** **13 52 04.4 +0.6**
comp=Z,2.1nm,0.3s,baz=191,slow=4.0,SNR=9.3
SONM LR LR 14 16 41.1
comp=Z,32nm,18.2s,baz=167,slow=40
comp=Z,11nm,0.7s
SONM Songino Array 53.01 2 P **P** **13 50 56.6 +0.7**
SONM IAmb IAmb 13 50 57.9
comp=Z,9.8nm,0.7s
SONM PcP **PcP** **13 52 04.4 +0.6**
ULN Ulaanbaatar 53.07 3 P **P** **13 50 57.1 +0.7**
BOOM Boomskoye usch 53.84 335 P **P** **13 51 01.4 -0.8**
BOOM IAmb IAmb 13 51 03.0
comp=Z,5.0nm,0.9s
JSD Sado 53.84 34 P **P** **13 51 01.4 -0.6**
BTK Batken 54.32 329 P **P** **13 51 06.1 +0.4**
AAK Ala-Archa 54.58 334 P **P** **13 51 07.8 +0.2**
comp=Z,1.6nm,0.3s,baz=179,slow=4.5,SNR=3.9
AAK LR LR 14 18 22.3
comp=Z,12nm,18.9s,baz=206,slow=40
comp=Z,1.6nm,0.3s
BNX BinXian 55.11 20 ⇓P **P** **13 51 11.5 +0.4**
BNX pmax pmax
comp=Z,21nm,0.9s
BNX pmax pmax
comp=Z,49nm,3.6s
MK31 Makanchi Array 55.24 342 P **P** **13 51 11.8 -0.3**
MK31 IAmb IAmb 13 51 13.1
comp=Z,4.5nm,0.5s
MKAR Makanchi Array 55.24 342 P **P** **13 51 11.6 -0.5**
comp=Z,5.1nm,0.5s,baz=151,slow=8.3,SNR=46
comp=Z,5.1nm,0.5s
MKAR Makanchi Array 55.24 342 P **P** **13 51 11.8 -0.3**
MAKZ Makanchi 55.35 342 P **P** **13 51 12.3 -0.5**
USA0B Ussuriysk Arra 55.54 24 P **P** **13 51 14.1 -0.1**
USRK Ussuriysk Ar. 55.54 24 P **P** **13 51 14.2 0.0**
comp=Z,16nm,0.7s,baz=208,slow=4.0,SNR=24
comp=Z,16nm,0.7s
USRK Ussuriysk Ar. 55.54 24 P **P** **13 51 14.4 +0.2**
KK31 Karatay Array 56.77 331 P **P** **13 51 21.4 -1.7**
KKAR Karatay Array 56.77 331 P **P** **13 51 22.4 -0.7**
KKAR Karatay Array 56.77 331 P **P** **13 51 21.4 -1.7**
KKAR IAmb IAmb 13 51 24.3
comp=Z,1.8nm,0.6s
JTM Tenmabayashi 57.32 33 P **P** **13 51 26.1 -0.8**
KLR Kul'dur 59.62 21 LR LR 14 18 37.7
comp=Z,26nm,18.6s,baz=226,slow=37
KURK Kurchatov 59.84 342 P **P** **13 51 43.8 -0.5**
KURK IAmb IAmb 13 51 45.5
comp=Z,4.4nm,0.8s
KURK Kurchatov 59.84 342 P **P** **13 51 43.7 -0.5**
GEYT Alibeck 60.30 320 P **P** **13 51 48.1 +0.3**
comp=Z,7.2nm,0.4s,baz=162,slow=4.9,SNR=16
comp=Z,7.2nm,0.4s
GEYT Alibeck 60.30 320 P **P** **13 51 47.8 0.0**
GYA0B ALIBECK ARRAY 60.30 320 P **P** **13 51 48.2 +0.4**
JKA Kamikawa-asahi 60.45 31 P **P** **13 51 47.6 -0.9**
KOUNC Koumac, New Ca 60.71 110 P **P** **13 51 50.6 -0.3**
KOUNC IAmb IAmb 13 51 53.0
comp=Z,5.8nm,0.8s
ZAA0 Zalesovo Array 61.14 347 P **P** **13 51 52.5 -0.6**
ZALV Zalesovo Beam 61.14 347 P **P** **13 51 52.3 -0.8**
comp=Z,14nm,0.4s,baz=161,slow=5.3,SNR=68
ZALV LR LR 14 20 14.1
comp=Z,32nm,18.9s,baz=104,slow=38
comp=Z,14nm,0.4s
ZALV Zalesovo Beam 61.14 347 P **P** **13 51 52.5 -0.6**
YSS Yuzh-Sakhalins 62.51 29 P **P** **13 52 01.9 -0.5**
YSS IAmb IAmb 13 52 03.1
comp=Z,13nm,0.8s
YSS Yuzh-Sakhalins 62.51 29 P **P** **13 52 02.6 +0.2**
YSS pP **pP** **13 52 19.4 -0.4**
LIFNC LIFOU 63.49 110 P **P** **13 52 08.0 -1.5**
LIFNC IAmb IAmb 13 52 11.7
comp=Z,12nm,0.8s
BVAR Borovoye Array 64.56 339 LR LR 14 22 58.2
comp=Z,23nm,20.1s,baz=139,slow=38
BRVK Borovoye 64.63 338 P **P** **13 52 15.1 -1.2**
BRVK IAmb IAmb 13 52 16.4
comp=Z,6.2nm,0.6s
BRVK Borovoye 64.63 338 P **P** **13 52 15.7 -0.6**
ABKAR Akbulak array 66.29 330 P **P** **13 52 26.9 -0.2**
MAW Mawson 68.00 196 P **P** **13 52 40.1 +2.5**
comp=Z,1.6nm,0.7s,baz=48,slow=9.9,SNR=4.3
MAW LR LR 14 16 25.3
comp=Z,38nm,21.7s,baz=20,slow=30
comp=Z,1.6nm,0.7s
MAW Mawson 68.00 196 P **P** **13 52 35.8 -1.8**
RPZ Rata Peaks 70.09 135 P **P** **13 52 52.2 +1.1**
comp=Z,2.3nm,0.6s,baz=276,slow=5.1,SNR=5.5
comp=Z,2.3nm,0.6s
CCD Concordia, Ant 70.62 175 P **P** **13 52 55.4 +1.2**
ARU Arti 71.70 336 P **P** **13 53 00.4 -0.1**
KBZ Khabaz 73.17 319 P **P** **13 53 09.9 +0.5**
comp=Z,4.9nm,0.8s,baz=113,slow=7.3,SNR=7.5
comp=Z,4.9nm,0.8s
PETK Petropavlovsk- 73.84 31 P **P** **13 53 12.3 -1.0**
comp=Z,2.0nm,0.6s,baz=250,slow=3.5,SNR=8.9
comp=Z,2.0nm,0.6s
PET Petropavlovsk 74.28 31 P **P** **13 53 15.1 -0.7**
PET IAmb IAmb 13 53 16.3
comp=Z,14nm,0.6s
LSZ Lusaka 74.56 256 LR LR 14 19 47.6
comp=Z,24nm,21.2s,baz=161,slow=31
NRIK Noril'sk 75.33 354 P **P** **13 53 21.1 -0.4**
comp=Z,4.4nm,0.4s,baz=147,slow=6.7,SNR=6.9
comp=Z,4.4nm,0.4s
LBTB Lobatse 76.90 246 LR LR 14 20 49.2
comp=Z,44nm,20.0s,baz=88,slow=30
BOSA Boshof 77.24 242 LR LR 14 21 44.3
comp=Z,38nm,19.4s,baz=212,slow=31
VNDA Vanda 78.22 169 P **P** **13 53 39.0 +1.3**
comp=Z,0.5nm,0.6s,baz=307,slow=5.2,SNR=3.9
VNDA LR LR 14 29 50.7
comp=Z,17nm,18.1s,baz=276,slow=37
comp=Z,0.5nm,0.6s
BRTR Keskin Array B 78.22 312 P **P** **13 53 38.5 -0.2**
comp=Z,3.1nm,0.7s,baz=134,slow=7.3,SNR=16
comp=Z,3.1nm,0.7s
BRTR Keskin Array B 78.22 312 P **P** **13 53 37.5 -1.1**
KLMR Klimovskoe 82.39 334 *eP* **P** **13 53 59.0 -1.4**
KLMR AMP 13 54 02.6
comp=Z,13nm,1.3s
IDI Anoyia 83.90 306 LR LR 14 37 16.3
comp=Z,10.0nm,18.0s,baz=244,slow=40
AKASG Malin Array Be 84.31 322 P **P** **13 54 10.6 +0.2**
comp=Z,1.6nm,0.5s,baz=85,slow=4.6,SNR=14
comp=Z,1.6nm,0.5s
QSPA South Pole Qui 84.64 180 LR LR 14 27 17.6
comp=Z,26nm,19.9s,baz=275,slow=32
QSPA South Pole Qui 84.64 180 P **P** **13 54 11.9 -0.1**
QSPA IAmb IAmb 13 55 49.4
comp=Z,12nm,1.6s
BUR08 Bucovina Ar. S 86.15 318 P **P** **13 54 20.1 +0.2**
BUR08 IAmb IAmb 13 54 22.7
comp=Z,5.2nm,1.0s
NACGM Naroch 86.81 326⇑ *eP* **P** **13 54 23.3 +0.5**
baz=104
KOLS Kolonicke sedl 88.31 319 *eP* **P** **13 54 32.6 +2.4**
FINES FINESS Array B 88.73 332 P **P** **13 54 32.3 +0.5**
comp=Z,2.6nm,0.6s,baz=108,slow=6.0,SNR=15
comp=Z,2.6nm,0.6s
SNAA Sanae 90.08 198 LR LR 14 35 21.5
comp=Z,25nm,18.6s,baz=187,slow=36
ARCES ARCESS Array B 90.82 340 P **P** **13 54 41.7 +0.3**
comp=Z,3.3nm,0.9s,baz=132,slow=7.0,SNR=5.8
comp=Z,3.9nm,0.9s
GERES GERESS Array B 93.92 319 P **P** **13 54 56.7 +0.4**
comp=Z,0.6nm,0.5s,baz=98,slow=9.6,SNR=4.3
comp=Z,0.6nm,0.5s
NOA NORSAR Array B 95.80 331 P **P** **13 55 04.7 +0.1**
comp=Z,0.5nm,0.7s,baz=92,slow=4.7,SNR=2.8
comp=Z,0.5nm,0.7s
NVAR Mina Array Bea 129.74 43 PKP **PKPdf** **14 00 48.3 0.0**
comp=Z,0.5nm,0.4s,baz=318,slow=2.6,SNR=2.5
PDAR Pinedale Array 132.56 33 PKP **PKPdf** **14 00 53.8 +0.3**
comp=Z,0.4nm,0.5s,baz=138,slow=2.4,SNR=6.7
CCM Cathedral Cave 144.74 21 PKPdf **PKPab** **14 01 14.1 -0.3**
TX31 Lajitas Ar. Si 144.87 44 PKPdf **PKPdf** **14 01 16.2 +0.1**
TXAR Lajitas Array 144.87 44 PKP **PKPdf** **14 01 16.1 0.0**
comp=Z,3.2nm,0.6s,baz=275,slow=0.8,SNR=41
TXAR Lajitas Array 144.87 44 PKPdf **PKPdf** **14 01 16.4 +0.3**
BDFB Brasilia 145.01 233 PKPbc **PKPab** **14 01 16.2 +0.1**
comp=Z,2.6nm,0.5s,baz=71,slow=3.7,SNR=5.7
HHAR Hobbs 145.25 25 **PKPbc** **14 01 15.7 -0.5**
WVT Waverly 147.60 17 **PKPbc** **14 01 23.4 +0.3**
TZTN Tazewell 148.26 11 PKPbc **PKPbc** **14 01 25.1 +0.2**
T59A Double "B" Far 148.50 2 **PKPbc** **14 01 26.1 +0.6**
V52A Sevierville 148.93 11 PKPbc **PKPbc** **14 01 26.9 +0.3**
CPCT Cooper Cave 149.11 13 PKPbc **PKPbc** **14 01 27.4 +0.3**

MDD ***22*** *13:44:00.1±1.5,32.°44N×7.°99W,h0km,Mb3.9/5, M_mb3.2/5,Error ellipse: s-maj=11.4km s-min=9.1km az=31.0*
SFS ***22*** *13:44:00.0,32.°43N×7.°99W,ML3.1,BENGUERIR (MARRUECOS)*
IGIL ***22*** *13:44:02.9,32.°42N×7.°71W,h15km*
INMG ***22*** *13:44:02.2±1.3,32.°45N×7.°75W,h16km±13km,ML2.3, Error ellipse: s-maj=7.3km s-min=7.2km az=120.0*

ISC 22 13:44:03.6±3.3,32.°6N±0.°2×7.°63W±0.°10,h10km,n14,
σ0s99/22,5C-1D,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IFR	**Ifrane**	**2.28**	**67**	P		**Pb**	**13 44 44.7**	**-0.2**
IFR				S		**Sg**	**13 45 17.0**	**+0.2**
MORF	**Marmelete**	**4.73**	**350**	*e*P		**Pn**	**13 45 14.7**	**-0.4**
MORF	**Marmelete**	**4.73**	**350**	*e*Pn		**Pn**	**13 45 14.6**	**-0.4**
PVAQ	**Vaqueiros**	**4.75**	**359**	*e*Pn		**Pn**	**13 45 15.3**	**+0.1**
PVAQ				*e*Sn		**Sn**	**13 46 09.9**	**-0.5**
PVAQ				A		A	13 46 12.8	
	3.1nm,0.6s							
EGRO	**El Granado**	**4.88**	**1**	Pn		**Pn**	**13 45 16.2**	**-0.9**
EGRO				⇑*i*Vmb_V			13 45 17.3	

	83nm,SNR=1.3							
EGRO				Sn		**Sn**	**13 46 12.4**	**-1.2**
PCVE	**Castro Verde**	**4.99**	**356**⇓	*e*Pn		**Pn**	**13 45 18.9**	**+0.4**
PCVE				*e*Sn		**Sn**	**13 46 18.1**	**+1.8**
PCVE				A		A	13 46 20.2	
	3.0nm,0.6s							
EMIN	**Mina Concepcio**	**5.17**	**8**	Pn		**Pn**	**13 45 20.4**	**-0.6**
EMIN				⇑*i*Vmb_V			13 45 21.2	
	62nm,SNR=1.3							
EMIN				Sn		**Sn**	**13 46 19.8**	**-1.0**
MESJ	**Messejana**	**5.21**	**355**	*e*Pn		**Pn**	**13 45 22.3**	**+0.8**
EGOR	**Sierra Gorda,**	**5.32**	**32**⇑	*i*Vmb_V			13 45 25.3	
	74nm,SNR=1.4							
EGOR				Sn		**Sn**	**13 46 27.2**	**+2.7**
PNCL	**Nicolau / Gran**	**5.51**	**353**	*e*Pn		**Pn**	**13 45 26.0**	**+0.4**
PBAR	**Barrancos**	**5.54**	**5**	*e*Pn		**Pn**	**13 45 26.3**	**+0.2**
PBAR				*e*Sn		**Sn**	**13 46 30.7**	**+0.8**
PBAR				A		A	13 46 37.6	
	1.9nm,0.5s							
ECAB	**El Cabril**	**5.71**	**18**	Pn		**Pn**	**13 45 28.1**	**-0.4**
ECAB				⇑*i*Vmb_V			13 45 29.9	
	42nm,SNR=1.1							
ECAB				Sn		**Sn**	**13 46 33.7**	**-0.5**
EADA	**Adamuz**	**6.05**	**23**	Pn		**Pn**	**13 45 32.8**	**-0.3**
EADA				⇑*i*Vmb_V			13 45 34.1	
	61nm,SNR=2.1							
EADA				Sn		**Sn**	**13 46 41.2**	**-1.3**
PMRV	**Marv??o**	**6.78**	**2**	*e*Pn		**Pn**	**13 45 43.4**	**+0.3**

*IDC **22** 14:35:22.5±2.2,37°.18N×141°.87E, h0km, mb3.5/3, mbtmp3.6/5, ML2.8/2, MS2.4/2, Error ellipse: s-maj=40.4km s-min=25.9km az=71.0*
*JMA **22** 14:35:29.9±0.1,37°.3N±0°.3×141°.5E±0°.9, h47km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*
*NIED **22** 14:35:29.9,37°.25N×141°.50E, h47km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.31; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-0.67; $M_{r\theta}$0.90; $M_{\theta\phi}$-0.06; $M_{\phi r}$1.72; Fault plane solution: M_{o}2.02000×1014 NP1: ϕ_s145.00000°, δ12.00000°, λ28.00000°. NP2:ϕ_s28.00000°, δ84.00000°, λ101.00000°.*

ISC 22 14:35:25.3±1.9, 37°.18N±0°.04×141°.75E±0°.07, h17km±11km, n21, σ0.998/24, mb3.5/3, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.72**	**285**⇓	*i*P	**Pn**	**14 35 41.0**	**+0.3**
JFK				⇓S	**Sb**	**14 35 48.9**	**-0.2**
JMST	**Minamisoumatoc**	**0.87**	**308**⇓	*i*P	**Pn**	**14 35 43.1**	**+0.3**
JMST				⇓S	**Sb**	**14 35 52.4**	**-1.0**
JFFD	**Fukushimafurud**	**0.95**	**265**⇓	*i*P	**Pn**	**14 35 44.4**	**+0.5**
JFFD				⇓S	**Sb**	**14 35 54.7**	**-1.1**
JMM	**Marumori**	**1.02**	**312**	*i*P	**Pg**	**14 35 45.2**	**+0.1**
JMM				S	**Sb**	**14 35 56.4**	**-1.3**
JHO	**Hitachi**	**1.11**	**239**⇓	*i*P	**Pg**	**14 35 46.9**	**+0.2**
JHO				⇓S	**Sb**	**14 35 58.9**	**-1.2**
JIO	**Ouri**	**1.31**	**346**⇓	*i*P	**Pb**	**14 35 50.3**	**+0.8**
JIO				⇓S	**Sn**	**14 36 05.0**	**-0.8**
JOU	**Okura**	**1.46**	**324**	P	**Pb**	**14 35 51.9**	**-0.2**
JFY	**Yanaizu**	**1.65**	**278**	P	**Pb**	**14 35 54.6**	**-0.6**
JFY				S	**Sn**	**14 36 13.5**	**-0.7**
JYS	**Shirataka**	**1.69**	**308**	P	**Pb**	**14 35 55.5**	**-0.4**
JYS				S	**Sn**	**14 36 15.0**	**-0.3**
MJAR	**Matsushiro Arr**	**2.91**	**258**	Pn	**Pn**	**14 36 12.6**	**+1.7**
	0.8nm,0.3s,baz=80,slow=15,SNR=24						
MJAR				Sn	**Sn**	**14 36 48.1**	**+2.6**
	0.5nm,0.3s,baz=241,slow=13,SNR=6.2						
MJAR				LR	LR	14 37 37.1	
	comp=Z,68nm,19.8s,baz=48,slow=45						
	3.1nm,0.3s						
JHJ	**Hachijo jima 2**	**4.36**	**202**	Pn	**Pn**	**14 36 29.9**	**-0.9**
	2.0nm,0.3s,baz=47,slow=21,SNR=1.7						
JHJ				Sn	**Sn**	**14 37 21.2**	**0.0**
	10nm,0.3s,baz=242,slow=23,SNR=1.4						
	61nm,0.8s						
KSRS	**Korea Array**	**11.02**	**276**	LR	LR	14 42 09.4	
	comp=Z,15nm,18.4s,baz=180,slow=36						
SONM	**Songino Array**	**27.93**	**304**	P	**P**	**14 41 15.0**	**+0.4**
	0.4nm,0.6s,baz=105,slow=9.4,SNR=1.6						
	0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.00**	**121**	T	T	15 10 45.3	
	baz=314,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.00**	**122**	T	T	15 10 51.7	
	baz=314,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.01**	**121**	T	T	15 11 09.0	
	baz=314,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.72**	**124**	T	T	15 11 49.8	
	baz=316,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.72**	**124**	T	T	15 11 48.9	
	baz=316,slow=76,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**28.73**	**124**	T	T	15 11 53.0	
	baz=316,slow=76,SNR=8.0						
MKAR	**Makanchi Array**	**44.27**	**302**	P	**P**	**14 43 33.7**	**-0.2**
	0.4nm,0.6s,baz=85,slow=9.7,SNR=4.6						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**14 45 12.1**	**+0.3**
	0.4nm,0.6s,baz=5.4,slow=7.4,SNR=7.7						
	0.4nm,0.6s						

DJA 22 14:37:58.9±0.3, 3°S±4°×12°.7E±°, h10km, M3.6/13, mb4.0/6, mB4.4/5, MLv3.5/13, Mw(mB)3.6/5, Buru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.22**	**60**	P	Pg	14 38 03.7	+0.2
AAI	**Ambon**	**1.32**	**105**	P	Pn	14 38 23.4	-0.1
SANI	**Sanana**	**1.59**	**324**	P	Pn	14 38 24.7	-2.4
MSAI	**Masohi**	**2.02**	**90**	P	Pn	14 38 31.6	-1.4
LBMI	**Labuha**	**2.76**	**12**	P	Pn	14 38 44.0	+0.8
BNDI	**Bandanaira**	**3.21**	**111**	P	Pn	14 38 48.9	-0.5
LUWI	**Luwuk**	**4.73**	**299**	P	Pn	14 39 10.0	-0.3
FAKI	**Fak Fak**	**5.35**	**86**	P	Pn	14 39 19.1	+0.2
	0.1nm16nm,1.2s						
GTOI	**Gorontalo**	**5.56**	**315**	P	Pn	14 39 23.7	+2.0
	0.0nm188nm8.2nm,0.6s						
APSI	**Ampana**	**5.79**	**295**	P	Pn	14 39 25.1	+0.2
	0.1nm280nm13nm,0.9s						
MRSI	**Marisa**	**6.25**	**307**	P	Pn	14 39 31.6	+0.3
	0.2nm826nm34nm,0.4s						
MPSI	**Mapaga**	**7.91**	**297**	P	Pn	14 39 53.9	-0.1

IDC 22 15:17:30.2±6.0, 30°.57N×142°.75E, h0km, mb3.2/2, mbtmp3.2/3, ML2.2/1, MS2.8/1, Error ellipse: s-maj=242.8km s-min=36.8km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.06**	**329**	Pn	Pn	15 19 14.6	-0.2
	baz=141,slow=16,SNR=1.7						
	0.6nm,0.5s						
PMG	**Port Moresby**	**39.97**	**173**	LR	LR	15 44 07.7	
	comp=Z,11nm,18.4s,baz=76,slow=40						
WRA	**Warramunga Arr**	**50.87**	**190**	P	P	15 26 33.1	+0.1
	0.2nm,0.4s,baz=6.3,slow=7.6,SNR=6.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**54.59**	**190**	P	P	15 27 00.0	-0.5
	0.2nm,0.9s,baz=19,slow=8.9,SNR=1.9						
	0.2nm,0.9s						

*IDC **22** 15:28:35.1±4.1,34°.14N×141°.61E, h0km, mb3.1/2, mbtmp3.0/3, ML2.3/1, Error ellipse: s-maj=118.5km s-min=28.5km az=59.0*
*JMA **22** 15:28:35.7±0.9,34°.N±3°.3×14°.2E±°, h37km, MV2.7/19, FAR SE OFF BOSO PEN*

ISC 22 15:28:35.4±1.8, 34°.3N±0°.1×141°.8E±0°.1, h10km, n10, σ0.999/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.79**	**298**	P	**Pg**	**15 28 51.1**	**+0.6**
BSO3	**Boso 3**	**1.21**	**295**	*e*P	**Pn**	**15 28 58.3**	**+0.3**
BSO3				*e*S	**Sb**	**15 29 14.1**	**+0.5**
JKUC	**kamogawauchiur**	**1.60**	**303**	*e*P	**Pn**	**15 29 03.3**	**-0.4**
JKUC				*e*S	**Sn**	**15 29 22.6**	**-1.8**
JMKN	**Mikurajimanish**	**1.90**	**259**	*e*P	**Pn**	**15 29 08.1**	**+0.3**
JMKN				*e*S	**Sn**	**15 29 31.2**	**-0.7**
MJAR	**Matsushiro Arr**	**3.72**	**308**	Pn	**Pn**	**15 29 33.5**	**+0.6**
	0.3nm,0.3s,baz=125,slow=18,SNR=15						
MJAR				Sn	**Sn**	**15 30 16.4**	**-0.3**
	baz=174,slow=20,SNR=1.4						
	1.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**26.53**	**117**	T	T	16 02 28.3	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**26.54**	**117**	T	T	16 02 32.1	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**26.55**	**117**	T	T	16 02 25.0	
	baz=309						
WRA	**Warramunga Arr**	**54.40**	**189**	P	**P**	**15 38 01.3**	**-1.3**
	0.2nm,0.8s,baz=3.7,slow=7.4,SNR=1.4						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**58.13**	**189**	P	**P**	**15 38 30.2**	**+1.0**
	0.2nm,0.9s,baz=354,slow=5.6,SNR=1.8						
	0.2nm,0.9s						

*TEH **22** 15:39:48.1,28°.41N×57°.21E, h17km, ML3.3*
*OMAN **22** 15:39:50.3±2.2,28°.17N×57°.05E, h4km±34km, ml3.2/8, Error ellipse: s-maj=34.0km s-min=14.4km az=22.0*
*DSN **22** 15:39:51.1±1.9,28°.34N×56°.83E, h15km, ML2.9/5, Error ellipse: s-maj=74.3km s-min=16.3km az=97.0*

ISC 22 15:39:50.4±1.1, 28°.36N±0°.04×57°.17E±0°.06, h31km, n41, σ1.934/48, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.62**	**131**	*e*Pg	**Pb**	**15 40 00.8**	**-2.2**
IBND	**Bandar-abas**	**1.07**	**212**	*e*Pg	**Pn**	**15 40 09.9**	**+0.6**
NGRK	**Negar Kerman**	**1.34**	**343**	*e*Pg	**Pn**	**15 40 11.7**	**-1.6**
NGRK				*e*		15 40 39.0	
	comp=Z,4μm,0.2s						
KBAM	**BAM**	**1.36**	**55**	*e*Pg	**Pn**	**15 40 12.2**	**-1.2**
KBAM				*e*		15 40 32.5	
	comp=Z,4μm,0.3s						
CHMN	**Cheshme madani**	**1.53**	**12**	*e*Pg	**Pn**	**15 40 17.0**	**+1.1**
CHMN				*e*		15 40 36.6	
	comp=Z,3μm,0.4s						
KRBR	**Kerman**	**1.66**	**347**	*e*Pg	**Pn**	**15 40 17.3**	**-0.3**
TVBK	**TV Kerman**	**1.66**	**348**	*e*Pn	**Pn**	**15 40 17.3**	**-0.4**
TVBK				*e*		15 40 23.6	
	comp=Z,6μm,0.2s						
KHGB	**Koh Gabri**	**2.10**	**343**	*e*Pn	**Pn**	**15 40 24.6**	**+0.9**
KHGB				*e*		15 40 29.2	
	comp=Z,2μm,0.3s						
SHME	**Shamm**	**2.48**	**202**	P	**Pn**	**15 40 28.7**	**0.0**
	SNR=18						
SHME				S	**Sn**	**15 40 57.9**	**0.0**
SHME	**Shamm**	**2.48**	**202**	P	**Pn**	**15 40 28.6**	**-0.1**
BANOM	**Banah**	**2.55**	**198**	P	**Pn**	**15 40 29.7**	**-0.1**
BANOM				S	**Sn**	**15 40 59.8**	**+0.1**
BANOM	**Banah**	**2.55**	**198**	P	**Pn**	**15 40 29.9**	**+0.2**
BANOM				S	**Sn**	**15 41 01.4**	**+1.7**
JASK	**Jask - Hormozg**	**2.56**	**166**	*e*Pn	**Pn**	**15 40 30.7**	**+0.9**
JASK				*e*		15 40 45.6	
	comp=Z,2μm,0.2s						
JASK	**Jask - Hormozg**	**2.56**	**166**	P	**Pn**	**15 40 30.8**	**+0.9**
	SNR=15						
JASK				S	**Sn**	**15 41 01.5**	**+1.5**
MASF	**Masafi**	**3.11**	**197**	P	**Pn**	**15 40 37.6**	**+0.1**
UMQ	**Umm Al-Quwin**	**3.13**	**206**	P	**Pn**	**15 40 39.5**	**+1.9**
ZHSF	**Zahedan**	**3.39**	**68**	*e*Pn	**Pn**	**15 40 45.3**	**+3.9**
IBAF	**Bafgh**	**3.51**	**337**	*e*Pn	**Pn**	**15 40 44.4**	**+1.4**
UOSS	**Minazif**	**3.51**	**195**	P	**Pn**	**15 40 45.6**	**+2.7**
NAZ	**Nazwa, Dubai**	**3.62**	**202**	P	**Pn**	**15 40 44.3**	**-0.1**
	SNR=8.3						
NAZ				S	**Sn**	**15 41 26.6**	**+0.5**
IMEH	**Mehriz**	**3.75**	**324**	*e*Pn	**Pn**	**15 40 47.7**	**+1.3**
ASHO	**Ashiyiah**	**3.80**	**196**	P	**Pn**	**15 40 47.5**	**+0.7**
FAQ	**Al Faqa, Dubai**	**3.87**	**202**	P	**Pn**	**15 40 47.6**	**-0.2**
	SNR=12						
FAQ				S	**Sn**	**15 41 32.5**	**+0.3**
FAQ	**Al Faqa, Dubai**	**3.87**	**202**	P	**Pn**	**15 40 48.5**	**+0.7**
NHDN	**Nehbandan**	**3.92**	**39**	*e*Pn	**Pn**	**15 40 49.1**	**+0.5**
NHDN				*e*		15 42 05.5	
	comp=Z,372nm,0.6s						
BSRN	**Basiran**	**3.97**	**25**	*e*Pn	**Pn**	**15 40 51.6**	**+2.3**
CHBR	**Chabahar**	**4.04**	**142**	*e*Pn	**Pn**	**15 40 50.9**	**+0.8**
ASUD	**Al Ashush, Dub**	**4.07**	**204**	P	**Pn**	**15 40 51.2**	**+0.6**
	SNR=27						
ASUD				S	**Sn**	**15 41 37.1**	**-0.1**
ASUD	**Al Ashush, Dub**	**4.07**	**204**	P	**Pn**	**15 40 51.7**	**+1.2**
YZKH	**Yazd**	**4.59**	**332**	*e*Pn	**Pn**	**15 40 59.4**	**+1.6**
ISAD	**Sadrabad**	**4.65**	**320**	*e*Pn	**Pn**	**15 40 59.6**	**+0.7**
TPRV	**Parvadeh(Tabas**	**4.67**	**355**	*e*Pn	**Pn**	**15 41 00.1**	**+1.2**
HOQ	**Hoqain**	**4.76**	**178**	P	**Pn**	**15 40 59.0**	**-1.1**
	SNR=11						
TKDS	**Koohdasht(Taba**	**5.24**	**360**	*e*Pn	**Pn**	**15 41 07.6**	**+0.9**
TABS	**Tabas**	**5.27**	**360**	*e*Pn	**Pn**	**15 41 09.0**	**+1.8**
IRAM	**Ramesheh**	**5.39**	**311**	*e*Pn	**Pn**	**15 41 09.8**	**+0.9**
KLNJ	**Kolanjah**	**5.53**	**300**	*e*Pn	**Pn**	**15 41 11.2**	**+0.3**
TNSJ	**Nastanj**	**5.61**	**355**	*e*Pn	**Pn**	**15 41 13.0**	**+1.2**
GHWR	**Ruwais**	**5.84**	**222**	P	**Pn**	**15 41 13.1**	**-1.8**
SHRT	**Shahrakht**	**5.91**	**26**	*e*Pn	**Pn**	**15 41 18.6**	**+2.7**
SHMA	**Al-Shehemyia**	**6.07**	**247**	P	**Pn**	**15 41 18.8**	**+0.7**

*NEIC **22** 15:42:38.3±1.7,25°.53S±0°.08×177°.1W±0°.2, h117km±10km, mb4.4/9, Error ellipse: s-maj=21.8km s-min=11.8km az=88.0*
*IDC **22** 15:42:44.2±4.5,25°.22S×177°.38W, h176km±33km, mb3.3/4, mbtmp3.9/6, Error ellipse: s-maj=45.7km s-min=25.1km az=117.0*

ISC 22 15:42:40.8±0.8, 25°.31S±0°.07×177°.2W±0°.1, h150km, n33, σ2.921/23, mb4.0/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.98**	**189**	S	**Sn**	**15 44 32.3**	**+4.8**
	515nm,0.3s,baz=226,slow=20,SNR=5.2						
RAO	**Raoul Island**	**3.98**	**189**	Pn	Pn	15 43 34.1	-6.7
MSVF	**Nonsavu**	**8.75**	**329**	P	**Pn**	**15 44 45.1**	**+0.8**
	4.3nm,0.6s,baz=140,slow=18,SNR=13						
MSVF	**Nonsavu**	**8.75**	**329**	Pn	**Pn**	**15 44 44.9**	**+0.6**
NIUE	**Niue**	**9.14**	**49**	Pn	**Pn**	**15 44 48.4**	**-1.0**
NIUE				Sn	Sn	15 46 20.2	-11
AFI	**Afiamalu**	**12.42**	**25**	P	Pn	15 45 26.5	-6.2
	4.6nm,0.3s,baz=171,slow=4.3,SNR=5.8						
AFI				S	Sn	15 47 31.4	-19
	12nm,0.4s,baz=252,slow=20,SNR=4.9						
AFI	**Afiamalu**	**12.42**	**25**	Pn	Pn	15 45 26.2	-6.5
AFI					Sn	15 47 27.6	-23
URZ	**Urewera**	**13.79**	**199**	P	**P**	**15 45 52.6**	**-0.9**
	3.6nm,0.3s,baz=0.0,slow=2.0,SNR=1.5						
URZ				S	Sn	15 48 09.7	-13
	2.8nm,0.5s,baz=343,slow=6.3,SNR=9.2						
URZ	**Urewera**	**13.79**	**199**	Pn	Pn	15 45 43.5	-6.5
BKZ	**Black Stump Fm**	**14.81**	**200**	Pn	**Pn**	**15 45 59.3**	**-3.6**
TUWZ	**Tuamarina**	**17.69**	**202**		**P**	**15 46 31.8**	**-4.8**
KHZ	**Kahutara**	**18.70**	**202**	P	**P**	**15 46 43.6**	**-4.0**
KHZ				IAmb	IAmb	15 46 48.2	
	comp=Z,27nm,1.3s						
WKZ	**Wanaka**	**22.46**	**206**	P	**P**	**15 47 25.5**	**-1.9**
CTA	**Charters Tower**	**34.06**	**271**	P	**P**	**15 49 11.8**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=96,slow=15,SNR=1.4						
	comp=Z,0.9nm,0.7s						
CTAO	**Charters Tower**	**34.06**	**271**	P	**P**	**15 49 12.1**	**+1.1**
CTAO				IAmb	IAmb	15 49 47.7	
	comp=Z,9.8nm,1.4s						
ASAR	**Alice Springs**	**44.35**	**261**	P	**P**	**15 50 35.2**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=92,slow=7.0,SNR=4.4						
	comp=Z,0.5nm,0.9s						
WB2	**Warramunga Arr**	**44.87**	**267**	P	**P**	**15 50 40.8**	**+0.2**
WB0	**Warramunga Arr**	**44.88**	**267**	P	**P**	**15 50 39.6**	**-1.0**
WB0				IAmb	IAmb	15 51 19.5	
	comp=Z,4.5nm,1.2s						
WRA	**Warramunga Arr**	**44.88**	**267**	P	**P**	**15 50 39.6**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=101,slow=8.4,SNR=27						
	comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**44.88**	**267**	P	**P**	**15 50 40.0**	**-0.6**
KNRA	**Kununurra**	**51.25**	**270**	P	**P**	**15 51 29.7**	**+0.1**
CASY	**Casey**	**59.99**	**206**	P	**P**	**15 52 32.1**	**+1.0**
CASY				IAmb	IAmb	15 52 33.0	
	comp=Z,2.5nm,0.7s						
QSPA	**South Pole Qui**	**64.78**	**180**	P	**P**	**15 53 05.8**	**+2.7**
QSPA				IAmb	IAmb	15 53 15.5	
	comp=Z,6.7nm,1.4s						
PETK	**Petropavlovsk-**	**81.09**	**345**	P	**P**	**15 54 39.1**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=103,slow=7.5,SNR=9.7						
	comp=Z,2.4nm,0.6s						
H03S2	**Juan Fernandez**	**82.67**	**124**	T	T	17 26 20.1	
	baz=245						
H03S1	**Juan Fernandez**	**82.69**	**124**	T	T	17 26 22.4	
	baz=245						
H03S3	**Juan Fernandez**	**82.69**	**124**	T	T	17 26 22.9	
	baz=245						
H03N2	**Juan Fernandez**	**82.84**	**123**	T	T	17 26 22.8	
	baz=241						
H03N3	**Juan Fernandez**	**82.84**	**124**	T	T	17 26 23.2	
	baz=241						
H03N1	**Juan Fernandez**	**82.85**	**123**	T	T	17 26 22.1	
	baz=241						
HFS	**Hagfors**	**144.38**	**351**	PKP	**PKPab**	**16 01 56.9**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=42,slow=2.3,SNR=21						
AKASG	**Malin Array Be**	**147.53**	**328**	PKPbc	**PKPdf**	**16 02 05.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=41,slow=3.7,SNR=4.4						
BRTR	**Keskin Array B**	**150.47**	**307**	PKPab	**PKPab**	**16 02 21.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=67,slow=4.1,SNR=2.7						

*LDG **22** 15:53:26.8±0.0, 42°.86N×1°.52E, h3km, Md2.6/2, Ml2.6/19, Error ellipse: s-maj=0.7km s-min=0.6km az=122.0*
*STR **22** 15:53:27.2±0.4, 43°.N±4°×±°, h10km, MLv2.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=3.5, preliminary*
*MDD **22** 15:53:27.6±0.3, 42°.82N×1°.52E, h12km, mb_Lg2.5/12, Error ellipse: s-maj=2.4km s-min=1.7km az=4.0*
*MRB **22** 15:53:27.5±0.5, 42°.82N×1°.52E, h5km±7km, ML2.1/21, Error ellipse: s-maj=1.8km s-min=1.6km az=65.0*

ISC 22 15:53:25.5±0.9, 42°.87N±0°.01×1°.55E±0°.01, h13km±8km, n74, σ0.994/146, 8C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAND	**Andorre**	**0.34**	**181**	⇑P	**Pb**	**15 53 33.7**	**+0.2**
PAND				S	**Sb**	**15 53 38.1**	**-0.9**
	217nm,0.1s						
PAND	**Andorre**	**0.34**	**181**	Pg	**Pb**	**15 53 33.3**	**-0.3**
PAND				Sg	**Sg**	**15 53 37.5**	**+0.2**
CEST	**Esterri de Car**	**0.35**	**219**	P	**Pb**	**15 53 33.2**	**-0.3**
CEST				S	**Sg**	**15 53 37.8**	**+0.5**
	174nm,0.1s						
MLS	**Moulis**	**0.35**	**285**⇓	P	**Pb**	**15 53 34.5**	**+1.0**
MLS				S	**Sb**	**15 53 39.5**	**+0.6**
	74nm,0.2s						
MLS	**Moulis**	**0.35**	**285**⇑	Pg	**Pb**	**15 53 34.0**	**+0.4**
MLS				Sg	**Sb**	**15 53 39.0**	**0.0**
FNEB	**Nbias**	**0.41**	**85**⇑	P	**Pn**	**15 53 36.2**	**-0.9**
FNEB				S	**Sb**	**15 53 42.4**	**+1.7**
	109nm,0.2s						
FNEB	**Nbias**	**0.41**	**85**⇑	Pg	**Pb**	**15 53 35.6**	**+1.0**
FNEB				Sg	**Sb**	**15 53 42.2**	**+1.5**
ARBS	**La Rabassa**	**0.42**	**180**⇑	P	**Pb**	**15 53 34.8**	**0.0**
ARBS				S	**Sb**	**15 53 40.4**	**-0.9**
	139nm,0.1s						
CLLI	**Llivia**	**0.50**	**141**	P	**Pb**	**15 53 36.3**	**+0.2**
CLLI				S	**Sb**	**15 53 42.9**	**-0.5**
CARA	**Val d'Aran**	**0.56**	**254**⇑	P	**Pb**	**15 53 37.2**	**0.0**
CARA				S	**Sb**	**15 53 44.9**	**-0.3**
	255nm,0.2s						
CSOR	**Sort**	**0.58**	**212**⇑	P	**Pb**	**15 53 37.4**	**-0.1**
CSOR				S	**Sg**	**15 53 44.9**	**+0.3**
	75nm,0.1s						
CORG	**Organya**	**0.66**	**195**	P	**Pb**	**15 53 39.0**	**+0.1**
CORG				S	**Sb**	**15 53 47.9**	**-0.1**
	28nm,0.3s						
MTLF	**Montolieu**	**0.68**	**46**	*e*Pg	**Pn**	**15 53 40.6**	**-0.1**
MTLF				*e*Sg	**Sn**	**15 53 50.3**	**-0.9**
	78nm,0.3s						
MTLF	**Montolieu**	**0.68**	**46**	Pg	**Pn**	**15 53 40.6**	**-0.1**
MTLF	**Montolieu**	**0.68**	**46**	Pg	**Pn**	**15 53 40.7**	**-0.1**
CBRU	**Bruguera**	**0.74**	**141**	P	**Pb**	**15 53 40.9**	**+0.5**
CBRU				S	**Sb**	**15 53 50.7**	**+0.3**
CTRE	**Tremp**	**0.79**	**227**⇑	P	**Pb**	**15 53 41.3**	**+0.2**
CTRE				S	**Sg**	**15 53 51.5**	**+0.3**
	23nm,0.4s						
FILF	**Fillols**	**0.80**	**112**	P	**Pg**	**15 53 40.4**	**-0.6**
FILF				S	**Sg**	**15 53 50.2**	**-1.4**
FILF	**Fillols**	**0.80**	**112**	Pg	**Pg**	**15 53 40.4**	**-0.6**
FILF				Sg	**Sg**	**15 53 50.1**	**-1.6**
EPF	**Esparros**	**0.91**	**281**	*e*Pg	**Pb**	**15 53 43.5**	**+0.5**
EPF				*e*Sg	**Sg**	**15 53 54.4**	**-0.4**
	12nm,0.2s						
EPF	**Esparros**	**0.91**	**281**	Pg	**Pb**	**15 53 43.5**	**+0.5**
EMIR	**Miracle**	**0.95**	**181**	Pg	**Pb**	**15 53 43.9**	**+0.1**
EMIR				Sg	**Sb**	**15 53 56.3**	**-0.1**
EMIR	**Miracle**	**0.95**	**181**	Pg	**Pb**	**15 53 43.9**	**+0.1**
EMIR				Sg	**Sb**	**15 53 56.3**	**-0.1**
EMIR				*i* Vmb_Lg		15 53 58.5	
CORI	**Orista**	**0.97**	**157**	P	**Pn**	**15 53 45.0**	**+0.3**
CORI				S	**Sb**	**15 53 57.3**	**+0.6**
	19nm,0.2s						
ECHI	**Chisagues Biel**	**1.02**	**259**	P	**Pb**	**15 53 45.5**	**+0.4**
ECHI				S	**Sb**	**15 53 59.1**	**+0.7**
	18nm,0.1s						
ECHI	**Chisagues Biel**	**1.02**	**259**	Pg	**P

LFF					*e*Sn	**Sn**	15 54 27.0	-0.5	
LFF					*e*Sg	**Sg**	15 54 34.5	-0.2	
	12nm,0.3s								
CMAS	**Mas de Barbera**	**2.33**	**204**		Pg	**Pg**	15 54 09.9	-0.2	
CMAS					Sg	**Sg**	15 54 40.2	-0.2	
	11nm,0.3s								
RJF	**Les Rejaudoux**	**2.44**	**359**		*e*Pn	**Pn**	15 54 06.0	+1.1	
RJF	**Les Rejaudoux**	**2.44**	**359**		*e*Pg	**Pg**	15 54 11.7	-0.5	
RJF					*e*Sn	**Sn**	15 54 35.3	+0.8	
RJF					*e*Sg	**Sg**	15 54 43.4	-0.3	
	7.5nm,0.2s								
EMOS	**Mosqueruela**	**2.93**	**212**		Pg	**Pb**	15 54 17.7	+0.1	
EMOS					*i* Vmb_Lg		15 54 45.2		
EMOS					Sn	**Sn**	15 54 45.3	-1.5	
EMOS					Sg	**Sg**	15 54 57.1	-2.4	
VIVF	**Saint-Julien-l**	**3.01**	**48**		*e*Pg	**Pg**	15 54 22.6	-0.5	
VIVF					*e*Sn	**Sn**	15 54 49.1	+0.4	
VIVF					*e*Sg	**Sg**	15 55 01.9	-0.1	
	5.6nm,0.3s								
ETOR	**Torete**	**3.38**	**234**		Sn	**Sn**	15 54 56.8	-1.2	
ETOR					Sg	**Sg**	15 55 11.4	-2.8	
ETOR					*i* Vmb_Lg		15 55 15.6		
TCF	**Toulx Ste Croi**	**3.45**	**8**		*e*Pg	**Pg**	15 54 30.6	-1.0	
TCF					*e*Sn	**Sn**	15 54 58.8	-0.8	
TCF					*e*Sg	**Sg**	15 55 15.4	-0.9	
	2.8nm,0.3s								
LMR	**La Mourre**	**3.66**	**81**		*e*Pn	**Pn**	15 54 24.1	+2.4	
LMR	**La Mourre**	**3.66**	**81**		*e*Pg	**Pg**	15 54 35.2	-0.4	
LMR					*e*Sn	**Sn**	15 55 03.9	-0.8	
LMR					*e*Sg	**Sg**	15 55 21.8	-1.2	
	1.4nm,0.3s								
BGF	**Bois d'Agland**	**3.80**	**14**		*e*Pg	**Pg**	15 54 37.6	-0.7	
BGF					*e*Sn	**Sn**	15 55 07.6	-0.6	
BGF					*e*Sg	**Sg**	15 55 26.9	-0.6	
	12nm,0.3s								
MFF	**Saint Martin d**	**3.92**	**343**		*e*Pg	**Pg**	15 54 39.4	-1.2	
MFF					*e*Sn	**Sn**	15 55 08.3	-2.9	
MFF					*e*Sg	**Sg**	15 55 29.2	-2.3	
	2.6nm,0.3s								
AVF	**Avril sur Loir**	**4.13**	**17**		*e*Pn	**Pn**	15 54 28.4	+0.3	
AVF	**Avril sur Loir**	**4.13**	**17**		*e*Pg	**Pg**	15 54 43.5	-1.0	
AVF					*e*Sn	**Sn**	15 55 15.3	-0.9	
AVF					*e*Sg	**Sg**	15 55 36.7	-1.2	
	2.8nm,0.4s								
SBF	**Sospel**	**4.40**	**75**		*e*Sn	**Sn**	15 55 22.2	-0.9	
SBF					*e*Sg	**Sg**	15 55 45.4	-1.4	
	0.7nm,0.2s								
SSF	**Saint Saulge**	**4.42**	**18**		*e*Sg	**Sg**	15 55 45.0	-2.2	
	1.6nm,0.3s								
LPG	**La Plagne**	**4.57**	**53**		*e*Pn	**Pn**	15 54 35.7	+1.2	
LPG					*e*Sn	**Sn**	15 55 26.5	-1.1	
	0.3nm,0.2s								
LPL	**La Plagne**	**4.57**	**53**		*e*Pn	**Pn**	15 54 35.5	+1.1	
LPL	**La Plagne**	**4.57**	**53**		*e*Pg	**Pg**	15 54 51.8	-1.2	
LPL					*e*Sn	**Sn**	15 55 26.3	-1.1	
	1.3nm,0.3s								
LPL					*e*Sg	**Sg**	15 55 51.0	-1.2	
LOR	**Lormes**	**4.69**	**20**		*e*Sg	**Sg**	15 55 54.9	-1.2	
	1.5nm,0.2s								

JMA ***22*** *15:55:13.6±0.8, 34˚N±2˚×14˚2E±˚, h33km, MV2.5/22, FAR SE OFF BOSO PEN*

IDC ***22*** *15:55:14.7±1.8, 34˚.46N×141˚.62E, h0km, mb3.4/4, mbtmp3.3/6, ML2.5/2, Error ellipse: s-maj=38.2km s-min=20.9km az=69.0*

ISC 22 15:55:15.4±1.4, 34˚.39N±0˚.06×141˚.7E±0˚.1, h10km, n12, σ1§44/16, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.66**	**294**	*e*P	**Pg**	**15 55 29.0**	**+0.9**
BSO1				*e*X		15 55 40.8	
BSO3	**Boso 3**	**1.07**	**293**	*e*P	**Pb**	**15 55 35.6**	**-0.3**
BSO4	**Boso 4**	**1.28**	**298**	*e*P	**Pn**	**15 55 39.3**	**+0.1**
JKUC	**kamogawauchiur**	**1.46**	**302**	*e*P	**Pn**	**15 55 41.2**	**-0.6**
JKUC				*e*S	**Sb**	**15 56 01.9**	**+0.5**
CHOJ	**Chosi**	**1.48**	**332**	*e*P	**Pn**	**15 55 40.8**	**-1.4**
CHOJ				*e*S	**Sn**	**15 56 00.8**	**-0.9**
JHJ	**Hachijo jima 2**	**2.05**	**232**	Pn	**Pn**	**15 55 50.0**	**0.0**
	7.3nm,0.3s,baz=54,slow=19,SNR=1.6						
JHJ				Sn	**Sn**	**15 56 15.2**	**-0.4**
	15nm,0.3s,baz=50,slow=21,SNR=2.3						
	32nm,0.4s						
JAOM	**Aogashimamukai**	**2.52**	**221**	*e*S	**Sn**	**15 56 23.8**	**-3.4**
MJAR	**Matsushiro Arr**	**3.58**	**308**	Pn	**Pn**	**15 56 10.5**	**-0.4**
	0.3nm,0.3s,baz=123,slow=19,SNR=18						
MJAR				Sn	**Sn**	**15 56 53.5**	**+0.3**
	0.1nm,0.3s,baz=32,slow=19,SNR=1.8						
	1.6nm,0.4s						
SONM	**Songino Array**	**29.53**	**308**	P	**P**	**16 01 20.9**	**+0.8**
	0.4nm,0.4s,baz=120,slow=5.8,SNR=1.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**47.85**	**310**	P	**P**	**16 03 51.5**	**-1.7**
	0.3nm,0.6s,baz=85,slow=8.0,SNR=4.4						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**54.48**	**189**	P	**P**	**16 04 43.9**	**+0.6**
	0.4nm,0.9s,baz=4.6,slow=7.4,SNR=7.8						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**58.21**	**188**	P	**P**	**16 05 12.4**	**+2.5**
	0.2nm,0.7s,baz=0.4,slow=6.6,SNR=1.7						
	0.2nm,0.7s						

KEA ***22*** *15:55:50.4, 35˚.41N×144˚.04E, h20km, MS5.2/3*

BJI ***22*** *15:56:03.4±0.0, 34˚.51N×141˚.68E, h9km, mb4.8/65, mB5.2/57, Ms5.8/79, Ms7 5.6/77*

IDC ***22*** *15:56:04.8±0.3, 34˚.41N×141˚.64E, h0km, mb4.8/55, mbtmp4.8/61, ML3.8/4, MS5.1/5, Error ellipse: s-maj=10.8km s-min=7.7km az=88.0*

MOS ***22*** *15:56:05.7±1.0, 34˚.39N×141˚.70E, h20km, mb5.2/62, MS5.7/25, Error ellipse: s-maj=6.9km s-min=3.8km az=119.8*

NEIC ***22*** *15:56:05.7±2.3, 34˚.47N±0˚.04×141˚.83E±0˚.07, h10km±1km, mb5.1/194, Mww5.3, Error ellipse: s-maj=9.9km s-min=7.0km az=99.0*

JMA ***22*** *15:56:07.3±0.6, 34˚N±1˚×14˚2E±˚, h35km±2km, MV4.6/37, FAR SE OFF BOSO PEN*

NEIC ***22*** *15:56:11, 34˚.47N×142˚.04E, h12km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.66; Mθθ-0.22; Mφφ-0.44; Mrθ-0.06; Mθφ0.30; Mφr1.12; Fault plane solution: M₀1.30000×10¹⁷ NP1: φs130.00000°, δ18.00000°, λ50.00000°. NP2: φs351.00000°, δ76.00000°, λ102.00000°. Principal axes: T 1.3635, Plg58.0000°, Azm277.0000°; N -0.1425, Plg12.0000°, Azm168.0000°; P -1.2210, Plg30.0000°, Azm71.0000°;*

ISC 22 15:56:07.5±0.4, 34˚.40N±0˚.03×141˚.66E±0˚.03, h20km±1km, h19km:pP-P, n879, σ1§83/968, mb5.1/254, MS5.7/57, 45C-14D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.62**	**294**	*e*P	**Pg**	**15 56 20.0**	**+0.4**
BSO3	**Boso 3**	**1.03**	**293**	P	**Pb**	**15 56 26.6**	**+0.1**
BSO4	**Boso 4**	**1.24**	**299**	P	**Pb**	**15 56 30.5**	**+0.3**
KTR	**Katsuura**	**1.34**	**304**	P	**Pn**	**15 56 31.4**	**+0.4**
JKUC	**kamogawauchiur**	**1.42**	**303**	P	**Pn**	**15 56 32.3**	**0.0**
JKUC				*e*S	**Sn**	**15 56 50.0**	**-0.4**
I30JP	**ISUMI INFRASON**	**1.43**	**310**	Pn	**Pn**	**15 56 32.7**	**+0.3**
	baz=135,slow=30						
I30JP				Sn	**Sb**	**15 56 51.5**	**+0.2**
CHOJ	**Chosi**	**1.46**	**333**	*e*P	**Pn**	**15 56 32.1**	**-0.6**
CHOJ				*e*S	**Sn**	**15 56 50.7**	**-0.5**
JSMT	**Sammumatsuo**	**1.59**	**322**	P	**Pn**	**15 56 34.9**	**+0.3**
JMKN	**Mikurajimanish**	**1.79**	**254**	*e*P	**Pn**	**15 56 36.9**	**-0.4**
JIM2	**Oshima 3**	**1.87**	**280**	P	**Pn**	**15 56 38.1**	**-0.3**
JTHY	**Toshimahigashi**	**1.97**	**274**	P	**Pn**	**15 56 39.9**	**+0.2**
JHJ2	**Mitsune**	**2.00**	**231**	Pn	**Pn**	**15 56 40.9**	**+0.7**
JHJ2				Sn	**Sb**	**15 57 06.8**	**-1.0**
JHJ2	**Mitsune**	**2.00**	**231**	P	**Pn**	**15 56 41.1**	**+0.9**
JHJ	**Hachijo jima 2**	**2.02**	**231**	Pn	**Pn**	**15 56 41.2**	**+0.7**
	418nm,0.3s,baz=335,slow=9.3,SNR=151						
JHJ				Sn	**Sn**	**15 57 07.0**	**+1.9**
	1µm,0.3s,baz=73,slow=19,SNR=14						
JYT	**Yasato**	**2.18**	**327**		**Pn**	**15 56 42.2**	**-0.5**
JOD2	**Odawara 2**	**2.29**	**293**	P	**Pn**	**15 56 43.9**	**-0.3**
JIZS	**Izushimoda**	**2.32**	**279**	P	**Pn**	**15 56 44.5**	**-0.1**
JMM	**Marumori**	**3.53**	**349**	Pn	**Pn**	**15 56 59.9**	**-1.3**
JMM				Sn	**Sn**	**15 57 38.6**	**-3.8**
MJAR	**Matsushiro Arr**	**3.54**	**308**	Pn	**Pn**	**15 57 02.0**	**+0.6**
	13nm,0.3s,baz=136,slow=9.6,SNR=192						
MJAR				Sn	**Sn**	**15 57 43.8**	**+1.1**
	5.7nm,0.3s,baz=102,slow=13,SNR=6.4						
	88nm,0.4s						
MAJO	**Matsushiro**	**3.54**	**308**	Pn	**Pn**	**15 57 01.8**	**+0.4**
MAJO				Sn	**Sn**	**15 57 46.8**	**+4.2**
MAJO	**Matsushiro**	**3.54**	**308**	P	**Pn**	**15 57 01.8**	**+0.4**
MAJO						15 57 46.8	
MAJO	**Matsushiro**	**3.54**	**308**	P	**Pn**	**15 57 03.5**	**+2.1**
MJB9	**Matsu-Tunnel**	**3.54**	**308**		**Pn**	**15 57 01.4**	**-0.1**
MJB9				Sn	**Sn**	**15 57 46.6**	**+3.8**
JGF	**Kuroka**	**3.73**	**290**		**Pn**	**15 57 05.7**	**+1.7**
INU	**Inuyama**	**3.94**	**285**	Pn	**Pn**	**15 57 07.5**	**+0.7**
INU	**Inuyama**	**3.94**	**285**	P	**Pn**	**15 57 09.2**	**+2.4**
JSD	**Sado**	**4.55**	**324**	Pn	**Pn**	**15 57 14.7**	**-0.6**
JSD				Sn	**Sn**	**15 58 11.0**	**+3.4**
JTM	**Tenmabayashi**	**6.39**	**356**	Pn	**Pn**	**15 57 39.2**	**-1.3**
JMN	**Monobe**	**6.50**	**266**		**Pn**	**15 57 44.1**	**+2.1**
JHS	**Saijyo**	**7.07**	**277**	Pn	**Pn**	**15 57 51.6**	**+1.8**
JCJ	**Chichijima**	**7.29**	**176**	Pn	**Pn**	**15 57 52.1**	**-0.9**
	117nm,0.3s,baz=51,slow=7.0,SNR=25						
JCJ				Sn	**Sn**	**15 59 09.9**	**-5.3**
	79nm,0.3s,baz=272,slow=22,SNR=6.5						
JCJ	**Chichijima**	**7.29**	**176**	Pn	**Pn**	**15 57 52.5**	**-0.5**
JCJ	**Chichijima**	**7.29**	**176**	P	**Pn**	**15 57 53.1**	**+0.1**
ERM	**Erimo**	**7.69**	**8**	Pn	**Pn**	**15 57 55.3**	**-3.1**
ERM	**Erimo**	**7.69**	**8**	P	**Pn**	**15 57 55.3**	**-3.1**
ERM	**Erimo**	**7.69**	**8**	P	**Pn**	**15 57 55.4**	**-3.0**
JEW	**Eniwo**	**8.43**	**359**	Pn	**Pn**	**15 58 06.6**	**-1.8**
JNU	**Nakatsue**	**9.07**	**265**	Pn	**Pn**	**15 58 17.0**	**-0.4**
NMR	**Nemuro--Hokkai**	**9.50**	**18**	*e*P	**Pn**	**15 58 20.5**	**-2.6**
JSU	**Suzuyama**	**9.85**	**256**	Pn	**Pn**	**15 58 29.8**	**+1.8**
RUSJ	**Misakicho**	**10.08**	**15**	*e*P	**Pn**	**15 58 30.6**	**-0.5**
JTU	**Tsushima**	**10.13**	**274**	Pn	**Pn**	**15 58 32.6**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**10.15**	**17**	*e*P	**Pn**	**15 58 30.0**	**-2.1**
YUK				pmax	pmax		
	comp=Z,91nm,0.3s						
YUK				pmax	pmax		
	comp=E,55nm,0.5s						
YUK				pmax	pmax		
	comp=N,85nm,0.4s						
YUK				MLR	MLR		
	comp=Z,15µm,15.0s						
YUK				MLR	MLR		
	comp=N,11µm,14.0s						
YUK				MLR	MLR		
	comp=E,14µm,13.0s						
TEY	**Ternei**	**11.31**	**341**	*e*P	Pn	15 58 41.5	-6.4
TEY				MLR	MLR		
	comp=E,400nm,12.0s						
TEY				MLR	MLR		
	comp=N,900nm,15.0s						
TEY				MLR	MLR		
	comp=Z,800nm,16.0s						
KSRS	**Korea Array**	**11.55**	**289**	Pn	**Pn**	**15 58 53.0**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=105,slow=14,SNR=36						
	comp=Z,12nm,0.9s						
KSAR	**Wonju Array Be**	**11.58**	**289**	Pn	**Pn**	**15 58 53.1**	**+1.5**
KSAR	**Wonju Array Be**	**11.58**	**289**	P	**Pn**	**15 58 53.1**	**+1.5**
KS19	**Wonju Array Si**	**11.60**	**289**		**Pn**	**15 58 51.8**	**-0.1**
KUR	**Kuril'sk**	**11.82**	**22**	*i*P	**Pn**	**15 58 54.0**	**-0.9**
KUR				pmax	pmax		
	comp=N,20nm,0.7s						
KUR				pmax	pmax		
	comp=Z,55nm,0.7s						
KUR				pmax	pmax		
	comp=E,19nm,0.4s						
KUR				MLR	MLR		
	comp=Z,6µm,11.0s						
TJN	**Taejon**	**11.84**	**284**	Pn	**Pn**	**15 58 53.6**	**-1.6**
TJN	**Taejon**	**11.84**	**284**	*ce*P	**Pn**	**15 58 58.1**	**+2.9**
USA0B	**Ussuriysk Arra**	**12.31**	**325**		**Pn**	**15 58 59.7**	**-2.0**
USA0B	**Ussuriysk Arra**	**12.31**	**325**	P	**Pn**	**15 58 59.7**	**-2.0**
USRK	**Ussuriysk Ar.**	**12.31**	**325**	Pn	**Pn**	**15 59 01.6**	**-0.1**
	comp=Z,19nm,0.8s,baz=143,slow=12,SNR=18						
USRK	**Ussuriysk Ar.**	**12.31**	**325**	Pn	**Pn**	**15 58 59.7**	**-2.0**
HHU	**Hamhung**	**12.55**	**300**	P	**Pn**	**15 59 05.6**	**+0.8**
HHU				pP	P	15 59 09.6	-6.8
HHU				S	Sn	16 01 39.8	+16
HHU				AMS	AMS		
	comp=N,11µm,21.3s						
HHU				AMS	AMS		
	comp=E,9µm,16.3s						
HHU				AMS	AMS		
	comp=Z,7µm,12.8s						
INCN	**Inchon**	**12.56**	**288**	Pn	**Pn**	**15 59 05.9**	**+0.7**
INCN	**Inchon**	**12.56**	**288**	P	**Pn**	**15 59 05.9**	**+0.7**
INCN	**Inchon**	**12.56**	**288**	P	**Pn**	**15 59 08.4**	**+3.3**
INCN				P	**Pn**	**15 59 08.4**	**+3.3**
INCN				P	**Pn**	**15 59 08.4**	**+3.3**
YSS	**Yuzh-Sakhalins**	**12.57**	**3**	Pn	**Pn**	**15 59 01.6**	**-3.5**
YSS	**Yuzh-Sakhalins**	**12.57**	**3**	*e*P	**Pn**	**15 59 01.5**	**-3.6**
YSS				pmax	pmax		
	comp=Z,230nm,0.9s						
YSS				MLR	MLR		
	comp=Z,22µm,15.0s						
YSS				MLR	MLR		
	comp=N,29µm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.57**	**3**	P	**Pn**	**15 59 05.6**	**+0.5**
HJU	**Haeju**	**13.37**	**290**	P	**Pn**	**15 59 19.2**	**+3.1**
HJU				pP	**P**	**15 59 24.2**	**-1.4**
HJU				S	**S**	**16 02 02.9**	**-5.1**
HJU				AMS	AMS		
	comp=N,26µm,17.8s						
HJU				AMS	AMS		
	comp=E,6µm,3.8s						
HJU				AMS	AMS		
	comp=Z,30µm,20.2s						
PYAG	**Pyongyang**	**13.57**	**295**	P	**Pn**	**15 59 21.3**	**+2.4**
JOW	**Kunigami**	**13.77**	**240**	Pn	**Pn**	**15 59 22.2**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=66,slow=9.2,SNR=3.2						
	comp=Z,24nm,1.0s						
MDJ	**Mudanjiang**	**13.80**	**321**	Pn	**Pn**	**15 59 20.4**	**-1.6**
MDJ	**Mudanjiang**	**13.80**	**321**	P	**Pn**	**15 59 21.0**	**-1.0**
MDJ				sP	P	15 59 25.0	-5.3
MDJ				PP	**PnPn**	**15 59 28.5**	**-1.4**
MDJ				S	**Sn**	**16 01 55.6**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,1µm,12.0s						
MDJ				LR	LR		
	comp=Z,26µm,15.2s						
MDJ				LR	LR		
	comp=Z,20µm,14.1s						
MDJ				LR	LR		
	comp=Z,22µm,15.7s						
UGL	**Uglegorsk**	**14.67**	**1**	*e*P	**P**	**15 59 40.5**	**+0.6**
UGL				*e*		16 02 25.6	
UGL				pmax	pmax		
	comp=Z,190nm,1.1s						
UGL				MLR	MLR		
	comp=N,21µm,18.0s						
UGL				MLR	MLR		
	comp=E,49µm,17.0s						
UGL				MLR	MLR		
	comp=Z,10µm,17.0s						
UGL				MLR	MLR		
	comp=N,13µm,15.0s						
UGL				MLR	MLR		
	comp=E,12µm,15.0s						
UGL				MLR	MLR		
	comp=Z,12µm,15.0s						
SUJ	**Sinuiju**	**14.80**	**298**	P	**Pn**	**15 59 35.0**	**-0.6**
SUJ				sP	**P**	**15 59 43.7**	**+2.2**
SUJ				S	**S**	**16 02 35.6**	**-1.7**
SUJ				AMS	AMS		
	comp=N,10µm,10.8s						
SUJ				AMS	AMS		
	comp=E,12µm,12.5s						
SUJ				AMS	AMS		
	comp=Z,10µm,11.1s						
CN2	**Changchun**	**15.68**	**312**	*e*P	**Pn**	**15 59 46.0**	**-1.2**
CN2				*e*PP	**sP**	**15 59 58.8**	**+2.3**
CN2				*e*S	**Sn**	**16 02 42.3**	**+1.9**
CN2				LR	LR		
	comp=Z,26µm,15.0s						
CN2				LR	LR		
	comp=Z,8µm,15.0s						
CN2				LR	LR		
	comp=Z,22µm,16.0s						
BNX	**BinXian**	**15.70**	**320**	⇓P	**Pn**	**15 59 44.9**	**-2.6**
BNX				pP	**P**	**15 59 48.8**	**-2.6**
BNX				sP	**pP**	**15 59 53.0**	**-2.3**
BNX				S	**Sn**	**16 02 36.3**	**-4.6**
BNX				sS	**Sn**	**16 02 42.5**	**+1.6**
BNX				pmax	pmax		
	comp=Z,16nm,1.2s						
BNX				pmax	pmax		
	comp=Z,500nm,10.4s						
BNX				LR	LR		
	comp=Z,22µm,14.6s						
BNX				LR	LR		
	comp=Z,24µm,15.7s						
BNX				LR	LR		
	comp=Z,9µm,15.0s						
SNY	**Shenyang**	**16.03**	**303**	⇑P	**Pn**	**15 59 51.8**	**0.0**
SNY				S	**Sn**	**16 02 50.1**	**+1.2**
SNY				pmax	pmax		
	comp=Z,20nm,1.4s						
SNY				pmax	pmax		
	comp=Z,2µm,13.7s						
SNY				LR	LR		
	comp=Z,18µm,15.7s						
SNY				LR	LR		
	comp=Z,12µm,18.1s						
SNY				LR	LR		
	comp=Z,19µm,17.2s						
TYV	**Tymovskoe**	**16.47**	**2**	*e*P	**Pn**	**15 59 56.3**	**-1.0**
TYV				*e*S	**Sn**	**16 03 00.2**	**+0.8**
TYV				pmax	pmax		
	comp=Z,58nm,1.4s						
TYV				pmax	pmax		
	comp=Z,400nm,2.8s						
TYV				smax	smax		
	comp=N,500nm,3.9s						
TYV				smax	smax		
	comp=E,400nm,3.9s						
TYV				MLR	MLR		
	comp=N,19µm,14.0s						
KLR	**Kul'dur**	**16.54**	**337**	Pn	**Pn**	**15 59 56.1**	**-2.1**
	comp=N,0.4nm,0.3s,baz=141,slow=11,SNR=9.3						
	comp=N,4.4nm,0.5s						
KLR	**Kul'dur**	**16.54**	**337**	*ce*P	**Pn**	**15 59 56.7**	**-1.4**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GRNR	**Gornyy**	**16.80**	**348**	⇑*i*P	**Pn**	**15 59 59.6**	**-1.9**
GRNR				*e*S	**Sn**	**16 03 07.9**	**+0.4**
GRNR				pmax	pmax		
	comp=N,8.0nm,1.0s						
GRNR				pmax	pmax		
	comp=E,5.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GRNR				smax	smax		
	comp=N,3.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,10µm,14.0s						
GRNR				MLR	MLR		
	comp=N,6µm,18.0s						
GRNR				MLR	MLR		
	comp=Z,10µm,15.0s						
SSE	**Sheshan**	**17.54**	**265**	P	**P**	**16 00 13.3**	**+1.5**
SSE				S	**S**	**16 03 29.9**	**-3.3**
SSE				pmax	pmax		
	comp=Z,18nm,0.7s						
SSE				pmax	pmax		
	comp=Z,540nm,10.3s						
SSE				LR	LR		
	comp=Z,2µm,13.5s						
SSE				LR	LR		
	comp=Z,7µm,16.9s						
YOJ	**Yonaguni jima**	**19.00**	**244**	P	**P**	**16 00 26.9**	**-1.1**
YOJ				IAmb	IAmb	16 00 43.8	
	comp=Z,123nm,1.0s						
YOJ	**Yonaguni jima**	**19.00**	**244**	P	**P**	**16 00 26.9**	**-1.1**
YOJ				pmax	pmax		
	comp=Z,123nm,1.0s						
NJ2	**Nanjing**	**19.22**	**269**	*e*P	**P**	**16 00 30.3**	**-0.1**
NJ2				sP	**sP**	**16 00 36.8**	**+1.1**
NJ2				S	**Sn**	**16 03 56.3**	**-10**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,2µm,11.8s						
NJ2				LR	LR		
	comp=Z,11µm,13.3s						
NJ2				LR	LR		
	comp=Z,16µm,16.9s						
NJ2				LR	LR		
	comp=Z,19µm,15.7s						
SKR	**Severo-Kuril's**	**19.39**	**29**	*e*P	**P**	**16 00 31.9**	**-0.1**
SKR				*e*S	**S**	**16 04 11.4**	**+1.0**
SKR				pmax	pmax		
	comp=Z,300nm,13.2s						
SKR				MLR	MLR		
	comp=Z,3µm,12.0s						
TIA	**Tai'an**	**20.10**	**282**	*e*P	**P**	**16 00 40.9**	**+0.9**
TIA				pmax	pmax		
	comp=Z,2µm,12.0s						
TIA				LR	LR		
	comp=Z,15µm,17.2s						
TIA				LR	LR		
	comp=Z,9µm,19.6s						
TIA				LR	LR		
	comp=Z,17µm,16.2s						
YHNB	**Yeheng**	**20.11**	**247**	P	**P**	**16 00 37.5**	**-2.7**
YHNB				IAmb	IAmb	16 01 35.4	
	comp=Z,125nm,1.7s						
YHNB	**Yeheng**	**20.11**	**247**	P	**P**	**16 00 41.1**	**+0.9**
NACB	**Ninganchiao**	**20.22**	**245**	P	**P**	**16 00 38.5**	**-2.9**
YULB	**Yu-li**	**20.89**	**244**	P	**P**	**16 00 45.9**	**-2.8**
SSLB	**Suanglung**	**20.92**	**245**	P	**P**	**16 00 47.2**	**-1.7**
SSLB	**Suanglung**	**20.92**	**245**	P	**P**	**16 00 48.2**	**-0.8**
GUMO	**Guam**	**20.92**	**171**	P	**P**	**16 00 48.6**	**-0.3**
	comp=Z,82nm,1.0s,baz=0.0,slow=6.7,SNR=2.1						
GUMO				LR	LR	16 08 03.8	
	comp=Z,5µm,20.6s,baz=3.5,slow=34						
	comp=Z,82nm,1.0s						
GUMO	**Guam**	**20.92**	**171**	P	**P**	**16 00 45.4**	**-3.6**
BJI	**Beijing**	**21.03**	**293**	P	**P**	**16 00 46.1**	**-3.9**
BJI				S	**S**	**16 04 44.3**	**+1.0**
BJI				SS	**SnSn**	**16 05 04.9**	**+0.3**
BJI				pmax	pmax		
	comp=Z,580nm,12.0s						
BJT	**Baijiatuau**	**21.03**	**293**		**P**	**16 00 48.9**	**-1.1**
BJT	**Baijiatuau**	**21.03**	**293**	P	**P**	**16 00 48.9**	**-1.1**
BJT				pmax	pmax		
	comp=Z,60nm,1.7s						
TWG	**Pinlang**	**21.40**	**243**	P	**P**	**16 00 51.9**	**-2.3**
TPUB	**Ta-pu**	**21.45**	**245**	P	**P**	**16 00 52.1**	**-2.4**
TPUB	**Ta-pu**	**21.45**	**245**	P	**P**	**16 00 55.4**	**+0.8**
ZEA	**Zeya**	**21.85**	**337**	*e*P	**P**	**16 00 56.7**	**-2.0**
ZEA				*e*		16 05 00.5	
ZEA				pmax	pmax		
	comp=N,200nm,1.5s						
ZEA				pmax	pmax		
	comp=Z,400nm,1.5s						
ZEA				pmax	pmax		
	comp=E,50nm,0.9s						
ZEA				pmax	pmax		
	comp=N,130n

comp=Z,9µm,17.4s
HIA Hailar 21.96 319 P P 16 00 57.5 -2.5
HIA Hailar 21.96 319 P P 16 00 57.5 -2.5
HIA pmax pmax
comp=Z,36nm,1.0s
HNS HongShan 22.01 286 ⇓P P 16 00 57.6 -3.0
HNS S S 16 04 54.4 -8.2
HNS SS SnSn 16 05 33.8 +5.0
HNS pmax pmax
comp=Z,17nm,0.6s
HNS LR LR
comp=Z,7µm,15.1s
HNS LR LR
comp=Z,21µm,13.6s
HNS LR LR
comp=Z,21µm,14.4s
QZH Quanzhou 22.11 251⇑ *i*P P 16 00 59.1 -2.6
QZH S S 16 05 01.4 -3.2
QZH LR LR
comp=Z,6µm,13.1s
QZH LR LR
comp=Z,7µm,13.8s
QZH LR LR
comp=Z,7µm,13.7s
PET Petropavlovsk 22.20 28 P P 16 00 57.2 -5.1
PET Petropavlovsk 22.20 28 *d i*P P 16 01 06.3 +3.9
PET *i* S S 16 05 04.8 -1.0
PET pmax pmax
comp=Z,700nm,14.7s
PET pmax pmax
comp=Z,900nm,8.9s
PET MLR MLR
comp=Z,6µm,18.0s
PET MLR MLR
comp=Z,5µm,16.0s
WHN Wuhan 23.33 268 ⇓P P 16 01 13.1 -1.4
WHN S S 16 05 18.8 -7.4
WHN pmax pmax
comp=Z,160nm,1.1s
TIY Taiyuan 23.82 286 *e*P P 16 01 20.5 +1.2
TIY S S 16 05 32.1 -2.0
TIY LR LR
comp=Z,11µm,15.8s
TIY LR LR
comp=Z,10µm,16.5s
TIY LR LR
comp=Z,11µm,16.5s
LYN LuoYang 24.04 279 *e*P P 16 01 20.4 -0.8
LYN PP PnPn 16 01 50.9 +0.7
LYN S S 16 05 39.3 +1.9
LYN pmax pmax
comp=Z,20nm,1.2s
LYN pmax pmax
comp=Z,530nm,13.7s
LYN LR LR
comp=Z,34µm,16.7s
HHC Hu-ho-hao-te 24.62 294 *e*P P 16 01 27.0 +0.3
HHC S S 16 05 52.3 +5.4
HHC pmax pmax
comp=Z,56nm,1.1s
HHC pmax pmax
comp=Z,1µm,6.2s
HHC LR LR
comp=Z,11µm,14.6s
HHC LR LR
comp=Z,19µm,14.6s
HHC LR LR
comp=Z,25µm,13.3s
BTO Baotou 25.77 293 *e*P P 16 01 37.5 +0.4
BTO S S 16 06 05.4 +0.1
MA2 Magadan 25.89 11 P P 16 01 37.1 -0.7
comp=Z,22nm,0.8s,baz=206,slow=9.0,SNR=8.5
MA2 S S 16 06 05.4 -1.2
comp=Z,8.7nm,0.9s,baz=195,slow=20,SNR=2.2
comp=Z,22nm,0.8s
MA2 Magadan 25.89 11 P P 16 01 36.0 -1.8
MA2 IAmb IAmb 16 01 43.5
comp=Z,73nm,1.3s
MA2 Magadan 25.89 11 *ce*P P 16 01 38.4 +0.6
MA2 pmax pmax
comp=Z,71nm,1.3s
MA2 Magadan 25.89 11 P P 16 01 38.8 +1.0
H11N2 WAKE ISLAND Hy 26.70 117 T T 16 29 59.8
baz=312
H11N1 WAKE ISLAND Hy 26.71 117 T T 16 29 47.9
baz=312
H11N3 WAKE ISLAND Hy 26.72 117 T T 16 29 53.5
baz=312
CIT Chita 26.77 320 *e*P P 16 01 32.6 -13
CIT *e* 16 01 42.8
XAN Xi'an 27.02 279⇓ *i*P P 16 01 47.3 -1.0
XAN S S 16 06 26.8 +1.8
XAN pmax pmax
comp=Z,26nm,1.3s
XAN pmax pmax
comp=Z,630nm,11.3s
XAN LR LR
comp=Z,12µm,12.4s
XAN LR LR
comp=Z,18µm,15.9s
XAN LR LR
comp=Z,30µm,17.9s
GZH Guangzhou 27.18 253 *e*P P 16 01 44.0 -5.8
H11S1 WAKE ISLAND Hy 27.33 119 T T 16 30 44.8
baz=316,slow=74
H11S3 WAKE ISLAND Hy 27.33 119 T T 16 30 41.2
baz=316,slow=74
H11S2 WAKE ISLAND Hy 27.35 119 T T 16 30 51.7
baz=316
ENH Enshi 27.43 270 P P 16 01 50.6 -1.5
ENH IAmb IAmb 16 01 55.2
comp=Z,31nm,0.8s
YAK Yakutsk 28.68 348 P P 16 02 02.2 -0.6
comp=Z,16nm,0.7s,baz=138,slow=3.8,SNR=17
YAK S S 16 06 50.0 -0.5
comp=Z,2.5nm,0.3s,baz=197,slow=19,SNR=1.6
comp=Z,16nm,0.7s
YAK Yakutsk 28.68 348 P P 16 02 01.6 -1.2
YAK IAmb IAmb 16 02 25.0
comp=Z,42nm,0.9s
YAK Yakutsk 28.68 348 *e*P P 16 02 02.5 -0.3
YAK *e* 16 02 49.5
YAK *e* 16 05 13.9
YAK *e*S S 16 06 53.6 +3.1
YAK *e*SSS SSS 16 08 36.0
YAK pmax pmax
comp=Z,14nm,0.7s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,86nm,1.6s
YAK pmax pmax
comp=N,56nm,1.6s
YAK pmax pmax
comp=E,48nm,1.5s
YAK smax smax
comp=N,343nm,3.7s
YAK smax smax
comp=E,241nm,3.7s
YAK MLR MLR
comp=Z,7µm,18.0s
YAK MLR MLR
comp=N,6µm,17.0s
YAK MLR MLR
comp=E,3µm,17.0s
ULN Ulaanbaatar 29.07 308 P P 16 02 07.0 +0.3
ULN IAmb IAmb 16 02 47.5
comp=Z,57nm,1.5s
ULN Ulaanbaatar 29.07 308 P P 16 02 07.0 +0.3
ULN pmax pmax
comp=Z,57nm,1.5s
ULN Ulaanbaatar 29.07 308 P P 16 02 07.9 +1.2
ULN P P 16 02 07.9 +1.2
ULN P P 16 02 07.9 +1.2
SEY Seymchan 29.34 10 P P 16 02 09.2 +0.5
comp=Z,7.5nm,0.9s,baz=200,slow=7.1,SNR=12
comp=Z,7.5nm,0.9s
SEY Seymchan 29.34 10 *ce*P P 16 02 09.6 +1.0
SEY pmax pmax
comp=Z,34nm,2.5s
SONM Songino Array 29.49 308 P P 16 02 11.2 +0.8
comp=Z,8.0nm,0.6s,baz=111,slow=7.5,SNR=38
SONM PcP PcP 16 05 16.6 +1.1
comp=Z,3.4nm,0.8s,baz=118,slow=4.2,SNR=1.3
comp=Z,8.0nm,0.6s
SONM Songino Array 29.49 308 P P 16 02 10.5 +0.2
SONM IAmb IAmb 16 02 27.8
comp=Z,60nm,1.6s
BOD Bodaibo 29.89 330 *e*P P 16 02 13.6 0.0
BOD pmax pmax
comp=Z,58nm,1.5s
LZH Lanzhou 30.81 284 *e*P P 16 02 22.3 +0.1
LZH sP sP 16 02 29.4 +1.8
LZH PP PnPn 16 03 25.8 +3.4
LZH S S 16 07 28.3 +3.5
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,310nm,6.1s
LZH LR LR
comp=Z,14µm,16.3s
LZH LR LR
comp=Z,10µm,17.7s
LZH LR LR
comp=Z,13µm,18.9s
GYA Guiyang 31.08 265 ⇑P P 16 02 24.0 -0.6
GYA pP pP 16 02 28.8 +0.3
GYA S S 16 07 30.3 +1.1
GYA pmax pmax
comp=Z,17nm,1.0s
GYA pmax pmax
comp=Z,270nm,3.5s
GYA LR LR
comp=Z,11µm,16.9s
GYA LR LR
comp=Z,3µm,16.7s
GYA LR LR
comp=Z,4µm,19.0s
CD2 Chengdu 31.98 274 P P 16 02 30.9 -1.5
CD2 S S 16 07 44.4 +1.4
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,330nm,7.7s
CD2 LR LR
comp=Z,28µm,14.7s
CD2 LR LR
comp=Z,20µm,15.2s
CD2 LR LR
comp=Z,30µm,16.2s
IRK Irkutsk 32.06 315 *e*P P 16 02 34.0 +1.1
IRK *e* 16 03 37.4
IRK pmax pmax
comp=Z,51nm,2.2s
ZAK Zakamensk 32.11 312 *e*P P 16 02 34.6 +1.1
ZAK pmax pmax
comp=Z,29nm,1.3s
QIZ Qiongzhong 32.12 250 P P 16 02 33.1 -0.6
QIZ S S 16 07 47.1 +1.9
QIZ LR LR
comp=Z,4µm,16.1s
QIZ LR LR
comp=Z,3µm,16.1s
QIZ LR LR
comp=Z,4µm,16.0s
GTA Gaotai 33.61 291 ⇑P P 16 02 46.4 -0.3
GTA pP pP 16 02 50.9 +0.1
GTA sP sP 16 02 53.8 +1.6
GTA S S 16 08 07.8 -0.6
GTA pmax pmax
comp=Z,15nm,1.5s
GTA pmax pmax
comp=Z,280nm,4.6s
GTA LR LR
comp=Z,10µm,16.0s
GTA LR LR
comp=Z,11µm,16.4s
GTA LR LR
comp=Z,13µm,16.4s
MOY Mondy 33.84 313 *e*P P 16 02 48.8 +0.3
MOY pmax pmax
comp=Z,47nm,1.5s
KMI Kunming 34.86 265 ⇑P P 16 02 57.8 +0.1
KMI sP pwP 16 03 07.5 -3.3
KMI S S 16 08 19.6 -8.4
KMI pmax pmax
comp=Z,16nm,0.8s
KMI pmax pmax
comp=Z,240nm,8.6s
KMI LR LR
comp=Z,6µm,16.0s
KMI LR LR
comp=Z,2µm,20.8s
KMI LR LR
comp=Z,3µm,19.1s
PZH PanZhiHua 35.13 268 P P 16 03 03.0 +3.0
PZH S S 16 08 36.6 +4.6
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,90nm,3.9s
PZH LR LR
comp=Z,10µm,15.9s
PZH LR LR
comp=Z,6µm,13.7s
PZH LR LR
comp=Z,10µm,14.9s
TNTI Ternate 36.03 205 P P 16 03 06.8 -0.7
TNTI IAmb IAmb 16 03 09.5
comp=Z,56nm,1.2s
TNTI Ternate 36.03 205 P P 16 03 07.4 -0.2
comp=Z,575nmcomp=Z,39nm,1.1s
MYLDM Lahad Datu 36.14 222 P P 16 03 07.5 -1.0
MYLDM IAmb IAmb 16 03 34.3
comp=Z,30nm,1.1s
SMPI Sarmi 36.30 185 P P 16 03 11.2 +1.3
comp=Z,809nmcomp=Z,25nm,1.4s
SIJI Sorong 36.42 198 P P 16 03 10.8 -0.1
comp=Z,29nm,0.9s,baz=17,slow=8.4,SNR=15
comp=Z,29nm,0.9s
BILL Bilibino 36.50 15 P P 16 03 09.4 -1.7
BILL IAmb IAmb 16 03 14.4
comp=Z,33nm,1.3s
BILL Bilibino 36.50 15⇑ *e*P P 16 03 11.0 -0.1
BILL *e* 16 04 29.0
BILL pmax pmax
comp=Z,13nm,1.1s
BILL MLR MLR
comp=Z,3µm,18.0s
KKM Kota Kinabalu 36.74 226 P P 16 03 11.7 -2.0
GENI Genyem 36.82 182 P P 16 03 16.0 +1.7
comp=Z,7µmcomp=Z,376nm,0.6s
LBMI Labuha 37.30 204 P P 16 03 17.7 -0.7
comp=Z,1µmcomp=Z,42nm,1.1s
KMSI Cibinong 37.50 210 P P 16 03 19.1 -1.0
comp=Z,993nmcomp=Z,77nm,0.8s
UBPT Khong Chiam 37.69 249 P P 16 03 20.6 -1.1
UBPT IAmb IAmb 16 03 24.9
comp=Z,38nm,1.0s
GTOI Gorontalo 37.85 211 P P 16 03 21.2 -1.9
comp=Z,212nmcomp=Z,17nm,1.2s
TIXI Tiksi 37.92 353 P P 16 03 22.0 -1.1
comp=Z,3.6nm,0.6s,baz=90,slow=20,SNR=2.0
TIXI S S 16 09 14.1 +0.7
comp=Z,4.6nm,0.8s,baz=90,slow=20,SNR=1.4
comp=Z,3.6nm,0.6s
TIXI Tiksi 37.92 353 P P 16 03 21.3 -1.8
TIXI Tiksi 37.92 353 *i*P P 16 03 24.6 +1.5
TIXI pmax pmax
comp=Z,10.0nm,1.1s
GOMU GeErMu 37.99 287⇓ *e*P P 16 03 25.3 +0.7
GOMU pP pP 16 03 28.4 -0.3
GOMU sP sP 16 03 29.6 -0.4
GOMU pmax pmax
comp=Z,23nm,1.4s
GOMU LR LR
comp=Z,6µm,16.5s
GOMU LR LR
comp=Z,2µm,17.7s
GOMU LR LR
comp=Z,2µm,18.1s
FAKI Fak Fak 38.16 195 P P 16 03 23.9 -1.8
FAKI IAmb IAmb 16 03 34.0
comp=Z,27nm,0.8s
FAKI Fak Fak 38.16 195 P P 16 03 25.1 -0.6
comp=Z,534nmcomp=Z,32nm,1.0s
FAKI Fak Fak 38.16 195 P P 16 03 26.9 +1.2
MRSI Marisa 38.47 213 P P 16 03 26.9 -1.3
comp=Z,1µmcomp=Z,640nmcomp=Z,75nm,1.2s
CRAI Chiangrai 39.04 260 P P 16 03 31.7 -1.4
SANI Sanana 39.14 205 P P 16 03 32.5 -1.4
comp=Z,523nmcomp=Z,41nm,0.9s
SANI Sanana 39.14 205 P P 16 03 34.0 +0.1
NIKH Nikolski High 39.40 46 P P 16 03 32.6 -3.1
MSAI Masohi 39.41 200 P P 16 03 36.3 +0.1
comp=Z,298nmcomp=Z,10nm,0.9s
LUWI Luwuk 39.46 211 P P 16 03 33.2 -3.4
LUWI IAmb IAmb 16 04 03.5
comp=Z,45nm,0.9s
LUWI Luwuk 39.46 211 P P 16 03 35.7 -0.9
comp=Z,1µmcomp=Z,56nm,1.0s
MPSI Mapaga 39.54 216 P P 16 03 35.5 -1.7
comp=Z,11nm,1.0s
KRVT Keravat (AS076 39.72 164 P P 16 03 38.1 -0.6
comp=Z,4.9nm,0.3s,baz=0.0,slow=20,SNR=1.2
comp=Z,4.9nm,0.3s
APSI Ampana 39.83 212 P P 16 03 38.4 -1.3
comp=Z,585nmcomp=Z,70nm,1.1s
NLAI Namlea 39.87 203 P P 16 03 40.1 +0.1
comp=Z,10µmcomp=Z,28nm,0.9s
AAI Ambon 39.95 201 P P 16 03 40.6 -0.1
comp=Z,3µmcomp=Z,892nmcomp=Z,87nm,1.0s
PHRA Phrae 40.04 257 P P 16 03 40.3 -1.1
BNDI Bandanaira 40.27 198 P P 16 03 43.1 -0.2
comp=Z,2µmcomp=Z,115nm,1.3s
BNDI Bandanaira 40.27 198 P P 16 03 45.4 +2.1
CHTO Chiang Mai 40.91 259 P P 16 03 47.5 -1.2
CHTO Chiang Mai 40.91 259 P P 16 03 47.5 -1.2
CHTO pmax pmax
comp=Z,1.0nm,0.7s
CHTO Chiang Mai 40.91 259 P P 16 03 47.9 -0.8
CHTO Chiang Mai 40.91 259 P P 16 03 48.6 -0.1
CM31 Chiang Mai Arr 41.10 258 P P 16 03 49.3 -0.9
CMAR Chiang Mai Arr 41.10 258 P P 16 03 49.9 -0.4
comp=Z,11nm,0.7s,baz=49,slow=7.8,SNR=50
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 41.10 258 P P 16 03 49.5 -0.7
SBUM Sibu 41.99 227 P P 16 03 54.8 -2.7
DGZ Jazzator, Alta 42.14 308 *c i*P P 16 03 59.4 +0.8
DGZ pmax pmax
comp=Z,85nm,1.2s
WMQ Urumqi 42.26 299 *e*P P 16 04 01.4 +1.8
WMQ S S 16 10 23.0 +3.9
WMQ pmax pmax
comp=Z,120nm,1.5s
WMQ pmax pmax
comp=Z,710nm,6.7s
WMQ LR LR
comp=Z,12µm,13.9s
WMQ LR LR
comp=Z,1µm,13.5s
WMQ LR LR
comp=Z,2µm,16.3s
SPSI Sidrap Palu 43.38 213 P P 16 04 07.7 -1.1
comp=Z,16nm,0.9s
BBSI Bau Bau 43.58 208 P P 16 04 09.9 -0.5
comp=Z,445nmcomp=Z,27nm,1.1s
SHL Shillong 43.65 272 P P 16 04 10.3 -0.8
SHL Shillong 43.65 272 P P 16 04 10.3 -0.8
SHL pmax pmax
comp=Z,20nm,1.1s
ZAA0 Zalesovo Array 43.87 314 P P 16 04 12.3 0.0
ZALV Zalesovo Beam 43.87 314 P P 16 04 12.9 +0.6
comp=Z,19nm,0.7s,baz=88,slow=6.8,SNR=40
ZALV PcP PcP 16 05 58.9 +0.6
comp=Z,13nm,0.7s,baz=92,slow=3.2,SNR=1.3
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 43.87 314 P P 16 04 12.1 -0.2
PMG Port Moresby 43.88 172 P P 16 04 11.5 -1.2
comp=Z,11nm,0.9s,baz=281,slow=16,SNR=2.3
comp=Z,11nm,0.9s
PMG Port Moresby 43.88 172 P P 16 04 11.5 -1.2
PMG IAmb IAmb 16 04 27.6
comp=Z,22nm,0.9s
ZSN Zaisan 43.92 305 *c i*P P 16 04 14.1 +1.3
ZSN *e*S S 16 10 47.2 +3.9
ZSN pmax pmax
comp=Z,27nm,1.4s
ZSN Zaisan 43.92 305⇑ *i*P P 16 04 14.2 +1.3
comp=Z,26nm,1.4s,baz=305
ZSN *e*S S 16 10 47.2 +3.9
baz=305
KAPI Kappang 44.32 212 P P 16 04 16.4 0.0
comp=Z,18nm,1.0s,baz=336,slow=1.0,SNR=7.3
comp=Z,18nm,1.0s
KAPI Kappang 44.32 212 P P 16 04 16.7 +0.4
KAPI IAmb IAmb 16 04 34.5
comp=Z,30nm,1.1s
KAPI Kappang 44.32 212 *i*P P 16 04 17.0 +0.7
KAPI pmax pmax
comp=Z,24nm,1.2s
KAPI Kappang 44.32 212 P P 16 04 18.6 +2.3
KAPI P P 16 04 18.6 +2.3
BKSI Bulukumba 44.44 211 P P 16 04 16.0 -1.2
comp=Z,21nm,1.0s
CHNA Chernabura Isl 45.02 44 P P 16 04 21.7 +0.3
baz=268
BRDH Bariadhala 45.07 269 P P 16 04 23.2 +0.9
comp=Z,123nm,0.3s,baz=56,slow=14,SNR=5.5
MK31 Makanchi Array 45.73 304 P P 16 04 27.2 -0.1
MK31 IAmb IAmb 16 04 35.3
comp=Z,25nm,1.1s
MK31 Makanchi Array 45.73 304 P P 16 04 27.6 +0.3
MKAR Makanchi Array 45.73 304 P P 16 04 27.3 0.0
comp=Z,19nm,0.4s,baz=80,slow=10,SNR=2.6
comp=Z,19nm,0.4s
NRIK Noril'sk 45.75 336 P P 16 04 26.6 -0.5
comp=Z,39nm,1.2s,baz=113,slow=9.1,SNR=16
NRIK S S 16 11 03.5 -5.6
comp=Z,0.9nm,0.3s,baz=188,slow=8.7,SNR=1.2
comp=Z,39nm,1.2s
NRIK Noril'sk 45.75 336 P P 16 04 26.8 -0.3
NRIK Noril'sk 45.75 336 *ce*P P 16 04 28.4 +1.3
NRIK pmax pmax
comp=Z,43nm,1.2s
N16K Nishlik Lake 45.89 36 P P 16 04 30.5 +2.1
baz=263
MAKZ Makanchi 45.94 304 P P 16 04 29.3 +0.3
MAKZ IAmb IAmb 16 04 37.1
comp=Z,30nm,1.1s
MAKZ Makanchi 45.94 304 P P 16 04 29.3 +0.3
O16K Kokwok River B 46.14 38 P P 16 04 31.5 +1.2
baz=265
P16K Nushagak River 46.14 39 P P 16 04 32.6 +2.3
baz=265
TAPN Taplejung 46.39 277 *e*P P 16 04 33.1 0.0
MMRI Maumere 46.59 207 P P 16 04 34.0 -0.3
MMRI Maumere 46.59 207 P P 16 04 34.9 +0.6
comp=Z,2µmcomp=Z,109nm,1.0s
O17K Koliganek Bris 46.66 38 P P 16 04 36.5 +2.1
baz=265
SEM Semipalatinsk 46.74 310 *e*P P 16 04 35.1 -0.3
SEM *e*S S 16 11 26.3 +2.0
SEM pmax pmax
comp=Z,9.0nm,0.9s
SEM MLR MLR
comp=Z,4µm,15.0s
SEM Semipalatinsk 46.74 310 *e*P P 16 04 35.1 -0.3
comp=Z,9.0nm,0.9s,baz=310
SEM *e*S S 16 11 26.4 +2.0
baz=310
SEM LR LR 16 24 52.2
comp=Z,4µm,15.2s,baz=310
Q16K King Salmon 46.81 39 P P 16 04 37.1 +1.6
baz=267
ODAN Odare 46.84 276 *e*P P 16 04 35.8 -0.7
EDFI Ende, Flores 46.90 208 P P 16 04 36.9 0.0
comp=Z,484nmcomp=Z,51nm,1.0s
HNR Honiara 46.91 155 P P 16 04 35.5 -1.3
comp=Z,337nm,0.8s,baz=284,slow=4.2,SNR=1.8
N18K Kilae Creek 47.33 36 P P 16 04 41.8 +2.2
baz=266
RAMN Ramite 47.45 277 *e*P P 16 04 40.9 -0.4
comp=Z,189nm,0.9s
JIRN Jiri 47.52 278 *e*P P 16 04 42.2 +0.2
comp=Z,338nm,1.1s
BATI Baumata 47.54 204 P P 16 04 42.1 +0.4
comp=Z,246nm,1.1s,baz=116,slow=1.5,SNR=26
BATI LR LR 16 23 42.1
comp=Z,2µm,21.2s,baz=20,slow=35
BATI Baumata 47.54 204 P P 16 04 41.7 0.0
comp=Z,742nmcomp=Z,104nm,1.1s
P18K Big Mountain, 47.58 38 P P 16 04 43.2 +1.6
baz=267
O18K Koktuh Hills 47.61 38 P P 16 04 41.4 -0.4
baz=267
KDU Kakadu 47.63 192 P P 16 04 43.6 +1.2

GUN Gumba 47.67 278 *e*P P 16 04 43.2 0.0
comp=Z,173nm,0.9s
KULM Kulim 47.72 242 P P 16 04 43.3 +0.2
KULM IAmb IAmb 16 04 47.0
comp=Z,28nm,1.3s
KURK Kurchatov 47.75 310 P P 16 04 42.9 -0.1
KURK Kurchatov 47.75 310 P P 16 04 43.2 +0.2
KURK Kurchatov 47.75 310 P P 16 04 42.9 -0.1
KURBB Kurchatov Arra 47.81 310 P P 16 04 43.2 -0.3
comp=Z,26nm,0.5s,baz=86,slow=7.7,SNR=147
KURBB S S 16 11 35.8 -3.3
comp=Z,0.9nm,0.7s,baz=84,slow=7.9,SNR=0.9
comp=Z,26nm,0.5s
L19K White Mountain 47.94 34 P P 16 04 45.9 +1.5
baz=265
IPM Ipoh 47.99 241 P P 16 04 44.3 -1.1
IPM IAmb IAmb 16 04 48.5
comp=Z,24nm,1.1s
N19K Bonanza Creek 48.02 36 P P 16 04 46.4 +1.3
baz=267
MTN Manton Dam 48.04 194 P P 16 04 44.9 -0.6
MTN Manton Dam 48.04 194 P P 16 04 46.2 +0.7
COEN Coen 48.11 178 P P 16 04 46.5 +0.4
COEN Coen 48.11 178 P P 16 04 48.0 +1.9
PKI Pulchoki 48.19 278 *e*P P 16 04 46.8 -0.3
comp=Z,132nm,1.1s
PKIN Phulchoki 48.20 278 *e*P P 16 04 46.7 -0.4
comp=Z,90nm,1.0s
KKN Kakani 48.21 278 *e*P P 16 04 46.9 -0.3
comp=Z,17nm,1.1s
PDGK Podgornoye 48.23 300 P P 16 04 47.0 0.0
SHLS Shalkode 48.28 300 *c i*P P 16 04 45.6 -1.8
SHLS pmax pmax
comp=Z,8.0nm,0.7s
SHLS Shalkode 48.28 300 ⇑ *i*P P 16 04 45.7 -1.7
comp=Z,8.1nm,0.7s,baz=300
K20K Telida 48.41 33 IAmb IAmb 16 05 10.8
comp=Z,25nm,1.2s
K20K Telida 48.41 33 P P 16 04 49.8 +1.8
baz=265,SNR=7.6
L20K Farewell, AK 48.42 34 P P 16 04 50.1 +2.1
baz=266
DMN Daman 48.42 278 *e*P P 16 04 48.8 -0.1
comp=Z,104nm,1.1s
J20K Nowinta River 48.45 32 P P 16 04 50.3 +2.1
baz=264,SNR=6.8
OHAK Old Harbor 48.57 41 P P 16 04 49.5 +0.2
baz=271
PLAI Plampang 48.59 212 P P 16 04 49.2 -0.6
comp=Z,64nm,1.0s
PLAI Plampang 48.59 212 P P 16 04 51.1 +1.3
UZB Uzynbulak 48.60 300 *e*P P 16 04 50.0 +0.1
UZB Uzynbulak 48.60 300 *e*P P 16 04 50.0 +0.1
baz=300
GKN Gorkha 48.66 279 *e*P P 16 04 50.4 -0.1
comp=Z,276nm,1.1s
TDK Taldyqorghan 48.68 302 *e*P P 16 04 51.2 +0.9
TDK *e*S S 16 11 54.7 +3.2
TDK Taldyqorghan 48.68 302 *e*P P 16 04 51.2 +0.9
baz=302
TDK *e*S S 16 11 54.8 +3.2
baz=302
TDK LR LR 16 30 00.4
comp=Z,3μm,12.5s,baz=302
M20K Styx River 48.73 35 P P 16 04 51.8 +1.2
baz=267
KPKS Kokpek 48.77 300 *e*P P 16 04 51.8 +0.6
KPKS pmax pmax
comp=Z,10.0nm,0.8s
KPKS Kokpek 48.77 300 *e*P P 16 04 51.8 +0.6
comp=Z,10nm,0.8s,baz=300
KMMI Kalianget 48.84 218 P P 16 04 51.1 -0.7
comp=Z,37nm,1.6s
TWSI Taliwang, Sumb 48.91 213 P P 16 04 51.8 -0.5
comp=Z,486nmcomp=Z,42nm,1.0s
KDAK Kodiak Island 48.94 40 P P 16 04 51.9 -0.2
comp=Z,14nm,0.8s,baz=273,slow=10,SNR=4.5
comp=Z,14nm,0.8s
KDAK Kodiak Island 48.94 40 P P 16 04 52.3 +0.2
baz=271
G21K Allakaket 48.99 29 P P 16 04 54.0 +1.6
baz=262,SNR=8.8
ZHN Zhinishke 49.01 300 *e*P P 16 04 53.5 +0.5
ZHN Zhinishke 49.01 300 *e*P P 16 04 53.5 +0.5
baz=300
SATY Saty 49.06 300 *e*P P 16 04 54.1 +0.7
SATY *e*S S 16 12 00.2 +3.0
SATY Saty 49.06 300 *e*P P 16 04 54.1 +0.7
baz=300
SATY *e*S S 16 12 00.2 +3.0
baz=300
F21K Alatna River 49.09 28 P P 16 04 54.7 +1.5
baz=262
SRBI Singaraja 49.12 216 P P 16 04 54.1 +0.2
comp=Z,109nm,1.1s
N20K Mount Spurr 49.15 36 P P 16 04 55.6 +1.9
baz=268
SPCR Spurr Chakacha 49.15 36 P P 16 04 55.5 +1.8
baz=268
H21K Melozitna Rive 49.17 30 P P 16 04 53.8 0.0
H21K Melozitna Rive 49.17 30 P P 16 04 56.0 +2.2
baz=264,SNR=11
PPLA Purkeypile 49.23 34 P P 16 04 56.6 +2.2
baz=267
CHUM Lake Minchumin 49.23 32 P P 16 04 56.4 +2.2
baz=266
DANN Dangsing 49.24 280 *e*P P 16 04 55.1 -0.1
CAST Castle Rocks 49.30 33 P P 16 04 56.9 +2.1
baz=267
ABJI Asem Bagus 49.35 217 P P 16 04 55.0 -0.7
comp=Z,42nm,1.1s
PPBI Pangkal Pinang 49.35 230 P P 16 04 54.7 -1.0
comp=Z,17nm,0.9s
I21K Tanana 49.47 31 P P 16 04 58.2 +2.2
baz=265
SKT Skwentna 49.49 35 P P 16 04 57.6 +1.3
baz=268
KOLN Koldanda 49.59 279 *e*P P 16 04 57.9 +0.1
comp=Z,28nm,1.5s
F22K John River 49.63 28 P P 16 04 59.2 +2.0
baz=263,SNR=11
H22K Ishtalitna Cre 49.78 30 P P 16 05 00.6 +2.1
baz=265,SNR=10
BPAW Bear Paw Mtn. 49.83 32 P P 16 05 00.9 +2.0
baz=267
E22K Anaktuvuk Pass 49.85 27 P P 16 05 01.2 +2.3
baz=263,SNR=25
SUA Susitna One 49.86 36 P P 16 05 00.1 +0.9
baz=269
BRSE Bradley Lake S 49.87 38 P P 16 04 59.6 +0.4
baz=271
CHKK Chushkaly 49.90 301 *e*P P 16 05 00.1 +0.5
CHKK Chushkaly 49.90 301 *e*P P 16 05 00.2 +0.5
baz=301
JAGI Jajag, Banyuwa 49.97 217 P P 16 05 04.3 +3.9
MLY Manley 49.99 31 P P 16 04 59.4 -0.7
MLY Manley 49.99 31 P P 16 05 01.9 +1.9
baz=266,SNR=7.1
MDOK Medeo 50.01 300 *i* P P 16 05 01.9 +1.3
MDOK *e*S S 16 12 14.2 +3.7
MDOK Medeo 50.01 300 *i* P P 16 05 01.9 +1.3
baz=300
MDOK *e*S S 16 12 14.2 +3.7
baz=300
MDOK LR LR 16 29 22.7
comp=Z,2μm,12.9s,baz=300
TNSS Tian-Shan 50.11 300 *i* P P 16 05 03.2 +1.5
TNSS Tian-Shan 50.11 300 *i* P P 16 05 03.2 +1.5
baz=300
TRF Thorofare Moun 50.11 33 P P 16 05 02.5 +1.4
baz=268
KUU Kurty 50.35 301 *c i*P P 16 05 03.5 +0.5
KUU *e*S S 16 12 17.9 +2.9
KUU pmax pmax
comp=Z,32nm,1.5s
KUU Kurty 50.35 301 ⇑ *i*P P 16 05 03.6 +0.5
comp=Z,32nm,1.5s,baz=301
KUU *e*S S 16 12 18.0 +2.9
baz=301
KUU LR LR 16 28 33.7
comp=Z,2μm,13.7s,baz=301
D23K Nanushuk River 50.36 26 P P 16 05 04.7 +1.9
baz=263,SNR=9.3
COLD Coldfoot 50.36 28 P P 16 05 03.5 +0.7
baz=265
G23K Bananza Creek 50.39 29 P P 16 05 05.1 +2.0
baz=266,SNR=13

C23K Itkillik River 50.49 25 P P 16 05 06.1 +2.4
baz=262,SNR=19
H23K Yukon River 50.53 30 IAmb IAmb 16 05 32.4
comp=Z,27nm,1.1s
H23K Yukon River 50.53 30 P P 16 05 06.7 +2.5
baz=267,SNR=9.7
PMR Palmer 50.63 35 P P 16 05 07.6 +2.7
baz=271
E23K Chandalar 50.66 27 P P 16 05 07.0 +1.9
baz=265,SNR=21
PSI Prapat 50.66 241 P P 16 05 06.0 +0.1
comp=Z,3.9nm,0.4s,baz=32,slow=7.8,SNR=3.9
comp=Z,3.9nm,0.4s
NEA2 Nenana 50.68 31 P P 16 05 07.2 +2.0
baz=268,SNR=7.4
SMRI Semarang 50.71 222 P P 16 05 04.9 -1.1
comp=Z,61nm,0.8s
MCK McKinley 50.72 33 IAmb IAmb 16 05 27.5
comp=Z,18nm,1.0s
MCK McKinley 50.72 33 P P 16 05 07.4 +1.8
baz=269
TOLK Toolik Lake Re 50.73 26 P P 16 05 05.8 +0.2
TOLK IAmb IAmb 16 05 10.4
comp=Z,24nm,1.0s
TOLK Toolik Lake Re 50.73 26 P P 16 05 07.5 +1.9
baz=264,SNR=12
PWJI Pagerwojo 50.79 220 P P 16 05 05.4 -1.2
comp=Z,56nm,1.0s
ULHL Ulahol 50.80 299 P P 16 05 07.9 +1.2
SNR=13
WAT1 Susitna Watana 50.89 34 P P 16 05 09.5 +2.6
baz=270
KNK Knik Glacier 50.96 36 P P 16 05 09.5 +2.1
baz=272
SML Sawmill 51.01 35 P P 16 05 09.2 +1.4
baz=271
PWL Port Wells 51.04 36 P P 16 05 09.1 +1.1
baz=272
E24K Your Creek 51.08 27 P P 16 05 10.8 +2.5
baz=266,SNR=18
TKM2 Tokmak 2 51.10 300 P P 16 05 10.6 +1.6
SNR=33
TKM2 Tokmak 2 51.10 300 P P 16 05 09.7 +0.7
C24K Franklin Bluff 51.14 25 P P 16 05 10.6 +2.1
baz=264,SNR=19
NRN Naryn 51.17 298 P P 16 05 09.7 0.0
NRN Naryn 51.17 298 P P 16 05 09.7 0.0
NRN pmax pmax
comp=Z,9.0nm,0.8s
COLA College 51.21 31 *i* P P 16 05 08.4 -0.7
COLA pmax pmax
comp=Z,11nm,0.9s
H24K Noodor Dome 51.22 30 IAmb IAmb 16 05 37.3
comp=Z,19nm,1.0s
H24K Noodor Dome 51.22 30 P P 16 05 11.2 +1.9
baz=268,SNR=10
CCB Clear Creek Bu 51.23 31 P P 16 05 08.8 -0.5
F24K Squaw Lake 51.28 28 P P 16 05 11.7 +2.0
baz=267,SNR=7.8
KNRA Kununurra 51.29 196 P P 16 05 10.4 +0.2
KNRA Kununurra 51.29 196 P P 16 05 11.5 +1.2
M23K Glacier View 51.30 35 P P 16 05 12.3 +2.3
baz=272
UGM Wanagama 51.38 221 P P 16 05 11.8 +0.7
POKR Poker Flat Res 51.39 31 P P 16 05 10.3 -0.2
POKR IAmb IAmb 16 05 38.3
comp=Z,34nm,1.1s
POKR Poker Flat Res 51.39 31 P P 16 05 12.8 +2.2
baz=269,SNR=11
G24K Hadweenzic Riv 51.40 29 P P 16 05 13.3 +2.7
baz=268,SNR=9.3
SCM Sheep Creek Mo 51.48 35 P P 16 05 13.1 +1.6
baz=272
SDSI Sungai Dareh 51.53 236 P P 16 05 11.9 -0.3
comp=Z,13nm,0.9s
HDA Harding Lake 51.60 32 P P 16 05 11.1 -1.0
HDA IAmb IAmb 16 05 20.5
comp=Z,26nm,1.1s
HDA Harding Lake 51.60 32 P P 16 05 12.9 +0.8
baz=270,SNR=6.8
BRZS Berezniki 51.62 310 *c i*P P 16 05 12.7 +0.2
BRZS *e*S S 16 12 35.2 +2.8
BRZS pmax pmax
comp=Z,15nm,1.1s
BRZS Berezniki 51.62 310 ⇑ *i*P P 16 05 12.8 +0.2
comp=Z,15nm,1.1s,baz=310
BRZS *e*S S 16 12 35.2 +2.8
baz=310
IL31 51.62 31 P P 16 05 11.4 -0.9
ILAR Eielson Array 51.62 31 P P 16 05 12.7 +0.4
comp=Z,11nm,0.9s,baz=265,slow=5.9,SNR=68
comp=Z,11nm,0.9s
ILAR Eielson Array 51.62 31 P P 16 05 11.5 -0.8
KBK Karagaybulak 51.62 300 P P 16 05 14.3 +1.4
SNR=27
SGDS Sogindy 51.66 301 *e*P P 16 05 13.7 +0.7
SGDS pmax pmax
comp=Z,14nm,1.1s
SGDS Sogindy 51.66 301 *e*P P 16 05 13.7 +0.7
comp=Z,14nm,1.1s,baz=301
CHMS Chumysh 51.68 301 P P 16 05 14.5 +1.4
SNR=7.8
BTLS Baital 51.70 303 *c i*P P 16 05 13.7 +0.6
BTLS pmax pmax
comp=Z,26nm,1.5s
BTLS Baital 51.70 303 ⇑ *i*P P 16 05 13.7 +0.6
comp=Z,26nm,1.5s,baz=303
KSH Kashi 51.70 296 P P 16 05 17.8 +4.3
KSH PcP PcP 16 06 26.4 -0.4
KSH S S 16 12 39.3 +5.2
KSH pmax pmax
comp=Z,16nm,1.1s
KSH LR LR
comp=Z,4μm,18.5s
KSH LR LR
comp=Z,5μm,18.5s
KSH LR LR
comp=Z,10μm,13.7s
USP Ospenovka 51.79 301 P P 16 05 15.0 +1.0
SNR=15
D25K Kavik River 51.93 25 P P 16 05 16.4 +1.8
baz=267,SNR=13
AAK Ala-Archa 51.95 300 P P 16 05 16.4 +1.1
SNR=8.9
AAK Ala-Archa 51.95 300 P P 16 05 15.1 -0.3
comp=Z,8.4nm,0.7s,baz=122,slow=7.0,SNR=16
AAK S S 16 12 36.1 -1.5
comp=Z,0.8nm,0.4s,baz=49,slow=13,SNR=1.3
comp=Z,8.4nm,0.7s
AAK Ala-Archa 51.95 300 P P 16 05 15.0 -0.3
AAK Ala-Archa 51.95 300 P P 16 05 15.7 +0.4
UCH Uchtor 52.04 300 P P 16 05 18.0 +1.7
SNR=17
H25K Birch Creek 52.06 29 P P 16 05 17.9 +2.4
baz=270
Q23K Middleton Isla 52.12 38 P P 16 05 18.1 +2.1
baz=275
K24K Donnelly Dome 52.12 32 P P 16 05 16.7 +0.6
baz=272
F25K Christian Rive 52.14 28 P P 16 05 18.6 +2.4
baz=269,SNR=18
OTUK Ortayu 52.16 308 P P 16 05 16.6 0.0
KLU Klutina 52.17 35 P P 16 05 18.4 +1.9
baz=274
E25K Arctic Village 52.18 27 P P 16 05 19.0 +2.6
baz=269,SNR=19
PRP Porcupine Dome 52.19 30 P P 16 05 18.7 +2.0
baz=271
J25K Salcha River, 52.27 31 P P 16 05 19.6 +2.3
baz=272
PAX Paxson 52.30 33 IAmb IAmb 16 05 40.9
comp=Z,26nm,1.3s
PAX Paxson 52.30 33 P P 16 05 19.1 +1.7
baz=273
MTSU Mount Surprise 52.30 177 P P 16 05 19.0 +1.2
EKS2 Erkin-Say 52.46 300 P P 16 05 20.0 +1.0
SNR=16
C26K Camden Bay 52.46 25 P P 16 05 20.9 +2.4
baz=268,SNR=13
BVA0 Borovoye Array 52.52 314 *i* P P 16 05 19.3 +0.2
BVAR Borovoye Array 52.52 314 P P 16 05 19.8 +0.6
comp=Z,9.4nm,0.8s,baz=89,slow=6.5,SNR=44
BVAR S S 16 12 40.8 -3.8
comp=Z,0.2nm,0.3s,baz=41,slow=20,SNR=1.2
comp=Z,9.4nm,0.8s
BRVK Borovoye 52.57 314 P P 16 05 19.2 -0.3
BRVK IAmb IAmb 16 05 40.8
comp=Z,21nm,1.0s
BRVK Borovoye 52.57 314 *ce*P P 16 05 20.4 +0.9
BRVK pmax pmax
comp=Z,30nm,1.3s
BRVK Borovoye 52.57 314 P P 16 05 17.6 -2.0
BRVK P P 16 05 17.6 -2.0
MASI Maura Aman, Be 52.62 233 P P 16 05 19.0 -1.3
comp=Z,83nm,1.2s
AML Almayashu 52.66 300 P P 16 05 22.4 +1.5
SNR=45
GSI Gunungsitoli 52.66 241 P P 16 05 19.9 -0.7
GSI Gunungsitoli 52.66 241 P P 16 05 19.7 -1.0
comp=Z,84nm,1.1s
GSI Gunungsitoli 52.66 241 P P 16 05 21.3 +0.6
F26K Sheenjek River 52.71 27 P P 16 05 23.0 +2.6
baz=270,SNR=14
N25K Chitina, Valde 52.80 35 P P 16 05 23.7 +2.5
baz=275
BMRM Bremner River 52.85 36 P P 16 05 24.4 +2.8
baz=275
G26K Porcupine Rive 52.87 28 P P 16 05 24.3 +2.9
baz=271,SNR=6.7
C27K Jago River 52.88 25 P P 16 05 24.1 +2.6
baz=269,SNR=18
DOT Dot Lake 52.89 33 P P 16 05 21.8 0.0
DOT IAmb IAmb 16 05 36.1
comp=Z,65nm,1.8s
SCRK Sand Creek 52.91 32 P P 16 05 23.3 +1.3
baz=273
J26L Joseph Creek 53.06 32 P P 16 05 21.5 -1.6
J26L IAmb IAmb 16 05 37.9
comp=Z,50nm,1.9s
J26L Joseph Creek 53.06 32 P P 16 05 23.7 +0.6
baz=273,SNR=5.9
L26K Log Cabin Wild 53.26 33 P P 16 05 26.8 +2.3
baz=275,SNR=5.9
M26K Nabesna, AK 53.48 34 P P 16 05 28.4 +2.3
baz=275
MCARA McCarthy VSAT 53.57 35 P P 16 05 29.1 +2.3
baz=276
E27K Coleen River 53.66 27 P P 16 05 30.1 +2.7
baz=272,SNR=16
G27K Doyon Strip 53.71 29 P P 16 05 29.9 +2.1
baz=273
K27K Chicken 53.74 32 P P 16 05 29.4 +1.4
baz=275
H27K Steamboat Moun 53.80 29 P P 16 05 30.5 +2.0
baz=274,SNR=8.3
I27K Kandik River 53.81 30 P P 16 05 28.2 -0.4
baz=274
L27K Beaver Creek, 53.95 33 P P 16 05 28.8 -0.8
L27K IAmb IAmb 16 05 56.7
comp=Z,17nm,1.0s
L27K Beaver Creek, 53.95 33 P P 16 05 30.9 +1.4
baz=276
EGAK Eagle 54.07 31 P P 16 05 29.4 -1.0
EGAK IAmb IAmb 16 06 09.3
comp=Z,61nm,1.9s
EGAK Eagle 54.07 31 P P 16 05 31.3 +0.9
baz=275
DZA Taraz 54.13 301 *e*P P 16 05 32.1 +0.9
DZA pmax pmax
comp=Z,20nm,1.1s
DZA Taraz 54.13 301 *e*P P 16 05 32.1 +0.9
comp=Z,20nm,1.1s,baz=301
WB0 Warramunga Arr 54.31 188 P P 16 05 31.7 -0.9
CTA Charters Tower 54.36 175 P P 16 05 34.1 +1.1
CTAO Charters Tower 54.36 175 P P 16 05 31.7 -1.2
CTAO IAmb IAmb 16 05 51.1
comp=Z,28nm,1.2s
CTAO Charters Tower 54.36 175 P P 16 05 31.7 -1.2
CTAO pmax pmax
comp=Z,28nm,1.3s
CTAO Charters Tower 54.36 175 P P 16 05 34.0 +1.1
FITZ Fitzroy Crossi 54.39 199 P P 16 05 33.7 +0.5
comp=Z,26nm,1.0s,baz=359,slow=7.2,SNR=27
comp=Z,26nm,1.0s
FITZ Fitzroy Crossi 54.39 199 P P 16 05 32.8 -0.3
FITZ IAmb IAmb 16 05 38.6
comp=Z,26nm,1.0s
FITZ Fitzroy Crossi 54.39 199 P P 16 05 34.3 +1.2
WRAB Tennant Creek 54.48 188 P P 16 05 33.3 -0.5
WRAB Tennant Creek 54.48 188 *e*P P 16 05 34.2 +0.4
WRAB pmax pmax
comp=Z,53nm,1.6s
WRAB Tennant Creek 54.48 188 P P 16 05 34.6 +0.8
WB2 Warramunga Arr 54.49 188 P P 16 05 33.8 -0.1
WRA Warramunga Arr 54.49 188 P P 16 05 34.4 +0.5
comp=Z,22nm,0.8s,baz=2.0,slow=7.6,SNR=82
comp=Z,22nm,0.8s
KK31 Karatay Array 54.65 302 *i* P P 16 05 35.4 +0.4
QIS Mount Isa 54.69 182 P P 16 05 35.6 +0.3
I29M Ogilvie Camp, 55.21 30 IAmb IAmb 16 05 42.6
comp=Z,17nm,1.1s
I29M Ogilvie Camp, 55.21 30 P P 16 05 40.2 +1.6
baz=277,SNR=6.4
IUG Iuzhnay 55.27 301 *c i*P P 16 05 40.8 +1.3
IUG Iuzhnay 55.27 301 ⇑ *i*P P 16 05 40.9 +1.3
baz=301
BTK Batken 55.34 298 P P 16 05 40.2 +0.1
BTK Batken 55.34 298 P P 16 05 40.2 +0.1
BTK pmax pmax
comp=Z,12nm,0.9s
M29M Somme Creek 55.56 34 P P 16 05 42.2 +0.8
baz=279
L29M L29M 55.61 33 P P 16 05 43.5 +1.9
baz=279,SNR=5.2
EPYK Eagle Plains 55.72 29 P P 16 05 44.0 +1.7
baz=278,SNR=13
K29M Barlow Dome 55.76 32 P P 16 05 44.4 +1.6
baz=279
YUK6 Outpost Mounta 55.87 36 P P 16 05 43.9 +0.2
baz=280
GAR Garm 56.04 297 IAmb IAmb 16 05 55.5
comp=Z,29nm,0.8s
HYT Haines Junctio 56.30 36 P P 16 05 47.6 +0.9
baz=281
N30M Aishikik Lake 56.38 35 P P 16 05 48.5 +1.3
baz=281
INK Inuvik 56.64 26 P P 16 05 49.1 +0.4
comp=Z,13nm,0.9s,baz=290,slow=5.1,SNR=11
comp=Z,13nm,0.9s
INK Inuvik 56.64 26 P P 16 05 48.3 -0.5
INK IAmb IAmb 16 05 58.6
comp=Z,14nm,0.9s
INK Inuvik 56.64 26 P P 16 05 50.2 +1.4
baz=280
F31M Tsiigehtchic 56.71 27 P P 16 05 50.3 +1.0
baz=280
N31M Braeburn, Yuko 56.99 35 P P 16 05 52.8 +1.4
baz=282
O30N Mendenhall 56.99 35 P P 16 05 53.1 +1.6
baz=282
PLBC Pleasant Camp 57.15 37 P P 16 05 54.2 +1.7
baz=283
M31M Drury Creek, Y 57.48 34 P P 16 05 57.2 +2.3
baz=283
WHY Whitehorse 57.60 35 P P 16 05 58.0 +2.2
baz=283
ASAR Alice Springs 58.22 188 P P 16 06 01.2 +0.8
comp=Z,18nm,1.1s,baz=12,slow=7.0,SNR=43
ASAR S S 16 13 59.0 -2.3
comp=Z,0.5nm,0.7s,baz=15,slow=8.6,SNR=1.4
comp=Z,18nm,1.1s
HYBB Hyderabad (bro 58.38 270 *e*P P 16 06 01.9 0.0
HYBB IVmB_BB 16 06 04.2
comp=Z,222nm,1.1s
HYBB *ep*P **pP** 16 06 04.5 -1.4
HYBB *e* 16 10 41.4
HYBB *e*ScP **ScP** 16 10 52.0 +0.1
HYBB *e*S **S** 16 14 06.1 +2.3
HYBB *e*ScS **ScS** 16 15 51.0 +0.1
HYBB IVMs_BB IVMs_BB 16 37 36.7
comp=Z,494nm,16.2s
ARU Arti 58.48 320 P P 16 06 02.1 +0.1
comp=Z,25nm,0.6s,baz=74,slow=2.5,SNR=34
ARU S S 16 14 02.4 -1.7
comp=Z,1.5nm,0.5s,baz=127,slow=22,SNR=1.3
comp=Z,25nm,0.6s
ARU Arti 58.48 320 P P 16 06 01.6 -0.3
ARU Arti 58.48 320 *c i*P P 16 06 02.0 +0.1
ARU 16 06 51.0
ARU 16 08 13.7
ARU S S 16 14 07.5 +3.4
ARU 16 15 52.4
ARU SS SS 16 17 52.0 -4.0

ARU pmax pmax
comp=Z,60nm,1.2s
ARU MLR MLR
comp=Z,4µm,17.0s
KBL Kabul 58.58 293 P **P** **16 06 02.9 -0.4**
KBL IAmb IAmb 16 06 05.9
comp=Z,33nm,1.1s
KBL Kabul 58.58 293 P **P** **16 06 02.9 -0.4**
KBL pmax pmax
comp=Z,33nm,1.2s
KBL Kabul 58.58 293 P **P** **16 06 03.0 -0.3**
SNR=9.1
KBL P **P** **16 06 03.0 -0.3**
SNR=9.1
P33M Teslin, Yukon 58.70 36 P **P** **16 06 06.0 +2.5**
baz=285
MMPY Sheldon Lake, 58.79 33 P **P** **16 06 06.5 +2.4**
baz=285
MBWA Marble Bar 59.06 204 P **P** **16 06 07.1 +0.8**
MBWA Marble Bar 59.06 204 P **P** **16 06 07.3 +1.0**
Q32M Nakina River 59.31 37 P **P** **16 06 09.8 +1.9**
baz=286
PSA00 Pilbara Seismi 59.41 204 P **P** **16 06 09.5 +0.8**
PSA00 Pilbara Seismi 59.41 204 IAmb IAmb 16 06 26.9
comp=Z,12nm,1.0s
U33K Whale Pass 59.70 40 P **P** **16 06 11.7 +1.4**
baz=287
C36M Paulatuk 59.74 24 P **P** **16 06 12.1 +1.7**
baz=287
AB31 Akbulak array 59.81 311 *i* P **P** **16 06 11.1 -0.2**
R33M Jennings River 59.83 36 P **P** **16 06 12.7 +1.3**
baz=287
EIDS Eidsvold 60.11 170 P **P** **16 06 14.2 +0.7**
EIDS IAmb IAmb 16 06 40.6
comp=Z,22nm,1.2s
S34M Telegraph Cree 60.19 38 P **P** **16 06 16.3 +2.6**
baz=288
TGTN Hyland Airport 60.45 33 P **P** **16 06 17.6 +2.0**
baz=288
WRKA Warakurna 60.46 194 P **P** **16 06 15.9 0.0**
DLBC Dease Lake 60.58 37 P **P** **16 06 18.8 +2.3**
baz=288
AKTO Aktyubinsk 60.60 313 P **P** **16 06 17.0 +0.3**
comp=Z,15nm,0.6s,baz=78,slow=15,SNR=31
AKTO S **S** **16 14 30.0 -1.7**
comp=Z,0.6nm,0.4s,baz=119,slow=13,SNR=1.4
comp=Z,15nm,0.6s
NOUC Port Laguerre 60.88 154 P P 16 06 24.5 +5.7
DZM Mont Dzumac 60.90 154 *e*P **P** **16 06 21.0 +1.9**
comp=Z,81nm,1.2s
DZM Mont Dzumac 60.90 154 *e*LR LR 16 24 18.9
comp=Z,5µm,20.4s
DZM Mont Dzumac 60.90 154 P **P** **16 06 21.3 +2.2**
comp=Z,15nm,1.0s,baz=11,slow=6.2,SNR=10
comp=Z,15nm,1.0s
DZM Mont Dzumac 60.90 154 P **P** **16 06 22.9 +3.8**
T35M Bob Quinn 60.94 39 P **P** **16 06 21.1 +2.2**
baz=289
YATNC Mamie plateau, 61.06 153 P **P** **16 06 24.2 +4.2**
ONTNC Ouen Toro 61.12 154 P **P** **16 06 20.5 0.0**
INKA Innaminka 61.81 181 P **P** **16 06 28.2 +3.3**
OOD Oodnadatta 62.12 186 P **P** **16 06 29.1 +2.1**
MSVF Nonsavu 62.34 140 LR LR 16 30 27.0
comp=Z,2µm,20.6s,baz=317,slow=33
KIRV Kirov 62.48 324 P **P** **16 06 29.8 +0.6**
comp=Z,17nm,0.6s,baz=49,slow=4.1,SNR=13
KIRV S **S** **16 14 53.8 -1.3**
comp=Z,1.8nm,0.4s,baz=350,slow=22,SNR=0.9
comp=Z,17nm,0.6s
KIRV Kirov 62.48 324 *ce*P **P** **16 06 30.1 +0.9**
PRGR Permogore 63.09 328 *e*P **P** **16 06 33.2 0.0**
PRGR pmax pmax
comp=Z,8.0nm,0.5s
SPITS Spitsbergen Ar 63.14 349 P **P** **16 06 32.5 -0.8**
comp=Z,10.0nm,0.8s,baz=350,slow=22,SNR=2.6
comp=Z,10.0nm,0.8s
NOR Nord 63.69 357 *i* P **P** **16 06 36.2 -0.7**
NOR IAmb IAmb 16 06 41.6
comp=Z,2.4nm,0.6s
HRA Herat 63.79 295 IAmb IAmb 16 06 43.8
comp=Z,16nm,0.9s
MEEK Meekatharra 64.52 203 P P 16 06 48.0 +5.0
comp=Z,28nm,2.0s
LCRK Leigh Creek 64.58 183 P **P** **16 06 45.6 +2.3**
MULG Mulgathing 64.73 187 P **P** **16 06 44.4 +0.1**
APA Apatity 65.17 336 ||*i* P **P** **16 06 44.8 -2.0**
APA *i* 16 09 15.0
APA *i* S **S** **16 15 24.0 -4.4**
APA *i* 16 16 31.0
APA pmax pmax
comp=Z,8.0nm,0.9s
GEYT Alibeck 65.31 300 P **P** **16 06 48.5 +0.2**
comp=Z,15nm,1.0s,baz=64,slow=3.4,SNR=19
GEYT S **S** **16 15 30.2 -0.9**
comp=Z,0.9nm,0.5s,baz=83,slow=24,SNR=1.4
comp=Z,15nm,1.0s
GEYT Alibeck 65.31 300 IAmb IAmb 16 06 52.3
comp=Z,19nm,1.0s
GYA0B ALIBECK ARRAY 65.31 300 IAmb IAmb 16 06 52.2
comp=Z,24nm,1.1s
CMSA Cobar Meteorol 65.70 176 P **P** **16 06 52.0 +1.5**
BELG Belogornoye 65.88 318 P **P** **16 06 52.0 +0.4**
comp=Z,18nm,0.7s,baz=9.7,slow=2.4,SNR=12
comp=Z,18nm,0.7s
STKA Stephens Creek 65.93 180 P **P** **16 06 52.8 +0.8**
comp=Z,2.2nm,0.9s,baz=346,slow=10,SNR=5.3
comp=Z,2.2nm,0.9s
STKA Stephens Creek 65.93 180 *i* P **P** **16 06 53.4 +1.4**
STKA Stephens Creek 65.93 180 P P 16 06 57.2 +5.2
YKA Yellowknife Ar 65.98 30 P **P** **16 06 52.3 +0.2**
comp=Z,3.0nm,0.8s,baz=297,slow=6.6,SNR=3.1
comp=Z,3.0nm,0.8s
FORT Forrest 66.09 193 P **P** **16 06 53.6 +0.6**
FORT Forrest 66.09 193 P **P** **16 06 54.7 +1.6**
KLMR Klimovskoe 66.09 328 *e*P **P** **16 06 51.6 -1.2**
KLMR *e* 16 07 25.2
KLMR S **S** **16 15 37.8 -2.0**
KLMR pmax pmax
comp=Z,25nm,1.2s
KLMR MLR MLR
comp=Z,3µm,15.0s
KLMR Klimovskoe 66.09 328 *e*P **P** **16 06 51.6 -1.2**
KLMR *e*P **P** **16 06 51.6 -1.2**
KLMR *e*P **P** **16 06 51.6 -1.2**
KLMR AMP 16 06 57.2
comp=Z,25nm,1.2s
KLMR *e*PcP **PcP** **16 07 25.3 +2.1**
KLMR *e* 16 07 54.6
KLMR S **S** **16 15 37.8 -2.0**
KLMR S **S** **16 15 37.8 -2.0**
KLMR LQ LQ 16 29 23.8
KLMR LQ LQ 16 29 23.8
KLMR LR LR 16 30 44.5
KLMR AMP 16 40 28.9
comp=Z,3µm,14.9s
ARCES ARCESS Array B 66.53 340 P **P** **16 06 56.0 +0.5**
comp=Z,3.2nm,0.7s,baz=50,slow=8.0,SNR=9.1
ARCES S **S** **16 15 43.4 -1.6**
comp=Z,0.2nm,0.3s,baz=339,slow=6.5,SNR=1.3
comp=Z,3.2nm,0.7s
ARCES ARCESS Array B 66.53 340 P **P** **16 06 55.9 +0.3**
ARCES IAmb IAmb 16 07 48.2
comp=Z,27nm,1.5s
BBOO Buckleboo 67.06 185 P **P** **16 07 03.3 +4.0**
MORW Morawa 67.61 204 P **P** **16 07 04.2 +1.4**
LLLB Lillooet 68.02 43 IAmb IAmb 16 07 25.1
comp=Z,15nm,1.3s
NEEM North Greenlan 68.14 3 *i* P **P** **16 07 05.6 -0.4**
NEEM IAmb IAmb 16 07 08.7
comp=Z,16nm,0.7s
DAG Danmarks Havn 68.41 355 *i* P **P** **16 07 07.8 +0.6**
DAG IAmb IAmb 16 07 09.7
comp=Z,5.5nm,0.8s
BLDU Ballidu 68.82 203 P **P** **16 07 11.5 +1.1**
KLBR Kellerberrin 69.40 202 P **P** **16 07 14.1 +0.2**
MOS Moscow 69.49 324 *e*P **P** **16 07 13.6 -0.7**
MOS *e*S **S** **16 16 23.5 +2.9**
MOS pmax pmax
comp=Z,52nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.0s
MOS MLR MLR
comp=E,4µm,16.0s
MOS MLR MLR
comp=Z,4µm,16.0s
MOS MLR MLR
comp=N,2µm,17.0s
VRH Novokhopyorsk 69.68 319 *e*P **P** **16 07 14.2 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,3µm,15.0s
MAK Makhachkala 70.25 309 *e*P **P** **16 07 14.7 -4.5**
MAK *e* 16 09 51.0
MAK *e*PPP PPP 16 11 30.8
MAK *e*S **S** **16 16 24.4 -5.6**
MAK pmax pmax
comp=Z,92nm,1.0s
MAK MLR MLR
comp=Z,4µm,13.0s
J01E Myrtle Point 70.31 51 P **P** **16 07 21.8 +2.2**
baz=299
OBN Obninsk 70.33 324 P **P** **16 07 20.5 +1.0**
comp=Z,2.7nm,0.4s,baz=119,slow=13,SNR=8.8
OBN S **S** **16 16 28.9 -1.6**
comp=Z,2.4nm,0.4s,baz=90,slow=11,SNR=1.5
comp=Z,2.7nm,0.4s
OBN Obninsk 70.33 324 *ce*P **P** **16 07 18.7 -0.8**
OBN *e* 16 09 55.0
OBN *i* S S 16 16 21.5 -9.0
OBN pmax pmax
comp=Z,49nm,1.7s
OBN MLR MLR
comp=Z,4µm,15.0s
H04D Lebanon 70.41 49 P **P** **16 07 20.9 +0.7**
baz=299
I03D Drain, OR 70.43 50 P **P** **16 07 21.3 +1.0**
baz=299
LPSR Galich'ya Gora 70.46 321 *e*P **P** **16 07 19.2 -1.1**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR MLR MLR
comp=Z,6µm,15.0s
B08A Colville Reser 70.56 44 IAmb IAmb 16 07 31.1
comp=Z,13nm,1.0s
H04A Detroit Lake 70.67 49 IAmb IAmb 16 07 32.1
comp=Z,28nm,1.1s
K02D Willamette Mer 70.71 51 P **P** **16 07 21.5 -0.7**
baz=299
VORR Voronezh 70.79 320 *e*P **P** **16 07 22.9 +0.5**
VORR pmax pmax
comp=Z,50nm,0.5s
NWAO Narrogin (SRO) 70.80 202 P **P** **16 07 24.4 +1.9**
comp=Z,36nm,1.9s
G05D Wamic, OR 70.94 48 P **P** **16 07 25.8 +2.3**
baz=300
I04A Tendick Farm, 70.97 50 P **P** **16 07 25.5 +1.8**
baz=300
L02F Cave Junction 71.05 52 P **P** **16 07 26.2 +2.0**
baz=300
VSR Storozhevoye 71.05 320 *e*P **P** **16 07 22.4 -1.6**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR MLR MLR
comp=Z,7µm,15.0s
JASK Jask - Hormozg 71.06 289 P **P** **16 07 26.2 +1.7**
GROC Groznyy 71.23 310 *e*P **P** **16 07 23.7 -1.5**
GROC *e* 16 07 43.6
GROC *i* S **S** **16 16 44.1 +2.7**
GROC pmax pmax
comp=Z,103nm,1.1s
FIA1 FINESS Array S 71.24 333 P **P** **16 07 24.8 -0.1**
FINES FINESS Array B 71.24 333 P **P** **16 07 24.7 -0.2**
comp=Z,7.5nm,0.8s,baz=64,slow=8.7,SNR=18
FINES S **S** **16 16 39.3 -1.6**
comp=Z,1.6nm,0.8s,baz=148,slow=27,SNR=1.4
comp=Z,7.5nm,0.8s
FINES FINESS Array B 71.24 333 *i* P **P** **16 07 25.3 +0.4**
FINES pmax pmax
comp=Z,8.0nm,0.8s
I05D Terrebonne, OR 71.37 49 P **P** **16 07 28.3 +2.2**
baz=300
J04D Umpqua Nationa 71.44 50 P **P** **16 07 28.8 +2.1**
baz=300
D08A Wellman Farm, 71.46 45 IAmb IAmb 16 07 30.3
comp=Z,14nm,1.2s
YBH Yreka Blue Hor 71.80 52 IAmb IAmb 16 07 38.1
comp=Z,41nm,1.9s
L04D Klamath Falls 71.82 51 IAmb IAmb 16 07 46.5
comp=Z,34nm,1.2s
L04D Klamath Falls 71.82 51 P **P** **16 07 31.7 +2.7**
baz=300
NEW Newport 71.88 44 IAmb IAmb 16 07 33.4
comp=Z,12nm,0.9s
NEW Newport 71.88 44 P **P** **16 07 31.9 +2.7**
baz=302
PINE Pine Mountain 71.89 49 IAmb IAmb 16 07 40.3
comp=Z,31nm,1.1s
J05D Fort Rock, OR 71.97 50 P **P** **16 07 32.3 +2.4**
baz=300
BIDO Bidbid 72.03 286 P **P** **16 07 31.6 +1.3**
SNR=7.0
BIDO P **P** **16 07 31.6 +1.3**
SNR=7.0
BANOM Banah 72.26 290 P **P** **16 07 32.9 +1.1**
SMDO Samad 72.32 286 P **P** **16 07 33.7 +1.4**
SNR=6.8
SMDO P **P** **16 07 33.7 +1.4**
SNR=6.8
SHME Shamm 72.32 290 P **P** **16 07 32.6 +0.5**
SNR=5.7
SHME P **P** **16 07 32.6 +0.5**
SNR=5.7
SHME Shamm 72.32 290 *i* P **P** **16 07 32.8 +0.8**
SNR=9.6
K05A Summer Lake 72.47 50 IAmb IAmb 16 07 49.1
comp=Z,32nm,1.1s
ZEI Tsey 72.64 310 *e*P **P** **16 07 33.6 -0.3**
ZEI pmax pmax
comp=Z,27nm,1.4s
HOQ Hoqain 72.64 287 P **P** **16 07 35.3 +1.2**
SNR=7.6
HOQ P **P** **16 07 35.3 +1.2**
SNR=7.6
MSFE Esma-Masafi 72.65 289 P **P** **16 07 34.5 +0.4**
MEF Metsahovi 72.65 332 *e*P **P** **16 07 34.0 +0.6**
KBZ Khabaz 72.78 311 P **P** **16 07 35.1 +0.7**
comp=Z,12nm,1.0s,baz=58,slow=3.8,SNR=20
KBZ S **S** **16 16 55.6 -3.6**
comp=Z,0.7nm,0.6s,baz=143,slow=18,SNR=0.9
comp=Z,12nm,1.0s
KBZ Khabaz 72.78 311 *ce*P **P** **16 07 35.9 +1.4**
KBZ pmax pmax
comp=Z,46nm,1.5s
KVAR Kislovodsk Arr 72.79 312 P **P** **16 07 33.8 -0.9**
comp=Z,3.1nm,0.4s,baz=90,slow=19,SNR=4.7
KVAR S **S** **16 16 57.2 -2.4**
comp=Z,1.1nm,0.4s,baz=85,slow=22,SNR=1.1
KVAR LR LR 16 41 00.2
comp=Z,1µm,18.4s,baz=242,slow=37
comp=Z,3.1nm,0.4s
KIV Kislovodsk 72.79 312 P **P** **16 07 35.1 +0.4**
KIV Kislovodsk 72.79 312 *e*P **P** **16 07 35.3 +0.6**
KIV *e*S **S** **16 17 02.2 +2.6**
KIV *e*SS **SS** **16 21 43.2 +4.4**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV pmax pmax
comp=Z,63nm,4.8s
KIV MLR MLR
comp=Z,2µm,18.0s
KIV Kislovodsk 72.79 312 P **P** **16 07 35.7 +0.9**
KIV P **P** **16 07 35.7 +0.9**
KIV Kislovodsk 72.79 312 *i* P **P** **16 07 35.7 +0.9**
SNR=7.6
UOSS Minazif 72.82 289 P **P** **16 07 35.6 +0.5**
UOSS IAmb IAmb 16 07 38.5
comp=Z,18nm,1.0s
UOSS Minazif 72.82 289 P **P** **16 07 36.1 +1.0**
UOSS P **P** **16 07 36.1 +1.0**
UOSS Minazif 72.82 289 P **P** **16 07 35.1 0.0**
VSU Vasula 72.83 330 *i* P **P** **16 07 35.1 +0.6**
VSU pmax pmax
comp=Z,71nm,1.1s
VSU Vasula 72.83 330 *i* Pg **P** **16 07 35.1 +0.6**
VSU *e*P **pP** **16 07 36.3 -2.6**
SHA1 Shidzhatmaz 72.92 312 *i* P **P** **16 07 35.9 +0.2**
HATD Hatta, Dubai 72.94 289 P **P** **16 07 36.7 +0.9**
SNR=5.6
HATD P **P** **16 07 36.7 +0.9**
SNR=5.6
ASHO Ashiyiah 73.07 289 P **P** **16 07 37.4 +0.8**
SNR=7.8
ASHO P **P** **16 07 37.4 +0.8**
SNR=7.8
ASHO Ashiyiah 73.07 289 *i* P **P** **16 07 36.9 +0.3**
SNR=7.8
RAF Rauma 73.11 334 *e*P **P** **16 07 36.5 +0.4**
WALA Waterton Lakes 73.26 42 P **P** **16 07 37.5 +0.1**
WALA IAmb IAmb 16 07 43.7
comp=Z,16nm,1.1s
SUMG Summit 73.31 0 P **P** **16 07 38.9 +1.3**
SUMG IAmb IAmb 16 08 03.4
comp=Z,17nm,0.8s
SUMG Summit 73.31 0 P **P** **16 07 38.9 +1.3**
SUMG pmax pmax
comp=Z,17nm,0.8s
SUMG Summit 73.31 0 *i* P **P** **16 07 39.0 +1.3**
ARQ Araqi 73.39 287 P **P** **16 07 40.0 +1.6**
SNR=6.6
ARQ P **P** **16 07 40.0 +1.6**
SNR=6.6
FAQ Al Faqa, Dubai 73.40 289 *i* P **P** **16 07 38.9 +0.4**
SNR=6.1
MHTO MHTO 73.44 284 P **P** **16 07 39.6 +0.9**
SNR=9.9
MHTO P **P** **16 07 39.6 +0.9**
SNR=9.9
MHTO P **pP** **16 07 41.0 -2.0**
SNR=7.1
MHTO P **pP** **16 07 41.0 -2.0**
SNR=7.1
GNI Garni 73.45 307 P **P** **16 07 39.5 +0.7**
GNI Garni 73.45 307 *ce*P **P** **16 07 39.9 +1.1**
GNI pmax pmax
comp=Z,66nm,1.7s
GNI Garni 73.45 307 P **P** **16 07 40.2 +1.4**
ALNE Al Ain 73.63 288 P **P** **16 07 40.5 +0.6**
SNR=6.8
ALNE P **P** **16 07 40.5 +0.6**
SNR=6.8
ASUD Al Ashush, Dub 73.67 289 P **P** **16 07 40.5 +0.5**
MTSE Matsula 73.85 331 *e*P **P** **16 07 40.3 -0.2**
BEKR Beckworth 74.29 52 IAmb IAmb 16 07 47.5
comp=Z,14nm,0.8s
MSO Missoula 74.47 44 IAmb IAmb 16 08 03.2
comp=Z,40nm,2.0s
MSO Missoula 74.47 44 P **P** **16 07 46.5 +1.9**
baz=304
MNK Minsk 74.79 326 *i* P **P** **16 07 44.8 -1.2**
MNK *i* 16 10 31.6
MNK *i* PPP PPP 16 12 17.3
MNK *i* S **S** **16 17 23.0 +1.5**
MNK *i* SS **SS** **16 22 10.8 +2.4**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,28nm,1.2s
MNK Minsk 74.79 326 *i* P **P** **16 07 44.8 -1.2**
comp=E,2.0nm,0.7s
MNK *i* P **P** **16 07 44.8 -1.2**
MNK *i* P **P** **16 07 44.8 -1.2**
comp=Z,28nm,1.2s,baz=51
MNK *i* PP **PP** **16 10 31.6 -1.2**
MNK *i* PPP PPP 16 12 17.4
MNK *i* S **S** **16 17 23.0 +1.5**
MNK *i* SS **SS** **16 22 10.9 +2.4**
MNK *i* SSS SSS 16 25 33.8
MNK *i* LQ LQ 16 35 20.6
MNK *i* LR LR 16 42 26.6
MNK *i* LRM MLR 16 47 20.4
comp=Z,7µm,18.4s
MNK *i* LRM MLR 16 47 25.7
comp=E,1µm,21.6s
SOC Sochi 74.81 313 *e*P **P** **16 07 42.7 -3.7**
SOC *e* 16 10 30.4
SOC *e*PPP PPP 16 12 23.9
SOC *e*S **S** **16 17 17.8 -4.4**
SOC *e*SS **SS** **16 22 15.1 +5.7**
SOC MLR MLR
comp=Z,2µm,17.0s
ISAL Salakas 74.91 328 *e*P **P** **16 07 48.0 +1.3**
NACGM Naroch 75.04 327 ||*e*P **P** **16 07 48.1 +0.6**
baz=51
SLIT Slitere, Latvi 75.17 331 *e*P **P** **16 07 48.0 -0.2**
ANN Anapa 75.51 315 *e*P **P** **16 07 47.6 -2.8**
ANN *e**PP **sP** **16 07 55.6 -0.3**
ANN pmax pmax
comp=Z,11nm,0.7s
FFC Flin Flon 75.81 32 P **P** **16 07 52.3 +0.4**
FFC IAmb IAmb 16 08 08.0
comp=Z,21nm,1.0s
FFC Flin Flon 75.81 32 P **P** **16 07 52.3 +0.4**
FFC pmax pmax
comp=Z,21nm,1.0s
MZR Muzera 75.96 288 P **P** **16 07 53.8 +0.4**
SNR=7.8
MZR P **P** **16 07 53.8 +0.4**
SNR=7.8
MZR Muzera 75.96 288 *i* P **P** **16 07 53.2 -0.1**
SNR=15
HLID Hailey 76.02 47 P **P** **16 07 55.0 +1.4**
baz=304
GURO Guroymak-BITLI 76.08 307 IAmb IAmb 16 07 58.2
comp=Z,34nm,1.2s
EGMT Eagleton 76.12 41 P **P** **16 07 55.6 +1.7**
baz=306
KVN Kaiserville 76.20 52 IAmb IAmb 16 07 58.8
comp=Z,14nm,0.9s
KOPT Kop Dagi 76.28 309 IAmb IAmb 16 08 16.2
comp=Z,35nm,1.4s
NVAR Mina Array Bea 76.41 53 P **P** **16 07 57.7 +1.7**
comp=Z,8.4nm,0.7s,baz=286,slow=5.7,SNR=50
NVAR S **S** **16 17 33.0 -7.5**
comp=Z,0.1nm,0.3s,baz=222,slow=12,SNR=1.2
comp=Z,8.4nm,0.7s
BOZ Bozeman (W) 76.49 44 P **P** **16 07 57.9 +1.7**
baz=306
AKASG Malin Array Be 76.51 323 P **P** **16 07 56.3 +0.3**
comp=Z,5.0nm,0.7s,baz=46,slow=6.2,SNR=36
AKASG S **S** **16 17 34.4 -6.2**
comp=Z,0.1nm,0.3s,baz=51,slow=6.1,SNR=1.2
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 76.51 323 IAmb IAmb 16 07 58.7
comp=Z,14nm,0.9s
AKBB Malin Array Si 76.51 323 *ce*P **P** **16 07 56.3 +0.3**
AKBB pmax pmax
comp=Z,18nm,1.0s
HFS Hagfors 76.57 336 P **P** **16 07 56.1 0.0**
comp=Z,2.2nm,0.4s,baz=90,slow=1.8,SNR=22
comp=Z,2.2nm,0.4s
NB2 NORSAR Subarra 76.69 338 P **P** **16 07 57.2 +0.3**
comp=Z,16nm,1.0s,baz=41,slow=5.9
NB2 NORSAR Subarra 76.69 338 P **P** **16 07 57.2 +0.3**
baz=41,slow=5.9
NOA NORSAR Array B 76.69 338 P **P** **16 07 57.5 +0.6**
comp=Z,5.6nm,0.7s,baz=39,slow=5.7,SNR=29
comp=Z,5.6nm,0.7s
ICESG Greenland Ices 76.81 0 *i* P **P** **16 07 59.0 +1.1**
ICESG IAmb IAmb 16 07 59.7
comp=Z,12nm,0.8s
YHL Hebgen Lake 77.18 44 IAmb IAmb 16 08 17.3
comp=Z,42nm,1.8s
SIM Simferopol' 77.35 316 *e*P **P** **16 08 00.5 -0.4**
SIM *e*S **S** **16 17 44.2 -5.9**
SIM pmax pmax
comp=Z,40nm,1.5s
SIM smax smax
comp=E,241nm,18.3s
GMN Gold Mountain 77.72 53 P **P** **16 08 00.9 -2.4**
H17A Grant Village 77.80 44 P **P** **16 08 07.4 +3.7**
baz=306
MOOW Moose Ponds 78.09 45 P **P** **16 08 04.9 -0.4**
MOOW IAmb IAmb 16 08 19.8
comp=Z,35nm,1.7s
RLMT Red Lodge 78.12 43 IAmb IAmb 16 08 15.4
comp=Z,24nm,1.5s
RLMT Red Lodge 78.12 43 P **P** **16 08 07.8 +2.4**
baz=307
R11A Troy Canyon, C 78.23 52 P **P** **16 08 07.2 +1.0**
baz=305
MPMC Manual Prospec 78.26 54 P **P** **16 08 08.2 +1.8**
baz=304
SFJD Kangerlussuaq 78.49 5 LR LR 16 43 57.9
comp=Z,1µm,21.3s,baz=353,slow=37
EDW2 Edwards Air Fo 78.57 56 P **P** **16 08 09.7 +1.8**
baz=304
SPR3 Spring Creek 3 78.66 50 IAmb IAmb 16 08 16.0
comp=Z,20nm,1.4s

HWUT	**Hardware Ranch**	78.87	47	IAmb	IAmb	16 08 14.6		
	comp=Z,28nm,1.1s							
DUG	**Dugway, Tooele**	78.93	49	IAmb	IAmb	16 08 27.3		
	comp=Z,23nm,1.1s							
DUG	**Dugway, Tooele**	78.93	49	P	P	**16 08 11.9**	**+2.0**	
	baz=306							
KIS	**Kishinev**	79.03	320	*e*P	P	**16 08 09.0**	**-1.1**	
KIS				*e*L	L	16 38 46.0		
KIS				LQM		16 41 53.0		
	comp=Z,1µm,16.0s							
KIS				LRM	MLR	16 48 02.0		
	comp=Z,3µm,16.5s							
KIS	**Kishinev**	79.03	320	*e*P	P	**16 08 09.0**	**-1.1**	
KIS				*e*		16 08 12.0		
KIS				MLR	MLR			
	comp=N,1µm,16.5s							
KIS				MLR	MLR			
	comp=E,2µm,16.5s							
KIS				MLR	MLR			
	comp=Z,3µm,16.5s							
MILM	**Milestii Mici**	79.08	320	*ce*P	P	**16 08 10.0**	**-0.4**	
MILM				*e*		16 08 24.0		
MILM				*e*S	S	**16 18 05.0**	**-3.6**	
MILM				*e*PS	PnS	16 19 11.0	+19	
MILM				MLR	MLR			
	comp=Z,7µm,16.0s							
MILM				MLR	MLR			
	comp=N,3µm,16.5s							
MILM				MLR	MLR			
	comp=E,4µm,16.0s							
BFSC	**Mount Baldy Ra**	79.16	56	P	P	**16 08 13.6**	**+2.4**	
	baz=304							
SHOC	**Shoshone, Teco**	79.16	54	P	P	**16 08 14.2**	**+3.1**	
	baz=305							
DY2G	**Dye2**	79.26	3	*i* P	P	**16 08 12.0**	**+0.7**	
DY2G				IAmb	IAmb	16 08 12.8		
	comp=Z,5.3nm,0.8s							
CTU	**Camp Tracy**	79.29	48	IAmb	IAmb	16 08 26.8		
	comp=Z,16nm,1.1s							
BW06	**Boulder Array**	79.37	45	P	P	**16 08 14.0**	**+1.6**	
	baz=307							
PDAR	**Pinedale Array**	79.37	45	P	P	**16 08 14.0**	**+1.6**	
	comp=Z,4.9nm,0.8s,baz=275,slow=2.0,SNR=29							
	comp=Z,4.9nm,0.8s							
PDAR	**Pinedale Array**	79.37	45	P	P	**16 08 11.2**	**-1.1**	
LVV	**L'vov**	79.63	324	*e*P	P	**16 08 13.8**	**+0.5**	
LVV				*e*S	S	**16 18 13.3**	**-1.0**	
LVV				pmax	pmax			
	comp=Z,40nm,1.5s							
TUQ	**Turquoise Moun**	79.66	54	P	P	**16 08 15.7**	**+1.7**	
	baz=305							
HEC	**Hector,Ludlow**	79.73	55	P	P	**16 08 16.1**	**+1.8**	
	baz=305							
MPU	**Maple Canyon**	79.77	48	IAmb	IAmb	16 08 18.7		
	comp=Z,22nm,1.1s							
BSD	**Bornholm Skovb**	79.86	332	*e*P	P	**16 08 13.4**	**-1.0**	
BSD				*i* Pg	P	**16 08 14.2**	**-0.3**	
V12A	**Nelson**	80.21	53	P	P	**16 08 15.6**	**-1.3**	
V12A				IAmb	IAmb	16 08 21.8		
	comp=Z,33nm,1.7s							
GMRC	**Granite Mounta**	80.21	55	P	P	**16 08 18.2**	**+1.2**	
	baz=305							
BORG	**Borgarnes**	80.28	353	P	P	**16 08 18.7**	**+2.2**	
	comp=Z,34nm,1.1s,baz=314,slow=2.2,SNR=2.0							
	comp=Z,34nm,1.1s							
PFO	**Pinyon Flats O**	80.34	56	P	P	**16 08 18.8**	**+1.1**	
	baz=305							
TPFO	**Pinon Flats**	80.34	56	P	P	**16 08 18.6**	**+0.9**	
	baz=305							
PMD	**Palm Desert**	80.37	56	IAmb	IAmb	16 08 21.1		
	comp=Z,18nm,1.3s							
KWP	**Kalwaria Pacla**	80.39	325	*e*P	P	**16 08 19.0**	**+1.6**	
BELC	**Belle Mtn. Jos**	80.43	55	P	P	**16 08 18.9**	**+0.8**	
	baz=305							
TESR	**Tescani**	80.49	321	P	P	**16 08 19.1**	**+1.1**	
BIZ	**Bicaz**	80.49	321	⇓P	P	**16 08 19.5**	**+1.4**	
BURAR	**Bucovina Array**	80.50	322	⇑P	P	**16 08 19.4**	**+1.1**	
CFR	**Carcaliu**	80.55	319	⇑P	P	**16 08 19.2**	**+0.8**	
TPGR	**Topolog**	80.61	319	P	P	**16 08 19.6**	**+0.8**	
BR131	**Keskin Array S**	80.75	312	IAmb	IAmb	16 08 23.1		
	comp=Z,15nm,0.9s							
BRTR	**Keskin Array B**	80.75	312	P	P	**16 08 20.9**	**+1.2**	
	comp=Z,7.7nm,0.9s,baz=100,slow=3.2,SNR=31							
	comp=Z,7.7nm,0.9s							
BRTR	**Keskin Array B**	80.75	312	P	P	**16 08 21.0**	**+1.2**	
MONP2	**Monument Peak**	80.77	57	P	P	**16 08 20.8**	**+0.7**	
	baz=305							
TIRR	**Tirgusor**	80.86	318	⇑P	P	**16 08 20.6**	**+0.5**	
TIRR	**Tirgusor**	80.86	318	IAmb	IAmb	16 09 04.5		
	comp=Z,35nm,1.3s							
VRI	**Vrincioaia**	80.87	320	P	P	**16 08 22.4**	**+2.3**	
IRM	**Iron Mountain**	80.92	55	P	P	**16 08 21.9**	**+1.3**	
	baz=306							
PLOR	**Plostina**	80.92	320	⇑P	P	**16 08 19.9**	**-0.5**	
BC3	**Big Chuckawall**	81.00	55	P	P	**16 08 22.4**	**+1.2**	
	baz=305							
KOLS	**Kolonicke sedl**	81.07	324	*e*P	P	**16 08 21.9**	**+0.8**	
KOLS				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KOLS	**Kolonicke sedl**	81.07	324	*e*P	P	**16 08 21.9**	**+0.8**	
IKP	**In-Ko-Pah, Jac**	81.13	57	P	P	**16 08 22.2**	**+0.3**	
	baz=305							
ANTO	**Ankara**	81.18	313	P	P	**16 08 22.2**	**+0.2**	
ANTO				IAmb	IAmb	16 08 25.5		
	comp=Z,25nm,1.1s							
ANTO	**Ankara**	81.18	313	P	P	**16 08 22.2**	**+0.2**	
ANTO				pmax	pmax			
	comp=Z,25nm,1.2s							
K22A	**Casper**	81.20	44	P	P	**16 08 24.2**	**+2.1**	
	baz=309							
K22A	**Casper**	81.20	44	P	P	**16 08 24.3**	**+2.1**	
	baz=309							
OZUR		81.21	321	P	P	**16 08 23.9**	**+1.9**	
UZH	**Uzhgorod**	81.27	324	⇑*i*P	P	**16 08 22.7**	**+0.6**	
UZH				*e*		16 08 29.2		
UZH				*e*S	S	**16 18 31.7**	**+0.2**	
UZH				*e*PS	PnS	**16 19 15.0**	**-4.2**	
UZH				*i*		16 19 37.2		
UZH				*e*SS	SS	**16 23 50.0**	**+3.9**	
OJC	**Ojcow**	81.34	327	*e*P	P	**16 08 22.8**	**+0.2**	
OJC	**Ojcow**	81.34	327	IAmb	IAmb	16 08 32.0		
	comp=Z,20nm,1.1s							
RWWY	**Rawlins**	81.41	45	IAmb	IAmb	16 08 47.1		
	comp=Z,18nm,0.9s							
ISR	**Istrita**	81.45	320	⇑P	P	**16 08 25.2**	**+1.9**	
CRVS	**Cervenica-Dubn**	81.48	325	*e*P	P	**16 08 24.2**	**+0.9**	
CRVS				pmax	pmax			
	comp=Z,23nm,1.3s							
CRVS	**Cervenica-Dubn**	81.48	325	*e*P	P	**16 08 24.2**	**+0.9**	
TRPA	**Tarpa**	81.49	324	P	P	**16 08 25.0**	**+1.7**	
TRPA	**Tarpa**	81.49	324	P	P	**16 08 24.3**	**+1.0**	
DOPR	**Dopca**	81.51	321	⇑P	P	**16 08 25.6**	**+2.1**	
PDMCI	**Parker Dam,Lak**	81.51	54	P	P	**16 08 25.4**	**+1.7**	
	baz=306							
MLR	**Muntele Rosu**	81.53	320	P	P	**16 08 25.7**	**+2.0**	
MLR	**Muntele Rosu**	81.53	320	P	P	**16 08 24.2**	**+0.4**	
	comp=Z,1.0nm,0.4s,baz=19,slow=3.3,SNR=7.7							
	comp=Z,1.0nm,0.4s							
ULM	**Lac du Bonnet**	81.59	33	P	P	**16 08 23.6**	**-0.2**	
	comp=Z,5.3nm,0.9s,baz=295,slow=4.6,SNR=3.5							
	comp=Z,5.3nm,0.9s							
RSSD	**Black Hills**	81.66	42	P	P	**16 08 23.8**	**-0.8**	
RSSD	**Black Hills**	81.66	42	P	P	**16 08 23.8**	**-0.8**	
RSSD				pmax	pmax			
	comp=Z,20nm,1.6s							
RSSD	**Black Hills**	81.66	42	P	P	**16 08 26.0**	**+1.4**	
	baz=310							
NIE	**Niedzica**	81.67	326	*e*P	P	**16 08 26.4**	**+2.0**	
O20A	**White River Ci**	81.76	47	P	P	**16 08 26.9**	**+1.7**	
	baz=308							
GLA	**Glamis**	81.78	56	P	P	**16 08 27.1**	**+1.9**	
	baz=306							
RAYN	**Ar Rayn**	81.85	293	P	P	**16 08 25.6**	**-0.1**	
RAYN	**Ar Rayn**	81.85	293	P	P	**16 08 25.6**	**-0.1**	
RAYN				pmax	pmax			
	comp=Z,43nm,1.2s							
RAYN	**Ar Rayn**	81.85	293	P	P	**16 08 26.4**	**+0.6**	
RAYN	**Ar Rayn**	81.85	293	*i* P	P	**16 08 25.5**	**-0.2**	
	SNR=6.3							
VOIR		82.04	321	P	P	**16 08 27.4**	**+1.0**	
LANS	**Liptovska Anna**	82.25	326	*e*P	P	**16 08 29.2**	**+1.8**	
LANS				pmax	pmax			
	comp=Z,6.0nm,1.2s							
LANS	**Liptovska Anna**	82.25	326	*e*P	P	**16 08 29.2**	**+1.8**	
ARR	**Arges**	82.30	321	⇓P	P	**16 08 30.0**	**+2.3**	
DRGR		82.32	323	⇑P	P	**16 08 29.5**	**+1.6**	
OKC	**Ostrava-Krasne**	82.36	327	AMS	AMS	16 50 40.0		
	comp=Z,4µm,15.1s							
KSP	**Ksiaz**	82.45	329	*e*P	P	**16 08 30.2**	**+1.8**	
WUAZ	**Wupatki**	82.62	52	P	P	**16 08 31.2**	**+1.4**	
	baz=307							
N23A	**Red Feather La**	82.65	45	P	P	**16 08 31.7**	**+1.8**	
	baz=310							
MORC	**Moravsky Berou**	82.67	327	P	P	**16 08 31.4**	**+1.8**	
MORC	**Moravsky Berou**	82.67	327	*e*P	P	**16 08 30.7**	**+1.1**	
OSTC	**Ostas**	82.69	328	*e*S	S	**16 18 49.9**	**+3.7**	
LOT	**Lotru**	82.70	321	P	P	**16 08 31.9**	**+2.0**	
CHVC	**Chvalec**	82.74	329	AMS	AMS	16 53 30.0		
	comp=Z,4µm,13.8s							
DPC	**Dobruska-Polom**	82.80	328	*e*P	P	**16 08 31.8**	**+1.6**	
DPC				*e*		16 18 51.6		
DPC				MLR	MLR			
	comp=Z,4µm,14.0s							
DPC	**Dobruska-Polom**	82.80	328	*e*P	P	**16 08 31.8**	**+1.6**	
DPC				*e*S	S	**16 18 51.6**	**+4.3**	
DPC				AMS	AMS	16 53 10.0		
	comp=Z,4µm,14.0s							
KRLC	**Kraliky**	82.80	328	*e*P	P	**16 08 31.3**	**+1.1**	
KRLC				*e*		16 18 49.6		
KRLC				MLR	MLR			
	comp=Z,5µm,14.3s							
KRLC	**Kraliky**	82.80	328	*e*P	P	**16 08 31.3**	**+1.1**	
KRLC				*e*S	S	**16 18 49.6**	**+2.3**	
KRLC				AMS	AMS	16 52 50.0		
	comp=Z,5µm,14.3s							
UPC	**Upice**	82.81	328	*e*P	P	**16 08 31.7**	**+1.4**	
UPC				*e*		16 18 49.9		
UPC				MLR	MLR			
	comp=Z,4µm,14.4s							
UPC	**Upice**	82.81	328	*e*P	P	**16 08 31.7**	**+1.4**	
UPC				*e*S	S	**16 18 49.9**	**+2.5**	
UPC				AMS	AMS	16 53 30.0		
	comp=Z,4µm,14.4s							
MAUC	**Maruska**	82.84	327	AMS	AMS	16 50 40.0		
	comp=Z,7µm,14.6s							
PSZ	**Piszkesteto**	82.92	325	P	P	**16 08 32.2**	**+1.3**	
PSZ	**Piszkesteto**	82.92	325	P	P	**16 08 32.4**	**+1.5**	
AGMN	**Agassiz Nation**	82.98	35	P	P	**16 08 31.9**	**+0.8**	
	baz=315							
AGMN	**Agassiz Nation**	82.98	35	P	P	**16 08 32.2**	**+1.0**	
	baz=315							
SZH	**Strazhica**	83.00	318	P	P	**16 08 28.0**	**-3.4**	
VYHS	**Vyhne**	83.01	326	*e*P	P	**16 08 32.4**	**+1.1**	
VYHS				pmax	pmax			
	comp=Z,24nm,1.7s							
VYHS	**Vyhne**	83.01	326	*e*P	P	**16 08 32.4**	**+1.1**	
GZR	**Gura Zlata**	83.25	322	P	P	**16 08 33.4**	**+0.7**	
JAVC	**Velka Javorina**	83.28	327	*e*P	P	**16 08 34.6**	**+1.8**	
PPT2	**Papeete2**	83.29	116	*e*LR	LR	16 34 38.8		
	comp=Z,1µm,21.8s							
PVCC	**Panska Ves**	83.42	329	*e*P	P	**16 08 33.4**	**0.0**	
PVCC				*e*		16 18 55.9		
PVCC				MLR	MLR			
	comp=Z,5µm,15.0s							
PVCC	**Panska Ves**	83.42	329	*e*P	P	**16 08 33.4**	**0.0**	
PVCC				*e*S	S	**16 18 55.9**	**+2.4**	
PVCC				AMS	AMS	16 51 40.0		
	comp=Z,5µm,15.0s							
MVCO	**Mesa Verde**	83.42	49	IAmb	IAmb	16 08 59.6		
	comp=Z,16nm,1.0s							
MVCO	**Mesa Verde**	83.42	49	P	P	**16 08 35.6**	**+1.7**	
	baz=309							
BRG	**Berggiesshubel**	83.42	330	*e*P	P	**16 08 34.5**	**+1.1**	
BRG				Amp		16 08 36.2		
	comp=Z,10nm,1.4s							
BRG				*ex*	x	16 08 56.3		
BRG				Amp		16 08 58.3		
	comp=Z,12nm,1.3s							
BRG	**Berggiesshubel**	83.42	330	S	S	**16 18 57.0**	**+3.5**	
BRG	**Berggiesshubel**	83.42	330	SS	SS	16 24 23.0	+5.2	
BRG	**Berggiesshubel**	83.42	330	*e*P	P	**16 08 34.5**	**+1.1**	
BRG				pmax	pmax			
	comp=Z,10.0nm,1.4s							
VRAC	**Vranov**	83.44	327	P	P	**16 08 35.2**	**+1.7**	
VRAC	**Vranov**	83.44	327	P	P	**16 08 35.4**	**+1.8**	
	comp=Z,2.0nm,0.3s,baz=56,slow=6.2,SNR=15							
VRAC				S	S	**16 18 49.7**	**-4.1**	
	comp=Z,1.0nm,0.3s,baz=1.2,slow=3.1,SNR=1.6							
	comp=Z,2.0nm,0.3s							
VRAC	**Vranov**	83.44	327	*e*P	P	**16 08 34.8**	**+1.3**	
CLL	**Collm**	83.48	330	P	P	**16 08 33.8**	**+0.1**	
CLL				IAmb	IAmb	16 08 43.1		
	comp=Z,11nm,1.0s							
CLL	**Collm**	83.48	330	*i* P	P	**16 08 34.0**	**+0.3**	
CLL				*i*		16 08 39.5		
CLL				*e*S	S	**16 18 56.0**	**+1.9**	
CLL				pmax	pmax			
	comp=Z,22nm,1.4s							
CLL	**Collm**	83.48	330	*i* P	P	**16 08 34.0**	**+0.3**	
	comp=Z,22nm,1.4s							
CLL				*i* PcP	**sP**	**16 08 39.5**	**+0.4**	
CLL				*ex*	x	16 08 53.0		
CLL				*e*S	S	**16 18 56.0**	**+1.9**	
CLL				*e*SS	SS	**16 24 18.0**	**-0.6**	
ISCO	**Idaho Springs**	83.54	46	IAmb	IAmb	16 08 59.4		
	comp=Z,8.2nm,0.8s							
ISCO	**Idaho Springs**	83.54	46	P	P	**16 08 36.9**	**+2.3**	
	baz=310							
ISCO	**Idaho Springs**	83.54	46	P	P	**16 08 36.0**	**+1.4**	
	baz=310							
SMOL	**Smolenice**	83.64	326	*e*P	P	**16 08 36.0**	**+1.4**	
SMOL				pmax	pmax			
	comp=Z,11nm,1.3s							
BZS	**Buzias**	83.68	322	P	P	**16 08 35.8**	**+0.9**	
KRUC	**Moravsky**	83.71	327	*e*P	P	**16 08 35.6**	**+0.7**	
GOPC	**GO Pecny, Ondr**	83.78	329	*e*P	P	**16 08 35.6**	**+0.3**	
GOPC				MLR	MLR			
	comp=Z,5µm,13.9s							
GOPC	**GO Pecny, Ondr**	83.78	329	*e*P	P	**16 08 35.6**	**+0.3**	
GOPC				AMS	AMS	16 53 50.0		
	comp=Z,5µm,13.9s							
HERR	**Herculane**	83.78	321	P	P	**16 08 36.1**	**+0.8**	
214A	**Organ Pipe Nat**	83.80	55	IAmb	IAmb	16 09 12.8		
	comp=Z,18nm,1.4s							
214A	**Organ Pipe Nat**	83.80	55	P	P	**16 08 35.8**	**+0.1**	
	baz=307							
MODS	**Modra-Piesok**	83.81	326	*e*P	P	**16 08 37.7**	**+2.2**	
MODS				pmax	pmax			
	comp=Z,69nm,1.6s							
MODS	**Modra-Piesok**	83.81	326	*e*P	P	**16 08 37.7**	**+2.2**	
PRU	**Pruhonice**	83.83	329	*e*P	P	**16 08 36.6**	**+1.1**	
PRU				*e*		16 18 59.2		
PRU				MLR	MLR			
	comp=E,4µm,15.7s							
PRU				MLR	MLR			
	comp=Z,6µm,14.0s							
PRU	**Pruhonice**	83.83	329	*e*P	P	**16 08 36.6**	**+1.1**	
PRU				*e*S	S	**16 18 59.2**	**+1.5**	
PRU				AMS	AMS	16 51 50.0		
PRU				AMS	AMS	16 54 00.0		
	comp=Z,6µm,14.0s							
B35A	**Bob, Littlefor**	83.93	34	P	P	**16 08 36.7**	**+0.7**	
	baz=317							
TREC	**Trest**	83.94	328	*e*P	P	**16 08 37.7**	**+1.6**	
TREC				MLR	MLR			
	comp=Z,4µm,14.9s							
TREC	**Trest**	83.94	328	*e*P	P	**16 08 37.7**	**+1.6**	
TREC				AMS	AMS	16 54 20.0		
	comp=Z,4µm,14.9s							
ZST	**Bratislava**	84.02	326	*e*P	P	**16 08 38.3**	**+1.8**	
ZST				pmax	pmax			
	comp=Z,81nm,1.5s							
ZST	**Bratislava**	84.02	326	*e*P	P	**16 08 38.3**	**+1.8**	
S22A	**4UR Ranch, Cre**	84.11	48	P	P	**16 08 40.1**	**+2.5**	
	baz=309							
MDVR	**Moldovita**	84.21	322	P	P	**16 08 38.1**	**+0.5**	
Q24A	**Divide**	84.35	46	P	P	**16 08 40.3**	**+1.5**	
	baz=310							
KDZ	**Kurdzhali**	84.36	318	P	P	16 08 28.0	-10	
BLKB	**Belogradchik**	84.51	320	⇑P	P	**16 08 40.6**	**+1.5**	
F33A	**5 Mile Ranch,**	84.52	37	P	P	**16 08 38.4**	**-0.7**	
F33A				IAmb	IAmb	16 08 54.7		
	comp=Z,18nm,0.8s							
F33A	**5 Mile Ranch,**	84.52	37	P	P	**16 08 40.5**	**+1.4**	
	baz=315							
NKC	**Novy Kostel**	84.53	330	*e*S	S	**16 19 09.0**	**+4.3**	
NKC				AMS	AMS	16 52 10.0		
	comp=Z,8µm,14.9s							
MPLH	**Magyarpolny**	84.57	325	P	P	**16 08 40.0**	**+0.7**	
TIH	**Tihany**	84.60	325	P	P	**16 08 40.4**	**+1.0**	
SOP	**Sopron**	84.65	326	P	P	**16 08 40.8**	**+1.1**	
MORH	**Mrgy, Hungar**	84.73	324	P	P	**16 08 40.5**	**+0.4**	
RONA	**Rosalia, Austr**	84.76	326	*i* P	P	**16 08 41.8**	**+1.5**	
	comp=Z,26nm,1.2s,SNR=13							
CONA	**Conrad Observa**	84.78	327	*i* P	P	**16 08 42.1**	**+1.6**	
	comp=Z,24nm,1.2s,SNR=14							
CKRC	**Cesky Krumlov**	84.81	328	*e*P	P	**16 08 40.8**	**+0.3**	
CKRC				*e*S	S	**16 19 07.6**	**0.0**	
CKRC				AMS	AMS	16 52 20.0		
	comp=Z,4µm,14.4s							
KHC	**Kasperske Hory**	84.89	329	IAmb	IAmb	16 08 42.9		
	comp=Z,15nm,1.3s							
KHC	**Kasperske Hory**	84.89	329	*e*P	P	**16 08 41.3**	**+0.3**	
KHC				*e*		16 08 47.5		
KHC				*e*		16 19 09.2		
KHC	**Kasperske Hory**	84.89	329	*e*P	P	**16 08 41.3**	**+0.3**	
KHC				*ex*	x	16 08 47.5		
KHC				*e*S	S	**16 19 09.2**	**+0.8**	
VTS	**Vitosha**	84.90	319	IAmb	IAmb	16 08 43.8		
	comp=Z,22nm,1.1s							
VTS	**Vitosha**	84.90	319	P	P	**16 08 41.5**	**+0.2**	
FRGS	**Fruska Gora**	84.91	323	⇓P	P	**16 08 42.4**	**+1.3**	
SDCO	**Great Sand Dun**	84.93	47	P	P	**16 08 43.9**	**+2.2**	
	baz=310							
SDCO	**Great Sand Dun**	84.93	47	P	P	**16 08 44.2**	**+2.5**	
	baz=310							
TUC	**Tucson**	84.95	54	P	P	**16 08 41.3**	**-0.3**	
TUC				IAmb	IAmb	16 08 45.4		
	comp=Z,18nm,1.6s							
TUC	**Tucson**	84.95	54	P	P	**16 08 41.3**	**-0.3**	
TUC				pmax	pmax			
	comp=Z,18nm,1.7s							
TUC	**Tucson**	84.95	54	P	P	**16 08 42.9**	**+1.2**	
	baz=308							
BOVS	**Bovan**	85.01	321	⇓P	P	**16 08 42.1**	**+0.5**	
GERES	**GERESS Array B**	85.06	328	P	P	**16 08 41.5**	**-0.4**	
	comp=Z,1.6nm,0.7s,baz=46,slow=3.9,SNR=15							
GERES				S	S	**16 19 05.6**	**-4.5**	
	comp=Z,0.4nm,0.7s,baz=115,slow=4.4,SNR=1.0							
	comp=Z,1.6nm,0.7s							
KOVH	**Kovagotottos**	85.08	324	P	P	**16 08 42.2**	**+0.3**	
TAOE	**Nuku Hiva Isla**	85.34	104	*e*S	S	**16 19 11.8**	**-2.1**	
	comp=Z,492nm,25.9s							
TAOE	**Nuku Hiva Isla**	85.34	104	*e*LR	LR	16 35 33.5		
	comp=Z,2µm,21.5s							
ARSA	**Arzberg**	85.44	327	*e*P	P	**16 08 44.9**	**+1.2**	
	comp=Z,13nm,1.6s							
MOA	**Molln**	85.56	328	*e*P	P	**16 08 45.5**	**+1.2**	
	comp=Z,9.4nm,1.4s							
EKA	**Eskdalemuir Ar**	85.68	341	P	P	**16 08 45.6**	**+0.9**	
	comp=Z,4.3nm,0.9s,baz=3.8,slow=5.0,SNR=4.7							
	comp=Z,4.3nm,0.9s							
ECSD	**EROS Data Cent**	85.86	38	P	P	**16 08 44.6**	**-1.2**	
ECSD				IAmb	IAmb	16 09 01.3		
	comp=Z,12nm,1.0s							
ECSD	**EROS Data Cent**	85.86	38	P	P	**16 08 44.9**	**-0.9**	
	baz=315							
ECSD	**EROS Data Cent**	85.86	38	P	P	**16 08 47.2**	**+1.4**	
	baz=315							
BIOA	**Bad Ischl, Aus**	85.96	328	*e*P	P	**16 08 47.5**	**+1.2**	
	comp=Z,17nm,1.6s							
T25A	**Trinidad**	85.98	47	IAmb	IAmb	16 09 12.1		
	comp=Z,28nm,1.4s							
T25A	**Trinidad**	85.98	47	P	P	**16 08 48.5**	**+1.7**	
	baz=311							
GROS	**Grobnik**	86.04	326	*e*P	P	**16 08 46.8**	**0.0**	
SOKA	**Soboth**	86.09	326	*i* P	P	**16 08 47.8**	**+0.8**	
	comp=Z,23nm,1.2s,SNR=16							
ANMO	**Albuquerque**	86.13	50	P	P	**16 08 46.9**	**-0.7**	
ANMO	**Albuquerque**	86.13	50	*ce*P	P	**16 08 47.3**	**-0.3**	
ANMO				pmax	pmax			
	comp=Z,7.0nm,1.3s							
ANMO	**Albuquerque**	86.13	50	P	P	**16 08 48.7**	**+1.1**	
	baz=310							
LEGS	**Legarje**	86.50	326	*e*P	P	**16 08 49.0**	**0.0**	
KBA	**Koelnbreinsper**	86.55	328	*e*P	P	**16 08 51.3**	**+1.9**	
	comp=Z,1.8nm,0.6s							
MYKA	**Terra Mystica**	86.76	327	*e*P	P	**16 08 51.2**	**+0.9**	
	comp=Z,3.5nm,0.6s							
TBI	**Tubuai**	87.00	121	*e*LR	LR	16 36 22.5		
	comp=Z,4µm,21.2s							
WATA	**Walderalm**	87.13	329	*e*P	P	**16 08 53.7**	**+1.5**	
	comp=Z,4.0nm,1.0s							
WTTA	**Wattenberg**	87.16	329	*e*P	P	**16 08 54.1**	**+1.8**	
	comp=Z,1.1nm,0.5s							
ABTA	**Abfaltersbach**	87.17	328	*e*P	P	**16 08 52.3**	**0.0**	
	comp=Z,2.4nm,1.0s							
L34A	**Svendsen Farm,**	87.23	39	P	P	**16 08 53.1**	**+0.4**	
	baz=315							
I37B	**Waseca**	87.26	36	P	P	**16 08 54.3**	**+1.6**	
	baz=317							
MOTA	**Moosalm**	87.32	329	*e*P	P	**16 08 54.7**	**+1.5**	
	comp=Z,15nm,1.8s							
RETA	**Reutte**	87.36	329	*i* P	P	**16 08 54.2**	**+0.9**	
	comp=Z,8.3nm,1.2s,SNR=5.4							
SQTA	**Sankt Quirin**	87.38	329	*e*P	P	**16 08 53.9**	**+0.6**	
	comp=Z,1.8nm,0.5s							
RCHB	**Rochefort**	87.41	334	*d*P	P	**16 08 53.6**	**+0.4**	
BMRD	**Maredsous**	87.46	334	*d*P	P	**16 08 54.1**	**+0.6**	
BFO	**Black Forest**	87.70	331	P	P	**16 08 53.6**	**-1.2**	
BFO				IAmb	IAmb	16 08 57.6		
	comp=Z,31nm,1.8s							
BFO	**Black Forest**	87.70	331	P	P	**16 08 53.6**	**-1.2**	
BFO				pmax	pmax			
	comp=Z,31nm,1.8s							
FETA	**Feichten**	87.74	329	*e*P	P	**16 08 55.1**	**-0.1**	
	comp=Z,3.7nm,1.4s							
SCHQ	**Schefferville**	87.81	16	P	P	**16 08 55.9**	**+0.8**	
	comp=Z,6.5nm,0.8

IDC ***22*** *15:57:06.9±0.4,34˚45N×141˚63E,h0km,mb5.0/52, mbtmp5.0/59,ML3.9/5,MS5.3/8,Error ellipse: s-maj=11.8km s-min=8.9km az=88.0*

NEIC ***22*** *15:57:06.9±2.6,34˚37N±0˚04×141˚76E±0˚05,h19km±2km, mb5.3/67,Mww5.3,Error ellipse: s-maj=7.5km s-min=3.4km az=133.0*

JMA ***22*** *15:57:08.2±0.3,34˚4N±0˚9×14˚2E±˚,h25km,MD5.9/30, MV5.0/30,FAR SE OFF BOSO PEN*

GCMT ***22*** *15:57:11.9±0.1,34˚41N±0˚01×141˚86E±0˚01,h12km, MW5.3/157,Moment Tensor Solution. s105,c177; s157,c294; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.96±.01; Mθθ-0.15±.01; Mϕϕ-0.81±.01; Mrθ-0.02±.04; Mrϕ0.17±.01; Mθϕ0.81±.03; Best double couple: Mo1.21500×10¹⁷ NP1:ϕs354.00000°,δ66.00000°, λ95.00000°. NP2:ϕs161.00000°,δ25.00000°,λ78.00000°. Principal axes: T 1.2770, Plg69.0000°, Azm275.0000°; N -0.1240, Plg5.0000°, Azm172.0000°; P -1.1540, Plg21.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *15:57:15,34˚39N×141˚68E,h18km,Moment Tension Solution. Duration: 14s4 Moment tensor: Scale 10¹⁷Nm; Mrr1.10; Mθθ-0.10; Mϕϕ-1.01; Mrθ0.20; Mrϕ0.22; Mθϕ0.53; Fault plane solution: Mo1.22000×10¹⁷ NP1: ϕs155.00000°,δ34.00000°,λ69.00000°. NP2:ϕs1.00000°, δ58.00000°,λ104.00000°. Principal axes: T 1.2709, Plg73.0000°, Azm306.0000°; N -0.1129, Plg12.0000°, Azm173.0000°; P -1.1580, Plg12.0000°, Azm81.0000°;*

ISC 22 15:57:08.4±0.4,34˚39N±0˚03×141˚77E±0˚04,h18km±3km, n443,σ2s43/321,mb5.1/118,MS5.7/14,1C-8D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**1.42**	**303**	*eP*		**Pb**		**15 57 34.3**	**0.0**
KTR				*eS*		**Sg**		**15 57 53.5**	**-0.8**
JKUC	**kamogawauchiur**	**1.51**	**301**	*eP*		**Pn**		**15 57 34.7**	**+0.2**
JKUC				*eS*		**Sb**		**15 57 55.3**	**+0.7**
JKUC	**kamogawauchiur**	**1.51**	**301**	A		A		15 57 34.7	
	comp=E,315nm,5.2s,comp=E,200nm,4.9s								
CHOJ	**Chosi**	**1.51**	**330**	*eP*		**Pn**		**15 57 34.3**	**-0.2**
CHOJ				*eS*		**Sb**		**15 57 54.2**	**-0.5**
CHOJ	**Chosi**	**1.51**	**330**	A		A		15 57 34.3	
	comp=E,201nm,13.7s,comp=E,111nm,8.9s								
I30JP	**ISUMI INFRASON**	**1.51**	**308**	Pn		**Pn**		**15 57 33.0**	**-1.5**
	baz=73,slow=29								
I30JP					Sn	**Sn**		**15 57 51.6**	**-2.1**
JCN	**Nagara**	**1.65**	**309**	A		A		15 57 37.1	
	comp=E,641nm,5.4s,comp=E,557nm,9.1s								
JSMT	**Sammumatsuo**	**1.66**	**319**	*eP*		**Pn**		**15 57 36.7**	**+0.2**
JSMT				*eS*		**Sn**		**15 57 57.1**	**-0.3**
JSMT	**Sammumatsuo**	**1.66**	**319**	A		A		15 57 36.7	
	comp=E,787nm,6.8s,comp=E,680nm,6.4s								
JIHU	**Itakohorinouch**	**1.88**	**327**	A		A		15 57 39.9	
	comp=E,289nm,5.8s,comp=E,238nm,5.8s								
JMKN	**Mikurajimanish**	**1.88**	**255**	*eS*		**Sb**		**15 58 04.5**	**-0.7**
JMKN	**Mikurajimanish**	**1.88**	**255**	A		A		15 58 04.5	
	comp=E,104nm,10.7s,comp=E,107nm,8.0s								
JYO	**Yokosk**	**1.93**	**296**	A		A		15 57 41.2	
	comp=E,246nm,5.4s,comp=E,351nm,6.5s								
JIM2	**Oshima 3**	**1.96**	**280**	A		A		15 57 41.9	
	comp=E,96nm,6.2s,comp=E,134nm,5.8s								
JTHY	**Toshimahigashi**	**2.06**	**274**	A		A		15 57 43.3	
	comp=E,129nm,5.3s,comp=E,117nm,8.2s								
JNIO	**Niijimaoohara**	**2.07**	**270**	A		A		15 57 43.5	
	comp=E,144nm,2.7s,comp=E,116nm,2.3s								
JHJ2	**Mitsune**	**2.07**	**233**	Pn		**Pn**		**15 57 38.4**	**-3.8**
JHJ2					Sn	**Sn**		**15 58 00.7**	**-6.8**
JHJ2	**Mitsune**	**2.07**	**233**	*eP*		**Pb**		**15 57 44.0**	**-1.4**
JHJ2				*eS*		**Sb**		**15 58 10.1**	**-0.6**
JHJ2	**Mitsune**	**2.07**	**233**	A		A		15 57 44.0	
	comp=E,86nm,5.9s,comp=E,86nm,7.0s								
JHJ	**Hachijo jima 2**	**2.09**	**233**	Pn		**Pn**		**15 57 43.4**	**+0.9**
	259nm,0.3s,baz=68,slow=20,SNR=1.3								
JHJ					Sn	**Sn**		**15 58 09.0**	**+1.1**
	2μm,0.3s,baz=62,slow=23,SNR=2.8 2μm,0.3s								
TOK	**Tokyo**	**2.10**	**309**	A		A		15 57 43.6	
	comp=E,712nm,6.4s,comp=E,517nm,6.7s								
JHCJ	**Hachijojimakas**	**2.11**	**232**	A		A		15 57 44.1	
	comp=E,72nm,7.9s,comp=E,80nm,14.5s								
JSKK	**Shikinejimakit**	**2.12**	**269**	A		A		15 57 44.3	
	comp=E,96nm,9.6s,comp=E,68nm,7.2s								
JHYU	**Hitachinakayam**	**2.18**	**334**	A		A		15 57 44.1	
	comp=E,86nm,14.2s,comp=E,85nm,6.2s								
JYT	**Yasato**	**2.24**	**325**	Pn		**Pn**		**15 57 43.8**	**-0.8**
JYT	**Yasato**	**2.24**	**325**	A		A		15 57 45.3	
	comp=E,49nm,5.1s,comp=E,67nm,5.3s								
JHTM	**Izuhatsuma**	**2.35**	**285**	A		A		15 57 47.4	
	comp=E,66nm,1.8s,comp=E,89nm,8.0s								
JOD2	**Odawara 2**	**2.38**	**292**	*eP*		**Pn**		**15 57 46.8**	**+0.3**
JOD2				*eS*		**Sn**		**15 58 16.2**	**+1.1**
JOD2	**Odawara 2**	**2.38**	**292**	A		A		15 57 46.8	
	comp=E,69nm,10.5s,comp=E,93nm,6.0s								
JIZS	**Izushimoda**	**2.41**	**279**	*eP*		**Pn**		**15 57 47.5**	**+0.5**
JIZS				*eS*		**Sn**		**15 58 17.5**	**+1.6**
JIZS	**Izushimoda**	**2.41**	**279**	A		A		15 57 47.5	
	comp=E,36nm,18.1s,comp=E,54nm,11.3s								
JHO	**Hitachi**	**2.42**	**336**	A		A		15 57 47.7	
	comp=E,72nm,7.3s,comp=E,41nm,10.3s								
JSGW	**Sagamiharawaka**	**2.43**	**301**	A		A		15 57 48.4	
	comp=E,59nm,7.5s,comp=E,65nm,4.0s								
JHU	**Hanno**	**2.51**	**306**	A		A		15 57 49.5	
	comp=E,80nm,7.3s,comp=E,73nm,9.6s								
JAOM	**Aogashimamukai**	**2.55**	**222**	A		A		15 57 50.4	
	comp=E,104nm,8.8s,comp=E,118nm,8.8s								
JFNN	**Fujinakano**	**2.67**	**288**	A		A		15 57 51.9	
	comp=E,120nm,6.4s,comp=E,104nm,9.6s								
JAG	**Ashikaga**	**2.78**	**318**	A		A		15 57 53.1	
	comp=E,35nm,6.8s,comp=E,47nm,6.8s								
JRY	**Ryogami san**	**2.86**	**305**	A		A		15 57 54.5	
	comp=E,39nm,6.0s,comp=E,56nm,7.8s								
JFFD	**Fukushimafurud**	**2.87**	**340**	A		A		15 57 53.9	
	comp=E,49nm,16.2s,comp=E,30nm,8.5s								
JYN	**Shimob**	**2.87**	**294**	A		A		15 57 54.9	
	comp=E,39nm,6.5s,comp=E,43nm,8.1s								
JSG	**Sagara**	**2.98**	**277**	A		A		15 57 56.5	
	comp=E,69nm,7.4s,comp=E,71nm,4.6s								
JSB	**Shiboa**	**2.98**	**330**	A		A		15 57 55.8	
	comp=E,113nm,6.1s,comp=E,108nm,3.8s								
SHZ3	**Shizuoka 3**	**3.01**	**284**	A		A		15 57 56.9	
	comp=E,28nm,4.0s,comp=E,52nm,11.9s								
JFK	**Kawauchi**	**3.06**	**346**	A		A		15 57 56.5	
	comp=E,44nm,13.4s,comp=E,26nm,8.4s								
JKT	**Katashina**	**3.14**	**320**	A		A		15 57 58.2	
	comp=E,39nm,13.0s,comp=E,34nm,10.6s								
JKKS	**Kakegawashinom**	**3.15**	**278**	A		A		15 57 58.9	
	comp=E,60nm,5.8s,comp=E,67nm,9.3s								
JNT	**Takato**	**3.33**	**297**	A		A		15 58 01.3	
	comp=E,32nm,9.0s,comp=E,31nm,6.7s								
JGK	**Kuni**	**3.35**	**311**	A		A		15 58 01.4	
	comp=E,47nm,6.1s,comp=E,42nm,6.1s								
JNY	**Yasuok**	**3.36**	**288**	A		A		15 58 01.8	
	comp=E,44nm,6.7s,comp=E,33nm,8.6s								
HMMJ	**Hamamatsu 2**	**3.37**	**279**	A		A		15 58 02.1	
	comp=E,17nm,16.2s,comp=E,21nm,10.2s								
JMST	**Minamisoumatoc**	**3.41**	**348**	A		A		15 58 01.4	
	comp=E,39nm,11.0s,comp=E,23nm,7.7s								
JFY	**Yanaizu**	**3.45**	**331**	A		A		15 58 02.4	
	comp=E,47nm,5.3s,comp=E,36nm,5.9s								
JSSY	**Shinshiroyabe**	**3.56**	**280**	A		A		15 58 04.6	
	comp=E,17nm,6.2s,comp=E,23nm,7.9s								
JMM	**Marumori**	**3.56**	**347**	Pn		**Pn**		**15 58 01.0**	**-1.7**
JMM					Sn	**Sn**		**15 58 40.6**	**-3.6**
JMM	**Marumori**	**3.56**	**347**	A		A		15 58 03.6	
	comp=E,41nm,9.0s,comp=E,23nm,9.9s								
JUON	**Uonuma**	**3.58**	**323**	A		A		15 58 04.3	
	comp=E,25nm,6.3s,comp=E,29nm,14.3s								
JNG	**Nsakai**	**3.61**	**305**	A		A		15 58 05.2	
	comp=E,38nm,13.5s,comp=E,35nm,4.9s								
MJAR	**Matsushiro Arr**	**3.62**	**307**	Pn		**Pn**		**15 58 03.8**	**+0.3**
	10nm,0.3s,baz=104,slow=8.9,SNR=2.3								
MJAR					Sn	**Sn**		**15 58 45.5**	**-0.2**
	10nm,0.3s,baz=133,slow=24,SNR=6.0 161nm,0.7s								
MAJO	**Matsushiro**	**3.62**	**307**	Pn		**Pn**		**15 58 03.0**	**-0.5**
MAJO	**Matsushiro**	**3.62**	**307**	P		**Pn**		**15 58 03.0**	**-0.5**
MJB9	**Matsu-Tunnel**	**3.62**	**307**	Pn		**Pn**		**15 58 02.9**	**-0.7**
JYAR	**Yonezawaarcadi**	**3.76**	**340**	A		A		15 58 06.5	
	comp=E,40nm,6.2s,comp=E,45nm,3.3s								
JAO	**Obara**	**3.82**	**285**	A		A		15 58 08.3	
	comp=E,34nm,7.3s,comp=E,32nm,11.1s								
JGF	**Kuroka**	**3.82**	**290**	A		A		15 58 08.3	
	comp=E,21nm,9.6s,comp=E,23nm,7.1s								
JAA	**Atsumi**	**3.83**	**275**	A		A		15 58 08.6	
	comp=E,18nm,12.7s,comp=E,20nm,10.9s								
JNS	**Sasagawa**	**3.96**	**331**	A		A		15 58 09.6	
	comp=E,37nm,7.4s,comp=E,28nm,7.7s								
JJN	**Nakama**	**4.00**	**314**	A		A		15 58 10.4	
	comp=E,42nm,5.4s,comp=E,44nm,8.1s								
JIZZ	**Izumozaki**	**4.00**	**322**	A		A		15 58 10.4	
	comp=E,111nm,4.3s,comp=E,83nm,11.3s								
INU	**Inuyama**	**4.03**	**285**	Pn		**Pn**		**15 58 07.6**	**-1.5**
JYS	**Shirataka**	**4.07**	**341**	A		A		15 58 10.9	
	comp=E,44nm,8.3s,comp=E,37nm,13.6s								
JOU	**Okura**	**4.07**	**348**	A		A		15 58 10.8	
	comp=E,44nm,6.8s,comp=E,26nm,2.4s								
JIO	**Ouri**	**4.07**	**355**	A		A		15 58 10.7	
	comp=E,17nm,12.9s,comp=E,15nm,6.9s								
JGN	**Niukaw**	**4.08**	**298**	A		A		15 58 11.9	
	comp=E,20nm,6.7s,comp=E,24nm,5.7s								
JICN	**Ichinomiyachia**	**4.16**	**284**	A		A		15 58 13.1	
	comp=E,24nm,15.3s,comp=E,25nm,13.7s								
JIE	**Ise**	**4.19**	**271**	A		A		15 58 13.7	
	comp=E,15nm,8.4s,comp=E,13nm,6.4s								
JTT	**Ttatey**	**4.24**	**303**	A		A		15 58 14.1	
	comp=E,26nm,6.6s,comp=E,37nm,6.3s								
JOFO	**Osakifurukawao**	**4.26**	**351**	A		A		15 58 13.4	
	comp=E,147nm,4.1s,comp=E,98nm,2.4s								
JYTA	**Yamagatataniai**	**4.31**	**288**	A		A		15 58 15.2	
	comp=E,20nm,10.8s,comp=E,19nm,7.4s								
JKMT	**Kesennumamotoy**	**4.42**	**357**	A		A		15 58 15.5	
	comp=E,16nm,19.6s,comp=E,16nm,7.2s								
TSUJ	**Tsu 2**	**4.43**	**276**	A		A		15 58 17.0	
	comp=E,18nm,8.3s,comp=E,16nm,13.2s								
JEG	**Eigenji**	**4.49**	**281**	A		A		15 58 17.9	
	comp=E,18nm,7.9s,comp=E,24nm,11.7s								
JYA	**Atsumi**	**4.51**	**339**	A		A		15 58 17.2	
	comp=E,50nm,16.8s,comp=E,20nm,8.1s								
JAW	**Awa shima**	**4.54**	**334**	A		A		15 58 17.7	
	comp=E,39nm,7.1s,comp=E,30nm,9.7s								
JKN2	**Miekihoku**	**4.55**	**270**	A		A		15 58 18.8	
	comp=E,18nm,14.3s,comp=E,8.0nm,11.9s								
JMK	**Ichinoseki**	**4.58**	**355**	A		A		15 58 17.8	
	comp=E,27nm,9.1s,comp=E,11nm,17.4s								
JSD	**Sado**	**4.62**	**323**	Pn		**Pn**		**15 58 15.7**	**-1.5**
JSD	**Sado**	**4.62**	**323**	A		A		15 58 19.0	
	comp=E,21nm,7.7s,comp=E,24nm,5.9s								
JYK	**Kaneyama**	**4.66**	**346**	A		A		15 58 19.2	
	comp=E,28nm,9.1s,comp=E,20nm,7.4s								
OFUJ	**Ofunato**	**4.68**	**359**	A		A		15 58 19.2	
	comp=E,20nm,3.8s,comp=E,13nm,9.3s								
JSZ	**Suzu**	**4.70**	**312**	A		A		15 58 20.4	
	comp=E,15nm,10.2s,comp=E,20nm,9.4s								
JJH	**Hakui**	**4.79**	**303**	A		A		15 58 21.7	
	comp=E,18nm,5.6s,comp=E,18nm,9.5s								
JMMH	**Miemihama**	**4.80**	**265**	A		A		15 58 22.3	
	comp=E,9.0nm,11.9s,comp=E,12nm,11.6s								
JKG	**Kaga**	**4.83**	**294**	A		A		15 58 22.5	
	comp=E,21nm,11.6s,comp=E,25nm,12.4s								
JYYZ	**Yamagatayuza**	**4.85**	**343**	A		A		15 58 21.8	
	comp=E,101nm,4.4s,comp=E,101nm,5.3s								
JFM	**Mihama**	**4.89**	**285**	A		A		15 58 23.4	
	comp=E,18nm,9.2s,comp=E,23nm,8.2s								
JHE	**Heguri**	**5.03**	**275**	A		A		15 58 25.5	
	comp=E,18nm,13.3s,comp=E,16nm,6.9s								
JRG	**Rokugo**	**5.08**	**350**	A		A		15 58 25.0	
	comp=E,46nm,9.8s,comp=E,30nm,6.1s								
JOM	**Ohasama**	**5.09**	**356**	A		A		15 58 25.0	
	comp=E,19nm,6.9s,comp=E,11nm,12.5s								
JWKM	**Wakayamakushim**	**5.09**	**261**	A		A		15 58 26.3	
	comp=E,15nm,13.9s,comp=E,10.0nm,13.5s								
JTB	**Tobi-shima**	**5.12**	**340**	A		A		15 58 25.7	
	comp=E,28nm,12.0s,comp=E,27nm,13.3s								
JWY	**Kouya**	**5.12**	**270**	A		A		15 58 26.7	
	comp=E,17nm,10.3s,comp=E,9.0nm,6.7s								
JHG	**Hegura jima**	**5.23**	**313**	A		A		15 58 27.8	
	comp=E,18nm,14.4s,comp=E,14nm,14.8s								
JYW	**Yuwa**	**5.29**	**347**	A		A		15 58 28.0	
	comp=E,56nm,4.9s,comp=E,32nm,4.7s								
JWT	**Wachi**	**5.32**	**281**	A		A		15 58 29.4	
	comp=E,11nm,8.1s,comp=E,18nm,15.3s								
JWM	**Minabe**	**5.35**	**266**	A		A		15 58 30.0	
	comp=E,15nm,8.7s,comp=E,10.0nm,9.0s								
JSZI	**Iwateshizukuis**	**5.38**	**353**	A		A		15 58 29.1	
	comp=E,35nm,5.1s,comp=E,34nm,4.9s								
JTH	**Tanohata**	**5.54**	**1**	A		A		15 58 31.2	
	comp=E,11nm,2.8s,comp=E,9.0nm,12.3s								
JMIK	**Miki**	**5.56**	**276**	A		A		15 58 32.8	
	comp=E,26nm,7.4s,comp=E,18nm,9.7s								
JKY	**Yasaka**	**5.61**	**285**	A		A		15 58 33.5	
	comp=E,21nm,10.4s,comp=E,17nm,4.9s								
JAWN	**Awajishima-nag**	**5.68**	**273**	A		A		15 58 34.5	
	comp=E,11nm,11.8s,comp=E,13nm,14.7s								
JKS	**Kasai**	**5.74**	**278**	A		A		15 58 35.4	
	comp=E,15nm,9.3s,comp=E,19nm,13.1s								
JKEN	**Kujiedanarisaw**	**5.81**	**360**	A		A		15 58 34.9	
	comp=E,14nm,7.3s,comp=E,14nm,0.9s								
JAH	**Hinai**	**5.86**	**351**	A		A		15 58 35.8	
	comp=E,23nm,14.4s,comp=E,15nm,13.2s								
JOG3	**Oga3**	**5.92**	**340**	A		A		15 58 34.3	
	comp=E,50nm,17.0s,comp=E,32nm,6.4s								
JKSM	**Kasumi**	**5.96**	**284**	A		A		15 58 38.4	
	comp=E,15nm,8.1s,comp=E,14nm,8.1s								
JANG	**Nango**	**5.98**	**358**	A		A		15 58 37.4	
	comp=E,10.0nm,13.1s,comp=E,9.0nm,11.2s								
JNTW	**Noshirotokiwa**	**6.01**	**348**	A		A		15 58 38.0	
	comp=E,119nm,5.2s,comp=E,68nm,5.4s								
JAI	**Aioi**	**6.10**	**266**	A		A		15 58 40.5	
	comp=E,9.0nm,12.2s,comp=E,9.0nm,11.6s								
JAD	**Aida**	**6.29**	**277**	A		A		15 58 43.1	
	comp=E,13nm,8.9s,comp=E,11nm,7.1s								
JMAF	**Mimaanabuki**	**6.32**	**269**	A		A		15 58 43.6	
	comp=E,9.0nm,10.7s,comp=E,12nm,14.4s								
JIW	**Iwasaki**	**6.35**	**348**	A		A		15 58 42.8	
	comp=E,16nm,12.0s,comp=E,11nm,7.0s								
JHHS	**Hirosakihyakuz**	**6.35**	**350**	A		A		15 58 42.7	
	comp=E,55nm,6.5s,comp=E,44nm,4.5s								
JTM	**Tenmabayashi**	**6.41**	**355**	Pn		**Pn**		**15 58 41.2**	**-0.6**
JTM	**Tenmabayashi**	**6.41**	**355**	A		A		15 58 43.5	
	comp=E,13nm,11.9s,comp=E,11nm,15.0s								
MRT2	**Murotomisaki 2**	**6.42**	**263**	A		A		15 58 45.0	
	comp=E,10.0nm,14.4s,comp=E,6.0nm,7.4s								
JMN	**Monobe**	**6.59**	**266**	A		A		15 58 47.3	
	comp=E,8.0nm,11.1s,comp=E,12nm,14.8s								
JKR	**Kurayoshi**	**6.61**	**281**	A		A		15 58 47.5	
	comp=E,14nm,8.5s,comp=E,17nm,8.1s								
JARK	**Aomorirokkasho**	**6.62**	**357**	A		A		15 58 46.2	
	comp=E,15nm,7.9s,comp=E,9.0nm,15.4s								
JSI2	**Shiura 2**	**6.74**	**351**	A		A		15 58 48.2	
	comp=E,15nm,14.9s,comp=E,18nm,12.9s								
JAHD	**Aomorihigashid**	**6.87**	**357**	A		A		15 58 49.9	
	comp=E,14nm,5.9s,comp=E,11nm,3.7s								
JKHR	**Kochiharuno**	**6.93**	**265**	A		A		15 58 52.1	
	comp=E,9.0nm,12.7s,comp=E,8.0nm,11.9s								
JOT	**Ohata**	**7.00**	**356**	A		A		15 58 51.8	
	comp=E,21nm,7.1s,comp=E,11nm,5.2s								
JJG	**Jouge**	**7.12**	**274**	A		A		15 58 54.7	
	comp=E,16nm,8.9s,comp=E,13nm,9.4s								
JHS	**Saijyo**	**7.16**	**277**	Pn		**Pn**		**15 58 52.8**	**+0.7**
JHS	**Saijyo**	**7.16**	**277**	A		A		15 58 55.2	
	comp=E,7.0nm,9.6s,comp=E,14nm,13.1s								
JSR	**Shiriuchi**	**7.21**	**352**	A		A		15 58 54.7	
	comp=E,14nm,5.5s,comp=E,19nm,18.6s								
JOI	**OKI**	**7.22**	**288**	A		A		15 58 55.9	
	comp=E,12nm,11.6s,comp=E,7.0nm,12.6s								
JOMM	**Oshimamatsumae**	**7.26**	**349**	A		A		15 58 55.4	
	comp=E,13nm,11.7s,comp=E,10.0nm,13.9s								
JET	**Tanbara**	**7.26**	**268**	A		A		15 58 56.7	
	comp=E,7.0nm,14.6s,comp=E,6.0nm,10.5s								
JNM	**Ikuma**	**7.26**	**281**	A		A		15 58 56.7	
	comp=E,12nm,13.2s,comp=E,14nm,13.9s								
CBIJ	**Chichi jima**	**7.28**	**177**	A		A		15 58 56.1	
	comp=E,14nm,7.2s,comp=E,8.0nm,10.3s								
JCJ	**Chichijima**	**7.28**	**177**	Pn		**Pn**		**15 58 55.8**	**+1.9**
	116nm,0.3s,baz=277,slow=22,SNR=1.9								
JCJ					Sn	**Sn**		**16 00 15.1**	**-0.9**
	51nm,0.3s,baz=282,slow=22,SNR=4.1								
JCJ	**Chichijima**	**7.28**	**177**	Pn		**Pn**		**15 58 53.1**	**-0.7**
JKU	**Kubokawa**	**7.33**	**264**	A		A		15 58 57.6	
	comp=E,6.0nm,13.7s,comp=E,7.0nm,14.3s								
JISK	**Izumosakaura**	**7.41**	**281**	A		A		15 58 58.7	
	comp=E,11nm,12.4s,comp=E,20nm,9.1s								
JKB	**Kayabe**	**7.51**	**356**	A		A		15 58 58.8	
	comp=E,15nm,7.6s,comp=E,6.0nm,8.0s								
JTO	**Tosashimizu**	**7.64**	**261**	A		A		15 59 01.9	
	comp=E,7.0nm,10.7s,comp=E,5.0nm,9.6s								
JHM	**Kurahashi**	**7.66**	**271**	A		A		15 59 02.2	
	comp=E,12nm,13.3s,comp=E,7.0nm,9.0s								
JGT2	**ShimaneMisato**	**7.66**	**278**	A		A		15 59 02.1	
	comp=E,9.0nm,11.9s,comp=E,15nm,9.6s								
ERM	**Erimo**	**7.69**	**8**	Pn		**Pn**		**15 58 57.1**	**-2.3**
ERM	**Erimo**	**7.69**	**8**	P		**Pn**		**15 58 57.1**	**-2.3**
UWA2	**Uwa jima 2**	**7.71**	**264**	A		A		15 59 02.9	
	comp=E,8.0nm,7.5s,comp=E,8.0nm,13.8s								
JHT	**Toyohira**	**7.72**	**275**	A		A		15 59 03.1	
	comp=E,11nm,8.7s,comp=E,9.0nm,7.3s								
JHH2	**Haha-jima-NKT2**	**7.74**	**177**	A		A		15 59 02.5	
	comp=E,11nm,6.9s,comp=E,10.0nm,15.0s								
JYM2	**Yakumo 2**	**7.79**	**352**	A		A		15 59 02.8	
	comp=E,10.0nm,9.6s,comp=E,20nm,14.2s								
JNBK	**Urakawa-nobuka**	**7.92**	**5**	A		A		15 59 04.2	
	comp=E,9.0nm,7.8s,comp=E,11nm,6.7s								
JNB	**Noboribetsu**	**8.09**	**356**	A		A		15 59 06.8	
	comp=E,11nm,19.2s,comp=E,5.0nm,10.1s								
JHIK	**Hikimi**	**8.13**	**274**	A		A		15 59 08.7	
	comp=E,8.0nm,8.6s,comp=E,11nm,9.0s								
JHST	**Hiyamasetana**	**8.16**	**350**	A		A		15 59 07.8	
	comp=E,19nm,13.8s,comp=E,10.0nm,13.1s								
JKD	**Kudamatsu**	**8.21**	**270**	A		A		15 59 09.8	
	comp=E,7.0nm,9.2s,comp=E,5.0nm,8.5s								
JIAM	**Iburiatsuma**	**8.22**	**1**	A		A		15 59 08.5	
	comp=E,19nm9,9.1s,comp=E,19nm,11.4s								
JCH	**Churui**	**8.31**	**8**	A		A		15 59 09.6	
	comp=E,7.0nm,4.1s,comp=E,7.0nm,14.7s								
JSH	**Shimam**	**8.35**	**351**	A		A		15 59 10.6	
	comp=E,13nm,14.3s,comp=E,8.0nm,12.2s								
JSKE	**Saikikamae**	**8.39**	**262**	A		A		15 59 12.3	
	comp=E,4.0nm,12.5s,comp=E,5.0nm,10.5s								
JBT2	**Biratori 2**	**8.39**	**3**	A		A		15 59 10.8	
	comp=E,9.0nm,15.6s,comp=E,7.0nm,12.0s								
JEW	**Eniwo**	**8.44**	**358**	Pn		**Pn**		**15 59 09.7**	**0.0**
JEW	**Eniwo**	**8.44**	**358**	A		A		15 59 11.7	
	comp=E,18nm,11.8s,comp=E,9.0nm,10.2s								
JUS	**Usuki**	**8.45**	**264**	A		A		15 59 13.2	
	comp=E,6.0nm,12.7s,comp=E,7.0nm,8.5s								
JKI	**Kumimi**	**8.51**	**268**	A		A		15 59 13.9	
	comp=E,11nm,12.0s,comp=E,7.0nm,6.2s								
JBEP	**Beppuamama**	**8.69**	**266**	A		A		15 59 16.4	
	comp=E,14nm,13.5s,comp=E,10.0nm,12.3s								
JHGM	**Hagimishima**	**8.78**	**276**	A		A		15 59 17.6	
	comp=E,15nm,7.8s,comp=E,13nm,14.5s								
JKIT	**Kitakata**	**8.80**	**261**	A		A		15 59 18.0	
	comp=E,5.0nm,7.8s,comp=E,5.0nm,97.9s								
JTY	**Toyota**	**8.86**	**272**	A		A		15 59 18.8	
	comp=E,9.0nm,7.9s,comp=E,10.0nm,7.7s								
JISS	**Ishikarishitsu**	**8.88**	**358**	A		A		15 59 17.6	
	comp=E,14nm,12.9s,comp=E,16nm,14.7s								
JSK	**Shakotan**	**9.01**	**354**	A		A		15 59 19.5	
	comp=E,10.0nm,9

comp=Z,5µm,13.0s
LYN LuoYang 24.13 279 *e*P **P** **16 02 22.3 -0.9**
LYN pP sP 16 02 31.5 +4.1
LYN sP pwP 16 02 36.1 +0.5
LYN PP **PnPn** **16 02 54.6 +2.1**
LYN S **S** **16 06 33.4 -6.7**
LYN SS **SnSn** **16 07 33.3 +12**
LYN pmax pmax
comp=Z,20nm,1.1s
LYN pmax pmax
comp=Z,1µm,10.0s
LYN LR LR
comp=N,10µm,15.9s
LYN LR LR
comp=E,30µm,16.7s
LYN LR LR
comp=Z,34µm,16.6s
MA2 Magadan 25.89 11 P **P** **16 02 40.7 +1.8**
comp=Z,38nm,0.7s,baz=192,slow=7.6,SNR=6.4
MA2 S **S** **16 07 03.9 -3.9**
comp=Z,4.6nm,0.7s,baz=195,slow=17,SNR=1.0
comp=Z,38nm,0.7s
MA2 Magadan 25.89 11 P **P** **16 02 35.0 -3.9**
MA2 IAmb IAmb 16 02 56.5
comp=Z,81nm,1.0s
H11N2 WAKE ISLAND Hy 26.62 117 T T 16 30 55.1
baz=309,slow=75
H11N1 WAKE ISLAND Hy 26.62 117 T T 16 30 51.7
baz=309,slow=75
H11N3 WAKE ISLAND Hy 26.64 117 T T 16 30 58.7
baz=309,slow=75
CIT Chita 26.84 320 *e*P **P** **16 02 49.3 +1.7**
CIT *e* 16 02 57.8
CIT *e* 16 03 25.3
CIT pmax pmax
comp=Z,177nm,1.8s
H11S3 WAKE ISLAND Hy 27.25 119 T T 16 31 44.4
baz=311,slow=75
H11S1 WAKE ISLAND Hy 27.25 119 T T 16 31 44.7
baz=311,slow=75
H11S2 WAKE ISLAND Hy 27.26 119 T T 16 31 48.3
baz=311,slow=75
YAK Yakutsk 28.71 348 P **P** **16 03 05.0 +0.8**
comp=Z,31nm,0.9s,baz=175,slow=3.5,SNR=5.6
YAK S **S** **16 07 57.1 +4.9**
comp=Z,1.0nm,0.3s,baz=110,slow=15,SNR=0.8
comp=Z,31nm,0.9s
YAK Yakutsk 28.71 348 P **P** **16 03 02.0 -2.1**
YAK IAmb IAmb 16 03 51.0
comp=Z,79nm,1.0s
YAK Yakutsk 28.71 348 *e*PPP **P** **16 03 05.3 +1.1**
ULN Ulaanbaatar 29.15 308 P **P** **16 03 06.2 -2.3**
ULN IAmb IAmb 16 03 24.9
comp=Z,88nm,1.4s
ULN Ulaanbaatar 29.15 308 P **P** **16 03 06.2 -2.3**
ULN pmax pmax
comp=Z,88nm,1.4s
SEY Seymchan 29.33 10 P **P** **16 03 10.1 +0.4**
comp=Z,9.0nm,0.8s,baz=184,slow=9.2,SNR=2.0
SEY S **S** **16 07 59.1 -2.9**
comp=Z,2.5nm,0.8s,baz=170,slow=19,SNR=1.7
comp=Z,9.0nm,0.8s
SONM Songino Array 29.57 308 P **P** **16 03 13.4 +1.2**
comp=Z,18nm,0.7s,baz=111,slow=9.1,SNR=8.6
SONM S **S** **16 08 05.7 -0.6**
comp=Z,2.0nm,0.9s,baz=128,slow=9.6,SNR=1.0
SONM LR LR 16 15 18.2
comp=Z,6µm,18.5s,baz=106,slow=37
comp=Z,18nm,0.7s
SONM Songino Array 29.57 308 P **P** **16 03 10.5 -1.6**
SONM IAmb IAmb 16 03 29.4
comp=Z,118nm,1.6s
LZH Lanzhou 30.90 284 *e*P **P** **16 03 25.0 +0.9**
LZH pP sP 16 03 31.3 +3.0
LZH PP **PP** **16 04 34.0 +0.1**
LZH S S 16 08 11.4 -16
LZH SS **SnSn** **16 10 09.3 +2.0**
LZH pmax pmax
comp=Z,41nm,1.3s
LZH pmax pmax
comp=Z,460nm,6.5s
LZH LR LR
comp=N,7µm,15.8s
LZH LR LR
comp=E,10µm,15.6s
LZH LR LR
comp=Z,13µm,16.1s
ZAK Zakamensk 32.19 312 *e*P **P** **16 03 36.2 +1.0**
ZAK pmax pmax
comp=Z,60nm,1.6s
GTA Gaotai 33.70 291 *e*P **P** **16 03 49.5 +0.9**
GTA pP sP 16 03 54.5 +1.7
GTA sP pwP 16 03 57.1 -3.7
GTA S **S** **16 09 11.6 +0.5**
GTA pmax pmax
comp=Z,36nm,1.5s
GTA pmax pmax
comp=Z,450nm,5.8s
GTA LR LR
comp=N,10µm,16.0s
GTA LR LR
comp=E,11µm,15.6s
GTA LR LR
comp=Z,13µm,16.4s
KMI Kunming 34.95 265 ⇑P **P** **16 03 59.8 +0.2**
KMI pP sP 16 04 05.1 +1.3
KMI sP pwP 16 04 11.8 -1.0
KMI PP **PnPn** **16 05 15.8 -0.7**
KMI PcP **PcP** **16 06 34.3 +2.3**
KMI S **S** **16 09 26.5 -4.2**
KMI sS sS 16 09 42.3 +6.3
KMI pmax pmax
comp=Z,32nm,1.1s
KMI pmax pmax
comp=Z,210nm,4.0s
KMI LR LR
comp=N,9µm,14.7s
KMI LR LR
comp=E,16µm,15.9s
KMI LR LR
comp=Z,17µm,15.6s
MYLDM Lahad Datu 36.19 222 P **P** **16 04 08.7 -1.3**
MYLDM IAmb IAmb 16 05 07.4
comp=Z,36nm,1.1s
BILL Bilibino 36.49 15 P **P** **16 04 10.2 -1.9**
UBPT Khong Chiam 37.77 249 P **P** **16 04 21.2 -2.4**
UBPT IAmb IAmb 16 04 26.3
comp=Z,43nm,0.9s
TIXI Tiksi 37.95 353 P **P** **16 04 24.5 +0.1**
comp=Z,12nm,0.8s,baz=90,slow=20,SNR=3.5
TIXI S **S** **16 10 15.2 +0.2**
comp=Z,4.2nm,0.9s,baz=89,slow=23,SNR=1.4
comp=Z,12nm,0.8s
TIXI Tiksi 37.95 353 P **P** **16 04 21.7 -2.7**
FAKI Fak Fak 38.18 196 P **P** **16 04 25.9 -1.0**
FAKI IAmb IAmb 16 04 46.5
comp=Z,38nm,0.9s
CRAI Chiangrai 39.12 260 P **P** **16 04 33.4 -1.5**
KRVT Keravat (AS076 39.68 164 P **P** **16 04 39.6 +0.1**
comp=Z,11nm,0.6s,baz=0.0,slow=20,SNR=1.5
comp=Z,11nm,0.6s
PHRA Phrae 40.12 258 P **P** **16 04 40.6 -2.7**
CHTO Chiang Mai 41.00 259 P **P** **16 04 48.4 -2.1**
CHTO Chiang Mai 41.00 259 P **P** **16 04 48.4 -2.1**
CHTO pmax pmax
comp=Z,1.0nm,0.7s
CM31 Chiang Mai Arr 41.18 259 P **P** **16 04 50.6 -1.4**
CM31 IAmb IAmb 16 04 55.4
comp=Z,28nm,0.7s
CMAR Chiang Mai Arr 41.18 259 P **P** **16 04 51.5 -0.6**
comp=Z,19nm,0.7s,baz=48,slow=8.0,SNR=12
CMAR PcP **PcP** **16 06 52.4 +1.3**
comp=Z,2.6nm,1.0s,baz=50,slow=1.4,SNR=2.4
comp=Z,19nm,0.7s
CMAR Chiang Mai Arr 41.18 259 P **P** **16 04 50.5 -1.5**
SBUM Sibu 42.05 227 P **P** **16 04 57.0 -2.1**
WMQ Urumqi 42.34 300 *e*P **P** **16 05 03.1 +1.7**
WMQ sP pwP 16 05 17.3 +3.7
WMQ S **S** **16 11 25.1 +3.5**
WMQ pmax pmax
comp=Z,180nm,1.1s
WMQ pmax pmax
comp=Z,1µm,4.5s
WMQ LR LR
comp=N,11µm,15.5s
WMQ LR LR
comp=E,1µm,16.9s
WMQ LR LR
comp=Z,2µm,16.9s
SHL Shillong 43.74 272 P **P** **16 05 11.3 -1.6**
SHL Shillong 43.74 272 P **P** **16 05 11.4 -1.6**
SHL pmax pmax
comp=Z,17nm,0.7s
PMG Port Moresby 43.85 172 P **P** **16 05 15.1 +1.5**
comp=Z,12nm,0.9s,baz=319,slow=6.1,SNR=1.6
comp=Z,12nm,0.9s
ZAA0 Zalesovo Array 43.94 314 P **P** **16 05 13.2 -0.8**
ZAA0 IAmb IAmb 16 05 16.7
comp=Z,32nm,0.8s
ZALV Zalesovo Beam 43.94 314 P **P** **16 05 14.8 +0.8**
comp=Z,34nm,0.7s,baz=92,slow=6.8,SNR=13
ZALV PcP **PcP** **16 07 00.6 +0.9**
comp=Z,10nm,0.7s,baz=100,slow=3.1,SNR=4.0
comp=Z,34nm,0.7s
ZALV Zalesovo Beam 43.94 314 P **P** **16 05 12.9 -1.1**
KAPI Kappang 44.36 212 P **P** **16 05 19.2 +1.4**
comp=Z,8.8nm,0.7s,baz=68,slow=5.0,SNR=2.2
comp=Z,8.8nm,0.7s
KAPI Kappang 44.36 212 P **P** **16 05 18.4 +0.6**
BRDH Bariadhala 45.16 269 P **P** **16 05 24.7 +0.6**
comp=Z,59nm,0.3s,baz=85,slow=11,SNR=5.9
BRDH LR LR 16 26 11.0
comp=Z,3µm,18.6s,baz=66,slow=39
NRIK Noril'sk 45.80 336 P **P** **16 05 28.6 0.0**
comp=Z,36nm,1.1s,baz=104,slow=16,SNR=5.1
NRIK S **S** **16 12 08.7 -2.4**
comp=Z,1.1nm,0.4s,baz=52,slow=14,SNR=1.2
comp=Z,36nm,1.1s
NRIK Noril'sk 45.80 336 P **P** **16 05 27.6 -1.0**
NRIK IAmb IAmb 16 05 46.8
comp=Z,40nm,0.9s
MK31 Makanchi Array 45.81 304 P **P** **16 05 27.6 -1.5**
MK31 IAmb IAmb 16 05 47.1
comp=Z,42nm,0.9s
MK31 Makanchi Array 45.81 304 P **P** **16 05 27.6 -1.5**
MK31 pmax pmax
comp=Z,43nm,1.0s
MKAR Makanchi Array 45.81 304 P **P** **16 05 29.2 +0.2**
comp=Z,16nm,0.4s,baz=79,slow=6.3,SNR=1.9
comp=Z,16nm,0.4s
MAKZ Makanchi 46.02 304 P **P** **16 05 29.0 -1.7**
MAKZ IAmb IAmb 16 05 37.7
comp=Z,61nm,1.2s
MAKZ Makanchi 46.02 304 P **P** **16 05 29.0 -1.7**
MAKZ pmax pmax
comp=Z,61nm,1.2s
SRIT Nakonsritamara 46.40 246 P **P** **16 05 33.1 -0.9**
SRIT IAmb IAmb 16 05 37.1
comp=Z,55nm,1.0s
MMRI Maumere 46.62 207 P **P** **16 05 32.4 -3.3**
HNR Honiara 46.87 155 P **P** **16 05 40.5 +3.0**
comp=Z,376nm,0.7s,baz=350,slow=12,SNR=1.9
HNR LR LR 16 25 04.7
comp=Z,42µm,19.8s,baz=326,slow=36
SVW2 Sparrevohn 47.47 36 P **P** **16 05 38.4 -3.4**
SVW2 IAmb IAmb 16 06 06.8
comp=Z,62nm,1.6s
BATI Baumata 47.56 204 P **P** **16 05 44.4 +1.4**
comp=Z,54nm,0.7s,baz=76,slow=0.1,SNR=1.7
comp=Z,54nm,0.7s
O18K Koktuh Hills 47.57 38 P **P** **16 05 40.8 -1.9**
KULM Kulim 47.79 242 P **P** **16 05 44.0 -0.9**
KURK Kurchatov 47.82 310 P **P** **16 05 44.3 -0.3**
KURK Kurchatov 47.82 310 P **P** **16 05 45.3 +0.6**
KURBB Kurchatov Arra 47.89 310 P **P** **16 05 45.3 +0.1**
comp=Z,59nm,0.8s,baz=84,slow=7.8,SNR=13
KURBB S **S** **16 12 38.4 -3.0**
comp=Z,1.0nm,0.6s,baz=84,slow=7.8,SNR=1.1
comp=Z,59nm,0.8s
L19K White Mountain 47.90 34 P **P** **16 05 45.5 +0.3**
L19K IAmb IAmb 16 05 59.5
comp=Z,47nm,1.6s
MTN Manton Dam 48.05 194 P **P** **16 05 46.3 -0.4**
IPM Ipoh 48.07 241 P **P** **16 05 45.5 -1.5**
IPM IAmb IAmb 16 06 03.0
comp=Z,20nm,0.9s
M19K Big River Lodg 48.10 35 P **P** **16 05 45.9 -0.8**
M19K IAmb IAmb 16 06 13.7
comp=Z,89nm,2.0s
Q19K Cape Douglas, 48.33 39 P **P** **16 05 45.0 -3.6**
K20K Telida 48.37 33 P **P** **16 05 47.9 -0.9**
J20K Nowinta River 48.41 32 P **P** **16 05 47.3 -1.8**
J20K IAmb IAmb 16 05 59.6
comp=Z,41nm,1.2s
P19K Oil Pt 48.56 38 P **P** **16 05 49.5 -0.8**
P19K IAmb IAmb 16 05 54.5
comp=Z,57nm,1.1s
A21K Barrow 48.78 22 P **P** **16 05 49.6 -2.1**
IMAR Indian Mountai 48.79 29 P **P** **16 05 50.0 -2.0**
KDAK Kodiak Island 48.89 40 P **P** **16 05 53.7 +0.9**
comp=Z,18nm,0.8s,baz=7.0,slow=5.9,SNR=2.4
comp=Z,18nm,0.8s
KDAK Kodiak Island 48.89 40 P **P** **16 05 51.9 -0.9**
H21K Melozitna Rive 49.14 30 P **P** **16 05 52.6 -2.0**
H21K IAmb IAmb 16 06 14.4
comp=Z,48nm,1.3s
PPLA Purkeypile 49.19 34 P **P** **16 05 53.3 -1.9**
SUA Susitna One 49.81 35 P **P** **16 05 58.2 -1.8**
MLY Manley 49.95 31 P **P** **16 05 58.8 -2.1**
MLY IAmb IAmb 16 06 10.6
comp=Z,44nm,1.4s
PSI Prapat 50.74 241 P **P** **16 06 06.9 -0.6**
comp=Z,9.0nm,0.5s,baz=39,slow=5.2,SNR=3.3
comp=Z,9.0nm,0.5s
RPSI Rantau Prapat 50.81 241 P **P** **16 06 05.1 -2.8**
ILAR Eielson Array 51.58 31 P **P** **16 06 13.9 +0.8**
comp=Z,7.2nm,0.8s,baz=264,slow=5.0,SNR=2.6
comp=Z,7.2nm,0.8s
KSH Kashi 51.79 296 P P 16 06 19.8 +4.6
KSH pmax pmax
comp=Z,49nm,0.9s
AAK Ala-Archa 52.04 300 P **P** **16 06 17.4 +0.4**
comp=Z,21nm,0.9s,baz=149,slow=6.0,SNR=9.1
AAK S **S** **16 13 43.2 +3.2**
comp=Z,0.7nm,0.3s,baz=172,slow=7.1,SNR=1.5
comp=Z,21nm,0.9s
BMAR Burnt Mountain 52.52 28 P **P** **16 06 17.6 -2.5**
BVAR Borovoye Array 52.59 314 P **P** **16 06 21.4 +0.6**
comp=Z,25nm,0.8s,baz=89,slow=6.7,SNR=10.0
BVAR PcP **PcP** **16 07 31.8 +1.0**
comp=Z,8.7nm,0.7s,baz=75,slow=6.3,SNR=2.1
BVAR S **S** **16 13 44.1 -2.7**
comp=Z,0.3nm,0.4s,baz=87,slow=8.9,SNR=1.6
comp=Z,25nm,0.8s
E27K Coleen River 53.63 27 pP pP 16 06 37.0 +5.0
baz=272
G27K Doyon Strip 53.68 29 pP pP 16 06 36.2 +3.9
baz=273
FITZ Fitzroy Crossi 54.41 199 P **P** **16 06 36.8 +2.4**
baz=359,slow=9.2
WRA Warramunga Arr 54.49 189 P **P** **16 06 36.5 +1.5**
comp=Z,14nm,0.6s,baz=3.1,slow=7.4,SNR=1.7
comp=Z,14nm,0.6s
DRK Karamyk 54.88 297 P **P** **16 06 34.8 -3.4**
BTK Batken 55.42 298 P **P** **16 06 38.9 -2.9**
BTK IAmb IAmb 16 06 52.4
comp=Z,23nm,0.8s
BTK Batken 55.42 298 P **P** **16 06 38.9 -2.9**
BTK pmax pmax
comp=Z,23nm,0.9s
INK Inuvik 56.61 26 P **P** **16 06 52.0 +2.4**
comp=Z,14nm,0.8s,baz=307,slow=3.7,SNR=6.4
comp=Z,14nm,0.8s
INK Inuvik 56.61 26 P **P** **16 06 52.3 +2.6**
baz=280
ASAR Alice Springs 58.22 188 P **P** **16 07 02.8 +1.3**
comp=Z,7.6nm,0.8s,baz=13,slow=12,SNR=2.1
comp=Z,7.6nm,0.8s
HYBB Hyderabad (bro 58.47 270 *e*P **P** **16 07 03.3 -0.3**
HYBB IVmB_BB 16 07 06.0
comp=Z,463nm,1.2s
ARU Arti 58.55 320 P **P** **16 07 04.1 +0.6**
comp=Z,32nm,0.5s,baz=59,slow=4.4,SNR=11
ARU S **S** **16 15 02.9 -3.4**
comp=Z,0.6nm,0.3s,baz=5.2,slow=21,SNR=1.3
comp=Z,32nm,0.5s
AKTO Aktyubinsk 60.68 313 P **P** **16 07 18.6 +0.3**
comp=Z,43nm,0.8s,baz=83,slow=13,SNR=11
AKTO S **S** **16 15 31.6 -2.3**
comp=Z,0.7nm,0.6s,baz=60,slow=20,SNR=1.2
comp=Z,43nm,0.8s
DZM Mont Dzumac 60.85 154 P **P** **16 07 22.5 +2.6**
comp=Z,15nm,1.1s,baz=50,slow=8.0,SNR=2.4
comp=Z,15nm,1.1s
KIRV Kirov 62.54 324 P **P** **16 07 30.9 +0.1**
comp=Z,44nm,0.7s,baz=39,slow=1.0,SNR=9.2
KIRV S **S** **16 15 55.8 -1.4**
comp=Z,5.6nm,0.6s,baz=101,slow=17,SNR=1.9
comp=Z,44nm,0.7s
SPITS Spitsbergen Ar 63.17 349 P **P** **16 07 34.4 -0.3**
comp=Z,10.0nm,0.7s,baz=93,slow=5.3,SNR=4.0
comp=Z,10.0nm,0.7s
NOR Nord 63.70 357 *i*P **P** **16 07 38.7 +0.6**
NOR IAmb IAmb 16 07 40.4
comp=Z,5.4nm,0.7s
HRA Herat 63.87 295 P **P** **16 07 37.0 -3.3**
HRA IAmb IAmb 16 07 43.9
comp=Z,40nm,1.1s
APA Apatity 65.22 336 ⇓*i*P **P** **16 07 46.4 -1.8**
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,9µm,16.0s
GEYT Alibeck 65.39 300 P **P** **16 07 50.8 +0.9**
comp=Z,22nm,0.9s,baz=40,slow=2.5,SNR=9.8
GEYT S **S** **16 16 33.4 0.0**
comp=Z,0.7nm,0.4s,baz=52,slow=26,SNR=1.2
comp=Z,22nm,0.9s
STKA Stephens Creek 65.91 180 P **P** **16 07 54.9 +1.9**
comp=Z,6.7nm,0.8s,baz=1.8,slow=9.8,SNR=2.9
comp=Z,6.7nm,0.8s
BELG Belogornoye 65.94 318 P **P** **16 07 53.1 0.0**
comp=Z,62nm,0.9s,baz=35,slow=1.3,SNR=6.7
comp=Z,62nm,0.9s
YKA Yellowknife Ar 65.95 30 P **P** **16 07 55.0 +2.0**
comp=Z,6.1nm,0.9s,baz=291,slow=6.5,SNR=1.9
comp=Z,6.1nm,0.9s
ARCES ARCESS Array B 66.57 340 P **P** **16 07 57.7 +0.8**
comp=Z,7.3nm,0.8s,baz=60,slow=7.4,SNR=6.0
comp=Z,7.3nm,0.8s
NEEM North Greenlan 68.15 3 *i*P **P** **16 08 08.1 +0.9**
NEEM IAmb IAmb 16 08 11.1
comp=Z,22nm,0.7s
NLWA Neilton Lookou 68.30 47 P **P** **16 08 05.3 -3.0**
NLWA IAmb IAmb 16 08 37.9
comp=Z,37nm,1.2s
DAG Danmarks Havn 68.43 355 *i*P **P** **16 08 09.3 +0.8**
DAG IAmb IAmb 16 08 10.8
comp=Z,14nm,0.8s
OBN Obninsk 70.39 324 P **P** **16 08 21.5 +0.5**
comp=Z,2.7nm,0.4s,baz=37,slow=7.7,SNR=3.7
comp=Z,2.7nm,0.4s
L02F Cave Junction 70.99 52 P **P** **16 08 29.7 +4.8**
baz=299
FINES FINESS Array B 71.29 333 P **P** **16 08 27.2 +0.9**
comp=Z,16nm,0.9s,baz=57,slow=7.0,SNR=6.3
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 71.74 52 LR LR 16 37 35.8
comp=Z,965nm,18.2s,baz=305,slow=34
YBH Yreka Blue Hor 71.74 52 P **P** **16 08 27.1 -2.5**
YBH IAmb IAmb 16 08 47.5
comp=Z,22nm,1.1s
YBH Yreka Blue Hor 71.74 52 P **P** **16 08 27.1 -2.5**
YBH pmax pmax
comp=Z,22nm,1.1s
K05A Summer Lake 72.40 50 P **P** **16 08 31.4 -2.3**
KBZ Khabaz 72.86 311 P **P** **16 08 38.0 +2.0**
comp=Z,21nm,0.9s,baz=45,slow=7.1,SNR=7.2
comp=Z,21nm,0.9s
KVAR Kislovodsk Arr 72.86 312 P **P** **16 08 38.4 +2.1**
comp=Z,11nm,0.8s,baz=101,slow=19,SNR=2.5
KVAR S **S** **16 18 00.9 -0.8**
comp=Z,1.3nm,0.5s,baz=342,slow=20,SNR=1.5
comp=Z,11nm,0.8s
KIV Kislovodsk 72.87 312 *e*P **P** **16 08 39.4 +3.1**
KIV pmax pmax
comp=Z,56nm,1.1s
UOSS Minazif 72.91 289 P **P** **16 08 34.1 -2.7**
UOSS IAmb IAmb 16 08 40.3
comp=Z,32nm,1.1s
SUMG Summit 73.32 0 *i*P **P** **16 08 40.8 +2.0**
ANN Anapa 75.58 315 *e*P **P** **16 08 53.9 +2.0**
HLID Hailey 75.96 47 P **P** **16 08 58.3 +3.9**
baz=304
EGMT Eagleton 76.06 41 P **P** **16 08 58.2 +3.4**
baz=306
NVAR Mina Array Bea 76.34 53 P **P** **16 08 58.8 +2.1**
comp=Z,6.2nm,0.7s,baz=281,slow=5.6,SNR=8.2
comp=Z,6.2nm,0.7s
BOZ Bozeman (W) 76.44 44 P **P** **16 09 00.4 +3.4**
baz=306
AKASG Malin Array Be 76.57 323 P **P** **16 08 57.9 +0.4**
comp=Z,4.5nm,0.5s,baz=47,slow=6.1,SNR=5.9
comp=Z,4.5nm,0.5s
HFS Hagfors 76.62 336 P **P** **16 08 57.7 +0.1**
comp=Z,7.2nm,0.6s,baz=85,slow=1.8,SNR=6.5
comp=Z,7.2nm,0.6s
NB2 NORSAR Subarra 76.74 338 P **P** **16 08 58.7 +0.4**
comp=Z,15nm,1.0s,baz=40,slow=5.9
NB2 NORSAR Subarra 76.74 338 P **P** **16 08 58.7 +0.4**
baz=40,slow=5.9
NOA NORSAR Array B 76.74 338 P **P** **16 08 59.2 +0.9**
comp=Z,12nm,0.8s,baz=39,slow=5.7,SNR=8.5
comp=Z,12nm,0.8s
ICESG Greenland Ices 76.82 1 *i*P **P** **16 09 00.2 +1.2**
ICESG IAmb IAmb 16 09 03.2
comp=Z,20nm,0.8s
MOOW Moose Ponds 78.03 45 P **P** **16 09 02.5 -3.6**
MOOW IAmb IAmb 16 09 32.7
comp=Z,48nm,1.6s
DUG Dugway, Tooele 78.87 49 PcP **P** **16 09 14.7 +4.0**
baz=306
DY2G Dye2 79.27 3 *i*P **P** **16 09 13.9 +1.4**
DY2G IAmb IAmb 16 09 18.1
comp=Z,11nm,0.8s
BW06 Boulder Array 79.31 45 PcP **P** **16 09 16.2 +3.0**
baz=307
PDAR Pinedale Array 79.31 45 P **P** **16 09 15.6 +2.4**
comp=Z,5.2nm,0.8s,baz=270,slow=2.4,SNR=6.8
comp=Z,5.2nm,0.8s
NLU North Lily Min 79.47 49 P **P** **16 09 12.1 -2.0**
NLU IAmb IAmb 16 09 36.0
comp=Z,22nm,1.0s
LVV L'vov 79.69 324 *e*P **P** **16 09 15.4 +0.6**
LVV *e*S **S** **16 19 15.9 -0.3**
LVV MLR MLR
comp=N,4µm,15.0s
LVV MLR MLR
comp=E,5µm,15.0s
LVV MLR MLR
comp=Z,6µm,16.0s
TPFO Pinon Flats 80.28 56 PcP **P** **16 09 21.5 +3.1**
baz=305
MONP2 Monument Peak 80.70 57 PcP **P** **16 09 24.1 +3.2**
baz=305
BRTR Keskin Array B 80.83 312 P **P** **16 09 23.1 +1.7**
comp=Z,14nm,0.9s,baz=98,slow=3.8,SNR=9.3
comp=Z,14nm,0.9s
ULM Lac du Bonnet 81.55 33 P **P** **16 09 25.4 +0.7**
comp=Z,6.2nm,0.9s,baz=225,slow=1.4,SNR=3.0
comp=Z,6.2nm,0.9s
MLR Muntele Rosu 81.59 320 P **P** **16 09 27.0 +1.8**
comp=Z,2.1nm,0.5s,baz=101,slow=10,SNR=3.6
comp=Z,2.1nm,0.5s
O20A White River Ci 81.70 47 PcP **PcP** **16 09 29.9 -2.0**
baz=308
GLA Glamis 81.71 56 PcP **PcP** **16 09 29.6 -2.2**
baz=306
MDUB Mudurnu 81.85 314 P **P** **16 09 24.5 -2.1**
N23A Red Feather La 82.59 45 PcP **PcP** **16 09 34.7 -1.0**
baz=310
PHWY Pilot Hill 82.61 44 P **P** **16 09 28.5 -2.4**
PHWY IAmb IAmb 16 09 48.9
comp=Z,41nm,1.5s
MORC Moravsky Berou 82.73 327 *e*P **P** **16 09 34.2 +3.2**
DPC Dobruska-Polom 82.85 328 *e*P **P** **16 09 31.7 +0.1**
DPC Dobruska-Polom 82.85 328 *e*P **P** **16 09 31.7 +0.1**
KRLC Kraliky 82.85 328 *e*P **P** **16 09 28.9 -2.8**
KRLC Kraliky 82.85 328 *e*P **P** **16 09 28.9 -2.8**
VYHS Vyhne 83.07 326 *e*P P 16 09 37.7 +4.9
VYHS Vyhne 83.07 326 *e*P P 16 09 37.7 +4.9
JAVC Velka Javorina 83.34 327 *e*P **P** **16 09 38.2 +4.0**
MVCO Mesa Verde 83.36 49 PcP **PcP** **16 09 38.7 -0.5**
baz=308
BRG Berggiesshubel 83.48 330 *e*P **P** **16 09 38.1 +3.2**
BRG Amp 16 09 40.0
comp=Z,16nm,1.3s
BRG *ex* x 16 09 50.0
BRG Amp 16 09 52.3
comp=Z,7.9nm,0.9s
BRG *ex* x 16 10 10.3

BRG Amp 16 10 11.8
comp=Z,21nm,1.3s
BRG Berggiesshubel 83.48 330 S **S** 16 20 03.0 +7.7
BRG Berggiesshubel 83.48 330 *e*P **P** 16 09 38.0 +3.2
BRG pmax pmax
comp=Z,16nm,1.3s
VRAC Vranov 83.50 327 P **P** 16 09 36.1 +1.1
comp=Z,6.7nm,0.8s,baz=81,slow=5.3,SNR=5.3
VRAC LR LR 16 51 30.3
comp=Z,2µm,18.6s,baz=37,slow=39
comp=Z,6.7nm,0.8s
VRAC Vranov 83.50 327 *e*P **P** 16 09 36.1 +1.1
CLL Collm 83.53 330 *e*P **P** 16 09 34.0 -1.1
CLL *i* *PP **sP** 16 09 42.0 +2.1
CLL *e*S **S** 16 19 53.0 -2.9
CLL pmax pmax
comp=Z,22nm,1.3s
CLL Collm 83.53 330 *e*P **P** 16 09 34.0 -1.1
comp=Z,6.0nm,1.1s
CLL ⇓*i*Pmax 16 09 37.9
comp=Z,22nm,1.3s
CLL *i* sP **sP** 16 09 42.0 +2.1
CLL *e*x x 16 09 50.0
CLL *e*PP **PP** 16 12 49.0 +2.3
CLL *e*S **S** 16 19 53.0 -2.9
CLL *e*PPS PPS 16 21 06.0
CLL *e*SS **SS** 16 25 24.0 +3.3
CLL *e*SSSS 16 31 42.0
CLL Lmax 16 51 00.0
SMOL Smolenice 83.70 326 *e*P **P** 16 09 39.8 +3.8
KRUC Moravsky 83.77 327 *e*P **P** 16 09 37.1 +0.8
SRO Srobarova 83.80 326 *e*P **P** 16 09 40.5 +4.0
SRO Srobarova 83.80 326 *e*P **P** 16 09 40.5 +4.0
GOPC GO Pecny, Ondr 83.84 329 *e*P **P** 16 09 38.8 +2.1
GOPC GO Pecny, Ondr 83.84 329 *e*P **P** 16 09 38.8 +2.1
MODS Modra-Piesok 83.87 326 *e*P **P** 16 09 40.4 +3.5
MODS Modra-Piesok 83.87 326 *e*P **P** 16 09 40.4 +3.5
PRU Pruhonice 83.89 329 *e*P **P** 16 09 39.3 +2.4
PRU Pruhonice 83.89 329 *e*P **P** 16 09 39.3 +2.4
CSS Mathiatis 83.92 308 P **P** 16 09 35.9 -1.5
CSS lAmb lAmb 16 11 33.2
comp=Z,15nm,0.7s
S22A 4UR Ranch, Cre 84.06 48 pP pP 16 09 42.4 +0.1
baz=309
ZST Bratislava 84.08 326 *e*P P 16 09 45.2 +7.3
ZST Bratislava 84.08 326 *e*P P 16 09 45.2 +7.3
Q24A Divide 84.30 46 P **P** 16 09 43.2 +3.6
baz=310
F33A 5 Mile Ranch, 84.48 37 P **P** 16 09 39.3 -0.7
F33A lAmb lAmb 16 09 48.2
comp=Z,36nm,1.1s
RONA Rosalia, Austr 84.82 326 *e*P **P** 16 09 44.1 +2.4
comp=Z,40nm,1.8s
CONA Conrad Observa 84.84 327 *e*P **P** 16 09 43.1 +1.2
comp=Z,1.5nm,0.5s
CKRC Cesky Krumlov 84.87 328 *e*P **P** 16 09 42.7 +0.8
KHC Kasperske Hory 84.95 329 *e*P **P** 16 09 42.3 -0.1
KHC Kasperske Hory 84.95 329 *e*P **P** 16 09 42.3 -0.1
KHC *ex* x 16 09 57.0
GERES GERESS Array B 85.11 329 P **P** 16 09 43.6 +0.3
comp=Z,3.1nm,0.8s,baz=46,slow=6.0,SNR=5.3
comp=Z,3.1nm,0.8s
ARSA Arzberg 85.50 327 *e*P **P** 16 09 48.0 +2.8
comp=Z,19nm,1.6s
MOA Molln 85.62 328 *e*P **P** 16 09 47.7 +1.9
comp=Z,15nm,1.3s
EKA Eskdalemuir Ar 85.72 341 P **P** 16 09 46.3 +0.3
comp=Z,6.8nm,1.0s,baz=18,slow=3.6,SNR=5.3
comp=Z,6.8nm,1.0s
BIOA Bad Ischl, Aus 86.02 328 *e*P **P** 16 09 48.5 +0.8
comp=Z,12nm,1.2s
SOKA Soboth 86.15 326 *e*P **P** 16 09 49.0 +0.5
comp=Z,16nm,1.4s
OBKA Obir 86.50 327 *e*P **P** 16 09 48.6 -1.6
comp=Z,15nm,1.6s
KBA Koelnbreinsper 86.61 328 *e*P **P** 16 09 50.3 -0.6
BTNL Ternell 86.78 333 *d*P **P** 16 09 53.6 +2.3
MEM Membach 86.80 334 *d*P **P** 16 09 54.0 +2.6
MYKA Terra Mystica 86.82 327 *e*P **P** 16 09 53.2 +1.5
comp=Z,4.0nm,0.6s
BHOU Houvegnez 87.01 333 *d*P **P** 16 09 55.6 +3.1
WATA Walderalm 87.19 329 *e*P **P** 16 09 53.5 -0.1
comp=Z,5.8nm,0.9s
WTTA Wattenberg 87.22 329 *e*P **P** 16 09 53.7 -0.1
comp=Z,13nm,1.6s
ABTA Abfaltersbach 87.23 328 *e*P **P** 16 09 52.8 -1.0
comp=Z,4.7nm,1.0s
MOTA Moosalm 87.38 329 *e*P P 16 09 49.7 -4.8
comp=Z,12nm,1.3s
RETA Reutte 87.42 329 *e*P **P** 16 09 53.5 -1.1
comp=Z,16nm,1.1s
SQTA Sankt Quirin 87.43 329 *e*P **P** 16 09 53.2 -1.6
comp=Z,0.1nm,0.2s
RCHB Rochefort 87.46 334 *d*P **P** 16 09 56.0 +1.4
BMRD Maredsous 87.51 334 *d*P **P** 16 09 56.4 +1.5
FETA Feichten 87.79 329 *e*P **P** 16 09 53.9 -2.6
comp=Z,6.8nm,1.6s
SCHQ Schefferville 87.79 16 P **P** 16 09 57.2 +1.0
comp=Z,11nm,0.9s,baz=331,slow=3.7,SNR=4.8
comp=Z,11nm,0.9s
DAVA Damuels 87.94 330 *e*P **P** 16 09 55.6 -1.6
comp=Z,13nm,1.1s
DAVOX Davos/Dischmat 88.34 329 P **P** 16 09 58.6 -0.6
comp=Z,1.9nm,0.5s,baz=45,slow=9.6,SNR=2.5
comp=Z,1.9nm,0.5s
IDI Anoyia 89.00 313 P **P** 16 10 02.3 0.0
comp=Z,5.3nm,0.7s,baz=35,slow=6.8,SNR=1.6
comp=Z,5.3nm,0.7s
TXAR Lajitas Array 91.50 53 P **P** 16 10 16.7 +2.6
comp=Z,3.9nm,0.8s,baz=301,slow=3.5,SNR=6.4
comp=Z,3.9nm,0.8s
CCM Cathedral Cave 92.73 39 pP pP 16 10 27.6 +4.2
baz=319
LBNH Lisbon 95.95 24 P **P** 16 10 29.5 -4.7
LBNH lAmb lAmb 16 10 39.1
comp=Z,8.7nm,0.9s
LBNH Lisbon 95.95 24 P **P** 16 10 29.5 -4.7
LBNH pmax pmax
comp=Z,9.0nm,0.9s
QUA2 Belchertown 97.54 25 P P 16 10 34.2 -7.2
ESDC Sonseca Array 99.79 334 LR LR 17 01 54.2
comp=Z,3µm,18.2s,baz=25,slow=39
TORD Torodi Ar. Bea 119.39 314 PKP **PKPdf** 16 15 56.8 -0.5
comp=Z,2.4nm,0.8s,baz=24,slow=2.5,SNR=5.9
KOWA Kowa 121.50 320 PKP **PKiKP** 16 16 02.1 +0.6
comp=Z,2.8nm,0.6s,baz=72,slow=3.1,SNR=2.2
BOSA Boshof 126.33 258 PKPpre 16 15 54.9
BOSA Boshof 126.33 258 PKHKP PKPpre 16 15 54.9
DBIC Dimbokro 128.40 316 PKP **PKiKP** 16 16 16.1 +0.9
comp=Z,4.9nm,0.9s,baz=110,slow=7.3,SNR=2.1
H03N2 Juan Fernandez 146.36 100 T T 19 00 44.4
baz=290
H03N3 Juan Fernandez 146.37 100 T T 19 00 55.3
baz=290
H03N1 Juan Fernandez 146.38 100 T T 19 00 45.0
baz=290

IDC ***22*** *16:00:43.3±0.6,34˚.43N×141˚.66E,h0km,mb4.5/25, mbtmp4.5/29,ML2.7/2,Error ellipse: s-maj=16.4km s-min=14.8km az=93.0*

MOS ***22*** *16:00:44.2±1.7,34˚.65N×141˚.90E,h23km,mb5.1/19,Error ellipse: s-maj=13.2km s-min=8.6km az=109.0*

NEIC ***22*** *16:00:46.0±1.8,34˚.43N±0˚.05×141˚.80E±0˚.06,h18km±4km, mb5.0/72,Error ellipse: s-maj=10.0km s-min=2.3km az=132.0*

ISC 22 16:00:45.8±0.4,**34˚.45N**±0˚.04×**141˚.82E**±0˚.06,**h21**km,**n174,** σ1**9**36/174,**mb4.9**/65,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.13**	**232**	Pn	**Pn**		**16 01 20.2**	**+0.2**
JHJ	**Hachijo jima 2**	**2.15**	**233**	Pn	**Pn**		**16 01 20.1**	**-0.2**
	677nm,0.4s,baz=72,slow=20,SNR=6.8							
JHJ				Sn	**Sn**		**16 01 45.4**	**-0.9**
	375nm,0.3s,baz=64,slow=23,SNR=10							
JYT	**Yasato**	**2.22**	**324**	Pn	**Pn**		**16 01 21.6**	**+0.3**
JMM	**Marumori**	**3.51**	**347**	Pn	**Pn**		**16 01 38.5**	**-0.6**
MJAR	**Matsushiro Arr**	**3.61**	**306**	Pn	**Pn**		**16 01 40.0**	**-0.5**
	3.6nm,0.3s,baz=152,slow=13,SNR=8.7							
MJAR				Sn	**Sn**		**16 02 20.9**	**-1.6**
	2.9nm,0.3s,baz=132,slow=18,SNR=4.5							
	13nm,0.3s							
MAJO	**Matsushiro**	**3.61**	**306**	Pn	**Pn**		**16 01 40.8**	**+0.3**
MAJO	**Matsushiro**	**3.61**	**306**	P	**Pn**		**16 01 40.8**	**+0.3**
MJB9	**Matsu-Tunnel**	**3.62**	**306**	Pn	**Pn**		**16 01 40.9**	**+0.4**
JGF	**Kuroka**	**3.84**	**289**	Pn	**Pn**		**16 01 44.9**	**+1.3**
INU	**Inuyama**	**4.05**	**284**	Pn	**Pn**		**16 01 46.7**	**+0.3**
JSD	**Sado**	**4.59**	**322**	Pn	**Pn**		**16 01 53.9**	**0.0**
JTM	**Tenmabayashi**	**6.36**	**355**	Pn	**Pn**		**16 02 17.6**	**-0.6**
JMN	**Monobe**	**6.62**	**266**	Pn	**Pn**		**16 02 23.8**	**+1.8**
JHS	**Saijyo**	**7.18**	**277**	Pn	**Pn**		**16 02 30.7**	**+1.1**
JCJ	**Chichijima**	**7.33**	**177**	Pn	**Pn**		**16 02 31.4**	**-0.2**
	59nm,0.3s,baz=282,slow=20,SNR=2.4							
JCJ				Sn	**Sn**		**16 03 47.0**	**-7.3**
	15nm,0.3s,baz=98,slow=23,SNR=4.5							
JCJ	**Chichijima**	**7.33**	**177**	Pn	**Pn**		**16 02 31.1**	**-0.5**
ERM	**Erimo**	**7.63**	**8**	Pn	**Pn**		**16 02 34.5**	**-1.1**
ERM	**Erimo**	**7.63**	**8**	P	**Pn**		**16 02 34.5**	**-1.1**
JEW	**Eniwo**	**8.39**	**358**	Pn	**Pn**		**16 02 45.1**	**-1.0**
NMR	**Nemuro--Hokkai**	**9.42**	**18**	*e*P	**Pn**		**16 02 56.2**	**-3.9**
NMR				*e*S	Sn		16 04 36.0	-9.3
RUSJ	**Misakicho**	**10.01**	**14**	*e*P	**Pn**		**16 03 06.0**	**-2.2**
RUSJ				*e*S	**Sn**		**16 04 52.9**	**-6.8**
YUK	**Yuzh-Kuril'sk**	**10.08**	**17**	P	**Pn**		**16 03 05.8**	**-3.3**
YUK				*e*S	Sn		16 04 52.5	-9.0
YUK				pmax	pmax			
	comp=Z,43nm,0.5s							
KSRS	**Korea Array**	**11.65**	**289**	Pn	**Pn**		**16 03 33.1**	**+2.4**
	baz=104,slow=14							
KSAR	**Wonju Array Be**	**11.68**	**289**	Pn	**Pn**		**16 03 32.9**	**+1.7**
KSAR	**Wonju Array Be**	**11.68**	**289**	P	**Pn**		**16 03 32.9**	**+1.7**
KS19	**Wonju Array Si**	**11.71**	**289**	Pn	**Pn**		**16 03 33.2**	**+1.7**
USA0B	**Ussuriysk Arra**	**12.35**	**325**	Pn	**Pn**		**16 03 38.9**	**-1.4**
USA0B	**Ussuriysk Arra**	**12.35**	**325**	P	**Pn**		**16 03 38.9**	**-1.4**
USRK	**Ussuriysk Ar.**	**12.35**	**325**	Pn	**Pn**		**16 03 38.1**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=129,slow=11,SNR=4.9							
	comp=Z,7.0nm,0.8s							
YSS	**Yuzh-Sakhalins**	**12.52**	**3**	Pn	**Pn**		**16 03 40.7**	**-1.9**
TATO	**Taipei**	**19.99**	**247**	P	**P**		**16 05 15.5**	**-1.3**
TATO				lAmb	lAmb		16 05 25.3	
	comp=Z,200nm,1.7s							
ZEA	**Zeya**	**21.86**	**336**	*e*P	**P**		**16 05 37.1**	**+0.2**
ZEA				*e*			16 05 51.0	
ZEA				pmax	pmax			
	comp=N,40nm,0.9s							
ZEA				pmax	pmax			
	comp=Z,50nm,0.8s							
MA2	**Magadan**	**25.82**	**10**	P	**P**		**16 06 16.1**	**+0.8**
MA2				lAmb	lAmb		16 06 24.1	
	comp=Z,36nm,1.2s							
MA2	**Magadan**	**25.82**	**10**	P	**P**		**16 06 16.1**	**+0.8**
MA2				pmax	pmax			
	comp=Z,36nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**26.61**	**117**	T	T		16 34 25.5	
	baz=308							
H11N1	**WAKE ISLAND Hy**	**26.62**	**117**	T	T		16 34 21.4	
	baz=308							
H11N3	**WAKE ISLAND Hy**	**26.63**	**117**	T	T		16 34 30.3	
	baz=308							
H11S1	**WAKE ISLAND Hy**	**27.24**	**119**	T	T		16 35 21.2	
	baz=319							
H11S3	**WAKE ISLAND Hy**	**27.24**	**119**	T	T		16 35 18.1	
	baz=313							
H11S2	**WAKE ISLAND Hy**	**27.26**	**119**	T	T		16 35 17.5	
	baz=313							
ENH	**Enshi**	**27.56**	**270**	P	**P**		**16 06 30.2**	**-1.1**
ENH				lAmb	lAmb		16 06 47.3	
	comp=Z,16nm,0.8s							
YAK	**Yakutsk**	**28.66**	**348**	P	**P**		**16 06 39.9**	**-0.8**
YAK				lAmb	lAmb		16 06 46.3	
	comp=Z,20nm,1.0s							
ULN	**Ulaanbaatar**	**29.14**	**308**	P	**P**		**16 06 45.1**	**-0.2**
ULN	**Ulaanbaatar**	**29.14**	**308**	P	**P**		**16 06 45.1**	**-0.2**
ULN				pmax	pmax			
	comp=Z,17nm,1.4s							
SMY	**Shemya**	**29.33**	**42**	P	**P**		**16 06 47.6**	**+0.9**
SMY	**Shemya**	**29.33**	**42**	P	**P**		**16 06 47.6**	**+0.9**
SMY				pmax	pmax			
	comp=Z,319nm,1.6s							
SONM	**Songino Array**	**29.56**	**308**	P	**P**		**16 06 49.7**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=119,slow=8.0,SNR=2.4							
	comp=Z,2.5nm,0.6s							
SONM	**Songino Array**	**29.56**	**308**	P	**P**		**16 06 47.7**	**-1.4**
TNTI	**Ternate**	**36.12**	**205**	P	**P**		**16 07 45.0**	**-1.4**
TNTI				lAmb	lAmb		16 08 11.9	
	comp=Z,13nm,0.9s							
MYLDM	**Lahad Datu**	**36.26**	**222**	P	**P**		**16 07 48.2**	**+0.6**
MYLDM				lAmb	lAmb		16 09 03.8	
	comp=Z,39nm,1.5s							
FAKI	**Fak Fak**	**38.24**	**196**	P	**P**		**16 08 03.6**	**-0.8**
FAKI				lAmb	lAmb		16 08 10.7	
	comp=Z,22nm,1.0s							
CRAI	**Chiangrai**	**39.17**	**260**	P	**P**		**16 08 11.8**	**-0.5**
PHRA	**Phrae**	**40.17**	**258**	P	**P**		**16 08 20.4**	**-0.1**
UNV	**Unalaska Valle**	**40.78**	**45**	P	**P**		**16 08 26.0**	**+0.8**
UNV				lAmb	lAmb		16 08 37.6	
	comp=Z,91nm,1.5s							
CHTO	**Chiang Mai**	**41.04**	**259**	P	**P**		**16 08 26.7**	**-1.1**
CHTO	**Chiang Mai**	**41.04**	**259**	P	**P**		**16 08 26.7**	**-1.1**
CM31	**Chiang Mai Arr**	**41.23**	**258**	P	**P**		**16 08 27.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**41.23**	**258**	P	**P**		**16 08 28.4**	**-1.0**
	comp=Z,4.2nm,0.7s,baz=49,slow=7.6,SNR=10							
	comp=Z,4.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**41.23**	**258**	P	**P**		**16 08 28.1**	**-1.2**
ZAA0	**Zalesovo Array**	**43.93**	**314**	P	**P**		**16 08 50.7**	**-0.1**
ZALV	**Zalesovo Beam**	**43.93**	**314**	P	**P**		**16 08 51.1**	**+0.3**
	comp=Z,7.0nm,0.7s,baz=94,slow=6.7,SNR=4.3							
ZALV				PcP	**PcP**		**16 10 36.9**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=107,slow=2.5,SNR=3.8							
	comp=Z,7.0nm,0.7s							
ZALV	**Zalesovo Beam**	**43.93**	**314**	P	**P**		**16 08 51.4**	**+0.6**
NRIK	**Noril'sk**	**45.76**	**336**	P	**P**		**16 09 06.0**	**+0.9**
	comp=Z,5.5nm,0.7s,baz=134,slow=8.2,SNR=2.3							
	comp=Z,5.5nm,0.7s							
MKAR	**Makanchi Array**	**45.81**	**304**	P	**P**		**16 09 06.4**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=89,slow=9.8,SNR=0.2							
	comp=Z,2.7nm,0.6s							
MKAR	**Makanchi Array**	**45.81**	**304**	P	**P**		**16 09 05.8**	**-0.2**
O18K	**Koktuh Hills**	**47.50**	**38**	P	**P**		**16 09 21.5**	**+2.5**
RAMN	**Ramite**	**47.57**	**277**	*e*P	**P**		**16 09 19.8**	**-0.5**
	comp=Z,36nm,0.7s							
JIRN	**Jiri**	**47.63**	**278**	*e*P	**P**		**16 09 19.8**	**-1.1**
	comp=Z,42nm,0.7s							
GUN	**Gumba**	**47.79**	**278**	*e*P	**P**		**16 09 21.4**	**-0.7**
KURK	**Kurchatov**	**47.81**	**310**	P	**P**		**16 09 21.8**	**+0.2**
KURK				lAmb	lAmb		16 09 40.1	
	comp=Z,22nm,0.8s							
KURK	**Kurchatov**	**47.81**	**310**	P	**P**		**16 09 22.2**	**+0.7**
KURBB	**Kurchatov Arra**	**47.88**	**310**	P	**P**		**16 09 22.2**	**+0.2**
	comp=Z,15nm,0.8s,baz=83,slow=7.2,SNR=7.1							
	comp=Z,15nm,0.8s							
MTN	**Manton Dam**	**48.11**	**194**	P	**P**		**16 09 24.3**	**+0.2**
K20K	**Telida**	**48.30**	**33**	P	**P**		**16 09 27.1**	**+1.9**
K20K				lAmb	lAmb		16 09 34.7	
	comp=Z,39nm,1.6s							
PKI	**Pulchoki**	**48.31**	**278**	*e*P	**P**		**16 09 25.3**	**-0.8**
	comp=Z,38nm,1.0s							
PKIN	**Phulchoki**	**48.31**	**278**	*e*P	**P**		**16 09 25.4**	**-0.7**
	comp=Z,20nm,0.7s							
KKN	**Kakani**	**48.33**	**278**	*e*P	**P**		**16 09 24.8**	**-1.3**
GKN	**Gorkha**	**48.77**	**279**	*e*P	**P**		**16 09 29.2**	**-0.3**
	comp=Z,69nm,1.0s							
H21K	**Melozitna Rive**	**49.07**	**30**	P	**P**		**16 09 33.6**	**+2.5**
H21K				lAmb	lAmb		16 09 34.9	
	comp=Z,19nm,1.3s							
DANN	**Dangsing**	**49.35**	**280**	*e*P	**P**		**16 09 33.9**	**-0.2**
	comp=Z,102nm,0.9s							
KOLN	**Koldanda**	**49.71**	**279**	*e*P	**P**		**16 09 35.9**	**-0.8**
TARG	**Taragay, Kyrgy**	**49.88**	**298**	P	**P**		**16 09 38.4**	**+0.3**
TARG				lAmb	lAmb		16 09 40.2	
	comp=Z,9.6nm,0.8s							
TARG	**Taragay, Kyrgy**	**49.88**	**298**	P	**P**		**16 09 38.4**	**+0.3**
TARG				pmax	pmax			
	comp=Z,10.0nm,0.8s							
FIS	**Fire Island**	**50.00**	**36**	P	**P**		**16 09 38.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**50.08**	**217**	P	**P**		**16 09 37.8**	**-1.5**
TOLK	**Toolik Lake Re**	**50.63**	**26**	P	**P**		**16 09 43.4**	**+0.5**
TOLK				lAmb	lAmb		16 09 47.1	
	comp=Z,12nm,1.1s							
MDM	**Murphy Dome**	**50.95**	**31**	P	**P**		**16 09 47.6**	**+2.2**
MDM				lAmb	lAmb		16 09 55.7	
	comp=Z,22nm,1.2s							
H24K	**Noodor Dome**	**51.12**	**30**	P	**P**		**16 09 48.9**	**+2.3**
H24K				lAmb	lAmb		16 10 44.6	
	comp=Z,38nm,1.9s							
KNRA	**Kununurra**	**51.37**	**196**	P	**P**		**16 09 49.3**	**+0.4**
KNRA				lAmb	lAmb		16 10 04.8	
	comp=Z,29nm,1.1s							
UGM	**Wanagama**	**51.49**	**221**	P	**P**		**16 09 48.4**	**-1.6**
ILAR	**Eielson Array**	**51.52**	**31**	P	**P**		**16 09 51.0**	**+1.4**
	comp=Z,3.4nm,0.8s,baz=271,slow=6.1,SNR=4.2							
	comp=Z,3.4nm,0.8s							
ILAR	**Eielson Array**	**51.52**	**31**	P	**P**		**16 09 50.2**	**+0.6**
ILAR	**Eielson Array**	**51.52**	**31**	P	**P**		**16 09 51.0**	**+1.4**
GLI	**Glacier Island**	**51.53**	**36**	P	**P**		**16 09 51.0**	**+1.3**
BVAR	**Borovoye Array**	**52.58**	**314**	P	**P**		**16 09 57.4**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=90,slow=6.5,SNR=5.4							
BVAR				PcP	**PcP**		**16 11 08.3**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=96,slow=2.9,SNR=4.1							
	comp=Z,3.2nm,0.6s							
BRVK	**Borovoye**	**52.63**	**314**	P	**P**		**16 09 59.5**	**+1.4**
BRVK				lAmb	lAmb		16 10 21.6	
	comp=Z,13nm,1.1s							
BRVK	**Borovoye**	**52.63**	**314**	P	**P**		**16 09 59.5**	**+1.4**
BRVK				pmax	pmax			
	comp=Z,13nm,1.2s							
DOT	**Dot Lake**	**52.79**	**33**	P	**P**		**16 09 59.6**	**+0.6**
DOT				lAmb	lAmb		16 11 36.7	
	comp=Z,41nm,1.8s							
GSI	**Gunungsitoli**	**52.80**	**241**	P	**P**		**16 09 58.7**	**-1.0**
K27K	**Chicken**	**53.64**	**32**	P	**P**		**16 10 07.0**	**+1.7**
K27K				lAmb	lAmb		16 10 14.8	
	comp=Z,23nm,1.4s							
BCAR	**Beaver Creek A**	**53.86**	**33**	P	**P**		**16 10 08.0**	**+1.0**
WB0	**Warramunga Arr**	**54.37**	**189**	P	**P**		**16 10 10.6**	**-0.5**
WB0				lAmb	lAmb		16 10 25.6	
	comp=Z,14nm,0.9s							
CTAO	**Charters Tower**	**54.39**	**175**	P	**P**		**16 10 11.3**	**+0.1**
CTAO	**Charters Tower**	**54.39**	**175**	P	**P**		**16 10 11.3**	**+0.1**
CTAO				pmax	pmax			
	comp=Z,8.0nm,1.2s							
FITZ	**Fitzroy Crossi**	**54.47**	**199**	P	**P**		**16 10 12.3**	**+0.5**
FITZ				lAmb	lAmb		16 10 41.7	
	comp=Z,34nm,1.6s							
WRAB	**Tennant Creek**	**54.54**	**189**	P	**P**		**16 10 11.9**	**-0.4**
WRAB				lAmb	lAmb		16 11 05.5	
	comp=Z,28nm,1.3s							
WRAB	**Tennant Creek**	**54.54**	**189**	P	**P**		**16 10 11.9**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,29nm,1.3s							
WR0	**Warramunga Arr**	**54.54**	**188**	P	**P**		**16 10 12.1**	**-0.2**
WR0				lAmb	lAmb		16 11 19.8	
	comp=Z,15nm,1.0s							
WB2	**Warramunga Arr**	**54.55**	**189**	P	**P**		**16 10 12.2**	**-0.1**
WRA	**Warramunga Arr**	**54.55**	**189**	P	**P**		**16 10 12.2**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=1.3,slow=7.5,SNR=7.2							
	comp=Z,7.3nm,0.8s							
WRA	**Warramunga Arr**	**54.55**	**189**	P	**P**		**16 10 12.1**	**-0.2**
KK31	**Karatay Array**	**54.73**	**302**	P	**P**		**16 10 12.8**	**-0.8**
KK31				lAmb	lAmb		16 10 28.7	
	comp=Z,22nm,1.2s							
KK31	**Karatay Array**	**54.73**	**302**	P	**P**		**16 10 12.8**	**-0.8**
KK31				pmax	pmax			
	comp=Z,22nm,1.2s							
KKAR	**Karatay Array**	**54.73**	**302**	P	**P**		**16 10 13.2**	**-0.4**
KKAR	**Karatay Array**	**54.73**	**302**	P	**P**		**16 10 13.2**	**-0.4**
INK	**Inuvik**	**56.55**	**26**	P	**P**		**16 10 27.0**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=320,slow=1.7,SNR=3.1							
	comp=Z,2.3nm,0.3s							
INK	**Inuvik**	**56.55**	**26**	P	**P**		**16 10 27.0**	**+0.8**
CHGR	**Chuyangaron**	**57.10**	**297**	P	**P**		**16 10 30.9**	**+0.2**
CHGR	**Chuyangaron**	**57.10**	**297**	P	**P**		**16 10 30.9**	**+0.2**
CHGR				pmax	pmax			
	comp=Z,24nm,0.7s							
AS31	**Alice Springs**	**58.28**	**189**	P	**P**		**16 10 38.9**	**0.0**
ASAR	**Alice Springs**	**58.28**	**189**	P	**P**		**16 10 39.4**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=360,slow=5.8,SNR=5.2							
	comp=Z,2.3nm,0.8s							
ASAR	**Alice Springs**	**58.28**	**189**	P	**P**		**16 10 38.3**	**-0.6**
HYBB	**Hyderabad (bro**	**58.50**	**270**	*e*P	**P**		**16 10 40.1**	**-0.6**
ARU	**Arti**	**58.53**	**320**	P	**P**		**16 10 40.1**	**-0.2**
	comp=Z,11nm,0.6s,baz=98,slow=4.5,SNR=5.1							
	comp=Z,11nm,0.6s							
ARU	**Arti**	**58.53**	**320**	P	**P**		**16 10 40.4**	**+0.1**
ARU				lAmb	lAmb		16 10 41.6	
	comp=Z,13nm,0.7s							
MBWA	**Marble Bar**	**59.15**	**204**	P	**P**		**16 10 45.1**	**+0.1**
MBWA				lAmb	lAmb		16 10 48.0	
	comp=Z,13nm,0.8s							
PSA00	**Pilbara Seismi**	**59.50**	**204**	P	**P**		**16 10 48.0**	**+0.6**
PSA00	**Pilbara Seismi**	**59.50**	**204**	P	**P**		**16 10 47.7**	**+0.4**
PSA00				lAmb	lAmb		16 10 54.7	
	comp=Z,27nm,1.9s							
ABKAR	**Akbulak array**	**59.88**	**311**	P	**P**		**16 10 49.9**	**+0.2**
ABKAR	**Akbulak array**	**59.88**	**311**	P	**P**		**16 10 49.7**	**-0.1**
ABKAR				lAmb	lAmb		16 10 51.6	
	comp=Z,21nm,1.4s							
AKTO	**Aktyubinsk**	**60.66**	**313**	P	**P**		**16 10 55.1**	**0.0**
	comp=Z,8.8nm,0.7s,baz=75,slow=13,SNR=5.1							
	comp=Z,8.8nm,0.7s							
KIRV	**Kirov**	**62.52**	**324**	P	**P**		**16 11 08.2**	**+0.7**
	comp=Z,15nm,0.7s,baz=89,slow=5.3,SNR=4.0							
	comp=Z,15nm,0.7s							
GEYT	**Alibeck**	**65.39**	**300**	P	**P**		**16 11 27.6**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=34,slow=5.4,SNR=2.7							
	comp=Z,4.5nm,0.9s							
STKA	**Stephens Creek**	**65.97**	**180**	P	**P**		**16 11 34.4**	**+4.0**
	comp=Z,2.0nm,0.7s,baz=321,slow=6.5,SNR=2.0							
STKA	**Stephens Creek**	**65.97**	**180**	P	**P**		**16 11 31.9**	**+1.6**
STKA	**Stephens Creek**	**65.97**	**180**	P	**P**		**16 11 31.9**	**+1.6**
STKA				pmax	pmax			
	comp=Z,9.0nm,1.9s							
FORT	**Forrest**	**66.16**	**193**	P	**P**		**16 11 32.4**	**+0.8**
BBOO	**Buckleboo**	**67.12**	**185**	P	**P**		**16 11 38.6**	**+1.0**
MORW	**Morawa**

SRU	**San Rafael Swe**	**80.87**	**49**	P	**P**	**16 12 58.6**	**+0.1**
SRU				IAmb	IAmb	16 13 01.8		
	comp=Z,12nm,0.9s							
SRU	**San Rafael Swe**	**80.87**	**49**	P	**P**	**16 12 58.6**	**+0.1**
SRU				pmax	pmax			
	comp=Z,13nm,0.9s							
N23A	**Red Feather La**	**82.53**	**45**	P	**P**	**16 13 08.0**	**+0.7**
N23A				IAmb	IAmb	16 13 11.1		
	comp=Z,18nm,1.1s							
SDCO	**Great Sand Dun**	**84.80**	**47**	P	**P**	**16 13 20.0**	**+0.9**
SDCO				IAmb	IAmb	16 13 22.6		
	comp=Z,6.3nm,1.1s							
GERES	**GERESS Array B**	**85.08**	**329**	P	**P**	**16 13 20.6**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=40,slow=5.1,SNR=2.9							
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**91.44**	**53**	P	**P**	**16 13 52.7**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=294,slow=2.7,SNR=3.7							
	comp=Z,0.8nm,0.7s							
ESDC	**Sonseca Array**	**99.75**	**334**	P	**Pdif**	**16 14 29.6**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=29,slow=2.9,SNR=1.6							
	comp=Z,0.4nm,0.7s							
LPAZ	**La Paz**	**147.63**	**64**	PKPbc	**PKiKP**	**16 20 31.7**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=294,slow=2.1,SNR=4.9							

IDC ***22*** *16:07:25.1±0.3,59°.39S×27°.33W,h0km,mb4.9/26, mbtmp4.9/27,ML5.0/1,MS5.0/43,Error ellipse: s-maj=15.3km s-min=10.5km az=44.0*

MOS ***22*** *16:07:27.7±1.2,59°.61S×27°.72W,h16km,mb5.6/19, MS5.1/7,Error ellipse: s-maj=26.6km s-min=10.3km az=113.1*

NEIC ***22*** *16:07:27.2±2.0,59°.47S±0°.09×27°.5W±0°.2,h8km±1km, mb5.6/95,Ms_20 5.3/96,Mwb5.5/16,Error ellipse: s-maj=17.0km s-min=12.6km az=229.0*

NEIC ***22*** *16:07:27.1,59°.45S×27°.36W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.83; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$-0.21; $M_{r\theta}$-1.03; $M_{\theta\phi}$-0.23; $M_{\phi r}$-0.40; Fault plane solution: M_o2.07000×10^{17} NP1:ϕ_s254.78000°, δ61.17000°,λ,84.65000°. NP2:ϕ_s85.78000°,δ29.28000°, λ99.62000°. Principal axes: T 2.1613, Plg73.0000°, Azm152.0000°; N -0.1930, Plg5.0000°, Azm257.0000°; P -1.9683, Plg16.0000°, Azm349.0000°;*

GCMT ***22*** *16:07:32.2±0.1,59°.51S±0°.01×26°.60W±0°.02,h12km, MW5.5/160,Moment Tensor Solution. s104,c155; s160,c307; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.88±.02; $M_{\theta\theta}$-1.40±.02; $M_{\phi\phi}$-0.48±.02; $M_{r\theta}$-1.08±.05; $M_{\theta\phi}$-0.23±.02; $M_{\phi r}$0.42±.06; Best double couple: M_o2.00800×10^{17} NP1:ϕ_s274.00000°,δ62.00000°, λ102.00000°. NP2:ϕ_s70.00000°,δ30.00000°,λ69.00000°. Principal axes: T 2.2840, Plg71.0000°, Azm210.0000°; N -0.5550, Plg11.0000°, Azm88.0000°; P -1.7320, Plg16.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 16:07:27.7±0.6,59°.49S±0°.05×27°.42W±0°.05,h14km±3km, h14km:pP-P,n529,σ1$50/489,mb5.5/70,MS5.2/92,2C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.20**	**312**	Pn	**Pn**	**16 09 10.9**	**-1.5**
HOPE	**Hope Point**	**7.20**	**312**	P	**Pn**	**16 09 10.9**	**-1.5**
VNA1	**Neumayer--Stat**	**13.71**	**153**	P	**Pn**	**16 10 40.8**	**-0.5**
VNA3	**Neumayer Olymp**	**13.83**	**156**	P	**Pn**	**16 10 41.5**	**-1.6**
VNA2	**Neumayer--Watz**	**14.11**	**152**	P	**Pn**	**16 10 45.4**	**-1.4**
	baz=306,slow=15						
SNAA	**Sanae**	**15.71**	**151**	P	**Pn**	**16 11 08.0**	**-0.3**
SNAA	**Sanae**	**15.71**	**151**	Pn	**Pn**	**16 11 07.0**	**-1.3**
	5.4nm,0.3s,baz=308,slow=13,SNR=134						
SNAA				Sn	**Sn**	**16 13 54.4**	**-7.4**
	0.3nm,0.3s,baz=302,slow=21,SNR=2.5						
SNAA				LR	LR	16 15 54.3	
	comp=Z,8μm,21.5s,baz=316,slow=32						
	15nm,0.4s						
SNAA	**Sanae**	**15.71**	**151**	Pn	**Pn**	**16 11 07.8**	**-0.5**
SNAA	**Sanae**	**15.71**	**151**	*i* P	**Pn**	**16 11 08.7**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,81nm,1.3s						
TROLL	**Troll, Antarti**	**17.28**	**149**	P	**Pn**	**16 11 28.3**	**-0.1**
PMSA	**Palmer Station**	**17.72**	**237**	P	**P**	**16 11 37.7**	**+3.3**
	comp=Z,19nm,1.0s,baz=80,slow=8.9,SNR=1.7						
PMSA				LR	LR	16 17 32.9	
	comp=Z,7μm,19.0s,baz=71,slow=34						
PMSA	**Palmer Station**	**17.72**	**237**	Pn	**Pn**	**16 11 30.8**	**-2.9**
BELA	**Belgrano 2**	**18.63**	**185**		**Pn**	**16 11 44.7**	**0.0**
BELA				IAmb	IAmb	16 11 53.0	
	comp=Z,436nm,1.7s						
EFI	**East Falkland**	**18.86**	**281**	*i* P	**Pn**	**16 11 48.2**	**+0.5**
EFI				pmax	pmax		
	comp=Z,94nm,1.2s						
NVL	**N'lazarevskaya**	**19.54**	**141**	*e*P	**P**	**16 11 54.9**	**+0.5**
NVL				pmax	pmax		
	comp=Z,100nm,1.2s						
USHA	**Ushuaia**	**22.45**	**264**	P	**P**	**16 12 23.4**	**-2.5**
	comp=Z,10nm,0.8s,baz=120,slow=8.1,SNR=1.4						
USHA				LR	LR	16 19 14.8	
	comp=Z,4μm,18.3s,baz=103,slow=32						
TRQA	**Tornquist**	**30.72**	**299**	P	**P**	**16 13 42.7**	**+0.7**
TRQA				IAmb	IAmb	16 13 47.8	
	comp=Z,98nm,1.7s						
TRQA	**Tornquist**	**30.72**	**299**	P	**P**	**16 13 42.7**	**+0.7**
TRQA				pmax	pmax		
	comp=Z,98nm,1.7s						
TRQA				MLR	MLR		
	comp=Z,2μm,18.0s						
QSPA	**South Pole Qui**	**30.75**	**180**	P	**P**	**16 13 42.7**	**+0.5**
	comp=Z,74nm,1.2s,baz=201,slow=7.3,SNR=9.9						
QSPA				LR	LR	16 25 20.5	
	comp=Z,7μm,21.9s,baz=191,slow=35						
	comp=Z,74nm,1.2s						
QSPA	**South Pole Qui**	**30.75**	**180**	P	**P**	**16 13 42.3**	**+0.1**
QSPA				IAmb	IAmb	16 13 48.6	
	comp=Z,161nm,1.5s						
QSPA	**South Pole Qui**	**30.75**	**180**	IAMs_20	IAMs_20	16 25 09.1	
	comp=Z,7μm,21.0s						
AY01	**Puyuhuapi**	**30.98**	**279**	P	**P**	**16 13 44.5**	**+0.3**
AY01				IAmb	IAmb	16 13 52.2	
	comp=Z,100nm,1.4s						
LL02	**Futaleuf**	**31.46**	**281**	P	**P**	**16 13 47.8**	**-0.7**
LL02				IAmb	IAmb	16 13 57.1	
	comp=Z,69nm,1.4s						
PLCA	**Paso Flores**	**32.65**	**286**	P	**P**	**16 13 58.4**	**-0.6**
	comp=Z,19nm,1.2s,baz=127,slow=6.7,SNR=8.3						
PLCA				PcP	**PcP**	**16 16 46.2**	**+1.6**
	comp=Z,4.7nm,0.9s,baz=144,slow=2.0,SNR=3.3						
PLCA				LR	LR	16 27 14.9	
	comp=Z,2μm,19.3s,baz=145,slow=36						
	comp=Z,19nm,1.2s						
PLCA	**Paso Flores**	**32.65**	**286**	P	**P**	**16 13 58.2**	**-0.9**
PLCA				IAmb	IAmb	16 14 07.5	
	comp=Z,110nm,1.5s						
PLCA	**Paso Flores**	**32.65**	**286**	*e*P	**P**	**16 13 59.0**	**0.0**
PLTB	**Pedras Altas**	**32.80**	**316**	P	**P**	**16 14 00.5**	**+0.1**
PLTB	**Pedras Altas**	**32.80**	**316**	*e*P	**P**	**16 14 00.5**	**+0.1**
CPSB	**Cacapava Do Su**	**33.98**	**317**	*e*P	**P**	**16 14 09.9**	**-0.7**
CNLB	**Canela**	**34.13**	**322**	*e*P	**P**	**16 14 13.1**	**+1.1**
TER01	**Tubaro-SC**	**34.34**	**325**	*e*P	**P**	**16 14 14.9**	**+1.2**
RODS	**Rosario do Sul**	**34.66**	**315**	*e*P	**P**	**16 14 16.4**	**-0.1**
LR04	**Corral**	**34.72**	**284**	P	**P**	**16 14 16.8**	**-0.1**
ALGR	**Alto Alegre (B**	**35.32**	**319**	*e*P	**P**	**16 14 22.3**	**+0.1**
UNIS	**Unistalda (Bra**	**35.77**	**316**	*e*P	**P**	**16 14 27.2**	**+1.1**
ITQB	**Itaqui**	**35.79**	**313**	P	**P**	**16 14 26.2**	**0.0**
ITQB				IAmb	IAmb	16 14 33.4	
	comp=Z,166nm,1.2s						
ITQB	**Itaqui**	**35.79**	**313**	*e*P	**P**	**16 14 26.4**	**+0.2**
ITAB	**Concordia**	**36.47**	**321**	*e*P	**P**	**16 14 33.0**	**+0.9**
CRSM	**Crissiumal (Br**	**36.86**	**318**	*e*P	**P**	**16 14 35.8**	**+0.4**
TIJ01	**Guaruva-PR**	**37.33**	**327**	*e*P	**P**	**16 14 37.7**	**-1.7**
MAW	**Mawson**	**37.49**	**141**	P	**P**	**16 14 41.0**	**+0.7**
	comp=Z,17nm,1.2s,baz=245,slow=8.3,SNR=14						
MAW				LR	LR	16 28 11.8	
	comp=Z,2μm,20.5s,baz=243,slow=33						
	comp=Z,17nm,1.2s						
MAW	**Mawson**	**37.49**	**141**	P	**P**	**16 14 40.7**	**+0.4**
PET01	**Itanhaem-SP**	**37.84**	**330**	*e*P	**P**	**16 14 43.9**	**+0.2**
FRBT	**Francisco Belt**	**37.94**	**321**	*e*P	**P**	**16 14 45.4**	**+0.8**
LMEL	**Las Melosas**	**37.96**	**293**	P	**P**	**16 14 44.6**	**-0.3**
BO04	**La Punta**	**38.03**	**293**	P	**P**	**16 14 44.9**	**-0.5**
MT09	**Talagante**	**38.39**	**292**	P	**P**	**16 14 48.7**	**+0.3**
MT09				IAmb	IAmb	16 14 56.1	
	comp=Z,214nm,1.5s						
MT01	**Popeta**	**38.44**	**292**	P	**P**	**16 14 48.4**	**-0.3**
MT01				IAmb	IAmb	16 14 56.4	
	comp=Z,180nm,1.6s						
MT05	**Renca**	**38.59**	**293**	P	**P**	**16 14 50.2**	**+0.2**
PEL	**Peldehue**	**38.77**	**293**	P	**P**	**16 14 51.8**	**+0.3**
PEL	**Peldehue**	**38.77**	**293**	P	**P**	**16 14 51.8**	**+0.3**
PEL				pmax	pmax		
	comp=Z,487nm,1.6s						
VA05	**Santo Domingo**	**38.78**	**292**	P	**P**	**16 14 51.1**	**-0.4**
PTGB	**Pitanga**	**38.80**	**323**	*e*P	**P**	**16 14 51.5**	**-0.4**
DUB01	**Friburgo-RJ**	**38.86**	**338**	*e*P	**P**	**16 14 52.1**	**-0.3**
MT02	**Curacav**	**38.88**	**293**	P	**P**	**16 14 51.6**	**-0.8**
MT02				IAmb	IAmb	16 15 00.4	
	comp=Z,217nm,1.4s						
VAO	**Valinhos**	**39.00**	**331**	*e*P	**P**	**16 14 54.1**	**+0.5**
VA03	**San Esteban**	**39.02**	**294**	IAmb	IAmb	16 15 03.2	
	comp=Z,194nm,1.1s						
ROC1	**El Roble**	**39.06**	**293**	P	**P**	**16 14 52.8**	**-1.4**
CPUP	**Villa Florida**	**39.08**	**315**	P	**P**	**16 14 52.9**	**-1.2**
	comp=Z,15nm,0.9s,baz=156,slow=10,SNR=9.2						
CPUP				LR	LR	16 29 20.7	
	comp=Z,2μm,21.5s,baz=164,slow=34						
	comp=Z,15nm,0.9s						
CPUP	**Villa Florida**	**39.08**	**315**	P	**P**	**16 14 53.2**	**-0.9**
CPUP	**Villa Florida**	**39.08**	**315**	P	**P**	**16 14 53.2**	**-0.9**
CPUP				pmax	pmax		
	comp=Z,63nm,1.2s						
CPUP	**Villa Florida**	**39.08**	**315**	*e*P	**P**	**16 14 53.9**	**-0.2**
ZON	**Zonda**	**39.17**	**297**	P	**P**	**16 14 54.6**	**-0.3**
ZON				IAmb	IAmb	16 15 05.8	
	comp=Z,150nm,1.3s						
ZON	**Zonda**	**39.17**	**297**	P	**P**	**16 14 54.6**	**-0.3**
ZON				pmax	pmax		
	comp=Z,150nm,1.3s						
RCLB	**Rio Claro- Sao**	**39.70**	**330**	*e*P	**P**	**16 14 59.8**	**+0.5**
CO02	**Combarbal**	**40.53**	**295**	P	**P**	**16 15 06.1**	**-0.2**
CO02				IAmb	IAmb	16 15 17.7	
	comp=Z,110nm,1.3s						
TRCB	**Terra Rica**	**40.77**	**323**	*e*P	**P**	**16 15 07.8**	**-0.5**
CO01	**Juntas del Tor**	**41.15**	**297**	P	**P**	**16 15 12.2**	**+0.6**
BB19B	**Bebedouro**	**41.25**	**329**	*e*P	**P**	**16 15 12.1**	**-0.1**
CO06	**Fray Jorge**	**41.27**	**294**	IAmb	IAmb	16 15 21.0	
	comp=Z,109nm,1.3s						
GO04	**Tololo Observa**	**41.30**	**296**	IAmb	IAmb	16 15 20.2	
	comp=Z,114nm,1.5s						
PCMB	**Pacambu**	**41.48**	**325**	*e*P	**P**	**16 15 13.6**	**-0.5**
SUR	**Sutherland**	**41.76**	**71**	P	**P**	**16 15 17.8**	**+1.3**
	comp=Z,5.3nm,0.9s,baz=208,slow=12,SNR=2.3						
SUR				LR	LR	16 28 23.7	
	comp=Z,1μm,21.5s,baz=207,slow=30						
SJMB	**Sao Joao De Ma**	**41.94**	**340**	*e*P	**P**	**16 15 18.2**	**+0.4**
AC05	**El Transito**	**42.20**	**297**	IAmb	IAmb	16 15 29.2	
	comp=Z,198nm,1.1s						
LCO	**Las Campanas**	**42.24**	**297**	P	**P**	**16 15 21.5**	**+0.9**
LCO				IAMs_20	IAMs_20	16 35 15.4	
	comp=Z,3μm,19.0s						
LCO	**Las Campanas**	**42.24**	**297**	P	**P**	**16 15 21.5**	**+0.9**
LCO				MLR	MLR		
	comp=Z,3μm,19.0s						
ANTJ	**Antonio Joao (**	**42.60**	**319**	*e*P	**P**	**16 15 22.9**	**-0.3**
DIAM	**Diamantina, MG**	**42.80**	**337**	*e*P	**P**	**16 15 25.0**	**0.0**
AC04	**Llanos de Chal**	**43.10**	**297**	P	**P**	**16 15 27.2**	**0.0**
VNDA	**Vanda**	**43.12**	**183**	P	**P**	**16 15 28.1**	**+1.3**
	comp=Z,10nm,0.9s,baz=187,slow=7.7,SNR=38						
VNDA				LR	LR	16 34 13.3	
	comp=Z,903nm,19.0s,baz=166,slow=37						
	comp=Z,10nm,0.9s						
VNDA	**Vanda**	**43.12**	**183**	P	**P**	**16 15 28.7**	**+1.9**
VNDA	**Vanda**	**43.12**	**183**	P	**P**	**16 15 28.7**	**+1.9**
VNDA				pmax	pmax		
	comp=Z,82nm,1.6s						
RPRD	**Ribas do Rio P**	**43.28**	**323**	*e*P	**P**	**16 15 29.1**	**+0.5**
AC02	**Maricunga**	**43.41**	**300**	P	**P**	**16 15 30.3**	**0.0**
AC02				IAmb	IAmb	16 15 39.3	
	comp=Z,225nm,1.6s						
AC06	**Mina Casimiro**	**43.50**	**298**	IAmb	IAmb	16 15 38.3	
	comp=Z,94nm,1.2s						
GUA01	**Guaratinga, BA**	**43.80**	**343**	*e*P	**P**	**16 15 33.8**	**+1.0**
AQDB	**Aquidauana**	**43.92**	**320**	P	**P**	**16 15 32.2**	**-1.7**
AQDB	**Aquidauana**	**43.92**	**320**	*e*P	**P**	**16 15 33.0**	**-0.8**
IPMB	**Ipameri, GO**	**44.12**	**331**	*e*P	**P**	**16 15 36.3**	**+0.7**
MC01	**Montes Claros**	**44.40**	**337**	*e*P	**P**	**16 15 37.9**	**+0.1**
C2SB	**Chapadao do Su**	**44.63**	**325**	*e*P	**P**	**16 15 39.5**	**0.0**
AC01	**Pan de Azucar**	**44.65**	**299**	IAmb	IAmb	16 15 46.9	
	comp=Z,175nm,1.6s						
PANT	**Pantanal (Braz**	**45.60**	**320**	*e*P	**P**	**16 15 47.1**	**-0.2**
BDFB	**Brasilia**	**46.33**	**332**	P	**P**	**16 15 53.8**	**+0.7**
	comp=Z,7.9nm,0.9s,baz=139,slow=8.3,SNR=8.1						
BDFB				LR	LR	16 32 23.5	
	comp=Z,2μm,21.1s,baz=151,slow=32						
	comp=Z,7.9nm,0.9s						
BDFB	**Brasilia**	**46.33**	**332**	P	**P**	**16 15 53.6**	**+0.5**
BDFB				IAmb	IAmb	16 16 00.2	
	comp=Z,77nm,1.6s						
BDFB	**Brasilia**	**46.33**	**332**	*e*P	**P**	**16 15 54.3**	**+1.2**
PB15	**IPOC Station P**	**46.72**	**302**	IAmb	IAmb	16 16 15.7	
	comp=Z,40nm,0.9s						
LVC	**Limon Verde**	**47.01**	**303**	LR	LR	16 34 38.7	
	comp=Z,2μm,21.9s,baz=175,slow=35						
LVC	**Limon Verde**	**47.01**	**303**	P	**P**	**16 15 58.9**	**+0.2**
LVC	**Limon Verde**	**47.01**	**303**	IAMs_20	IAMs_20	16 38 40.5	
	comp=Z,3μm,20.0s						
LVC	**Limon Verde**	**47.01**	**303**	P	**P**	**16 15 58.9**	**+0.2**
LVC				pmax	pmax		
	comp=Z,115nm,1.1s						
LVC				MLR	MLR		
	comp=Z,3μm,20.0s						
LVC	**Limon Verde**	**47.01**	**303**	*e*P	**P**	**16 15 59.4**	**+0.7**
BOSA	**Boshof**	**47.02**	**73**	P	**P**	**16 15 57.0**	**-1.5**
	comp=Z,4.2nm,0.6s,baz=219,slow=7.4,SNR=8.0						
BOSA				LR	LR	16 33 19.7	
	comp=Z,972nm,18.4s,baz=222,slow=33						
	comp=Z,4.2nm,0.6s						
SIV	**San Ignacio**	**49.91**	**316**	LR	LR	16 36 33.4	
	comp=Z,1μm,21.0s,baz=184,slow=35						
NBAN	**Anadia - AL**	**50.17**	**349**	*e*P	**P**	**16 16 22.3**	**-0.4**
LBTB	**Lobatse**	**50.20**	**71**	LR	LR	16 33 11.3	
	comp=Z,2μm,21.5s,baz=212,slow=31						
SNDB	**Serra Nova Dou**	**50.67**	**329**	*e*P	**P**	**16 16 27.4**	**+1.0**
CASY	**Casey**	**50.71**	**160**	P	**P**	**16 16 26.8**	**+0.7**
CASY				IAmb	IAmb	16 16 32.6	
	comp=Z,115nm,1.8s						
NBRF	**Rio Formoso -**	**51.04**	**350**	*e*P	**P**	**16 16 27.8**	**-1.4**
H10S2	**ASCENSION HYDR**	**51.34**	**16**	T	T	17 11 53.2	
	baz=188,slow=74,SNR=1803						
H10S3	**ASCENSION HYDR**	**51.35**	**16**	T	T	17 11 53.5	
	baz=32,slow=74,SNR=4190						
TSUM	**Tsumeb**	**51.53**	**59**	LR	LR	16 35 05.8	
	comp=Z,548nm,18.3s,baz=219,slow=32						
TSUM	**Tsumeb**	**51.53**	**59**	P	**P**	**16 16 32.3**	**-0.7**
TSUM				IAmb	IAmb	16 16 37.7	
	comp=Z,110nm,1.6s						
LPAZ	**La Paz**	**52.33**	**308**	P	**P**	**16 16 40.2**	**+0.6**
	comp=Z,26nm,0.8s,baz=151,slow=5.7,SNR=8.2						
LPAZ				S	**S**	**16 24 01.7**	**-3.3**
	comp=Z,0.7nm,0.5s,baz=85,slow=5.4,SNR=1.7						
LPAZ				LR	LR	16 39 34.4	
	comp=Z,1μm,20.4s,baz=158,slow=37						
	comp=Z,26nm,0.8s						
LPAZ	**La Paz**	**52.33**	**308**	*e*P	**P**	**16 16 40.1**	**+0.6**
H10N1	**ASCENSION HYDR**	**52.46**	**16**	T	T	17 13 17.7	
	baz=188,slow=76,SNR=1688						
H10N3	**ASCENSION HYDR**	**52.46**	**16**	T	T	17 13 18.4	
	baz=188,slow=76,SNR=6881						
H10N2	**ASCENSION HYDR**	**52.48**	**16**	T	T	17 13 19.6	
	baz=188,slow=76,SNR=4006						
CLDB	**Colider**	**52.98**	**324**	*e*P	**P**	**16 16 43.2**	**-0.5**
RCBR	**Riachuelo**	**53.93**	**350**	LR	LR	16 34 35.5	
	comp=Z,2μm,21.8s,baz=322,slow=30						
MATP	**Matopo**	**55.49**	**71**	LR	LR	16 36 23.1	
	comp=Z,1μm,21.1s,baz=239,slow=31						
SAML	**Samuel**	**57.19**	**317**	IAMs_20	IAMs_20	16 41 50.1	
	comp=Z,2μm,20.0s						
LSZ	**Lusaka**	**59.78**	**67**	P	**P**	**16 17 31.0**	**-1.3**
	comp=Z,3.8nm,0.3s,baz=210,slow=8.3,SNR=15						
LSZ				LR	LR	16 39 41.3	
	comp=Z,1μm,19.9s,baz=206,slow=32						
	comp=Z,3.8nm,0.3s						
NNA	**Nana**	**59.85**	**301**	P	**P**	**16 17 33.0**	**+0.2**
	comp=Z,6.4nm,0.4s,baz=144,slow=8.8,SNR=3.0						
NNA				LR	LR	16 43 00.1	
	comp=Z,806nm,21.3s,baz=144,slow=36						
	comp=Z,6.4nm,0.4s						
NNA	**Nana**	**59.85**	**301**	P	**P**	**16 17 33.0**	**+0.2**
NNA	**Nana**	**59.85**	**301**	*i* P	**P**	**16 17 34.9**	**+2.1**
NNA				pmax	pmax		
	comp=Z,146nm,1.3s						
CZSB	**Cruzeiro do Su**	**61.92**	**307**	P	**P**	**16 17 45.4**	**-1.3**
CZSB				IAmb	IAmb	16 17 53.3	
	comp=Z,180nm,1.5s						
CZSB	**Cruzeiro do Su**	**61.92**	**307**	*e*P	**P**	**16 17 46.4**	**-0.4**
PTGA	**Pitinga**	**63.84**	**323**	P	**P**	**16 17 57.4**	**-2.1**
	comp=Z,1.0nm,0.4s,baz=160,slow=11,SNR=2.2						
PTGA				LR	LR	16 44 33.0	
	comp=Z,1μm,21.4s,baz=158,slow=35						
	comp=Z,1.0nm,0.4s						
TBTG	**Tabatinga, AM**	**64.05**	**311**	*e*P	**P**	**16 18 01.2**	**+0.3**
ATAH	**Atahualpa**	**64.86**	**302**	P	**P**	**16 18 07.9**	**+1.2**
	comp=Z,15nm,1.1s,baz=136,slow=4.8,SNR=9.3						
	comp=Z,15nm,1.1s						
OPO	**Ambohidratompo**	**66.38**	**87**	P	**P**	**16 18 16.5**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=210,slow=6.5,SNR=2.4						
OPO				LR	LR	16 42 57.0	
	comp=Z,164nm,18.5s,baz=56,slow=32						
	comp=Z,3.9nm,0.9s						
BOAV	**Boa Vista**	**66.96**	**324**	IAmb	IAmb	16 18 22.6	
	comp=Z,22nm,1.0s						
BOAV	**Boa Vista**	**66.96**	**324**	*e*P	**P**	**16 18 19.4**	**-0.3**
MDP	**Montagnes des**	**67.43**	**333**	P	**P**	**16 18 21.5**	**-1.1**
	comp=Z,8.6nm,0.9s,baz=158,slow=8.1,SNR=3.7						
MDP				LR	LR	16 45 17.8	
	comp=Z,1μm,21.0s,baz=137,slow=34						
	comp=Z,8.6nm,0.9s						
MCRA	**Macar, Loja**	**68.00**	**301**	IAmb	IAmb	16 18 34.1	
	comp=Z,44nm,1.1s						
DBIC	**Dimbokro**	**68.36**	**24**	P	**P**	**16 18 27.6**	**-0.9**
	comp=Z,47nm,1.1s,baz=187,slow=6.6,SNR=13						
DBIC				LR	LR	16 41 22.1	
	comp=Z,1μm,21.1s,baz=202,slow=30						
	comp=Z,47nm,1.1s						
DBIC	**Dimbokro**	**68.36**	**24**	P	**P**	**16 18 27.0**	**-1.5**
DBIC				IAmb	IAmb	16 18 33.1	
	comp=Z,53nm,1.1s						
BOSC	**San Juan Bosco**	**68.47**	**303**	IAmb	IAmb	16 18 37.9	
	comp=Z,66nm,1.3s						
OTAV	**Otavalo**	**71.50**	**305**	P	**P**	**16 18 48.1**	**-0.2**
OTAV	**Otavalo**	**71.50**	**305**	P	**P**	**16 18 48.2**	**-0.2**
OTAV				pmax	pmax		
	comp=Z,101nm,1.3s						
OTAV	**Otavalo**	**71.50**	**305**	*e*P	**P**	**16 18 47.7**	**-0.7**
MBAR	**Mbarara**	**73.85**	**62**	P	**P**	**16 18 59.8**	**-2.2**
	comp=Z,3.1nm,0.3s,baz=284,slow=3.8,SNR=1.5						
MBAR				LR	LR	16 48 01.6	
	comp=Z,491nm,20.6s,baz=188,slow=33						
	comp=Z,3.1nm,0.3s						
MBAR	**Mbarara**	**73.85**	**62**	P	**P**	**16 19 03.4**	**+1.4**
MBAR				IAmb	IAmb	16 19 09.2	
	comp=Z,109nm,1.8s						
MBAR	**Mbarara**	**73.85**	**62**	*i* P	**P**	**16 19 03.4**	**+1.4**
MBAR				pmax	pmax		
	comp=Z,26nm,1.3s						
ROSC	**El Rosal**	**74.02**	**311**	P	**P**	**16 19 04.2**	**+0.9**
	comp=Z,9.5nm,0.4s,baz=184,slow=3.2,SNR=7.0						
ROSC				LR	LR	16 51 50.1	
	comp=Z,1μm,21.6s,baz=182,slow=36						
	comp=Z,9.5nm,0.4s						
BBTS	**Babate**	**74.42**	**11**	LR	LR	16 44 23.0	
	comp=Z,2μm,21.9s,baz=223,slow=30						
DCZ	**Deep Cove**	**74.72**	**191**	P	**P**	**16 19 07.7**	**+1.2**
DCZ				IAmb	IAmb	16 19 11.5	
	comp=Z,106nm,1.9s						
ODZ	**Otahua Downs**	**74.77**	**193**	P	**P**	**16 19 08.7**	**+1.8**
ODZ				IAMs_20	IAMs_20	16 54 00.5	
	comp=Z,2μm,19.0s						
LBZ	**Lake Benmore**	**75.47**	**193**	P	**P**	**16 19 11.8**	**+0.8**
LBZ				IAmb	IAmb	16 19 18.0	
	comp=Z,102nm,1.9s						
BAUV	**El Baul**	**75.54**	**318**	IAmb	IAmb	16 19 15.4	
	comp=Z,117nm,1.6s						
PCRV	**Puerto La Cruz**	**75.58**	**322**	P	**P**	**16 19 11.8**	**0.0**
	comp=Z,41nm,1.1s,baz=101,slow=3.5,SNR=10						
PCRV				LR	LR	16 53 13.6	
	comp=Z,1μm,19.9s,slow=36						
	comp=Z,41nm,1.1s						
KIBK	**Kibwezi**	**75.72**	**70**	IAMs_20	IAMs_20	16 48 07.2	
	comp=Z,1μm,21.0s						
MQZ	**McQueen's Vall**	**75.84**	**195**	IAMs_20	IAMs_20	16 48 54.8	
	comp=Z,2μm,20.0s						
TOA0	**Torodi Ar. Sit**	**76.12**	**29**	P	**P**	**16 19 13.6**	**-1.2**
TORD	**Torodi Ar.

CBYP	Canovanas	83.59	324		IAmb	IAmb	16 19 59.3				
	comp=Z,69nm,1.6s										
MLPR	Magueyes Islan	83.67	322		IAmb	IAmb	16 20 00.6				
	comp=Z,61nm,1.2s										
GCPR	Guaynabo City	83.69	323		P	P	16 19 55.9	+0.3			
GCPR					IAmb	IAmb	16 20 01.7				
	comp=Z,58nm,1.5s										
CRPR	Cabo Rojo, PR	83.72	322		P	P	16 19 54.7	-1.2			
TBI	Tubuai	84.83	231	*e*	LR	LR	16 46 45.8				
	comp=Z,2µm,23.0s										
BOAB	BOACO BROADBAN	86.52	304		P	P	16 20 06.6	+1.5			
BOAB					IAMs_20	IAMs_20	17 01 48.1				
	comp=Z,1µm,19.0s										
SDDR	Presa de Saban	85.99	319		IAMs_20	IAMs_20	17 05 54.5				
	comp=Z,1µm,20.0s										
MATN	Matagalpa	86.06	304		IAmb	IAmb	16 20 15.2				
	comp=Z,61nm,1.5s										
MTDJ	Mount Denham	87.50	313		IAMs_20	IAMs_20	17 01 29.6				
	comp=Z,1µm,20.0s										
TGUH	Tegucigalpa,Un	87.65	303		IAMs_20	IAMs_20	16 57 58.3				
	comp=Z,1µm,21.0s										
FORT	Forrest	87.80	159		P	P	16 20 16.6	+0.5			
FORT					IAmb	IAmb	16 20 18.5				
	comp=Z,31nm,0.8s										
GTBY	Guantanamo Bay	88.18	316		IAMs_20	IAMs_20	17 00 54.6				
	comp=Z,2µm,20.0s										
GRTK	Grand Turk	88.29	320		IAMs_20	IAMs_20	17 00 20.5				
	comp=Z,1µm,22.0s										
STKA	Stephens Creek	88.52	171		P	P	16 20 19.1	-0.5			
	comp=Z,7.6nm,0.9s,baz=187,slow=5.8,SNR=12										
STKA					LR	LR	16 59 15.9				
	comp=Z,1µm,18.2s,baz=128,slow=35										
	comp=Z,7.6nm,0.9s										
STKA	Stephens Creek	88.52	171	*i*	P	P	16 20 20.9	+1.3			
MTO3	Montecristo	88.85	301		IAmb	IAmb	16 20 25.8				
	comp=Z,39nm,1.4s										
PPT2	Papeete2	90.04	234	*e*	LR	LR	16 49 10.8				
	comp=Z,2µm,22.8s										
PPT	Papeete	90.06	234		LR	LR	16 53 03.9				
	comp=Z,1µm,18.8s,baz=228,slow=30										
ATD	Arta Tunnel	90.11	67		P	P	16 20 31.8	+4.6			
	comp=Z,5.6nm,0.5s,baz=282,slow=6.8,SNR=11										
ATD					LR	LR	16 59 56.3				
	comp=Z,702nm,18.3s,baz=125,slow=35										
ATD	Arta Tunnel	90.11	67		IAmb	IAmb	16 20 35.7				
	comp=Z,43nm,1.2s										
ATD					IAMs_20	IAMs_20	16 54 44.0				
	comp=Z,898nm,20.0s										
TEIG	Tepich	93.57	305		P	P	16 20 43.1	+0.1			
TEIG					IAMs_20	IAMs_20	17 00 37.3				
	comp=Z,1µm,22.0s										
TAOE	Nuku Hiva Isla	93.63	246	*e*	LR	LR	16 50 50.2				
	comp=Z,2µm,27.0s										
CMIG	Matias Romero	93.68	298		P	P	16 20 44.1	+0.6			
	comp=Z,2.4nm,0.6s,baz=112,slow=5.4,SNR=2.7										
	comp=Z,2.4nm,0.6s										
MDT	Midelt	93.89	19		LR	LR	16 58 01.8				
	comp=Z,1µm,20.3s,baz=216,slow=32										
ASAR	Alice Springs	95.73	163		P	P	16 20 52.2	-0.9			
	comp=Z,4.1nm,0.8s,baz=183,slow=4.0,SNR=40										
ASAR					PP	PP	16 24 43.6	-0.2			
	comp=Z,1.0nm,1.1s,baz=172,slow=7.2,SNR=1.8										
ASAR					LR	LR	17 00 30.8				
	comp=Z,3µm,21.9s,baz=201,slow=33										
	comp=Z,4.1nm,0.8s										
BBSR	BB Station	96.59	329		IAMs_20	IAMs_20	17 04 07.4				
	comp=Z,743nm,20.0s										
DZM	Mont Dzumac	97.94	193	*e*	LR	LR	16 52 51.7				
	comp=Z,1µm,26.4s										
DZM	Mont Dzumac	97.94	193		LR	LR	17 02 12.7				
	comp=Z,619nm,19.6s,baz=174,slow=34										
DWPF	Disney Wildern	97.95	314		IAMs_20	IAMs_20	17 06 50.4				
	comp=Z,1µm,18.0s										
WRA	Warramunga Arr	99.45	163		P	Pdif	16 21 08.2	-1.7			
	comp=Z,1.9nm,1.1s,baz=192,slow=4.1,SNR=8.3										
WRA					PP	PP	16 25 11.3	-1.1			
	comp=Z,0.9nm,1.1s,baz=191,slow=7.2,SNR=2.3										
WRA					LR	LR	17 02 56.7				
	comp=Z,3µm,21.6s,baz=194,slow=34										
	comp=Z,1.9nm,1.1s										
WB2	Warramunga Arr	99.45	163		IAmb	IAmb	16 21 14.6				
	comp=Z,16nm,1.6s										
WRAB	Tennant Creek	99.46	163	*i*	P	Pdif	16 21 10.8	+0.8			
WRAB					pmax	pmax					
	comp=Z,4.0nm,1.3s										
FITZ	Fitzroy Crossi	99.62	154		LR	LR	17 03 45.9				
	comp=Z,333nm,18.9s,baz=256,slow=34										
CTAO	Charters Tower	100.54	174		IAMs_20	IAMs_20	17 05 25.0				
	comp=Z,2µm,21.0s										
ESDC	Sonseca Array	100.70	18		P	Pdif	16 21 12.5	-2.3			
	comp=Z,0.3nm,0.3s,baz=178,slow=5.1,SNR=2.4										
ESDC					PP	PP	16 25 21.9	-0.9			
	comp=Z,0.3nm,0.4s,baz=191,slow=6.1,SNR=1.3										
NHSC	New Hope	102.03	317		IAMs_20	IAMs_20	17 08 34.4				
	comp=Z,1µm,19.0s										
BRAL	Brewton	102.82	311		IAMs_20	IAMs_20	17 02 39.3				
	comp=Z,1µm,21.0s										
CNNC	Cliffs of the	103.19	320		IAMs_20	IAMs_20	16 59 53.2				
	comp=Z,1µm,20.0s										
SANT	Santorini	105.03	42		IAMs_20	IAMs_20	16 58 06.9				
	comp=Z,1µm,19.0s										
HKT	Hockley	105.33	303		IAMs_20	IAMs_20	17 01 13.0				
	comp=Z,1µm,20.0s										
ASF	Jabal al Asfar	105.56	52		PP	PP	16 25 59.2	-0.1			
	comp=Z,0.9nm,0.3s,baz=264,slow=9.0,SNR=4.2										
TXAR	Lajitas Array	108.26	297		PP	PP	16 26 23.9	+4.7			
	comp=Z,0.4nm,0.8s,baz=151,slow=7.8,SNR=4.1										
RPSI	Rantau Prapat	110.01	121		IAMs_20	IAMs_20	17 06 22.6				
	comp=Z,1µm,18.0s										
FETA	Feichten	110.66	27	*eP*		PKiKP	16 26 01.5	+2.5			
	comp=Z,4.0nm,1.2s										
DAVA	Damuels	110.71	26	*eP*		PKiKP	16 26 01.4	+2.3			
	comp=Z,8.4nm,1.2s										
ABTA	Abfaltersbach	110.82	28	*eP*		PKiKP	16 26 01.6	+2.4			
	comp=Z,8.2nm,1.5s										
OK025	Westminster Rd	110.82	305		IAMs_20	IAMs_20	17 02 18.1				
	comp=Z,998nm,19.0s										
OK030	Cody Creek RV	110.89	306		IAMs_20	IAMs_20	16 59 50.9				
	comp=Z,1µm,19.0s										
BRTR	Keskin Array B	110.92	46		PP	PP	16 26 34.9	-3.6			
	comp=Z,1.1nm,0.9s,baz=206,slow=5.9,SNR=5.8										
OK034	N. Norfolk Rd.	110.93	306		IAMs_20	IAMs_20	16 57 08.0				
	comp=Z,1µm,20.0s										
SQTA	Sankt Quirin	110.95	27	*eP*		PKiKP	16 25 59.0	-0.4			
	comp=Z,10nm,1.1s										
MOTA	Moosalm	111.05	27	*eP*		PKiKP	16 26 03.1	+3.4			
	comp=Z,7.9nm,1.6s										
OK029	Liberty Lake	111.05	305		IAMs_20	IAMs_20	16 59 58.3				
	comp=Z,1µm,18.0s										
WTTA	Wattenberg	111.09	27	*eP*		PKiKP	16 26 01.1	+1.3			
	comp=Z,14nm,1.5s										
OBKA	Obir	111.10	30	*eP*		PKiKP	16 26 02.4	+2.7			
	comp=Z,6.2nm,1.4s										
RETA	Reutte	111.10	27	*eP*		PKiKP	16 26 01.6	+1.9			
	comp=Z,8.3nm,1.3s										
WATA	Walderalm	111.15	27	*eP*		PKiKP	16 26 06.0	+6.2			
	comp=Z,2.5nm,0.5s										
MYKOM	Kota Tinggi	111.29	126		IAMs_20	IAMs_20	16 58 32.3				
	comp=Z,930nm,19.0s										
OK047	Pawnee, Statio	111.33	306		IAMs_20	IAMs_20	16 56 53.5				
	comp=Z,799nm,19.0s										
KBA	Koelnbreinsper	111.33	29	*eP*		PKiKP	16 26 03.3	+3.1			
	comp=Z,6.6nm,1.1s										
OK048	Pawnee Station	111.37	306		IAMs_20	IAMs_20	16 56 50.7				
	comp=Z,1µm,19.0s										
SOKA	Soboth	111.38	30	*eP*		PKiKP	16 26 06.5	+6.3			
	comp=Z,6.9nm,1.2s										
LHMI	Lhok Sumawe	111.39	118		IAMs_20	IAMs_20	16 57 26.2				
	comp=Z,1µm,21.0s										
ARSA	Arzberg	112.03	30	*eP*		PKiKP	16 26 03.8	+2.4			
	comp=Z,4.0nm,1.1s										
MOA	Molln	112.28	29	*eP*		PKiKP	16 26 08.6	+6.7			
	comp=Z,5.2nm,1.1s										
HQIL	Hanson Quary C	112.51	315		IAMs_20	IAMs_20	17 00 01.9				
	comp=Z,904nm,20.0s										
RONA	Rosalia, Austr	112.65	30	*eP*		PKiKP	16 26 06.5	+3.9			
	comp=Z,12nm,1.5s										
121A	Cookes Peak, D	112.84	295		P	PKiKP	16 26 05.4	+1.7			
	baz=147										
GERES	GERESS Array B	113.06	28		PP	PP	16 26 54.1	+0.5			
	comp=Z,0.6nm,0.6s,baz=198,slow=9.2,SNR=8.3										
CKRC	Cesky Krumlov	113.19	29	*eP*		PP	16 26 54.6	+0.2			
KHC	Kasperske Hory	113.30	28	*eP*		PP	16 26 55.1	-0.2			
KRUC	Moravsky	113.93	30	*eP*		PP	16 26 58.9	-0.8			
JAVC	Velka Javorina	114.08	31	*eP*		PP	16 27 01.5	+0.7			
VRAC	Vranov	114.21	30	*eP*		PP	16 27 00.1	-1.6			
JFWS	Jewell Farm	114.35	314		P	PKiKP	16 26 08.1	+2.2			
	baz=150										
CBKS	Cedar Bluff	114.57	305		IAMs_20	IAMs_20	17 05 32.5				
	comp=Z,1µm,19.0s										
MORC	Moravsky Berou	114.89	30	*eP*		PP	16 27 05.4	-1.1			
SBUM	Sibu	115.15	134		IAMs_20	IAMs_20	17 06 27.4				
	comp=Z,686nm,21.0s										
FAKI	Fak Fak	115.74	157		IAMs_20	IAMs_20	17 11 55.6				
	comp=Z,870nm,22.0s										
SDCO	Great Sand Dun	116.15	300			PKiKP	16 26 11.6	+1.6			
SDCO					PP	PP	16 27 10.1	-5.8			
SDCO	Great Sand Dun	116.15	300		P	PKiKP	16 26 11.2	+1.2			
	baz=146										
ANN	Anapa	116.72	46	*i*	PKiKP	PKiKP	16 26 13.5	+3.1			
ANN					pmax	pmax					
	comp=Z,22nm,1.0s										
S22A	4UR Ranch, Cre	116.74	299		P	PKiKP	16 26 13.0	+1.9			
	baz=146										
PDMCI	Parker Dam,Lak	117.28	292		P	PKiKP	16 26 13.3	+1.4			
	baz=145										
ECSD	EROS Data Cent	117.46	310		P	PKiKP	16 26 14.1	+2.2			
	baz=148										
IRM	Iron Mountain	117.64	291		P	PKiKP	16 26 14.7	+2.1			
	baz=145										
SHA1	Shidzhatmaz	117.81	50	*i*	PKiKP	PKiKP	16 26 14.3	+1.4			
KBZ	Khabaz	117.89	51	*i*	PKiKP	PKPdf	16 26 10.7	-1.9			
KIV	Kislovodsk	118.00	50	*e*	PKiKP	PKPdf	16 26 12.4	-0.6			
KIV					pmax	pmax					
	comp=Z,5.0nm,1.0s										
GMRC	Granite Mounta	118.39	291		P	PKiKP	16 26 16.2	+2.0			
	baz=145										
N23A	Red Feather La	118.94	302		P	PKiKP	16 26 17.3	+2.1			
	baz=145										
AKASG	Malin Array Be	119.04	37		PKP	PKiKP	16 26 16.4	+1.7			
	comp=Z,1.2nm,0.7s,baz=230,slow=1.4,SNR=11										
AKASG					PP	PP	16 27 29.7	-5.6			
	comp=Z,2.0nm,1.0s,baz=216,slow=7.6,SNR=11										
AKBB	Malin Array Si	119.04	37	*i*	PKiKP	PKiKP	16 26 17.4	+2.7			
AKBB					pmax	pmax					
	comp=Z,3.0nm,1.0s										
MAK	Makhachkala	119.12	54	*i*	P	Pdif	16 22 32.9	-3.6			
MAK				*e*			16 33 03.2				
MAK				*e*	PS	PS	16 37 19.3	-3.5			
MAK					pmax	pmax					
	comp=Z,117nm,1.3s										
SRU	San Rafael Swe	119.52	297			PKiKP	16 26 16.7	+0.4			
SRU					PP	PP	16 27 36.5	-2.6			
SRU	San Rafael Swe	119.52	297		PKiKP	PKiKP	16 26 16.7	+0.4			
SRU							16 27 36.5				
MVU	Marysvale	119.80	296			PKPdf	16 26 16.5	-0.4			
MVU					PP	PP	16 27 38.4	-2.7			
SBC	Santa Barbara	120.07	287		P	PKiKP	16 26 19.3	+2.1			
	baz=144										
RDMU	Red Mountain	120.27	299			PKiKP	16 26 18.4	+0.6			
RDMU					PP	PP	16 27 42.8	-1.5			
MPMC	Manual Prospec	120.30	290		P	PKiKP	16 26 19.5	+1.5			
	baz=144										
ISA	Isabella, Lake	120.45	289		P	PKiKP	16 26 19.8	+1.7			
	baz=144										
K22A	Casper	120.63	303		P	PKiKP	16 26 20.2	+1.8			
	baz=144										
RSSD	Black Hills	120.77	305		P	PKiKP	16 26 20.8	+2.1			
	baz=145										
SPR3	Spring Creek 3	121.17	295		PKPdf	PKiKP	16 26 20.4	+0.6			
R11A	Troy Canyon, C	121.24	293		P	PKiKP	16 26 21.3	+1.6			
	baz=143										
DUG	Dugway, Tooele	121.43	297		P	PKiKP	16 26 21.5	+1.5			
	baz=144										
PABE	Paberze	121.75	32		IAMs_20	IAMs_20	17 14 40.1				
	comp=Z,578nm,22.0s										
MNK	Minsk	121.95	34	*i*	PKiKP	PKPdf	16 26 20.0	-0.1			
MNK				*i*			16 27 55.3				
MNK				*i*	PPP	PPP	16 30 30.5				
MNK				*i*			16 33 32.3				
MNK				*i*	SS	SS	16 44 36.1	+3.7			
MNK				*i*	SSS	SSS	16 49 06.4				
MNK					pmax	pmax					
	comp=E,2.0nm,1.2s										
MNK					pmax	pmax					
	comp=Z,9.0nm,1.1s										
MNK					MLR	MLR					
	comp=E,95nm,18.0s										
MNK					MLR	MLR					
	comp=Z,706nm,18.0s										
MNK	Minsk	121.95	34	*i*	PKP	PKPdf	16 26 20.1	-0.1			
	comp=E,2.0nm,1.2s										
MNK				*i*	PKP	PKPdf	16 26 20.1	-0.1			
MNK				*i*	PKP	PKPdf	16 26 20.1	-0.1			
	comp=Z,9.0nm,1.1s,baz=210										
MNK				*i*	PP	PP	16 27 55.3	+0.1			
MNK				*i*	PPP	PPP	16 30 30.6				
MNK				*i*	SKS	SKSdf	16 33 32.4	+1.4			
MNK				*i*	SKKS	SKKSdf	16 44 07.5	+2.9			
MNK				*i*	SS	SS	16 44 36.1	+3.7			
MNK				*i*	SSS	SSS	16 49 06.4				
MNK				*i*	LQ	LQ	17 11 43.3				
MNK				*i*	LR	LR	17 15 18.3				
MNK				*i*	LRM	MLR	17 18 50.7				
	comp=E,95nm,17.8s										
MNK				*i*	LRM	MLR	17 18 58.4				
	comp=Z,706nm,17.8s										
BW06	Boulder Array	122.04	301			PKPdf	16 26 20.6	-0.4			
BW06					PP	PP	16 27 52.6	-3.7			
BW06	Boulder Array	122.04	301		P	PKiKP	16 26 22.9	+1.7			
	baz=143										
PDAR	Pinedale Array	122.04	301		PKP	PKPdf	16 26 19.5	-1.5			
	comp=Z,1.1nm,1.0s,baz=152,slow=4.1,SNR=4.3										
PDAR					PP	PP	16 27 57.0	+0.6			
	comp=Z,1.4nm,1.1s,baz=92,slow=5.4,SNR=4.7										
BGU	Big Grassy Mou	122.12	297			PKiKP	16 26 21.7	+0.4			
NVAR	Mina Array Bea	122.59	291		PKP	PKPdf	16 26 22.2	0.0			
	comp=Z,1.3nm,0.9s,baz=123,slow=3.3,SNR=4.4										
NVAR					PP	PP	16 28 02.6	+2.5			
	comp=Z,0.3nm,0.4s,baz=144,slow=5.3,SNR=5.5										
ULM	Lac du Bonnet	122.63	315		PKP	PKPdf	16 26 19.7	-1.9			
	comp=Z,3.8nm,1.0s,baz=135,slow=4.3,SNR=2.3										
ELK	Elko	122.99	295			PKPdf	16 26 22.9	0.0			
ELK					PP	PP	16 28 00.8	-2.0			
ELK	Elko	122.99	295		PKiKP	PKPdf	16 26 22.9	0.0			
ELK							16 28 00.8				
CMB	Columbia Colle	123.27	289		PKPdf	PKPdf	16 26 23.0	-0.3			
CMB	Columbia Colle	123.27	289		PKiKP	PKPdf	16 26 23.0	-0.3			
FXWY	Fox Creek	123.38	300		PKPpre	PKPpre	16 26 12.9				
FXWY						PKPdf	16 26 22.9	-0.6			
FXWY					PP	PP	16 28 00.2	-5.3			
IMW	Indian Meadow	123.55	300			PKPdf	16 26 23.0	-0.9			
IMW					PP	PP	16 28 00.7	-5.9			
RLMT	Red Lodge	123.79	303		P	PKiKP	16 26 25.8	+1.2			
	baz=143										
NB2	NORSAR Subarra	123.87	21		PKPdf	PKiKP	16 26 24.2	+0.2			
	comp=Z,17nm,1.7s,baz=188,slow=1.9										
NB2	NORSAR Subarra	123.87	21		PKPdf	PKiKP	16 26 24.2	+0.2			
	baz=188,slow=1.9										
NOA	NORSAR Array B	123.87	21		PKP	PKPdf	16 26 23.0	-0.7			
	comp=Z,3.1nm,1.0s,baz=194,slow=1.7,SNR=5.4										
CMAR	Chiang Mai Arr	123.90	113		PKP	PKPdf	16 26 24.5	-0.6			
	comp=Z,3.3nm,0.6s,baz=232,slow=4.0,SNR=12										
CHTO	Chiang Mai	124.21	113		IAMs_20	IAMs_20	17 07 06.2				
	comp=Z,634nm,22.0s										
PHRA	Phrae	124.54	114		PKPdf	PKPdf	16 26 24.3	-2.0			
HLID	Hailey	124.83	298		P	PKiKP	16 26 28.1	+1.4			
	baz=142										
OBN	Obninsk	125.13	39	*cc*	PKiKP	PKiKP	16 26 28.3	+1.8			
OBN				*e*			16 28 17.4				
OBN				*e*	SS	SS	16 45 45.5	+33			
OBN					pmax	pmax					
	comp=Z,9.0nm,1.0s										
OBN					MLR	MLR					
	comp=Z,389nm,16.0s										
BOZ	Bozeman (W)	125.19	301		P	PKiKP	16 26 29.1	+1.9			
	baz=142										
MOS	Moscow	125.98	39	*i*	PKiKP	PKPdf	16 26 27.3	-0.5			
MOS				*e*			16 28 29.2				
CRAI	Chiangrai	126.10	113		PKPdf	PKPdf	16 26 29.3	+0.1			
MSO	Missoula	127.16	301		PKPdf	PKPdf	16 26 30.1	-0.5			
MSO	Missoula	127.16	301		P	PKiKP	16 26 32.2	+1.1			
	baz=140,SNR=7.5										
L04D	Klamath Falls	127.45	291		P	PKiKP	16 26 33.2	+1.4			
	baz=140										
FINES	FINESS Array B	127.47	29		PKP	PKPdf	16 26 29.4	-1.1			
	comp=Z,8.0nm,1.1s,baz=183,slow=3.2,SNR=7.4										
FINES	FINESS Array B	127.47	29		PKPdf	PKPdf	16 26 30.6	+0.1			
FINES	FINESS Array B	127.47	29		PKiKP	PKPdf	16 26 30.6	+0.1			
FIA1	FINESS Array S	127.48	29			PKiKP	16 26 31.0	-0.1			
J05D	Fort Rock, OR	127.76	293		P	PKiKP	16 26 33.8	+1.4			
	baz=140										
L02F	Cave Junction	127.98	290		P	PKiKP	16 26 34.7	+1.9			
	baz=140										
G08A	Pilot Rock	128.23	296		PKPdf	PKPdf	16 26 31.9	-0.8			
K02D	Willamette Mer	128.46	291		P	PKiKP	16 26 36.2	+2.4			
	baz=140										
I04A	Tendick Farm,	128.70	292		P	PKiKP	16 26 36.4	+2.2			
	baz=139										
H04D	Lebanon	129.41	293		P	PKiKP	16 26 36.7	+1.2			
	baz=139										
LSA	Lhasa	129.51	98		IAMs_20	IAMs_20	17 15 24.1				
	comp=Z,394nm,18.0s										
KSH	Kashi	129.53	77		PKP	PKiKP	16 26 37.3	+1.2			
KSH					PP	PP	16 28 47.9	+1.8			
NEW	Newport	129.65	300		P	PKiKP	16 26 38.2	+2.3			
	baz=138										
KLMR	Klimovskoe	130.70	36	*e*	PKiKP	PKPdf	16 26 35.8	-0.8			
KLMR				*e*			16 28 53.7				
KLMR					pmax	pmax					
	comp=Z,49nm,1.5s										
KLMR	Klimovskoe	130.70	36	*e*	PKPdf	PKPdf	16 26 35.8	-0.8			
KLMR					AMP		16 26 41.8				
	comp=Z,49nm,1.5s										
KLMR				*e*	PP	PP	16 28 53.7	+0.5			
AAK	Ala-Archa	131.16	74		PKP	PKPdf	16 26 37.3	-1.1			
	comp=Z,2.2nm,0.4s,baz=225,slow=5.7,SNR=2.0										
AAK					PP	PP	16 28 58.1	+1.4			
	comp=Z,0.9nm,0.3s,baz=253,slow=11,SNR=4.2										
AAK	Ala-Archa	131.16	74		PKPdf	PKPdf	16 26 37.8	-0.6			
AAK	Ala-Archa	131.16	74		PKiKP	PKPdf	16 26 37.8	-0.6			
KMI	Kunming	131.41	113		PKP	PKPdf	16 26 39.3	-0.2			
SUMG	Summit	132.01	356		PKPdf	PKiKP	16 26 40.5	+0.1			
SUMG	Summit	132.01	356		PKiKP	PKiKP	16 26 40.5	+0.1			
PZH	PanZhiHua	132.10	111		PKP	PKiKP	16 26 39.5	-1.1			
KIRV	Kirov	132.20	44	*i*	PKiKP	PKiKP	16 26 41.6	+1.0			
PRGR	Permogore	133.20	39		PKiKP	PKiKP	16 26 43.6	+1.1			
PRGR					pmax	pmax					
	comp=Z,6.0nm,0.6s										
ARU	Arti	134.05	50		PKPdf	PKPdf	16 26 43.0	-0.1			
ARU	Arti	134.05	50	*i*	PKiKP	PKiKP	16 26 45.3	+0.9			
ARCES	ARCESS Array B	134.18	23		PKhKP	PKPpre	16 26 28.5				
	comp=Z,0.6nm,0.7s,baz=197,slow=5.4,SNR=2.3										
ARCES					PKP	PKPdf	16 26 40.0	-3.0			
	comp=Z,1.3nm,0.6s,baz=194,slow=1.9,SNR=9.2										
ARCES					PP	PP	16 29 15.4	-0.1			
	comp=Z,2.6nm,0.8s,baz=194,slow=7.3,SNR=6.2										
APA	Apatity	134.33	28	⇓ *i*	PKiKP	PKPdf	16 26 42.9	-0.4			
APA					pmax	pmax					
	comp=Z,2.0nm,1.0s										
APA					MLR	MLR					
	comp=Z,800nm,26.0s										
BRVK	Borovoye	136.63	61		PKPdf	PKPdf	16 26 46.9	-1.2			
BRVK	Borovoye	136.63	61	*i*	PKiKP	PKiKP	16 26 49.9	+0.1			
MKAR	Makanchi Array	138.00	75		PKhKP	PKPpre	16 26 39.8				
	comp=Z,1.2nm,1.1s,baz=236,slow=6.6,

	baz=114,SNR=6.1							
M26K	**Nabesna, AK**	149.73	304	P		PKPbc	16 27 16.0	+0.4
	baz=114,SNR=9.1							
BMRM	**Bremner River**	149.83	300	P		PKiKP	16 27 16.7	-0.1
	baz=115							
EGAK	**Eagle**	149.90	309	P		PKiKP	16 27 16.3	-0.3
	baz=111							
K27K	**Chicken**	149.99	307			PKPdf	16 27 10.6	-0.5
K27K				PKPbc		PKiKP	16 27 17.4	+0.5
BJI	**Beijing**	150.04	114	PKPbc		PKPbc	16 27 15.4	-1.5
BJI				pPKP		sPKPdf	16 27 18.8	+0.7
BJI				sPKP			16 27 20.9	
N25K	**Chitina, Valde**	150.09	301	P		PKPbc	16 27 16.2	-0.3
	baz=114							
L26K	**Log Cabin Wild**	150.13	305	P		PKiKP	16 27 16.9	-0.3
	baz=113,SNR=8.0							
EYAK	**Cordova Ski Ar**	150.15	299	P		PKiKP	16 27 17.9	+0.6
	baz=116							
I27K	**Kandik River**	150.37	310	P		PKiKP	16 27 17.5	-0.2
	baz=110,SNR=28							
MOY	**Mondy**	150.50	82	ePKiKP		PKPdf	16 27 11.2	-1.2
MOY				pmax		pmax		
	comp=Z,131nm,2.0s							
H27K	**Steamboat Moun**	150.54	311	P		PKPbc	16 27 17.7	+0.3
	baz=109,SNR=29							
KLU	**Klutina**	150.62	301	P		PKPbc	16 27 17.9	+0.2
	baz=114							
P23K	**Montague Islan**	150.66	297	P		PKPbc	16 27 16.7	-1.0
	baz=116							
SCRK	**Sand Creek**	150.75	306	P		PKPbc	16 27 16.9	-1.1
	baz=111							
J26L	**Joseph Creek**	150.76	307	P		PKPbc	16 27 16.7	-1.3
	baz=110							
G27K	**Doyon Strip**	150.77	312	P		PKiKP	16 27 18.6	+0.1
	baz=108,SNR=6.4							
SONM	**Songino Array**	150.87	93	PKPbc		PKPbc	16 27 17.1	-1.7
	comp=Z,17nm,1.0s,baz=212,slow=2.4,SNR=18							
SONM	**Songino Array**	150.87	93			PKPdf	16 27 12.8	-0.4
I26K	**Coal Creek Min**	150.87	309			PKPdf	16 27 11.9	-0.5
I26K				PKPbc		PKPbc	16 27 18.1	0.0
ZAK	**Zakamensk**	150.89	86	ePKiKP		PKPdf	16 27 13.9	+0.9
ZAK				pmax		pmax		
	comp=Z,48nm,1.5s							
ZAK				pmax		pmax		
	comp=Z,20nm,1.4s							
M24K	**Tolsona, Glenn**	150.98	302	P		PKPbc	16 27 17.0	-1.5
	baz=113							
PAX	**Paxson**	151.00	304	P		PKPbc	16 27 18.8	+0.2
	baz=112							
RIDG	**Independent Ri**	151.02	305	P		PKiKP	16 27 20.5	+1.4
	baz=111,SNR=16							
E27K	**Coleen River**	151.14	315	P		PKiKP	16 27 20.1	+0.9
	baz=105,SNR=19							
ULN	**Ulaanbaatar**	151.23	93	PKPdf		PKPdf	16 27 12.0	-1.7
ULN						PKiKP	16 27 20.1	-0.1
ULN	**Ulaanbaatar**	151.23	93	PKiKP		PKPdf	16 27 12.0	-1.7
ULN							16 27 20.1	
SCM	**Sheep Creek Mo**	151.38	301	P		PKPbc	16 27 19.5	0.0
	baz=112							
K24K	**Donnelly Dome**	151.43	305	P		PKPbc	16 27 19.6	+0.1
	baz=110,SNR=6.1							
PWL	**Port Wells**	151.44	299	P		PKiKP	16 27 20.1	+0.1
	baz=114							
M23K	**Glacier View**	151.53	301	P		PKPbc	16 27 20.0	+0.2
	baz=112							
J25K	**Salcha River,**	151.54	307	P		PKPbc	16 27 19.2	-0.5
	baz=109,SNR=17							
G26K	**Porcupine Rive**	151.62	312	P		PKiKP	16 27 20.4	+0.2
	baz=106							
SEW	**Seward**	151.63	297	P		PKPbc	16 27 18.0	-2.0
	baz=114							
TJN	**Taejon**	151.69	134			PKPbc	16 27 20.4	-0.4
TJN	**Taejon**	151.69	134	PKIKP		PKPbc	16 27 20.5	-0.4
NRIK	**Noril'sk**	151.70	43	PKPbc		PKPbc	16 27 18.4	-1.5
	comp=Z,1.1nm,0.4s,baz=270,slow=2.0,SNR=2.2							
NRIK	**Noril'sk**	151.70	43			PKPbc	16 27 18.7	-1.2
NRIK	**Noril'sk**	151.70	43	PKIKP		PKPbc	16 27 18.7	-1.2
SML	**Sawmill**	151.81	300	P		PKPbc	16 27 19.7	-0.7
	baz=112							
WAT6	**Susitna Watana**	151.84	302	P		PKPbc	16 27 20.2	-0.4
	baz=111							
DHY	**Denali Highway**	151.85	303	P		PKPbc	16 27 19.5	-1.1
	baz=110							
PRP	**Porcupine Dome**	151.88	309	P		PKPbc	16 27 20.8	+0.2
	baz=107							
F26K	**Sheenjek River**	151.95	314	P		PKPbc	16 27 20.2	-0.3
	baz=104							
BMAR	**Burnt Mountain**	152.04	313	PKPdf		PKPdf	16 27 13.4	-0.8
PMR	**Palmer**	152.08	300	P		PKPbc	16 27 20.7	-0.2
	baz=112							
KDAK	**Kodiak Island**	152.09	291	PKPbc		PKPbc	16 27 20.7	-0.3
	comp=Z,9.9nm,0.6s,baz=158,slow=4.4,SNR=9.9							
KDAK	**Kodiak Island**	152.09	291	P		PKPbc	16 27 20.8	-0.3
	baz=117							
HDA	**Harding Lake**	152.12	306	P		PKPbc	16 27 21.1	+0.1
	baz=108,SNR=7.0							
RC01	**Rabbit Creek A**	152.16	298	P		PKPbc	16 27 20.9	-0.3
	baz=112							
OHAK	**Old Harbor**	152.17	289	P		PKPbc	16 27 21.2	-0.1
	baz=118							
ILAR	**Eielson Array**	152.21	307	PKPbc		PKPbc	16 27 20.1	-1.1
	comp=Z,17nm,1.0s,baz=147,slow=1.3,SNR=42							
H25K	**Birch Creek**	152.21	310	P		PKPbc	16 27 21.2	+0.1
	baz=106							
C27K	**Jago River**	152.22	318	P		PKiKP	16 27 21.7	+0.3
	baz=101,SNR=6.5							
F25K	**Christian Rive**	152.48	313	P		PKPbc	16 27 21.3	-0.4
	baz=103							
IRK	**Irkutsk**	152.49	84	ePKIKP		PKPdf	16 27 16.0	+0.7
IRK				pmax		pmax		
	comp=Z,54nm,2.0s							
POKR	**Poker Plat Res**	152.53	307	P		PKiKP	16 27 22.4	+0.2
	baz=107							
E25K	**Arctic Village**	152.57	314	P		PKiKP	16 27 22.7	+0.5
	baz=102,SNR=16							
RND	**Reindeer**	152.60	303	PKPdf		PKPdf	16 27 16.2	+1.0
RND						sPKPdf	16 27 21.3	+0.3
RND	**Reindeer**	152.60	303	PKIKP		PKPdf	16 27 16.2	+1.0
RND							16 27 21.3	
C26K	**Camden Bay**	152.68	318	P		PKPbc	16 27 21.9	-0.2
	baz=99							
MCK	**McKinley**	152.74	304	P		PKPbc	16 27 22.0	-0.5
	baz=108							
KSAR	**Wonju Array Be**	152.82	133	PKPdf		PKPdf	16 27 15.0	-1.2
KSAR				PKPbc		PKiKP	16 27 23.8	+0.2
KSAR				PKPab		PKPab	16 27 35.8	+1.3
KSAR	**Wonju Array Be**	152.82	133	PKIKP		PKPdf	16 27 15.0	-1.2
KSAR							16 27 23.8	
KSRS	**Korea Array**	152.85	133	PKP		PKPdf	16 27 17.4	+1.2
	comp=Z,1.0nm,0.9s,baz=248,slow=0.7,SNR=3.5							
KSRS				PKPbc		sPKPdf	16 27 22.8	+0.3
	comp=Z,3.4nm,0.9s,baz=197,slow=2.5,SNR=5.3							
KSRS				PKPab		PKPab	16 27 34.2	-0.3
	comp=Z,3.4nm,0.8s,baz=215,slow=3.2,SNR=4.1							
H24K	**Noodor Dome**	152.91	309	P		PKPbc	16 27 21.7	-1.0
	baz=105							
G24K	**Hadweenzic Riv**	152.97	311	P		PKiKP	16 27 23.3	+0.3
	baz=104							
XLT	**XiLinHaoTe**	152.97	109	⇓*i*PKPbc		PKiKP	16 27 25.3	+1.5
XLT				PP		PP	16 30 57.6	-11
XLT				AMB		AMB		
	comp=Z,2μm,12.6s							
NEA2	**Nenana**	153.05	306	P		PKPbc	16 27 23.1	0.0
	baz=106							
D25K	**Kavik River**	153.09	317	P		PKiKP	16 27 23.5	+0.2
	baz=99							
TRF	**Thorofare Moun**	153.22	303	P		PKiKP	16 27 23.8	0.0
	baz=108							
SKT	**Skwentna**	153.28	300	P		PKiKP	16 27 24.4	+0.6
	baz=110							
RSO	**Redoubt South**	153.29	296	PKPdf		PKPdf	16 27 17.5	+1.0
RSO						PKiKP	16 27 25.4	+1.3
RSO						pPKPab	16 27 39.1	-1.3
F24K	**Squaw Lake**	153.30	312	P		PKiKP	16 27 24.9	+1.2
	baz=102,SNR=6.3							
N20K	**Mount Spurr**	153.31	298	P		PKPbc	16 27 23.7	-0.1
	baz=111							
H23K	**Yukon River**	153.57	308	P		PKiKP	16 27 25.0	+0.8
	baz=104							
E24K	**Your Creek**	153.63	314	P		PKiKP	16 27 24.7	+0.3
	baz=100							
BPAW	**Bear Paw Mtn.**	153.71	304	PKPdf		PKPdf	16 27 15.8	-0.9
BPAW				PKPbc		PKiKP	16 27 25.8	+1.1
BPAW						PKPab	16 27 39.4	+1.8
BPAW	**Bear Paw Mtn.**	153.71	304	P		PKiKP	16 27 25.0	+0.4
	baz=106							
MLY	**Manley**	153.86	306	P		PKiKP	16 27 25.2	+0.3
	baz=104							
PPLA	**Purkeypile**	153.87	301	P		PKiKP	16 27 26.2	+1.0
	baz=108							
D24K	**Happy Valley**	153.93	316	P		PKPbc	16 27 24.3	-0.5
	baz=98							
C24K	**Franklin Bluff**	153.96	317	P		PKPbc	16 27 24.3	-0.5
	baz=97							
G23K	**Bananza Creek**	153.96	310	P		PKiKP	16 27 26.3	+1.2
	baz=102							
M20K	**Styx River**	153.96	299	P		PKiKP	16 27 26.3	+1.0
	baz=109							
CAST	**Castle Rocks**	153.98	302	P		PKiKP	16 27 26.6	+1.4
	baz=107							
E23K	**Chandalar**	154.05	313	P		PKiKP	16 27 26.1	+0.8
	baz=99							
TOLK	**Toolik Lake Re**	154.12	315	PKPdf		PKPdf	16 27 17.0	-0.2
TOLK				PKPbc		PKiKP	16 27 26.2	+0.8
TOLK	**Toolik Lake Re**	154.12	315	P		PKiKP	16 27 26.2	+0.8
	baz=98							
COLD	**Coldfoot**	154.13	311	P		PKiKP	16 27 27.5	+2.1
	baz=100							
O18K	**Koktuh Hills**	154.19	294	P		PKiKP	16 27 27.3	+1.6
	baz=112							
N19K	**Bonanza Creek**	154.21	296	P		PKiKP	16 27 27.9	+2.1
	baz=111							
CHUM	**Lake Minchumin**	154.21	303	P		PKiKP	16 27 27.1	+1.5
	baz=106							
H22K	**Ishtalitna Cre**	154.32	308	P		PKiKP	16 27 27.7	+1.9
	baz=102							
P17K	**Kvichak River**	154.52	292	P		PKiKP	16 27 28.3	+2.0
	baz=113							
D23K	**Nanushuk River**	154.57	315	P		PKiKP	16 27 27.6	+1.4
	baz=96							
C23K	**Itkillik River**	154.63	317	P		PKiKP	16 27 27.5	+1.2
	baz=95							
N18K	**Kilae Creek**	154.81	295	PKPdf		PKPdf	16 27 18.7	+0.3
N18K				PKPab		PKPab	16 27 43.1	+0.7
N18K	**Kilae Creek**	154.81	295	P		PKiKP	16 27 29.1	+2.1
	baz=110							
K20K	**Telida**	154.82	302	PKPdf		PKPdf	16 27 18.4	+0.2
K20K				PKPab		PKPab	16 27 43.5	+1.2
K20K	**Telida**	154.82	302	P		PKiKP	16 27 29.1	+2.2
	baz=106							
H21K	**Melozitna Rive**	154.84	307	P		PKiKP	16 27 28.5	+1.6
	baz=102							
F22K	**John River**	154.93	312	P		PKiKP	16 27 29.5	+2.5
	baz=98							
J20K	**Nowinta River**	155.07	304			PKPdf	16 27 18.7	+0.1
J20K				PKPbc		sPKPdf	16 27 27.6	+3.2
J20K						pPKPab	16 27 45.5	-2.1
J20K	**Nowinta River**	155.07	304	P		PKPdf	16 27 28.8	+10
	baz=104							
MJAR	**Matsushiro Arr**	155.21	152	PKPab		PKPab	16 27 43.8	-0.9
	comp=Z,3.2nm,1.0s,baz=173,slow=4.7,SNR=3.3							
G21K	**Allakaket**	155.29	309	P		PKPdf	16 27 29.8	+11
	baz=99							
CN2	**Changchun**	157.22	121	ePKP		PKPdf	16 27 23.0	+1.0
HIA	**Hailar**	158.53	104	PKPdf		PKPdf	16 27 23.6	+0.1
HIA						PKPab	16 27 59.6	+0.9
HIA	**Hailar**	158.53	104	PKIKP		PKPdf	16 27 23.6	+0.1
HIA							16 27 59.6	
BOD	**Bodaibo**	160.05	78	ePKP2		PKPab	16 28 05.3	+0.3
BOD				pmax		pmax		
	comp=Z,26nm,1.6s							
USRK	**Ussuriysk Ar.**	160.23	132	PKPab		PKPab	16 28 05.7	-0.4
	comp=Z,4.9nm,1.1s,baz=225,slow=1.8,SNR=7.7							
USRK	**Ussuriysk Ar.**	160.23	132	PKPdf		PKPdf	16 27 25.1	-0.5
USRK				PKPab		PKPab	16 28 05.6	-0.5
USRK	**Ussuriysk Ar.**	160.23	132	PKIKP		PKPdf	16 27 25.1	-0.5
USRK							16 28 05.6	
KLR	**Kul'dur**	164.17	121	PKP		PKPdf	16 27 29.2	-0.2
	comp=Z,1.8nm,0.9s,baz=209,slow=2.0,SNR=7.0							
KLR				PKPab		PKPab	16 28 22.1	-1.2
	comp=Z,1.9nm,0.5s,baz=266,slow=4.5,SNR=6.4							
YAK	**Yakutsk**	168.54	67	PKPab		PKPab	16 28 42.6	+0.4
	comp=Z,3.3nm,0.6s,baz=288,slow=6.3,SNR=2.0							
PETK	**Petropavlovsk-**	173.00	206	PKPab		PKPab	16 29 01.6	-0.6
	comp=Z,6.2nm,0.9s,baz=129,slow=4.0,SNR=6.6							
PETK	**Petropavlovsk-**	173.00	206	PKPdf		PKPdf	16 27 34.4	-0.6
PETK				PKPab		PKPab	16 29 01.1	-1.1
PETK	**Petropavlovsk-**	173.00	206	PKIKP		PKPdf	16 27 34.4	-0.6
PETK							16 29 01.1	

*NEIC **22** 16:11:44.6±2.1,34°.46N±0°.04×141°.77E±0°.10,h10km±2km, mb4.0/4, Error ellipse: s-maj=14.5km s-min=3.0km az=112.0*
*IDC **22** 16:11:44.4±0.8,34°.50N×141°.53E,h0km,mb3.8/15, mbtmp3.9/17,ML3.6/2, Error ellipse: s-maj=20.3km s-min=15.5km az=97.0*
*JMA **22** 16:11:45.4±0.6,34°.4N±2°×14°2E±°,h40km±3km,MV3.4/32, FAR SE OFF BOSO PEN*

ISC 22 16:11:44.9±2.2,34°.44N±0°.05×141°.78E±0°.06,h12km±13km, n56,σ1§60/60,mb3.8/17,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.69	288	P		P	Pn	16 11 59.2	-0.8
BSO3	**Boso 3**	1.10	289	P		P	Pn	16 12 05.8	-0.2
BSO4	**Boso 4**	1.30	295	P		P	Pg	16 12 09.3	-0.7
KTR	**Katsuura**	1.39	301	*e*P		P	Pn	16 12 10.1	-0.1
CHOJ	**Chosi**	1.47	329	P		P	Pn	16 12 10.8	-0.3
JKUC	**kamogawauchiur**	1.48	299	P		P	Pn	16 12 11.4	0.0
JKUC				eS		S	Sn	16 12 29.9	-0.8
JMKN	**Mikurajimanish**	1.89	254	P		P	Pn	16 12 16.1	-0.9
JMKN				eS		S	Sn	16 12 39.1	-1.7
JIM2	**Oshima 3**	1.95	279	*e*P		P	Pn	16 12 16.8	-1.1
JHJ2	**Mitsune**	2.10	231			P	Pn	16 12 19.6	-0.3
JHJ2						Sn	Sn	16 12 44.7	-1.3
JHJ	**Hachijo jima 2**	2.12	232	Pn		P	Pn	16 12 20.0	-0.2
	38nm,0.3s,baz=72,slow=21,SNR=26								
JHJ						Sn	Sn	16 12 44.8	-1.6
	98nm,0.3s,baz=253,slow=23,SNR=14								
JYT	**Yasato**	2.20	325			P	Pn	16 12 21.1	-0.2
JOD2	**Odawara 2**	2.36	291	P		P	Pn	16 12 22.7	-0.7
JIZS	**Izushimoda**	2.41	277	P		P	Pn	16 12 23.3	-0.8
JIZS				eS		S	Sn	16 12 52.1	-1.4
JMM	**Marumori**	3.51	347			P	Pn	16 12 48.8	-0.5
JMM						Sn	Sn	16 13 17.2	-3.5
MJAR	**Matsushiro Arr**	3.59	307	Pn		P	Pn	16 12 38.1	-2.3
	2.6nm,0.3s,baz=153,slow=13,SNR=63								
MJAR						Sn	Sn	16 13 22.2	-0.5
	0.1nm,0.3s,baz=304,slow=42,SNR=2.7 11nm,0.4s								
MAJO	**Matsushiro**	3.59	307	Pn		P	Pn	16 12 40.6	+0.2
MAJO						Sn	Sn	16 13 19.3	-3.4
MJB9	**Matsu-Tunnel**	3.59	307				Pn	16 12 40.7	+0.3
JGF	**Kuroka**	3.81	289	Pn		P	Pn	16 12 45.2	+1.9
INU	**Inuyama**	4.01	284	Pn		P	Pn	16 12 47.2	+1.0
JSD	**Sado**	4.58	323	Pn		P	Pn	16 12 53.9	0.0
JTM	**Tenmabayashi**	6.36	355	Pn		P	Pn	16 13 18.1	-0.3
JHS	**Saijyo**	7.15	277	Pn		P	Pn	16 13 30.3	+0.9
JCJ	**Chichijima**	7.33	177	Pn		P	Pn	16 13 31.9	+0.1
	1.8nm,0.3s,baz=270,slow=20,SNR=1.5								
JCJ						Sn	Sn	16 14 48.5	-6.4
	1.3nm,0.3s,baz=106,slow=23,SNR=1.7 42nm,0.8s								
JCJ	**Chichijima**	7.33	177	Pn		P	Pn	16 13 32.4	+0.6
ERM	**Erimo**	7.64	8	Pn		P	Pn	16 13 33.8	-2.1
JEW	**Eniwo**	8.39	358	Pn		P	Pn	16 13 46.9	+0.6
KSRS	**Korea Array**	11.62	289	Pn		P	Pn	16 14 32.4	+1.8
	0.1nm,0.3s,baz=101,slow=14,SNR=8.5								
H11N2	**WAKE ISLAND Hy**	26.64	117	T		T		16 45 24.2	
	baz=308								
H11N1	**WAKE ISLAND Hy**	26.65	117	T		T		16 45 20.5	
	baz=308								
H11N3	**WAKE ISLAND Hy**	26.66	117	T		T		16 45 23.2	
	baz=308								
H11S1	**WAKE ISLAND Hy**	27.27	119	T		T		16 46 32.2	
	baz=308								
H11S3	**WAKE ISLAND Hy**	27.27	119	T		T		16 46 25.1	
	baz=308								
H11S2	**WAKE ISLAND Hy**	27.29	119	T		T		16 46 12.3	
	baz=308								
YAK	**Yakutsk**	28.66	348	P		P		16 17 40.4	-0.8
	1.7nm,0.5s,baz=164,slow=1.5,SNR=5.0 1.7nm,0.5s								
SONM	**Songino Array**	29.54	308	P		P		16 17 49.4	0.0
	1.2nm,0.7s,baz=109,slow=8.0,SNR=6.6 1.2nm,0.7s								
CHTO	**Chiang Mai**	41.01	259	P		P		16 19 26.0	-2.1
CMAR	**Chiang Mai Arr**	41.20	258	P		P		16 19 28.0	-1.6
	1.1nm,0.6s,baz=52,slow=7.7,SNR=10								
ZAA0	**Zalesovo Array**	43.91	314	P		P		16 19 50.4	-0.8
ZAA0				IAmb		IAmb		16 19 52.8	
	comp=Z,1.9nm,0.8s								
ZALV	**Zalesovo Beam**	43.91	314	P		P		16 19 51.6	+0.4
	comp=Z,1.6nm,0.6s,baz=87,slow=6.3,SNR=7.3								
ZALV				PcP		PcP		16 21 37.2	+0.1
	comp=Z,0.6nm,0.5s,baz=117,slow=1.6,SNR=2.7 comp=Z,1.6nm,0.6s								
ZALV	**Zalesovo Beam**	43.91	314	P		P		16 19 49.9	-1.3
MK31	**Makanchi Array**	45.78	304	P		P		16 20 04.7	-1.6
MK31				IAmb		IAmb		16 20 10.6	
	comp=Z,1.6nm,0.8s								
MKAR	**Makanchi Array**	45.78	304	P		P		16 20 06.0	-0.3
	comp=Z,1.4nm,0.7s,baz=91,slow=9.5,SNR=9.7 comp=Z,1.4nm,0.7s								
MKAR	**Makanchi Array**	45.78	304	P		P		16 20 04.3	-2.1
KURK	**Kurchatov**	47.79	310	P		P		16 20 21.4	-0.5
KURBB	**Kurchatov Arra**	47.86	310	P		P		16 20 22.5	+0.1
	comp=Z,3.6nm,0.8s,baz=86,slow=7.7,SNR=24 comp=Z,3.6nm,0.8s								
ILAR	**Eielson Array**	51.54	31	P		P		16 20 51.6	+1.3
	comp=Z,0.3nm,0.6s,baz=268,slow=5.4,SNR=2.4 comp=Z,0.3nm,0.6s								
BVAR	**Borovoye Array**	52.55	314	P		P		16 20 58.6	+0.6
	comp=Z,0.4nm,0.3s,baz=72,slow=9.5,SNR=5.9 comp=Z,0.4nm,0.3s								
WRA	**Warramunga Arr**	54.54	189	P		P		16 21 14.7	+1.8
	comp=Z,1.1nm,0.8s,baz=5.2,slow=7.7,SNR=5.3 comp=Z,1.1nm,0.8s								
WRA	**Warramunga Arr**	54.54	189	P		P		16 21 14.7	+1.8
ASAR	**Alice Springs**	58.27	188	P		P		16 21 41.7	+2.3
	comp=Z,0.7nm,0.9s,baz=6.4,slow=7.1,SNR=5.2 comp=Z,0.7nm,0.9s								
NVAR	**Mina Array Bea**	76.31	53	P		P		16 23 36.5	+2.4
	comp=Z,0.2nm,0.4s,baz=336,slow=2.0,SNR=2.6 comp=Z,0.2nm,0.4s								
AKASG	**Malin Array Be**	76.53	323	P		P		16 23 34.4	-0.3
	comp=Z,0.7nm,0.6s,baz=48,slow=6.4,SNR=2.5 comp=Z,0.7nm,0.6s								
NB2	**NORSAR Subarra**	76.69	338	P		P		16 23 36.3	+0.8
	comp=Z,0.7nm,0.6s,baz=41,slow=6.2								
NOA	**NORSAR Array B**	76.69	338	P		P		16 23 36.0	+0.4
	comp=Z,0.5nm,0.6s,baz=39,slow=5.7,SNR=3.3 comp=Z,0.5nm,0.6s								
PDAR	**Pinedale Array**	79.28	45	P		P		16 23 53.0	+2.5
	comp=Z,0.2nm,0.6s,baz=277,slow=2.3,SNR=2.1 comp=Z,0.2nm,0.6s								
BRTR	**Keskin Array B**	80.80	312	P		P		16 23 59.6	+1.0
	comp=Z,0.7nm,0.7s,baz=101,slow=2.5,SNR=4.3 comp=Z,0.7nm,0.7s								

*BJI **22** 16:20:31.9±0.0,34°.44N×141°.55E,h11km,mb4.7/23, mB5.3/2,Ms5.2/2,Ms7 5.1/2*
*IDC **22** 16:20:32.2±0.6,34°.40N×141°.64E,h0km,mb4.2/23, mbtmp4.1/27,ML2.9/3, Error ellipse: s-maj=15.4km s-min=12.2km az=95.0*
*JMA **22** 16:20:33.5±0.4,34°.N±1°×14°2E±°,h35km±2km,MV3.8/33, FAR SE OFF BOSO PEN*
*NEIC **22** 16:20:34.4±1.7,34°.49N±0°.05×141°.71E±0°.09,h17km±4km, mb4.7/32, Error ellipse: s-maj=11.2km s-min=6.2km az=104.0*

ISC 22 16:20:33.0±1.9,34°.44N±0°.04×141°.74E±0°.06,h9km±11km, n119,σ1§24/126,mb4.5/42,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.66	289	P		P	Pn	16 20 47.5	-0.6
BSO3	**Boso 3**	1.08	290	*e*P		P	Pn	16 20 54.3	+0.3
BSO4	**Boso 4**	1.28	296	*e*P		P	Pg	16 20 57.7	+0.1
KTR	**Katsuura**	1.37	301	P		P	Pb	16 20 58.4	-0.4
KTR				eS		S	Sg	16 21 17.4	+0.4
CHOJ	**Chosi**	1.45	330	P		P	Pn	16 20 59.2	-0.3
JKUC	**kamogawauchiur**	1.46	300	*e*P		P	Pn	16 20 59.6	+0.1
JKUC				eS		S	Sn	16 21 18.1	-0.6
JSMT	**Sammumatsuo**	1.60	319	P		P	Pn	16 21 01.7	+0.2
JSMT				eS		S	Sn	16 21 22.4	+0.2
JMKN	**Mikurajimanish**	1.86	254	*e*P		P	Pn	16 21 04.7	-0.4
JMKN				eS		S	Sn	16 21 27.6	-1.2
JIM2	**Oshima 3**	1.93	279	*e*P		P	Pn	16 21 05.2	-0.8
JHJ2	**Mitsune**	2.08	231			P	Pn	16 21 08.3	+0.3
JHJ2						Sn	Sn	16 21 34.0	-0.1
JHJ2	**Mitsune**	2.08	231	P		P	Pn	16 21 08.9	+0.9
JHJ2	**Mitsune**	2.08	231	P		P	Pn	16 21 08.3	+0.3
JHJ	**Hachijo jima 2**	2.10	232	Pn		P	Pn	16 21 08.5	+0.2
	165nm,0.3s,baz=69,slow=17,SNR=42								
JHJ						Sn	Sn	16 21 34.1	-0.4
	347nm,0.3s,baz=80,slow=19,SNR=8.2								
JYT	**Yasato**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
	comp=Z,1.2nm,0.6s							
SONM	Songino Array	29.52	308	P		P	16 26 37.9	+0.1
PZH	PanZhiHua	35.19	268	P		P	16 27 28.8	+1.1
PZH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
MYLDM	Lahad Datu	36.21	222	P		P	16 27 35.8	-0.5
MYLDM				IAmb		IAmb	16 27 51.4	
	comp=Z,16nm,1.5s							
SIJI	Sorong	36.47	198	P		P	16 27 37.6	-0.9
	comp=Z,6.0nm,0.7s,baz=0.9,slow=8.5,SNR=5.9							
	comp=Z,6.0nm,0.7s							
FAKI	Fak Fak	38.22	195	P		P	16 27 52.4	-0.9
FAKI				IAmb		IAmb	16 28 19.9	
	comp=Z,13nm,1.0s							
CRAI	Chiangrai	39.11	260	P		P	16 28 01.1	+0.2
LUWI	Luwuk	39.53	211	P		P	16 28 03.1	-1.2
LUWI				IAmb		IAmb	16 28 16.8	
	comp=Z,19nm,1.3s							
PHRA	Phrae	40.11	258	P		P	16 28 07.8	-1.4
CHTO	Chiang Mai	40.98	259	P		P	16 28 14.9	-1.5
CMAR	Chiang Mai Arr	41.17	258	P		P	16 28 17.1	-0.9
	comp=Z,2.3nm,0.6s,baz=48,slow=7.5,SNR=19							
CMAR				PcP		PcP	16 30 18.0	+0.8
	comp=Z,0.5nm,0.3s,baz=62,slow=2.1,SNR=1.6							
	comp=Z,2.3nm,0.6s							
WMQ	Urumqi	42.30	299	*eP*		P	16 28 28.6	+1.6
WMQ				sP		pwP	16 28 38.9	+2.5
WMQ				pmax		pmax		
	comp=Z,17nm,0.7s							
ZALV	Zalesovo Beam	43.89	314	P		P	16 28 39.8	+0.2
	comp=Z,2.3nm,0.7s,baz=98,slow=7.4,SNR=5.9							
ZALV				PcP		PcP	16 30 26.0	+0.4
	comp=Z,1.9nm,0.6s,baz=104,slow=2.8,SNR=4.4							
	comp=Z,2.3nm,0.7s							
MK31	Makanchi Array	45.76	304	P		P	16 28 53.7	-1.1
MKAR	Makanchi Array	45.76	304	P		P	16 28 54.8	0.0
	comp=Z,3.4nm,0.6s,baz=86,slow=9.8,SNR=20							
	comp=Z,3.4nm,0.6s							
MKAR	Makanchi Array	45.76	304	P		P	16 28 54.3	-0.5
RAMN	Ramite	47.51	277	*eP*		P	16 29 08.2	-0.8
	comp=Z,39nm,1.0s							
JIRN	Jiri	47.57	278	*eP*		P	16 29 09.4	-0.2
GUN	Gumba	47.73	278	*eP*		P	16 29 10.7	-0.1
KURK	Kurchatov	47.77	310	P		P	16 29 09.8	-0.6
KURBB	Kurchatov Arra	47.84	310	P		P	16 29 11.0	+0.1
	comp=Z,6.0nm,0.8s,baz=87,slow=7.5,SNR=43							
	comp=Z,6.0nm,0.8s							
MTN	Manton Dam	48.09	194	P		P	16 29 12.9	-0.2
PKI	Pulchoki	48.25	278	*eP*		P	16 29 13.9	-0.9
	comp=Z,20nm,1.0s							
PKIN	Phulchoki	48.25	278	*eP*		P	16 29 13.7	-1.1
	comp=Z,14nm,0.9s							
GKN	Gorkha	48.71	279	*eP*		P	16 29 17.7	-0.5
	comp=Z,33nm,0.9s							
DANN	Dangsing	49.29	280	*eP*		P	16 29 22.4	-0.4
	comp=Z,51nm,0.8s							
KNRA	Kununurra	51.35	196	P		P	16 29 38.3	+0.4
ILAR	Eielson Array	51.55	31	P		P	16 29 40.4	+1.4
	comp=Z,0.9nm,0.7s,baz=260,slow=5.5,SNR=7.3							
	comp=Z,0.9nm,0.7s							
AAK	Ala-Archa	51.99	300	P		P	16 29 43.2	+0.4
	comp=Z,1.9nm,0.6s,baz=98,slow=5.5,SNR=3.5							
	comp=Z,1.9nm,0.6s							
WB0	Warramunga Arr	54.36	189	P		P	16 30 00.2	+0.1
FITZ	Fitzroy Crossi	54.45	199	P		P	16 30 01.4	+0.7
FITZ				IAmb		IAmb	16 30 03.6	
	comp=Z,4.7nm,0.7s							
WR0	Warramunga Arr	54.53	188	P		P	16 30 01.2	-0.2
WR0				IAmb		IAmb	16 30 02.8	
	comp=Z,7.8nm,0.9s							
WB2	Warramunga Arr	54.54	189	P		P	16 30 01.4	-0.1
WB2				IAmb		IAmb	16 30 02.8	
	comp=Z,8.1nm,0.8s							
WRA	Warramunga Arr	54.54	189	P		P	16 30 01.8	+0.4
	comp=Z,5.2nm,0.8s,baz=4.2,slow=7.5,SNR=47							
	comp=Z,5.2nm,0.8s							
WRA	Warramunga Arr	54.54	189	P		P	16 30 01.0	-0.4
KK31	Karatay Array	54.68	302	P		P	16 30 01.2	-1.2
KK31				IAmb		IAmb	16 30 03.6	
	comp=Z,7.7nm,1.1s							
KKAR	Karatay Array	54.68	302	P		P	16 30 03.2	+0.8
KKAR	Karatay Array	54.68	302	P		P	16 30 01.6	-0.9
KKAR				IAmb		IAmb	16 30 03.6	
	comp=Z,7.7nm,1.1s							
CHGR	Chuyangaron	57.05	297	P		P	16 30 17.8	-1.7
AS31	Alice Springs	58.26	188	P		P	16 30 27.7	-0.3
ASAR	Alice Springs	58.26	188	P		P	16 30 28.4	+0.4
	comp=Z,2.3nm,0.8s,baz=16,slow=11,SNR=28							
	comp=Z,2.3nm,0.8s							
HYBB	Hyderabad (bro	58.44	270	*eP*		P	16 30 29.2	-0.3
ABKAR	Akbulak array	59.83	311	P		P	16 30 38.1	-0.5
ABKAR				IAmb		IAmb	16 30 39.6	
	comp=Z,4.0nm,0.7s							
GEYT	Alibeck	65.34	300	P		P	16 31 16.4	+0.7
	comp=Z,2.2nm,0.7s,baz=28,slow=4.1,SNR=4.4							
	comp=Z,2.2nm,0.7s							
STKA	Stephens Creek	65.97	180	P		P	16 31 23.9	+4.4
	comp=Z,1.8nm,0.5s,baz=339,slow=13,SNR=1.4							
FINES	FINESS Array B	71.23	333	P		P	16 31 53.1	+1.0
	comp=Z,3.2nm,1.1s,baz=149,slow=26,SNR=1.6							
	comp=Z,3.2nm,1.1s							
KBZ	Khabaz	72.80	311	P		P	16 32 01.8	-0.1
	comp=Z,2.4nm,0.9s,baz=59,slow=5.9,SNR=3.9							
	comp=Z,2.4nm,0.9s							
NVAR	Mina Array Bea	76.33	53	P		P	16 32 25.3	+2.5
	comp=Z,1.3nm,0.7s,baz=282,slow=6.5,SNR=6.9							
	comp=Z,1.3nm,0.7s							
AKASG	Malin Array Be	76.51	323	P		P	16 32 23.4	+0.1
	comp=Z,1.6nm,0.7s,baz=49,slow=4.6,SNR=7.8							
	comp=Z,1.6nm,0.7s							
NB2	NORSAR Subarra	76.68	338	P		P	16 32 24.9	+0.8
	comp=Z,0.6nm,0.6s,baz=40,slow=5.9							
NOA	NORSAR Array B	76.68	338	P		P	16 32 23.9	-0.2
	comp=Z,0.8nm,0.6s,baz=40,slow=5.7,SNR=6.3							
	comp=Z,0.8nm,0.6s							
PDAR	Pinedale Array	79.30	45	P		P	16 32 41.0	+1.7
	comp=Z,0.4nm,0.6s,baz=292,slow=2.1,SNR=5.4							
	comp=Z,0.4nm,0.6s							
RDMU	Red Mountain	80.62	47	P		P	16 32 47.6	+1.2
RDMU				IAmb		IAmb	16 33 01.5	
	comp=Z,14nm,1.4s							
BRTR	Keskin Array B	80.77	312	P		P	16 32 47.8	+0.6
	comp=Z,1.3nm,0.7s,baz=91,slow=4.4,SNR=7.0							
	comp=Z,1.3nm,0.7s							
SRU	San Rafael Swe	80.92	49	P		P	16 32 47.8	-0.2
SRU				IAmb		IAmb	16 32 51.1	
	comp=Z,4.5nm,0.7s							
RAYN	Ar Rayn	81.89	293	P		P	16 32 52.1	-1.1
RAYN				IAmb		IAmb	16 32 54.4	
	comp=Z,3.8nm,0.7s							
CSS	Mathiatis	83.87	308	P		P	16 33 01.8	-1.5
CSS				IAmb		IAmb	16 33 16.8	
	comp=Z,4.2nm,0.7s							
S22A	4UR Ranch, Cre	84.04	48	P		P	16 33 04.7	+0.2
S22A				IAmb		IAmb	16 33 19.2	
	comp=Z,3.4nm,1.0s							
NRS	Narsarsuaq	84.56	3	P		P	16 33 06.7	+0.5
GERES	GERESS Array B	85.05	329	P		P	16 33 09.1	-0.1
	comp=Z,0.2nm,0.5s,baz=15,slow=4.2,SNR=3.7							
	comp=Z,0.2nm,0.5s							
TXAR	Lajitas Array	91.49	53	P		P	16 33 40.8	+0.6
	comp=Z,0.5nm,0.6s,baz=298,slow=3.9,SNR=7.2							
	comp=Z,0.5nm,0.6s							
TORD	Torodi Ar. Bea	119.33	314	PKP		PKPdf	16 39 23.1	-0.3
	comp=Z,231nm,0.5s,baz=20,slow=1.4,SNR=10							
LPAZ	La Paz	147.69	64	PKPbc		PKPbc	16 40 18.6	-0.7
	comp=Z,2.3nm,0.7s,baz=284,slow=3.3,SNR=8.7							
SANI	Sanana	21.75	163	P		P	16 34 46.6	-3.4
TTSI	Tana Toraja	21.87	180	P		P	16 34 52.1	+0.8
	comp=Z,31nm,0.8s							
JCJ	Chichijima	22.10	64	LR		LR	16 43 32.4	
	comp=Z,230nm,18.4s,baz=116,slow=37							
LZH	Lanzhou	22.12	324	*eP*		P	16 34 56.3	+2.3
LZH				pP		pP	16 35 00.6	0.0
LZH				sP		sP	16 35 03.3	-0.4
LZH				pmax		pmax		
	comp=Z,38nm,1.3s							
SRIT	Nakonsritamara	22.14	245	P		P	16 34 54.8	+0.6
SRIT				IAmb		IAmb	16 34 58.1	
	comp=Z,91nm,1.7s							
INU	Inuyama	22.32	40	P		P	16 34 54.7	-1.3
SIJI	Sorong	22.69	149	P		P	16 34 58.4	-1.8
	comp=Z,15nm,0.8s,baz=344,slow=9.5,SNR=12							
	comp=Z,15nm,0.8s							
JGF	Kuroka	22.70	40	P		P	16 34 59.6	-0.6
JGF				IAmb		IAmb	16 35 17.5	
	comp=Z,31nm,1.0s							
SPSI	Sidrap Palu	22.78	180	P		P	16 35 01.6	+0.5
	comp=Z,36nm,1.0s							
BBKI	Banjar Baru	22.81	193	P		P	16 35 02.7	+1.3
	comp=Z,20nm,1.0s							
HHC	Hu-ho-hao-te	22.93	344	*eP*		P	16 35 01.3	-1.3
HHC				pmax		pmax		
	comp=Z,23nm,0.9s							
HHC				pmax		pmax		
	comp=Z,2μm,6.2s							
KULM	Kulim	23.10	236	P		P	16 35 03.7	-0.7
KULM				IAmb		IAmb	16 35 16.1	
	comp=Z,39nm,1.3s							
MYKOM	Kota Tinggi	23.14	224	P		P	16 35 02.8	-2.0
NLAI	Namlea	23.20	161	P		P	16 35 05.1	-0.2
	comp=Z,4μmcomp=Z,72nm,0.9s							
IPM	Ipoh	23.31	234	P		P	16 35 05.5	-1.1
IPM				IAmb		IAmb	16 35 07.7	
	comp=Z,26nm,0.8s							
IPM	Ipoh	23.31	234	P		P	16 35 07.1	+0.5
KAPI	Kappang	23.82	180	P		P	16 35 12.8	+1.4
	comp=Z,6.9nm,0.4s,baz=349,slow=2.5,SNR=5.0							
KAPI				LR		LR	16 44 42.0	
	comp=Z,570nm,18.9s,baz=18,slow=37							
	comp=Z,6.9nm,0.4s							
KAPI	Kappang	23.82	180	P		P	16 35 12.0	+0.6
KAPI				IAmb		IAmb	16 35 29.2	
	comp=Z,38nm,1.2s							
MAJO	Matsushiro	23.84	39	P		P	16 35 10.1	-1.4
MAJO				IAmb		IAmb	16 35 32.7	
	comp=Z,44nm,1.1s							
MJAR	Matsushiro Arr	23.84	39	P		P	16 35 10.3	-1.2
	comp=Z,2.0nm,0.7s,baz=236,slow=10,SNR=2.3							
	comp=Z,2.0nm,0.7s							
MJB9	Matsu-Tunnel	23.84	39	P		P	16 35 10.2	-1.3
MJB9				IAmb		IAmb	16 35 32.6	
	comp=Z,46nm,1.2s							
MSAI	Masohi	23.91	157	P		P	16 35 13.1	+0.8
	comp=Z,5μmcomp=Z,7.8nm,0.8s							
AAI	Ambon	23.97	159	P		P	16 35 11.9	-0.9
	comp=Z,99nm,0.7s							
BKSI	Bulukumba	24.13	179	P		P	16 35 15.4	+1.1
	comp=Z,24nm,0.9s							
DSRI	Dabo	24.43	219	P		P	16 35 17.4	+0.3
	comp=Z,17nm,1.2s							
BBSI	Bau Bau	24.45	173	P		P	16 35 16.5	-0.7
GUMO	Guam	24.63	99	LR		LR	16 42 38.7	
	comp=Z,322nm,20.9s,baz=282,slow=31							
GUMO	Guam	24.63	99	P		P	16 35 18.2	-0.6
PPBI	Pangkal Pinang	24.93	214	P		P	16 35 21.9	+0.3
	comp=Z,12nm,1.8s							
FAKI	Fak Fak	24.95	149	P		P	16 35 20.3	-1.5
FAKI				IAmb		IAmb	16 35 24.5	
	comp=Z,14nm,0.7s							
FAKI	Fak Fak	24.95	149	P		P	16 35 21.2	-0.6
	comp=Z,22nm,1.1s							
XLT	XiLinHaoTe	25.06	354	*eP*		P	16 35 24.9	+2.3
XLT				pP		sP	16 35 32.8	+0.1
XLT				sP		pwP	16 35 35.5	+0.3
XLT				pmax		pmax		
	comp=Z,8.0nm,1.2s							
XLT				pmax		pmax		
	comp=Z,1μm,12.0s							
BNDI	Bandanaira	25.36	156	P		P	16 35 25.8	+0.3
	comp=Z,210nm,0.9s							
BNDI	Bandanaira	25.36	156	P		P	16 35 25.5	0.0
PSI	Prapat	25.99	234	P		P	16 35 31.5	+0.1
	comp=Z,9.8nm,1.0s,baz=13,slow=5.8,SNR=6.8							
	comp=Z,9.8nm,1.0s							
RPSI	Rantau Prapat	26.06	234	P		P	16 35 30.8	-1.1
RPSI				IAmb		IAmb	16 35 33.0	
	comp=Z,19nm,1.1s							
BKNI	Bangkinang	26.12	227	P		P	16 35 32.0	-0.3
KMMI	Kalianget	26.48	193	P		P	16 35 36.2	+0.6
	comp=Z,26nm,0.9s							
SHL	Shillong	26.64	289	P		P	16 35 35.5	-1.7
SHL				IAmb		IAmb	16 35 49.0	
	comp=Z,32nm,1.3s							
GTA	Gaotai	26.72	324	P		P	16 35 39.5	+1.7
GTA				pP		sP	16 35 48.3	+0.5
GTA				sP		pwP	16 35 52.6	+2.2
GTA				pmax		pmax		
	comp=Z,5.0nm,1.2s							
PBA	Port Blair	27.07	258	P		P	16 35 39.4	-1.6
USA0B	Ussuriysk Arra	27.16	19	P		P	16 35 40.9	-0.6
USRK	Ussuriysk Ar.	27.16	19	P		P	16 35 41.8	+0.3
	comp=Z,1.1nm,0.6s,baz=209,slow=9.0,SNR=10							
	comp=Z,1.1nm,0.6s							
MMRI	Maumere	27.53	175	P		P	16 35 44.7	-0.4
MMRI				IAmb		IAmb	16 35 52.2	
	comp=Z,24nm,0.9s							
EDFI	Ende, Flores	27.60	176	P		P	16 35 45.8	0.0
	comp=Z,16nm,0.9s							
JAGI	Jajag, Banyuwa	27.82	192	P		P	16 35 47.1	-0.5
GOMU	GeErMu	27.91	313	*eP*		P	16 35 51.5	+2.8
GOMU				pP		pP	16 35 54.8	-1.0
GOMU				sP		sP	16 35 56.0	-2.8
GOMU				pmax		pmax		
	comp=Z,1μm,11.8s							
GSI	Gunungsitoli	27.98	234	P		P	16 35 48.1	-1.1
BATI	Baumata	29.23	172	P		P	16 35 59.6	-0.6
	comp=Z,34nm,0.7s,baz=154,slow=2.0,SNR=8.5							
BATI	Baumata	29.23	172	P		P	16 36 00.4	+0.2
	comp=Z,24nm,0.8s							
ERM	Erimo	30.36	36	P		P	16 36 09.6	-0.4
ERM				IAmb		IAmb	16 36 34.0	
	comp=Z,26nm,0.9s							
ULN	Ulaanbaatar	30.65	343	P		P	16 36 12.2	-0.5
SONM	Songino Array	30.81	342	P		P	16 36 15.3	+1.2
	comp=Z,1.8nm,0.9s,baz=172,slow=9.6,SNR=7.1							
	comp=Z,1.8nm,0.9s							
SONM	Songino Array	30.81	342	P		P	16 36 13.7	-0.4
KLR	Kul'dur	31.69	15	P		P	16 36 24.3	+2.7
	comp=Z,1.7nm,0.8s,baz=194,slow=3.9,SNR=3.5							
	comp=Z,1.7nm,0.8s							
MTN	Manton Dam	33.52	160	P		P	16 36 36.2	-1.7
MTN				IAmb		IAmb	16 36 37.0	
	comp=Z,10nm,0.8s							
KNRA	Kununurra	35.53	165	P		P	16 36 54.2	-1.1
KNRA				IAmb		IAmb	16 37 04.3	
	comp=Z,16nm,0.8s							
WMQ	Urumqi	36.58	320	*eP*		P	16 37 04.3	+0.1
FITZ	Fitzroy Crossi	37.27	171	P		P	16 37 08.9	-1.3
FITZ				IAmb		IAmb	16 37 10.8	
	comp=Z,12nm,0.9s							
PMG	Port Moresby	39.01	134	P		P	16 37 23.9	-1.1
COEN	Coen	40.00	143	P		P	16 37 31.7	-1.5
COEN				IAmb		IAmb	16 37 40.2	
	comp=Z,18nm,1.3s							
PSA00	Pilbara Seismi	40.28	180	P		P	16 37 35.3	-0.1
PSA00				IAmb		IAmb	16 37 37.7	
	comp=Z,21nm,1.1s							
PSA00	Pilbara Seismi	40.28	180	P		P	16 37 33.7	-1.7
PSA00				IAmb		IAmb	16 37 37.6	
	comp=Z,8.6nm,1.1s							
WB0	Warramunga Arr	41.06	159	P		P	16 37 40.5	-1.4
WB0				IAmb		IAmb	16 37 41.7	
	comp=Z,20nm,0.9s							
WRAB	Tennant Creek	41.20	159	P		P	16 37 41.5	-1.5
WRAB				IAmb		IAmb	16 37 43.6	
	comp=Z,25nm,0.9s							
WRA	Warramunga Arr	41.20	159	P		P	16 37 41.5	-1.6
	comp=Z,13nm,0.8s,baz=340,slow=9.1,SNR=56							
	comp=Z,13nm,0.8s							
WRA	Warramunga Arr	41.20	159	P		P	16 37 40.9	-2.1
WB2	Warramunga Arr	41.21	159	P		P	16 37 41.1	-2.0
WB2				IAmb		IAmb	16 37 43.6	
	comp=Z,2nm,0.8s						

comp=Z,25nm,0.9s
WR0 Warramunga Arr 41.29 159 P P 16 37 42.4 -1.4
WR0 IAmb IAmb 16 37 44.3
comp=Z,24nm,1.1s
MK31 Makanchi Array 41.37 321 P P 16 37 44.8 +0.6
MK31 IAmb IAmb 16 37 56.9
comp=Z,16nm,0.9s
MKAR Makanchi Array 41.37 321 P P 16 37 46.5 +2.2
comp=Z,4.4nm,0.8s,baz=118,slow=10,SNR=23
comp=Z,4.4nm,0.8s
MKAR Makanchi Array 41.37 321 P P 16 37 44.6 +0.3
MAKZ Makanchi 41.57 321 P P 16 37 45.7 -0.1
MAKZ IAmb IAmb 16 37 58.5
comp=Z,20nm,1.0s
KSH Kashi 42.88 308 P P 16 38 10.9 +14
KSH pmax pmax
comp=Z,8.0nm,0.9s
NRN Naryn 43.41 311 P P 16 38 00.7 -0.6
NRN IAmb IAmb 16 38 14.3
comp=Z,15nm,1.0s
YAK Yakutsk 43.58 7 P P 16 38 02.6 +0.7
comp=Z,1.6nm,0.5s,baz=313,slow=0.8,SNR=4.1
comp=Z,1.6nm,0.5s
YAK Yakutsk 43.58 7 P P 16 38 01.7 -0.2
ZAA0 Zalesovo Array 44.04 331 P P 16 38 04.7 -1.1
ZAA0 IAmb IAmb 16 38 17.4
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 44.04 331 P P 16 38 07.3 +1.6
comp=Z,3.5nm,0.9s,baz=116,slow=6.9,SNR=8.9
comp=Z,3.5nm,0.9s
ZALV Zalesovo Beam 44.04 331 P P 16 38 05.6 -0.2
H11S3 WAKE ISLAND Hy 44.29 83 T T 17 23 36.0
baz=276,slow=75,SNR=11
H11S1 WAKE ISLAND Hy 44.30 83 T T 17 23 36.3
baz=276,slow=75,SNR=4.7
H11S2 WAKE ISLAND Hy 44.31 83 T T 17 23 36.2
baz=276,slow=75,SNR=5.9
AS31 Alice Springs 44.54 161 P P 16 38 09.5 -0.6
ASAR Alice Springs 44.54 161 P P 16 38 09.5 -0.6
comp=Z,13nm,0.6s,baz=340,slow=7.4,SNR=211
comp=Z,13nm,0.6s
AAK Ala-Archa 44.84 312 P P 16 38 15.9 +3.4
comp=Z,0.8nm,0.3s,baz=98,slow=7.1,SNR=1.7
comp=Z,0.8nm,0.3s
AAK Ala-Archa 44.84 312 P P 16 38 12.5 0.0
PEA0B Petropavlovsk- 44.93 32 P P 16 38 12.3 -0.6
PETK Petropavlovsk- 44.93 32 P P 16 38 14.6 +1.7
comp=Z,2.9nm,1.0s,baz=165,slow=6.0,SNR=5.3
comp=Z,2.9nm,1.0s
PETK Petropavlovsk- 44.93 32 P P 16 38 13.2 +0.4
KURK Kurchatov 45.41 324 P P 16 38 16.3 -0.4
KURK IAmb IAmb 16 38 29.1
comp=Z,23nm,1.0s
KURBB Kurchatov Arra 45.41 324 P P 16 38 18.3 +1.6
comp=Z,5.8nm,0.8s,baz=123,slow=8.0,SNR=27
comp=Z,5.8nm,0.8s
MA2 Magadan 46.29 21 P P 16 38 22.7 -0.8
MA2 IAmb IAmb 16 38 38.5
comp=Z,21nm,1.3s
CTAO Charters Tower 46.67 145 P P 16 38 26.8 -0.2
CTAO IAmb IAmb 16 38 28.8
comp=Z,22nm,1.1s
BTK Batken 46.87 307 P P 16 38 26.1 -2.4
BTK IAmb IAmb 16 38 41.9
comp=Z,12nm,1.2s
GAR Garm 47.05 306 P P 16 38 29.9 -0.1
KBL Kabul 47.44 300 P P 16 38 31.6 -1.6
KBL IAmb IAmb 16 38 45.5
comp=Z,12nm,1.2s
KK31 Karatay Array 47.78 311 P P 16 38 35.1 -0.4
KK31 IAmb IAmb 16 38 48.0
comp=Z,14nm,1.0s
KKAR Karatay Array 47.78 311 P P 16 38 35.6 +0.1
KKAR Karatay Array 47.78 311 P P 16 38 35.1 -0.4
KKAR IAmb IAmb 16 38 48.0
comp=Z,14nm,1.0s
CHGR Chuyangaron 47.88 305 P P 16 38 35.5 -0.8
MORW Morawa 47.89 184 P P 16 38 35.7 -0.6
MORW IAmb IAmb 16 38 42.8
comp=Z,18nm,1.1s
SEY Seymchan 49.30 19 P P 16 38 49.4 +2.6
comp=Z,1.5nm,0.8s,baz=235,slow=16,SNR=2.1
comp=Z,1.5nm,0.8s
FORT Forrest 50.09 171 P P 16 38 53.6 +0.5
BRVK Borovoye 51.08 324 P P 16 38 59.5 -0.9
NWAO Narrogin (SRO) 51.65 183 P P 16 39 04.9 0.0
HRA Herat 53.03 299 P P 16 39 14.7 -0.8
HRA IAmb IAmb 16 39 28.5
comp=Z,33nm,1.9s
DGAR Diego Garcia 53.53 245 P P 16 39 19.4 +0.3
EIDS Eidsvold 53.55 144 P P 16 39 18.8 -0.3
EIDS IAmb IAmb 16 39 20.2
comp=Z,11nm,0.9s
BBOO Buckleboo 53.77 163 P P 16 39 21.1 +0.5
NRIK Noril'sk 54.13 346 P P 16 39 24.0 +1.3
comp=Z,3.9nm,0.6s,baz=124,slow=7.3,SNR=7.0
comp=Z,3.9nm,0.6s
NRIK Noril'sk 54.13 346 P P 16 39 21.9 -0.9
NRIK IAmb IAmb 16 39 41.9
comp=Z,6.0nm,0.8s
STKA Stephens Creek 54.69 157 P P 16 39 27.9 +0.5
comp=Z,19nm,0.7s,baz=338,slow=7.4,SNR=32
comp=Z,19nm,0.7s
STKA Stephens Creek 54.69 157 P P 16 39 27.6 +0.2
TARA Tarawa 54.87 102 P P 16 39 28.8 -0.2
ABKAR Akbulak array 56.27 317 P P 16 39 38.2 -0.3
ABKAR Akbulak array 56.27 317 P P 16 39 38.7 +0.2
ABKAR IAmb IAmb 16 39 50.9
comp=Z,7.9nm,0.9s
AMKA Amchitka 56.44 40 P P 16 39 40.0 +0.3
GEYT Alibeck 56.46 303 P P 16 39 41.9 +1.8
comp=Z,1.8nm,0.7s,baz=146,slow=2.8,SNR=3.8
comp=Z,1.8nm,0.7s
GEYT Alibeck 56.46 303 P P 16 39 41.6 +1.4
GEYT IAmb IAmb 16 39 53.3
comp=Z,22nm,1.2s
GYA0B ALIBECK ARRAY 56.46 303 P P 16 39 40.3 +0.2
ARMA Armidale 57.86 147 P P 16 39 49.6 -0.5
ARU Arti 58.57 325 P P 16 39 53.1 -1.5
ARU IAmb IAmb 16 40 06.4
comp=Z,6.7nm,0.8s
KOUNC Koumac, New Ca 58.66 130 P P 16 39 55.6 -0.1
UOSS Minazif 58.84 288 P P 16 39 57.2 +0.1
UOSS IAmb IAmb 16 40 04.3
comp=Z,8.7nm,1.1s
GSTR Great Sitkin T 59.41 40 P P 16 39 57.9 -2.7
LIFNC LIFOU 60.97 128 P P 16 40 11.6 0.0
DZM Mont Dzumac 61.17 130 P P 16 40 14.3 +1.2
comp=Z,8.1nm,0.8s,baz=283,slow=5.5,SNR=14
comp=Z,8.1nm,0.8s
DZM Mont Dzumac 61.17 130 P P 16 40 13.3 +0.2
DZM IAmb IAmb 16 40 15.7
comp=Z,12nm,1.1s
TOO Toolangi 61.21 157 P P 16 40 14.3 +1.4
ONTNC Ouen Toro 61.33 130 P P 16 40 14.8 +0.8
ONTNC IAmb IAmb 16 40 26.5
comp=Z,11nm,0.9s
PINNC Pines Island, 62.24 130 P P 16 40 20.7 +0.6
KBZ Khabaz 67.80 310 P P 16 40 59.5 +3.4
comp=Z,2.3nm,0.9s,baz=21,slow=9.3,SNR=2.3
comp=Z,2.3nm,0.9s
MSVF Nonsavu 67.85 119 P P 16 40 58.7 +1.9
comp=Z,14nm,0.9s,baz=250,slow=4.6,SNR=8.9
comp=Z,14nm,0.9s
RAYN Ar Rayn 68.71 288 P P 16 41 02.4 +0.2
RAYN IAmb IAmb 16 41 14.0
comp=Z,4.9nm,0.9s
KLMR Klimovskoe 68.92 329 *e*P **P 16 41 05.2 +2.5**
KLMR AMP 16 41 14.9
comp=Z,21nm,1.5s
ARCES ARCESS Array B 73.90 339 P P 16 41 34.1 +1.4
comp=Z,1.9nm,1.0s,baz=60,slow=5.3,SNR=3.5
comp=Z,1.9nm,1.0s
ILAR Eielson Array 74.43 26 P P 16 41 36.4 +0.5
comp=Z,0.4nm,0.7s,baz=269,slow=6.0,SNR=4.3
comp=Z,0.4nm,0.7s
BRTR Keskin Array B 75.27 307 P P 16 41 44.0 +2.7
comp=Z,0.3nm,0.4s,baz=103,slow=6.5,SNR=2.3
comp=Z,0.3nm,0.4s
FINES FINESS Array B 75.31 330 P P 16 41 42.3 +1.4
comp=Z,0.9nm,0.7s,baz=46,slow=5.5,SNR=6.1
comp=Z,0.9nm,0.7s
AKASG Malin Array Be 75.93 319 P P 16 41 45.7 +1.0
comp=Z,0.1nm,0.3s,baz=65,slow=5.5,SNR=4.2
comp=Z,0.1nm,0.3s
RPZ Rata Peaks 78.04 145 P P 16 41 56.5 -0.2
comp=Z,5.2nm,0.9s,baz=333,slow=2.3,SNR=4.1
comp=Z,5.2nm,0.9s
NB2 NORSAR Subarra 82.23 332 P P 16 42 17.9 -1.2
comp=Z,3.4nm,1.0s,baz=66,slow=5.6
NOA NORSAR Array B 82.23 332 P P 16 42 19.8 +0.7
comp=Z,0.5nm,0.6s,baz=65,slow=5.2,SNR=3.4
comp=Z,0.5nm,0.6s
YKA Yellowknife Ar 88.26 22 LR LR 17 26 07.0
comp=Z,674nm,18.2s,baz=110,slow=38

*MOS **22** 16:47:12.8±1.1,30.˚10N×99.˚69E,h12km,mb5.0/41, MS4.7/6,Error ellipse: s-maj=6.2km s-min=3.5km az=124.7*
*IDC **22** 16:47:12.6±0.4,30.˚12N×99.˚73E,h0km,mb4.7/36, mbtmp4.7/38,ML4.1/2,MS4.5/37,Error ellipse: s-maj=12.7km s-min=8.3km az=43.0*
*BJI **22** 16:47:13.7±0.0,30.˚08N×99.˚60E,h19km,mb4.6/48, mB5.3/23,ML4.8/11,Ms5.2/73,Ms7 5.1/63*
*NEIC **22** 16:47:16.2±1.3,30.˚18N±0.˚07×99.˚69E±0.˚07,h22km±4km, mb5.2/154,Error ellipse: s-maj=10.2km s-min=9.2km az=167.0*
*GCMT **22** 16:47:17.2±0.2,30.˚10N±0.˚01×99.˚78E±0.˚02,h20km, MW5.2/129,Moment Tensor Solution. s59,c77; s129,c230; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.81±.23; Mθθ 7.08±.15; Mϕϕ-1.27±.14; Mrθ-0.22±.23; Mθϕ 1.82±.10; Mϕr-2.58±.31; Best double couple: M₀7.25100×10¹⁶ NP1:ϕs56.00000°,δ53.00000°, λ-122.00000°. NP2:ϕs281.00000°,δ47.00000°, λ-55.00000°. Principal axes: T 7.5030, Plg3.0000°, Azm167.0000°; N -0.5050, Plg25.0000°, Azm76.0000°; P -6.9980, Plg65.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 16:47:15.6±0.2,30.07N±0.03×99.65E±0.03,h18km,n673, σ1§63/708,mb5.1/209,MS4.5/44,38C-25D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**3.64**	**76**	Pn	**Pn**	**16 48 13.9**	**+2.7**
CD2				Pg	**Pg**	**16 48 22.8**	**-2.7**
CD2				Sg	**Sg**	**16 49 10.8**	**-1.9**
CD2				smax	smax		
	comp=N,1μm,0.8s						
CD2				smax	smax		
	comp=E,920nm,1.0s						
CD2				LR	LR		
	comp=N,29μm,7.5s						
CD2				LR	LR		
	comp=E,35μm,6.9s						
CD2				LR	LR		
	comp=Z,33μm,8.8s						
PZH	**PanZhiHua**	**4.01**	**152**	Pn	**Pn**	**16 48 19.8**	**+3.5**
PZH				Sg	**Sg**	**16 49 28.3**	**+3.9**
PZH				LR	LR		
	comp=N,27μm,7.1s						
PZH				LR	LR		
	comp=E,14μm,6.9s						
PZH				LR	LR		
	comp=Z,24μm,7.5s						
LKP	**Lekhapani**	**4.31**	**232**	*e*P	**Pn**	**16 48 24.2**	**+3.8**
DIBR	**DIBRUGARH**	**4.90**	**239**	*e*P	**Pn**	**16 48 31.9**	**+3.4**
DIBR				IAML		16 49 50.7	
	comp=N,5μm,1.4s						
DIBR				IAML		16 49 53.1	
	comp=E,4μm,0.9s						
KMI	**Kunming**	**5.64**	**150**	⇓Pn	**Pn**	**16 48 41.9**	**+3.0**
KMI				Pg	**Pb**	**16 48 53.3**	**-0.4**
KMI				Sg	**Sg**	**16 50 14.9**	**-1.9**
KMI				LR	LR		
	comp=E,20μm,9.2s						
KMI				LR	LR		
	comp=E,25μm,9.2s						
KMI				LR	LR		
	comp=E,20μm,8.3s						
ZIRO	**ZIRO**	**5.69**	**245**	*e*P	**Pn**	**16 48 40.7**	**+1.3**
JORH	**JORHAT**	**5.80**	**236**	*e*P	**Pn**	**16 48 42.5**	**+1.8**
JORH				IAML		16 50 17.2	
	comp=E,2μm,1.1s						
MOKO	**MOKOCHONG**	**5.87**	**232**	*e*P	**Pn**	**16 48 44.8**	**+2.9**
MOKO				*e*S	**Sn**	**16 49 52.8**	**+3.9**
KOHI	**KOHIMA**	**6.54**	**230**	*e*P	**Pn**	**16 48 53.0**	**+1.8**
KOHI				*e*S	**Sn**	**16 50 08.3**	**+2.9**
KOHI				IAML		16 50 14.1	
	comp=N,924nm,0.8s						
TEZP	**TEZPUR**	**6.95**	**242**	*e*P	**Pn**	**16 48 57.9**	**+1.3**
LZH	**Lanzhou**	**6.95**	**29**	*e*Pn	**Pn**	**16 49 00.0**	**+3.2**
LZH				Sg	**Sg**	**16 50 56.3**	**-2.4**
LZH				smax	smax		
	comp=N,190nm,1.3s						
LZH				smax	smax		
	comp=N,200nm,1.2s						
LZH				LR	LR		
	comp=N,18μm,8.6s						
LZH				LR	LR		
	comp=N,31μm,9.6s						
LZH				LR	LR		
	comp=N,14μm,8.6s						
GYA	**Guiyang**	**7.16**	**119**	⇑Pn	**Pn**	**16 49 00.8**	**+1.2**
GYA				smax	smax		
	comp=N,97nm,2.6s						
GYA				smax	smax		
	comp=N,79nm,2.6s						
GYA				LR	LR		
	comp=N,13μm,6.2s						
GYA				LR	LR		
	comp=N,13μm,8.0s						
GYA				LR	LR		
	comp=N,18μm,8.0s						
GOMU	**GeErMu**	**7.33**	**328**	⇑*e*Pn	**Pn**	**16 49 05.0**	**+2.9**
GOMU				Pg	**Pb**	**16 49 26.8**	**+4.3**
GOMU				Sn	**Sb**	**16 50 51.0**	**+1.3**
GOMU				Sg	**Sg**	**16 51 08.3**	**-2.5**
GOMU				smax	smax		
	comp=N,62nm,1.3s						
GOMU				smax	smax		
	comp=E,150nm,2.0s						
GOMU				LR	LR		
	comp=N,6μm,4.8s						
GOMU				LR	LR		
	comp=E,3μm,4.3s						
GOMU				LR	LR		
	comp=Z,2μm,4.8s						
LSA	**Lhasa**	**7.39**	**269**	Pn	**Pn**	**16 49 05.3**	**+2.4**
LSA	**Lhasa**	**7.39**	**269**	P	**Pn**	**16 49 05.5**	**+2.5**
LSA				S	**Sb**	**16 50 59.0**	**+7.4**
LSA				pmax	pmax		
	comp=Z,81nm,0.9s						
LSA				LR	LR		
	comp=N,4μm,8.2s						
LSA				LR	LR		
	comp=E,4μm,6.8s						
LSA				LR	LR		
	comp=Z,2μm,6.1s						
LSA	**Lhasa**	**7.39**	**269**	P	**Pn**	**16 49 05.4**	**+2.4**
LSA	**Lhasa**	**7.39**	**269**	P	**Pn**	**16 49 05.2**	**+2.2**
GUWA	**GUWAHATI**	**8.02**	**243**	*e*P	**Pn**	**16 49 11.1**	**-0.1**
GUWA				IAML		16 51 35.0	
	comp=E,152nm,0.8s						
SHL	**Shillong**	**8.21**	**239**	Pn	**Pn**	**16 49 13.9**	**-0.2**
SHL	**Shillong**	**8.21**	**239**	P	**Pn**	**16 49 13.9**	**-0.2**
SHL	**Shillong**	**8.21**	**239**	P	**Pn**	**16 49 14.5**	**+0.4**
	SNR=47						
ENH	**Enshi**	**8.52**	**86**	Pn	**Pn**	**16 49 17.5**	**-0.7**
MND	**Mandalay**	**8.63**	**202**	Pn	**Pn**	**16 49 23.3**	**+3.6**
XAN	**Xi'an**	**8.81**	**61**	*i* P	**Pn**	**16 49 22.9**	**+0.8**
XAN				smax	smax		
	comp=E,85nm,1.1s						
XAN				smax	smax		
	comp=E,120nm,1.2s						
XAN				LR	LR		
	comp=E,12μm,11.0s						
XAN				LR	LR		
	comp=E,3μm,8.9s						
XAN				LR	LR		
	comp=E,7μm,10.8s						
GTA	**Gaotai**	**9.31**	**1**	⇑P	**Pn**	**16 49 33.3**	**+4.2**
GTA				pP		16 49 39.8	
GTA				sP		16 49 42.8	
GTA				S	**Sn**	**16 51 21.8**	**+8.3**
GTA				pmax	pmax		
	comp=E,3.0nm,1.0s						
GTA				LR	LR		
	comp=E,4μm,9.8s						
GTA				LR	LR		
	comp=E,8μm,8.7s						
GTA				LR	LR		
	comp=E,4μm,9.1s						
DHUB	**DHUBRI**	**9.43**	**247**	*e*P	**Pn**	**16 49 30.3**	**-0.4**
DHUB				*e*S	**Sn**	**16 51 12.8**	**-3.5**
DHUB				IAML		16 51 24.9	
	comp=N,212nm,1.1s						
DHUB				IAML		16 51 25.9	
	comp=E,189nm,1.1s						
AGT	**Agartala**	**9.70**	**233**	*e*P	**Pn**	**16 49 34.8**	**+0.4**
AGT				IAmb	IAmb	16 49 41.6	
	comp=Z,252nm,0.7s						
AGT				*e*S	**Sn**	**16 51 20.0**	**-2.8**
AGT				IAML		16 51 33.3	
	comp=E,356nm,0.5s						
CRAI	**Chiangrai**	**9.82**	**176**	Pn	**Pn**	**16 49 36.7**	**+0.6**
GTK	**Tadong**	**10.08**	**257**	*e*P	**Pn**	**16 49 39.7**	**0.0**
GTK				*e*S	**Sn**	**16 51 34.2**	**+1.8**
GTK				IAML		16 51 42.6	
	comp=E,206nm,1.1s						
BRDH	**Bariadhala**	**10.28**	**226**	Sn	**Sn**	**16 51 37.9**	**+0.8**
	comp=E,9.1nm,0.3s,baz=176,slow=24,SNR=5.8						
GULI	**GuiLin**	**10.62**	**114**	⇑P	**Pn**	**16 49 44.8**	**-2.2**
GULI				S	Sn	16 51 55.8	+10
GULI				pmax	pmax		
	comp=E,70nm,0.9s						
GULI				LR	LR		
	comp=E,20μm,9.4s						
GULI				LR	LR		
	comp=E,10μm,10.0s						
GULI				LR	LR		
	comp=E,12μm,9.3s						
TAPN	**Taplejung**	**10.83**	**258**	*e*P	**Pn**	**16 49 50.5**	**+0.5**
	comp=E,147nm,0.4s						
CHTO	**Chiang Mai**	**11.23**	**183**	Pn	**Pn**	**16 49 57.4**	**+2.1**
CHTO	**Chiang Mai**	**11.23**	**183**	P	**Pn**	**16 49 57.4**	**+2.1**
CHTO	**Chiang Mai**	**11.23**	**183**	P	**Pn**	**16 49 59.2**	**+3.9**
ODAN	**Odare**	**11.25**	**256**	*e*P	**Pn**	**16 49 56.2**	**+0.4**
PHRA	**Phrae**	**11.54**	**177**	Pn	**Pn**	**16 50 01.9**	**+2.4**
CM31	**Chiang Mai Arr**	**11.58**	**183**		**Pn**	**16 50 01.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**11.58**	**183**	Pn	**Pn**	**16 50 02.0**	**+1.8**
	comp=E,0.4nm,0.3s,baz=2.0,slow=13,SNR=25						
CMAR				Pg		16 50 49.2	
	comp=E,0.3nm,0.3s,baz=358,slow=18,SNR=5.2						
CMAR				Lg	Lg	16 53 31.0	
	comp=E,0.2nm,0.3s,baz=0.1,slow=30,SNR=7.5						
CMAR				LR	LR	16 54 40.6	
	comp=E,2μm,21.8s,baz=5.0,slow=38						
	comp=E,3.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.58**	**183**	Pn	**Pn**	**16 50 03.1**	**+3.0**
CMAR	**Chiang Mai Arr**	**11.58**	**183**	*ce*P	**Pn**	**16 50 04.0**	**+3.8**
CMAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LYN	**LuoYang**	**11.73**	**64**	*e*P	**Pn**	**16 49 59.5**	**-2.5**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN				pmax	pmax		
	comp=Z,1μm,12.6s						
LYN				LR	LR		
	comp=Z,3μm,7.6s						
LYN				LR	LR		
	comp=Z,2μm,7.4s						
LYN				LR	LR		
	comp=Z,3μm,7.8s						
CNSH	**ChangSha**	**11.77**	**96**	⇓P	**Pn**	**16 50 00.9**	**-1.7**
CNSH				S	**Sn**	**16 52 12.9**	**-0.6**
RAMN	**Ramite**	**11.89**	**258**	*e*P	**Pn**	**16 50 04.2**	**-0.3**
	comp=Z,286nm,0.5s						
JIRN	**Jiri**	**12.04**	**262**	*e*P	**Pn**	**16 50 06.7**	**0.0**
GUN	**Gumba**	**12.24**	**263**	*e*P	**Pn**	**16 50 08.8**	**-0.7**
	comp=Z,98nm,0.2s						
WHN	**Wuhan**	**12.71**	**84**	P	**Pn**	**16 50 17.6**	**+2.1**
WHN				S	**Sn**	**16 52 33.4**	**-3.2**
WHN				LR	LR		
	comp=Z,11μm,9.3s						
WHN				LR	LR		
	comp=Z,10μm,14.9s						
WHN				LR	LR		
	comp=Z,14μm,12.5s						
PKI	**Pulchoki**	**12.73**	**262**	*e*P	**Pn**	**16 50 14.6**	**-1.5**
PKIN	**Phulchoki**	**12.74**	**262**	*e*P	**Pn**	**16 50 14.7**	**-1.5**
	comp=Z,185nm,0.5s						
KKN	**Kakani**	**12.79**	**263**	*e*P	**Pn**	**16 50 15.7**	**-1.1**
DMN	**Daman**	**12.98**	**263**	*e*P	**Pn**	**16 50 17.9**	**-1.6**
	comp=Z,271nm,0.8s						
TIY	**Taiyuan**	**13.06**	**51**	*e*P	**P**	**16 50 32.4**	**+1.8**
TIY				LR	LR		
	comp=N,3μm,11.7s						
TIY				LR	LR		
	comp=E,3μm,12.0s						
TIY				LR	LR		
	comp=Z,5μm,11.0s						
GKN	**Gorkha**	**13.30**	**265**	*e*P	**Pn**	**16 50 21.3**	**-2.4**
	comp=Z,118nm,0.6s						
BTO	**Baotou**	**13.48**	**36**	*e*P	**Pn**	**16 50 26.6**	**+0.5**
BTO				S	**Sn**	**16 53 03.3**	**+7.8**
BTO				LR	LR		
	comp=Z,33μm,13.1s						
BTO				LR	LR		
	comp=Z,46μm,13.7s						
DANN	**Dangsing**	**13.98**	**267**	*e*P	**Pn**	**16 50 29.8**	**-3.4**
	comp=Z,244nm,0.8s						
GZH	**Guangzhou**	**14.09**	**116**	P	**Pn**	**16 50 31.8**	**-2.5**
KOLN	**Koldanda**	**14.24**	**265**	*e*P	**Pn**	**16 50 33.2**	**-3.5**
QIZ	**Qiongzhong**	**14.38**	**138**	P	**Pn**	**16 50 39.3**	**+1.0**
QIZ				S	**Sn**	**16 53 21.1**	**+3.8**
QIZ				LR	LR		
	comp=Z,8μm,13.4s						
QIZ				LR	LR		
	comp=Z,7μm,14.4s						
QIZ				LR	LR		
	comp=Z,6μm,10.2s						
HHC	**Hu-ho-hao-te**	**14.47**	**39**	*e*P	**Pn**	**16 50 40.4**	**+0.8**
HHC				pmax	pmax		
	comp=Z,34nm,0.7s						
HHC				LR	LR		
	comp=Z,9μm,8.6s						
HHC				LR	LR		
	comp=Z,15μm,9.5s						
HHC				LR	LR		
	comp=Z,12μm,9.8s						
HNS	**HongShan**	**14.49**	**56**	⇑P	**Pn**	**16 50 43.0**	**+3.2**
HNS				*e*S	**Sn**	**16 53 24.4**	**+4.4**
HNS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HNS				LR	LR		
	comp=Z,3μm,11.4s						
HNS				LR	LR		
	comp=Z,2μm,12.9s						
HNS				LR	LR		
	comp=Z,3μm,14.3s						
UBPT	**Khong Chiam**	**15.67**	**159**		**P**	**16 50 59.8**	**+0.3**
TIA	**Tai'an**	**15.86**	**63**	P	**Pn**	**16 50 58.1**	**+0.2**
TIA				pmax	pmax		
	comp=Z,19nm,1.1s						
TIA				LR	LR		
	comp=Z,2μm,12.8s						
TIA				LR	LR		
	comp=Z,1μm,10.8s						
TIA				LR	LR		
	comp=Z,2μm,10.8s						
NJ2	**Nanjing**	**16.58**	**78**	*e*P	**Pn**	**16 51 04.9**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,3μm,7.3s						
NJ2				LR	LR		
	comp=Z,6μm,11.1s						
NJ2				LR	LR		
	comp=Z,7μm,11.9s						
WMQ	**Urumqi**	**16.69**	**329**	*e*P	**Pn**	**16 51 08.9**	**+0.3**
WMQ				pP	P	16 51 11.6	+0.7
WMQ				sP	pP	16 51 15.3	-2.0
WMQ				pmax	pmax		
	comp=Z,57nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,730nm,4.9s						
WMQ				LR	LR		
	comp=Z,4μm,10.1s						
WMQ				LR	LR		
	comp=Z,2μm,8.7s						
WMQ				LR	LR		
	comp=Z,2μm,15.3s						
BJI	**Beijing**	**16.77**	**49**	P	**P**	**16 51 13.3**	**+1.7**

BJI PP **sP** **16 51 22.4 +1.4**
BJI pmax pmax
comp=Z,6.0nm,0.9s
BJI LR LR
comp=Z,1μm,6.9s
BJI LR LR
comp=Z,2μm,6.9s
BJI LR LR
comp=Z,5μm,10.5s
SONM Songino Array 18.48 14 P **P** **16 51 30.6 -0.1**
comp=Z,0.5nm,0.3s,baz=200,slow=11,SNR=37
SONM LR LR 16 58 58.9
comp=Z,2μm,18.8s,baz=195,slow=38
comp=Z,13nm,1.1s
SONM Songino Array 18.48 14 P **P** **16 51 28.9 -1.8**
ULN Ulaanbaatar 18.66 16 P **P** **16 51 31.2 -1.5**
ULN Ulaanbaatar 18.66 16 *ce*P **Pn** **16 51 33.1 +0.1**
ULN pmax pmax
comp=Z,38nm,1.0s
XLT XiLinHaoTe 19.00 39 *e*P **Pn** **16 51 37.4 +0.3**
XLT pP sP 16 51 45.3 -0.5
XLT sP pP 16 51 46.4 +3.7
XLT pmax pmax
comp=Z,29nm,0.8s
XLT LR LR
comp=Z,6μm,15.7s
XLT LR LR
comp=Z,6μm,10.4s
PBA Port Blair 19.42 201 P **Pn** **16 51 41.8 -0.4**
PBA IAmb IAmb 16 51 44.4
comp=Z,236nm,1.5s
NDI New Delhi 19.60 272 *e*P **P** **16 51 43.0 +0.1**
TPUB Ta-pu 19.91 105 **Pn** **16 51 47.7 -0.4**
SSLB Suanglung 19.99 103 P **Pn** **16 51 48.6 -0.4**
TATO Taipei 20.01 99 P Pn 16 51 48.6 -0.7
TATO IAmb IAmb 16 51 54.8
comp=Z,167nm,1.1s
YHNB Yeheng 20.02 100 P **P** **16 51 48.0 +0.3**
YHNB IAmb IAmb 16 51 53.8
comp=Z,85nm,0.9s
DL2 Dalian 20.11 58 P Pn 16 51 50.4 +0.1
DL2 pmax pmax
comp=Z,50nm,1.1s
DL2 LR LR
comp=Z,1μm,9.8s
DL2 LR LR
comp=Z,860nm,9.3s
DL2 LR LR
comp=Z,1μm,12.3s
NACB Ninganchiao 20.39 101 P **P** **16 51 51.5 0.0**
YULB Yu-li 20.43 104 P **P** **16 51 52.5 +0.5**
ZAK Zakamensk 20.47 7 *e*P **P** **16 51 52.4 +0.1**
ZAK pmax pmax
comp=Z,38nm,1.0s
TWG Pinlang 20.48 106 P **P** **16 51 51.2 -1.3**
TWG IAmb IAmb 16 52 04.9
comp=Z,138nm,1.9s
SHLS Shalkode 20.74 315 *i* P **P** **16 51 53.4 -2.0**
SHLS *e*S **S** **16 55 41.4 -4.9**
SHLS Shalkode 20.74 315 *i* P **P** **16 51 53.4 -2.0**
baz=315
SHLS *e*S **S** **16 55 41.5 -4.9**
baz=315
ZSN Zaisan 20.77 331 *e*P **P** **16 51 55.9 +0.4**
ZSN *e*S **S** **16 55 46.7 +0.2**
ZSN Zaisan 20.77 331 *e*P **P** **16 51 56.0 +0.4**
baz=331
ZSN *e*S **S** **16 55 46.8 +0.2**
baz=331
PDGK Podgornoye 20.82 315 P **P** **16 51 56.2 0.0**
UZB Uzynbulak 21.01 314 *e*P **P** **16 51 58.8 +0.5**
UZB pmax pmax
comp=Z,24nm,1.1s
UZB Uzynbulak 21.01 314 *e*P **P** **16 51 58.8 +0.5**
comp=Z,24nm,1.1s,baz=314
TARG Taragay, Kyrgy 21.11 309 P **P** **16 52 00.1 +0.4**
TARG IAmb IAmb 16 52 06.1
comp=Z,82nm,1.0s
TARG Taragay, Kyrgy 21.11 309 P **P** **16 52 00.1 +0.4**
TARG pmax pmax
comp=Z,82nm,1.0s
SATY Saty 21.35 313 *d i*P **P** **16 52 03.1 +1.1**
SATY *e*S **S** **16 55 59.1 +0.7**
SATY pmax pmax
comp=Z,41nm,0.9s
SATY Saty 21.35 313 ⇓ *i*P **P** **16 52 03.1 +1.1**
comp=Z,41nm,0.9s,baz=313
SATY *e*S **S** **16 55 59.1 +0.7**
baz=313
SRIT Nakonsritamara 21.37 180 P **P** **16 52 01.6 -0.5**
SRIT IAmb IAmb 16 52 09.7
comp=Z,95nm,1.5s
ZHN Zhinishke 21.39 313 *e*P **P** **16 52 03.1 +0.7**
ZHN pmax pmax
comp=Z,35nm,1.3s
ZHN Zhinishke 21.39 313 *e*P **P** **16 52 03.1 +0.7**
comp=Z,35nm,1.3s,baz=313
MK31 Makanchi Array 21.45 326 P **P** **16 52 02.4 -0.5**
MKAR Makanchi Array 21.45 326 P **P** **16 52 03.0 +0.1**
comp=Z,31nm,0.7s,baz=135,slow=13,SNR=52
MKAR S **S** **16 56 00.9 +0.8**
comp=Z,1.8nm,0.8s,baz=166,slow=19,SNR=1.3
MKAR ScP **ScP** **16 59 43.6 +1.8**
comp=Z,2.4nm,1.0s,baz=160,slow=3.9,SNR=5.7
MKAR LR LR 17 02 11.1
comp=Z,175nm,20.1s,baz=138,slow=42
comp=Z,31nm,0.7s
MKAR Makanchi Array 21.45 326 P **P** **16 52 02.0 -0.8**
KSH Kashi 21.55 302 P **P** **16 52 06.5 +2.3**
KSH sP sP 16 52 15.3 +1.7
KSH pmax pmax
comp=Z,43nm,0.9s
MOY Mondy 21.59 2 *e*P **P** **16 52 04.8 +0.3**
MOY pmax pmax
comp=Z,63nm,2.0s
MAKZ Makanchi 21.61 326 P **P** **16 52 03.0 -1.6**
MAKZ Makanchi 21.61 326 P **P** **16 52 03.8 -0.8**
DGZ Jazzator, Alta 21.68 338 *e*P **P** **16 52 05.6 +0.2**
DGZ pmax pmax
comp=Z,38nm,1.4s
NRN Naryn 22.22 307 P **P** **16 52 11.2 -0.3**
NRN IAmb IAmb 16 52 18.2
comp=Z,76nm,0.9s
NRN Naryn 22.22 307 P **P** **16 52 11.2 -0.3**
NRN pmax pmax
comp=Z,76nm,0.9s
MDOK Medeo 22.27 312 *e*P **P** **16 52 13.1 +1.2**
MDOK *e*S **S** **16 56 16.8 +0.6**
MDOK Medeo 22.27 312 *e*P **P** **16 52 13.1 +1.2**
baz=312
MDOK *e*S **S** **16 56 16.9 +0.7**
baz=312
TNSS Tian-Shan 22.27 312 *e*P **P** **16 52 12.8 +0.6**
TNSS Tian-Shan 22.27 312 *e*P **P** **16 52 12.8 +0.6**
baz=312
KNDC Almaty 22.35 312 P **P** **16 52 13.4 +0.8**
AAA Alma-Ata 22.38 312 *e*P **P** **16 52 14.0 +1.1**
AAA pmax pmax
comp=Z,84nm,1.1s
AAA Alma-Ata 22.38 312 *e*P **P** **16 52 14.1 +1.1**
comp=Z,84nm,1.1s,baz=312
ULHL Ulahol 22.39 309 P **P** **16 52 15.4 +2.3**
SNR=55
TDK Taldyqorghan 22.39 318 *e*P **P** **16 52 13.6 +0.6**
TDK Taldyqorghan 22.39 318 *e*P **P** **16 52 13.7 +0.6**
baz=317
IRK Irkutsk 22.41 7 *e*P **P** **16 52 13.7 +0.6**
IRK pmax pmax
comp=Z,91nm,1.4s
SNY Shenyang 22.57 52 ⇑ P **P** **16 52 15.8 +1.0**
SNY S **S** **16 56 23.8 +2.4**
SNY pmax pmax
comp=Z,69nm,0.8s
SNY pmax pmax
comp=Z,2μm,11.4s
SNY LR LR
comp=Z,870nm,10.2s
SNY LR LR
comp=Z,750nm,9.0s
SNY LR LR
comp=Z,900nm,11.3s
SUJ Sinuiju 22.59 57 P **P** **16 52 15.5 +0.4**
SUJ pP **pP** **16 52 19.8 -1.7**
SUJ S **S** **16 56 27.0 +5.1**
SUJ AmB
comp=Z,526nm,3.2s
SUJ AMS AMS
comp=N,2μm,7.9s
SUJ AMS AMS
comp=E,720nm,3.2s
SUJ AMS AMS
comp=Z,3μm,11.4s
CHKK Chushkaly 22.64 314 *e*P **P** **16 52 15.5 -0.2**
CHKK Chushkaly 22.64 314 *e*P **P** **16 52 15.6 -0.2**
baz=313
HJU Haeju 22.97 63 P **P** **16 52 19.4 +0.2**
HJU pP **pP** **16 52 23.4 -2.2**
HJU S **S** **16 56 30.7 +2.1**
HJU AmB
comp=Z,274nm,1.1s
HJU AMS AMS
comp=N,1μm,9.9s
HJU AMS AMS
comp=E,659nm,4.6s
HJU AMS AMS
comp=Z,1μm,7.1s
HYBB Hyderabad (bro 23.01 242 *e*P **P** **16 52 20.1 +0.4**
HYBB IVmBBB 16 52 26.8
comp=Z,460nm,1.4s
KUU Kurty 23.07 313 *e*P **P** **16 52 21.0 +0.9**
KUU *e*S **S** **16 56 30.9 +0.6**
KUU pmax pmax
comp=Z,33nm,0.9s
KUU Kurty 23.07 313 *e*P **P** **16 52 21.1 +0.9**
comp=Z,33nm,0.9s,baz=313
KUU *e*S **S** **16 56 31.0 +0.6**
baz=313
TKM2 Tokmak 2 23.11 310 P **P** **16 52 23.8 +3.0**
SNR=12
TKM2 Tokmak 2 23.11 310 P **P** **16 52 20.1 -0.6**
KBK Karagaybulak 23.43 309 P **P** **16 52 25.6 +1.7**
SNR=42
UCH Uchtor 23.55 308 P **P** **16 52 26.5 +1.0**
SNR=14
INCN Inchon 23.56 65 P **P** **16 52 24.4 -0.8**
INCN IAmb IAmb 16 52 30.6
comp=Z,265nm,1.9s
INCN Inchon 23.56 65 P **P** **16 52 24.4 -0.8**
INCN pmax pmax
comp=Z,265nm,2.0s
CHMS Chumysh 23.70 310 P **P** **16 52 27.4 +1.0**
SNR=12
AAK Ala-Archa 23.72 309 P **P** **16 52 28.2 +1.4**
SNR=36
AAK Ala-Archa 23.72 309 P **P** **16 52 28.0 +1.2**
comp=Z,40nm,0.8s,baz=125,slow=6.6,SNR=84
AAK S **S** **16 56 36.6 -4.6**
comp=Z,1.2nm,0.5s,baz=161,slow=19,SNR=1.0
AAK LR LR 17 02 22.7
comp=Z,2μm,18.4s,baz=124,slow=38
comp=Z,40nm,0.8s
AAK Ala-Archa 23.72 309 P **P** **16 52 27.4 +0.6**
AAK IAmb IAmb 16 52 34.1
comp=Z,69nm,0.9s
AAK Ala-Archa 23.72 309 P **P** **16 52 28.0 +1.2**
AAK Ala-Archa 23.72 309 P **P** **16 52 28.8 +1.9**
AAK Ala-Archa 23.72 309 P **P** **16 52 28.1 +1.2**
SGDS Sogindy 23.97 311 *e*P **P** **16 52 29.8 +0.8**
SGDS pmax pmax
comp=Z,23nm,1.0s
SGDS Sogindy 23.97 311 *e*P **P** **16 52 29.9 +0.8**
comp=Z,23nm,1.0s,baz=310
TJN Taejon 23.98 67 P **P** **16 52 27.7 -1.4**
TJN Taejon 23.98 67 *ce*P **P** **16 52 29.1 +0.1**
USP Ospenovka 23.98 310 P **P** **16 52 30.4 +1.3**
SNR=37
AML Almayashu 24.08 307 P **P** **16 52 32.5 +2.0**
SNR=41
EKS2 Erkin-Say 24.22 308 P **P** **16 52 33.0 +1.6**
SNR=31
CIT Chita 24.22 21 *e*P **P** **16 52 30.4 -0.9**
CIT *e* 16 53 06.1
CIT *e* 16 53 18.5
CIT pmax pmax
comp=Z,33nm,1.6s
HIA Hailar 24.50 33 P **P** **16 52 32.1 -1.6**
HIA IAmb IAmb 16 52 39.0
comp=Z,59nm,1.1s
HIA Hailar 24.50 33 *i* P **P** **16 52 33.8 0.0**
HIA pmax pmax
comp=Z,49nm,1.0s
KS19 Wonju Array Si 24.53 65 P **P** **16 52 34.3 +0.1**
KS19 IAmb IAmb 16 52 36.0
comp=Z,53nm,0.8s
KSAR Wonju Array Be 24.54 65 P **P** **16 52 33.4 -0.8**
KSAR Wonju Array Be 24.54 65 P **P** **16 52 33.4 -0.8**
KSRS Korea Array 24.57 65 P **P** **16 52 33.0 -1.4**
comp=Z,55nm,0.7s,baz=258,slow=10,SNR=229
KSRS LR LR 17 02 34.8
comp=Z,385nm,21.2s,baz=245,slow=38
comp=Z,55nm,0.7s
CN2 Changchun 24.64 49 *e*P **P** **16 52 34.6 -0.4**
CN2 *e*S **S** **16 56 47.3 -8.2**
CN2 pmax pmax
comp=Z,70nm,1.1s
CN2 LR LR
comp=Z,3μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
DRK Karamyk 24.64 300 P **P** **16 52 35.9 +0.4**
DRK IAmb IAmb 16 52 43.8
comp=Z,90nm,1.2s
KULM Kulim 24.67 178 P **P** **16 52 37.2 +1.7**
HHU Hamhung 24.78 59 P **P** **16 52 37.8 +1.4**
HHU pP **pP** **16 52 40.6 -2.6**
HHU S **S** **16 56 59.8 +2.0**
HHU AmB
comp=Z,132nm,1.1s
HHU AMS AMS
comp=N,685nm,3.9s
HHU AMS AMS
comp=E,2μm,9.8s
HHU AMS AMS
comp=Z,1μm,6.9s
SEM Semipalatinsk 25.00 330 *e*P **P** **16 52 37.9 -0.6**
SEM pmax pmax
comp=Z,12nm,0.7s
SEM Semipalatinsk 25.00 330 *e*P **P** **16 52 38.0 -0.6**
comp=Z,12nm,0.7s,baz=330
BTLS Baital 25.06 314 *i* P **P** **16 52 39.2 +0.3**
BTLS pmax pmax
comp=Z,17nm,1.0s
BTLS Baital 25.06 314 *i* P **P** **16 52 39.2 +0.3**
comp=Z,17nm,1.0s,baz=314
JOW Kunigami 25.35 90 P **P** **16 52 40.1 -1.6**
comp=Z,16nm,0.5s,baz=301,slow=7.2,SNR=8.8
JOW LR LR 17 02 45.5
comp=Z,638nm,18.3s,baz=260,slow=37
comp=Z,16nm,0.5s
JOW Kunigami 25.35 90 P **P** **16 52 40.2 -1.5**
JOW IAmb IAmb 16 52 58.9
comp=Z,153nm,2.0s
BTK Batken 25.52 301 P **P** **16 52 42.6 -0.6**
BTK IAmb IAmb 16 52 50.0
comp=Z,66nm,1.1s
BTK Batken 25.52 301 P **P** **16 52 42.6 -0.6**
BTK pmax pmax
comp=Z,66nm,1.1s
GAR Garm 25.66 298 P **P** **16 52 43.9 -0.7**
KURBB Kurchatov Arra 25.92 328 P **P** **16 52 46.9 +0.3**
comp=Z,34nm,0.9s,baz=140,slow=9.1,SNR=306
KURBB S **S** **16 57 24.2 +8.5**
comp=Z,0.5nm,0.8s,baz=324,slow=32,SNR=0.9
KURBB ScP **ScP** **16 59 56.8 +3.0**
comp=Z,2.4nm,1.0s,baz=125,slow=2.4,SNR=6.3
KURBB LR LR 17 04 10.9
comp=Z,1μm,21.3s,baz=112,slow=39
comp=Z,34nm,0.9s
KURBB Kurchatov Arra 25.92 328 P **P** **16 52 46.4 -0.2**
KURK Kurchatov 25.94 329 P **P** **16 52 46.7 0.0**
KURK IAmb IAmb 16 52 53.0
comp=Z,97nm,1.1s
KURK Kurchatov 25.94 329 P **P** **16 52 46.9 +0.1**
KURK Kurchatov 25.94 329 P **P** **16 52 47.5 +0.8**
KURK P **P** **16 52 47.5 +0.8**
DZA Taraz 25.98 307 *e*P **P** **16 52 48.0 +0.7**
DZA pmax pmax
comp=Z,31nm,1.2s
DZA Taraz 25.98 307 *e*P **P** **16 52 48.0 +0.7**
comp=Z,31nm,1.2s,baz=307
ZAA0 Zalesovo Array 26.17 340 P **P** **16 52 48.2 -0.6**
ZAA0 IAmb IAmb 16 52 54.1
comp=Z,126nm,1.4s
ZALV Zalesovo Beam 26.17 340 P **P** **16 52 48.9 0.0**
comp=Z,26nm,0.7s,baz=152,slow=9.9,SNR=93
ZALV S **S** **16 57 23.7 +4.0**
comp=Z,0.7nm,0.4s,baz=190,slow=41,SNR=1.2
comp=Z,26nm,0.7s
ZALV Zalesovo Beam 26.17 340 P **P** **16 52 48.2 -0.6**
KBL Kabul 26.19 288 P **P** **16 52 49.4 -0.2**
KBL IAmb IAmb 16 52 54.7
comp=Z,41nm,0.8s
KBL Kabul 26.19 288 P **P** **16 52 49.4 -0.2**
KBL pmax pmax
comp=Z,41nm,0.8s
KBL Kabul 26.19 288 P **P** **16 52 51.2 +1.7**
SNR=24
TSI Tuntungan 26.45 182 P **P** **16 52 53.3 +1.6**
comp=Z,114nm,0.5s
KCSI Kotacane, Aceh 26.47 184 P **P** **16 52 53.0 +1.1**
comp=Z,13nm,1.5s
CHGR Chuyangaron 26.49 297 P **P** **16 52 52.1 +0.1**
CHGR Chuyangaron 26.49 297 P **P** **16 52 52.1 +0.1**
CHGR pmax pmax
comp=Z,102nm,0.9s
KK31 Karatay Array 26.62 307 P **P** **16 52 53.1 +0.1**
KK31 IAmb IAmb 16 53 02.2
comp=Z,92nm,1.1s
KK31 Karatay Array 26.62 307 *i* P **P** **16 52 53.7 +0.7**
KKAR Karatay Array 26.62 307 P **P** **16 52 53.1 +0.1**
KKAR IAmb IAmb 16 53 02.2
comp=Z,92nm,1.1s
KKAR Karatay Array 26.62 307 P **P** **16 52 53.0 0.0**
KKAR Karatay Array 26.62 307 P **P** **16 52 53.0 0.0**
KKAR pmax pmax
comp=Z,92nm,1.1s
IUG luzhnay 26.65 305 *e*P **P** **16 52 54.6 +1.2**
IUG luzhnay 26.65 305 *e*P **P** **16 52 54.6 +1.2**
baz=305
BNX BinXian 26.73 46 ⇓ P **P** **16 52 54.3 +0.3**
BNX pmax pmax
comp=Z,25nm,1.0s
BNX pmax pmax
comp=Z,680nm,11.0s
TAS Tashkent 26.95 303 P **P** **16 52 56.3 +0.2**
TAS IAmb IAmb 16 53 17.4
comp=Z,50nm,0.9s
TAS Tashkent 26.95 303 P **P** **16 52 56.3 +0.2**
TAS pmax pmax
comp=Z,50nm,0.9s
PSI Prapat 27.13 182 P **P** **16 52 59.6 +1.6**
PSI pmax pmax
comp=Z,21nm,1.4s
RPSI Rantau Prapat 27.24 182 P **P** **16 52 59.6 +0.9**
OTUK Ortayu 27.66 319 P **P** **16 53 02.8 +0.4**
BRZS Berezniki 28.41 322 *e*P **P** **16 53 09.9 +0.8**
BRZS Berezniki 28.41 322 *e*P **P** **16 53 09.9 +0.8**
baz=322
GSI Gunungsitoli 28.68 184 P **P** **16 53 12.5 +0.8**
comp=Z,27nm,0.9s
PALK Pallekele 28.83 222 LR LR 17 07 20.3
comp=Z,466nm,20.4s,baz=133,slow=42
USA0B Ussuriysk Arra 29.17 52 P **P** **16 53 13.9 -1.9**
USA0B Ussuriysk Arra 29.17 52 P **P** **16 53 13.9 -1.9**
USA0B pmax pmax
comp=Z,15nm,1.4s
USRK Ussuriysk Ar. 29.17 52 P **P** **16 53 15.5 -0.3**
comp=Z,3.4nm,0.8s,baz=242,slow=7.2,SNR=12
USRK LR LR 17 05 44.2
comp=Z,498nm,19.2s,baz=241,slow=38
comp=Z,3.4nm,0.8s
USRK Ussuriysk Ar. 29.17 52 P **P** **16 53 14.7 -1.1**
SBUM Sibu 29.95 154 P **P** **16 53 23.1 +0.2**
MYLDM Lahad Datu 30.49 141 P **P** **16 53 29.2 +1.5**
MYLDM IAmb IAmb 16 53 39.0
comp=Z,26nm,0.9s
DSRI Dabo 30.75 170 P **P** **16 53 30.9 +1.0**
comp=Z,5.5nm,1.4s
KLR Kul'dur 30.92 43 P **P** **16 53 30.6 -0.7**
comp=Z,2.3nm,0.7s,baz=250,slow=11,SNR=7.5
KLR LR LR 17 06 12.5
comp=Z,690nm,19.8s,baz=242,slow=37
comp=Z,2.3nm,0.7s
KLR Kul'dur 30.92 43 *ce*P **P** **16 53 31.5 +0.3**
KLR pmax pmax
comp=Z,13nm,1.7s
ZEA Zeya 30.97 32 *e*P **P** **16 53 35.2 +3.6**
ZEA MLR MLR
comp=E,2μm,10.0s
ZEA MLR MLR
comp=N,2μm,9.0s
ZEA MLR MLR
comp=Z,2μm,11.0s
BVAR Borovoye Array 31.33 325 LR LR 17 07 12.2
comp=Z,1μm,21.5s,baz=122,slow=38
BRVK Borovoye 31.40 325 P **P** **16 53 35.3 -0.1**
BRVK IAmb IAmb 16 53 40.6
comp=Z,31nm,1.2s
BRVK Borovoye 31.40 325 *ce*P **P** **16 53 35.9 +0.5**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 31.40 325 P **P** **16 53 36.3 +0.9**
JMBI JAMBI 31.76 172 P **P** **16 53 39.4 +0.5**
comp=Z,75nm,0.4s
TEY Ternei 32.57 52 *e*P **P** **16 53 44.4 -1.4**
PPBI Pangkal Pinang 32.65 168 P **P** **16 53 47.8 +1.1**
comp=Z,15nm,1.2s
MJAR Matsushiro Arr 32.71 68 P **P** **16 53 44.6 -2.5**
comp=Z,3.2nm,0.8s,baz=277,slow=8.8,SNR=5.5
MJAR LR LR 17 05 39.8
comp=Z,455nm,20.6s,baz=288,slow=34
comp=Z,3.2nm,0.8s
DAV Davao City (W) 33.42 128 LR LR 17 09 31.1
comp=Z,1μm,18.6s,baz=16,slow=40
JHJ Hachijo jima 2 34.18 74 LR LR 17 10 02.7
comp=Z,675nm,18.6s,baz=45,slow=40
GEYT Alibeck 35.08 294 P **P** **16 54 09.4 +1.6**
comp=Z,59nm,0.7s,baz=104,slow=6.3,SNR=127
comp=Z,59nm,0.7s
GEYT Alibeck 35.08 294 P **P** **16 54 08.6 +0.8**
GYA0B ALIBECK ARRAY 35.08 294 P **P** **16 54 08.2 +0.4**
AB31 Akbulak array 35.55 314 P **P** **16 54 11.9 +0.3**
ABKAR Akbulak array 35.55 314 P **P** **16 54 11.8 +0.2**
ABKAR Akbulak array 35.55 314 P **P** **16 54 11.9 +0.3**
KASI Kota Agung 35.70 172 P **P** **16 54 14.3 +1.2**
comp=Z,48nm,2.7s
JASK Jask - Hormozg 36.99 274 P **P** **16 54 26.3 +2.1**
WBK Wadi Bani Khal 37.05 268 P **P** **16 54 26.5 +1.7**
WSAR Wadi Sarin 37.13 269 P **P** **16 54 25.5 0.0**
comp=Z,6.2nm,0.7s,baz=90,slow=11,SNR=5.2
comp=Z,6.2nm,0.7s
YSS Yuzh-Sakhalins 37.18 51 P **P** **16 54 25.1 -0.4**
YSS IAmb IAmb 16 54 30.4
comp=Z,38nm,1.3s
YSS Yuzh-Sakhalins 37.18 51 *i* P **P** **16 54 25.8 +0.3**
YSS pmax pmax
comp=Z,23nm,1.1s
APSI Ampana 37.27 142 P **P** **16 54 27.9 +1.3**
comp=Z,30nm,1.2s
KMSI Cibinong 37.37 137 P **P** **16 54 28.3 +0.9**
comp=Z,1μmcomp=Z,94nm,0.8s
SKJI Sukabumi 37.46 169 P **P** **16 54 28.9 +0.7**
comp=Z,61nm,1.1s
LEM Lembang 37.48 167 LR LR 17 10 09.9
comp=Z,682nm,21.7s,baz=301,slow=37
YAK Yakutsk 37.48 23 P **P** **16 54 25.7 -2.2**
comp=Z,4.8nm,0.8s,baz=55,slow=4.8,SNR=6.3
comp=Z,4.8nm,0.8s
YAK Yakutsk 37.48 23 P **P** **16 54 26.4 -1.5**
YAK Yakutsk 37.48 23 *e*P **P** **16 54 26.8 -1.1**
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.4s
SMDO Samad 37.70 269 P **P** **16 54 32.5 +2.1**
SNR=6.4
JMDO Jabal Madar 37.89 268 P **P** **16 54 34.1 +2.2**
LUWI Luwuk 38.00 140 P **P** **16 54 31.9 -0.8**
LUWI IAmb IAmb 16 54 43.2
comp=Z,53nm,1.1s
LUWI Luwuk 38.00 140 P **P** **16 54 32.0 -0.7**
comp=Z,3μmcomp=Z,43nm,0.8s
TYV Tymovskoe 38.06 45 *e*P **P** **16 54 35.3 +2.4**
TYV *e*S **S** **17 00 29.4 +4.9**

TYV pmax pmax
comp=Z,21nm,1.5s
TYV pmax pmax
comp=Z,300nm,3.6s
TYV smax smax
comp=N,200nm,3.6s
TYV smax smax
comp=E,300nm,3.6s
HOQ Hoqain 38.17 271 P **P** **16 54 35.7 +1.5**
TTSI Tana Toraja 38.17 146 P **P** **16 54 35.2 +1.0**
comp=E,935nmcomp=E,52nm,0.9s
BANOM Banah 38.33 275 P **P** **16 54 37.7 +2.1**
SHME Shamm 38.43 275 P **P** **16 54 39.0 +2.6**
MHTO MHTO 38.51 266 P **P** **16 54 37.8 +0.8**
BSY Bisya 38.54 269 P **P** **16 54 39.2 +1.8**
SNR=7.4
MSFE Esma-Masafi 38.61 274 P **P** **16 54 39.4 +1.4**
UOSS Minazif 38.70 273 P **P** **16 54 37.7 -0.9**
UOSS Minazif 38.70 273 P **P** **16 54 41.3 +2.6**
UOSS Minazif 38.70 273 P **P** **16 54 39.0 +0.3**
HATD Hatta, Dubai 38.80 273 P **P** **16 54 42.0 +2.5**
HATD Hatta, Dubai 38.80 273 P **P** **16 54 41.2 +1.7**
ASHO Ashiyiah 38.90 273 P **P** **16 54 43.0 +2.5**
SNR=17
ASHO Ashiyiah 38.90 273 *i* P **P** **16 54 42.0 +1.6**
SNR=36
SPSI Sidrap Palu 38.94 147 P **P** **16 54 41.6 +0.9**
comp=E,30nm,1.2s
ARU Arti 38.96 325 LR LR 17 11 51.9
comp=E,923nm,19.5s,baz=131,slow=38
ARU Arti 38.96 325 P **P** **16 54 40.1 -0.3**
ARU IAmb IAmb 16 54 46.1
comp=Z,94nm,1.3s
ARU Arti 38.96 325 *d* P **P** **16 54 41.0 +0.5**
ARU 16 56 50.3
ARU S **S** **17 00 38.0 -0.1**
ARU pmax pmax
comp=Z,75nm,1.2s
ARU MLR MLR
comp=Z,873nm,17.0s
UGM Wanagama 39.19 163 P **P** **16 54 43.6 +0.8**
comp=Z,136nm,1.6s
DQM DQM 39.29 265 P **P** **16 54 43.9 +0.2**
ALNE Al Ain 39.37 272 P **P** **16 54 46.6 +2.3**
SNR=7.2
KMMI Kalianget 39.39 157 P **P** **16 54 45.0 +0.6**
comp=Z,21nm,0.8s
ASUD Al Ashush, Dub 39.55 273 P **P** **16 54 48.2 +2.4**
SNR=5.1
ASUD Al Ashush, Dub 39.55 273 P **P** **16 54 45.5 -0.2**
PCJI Pacitan 39.63 162 P **P** **16 54 46.2 -0.2**
comp=Z,48nm,1.6s
KAPI Kappang 39.86 148 LR LR 17 13 22.3
comp=Z,476nm,19.0s,baz=271,slow=39
NRIK Noril'sk 39.92 353 P **P** **16 54 48.0 -0.2**
comp=Z,9.2nm,0.6s,baz=156,slow=7.2,SNR=22
NRIK LR LR 17 11 59.5
comp=Z,1µm,19.9s,baz=210,slow=37
comp=Z,9.2nm,0.6s
NRIK Noril'sk 39.92 353 P **P** **16 54 47.8 -0.5**
NRIK Noril'sk 39.92 353 *ce* P **P** **16 54 48.3 +0.1**
NRIK pmax pmax
comp=Z,23nm,1.0s
BKSI Bulukumba 40.30 147 P **P** **16 54 52.5 +0.5**
comp=Z,10nm,0.8s
LBMI Labuha 40.46 134 P **P** **16 54 53.0 -0.4**
comp=Z,19nm,0.9s
SANI Sanana 40.66 137 P **P** **16 54 53.1 -1.9**
comp=Z,10nm,0.9s
JAGI Jajag, Banyuwa 40.78 158 P **P** **16 54 57.1 +1.1**
comp=Z,28nm,1.0s
SRBI Singaraja 40.78 156 P **P** **16 54 56.9 +0.9**
comp=Z,17nm,0.9s
BSSI Bau Bau, Buton 41.19 148 P **P** **16 54 59.7 +0.3**
comp=Z,13nm,1.0s
BBSI Bau Bau 41.63 144 P **P** **16 55 03.5 +0.5**
comp=Z,12nm,1.0s
MZR Muzera 41.68 272 P **P** **16 55 05.4 +2.0**
SNR=7.1
MZR Muzera 41.68 272 *i* P **P** **16 55 03.4 0.0**
SNR=12
TWSI Taliwang, Sumb 42.00 154 P **P** **16 55 06.3 +0.4**
comp=Z,9.0nm,1.1s
NLAI Namlea 42.27 137 P **P** **16 55 08.9 +0.7**
comp=Z,9.6nm,0.7s
DOK Doka 42.76 265 P **P** **16 55 12.2 0.0**
SIJI Sorong 43.07 130 P **P** **16 55 15.1 +0.3**
comp=Z,4.4nm,0.7s,baz=308,slow=19,SNR=4.7
comp=Z,4.4nm,0.7s
AAI Ambon 43.28 136 P **P** **16 55 16.7 +0.3**
comp=Z,21nm,1.1s
WHFO Wadi Hawf 43.36 265 P **P** **16 55 17.4 +0.3**
MSAI Masohi 43.46 135 P **P** **16 55 18.5 +0.7**
comp=Z,5.3nm,0.6s
BELG Belogornoye 43.87 316 *i* P **P** **16 55 21.1 +0.3**
BELG pmax pmax
comp=Z,14nm,1.1s
EDFI Ende, Flores 44.04 148 P **P** **16 55 22.3 -0.3**
comp=Z,8.8nm,1.2s
MMRI Maumere 44.19 147 P **P** **16 55 25.3 +1.6**
MMRI IAmb IAmb 16 55 27.8
comp=Z,66nm,1.5s
MMRI Maumere 44.19 147 P **P** **16 55 24.2 +0.5**
comp=Z,1µmcomp=Z,34nm,1.5s
KIRV Kirov 44.34 325 LR LR 17 15 22.5
comp=Z,560nm,20.9s,baz=37,slow=38
KIRV Kirov 44.34 325 *ce* P **P** **16 55 25.1 +0.7**
GROC Groznyy 44.44 303 *eP* **P** **16 55 26.8 +1.3**
GROC pmax pmax
comp=Z,217nm,1.1s
TIXI Tiksi 44.56 13 P **P** **16 55 25.8 -0.2**
comp=Z,2.9nm,0.4s,baz=270,slow=20,SNR=1.6
comp=Z,2.9nm,0.4s
TIXI Tiksi 44.56 13 *i* P **P** **16 55 27.7 +1.7**
TIXI pmax pmax
comp=Z,10.0nm,1.1s
MA2 Magadan 45.08 34 LR LR 17 15 45.2
comp=Z,347nm,18.9s,baz=252,slow=38
FAKI Fak Fak 45.24 131 P **P** **16 55 32.8 +0.6**
comp=Z,18nm,1.1s
GNI Garni 45.40 298 P **P** **16 55 32.5 -0.9**
GNI Garni 45.40 298 *ce* P **P** **16 55 34.1 +0.7**
GNI pmax pmax
comp=Z,62nm,1.0s
GNI Garni 45.40 298 P **P** **16 55 34.4 +1.0**
ZEI Tsey 45.84 302 *eP* **P** **16 55 37.5 +0.6**
ZEI pmax pmax
comp=Z,22nm,1.1s
ONI Oni 46.18 302 P **P** **16 55 39.7 +0.3**
ONI Oni 46.18 302 P **P** **16 55 39.7 +0.3**
ONI pmax pmax
comp=Z,73nm,1.3s
BATI Baumata 46.24 146 P **P** **16 55 38.9 -1.2**
comp=Z,32nm,1.0s,baz=323,slow=15,SNR=5.2
BATI LR LR 17 18 40.3
comp=Z,723nm,18.5s,baz=210,slow=41
comp=Z,32nm,1.0s
BATI Baumata 46.24 146 P **P** **16 55 38.6 -1.4**
comp=Z,18nm,0.9s
KBZ Khabaz 46.53 303 P **P** **16 55 41.6 -0.4**
comp=Z,6.5nm,0.8s,baz=91,slow=5.6,SNR=13
comp=Z,6.5nm,0.8s
KBZ Khabaz 46.53 303 *ce* P **P** **16 55 42.8 +0.8**
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KARS Kars 46.62 299 P **P** **16 55 41.9 -1.1**
KARS Kars 46.62 299 P **P** **16 55 41.9 -1.1**
KARS pmax pmax
comp=Z,146nm,1.0s
KIV Kislovodsk 46.67 304 P **P** **16 55 43.2 -0.1**
KIV Kislovodsk 46.67 304 *eP* **P** **16 55 44.3 +1.0**
KIV pmax pmax
comp=Z,71nm,1.1s
KIV Kislovodsk 46.67 304 *i* P **P** **16 55 43.8 +0.5**
SNR=19
SHA1 Shidzhatmaz 46.70 303 *i* P **P** **16 55 43.7 0.0**
GEVA Gevas 46.90 296 P **P** **16 55 45.4 +0.2**
GEVA IAmb IAmb 16 55 51.7
comp=Z,26nm,1.2s
PRGR Permogore 47.06 328 *eP* **P** **16 55 44.8 -1.1**
PRGR pmax pmax
comp=Z,27nm,0.9s
VRH Novokhopyorsk 47.38 314 *eP* **P** **16 55 47.7 -0.8**
VRH pmax pmax
comp=Z,40nm,1.0s
PEA0B Petropavlovsk- 47.60 44 P **P** **16 55 49.5 -0.7**
PEA0B IAmb IAmb 16 55 59.4
comp=Z,34nm,1.1s
PEA0B Petropavlovsk- 47.60 44 *i* P **P** **16 55 50.0 -0.2**
PETK Petropavlovsk- 47.60 44 P **P** **16 55 49.0 -1.2**
comp=Z,4.7nm,0.8s,baz=250,slow=6.8,SNR=6.0
comp=Z,4.7nm,0.8s
PETK Petropavlovsk- 47.60 44 P **P** **16 55 49.2 -1.0**
PETK Petropavlovsk- 47.60 44 P **P** **16 55 49.3 -1.0**
GURO Guroymak-BITLI 47.66 296 P **P** **16 55 50.5 -0.6**
RAYN Ar Rayn 48.40 276 P **P** **16 55 56.1 -0.8**
RAYN Ar Rayn 48.40 276 P **P** **16 55 56.1 -0.8**
RAYN pmax pmax
comp=Z,18nm,1.3s
RAYN Ar Rayn 48.40 276 P **P** **16 55 57.4 +0.4**
RAYN Ar Rayn 48.40 276 *i* P **P** **16 55 56.6 -0.3**
SNR=12
SAUI Saumlaki 48.54 136 P **P** **16 55 58.5 +0.6**
comp=Z,180nm,0.8s
KOPT Kop Dagi 48.65 299 P **P** **16 55 58.1 -0.8**
KOPT IAmb IAmb 16 56 13.7
comp=Z,16nm,0.9s
MARD Mardin 48.83 295 P **P** **16 55 58.9 -1.2**
VORR Voronezh 48.97 314 *eP* **P** **16 56 01.4 +0.6**
VORR pmax pmax
comp=Z,59nm,0.5s
VSR Storozhevoye 48.98 314 *eP* **P** **16 56 00.7 -0.2**
VSR pmax pmax
comp=Z,30nm,1.0s
SMPI Sarmi 49.05 123 P **P** **16 56 01.6 -0.2**
comp=Z,15nm,2.1s
LPSR Galich'ya Gora 49.18 315 *eP* **P** **16 56 02.3 -0.1**
LPSR pmax pmax
comp=Z,50nm,0.8s
KLMR Klimovskoe 49.75 326 *eP* **P** **16 56 05.8 -0.8**
KLMR *e* 16 58 02.3
KLMR pmax pmax
comp=Z,70nm,1.2s
KLMR Klimovskoe 49.75 326 *eP* **P** **16 56 05.8 -0.8**
KLMR AMP 16 56 11.9
comp=Z,70nm,1.2s
KLMR *e*PP **PP** **16 58 02.3 +1.2**
MOS Moscow 50.12 319 *eP* **P** **16 56 07.6 -1.9**
MOS *e*S **S** **17 03 19.8 -0.2**
MOS pmax pmax
comp=Z,127nm,1.3s
MOS pmax pmax
comp=Z,100nm,1.4s
ANN Anapa 50.37 305 *eP* **P** **16 56 10.7 -0.9**
ANN *e*S **S** **17 03 21.0 -2.8**
ANN pmax pmax
comp=Z,21nm,0.6s
GENI Genyem 50.52 123 P **P** **16 56 13.8 +0.8**
comp=Z,17nm,0.9s
OBN Obninsk 50.69 319 P **P** **16 56 13.0 -0.8**
OBN Obninsk 50.69 319 *eP* **P** **16 56 14.2 +0.4**
OBN *e* 16 58 11.0
OBN *e*SS **SS** **17 06 57.8 -4.1**
OBN pmax pmax
comp=Z,69nm,1.3s
OBN MLR MLR
comp=Z,601nm,19.0s
BNN Bunyan 52.39 298 P **P** **16 56 26.1 -0.9**
SIM Simferopol' 52.70 306 *eP* **P** **16 56 28.3 -0.7**
SIM *e* 16 58 30.1
SIM *e*PPP PPP 16 59 32.0
SIM *e*S **S** **17 03 48.2 -7.8**
SIM pmax pmax
comp=Z,52nm,1.0s
SIM pmax pmax
comp=Z,248nm,11.3s
SIM smax smax
comp=E,755nm,19.2s
SIM MLR MLR
comp=Z,486nm,19.5s
LVZ Lovozero 53.12 335 P **P** **16 56 30.8 -1.0**
LVZ Lovozero 53.12 335 P **P** **16 56 30.8 -1.0**
LVZ pmax pmax
comp=Z,17nm,1.0s
BZK Bozkurt 53.22 302 P **P** **16 56 30.8 -2.1**
KNRA Kununurra 53.45 144 P **P** **16 56 33.8 -1.0**
APA Apatity 53.53 334 *i* P **P** **16 56 31.9 -2.9**
APA pmax pmax
comp=Z,4.0nm,1.2s
APA MLR MLR
comp=Z,900nm,17.0s
ILGA Ilgaz 53.59 301 P **P** **16 56 34.7 -1.3**
BILL Bilibino 53.75 25 *ce* P **P** **16 56 38.9 +2.5**
BILL *e* 16 58 35.6
BILL *e*S **S** **17 04 11.4 +1.8**
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,559nm,14.0s
BR131 Keskin Array S 53.90 299 P **P** **16 56 37.6 -0.6**
BR131 IAmb IAmb 16 56 44.7
comp=Z,15nm,0.9s
BR131 Keskin Array S 53.90 299 P **P** **16 56 37.6 -0.6**
BR131 pmax pmax
comp=Z,15nm,0.9s
BRTR Keskin Array B 53.90 299 P **P** **16 56 37.9 -0.2**
comp=Z,5.7nm,0.8s,baz=116,slow=6.5,SNR=34
comp=Z,5.7nm,0.8s
BRTR Keskin Array B 53.90 299 P **P** **16 56 37.6 -0.6**
BRTR PcP **PcP** **16 57 43.3 -0.3**
BRTR Keskin Array B 53.90 299 P **P** **16 56 37.6 -0.6**
BRTR 16 57 43.3
FITZ Fitzroy Crossi 54.05 149 LR LR 17 22 36.6
comp=Z,198nm,18.7s,baz=86,slow=39
FITZ Fitzroy Crossi 54.05 149 P **P** **16 56 38.5 -0.6**
GHAJ Ghor Haditha 54.40 289 P **P** **16 56 40.8 -0.9**
GHAJ IAmb IAmb 16 56 47.2
comp=Z,22nm,1.0s
MBWA Marble Bar 54.48 157 P **P** **16 56 41.9 -0.3**
MBWA IAmb IAmb 16 57 43.5
comp=Z,48nm,1.6s
ANTO Ankara 54.51 300 P **P** **16 56 41.9 -0.6**
ANTO IAmb IAmb 16 56 47.5
comp=Z,33nm,0.9s
ANTO Ankara 54.51 300 P **P** **16 56 41.9 -0.6**
ANTO pmax pmax
comp=Z,33nm,0.9s
BR231 Keskin MP Arra 54.53 300 P **P** **16 56 41.4 -1.3**
BR231 IAmb IAmb 16 56 47.6
comp=Z,23nm,0.8s
PSA00 Pilbara Seismi 54.90 157 P **P** **16 56 44.7 -0.6**
PSA00 IAmb IAmb 16 56 54.2
comp=Z,16nm,1.0s
AKASG Malin Array Be 55.28 313 P **P** **16 56 47.5 -0.3**
comp=Z,7.2nm,0.8s,baz=69,slow=6.9,SNR=28
comp=Z,7.2nm,0.8s
AKASG Malin Array Be 55.28 313 P **P** **16 56 46.6 -1.2**
AKASG IAmb IAmb 16 56 53.4
comp=Z,23nm,0.9s
AKBB Malin Array Si 55.28 313 P **P** **16 56 47.0 -0.8**
AKBB IAmb IAmb 16 56 53.4
comp=Z,35nm,1.1s
AKBB Malin Array Si 55.28 313 P **P** **16 56 47.0 -0.8**
AKBB pmax pmax
comp=Z,35nm,1.1s
EIL Elat 55.39 287 LR LR 17 22 26.7
comp=Z,770nm,19.7s,baz=168,slow=38
MDUB Mudurnu 55.58 301 P **P** **16 56 48.9 -1.4**
ATD Arta Tunnel 55.65 263 P **P** **16 56 50.6 -0.4**
MILM Milestii Mici 56.08 309 *eP* **P** **16 56 56.0 +2.4**
MILM pmax pmax
comp=Z,32nm,0.8s
VSU Vasula 56.08 323 *eP* **P** **16 56 53.1 -0.2**
KEV Kevo 56.12 336 P **P** **16 56 52.7 -0.8**
KEV IAmb IAmb 16 56 57.6
comp=Z,21nm,0.9s
KEV Kevo 56.12 336 P **P** **16 56 52.7 -0.8**
KEV pmax pmax
comp=Z,21nm,0.9s
BORA Eskisehir 56.27 300 P **P** **16 56 53.9 -1.2**
BORA IAmb IAmb 16 57 00.9
comp=Z,14nm,0.9s
FIA1 FINESS Array S 56.28 326 P **P** **16 56 53.5 -1.3**
FIA1 IAmb IAmb 16 56 58.8
comp=Z,15nm,0.9s
FINES FINESS Array B 56.28 326 P **P** **16 56 54.8 0.0**
comp=Z,8.6nm,0.8s,baz=83,slow=7.9,SNR=25
comp=Z,8.6nm,0.8s
FINES FINESS Array B 56.28 326 P **P** **16 56 53.5 -1.3**
FINES FINESS Array B 56.28 326 *ce* P **P** **16 56 54.9 +0.1**
FINES pmax pmax
comp=Z,9.0nm,0.8s
NACGM Naroch 56.32 318 ⇓ *eP* **P** **16 56 59.2 +4.1**
baz=84
ARA0 ARCESS Array S 56.63 336 *eP* **P** **16 56 56.9 -0.3**
ARA0 IAmb IAmb 16 56 58.1
comp=Z,22nm,0.2s
ARCES ARCESS Array B 56.63 336 P **P** **16 56 56.6 -0.6**
comp=Z,10nm,0.8s,baz=87,slow=8.6,SNR=26
comp=Z,10nm,0.8s
ARCES ARCESS Array B 56.63 336 P **P** **16 56 56.0 -1.2**
ARCES IAmb IAmb 16 57 01.6
comp=Z,18nm,1.0s
TPGR Topolog 56.71 306 ⇓ P **P** **16 56 58.6 +0.4**
TIRR Tirgusor 56.79 306 ⇓ P **P** **16 56 59.1 +0.5**
TIRR Tirgusor 56.79 306 P **P** **16 56 58.1 -0.6**
TIRR IAmb IAmb 16 57 03.5
comp=Z,27nm,0.9s
TIRR Tirgusor 56.79 306 P **P** **16 56 58.1 -0.6**
TIRR pmax pmax
comp=Z,27nm,0.9s
CFR Carcaliu 56.85 307 ⇑ P **P** **16 56 59.5 +0.5**
PSN Preselentsi 57.11 305 P **P** **16 57 04.0 +3.0**
MEF Metsahovi 57.17 325 *eP* **P** **16 57 00.8 -0.3**
ICOR Ion Corvin 57.29 306 ⇓ P **P** **16 57 02.2 0.0**
HAMF Hammerfest 57.30 337 *eP* **P** **16 57 01.8 -0.2**
HAMF IAmb IAmb 16 57 02.6
comp=Z,22nm,0.8s
KTK1 Kautokeino 57.42 335 *eP* **P** **16 57 02.7 -0.1**
KTK1 IAmb IAmb 16 57 07.2
comp=Z,13nm,0.6s
ELL Elmali 57.44 297 P **P** **16 57 02.2 -1.4**
ELL Elmali 57.44 297 P **P** **16 57 02.2 -1.4**
ELL pmax pmax
comp=Z,141nm,1.0s
MTSE Matsula 57.59 323 *eP* **P** **16 57 04.0 0.0**
TESR Tescani 57.61 309 ⇑ P **P** **16 57 04.9 +0.4**
VRI Vrincioaia 57.69 308 ⇑ P **P** **16 57 06.4 +1.4**
PLOR Plostina 57.74 308 ⇓ P **P** **16 57 06.5 +1.1**
PABE Paberze 57.86 319 P **P** **16 57 04.6 -1.4**
PABE IAmb IAmb 16 57 11.8
comp=Z,71nm,1.7s
PABE Paberze 57.86 319 *eP* **P** **16 57 05.8 -0.2**
BIZ Bicaz 57.90 309 ⇑ P **P** **16 57 07.1 +0.6**
ISR Istrita 57.96 307 ⇑ P **P** **16 57 09.1 +2.0**
COVR Voineasa-Covas 58.05 308 ⇑ P **P** **16 57 08.3 +0.7**
OZUR 58.28 308 ⇓ P **P** **16 57 10.1 +0.8**
MLR Muntele Rosu 58.30 307 ⇑ P **P** **16 57 10.6 +1.1**
MLR Muntele Rosu 58.30 307 P **P** **16 57 09.4 -0.1**
MLR Muntele Rosu 58.30 307 P **P** **16 57 09.4 -0.1**
MLR pmax pmax
comp=Z,65nm,1.3s
BURAR Bucovina Array 58.36 310 ⇑ P **P** **16 57 10.1 +0.2**
BURAR Bucovina Array 58.36 310 P **P** **16 57 08.7 -1.1**
BURAR PcP **PcP** **16 58 00.4 -0.3**
BUR08 Bucovina Ar. S 58.37 310 P **P** **16 57 08.8 -1.1**
RAF Rauma 58.39 326 *eP* **P** **16 57 09.5 -0.2**
JETT Jettan, Norway 58.42 336 *eP* **P** **16 57 09.9 +0.1**
JETT IAmb IAmb 16 57 14.4
comp=Z,66nm,1.4s
DOPR Dopca 58.58 308 ⇓ P **P** **16 57 11.5 +0.2**
LVV L'vov 58.71 313 *eP* **P** **16 57 15.8 +3.7**
LVV *e*S **S** **17 05 16.9 +0.9**
LVV pmax pmax
comp=Z,80nm,1.4s
VOIR 58.92 308 ⇑ P **P** **16 57 14.0 +0.2**
TRO Tromso 58.94 336 *eP* **P** **16 57 13.0 -0.3**
ARR Arges 59.23 308 ⇑ P **P** **16 57 16.6 +0.8**
ALN Alexandroupoli 59.29 302 P **P** **16 57 14.1 -2.2**
ALN IAmb IAmb 16 57 21.6
comp=Z,19nm,1.1s
ALN Alexandroupoli 59.29 302 P **P** **16 57 14.1 -2.2**
ALN pmax pmax
comp=Z,19nm,1.1s
SPITS Spitsbergen Ar 59.41 346 LR LR 17 25 00.6
comp=Z,1µm,19.3s,baz=142,slow=38
SPITS Spitsbergen Ar 59.41 346 P **P** **16 57 15.6 -1.0**
SPITS pmax pmax
comp=Z,135nm,1.9s
KDZ Kurdzhali 59.56 303 P **P** **16 57 18.5 +0.3**
KWP Kalwaria Pacla 59.59 313 *eP* **P** **16 57 19.0 +0.8**
KWP Kalwaria Pacla 59.59 313 P **P** **16 57 17.0 -1.2**
KWP Kalwaria Pacla 59.59 313 P **P** **16 57 17.0 -1.2**
KWP pmax pmax
comp=Z,590nm,1.1s
WB0 Warramunga Arr 59.79 142 P **P** **16 57 19.4 -0.5**
LOT Lotru 59.80 308 ⇑ P **P** **16 57 20.4 +0.5**
WRAB Tennant Creek 59.90 142 P **P** **16 57 19.9 -0.7**
WRAB Tennant Creek 59.90 142 *ce* P **P** **16 57 21.0 +0.4**
WRAB pmax pmax
comp=Z,43nm,1.0s
WRA Warramunga Arr 59.90 142 P **P** **16 57 20.6 0.0**
comp=Z,17nm,0.5s,baz=330,slow=7.6,SNR=385
comp=Z,17nm,0.5s
WRA Warramunga Arr 59.90 142 P **P** **16 57 20.2 -0.4**
WB2 Warramunga Arr 59.91 142 P **P** **16 57 20.2 -0.5**
KARP Karpathos 59.91 296 P **P** **16 57 19.2 -1.5**
KOLS Kolonicke sedl 60.02 312 *eP* P **16 57 26.4 +5.2**
KOLS pmax pmax
comp=Z,11nm,0.9s
KOLS Kolonicke sedl 60.02 312 *eP* P **16 57 26.3 +5.1**
TRPA Tarpa 60.02 311 ⇓ P **P** **16 57 22.5 +1.4**
TRPA Tarpa 60.02 311 P **P** **16 57 23.2 +2.1**
WR0 Warramunga Arr 60.02 142 P **P** **16 57 21.4 0.0**
WR0 IAmb IAmb 16 57 26.2
comp=Z,38nm,1.3s
UZH Uzhgorod 60.07 312 *eP* **P** **16 57 24.5 +3.0**
UZH *e* 16 57 30.4
PMG Port Moresby 60.21 123 P **P** **16 57 22.1 -0.8**
comp=Z,20nm,0.8s,baz=337,slow=3.7,SNR=5.3
comp=Z,20nm,0.8s
PMG Port Moresby 60.21 123 P **P** **16 57 22.6 -0.3**
PMG IAmb IAmb 16 57 24.5
comp=Z,27nm,1.0s
PMG Port Moresby 60.21 123 *ce* P **P** **16 57 24.2 +1.3**
PMG pmax pmax
comp=Z,30nm,1.3s
STEI Steigen 60.42 334 *eP* **P** **16 57 22.8 -0.8**
FAUS Fauske 60.48 334 *eP* **P** **16 57 23.3 -0.7**
FAUS IAmb IAmb 16 57 24.0
comp=Z,11nm,0.7s
CRVS Cervenica-Dubn 60.55 312 *eP* P **16 57 30.6 +5.8**
CRVS pmax pmax
comp=Z,21nm,1.1s
CRVS Cervenica-Dubn 60.55 312 *eP* P **16 57 30.6 +5.8**
COEN Coen 60.62 130 P **P** **16 57 24.9 -0.7**
COEN IAmb IAmb 16 57 27.0
comp=Z,12nm,0.8s
KRVT Keravat (AS076 60.63 115 P **P** **16 57 26.4 +0.7**
comp=Z,23nm,0.9s,baz=282,slow=9.3,SNR=5.0
comp=Z,23nm,0.9s
MORW Morawa 60.86 164 P **P** **16 57 26.9 -0.1**
VTS Vitosha 60.88 305 ⇓ P **P** **16 57 27.3 -0.1**
VTS Vitosha 60.88 305 P **P** **16 57 26.0 -1.3**
VTS IAmb IAmb 16 57 34.0
comp=Z,15nm,1.0s
VTS Vitosha 60.88 305 P **P** **16 57 26.0 -1.3**
VTS pmax pmax
comp=Z,15nm,1.0s
VTS Vitosha 60.88 305 P **P** **16 57 28.0 +0.7**
MOR8 Moi Rana 60.99 332 *eP* **P** **16 57 26.1 -1.4**
MOR8 IAmb IAmb 16 57 27.3
comp=Z,14nm,0.7s
SANT Santorini 60.99 297 P **P** **16 57 26.8 -1.3**
BLKB Belogradchik 61.01 306 ⇑ P **P** **16 57 28.8 +0.8**
LOF Lofoten 61.03 335 *eP* **P** **16 57 26.3 -1.4**
LOF IAmb IAmb 16 57 30.6
comp=Z,18nm,0.8s
SIRR Siria 61.04 309 ⇑ P **P** **16 57 29.3 +1.1**
NIE Niedzica 61.17 313 *eP* **P** **16 57 30.1 +1.1**
OJC Ojcow 61.30 314 *eP* **P** **16 57 29.2 -0.7**
OJC Ojcow 61.30 314 P **P** **16 57 28.9 -1.0**
OJC Ojcow 61.30 314 P **P** **16 57 28.9 -1.0**
OJC pmax pmax
comp=Z,65nm,1.7s
MDVR Moldovita 61.38 307 ⇑ P **P** **16 57 31.2 +0.7**
BOVS Bovan 61.68 306 ⇑ P **P** **16 57 32.6 0.0**
PSZ Piszkesteto 61.79 311 P **P** **16 57 36.1 +2.7**
LIT Litokhoron 62.12 302 P **P** **16 57 34.4 -1.2**
LIT Litokhoron 62.12 302 P **P** **16 57 34.4 -1.2**
NSS Namsos 62.31 331 *eP* **P** **16 57 35.5 -0.9**
VYHS Vyhne 62.33 312 *eP* **P** **16 57 40.2 +3.3**
VYHS pmax pmax
comp=Z,14nm,1.1s
VYHS Vyhne 62.33 312 *eP* **P** **16 57 40.2 +3.3**

FRGS	**Fruska Gora**	**62.58 308**	⇓P		**P**	**16 57 37.8**	**-0.8**
AS31	**Alice Springs**	**62.75 145**	P		**P**	**16 57 38.3**	**-1.6**
DIVS	**Divibare**	**62.75 307**	P		**P**	**16 57 38.4**	**-1.5**
DIVS			IAmb		IAmb	16 57 46.0	
	comp=Z,20nm,1.1s						
ASAR	**Alice Springs**	**62.75 145**	P		**P**	**16 57 39.9**	**0.0**
	comp=Z,2.0nm,0.5s,baz=326,slow=6.6,SNR=78						
ASAR			PKP2bc		**P'P'bc**	**17 26 47.9**	**+2.9**
	comp=Z,0.8nm,1.0s,baz=147,slow=3.1,SNR=4.5						
ASAR			LR		LR	17 27 00.8	
	comp=Z,296nm,18.4s,baz=318,slow=38						
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**62.75 145**	P		**P**	**16 57 39.2**	**-0.7**
MORC	**Moravsky Berou**	**62.82 314**	⇓P		**P**	**16 57 41.0**	**+0.8**
MORC	**Moravsky Berou**	**62.82 314**	P		**P**	**16 57 38.8**	**-1.4**
MORC	**Moravsky Berou**	**62.82 314**	*eP*		**P**	**16 57 40.3**	**+0.1**
MORC	**Moravsky Berou**	**62.82 314**	P		**P**	**16 57 38.8**	**-1.4**
MORC			pmax		pmax		
	comp=Z,48nm,1.0s						
JAVC	**Velka Javorina**	**62.98 313**	*eP*		**P**	**16 57 43.3**	**+2.0**
CSKK	**Cskako**	**63.01 311**	P		**P**	**16 57 42.1**	**+0.7**
MORH	**Mrgy, Hungar**	**63.07 310**	⇓P		**P**	**16 57 42.4**	**+0.6**
MORH	**Mrgy, Hungar**	**63.07 310**	P		**P**	**16 57 42.5**	**+0.7**
NC405	**NORSAR Array S**	**63.19 327**	P		**P**	**16 57 41.3**	**-1.0**
KBN	**Korca**	**63.20 303**	P		**P**	**16 57 41.1**	**-1.8**
KBN	**Korca**	**63.20 303**	P		**P**	**16 57 41.1**	**-1.8**
KBN			pmax		pmax		
	comp=Z,48nm,1.2s						
KRLC	**Kraliky**	**63.21 314**	*eP*		**P**	**16 57 43.4**	**+0.6**
KRLC	**Kraliky**	**63.21 314**	*eP*		**P**	**16 57 43.4**	**+0.6**
SMOL	**Smolenice**	**63.23 312**	*eP*		**P**	**16 57 47.1**	**+4.2**
SMOL			pmax		pmax		
	comp=Z,5.0nm,1.1s						
KSP	**Ksiaz**	**63.31 315**	*eP*		**P**	**16 57 46.5**	**+3.2**
MODS	**Modra-Piesok**	**63.36 312**	*eP*		**P**	**16 57 48.1**	**+4.3**
MODS			pmax		pmax		
	comp=Z,25nm,1.2s						
MODS	**Modra-Piesok**	**63.36 312**	*eP*		**P**	**16 57 48.0**	**+4.3**
NC602	**NORSAR Array S**	**63.36 327**	P		**P**	**16 57 41.9**	**-1.6**
NC602			IAmb		IAmb	16 57 54.0	
	comp=Z,22nm,1.0s						
NC602	**NORSAR Array S**	**63.36 327**	*eP*		**P**	**16 57 42.8**	**-0.7**
NB201	**NORSAR Array S**	**63.40 327**	P		**P**	**16 57 41.9**	**-1.9**
DPC	**Dobruska-Polom**	**63.42 315**	*eP*		**P**	**16 57 45.1**	**+0.9**
DPC	**Dobruska-Polom**	**63.42 315**	*eP*		**P**	**16 57 45.1**	**+0.9**
OSTC	**Ostas**	**63.43 315**	*eP*		**P**	**16 57 45.1**	**+0.9**
OSTC			*ex*		x	16 57 48.8	
NB2	**NORSAR Subarra**	**63.44 327**	P		**P**	**16 57 42.9**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=74,slow=6.9						
NB2	**NORSAR Subarra**	**63.44 327**	P		**P**	**16 57 42.9**	**-1.2**
	baz=74,slow=6.9						
NOA	**NORSAR Array B**	**63.44 327**	P		**P**	**16 57 42.9**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=76,slow=6.6,SNR=27						
NOA			PP		**PP**	**16 59 59.8**	**-3.5**
	comp=Z,0.5nm,0.7s,baz=78,slow=9.5,SNR=3.5						
NOA			LR		LR	17 26 41.5	
	comp=Z,349nm,20.6s,baz=185,slow=37						
	comp=Z,3.9nm,0.8s						
KOVH	**Kovagotottos**	**63.47 310**	P		**P**	**16 57 44.4**	**0.0**
CHVC	**Chvalec**	**63.52 315**	*eP*		**P**	**16 57 45.4**	**+0.6**
MPLH	**Magyarpolny**	**63.53 311**	P		**P**	**16 57 45.1**	**+0.2**
VRAC	**Vranov**	**63.54 313**	*eP*		**P**	**16 57 45.5**	**+0.6**
UPC	**Upice**	**63.57 315**	*eP*		**P**	**16 57 46.6**	**+1.5**
UPC	**Upice**	**63.57 315**	*eP*		**P**	**16 57 46.6**	**+1.5**
NC204	**NORSAR Array S**	**63.59 327**	P		**P**	**16 57 43.5**	**-1.6**
KRUC	**Moravsky**	**63.73 313**	*eP*		**P**	**16 57 47.0**	**+0.8**
PDG	**Podgorica**	**63.75 306**	P		**P**	**16 57 45.4**	**-1.0**
PDG			IAmb		IAmb	16 57 50.3	
	comp=Z,14nm,0.8s						
SOP	**Sopron**	**64.02 312**	P		**P**	**16 57 49.3**	**+1.2**
RONA	**Rosalia, Austr**	**64.19 312**	*eP*		**P**	**16 57 49.7**	**+0.5**
	comp=Z,4.3nm,0.9s						
CONA	**Conrad Observa**	**64.40 312**	*i* P		**P**	**16 57 51.3**	**+0.6**
	comp=Z,7.0nm,0.8s,SNR=13						
GOPC	**GO Pecny, Ondr**	**64.49 314**	*eP*		**P**	**16 57 52.8**	**+1.6**
GOPC	**GO Pecny, Ondr**	**64.49 314**	*eP*		**P**	**16 57 52.8**	**+1.6**
KONO	**Kongsberg**	**64.59 326**	*eP*		**P**	**16 57 51.1**	**-0.5**
PRU	**Pruhonice**	**64.62 315**	*eP*		**P**	**16 57 52.7**	**+0.7**
PRU	**Pruhonice**	**64.62 315**	*eP*		**P**	**16 57 52.7**	**+0.7**
BRG	**Berggiesshubel**	**64.73 316**	Amp			16 58 14.5	
	comp=Z,5.1nm,0.8s						
BRG	**Berggiesshubel**	**64.73 316**	*eP*		**P**	**16 57 53.1**	**+0.5**
BRG			pmax		pmax		
	comp=Z,7.0nm,1.0s						
BRG	**Berggiesshubel**	**64.73 316**	*eP*		**P**	**16 57 53.2**	**+0.5**
BRG	**Berggiesshubel**	**64.73 316**	Amp			16 57 54.5	
	comp=Z,7.2nm,0.9s						
BRG	**Berggiesshubel**	**64.73 316**	*ex*		x	16 58 12.2	
ARSA	**Arzberg**	**64.82 312**	*eP*		**P**	**16 57 53.7**	**+0.3**
	comp=Z,8.5nm,1.0s						
NWAO	**Narrogin (SRO)**	**64.84 164**	LR		LR	17 25 15.0	
	comp=Z,312nm,21.6s,baz=187,slow=35						
SKAR	**Skarslia**	**64.91 327**	*eP*		**P**	**16 57 50.8**	**-2.9**
CKRC	**Cesky Krumlov**	**65.12 313**	*eP*		**P**	**16 57 56.4**	**+1.1**
CLL	**Collm**	**65.17 316**	P		**P**	**16 57 54.8**	**-0.7**
CLL			IAmb		IAmb	16 58 00.3	
	comp=Z,24nm,1.5s						
CLL	**Collm**	**65.17 316**	*i* P		**P**	**16 57 55.0**	**-0.5**
CLL			pmax		pmax		
	comp=Z,27nm,1.6s						
CLL	**Collm**	**65.17 316**	*i* P		**P**	**16 57 55.0**	**-0.5**
	comp=Z,6.0nm,0.9s						
CLL			*i* Pmax			16 57 58.3	
	comp=Z,27nm,1.6s						
CLL			*ex*		x	16 58 16.0	
CLL			*e*PP		**PP**	**17 00 13.0**	**-5.6**
SOKA	**Soboth**	**65.32 311**	*i* P		**P**	**16 57 56.9**	**+0.2**
	comp=Z,4.3nm,0.8s,SNR=5.4						
MOA	**Molln**	**65.45 312**	*eP*		**P**	**16 57 57.8**	**+0.4**
	comp=Z,3.9nm,0.8s						
KHC	**Kasperske Hory**	**65.48 314**	*eP*		**P**	**16 57 57.6**	**0.0**
KHC	**Kasperske Hory**	**65.48 314**	*eP*		**P**	**16 57 57.6**	**0.0**
KHC			*ex*		x	16 58 18.6	
GEC2	**GERESS Array S**	**65.49 314**	P		**P**	**16 57 56.9**	**-0.9**
GEC2			IAmb		IAmb	16 58 03.0	
	comp=Z,33nm,1.8s						
GERES	**GERESS Array B**	**65.49 314**	P		**P**	**16 57 58.2**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=76,slow=7.0,SNR=23						
	comp=Z,2.7nm,0.7s						
GERES	**GERESS Array B**	**65.49 314**	P		**P**	**16 57 56.8**	**-1.0**
OBKA	**Obir**	**65.69 311**	*eP*		**P**	**16 57 58.5**	**-0.6**
	comp=Z,5.4nm,0.9s						
BIOA	**Bad Ischl, Aus**	**65.90 312**	*eP*		**P**	**16 58 01.1**	**+0.8**
	comp=Z,4.6nm,0.8s						
LODK	**Lodwar**	**66.11 260**	P		**P**	**16 58 00.7**	**-1.6**
KBA	**Koelnbreinsper**	**66.29 312**	*eP*		**P**	**16 58 03.1**	**+0.1**
	comp=Z,11nm,1.2s						
GRA1	**Grafenberg Arr**	**66.76 315**	P		**P**	**16 58 04.8**	**-1.0**
GRA1			IAmb		IAmb	16 58 14.5	
	comp=Z,20nm,1.0s						
GRF	**Grafenberg Arr**	**66.76 315**	P		**P**	**16 58 04.8**	**-1.0**
GRF			pmax		pmax		
	comp=Z,20nm,1.0s						
GRFO	**Grafenberg**	**66.76 315**	P		**P**	**16 58 05.4**	**-0.4**
GRFO			IAmb		IAmb	16 58 14.5	
	comp=Z,16nm,1.0s						
GRFO	**Grafenberg**	**66.76 315**	P		**P**	**16 58 05.4**	**-0.4**
GRFO			pmax		pmax		
	comp=Z,15nm,1.0s						
CLUD	**Cludinico**	**66.79 311**	P		**P**	**16 58 04.6**	**-1.5**
CLUD			IAmb		IAmb	16 58 10.8	
	comp=Z,26nm,1.6s						
KMBO	**Kilima Mbogo**	**66.93 254**	P		**P**	**16 58 07.3**	**-0.4**
	comp=Z,12nm,0.9s,baz=45,slow=10,SNR=21						
	comp=Z,12nm,0.9s						
KMBO	**Kilima Mbogo**	**66.93 254**	P		**P**	**16 58 05.7**	**-1.9**
KMBO			IAmb		IAmb	16 58 12.5	
	comp=Z,15nm,0.9s						
KMBO	**Kilima Mbogo**	**66.93 254**	*ce*P		**P**	**16 58 08.1**	**+0.4**
KMBO			pmax		pmax		
	comp=Z,13nm,0.9s						
KMBO	**Kilima Mbogo**	**66.93 254**	P		**P**	**16 58 08.8**	**+1.1**
KMBO	**Kilima Mbogo**	**66.93 254**	*i* P		**P**	**16 58 07.3**	**-0.4**
	SNR=13						
ABTA	**Abfaltersbach**	**66.93 312**	*eP*		**P**	**16 58 06.5**	**-0.6**
	comp=Z,3.5nm,0.7s						
KIBK	**Kibwezi**	**66.94 253**	P		**P**	**16 58 07.3**	**-0.2**
STAL	**STALIGIAL**	**66.97 311**	P		**P**	**16 58 05.8**	**-1.4**
STAL			IAmb		IAmb	16 58 09.9	
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**67.08 132**	LR		LR	17 30 58.8	
	comp=Z,162nm,18.1s,baz=288,slow=39						
CTAO	**Charters Tower**	**67.08 132**	P		**P**	**16 58 07.8**	**-0.3**
CTAO			IAmb		IAmb	16 58 12.4	
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**67.08 132**	P		**P**	**16 58 07.8**	**-0.3**
CTAO			pmax		pmax		
	comp=Z,14nm,1.0s						
CIMO	**Cimolais**	**67.13 311**	P		**P**	**16 58 07.2**	**-1.1**
CIMO			IAmb		IAmb	16 58 13.0	
	comp=Z,9.6nm,1.0s						
WTTA	**Wattenberg**	**67.32 312**	*eP*		**P**	**16 58 09.3**	**-0.3**
	comp=Z,6.6nm,1.0s						
WATA	**Walderalm**	**67.33 313**	*eP*		**P**	**16 58 10.7**	**+1.0**
	comp=Z,11nm,1.1s						
SQTA	**Sankt Quirin**	**67.61 313**	*i* P		**P**	**16 58 11.4**	**0.0**
	comp=Z,9.6nm,0.8s,SNR=7.2						
MOTA	**Moosalm**	**67.63 313**	*eP*		**P**	**16 58 11.5**	**-0.1**
	comp=Z,10nm,0.9s						
RETA	**Reutte**	**67.80 313**	*eP*		**P**	**16 58 13.5**	**+0.9**
	comp=Z,2.6nm,0.6s						
FDMO	**Fiordimonte**	**67.84 308**	P		**P**	**16 58 11.7**	**-1.1**
FDMO			IAmb		IAmb	16 58 19.1	
	comp=Z,15nm,1.0s						
FETA	**Feichten**	**67.99 312**	*i* P		**P**	**16 58 13.7**	**-0.1**
	comp=Z,8.7nm,0.8s,SNR=10						
MURB	**Monte Urbino**	**68.14 308**	P		**P**	**16 58 14.0**	**-0.8**
C23K	**Itkillik River**	**68.52 21**	P		**P**	**16 58 16.9**	**+0.4**
	baz=299						
DAVOX	**Davos/Dischmat**	**68.62 312**	LR		LR	17 30 20.8	
	comp=Z,244nm,19.0s,baz=66,slow=38						
ZCCA	**Zocca**	**68.79 310**	P		**P**	**16 58 17.8**	**-1.0**
ZCCA			IAmb		IAmb	16 58 30.7	
	comp=Z,42nm,1.4s						
F21K	**Alatna River**	**68.82 24**	P		**P**	**16 58 18.0**	**-0.5**
	baz=297						
OSSC	**Osservatorio P**	**68.92 309**	P		**P**	**16 58 18.5**	**-1.0**
OSSC			IAmb		IAmb	16 58 23.3	
	comp=Z,41nm,1.8s						
D23K	**Nanushuk River**	**68.92 21**	P		**P**	**16 58 19.5**	**+0.4**
	baz=299						
E22K	**Anaktuvuk Pass**	**68.96 22**	P		**P**	**16 58 19.4**	**0.0**
	baz=298						
BFO	**Black Forest**	**69.02 314**	P		**P**	**16 58 19.6**	**-0.4**
BFO			IAmb		IAmb	16 58 24.9	
	comp=Z,38nm,1.8s						
BFO	**Black Forest**	**69.02 314**	P		**P**	**16 58 19.7**	**-0.4**
BFO			pmax		pmax		
	comp=Z,38nm,1.8s						
F22K	**John River**	**69.13 23**	P		**P**	**16 58 20.8**	**+0.4**
	baz=298						
G21K	**Allakaket**	**69.14 24**	P		**P**	**16 58 20.2**	**-0.3**
	baz=297						
D24K	**Happy Valley**	**69.41 21**	P		**P**	**16 58 21.8**	**-0.2**
	baz=301						
TOLK	**Toolik Lake Re**	**69.43 21**	P		**P**	**16 58 21.5**	**-0.8**
TOLK	**Toolik Lake Re**	**69.43 21**	P		**P**	**16 58 22.4**	**+0.1**
	baz=300						
BTNL	**Ternell**	**69.50 317**	*d*P		**P**	**16 58 25.7**	**+2.8**
G22K	**Bettles**	**69.64 23**	P		**P**	**16 58 22.9**	**-0.7**
	baz=299						
H21K	**Melozitna Rive**	**69.79 25**	P		**P**	**16 58 23.8**	**-0.8**
H21K			IAmb		IAmb	16 58 40.9	
	comp=Z,23nm,1.5s						
H21K	**Melozitna Rive**	**69.79 25**	P		**P**	**16 58 24.6**	**+0.1**
	baz=298						
WLF	**Walferdange**	**69.84 316**	P		**P**	**16 58 24.3**	**-0.8**
WLF	**Walferdange**	**69.84 316**	P		**P**	**16 58 24.3**	**-0.8**
WLF			pmax		pmax		
	comp=Z,152nm,1.2s						
HNR	**Honiara**	**69.97 114**	LR		LR	17 25 44.9	
	comp=Z,3μm,21.7s,baz=250,slow=33						
J20K	**Nowinta River**	**69.98 27**	P		**P**	**16 58 24.8**	**-0.9**
J20K			IAmb		IAmb	16 58 26.2	
	comp=Z,31nm,1.6s						
J20K	**Nowinta River**	**69.98 27**	P		**P**	**16 58 26.2**	**+0.5**
	baz=298						
BCLA	**Clavier**	**70.05 317**	*d*P		**P**	**16 58 26.0**	**-0.3**
BCLA			*d*PcP		**PcP**	**16 58 46.6**	**-1.8**
E24K	**Your Creek**	**70.07 22**	P		**P**	**16 58 26.3**	**0.0**
	baz=301						
RCHB	**Rochefort**	**70.20 317**	*d*P		**P**	**16 58 29.6**	**+2.3**
G23K	**Bananza Creek**	**70.26 23**	P		**P**	**16 58 27.4**	**0.0**
	baz=300						
I21K	**Tanana**	**70.32 25**	P		**P**	**16 58 28.1**	**+0.3**
	baz=299						
BMRD	**Maredsous**	**70.41 317**	*d*P		**P**	**16 58 28.7**	**+0.1**
SENIN	**Lac Senin/Sane**	**70.42 313**	P		**P**	**16 58 28.3**	**-0.7**
DOU	**Dourbes**	**70.59 317**	*d*P		**P**	**16 58 30.3**	**+0.6**
DOU			*d*PcP		**PcP**	**16 58 48.7**	**-2.1**
L19K	**White Mountain**	**70.63 29**	P		**P**	**16 58 28.8**	**-0.9**
C27K	**Jago River**	**70.68 19**	P		**P**	**16 58 30.4**	**+0.5**
	baz=305						
MLY	**Manley**	**70.86 25**	P		**P**	**16 58 29.8**	**-1.3**
MLY	**Manley**	**70.86 25**	P		**P**	**16 58 31.4**	**+0.3**
	baz=300						
H23K	**Yukon River**	**70.88 24**	P		**P**	**16 58 30.2**	**-1.0**
H23K			IAmb		IAmb	16 58 41.5	
	comp=Z,28nm,1.5s						
BPAW	**Bear Paw Mtn.**	**71.23 26**	P		**P**	**16 58 33.3**	**-0.1**
	baz=300						
F25K	**Christian Rive**	**71.24 22**	P		**P**	**16 58 34.1**	**+0.7**
	baz=304						
BNI	**Bardonecchia**	**71.34 312**	P		**P**	**16 58 32.9**	**-1.6**
BNI			IAmb		IAmb	16 58 38.7	
	comp=Z,24nm,1.4s						
BNI	**Bardonecchia**	**71.34 312**	P		**P**	**16 58 32.9**	**-1.6**
BNI			pmax		pmax		
	comp=Z,24nm,1.4s						
M20K	**Styx River**	**71.49 29**	P		**P**	**16 58 35.6**	**+0.5**
	baz=299						
BMAR	**Burnt Mountain**	**71.67 21**	P		**P**	**16 58 35.3**	**-0.7**
NEA2	**Nenana**	**71.69 25**	P		**P**	**16 58 34.8**	**-1.4**
NEA2			IAmb		IAmb	16 58 39.4	
	comp=Z,34nm,1.5s						
MDM	**Murphy Dome**	**71.81 25**	P		**P**	**16 58 35.4**	**-1.4**
MDM			IAmb		IAmb	16 58 41.2	
	comp=Z,63nm,1.8s						
MBAR	**Mbarara**	**72.14 259**	P		**P**	**16 58 38.5**	**-1.3**
MBAR	**Mbarara**	**72.14 259**	*ce*P		**P**	**16 58 40.7**	**+0.9**
MBAR			pmax		pmax		
	comp=Z,14nm,1.3s						
E27K	**Coleen River**	**72.14 20**	P		**P**	**16 58 39.0**	**+0.2**
	baz=307						
G26K	**Porcupine Rive**	**72.20 22**	P		**P**	**16 58 39.6**	**+0.6**
	baz=306						
RSO	**Redoubt South**	**72.35 30**	P		**P**	**16 58 39.2**	**-1.2**
ILAR	**Eielson Array**	**72.39 24**	P		**P**	**16 58 39.5**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=316,slow=4.4,SNR=9.6						
ILAR			LR		LR	17 34 11.1	
	comp=Z,619nm,19.9s,baz=72,slow=39						
	comp=Z,1.2nm,0.9s						
PRP	**Porcupine Dome**	**72.45 23**	P		**P**	**16 58 39.3**	**-1.5**
PRP			IAmb		IAmb	16 58 46.3	
	comp=Z,26nm,1.4s						
EKA	**Eskdalemuir Ar**	**72.58 324**	LR		LR	17 30 31.9	
	comp=Z,589nm,18.4s,baz=72,slow=36						
SSB	**Saint Sauveur**	**72.62 313**	P		**P**	**16 58 40.6**	**-1.5**
SSB	**Saint Sauveur**	**72.62 313**	P		**P**	**16 58 40.6**	**-1.5**
SSB			pmax		pmax		
	comp=Z,6.0nm,0.9s						
G27K	**Doyon Strip**	**72.96 21**	P		**P**	**16 58 44.0**	**+0.4**
	baz=307						
J25K	**Salcha River,**	**73.02 24**	P		**P**	**16 58 42.4**	**-1.7**
	baz=305						
K24K	**Donnelly Dome**	**73.33 25**	P		**P**	**16 58 45.0**	**-0.9**
	baz=305						
STKA	**Stephens Creek**	**73.35 144**	P		**P**	**16 58 46.1**	**-0.3**
	comp=Z,3.2nm,1.0s,baz=335,slow=5.2,SNR=4.0						
STKA			LR		LR	17 34 51.9	
	comp=Z,198nm,18.1s,baz=328,slow=39						
	comp=Z,3.2nm,1.0s						
H27K	**Steamboat Moun**	**73.36 22**	P		**P**	**16 58 46.7**	**+0.7**
	baz=308						
SML	**Sawmill**	**73.47 27**	P		**P**	**16 58 45.6**	**-1.2**
I27K	**Kandik River**	**73.71 22**	P		**P**	**16 58 48.7**	**+0.5**
	baz=308						
J26L	**Joseph Creek**	**73.72 24**	P		**P**	**16 58 47.0**	**-1.2**
J26L			IAmb		IAmb	16 59 26.1	
	comp=Z,27nm,1.6s						
KDAK	**Kodiak Island**	**73.78 32**	LR		LR	17 31 55.6	
	comp=Z,540nm,21.2s,baz=132,slow=36						
EIDS	**Eidsvold**	**73.95 133**	P		**P**	**16 58 50.5**	**+0.5**
INK	**Inuvik**	**74.35 18**	P		**P**	**16 58 51.0**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=296,slow=7.3,SNR=1.5						
	comp=Z,1.6nm,0.3s						
INK	**Inuvik**	**74.35 18**	P		**P**	**16 58 51.0**	**-0.7**
INK	**Inuvik**	**74.35 18**	P		**P**	**16 58 51.3**	**-0.4**
	baz=314						
KLU	**Klutina**	**74.60 27**	P		**P**	**16 58 52.4**	**-1.1**
KLU			IAmb		IAmb	16 58 57.2	
	comp=Z,14nm,1.2s						
KLU	**Klutina**	**74.60 27**	P		**P**	**16 58 53.4**	**0.0**
	baz=305						
SFJD	**Kangerlussuaq**	**80.64 349**	LR		LR	17 39 00.5	
	comp=Z,497nm,19.8s,baz=52,slow=39						
ESDC	**Sonseca Array**	**80.82 311**	P		**P**	**16 59 28.6**	**+0.1**
	comp=Z,5.4nm,1.1s,baz=44,slow=5.3,SNR=14						
	comp=Z,5.4nm,1.1s						
ESDC	**Sonseca Array**	**80.82 311**	P		**P**	**16 59 28.0**	**-0.4**
DZM	**Mont Dzumac**	**82.50 121**	P		**P**	**16 59 38.8**	**+1.3**
	comp=Z,2.8nm,1.0s,baz=69,slow=8.6,SNR=3.0						
DZM			LR		LR	17 34 13.4	
	comp=Z,176nm,20.0s,baz=349,slow=34						
	comp=Z,2.8nm,1.0s						
YKA	**Yellowknife Ar**	**83.75 15**	P		**P**	**16 59 42.3**	**-1.0**
	comp=Z,3.5nm,0.8s,baz=330,slow=6.1,SNR=4.0						
	comp=Z,3.5nm,0.8s						
POGA	**Pongola**	**86.46 236**	P		**P**	**16 59 56.7**	**-0.7**
MSVF	**Nonsavu**	**89.13 111**	LR		LR	17 33 08.2	
	comp=Z,154nm,21.5s,baz=343,slow=31						
TOA0	**Torodi Ar. Sit**	**90.24 285**	P		**P**	**17 00 14.5**	**-1.2**
TOA0			IAmb		IAmb	17 00 20.7	
	comp=Z,22nm,1.1s						
TORD	**Torodi Ar. Bea**	**90.24 285**	P		**P**	**17 00 15.8**	**+0.1**
	comp=Z,19nm,1.1s,baz=49,slow=4.6,SNR=54						
TORD			PP		**PP**	**17 03 48.7**	**-0.8**
	comp=Z,4.3nm,1.1s,baz=59,slow=7.2,SNR=5.9						
	comp=Z,19nm,1.1s						
TORD	**Torodi Ar. Bea**	**90.24 285**	P		**P**	**17 00 12.4**	**-3.4**
TORD			IAmb		IAmb	17 00 20.7	
	comp=Z,18nm,1.1s						
LLLB	**Lillooet**	**91.67 25**	P		**P**	**17 00 21.2**	**-0.6**
LLLB			IAmb		IAmb	17 00 34.3	
	comp=Z,18nm,1.4s						
KOWA	**Kowa**	**94.26 289**	P		**P**	**17 00 33.4**	**-0.9**
TXAR	**Lajitas Array**	**116.88 23**	PKKPbc		PKKPbc	17 16 23.8	-1.6
	comp=Z,0.7nm,0.9s,baz=158,slow=7.6,SNR=4.8						
TROLL	**Troll, Antarti**	**120.48 201**	PKPdf		**PKPdf**	**17 06 04.1**	**-1.1**
SNAA	**Sanae**	**122.16 201**	PKPdf		**PKPdf**	**17 06 07.1**	**-1.3**
VNA2	**Neumayer--Watz**	**123.67 202**	PKPdf		**PKPdf**	**17 06 09.7**	**-1.6**
	baz=49,slow=3.0						
VNA1	**Neumayer--Stat**	**123.98 202**	PKPdf		**PKPdf**	**17 06 11.3**	**-0.5**
VNA3	**Neumayer Olymp**	**124.37 202**	PKPdf		**PKPdf**	**17 06 11.3**	**-1.3**
BELA	**Belgrano 2**	**127.97 191**			**PKPdf**	**17 06 17.6**	**-1.7**
BOAV	**Boa Vista**	**142.56 326**	*eP*		**PKPdf**	**17 06 49.9**	**+1.5**
SJMB	**Sao Joao De Ma**	**142.74 279**	*eP*		**PKPdf**	**17 06 48.4**	**-0.1**
JANB	**Januaria**	**143.69 286**	*eP*		**PKiKP**	**17 06 52.2**	**-1.4**
ROSC	**El Rosal**	**144.81 350**	PKP		**PKPab**	**17 06 51.4**	**-0.2**
	comp=Z,6nm,0.7s,baz=111,slow=8.6,SNR=13						
ROSC	**El Rosal**	**144.81 350**	PKPdf		**PKPab**	**17 06 49.5**	**-2.1**
BDFB	**Brasilia**	**147.06 289**	PKPbc		**PKPdf**	**17 06 56.4**	**+0.3**
	comp=Z,12nm,0.8s,baz=34,slow=4.8,SNR=9.9						
BDFB	**Brasilia**	**147.06 289**			**PKPdf**	**17 06 56.7**	**+0.6**
BDFB	**Brasilia**	**147.06 289**	PKP2		**PKPdf**	**17 06 56.7**	**+0.6**
BDFB	**Brasilia**	**147.06 289**	*eP*		**PKPdf**	**17 06 56.6**	**+0.6**
MACA	**Manacapuru-AM**	**147.39 321**	*eP*		**PKPdf**	**17 06 56.7**	**+0.1**
OTAV	**Otavalo**	**149.80 356**	*eP*		**PKPdf**	**17 07 01.3**	**+0.1**
CLDB	**Colider**	**150.22 305**	*eP*		**PKPdf**	**17 07 01.9**	**+0.7**
PORT	**Chimborazo Vol**	**151.51 357**			**PKPbc**	**17 07 07.3**	**-2.8**
TBTG	**Tabatinga, AM**	**152.42 337**	*eP*		**PKPdf**	**17 07 06.1**	**+1.5**
CPUP	**Villa Florida**	**159.38 275**	PKP		**PKPdf**	**17 07 12.9**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=61,slow=10,SNR=4.8						
LPAZ	**La Paz**	**162.29 318**	PKP		**PKPdf**	**17 07 16.8**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=27,slow=7.2,SNR=7.0						
LPAZ	**La Paz**	**162.29 318**	*eP*		**PKPdf**	**17 07 18.0**	**+0.4**
AC02	**Maricunga**	**169.61 285**	PKPdf		**PKPdf**	**17 07 19.9**	**-3.2**
AC02					**PKPab**	**17 08 36.0**	**-0.7**

DJA 22 16:48:51.6±1.1, 2°N±5°×12°7E±°, h122km±17km, M3.6/11, mb3.9/3, MLv3.5/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.82**	**174**	P		16 49 13.0	+0.9
LBMI	**Labuha**	**2.22**	**174**	P		16 49 28.7	+0.7
**SG

KEV	**Kevo**	**56.16**	**336**	P	**P**	**17 00 10.0**	**-0.3**
KEV				IAmb	IAmb	17 00 10.8	
	comp=Z,9.9nm,1.0s						
FIA1	**FINESS Array S**	**56.33**	**326**	P	**P**	**17 00 10.7**	**-0.9**
FIA1				IAmb	IAmb	17 00 27.6	
	comp=Z,14nm,1.3s						
FINES	**FINESS Array B**	**56.33**	**326**	P	**P**	**17 00 10.8**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=99,slow=6.0,SNR=3.9						
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**56.33**	**326**	P	**P**	**17 00 11.2**	**-0.4**
ARCES	**ARCESS Array B**	**56.67**	**336**	P	**P**	**17 00 13.6**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=94,slow=6.3,SNR=7.0						
	comp=Z,2.5nm,0.8s						
ARCES	**ARCESS Array B**	**56.67**	**336**	P	**P**	**17 00 13.6**	**-0.4**
ARCES				IAmb	IAmb	17 00 14.6	
	comp=Z,16nm,1.4s						
BURAR	**Bucovina Array**	**58.41**	**310**	P	**P**	**17 00 26.7**	**-0.1**
WB0	**Warramunga Arr**	**59.74**	**142**	P	**P**	**17 00 36.4**	**+0.2**
WB0				IAmb	IAmb	17 00 39.6	
	comp=Z,5.4nm,0.9s						
WRAB	**Tennant Creek**	**59.86**	**142**	P	**P**	**17 00 37.5**	**+0.6**
WRAB				IAmb	IAmb	17 00 58.4	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**59.86**	**142**	P	**P**	**17 00 37.2**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=332,slow=7.4,SNR=16						
	comp=Z,1.9nm,0.5s						
WRA	**Warramunga Arr**	**59.86**	**142**	P	**P**	**17 00 37.1**	**+0.3**
WB2	**Warramunga Arr**	**59.87**	**142**	P	**P**	**17 00 36.9**	**0.0**
WB2				IAmb	IAmb	17 00 47.5	
	comp=Z,5.3nm,0.8s						
WR0	**Warramunga Arr**	**59.98**	**142**	P	**P**	**17 00 37.8**	**+0.1**
PMG	**Port Moresby**	**60.16**	**123**	P	**P**	**17 00 41.9**	**+2.8**
	comp=Z,8.0nm,0.7s,baz=339,slow=8.6,SNR=2.7						
	comp=Z,8.0nm,0.7s						
PMG	**Port Moresby**	**60.16**	**123**	P	**P**	**17 00 39.7**	**+0.6**
COEN	**Coen**	**60.57**	**130**	P	**P**	**17 00 40.3**	**-1.6**
IDI	**Anoyia**	**61.81**	**296**	P	**P**	**17 00 50.0**	**-0.2**
ASAR	**Alice Springs**	**62.70**	**145**	P	**P**	**17 00 55.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=324,slow=6.5,SNR=4.3						
	comp=Z,0.3nm,0.5s						
NC405	**NORSAR Array S**	**63.23**	**327**	P	**P**	**17 00 58.2**	**-1.0**
NB2	**NORSAR Subarra**	**63.48**	**327**	P	**P**	**17 00 59.7**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=73,slow=6.9						
NOA	**NORSAR Array B**	**63.48**	**327**	P	**P**	**17 00 59.7**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=75,slow=6.7,SNR=4.2						
	comp=Z,1.1nm,0.8s						
GERES	**GERESS Array B**	**65.54**	**314**	P	**P**	**17 01 15.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=64,slow=8.9,SNR=2.8						
	comp=Z,0.4nm,0.5s						
KMBO	**Kilima Mbogo**	**66.97**	**254**	P	**P**	**17 01 24.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=60,slow=8.1,SNR=4.0						
	comp=Z,2.1nm,0.7s						
CTAO	**Charters Tower**	**67.03**	**132**	P	**P**	**17 01 24.2**	**-0.2**
CTAO				IAmb	IAmb	17 01 48.5	
	comp=Z,14nm,1.5s						
IMAR	**Indian Mountai**	**69.29**	**25**	P	**P**	**17 01 37.2**	**-0.8**
H21K	**Melozitna Rive**	**69.79**	**25**	P	**P**	**17 01 40.8**	**-0.2**
H21K				IAmb	IAmb	17 02 13.5	
	comp=Z,8.7nm,1.4s						
L19K	**White Mountain**	**70.62**	**29**	P	**P**	**17 01 46.2**	**-0.1**
L19K				IAmb	IAmb	17 01 46.8	
	comp=Z,5.2nm,1.1s						
H23K	**Yukon River**	**70.88**	**24**	P	**P**	**17 01 48.3**	**+0.6**
H23K				IAmb	IAmb	17 02 26.8	
	comp=Z,8.0nm,1.4s						
SDPT	**Sand Point**	**71.06**	**37**	P	**P**	**17 01 48.0**	**-0.9**
BPAW	**Bear Paw Mtn.**	**71.23**	**26**	P	**P**	**17 01 49.9**	**0.0**
BPAW				IAmb	IAmb	17 02 21.6	
	comp=Z,8.9nm,1.4s						
PPLA	**Purkeypile**	**71.37**	**27**	P	**P**	**17 01 50.3**	**-0.6**
BMAR	**Burnt Mountain**	**71.67**	**21**	P	**P**	**17 01 53.0**	**+0.5**
MDM	**Murphy Dome**	**71.80**	**25**	P	**P**	**17 01 53.8**	**+0.4**
MDM				IAmb	IAmb	17 02 21.1	
	comp=Z,5.9nm,1.2s						
SKT	**Skwentna**	**72.09**	**28**	P	**P**	**17 01 54.1**	**-1.0**
SKT				IAmb	IAmb	17 02 30.7	
	comp=Z,8.3nm,1.3s						
ILAR	**Eielson Array**	**72.39**	**24**	P	**P**	**17 01 58.5**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=289,slow=5.6,SNR=1.6						
	comp=Z,0.4nm,0.7s						
BCAR	**Beaver Creek A**	**75.22**	**24**	P	**P**	**17 02 13.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**90.29**	**285**	P	**P**	**17 03 32.1**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=53,slow=4.8,SNR=5.1						
	comp=Z,1.7nm,0.8s						
BDFB	**Brasilia**	**147.11**	**289**	PKPbc	**PKPab**	**17 10 16.6**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=112,slow=5.4,SNR=3.3						

ROM 22 16:55:18.1±0.1, 42°.806N±0°.004×13°.169E±0°.006, h10km, ML1.2/3, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=22.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**48**	P	Pg	16 55 20.6	+0.3
T1242				S	Sg	16 55 21.8	0.0
T1242				AML	AML		
	comp=E,210μm,0.2s						
T1242				AML	AML		
	comp=N,256μm,0.6s						
NRCA	**Norcia**	**0.05**	**305**	⇓P	Pg	16 55 20.7	+0.4
NRCA				S	Sg	16 55 22.0	+0.1
NRCA				AML	AML		
	comp=E,392μm,0.1s						
NRCA				AML	AML		
	comp=N,310μm,0.1s						
MC2	**Monte Cornacci**	**0.11**	**9**	P	Pg	16 55 21.7	+0.5
MC2				S	Sg	16 55 23.8	+0.5
T1216	**Preci, Frazion**	**0.14**	**308**	P	Pg	16 55 22.0	+0.6
T1216				S	Sg	16 55 24.3	+0.6
MMO1	**Montemonaco**	**0.15**	**51**	⇑P	Pg	16 55 22.2	+0.5
MMO1				S	Sg	16 55 24.9	+0.8
T1204	**Amatrice, Fraz**	**0.17**	**140**	P	Pg	16 55 22.4	+0.5
T1217	**Poggiodomo (PG**	**0.20**	**242**	P	Pb	16 55 23.3	-0.6
T1241	**Roccafluvione,**	**0.20**	**75**	P	Pg	16 55 23.0	+0.6
T1215	**Vallo di Nera,**	**0.22**	**269**	P	Pg	16 55 23.5	+0.7
T1243	**Rocca Santa Ma**	**0.23**	**118**	P	Pg	16 55 23.6	+0.5
T1243				S	Sg	16 55 27.5	+1.1
FDMO	**Fiordimonte**	**0.24**	**345**	P	Pg	16 55 23.1	0.0
CSP1	**Cessapalombo**	**0.29**	**5**	P	Pg	16 55 24.7	+0.6
CSP1				S	Sb	16 55 29.3	-1.0
TERO	**Teramo**	**0.37**	**120**	P	Pg	16 55 26.0	+0.5
TERO				AML	AML		
	comp=E,41μm,1.6s						
TERO				AML	AML		
	comp=N,28μm,1.6s						
PP3	**Marolino**	**0.66**	**29**	S	Sg	16 55 40.0	+0.5
CAFR	**Castel Frentan**	**1.05**	**123**	S	Sn	16 55 56.0	+2.6

*IDC **22** 17:01:00.4±1.9, 30°.41N×141°.65E, h0km, mb3.8/5, mbtmp3.8/8, ML3.0/3, Error ellipse: s-maj=63.7km s-min=18.4km az=73.0*
*JMA **22** 17:01:01.7±0.2, 30°.7N±0°.7×14°.2E±°, h43km, MV3.8/17, NEAR TORISHIMA IS*
*NEIC **22** 17:01:03.1±2.3, 30°.27N±0°.07×140°.6E±0°.2, h10km±1km, mb4.3/12, Error ellipse: s-maj=25.5km s-min=10.2km az=73.0*

ISC 22 17:01:02.5±0.9, 30°.64N±0°.06×142°.0E±0°.2, h35km, n35, σ2s 01/38, mb4.1/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.08**	**322**	P	**Pn**	**17 01 50.8**	**+2.1**
JHJ2	**Mitsune**	**3.10**	**323**	Pn	**Pn**	**17 01 49.1**	**+0.1**
JHJ	**Hachijo jima 2**	**3.13**	**323**	Pn	**Pn**	**17 01 49.7**	**+0.4**
	5.7nm,0.3s,baz=79,slow=21,SNR=2.2						
JHJ				Sn	**Sn**	**17 02 25.9**	**+0.4**
	6.4nm,0.3s,baz=276,slow=21,SNR=1.8						
	48nm,0.6s						
CBIJ	**Chichi jima**	**3.53**	**178**	*e*P	**Pn**	**17 01 56.4**	**+1.4**
CBIJ				*e*S	**Sn**	**17 02 37.1**	**+1.7**
JCJ	**Chichijima**	**3.53**	**178**	Pn	**Pn**	**17 01 54.8**	**-0.2**
	1.8nm,0.3s,baz=140,slow=20,SNR=1.2						
JCJ				Sn	**Sn**	**17 02 32.4**	**-3.1**
	6.9nm,0.3s,baz=100,slow=23,SNR=1.7						
	28nm,0.6s						
JCJ	**Chichijima**	**3.53**	**178**	Pn	**Pn**	**17 01 55.2**	**+0.3**
JCJ				Sn	**Sn**	**17 02 34.4**	**-1.1**
JYT	**Yasato**	**5.78**	**345**	Pn	**Pn**	**17 02 28.8**	**+3.0**
JRY	**Ryogami san**	**5.97**	**335**	*e*P	**Pn**	**17 02 31.1**	**+2.6**
JHO	**Hitachi**	**6.08**	**349**	*e*P	**Pn**	**17 02 31.3**	**+1.4**
JHO				*e*S	**Sn**	**17 03 35.3**	**-3.0**
JAG	**Ashikaga**	**6.16**	**340**	P	**Pn**	**17 02 33.3**	**+2.3**
JGF	**Kuroka**	**6.32**	**323**	Pn	**Pn**	**17 02 30.8**	**-2.4**
MJAR	**Matsushiro Arr**	**6.70**	**333**	Pn	**Pn**	**17 02 40.6**	**+2.2**
	0.2nm,0.3s,baz=158,slow=11,SNR=11						
MJAR				Sn	**Sn**	**17 03 54.2**	**+0.7**
	baz=160,slow=28						
	1.4nm,0.4s						
MAJO	**Matsushiro**	**6.70**	**333**		**Pn**	**17 02 38.0**	**-0.5**
MJB9	**Matsu-Tunnel**	**6.70**	**333**	Pn	**Pn**	**17 02 37.8**	**-0.7**
JFK	**Kawauchi**	**6.78**	**352**	*e*S	**Sn**	**17 03 52.9**	**-2.6**
JMK	**Ichinoseki**	**8.32**	**356**	*e*S	**Sn**	**17 04 27.7**	**-5.6**
ENH	**Enshi**	**28.01**	**278**	P	P	17 06 43.0	-7.4
ENH				IAmb	IAmb	17 07 06.2	
	comp=Z,6.3nm,1.1s						
ULN	**Ulaanbaatar**	**31.74**	**313**	P	**P**	**17 07 21.3**	**-2.0**
ULN				IAmb	IAmb	17 07 34.7	
	comp=Z,3.4nm,1.4s						
CMAR	**Chiang Mai Arr**	**40.80**	**263**	P	**P**	**17 08 40.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=52,slow=7.1,SNR=6.4						
	comp=Z,0.3nm,0.3s						
MTN	**Manton Dam**	**44.48**	**195**	P	**P**	**17 09 09.4**	**-1.2**
MTN				IAmb	IAmb	17 09 12.0	
	comp=Z,6.5nm,1.0s						
MK31	**Makanchi Array**	**48.18**	**307**	P	**P**	**17 09 37.9**	**-1.5**
MKAR	**Makanchi Array**	**48.18**	**307**	P	**P**	**17 09 41.4**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=91,slow=10,SNR=8.3						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**48.18**	**307**	P	**P**	**17 09 37.1**	**-2.3**
CHIR	**Chirikof Islan**	**49.88**	**41**	P	P	17 10 04.2	+12
WB0	**Warramunga Arr**	**50.65**	**189**	P	**P**	**17 09 58.9**	**+0.4**
WB0				IAmb	IAmb	17 09 59.8	
	comp=Z,5.8nm,1.0s						
WR0	**Warramunga Arr**	**50.82**	**189**	P	**P**	**17 10 00.6**	**+1.0**
WRAB	**Tennant Creek**	**50.82**	**189**	P	**P**	**17 10 00.3**	**+0.7**
WRAB				IAmb	IAmb	17 10 02.0	
	comp=Z,2.7nm,0.8s						
WB2	**Warramunga Arr**	**50.83**	**189**	P	**P**	**17 10 00.4**	**+0.6**
WB2				IAmb	IAmb	17 10 04.0	
	comp=Z,5.6nm,1.3s						
WRA	**Warramunga Arr**	**50.83**	**189**	P	**P**	**17 10 00.4**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=6.4,slow=7.6,SNR=29						
	comp=Z,1.3nm,0.5s						
WRA	**Warramunga Arr**	**50.83**	**189**	P	**P**	**17 10 00.6**	**+0.8**
AS31	**Alice Springs**	**54.55**	**189**	P	**P**	**17 10 26.6**	**-0.7**
ASAR	**Alice Springs**	**54.56**	**189**	P	**P**	**17 10 28.0**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=2.5,slow=5.0,SNR=15						
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**54.56**	**189**	P	**P**	**17 10 26.5**	**-0.8**
BMRM	**Bremner River**	**55.73**	**34**	P	P	17 10 47.5	+12
FINES	**FINESS Array B**	**74.73**	**333**	P	**P**	**17 12 42.6**	**+4.2**
	comp=Z,1.9nm,0.9s,baz=69,slow=7.7,SNR=1.8						
	comp=Z,1.9nm,0.9s						

IDC 22 17:04:37.9±3.9, 30°.35N×141°.28E, h0km, mb3.3/3, mbtmp3.3/5, ML2.7/2, Error ellipse: s-maj=166.4km s-min=22.9km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.04**	**336**	Pn	Pn	17 05 26.9	-0.2
	7.6nm,0.3s,baz=65,slow=22,SNR=1.8						
JHJ				Sn	Sn	17 06 00.7	-3.6
	1.1nm,0.3s,baz=97,slow=22,SNR=1.2						
	39nm,0.5s						
MJAR	**Matsushiro Arr**	**6.68**	**338**	Pn	Pn	17 06 16.1	-1.2
	0.1nm,0.3s,baz=160,slow=11,SNR=4.3						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**47.83**	**307**	P	P	17 13 17.7	+0.5
	0.2nm,0.6s,baz=85,slow=9.4,SNR=2.2						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**50.45**	**188**	P	P	17 13 37.5	+0.1
	0.4nm,0.4s,baz=5.2,slow=7.6,SNR=8.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**54.17**	**188**	P	P	17 14 04.5	-0.6
	0.2nm,0.8s,baz=1.9,slow=5.6,SNR=4.4						
	0.2nm,0.8s						

*JMA **22** 17:08:30.1±0.6, 34°.N±2°×14°.2E±°, h34km±3km, MV2.8/31, FAR SE OFF BOSO PEN*
*IDC **22** 17:08:37.8±2.8, 33°.73N×139°.20E, h0km, mb3.4/4, mbtmp3.3/5, ML2.1/1, Error ellipse: s-maj=113.6km s-min=23.7km az=73.0*

ISC 22 17:08:34.2±1.5, 34°.52N±0°.09×141°.5E±0°.1, h27km, n12, σ0s 66/12, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.46**	**288**	P	**Pn**	**17 08 44.4**	**-0.1**
BSO3	**Boso 3**	**0.87**	**290**	P	**Pb**	**17 08 51.1**	**+0.6**
BSO4	**Boso 4**	**1.07**	**297**	*e*P	**Pb**	**17 08 54.6**	**+0.6**
JKUC	**kamogawauchiur**	**1.25**	**301**	P	**Pb**	**17 08 56.5**	**-0.6**
CHOJ	**Chosi**	**1.30**	**336**	*e*P	**Pn**	**17 08 56.2**	**-0.4**
JMKN	**Mikunjimanish**	**1.70**	**249**	*e*P	**Pn**	**17 09 01.7**	**-0.5**
JYT	**Yasato**	**2.02**	**328**	*e*P	**Pn**	**17 09 06.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.36**	**308**	Pn	**Pn**	**17 09 24.8**	**-0.2**
	0.3nm,0.3s,baz=146,slow=10,SNR=18						
MJAR				Lg	Lg	17 10 05.8	
	0.2nm,0.3s,baz=132,slow=25,SNR=2.4						
	2.0nm,0.4s						
MKAR	**Makanchi Array**	**45.55**	**304**	P	**P**	**17 16 52.0**	**+0.4**
	0.4nm,0.7s,baz=80,slow=9.5,SNR=2.1						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**47.64**	**310**	P	**P**	**17 17 06.8**	**-1.0**
	0.9nm,0.8s,baz=88,slow=8.0,SNR=5.7						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**54.58**	**188**	P	**P**	**17 17 60.0**	**-0.3**
	0.6nm,0.9s,baz=1.1,slow=7.5,SNR=4.6						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**58.31**	**188**	P	**P**	**17 18 27.7**	**+0.9**
	0.2nm,0.8s,baz=2.9,slow=7.4,SNR=1.7						
	0.2nm,0.8s						

*IDC **22** 17:10:45.1±1.1, 30°.00N×99°.54E, h0km, mb3.6/8, mbtmp3.6/9, ML3.5/1, Error ellipse: s-maj=40.2km s-min=17.8km az=53.0*

ISC 22 17:10:48.1±1.2, 30°.0N±0°.2×99°.6E±0°.2, h18km, n10, σ0s 38/9, mb3.5/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.54**	**183**	Pg	Pg	17 14 26.1	
	0.1nm,0.3s,baz=356,slow=18,SNR=13						
SONM	**Songino Array**	**18.53**	**15**	Pn	**Pn**	**17 15 03.8**	**0.0**
	0.2nm,0.3s,baz=193,slow=12,SNR=1.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**21.46**	**326**	P	**P**	**17 15 35.3**	**-0.2**
	0.7nm,0.6s,baz=134,slow=11,SNR=6.7						
	0.7nm,0.6s						
KSRS	**Korea Array**	**24.62**	**65**	P	**P**	**17 16 07.6**	**+0.2**
	3.9nm,0.7s,baz=260,slow=10,SNR=26						
	3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**25.93**	**328**	P	**P**	**17 16 18.6**	**-0.5**
	0.5nm,0.6s,baz=139,slow=9.4,SNR=6.4						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**26.20**	**340**	P	**P**	**17 16 20.9**	**-0.6**
	0.6nm,0.4s,baz=139,slow=9.8,SNR=5.9						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**31.35**	**325**	P	**P**	**17 17 07.7**	**+0.3**
	0.2nm,0.4s,baz=124,slow=9.6,SNR=2.3						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**56.30**	**326**	P	**P**	**17 20 27.2**	**-0.1**
	2.1nm,0.9s,baz=99,slow=8.6,SNR=2.3						
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**59.89**	**142**	P	**P**	**17 20 52.9**	**-0.1**
	0.4nm,0.6s,baz=331,slow=7.7,SNR=13						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**62.74**	**144**	P	**P**	**17 21 12.3**	**0.0**
	0.3nm,1.0s,baz=331,slow=7.1,SNR=1.7						
	0.3nm,1.0s						

*IDC **22** 17:23:11.8±0.4, 30°.13N×99°.72E, h0km, mb4.9/34, mbtmp4.9/35, ML4.0/1, MS4.4/51, Error ellipse: s-maj=12.8km s-min=9.1km az=40.0*
*MOS **22** 17:23:13.6±0.9, 30°.11N×99°.67E, h21km, mb5.2/50, MS4.6/21, Error ellipse: s-maj=5.6km s-min=3.2km az=124.3*
*NEIC **22** 17:23:16.0±1.8, 30°.18N±0°.07×99°.65E±0°.07, h21km±4km, mb5.3/224, Error ellipse: s-maj=10.0km s-min=9.2km az=167.0*
*GCMT **22** 17:23:16.0±0.1, 30°.08N±0°.01×99°.75E±0°.01, h21km, MW5.2/127, Moment Tensor Solution. s72,c95; s127,c222; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.75±.21; Mθθ 7.71±.14; Mϕϕ-1.95±.13; Mrθ-0.43±.20; Mθϕ 0.36±.10; Mϕr-1.70±.30; Best double couple: M07.07400×10^16 NP1:ϕ=69.00000°, δ51.00000°, λ-117.00000°. NP2:ϕ=288.00000°, δ47.00000°, λ-61.00000°. Principal axes: T 7.7420, Plg2.0000°, Azm177.0000°; N -1.3280, Plg21.0000°, Azm87.0000°; P -6.4050, Plg69.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **22** 17:23:16.4±0.0, 30°.11N×99°.61E, h16km, mb4.8/38, mB5.2/29, ML4.8/16, Ms5.2/64, Ms7 5.0/60*

ISC 22 17:23:15.0±0.4, 30°.08N±0°.03×99°.64E±0°.03, h17km±2km, h18km: pP-P, n1013, σ1s 46/1071, mb5.2/297, MS4.6/78, 40C-60D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**3.65**	**76**	Pn	**Pn**	**17 24 13.8**	**+3.1**
CD2				Pg	**Pb**	**17 24 21.6**	**+2.6**
CD2				Sg	**Sg**	**17 25 09.8**	**-2.4**
CD2				smax	smax		
	comp=N,2μm,0.9s						
CD2				smax	smax		
	comp=E,2μm,1.5s						
CD2				LR	LR		
	comp=N,40μm,8.2s						
CD2				LR	LR		
	comp=E,23μm,7.7s						
CD2				LR	LR		
	comp=Z,25μm,5.9s						
PZH	**PanZhiHua**	**4.02**	**152**	Pn	**Pn**	**17 24 19.3**	**+3.5**
PZH				Sg	**Sg**	**17 25 28.8**	**+4.6**
PZH				smax	smax		
	comp=N,910nm,1.3s						
PZH				smax	smax		
	comp=E,860nm,1.3s						
PZH				LR	LR		
	comp=N,34μm,5.8s						
PZH				LR	LR		
	comp=E,25μm,6.1s						
PZH				LR	LR		
	comp=Z,29μm,6.0s						
LKP	**Lekhapani**	**4.31**	**231**	*e*P	**Pn**	**17 24 22.9**	**+3.2**
LKP				IAML		17 25 40.7	
	comp=E,7μm,1.0s						
KMI	**Kunming**	**5.66**	**150**	⇓Pn	**Pn**	**17 24 41.4**	**+3.0**
KMI				Pg	**Pg**	**17 24 59.1**	**-4.2**
KMI				Sg	**Sg**	**17 26 16.6**	**0.0**
KMI				smax	smax		
	comp=E,380nm,1.7s						
KMI				smax	smax		
	comp=E,600nm,1.9s						
KMI				LR	LR		
	comp=E,20μm,7.9s						
KMI				LR	LR		
	comp=E,33μm,9.6s						
KMI				LR	LR		
	comp=E,16μm,8.4s						
ZIRO	**ZIRO**	**5.68**	**245**	*e*P	**Pn**	**17 24 40.1**	**+1.3**
ZIRO				IAML		17 26 16.4	
	comp=E,5μm,0.7s						
JORH	**JORHAT**	**5.79**	**236**	*e*P	**Pn**	**17 24 44.1**	**+4.0**
JORH				*e*S	**Sn**	**17 25 50.5**	**+4.3**
JORH				IAML		17 26 26.1	
	comp=N,4μm,2.2s						
MOKO	**MOKOCHONG**	**5.87**	**232**	*e*P	**Pn**	**17 24 43.7**	**+2.4**
MOKO				IAML		17 25 58.9	
	comp=N,2μm,0.7s						
MOKO				IAML		17 25 59.2	
	comp=E,2μm,0.9s						
KOHI	**KOHIMA**	**6.54**	**230**	*e*P	**Pn**	**17 24 52.4**	**+1.8**
KOHI				*e*S	**Sn**	**17 26 06.8**	**+2.0**
KOHI				IAML		17 26 14.4	
	comp=N,2μm,1.0s						
TEZP	**TEZPUR**	**6.95**	**242**	*e*P	**Pn**	**17 24 56.6**	**+0.7**
TEZP				*e*S	**Sn**	**17 26 13.2**	**-1.3**
LZH	**Lanzhou**	**6.95**	**29**	*e*Pn	**Pn**	**17 24 58.1**	**+2.0**
LZH				Sn	**Sn**	**17 26 18.0**	**+3.2**
LZH				Sg	**Sg**	**17 27 02.1**	**+4.2**
LZH				smax	smax		
	comp=N,450nm,1.3s						
LZH				smax	smax		
	comp=N,380nm,1.5s						
LZH				LR	LR		
	comp=N,19μm,8.3s						
LZH				LR	LR		
	comp=N,32μm,8.2s						
LZH				LR	LR		
	comp=N,15μm,9.3s						
GYA	**Guiyang**	**7.17**	**119**	⇑Pn	**Pn**	**17 25 00.5**	**+1.4**
GYA				Sg	**Sg**	**17 27 08.9**	**+3.8**
GYA				smax	smax		
	comp=N,310nm,2.4s						
GYA				smax	smax		
	comp=N,330nm,3.2s						
GYA				LR	LR		
	comp=N,15μm,5.7s						
GYA				LR	LR		
	comp=N,13μm,5.4s						
GYA				LR	LR		
	comp=N,13μm,7.9s						
GOMU	**GeErMu**	**7.32**	**328**	⇑*e*Pn	Pn	17 25 06.8	+5.5
GOMU				Pg	**Pb**	**17 25 22.6**	**+0.9**
GOMU				Sg	**Sg**	**17 27 06.6**	**-3.1**
GOMU				LR	LR		
	comp=N,2μm,4.6s						
GOMU				LR	LR		
	comp=N,3μm,4.8s						
GOMU				LR	LR		
	comp=N,3μm,5.8s						
LSA	**Lhasa**	**7.38**	**269**	Pn	**Pn**	**17 25 04.0**	**+1.7**
LSA	**Lhasa**	**7.38**	**269**	Pn	**Pn**	**17 25 04.4**	**+2.1**
LSA				LR	LR		
	comp=N,5μm,6.8s						
LSA				LR	LR		
	comp=N,8μm,9.6s						
LSA				LR	LR		
	comp=N,13μm,9.6s						
LSA	**Lhasa**	**7.38**	**269**	P	**Pn**	**17 25 04.0**	**+1.7**
LSA	**Lhasa**	**7.38**	**269**	*i* P	**Pn**	**17 25 04.9**	**+2.6**
	SNR=75						
GUWA	**GUWAHATI**	**8.01**	**243**	*e*P	**Pn**	**17 25 13.6**	**+3.1**
GUWA				*e*S	**Sn**	**17 26 39.5**	**-1.3**
GUWA				IAML		17 26 42.0	
	comp=E,113nm,0.5s						
SHL	**Shillong**	**8.21**	**239**	Pn	**Pn**	**17 25 13.1**	**-0.3**

AGT IAML 17 27 30.1
comp=E,368nm,1.3s
CRAI Chiangrai 9.84 176 Pn 17 25 37.8 +2.2
GTK Tadong 10.07 257 *e*P **Pn 17 25 38.9 -0.1**
GTK IAML 17 27 37.7
comp=E,106nm,0.7s
BRDH Bariadhala 10.28 226 LR LR 17 30 45.3
comp=E,3μm,19.8s,baz=30,slow=44
GULI GuiLin 10.64 114 ⇑P **Pn 17 25 43.8 -2.8**
GULI S Sn 17 27 35.8 -9.5
GULI pmax pmax
comp=Z,140nm,0.6s
GULI LR LR
comp=N,18μm,10.7s
GULI LR LR
comp=E,9μm,11.4s
GULI LR LR
comp=Z,6μm,9.5s
TAPN Taplejung 10.82 258 *e*P **Pn 17 25 49.8 +0.5**
comp=Z,257nm,0.7s
CHTO Chiang Mai 11.24 183 Pn 17 25 58.0 +3.2
CHTO Chiang Mai 11.24 183 P **Pn 17 25 58.0 +3.2**
CHTO Chiang Mai 11.24 183 P **Pn 17 25 59.5 +4.7**
ODAN Odare 11.24 256 *e*P **Pn 17 25 54.9 -0.2**
comp=Z,44nm,0.8s
PHRA Phrae 11.55 177 Pn 17 26 03.0 +4.0
CM31 Chiang Mai Arr 11.59 183 Pn 17 26 03.6 +3.9
CMAR Chiang Mai Arr 11.59 183 Pn **Pn 17 26 02.7 +3.0**
comp=Z,0.2nm,0.3s,baz=355,slow=11,SNR=44
CMAR Pg 17 26 45.3
comp=Z,0.4nm,0.3s,baz=357,slow=14,SNR=5.4
CMAR Lg Lg 17 29 21.3
comp=Z,0.1nm,0.3s,baz=353,slow=28,SNR=2.9
CMAR LR LR 17 31 03.5
comp=Z,1μm,21.7s,baz=10.0,slow=40
CMAR PcP **PcP 17 31 49.9 -0.6**
comp=Z,2.7nm,0.9s,baz=313,slow=2.2,SNR=4.2
CMAR ScP **ScP 17 35 23.1 +0.7**
comp=Z,0.6nm,0.7s,baz=304,slow=1.5,SNR=4.5
CMAR PKiKP **PKiKP 17 39 46.9 -2.0**
comp=Z,1.0nm,1.0s,baz=277,slow=2.9,SNR=4.6
CMAR Chiang Mai Arr 11.59 183 Pn **Pn 17 26 03.4 +3.8**
CMAR Chiang Mai Arr 11.59 183 *ce*P **Pn 17 26 03.5 +3.8**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
LYN LuoYang 11.73 64 ⇑P **Pn 17 25 59.3 -2.2**
LYN pP 17 26 02.4
LYN PP **PnPn 17 26 08.3 -0.9**
LYN S **Sn 17 28 09.4 -2.6**
LYN SS **SnSn 17 28 32.4 +8.5**
LYN pmax pmax
comp=Z,30nm,1.1s
LYN pmax pmax
comp=Z,380nm,13.3s
LYN LR LR
comp=N,4μm,7.2s
LYN LR LR
comp=E,670nm,7.1s
LYN LR LR
comp=Z,2μm,10.9s
CNSH ChangSha 11.78 96 ⇑P **Pn 17 25 59.9 -2.2**
CNSH S **Sn 17 28 13.4 +0.2**
CNSH smax smax
comp=N,99nm,1.3s
CNSH smax smax
comp=E,68nm,1.5s
RAMN Ramite 11.88 258 *e*P **Pn 17 26 02.6 -1.2**
comp=E,145nm,0.6s
JIRN Jiri 12.03 262 *e*P **Pn 17 26 05.7 -0.3**
GUN Gumba 12.24 263 *e*P **Pn 17 26 08.3 -0.5**
comp=E,239nm,0.7s
WHN Wuhan 12.72 84 ⇑P **Pn 17 26 15.3 +0.3**
WHN pmax pmax
comp=E,74nm,0.8s
WHN LR LR
comp=E,6μm,8.6s
WHN LR LR
comp=E,8μm,7.7s
WHN LR LR
comp=E,11μm,12.8s
PKI Pulchoki 12.72 262 *e*P **Pn 17 26 13.7 -1.7**
comp=E,250nm,0.8s
PKIN Phulchoki 12.73 262 *e*P **Pn 17 26 13.6 -1.9**
comp=E,176nm,0.6s
KKN Kakani 12.78 263 *e*P **Pn 17 26 14.6 -1.5**
DMN Daman 12.97 263 *e*P **Pn 17 26 17.5 -1.3**
comp=E,370nm,1.2s
TIY Taiyuan 13.06 51 *e*P **P 17 26 30.5 +0.5**
TIY LR LR
comp=N,5μm,14.4s
TIY LR LR
comp=E,5μm,14.5s
TIY LR LR
comp=Z,2μm,16.9s
GKN Gorkha 13.29 265 *e*P **Pn 17 26 19.9 -3.0**
comp=Z,58nm,0.4s
BTO Baotou 13.48 36 *e*P **Pn 17 26 23.0 -2.4**
BTO S **Sn 17 28 57.8 +2.9**
BTO LR LR
comp=N,33μm,8.3s
BTO LR LR
comp=E,21μm,7.9s
BOK Bokaro 13.77 246 *e*P **Pn 17 26 29.8 +0.4**
BOK IAmb IAmb 17 26 31.6
comp=Z,98nm,0.8s
DANN Dangsing 13.97 267 *e*P **Pn 17 26 29.3 -3.2**
comp=Z,254nm,0.8s
GZH Guangzhou 14.10 116 P **Pn 17 26 29.8 -4.1**
GZH S **Sn 17 29 04.5 -5.4**
GZH LR LR
comp=N,5μm,9.0s
GZH LR LR
comp=E,6μm,9.2s
KOLN Koldanda 14.23 265 *e*P **Pn 17 26 31.7 -4.2**
comp=E,24nm,0.9s
QIZ Qiongzhong 14.39 138 P **Pn 17 26 38.8 +0.9**
QIZ S **Sn 17 29 20.4 +3.3**
QIZ LR LR
comp=E,10μm,13.3s
QIZ LR LR
comp=E,8μm,14.8s
QIZ LR LR
comp=E,5μm,9.7s
HHC Hu-ho-hao-te 14.47 39 *e*P **Pn 17 26 38.8 -0.2**
HHC pmax pmax
comp=E,31nm,0.8s
HHC pmax pmax
comp=E,610nm,4.8s
HHC LR LR
comp=E,10μm,8.6s
HHC LR LR
comp=E,14μm,7.9s
HHC LR LR
comp=E,12μm,9.2s
HNS HongShan 14.50 56 ⇑P **Pn 17 26 39.8 +0.6**
HNS *e*S **Sn 17 29 16.9 -2.6**
HNS pmax pmax
comp=E,15nm,1.2s
HNS LR LR
comp=E,5μm,11.8s
HNS LR LR
comp=E,3μm,12.2s
HNS LR LR
comp=E,2μm,10.2s
PYUN Piuthan 14.69 266 *e*P **Pn 17 26 37.5 -4.7**
comp=E,291nm,0.9s
UBPT Khong Chiam 15.68 159 Pn 17 26 56.9 +1.8
TIA Tai'an 15.86 63 ⇓P **Pn 17 26 56.4 -1.0**
TIA pmax pmax
comp=E,46nm,1.1s
TIA pmax pmax
comp=E,720nm,12.0s
TIA LR LR
comp=E,1μm,7.5s
TIA LR LR
comp=E,1μm,10.4s
TIA LR LR
comp=E,1μm,9.2s
ALBI Allahabad 16.49 258 *e*P **Pn 17 27 02.8 -2.6**
NJ2 Nanjing 16.58 78 *e*P **Pn 17 27 06.3 -0.3**
NJ2 S **S 17 30 19.0 -2.8**
NJ2 pmax pmax
comp=E,15nm,0.7s
NJ2 LR LR
comp=E,8μm,11.8s
NJ2 LR LR
comp=E,1μm,7.7s
NJ2 LR LR
comp=E,5μm,12.8s
WMQ Urumqi 16.68 329 *e*P **P 17 27 10.6 +0.5**
WMQ PP **sP 17 27 21.0 +1.7**
WMQ S **Sn 17 30 16.6 +3.9**
WMQ pmax pmax
comp=E,67nm,1.1s
WMQ pmax pmax
comp=E,550nm,5.7s
WMQ LR LR
comp=E,4μm,10.1s
WMQ LR LR
comp=E,6μm,9.3s
WMQ LR LR
comp=E,920nm,11.5s
BJT Baijiatuau 16.75 49 Pn 17 27 08.0 -0.7
BJT Baijiatuau 16.75 49 P **Pn 17 27 08.0 -0.7**
BJT pmax pmax
comp=Z,51nm,1.7s
BJI Beijing 16.77 49 P **Pn 17 27 09.4 +0.5**
BJI pP **pP 17 27 16.6 -0.7**
BJI sP **sP 17 27 19.1 -1.0**
BJI PcP **PcP 17 31 55.9 -1.0**
BJI pmax pmax
comp=Z,10.0nm,1.4s
BJI pmax pmax
comp=Z,640nm,9.8s
BJI LR LR
comp=Z,1μm,12.8s
BJI LR LR
comp=Z,5μm,12.4s
BJI LR LR
comp=Z,3μm,14.5s
LGTI Lohaghat 16.85 273 *e*P **Pn 17 27 09.9 -0.1**
PTH Pithoragarh 16.87 273 *e*P **Pn 17 27 08.3 -2.1**
QZH Quanzhou 17.57 102 P **Pn 17 27 17.9 -1.1**
QZH S **Sn 17 30 32.6 -1.8**
QZH LR LR
comp=N,4μm,9.0s
QZH LR LR
comp=E,2μm,8.5s
QZH LR LR
comp=Z,3μm,10.5s
BLSP Bilaspur 17.59 247 *e*P **P 17 27 20.3 0.0**
DGPR DIGLIPUR 17.93 202 *e*P **P 17 27 25.0 +1.0**
DGPR IAmb IAmb 17 27 31.9
comp=Z,184nm,1.2s
SONM Songino Array 18.47 14 P **P 17 27 29.8 -0.2**
comp=Z,0.5nm,0.3s,baz=201,slow=10,SNR=72
SONM Lg Lg 17 32 57.2
baz=183,slow=22
SONM LR LR 17 34 58.7
comp=Z,1μm,20.8s,baz=196,slow=38
comp=Z,40nm,1.1s
SONM Songino Array 18.47 14 P **P 17 27 29.3 -0.7**
ULN Ulaanbaatar 18.65 16 P **P 17 27 31.0 -1.0**
ULN Ulaanbaatar 18.65 16 *ce*P **P 17 27 31.7 -0.3**
ULN pmax pmax
comp=Z,82nm,1.7s
DDI Dehra Dun 18.66 276 *e*P **Pn 17 27 34.4 +2.0**
DDI IAmb IAmb 17 27 35.4
comp=Z,142nm,0.6s
XLT XiLinHaoTe 18.99 39 ⇓*i*P **Pn 17 27 36.5 +0.1**
XLT pP pP 17 27 42.8 +0.9
XLT sP sP 17 27 46.1 +1.3
XLT pmax pmax
comp=Z,66nm,1.3s
XLT pmax pmax
comp=Z,910nm,4.5s
XLT LR LR
comp=Z,8μm,12.9s
XLT LR LR
comp=Z,7μm,11.8s
JHNI Jhansi 19.22 261 *e*P **P 17 27 36.2 -2.0**
SMLA Simla 19.37 279 *e*P **P 17 27 37.9 -1.9**
SMLA IAmb IAmb 17 27 45.1
comp=Z,246nm,1.1s
PBA Port Blair 19.43 201 P **Pn 17 27 41.6 0.0**
NDI New Delhi 19.59 271 *e*P **P 17 27 42.0 -0.2**
DLV T Lat 19.83 154 P **Pn 17 27 48.1 +1.3**
TPUB Ta-pu 19.92 105 P **Pn 17 27 47.5 -0.1**
TPUB Ta-pu 19.92 105 P **Pn 17 27 48.3 +0.7**
BHK Bhakra 20.00 280 *e*P **P 17 27 46.9 +0.2**
SSLB Suanglung 20.00 103 P Pn 17 27 48.6 +0.1
SSLB IAmb IAmb 17 27 49.9
comp=Z,146nm,1.1s
SSLB Suanglung 20.00 103 P Pn 17 27 49.4 +0.9
YHNB Yeheng 20.03 100 P Pn 17 27 49.0 +0.1
YHNB IAmb IAmb 17 27 50.5
comp=Z,220nm,1.0s
YHNB Yeheng 20.03 100 P Pn 17 27 49.5 +0.5
DL2 Dalian 20.11 58 P Pn 17 27 49.9 +0.2
DL2 S Sn 17 31 38.3 +2.7
DL2 pmax pmax
comp=Z,90nm,1.2s
DL2 pmax pmax
comp=Z,590nm,5.5s
DL2 LR LR
comp=Z,2μm,19.6s
DL2 LR LR
comp=Z,1μm,15.1s
DL2 LR LR
comp=Z,1μm,10.0s
NACB Ninganchiao 20.40 102 P Pn 17 27 52.6 -0.6
NACB IAmb IAmb 17 28 00.7
comp=Z,179nm,1.3s
YULB Yu-li 20.44 104 Pn 17 27 53.5 -0.3
ZAK Zakamensk 20.46 7 *e*P **P 17 27 51.2 -0.4**
ZAK pmax pmax
comp=Z,44nm,1.4s
TWG Pinlang 20.49 106 P Pn 17 27 54.1 -0.2
NGP Nagpur 20.56 249 *e*P **P 17 27 53.0 +0.1**
THN Thein Dam 20.58 283 *e*P **P 17 27 52.3 -0.6**
SHLS Shalkode 20.73 315 *i* P **P 17 27 52.1 -2.5**
SHLS *e*S **S 17 31 40.4 -5.1**
SHLS pmax pmax
comp=Z,54nm,1.6s
SHLS Shalkode 20.73 315 *i* P **P 17 27 52.2 -2.5**
comp=Z,54nm,1.6s,baz=315
SHLS *e*S **S 17 31 40.5 -5.1**
baz=315
ZSN Zaisan 20.75 331 *i* P **P 17 27 55.0 +0.2**
ZSN *e*S **S 17 31 45.6 -0.1**
ZSN pmax pmax
comp=Z,34nm,1.2s
ZSN Zaisan 20.75 331 *i* P **P 17 27 55.0 +0.2**
comp=Z,34nm,1.2s,baz=331
ZSN *e*S **S 17 31 45.6 -0.1**
baz=331
PDGK Podgornoye 20.80 315 P **P 17 27 54.6 -0.9**
BHPL Bhopal 20.97 256 *e*P **P 17 27 55.7 -1.6**
BHPL IAmb IAmb 17 28 02.0
comp=Z,533nm,1.5s
UZB Uzynbulak 21.00 314 *e*P **P 17 27 57.8 +0.3**
UZB *e*S **S 17 31 50.5 -0.4**
UZB Uzynbulak 21.00 314 *e*P **P 17 27 57.9 +0.3**
baz=314
UZB *e*S **S 17 31 50.5 -0.4**
baz=314
JMU Jammu 21.27 283 *e*P **P 17 28 01.3 +0.9**
SATY Saty 21.34 313 *d i*P **P 17 28 01.6 +0.4**
SATY *e*S **S 17 31 57.5 -0.1**
SATY pmax pmax
comp=Z,46nm,1.1s
SATY Saty 21.34 313 ⇓*i*P **P 17 28 01.7 +0.4**
comp=Z,46nm,1.1s,baz=313
SATY *e*S **S 17 31 57.5 -0.1**
baz=313
KPKS Kokpek 21.37 314 *d i*P **P 17 28 01.8 +0.3**
KPKS *e*S **S 17 31 57.9 -0.3**
KPKS pmax pmax
comp=Z,37nm,0.6s
KPKS Kokpek 21.37 314 ⇓*i*P **P 17 28 01.9 +0.3**
comp=Z,37nm,0.6s,baz=314
KPKS *e*S **S 17 31 57.9 -0.3**
baz=314
ZHN Zhinishke 21.38 313 *e*P **P 17 28 01.7 +0.1**
ZHN Zhinishke 21.38 313 *e*P **P 17 28 01.8 +0.1**
baz=313
SRIT Nakonsritamara 21.38 180 P **P 17 28 03.7 +2.0**
SRIT IAmb IAmb 17 28 08.2
comp=Z,117nm,1.2s
MK31 Makanchi Array 21.44 326 P **P 17 28 02.2 +0.1**
MK31 Makanchi Array 21.44 326 P **P 17 28 02.2 +0.1**
MK31 pmax pmax
comp=Z,36nm,0.9s
MKAR Makanchi Array 21.44 326 P **P 17 28 02.5 +0.3**
comp=Z,26nm,0.8s,baz=131,slow=10,SNR=53
MKAR PcP **PcP 17 32 04.6 -0.5**
comp=Z,3.7nm,0.9s,baz=129,slow=3.3,SNR=3.7
MKAR ScP **ScP 17 35 41.1 -0.2**
comp=Z,1.7nm,1.0s,baz=120,slow=4.9,SNR=4.5
MKAR LR LR 17 35 58.1
comp=Z,1μm,20.9s,baz=141,slow=36
comp=Z,26nm,0.8s
MKAR Makanchi Array 21.44 326 P **P 17 28 01.4 -0.7**
KSH Kashi 21.54 302 P **P 17 28 05.3 +1.9**
KSH PP **PnPn 17 28 32.4 +8.5**
KSH S **S 17 32 02.3 +0.7**
KSH PcS **PcS 17 35 47.9 +4.0**
KSH pmax pmax
comp=Z,55nm,1.4s
KSH LR LR
comp=Z,2μm,12.4s
KSH LR LR
comp=Z,2μm,14.1s
KSH LR LR
comp=Z,2μm,17.9s
MOY Mondy 21.59 2 *e*P **P 17 28 04.6 +0.8**
MOY pmax pmax
comp=Z,106nm,1.7s
MAKZ Makanchi 21.60 326 P **P 17 28 03.3 -0.6**
MAKZ Makanchi 21.60 326 P **P 17 28 03.3 -0.6**
MAKZ pmax pmax
comp=Z,84nm,1.5s
DGZ Jazzator, Alta 21.66 338 *d i*P **P 17 28 05.5 +0.8**
DGZ pmax pmax
comp=Z,68nm,1.0s
NRN Naryn 22.20 307 P **P 17 28 11.2 +0.5**
NRN IAmb IAmb 17 28 15.3
comp=Z,124nm,1.0s
NRN Naryn 22.20 307 P **P 17 28 11.2 +0.5**
NRN pmax pmax
comp=Z,124nm,1.0s
MDOK Medeo 22.25 312 *i* P **P 17 28 11.7 +0.6**
MDOK *e*S **S 17 32 15.9 +0.5**
MDOK Medeo 22.25 312 *i* P **P 17 28 11.8 +0.6**
baz=312
MDOK *e*S **S 17 32 16.0 +0.5**
baz=312
TNSS Tian-Shan 22.26 312 ⇓*i*P **P 17 28 11.2 -0.2**
TNSS Tian-Shan 22.26 312 ⇓*i*P **P 17 28 11.3 -0.2**
baz=312
AJM Ajmer 22.29 267 *e*P **P 17 28 11.8 +0.3**
AAA Alma-Ata 22.36 312 *e*P **P 17 28 12.9 +0.7**
AAA pmax pmax
comp=Z,98nm,1.6s
AAA Alma-Ata 22.36 312 *e*P **P 17 28 12.9 +0.7**
comp=Z,98nm,1.6s,baz=312
ULHL Ulahol 22.37 309 P **P 17 28 13.8 +1.3**
SNR=66
TDK Taldyqorghan 22.38 318 *e*P **P 17 28 12.3 +0.1**
TDK *e*S **S 17 32 17.5 +0.1**
TDK pmax pmax
comp=Z,58nm,0.8s
TDK Taldyqorghan 22.38 318 *e*P **P 17 28 12.4 +0.1**
comp=Z,58nm,0.8s,baz=317
TDK *e*S **S 17 32 17.6 +0.1**
baz=317
IRK Irkutsk 22.40 7 *e*P **P 17 28 13.0 +0.6**
IRK pmax pmax
comp=Z,154nm,2.6s
AKL Akola 22.44 251 *e*P **P 17 28 13.7 +0.6**
SNY Shenyang 22.57 52 ⇑P **P 17 28 15.1 +0.8**
SNY S **S 17 32 21.6 +0.7**
SNY pmax pmax
comp=Z,150nm,0.9s
SNY pmax pmax
comp=Z,810nm,5.2s
SNY LR LR
comp=Z,1μm,13.4s
SNY LR LR
comp=Z,1μm,11.2s
SNY LR LR
comp=Z,2μm,10.9s
SUJ Sinuiju 22.60 57 P **P 17 28 14.7 +0.1**
SUJ pP **pP 17 28 18.2 -2.7**
SUJ S **S 17 32 22.9 +1.5**
SUJ AmB
comp=Z,248nm,1.2s
SUJ AMS AMS
comp=N,248nm,3.1s
SUJ AMS AMS
comp=E,446nm,5.6s
SUJ AMS AMS
comp=Z,193nm,2.4s
CHKK Chushkaly 22.63 314 *e*P **P 17 28 14.5 -0.4**
CHKK Chushkaly 22.63 314 *e*P **P 17 28 14.6 -0.4**
baz=313
HJU Haeju 22.97 63 P **P 17 28 18.3 -0.2**
HJU pP **pP 17 28 21.7 -3.2**
HJU S **S 17 32 32.8 +4.7**
HJU AmB
comp=Z,398nm,1.1s
HJU AMS AMS
comp=N,1μm,6.4s
HJU AMS AMS
comp=E,1μm,8.6s
HJU AMS AMS
comp=Z,1μm,7.8s
HYB Hyderabad 23.00 242 *e*P **P 17 28 17.8 -1.3**
HYB IAmb IAmb 17 28 24.2
comp=Z,96nm,0.9s
HYBB Hyderabad (bro 23.00 242 *e*P **P 17 28 19.5 +0.5**
HYBB IVmB_BB 17 28 23.4
comp=Z,528nm,0.8s
KUU Kurty 23.06 313 *d i*P **P 17 28 18.9 -0.5**
KUU pmax pmax
comp=Z,49nm,1.2s
KUU Kurty 23.06 313 ⇓*i*P **P 17 28 19.0 -0.5**
comp=Z,49nm,1.2s,baz=313
TKM2 Tokmak 2 23.09 310 P **P 17 28 20.9 +0.8**
SNR=11
TKM2 Tokmak 2 23.09 310 P **P 17 28 21.3 +1.3**
KBK Karagaybulak 23.41 309 P **P 17 28 25.9 +2.7**
SNR=39
UCH Uchtor 23.54 308 P **P 17 28 26.0 +1.3**
SNR=22
INCN Inchon 23.57 65 P **P 17 28 24.1 -0.5**
INCN IAmb IAmb 17 28 25.7
comp=Z,130nm,0.8s
INCN Inchon 23.57 65 P **P 17 28 24.1 -0.5**
INCN pmax pmax
comp=Z,130nm,0.8s
INCN Inchon 23.57 65 P **P 17 28 25.4 +0.8**
CHMS Chumysh 23.69 310 P **P 17 28 27.5 +1.8**
SNR=8.1
CHMS Chumysh 23.69 310 *i* P **P 17 28 25.2 -0.5**
CHMS pmax pmax
comp=Z,59nm,1.4s
AAK Ala-Archa 23.71 309 P **P 17 28 27.0 +0.9**
SNR=30
AAK Ala-Archa 23.71 309 P **P 17 28 27.1 +0.9**
comp=Z,31nm,0.8s,baz=112,slow=8.9,SNR=69
AAK Lg Lg 17 35 44.0
comp=Z,0.1nm,0.3s,baz=128,slow=19,SNR=1.0
AAK LR LR 17 38 22.3
comp=Z,2μm,20.9s,baz=165,slow=38
comp=Z,31nm,0.8s
AAK Ala-Archa 23.71 309 P **P 17 28 26.6 +0.5**
AAK IAmb IAmb 17 28 33.4
comp=Z,118nm,1.3s
AAK Ala-Archa 23.71 309 P **P 17 28 26.7 +0.6**
SGDS Sogindy 23.96 311 *d i*P **P 17 28 28.6 +0.3**
SGDS pmax pmax
comp=Z,57nm,1.5s
SGDS Sogindy 23.96 311 ⇓*i*P **P 17 28 28.7 +0.3**
comp=Z,57nm,1.5s,baz=310
USP Ospenovka 23.97 310 P **P 17 28 29.5 +1.1**
SNR=72
TJN Taejon 23.98 67 P **P 17 28 27.4 -1.0**
TJN Taejon 23.98 67 *ce*P **P 17 28 27.8 -0.7**
TJN Taejon 23.98 67 P **P 17 28 28.9 +0.4**
AML Almayashu 24.06 307 P **P 17 28 30.7 +1.0**
SNR=48
EKS2 Erkin-Say 24.21 308 P **P 17 28 31.9 +1.2**
SNR=47
CIT Chita 24.21 21 *e*P **P 17 28 30.7 +0.1**
CIT *e* 17 28 41.3
CIT *e* 17 29 00.1

CIT pmax pmax
comp=Z,48nm,1.6s
HIA Hailar 24.49 33 P **P** **17 28 32.3 -0.9**
HIA IAmb IAmb 17 28 38.4
comp=Z,113nm,1.1s
HIA Hailar 24.49 33 *i* P **P** **17 28 33.2 +0.1**
HIA pmax pmax
comp=Z,108nm,1.2s
KS19 Wonju Array Si 24.54 65 P **P** **17 28 32.6 -1.0**
KSAR Wonju Array Be 24.54 65 P **P** **17 28 33.1 -0.6**
KSAR Wonju Array Be 24.54 65 P **P** **17 28 33.1 -0.6**
KSRS Korea Array 24.57 65 P **P** **17 28 33.0 -0.9**
comp=Z,157nm,0.8s,baz=258,slow=9.8,SNR=398
KSRS LR LR 17 38 15.6
comp=Z,706nm,18.9s,baz=15,slow=37
comp=Z,157nm,0.8s
DRK Karamyk 24.63 300 P **P** **17 28 35.6 +0.8**
DRK IAmb IAmb 17 28 39.9
comp=Z,234nm,1.7s
CN2 Changchun 24.64 49 *e*P **P** **17 28 33.8 -0.7**
CN2 *e*PP **PnPn** **17 29 10.3 +4.2**
CN2 *e*S **S** **17 32 47.6 -7.4**
CN2 *es*S sS 17 33 06.9 +0.9
CN2 pmax pmax
comp=Z,160nm,0.8s
CN2 pmax pmax
comp=Z,650nm,5.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,2μm,18.0s
KULM Kulim 24.68 178 P **P** **17 28 37.4 +2.4**
KULM IAmb IAmb 17 28 42.6
comp=Z,211nm,2.0s
HHU Hamhung 24.78 59 P **P** **17 28 35.2 -0.6**
HHU pP **pP** **17 28 39.1 -3.3**
HHU S **S** **17 32 54.2 -3.1**
HHU AmB
comp=Z,278nm,1.3s
HHU AMS AMS
comp=N,4μm,15.5s
HHU AMS AMS
comp=E,3μm,9.8s
HHU AMS AMS
comp=Z,3μm,11.0s
SEM Semipalatinsk 24.98 330*d* *i*P **P** **17 28 36.9 -0.8**
SEM Semipalatinsk 24.98 330⇓ *i*P **P** **17 28 37.0 -0.8**
baz=330
BTLS Baital 25.05 314*d* *i*P **P** **17 28 38.0 -0.1**
BTLS Baital 25.05 314⇓ *i*P **P** **17 28 38.1 -0.1**
baz=314
JOW Kunigami 25.36 90 P **P** **17 28 39.9 -1.3**
comp=Z,39nm,0.8s,baz=277,slow=7.7,SNR=10
JOW LR LR 17 39 27.7
comp=Z,528nm,18.2s,baz=310,slow=39
comp=Z,39nm,0.8s
JOW Kunigami 25.36 90 P **P** **17 28 39.7 -1.4**
JOW IAmb IAmb 17 28 40.5
comp=Z,41nm,0.7s
JASL Jaisalmer 25.42 270 *e*P **P** **17 28 42.9 +1.2**
IPM Ipoh 25.50 177 P **P** **17 28 41.6 -0.9**
IPM Ipoh 25.50 177 P **P** **17 28 44.8 +2.3**
BTK Batken 25.50 301 P **P** **17 28 42.2 -0.2**
BTK IAmb IAmb 17 28 49.5
comp=Z,98nm,1.3s
BTK Batken 25.50 301 P **P** **17 28 42.3 -0.2**
BTK pmax pmax
comp=Z,98nm,1.3s
GAR Garm 25.65 298 P **P** **17 28 44.1 +0.2**
GAR IAmb IAmb 17 28 48.6
comp=Z,137nm,1.2s
MLSI Meulaboh, Aceh 25.86 187 P **P** **17 28 47.0 +1.3**
comp=Z,36nm,1.1s
KURBB Kurchatov Arra 25.90 328 P **P** **17 28 45.7 -0.1**
comp=Z,20nm,0.9s,baz=137,slow=9.3,SNR=74
KURBB PP **PnPn** **17 29 16.7 -6.6**
comp=Z,29nm,1.1s,baz=140,slow=9.6,SNR=5.9
KURBB PcP **PcP** **17 32 13.1 -1.3**
comp=Z,3.6nm,0.9s,baz=136,slow=2.5,SNR=4.8
KURBB ScP **ScP** **17 35 53.3 +0.1**
comp=Z,1.7nm,0.8s,baz=141,slow=2.8,SNR=6.2
KURBB LR LR 17 39 44.2
comp=Z,1μm,19.5s,baz=114,slow=38
comp=Z,20nm,0.9s
KURK Kurchatov 25.93 329 P **P** **17 28 45.6 -0.5**
KURK Kurchatov 25.93 329 P **P** **17 28 45.7 -0.4**
KURK 17 32 13.1
DZA Taraz 25.97 307*d* *i*P **P** **17 28 47.1 +0.6**
DZA pmax pmax
comp=Z,34nm,1.1s
DZA Taraz 25.97 307⇓ *i*P **P** **17 28 47.2 +0.6**
comp=Z,34nm,1.1s,baz=307
ZAA0 Zalesovo Array 26.16 340 P **P** **17 28 47.4 -0.7**
ZAA0 IAmb IAmb 17 28 49.2
comp=Z,54nm,0.9s
ZALV Zalesovo Beam 26.16 340 P **P** **17 28 47.6 -0.5**
comp=Z,36nm,0.8s,baz=148,slow=9.5,SNR=133
ZALV PcP **PcP** **17 32 13.0 -1.9**
comp=Z,2.7nm,0.8s,baz=174,slow=4.1,SNR=3.5
ZALV LR LR 17 38 45.4
comp=Z,546nm,18.4s,baz=277,slow=36
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 26.16 340 P **P** **17 28 47.4 -0.7**
KBL Kabul 26.18 288 P **P** **17 28 48.5 -0.3**
KBL IAmb IAmb 17 28 53.0
comp=Z,45nm,0.8s
KBL Kabul 26.18 288 P **P** **17 28 48.5 -0.3**
KBL pmax pmax
comp=Z,45nm,0.9s
KBL Kabul 26.18 288 P **P** **17 28 49.2 +0.4**
SNR=32
TSI Tuntungan 26.46 182 P **P** **17 28 51.9 +0.8**
comp=Z,80nm,1.0s
JSU Suzuyama 26.47 79 P **P** **17 28 50.3 -1.0**
CHGR Chuyangaron 26.48 297 P **P** **17 28 51.7 +0.4**
CHGR Chuyangaron 26.48 297 P **P** **17 28 51.7 +0.4**
CHGR pmax pmax
comp=Z,128nm,1.0s
KCSI Kotacane, Aceh 26.48 184 P **P** **17 28 52.3 +1.0**
comp=Z,25nm,1.0s
KK31 Karatay Array 26.60 307 P **P** **17 28 52.1 -0.2**
KK31 IAmb IAmb 17 28 59.9
comp=Z,88nm,1.1s
KK31 Karatay Array 26.60 307 *i* P **P** **17 28 52.5 +0.2**
KKAR Karatay Array 26.60 307 P **P** **17 28 52.5 +0.2**
KKAR IAmb IAmb 17 28 59.9
comp=Z,88nm,1.1s
KKAR Karatay Array 26.60 307 P **P** **17 28 52.1 -0.2**
KKAR Karatay Array 26.60 307 P **P** **17 28 52.5 +0.2**
KKAR pmax pmax
comp=Z,87nm,1.1s
IUG Iuzhnay 26.64 305 *i* P **P** **17 28 53.4 +0.7**
IUG *e*S **S** **17 33 27.4 +0.3**
IUG Iuzhnay 26.64 305 *i* P **P** **17 28 53.4 +0.7**
baz=305
IUG *e*S **S** **17 33 27.4 +0.3**
baz=305
BNX BinXian 26.73 46 ⇑P **P** **17 28 53.9 +0.5**
BNX pmax pmax
comp=Z,71nm,1.1s
BNX pmax pmax
comp=Z,490nm,8.9s
TAS Tashkent 26.94 303 P **P** **17 28 56.3 +0.9**
TAS IAmb IAmb 17 28 57.6
comp=Z,75nm,1.1s
TAS Tashkent 26.94 303 P **P** **17 28 56.3 +0.9**
TAS pmax pmax
comp=Z,75nm,1.1s
PSI Prapat 27.14 182 P **P** **17 28 58.1 +0.6**
PSI pmax pmax
comp=Z,16nm,1.1s
RPSI Rantau Prapat 27.25 182 P **P** **17 28 58.1 -0.2**
OTUK Ortayu 27.65 319 P **P** **17 29 00.6 -1.1**
MDJ Mudanjiang 27.70 50 P **P** **17 29 01.3 -0.8**
MDJ Mudanjiang 27.70 50 P **P** **17 29 01.8 -0.3**
MDJ pmax pmax
comp=Z,13nm,1.3s
MDJ pmax pmax
comp=Z,400nm,8.2s
MDJ LR LR
comp=Z,1μm,13.0s
MDJ LR LR
comp=Z,1μm,13.6s
MDJ LR LR
comp=Z,2μm,13.9s
MDJ Mudanjiang 27.70 50 P **P** **17 29 04.4 +2.3**
comp=Z,16nm,1.2s
BRZS Berezniki 28.40 322*d* *i*P **P** **17 29 08.8 +0.5**
BRZS pmax pmax
comp=Z,12nm,1.1s
BRZS Berezniki 28.40 322⇓ *i*P **P** **17 29 08.9 +0.5**
comp=Z,12nm,1.1s,baz=322
KKM Kota Kinabalu 28.56 144 P **P** **17 29 10.3 +0.2**
KKM IAmb IAmb 17 29 15.5
comp=Z,102nm,1.1s
KKM Kota Kinabalu 28.56 144 P **P** **17 29 10.8 +0.7**
JHS Saijyo 28.56 71 P **P** **17 29 07.7 -2.2**
JHS IAmb IAmb 17 30 08.4
comp=Z,106nm,2.0s
GSI Gunungsitoli 28.69 184 P **P** **17 29 10.4 -0.8**
GSI IAmb IAmb 17 29 21.1
comp=Z,44nm,1.0s
GSI Gunungsitoli 28.69 184 P **P** **17 29 13.0 +1.9**
comp=Z,36nm,0.8s
GSI Gunungsitoli 28.69 184 P **P** **17 29 13.7 +2.6**
PALK Pallekele 28.83 222 LR LR 17 43 25.6
comp=Z,635nm,19.2s,baz=143,slow=42
PALK Pallekele 28.83 222 P **P** **17 29 10.8 -1.6**
PALK Pallekele 28.83 222 P **P** **17 29 10.9 -1.6**
PALK pmax pmax
comp=Z,52nm,1.4s
USA0B Ussuriysk Arra 29.17 52 P **P** **17 29 14.5 -0.7**
USA0B Ussuriysk Arra 29.17 52 P **P** **17 29 14.5 -0.7**
USA0B pmax pmax
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 29.17 52 P **P** **17 29 13.9 -1.4**
comp=Z,6.5nm,0.8s,baz=319,slow=5.5,SNR=9.1
comp=Z,6.5nm,0.8s
USRK Ussuriysk Ar. 29.17 52 P **P** **17 29 14.9 -0.3**
USRK Ussuriysk Ar. 29.17 52 P **P** **17 29 14.9 -0.3**
SBUM Sibu 29.96 154 P **P** **17 29 23.6 +1.2**
MYLDM Lahad Datu 30.50 141 P **P** **17 29 28.0 +0.8**
MYLDM IAmb IAmb 17 29 34.4
comp=Z,77nm,1.0s
DSRI Dabo 30.76 170 P **P** **17 29 30.0 +0.6**
comp=Z,287nmcomp=Z,8.5nm,1.2s
SDSI Sungai Dareh 30.89 177 P **P** **17 29 31.0 +0.4**
comp=Z,6.9nm,1.2s
KLR Kul'dur 30.92 43 P **P** **17 29 29.3 -1.3**
comp=Z,5.9nm,0.9s,baz=257,slow=8.2,SNR=10
comp=Z,5.9nm,0.9s
KLR Kul'dur 30.92 43*ce*P **P** **17 29 30.7 +0.1**
KLR pmax pmax
comp=Z,22nm,1.7s
ZEA Zeya 30.97 32 *e*P **P** **17 29 31.0 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,1μm,10.0s
ZEA MLR MLR
comp=N,2μm,8.0s
ZEA MLR MLR
comp=Z,2μm,11.0s
BVA0 Borovoye Array 31.32 325 *i* P **P** **17 29 34.0 -0.1**
BVAR Borovoye Array 31.32 325 P **P** **17 29 34.2 +0.1**
comp=Z,2.3nm,0.5s,baz=120,slow=10,SNR=29
BVAR LR LR 17 43 37.8
comp=Z,771nm,21.3s,baz=121,slow=39
comp=Z,2.3nm,0.5s
BRVK Borovoye 31.39 325 P **P** **17 29 34.8 +0.1**
BRVK Borovoye 31.39 325*ce*P **P** **17 29 35.5 +0.8**
BRVK pmax pmax
comp=Z,37nm,1.7s
HRA Herat 31.80 288 P **P** **17 29 38.1 -0.8**
PPBI Pangkal Pinang 32.66 168 P **P** **17 29 47.0 +0.8**
comp=Z,33nm,1.2s
MJB9 Matsu-Tunnel 32.71 68 P **P** **17 29 44.8 -1.7**
MAJO Matsushiro 32.71 68 P **P** **17 29 44.8 -1.7**
MAJO Matsushiro 32.71 68 *i* P **P** **17 29 45.4 -1.2**
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MAJO Matsushiro 32.71 68 P **P** **17 29 49.1 +2.5**
MJAR Matsushiro Arr 32.71 68 P **P** **17 29 45.5 -1.0**
comp=Z,8.9nm,1.0s,baz=273,slow=9.0,SNR=19
comp=Z,8.9nm,1.0s
JSD Sado 32.78 66 P **P** **17 29 45.1 -2.0**
JSD IAmb IAmb 17 29 45.9
comp=Z,42nm,1.1s
DAV Davao City (W) 33.43 128 LR LR 17 43 30.1
comp=Z,620nm,18.8s,baz=338,slow=36
TPI Tanjungpandan 33.54 165 P **P** **17 29 54.5 +0.6**
comp=Z,16nm,1.1s
MTKI Muara Teweh, K 34.11 152 P **P** **17 29 59.9 +1.0**
GRNR Gornyy 34.30 42⇓ *i*P **P** **17 29 59.5 -0.7**
GRNR pmax pmax
comp=Z,8.0nm,1.0s
GRNR MLR MLR
comp=E,720nm,19.0s
GRNR MLR MLR
comp=Z,1μm,19.0s
PBKI Pangkalan Bun 34.57 158 P **P** **17 30 03.1 +0.2**
comp=Z,71nm,1.3s
GEYT Alibeck 35.07 294 P **P** **17 30 08.1 +1.0**
comp=Z,52nm,0.8s,baz=112,slow=6.6,SNR=99
GEYT PcP **PcP** **17 32 38.1 -0.6**
comp=Z,5.5nm,1.0s,baz=116,slow=3.4,SNR=2.9
GEYT LR LR 17 46 52.9
comp=Z,2μm,18.4s,baz=92,slow=40
comp=Z,52nm,0.8s
GEYT Alibeck 35.07 294 P **P** **17 30 08.4 +1.3**
GYA0 ALIBECK ARRAY 35.07 294 P **P** **17 30 07.7 +0.6**
GYA0B ALIBECK ARRAY 35.07 294 P **P** **17 30 08.2 +1.2**
GYA0B IAmb IAmb 17 30 09.7
comp=Z,60nm,0.9s
KLI Kotabumi 35.11 171 P **P** **17 30 08.0 +0.6**
comp=Z,70nm,0.5s
LWLI Liwa 35.16 172 P **P** **17 30 07.8 -0.2**
comp=Z,35nm,1.0s
BKB Balikpapan 35.25 149 P **P** **17 30 07.6 -1.1**
comp=Z,74nm,1.0s
BKB Balikpapan 35.25 149 P **P** **17 30 10.4 +1.7**
MPSI Mapaga 35.31 143 P **P** **17 30 09.3 0.0**
comp=Z,10nm,1.0s
AB31 Akbulak array 35.54 314 *i* P **P** **17 30 11.2 +0.3**
ABKAR Akbulak array 35.54 314 P **P** **17 30 11.5 +0.7**
ABKAR Akbulak array 35.54 314 P **P** **17 30 10.8 0.0**
MRSI Marisa 36.29 140 P **P** **17 30 17.7 0.0**
comp=Z,28nm,1.1s
BBKI Banjar Baru 36.39 154 P **P** **17 30 18.8 +0.3**
comp=Z,20nm,1.2s
GTOI Gorontalo 36.77 138 P **P** **17 30 20.9 -0.8**
comp=Z,336nmcomp=Z,30nm,1.1s
JASK Jask - Hormozg 36.98 274 P **P** **17 30 25.6 +2.1**
SNR=6.0
AKTO Aktyubinsk 37.08 315 LR LR 17 47 07.3
comp=Z,767nm,19.3s,baz=112,slow=39
YSS Yuzh-Sakhalins 37.18 51 P **P** **17 30 24.4 -0.5**
YSS IAmb IAmb 17 30 29.8
comp=Z,71nm,1.4s
YSS Yuzh-Sakhalins 37.18 51 *e*P **P** **17 30 24.2 -0.7**
YSS *e*PS S 17 36 00.7 -10
YSS pmax pmax
comp=Z,30nm,1.4s
YSS MLR MLR
comp=Z,900nm,14.0s
YSS Yuzh-Sakhalins 37.18 51 P **P** **17 30 24.7 -0.2**
APSI Ampana 37.29 142 P **P** **17 30 26.5 +0.3**
comp=Z,470nmcomp=Z,50nm,1.1s
KMSI Cibinong 37.38 137 P **P** **17 30 27.8 +0.9**
comp=Z,128nm,1.0s
BIDO Bidbid 37.47 270 P **P** **17 30 31.0 +3.3**
SNR=9.8
YAK Yakutsk 37.48 23 LR LR 17 47 08.7
comp=Z,535nm,20.5s,baz=140,slow=38
YAK Yakutsk 37.48 23 P **P** **17 30 26.1 -1.1**
YAK Yakutsk 37.48 23 *e*P **P** **17 30 26.0 -1.3**
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,5.0nm,0.9s
LEM Lembang 37.49 167 LR LR 17 46 31.2
comp=N,595nm,18.6s,baz=318,slow=37
LEM Lembang 37.49 167 P **P** **17 30 28.1 +0.1**
comp=N,19nm,1.4s
SMDO Samad 37.69 269 P **P** **17 30 31.0 +1.3**
SNR=15
SMDO P **P** **17 30 31.0 +1.3**
SNR=15
JMDO Jabal Madar 37.88 268 P **P** **17 30 34.3 +3.1**
SNR=5.5
LUWI Luwuk 38.01 140 P **P** **17 30 31.9 -0.4**
LUWI Luwuk 38.01 140 P **P** **17 30 31.7 -0.6**
comp=N,1μmcomp=N,118nm,1.3s
LUWI Luwuk 38.01 140 P **P** **17 30 32.9 +0.6**
TYV Tymovskoe 38.06 45 *e*P **P** **17 30 33.2 +0.9**
TYV *e*S **S** **17 36 25.4 +1.4**
TYV pmax pmax
comp=Z,24nm,1.3s
TYV pmax pmax
comp=Z,100nm,3.9s
TYV smax smax
comp=N,200nm,3.5s
TYV smax smax
comp=E,200nm,3.5s
HOQ Hoqain 38.16 271 P **P** **17 30 36.0 +2.5**
SNR=9.4
TTSI Tana Toraja 38.18 146 P **P** **17 30 34.5 +0.8**
comp=E,869nmcomp=E,82nm,1.2s
MHTO MHTO 38.50 266 P **P** **17 30 39.0 +2.6**
SNR=7.1
MHTO P **P** **17 30 39.0 +2.6**
SNR=7.1
BSY Bisya 38.53 269 P **P** **17 30 38.0 +1.2**
SNR=13
MASF Masafi 38.60 274 P P 17 30 42.5 +5.2
SNR=6.2
MSFE Esma-Masafi 38.60 274 *i* P **P** **17 30 39.3 +2.0**
SNR=6.2
UOSS Minazif 38.69 273 P **P** **17 30 38.2 +0.2**
UOSS Minazif 38.69 273 P **P** **17 30 38.6 +0.6**
HATD Hatta, Dubai 38.79 273 P **P** **17 30 43.1 +4.3**
SNR=8.1
HATD Hatta, Dubai 38.79 273 *i* P **P** **17 30 39.6 +0.8**
SNR=6.2
ASHO Ashiyiah 38.89 273 P **P** **17 30 42.0 +2.3**
SNR=18
ASHO Ashiyiah 38.89 273 *i* P **P** **17 30 41.1 +1.3**
SNR=40
ARQ Araqi 38.92 271 P **P** **17 30 43.0 +3.0**
SNR=11
ARU Arti 38.95 325 LR LR 17 48 16.7
comp=E,531nm,19.2s,baz=106,slow=39
ARU Arti 38.95 325 P **P** **17 30 39.6 -0.2**
ARU IAmb IAmb 17 30 43.9
comp=Z,58nm,1.1s
ARU Arti 38.95 325*d* *i*P **P** **17 30 39.4 -0.4**
ARU 17 32 10.9
ARU PPP PPP 17 32 30.1
ARU 17 32 51.3
ARU S **S** **17 36 36.9 -0.5**
ARU SS **SnSn** **17 39 27.4 -0.9**
ARU 17 40 47.5
ARU pmax pmax
comp=Z,68nm,1.2s
ARU MLR MLR
comp=Z,471nm,16.0s
SPSI Sidrap Palu 38.96 147 P **P** **17 30 40.6 +0.4**
comp=Z,924nmcomp=Z,74nm,1.2s
NAZ Nazwa, Dubai 39.15 273 P **P** **17 30 46.0 +4.2**
SNR=7.1
NAZ Nazwa, Dubai 39.15 273 P **P** **17 30 42.4 +0.6**
FAQ Al Faqa, Dubai 39.28 273 P **P** **17 30 43.9 +1.0**
TNTI Ternate 39.30 133 P **P** **17 30 42.3 -0.8**
TNTI Ternate 39.30 133 P **P** **17 30 42.4 -0.8**
comp=Z,32nm,1.0s
TNTI Ternate 39.30 133 P **P** **17 30 42.9 -0.2**
comp=Z,32nm,1.0s
ALNE Al Ain 39.36 272 P **P** **17 30 45.4 +1.8**
SNR=12
ALNE Al Ain 39.36 272 *i* P **P** **17 30 43.9 +0.3**
SNR=7.4
KMMI Kalianget 39.40 157 P **P** **17 30 44.3 +0.4**
comp=Z,32nm,1.3s
ASUD Al Ashush, Dub 39.54 273 P P 17 30 50.0 +4.9
SNR=7.0
ASUD Al Ashush, Dub 39.54 273 *i* P **P** **17 30 45.9 +0.8**
SNR=5.0
PWJI Pagerwojo 39.65 161 P **P** **17 30 46.0 0.0**
comp=Z,58nm,1.1s
AJN Ajban 39.86 273 P **P** **17 30 51.4 +3.6**
SNR=8.4
AJN Ajban 39.86 273 *i* P **P** **17 30 48.3 +0.6**
SNR=5.0
KAPI Kappang 39.87 148 LR LR 17 49 21.0
comp=Z,311nm,20.6s,baz=302,slow=39
KAPI Kappang 39.87 148 P **P** **17 30 48.1 +0.2**
KAPI Kappang 39.87 148 *i* P **P** **17 30 49.3 +1.5**
KAPI pmax pmax
comp=Z,16nm,1.0s
KAPI Kappang 39.87 148 P **P** **17 30 50.7 +2.9**
NRIK Noril'sk 39.91 353 P **P** **17 30 47.4 -0.1**
comp=Z,23nm,1.0s,baz=156,slow=7.0,SNR=17
NRIK LR LR 17 48 10.6
comp=Z,942nm,20.3s,baz=144,slow=38
comp=Z,23nm,1.0s
NRIK Noril'sk 39.91 353 P **P** **17 30 47.1 -0.5**
NRIK IAmb IAmb 17 30 56.2
comp=Z,68nm,1.4s
BKSI Bulukumba 40.31 147 P **P** **17 30 51.2 -0.3**
comp=Z,14nm,0.9s
LBMI Labuha 40.47 134 P **P** **17 30 52.7 -0.2**
comp=Z,33nm,0.9s
SANI Sanana 40.67 137 P **P** **17 30 52.0 -2.5**
comp=Z,16nm,0.9s
SANI Sanana 40.67 137 P **P** **17 30 53.5 -1.0**
JAGI Jajag, Banyuwa 40.79 158 P **P** **17 30 55.8 +0.3**
BBSI Bau Bau 41.65 144 P **P** **17 31 02.8 +0.3**
comp=Z,27nm,1.2s
MZR Muzera 41.67 272 P **P** **17 31 03.3 +0.5**
SNR=12
MZR Muzera 41.67 272 *i* P **P** **17 31 02.3 -0.5**
SNR=24
NLAI Namlea 42.28 137 P **P** **17 31 08.3 +0.6**
comp=Z,4μmcomp=Z,26nm,1.1s
MAK Makhachkala 43.18 302 *e*P **P** **17 31 11.7 -3.0**
MAK *e*S **S** **17 37 33.0 -7.5**
MAK pmax pmax
comp=Z,122nm,1.0s
MAK MLR MLR
comp=Z,429nm,14.0s
AAI Ambon 43.29 136 P **P** **17 31 15.9 0.0**
comp=Z,32nm,1.0s
MSAI Masohi 43.47 135 P **P** **17 31 17.7 +0.3**
comp=Z,5.1nm,1.0s
BELG Belogornoye 43.86 316 LR LR 17 51 42.1
comp=Z,364nm,18.8s,baz=127,slow=39
BELG Belogornoye 43.86 316 *i* P **P** **17 31 20.2 +0.1**
BELG pmax pmax
comp=Z,22nm,1.1s
EDFI Ende, Flores 44.05 148 P **P** **17 31 20.8 -1.3**
comp=Z,9.3nm,1.2s
MMRI Maumere 44.21 147 P **P** **17 31 22.1 -1.1**
MMRI IAmb IAmb 17 31 26.1
comp=Z,116nm,1.5s
MMRI Maumere 44.21 147 P **P** **17 31 22.0 -1.2**
comp=Z,42nm,0.9s
MMRI Maumere 44.21 147 P **P** **17 31 22.7 -0.5**
KIRV Kirov 44.33 325 LR LR 17 51 45.4
comp=Z,499nm,19.2s,baz=108,slow=39
KIRV Kirov 44.33 325*ce*P **P** **17 31 23.3 -0.4**
GROC Groznyy 44.42 302 *e*P **P** **17 31 25.9 +1.1**
GROC S **S** **17 37 57.8 -1.0**
GROC pmax pmax
comp=Z,315nm,1.3s
TIXI Tiksi 44.55 13 LR LR 17 52 16.6
comp=Z,408nm,19.2s,baz=180,slow=39
TIXI Tiksi 44.55 13 *i* P **P** **17 31 25.5 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
MA2 Magadan 45.08 34 LR LR 17 51 23.4
comp=Z,494nm,18.2s,baz=344,slow=38
MA2 Magadan 45.08 34 P **P** **17 31 29.0 -0.7**
MA2 IAmb IAmb 17 31 33.8
comp=Z,37nm,1.1s
MA2 Magadan 45.08 34 *i* P **P** **17 31 30.0 +0.3**
MA2 pmax pmax
comp=Z,41nm,1.2s
MA2 Magadan 45.08 34 P **P** **17 31 33.9 +4.2**
GNI Garni 45.38 298 LR LR 17 53 56.4
comp=Z,269nm,18.1s,baz=104,slow=41
GNI Garni 45.38 298 P **P** **17 31 33.6 +1.0**
GNI Garni 45.38 298*ce*P **P** **17 31 34.1 +1.4**
GNI pmax pmax
comp=Z,79nm,1.7s

GNI **Garni** 45.38 298 P **P** 17 31 33.8 +1.1
GUDG **Gudauri** 45.42 302 P **P** 17 31 34.3 +1.3
GUDG **Gudauri** 45.42 302 P **P** 17 31 34.3 +1.3
GUDG pmax pmax
comp=Z,143nm,0.9s
ZEI **Tsey** 45.83 302 *e*P **P** 17 31 36.6 +0.4
ZEI pmax pmax
comp=Z,37nm,1.3s
BATI **Baumata** 46.25 146 LR LR 17 53 18.5
comp=Z,294nm,18.1s,baz=303,slow=39
BATI **Baumata** 46.25 146 P **P** 17 31 38.0 -1.5
comp=Z,42nm,1.0s
KBZ **Khabaz** 46.52 303 P **P** 17 31 42.0 +0.7
comp=Z,5.7nm,0.8s,baz=75,slow=3.0,SNR=9.8
comp=Z,5.7nm,0.8s
KBZ **Khabaz** 46.52 303 P **P** 17 31 42.0 +0.7
KARS **Kars** 46.60 299 P **P** 17 31 43.5 +1.2
KARS **Kars** 46.60 299 P **P** 17 31 43.5 +1.2
KARS pmax pmax
comp=Z,120nm,0.9s
BAKI **Biak** 46.64 125 P **P** 17 31 42.0 -0.6
comp=Z,2µmcomp=Z,35nm,1.5s
KIV **Kislovodsk** 46.66 304 ⇑P **P** 17 31 43.1 +0.5
KIV **Kislovodsk** 46.66 304 P **P** 17 31 41.9 -0.6
KIV **Kislovodsk** 46.66 304 *e*P **P** 17 31 41.7 -0.9
KIV pmax pmax
comp=Z,93nm,1.0s
KIV MLR MLR
comp=Z,203nm,16.0s
KIV **Kislovodsk** 46.66 304 *i* P **P** 17 31 43.1 +0.5
SNR=18
NEY **Neytrino** 46.67 303 *i* P **P** 17 31 44.4 +1.6
NEY pmax pmax
comp=Z,5.0nm,0.8s
SHA1 **Shidzhatmaz** 46.69 303*d i*P **P** 17 31 42.9 -0.1
GEVA **Gevas** 46.88 296 P **P** 17 31 45.6 +1.1
GEVA IAmb IAmb 17 31 49.4
comp=Z,27nm,1.1s
PRGR **Permogore** 47.04 328 *e*P **P** 17 31 44.2 -1.0
PRGR pmax pmax
comp=Z,29nm,0.9s
VRH **Novokhopyorsk** 47.37 314 *e*P **P** 17 31 47.7 -0.1
VRH pmax pmax
comp=Z,60nm,0.9s
PETK **Petropavlovsk-** 47.60 44 P **P** 17 31 48.8 -0.8
comp=Z,9.4nm,0.9s,baz=213,slow=11,SNR=10.0
comp=Z,9.4nm,0.9s
PETK **Petropavlovsk-** 47.60 44 P **P** 17 31 48.6 -1.0
GURO **Guroymak-BITLI** 47.65 296 P **P** 17 31 50.4 -0.1
GURO IAmb IAmb 17 31 55.8
comp=Z,41nm,0.9s
RAYN **Ar Rayn** 48.39 276 P **P** 17 31 55.6 -0.7
RAYN IAmb IAmb 17 31 59.9
comp=Z,40nm,1.4s
RAYN **Ar Rayn** 48.39 276 P **P** 17 31 55.6 -0.7
RAYN pmax pmax
comp=Z,40nm,1.4s
RAYN **Ar Rayn** 48.39 276 *i* P **P** 17 31 56.1 -0.1
SNR=18
KOPT **Kop Dagi** 48.63 299 P **P** 17 31 58.1 -0.1
MARD **Mardin** 48.82 295 P **P** 17 31 59.8 +0.3
SOC **Sochi** 48.83 303 *e*P **P** 17 31 57.9 -1.4
SOC *e* 17 33 46.5
SOC *e*PPP PPP 17 34 39.4
SOC *e*S **S** **17 38 59.3 -2.5**
SOC *e*SS SS 17 42 20.2 -12
SOC *e*SSS SSS 17 43 48.1
SOC pmax pmax
comp=Z,32nm,0.8s
SOC MLR MLR
comp=Z,395nm,17.0s
VORR **Voronezh** 48.96 314 *e*P **P** 17 32 00.9 +0.8
VORR pmax pmax
comp=Z,115nm,0.7s
VSR **Storozhevoye** 48.97 313 *e*P **P** 17 31 59.8 -0.5
VSR pmax pmax
comp=Z,60nm,1.1s
SMPI **Sarmi** 49.06 123 P **P** 17 32 01.4 +0.1
comp=Z,926nmcomp=Z,67nm,1.3s
LPSR **Galich'ya Gora** 49.16 315 *e*P **P** 17 32 01.9 +0.2
LPSR pmax pmax
comp=Z,90nm,0.8s
KLMR **Klimovskoe** 49.74 326 *e*P **P** 17 32 04.7 -1.2
KLMR *e* 17 33 27.1
KLMR 17 34 02.7
KLMR pmax pmax
comp=Z,84nm,1.2s
KLMR **Klimovskoe** 49.74 326 *e*P **P** 17 32 04.7 -1.2
KLMR AMP 17 32 10.4
comp=Z,84nm,1.2s
KLMR *e*PcP **PcP** **17 33 27.2 +0.4**
KLMR PP **PP** **17 34 02.8 +2.5**
MOS **Moscow** 50.11 319 *e*P **P** 17 32 07.7 -1.1
MOS *e* 17 34 05.3
MOS *e*S **S** **17 39 16.3 -3.0**
MOS pmax pmax
comp=Z,159nm,1.4s
MOS pmax pmax
comp=Z,900nm,1.8s
MOS MLR MLR
comp=Z,1µm,21.0s
ANN **Anapa** 50.36 305 *e*P **P** 17 32 10.4 -0.5
ANN *e**PP **pP** **17 32 17.4 -0.6**
ANN *e*S **S** **17 39 22.6 -0.5**
ANN pmax pmax
comp=Z,63nm,0.9s
ANN MLR MLR
comp=Z,527nm,15.0s
GENI **Genyem** 50.53 123 P **P** 17 32 13.4 +0.9
comp=Z,µmcomp=Z,110nm,1.5s
GENI **Genyem** 50.53 123 P **P** 17 32 15.7 +3.2
OBN **Obninsk** 50.67 319 P **P** 17 32 13.1 0.0
OBN **Obninsk** 50.67 319*de*P **P** 17 32 12.4 -0.7
OBN *e* 17 34 10.3
OBN *e*S **S** **17 39 29.1 +1.9**
OBN pmax pmax
comp=Z,84nm,1.7s
OBN MLR MLR
comp=Z,495nm,19.0s
MTN **Manton Dam** 52.36 140 P **P** 17 32 26.8 +0.6
BNN **Bunyan** 52.38 298 P **P** 17 32 25.8 -0.5
KDU **Kakadu** 53.00 139 P **P** 17 32 30.7 -0.2
LVZ **Lovozero** 53.10 335 P **P** 17 32 29.8 -1.3
LVZ IAmb IAmb 17 32 34.6
comp=Z,46nm,1.4s
LVZ **Lovozero** 53.10 335*ce*P **P** 17 32 31.7 +0.6
LVZ pmax pmax
comp=Z,34nm,1.3s
KNRA **Kununurra** 53.46 144 P **P** 17 32 34.0 -0.2
KNRA IAmb IAmb 17 32 38.3
comp=Z,27nm,1.1s
KNRA **Kununurra** 53.46 144 P **P** 17 32 34.5 +0.3
APA **Apatity** 53.51 334 ⇓*i*P **P** 17 32 29.5 -4.6
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,400nm,15.0s
ILGA **Ilgaz** 53.58 301 P **P** 17 32 34.5 -0.8
BILL **Bilibino** 53.74 25⇑*e*P **P** 17 32 37.4 +1.6
BILL *e* 17 34 40.9
BILL pmax pmax
comp=Z,14nm,1.2s
BILL MLR MLR
comp=Z,366nm,14.0s
BR131 **Keskin Array S** 53.89 299 P **P** 17 32 36.8 -0.7
BR131 **Keskin Array S** 53.89 299 *i* P **P** 17 32 37.4 -0.1
BRTR **Keskin Array B** 53.89 299 P **P** 17 32 37.2 -0.3
comp=Z,10nm,0.8s,baz=111,slow=6.4,SNR=29
BRTR PcP **PcP** **17 33 42.6 -0.3**
comp=Z,2.4nm,0.9s,baz=74,slow=5.1,SNR=2.0
BRTR LR LR 18 00 30.8
comp=Z,219nm,18.6s,baz=68,slow=42
comp=Z,10nm,0.8s
BRTR **Keskin Array B** 53.89 299 P **P** 17 32 36.8 -0.7
MMAI **Mount Meron Ar** 54.05 291 LR LR 17 59 32.2
comp=Z,204nm,18.6s,baz=287,slow=40
FITZ **Fitzroy Crossi** 54.06 149 LR LR 17 58 17.4
comp=Z,208nm,18.0s,baz=23,slow=39
FITZ **Fitzroy Crossi** 54.06 149 P **P** 17 32 38.4 -0.3
FITZ **Fitzroy Crossi** 54.06 149 P **P** 17 32 38.6 0.0
PUL **Pulkovo** 54.19 324 *i* P **P** 17 32 39.3 +0.2
PUL pmax pmax
comp=Z,54nm,0.9s
ANTO **Ankara** 54.50 300 P **P** 17 32 41.6 -0.2
ANTO **Ankara** 54.50 300 P **P** 17 32 41.6 -0.2
ANTO pmax pmax
comp=Z,54nm,0.9s
BR231 **Keskin MP Arra** 54.51 300 P **P** 17 32 41.8 -0.2
PSA00 **Pilbara Seismi** 54.92 157 P **P** 17 32 44.5 -0.3
PSA00 **Pilbara Seismi** 54.92 157 P **P** 17 32 44.5 -0.3
PSA00 IAmb IAmb 17 32 45.5
comp=Z,8.8nm,1.2s
AKASG **Malin Array Be** 55.27 313 P **P** 17 32 46.5 -0.6
comp=Z,19nm,0.9s,baz=73,slow=6.7,SNR=44
comp=Z,19nm,0.9s
AKASG **Malin Array Be** 55.27 313 P **P** 17 32 46.0 -1.2
AKASG IAmb IAmb 17 32 50.6
comp=Z,40nm,0.9s
AKASG **Malin Array Be** 55.27 313 *i* P **P** 17 32 46.9 -0.2
AKASG pmax pmax
comp=Z,31nm,0.9s
AKBB **Malin Array Si** 55.27 313 P **P** 17 32 46.1 -1.0
AKBB IAmb IAmb 17 32 50.6
comp=Z,39nm,1.0s
AKBB **Malin Array Si** 55.27 313*ce*P **P** 17 32 46.7 -0.4
AKBB pmax pmax
comp=Z,31nm,1.0s
AK05 **Malin Array Si** 55.29 313 P **P** 17 32 46.1 -1.2
AK05 IAmb IAmb 17 32 50.8
comp=Z,48nm,0.9s
EIL **Elat** 55.38 287 LR LR 18 00 57.8
comp=Z,577nm,19.2s,baz=131,slow=41
MDUB **Mudurnu** 55.57 301 P **P** 17 32 48.8 -0.8
MANU **Manus Island** 55.60 116 P **P** 17 32 49.9 0.0
ATD **Arta Tunnel** 55.65 263 P **P** 17 32 50.2 -0.2
ATD IAmb IAmb 17 32 54.0
comp=Z,23nm,1.0s
MNK **Minsk** 55.71 318 *i* P **P** 17 32 50.9 +0.7
MNK *i* 17 34 54.5
MNK *i* PPP PPP 17 36 07.5
MNK *i* S **S** **17 40 36.0 +0.3**
MNK *i* SS **SS** **17 44 25.7 +5.0**
MNK pmax pmax
comp=E,3.0nm,1.2s
MNK pmax pmax
comp=Z,30nm,1.2s
MNK MLR MLR
comp=E,55nm,13.0s
MNK MLR MLR
comp=Z,671nm,18.0s
MNK **Minsk** 55.71 318 *i* P **P** 17 32 50.9 +0.7
comp=E,3.0nm,1.2s
MNK *i* P **P** 17 32 50.9 +0.7
MNK *i* P **P** 17 32 50.9 +0.7
comp=Z,30nm,1.2s,baz=85
MNK *i* PP **PP** **17 34 54.6 +0.2**
MNK *i* PPP PPP 17 36 07.5
MNK *i* S **S** **17 40 36.0 +0.3**
MNK *i* SS **SS** **17 44 25.7 +5.0**
MNK *i* SSS SSS 17 46 33.3
MNK *i* LQ LQ 17 50 54.1
MNK *i* LR LR 17 55 17.1
MNK *i* LRM MLR 17 57 51.9
comp=E,55nm,13.1s
MNK *i* LRM MLR 17 57 56.5
comp=Z,671nm,18.4s
MILM **Milestii Mici** 56.06 309*d i*P **P** 17 32 54.6 +1.7
MILM pmax pmax
comp=Z,67nm,0.9s
MILM MLR MLR
comp=Z,400nm,12.0s
VSU **Vasula** 56.07 323 *i* P **P** 17 32 52.9 +0.2
VSU pmax pmax
comp=Z,87nm,1.1s
VSU **Vasula** 56.07 323 *e*P **P** 17 32 52.6 -0.1
KEV **Kevo** 56.11 336 P **P** 17 32 52.6 -0.2
KEV IAmb IAmb 17 32 53.8
comp=Z,29nm,1.0s
KEV **Kevo** 56.11 336 P **P** 17 32 52.6 -0.2
KEV pmax pmax
comp=Z,29nm,1.0s
BORA **Eskisehir** 56.25 300 P **P** 17 32 53.2 -1.3
BORA IAmb IAmb 17 32 54.9
comp=Z,29nm,1.0s
FIA1 **FINESS Array S** 56.27 326 P **P** 17 32 53.4 -0.7
FIA1 IAmb IAmb 17 32 55.0
comp=Z,36nm,1.4s
FIA0 **FINESS Array S** 56.27 326 P **P** 17 32 53.1 -1.0
FIA0 **FINESS Array S** 56.27 326 P **P** 17 32 53.1 -1.0
FINES **FINESS Array B** 56.27 326 P **P** 17 32 53.5 -0.7
comp=Z,5.3nm,0.6s,baz=91,slow=7.7,SNR=19
comp=Z,5.3nm,0.6s
FINES **FINESS Array B** 56.27 326 P **P** 17 32 53.0 -1.1
FINES **FINESS Array B** 56.27 326 *i* P **P** 17 32 53.7 -0.4
FINES pmax pmax
comp=Z,7.0nm,0.7s
NACGM **Naroch** 56.31 318⇑*e*P **P** 17 32 55.3 +0.8
baz=84
JURR **Jurilovca** 56.39 306 ⇓P **P** 17 32 55.4 +0.2
IIGN **Ignalina** 56.59 319 *e*P **P** 17 32 57.4 +0.9
ARA0 **ARCESS Array S** 56.62 336 *e*P **P** 17 32 56.3 -0.2
ARA0 IAmb IAmb 17 33 00.5
comp=Z,39nm,1.2s
ARCES **ARCESS Array B** 56.62 336 P **P** 17 32 56.2 -0.2
comp=Z,15nm,0.9s,baz=88,slow=7.5,SNR=28
ARCES LR LR 17 59 17.8
comp=Z,533nm,18.4s,baz=80,slow=38
comp=Z,15nm,0.9s
ARCES **ARCESS Array B** 56.62 336 P **P** 17 32 56.4 -0.1
ARCES IAmb IAmb 17 33 00.2
comp=Z,25nm,1.1s
ARCES **ARCESS Array B** 56.62 336 P **P** 17 32 56.4 -0.1
ARCES pmax pmax
comp=Z,25nm,1.1s
ISAL **Salakas** 56.62 319 *e*P **P** 17 32 56.6 -0.1
ISP **Isparta** 56.69 298 P **P** 17 32 54.9 -2.7
ISP **Isparta** 56.69 298 P **P** 17 32 54.9 -2.7
ISP pmax pmax
comp=Z,52nm,0.9s
TPGR **Topolog** 56.70 306 ⇓P **P** 17 32 57.5 0.0
TIRR **Tirgusor** 56.78 306 ⇑P **P** 17 32 57.4 -0.6
TIRR **Tirgusor** 56.78 306 P **P** 17 32 56.3 -1.7
TIRR **Tirgusor** 56.78 306 P **P** 17 32 56.3 -1.7
TIRR pmax pmax
comp=Z,68nm,1.1s
VASR **Vaslui** 56.80 309 ⇓P **P** 17 32 59.2 +1.1
CFR **Carcaliu** 56.83 307 ⇑P **P** 17 32 58.7 +0.3
HARR **Harsova** 57.07 306 ⇓P **P** 17 33 00.4 +0.3
MEF **Metsahovi** 57.15 325 *e*P **P** 17 32 58.9 -1.4
ICOR **Ion Corvin** 57.28 306 ⇑P **P** 17 33 02.0 +0.5
HAMF **Hammerfest** 57.29 337 *e*P **P** 17 33 00.7 -0.6
HAMF IAmb IAmb 17 33 05.0
comp=Z,34nm,0.6s
KTK1 **Kautokeino** 57.41 335 *e*P **P** 17 33 02.0 -0.1
KTK1 IAmb IAmb 17 33 02.5
comp=Z,23nm,1.0s
ELL **Elmali** 57.43 297 P **P** 17 33 02.0 -0.9
ELL **Elmali** 57.43 297 P **P** 17 33 02.0 -0.9
ELL pmax pmax
comp=Z,238nm,1.0s
MTSE **Matsula** 57.57 323 *e*P **P** 17 33 03.3 0.0
TESR **Tescani** 57.60 309 ⇓P **P** 17 33 03.9 +0.1
VRI **Vrincioaia** 57.67 308 ⇑P **P** 17 33 05.5 +1.1
PLOR **Plostina** 57.73 308 ⇓P **P** 17 33 06.0 +1.2
PRD **Provadia** 57.75 305 P **P** 17 33 04.0 -0.9
VSVD **Vaisvydziai** 57.81 320 *e*P **P** 17 33 05.0 -0.1
PABE **Paberze** 57.84 319 P **P** 17 33 04.5 -0.8
PABE IAmb IAmb 17 33 10.3
comp=Z,14nm,0.6s
PABE **Paberze** 57.84 319 *e*P **P** 17 33 04.8 -0.6
BIZ **Bicaz** 57.89 309 ⇑P **P** 17 33 05.8 0.0
ISR **Istrita** 57.95 307 ⇓P **P** 17 33 07.8 +1.4
COVR **Voineasa-Covas** 58.03 308 ⇓P **P** 17 33 07.9 +0.9
OZUR 58.27 308 ⇓P **P** 17 33 09.2 +0.6
MLR **Muntele Rosu** 58.28 307 ⇓P **P** 17 33 10.1 +1.3
MLR **Muntele Rosu** 58.28 307 LR LR 18 00 57.9
comp=Z,306nm,18.3s,baz=56,slow=39
MLR **Muntele Rosu** 58.28 307 P **P** 17 33 09.2 +0.5
MLR **Muntele Rosu** 58.28 307 P **P** 17 33 09.3 +0.5
MLR pmax pmax
comp=Z,59nm,1.0s
BURAR **Bucovina Array** 58.35 310 ⇓P **P** 17 33 09.5 +0.3
BURAR **Bucovina Array** 58.35 310 P **P** 17 33 08.8 -0.4
BUR08 **Bucovina Ar. S** 58.35 310 P **P** 17 33 09.3 +0.1
RAF **Rauma** 58.38 326 *e*P **P** 17 33 08.7 -0.3
JETT **Jettan, Norway** 58.41 336 *e*P **P** 17 33 08.7 -0.4
JETT IAmb IAmb 17 33 12.5
comp=Z,37nm,0.9s
JMB **Yambol** 58.51 304 P **P** 17 33 07.5 -2.7
DOPR **Dopca** 58.57 308 ⇑P **P** 17 33 11.0 +0.4
LVV **L'vov** 58.70 313 *e*P **P** 17 33 11.4 0.0
LVV *e*S **S** **17 41 10.2 -5.1**
LVV pmax pmax
comp=Z,70nm,1.4s
LVV MLR MLR
comp=E,300nm,15.0s
LVV MLR MLR
comp=N,100nm,16.0s
LVV MLR MLR
comp=Z,400nm,15.0s
SZH **Strazhica** 58.78 305 P **P** 17 33 10.8 -1.4
VOIR 58.91 308 ⇑P **P** 17 33 13.4 +0.3
TRO **Tromso** 58.92 336 *e*P **P** 17 33 12.1 -0.6
TRO IAmb IAmb 17 33 15.4
comp=Z,35nm,1.0s
ARCR **ARCALIA** 59.03 310 ⇑P **P** 17 33 15.1 +1.3
ARR **Arges** 59.21 308 ⇓P **P** 17 33 15.2 0.0
ALN **Alexandroupoli** 59.28 302 P **P** 17 33 15.4 -0.2
ALN IAmb IAmb 17 33 19.4
comp=Z,50nm,1.6s
ALN **Alexandroupoli** 59.28 302 P **P** 17 33 15.4 -0.2
ALN pmax pmax
comp=Z,50nm,1.6s
SPITS **Spitsbergen Ar** 59.40 346 LR LR 18 03 08.0
comp=Z,453nm,18.1s,baz=60,slow=40
BMR **Baia Mare** 59.48 310 ⇑P **P** 17 33 17.3 +0.5
KDZ **Kurdzhali** 59.55 303 P **P** 17 33 16.0 -1.5
KWP **Kalwaria Pacla** 59.58 313 *e*P **P** 17 33 18.8 +1.2
KWP **Kalwaria Pacla** 59.58 313 P **P** 17 33 18.2 +0.6
KWP **Kalwaria Pacla** 59.58 313 P **P** 17 33 18.2 +0.6
KWP pmax pmax
comp=Z,835nm,1.1s
RDO **Rodhopi** 59.59 303 P **P** 17 33 17.4 -0.3
RDO IAmb IAmb 17 33 19.6
comp=Z,24nm,1.3s
LOT **Lotru** 59.79 308 ⇓P **P** 17 33 19.6 +0.4
WB0 **Warramunga Arr** 59.80 142 P **P** 17 33 18.8 -0.6
KARP **Karpathos** 59.90 296 P **P** 17 33 19.9 -0.1
WRAB **Tennant Creek** 59.91 142 P **P** 17 33 19.5 -0.7
WRAB **Tennant Creek** 59.91 142*ce*P **P** 17 33 20.4 +0.2
WRAB pmax pmax
comp=Z,136nm,1.7s
WRAB **Tennant Creek** 59.91 142 P **P** 17 33 19.8 -0.4
WRA **Warramunga Arr** 59.92 142 P **P** 17 33 19.7 -0.4
comp=Z,66nm,1.1s,baz=331,slow=7.5,SNR=185
WRA LR LR 18 00 58.2
comp=Z,147nm,21.1s,baz=21,slow=38
WRA PKP2bc **P'P'bc** **18 02 55.4 +3.8**
comp=Z,1.2nm,1.1s,baz=172,slow=2.1,SNR=4.9
comp=Z,66nm,1.1s
WRA **Warramunga Arr** 59.92 142 P **P** 17 33 19.3 -0.9
WB2 **Warramunga Arr** 59.92 142 P **P** 17 33 19.5 -0.7
KOLS **Kolonicke sedl** 60.00 312 *e*P **P** 17 33 21.0 +0.5
KOLS pmax pmax
comp=Z,11nm,1.1s
KOLS **Kolonicke sedl** 60.00 312 *e*P **P** 17 33 21.0 +0.5
TRPA **Tarpa** 60.00 311 ⇓P **P** 17 33 21.1 +0.6
TRPA **Tarpa** 60.00 311 P **P** 17 33 21.0 +0.6
WR0 **Warramunga Arr** 60.04 142 P **P** 17 33 20.7 -0.3
UZH **Uzhgorod** 60.05 312⇑*i*P **P** 17 33 19.8 -1.0
UZH *i* 17 33 23.1
UZH *i* 17 33 29.8
PMG **Port Moresby** 60.23 123 P **P** 17 33 22.6 +0.2
comp=Z,37nm,0.8s,baz=345,slow=9.7,SNR=11
comp=Z,37nm,0.8s
PMG **Port Moresby** 60.23 123 P **P** 17 33 22.6 +0.2
PMG **Port Moresby** 60.23 123*ce*P **P** 17 33 23.3 +0.9
PMG pmax pmax
comp=Z,61nm,1.3s
PMG **Port Moresby** 60.23 123 P **P** 17 33 23.4 +1.0
BEL **Belsk** 60.32 316 *e*P **P** 17 33 23.6 +1.1
STEI **Steigen** 60.41 334 *e*P **P** 17 33 22.3 -0.6
STEI IAmb IAmb 17 33 26.9
comp=Z,14nm,0.9s
FAUS **Fauske** 60.47 334 *e*P **P** 17 33 22.7 -0.6
FAUS IAmb IAmb 17 33 27.8
comp=Z,24nm,0.8s
GZR **Gura Zlata** 60.48 308 ⇑P **P** 17 33 24.3 +0.4
CRVS **Cervenica-Dubn** 60.53 312 *e*P **P** 17 33 25.6 +1.5
CRVS pmax pmax
comp=Z,23nm,1.2s
CRVS **Cervenica-Dubn** 60.53 312 *e*P **P** 17 33 25.6 +1.5
COEN **Coen** 60.63 130 P **P** 17 33 24.5 -0.7
COEN IAmb IAmb 17 33 26.2
comp=Z,36nm,0.9s
COEN **Coen** 60.63 130 P **P** 17 33 24.4 -0.7
KRVT **Keravat (AS076** 60.64 115 P **P** 17 33 25.8 +0.5
comp=Z,76nm,1.1s,baz=329,slow=18,SNR=6.1
comp=Z,76nm,1.1s
RABL **Rabaul** 60.68 115 P **P** 17 33 25.7 +0.1
RABL **Rabaul** 60.68 115 P **P** 17 33 26.8 +1.2
HERR **Herculane** 60.85 307 ⇓P **P** 17 33 27.4 +1.1
VTS **Vitosha** 60.86 305 ⇓P **P** 17 33 27.4 +0.7
VTS **Vitosha** 60.86 305 P **P** 17 33 27.2 +0.5
VTS IAmb IAmb 17 33 31.1
comp=Z,24nm,1.0s
VTS **Vitosha** 60.86 305 P **P** 17 33 27.2 +0.5
VTS pmax pmax
comp=Z,24nm,1.0s
VTS **Vitosha** 60.86 305 P **P** 17 33 25.0 -1.7
MORW **Morawa** 60.87 164 P **P** 17 33 26.8 +0.3
MORW IAmb IAmb 17 33 28.1
comp=Z,52nm,1.3s
MORW **Morawa** 60.87 164 P **P** 17 33 27.2 +0.7
MOR8 **Moi Rana** 60.97 332 *e*P **P** 17 33 24.8 -2.1
MOR8 IAmb IAmb 17 33 25.9
comp=Z,21nm,0.9s
SANT **Santorini** 60.97 297 P **P** 17 33 26.1 -1.3
BLKB **Belogradchik** 61.00 306 ⇑P **P** 17 33 28.0 +0.6
LOF **Lofoten** 61.02 335 *e*P **P** 17 33 25.9 -1.1
LOF IAmb IAmb 17 33 29.3
comp=Z,38nm,1.0s
SIRR **Siria** 61.02 309 ⇓P **P** 17 33 28.0 +0.5
NIE **Niedzica** 61.16 313 *e*P **P** 17 33 30.0 +1.6
OJC **Ojcow** 61.28 314 *e*P **P** 17 33 28.8 -0.4
WRKA **Warakurna** 61.31 150 P **P** 17 33 29.7 +0.1
MDVR **Moldovita** 61.36 307 ⇑P **P** 17 33 30.2 +0.3
KONS **Konsvik** 61.45 333 *e*P **P** 17 33 29.7 -0.2
BOVS **Bovan** 61.67 306 ⇓P **P** 17 33 31.8 -0.1
IDI **Anoyia** 61.75 296 LR LR 18 06 03.0
comp=Z,108nm,18.7s,baz=86,slow=42
IDI **Anoyia** 61.75 296 P **P** 17 33 31.8 -0.9
PSZ **Piszkesteto** 61.78 311 ⇓P **P** 17 33 33.3 +0.6
PSZ **Piszkesteto** 61.78 311 P **P** 17 33 32.5 -0.2
PSZ IAmb IAmb 17 33 37.1
comp=Z,25nm,1.2s
PSZ **Piszkesteto** 61.78 311 P **P** 17 33 32.5 -0.2
PSZ pmax pmax
comp=Z,25nm,1.2s
PSZ **Piszkesteto** 61.78 311 P **P** 17 33 33.1 +0.4
LIT **Litokhoron** 62.10 302 P **P** 17 33 33.8 -1.1
LIT **Litokhoron** 62.10 302 P **P** 17 33 33.8 -1.1
NSS **Namsos** 62.29 331 *e*P **P** 17 33 34.0 -1.7
VYHS **Vyhne** 62.32 312 *e*P **P** 17 33 36.9 +0.7
VYHS pmax pmax
comp=Z,23nm,1.2s
VYHS **Vyhne** 62.32 312 *e*P **P** 17 33 36.9 +0.7
OKC **Ostrava-Krasne** 62.41 314 *e*P **P** 17 33 37.6 +0.8
OKC **Ostrava-Krasne** 62.41 314 *e*P **P** 17 33 37.6 +0.8
HFS **Hagfors** 62.45 326 LR LR 18 01 38.9
comp=Z,418nm,19.1s,baz=77,slow=37
MAUC **Maruska** 62.73 313 *e*P **P** 17 33 40.2 +1.2
DIVS **Divibare** 62.73 307 P **P** 17 33 38.8 -0.3
DIVS IAmb IAmb 17 33 47.4
comp=Z,49nm,1.3s
AS31 **Alice Springs** 62.76 145 P **P** 17 33 39.0 -0.4
ASAR **Alice Springs** 62.76 145 P **P** 17 33 39.1 -0.3
comp=Z,3.1nm,0.7s,baz=330,slow=6.7,SNR=44
ASAR PKP2bc **P'P'bc** **18 02 48.2 +3.9**
comp=Z,2.2nm,1.1s,baz=161,slow=2.5,SNR=6.9
ASAR LR LR 18 03 27.7
comp=Z,170nm,18.3s,baz=312,slow=38
comp=Z,3.1nm,0.7s
ASAR **Alice Springs** 62.76 145 P **P** 17 33 38.9 -0.6
MORC **Moravsky Berou** 62.80 314 ⇓P **P** 17 33 39.5 0.0
MORC **Moravsky Berou** 62.80 314 P **P** 17 33 39.9 +0.4
MORC IAmb IAmb 17 33 43.9
comp=Z,28nm,1.2s
MORC **Moravsky Berou** 62.80 314 *e*P **P** 17 33 40.1 +0.6
MORC **Moravsky Berou** 62.80 314 P **P** 17 33 39.9 +0.4
MORC pmax pmax
comp=Z,29nm,1.2s
JAVC **Velka Javorina** 62.97 313 *e*P **P** 17 33 41.9 +1.3

CSKK Cskako 62.99 311 P **P** **17 33 41.6 +0.9**
MORH Mrgy, Hungar 63.06 310 ⇓P **P** **17 33 41.5 +0.4**
MORH Mrgy, Hungar 63.06 310 P **P** **17 33 41.8 +0.7**
NC405 NORSAR Array S 63.17 327 P **P** **17 33 40.5 -1.2**
KBN Korca 63.19 303 P **P** **17 33 40.6 -1.6**
KBN Korca 63.19 303 P **P** **17 33 40.6 -1.6**
KBN pmax pmax
comp=Z,62nm,1.2s
KRLC Kraliky 63.20 314 *e*P **P** **17 33 42.5 +0.4**
KRLC Kraliky 63.20 314 *e*P **P** **17 33 42.5 +0.4**
SMOL Smolenice 63.22 312 *e*P **P** **17 33 43.2 +1.0**
SMOL pmax pmax
comp=Z,9.0nm,1.3s
KSP Ksiaz 63.30 315 *e*P **P** **17 33 44.0 +1.4**
NC303 NORSAR Array S 63.31 327 P **P** **17 33 40.7 -1.9**
NC303 IAmb IAmb 17 33 43.2
comp=Z,27nm,1.4s
MODS Modra-Piesok 63.35 312 *e*P **P** **17 33 44.1 +1.0**
MODS pmax pmax
comp=Z,46nm,1.3s
MODS Modra-Piesok 63.35 312 *e*P **P** **17 33 44.1 +1.0**
NC602 NORSAR Array S 63.35 327 P **P** **17 33 41.5 -1.4**
NC602 NORSAR Array S 63.35 327 *e*P **P** **17 33 41.8 -1.1**
NC602 IAmb IAmb 17 33 42.8
comp=Z,12nm,1.0s
QIS Mount Isa 63.36 138 P **P** **17 33 43.1 -0.3**
NB201 NORSAR Array S 63.39 327 P **P** **17 33 41.9 -1.3**
DPC Dobruska-Polom 63.41 315 *e*P **P** **17 33 44.4 +0.9**
DPC MLR MLR
comp=Z,500nm,14.7s
DPC Dobruska-Polom 63.41 315 *e*P **P** **17 33 44.4 +0.9**
DPC AMS AMS 18 02 50.0
comp=Z,500nm,14.7s
OSTC Ostas 63.42 315 *e*P **P** **17 33 43.6 +0.1**
OSTC AMS AMS 18 03 00.0
comp=Z,400nm,22.1s
NB2 NORSAR Subarra 63.43 327 P **P** **17 33 42.2 -1.2**
comp=Z,33nm,1.4s,baz=75,slow=6.9
NB2 NORSAR Subarra 63.43 327 P **P** **17 33 42.2 -1.2**
baz=75,slow=6.9
NOA NORSAR Array B 63.43 327 P **P** **17 33 41.9 -1.6**
comp=Z,3.4nm,0.7s,baz=76,slow=6.6,SNR=14
comp=Z,3.4nm,0.7s
KOVH Kovagotottos 63.45 310 P **P** **17 33 43.6 -0.2**
CHVC Chvalec 63.51 315 AMS AMS 18 03 00.0
comp=Z,400nm,16.2s
ZST Bratislava 63.51 312 *e*P **P** **17 33 44.6 +0.5**
ZST pmax pmax
comp=Z,42nm,1.4s
ZST Bratislava 63.51 312 *e*P **P** **17 33 44.6 +0.5**
MPLH Magyarpolny 63.52 311 P **P** **17 33 44.6 +0.5**
VRAC Vranov 63.53 313 ⇓P **P** **17 33 44.0 -0.2**
VRAC Vranov 63.53 313 LR LR 18 03 20.3
comp=Z,359nm,19.6s,baz=59,slow=38
VRAC Vranov 63.53 313 *e*P **P** **17 33 45.1 +0.9**
UPC Upice 63.56 315 *e*P **P** **17 33 45.5 +1.1**
UPC MLR MLR
comp=Z,400nm,16.1s
UPC Upice 63.56 315 *e*P **P** **17 33 45.5 +1.1**
UPC AMS AMS 18 03 00.0
comp=Z,400nm,16.1s
NC204 NORSAR Array S 63.58 327 P **P** **17 33 43.9 -0.6**
NC204 IAmb IAmb 17 33 44.3
comp=Z,43nm,1.2s
EGYH Egyhazaskeszo 63.58 311 P **P** **17 33 45.5 +0.9**
NAO01 NORSAR Array S 63.63 327 P **P** **17 33 43.8 -0.9**
KRUC Moravsky 63.72 313 *e*P **P** **17 33 46.3 +0.8**
PDG Podgorica 63.74 306 P **P** **17 33 44.9 -0.8**
PDG IAmb IAmb 17 33 48.8
comp=Z,19nm,0.9s
SOP Sopron 64.01 312 P **P** **17 33 47.8 +0.4**
RGN Rugen 64.04 320 P **P** **17 33 46.4 -1.1**
RGN IAmb IAmb 17 33 59.4
comp=Z,44nm,1.1s
RONA Rosalia, Austr 64.17 312 *i* P **P** **17 33 49.0 +0.4**
comp=Z,20nm,1.3s,SNR=9.5
CONA Conrad Observa 64.39 312 *i* P **P** **17 33 50.4 +0.4**
comp=Z,23nm,1.0s,SNR=23
MTSU Mount Surprise 64.42 132 P **P** **17 33 50.4 0.0**
PVCC Panska Ves 64.44 315 *e*P P 17 33 55.1 +4.9
PVCC MLR MLR
comp=Z,300nm,15.1s
PVCC Panska Ves 64.44 315 *e*P P 17 33 55.1 +4.9
PVCC AMS AMS 18 03 30.0
comp=Z,300nm,15.1s
GOPC GO Pecny, Ondr 64.48 314 *e*P **P** **17 33 51.3 +0.8**
GOPC MLR MLR
comp=Z,400nm,15.0s
GOPC GO Pecny, Ondr 64.48 314 *e*P **P** **17 33 51.3 +0.8**
GOPC AMS AMS 18 03 30.0
comp=Z,400nm,15.0s
KONO Kongsberg 64.57 326 P **P** **17 33 50.4 -0.5**
KONO IAmb IAmb 17 33 51.5
comp=Z,35nm,1.4s
KONO Kongsberg 64.57 326 *ce*P **P** **17 33 51.1 +0.2**
KONO pmax pmax
comp=Z,40nm,2.5s
KONO Kongsberg 64.57 326 *e*P **P** **17 33 50.4 -0.5**
PRU Pruhonice 64.61 315 *e*P **P** **17 33 52.4 +1.1**
PRU *e* 17 34 01.9
PRU MLR MLR
comp=Z,500nm,16.4s
PRU Pruhonice 64.61 315 *e*P **P** **17 33 52.4 +1.1**
PRU *ep*P **sP** **17 34 01.9 +0.7**
PRU AMS AMS 18 03 40.0
comp=Z,500nm,16.4s
MOL Molde 64.70 329 *e*P **P** **17 33 50.8 -0.9**
BRG Berggiesshubel 64.72 316 *e*P **P** **17 33 52.2 +0.2**
BRG Amp 17 33 53.0
comp=Z,15nm,1.0s
BRG *ex* x 17 34 32.4
BRG Amp 17 34 34.8
comp=Z,6.2nm,0.9s
BRG Amp 18 05 53.0
comp=E,0.2nm,11.8s
BRG Amp 18 05 56.0
comp=N,0.3nm,13.9s
BRG Amp 18 05 56.0
comp=Z,0.3nm,10.1s
BRG Berggiesshubel 64.72 316 *e*P **P** **17 33 52.2 +0.2**
BRG *e* 17 34 32.4
BRG pmax pmax
comp=Z,15nm,1.0s
BRG MLR MLR
comp=E,160nm,11.8s
BRG MLR MLR
comp=N,254nm,13.9s
BRG MLR MLR
comp=Z,315nm,10.1s
ARSA Arzberg 64.81 312 *e*P **P** **17 33 53.1 +0.4**
comp=Z,15nm,1.2s
NWAO Narrogin (SRO) 64.85 164 LR LR 18 04 06.4
comp=Z,312nm,21.1s,baz=222,slow=38
NWAO Narrogin (SRO) 64.85 164 P **P** **17 33 52.9 0.0**
NWAO Narrogin (SRO) 64.85 164 P **P** **17 33 52.9 0.0**
NWAO pmax pmax
comp=Z,95nm,1.5s
SKAR Skarslia 64.90 327 *e*P **P** **17 33 53.4 +0.4**
SKAR IAmb IAmb 17 33 54.1
comp=Z,20nm,1.1s
SCTE Santa Cesarea 65.05 303 P **P** **17 33 52.7 -1.6**
GROS Grobnik 65.06 311 *e*P **P** **17 33 54.0 -0.5**
CKRC Cesky Krumlov 65.11 313 *e*P **P** **17 33 55.5 +0.9**
CKRC *ex* x 17 34 05.7
CKRC AMS AMS 18 03 50.0
comp=Z,400nm,18.8s
GOLS Golise 65.12 310 *e*P **P** **17 33 54.9 +0.1**
CLL Collm 65.15 316 P **P** **17 33 54.5 -0.3**
CLL IAmb IAmb 17 33 58.8
comp=Z,53nm,1.8s
CLL Collm 65.15 316 ⇓ *i*P **P** **17 33 54.3 -0.5**
CLL *e**PP **sP** **17 34 06.0 +1.3**
CLL pmax pmax
comp=Z,42nm,1.8s
CLL Collm 65.15 316 ⇓ *i*P **P** **17 33 54.3 -0.5**
comp=Z,10.0nm,1.1s
CLL *i* Pmax 17 33 57.2
comp=Z,42nm,1.8s
CLL *e*(sP) **sP** **17 34 06.0 +1.3**
CLL *ex* x 17 34 36.0
CRES Cresnjev 65.29 310 *i* P **P** **17 33 56.2 +0.3**
SOKA Soboth 65.30 311 *i* P **P** **17 33 56.3 +0.3**
comp=Z,16nm,1.1s,SNR=14
MOA Molln 65.43 312 *e*P **P** **17 33 57.1 +0.3**
comp=Z,13nm,1.1s

KHC Kasperske Hory 65.47 314 P **P** **17 33 57.6 +0.6**
KHC IAmb IAmb 17 34 01.6
comp=Z,26nm,1.6s
KHC Kasperske Hory 65.47 314 P **P** **17 33 57.6 +0.6**
KHC pmax pmax
comp=Z,26nm,1.6s
KHC Kasperske Hory 65.47 314 *e*P **P** **17 33 57.3 +0.3**
KHC AMS AMS 18 03 50.0
comp=Z,400nm,18.1s
GEC2 GERESS Array S 65.48 314 P **P** **17 33 57.5 +0.4**
GEC2 IAmb IAmb 17 34 01.6
comp=Z,47nm,1.7s
GERES GERESS Array B 65.48 314 P **P** **17 33 57.4 +0.2**
comp=Z,3.1nm,0.7s,baz=69,slow=7.3,SNR=24
comp=Z,3.1nm,0.7s
GERES GERESS Array B 65.48 314 P **P** **17 33 56.7 -0.5**
OBKA Obir 65.67 311 *e*P **P** **17 33 58.8 +0.3**
comp=Z,11nm,1.3s
BIOA Bad Ischl, Aus 65.89 312 *e*P **P** **17 34 00.3 +0.6**
comp=Z,16nm,1.1s
LODK Lodwar 66.10 260 P **P** **17 34 01.4 -0.2**
LODK Lodwar 66.10 260 P **P** **17 34 01.9 +0.3**
SNR=12
MYKA Terra Mystica 66.23 311 *e*P **P** **17 34 01.7 -0.3**
comp=Z,6.1nm,0.9s
KBA Koelnbreinsper 66.27 312 *e*P **P** **17 34 02.5 +0.1**
comp=Z,13nm,0.9s
TIP Timpagrande 66.59 303 ⇑P **P** **17 34 03.8 -0.6**
TIP Timpagrande 66.59 303 P **P** **17 34 05.3 +0.9**
TIP IAmb IAmb 17 34 08.0
comp=Z,49nm,1.5s
GRA1 Grafenberg Arr 66.75 315 P **P** **17 34 06.0 +0.9**
GRF Grafenberg Arr 66.75 315 P **P** **17 34 06.0 +0.9**
GRF pmax pmax
comp=Z,113nm,1.9s
GRFO Grafenberg 66.75 315 P **P** **17 34 06.2 +1.1**
GRFO IAmb IAmb 17 34 12.9
comp=Z,21nm,1.1s
GRFO Grafenberg 66.75 315 P **P** **17 34 06.2 +1.1**
GRFO pmax pmax
comp=Z,21nm,1.1s
CLUD Cludinico 66.78 311 P **P** **17 34 04.2 -1.2**
ABTA Abfaltersbach 66.92 312 *e*P **P** **17 34 05.9 -0.5**
comp=Z,6.2nm,0.9s
KMBO Kilima Mbogo 66.92 254 P **P** **17 34 07.1 0.0**
comp=Z,18nm,0.8s,baz=40,slow=10,SNR=19
comp=Z,18nm,0.8s
KMBO Kilima Mbogo 66.92 254 P **P** **17 34 05.8 -1.3**
KMBO IAmb IAmb 17 34 10.9
comp=Z,33nm,1.0s
KMBO Kilima Mbogo 66.92 254 *i* P **P** **17 34 07.4 +0.3**
SNR=18
KIBK Kibwezi 66.93 253 P **P** **17 34 06.2 -0.7**
KIBK IAmb IAmb 17 34 10.5
comp=Z,24nm,1.4s
STAL STALIGIAL 66.96 311 P **P** **17 34 05.5 -1.1**
STAL IAmb IAmb 17 34 09.6
comp=Z,26nm,1.1s
OOD Oodnadatta 67.08 146 P **P** **17 34 10.8 +3.4**
CTA Charters Tower 67.09 132 P **P** **17 34 07.4 -0.2**
comp=Z,20nm,0.9s,baz=331,slow=10.0,SNR=7.2
comp=Z,20nm,0.9s
CTA Charters Tower 67.09 132 P **P** **17 34 07.5 -0.1**
CTAO Charters Tower 67.09 132 P **P** **17 34 07.6 -0.1**
CTAO IAmb IAmb 17 34 08.7
comp=Z,36nm,1.1s
CTAO Charters Tower 67.09 132 P **P** **17 34 07.6 -0.1**
CTAO pmax pmax
comp=Z,36nm,1.1s
CTAO Charters Tower 67.09 132 P **P** **17 34 07.5 -0.1**
CIMO Cimolais 67.12 311 P **P** **17 34 05.6 -2.0**
CIMO IAmb IAmb 17 34 10.7
comp=Z,24nm,1.2s
WTTA Wattenberg 67.31 312 *e*P **P** **17 34 08.9 -0.1**
comp=Z,4.4nm,0.7s
WATA Walderalm 67.32 313 *e*P **P** **17 34 09.4 +0.4**
comp=Z,35nm,2.1s
NIKH Nikolski High 67.45 41 P **P** **17 34 09.5 0.0**
baz=290
CEL Celeste 67.55 302 P **P** **17 34 09.3 -1.2**
SQTA Sankt Quirin 67.60 313 *i* P **P** **17 34 10.0 -0.7**
comp=Z,16nm,1.2s,SNR=9.7
MOTA Moosalm 67.62 313 *i* P **P** **17 34 10.7 -0.2**
comp=Z,18nm,1.2s,SNR=8.0
CTI Castel Tesino 67.72 311 P **P** **17 34 09.3 -2.2**
CTI Castel Tesino 67.72 311 P **P** **17 34 09.3 -2.2**
CTI pmax pmax
comp=Z,13nm,1.1s
CAMP Campotosto 67.78 307 P **P** **17 34 10.9 -1.1**
CAMP IAmb IAmb 17 34 22.6
comp=Z,23nm,0.9s
RETA Reutte 67.79 313 *e*P **P** **17 34 12.6 +0.8**
comp=Z,11nm,1.3s
FDMO Fiordimonte 67.83 308 P **P** **17 34 12.3 +0.1**
FDMO IAmb IAmb 17 34 20.0
comp=Z,22nm,1.0s
AQU L'Aquila 67.86 307 P **P** **17 34 10.8 -1.6**
AQU L'Aquila 67.86 307 P **P** **17 34 10.8 -1.6**
AQU pmax pmax
comp=Z,86nm,1.6s
NRCA Norcia 67.88 308 P **P** **17 34 11.8 -0.8**
NRCA IAmb IAmb 17 34 16.7
comp=Z,56nm,1.6s
TEOL Teolo 67.95 311 P **P** **17 34 11.6 -1.2**
TEOL IAmb IAmb 17 34 16.8
comp=Z,20nm,0.8s
FETA Feichten 67.97 312 *i* P **P** **17 34 13.1 0.0**
comp=Z,11nm,0.9s,SNR=16
MURB Monte Urbino 68.13 308 P **P** **17 34 14.3 +0.2**
STU Stuttgart 68.31 315 P **P** **17 34 13.4 -1.6**
STU Stuttgart 68.31 315 P **P** **17 34 13.4 -1.6**
STU pmax pmax
comp=Z,262nm,1.9s
MULG Mulgathing 68.39 148 P **P** **17 34 16.3 +0.7**
DAVA Damuels 68.42 313 *e*P **P** **17 34 15.8 -0.1**
comp=Z,8.6nm,1.1s
C23K Itkillik River 68.52 21 P **P** **17 34 15.4 -0.5**
baz=299,SNR=7.0
DAVOX Davos/Dischmat 68.60 312 LR LR 18 06 55.0
comp=Z,368nm,18.4s,baz=62,slow=38
ZCCA Zocca 68.78 310 P **P** **17 34 19.9 +1.8**
ZCCA IAmb IAmb 17 34 33.5
comp=Z,40nm,1.2s
F21K Alatna River 68.81 24 P **P** **17 34 16.9 -0.9**
baz=297,SNR=9.7
OSSC Osservatorio P 68.90 309 P **P** **17 34 18.6 -0.2**
OSSC IAmb IAmb 17 34 37.3
comp=Z,19nm,1.0s
D23K Nanushuk River 68.92 21 P **P** **17 34 18.1 -0.3**
baz=299
E22K Anaktuvuk Pass 68.95 22 P **P** **17 34 18.2 -0.5**
baz=298
BFO Black Forest 69.01 314 P **P** **17 34 19.5 +0.1**
BFO IAmb IAmb 17 34 23.5
comp=Z,26nm,1.4s
BFO Black Forest 69.01 314 P **P** **17 34 19.5 +0.1**
BFO pmax pmax
comp=Z,26nm,1.4s
TUE Stuetta 69.06 312 P **P** **17 34 19.7 -0.3**
F22K John River 69.13 23 P **P** **17 34 19.0 -0.8**
baz=298,SNR=9.5
G21K Allakaket 69.13 24 P **P** **17 34 19.4 -0.4**
baz=298,SNR=7.6
C24K Franklin Bluff 69.15 20 P **P** **17 34 19.2 -0.6**
baz=300
VLC Villacollemand 69.24 310 P **P** **17 34 22.4 +1.4**
VLC IAmb IAmb 17 34 25.9
comp=Z,14nm,0.9s
IMAR Indian Mountai 69.29 25 P **P** **17 34 19.8 -1.0**
D24K Happy Valley 69.40 21 P **P** **17 34 20.6 -0.9**
baz=301
TOLK Toolik Lake Re 69.43 21 P **P** **17 34 21.4 -0.3**
TOLK IAmb IAmb 17 34 22.5
comp=Z,58nm,1.9s
TOLK Toolik Lake Re 69.43 21 P **P** **17 34 20.6 -1.1**
baz=300
BTNL Ternell 69.48 317 *d*P **P** **17 34 22.1 -0.2**
MEM Membach 69.55 317 *d*P **P** **17 34 22.4 -0.3**
INKA Innaminka 69.64 142 P **P** **17 34 23.9 +0.5**
BHOU Houvegnez 69.65 317 *d*P **P** **17 34 22.7 -0.6**
N16K Nishlik Lake 69.70 31 P **P** **17 34 22.5 -0.9**
baz=295
E23K Chandalar 69.71 22 P **P** **17 34 22.1 -1.4**
baz=300
ECH Echery 69.78 315 P **P** **17 34 23.1 -1.1**
ECH Echery 69.78 315 P **P** **17 34 23.1 -1.1**
ECH pmax pmax
comp=Z,10.0nm,1.2s
H21K Melozitna Rive 69.79 25 P **P** **17 34 23.3 -0.6**
H21K IAmb IAmb 17 34 24.8
comp=Z,51nm,1.7s
H21K Melozitna Rive 69.79 25 P **P** **17 34 22.7 -1.2**
baz=298,SNR=7.2
WLF Walferdange 69.83 316 P **P** **17 34 24.8 +0.4**
WLF Walferdange 69.83 316 P **P** **17 34 24.8 +0.4**
WLF pmax pmax
comp=Z,720nm,1.8s
WLF Walferdange 69.83 316 *d*P **P** **17 34 25.2 +0.8**
COLD Coldfoot 69.93 23 P **P** **17 34 23.9 -0.9**
COLD Coldfoot 69.93 23 P **P** **17 34 23.7 -1.0**
baz=300
J20K Nowinta River 69.98 27 P **P** **17 34 25.1 0.0**
J20K IAmb IAmb 17 34 26.1
comp=Z,69nm,1.9s
J20K Nowinta River 69.98 27 P **P** **17 34 24.3 -0.8**
baz=298
BCLA Clavier 70.03 317 *d*P **P** **17 34 24.8 -0.9**
D25K Kavik River 70.06 20 P **P** **17 34 24.7 -0.9**
baz=303
E24K Your Creek 70.06 22 P **P** **17 34 24.9 -0.8**
baz=301,SNR=8.1
C26K Camden Bay 70.16 19 P **P** **17 34 24.9 -1.2**
baz=304
RCHB Rochefort 70.18 317 *d*P **P** **17 34 26.8 +0.2**
H22K Ishtalitna Cre 70.19 24 P **P** **17 34 25.0 -1.4**
baz=300,SNR=5.9
G23K Bananza Creek 70.25 23 P **P** **17 34 25.9 -0.9**
baz=300
I21K Tanana 70.32 25 P **P** **17 34 27.4 +0.3**
I21K IAmb IAmb 17 34 43.2
comp=Z,17nm,1.0s
I21K Tanana 70.32 25 P **P** **17 34 26.6 -0.6**
baz=299
O16K Kokwok River B 70.38 32 P **P** **17 34 26.9 -0.8**
baz=296
K20K Telida 70.39 27 P **P** **17 34 27.9 +0.2**
K20K IAmb IAmb 17 34 28.8
comp=Z,32nm,1.6s
K20K Telida 70.39 27 P **P** **17 34 26.8 -0.8**
baz=298
BMRD Maredsous 70.40 317 *d*P **P** **17 34 28.4 +0.5**
SENIN Lac Senin/Sane 70.41 313 P **P** **17 34 27.7 -0.6**
F24K Squaw Lake 70.55 22 P **P** **17 34 27.8 -0.8**
baz=302
DOU Dourbes 70.58 317 *d*P **P** **17 34 29.3 +0.3**
L19K White Mountain 70.62 29 P **P** **17 34 28.9 -0.2**
L19K White Mountain 70.62 29 P **P** **17 34 28.6 -0.5**
baz=298
C27K Jago River 70.67 19 P **P** **17 34 28.8 -0.5**
baz=305,SNR=8.3
QLP Quilpie 70.69 138 P **P** **17 34 31.4 +1.5**
O17K Koliganek Bris 70.76 31 P **P** **17 34 29.5 -0.4**
baz=297
MLY Manley 70.85 25 P **P** **17 34 29.8 -0.7**
MLY Manley 70.85 25 P **P** **17 34 30.2 -0.2**
baz=300,SNR=5.8
H23K Yukon River 70.88 24 P **P** **17 34 30.5 0.0**
H23K IAmb IAmb 17 34 31.9
comp=Z,39nm,1.6s
H23K Yukon River 70.88 24 P **P** **17 34 30.1 -0.5**
baz=301,SNR=6.6
N18K Kilae Creek 70.88 30 P **P** **17 34 30.5 -0.1**
baz=297
L20K Farewell, AK 70.89 28 P **P** **17 34 30.7 -0.1**
baz=298
M19K Big River Lodg 70.95 29 P **P** **17 34 31.0 -0.1**
M19K Big River Lodg 70.95 29 P **P** **17 34 30.8 -0.3**
baz=298
E25K Arctic Village 70.96 21 P **P** **17 34 30.9 -0.2**
baz=304
G24K Hadweenzic Riv 71.12 23 P **P** **17 34 31.5 -0.6**
baz=302
S14K Fog Glacier 71.13 35 P **P** **17 34 31.3 -1.1**
baz=296
CAST Castle Rocks 71.15 27 P **P** **17 34 31.9 -0.3**
CAST IAmb IAmb 17 35 37.0
comp=Z,55nm,1.9s
CAST Castle Rocks 71.15 27 P **P** **17 34 31.4 -0.8**
baz=300
BPAW Bear Paw Mtn. 71.23 26 P **P** **17 34 32.4 -0.3**
BPAW Bear Paw Mtn. 71.23 26 P **P** **17 34 32.0 -0.7**
baz=300
F25K Christian River 71.23 22 P **P** **17 34 32.0 -0.8**
baz=304
P17K Kvichak River 71.32 32 P **P** **17 34 32.8 -0.5**
baz=297
BNI Bardonecchia 71.33 312 P **P** **17 34 34.0 +0.2**
BNI IAmb IAmb 17 34 37.1
comp=Z,20nm,1.1s
BNI Bardonecchia 71.33 312 P **P** **17 34 34.0 +0.2**
BNI pmax pmax
comp=Z,20nm,1.1s
PPLA Purkeypile 71.36 27 P **P** **17 34 33.2 -0.5**
PPLA IAmb IAmb 17 34 38.8
comp=Z,59nm,1.4s
PPLA Purkeypile 71.36 27 P **P** **17 34 32.5 -1.2**
baz=300
N19K Bonanza Creek 71.43 30 P **P** **17 34 33.6 -0.4**
N19K IAmb IAmb 17 34 35.2
comp=Z,20nm,1.0s
N19K Bonanza Creek 71.43 30 P **P** **17 34 33.2 -0.9**
baz=298
BBOO Buckleboo 71.44 148 P **P** **17 34 34.1 -0.1**
BBOO IAmb IAmb 17 36 17.7
comp=Z,60nm,1.7s
H24K Noodor Dome 71.45 24 P **P** **17 34 33.3 -0.8**
baz=302
Q16K King Salmon 71.46 32 P **P** **17 34 33.1 -1.1**
baz=297
M20K Styx River 71.48 29 P **P** **17 34 34.4 0.0**
M20K IAmb IAmb 17 34 38.4
comp=Z,17nm,0.9s
M20K Styx River 71.48 29 P **P** **17 34 33.6 -0.8**
baz=299
KTH Kantishna Hill 71.53 26 P **P** **17 34 34.4 -0.3**
KTH IAmb IAmb 17 34 38.2
comp=Z,74nm,1.8s
O18K Koktuh Hills 71.57 31 P **P** **17 34 34.6 -0.2**
O18K Koktuh Hills 71.57 31 P **P** **17 34 34.0 -0.8**
baz=298
F26K Sheenjek River 71.65 21 P **P** **17 34 33.9 -1.3**
baz=305
BMAR Burnt Mountain 71.67 21 P **P** **17 34 35.4 +0.1**
NEA2 Nenana 71.69 25 P **P** **17 34 34.8 -0.7**
NEA2 IAmb IAmb 17 34 36.3
comp=Z,60nm,1.6s
NEA2 Nenana 71.69 25 P **P** **17 34 34.9 -0.6**
baz=302,SNR=5.1
CHGN Chignik 71.70 35 P **P** **17 34 36.2 +0.6**
CHGN IAmb IAmb 17 35 06.0
comp=Z,53nm,1.3s
CHGN Chignik 71.70 35 P **P** **17 34 35.1 -0.5**
baz=297
CHNA Chernabura Isl 71.76 37 P **P** **17 34 35.5 -0.5**
baz=296
MDM Murphy Dome 71.80 25 P **P** **17 34 35.8 -0.3**
MDM IAmb IAmb 17 34 37.8
comp=Z,47nm,1.4s
TRF Thorofare Moun 71.83 26 P **P** **17 34 36.3 -0.2**
baz=301
H25K Birch Creek 71.92 23 P **P** **17 34 36.2 -0.6**
baz=304
TCOL CIGO, UAF Yank 71.98 25 P **P** **17 34 36.4 -0.8**
COLA College 71.98 25 P **P** **17 34 36.5 -0.7**
COLA College 71.98 25 *i* P **P** **17 34 37.2 0.0**
COLA pmax pmax
comp=Z,13nm,1.3s
POKR Poker Plat Res 72.00 24 P **P** **17 34 37.0 -0.3**
POKR IAmb IAmb 17 34 39.1
comp=Z,38nm,1.4s
POKR Poker Plat Res 72.00 24 P **P** **17 34 36.6 -0.7**
baz=303
R17K Ugashik Creek 72.07 33 P **P** **17 34 36.6 -1.2**
baz=298
SKT Skwentna 72.09 28 P **P** **17 34 36.8 -1.2**
SKT IAmb IAmb 17 34 38.2
comp=Z,47nm,1.5s
SKT Skwentna 72.09 28 P **P** **17 34 36.7 -1.3**
baz=300
CCB Clear Creek Bu 72.12 25 P **P** **17 34 36.4 -1.7**
MBAR Mbarara 72.13 259 LR LR 18 07 32.2
comp=Z,315nm,20.6s,baz=226,slow=37

MBAR	**Mbarara**	**72.13**	**259**	P		**P**	17 34 39.0	-0.2
MBAR	**Mbarara**	**72.13**	**259**	*ce*P		**P**	17 34 39.7	+0.5
MBAR				pmax		pmax		
	comp=Z,22nm,1.3s							
E27K	**Coleen River**	**72.14**	**20**	P		**P**	17 34 37.3	-0.9
	baz=307,SNR=5.8							
RK1H	**Rockhampton Ha**	**72.19**	**132**	P		**P**	17 34 41.8	+2.8
	comp=Z,21nm,1.0s							
G26K	**Porcupine Rive**	**72.20**	**22**	P		**P**	17 34 37.7	-0.8
	baz=306							
N20K	**Mount Spurr**	**72.20**	**29**	P		**P**	17 34 37.8	-0.9
	baz=300							
SPCR	**Spurr Chakacha**	**72.20**	**29**	P		**P**	17 34 38.0	-0.7
	baz=300							
RSO	**Redoubt South**	**72.34**	**30**	P		**P**	17 34 39.3	-0.4
IL31		**72.38**	**24**	P		**P**	17 34 38.4	-1.2
IL31				IAmb		IAmb	17 34 43.1	
	comp=Z,53nm,1.8s							
ILAR	**Eielson Array**	**72.38**	**24**	P		**P**	17 34 37.6	-2.0
	comp=Z,3.4nm,1.1s,baz=302,slow=4.8,SNR=16							
	comp=Z,3.4nm,1.1s							
ILAR	**Eielson Array**	**72.38**	**24**	P		**P**	17 34 37.8	-1.9
ILAR	**Eielson Array**	**72.38**	**24**	P		**P**	17 34 37.8	-1.9
PRP	**Porcupine Dome**	**72.44**	**23**	P		**P**	17 34 39.7	-0.5
PRP				IAmb		IAmb	17 34 41.2	
	comp=Z,60nm,1.7s							
PRP	**Porcupine Dome**	**72.44**	**23**	P		**P**	17 34 39.3	-0.9
	baz=304							
P19K	**Oil Pt**	**72.54**	**31**	P		**P**	17 34 40.1	-0.6
P19K	**Oil Pt**	**72.54**	**31**	P		**P**	17 34 40.2	-0.5
	baz=300							
HDA	**Harding Lake**	**72.56**	**25**	P		**P**	17 34 40.2	-0.5
	baz=304							
EKA	**Eskdalemuir Ar**	**72.56**	**324**	LR		LR	18 07 36.9	
	comp=Z,287nm,20.9s,baz=64,slow=37							
SSB	**Saint Sauveur**	**72.61**	**313**	P		**P**	17 34 41.4	0.0
SSB	**Saint Sauveur**	**72.61**	**313**	P		**P**	17 34 41.4	0.0
SSB				pmax		pmax		
	comp=Z,7.0nm,0.9s							
WAT1	**Susitna Watana**	**72.83**	**26**	P		**P**	17 34 41.7	-0.7
	baz=303							
CLF	**Chambon-Foret**	**72.84**	**316**	P		**P**	17 34 43.0	+0.3
CLF				IAmb		IAmb	17 34 47.9	
	comp=Z,72nm,1.5s							
G27K	**Doyon Strip**	**72.96**	**21**	P		**P**	17 34 42.5	-0.6
	baz=307							
J25K	**Salcha River,**	**73.01**	**24**	P		**P**	17 34 42.4	-1.0
	baz=305							
HOM	**Homer**	**73.23**	**30**	P		**P**	17 34 44.0	-0.7
	baz=301							
PMR	**Palmer**	**73.27**	**28**	P		**P**	17 34 44.1	-0.8
	baz=303							
RMQ	**Roma**	**73.31**	**135**	P		**P**	17 34 48.0	+2.4
K24K	**Donnelly Dome**	**73.33**	**25**	P		**P**	17 34 43.7	-1.6
	baz=305,SNR=5.2							
H27K	**Steamboat Moun**	**73.35**	**22**	P		**P**	17 34 44.9	-0.6
	baz=308,SNR=7.8							
KEST	**Kesra**	**73.36**	**302**	P		**P**	17 34 44.5	-1.5
	comp=Z,5.4nm,0.9s,baz=345,slow=15,SNR=2.5							
KEST				LR		LR	18 13 38.2	
	comp=Z,513nm,20.4s,baz=186,slow=41							
	comp=Z,5.4nm,0.9s							
KEST	**Kesra**	**73.36**	**302**	P		**P**	17 34 45.7	-0.4
STKA	**Stephens Creek**	**73.37**	**144**	P		**P**	17 34 44.8	-1.0
	comp=Z,4.3nm,0.8s,baz=12,slow=4.6,SNR=7.3							
	comp=Z,4.3nm,0.8s							
STKA	**Stephens Creek**	**73.37**	**144**	P		**P**	17 34 45.8	0.0
STKA	**Stephens Creek**	**73.37**	**144**	P		**P**	17 34 45.8	0.0
STKA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
STKA	**Stephens Creek**	**73.37**	**144**	P		**P**	17 34 48.5	+2.7
	comp=Z,2.9nm,2.9s							
I26K	**Coal Creek Min**	**73.37**	**23**	P		**P**	17 34 44.7	-0.8
	baz=306							
SML	**Sawmill**	**73.47**	**27**	P		**P**	17 34 46.0	-0.2
SML	**Sawmill**	**73.47**	**27**	P		**P**	17 34 45.1	-1.1
	baz=303							
A36M	**Sachs Harbour**	**73.56**	**13**	P		**P**	17 34 46.0	-0.5
	baz=320							
BRSE	**Bradley Lake S**	**73.58**	**30**	P		**P**	17 34 45.9	-1.0
	baz=302							
KNK	**Knik Glacier**	**73.64**	**28**	P		**P**	17 34 46.3	-0.9
	baz=303							
SUMG	**Summit**	**73.67**	**348**	P		**P**	17 34 46.0	-1.6
SUMG	**Summit**	**73.67**	**348**	P		**P**	17 34 46.0	-1.6
SUMG				pmax		pmax		
	comp=Z,25nm,1.3s							
I27K	**Kandik River**	**73.71**	**22**	P		**P**	17 34 46.5	-1.0
	baz=308							
J26L	**Joseph Creek**	**73.71**	**24**	P		**P**	17 34 46.4	-1.3
J26L				IAmb		IAmb	17 34 48.5	
	comp=Z,39nm,1.4s							
J26L	**Joseph Creek**	**73.71**	**24**	P		**P**	17 34 47.0	-0.6
	baz=306							
M23K	**Glacier View**	**73.72**	**27**	P		**P**	17 34 46.3	-1.3
	baz=304							
OHAK	**Old Harbor**	**73.73**	**33**	P		**P**	17 34 46.6	-1.1
	baz=300							
KDAK	**Kodiak Island**	**73.78**	**32**	P		**P**	17 34 47.1	-0.9
	baz=301							
SCM	**Sheep Creek Mo**	**73.85**	**27**	P		**P**	17 34 46.9	-1.6
	baz=304							
SCRK	**Sand Creek**	**73.87**	**24**	P		**P**	17 34 47.0	-1.6
	baz=306							
PAX	**Paxson**	**73.92**	**26**	P		**P**	17 34 47.6	-1.3
	baz=305							
SEW	**Seward**	**73.94**	**29**	P		**P**	17 34 47.6	-1.2
	baz=303							
EIDS	**Eidsvold**	**73.97**	**133**	P		**P**	17 34 50.0	+0.5
EIDS				IAmb		IAmb	17 34 51.0	
	comp=Z,39nm,1.1s							
EIDS	**Eidsvold**	**73.97**	**133**	P		**P**	17 34 50.8	+1.3
M24K	**Tolsona, Glenn**	**74.15**	**26**	P		**P**	17 34 50.1	-0.1
M24K	**Tolsona, Glenn**	**74.15**	**26**	P		**P**	17 34 48.7	-1.5
	baz=305							
INK	**Inuvik**	**74.35**	**18**	P		**P**	17 34 50.6	-0.5
INK				IAmb		IAmb	17 34 51.6	
	comp=Z,51nm,1.9s							
INK	**Inuvik**	**74.35**	**18**	P		**P**	17 34 50.6	-0.5
INK				pmax		pmax		
	comp=Z,51nm,1.9s							
INK	**Inuvik**	**74.35**	**18**	P		**P**	17 34 49.8	-1.3
	baz=314							
EGAK	**Eagle**	**74.37**	**23**	P		**P**	17 34 50.0	-1.3
	baz=308							
HARP	**HAARP**	**74.37**	**26**	P		**P**	17 34 50.7	-0.8
	baz=306							
GLI	**Glacier Island**	**74.48**	**28**	P		**P**	17 34 51.3	-0.7
	baz=304							
KLU	**Klutina**	**74.60**	**27**	P		**P**	17 34 52.8	0.0
KLU				IAmb		IAmb	17 34 53.5	
	comp=Z,35nm,1.1s							
KLU	**Klutina**	**74.60**	**27**	P		**P**	17 34 51.9	-1.0
	baz=305							
L26K	**Log Cabin Wild**	**74.67**	**25**	P		**P**	17 34 52.4	-0.8
	baz=307							
EPYK	**Eagle Plains**	**74.76**	**20**	P		**P**	17 34 52.0	-1.6
EPYK				IAmb		IAmb	17 35 39.6	
	comp=Z,34nm,1.6s							
EPYK	**Eagle Plains**	**74.76**	**20**	P		**P**	17 34 52.3	-1.4
	baz=312							
FID	**Port Fidalgo**	**74.81**	**28**	P		**P**	17 34 51.6	-2.3
F31M	**Tsiigehtchic**	**74.89**	**19**	P		**P**	17 34 53.7	-0.6
	baz=314							
I29M	**Ogilvie Camp,**	**74.93**	**22**	P		**P**	17 34 54.0	-0.7
	baz=310							
BORG	**Borgarnes**	**74.97**	**338**	LR		LR	18 10 00.6	
	comp=Z,184nm,19.0s,baz=13,slow=38							
M26K	**Nabesna, AK**	**75.18**	**25**	P		**P**	17 34 55.3	-0.8
	baz=307							
L27K	**Beaver Creek,**	**75.20**	**24**	P		**P**	17 34 56.2	-0.1
L27K				IAmb		IAmb	17 34 57.5	
	comp=Z,68nm,1.8s							
L27K	**Beaver Creek,**	**75.20**	**24**	P		**P**	17 34 55.6	-0.7
	baz=308							
BCAR	**Beaver Creek A**	**75.21**	**24**	P		**P**	17 34 56.5	+0.2
EYAK	**Cordova Ski Ar**	**75.22**	**28**	P		**P**	17 34 56.0	-0.2
	baz=306							
CMSA	**Cobar Meteorol**	**75.29**	**141**	P		**P**	17 34 59.7	+2.7
DAWY	**Dawson**	**75.42**	**23**	P		**P**	17 34 56.7	-0.8
DAWY	**Dawson**	**75.42**	**23**	P		**P**	17 34 57.4	0.0
	baz=310							
BMRM	**Bremner River**	**75.42**	**27**	P		**P**	17 34 57.6	0.0
	baz=306							
BVCY	**Beaver Creek**	**75.95**	**25**	P		**P**	17 35 00.7	+0.1
	baz=309							
K29M	**Barlow Dome**	**76.19**	**23**	P		**P**	17 35 01.4	-0.6
	baz=312							
L29M	**L29M**	**76.47**	**23**	P		**P**	17 35 03.5	0.0
	baz=311							
M29M	**Somme Creek**	**76.79**	**24**	P		**P**	17 35 05.2	-0.2
	baz=311							
O28M	**Mount Upton**	**77.25**	**26**	P		**P**	17 35 07.8	-0.4
	baz=310							
ARPS	**Mount Arapiles**	**77.39**	**146**	P		**P**	17 35 11.0	+2.2
O29M	**Mount Kennedy**	**78.16**	**26**	P		**P**	17 35 12.8	-0.4
	baz=311							
HYT	**Haines Junctio**	**78.21**	**25**	P		**P**	17 35 12.8	-0.6
	baz=312							
M31M	**Drury Creek, Y**	**78.35**	**23**	P		**P**	17 35 13.9	-0.1
	baz=314							
O30N	**Mendenhall**	**78.76**	**24**	P		**P**	17 35 15.9	-0.4
	baz=313							
MMPY	**Sheldon Lake,**	**79.08**	**21**	P		**P**	17 35 18.0	-0.1
	baz=317							
WHY	**Whitehorse**	**79.26**	**24**	P		**P**	17 35 19.1	0.0
	baz=314							
N32M	**Quiet Lake**	**79.54**	**23**	P		**P**	17 35 20.6	0.0
	baz=316							
SKAG	**Skagway**	**79.94**	**25**	P		**P**	17 35 22.0	-0.7
SKAG				IAmb		IAmb	17 35 27.0	
	comp=Z,55nm,1.5s							
SKAG	**Skagway**	**79.94**	**25**	P		**P**	17 35 22.7	0.0
	baz=314							
KOUNC	**Koumac, New Ca**	**80.00**	**121**	P		**P**	17 35 23.1	-0.4
KOUNC				IAmb		IAmb	17 35 28.5	
	comp=Z,41nm,1.3s							
KOUNC	**Koumac, New Ca**	**80.00**	**121**	P		**P**	17 35 25.1	+1.6
P33M	**Teslin, Yukon**	**80.31**	**24**	P		**P**	17 35 24.9	+0.1
	baz=316							
SFJD	**Kangerlussuaq**	**80.63**	**349**	LR		LR	18 15 11.1	
	comp=Z,368nm,21.1s,baz=17,slow=39							
SFJD	**Kangerlussuaq**	**80.63**	**349**	P		**P**	17 35 24.9	-1.4
SFJD	**Kangerlussuaq**	**80.63**	**349**	P		**P**	17 35 24.9	-1.4
SFJD				pmax		pmax		
	comp=Z,18nm,1.0s							
ESBB	**Sonseca Array**	**80.80**	**311**	P		**P**	17 35 28.3	+0.5
ESDC	**Sonseca Array**	**80.80**	**311**	P		**P**	17 35 28.1	+0.2
	comp=Z,6.0nm,1.1s,baz=44,slow=5.7,SNR=29							
ESDC				PP		**PP**	17 38 28.0	-3.6
	comp=Z,1.0nm,0.9s,baz=69,slow=7.8,SNR=3.9							
ESDC				LR		LR	18 15 24.1	
	comp=Z,269nm,18.9s,baz=48,slow=39							
	comp=Z,6.0nm,1.1s							
ESDC	**Sonseca Array**	**80.80**	**311**	P		**P**	17 35 28.0	+0.2
TGTN	**Hyland Airport**	**80.83**	**21**	P		**P**	17 35 27.3	-0.2
	baz=319							
WRGLY	**Wrigley**	**80.91**	**18**	P		**P**	17 35 27.7	-0.1
	baz=323							
PAB	**San Pablo**	**81.12**	**311**	P		**P**	17 35 29.9	+0.3
PAB	**San Pablo**	**81.12**	**311**	P		**P**	17 35 29.9	+0.3
PAB				pmax		pmax		
	comp=Z,19nm,1.5s							
Q32M	**Nakina River**	**81.40**	**24**	P		**P**	17 35 30.1	-0.7
	baz=316							
PBRG	**Braganca**	**81.46**	**314**	*eP*		**P**	17 35 31.9	+0.6
	comp=Z,29nm,1.9s							
R33M	**Jennings River**	**81.54**	**24**	P		**P**	17 35 31.0	-0.4
	baz=317							
SIT	**Sitka**	**81.61**	**27**	P		**P**	17 35 31.4	-0.3
	baz=314							
S32K	**Killisnoo**	**81.61**	**26**	P		**P**	17 35 31.0	-0.6
	baz=315							
MVO	**Moncovo**	**81.99**	**313**	*eP*		**P**	17 35 35.2	+1.1
	comp=Z,36nm,1.4s							
PCAB	**Cabril**	**82.32**	**314**	*eP*		**P**	17 35 37.1	+1.3
	comp=Z,50nm,1.7s							
PGAV	**Gavieira, Arco**	**82.33**	**314**	*eP*		**P**	17 35 37.4	+1.5
	comp=Z,41nm,1.7s							
POLO	**Lamas de Olo**	**82.36**	**314**	*eP*		**P**	17 35 36.8	+0.7
	comp=Z,14nm,1.6s							
DLBC	**Dease Lake**	**82.58**	**24**	LR		LR	18 13 20.7	
	comp=Z,327nm,19.8s,baz=291,slow=36							
MTE	**Manteigas**	**82.73**	**313**	*eP*		**P**	17 35 39.7	+1.7
	comp=Z,65nm,1.6s							
MTE	**Manteigas**	**82.73**	**313**	P		**P**	17 35 38.4	+0.4
MTE				IAmb		IAmb	17 35 40.2	
	comp=Z,29nm,1.1s							
PVIS	**Viseu**	**82.78**	**313**	*eP*		**P**	17 35 39.7	+1.5
	comp=Z,39nm,1.7s							
PCBR	**Castelo Branco**	**83.00**	**312**	*eP*		**P**	17 35 40.8	+1.5
	comp=Z,24nm,1.8s							
PMRV	**Mar??o**	**83.17**	**312**	*eP*		**P**	17 35 41.0	+0.8
	comp=Z,42nm,1.6s							
PESTR	**Estremoz**	**83.61**	**311**	*eP*		**P**	17 35 44.0	+1.5
	comp=Z,22nm,1.5s							
PBAR	**Barrancos**	**83.63**	**311**	*eP*		**P**	17 35 43.5	+0.9
	comp=Z,46nm,1.6s							
YKA	**Yellowknife Ar**	**83.74**	**15**	P		**P**	17 35 41.5	-1.2
	comp=Z,3.5nm,0.8s,baz=303,slow=3.8,SNR=3.9							
YKA				LR		LR	18 18 27.8	
	comp=Z,143nm,18.9s,baz=303,slow=40							
	comp=Z,3.5nm,0.8s							
PMTG	**Montargil**	**83.91**	**312**	*eP*		**P**	17 35 45.1	+1.1
	comp=Z,32nm,1.7s							
PSBE	**So Bento**	**84.03**	**312**	*eP*		**P**	17 35 46.5	+1.9
	comp=Z,54nm,1.6s							
PBEJ	**Beja**	**84.26**	**311**	*eP*		**P**	17 35 46.9	+1.1
	comp=Z,23nm,1.6s							
PVAQ	**Vaqueiros**	**84.50**	**310**	*eP*		**P**	17 35 47.8	+0.8
	comp=Z,37nm,1.8s							
MESJ	**Messejana**	**84.59**	**311**	*eP*		**P**	17 35 48.0	+0.5
MESJ				IAmb		IAmb	17 35 49.2	
	comp=Z,28nm,1.1s							
MESJ	**Messejana**	**84.59**	**311**	*eP*		**P**	17 35 48.7	+1.2
	comp=Z,41nm,1.5s							
MESJ	**Messejana**	**84.59**	**311**	*eP*		**P**	17 35 48.0	+0.5
PNCL	**Nicolau / Gran**	**84.64**	**311**	*eP*		**P**	17 35 49.1	+1.4
	comp=Z,28nm,1.7s							
MORF	**Marmelete**	**85.17**	**311**	*eP*		**P**	17 35 50.9	+0.4
MORF				IAmb		IAmb	17 35 52.8	
	comp=Z,48nm,1.4s							
MORF	**Marmelete**	**85.17**	**311**	*eP*		**P**	17 35 52.0	+1.5
	comp=Z,46nm,1.4s							
MORF	**Marmelete**	**85.17**	**311**	*eP*		**P**	17 35 50.9	+0.4
FRB	**Frobisher Bay**	**86.02**	**355**	LR		LR	18 16 00.7	
	comp=Z,295nm,22.0s,baz=356,slow=37							
POGA	**Pongola**	**86.46**	**236**	P		**P**	17 35 56.9	+0.1
LBTB	**Lobatse**	**89.63**	**241**	P		**P**	17 36 11.3	-0.8
LBTB				IAmb		IAmb	17 37 22.2	
	comp=Z,55nm,2.0s							
LBTB	**Lobatse**	**89.63**	**241**	P		**P**	17 36 11.3	-0.8
LBTB				pmax		pmax		
	comp=Z,55nm,2.0s							
TOA0	**Torodi Ar. Sit**	**90.23**	**285**	P		**P**	17 36 15.2	+0.2
TOA0				IAmb		IAmb	17 36 19.1	
	comp=Z,30nm,1.0s							
TORD	**Torodi Ar. Bea**	**90.23**	**285**	P		**P**	17 36 14.9	-0.2
	comp=Z,20nm,0.9s,baz=44,slow=4.9,SNR=59							
TORD				PP		**PP**	17 39 47.5	-1.2
	comp=Z,4.7nm,1.1s,baz=51,slow=8.8,SNR=8.7							
	comp=Z,20nm,0.9s							
TORD	**Torodi Ar. Bea**	**90.23**	**285**	P		**P**	17 36 15.5	+0.4
TORD				IAmb		IAmb	17 36 19.1	
	comp=Z,28nm,1.1s							
LLLB	**Lillooet**	**91.67**	**25**	P		**P**	17 36 21.7	+0.5
LLLB				IAmb		IAmb	17 36 23.2	
	comp=Z,29nm,1.2s							
BOSA	**Boshof**	**91.86**	**238**	P		**P**	17 36 21.6	-0.8
	comp=Z,8.1nm,0.9s,baz=74,slow=2.8,SNR=6.1							
BOSA				LR		LR	18 15 33.2	
	comp=Z,168nm,19.1s,baz=12,slow=34							
	comp=Z,8.1nm,0.9s							
EDM	**Edmonton**	**92.21**	**19**	P		**P**	17 36 23.9	+0.2
EDM				IAmb		IAmb	17 36 25.2	
	comp=Z,14nm,0.9s							
EDM	**Edmonton**	**92.21**	**19**	P		**P**	17 36 23.9	+0.2
EDM				pmax		pmax		
	comp=Z,14nm,0.9s							
KOWA	**Kowa**	**94.25**	**289**	P		**P**	17 36 33.2	-0.5
KOWA				IAmb		IAmb	17 36 38.4	
	comp=Z,19nm,1.2s							
SCHQ	**Schefferville**	**94.63**	**352**	P		**P**	17 36 33.0	-1.8
	comp=Z,4.5nm,0.8s,baz=48,slow=5.0,SNR=3.8							
SCHQ				LR		LR	18 20 56.8	
	comp=Z,210nm,20.0s,baz=287,slow=37							
	comp=Z,4.5nm,0.8s							
I04A	**Tendick Farm,**	**97.01**	**29**	P		**P**	17 36 45.1	-0.7
	baz=324							
SUR	**Sutherland**	**97.11**	**237**	LR		LR	18 17 44.9	
	comp=Z,258nm,21.9s,baz=57,slow=34							
L02F	**Cave Junction**	**97.86**	**31**	P		**P**	17 36 49.3	-0.4
	baz=323							
BOZ	**Bozeman (W)**	**99.50**	**22**	P		**Pdif**	17 36 55.9	-1.2
	baz=333							
R11A	**Troy Canyon, C**	**104.39**	**28**	P		**Pdif**	17 37 17.8	-1.3
	baz=329							
LBNH	**Lisbon**	**105.63**	**354**	P		**PKiKP**	17 41 37.8	+0.5
	baz=7.5							
SSPA	**Standing Stone**	**109.60**	**358**	P		**PKiKP**	17 41 44.5	-0.3
	baz=2.2							
TXAR	**Lajitas Array**	**116.87**	**23**	PKP		**PKPdf**	17 41 57.8	-1.3
	comp=Z,0.8nm,1.0s,baz=180,slow=1.3,SNR=4.1							
TXAR				PKKPbc		**PKKPbc**	17 52 24.4	-0.4
	comp=Z,0.5nm,0.7s,baz=163,slow=6.4,SNR=3.6							
TROLL	**Troll, Antarti**	**120.49**	**201**	PKPdf		**PKPdf**	17 42 03.7	-1.0
SNAA	**Sanae**	**122.17**	**201**	PKPdf		**PKPdf**	17 42 06.1	-1.7
SNAA	**Sanae**	**122.17**	**201**	PKPdf		**PKPdf**	17 42 06.5	-1.3
SNAA	**Sanae**	**122.17**	**201**	PKIKP		**PKPdf**	17 42 06.5	-1.3
VNA2	**Neumayer--Watz**	**123.67**	**202**	PKPdf		**PKPdf**	17 42 09.3	-1.3
	baz=48,slow=2.0							
VNA1	**Neumayer--Stat**	**123.99**	**202**	PKPdf		**PKPdf**	17 42 10.6	-0.6
VNA3	**Neumayer Olymp**	**124.38**	**202**	PKPdf		**PKPdf**	17 42 10.9	-1.1
BELA	**Belgrano 2**	**127.98**	**191**	PKPdf		**PKPdf**	17 42 17.2	-1.5
BOAV	**Boa Vista**	**142.55**	**326**	PKPdf		**PKPdf**	17 42 47.2	-0.5
BOAV	**Boa Vista**	**142.55**	**326**	*eP*		**PKPdf**	17 42 47.2	-0.5
MC01	**Montes Claros**	**144.18**	**284**	*eP*		PKPbc	17 42 49.1	+0.5
DIAM	**Diamantina, MG**	**144.68**	**281**	*eP*		**PKPab**	17 42 49.0	-1.2
ROSC	**El Rosal**	**144.79**	**350**	PKP		**PKPab**	17 42 50.9	-0.1
	comp=Z,60nm,0.7s,baz=78,slow=4.3,SNR=15							
ROSC	**El Rosal**	**144.79**	**350**	PKPdf		**PKPab**	17 42 50.7	-0.2
BDFB	**Brasilia**	**147.04**	**289**	PKPbc		**PKPbc**	17 42 57.1	-0.5
	comp=Z,16nm,1.0s,baz=25,slow=4.7,SNR=10							
BDFB	**Brasilia**	**147.04**	**289**	*eP*		**PKPbc**	17 42 56.8	-0.7
PMNB	**Patos De Minas**	**147.14**	**283**	*eP*		**PKPbc**	17 42 57.0	-0.7
NPGB	**Novo Progresso**	**147.19**	**309**	*eP*		**PKPdf**	17 42 56.5	+0.8
TULM	**Tulcn-Chalpat**	**149.27**	**355**			**PKPbc**	17 43 04.0	0.0
RCLB	**Rio Claro- Sao**	**149.66**	**277**	*eP*		**PKPdf**	17 43 01.5	+1.9
OTAV	**Otavalo**	**149.79**	**356**			**PKPbc**	17 43 04.3	-1.0
OTAV	**Otavalo**	**149.79**	**356**	PKP2		**PKPbc**	17 43 04.3	-1.0
BB19B	**Bebedouro**	**149.99**	**280**	*eP*		**PKPdf**	17 43 01.9	+1.9
CLDB	**Colider**	**150.20**	**305**	*eP*		**PKPdf**	17 43 00.7	+0.1
TBTG	**Tabatinga, AM**	**152.41**	**337**	*eP*		**PKPdf**	17 43 03.3	-0.7
PCMB	**Pacaembu**	**152.54**	**281**	*eP*		**PKPdf**	17 43 04.1	+0.1
C2SB	**Chapadao do Su**	**152.59**	**288**	*eP*		**PKPdf**	17 43 04.5	+0.5
SAML	**Samuel**	**153.53**	**319**	PKPdf		**PKPdf**	17 43 05.1	-0.5
SAML	**Samuel**	**153.53**	**319**	PKIKP		**PKPdf**	17 43 05.1	-0.5
PTLB	**Pontes e Lacer**	**155.66**	**302**			**PKPdf**	17 43 04.1	-4.3
PTLB						**PKPab**	17 43 35.0	+0.4
PTLB	**Pontes e Lacer**	**155.66**	**302**	*eP*		**PKPdf**	17 43 08.4	0.0
AQDB	**Aquidauana**	**155.78**	**288**	*eP*		**PKPdf**	17 43 07.6	-0.8
CPUP	**Villa Florida**	**159.37**	**275**	PKP		**PKPdf**	17 43 12.1	-0.7
	comp=Z,5.7nm,1.0s,baz=27,slow=4.0,SNR=6.3							
CPUP	**Villa Florida**	**159.37**	**275**	PKPdf		**PKPdf**	17 43 11.7	-1.1
LPAZ	**La Paz**	**162.27**	**318**	PKP		**PKPdf**	17 43 16.3	-0.7
	comp=Z,8.0nm,1.0s,baz=30,slow=5.6,SNR=16							
LPAZ	**La Paz**	**162.27**	**318**	*eP*		**PKPdf**	17 43 17.1	+0.1
PLCA	**Paso Flores**	**166.71**	**214**	PKP		**PKPdf**	17 43 18.9	-0.6
	comp=Z,2.5nm,0.9s,baz=187,slow=15,SNR=3.0							
PLCA				PKPab		**PKPab**	17 44 23.4	+1.2
	comp=Z,4.4nm,0.9s,baz=182,slow=7.0,SNR=4.7							

*IDC **22** 17:28:42.1±1.1,54°.63S×29°.59W,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=47.9km s-min=27.7km az=72.0*

ISC 22 17:28:43.5±1.0,54°.6S±0°.2×29°.6W±0°.3,h10km,n10, σ0°59/10,mb3.9/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**18.64**	**158**	P		**Pn**	**17 33 01.0**	**-0.1**
VNA3	**Neumayer Olymp**	**18.80**	**160**	P		**Pn**	**17 33 03.5**	**+0.4**
VNA2	**Neumayer--Watz**	**19.04**	**158**	P		**Pn**	**17 33 06.5**	**+0.5**
	baz=317,slow=11							
SNAA	**Sanae**	**20.61**	**156**	P		**P**	**17 33 22.5**	**0.0**
TROLL	**Troll, Antarti**	**22.14**	**154**	P		**P**	**17 33 38.8**	**-0.2**
MAW	**Mawson**	**42.12**	**145**	P		**P**	**17 36 34.1**	**-1.0**
	0.7nm,0.6s,baz=229,slow=9.3,SNR=2.4							
	0.7nm,0.6s							
VNDA	**Van

	0.5nm,0.6s								
WRA	**Warramunga Arr**	**54.48**	**189**	P		**P**	**17 51 40.2**	**+2.7**
	0.2nm,0.3s,baz=3.2,slow=7.7,SNR=6.9								
	0.2nm,0.3s								
ASAR	**Alice Springs**	**58.21**	**189**	P		**P**	**17 52 06.0**	**+1.9**
	0.3nm,0.8s,baz=3.4,slow=6.9,SNR=2.2								
	0.3nm,0.8s								
AKTO	**Aktyubinsk**	**60.69**	**313**	P		**P**	**17 52 21.4**	**+0.3**	
	1.1nm,0.7s,baz=82,slow=15,SNR=3.6								
	1.1nm,0.7s								

BEO ***22*** *17:45:36.5±0.7, 44.°12N×17.°10E, h8km±4km, ML2.5/10*
PDG ***22*** *17:45:37.3±0.3, 44.°15N×17.°25E, h4km, ML2.8/12, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
RHSSO ***22*** *17:45:38.2±0.2, 44.°13N×17.°21E, h3km±1km, ML2.7/15*

ISC 22 17:45:37.3±1.1, 44.°12N±0.°02×17.°21E±0.°02, h4km±9km, n89, σ1°04/140, 10C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MGRS	**Mrkonjic Grad**	**0.31**	**343**	*i* Pg			**Pb**	**17 45 44.3**	**-1.2**
MGRS				*e* Sg			**Sg**	**17 45 48.4**	**+1.0**
KIJV	**Kijevo**	**0.59**	**259**	*e* Pg			**Pg**	**17 45 48.9**	**+0.2**
A050A	**Klekovaca**	**0.60**	**307**	⇑ *i* Pg			**Pg**	**17 45 49.1**	**+0.1**
A050A				*e* Sg			**Sb**	**17 45 58.1**	**-1.4**
BLY	**Banja Luka**	**0.63**	**358**	⇓ *i* Pg			**Pg**	**17 45 49.8**	**+0.4**
BLY				*e* Sg			**Sg**	**17 45 57.5**	**0.0**
RICI	**Ricice**	**0.63**	**185**	*e* Pg			**Pg**	**17 45 48.9**	**-0.5**
MAKA	**Makarska**	**0.85**	**189**	*e* Pg			**Pg**	**17 45 52.9**	**-0.6**
MAKA				Sg			**Sb**	**17 46 06.1**	**-0.2**
A051A	**Mrakovica**	**0.92**	**347**	*e* Pg			**Pg**	**17 45 55.2**	**+0.3**
A051A				*e* Sg			**Sg**	**17 46 06.3**	**-0.5**
PRIJ	**Prijedor**	**0.92**	**338**	*e* Pg			**Pg**	**17 45 55.3**	**+0.2**
PRIJ				*e* Sg			**Sg**	**17 46 06.7**	**-0.3**
UDBI	**Udbina**	**1.11**	**292**	*e* Pg			**Pg**	**17 45 57.7**	**-1.0**
MORI	**Morici**	**1.11**	**257**	*e* Pg			**Pg**	**17 45 58.3**	**-0.3**
ZIRJ	**Zirje**	**1.22**	**248**	*e* Pg			**Pg**	**17 46 00.4**	**-0.4**
STON	**Ston**	**1.30**	**164**	*e* Pg			**Pn**	**17 46 00.8**	**-1.5**
STON				*e* Sg			**Sg**	**17 46 19.2**	**+0.1**
STON	**Ston**	**1.30**	**164**	*e* Pg			**Pn**	**17 45 59.7**	**-2.5**
STON	**Ston**	**1.30**	**164**	*e* Pg			**Pn**	**17 45 59.9**	**-2.4**
STON				*e* Sg			**Sb**	**17 46 19.7**	**+0.4**
PLIT	**Plitvice**	**1.36**	**304**	*e* Pn			**Pn**	**17 46 02.2**	**-1.0**
PLIT				Sg			**Sg**	**17 46 21.0**	**-0.1**
LSTV	**Lastovo**	**1.37**	**190**	*e* Pn			**Pn**	**17 46 01.6**	**-1.7**
A252A	**Venje**	**1.39**	**19**	*e* Pn			**Pn**	**17 46 03.0**	**-0.5**
MOSL	**Moslavina**	**1.52**	**348**	*e* Pn			**Pn**	**17 46 04.9**	**-0.6**
UPM	**Unac-Piva**	**1.54**	**126**	*e* Pg			**Pn**	**17 46 05.2**	**-0.5**
UPM				*e* Sg			**Sg**	**17 46 27.7**	**+1.0**
UPM	**Unac-Piva**	**1.54**	**126**	⇑ *i* Pg			**Pn**	**17 46 05.3**	**-0.5**
UPM				*i* Sg			**Sg**	**17 46 29.3**	**+2.6**
DUGI	**Dugi Otok**	**1.56**	**266**	*e* Pn			**Pb**	**17 46 06.5**	**-0.2**
BRY	**Bratogost**	**1.56**	**141**	*e* Pn			**Pn**	**17 46 06.1**	**+0.1**
BRY				*e* Sn			**Sg**	**17 46 27.7**	**+0.3**
BRY	**Bratogost**	**1.56**	**141**	⇑ *i* Pg			**Pn**	**17 46 05.9**	**-0.1**
BRY				*i* Sg			**Sg**	**17 46 30.2**	**+2.8**
VIRC	**Vir**	**1.56**	**277**	*e* Pn			**Pb**	**17 46 06.3**	**-0.4**
BBLS	**Lazići**	**1.61**	**98**	*e* Pg			**Pn**	**17 46 06.6**	**0.0**
BBLS				*e* Sg			**Sg**	**17 46 30.4**	**+1.5**
DBRK	**Dubrovnik**	**1.61**	**154**	*e* Pn			**Pn**	**17 46 05.7**	**-0.8**
BLJ	**Bijeljina**	**1.62**	**65**	*e* Pg			**Pn**	**17 46 05.8**	**-0.8**
BLJ				*e* Sg			**Sb**	**17 46 28.0**	**-0.4**
RUDO	**Rudo**	**1.64**	**107**	*e* Sn			**Sb**	**17 46 29.0**	**-0.3**
TEKS	**Tekeris**	**1.72**	**75**	*e* Pn			**Pn**	**17 46 08.6**	**+0.5**
TEKS				*e* Sn			**Sb**	**17 46 31.7**	**+0.2**
TEKS	**Tekeris**	**1.72**	**75**	*e* Pg			**Pb**	**17 46 09.1**	**-0.4**
NVLJ	**Novalja**	**1.73**	**286**	*e* Pn			**Pb**	**17 46 10.0**	**+0.3**
RABC	**Rab**	**1.85**	**291**	*e* Pn			**Pb**	**17 46 11.2**	**-0.5**
NKME	**Niksic**	**1.86**	**136**	⇑ *i* Pn			**Pn**	**17 46 10.9**	**+0.9**
NKME				*e* Sn			**Sg**	**17 46 37.6**	**+0.6**
A250A	**Rusevo Krmpots**	**1.90**	**301**	*e* Pn			**Pn**	**17 46 11.2**	**+0.6**
HCY	**Herceg Novi**	**1.92**	**150**	*e* Pn			**Pb**	**17 46 12.4**	**-0.5**
HCY				*e* Sn			**Sb**	**17 46 36.8**	**-0.4**
HCY	**Herceg Novi**	**1.92**	**150**	⇑ *i* Pn			**Pb**	**17 46 11.9**	**-1.0**
HCY				*i* Sn			**Sg**	**17 46 39.0**	**0.0**
OZLJ	**Ozalj**	**1.94**	**321**	*e* Pn			**Pn**	**17 46 11.7**	**+0.6**
BOJS	**Bojanci**	**1.96**	**315**	*i* Pn			**Pn**	**17 46 12.1**	**+0.7**
BOJS				*e* Sn			**Sn**	**17 46 37.1**	**+0.7**
BOJS				IAML				17 46 50.0	
	comp=Z,34nm,0.4s								
PTJ	**Puntijarka**	**1.99**	**334**	*e* Pn			**Pn**	**17 46 11.3**	**-0.6**
DIVS	**Divibare**	**2.00**	**90**	*e* Pn			**Pn**	**17 46 12.3**	**+0.2**
DIVS				*e* Sn			**Sn**	**17 46 38.1**	**+0.5**
DIVS	**Divibare**	**2.00**	**90**	*e* Pn			**Pn**	**17 46 11.4**	**-0.7**
DIVS				*e* Sg			**Sg**	**17 46 44.3**	**+2.5**
CEME	**Cevo**	**2.01**	**141**	⇑ *i* Pn			**Pb**	**17 46 13.9**	**-0.6**
CEME				*i* Sn			**Sg**	**17 46 41.3**	**-0.6**
KALN	**Kalnik**	**2.08**	**345**	*e* Pn			**Pn**	**17 46 11.3**	**-1.7**
KOME	**Kolasin**	**2.11**	**126**	⇑ *i* Pn			**Pn**	**17 46 14.0**	**+0.5**
KOME				*i* Sn			**Sb**	**17 46 43.0**	**+0.3**
CRES	**Cresnjev**	**2.11**	**324**	*i* Pn			**Pn**	**17 46 13.7**	**+0.3**
FRGS	**Fruska Gora**	**2.13**	**60**	*e* Pn			**Pn**	**17 46 14.1**	**+0.4**
FRGS				*e* Sn			**Sn**	**17 46 40.9**	**+0.4**
FRGS	**Fruska Gora**	**2.13**	**60**	*e* Pg			**Pg**	**17 46 17.3**	**-0.8**
FRGS				*e* Sg			**Sg**	**17 46 46.4**	**+0.8**
SJES	**Sjenica**	**2.18**	**112**	*e* Pn			**Pn**	**17 46 15.9**	**+1.4**
SJES				*e* Sn			**Sn**	**17 46 43.1**	**+1.0**
SJES	**Sjenica**	**2.18**	**112**	*e* Pg			**Pb**	**17 46 16.1**	**-1.4**
SJES	**Sjenica**	**2.18**	**112**	*e* Pg			**Pb**	**17 46 16.8**	**-0.7**
SJES				*e* Sg			**Sg**	**17 46 47.5**	**0.0**
LOBO	**Lobor**	**2.19**	**339**	*e* Pn			**Pn**	**17 46 14.1**	**-0.4**
BUM	**Brajici-Budva**	**2.20**	**145**	*e* Pn			**Pn**	**17 46 16.2**	**+1.5**
BUM				*e* Sn			**Sb**	**17 46 45.8**	**+0.5**
IVAS	**Ivanjica**	**2.20**	**103**	*e* Pn			**Pn**	**17 46 14.5**	**-0.2**
IVAS				*e* Sg			**Sg**	**17 46 47.3**	**-0.7**
PDG	**Podgorica**	**2.26**	**138**	*e* Sg			**Sg**	**17 46 49.8**	**0.0**
TTG	**Podgorica**	**2.26**	**138**	⇓ *i* Pn			**Pn**	**17 46 16.4**	**+1.0**
TTG				*i* Sn			**Sb**	**17 46 47.1**	**+0.2**
TRUS	**Trudelj**	**2.30**	**86**	*e* Pn			**Pn**	**17 46 15.8**	**-0.3**
TRUS				*e* Sg			**Sg**	**17 46 52.6**	**+1.3**
IVA	**Berane**	**2.32**	**122**	⇑ *i* Pn			**Pn**	**17 46 17.1**	**+0.7**
IVA				*i* Sn			**Sb**	**17 46 48.6**	**-0.2**
MORH	**Mrgy, Hungar**	**2.33**	**25**	*e* Pn			**Pn**	**17 46 17.5**	**+1.1**
MORH				*e* Sn			**Sn**	**17 46 46.3**	**+0.9**
SMRN	**Sveta Marina**	**2.37**	**294**	*e* Pn			**Pn**	**17 46 18.2**	**+1.3**
VISS	**Visnje**	**2.38**	**316**	*i* Pn			**Pn**	**17 46 18.1**	**+0.9**
DRME	**Dracevica, Mon**	**2.42**	**143**	*e* Pn			**Pn**	**17 46 19.1**	**+1.4**
DRME				*e* Sn			**Sn**	**17 46 49.2**	**+1.6**
DRME	**Dracevica, Mon**	**2.42**	**143**	⇓ *i* Pn			**Pn**	**17 46 19.0**	**+1.4**
DRME				*i* Sn			**Sb**	**17 46 51.0**	**-0.5**
PVY	**Plav**	**2.52**	**126**	*e* Pn			**Pn**	**17 46 19.7**	**+0.5**
PVY				*i* Sn			**Sb**	**17 46 52.6**	**-2.1**
GRUS	**Gruza**	**2.54**	**94**	*e* Pn			**Pn**	**17 46 19.2**	**-0.2**
CEY	**Cerknica**	**2.55**	**310**	*e* Pn			**Pn**	**17 46 20.8**	**+1.3**
CEY				*e* Sn			**Sn**	**17 46 51.8**	**+0.7**
BRJN	**Brijuni**	**2.59**	**289**	*e* Pn			**Pn**	**17 46 22.1**	**+2.1**
ULC	**Ulcinj**	**2.62**	**145**	⇑ *i* Pn			**Pn**	**17 46 21.8**	**+1.3**
ULC				*i* Sn			**Sb**	**17 46 56.1**	**-1.4**
GROS	**Grobnik**	**2.63**	**333**	*i* Pn			**Pn**	**17 46 20.6**	**0.0**
A253A	**Karojba, Istri**	**2.69**	**297**	*e* Pn			**Pn**	**17 46 22.2**	**+0.9**
SELS	**Selova**	**2.98**	**106**	*e* Pn			**Pn**	**17 46 25.1**	**-0.3**
SOKA	**Soboth**	**2.98**	**330**	Pn			**Pn**	**17 46 25.9**	**+0.4**
	comp=Z,1.8nm,0.3s,SNR=5.7								
SOKA				*e* Sn			**Sn**	**17 47 00.2**	**-1.4**
	comp=Z,3.6nm,0.3s								
OBKA	**Obir**	**3.04**	**323**	*e* Pn			**Pn**	**17 46 27.1**	**+0.9**
OBKA				*e* Sn			**Sn**	**17 47 04.1**	**+1.0**
OBKA	**Obir**	**3.04**	**323**	*e* Pn			**Pn**	**17 46 28.5**	**+2.3**
	comp=Z,0.9nm,0.2s								
OBKA				*e* Sg			**Sg**	**17 47 14.4**	**-0.4**
	comp=Z,15nm,0.4s								
BOVS	**Bovan**	**3.29**	**97**	*e* Pn			**Pn**	**17 46 28.8**	**-0.8**
ARSA	**Arzberg**	**3.34**	**340**	*e* Pn			**Pn**	**17 46 30.6**	**+0.2**
ARSA				*e* Sn			**Sn**	**17 47 10.3**	**-0.3**
ARSA	**Arzberg**	**3.34**	**340**	Pn			**Pn**	**17 46 30.9**	**+0.5**
	comp=Z,10nm,0.3s,SNR=20								
ARSA				*e* Sn			**Sn**	**17 47 10.6**	**+0.1**
MYKA	**Terra Mystica**	**3.55**	**316**	*e* Pg			**Pg**	**17 46 45.1**	**-0.2**
MYKA				*e* Sg			**Sg**	**17 47 31.7**	**+0.3**
	comp=Z,2.3nm,0.4s								
BARS	**Barje**	**3.60**	**110**	*e* Pn			**Pn**	**17 46 34.5**	**+0.6**
RONA	**Rosalia, Austr**	**3.63**	**350**	Pn			**Pn**	**17 46 34.7**	**+0.3**
	comp=Z,4.4nm,0.2s,SNR=6.6								
RONA				*e* Sn			**Sn**	**17 47 19.2**	**+1.5**
	comp=Z,0.8nm,0.1s								
ZAGS	**Zajecar**	**3.64**	**93**	*e* Pn			**Pn**	**17 46 34.0**	**-0.5**
CONA	**Conrad Observa**	**3.92**	**347**	Pn			**Pn**	**17 46 38.8**	**+0.4**
	comp=Z,3.9nm,0.4s,SNR=11								
CONA				*e* Sn			**Sn**	**17 47 26.0**	**+1.2**
KBA	**Koelnbreinsper**	**4.01**	**319**	*e* Sn			**Sn**	**17 47 26.8**	**-0.4**
	comp=Z,1.1nm,0.2s								
ZAPS	**Zavoj**	**4.03**	**100**	*e* Pn			**Pn**	**17 46 39.8**	**0.0**
ZST	**Bratislava**	**4.08**	**359**	*e* Pn			**Pn**	**17 46 40.6**	**+0.2**
MODS	**Modra-Piesok**	**4.25**	**1**	*e* Pn			**Pn**	**17 46 42.9**	**0.0**
MOA	**Molln**	**4.25**	**332**	*e* Pn			**Pn**	**17 46 44.5**	**+1.5**
	comp=Z,5.9nm,0.3s								
MOA				*e* Sn			**Sn**	**17 47 33.6**	**+0.6**
	comp=Z,1.2nm,0.2s								
VYHS	**Vyhne**	**4.52**	**14**	*e* Pn			**Pn**	**17 46 47.0**	**+0.5**
VYHS				*e* Sn			**Sn**	**17 47 34.9**	**-4.5**
WTTA	**Wattenberg**	**5.01**	**311**	*e* Pn			**Pn**	**17 46 54.3**	**+0.8**
WTTA				*e* Sn			**Sn**	**17 47 54.2**	**+2.4**
	comp=Z,4.4nm,0.7s								
SQTA	**Sankt Quirin**	**5.22**	**308**	*e* Pn			**Pn**	**17 46 57.1**	**+0.8**
SQTA				*e* Sn			**Sn**	**17 47 57.4**	**+0.4**
	comp=Z,2.4nm,0.4s								

ROM 22 17:45:50.9±0.1, 42.°811N±0.°007×13.°156E±0.°010, h10km, Md1.0/2, 4C, Error ellipse: s-maj=0.9km s-min=0.7km az=117.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NRCA	**Norcia**	**0.04**	**306**	⇑ P			Pg	17 45 53.3	+0.3
NRCA				S			Sg	17 45 54.4	0.0
NRCA				AML		AML			
	comp=E,270μm,0.1s								
NRCA				AML		AML			
	comp=E,270μm,0.1s								
NRCA				AML		AML			
	comp=N,286μm,0.1s								
NRCA				END					
T1242	**Castelluccio d**	**0.04**	**63**	P			Pg	17 45 53.3	+0.3
T1242				S			Sg	17 45 54.5	-0.1
T1242				AML		AML			
	comp=E,78μm,1.3s								
T1242				AML		AML			
	comp=N,110μm,0.3s								
T1242				END					
MC2	**Monte Cornacci**	**0.10**	**14**	P			Pg	17 45 53.7	-0.2
MC2				S			Sg	17 45 56.8	+0.9
T1202	**Accumoli, Fraz**	**0.12**	**155**	⇑ P			Pg	17 45 54.0	+0.1
T1202				S			Sg	17 45 57.1	+1.0
MMO1	**Montemonaco**	**0.15**	**55**	P			Pg	17 45 54.7	+0.3
MMO1				S			Sg	17 45 57.9	+1.0
T1204	**Amatrice, Fraz**	**0.18**	**139**	⇑ P			Pg	17 45 55.3	+0.5
T1215	**Vallo di Nera,**	**0.21**	**268**	⇑ P			Pb	17 45 56.3	-0.6
T1215				S			Sg	17 45 59.7	+1.3
FDMO	**Fiordimonte**	**0.23**	**347**	P			Pg	17 45 56.3	+0.6
FDMO				S			Sg	17 46 00.8	+1.8

IDC 22 17:52:15.7±2.1, 1.°33N×126.°98E, h0km, mb3.2/3, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=118.3km s-min=27.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**19.35**	**184**	P			Pn	17 56 43.5	-0.4
	0.1nm,0.3s,baz=0.0,slow=5.1,SNR=3.1								
	1.9nm,0.8s								
WRA	**Warramunga Arr**	**22.34**	**162**	P			P	17 57 14.5	-0.9
	0.4nm,0.5s,baz=340,slow=11,SNR=16								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**25.74**	**165**	P			P	17 57 48.9	+0.7
	0.1nm,0.3s,baz=342,slow=11,SNR=1.9								
	0.1nm,0.3s								
MKAR	**Makanchi Array**	**59.66**	**326**	P			P	18 02 21.8	-0.1
	0.3nm,0.7s,baz=112,slow=7.7,SNR=2.1								
	0.3nm,0.7s								

JMA ***22*** *17:53:22.7±0.1, 24.°N±2.°×122.°2E±0.°7, h55km±3km, MV1.9/9, TAIWAN REGION*
TAP ***22*** *17:53:23.2, 24.°29N×122.°17E, h52km±1km, ML2.7, C*

ISC 22 17:53:22.6±1.2, 24.°28N±0.°03×122.°20E±0.°02, h23km±13km, n37, σ0°45/64, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
EWUT	**Wuta**	**0.41**	**294**	*e* P			**Pn**	**17 53 32.3**	**-0.8**
	baz=293								
EWUT				*i* S			**Sn**	**17 53 40.8**	**+0.7**
	baz=293								
EHP	**Heping Village**	**0.42**	**275**	*i* S			**Sn**	**17 53 40.9**	**+0.7**
	baz=273								
ENA	**Nanau**	**0.44**	**290**	P			**Pn**	**17 53 33.7**	**+0.3**
	baz=289								
ENA				*e* S			**Sn**	**17 53 41.8**	**+1.1**
	baz=289								
TWC	**Suao**	**0.46**	**316**	*i* P			**Pn**	**17 53 33.8**	**+0.1**
	baz=318								
TWC				*i* S			**Sn**	**17 53 41.4**	**+0.3**
	baz=318								
ETL	**Fush Village**	**0.54**	**257**	*i* P			**Pn**	**17 53 34.7**	**-0.1**
	baz=255								
ETL				*i* S			**Sn**	**17 53 43.3**	**+0.1**
	baz=255								
NACB	**Ninganchiao**	**0.56**	**259**	*i* P			**Pn**	**17 53 34.9**	**-0.2**
	baz=258								
NACB				S			**Sn**	**17 53 43.5**	**-0.1**
	baz=258								
TWD	**Chiawan**	**0.58**	**250**	*i* P			**Pn**	**17 53 35.3**	**-0.1**
	baz=248								
TWD				S			**Sn**	**17 53 44.5**	**+0.3**
	baz=248								
TWE	**Neicheng**	**0.65**	**313**	P			**Pn**	**17 53 36.4**	**0.0**
	baz=313								
ETLH	**Xiulin Townshi**	**0.66**	**264**	P			**Pb**	**17 53 36.1**	**+0.7**
	baz=262								
ETLH				S			**Sn**	**17 53 45.9**	**-0.2**
	baz=262								
LATG	**Datong**	**0.66**	**293**	*i* P			**Pn**	**17 53 36.4**	**-0.3**
	baz=292								
ENTT	**Nioudou**	**0.68**	**302**	*e* P			**Pb**	**17 53 35.7**	**-0.1**
	baz=302								
NDT	**Datong Townshi**	**0.70**	**298**	*i* P			**Pn**	**17 53 36.9**	**-0.2**
	baz=297								
JYNG	**Yonagunijimaku**	**0.70**	**76**	P			**Pn**	**17 53 37.4**	**+0.3**
JYNG				S			**Sn**	**17 53 48.0**	**+0.7**
ETM	**Tongmen**	**0.71**	**244**	P			**Pb**	**17 53 36.8**	**+0.4**
	baz=242								
ETM				*i* S			**Sn**	**17 53 47.5**	**+0.1**
	baz=242								
FUSB	**Fushanzhiwuyua**	**0.73**	**311**	P			**Pn**	**17 53 37.5**	**0.0**
	baz=311								
FUSB				S			**Sn**	**17 53 47.7**	**-0.4**
	baz=311								
TWB1	**Santiao Chiao**	**0.75**	**346**	*e* P			**Pb**	**17 53 37.1**	**+0.1**
	baz=347								
TWB1				*e* S			**Sb**	**17 53 46.6**	**-0.2**
	baz=347								
YOJ	**Yonaguni jima**	**0.77**	**76**	*i* P			**Pn**	**17 53 38.4**	**+0.4**
	baz=76								
YOJ				S			**Sn**	**17 53 49.4**	**+0.7**
	baz=76								
YOJ	**Yonaguni jima**	**0.77**	**76**	P			**Pn**	**17 53 38.4**	**+0.4**
YOJ				S			**Sn**	**17 53 49.5**	**+0.7**
NNS	**Nan Shan**	**0.77**	**282**	*e* S			**Sb**	**17 53 46.9**	**-0.5**
	baz=281								
ESL	**Shilin**	**0.84**	**237**	P			**Pb**	**17 53 38.4**	**0.0**
	baz=234								
ESL				S			**Sn**	**17 53 50.2**	**-0.3**
	baz=234								
YHNB	**Yeheng**	**0.84**	**298**	*i* P			**Pb**	**17 53 38.8**	**+0.2**
	baz=297								
NSK	**Sanguang**	**0.86**	**298**	*e* P			**Pb**	**17 53 38.1**	**-0.8**
	baz=297								
NSK				*e* S			**Sb**	**17 53 49.1**	**-0.9**
	baz=297								
WHF	**Hehuan Shan**	**0.86**	**261**	P			**Pb**	**17 53 39.1**	**+0.1**
	baz=260								
WHF				*e* S			**Sb**	**17 53 51.2**	**+0.8**
	baz=260								
FUSS	**Fushou**	**0.87**	**268**	P			**Pb**	**17 53 39.4**	**+0.3**
	baz=267								
FUSS				S			**Sb**	**17 53 50.9**	**+0.5**
	baz=267								
TWA	**Mucha**	**0.89**	**322**	*i* S			**Sn**	**17 53 51.6**	**-0.3**
	baz=322								
NHDH	**Xindian Distri**	**0.92**	**318**	*e* P			**Pn**	**17 53 40.5**	**+0.5**
	baz=318								
NHDH				*i* S			**Sn**	**17 53 52.3**	**-0.1**
	baz=318								
EGFH	**Guangfu**	**0.93**	**229**	P			**Pb**	**17 53 39.7**	**-0.3**
	baz=228								
EGFH				*i* S			**Sn**	**17 53 52.8**	**+0.1**
	baz=228								
TWT	**Tachien**	**0.93**	**269**	S			**Sn**	**17 53 53.1**	**0.0**
	baz=267								
CHGB	**Renai**	**0.96**	**257**	P			**Pb**	**17 53 40.7**	**+0.1**
	baz=256								
CHGB				*i* S			**Sb**	**17 53 53.3**	**+0.3**
	baz=256								
OWD	**Renai**	**0.98**	**251**	*i* P			**Pb**	**17 53 40.7**	**-0.3**
	baz=250								
OWD				S			**Sb**	**17 53 53.3**	**-0.3**
	baz=250								
WUSB	**Renai**	**1.02**	**254**	P			**Pb**	**17 53 41.6**	**-0.1**
	baz=253								
WUSB				S			**Sb**	**17 53 54.7**	**-0.1**
	baz=253								
VWDT	**VWDT**	**1.10**	**242**	*e* P			**Pn**	**17 53 42.5**	**+0.1**
	baz=240								
IRIF	**Iriomote-Funau**	**1.40**	**87**	P			**Pn**	**17 53 46.5**	**-0.2**
IRIF				S			**Sn**	**17 54 04.0**	**-0.4**
HATJ	**Hateruma jima**	**1.49**	**98**	P			**Pn**	**17 53 47.6**	**-0.2**
HATJ				S			**Sn**	**17 54 05.6**	**-0.9**
JKRS	**Kuro-shima**	**1.66**	**91**	P			**Pn**	**17 53 50.6**	**+0.4**
JKRS				S			**Sn**	**17 54 10.9**	**+0.2**
JIJ	**Ishigaki jima**	**1.78**	**87**	P			**Pn**	**17 53 52.0**	**+0.1**
JIJ				S			**Sn**	**17 54 13.1**	**-0.7**
JISG	**Ishigakijimahi**	**1.95**	**80**	P			**Pn**	**17 53 53.9**	**-0.3**
JISG				S			**Sn**	**17 54 17.5**	**-0.6**

JMA ***22*** *17:56:53.6±0.2, 43.°4N±0.°6×145.°7E±0.°9, h77km±1km, MV2.6/32, NEMURO REGION*
SKHL ***22*** *17:56:53.5±0.2, 43.°30N×145.°90E, h76km±4km, mb4.2/2*

ISC 22 17:56:54.1±1.8, 43.°39N±0.°07×145.°75E±0.°06, h73km±10km, n13, σ0°39/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NEM2	**Nemuro 2**	**0.02**	**186**	P			**Pn**	**17 57 04.6**	**0.0**
NEM2				*e* S			**Sn**	**17 57 12.5**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.02**	**216**	*e* P			**Pn**	**17 57 04.4**	**-0.2**
NMR				*e* S			**Sn**	**17 57 12.5**	**+0.3**
JKHN	**Kushirohamanak**	**0.53**	**235**	P			**Pn**	**17 57 07.4**	**0.0**
JKHN				*e* S			**Sn**	**17 57 17.3**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.65**	**7**	*e* P			**Pn**	**17 57 08.4**	**-0.3**
YUK				AMB		AMB		17 57 09.0	
	550nm,0.3s								
YUK				*e* S			**Sn**	**17 57 19.5**	**+0.1**
YUK				A		A		17 57 21.3	
	300nm,0.3s								
YUK				A		A		17 57 21.3	
	280nm,0.3s								
JNSB	**Nemuroshibetsu**	**0.66**	**306**	P			**Pn**	**17 57 08.7**	**-0.1**
JNSB				*e* S			**Sn**	**17 57 20.1**	**+0.4**
JRA	**Rausu**	**0.71**	**321**	P			**Pn**	**17 57 09.3**	**0.0**
JRA				*e* S			**Sn**	**17 57 21.2**	**+0.6**
AKK	**Akkeshi**	**0.76**	**241**	*e* P			**Pn**	**17 57 09.5**	**-0.3**
JNK	**Nakash**	**0.77**	**285**	P			**Pn**	**17 57 09.5**	**-0.5**
JNK				*e* S			**Sn**	**17 57 20.8**	**-1.0**
JAK	**Akkeshi**	**0.86**	**243**	P			**Pn**	**17 57 10.8**	**-0.3**
JAK				*e* S			**Sn**	**17 57 23.3**	**-0.3**
JAR	**Ashorobuto**	**1.45**	**267**	*e* P			**Pn**	**17 57 18.6**	**+0.2**
JTKR	**Abashiri--Toko**	**1.46**	**294**	*e* P			**Pn**	**17 57 18.7**	**+0.2**
JOB	**Onbets**	**1.48**	**252**	*e* P			**Pn**	**17 57 19.1**	**+0.2**
JOB				*e* S

H11N3	**WAKE ISLAND Hy**	**38.50**	**90**	T	T	18 56 30.6
	baz=292					
H11S3	**WAKE ISLAND Hy**	**38.66**	**92**	T	T	18 56 41.5
	baz=289					
H11S1	**WAKE ISLAND Hy**	**38.67**	**92**	T	T	18 56 43.2
	baz=289					
H11S2	**WAKE ISLAND Hy**	**38.68**	**92**	T	T	18 56 34.4
	baz=289					
MKAR	**Makanchi Array**	**40.08**	**313**	P	**P**	**18 16 01.3 +0.3**
	0.5nm,0.8s,baz=98,slow=8.2,SNR=3.1					
	0.5nm,0.8s					
ZALV	**Zalesovo Beam**	**41.20**	**324**	P	**P**	**18 16 12.7 +2.6**
	0.4nm,0.5s,baz=111,slow=8.6,SNR=2.2					
	0.4nm,0.5s					
WRA	**Warramunga Arr**	**46.21**	**169**	P	**P**	**18 16 50.7 -0.1**
	0.4nm,0.8s,baz=350,slow=8.6,SNR=3.3					
	0.4nm,0.8s					
ASAR	**Alice Springs**	**49.79**	**170**	P	**P**	**18 17 19.3 +0.8**
	0.1nm,0.7s,baz=357,slow=7.6,SNR=1.2					
	0.1nm,0.7s					
H03N2	**Juan Fernandez**	**157.40**	**116**	T	T	21 25 00.0
	baz=70,slow=72,SNR=25					
H03N3	**Juan Fernandez**	**157.41**	**116**	T	T	21 24 59.5
	baz=70,slow=72,SNR=24					
H03N1	**Juan Fernandez**	**157.42**	**116**	T	T	21 25 00.1
	baz=70,slow=72,SNR=26					

*UCR **22** 18:08:35.1±2.0, 19°.45N×99°.74W, h20^{km}±999^{km}, mb4.6(NEIC)*

*NEIC **22** 18:08:58.5±2.3, 17°.93N±0°.03×98°.51W±0°.02, h56^{km}±5^{km}, mb4.6/287, Md5.0/128(MEX), Error ellipse: s-maj=4.1km s-min=2.9km az=161.0*

*IDC **22** 18:08:58.8±0.5, 18°.07N×98°.36W, h57^{km}±3^{km}, mb4.1/23, mbtmp4.4/24, MS3.9/32, Error ellipse: s-maj=15.3km s-min=7.7km az=42.0*

*MEX **22** 18:09:00.2±0.7, 17°.98N×98°.49W, h55^{km}±5^{km}, MD4.9*

ISC 22 18:08:58.0±0.3, 17°.93N±0°.02×98°.51W±0°.02, h57^{km}±2^{km}, h57^{km}:pP-P,n730,σ1§58/852,mb4.6/141,MS4.0/30, 35C-28D,Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HMTT	**Tlapaneco**	**0.14**	**199**				**Pn**	**18 09 07.3**	**+0.4**
HMTT							**Sn**	**18 09 13.8**	**+0.5**
HMTT	**Tlapaneco**	**0.14**	**199**	*i*	P		**Pn**	**18 09 07.3**	**+0.4**
HMTT				*i*	S		**Sn**	**18 09 13.8**	**+0.5**
FTIG	**Fresnillo de T**	**0.36**	**94**				**Pn**	**18 09 08.8**	**+0.3**
FTIG							**Sn**	**18 09 15.8**	**-0.2**
FTIG	**Fresnillo de T**	**0.36**	**94**	⇓	eP		**Pn**	**18 09 08.8**	**+0.3**
FTIG					eS		**Sn**	**18 09 15.8**	**-0.2**
TLIG	**Tlapa**	**0.37**	**188**				**Pn**	**18 09 09.0**	**+0.4**
TLIG						Sn	**Sn**	**18 09 16.9**	**+0.8**
TLIG	**Tlapa**	**0.37**	**188**	⇓	eP		**Pn**	**18 09 09.3**	**+0.7**
TLIG					eS		**Sn**	**18 09 17.2**	**+1.1**
HLIG	**Huajuapan de L**	**0.68**	**98**				**Pn**	**18 09 12.6**	**+0.5**
HLIG	**Huajuapan de L**	**0.68**	**98**	⇑	eP		**Pn**	**18 09 12.6**	**+0.5**
HLIG					*i* S		**Sn**	**18 09 22.5**	**+0.2**
MGIG	**Malinaltepec**	**0.70**	**190**				**Pn**	**18 09 13.2**	**+0.8**
MGIG	**Malinaltepec**	**0.70**	**190**		eP		**Pn**	**18 09 13.2**	**+0.8**
MGIG					*i* S		**Sn**	**18 09 24.7**	**+2.0**
TXIG	**Tlaxiaco**	**0.98**	**133**				**Pn**	**18 09 17.1**	**+1.1**
TXIG							**Sn**	**18 09 29.3**	**+0.2**
TXIG	**Tlaxiaco**	**0.98**	**133**	⇑	*i* P		**Pn**	**18 09 17.1**	**+1.1**
TXIG					eS		**Sn**	**18 09 29.3**	**+0.2**
PLIG	**Platanillo**	**1.05**	**296**				**Pn**	**18 09 17.1**	**+0.5**
PLIG							**Sn**	**18 09 30.4**	**-0.1**
PLIG	**Platanillo**	**1.05**	**296**	⇑	*i* P		**Pn**	**18 09 17.1**	**+0.5**
PLIG					eS		**Sn**	**18 09 30.4**	**-0.1**
MEIG	**Mezcala**	**1.05**	**270**				**Pn**	**18 09 17.3**	**+0.6**
MEIG							**Sn**	**18 09 30.9**	**+0.3**
MEIG	**Mezcala**	**1.05**	**270**	⇑	*i* P		**Pn**	**18 09 17.3**	**+0.6**
MEIG					eS		**Sn**	**18 09 30.9**	**+0.3**
YAIG	**Yautepec**	**1.06**	**330**				**Pn**	**18 09 17.1**	**+0.1**
YAIG							**Sn**	**18 09 30.3**	**-0.7**
YAIG	**Yautepec**	**1.06**	**330**	⇑	*i* P		**Pn**	**18 09 17.1**	**+0.1**
YAIG					eS		**Sn**	**18 09 30.3**	**-0.7**
PPM	**Popocatepetl**	**1.13**	**354**	⇑	eP		**Pn**	**18 09 18.5**	**+0.3**
PPM					eS		**Sn**	**18 09 32.5**	**-0.6**
PPIG	**Popocatepetl**	**1.14**	**354**				**Pn**	**18 09 18.5**	**+0.3**
PPIG							**Sn**	**18 09 32.5**	**-0.6**
PHPU	**Puebla**	**1.15**	**16**				**Pn**	**18 09 18.2**	**0.0**
PHPU							**Sn**	**18 09 33.6**	**+0.4**
PHPU	**Puebla**	**1.15**	**16**	*eP*			**Pn**	**18 09 18.2**	**0.4**
PHPU				*i*	S		**Sn**	**18 09 33.6**	**+0.4**
TPIG	**Tehuac#an**	**1.20**	**66**				**Pn**	**18 09 19.0**	**+0.3**
TPIG							**Sn**	**18 09 33.5**	**-0.6**
TPIG	**Tehuac#an**	**1.20**	**66**	⇑	eP		**Pn**	**18 09 19.0**	**+0.3**
TPIG					eS		**Sn**	**18 09 33.5**	**-0.6**
THEZ	**Tehuacan**	**1.20**	**63**	*eP*			**Pn**	**18 09 19.1**	**+0.3**
THEZ					eS		**Sn**	**18 09 31.6**	**-2.7**
CRIG	**Cruz Grande**	**1.33**	**207**				**Pn**	**18 09 20.2**	**-0.1**
CRIG							**Sn**	**18 09 36.0**	**-1.0**
CRIG	**Cruz Grande**	**1.33**	**207**	⇓	eP		**Pn**	**18 09 20.2**	**-0.1**
CRIG					eS		**Sn**	**18 09 36.0**	**-1.0**
MAVM	**Malinalco, Edo**	**1.38**	**318**	*i*	P		Pn	18 09 27.2	+6.0
MAVM					eS		**Sn**	**18 09 44.0**	**+5.4**
TOIG	**Toxpalan**	**1.39**	**83**				**Pn**	**18 09 21.9**	**+0.6**
TOIG							**Sn**	**18 09 35.7**	**-2.9**
TOIG	**Toxpalan**	**1.39**	**83**	⇓	eP		**Pn**	**18 09 21.9**	**+0.6**
TOIG					eS		**Sn**	**18 09 35.7**	**-2.9**
YOIG	**Yosondua**	**1.41**	**139**				**Pn**	**18 09 23.7**	**+1.4**
YOIG							**Sn**	**18 09 36.7**	**-2.8**
YOIG	**Yosondua**	**1.41**	**139**	⇑	eP		**Pn**	**18 09 23.1**	**+1.4**
YOIG					eS		**Sn**	**18 09 36.7**	**-2.8**
DAIG	**Los Arroyos**	**1.42**	**230**				**Pn**	**18 09 21.6**	**+0.1**
DAIG							**Sn**	**18 09 40.2**	**+1.0**
DAIG	**Los Arroyos**	**1.42**	**230**	⇓	eP		**Pn**	**18 09 21.6**	**+0.1**
DAIG					eS		**Sn**	**18 09 40.2**	**+1.0**
UNM	**Universidad Na**	**1.53**	**336**				**Pn**	**18 09 24.2**	**+0.9**
UNM	**Universidad Na**	**1.53**	**336**	⇑	*i* P		**Pn**	**18 09 24.3**	**+1.1**
UNM					eS		**Sn**	**18 09 42.4**	**+0.2**
CUIG	**Ciudad Univers**	**1.53**	**336**				**Pn**	**18 09 24.3**	**+1.0**
CUIG							**Sn**	**18 09 42.4**	**+0.2**
PNIG	**Pinotepa**	**1.57**	**166**				**Pn**	**18 09 24.3**	**+0.6**
PNIG							**Sn**	**18 09 39.9**	**-3.1**
PNIG	**Pinotepa**	**1.57**	**166**	⇓	eP		**Pn**	**18 09 24.3**	**+0.6**
PNIG					*i* S		**Sn**	**18 09 39.9**	**-3.1**
VNTA	**La Mica**	**1.61**	**231**	*eP*			**Pn**	**18 09 24.0**	**-0.1**
OZST	**Orizaba**	**1.63**	**55**	*eP*			**Pn**	**18 09 24.5**	**-0.1**
OZST					eS		**Sn**	**18 09 40.4**	**-4.2**
ACP2	**Acapulco**	**1.68**	**232**				**Pn**	**18 09 24.7**	**-0.5**
ACP2	**Acapulco**	**1.68**	**232**	*eP*			**Pn**	**18 09 24.7**	**-0.5**
ARIG	**Puente Sto Nin**	**1.78**	**282**				**Pn**	**18 09 27.6**	**+1.1**
ARIG							**Sn**	**18 09 47.6**	**-0.5**
ARIG	**Puente Sto Nin**	**1.78**	**282**	⇑	*i* P		**Pn**	**18 09 27.6**	**+1.1**
ARIG					*i* S		**Sn**	**18 09 47.6**	**-0.5**
TEJU	**Tejupilco**	**1.84**	**302**	*eP*			**Pn**	**18 09 28.3**	**+0.9**
TEJU					eS		**Sn**	**18 09 44.4**	**-5.3**
CAIG	**El Cayaco**	**1.89**	**243**				**Pn**	**18 09 27.7**	**-0.3**
CAIG							**Sn**	**18 09 44.2**	**-6.5**
CAIG	**El Cayaco**	**1.89**	**243**	⇓	*i* P		**Pn**	**18 09 27.7**	**-0.3**
CAIG					*i* S		**Sn**	**18 09 44.2**	**-6.5**
OXIG	**Oaxaca**	**1.90**	**116**				**Pn**	**18 09 29.9**	**+1.6**
OXIG							**Sn**	**18 09 56.9**	**+5.7**
VHO	**Vista Hermosa**	**1.90**	**116**	⇑	eP		**Pn**	**18 09 29.9**	**+1.6**
VHO					*i* S		**Sn**	**18 09 56.9**	**+5.7**
OXBJ	**Oaxaca**	**1.91**	**116**				**Pn**	**18 09 29.8**	**+1.4**
OXBJ	**Oaxaca**	**1.91**	**116**	*eP*			**Pn**	**18 09 29.8**	**+1.4**
OXBJ					eS		**Sn**	**18 09 45.6**	**-5.8**
OXLC	**Oaxaca**	**1.93**	**116**	*i*	P		**Pn**	**18 09 30.4**	**+1.8**
OXLC					eS		**Sn**	**18 09 45.6**	**-6.3**
JAUV	**Jalcomulco**	**2.16**	**48**	⇑	eP		**Pn**	**18 09 31.4**	**-0.2**
JAUV					*i* S		**Sn**	**18 09 56.7**	**-0.6**
PEIG	**Puerto Escondi**	**2.32**	**146**				**Pn**	**18 09 34.9**	**+1.0**
PEIG							**Sn**	**18 10 00.6**	**-0.7**
PEIG	**Puerto Escondi**	**2.32**	**146**	⇑	eP		**Pn**	**18 09 34.9**	**+1.0**
PEIG					eS		**Sn**	**18 10 00.6**	**-0.7**
CXUV	**Coxquihui**	**2.39**	**21**	⇓	eP		**Pn**	**18 09 34.2**	**-0.7**
CXUV					*i* S		**Sn**	**18 10 02.7**	**-0.3**
DHIG	**Demacu**	**2.41**	**348**				**Pn**	**18 09 35.2**	**-0.1**
DHIG							**Sn**	**18 10 11.4**	**+7.7**
DEIG	**Demacu**	**2.41**	**348**	⇑	eP		**Pn**	**18 09 35.2**	**-0.1**
DEIG					eS		**Sn**	**18 10 11.4**	**+7.7**
ACIG	**Acambay**	**2.41**	**328**	*i*	P		**Pn**	**18 09 36.2**	**+0.9**
ACIG					*i* S		**Sn**	**18 10 03.9**	**+0.1**
NEUV	**Arroyo Zacate**	**2.59**	**94**	⇑	*i* P		**Pn**	**18 09 38.0**	**+0.5**
NEUV					*i* S		**Sn**	**18 10 11.8**	**+4.0**
LVIG	**Laguna Verde**	**2.67**	**48**	*eP*			**Pn**	**18 09 37.2**	**-1.3**
LVIG					eS		**Sn**	**18 10 14.8**	**+5.2**
ZIIG	**Zihuatanejo**	**2.83**	**264**				**Pn**	**18 09 41.0**	**+0.2**
ZIIG							**Sn**	**18 10 12.2**	**-1.5**
ZIIG	**Zihuatanejo**	**2.83**	**264**	⇑	eP		**Pn**	**18 09 41.0**	**+0.2**
ZIIG					eS		**Sn**	**18 10 12.2**	**-1.5**
MOIG	**Morelia**	**3.07**	**305**			Pn	**Pn**	**18 09 46.4**	**+2.0**
MOIG	**Morelia**	**3.07**	**305**	⇑	*i* P		**Pn**	**18 09 46.4**	**+2.0**
MOIG					eS		**Sn**	**18 10 22.4**	**+2.3**
UON	**La Union**	**3.15**	**271**	*eP*			**Pn**	**18 09 46.2**	**+1.2**
HUIG	**Huatulco**	**3.15**	**133**				**Pn**	**18 09 46.6**	**+1.5**
HUIG	**Huatulco**	**3.15**	**133**	⇑	eP		**Pn**	**18 09 46.6**	**+1.5**
JRQG	**Juriquilla Cam**	**3.31**	**327**	*eP*			**Pn**	**18 09 48.2**	**+0.6**
JRQG					*i* S		**Sn**	**18 10 28.5**	**+2.7**
CMIG	**Matias Romero**	**3.56**	**103**		P		**Pn**	**18 09 52.1**	**+1.3**
	1μm,0.6s,baz=289,slow=11,SNR=1705								
CMIG					S		**Sn**	**18 10 30.0**	**-1.7**
	2μm,0.7s,baz=270,slow=20,SNR=8.7								
CMIG	**Matias Romero**	**3.56**	**103**				**Pn**	**18 09 51.9**	**+1.1**
CMIG							**Sn**	**18 10 28.5**	**-3.1**
CMIG	**Matias Romero**	**3.56**	**103**	⇑	*i* P		**Pn**	**18 09 51.9**	**+1.1**
CMIG					*i* S		**Sn**	**18 10 28.5**	**-3.1**
IGIG	**Irapuato, Guan**	**3.87**	**317**				**Pn**	**18 09 56.1**	**+0.9**
IGIG							**Sn**	**18 10 39.6**	**+0.1**
IGIG	**Irapuato, Guan**	**3.87**	**317**	*eP*			**Pn**	**18 09 56.1**	**+0.9**
IGIG					eS		**Sn**	**18 10 39.6**	**+0.1**
TUIG	**Tuzandepetl**	**3.89**	**88**	*eP*			**Pn**	**18 09 55.3**	**-0.1**
TUIG					*i* S		**Sn**	**18 10 33.8**	**-6.0**
RPIG	**Rio Verde**	**4.17**	**341**				**Pn**	**18 09 59.1**	**-0.2**
RPIG							**Sn**	**18 10 46.9**	**+0.2**
RPIG	**Rio Verde**	**4.17**	**341**	*i*	P		**Pn**	**18 09 59.1**	**-0.2**
RPIG					*i* S		**Sn**	**18 10 46.9**	**+0.2**
UXUV	**UXUV**	**4.21**	**98**	⇑	*i* P		**Pn**	**18 10 00.2**	**+0.5**
UXUV					*i* S		Sn	18 10 38.3	-9.2
MMIG	**Aquila**	**4.61**	**275**				**Pn**	**18 10 05.6**	**+0.4**
MMIG							**Sn**	**18 10 54.1**	**-3.4**
MMIG	**Aquila**	**4.61**	**275**	⇑	eP		**Pn**	**18 10 05.6**	**+0.4**
MMIG					eS		**Sn**	**18 10 54.1**	**-3.4**
CARR	**Arriaga**	**4.71**	**110**	*eP*			**Pn**	**18 10 07.8**	**+1.3**
JUBC	**Volcan de Coli**	**5.05**	**289**	⇑	eP		**Pn**	**18 10 14.4**	**+2.9**
JUBC					*i* S		**Sn**	**18 11 08.0**	**-0.6**
EZ5V		**5.07**	**288**				**Pn**	**18 10 14.6**	**+3.0**
EZ5V		**5.07**	**288**	⇑	eP		**Pn**	**18 10 14.6**	**+3.0**
EZ5V					*i* S		**Sn**	**18 11 08.3**	**-0.7**
COIG	**Colima**	**5.07**	**285**	⇑	eP		**Pn**	**18 10 13.9**	**+2.3**
COIG					eS		**Sn**	**18 11 07.8**	**-1.0**
MNGA	**Volcan de Coli**	**5.08**	**288**	⇑	eP		**Pn**	**18 10 14.9**	**+3.1**
MNGA					*i* S		**Sn**	**18 11 08.6**	**-0.7**
INCO	**Volcan de Coli**	**5.08**	**289**	⇑	eP		**Pn**	**18 10 14.1**	**+2.1**
INCO					*i* S		**Sn**	**18 11 09.7**	**+0.1**
GTIG	**Gomez Farias**	**5.15**	**353**				**Pn**	**18 10 13.1**	**+0.6**
GTIG							**Sn**	**18 11 12.8**	**+2.1**
GTIG	**Gomez Farias**	**5.15**	**353**	⇑	eP		**Pn**	**18 10 13.1**	**+0.6**
GTIG					*i* S		**Sn**	**18 11 12.8**	**+2.1**
COMA	**Comala**	**5.17**	**286**	*eP*			**Pn**	**18 10 16.2**	**+3.3**
TGIG		**5.27**	**102**				**Pn**	**18 10 14.7**	**+0.3**
TGIG							**Sn**	**18 11 11.4**	**-2.4**
TGIG		**5.27**	**102**	*eP*			**Pn**	**18 10 14.7**	**+0.3**
TGIG					*i* S		**Sn**	**18 11 11.4**	**-2.4**
CDAR	**Ciudad de Arme**	**5.32**	**282**	⇑	eP		**Pn**	**18 10 16.0**	**+1.1**
CDAR					eS		**Sn**	**18 11 12.2**	**-2.7**
R15V		**5.33**	**284**				**Pn**	**18 10 17.6**	**+2.4**
R15V		**5.33**	**284**	⇑	*i* P		**Pn**	**18 10 17.6**	**+2.4**
R15V					*i* S		**Sn**	**18 11 15.5**	**+0.1**
AAIG	**Aguscalientes**	**5.42**	**318**				**Pn**	**18 10 17.9**	**+1.4**
AAIG							**Sn**	**18 11 18.6**	**+0.9**
AAIG	**Aguscalientes**	**5.42**	**318**	*eP*			**Pn**	**18 10 17.9**	**+1.4**
AAIG					*i* S		**Sn**	**18 11 18.6**	**+0.9**
PCIG		**5.53**	**113**				**Pn**	**18 10 19.2**	**+1.4**
PCIG							**Sn**	**18 11 20.0**	**-0.1**
PCIG		**5.53**	**113**	*eP**			**Pn**	**18 10 19.2**	**+1.4**
PCIG					eS		**Sn**	**18 11 20.0**	**-0.1**
ZAIG	**Zacatecas**	**6.13**	**322**		Pn		**Pn**	**18 10 27.8**	**+1.4**
ZAIG	**Zacatecas**	**6.13**	**322**	*eP**			**Pn**	**18 10 27.9**	**+1.6**
ZAIG					*i* S		**Sn**	**18 11 41.9**	**+6.5**
CCIG	**Comitan**	**6.31**	**104**				**Pn**	**18 10 29.7**	**+1.0**
CCIG	**Comitan**	**6.31**	**104**	⇑	eP		**Pn**	**18 10 29.6**	**+1.0**
CCIG					eS		**Sn**	**18 11 38.1**	**-1.5**
CJM	**Chamela**	**6.38**	**285**	*eP*			**Pn**	**18 10 31.1**	**+1.5**
CJM					eS		**Sn**	**18 11 42.6**	**+1.6**
ANIG	**Ahuacatlan**	**6.46**	**300**				**Pn**	**18 10 33.2**	**+2.5**
ANIG							**Sn**	**18 11 48.1**	**+4.9**
ANIG	**Ahuacatlan**	**6.46**	**300**	*eP*			**Pn**	**18 10 33.2**	**+2.5**
ANIG					eS		**Sn**	**18 11 48.1**	**+4.9**
PATR	**El Naranjo**	**6.64**	**114**	⇑	*i* P		**Pn**	**18 10 35.7**	**+2.5**
PATR					eS		**Sn**	**18 11 46.0**	**-1.6**
PAVE	**Pavencul**	**6.66**	**113**	⇑	eP		**Pn**	**18 10 36.3**	**+2.8**
PAVE					eS		**Sn**	**18 11 46.8**	**-1.3**
CHUJ	**Union Juarez**	**6.76**	**114**	⇑	eP		**Pn**	**18 10 37.0**	**+2.1**
CHUJ					*i* S		**Sn**	**18 11 52.5**	**+1.8**
LNIG	**Linares**	**6.99**	**353**	*eP*			**Pn**	**18 10 37.7**	**-0.1**
LNIG					eS		**Sn**	**18 11 57.4**	**+1.5**
SCIG	**Sabancuy**	**7.03**	**80**	*eP*			**Pn**	**18 10 37.3**	**-1.1**
SCIG					⇓	*i* S	**Sn**	**18 11 52.3**	**-4.6**
RTAL	**Retalhuleu**	**7.37**	**116**		Pn		**Pn**	**18 10 42.9**	**-0.2**
MNIG	**Monterrey**	**7.82**	**348**				**Pn**	**18 10 51.4**	**+2.2**
MNIG							**Sn**	**18 12 23.7**	**+7.4**
MNIG	**Monterrey**	**7.82**	**348**	*eP*			**Pn**	**18 10 51.4**	**+2.2**
MNIG					*i* S		**Sn**	**18 12 23.7**	**+7.4**
PETF	**Flores**	**8.31**	**96**		Pn		**Pn**	**18 10 54.7**	**-1.3**
ESIG	**Esquipulas**	**9.42**	**110**				**Pn**	**18 11 09.1**	**-2.2**
MTO3	**Montecristo**	**9.47**	**110**				**Pn**	**18 11 10.6**	**-1.4**
PDIG	**Papasquiaro**	**9.54**	**319**				**Pn**	**18 11 14.4**	**+1.4**
PDIG							**Sn**	**18 12 59.8**	**+0.9**
PDIG	**Papasquiaro**	**9.54**	**319**	*eP*			**Pn**	**18 11 14.4**	**+1.4**
PDIG					eS		**Sn**	**18 12 59.8**	**+0.9**
TEIG	**Tepich**	**9.94**	**75**		Pn		**Pn**	**18 11 15.6**	**-2.7**
833A	**Chaparral WMA,**	**10.38**	**356**		Pn		**Pn**	**18 11 25.4**	**+1.3**
833A	**Chaparral WMA,**	**10.38**	**356**		P		**Pn**	**18 11 24.9**	**+0.8**
	baz=175,SNR=8.1								
HPIG		**11.13**	**325**		Pn		**Pn**	**18 11 37.1**	**+2.4**
SLBS	**Sierra La Lagu**	**12.12**	**300**		Pn		**Pn**	**18 11 50.8**	**+2.7**
CRIN	**San Cristobal**	**12.22**	**114**				**Pn**	**18 11 49.2**	**-0.2**
TXAR	**Lajitas Array**	**12.29**	**338**		P		**Pn**	**18 11 53.4**	**+3.0**
	4.9nm,0.7s,baz=157,slow=14,SNR=50								
TXAR						LR	LR	18 17 03.7	
	comp=Z,759nm,20.9s,baz=148,slow=40								
TXAR	**Lajitas Array**	**12.29**	**338**		Pn		**Pn**	**18 11 52.7**	**+2.3**
TX31	**Lajitas Ar. Si**	**12.29**	**338**				**Pn**	**18 11 50.5**	**+0.1**
TX32	**Lajitas Array**	**12.29**	**338**				**Pn**	**18 11 52.8**	**+2.4**
JCT	**Junction City**	**12.55**	**355**		Pn		**Pn**	**18 11 52.4**	**-1.4**
LPIG	**La Paz**	**12.61**	**301**		LR		LR	18 16 49.8	
	comp=Z,646nm,18.7s,baz=130,slow=37								
MATN	**Matagalpa**	**13.11**	**111**				**Pn**	**18 12 01.5**	**-0.1**
BOAB	**BOACO BROADBAN**	**13.54**	**112**		Pn		**Pn**	**18 12 07.0**	**-0.4**
WHTX	**Lake Whitney,**	**14.03**	**4**				**Pn**	**18 12 12.6**	**-1.4**
WHTX	**Lake Whitney,**	**14.03**	**4**		P		**Pn**	**18 12 14.6**	**+0.7**
	baz=184								
ACON	**Acoyapa**	**14.18**	**113**				**Pn**	**18 12 17.3**	**+1.3**
237A	**Washetta, Mont**	**14.22**	**9**				**Pn**	**18 12 13.6**	**-2.8**
HZTE	**Horizontes, Gu**	**14.42**	**118**				**Pn**	**18 12 20.7**	**+1.5**
HZTE	**Horizontes, Gu**	**14.42**	**118**	*eP*			**Pn**	**18 12 20.4**	**+1.2**
ABTX	**Abilene, Hawle**	**14.67**	**356**		Pn		**Pn**	**18 12 21.5**	**-0.8**
ABTX	**Abilene, Hawle**	**14.67**	**356**		P		**Pn**	**18 12 23.4**	**+1.1**
	baz=176								
SAJU	**San Juanillo,**	**14.67**	**121**	*eP*			**P**	**18 12 25.2**	**-2.1**
ORTG	**Ortega, Santa**	**14.72**	**119**				**Pn**	**18 12 25.5**	**+2.3**
ORTG	**Ortega, Santa**	**14.72**	**119**	*eP*			**Pn**	**18 12 25.4**	**+2.3**
HORNC	**Hornillas**	**14.77**	**117**	*eP*			**Pn**	**18 12 25.8**	**+1.9**
COLC	**Colonia**	**14.78**	**117**	*eP*			**Pn**	**18 12 26.1**	**+2.3**
CUI	**Cuipilapa**	**14.81**	**117**	*eP*			**Pn**	**18 12 26.1**	**+1.8**
GRZA	**Playa Garza**	**14.81**	**121**	*eP*			**Pn**	**18 12 26.5**	**+2.2**
DUNO	**Dulce Nombre,**	**14.84**	**120**		P		**Pn**	**18 12 25.6**	**+0.9**
DUNO	**Dulce Nombre,**	**14.84**	**120**	*eP*			**Pn**	**18 12 26.8**	**+2.1**
ESPN	**Las Esperanzas**	**14.86**	**111**				**Pn**	**18 12 25.7**	**+0.8**
ESPN	**Las Esperanzas**	**14.86**	**111**	*eP*			**Pn**	**18 12 25.9**	**+1.0**
INDI	**Punta índio, G**	**14.95**	**121**	*eP*			**P**	**18 12 28.7**	**-1.8**
VERA	**Finca Concepci**	**14.96**	**116**	*eP*			**Pn**	**18 12 28.1**	**+1.8**
JTS	**Las Juntas de**	**15.18**	**118**		Pn		**Pn**	**18 12 29.0**	**-0.1**
JTS	**Las Juntas de**	**15.18**	**118**	*eP*			**Pn**	**18 12 30.3**	**+1.3**
CLN7	**Carlsbad 7**	**15.19**	**343**				**Pn**	**18 12 29.3**	**+0.1**
HTMS	**Hat Mesa**	**15.20**	**343**				**Pn**	**18 12 29.9**	**+0.6**
SOR	**Soroa**	**15.32**	**69**		Pn		**Pn**	**18 12 27.5**	**-3.3**
SOR							**Sn**	**18 15 11.2**	**-8.3**
Z35A	**Perchaven, San**	**15.38**	**4**		Pn		**Pn**	**18 12 29.6**	**-1.9**
Z35A					IAmb		IAmb	18 13 13.6	
	comp=Z,54nm,0.9s								
COVE	**Coope Vega, Sa**	**15.43**	**116**		P		**Pn**	**18 12 32.0**	**-0.3**
COVE	**Coope Vega, Sa**	**15.43**	**116**	*eP*			**Pn**	**18 12 33.7**	**+1.4**
LAFE	**Finca La Fe, P**	**15.47**	**120**	*eP*			**Pn**	**18 12 34.1**	**+1.4**
Z38A	**Mt. Pleasant**	**15.59**	**11**		Pn		**Pn**	**18 12 33.7**	**-0.5**
Z38A					IAmb		IAmb	18 12 55.6	
	comp=Z,38nm,0.8s								
SRIG	**Santa Rosalia**	**15.73**	**309**				**P**	**18 12 38.9**	**-0.2**
CPRX	**Cap Rock**	**15.79**	**343**		Pn		**Pn**	**18 12 37.0**	**+0.1**
HSIG		**15.86**	**316**				**P**	**18 12 39.6**	**-0.8**
HSIG					IAmb		IAmb	18 13 03.3	
	comp=Z,88nm,1.2s								
VBMS	**Vicksburg**	**15.95**	**25**		Pn		**Pn**	**18 12 37.4**	**-1.4**
VBMS					IAmb		IAmb	18 12 55.1	
	comp=Z,38nm,0.9s								
HDC	**Heredia**	**16.03**	**118**		Pn		**Pn**	**18 12 38.5**	**-1.6**
LOOK	**Love County**	**16.04**	**4**				**Pn**	**18 12 39.9**	**0.0**
LOOK					IAmb		IAmb	18 13 02.2	
	comp=Z,95nm,1.3s								
OCM	**Ochomogo**	**16.22**	**118**	*eP*			**Pn**	**18 12 43.5**	**+1.0**
LCR2	**La Lucha 2**	**16.26**	**118**	*eP*			**Pn**	**18 12 43.3**	**+0.3**
CVTR	**Volcan Turrial**	**16.32**	**117**				**Pn**	**18 12 42.4**	**-1.7**
CVTR					IAmb		IAmb	18 13 06.3	
	comp=Z,65nm,0.8s								
RIMA	**Rio Macho**	**16.37**	**118**		P		**P**	**18 12 46.1**	**-0.3**
RIMA					IAmb		IAmb	18 12 59.9	
	comp=Z,59nm,0.7s								
RIMA	**Rio Macho**	**16.37**	**118**	*eP*			**P**	**18 12 46.0**	**-0.3**

LCAR IAmb IAmb 18 13 44.2
comp=Z,27nm,0.9s
Y49A Blount Mountai 19.21 32 P P 18 13 16.0 -1.4
PLAL Pickwick Lake 19.36 27 P P 18 13 18.6 -0.4
X48A Hartselle 19.38 30 P P 18 13 18.2 -1.0
X18A Snowflake 19.43 331 P Pn 18 13 21.2 -0.4
X18A IAmb IAmb 18 13 44.6
comp=Z,26nm,0.9s
Z51A Franklin 19.45 35 P P 18 13 19.5 -0.4
SFX San Felipe 19.75 314 P Pn 18 13 25.8 +0.6
SFX IAmb IAmb 18 13 45.9
comp=Z,28nm,0.8s
W18A Petrified Fore 19.82 332 P P 18 13 24.9 +0.7
baz=147
T25A Trinidad 19.83 346 Pn 18 13 26.1 -0.2
T25A IAmb IAmb 18 13 31.4
comp=Z,26nm,0.7s
T25A Trinidad 19.83 346 P P 18 13 24.2 -0.1
baz=163,SNR=10
MGMO Mountain Grove 19.92 15 P 18 13 25.8 +0.7
MGMO IAmb IAmb 18 13 41.9
comp=Z,31nm,0.9s
MTDJ Mount Denham 19.95 86 P P 18 13 26.1 +0.4
FPAL Fort Paine 20.15 32 P P 18 13 27.2 -0.5
113A Mohawk Valley, 20.17 320 P Pn 18 13 30.4 +0.2
113A IAmb IAmb 18 13 53.8
comp=Z,51nm,1.2s
S39A Bolivar 20.21 12 P 18 13 28.8 +0.6
S39A IAmb IAmb 18 13 51.8
comp=Z,24nm,0.9s
R32A Long Quarter, 20.42 360 P P 18 13 29.6 -0.9
R32A IAmb IAmb 18 13 55.7
comp=Z,24nm,0.8s
WVT Waverly 20.44 25 P P 18 13 29.1 -1.7
WVT IAmb IAmb 18 13 43.3
comp=Z,16nm,0.8s
WVT Waverly 20.44 25 P P 18 13 27.1 -3.7
baz=210
GOGA Godfrey 20.49 38 P P 18 13 29.6 -1.7
GOGA Godfrey 20.49 38 P P 18 13 26.7 -4.6
baz=225
SWET Sewanee 20.53 31 P P 18 13 31.6 -0.2
V48A Smith Brothers 20.55 28 P P 18 13 31.6 -0.2
Y14A Wickenburg 20.55 324 P Pn 18 13 33.8 -1.0
X51A Calhoun 20.56 34 P P 18 13 32.0 -0.1
X51A IAmb IAmb 18 14 07.1
comp=Z,47nm,1.4s
SDCO Great Sand Dun 20.67 344 P P 18 13 34.2 +0.7
SDCO Great Sand Dun 20.67 344 P P 18 13 33.4 -0.1
baz=161,SNR=9.7
CGM3 Cape Girardeau 20.80 20 P P 18 13 35.5 +0.8
CGM3 IAmb IAmb 18 14 14.0
comp=Z,14nm,0.9s
W50A Signal Mountai 20.82 32 P P 18 13 34.6 -0.4
CBKS Cedar Bluff 20.83 357 P P 18 13 36.2 +1.1
CBKS IAmb IAmb 18 14 01.5
comp=Z,32nm,0.8s
CBKS Cedar Bluff 20.83 357 P P 18 13 35.1 +0.1
baz=177
WUAZ Wupatki 20.91 329 P Pn 18 13 38.1 -1.0
WUAZ Wupatki 20.91 329 P P 18 13 37.4 +1.4
baz=144,SNR=10
R40A Maddies Statio 21.01 14 P P 18 13 37.9 +1.0
R40A IAmb IAmb 18 13 39.5
comp=Z,22nm,0.7s
GLA Glamis 21.02 319 P P 18 13 39.7 +2.7
GLA Glamis 21.02 319 P P 18 13 38.5 +1.5
baz=132
CCM Cathedral Cave 21.04 16 P 18 13 38.1 +1.0
CCM IAmb IAmb 18 14 05.9
comp=Z,29nm,0.9s
CCM Cathedral Cave 21.04 16 P P 18 13 34.7 -2.4
baz=200
S22A 4UR Ranch, Cre 21.05 341 P P 18 13 38.6 +1.0
S22A IAmb IAmb 18 14 09.1
comp=Z,39nm,1.4s
S22A 4UR Ranch, Cre 21.05 341 P P 18 13 38.3 +0.7
baz=158
CLTN Cedars of Leba 21.06 28 P P 18 13 37.2 -0.2
ESJX Sierra Juarez 21.08 315 P P 18 13 40.1 +2.3
MVCO Mesa Verde 21.12 337 P P 18 13 39.0 +0.7
MVCO IAmb IAmb 18 13 59.8
comp=Z,21nm,0.8s
MVCO Mesa Verde 21.12 337 P P 18 13 38.4 +0.1
baz=153,SNR=7.7
KSU1 Kansas State U 21.16 4 P P 18 13 38.2 -0.3
baz=185
FVM French Village 21.20 18 P P 18 13 38.4 -0.5
S44A Carbondale 21.30 21 P P 18 13 39.0 -1.0
S44A IAmb IAmb 18 14 06.0
comp=Z,20nm,0.8s
BLYC Blythe 21.30 321 P P 18 13 41.6 +1.5
BLYC IAmb IAmb 18 14 02.7
comp=Z,38nm,0.9s
SIUC Southern Illin 21.33 21 P P 18 13 39.3 -0.9
SIUC IAmb IAmb 18 14 02.2
comp=Z,18nm,0.8s
CPCT Cooper Cave 21.42 33 P P 18 13 43.0 +1.7
W52A Murphy 21.46 34 P P 18 13 42.4 +0.6
PDMCI Parker Dam,Lak 21.47 322 P P 18 13 43.1 +1.3
baz=136
T47A Sharon Grove 21.48 26 P P 18 13 42.2 +0.3
T47A IAmb IAmb 18 13 58.1
comp=Z,18nm,0.8s
U49A Red Boiling Sp 21.66 29 P P 18 13 41.9 -1.9
BC3 Big Chuckawall 21.81 319 P P 18 13 46.7 +1.1
baz=132
SLM Saint Louis 21.86 18 P P 18 13 45.1 -0.8
SLM IAmb IAmb 18 14 15.3
comp=Z,19nm,0.7s
TKX Tecate 21.87 315 P P 18 13 49.8 +3.7
TKX IAmb IAmb 18 13 50.8
comp=Z,22nm,0.6s
W13A Hualapai Mount 21.90 324 P P 18 13 48.5 +1.8
W13A IAmb IAmb 18 14 11.0
comp=Z,40nm,1.2s
BG3 Lake Jocassee 21.93 36 P P 18 13 46.2 -0.6
MONP2 Monument Peak 21.94 316 P P 18 13 48.6 +1.5
baz=128
IRM Iron Mountain 21.96 321 P P 18 13 48.5 +1.4
baz=133,SNR=9.6
TKL Tuckaleechee C 21.97 34 P P 18 13 46.5 -0.7
comp=Z,0.9nm,0.4s,baz=214,slow=9.8,SNR=2.2
TKL pP **pP 18 13 59.7 -0.6**
comp=Z,3.9nm,0.8s,baz=223,slow=12,SNR=3.8
comp=Z,0.9nm,0.4s
P38A Dawn 22.04 10 P P 18 13 46.7 -1.2
PV13 Radium Mtn., P 22.08 338 P P 18 13 48.7 +0.1
U15A North Rim 22.08 329 P P 18 13 50.6 +1.9
U15A IAmb IAmb 18 14 11.5
comp=Z,45nm,1.1s
PV15 Paradox Valley 22.12 339 P P 18 13 49.8 +0.7
PV15 IAmb IAmb 18 14 19.7
comp=Z,19nm,0.8s
V52A Sevierville 22.20 34 P P 18 13 50.3 +0.7
PV11 David Mesa, Pa 22.22 338 P P 18 13 51.3 +1.2
PV11 IAmb IAmb 18 14 11.5
comp=Z,17nm,0.7s
P40A Paris 22.24 13 P P 18 13 49.4 -0.6
PV07 Paradox Valley 22.27 339 P P 18 13 51.2 +0.6
PV07 IAmb IAmb 18 14 12.5
comp=Z,22nm,1.2s
PMD Palm Desert 22.39 318 P P 18 13 53.6 +1.8
PMD IAmb IAmb 18 14 15.4
comp=Z,36nm,1.5s
TPFO Pinon Flats 22.41 318 P P 18 13 53.4 +1.3
baz=130
SMCO Snowmass 22.41 343 P P 18 13 52.9 +0.5
PFO Pinyon Flats O 22.42 318 LR LR 18 22 31.4
comp=Z,211nm,21.1s,baz=90,slow=36
PFO Pinyon Flats O 22.42 318 P P 18 13 54.7 +2.5
PFO IAmb IAmb 18 14 21.4
comp=Z,20nm,1.1s
PFO Pinyon Flats O 22.42 318 P P 18 13 53.1 +0.9
baz=130
Q44A Meyer Farm, Va 22.47 20 P P 18 13 49.9 -2.6
Q44A IAmb IAmb 18 14 22.4
comp=Z,26nm,0.8s
V53A Saluda 22.50 35 P P 18 13 52.5 -0.4
V53A IAmb IAmb 18 14 26.4
comp=Z,17nm,0.9s
T50A Nancy 22.51 30 P P 18 13 51.1 -1.8
ISCO Idaho Springs 22.64 346 P P 18 13 54.8 0.0
ISCO Idaho Springs 22.64 346 P P 18 13 54.3 -0.4
baz=162,SNR=13

GMRC Granite Mounta 22.70 321 P P 18 13 55.1 -0.1
baz=133
KNB Kanab 22.81 329 P P 18 13 57.6 +1.3
KNB IAmb IAmb 18 14 18.6
comp=Z,27nm,0.9s
WCI Wyandotte Cave 22.87 25 P P 18 13 54.8 -1.9
WCI IAmb IAmb 18 14 12.1
comp=Z,13nm,0.8s
V12A Nelson 22.89 324 P P 18 13 58.3 +1.2
V12A IAmb IAmb 18 14 20.0
comp=Z,52nm,1.3s
PKCU Pink Cliffs 22.91 331 P P 18 13 59.2 +1.7
PKCU IAmb IAmb 18 14 19.5
comp=Z,25nm,0.9s
N35A Tabor 22.98 6 P P 18 13 56.6 -1.3
LCMT Little Creek M 23.01 329 P P 18 13 59.2 +0.9
OGNE Ogallala 23.14 353 P P 18 13 59.2 -0.3
OGNE Ogallala 23.14 353 P P 18 13 58.5 -1.0
baz=172
HEC Hector,Ludlow 23.14 320 P P 18 14 00.1 +0.6
baz=132
N38A Joes South For 23.23 10 P P 18 13 59.0 -1.3
MTPU Mount Pierson 23.34 332 P P 18 14 02.8 +1.0
BGNE Belgrade 23.40 1 P P 18 14 00.8 -1.1
BGNE Belgrade 23.40 1 P P 18 14 01.0 -0.9
baz=181
CCUT Cedar City 23.50 329 P P 18 14 01.8 -1.3
V55A Taylorsville 23.52 37 P P 18 14 00.3 -2.8
S51A Beattyville 23.60 31 P P 18 14 02.2 -1.5
SHPR Sheep Range 23.63 325 P P 18 14 04.8 +0.5
N41A Harden Midland 23.64 15 P P 18 14 01.7 -2.4
N41A IAmb IAmb 18 14 46.5
comp=Z,20nm,0.9s
Q16A Castle Valley 23.64 335 P P 18 14 04.8 +0.4
Q16A IAmb IAmb 18 14 48.9
comp=Z,25nm,1.3s
U54A Nelsons Funny 23.66 35 P P 18 14 03.2 -1.3
U54A IAmb IAmb 18 14 38.0
comp=Z,33nm,1.2s
O20A White River Ci 23.67 341 P P 18 14 03.9 -0.8
O20A IAmb IAmb 18 14 26.0
comp=Z,15nm,1.0s
O20A White River Ci 23.67 341 P P 18 14 05.0 +0.3
baz=156
MVU Marysvale 23.73 332 P P 18 14 06.4 +1.1
GSC Goldstone, Bar 23.74 320 P P 18 14 05.3 +0.1
GSC IAmb IAmb 18 14 29.3
comp=Z,21nm,1.1s
GSC Goldstone, Bar 23.74 320 P P 18 14 05.9 +0.7
baz=132
N23A Red Feather La 23.76 346 P P 18 14 06.0 +0.4
baz=162
P18A Preston Nutter 23.90 337 P P 18 14 06.3 -0.6
P18A IAmb IAmb 18 14 31.6
comp=Z,15nm,0.9s
HDIL Hopedale 23.91 18 P P 18 14 05.1 -1.5
HDIL IAmb IAmb 18 14 09.2
comp=Z,16nm,0.7s
P17A Butcher Ranch, 23.95 336 P P 18 14 07.7 +0.6
TMUT Trail Mountain 23.98 335 P P 18 14 07.8 +0.2
TMUT IAmb IAmb 18 14 34.3
comp=Z,12nm,0.7s
L34A Svendsen Farm, 24.03 4 P P 18 14 05.6 -2.0
PHWY Pilot Hill 24.04 347 P P 18 14 08.2 0.0
EDW2 Edwards Air Fo 24.20 318 P P 18 14 09.9 +0.4
baz=129
QSM Queen of Sheba 24.22 321 P P 18 14 10.6 +1.1
PRN Pahroc Range 24.24 326 P P 18 14 11.2 +1.4
GWY Greenwater Val 24.26 322 P P 18 14 10.4 +0.4
GWY IAmb IAmb 18 14 33.6
comp=Z,12nm,0.8s
SCIA State Center 24.32 10 P P 18 14 08.1 -2.2
SCIA State Center 24.32 10 P P 18 14 08.9 -1.5
baz=192
LRMC Laurel Mtn Rad 24.39 320 P P 18 14 10.9 -0.4
baz=131
SFIN Lafayette 24.45 21 P P 18 14 08.6 -2.8
baz=207
RDMU Red Mountain 24.49 339 P P 18 14 11.7 -0.5
RDMU IAmb IAmb 18 14 29.9
comp=Z,21nm,1.2s
PSUT Pine Spring 24.51 330 P P 18 14 13.6 +1.2
PSUT IAmb IAmb 18 14 38.0
comp=Z,22nm,0.8s
TPNV Topopah Spring 24.55 324 P P 18 14 14.2 +1.5
TPNV IAmb IAmb 18 14 36.8
comp=Z,15nm,0.8s
TPNV Topopah Spring 24.55 324 P P 18 14 13.0 +0.3
baz=136
K31A O'Neill 24.61 360 P P 18 14 12.7 -0.3
P49A Miami Univ. Ec 24.63 26 P P 18 14 10.3 -2.9
P49A IAmb IAmb 18 14 49.5
comp=Z,18nm,0.9s
MPMC Manual Prospec 24.66 321 P P 18 14 14.1 +0.4
baz=132
MPU Maple Canyon 24.76 335 P P 18 14 14.5 -0.1
RWWY Rawlins 24.82 344 P P 18 14 15.4 +0.2
RWWY IAmb IAmb 18 14 39.9
comp=Z,14nm,0.8s
L40A Anamosa 24.84 13 P P 18 14 12.8 -2.3
L40A IAmb IAmb 18 14 14.2
comp=Z,19nm,0.7s
NLU North Lily Min 24.89 335 P P 18 14 16.9 +1.1
BLA Blacksburg 24.94 36 P P 18 14 14.1 -1.9
BLA IAmb IAmb 18 14 16.8
comp=Z,12nm,0.7s
R53A Hurricane 24.95 32 P P 18 14 15.9 -0.2
R53A IAmb IAmb 18 14 56.3
comp=Z,40nm,1.4s
ISA Isabella, Lake 25.00 319 P P 18 14 17.6 +0.9
ISA Isabella, Lake 25.00 319 P P 18 14 17.2 +0.5
baz=130
O48B Farmland 25.06 25 P P 18 14 13.6 -3.5
baz=211
SPR3 Spring Creek 3 25.11 330 P P 18 14 17.6 -0.3
SPR3 IAmb IAmb 18 14 40.3
comp=Z,20nm,0.8s
K38A Parkersburg 25.12 10 P P 18 14 15.8 -1.7
K38A IAmb IAmb 18 14 18.0
comp=Z,20nm,0.7s
L42A Oliver, Polo 25.16 16 P P 18 14 16.0 -1.9
GRAC Grapevine Rang 25.22 323 P P 18 14 21.3 +2.6
R11A Troy Canyon, C 25.23 327 P P 18 14 19.7 +0.9
R11A IAmb IAmb 18 14 42.4
comp=Z,29nm,1.4s
R11A Troy Canyon, C 25.23 327 P P 18 14 19.1 +0.2
baz=139
CWC Cottonwood Cre 25.27 321 P P 18 14 19.7 +0.5
baz=132
Q52A Bidwell 25.28 31 P P 18 14 16.1 -2.9
Q52A IAmb IAmb 18 14 59.2
comp=Z,20nm,0.8s
P51A Williamsport 25.32 29 P P 18 14 16.3 -3.1
P51A IAmb IAmb 18 15 00.4
comp=Z,19nm,0.9s
O49A Covington 25.34 26 P P 18 14 17.2 -2.4
GMN Gold Mountain 25.37 323 P P 18 14 21.2 +1.0
GMN IAmb IAmb 18 14 44.6
comp=Z,30nm,1.4s
N47A Urbana 25.39 23 P P 18 14 18.5 -1.6
N47A IAmb IAmb 18 15 03.0
comp=Z,20nm,0.8s
DUG Dugway, Tooele 25.40 334 P P 18 14 20.1 -0.2
DUG Dugway, Tooele 25.40 334 P P 18 14 20.0 -0.2
baz=147
T57A Hurt 25.46 38 P P 18 14 21.2 +0.4
VES Vestal, Richgr 25.50 318 P P 18 14 21.1 0.0
baz=129
LCH Last Change Ra 25.55 323 P P 18 14 20.3 -1.4
K22A Casper 25.57 346 P P 18 14 22.3 +0.5
K22A IAmb IAmb 18 15 06.5
comp=Z,25nm,1.4s
K22A Casper 25.57 346 P P 18 14 21.6 -0.3
baz=162
TCUT Toone Canyon 25.63 337 P P 18 14 21.8 -0.7
TCUT IAmb IAmb 18 14 46.7
comp=Z,14nm,0.7s
SMMC Simmler 25.76 316 P P 18 14 23.7 +0.1
baz=127
TIN Tinemaha, Big 25.77 322 P P 18 14 22.4 -1.3
baz=132
ECSD EROS Data Cent 25.77 3 P P 18 14 22.2 -1.3
ECSD IAmb IAmb 18 14 46.4
comp=Z,12nm,0.8s
ECSD EROS Data Cent 25.77 3 P P 18 14 22.3 -1.3
baz=184
DSP Deep Springs 25.83 322 P P 18 14 26.8 +2.7
DSP IAmb IAmb 18 14 49.7
comp=Z,23nm,1.4s
SDDR Presa de Saban 25.84 83 P P 18 14 27.1 +2.7
JFWS Jewell Farm 25.87 14 P P 18 14 22.8 -1.6
JFWS IAmb IAmb 18 14 41.0
comp=Z,15nm,0.6s
JFWS Jewell Farm 25.87 14 P P 18 14 22.3 -2.2
baz=198
TPH Tonopah 25.90 325 P P 18 14 25.7 +0.7
BGU Big Grassy Mou 26.10 334 P P 18 14 27.1 +0.4
HWUT Hardware Ranch 26.11 337 P P 18 14 27.6 +0.8
HWUT IAmb IAmb 18 14 50.8
comp=Z,12nm,0.7s
SC01 Santiago de lo 26.35 82 P P 18 14 30.1 +1.1
I37A Lemond, Waseca 26.36 8 P P 18 14 26.0 -2.8
I37A IAmb IAmb 18 14 51.7
comp=Z,12nm,0.8s
BW06 Boulder Array 26.48 342 P P 18 14 28.6 -1.5
BW06 Boulder Array 26.48 342 P P 18 14 29.2 -1.0
baz=156,SNR=7.2
PD31 Pinedale Array 26.48 342 P P 18 14 29.6 -0.6
PDAR Pinedale Array 26.48 342 P P 18 14 30.1 0.0
comp=Z,3.0nm,0.6s,baz=152,slow=9.5,SNR=19
PDAR pP **pP 18 14 45.0 +0.4**
comp=Z,3.8nm,0.6s,baz=165,slow=11,SNR=7.3
PDAR LR LR 18 26 12.7
comp=Z,213nm,18.4s,baz=360,slow=39
comp=Z,3.0nm,0.6s
PDAR Pinedale Array 26.48 342 P P 18 14 29.3 -0.8
RSSD Black Hills 26.52 351 P P 18 14 29.6 -0.9
RSSD Black Hills 26.52 351 P P 18 14 29.7 -0.9
baz=168
OMMB Old Mammoth Mi 26.60 322 P P 18 14 32.1 +0.7
NV11 Mina Array Sit 26.67 324 P P 18 14 32.9 +1.1
NV11 IAmb IAmb 18 14 55.1
comp=Z,24nm,1.0s
BANI BANI 26.75 85 P P 18 14 29.7 -3.0
NVAR Mina Array Bea 26.75 324 P P 18 14 34.5 +1.9
comp=Z,8.4nm,0.8s,baz=144,slow=9.7,SNR=33
NVAR pP **pP 18 14 47.8 +0.7**
comp=Z,5.3nm,0.7s,baz=141,slow=8.2,SNR=7.6
NVAR PcP **PcP 18 17 55.0 +0.2**
comp=Z,1.1nm,0.7s,baz=176,slow=3.6,SNR=2.4
NVAR LR LR 18 25 49.6
comp=Z,377nm,20.1s,baz=100,slow=38
comp=Z,8.4nm,0.8s
NVAR Mina Array Bea 26.75 324 P P 18 14 33.4 +0.7
O53A New Philadelph 26.79 30 P P 18 14 26.4 -6.4
baz=219
ELK Elko 26.91 331 P P 18 14 35.0 +0.9
comp=Z,2.7nm,1.0s,baz=153,slow=5.8,SNR=6.7
ELK pP **pP 18 14 47.4 -1.2**
comp=Z,1.5nm,0.7s,baz=146,slow=5.6,SNR=4.6
comp=Z,2.7nm,1.0s
ELK Elko 26.91 331 P P 18 14 35.0 +0.9
AHID Auburn Hatcher 26.97 339 P P 18 14 34.3 -0.3
MCWV Mont Chateau 27.03 33 P 18 14 34.9 +0.1
KVN Kaiserville 27.08 325 P P 18 14 36.3 +0.7
KVN IAmb IAmb 18 14 58.5
comp=Z,14nm,1.0s
PORT Chimborazo Vol 27.37 133 P P 18 14 38.9 +0.1
REDW Red Top Meadow 27.42 340 P P 18 14 38.5 -0.1
REDW IAmb IAmb 18 14 39.8
comp=Z,13nm,1.1s
SNOW Snow King Moun 27.48 340 P P 18 14 39.8 +0.6
SNOW IAmb IAmb 18 14 40.6
comp=Z,19nm,0.9s
LOHW Long Hollow 27.57 341 P P 18 14 39.8 -0.1
LOHW IAmb IAmb 18 14 41.1
comp=Z,13nm,0.7s
TPAW Teton Pass 27.57 340 P P 18 14 39.4 -0.6
TPAW IAmb IAmb 18 14 44.2
comp=Z,15nm,1.1s
SPMN Marine on St. 27.63 9 P P 18 14 38.1 -2.1
SPMN IAmb IAmb 18 15 03.6
comp=Z,9.4nm,0.6s
SPMN Marine on St. 27.63 9 P P 18 14 37.7 -2.5
baz=192
DR12 Loma Pena Alta 27.65 84 P P 18 14 39.0 -1.8
YERR Yerington 27.66 324 P P 18 14 41.6 +0.8
YERR IAmb IAmb 18 15 03.8
comp=Z,21nm,1.1s
FXWY Fox Creek 27.72 340 P P 18 14 41.0 -0.3
MOOW Moose Ponds 27.73 341 P P 18 14 40.9 -0.5
IMW Indian Meadow 27.93 341 P P 18 14 42.8 -0.4
F36A Milaca 28.16 7 P P 18 14 42.1 -2.8
F36A IAmb IAmb 18 15 25.6
comp=Z,21nm,1.5s
SDV Santo Domingo 28.53 105 P P 18 14 49.2 +0.4
comp=Z,2.8nm,0.4s,baz=328,slow=14,SNR=1.5
SDV PcP **PcP 18 18 00.1 +0.7**
comp=Z,3.6nm,0.5s,baz=321,slow=14,SNR=1.5
comp=Z,2.8nm,0.4s
SDV Santo Domingo 28.53 105 *eP* **P 18 14 45.9 -3.0**
RLMT Red Lodge 28.56 344 P P 18 14 48.6 -0.2
RLMT IAmb IAmb 18 14 50.4
comp=Z,9.6nm,0.8s
RLMT Red Lodge 28.56 344 P P 18 14 48.1 -0.6
baz=158,SNR=6.5
YMR Madison River 28.63 341 P P 18 14 49.1 -0.3
YMR IAmb IAmb 18 14 56.4
comp=Z,16nm,1.2s
YHH Holmes Hill 28.70 342 P P 18 14 50.4 +0.3
YHL Hebgen Lake 28.86 341 P P 18 14 52.3 +0.8
HLID Hailey 28.87 336 P P 18 14 48.4 -3.1
HLID Hailey 28.87 336 P P 18 14 50.7 -0.8
baz=147
BEKR Beckworth 28.90 324 P P 18 14 53.3 +1.5
BEKR IAmb IAmb 18 15 14.8
comp=Z,14nm,0.8s
BCYI Bear Canyon 29.13 338 P P 18 14 54.1 +0.3
GCMT Greycliff 29.29 344 P P 18 14 55.1 -0.1
BOZ Bozeman (W) 29.67 341 P P 18 14 59.0 +0.5
BOZ Bozeman (W) 29.67 341 P P 18 14 58.1 -0.4
baz=154,SNR=6.1
WVOR Wild Horse Val 29.83 329 P P 18 15 00.4 +0.5
WVOR IAmb IAmb 18 15 22.5
comp=Z,18nm,1.0s
LRM Limekiln Ridge 30.13 340 P P 18 15 02.9 +0.2
MOD Modoc Plateau 30.29 327 P P 18 15 04.5 +0.5
MOD IAmb IAmb 18 15 26.5
comp=Z,16nm,1.1s
AGMN Agassiz Nation 30.36 4 P P 18 15 02.5 -1.9
AGMN IAmb IAmb 18 15 44.7
comp=Z,8.1nm,0.7s
AGMN Agassiz Nation 30.36 4 P P 18 15 02.8 -1.6
baz=185
J08A Circle Bar Ran 30.46 331 P P 18 15 05.4 0.0
J08A IAmb IAmb 18 15 28.2
comp=Z,17nm,0.8s
EYMN Ely 30.48 9 P P 18 15 03.2 -2.3
baz=193
B35A Bob, Littlefor 30.60 6 P P 18 15 04.5 -2.0
HRY Holter Researc 30.74 342 P P 18 15 07.9 0.0
SJG San Juan 30.75 85 P P 18 15 09.6 +1.4
SJG IAmb IAmb 18 15 30.1
comp=Z,15nm,0.9s
PLID Pearl Lake 30.77 335 P P 18 15 07.8 -0.6
PLID IAmb IAmb 18 15 30.4
comp=Z,22nm,1.4s
DGMT Dagmar 30.81 353 P P 18 15 07.5 -0.9
DGMT IAmb IAmb 18 15 33.6
comp=Z,11nm,0.9s
DGMT Dagmar 30.81 353 P P 18 15 06.7 -1.7
baz=169
BMO Blue Mountains 31.11 334 P P 18 15 10.4 -0.8
SADO Sadowa 31.29 27 LR LR 18 29 35.1
comp=Z,211nm,19.5s,baz=360,slow=40
YBH Yreka Blue Hor 31.47 324 P P 18 15 13.7 -0.7
comp=Z,1.2nm,0.5s,baz=72,slow=5.9,SNR=4.5
YBH pP **pP 18 15 27.8 -1.2**
comp=Z,1.9nm,0.6s,baz=52,slow=3.9,SNR=3.7
YBH LR LR 18 28 58.2
comp=Z,298nm,21.6s,baz=152,slow=38
comp=Z,1.2nm,0.5s
I07A Izee 31.49 330 P P 18 15 15.0 +0.4
MSO Missoula 31.50 340 P P 18 15 14.3 -0.3
MSO IAmb IAmb 18 15 15.6
comp=Z,6.9nm,0.8s
MSO Missoula 31.50 340 P P 18 15 14.6 0.0
baz=151
F10A Beach Ranch, E 31.99 335 P P 18 15 18.7 -0.2
F10A IAmb IAmb 18 15 53.3
comp=Z,13nm,0.8s

G08A Pilot Rock 32.17 332 P P 18 15 20.9 +0.4
G08A IAmb IAmb 18 15 43.0
comp=Z,7.3nm,0.9s
G08A PcP 18 18 09.7 +1.4
J04D Umpqua Nationa 32.17 327 P P 18 15 20.5 -0.2
baz=134
L02F Cave Junction 32.21 324 P P 18 15 20.7 -0.1
baz=131
ULM Lac du Bonnet 32.31 3 P P 18 15 19.6 -1.9
comp=Z,4.4nm,0.6s,baz=216,slow=8.7
comp=Z,4.4nm,0.6s
ULM Lac du Bonnet 32.31 3 P P 18 15 19.9 -1.6
ULM IAmb IAmb 18 15 20.4
comp=Z,10.0nm,1.1s
M63A Gales Ferry 32.57 39 P P 18 15 23.0 -0.8
K02D Willamette Mer 32.64 324 P P 18 15 24.3 -0.3
baz=132
UCCT U. Connecticut 32.70 38 P P 18 15 23.8 -1.3
UCCT IAmb IAmb 18 15 25.5
comp=Z,12nm,0.9s
I04A Tendick Farm, 32.72 327 P P 18 15 24.6 -0.6
baz=135
E09A Wood Farm, Sta 32.80 335 P P 18 15 25.4 -0.5
E09A IAmb IAmb 18 15 47.7
comp=Z,7.4nm,0.8s
J01E Myrtle Point 33.10 325 P P 18 15 28.5 0.0
baz=132
I03D Drain, OR 33.14 326 P P 18 15 29.2 +0.3
baz=135
H04A Detroit Lake 33.23 328 P P 18 15 29.6 -0.1
H04D Lebanon 33.40 328 P P 18 15 30.2 -1.0
baz=135
WALA Waterton Lakes 33.46 342 P P 18 15 31.4 -0.4
WALA IAmb IAmb 18 15 48.7
comp=Z,8.0nm,1.1s
NEW Newport 33.85 337 P P 18 15 35.0 0.0
comp=Z,2.1nm,0.5s,baz=118,slow=12,SNR=2.5
NEW PcP PcP 18 18 12.7 -0.1
comp=Z,3.1nm,0.6s,baz=259,slow=3.6,SNR=3.1
comp=Z,2.1nm,0.5s
NEW Newport 33.85 337 P P 18 15 34.8 -0.2
baz=147
C09A Chrisman Ranch 33.90 336 P P 18 15 35.6 +0.2
C09A IAmb IAmb 18 15 58.7
comp=Z,9.6nm,0.8s
G03D McMinnville, O 34.15 328 P P 18 15 38.5 +0.9
baz=135
LTY Liberty 34.45 333 P P 18 15 40.2 -0.1
B08A Colville Reser 34.77 335 P P 18 15 42.4 -0.5
B08A IAmb IAmb 18 16 05.3
comp=Z,8.8nm,0.9s
EDM Edmonton 37.07 345 P P 18 16 01.6 -1.0
BOAV Boa Vista 40.33 108 P P 18 16 30.9 +0.6
BOAV IAmb IAmb 18 16 53.1
comp=Z,7.7nm,0.9s
BOAV Boa Vista 40.33 108 eP P 18 16 29.6 -0.7
BBB Bella Bella 41.34 333 LR LR 18 36 29.3
comp=Z,239nm,18.3s,baz=156,slow=40
PTGA Pitinga 42.21 112 LR LR 18 37 48.3
comp=Z,41nm,19.5s,baz=340,slow=41
SAML Samuel 43.94 125 P P 18 16 59.3 -0.5
SCHQ Schefferville 44.08 26 P P 18 16 58.6 -1.7
comp=Z,13nm,0.5s,baz=230,slow=7.1,SNR=40
SCHQ LR LR 18 36 00.7
comp=Z,180nm,20.9s,baz=148,slow=37
comp=Z,13nm,0.5s
SCHQ Schefferville 44.08 26 P P 18 16 58.7 -1.7
LPAZ La Paz 45.30 137 P P 18 17 12.2 +1.0
comp=Z,1.9nm,0.8s,baz=335,slow=10,SNR=6.3
LPAZ pP pP 18 17 27.4 +0.9
comp=Z,6.0nm,0.7s,baz=314,slow=11,SNR=6.2
comp=Z,1.9nm,0.8s
LPAZ La Paz 45.30 137 P P 18 17 10.7 -0.5
LPAZ IAmb IAmb 18 17 32.5
comp=Z,5.4nm,0.7s
LPAZ La Paz 45.30 137 eP P 18 17 11.9 +0.7
T35M Bob Quinn 45.62 336 P P 18 17 11.5 -1.1
baz=136
YKA Yellowknife Ar 45.91 350 P P 18 17 12.6 -2.2
comp=Z,5.9nm,0.9s,baz=158,slow=7.8,SNR=4.4
YKA LR LR 18 40 22.7
comp=Z,115nm,19.9s,baz=82,slow=41
comp=Z,5.9nm,0.9s
PB16 IPOC Station P 45.96 140 P P 18 17 18.6 +2.3
RPN Rapa Nui 46.01 193 LR LR 18 31 47.5
comp=Z,156nm,19.3s,baz=303,slow=30
MDP Montagnes des 46.58 100 LR LR 18 40 04.8
comp=Z,135nm,18.1s,baz=289,slow=40
DLBC Dease Lake 46.59 338 LR LR 18 36 22.8
comp=Z,263nm,18.7s,baz=117,slow=35
GO01 Chusmiza 47.17 141 P P 18 17 27.4 +1.7
GO01 IAmb IAmb 18 17 50.7
comp=Z,9.8nm,0.9s
R33M Jennings River 47.63 338 P P 18 17 28.1 -0.3
baz=136
S32K Killisnoo 47.68 335 P P 18 17 28.4 -0.2
baz=131
MALB Monte Alegre 47.79 110 eP P 18 17 31.1 +0.9
PB02 IPOC Station P 48.04 143 P P 18 17 33.8 +1.8
TGTN Hyland Airport 48.34 341 P P 18 17 33.0 -0.8
baz=141
NPGB Novo Progresso 49.30 116 eP P 18 17 42.5 +0.7
LVC Limon Verde 49.61 143 eP P 18 17 45.8 +1.5
MMPY Sheldon Lake, 50.09 341 P P 18 17 45.8 -1.3
baz=138
CLDB Colider 50.97 121 eP P 18 17 54.1 -0.2
PTLB Pontes e Lacer 51.05 128 eP P 18 17 55.6 +0.8
M29M Somme Creek 52.39 338 P P 18 18 03.4 -1.0
baz=130
L29M 52.70 339 P P 18 18 05.4 -1.2
baz=130
PRPB Parauapebas 53.69 112 eP P 18 18 15.6 +0.9
BMRM Bremner River 53.90 334 P P 18 18 14.1 -1.4
baz=122
BCAR Beaver Creek A 53.98 337 P P 18 18 17.2 +1.2
L27K Beaver Creek, 53.99 337 P P 18 18 14.8 -1.3
baz=126
F31M Tsiigehtchic 54.38 344 P P 18 18 16.6 -2.2
baz=138
P23K Montague Islan 54.61 332 P P 18 18 21.1 +0.5
baz=118
K27K Chicken 54.66 338 P P 18 18 21.2 +0.4
baz=126
INK Inuvik 54.97 345 LR LR 18 45 41.1
comp=Z,128nm,18.9s,baz=204,slow=40
INK Inuvik 54.97 345 P P 18 18 22.5 -0.5
INK Inuvik 54.97 345 P P 18 18 22.4 -0.6
baz=138
PAX Paxson 55.31 336 P P 18 18 24.9 -0.9
baz=122
J26L Joseph Creek 55.46 338 P P 18 18 27.7 +0.9
J26L Joseph Creek 55.46 338 P P 18 18 28.4 +1.6
baz=125,SNR=6.4
RIDG Independent Ri 55.50 337 P P 18 18 27.5 +0.5
RIDG Independent Ri 55.50 337 P P 18 18 25.4 -1.6
baz=123
H27K Steamboat Moun 55.81 340 P P 18 18 29.4 +0.2
baz=128
G27K Doyon Strip 56.21 341 P P 18 18 31.7 -0.4
baz=125
HDA Harding Lake 56.64 337 P P 18 18 34.9 -0.2
baz=122
PRP Porcupine Dome 56.72 339 P P 18 18 36.0 +0.1
PRP IAmb IAmb 18 19 01.8
comp=Z,5.9nm,1.0s
PRP Porcupine Dome 56.72 339 P P 18 18 35.9 +0.1
baz=124
AQDB Aquidauana 56.74 130 P P 18 18 36.3 -0.1
AQDB Aquidauana 56.74 130 eP P 18 18 37.1 +0.7
SUA Susitna One 56.74 333 P P 18 18 36.8 +0.8
SUA Susitna One 56.74 333 P P 18 18 36.3 +0.3
baz=116
IL31 56.80 337 P P 18 18 36.3 +0.1
IL31 IAmb IAmb 18 19 15.0
comp=Z,8.6nm,1.3s
ILAR Eielson Array 56.80 337 P P 18 18 36.0 -0.2
comp=Z,1.9nm,0.8s,baz=122,slow=6.3,SNR=15
ILAR pP pP 18 18 51.1 -0.7
comp=Z,2.6nm,1.0s,baz=134,slow=4.3,SNR=4.8
ILAR LR LR 18 44 19.2
comp=Z,233nm,18.1s,baz=100,slow=37
comp=Z,1.9nm,0.8s
ILAR Eielson Array 56.80 337 P P 18 18 36.6 +0.3
RES Resolute Bay 56.80 1 LR LR 18 46 52.7
comp=Z,106nm,19.0s,baz=78,slow=40
SMTB Santa Maria do 56.89 114 eP P 18 18 38.9 +1.3
ZON Zonda 56.92 150 P P 18 18 39.5 +2.0
ZON IAmb IAmb 18 19 13.0
comp=Z,9.8nm,1.0s
G26K Porcupine Rive 56.97 341 P P 18 18 36.9 -0.4
baz=126
E27K Coleen River 57.06 342 P P 18 18 37.8 -0.2
baz=129
POKR Poker Flat Res 57.18 338 P P 18 18 38.3 -0.7
baz=121
COLA College 57.21 337 P P 18 18 38.8 -0.2
TCOL CIGO, UAF Yank 57.21 337 P P 18 18 39.0 -0.1
H25K Birch Creek 57.24 339 P P 18 18 38.3 -1.0
baz=124
N20K Mount Spurr 57.27 332 P P 18 18 39.3 -0.4
baz=114
SKT Skwentna 57.30 333 P P 18 18 40.0 +0.2
baz=115
ROSB Rosrio 57.43 106 eP P 18 18 42.7 +1.2
TRF Thorofare Moun 57.45 335 P P 18 18 41.6 +0.6
TRF Thorofare Moun 57.45 335 P P 18 18 40.5 -0.5
baz=118
BWN Browne 57.47 336 P P 18 18 41.2 +0.3
BMAR Burnt Mountain 57.50 341 P P 18 18 41.2 0.0
F26K Sheenjek River 57.52 341 P P 18 18 41.0 -0.3
baz=126
H24K Noodor Dome 57.72 338 P P 18 18 43.2 +0.5
H24K Noodor Dome 57.72 338 P P 18 18 43.1 +0.4
baz=121
F25K Christian Rive 57.93 341 P P 18 18 42.8 -1.4
baz=125
M20K Styx River 57.95 333 P P 18 18 45.0 +0.5
M20K Styx River 57.95 333 P P 18 18 44.4 0.0
baz=114
PPLA Purkeypile 57.97 334 P P 18 18 43.6 -1.1
baz=115
R17K Ugashik Creek 57.98 328 P P 18 18 45.2 +0.6
baz=108
BPAW Bear Paw Mtn. 58.02 336 P P 18 18 44.4 -0.5
baz=117
G24K Hadweenzic Riv 58.04 339 P P 18 18 44.8 -0.1
baz=122
N19K Bonanza Creek 58.14 331 P P 18 18 45.6 -0.2
N19K Bonanza Creek 58.14 331 P P 18 18 45.8 0.0
baz=112,SNR=5.2
CAST Castle Rocks 58.16 335 P P 18 18 45.7 -0.1
CAST Castle Rocks 58.16 335 P P 18 18 45.1 -0.7
baz=116
E25K Arctic Village 58.21 341 P P 18 18 45.8 -0.3
baz=125
H23K Yukon River 58.30 338 P P 18 18 46.5 -0.2
baz=120
MLY Manley 58.36 337 P P 18 18 47.0 -0.2
MLY Manley 58.36 337 P P 18 18 47.0 -0.2
baz=118,SNR=6.2
M19K Big River Lodg 58.51 333 P P 18 18 48.7 +0.5
baz=112
L20K Farewell, AK 58.51 333 P P 18 18 47.9 -0.4
baz=113
C27K Jago River 58.56 343 P P 18 18 47.2 -1.3
baz=128
N18K Kilae Creek 58.74 331 P P 18 18 48.7 -1.2
baz=110
SVW2 Sparrevohn 58.74 332 P P 18 18 49.3 -0.6
L19K White Mountain 58.82 333 P P 18 18 49.2 -1.3
baz=112
I21K Tanana 58.90 337 P P 18 18 51.2 +0.3
I21K Tanana 58.90 337 P P 18 18 49.1 -1.7
baz=117
G23K Bananza Creek 58.91 339 P P 18 18 50.5 -0.5
baz=120
K20K Telida 58.94 334 P P 18 18 51.0 -0.3
K20K Telida 58.94 334 P P 18 18 49.8 -1.4
baz=114
H22K Ishtalitna Cre 59.00 338 P P 18 18 51.5 -0.1
baz=118,SNR=7.1
O17K Koliganek Bris 59.00 330 P P 18 18 51.5 -0.1
baz=109
C26K Camden Bay 59.07 343 P P 18 18 51.5 -0.5
baz=126
E24K Your Creek 59.10 340 P P 18 18 52.0 -0.4
baz=122
D25K Kavik River 59.14 342 P P 18 18 52.2 -0.4
baz=125,SNR=5.1
COLD Coldfoot 59.23 339 P P 18 18 53.1 0.0
baz=120
J20K Nowinta River 59.31 335 P P 18 18 53.5 -0.2
J20K Nowinta River 59.31 335 P P 18 18 53.3 -0.4
baz=114
H21K Melozitna Rive 59.42 337 P P 18 18 54.5 0.0
baz=116
O16K Kokwok River B 59.43 329 P P 18 18 53.8 -0.8
baz=108
E23K Chandalar 59.45 340 P P 18 18 55.2 +0.4
baz=121
CPUP Villa Florida 59.47 137 P P 18 18 55.4 +0.1
comp=Z,4.3nm,0.8s,baz=328,slow=6.2,SNR=7.9
CPUP LR LR 18 43 40.0
comp=Z,119nm,18.2s,baz=30,slow=35
comp=Z,4.3nm,0.8s
CPUP Villa Florida 59.47 137 P P 18 18 55.0 -0.3
CPUP Villa Florida 59.47 137 eP P 18 18 56.2 +0.8
G22K Bettles 59.53 339 P P 18 18 55.4 +0.2
baz=118
SDPT Sand Point 59.55 324 P P 18 18 56.3 +0.7
baz=103
TOLK Toolik Lake Re 59.74 341 P P 18 18 56.7 0.0
baz=121
BDFB Brasilia 59.90 121 P P 18 18 58.5 -0.1
comp=Z,3.5nm,0.8s,baz=274,slow=11,SNR=4.6
BDFB pP pP 18 19 14.3 -0.3
comp=Z,13nm,0.8s,baz=286,slow=7.4,SNR=6.9
comp=Z,3.5nm,0.8s
BDFB Brasilia 59.90 121 eP P 18 18 59.9 +1.3
N16K Nishlik Lake 60.02 330 P P 18 18 58.3 -0.4
baz=107
F22K John River 60.03 339 P P 18 18 59.0 +0.3
baz=118
C24K Franklin Bluff 60.04 342 P P 18 18 59.2 +0.5
baz=122
G21K Allakaket 60.05 338 P P 18 18 58.3 -0.5
baz=116
E22K Anaktuvuk Pass 60.21 340 P P 18 18 60.0 0.0
baz=118
D23K Nanushuk River 60.25 341 P P 18 19 00.4 +0.3
baz=120
F21K Alatna River 60.35 338 P P 18 19 00.8 -0.1
baz=116,SNR=7.9
C23K Itkillik River 60.67 342 P P 18 19 02.8 -0.2
baz=120
PCMB Pacaembu 60.70 128 eP P 18 19 05.5 +1.6
IPMB Ipameri, GO 60.99 123 eP P 18 19 07.4 +1.4
PPT Papeete 61.38 238 LR LR 18 38 34.5
comp=Z,54nm,21.8s,baz=354,slow=29
ITQB Itaqui 62.22 139 eP P 18 19 15.4 +1.5
BB19B Bebedouro 62.46 126 eP P 18 19 17.0 +1.2
UNV Unalaska Valle 62.75 322 P P 18 19 17.2 0.0
baz=97
PLCA Paso Flores 63.89 157 P P 18 19 26.1 +1.1
comp=Z,2.4nm,0.8s,baz=331,slow=10.0,SNR=4.2
PLCA LR LR 18 43 04.4
comp=Z,74nm,18.4s,baz=26,slow=32
comp=Z,2.4nm,0.8s
GDU01 Guandu, BA 66.09 114 eP P 18 19 41.3 +1.6
TER01 Tubaro-SC 66.43 133 eP P 18 19 43.4 +1.8
CMC01 Camacan, BA 66.88 116 eP P 18 19 46.2 +1.5
RAR Rarotonga 71.52 240 LR LR 18 42 49.1
comp=Z,103nm,19.6s,baz=104,slow=28
SHEM Shemya Is, Ala 74.38 321 LR LR 18 51 15.0
comp=Z,27nm,18.6s,baz=298,slow=34
BBTS Babate 78.14 78 LR LR 18 49 38.5
comp=Z,172nm,20.7s,baz=349,slow=31
PCAS Casmilo, Conde 78.70 52 eP P 18 20 55.6 +1.1
comp=Z,44nm,1.8s
PCAS epP pP 18 21 11.3 +0.5
AFI Afiamalu 78.87 251 LR LR 18 48 45.6
comp=Z,43nm,18.2s,baz=122,slow=30
POLO Lamas de Olo 78.90 50 eP P 18 20 55.8 +0.1
comp=Z,12nm,1.8s
POLO epP pP 18 21 11.6 -0.4
PVIS Viseu 78.99 51 eP P 18 20 56.7 +0.6
PVIS epP pP 18 21 12.0 -0.4
PMTG Montargil 79.14 52 eP P 18 20 57.5 +0.6
comp=Z,28nm,1.1s
PMTG epP pP 18 21 12.9 -0.3
PNCL Nicolau / Gran 79.14 53 eP P 18 20 57.9 +1.0
comp=Z,25nm,1.7s
PNCL epP pP 18 21 13.5 +0.3
PFVI Vila Bisbo 79.16 54 eP P 18 20 58.6 +1.6
MTE Manteigas 79.32 51 eP P 18 20 58.7 +0.7
MTE epP pP 18 21 13.9 -0.4
MTE Manteigas 79.32 51 P P 18 20 57.9 -0.1
MTE IAmb IAmb 18 21 14.7
comp=Z,11nm,0.9s
EVO Evora 79.44 53 eP P 18 20 59.5 +1.0
comp=Z,19nm,1.5s
EVO epP pP 18 21 14.8 0.0
MVO Moncorvo 79.51 50 eP P 18 20 59.0 0.0
comp=Z,17nm,1.7s
MVO epP pP 18 21 15.4 +0.1
PCBR Castelo Branco 79.51 52 eP P 18 20 59.4 +0.5
comp=Z,28nm,1.8s
PCBR epP pP 18 21 15.1 -0.1
PBRG Braganca 79.56 49 epP pP 18 21 14.9 -0.6
PCVE Castro Verde 79.64 54 epP pP 18 21 16.7 +0.7
PCVE A A 18 21 17.1
comp=Z,27nm,1.3s
PBEJ Beja 79.67 53 eP P 18 21 00.5 +0.7
comp=Z,21nm,1.6s
PBEJ epP pP 18 21 16.2 0.0
PMRV Marv??o 79.68 52 eP P 18 21 00.0 +0.1
comp=Z,21nm,1.7s
PMRV epP pP 18 21 15.8 -0.4
PVAQ Vaqueiros 79.94 54 eP P 18 21 01.6 +0.3
comp=Z,32nm,1.3s
PVAQ epP pP 18 21 18.2 +0.6
PBAR Barrancos 80.27 53 eP P 18 21 03.6 +0.6
comp=Z,25nm,1.5s
PBAR epP pP 18 21 19.4 0.0
AKN Aaknes 81.33 27 eP P 18 21 09.1 +0.9
STEI Steigen 82.05 20 eP P 18 21 12.8 +0.9
STEI IAmb IAmb 18 21 13.9
comp=Z,28nm,1.2s
ESDC Sonseca Array 82.17 51 P P 18 21 13.5 +0.4
comp=Z,1.1nm,0.6s,baz=303,slow=5.4,SNR=13
ESDC pP pP 18 21 29.4 -0.1
comp=Z,2.2nm,0.8s,baz=297,slow=5.3,SNR=9.0
comp=Z,1.1nm,0.6s
ESDC Sonseca Array 82.17 51 P P 18 21 13.6 +0.4
ESDC IAmb IAmb 18 21 31.4
comp=Z,9.2nm,1.4s
TRO Tromso 82.35 18 eP P 18 21 14.6 +1.1
TRO IAmb IAmb 18 21 15.4
comp=Z,31nm,1.3s
SEY Seymchan 82.56 334 P P 18 21 15.9 +1.3
comp=Z,3.5nm,0.5s,baz=95,slow=5.7,SNR=19
SEY pP pP 18 21 31.2 +0.2
comp=Z,2.9nm,0.7s,baz=98,slow=8.2,SNR=2.9
comp=Z,3.5nm,0.5s
MOR8 Moi Rana 82.60 22 eP P 18 21 16.5 +1.7
MOR8 IAmb IAmb 18 21 17.1
comp=Z,13nm,1.1s
JETT Jettan, Norway 82.83 18 eP P 18 21 17.5 +1.5
JETT IAmb IAmb 18 21 18.0
comp=Z,41nm,0.7s
HAMF Hammerfest 83.14 17 eP P 18 21 18.5 +1.0
KONO Kongsberg 83.49 29 P P 18 21 20.3 +0.8
KONO Kongsberg 83.49 29 eP P 18 21 21.2 +1.7
NAO01 NORSAR Array S 83.57 28 P P 18 21 20.8 +0.9
NB2 NORSAR Subarra 83.63 27 P P 18 21 21.9 +1.6
comp=Z,3.1nm,0.7s,baz=299,slow=5.1
NB2 NORSAR Subarra 83.63 27 P P 18 21 21.9 +1.6
baz=299,slow=5.1
NOA NORSAR Array B 83.63 27 P P 18 21 21.5 +1.2
comp=Z,5.4nm,0.8s,baz=300,slow=5.1,SNR=25
NOA pP pP 18 21 37.3 +0.6
comp=Z,3.1nm,0.8s,baz=298,slow=5.4,SNR=7.3
comp=Z,5.4nm,0.8s
NC405 NORSAR Array S 83.82 27 P P 18 21 21.2 0.0
PEA0B Petropavlovsk- 83.84 324 P P 18 21 22.6 +1.1
PETK Petropavlovsk- 83.84 324 P P 18 21 22.9 +1.4
comp=Z,14nm,0.9s,baz=90,slow=7.6,SNR=18
PETK pP pP 18 21 38.9 +1.0
comp=Z,6.8nm,0.8s,baz=68,slow=9.7,SNR=5.1
comp=Z,14nm,0.9s
PETK Petropavlovsk- 83.84 324 P P 18 21 22.1 +0.7
NC602 NORSAR Array S 83.91 28 P P 18 21 21.8 +0.2
NC602 NORSAR Array S 83.91 28 eP P 18 21 23.6 +2.0
KTK1 Kautokeino 83.97 18 eP P 18 21 22.6 +0.8
KTK1 IAmb IAmb 18 21 23.8
comp=Z,11nm,0.8s
ARA0 ARCESS Array S 84.31 17 eP P 18 21 23.7 +0.1
ARA0 IAmb IAmb 18 21 24.9
comp=Z,7.8nm,0.8s
ARCES ARCESS Array B 84.31 17 P P 18 21 24.2 +0.6
comp=Z,6.8nm,0.7s,baz=305,slow=4.3,SNR=22
ARCES pP pP 18 21 39.2 -0.7
comp=Z,3.4nm,0.6s,baz=291,slow=3.4,SNR=8.0
ARCES LR LR 18 59 42.5
comp=Z,39nm,18.6s,baz=268,slow=36
comp=Z,6.8nm,0.7s
ARCES ARCESS Array B 84.31 17 P P 18 21 24.1 +0.6
ARCES IAmb IAmb 18 21 25.1
comp=Z,7.6nm,0.8s
DOU Dourbes 84.55 39 dP P 18 21 25.8 +0.7
DOU dsP sP 18 21 48.5 +0.6
BMRD Maredsous 84.57 39 dP P 18 21 26.4 +1.2
BMRD dpP pP 18 21 42.0 +0.3
BMRD dsP sP 18 21 48.9 +0.8
BCLA Clavier 84.85 39 dP P 18 21 27.0 +0.4
BCLA dpP pP 18 21 43.5 +0.5
BCLA dsP sP 18 21 50.2 +0.8
RCHB Rochefort 84.90 39 dP P 18 21 26.9 0.0
RCHB dpP pP 18 21 43.3 0.0
RCHB dsP sP 18 21 49.7 0.0
TIXI Tiksi 85.06 346 LR LR 19 03 49.2
comp=Z,65nm,20.2s,baz=356,slow=39
MEM Membach 85.19 38 dP P 18 21 29.7 +1.4
MEM dpP pP 18 21 44.5 -0.3
MEM dsP sP 18 21 50.7 -0.4
BTNL Ternell 85.27 38 dP P 18 21 29.8 +1.0
BTNL dpP pP 18 21 45.1 -0.2
BTNL dsP sP 18 21 51.1 -0.6
BHOU Houvegnez 85.29 38 dx x 18 21 46.0
WLF Walferdange 85.64 39 dP P 18 21 31.8 +1.2
WLF dpP pP 18 21 46.5 -0.6
WLF dsP sP 18 21 54.0 +0.5
SSB Saint Sauveur 86.28 44 P P 18 21 34.0 +0.1
ECH Echery 86.82 40 P P 18 21 35.8 -0.7
ECH IAmb IAmb 18 21 53.6
comp=Z,7.4nm,1.2s
DAVA Damuels 88.87 40 eP P 18 21 46.4 -0.1
comp=Z,5.0nm,0.9s
CLL Collm 88.91 36 eP P 18 21 46.0 -0.3
CLL epP pP 18 22 02.0 -0.8
CLL esP sP 18 22 07.0 -2.2
DAVOX Davos/Dischmat 89.09 41 LR LR 19 05 02.6
comp=Z,30nm,18.3s,baz=308,slow=38
RETA Reutte 89.33 40 eP P 18 21 48.4 0.0
comp=Z,5.6nm,1.1s
FINES FINESS Array B 89.50 23 P P 18 21 48.0 -0.8
comp=Z,3.3nm,0.9s,baz=347,slow=5.7,SNR=5.4
FINES pP pP 18 22 04.6 -0.9
comp=Z,4.6nm,0.9s,baz=259,slow=1.9,SNR=3.5
comp=Z,3.3nm,0.9s
FETA Feichten 89.51 40 eP P 18 21 50.2 +0.7
comp=Z,5.2nm,1.2s
MOTA Moosalm 89.60 40 eP P 18 21 50.6 +0.7
comp=Z,6.1nm,1.1s
SQTA Sankt Quirin 89.72 40 eP P 18 21 51.2 +0.9
comp=Z,5.5nm,1.2s
KOWA Kowa 89.78 75 LR LR 18 55 10.7
comp=Z,82nm,20.7s,baz=301,slow=31
WATA Walderalm 89.89 40 eP P 18 21 51.6 +0.4
comp=Z,6.6nm,1.1s
WTTA Wattenberg 89.96 40 eP P 18 21 53.4 +1.8
comp=Z,1.2nm,0.5s
KHC Kasperske Hory 90.25 37 epP pP 18 22 09.5 +0.2
KHC esP sP 18 22 15.9 +0.3
PRU Pruhonice 90.40 36 epP pP 18 22 09.6 -0.3
GERES GERESS Array B 90.46 38 P P 18 21 52.7 -1.0
comp=Z,0.5nm,0.7s,baz=356,slow=4.0,SNR=5.7
GERES pP pP 18 22 09.3 -1.0
comp=Z,0.9nm,0.7s,baz=316,slow=3.7,SNR=6.5
comp=Z,0.5nm,0.7s
ABTA Abfaltersbach 90.73 40 eP P 18 21 52.7 -2.3
comp=Z,8.4nm,1.1s
KBA Koelnbreinsper 91.08 39 eP P 18 21 54.9 -1.9
comp=Z,2.8nm,0.8s
DPC Dobruska-Polom 91.21 36 epP pP 18 22 13.9 +0.1
DPC esP sP 18 22 20.3 +0.1
YAK Yakutsk 91.68 339 LR LR 19 08 17.7

comp=Z,91nm,18.4s,baz=276,slow=39
YAK Yakutsk 91.68 339 P **P** 18 21 59.7 +0.8
OBKA Obir 92.08 39 *eP* **P** 18 21 58.8 -2.5
comp=Z,7.8nm,1.8s
CONA Conrad Observa 92.16 38 *eP* **P** 18 22 01.7 +0.1
comp=Z,6.1nm,1.6s
SOKA Soboth 92.29 39 *eP* **P** 18 22 02.3 +0.1
comp=Z,6.1nm,1.2s
RONA Rosalia, Austr 92.53 38 *eP* **P** 18 22 01.8 -1.5
comp=Z,5.1nm,1.3s
TORD Torodi Ar. Bea 95.46 74 P **P** 18 22 16.2 -1.1
comp=Z,0.6nm,0.9s,baz=290,slow=5.0,SNR=2.7
TORD pP **pP** 18 22 32.1 -1.9
comp=Z,1.4nm,1.0s,baz=302,slow=4.5,SNR=5.2
TORD LR LR 19 02 09.0
comp=Z,49nm,19.4s,baz=212,slow=34
comp=Z,0.6nm,0.9s
KLR Kul'dur 99.67 329 LR LR 19 13 03.1
comp=Z,88nm,18.3s,baz=358,slow=39
MKAR Makanchi Array 115.58 359 PKP **PKiKP** 18 27 32.8 -1.1
comp=Z,0.3nm,0.7s,baz=40,slow=2.1,SNR=5.0
MKAR pPKP PKPdf 18 27 50.0 +16
comp=Z,0.5nm,0.8s,baz=8.1,slow=4.3,SNR=3.4
WMQ Urumqi 118.29 355 *eP* **PKiKP** 18 27 40.6 +1.3
WMQ LR LR
comp=Z,110nm,16.1s
GEYT Alibeck 120.25 21 pPKP pPKPdf 18 28 00.5 +0.1
comp=Z,2.1nm,0.8s,baz=264,slow=4.5,SNR=4.1
STKA Stephens Creek 124.37 243 PKP **PKPdf** 18 27 51.3 +0.2
comp=Z,5.4nm,1.0s,baz=103,slow=3.8,SNR=7.8
STKA pPKP **pPKPdf** 18 28 08.8 +0.4
comp=Z,3.1nm,0.8s,baz=20,slow=19,SNR=3.6
BOSA Boshof 127.66 113 PKP **PKiKP** 18 27 58.3 0.0
comp=Z,2.8nm,0.8s,baz=265,slow=8.5,SNR=3.1
MAW Mawson 128.93 171 PKP **PKPdf** 18 27 59.1 +0.4
comp=Z,4.3nm,0.8s,baz=249,slow=4.5,SNR=12
WRA Warramunga Arr 130.14 259 PKP **PKiKP** 18 28 03.4 +0.1
comp=Z,2.8nm,0.6s,baz=83,slow=2.6,SNR=44
WRA pPKP **pPKPdf** 18 28 20.4 +0.6
comp=Z,1.7nm,0.8s,baz=74,slow=2.1,SNR=6.9
ASAR Alice Springs 130.89 254 PKhKP PKPpre 18 27 51.7
comp=Z,0.3nm,0.9s,baz=92,slow=4.1,SNR=4.8
ASAR PKP **PKPdf** 18 28 04.3 +0.5
comp=Z,2.0nm,0.8s,baz=86,slow=2.4,SNR=20
ASAR pPKP pPKPdf 18 28 21.8 +0.7
comp=Z,1.2nm,0.7s,baz=107,slow=2.5,SNR=5.6
CMAR Chiang Mai Arr 139.97 334 PKhKP PKPpre 18 28 11.9
comp=Z,0.4nm,0.5s,baz=336,slow=2.4,SNR=2.3
CMAR PKP **PKPdf** 18 28 22.1 +1.1
comp=Z,1.0nm,0.3s,baz=5.5,slow=2.1,SNR=5.4
CMAR pPKP pPKPdf 18 28 39.1 +1.0
comp=Z,1.9nm,0.8s,baz=346,slow=3.0,SNR=5.2
PSI Prapat 153.17 318 PKPbc **PKPbc** 18 28 50.8 +0.2
comp=Z,4.0nm,0.5s,baz=73,slow=6.0,SNR=4.1
RPSI Rantau Prapat 153.25 318 **PKPbc** 18 28 50.8 +0.1

*IDC **22** 18:14:40.2±1.9,34°.33N×141°.59E,h0km,mb3.3/4, mbtmp3.2/5,ML2.1/1,MS3.6/1,Error ellipse: s-maj=37.6km s-min=21.7km az=69.0*
*JMA **22** 18:14:40.2±0.5,34°.N±2°×14°2E±°,h33km±3km,MV2.8/25, FAR SE OFF BOSO PEN*
ISC 22 18:14:43.4±1.4,34°.43N±0°.06×141°.6E±0°.1,h27km,n18, σ1§05/15,mb3.3/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.57**	**293**		*e*	P	**Pn**	**18 14 54.4**	**-0.9**
BSO3	**Boso 3**	**0.98**	**292**			P	**Pb**	**18 15 01.3**	**-0.4**
BSO4	**Boso 4**	**1.19**	**298**		*e*	P	**Pb**	**18 15 04.2**	**-1.1**
JKUC	**kamogawauchiur**	**1.38**	**302**		*e*	P	**Pn**	**18 15 06.3**	**-0.6**
JKUC					*e*	S	**Sb**	**18 15 25.0**	**-0.7**
CHOJ	**Chosi**	**1.41**	**334**		*e*	P	**Pn**	**18 15 05.8**	**-1.6**
CHOJ					*e*	S	**Sn**	**18 15 24.8**	**-0.3**
JHJ	**Hachijo jima 2**	**2.01**	**230**	Pn			**Pn**	**18 15 15.2**	**-0.4**
	11nm,0.3s,baz=49,slow=19,SNR=17								
JHJ				Sn			**Sn**	**18 15 39.1**	**-0.7**
	34nm,0.3s,baz=71,slow=23,SNR=12								
MJAR	**Matsushiro Arr**	**3.49**	**308**	Pn			**Pn**	**18 15 36.3**	**+0.3**
	0.2nm,0.3s,baz=125,slow=8.2,SNR=9.6								
MJAR				Sn			**Sn**	**18 16 18.0**	**+1.6**
	0.2nm,0.3s,baz=139,slow=21,SNR=7.1								
	0.9nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**26.75**	**117**	T			T	18 48 18.0	
	baz=305								
H11N1	**WAKE ISLAND Hy**	**26.76**	**117**	T			T	18 48 21.8	
	baz=305								
H11N3	**WAKE ISLAND Hy**	**26.77**	**117**	T			T	18 48 23.2	
	baz=305								
H11S1	**WAKE ISLAND Hy**	**27.38**	**119**	T			T	18 49 17.7	
	baz=312								
H11S3	**WAKE ISLAND Hy**	**27.38**	**119**	T			T	18 49 20.1	
	baz=312								
H11S2	**WAKE ISLAND Hy**	**27.40**	**119**	T			T	18 49 18.6	
	baz=312								
SONM	**Songino Array**	**29.44**	**308**	P			**P**	**18 20 45.8**	**+0.9**
	0.2nm,0.4s,baz=101,slow=7.5,SNR=1.5								
	0.2nm,0.4s								
MKAR	**Makanchi Array**	**45.68**	**304**	P			**P**	**18 23 03.5**	**+1.6**
	0.2nm,0.5s,baz=86,slow=7.7,SNR=1.7								
	0.2nm,0.5s								
KDAK	**Kodiak Island**	**48.95**	**40**	LR			LR	18 43 19.1	
	comp=Z,64nm,19.9s,baz=117,slow=35								
WRA	**Warramunga Arr**	**54.51**	**188**	P			**P**	**18 24 09.2**	**+0.3**
	0.2nm,0.5s,baz=1.0,slow=7.7,SNR=8.4								
	0.2nm,0.5s								
ASAR	**Alice Springs**	**58.24**	**188**	P			**P**	**18 24 34.6**	**-0.9**
	0.3nm,0.9s,baz=0.0,slow=5.6,SNR=1.9								
	0.3nm,0.9s								

MAN 22 18:23:11.3,10°.30N×122°.37E,h2km,mb4.5,ML3.3,MS3.1, 3C-4D,Panay

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.39**	**34**	⇓	*e*	P	Pg	18 23 18.8	+0.1
GUIM					*e*	S	Sg	18 23 25.0	+1.3
CNOP	**Candoni, Negro**	**0.54**	**151**	⇓	*e*	P	Pg	18 23 22.6	+0.8
JAP	**San Jose, Anti**	**0.61**	**317**	⇓	*e*	P	Pg	18 23 23.3	+0.3
SNPH	**Sibulan**	**1.28**	**138**	⇑	*i*	P	Pg	18 23 35.5	-0.4
SNPH					*i*	S	Sn	18 23 53.7	-0.4
RCP	**Roxas**	**1.30**	**16**	⇑	*e*	P	Pg	18 23 35.4	-0.9
RCP					*e*	S	Sn	18 23 55.2	+0.7
TBP	**Tagbilaran**	**1.59**	**112**		*e*	P	Pn	18 23 39.8	-0.7
TBP					*i*	S	Sg	18 24 02.4	0.0
DCPH	**Dipolog City**	**1.96**	**150**	⇓	*e*	P	Pn	18 23 45.3	-0.4
DCPH					*e*	S	Sn	18 24 09.6	-1.3
BUSP	**Coron**	**2.72**	**309**	⇑	*e*	P	Pn	18 23 52.8	-3.2

*JMA **22** 18:23:19.0±0.2,25°.N±3°×122°.6E±0°.7,h108km±1km, MV3.3/13,NW OFF ISHIGAKIJIMA IS*
*NEIC **22** 18:23:18.5±1.8,24°.68N±0°.08×122°.61E±0°.04, h114km±7km,mb4.2/13,ML4.6(TAP),Error ellipse: s-maj=12.4km s-min=2.0km az=155.0*
*TAP **22** 18:23:19.1,24°.65N×122°.59E,h107km,ML4.1,D*
*IDC **22** 18:23:23.1±8.9,24°.55N×123°.16E,h131km±104km, mb3.0/2,mbtmp3.8/4,ML3.9/2,Error ellipse: s-maj=80.5km s-min=51.6km az=58.0*
ISC 22 18:23:18.3±0.7,24°.65N±0°.03×122°.60E±0°.02,h112km±5km, n172,σ1§07/292,mb4.2/8,51C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.37**	**122**		P		**Pn**	**18 23 35.2**	**+0.7**
JYNG					S		**Sn**	**18 23 47.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.41**	**116**	Pn			**Pn**	**18 23 35.2**	**+0.4**
YOJ	**Yonaguni jima**	**0.41**	**116**		P		**Pn**	**18 23 35.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.41**	**116**		P		**Pn**	**18 23 35.5**	**+0.7**
YOJ					S		**Sn**	**18 23 47.4**	**+0.2**
TWB1	**Santiao Chiao**	**0.67**	**303**	⇑	*i*	P	**Pn**	**18 23 37.0**	**+0.5**
	baz=303								
TWB1					*e*	S	**Sn**	**18 23 49.6**	**-0.7**
	baz=303								
TWC	**Suao**	**0.69**	**267**	⇑	*i*	P	**Pn**	**18 23 36.8**	**+0.1**
	baz=265								
TWC					S		**Sn**	**18 23 49.7**	**-0.9**
	baz=265								
NTC	**Toucheng**	**0.73**	**287**		P		**Pn**	**18 23 37.4**	**+0.3**
	baz=284								
NTC					*e*	S	**Sn**	**18 23 50.4**	**-0.9**
	baz=284								
EWUT	**Wuta**	**0.78**	**255**	⇑	*i*	P	**Pn**	**18 23 36.8**	**-0.7**
	baz=255								
EWUT					*e*	S	**Sn**	**18 23 51.2**	**-0.7**
	baz=255								
TIPB	**Shuangxi**	**0.78**	**295**	⇑	*i*	P	**Pn**	**18 23 38.2**	**+0.6**
	baz=290								
TIPB					*e*	S	**Sn**	**18 23 51.2**	**-0.9**
	baz=290								
ILA	**Ilan**	**0.79**	**279**		P		**Pn**	**18 23 38.3**	**+0.7**
	baz=277								
ILA					*e*	S	**Sn**	**18 23 51.9**	**-0.2**
	baz=277								
SXI1	**Grass Mountain**	**0.80**	**304**		P		**Pn**	**18 23 38.4**	**+0.6**
	baz=298								
SXI1					S		**Sn**	**18 23 52.1**	**-0.4**
	baz=298								
ENA	**Nanau**	**0.81**	**255**		P		**Pn**	**18 23 38.2**	**+0.4**
	baz=250								
ENA					*e*	S	**Sn**	**18 23 52.8**	**+0.2**
	baz=250								
EHP	**Heping Village**	**0.85**	**247**		*e*	P	**Pn**	**18 23 38.6**	**+0.4**
	baz=243								
EHP					*e*	S	**Sn**	**18 23 53.6**	**+0.4**
	baz=243								
TWE	**Neicheng**	**0.86**	**275**	⇑	*i*	P	**Pn**	**18 23 38.9**	**+0.7**
	baz=275								
TWE					*e*	S	**Sn**	**18 23 52.9**	**-0.4**
	baz=275								
NWF	**Wu-fen Shan**	**0.86**	**300**	⇑	*i*	P	**Pn**	**18 23 39.1**	**+0.7**
	baz=295								
NWF					S		**Sn**	**18 23 53.4**	**-0.1**
	baz=295								
WFSB	**Wu-fen Shan**	**0.86**	**300**	⇑	*i*	P	**Pn**	**18 23 39.0**	**+0.7**
	baz=295								
WFSB					*e*	S	**Sn**	**18 23 53.2**	**-0.1**
	baz=295								
TNOU	**National Taiwa**	**0.91**	**304**		*e*	P	**Pn**	**18 23 39.1**	**+0.5**
	baz=300								
TNOU					*e*	S	**Sn**	**18 23 53.6**	**-0.5**
	baz=300								
FUSB	**Fushanzhiwuyua**	**0.93**	**277**	⇑	*i*	P	**Pn**	**18 23 39.6**	**+0.6**
	baz=283								
FUSB					*e*	S	**Sn**	**18 23 54.0**	**-0.7**
	baz=283								
ENTT	**Nioudou**	**0.94**	**270**	⇑	*i*	P	**Pn**	**18 23 38.9**	**-0.1**
	baz=268								
ENTT					*e*	S	**Sn**	**18 23 54.7**	**-0.1**
	baz=268								
TWA	**Mucha**	**0.98**	**290**	⇑	*i*	P	**Pn**	**18 23 40.0**	**+0.5**
	baz=283								
TWA					*e*	S	**Sn**	**18 23 54.8**	**-0.8**
	baz=283								
LATG	**Datong**	**0.99**	**264**	⇑	*i*	P	**Pn**	**18 23 40.3**	**+0.7**
	baz=260								
LATG					*e*	S	**Sn**	**18 23 55.7**	**0.0**
	baz=260								
NDT	**Datong Townshi**	**0.99**	**268**	⇑	*i*	P	**Pn**	**18 23 40.1**	**+0.5**
	baz=266								
NDT					*e*	S	**Sn**	**18 23 55.7**	**0.0**
	baz=266								
ETL	**Fush Village**	**1.02**	**242**		P		**Pn**	**18 23 39.8**	**0.0**
	baz=236								
ETL					*e*	S	**Sn**	**18 23 55.2**	**-0.9**
	baz=236								
NHY	**Taipei**	**1.02**	**293**		*e*	P	**Pn**	**18 23 41.0**	**+1.2**
	baz=285								
NHY					*e*	S	**Sn**	**18 23 56.3**	**+0.3**
	baz=285								
NHDH	**Xindian Distri**	**1.03**	**288**	⇑	*i*	P	**Pn**	**18 23 40.5**	**+0.5**
	baz=281								
NHDH					*e*	S	**Sn**	**18 23 55.6**	**-0.7**
	baz=281								
NACB	**Ninganchiao**	**1.03**	**243**			Pn	**Pn**	**18 23 39.6**	**-0.4**
NACB	**Ninganchiao**	**1.03**	**243**	⇑	*i*	P	**Pn**	**18 23 39.9**	**-0.1**
	baz=243								
NACB					*e*	S	**Sn**	**18 23 55.5**	**-0.9**
	baz=243								
YM01	**YM01**	**1.06**	**298**	⇑	*i*	P	**Pn**	**18 23 41.0**	**+0.7**
	baz=290								
YM01					S		**Sn**	**18 23 56.5**	**-0.6**
	baz=290								
TATO	**Taipei**	**1.07**	**288**			Pn	**Pn**	**18 23 40.7**	**+0.4**
IRIF	**Iriomote-Funau**	**1.07**	**107**		P		**Pn**	**18 23 41.3**	**+0.9**
IRIF					S		**Sn**	**18 23 57.7**	**+0.6**
TAP	**Taipei**	**1.07**	**292**		*i*	P	**Pn**	**18 23 40.8**	**+0.5**
	baz=292								
TAP					S		**Sn**	**18 23 56.6**	**-0.5**
	baz=292								
TWD	**Chiawan**	**1.08**	**239**	⇑	*i*	P	**Pn**	**18 23 40.5**	**0.0**
	baz=234								
TWD					*e*	S	**Sn**	**18 23 56.3**	**-0.9**
	baz=234								
PCYT	**Pengchaiyu**	**1.09**	**334**		*i*	P	**Pn**	**18 23 41.8**	**+1.2**
	baz=326								
PCYT					*e*	S	**Sn**	**18 23 57.0**	**-0.5**
	baz=326								
TWY	**Chenhua**	**1.11**	**305**		P		**Pn**	**18 23 41.7**	**+1.0**
	baz=297								
TWY					S		**Sn**	**18 23 58.0**	**+0.2**
	baz=297								
ETLH	**Xiulin Townshi**	**1.11**	**247**	⇑	*i*	P	**Pn**	**18 23 41.2**	**+0.3**
	baz=247								
ETLH					*e*	S	**Sn**	**18 23 57.7**	**-0.3**
	baz=247								
BACT	**New Taipei Cit**	**1.11**	**289**		*e*	P	**Pn**	**18 23 41.1**	**+0.3**
	baz=283								
BACT					*e*	S	**Sn**	**18 23 55.8**	**-2.1**
	baz=283								
YHNB	**Yeheng**	**1.12**	**272**			Pn	**Pn**	**18 23 41.6**	**+0.6**
YHNB	**Yeheng**	**1.12**	**272**		P		**Pn**	**18 23 41.8**	**+0.9**
YHNB	**Yeheng**	**1.12**	**272**	⇑	*i*	P	**Pn**	**18 23 41.9**	**+1.0**
	baz=265								
YHNB					S		**Sn**	**18 23 58.1**	**0.0**
	baz=265								
ANP	**Anpu**	**1.12**	**299**		P		**Pn**	**18 23 41.4**	**+0.4**
	baz=291								
ANP					*e*	S	**Sn**	**18 23 56.9**	**-1.3**
	baz=291								
HWA	**Hwalien**	**1.13**	**234**	⇑	*i*	P	**Pn**	**18 23 41.5**	**+0.5**
	baz=228								
HWA					S		**Sn**	**18 23 58.6**	**+0.5**
	baz=228								
NNSB	**Datong**	**1.13**	**259**	⇑	*i*	P	**Pn**	**18 23 41.7**	**+0.5**
	baz=253								
NNSB					*e*	S	**Sn**	**18 23 58.4**	**-0.1**
	baz=253								
NNSH	**Datong**	**1.13**	**259**		P		**Pn**	**18 23 41.8**	**+0.7**
	baz=254								
NNSH					*e*	S	**Sn**	**18 23 58.1**	**-0.3**
	baz=254								
NSK	**Sanguang**	**1.13**	**272**	⇑	*i*	P	**Pn**	**18 23 41.0**	**-0.1**
	baz=265								
NSK					S		**Sn**	**18 23 57.3**	**-1.1**
	baz=265								
NNS	**Nan Shan**	**1.14**	**260**	⇑	*i*	P	**Pn**	**18 23 40.8**	**-0.4**
	baz=254								
NNS					*e*	S	**Sn**	**18 23 57.3**	**-1.3**
	baz=254								
NTST	**Danshui**	**1.17**	**296**	⇑	*i*	P	**Pn**	**18 23 42.3**	**+0.9**
	baz=289								
NTST					*e*	S	**Sn**	**18 23 59.1**	**+0.1**
	baz=289								
TWS1	**Kuangyinshan**	**1.17**	**293**	⇑	*i*	P	**Pn**	**18 23 42.1**	**+0.7**
	baz=293								
TWS1					*e*	S	**Sn**	**18 23 58.6**	**-0.3**
	baz=293								
TEYL	**Yanliau Villag**	**1.20**	**230**		*e*	P	**Pn**	**18 23 41.8**	**0.0**
	baz=228								
TEYL					*e*	S	**Sn**	**18 23 59.2**	**-0.3**
	baz=228								
ETM	**Tongmen**	**1.22**	**237**	⇑	*i*	P	**Pn**	**18 23 42.2**	**+0.2**
	baz=231								
ETM					*e*	S	**Sn**	**18 23 59.0**	**-0.9**
	baz=231								
HATJ	**Hateruma jima**	**1.24**	**118**		P		**Pn**	**18 23 43.7**	**+1.5**
HATJ					*e*	S	**Sn**	**18 24 01.6**	**+1.3**
WHF	**Hehuan Shan**	**1.32**	**248**	⇑	*i*	P	**Pn**	**18 23 44.1**	**+0.6**
	baz=248								
WHF					*e*	S	**Sn**	**18 24 02.6**	**0.0**
	baz=248								
NCU	**National Centr**	**1.33**	**284**		*e*	P	**Pn**	**18 23 44.1**	**+0.9**
	baz=291								
NCU					*e*	S	**Sn**	**18 24 02.8**	**+0.7**
	baz=291								
NCUH	**Zhongli**	**1.33**	**284**		*e*	P	**Pn**	**18 23 44.0**	**+0.8**
	baz=291								
NCUH					*e*	S	**Sn**	**18 24 03.3**	**+1.2**
	baz=291								
JKRS	**Kuro-shima**	**1.34**	**107**		P		**Pn**	**18 23 44.8**	**+1.5**
JKRS					S		**Sn**	**18 24 03.4**	**+1.0**
TEGC	**Jichi Village**	**1.35**	**226**		*e*	P	**Pn**	**18 23 43.7**	**+0.3**
	baz=232								
TEGC					*e*	S	**Sn**	**18 24 02.5**	**0.0**
	baz=232								
ESL	**Shilin**	**1.35**	**232**	⇑	*i*	P	**Pn**	**18 23 43.5**	**+0.1**
	baz=228								
ESL					*e*	S	**Sn**	**18 24 01.8**	**-0.8**
	baz=228								
NFF	**Wufeng Townshi**	**1.35**	**270**	⇑	*i*	P	**Pn**	**18 23 43.4**	**-0.2**
	baz=269								
NFF					*e*	S	**Sn**	**18 24 01.5**	**-1.2**
	baz=269								
TWT	**Tachien**	**1.36**	**254**	⇑	*i*	P	**Pn**	**18 23 45.1**	**+1.3**
	baz=253								
TWT					*e*	S	**Sn**	**18 24 03.4**	**+0.3**
	baz=253								
TDCB	**Techi**	**1.37**	**254**	⇑	*i*	P	**Pn**	**18 23 45.1**	**+1.2**
	baz=254								
TDCB					*e*	S	**Sn**	**18 24 03.1**	**-0.2**
	baz=254								
NJD	**Zhudong**	**1.38**	**274**		*e*	P	**Pn**	**18 23 45.1**	**+1.3**
	baz=274								
NJD					*e*	S	**Sn**	**18 24 03.9**	**+0.7**
	baz=274								
CHGB	**Renai**	**1.43**	**246**	⇑	*i*	P	**Pn**	**18 23 45.5**	**+1.0**
	baz=241								
CHGB					*e*	S	**Sn**	**18 24 04.9**	**+0.4**
	baz=241								
JIJ	**Ishigaki jima**	**1.43**	**101**		P		**Pn**	**18 23 45.5**	**+1.1**
JIJ					S		**Sn**	**18 24 04.1**	**-0.1**
LIOB	**Emei**	**1.45**	**270**	⇑	*i*	P	**Pn**	**18 23 45.5**	**+0.9**
	baz=270								
LIOB					*e*	S	**Sn**	**18 24 04.7**	**+0.2**
	baz=270								
EGFH	**Guangfu**	**1.45**	**228**	⇑	*i*	P	**Pn**	**18 23 44.9**	**+0.3**
	baz=224								
EGFH					*e*	S	**Sn**	**18 24 03.5**	**-1.1**
	baz=224								
HSN1	**Hsinchu**	**1.45**	**276**		P		**Pn**	**18 23 45.5**	**+0.9**
	baz=275								
HSN1					*e*	S	**Sn**	**18 24 04.2**	**-0.3**
	baz=275								
NSTT	**Nanjuang**	**1.46**	**270**	⇑	*i*	P	**Pn**	**18 23 45.5**	**+0.8**
	baz=269								
NSTT					*e*	S	**Sn**	**18 24 04.8**	**0.0**
	baz=269								
OWD	**Renai**	**1.47**	**242**	⇑	*i*	P	**Pn**	**18 23 45.7**	**+0.6**
	baz=238								
OWD					*e*	S	**Sn**	**18 24 04.5**	**-0.8**
	baz=238								
SBCB	**Hsinchu**	**1.48**	**276**		*e*	P	**Pn**	**18 23 45.8**	**+0.9**
	baz=276								
SBCB					*e*	S	**Sn**	**18 24 05.9**	**+0.7**
	baz=276								
HSN	**Hsinchu**	**1.50**	**276**		*e*	P	**Pn**	**18 23 45.7**	**+0.6**
	baz=277								
HSN					*e*	S	**Sn**	**18 24 05.2**	**-0.3**
	baz=277								
WUSB	**Renai**	**1.50**	**245**	⇑	*i*	P	**Pn**	**18 23 46.3**	**+0.9**
	baz=241								
WUSB					*e*	S	**Sn**	**18 24 05.8**	**-0.2**
	baz=241								
WHP	**Taichung City**	**1.56**	**257**	⇑	*i*	P	**Pn**	**18 23 47.6**	**+1.7**
	baz=255								
WHP					*e*	S	**Sn**	**18 24 08.0**	**+1.0**
	baz=255								
HGSD	**Ruisui**	**1.57**	**223**	⇑	*i*	P	**Pn**	**18 23 46.4**	**+0.3**
	baz=223								
HGSD					*e*	S	**Sn**	**18 24 06.9**	**-0.4**
	baz=223								
VWDT	**VWDT**	**1.60**	**237**	⇑	*i*	P	**Pn**	**18 23 47.4**	**+1.0**
	baz=232								
VWDT					*e*	S	**Sn**	**18 24 07.5**	**-0.3**
	baz=232								
EHY	**Hungye**	**1.63**	**226**	⇑	*i*	P	**Pn**	**18 23 46.6**	**-0.2**
	baz=226								
EHY					*e*	S	**Sn**	**18 24 07.8**	**-0.7**
	baz=226								
WCS	**Beigang Elemen**	**1.65**	**250**		P		**Pn**	**18 23 47.7**	**+0.7**
	baz=249								
WCS					*e*	S	**Sn**	**18 24 09.6**	**+0.7**
	baz=249								
NMLH	**Miaoli**	**1.65**	**267**	⇑	P		**Pn**	**18 23 48.2**	**+1.1**
	baz=266								
NMLH					S		**Sn**	**18 24 09.0**	**0.0**
	baz=266								
TWQ1	**Liyutan**	**1.69**	**260**	⇑	*i*	P	**Pn**	**18 23 48.6**	**+1.1**
	baz=260								
TWQ1					*e*	S	**Sn**	**18 24 10.1**	**+0.2**
	baz=260								
YULB	**Yu-li**	**1.73**	**224**			Pn	**Pn**	**18 23 47.8**	**-0.1**
YULB	**Yu-li**	**1.73**	**224**	⇑	*i*	P	**Pn**	**18 23 47.9**	**-0.1**
	baz=230								
YULB					*e*	S	**Sn**	**18 24 09.0**	**-1.6**
	baz=230								
SMLT	**Sun Moon Lake**	**1.73**	**244**	⇑	*i*	P	**Pn**	**18 23 49.3**	**+1.2**
	baz=238								
SMLT					*e*	S	**Sn**	**18 24 13.1**	**+2.3**
	baz=238								
SSLB	**Suanglung**	**1.73**	**241**			Pn	**Pn**	**18 23 48.6**	**+0.5**
SSLB	**Suanglung**	**1.73**	**241**		P		**Pn**	**18 23 49.1**	**+1.1**
SSLB	**Suanglung**	**1.73**	**241**	⇑	*i*	P	**Pn**	**18 23 48.9**	**+0.8**
	baz=238								
SSLB					*e*	S	**Sn**	**18 24 10.2**	**-0.5**
	baz=238								
EYUL	**Yuli**	**1.75**	**223**		*e*	P	**Pn**	**18 23 48.5**	**+0.3**
	baz=230								
EYUL					*e*	S	**Sn**	**18 24 11.6**	**+0.6**
	baz=230								
TYC	**Yuchr**	**1.76**	**246**	⇑	*i*	P	**Pn**	**18 23 49.6**	**+1.3**
	baz=241								
TYC					*e*	S	**Sn**	**18 24 13.0**	**+1.8**
	baz=241								
WDJ	**Dajia District**	**1.81**	**261**		*e*	P	**Pn**	**18 23 50.0**	**+1.0**
	baz=261								
WDJ					*e*	S	**Sn**	**18 24 13.4**	**+1.0**
	baz=261								
TCU	**Taichung**	**1.83**	**255**		*e*	P	**Pn**	**18 23 50.2**	**+1.0**
	baz=254								
TCU					*e*	S	**Sn**	**18 24 13.8**	**+1.1**
	baz=254								
WHYT	**Xinyi Township**	**1.86**	**240**	⇑	*i*	P	**Pn**	**18 23 51.5**	**+1.9**
	baz=239								
WHYT					*e*	S	**Sn**	**18 24 15.2**	**+1.7**
	baz=239								
FULB	**Fuli**	**1.87**	**220**		*e*	P	**Pn**	**18 23 50.2**	**+0.4**
	baz=215								
FULB					*e*	S	**Sn**	**18 24 13.3**	**-0.6**
	baz=215								

	baz=224							
LONT				*e*S		**Sn**	**18 24 20.8**	**-0.3**
	baz=224							
LDUT	**Ludao**	**2.22**	**208**	*e*P		**Pn**	**18 23 54.1**	**-0.1**
	baz=212							
LDUT				*e*S		**Sn**	**18 24 20.3**	**-1.3**
	baz=212							
STYH	**Taoyuan**	**2.23**	**229**	⇑P		**Pn**	**18 23 55.0**	**+0.8**
	baz=229							
STYH				*e*S		**Sn**	**18 24 21.6**	**-0.1**
	baz=229							
CHN2	**Minshiung**	**2.24**	**241**	*e*P		**Pn**	**18 23 56.2**	**+1.8**
	baz=251							
CHN2				*e*S		**Sn**	**18 24 24.3**	**+2.3**
	baz=251							
CHN4	**Tsaushan**	**2.25**	**235**	P		**Pn**	**18 23 55.2**	**+0.7**
	baz=235							
CHN4				*e*S		**Sn**	**18 24 23.2**	**+1.0**
	baz=235							
TPUB	**Ta-pu**	**2.25**	**234**	Pn		**Pn**	**18 23 55.6**	**+1.1**
TPUB	**Ta-pu**	**2.25**	**234**	P		**Pn**	**18 23 56.6**	**+2.1**
TPUB	**Ta-pu**	**2.25**	**234**	*e*P		**Pn**	**18 23 55.8**	**+1.2**
	baz=234							
TPUB				*e*S		**Sn**	**18 24 24.4**	**+2.1**
	baz=234							
WTP	**Ta-pu**	**2.29**	**233**	P		**Pn**	**18 23 56.5**	**+1.4**
	baz=233							
WTP				*e*S		**Sn**	**18 24 25.5**	**+2.1**
	baz=233							
TWGBT	**Beinan**	**2.29**	**218**	P		**Pn**	**18 23 54.9**	**-0.2**
	baz=218							
TWGBT				*e*S		**Sn**	**18 24 22.6**	**-0.8**
	baz=218							
TWG	**Pinlang**	**2.30**	**218**	Pn		**Pn**	**18 23 54.7**	**-0.4**
TWG	**Pinlang**	**2.30**	**218**	*e*P		**Pn**	**18 23 55.0**	**-0.2**
	baz=218							
TWG				*e*S		**Sn**	**18 24 22.5**	**-0.9**
	baz=218							
CHY	**Chiayi**	**2.30**	**241**	P		**Pn**	**18 23 56.7**	**+1.5**
	baz=250							
CHY				*e*S		**Sn**	**18 24 24.0**	**+0.6**
	baz=250							
JIRB	**Irabujima**	**2.34**	**85**	P		**Pn**	**18 23 56.9**	**+1.2**
JIRB				*e*S		**Sn**	**18 24 24.7**	**+0.3**
TWK	**Hsinying**	**2.37**	**235**	P		**Pn**	**18 23 57.5**	**+1.4**
	baz=235							
TWK				*e*S		**Sn**	**18 24 26.3**	**+1.1**
	baz=235							
CHN1	**Nanshi**	**2.39**	**233**	*e*P		**Pn**	**18 23 57.7**	**+1.3**
	baz=233							
CHN1				*e*S		**Sn**	**18 24 26.5**	**+0.9**
	baz=233							
SNST	**Tainan City**	**2.39**	**234**	*e*P		**Pn**	**18 23 58.1**	**+1.7**
	baz=234							
SNST				*e*S		**Sn**	**18 24 27.2**	**+1.5**
	baz=234							
WSF	**Szhu**	**2.40**	**246**	P		**Pn**	**18 23 57.2**	**+0.8**
	baz=246							
WSF				*e*S		**Sn**	**18 24 26.4**	**+0.7**
	baz=246							
SGST	**Jiashian**	**2.42**	**230**	P		**Pn**	**18 23 57.6**	**+0.8**
	baz=238							
SGST				*e*S		**Sn**	**18 24 28.0**	**+1.7**
	baz=238							
JIKM	**Ikemajima**	**2.42**	**83**	P		**Pn**	**18 23 58.4**	**+1.7**
WSL	**Shuilin Townsh**	**2.44**	**243**	P		**Pn**	**18 23 57.2**	**+0.2**
	baz=243							
WSL				*e*S		**Sn**	**18 24 27.3**	**+0.5**
	baz=243							
JMJ2	**Miyako jima3**	**2.48**	**87**	P		**Pn**	**18 23 59.2**	**+1.8**
JMJ2				S		**Sn**	**18 24 28.1**	**+0.6**
ICHU	**Yijhu**	**2.48**	**239**	*e*P		**Pn**	**18 23 58.4**	**+0.9**
	baz=231							
ICHU				*e*S		**Sn**	**18 24 28.1**	**+0.5**
	baz=231							
ECL	**Taimali**	**2.54**	**217**	*e*P		**Pn**	**18 23 57.8**	**-0.5**
	baz=217							
ECL				*e*S		**Sn**	**18 24 27.0**	**-2.0**
	baz=217							
CHN8	**Yiju**	**2.54**	**240**	*e*P		**Pn**	**18 23 59.2**	**+0.9**
	baz=249							
CHN8				*e*S		**Sn**	**18 24 30.2**	**+1.1**
	baz=249							
JOGS	**Gusukube**	**2.55**	**87**	P		**Pn**	**18 24 00.3**	**+1.9**
JOGS				*e*S		**Sn**	**18 24 30.4**	**+1.2**
SSHA	**Shanhua**	**2.60**	**235**	*e*P		**Pn**	**18 23 59.1**	**+0.1**
	baz=235							
SCST	**Cishan**	**2.61**	**228**	*e*P		**Pn**	**18 24 01.0**	**+1.8**
	baz=236							
SCST				*e*S		**Sn**	**18 24 31.9**	**+1.3**
	baz=236							
SSD	**Sandimen**	**2.62**	**224**	*e*P		**Pn**	**18 24 01.0**	**+1.7**
	baz=224							
SSD				*e*S		**Sn**	**18 24 32.4**	**+1.6**
	baz=224							
SHHT	**Tainan City**	**2.62**	**232**	*e*P		**Pn**	**18 24 00.7**	**+1.3**
	baz=241							
TSMG	**Majia**	**2.64**	**223**	*e*P		**Pn**	**18 24 00.9**	**+1.3**
	baz=224							
TSMG				*e*S		**Sn**	**18 24 32.9**	**+1.6**
	baz=224							
SCLT	**Jiali**	**2.65**	**237**	*e*P		**Pn**	**18 24 00.4**	**+0.8**
	baz=237							
TWM1	**Shoushan**	**2.70**	**228**	*e*P		**Pn**	**18 24 02.6**	**+2.2**
	baz=228							
MASBT	**Mashibuluo**	**2.71**	**222**	*e*P		**Pn**	**18 24 01.9**	**+1.3**
	baz=233							
MASBT				*e*S		**Sn**	**18 24 33.5**	**+0.4**
	baz=233							
TSCK	**Chigu Township**	**2.75**	**238**	*e*P		**Pn**	**18 24 01.1**	**+0.2**
	baz=238							
EAST	**Anshuo**	**2.77**	**216**	*e*P		**Pn**	**18 24 01.2**	**-0.2**
	baz=213							
EAST				*e*S		**Sn**	**18 24 33.5**	**-0.9**
	baz=213							
LAY	**Lan-yu**	**2.77**	**201**	*e*P		**Pn**	**18 24 01.0**	**-0.3**
	baz=194							
LAY				*e*S		**Sn**	**18 24 32.1**	**-2.3**
	baz=194							
TAWH	**Dawu Township**	**2.78**	**215**	*e*P		**Pn**	**18 24 00.9**	**-0.6**
	baz=215							
TAWH				*e*S		**Sn**	**18 24 32.1**	**-2.6**
	baz=215							
LYUB	**Lan-yu**	**2.79**	**200**	*e*P		**Pn**	**18 24 00.7**	**-0.9**
	baz=204							
MATB	**Ma-tsu**	**2.83**	**303**	*e*P		**Pn**	**18 24 02.1**	**0.0**
	baz=302							
VWUC	**VWUC**	**2.89**	**278**	*e*P		**Pn**	**18 24 02.5**	**-0.3**
	baz=271							
SCZT	**Fangliau**	**2.91**	**219**	*e*P		**Pn**	**18 24 03.9**	**+0.8**
	baz=230							
SLIU	**Shizi**	**2.93**	**215**	*e*P		**Pn**	**18 24 03.5**	**0.0**
	baz=215							
PNG	**Penghu**	**2.99**	**250**	*e*P		**Pn**	**18 24 03.6**	**-0.6**
	baz=250							
PHUB	**P'eng-hu**	**2.99**	**248**	*e*P		**Pn**	**18 24 03.8**	**-0.4**
	baz=249							
WDGT	**Dungji**	**3.03**	**243**	*e*P		**Pn**	**18 24 05.2**	**+0.6**
	baz=244							
PTMZ	**Houxiangcun**	**3.19**	**278**	*e*P		**Pn**	**18 24 06.6**	**-0.2**
	baz=278							
LYJJ	**Jianjiangzhen**	**3.19**	**307**	*e*P		**Pn**	**18 24 06.6**	**-0.2**
	baz=306							
VCHM	**Qimei**	**3.24**	**244**	*e*P		**Pn**	**18 24 07.3**	**-0.1**
	baz=245							
MHZQ	**Yeshan**	**3.54**	**295**	*e*P		**Pn**	**18 24 11.2**	**-0.3**
	baz=295							
KNM	**Kinmen**	**3.81**	**267**	*e*P		**Pn**	**18 24 16.2**	**+1.2**
	baz=267							
AXDP	**Jialang**	**4.22**	**274**	*e*P		**Pn**	**18 24 20.6**	**0.0**
	baz=267							
ZPLA	**Ao Xicun**	**4.49**	**262**	*e*P		**Pn**	**18 24 24.3**	**+0.1**
	baz=262							
SXFK	**Yanhouchang**	**4.81**	**292**	*e*P		**Pn**	**18 24 28.2**	**-0.4**
	baz=292							
DSXP	**Dongshan**	**4.82**	**260**	*e*P		**Pn**	**18 24 28.7**	**+0.1**
	baz=260							
JOW	**Kunigami**	**5.56**	**66**	P		**Pn**	**18 24 38.4**	**-0.3**
	15nm,0.3s,baz=157,slow=12,SNR=132							
JOW				S		**Sn**	**18 25 36.9**	**-4.4**
	7.3nm,0.2s,baz=87,slow=24,SNR=1.3							
	36nm,0.2s							
KSRS	**Korea Array**	**13.55**	**18**	P		**P**	**18 26 28.8**	**-2.1**
	0.2nm,0.3s,baz=197,slow=12,SNR=4.2							
	1.3nm,0.5s							
JHJ2	**Mitsune**	**17.26**	**57**	P		**P**	**18 27 09.8**	**-2.2**
HHC	**Hu-ho-hao-te**	**18.61**	**333**	*e*P		**Pn**	**18 27 34.6**	**+6.1**
SBUM	**Sibu**	**24.24**	**206**	P		**P**	**18 28 24.6**	**-0.2**
SBUM					IAmb	IAmb	18 28 30.6	
	comp=Z,4.9nm,0.7s							
ERM	**Erimo**	**24.29**	**39**	P		**P**	**18 28 23.5**	**-1.5**
MTN	**Manton Dam**	**38.18**	**166**	P		**P**	**18 30 27.0**	**0.0**
FITZ	**Fitzroy Crossi**	**42.59**	**176**	P		**P**	**18 31 03.7**	**+0.4**
FITZ					IAmb	IAmb	18 31 14.2	
	comp=Z,5.7nm,1.4s							
WB0	**Warramunga Arr**	**45.61**	**164**	P		**P**	**18 31 29.3**	**+1.8**
WB0					IAmb	IAmb	18 32 06.0	
	comp=Z,5.6nm,1.3s							
WRA	**Warramunga Arr**	**45.77**	**165**	P		**P**	**18 31 29.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=347,slow=8.5,SNR=9.3							
	comp=Z,0.5nm,0.6s							
WRA	**Warramunga Arr**	**45.77**	**165**	P		**P**	**18 31 28.8**	**+0.2**
WB2	**Warramunga Arr**	**45.77**	**164**	P		**P**	**18 31 28.7**	**0.0**
WB2					IAmb	IAmb	18 31 33.4	
	comp=Z,5.6nm,1.2s							
WR0	**Warramunga Arr**	**45.83**	**164**	P		**P**	**18 31 29.9**	**+0.7**
WR0					IAmb	IAmb	18 31 34.9	
	comp=Z,4.8nm,1.1s							
AS31	**Alice Springs**	**49.26**	**166**	P		**P**	**18 31 54.2**	**-1.4**
ASAR	**Alice Springs**	**49.26**	**166**	P		**P**	**18 31 57.1**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=344,slow=6.7,SNR=5.3							
	comp=Z,0.5nm,1.0s							
ASAR	**Alice Springs**	**49.26**	**166**	P		**P**	**18 31 54.6**	**-1.1**
ARU	**Arti**	**55.52**	**323**	P		**P**	**18 32 41.5**	**0.0**
ARU					IAmb	IAmb	18 33 05.3	
	comp=Z,3.7nm,1.2s							
STKA	**Stephens Creek**	**59.06**	**161**	P		**P**	**18 33 05.7**	**-0.9**

MOS ***22*** *18:27:11.1±1.0,55.°80N×110.°15E,h14km,mb4.4/4, Error ellipse: s-maj=8.1km s-min=6.0km az=69.4*
IDC ***22*** *18:27:11.1±0.6,55.°73N×109.°99E,h0km,mb3.7/15, mbtmp3.9/23,ML3.9/7,MS3.4/7, Error ellipse: s-maj=14.7km s-min=12.6km az=163.0*
NEIC ***22*** *18:27:12.6±1.9,55.°8N±0.°1×110.°2E±0.°2,h10km±1km, mb4.1/13, Error ellipse: s-maj=20.2km s-min=14.3km az=138.0*
BYKL ***22*** *18:27:12.5±0.2,55.°74N×110.°21E,h9km±3km*
ISC 22 18:27:11.6±0.9,55.°71N±0.°02×110.°24E±0.°02,h9km±6km, n133,σ2s47/204,mb4.0/24,MS3.5/8,13C-9D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.40**	**280**	⇑*i*	Pg	**Pg**	**18 27 19.5**	**+0.1**
NIZ					Pmax		18 27 19.7	
	3μm,0.2s							
NIZ					*e*Sg	**Sg**	**18 27 25.0**	**+0.3**
NIZ					Smax		18 27 25.8	
	24μm,0.2s							
NIZ	**Nizh Angarsk**	**0.40**	**280**		*e*PG	**Pg**	**18 27 19.5**	**+0.1**
NIZ					*e*		18 27 24.8	
NIZ					pmax	pmax		
	comp=Z,3μm,0.3s							
NIZ					smax	smax		
	comp=N,12μm,0.6s							
KMO	**Kumora**	**0.57**	**71**	⇑*i*	Pg	**Pg**	**18 27 22.5**	**-0.1**
KMO					Pmax		18 27 22.7	
	comp=N,2μm,0.3s							
KMO					*e*Sg	**Sg**	**18 27 30.4**	**+0.3**
KMO					Smax		18 27 33.0	
	comp=N,12μm,1.2s							
KMO	**Kumora**	**0.57**	**71**	⇑*i*	PG	**Pg**	**18 27 22.4**	**-0.1**
KMO					*e*		18 27 29.3	
KMO					pmax	pmax		
	comp=Z,2μm,0.4s							
KMO					smax	smax		
	comp=N,12μm,1.0s							
YOA	**Uoyan**	**0.94**	**62**	⇑*i*	Pg	**Pg**	**18 27 29.2**	**-0.3**
YOA					Pmax		18 27 30.2	
	comp=N,1μm,0.4s							
YOA					*e*Sg	**Sg**	**18 27 42.7**	**+1.0**
YOA					Smax		18 28 07.6	
	comp=N,13μm,1.1s							
YOA	**Uoyan**	**0.94**	**62**	⇑*i*	PG	**Pg**	**18 27 29.2**	**-0.3**
YOA					*e*		18 27 41.9	
YOA					pmax	pmax		
	comp=Z,2μm,0.5s							
YOA					smax	smax		
	comp=N,8μm,0.4s							
SVKR	**Severomuysk**	**1.91**	**76**		*e*Pn	**Pn**	**18 27 46.4**	**+2.0**
SVKR					*e*Pg	**Pb**	**18 27 47.2**	**+0.6**
SVKR					Pmax		18 27 47.4	
	comp=N,2μm,0.4s							
SVKR					*e*Sg	**Sb**	**18 28 12.8**	**+2.2**
SVKR					Smax		18 28 16.0	
	comp=N,13μm,0.5s							
SVKR	**Severomuysk**	**1.91**	**76**	⇓*i*	PN	**Pn**	**18 27 46.4**	**+2.0**
SVKR					*e*		18 28 12.3	
SVKR					pmax	pmax		
	comp=Z,2μm,1.0s							
SVKR					smax	smax		
	comp=N,13μm,1.6s							
UKT	**Uakit**	**1.93**	**95**	⇓*i*	Pg	**Pn**	**18 27 46.8**	**+2.1**
	comp=N,78nm,0.6s							
UKT				⇑*i*	Pg	**Pn**	**18 27 46.8**	**+2.1**
	comp=N,174nm,0.6s							
UKT				⇑*i*	Pg	**Pn**	**18 27 46.8**	**+2.1**
	comp=N,252nm,0.6s							
UKT					Pmax		18 27 48.4	
	comp=N,2μm,0.6s							
UKT					*e*Sg	**Sb**	**18 28 13.6**	**+2.3**
UKT					Smax		18 28 15.3	
	comp=N,3μm,0.5s							
UKT	**Uakit**	**1.93**	**95**	⇑*i*	PN	**Pn**	**18 27 46.8**	**+2.1**
UKT					*e*		18 28 13.6	
UKT					pmax	pmax		
	comp=Z,2μm,1.4s							
UKT					smax	smax		
	comp=N,3μm,0.5s							
SYVR	**Suvo**	**2.06**	**184**		*e*Pg	**Pb**	**18 27 49.8**	**+0.6**
SYVR					Pmax		18 27 50.9	
	comp=N,905nm,0.6s							
SYVR					*e*		18 27 53.3	
SYVR					*e*Sg	**Sg**	**18 28 18.3**	**+0.6**
SYVR					Smax		18 28 20.7	
	comp=N,7μm,0.9s							
SYVR	**Suvo**	**2.06**	**184**		*e*PN	**Pb**	**18 27 49.6**	**+0.4**
SYVR					*e*		18 28 18.2	
SYVR					pmax	pmax		
	comp=Z,923nm,0.6s							
SYVR					smax	smax		
	comp=E,7μm,0.5s							
OGRR	**Ongureny**	**2.58**	**218**	⇓*i*	Pn	**Pb**	**18 27 57.4**	**-0.6**
OGRR					*e*		18 28 02.3	
OGRR					max		18 28 05.3	
	comp=E,144nm,0.3s							
OGRR					*e*		18 28 30.4	
OGRR					*e*Sg	**Sg**	**18 28 34.6**	**+0.2**
OGRR					Smax		18 28 37.2	
	comp=E,2μm,0.4s							
OGRR	**Ongureny**	**2.58**	**218**		*e*PN	**Pb**	**18 27 57.4**	**-0.6**
OGRR					*e*		18 28 00.5	
OGRR					*e*		18 28 30.4	
OGRR					pmax	pmax		
	comp=Z,176nm,0.4s							
OGRR					smax	smax		
	comp=E,2μm,0.9s							
MXMB	**Maximikha**	**2.60**	**200**		*e*Pn	**Pn**	**18 27 55.5**	**+1.7**
MXMB					*e*Pg	**Pb**	**18 28 00.2**	**+1.8**
MXMB					*e*Sg	**Sg**	**18 28 34.5**	**-0.6**
BOD	**Bodaibo**	**2.96**	**43**		*e*Pn	**Pn**	**18 27 59.9**	**+1.2**
BOD					*e*		18 28 03.7	
BOD					*e*Pg	**Pb**	**18 28 05.2**	**+0.8**
BOD					Pmax		18 28 07.1	
	comp=E,265nm,1.1s							
BOD					*e*Sn	**Sn**	**18 28 34.9**	**+0.6**
BOD					*e*Sg	**Sb**	**18 28 42.6**	**+2.0**
BOD					Smax		18 28 49.3	
	comp=E,2μm,1.4s							
BOD	**Bodaibo**	**2.96**	**43**		*e*PN	**Pn**	**18 27 59.6**	**+0.9**
BOD					*e*		18 28 05.0	
BOD					*e*S	**Sn**	**18 28 34.8**	**+0.5**
BOD					*e*		18 28 42.4	
BOD					pmax	pmax		
	comp=Z,265nm,1.0s							
BOD					smax	smax		
	comp=E,2μm,1.2s							
NLYR	**Nelyaty**	**3.16**	**73**	⇑*i*	Pn	**Pn**	**18 28 02.8**	**+1.3**
NLYR					*e*Pg	**Pb**	**18 28 08.7**	**+0.9**
NLYR					*e*PgPg	**PbPb**	**18 28 11.5**	**+0.5**
NLYR					max		18 28 15.5	
	comp=E,430nm,0.6s							
NLYR					*e*Sg	**Sb**	**18 28 50.4**	**+4.0**
NLYR					Smax		18 29 03.2	
	comp=E,2μm,1.5s							
NLYR	**Nelyaty**	**3.16**	**73**	⇑*i*	PN	**Pn**	**18 28 02.8**	**+1.3**
NLYR					*e*		18 28 08.3	
NLYR					*e*		18 28 50.3	
NLYR					pmax	pmax		
	comp=Z,424nm,1.0s							
NLYR					smax	smax		
	comp=N,2μm,1.6s							
KELR	**Kotokel**	**3.22**	**204**		*e*Pn	**Pn**	**18 28 03.9**	**+1.6**
KELR					*e*Pg	**Pb**	**18 28 10.8**	**+2.0**
KELR					*e*Sg	**Sg**	**18 28 53.0**	**-1.8**
ZRHB	**Zarechye**	**3.65**	**211**		*e*Pn	**Pn**	**18 28 10.0**	**+1.8**
ZRHB					*e*Pg	**Pb**	**18 28 19.4**	**+3.2**
ZRHB					Pmax		18 28 23.4	
	comp=N,410nm,0.8s							
ZRHB					*e*Sn	**Sn**	**18 28 52.5**	**+1.2**
ZRHB					*e*Sg	**Sg**	**18 29 06.2**	**-2.4**
ZRHB					Smax		18 29 27.8	
	comp=N,3μm,1.2s							
TRG	**Tyrgan**	**3.74**	**219**	⇓*i*	Pn	**Pn**	**18 28 11.2**	**+1.8**
TRG					max		18 28 16.7	
	comp=N,247nm,0.5s							
TRG					*e*Sn	**Sn**	**18 28 55.4**	**+1.9**
TRG					*e*Sg	**Sg**	**18 29 08.9**	**-2.6**
TRG					Smax		18 29 19.2	
	comp=N,1μm,0.7s							
VTMR	**Vitim**	**3.94**	**17**		*e*Pn	**Pn**	**18 28 12.7**	**+0.5**
VTMR					*e*Pg	**Pb**	**18 28 22.9**	**+1.8**
VTMR					*e*Sg	**Sg**	**18 29 14.4**	**-3.6**
CIT	**Chita**	**4.18**	**151**		*e*Pn	**Pn**	**18 28 17.2**	**+1.6**
CIT					*e*Pg	**Pb**	**18 28 27.8**	**+2.5**
CIT					Pmax		18 28 29.5	
	comp=N,465nm,0.8s							
CIT					*e*Sg	**Sb**	**18 29 21.4**	**+5.5**
CIT					*e*		18 29 26.1	
CIT					max		18 29 29.8	
	comp=N,1μm,0.6s							
CIT	**Chita**	**4.18**	**151**		*e*PN	**Pn**	**18 28 16.9**	**+1.3**
CIT					*e*		18 28 27.5	
CIT					*e*		18 29 20.7	
CIT					pmax	pmax		
	comp=Z,414nm,1.6s							
CIT					smax	smax		
	comp=N,754nm,1.9s							
FFNB	**Fofonovo**	**4.21**	**211**		*e*Pn	**Pn**	**18 28 17.2**	**+1.3**
FFNB					*e*		18 28 22.4	
FFNB					*e*Pg	**Pb**	**18 28 28.1**	**+2.4**
FFNB					*e*		18 28 33.4	
FFNB					*e*Sn	**Sn**	**18 29 05.7**	**+0.6**
FFNB					*e*Sg	**Sb**	**18 29 22.7**	**+6.1**
KAB	**Kabansk**	**4.24**	**212**		*e*Pg	**Pb**	**18 28 29.2**	**+3.0**
KAB					Pmax		18 28 42.3	
	comp=N,166nm,0.9s							
KAB					*e*Sg	**Sg**	**18 29 24.7**	**-2.8**
KAB					Smax		18 30 22.3	
	comp=N,2μm,1.2s							
HRMR	**Khuramsha**	**4.53**	**207**		*e*Pn	**Pn**	**18 28 22.5**	**+2.1**
HRMR					*e*Pg	**Pb**	**18 28 34.1**	**+2.8**
HRMR					Pmax		18 28 40.5	
	comp=N,325nm,0.4s							
HRMR					*e*Sn	**Sn**	**18 29 13.3**	**+0.1**
HRMR					*e*Sg	**Sb**	**18 29 32.4**	**+6.4**
HRMR					Smax		18 29 42.8	
	comp=N,2μm,0.4s							
CRS	**Chara**	**4.63**	**72**		*e*Pn	**Pn**	**18 28 23.3**	**+1.7**
CRS					*e*Pg	**Pb**	**18 28 36.3**	**+3.4**
CRS					Pmax		18 28 40.4	
	comp=N,491nm,1.1s							
CRS					*e*Sg	**Sg**	**18 29 36.0**	**-4.0**
CRS					Smax		18 29 42.0	
	comp=N,1μm,1.3s							
CRS	**Chara**	**4.63**	**72**		*e*PN	**Pn**	**18 28 22.4**	**+0.8**
CRS					*e*		18 28 36.0	
CRS					*e*		18 29 35.2	
CRS					pmax	pmax		
	comp=Z,491nm,1.1s							
CRS					smax	smax		
	comp=E,775nm,1.3s							
BGT	**Bolshoye Golou**	**4.65**	**220**		*e*Pn	**Pn**	**18 28 24.0**	**+2.0**
BGT					max		18 28 28.7	
	comp=E,159nm,0.5s							
BGT					*e*		18 29 19.8	
BGT					*e*Sg	**Sg**	**18 29 36.7**	**-4.2**
BGT					Smax		18 29 37.9	
	comp=E,670nm,0.5s							
IRK	**Irkutsk**	**4.95**	**228**		*e*Pn	**Pn**	**18 28 27.1**	**+1.1**
IRK					*e*Pg	**Pb**	**18 28 41.4**	**+3.1**
IRK					Pmax		18 28 47.8	
	comp=E,143nm,0.3s							
IRK					Smax		18 28 56.1	
	comp=E,2μm,0.4s							
IRK					*e*Sn	**Sn**	**18 29 23.1**	**-0.2**
IRK					*e*Sg	**Sg**	**18 29 45.9**	**-4.4**
IRK	**Irkutsk**	**4.95**	**228**		*e*PN	**Pn**	**18 28 26.6**	**+0.6**
IRK					*e*		18 28 41.4	
IRK					*e*S	**Sn**	**18 29 22.0**	**-1.3**
IRK					*e*		18 29 46.0	
IRK					pmax	pmax		
	comp=Z,143nm,0.3s							
IRK					smax	smax		
	comp=E,2μm,0.4s							
LSTR	**Listvyanka**	**5.01**	**222**		*e*Pn	**Pn**	**18 28 27.7**	**+0.8**
LSTR					*e*Pg	**Pb**	**18 28 41.7**	**+2.3**
LSTR					Pmax		18 28 47.3	
	comp=E,50nm,0.7s							
LSTR					*e*Sn	**Sn**	**18 29 23.3**	**-1.6**
LSTR					*e*Sg	**Sb**	**18 29 46.8**	**+7.1**
LSTR					Smax		18 29 58.3	
	comp=E,685nm,1.2s							
IVK	**Ivanovka**	**5.22**	**224**		*e*Pn	**Pn**	**18 28 31.2**	**+1.4**
IVK					max		18 28 59.8	
	comp=E,58nm,0.8s							
IVK					*e*Sn	**Sn**	**18 29 29.0**	**-1.1**
IVK					*e*Sg	**Sg**	**18 29 54.2**	**-5.0**
IVK					Smax		18 29 56.4	
	comp=E,780nm,1.5s							
KHNR	**Khani**	**5.55**	**73**		*e*Pn	**Pn**	**18 28 35.4**	**+1.0**
KHNR					*e*Pg	**Pb**	**18 28 52.5**	**+3.9**
KHNR					*e*Sg	**Sg**	**18 30 04.3**	**-5.4**
TLY	**Talaya**	**5.63**	**227**		*e*Pn	**Pn**	**18 28 35.4**	**0.0**
TLY					*e*Pg	**Pb**	**18 28 52.5**	**+2.6**
TLY					Pmax		18 29 03.3	
	comp=E,70nm,0.6s							
TLY					*e*Sn	**Sn**	**18 29 39.0**	**-1.1**
TLY					*e*Sg	**Sb**	**18 30 04.9**	**+7.5**
TLY					Smax		18 30 14.9	
	comp=E,550nm,1.1s							
TUP	**Tupik**	**5.73**	**99**		*e*Pn	**Pn**	**18 28 37.6**	**+0.8**
TUP					*e*		18 28 43.0	
TUP					*e*Pg	**Pb**	**18 28 55.4**	**+3.8**
TUP					Pmax		18 29 06.1	
	comp=E,53nm,0.8s							
TUP					*e*Sn	**Sn**	**18 29 41.3**	**-1.3**
TUP					*e*Sg	**Sg**	**18 30 10.8**	**-4.5**
TUP					Smax		18 30 21.4	
	comp=E,2μm,1.9s							
TUP	**Tupik**	**5.73**

KPC *e* 18 30 22.8
KPC pmax pmax
comp=Z,58nm,1.1s
KPC smax smax
comp=E,680nm,1.6s
YKLR Yuktali 6.44 77 *e*Pg **Pb** **18 29 08.4 +4.7**
YKLR *e*Sg **Sg** **18 30 31.4 -6.7**
ZAK Zakamensk 6.79 221 *e*Pn **Pn** **18 28 53.1 +1.7**
ZAK *e*Pg Pb 18 29 15.7 +6.0
ZAK Pmax 18 29 29.1
comp=E,29nm,1.0s
ZAK *e*Sn **Sn** **18 30 07.1 -1.7**
ZAK *e*Sg **Sg** **18 30 44.5 -4.8**
ZAK Smax 18 30 47.7
comp=E,600nm,1.2s
ZAK Zakamensk 6.79 221 *e*PN **Pn** **18 28 52.9 +1.5**
ZAK *e* 18 30 43.3
ZAK pmax pmax
comp=Z,48nm,1.0s
ZAK smax smax
comp=N,600nm,1.3s
MOY Mondy 6.82 237 *e*Pn **Pn** **18 28 54.2 +2.3**
MOY max 18 28 58.1
comp=N,235nm,1.2s
MOY *e*Sn **Sn** **18 30 08.7 -1.0**
MOY *e*Sg **Sg** **18 30 43.1 -7.3**
MOY Smax 18 30 48.2
comp=N,1μm,1.5s
MOY Mondy 6.82 237 *e*PN **Pn** **18 28 53.8 +1.9**
MOY *e*S **Sn** **18 30 08.5 -1.2**
MOY *e* 18 30 43.3
ORL Orlik 6.91 247⇓ *i*Pn **Pn** **18 28 54.9 +1.9**
ORL max 18 28 55.8
comp=N,131nm,1.1s
ORL *e*Sn **Sn** **18 30 09.9 -1.8**
ORL *e*Sg **Sg** **18 30 45.8 -7.2**
ORL Smax 18 30 57.1
comp=N,467nm,1.3s
ORL Orlik 6.91 247⇓ *i*PN **Pn** **18 28 54.8 +1.8**
ORL *e* 18 29 15.9
ORL *e*S **Sn** **18 30 09.9 -1.8**
ORL *e* 18 30 43.7
ORL pmax pmax
comp=Z,134nm,0.9s
ORL smax smax
comp=N,469nm,1.4s
ULN Ulaanbaatar 8.10 195 Pn **Pn** **18 29 11.2 +1.8**
ULN Ulaanbaatar 8.10 195 *e*Pn **Pn** **18 29 11.7 +2.3**
ULN *e*Sg **Sg** **18 31 26.1 -5.3**
ULN Ulaanbaatar 8.10 195 PN **Pn** **18 29 11.2 +1.8**
CLNS Chul'man 8.23 76 *e*Pg Pb 18 29 42.1 +7.9
CLNS *e*Sg **Sg** **18 31 28.7 -6.8**
SONM Songino Array 8.24 198 Pn **Pn** **18 29 13.5 +2.1**
comp=N,0.5nm,0.3s,baz=19,slow=12,SNR=13
SONM Lg Lg 18 31 30.1
comp=N,5.2nm,0.3s,baz=13,slow=27,SNR=5.1
comp=N,1.5nm,0.4s
SONM Songino Array 8.24 198 Pn **Pn** **18 29 13.0 +1.7**
KNGR Kungurtug, Tuv 9.19 241 *e*Pn **Pn** **18 29 27.6 +3.3**
KNGR *e* 18 29 39.2
KNGR *e* 18 31 18.8
KNGR *e*Sg Sn 18 31 57.5 +50
ZEA Zeya 10.04 94 *e*P **Pn** **18 29 39.5 +3.8**
ZEA *e*S **Sn** **18 31 30.6 +2.3**
ZEA MLR MLR
comp=E,1μm,6.0s
ZEA MLR MLR
comp=Z,800nm,5.0s
YAK Yakutsk 11.85 50 Pn **Pn** **18 29 58.7 -1.8**
baz=47,slow=4.2,SNR=12
YAK Sn Sn 18 32 03.9 -8.9
baz=199,slow=24,SNR=1.6
YAK Lg Lg 18 33 16.0
baz=163,slow=20,SNR=6.4
comp=Z,9.0nm,0.7s
YAK Yakutsk 11.85 50 Pn **Pn** **18 29 60.0 -0.6**
YAK Yakutsk 11.85 50 *e*P **Pn** **18 30 00.1 -0.5**
YAK *e*S **Sn** **18 32 12.6 -0.2**
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,21nm,1.0s
YAK smax smax
comp=N,32nm,1.1s
YAK smax smax
comp=E,21nm,0.9s
YAK MLR MLR
comp=Z,79nm,18.0s
YAK MLR MLR
comp=N,39nm,19.0s
YAK MLR MLR
comp=E,63nm,18.0s
KLR Kul'dur 14.59 107 Pn **Pn** **18 30 39.7 +1.7**
comp=E,0.8nm,0.3s,baz=304,slow=13,SNR=21
KLR Lg Lg 18 34 49.1
comp=E,0.2nm,0.3s,baz=215,slow=22,SNR=18
KLR LR LR 18 36 44.1
comp=E,169nm,19.3s,baz=318,slow=39
comp=E,2.6nm,0.5s
BNX BinXian 14.71 126 ⇑P **Pn** **18 30 37.4 -2.3**
BNX smax smax
comp=N,64nm,1.0s
BNX smax smax
comp=E,160nm,1.4s
ZAA0 Zalesovo Array 14.73 274 **Pn** **18 30 41.1 +1.2**
ZALV Zalesovo Beam 14.73 274 Pn **Pn** **18 30 40.7 +0.8**
comp=E,0.3nm,0.3s,baz=74,slow=11,SNR=21
ZALV Lg Lg 18 34 48.6
comp=E,0.7nm,0.3s,baz=68,slow=21,SNR=5.7
comp=E,6.5nm,0.9s
ZALV Zalesovo Beam 14.73 274 **Pn** **18 30 40.8 +0.9**
ZALV Zalesovo Beam 14.73 274 *i*P **Pn** **18 30 41.2 +1.3**
ZALV pmax pmax
comp=Z,7.0nm,0.9s
DGZ Jazzator, Alta 15.04 256 *c i*P **Pn** **18 30 44.8 +0.6**
DGZ pmax pmax
comp=Z,14nm,1.2s
DGZ MLR MLR
comp=Z,157nm,12.0s
NRIK Noril'sk 17.04 332 Pn **Pn** **18 31 08.5 -1.2**
comp=Z,0.8nm,0.3s,baz=182,slow=2.8,SNR=4.1
NRIK Sn Sn 18 34 00.9 -18
comp=Z,0.4nm,0.3s,baz=119,slow=14,SNR=2.7
NRIK Lg Lg 18 36 01.3
comp=Z,0.3nm,0.3s,baz=124,slow=18,SNR=1.9
comp=Z,7.0nm,0.8s
NRIK Noril'sk 17.04 332 P **Pn** **18 31 10.1 +0.3**
NRIK Noril'sk 17.04 332 P **Pn** **18 31 10.1 +0.3**
NRIK pmax pmax
comp=Z,9.0nm,0.8s
GTA Gaotai 17.73 207 ⇑P **P** **18 31 22.1 +2.6**
GTA pP sP 18 31 27.3 +3.8
GTA sP pP 18 31 31.0 +8.6
GTA pmax pmax
comp=Z,2.0nm,1.8s
GTA pmax pmax
comp=Z,46nm,4.6s
GTA LR LR
comp=N,250nm,14.9s
GTA LR LR
comp=E,210nm,12.7s
GTA LR LR
comp=Z,260nm,14.9s
TIXI Tiksi 17.85 19 P **Pn** **18 31 19.9 +0.1**
comp=Z,14nm,0.7s,baz=270,slow=20,SNR=5.6
TIXI S Sn 18 34 20.0 -19
comp=Z,2.9nm,0.5s,baz=270,slow=20,SNR=1.2
TIXI Lg Lg 18 36 29.2
comp=Z,33nm,0.3s,baz=268,slow=23,SNR=6.8
TIXI Tiksi 17.85 19 P **Pn** **18 31 20.2 +0.5**
TIXI IAmb IAmb 18 31 23.0
comp=Z,17nm,0.8s
TIXI Tiksi 17.85 19 *i*P **Pn** **18 31 20.5 +0.8**
TIXI pmax pmax
comp=Z,18nm,0.8s
TIXI MLR MLR
comp=Z,101nm,11.0s
USRK Ussuriysk Ar. 18.03 121 Lg Lg 18 36 33.7
comp=Z,0.1nm,0.3s,baz=343,slow=29,SNR=1.4
KURK Kurchatov 19.48 268 P **P** **18 31 38.9 +0.4**
KURK Kurchatov 19.48 268 P **P** **18 31 39.1 +0.6**
MK31 Makanchi Array 19.52 255 P **P** **18 31 39.4 +0.3**
MK31 Makanchi Array 19.52 255 *i*P **P** **18 31 39.9 +0.9**
MKAR Makanchi Array 19.52 255 P **P** **18 31 39.5 +0.5**
comp=Z,1.2nm,0.3s,baz=50,slow=8.1,SNR=45
MKAR Lg Lg 18 37 20.1
baz=71,slow=28
MKAR LR LR 18 39 31.6
comp=Z,159nm,20.0s,baz=352,slow=38
comp=Z,6.1nm,0.7s
KURBB Kurchatov Arra 19.57 268 P **P** **18 31 39.1 -0.4**
comp=Z,0.5nm,0.3s,baz=66,slow=12,SNR=18
KURBB Lg Lg 18 37 24.9
comp=Z,0.1nm,0.3s,baz=59,slow=29,SNR=2.1
comp=Z,8.4nm,0.7s
MAKZ Makanchi 19.68 255 P **P** **18 31 41.9 +1.1**
MAKZ IAmb IAmb 18 31 55.2
comp=Z,9.1nm,0.9s
MAKZ Makanchi 19.68 255 P **P** **18 31 41.9 +1.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
KSRS Korea Array 21.82 139 P **P** **18 32 07.1 +3.2**
comp=Z,0.3nm,0.6s,baz=321,slow=9.4,SNR=1.9
KSRS LR LR 18 41 41.0
comp=Z,27nm,19.5s,baz=300,slow=40
comp=Z,0.3nm,0.6s
SEY Seymchan 22.32 54 P **P** **18 32 12.6 +3.5**
comp=Z,2.0nm,0.9s,baz=241,slow=16,SNR=2.2
SEY Lg Lg 18 38 53.2
comp=Z,0.1nm,0.3s,baz=178,slow=17,SNR=4.0
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 23.15 280 P **P** **18 32 17.8 -0.2**
comp=Z,1.4nm,0.4s,baz=65,slow=8.4,SNR=23
comp=Z,1.4nm,0.4s
BRVK Borovoye 23.20 280 P **P** **18 32 18.9 +0.5**
BRVK IAmb IAmb 18 32 21.5
comp=Z,10nm,1.1s
BRVK Borovoye 23.20 280 P **P** **18 32 18.9 +0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.1s
TARG Taragay, Kyrgy 25.28 250 P **P** **18 32 34.4 -4.1**
TARG IAmb IAmb 18 32 59.6
comp=Z,5.0nm,1.1s
TARG Taragay, Kyrgy 25.28 250 P **P** **18 32 34.4 -4.1**
TARG pmax pmax
comp=Z,5.0nm,1.1s
AAK Ala-Archa 26.45 255 P **P** **18 32 48.5 -0.2**
comp=Z,0.8nm,0.3s,baz=37,slow=15,SNR=1.3
AAK Lg Lg 18 40 57.6
comp=Z,0.3nm,0.3s,baz=3.5,slow=6.2,SNR=1.6
comp=Z,0.8nm,0.3s
BILL Bilibino 28.01 42⇓ *e*P **P** **18 33 03.8 +1.4**
BILL *e* 18 33 50.1
BILL *e*S **S** **18 37 39.4 -7.0**
BILL *e*SS **SnSn** **18 39 01.6 +1.2**
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,437nm,18.0s
ARU Arti 28.30 293 LR LR 18 46 05.4
comp=Z,113nm,18.2s,baz=166,slow=40
ARU Arti 28.30 293 *d i*P P 18 33 00.4 -4.7
ARU S **S** **18 37 46.8 -4.3**
ARU pmax pmax
comp=Z,6.0nm,1.9s
KKAR Karatay Array 28.34 260 P **P** **18 33 04.3 -1.3**
KKAR IAmb IAmb 18 33 18.7
comp=Z,3.7nm,1.2s
KKAR Karatay Array 28.34 260 P **P** **18 33 04.3 -1.3**
KKAR pmax pmax
comp=Z,4.0nm,1.3s
ABKAR Akbulak array 30.72 279 P **P** **18 33 25.2 -1.3**
ABKAR Akbulak array 30.72 279 P **P** **18 33 25.5 -1.0**
ABKAR IAmb IAmb 18 33 30.9
comp=Z,2.4nm,1.1s
JOW Kunigami 31.68 148 LR LR 18 48 21.6
comp=Z,27nm,19.8s,baz=242,slow=40
BELG Belogornoye 35.81 292 *i*P **P** **18 34 10.8 0.0**
BELG pmax pmax
comp=Z,1.0nm,0.9s
BELG MLR MLR
comp=Z,15nm,13.0s
ARCES ARCESS Array B 37.81 325 P **P** **18 34 26.8 -0.9**
comp=Z,0.6nm,0.4s,baz=69,slow=9.6,SNR=16
comp=Z,0.6nm,0.4s
CMAR Chiang Mai Arr 38.16 198 P **P** **18 34 32.2 +1.0**
comp=Z,0.2nm,0.6s,baz=4.8,slow=12,SNR=1.6
comp=Z,0.2nm,0.6s
OBN Obninsk 39.99 301⇓ *e*P **P** **18 34 46.0 0.0**
OBN *e* 18 36 15.4
OBN *e*SS SS 18 43 42.6 -5.0
OBN pmax pmax
comp=Z,8.0nm,1.7s
OBN MLR MLR
comp=Z,58nm,14.0s
FINES FINESS Array B 41.35 314 P **P** **18 34 56.8 -0.5**
comp=Z,1.4nm,0.5s,baz=67,slow=8.9,SNR=25
comp=Z,1.4nm,0.5s
KIV Kislovodsk 43.42 284 *e*P **P** **18 35 13.9 -0.6**
KIV pmax pmax
comp=Z,8.0nm,1.0s
BMAR Burnt Mountain 45.30 32 P **P** **18 35 29.4 +0.2**
AKASG Malin Array Be 46.17 299 P **P** **18 35 35.3 -0.9**
comp=Z,0.2nm,0.3s,baz=45,slow=9.4,SNR=3.1
comp=Z,0.2nm,0.3s
IL31 46.30 35 P **P** **18 35 38.8 +1.8**
ILAR Eielson Array 46.30 35 P **P** **18 35 37.9 +0.8**
comp=Z,2.1nm,0.9s,baz=302,slow=6.4,SNR=14
comp=Z,2.1nm,0.9s
ILAR Eielson Array 46.30 35 P **P** **18 35 35.7 -1.3**
NB2 NORSAR Subarra 47.39 319 P **P** **18 35 45.2 -0.4**
comp=Z,2.1nm,0.8s,baz=50,slow=7.9
NOA NORSAR Array B 47.39 319 P **P** **18 35 45.6 0.0**
comp=Z,0.6nm,0.5s,baz=34,slow=6.4,SNR=6.5
comp=Z,0.6nm,0.5s
BCAR Beaver Creek A 49.12 35 P **P** **18 35 60.0 +1.0**
BUR08 Bucovina Ar. S 50.17 299 P **P** **18 36 07.4 +0.1**
BURAR Bucovina Array 50.19 299 P **P** **18 36 07.5 +0.1**
BR131 Keskin Array S 51.25 286 P **P** **18 36 15.2 -0.3**
BR131 IAmb IAmb 18 36 20.9
comp=Z,3.1nm,1.0s
BR131 Keskin Array S 51.25 286 P **P** **18 36 15.2 -0.3**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 51.25 286 P **P** **18 36 17.2 +1.7**
comp=Z,1.0nm,0.8s,baz=60,slow=5.9,SNR=6.3
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 51.25 286 P **P** **18 36 14.1 -1.4**
MLR Muntele Rosu 51.28 296 LR LR 18 58 02.7
comp=Z,70nm,19.2s,baz=70,slow=36
GERES GERESS Array B 54.81 307 P **P** **18 36 40.9 -0.7**
GERES GERESS Array B 54.81 307 P **P** **18 36 40.9 -0.7**
ESDC Sonseca Array 69.81 311 P **P** **18 38 22.1 0.0**
comp=Z,0.4nm,0.4s,baz=22,slow=5.6,SNR=7.4
comp=Z,0.4nm,0.4s
WRA Warramunga Arr 78.08 157 P **P** **18 39 10.7 +0.1**
comp=Z,0.8nm,0.8s,baz=344,slow=6.3,SNR=6.2
comp=Z,0.8nm,0.8s
ASAR Alice Springs 81.59 158 P **P** **18 39 30.1 +0.6**
comp=Z,0.5nm,0.8s,baz=355,slow=4.9,SNR=7.2
comp=Z,0.5nm,0.8s
MBAR Mbarara 84.58 261 LR LR 19 19 19.5
comp=Z,64nm,18.2s,baz=272,slow=37
TORD Torodi Ar. Bea 89.37 293 P **P** **18 40 08.4 -0.2**
comp=Z,1.2nm,1.1s,baz=29,slow=3.3,SNR=4.6
comp=Z,1.2nm,1.1s
TROLL Troll, Antarti 146.84 213 PKPbc **PKPbc** **18 46 53.9 +1.2**
SNAA Sanae 148.46 214 PKPbc **PKPbc** **18 46 57.2 +0.2**
SNAA Sanae 148.46 214 PKPbc **PKPbc** **18 46 56.6 -0.4**
comp=Z,1.2nm,0.9s,baz=50,slow=2.4,SNR=4.6
VNA2 Neumayer--Watz 149.87 215 PKPbc **PKPbc** **18 47 01.3 +0.9**
comp=Z,1.2nm,0.9s,baz=79,slow=3.0
VNA1 Neumayer--Stat 150.15 216 PKPbc **PKPbc** **18 46 59.4 -1.6**
VNA3 Neumayer Olymp 150.62 215 PKPbc **PKPbc** **18 47 02.5 +0.3**

*JMA **22** 18:38:02.9±0.2,25°N±1°×122°4E±0°3,h1km±2km,MV2.8/6, NW OFF ISHIGAKIJIMA IS*
*TAP **22** 18:38:02.8,24°91N×122°41E,h17km,ML2.6,C*
ISC 22 18:38:03.0±1.0,**24°87N**±0°03×**122°41E**±0°02,**h16**km±8km, **n38**,σ**0°48/75**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.40**	**290**	P	**Pg**	**18 38 11.3**	**+0.1**
TWB1				*e*S	**Sg**	**18 38 16.2**	**-0.6**
	baz=284						
SXI1	**Grass Mountain**	**0.53**	**295**	P	**Pb**	**18 38 14.1**	**+0.1**
	baz=290						
SXI1				*i* S	**Sb**	**18 38 21.4**	**+0.1**
	baz=290						
TIPB	**Shuangxi**	**0.54**	**281**	P	**Pb**	**18 38 14.2**	**+0.2**
	baz=276						
TIPB				*e*S	**Sb**	**18 38 22.2**	**+0.7**
	baz=276						
TWC	**Suao**	**0.57**	**243**	*i* P	**Pg**	**18 38 14.3**	**+0.1**
	baz=238						
TWC				S	**Sb**	**18 38 22.8**	**+0.5**
	baz=238						
NWF	**Wu-fen Shan**	**0.60**	**290**	P	**Pb**	**18 38 15.4**	**+0.3**
	baz=285						
NWF				*i* S	**Sb**	**18 38 24.0**	**+0.5**
	baz=285						
WFSB	**Wu-fen Shan**	**0.60**	**290**	P	**Pb**	**18 38 15.4**	**+0.3**
	baz=285						
WFSB				*i* S	**Sb**	**18 38 24.1**	**+0.8**
	baz=285						
JYNG	**Yonagunijimaku**	**0.64**	**130**	P	**Pg**	**18 38 15.6**	**-0.1**
JYNG				S	**Sg**	**18 38 24.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.68**	**126**	P	**Pg**	**18 38 16.4**	**0.0**
	baz=121						
YOJ				*e*S	**Sg**	**18 38 25.4**	**-0.1**
	baz=121						
YOJ	**Yonaguni jima**	**0.68**	**126**	P	**Pg**	**18 38 16.1**	**-0.3**
YOJ				S	**Sg**	**18 38 25.2**	**-0.3**
TWE	**Neicheng**	**0.69**	**258**	P	**Pb**	**18 38 16.6**	**+0.1**
	baz=245						
TWE				*i* S	**Sb**	**18 38 26.4**	**+0.6**
	baz=245						
EWUT	**Wuta**	**0.71**	**234**	*e*P	**Pg**	**18 38 16.1**	**-0.8**
	baz=230						
EWUT				*e*S	**Sg**	**18 38 25.7**	**-0.5**
	baz=230						
ENA	**Nanau**	**0.75**	**234**	*i* P	**Pb**	**18 38 17.7**	**+0.1**
	baz=230						
ENA				S	**Sb**	**18 38 28.0**	**+0.5**
	baz=230						
FUSB	**Fushanzhiwuyua**	**0.75**	**262**	P	**Pg**	**18 38 17.6**	**0.0**
	baz=258						
FUSB				*i* S	**Sb**	**18 38 28.8**	**+1.1**
	baz=258						
ENTT	**Nioudou**	**0.80**	**254**	P	**Pg**	**18 38 18.2**	**-0.3**
	baz=231						
ENTT				*i* S	**Sb**	**18 38 29.8**	**+0.8**
	baz=231						
NHDH	**Xindian Distri**	**0.81**	**277**	*i* P	**Pg**	**18 38 18.9**	**+0.2**
	baz=273						
NHDH				S	**Sb**	**18 38 29.8**	**+0.7**
	baz=273						
YM08	**YM08**	**0.81**	**293**	*e*P	**Pn**	**18 38 19.3**	**-0.3**
	baz=275						
YM08				S	**Sb**	**18 38 29.5**	**+0.2**
	baz=275						
YM01	**YM01**	**0.81**	**290**	*i* P	**Pg**	**18 38 18.6**	**-0.1**
	baz=286						
YM01				S	**Sb**	**18 38 30.2**	**+0.9**
	baz=286						
PCYT	**Pengchaiyu**	**0.82**	**338**	*e*P	**Pn**	**18 38 19.4**	**-0.4**
	baz=337						
PCYT				S	**Sb**	**18 38 30.0**	**+0.5**
	baz=337						
TWY	**Chenhua**	**0.84**	**299**	*i* P	**Pb**	**18 38 19.0**	**-0.1**
	baz=296						
TWY				S	**Sg**	**18 38 30.8**	**+0.5**
	baz=296						
NDT	**Datong Townshi**	**0.85**	**252**	*i* P	**Pg**	**18 38 19.7**	**+0.1**
	baz=231						
NDT				*i* S	**Sn**	**18 38 31.8**	**-0.6**
	baz=231						
LATG	**Datong**	**0.86**	**248**	P	**Pg**	**18 38 19.9**	**+0.1**
	baz=230						
LATG				S	**Sn**	**18 38 32.3**	**-0.6**
	baz=230						
YHNB	**Yeheng**	**0.96**	**258**	*i* P	**Pb**	**18 38 21.1**	**-0.1**
	baz=266						
NSK	**Sanguang**	**0.97**	**259**	P	**Pb**	**18 38 20.9**	**-0.5**
	baz=270						
NSK				S	**Sg**	**18 38 34.5**	**-0.1**
	baz=270						
NACB	**Ninganchiao**	**1.01**	**227**	*i* P	**Pb**	**18 38 22.3**	**+0.2**
	baz=235						
NACB				*i* S	**Sg**	**18 38 36.2**	**+0.4**
	baz=235						
NNSB	**Datong**	**1.03**	**245**	*i* P	**Pb**	**18 38 22.6**	**+0.2**
	baz=231						
NNSB				S	**Sn**	**18 38 36.9**	**-0.1**
	baz=231						
NNS	**Nan Shan**	**1.03**	**246**	P	**Pb**	**18 38 22.1**	**-0.4**
	baz=242						
NNS				*i* S	**Sg**	**18 38 36.4**	**-0.1**
	baz=242						
ETLH	**Xiulin Townshi**	**1.07**	**232**	P	**Pb**	**18 38 22.9**	**-0.2**
	baz=230						
ETLH				*i* S	**Sg**	**18 38 37.9**	**+0.2**
	baz=230						
TWD	**Chiawan**	**1.08**	**223**	*i* P	**Pb**	**18 38 23.1**	**-0.1**
	baz=229						
TWD				S	**Sg**	**18 38 37.9**	**-0.1**
	baz=229						
NFF	**Wufeng Townshi**	**1.19**	**259**	*e*P	**Pn**	**18 38 24.1**	**-0.9**
	baz=255						
NFF				*e*S	**Sb**	**18 38 40.5**	**+0.1**
	baz=255						
WHF	**Hehuan Shan**	**1.26**	**236**	*e*P	**Pg**	**18 38 27.2**	**-0.2**
	baz=233						
WHF				*e*S	**Sg**	**18 38 44.4**	**+0.4**
	baz=233						
LIOB	**Emei**	**1.28**	**260**	P	**Pn**	**18 38 26.2**	**0.0**
	baz=257						
LIOB				*e*S	**Sb**	**18 38 43.0**	**+0.1**
	baz=257						
IRIF	**Iriomote-Funau**	**1.32**	**113**	P	**Pb**	**18 38 27.9**	**+0.6**
IRIF				S	**Sg**	**18 38 45.1**	**-0.5**
CHGB	**Renai**	**1.38**	**235**	*e*P	**Pg**	**18 38 29.2**	**-0.4**
	baz=232						
CHGB				*e*S	**Sg**	**18 38 49.2**	**+1.5**
	baz=232						
OWD	**Renai**	**1.44**	**231**	P	**Pb**	**18 38 29.8**	**+0.2**
	baz=241						
OWD				*e*S	**Sg**	**18 38 49.7**	**0.0**
	baz=241						
WUSB	**Renai**	**1.46**	**234**	*e*P	**Pb**	**18 38 30.5**	**+0.6**
	baz=243						
WUSB				*e*S	**Sg**	**18 38 50.3**	**+0.1**
	baz=243						
JKRS	**Kuro-shima**	**1.59**	**113**	P	**Pb**	**18 38 32.3**	**+0.4**
JKRS				S	**Sb**	**18 38 52.9**	**+1.1**
VWDT	**VWDT**	**1.60**	**226**	*e*P	**Pb**	**18 38 32.6**	**+0.5**
	baz=207						
VWDT				*e*S	**Sb**	**18 38 53.0**	**+0.9**
	baz=207						
JIJ	**Ishigaki jima**	**1.66**	**107**	P	**Pb**	**18 38 33.3**	**+0.1**
JIJ				S	**Sb**	**18 38 53.7**	**-0.1**

*IDC **22** 18:41:56.6±1.6,2°12N×96°03E,h0km,mb3.8/6, mbtmp3.7/8,ML2.9/1,Error ellipse: s-maj=52.4km s-min=20.7km az=54.0*
*DJA **22** 18:41:58.5±1.6,2°N±4°×9°6E±°,h22km±17km,M4.0/13, mb4.1/7,MLv4.0/13*
*NEIC **22** 18:41:59.2±1.4,2°21N±0°08×96°1E±0°1,h10km±2km, mb4.1/15,Error ellipse: s-maj=21.5km s-min=9.4km az=242.0*
ISC 22 18:42:00.8±0.7,**2°20N**±0°06×**96°14E**±0°09,**h27**km,**n45**, σ**0°82/41**,**mb4.0/12**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.69**	**122**	Pn	**Pn**	**18 42 28.8**	**+0.2**
GSI	**Gunungsitoli**	**1.69**	**122**	P	**Pn**	**18 42 29.0**	**+0.5**
MLSI	**Meulaboh, Aceh**	**2.07**	**7**	P	**Pn**	**18 42 33.0**	**-0.8**
MLSI				S	**Sn**	**18 42 59.5**	**+0.8**
KCSI	**Kotacane, Aceh**	**2.09**	**51**	P	**Pn**	**18 42 35.1**	**+1.0**
KCSI				S	**Sb**	**18 43 03.0**	**-0.6**
TSI	**Tuntungan**	**2.74**	**62**	P	**Pn**	**18 42 44.3**	**+1.3**
RPSI	**Rantau Prapat**	**2.82**	**80**		**Pn**	**18 42 44.8**	**+0.6**
RPSI	**Rantau Prapat**	**2.82**	**80**	Pn	**Pn**	**18 42 44.7**	**+0.6**
PSI	**Prapat**	**2.84**	**78**	Pn	**Pn**	**18 42 44.8**	**+0.2**
	1.8nm,0.3s,baz=294,slow=17,SNR=3.8 6.8nm,0.5s						

PBSI	**Pulau Batu**	**3.10**	**136**	P		**Pn**	**18 42 48.2**	**+0.3**
LHMI	**Lhok Sumawe**	**3.11**	**15**	Pn		**Pn**	**18 42 48.0**	**-0.1**
LHMI	**Lhok Sumawe**	**3.11**	**15**	P		**Pn**	**18 42 47.5**	**-0.6**
IPM	**Ipoh**	**5.38**	**65**			**Pn**	**18 43 20.1**	**+0.9**
KULM	**Kulim**	**5.45**	**56**			**Pn**	**18 43 20.2**	**0.0**
SDSI	**Sungai Dareh**	**6.13**	**120**	P		**Pn**	**18 43 31.0**	**+1.3**
	0.0nm3.9nm,1.0s							
MYKOM	**Kota Tinggi**	**7.72**	**93**	Pn		**Pn**	**18 43 51.7**	**+0.3**
MASI	**Maura Aman, Be**	**8.08**	**131**	P		**Pn**	**18 43 56.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.39**	**9**	Pn		**Pn**	**18 45 50.1**	**+1.0**
	1.0nm,0.7s,baz=197,slow=11,SNR=8.6							
H08S2	**Diego Garcia H**	**25.54**	**247**	T		T	19 14 05.6	
	baz=68,slow=75,SNR=149							
H08S3	**Diego Garcia H**	**25.54**	**247**	T		T	19 14 05.6	
	baz=68,slow=75,SNR=301							
H08S1	**Diego Carcia H**	**25.56**	**247**	T		T	19 14 07.0	
	baz=68,slow=75,SNR=106							
ENH	**Enshi**	**30.65**	**23**	P		**P**	**18 48 10.7**	**-2.4**
H01W3	**Cape Leeuwin H**	**40.57**	**157**	T		T	19 32 49.7	
	baz=332,slow=76,SNR=24							
H01W2	**Cape Leeuwin H**	**40.58**	**157**	T		T	19 32 48.0	
	baz=332,slow=76,SNR=59							
H01W1	**Cape Leeuwin H**	**40.59**	**157**	T		T	19 32 49.7	
	baz=332,slow=76,SNR=38							
BJT	**Baijiatuan**	**41.80**	**23**	P		**P**	**18 49 48.8**	**+0.6**
BJT				IAmb		IAmb	18 49 50.0	
	comp=Z,3.9nm,0.6s							
TARG	**Taragay, Kyrgy**	**42.67**	**340**	P		**P**	**18 49 54.5**	**-1.1**
DRK	**Karamyk**	**43.22**	**332**	P		**P**	**18 50 01.6**	**+1.5**
DRK				IAmb		IAmb	18 50 02.6	
	comp=Z,8.4nm,0.8s							
WRA	**Warramunga Arr**	**43.46**	**122**	P		**P**	**18 50 02.1**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=303,slow=9.0,SNR=5.2							
	comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**44.84**	**127**	P		**P**	**18 50 13.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=299,slow=7.7,SNR=5.1							
	comp=Z,0.2nm,0.5s							
MK31	**Makanchi Array**	**46.03**	**347**	P		**P**	**18 50 22.3**	**+0.3**
MK31				IAmb		IAmb	18 50 23.9	
	comp=Z,2.2nm,1.1s							
MKAR	**Makanchi Array**	**46.03**	**347**	P		**P**	**18 50 22.5**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=155,slow=8.9,SNR=15							
	comp=Z,1.8nm,0.8s							
MKAR	**Makanchi Array**	**46.03**	**347**	P		**P**	**18 50 22.3**	**+0.3**
SONM	**Songino Array**	**46.31**	**10**	P		**P**	**18 50 24.6**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=190,slow=9.8,SNR=9.5							
	comp=Z,0.8nm,0.4s							
SONM	**Songino Array**	**46.31**	**10**	P		**P**	**18 50 24.1**	**-0.3**
SONM				IAmb		IAmb	18 50 44.5	
	comp=Z,2.3nm,1.3s							
KK31	**Karatay Array**	**46.70**	**334**	P		**P**	**18 50 27.8**	**+0.5**
KK31				IAmb		IAmb	18 50 29.3	
	comp=Z,1.0nm,0.8s							
KKAR	**Karatay Array**	**46.70**	**334**	P		**P**	**18 50 28.0**	**+0.6**
KKAR	**Karatay Array**	**46.70**	**334**	P		**P**	**18 50 27.8**	**+0.5**
KKAR				IAmb		IAmb	18 50 29.3	
	comp=Z,1.0nm,0.8s							
ZAA0	**Zalesovo Array**	**52.41**	**352**	P		**P**	**18 51 09.8**	**-0.9**
ZAA0				IAmb		IAmb	18 51 11.9	
	comp=Z,2.3nm,0.8s							
ZALV	**Zalesovo Beam**	**52.41**	**352**	P		**P**	**18 51 11.3**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=174,slow=7.5,SNR=12							
	comp=Z,2.3nm,0.6s							
ZALV	**Zalesovo Beam**	**52.41**	**352**	P		**P**	**18 51 10.8**	**+0.1**
ABKAR	**Akbulak array**	**56.14**	**332**	P		**P**	**18 51 37.2**	**-0.7**
YAK	**Yakutsk**	**64.77**	**17**	P		**P**	**18 52 35.7**	**-0.9**
NRIK	**Noril'sk**	**67.27**	**357**	P		**P**	**18 52 53.4**	**+0.8**
ARCES	**ARCESS Array B**	**81.24**	**340**	P		**P**	**18 54 14.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=98,slow=6.5,SNR=4.5							
	comp=Z,0.7nm,0.6s							
TXAR	**Lajitas Array**	**143.35**	**30**	PKP		**PKPdf**	**19 01 32.6**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=318,slow=1.2,SNR=1.9							

IDC ***22*** *18:44:49.2±1.2,54.˚80S×30.˚34W,h0km,mb3.7/3, mbtmp3.8/3,Error ellipse: s-maj=65.7km s-min=28.4km az=90.0*

NEIC ***22*** *18:44:49.8±2.5,54.˚7S±0.˚1×30.˚9W±0.˚2,h10km±2km, mb4.6/8,Error ellipse: s-maj=26.0km s-min=15.9km az=62.0*

ISC 22 18:44:50.0±0.9,54.˚8S±0.˚1×30.˚9W±0.˚1,h10km,n17, σ1s14/18,mb4.1/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
HOPE	**Hope Point**	**3.28**	**276**	Pn		**Pn**	**18**	**45**	**42.1**	**+0.7**
EFI	**East Falkland**	**16.51**	**270**	Pn		**Pn**	**18**	**48**	**39.7**	**-1.6**
EFI				P		**P**	**18**	**48**	**43.8**	**-0.3**
VNA1	**Neumayer--Stat**	**18.81**	**157**	P		**Pn**	**18**	**49**	**09.4**	**-0.4**
VNA3	**Neumayer Olymp**	**18.94**	**159**	P		**P**	**18**	**49**	**09.9**	**-0.9**
VNA2	**Neumayer--Watz**	**19.21**	**156**	P		**P**	**18**	**49**	**12.8**	**-0.9**
	baz=315,slow=13									
SNAA	**Sanae**	**20.80**	**155**	P		**P**	**18**	**49**	**29.8**	**-1.2**
SNAA	**Sanae**	**20.80**	**155**	P		**P**	**18**	**49**	**29.4**	**-1.6**
	1.3nm,0.6s,baz=285,slow=12,SNR=12									
	1.3nm,0.6s									
SNAA	**Sanae**	**20.80**	**155**	P		**P**	**18**	**49**	**28.9**	**-2.2**
TROLL	**Troll, Antarti**	**22.36**	**153**	P		**P**	**18**	**49**	**47.3**	**-0.5**
BELA	**Belgrano 2**	**23.26**	**182**	P		**P**	**18**	**49**	**57.3**	**+0.2**
BELA				IAmb		IAmb	18	49	59.8	
	comp=Z,8.1nm,1.3s									
QSPA	**South Pole Qui**	**35.50**	**180**	P		**P**	**18**	**51**	**47.6**	**+1.1**
QSPA				IAmb		IAmb	18	51	51.4	
	comp=Z,14nm,1.2s									
VNDA	**Vanda**	**47.75**	**184**	P		**P**	**18**	**53**	**27.6**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=168,slow=6.3,SNR=8.0									
	comp=Z,1.0nm,0.8s									
VNDA	**Vanda**	**47.75**	**184**	P		**P**	**18**	**53**	**27.5**	**+1.1**
VNDA				IAmb		IAmb	18	53	52.2	
	comp=Z,2.3nm,1.1s									
TORD	**Torodi Ar. Bea**	**73.06**	**33**	P		**P**	**18**	**56**	**20.6**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=199,slow=7.0,SNR=6.0									
	comp=Z,1.0nm,0.8s									
BCIP	**Isla Barro Col**	**75.70**	**310**	P		**P**	**18**	**56**	**34.9**	**-0.6**
BCIP				IAmb		IAmb	18	56	45.9	
	comp=Z,9.1nm,0.8s									
ILAR	**Eielson Array**	**147.68**	**314**	PKPbc		**PKPbc**	**19**	**04**	**34.0**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=119,slow=1.6,SNR=17									
SONM	**Songino Array**	**152.77**	**87**	PKPbc		**PKPbc**	**19**	**04**	**45.4**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=252,slow=3.9,SNR=3.5									

JMA ***22*** *18:49:37.4±0.1,24.˚2N×122.˚8E±0.˚5,h62km±1km, MV3.3/11,NW OFF ISHIGAKIJIMA IS*

TAP ***22*** *18:49:37.8,24.˚18N×122.˚80E,h46km,ML3.9,C*

ISC 22 18:49:33.7±1.1,24.˚06N±0.˚02×122.˚86E±0.˚02,h8km±9km, n136,σ1s23/240,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
JYNG	**Yonagunijimaku**	**0.40**	**12**	P		**Pn**	**18**	**49**	**47.1**	**+1.4**
JYNG				eS		**Sb**	**18**	**49**	**54.0**	**+4.8**
YOJ	**Yonaguni jima**	**0.42**	**20**	*i* P		**Pn**	**18**	**49**	**47.5**	**+1.4**
	baz=33									
YOJ				*i* S		**Sb**	**18**	**49**	**54.4**	**+4.4**
	baz=33									
YOJ	**Yonaguni jima**	**0.42**	**20**	P		**Pn**	**18**	**49**	**47.5**	**+1.4**
YOJ				S		**Sb**	**18**	**49**	**54.3**	**+4.4**
IRIF	**Iriomote-Funau**	**0.84**	**71**	P		**Pn**	**18**	**49**	**53.5**	**+1.6**
IRIF				S		**Sn**	**18**	**50**	**05.6**	**+1.2**
HATJ	**Hateruma jima**	**0.87**	**90**	P		Pn	18	49	55.0	+2.8
HATJ				eS		**Sn**	**18**	**50**	**07.8**	**+2.8**
EWUT	**Wuta**	**1.05**	**291**	P		**Pb**	**18**	**49**	**54.4**	**+0.3**
	baz=286									
EWUT				*i* S		**Sg**	**18**	**50**	**08.6**	**+0.9**
	baz=286									
JKRS	**Kuro-shima**	**1.07**	**80**	P		**Pn**	**18**	**49**	**57.2**	**+2.2**
JKRS				S		**Sn**	**18**	**50**	**12.2**	**+2.3**
TWC	**Suao**	**1.07**	**301**	P		**Pn**	**18**	**49**	**55.6**	**+0.7**
	baz=286									
TWC				*i* S		**Sg**	**18**	**50**	**08.6**	**+0.4**
	baz=286									
ENA	**Nanau**	**1.08**	**290**	*i* P		**Pn**	**18**	**49**	**55.9**	**+0.8**
	baz=285									
ETL	**Fush Village**	**1.13**	**275**	P		**Pn**	**18**	**49**	**56.7**	**+0.9**
	baz=255									
ETL				S		**Sg**	**18**	**50**	**10.6**	**+0.4**
	baz=255									
HWA	**Hwalien**	**1.15**	**266**	*i* P		**Pg**	**18**	**49**	**57.2**	**+1.4**
	baz=259									
HWA				eS		**Sg**	**18**	**50**	**12.0**	**+1.4**
	baz=259									
TWD	**Chiawan**	**1.15**	**271**	P		**Pg**	**18**	**49**	**56.7**	**+0.9**
	baz=264									
TWD				S		**Sb**	**18**	**50**	**10.4**	**-0.5**
	baz=264									
NACB	**Ninganchiao**	**1.16**	**276**	P		**Pg**	**18**	**49**	**56.9**	**+0.9**
	baz=269									
TEYL	**Yanliau Villag**	**1.17**	**261**	P		**Pg**	**18**	**49**	**57.4**	**+1.3**
	baz=246									
TEYL				S		**Sg**	**18**	**50**	**12.4**	**+1.1**
	baz=246									
JIJ	**Ishigaki jima**	**1.21**	**75**	P		**Pn**	**18**	**49**	**58.4**	**+1.5**
JIJ				S		**Sn**	**18**	**50**	**13.7**	**+0.1**
NTC	**Toucheng**	**1.22**	**310**	*i* P		**Pg**	**18**	**49**	**57.5**	**+0.3**
	baz=319									
NTC				eS		**Sb**	**18**	**50**	**11.7**	**-1.3**
	baz=319									
ILA	**Ilan**	**1.23**	**305**	*e*P		**Pg**	**18**	**49**	**58.6**	**+1.2**
	baz=311									
ILA				S		**Sb**	**18**	**50**	**13.2**	**+0.1**
	baz=311									
TWB1	**Santiao Chiao**	**1.23**	**320**	P		**Pg**	**18**	**49**	**57.3**	**0.0**
	baz=329									
TWB1				*i* S		**Sb**	**18**	**50**	**11.2**	**-2.0**
	baz=329									
ETM	**Tongmen**	**1.25**	**266**	*i* P		**Pg**	**18**	**49**	**58.2**	**+0.5**
	baz=259									
ETM				S		**Sb**	**18**	**50**	**12.8**	**-0.9**
	baz=259									
TEGC	**Jichi Village**	**1.25**	**254**	*i* P		**Pg**	**18**	**49**	**58.6**	**+0.9**
	baz=247									
TEGC				*i* S		**Sb**	**18**	**50**	**14.6**	**+0.7**
	baz=247									
ETLH	**Xiulin Townshi**	**1.26**	**277**	P		**Pg**	**18**	**49**	**58.5**	**+0.5**
	baz=271									
ETLH				S		**Sb**	**18**	**50**	**13.7**	**-0.5**
	baz=271									
TWE	**Neicheng**	**1.27**	**301**	P		**Pg**	**18**	**49**	**58.8**	**+0.8**
	baz=306									
TWE				eS		**Sb**	**18**	**50**	**13.3**	**-1.0**
	baz=306									
LATG	**Datong**	**1.30**	**292**	*i* P		**Pg**	**18**	**49**	**59.3**	**+0.6**
	baz=286									
TIPB	**Shuangxi**	**1.30**	**314**	*i* P		**Pb**	**18**	**49**	**58.6**	**+0.1**
	baz=311									
TIPB				*i* S		**Sb**	**18**	**50**	**13.5**	**-1.9**
	baz=311									
ENTT	**Nioudou**	**1.31**	**296**	P		**Pb**	**18**	**49**	**58.6**	**0.0**
	baz=280									
ENTT				S		**Sb**	**18**	**50**	**15.1**	**-0.4**
	baz=280									
ESL	**Shilin**	**1.32**	**260**	*e*P		**Pb**	**18**	**49**	**58.9**	**+0.1**
	baz=245									
NDT	**Datong Townshi**	**1.34**	**294**	P		**Pg**	**18**	**49**	**59.5**	**+0.1**
	baz=278									
FUSB	**Fushanzhiwuyua**	**1.35**	**301**	P		**Pg**	**18**	**50**	**00.1**	**+0.5**
	baz=310									
FUSB				eS		**Sb**	**18**	**50**	**15.6**	**-1.1**
	baz=310									
SXI1	**Grass Mountain**	**1.36**	**319**	P		**Pb**	**18**	**49**	**59.3**	**-0.2**
	baz=326									
SXI1				eS		**Sb**	**18**	**50**	**14.9**	**-2.1**
	baz=326									
EGFH	**Guangfu**	**1.36**	**254**	P		**Pg**	**18**	**50**	**00.0**	**+0.1**
	baz=247									
EGFH				eS		**Sn**	**18**	**50**	**17.0**	**-0.3**
	baz=247									
NNSB	**Datong**	**1.39**	**285**	*i* P		**Pg**	**18**	**50**	**00.5**	**+0.1**
	baz=280									
NNSB				eS		**Sn**	**18**	**50**	**17.4**	**-0.8**
	baz=280									
NNSH	**Datong**	**1.39**	**285**	*e*P		**Pg**	**18**	**50**	**00.5**	**0.0**
	baz=280									
NWF	**Wu-fen Shan**	**1.40**	**316**	*i* P		**Pb**	**18**	**50**	**00.1**	**-0.1**
	baz=313									
NWF				S		**Sn**	**18**	**50**	**15.9**	**-2.5**
	baz=313									
WFSB	**Wu-fen Shan**	**1.40**	**316**	*i* P		**Pb**	**18**	**50**	**00.1**	**0.0**
	baz=313									
WFSB				*i* S		**Sn**	**18**	**50**	**16.1**	**-2.1**
	baz=313									
NNS	**Nan Shan**	**1.41**	**286**	P		**Pn**	**18**	**49**	**59.7**	**0.0**
	baz=270									
NNS				S		**Sn**	**18**	**50**	**17.0**	**-1.5**
	baz=270									
JISG	**Ishigakijimahi**	**1.43**	**68**	P		**Pg**	**18**	**50**	**01.1**	**0.0**
JISG				S		**Sg**	**18**	**50**	**18.3**	**-1.3**
HGSD	**Ruisui**	**1.43**	**247**	*e*P		**Pg**	**18**	**50**	**00.8**	**-0.3**
	baz=241									
HGSD				eS		**Sn**	**18**	**50**	**17.7**	**-1.2**
	baz=241									
WHF	**Hehuan Shan**	**1.46**	**274**	*i* P		**Pb**	**18**	**50**	**01.5**	**+0.2**
	baz=256									
WHF				S		**Sn**	**18**	**50**	**18.8**	**-1.3**
	baz=256									
TNOU	**National Taiwa**	**1.46**	**318**	P		**Pn**	**18**	**50**	**00.5**	**+0.1**
	baz=316									
TNOU				*i* S		**Sn**	**18**	**50**	**17.3**	**-2.5**
	baz=316									
TWA	**Mucha**	**1.48**	**309**	*i* P		**Pb**	**18**	**50**	**01.4**	**0.0**
	baz=305									
TWA				*i* S		**Sn**	**18**	**50**	**18.4**	**-1.6**
	baz=305									
YHNB	**Yeheng**	**1.48**	**294**	*i* P		**Pg**	**18**	**50**	**02.0**	**-0.1**
	baz=277									
YHNB				eS		**Sn**	**18**	**50**	**19.5**	**-0.7**
	baz=277									
FUSS	**Fushou**	**1.48**	**277**	P		**Pb**	**18**	**50**	**02.1**	**+0.5**
	baz=260									
FUSS				S		**Sn**	**18**	**50**	**19.7**	**-0.9**
	baz=260									
ECBN	**Changbin**	**1.49**	**240**	*e*P		**Pb**	**18**	**50**	**00.9**	**-0.6**
	baz=224									
ECBN				eS		**Sn**	**18**	**50**	**18.4**	**-1.9**
	baz=224									
NSK	**Sanguang**	**1.50**	**294**	*e*P		**Pn**	**18**	**50**	**01.1**	**+0.2**
	baz=277									
NSK				eS		**Sn**	**18**	**50**	**18.5**	**-2.2**
	baz=277									
NHDH	**Xindian Distri**	**1.51**	**307**	P		**Pb**	**18**	**50**	**01.9**	**0.0**
	baz=315									
NHDH				eS		**Sn**	**18**	**50**	**19.1**	**-1.7**
	baz=315									
EHY	**Hungye**	**1.51**	**249**	*e*P		**Pb**	**18**	**50**	**02.1**	**+0.2**
	baz=243									
NHY	**Taipei**	**1.52**	**310**	P		**Pb**	**18**	**50**	**02.3**	**+0.1**
	baz=307									
CHGB	**Renai**	**1.54**	**270**	P		**Pb**	**18**	**50**	**02.8**	**+0.2**
	baz=265									
CHGB				eS		**Sn**	**18**	**50**	**21.5**	**-0.4**
	baz=265									
OWD	**Renai**	**1.54**	**266**	P		**Pb**	**18**	**50**	**02.8**	**+0.2**
	baz=261									
OWD				eS		**Sn**	**18**	**50**	**20.5**	**-1.3**
	baz=261									
TWT	**Tachien**	**1.55**	**277**	P		**Pg**	**18**	**50**	**03.6**	**+0.2**
	baz=261									
TWT				S		**Sn**	**18**	**50**	**21.4**	**-0.6**
	baz=261									
TDCB	**Techi**	**1.56**	**277**	*e*P		**Pb**	**18**	**50**	**03.4**	**+0.4**
	baz=261									
TDCB				eS		**Sn**	**18**	**50**	**21.2**	**-1.1**
	baz=261									
TAP	**Taipei**	**1.57**	**309**	P		**Pb**	**18**	**50**	**02.3**	**-0.6**
	baz=306									
TAP				S		**Sn**	**18**	**50**	**20.8**	**-1.5**
	baz=306									
YULB	**Yu-li**	**1.58**	**245**	P		**Pb**	**18**	**50**	**03.2**	**+0.1**
	baz=231									
YULB				eS		**Sn**	**18**	**50**	**21.6**	**-1.0**
	baz=231									
EYUL	**Yuli**	**1.58**	**244**	*e*P		**Pb**	**18**	**50**	**02.9**	**-0.2**
	baz=238									
EYUL				eS		**Sn**	**18**	**50**	**22.3**	**-0.2**
	baz=238									
WUSB	**Renai**	**1.59**	**268**	P		**Pb**	**18**	**50**	**03.6**	**+0.2**
	baz=262									
WUSB				eS		**Sn**	**18**	**50**	**23.1**	**+0.1**
	baz=262									
YM01	**YM01**	**1.59**	**313**	P		**Pn**	**18**	**50**	**02.6**	**+0.4**
	baz=310									
YM01				S		**Sn**	**18**	**50**	**20.8**	**-2.1**
	baz=310									
VWDT	**VWDT**	**1.60**	**259**	P		**Pb**	**18**	**50**	**03.9**	**+0.4**
	baz=254									
VWDT				eS		**Sn**	**18**	**50**	**22.8**	**-0.3**
	baz=254									
YM08	**YM08**	**1.61**	**314**	*e*P		**Pn**	**18**	**50**	**02.0**	**-0.4**
	baz=299									
ANP	**Anpu**	**1.65**	**313**	*e*P		**Pn**	**18**	**50**	**02.3**	**-0.8**
	baz=298									
TWY	**Chenhua**	**1.66**	**317**	P		**Pn**	**18**	**50**	**03.4**	**+0.2**
	baz=315									
TWY				eS		**Sn**	**18**	**50**	**22.5**	**-2.2**
	baz=315									
TWS1	**Kuangyinshan**	**1.67**	**309**	P		**Pb**	**18**	**50**	**04.0**	**-0.7**
	baz=306									
TWS1				eS		**Sn**	**18**	**50**	**23.7**	**-1.1**
	baz=306									
FULB	**Fuli**	**1.67**	**239**	*e*P		**Pb**	**18**	**50**	**04.0**	**-0.7**
	baz=225									
FULB				eS		**Sn**	**18**	**50**	**24.2**	**-0.7**
	baz=225									
NFF	**Wufeng Townshi**	**1.68**	**290**	P		**Pb**	**18**	**50**	**04.3**	**-0.7**
	baz=276									
NFF				eS		**Sn**	**18**	**50**	**24.9**	**-0.3**
	baz=276									
NTST	**Danshui**	**1.69**	**311**	P		**Pn**	**18**	**50**	**04.0**	**+0.6**
	baz=308									
NTST				eS		**Sn**	**18**	**50**	**24.2**	**-1.0**
	baz=308									
PCYT	**Pengchaiyu**	**1.72**	**336**	*e*P		**Pb**	**18**	**50**	**04.6**	**-0.9**
	baz=325									
WHP	**Taichung City**	**1.76**	**277**	*e*P		**Pb**	**18**	**50**	**06.7**	**+0.4**
	baz=263									
SSLB	**Suanglung**	**1.76**	**261**	P		**Pb**	**18**	**50**	**06.2**	**-0.1**
	baz=256									
SSLB				eS		**Sn**	**18**	**50**	**27.0**	**-0.2**
	baz=256									
DPDB	**Guoxing**	**1.76**	**269**	P		**Pb**	**18**	**50**	**06.3**	**0.0**
	baz=264									
DPDB				S		**Sn**	**18**	**50**	**27.5**	**+0.3**
	baz=264									
LIOB	**Emei**	**1.78**	**289**	P		**Pb**	**18**	**50**	**06.9**	**+0.3**
	baz=276									
LIOB				eS		**Sn**	**18**	**50**	**27.8**	**+0.3**
	baz=276									
WCS	**Beigang Elemen**	**1.78**	**270**	*e*P		**Pn**	**18**	**50**	**05.3**	**+0.6**
	baz=265									
JTJ	**Tarama**	**1.78**	**71**	P		**Pg**	**18**	**50**	**06.5**	**-1.3**
JTJ				S		**Sg**	**18**	**50**	**27.7**	**-3.2**
ECS	**Chishang**	**1.78**	**238**	*i* P		**Pb**	**18**	**50**	**06.8**	**+0.1**
	baz=224									
ECS				S		**Sn**	**18**	**50**	**28.6**	**+1.0**
	baz=224									
NSTT	**Nanjuang**	**1.78**	**289**	P		**Pb**	**18**	**50**	**06.7**	**0.0**
	baz=285									
NSTT				S		**Sn**	**18**	**50**	**27.8**	**+0.1**
	baz=285									
EDH	**Donghe**	**1.79**	**233**	*e*P		**Pb**	**18**	**50**	**05.9**	**-0.8**
	baz=221									
EDH				S		**Sn**	**18**	**50**	**26.3**	**-1.5**
	baz=221									
SMLT	**Sun Moon Lake**	**1.80**	**265**	*e*P		**Pb**	**18**	**50**	**06.8**	**-0.2**
	baz=259									
SMLT				eS		**Sn**	**18**	**50**	**27.9**	**-0.2**
	baz=259									
TYC	**Yuchr**	**1.83**	**265**	*i* P		**Pb**	**18**	**50**	**07.4**	**-0.1**
	baz=260									
TYC				S		**Sn**	**18**	**50**	**28.9**	**0.0**
	baz=260									
YUS	**Yu-Shan**	**1.83**	**252**	*i* P		**Pb**	**18**	**50**	**07.7**	**-0.1**
	baz=247									
YUS				S		**Sn**	**18**	**50**	**28.7**	**-0.9**
	baz=247									
SBCB	**Hsinchu**	**1.85**	**293**	*e*P		**Pb**	**18**	**50**	**07.4**	**-0.4**
	baz=289									
WHYT	**Xinyi Township**	**1.87**	**259**	P		**Pb**	**18**	**50**	**08.3**	**+0.2**
	baz=245									
WHYT				eS		**Sn**	**18**	**50**	**30.1**	**+0.3**
	baz=245									
LDUT	**Ludao**	**1.88**	**223**	*i* P		**Pb**	**18**	**50**	**06.9**	**-1.3**
	baz=211									
LDUT				eS		**Sn**	**18**	**50**	**27.7**	**-2.2**
	baz=211									
TWQ1	**Liyutan**	**1.92**	**279**	*e*P		**Pb**	**18**	**50**	**09.2**	**+0.2**
	baz=274									
TWQ1				eS		**Sn**	**18**	**50**	**32.4**	**+1.3**
	baz=274									
NMLH	**Miaoli**	**1.94**	**285**	P		**Pb**	**18**	**50**	**09.0**	**-0.4**
	baz=280									
NSY	**Sanyi**	**1.94**	**281**	P		**Pb**	**18**	**50**	**09.6**	**+0.2**
	baz=276									
ALS	**Alishan**	**1.96**	**254**	P		**Pb**	**18**	**50**	**09.7**	**0.0**
	baz=249									
ALS				eS		**Sn**	**18**	**50**	**31.8**	**-0.5**
	baz=249									
LONT	**Longtian**	**1.96**	**234**	*e*P		**Pn**	**18**	**50**	**07.8**	**+0.6**
	baz=223									
LONT				eS		**Sn**	**18**	**50**	**31.2**	**-0.7**
	baz=223									
WJS	**Zhushan**	**1.96**	**263**	*e*P		**Pb**	**18**	**50**	**10.4**	**+0.8**
	baz=259									
TCU	**Taichung**	**1.99**	**273**	*i* P		**Pb**	**18**	**50**	**10.5**	**+0.3**
	baz=268									
TCU				S		**Sn**	**18**	**50**	**34.8**	**+2.0**
	baz=268									
WNT	**Mingjian**	**2.00**	**265**	P		**Pb**	**18**	**50**	**10.7**	**+0.4**
	baz=260									
WNT				S		**Sn**	**18**	**50**	**34.6**	**+1.8**
	baz=260									
WDJ	**Dajia District**	**2.

baz=245
SNST eS Sb 18 50 44.3 -0.3
baz=245
LAY Lan-yu 2.34 211 eP Pn 18 50 12.5 0.0
baz=207
LYUB Lan-yu 2.36 210 P Pn 18 50 13.1 +0.3
baz=214
SSD Sandimen 2.43 238 eP Pb 18 50 17.0 -0.6
baz=228
TSMG Majia 2.44 237 eP Pb 18 50 17.0 -0.8
baz=227
WSF Szhu 2.45 261 P Pb 18 50 16.9 -1.0
baz=256
WSF S Sn 18 50 46.4 +2.4
baz=256
ICHU Yijhu 2.46 254 P Pb 18 50 16.8 -1.4
baz=249
ICHU S Sn 18 50 46.8 +2.4
baz=249
SCST Cishan 2.46 242 P Pb 18 50 18.1 -0.1
baz=228
SCST S Sb 18 50 48.9 +0.1
baz=228
WSL Shuilin Townsh 2.47 258 P Pn 18 50 16.1 +1.9
baz=253
WSL S Sn 18 50 45.5 +1.0
baz=253
CHN3 Shinhua 2.49 247 S Sb 18 50 49.5 +0.1
baz=253
EAST Anshuo 2.49 228 P Pn 18 50 16.0 +1.4
baz=232
TAWH Dawu Township 2.49 227 eP Pn 18 50 14.5 0.0
baz=230
MASBT Mashibuluo 2.50 235 eP Pb 18 50 17.2 -1.7
baz=224
SHHT Tainan City 2.52 246 eP Pb 18 50 18.7 -0.6
baz=252
SHHT eS Sb 18 50 51.1 +0.7
baz=252
CHN8 Yiju 2.53 254 P Pb 18 50 17.4 -1.9
baz=249
CHN8 S Sn 18 50 47.9 +1.9
baz=249
TWM1 Shoushan 2.55 242 eP Pb 18 50 20.1 +0.4
baz=237
TWM1 eS Sb 18 50 52.1 +0.8
baz=237
SLIU Shizi 2.64 226 P Pn 18 50 18.0 +1.4
baz=214
SCZT Fangliau 2.66 231 eP Pb 18 50 19.2 -2.3
baz=222
SCZT eS Sn 18 50 50.0 +0.8
baz=222
TSCK Chigu Township 2.70 251 eP Pb 18 50 19.7 -2.6
baz=246
TSCK eS Sn 18 50 50.8 +0.6
baz=246
WSSB Gushan 2.77 240 *i* P Pb 18 50 22.7 -0.8
baz=234
WSSB S Sb 18 50 56.9 -0.7
baz=234
TSEB Hengchuen, Pin 2.81 220 eP Pb 18 50 22.0 -2.1
baz=224
TSEB eS Sn 18 50 55.2 +2.4
baz=224
HEN Hengchun 2.83 224 eP Pb 18 50 22.3 -2.2
baz=220
HEN eS Sn 18 50 54.7 +1.3
baz=220
WDGT Dungji 3.04 255 *i* P Pn 18 50 24.2 +2.2
baz=250
WDGT S Sn 18 50 58.7 +0.2
baz=250
PHUB P'eng-hu 3.06 260 *i* P Pn 18 50 23.9 +1.6
baz=268
PHUB S Sn 18 50 58.9 -0.2
baz=268
PNG Penghu 3.06 261 *i* P Pn 18 50 23.7 +1.3
baz=256
PNG *i* S Sn 18 50 59.0 -0.2
baz=256
VWUC VWUC 3.24 287 P Pn 18 50 25.0 +0.3
baz=283
VCHM Qimei 3.25 256 P Pn 18 50 26.7 +1.6
baz=251
VCHM S Sn 18 51 03.4 -0.5
baz=251
MATB Ma-tsu 3.36 309 eP Pn 18 50 26.4 0.0
baz=293
PTMZ Houxiangcun 3.54 287 P Pn 18 50 29.2 +0.3
baz=282
LYJJ Jianjiangzhen 3.74 312 eP Pn 18 50 31.6 -0.1
baz=309

*NEIC **22** 18:54:14.8±1.9,23.7°S±0.1°×179.8°W±0.1,h537km±10km, mb4.5/40,Error ellipse: s-maj=19.4km s-min=16.2km az=73.0*
*NOU **22** 18:54:15.9,23.87°S×179.98°E,h506km, mb4.1/7,South of Fiji Islands*
*IDC **22** 18:54:15.2±1.2,23.63°S×179.98°W,h534km±11km, mb3.5/13,mbtmp4.3/15,Error ellipse: s-maj=14.9km s-min=11.6km az=77.0*
ISC 22 18:54:14.3±0.4,23.74S±0.05°×179.86W±0.07,h532km, n104,σ2ϕ04/117,mb4.3/25,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.56**	**10**	**P**		**P**	**P**	**18 55 50.0**	**+1.8**
RAO	**Raoul Island**	**5.76**	**163**	**P**		**P**	**P**	**18 55 52.7**	**+3.0**
	413nm,0.3s,baz=62,slow=15,SNR=7.4								
RAO	**Raoul Island**	**5.76**	**163**	**P**		**P**		**18 55 49.9**	**+0.2**
GLKZ	**Green Lake**	**5.77**	**163**	**P**		**P**	**P**	**18 55 51.9**	**+2.1**
GLKZ				S		S	**S**	**18 57 08.1**	**+0.1**
MSVF	**Nonsavu**	**6.29**	**341**	**P**		**P**	**P**	**18 55 55.5**	**+0.5**
	6.5nm,0.5s,baz=229,slow=20,SNR=14								
MSVF	**Nonsavu**	**6.29**	**341**	**P**		**P**	**P**	**18 55 56.0**	**+1.0**
TAVE	**Taveuni**	**7.00**	**360**	**P**		**P**	**P**	**18 56 03.7**	**+2.0**
NIUE	**Niue**	**10.35**	**65**	**P**		**P**	**P**	**18 56 36.0**	**+0.2**
MARNC	**Mare, Loyalty**	**11.41**	**279**	**P**		**P**	**P**	**18 56 48.0**	**+1.2**
PINNC	**Pines Island,**	**11.73**	**273**	**P**		**P**	**P**	**18 56 52.3**	**+2.3**
AFI	**Afiamalu**	**12.41**	**39**	**S**		**S**	**S**	**18 59 02.9**	**-8.6**
	7.1nm,0.5s,baz=229,slow=20,SNR=1.8								
DZM	**Mont Dzumac**	**12.73**	**275**	**P**		**P**	**P**	**18 57 00.6**	**0.0**
	2.3nm,0.8s,baz=30,slow=16,SNR=3.0								
OUZ	**Omahuta**	**12.78**	**205**	**P**		**P**	**P**	**18 57 03.0**	**+2.3**
WIAZ	**Waiheke Island**	**13.71**	**197**	**P**		**P**	**P**	**18 57 13.0**	**+2.6**
MKAZ	**Moumakai**	**13.99**	**197**	**P**		**P**	**P**	**18 57 17.8**	**+4.4**
HAZ	**Te Kaha**	**14.12**	**188**	**P**		**P**	**P**	**18 57 17.1**	**+2.4**
RUGZ	**Raukumara Rang**	**14.34**	**188**	**P**		**P**	**P**	**18 57 18.7**	**+1.6**
TOZ	**Tahuroa Road**	**14.50**	**195**	**P**		**P**	**P**	**18 57 23.2**	**+4.5**
TWGZ	**Tauwhareparae**	**14.51**	**187**	**P**		**P**	**P**	**18 57 22.2**	**+3.4**
TWGZ				S		S	**S**	**18 59 44.4**	**-6.6**
URZ	**Urewera**	**14.70**	**189**	**P**		**P**	**P**	**18 57 19.6**	**-1.2**
	7.2nm,0.4s,baz=59,slow=1.7,SNR=15								
URZ				S		S	**S**	**18 59 48.3**	**-6.3**
	4.8nm,0.7s,baz=275,slow=8.4,SNR=2.2								
URZ	**Urewera**	**14.70**	**189**	**P**		**P**	**P**	**18 57 20.2**	**-0.6**
URZ	**Urewera**	**14.70**	**189**	**P**		**P**	**P**	**18 57 19.8**	**-1.0**
URZ				S		S	**S**	**18 59 47.6**	**-7.0**
URZ	**Urewera**	**14.70**	**189**	**P**		**P**	**P**	**18 57 21.2**	**+0.4**
NGRZ	**Ngongotaha**	**14.71**	**192**	**P**		**P**	**P**	**18 57 22.1**	**+1.2**
MWZ	**Matawai**	**14.72**	**188**	**P**		**P**	**P**	**18 57 23.0**	**+2.0**
MWZ				S		S	**S**	**18 59 51.6**	**-3.4**
KOUNC	**Koumac, New Ca**	**15.03**	**279**	**P**		**P**	**P**	**18 57 26.1**	**+1.6**
KOUNC				IAmb		IAmb	IAmb	18 57 32.5	
	comp=Z,5.5nm,0.6s								
TLZ	**Tolley Road**	**15.07**	**194**	**P**		**P**	**P**	**18 57 26.1**	**+1.5**
RTZ	**Ruatahuna**	**15.07**	**190**	**P**		**P**	**P**	**18 57 25.1**	**+0.3**
RTZ				S		S	**S**	**18 59 59.2**	**-2.5**
MTHZ	**Maungataniwha**	**15.33**	**190**	**P**		**P**	**P**	**18 57 27.4**	**+0.1**
MTHZ				S		S	**S**	**19 00 03.3**	**-2.9**
BKZ	**Black Stump Fm**	**15.69**	**191**	**P**		**P**	**P**	**18 57 30.2**	**-0.9**
BKZ				IAmb		IAmb	IAmb	18 58 10.2	
	comp=Z,19nm,1.3s								
BFZ	**Birch Farm**	**17.21**	**190**	**P**		**P**	**P**	**18 57 44.5**	**-1.1**
MSWZ	**Moikau Station**	**18.10**	**192**	**P**		**P**	**P**	**18 57 52.8**	**-1.0**
SNZO	**South Karori**	**18.10**	**193**	**P**		**P**	**P**	**18 57 54.0**	**+0.2**
QRZ	**Quartz Range**	**18.20**	**199**	**P**		**P**	**P**	**18 57 56.0**	**+1.4**
QRZ	**Quartz Range**	**18.20**	**199**	**P**		**P**	**P**	**18 57 56.1**	**+1.4**
PLWZ	**Palliser**	**18.24**	**192**	**P**		**P**	**P**	**18 57 54.1**	**-1.1**
NNZ	**Nelson**	**18.33**	**196**	**P**		**P**	**P**	**18 57 55.6**	**-0.2**
TUWZ	**Tuamarina**	**18.39**	**195**	**P**		**P**	**P**	**18 57 56.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**18.67**	**195**	**P**		**P**	**P**	**18 57 57.9**	**-1.1**
THZ	**Tophouse**	**18.96**	**197**	**P**		**P**	**P**	**18 58 01.9**	**+0.2**
THZ				IAmb		IAmb	IAmb	18 58 04.5	
	comp=Z,23nm,1.1s								
KHZ	**Kahutara**	**19.42**	**195**	**P**		**P**	**P**	**18 58 06.4**	**+0.7**
KHZ				IAmb		IAmb	IAmb	18 58 27.2	
	comp=Z,18nm,1.2s								
KHZ	**Kahutara**	**19.42**	**195**	**P**		**P**	**P**	**18 58 07.1**	**+1.3**
LTZ	**Lake Taylor**	**20.08**	**197**	**P**		**P**	**P**	**18 58 10.7**	**-1.1**
OXZ	**Oxford**	**20.65**	**197**	**P**		**P**	**P**	**18 58 15.6**	**-1.4**
MQZ	**McQueen's Vall**	**20.85**	**195**	**P**		**P**	**P**	**18 58 19.1**	**+0.4**
MQZ				IAmb		IAmb	IAmb	18 58 20.9	
	comp=Z,11nm,1.0s								
RPZ	**Rata Peaks**	**21.28**	**198**	**P**		**P**	**P**	**18 58 22.7**	**0.0**
	comp=Z,7.7nm,0.5s,baz=90,slow=20,SNR=11								
	comp=Z,7.7nm,0.5s								
RPZ	**Rata Peaks**	**21.28**	**198**	**P**		**P**	**P**	**18 58 22.4**	**-0.3**
RPZ				IAmb		IAmb	IAmb	18 58 27.1	
	comp=Z,9.8nm,0.5s								
FOZ	**Fox Glacier**	**21.50**	**201**	**P**		**P**	**P**	**18 58 25.6**	**+1.0**
LBZ	**Lake Benmore**	**22.15**	**199**	**P**		**P**	**P**	**18 58 29.0**	**-1.5**
LBZ				IAmb		IAmb	IAmb	18 58 48.9	
	comp=Z,9.4nm,1.3s								
MLZ	**Mavora Lakes**	**23.69**	**201**	**P**		**P**	**P**	**18 58 45.0**	**+0.8**
MLZ				IAmb		IAmb	IAmb	18 58 45.7	
	comp=Z,12nm,0.9s								
DCZ	**Deep Cove**	**24.11**	**203**	**P**		**P**	**P**	**18 58 48.2**	**+0.4**
DCZ				IAmb		IAmb	IAmb	18 58 49.9	
	comp=Z,22nm,1.2s								
WHZ	**Wether Hill Ro**	**24.21**	**201**	**P**		**P**	**P**	**18 58 49.6**	**+0.8**
EIDS	**Eidsvold**	**26.46**	**260**	**P**		**P**	**P**	**18 59 09.8**	**+0.7**
EIDS				IAmb		IAmb	IAmb	18 59 10.3	
	comp=Z,13nm,1.2s								
RMQ	**Roma**	**28.51**	**258**	**P**		**P**	**P**	**18 59 28.5**	**+1.5**
CTA	**Charters Tower**	**31.60**	**270**	**P**		**P**	**P**	**18 59 54.3**	**+0.5**
	comp=Z,7.7nm,0.3s,baz=93,slow=10,SNR=47								
	comp=Z,7.7nm,0.3s								
CTAO	**Charters Tower**	**31.60**	**270**	**P**		**P**	**P**	**18 59 54.3**	**+0.5**
CTAO				IAmb		IAmb	IAmb	18 59 54.7	
	comp=Z,9.1nm,0.4s								
TOO	**Toolangi**	**32.64**	**237**	**P**		**P**	**P**	**19 00 03.5**	**+1.0**
TOO				IAmb		IAmb	IAmb	19 00 06.1	
	comp=Z,20nm,1.4s								
TAU	**Tasmania Unive**	**33.14**	**227**	**P**		**P**	**P**	**19 00 07.3**	**+0.9**
STKA	**Stephens Creek**	**34.90**	**248**	**P**		**P**	**P**	**19 00 22.0**	**+0.5**
	comp=Z,5.5nm,0.6s,baz=97,slow=11,SNR=20								
	comp=Z,5.5nm,0.6s								
STKA	**Stephens Creek**	**34.90**	**248**	**P**		**P**	**P**	**19 00 21.7**	**+0.2**
COEN	**Coen**	**36.22**	**279**	**P**		**P**	**P**	**19 00 33.4**	**+0.9**
COEN				IAmb		IAmb	IAmb	19 01 11.0	
	comp=Z,15nm,1.4s								
BBOO	**Buckleboo**	**39.62**	**247**	**P**		**P**	**P**	**19 00 59.9**	**-0.2**
BBOO				IAmb		IAmb	IAmb	19 01 16.3	
	comp=Z,33nm,1.4s								
AS31	**Alice Springs**	**42.19**	**260**	**P**		**P**	**P**	**19 01 20.0**	**-0.7**
ASAR	**Alice Springs**	**42.19**	**260**	**P**		**P**	**P**	**19 01 20.6**	**-0.1**
	comp=Z,5.2nm,0.7s,baz=96,slow=7.9,SNR=41								
ASAR				ScP		ScP	**ScP**	**19 06 03.5**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=99,slow=4.0,SNR=2.9								
ASAR				S		S	**S**	**19 06 56.1**	**-6.4**
	comp=Z,0.2nm,0.5s,baz=93,slow=16,SNR=1.9								
	comp=Z,5.2nm,0.7s								
ASAR	**Alice Springs**	**42.19**	**260**	**P**		**P**	**P**	**19 01 20.3**	**-0.4**
WR0	**Warramunga Arr**	**42.36**	**266**	**P**		**P**	**P**	**19 01 21.3**	**-0.7**
WB2	**Warramunga Arr**	**42.53**	**266**	**P**		**P**	**P**	**19 01 22.7**	**-0.7**
WB2				IAmb		IAmb	IAmb	19 01 23.4	
	comp=Z,4.4nm,0.6s								
WB0	**Warramunga Arr**	**42.54**	**266**	**P**		**P**	**P**	**19 01 22.6**	**-0.9**
WB0				IAmb		IAmb	IAmb	19 01 23.4	
	comp=Z,4.8nm,0.7s								
WRA	**Warramunga Arr**	**42.55**	**266**	**P**		**P**	**P**	**19 01 22.8**	**-0.8**
	comp=Z,4.1nm,0.5s,baz=90,slow=5.8,SNR=219								
WRA				ScP		ScP	**ScP**	**19 06 05.7**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=99,slow=3.8,SNR=5.3								
WRA				S		S	**S**	**19 07 02.5**	**-5.2**
	comp=Z,0.5nm,0.6s,baz=100,slow=13,SNR=5.0								
	comp=Z,4.1nm,0.5s								
WRA	**Warramunga Arr**	**42.55**	**266**	**P**		**P**	**P**	**19 01 22.8**	**-0.8**
FORT	**Forrest**	**46.49**	**249**	**P**		**P**	**P**	**19 01 53.1**	**-0.6**
KNRA	**Kununurra**	**48.82**	**270**	**P**		**P**	**P**	**19 02 11.2**	**-0.1**
KNRA				IAmb		IAmb	IAmb	19 02 47.2	
	comp=Z,9.5nm,1.2s								
FITZ	**Fitzroy Crossi**	**50.97**	**265**	**P**		**P**	**P**	**19 02 27.5**	**+0.3**
SIJI	**Sorong**	**52.51**	**288**	**P**		**P**	**P**	**19 02 37.7**	**-0.6**
	comp=Z,7.6nm,0.6s,baz=76,slow=8.4,SNR=12								
	comp=Z,7.6nm,0.6s								
SBA	**Scott Base**	**54.55**	**183**	**P**		**P**	**P**	**19 02 53.4**	**+1.7**
VNDA	**Vanda**	**54.55**	**185**	**P**		**P**	**P**	**19 02 53.8**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=8.0,slow=7.2,SNR=11								
VNDA				ScP		ScP	**ScP**	**19 06 54.2**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=0.0,slow=4.0,SNR=3.8								
	comp=Z,1.1nm,0.7s								
VNDA	**Vanda**	**54.55**	**185**	**P**		**P**	**P**	**19 02 54.1**	**+2.3**
MORW	**Morawa**	**57.05**	**250**	**P**		**P**	**P**	**19 03 09.8**	**-0.1**
MORW				IAmb		IAmb	IAmb	19 03 30.4	
	comp=Z,29nm,1.5s								
CASY	**Casey**	**60.31**	**206**	**P**		**P**	**P**	**19 03 31.3**	**+0.1**
QSPA	**South Pole Qui**	**66.34**	**180**	**P**		**P**	**P**	**19 04 11.7**	**+1.7**
	comp=Z,8.1nm,0.6s,baz=347,slow=0.6,SNR=69								
	comp=Z,8.1nm,0.6s								
QSPA	**South Pole Qui**	**66.34**	**180**	**P**		**P**	**P**	**19 04 11.4**	**+1.3**
QSPA				IAmb		IAmb	IAmb	19 04 12.7	
	comp=Z,7.9nm,0.8s								
BELA	**Belgrano 2**	**76.58**	**173**	**P**		**P**	**P**	**19 05 09.9**	**+0.5**
MAW	**Mawson**	**77.94**	**200**	**P**		**P**	**P**	**19 05 17.9**	**+1.0**
	comp=Z,2.6nm,0.6s,baz=126,slow=4.5,SNR=9.7								
	comp=Z,2.6nm,0.6s								
MAW	**Mawson**	**77.94**	**200**	**P**		**P**	**P**	**19 05 18.4**	**+1.4**
KSRS	**Korea Array**	**78.21**	**320**	**P**		**P**	**P**	**19 05 19.1**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=135,slow=5.4,SNR=6.4								
	comp=Z,0.8nm,0.6s								
PEA0B	**Petropavlovsk-**	**78.97**	**346**	**P**		**P**	**P**	**19 05 21.9**	**-0.7**
PEA0B				IAmb		IAmb	IAmb	19 05 38.8	
	comp=Z,42nm,1.5s								
PETK	**Petropavlovsk-**	**78.97**	**346**	**P**		**P**	**P**	**19 05 21.9**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=118,slow=8.6,SNR=8.7								
	comp=Z,2.9nm,0.6s								
TROLL	**Troll, Antarti**	**84.49**	**181**	**P**		**P**	**P**	**19 05 51.1**	**+0.2**
NVAR	**Mina Array Bea**	**84.55**	**44**	**P**		**P**	**P**	**19 05 52.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=212,slow=6.4,SNR=1.8								
	comp=Z,0.2nm,0.3s								
SNAA	**Sanae**	**84.82**	**179**	**P**		**P**	**P**	**19 05 52.2**	**-0.2**
VNA3	**Neumayer Olymp**	**85.03**	**177**	**P**		**P**	**P**	**19 05 53.1**	**-0.1**
VNA2	**Neumayer--Watz**	**85.45**	**178**	**P**		**P**	**P**	**19 05 55.5**	**+0.2**
	baz=181,slow=4.0								
VNA1	**Neumayer--Stat**	**85.68**	**177**	**P**		**P**	**P**	**19 05 56.2**	**-0.2**
TXAR	**Lajitas Array**	**90.24**	**58**	**P**		**P**	**P**	**19 06 19.8**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=221,slow=6.4,SNR=5.3								
	comp=Z,0.3nm,0.7s								
ARCES	**ARCESS Array B**	**131.76**	**348**		PKP		**PKPdf**	**19 12 25.6**	**-0.5**
	comp=Z,1.5nm,1.1s,baz=35,slow=2.2,SNR=3.9								
FINES	**FINESS Array B**	**138.34**	**342**		PKP		**PKPdf**	**19 12 38.3**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=28,slow=3.3,SNR=4.8								
FINES					SKPbc		**SKPbc**	**19 15 22.0**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=11,slow=3.9,SNR=4.6								
NB2	**NORSAR Subarra**	**141.94**	**351**		PKP		PKPpre	19 12 40.5	
	comp=Z,0.3nm,0.5s,baz=11,slow=3.2								
NOA	**NORSAR Array B**	**141.94**	**351**		PKhKP		PKPpre	19 12 41.0	
	comp=Z,0.4nm,0.7s,baz=30,slow=5.3,SNR=3.4								
AKASG	**Malin Array Be**	**144.91**	**327**		PKP		**PKPdf**	**19 12 50.3**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=42,slow=4.4,SNR=6.3								
BRTR	**Keskin Array B**	**147.58**	**307**		PKPbc		**PKPbc**	**19 12 58.7**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=84,slow=3.9,SNR=1.6								
BRTR					PKPab		**PKPab**	**19 13 03.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=88,slow=4.0,SNR=5.9								
CLL	**Collm**	**150.74**	**343**	*i*	PKPbc		**PKPbc**	**19 13 06.0**	**-0.2**
CLL				*i*	PKPab		**PKPab**	**19 13 15.3**	**-0.3**
GERES	**GERESS Array B**	**152.75**	**340**		PKPab		**PKPab**	**19 13 24.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=356,slow=1.4,SNR=2.2								
ESDC	**Sonseca Array**	**163.74**	**11**		PKPab		**PKPab**	**19 14 11.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=356,slow=4.5,SNR=4.1								
TORD	**Torodi Ar. Bea**	**169.36**	**188**		PKPab		**PKPab**	**19 14 37.7**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=172,slow=4.7,SNR=4.8								

IDC 22 18:57:38.9±1.4,36.77N×105.71E,h0km,mb3.2/4, mbtmp3.2/5,ML2.9/1,Error ellipse: s-maj=57.4km s-min=21.6km az=67.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**11.07**	**2**	Pn		Pn	Pn	19 00 18.8	+0.3
	0.1nm,0.3s,baz=183,slow=14,SNR=2.6								
SONM				Lg		Lg	Lg	19 03 30.8	
	0.1nm,0.3s,baz=190,slow=25,SNR=1.5								
	0.2nm,0.3s								
MKAR	**Makanchi Array**	**20.06**	**307**	P		P	P	19 02 14.3	+0.7
	0.4nm,0.6s,baz=108,slow=10,SNR=4.2								
	0.4nm,0.6s								
ZALV	**Zalesovo Beam**	**22.45**	**327**	P		P	P	19 02 38.6	-0.7
	0.5nm,0.4s,baz=129,slow=11,SNR=2.2								
	0.5nm,0.4s								
WRA	**Warramunga Arr**	**62.55**	**149**	P		P	P	19 08 05.6	+1.0
	0.2nm,0.8s,baz=342,slow=6.5,SNR=1.6								
	0.2nm,0.8s								
ASAR	**Alice Springs**	**65.73**	**152**	P		P	P	19 08 24.4	-1.1
	0.4nm,0.3s,baz=335,slow=6.4,SNR=1.8								
	0.4nm,0.9s								

*JMA **22** 19:04:54.4±0.8,34°N±2°×14°2E±°,h28km,MV2.5/19,FAR SE OFF BOSO PEN*
*IDC **22** 19:04:59.9±2.3,33°76N×139°31E,h0km,mb3.2/2, mbtmp3.1/3,ML2.1/1,Error ellipse: s-maj=124.6km s-min=17.6km az=78.0*
ISC 22 19:04:54.1±1.7,34.50N±0.08×141.7E±0.1,h10km,n9, σ1ϕ06/12,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.59**	**286**	P		P	**Pg**	**19 05 06.7**	**+1.3**
BSO3	**Boso 3**	**1.00**	**288**	P		P	**Pn**	**19 05 14.0**	**0.0**
BSO4	**Boso 4**	**1.20**	**295**	P		P	**Pn**	**19 05 17.2**	**+0.4**
CHOJ	**Chosi**	**1.37**	**331**	P		P	**Pn**	**19 05 18.7**	**-0.6**
CHOJ				S		S	**Sn**	**19 05 35.9**	**-1.6**
JKUC	**kamogawauchiur**	**1.38**	**299**	P		P	**Pn**	**19 05 18.9**	**-0.4**
JKUC				S		S	**Sn**	**19 05 36.6**	**-1.1**
JMKN	**Mikurajimanish**	**1.82**	**251**	P		P	**Pn**	**19 05 24.6**	**-0.9**
JMKN				S		S	**Sn**	**19 05 47.3**	**-1.4**
MJAR	**Matsushiro Arr**	**3.48**	**307**	Pn		Pn	**Pn**	**19 05 48.8**	**+0.5**
	0.3nm,0.3s,baz=159,slow=13,SNR=12								
MJAR				Lg		Lg	Lg	19 06 30.4	
	0.2nm,0.3s,baz=202,slow=39,SNR=3.5								
	1.8nm,0.3s								
WRA	**Warramunga Arr**	**54.58**	**188**	P		P	**P**	**19 14 22.3**	**-0.4**
	0.2nm,0.5s,baz=3.6,slow=7.6,SNR=8.0								
	0.2nm,0.5s								
ASAR	**Alice Springs**	**58.31**	**188**	P		P	**P**	**19 14 50.2**	**+1.0**
	0.3nm,0.9s,baz=10,slow=7.3,SNR=4.1								
	0.3nm,0.9s								

*IDC **22** 19:21:52.0±0.8,37.05N×142.18E,h0km,mb3.6/8, mbtmp3.8/11,ML4.1/2,MS2.8/3,Error ellipse: s-maj=24.6km s-min=16.5km az=120.0*
*JMA **22** 19:21:56.2±0.2,37.3N±0.4×141.8E±0.9,h42km±2km, MV3.7/40,E OFF FUKUSHIMA PREF*
*NIED **22** 19:21:56.2,37.28N×141.82E,h42km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.03; $M_{\theta\theta}$-2.57; $M_{\phi\phi}$0.54; $M_{r\theta}$3.73; $M_{\theta\phi}$-0.88; $M_{\phi r}$-1.62; Fault plane solution: $M_0$4.77000×10^{14} NP1: ϕ_s228.00000°,δ24.00000°,λ34.00000°. NP2: ϕ_s107.00000°,δ77.00000°,λ110.00000°.*
ISC 22 19:21:53.1±1.8,37.19N±0.04×141.91E±0.06,h13km±10km, n30,σ1ϕ89/35,mb3.6/8,8D,Near east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.85**	**283**	*i* P		P	**Pn**	**19 22 10.5**	**-0.3**
JFK				S		S	**Sg**	**19 22 20.3**	**-0.4**
JMST	**Minamisoumatoc**	**0.98**	**304**	⇓*i*P		P	**Pb**	**19 22 12.0**	**+0.1**
JMST				⇓S		S	**Sb**	**19 22 23.0**	**-1.8**
JFFD	**Fukushimafurud**	**1.08**	**265**	P		P	**Pg**	**19 22 14.2**	**+0.2**
JFFD				S		S	**Sb**	**19 22 26.9**	**-1.0**
JMM	**Marumori**	**1.12**	**308**	⇓*i*P		P	**Pb**	**19 22 14.1**	**-0.2**
JMM				⇓*e*S		S	**Sb**	**19 22 26.8**	**-2.1**
JHO	**Hitachi**	**1.22**	**242**	P		P	**Pg**	**19 22 16.4**	**-0.2**
JHO				S		S	**Sn**	**19 22 31.8**	**-0.6**
JIO	**Ouri**	**1.34**	**341**	⇓*i*P		P	**Pn**	**19 22 17.2**	**-0.5**
JIO				⇓*e*S		S	**Sn**	**19 22 32.2**	**-3.2**
JOU	**Okura**	**1.54**	**320**	*i* P		P	**Pn**	**19 22 20.9**	**+0.5**
JOU				eS		S	**Sn**	**19 22 39.3**	**-0.9**
JFY	**Yanaizu**	**1.77**	**278**	eP		P	**Pb**	**19 22 25.1**	**-0.5**
JFY				S		S	**Sn**	**19 22 45.7**	**-0.3**
JYS	**Shirataka**	**1.79**	**306**	P		P	**Pn**	**19 22 24.7**	**+0.8**
JYS				eS		S	**Sn**	**19 22 46.1**	**-0.4**
JMK	**Ichinoseki**	**1.84**	**343**	⇓*i*P		P	**Pn**	**19 22 24.8**	**+0.2**
JMK				⇓*e*S		S	**Sn**	**19 22 46.1**	**-1.6**
MJAR	**Matsushiro Arr**	**3.04**	**259**	Pn		Pn	**Pn**	**19 22 43.0**	**+2.0**
	2.0nm,0.3s,baz=85,slow=15,SNR=20								
MJAR				Sn		Sn	**Sb**	**19 23 22.7**	**-1.5**
	0.9nm,0.3s,baz=73,slow=32,SNR=5.6								
MJAR				LR		LR	LR	19 24 12.0	
	comp=Z,58nm,21.4s,baz=30,slow=43								
JHJ	**Hachijo jima 2**	**4.42**	**204**	Pn		Pn	**Pn**	**19 23 01.2**	**+1.3**
	13nm,0.3s,baz=335,slow=17,SNR=9.8								
JHJ				Sn		Sn	**Sn**	**19 23 51.1**	**-0.1**

69nm,0.3s
MJAR Matsushiro Arr 3.72 307 Pn Pn 19 38 55.3 +0.7
0.8nm,0.3s,baz=151,slow=13,SNR=34
MJAR Sn **Sn 19 39 35.6 -2.1**
0.3nm,0.3s,baz=120,slow=29,SNR=2.1
4.0nm,0.4s
JCJ Chichijima 7.26 178 Pn Pn 19 39 41.8 -1.5
3.0nm,0.3s,baz=321,slow=23,SNR=1.6
JCJ Sn **Sn 19 41 01.7 -3.4**
2.2nm,0.3s,baz=294,slow=22,SNR=2.0
63nm,0.9s
H11N2 WAKE ISLAND Hy 26.51 117 T T 20 11 36.0
baz=311
H11N2 T T 20 22 43.1
SNR=3848
H11N1 WAKE ISLAND Hy 26.51 117 T T 20 11 38.0
baz=311
H11N3 WAKE ISLAND Hy 26.52 117 T T 20 11 37.1
baz=311
H11S3 WAKE ISLAND Hy 27.14 119 T T 20 12 33.1
baz=312
H11S1 WAKE ISLAND Hy 27.14 119 T T 20 12 31.2
baz=312
H11S2 WAKE ISLAND Hy 27.15 119 T T 20 12 30.6
baz=312
SONM Songino Array 29.67 308 P P 19 44 02.9 +0.3
0.3nm,0.5s,baz=110,slow=9.4,SNR=2.7
0.3nm,0.5s
CMAR Chiang Mai Arr 41.30 259 P P 19 45 42.0 -0.5
0.6nm,0.6s,baz=49,slow=8.1,SNR=7.8
0.6nm,0.6s
ZALV Zalesovo Beam 44.03 314 P P 19 46 05.4 +1.1
0.5nm,0.6s,baz=79,slow=7.8,SNR=2.3
0.5nm,0.6s
MKAR Makanchi Array 45.91 304 P P 19 46 20.9 +1.5
0.4nm,0.6s,baz=90,slow=11,SNR=4.9
0.4nm,0.6s
WRA Warramunga Arr 54.50 189 P P 19 47 26.4 +1.9
0.3nm,0.5s,baz=3.2,slow=7.6,SNR=7.0
0.3nm,0.5s
ASAR Alice Springs 58.23 189 P P 19 47 52.1 +1.0
0.2nm,0.6s,baz=2.5,slow=6.2,SNR=1.9
0.2nm,0.6s

---

*VIE **22** 20:00:31.3±0.3,45.°82N×15.°45E,h2km,mb1.4/1,ml1.8/2, Error ellipse: s-maj=2.6km s-min=1.6km az=163.0 16 km S of Krsko*
*LJU **22** 20:00:31.0,45.°81N×15.°43E,h4km,ML1.5*
ISC 22 20:00:31.1±0.9,45.°82N±0.°02×15.°43E±0.°02,h2km±7km, n44,σ0°54/65,2C-4D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRES	**Cresnjev**	**0.02**	**65**	⇑	*i*	**Pg**		**20 00 31.6**	**-0.1**
CRES					*i*	Sg	**Sg**	**20 00 31.9**	**-0.2**
CRES					IAML			20 00 32.0	
	comp=Z,2μm,0.1s								
GCIS	**Gornji Cirnik**	**0.15**	**70**	⇓	*i*	**Pg**	**Pg**	**20 00 33.9**	**0.0**
GCIS					*i*	Sg	**Sg**	**20 00 36.0**	**+0.1**
GCIS					IAML			20 00 36.2	
	comp=Z,75nm,0.1s								
LEGS	**Legarje**	**0.15**	**329**	⇓	*i*	**Pg**	**Pg**	**20 00 34.1**	**+0.1**
LEGS					*i*	Sg	**Sg**	**20 00 36.8**	**+0.7**
CESS	**Cesta pri Krsk**	**0.16**	**9**	⇓	*i*	**Pg**	**Pg**	**20 00 34.0**	**-0.1**
CESS					IAML			20 00 38.0	
	comp=Z,80nm,0.1s								
OZLJ	**Ozalj**	**0.20**	**173**		*e*	**Pg**	**Pg**	**20 00 35.1**	**+0.2**
GOLS	**Golise**	**0.24**	**35**		*i*	**Pg**	**Pg**	**20 00 35.7**	**+0.1**
GOLS					*i*	Sg	**Sg**	**20 00 40.1**	**+1.3**
GOLS					IAML			20 00 43.0	
	comp=Z,32nm,0.1s								
DOBS	**Dobrina**	**0.33**	**5**	⇓	*i*	**Pg**	**Pg**	**20 00 37.7**	**+0.2**
DOBS					IAML			20 00 45.2	
	comp=Z,14nm,0.1s								
BOJS	**Bojanci**	**0.34**	**202**		*i*	**Pg**	**Pg**	**20 00 37.3**	**-0.2**
BOJS					*i*	Sg	**Sg**	**20 00 42.9**	**+1.0**
BOJS					IAML			20 00 44.6	
	comp=Z,26nm,0.1s								
PTJ	**Puntijarka**	**0.39**	**76**		*e*	**Pg**	**Pg**	**20 00 38.5**	**0.0**
PTJ						Sg	**Sg**	**20 00 44.0**	**+0.4**
PDKS	**Podkum**	**0.39**	**309**		*i*	**Pg**	**Pg**	**20 00 39.0**	**+0.4**
PDKS					*e*	Sg	**Sg**	**20 00 44.5**	**+0.9**
PDKS					IAML			20 00 46.0	
	comp=Z,19nm,0.1s								
ZAG	**Zagreb**	**0.39**	**88**		*e*	**Pg**	**Pg**	**20 00 39.0**	**+0.5**
VISS	**Visnje**	**0.41**	**268**		*i*	**Pg**	**Pg**	**20 00 39.0**	**0.0**
VISS					*i*	Sg	**Sg**	**20 00 45.6**	**+1.3**
VISS					IAML			20 00 47.5	
	comp=Z,48nm,0.3s								
GBRS	**Gornja Briga**	**0.52**	**237**	⇑	*i*	**Pg**	**Pb**	**20 00 41.8**	**-1.1**
LOBO	**Lobor**	**0.56**	**53**		*e*	**Pg**	**Pg**	**20 00 41.8**	**0.0**
VNDS	**Vrh nad Dolski**	**0.58**	**300**		*i*	**Pg**	**Pg**	**20 00 42.8**	**+0.5**
VNDS					*i*	Sg	**Sb**	**20 00 51.5**	**-1.2**
VNDS					IAML			20 00 52.3	
	comp=Z,14nm,0.2s								
GROS	**Grobnik**	**0.65**	**4**		*i*	**Pg**	**Pg**	**20 00 43.6**	**+0.2**
GROS					IAML			20 00 53.9	
	comp=Z,2.4nm,0.1s								
GBAS	**Gorenja Brezov**	**0.70**	**280**		*i*	**Pg**	**Pg**	**20 00 44.9**	**+0.4**
GBAS					*i*	Sg	**Sg**	**20 00 53.5**	**-0.1**
GBAS					IAML			20 00 57.1	
	comp=Z,4.0nm,0.1s								
CEY	**Cerknica**	**0.71**	**264**		*i*	**Pg**	**Pg**	**20 00 45.0**	**+0.4**
CEY					*i*	Sg	**Sb**	**20 00 55.2**	**-1.0**
CEY					IAML			20 00 57.1	
	comp=Z,3.2nm,0.1s								
KALN	**Kalnik**	**0.78**	**66**		*e*	**Pg**	**Pg**	**20 00 46.6**	**+0.6**
KNDS	**Knezji Dol**	**0.79**	**249**		*i*	**Pg**	**Pg**	**20 00 46.4**	**+0.2**
KNDS					IAML			20 01 02.2	
	comp=Z,5.5nm,0.2s								
A250A	**Rusevo Krmpots**	**0.82**	**207**		*e*	**Pg**	**Pg**	**20 00 46.4**	**-0.3**
RIY	**Rijeka**	**0.83**	**234**		*e*	**Pg**	**Pg**	**20 00 47.0**	**+0.1**
MOZS	**Mozjanca**	**0.84**	**305**		*i*	**Pg**	**Pg**	**20 00 47.6**	**+0.5**
MOZS					*i*	Sg	**Sg**	**20 00 58.5**	**+0.6**
MOZS					IAML			20 01 04.2	
	comp=Z,6.6nm,0.2s								
KOGS	**Kog**	**0.85**	**42**		*e*	**Pg**	**Pg**	**20 00 47.4**	**0.0**
KOGS					*i*	Sg	**Sb**	**20 01 00.0**	**-0.4**
KOGS					IAML			20 01 03.6	
	comp=Z,11nm,0.2s								
CRNS	**Crni Vrh**	**0.86**	**288**		*i*	**Pg**	**Pg**	**20 00 47.7**	**+0.2**
CRNS					*i*	Sg	**Sb**	**20 01 00.2**	**-0.4**
CRNS					IAML			20 01 01.7	
	comp=Z,7.1nm,0.1s								
SOKA	**Soboth**	**0.90**	**342**		Pg		**Pg**	**20 00 48.3**	**-0.1**
	comp=Z,0.4nm,0.2s,SNR=6.0								
SOKA					*e*	Sg	**Sg**	**20 01 00.0**	**-0.1**
	comp=Z,1.2nm,0.2s								
OBKA	**Obir**	**0.92**	**319**		Pg		**Pb**	**20 00 49.7**	**-0.2**
	comp=Z,0.9nm,0.1s,SNR=9.4								
OBKA					*e*	Sg	**Sb**	**20 01 02.5**	**-0.1**
	comp=Z,2.2nm,0.2s								
PLIT	**Plitvice**	**0.95**	**172**		*e*	**Pg**	**Pg**	**20 00 48.6**	**-0.6**
MOSL	**Moslavina**	**0.95**	**102**		*e*	**Pg**	**Pg**	**20 00 49.2**	**-0.1**
JAVS	**Javornik**	**0.96**	**275**		*i*	**Pg**	**Pg**	**20 00 49.2**	**-0.2**
JAVS					*i*	Sg	**Sb**	**20 01 02.5**	**-1.0**
JAVS					IAML			20 01 06.5	
	comp=Z,4.6nm,0.2s								
SKDS	**Skadanscina**	**1.03**	**255**		*i*	**Pg**	**Pg**	**20 00 50.6**	**-0.2**
SKDS					*i*	Sg	**Sb**	**20 01 05.9**	**+0.4**
SKDS					IAML			20 01 11.3	
	comp=Z,6.0nm,0.2s								
VOJS	**Vojsko**	**1.10**	**282**		*i*	**Pg**	**Pg**	**20 00 51.9**	**-0.3**
VOJS					IAML			20 01 11.8	
	comp=Z,3.0nm,0.2s								
GORS	**Gorjuse**	**1.12**	**297**		*i*	**Pg**	**Pb**	**20 00 52.9**	**-0.3**
GORS					*e*	Sg	**Sn**	**20 01 09.1**	**-0.7**
GORS					IAML			20 01 10.9	
	comp=Z,11nm,0.2s								
RABC	**Rab**	**1.16**	**203**		*e*	**Pn**	**Pn**	**20 00 54.4**	**+0.2**
SMRN	**Sveta Marina**	**1.19**	**229**		*e*	**Pg**	**Pn**	**20 00 54.6**	**0.0**
A253A	**Karojba, Istri**	**1.25**	**246**		*e*	**Pg**	**Pn**	**20 00 55.8**	**+0.3**
CADS	**Cadrg**	**1.25**	**290**		*i*	**Pg**	**Pg**	**20 00 54.9**	**-0.1**
CADS					IAML			20 01 16.4	
	comp=Z,8.6nm,0.2s								
NVLJ	**Novalja**	**1.31**	**198**		*e*	**Pn**	**Pb**	**20 00 56.8**	**+0.4**
NVLJ						Sn	**Sn**	**20 01 15.3**	**+0.8**
ROBS	**Robic**	**1.40**	**288**		*i*	**Pg**	**Pg**	**20 00 58.0**	**0.0**
BRJN	**Brijuni**	**1.49**	**233**		*e*	**Pn**	**Pb**	**20 00 59.1**	**-0.4**
BRJN						Sg	**Sg**	**20 01 20.1**	**+1.1**
VIRC	**Vir**	**1.55**	**190**		*e*	**Pn**	**Pg**	**20 01 01.1**	**+0.4**
DUGI	**Dugi Otok**	**1.84**	**188**		*e*	**Pn**	**Pb**	**20 01 05.1**	**-0.3**
KIJV	**Kijevo**	**1.94**	**159**		*e*	**Pn**	**Pb**	**20 01 07.2**	**+0.1**
MORI	**Morici**	**1.96**	**174**		*e*	**Pn**	**Pb**	**20 01 06.7**	**-0.7**

ROM 22 20:00:34.6±0.0,42.°643N×0.°003×13.°335E±0.°004, h10km,ML1.4/7,1C,Error ellipse: s-maj=0.3km s-min=0.3km az=31.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1204	**Amatrice, Fraz**	**0.04**	**337**		*i*	P	Pg	20 00 36.9	+0.2
T1204					*i*	S	Sg	20 00 38.0	-0.2
T1204					AML	AML			
	comp=E,1695μm,0.7s								
T1204					AML	AML			
	comp=N,1064μm,0.9s								
T1243	**Rocca Santa Ma**	**0.10**	**57**		*i*	P	Pg	20 00 37.8	+0.5
T1243					*i*	S	Sg	20 00 39.7	+0.5
T1202	**Accumoli, Fraz**	**0.10**	**307**		*i*	P	Pg	20 00 38.0	+0.7
T1202					*i*	S	Sg	20 00 40.2	+0.9
RM33	**Pellescritta (**	**0.16**	**214**		*i*	P	Pg	20 00 38.8	+0.6
RM33					*i*	S	Sg	20 00 41.6	+0.9
RM33					AML	AML			
	comp=E,163μm,0.4s								
RM33					AML	AML			
	comp=N,132μm,0.3s								
RM33					AML	AML			
	comp=N,132μm,0.3s								
TERO	**Teramo**	**0.20**	**96**		*i*	P	Pg	20 00 39.4	+0.6
TERO					*i*	S	Sg	20 00 42.6	+0.9
TERO					AML	AML			
	comp=N,225μm,0.6s								
TERO					AML	AML			
	comp=E,147μm,0.1s								
T1247	**Pizzolo (AQ)**	**0.20**	**188**		*i*	P	Pg	20 00 39.5	+0.7
T1247					*i*	S	Sg	20 00 43.1	+1.3
T1247					AML	AML			
	comp=E,162μm,0.1s								
T1247					AML	AML			
	comp=N,152μm,0.2s								
T1242	**Castelluccio d**	**0.21**	**333**		*i*	P	Pb	20 00 40.1	-0.5
T1242					AML	AML			
	comp=E,336μm,0.7s								
T1242					AML	AML			
	comp=E,440μm,0.3s								
T1242					AML	AML			
	comp=N,434μm,0.3s								
LNSS	**Leonessa**	**0.22**	**260**		*i*	P	Pg	20 00 39.9	+0.6
LNSS					*i*	S	Sg	20 00 43.5	+1.1
LNSS					AML	AML			
	comp=E,108μm,0.6s								
LNSS					AML	AML			
	comp=N,96μm,0.1s								
LNSS					AML	AML			
	comp=E,108μm,0.6s								
LNSS					AML	AML			
	comp=N,96μm,0.1s								
T1241	**Roccafluvione,**	**0.23**	**18**		*i*	P	Pg	20 00 39.9	+0.6
T1241					*i*	S	Sg	20 00 43.6	+1.2
NRCA	**Norcia**	**0.25**	**320**	⇑	*i*	P	Pg	20 00 40.4	+0.6
NRCA					AML	AML			
	comp=E,1910μm,0.1s								
NRCA					AML	AML			
	comp=N,1080μm,0.2s								
MMO1	**Montemonaco**	**0.26**	**359**		*i*	P	Pg	20 00 40.5	+0.7
MMO1					*i*	S	Sb	20 00 44.8	-1.1
GIGS	**Gran Sasso**	**0.26**	**138**		*i*	P	Pg	20 00 40.5	+0.7
GIGS					*i*	S	Sb	20 00 44.7	-1.2
GIGS					AML	AML			
	comp=E,20μm,1.5s								
GIGS					AML	AML			
	comp=N,20μm,1.4s								
T1217	**Poggiodomo (PG**	**0.31**	**283**		*i*	P	Pg	20 00 41.2	+0.5
T1217					*i*	S	Sg	20 00 46.1	+1.2
T1215	**Vallo di Nera,**	**0.38**	**295**		*i*	P	Pg	20 00 42.5	+0.4
T1215					*i*	S	Sb	20 00 48.4	-1.0
FIAM	**Fiamignano**	**0.41**	**203**		*i*	P	Pg	20 00 43.2	+0.6
ARRO	**Arrone**	**0.42**	**262**		*i*	P	Pg	20 00 43.2	+0.3
VCEL	**Villa Celiera**	**0.45**	**123**		*i*	P	Pb	20 00 44.4	-0.3
CSP1	**Cessapalombo**	**0.46**	**348**		*i*	P	Pg	20 00 44.2	+0.6
T0110	**Collepietro**	**0.53**	**142**		*i*	P	Pg	20 00 45.3	+0.4

---

*IDC **22** 20:01:38.0±1.4,34.°43N×141.°73E,h0km,mb3.5/4, mbtmp3.4/6,ML2.6/2,MS2.7/1,Error ellipse: s-maj=28.2km s-min=22.6km az=106.0*
*JMA **22** 20:01:39.0±0.4,34.°4N±1.°×14.°2E±.°,h38km±2km,MV3.0/31, FAR SE OFF BOSO PEN*
ISC 22 20:01:41.7±1.2,34.°47N±0.°06×141.°65E±0.°08,h27km,n15, σ1°10/19,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.58**	**288**			P	**Pn**	**20 01 53.0**	**-0.7**
BSO3	**Boso 3**	**1.00**	**290**			P	**Pb**	**20 01 59.7**	**-0.4**
BSO4	**Boso 4**	**1.20**	**296**			P	**Pb**	**20 02 03.1**	**-0.6**
JKUC	**kamogawauchiur**	**1.38**	**300**			P	**Pb**	**20 02 04.8**	**-1.9**
JKUC						eS	**Sb**	**20 02 24.1**	**+0.2**
CHOJ	**Chosi**	**1.39**	**332**			P	**Pn**	**20 02 04.1**	**-1.2**
CHOJ						eS	**Sb**	**20 02 23.0**	**-1.3**
JMKN	**Mikurajimanish**	**1.80**	**252**			P	**Pn**	**20 02 10.2**	**-0.8**
JMKN						eS	**Sn**	**20 02 33.0**	**0.0**
JIM2	**Oshima 3**	**1.85**	**278**			S	**Sn**	**20 02 34.2**	**+0.1**
JHJ2	**Mitsune**	**2.04**	**229**			eS	**Sn**	**20 02 39.5**	**+0.7**
JHJ	**Hachijo jima 2**	**2.06**	**230**			Pn	**Pn**	**20 02 13.8**	**-0.7**
	12nm,0.3s,baz=276,slow=20,SNR=13								
JHJ						Sn	**Sn**	**20 02 39.6**	**+0.3**
	28nm,0.3s,baz=82,slow=21,SNR=4.5								
	37nm,0.2s								
MJAR	**Matsushiro Arr**	**3.49**	**307**			Pn	**Pn**	**20 02 34.9**	**+0.7**
	0.2nm,0.3s,baz=108,slow=9.7,SNR=12								
MJAR						Sn	**Sn**	**20 03 17.0**	**+2.5**
	0.3nm,0.3s,baz=142,slow=22,SNR=8.8								
	1.5nm,0.4s								
KSRS	**Korea Array**	**11.52**	**289**			LR	LR	20 09 28.3	
	comp=Z,32nm,18.4s,baz=230,slow=40								
MKAR	**Makanchi Array**	**45.68**	**304**			P	**P**	**20 10 01.8**	**+1.7**
	0.3nm,0.6s,baz=81,slow=10,SNR=2.9								
	0.3nm,0.6s								
KURBB	**Kurchatov Arra**	**47.76**	**310**			P	**P**	**20 10 16.3**	**+0.1**
	0.9nm,0.8s,baz=85,slow=7.8,SNR=9.2								
	0.9nm,0.8s								
ILAR	**Eielson Array**	**51.56**	**31**			P	**P**	**20 10 45.0**	**0.0**
	0.6nm,0.8s,baz=250,slow=8.6,SNR=4.6								
	0.6nm,0.8s								
WRA	**Warramunga Arr**	**54.56**	**188**			P	**P**	**20 11 07.9**	**+0.4**
	0.5nm,1.0s,baz=4.1,slow=7.5,SNR=5.0								
	0.5nm,1.0s								

---

*LDG **22** 20:03:53.9±0.1,42.°80N×13.°27E,h12km,Ml3.5/28,Error ellipse: s-maj=4.0km s-min=2.4km az=55.0*
*IDC **22** 20:03:55.0±1.3,42.°94N×12.°79E,h0km,mb3.7/4, mbtmp3.6/9,ML3.7/4,Error ellipse: s-maj=24.2km s-min=14.5km az=95.0*
*ROM **22** 20:03:55.0±0.0,42.°756N±0.°002×13.°186E±0.°002, h9km,ML3.7/97,Mw3.4,Error ellipse: s-maj=0.2km s-min=0.1km az=66.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.32; $M_{\theta\theta}$0.46; $M_{\phi\phi}$0.86; $M_{r\theta}$0.08; $M_{\theta\phi}$-0.97; $M_{\phi r}$-0.71; Fault plane solution: $M_0$1.66164×10^{14} NP1:ϕ_s123.00000°,δ37.00000°, λ-118.00000°. NP2:ϕ_s337.00000°,δ58.00000°, λ-71.00000°.*
*PDG **22** 20:03:55.5±0.6,42.°77N×13.°21E,h11km,ML3.7/13 Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*PRU **22** 20:03:56.7±0.0,42.°76N×13.°41E,h7km*
*STR **22** 20:03:57.9±0.7,43.°N±5.°×1.°3E±.°,h10km,MLv3.6/32,Error ellipse: s-maj=0.0km s-min=0.0km az=74.3,preliminary*
*GEN **22** 20:04:10.4,43.°36N×12.°13E,h28km±3km,Ml0.0*
ISC 22 20:03:55.7±0.7,42.°76N±0.°01×13.°15E±0.°02,h12km±4km, n392,σ2°14/467,mb3.7/3,79C-47D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1202	**Accumoli, Fraz**	**0.08**	**134**	⇓		P	**Pg**	**20 03 57.7**	**-0.6**
T1202						S	**Sg**	**20 03 59.3**	**-1.0**
NRCA	**Norcia**	**0.08**	**342**			P	**Pg**	**20 03 57.9**	**-0.5**
NRCA						S	**Sg**	**20 03 59.6**	**-0.7**
NRCA					AML	AML			
NRCA					AML	AML			
NRCA					AML	AML			
NRCA					AML	AML			
NRCA					AML	AML			
NRCA					AML	AML			
T1242	**Castelluccio d**	**0.08**	**30**	⇓		P	**Pg**	**20 03 57.7**	**-0.8**
T1242						S	**Sg**	**20 03 59.2**	**-1.2**
T1242					AML	AML			
T1242					AML	AML			
T1242					AML	AML			
T1242					AML	AML			
T1244	**Arquata del Tr**	**0.11**	**91**	⇓		P	**Pg**	**20 03 58.0**	**-0.7**
T1244						S	**Sg**	**20 03 59.8**	**-1.0**
T1204	**Amatrice, Fraz**	**0.15**	**123**	⇓		P	**Pg**	**20 03 58.7**	**-0.6**
T1204						S	**Sg**	**20 04 00.8**	**-1.1**
T1204					AML	AML			
	comp=E,82700μm,1.3s								
T1204					AML	AML			
	comp=N,50850μm,1.0s								
MC2	**Monte Cornacci**	**0.16**	**11**	⇑		P	**Pg**	**20 03 59.1**	**-0.4**
MC2						S	**Sg**	**20 04 02.0**	**-0.2**
T1216	**Preci, Frazion**	**0.16**	**324**	⇑		P	**Pg**	**20 03 59.4**	**0.0**
T1216						S	**Sg**	**20 04 02.4**	**+0.3**
T1216					AML	AML			
	comp=N,83200μm,1.3s								
T1216					AML	AML			
	comp=E,67350μm,0.7s								
T1216					AML	AML			
	comp=E,64400μm,0.2s								
T1216					AML	AML			
	comp=N,91750μm,1.3s								
T1216					AML	AML			
	comp=N,83200μm,1.3s								
T1216					AML	AML			
	comp=E,67300μm,0.7s								
T1216					AML	AML			
	comp=N,91750μm,1.3s								
T1216					AML	AML			
	comp=N,83150μm,1.3s								
T1217	**Poggiodomo (PG**	**0.17**	**254**			P	**Pg**	**20 03 59.7**	**+0.2**
T1217						S	**Sg**	**20 04 03.2**	**+1.0**
T1217					AML	AML			
	comp=E,53750μm,0.4s								
T1217					AML	AML			
	comp=N,67250μm,0.3s								
T1217					AML	AML			
	comp=E,54600μm,0.4s								
T1217					AML	AML			
	comp=N,67850μm,0.3s								
T1217					AML	AML			
	comp=N,67900μm,0.3s								
T1217					AML	AML			
	comp=E,53700μm,0.4s								
LNSS	**Leonessa**	**0.17**	**207**	⇑		P	**Pg**	**20 03 59.7**	**0.0**
LNSS						S	**Sg**	**20 04 02.9**	**+0.4**
LNSS					AML	AML			
LNSS					AML	AML			
MMO1	**Montemonaco**	**0.19**	**43**	⇑		P	**Pg**	**20 03 59.3**	**-0.6**
MMO1						S	**Sg**	**20 04 02.3**	**-0.6**
T1215	**Vallo di Nera,**	**0.21**	**282**	⇑		P	**Pg**	**20 04 00.4**	**+0.2**
T1215						S	**Sg**	**20 04 04.2**	**+0.8**
T1215					AML	AML			
	comp=E,36600μm,0.2s								
T1215					AML	AML			
	comp=E,35950μm,0.2s								
T1215					AML	AML			
	comp=N,23950μm,1.3s								
T1215					AML	AML			
	comp=N,22950μm,1.3s								
T1215					AML	AML			
	comp=E,35950μm,0.2s								
T1215					AML	AML			
	comp=E,36600μm,0.2s								
T1215					AML	AML			
	comp=N,23000μm,1.3s								
FEMA	**Monte Fema**	**0.22**	**340**	⇓		P	**Pg**	**20 04 00.3**	**-0.1**
FEMA						S	**Sg**	**20 04 03.9**	**+0.3**
FEMA					AML	AML			
	comp=E,46800μm,0.4s								
FEMA					AML	AML			
	comp=E,46750μm,0.4s								
FEMA					AML	AML			
	comp=N,39950μm,0.9s								
T1243	**Rocca Santa Ma**	**0.23**	**105**	⇑		P	**Pg**	**20 03 59.7**	**-0.9**
T1243						S	**Sg**	**20 04 03.1**	**-0.8**
T1241	**Roccafluvione,**	**0.23**	**65**	⇑		P	**Pg**	**20 03 59.8**	**-0.7**
T1241						S	**Sg**	**20 04 03.1**	**-0.7**
T1241					AML	AML			
	comp=E,99650μm,0.8s								
T1241					AML	AML			
	comp=N,81450μm,0.3s								
T1241					AML	AML			
	comp=E,96600μm,0.8s								
T1241					AML	AML			
	comp=N,81000μm,0.2s								
RM33	**Pellescritta (**	**0.25**	**169**	⇑		P	**Pg**	**20 04 00.7**	**-0.3**
RM33						S	**Sg**	**20 04 05.0**	**+0.4**
RM33					AML	AML			
	comp=E,43650μm,0.8s								
RM33					AML	AML			
	comp=N,39850μm,0.3s								
RM33					AML	AML			
	comp=N,39900μm,0.3s								
RM33					AML	AML			
	comp=N,40500μm,0.3s								
RM33					AML	AML			
	comp=E,42900μm,0.8s								
AM05	**Amandola Campo**	**0.27**	**34**	⇑		P	**Pg**	**20 04 00.8**	**-0.4**
AM05						S	**Sg**	**20 04 05.0**	**+0.1**
AM05					AML	AML			
	comp=E,24500μm,0.3s								
AM05					AML	AML			
	comp=N,19000μm,0.3s								
AM05					AML	AML			
	comp=N,76950μm,0.3s								
AM05					AML	AML			
	comp=N,76900μm,0.3s								
AM05					AML	AML			
	comp=E,24550μm,0.3s								
AM05					AML	AML			
	comp=E,98600μm,0.3s								
FDMO	**Fiordimonte**	**0.28**	**351**	⇑		P	**Pg**	**20 04 01.2**	**-0.3**
FDMO						S	**Sg**	**20 04 06.0**	**+0.6**
FDMO					AML	AML			
	comp=E,27250μm,0.3s								
FDMO					AML	AML			
	comp=N,27750μm,0.9s								
CAMP	**Campotosto**	**0.29**	**139**	⇑		P	**Pg**	**20 04 01.1**	**-0.6**
CAMP						S	**Sg**	**20 04 05.7**	**-0.1**
CAMP					AML	AML			
	comp=E,15100μm,0.2s								
CAMP					AML	AML			
	comp=N,13850μm,0.6s								
CESI	**CESI - Serrava**	**0.30**	**324**	⇓		P	**Pg**	**20 04 01.9**	**0.0**
CESI					AML	AML			
	comp=E,29700μm,0.2s								
CESI					AML	AML			
	comp=N,58250μm,0.2s								
T1246	**Crognaleto (TE**	**0.31**	**124**	⇑		P	**Pg**	**20 04 01.2**	**-0.8**
T1246						S	**Sg**	**20 04 05.9**	**-0.3**
ARRO	**Arrone**	**0.33**	**238**	⇑		P	**Pg**	**20 04 02.5**	**+0.1**
ARRO					AML	AML			
	comp=E,25150μm,0.2s								
ARRO					AML	AML			
	comp=N,16300μm,0.5s								
GUMA	**Gualdo di Mace**	**0.33**	**24**	⇑	

SEF1 AML AML
comp=N,22900µm,0.5s
SEF1 AML AML
comp=N,22850µm,0.5s
SEF1 AML AML
comp=E,29900µm,0.2s
OFFI Offida 0.43 66 ⇑P **Pg 20 04 04.2 0.0**
OFFI AML AML
comp=N,31700µm,0.5s
OFFI AML AML
comp=E,33750µm,0.4s
MDAR Monte D'Aria 0.43 359 ⇓P **Pg 20 04 04.0 -0.3**
MDAR AML AML
comp=E,13250µm,0.3s
MDAR AML AML
comp=N,18500µm,0.2s
GIGS Gran Sasso 0.44 135 P **Pg 20 04 03.2 -1.1**
GIGS AML AML
comp=N,3240µm,0.9s
GIGS AML AML
comp=E,4110µm,1.4s
PIO1 Pioraco 0.44 344 ⇓P **Pg 20 04 04.1 -0.2**
PIO1 AML AML
comp=E,9150µm,0.6s
PIO1 AML AML
comp=N,13300µm,1.0s
PIO1 AML AML
comp=E,9155µm,0.6s
AQU L'Aquila 0.45 155 ⇑P **Pg 20 04 04.0 -0.4**
AQU AML AML
comp=N,9515µm,1.0s
AQU AML AML
comp=N,9560µm,1.0s
AQU AML AML
comp=N,9310µm,1.0s
AQU AML AML
comp=E,11280µm,1.0s
AQU AML AML
comp=E,11035µm,1.0s
CESX Cesi 0.45 251 P **Pg 20 04 04.3 -0.1**
CESX AML AML
comp=E,18100µm,0.7s
CESX AML AML
comp=N,14500µm,0.4s
MNTP Montappone 0.45 32 ⇑P **Pg 20 04 04.5 0.0**
MNTP AML AML
comp=E,54850µm,0.2s
MNTP AML AML
comp=N,34650µm,1.2s
FIU1 Fiuminata 0.46 340 ⇓P **Pg 20 04 04.6 -0.1**
FIU1 AML AML
comp=E,7825µm,0.2s
FIU1 AML AML
comp=N,9330µm,0.5s
FIU1 AML AML
comp=N,9355µm,0.5s
SSM1 San Severino M 0.47 3 ⇓P **Pg 20 04 04.7 -0.2**
GAG1 Gagliole 0.48 353 ⇑P **Pg 20 04 05.1 -0.1**
GAG1 AML AML
comp=N,25350µm,1.6s
GAG1 AML AML
comp=E,28250µm,0.6s
FIAM Fiamignano 0.49 183 P **Pg 20 04 04.7 -0.6**
FIAM AML AML
comp=E,10710µm,0.6s
FIAM AML AML
comp=N,5535µm,0.5s
MTL1 Matelica 0.51 348 ⇓P **Pg 20 04 05.5 -0.1**
MTL1 AML AML
comp=N,24700µm,1.0s
MTL1 AML AML
comp=E,21850µm,1.6s
MTL1 AML AML
comp=E,21850µm,1.6s
SNTG Esanatoglia 0.52 343 ⇓P **Pg 20 04 05.4 -0.4**
SNTG S **Sb 20 04 14.0 -0.3**
SNTG AML AML
comp=N,6795µm,0.3s
SNTG AML AML
comp=E,6035µm,0.6s
TRE1 Treia 0.57 12 ⇑P **Pg 20 04 06.9 +0.2**
TRE1 AML AML
comp=N,24700µm,0.4s
TRE1 AML AML
comp=N,24700µm,0.4s
TRE1 AML AML
comp=E,31200µm,1.3s
TRTR Tortoreto Alta 0.57 85 P **Pg 20 04 06.5 -0.2**
TRTR AML AML
comp=N,22650µm,0.4s
TRTR AML AML
comp=E,25350µm,0.5s
ATCC AVT- Casa Cast 0.57 319 ⇓P **Pg 20 04 06.5 -0.3**
ATCC AML AML
comp=E,14150µm,0.3s
ATCC AML AML
comp=N,9915µm,0.6s
EL6 Elcito 0.57 357 ⇑P **Pg 20 04 06.3 -0.6**
EL6 AML AML
comp=N,15650µm,0.7s
EL6 AML AML
comp=E,15250µm,1.2s
FAGN Fagnano 0.59 147 P **Pg 20 04 06.1 -1.0**
FAGN AML AML
comp=E,14850µm,0.5s
FAGN AML AML
comp=N,12450µm,0.5s
CING Cingoli 0.62 3 P **Pg 20 04 07.0 -0.7**
CING AML AML
comp=E,7795µm,0.6s
CING AML AML
comp=N,7100µm,1.5s
CADA Capodarco di F 0.63 46 AML AML
comp=E,27350µm,0.3s
CADA AML AML
comp=N,24350µm,0.3s
VCEL Villa Celiera 0.63 125 ⇑P **Pg 20 04 06.9 -1.0**
VCEL AML AML
comp=N,11900µm,1.0s
VCEL AML AML
comp=E,11105µm,0.4s
VCEL AML AML
comp=E,11135µm,0.4s
MURB Monte Urbino 0.68 318 ⇑P **Pg 20 04 08.7 -0.2**
MURB AML AML
comp=E,20200µm,0.2s
MURB AML AML
comp=E,22250µm,1.1s
MURB AML AML
comp=N,20150µm,0.9s
MURB AML AML
comp=N,19300µm,0.3s
MMUR Monte Murano 0.69 351 ⇑P **Pg 20 04 08.8 -0.3**
MMUR AML AML
comp=E,15000µm,0.3s
MMUR AML AML
comp=N,8955µm,1.4s
PP3 Marolino 0.70 28 P **Pg 20 04 09.2 -0.1**
PP3 AML AML
comp=E,42250µm,0.5s
PP3 AML AML
comp=N,20750µm,0.3s
PP3 AML AML
comp=N,23650µm,0.3s
PP3 AML AML
comp=E,40500µm,0.5s
T0110 Collepietro 0.71 139 ⇑P **Pg 20 04 08.2 -1.2**
T0110 AML AML
comp=E,9760µm,0.3s
T0110 AML AML
comp=N,8780µm,0.4s
SSFR Montelago di S 0.73 339 ⇑P **Pg 20 04 09.2 -0.6**
SSFR AML AML
comp=E,14250µm,0.2s
SSFR AML AML
comp=E,14300µm,0.2s
SSFR AML AML
comp=N,13150µm,0.2s
SSFR AML AML
comp=N,15750µm,0.2s
ATTE AVT- Monte Tez 0.73 307 ⇓P **Pg 20 04 09.6 -0.2**
ATTE AML AML
comp=E,4045µm,0.4s
ATTE AML AML
comp=N,3940µm,0.8s
ATFO Monte Foce - G 0.74 325 ⇑P **Pg 20 04 09.8 -0.3**
ATFO AML AML
comp=N,4790µm,0.3s
ATFO AML AML
comp=E,3390µm,0.4s
ARVD Arcevia 0.76 348 P **Pg 20 04 09.7 -0.6**
ARVD AML AML
comp=N,3255µm,1.4s
ARVD AML AML
comp=E,4400µm,0.2s
PTQR Pietraquaria 0.76 166 P **Pg 20 04 09.3 -1.0**
PTQR AML AML
comp=N,1965µm,0.5s
PTQR AML AML
comp=E,2285µm,0.8s
MGAB Montegabbione 0.78 282 ⇑P **Pg 20 04 10.5 -0.2**
MGAB AML AML
comp=N,10140µm,0.3s
MGAB AML AML
comp=N,10420µm,0.3s
MGAB AML AML
comp=E,12600µm,0.7s
MGAB AML AML
comp=E,11800µm,0.7s
MTCE Montecelio 0.79 202 P **Pg 20 04 09.7 -1.3**
MTCE AML AML
comp=N,2505µm,1.1s
MTCE AML AML
comp=E,6400µm,0.4s
CERT Cerreto 0.82 189 P **Pg 20 04 10.2 -1.3**
CERT AML AML
comp=E,6975µm,0.4s
CERT AML AML
comp=N,4310µm,0.5s
FRON Frontone 0.82 338 ⇑P **Pg 20 04 10.8 -0.8**
FRON AML AML
comp=N,5420µm,0.4s
FRON AML AML
comp=E,3915µm,0.4s
ATVO AVT- Monte Val 0.83 319 ⇓P **Pg 20 04 11.0 -0.7**
ATVO AML AML
comp=E,3605µm,0.3s
ATVO AML AML
comp=N,2220µm,1.2s
AOI Ancona 0.86 23 ⇑P **Pg 20 04 11.5 -0.8**
AOI AML AML
comp=N,4490µm,0.7s
AOI AML AML
comp=E,5690µm,0.4s
ATMI Monte Miggiano 0.86 312 AML AML
comp=N,9735µm,0.7s
ATMI AML AML
comp=E,9790µm,0.7s
COR1 Corinaldo 0.88 353 ⇑P **Pg 20 04 12.7 0.0**
COR1 AML AML
comp=N,11400µm,0.5s
COR1 AML AML
comp=E,6420µm,0.3s
COR1 AML AML
comp=N,11330µm,0.5s
COR1 AML AML
comp=E,11885µm,0.3s
ATPI Pietralunga - 0.88 322 AML AML
comp=E,2450µm,0.5s
ATPI AML AML
comp=N,2840µm,0.5s
PIEI Pieia 0.90 330 ⇑P **Pg 20 04 12.1 -0.9**
PIEI AML AML
comp=E,3035µm,0.4s
PIEI AML AML
comp=N,2980µm,0.5s
MPAG Monte Paganucc 0.92 342 ⇑P **Pg 20 04 12.6 -0.8**
SACS San Casciano d 0.92 276 ⇑P **Pg 20 04 13.1 -0.2**
SACS AML AML
comp=E,3760µm,1.3s
SACS AML AML
comp=E,3850µm,1.3s
SACS AML AML
comp=N,4150µm,1.4s
SACS AML AML
comp=E,3855µm,1.3s
SACS AML AML
comp=N,4255µm,0.7s
RCAV Rocca di Cave 0.92 189 P **Pg 20 04 12.2 -1.2**
INTR Introdacqua 0.93 143 P **Pg 20 04 11.8 -1.8**
INTR AML AML
comp=N,3µm,0.4s
INTR AML AML
comp=E,2705µm,0.5s
INTR AML AML
comp=E,3µm,0.5s
INTR AML AML
comp=N,4610µm,0.4s
NARO Abbazia di Nar 0.95 334 ⇑P **Pg 20 04 13.0 -1.0**
NARO AML AML
comp=N,2530µm,1.3s
NARO AML AML
comp=E,3080µm,0.4s
SENI Senigallia 0.95 4 P **Pg 20 04 12.9 -1.0**
SENI AML AML
comp=N,17350µm,1.2s
SENI AML AML
comp=E,16700µm,0.9s
VVLD Villa Vallelon 0.95 158 P **Pg 20 04 13.1 -1.0**
VVLD AML AML
comp=E,2125µm,0.5s
VVLD AML AML
comp=N,2640µm,0.6s
APEC Apecchio 0.96 327 P **Pg 20 04 14.3 +0.1**
GUAR Guarcino 0.97 173 P **Pg 20 04 13.5 -0.8**
GUAR AML AML
comp=N,4190µm,0.4s
GUAR AML AML
comp=E,4145µm,0.7s
FSSB Fossombrone 0.97 344 ⇑P **Pg 20 04 13.6 -0.8**
FSSB AML AML
comp=E,12150µm,0.4s
FSSB AML AML
comp=N,14450µm,0.3s
BADI Badiali 1.00 319 ⇑P **Pg 20 04 14.8 -0.2**
LATE Laterza 1.00 262 P **Pg 20 04 14.8 -0.2**
RMP Rome, Mte Porz 1.00 199 AML AML
comp=N,5455µm,0.5s
RMP AML AML
comp=E,4225µm,1.0s
CAFR Castel Frentan 1.03 120 ⇑P **Pb 20 04 14.2 -1.3**
CAFR AML AML
comp=E,18µm,0.4s
CAFR AML AML
comp=N,3135µm,0.3s
CAFI Castiglion Fio 1.04 304 P **Pb 20 04 15.1 -0.5**
CAFI AML AML
comp=N,2345µm,1.5s
CAFI AML AML
comp=E,3070µm,0.6s
LPEL Lama dei Pelig 1.04 133 ⇑P **Pb 20 04 14.1 -1.7**
LPEL AML AML
comp=N,1795µm,0.4s
LPEL AML AML
comp=E,2820µm,0.4s
RDP Rocca di Papa 1.05 198 P **Pb 20 04 14.9 -0.9**
RDP AML AML
comp=E,9215µm,0.5s
RDP AML AML
comp=N,8480µm,0.7s
PE3 Peglio 1.05 333 ⇑P **Pb 20 04 15.3 -0.6**
PE3 AML AML
comp=E,22µm,0.3s
PE3 AML AML
comp=N,20µm,0.4s
MCIV Monte Civitell 1.08 272 ⇑P **Pb 20 04 15.9 -0.5**
MCIV AML AML
comp=E,1965µm,0.7s
MCIV AML AML
comp=N,1665µm,0.4s
TOLF Tolfa 1.10 231 ⇑P **Pb 20 04 15.9 -0.7**
TOLF AML AML
comp=N,1380µm,0.9s
TOLF AML AML
comp=E,1635µm,1.3s
SF04 Casetta 1.10 275 P **Pb 20 04 16.2 -0.4**
SF04 AML AML
comp=E,3620µm,0.3s
SF04 AML AML
comp=N,3690µm,0.3s
SSP9 Sansepolcro 1.10 318 P **Pb 20 04 16.4 -0.4**
PARC Parchiule 1.11 324 P **Pb 20 04 16.3 -0.5**
PARC AML AML
comp=E,2485µm,0.6s
PARC AML AML
comp=N,2045µm,0.7s
POFI Posta Fibreno 1.12 158 P **Pb 20 04 15.9 -1.1**
POFI AML AML
comp=N,1052µm,1.3s
POFI AML AML
comp=E,1505µm,0.6s
POFI AML AML
comp=E,1600µm,0.6s
POFI AML AML
comp=N,977µm,1.3s
LRP Arpino 1.16 164 AML AML
comp=E,1370µm,1.5s
LRP AML AML
comp=N,1315µm,0.4s
SF01 Poggio Pratacc 1.17 273 P **Pb 20 04 17.2 -0.6**
SF01 AML AML
comp=E,3565µm,0.8s
SF01 AML AML
comp=N,2498µm,0.4s
GIUL Giuliano Di Ro 1.20 176 P **Pn 20 04 17.3 -1.0**
GIUL AML AML
comp=E,1535µm,0.6s
GIUL AML AML
comp=N,1740µm,0.7s
PESA Pesaro 1.20 349 P **Pn 20 04 17.7 -0.7**
PESA AML AML
comp=N,4895µm,0.3s
PESA AML AML
comp=E,5885µm,1.2s
CPGN Carpegna, Ital 1.21 330 P **Pn 20 04 18.0 -0.5**
CPGN AML AML
comp=N,3310µm,0.7s
CPGN AML AML
comp=E,2780µm,0.6s
CPGN AML AML
comp=N,3150µm,0.4s
CPGN AML AML
comp=E,3065µm,0.5s
CRE Caprese Michel 1.23 315 ⇑P **Pn 20 04 18.5 -0.3**
CRE AML AML
comp=E,1490µm,0.3s
CRE AML AML
comp=N,1230µm,0.3s
ARCI Arcidosso 1.23 275 P **Pn 20 04 18.5 -0.3**
ARCI AML AML
comp=N,752µm,1.5s
ARCI AML AML
comp=E,652µm,0.6s
RNI2 Rionero Sannit 1.29 144 AML AML
comp=N,2210µm,0.7s
RNI2 AML AML
comp=E,2215µm,1.1s
RNI2 AML AML
comp=N,2275µm,0.8s
RNI2 AML AML
comp=E,2275µm,1.1s
CERA Filignano 1.33 151 ⇑P **Pn 20 04 19.3 -0.8**
CERA AML AML
comp=E,1515µm,0.7s
CERA AML AML
comp=E,1480µm,0.7s
CERA AML AML
comp=N,1790µm,0.9s
CERA AML AML
comp=N,1740µm,0.9s
FRES Fresagrandinar 1.37 124 P **Pn 20 04 19.5 -1.2**
FRES AML AML
comp=E,1395µm,0.7s
FRES AML AML
comp=N,632µm,0.6s
ASQU Asqua 1.44 317 P **Pn 20 04 21.4 -0.3**
ASQU Asqua 1.44 317 P **Pn 20 04 21.3 -0.3**
ASQU AML AML
comp=N,698µm,0.4s
ASQU AML AML
comp=E,1001µm,0.5s
TRIV Trivento 1.44 133 ⇑P **Pg 20 04 23.1 -0.2**
TRIV AML AML
comp=E,1640µm,0.7s
TRIV AML AML
comp=N,1440µm,0.8s
TRIV AML AML
comp=E,1845µm,0.7s
TRIV AML AML
comp=N,1480µm,0.8s
FROS Frosini 1.53 288 P **Pn 20 04 23.3 +0.5**
CSNT Castellina Chi 1.54 298 P **Pn 20 04 23.4 +0.4**
CSNT Castellina Chi 1.54 298 ⇑P **Pn 20 04 23.4 +0.4**
CSNT AML AML
comp=E,437µm,0.5s
CSNT AML AML
comp=N,425µm,0.8s
VAGA Valle Agricola 1.57 149 P **Pn 20 04 23.2 -0.2**
VAGA AML AML
comp=N,742µm,0.6s
VAGA AML AML
comp=E,545µm,0.8s
OSSC Osservatorio P 1.59 299 P **Pb 20 04 24.4 -0.6**
OSSC Osservatorio P 1.59 299 ⇑P **Pb 20 04 24.7 -0.3**
OSSC AML AML
comp=N,526µm,0.8s
OSSC AML AML
comp=E,487µm,0.6s
RUFI Rufina 1.61 313 P **Pn 20 04 24.1 +0.1**
RUFI Rufina 1.61 313 P **Pn 20 04 24.1 +0.1**
CASP Castiglione de 1.68 272 P **Pn 20 04 24.9 -0.1**
CASP AML AML
comp=E,196µm,0.6s
CASP AML AML
comp=N,234µm,1.1s
LMD Lutirano 1.69 322 P **Pn 20 04 25.8 +0.8**
LMD Lutirano 1.69 322 P **Pn 20 04 25.8 +0.8**
LMD AML AML
comp=E,856µm,0.4s
LMD AML AML
comp=N,786µm,0.9s
TRIF Trifonti 1.69 283 ⇑P **Pn 20 04 25.5 +0.4**
TRIF AML AML
comp=E,504µm,0.6s
TRIF AML AML
comp=N,530µm,0.7s
MODR Mondragone 1.70 161 AML AML
comp=E,370µm,0.8s
MODR AML AML
comp=N,426µm,0.9s
MELA Melanico ??? S 1.81 125 P **Pn 20 04 26.5 -0.1**
MELA AML AML
comp=N,1865µm,0.5s
MELA AML AML
comp=E,1450µm,0.5s
MELA AML AML
comp=E,1500µm,0.5s
MELA AML AML
comp=N,2020µm,0.6s
SEI Scarperia 1.84 315 P **Pb 20 04 28.4 -0.9**
SEI Scarperia 1.84 315 AML AML
comp=E,1170µm,0.5s
SEI AML AML
comp=N,1470µm,0.5s
DUGI Dugi Otok 1.86 48 *e*Pn **Pn 20 04 27.3 -0.1**
TREM Isole Tremiti 1.86 109 ⇓P **Pb 20 04 28.6 -1.0**
TREM AML AML
comp=N,2110µm,0.6s
TREM AML AML
comp=E,1780µm,0.6s
CRMI Carmignano 1.90 304 P **Pn 20 04 28.5 +0.6**
VENT Ventotene 1.97 174 ⇓P **Pb 20 04 30.9 -0.7**
VENT AML AML
comp=E,454µm,1.6s
VENT AML AML
comp=N,500µm,1.5s
MTCR Monte La Croce 2.02 310 P **Pn 20 04 29.8 +0.1**
MTCR Monte La Croce 2.02 310 ⇓P **Pn 20 04 29.8 +0.1**
ZIRJ Zirje 2.03 63 *e*Pn **Pn 20 04 29.5 -0.2**
APRC Apricena 2.04 119 P **Pn 20 04 29.9 0.0**
APRC AML AML
comp=E,854µm,0.7s
APRC AML AML
comp=N,1170µm,1.5s
VIRC Vir 2.07 41 *e*Pn **Pn 20 04 30.0 -0.2**
PII Pisa 2.15 298 P **Pn 20 04 32.3 +1.0**
PII Pisa 2.15 298 ⇑P **Pn 20 04 32.3 +1.0**
PII AML AML
comp=N,353µm,0.4s
PII AML AML

comp=E,366µm,0.4s
CELB S.Piero in Cam 2.16 271 ⇑P **Pn** **20 04 31.7 +0.1**
CELB AML AML
comp=N,160µm,1.2s
CELB AML AML
comp=E,136µm,0.6s
POPM Popiglio 2.17 307 P **Pn** **20 04 31.7 +0.1**
POPM Popiglio 2.17 307 P **Pn** **20 04 31.5 -0.1**
POPM AML AML
comp=E,246µm,0.2s
POPM AML AML
comp=N,404µm,0.3s
MORI Morici 2.17 58 *e*Pn **Pn** **20 04 31.7 0.0**
SGRT San Giovanni R 2.17 117 P **Pn** **20 04 32.1 +0.4**
SGRT AML AML
comp=E,902µm,0.4s
SGRT AML AML
comp=N,868µm,0.5s
BRJN Brijuni 2.19 11 *e*Pn **Pn** **20 04 31.6 -0.3**
BRJN Brijuni 2.19 11 P **Pn** **20 04 31.9 0.0**
NVLJ Novalja 2.19 34 *e*Pn **Pn** **20 04 31.7 -0.3**
MAIM Mastiano 2.26 302 P **Pn** **20 04 33.6 +0.8**
MAIM Mastiano 2.26 302 P **Pn** **20 04 33.3 +0.5**
RABC Rab 2.32 30 *e*Pn **Pn** **20 04 33.6 -0.1**
CARD Cardoso 2.32 304 P **Pn** **20 04 33.9 +0.1**
CARD Cardoso 2.32 304 P **Pn** **20 04 33.8 +0.1**
CARD AML AML
comp=E,254µm,0.7s
CARD AML AML
comp=N,388µm,0.5s
SMRN Sveta Marina 2.39 17 *e*Pn **Pn** **20 04 34.3 -0.4**
GSCL Gusciola 2.45 311 ⇑P **Pb** **20 04 37.9 -1.8**
VLC Villacollemand 2.45 306 P **Pn** **20 04 34.1 -1.5**
VLC AML AML
comp=N,129µm,0.8s
VLC AML AML
comp=E,114µm,1.1s
VLC AML AML
comp=E,139µm,1.1s
VLC AML AML
comp=N,120µm,0.6s
HVAR Hvar 2.46 79 ⇓P **Pn** **20 04 36.0 +0.4**
VULT Monte Vulture 2.58 134 P **Pb** **20 04 39.8 -2.1**
A253A Karojba, Istri 2.58 11 *e*Pn **Pn** **20 04 36.7 -0.6**
EQUI Equi 2.59 304 ⇑P **Pn** **20 04 38.8 +1.3**
EQUI AML AML
comp=E,159µm,0.4s
EQUI AML AML
comp=N,154µm,0.5s
A250A Rusevo Krmpots 2.65 28 *e*Pn **Pn** **20 04 38.5 +0.2**
KIJV Kijevo 2.68 61 *e*Pn **Pn** **20 04 39.4 +0.7**
KIJV Sn **Sn** **20 05 12.7 +1.6**
PLMA Palmaria, Port 2.73 299 ⇑P **Pn** **20 04 40.2 +0.9**
PLMA AML AML
comp=E,100µm,0.7s
PLMA AML AML
comp=N,132µm,0.4s
RIY Rijeka 2.74 20 *e*Pn **Pn** **20 04 39.8 +0.4**
LSTV Lastovo 2.76 89 *e*Pn **Pn** **20 04 39.6 -0.1**
LSTV Sn **Sn** **20 05 12.7 -0.3**
PALZ Palazzo San Ge 2.77 130 ⇓P **Pn** **20 04 42.0 +2.1**
PLIT Plitvice 2.77 39 *e*Pn **Pn** **20 04 40.5 +0.5**
GRAM Graiana 2.83 309 ⇓P **Pn** **20 04 42.5 +1.7**
GRAM AML AML
comp=N,346µm,0.4s
GRAM AML AML
comp=E,281µm,0.5s
SKDS Skadanscina 2.86 12 *i* Pn **Pn** **20 04 40.6 -0.5**
MAKA Makarska 2.89 78 *i* Pn **Pn** **20 04 41.9 +0.4**
CMPR Campora 2.93 146 P **Pn** **20 04 40.3 -1.8**
CMPR AML AML
comp=N,67µm,1.3s
CMPR AML AML
comp=E,74µm,0.8s
SMPL Sampolo 2.94 258 P **Pn** **20 04 44.0 +1.8**
CORF Corte 2.99 262 P **Pn** **20 04 44.0 +1.1**
A050A Klekovaca 3.00 54 *e*Pn **Pn** **20 04 44.2 +1.1**
RICI Ricice 3.01 74 *e*Pn **Pn** **20 04 44.1 +0.9**
RICI Sn **Sn** **20 05 21.1 +1.9**
MSSA Maissana 3.06 302 ⇑P **Pn** **20 04 44.6 +0.6**
MSSA AML AML
comp=N,109µm,0.8s
MSSA AML AML
comp=E,98µm,1.5s
PGF Pioggiola 3.07 267 *e*P **Pn** **20 04 45.6 +1.5**
PGF *e*Sn **Sn** **20 05 16.1 -4.7**
comp=E,15nm,0.4s
PGF Pioggiola 3.07 267 S **Sn** **20 05 23.1 +2.3**
PGF Pioggiola 3.07 267 P **Pn** **20 04 45.4 +1.3**
CEY Cerknica 3.12 17 *e*Pn **Pn** **20 04 44.0 -0.7**
BOJS Bojanci 3.13 28 *i* Pn **Pn** **20 04 45.5 +0.6**
AMUR Altamura 3.18 124 P **Pn** **20 04 45.9 +0.4**
AMUR AML AML
comp=N,277µm,1.3s
AMUR AML AML
comp=E,246µm,0.5s
JAVS Javornik 3.20 12 *i* Pn **Pn** **20 04 45.5 -0.4**
SRKY Kupres RS 3.21 65 *e*Pn **Pn** **20 04 46.9 +0.9**
SABO M.te Sabotino 3.24 6 P **Pn** **20 04 46.3 -0.1**
SABO AML AML
comp=E,2080µm,0.5s
SABO AML AML
comp=E,530µm,0.5s
SABO AML AML
comp=N,484µm,0.5s
SABO AML AML
comp=N,1800µm,0.6s
ROVR Rover Verones 3.25 333 P **Pn** **20 04 47.2 +0.6**
ROVR AML AML
comp=E,91µm,0.3s
ROVR AML AML
comp=N,132µm,1.4s
MGRS Mrkonjic Grad 3.31 59 *e*Pn **Pn** **20 04 48.2 +0.9**
OZLJ Ozalj 3.31 29 *i* Pn **Pn** **20 04 47.9 +0.6**
VOJS Vojsko 3.31 9 *i* Pn **Pn** **20 04 47.0 -0.5**
VARN Col Varnada, M 3.32 347 P **Pn** **20 04 48.0 +0.5**
VARN AML AML
comp=N,485µm,0.4s
VARN AML AML
comp=E,767µm,0.4s
STON Ston 3.35 87 *e*Pn **Pn** **20 04 46.6 -1.2**
STON Ston 3.35 87 *e*Pn **Pn** **20 04 46.9 -0.9**
GORR Gorreto 3.35 305 ⇓P **Pb** **20 04 52.4 -2.7**
AJAC Base Areonaval 3.35 257 AML AML
comp=N,125µm,0.8s
AJAC AML AML
comp=E,127µm,0.5s
AJAC Base Areonaval 3.35 257 P **Pn** **20 04 48.8 +0.8**
AJAC S **Sn** **20 05 29.9 +2.3**
MATE Matera 3.40 127 ⇑P **Pn** **20 04 50.2 +1.8**
DOSS Dosso del Somm 3.42 336 P **Pn** **20 04 49.8 +0.7**
DOSS AML AML
comp=E,296µm,0.6s
DOSS AML AML
comp=N,257µm,0.5s
DOSS AML AML
comp=E,258µm,0.5s
DOSS AML AML
comp=N,290µm,0.5s
SALO Salr 3.43 327 P **Pn** **20 04 49.4 +0.4**
SALO AML AML
comp=E,296µm,1.4s
SALO AML AML
comp=N,465µm,0.7s
A255A Hotnja, Vukome 3.45 36 *e*Pn **Pn** **20 04 49.9 +0.6**
CTI Castel Tesino 3.46 342 P **Pn** **20 04 49.3 -0.2**
CTI AML AML
comp=N,418µm,0.3s
CTI AML AML
comp=E,310µm,1.2s
MPRI Monte Prat 3.48 358 P **Pn** **20 04 50.3 +0.5**
MPRI AML AML
comp=N,440µm,0.6s
MPRI AML AML
comp=E,352µm,0.8s
LTRZ Laterza 3.49 127 ⇓P **Pn** **20 04 51.3 +1.4**
STAL STALIGIAL 3.52 355 P **Pn** **20 04 50.6 +0.4**
STAL AML AML
comp=E,314µm,0.2s
STAL AML AML
comp=N,327µm,0.9s
MAGA Magasa 3.52 330 P **Pn** **20 04 51.0 +0.7**
MAGA AML AML
comp=E,880µm,1.3s
MAGA AML AML

comp=N,618µm,1.2s
NOCI Noci 3.53 123 ⇑P **Pn** **20 04 51.4 +1.0**
NOCI AML AML
comp=N,285µm,1.5s
NOCI AML AML
comp=E,198µm,0.6s
A051A Mrakovica 3.53 49 *e*Pn **Pn** **20 04 50.7 +0.3**
BLY Banja Luka 3.54 54 *e*Pn **Pn** **20 04 53.1 +2.7**
LUSI Trento, Gardas 3.57 334 P **Pn** **20 04 51.9 +0.9**
LUSI AML AML
comp=E,218µm,0.7s
LUSI AML AML
comp=N,341µm,0.3s
CIMO Cimolais 3.59 352 S **Sn** **20 05 35.0 +1.5**
DGI Dorgali Grotta 3.61 229 P **Pn** **20 04 52.3 +0.9**
PTCC Patocco-Chiusa 3.65 2 P **Pn** **20 04 51.9 -0.1**
PTCC AML AML
comp=E,168µm,0.6s
PTCC AML AML
comp=N,118µm,0.9s
GAGG Gaggia 3.68 335 P **Pn** **20 04 53.5 +1.0**
GAGG AML AML
comp=E,202µm,0.8s
GAGG AML AML
comp=N,271µm,0.8s
GAGG AML AML
comp=E,322µm,0.8s
GAGG AML AML
comp=N,172µm,0.8s
DBRK Dubrovnik 3.68 90 *e*Pn **Pn** **20 04 53.0 +0.5**
CAPR Capriolo 3.69 322 S **Sg** **20 05 51.0 -3.2**
ZONE Zone 3.71 325 P **Pn** **20 04 53.6 +0.7**
ZONE AML AML
comp=N,216µm,0.3s
ZONE AML AML
comp=E,162µm,0.9s
PTJ Puntijarka 3.74 32 *e*Pn **Pn** **20 04 53.6 +0.3**
PCP Piancastagn 3.79 300 P **Pn** **20 04 54.6 +0.7**
PCP AML AML
comp=E,39µm,0.8s
PCP AML AML
comp=N,34µm,0.6s
ACOM Acomizza, Ital 3.80 4 P **Pn** **20 04 54.6 +0.4**
ACOM AML AML
comp=E,302µm,1.2s
ACOM AML AML
comp=N,358µm,0.6s
ACOM AML AML
comp=E,254µm,1.2s
ACOM AML AML
comp=N,337µm,0.7s
MABI Malga Bissina 3.80 331 P **Pn** **20 04 54.8 +0.6**
MABI AML AML
comp=N,147µm,1.1s
MABI AML AML
comp=E,98µm,0.4s
ZOU Zoufplan 3.80 358 ⇑P **Pn** **20 04 54.6 +0.4**
ZOU AML AML
comp=E,213µm,0.8s
ZOU AML AML
comp=N,170µm,0.9s
ZOU AML AML
comp=N,194µm,1.1s
ZOU AML AML
comp=E,233µm,0.7s
FVI Forni Avoltri 3.85 356 P **Pn** **20 04 55.1 +0.3**
FVI AML AML
comp=E,208µm,0.7s
FVI AML AML
comp=N,194µm,0.7s
CANO Canova, Maglio 3.86 294 ⇓P **Pn** **20 04 56.0 +1.1**
CANO AML AML
comp=E,133µm,1.6s
CANO AML AML
comp=N,102µm,0.3s
MOSL Moslavina 3.86 41 *e*Pn **Pn** **20 04 54.2 -0.6**
OBKA Obir 3.88 14 *e*Pn **Pn** **20 04 54.5 -0.8**
OBKA Obir 3.88 14 *e*Pn **Pn** **20 04 55.9 +0.6**
comp=N,3.2nm,0.1s
OBKA *e*Sn **Sn** **20 05 40.9 +0.1**
comp=N,25nm,0.3s
MYKA Terra Mystica 3.89 5 *e*Pn **Pn** **20 04 56.5 +1.1**
comp=N,1.9nm,0.2s
MYKA *e*Sn **Sn** **20 05 39.2 -1.7**
comp=N,14nm,0.4s
KOSI Kohlern 3.91 342 ⇓P **Pn** **20 04 57.4 +1.6**
HCY Herceg Novi 3.96 93 *e*Pn **Pn** **20 04 56.7 +0.5**
HCY Herceg Novi 3.96 93 ⇓*i* Pn **Pn** **20 04 57.1 +0.9**
HCY *e*Sn **Sn** **20 05 43.4 +0.8**
BRY Bratogost 3.97 86 *e*Pn **Pn** **20 04 56.8 +0.3**
BRY Bratogost 3.97 86 ⇓*i* Pn **Pn** **20 04 57.4 +0.9**
BRY *e*Sn **Sn** **20 05 43.4 +0.4**
LOBO Lobor 3.99 31 *e*Pn **Pn** **20 04 56.2 -0.4**
ABTA Abfaltersbach 4.01 354 *i* Pn **Pn** **20 04 58.4 +1.3**
comp=N,5.8nm,0.2s,SNR=30
ABTA *e*Sn **Sn** **20 05 45.0 +0.9**
comp=N,22nm,0.5s
ROTM Rocchetta Tana 4.05 303 ⇑P **Pn** **20 05 01.3 +3.8**
BRES Bressanone 4.07 346 P **Pn** **20 04 59.7 +1.7**
KALN Kalnik 4.12 34 *e*Pn **Pn** **20 04 57.2 -1.3**
SOKA Soboth 4.14 18 *e*Pn **Pn** **20 04 59.4 +0.6**
comp=N,5.3nm,0.4s
SOKA *e*Sn **Sn** **20 05 47.5 +0.3**
comp=N,6.3nm,0.4s
SPS2 Spezzano della 4.22 144 ⇓P **Pn** **20 05 02.2 +2.4**
UPM Unac-Piva 4.25 82 *e*Pn **Pn** **20 05 01.7 +1.3**
UPM Unac-Piva 4.25 82 ⇑*i* Pn **Pn** **20 05 00.9 +0.5**
UPM *e*Sn **Sn** **20 05 50.6 +0.6**
RISI Rein 4.26 350 ⇓P **Pn** **20 05 02.4 +1.9**
SAOF Saorge 4.26 289 P **Pn** **20 05 02.1 +1.8**
CEME Cevo 4.26 91 ⇓*i* Pn **Pn** **20 05 01.4 +1.0**
CEME *e*Sn **Sn** **20 05 50.7 +0.6**
BUM Brajici-Budva 4.27 94 ⇓*i* Pn **Pn** **20 05 01.6 +1.0**
BUM *i* Sn **Sn** **20 05 51.4 +1.0**
NKME Niksic 4.27 88 ⇓*i* Pn **Pn** **20 05 02.0 +1.4**
NKME *e*Sn **Sn** **20 05 51.4 +1.0**
NKY Niksic 4.30 87 ⇓*i* Pn **Pn** **20 05 02.4 +1.3**
NKY *e*Sn **Sn** **20 05 52.4 +1.2**
SBF Sospel 4.31 287 *e*P **Pn** **20 05 02.6 +1.4**
SBF *e*Sn **Sn** **20 05 45.9 -5.5**
comp=N,26nm,0.4s
A252A Venje 4.32 50 *e*Pn **Pn** **20 05 01.1 -0.1**
KBA Koelnbreinsper 4.32 2 *i* Pn **Pn** **20 05 02.4 +1.0**
comp=N,6.9nm,0.2s,SNR=15
KBA *e*Sn **Sn** **20 05 52.2 +0.3**
comp=N,23nm,0.3s
MUGIO Muggio 4.32 318 ⇓P **Pn** **20 05 01.7 +0.4**
MUGIO S **Sn** **20 05 55.0 +3.3**
VSL Villasalto 4.33 222 ⇑P **Pn** **20 05 03.0 +1.7**
VSL AML AML
VSL AML AML
ROSI Rosskopf 4.35 344 ⇓P **Pn** **20 05 03.9 +2.1**
TURF col de Turini 4.37 288 P **Pn** **20 05 03.2 +1.1**
VARE Varese 4.42 316 ⇓P **Pn** **20 05 04.8 +2.1**
SPIF crte de Spivo 4.50 289 P **Pn** **20 05 05.4 +1.6**
TIP Timpagrande 4.50 141 ⇑P **Pn** **20 05 07.9 +4.2**
DRME Dracevica, Mon 4.50 95 *e*Pn **Pn** **20 05 04.6 +0.9**
DRME Dracevica, Mon 4.50 95 ⇑*i* Pn **Pn** **20 05 04.9 +1.2**
DRME *e*Sn **Sn** **20 05 56.6 +0.6**
PDG Podgorica 4.52 92 ⇓P **Pn** **20 05 05.2 +1.3**
TTG Podgorica 4.52 92 ⇑*i* Pn **Pn** **20 05 04.8 +0.9**
TTG *i* Sn **Sn** **20 05 57.1 +0.7**
ULC Ulcinj 4.59 98 ⇓*i* Pn **Pn** **20 05 05.6 +0.7**
ULC *e*Sn **Sn** **20 05 56.3 -1.8**
FETA Feichten 4.60 339 *i* Pn **Pn** **20 05 07.9 +2.8**
comp=N,4.2nm,0.3s,SNR=9.5
FETA *e*Sn **Sn** **20 05 59.8 +1.3**
comp=N,4.5nm,0.4s
PLE Pljevlja 4.61 81 ⇑*i* Pn **Pn** **20 05 07.0 +1.7**
PLE *e*Sn **Sn** **20 05 58.8 0.0**
RUDO Rudo 4.63 77 *e*Pn **Pn** **20 05 05.8 +0.3**
WTTA Wattenberg 4.63 347 *i* Pn **Pn** **20 05 08.1 +2.5**
comp=N,6.0nm,0.2s,SNR=7.3
WTTA *e*Sn **Sn** **20 06 01.3 +1.8**
comp=N,29nm,0.4s
WTTA Wattenberg 4.63 347 ⇓P **Pn** **20 05 08.2 +2.5**
DAVOX Davos/Dischmat 4.65 331 Pn **Pn** **20 05 08.7 +2.8**
comp=N,4.2nm,0.3s,baz=124,slow=11,SNR=37
DAVOX Sn **Sn** **20 06 00.9 +1.1**
comp=N,3.7nm,0.3s,baz=244,slow=16,SNR=4.4
DAVOX Davos/Dischmat 4.65 331 ⇑P **Pn** **20 05 10.0 +4.1**
CALF Calern 4.66 284 P **Pn** **20 05 07.4 +1.5**
SQTA Sankt Quirin 4.67 344 *i* Pn **Pn** **20 05 08.9 +2.8**
comp=N,6.6nm,0.2s,SNR=12
SQTA *e*Sn **Sn** **20 06 00.8 +0.5**
comp=N,18nm,0.4s
KOME Kolasin 4.69 87 *e*Pn **Pn** **20 05 07.4 +1.1**
KOME *e*Sn **Sn** **20 06 01.7 +1.0**
WATA Walderalm 4.71 347 *e*Pn **Pn** **20 05 09.8 +3.1**
comp=N,6.0nm,0.2s
WATA *e*Sn **Sn** **20 06 02.2 +0.8**
comp=N,15nm,0.3s
ARSA Arzberg 4.80 20 *i* Pn **Pn** **20 05 08.1 +0.3**
comp=N,6.8nm,0.3s,SNR=5.7
ARSA *e*Sn **Sn** **20 06 01.6 -1.7**
comp=N,6.7nm,0.4s
ARSA Arzberg 4.80 20 P **Pn** **20 05 09.9 +2.2**
MOTA Moosalm 4.81 343 *i* Pn **Pn** **20 05 11.4 +3.4**
comp=N,3.0nm,0.4s,SNR=9.8
MOTA *e*Sn **Sn** **20 06 04.6 +0.8**
comp=N,7.7nm,0.3s
KOVH Kovagotottos 4.86 45 P Pb 20 05 14.9 -5.9
LMR La Mourre 4.90 279 *e*P **Pn** **20 05 09.7 +0.5**
LMR *e*Sn **Sn** **20 05 59.7 -6.1**
comp=N,6.0nm,0.4s
SURF Saint Ours 4.91 293 P **Pn** **20 05 11.2 +1.7**
BIOA Bad Ischl, Aus 4.95 4 *i* Pn **Pn** **20 05 10.6 +0.8**
comp=N,5.8nm,0.3s,SNR=15
BIOA *e*Sn **Sn** **20 06 08.7 +1.8**
comp=N,21nm,0.4s
IVA Berane 4.96 86 *e*Pn **Pn** **20 05 12.3 +2.2**
IVA *e*Sn **Sn** **20 06 07.8 +0.3**
RETA Reutte 5.02 341 *e*Pn **Pn** **20 05 13.9 +3.0**
comp=N,2.7nm,0.2s
RETA *e*Sn **Sn** **20 06 09.3 +0.4**
comp=N,5.0nm,0.3s
MBDF Montbardon 5.02 295 *e*P **Pn** **20 05 12.2 +1.2**
MBDF *e*Sn **Sn** **20 06 03.1 -5.9**
comp=N,15nm,0.6s
TRIGF Trigance 5.02 284 P **Pn** **20 05 12.8 +1.9**
PVY Plav 5.02 90 *e*Pn **Pn** **20 05 12.4 +1.4**
PVY *e*Sn **Sn** **20 06 07.9 -1.1**
DAVA Damuels 5.09 334 *e*Pn **Pn** **20 05 14.9 +3.0**
comp=N,2.9nm,0.2s
DAVA *e*Sn **Sn** **20 06 11.5 +0.9**
comp=N,15nm,0.4s
FLAF Flassans-sur-I 5.09 279 P **Pn** **20 05 13.3 +1.5**
OGAG Argentiere 5.09 292 P Pn 20 05 17.6 +5.8
MOA Molln 5.15 8 *e*Pn **Pn** **20 05 13.4 +0.7**
comp=N,4.2nm,0.3s
MOA *e*Sn **Sn** **20 06 12.3 +0.3**
comp=N,5.2nm,0.3s
DIVS Divibare 5.16 73 *e*Pn **Pn** **20 05 13.6 +0.8**
DIVS Divibare 5.16 73 P **Pn** **20 05 14.9 +2.1**
CLTB Caltabellotta 5.17 179 ⇑P **Pb** **20 05 24.5 -1.7**
MORH Mrgy, Hungar 5.23 47 ⇓P **Pn** **20 05 13.2 -0.5**
MORH Mrgy, Hungar 5.23 47 P **Pn** **20 05 14.4 +0.7**
DIX Grande Dixence 5.29 311 P **Pn** **20 05 16.8 +2.1**
LPG La Plagne 5.36 303 *e*P **Pn** **20 05 17.7 +2.0**
LPG *e*Sn **Sn** **20 06 11.1 -6.4**
comp=N,11nm,0.4s
FRGS Fruska Gora 5.37 61 ⇑P **Pg** **20 05 39.2 +0.7**
FRGS Fruska Gora 5.37 61 *e*Pn **Pn** **20 05 15.2 -0.5**
LPL La Plagne 5.38 303 *e*P **Pn** **20 05 16.9 +1.0**
LPL *e*Sn **Sn** **20 06 11.6 -6.3**
comp=N,12nm,0.5s
MPLH Magyarpolny 5.40 34 P Pn 20 05 21.0 +4.9
RONA Rosalia, Austr 5.42 23 *e*Pn **Pn** **20 05 16.5 +0.2**
comp=N,3.3nm,0.3s
RONA *e*Sn **Sn** **20 06 18.6 0.0**
comp=N,2.4nm,0.3s
ARTF Artigues 5.43 281 P **Pn** **20 05 17.8 +1.3**
SOP Sopron 5.48 25 P **Pn** **20 05 17.1 -0.1**
CONA Conrad Observa 5.51 19 *i* Pn **Pn** **20 05 18.0 +0.3**
comp=N,1.3nm,0.2s,SNR=6.9
CONA *e*Sn **Sn** **20 06 19.7 -1.3**
comp=N,14nm,0.6s
EGYH Egyhazaskeszo 5.52 31 P Pn 20 05 23.8 +6.1
RSL Roselend 5.53 304 P **Pn** **20 05 19.8 +1.9**
BSTF la Bastide-des 5.59 284 P **Pn** **20 05 20.4 +1.8**
GDM Grand'Maison 5.63 298 P **Pn** **20 05 23.1 +3.8**
OGSI Sixt 5.65 308 P **Pn** **20 05 21.7 +2.2**
OGSI S **Sn** **20 06 28.5 +4.2**
ORIF Oris-en-Rattie 5.68 295 *e*P **Pn** **20 05 23.6 +3.6**
ORIF *e*Sn **Sn** **20 06 19.2 -6.0**
comp=N,12nm,0.6s
ORIF Oris-en-Rattie 5.68 295 P **Pn** **20 05 22.7 +2.7**
AIGLE Aigle 5.69 311 P **Pn** **20 05 21.5 +1.4**
RUSF Rustrel 5.71 285 P **Pn** **20 05 22.4 +2.0**
ARBF Arbois 5.77 280 P **Pn** **20 05 23.2 +2.1**
OHR Ohrid 5.94 104 *i* Pn **Pn** **20 05 25.5 +2.0**
TORNY Torny/Romont 5.96 314 P **Pn** **20 05 25.3 +1.6**
SLE Schleitheim 5.99 328 P **Pn** **20 05 25.0 +0.9**
BALST Balsthal 5.99 322 P **Pn** **20 05 24.8 +0.6**
GUT Gutenstein 6.02 333 P **Pn** **20 05 24.6 -0.1**
GERES GERESS Array B 6.10 3 Pn **Pn** **20 05 25.6 -0.2**
comp=N,0.8nm,0.3s,baz=173,slow=13,SNR=16
GERES Sn **Sn** **20 06 31.7 -3.8**
comp=N,2.7nm,0.3s,baz=178,slow=26,SNR=3.8
comp=N,0.9nm,0.3s
ZST Bratislava 6.11 26 *e*PN **Pn** **20 05 28.6 +2.9**
ZST *e*SN **Sn** **20 06 32.4 -3.1**
CKRC Cesky Krumlov 6.12 7 *e*PN **Pn** **20 05 25.5 -0.4**
CKRC *e*SN **Sn** **20 06 33.3 -2.5**
GIMEL St. Georges / 6.19 310 P **Pn** **20 05 28.8 +1.8**
BOURR Bourrignon 6.25 320 P **Pn** **20 05 28.7 +0.9**
BOURR Bourrignon 6.25 320 S **Sn** **20 06 39.2 +0.1**
FELD Feldberg im Sc 6.27 326 S **Sn** **20 06 38.5 -1.3**
FELD Feldberg im Sc 6.27 326 P **Pn** **20 05 28.3 +0.2**
BOVS Bovan 6.32 79 ⇑P **Pn** **20 05 28.6 0.0**
MODS Modra-Piesok 6.32 26 *e*PN **Pn** **20 05 28.5 -0.2**
MODS *e*SN **Sn** **20 06 37.5 -3.3**
BRANT Les Verrieres 6.32 314 P **Pn** **20 05 30.2 +1.4**
CABF La Chapelle 6.34 310 *e*P **Pn** **20 05 30.4 +1.4**
CABF *e*Sn **Sn** **20 06 34.1 -7.2**
comp=N,19nm,0.8s
OG35 Corcelles 6.34 304 P **Pn** **20 05 30.2 +1.2**
KIZ Kirchzarten 6.37 326 S **Sn** **20 06 40.5 -1.5**
KIZ Kirchzarten 6.37 326 P **Pn** **20 05 29.6 +0.2**
KHC Kasperske Hory 6.38 3 *e*PN **Pn** **20 05 29.9 +0.4**
KHC *e*SN **Sn** **20 06 39.7 -2.6**
CHMF Charmoille 6.43 317 P **Pn** **20 05 30.7 +0.5**
CHMF S **Sn** **20 06 43.4 -0.2**
VIVF Saint-Julien-l 6.48 292 *e*P **Pn** **20 05 32.8 +1.9**
VIVF *e*Sn **Sn** **20 06 37.4 -7.4**
comp=N,1.3nm,0.3s
RIVEL MONT RIVEL 6.51 310 P **Pn** **20 05 32.9 +1.5**
MDVR Moldovita 6.52 69 ⇑P **Pn** **20 05 29.6 -1.9**
VOGT Vogtsburg - To 6.57 326 P **Pn** **20 05 32.4 +0.3**
MOF Molkenrain 6.63 322 P **Pn** **20 05 33.3 +0.3**
MOF S **Sn** **20 06 48.0 -0.5**
BOUC Bouclans 6.63 315 P **Pn** **20 05 33.3 +0.3**
KRUC Moravsky 6.70 19 *e*PN **Pn** **20 05 34.1 +0.3**
BZS Buzias 6.72 62 ⇓P Pn 20 05 39.0 +4.8
HINF Hinteralfeld 6.73 321 *e*P **Pn** **20 05 34.8 +0.5**
HINF *e*Sn **Sn** **20 06 42.9 -8.0**
comp=N,15nm,0.3s
RONF Ronchamp 6.75 319 P **Pn** **20 05 35.0 +0.5**
RONF S **Sn** **20 06 50.9 -0.4**
STIP Stip 6.79 96 *i* Pn **Pn** **20 05 38.0 +2.9**
JAVC Velka Javorina 6.87 26 *e*PN **Pn** **20 05 36.7 +0.4**
ECH Echery 6.89 324 P **Pn** **20 05 36.6 +0.2**
ECH S **Sn** **20 06 54.2 -0.7**
ECH Echery 6.89 324 P **Pn** **20 05 36.7 +0.2**
ECH S **Sn** **20 06 54.1 -0.7**
LASF Ste Croix 6.89 284 *e*P **Pn** **20 05 38.0 +1.4**
LASF *e*Sn **Sn** **20 06 47.5 -7.4**
comp=N,14nm,1.3s
WLS Welschbruch 6.96 326 P **Pn** **20 05 38.1 +0.6**
WLS S **Sn** **20 06 55.2 -1.4**
VRAC Vranov 6.97 19 Pn **Pn** **20 05 37.8 +0.2**
comp=N,0.6nm,0.3s,baz=198,slow=16,SNR=2.4
comp=N,1.4nm,0.4s
VRAC Vranov 6.97 19 *e*PN **Pn** **20 05 37.3 -0.4**
VYHS Vyhne 6.98 33 *e*PN **Pn** **20 05 38.6 +0.8**
VYHS *e*SN **Sn** **20 06 53.7 -3.4**
CDF Champ du Feu 6.99 326 *e*P **Pn** **20 05 39.3 +1.3**
CDF *e*Sn **Sn** **20 06 49.5 -8.0**
comp=N,11nm,0.3s
BLKB Belogradchik 7.02 80 ⇑P **Pn** **20 05 39.5 +1.3**
SIRR Siria 7.02 57 ⇓P **Pn** **20 05 39.6 +1.3**
HERR Herculane 7.03 69 ⇓P **Pn** **20 05 39.1 +0.7**
HAU Haudompre 7.10 320 *e*P **Pn** **20 05 40.6 +1.2**
HAU *e*Sn **Sn** **20 06 51.8 -8.2**
comp=N,36nm,0.4s
GZR Gura Zlata 7.42 66 ⇓P **Pn** **20 05 45.9 +2.1**
KKB Krupnik 7.42 94 P **Pn** **20 05 44.0 +0.2**

VTS	Vitosha	7.43	88	⇑P		Pn	20 05 45.2	+1.1
VTS	Vitosha	7.43	88	P		Pn	20 05 45.0	+0.9
NKC	Novy Kostel	7.49	357	*e*SN		Sn	20 07 07.6	-2.0
KEST	Kesra	7.61	204	Pn		Pn	20 05 49.6	+3.1
	comp=N,0.3nm,0.3s,baz=319,slow=4.5,SNR=5.2							
	comp=N,1.7nm,0.6s							
MORC	Moravsky Berou	7.65	22	⇑P		Pn	20 05 50.8	+3.9
SMF	Signal de Mont	7.68	304	*e*P		Pn	20 05 48.7	+1.3
SMF				*e*Sn		Sn	20 07 06.3	-8.1
	comp=N,15nm,0.6s							
LTVH	Ltavrtes, Hu	7.73	50	⇓P		Pb	20 06 00.8	-8.8
PAGF	Fort de Pagny	7.79	321	*e*P		Pn	20 05 51.1	+2.3
PAGF				*e*Sn		Sn	20 07 08.0	-8.8
	comp=N,12nm,0.5s							
SFTF	Sexfontaines	7.88	317	*e*P		Pn	20 05 46.9	-3.2
	baz=136							
SFTF				*e*Sn		Sn	20 07 10.6	-8.6
	comp=N,14nm,0.6s							
DRGR		7.91	56	⇓P		Pn	20 05 53.5	+3.0
MMB	Musomiste	7.95	95	P		Pn	20 05 51.0	0.0
LOR	Lormes	7.98	308	*e*P		Pn	20 05 52.5	+1.1
	baz=126							
LOR				*e*Sn		Sn	20 07 15.2	-6.4
	comp=N,8.0nm,0.4s							
MTLF	Montolieu	8.03	278	*e*P		Pn	20 05 54.2	+2.1
MTLF				*e*Sn		Sn	20 07 14.0	-8.8
	comp=N,0.3nm,0.3s							
AVF	Avril sur Loir	8.05	303	*e*P		Pn	20 05 54.1	+1.7
AVF				*e*Sn		Sn	20 07 14.8	-8.5
	comp=N,1.6nm,0.4s							
MEZF	Maizieres J'vi	8.07	318	*e*P		Pn	20 05 55.2	+2.5
	baz=138							
MEZF				*e*Sn		Sn	20 07 14.9	-8.9
	comp=N,16nm,0.7s							
SSF	Saint Saulge	8.08	305	*e*P		Pn	20 05 55.6	+2.8
SSF				*e*Sn		Sn	20 07 15.9	-8.2
	comp=N,4.6nm,0.5s							
CHVC	Chvalec	8.08	13	*e*PN		Pn	20 05 53.7	+0.8
ABH	Alteburg	8.11	333	P		Pn	20 05 55.1	+1.9
SAVF	Savonnieres en	8.11	319	*e*P		Pn	20 05 54.8	+1.6
	baz=139							
SAVF				*e*Sn		Sn	20 07 16.1	-8.7
	comp=N,6.0nm,0.4s							
BRG	Berggiesshubel	8.14	4	*ex*		x	20 07 20.4	
BRG				Amp			20 07 24.4	
	comp=Z,3.5nm,0.6s							
BRG				*ex*		x	20 08 33.9	
BRG				Amp			20 08 48.6	
	comp=Z,6.2nm,1.0s							
BGF	Bois d'Agland	8.27	301	*e*P		Pn	20 05 57.5	+2.1
BGF				*e*Sn		Sn	20 07 21.1	-7.6
	comp=Z,9.4nm,0.6s							
CAF	Calviac	8.30	289	*e*P		Pn	20 05 58.7	+2.8
CLL	Collm	8.55	359	*e*Pn		Pn	20 05 59.0	-0.3
CLL				*e*Pg		Pg	20 06 34.0	-5.3
CLL				*e*Sn		Sn	20 07 17.0	-19
CLL				*ex*		x	20 07 28.0	
CLL				*ex*		x	20 07 32.0	
CLL				*ex*		x	20 07 51.0	
CLL				*e*Sg		Sg	20 08 28.0	-1.9
	comp=Z,7.0nm,0.9s							
TCF	Toulx Ste Croi	8.57	298	*e*P		Pn	20 06 01.8	+2.2
ARR	Arges	8.67	69	⇑P		Pn	20 06 04.8	+3.8
RJF	Les Rejaudoux	8.76	291	*e*Pn		Pn	20 05 57.4	-4.7
MONQ	Montcuq	8.83	285	P		Pn	20 06 06.0	+3.0
PVL	Pavlikeni	8.95	83	P		Pn	20 06 04.0	-0.7
VOIR		8.97	69	⇓P		Pn	20 06 07.2	+2.1
GIVF	Givet	9.32	325	*e*P		Pn	20 06 12.0	+2.2
GIVF				*e*Sn		Sn	20 07 45.1	-9.4
	comp=Z,2.4nm,0.2s							
BAIF	Baives	9.56	323	*e*P		Pn	20 06 19.0	+6.0
BAIF				*e*Sn		Sn	20 07 48.3	-12
	comp=Z,0.8nm,0.3s							
MLR	Muntele Rosu	9.60	69	⇑P		Pn	20 06 19.9	+6.1
MLR				⇑P		Pn	20 06 20.2	+6.4
MLR	Muntele Rosu	9.60	69	Pn		Pn	20 06 19.0	+5.3
	comp=Z,0.2nm,0.3s,baz=164,slow=7.6,SNR=6.7							
	comp=Z,3.1nm,0.7s							
BURAR	Bucovina Array	9.80	56	⇑P		Pn	20 06 18.7	+2.2
RASA	Rasa	10.28	77	⇑P		Pn	20 06 24.5	+1.5
GRR	Gorron	11.31	305	*e*P		Pn	20 06 40.7	+3.7
NOA	NORSAR Array B	18.35	357	P		Pn	20 08 09.4	-0.4
	comp=Z,0.3nm,0.7s,baz=177,slow=11,SNR=2.8							
FINES	FINESS Array B	20.26	18	P		P	20 08 30.8	+0.1
	comp=Z,2.8nm,1.0s,baz=205,slow=6.2,SNR=2.0							
	comp=Z,2.8nm,1.0s							
TORD	Torodi Ar. Bea	31.13	202	P		P	20 10 15.1	+0.9
	comp=Z,0.5nm,0.7s,baz=23,slow=9.8,SNR=3.2							
	comp=Z,0.5nm,0.7s							
ARU	Arti	31.82	49	P		P	20 10 20.5	+0.5
	comp=Z,1.8nm,0.5s,baz=238,slow=11,SNR=4.7							
	comp=Z,1.8nm,0.5s							
MKAR	Makanchi Array	47.80	60	P		P	20 12 34.0	+1.1
	comp=Z,0.4nm,0.6s,baz=291,slow=5.2,SNR=3.8							
	comp=Z,0.4nm,0.6s							

NEIC ***22*** *20:04:14.4±1.9, 18°.74N±0°.04×145°.9E±0°.2, h157km±9km, mb4.4/16, Error ellipse: s-maj=33.6km s-min=4.6km az=94.0*

IDC ***22*** *20:04:18.5±3.6, 18°.57N×145°.98E, h200km±31km, mb3.4/7, mbtmp3.9/8, Error ellipse: s-maj=45.5km s-min=17.6km az=87.0*

ISC 22 20:04:18.7±0.7, 18°.51N±0°.08×145°.9E±0°.2, h200km, n32, σ0°.91/36, mb4.0/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.99	191	P		Pn	Pn	20 05 33.9	+1.0
	55nm,0.7s,baz=343,slow=20,SNR=1.8								
GUMO				S		Sn	Sn	20 06 28.7	-2.8
	76nm,0.3s,baz=162,slow=20,SNR=2.9								
GUMO	Guam	4.99	191	Pn		Pn	Pn	20 05 31.4	-1.6
GUMO				Sn		Sn	Sn	20 06 31.9	+0.4
FAKI	Fak Fak	25.16	214	P		P	P	20 09 25.4	-0.4
COEN	Coen	32.37	185	P		P	P	20 10 28.4	-1.2
COEN				IAmb		IAmb	IAmb	20 11 08.5	
	comp=Z,25nm,1.5s								
MTN	Manton Dam	34.38	206	P		P	P	20 10 47.1	+0.2
KNRA	Kununurra	37.92	207	P		P	P	20 11 17.6	+0.7
KNRA				IAmb		IAmb	IAmb	20 11 18.3	
	comp=Z,10nm,0.7s								
WB0	Warramunga Arr	39.67	197	P		P	P	20 11 32.1	+0.6
WB0				IAmb		IAmb	IAmb	20 11 32.6	
	comp=Z,3.5nm,0.7s								
WR0	Warramunga Arr	39.81	197	P		P	P	20 11 32.4	-0.2
WR0				IAmb		IAmb	IAmb	20 11 33.4	
	comp=Z,7.0nm,1.3s								
WRAB	Tennant Creek	39.84	197	P		P	P	20 11 33.4	+0.6
WRAB				IAmb		IAmb	IAmb	20 11 34.1	
	comp=Z,3.5nm,0.6s								
WB2	Warramunga Arr	39.85	197	P		P	P	20 11 33.7	+0.8
WB2				IAmb		IAmb	IAmb	20 11 35.5	
	comp=Z,4.5nm,0.6s								
WRA	Warramunga Arr	39.85	197	P		P	P	20 11 33.4	+0.4
	comp=Z,1.5nm,0.5s,baz=13,slow=8.5,SNR=49								
WRA				PcP		PcP	PcP	20 13 35.0	+0.2
	comp=Z,0.8nm,0.5s,baz=15,slow=3.5,SNR=8.8								
	comp=Z,1.5nm,0.5s								
WRA	Warramunga Arr	39.85	197	P		P	P	20 11 33.0	0.0
FITZ	Fitzroy Crossi	41.45	210	P		P	P	20 11 47.0	+1.0
AS31	Alice Springs	43.51	196	P		P	P	20 12 02.6	0.0
ASAR	Alice Springs	43.52	196	P		P	P	20 12 02.7	+0.1
	comp=Z,0.6nm,0.4s,baz=12,slow=6.4,SNR=21								
ASAR				PcP		PcP	PcP	20 13 47.4	+0.5
	comp=Z,0.5nm,0.6s,baz=17,slow=2.2,SNR=5.1								
	comp=Z,0.6nm,0.4s								
ASAR	Alice Springs	43.52	196	P		P	P	20 12 04.0	+1.4
DZM	Mont Dzumac	45.08	153	P		P	P	20 12 16.5	+1.3
DZM				IAmb		IAmb	IAmb	20 12 25.5	
	comp=Z,6.2nm,1.1s								
MBWA	Marble Bar	47.00	214	P		P	P	20 12 30.1	0.0
MBWA				IAmb		IAmb	IAmb	20 12 52.4	
	comp=Z,22nm,1.4s								
PSA00	Pilbara Seismi	47.28	214	P		P	P	20 12 33.4	+1.2
STKA	Stephens Creek	50.27	185	P		P	P	20 12 54.7	0.0
	comp=Z,0.7nm,0.4s,baz=2.3,slow=10,SNR=3.9								
	comp=Z,0.7nm,0.4s								
FORT	Forrest	51.91	200	P		P	P	20 13 08.1	+1.2
NWAO	Narrogin (SRO)	58.01	208	P		P	P	20 13 51.4	+0.8
MKAR	Makanchi Array	58.70	314	P		P	P	20 13 55.8	+0.4
	comp=Z,0.3nm,0.5s,baz=97,slow=7.7,SNR=5.5								
	comp=Z,0.3nm,0.5s								
ABKAR	Akbulak array	73.58	317	P		P	P	20 15 29.3	-0.6
ARCES	ARCESS Array B	82.72	342	P		P	P	20 16 19.6	0.0
	comp=Z,0.4nm,0.6s,baz=74,slow=7.6,SNR=4.6								
	comp=Z,0.4nm,0.6s								
NVAR	Mina Array Bea	83.14	52	P		P	P	20 16 21.9	-0.8
	comp=Z,0.8nm,0.7s,baz=274,slow=6.4,SNR=3.9								
	comp=Z,0.8nm,0.7s								
FINES	FINESS Array B	87.12	335	P		P	P	20 16 40.1	-1.6
	comp=Z,1.0nm,0.7s,baz=72,slow=6.2,SNR=5.7								
	comp=Z,1.0nm,0.7s								
MT01	Popeta	143.58	122			PKPdf	PKPdf	20 23 29.7	-0.3
BO02	Sierra Bellavi	143.70	124	PKPdf		PKPdf	PKPdf	20 23 30.1	-0.1
MT09	Talagante	143.82	122	PKPdf		PKPdf	PKPdf	20 23 30.7	+0.1
MT02	Curacav	143.83	121	PKPdf		PKPdf	PKPdf	20 23 30.2	-0.3
ROC1	El Roble	144.00	121	PKPdf		PKPdf	PKPdf	20 23 31.3	+0.2

ROM 22 20:04:55.1±0.0, 42°.760N±0°.002×13°.188E±0°.002, h11km, ML3.3/7, 5C-4D, Error ellipse: s-maj=0.2km s-min=0.2km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1202	Accumoli, Fraz	0.06	154	P		P	Pg	20 04 57.9	+0.3
T1202				S		Sg	Sg	20 04 59.6	+0.3
T1202				AML		AML			
T1202				AML		AML			
T1202				AML		AML			
T1242	Castelluccio d	0.07	10	P		Pg		20 04 58.0	+0.2
T1242				S		Sg		20 04 59.7	+0.1
T1242				AML		AML			
	comp=E,27300µm,0.5s								
T1242				AML		AML			
	comp=N,37950µm,0.4s								
T1242				AML		AML			
	comp=E,27100µm,0.5s								
T1242				AML		AML			
	comp=N,37250µm,0.4s								
T1242				AML		AML			
	comp=E,27300µm,0.6s								
NRCA	Norcia	0.09	324	P		Pg		20 04 58.2	+0.3
NRCA				S		Sg		20 04 59.9	0.0
NRCA				AML		AML			
	comp=E,31400µm,1.4s								
NRCA				AML		AML			
	comp=N,35050µm,1.0s								
NRCA				AML		AML			
	comp=N,33200µm,1.0s								
NRCA				AML		AML			
	comp=E,31450µm,1.4s								
NRCA				AML		AML			
	comp=E,34400µm,1.4s								
T1204	Amatrice, Fraz	0.13	131	P		Pg		20 04 58.9	+0.5
T1204				S		Sg		20 05 01.3	+0.6
T1204				AML		AML			
	comp=E,7535µm,0.9s								
T1204				AML		AML			
	comp=N,4750µm,0.3s								
MC2	Monte Cornacci	0.15	1	P		Pg		20 04 59.3	+0.5
MC2				S		Sg		20 05 02.3	+0.8
MMO1	Montemonaco	0.17	36	P		Pg		20 04 59.5	+0.5
MMO1				S		Sg		20 05 02.6	+0.9
T1216	Preci, Frazion	0.18	317	P		Pg		20 04 59.7	+0.6
T1216				S		Sg		20 05 02.7	+0.8
LNSS	Leonessa	0.19	215	P		Pg		20 04 59.9	+0.5
LNSS				S		Sg		20 05 03.2	+1.0
T1217	Poggiodomo (PG	0.20	256	P		Pg		20 04 59.9	+0.5
T1217				S		Sg		20 05 03.4	+1.0
T1243	Rocca Santa Ma	0.20	108	P		Pg		20 04 59.9	+0.4
T1243				S		Sg		20 05 03.2	+0.7
T1241	Roccafluvione,	0.20	62	P		Pg		20 05 00.0	+0.5
T1241				S		Sg		20 05 03.4	+0.9
T1241				AML		AML			
	comp=E,6360µm,0.8s								
T1241				AML		AML			
	comp=N,7050µm,0.2s								
T1241				AML		AML			
	comp=N,6900µm,0.2s								
T1241				AML		AML			
	comp=E,6360µm,0.8s								
T1241				AML		AML			
	comp=E,6150µm,0.8s								
T1241				AML		AML			
	comp=N,7045µm,0.2s								
T1215	Vallo di Nera,	0.24	280	P		Pg		20 05 00.6	+0.5
T1215				S		Sg		20 05 04.6	+1.1
AM05	Amandola Campo	0.25	29	P		Pg		20 05 01.0	+0.6
AM05				S		Sg		20 05 05.4	+1.6
AM05				AML		AML			
	comp=E,2055µm,0.4s								
AM05				AML		AML			
	comp=E,8255µm,0.3s								
AM05				AML		AML			
	comp=N,9990µm,1.3s								
AM05				AML		AML			
	comp=N,2520µm,1.3s								
AM05				AML		AML			
	comp=N,9965µm,1.3s								
AM05				AML		AML			
	comp=E,8250µm,0.3s								
RM33	Pellescritta (	0.25	176	P		Pg		20 05 00.8	+0.5
RM33				S		Sb		20 05 05.1	-1.1
CAMP	Campotosto	0.28	144	P		Pg		20 05 01.2	+0.4
CAMP				S		Sb		20 05 05.9	-1.0
FDMO	Fiordimonte	0.29	345	⇑P		Pg		20 05 01.5	+0.5
FDMO				AML		AML			
	comp=E,1970µm,0.2s								
FDMO				AML		AML			
	comp=N,2150µm,1.4s								
CESI	CESI - Serrava	0.32	320	P		Pg		20 05 02.1	+0.4
GUMA	Gualdo di Mace	0.32	20	⇑P		Pb		20 05 02.5	-0.4
GUMA				AML		AML			
	comp=E,13700µm,0.8s								
GUMA				AML		AML			
	comp=E,16850µm,0.3s								
GUMA				AML		AML			
	comp=N,13600µm,0.7s								
GUMA				AML		AML			
	comp=N,11050µm,0.7s								
T1247	Pizzolo (AQ)	0.33	166	S		Sg		20 05 03.0	-3.2
CSP1	Cessapalombo	0.33	2	⇑P		Pg		20 05 02.3	+0.5
CSP1				AML		AML			
	comp=E,4420µm,0.5s								
CSP1				AML		AML			
	comp=N,4945µm,0.3s								
CSP1				AML		AML			
	comp=E,4430µm,0.5s								
CSP1				AML		AML			
	comp=N,4950µm,0.3s								
TERO	Teramo	0.34	114	P		Pg		20 05 02.2	+0.3
ARRO	Arrone	0.36	240	P		Pg		20 05 02.7	+0.4
GIGS	Gran Sasso	0.42	138	⇓P		Pg		20 05 03.6	+0.2
SEF1	Sefro	0.42	336	⇓P		Pg		20 05 04.1	+0.5
SEF1				AML		AML			
	comp=N,9475µm,0.5s								
SEF1				AML		AML			
	comp=N,9490µm,0.5s								
SEF1				AML		AML			
	comp=E,2810µm,1.3s								
MNTP	Montappone	0.43	29	⇑P		Pb		20 05 04.8	0.0
GAG1	Gagliole	0.49	350	⇓P		Pb		20 05 05.3	-0.4
SNTG	Esanatoglia	0.53	340	⇓P		Pg		20 05 05.7	+0.3
SNTG				S		Sb		20 05 15.0	+0.9
EL6	Elcito	0.57	354	S		Sb		20 05 16.0	+0.5
CING	Cingoli	0.62	0	⇑P		Pb		20 05 07.7	-0.2
ARVD	Arcevia	0.76	346	S		Sb		20 05 22.0	+1.2
AOI	Ancona	0.85	21	S		Sn		20 05 27.0	+1.5
PIEI	Pieia	0.91	329	S		Sn		20 05 28.0	+0.9

MOS ***22*** *20:06:10.8±0.9, 21°.40S×33°.55E, h15km, mb5.5/45, MS5.2/62, Error ellipse: s-maj=9.7km s-min=4.2km az=87.6*

IDC ***22*** *20:06:10.2±0.4, 21°.54S×33°.54E, h0km, mb5.0/48, mbtmp5.0/51, ML5.2/4, MS5.2/67, Error ellipse: s-maj=12.2km s-min=9.9km az=97.0*

NEIC ***22*** *20:06:11.7±2.4, 21°.55S±0°.08×33°.41E±0°.09, h10km±1km, mb5.5/189, Ms_20 5.4/267, Mwb5.6/40, Mww5.6, Error ellipse: s-maj=14.3km s-min=12.8km az=61.0*

BUL ***22*** *20:06:11.8±2.3, 21°.53S×33°.46E, h10km, MD5.6*

BJI ***22*** *20:06:11.0±0.0, 21°.60S×33°.40E, h16km, mb5.1/50, mB5.6/48, Ms5.5/53, Ms7 5.3/50*

NEIC ***22*** *20:06:12, 21°.51S×33°.33E, h5km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=2.32; Mθθ=0.04; Mϕϕ=2.27; Mrθ=-0.73; Mϕr=0.21; Mθr=2.12; Fault plane solution: M0=3.22000×10^17 NP1:φs=18.63000°, δ=25.47000°, λ=-63.12000°. NP2:φs=169.32000°, δ=67.44000°, λ=-102.15000°. Principal axes: T 3.1065, Plg=22.0000°, Azm=269.0000°; N 0.2099, Plg=11.0000°, Azm=174.0000°; P -3.3164, Plg=65.0000°, Azm=58.0000°;*

EAF ***22*** *20:06:13.8±9.2, 21°.58S×33°.35E, h10km, MD4.9*

GCMT ***22*** *20:06:14.7±0.1, 21°.29S±0°.01×33°.38E, h12km, MW5.6/166, Moment Tensor Solution. s136,c241; s166,c359; Duration: 1!5 Moment tensor: Scale 10^17 Nm; Mrr=-2.57±.02; Mθθ=0.03±.02; Mϕϕ=2.54±.02; Mrθ=0.42±.06; Mθϕ=-0.46±.02; Mϕr=0.85±.06; Best double couple: M0=2.76100×10^17 NP1:φs=181.00000°, δ=54.00000°, λ=-76.00000°. NP2:φs=339.00000°, δ=38.00000°, λ=-108.00000°. Principal axes: T 2.7320, Plg=8.0000°, Azm=262.0000°; N 0.0580, Plg=11.0000°, Azm=353.0000°; P -2.7900, Plg=76.0000°, Azm=135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***22*** *20:06:16, 21°.48S×33°.39E, h16km, Moment Tensor Solution. Duration: 10!0 Moment tensor: Scale 10^17 Nm; Mrr=2.82; Mθθ=0.45; Mϕϕ=2.37; Mrθ=0.98; Mϕθ=-0.40; Mϕr=0.43; Fault plane solution: M0=2.86000×10^17 NP1: φs=334.00000°, δ=45.00000°, λ=-113.00000°. NP2: φs=185.00000°, δ=50.00000°, λ=-68.00000°. Principal axes: T 2.4607, Plg=3.0000°, Azm=260.0000°; N 0.6794, Plg=17.0000°, Azm=351.0000°; P -3.1401, Plg=73.0000°, Azm=161.0000°;*

ISC 22 20:06:11.5±0.2, 21°.57S±0°.03×33°.36E±0°.03, h13km, n1316, σ1°.74/1308, mb5.4/285, MS5.3/268, 44C-67D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.66	223	*i* P			Pb	20 06 56.9	-2.1
MOPA				*i* S			Sb	20 07 30.7	-0.9
MOPA	Mopani	2.66	223	*i* P			Pb	20 06 57.2	-1.8
MOPA				*i* S			Sb	20 07 30.0	-1.6
MOPA	Mopani	2.66	223	*i* P			Pb	20 06 56.9	-2.1
MOPA				*i* S			Sb	20 07 30.7	-0.9
MOPA	Mopani	2.66	223	*i* P			Pb	20 06 57.2	-1.8
MOPA				*i* S			Sb	20 07 30.0	-1.6
MUSN	Musina, Limpop	3.33	257	*i* P			Pn	20 07 06.2	+2.9
MUSN				*i* S			Sn	20 07 45.1	+2.2
MUSN	Musina, Limpop	3.33	257	*i* P			Pn	20 07 04.9	+1.6
MUSN				*i* S			Sn	20 07 44.0	+1.1
MUSN	Musina, Limpop	3.33	257	*i* P			Pn	20 07 06.2	+2.9
MUSN				*i* S			Sn	20 07 45.1	+2.2
MUSN	Musina, Limpop	3.33	257	*i* P			Pn	20 07 04.9	+1.6
MUSN				*i* S			Sn	20 07 44.0	+1.1
BLWY	Bulawayo	4.67	287	*i* P			Pn	20 07 22.7	+0.9
BLWY				*i* S			Sn	20 08 15.4	-0.6

KMBO IAMs_20 IAMs_20 20 19 10.3
comp=Z,17µm,6.1s
KMBO Kilima Mbogo 20.67 11 *e*P **P 20 10 52.1 +0.6**
KMBO *e*S Sn 20 14 48.3 +1.3
KMBO IAMs_20 IAMs_20 20 17 07.7
comp=Z,15µm,18.0s
KMBO IAMs_20 IAMs_20 20 19 10.3
comp=Z,17µm,6.1s
KMBO Kilima Mbogo 20.67 11 *e*P Pn 20 10 53.6 -0.2
KMBO Kilima Mbogo 20.67 11 *e*P **P 20 10 52.2 +0.7**
KMBO *e*S Sn 20 14 47.7 +0.6
KMBO Kilima Mbogo 20.67 11 *i* P Pn 20 10 52.6 -1.2
SNR=22
RER Riviere de l'E 20.85 93 P **P 20 10 51.7 -1.6**
MBAR Mbarara 20.99 353 P **P 20 10 55.6 +0.7**
comp=Z,64nm,1.1s,baz=148,slow=10,SNR=50
MBAR S **S 20 14 47.2 -1.6**
comp=Z,37nm,0.8s,baz=209,slow=23,SNR=4.3
MBAR Lg Lg 20 17 02.6
comp=Z,4.4nm,0.3s,baz=102,slow=22,SNR=8.2
MBAR LR LR 20 19 13.0
comp=Z,4µm,20.4s,baz=154,slow=37
comp=Z,64nm,1.1s
MBAR Mbarara 20.99 353 P 20 10 54.8 -0.2
MBAR Mbarara 20.99 353 *i* P Pn 20 10 57.5 -0.1
MBAR *i* S Sn 20 14 55.6 +0.8
MBAR Mbarara 20.99 353 *e*P **P 20 10 55.6 +0.7**
MBAR *e*S Sn 20 15 01.0 +6.2
MBAR IAMs_20 IAMs_20 20 17 18.2
comp=Z,22µm,14.2s
MBAR IAMs_20 IAMs_20 20 17 18.4
comp=Z,31µm,13.9s
MBAR Mbarara 20.99 353 *i* P Pn 20 10 57.5 -0.1
MBAR *i* S Sn 20 14 55.6 +0.8
MBAR Mbarara 20.99 353 *e*P **P 20 10 55.6 +0.7**
MBAR *e*S Sn 20 15 01.0 +6.2
MBAR IAMs_20 IAMs_20 20 17 18.2
comp=Z,22µm,14.2s
MBAR IAMs_20 IAMs_20 20 17 18.4
comp=Z,31µm,13.9s
MBAR Mbarara 20.99 353 *e*P **P 20 10 54.2 -0.7**
MBAR Mbarara 20.99 353 *e*P **P 20 10 54.7 -0.2**
MBAR *e*S **S 20 14 49.0 +0.2**
FURI Furi 30.72 10 P **P 20 12 26.3 -0.5**
FURI IAmb IAmb 20 12 33.6
comp=Z,53nm,1.1s
FURI Furi 30.72 10 *e*P P 20 12 36.5 +10
FURI *e*S S 20 17 54.4 +25
FURI IAMs_20 IAMs_20 20 23 18.9
comp=Z,18µm,12.7s
FURI IVMs_BB IVMs_BB 20 25 11.3
comp=Z,9µm,7.4s
FURI Furi 30.72 10 *e*P P 20 12 36.5 +10
FURI *e*S S 20 17 54.4 +25
FURI IAMs_20 IAMs_20 20 23 18.9
comp=Z,18µm,12.7s
FURI IVMs_BB IVMs_BB 20 25 11.3
comp=Z,9µm,7.4s
FURI Furi 30.72 10 *e*P **P 20 12 31.2 +4.4**
FURI Furi 30.72 10 *e*P P 20 12 33.4 +6.6
AAE Adis Abeba 30.86 10 *e*P **P 20 12 31.8 +3.8**
AAE *e*S S 20 17 52.5 +20
AAE IAMs_20 IAMs_20 20 23 23.3
comp=E,14µm,14.8s
AAE IAMs_20 IAMs_20 20 24 35.9
comp=N,37µm,7.6s
AAE Adis Abeba 30.86 10 *e*P **P 20 12 31.8 +3.8**
AAE *e*S S 20 17 52.5 +20
AAE IAMs_20 IAMs_20 20 23 23.3
comp=E,14µm,14.8s
AAE IAMs_20 IAMs_20 20 24 35.9
comp=N,37µm,7.6s
AAE Adis Abeba 30.86 10 *e*P P 20 12 34.3 +6.2
AAE Adis Abeba 30.86 10 *e*P **P 20 12 30.9 +2.8**
ANKE Ethiopia-Afar 31.59 12 *e*P **P 20 12 34.9 +0.3**
ATD Arta Tunnel 34.18 17 P **P 20 12 58.2 +1.4**
comp=N,5.8nm,0.5s,baz=256,slow=5.6,SNR=7.4
ATD LR LR 20 26 17.8
comp=N,4µm,19.9s,baz=185,slow=35
comp=N,5.8nm,0.5s
ATD Arta Tunnel 34.18 17 P **P 20 12 55.4 -1.4**
ATD IAMs_20 IAMs_20 20 26 29.9
comp=Z,5µm,19.0s
ATD Arta Tunnel 34.18 17 *e*P **P 20 13 00.7 +3.8**
ATD *e*S S 20 18 36.3 +13
ATD IVMs_BB IVMs_BB 20 28 07.0
comp=N,23µm,6.7s
ATD Arta Tunnel 34.18 17 *e*P **P 20 13 00.7 +3.8**
ATD *e*S S 20 18 36.3 +13
ATD IVMs_BB IVMs_BB 20 28 07.0
comp=N,23µm,6.7s
ATD Arta Tunnel 34.18 17 *e*P **P 20 12 59.6 +2.8**
ATD Arta Tunnel 34.18 17 *e*P **P 20 13 00.9 +4.0**
SHEL Horse Pasture 37.38 272 P **P 20 13 22.0 -2.3**
SHEL IAmb IAmb 20 13 29.8
comp=Z,128nm,1.0s
SHEL Horse Pasture 37.38 272 IAMs_20 IAMs_20 20 27 03.7
comp=Z,6µm,21.0s
SHEL Horse Pasture 37.38 272 P **P 20 13 22.0 -2.3**
SHEL pmax pmax
comp=Z,129nm,1.0s
SHEL MLR MLR
comp=Z,6µm,21.0s
DGAR Diego Garcia 40.24 75 IAMs_20 IAMs_20 20 30 14.7
comp=Z,6µm,18.0s
DGAR Diego Garcia 40.24 75 *i* P **P 20 13 48.5 +0.2**
DGAR pmax pmax
comp=Z,181nm,1.1s
RAYN Ar Rayn 46.35 15 P **P 20 14 36.9 -0.6**
RAYN Ar Rayn 46.35 15 IAMs_20 IAMs_20 20 33 38.2
comp=Z,5µm,19.0s
RAYN Ar Rayn 46.35 15 P **P 20 14 36.9 -0.6**
RAYN pmax pmax
comp=Z,14nm,1.2s
RAYN MLR MLR
comp=Z,5µm,19.0s
RAYN Ar Rayn 46.35 15 *i* P **P 20 14 38.2 +0.7**
SNR=12
TOA0 Torodi Ar. Sit 46.44 315 P **P 20 14 37.8 -0.5**
TORD Torodi Ar. Bea 46.44 315 P **P 20 14 39.0 +0.6**
comp=Z,44nm,0.9s,baz=123,slow=7.1,SNR=89
TORD LR LR 20 32 10.8
comp=Z,5µm,19.1s,baz=138,slow=34
comp=Z,44nm,0.9s
KIC Kosan Boka 46.54 302⇑ *i* P **P 20 14 39.9 +0.7**
comp=Z,27nm,0.7s
LIC Lamto 46.69 302⇑ *i* P **P 20 14 41.1 +0.8**
comp=Z,92nm,0.7s
DBIC Dimbokro 46.82 303 P **P 20 14 42.2 +0.8**
comp=Z,63nm,0.9s,baz=134,slow=9.2,SNR=28
DBIC LR LR 20 32 43.7
comp=Z,6µm,20.6s,baz=144,slow=34
comp=Z,63nm,0.9s
DBIC Dimbokro 46.82 303 P **P 20 14 41.7 +0.3**
TIC Toumodi 46.94 302⇑ *i* P **P 20 14 43.2 +0.9**
comp=Z,218nm,0.7s
ASCN Ascension 47.90 279 IAMs_20 IAMs_20 20 34 05.0
comp=Z,3µm,18.0s
MZR Muzera 48.44 25 P **P 20 14 53.8 0.0**
SNR=6.2
MZR P **P 20 14 53.8 0.0**
SNR=6.2
MZR Muzera 48.44 25 *i* P **P 20 14 54.3 +0.5**
SNR=15
MHTO MHTO 48.65 31 P **P 20 14 54.8 -0.5**
SNR=16
MHTO P **P 20 14 54.8 -0.5**
SNR=16
UMZA Um Al Zommool 48.87 27 P **P 20 14 56.6 -0.5**
GHWR Ruwais 49.08 24 P **P 20 15 01.0 +2.4**
MAW Mawson 49.61 166 P **P 20 15 03.3 +1.1**
comp=Z,20nm,1.1s,baz=314,slow=8.7,SNR=27
MAW LR LR 20 33 16.2
comp=Z,690nm,18.3s,baz=329,slow=33
comp=Z,20nm,1.1s
MAW Mawson 49.61 166 P **P 20 15 02.9 +0.7**
BSY Bisya 49.80 29 P **P 20 15 04.1 -0.1**
SNR=8.0
BSY P **P 20 15 04.1 -0.1**
SNR=8.0
JMDO Jabal Madar 49.89 30 P **P 20 15 04.0 -0.9**
ARQ Araqi 50.01 28 P **P 20 15 05.3 -0.5**
ARQ P **P 20 15 05.3 -0.5**
ALNE Al Ain 50.31 27 P **P 20 15 08.1 +0.1**
SNR=6.8

SMDO Samad 50.46 30 P **P 20 15 08.4 -0.9**
SNR=5.4
WBK Wadi Bani Khal 50.51 31 P **P 20 15 09.6 0.0**
SNR=5.8
WBK P **P 20 15 09.6 0.0**
SNR=5.8
HOQ Hoqain 50.57 29 P **P 20 15 09.3 -0.8**
SNR=6.7
HOQ P **P 20 15 09.3 -0.8**
SNR=6.7
ASUD Al Ashush, Dub 50.64 26 P **P 20 15 10.8 +0.3**
ASUD Al Ashush, Dub 50.64 26 *i* P **P 20 15 12.0 +1.5**
SNR=8.2
NVL N'lazarevskaya 50.82 189 *e*P **P 20 15 14.5 +3.2**
NVL *e*S **S 20 22 31.5 +4.8**
NVL *e*SS **SS 20 26 00.4 -0.6**
NVL pmax pmax
comp=Z,43nm,1.3s
FAQ Al Faqa, Dubai 50.85 26 P **P 20 15 12.2 +0.1**
FAQ P **P 20 15 12.2 +0.1**
WSAR Wadi Sarin 50.88 30 P **P 20 15 13.5 +1.1**
comp=Z,7.5nm,0.6s,baz=207,slow=9.0,SNR=11
WSAR LR LR 20 35 35.8
comp=Z,3µm,20.8s,baz=225,slow=35
comp=Z,7.5nm,0.6s
BIDO Bidbid 50.89 30 P **P 20 15 11.9 -0.5**
SNR=5.7
BIDO P **P 20 15 11.9 -0.5**
SNR=5.7
EIL Elat 50.96 2 P **P 20 15 14.4 +1.6**
comp=Z,28nm,1.0s,baz=347,slow=2.0,SNR=11
EIL LR LR 20 35 34.5
comp=Z,2µm,19.1s,baz=294,slow=35
comp=Z,28nm,1.0s
ASHO Ashiyiah 50.99 27 P **P 20 15 12.8 -0.4**
ASHO P **P 20 15 12.8 -0.4**
ASHO Ashiyiah 50.99 27 P **P 20 15 12.8 -0.4**
NAZ Nazwa, Dubai 51.10 26 P **P 20 15 14.1 +0.1**
HATD Hatta, Dubai 51.15 27 P **P 20 15 14.4 0.0**
HATD P **P 20 15 14.4 0.0**
HATD Hatta, Dubai 51.15 27 P **P 20 15 14.0 -0.4**
KOWA Kowa 51.28 311 P **P 20 15 16.0 +0.5**
comp=Z,22nm,1.0s,baz=148,slow=5.6,SNR=21
comp=Z,22nm,1.0s
KOWA Kowa 51.28 311 P **P 20 15 15.5 0.0**
KOWA IAmb IAmb 20 15 20.4
comp=Z,74nm,1.3s
UOSS Minazif 51.28 27 P **P 20 15 14.3 -1.1**
UOSS Minazif 51.28 27 IAMs_20 IAMs_20 20 36 16.8
comp=Z,4µm,20.0s
UOSS Minazif 51.28 27 P **P 20 15 15.0 -0.4**
UOSS P **P 20 15 15.0 -0.4**
UOSS Minazif 51.28 27 P **P 20 15 14.2 -1.1**
UMQ Umm Al-Quwin 51.57 26 P **P 20 15 16.2 -1.3**
MSFE Esma-Masafi 51.63 27 P **P 20 15 16.9 -1.1**
MASF Masafi 51.64 27 P **P 20 15 18.3 +0.2**
SNR=5.1
MASF P **P 20 15 18.3 +0.2**
SNR=5.1
TAM Tamanrasset 51.77 327 P P 20 15 11.5 -7.8
TAM IAMs_20 IAMs_20 20 34 11.8
comp=Z,4µm,18.0s
TAM Tamanrasset 51.77 327 P P 20 15 11.5 -7.7
TAM pmax pmax
comp=Z,29nm,1.3s
TAM MLR MLR
comp=Z,4µm,18.0s
BANOM Banah 52.19 26 P **P 20 15 21.3 -0.9**
BANOM Banah 52.19 26 P **P 20 15 20.6 -1.6**
SHME Shamm 52.23 26 P **P 20 15 21.1 -1.3**
SHME P **P 20 15 21.1 -1.3**
SHME Shamm 52.23 26 P **P 20 15 18.9 -3.6**
GHAJ Ghor Haditha 52.61 2 P **P 20 15 23.4 -1.7**
TROLL Troll, Antarti 53.44 191 P **P 20 15 32.2 +1.3**
ASF Jabal al Asfar 53.54 4 P **P 20 15 32.9 +0.8**
comp=Z,15nm,0.9s,baz=196,slow=4.1,SNR=9.1
ASF LR LR 20 40 20.5
comp=Z,2µm,18.3s,baz=184,slow=38
comp=Z,15nm,0.9s
SNAA Sanae 54.24 193 P **P 20 15 37.4 +0.6**
SNAA Sanae 54.24 193 P **P 20 15 38.0 +1.2**
comp=Z,20nm,1.1s,baz=52,slow=6.2,SNR=18
SNAA LR LR 20 35 21.4
comp=Z,1µm,18.4s,baz=47,slow=32
comp=Z,20nm,1.1s
SNAA Sanae 54.24 193 P **P 20 15 36.8 0.0**
SNAA Sanae 54.24 193 *i* P **P 20 15 38.3 +1.5**
SNAA pmax pmax
comp=Z,32nm,1.3s
MMAI Mount Meron Ar 54.31 2 P **P 20 15 39.2 +1.5**
comp=Z,21nm,1.0s,baz=242,slow=8.4,SNR=6.9
MMAI LR LR 20 38 13.2
comp=Z,1µm,19.6s,baz=49,slow=35
comp=Z,21nm,1.0s
PALK Pallekele 54.56 64 P **P 20 15 39.8 -0.1**
comp=Z,16nm,0.7s,baz=338,slow=7.6,SNR=7.8
PALK LR LR 20 36 39.4
comp=Z,3µm,18.6s,baz=333,slow=34
comp=Z,16nm,0.7s
PALK Pallekele 54.56 64 P **P 20 15 37.6 -2.2**
PALK IAmb IAmb 20 15 43.6
comp=Z,28nm,0.9s
PALK Pallekele 54.56 64 IAMs_20 IAMs_20 20 36 37.2
comp=Z,3µm,19.0s
VNA2 Neumayer--Watz 54.76 195 P **P 20 15 41.3 +0.8**
baz=36,slow=7.0
VNA1 Neumayer--Stat 54.80 196 P **P 20 15 42.1 +1.4**
VNA3 Neumayer Olymp 55.53 196 P **P 20 15 46.4 +0.3**
ELL Elmali 58.09 357 P **P 20 16 05.4 +0.7**
ELL Elmali 58.09 357 P **P 20 16 05.4 +0.7**
ELL pmax pmax
comp=Z,211nm,1.2s
HYB Hyderabad 58.83 52 *e*P **P 20 16 08.9 -1.3**
HYB IAmb IAmb 20 16 12.9
comp=Z,32nm,1.0s
HYBB Hyderabad (bro 58.83 52 *e*P **P 20 16 09.3 -0.8**
HYBB IVmB_BB 20 16 18.0
comp=Z,274nm,3.8s
MARD Mardin 58.98 7 P **P 20 16 11.1 +0.2**
MARD IAmb IAmb 20 16 16.7
comp=Z,40nm,1.0s
ISP Isparta 59.13 357 P **P 20 16 12.3 +0.4**
ISP IAmb IAmb 20 16 17.4
comp=Z,38nm,0.9s
ISP Isparta 59.13 357 *i* P **P 20 16 12.4 +0.4**
ISP pmax pmax
comp=Z,30nm,0.9s
AKL Akola 59.86 48 *e*P **P 20 16 15.1 -2.1**
MANT Manisa 59.91 356 P **P 20 16 18.7 +1.2**
MANT IAmb IAmb 20 18 03.4
comp=Z,20nm,0.4s
BNN Bunyan 60.14 2 P **P 20 16 19.1 +0.2**
BNN IAmb IAmb 20 16 19.6
comp=Z,36nm,0.9s
GURO Guroymak-BITLI 60.35 8 P **P 20 16 20.2 -0.1**
BBTS Babate 60.76 302 LR LR 20 42 05.4
comp=Z,3µm,18.2s,baz=122,slow=35
MBO M'Bour 60.94 301 P **P 20 16 23.7 -1.0**
MBO IAMs_20 IAMs_20 20 40 19.8
comp=Z,4µm,20.0s
BRTR Keskin Array B 60.97 0 P **P 20 16 25.4 +0.8**
comp=Z,18nm,0.8s,baz=175,slow=8.6,SNR=63
comp=Z,18nm,0.8s
BRTR Keskin Array B 60.97 0 P **P 20 16 24.7 +0.1**
BR131 Keskin Array S 60.97 0 P **P 20 16 24.4 -0.2**
BR131 IAmb IAmb 20 16 29.5
comp=Z,32nm,0.8s
BR131 Keskin Array S 60.97 0 *i* P **P 20 16 24.7 +0.1**
BR231 Keskin MP Arra 61.09 359 P **P 20 16 24.4 -0.9**
BR231 IAmb IAmb 20 16 30.2
comp=Z,28nm,1.1s
COCO West Island 61.11 92 IAMs_20 IAMs_20 20 36 18.7
comp=Z,3µm,21.0s
ANTO Ankara 61.12 360 P **P 20 16 26.2 +0.7**
ANTO IAmb IAmb 20 16 30.4
comp=Z,26nm,1.1s
ANTO Ankara 61.12 360 P **P 20 16 26.2 +0.7**
ANTO pmax pmax
comp=Z,26nm,1.1s
ANTO MLR MLR
comp=Z,800nm,19.0s
RAFF Raffo Rosso 61.16 343 P **P 20 16 25.2 -0.5**
RAFF IAmb IAmb 20 16 31.6
comp=Z,53nm,1.0s
BORA Eskisehir 61.19 357 P **P 20 16 26.4 +0.5**
BORA IAmb IAmb 20 16 32.1
comp=Z,34nm,1.0s
KEST Kesra 61.36 338 P **P 20 16 29.7 +2.5**
comp=Z,18nm,0.9s,baz=203,slow=2.4,SNR=14
comp=Z,18nm,0.9s
KEST Kesra 61.36 338 P **P 20 16 27.7 +0.5**
KOPT Kop Dagi 61.62 6 P **P 20 16 29.0 -0.2**
KOPT IAmb IAmb 20 16 37.6
comp=Z,21nm,0.9s
CEL Celeste 61.73 344 IAMs_20 IAMs_20 20 45 13.2
comp=Z,2µm,19.0s
MDUB Mudurnu 61.75 358 P **P 20 16 30.2 +0.4**
CLTB Caltabellotta 61.81 342 P **P 20 16 29.6 -0.6**
CLTB IAmb IAmb 20 16 45.4
comp=Z,59nm,1.1s
BHPL Bhopal 61.84 47⇑ *e*P P 20 16 25.2 -5.5
BHPL IAmb IAmb 20 16 25.6
comp=Z,100nm,0.8s
HRA Herat 62.06 27 P **P 20 16 30.7 -1.4**
HRA IAmb IAmb 20 16 35.5
comp=Z,22nm,1.1s
LIT Litokhoron 62.18 351 P **P 20 16 32.9 +0.3**
LIT Litokhoron 62.18 351 P **P 20 16 32.9 +0.3**
LIT pmax pmax
comp=Z,85nm,1.0s
ILGA Ilgaz 62.30 0 P **P 20 16 33.5 -0.1**
GNI Garni 62.31 10 P **P 20 16 33.6 0.0**
comp=Z,24nm,1.0s,baz=332,slow=2.9,SNR=8.1
GNI LR LR 20 42 46.8
comp=Z,1µm,20.3s,baz=189,slow=35
comp=Z,24nm,1.0s
GNI Garni 62.31 10 P **P 20 16 33.6 0.0**
GNI IAmb IAmb 20 16 38.9
comp=Z,34nm,1.0s
GNI Garni 62.31 10 *de*P **P 20 16 34.2 +0.6**
GNI pmax pmax
comp=Z,62nm,1.7s
GNI Garni 62.31 10 P **P 20 16 34.2 +0.6**
TIP Timpagrande 62.39 345⇑P **P 20 16 35.9 +1.8**
TIP Timpagrande 62.39 345 P **P 20 16 34.0 0.0**
TIP IAmb IAmb 20 16 40.0
comp=Z,39nm,1.2s
TIP IAMs_20 IAMs_20 20 46 00.7
comp=Z,2µm,21.0s
ALN Alexandroupoli 62.51 354 P **P 20 16 35.8 +1.1**
ALN IAmb IAmb 20 16 40.2
comp=Z,34nm,1.0s
ALN Alexandroupoli 62.51 354 P **P 20 16 35.8 +1.1**
ALN pmax pmax
comp=Z,34nm,1.0s
FIGM Figuig 62.84 327 P **P 20 16 41.0 +3.7**
DIKM Dikmen 62.92 2⇑P **P 20 16 38.6 +1.2**
KBN Korca 62.97 349 P **P 20 16 38.2 +0.3**
KBN Korca 62.97 349 P **P 20 16 38.2 +0.3**
KBN pmax pmax
comp=Z,60nm,1.0s
KDZ Kurdzhali 63.32 353 P **P 20 16 40.7 +0.6**
MMB Musomiste 63.47 352 P **P 20 16 41.0 -0.1**
GEYT Alibeck 63.59 22 P **P 20 16 41.7 -0.3**
comp=Z,3.6nm,0.7s,baz=190,slow=6.0,SNR=7.9
GEYT LR LR 20 45 37.6
comp=Z,3µm,21.9s,baz=208,slow=37
comp=Z,3.6nm,0.7s
GEYT Alibeck 63.59 22 P **P 20 16 41.3 -0.8**
GYAOB ALIBECK ARRAY 63.59 22 P **P 20 16 41.1 -0.9**
MATE Matera 63.81 346⇑P **P 20 16 44.8 +1.5**
KKB Krupnik 63.83 351 P **P 20 16 43.0 -0.5**
TIR Tirane 63.83 349 P **P 20 16 44.4 +0.9**
TIR Tirane 63.83 349 P **P 20 16 44.4 +0.9**
TIR pmax pmax
comp=Z,88nm,0.9s
TIR MLR MLR
comp=Z,2µm,22.0s
JHNI Jhansi 64.10 45 *e*P **P 20 16 44.9 -0.7**
PGB Panagyurishte 64.36 352 P **P 20 16 47.0 0.0**
BLSP Bilaspur 64.41 51 *e*P **P 20 16 46.3 -1.4**
BELA Belgrano 2 64.47 193 P **P 20 16 47.0 -0.4**
ONI Oni 64.51 8 P **P 20 16 47.9 -0.1**
ONI Oni 64.51 8 P **P 20 16 47.9 -0.1**
ONI pmax pmax
comp=Z,19nm,1.0s
GUDG Gudauri 64.53 9 P **P 20 16 44.6 -3.7**
GUDG IAmb IAmb 20 16 49.1
comp=Z,29nm,0.9s
GUDG Gudauri 64.53 9 P **P 20 16 44.6 -3.7**
GUDG pmax pmax
comp=Z,29nm,0.9s
VTS Vitosha 64.54 352⇑P **P 20 16 49.0 +0.6**
VTS Vitosha 64.54 352 P **P 20 16 47.1 -1.1**
VTS Vitosha 64.54 352 P **P 20 16 47.2 -1.1**
VTS pmax pmax
comp=Z,10.0nm,0.9s
VTS Vitosha 64.54 352 P **P 20 16 45.5 -2.8**
PRD Provadia 64.68 355 P **P 20 16 47.5 -1.5**
PAOL Paolisi 64.68 344 P **P 20 16 50.2 +1.0**
PAOL IAmb IAmb 20 16 55.2
comp=Z,46nm,1.1s
ZEI Tsey 64.77 9 *e*P **P 20 16 48.7 -1.1**
ZEI pmax pmax
comp=Z,59nm,1.7s
DRME Dracevica, Mon 64.77 348 *e*P P 20 16 54.3 +4.7
SZH Strazhica 64.87 354 P **P 20 16 50.0 -0.3**
PDG Podgorica 65.00 349 P **P 20 16 50.0 -1.1**
PDG IAmb IAmb 20 16 57.4
comp=Z,43nm,1.0s
NEY Neytrino 65.06 8 *i* P **P 20 16 52.0 +0.2**
NEY pmax pmax
comp=Z,7.0nm,0.8s
SOC Sochi 65.09 5 *e*P **P 20 16 49.0 -2.7**
SOC *e*PPP PPP 20 20 43.3
SOC *e*S **S 20 25 31.7 -2.1**
SOC pmax pmax
comp=Z,24nm,0.8s
SOC MLR MLR
comp=Z,803nm,19.0s
MDT Midelt 65.11 325 P **P 20 16 54.7 +2.5**
comp=Z,9.3nm,0.9s,baz=150,slow=8.5,SNR=10
MDT LR LR 20 46 50.4
comp=Z,4µm,18.0s,baz=152,slow=37
comp=Z,9.3nm,0.9s
MDT Midelt 65.11 325 P **P 20 16 54.5 +2.3**
RAZG Razgrad 65.11 355⇓P **P 20 16 52.8 +0.9**
KBL Kabul 65.30 32 P **P 20 16 52.1 -1.4**
KBL Kabul 65.30 32 P **P 20 16 52.1 -1.4**
KBL pmax pmax
comp=Z,12nm,0.8s
CASY Casey 65.30 154 P **P 20 16 52.7 -0.2**
NCK Nalchik 65.42 8 *i* P **P 20 16 54.3 +0.5**
NCK pmax pmax
comp=Z,16nm,1.0s
GROC Groznyy 65.45 10 *e*P **P 20 16 54.8 +0.8**
GROC *e* 20 17 25.9
GROC *e*S **S 20 25 41.2 +2.9**
GROC pmax pmax
comp=Z,139nm,1.1s
MAK Makhachkala 65.52 11 *e*P **P 20 16 50.3 -4.1**
MAK *e* 20 19 13.4
MAK *e*PPP PPP 20 20 48.3
MAK *e*S **S 20 25 33.1 -5.9**
MAK *e*SS **SS 20 29 56.3 +3.0**
MAK *e*SSS SSS 20 32 44.3
MAK pmax pmax
comp=Z,123nm,0.9s
MAK MLR MLR
comp=Z,998nm,16.0s
SHA1 Shidzhatmaz 65.54 7 *di* P **P 20 16 55.2 +0.3**
TTIG Tnine Tigouga, 65.56 321 P P 20 17 01.0 +5.8
ICOR Ion Corvin 65.56 356⇑P **P 20 16 55.4 +0.8**
KBZ Khabaz 65.56 9 P **P 20 16 55.4 +0.7**
comp=Z,14nm,0.8s,baz=168,slow=6.0,SNR=12
comp=Z,14nm,0.8s
BRY Bratogost 65.58 348 *e*P **P 20 16 56.9 +1.8**
BLKB Belogradchik 65.61 351⇑P **P 20 16 56.0 +1.0**
OUK Oukaimeden 65.71 322 P **P 20 16 59.0 +2.6**
BOVS Bovan 65.76 351⇓P **P 20 16 56.9 +0.9**
KIV Kislovodsk 65.76 7⇓P **P 20 16 56.3 +0.2**
KIV Kislovodsk 65.76 7 P **P 20 16 55.5 -0.7**
KIV IAmb IAmb 20 17 01.6
comp=Z,30nm,0.9s
KIV Kislovodsk 65.76 7 *e*P **P 20 16 56.1 0.0**
KIV *e*S **S 20 25 42.6 +0.4**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV pmax pmax
comp=Z,74nm,3.4s

KIV MLR MLR
comp=Z,611nm,17.0s
KIV Kislovodsk 65.76 7 P P 20 16 56.5 +0.4
KIV P P **20 16 56.5 +0.4**
KIV Kislovodsk 65.76 7 *i* P P **20 16 56.6 +0.5**
SNR=12
KVAR Kislovodsk Arr 65.76 7 P P 20 16 56.4 +0.3
comp=Z,5.9nm,0.9s,baz=270,slow=20,SNR=3.6
KVAR LR LR 20 46 57.0
comp=Z,817nm,18.1s,baz=87,slow=37
comp=Z,5.9nm,0.9s
UPM Unac-Piva 65.81 348 *eP* **P 20 16 58.5 +1.9**
TIRR Tirgusor 65.86 356 IAMs_20 IAMs_20 20 45 47.2
comp=Z,2µm,18.0s
LCRM LCR 65.92 326 P P 20 17 04.0 +6.5
HARR Harsova 66.12 356 ⇓P **P 20 16 59.9 +1.6**
RUDO Rudo 66.12 349 *eP* P 20 17 04.6 +6.2
ANN Anapa 66.15 3 *eP* **P 20 16 54.9 -3.5**
ANN *e**PP **pP 20 16 59.6 -3.1**
ANN *eS* **S 20 25 39.6 -7.0**
ANN pmax pmax
comp=Z,55nm,1.2s
SIM Simferopol' 66.19 1 *eP* **P 20 16 57.6 -1.2**
SIM *e* 20 19 19.8
SIM *eS* S 20 25 36.3 -11
SIM pmax pmax
comp=Z,25nm,0.8s
SIM pmax pmax
comp=Z,15nm,11.7s
SIM smax smax
comp=N,152nm,14.9s
SIM MLR MLR
comp=Z,447nm,20.6s
AQU L'Aquila 66.22 344 P **P 20 16 59.0 0.0**
AQU IAmb IAmb 20 17 06.0
comp=Z,33nm,1.0s
AQU IAMs_20 IAMs_20 20 48 49.0
comp=Z,2µm,20.0s
AQU L'Aquila 66.22 344 P **P 20 16 59.1 0.0**
AQU pmax pmax
comp=Z,33nm,1.0s
AQU MLR MLR
comp=Z,2µm,20.0s
TPGR Topolog 66.25 356 ⇓P **P 20 16 58.4 -0.8**
CAMP Campotosto 66.39 344 P **P 20 17 01.1 +0.9**
CAMP IAmb IAmb 20 17 06.0
comp=Z,66nm,1.5s
DIVS Divibare 66.48 350 P **P 20 17 01.5 +0.8**
DIVS IAmb IAmb 20 17 07.0
comp=Z,37nm,1.1s
DIVS Divibare 66.48 350 *eP* **P 20 17 02.1 +1.3**
STFAR Stefanesti-Arg 66.55 353 ⇑P **P 20 17 02.5 +1.4**
CFR Carcaliu 66.59 356 ⇑P **P 20 17 02.5 +1.2**
SECR 66.61 354 ⇓P **P 20 17 03.6 +2.1**
GSI Gunungsitoli 66.64 79 P **P 20 17 01.7 -0.7**
GSI Gunungsitoli 66.64 79 P **P 20 17 02.0 -0.3**
comp=Z,45nm,1.5s
SACV Santiago Islan 66.64 298 P **P 20 17 02.3 +0.1**
SACV IAMs_20 IAMs_20 20 42 17.8
comp=Z,2µm,21.0s
ISR Istrita 66.65 355 ⇑P **P 20 17 03.4 +1.6**
CESX Cesi 66.67 343 P **P 20 17 03.2 +1.3**
NRCA Norcia 66.74 344 P **P 20 17 03.5 +1.1**
NRCA IAmb IAmb 20 17 07.2
comp=Z,40nm,1.4s
MLSI Meulaboh, Aceh 66.81 75 P **P 20 17 03.0 -0.4**
comp=Z,28nm,1.2s
HERR Herculane 66.88 352 ⇑P **P 20 17 03.7 +0.6**
MDVR Moldovita 66.88 351 ⇑P **P 20 17 04.3 +1.1**
GOF Gofitskoye 66.89 7⇑ *eP* **P 20 17 03.5 +0.3**
GOF pmax pmax
comp=Z,68nm,0.9s
LATE Laterza 66.89 343 P **P 20 17 04.3 +1.0**
LATE IAmb IAmb 20 17 10.7
comp=Z,61nm,1.2s
NBRF Rio Formoso - 66.91 270 *eP* **P 20 17 05.7 +1.7**
FDMO Fiordimonte 66.94 344 P **P 20 17 03.5 -0.1**
FDMO IAmb IAmb 20 17 09.2
comp=Z,31nm,1.2s
PBA Port Blair 66.98 66 P **P 20 17 02.6 -1.9**
SRKY Kupres RS 66.98 347 *eP* **P 20 17 05.6 +1.6**
MLR Muntele Rosu 67.08 354 ⇑P **P 20 17 05.2 +0.6**
MLR Muntele Rosu 67.08 354 P **P 20 17 04.4 -0.1**
MLR Muntele Rosu 67.08 354 P **P 20 17 04.4 -0.1**
MLR pmax pmax
comp=Z,97nm,1.5s
MLR MLR MLR
comp=Z,600nm,18.0s
VOIR 67.11 354 ⇓P **P 20 17 05.5 +0.8**
SMLA Simla 67.16 40 *eP* **P 20 17 04.3 -0.9**
SMLA IAmb IAmb 20 17 08.4
comp=Z,58nm,1.0s
LOT Lotru 67.26 353 ⇓P **P 20 17 07.0 +1.2**
MURB Monte Urbino 67.30 344 P **P 20 17 06.6 +0.7**
MURB IAmb IAmb 20 17 13.1
comp=Z,34nm,1.2s
MGRS Mrkonjic Grad 67.33 347 *eP* **P 20 17 07.2 +1.1**
GZR Gura Zlata 67.33 352 ⇑P **P 20 17 07.8 +1.7**
PLOR Plostina 67.37 355 ⇓P **P 20 17 07.2 +0.9**
VRI Vrincioaia 67.38 355 ⇑P **P 20 17 07.2 +0.9**
COVR Voineasa-Covas 67.40 355 ⇑P **P 20 17 07.0 +0.4**
A050A Klekovaca 67.51 347 *eP* **P 20 17 08.8 +1.5**
GHRR 67.52 356 ⇓P **P 20 17 08.7 +1.5**
FRGS Fruska Gora 67.54 350 ⇑P **P 20 17 09.3 +1.9**
FRGS Fruska Gora 67.54 350 *eP* **P 20 17 08.3 +0.9**
DOPR Dopca 67.60 354 ⇓P **P 20 17 08.2 +0.4**
BLY Banja Luka 67.63 348 *eP* **P 20 17 09.4 +1.5**
OZUR 67.69 354 ⇑P **P 20 17 09.0 +0.7**
BZS Buzias 67.71 351 ⇑P **P 20 17 10.2 +1.8**
LHMI Lhok Sumawe 67.71 75 IAMs_20 IAMs_20 20 45 40.7
comp=Z,3µm,18.0s
KCSI Kotacane, Aceh 67.73 77 P **P 20 17 08.8 -0.5**
comp=Z,34µmcomp=Z,1µmcomp=Z,31nm,1.5s
PURM Purcari 67.85 357 ⇓P **P 20 17 09.6 +0.4**
OSSC Osservatorio P 67.88 343 P **P 20 17 09.9 +0.3**
OSSC IAmb IAmb 20 17 32.1
comp=Z,39nm,1.7s
DGPR DIGLIPUR 67.89 65 *eP* **P 20 17 09.8 -0.4**
DGPR IAmb IAmb 20 17 14.3
comp=Z,64nm,0.9s
LGTI Lohaghat 67.91 43 *eP* **P 20 17 08.0 -2.0**
A051A Mrakovica 67.94 347 *eP* **P 20 17 10.7 +0.7**
PTH Pithoragarh 67.95 43 *eP* **P 20 17 08.9 -1.6**
TESR Tescani 68.03 355 ⇓P **P 20 17 12.0 +1.6**
VASR Vaslui 68.07 356 ⇑P **P 20 17 11.7 +1.1**
BOK Bokaro 68.15 52⇑ *eP* **P 20 17 11.3 -0.4**
BOK IAmb IAmb 20 17 16.4
comp=Z,26nm,0.6s
MILM Milestii Mici 68.29 357 ⇓P **P 20 17 12.9 +0.9**
MILM Milestii Mici 68.29 357 *d* iP **P 20 17 11.7 -0.3**
MILM *e* 20 19 42.0
MILM *i* S **S 20 26 14.0 +1.7**
MILM pmax pmax
comp=Z,350nm,8.1s
MILM smax smax
comp=N,270nm,11.2s
MILM smax smax
comp=E,690nm,10.6s
SIRR Siria 68.34 351 ⇑P **P 20 17 13.1 +0.8**
KIS Kishinev 68.36 357 ⇓ *iP* **P 20 17 13.0 +0.5**
comp=E,190nm,7.3s
KIS *eS* **S 20 26 20.0 +6.7**
comp=E,290nm,9.4s
KIS *eL* L 20 49 07.0
KIS LRM MLR 20 56 38.0
comp=E,240nm,16.0s
KIS Kishinev 68.36 357 *d* iP **P 20 17 13.0 +0.5**
KIS *e* 20 17 40.0
KIS *i* S **S 20 26 20.0 +6.7**
KIS pmax pmax
comp=Z,190nm,7.3s
KIS smax smax
comp=E,290nm,9.4s
PDSI Padang 68.41 82 P **P 20 17 13.4 -0.2**
comp=E,26nm,1.2s
RPSI Rantau Prapat 68.43 78 P **P 20 17 12.6 -1.1**
RPSI IAmb IAmb 20 17 15.2
comp=Z,68nm,1.7s
ALF01 Guarapari-ES 68.47 256 *eP* **P 20 17 16.3 +2.4**
PSI Prapat 68.47 78 P **P 20 17 13.9 -0.2**
comp=Z,8.5nm,0.8s,baz=270,slow=6.7
PSI LR LR 20 42 18.4
comp=Z,5µm,21.8s,baz=262,slow=32
comp=Z,8.5nm,0.8s

BIZ Bicaz 68.50 355 ⇓P **P 20 17 14.6 +1.3**
RIB01 Linhares ES 68.53 257 *eP* **P 20 17 17.1 +2.9**
CJR Cluj-Napoca 68.53 353 ⇓P **P 20 17 15.4 +1.8**
QSPA South Pole Qui 68.59 180 P **P 20 17 14.5 +0.5**
comp=Z,6.3nm,1.0s,baz=256,slow=2.9,SNR=8.1
QSPA PP **PP 20 19 44.8 -0.3**
comp=Z,12nm,1.2s,baz=359,slow=2.4,SNR=3.5
QSPA LR LR 20 44 38.7
comp=Z,582nm,20.8s,baz=247,slow=34
comp=Z,6.3nm,1.0s
QSPA South Pole Qui 68.59 180 P **P 20 17 13.8 -0.2**
RCBR Riachuelo 68.61 272 P **P 20 17 16.9 +2.0**
comp=Z,38nm,1.0s,baz=233,slow=7.3,SNR=9.0
RCBR LR LR 20 42 30.1
comp=Z,3µm,21.8s,baz=252,slow=32
comp=Z,38nm,1.0s
RCBR Riachuelo 68.61 272 P **P 20 17 15.9 +1.0**
RCBR Riachuelo 68.61 272 IAMs_20 IAMs_20 20 42 39.7
comp=Z,3µm,20.0s
RCBR Riachuelo 68.61 272 *eP* **P 20 17 16.8 +2.0**
CHGR Chuyangaron 68.67 29 P **P 20 17 14.1 -0.6**
NAN01 Guarapari, ES 68.70 259 *eP* **P 20 17 17.6 +2.2**
DRGR 68.71 352 ⇑P **P 20 17 16.7 +1.9**
ZCCA Zocca 68.72 343 P **P 20 17 13.9 -0.9**
ZCCA IAmb IAmb 20 17 26.0
comp=Z,42nm,1.4s
KOVH Kovagotottos 68.74 349 P **P 20 17 16.0 +1.2**
MORH Mrgy, Hungar 68.77 349 ⇑P **P 20 17 16.4 +1.4**
MORH Mrgy, Hungar 68.77 349 P **P 20 17 15.9 +0.9**
GUA01 Guaratinga, BA 68.77 260 *eP* **P 20 17 20.4 +4.6**
ARCR ARCALIA 68.81 353 ⇑P **P 20 17 17.3 +2.0**
PYUN Piuthan 68.81 46 *eP* **P 20 17 14.4 -1.6**
comp=Z,214nm,1.2s
CMC01 Camacan, BA 68.87 261 *eP* **P 20 17 16.4 0.0**
KRJI Kerinci 68.89 84 P **P 20 17 17.4 +0.7**
comp=Z,82nm,1.6s
CAM01 Campos-RJ 68.98 254 *eP* **P 20 17 17.1 +0.1**
KOLN Koldanda 69.01 47 *eP* **P 20 17 15.8 -1.4**
CRES Cresnjev 69.02 347 *eP* **P 20 17 18.2 +1.6**
MESR Meseneni 69.04 352 ⇑P **P 20 17 18.3 +1.6**
MSSA Maissana 69.10 342 P **P 20 17 16.6 -0.7**
CEY Cerknica 69.16 346 *eP* **P 20 17 19.0 +1.5**
CEY Cerknica 69.16 346 *i* P **P 20 17 19.1 +1.5**
CEY *eS* **S 20 26 30.7 +7.8**
MASI Maura Aman, Be 69.22 85 P **P 20 17 19.7 +1.0**
comp=Z,50nm,1.3s
BURAR Bucovina Array 69.25 354 ⇑P **P 20 17 19.9 +1.8**
BURAR Bucovina Array 69.25 354 P **P 20 17 18.6 +0.5**
BURAR IAmb IAmb 20 17 24.6
comp=Z,26nm,1.1s
BUR08 Bucovina Ar. S 69.28 354 P **P 20 17 19.1 +0.8**
BUR08 IAmb IAmb 20 17 24.5
comp=Z,53nm,1.4s
TRI Trieste 69.28 345 P **P 20 17 18.6 +0.4**
TRI IAmb IAmb 20 17 23.9
comp=Z,34nm,1.0s
TRI Trieste 69.28 345 P **P 20 17 18.7 +0.4**
TRI pmax pmax
comp=Z,35nm,1.0s
SDSI Sungai Dareh 69.29 83 P **P 20 17 18.9 -0.2**
comp=Z,427nmcomp=Z,18nm,1.3s
LTVH Ltavrtes, Hu 69.40 352 ⇓P **P 20 17 20.5 +1.6**
LTVH Ltavrtes, Hu 69.40 352 P **P 20 17 20.0 +1.1**
GDU01 Guandu, BA 69.42 263 *eP* **P 20 17 24.3 +4.4**
BKNI Bangkinang 69.42 81 P **P 20 17 19.6 -0.3**
BKNI IAMs_20 IAMs_20 20 42 16.2
comp=Z,2µm,21.0s
BKNI Bangkinang 69.42 81 P **P 20 17 20.0 +0.1**
comp=Z,2µmcomp=Z,151nm,1.4s
VNDS Vrh nad Dolski 69.44 346 *eP* **P 20 17 20.6 +1.3**
VNDS *eS* **S 20 26 32.9 +6.6**
TEOL Teolo 69.47 344 P **P 20 17 20.1 +0.7**
GAR Garm 69.48 30 P **P 20 17 19.2 -0.6**
GAR IAmb IAmb 20 17 26.2
comp=Z,70nm,1.5s
DANN Dangsing 69.49 46 *eP* **P 20 17 18.6 -1.7**
comp=Z,122nm,1.1s
BSZH Besenyszg 69.55 351 ⇑P **P 20 17 21.5 +1.7**
BSZH Besenyszg 69.55 351 P **P 20 17 20.9 +1.1**
DUB01 Friburgo-RJ 69.56 254 *eP* **P 20 17 22.6 +2.0**
SABO M.te Sabotino 69.58 345 P **P 20 17 20.6 +0.5**
SABO IAmb IAmb 20 17 25.9
comp=Z,49nm,1.0s
CADS Cadrg 69.78 346 *i* P **P 20 17 22.8 +1.4**
OBKA Obir 69.86 346 *eP* **P 20 17 23.1 +1.2**
OBKA Obir 69.86 346 *i* P **P 20 17 23.5 +1.6**
comp=Z,4.7nm,0.7s,SNR=15
GKN Gorkha 69.87 47 *eP* **P 20 17 20.8 -1.7**
comp=Z,152nm,1.1s
MPLH Magyarpolny 69.89 349 P **P 20 17 22.6 +0.7**
SOKA Soboth 69.92 347 *i* P **P 20 17 23.8 +1.5**
comp=Z,7.0nm,0.9s,SNR=25
BUD Budapest 69.93 350 P **P 20 17 22.7 +0.5**
DMN Daman 69.94 48 *eP* **P 20 17 21.8 -1.3**
CSKK Cskako 69.94 349 P **P 20 17 22.7 +0.4**
SALO Salr 70.02 343 P **P 20 17 24.2 +1.3**
SALO IAmb IAmb 20 17 28.7
comp=Z,71nm,1.3s
PRED Cave del Predi 70.02 346 P **P 20 17 24.2 +1.3**
TRPA Tarpa 70.05 352 ⇑P **P 20 17 23.5 +0.6**
TRPA Tarpa 70.05 352 P **P 20 17 23.3 +0.4**
STAL STALIGIAL 70.05 345 P **P 20 17 24.2 +1.2**
STAL IAmb IAmb 20 17 29.6
comp=Z,50nm,1.2s
CTI Castel Tesino 70.12 344 P **P 20 17 24.9 +1.4**
CTI IAmb IAmb 20 17 29.8
comp=Z,43nm,0.9s
CTI Castel Tesino 70.12 344 P **P 20 17 24.9 +1.4**
CTI pmax pmax
comp=Z,43nm,0.9s
PKIN Phulchoki 70.12 48 *eP* **P 20 17 22.5 -1.7**
PKI Pulchoki 70.13 48 *eP* **P 20 17 22.6 -1.7**
comp=Z,127nm,1.1s
EGYH Egyhazaskeszo 70.17 348 P **P 20 17 22.6 -1.0**
CIMO Cimolais 70.17 345 P **P 20 17 24.9 +1.2**
CIMO IAmb IAmb 20 17 29.8
comp=Z,43nm,0.9s
KKN Kakani 70.17 48 *eP* **P 20 17 22.4 -2.0**
MYKA Terra Mystica 70.18 346 *eP* **P 20 17 25.8 +1.9**
comp=Z,2.6nm,0.4s
ESBB Sonseca Array 70.19 330 P **P 20 17 24.6 +0.6**
ESBB IAmb IAmb 20 17 30.0
comp=Z,44nm,1.1s
ESDC Sonseca Array 70.19 330 P **P 20 17 25.8 +1.7**
comp=Z,25nm,1.0s,baz=144,slow=5.3,SNR=100
ESDC LR LR 20 50 41.9
comp=Z,888nm,18.6s,baz=152,slow=38
comp=Z,25nm,1.0s
ESDC Sonseca Array 70.19 330 P **P 20 17 24.9 +0.8**
ESDC IAmb IAmb 20 17 29.9
comp=Z,34nm,1.1s
CLUD Cludinico 70.20 345 P **P 20 17 25.4 +1.5**
CLUD IAmb IAmb 20 17 29.9
comp=Z,43nm,0.9s
PSZ Piszkesteto 70.21 350 ⇑P **P 20 17 24.9 +0.9**
PSZ Piszkesteto 70.21 350 P **P 20 17 24.2 +0.2**
PSZ IAmb IAmb 20 17 29.6
comp=Z,62nm,1.2s
PSZ Piszkesteto 70.21 350 P **P 20 17 24.2 +0.2**
PSZ pmax pmax
comp=Z,62nm,1.2s
PSZ MLR MLR
comp=Z,600nm,20.0s
PSZ Piszkesteto 70.21 350 P **P 20 17 24.4 +0.4**
PVAQ Vaqueiros 70.26 326 *eS* **S 20 26 40.9 +4.8**
PVAQ Vaqueiros 70.26 326 *eL* LR 20 40 33.0
comp=Z,1µm,18.0s
PVAQ Vaqueiros 70.26 326 P **P 20 17 24.3 -0.2**
PAB San Pablo 70.27 330 P **P 20 17 24.5 -0.1**
PAB IAmb IAmb 20 17 30.5
comp=Z,41nm,1.2s
PAB San Pablo 70.27 330 IAMs_20 IAMs_20 20 49 03.6
comp=Z,2µm,19.0s
PAB San Pablo 70.27 330 P **P 20 17 24.5 -0.1**
PAB pmax pmax
comp=Z,41nm,1.3s
PAB MLR MLR
comp=Z,2µm,19.0s
ARSA Arzberg 70.36 347 *i* P **P 20 17 26.5 +1.6**
comp=Z,13nm,0.9s,SNR=6.2
SRO Srobarova 70.37 349 *eP* **P 20 17 25.7 +0.8**
SRO pmax pmax
comp=Z,41nm,1.3s
SRO Srobarova 70.37 349 *eP* **P 20 17 25.7 +0.8**

VAS01 Vassouras-RJ 70.45 253 *eP* **P 20 17 29.0 +2.8**
PBAR Barrancos 70.50 327 *eP* **P 20 17 26.9 +1.0**
comp=Z,42nm,1.7s
BTK Batken 70.56 30 P **P 20 17 26.1 -0.3**
BTK IAmb IAmb 20 18 32.0
comp=Z,22nm,0.8s
BTK Batken 70.56 30 P **P 20 17 26.1 -0.3**
BTK pmax pmax
comp=Z,22nm,0.8s
ABTA Abfaltersbach 70.56 345 *i* P **P 20 17 28.2 +2.0**
comp=Z,5.8nm,0.7s,SNR=26
DRK Karamyk 70.56 31 P **P 20 17 26.0 -0.7**
DRK IAmb IAmb 20 17 34.1
comp=Z,31nm,1.1s
SOP Sopron 70.57 348 P **P 20 17 26.8 +0.7**
UZH Uzhgorod 70.58 352⇑ *iP* **P 20 17 26.0 -0.1**
UZH *i* 20 17 29.8
UZH *i* S **S 20 26 40.0 +0.7**
UZH *e*PS **PnS 20 27 11.0 +3.8**
RAMN Ramite 70.58 49 *eP* **P 20 17 25.8 -1.2**
comp=Z,169nm,1.3s
PCVE Castro Verde 70.60 326 *eP* **P 20 17 28.7 +2.1**
comp=Z,70nm,1.7s
BNI Bardonecchia 70.62 340 P **P 20 17 28.6 +1.9**
BNI IAmb IAmb 20 17 37.5
comp=Z,51nm,1.3s
BNI IAMs_20 IAMs_20 20 51 33.6
comp=Z,2µm,18.0s
BNI Bardonecchia 70.62 340 P **P 20 17 28.6 +1.9**
BNI pmax pmax
comp=Z,51nm,1.3s
BNI MLR MLR
comp=Z,2µm,18.0s
RONA Rosalia, Austr 70.63 348 *i* P **P 20 17 27.5 +0.9**
comp=Z,16nm,1.0s,SNR=33
PFVI Vila Bisbo 70.64 325 *eP* **P 20 17 28.2 +1.4**
GUN Gumba 70.66 48 *eP* **P 20 17 26.5 -1.1**
comp=Z,245nm,1.2s
KBA Koelnbreinsper 70.67 346 *i* P **P 20 17 28.5 +1.5**
comp=Z,9.1nm,0.8s,SNR=27
KECS Kecovo 70.68 351 *eP* **P 20 17 28.5 +1.7**
KECS Kecovo 70.68 351 *eP* **P 20 17 28.5 +1.7**
MORF Marmelete 70.68 326 *eP* **P 20 17 28.1 +1.0**
MORF *eS* **S 20 26 44.0 +3.0**
MORF IAMs_20 IAMs_20 20 46 39.5
comp=N,2µm,25.1s
MORF Marmelete 70.68 326 *eP* **P 20 17 29.1 +2.0**
comp=N,64nm,2.6s
MORF Marmelete 70.68 326 *eP* **P 20 17 28.1 +1.0**
JIRN Jiri 70.72 48 *eP* **P 20 17 26.6 -1.4**
comp=N,124nm,1.1s
PBEJ Beja 70.81 327 *eP* **P 20 17 30.0 +2.2**
comp=N,55nm,1.9s
MESJ Messejana 70.85 326 *eP* **P 20 17 29.1 +1.1**
MESJ *eS* **S 20 26 45.9 +2.9**
MESJ IAMs_20 IAMs_20 20 51 31.1
comp=Z,2µm,17.6s
MESJ Messejana 70.85 326 *eP* **P 20 17 29.4 +1.3**
comp=Z,92nm,1.4s
MESJ Messejana 70.85 326 *eP* **P 20 17 29.1 +1.1**
KOLS Kolonicke sedl 70.87 352 *eP* **P 20 17 29.2 +1.2**
KOLS pmax pmax
comp=Z,11nm,1.2s
KOLS Kolonicke sedl 70.87 352 *eP* **P 20 17 29.2 +1.2**
PTEO Sao Teotonio 70.89 326 *eP* **P 20 17 30.5 +2.2**
comp=Z,93nm,1.3s
TAS Tashkent 70.90 28 P **P 20 17 27.7 -0.6**
TAS Tashkent 70.90 28 P **P 20 17 27.7 -0.6**
TAS pmax pmax
comp=Z,213nm,0.2s
CONA Conrad Observa 70.94 348 *i* P **P 20 17 29.7 +1.2**
comp=Z,6.3nm,0.8s,SNR=30
VYHS Vyhne 70.94 350 *eP* **P 20 17 28.9 +0.5**
VYHS pmax pmax
comp=Z,21nm,1.1s
VYHS Vyhne 70.94 350 *eP* **P 20 17 28.9 +0.5**
CRVS Cervenica-Dubn 70.95 352 *eP* **P 20 17 29.6 +1.1**
CRVS pmax pmax
comp=Z,61nm,1.2s
CRVS Cervenica-Dubn 70.95 352 *eP* **P 20 17 29.5 +1.1**
CRVS *eS* **S 20 26 51.5 +7.8**
ZST Bratislava 70.96 349 *eP* **P 20 17 29.0 +0.5**
ZST pmax pmax
comp=Z,47nm,1.2s
ZST Bratislava 70.96 349 *eP* **P 20 17 29.0 +0.5**
ZST *eS* **S 20 26 47.6 +3.8**
KULM Kulim 71.07 76 P **P 20 17 28.4 -1.5**
KULM IAMs_20 IAMs_20 20 45 22.8
comp=Z,3µm,20.0s
IPM Ipoh 71.07 77 P **P 20 17 29.6 -0.4**
IPM IAmb IAmb 20 17 34.1
comp=Z,59nm,1.1s
IPM IAMs_20 IAMs_20 20 43 30.0
comp=Z,3µm,22.0s
ODAN Odare 71.08 50 *eP* **P 20 17 29.2 -0.8**
ODAN Odare 71.08 50 *eP* **P 20 17 29.5 -0.5**
MODS Modra-Piesok 71.10 349 *eP* **P 20 17 30.0 +0.7**
MODS pmax pmax
comp=Z,65nm,1.2s
MODS Modra-Piesok 71.10 349 *eP* **P 20 17 30.0 +0.7**
MODS *eS* **S 20 26 52.5 +7.1**
TUE Stuetta 71.12 343 P **P 20 17 30.9 +1.1**
BIOA Bad Ischl, Aus 71.18 346 *i* P **P 20 17 30.8 +0.9**
comp=Z,3.9nm,0.5s,SNR=12
MOA Molln 71.19 347 *eP* **P 20 17 31.3 +1.3**
comp=Z,11nm,0.8s
SMOL Smolenice 71.20 349 *eP* **P 20 17 30.6 +0.6**
SMOL pmax pmax
comp=Z,7.0nm,1.2s
PNCL Nicolau / Gran 71.22 326 *eP* **P 20 17 32.3 +2.0**
comp=Z,64nm,1.8s
WTTA Wattenberg 71.25 345 *i* P **P 20 17 32.0 +1.4**
comp=Z,9.0nm,0.7s,SNR=27
FETA Feichten 71.26 344 *i* P **P 20 17 32.0 +1.4**
comp=Z,15nm,0.8s,SNR=28
DAVOX Davos/Dischmat 71.26 343 LR LR 20 49 56.5
comp=Z,968nm,19.1s,baz=182,slow=37
PESTR Estremoz 71.31 327 *eP* **P 20 17 32.5 +1.6**
comp=Z,67nm,2.0s
PESTR Estremoz 71.31 327 P **P 20 17 31.5 +0.6**
PESTR IAmb IAmb 20 17 36.1
comp=Z,74nm,2.0s
SQTA Sankt Quirin 71.32 344 *i* P **P 20 17 32.3 +1.4**
comp=Z,13nm,0.7s,SNR=29
WATA Walderalm 71.34 345 *i* P **P 20 17 32.2 +1.2**
comp=Z,15nm,0.7s,SNR=18
MOTA Moosalm 71.46 344 *i* P **P 20 17 32.9 +1.2**
comp=Z,14nm,0.9s,SNR=26
LANS Liptovska Anna 71.48 350 *eP* **P 20 17 32.9 +1.2**
LANS pmax pmax
comp=Z,19nm,1.0s
LANS Liptovska Anna 71.48 350 *eP* **P 20 17 32.9 +1.2**
JAVC Velka Javorina 71.49 349 *eP* **P 20 17 32.7 +0.9**
KWP Kalwaria Pacla 71.51 353 *eP* **P 20 17 32.6 +0.8**
KWP Kalwaria Pacla 71.51 353 P **P 20 17 31.8 0.0**
KWP Kalwaria Pacla 71.51 353 P **P 20 17 31.8 0.0**
KWP MLR MLR
comp=Z,7µm,18.0s
SSB Saint Sauveur 71.52 339 P **P 20 17 32.6 +0.6**
SSB IAmb IAmb 20 17 38.4
comp=Z,43nm,1.1s
SSB Saint Sauveur 71.52 339 IAMs_20 IAMs_20 20 52 14.3
comp=Z,2µm,18.0s
SSB Saint Sauveur 71.52 339 P **P 20 17 32.6 +0.6**
SSB pmax pmax
comp=Z,43nm,1.1s
SSB MLR MLR
comp=Z,2µm,18.0s
SRIT Nakonsritamara 71.54 73 P **P 20 17 32.3 -0.5**
LVV L'vov 71.55 354 *eP* **P 20 17 31.1 -0.9**
LVV *eS* **S 20 26 47.9 -2.6**
LVV *e* 20 27 22.4
LVV *e* 20 31 25.0
LVV MLR MLR
comp=E,500nm,17.0s
LVV MLR MLR
comp=N,400nm,14.0s
LVV MLR MLR
comp=Z,500nm,16.0s
TAPN Taplejung 71.60 50 *eP* **P 20 17 32.0 -1.3**
SENIN Lac Senin/Sane 71.61 341 P **P 20 17 32.2 -0.6**
NIE Niedzica 71.61 351 *eP* **P 20 17 33.2 +0.7**
PMRV Marv??o 71.64 328 *eP* **P 20 17 34.1 +1.2**
comp=Z,40nm,1.8s
PMRV *eS* S 20 27 01.1 +9.0

PMRV Marv??o 71.64 328 eLR LR 20 41 45.8
comp=Z,2µm,18.0s
RETA Reutte 71.68 344 iP P 20 17 34.1 +1.1
comp=Z,15nm,0.6s,SNR=22
DAVA Damuels 71.73 343 iP P 20 17 34.5 +1.1
comp=Z,13nm,0.6s,SNR=16
PMTG Montargil 71.79 327 eP P 20 17 35.2 +1.5
comp=Z,79nm,1.8s
DIAM Diamantina, MG 71.79 257 eP P 20 17 36.1 +1.7
BRDH Bariadhala 71.83 56 LR LR 20 49 52.5
comp=Z,3µm,18.1s,baz=231,slow=37
IUG luzhnay 71.89 28d iP P 20 17 33.6 -0.7
IUG luzhnay 71.89 28⇓iP P 20 17 33.7 -0.7
baz=28
KRUC Moravsky 71.92 348 eP P 20 17 34.6 +0.3
MAUC Maruska 71.95 349 eP P 20 17 35.4 +0.9
MAUC AMS AMS 20 56 20.0
comp=Z,1µm,15.1s
AK05 Malin Array Si 71.96 357 P P 20 17 33.5 -1.0
AK05 IAmb IAmb 20 17 38.5
comp=Z,36nm,1.1s
PCBR Castelo Branco 72.00 328 eP P 20 17 36.2 +1.2
comp=Z,26nm,1.5s
AKASG Malin Array Be 72.04 357 P P 20 17 34.9 0.0
comp=Z,16nm,0.9s,baz=177,slow=5.2,SNR=38
comp=Z,16nm,0.9s
AKASG Malin Array Be 72.04 357 P P 20 17 34.2 -0.7
AKBB Malin Array Si 72.04 357 P P 20 17 33.7 -1.2
AKBB IAmb IAmb 20 17 38.9
comp=Z,34nm,1.0s
AKBB Malin Array Si 72.04 357 ceP P 20 17 34.9 0.0
AKBB pmax pmax
comp=Z,29nm,1.0s
AKBB MLR MLR
comp=Z,474nm,17.0s
CKRC Cesky Krumlov 72.11 347 eP P 20 17 36.5 +1.1
CKRC eS S 20 27 02.3 +5.2
CKRC AMS AMS 20 52 50.0
comp=Z,1µm,15.4s
VRAC Vranov 72.12 349 ⇓P P 20 17 35.9 +0.4
VRAC Vranov 72.12 349 LR LR 20 50 54.2
comp=Z,293nm,18.1s,baz=172,slow=37
VRAC Vranov 72.12 349 eP P 20 17 35.3 -0.2
GTK Tadong 72.22 50 eP P 20 17 36.5 -0.3
GTK IAmb IAmb 20 17 40.2
comp=Z,48nm,1.1s
GEC2 GERESS Array S 72.26 347 P P 20 17 36.9 +0.5
GEC2 IAmb IAmb 20 17 41.8
comp=Z,40nm,1.1s
GERES GERESS Array B 72.26 347 P P 20 17 37.6 +1.2
comp=Z,13nm,0.9s,baz=134,slow=5.8,SNR=50
GERES PP PP 20 20 19.4 +2.0
comp=Z,4.2nm,1.0s,baz=156,slow=7.0,SNR=3.5
GERES LR LR 20 54 07.1
comp=Z,785nm,18.0s,baz=166,slow=40
comp=Z,13nm,0.9s
GERES GERESS Array B 72.26 347 P P 20 17 36.9 +0.5
TREC Trest 72.32 348 AMS AMS 20 55 30.0
comp=Z,1µm,14.2s
CBJI Citeko 72.33 90 P P 20 17 37.9 +0.3
comp=Z,79nm,0.9s
OKC Ostrava-Krasne 72.36 350 eP P 20 17 36.0 -0.9
OKC MLR MLR
comp=Z,1µm,15.8s
OKC Ostrava-Krasne 72.36 350 eP P 20 17 36.0 -0.9
OKC AMS AMS 20 58 40.0
comp=Z,1µm,15.8s
MORC Moravsky Berou 72.40 349 ⇓P P 20 17 37.6 +0.4
MORC Moravsky Berou 72.40 349 P P 20 17 36.5 -0.7
MORC Moravsky Berou 72.40 349 eP P 20 17 37.3 +0.1
MORC Moravsky Berou 72.40 349 P P 20 17 36.5 -0.7
MORC pmax pmax
comp=Z,20nm,1.0s
MTE Manteigas 72.46 328 eP P 20 17 38.9 +1.1
comp=Z,46nm,2.0s
MTE eS SKiKP 20 27 08.8 -4.3
MTE Manteigas 72.46 328 eLR LR 20 41 23.6
comp=Z,2µm,18.0s
MTE Manteigas 72.46 328 P P 20 17 38.2 +0.4
MTE IAMs_20 IAMs_20 20 51 09.8
comp=Z,2µm,18.0s
DHUB DHUBRI 72.47 52⇑eP P 20 17 36.5 -1.6
DHUB IAmb IAmb 20 17 40.9
comp=Z,22nm,0.7s
OJC Ojcow 72.47 351 eP P 20 17 36.6 -1.0
OJC Ojcow 72.47 351 P P 20 17 36.9 -0.7
OJC IAmb IAmb 20 17 41.0
comp=Z,54nm,1.4s
OJC Ojcow 72.47 351 P P 20 17 36.9 -0.7
OJC pmax pmax
comp=Z,54nm,1.4s
PMOZ Porto Moniz, M 72.50 317 eLR LR 20 45 24.3
comp=Z,2µm,16.0s
PMOZ Porto Moniz, M 72.50 317 P P 20 17 38.9 +0.7
MC01 Montes Claros 72.52 259 eP P 20 17 41.2 +2.5
KHC Kasperske Hory 72.56 347 P P 20 17 35.2 -3.0
KHC Kasperske Hory 72.56 347 eP P 20 17 38.7 +0.6
KHC e 20 17 42.0
KHC eS SKiKP 20 27 08.6 -4.3
KHC MLR MLR
comp=Z,1µm,16.6s
KHC Kasperske Hory 72.56 347 eP P 20 17 38.7 +0.6
KHC epP pP 20 17 42.0 -0.4
KHC eS SKiKP 20 27 08.6 -4.3
KHC AMS AMS 20 53 30.0
comp=Z,1µm,16.6s
MYKOM Kota Tinggi 72.58 81 IAMs_20 IAMs_20 20 44 34.8
comp=Z,2µm,20.0s
KSH Kashi 72.64 33 P P 20 17 35.5 -3.5
KSH pP pP 20 17 40.8 -2.5
KSH S S 20 26 56.8 -7.1
KSH pmax pmax
comp=Z,10.0nm,1.4s
KSH LR LR
comp=Z,880nm,12.0s
KSH LR LR
comp=Z,1µm,11.7s
KSH LR LR
comp=Z,1µm,14.1s
VSR Storozhevoye 72.64 4 eP P 20 17 37.0 -1.5
VSR pmax pmax
comp=Z,60nm,0.9s
VSR MLR MLR
comp=Z,960nm,22.0s
PCAS Casmilo, Conde 72.67 328 eP P 20 17 40.6 +1.6
comp=Z,66nm,1.8s
MVO Moncorvo 72.80 329 eP P 20 17 42.1 +2.3
comp=Z,84nm,1.9s
MVO eS SKiKP 20 27 15.2 +1.7
MVO Moncorvo 72.80 329 eLR LR 20 43 03.5
comp=Z,2µm,16.0s
KRLC Kraliky 72.82 349 eP P 20 17 40.3 +0.6
KRLC MLR MLR
comp=Z,800nm,12.2s
KRLC Kraliky 72.82 349 eP P 20 17 40.3 +0.6
KRLC AMS AMS 20 55 50.0
comp=Z,800nm,12.2s
VRH Novokhopyorsk 72.82 5 eP P 20 17 38.5 -1.1
VRH pmax pmax
comp=Z,80nm,0.7s
VRH MLR MLR
comp=Z,920nm,21.0s
KK31 Karatay Array 72.87 28 P P 20 17 39.0 -1.1
KK31 IAmb IAmb 20 17 44.0
comp=Z,39nm,1.1s
KK31 Karatay Array 72.87 28 P P 20 17 39.0 -1.1
KK31 pmax pmax
comp=Z,39nm,1.2s
KKAR Karatay Array 72.87 28 P P 20 17 39.2 -0.9
KKAR Karatay Array 72.87 28 P P 20 17 39.3 -0.8
KKAR IAmb IAmb 20 17 44.0
comp=Z,39nm,1.1s
KKAR Karatay Array 72.87 28 P P 20 17 39.2 -0.9
KKAR pmax pmax
comp=Z,39nm,1.2s
PVIS Viseu 72.88 328 eP P 20 17 41.6 +1.4
comp=Z,61nm,1.6s
LEM Lembang 72.90 91 LR LR 20 43 33.0
comp=Z,3µm,21.7s,baz=191,slow=31
GOPC GO Pecny, Ondr 73.05 348 eP P 20 17 41.7 +0.7
GOPC eS SKiKP 20 27 12.6 -1.0
GOPC MLR MLR
comp=Z,1µm,15.9s
GOPC GO Pecny, Ondr 73.05 348 eP P 20 17 41.7 +0.7
GOPC eS SKiKP 20 27 12.6 -1.0
GOPC AMS AMS 20 53 30.0
comp=Z,1µm,15.9s
DZA Taraz 73.05 28 eP P 20 17 40.3 -0.9
DZA Taraz 73.05 28 eP P 20 17 40.4 -0.9
baz=28
VORR Voronezh 73.10 4 eP P 20 17 41.4 +0.2
VORR pmax pmax
comp=Z,52nm,0.4s
BFO Black Forest 73.10 343 P P 20 17 41.2 -0.2
BFO Black Forest 73.10 343 P P 20 17 41.2 -0.2
BFO pmax pmax
comp=Z,9.0nm,0.9s
BFO MLR MLR
comp=Z,1µm,18.0s
PBRG Braganca 73.17 330 eP P 20 17 43.4 +1.5
comp=Z,32nm,1.6s
PRU Pruhonice 73.17 347 eP P 20 17 42.3 +0.6
PRU eS SKiKP 20 27 11.8 -1.9
PRU MLR MLR
comp=Z,900nm,16.0s
PRU Pruhonice 73.17 347 eP P 20 17 42.3 +0.6
PRU eS SKiKP 20 27 11.8 -1.9
PRU AMS AMS 20 53 10.0
comp=Z,900nm,16.0s
DPC Dobruska-Polom 73.17 349 eP P 20 17 42.3 +0.5
DPC eS SKiKP 20 27 15.8 +2.0
DPC MLR MLR
comp=Z,900nm,14.3s
DPC Dobruska-Polom 73.17 349 eP P 20 17 42.3 +0.5
DPC eS SKiKP 20 27 15.8 +2.0
DPC AMS AMS 20 56 10.0
comp=Z,900nm,14.3s
PPBI Pangkal Pinang 73.19 86 P P 20 17 40.3 -2.4
comp=Z,16nm,1.3s
PVRL Vila Real 73.22 329 eP P 20 17 44.0 +1.7
comp=Z,56nm,1.5s
STU Stuttgart 73.28 344 P P 20 17 43.9 +1.6
STU IAmb IAmb 20 17 48.3
comp=Z,52nm,0.9s
STU Stuttgart 73.28 344 P P 20 17 43.9 +1.6
STU pmax pmax
comp=Z,52nm,0.9s
STU MLR MLR
comp=Z,1µm,18.0s
ECH Echery 73.33 342 P P 20 17 43.6 +0.9
ECH Echery 73.33 342 P P 20 17 43.6 +0.9
ECH pmax pmax
comp=Z,25nm,1.0s
ECH MLR MLR
comp=Z,1µm,18.0s
POLO Lamas de Olo 73.33 329 eP P 20 17 44.7 +1.7
comp=Z,25nm,1.3s
JANB Januaria 73.36 260 eP P 20 17 46.3 +2.6
VAO Valinhos 73.38 251 eP P 20 17 46.3 +2.5
UPC Upice 73.38 349 eP P 20 17 45.9 +3.0
UPC eS SKiKP 20 27 17.3 +3.3
UPC MLR MLR
comp=Z,800nm,13.8s
UPC Upice 73.38 349 eP P 20 17 45.9 +3.0
UPC eS SKiKP 20 27 17.3 +3.3
UPC AMS AMS 20 57 40.0
comp=Z,800nm,13.8s
OSTC Ostas 73.39 349 eP P 20 17 43.9 +0.9
OSTC eS SKiKP 20 27 18.1 +4.0
OSTC AMS AMS 20 56 50.0
comp=Z,700nm,14.3s
CHVC Chvalec 73.45 349 eP P 20 17 44.2 +0.8
CHVC AMS AMS 20 59 20.0
comp=Z,700nm,12.6s
AML Almayashu 73.53 30 P P 20 17 44.4 -0.1
SNR=17
PTO Porto 73.55 328 eP P 20 17 46.2 +2.1
comp=Z,62nm,1.7s
SHL Shillong 73.61 53 P P 20 17 44.0 -1.0
SHL IAmb IAmb 20 17 48.4
comp=Z,39nm,1.0s
SHL Shillong 73.61 53 P P 20 17 44.1 -1.0
SHL pmax pmax
comp=Z,39nm,1.0s
SHL Shillong 73.61 53 P P 20 17 44.5 -0.6
SNR=10
GRA1 Grafenberg Arr 73.62 345 P P 20 17 45.1 +0.7
GRF Grafenberg Arr 73.62 345 P P 20 17 45.1 +0.7
GRF pmax pmax
comp=Z,90nm,1.1s
GRF MLR MLR
comp=Z,900nm,18.0s
GRFO Grafenberg 73.62 345 P P 20 17 44.5 +0.2
GRFO Grafenberg 73.62 345 P P 20 17 44.5 +0.2
GRFO pmax pmax
comp=Z,85nm,1.1s
GRFO MLR MLR
comp=Z,900nm,18.0s
KSP Ksiaz 73.65 349 eP P 20 17 45.3 +0.8
NWAO Narrogin (SRO) 73.66 119 LR LR 20 44 09.0
comp=Z,1µm,20.0s,baz=120,slow=31
PVCC Panska Ves 73.67 348 eP P 20 17 45.0 +0.3
PVCC MLR MLR
comp=Z,800nm,15.1s
PVCC Panska Ves 73.67 348 eP P 20 17 45.0 +0.3
PVCC AMS AMS 20 58 00.0
comp=Z,800nm,15.1s
PCAB Cabril 73.70 329 eP P 20 17 46.7 +1.6
comp=Z,68nm,2.0s
PMSA Palmer Station 73.81 206 LR LR 20 43 50.3
comp=Z,962nm,21.2s,baz=98,slow=31
NKC Novy Kostel 73.84 346 eP P 20 17 47.2 +1.5
NKC eS S 20 27 24.5 +7.7
NKC MLR MLR
comp=Z,1µm,13.3s
NKC Novy Kostel 73.84 346 eP P 20 17 47.2 +1.5
NKC eS S 20 27 24.5 +7.7
NKC AMS AMS 20 55 20.0
comp=Z,1µm,13.3s
EKS2 Erkin-Say 73.98 30 P P 20 17 46.6 -0.2
SNR=13
UCH Uchtor 73.99 31 P P 20 17 46.9 -0.4
SNR=16
LPSR Galich'ya Gora 74.01 4 eP P 20 17 45.6 -0.9
LPSR pmax pmax
comp=Z,70nm,0.8s
LPSR MLR MLR
comp=Z,700nm,22.0s
PGAV Gavieira, Arco 74.01 329 eP P 20 17 50.1 +3.1
comp=Z,62nm,1.8s
PGAV eS S 20 27 27.8 +8.6
PGAV Gavieira, Arco 74.01 329 eLR LR 20 41 15.8
comp=Z,1µm,20.0s
NRN Naryn 74.10 32 P P 20 17 46.0 -1.8
NRN Naryn 74.10 32 P P 20 17 46.0 -1.8
NRN pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 74.13 347 iP P 20 17 48.1 +0.8
BRG Amp 20 17 53.2
comp=Z,25nm,1.4s
BRG Berggiesshubel 74.13 347 iP P 20 17 48.1 +0.8
BRG S S 20 27 27.0 +7.1
BRG pmax pmax
comp=Z,25nm,1.4s
PMNB Patos De Minas 74.22 256 eP P 20 17 51.4 +2.5
AAK Ala-Archa 74.29 30 LR LR 20 50 02.7
comp=Z,3µm,21.2s,baz=209,slow=36
AAK Ala-Archa 74.29 30 P P 20 17 48.5 -0.1
AAK IAmb IAmb 20 17 56.2
comp=Z,57nm,1.8s
AAK Ala-Archa 74.29 30 P P 20 17 48.5 -0.1
AAK pmax pmax
comp=Z,57nm,1.8s
AAK MLR MLR
comp=Z,3µm,21.0s
AAK Ala-Archa 74.29 30 P P 20 17 48.8 +0.1
AAK P P 20 17 48.8 +0.1
AAK Ala-Archa 74.29 30 P P 20 17 48.6 -0.1
ABKAR Akbulak array 74.38 18 P P 20 17 47.6 -1.1
KBK Karagaybulak 74.52 31 P P 20 17 50.1 +0.1
SNR=15
CLF Chambon-Foret 74.68 339 P P 20 17 50.7 +0.1
CLF IAMs_20 IAMs_20 20 53 14.1
comp=Z,1µm,20.0s
BELG Belogornoye 74.69 9 P P 20 17 50.4 -0.1
comp=Z,44nm,0.9s,baz=41,slow=4.3,SNR=16
BELG LR LR 20 52 44.5
comp=Z,530nm,19.5s,slow=37
comp=Z,44nm,0.9s
CLL Collm 74.73 347 P P 20 17 50.9 +0.1
CLL IAmb IAmb 20 17 56.2
comp=Z,40nm,1.2s
CLL Collm 74.73 347 ⇓iP P 20 17 51.9 +1.1
CLL i 20 17 55.3
CLL eS S 20 27 35.0 +8.3
CLL pmax pmax
comp=Z,40nm,1.2s
CLL MLR MLR
comp=Z,1µm,19.9s
CLL Collm 74.73 347 ⇓iP P 20 17 51.9 +1.1
comp=Z,21nm,1.3s
CLL i Pmax 20 17 55.3
comp=Z,40nm,1.2s
CLL ePP PP 20 20 38.0 -0.3
CLL ex x 20 21 33.0
CLL ePPP PPP 20 22 24.0
CLL eS S 20 27 35.0 +8.3
CLL ePPS PPS 20 28 18.0
CLL eSS SS 20 32 06.0 -9.0
CLL eSSS SSS 20 35 42.0
CLL ex x 20 36 30.0
CLL eSSSS 20 37 30.0
CLL ePKPPKPdPP'df 20 45 22.0 +8.7
CLL LmV 20 55 00.0
comp=Z,1µm,19.9s
CLL Lmax 20 57 00.0
SDBA SAO DESIDERIO 74.75 262 eP P 20 17 53.9 +2.0
USP Ospenovka 74.78 30 P P 20 17 51.1 -0.3
SNR=10
ULHL Ulahol 74.83 32 P P 20 17 52.0 +0.1
SNR=13
TEZP TEZPUR 74.88 53 eP P 20 17 50.9 -1.3
TEZP IAmb IAmb 20 17 55.0
comp=Z,60nm,1.3s
WLF Walferdange 74.92 342 P P 20 17 52.2 +0.2
WLF IAmb IAmb 20 17 57.9
comp=Z,40nm,0.9s
WLF Walferdange 74.92 342 P P 20 17 52.2 +0.2
WLF pmax pmax
comp=Z,40nm,0.9s
WLF MLR MLR
comp=Z,1µm,19.0s
WLF Walferdange 74.92 342 dP P 20 17 53.7 +1.8
comp=Z,30nm,0.9s
WLF dPcP PcP 20 18 07.0 +1.2
AKTO Aktyubinsk 74.93 16 P P 20 17 51.7 -0.3
comp=Z,11nm,0.8s,baz=204,slow=4.4,SNR=18
AKTO LR LR 20 53 29.4
comp=Z,1µm,20.9s,baz=181,slow=38
comp=Z,11nm,0.8s
SGDS Sogindy 74.98 30d iP P 20 17 51.9 -0.6
SGDS pmax pmax
comp=Z,32nm,2.1s
SGDS Sogindy 74.98 30⇓iP P 20 17 52.0 -0.6
comp=Z,32nm,2.1s,baz=30
TKM2 Tokmak 2 75.03 31 P P 20 17 52.8 -0.2
SNR=21
TARG Taragay, Kyrgy 75.22 33 P P 20 17 53.6 -0.8
TARG Taragay, Kyrgy 75.22 33 P P 20 17 53.6 -0.8
TARG pmax pmax
comp=Z,24nm,1.1s
BB19B Bebedouro 75.33 253 eP P 20 17 57.6 +2.5
KOHI KOHIMA 75.37 54⇑eP P 20 17 55.3 0.0
KOHI IAmb IAmb 20 17 59.1
comp=Z,90nm,1.1s
LSA Lhasa 75.43 50 P P 20 17 55.7 -0.3
LSA IAmb IAmb 20 18 00.2
comp=Z,52nm,1.1s
LSA Lhasa 75.43 50 P P 20 17 55.7 -0.3
LSA pmax pmax
comp=Z,52nm,1.1s
LSA Lhasa 75.43 50 P P 20 17 55.7 -0.3
LSA P P 20 17 55.7 -0.3
LSA Lhasa 75.43 50 P P 20 17 55.8 -0.1
CM31 Chiang Mai Arr 75.51 63 P P 20 17 55.5 -0.6
CM31 IAmb IAmb 20 17 59.8
comp=Z,42nm,1.3s
CMAR Chiang Mai Arr 75.51 63 P P 20 17 55.3 -0.7
comp=Z,22nm,1.2s,baz=247,slow=6.7,SNR=38
CMAR LR LR 20 49 39.3
comp=Z,826nm,19.0s,baz=245,slow=35
comp=Z,22nm,1.2s
CMAR Chiang Mai Arr 75.51 63 P P 20 17 54.8 -1.3
BHOU Houvegnez 75.58 342 dP P 20 17 57.8 +2.0
comp=Z,28nm,1.0s
CHTO Chiang Mai 75.68 63 P P 20 17 55.5 -1.5
CHTO Chiang Mai 75.68 63 P P 20 17 55.5 -1.5
CHTO pmax pmax
comp=Z,1.0nm,1.1s
CHTO MLR MLR
comp=Z,900nm,18.0s
CHTO Chiang Mai 75.68 63 P P 20 17 56.5 -0.6
CHTO P P 20 17 56.5 -0.6
RUE Ruedersdorf 75.69 348 eP P 20 17 58.2 +2.0
BTNL Ternell 75.76 342 dP P 20 17 58.7 +1.9
DOU Dourbes 75.76 341 dP P 20 17 58.1 +1.4
comp=Z,11nm,0.9s
DOU dPcP PcP 20 18 10.7 +1.3
TNSS Tian-Shan 75.77 31 eP P 20 17 57.0 -0.5
TNSS Tian-Shan 75.77 31 eP P 20 17 57.0 -0.5
baz=32
MEM Membach 75.81 342 dP P 20 17 57.8 +0.7
comp=Z,11nm,0.0s
GKP Gorka Klasztor 75.82 350 eP P 20 17 58.5 +1.5
GKP Gorka Klasztor 75.82 350 eP P 20 17 57.8 +0.8
BCLA Clavier 75.84 342 dP P 20 17 57.4 +0.2
comp=Z,41nm,1.0s
BCLA dx x 20 18 15.3
AAA Alma-Ata 75.88 31 eP P 20 17 57.4 -0.3
AAA Alma-Ata 75.88 31 eP P 20 17 57.5 -0.3
baz=31
BMRD Maredsous 75.89 342 dP P 20 17 59.5 +2.0
comp=Z,28nm,1.1s
MNK Minsk 75.90 357 iP P 20 17 55.1 -2.3
MNK i 20 20 44.1
MNK iPPP PPP 20 22 30.6
MNK iS S 20 27 37.9 -1.5
MNK iSS SS 20 32 28.9 -3.7
MNK pmax pmax
comp=Z,87nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=E,92nm,20.0s
MNK MLR MLR
comp=Z,730nm,27.0s
MNK Minsk 75.90 357 iP P 20 17 55.1 -2.3
comp=E,4.0nm,0.9s
MNK iP P 20 17 55.1 -2.3
MNK iP P 20 17 55.1 -2.3
comp=Z,87nm,0.9s,baz=175
MNK iPP PP 20 20 44.1 -4.0
MNK iPPP PPP 20 22 30.6
MNK iS S 20 27 38.0 -1.5
MNK iSS SS 20 32 28.9 -3.7
MNK iSSS SSS 20 35 54.6
MNK iLQ LQ 20 46 16.4
MNK iLR LR 20 49 23.0
MNK iLRM MLR 20 53 06.9
comp=E,92nm,19.5s
MNK iLRM MLR 20 53 18.7
comp=Z,730nm,27.1s
MDOK Medeo 75.91 31 iP P 20 17 57.6 -0.4
MDOK eS S 20 27 40.9 +0.4
MDOK MLR MLR
comp=Z,620nm,20.0s
MDOK Medeo 75.91 31 iP P 20 17 57.6 -0.4
baz=32
MDOK eS S 20 27 40.9 +0.4
baz=32
MDOK LR LR 20 50 23.1
comp=Z,620nm,20.2s,baz=32
BSTI Sart Tilman 75.91 342 dP P 20 17 59.0 +1.4
BTLS Baital 75.95 28d iP P 20 17 57.5 -0.4
BTLS pmax pmax
comp=Z,40nm,2.4s
BTLS Baital 75.95 28⇓iP P 20 17 57.6 -0.4
comp=Z,40nm,2.4s,baz=28
IPMB Ipameri, GO 76.00 256 eP P 20 18 00.8 +1.7
MOKO MOKOCHONG 76.00 54 eP P 20 17 58.9 0.0
MOKO IAmb IAmb 20 18 03.0
comp=Z,124nm,0.9s
KUU Kurty 76.12 31d iP P 20 17 58.5 -0.5
KUU eS S 20 27 42.7 +0.3
KUU pmax pmax

KUU MLR MLR
comp=Z,99nm,1.9s
KUU MLR MLR
comp=Z,322nm,14.0s
KUU Kurty 76.12 31 ⇓ *i*P **P 20 17 58.5 -0.5**
comp=Z,99nm,1.9s,baz=31
KUU *e*S **S 20 27 42.8 +0.3**
baz=31
KUU LR LR 20 52 42.8
comp=Z,322nm,13.9s,baz=31
ZIRO ZIRO 76.16 53 *e*P **P 20 17 58.9 -0.9**
ZIRO IAmb IAmb 20 18 03.1
comp=Z,50nm,0.9s
NACGM Naroch 76.37 356 ⇓ *i*P **P 20 18 00.5 +0.4**
baz=174
PWJI Pagerwojo 76.39 93 P **P 20 18 00.5 -0.7**
comp=Z,2µmcomp=Z,45nm,1.0s
CHKK Chushkaly 76.40 31 *e*P **P 20 17 59.2 -1.4**
CHKK Chushkaly 76.40 31 *e*P **P 20 17 59.2 -1.4**
baz=31
OBN Obninsk 76.42 2 P **P 20 18 00.3 0.0**
comp=Z,7.8nm,0.9s,baz=109,slow=0.9,SNR=12
OBN LR LR 20 53 27.4
comp=Z,159nm,18.7s,baz=172,slow=37
comp=Z,7.8nm,0.9s
OBN Obninsk 76.42 2 P **P 20 17 60.0 -0.4**
OBN IAmb IAmb 20 18 04.8
comp=Z,76nm,1.2s
OBN Obninsk 76.42 2*d i*P **P 20 18 00.3 0.0**
OBN *e* 20 18 11.7
OBN *e* 20 20 55.7
OBN *e*PPP PPP 20 22 37.3
OBN pmax pmax
comp=Z,88nm,2.5s
OBN MLR MLR
comp=Z,641nm,20.0s
SATY Saty 76.50 32*d i*P **P 20 18 01.2 -0.1**
SATY *e*S **S 20 27 47.7 +0.8**
SATY pmax pmax
comp=Z,64nm,2.0s
SATY Saty 76.50 32 ⇓ *i*P **P 20 18 01.2 -0.1**
comp=Z,64nm,2.0s,baz=32
SATY *e*S **S 20 27 47.8 +0.8**
baz=32
PLTB Pedras Altas 76.50 241 *e*P **P 20 18 04.8 +3.2**
BDFB Brasilia 76.56 258 P **P 20 18 04.0 +1.7**
comp=Z,68nm,1.0s,baz=93,slow=6.5,SNR=16
BDFB LR LR 20 48 18.6
comp=Z,6µm,19.4s,baz=119,slow=33
comp=Z,68nm,1.0s
BDFB Brasilia 76.56 258 P **P 20 18 03.0 +0.7**
BDFB Brasilia 76.56 258 *e*P **P 20 18 04.6 +2.3**
ZHN Zhinishke 76.59 32 *e*P **P 20 18 01.6 -0.2**
ZHN Zhinishke 76.59 32 *e*P **P 20 18 01.7 -0.2**
baz=32
PHRA Phrae 76.60 64 P **P 20 18 01.0 -1.2**
ITAB Concordia 76.62 246 *e*P **P 20 18 05.4 +3.1**
VNDA Vanda 76.66 170 P **P 20 18 03.5 +1.9**
comp=Z,7.0nm,1.0s,baz=264,slow=5.1,SNR=19
VNDA LR LR 20 48 32.3
comp=Z,1µm,21.4s,baz=216,slow=33
comp=Z,7.0nm,1.0s
VNDA Vanda 76.66 170 P **P 20 18 02.2 +0.5**
CPSB Cacapava Do Su 76.77 242 *e*P **P 20 18 05.6 +2.5**
IIGN Ignalina 76.85 356 *e*P **P 20 18 03.1 +0.3**
UZB Uzynbulak 76.87 33 *e*P **P 20 18 03.1 -0.3**
UZB *e*S **S 20 27 51.6 +0.6**
UZB Uzynbulak 76.87 33 *e*P **P 20 18 03.1 -0.3**
baz=33
UZB *e*S **S 20 27 51.6 +0.6**
baz=33
KPKS Kokpek 76.94 32 *e*P **P 20 18 02.7 -1.0**
KPKS *e*S **S 20 27 51.3 -0.3**
KPKS pmax pmax
comp=Z,36nm,2.1s
KPKS Kokpek 76.94 32 *e*P **P 20 18 02.7 -1.0**
comp=Z,36nm,2.1s,baz=32
KPKS *e*S **S 20 27 51.3 -0.3**
baz=32
MOS Moscow 77.08 2 *e*P **P 20 18 02.3 -1.8**
MOS *e* 20 18 19.1
MOS *e*S **S 20 27 52.0 -0.3**
MOS pmax pmax
comp=Z,134nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.6s
MOS MLR MLR
comp=Z,1µm,20.0s
SHLS Shalkode 77.10 33*d i*P **P 20 18 05.7 +1.0**
SHLS *e*S **S 20 27 55.6 +2.2**
SHLS pmax pmax
comp=Z,41nm,2.3s
SHLS Shalkode 77.10 33 ⇓ *i*P **P 20 18 05.7 +1.0**
comp=Z,41nm,2.3s,baz=33
SHLS *e*S **S 20 27 55.7 +2.2**
baz=33
PABE Paberze 77.18 355 P **P 20 18 05.1 +0.5**
PABE Paberze 77.18 355 *e*P **P 20 18 05.5 +0.9**
SBA Scott Base 77.19 171 P **P 20 18 06.0 +1.4**
SBA Scott Base 77.19 171 P **P 20 18 06.0 +1.4**
SBA pmax pmax
comp=Z,156nm,2.0s
SBA MLR MLR
comp=Z,1µm,19.0s
ROSB Rosrio 77.31 272 *e*P **P 20 18 08.2 +1.8**
PTGB Pitanga 77.32 248 *e*P **P 20 18 08.8 +2.3**
CRAI Chiangrai 77.54 62 P **P 20 18 06.7 -0.8**
CRAI IAmb IAmb 20 18 11.6
comp=Z,67nm,1.5s
LKP Lekhapani 77.55 54 ⇑ *e*P **P 20 18 07.2 -0.2**
LKP IAmb IAmb 20 18 11.1
comp=Z,60nm,0.9s
PCMB Pacaembu 77.59 252 *e*P **P 20 18 10.3 +2.4**
RGN Rugen 77.73 348 P **P 20 18 08.8 +1.0**
TDK Taldyqorghan 77.93 31 *e*P **P 20 18 08.3 -0.9**
TDK *e*S **S 20 28 02.0 -0.1**
TDK pmax pmax
comp=Z,59nm,1.8s
TDK MLR MLR
comp=Z,1µm,18.0s
TDK Taldyqorghan 77.93 31 *e*P **P 20 18 08.3 -0.9**
comp=Z,59nm,1.8s,baz=31
TDK *e*S **S 20 28 02.1 -0.1**
baz=31
TDK LR LR 20 52 02.9
comp=Z,1µm,17.8s,baz=31
BSD Bornholm Skovb 77.98 349 *e*P **P 20 18 10.7 +1.5**
BSD Bornholm Skovb 77.98 349 *i*P **P 20 18 07.3 -1.8**
BSD IAmb IAmb 20 18 13.7
comp=Z,10nm,0.9s
CRSM Crissiumal (Br 78.16 245 *e*P **P 20 18 13.7 +2.8**
TRCB Terra Rica 78.42 250 *e*P **P 20 18 15.3 +2.8**
SMTB Santa Maria do 78.43 265 *e*P **P 20 18 14.7 +2.0**
UNIS Unistalda (Bra 78.53 243 *e*P **P 20 18 16.2 +3.2**
KMMI Kalianget 78.73 93 P **P 20 18 13.3 -1.0**
comp=Z,28nm,1.6s
STKI Sintang 78.97 86 P **P 20 18 15.8 +0.2**
comp=Z,30nm,1.5s
BLEU Blekinge 78.97 350 *i*P **P 20 18 13.8 -0.7**
BJUU Bjuv 79.23 349 *i*P **P 20 18 16.2 +0.2**
PSA00 Pilbara Seismi 79.24 109 P **P 20 18 16.9 -0.1**
PSA00 Pilbara Seismi 79.24 109 P **P 20 18 16.4 -0.6**
PSA00 IAmb IAmb 20 18 22.2
comp=Z,32nm,1.3s
MBWA Marble Bar 79.27 109 P **P 20 18 17.6 +0.4**
MBWA P **P 20 18 17.6 +0.4**
BRZS Berezniki 79.29 25*d i*P **P 20 18 16.4 -0.1**
BRZS *e*S **S 20 28 17.1 +0.6**
BRZS pmax pmax
comp=Z,36nm,2.2s
BRZS Berezniki 79.29 25 ⇓ *i*P **P 20 18 16.4 -0.1**
comp=Z,36nm,2.2s,baz=25
BRZS *e*S **S 20 28 17.2 +0.6**
baz=25
DEL Delary 79.46 349 *i*P **P 20 18 16.8 -0.4**
SRBI Singaraja 79.53 95 P **P 20 18 18.4 -0.3**
comp=Z,33nm,1.1s
UBPT Khong Chiam 79.61 69 P **P 20 18 18.1 -0.9**
UBPT IAmb IAmb 20 18 22.5
comp=Z,56nm,1.3s
ITQB Itaqui 79.62 242 P **P 20 18 18.6 -0.4**
ITQB IAmb IAmb 20 18 26.0
comp=Z,66nm,1.3s
ITQB Itaqui 79.62 242 *e*P **P 20 18 21.3 +2.3**
C2SB Chapadao do Su 79.90 254 *e*P **P 20 18 24.6 +4.0**
VSU Vasula 79.92 356 *i*P **P 20 18 20.6 +0.9**
VSU pmax pmax
comp=Z,105nm,0.8s
VSU Vasula 79.92 356 *e*P **P 20 18 20.4 +0.8**
FABU Falkenberg 80.17 349 *i*P **P 20 18 21.0 -0.1**
MUD Monsted U'grnd 80.36 347 *i*P **P 20 18 22.5 +0.4**
MUD IAmb IAmb 20 18 27.3
comp=Z,29nm,0.7s
MTSE Matsula 80.37 355 *e*P **P 20 18 22.9 +0.8**
SBUM Sibu 80.55 84 P **P 20 18 24.2 0.0**
SBUM IAMs_20 IAMs_20 20 48 11.0
comp=Z,2µm,21.0s
ARU Arti 80.56 14 P **P 20 18 23.1 -0.2**
comp=Z,16nm,0.7s,baz=203,slow=5.6,SNR=27
ARU LR LR 20 57 29.7
comp=Z,2µm,20.1s,baz=197,slow=38
comp=Z,16nm,0.7s
ARU Arti 80.56 14 P **P 20 18 22.6 -0.6**
ARU IAMs_20 IAMs_20 20 57 25.7
comp=Z,2µm,19.0s
ARU Arti 80.56 14*d i*P **P 20 18 23.0 -0.2**
ARU PPP PPP 20 23 16.2
ARU S **S 20 28 31.0 +1.5**
ARU SS **SS 20 33 47.9 +5.3**
ARU pmax pmax
comp=Z,33nm,0.9s
ARU MLR MLR
comp=Z,2µm,19.0s
SNDB Serra Nova Dou 80.78 261 *e*P **P 20 18 26.9 +1.5**
BBKI Banjar Baru 80.82 90 P **P 20 18 25.3 -0.4**
comp=Z,744nmcomp=Z,17nm,1.2s
TWSI Taliwang, Sumb 80.85 96 P **P 20 18 25.0 -0.8**
comp=Z,37nm,1.2s
BRVK Borovoye 80.92 22 P **P 20 18 23.7 -1.5**
BRVK Borovoye 80.92 22*de*P **P 20 18 24.8 -0.4**
BRVK pmax pmax
comp=Z,46nm,1.7s
BVAR Borovoye Array 80.93 22 LR LR 20 57 46.6
comp=Z,774nm,18.6s,baz=216,slow=38
KIRV Kirov 80.95 8 P **P 20 18 25.5 +0.3**
comp=Z,52nm,0.8s,baz=228,slow=2.6,SNR=19
KIRV LR LR 20 58 32.5
comp=Z,878nm,18.2s,baz=182,slow=39
comp=Z,52nm,0.8s
MAKZ Makanchi 80.96 31 P **P 20 18 24.4 -1.3**
MAKZ IAmb IAmb 20 18 28.7
comp=Z,60nm,1.9s
MAKZ Makanchi 80.96 31 P **P 20 18 24.4 -1.3**
MAKZ pmax pmax
comp=Z,60nm,1.9s
TRQA Tornquist 81.03 233 *e*P **P 20 18 28.0 +1.5**
MK31 Makanchi Array 81.10 32 P **P 20 18 25.1 -1.3**
MK31 Makanchi Array 81.10 32*d i*P **P 20 18 25.6 -0.8**
MKAR Makanchi Array 81.10 32 P **P 20 18 25.5 -0.9**
comp=Z,5.4nm,0.9s,baz=217,slow=5.3,SNR=16
MKAR LR LR 20 54 08.6
comp=Z,1µm,21.8s,baz=234,slow=36
comp=Z,5.4nm,0.9s
MKAR Makanchi Array 81.10 32 P **P 20 18 25.1 -1.3**
TMAB Tom-Au,PA,Br 81.19 271 *e*P **P 20 18 30.1 +2.5**
CPUP Villa Florida 81.31 245 P **P 20 18 28.9 +0.8**
comp=Z,8.9nm,1.0s,baz=107,slow=6.1,SNR=5.3
CPUP LR LR 20 50 37.0
comp=Z,2µm,19.6s,baz=128,slow=33
comp=Z,8.9nm,1.0s
CPUP Villa Florida 81.31 245 P **P 20 18 28.1 0.0**
CPUP IAmb IAmb 20 18 34.1
comp=Z,44nm,1.4s
CPUP Villa Florida 81.31 245 *e*P **P 20 18 29.4 +1.4**
PRPB Parauapebas 81.43 267 *e*P **P 20 18 31.6 +2.7**
PZH PanZhiHua 81.66 57 P **P 20 18 29.5 -0.4**
PZH PP **PP 20 21 38.8 +1.8**
PZH S **S 20 28 44.3 +1.8**
PZH pmax pmax
comp=Z,50nm,1.2s
PZH pmax pmax
comp=Z,410nm,9.2s
PZH LR LR
comp=Z,510nm,17.7s
PZH LR LR
comp=Z,760nm,19.6s
PZH LR LR
comp=Z,930nm,24.1s
GOMU GeErMu 81.67 46 ⇓ *e*P **P 20 18 30.6 +0.5**
GOMU pP pP 20 18 34.1 -0.3
GOMU S **S 20 28 43.5 +0.7**
GOMU sS SKSac 20 28 50.3 +0.2
GOMU SS **SS 20 33 59.4 -1.4**
GOMU pmax pmax
comp=Z,7.0nm,0.9s
GOMU pmax pmax
comp=Z,340nm,8.1s
GOMU LR LR
comp=Z,1µm,19.8s
GOMU LR LR
comp=Z,840nm,21.6s
GOMU LR LR
comp=Z,1µm,20.8s
MTKI Muara Teweh, K 81.78 88 P **P 20 18 30.1 -0.7**
KMI Kunming 81.78 59 ⇓ P **P 20 18 30.3 -0.5**
KMI sP sP 20 18 37.3 +0.6
KMI PP **PP 20 21 37.6 -0.6**
KMI S **S 20 28 45.8 +1.7**
KMI SS **SS 20 33 57.5 -5.1**
KMI pmax pmax
comp=Z,16nm,0.9s
KMI pmax pmax
comp=Z,300nm,4.9s
KMI LR LR
comp=Z,390nm,17.3s
KMI LR LR
comp=Z,1µm,18.0s
KMI LR LR
comp=Z,1µm,18.4s
MEF Metsahovi 81.81 355 *e*P **P 20 18 30.2 +0.5**
AQDB Aquidauana 81.87 251 P **P 20 18 31.8 +0.7**
AQDB IAmb IAmb 20 18 39.9
comp=Z,35nm,1.2s
AQDB Aquidauana 81.87 251 *e*P **P 20 18 34.0 +2.8**
WMQ Urumqi 81.91 36 *e*P **P 20 18 31.3 +0.5**
WMQ pP sP 20 18 37.4 +0.7
WMQ S **S 20 28 47.4 +3.1**
WMQ SS **SS 20 34 08.3 +4.8**
WMQ pmax pmax
comp=Z,13nm,1.3s
WMQ pmax pmax
comp=Z,360nm,4.9s
WMQ LR LR
comp=Z,640nm,21.7s
WMQ LR LR
comp=Z,1µm,18.9s
WMQ LR LR
comp=Z,830nm,20.7s
KURBB Kurchatov Arra 82.17 27 LR LR 20 55 02.3
comp=Z,2µm,21.6s,baz=197,slow=36
KURK Kurchatov 82.27 27 P **P 20 18 31.7 -0.7**
KURK IAmb IAmb 20 18 37.0
comp=Z,44nm,1.2s
KURK IAMs_20 IAMs_20 20 54 55.1
comp=Z,2µm,21.0s
KURK Kurchatov 82.27 27*de*P **P 20 18 31.9 -0.5**
KURK pmax pmax
comp=Z,28nm,1.1s
KLMR Klimovskoe 82.28 3*d i*P **P 20 18 32.0 -0.2**
KLMR *e* 20 21 45.9
KLMR S **S 20 28 50.2 +3.1**
KLMR pmax pmax
comp=Z,49nm,1.2s
KLMR MLR MLR
comp=Z,769nm,23.0s
KLMR Klimovskoe 82.28 3 ⇓ *i*P **P 20 18 32.0 -0.2**
KLMR *e*P **P 20 18 32.0 -0.2**
KLMR *e*P **P 20 18 32.0 -0.2**
KLMR AMP 20 18 36.5
comp=Z,49nm,1.2s
KLMR *e*PP **PP 20 21 46.0 +4.8**
KLMR S **S 20 28 50.2 +3.1**
KLMR S **S 20 28 50.2 +3.1**
KLMR LR LR 20 49 42.1
KLMR AMP 21 00 16.8
comp=Z,769nm,22.8s
STRU Stroemstad 82.36 349 *i*P **P 20 18 32.3 -0.4**
EKA Eskdalemuir Ar 82.67 340 P **P 20 18 36.2 +1.8**
comp=Z,14nm,0.8s,baz=132,slow=5.6,SNR=18
EKA LR LR 20 56 13.7
comp=Z,1µm,18.0s,baz=162,slow=36
comp=Z,14nm,0.8s
ESK Eskdalemuir 82.67 340 IAMs_20 IAMs_20 20 59 11.4
comp=Z,2µm,18.0s
SEM Semipalatinsk 82.75 28*d i*P **P 20 18 35.0 -0.2**
SEM pmax pmax
comp=Z,55nm,2.1s
SEM MLR MLR
comp=Z,444nm,20.0s
SEM Semipalatinsk 82.75 28 ⇓ *i*P **P 20 18 35.1 -0.2**
comp=Z,55nm,2.1s,baz=28
SEM LR LR 20 51 40.3
comp=Z,444nm,19.9s,baz=28
GO09 Cerro Castillo 82.76 218 P **P 20 18 34.6 -0.6**
GO09 IAmb IAmb 20 18 44.8
comp=Z,67nm,1.2s
ZSN Zaisan 82.83 32 *e*P **P 20 18 35.0 -0.4**
ZSN pmax pmax
comp=Z,24nm,2.3s
ZSN Zaisan 82.83 32 *e*P **P 20 18 35.1 -0.4**
comp=Z,24nm,2.3s,baz=32
RAF Rauma 82.83 354 *e*P **P 20 18 35.5 +0.4**
FINES FINESS Array B 82.92 356 P **P 20 18 36.2 +0.7**
comp=Z,22nm,0.9s,baz=138,slow=6.9,SNR=27
FINES LR LR 20 58 21.9
comp=Z,578nm,18.8s,baz=182,slow=38
comp=Z,22nm,0.9s
FINES FINESS Array B 82.92 356 P **P 20 18 35.4 -0.1**
FIA1 FINESS Array S 82.93 356 P **P 20 18 35.4 -0.1**
FIA1 IAmb IAmb 20 18 40.3
comp=Z,29nm,0.9s
HFS Hagfors 82.97 350 P **P 20 18 36.3 +0.4**
comp=Z,6.4nm,0.8s,baz=172,slow=3.0,SNR=11
comp=Z,6.4nm,0.8s
KONO Kongsberg 83.23 348 P **P 20 18 37.4 +0.2**
KONO IAmb IAmb 20 18 42.5
comp=Z,29nm,1.1s
KONO Kongsberg 83.23 348 P **P 20 18 37.4 +0.2**
KONO pmax pmax
comp=Z,29nm,1.2s
KONO MLR MLR
comp=Z,800nm,19.0s
SALV Santo Antonio 83.44 256 *e*P **P 20 18 41.8 +2.4**
PRGR Permogore 83.50 6 *e*P **P 20 18 36.6 -1.9**
PRGR pmax pmax
comp=Z,50nm,0.8s
NC602 NORSAR Array S 83.90 349 P **P 20 18 41.5 +0.8**
NAO01 NORSAR Array S 84.11 349 P **P 20 18 42.6 +0.8**
NC405 NORSAR Array S 84.22 350 P **P 20 18 42.8 +0.5**
NB201 NORSAR Array S 84.24 349 P **P 20 18 43.2 +0.8**
NB2 NORSAR Subarra 84.24 349 P **P 20 18 43.1 +0.7**
comp=Z,46nm,1.1s,baz=153,slow=4.8
NB2 NORSAR Subarra 84.24 349 P **P 20 18 43.1 +0.7**
baz=153,slow=4.8
NOA NORSAR Array B 84.24 349 P **P 20 18 43.7 +1.3**
comp=Z,14nm,1.0s,baz=152,slow=4.7,SNR=22
NOA LR LR 20 58 56.2
comp=Z,399nm,20.1s,baz=140,slow=38
comp=Z,14nm,1.0s
NBO00 NORSAR Array S 84.31 349 P **P 20 18 43.5 +0.8**
NC303 NORSAR Array S 84.39 350 P **P 20 18 43.8 +0.7**
NC303 IAmb IAmb 20 18 48.2
comp=Z,35nm,1.1s
NC204 NORSAR Array S 84.54 349 P **P 20 18 44.7 +0.8**
KAPI Kappang 84.83 93 LR LR 20 51 58.3
comp=Z,728nm,20.9s,baz=259,slow=32
QIZ Qiongzhong 84.98 67 P **P 20 18 47.9 +0.8**
QIZ S **S 20 29 17.3 +1.0**
QIZ SS **SS 20 34 52.0 +2.2**
QIZ pmax pmax
comp=Z,390nm,3.8s
QIZ LR LR
comp=Z,650nm,18.1s
QIZ LR LR
comp=Z,880nm,15.8s
QIZ LR LR
comp=Z,880nm,14.7s
EDFI Ende, Flores 85.29 98 P **P 20 18 47.9 -1.1**
comp=Z,20nm,1.6s
CLDB Colider 85.30 260 *e*P **P 20 18 51.9 +3.0**
CD2 Chengdu 85.32 54 ⇓ P **P 20 18 48.3 -0.3**
CD2 SKS **SKSac 20 29 12.0 -1.6**
CD2 S **SKKSac 20 29 20.4 +0.3**
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 pmax pmax
comp=Z,420nm,11.3s
CD2 LR LR
comp=Z,740nm,15.7s
CD2 LR LR
comp=Z,780nm,17.2s
CD2 LR LR
comp=Z,1µm,17.1s
GYA Guiyang 85.54 59 ⇑ *i*P **P 20 18 50.0 +0.1**
GYA SKS **SKSac 20 29 15.8 +0.5**
GYA S **SKKSac 20 29 23.5 +1.4**
GYA pmax pmax
comp=Z,32nm,1.7s
GYA pmax pmax
comp=Z,320nm,3.5s
GYA LR LR
comp=Z,410nm,18.3s
GYA LR LR
comp=Z,1µm,17.8s
GYA LR LR
comp=Z,1µm,17.6s
FITZ Fitzroy Crossi 85.55 108 LR LR 20 51 11.9
comp=Z,596nm,21.5s,baz=76,slow=32
FITZ Fitzroy Crossi 85.55 108 P **P 20 18 50.0 0.0**
KKM Kota Kinabalu 85.59 82 IAMs_20 IAMs_20 20 52 49.6
comp=Z,1µm,21.0s
DGZ Jazzator, Alta 85.60 32*d i*P **P 20 18 49.9 +0.2**
DGZ pmax pmax
comp=Z,45nm,1.4s
TTSI Tana Toraja 85.60 92 P **P 20 18 50.2 -0.1**
comp=Z,621nmcomp=Z,22nm,1.2s
MMRI Maumere 85.84 98 P **P 20 18 49.9 -1.7**
MMRI Maumere 85.84 98 P **P 20 18 50.7 -0.8**
comp=Z,1µmcomp=Z,80nm,1.6s
PDRB Porto dos Gac 85.89 259 *e*P **P 20 18 54.9 +3.0**
AY01 Puyuhuapi 85.93 224 P **P 20 18 51.9 +0.4**
AY01 IAmb IAmb 20 18 59.6
comp=Z,25nm,1.1s
PLCA Paso Flores 86.13 228 P **P 20 18 53.7 +1.1**
comp=Z,2.6nm,0.9s,baz=104,slow=14,SNR=3.6
PLCA LR LR 20 53 24.2
comp=Z,1µm,20.0s,baz=124,slow=33
comp=Z,2.6nm,0.9s
PLCA Paso Flores 86.13 228 *e*P **P 20 18 54.0 +1.3**
NPGB Novo Progresso 86.26 264 *e*P **P 20 18 56.0 +2.4**
BATI Baumata 86.59 100 LR LR 20 53 50.6
comp=Z,361nm,19.3s,baz=242,slow=33
PTLB Pontes e Lacer 86.70 255 P **P 20 18 57.8 +2.1**
PTLB IAmb IAmb 20 19 03.0
comp=Z,70nm,1.3s
PTLB Pontes e Lacer 86.70 255 *e*P **P 20 18 58.5 +2.8**
GTA Gaotai 86.73 45 ⇓ P **P 20 18 54.9 -0.6**
GTA pP pP 20 18 58.8 -1.1
GTA sP sP 20 19 02.1 +0.7
GTA PP **PP 20 22 19.9 +1.7**
GTA SKS **SKSac 20 29 24.3 +2.1**
GTA S **SKKSac 20 29 31.4 +0.8**
GTA SS **SS 20 35 17.3 +2.2**
GTA pmax pmax
comp=Z,12nm,1.7s
GTA pmax pmax
comp=Z,260nm,5.3s
GTA LR LR
comp=Z,1µm,20.4s
GTA LR LR
comp=Z,2µm,21.4s
GTA LR LR
comp=Z,2µm,21.1s
MPSI Mapaga 86.90 88 P **P 20 18 56.3 -0.4**
comp=Z,824nmcomp=Z,63nm,1.5s
MALB Monte Alegre 87.12 269 *e*P **P 20 18 59.5 +1.7**
ZAA0 Zalesovo Array 87.24 28 P **P 20 18 55.9 -1.6**
ZALV Zalesovo Beam 87.24 28 P **P 20 18 56.9 -0.5**
comp=Z,3.0nm,0.8s,baz=247,slow=3.1,SNR=10
ZALV LR LR 20 57 44.3
comp=Z,1µm,21.7s,baz=230,slow=36
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 87.24 28 P **P 20 18 55.1 -2.3**
ZALV Zalesovo Beam 87.24 28 *i*P **P 20 18 59.5 +2.1**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
BBSI Bau Bau 87.28 95 P **P 20 18 59.2 +0.6**

comp=Z,882nmcomp=Z,31nm,1.4s
MYLDM **Lahad Datu** 87.38 83 P P 20 18 57.0 -2.1
MYLDM IAmb IAmb 20 19 03.3
comp=Z,50nm,1.2s
MYLDM IAMs_20 IAMs_20 20 59 35.0
comp=Z,2µm,18.0s
ITTB **Itaituba** 87.58 266 eP P 20 19 01.6 +1.6
LZH **Lanzhou** 87.84 50 ⇑P P 20 19 01.6 +0.6
LZH pP pP 20 19 04.8 -0.6
LZH sP sP 20 19 07.6 +0.7
LZH SKS SKSac 20 29 28.0 -1.3
LZH S SKKSac 20 29 35.5 -3.7
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,400nm,4.3s
LZH LR LR
comp=Z,740nm,19.2s
LZH LR LR
comp=Z,810nm,18.2s
LZH LR LR
comp=Z,2µm,20.6s
MDP **Montagnes des** 88.15 276 LR LR 20 54 55.1
comp=Z,1µm,21.6s,baz=126,slow=33
SIV **San Ignacio** 88.23 254 LR LR 20 56 01.0
comp=Z,4µm,19.1s,baz=110,slow=34
VILB **Vilhena** 88.57 257 eP P 20 19 06.8 +2.0
ZON **Zonda** 88.60 237 P P 20 19 02.5 -2.2
ZON **Zonda** 88.60 237 P P 20 19 02.5 -2.2
ZON pmax pmax
comp=Z,99nm,1.7s
BO02 **Sierra Bellavi** 88.83 233 P P 20 19 06.2 +0.4
APA **Apatity** 88.87 0⇓ iP P 20 19 02.4 -2.4
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,600nm,23.0s
LUWI **Luwuk** 89.07 91 IAMs_20 IAMs_20 20 52 26.8
comp=Z,1µm,22.0s
LUWI **Luwuk** 89.07 91 P P 20 19 06.8 -0.3
comp=Z,3µmcomp=Z,167nm,0.4s
LVZ **Lovozero** 89.20 0 IAMs_20 IAMs_20 21 05 51.6
comp=Z,1µm,18.0s
ENH **Enshi** 89.44 57 P P 20 19 06.7 -1.8
ENH IAmb IAmb 20 19 14.7
comp=Z,34nm,1.6s
PEL **Peldehue** 89.47 234 P P 20 19 11.4 +2.6
PEL **Peldehue** 89.47 234 P P 20 19 11.4 +2.6
PEL pmax pmax
comp=Z,59nm,1.0s
MT01 **Popeta** 89.58 234 P P 20 19 11.6 +2.3
MT01 IAmb IAmb 20 19 16.6
comp=Z,47nm,1.1s
HKPS **Hong Kong Po S** 89.98 66 IAMs_20 IAMs_20 20 59 11.7
comp=Z,1µm,20.0s
CO01 **Juntas del Tor** 90.36 238 P P 20 19 13.0 -0.3
ASAR **Alice Springs** 90.59 116 P P 20 19 13.9 -0.2
comp=Z,5.7nm,0.8s,baz=247,slow=3.8,SNR=44
ASAR LR LR 20 54 39.9
comp=Z,684nm,20.4s,baz=245,slow=32
comp=Z,5.7nm,0.8s
ASAR **Alice Springs** 90.59 116 P P 20 19 14.3 +0.2
ASAR **Alice Springs** 90.59 116 P P 20 19 14.4 +0.2
AS31 **Alice Springs** 90.59 116 P P 20 19 14.1 -0.1
XAN **Xi'an** 90.62 54 P P 20 19 12.4 -1.6
XAN sP sP 20 19 20.6 +0.7
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN pmax pmax
comp=Z,230nm,9.8s
XAN LR LR
comp=Z,470nm,14.7s
XAN LR LR
comp=Z,970nm,20.6s
XAN LR LR
comp=Z,850nm,19.2s
ARCES **ARCESS Array B** 91.02 357 P P 20 19 14.7 -0.2
comp=Z,8.2nm,1.0s,baz=175,slow=6.0,SNR=9.6
ARCES LR LR 21 03 26.9
comp=Z,586nm,19.3s,baz=172,slow=38
comp=Z,8.2nm,1.0s
ARCES **ARCESS Array B** 91.02 357 P P 20 19 14.5 -0.4
WRA **Warramunga Arr** 92.45 112 P P 20 19 22.4 -0.4
comp=Z,2.8nm,1.1s,baz=245,slow=3.2,SNR=70
WRA LR LR 20 54 51.3
comp=Z,2µm,21.6s,baz=214,slow=32
comp=Z,2.8nm,1.1s
WRA **Warramunga Arr** 92.45 112 P P 20 19 21.2 -1.7
WRAB **Tennant Creek** 92.47 112 IAMs_20 IAMs_20 20 54 08.5
comp=Z,2µm,21.0s
WRAB **Tennant Creek** 92.47 112 iP P 20 19 23.5 +0.6
WRAB pmax pmax
comp=Z,6.0nm,1.1s
LVC **Limon Verde** 92.47 245 LR LR 20 58 14.8
comp=Z,836nm,21.1s,baz=128,slow=34
LVC **Limon Verde** 92.47 245 P P 20 19 21.3 -2.0
LVC IAmb IAmb 20 19 30.6
comp=Z,33nm,1.1s
LVC **Limon Verde** 92.47 245 P P 20 19 21.3 -2.0
LVC pmax pmax
comp=Z,33nm,1.1s
LVC **Limon Verde** 92.47 245 eP P 20 19 25.1 +1.8
PTGA **Pitinga** 92.83 268 LR LR 20 57 15.3
comp=Z,4µm,21.7s,baz=114,slow=33
STKA **Stephens Creek** 93.19 126 P P 20 19 25.3 -0.7
comp=Z,2.2nm,0.8s,baz=285,slow=12,SNR=3.8
STKA LR LR 20 55 42.3
comp=Z,774nm,19.1s,baz=231,slow=32
comp=Z,2.2nm,0.8s
WHN **Wuhan** 93.38 59 ⇑P P 20 19 26.5 -0.2
WHN S S 20 30 27.9 -6.6
WHN LR LR
comp=Z,1µm,14.6s
WHN LR LR
comp=Z,1µm,17.1s
WHN LR LR
comp=Z,2µm,18.3s
LYN **LuoYang** 93.50 54 eP P 20 19 28.8 +1.6
LYN pP sP 20 19 33.3 +0.1
LYN sP pP 20 19 35.6 +4.0
LYN SKS SKSac 20 29 59.3 -2.3
LYN S ScS 20 30 40.3 +3.3
LYN SS SS 20 36 58.4 +5.3
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN pmax pmax
comp=Z,120nm,10.1s
LYN LR LR
comp=Z,460nm,20.0s
LYN LR LR
comp=Z,610nm,22.2s
LYN LR LR
comp=Z,960nm,24.1s
LBMI **Labuha** 93.62 92 P P 20 19 27.7 -0.6
comp=Z,529nmcomp=Z,19nm,1.8s
ZAK **Zakamensk** 94.37 37 eP P 20 19 28.4 -2.5
ZAK pmax pmax
comp=Z,10.0nm,1.7s
LPAZ **La Paz** 94.37 251 P P 20 19 34.3 +1.9
comp=Z,24nm,1.2s,baz=88,slow=3.2,SNR=12
LPAZ LR LR 20 58 50.1
comp=Z,3µm,21.0s,baz=114,slow=33
comp=Z,24nm,1.2s
LPAZ **La Paz** 94.37 251 P P 20 19 33.6 +1.2
LPAZ IAmb IAmb 20 19 39.3
comp=Z,46nm,1.4s
LPAZ **La Paz** 94.37 251 eP P 20 19 33.8 +1.4
BOAV **Boa Vista** 94.48 271 P P 20 19 32.8 +0.6
BOAV IAmb IAmb 20 19 39.0
comp=Z,44nm,1.1s
BOAV **Boa Vista** 94.48 271 eP P 20 19 34.0 +1.8
TIY **Taiyuan** 94.74 51 eP P 20 19 34.9 +2.0
TIY S S 20 30 48.3 +2.0
TIY pmax pmax
comp=Z,170nm,6.3s
TIY LR LR
comp=Z,860nm,19.2s
TIY LR LR
comp=Z,930nm,18.5s
PB16 **IPOC Station P** 94.74 248 P P 20 19 34.0 0.0
PB16 IAmb IAmb 20 21 42.3
comp=Z,12nm,0.5s
SONM **Songino Array** 94.99 40 P P 20 19 33.3 -0.6
comp=Z,2.4nm,0.9s,baz=233,slow=3.3,SNR=11
SONM LR LR 21 01 51.3
comp=Z,1µm,20.2s,baz=248,slow=35
comp=Z,2.4nm,0.9s
SONM **Songino Array** 94.99 40 P P 20 19 33.2 -0.7
ETMB **Extrema** 95.20 257 P P 20 19 37.0 +1.5
ETMB IAmb IAmb 20 19 41.0
comp=Z,16nm,1.1s
ETMB **Extrema** 95.20 257 eP P 20 19 37.1 +1.5
HHC **Hu-ho-hao-te** 95.38 48 eP P 20 19 39.0 +3.2
HHC SKS SKSac 20 30 13.9 +2.2
HHC S S 20 30 52.0 +0.2
HHC pmax pmax
comp=Z,160nm,6.3s
HHC LR LR
comp=Z,1µm,20.9s
HHC LR LR
comp=Z,2µm,19.0s
HHC LR LR
comp=Z,3µm,19.7s
ULN **Ulaanbaatar** 95.40 40 P P 20 19 34.2 -1.6
ULN **Ulaanbaatar** 95.40 40 cP P 20 19 34.7 -1.1
ULN pmax pmax
comp=Z,3.0nm,1.3s
BORG **Borgarnes** 95.70 339 LR LR 21 06 46.4
comp=Z,653nm,18.3s,baz=139,slow=38
TPUB **Ta-pu** 95.91 67 IAMs_20 IAMs_20 21 04 54.9
comp=Z,1µm,18.0s
TWG **Pinlang** 96.12 68 IAMs_20 IAMs_20 21 03 03.6
comp=Z,1µm,19.0s
HNS **HongShan** 96.28 52 eP P 20 19 38.6 -1.2
HNS PP PP 20 23 34.5 +0.9
HNS S S 20 31 01.3 +1.8
HNS pmax pmax
comp=Z,8.0nm,0.7s
HNS LR LR
comp=Z,630nm,20.2s
HNS LR LR
comp=Z,840nm,22.0s
HNS LR LR
comp=Z,1µm,21.2s
SSLB **Suanglung** 96.36 67 IAMs_20 IAMs_20 21 06 10.8
comp=Z,1µm,18.0s
YULB **Yu-li** 96.52 68 IAMs_20 IAMs_20 20 58 57.9
comp=Z,1µm,20.0s
JMIC **Jan Mayen** 96.78 347 LR LR 21 06 54.3
comp=Z,484nm,18.9s,baz=156,slow=38
SIJI **Sorong** 97.03 94 LR LR 20 58 52.2
comp=Z,440nm,21.8s,baz=206,slow=33
NACB **Ninganchiao** 97.04 67 IAMs_20 IAMs_20 20 58 43.9
comp=Z,1µm,22.0s
TATO **Taipei** 97.23 66 IAMs_20 IAMs_20 21 04 48.0
comp=Z,1µm,19.0s
BBGH **Gun Hill** 97.40 281 IAMs_20 IAMs_20 21 02 40.4
comp=Z,2µm,19.0s
NJ2 **Nanjing** 97.52 59 eP P 20 19 45.3 -0.3
NJ2 SKS SKSac 20 30 19.0 -4.0
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 LR LR
comp=Z,820nm,19.9s
NJ2 LR LR
comp=Z,780nm,19.9s
NJ2 LR LR
comp=Z,1µm,19.2s
BJT **Baijiatuau** 98.31 50 IAMs_20 IAMs_20 21 04 13.7
comp=Z,1µm,20.0s
BJI **Beijing** 98.32 50 P P 20 19 47.3 -1.7
BJI SKS SKSac 20 30 24.0 -2.7
BJI S ScS 20 31 17.9 +1.0
BJI pmax pmax
comp=Z,4.0nm,1.8s
BJI pmax pmax
comp=Z,100nm,3.9s
BJI LR LR
comp=Z,180nm,20.2s
BJI LR LR
comp=Z,750nm,20.6s
BJI LR LR
comp=Z,2µm,20.6s
NRIK **Noril'sk** 98.53 17 LR LR 21 10 06.9
comp=Z,2µm,19.3s,baz=234,slow=39
NRIK **Noril'sk** 98.53 17 iP Pdif 20 19 50.7 +1.4
NRIK pmax pmax
comp=Z,2.0nm,1.0s
NRIK MLR MLR
comp=Z,766nm,21.0s
SSE **Sheshan** 99.06 60 P Pdif 20 19 50.4 -2.1
SSE PP PP 20 23 56.1 +1.0
SSE S S 20 31 23.6 +0.1
SSE pmax pmax
comp=Z,74nm,3.9s
SSE LR LR
comp=Z,340nm,19.8s
GDSD **La Dsirade Is** 99.85 284 IAMs_20 IAMs_20 20 57 29.6
comp=Z,869nm,19.0s
CTAO **Charters Tower** 102.45 118 IAMs_20 IAMs_20 21 00 45.7
comp=Z,1µm,22.0s
HIA **Hailar** 103.75 42 IAMs_20 IAMs_20 21 07 33.9
comp=Z,1µm,20.0s
SJG **San Juan** 105.02 284 IAMs_20 IAMs_20 21 03 16.7
comp=Z,1µm,20.0s
INCN **Incheon** 105.29 55 IAMs_20 IAMs_20 21 06 52.5
comp=Z,1µm,22.0s
CN2 **Changchun** 106.06 49 Pdif Pdif 20 20 23.5 +0.2
CN2 ePP PP 20 24 50.3 +3.0
CN2 eSS SS 20 39 50.3 +2.2
CN2 AMB AMB
comp=Z,150nm,14.0s
CN2 LR LR
comp=Z,330nm,18.0s
CN2 LR LR
comp=Z,840nm,18.0s
CN2 LR LR
comp=Z,1µm,19.0s
BBSR **BB Station** 107.77 298 IAMs_20 IAMs_20 21 09 29.4
comp=Z,866nm,20.0s
PMG **Port Moresby** 108.14 108 IAMs_20 IAMs_20 21 06 19.9
comp=Z,1µm,19.0s
MDJ **Mudanjiang** 109.14 49 IAMs_20 IAMs_20 21 13 49.3
comp=Z,776nm,18.0s
SDDR **Presa de Saban** 109.93 283 IAMs_20 IAMs_20 21 09 30.8
comp=Z,1µm,20.0s
GRTK **Grand Turk** 110.50 286 IAMs_20 IAMs_20 21 02 47.7
comp=Z,810nm,20.0s
YAK **Yakutsk** 111.75 30 IAMs_20 IAMs_20 21 14 47.6
comp=Z,861nm,20.0s
TIXI **Tiksi** 112.02 20 IAMs_20 IAMs_20 21 15 25.2
comp=Z,1µm,20.0s
EMMW **East Machias** 112.38 311 IAMs_20 IAMs_20 21 11 44.4
comp=Z,1µm,18.0s
INU **Inuyama** 112.96 60 IAMs_20 IAMs_20 21 08 08.3
comp=Z,830nm,22.0s
PQI **Presque Isle** 113.05 313 IAMs_20 IAMs_20 21 11 49.8
comp=Z,1µm,20.0s
PKME **Peaks-Kenny Pk** 113.75 311 IAMs_20 IAMs_20 21 09 28.5
comp=Z,1µm,21.0s
WVL **Waterville** 113.92 310 IAMs_20 IAMs_20 21 12 19.2
comp=Z,1µm,21.0s
WES **Weston** 114.85 308 IAMs_20 IAMs_20 21 07 50.0
comp=Z,1µm,21.0s
BRYW **Bryant College** 114.95 307 IAMs_20 IAMs_20 21 06 07.8
comp=Z,898nm,22.0s
HRV **Adam Dziewonsk** 115.04 308 IAMs_20 IAMs_20 21 06 16.0
comp=Z,1µm,21.0s
FFD **Franklin Falls** 115.22 309 IAMs_20 IAMs_20 21 08 30.7
comp=Z,1µm,21.0s
LBNH **Lisbon** 115.50 310 IAMs_20 IAMs_20 21 11 33.0
comp=Z,1µm,20.0s
QUA2 **Belchertown** 115.60 308 IAMs_20 IAMs_20 21 10 24.8
comp=Z,1µm,19.0s
HNH **Hanover** 115.70 309 IAMs_20 IAMs_20 21 07 23.4
comp=Z,951nm,20.0s
L61B **Northampton** 115.86 308 IAMs_20 IAMs_20 21 06 47.7
comp=Z,950nm,22.0s
YLE **Yale** 115.92 306 IAMs_20 IAMs_20 21 15 14.2
comp=Z,902nm,19.0s
VT1 **Waterbury** 116.10 310 IAMs_20 IAMs_20 21 11 58.8
comp=Z,1µm,20.0s
TRY **Troy** 116.61 308 IAMs_20 IAMs_20 21 07 00.6
comp=Z,959nm,21.0s
PAL **Palisades** 116.62 306 IAMs_20 IAMs_20 21 19 52.9
comp=Z,1µm,18.0s
DZM **Mont Dzumac** 116.95 131 eLR LR 21 00 23.9
comp=Z,2µm,25.4s
LONY **Lake Ozonia** 117.43 310 IAMs_20 IAMs_20 21 09 14.0
comp=Z,934nm,20.0s
LONY **Lake Ozonia** 117.43 310 P PKiKP 20 24 57.6 +0.6
baz=94
BINY **Binghamton** 118.28 307 IAMs_20 IAMs_20 21 11 44.7
comp=Z,728nm,19.0s
YSS **Yuzh-Sakhalins** 118.55 47 IAMs_20 IAMs_20 21 18 25.2
comp=Z,815nm,20.0s
ERM **Erimo** 118.59 53 IAMs_20 IAMs_20 21 15 22.7
comp=Z,885nm,21.0s
CBN **Corbin Frederi** 118.99 303 IAMs_20 IAMs_20 21 14 17.2
comp=Z,769nm,20.0s
CNNC **Cliffs of the** 119.08 299 IAMs_20 IAMs_20 21 09 36.9
comp=Z,1µm,21.0s
SSPA **Standing Stone** 119.59 305 IAMs_20 IAMs_20 21 08 57.7
comp=Z,962nm,22.0s
NHSC **New Hope** 120.71 296 IAMs_20 IAMs_20 21 14 26.5
comp=Z,1µm,20.0s
MCWV **Mont Chateau** 121.03 304 IAMs_20 IAMs_20 21 09 02.9
comp=Z,813nm,21.0s
DWPF **Disney Wildern** 121.07 291 IAMs_20 IAMs_20 21 09 03.4
comp=Z,888nm,20.0s
ERPA **Erie** 121.24 307 IAMs_20 IAMs_20 21 15 14.3
comp=Z,820nm,20.0s
BLA **Blacksburg** 121.32 301 IAMs_20 IAMs_20 21 11 32.8
comp=Z,1µm,20.0s
M53A **WI Miller and** 121.74 306 P PKPdf 20 25 05.2 -0.2
baz=92
O53A **New Philadelph** 122.11 305 IAMs_20 IAMs_20 21 17 58.3
comp=Z,712nm,19.0s
O53A **New Philadelph** 122.11 305 P PKiKP 20 25 06.7 +0.4
baz=92
O52A **Adamsville** 122.58 305 PKPdf PKiKP 20 25 07.3 +0.1
P52A **Corning** 122.79 304 IAMs_20 IAMs_20 21 10 30.6
comp=Z,715nm,22.0s
P52A **Corning** 122.79 304 P PKiKP 20 25 08.1 +0.4
baz=92
V53A **Saluda** 123.13 299 PKiKP 20 25 08.6 +0.1
ACSO **Alum Creek Sta** 123.46 305 IAMs_20 IAMs_20 21 20 00.2
comp=Z,712nm,21.0s
ACSO **Alum Creek Sta** 123.46 305 P PKiKP 20 25 09.1 +0.2
baz=91
GOGA **Godfrey** 123.48 297 P PKiKP 20 25 09.6 +0.5
baz=95
TZTN **Tazewell** 123.78 300 IAMs_20 IAMs_20 21 09 16.0
comp=Z,891nm,22.0s
TZTN **Tazewell** 123.78 300 P PKiKP 20 25 09.8 +0.1
baz=93
AAM **Ann Arbor** 123.97 307 IAMs_20 IAMs_20 21 18 29.4
comp=Z,1µm,19.0s
Y52A **Lilburn** 124.02 297 PKiKP 20 25 10.1 -0.1
V51A **Loudon** 124.38 299 PKPdf PKPdf 20 25 10.5 -0.1
X51A **Calhoun** 124.72 298 PKPdf 20 25 07.9 -3.4
P49A **Miami Univ. Ec** 124.79 304 PKPdf PKPdf 20 25 10.8 -0.5
P49A IAMs_20 IAMs_20 21 18 55.4
comp=Z,731nm,21.0s
P49A **Miami Univ. Ec** 124.79 304 P PKiKP 20 25 11.6 +0.1
baz=90
O48B **Farmland** 125.12 305 P PKPdf 20 25 11.7 -0.2
baz=90
R49A **Shelbyville** 125.13 302 PKPdf 20 25 11.8 -0.1
W50A **Signal Mountai** 125.13 299 PKiKP 20 25 13.2 +0.8
BILL **Bilibino** 125.24 20⇑ ePKIKP PKiKP 20 25 14.5 +2.9
BILL e 20 27 04.9
BILL pmax pmax
comp=Z,13nm,0.9s
U49A **Red Boiling Sp** 125.57 300 PKiKP 20 25 13.5 +0.3
TEIG **Tepich** 125.74 280 PKPdf PKPdf 20 25 13.5 -0.2
CLTN **Cedars of Leba** 126.00 300 PKPdf 20 25 13.6 0.0
WCI **Wyandotte Cave** 126.01 302 PKPdf PKPdf 20 25 12.5 -1.1
WCI **Wyandotte Cave** 126.01 302 PKIKP PKPdf 20 25 12.5 -1.1
WCI MLR MLR
comp=Z,1µm,20.0s
WCI **Wyandotte Cave** 126.01 302 P PKiKP 20 25 13.9 -0.2
baz=90
LRAL **Lakeview Retre** 126.41 296 IAMs_20 IAMs_20 21 12 23.3
comp=Z,1µm,20.0s
SFIN **Lafayette** 126.61 305 P PKPdf 20 25 14.5 -0.2
baz=88
HQIL **Hanson Quary C** 127.11 307 IAMs_20 IAMs_20 21 26 07.6
comp=Z,692nm,20.0s
WVT **Waverly** 127.22 300 PKPdf 20 25 15.8 -0.2
WVT **Waverly** 127.22 300 IAMs_20 IAMs_20 21 26 46.1
comp=Z,742nm,18.0s
WVT **Waverly** 127.22 300 PKIKP PKPdf 20 25 15.8 -0.2
WVT MLR MLR
comp=Z,700nm,18.0s
WVT **Waverly** 127.22 300 P PKPdf 20 25 15.5 -0.6
baz=91
PLAL **Pickwick Lake** 127.39 298 PKPdf PKPdf 20 25 16.4 +0.1
PETK **Petropavlovsk-** 127.45 39 PKP PKiKP 20 25 16.7 +0.2
comp=Z,3.2nm,0.9s,baz=169,slow=1.5,SNR=4.2
PET **Petropavlovsk** 128.03 39 IAMs_20 IAMs_20 21 23 03.8
comp=Z,780nm,20.0s
HDIL **Hopedale** 128.27 305 IAMs_20 IAMs_20 21 21 41.5
comp=Z,930nm,19.0s
OXF **Oxford** 128.47 298 PKPdf 20 25 17.8 -0.6
OXF IAMs_20 IAMs_20 21 27 48.7
comp=Z,755nm,19.0s
OXF **Oxford** 128.47 298 PKIKP PKPdf 20 25 17.8 -0.6
OXF MLR MLR
comp=Z,800nm,19.0s
OXF **Oxford** 128.47 298 P PKPdf 20 25 18.6 +0.2
baz=91
CGM3 **Cape Girardeau** 128.68 301 PKPdf 20 25 18.6 -0.1
JFWS **Jewell Farm** 128.79 308 PKiKP 20 25 19.2 -0.3
JFWS **Jewell Farm** 128.79 308 IAMs_20 IAMs_20 21 21 59.8
comp=Z,964nm,19.0s
JFWS **Jewell Farm** 128.79 308 PKIKP PKiKP 20 25 19.2 -0.3
JFWS MLR MLR
comp=Z,1µm,19.0s
JFWS **Jewell Farm** 128.79 308 P PKiKP 20 25 19.4 0.0
baz=84
EYMN **Ely** 128.92 315 PKiKP 20 25 19.4 -0.1
EYMN **Ely** 128.92 315 P PKiKP 20 25 19.6 0.0
baz=79
VBMS **Vicksburg** 129.33 295 IAMs_20 IAMs_20 21 26 07.8
comp=Z,863nm,19.0s
L40A **Anamosa** 129.59 307 PKPdf 20 25 19.9 -0.4
A21K **Barrow** 129.89 4 IAMs_20 IAMs_20 21 28 44.6
comp=Z,817nm,20.0s
CCM **Cathedral Cave** 129.92 302 PKPdf PKiKP 20 25 22.1 +0.2
CCM **Cathedral Cave** 129.92 302 IAMs_20 IAMs_20 21 16 31.3
comp=Z,1µm,21.0s
CCM **Cathedral Cave** 129.92 302 PKIKP PKiKP 20 25 22.1 +0.2
CCM MLR MLR
comp=Z,1µm,21.0s
CCM **Cathedral Cave** 129.92 302 P PKiKP 20 25 21.6 -0.3
baz=87
B35A **Bob, Littlefor** 130.29 316 PKiKP 20 25 22.2 -0.1
SPMN **Marine on St.** 130.30 312 PKPdf 20 25 20.4 -1.2
SPMN **Marine on St.** 130.30 312 P PKiKP 20 25 22.2 -0.3
baz=80
P40A **Paris** 130.45 304 PKiKP 20 25 23.1 +0.2
F36A **Milaca** 130.68 313 PKPdf 20 25 22.5 +0.2
FCAR **Ozark Folk Cen** 130.70 299 PKPdf 20 25 23.0 +0.4
R40A **Maddies Statio** 130.71 302 PKPdf PKiKP 20 25 23.4 0.0
MGMO **Mountain Grove** 130.77 301 PKPdf PKiKP 20 25 23.7 0.0
WHAR **Wooly Hollow** 130.84 299 PKiKP 20 25 23.8 0.0
I37A **Lemond, Waseca** 130.92 310 PKiKP 20 25 23.4 -0.3
SCIA **State Center** 131.09 307 IAMs_20 IAMs_20 21 19 37.8
comp=Z,870nm,19.0s
ULM **Lac du Bonnet** 131.16 319 PKP PKiKP 20 25 24.5 +0.5
comp=Z,19nm,1.1s,baz=30,slow=1.7,SNR=8.0
ULM **Lac du Bonnet** 131.16 319 PKPdf PKiKP 20 25 23.6 -0.4
S39A **Bolivar** 131.58 302 PKPdf PKiKP 20 25 24.9 -0.3
P38A **Dawn** 131.59 304 PKiKP 20 25 24.4 +0.2
C26K **Camden Bay** 131.63 359 P PKiKP 20 25 25.2 +0.8
baz=2.2
C23K **Itkillik River** 131.66 2 P PKiKP 20 25 25.3 +0.8
baz=355
AGMN **Agassiz Nation** 131.69 316 PKPdf PKPdf 20 25 24.4 +0.3
AGMN **Agassiz Nation** 131.69 316 P PKiKP 20 25 24.7 -0.4
baz=75
C24K **Franklin Bluff** 131.82 1 P PKiKP 20 25 25.3 +0.6
baz=358
C27K **Jago River** 131.90 359 P PKiKP 20 25 25.6 +0.6
baz=3.7
MIAR **Mount Ida** 131.92 298 PKiKP 20 25 26.0 0.0
MIAR IAMs_20 IAMs_20 21 15 05.8
comp=Z,877nm,22.0s
MIAR **Mount Ida** 131.92 298 PKIKP PKiKP 20 25 26.0 0.0
MIAR MLR MLR
comp=Z,900nm,22.0s
MIAR **Mount Ida** 131.92 298 P PKPdf 20 25 25.4 +0.4
baz=89
HHAR **Hobbs** 132.15 300 PKPdf PKiKP 20 25 26.2 -0.2
D25K **Kavik River** 132.24 360 P PKiKP 20 25 26.3 +0.6
baz=0.4
D24K **Happy Valley** 132.39 1 P PKiKP 20 25 25.4 -0.6
baz=357

U38A Gravette 132.50 300 PKiKP PKiKP 20 25 26.6 -0.6
D23K Nanushuk River 132.53 2 P PKiKP 20 25 26.4 +0.2
baz=355
INK Inuvik 132.56 353 P PKiKP 20 25 26.6 +0.3
baz=17
F33A 5 Mile Ranch, 132.58 313 PKiKP 20 25 26.8 -0.3
NATX Nacogdoches 132.83 294 IAMs_20 IAMs_20 21 18 44.7
comp=Z,887nm,21.0s
TOLK Toolik Lake Re 132.89 1 P PKiKP 20 25 27.3 +0.3
baz=356
ECSD EROS Data Cent 133.25 310 PKPdf PKPdf 20 25 27.2 -0.1
ECSD EROS Data Cent 133.25 310 P PKPdf 20 25 27.5 +0.2
baz=78
E27K Coleen River 133.28 357 P PKiKP 20 25 27.8 0.0
baz=6.5
E22K Anaktuvuk Pass 133.32 3 P PKPdf 20 25 27.1 +0.4
baz=353
X37A Clayton 133.40 298 PKPdf PKPdf 20 25 27.5 -0.3
E25K Arctic Village 133.44 359 P PKPdf 20 25 27.1 +0.2
baz=1.4
E23K Chandalar 133.47 2 P PKPdf 20 25 27.5 +0.4
baz=356
E24K Your Creek 133.48 1 P PKPdf 20 25 27.5 +0.5
baz=358
YKA Yellowknife Ar 133.63 340 PKP PKiKP 20 25 30.1 +1.5
comp=Z,6.5nm,0.7s,baz=40,slow=2.0,SNR=10.0
YKA Yellowknife Ar 133.63 340 PKPdf PKPdf 20 25 25.8 -1.6
TUL1 Leonard 133.67 300 IAMs_20 IAMs_20 21 31 06.0
comp=Z,718nm,20.0s
F26K Sheenjek River 133.85 359 P PKiKP 20 25 29.1 +0.1
baz=3.2
F22K John River 133.93 3 P PKiKP 20 25 28.5 -0.6
baz=353
F25K Christian River 133.97 359 P PKiKP 20 25 29.5 +0.3
baz=1.3
KSU1 Kansas State U 134.01 304 P PKiKP 20 25 29.8 -0.4
baz=83
F24K Squaw Lake 134.05 1 P PKiKP 20 25 29.3 -0.1
baz=358
F21K Alatna River 134.14 4 P PKiKP 20 25 29.3 -0.3
baz=351
T35A Sooner Cattle 134.17 301 PKPdf PKPdf 20 25 29.8 +0.6
OK031 S. Brethren Rd 134.52 300 IAMs_20 IAMs_20 21 26 58.4
comp=Z,1µm,20.0s
G26K Porcupine Rive 134.59 358 P PKiKP 20 25 30.6 +0.1
baz=3.8
OK033 Mehan 134.59 300 IAMs_20 IAMs_20 21 27 12.3
comp=Z,918nm,19.0s
OK050 Pawnee Station 134.59 300 IAMs_20 IAMs_20 21 15 34.4
comp=Z,578nm,20.0s
G27K Doyon Strip 134.65 357 P PKiKP 20 25 30.3 -0.3
baz=6.6
EPYK Eagle Plains 134.75 354 PKiKP 20 25 30.4 -0.5
EPYK Eagle Plains 134.75 354 P PKiKP 20 25 30.6 -0.2
baz=13
G23K Bananza Creek 134.81 2 P PKiKP 20 25 31.6 +0.6
baz=356
OK049 E0420 Rd and N 134.85 300 IAMs_20 IAMs_20 21 15 21.2
comp=Z,823nm,21.0s
G24K Hadweenzic Riv 134.87 0 P PKiKP 20 25 31.7 +0.6
baz=359
OK025 Westminster Rd 134.95 299 IAMs_20 IAMs_20 21 21 51.9
comp=Z,868nm,20.0s
WHTX Lake Whitney, 135.21 294 P PKiKP 20 25 32.5 -0.3
baz=89
H27K Steamboat Moun 135.22 357 P PKiKP 20 25 32.3 +0.5
baz=6.8
ANM Nome 135.26 11 IAMs_20 IAMs_20 21 33 54.2
comp=Z,606nm,19.0s
ANM Nome 135.26 11 P PKiKP 20 25 32.6 +0.8
baz=335
TBI Tubuai 135.27 176 eLR LR 21 08 51.8
comp=Z,542nm,28.5s
H25K Birch Creek 135.31 360 P PKiKP 20 25 32.0 +0.1
baz=1.1
435B Jarrell 135.32 292 IAMs_20 IAMs_20 21 21 42.7
comp=Z,896nm,21.0s
IMAR Indian Mountai 135.35 4 PKPdf PKPdf 20 25 29.1 -1.4
H22K Ishtalitna Cre 135.58 3 P PKiKP 20 25 32.2 -0.4
baz=354
H23K Yukon River 135.71 2 P PKiKP 20 25 33.1 +0.3
baz=356
H24K Noodor Dome 135.74 1 PKiKP 20 25 32.3 -0.6
H24K IAMs_20 IAMs_20 21 31 50.0
comp=Z,905nm,21.0s
H24K Noodor Dome 135.74 1 P PKiKP 20 25 33.1 +0.2
baz=358
H21K Melozitna Rive 135.74 4 PKPdf 20 25 31.5 +0.2
H21K Melozitna Rive 135.74 4 P PKiKP 20 25 32.8 0.0
baz=352
I27K Kandik River 135.85 357 P PKiKP 20 25 33.3 +0.2
baz=6.8
I29M Ogilvie Camp, 135.88 355 PKPdf 20 25 31.9 +0.4
I29M Ogilvie Camp, 135.88 355 P PKiKP 20 25 33.2 0.0
baz=11
PRP Porcupine Dome 136.06 359 P PKiKP 20 25 33.6 -0.1
baz=1.5
WMOK Wichita Mounta 136.19 298 IAMs_20 IAMs_20 21 17 42.9
comp=Z,999nm,22.0s
I21K Tanana 136.26 3 P PKiKP 20 25 34.0 +0.1
baz=353
POKR Poker Plat Res 136.46 0 P PKiKP 20 25 34.7 +0.4
baz=359
MLY Manley 136.47 3 PKPdf PKiKP 20 25 33.5 -0.9
MLY Manley 136.47 3 P PKiKP 20 25 35.0 +0.7
baz=354
EGAK Eagle 136.65 357 P PKiKP 20 25 34.7 0.0
baz=7.5
IL31 136.81 0 PKPdf 20 25 33.2 0.0
ILAR Eielson Array 136.81 0 PKP PKPdf 20 25 33.7 +0.4
comp=Z,9.0nm,1.2s,baz=324,slow=3.2,SNR=9.8
ILAR Eielson Array 136.81 0 PKPdf 20 25 32.8 -0.5
833A Chaparral WMA, 136.85 289 P PKiKP 20 25 35.4 -0.8
baz=92
DGMT Dagmar 136.88 319 IAMs_20 IAMs_20 21 20 45.5
comp=Z,986nm,21.0s
DGMT Dagmar 136.88 319 P PKiKP 20 25 35.0 -0.7
baz=67
NEA2 Nenana 136.96 2 P PKiKP 20 25 35.9 +0.6
baz=357
J25K Salcha River, 136.96 359 PKPdf 20 25 32.1 -1.5
J25K Salcha River, 136.96 359 P PKiKP 20 25 35.6 +0.2
baz=1.8
ABTX Abilene, Hawle 137.04 295 P PKiKP 20 25 36.5 0.0
baz=87
J20K Nowinta River 137.11 5 IAMs_20 IAMs_20 21 34 31.6
comp=Z,858nm,21.0s
J20K Nowinta River 137.11 5 P PKiKP 20 25 36.6 +0.9
baz=350
HDA Harding Lake 137.18 0 P PKiKP 20 25 36.6 +0.8
baz=360
JCT Junction City 137.24 292 IAMs_20 IAMs_20 21 21 37.4
comp=Z,840nm,21.0s
JCT Junction City 137.24 292 P PKiKP 20 25 36.7 -0.4
baz=89
DAWY Dawson 137.24 355 P PKiKP 20 25 36.6 +0.6
baz=10.0
K29M Barlow Dome 137.30 354 P PKiKP 20 25 37.6 +1.4
baz=13
BPAW Bear Paw Mtn. 137.39 3 P PKiKP 20 25 37.5 +1.3
baz=354
SCRK Sand Creek 137.57 358 P PKPdf 20 25 35.2 +0.3
baz=3.7
MMPY Sheldon Lake, 137.65 350 P PKiKP 20 25 38.1 +1.2
baz=22
OGNE Ogallala 137.78 308 P PKiKP 20 25 38.4 +0.5
baz=76
MCK McKinley 137.83 2 IAMs_20 IAMs_20 21 36 37.4
comp=Z,921nm,19.0s
MCK McKinley 137.83 2 P PKiKP 20 25 37.6 +0.5
baz=357
K20K Telida 137.93 5 P PKiKP 20 25 38.1 +0.7
baz=350
CAST Castle Rocks 138.01 4 P PKiKP 20 25 38.3 +0.8
baz=352
RSSD Black Hills 138.33 313 IAMs_20 IAMs_20 21 35 44.7
comp=Z,841nm,20.0s
RSSD Black Hills 138.33 313 P PKiKP 20 25 38.0 -1.0
baz=71
L27K Beaver Creek, 138.40 357 P PKiKP 20 25 39.0 +0.6
baz=6.8
L26K Log Cabin Wild 138.50 358 P PKiKP 20 25 38.9 +0.3
baz=4.7
PPLA Purkeypile 138.52 4 P PKiKP 20 25 38.7 -0.1
baz=352
M31M Drury Creek, Y 138.53 351 P PKiKP 20 25 39.7 +1.0
baz=17
AMTX Amarillo 138.55 299 IAMs_20 IAMs_20 21 19 43.4
comp=Z,943nm,21.0s
PAX Paxson 138.61 359 P PKiKP 20 25 39.3 +0.4
baz=1.7
L19K White Mountain 139.02 6 P PKiKP 20 25 40.0 +0.4
baz=348
M27K Edge Creek, AK 139.10 357 P PKiKP 20 25 39.3 -0.7
baz=6.8
M26K Nabesna, AK 139.12 357 P PKiKP 20 25 40.3 +0.4
baz=5.2
HARP HAARP 139.18 359 P PKiKP 20 25 40.4 +0.5
baz=2.1
M19K Big River Lodg 139.34 6 P PKiKP 20 25 40.8 +0.6
baz=349
N31M Braeburn, Yuko 139.40 352 P PKiKP 20 25 40.9 +0.5
baz=16
MSTX Muleshoe 139.55 297 PKPdf PKPdf 20 25 35.2 -4.2
YUK3 Moose Creek 139.59 355 P PKiKP 20 25 41.7 +0.6
baz=8.9
SUA Susitna One 140.03 3 P PKiKP 20 25 42.2 +0.3
baz=354
KLU Klutina 140.10 359 P PKiKP 20 25 43.1 +1.2
baz=1.1
O30N Mendenhall 140.13 352 P PKiKP 20 25 42.5 +0.5
baz=15
HYT Haines Junctio 140.25 353 P PKiKP 20 25 41.7 -0.6
baz=13
EGMT Easteton 140.41 321 P PKiKP 20 25 43.5 +0.4
baz=61
K22A Casper 140.52 312 PKPpre 20 25 33.4
O28M Mount Upton 140.57 355 P PKiKP 20 25 43.4 +0.2
baz=9.5
Q24A Divide 140.58 306 PKPdf 20 25 37.1 -4.3
TXAR Lajitas Array 140.61 290 PKhKP PKPpre 20 25 35.7
comp=Z,3.1nm,0.8s,baz=94,slow=3.8,SNR=30
TXAR Lajitas Array 140.61 290 PKPdf PKPpre 20 25 35.3
TXAR Lajitas Array 140.61 290 PKHKP PKPpre 20 25 35.3
TX31 Lajitas Ar. Si 140.61 290 PKPpre 20 25 36.2
TX32 Lajitas Array 140.61 290 PKPdf 20 25 36.8 -4.7
N23A Red Feather La 140.66 309 PKPdf PKPpre 20 25 28.8
ISCO Idaho Springs 140.72 307 PKPdf PKPdf 20 25 39.9 -1.7
ISCO Idaho Springs 140.72 307 PKIKP PKPdf 20 25 39.9 -1.7
ISCO MLR MLR
comp=Z,1µm,20.0s
PPT2 Papeete2 140.98 176 eLR LR 21 11 31.0
comp=Z,594nm,23.5s
SDCO Great Sand Dun 141.12 304 PKPdf 20 25 38.4 -4.0
SDCO IAMs_20 IAMs_20 21 26 09.8
comp=Z,914nm,21.0s
GCMT Greycliff 141.39 318 PKPdf 20 25 39.7 -2.7
RLMT Red Lodge 141.43 316 PKPdf PKPdf 20 25 40.9 -1.7
SEW Seward 141.44 2 P PKiKP 20 25 45.3 +0.7
baz=356
SMCO Snowmass 141.90 306 PKPdf 20 25 41.3 -2.6
S22A 4UR Ranch, Cre 142.15 304 PKPdf PKPdf 20 25 41.0 -3.2
S22A 4UR Ranch, Cre 142.15 304 P PKiKP 20 25 45.9 -1.3
baz=76
HPIG 142.38 286 PKPdf PKPdf 20 25 41.2 -3.6
ANMO Albuquerque 142.43 300 PKPdf PKPdf 20 25 41.4 -3.3
ANMO Albuquerque 142.43 300 PKIKP PKPdf 20 25 41.4 -3.3
ANMO Albuquerque 142.43 300 P PKPdf 20 25 45.7 +1.1
baz=80
YNR Morris Junctio 142.51 317 PKPpre 20 25 38.6
O20A White River Ci 142.56 308 P PKPdf 20 25 45.9 +1.2
baz=72
PD31 Pinedale Array 142.57 313 PKPdf 20 25 42.6 -2.1
PDAR Pinedale Array 142.57 313 PKhKP PKPpre 20 25 41.0
comp=Z,3.9nm,0.8s,baz=76,slow=6.3,SNR=11
PDAR PKP PKPdf 20 25 45.1 +0.4
comp=Z,4.2nm,0.8s,baz=90,slow=6.3,SNR=17
PDAR Pinedale Array 142.57 313 PKPdf PKPdf 20 25 42.2 -2.5
YHH Holmes Hill 142.59 317 PKPdf 20 25 42.8 -2.0
BNM Barren Site 142.70 298 PKPdf PKPdf 20 25 42.0 -3.2
BOZ Bozeman (W) 142.70 318 PKPdf 20 25 44.0 -0.8
BOZ IAMs_20 IAMs_20 21 31 27.7
comp=Z,854nm,18.0s
BOZ Bozeman (W) 142.70 318 PKIKP PKPdf 20 25 44.0 -0.8
BOZ MLR MLR
comp=Z,900nm,18.0s
YHL Hebgen Lake 142.77 317 PKPdf PKPdf 20 25 43.4 -1.7
EPT El Paso 142.91 294 IAMs_20 IAMs_20 21 25 10.4
comp=Z,849nm,20.0s
LOHW Long Hollow 142.93 315 PKPdf 20 25 42.6 -2.8
QLMT Earthquake Lak 142.94 317 PKPdf 20 25 44.8 -0.5
IMW Indian Meadow 143.03 315 PKPbc 20 25 43.2 +0.8
LRM Limekiln Ridge 143.10 319 PKPdf 20 25 45.1 -0.5
FXWY Fox Creek 143.20 315 PKPbc 20 25 43.8 +1.1
REDW Red Meadow 143.20 315 PKPdf 20 25 45.0 -0.9
PV15 Paradox Valley 143.26 306 PKPdf 20 25 44.6 -1.4
PV07 Paradox Valley 143.35 306 PKPbc 20 25 44.7 +1.3
RDMU Red Mountain 143.37 310 PKPbc 20 25 44.1 +0.8
MSO Missoula 143.47 321 PKPdf PKPdf 20 25 44.6 -1.4
MSO Missoula 143.47 321 P PKiKP 20 25 47.7 -1.7
baz=58
PV11 David Mesa, Pa 143.56 306 PKPdf 20 25 45.9 -0.7
PV13 Radium Mtn., P 143.56 306 PKPbc 20 25 43.9 0.0
KDAK Kodiak Island 143.57 5 PKP PKPbc 20 25 43.8 +0.8
comp=Z,24nm,0.8s,baz=63,slow=1.0,SNR=8.5
MVCO Mesa Verde 143.57 304 P PKPdf 20 25 47.5 +0.8
baz=75
SIT Sitka 143.59 350 P PKiKP 20 25 47.6 -1.4
baz=18
AHID Auburn Hatcher 143.61 314 PKPbc 20 25 45.0 +1.1
WRAK Wrangell Islan 143.62 347 P PKiKP 20 25 48.0 -1.1
baz=23
PV23 Carpenter Ridg 143.62 306 PKPdf 20 25 46.3 -0.5
121A Cookes Peak, D 143.89 296 PKPdf PKPbc 20 25 45.4 +0.3
121A Cookes Peak, D 143.89 296 P PKPdf 20 25 48.5 +1.2
baz=82
OHAK Old Harbor 144.05 6 PKPbc 20 25 44.8 +0.4
OHAK Old Harbor 144.05 6 P PKiKP 20 25 48.9 -1.1
baz=350
U33K Whale Pass 144.06 347 P PKiKP 20 25 49.0 -1.0
baz=22
P18A Preston Nutter 144.18 308 PKPdf 20 25 47.0 -0.8
CHGN Chignik 144.23 11 P PKiKP 20 25 49.0 -1.4
baz=341
HWUT Hardware Ranch 144.40 312 PKPdf PKPdf 20 25 47.5 -0.4
NEW Newport 144.40 326 PKP PKiKP 20 25 49.8 -1.3
comp=Z,6.3nm,1.0s,baz=77,slow=6.6,SNR=5.6
NEW Newport 144.40 326 P PKiKP 20 25 49.5 -1.7
baz=52
BCYI Bear Canyon 144.43 317 PKPdf 20 25 48.4 +0.4
V35K Ketchikan 144.45 345 P PKiKP 20 25 49.5 -1.4
baz=24
TCUT Toone Canyon 144.48 311 PKPdf 20 25 47.8 -0.4
SRU San Rafael Swe 144.55 308 PKPdf 20 25 48.2 -0.1
SRU San Rafael Swe 144.55 308 PKIKP PKPdf 20 25 48.2 -0.1
SII Sitkinak Islan 144.61 7 PKPdf 20 25 47.6 +0.1
SII Sitkinak Islan 144.61 7 P PKiKP 20 25 49.5 -1.7
baz=348
CRAG Craig 144.66 347 P PKiKP 20 25 49.9 -1.4
baz=22
JLU Jordanelle 144.70 311 PKPab 20 25 46.9 -0.4
SDPT Sand Point 144.71 14 P PKPdf 20 25 47.9 +0.2
baz=337
CTU Camp Tracy 144.88 311 PKPdf PKPdf 20 25 49.3 +0.5
PNT Penticton 144.98 329 PKIKP PKiKP 20 25 57.8 +5.5
TMUT Trail Mountain 144.99 308 PKPdf 20 25 49.7 +0.5
W18A Petrified Fore 145.03 301 P PKPdf 20 25 49.2 0.0
baz=77
MPU Maple Canyon 145.05 310 PKPdf PKPdf 20 25 49.6 +0.5
CHIR Chirikof Islan 145.14 9 P PKiKP 20 25 50.4 -2.0
baz=345
CHNA Chernabura Isl 145.38 13 P PKiKP 20 25 51.3 -1.5
baz=339
HLID Hailey 145.43 317 IAMs_20 IAMs_20 21 32 20.9
comp=Z,865nm,20.0s
HLID Hailey 145.43 317 P PKPab 20 25 51.1 +1.3
baz=61
PLID Pearl Lake 145.62 320 PKPdf 20 25 49.7 -0.3
DUG Dugway, Tooele 145.82 311 IAMs_20 IAMs_20 21 26 42.2
comp=Z,877nm,19.0s
DUG Dugway, Tooele 145.82 311 P PKPab 20 25 52.1 +0.8
baz=67
F10A Beach Ranch, E 145.83 322 PKPdf PKPab 20 25 50.9 -0.2
BBB Bella Bella 146.24 339 PKPbc PKPab 20 25 52.9 +0.7
comp=Z,20nm,1.0s,baz=307,slow=2.8,SNR=3.5
WUAZ Wupatki 146.24 302 P PKPab 20 25 54.2 +1.1
baz=75
MFID Camas Ranch 146.39 318 IAMs_20 IAMs_20 21 26 15.4
comp=Z,762nm,21.0s
TUC Tucson 146.44 296 IAMs_20 IAMs_20 21 35 03.6
comp=Z,871nm,19.0s
TUC Tucson 146.44 296 P PKiKP 20 25 55.0 -0.9
baz=80
BMO Blue Mountains 146.52 321 PKPbc 20 25 52.9 +0.1
BMO Blue Mountains 146.52 321 PKP2 PKPbc 20 25 52.9 +0.1
BMO MLR MLR
comp=Z,1µm,20.0s
HAWA Hanford 146.85 325 PKPbc 20 25 53.4 -0.2
LTY Liberty 146.89 327 PKPdf 20 25 51.1 -0.7
G08A Pilot Rock 147.22 323 PKPbc 20 25 53.8 -1.0
ELK Elko 147.28 313 PKPbc PKPbc 20 25 55.0 -0.2
comp=Z,5.5nm,0.7s,baz=28,slow=2.7,SNR=16
ELK Elko 147.28 313 PKPbc 20 25 54.1 -1.1
ELK Elko 147.28 313 PKP2 PKPbc 20 25 55.0 -0.2
SPR3 Spring Creek 3 147.36 309 PKPbc 20 25 55.2 -0.4
D05A Enumclaw 147.59 328 PKPdf 20 25 53.9 +1.0
Y14A Wickenburg 147.93 300 PKiKP 20 25 58.5 -0.4
J08A Circle Bar Ran 148.05 319 PKPdf 20 25 54.7 +0.8
214A Organ Pipe Nat 148.19 296 PKPdf PKPdf 20 25 53.3 -1.1
214A Organ Pipe Nat 148.19 296 P PKiKP 20 25 59.2 -0.2
baz=79,SNR=13
SRIG Santa Rosalia 148.23 287 PKPdf 20 25 53.0 -1.6
I07A Izee 148.25 321 PKPdf 20 25 55.0 +0.8
W13A Hualapai Mount 148.33 302 PKPbc 20 25 57.1 -1.2
NLWA Neilton Lookou 148.35 330 PKPbc 20 25 56.1 -1.5
PRN Pahroc Range 148.48 307 PKPbc 20 25 58.0 -0.5
R11A Troy Canyon, C 148.52 309 PKPdf 20 25 53.1 -1.8
R11A Troy Canyon, C 148.52 309 P PKiKP 20 26 00.1 0.0
baz=67
G05D Wamic, OR 148.55 325 P PKiKP 20 26 00.1 +0.3
baz=50
WVOR Wild Horse Val 148.66 318 PKPbc 20 25 57.3 -1.4
WVOR IAMs_20 IAMs_20 21 34 17.4
comp=Z,774nm,18.0s
WVOR Wild Horse Val 148.66 318 PKP2 PKPbc 20 25 57.3 -1.4
WVOR MLR MLR
comp=Z,800nm,18.0s
HOOD Mount Hood Mea 148.68 325 PKPbc 20 25 56.9 -1.8
PDMCI Parker Dam,Lak 148.75 301 P PKiKP 20 26 00.5 +0.1
baz=74
BMN Battle Mountai 148.76 314 PKPdf 20 25 57.0 +1.7
BMN Battle Mountai 148.76 314 PKIKP PKPdf 20 25 57.0 +1.7
E03A Lebam 148.82 329 PKPdf 20 25 52.7 -2.2
113A Mohawk Valley, 148.82 298 PKPdf 20 25 54.4 -1.0
F04D Rainier, OR 148.87 327 P PKiKP 20 26 00.7 +0.4
baz=46
SHPR Sheep Range 148.88 306 PKPab PKiKP 20 26 01.9 +1.0
V12A Nelson 148.90 304 PKPdf 20 25 54.9 -0.6
S11A Rachel 148.91 308 PKPbc 20 25 58.2 -1.3
NEE2 Needles Airpor 149.00 302 P PKiKP 20 26 01.0 0.0
baz=73
TAOE Nuku Hiva Isla 149.10 193 eLR LR 21 15 16.6
comp=Z,421nm,22.9s
I05D Terrebonne, OR 149.14 323 P PKiKP 20 26 01.1 +0.1
baz=51
BLYC Blythe 149.20 300 PKPdf 20 25 57.8 +1.8
PINE Pine Mountain 149.25 322 PKPbc 20 25 58.3 -2.0
H04A Detroit Lake 149.38 325 PKPdf 20 25 57.3 +1.4
TPNV Topopah Spring 149.54 307 IAMs_20 IAMs_20 21 29 01.2
comp=Z,855nm,20.0s
TPNV Topopah Spring 149.54 307 P PKiKP 20 26 02.4 +0.1
baz=68
IRM Iron Mountain 149.59 301 P PKiKP 20 26 02.7 +0.5
baz=74,SNR=33
G03D McMinnville, O 149.60 326 PKPdf 20 25 54.9 -1.4
G03D IAMs_20 IAMs_20 21 30 51.0
comp=Z,859nm,20.0s
G03D McMinnville, O 149.60 326 P PKiKP 20 26 02.0 +0.1
baz=47
GLA Glamis 149.62 299 P PKiKP 20 26 03.3 +1.0
baz=76
J05D Fort Rock, OR 149.73 322 P PKiKP 20 26 03.3 +0.9
baz=52,SNR=10
H04D Lebanon 149.78 325 PKPdf 20 25 55.9 -0.7
H04D Lebanon 149.78 325 P PKiKP 20 26 03.0 +0.7
baz=48,SNR=5.9
TPH Tonopah 149.81 310 PKPbc 20 25 59.7 -2.2
TPH Tonopah 149.81 310 PKHKP PKPpre 20 25 59.7
GMRC Granite Mounta 149.82 303 P PKiKP 20 26 03.9 +1.0
baz=72,SNR=22
K05A Summer Lake 149.87 320 PKPdf PKPdf 20 25 56.2 -0.8
BC3 Big Chuckawall 149.97 300 P PKiKP 20 26 04.1 +0.9
baz=74,SNR=13
MOD Modoc Plateau 149.99 319 PKPdf PKPdf 20 25 54.8 -2.4
MOD IAMs_20 IAMs_20 21 35 19.4
comp=Z,830nm,20.0s
KVN Kaiserville 150.00 312 PKPdf PKPdf 20 25 53.9 -3.4
KVN Kaiserville 150.00 312 PKIKP PKPdf 20 25 53.9 -3.4
SFX San Felipe 150.07 295 PKPbc 20 26 00.1 -2.3
I04A Tendick Farm, 150.08 323 P PKiKP 20 26 04.2 +1.2
baz=50
BUCK Buck Mountain 150.13 325 PKPdf 20 25 58.7 +1.5
FURC Furnace Creek, 150.18 306 P PKiKP 20 26 04.9 +1.6
baz=68
J04D Umpqua Nationa 150.26 322 IAMs_20 IAMs_20 21 39 03.1
comp=Z,762nm,21.0s
J04D Umpqua Nationa 150.26 322 P PKiKP 20 26 04.8 +1.3
baz=51
BELC Belle Mtn. Jos 150.31 301 P PKiKP 20 26 05.1 +1.2
baz=73,SNR=5.9
NV11 Mina Array Sit 150.32 311 PKPdf 20 26 00.2 +2.4
HEC Hector,Ludlow 150.33 303 P PKiKP 20 26 05.7 +1.9
baz=72
GRAC Grapevine Rang 150.35 308 P PKiKP 20 26 05.4 +1.6
baz=67
NVAR Mina Array Bea 150.42 311 PKP PKPbc 20 26 00.7 -2.6
comp=Z,42nm,1.2s,baz=111,slow=2.0,SNR=12
NVAR PKPbc sPKPdf 20 26 05.5 +1.3
comp=Z,24nm,0.9s,baz=100,slow=2.2,SNR=20
SWSC Sam W. Stewart 150.44 299 P PKiKP 20 26 05.6 +1.7
baz=75
LCH Last Change Ra 150.46 308 PKPdf 20 25 57.6 -0.4
RYN Ryan 150.49 311 PKPdf 20 26 00.2 +2.2
GSC Goldstone, Bar 150.54 304 P PKiKP 20 26 05.4 +1.2
baz=70
PAHR Pah Rah Range 150.56 314 PKPdf 20 25 59.7 +1.5
DSP Deep Springs 150.64 309 PKPdf 20 26 00.5 +2.4
LHV Little Huntoon 150.64 311 PKPdf 20 26 00.7 +2.7
I02E Swisshome, OR 150.65 325 P PKiKP 20 26 05.0 +0.9
baz=47
I03D Drain, OR 150.66 324 P PKiKP 20 26 05.7 +1.6
baz=49
IKP In-Ko-Pah, Jac 150.77 299 P PKiKP 20 26 05.4 +0.6
baz=75
TPFO Pinon Flats 150.79 301 P PKiKP 20 26 05.4 +0.5
baz=73,SNR=12
PFO Pinyon Flats O 150.79 301 P PKiKP 20 26 05.6 +0.7
baz=73
MPMC Manual Prospec 150.80 306 P PKiKP 20 26 04.8 -0.1
baz=68,SNR=26
YERR Yerington 150.82 313 PKPdf 20 25 58.0 -0.7
RRX Edison Barstow 150.83 303 P PKiKP 20 26 06.0 +1.2
baz=71
TIN Tinemaha, Big 150.96 308 P PKiKP 20 26 06.1 +1.0
baz=66
MONP2 Monument Peak 150.96 299 P PKiKP 20 26 05.9 +0.5
baz=75
DBO Dodson Butte 150.98 323 PKPdf PKPdf 20 25 56.1 -2.5
L04D Klamath Falls 151.01 321 P PKiKP 20 26 05.5 +0.5
baz=52,SNR=6.4
PNTR Pine Nut 151.01 313 PKPdf 20 25 57.8 -1.2
CWC Cottonwood Cre 151.09 307 P PKiKP 20 26 06.6 +1.2
baz=67
LRMC Laurel Mtn Rad 151.15 305 P PKiKP 20 26 05.8 +0.2
baz=69
MLAC Mammoth, Mammt 151.15 310 P PKiKP 20 26 06.1 +0.5
baz=64
OMMB Old Mammoth Mi 151.28 310 PKPdf PKPdf 20 26 00.1 +0.5
J01E Myrtle Point 151.33 324 P PKiKP 20 26 06.4 +0.9
baz=48
MURC Murrieta 151.38 301 P PKiKP 20 26 06.9 +0.9
baz=73
EMB Emerald Bay 151.41 313 PKPdf 20 25 59.1 -0.5
K02D Willamette Mer 151.49 323 P PKiKP 20 26 07.0 +1.0
baz=49
YBH Yreka Blue Hor 151.54 320 PKP PKPdf 20 26 01.2 +1.7
comp=Z,5.3nm,1.0s,baz=101,slow=3.9,SNR=6.1
YBH Yreka Blue Hor 151.54 320 PKPdf PKPdf 20 25 55.3 -4.2
BFSC Mount Baldy Ra 151.55 303 P PKiKP 20 26 07.2 +0.8
baz=71
EDW2 Edwards Air Fo 151.60 304 P PKiKP 20 26 07.3 +0.9
baz=70,SNR=12
ISA Isabella, Lake 151.69 306 PKPdf PKPdf 20 25 58.1 -1.8
ISA Isabella, Lake 151.69 306 PKIKP PKPdf 20 25 58.1 -1.8
ISA Isabella, Lake 151.69 306 P PKiKP 20 26 06.6 0.0
baz=68,SNR=5.7
L02F Cave Junction 151.80 322 P PKiKP 20 26 06.5 0.0
baz=50

ORV	**Oroville**	**152.04**	**316**		**PKPdf**	**20 25 59.6 -0.6**
ORV	**Oroville**	**152.04**	**316**	PKIKP	**PKPdf**	**20 25 59.6 -0.6**
ORV				MLR	MLR	
	comp=Z,1μm,21.0s					
CMB	**Columbia Colle**	**152.06**	**312**	PKPdf	**PKPdf**	**20 25 57.0 -3.3**
CMB	**Columbia Colle**	**152.06**	**312**	PKIKP	**PKPdf**	**20 25 57.1 -3.3**
CMB				MLR	MLR	
	comp=Z,1μm,19.0s					
KSXB	**Camp Six Broad**	**152.16**	**322**	PKPdf	**PKPdf**	**20 25 58.4 -2.1**
KMPM	**Mount Pierce**	**153.19**	**320**	PKPdf	**PKPdf**	**20 25 58.2 -3.7**

IDC ***22*** *20:24:26.4±0.4,26˚.05N×68˚.17E,h0km,mb4.4/38, mbtmp4.4/40,ML3.7/2,MS4.3/7,Error ellipse: s-maj=11.6km s-min=10.1km az=36.0*

NEIC ***22*** *20:24:28.6±1.7,26˚.15N±0˚.09×68˚.15E±0˚.09,h10km±1km, mb4.6/65,Error ellipse: s-maj=15.9km s-min=13.4km az=157.0*

MOS ***22*** *20:24:28.1±1.1,26˚.24N×68˚.28E,h20km,mb4.7/27,Error ellipse: s-maj=6.5km s-min=3.7km az=89.8*

ISC 22 20:24:31.4±0.4,26˚.15N±0˚.05×68˚.21E±0˚.04,h35km,n350, σ1§58/358,mb4.5/116,MS4.3/9,29C-11D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JASL	**Jaisalmer**	**2.54**	**72**	*e*P	**Pn**	**20 25 09.4**	**-0.7**
AJM	**Ajmer**	**5.79**	**85**	*e*P	**Pn**	**20 25 54.3**	**-0.5**
KHET	**Khetri**	**7.04**	**73**	*e*P	**Pn**	**20 26 11.1**	**-0.9**
THW	**Thamme Wali**	**7.30**	**24**	P	**Pn**	**20 26 14.4**	**-1.2**
SONA	**Sohna**	**8.18**	**73**	*e*P	**Pn**	**20 26 27.6**	**0.0**
SONA				*e*S	**Sn**	**20 27 55.6**	**-3.2**
CEP	**Cherat**	**8.29**	**22**	P	**Pn**	**20 26 29.8**	**+0.5**
CEP				S	**Sn**	**20 27 59.0**	**-2.8**
KBL	**Kabul**	**8.39**	**5**	Pn	**Pn**	**20 26 29.5**	**-1.2**
KBL	**Kabul**	**8.39**	**5**	P	**Pn**	**20 26 29.5**	**-1.2**
NDI	**New Delhi**	**8.39**	**71**	*e*P	**Pn**	**20 26 31.0**	**+0.4**
NDI				*e*S	**Sn**	**20 27 59.0**	**-5.2**
CHCP	**Chirah Chowk**	**8.67**	**29**	P	**Pn**	**20 26 33.4**	**-1.0**
JMU	**Jammu**	**8.76**	**40**	*e*P	**Pn**	**20 26 35.8**	**+0.2**
BHPL	**Bhopal**	**8.87**	**107**	*e*P	**Pn**	**20 26 35.0**	**-2.2**
BHK	**Bhakra**	**8.91**	**52**	*e*P	**Pn**	**20 26 35.8**	**-1.9**
BHK				*e*P	**Pn**	**20 26 36.8**	**-0.8**
BHK				*e*S	**Sn**	**20 28 12.6**	**-4.2**
THN	**Thein Dam**	**9.06**	**45**	*e*P	**Pn**	**20 26 40.0**	**+0.3**
THN				*e*S	**Sn**	**20 28 19.1**	**-1.4**
WSAR	**Wadi Sarin**	**9.18**	**254**	Pn	**Pn**	**20 26 39.2**	**-2.2**
	0.8nm,0.3s,baz=96,slow=12,SNR=15						
WSAR				Sn	Sn	20 28 11.1	-12
	0.7nm,0.3s,baz=46,slow=5.4,SNR=5.5						
	5.0nm,0.8s						
SMLA	**Simla**	**9.30**	**56**	*e*P	**Pn**	**20 26 42.8**	**-0.3**
SMLA				*e*S	**Sn**	**20 28 23.5**	**-2.9**
SMLA				IAML		20 28 35.5	
	comp=E,206nm,0.6s						
DDI	**Dehra Dun**	**9.63**	**62**	*e*P	**Pn**	**20 26 46.1**	**-1.4**
DDI				IAML		20 28 39.5	
	comp=N,175nm,0.6s						
DDI				IAML		20 28 39.9	
	comp=E,125nm,0.6s						
HRA	**Herat**	**9.69**	**329**	Pn	**Pn**	**20 26 45.8**	**-2.8**
BANOM	**Banah**	**10.71**	**271**	P	**Pn**	**20 26 59.6**	**-2.8**
BANOM				S	Sn	20 28 47.3	-14
SHME	**Shamm**	**10.85**	**272**	P	**Pn**	**20 27 01.4**	**-2.8**
MSFE	**Esma-Masafi**	**10.89**	**268**	P	**Pn**	**20 27 02.5**	**-2.3**
HATD	**Hatta, Dubai**	**10.99**	**266**	P	**Pn**	**20 27 05.2**	**-1.0**
ASHO	**Ashiyiah**	**11.08**	**265**	P	**Pn**	**20 27 07.0**	**-0.4**
ASHO				S	**Sn**	**20 29 04.1**	**-6.1**
LGTI	**Lohaghat**	**11.15**	**70**	*e*P	**Pn**	**20 27 04.1**	**-4.3**
LGTI				*e*S	Sn	20 29 01.8	-10
PTH	**Pithoragarh**	**11.15**	**70**	*e*P	**Pn**	**20 27 06.4**	**-2.2**
PTH				*e*S	**Sn**	**20 29 05.6**	**-6.6**
CHGR	**Chuyangaron**	**12.49**	**3**		**Pn**	**20 27 24.6**	**-2.2**
CHGR	**Chuyangaron**	**12.49**	**3**	P	**Pn**	**20 27 24.6**	**-2.2**
GAR	**Garm**	**12.93**	**7**		**Pn**	**20 27 32.0**	**-0.8**
PYUN	**Piuthan**	**13.31**	**78**	*e*P	**Pn**	**20 27 36.0**	**-2.1**
	comp=E,20nm,0.5s						
DRK	**Karamyk**	**13.63**	**12**		**Pn**	**20 27 40.5**	**-1.9**
KOLN	**Koldanda**	**13.82**	**80**	*e*P	**Pn**	**20 27 42.2**	**-2.9**
DANN	**Dangsing**	**14.01**	**78**	*e*P	**Pn**	**20 27 45.3**	**-2.4**
BTK	**Batken**	**14.04**	**8**	Pn	**Pn**	**20 27 46.9**	**-1.0**
BTK	**Batken**	**14.04**	**8**	P	**Pn**	**20 27 46.9**	**-1.0**
GEYT	**Alibeck**	**14.51**	**326**	Pn	**Pn**	**20 27 54.7**	**+0.4**
	comp=E,0.3nm,0.3s,baz=168,slow=15,SNR=4.3						
	comp=E,0.9nm,0.5s						
GEYT	**Alibeck**	**14.51**	**326**	Pn	**Pn**	**20 27 53.4**	**-0.9**
GKN	**Gorkha**	**14.75**	**79**	*e*P	**Pn**	**20 27 54.1**	**-3.6**
	comp=E,7.4nm,0.5s						
KSH	**Kashi**	**14.83**	**24**	P	Pn	20 27 51.0	-7.6
KSH				pP	P	20 27 55.5	-8.6
KSH				S	Sn	20 30 27.8	-14
KSH				pmax	pmax		
	comp=Z,29nm,0.8s						
KSH				LR	LR		
	comp=N,20nm,1.9s						
KSH				LR	LR		
	comp=E,21nm,1.5s						
KSH				LR	LR		
	comp=Z,1μm,12.7s						
DMN	**Daman**	**15.15**	**81**	*e*P	**Pn**	**20 27 58.9**	**-4.2**
KKN	**Kakani**	**15.31**	**80**	*e*P	**Pn**	**20 28 01.0**	**-4.2**
PKIN	**Phulchoki**	**15.41**	**81**	*e*P	**Pn**	**20 28 01.8**	**-4.7**
	comp=Z,13nm,0.5s						
PKI	**Pulchoki**	**15.42**	**81**	*e*P	**Pn**	**20 28 01.9**	**-4.8**
GUN	**Gumba**	**15.85**	**80**	*e*P	**Pn**	**20 28 08.3**	**-4.0**
	comp=Z,57nm,0.7s						
IUG	**Iuzhnay**	**16.02**	**5**	*e*P	**Pn**	**20 28 12.1**	**-2.1**
IUG	**Iuzhnay**	**16.02**	**5**	*e*P	**Pn**	**20 28 12.1**	**-2.1**
	baz=4.9						
JIRN	**Jiri**	**16.11**	**81**	*e*P	**Pn**	**20 28 11.2**	**-4.5**
RAMN	**Ramite**	**16.48**	**83**	*e*P	**Pn**	**20 28 15.1**	**-5.2**
	comp=Z,46nm,0.8s						
NRN	**Naryn**	**16.55**	**21**	Pn	**Pn**	**20 28 17.8**	**-3.3**
NRN	**Naryn**	**16.55**	**21**	P	**Pn**	**20 28 17.8**	**-3.3**
NRN				pmax	pmax		
	comp=Z,24nm,1.1s						
AML	**Almayashu**	**16.57**	**14**	P	**Pn**	**20 28 18.1**	**-3.3**
	SNR=53						
UCH	**Uchtor**	**16.85**	**16**	P	**Pn**	**20 28 22.0**	**-3.1**
	SNR=26						
DZA	**Taraz**	**16.89**	**8**	*e*P	**Pn**	**20 28 23.2**	**-1.9**
DZA				pmax	pmax		
	comp=Z,14nm,0.7s						
DZA	**Taraz**	**16.89**	**8**	*e*P	**Pn**	**20 28 23.3**	**-1.9**
	comp=Z,14nm,0.7s,baz=8.0						
KK31	**Karatay Array**	**17.01**	**6**	Pn	**Pn**	**20 28 23.5**	**-3.1**
KK31	**Karatay Array**	**17.01**	**6**	P	**Pn**	**20 28 23.5**	**-3.1**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KKAR	**Karatay Array**	**17.01**	**6**	Pn	**Pn**	**20 28 25.5**	**-1.1**
KKAR	**Karatay Array**	**17.01**	**6**	P	**Pn**	**20 28 23.7**	**-2.9**
KKAR				IAmb	IAmb	20 28 30.4	
	comp=Z,6.9nm,0.5s						
KKAR	**Karatay Array**	**17.01**	**6**	P	**Pn**	**20 28 23.7**	**-2.9**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
EKS2	**Erkin-Say**	**17.09**	**14**	P	**Pn**	**20 28 25.0**	**-2.6**
	SNR=18						
AAK	**Ala-Archa**	**17.23**	**16**	P	**Pn**	**20 28 26.6**	**-2.9**
	SNR=16						
AAK	**Ala-Archa**	**17.23**	**16**	P	**Pn**	**20 28 27.2**	**-2.3**
	comp=Z,16nm,0.7s,baz=215,slow=4.8,SNR=44						
AAK				LR	LR	20 37 00.5	
	comp=Z,586nm,19.5s,baz=195,slow=44						
AAK	**Ala-Archa**	**17.23**	**16**	Pn	**Pn**	**20 28 26.1**	**-3.4**
AAK	**Ala-Archa**	**17.23**	**16**	*i* P	**Pn**	**20 28 27.6**	**-1.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AAK	**Ala-Archa**	**17.23**	**16**	P	**Pn**	**20 28 26.9**	**-2.6**
ULHL	**Ulahol**	**17.36**	**20**	P	**P**	**20 28 31.1**	**-1.2**
	SNR=23						
KBK	**Karagaybulak**	**17.37**	**17**	P	**Pn**	**20 28 29.1**	**-2.0**
	SNR=5.4						
TARG	**Taragay, Kyrgy**	**17.44**	**25**	P	**Pn**	**20 28 29.8**	**-2.5**
TARG	**Taragay, Kyrgy**	**17.44**	**25**	P	**Pn**	**20 28 29.8**	**-2.5**
TARG				pmax	pmax		
	comp=Z,12nm,1.0s						
TAPN	**Taplejung**	**17.46**	**82**	*e*P	**Pn**	**20 28 28.5**	**-4.1**
	comp=Z,17nm,0.8s						
CHMS	**Chumysh**	**17.64**	**16**	P	**Pn**	**20 28 31.7**	**-2.7**
	SNR=20						
CHMS	**Chumysh**	**17.64**	**16**	*i* P	**Pn**	**20 28 31.2**	**-3.2**
CHMS				pmax	pmax		
	comp=Z,27nm,0.8s						
TKM2	**Tokmak 2**	**17.79**	**18**	P	**Pn**	**20 28 35.8**	**-0.6**
	SNR=23						
TKM2	**Tokmak 2**	**17.79**	**18**	*i* P	**Pn**	**20 28 34.8**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,21nm,0.9s						
SGDS	**Sogindy**	**18.04**	**15**	*e*P	**Pn**	**20 28 37.1**	**-2.2**
SGDS	**Sogindy**	**18.04**	**15**	*e*P	**Pn**	**20 28 37.2**	**-2.2**
	baz=15						
TNSS	**Tian-Shan**	**18.30**	**21**	*e*P	**P**	**20 28 41.4**	**-1.3**
TNSS	**Tian-Shan**	**18.30**	**21**	*e*P	**P**	**20 28 41.5**	**-1.3**
	baz=21						
AAA	**Alma-Ata**	**18.44**	**20**	*e*P	**P**	**20 28 43.2**	**-0.8**
AAA	**Alma-Ata**	**18.44**	**20**	*e*P	**P**	**20 28 43.2**	**-0.8**
	baz=21						
MDOK	**Medeo**	**18.44**	**21**	*e*P	**P**	**20 28 42.7**	**-1.4**
MDOK	**Medeo**	**18.44**	**21**	*e*P	**P**	**20 28 42.8**	**-1.4**
	baz=21						
SATY	**Saty**	**18.81**	**24**	*e*P	**Pn**	**20 28 48.5**	**-0.3**
SATY	**Saty**	**18.81**	**24**	*e*P	**Pn**	**20 28 48.5**	**-0.3**
	baz=24						
KUU	**Kurty**	**18.89**	**18**	*e*P	**P**	**20 28 48.0**	**-0.9**
KUU	**Kurty**	**18.89**	**18**	*e*P	**P**	**20 28 48.0**	**-0.9**
	baz=18						
ZHN	**Zhinishke**	**18.92**	**24**	*e*P	**P**	**20 28 48.1**	**-1.1**
ZHN	**Zhinishke**	**18.92**	**24**	*e*P	**P**	**20 28 48.1**	**-1.1**
	baz=24						
CHKK	**Chushkaly**	**19.05**	**20**	*e*P	**P**	**20 28 49.8**	**-0.7**
CHKK	**Chushkaly**	**19.05**	**20**	*e*P	**P**	**20 28 49.9**	**-0.7**
	baz=20						
UZB	**Uzynbulak**	**19.12**	**25**	*e*P	**P**	**20 28 50.6**	**-0.9**
UZB	**Uzynbulak**	**19.12**	**25**	*e*P	**P**	**20 28 50.6**	**-0.9**
	baz=25						
KPKS	**Kokpek**	**19.27**	**24**	*e*P	**P**	**20 28 52.5**	**-0.6**
KPKS	**Kokpek**	**19.27**	**24**	*e*P	**P**	**20 28 52.5**	**-0.6**
	baz=24						
SHLS	**Shalkode**	**19.29**	**26**	*e*P	**Pn**	**20 28 55.0**	**+0.4**
SHLS	**Shalkode**	**19.29**	**26**	*e*P	**Pn**	**20 28 55.1**	**+0.4**
	baz=26						
TDK	**Taldyqorghan**	**20.52**	**21**	*e*P	**P**	**20 29 05.1**	**-1.5**
TDK	**Taldyqorghan**	**20.52**	**21**	*e*P	**P**	**20 29 05.1**	**-1.5**
	baz=21						
LSA	**Lhasa**	**20.57**	**75**	P	**P**	**20 29 07.9**	**+0.1**
LSA				IAmb	IAmb	20 29 11.5	
	comp=Z,14nm,0.8s						
LSA	**Lhasa**	**20.57**	**75**	P	Pn	20 29 09.0	-1.2
LSA				pmax	pmax		
	comp=Z,16nm,0.9s						
LSA	**Lhasa**	**20.57**	**75**	P	**P**	**20 29 07.9**	**+0.1**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s						
RAYN	**Ar Rayn**	**20.77**	**268**	P	**P**	**20 29 08.9**	**-0.6**
RAYN				IAmb	IAmb	20 29 12.5	
	comp=Z,26nm,1.1s						
RAYN	**Ar Rayn**	**20.77**	**268**	P	**P**	**20 29 08.9**	**-0.6**
RAYN				pmax	pmax		
	comp=Z,26nm,1.1s						
RAYN	**Ar Rayn**	**20.77**	**268**	P	**P**	**20 29 09.2**	**-0.3**
SHL	**Shillong**	**21.31**	**86**	P	**P**	**20 29 15.8**	**+0.3**
SHL				IAmb	IAmb	20 29 20.2	
	comp=Z,37nm,0.9s						
SHL	**Shillong**	**21.31**	**86**	P	**P**	**20 29 15.8**	**+0.3**
SHL				pmax	pmax		
	comp=Z,37nm,0.9s						
SHL	**Shillong**	**21.31**	**86**	*e*P	**P**	**20 29 16.4**	**+0.9**
SHL				IAmb	IAmb	20 29 20.4	
	comp=Z,28nm,0.9s						
MAKZ	**Makanchi**	**23.33**	**24**	P	**P**	**20 29 35.9**	**-0.5**
MAKZ				IAmb	IAmb	20 29 39.5	
	comp=Z,28nm,0.9s						
MAKZ	**Makanchi**	**23.33**	**24**	P	**P**	**20 29 35.9**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,28nm,1.0s						
MK31	**Makanchi Array**	**23.44**	**25**	P	**P**	**20 29 37.9**	**+0.4**
MK31	**Makanchi Array**	**23.44**	**25**	*d* iP	**P**	**20 29 38.1**	**+0.6**
MK31				pmax	pmax		
	comp=Z,13nm,0.9s						
MKAR	**Makanchi Array**	**23.44**	**25**	P	**P**	**20 29 38.4**	**+0.9**
	comp=Z,9.6nm,0.9s,baz=209,slow=9.2,SNR=38						
	comp=Z,9.6nm,0.9s						
MKAR	**Makanchi Array**	**23.44**	**25**	P	**P**	**20 29 36.8**	**-0.7**
ABKAR	**Akbulak array**	**23.94**	**347**	P	**P**	**20 29 42.4**	**+0.3**
ABKAR				IAmb	IAmb	20 29 44.6	
	comp=Z,9.5nm,0.9s						
ABKAR	**Akbulak array**	**23.94**	**347**	P	**P**	**20 29 42.3**	**+0.1**
GNI	**Garni**	**24.01**	**311**	P	**P**	**20 29 42.5**	**-0.6**
	comp=Z,15nm,1.0s,baz=115,slow=3.0,SNR=6.4						
	comp=Z,15nm,1.0s						
GNI	**Garni**	**24.01**	**311**	P	**P**	**20 29 44.0**	**+0.9**
GNI				IAmb	IAmb	20 30 14.8	
	comp=Z,24nm,1.2s						
GNI	**Garni**	**24.01**	**311**	P	**P**	**20 29 44.0**	**+0.9**
GNI				pmax	pmax		
	comp=Z,24nm,1.2s						
BRZS	**Berezniki**	**24.04**	**7**	*e*P	**P**	**20 29 43.5**	**+0.4**
BRZS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BRZS	**Berezniki**	**24.04**	**7**	*e*P	**P**	**20 29 43.5**	**+0.4**
	comp=Z,10nm,1.2s,baz=7.1						
GEVA	**Gevas**	**24.40**	**306**	P	**P**	**20 29 47.3**	**+0.5**
GEVA				IAmb	IAmb	20 29 50.2	
	comp=Z,21nm,1.4s						
GOMU	**GeErMu**	**24.80**	**60**	*e*P	**P**	**20 29 52.1**	**+1.5**
GOMU				pP	pP	20 29 55.5	-5.1
GOMU				sP	sP	20 29 56.4	-8.5
GOMU				S	S	20 34 28.9	+18
GOMU				sS	sS	20 34 32.9	+5.2
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,54nm,3.7s						
GOMU				LR	LR		
	comp=N,390nm,11.8s						
GOMU				LR	LR		
	comp=E,350nm,12.0s						
GOMU				LR	LR		
	comp=Z,900nm,15.7s						
GROC	**Groznyy**	**24.96**	**319**	*e*P	**P**	**20 29 53.5**	**+2.0**
GROC				*e*		20 30 24.7	
GROC				pmax	pmax		
	comp=Z,99nm,1.1s						
ZSN	**Zaisan**	**24.99**	**27**	*e*P	**P**	**20 29 52.3**	**+0.5**
ZSN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZSN	**Zaisan**	**24.99**	**27**	*e*P	**P**	**20 29 52.3**	**+0.5**
	comp=Z,8.6nm,1.0s,baz=28						
GURO	**Guroymak-BITLI**	**25.24**	**306**	P	**P**	**20 29 54.1**	**-0.2**
GURO				IAmb	IAmb	20 29 59.8	
	comp=Z,12nm,0.9s						
GUDG	**Gudauri**	**25.35**	**316**	P	**P**	**20 29 54.3**	**-1.1**
GUDG				IAmb	IAmb	20 30 26.8	
	comp=Z,13nm,1.1s						
GUDG	**Gudauri**	**25.35**	**316**	P	**P**	**20 29 54.3**	**-1.1**
GUDG				pmax	pmax		
	comp=Z,13nm,1.1s						
KARS	**Kars**	**25.35**	**311**	P	**P**	**20 29 55.8**	**+0.5**
KARS	**Kars**	**25.35**	**311**	P	**P**	**20 29 55.8**	**+0.5**
KARS				pmax	pmax		
	comp=Z,75nm,1.1s						
AKTO	**Aktyubinsk**	**25.48**	**345**	P	**P**	**20 29 57.0**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=196,slow=7.4,SNR=8.5						
	comp=Z,3.4nm,1.0s						
KURBB	**Kurchatov Arra**	**25.69**	**15**	P	**P**	**20 29 59.0**	**+0.9**
	comp=Z,7.5nm,0.8s,baz=209,slow=9.1,SNR=43						
	comp=Z,7.5nm,0.8s						
MARD	**Mardin**	**25.75**	**302**	P	**P**	**20 29 58.9**	**-0.1**
MARD				IAmb	IAmb	20 30 03.3	
	comp=Z,16nm,0.7s						
KURK	**Kurchatov**	**25.79**	**15**	P	**P**	**20 29 59.1**	**+0.1**
KURK				IAmb	IAmb	20 30 01.4	
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**25.79**	**15**	*ce*P	**P**	**20 29 59.6**	**+0.6**
KURK				pmax	pmax		
	comp=Z,15nm,1.0s						
ZEI	**Tsey**	**25.88**	**316**	*e*P	**P**	**20 30 01.5**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SEM	**Semipalatinsk**	**25.93**	**18**	*e*P	**P**	**20 30 01.1**	**+0.6**
SEM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SEM	**Semipalatinsk**	**25.93**	**18**	*e*P	**P**	**20 30 01.1**	**+0.6**
	comp=Z,10nm,0.8s,baz=18						
NEY	**Neytrino**	**26.86**	**316**	*i* P	**P**	**20 30 09.7**	**+0.7**
NEY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BVAR	**Borovoye Array**	**26.89**	**3**	P	**P**	**20 30 10.2**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=169,slow=8.6,SNR=9.8						
	comp=Z,2.5nm,0.8s						
BRVK	**Borovoye**	**26.92**	**3**	P	**P**	**20 30 09.5**	**+0.4**
BRVK	**Borovoye**	**26.92**	**3**	*ce*P	**P**	**20 30 09.0**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBZ	**Khabaz**	**27.00**	**317**	P	**P**	**20 30 11.3**	**+1.3**
	comp=Z,10nm,0.9s,baz=129,slow=7.4,SNR=12						
	comp=Z,10nm,0.9s						
KBZ	**Khabaz**	**27.00**	**317**	*ce*P	**P**	**20 30 11.5**	**+1.5**
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SHA1	**Shidzhatmaz**	**27.15**	**317**	*i* P	**P**	**20 30 10.5**	**-1.2**
KIV	**Kislovodsk**	**27.25**	**317**	P	**P**	**20 30 10.5**	**-1.9**
KIV				IAmb	IAmb	20 30 19.2	
	comp=Z,10nm,0.8s						
KIV	**Kislovodsk**	**27.25**	**317**	*e*P	**P**	**20 30 13.9**	**+1.5**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
DGZ	**Jazzator, Alta**	**27.82**	**27**	*i* P	**P**	**20 30 17.8**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ATD	**Arta Tunnel**	**27.99**	**243**	LR	LR	20 40 37.4	
	comp=Z,242nm,21.7s,baz=168,slow=35						
CHTO	**Chiang Mai**	**29.27**	**98**	P	**P**	**20 30 31.1**	**+0.5**
CHTO	**Chiang Mai**	**29.27**	**98**	P	**P**	**20 30 31.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**29.40**	**99**	P	**P**	**20 30 32.6**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=288,slow=9.7,SNR=14						
CMAR				PcP	**PcP**	**20 33 38.0**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=286,slow=4.9,SNR=4.4						
	comp=Z,1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.40**	**99**	P	**P**	**20 30 32.7**	**+1.1**
GTA	**Gaotai**	**29.52**	**55**	*e*P	**P**	**20 30 35.5**	**+2.8**
GTA				pP	sP	20 30 46.4	-0.6
GTA				sP	pP	20 30 50.8	+8.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
CRAI	**Chiangrai**	**30.10**	**95**	P	**P**	**20 30 38.9**	**+1.0**
CRAI				IAmb	IAmb	20 30 40.1	
	comp=Z,4.7nm,0.6s						
ZAA0	**Zalesovo Array**	**30.38**	**20**	P	**P**	**20 30 39.4**	**-0.6**
ZALV	**Zalesovo Beam**	**30.38**	**20**	P	**P**	**20 30 40.3**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=220,slow=7.9,SNR=9.9						
	comp=Z,2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**30.38**	**20**	P	**P**	**20 30 39.2**	**-0.7**
BELG	**Belogornoye**	**30.45**	**335**	P	**P**	**20 30 41.3**	**+0.7**
	comp=Z,9.2nm,1.0s						
	comp=Z,9.2nm,1.0s						
ARU	**Arti**	**31.04**	**350**	P	**P**	**20 30 47.2**	**+1.5**
	comp=Z,2.9nm,0.8s,baz=149,slow=12,SNR=4.7						
	comp=Z,2.9nm,0.8s						
ARU	**Arti**	**31.04**	**350**	P	**P**	**20 30 47.0**	**+1.2**
ARU				IAmb	IAmb	20 30 53.1	
	comp=Z,6.8nm,1.2s						
ARU	**Arti**	**31.04**	**350**	*d* iP	**P**	**20 30 46.6**	**+0.8**
ARU						20 31 44.1	
ARU				S	**S**	**20 35 50.6**	**+2.2**
ARU				SS	**SnSn**	**20 37 27.6**	**-3.3**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BR131	**Keskin Array S**	**31.80**	**304**	*i* P	**P**	**20 30 53.4**	**+0.5**
BRTR	**Keskin Array B**	**31.80**	**304**	P	**P**	**20 30 52.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=116,slow=7.1,SNR=7.6						
BRTR				PcP	**PcP**	**20 33 44.2**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=137,slow=2.5,SNR=3.6						
	comp=Z,1.5nm,0.8s						
VORR	**Voronezh**	**33.64**	**327**	*e*P	**P**	**20 31 09.2**	**+0.6**
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
MLSI	**Meulaboh, Aceh**	**34.68**	**124**	P	**P**	**20 31 17.6**	**-0.4**
	comp=Z,13nm,0.5s						
KIRV	**Kirov**	**35.00**	**343**	P	**P**	**20 31 21.5**	**+1.3**
	comp=Z,5.2nm,0.6s,baz=58,slow=1.0,SNR=3.6						
	comp=Z,5.2nm,0.6s						
XAN	**Xi'an**	**35.91**	**67**	P	**P**	**20 31 28.9**	**+0.4**
XAN				pP	pP	20 31 31.8	-6.8
XAN				sP	sP	20 31 33.1	-10
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
TIRR	**Tirgusor**	**36.82**	**310**	⇓P	**P**	**20 31 37.5**	**+1.5**
SONM	**Songino Array**	**36.88**	**44**	P	**P**	**20 31 39.0**	**+2.4**
	comp=Z,4.6nm,0.8s,baz=246,slow=9.1,SNR=30						
	comp=Z,4.6nm,0.8s						
SONM	**Songino Array**	**36.88**	**44**	P	**P**	**20 31 38.6**	**+1.9**
TPGR	**Topolog**	**36.93**	**311**	⇑P	**P**	**20 31 37.5**	**+0.5**
HARR	**Harsova**	**37.21**	**310**	⇑P	**P**	**20 31 40.5**	**+1.1**
ULN	**Ulaanbaatar**	**37.30**	**44**	P	**P**	**20 31 41.6**	**+1.3**
ULN	**Ulaanbaatar**	**37.30**	**44**	P	**P**	**20 31 41.6**	**+1.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KULM	**Kulim**	**37.30**	**118**	P	**P**	**20 31 43.9**	**+3.4**
PSI	**Prapat**	**37.53**	**123**	P	**P**	**20 31 43.3**	**+0.8**
	comp=Z,17nm,0.7s,baz=324,slow=7.7,SNR=13						
	comp=Z,17nm,0.7s						
PSI	**Prapat**	**37.53**	**123**	P	**P**	**20 31 43

KWP	**Kalwaria Pacla**	**42.04 316**	P	**P**	**20 32 20.1 +0.6**
KWP			pmax	pmax	
	comp=Z,173nm,0.6s				
PPSI	**Pulau Pagai**	**42.10 128**	P	**P**	**20 32 21.1 +0.7**
	comp=Z,175nm,1.1s				
KOLS	**Kolonicke sedl**	**42.12 315**	*e*P	**P**	**20 32 21.7 +1.5**
KOLS			pmax	pmax	
	comp=Z,9.0nm,0.8s				
KOLS	**Kolonicke sedl**	**42.12 315**	*e*P	**P**	**20 32 21.7 +1.5**
CRVS	**Cervenica-Dubn**	**42.62 315**	*e*P	**P**	**20 32 25.7 +1.4**
CRVS			pmax	pmax	
	comp=Z,7.0nm,0.8s				
CRVS	**Cervenica-Dubn**	**42.62 315**	*e*P	**P**	**20 32 25.7 +1.4**
MORH	**Mrgy, Hungar**	**43.92 310**	⇑P	**P**	**20 32 35.1 +0.3**
MORH	**Mrgy, Hungar**	**43.92 310**	P	**P**	**20 32 35.5 +0.7**
MASI	**Maura Aman, Be**	**43.96 126**	P	**P**	**20 32 35.1 -0.4**
	comp=Z,35nm,1.5s				
VYHS	**Vyhne**	**44.22 314**	*e*P	**P**	**20 32 38.1 +0.9**
VYHS			pmax	pmax	
	comp=Z,4.0nm,1.1s				
VYHS	**Vyhne**	**44.22 314**	*e*P	**P**	**20 32 38.1 +0.9**
NRIK	**Noril'sk**	**44.70 10**	*i* P	**P**	**20 32 39.9 -0.7**
NRIK			pmax	pmax	
	comp=Z,3.0nm,1.1s				
MPLH	**Magyarpolny**	**44.83 312**	P	**P**	**20 32 43.5 +1.5**
JAVC	**Velka Javorina**	**45.05 314**	*e*P	**P**	**20 32 45.0 +1.1**
SMOL	**Smolenice**	**45.14 313**	*e*P	**P**	**20 32 44.9 +0.4**
FINES	**FINESS Array B**	**45.19 333**	P	**P**	**20 32 45.5 +0.9**
	comp=Z,3.5nm,0.8s,baz=126,slow=6.3,SNR=10				
	comp=Z,3.5nm,0.8s				
MODS	**Modra-Piesok**	**45.22 313**	*e*P	**P**	**20 32 45.7 +0.6**
MODS			pmax	pmax	
	comp=Z,15nm,1.0s				
MODS	**Modra-Piesok**	**45.22 313**	*e*P	**P**	**20 32 45.7 +0.6**
MORC	**Moravsky Berou**	**45.32 315**	⇓P	**P**	**20 32 46.6 +0.7**
MORC	**Moravsky Berou**	**45.32 315**	P	**P**	**20 32 46.3 +0.3**
MORC	**Moravsky Berou**	**45.32 315**	*e*P	**P**	**20 32 46.2 +0.3**
MORC	**Moravsky Berou**	**45.32 315**	P	**P**	**20 32 46.3 +0.3**
MORC			pmax	pmax	
	comp=Z,15nm,0.9s				
CUC	**Castrocucco**	**45.41 301**	P	**P**	**20 32 47.2 +0.4**
RONA	**Rosalia, Austr**	**45.75 312**	*e*P	**P**	**20 32 50.0 +0.6**
	comp=Z,4.3nm,1.1s				
VRAC	**Vranov**	**45.83 314**	*e*P	**P**	**20 32 50.4 +0.4**
KRLC	**Kraliky**	**45.86 315**	*e*P	**P**	**20 32 51.5 +1.2**
KRLC	**Kraliky**	**45.86 315**	*e*P	**P**	**20 32 51.5 +1.2**
KRUC	**Moravsky**	**45.91 314**	*e*P	**P**	**20 32 50.6 0.0**
CONA	**Conrad Observa**	**46.07 312**	*e*P	**P**	**20 32 51.8 -0.2**
	comp=Z,3.2nm,1.3s				
ARSA	**Arzberg**	**46.20 311**	*e*P	**P**	**20 32 53.6 +0.7**
	comp=Z,0.8nm,0.5s				
DPC	**Dobruska-Polom**	**46.21 316**	*e*P	**P**	**20 32 54.0 +1.0**
DPC	**Dobruska-Polom**	**46.21 316**	*e*P	**P**	**20 32 54.0 +1.0**
OSTC	**Ostas**	**46.32 316**	*e*P	**P**	**20 32 54.9 +1.1**
CHVC	**Chvalec**	**46.42 316**	*e*P	**P**	**20 32 56.2 +1.6**
LWLI	**Liwa**	**46.56 127**	P	**P**	**20 32 55.1 -1.1**
	comp=Z,43nm,0.8s				
OBKA	**Obir**	**46.77 310**	*e*P	**P**	**20 32 59.3 +1.8**
	comp=Z,7.8nm,1.5s				
CKRC	**Cesky Krumlov**	**47.23 313**	*e*P	**P**	**20 33 01.2 +0.2**
PRU	**Pruhonice**	**47.27 315**	*e*P	**P**	**20 33 02.0 +0.8**
PRU	**Pruhonice**	**47.27 315**	*e*P	**P**	**20 33 02.0 +0.8**
CAMP	**Campotosto**	**47.29 305**	P	**P**	**20 33 01.6 0.0**
BIOA	**Bad Ischl, Aus**	**47.53 312**	*e*P	**P**	**20 33 04.1 +0.8**
	comp=Z,2.7nm,0.8s				
GEC2	**GERESS Array S**	**47.63 313**	P	**P**	**20 33 04.2 0.0**
GEC2			IAmb	IAmb	20 33 06.6
	comp=Z,6.8nm,1.2s				
GERES	**GERESS Array B**	**47.63 313**	P	**P**	**20 33 04.2 0.0**
	comp=Z,2.4nm,0.8s,baz=104,slow=5.6,SNR=19				
GERES			PcP	**PcP**	**20 34 34.6 +1.2**
	comp=Z,0.8nm,0.7s,baz=85,slow=2.8,SNR=5.0				
	comp=Z,2.4nm,0.8s				
GERES	**GERESS Array B**	**47.63 313**	P	**P**	**20 33 03.9 -0.3**
KBA	**Koelnbreinsper**	**47.66 311**	*e*P	**P**	**20 33 04.9 +0.4**
	comp=Z,9.6nm,1.0s				
KHC	**Kasperske Hory**	**47.75 314**	P	**P**	**20 33 04.5 -0.5**
KHC	**Kasperske Hory**	**47.75 314**	*e*P	**P**	**20 33 05.4 +0.4**
KHC	**Kasperske Hory**	**47.75 314**	*e*P	**P**	**20 33 05.4 +0.4**
BRG	**Berggiesshubel**	**47.80 316**	*e*P	**P**	**20 33 06.7 +1.4**
BRG			Amp		20 33 08.0
	comp=Z,6.4nm,1.0s				
BRG			*ex*	x	20 33 25.7
BRG			Amp		20 33 26.7
	comp=Z,6.5nm,1.3s				
BRG			Amp		20 56 05.0
	comp=Z,1.6nm,14.6s				
BRG			Amp		20 56 10.0
	comp=E,0.3nm,16.4s				
BRG			Amp		20 56 16.0
	comp=N,1.3nm,14.2s				
BRG	**Berggiesshubel**	**47.80 316**	*e*P	**P**	**20 33 06.6 +1.4**
BRG			pmax	pmax	
	comp=Z,6.0nm,1.0s				
BRG			MLR	MLR	
	comp=Z,2μm,14.6s				
BRG			MLR	MLR	
	comp=E,280nm,16.4s				
BRG			MLR	MLR	
	comp=N,1μm,14.2s				
MURB	**Monte Urbino**	**47.97 306**	P	**P**	**20 33 06.3 -0.5**
ABTA	**Abfaltersbach**	**48.19 310**	*e*P	**P**	**20 33 08.6 +0.1**
	comp=N,5.0nm,0.9s				
CIMO	**Cimolais**	**48.20 310**	P	**P**	**20 33 08.1 -0.4**
CIMO			IAmb	IAmb	20 33 09.1
	comp=Z,4.5nm,1.0s				
CLL	**Collm**	**48.45 316**	*e*P	**P**	**20 33 11.0 +0.7**
CLL			*e**PP	**pP**	**20 33 21.0 +0.2**
CLL			pmax	pmax	
	comp=Z,4.0nm,1.0s				
CLL	**Collm**	**48.45 316**	*e*P	**P**	**20 33 11.0 +0.7**
	comp=Z,4.0nm,1.0s				
WTTA	**Wattenberg**	**48.83 311**	*e*P	**P**	**20 33 13.2 -0.4**
	comp=Z,5.5nm,0.9s				
WATA	**Walderalm**	**48.88 311**	*e*P	**P**	**20 33 13.1 -0.8**
	comp=Z,1.9nm,0.6s				
SQTA	**Sankt Quirin**	**49.12 311**	*e*P	**P**	**20 33 14.7 -1.0**
	comp=Z,5.1nm,0.8s				
MOTA	**Moosalm**	**49.20 311**	*e*P	**P**	**20 33 15.6 -0.8**
	comp=Z,5.5nm,0.8s				
GRA1	**Grafenberg Arr**	**49.35 314**	P	**P**	**20 33 17.8 +0.5**
GRF	**Grafenberg Arr**	**49.35 314**	P	**P**	**20 33 17.8 +0.5**
GRF			pmax	pmax	
	comp=Z,16nm,1.1s				
GRFO	**Grafenberg**	**49.35 314**	P	**P**	**20 33 17.8 +0.5**
GRFO	**Grafenberg**	**49.35 314**	P	**P**	**20 33 17.8 +0.5**
GRFO			pmax	pmax	
	comp=Z,12nm,1.1s				
FETA	**Feichten**	**49.43 311**	*e*P	**P**	**20 33 17.5 -0.6**
	comp=Z,6.5nm,1.0s				
RETA	**Reutte**	**49.44 311**	*e*P	**P**	**20 33 17.6 -0.5**
	comp=Z,4.9nm,0.9s				
ARA0	**ARCESS Array S**	**50.01 342**	*e*P	**P**	**20 33 22.6 +0.7**
ARCES	**ARCESS Array B**	**50.01 342**	P	**P**	**20 33 22.9 +0.9**
	comp=Z,4.3nm,0.8s,baz=134,slow=8.7,SNR=17				
	comp=Z,4.3nm,0.8s				
ARCES	**ARCESS Array B**	**50.01 342**	P	**P**	**20 33 22.6 +0.7**
ARCES			IAmb	IAmb	20 33 24.2
	comp=Z,6.4nm,0.9s				
DAVA	**Damuels**	**50.03 311**	*e*P	**P**	**20 33 22.2 -0.5**
	comp=Z,13nm,0.9s				
MSSA	**Maissana**	**50.17 307**	P	**P**	**20 33 22.1 -1.6**
MSSA			IAmb	IAmb	20 33 23.4
	comp=Z,8.1nm,0.9s				
KTK1	**Kautokeino**	**50.35 341**	*e*P	**P**	**20 33 25.1 +0.6**
BNX	**BinXian**	**50.56 51**	⇑P	**P**	**20 33 27.4 +0.9**
BNX			pmax	pmax	
	comp=Z,5.0nm,0.7s				
BNX			pmax	pmax	
	comp=Z,56nm,6.0s				
KEST	**Kesra**	**50.73 296**	P	**P**	**20 33 28.7 +0.7**
	comp=Z,8.5nm,1.0s,baz=301,slow=2.4,SNR=5.9				
	comp=Z,8.5nm,1.0s				
KEST	**Kesra**	**50.73 296**	P	**P**	**20 33 29.1 +1.1**
KEST			IAmb	IAmb	20 33 33.6
	comp=Z,10nm,1.1s				
ZEA	**Zeya**	**51.15 41**	*e*P	P	20 33 39.4 +8.6
ZEA			pmax	pmax	
	comp=N,10.0nm,0.6s				
ZEA			pmax	pmax	
	comp=Z,10.0nm,1.0s				
HAMF	**Hammerfest**	**51.17 343**	*e*P	**P**	**20 33 31.2 +0.5**
KSRS	**Korea Array**	**51.23 62**	P	**P**	**20 33 31.5 -0.2**
	comp=Z,4.1nm,0.8s,baz=269,slow=7.5,SNR=20				
	comp=Z,4.1nm,0.8s				

JETT	**Jettan, Norway**	**51.49 341**	*e*P	**P**	**20 33 34.2 +1.0**
NB2	**NORSAR Subarra**	**51.59 329**	P	**P**	**20 33 33.4 -0.7**
	comp=Z,1.5nm,0.8s,baz=106,slow=7.4				
NB2	**NORSAR Subarra**	**51.59 329**	P	**P**	**20 33 33.4 -0.7**
	baz=106,slow=7.4				
NOA	**NORSAR Array B**	**51.59 329**	P	**P**	**20 33 33.6 -0.4**
	comp=Z,3.9nm,1.2s,baz=106,slow=7.3,SNR=4.6				
	comp=Z,3.9nm,1.2s				
SENIN	**Lac Senin/Sane**	**51.76 310**	P	**P**	**20 33 35.3 -0.5**
SENIN			IAmb	IAmb	20 33 36.6
	comp=Z,6.0nm,0.9s				
ECH	**Echery**	**51.91 312**	P	**P**	**20 33 36.0 -0.6**
ECH			IAmb	IAmb	20 33 38.4
	comp=Z,4.2nm,0.9s				
ECH	**Echery**	**51.91 312**	P	**P**	**20 33 36.0 -0.6**
ECH			pmax	pmax	
	comp=Z,4.0nm,0.9s				
MOR8	**Moi Rana**	**51.94 335**	*e*P	**P**	**20 33 36.9 +0.3**
TRO	**Tromso**	**51.98 340**	*e*P	**P**	**20 33 37.5 +0.8**
MYLDM	**Lahad Datu**	**52.33 105**	P	**P**	**20 33 41.9 +1.8**
KLR	**Kul'dur**	**53.59 47**	*ce*P	**P**	**20 33 49.6 +0.6**
	comp=Z,3.7nm,0.8s,baz=279,slow=8.7,SNR=12				
	comp=Z,3.7nm,0.8s				
KLR	**Kul'dur**	**53.59 47**	*ce*P	**P**	**20 33 50.2 +1.2**
KLR			pmax	pmax	
	comp=Z,3.0nm,0.7s				
USRK	**Ussuriysk Ar.**	**53.83 53**	P	**P**	**20 33 51.9 +1.1**
	comp=Z,2.7nm,0.8s,baz=272,slow=7.5,SNR=4.4				
	comp=Z,2.7nm,0.8s				
YAK	**Yakutsk**	**53.92 31**	*ce*P	**P**	**20 33 52.4 +1.3**
YAK			pmax	pmax	
	comp=Z,8.0nm,1.0s				
MATP	**Matopo**	**60.24 224**	P	**P**	**20 34 36.9 +0.4**
	comp=Z,4.9nm,0.9s,baz=44,slow=10,SNR=5.1				
	comp=Z,4.9nm,0.9s				
ESDC	**Sonseca Array**	**60.58 302**	P	**P**	**20 34 37.5 -1.2**
	comp=Z,1.4nm,1.0s,baz=69,slow=7.4,SNR=4.7				
	comp=Z,1.4nm,1.0s				
YSS	**Yuzh-Sakhalins**	**61.09 49**	*ce*P	**P**	**20 34 44.1 +2.2**
YSS			pmax	pmax	
	comp=Z,8.0nm,0.8s				
TOA0	**Torodi Ar. Sit**	**63.38 272**	P	**P**	**20 34 57.6 -0.1**
TORD	**Torodi Ar. Bea**	**63.38 272**	P	**P**	**20 34 57.8 0.0**
	comp=Z,8.0nm,0.9s,baz=93,slow=3.5,SNR=30				
	comp=Z,8.0nm,0.9s				
SEY	**Seymchan**	**64.43 30**	P	**P**	**20 35 05.3 +1.5**
	comp=Z,5.8nm,0.9s,baz=251,slow=8.5,SNR=15				
	comp=Z,5.8nm,0.9s				
SEY	**Seymchan**	**64.43 30**	*ce*P	**P**	**20 35 05.8 +1.9**
SEY			pmax	pmax	
	comp=Z,7.0nm,1.0s				
LBTB	**Lobatse**	**65.43 222**	P	**P**	**20 35 11.6 +0.6**
	comp=Z,5.6nm,0.9s,baz=56,slow=4.0,SNR=4.8				
	comp=Z,5.6nm,0.9s				
TSUM	**Tsumeb**	**66.70 233**	P	**P**	**20 35 19.8 +0.5**
	comp=Z,3.8nm,0.7s,baz=3.3,slow=3.0,SNR=3.7				
TSUM			LR	LR	21 03 15.4
	comp=Z,234nm,18.7s,baz=6.5,slow=35				
	comp=Z,3.8nm,0.7s				
BOSA	**Boshof**	**68.31 220**	P	**P**	**20 35 29.2 -0.1**
	comp=Z,4.3nm,0.9s,baz=30,slow=6.3,SNR=4.0				
BOSA			LR	LR	21 02 03.1
	comp=Z,124nm,21.8s,baz=6.0,slow=33				
	comp=Z,4.3nm,0.9s				
BILL	**Bilibino**	**68.97 24**	⇑*e*P	**P**	**20 35 34.4 +1.6**
BILL			*e*		20 38 10.1
BILL			*e*S	SKiKP	20 45 05.5 -16
BILL			pmax	pmax	
	comp=Z,7.0nm,1.0s				
BILL			MLR	MLR	
	comp=Z,157nm,20.0s				
FITZ	**Fitzroy Crossi**	**71.05 122**	P	**P**	**20 35 45.8 -0.4**
FITZ			IAmb	IAmb	20 35 49.9
	comp=Z,4.6nm,0.9s				
DBIC	**Dimbokro**	**71.90 269**	P	**P**	**20 35 51.6 0.0**
	comp=Z,5.4nm,1.0s,baz=45,slow=8.6,SNR=1.6				
	comp=Z,5.4nm,1.0s				
GUMO	**Guam**	**72.31 83**	LR	LR	21 09 12.1
	comp=Z,420nm,21.6s,baz=257,slow=37				
NWAO	**Narrogin (SRO)**	**75.02 139**	P	**P**	**20 36 08.4 -1.0**
	comp=Z,13nm,0.8s,baz=169,slow=6.0,SNR=6.1				
	comp=Z,13nm,0.8s				
WB0	**Warramunga Arr**	**78.79 119**		**P**	**20 36 30.5 -0.5**
WB0			IAmb	IAmb	20 36 32.3
	comp=Z,5.7nm,0.8s				
WRA	**Warramunga Arr**	**78.84 119**	P	**P**	**20 36 31.5 +0.2**
	comp=Z,4.3nm,0.8s,baz=314,slow=5.0,SNR=35				
	comp=Z,4.3nm,0.8s				
WRA	**Warramunga Arr**	**78.84 119**	P	**P**	**20 36 31.5 +0.2**
WRAB	**Tennant Creek**	**78.85 119**	P	**P**	**20 36 30.7 -0.6**
WRAB			IAmb	IAmb	20 36 33.2
	comp=Z,6.4nm,0.8s				
WRAB	**Tennant Creek**	**78.85 119**	P	**P**	**20 36 30.7 -0.6**
WRAB			pmax	pmax	
	comp=Z,6.0nm,0.9s				
WB2	**Warramunga Arr**	**78.85 119**		**P**	**20 36 30.4 -0.9**
WB2			IAmb	IAmb	20 36 32.7
	comp=Z,8.7nm,0.9s				
WR0	**Warramunga Arr**	**79.01 119**	P	**P**	**20 36 31.9 -0.4**
WR0			IAmb	IAmb	20 36 36.0
	comp=Z,6.3nm,1.0s				
AS31	**Alice Springs**	**80.55 122**	P	**P**	**20 36 39.9 -0.6**
ASAR	**Alice Springs**	**80.55 122**	P	**P**	**20 36 40.1 -0.4**
	comp=Z,3.3nm,0.7s,baz=308,slow=5.4,SNR=32				
	comp=Z,3.3nm,0.7s				
ASAR	**Alice Springs**	**80.55 122**		**P**	**20 36 39.9 -0.6**
TOLK	**Toolik Lake Re**	**81.51 13**	P	**P**	**20 36 45.8 +0.9**
TOLK			IAmb	IAmb	20 36 47.8
	comp=Z,8.2nm,0.9s				
J20K	**Nowinta River**	**84.08 17**	P	**P**	**20 36 59.3 +1.0**
J20K			IAmb	IAmb	20 37 02.9
	comp=Z,7.0nm,1.1s				
INK	**Inuvik**	**84.46 8**	P	**P**	**20 37 01.4 +1.3**
	comp=Z,4.2nm,0.6s,baz=357,slow=7.9,SNR=4.9				
	comp=Z,4.2nm,0.6s				
INK	**Inuvik**	**84.46 8**	P	**P**	**20 37 01.6 +1.5**
INK	**Inuvik**	**84.46 8**	P	**P**	**20 37 01.6 +1.5**
INK			pmax	pmax	
	comp=Z,18nm,1.4s				
NEA2	**Nenana**	**85.01 15**	P	**P**	**20 37 02.0 -1.0**
CAST	**Castle Rocks**	**85.23 17**	P	**P**	**20 37 04.6 +0.4**
ILAR	**Eielson Array**	**85.36 14**	P	**P**	**20 37 05.0 +0.2**
	comp=Z,0.9nm,0.9s,baz=313,slow=3.6,SNR=5.7				
	comp=Z,0.9nm,0.9s				
ILAR	**Eielson Array**	**85.36 14**	P	**P**	**20 37 05.0 +0.2**
CTA	**Charters Tower**	**88.55 113**	P	**P**	**20 37 21.6 +0.6**
	comp=Z,5.1nm,0.7s,baz=301,slow=4.9,SNR=8.2				
	comp=Z,5.1nm,0.7s				
STKA	**Stephens Creek**	**90.68 125**	P	**P**	**20 37 29.9 -0.8**
	comp=Z,3.2nm,0.7s,baz=330,slow=10,SNR=6.2				
	comp=Z,3.2nm,0.7s				
YKA	**Yellowknife Ar**	**91.63 1**	LR	LR	21 26 14.8
	comp=Z,715nm,18.4s,baz=43,slow=40				
TXAR	**Lajitas Array**	**124.28 351**	PKP	**PKiKP**	**20 43 28.9 +1.5**
	comp=Z,0.5nm,0.9s,baz=294,slow=1.2,SNR=3.6				
TXAR	**Lajitas Array**	**124.28 351**	PKIKP	**PKiKP**	**20 43 29.0 +1.5**

*NEIC **22** 20:28:45.9±1.5, 34.°44N±0.°01×141.°7E±0.°1, h10km±1km, mb4.5/11, Error ellipse: s-maj=14.0km s-min=2.9km az=87.0*
*IDC **22** 20:28:45.2±0.7, 34.°39N×141.°62E, h0km, mb3.9/14, mbtmp3.9/17, ML3.5/3, MS3.4/1, Error ellipse: s-maj=19.1km s-min=14.5km az=80.0*
*JMA **22** 20:28:46.8±0.4, 34.°N×14.°2E±.°, h38km±2km, MV3.3/36, FAR SE OFF BOSO PEN*
ISC 22 20:28:47.1±3.6, 34.°41N±0.°05×141.°73E±0.°07, h16km±22km, n59, σ1°00/60, mb4.0/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.66**	**292**	P	**Pb**	**20 29 00.4**	**+0.4**
BSO3	**Boso 3**	**1.08**	**292**	P	**Pn**	**20 29 07.4**	**+0.1**
BSO4	**Boso 4**	**1.28**	**297**	P	**Pn**	**20 29 09.7**	**-0.5**
KTR	**Katsuura**	**1.38**	**303**	P	**Pn**	**20 29 11.3**	**-0.3**
JKUC	**kamogawauchiur**	**1.46**	**301**	P	**Pn**	**20 29 12.6**	**-0.3**
JKUC				*e*S	**Sn**	**20 29 30.9**	**-0.8**
CHOJ	**Chosi**	**1.48**	**331**	P	**Pn**	**20 29 12.3**	**-0.7**
CHOJ				*e*S	**Sn**	**20 29 31.0**	**-0.9**
JMKN	**Mikurajimanish**	**1.84**	**254**	P	**Pn**	**20 29 17.3**	**-0.8**
JMKN				S	**Sn**	**20 29 39.9**	**-1.2**
JIM2	**Oshima 3**	**1.92**	**280**	*e*S	**Sn**	**20 29 42.2**	**-0.7**
JTHY	**Toshimahigashi**	**2.02**	**274**	*e*P	**Pn**	**20 29 20.9**	**+0.4**
JHJ2	**Mitsune**	**2.05**	**231**		**Pn**	**20 29 20.8**	**-0.1**
JHJ2	**Mitsune**	**2.05**	**231**	P	**Pn**	**20 29 21.3**	**+0.4**
JHJ2				S	**Sn**	**20 29 45.1**	**-1.0**

JHJ	**Hachijo jima 2**	**2.07 232**	Pn		**Pn**	**20 29 20.7**	**-0.4**
	56nm,0.3s,baz=327,slow=23,SNR=26							
JHJ			Sn		**Sn**	**20 29 46.6**	**+0.1**
	110nm,0.3s,baz=215,slow=23,SNR=15							
JYT	**Yasato**	**2.21 326**			**Pn**	**20 29 22.2**	**-0.8**
JOD2	**Odawara 2**	**2.33 292**	*e*S		**Sn**	**20 29 53.9**	**+0.7**
JMM	**Marumori**	**3.53 348**			**Pn**	**20 29 40.1**	**-1.2**
MJAR	**Matsushiro Arr**	**3.57 308**	Pn		**Pn**	**20 29 42.3**	**+0.4**
	1.4nm,0.3s,baz=62,slow=19,SNR=61							
MJAR			Sn		**Sn**	**20 30 25.2**	**+1.4**
	0.6nm,0.3s,baz=39,slow=16,SNR=3.5							
	10nm,0.4s							
MAJO	**Matsushiro**	**3.58 308**			**Pn**	**20 29 42.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**3.58 308**			**Pn**	**20 29 42.5**	**+0.6**
JGF	**Kuroka**	**3.78 290**	Pn		**Pn**	**20 29 43.7**	**-1.0**
INU	**Inuyama**	**3.98 285**	Pn		**Pn**	**20 29 47.3**	**-0.2**
JSD	**Sado**	**4.58 323**	Pn		**Pn**	**20 29 53.8**	**-1.8**
JCJ	**Chichijima**	**7.30 177**	Pn		**Pn**	**20 30 32.5**	**-0.5**
	6.5nm,0.3s,baz=92,slow=22,SNR=5.4							
	90nm,0.8s							
ERM	**Erimo**	**7.68 8**	Pn		**Pn**	**20 30 35.6**	**-2.6**
KSRS	**Korea Array**	**11.60 289**	Pn		**Pn**	**20 31 32.9**	**+1.0**
	0.1nm,0.3s,baz=104,slow=16,SNR=5.3							
	1.5nm,0.9s							
USRK	**Ussuriysk Ar.**	**12.34 325**	LR		LR	20 35 23.2		
	comp=Z,175nm,19.8s,baz=264,slow=32							
H11N2	**WAKE ISLAND Hy**	**26.66 117**	T		T	21 02 34.0		
	baz=308,slow=75,SNR=6.7							
H11N1	**WAKE ISLAND Hy**	**26.67 117**	T		T	21 02 32.4		
	baz=308,slow=75,SNR=5.3							
H11N3	**WAKE ISLAND Hy**	**26.68 117**	T		T	21 02 35.8		
	baz=308,slow=75,SNR=3.9							
H11S3	**WAKE ISLAND Hy**	**27.29 119**	T		T	21 03 30.0		
	baz=312							
H11S1	**WAKE ISLAND Hy**	**27.29 119**	T		T	21 03 23.1		
	baz=312,SNR=4.2							
H11S2	**WAKE ISLAND Hy**	**27.31 119**	T		T	21 03 29.6		
	baz=312							
SONM	**Songjino Array**	**29.53 308**	P		**P**	**20 34 51.3**	**+0.4**
	0.8nm,0.8s,baz=99,slow=7.7,SNR=4.5							
	0.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**41.15 258**	P		**P**	**20 36 29.6**	**-1.2**
	1.4nm,0.7s,baz=46,slow=7.8,SNR=14							
	1.4nm,0.7s							
ZALV	**Zalesovo Beam**	**43.90 314**	P		**P**	**20 36 53.1**	**+0.3**
	1.2nm,0.6s,baz=89,slow=6.8,SNR=6.0							
ZALV			PcP		**PcP**	**20 38 38.3**	**-0.3**
	0.7nm,0.5s,baz=72,slow=4.7,SNR=2.9							
	1.2nm,0.6s							
MK31	**Makanchi Array**	**45.77 304**	P		**P**	**20 37 07.5**	**-0.3**
MKAR	**Makanchi Array**	**45.77 304**	P		**P**	**20 37 08.2**	**+0.5**
	0.6nm,0.6s,baz=90,slow=8.5,SNR=5.0							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**45.77 304**	P		**P**	**20 37 08.0**	**+0.2**
KURK	**Kurchatov**	**47.78 310**	P		**P**	**20 37 21.5**	**-1.9**
KURK			IAmb		IAmb	20 37 24.5		
	comp=Z,4.2nm,0.8s							
KURBB	**Kurchatov Arra**	**47.85 310**	P		**P**	**20 37 23.9**	**0.0**
	comp=Z,2.0nm,0.6s,baz=84,slow=7.5,SNR=18							
	comp=Z,2.0nm,0.6s							
MTN	**Manton Dam**	**48.06 194**	P		**P**	**20 37 25.5**	**-0.3**
KNRA	**Kununurra**	**51.31 196**	P		**P**	**20 37 47.5**	**-3.1**
KNRA			IAmb		IAmb	20 38 16.8		
	comp=Z,8.0nm,1.1s							
ILAR	**Eielson Array**	**51.59 31**	P		**P**	**20 37 53.5**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=267,slow=5.7,SNR=3.4							
	comp=Z,0.8nm,0.9s							
BVAR	**Borovoye Array**	**52.55 314**	P		**P**	**20 37 59.7**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=108,slow=9.3,SNR=4.4							
BVAR			PcP		**PcP**	**20 39 10.0**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=101,slow=4.7,SNR=4.3							
	comp=Z,0.6nm,0.7s							
GSI	**Gunungsitoli**	**52.71 241**	P		**P**	**20 38 00.7**	**-0.5**
WB0	**Warramunga Arr**	**54.32 189**	P		**P**	**20 38 13.1**	**+0.3**
WB0			IAmb		IAmb	20 38 55.4		
	comp=Z,6.4nm,1.4s							
FITZ	**Fitzroy Crossi**	**54.41 199**	P		**P**	**20 38 14.7**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=7.0,slow=7.8,SNR=2.7							
	comp=Z,1.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**54.41 199**	P		**P**	**20 38 14.6**	**+1.1**
FITZ			IAmb		IAmb	20 38 51.9		
	comp=Z,4.2nm,1.3s							
WB2	**Warramunga Arr**	**54.50 189**	P		**P**	**20 38 13.5**	**-0.7**
WB2			IAmb		IAmb	20 38 39.6		
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**54.50 189**	P		**P**	**20 38 14.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=1.0,slow=7.5,SNR=14							
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**54.50 189**	P		**P**	**20 38 12.2**	**-2.0**
KKAR	**Karatay Array**	**54.69 302**	P		**P**	**20 38 15.9**	**+0.4**
ASAR	**Alice Springs**	**58.23 188**	P		**P**	**20 38 41.0**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=17,slow=9.6,SNR=6.3							
	comp=Z,0.6nm,0.8s							
ARU	**Arti**	**58.51 320**	P		**P**	**20 38 41.8**	**-0.5**
	com

LTZ	Lake Taylor	18.09	30	P		Pn		20 36 49.7	-1.5
TAU	Tasmania Unive	18.17	328			P		20 36 54.0	+1.5
VNDA	Vanda	18.39	179	P		P		20 36 54.4	-0.4
	comp=Z,0.1nm,0.3s,baz=354,slow=12,SNR=11								
	comp=Z,7.0nm,1.2s								
VNDA	Vanda	18.39	179	P		P		20 36 53.9	-0.8
KHZ	Kahutara	18.76	32	P		P		20 36 57.9	-1.1
KHZ				IAmb		IAmb		20 37 11.9	
	comp=Z,49nm,1.2s								
SBA	Scott Base	18.84	176	P		P		20 36 58.2	-1.5
THZ	Tophouse	19.20	30	P		P		20 37 03.7	-0.2
BSWZ	Blackbirch Sta	19.51	32	P		Pn		20 37 09.9	+1.4
TUWZ	Tuamarina	19.79	32	P		P		20 37 11.0	+0.7
NNZ	Nelson	19.84	31	P		P		20 37 10.5	-0.3
NNZ				IAmb		IAmb		20 37 44.0	
	comp=Z,72nm,1.5s								
QRZ	Quartz Range	19.99	28	P		P		20 37 09.7	-2.8
PLWZ	Palliser	20.03	35	P		Pn		20 37 17.6	+2.9
URZ	Urewera	23.63	35	P		P		20 38 00.1	+8.9
	comp=Z,9.2nm,0.9s,baz=309,slow=9.7,SNR=4.2								
URZ				LR		LR		20 46 25.2	
	comp=Z,818nm,21.2s,baz=291,slow=34								
	comp=Z,9.2nm,0.9s								
QSPA	South Pole Qui	30.88	180	P		P		20 38 56.8	+0.5
	comp=Z,1.5nm,1.0s,baz=166,slow=1.8,SNR=3.3								
	comp=Z,1.5nm,1.0s								
QSPA	South Pole Qui	30.88	180	P		P		20 38 55.3	-1.0
QSPA				IAmb		IAmb		20 39 12.0	
	comp=Z,7.8nm,1.5s								
RAO	Raoul Island	33.50	36	LR		LR		20 53 06.8	
	comp=Z,100nm,18.5s,baz=204,slow=36								
DZM	Mont Dzumac	37.39	10	eLR		LR		20 49 59.9	
	comp=Z,518nm,22.1s								
H01W1	Cape Leeuwin H	38.56	288	T		T		21 20 31.8	
	baz=143,slow=76,SNR=12								
H01W2	Cape Leeuwin H	38.57	288	T		T		21 20 30.8	
	baz=143,slow=76,SNR=28								
H01W3	Cape Leeuwin H	38.58	288	T		T		21 20 36.0	
	baz=143,slow=76,SNR=12								
AS31	Alice Springs	40.08	321	P		P		20 40 14.6	-1.0
ASAR	Alice Springs	40.08	321	P		P		20 40 16.1	+0.6
	comp=Z,7.5nm,0.9s,baz=160,slow=8.0,SNR=37								
	comp=Z,7.5nm,0.9s								
ASAR	Alice Springs	40.08	321	P		P		20 40 15.2	-0.4
CTA	Charters Tower	40.36	340	P		P		20 40 20.6	+2.8
	comp=Z,7.0nm,0.8s,baz=155,slow=4.7,SNR=5.8								
	comp=Z,7.0nm,0.8s								
WR0	Warramunga Arr	43.35	324	P		P		20 40 41.4	-0.9
WR0				IAmb		IAmb		20 40 43.5	
	comp=Z,16nm,1.1s								
WB2	Warramunga Arr	43.43	323	P		P		20 40 42.3	-0.6
WB2				IAmb		IAmb		20 40 44.1	
	comp=Z,13nm,1.2s								
WRA	Warramunga Arr	43.43	323	P		P		20 40 43.0	0.0
	comp=Z,5.7nm,0.9s,baz=162,slow=6.8,SNR=17								
WRA				PcP		PcP		20 42 31.0	-0.1
	comp=Z,0.9nm,1.0s,baz=158,slow=2.8,SNR=4.6								
	comp=Z,5.7nm,0.9s								
WRA	Warramunga Arr	43.43	323	P		P		20 40 42.0	-1.0
WRAB	Tennant Creek	43.44	323	P		P		20 40 39.7	-3.3
WRAB				IAmb		IAmb		20 40 44.2	
	comp=Z,21nm,1.4s								
WB0	Warramunga Arr	43.58	324	P		P		20 40 41.9	-2.3
WB0				IAmb		IAmb		20 40 45.2	
	comp=Z,12nm,1.1s								
PSA00	Pilbara Seismi	47.28	305	P		P		20 41 12.6	-0.9
PSA00				IAmb		IAmb		20 41 14.7	
	comp=Z,14nm,1.4s								
FITZ	Fitzroy Crossi	48.11	314	P		P		20 41 20.5	+0.6
	comp=Z,9.8nm,1.0s,baz=180,slow=15,SNR=12								
	comp=Z,9.8nm,1.0s								
FITZ	Fitzroy Crossi	48.11	314	P		P		20 41 20.0	+0.1
TROLL	Troll, Antarti	48.13	189	P		P		20 41 18.0	-1.7
SNAA	Sanae	48.85	187	P		P		20 41 25.9	+0.8
SNAA	Sanae	48.85	187	P		P		20 41 26.5	+1.4
	comp=Z,1.7nm,1.1s,baz=146,slow=6.1,SNR=4.0								
SNAA				LR		LR		21 00 50.4	
	comp=Z,261nm,19.6s,baz=168,slow=35								
	comp=Z,1.7nm,1.1s								
KNRA	Kununurra	49.23	318			P		20 41 26.2	-2.2
VNA3	Neumayer Olymp	49.62	184	P		P		20 41 31.7	+0.7
VNA2	Neumayer--Watz	49.84	185	P		P		20 41 31.5	-1.1
	baz=300,slow=35								
VNA1	Neumayer--Stat	50.16	185	P		P		20 41 34.7	-0.2
TBI	Tubuai	50.25	67	eLR		LR		20 55 57.9	
	comp=Z,488nm,28.2s								
TBI	Tubuai	50.25	67	eT		T		21 36 07.3	
	comp=Z,7.5nm,0.3s								
MTN	Manton Dam	51.10	323	P		P		20 41 40.6	-2.2
MTN				IAmb		IAmb		20 41 44.1	
	comp=Z,12nm,1.0s								
PMSA	Palmer Station	51.90	158	LR		LR		21 00 32.3	
	comp=Z,238nm,19.7s,baz=198,slow=32								
PAE	Paea	55.10	63	eT		T		21 42 20.5	
	comp=Z,1.8nm,0.3s								
PPT2	Papeete2	55.16	63	eLR		LR		20 58 14.5	
	comp=Z,426nm,22.8s								
SIJI	Sorong	62.42	327	P		P		20 43 04.7	+1.6
	comp=Z,5.5nm,0.8s,baz=65,slow=6.8,SNR=6.8								
	comp=Z,5.5nm,0.8s								
TAOE	Nuku Hiva Isla	67.19	68	eLR		LR		21 03 48.5	
	comp=Z,305nm,22.8s								
H08S2	Diego Garcia H	82.30	268	T		T		22 15 21.8	
	baz=148,slow=76,SNR=25								
H08S1	Diego Garcia H	82.31	268	T		T		22 15 22.6	
	baz=148,slow=76,SNR=20								
H08S3	Diego Garcia H	82.32	268	T		T		22 15 19.4	
	baz=148,slow=76,SNR=25								
CMAR	Chiang Mai Arr	92.01	304	P		P		20 45 49.9	+1.1
	comp=Z,0.3nm,0.3s,baz=180,slow=2.9,SNR=5.9								
CMAR				LR		LR		21 24 22.9	
	comp=Z,78nm,20.3s,baz=100,slow=34								
	comp=Z,0.3nm,0.3s								
PZH	PanZhiHua	98.02	310	P		Pdif		20 46 17.3	+1.0
PZH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
AKASG	Malin Array Be	151.19	275	PKPbc		PKPbc		20 52 31.3	-1.0
	comp=Z,2.3nm,0.8s,baz=94,slow=2.1,SNR=6.9								
AKASG	Malin Array Be	151.19	275	PKPbc		PKPbc		20 52 31.2	-1.1
BURAR	Bucovina Array	151.33	266			PKiKP		20 52 32.9	-0.5

*IDC **22** 20:38:21.8±0.8,34°.43N×141°.71E,h0km,mb3.8/11, mbtmp3.8/13,ML3.0/2,Error ellipse: s-maj=20.3km s-min=17.3km az=129.0*
*JMA **22** 20:38:22.6±0.4,34°.4N±1°×14°.2E±°,h33km±2km,MV3.5/36, FAR SE OFF BOSO PEN*

ISC 22 20:38:26.0±0.7,34°.47N±0°.05×141°.66E±0°.07,h27km,n27, σ0°98/30,mb3.8/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.59	289	eP		Pb	20 38 37.2	-0.4
BSO3	Boso 3	1.01	290	eP		Pb	20 38 44.1	-0.5
BSO4	Boso 4	1.21	296	P		Pb	20 38 47.4	-0.8
JKUC	kamogawauchiur	1.39	300	P		Pn	20 38 49.3	-0.3
JKUC				S		Sb	20 39 08.0	-0.6
CHOJ	Chosi	1.40	332	P		Pn	20 38 48.2	-1.5
CHOJ				S		Sb	20 39 08.0	-0.9
JMKN	Mikurajimanish	1.81	252	eP		Pn	20 38 54.5	-0.9
JMKN				eS		Sn	20 39 17.4	0.0
JIM2	Oshima 3	1.86	278	P		Pn	20 38 55.5	-0.6
JHJ2	Mitsune	2.04	229	eP		Pn	20 38 58.4	-0.3
JHJ	Hachijo jima 2	2.06	230	Pn		Pn	20 38 58.3	-0.5
	20nm,0.3s,baz=349,slow=18,SNR=48							
JHJ				Sn		Sn	20 39 24.2	+0.6
	108nm,0.3s,baz=85,slow=21,SNR=17							
	67nm,0.3s							
JYT	Yasato	2.13	326	P		Pn	20 38 58.7	-1.1
MJAR	Matsushiro Arr	3.50	307	Pn		Pn	20 39 18.7	+0.1
	0.9nm,0.3s,baz=106,slow=9.3,SNR=34							
MJAR				Sn		Sn	20 40 02.2	+3.1
	1.0nm,0.3s,baz=140,slow=21,SNR=14							
	5.0nm,0.4s							
H11N2	WAKE ISLAND Hy	26.74	117	T		T	21 12 02.1	
	baz=309,slow=75,SNR=5.8							
H11N1	WAKE ISLAND Hy	26.74	117	T		T	21 12 02.9	
	baz=309,slow=75,SNR=4.4							
H11N3	WAKE ISLAND Hy	26.75	117	T		T	21 12 03.7	
	baz=309,slow=75,SNR=3.8							
SONM	Songino Array	29.45	308	P		P	20 44 28.6	+1.0
	0.6nm,0.8s,baz=114,slow=8.4,SNR=4.7							
	0.6nm,0.8s							
CMAR	Chiang Mai Arr	41.11	258	P		P	20 46 08.1	+0.2
	0.5nm,0.4s,baz=45,slow=8.0,SNR=4.3							
	0.5nm,0.4s							
ZALV	Zalesovo Beam	43.82	314	P		P	20 46 29.6	+0.1
	1.2nm,0.7s,baz=93,slow=8.0,SNR=5.7							
ZALV				PcP		PcP	20 48 14.7	-0.8
	1.0nm,0.6s,baz=108,slow=4.8,SNR=4.2							
	1.2nm,0.7s							
MKAR	Makanchi Array	45.69	304	P		P	20 46 44.0	-0.5
	0.2nm,0.4s,baz=92,slow=11,SNR=6.3							
	0.2nm,0.4s							
ILAR	Eielson Array	51.57	31	P		P	20 47 29.1	-0.3
	0.9nm,0.8s,baz=266,slow=6.3,SNR=8.5							
	0.9nm,0.8s							
WRA	Warramunga Arr	54.55	188	P		P	20 47 51.1	-0.7
	1.2nm,0.8s,baz=1.0,slow=7.6,SNR=6.6							
	1.2nm,0.8s							
ASAR	Alice Springs	58.28	188	P		P	20 48 18.4	0.0
	0.7nm,0.8s,baz=13,slow=12,SNR=2.6							
	0.7nm,0.8s							
NB2	NORSAR Subarra	76.63	338	P		P	20 50 13.8	-0.2
	comp=Z,0.5nm,0.6s,baz=41,slow=5.9							
NOA	NORSAR Array B	76.63	338	P		P	20 50 12.5	-1.5
	comp=Z,0.6nm,0.6s,baz=41,slow=5.6,SNR=4.1							
	comp=Z,0.6nm,0.6s							
PDAR	Pinedale Array	79.33	45	P		P	20 50 29.9	+0.3
	comp=Z,0.2nm,0.4s,baz=295,slow=4.6,SNR=4.1							
	comp=Z,0.2nm,0.4s							
SCHQ	Schefferville	87.75	16	P		P	20 51 14.2	+1.9
	comp=Z,5.3nm,0.8s,baz=142,slow=3.7,SNR=3.6							
	comp=Z,5.3nm,0.8s							
TXAR	Lajitas Array	91.53	53	P		P	20 51 31.2	+0.6
	comp=Z,0.2nm,0.5s,baz=299,slow=3.7,SNR=3.2							
	comp=Z,0.2nm,0.5s							
LPAZ	La Paz	147.74	63	PKPbc		PKPbc	20 58 09.0	-0.5
	comp=Z,0.6nm,0.4s,baz=256,slow=4.2,SNR=4.1							

*NEIC **22** 20:40:05.6±1.4,11°.39N±0°.07×140°.72E±0°.09,h77km±7km, mb4.5/33,Error ellipse: s-maj=13.2km s-min=8.9km az=118.0*
*IDC **22** 20:40:05.0±3.1,11°.42N×140°.84E,h73km±30km,mb3.8/17, mbtmp4.1/19,MS4.2/4,Error ellipse: s-maj=20.4km s-min=10.7km az=79.0*

ISC 22 20:40:01.7±0.4,11°.40N±0°.06×140°.77E±0°.07,h45km,n65, σ1°32/61,mb4.3/30,MS4.6/3,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.56	61	P		Pn	20 41 09.5	+1.3
	78nm,0.4s,baz=351,slow=6.4,SNR=5.1							
GUMO				S		Sn	20 41 55.3	-4.6
	78nm,0.5s,baz=288,slow=19,SNR=1.5							
GUMO				LR		LR	20 42 48.4	
	comp=Z,380nm,19.3s,baz=131,slow=36							
GUMO	Guam	4.56	61	Pn		Pn	20 41 11.2	+3.0
SIJI	Sorong	15.42	218	P		P	20 43 37.8	-2.5
	3.0nm,0.5s,baz=197,slow=19,SNR=2.3							
FAKI	Fak Fak	16.56	211	Pn		Pn	20 43 50.7	-0.1
FAKI				IAmb		IAmb	20 43 56.6	
	comp=Z,38nm,1.1s							
JOW	Kunigami	19.35	324			Pn	20 44 25.8	+0.8
JOW				IAmb		IAmb	20 44 36.5	
	comp=Z,20nm,0.9s							
SAUI	Saumlaki	21.43	206	P		P	20 44 45.2	-1.0
LUWI	Luwuk	21.74	237	P		P	20 44 48.0	-1.6
LUWI				IAmb		IAmb	20 45 00.9	
	comp=Z,23nm,0.7s							
JMN	Monobe	23.11	345	P		P	20 45 05.9	+2.0
JMN				IAmb		IAmb	20 45 18.8	
	comp=Z,38nm,1.3s							
JHS	Saijyo	24.51	345	P		P	20 45 18.6	+1.6
JHS				IAmb		IAmb	20 45 40.2	
	comp=Z,37nm,1.5s							
MJAR	Matsushiro Arr	25.14	355	P		P	20 45 23.8	+1.1
	comp=Z,0.6nm,0.5s,baz=193,slow=8.9,SNR=1.9							
	comp=Z,0.6nm,0.5s							
COEN	Coen	25.30	175	P		P	20 45 24.3	+0.1
COEN				IAmb		IAmb	20 45 29.8	
	comp=Z,22nm,1.4s							
MTN	Manton Dam	25.91	202	P		P	20 45 29.7	-0.1
H11S3	WAKE ISLAND Hy	25.99	71	T		T	21 12 53.6	
	baz=255							
H11S1	WAKE ISLAND Hy	26.01	71	T		T	21 12 52.8	
	baz=255							
H11S2	WAKE ISLAND Hy	26.01	71	T		T	21 12 51.1	
	baz=255							
JSD	Sado	26.62	356	P		P	20 45 36.3	+0.2
KSRS	Korea Array	28.40	338	P		P	20 45 52.9	+0.9
	comp=Z,0.7nm,0.4s,baz=162,slow=9.1,SNR=5.5							
	comp=Z,0.7nm,0.4s							
KNRA	Kununurra	29.41	204	P		P	20 46 00.5	-0.6
KNRA				IAmb		IAmb	20 46 01.4	
	comp=Z,17nm,1.4s							
ERM	Erimo	30.57	3	P		P	20 46 09.3	-1.8
WB0	Warramunga Arr	31.60	192	P		P	20 46 20.4	0.0
WB0				IAmb		IAmb	20 46 21.1	
	comp=Z,9.1nm,1.1s							
CTA	Charters Tower	31.75	170	P		P	20 46 22.4	+0.6
	comp=Z,3.0nm,0.7s,baz=341,slow=8.7,SNR=4.2							
CTA				LR		LR	20 59 51.6	
	comp=Z,866nm,21.1s,baz=234,slow=37							
	comp=Z,3.0nm,0.7s							
WR0	Warramunga Arr	31.76	191	P		P	20 46 21.8	0.0
WR0				IAmb		IAmb	20 46 22.7	
	comp=Z,8.4nm,1.1s							
WRAB	Tennant Creek	31.77	192	P		P	20 46 21.9	0.0
WRAB				IAmb		IAmb	20 46 22.7	
	comp=Z,5.9nm,0.9s							
WB2	Warramunga Arr	31.78	192	P		P	20 46 22.0	0.0
WB2				IAmb		IAmb	20 46 22.8	
	comp=Z,7.6nm,1.0s							
WRA	Warramunga Arr	31.78	192	P		P	20 46 21.9	-0.1
	comp=Z,4.3nm,0.8s,baz=12,slow=9.7,SNR=23							
	comp=Z,4.3nm,0.8s							
WRA	Warramunga Arr	31.78	192	P		P	20 46 21.9	-0.1
FITZ	Fitzroy Crossi	32.89	207	P		P	20 46 30.6	-1.2
AS31	Alice Springs	35.49	191	P		P	20 46 55.1	+0.8
ASAR	Alice Springs	35.49	191	P		P	20 46 54.5	+0.2
	comp=Z,1.1nm,0.5s,baz=18,slow=12,SNR=35							
	comp=Z,1.1nm,0.5s							
ASAR	Alice Springs	35.49	191	P		P	20 46 54.4	+0.1
KLR	Kul'dur	38.46	350	P		P	20 47 19.9	+0.8
	comp=Z,2.7nm,0.5s,baz=144,slow=5.7,SNR=11							
	comp=Z,2.7nm,0.5s							
CMAR	Chiang Mai Arr	40.95	285	P		P	20 47 42.5	+2.1
	comp=Z,0.9nm,0.8s,baz=92,slow=6.8,SNR=6.3							
	comp=Z,0.9nm,0.8s							
DZM	Mont Dzumac	41.72	143	P		P	20 47 47.8	+1.1
	comp=Z,5.3nm,0.6s,baz=264,slow=10,SNR=12							
	comp=Z,5.3nm,0.6s							
DZM	Mont Dzumac	41.72	143	P		P	20 47 47.1	+0.5
DZM				IAmb		IAmb	20 47 48.3	
	comp=Z,5.7nm,0.7s							
PINNC	Pines Island,	42.73	142	P		P	20 47 55.3	+0.5
STKA	Stephens Creek	43.03	179	P		P	20 47 58.0	+0.9
	comp=Z,1.6nm,0.8s,baz=356,slow=8.4,SNR=4.4							
	comp=Z,1.6nm,0.8s							
STKA	Stephens Creek	43.03	179	P		P	20 47 58.3	+1.2
SONM	Songino Array	46.35	328	P		P	20 48 25.7	+2.1
	comp=Z,1.0nm,0.7s,baz=137,slow=7.3,SNR=5.8							
	comp=Z,1.0nm,0.7s							
SONM	Songino Array	46.35	328	P		P	20 48 24.3	+0.8
MSVF	Nonsavu	46.83	128	P		P	20 48 28.4	+0.8
	comp=Z,1.9nm,0.5s,baz=286,slow=13,SNR=5.3							
	comp=Z,1.9nm,0.5s							
MSVF	Nonsavu	46.83	128	P		P	20 48 28.8	+1.2
MSVF				IAmb		IAmb	20 48 57.2	
	comp=Z,11nm,1.2s							
YAK	Yakutsk	51.19	353	P		P	20 49 00.8	+0.5
	baz=303,slow=1.6							
YAK	Yakutsk	51.19	353	P		P	20 49 00.6	+0.4
SEY	Seymchan	52.12	7	P		P	20 49 07.2	0.0
	comp=Z,2.8nm,0.7s,baz=176,slow=6.1,SNR=8.2							
	comp=Z,2.8nm,0.7s							
MK31	Makanchi Array	60.34	318	P		P	20 50 05.5	-0.7
MKAR	Makanchi Array	60.34	318	P		P	20 50 06.7	+0.4
	comp=Z,0.6nm,0.5s,baz=97,slow=8.1,SNR=8.7							
	comp=Z,0.6nm,0.5s							
MKAR	Makanchi Array	60.34	318	P		P	20 50 05.8	-0.4
ZALV	Zalesovo Beam	61.13	326	P		P	20 50 10.3	-1.1
	comp=Z,1.3nm,0.6s,baz=113,slow=7.9,SNR=5.9							
	comp=Z,1.3nm,0.6s							
ZALV	Zalesovo Beam	61.13	326	P		P	20 50 10.1	-1.3
LTZ	Lake Taylor	61.14	154	P		P	20 50 11.1	-0.5
KURK	Kurchatov	63.72	321	P		P	20 50 28.7	0.0
KURK				IAmb		IAmb	20 50 31.2	
	comp=Z,5.6nm,0.8s							
MNCI	Minicoy	66.66	274	P		P	20 50 45.5	-2.9
RAR	Rarotonga	66.77	119	LR		LR	21 16 59.8	
	comp=Z,372nm,21.5s,baz=150,slow=33							
KKAR	Karatay Array	67.90	312	P		P	20 50 56.2	+0.4
BRVK	Borovoye	69.26	323	P		P	20 51 04.0	-0.1
BRVK				IAmb		IAmb	20 51 07.4	
	comp=Z,2.8nm,0.8s							
CAST	Castle Rocks	69.72	26	P		P	20 51 05.0	-1.8
CAST				IAmb		IAmb	20 51 28.4	
	comp=Z,5.4nm,1.5s							
H23K	Yukon River	71.39	24	P		P	20 51 17.2	+0.3
CCB	Clear Creek Bu	71.84	25	P		P	20 51 20.1	+0.5
CCB				IAmb		IAmb	20 51 47.6	
	comp=Z,4.5nm,1.3s							
ILAR	Eielson Array	72.25	25	P		P	20 51 19.9	-2.2
	comp=Z,0.5nm,0.7s,baz=248,slow=5.9,SNR=4.5							
	comp=Z,0.5nm,0.7s							
BMAR	Burnt Mountain	73.66	23	P		P	20 51 30.7	+0.3
PPT	Papeete	74.55	112	LR		LR	21 19 18.1	
	comp=Z,330nm,20.4s,baz=178,slow=32							
ABKAR	Akbulak array	75.48	318	P		P	20 51 40.4	-0.9
ARCES	ARCESS Array B	87.91	341	P		P	20 52 45.6	-0.7
	comp=Z,0.9nm,0.6s,baz=72,slow=7.8,SNR=10							
	comp=Z,0.9nm,0.6s							
FINES	FINESS Array B	91.42	334	P		P	20 53 00.9	-2.0
	comp=Z,1.6nm,0.5s,baz=68,slow=4.6,SNR=14							
	comp=Z,1.6nm,0.5s							
LPAZ	La Paz	151.53	103	PKPbc		PKPbc	20 59 53.1	+0.4
	comp=Z,2.2nm,0.5s,baz=307,slow=3.0,SNR=9.2							

*NEIC **22** 20:43:01.7±1.9,59°.30S±0°.09×158°.6E±0°.3,h13km±6km, mb4.4/20,Error ellipse: s-maj=23.6km s-min=10.5km az=68.0*
*IDC **22** 20:43:01.8±0.9,59°.47S×158°.50E,h0km,mb4.1/8, mbtmp4.2/10,ML3.9/2,MS4.1/1,Error ellipse: s-maj=37.9km s-min=16.7km az=74.0*

ISC 22 20:43:02.1±0.6,59°.27S±0°.07×158°.7E±0°.2,h10km,n49, σ1°37/43,mb4.2/10,Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	4.79	2			Pn	20 44 13.1	-1.0
PYZ	Puysegur Point	13.98	24			Pn	20 46 19.6	-0.5
WHZ	Wether Hill Ro	14.52	27			Pn	20 46 26.4	-1.0
DCZ	Deep Cove	14.75	24			Pn	20 46 30.9	+0.4
MLZ	Mavora Lakes	15.05	26			Pn	20 46 33.9	-0.8
WKZ	Wanaka	15.78	28			Pn	20 46 43.6	-0.5
ODZ	Otahua Downs	15.99	32	P		Pn	20 46 46.6	-0.2
ODZ				IAmb		IAmb	20 46 56.9	
	comp=Z,39nm,1.2s							
LBZ	Lake Benmore	16.48	30	P		Pn	20 46 52.8	-0.3
LBZ				IAmb		IAmb	20 47 17.6	
	comp=Z,43nm,1.1s							
FOZ	Fox Glacier	17.19	28	P		P	20 47 03.1	-0.5
FOZ				IAmb		IAmb	20 47 14.9	
	comp=Z,48nm,1.3s							
RPZ	Rata Peaks	17.33	31	P		P	20 47 06.6	+1.4
	comp=Z,2.5nm,0.3s,baz=186,slow=3.4,SNR=8.0							
	comp=Z,2.5nm,0.3s							
RPZ	Rata Peaks	17.33	31	P		P	20 47 04.7	-0.6
MQZ	McQueen's Vall	17.79	35	P		P	20 47 10.5	+0.2
OXZ	Oxford	17.96	33	P		Pn	20 47 11.8	+0.1
OXZ				IAmb		IAmb	20 47 16.5	
	comp=Z,34nm,1.2s							
VNDA	Vanda	18.36	178	P		Pn	20 47 14.0	-2.4
	comp=Z,0.1nm,0.3s,baz=355,slow=13,SNR=20							
	comp=Z,13nm,1.1s							
VNDA	Vanda	18.36	178	P		Pn	20 47 13.7	-2.6
LTZ	Lake Taylor	18.53	33	P		Pn	20 47 18.7	0.0
SBA	Scott Base	18.86	175	P		Pn	20 47 21.5	-0.9
SBA				IAmb		IAmb	20 47 33.8	
	comp=Z,34nm,1.4s							
KHZ	Kahutara	19.23	35	P		P	20 47 25.6	-0.5
THZ	Tophouse	19.65	33	P		P	20 47 31.5	+0.7
THZ				IAmb		IAmb	20 47 41.9	
	comp=Z,25nm,1.1s							
NNZ	Nelson	20.29	34	P		P	20 47 38.1	+0.4
NNZ				IAmb		IAmb	20 48 16.4	
	comp=Z,29nm,1.0s							
QRZ	Quartz Range	20.42	31	P		P	20 47 38.9	-0.3
QSPA	South Pole Qui	30.83	180	P		P	20 49 16.8	-1.1
	comp=Z,2.8nm,1.1s,baz=24,slow=4.0,SNR=4.1							
	comp=Z,2.8nm,1.1s							
H01W1	Cape Leeuwin H	37.85	290	T		T	21 31 16.2	
	baz=143,slow=76,SNR=40							
H01W2	Cape Leeuwin H	37.85	290	T		T	21 31 20.7	
	baz=143,slow=76,SNR=74							
H01W3	Cape Leeuwin H	37.86	290	T		T	21 31 17.8	
	baz=143,slow=76,SNR=38							
MAW	Mawson	39.40	217	P		P	20 50 31.5	+0.2
	comp=Z,3.1nm,1.1s,baz=118,slow=12,SNR=3.1							
	comp=Z,3.1nm,1.1s				

77nm,0.3s

JAG	**Ashikaga**	**2.78**	**317**	*e*P	**Pn**	**20 53 05.6**	**-0.3**
JAG				*e*S	**Sn**	**20 53 38.6**	**-1.1**
MJAR	**Matsushiro Arr**	**3.62**	**307**	Pn	**Pn**	**20 53 17.8**	**+0.3**

0.8nm,0.3s,baz=64,slow=20,SNR=30

MJAR				Sn	**Sn**	**20 54 01.2**	**+0.8**

0.5nm,0.3s,baz=277,slow=7.3,SNR=9.3
3.7nm,0.4s

KSRS	**Korea Array**	**11.65**	**289**	Pn	**Pn**	**20 55 09.4**	**+1.8**

0.2nm,0.3s,baz=102,slow=15,SNR=4.3
1.4nm,0.8s

H11N2	**WAKE ISLAND Hy**	**26.61**	**117**	T	T	21 25 56.6	

baz=309,SNR=4.5

H11N1	**WAKE ISLAND Hy**	**26.62**	**117**	T	T	21 26 02.1	

baz=309

H11N3	**WAKE ISLAND Hy**	**26.63**	**117**	T	T	21 26 06.3	

baz=309

H11S1	**WAKE ISLAND Hy**	**27.24**	**119**	T	T	21 27 04.3	

baz=312

H11S3	**WAKE ISLAND Hy**	**27.24**	**119**	T	T	21 26 55.1	

baz=312

H11S2	**WAKE ISLAND Hy**	**27.25**	**119**	T	T	21 26 57.9	

baz=312

CMAR	**Chiang Mai Arr**	**41.20**	**259**	P	**P**	**21 00 05.3**	**-1.1**

0.5nm,0.3s,baz=49,slow=7.9,SNR=6.5
0.5nm,0.3s

ZALV	**Zalesovo Beam**	**43.95**	**314**	P	**P**	**21 00 27.1**	**-1.2**

0.4nm,0.4s,baz=76,slow=6.1,SNR=2.4
0.4nm,0.4s

MKAR	**Makanchi Array**	**45.82**	**304**	P	**P**	**21 00 43.4**	**0.0**

0.5nm,0.6s,baz=92,slow=11,SNR=5.3
0.5nm,0.6s

KURBB	**Kurchatov Arra**	**47.90**	**310**	P	**P**	**21 00 59.0**	**-0.6**

1.1nm,0.6s,baz=84,slow=7.6,SNR=15
1.1nm,0.6s

ILAR	**Eielson Array**	**51.57**	**31**	P	**P**	**21 01 28.3**	**+1.0**

0.3nm,0.7s,baz=259,slow=9.1,SNR=2.3
0.3nm,0.7s

WRA	**Warramunga Arr**	**54.50**	**189**	P	**P**	**21 01 49.2**	**-0.1**

0.7nm,0.8s,baz=1.4,slow=7.6,SNR=5.2
0.7nm,0.8s

ASAR	**Alice Springs**	**58.23**	**189**	P	**P**	**21 02 15.8**	**-0.1**

0.3nm,0.9s,baz=8.1,slow=8.2,SNR=4.3
0.3nm,0.9s

ARU	**Arti**	**58.55**	**320**	P	**P**	**21 02 17.8**	**0.0**

1.6nm,0.4s,baz=159,slow=4.1,SNR=4.0
1.6nm,0.4s

BRTR	**Keskin Array B**	**80.83**	**312**	P	**P**	**21 04 36.6**	**+0.9**

0.5nm,0.8s,baz=54,slow=2.7,SNR=2.4
0.5nm,0.8s

***WEL 22** 20:56:33.6±1.4,**37°S**±5°×**17°9E**±°,**h10**km±7km,**M3.4**/26,*
ML3.7**/31,**MLv3.4**/26,**Error ellipse: s-maj=0.0km
s-min=0.0km az=90.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.87**	**230**	P	Pg	20 56 49.8	-0.6
MXZ				S	Sg	20 57 00.3	-1.4
WMGZ	**Waiomatatini S**	**1.00**	**215**	P	Pn	20 56 53.8	+0.1
WMGZ				S	Sn	20 57 07.7	-0.1
PKGZ	**Pakihiroa**	**1.23**	**224**	P	Pn	20 56 56.3	-0.6
PKGZ				S	Sn	20 57 13.6	+0.1
PUZ	**Puketiti**	**1.28**	**213**	P	Pn	20 56 57.5	-0.1
PUZ				S	Sb	20 57 14.0	-0.3
HAZ	**Te Kaha**	**1.32**	**235**	P	Pn	20 56 56.6	-1.4
HAZ				S	Sg	20 57 17.1	+0.9
TWGZ	**Tauwhareparae**	**1.49**	**218**	P	Pn	20 57 00.7	+0.2
RUGZ	**Raukumara Rang**	**1.51**	**230**	P	Pn	20 57 01.0	+0.1
WIZ	**White Island**	**1.65**	**251**	P	Pn	20 57 00.8	-1.7
CNGZ	**Carnagh Statio**	**1.65**	**206**	P	Pn	20 57 02.7	0.0
TKGZ	**Te Karaka**	**1.76**	**215**	P	Pn	20 57 04.5	+0.3
MWZ	**Matawai**	**1.85**	**224**	P	Pn	20 57 05.4	0.0
MWZ				S	Sn	20 57 28.4	-0.4
WHRZ	**Whale Island**	**1.93**	**243**	P	Pn	20 57 06.8	+0.4
RIGZ	**Rimuhau**	**2.02**	**212**	P	Pn	20 57 07.2	-0.5
URZ	**Urewera**	**2.04**	**232**	P	Pn	20 57 07.9	-0.1
MARZ	**Manawahe**	**2.19**	**243**	P	Pn	20 57 10.5	+0.3
OPRZ	**Ohinepanea**	**2.23**	**247**	P	Pn	20 57 10.1	-0.4
SNGZ	**Shannon Statio**	**2.28**	**218**	P	Pn	20 57 10.9	-0.3
KNZ	**Kokohu**	**2.33**	**210**	P	Pn	20 57 10.5	-1.4
MYRZ	**Mayor Island**	**2.34**	**262**	P	Pn	20 57 11.9	-0.2
RTZ	**Ruatahuna**	**2.35**	**226**	P	Pn	20 57 12.2	-0.1
MHGZ	**Mahia Peninsul**	**2.36**	**204**	P	Pn	20 57 11.8	-0.5
MUGZ	**Murupara**	**2.39**	**231**	P	Pn	20 57 12.5	-0.3
MKRZ	**Makatiti**	**2.41**	**241**	P	Pn	20 57 13.6	+0.4
RRRZ	**Republican Roa**	**2.48**	**237**	P	Pn	20 57 14.3	+0.3
RAHZ	**Arahi**	**2.51**	**220**	P	Pn	20 57 14.1	-0.3
KARZ	**Kaharoa**	**2.52**	**245**	P	Pn	20 57 15.3	+0.7
MTHZ	**Maungataniwha**	**2.59**	**224**	P	Pn	20 57 15.6	-0.1
KMRZ	**Kaimai**	**2.69**	**251**	P	Pn	20 57 16.9	0.0
ALRZ	**Allen Road**	**2.71**	**234**	P	Pn	20 57 17.0	-0.2
KUZ	**Kuaotunu**	**2.76**	**274**	P	Pn	20 57 16.5	-1.3
NMHZ	**Naumai**	**2.79**	**221**	P	Pn	20 57 18.3	0.0
ARHZ	**Aropaoanui**	**2.82**	**216**	P	Pn	20 57 18.2	-0.5
MRHZ	**Matea Rd**	**2.83**	**229**	P	Pn	20 57 18.0	-0.9
TOZ	**Tahuroa Road**	**2.99**	**255**	P	Pn	20 57 19.9	-1.1
BKZ	**Black Stump Fm**	**3.01**	**223**	P	Pn	20 57 20.7	-0.6
GRZ	**Great Barrier**	**3.06**	**283**	P	Pn	20 57 21.8	-0.1
MCHZ	**McNeill Hill**	**3.11**	**218**	P	Pn	20 57 21.7	-0.9
TLZ	**Tolley Road**	**3.15**	**244**	P	Pn	20 57 23.5	+0.1
MKAZ	**Moumakai**	**3.19**	**267**	P	Pn	20 57 22.9	-0.9
WIAZ	**Waiheke Island**	**3.22**	**273**	P	Pn	20 57 23.8	-0.4
KWHZ	**Kaweka Forest**	**3.23**	**221**	P	Pn	20 57 23.4	-1.0
RITZ	**Rihia Road**	**3.26**	**232**	P	Pn	20 57 25.0	+0.3
KAHZ	**Kahuranaki**	**3.31**	**212**	P	Pn	20 57 23.7	-1.7
KATZ	**Kakaramea**	**3.36**	**233**	P	Pn	20 57 27.5	+1.2
ETAZ	**East Tamaki Re**	**3.38**	**270**	P	Pn	20 57 26.6	+0.2
MBAZ	**Motutapu North**	**3.41**	**273**	P	Pn	20 57 27.5	+0.7
KRHZ	**Kereru**	**3.42**	**219**	P	Pn	20 57 25.4	-1.6
TMVZ	**Te Maari**	**3.44**	**231**	P	Pn	20 57 27.1	-0.2
NTVZ	**North Tongariro**	**3.44**	**232**	P	Pn	20 57 26.9	-0.5
ETVZ	**East Tongariro**	**3.45**	**231**	P	Pn	20 57 27.2	-0.3
KRVZ	**Karewarewa**	**3.46**	**232**	P	Pn	20 57 27.6	0.0
BHHZ	**Black Hill Sta**	**3.47**	**223**	P	Pn	20 57 27.0	-0.7
OTVZ	**Oturere**	**3.49**	**231**	P	Pn	20 57 27.6	-0.5
NNVZ	**North Ngauruho**	**3.50**	**232**	P	Pn	20 57 28.5	+0.2
WTVZ	**West Tongariro**	**3.51**	**232**	P	Pn	20 57 28.9	+0.6
SNVZ	**South Ngauruho**	**3.52**	**231**	P	Pn	20 57 28.0	-0.5
NGZ	**Ngauruhoe**	**3.54**	**231**	P	Pn	20 57 28.7	-0.1
TWVZ	**Taurewa**	**3.58**	**234**	P	Pn	20 57 29.3	0.0
MOVZ	**Moawhango**	**3.59**	**227**	P	Pn	20 57 28.6	-0.7
AWAZ	**Awhitu Peninsu**	**3.60**	**268**	P	Pn	20 57 29.2	-0.2
WNVZ	**Wahianoa**	**3.63**	**229**	P	Pn	20 57 29.7	-0.4
WTAZ	**Waiatarua**	**3.66**	**270**	P	Pn	20 57 30.4	+0.1
PNHZ	**Pukenui**	**3.71**	**218**	P	Pn	20 57 29.2	-1.9
HIZ	**Hauiti**	**3.72**	**245**	P	Pn	20 57 32.1	+1.0
PKVZ	**Pokaka**	**3.76**	**232**	P	Pn	20 57 32.1	+0.3
WCZ	**Waipu Caves**	**4.01**	**284**	P	Pn	20 57 35.1	0.0
WAZ	**Wanganui**	**4.27**	**229**	P	Pn	20 57 38.3	-0.3
KHEZ	**Kahui Hut**	**4.64**	**239**	P	Pn	20 57 46.2	+2.3
OUZ	**Omahuta**	**4.83**	**290**	P	Pn	20 57 46.8	+0.5
QRZ	**Quartz Range**	**6.42**	**231**	P	Pn	20 58 05.3	-2.8

---

*IDC **22** 21:06:05.6±16.0,2°64S×101°61E,h115km±136km,*
mb3.1/6,mbtmp3.5/6,Error ellipse: s-maj=180.2km
s-min=17.1km az=57.0
ISC 22 21:06:04.2±3.7,**2°6S**±0°5×**101°7E**±0°9,**h100**km,**n6,**
σ0**88/6,mb3.6/6,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.12**	**353**	P	**P**	**21 10 41.5**	**+0.4**

0.5nm,0.8s,baz=177,slow=9.0,SNR=4.4
0.5nm,0.8s

WRA	**Warramunga Arr**	**36.26**	**121**	P	**P**	**21 12 57.4**	**-0.8**

0.2nm,0.3s,baz=303,slow=9.0,SNR=12
0.2nm,0.3s

ASAR	**Alice Springs**	**37.56**	**127**	P	**P**	**21 13 09.9**	**+0.8**

0.7nm,0.4s,baz=304,slow=7.9,SNR=15
0.7nm,0.4s

SONM	**Songino Array**	**50.42**	**4**	P	**P**	**21 14 52.0**	**+0.4**

0.3nm,0.5s,baz=172,slow=5.5,SNR=2.5
0.3nm,0.5s

MKAR	**Makanchi Array**	**52.08**	**343**	P	**P**	**21 15 03.8**	**-0.1**

0.2nm,0.5s,baz=158,slow=9.2,SNR=1.8
0.2nm,0.5s

ZALV	**Zalesovo Beam**	**58.09**	**348**	P	**P**	**21 15 46.1**	**-0.9**

0.3nm,0.3s,baz=162,slow=6.7,SNR=2.5
0.3nm,0.3s

---

*IDC **22** 21:14:02.3±6.3,22°35S×177°71W,h0km,mb4.6/4,*
mbtmp4.6/4,Error ellipse: s-maj=162.1km s-min=97.4km
az=137.0
*NEIC **22** 21:14:58.5±2.4,22°8S±0°1×178°5W±0°2,h541km±11km,*
mb4.6/37,Error ellipse: s-maj=22.1km s-min=18.2km
az=132.0
ISC 22 21:15:01.4±1.1,**23°2S**±0°1×**178°8W**±0°1,**h550**km,**n64,**
σ1**84/67,mb4.5/19,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**6.14**	**173**	P	**P**	**21 16 42.8**	**+1.6**
GLKZ				S	**S**	**21 18 01.7**	**-1.2**
MARNC	**Mare, Loyalty**	**12.29**	**275**	P	**P**	**21 17 41.4**	**-1.6**
PINNC	**Pines Island,**	**12.68**	**270**	P	**P**	**21 17 45.8**	**-1.2**
LIFNC	**LIFOU**	**13.15**	**278**	P	**P**	**21 17 49.9**	**-2.0**
ONTNC	**Ouen Toro**	**13.62**	**271**	P	**P**	**21 17 55.2**	**-1.5**
DZM	**Mont Dzumac**	**13.66**	**272**	P	**P**	**21 17 55.4**	**-1.8**
WIAZ	**Waiheke Island**	**14.57**	**200**	P	**P**	**21 18 06.6**	**+0.4**
MXZ	**Matakaoa Point**	**14.58**	**189**	P	**P**	**21 18 09.7**	**+3.4**
MXZ	**Matakaoa Point**	**14.58**	**189**	P	**P**	**21 18 09.9**	**+3.6**
MKAZ	**Moumakai**	**14.85**	**199**	P	**P**	**21 18 12.1**	**+3.0**
HAZ	**Te Kaha**	**14.85**	**191**	P	**P**	**21 18 12.5**	**+3.3**
HAZ				S	S	21 20 37.4	-6.4
WTAZ	**Waiatarua**	**14.88**	**201**	P	**P**	**21 18 14.3**	**+4.9**
RUGZ	**Raukumara Rang**	**15.07**	**191**	P	**P**	**21 18 13.4**	**+1.9**
TWGZ	**Tauwhareparae**	**15.23**	**190**	P	**P**	**21 18 15.8**	**+2.7**
TWGZ				S	**S**	**21 20 47.9**	**-2.7**
MWZ	**Matawai**	**15.46**	**191**	P	**P**	**21 18 16.2**	**+0.8**
MWZ				S	**S**	**21 20 50.1**	**-4.5**
URZ	**Urewera**	**15.46**	**192**	P	**P**	**21 18 15.7**	**+0.3**
URZ				IAmb	IAmb	21 18 17.1	

comp=Z,25nm,1.0s

URZ	**Urewera**	**15.46**	**192**	P	**P**	**21 18 14.0**	**-1.4**
URZ				S	S	21 20 47.5	-7.1
MUGZ	**Murupara**	**15.74**	**193**	P	**P**	**21 18 18.9**	**+0.7**
RIGZ	**Rimuhau**	**15.78**	**190**	P	**P**	**21 18 20.6**	**+1.9**
RIGZ				S	**S**	**21 20 54.4**	**-5.6**
HIZ	**Hauiti**	**16.24**	**198**	P	**P**	**21 18 25.7**	**+2.6**
BKZ	**Black Stump Fm**	**16.46**	**193**	P	**P**	**21 18 24.6**	**-0.5**
BKZ				IAmb	IAmb	21 18 30.5	

comp=Z,14nm,0.7s

BFZ	**Birch Farm**	**17.97**	**192**	P	**P**	**21 18 38.6**	**-0.2**
MSWZ	**Moikau Station**	**18.89**	**194**	P	**P**	**21 18 48.0**	**+0.9**
PLWZ	**Palliser**	**19.03**	**194**	P	**P**	**21 18 48.8**	**+0.3**
QRZ	**Quartz Range**	**19.07**	**200**	P	**P**	**21 18 50.9**	**+2.0**
NNZ	**Nelson**	**19.17**	**198**	P	**P**	**21 18 50.5**	**+0.7**
TUWZ	**Tuamarina**	**19.21**	**197**	P	**P**	**21 18 52.4**	**+2.3**
BSWZ	**Blackbirch Sta**	**19.50**	**197**	P	**P**	**21 18 54.1**	**+1.4**
THZ	**Tophouse**	**19.81**	**199**	P	**P**	**21 18 57.3**	**+1.6**
THZ				IAmb	IAmb	21 19 02.9	

comp=Z,14nm,1.1s

KHZ	**Kahutara**	**20.24**	**197**	P	**P**	**21 19 00.8**	**+1.3**
KHZ				IAmb	IAmb	21 19 08.6	

comp=Z,14nm,1.0s

LTZ	**Lake Taylor**	**20.94**	**199**	P	**P**	**21 19 07.1**	**+1.3**
OXZ	**Oxford**	**21.50**	**198**	P	**P**	**21 19 12.6**	**+1.8**
OXZ				IAmb	IAmb	21 19 12.8	

comp=Z,15nm,0.7s

MQZ	**McQueen's Vall**	**21.68**	**197**	P	**P**	**21 19 14.1**	**+1.8**
MQZ				IAmb	IAmb	21 19 31.7	

comp=Z,32nm,1.4s

RPZ	**Rata Peaks**	**22.15**	**200**	P	**P**	**21 19 17.3**	**+0.6**
RPZ				IAmb	IAmb	21 19 24.8	

comp=Z,6.0nm,0.5s

FOZ	**Fox Glacier**	**22.40**	**202**	P	**P**	**21 19 19.2**	**+0.4**
FOZ				IAmb	IAmb	21 19 22.4	

comp=Z,10nm,0.9s

LBZ	**Lake Benmore**	**23.03**	**200**	P	**P**	**21 19 26.5**	**+2.0**
EIDS	**Eidsvold**	**27.51**	**259**	P	**P**	**21 20 04.3**	**-0.1**
EIDS				IAmb	IAmb	21 20 04.6	

comp=Z,22nm,1.3s

CAN	**Canberra**	**30.46**	**239**	P	**P**	**21 20 29.8**	**0.0**
CTAO	**Charters Tower**	**32.57**	**269**	P	**P**	**21 20 48.6**	**+0.6**
TOO	**Toolangi**	**33.77**	**237**	P	**P**	**21 20 58.2**	**+0.3**
TOO				IAmb	IAmb	21 21 11.5	

comp=Z,26nm,1.4s

STKA	**Stephens Creek**	**36.01**	**247**	P	**P**	**21 21 16.2**	**-0.5**

comp=Z,3.4nm,0.5s,baz=93,slow=11,SNR=12
comp=Z,3.4nm,0.5s

STKA	**Stephens Creek**	**36.01**	**247**	P	**P**	**21 21 16.7**	**0.0**
BBOO	**Buckleboo**	**40.74**	**246**	P	**P**	**21 21 54.1**	**-0.9**
BBOO				IAmb	IAmb	21 22 26.3	

comp=Z,26nm,1.2s

AS31	**Alice Springs**	**43.23**	**260**	P	**P**	**21 22 14.8**	**+0.1**
ASAR	**Alice Springs**	**43.23**	**260**	P	**P**	**21 22 14.8**	**+0.1**

comp=Z,5.0nm,0.5s,baz=96,slow=7.4,SNR=51
comp=Z,5.0nm,0.5s

WR0	**Warramunga Arr**	**43.36**	**265**	P	**P**	**21 22 15.4**	**-0.3**
WB2	**Warramunga Arr**	**43.54**	**265**	P	**P**	**21 22 17.0**	**-0.1**
WB2				IAmb	IAmb	21 22 17.3	

comp=Z,8.6nm,0.5s

WB0	**Warramunga Arr**	**43.54**	**265**	P	**P**	**21 22 17.0**	**-0.1**
WB0				IAmb	IAmb	21 22 17.5	

comp=Z,11nm,0.7s

WRAB	**Tennant Creek**	**43.54**	**265**	P	**P**	**21 22 17.0**	**-0.1**
WRA	**Warramunga Arr**	**43.55**	**265**	P	**P**	**21 22 17.0**	**-0.2**

comp=Z,6.1nm,0.4s,baz=102,slow=8.0,SNR=162
comp=Z,6.1nm,0.4s

WRA	**Warramunga Arr**	**43.55**	**265**	P	**P**	**21 22 17.0**	**-0.2**
FORT	**Forrest**	**47.59**	**249**	P	**P**	**21 22 47.6**	**-0.2**
FORT				IAmb	IAmb	21 22 58.6	

comp=Z,26nm,1.1s

MWH	**Moku'aweowe**	**48.05**	**30**	P	P	21 22 41.0	-11
KNRA	**Kununurra**	**49.78**	**269**	P	**P**	**21 23 05.1**	**+0.8**
KNRA				IAmb	IAmb	21 23 06.0	

comp=Z,12nm,1.2s

FITZ	**Fitzroy Crossi**	**51.98**	**265**	P	**P**	**21 23 21.0**	**+0.8**

comp=Z,2.0nm,0.4s,baz=199,slow=2.3,SNR=10.0
comp=Z,2.0nm,0.4s

FITZ	**Fitzroy Crossi**	**51.98**	**265**	P	**P**	**21 23 21.1**	**+0.8**
PSA00	**Pilbara Seismi**	**56.37**	**259**	P	**P**	**21 23 51.4**	**+0.4**
PSA00				IAmb	IAmb	21 24 14.8	

comp=Z,40nm,1.5s

NWAO	**Narrogin (SRO)**	**56.54**	**245**	P	**P**	**21 23 52.5**	**+0.4**
NWAO				IAmb	IAmb	21 24 23.2	

comp=Z,48nm,1.4s

MBWA	**Marble Bar**	**56.58**	**259**	P	**P**	**21 23 53.0**	**+0.5**
MBWA				IAmb	IAmb	21 24 00.7	

comp=Z,27nm,1.4s

MORW	**Morawa**	**58.16**	**249**	P	**P**	**21 24 04.0**	**+0.8**
MORW				IAmb	IAmb	21 24 11.4	

comp=Z,20nm,1.2s

CASY	**Casey**	**61.26**	**206**	P	**P**	**21 24 25.5**	**+2.4**
QSPA	**South Pole Qui**	**66.93**	**180**	P	**P**	**21 24 59.0**	**-0.3**
HLID	**Hailey**	**88.81**	**41**	P	**P**	**21 26 54.7**	**-2.5**
HFS	**Hagfors**	**142.01**	**350**	PKP	**PKiKP**	**21 33 35.0**	**+1.3**

comp=Z,0.7nm,0.3s,baz=29,slow=3.3,SNR=11

---

*KRNET **22** 21:19:41.4±0.1,40°67N×78°23E,mb3.4*
*SOME **22** 21:19:41.0,40°63N×78°27E,h15km*
*NNC **22** 21:19:42.8±0.8,40°74N×78°27E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=5.6km s-min=4.0km az=167.0
ISC 22 21:19:43.5±1.7,**40°71N**±0°08×**78°20E**±0°04,**h10**km,**n71,**
σ1**91**/100,**22C-8D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.06**	**344**	⇑*iP*	**Pg**	**21 20 02.6**	**-1.4**

TARG baz=43 ⇑*iS* **Sg** **21 20 18.1 +0.3**

baz=43

NRN	**Naryn**	**1.81**	**294**	⇓*iP*	**Pb**	**21 20 16.1**	**-0.9**
NRN				⇓*iS*	**Sg**	**21 20 41.5**	**-0.3**

baz=95

ANVS	**Anan'yevo**	**2.11**	**349**	⇓*eP*	**Pb**	**21 20 20.5**	**-1.5**
ANVS				⇓*iS*	**Sb**	**21 20 49.3**	**+1.0**

baz=49

ULHL	**Ulahol**	**2.13**	**317**	P	**Pb**	**21 20 22.0**	**-0.2**

SNR=24

ULHL	**Ulahol**	**2.13**	**317**	⇑*eP*	**Pb**	**21 20 21.0**	**-1.2**
ULHL				⇑*iS*	**Sb**	**21 20 49.8**	**+1.0**

baz=17

SATY	**Saty**	**2.35**	**4**	*eP*	**Pb**	**21 20 25.7**	**-0.4**

9.7nm,0.5s

SATY 48nm,0.4s *eS* **Sg** **21 20 57.6 -1.6**

SATY	**Saty**	**2.35**	**4**	Pg	**Pb**	**21 20 25.7**	**-0.4**

9.7nm,0.5s

SATY Lg Lg 21 20 57.6

48nm,0.4s

ZHN	**Zhinishke**	**2.46**	**4**	*e*P	**Pb**	**21 20 27.1**	**-0.9**

4.9nm,0.2s

ZHN 72nm,0.4s *e*S **Sb** **21 20 59.8 +1.4**

ZHN	**Zhinishke**	**2.46**	**4**	Pg	**Pb**	**21 20 27.1**	**-0.9**

4.9nm,0.2s

ZHN 72nm,0.4s Lg Lg 21 21 00.4

TNSS	**Tian-Shan**	**2.51**	**339**	*e*P	**Pg**	**21 20 29.6**	**-1.9**

18nm,0.6s

TNSS 34nm,0.6s *e*S **Sg** **21 21 04.0 -0.1**

TNSS	**Tian-Shan**	**2.51**	**339**	Pg	**Pg**	**21 20 29.6**	**-1.9**

18nm,0.6s

TNSS 34nm,0.6s Lg Lg 21 21 04.0

UZB	**Uzunybulak**	**2.51**	**14**	*e*P	**Pb**	**21 20 27.8**	**-1.0**

2.2nm,0.3s

UZB 35nm,0.8s *e*S **Sb** **21 21 00.8 +0.9**

UZB	**Uzunybulak**	**2.51**	**14**	Pg	**Pb**	**21 20 27.7**	**-1.0**

2.2nm,0.3s

UZB 35nm,0.8s Lg Lg 21 21 01.4

MDOK	**Medeo**	**2.60**	**341**	*e*P	**Pb**	**21 20 30.3**	**+0.1**

7.9nm,0.6s

MDOK 61nm,0.8s *e*S **Sg** **21 21 05.1 -1.9**

MDOK	**Medeo**	**2.60**	**341**	Pg	**Pb**	**21 20 30.3**	**+0.1**

7.9nm,0.6s

MDOK 6.8nm,0.4s ⇑Pg **Pb** **21 20 30.4 +0.1**

MDOK 61nm,0.8s Lg Lg 21 21 05.1

MDOK 51nm,0.5s Lg Lg 21 21 05.8

SHLS	**Shalkode**	**2.62**	**21**	*e*P	**Pg**	**21 20 31.8**	**-2.0**

5.8nm,0.3s

SHLS 34nm,0.6s *e*S **Sg** **21 21 07.7 0.0**

SHLS	**Shalkode**	**2.62**	**21**	Pg	**Pg**	**21 20 31.8**	**-2.0**

5.8nm,0.3s

SHLS 34nm,0.6s Lg Lg 21 21 07.7

KOTS	**Kotyrbulak**	**2.65**	**343**	*e*P	**Pb**	**21 20 30.3**	**-0.8**

2.3nm,0.3s

KOTS 45nm,0.5s *e*S **Sb** **21 21 04.9 +1.1**

KOTS	**Kotyrbulak**	**2.65**	**343**	Pg	**Pb**	**21 20 30.3**	**-0.8**

2.3nm,0.3s

KOTS 45nm,0.5s Lg Lg 21 21 04.9

KNDC	**Almaty**	**2.67**	**340**	⇑Lg	Lg	21 21 08.6	

94nm,0.6s

AAA	**Alma-Ata**	**2.68**	**339**	*e*P	**Pg**	**21 20 32.3**	**-2.5**

24nm,0.3s

AAA 85nm,0.6s *e*S **Sg** **21 21 08.6 -0.8**

AAA	**Alma-Ata**	**2.68**	**339**	Pg	**Pg**	**21 20 32.3**	**-2.5**

24nm,0.3s

AAA 85nm,0.6s Lg Lg 21 21 08.6

MTBS	**Maitube**	**2.76**	**332**	*e*P	**Pb**	**21 20 33.2**	**+0.3**

8.9nm,0.4s

MTBS 37nm,0.6s *e*S **Sg** **21 21 10.5 -1.6**

MTBS	**Maitube**	**2.76**	**332**	Pg	**Pb**	**21 20 33.2**	**+0.3**

8.9nm,0.4s

MTBS 37nm,0.6s Lg Lg 21 21 10.5

KURS	**Kuram**	**2.78**	**360**	*e*P	**Pb**	**21 20 33.8**	**+0.5**

6.2nm,0.3s

KURS 22nm,0.6s *e*S **Sg** **21 21 11.5 -1.2**

KURS	**Kuram

KUU	**Kurty**	**3.47**	**337**	Pg	**Pb**	**21 20 45.2**	**+0.2**
	2.3nm,0.3s						
KUU				Lg	Lg	21 21 31.1	
	34nm,0.8s						
ARXS	**Arharly**	**3.51**	**356**	*e*P	**Pb**	**21 20 46.1**	**+0.3**
	7.8nm,0.8s						
ARXS				*e*S	**Sg**	**21 21 32.5**	**-3.9**
	21nm,0.5s						
ARXS	**Arharly**	**3.51**	**356**	Pg	**Pb**	**21 20 46.1**	**+0.3**
ARXS				Lg	Lg	21 21 33.0	
KRBS	**Karabastau**	**3.53**	**329**	*e*P	**Pb**	**21 20 46.4**	**+0.4**
	4.2nm,0.4s						
KRBS				*e*S	**Sb**	**21 21 33.0**	**+4.2**
	40nm,0.9s						
KRBS	**Karabastau**	**3.53**	**329**	Pg	**Pb**	**21 20 46.4**	**+0.4**
	4.2nm,0.4s						
KRBS				Lg	Lg	21 21 33.4	
	40nm,0.9s						
AML	**Almayashu**	**3.67**	**294**	P	**Pg**	**21 20 51.4**	**-2.4**
	SNR=6.4						
USP	**Ospenovka**	**3.76**	**314**	P	**Pb**	**21 20 50.9**	**+0.9**
	SNR=9.5						
DJR	**Jarkent**	**3.81**	**17**	*e*P	**Pb**	**21 20 52.1**	**+1.3**
	1.9nm,0.3s						
DJR				*e*S	**Sg**	**21 21 42.4**	**-3.3**
	16nm,0.6s						
DJR	**Jarkent**	**3.81**	**17**	Pg	**Pb**	**21 20 52.1**	**+1.3**
	1.9nm,0.3s						
DJR				Lg	Lg	21 21 42.4	
	16nm,0.6s						
SGDS	**Sogindy**	**3.82**	**317**	*e*P	**Pb**	**21 20 51.9**	**+1.0**
	2.0nm,0.3s						
SGDS				*e*S	**Sg**	**21 21 42.6**	**-3.4**
	22nm,0.9s						
SGDS	**Sogindy**	**3.82**	**317**	Pg	**Pb**	**21 20 51.9**	**+1.0**
	2.0nm,0.3s						
SGDS				Lg	Lg	21 21 42.6	
	22nm,0.9s						
EKS2	**Erkin-Say**	**3.84**	**302**	P	**Pg**	**21 20 53.6**	**-3.5**
	SNR=25						
MRKS	**Merke**	**4.24**	**300**	*e*P	**Pb**	**21 21 00.2**	**+2.0**
	7.9nm,0.6s						
MRKS				*e*S	**Sg**	**21 21 56.5**	**-3.2**
	9.5nm,0.6s						
MRKS	**Merke**	**4.24**	**300**	Pg	**Pb**	**21 21 00.2**	**+2.0**
	7.9nm,0.6s						
MRKS				Lg	Lg	21 21 56.5	
	9.5nm,0.6s						
TDK	**Taldyqorghan**	**4.29**	**2**	*e*P	**Pg**	**21 21 02.2**	**-3.5**
TDK				*e*S	**Sg**	**21 21 59.9**	**-1.5**
TDK	**Taldyqorghan**	**4.29**	**2**	Pg	**Pg**	**21 21 02.2**	**-3.5**
TDK				Lg	Lg	21 21 59.9	
KK31	**Karatay Array**	**6.21**	**295**	⇑Pg	Pb	21 21 36.0	+4.3
	1.3nm,0.6s,baz=107,slow=17,SNR=9.3						
KK31				⇑Lg	Lg	21 22 59.3	
	1.5nm,0.5s,baz=104,slow=26,SNR=5.2						
MK31	**Makanchi Array**	**6.77**	**25**	Pn	**Pn**	**21 21 24.6**	**+1.8**
	0.1nm,0.3s,baz=204,slow=14,SNR=6.0						
MK31				⇓Sn	**Sn**	**21 22 40.7**	**+0.8**
	1.8nm,0.7s						
MK31				⇑Lg	Lg	21 23 11.7	
	1.4nm,0.8s						
OTUK	**Ortayu**	**8.62**	**333**	⇓Lg	Lg	21 24 12.2	
	3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**9.92**	**1**	⇑Lg	Lg	21 24 58.2	
	5.2nm,0.8s						

*THE **22** 21:30:05.8,38˚.99N×27˚.79E, h2km±1km, ML3.4/11, Error ellipse: s-maj=1.8km s-min=0.9km az=109.0*
*DDA **22** 21:30:05.7±0.0,39˚.00N×27˚.72E, h16km±1km, MW3.7*
*ISK **22** 21:30:05.7,39˚.01N×27˚.73E, h12km, ML3.7/52*
*IDC **22** 21:30:09.6±3.7,38˚.96N×27˚.86E, h32km±40km, mb3.1/2, mbtmp3.3/6, ML3.4/4, Error ellipse: s-maj=21.9km s-min=19.5km az=67.0*

ISC 22 21:30:06.3±0.8,38˚.99N±0˚.01×27˚.72E±0˚.01, h13km±5km, n140,σ0s92/190, 8C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKHS	**Akhisar**	**0.14**	**146**	P		**Pg**	**21 30 09.7**	**0.0**
AKHS				S		**Sg**	**21 30 12.6**	**+0.4**
AKHS				*i*	AML	AML	21 30 13.0	
	comp=N,14nm,0.4s							
AKHS				*i*	AML	AML	21 30 13.0	
	comp=E,2μm,0.4s							
AKS	**Akhisar**	**0.14**	**147**	PG		**Pg**	**21 30 09.6**	**-0.1**
AKS				SG		**Sg**	**21 30 12.2**	**0.0**
GOMA	**Golmarmara-Man**	**0.33**	**151**	PG		**Pb**	**21 30 13.2**	**-0.8**
GOMA				SG		**Sb**	**21 30 18.2**	**-1.0**
STEP	**BALIKESIR_Sava**	**0.38**	**0**	P		**Pg**	**21 30 13.6**	**-0.4**
STEP				S		**Sg**	**21 30 19.6**	**+0.5**
STEP				*i*	AML	AML	21 30 20.0	
	comp=N,6μm,0.6s							
STEP				*i*	AML	AML	21 30 20.0	
	comp=E,5μm,0.5s							
ZEDA	**zmir-Bergama**	**0.50**	**267**	P		**Pb**	**21 30 16.4**	**-0.6**
ZEDA				S		**Sb**	**21 30 23.5**	**-0.7**
ZEDA				*i*	AML	AML	21 30 24.0	
	comp=E,1μm,0.4s							
ZEDA				*i*	AML	AML	21 30 26.0	
	comp=N,1μm,0.6s							
DKL	**Dikili**	**0.64**	**277**	PG		**Pb**	**21 30 19.1**	**-0.2**
DKL				SG		**Sb**	**21 30 28.2**	**+0.1**
BUHA	**Balikesir, Bur**	**0.71**	**316**	P		**Pb**	**21 30 20.0**	**-0.6**
BUHA				S		**Sg**	**21 30 28.9**	**-0.6**
BUHA				*i*	AML	AML	21 30 33.0	
	comp=N,576nm,0.3s							
BALY	**Balya**	**0.75**	**354**	P		**Pg**	**21 30 19.5**	**-1.4**
BALY				S		**Sg**	**21 30 29.6**	**-1.1**
BALY				*i*	AML	AML	21 30 30.0	
	comp=N,3μm,0.6s							
BALY				*i*	AML	AML	21 30 30.0	
	comp=E,3μm,0.4s							
DEMI	**Demirci**	**0.78**	**86**	P		**Pg**	**21 30 21.3**	**-0.1**
DEMI				S		**Sg**	**21 30 32.0**	**+0.3**
DEMI				*i*	AML	AML	21 30 33.0	
	comp=N,2μm,0.3s							
DEMI				*i*	AML	AML	21 30 34.0	
	comp=E,3μm,0.2s							
BLCB	**Balcova**	**0.80**	**221**	P		**Pb**	**21 30 21.8**	**-0.4**
BLCB				S		**Sb**	**21 30 33.3**	**+0.3**
BLCB	**Balcova**	**0.80**	**221**	PG		**Pb**	**21 30 21.8**	**-0.4**
BLCB				SG		**Sn**	**21 30 33.9**	**-1.3**
FOCM	**Foa**	**0.82**	**250**	PG		**Pb**	**21 30 21.9**	**-0.5**
MANT	**Manisa**	**0.83**	**127**	P		**Pg**	**21 30 22.0**	**-0.3**
MANT				S		**Sb**	**21 30 33.6**	**-0.3**
MANT				*i*	AML	AML	21 30 36.0	
	comp=N,2μm,0.7s							
DURS	**Dursunbey**	**0.84**	**44**	P		**Pg**	**21 30 21.6**	**-1.1**
DURS				S		**Sg**	**21 30 34.0**	**+0.2**
DURS				*i*	AML	AML	21 30 37.0	
	comp=E,3μm,0.6s							
DURS				*i*	AML	AML	21 30 38.0	
	comp=N,2μm,0.5s							
AYVA	**Ayvalik**	**0.86**	**292**	P		**Pb**	**21 30 23.0**	**-0.1**
AYVA				S		**Sn**	**21 30 36.8**	**+0.3**
DST	**Dursunbey**	**0.93**	**49**	PG		**Pg**	**21 30 23.5**	**-0.8**
SMAA	**Simav-Kutahya**	**0.99**	**83**	PG		**Pg**	**21 30 25.0**	**-0.4**
KRBN	**Karaburun**	**0.99**	**247**	PG		**Pn**	**21 30 25.2**	**-0.8**
GONE	**Gonen-Balikesi**	**1.05**	**359**	PG		**Pg**	**21 30 26.0**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**172**	PG		**Pn**	**21 30 26.7**	**-0.3**
USAK	**Uak-Merkez**	**1.05**	**105**	P		**Pg**	**21 30 25.9**	**-0.7**
USAK				S		**Sg**	**21 30 40.4**	**+0.1**
USAK				*i*	AML	AML	21 30 42.0	
	comp=N,690nm,0.5s							
URLA	**Izmir**	**1.08**	**235**	PN		**Pg**	**21 30 25.8**	**-1.4**
URLA	**Izmir**	**1.08**	**235**	P		**Pg**	**21 30 25.7**	**-1.4**
URLA				S		**Sn**	**21 30 40.8**	**-1.4**
DGB	**zmir**	**1.15**	**215**	P		**Pg**	**21 30 27.5**	**-0.9**
DGB				S		**Sn**	**21 30 43.5**	**-0.1**
DGB				*i*	AML	AML	21 30 45.0	
	comp=E,822nm,0.7s							
DGB				*i*	AML	AML	21 30 46.0	
	comp=N,951nm,0.5s							
PRK	**Paraskevi**	**1.15**	**283**	P		**Pn**	**21 30 28.6**	**+0.4**
PRK				S		**Sn**	**21 30 45.2**	**+1.4**
	2μm,0.6s							
BAYC	**CANAKKALE_Bayr**	**1.18**	**310**	P		**Pg**	**21 30 28.3**	**-0.6**
BAYC				S		**Sn**	**21 30 44.4**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**1.21**	**232**	P		**Pg**	**21 30 28.7**	**-1.0**
ZEYE				S		**Sn**	**21 30 45.4**	**+0.1**
KNL	**Balıkesir**	**1.28**	**353**	P		**Pn**	**21 30 29.7**	**-0.3**
KNL				S		**Sn**	**21 30 47.5**	**+0.3**
KNL				*i*	AML	AML	21 30 49.0	
	comp=N,949nm,0.7s							
GPNR	**Gulpinar-Canak**	**1.31**	**291**	PN		**Pg**	**21 30 30.9**	**-0.7**
GEDZ	**Gediz**	**1.32**	**87**	PN		**Pn**	**21 30 30.4**	**-0.2**
KOCA	**Canakkale, Ayv**	**1.33**	**293**	P		**Pg**	**21 30 31.0**	**-0.9**
KOCA				S		**Sg**	**21 30 48.4**	**-0.7**
GCAM	**G?zelcaml?**	**1.35**	**197**	PN		**Pb**	**21 30 30.9**	**-0.5**
GCAM	**G?zelcaml?**	**1.35**	**197**	P		**Pg**	**21 30 32.1**	**-0.1**
GCAM				S		**Sg**	**21 30 50.3**	**+0.6**
EDC	**Edincik**	**1.36**	**5**	PN		**Pn**	**21 30 30.7**	**-0.3**
EZN	**Ezine**	**1.36**	**308**	P		**Pb**	**21 30 31.1**	**-0.6**
EZN				S		**Sg**	**21 30 50.6**	**+0.4**
	1μm,0.6s							
EZN	**Ezine**	**1.36**	**308**	PN		**Pb**	**21 30 31.2**	**-0.5**
GDZ	**Gediz**	**1.38**	**85**	P		**Pn**	**21 30 30.5**	**-1.0**
GDZ				S		**Sb**	**21 30 50.0**	**+0.4**
GDZ				*i*	AML	AML	21 30 51.0	
	comp=E,720nm,0.3s							
GDZ				*i*	AML	AML	21 30 52.0	
	comp=N,1μm,0.6s							
ORLT	**Orhaneli**	**1.39**	**41**	PN		**Pn**	**21 30 31.0**	**-0.6**
TVSB	**Tavsanli**	**1.43**	**71**	PN		**Pn**	**21 30 31.5**	**-0.6**
CHOS	**Chios island**	**1.43**	**246**	P		**Pb**	**21 30 32.1**	**-0.9**
CHOS				S		**Sg**	**21 30 53.2**	**+0.7**
	1μm,0.5s							
SMG	**Samos**	**1.46**	**209**	P		**Pg**	**21 30 33.7**	**-0.6**
SMG				S		**Sg**	**21 30 53.7**	**+0.5**
	2μm,0.6s							
SIGR	**SIGRI**	**1.47**	**279**	P		**Pn**	**21 30 32.4**	**-0.1**
SIGR				S		**Sg**	**21 30 53.9**	**+0.4**
	600nm,0.4s							
SIGR	**SIGRI**	**1.47**	**279**	PN		**Pb**	**21 30 32.7**	**-0.7**
PASA	**Karahalli, USA**	**1.53**	**114**	P		**Pn**	**21 30 33.8**	**+0.3**
PASA				S		**Sg**	**21 30 56.0**	**+0.4**
BOZC	**Bozcaada**	**1.54**	**304**	PN		**Pn**	**21 30 33.7**	**+0.1**
BOZC	**Bozcaada**	**1.54**	**304**	P		**Pb**	**21 30 34.1**	**-0.7**
BOZC				S		**Sg**	**21 30 56.8**	**+0.9**
KHL	**Karahalli**	**1.56**	**115**	PN		**Pn**	**21 30 34.2**	**+0.3**
DDIM	**Aydin, Didim**	**1.58**	**194**	P		**Pg**	**21 30 36.0**	**-0.6**
DDIM				S		**Sg**	**21 30 57.8**	**+0.7**
ULDT	**Uludag**	**1.59**	**43**	P		**Pn**	**21 30 34.2**	**-0.1**
ULDT				S		**Sn**	**21 30 54.6**	**-0.3**
ULDT				*i*	AML	AML	21 30 59.0	
	comp=N,358nm,0.3s							
ULDT				*i*	AML	AML	21 31 01.0	
	comp=E,896nm,0.4s							
ECEA	**Canakkale, Ece**	**1.59**	**312**	P		**Pb**	**21 30 35.0**	**-0.6**
ECEA				S		**Sg**	**21 30 57.3**	**-0.2**
MRMT	**Marmara Adasi**	**1.61**	**357**	PN		**Pn**	**21 30 34.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.64**	**33**	PN		**Pn**	**21 30 34.6**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.70**	**326**	PN		**Pn**	**21 30 36.1**	**+0.4**
IGD	**Bursa**	**1.71**	**42**	P		**Pn**	**21 30 35.7**	**-0.2**
IGD				S		**Sn**	**21 30 57.5**	**-0.2**
IGD				*i*	AML	AML	21 31 03.0	
	comp=N,233nm,0.4s							
RKY	**Sarkoy-Tekirda**	**1.74**	**346**	PN		**Pn**	**21 30 36.3**	**-0.1**
SART	**Tekirdag**	**1.74**	**346**	P		**Pn**	**21 30 35.5**	**-0.9**
ANDZ	**Kutahya, Merke**	**1.77**	**72**	P		**Pn**	**21 30 37.1**	**+0.3**
ANDZ				S		**Sg**	**21 31 02.7**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.79**	**148**	P		**Pn**	**21 30 37.1**	**0.0**
TAVA				S		**Sg**	**21 31 04.3**	**+0.4**
MULA	**Mugla, Merkez-**	**1.80**	**164**	P		**Pn**	**21 30 36.7**	**-0.4**
MULA				S		**Sg**	**21 31 03.9**	**-0.3**
ARMT	**Armutlu**	**1.80**	**29**	PN		**Pn**	**21 30 36.9**	**-0.3**
GEMT	**Gemlik**	**1.83**	**38**	PN		**Pn**	**21 30 38.1**	**+0.5**
GOKA	**anakkale-Gk**	**1.84**	**311**	P		**Pb**	**21 30 39.5**	**-0.3**
GADA	**Gurgeada**	**1.84**	**311**	PN		**Pn**	**21 30 38.1**	**+0.4**
YER	**Yerkesik**	**1.91**	**166**	P		**Pn**	**21 30 38.3**	**-0.4**
YER				S		**Sn**	**21 31 02.3**	**-0.3**
YER	**Yerkesik**	**1.91**	**166**	PN		**Pn**	**21 30 38.8**	**+0.1**
BDRM	**Kayabasi**	**1.94**	**186**	P		**Pb**	**21 30 40.1**	**-1.4**
BODT	**Bodrum**	**1.95**	**190**	P		**Pn**	**21 30 38.0**	**-1.2**
BODT				S		**Sb**	**21 31 04.9**	**-1.2**
BODT	**Bodrum**	**1.95**	**190**	PN		**Pb**	**21 30 40.1**	**-1.7**
APMY	**Acipayam-Deniz**	**1.97**	**140**	PN		**Pn**	**21 30 39.6**	**+0.1**
KURT	**Yalova, Merkez**	**1.97**	**35**	P		**Pn**	**21 30 38.8**	**-0.6**
KESN	**Edirne-Kesan**	**2.00**	**337**	P		**Pn**	**21 30 39.7**	**-0.5**
AUBOZ	**BOZOYUK**	**2.01**	**62**	PN		**Pn**	**21 30 40.2**	**+0.1**
AUBOZ	**BOZOYUK**	**2.01**	**62**	P		**Pb**	**21 30 41.8**	**-1.1**
AUBOZ				S		**Sb**	**21 31 08.9**	**+1.0**
AUBOZ				*i*	AML	AML	21 31 13.0	
	comp=N,522nm,1.0s							
BILE	**Bilecik/Merkez**	**2.04**	**54**	P		**Pb**	**21 30 43.3**	**+0.1**
KZIL	**AFYON_Kizioren**	**2.04**	**110**	P		**Pn**	**21 30 40.6**	**+0.2**
CAVI	**Cavuskoy**	**2.04**	**53**	PN		**Pn**	**21 30 40.6**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**2.07**	**325**	P		**Pn**	**21 30 41.2**	**+0.3**
ENEZ	**Enez**	**2.12**	**326**	P		**Pn**	**21 30 42.0**	**+0.6**
ENEZ				S		**Sb**	**21 31 09.8**	**-0.9**
	1μm,0.6s							
ENEZ	**Enez**	**2.12**	**326**	PN		**Pn**	**21 30 42.1**	**+0.6**
ADVT	**Abdulvahap**	**2.12**	**47**	PN		**Pn**	**21 30 41.9**	**+0.4**
BASM	**Basmaki-Afyon**	**2.12**	**120**	PN		**Pn**	**21 30 42.2**	**+0.6**
CRLT	**Corlu**	**2.13**	**0**	PN		**Pn**	**21 30 41.9**	**+0.2**
LIA	**Limnos Island**	**2.16**	**296**	P		**Pn**	**21 30 42.9**	**+0.9**
LIA				S		**Sb**	**21 31 11.1**	**-0.9**
	260nm,0.5s							
ELBA	**Catala**	**2.22**	**14**	P		**Pn**	**21 30 41.8**	**-1.1**
SMTH	**Samothraki Isl**	**2.24**	**312**	P		**Pn**	**21 30 43.6**	**+0.4**
SMTH				S		**Sb**	**21 31 12.9**	**-1.5**
BRDR	**BURDUR-Merkez**	**2.25**	**124**	P		**Pn**	**21 30 42.8**	**-0.6**
TURN	**Turunc**	**2.25**	**169**	PN		**Pn**	**21 30 43.2**	**-0.1**
TURN	**Turunc**	**2.25**	**169**	P		**Pn**	**21 30 42.2**	**-1.1**
CAEL	**Denizli, Camel**	**2.26**	**145**	P		**Pn**	**21 30 43.4**	**-0.1**
SHUT	**Suhut-Afyon**	**2.26**	**100**	PN		**Pn**	**21 30 44.2**	**+0.7**
SLVT	**Silivri**	**2.27**	**9**	PN		**Pn**	**21 30 43.6**	**+0.1**
UKOP	**Uzunkopru-Edir**	**2.29**	**339**	PN		**Pn**	**21 30 44.4**	**+0.6**
ALN	**Alexandroupoli**	**2.29**	**326**	P		**Pn**	**21 30 43.7**	**-0.2**
ALN				S		**Sn**	**21 31 13.0**	**+1.0**
	360nm,0.5s							
ALN	**Alexandroupoli**	**2.29**	**326**	PN		**Pn**	**21 30 44.2**	**+0.3**
DALY	**Dalyan (Mula)**	**2.29**	**161**	PN		**Pn**	**21 30 44.3**	**+0.4**
BORA	**Eskisehir**	**2.30**	**66**	PN		**Pn**	**21 30 44.6**	**+0.6**
BORA	**Eskisehir**	**2.30**	**66**	P		**Pb**	**21 30 46.8**	**-0.9**
KAVV	**Kandilli-Istan**	**2.31**	**26**	PN		**Pn**	**21 30 43.6**	**-0.5**
ISK	**Istanbul-Kandi**	**2.31**	**26**	P		**Pn**	**21 30 43.4**	**-0.7**
ISK				S		**Sn**	**21 31 11.2**	**-1.3**
	315nm,0.6s							
ISK	**Istanbul-Kandi**	**2.31**	**26**	PN		**Pn**	**21 30 43.5**	**-0.7**
CTKS	**Kestanelik-??a**	**2.32**	**15**	PN		**Pn**	**21 30 43.9**	**-0.4**
BGKT	**Bogazkoy**	**2.33**	**20**	PN		**Pn**	**21 30 45.0**	**+0.6**
HRT	**Hereke**	**2.36**	**39**	PN		**Pn**	**21 30 44.7**	**-0.2**
GPA	**Golpazari**	**2.38**	**56**	PN		**Pn**	**21 30 45.6**	**+0.4**
CAME	**Cameli-Denizli**	**2.40**	**148**	PN		**Pn**	**21 30 46.3**	**+0.8**
NIS1	**Nisyros Isl.**	**2.42**	**190**	PN		**Pn**	**21 30 46.9**	**+1.2**
KLYT	**Kilyos**	**2.48**	**24**	PN		**Pn**	**21 30 45.9**	**-0.5**
SRCK	**Saricakaya, Es**	**2.48**	**64**	PN		**Pn**	**21 30 46.8**	**+0.3**
ESKT	**Eskisehir**	**2.49**	**77**	PN		**Pn**	**21 30 46.9**	**+0.2**
ISP	**Isparta**	**2.50**	**117**	PN		**Pn**	**21 30 47.3**	**+0.4**
CTYL	**Yalikoy Yolu**	**2.52**	**10**	PN		**Pn**	**21 30 47.2**	**+0.2**
FETY	**Fethiye**	**2.59**	**155**	PN		**Pn**	**21 30 48.5**	**+0.5**
GULT	**Gulveren**	**2.59**	**55**	PN		**Pn**	**21 30 48.6**	**+0.5**
SILT	**Sile**	**2.62**	**34**	PN		**Pn**	**21 30 48.4**	**+0.1**
CIFT	**Cifteler, Eski**	**2.63**	**81**	PN		**Pn**	**21 30 49.4**	**+0.9**
SAUV	**Serdivan-Sakar**	**2.66**	**48**	PN		**Pn**	**21 30 49.8**	**+0.9**
RDO	**Rodhopi**	**2.72**	**323**	P		**Pn**	**21 30 50.8**	**+1.0**
RDO				S		**Sb**	**21 31 25.4**	**-2.8**
	115nm,0.5s							
ARG	**Arkhangelos**	**2.79**	**173**	P		**Pn**	**21 30 51.5**	**+0.8**
ARG				S		**Sn**	**21 31 25.8**	**+1.5**
	338nm,0.4s							
KIRK	**Kirklareli**	**2.83**	**351**	P		**Pn**	**21 30 50.7**	**-0.5**
DOGA	**KONYA_Doganhis**	**3.22**	**105**	P		**Pn**	**21 30 57.9**	**+1.1**
SEDI	**Konya, Seydise**	**3.53**	**115**	P		**Pn**	**21 31 01.9**	**+0.9**
ANTO	**Ankara**	**4.03**	**76**	⇑P		**Pg**	**21 31 23.5**	**+0.1**
IDI	**Anoyia**	**4.33**	**212**	Pn		**Pn**	**21 31 13.0**	**+1.0**
	0.3nm,0.3s,baz=100,slow=17,SNR=2.1							
IDI				Sn		**Sn**	**21 31 59.9**	**-2.6**
	1.3nm,0.3s,baz=345,slow=9.6,SNR=3.6							
	3.7nm,0.7s							
BRTR	**Keskin Array B**	**4.65**	**79**	Pn		**Pn**	**21 31 18.1**	**+1.6**
	0.7nm,0.3s,baz=255,slow=13,SNR=18							
BRTR				Pg		**Pg**	**21 31 34.0**	**-1.3**
	1.1nm,0.3s,baz=263,slow=15,SNR=23							
BRTR				Sn		**Sn**	**21 32 09.1**	**-1.2**
	0.4nm,0.3s,baz=259,slow=15,SNR=1.7							
BRTR				Lg	Lg	21 32 33.7		
	0.1nm,0.3s,baz=268,slow=13,SNR=1.7							
	1.8nm,0.4s							
ZIMR		**4.99**	**340**	⇑P		**Pn**	**21 31 23.3**	**+2.4**
STIP	**Stip**	**5.01**	**304**	*i* Pn		**Pn**	**21 31 21.9**	**+0.6**
BOVS	**Bovan**	**6.48**	**318**	⇑P		**Pn**	**21 31 42.4**	**+1.1**
MLR	**Muntele Rosu**	**6.62**	**349**	⇑P		**Pn**	**21 31 46.8**	**+3.3**
MLR	**Muntele Rosu**	**6.62**	**349**	Pn		**Pn**	**21 31 46.3**	**+2.8**
	0.8nm,0.3s,baz=130,slow=5.4,SNR=6.3							
	1.9nm,0.5s							
PLOR	**Plostina**	**6.90**	**354**	⇓P		**Pn**	**21 31 50.5**	**+3.3**
VRI	**Vrincioaia**	**6.91**	**354**	⇓P		**Pn**	**21 31 50.2**	**+2.9**
COVR	**Voineasa-Covas**	**6.94**	**351**	⇑P		**Pn**	**21 31 49.6**	**+1.9**
HERR	**Herculane**	**7.09**	**328**	⇑P		**Pn**	**21 31 49.7**	**0.0**
MDVR	**Moldovita**	**7.31**	**324**	⇓P		**Pn**	**21 31 53.3**	**+0.4**
GZR	**Gura Zlata**	**7.37**	**332**	⇑P		**Pn**	**21 31 53.5**	**-0.2**
BIZ	**Bicaz**	**8.03**	**352**	⇓P		**Pn**	**21 32 04.1**	**+1.5**
MMAI	**Mount Meron Ar**	**8.62**	**131**	Pn		**Pn**	**21 32 10.1**	**-0.8**
	1.1nm,0.3s,baz=321,slow=12,SNR=11							
	0.7nm,0.3s							
BURAR	**Bucovina Array**	**8.81**	**349**	⇑P		**Pn**	**21 32 16.3**	**+2.9**
FINES	**FINESS Array B**	**22.50**	**358**	P		**P**	**21 35 06.2**	**+0.8**
	1.0nm,0.8s,baz=131,slow=15,SNR=3.6							
	1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**34.53**	**229**	P		**P**	**21 36 56.0**	**+1.4**
	0.2nm,0.6s,baz=46,slow=8.2,SNR=1.5							
	0.2nm,0.6s							

JMA 22 22:47:24.2±0.2,24˚.9N±0˚.8×123˚.4E±0˚.3, h28km, MV1.6/8, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	**Yonaguni jima**	**0.56**	**215**	P		Pb	22 47 35.0	-0.5
YOJ				S		Sb	22 47 42.9	-0.4
JYNG	**Yonagunijimaku**	**0.61**	**219**	P		Pb	22 47 36.1	-0.2
JYNG				S		Sb	22 47 44.0	-0.5
IRIF	**Iriomote-Funau**	**0.68**	**150**	P		Pb	22 47 37.0	-0.4
IRIF				S		Sb	22 47 46.6	+0.1
JKRS	**Kuro-shima**	**0.91**	**139**	P		Pn	22 47 40.8	-0.2
JKRS				S		Sb	22 47 52.4	-0.5
JIJ	**Ishigaki jima**	**0.91**	**128**	P		Pn	22 47 40.5	-0.5
JIJ				S		Sb	22 47 52.1	-0.8
JISG	**Ishigakijimahi**	**0.93**	**111**	P		Pn	22 47 41.2	-0.1
HATJ	**Hateruma jima**	**0.96**	**155**	P		Pn	22 47 41.5	-0.2
HATJ				S		Sb	22 47 53.7	-0.7

TAP 22 22:48:00.3, 24˚.08N×121˚.72E, h36km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWD	**Chiawan**	**0.11**	**272**	*e*P		Pn	22 48 06.9	-5.7
	baz=273							
TWD				*e*S		Sn	22 48 11.9	-12
	baz=273							
NACB	**Ninganchiao**	**0.15**	**312**	*e*P		Pn	22 48 07.2	-3.7
	baz=304							
NACB				*e*S		Sn	22 48 12.5	-8.7
	baz=304							
ETLH	**Xiulin Townshi**	**0.25**	**301**	*i* P		Pn	22 48 07.9	-0.7
	baz=302							
ETLH				S		Sn	22 48 13.6	-2.6
	baz=302							
EWUT	**Wuta**	**0.37**	**9**	P		Pn	22 48 09.0	+0.1
	baz=11							
EWUT				S		Sn	22 48 15.8	+0.2
	baz=11							
WHF	**Hehuan Shan**	**0.42**	**280**	*i* P		Pn	22 48 10.0	0.0
	baz=279							
WHF				*e*S		Sn	22 48 16.4	-0.7
	baz=279							
FUSS	**Fushou**	**0.46**	**292**	*i* P		Pn	22 48 10.8	+0.3
	baz=292							
FUSS				S		Sn	22 48 17.9	+0.1
	baz=292							
NNSB	**Datong**	**0.46**	**319**	*i* P		Pn	22 48 10.8

WSRZ	**White Island S**	**1.71 262**	P		**Sn**	22 51 21.3	**-2.7**
MWZ	**Matawai**	**1.75 233**	P		**Pn**	22 51 04.7	**+1.1**
MWZ			S		**Sn**	22 51 26.5	**+1.3**
RIGZ	**Rimuhau**	**1.87 220**	P		**Pn**	22 51 06.6	**+1.4**
RAGZ	**Rawiri**	**1.92 230**	P		**Pn**	22 51 07.2	**+1.2**
RAGZ			S		**Sn**	22 51 30.5	**+1.1**
WHRZ	**Whale Island**	**1.94 252**	P		**Pn**	22 51 07.3	**+1.2**
WHRZ			S		**Sn**	22 51 30.3	**+0.6**
PRGZ	**Paritu Road**	**1.98 214**	P		**Pn**	22 51 08.4	**+1.6**
PRGZ			S		**Sn**	22 51 31.9	**+1.1**
URZ	**Urewera**	**1.99 240**	Pn		**Pn**	22 51 08.1	**+1.2**
	90nm,0.3s,baz=336,slow=2.7,SNR=118						
URZ			Sn		**Sn**	22 51 30.4	**-0.6**
	84nm,0.3s,baz=330,slow=20,SNR=6.4						
	151nm,0.3s						
URZ	**Urewera**	**1.99 240**	Pn		**Pn**	22 51 07.9	**+1.1**
URZ	**Urewera**	**1.99 240**	P		**Pn**	22 51 07.9	**+1.1**
URZ			S		**Sn**	22 51 29.8	**-1.2**
URZ	**Urewera**	**1.99 240**	P		**Pn**	22 51 08.0	**+1.2**
SNGZ	**Shannon Statio**	**2.15 226**	P		**Pn**	22 51 10.1	**+1.0**
SNGZ			S		**Sn**	22 51 36.5	**+1.5**
KNZ	**Kokohu**	**2.16 216**	P		**Pn**	22 51 09.8	**+0.7**
MHGZ	**Mahia Peninsul**	**2.16 210**	P		**Pn**	22 51 10.8	**+1.6**
EDRZ	**Edgecumbe**	**2.19 247**	P		**Pn**	22 51 11.2	**+1.5**
EDRZ			S		**Sn**	22 51 35.7	**-0.4**
MARZ	**Manawahe**	**2.20 251**	P		**Pn**	22 51 11.9	**+2.1**
OPRZ	**Ohinepanea**	**2.25 255**	P		**Pn**	22 51 10.8	**+0.4**
RTZ	**Ruatahuna**	**2.26 233**	P		**Pn**	22 51 11.8	**+1.1**
MUGZ	**Murupara**	**2.33 239**	P		**Pn**	22 51 12.2	**+0.7**
RAHZ	**Arahi**	**2.39 226**	P		**Pn**	22 51 13.4	**+1.0**
MKRZ	**Makatiti**	**2.40 248**	P		**Pb**	22 51 15.9	**-1.5**
WHHZ	**Waihua**	**2.42 222**	P		**Pn**	22 51 13.8	**+1.1**
LIRZ	**Lichensteins R**	**2.42 252**	P		**Pb**	22 51 20.3	**+2.7**
MYRZ	**Mayor Island**	**2.44 269**	P		**Pn**	22 51 12.5	**-0.6**
RRRZ	**Republican Roa**	**2.44 244**	P		**Pn**	22 51 14.9	**+1.7**
OMRZ	**Omania**	**2.46 250**	P		**Pn**	22 51 12.8	**-0.6**
MTHZ	**Maungataniwha**	**2.49 230**	P		**Pn**	22 51 15.0	**+1.2**
HLRZ	**Highlands Stat**	**2.53 247**	P		**Pn**	22 51 15.6	**+1.3**
KARZ	**Kaharoa**	**2.54 252**	P		**Pn**	22 51 15.0	**+0.6**
PRRZ	**Plateau Road**	**2.60 241**	P		**Pn**	22 51 13.6	**-1.7**
HSRZ	**Hossack Road**	**2.63 246**	P		**Pn**	22 51 18.0	**+2.4**
ALRZ	**Allen Road**	**2.66 241**	P		**Pn**	22 51 17.1	**+1.0**
NMHZ	**Naumai**	**2.67 227**	P		**Pn**	22 51 17.3	**+1.0**
ARHZ	**Aropaoanui**	**2.68 222**	P		**Pn**	22 51 17.4	**+1.0**
KMRZ	**Kaimai**	**2.73 267**	P		**Pn**	22 51 17.0	**0.0**
MRHZ	**Matea Rd**	**2.75 235**	P		**Pn**	22 51 18.3	**+0.9**
BKZ	**Black Stump Fm**	**2.90 229**	Pn		**Pn**	22 51 19.9	**+0.5**
BKZ	**Black Stump Fm**	**2.90 229**	P		**Pn**	22 51 20.1	**+0.7**
BKZ	**Black Stump Fm**	**2.90 229**	P		**Pn**	22 51 20.5	**+1.1**
KUZ	**Kuaotunu**	**2.92 280**	P		**Pn**	22 51 17.5	**-2.1**
CKHZ	**Cape Kidnapper**	**2.94 216**	P		**Pn**	22 51 20.1	**+0.2**
MCHZ	**McNeill Hill**	**2.97 223**	P		**Pn**	22 51 21.1	**+0.7**
TOZ	**Tahuroa Road**	**3.06 261**	P		**Pn**	22 51 20.6	**-0.9**
KWHZ	**Kaweka Forest**	**3.11 226**	P		**Pn**	22 51 22.6	**+0.3**
KAHZ	**Kahuranaki**	**3.14 216**	P		**Pn**	22 51 23.0	**+0.3**
RITZ	**Rihia Road**	**3.20 237**	P		**Pn**	22 51 25.2	**+1.7**
RATZ	**Rangitukua**	**3.20 239**	P		**Pn**	22 51 25.8	**+2.2**
GRZ	**Great Barrier**	**3.26 287**	P		**Pn**	22 51 22.6	**-1.6**
KRHZ	**Kereru**	**3.29 223**	P		**Pn**	22 51 24.6	**-0.2**
KATZ	**Kakaramea**	**3.31 238**	P		**Pn**	22 51 26.7	**+1.6**
MKAZ	**Moumakai**	**3.31 272**	P		**Pn**	22 51 23.4	**-1.6**
BHHZ	**Black Hill Sta**	**3.36 228**	P		**Pn**	22 51 26.1	**+0.3**
TMVZ	**Te Maari**	**3.37 236**	P		**Pn**	22 51 26.1	**+0.2**
WIAZ	**Waiheke Island**	**3.37 277**	P		**Pn**	22 51 24.4	**-1.5**
ETVZ	**East Tongariro**	**3.38 236**	P		**Pn**	22 51 26.2	**+0.2**
NTVZ	**North Tongarir**	**3.38 237**	P		**Pn**	22 51 26.4	**+0.3**
KRVZ	**Karewarewa**	**3.40 237**	P		**Pn**	22 51 26.9	**+0.5**
OTVZ	**Oturere**	**3.42 236**	P		**Pn**	22 51 26.9	**+0.2**
NNVZ	**North Ngauruho**	**3.44 237**	P		**Pn**	22 51 27.8	**+0.9**
WTVZ	**West Tongariro**	**3.45 237**	P		**Pn**	22 51 28.1	**+1.1**
SNVZ	**South Ngauruho**	**3.45 236**	P		**Pn**	22 51 27.3	**+0.2**
NGZ	**Ngauruhoe**	**3.47 236**	P		**Pn**	22 51 27.6	**+0.2**
TUVZ	**Tukino**	**3.49 234**	P		**Pn**	22 51 28.7	**+1.2**
MOVZ	**Moawhango**	**3.50 232**	P		**Pn**	22 51 28.3	**+0.6**
ETAZ	**East Tamaki Re**	**3.51 274**	P		**Pn**	22 51 27.9	**+0.1**
TWVZ	**Taurewa**	**3.53 239**	P		**Pn**	22 51 29.2	**+1.1**
WNVZ	**Wahianoa**	**3.56 234**	P		**Pn**	22 51 29.3	**+0.7**
MBAZ	**Motutapu North**	**3.56 277**	P		**Pn**	22 51 27.7	**-0.7**
WPHZ	**Waipukurau**	**3.56 218**	P		**Pn**	22 51 28.0	**-0.4**
PNHZ	**Pukenui**	**3.58 222**	P		**Pn**	22 51 28.0	**-0.7**
PRHZ	**Porangahau**	**3.63 214**	P		**Pn**	22 51 28.6	**-0.8**
MTVZ	**Mangateitei**	**3.67 234**	P		**Pn**	22 51 30.7	**+0.7**
PKVZ	**Pokaka**	**3.70 236**	P		**Pn**	22 51 31.9	**+1.5**
HIZ	**Hauiti**	**3.72 249**	Pn		**Pn**	22 51 31.3	**+0.6**
HIZ	**Hauiti**	**3.72 249**	P		**Pn**	22 51 32.4	**+1.7**
HIZ	**Hauiti**	**3.72 249**	P		**Pn**	22 51 32.3	**+1.6**
AWAZ	**Awhitu Peninsu**	**3.73 272**	P		**Pn**	22 51 30.0	**-0.7**
WTAZ	**Waiatarua**	**3.80 274**	P		**Pn**	22 51 32.3	**+0.6**
TSZ	**Takapari Road**	**3.81 222**	P		**Pn**	22 51 31.2	**-0.7**
DVHZ	**Dannevirke**	**3.88 218**	P		**Pn**	22 51 32.3	**-0.6**
BFZ	**Birch Farm**	**4.14 214**	Pn		**Pn**	22 51 34.7	**-1.8**
BFZ	**Birch Farm**	**4.14 214**	P		**Pn**	22 51 34.9	**-1.5**
BFZ	**Birch Farm**	**4.14 214**	P		**Pn**	22 51 35.6	**-0.8**
POWZ	**Post Office Ro**	**4.15 221**	P		**Pn**	22 51 36.5	**-0.1**
PRWZ	**Pori Road**	**4.17 218**	P		**Pn**	22 51 36.3	**-0.5**
WAZ	**Wanganui**	**4.19 233**	P		**Pn**	22 51 38.1	**+1.0**
WCZ	**Waipu Caves**	**4.21 287**	P		**Pn**	22 51 36.3	**-1.1**
TIWZ	**Tintock**	**4.38 216**	P		**Pn**	22 51 39.0	**-0.7**
LREZ	**Lake Rotokare**	**4.42 239**	P		**Pn**	22 51 44.8	**+4.5**
MRZ	**Mangatainoka R**	**4.45 220**	P		**Pn**	22 51 38.8	**-1.9**
PKE	**Pukeiti**	**4.60 244**	P		Pb	22 51 49.5	-5.2
KHEZ	**Kahui Hut**	**4.62 243**	P		**Pn**	22 51 46.4	**+3.3**
TMWZ	**Te Maipa**	**4.64 214**	P		**Pn**	22 51 41.3	**-2.1**
HOWZ	**Holdsworth Sta**	**4.66 218**	P		**Pn**	22 51 41.6	**-2.0**
OGWZ	**Otaki Gorge**	**4.77 221**	P		**Pn**	22 51 43.3	**-1.7**
KIW	**Kapiti Island**	**4.94 222**	P		**Pn**	22 51 45.5	**-1.9**
TRWZ	**Traveller**	**4.97 213**	P		**Pn**	22 51 45.1	**-2.8**
OUZ	**Omahuta**	**5.05 292**			**Pn**	22 51 47.9	**-1.0**
OUZ	**Omahuta**	**5.05 292**	P		**Pn**	22 51 48.2	**-0.8**
OUZ	**Omahuta**	**5.05 292**	P		**Pn**	22 51 48.1	**-0.8**
PAWZ	**Paruwai Farm**	**5.07 215**	P		**Pn**	22 51 46.8	**-2.5**
MSWZ	**Moikau Station**	**5.18 216**	Pn		**Pn**	22 51 48.2	**-2.6**
MSWZ			Sn		**Sn**	22 52 45.5	**-4.2**
MSWZ	**Moikau Station**	**5.18 216**	P		**Pn**	22 51 48.6	**-2.1**
PLWZ	**Palliser**	**5.30 215**	Pn		**Pn**	22 51 48.5	**-2.9**
PLWZ					**Sn**	22 52 48.7	**-4.0**
PLWZ	**Palliser**	**5.30 215**	P		**Pn**	22 51 49.4	**-3.0**
SNZO	**South Karori**	**5.37 220**	Pn		**Pn**	22 51 50.0	**-3.3**
SNZO			Sn		**Sn**	22 52 49.9	**-4.5**
TCW	**Tory Channel**	**5.53 223**	P		**Pn**	22 51 53.2	**-2.3**
TUWZ	**Tuamarina**	**5.86 223**	Pn		**Pn**	22 51 57.2	**-2.9**
TUWZ					**Sn**	22 53 00.8	**-5.6**
CMWZ	**Cape Campbell**	**5.94 220**			**Sn**	22 53 04.8	**-3.6**
BSWZ	**Blackbirch Sta**	**6.09 222**	Pn		**Pn**	22 52 01.8	**-1.5**
BSWZ			Sn		**Sn**	22 53 08.6	**-3.6**
BSWZ	**Blackbirch Sta**	**6.09 222**	P		**Pn**	22 52 02.3	**-1.0**
QRZ	**Quartz Range**	**6.34 234**	Pn		**Pn**	22 52 05.9	**-0.8**
QRZ	**Quartz Range**	**6.34 234**	P		**Pn**	22 52 04.9	**-1.8**
QRZ	**Quartz Range**	**6.34 234**	P		**Pn**	22 52 06.9	**+0.2**
MRNZ	**Matariki Terra**	**6.53 229**	P		**Pn**	22 52 06.6	**-2.6**
THZ	**Tophouse**	**6.66 226**	Pn		**Pn**	22 52 09.0	**-2.1**
THZ					**Sn**	22 52 23.0	**-3.3**
THZ	**Tophouse**	**6.66 226**	P		**Pn**	22 52 08.5	**-2.6**
KHZ	**Kahutara**	**6.77 219**	Pn		**Pn**	22 52 11.4	**-1.1**
KHZ	**Kahutara**	**6.77 219**	P		**Pn**	22 52 13.6	**+1.1**
CTZ	**Chatham Island**	**7.15 156**	P		**Pn**	22 52 21.1	**+3.4**
LTZ	**Lake Taylor**	**7.69 222**	Pn		**Pn**	22 52 24.6	**-0.7**
RPZ	**Rata Peaks**	**8.98 222**	Pn		**Pn**	22 52 42.0	**-0.8**
LBZ	**Lake Benmore**	**9.89 221**	Pn		**Pn**	22 52 53.9	**-1.5**
ODZ	**Otahua Downs**	**10.13 217**	Pn		**Pn**	22 52 56.5	**-2.0**
ODZ	**Otahua Downs**	**10.13 217**	P		**Pn**	22 52 58.9	**+0.4**
DZM	**Mont Dzumac**	**18.80 320**	LR		LR	23 00 45.2	
	comp=Z,90nm,18.5s,baz=232,slow=33						
COEN	**Coen**	**39.65 296**	P		**P**	22 58 07.2	**+2.4**
COEN			IAmb		IAmb	22 58 26.4	
	comp=Z,23nm,1.5s						
AS31	**Alice Springs**	**41.04 276**	P		**P**	22 58 16.4	**+0.1**
ASAR	**Alice Springs**	**41.04 276**	P		**P**	22 58 14.9	**-1.4**
	comp=Z,0.7nm,0.6s,baz=119,slow=7.9,SNR=11						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**41.04 276**	P		**P**	22 58 16.4	**+0.1**
WR0	**Warramunga Arr**	**42.49 281**	P		**P**	22 58 28.3	**+0.1**
WB2	**Warramunga Arr**	**42.65 281**	P		**P**	22 58 27.6	**-1.9**
WB2			IAmb		IAmb	22 58 38.5	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**42.66 281**	P		**P**	22 58 27.6	**-1.9**
	comp=Z,0.8nm,0.4s,baz=123,slow=7.0,SNR=17						
	comp=Z,0.8nm,0.4s						
WRA	**Warramunga Arr**	**42.66 281**	P		**P**	22 58 27.6	**-1.9**
WB0	**Warramunga Arr**	**42.71 281**	P		**P**	22 58 28.0	**-2.0**
WB0			IAmb		IAmb	22 59 05.5	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.52 277**	P		**P**	22 59 31.5	**+0.3**
FITZ			IAmb		IAmb	22 59 45.7	
	comp=Z,3.5nm,1.1s						
SAUI	**Saumlaki**	**52.28 291**	P		**P**	22 59 45.2	**+0.8**
QSPA	**South Pole Qui**	**52.84 180**	P		**P**	22 59 52.6	**+4.6**
	comp=Z,1.4nm,0.9s,baz=228,slow=1.6,SNR=3.9						
	comp=Z,1.4nm,0.9s						
QSPA	**South Pole Qui**	**52.84 180**	P		**P**	22 59 50.0	**+2.0**
QSPA			IAmb		IAmb	22 59 52.6	
	comp=Z,6.5nm,1.5s						
PSA00	**Pilbara Seismi**	**53.29 270**	P		**P**	22 59 52.0	**+0.2**
BELA	**Belgrano 2**	**63.27 172**	P		**P**	23 00 58.5	**-2.3**
BELA			IAmb		IAmb	23 01 08.7	
	comp=Z,3.6nm,1.3s						
EFI	**East Falkland**	**78.22 148**	P		**P**	23 02 30.6	**-1.4**
ARCES	**ARCESS Array B**	**144.72 344**	PKP		**PKPab**	23 10 06.7	**-0.4**
	comp=Z,0.7nm,0.6s,baz=31,slow=3.3,SNR=6.2						
FINES	**FINESS Array B**	**150.60 334**	PKPbc		**PKPbc**	23 10 23.4	**-0.2**
	comp=Z,1.0nm,0.7s,baz=59,slow=3.7,SNR=1.5						
TORD	**Torodi Ar. Bea**	**155.87 186**	PKPab		**PKPab**	23 10 54.7	**+0.8**
	comp=Z,0.5nm,0.8s,baz=194,slow=2.7,SNR=3.3						

*IDC **22**23:06:09.1±3.9,28°.43N×107°.13W,h0km,mb3.4/1, mbtmp3.5/5,ML3.9/4,MS3.3/1,Error ellipse: s-maj=61.5km s-min=16.9km az=21.0*
*MEX **22**23:06:11.7±1.4,28°.49N×107°.67W,h10km,MD4.4*
ISC 22 23:06:09.1±0.8,**28°.47N**±0°.03×**107°.60W**±0°.04,**h10km**,**n19, σ1s77/27,1D,Chihuahua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CSIG	**Choix**	**1.77**	**203**	*eP*	**Pn**	**23 06 39.4**	**-0.5**
CSIG				*i* S	**Sn**	**23 07 00.8**	**-1.7**
CGIG		**1.92**	**350**	*e*P	**Pn**	**23 06 41.1**	**-0.9**
	baz=179,slow=7.4						
CGIG				*i* S	**Sn**	**23 07 02.7**	**-3.6**
BCIG	**La Boquilla**	**2.14**	**115**	*e*P	**Pn**	**23 06 44.1**	**-1.0**
BCIG				*e*S	**Sn**	**23 07 10.7**	**-1.1**
HPIG		**2.30**	**131**	*e*P	Pn	23 06 44.7	-2.5
HPIG				*e*S	**Sn**	**23 07 15.1**	**-0.6**
NZIG	**Nacozari, Sono**	**2.55**	**318**	*e*P	**Pn**	**23 06 51.2**	**+0.5**
NZIG				*e*S	**Sn**	**23 07 23.6**	**+1.6**
GUYB	**Guaymas**	**2.95**	**260**	*e*P	**Pn**	**23 06 55.6**	**-0.4**
GUYB				*e*S	**Sn**	**23 07 35.5**	**+4.0**
HSIG		**3.00**	**281**	*e*P	**Pn**	**23 06 56.4**	**-0.3**
HSIG				*i* S	**Sg**	**23 07 42.8**	**-2.6**
TSIG	**Topolobambo**	**3.14**	**205**	*i* P	**Pb**	**23 07 05.1**	**+0.1**
TSIG				*e*S	**Sn**	**23 07 35.4**	**-0.7**
TXAR	**Lajitas Array**	**3.55**	**75**	Pn	Pn	23 07 00.4	-4.0
	7.7nm,0.3s,baz=242,slow=13,SNR=107						
TXAR				Lg	Lg	23 07 53.4	
	61nm,0.3s,baz=253,slow=28,SNR=10						
	15nm,0.4s						
SSIG	**Sanalona**	**3.66**	**174**	*e*P	**Pb**	**23 07 12.7**	**-1.2**
SSIG				*e*S	**Sn**	**23 07 49.1**	**+0.1**
PDIG	**Papasquiaro**	**3.94**	**150**	*e*P	**Pb**	**23 07 20.6**	**+1.7**
PDIG				*i* S	**Sb**	**23 08 08.3**	**+1.6**
121A	**Cookes Peak, D**	**4.05**	**358**	*e*P	**Pn**	**23 07 10.0**	**-1.4**
121A				*e*S	**Sn**	**23 07 57.5**	**-1.4**
214A	**Organ Pipe Nat**	**5.70**	**309**	*e*P	**Pn**	**23 07 33.9**	**+0.1**
214A				*e*S	**Sn**	**23 08 42.0**	**+2.7**
ANMO	**Albuquerque**	**6.53**	**8**	Pn	**Pn**	**23 07 45.8**	**+0.4**
	0.3nm,0.3s,baz=148,slow=9.5,SNR=4.6						
ANMO				Lg	Lg	23 09 28.5	
	1.9nm,0.3s,baz=74,slow=22,SNR=7.3						
	0.7nm,0.3s						
JCT	**Junction City**	**7.08**	**72**	*e*P	Pn	23 07 59.0	+6.1
JCT				*e*S	**Sn**	**23 09 16.5**	**+3.0**
NVAR	**Mina Array Bea**	**13.35**	**321**	Pn	**P**	**23 09 27.9**	**-0.7**
	0.2nm,0.3s,baz=149,slow=12,SNR=4.6						
	1.1nm,0.7s						
PDAR	**Pinedale Array**	**14.35**	**354**	Pn	Pn	23 09 38.0	+5.4
	0.2nm,0.3s,baz=162,slow=12,SNR=17						
PDAR				Lg	Lg	23 13 34.0	
	0.1nm,0.3s,baz=164,slow=28,SNR=2.6						
	2.3nm,0.7s						
SADO	**Sadowa**	**27.84**	**47**	LR	LR	23 23 32.2	
	comp=Z,63nm,18.2s,baz=194,slow=38						
ILAR	**Eielson Array**	**43.90**	**337**	P	**P**	**23 14 17.0**	**+1.4**
	0.4nm,0.7s,baz=130,slow=8.4,SNR=2.9						
	0.4nm,0.7s						

*UPP **22**23:22:49.7±0.0,67°.85N×20°.21E,h0km,ML2.4,Explosion HEL **22**23:22:50.4±0.0,67°.85N×20°.19E,h1km,ML2.1, ML2.4(UPP),Confirmed Induced event*
*IDC **22**23:22:50.7±1.1,67°.78N×20°.55E,h0km,mbtmp2.8/4, ML2.0/4,Error ellipse: s-maj=19.1km s-min=8.6km az=116.0*
ISC 22 23:22:49.0±0.7,**67°.81N**±0°.02×**20°.27E**±0°.03,**h0km**,**n39, σ0s84/54,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**10**	P	**Pg**	**23 22 52.3**	**+0.5**
KUA				S	**Sg**	**23 22 53.9**	**+0.3**
KUA	**Kurravaara**	**0.14**	**10**	*i* P	**Pg**	**23 22 52.3**	**+0.5**
KUA				*i* S	**Sg**	**23 22 53.9**	**+0.3**
RATU	**Laukkuluspa**	**0.26**	**273**	P	**Pg**	**23 22 54.5**	**+0.5**
RATU	**Laukkuluspa**	**0.26**	**273**	*i* P	**Pg**	**23 22 54.5**	**+0.5**
KOVU	**Salmi**	**0.41**	**354**	P	**Pg**	**23 22 57.0**	**+0.1**
KOVU				S	**Sg**	**23 23 02.1**	**-0.2**
KOVU	**Salmi**	**0.41**	**354**	*i* P	**Pg**	**23 22 57.0**	**+0.1**
KOVU				*i* S	**Sg**	**23 23 02.1**	**-0.2**
NIKU	**Nikkaluokta**	**0.47**	**277**	P	**Pg**	**23 22 58.3**	**+0.3**
NIKU	**Nikkaluokta**	**0.47**	**277**	*i* P	**Pg**	**23 22 58.3**	**+0.3**
LANU	**Lannavaara**	**0.69**	**69**	P	**Pg**	**23 23 03.0**	**+0.8**
LANU	**Lannavaara**	**0.69**	**69**	*e*P	**Pg**	**23 23 03.0**	**+0.8**
LANU				*e*S	**Sb**	**23 23 12.4**	**-1.5**
DUNU	**Dundret**	**0.70**	**170**	P	**Pb**	**23 23 03.6**	**-0.5**
DUNU	**Dundret**	**0.70**	**170**	*i* P	**Pb**	**23 23 03.6**	**-0.5**
MASU	**Masugnsbyn**	**0.75**	**118**	P	**Pb**	**23 23 04.6**	**-0.3**
MASU	**Masugnsbyn**	**0.75**	**118**	*i* P	**Pb**	**23 23 04.6**	**-0.3**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**23 23 04.8**	**+0.5**
SALU	**Saltoluokta**	**0.80**	**238**	*i* P	**Pg**	**23 23 04.8**	**+0.5**
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	**Pg**	**23 23 12.4**	**+0.2**
KIF				*e*S	**Sg**	**23 23 28.4**	**+0.4**
PAJU	**Pajala**	**1.35**	**124**	P	**Pn**	**23 23 15.2**	**+0.1**
PAJU	**Pajala**	**1.35**	**124**	*e*P	**Pn**	**23 23 15.2**	**+0.1**
PAJU				*e*S	**Sn**	**23 23 34.0**	**+0.3**
HEF	**Hetta**	**1.40**	**63**	*e*P	**Pg**	**23 23 15.7**	**-0.1**
HEF				*e*S	**Sg**	**23 23 33.9**	**-0.1**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pb**	**23 23 17.2**	**+0.1**
ERTU	**Ertsjaerv**	**1.47**	**148**	*e*P	**Pb**	**23 23 17.2**	**+0.1**
ERTU				*e*S	**Sn**	**23 23 38.1**	**+1.5**
KLF	**Kolari**	**1.53**	**111**	*e*P	**Pg**	**23 23 18.4**	**+0.1**
KLF				*e*S	**Sn**	**23 23 39.2**	**+1.1**
KTK1	**Kautokeino**	**1.63**	**41**	*e*P	**Pn**	**23 23 19.2**	**+0.4**
KTK1				*e*S	**Sn**	**23 23 40.4**	**-0.2**
HARU	**Harads**	**1.68**	**170**	P	**Pg**	**23 23 21.0**	**-0.1**
HARU	**Harads**	**1.68**	**170**	*e*P	**Pg**	**23 23 21.0**	**-0.1**
TRO	**Tromso**	**1.89**	**346**	*e*P	**Pn**	**23 23 23.2**	**+0.8**
TRO				*e*S	**Sn**	**23 23 47.7**	**+0.6**
KALU	**Kalix**	**2.31**	**147**	*e*P	**Pb**	**23 23 30.7**	**-0.7**
KALU				*e*SB	**Sb**	**23 24 00.9**	**+0.4**
TOF	**Tornio**	**2.36**	**136**	*e*P	**Pb**	**23 23 31.8**	**-0.5**
TOF				*e*SB	**Sb**	**23 24 02.3**	**+0.4**
TOF				MSG		23 24 06.8	
	comp=Z,6.5nm,0.2s						
SGF	**Sodankyl**	**2.42**	**96**	*e*P	**Pb**	**23 23 31.5**	**-1.8**
SGF				*e*S	**Sb**	**23 24 02.8**	**-0.9**
SGF				MSG		23 24 08.2	
	comp=Z,5.2nm,0.2s						
RNF	**Rovaniemi**	**2.54**	**116**	*e*P	**Pb**	**23 23 34.4**	**-1.0**
RNF				*e*SB	**Sb**	**23 24 07.8**	**+0.7**
RNF				MSG		23 24 11.5	
	comp=Z,12nm,0.3s						
ARCES	**ARCESS Array B**	**2.58**	**45**	Pn	**Pn**	**23 23 33.1**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=225,slow=15,SNR=29						
ARCES				Sn	**Sn**	**23 24 06.1**	**+2.1**
	comp=Z,1.5nm,0.3s,baz=227,slow=23,SNR=14						
	comp=Z,0.9nm,0.3s						
KEV	**Kevo**	**3.13**	**48**	MSG		23 24 26.4	
	comp=Z,4.9nm,0.2s						
OUL	**Oulu**	**3.55**	**138**	MSG		23 24 40.9	
	comp=Z,3.1nm,0.3s						
VRF	**Varrio**	**3.55**	**87**	MSG		23 24 43.9	
	comp=Z,5.1nm,0.4s						
OLKF	**Oulanka, Finla**	**3.87**	**108**	MSG		23 24 57.0	
	comp=Z,4.8nm,0.3s						

FINES	**FINESS Array B**	**6.86 156**		Pn	**Pn**	**23 24 31.7**	**+1.1**
	baz=354,slow=13,SNR=1.6						
FINES				Sn	**Sn**	**23 25 48.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=347,slow=22,SNR=1.7						
FINES				Lg	Lg	23 26 24.1	
	comp=Z,0.2nm,0.3s,baz=337,slow=29,SNR=3.0						
	comp=Z,0.6nm,0.6s						
NOA	**NORSAR Array B**	**7.84 214**		Pn	**Pn**	**23 24 44.9**	**+0.8**
	baz=20,slow=11,SNR=4.1						
	comp=Z,0.4nm,0.9s						
HFS	**Hagfors**	**8.23 204**		Pn	**Pn**	**23 24 49.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=10.0,slow=13,SNR=1.9						
HFS				Sn	**Sn**	**23 26 20.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=18,slow=29,SNR=1.6						
	comp=Z,0.6nm,0.5s						

*JMA **22**23:23:34.5±0.5,34°.N±2°.×14°.2E±°.,h35km±3km,MV3.2/28, FAR SE OFF BOSO PEN*
*IDC **22**23:23:36.6±2.1,34°.28N×141°.58E,h0km,mb3.5/3, mbtmp3.4/5,ML3.2/2,MS2.7/1,Error ellipse: s-maj=37.4km s-min=23.0km az=63.0*
ISC 22 23:23:38.7±1.9,**34°.40N**±0°.06×**141°.7E**±0°.1,**h22**km±10km, **n20,σ1s62/20,mb3.5/3,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BSO1	**Boso 1**	**0.63**	**294**	P	**Pn**	**23 23 49.6**	**-2.3**
BSO3	**Boso 3**	**1.04**	**293**	P	**Pn**	**23 23 56.5**	**-1.3**
BSO3				*e*S	**Sb**	**23 24 11.4**	**+0.4**
BSO4	**Boso 4**	**1.25**	**299**	P	**Pn**	**23 23 59.6**	**-1.2**
BSO4				*e*S	**Sb**	**23 24 17.9**	**+0.7**
JKUC	**kamogawauchiur**	**1.44**	**302**	P	**Pn**	**23 24 01.7**	**-1.7**
CHOJ	**Chosi**	**1.47**	**333**	*e*P	**Pn**	**23 24 01.3**	**-2.5**
JMKN	**Mikurajimanish**	**1.80**	**254**	*e*P	**Pn**	**23 24 06.5**	**-1.9**
JMKN				*e*S	**Sn**	**23 24 29.4**	**-1.3**
JHJ	**Hachijo jima 2**	**2.03**	**232**	Pn	**Pn**	**23 24 09.9**	**-1.6**
	19nm,0

7.2nm,0.3s,baz=250,slow=21,SNR=4.1
6.0nm,0.3s

WRA Warramunga Arr 16.43 164 Pn Pn 23 34 44.4 -1.7
0.1nm,0.3s,baz=347,slow=13,SNR=3.2
0.4nm,0.6s

ASAR Alice Springs 19.90 168 P P 23 35 28.0 +0.7
0.1nm,0.3s,baz=346,slow=9.7,SNR=14
1.3nm,0.7s

MKAR Makanchi Array 65.54 326 P P 23 41 39.3 -0.1
1.0nm,0.4s,baz=114,slow=8.2,SNR=19
1.0nm,0.4s

IDC 22 23:38:36.7±5.7, 29°08S×61°40E, h0km, mb3.7/3, mbtmp3.7/3, MS3.2/1, Error ellipse: s-maj=961.6km s-min=33.2km az=20.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**36.10**	**316**	LR	LR	23 57 42.8	
	comp=Z,30nm,18.1s,baz=212,slow=32						
H01W2	**Cape Leeuwin H**	**44.68**	**112**	T	T	00 34 30.1	
	baz=261,slow=75,SNR=5.1						
H01W3	**Cape Leeuwin H**	**44.68**	**111**	T	T	00 34 32.3	
	baz=261,slow=75,SNR=6.4						
H01W1	**Cape Leeuwin H**	**44.70**	**112**	T	T	00 34 36.8	
	baz=261,slow=75,SNR=7.5						
ASAR	**Alice Springs**	**64.26**	**104**	P	P	23 49 14.1	0.0
	1.0nm,0.8s,baz=246,slow=6.1,SNR=6.9						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**66.07**	**100**	P	P	23 49 25.9	0.0
	0.8nm,0.9s,baz=249,slow=5.3,SNR=4.2						
	0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**71.29**	**297**	P	P	23 49 58.4	0.0
	0.6nm,0.8s,baz=126,slow=7.3,SNR=3.8						
	0.6nm,0.8s						

IDC 22 23:50:03.7±6.0, 30°04N×141°07E, h0km, mb3.6/3, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=218.4km s-min=27.0km az=63.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.09**	**161**	Pn	Pn	23 50 53.5	-0.3
	2.2nm,0.3s,baz=196,slow=20,SNR=1.7						
JCJ				Sn	Sn	23 51 32.8	+1.4
	8.4nm,0.3s,baz=302,slow=12,SNR=1.3						
	74nm,0.7s						
MKAR	**Makanchi Array**	**47.88**	**308**	P	P	23 58 43.3	-0.1
	0.7nm,0.9s,baz=92,slow=8.7,SNR=1.4						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**50.11**	**188**	P	P	23 59 00.7	0.0
	0.7nm,0.5s,baz=6.2,slow=7.7,SNR=16						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**53.84**	**188**	P	P	23 59 28.3	-0.2
	0.2nm,0.5s,baz=5.7,slow=5.9,SNR=5.6						
	0.2nm,0.5s						

---

*IDC **23** 00:13:39.2±1.3, 59°.53S×158°.88E, h0km, mb4.1/4, mbtmp4.1/6, ML3.7/2, Error ellipse: s-maj=39.2km s-min=23.0km az=88.0*

*NEIC **23** 00:13:40.1±1.7, 59°.34S±0°.09×159°.3E±0°.2, h10km±1km, mb4.4/23, Error ellipse: s-maj=17.4km s-min=11.6km az=133.0*

ISC 23 00:13:39.8±0.7, 59°.33S±0°.07×159°.2E±0°.1, h10km, n46, σ1s10/38, mb4.2/8, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**4.84**	**358**	Pn	**Pn**	**00 14 51.4**	**-1.2**
MCQ				Sn	**Sn**	**00 15 46.5**	**-2.2**
PYZ	**Puysegur Point**	**13.91**	**22**		**Pn**	**00 16 57.4**	**+0.5**
WHZ	**Wether Hill Ro**	**14.44**	**25**	Pn	**Pn**	**00 17 04.7**	**+0.7**
DCZ	**Deep Cove**	**14.68**	**22**		**Pn**	**00 17 08.9**	**+1.6**
MLZ	**Mavora Lakes**	**14.97**	**25**		**Pn**	**00 17 12.6**	**+1.3**
WKZ	**Wanaka**	**15.69**	**27**		**Pn**	**00 17 21.4**	**+0.7**
WKZ				IAmb	IAmb	00 17 32.9	
	comp=Z,99nm,0.9s						
ODZ	**Otahua Downs**	**15.88**	**31**	Pn	**Pn**	**00 17 23.4**	**+0.2**
ODZ				IAmb	IAmb	00 17 31.8	
	comp=Z,35nm,1.4s						
LBZ	**Lake Benmore**	**16.38**	**29**	P	**Pn**	**00 17 29.6**	**0.0**
LBZ				IAmb	IAmb	00 18 09.4	
	comp=Z,63nm,1.4s						
FOZ	**Fox Glacier**	**17.10**	**27**	Pn	**Pn**	**00 17 37.3**	**-1.3**
FOZ				IAmb	IAmb	00 17 58.1	
	comp=Z,25nm,0.7s						
RPZ	**Rata Peaks**	**17.23**	**30**	P	**P**	**00 17 43.6**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=167,slow=14,SNR=8.1						
	comp=Z,6.6nm,0.5s						
RPZ	**Rata Peaks**	**17.23**	**30**		**Pn**	**00 17 39.2**	**-1.1**
RPZ				IAmb	IAmb	00 18 14.9	
	comp=Z,16nm,0.9s						
MQZ	**McQueen's Vall**	**17.67**	**34**	Pn	**Pn**	**00 17 45.0**	**-0.7**
MQZ				IAmb	IAmb	00 17 52.6	
	comp=Z,30nm,1.4s						
OXZ	**Oxford**	**17.85**	**32**		**P**	**00 17 48.6**	**-0.1**
OXZ				IAmb	IAmb	00 17 54.7	
	comp=Z,53nm,1.2s						
VNDA	**Vanda**	**18.30**	**178**	P	**Pn**	**00 17 52.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=353,slow=11,SNR=9.6						
	comp=Z,4.9nm,1.2s						
VNDA	**Vanda**	**18.30**	**178**	P	**Pn**	**00 17 52.5**	**-0.8**
LTZ	**Lake Taylor**	**18.42**	**32**		**Pn**	**00 17 55.0**	**0.0**
SBA	**Scott Base**	**18.78**	**175**	P	**Pn**	**00 17 59.3**	**+0.2**
KHZ	**Kahutara**	**19.11**	**34**	P	**P**	**00 18 02.1**	**-0.4**
KHZ				IAmb	IAmb	00 18 13.3	
	comp=Z,20nm,1.0s						
THZ	**Tophouse**	**19.54**	**32**	P	**P**	**00 18 07.5**	**+0.2**
THZ				IAmb	IAmb	00 18 14.1	
	comp=Z,29nm,1.1s						
BSWZ	**Blackbirch Sta**	**19.85**	**34**	P	**Pn**	**00 18 11.3**	**-0.9**
CMWZ	**Cape Campbell**	**19.92**	**35**	P	**P**	**00 18 11.0**	**-0.4**
URZ	**Urewera**	**23.99**	**36**	P	**P**	**00 18 57.9**	**+3.6**
	comp=Z,7.7nm,0.8s,baz=159,slow=8.6,SNR=3.7						
	comp=Z,7.7nm,0.8s						
MXZ	**Matakaoa Point**	**25.00**	**38**	P	**P**	**00 19 03.5**	**0.0**
H01W1	**Cape Leeuwin H**	**38.14**	**290**	T	T	01 01 53.2	
	baz=143,slow=76,SNR=49						
H01W2	**Cape Leeuwin H**	**38.15**	**289**	T	T	01 01 49.8	
	baz=143,slow=76,SNR=26						
H01W3	**Cape Leeuwin H**	**38.16**	**290**	T	T	01 01 56.1	
	baz=143,slow=76,SNR=36						
NWAO	**Narrogin (SRO)**	**38.29**	**295**	P	**P**	**00 21 00.9**	**+0.7**
ASAR	**Alice Springs**	**39.86**	**322**	P	**P**	**00 21 15.2**	**+1.8**
	comp=Z,3.0nm,0.8s,baz=163,slow=8.3,SNR=22						
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**39.86**	**322**	P	**P**	**00 21 13.3**	**-0.1**
AS31	**Alice Springs**	**39.87**	**322**	P	**P**	**00 21 13.5**	**0.0**
CTAO	**Charters Tower**	**40.30**	**341**	P	**P**	**00 21 17.3**	**+0.3**
CTAO				IAmb	IAmb	00 21 30.1	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**43.16**	**325**	P	**P**	**00 21 40.3**	**-0.1**
WR0				IAmb	IAmb	00 21 41.9	
	comp=Z,4.5nm,0.9s						
WB2	**Warramunga Arr**	**43.23**	**325**	P	**P**	**00 21 41.6**	**+0.6**
WB2				IAmb	IAmb	00 21 50.0	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**43.23**	**325**	P	**P**	**00 21 41.8**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=161,slow=6.8,SNR=11						
	comp=Z,2.2nm,0.9s						
WRA	**Warramunga Arr**	**43.23**	**325**	P	**P**	**00 21 41.2**	**+0.2**
WB0	**Warramunga Arr**	**43.38**	**325**	P	**P**	**00 21 41.7**	**-0.6**
WB0				IAmb	IAmb	00 21 43.8	
	comp=Z,5.4nm,1.0s						
NIUE	**Niue**	**45.95**	**42**	P	**P**	**00 22 03.2**	**+0.6**
SNAA	**Sanae**	**48.69**	**187**	P	**P**	**00 22 22.7**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=195,slow=16,SNR=3.8						
	comp=Z,0.7nm,0.6s						
PMSA	**Palmer Station**	**51.99**	**158**	P	**P**	**00 22 47.9**	**-0.5**
ESPZ	**Base Esperanza**	**54.52**	**161**	P	**P**	**00 23 08.0**	**+0.9**
H03S2	**Juan Fernandez**	**75.48**	**133**	T	T	01 48 59.1	
	baz=207						
H03S1	**Juan Fernandez**	**75.48**	**133**	T	T	01 49 03.2	
	baz=207						
H03S3	**Juan Fernandez**	**75.49**	**133**	T	T	01 48 56.9	
	baz=207						
H08S2	**Diego Garcia H**	**81.82**	**269**	T	T	01 56 21.1	
	baz=148,slow=76,SNR=22						
H08S1	**Diego Carcia H**	**81.83**	**269**	T	T	01 56 22.0	
	baz=148,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**81.84**	**269**	T	T	01 56 22.6	
	baz=148,slow=76,SNR=26						

---

*BJI **23** 00:14:31.2±0.0, 34°.50N×141°.68E, h10km, mb5.8/53, mB6.4/71, Ms6.8/95, Ms7 6.7/90*

*JMA **23** 00:14:31.4±0.4, 34°.4N±1°.1×14°.2E±°, h32km±2km, MD6.7/33, MW6.2/33, FAR SE OFF BOSO PEN*

JMA Felt I J1 at FAR SE OFF BOSO PEN .

*NIED **23** 00:14:31.4, 34°.40N×141°.84E, h32km, MW6.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^18^Nm; Mrr2.39; Mθθ-0.37; Mφφ-2.01; Mrθ0.02; Mθφ0.34; Mφr0.77; Fault plane solution: M0 2.36000×10^18^ NP1: φs165.00000°, δ36.00000°, λ84.00000°. NP2: φs352.00000°, δ54.00000°, λ94.00000°.*

*IDC **23** 00:14:32.3±0.3, 34°.51N×141°.50E, h0km, mb5.4/47, mbtmp5.4/50, ML3.4/3, MS6.3/90 Error ellipse: s-maj=8.2km s-min=6.1km az=82.0*

*MOS **23** 00:14:34.1±1.1, 34°.46N×141°.52E, h23km, mb6.1/121, MS6.6/76, Error ellipse: s-maj=5.9km s-min=3.6km az=116.7*

*NEIC **23** 00:14:34.7±1.7, 34°.46N±0°.05×141°.64E±0°.08, h10km±1km, mb5.9/775, Ms_20 6.4/438, Mwb6.2/71, Mwc6.2/66, Mww6.2, Error ellipse: s-maj=10.8km s-min=7.7km az=110.0*

*NEIC **23** 00:14:34.9, 34°.49N×141°.66E, h9km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr1.66; Mθθ-0.28; Mφφ-1.38; Mrθ0.48; Mθφ0.07; Mφr2.04; Fault plane solution: M0 2.60000×10^18^ NP1: φ170.46000°, δ18.82000°, λ71.82000°. NP2: φs9.60000°, δ72.15000°, λ96.07000°. Principal axes: T 2.7525, Plg62.0000°, Azm289.0000°; N -0.3398, Plg6.0000°, Azm188.0000°; P -2.4126, Plg27.0000°, Azm95.0000°;*

*GCMT **23** 00:14:39.7±0.0, 34°.47N×141°.74E, h12km, MW6.2/176, Moment Tensor Solution. s165,c410; s176,c715; Duration: 29 Moment tensor: Scale 10^18^Nm; Mrr1.97±.01; Mθθ-0.10±.01; Mφφ-1.87±.01; Mrθ-0.10±.02; Mθφ0.30±.01; Mφr0.95±.02; Best double couple: M0 2.16500×10^18^ NP1: φs352.00000°, δ58.00000°, λ91.00000°. NP2: φs169.00000°, δ32.00000°, λ88.00000°. Principal axes: T 2.1920, Plg77.0000°, Azm267.0000°; N -0.0550, Plg1.0000°, Azm171.0000°; P -2.1390, Plg13.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **23** 00:14:39, 34°.50N×141°.78E, h12km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^18^Nm; Mrr1.82; Mθθ-0.34; Mφφ-1.48; Mrθ0.43; Mθφ0.29; Mφr1.87; Fault plane solution: M0 2.56000×10^18^ NP1: φs158.00000°, δ23.00000°, λ64.00000°. NP2: φs5.00000°, δ70.00000°, λ100.00000°. Principal axes: T 2.7463, Plg64.0000°, Azm292.0000°; N -0.4177, Plg10.0000°, Azm181.0000°; P -2.3286, Plg24.0000°, Azm87.0000°;*

*NEIC **23** 00:14:54.5, 34°.68N×141°.33E, h10km, Moment Tensor Solution. Duration: 6s6 Moment tensor: Scale 10^18^Nm; Mrr1.94; Mθθ-0.15; Mφφ-1.79; Mrθ0.47; Mθφ0.33; Mφr0.93; Fault plane solution: M0 2.16000×10^18^ NP1: φs155.61000°, δ34.90000°, λ65.54000°. NP2: φs4.62000°, δ58.62000°, λ106.11000°. Principal axes: T 2.2791, Plg71.0000°, Azm313.0000°; N -0.2450, Plg14.0000°, Azm176.0000°; P -2.0341, Plg12.0000°, Azm83.0000°;*

ISC 23 00:14:34.7±0.3, 34°.50N±0°.02×141°.61E±0°.02, h12km±1km, h12km:pP-P, n2667, σ2s01/2996, mb5.9/643, MS6.5/400, 75C-38D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.55**	**286**	P	**Pb**	**00 14 45.6**	**-0.3**
BSO3	**Boso 3**	**0.96**	**289**	P	**Pb**	**00 14 52.4**	**-0.7**
BSO4	**Boso 4**	**1.16**	**295**	P	**Pb**	**00 14 55.9**	**-0.7**
KTR	**Katsuura**	**1.25**	**302**	*eS*	**Sg**	**00 15 14.8**	**-0.1**
JKUC	**kamogawauchiur**	**1.34**	**300**	P	**Pn**	**00 14 57.9**	**-1.3**
JKUC				*eS*	**Sg**	**00 15 17.5**	**-0.2**
JKUC	**kamogawauchiur**	**1.34**	**300**	A	A	00 14 57.9	
	comp=E,1μm,5.7s,comp=E,2μm,7.5s						
I30JP	**ISUMI INFRASON**	**1.34**	**307**	Pn	**Pn**	**00 14 57.9**	**-1.3**
	baz=144,slow=37						
CHOJ	**Chosi**	**1.35**	**333**	P	**Pn**	**00 14 57.4**	**-2.0**
CHOJ				S	**Sb**	**00 15 17.2**	**0.0**
CHOJ	**Chosi**	**1.35**	**333**	A	A	00 14 57.4	
	comp=E,1μm,13.7s,comp=E,1μm,9.5s						
JCN	**Nagara**	**1.48**	**309**	A	A	00 14 59.7	
	comp=E,5μm,6.8s,comp=E,5μm,9.9s						
JSMT	**Sammumatsuo**	**1.49**	**320**	A	A	00 14 59.6	
	comp=E,4μm,7.6s,comp=E,5μm,7.9s						
JIHU	**Itakohorinouch**	**1.71**	**329**	A	A	00 15 02.7	
	comp=E,2μm,9.0s,comp=E,2μm,4.7s						
JYO	**Yokosk**	**1.76**	**295**	A	A	00 15 03.8	
	comp=E,2μm,7.1s,comp=E,2μm,8.8s						
JMKN	**Mikurajimanish**	**1.78**	**251**	P	**Pn**	**00 15 02.9**	**-2.4**
JMKN	**Mikurajimanish**	**1.78**	**251**	A	A	00 15 02.9	
	comp=E,1μm,11.5s,comp=E,739nm,6.3s						
JIM2	**Oshima 3**	**1.81**	**277**	P	**Pn**	**00 15 03.5**	**-2.3**
JIM2				S	**Sn**	**00 15 28.7**	**0.0**
JIM2	**Oshima 3**	**1.81**	**277**	A	A	00 15 03.5	
	comp=E,627nm,3.3s,comp=E,720nm,9.8s						
JTHY	**Toshimahigashi**	**1.92**	**271**	A	A	00 15 05.8	
	comp=E,962nm,8.7s,comp=E,968nm,4.4s						
TOK	**Tokyo**	**1.93**	**308**	A	A	00 15 06.1	
	comp=E,3μm,6.3s,comp=E,3μm,8.8s						
JNIO	**Niijimaoohara**	**1.94**	**266**	A	A	00 15 05.9	
	comp=E,809nm,8.9s,comp=E,684nm,10.2s						
JSKK	**Shikinejimakit**	**1.99**	**266**	A	A	00 15 06.6	
	comp=E,708nm,13.0s,comp=E,626nm,11.4s						
JHYU	**Hitachinakayam**	**2.02**	**336**	A	A	00 15 06.9	
	comp=E,802nm,9.7s,comp=E,530nm,14.4s						
JHJ2	**Mitsune**	**2.04**	**228**	Pn	**Pn**	**00 15 07.1**	**-1.7**
JHJ2	**Mitsune**	**2.04**	**228**	P	**Pn**	**00 15 09.6**	**+0.8**
JHJ2	**Mitsune**	**2.04**	**228**	P	**Pn**	**00 15 06.7**	**-2.1**
JHJ2	**Mitsune**	**2.04**	**228**	A	A	00 15 06.7	
	comp=E,703nm,8.2s,comp=E,496nm,16.8s						
JHJ	**Hachijo jima 2**	**2.05**	**228**	Pn	**Pn**	**00 15 06.8**	**-2.3**
	404nm,0.3s,baz=337,slow=21,SNR=51						
JHJ				Sn	**Sn**	**00 15 32.8**	**-1.8**
	2μm,0.3s,baz=69,slow=24,SNR=10						
JHCJ	**Hachijojimakas**	**2.08**	**227**	A	A	00 15 06.3	
	comp=E,676nm,10.5s,comp=E,440nm,11.7s						
JYT	**Yasato**	**2.08**	**326**	Pn	**Pn**	**00 15 08.4**	**-0.9**
JYT	**Yasato**	**2.08**	**326**	A	A	00 15 08.1	
	comp=E,452nm,15.2s,comp=E,460nm,12.1s						
JHTM	**Izuhatsuma**	**2.19**	**283**	A	A	00 15 09.9	
	comp=E,727nm,5.6s,comp=E,557nm,10.1s						
JOD2	**Odawara 2**	**2.21**	**291**	P	**Pn**	**00 15 09.5**	**-1.7**
JOD2				*eS*	**Sn**	**00 15 38.7**	**+0.2**
JOD2	**Odawara 2**	**2.21**	**291**	A	A	00 15 09.5	
	comp=E,672nm,8.4s,comp=E,619nm,14.1s						
JSGW	**Sagamiharawaka**	**2.26**	**300**	A	A	00 15 10.9	
	comp=E,485nm,9.5s,comp=E,414nm,7.7s						
JIZS	**Izushimoda**	**2.27**	**276**	*eP*	**Pn**	**00 15 09.9**	**-2.1**
JIZS	**Izushimoda**	**2.27**	**276**	A	A	00 15 09.9	
	comp=E,273nm,8.8s,comp=E,318nm,11.3s						
JHO	**Hitachi**	**2.27**	**338**	A	A	00 15 10.6	
	comp=E,634nm,17.3s,comp=E,375nm,8.7s						
JHU	**Hanno**	**2.34**	**306**	A	A	00 15 12.1	
	comp=E,673nm,7.2s,comp=E,637nm,8.9s						
JFNN	**Fujinakano**	**2.50**	**287**	P	**Pn**	**00 15 15.1**	**-0.1**
JFNN	**Fujinakano**	**2.50**	**287**	A	A	00 15 15.1	
	comp=E,716nm,7.4s,comp=E,934nm,6.7s						
JAOM	**Aogashimamukai**	**2.55**	**218**	P	**Pn**	**00 15 14.0**	**-2.0**
JAOM	**Aogashimamukai**	**2.55**	**218**	A	A	00 15 14.0	
	comp=E,1μm,10.1s,comp=E,680nm,9.3s						
JAG	**Ashikaga**	**2.61**	**318**	P	**Pn**	**00 15 15.4**	**-1.2**
JAG				*eS*	**Sn**	**00 15 48.8**	**+0.5**
JAG	**Ashikaga**	**2.61**	**318**	A	A	00 15 15.4	
	comp=E,296nm,11.5s,comp=E,310nm,8.6s						
JRY	**Ryogami san**	**2.69**	**305**	A	A	00 15 17.1	
	comp=E,383nm,14.0s,comp=E,491nm,8.0s						
JYN	**Shimo**	**2.71**	**292**	A	A	00 15 17.4	
	comp=E,438nm,9.0s,comp=E,354nm,13.4s						
JFFD	**Fukushimafurud**	**2.72**	**342**	A	A	00 15 16.8	
	comp=E,476nm,17.3s,comp=E,287nm,13.4s						
JSB	**Shiboa**	**2.82**	**331**	A	A	00 15 18.6	
	comp=E,742nm,11.9s,comp=E,672nm,5.2s						
JSG	**Sagara**	**2.83**	**274**	A	A	00 15 18.9	
	comp=E,400nm,4.8s,comp=E,665nm,9.0s						
SHZ3	**Shizuoka 3**	**2.86**	**282**	A	A	00 15 19.4	
	comp=E,250nm,7.3s,comp=E,404nm,11.4s						
JFK	**Kawauchi**	**2.92**	**348**	A	A	00 15 19.4	
	comp=E,665nm,13.4s,comp=E,295nm,8.4s						
JKT	**Katashina**	**2.97**	**320**	A	A	00 15 20.9	
	comp=E,337nm,11.6s,comp=E,279nm,8.5s						

JKKS	**Kakegawashinom**	**3.00**	**276**	A	A	00 15 21.2	
	comp=E,429nm,6.4s,comp=E,442nm,12.7s						
JNT	**Takato**	**3.16**	**297**	A	A	00 15 23.9	
	comp=E,422nm,10.1s,comp=E,290nm,13.9s						
JGK	**Kuni**	**3.18**	**311**	A	A	00 15 24.1	
	comp=E,476nm,14.1s,comp=E,415nm,5.0s						
JNY	**Yasuok**	**3.20**	**287**	A	A	00 15 24.2	
	comp=E,242nm,10.7s,comp=E,271nm,9.9s						
HMMJ	**Hamamatsu 2**	**3.23**	**277**	A	A	00 15 24.6	
	comp=E,209nm,11.3s,comp=E,231nm,9.9s						
TTO5	**TONANKAI O.B.S**	**3.23**	**267**	A	A	00 15 24.4	
	comp=E,1μm,10.0s,comp=E,791nm,7.9s						
JMST	**Minamisoumatoc**	**3.27**	**350**	A	A	00 15 24.2	
	comp=E,510nm,14.6s,comp=E,231nm,14.1s						
JFY	**Yanaizu**	**3.29**	**332**	A	A	00 15 25.1	
	comp=E,386nm,13.1s,comp=E,271nm,15.8s						
JSSY	**Shinshiroyabe**	**3.41**	**278**	A	A	00 15 27.1	
	comp=E,163nm,13.4s,comp=E,233nm,9.5s						
JUON	**Uonuma**	**3.41**	**323**	A	A	00 15 27.1	
	comp=E,251nm,6.9s,comp=E,312nm,13.3s						
TTO4	**TONANKAI O.B.S**	**3.41**	**263**	A	A	00 15 26.8	
	comp=E,914nm,8.4s,comp=E,826nm,8.5s						
JMM	**Marumori**	**3.42**	**349**	Pn	**Pn**	**00 15 25.9**	**-2.0**
JMM	**Marumori**	**3.42**	**349**	A	A	00 15 26.4	
	comp=E,485nm,11.7s,comp=E,281nm,12.1s						
JNG	**Nsakai**	**3.44**	**305**	A	A	00 15 27.8	
	comp=E,357nm,14.0s,comp=E,303nm,8.3s						
MJAR	**Matsushiro Arr**	**3.44**	**307**	Pn	**Pn**	**00 15 26.8**	**-1.4**
	7.7nm,0.3s,baz=116,slow=9.9,SNR=142						
MJAR				Sn	**Sn**	**00 16 10.3**	**+1.3**
	16nm,0.3s,baz=228,slow=47,SNR=3.3						
	105nm,0.6s						
MAJO	**Matsushiro**	**3.44**	**307**	Pn	**Pn**	**00 15 28.1**	**-0.1**
MAJO	**Matsushiro**	**3.44**	**307**	*i* P	**Pn**	**00 15 28.8**	**+0.6**
MAJO	**Matsushiro**	**3.44**	**307**	P	**Pn**	**00 15 30.1**	**+1.9**
MJB9	**Matsu-Tunnel**	**3.45**	**307**	Pn	**Pn**	**00 15 26.5**	**-1.8**
TTO3	**TONANKAI O.B.S**	**3.55**	**261**	A	A	00 15 28.6	
	comp=E,1μm,8.1s,comp=E,1μm,9.1s						
JYAR	**Yonezawaarcadi**	**3.61**	**341**	A	A	00 15 29.4	
	comp=E,403nm,20.3s,comp=E,301nm,4.9s						
JGF	**Kuroka**	**3.66**	**289**		**Pn**	**00 15 31.5**	**+0.3**
JGF	**Kuroka**	**3.66**	**289**	A	A	00 15 30.9	
	comp=E,264nm,9.1s,comp=E,216nm,9.9s						
JAO	**Obara**	**3.66**	**283**	A	A	00 15 30.8	
	comp=E,237nm,11.6s,comp=E,248nm,11.7s						
JAA	**Atsumi**	**3.69**	**273**	A	A	00 15 31.1	
	comp=E,187nm,10.7s,comp=E,151nm,9.2s						
JNS	**Sasagawa**	**3.80**	**331**	A	A	00 15 32.4	
	comp=E,405nm,9.6s,comp=E,248nm,9.1s						
JIKH	**Ishinomakikobu**	**3.81**	**358**	A	A	00 15 31.4	
	comp=E,256nm,16.0s,comp=E,338nm,9.8s						
JJN	**Nakama**	**3.82**	**314**	A	A	00 15 33.0	
	comp=E,358nm,7.9s,comp=E,384nm,10.9s						
JIZZ	**Izumozaki**	**3.83**	**323**	A	A	00 15 33.0	
	comp=E,600nm,13.3s,comp=E,751nm,8.9s						
INU	**Inuyama**	**3.87**	**284**	Pn	**Pn**	**00 15 34.4**	**+0.4**
INU	**Inuyama**	**3.87**	**284**	P	**Pn**	**00 15 36.1**	**+2.1**
TTO2	**TONANKAI O.B.S**	**3.88**	**260**	A	A	00 15 33.2	
	comp=E,1μm,9.2s,comp=E,2μm,9.4s						
JGN	**Niukaw**	**3.91**	**297**	A	A	00 15 34.4	
	comp=E,167nm,10.2s,comp=E,250nm,9.6s						
JYS	**Shirataka**	**3.92**	**342**	A	A	00 15 33.8	
	comp=E,407nm,19.2s,comp=E,261nm,10.2s						
JOU	**Okura**	**3.93**	**349**	A	A	00 15 33.6	
	comp=E,440nm,15.9s,comp=E,256nm,19.0s						
JIO	**Ouri**	**3.95**	**357**	A	A	00 15 33.5	
	comp=E,241nm,13.7s,comp=E,292nm,10.8s						
JICN	**Ichinomiyachia**	**4.00**	**283**	A	A	00 15 35.5	
	comp=E,187nm,8.4s,comp=E,242nm,10.2s						
JIE	**Ise**	**4.05**	**270**	A	A	00 15 36.0	
	comp=E,187nm,9.3s,comp=E,140nm,11.4s						
JTT	**Ttatey**	**4.07**	**302**	A	A	00 15 36.6	
	comp=E,192nm,11.2s,comp=E,321nm,5.4s						
TTO1	**TONANKAI O.B.S**	**4.10**	**259**	A	A	00 15 36.4	
	comp=E,1μm,7.7s,comp=E,811nm,6.5s						
JOFO	**Osakifurukawao**	**4.13**	**352**	A	A	00 15 36.2	
	comp=E,905nm,3.2s,comp=E,641nm,6.8s						
JYTA	**Yamagatataniai**	**4.15**	**287**	A	A	00 15 37.6	
	comp=E,203nm,11.0s,comp=E,224nm,9.3s						
JYTA	**Yamagatataniai**	**4.15**	**287**	P	**Pn**	**00 15 39.0**	**+1.2**
TSUJ	**Tsu 2**	**4.29**	**274**	A	A	00 15 39.4	
	comp=E,161nm,15.6s,comp=E,156nm,13.2s						
JKMT	**Kesennumatotoy**	**4.30**	**359**	A	A	00 15 38.4	
	comp=E,228nm,13.3s,comp=E,256nm,12.4s						
JEG	**Eigenji**	**4.34**	**280**	A	A	00 15 40.4	
	comp=E,187nm,8.9s,comp=E,195nm,7.1s						
JYA	**Atsumi**	**4.36**	**340**	A	A	00 15 40.0	
	comp=E,403nm,22.2s,comp=E,287nm,8.7s						
JAW	**Awa shima**	**4.38**	**335**	A	A	00 15 40.4	
	comp=E,351nm,15.2s,comp=E,279nm,15.0s						
JKN2	**Miekihoku**	**4.42**	**268**	A	A	00 15 41.1	
	comp=E,139nm,9.6s,comp=E,104nm,9.3s						
JSD	**Sado**	**4.45**	**323**	Pn	**Pn**	**00 15 41.4**	**-0.6**
JSD	**Sado**	**4.45**	**323**	A	A	00 15 41.8	
	comp=E,212nm,13.8s,comp=E,189nm,13.9s						
JMK	**Ichinoseki**	**4.45**	**356**	A	A	00 15 40.6	
	comp=E,283nm,

JAD Aida 6.15 276 A A 00 16 05.5
comp=E,103nm,11.8s,comp=E,142nm,14.7s
JMAF Mimaanabuki 6.19 268 A A 00 16 05.9
comp=E,104nm,13.7s,comp=E,97nm,10.0s
JIW Iwasaki 6.21 349 A A 00 16 05.7
comp=E,286nm,15.2s,comp=E,140nm,10.1s
JHHS Hirosakihyakuz 6.22 351 A A 00 16 05.5
comp=E,368nm,6.2s,comp=E,321nm,18.4s
JTM Tenmabayashi 6.29 356 Pn **Pn 00 16 04.9 -2.4**
JTM Tenmabayashi 6.29 356 A A 00 16 06.3
comp=E,247nm,14.9s,comp=E,173nm,15.6s
MRT2 Murotomisaki 2 6.31 262 A A 00 16 07.3
comp=E,124nm,15.6s,comp=E,70nm,10.0s
JKR Kurayoshi 6.46 280 A A 00 16 09.9
comp=E,129nm,9.0s,comp=E,131nm,10.0s
JMN Monobe 6.46 265 Pn **Pn 00 16 11.1 +1.4**
JMN Monobe 6.46 265 A A 00 16 09.7
comp=E,82nm,10.2s,comp=E,90nm,10.0s
JARK Aomorirokkasho 6.50 358 A A 00 16 09.2
comp=E,191nm,12.3s,comp=E,155nm,9.9s
JSI2 Shiura 2 6.62 352 A A 00 16 11.0
comp=E,239nm,10.9s,comp=E,217nm,17.2s
JAHD Aomorihigashid 6.76 358 A A 00 16 12.8
comp=E,178nm,19.0s,comp=E,180nm,10.2s
JKHR Kochiharuno 6.81 264 A A 00 16 14.4
comp=E,86nm,15.4s,comp=E,81nm,9.0s
JOT Ohata 6.88 356 A A 00 16 14.7
comp=E,250nm,14.5s,comp=E,132nm,14.5s
JJG Jouge 6.98 274 A A 00 16 17.0
comp=E,142nm,12.2s,comp=E,130nm,13.1s
JHS Saijyo 7.01 276 Pn **Pn 00 16 19.2 +1.9**
JHS Saijyo 7.01 276 A A 00 16 17.5
comp=E,92nm,13.4s,comp=E,150nm,12.2s
JOI OKI 7.06 287 A A 00 16 18.4
comp=E,134nm,10.6s,comp=E,110nm,12.0s
JSR Shiriuchi 7.08 353 A A 00 16 17.5
comp=E,210nm,11.8s,comp=E,270nm,15.7s
JNM Ikuma 7.11 280 A A 00 16 19.0
comp=E,124nm,9.2s,comp=E,100nm,9.9s
JOMM Oshimamatsumae 7.13 350 A A 00 16 18.2
comp=E,238nm,14.7s,comp=E,149nm,15.0s
JET Tanbara 7.14 267 A A 00 16 19.0
comp=E,129nm,11.4s,comp=E,69nm,13.8s
JKU Kubokawa 7.21 263 A A 00 16 19.9
comp=E,86nm,11.6s,comp=E,98nm,9.4s
JISK Izumosakaura 7.26 280 A A 00 16 21.0
comp=E,105nm,9.1s,comp=E,127nm,9.5s
JKB Kayabe 7.39 357 A A 00 16 21.6
comp=E,270nm,15.0s,comp=E,110nm,8.9s
CBIJ Chichi jima 7.40 176 A A 00 16 18.5
comp=E,104nm,9.3s,comp=E,84nm,8.6s
JCJ Chichijima 7.40 176 Pn **Pn 00 16 19.9 -2.7**
186nm,0.3s,baz=12,slow=20,SNR=31
JCJ Sn **Sn 00 17 39.9 -6.5**
50nm,0.3s,baz=253,slow=22,SNR=1.6
JCJ Chichijima 7.40 176 Pn **Pn 00 16 18.6 -3.9**
JGT2 ShimaneMisato 7.51 277 A A 00 16 24.5
comp=E,81nm,9.1s,comp=E,136nm,11.9s
JHM Kurahashi 7.52 270 A A 00 16 24.5
comp=E,125nm,12.8s,comp=E,81nm,10.6s
JTO Tosashimizu 7.52 260 A A 00 16 24.2
comp=E,71nm,10.7s,comp=E,82nm,13.0s
JHT Toyohira 7.58 274 A A 00 16 25.4
comp=E,84nm,12.5s,comp=E,115nm,11.3s
UWA2 Uwa jima 2 7.59 263 A A 00 16 25.2
comp=E,88nm,12.0s,comp=E,86nm,9.0s
ERM Erimo 7.60 9 *i* P **Pn 00 16 21.6 -3.7**
ERM MLR MLR
comp=Z,723µm,18.0s
JEM Erimo 7.60 9 A A 00 16 24.0
comp=Z,59nm,22.1s,comp=Z,106nm,10.6s
JNA Nagahama 7.64 265 A A 00 16 26.0
comp=Z,127nm,12.1s,comp=Z,78nm,7.4s
JYM2 Yakumo 2 7.67 353 A A 00 16 25.6
comp=Z,183nm,11.5s,comp=Z,238nm,12.8s
JOSM Okushiri--Mats 7.75 348 A A 00 16 27.0
comp=Z,377nm,13.9s,comp=Z,205nm,13.7s
JNBK Urakawa-nobuka 7.82 6 A A 00 16 27.1
comp=Z,137nm,12.1s,comp=Z,118nm,10.1s
JHH2 Haha-jima-NKT2 7.86 176 A A 00 16 24.9
comp=Z,115nm,10.6s,comp=Z,82nm,13.5s
JTHR Tokachihiroo 7.89 9 A A 00 16 27.9
comp=Z,68nm,12.7s,comp=Z,76nm,13.0s
JSHD Hidakashinhida 7.93 5 A A 00 16 28.6
comp=Z,147nm,12.7s,comp=Z,189nm,9.9s
JNB Noboribetsu 7.97 357 A A 00 16 29.6
comp=Z,228nm,13.3s,comp=Z,125nm,11.3s
JHIK Hikimi 7.99 273 A A 00 16 31.1
comp=Z,87nm,10.2s,comp=Z,112nm,10.8s
JHST Hiyamasetana 8.03 351 A A 00 16 30.6
comp=Z,335nm,13.6s,comp=Z,143nm,13.6s
JKD Kudamatsu 8.07 270 A A 00 16 32.1
comp=Z,103nm,16.0s,comp=Z,80nm,9.7s
JIAM Iburiatsuma 8.11 2 A A 00 16 31.4
comp=Z,238nm,14.5s,comp=Z,206nm,13.5s
JCH Churui 8.22 9 A A 00 16 32.5
comp=Z,84nm,13.8s,comp=Z,121nm,12.0s
JSH Shimam 8.22 352 A A 00 16 33.4
comp=Z,284nm,16.1s,comp=Z,142nm,13.0s
JSKE Saikikamae 8.27 261 A A 00 16 34.6
comp=Z,57nm,9.4s,comp=Z,59nm,9.6s
JBT2 Biratori 2 8.29 4 A A 00 16 33.8
comp=Z,107nm,16.6s,comp=Z,82nm,10.4s
JEW Eniwo 8.33 359 Pn **Pn 00 16 34.3 -0.9**
JEW Eniwo 8.33 359 A A 00 16 34.5
comp=Z,270nm,14.3s,comp=Z,169nm,13.5s
JUS Usuki 8.33 263 A A 00 16 35.5
comp=Z,69nm,10.1s,comp=Z,79nm,12.2s
JKI Kunimi 8.38 267 A A 00 16 36.4
comp=Z,128nm,14.6s,comp=Z,85nm,13.4s
JBEP Beppuamama 8.56 265 A A 00 16 38.8
comp=Z,131nm,16.1s,comp=Z,129nm,8.5s
JOB Onbets 8.57 11 A A 00 16 37.2
comp=Z,82nm,13.8s,comp=Z,140nm,13.9s
JHHC Hyugahichiya 8.58 259 A A 00 16 38.8
comp=Z,62nm,11.1s,comp=Z,46nm,11.8s
JHGM Hagimishima 8.63 275 A A 00 16 40.0
comp=Z,128nm,10.9s,comp=Z,138nm,13.8s
JKIT Kitakata 8.68 260 A A 00 16 40.2
comp=Z,53nm,8.9s,comp=Z,52nm,12.2s
JFR Furan 8.69 5 A A 00 16 39.1
comp=Z,75nm,32.4s,comp=Z,54nm,16.0s
JTY Toyota 8.72 271 A A 00 16 41.1
comp=Z,85nm,9.4s,comp=Z,102nm,13.3s
JTSN Tsuno 8.75 258 A A 00 16 41.1
comp=Z,55nm,10.6s,comp=Z,57nm,11.6s
JISS Ishikarishitsu 8.76 359 A A 00 16 40.5
comp=Z,209nm,13.4s,comp=Z,193nm,15.0s
JSK Shakotan 8.88 355 A A 00 16 42.5
comp=Z,138nm,12.2s,comp=Z,108nm,19.0s
JAR Ashorobuto 8.94 10 A A 00 16 42.5
comp=Z,36nm,18.4s,comp=Z,79nm,13.2s
JAB Ashibetsu 9.00 3 A A 00 16 43.6
comp=Z,140nm,15.0s,comp=Z,98nm,10.0s
JFA Akaike 9.01 268 A A 00 16 45.0
comp=Z,88nm,12.8s,comp=Z,71nm,13.4s
JNU Nakatsue 9.04 264 A A 00 16 45.4
comp=Z,119nm,12.4s,comp=Z,96nm,10.7s
JNKG Nichinankitago 9.04 255 A A 00 16 45.0
comp=Z,40nm,10.4s,comp=Z,46nm,10.6s
JTZ Takazaki 9.19 257 A A 00 16 47.1
comp=Z,68nm,10.5s,comp=Z,35nm,12.2s
JIU3 Izumi3 9.22 261 A A 00 16 47.7
comp=Z,67nm,11.8s,comp=Z,76nm,13.4s
JHR Hokuryu 9.23 1 A A 00 16 47.0
comp=Z,207nm,15.6s,comp=Z,139nm,17.1s
JTA Tamana 9.35 264 A A 00 16 49.6
comp=Z,116nm,10.9s,comp=Z,104nm,11.7s
JFI Itaya 9.38 267 A A 00 16 50.1
comp=Z,83nm,12.3s,comp=Z,90nm,9.4s
JNK Nakash 9.39 14 A A 00 16 48.5
comp=Z,55nm,12.0s,comp=Z,48nm,10.9s
JKK2 Kamakawa 2 9.40 5 A A 00 16 49.0
comp=Z,77nm,17.4s,comp=Z,54nm,16.0s
NMR Nemuro--Hokkai 9.42 19 *e*P **Pn 00 16 45.5 -4.7**
JZO Okuchi 9.51 259 A A 00 16 51.6
comp=Z,71nm,9.3s,comp=Z,62nm,8.8s
JTSR Tashiro 2 9.59 253 A A 00 16 52.5
comp=Z,29nm,11.6s,comp=Z,31nm,9.3s
JMP Maruseppu 9.59 8 A A 00 16 51.5
comp=Z,68nm,17.9s,comp=Z,62nm,14.4s
JTKR Abashiri--Toko 9.62 10 A A 00 16 51.8
comp=Z,44nm,17.1s,comp=Z,56nm,14.3s
JNSB Nemuroshibetsu 9.63 15 A A 00 16 51.6
comp=Z,62nm,11.9s,comp=Z,65nm,15.2s
ASAJ Asahikawa 9.63 4 A A 00 16 52.2
comp=Z,63nm,24.6s,comp=Z,47nm,12.3s
JHD Hondo 9.80 261 A A 00 16 55.6
comp=Z,51nm,8.5s,comp=Z,66nm,9.9s
JUR Ureshino 9.81 265 A A 00 16 56.0
comp=Z,103nm,13.2s,comp=Z,79nm,9.3s
JSU Suzuyama 9.83 255 Pn **Pn 00 16 57.3 +1.3**
JSU Suzuyama 9.83 255 A A 00 16 56.0
comp=Z,40nm,9.7s,comp=Z,57nm,13.2s
JII Iki 9.87 269 A A 00 16 57.0
comp=Z,103nm,11.5s,comp=Z,114nm,14.9s
JSS Shosan 9.89 1 A A 00 16 56.0
comp=Z,325nm,14.2s,comp=Z,164nm,15.3s
JYG Yagishiri 9.91 359 A A 00 16 56.4
comp=Z,167nm,13.4s,comp=Z,95nm,13.9s
JMTN Minamitane 9.93 249 A A 00 16 57.0
comp=Z,34nm,11.5s,comp=Z,36nm,11.5s
RUSJ Misakicho 9.99 15 *e*P **Pn 00 16 54.8 -3.3**
NGSJ Nagasakinomoza 10.03 263 A A 00 16 58.9
comp=Z,93nm,11.7s,comp=Z,57nm,13.1s
YUK Yuzh-Kuril'sk 10.07 18 *e*P **Pn 00 16 54.8 -4.4**
YUK pmax pmax
comp=Z,663nm,0.4s
YUK MLR MLR
comp=Z,182µm,16.0s
YUK MLR MLR
comp=N,91µm,12.0s
YUK MLR MLR
comp=E,255µm,15.0s
JTU Tsushima 10.08 274 Pn **Pn 00 17 00.4 +1.1**
JTU Tsushima 10.08 274 A A 00 16 59.9
comp=E,96nm,10.9s,comp=E,69nm,9.9s
JTSM Tsushimamitsus 10.10 273 A A 00 17 00.1
comp=E,76nm,10.2s,comp=E,65nm,12.8s
JSE Soyaes 10.47 4 A A 00 17 03.7
comp=E,141nm,15.9s,comp=E,51nm,15.3s
JWK2 Keihoku 10.80 1 A A 00 17 08.3
comp=E,127nm,20.3s,comp=E,125nm,14.4s
JFU Fukue jima 2 10.89 264 A A 00 17 10.4
comp=E,67nm,13.1s,comp=E,37nm,10.1s
JRBN Rebuntou 10.92 358 A A 00 17 09.9
comp=E,153nm,16.2s,comp=E,51nm,12.9s
TEY Ternei 11.20 341⇑ *e*P **Pn 00 17 14.9 +0.3**
TEY pmax pmax
comp=N,30nm,0.9s
TEY pmax pmax
comp=E,10.0nm,0.9s
TEY pmax pmax
comp=Z,30nm,0.9s
KSRS Korea Array 11.48 289 Pn **Pn 00 17 20.3 +1.9**
comp=Z,1.4nm,0.3s,baz=104,slow=14,SNR=49
KSAR Wonju Array Be 11.50 289 Pn **Pn 00 17 19.6 +0.8**
KSAR Wonju Array Be 11.50 289 P **Pn 00 17 19.6 +0.8**
KS19 Wonju Array Si 11.53 289 **Pn 00 17 20.4 +1.3**
KUR Kuril'sk 11.74 22 *e*P **Pn 00 17 21.1 -0.9**
KUR pmax pmax
comp=Z,275nm,0.8s
KUR MLR MLR
comp=Z,78µm,16.0s
TJN Taejon 11.77 283 **Pn 00 17 23.8 +1.3**
TJN Taejon 11.77 283 P **Pn 00 17 23.8 +1.3**
TJN Taejon 11.77 283 P **Pn 00 17 23.2 +0.7**
USA0B Ussuriysk Arra 12.21 325 **Pn 00 17 28.9 +0.5**
USA0B Ussuriysk Arra 12.21 325 P **Pn 00 17 28.9 +0.5**
USRK Ussuriysk Ar. 12.21 325 Pn **Pn 00 17 26.4 -1.9**
comp=Z,1.0nm,0.3s,baz=136,slow=9.0,SNR=25
USRK LR LR 00 22 25.0
comp=Z,160µm,19.9s,baz=129,slow=39
comp=Z,15nm,0.7s
USRK Ussuriysk Ar. 12.21 325 Pn **Pn 00 17 27.8 -0.6**
USRK Ussuriysk Ar. 12.21 325 P **Pn 00 17 27.8 -0.6**
YSS Yuzh-Sakhalins 12.47 4 Pn **Pn 00 17 28.5 -3.5**
YSS Yuzh-Sakhalins 12.47 4⇑ *e*P **Pn 00 17 29.0 -2.9**
YSS *e*S **Sn 00 19 45.6 -5.2**
YSS pmax pmax
comp=Z,2µm,4.9s
YSS pmax pmax
comp=Z,390nm,0.9s
YSS smax smax
comp=E,7µm,8.6s
YSS MLR MLR
comp=Z,268µm,14.0s
YSS MLR MLR
comp=N,257µm,12.0s
INCN Inchon 12.49 288 **Pn 00 17 34.1 +1.8**
INCN Inchon 12.49 288 P **Pn 00 17 34.1 +1.8**
INCN Inchon 12.49 288 P **Pn 00 17 34.6 +2.3**
INCN P **Pn 00 17 34.6 +2.3**
INCN Inchon 12.49 288 P **Pn 00 17 32.4 +0.1**
MDJ Mudanjiang 13.70 321 P **Pn 00 17 49.0 +0.3**
MDJ LR LR
comp=N,304µm,18.0s
MDJ LR LR
comp=N,256µm,16.2s
MDJ LR LR
comp=N,263µm,17.4s
MDJ Mudanjiang 13.70 321 P **Pn 00 17 49.2 +0.5**
JOW Kunigami 13.78 240 Pn **Pn 00 17 47.6 -2.3**
comp=N,0.4nm,0.3s,baz=117,slow=20,SNR=2.5
JOW Kunigami 13.78 240 Pn **Pn 00 17 50.7 +0.7**
JOW Kunigami 13.78 240 P **Pn 00 17 51.3 +1.3**
UGL Uglegorsk 14.57 1 *e*P **P 00 18 05.2 -1.9**
UGL *e*S **S 00 20 52.8 -8.6**
UGL smax smax
comp=E,23µm,11.0s
UGL smax smax
comp=N,23µm,16.0s
UGL MLR MLR
comp=N,336µm,15.0s
UGL MLR MLR
comp=E,293µm,15.0s
UGL MLR MLR
comp=Z,243µm,14.0s
CN2 Changchun 15.58 311 *e*P **Pn 00 18 15.1 +0.9**
CN2 *es*P sP 00 18 21.5 +0.8
CN2 *e*S **Sn 00 21 08.3 +1.6**
CN2 pmax pmax
comp=Z,16µm,6.0s
CN2 LR LR
comp=Z,214µm,13.0s
CN2 LR LR
comp=Z,202µm,13.0s
CN2 LR LR
comp=Z,208µm,14.0s
BNX BinXian 15.60 320 ⇓P **Pn 00 18 10.6 -3.7**
BNX pP **P 00 18 15.5 -3.1**
BNX sP **sP 00 18 23.6 +2.8**
BNX S **Sn 00 21 01.8 -5.2**
BNX sS S 00 21 09.9 -13
BNX pmax pmax
comp=Z,5µm,9.2s
BNX LR LR
comp=Z,265µm,16.8s
BNX LR LR
comp=Z,310µm,16.9s
BNX LR LR
comp=Z,157µm,16.9s
SNY Shenyang 15.94 303 ⇑P **Pn 00 18 15.4 -3.4**
SNY S **Sn 00 21 15.8 +0.3**
SNY pmax pmax
comp=Z,12µm,8.6s
SNY LR LR
comp=Z,206µm,15.8s
SNY LR LR
comp=Z,111µm,19.6s
SNY LR LR
comp=Z,219µm,18.6s
TYV Tymovskoe 16.37 2 *e*P **Pn 00 18 22.7 -1.6**
TYV *e*S **Sn 00 21 28.4 +2.6**
TYV pmax pmax
comp=Z,254nm,1.7s
TYV pmax pmax
comp=Z,2µm,3.4s
TYV smax smax
comp=N,4µm,5.5s
TYV smax smax
comp=E,5µm,5.5s
TYV MLR MLR
comp=N,293µm,14.0s
TYV MLR MLR
comp=Z,281µm,14.0s
KLR Kul'dur 16.43 337 Pn **Pn 00 18 21.4 -3.5**
comp=Z,1.5nm,0.3s,baz=144,slow=9.6,SNR=15
KLR LR LR 00 24 40.1
comp=Z,91µm,18.3s,baz=150,slow=37
KLR Kul'dur 16.43 337 *c i*P **Pn 00 18 18.2 -6.8**
KLR pmax pmax
comp=Z,130nm,2.0s
KLR MLR MLR
comp=Z,279µm,15.0s
DL2 Dalian 16.61 291⇑ *i*P **Pn 00 18 26.6 -0.8**
DL2 S **Sn 00 21 36.8 +5.0**
DL2 pmax pmax
comp=Z,160nm,0.7s
DL2 pmax pmax
comp=Z,24µm,10.6s
DL2 LR LR
comp=Z,216µm,12.1s
DL2 LR LR
comp=Z,177µm,14.5s
DL2 LR LR
comp=Z,241µm,16.5s
GRNR Gornyy 16.69 348⇓ *i*P **Pn 00 18 26.1 -2.3**
GRNR pmax pmax
comp=N,10.0nm,0.5s
GRNR pmax pmax
comp=E,6.0nm,0.5s
GRNR pmax pmax
comp=Z,5.0nm,0.6s
GRNR MLR MLR
comp=N,141µm,15.0s
GRNR MLR MLR
comp=E,114µm,15.0s
GRNR MLR MLR
comp=Z,176µm,16.0s
JMJ Miyako jima 2 17.14 240 P **P 00 18 36.4 +0.7**
SSE Sheshan 17.50 265 P **P 00 18 39.6 -0.2**
SSE S **Sn 00 21 54.0 +0.5**
SSE pmax pmax
comp=Z,10µm,11.8s
NKL Nikolayevsk 18.66 358 *e*P **Pn 00 18 54.6 +2.0**
NKL pmax pmax
comp=E,23nm,0.9s
NKL pmax pmax
comp=N,84nm,1.2s
NKL pmax pmax
comp=Z,170nm,1.2s
NKL MLR MLR
comp=E,67µm,12.0s
NKL MLR MLR
comp=N,119µm,13.0s
NKL MLR MLR
comp=Z,134µm,13.0s
YOJ Yonaguni jima 19.01 243 P **P 00 18 54.9 -1.5**
YOJ Yonaguni jima 19.01 243 P **P 00 18 54.9 -1.5**
YOJ pmax pmax
comp=Z,191nm,1.0s
YOJ Yonaguni jima 19.01 243 P **Pn 00 18 56.9 -0.2**
NJ2 Nanjing 19.18 269 ⇑P **P 00 18 56.1 -2.1**
NJ2 pP **sP 00 19 00.8 +0.6**
NJ2 sP **pwP 00 19 04.8 -3.4**
NJ2 PP pP 00 19 14.1 +14
NJ2 S **S 00 22 36.5 +1.0**
NJ2 sS **sS 00 22 39.3 +1.5**
NJ2 SS **SnSn 00 22 55.4 +7.4**
NJ2 pmax pmax
comp=Z,26µm,9.0s
NJ2 LR LR
comp=Z,73µm,13.7s
NJ2 LR LR
comp=Z,161µm,19.4s
NJ2 LR LR
comp=Z,190µm,16.1s
SKR Severo-Kuril's 19.32 29*c i*P **Pn 00 19 00.6 -0.1**
SKR *i* S **S 00 22 40.9 +2.9**
SKR pmax pmax
comp=Z,7µm,9.3s
SKR pmax pmax
comp=Z,171nm,0.8s
SKR smax smax
comp=N,21µm,11.8s
SKR smax smax
comp=E,29µm,13.8s
SKR MLR MLR
comp=Z,89µm,15.0s
TIA Tai'an 20.04 282 P **P 00 19 05.3 -2.3**
TIA pmax pmax
comp=Z,7µm,10.0s
TIA LR LR
comp=Z,186µm,12.8s
TIA LR LR
comp=Z,200µm,12.8s
TIA LR LR
comp=Z,250µm,10.7s
YHNB Yeheng 20.11 246 P **P 00 19 07.1 -1.5**
YHNB Yeheng 20.11 246 P **P 00 19 06.5 -2.0**
NACB Ninganchiao 20.22 245 P **P 00 19 08.3 -1.4**
YULB Yu-li 20.90 243 P **P 00 19 16.2 -0.9**
SSLB Suanglung 20.93 245 P **P 00 19 15.8 -1.6**
SSLB Suanglung 20.93 245 P **P 00 19 16.7 -0.6**
BJI Beijing 20.95 293 P **P 00 19 11.6 -5.9**
BJI sP **pP 00 19 18.3 -0.8**
BJI S **S 00 23 10.3 -0.4**
BJI SS **SnSn 00 23 31.9 +0.5**
BJI pmax pmax
comp=Z,18nm,2.4s
BJI pmax pmax
comp=Z,12µm,11.9s
BJI LR LR
comp=N,23µm,16.0s
BJI LR LR
comp=E,72µm,15.3s
BJI LR LR
comp=Z,102µm,14.9s
GUMO Guam 21.03 171 P **P 00 19 17.8 -0.6**
comp=Z,259nm,1.1s,baz=84,slow=6.1,SNR=3.0
GUMO S **S 00 23 13.2 +0.7**
comp=Z,19nm,0.4s,baz=199,slow=23,SNR=0.9
GUMO LR LR 00 25 43.4
comp=Z,58µm,21.2s,baz=8.5,slow=32
comp=Z,259nm,1.1s
GUMO Guam 21.03 171 P **P 00 19 16.8 -1.6**
GUMO Guam 21.03 171 IAMs_20 IAMs_20 00 25 31.3
comp=Z,124µm,19.0s
GUMO Guam 21.03 171 P **P 00 19 22.7 +4.3**
TWG Pinlang 21.41 242 P **P 00 19 22.4 -0.1**
TPUB Ta-pu 21.45 244 P **P 00 19 21.4 -1.5**
TPUB Ta-pu 21.45 244 P **P 00 19 22.3 -0.7**
ZEA Zeya 21.74 337 *e*P **P 00 19 25.0 -0.9**
ZEA *e*S **S 00 23 17.4 -8.7**
ZEA pmax pmax
comp=E,190nm,0.7s
ZEA pmax pmax
comp=N,490nm,0.9s
ZEA pmax pmax
comp=Z,720nm,0.9s
ZEA pmax pmax
comp=E,4µm,9.6s
ZEA pmax pmax
comp=N,5µm,7.4s
ZEA pmax pmax
comp=Z,10µm,10.1s
ZEA smax smax
comp=E,29µm,9.5s
ZEA MLR MLR
comp=N,64µm,13.0s
ZEA MLR MLR
comp=N,140µm,15.0s
ZEA MLR MLR
comp=Z,150µm,15.0s
XLT XiLinHaoTe 21.83 303 *e*P **P 00 19 23.1 -3.9**
XLT pP pP 00 19 28.9 +0.3
XLT sP **sP 00 19 31.6 +2.3**
XLT S **S 00 23 25.9 -2.2**
XLT sS pS 00 23 34.8 +2.4
XLT pmax pmax
comp=Z,130nm,1.1s
XLT LR LR
comp=Z,144µm,12.6s
XLT LR LR
comp=Z,155µm,13.5s
PEA0B Petropavlovsk- 21.84 27 P **P 00 19 25.6 -1.3**
PEA0B IAmb IAmb 00 19 46.9
comp=Z,1µm,1.8s
PEA0B Petropavlovsk- 21.84 27*ce*P **P 00 19 27.1 +0.2**
PETK Petropavlovsk- 21.84 27 P **P 00 19 26.7 -0.1**
comp=Z,19nm,1.0s,baz=147,slow=1.5,SNR=11
PETK PcP **PcP 00 23 27.5 +1.1**
comp=Z,13nm,0.8s,baz=349,slow=1.5,SNR=4.6
PETK LR LR 00 31 48.4
comp=Z,37µm,18.0s,baz=217,slow=47
comp=Z,19nm,1.0s
PETK Petropavlovsk- 21.84 27 P **P 00 19 26.6 -0.2**
HIA Hailar 21.86 319 IAMs_20 IAMs_20 00 28 53.6
comp=Z,131µm,18.0s

HIA	**Hailar**	**21.86**	**319**	*c*	*i*P		**P**	**00 19 23.4**	**-3.8**
HIA					pmax		pmax		
	comp=Z,243nm,1.2s								
HIA					MLR		MLR		
	comp=Z,156μm,16.0s								
HNS	**HongShan**	**21.95**	**285**	⇑	P		**P**	**00 19 24.3**	**-3.9**
HNS					S		**S**	**00 23 30.1**	**-0.2**
HNS					pmax		pmax		
	comp=Z,84nm,0.8s								
HNS					LR		LR		
	comp=Z,74μm,13.3s								
HNS					LR		LR		
	comp=Z,182μm,13.5s								
HNS					LR		LR		
	comp=Z,180μm,14.0s								
QZH	**Quanzhou**	**22.10**	**251**	⇑	*i*P		**P**	**00 19 25.6**	**-4.3**
QZH					S		**S**	**00 23 29.4**	**-4.1**
QZH					LR		LR		
	comp=Z,39μm,12.3s								
QZH					LR		LR		
	comp=Z,82μm,14.7s								
QZH					LR		LR		
	comp=Z,53μm,13.3s								
PET	**Petropavlovsk**	**22.13**	**28**		P		**P**	**00 19 28.6**	**-1.4**
PET					IAmb		IAmb	00 19 36.8	
	comp=Z,845nm,1.5s								
PET	**Petropavlovsk**	**22.13**	**28**	*k*	*i*P		**P**	**00 19 31.3**	**+1.3**
PET					*e*S		**S**	**00 23 29.1**	**-4.5**
PET					pmax		pmax		
	comp=Z,481nm,1.5s								
PET					pmax		pmax		
	comp=Z,15μm,12.2s								
PET					pmax		pmax		
	comp=Z,14μm,10.8s								
PET					MLR		MLR		
	comp=Z,84μm,16.0s								
PET	**Petropavlovsk**	**22.13**	**28**		P		**P**	**00 19 32.1**	**+2.1**
WHN	**Wuhan**	**23.30**	**268**	⇓	P		**P**	**00 19 39.9**	**-2.5**
WHN					pP		**sP**	**00 19 44.4**	**-0.1**
WHN					S		**S**	**00 23 58.4**	**+3.6**
WHN					pmax		pmax		
	comp=Z,280nm,0.8s								
WHN					LR		LR		
	comp=Z,357μm,13.8s								
WHN					LR		LR		
	comp=Z,201μm,13.6s								
WHN					LR		LR		
	comp=Z,495μm,15.8s								
CICP	**Calayan Island**	**23.44**	**235**	⇓	*i*P		**P**	**00 19 44.5**	**+0.5**
TIY	**Taiyuan**	**23.75**	**286**	⇓	P		**P**	**00 19 47.6**	**+0.6**
TIY					S		**S**	**00 24 05.5**	**+3.3**
TIY					pmax		pmax		
	comp=Z,46nm,0.7s								
TIY					pmax		pmax		
	comp=Z,10μm,7.8s								
TIY					LR		LR		
	comp=Z,58μm,14.4s								
TIY					LR		LR		
	comp=Z,115μm,13.1s								
TIY					LR		LR		
	comp=Z,100μm,17.9s								
LYN	**LuoYang**	**23.98**	**278**	*e*	P		**P**	**00 19 45.4**	**-3.7**
LYN					PP		**PnPn**	**00 20 17.6**	**0.0**
LYN					S		**S**	**00 23 57.3**	**-8.4**
LYN					SS		**SnSn**	**00 24 54.4**	**+8.7**
LYN					pmax		pmax		
	comp=Z,9μm,12.0s								
LYN					LR		LR		
	comp=Z,63μm,15.9s								
LYN					LR		LR		
	comp=Z,279μm,16.7s								
LYN					LR		LR		
	comp=Z,312μm,17.2s								
HHC	**Hu-ho-hao-te**	**24.54**	**294**	*e*	P		**P**	**00 19 50.8**	**-3.5**
HHC					S		**S**	**00 24 10.3**	**-4.5**
HHC					sS		sS	00 24 23.0	+5.2
HHC					SS		**SnSn**	**00 25 07.8**	**+8.4**
HHC					pmax		pmax		
	comp=Z,180nm,1.2s								
HHC					LR		LR		
	comp=Z,194μm,15.9s								
HHC					LR		LR		
	comp=Z,125μm,16.9s								
HHC					LR		LR		
	comp=Z,223μm,16.5s								
CNSH	**ChangSha**	**25.24**	**263**	⇑	P		**P**	**00 19 57.8**	**-2.9**
CNSH					S		**S**	**00 24 22.6**	**-3.5**
CNSH					LR		LR		
	comp=Z,122μm,14.6s								
CNSH					LR		LR		
	comp=Z,209μm,15.6s								
CNSH					LR		LR		
	comp=Z,208μm,16.2s								
BTO	**Baotou**	**25.69**	**293**	*e*	P		**P**	**00 20 04.3**	**-0.5**
BTO					S		**S**	**00 24 37.3**	**+4.1**
BTO					LR		LR		
	comp=Z,460μm,14.3s								
BTO					LR		LR		
	comp=Z,394μm,13.1s								
MA2	**Magadan**	**25.80**	**11**		P		**P**	**00 20 05.1**	**-0.3**
	comp=Z,88nm,0.7s,baz=198,slow=10,SNR=22								
MA2					S		**S**	**00 24 34.7**	**+0.3**
	comp=Z,4.8nm,0.3s,baz=320,slow=24,SNR=1.8								
MA2					LR		LR	00 31 47.5	
	comp=Z,69μm,18.5s,baz=204,slow=40								
	comp=Z,88nm,0.7s								
MA2	**Magadan**	**25.80**	**11**		P		**P**	**00 20 03.3**	**-2.1**
MA2					IAmb		IAmb	00 20 12.2	
	comp=Z,368nm,1.0s								
MA2					IAMs_20		IAMs_20	00 31 46.1	
	comp=Z,90μm,18.0s								
MA2	**Magadan**	**25.80**	**11**		P		**P**	**00 20 06.5**	**+1.1**
CIT	**Chita**	**26.66**	**320**	*e*	P		**P**	**00 20 16.2**	**+2.8**
CIT				*e*				00 20 56.0	
CIT				*e*				00 21 11.5	
CIT					pmax		pmax		
	comp=Z,2μm,3.2s								
H11N2	**WAKE ISLAND Hy**	**26.79**	**117**		T		T	00 48 18.6	
	baz=309,slow=75,SNR=119								
H11N1	**WAKE ISLAND Hy**	**26.79**	**117**		T		T	00 48 18.3	
	baz=309,slow=75,SNR=139								
H11N3	**WAKE ISLAND Hy**	**26.81**	**117**		T		T	00 48 20.7	
	baz=309,slow=75,SNR=112								
WAKE	**Wake Island**	**26.89**	**118**		P		**P**	**00 20 13.3**	**-2.3**
WAKE					IAmb		IAmb	00 20 24.7	
	comp=Z,501nm,1.2s								
WAKE	**Wake Island**	**26.89**	**118**		IAMs_20		IAMs_20	00 31 32.1	
	comp=Z,89μm,18.0s								
WAKE	**Wake Island**	**26.89**	**118**		P		**P**	**00 20 20.9**	**+5.3**
	comp=Z,316nm,1.8s								
XAN	**Xi'an**	**26.96**	**278**	⇑	*i*P		**P**	**00 20 14.8**	**-1.4**
XAN					pP		pwP	00 20 23.0	-2.6
XAN					sP		sP	00 20 26.0	+7.3
XAN					S		**S**	**00 24 56.1**	**+2.8**
XAN					pmax		pmax		
	comp=Z,67nm,1.2s								
XAN					pmax		pmax		
	comp=Z,11μm,11.9s								
XAN					LR		LR		
	comp=Z,87μm,18.0s								
XAN					LR		LR		
	comp=Z,87μm,16.5s								
XAN					LR		LR		
	comp=Z,280μm,15.1s								
HKPS	**Hong Kong Po S**	**26.97**	**250**		P		**P**	**00 20 15.2**	**-1.2**
GZH	**Guangzhou**	**27.17**	**253**	⇑	*i*P		**P**	**00 20 11.9**	**-6.2**
GZH					S		**S**	**00 24 47.8**	**-8.8**
GZH					pmax		pmax		
	comp=Z,9μm,10.2s								
GZH					LR		LR		
	comp=Z,111μm,16.1s								
GZH					LR		LR		
	comp=Z,71μm,16.0s								
ENH	**Enshi**	**27.39**	**270**		IAmb		IAmb	00 20 24.0	
	comp=Z,142nm,0.7s								
H11S3	**WAKE ISLAND Hy**	**27.42**	**119**		T		T	00 49 17.8	
	baz=312,slow=76,SNR=119								
H11S1	**WAKE ISLAND Hy**	**27.42**	**119**		T		T	00 49 22.2	
	baz=312,slow=76,SNR=132								
H11S2	**WAKE ISLAND Hy**	**27.43**	**119**		T		T	00 49 19.8	
	baz=312,slow=76,SNR=148								
TGY	**Tagaytay City**	**27.60**	**228**		LR		LR	00 31 18.6	
	comp=Z,30μm,19.0s,baz=104,slow=36								
TGY	**Tagaytay City**	**27.60**	**228**	⇑	*e*P		P	00 20 14.8	-7.3
PGP	**Puerto Galera**	**28.05**	**227**	⇑	*e*P		**P**	**00 20 21.7**	**-4.4**
GULI	**GuiLin**	**28.51**	**260**	⇑	P		**P**	**00 20 28.0**	**-2.1**
GULI					S		**S**	**00 25 17.4**	**-0.3**
GULI					pmax		pmax		
	comp=Z,50nm,0.8s								
GULI					LR		LR		
	comp=Z,115μm,12.6s								
GULI					LR		LR		
	comp=Z,145μm,14.0s								
GULI					LR		LR		
	comp=Z,241μm,14.4s								
YAK	**Yakutsk**	**28.57**	**348**		P		**P**	**00 20 29.7**	**-0.6**
	comp=Z,82nm,0.8s,baz=155,slow=3.2,SNR=18								
YAK					S		**S**	**00 25 18.8**	**+0.7**
	comp=Z,13nm,0.3s,baz=43,slow=4.5,SNR=1.9								
YAK					LR		LR	00 32 36.9	
	comp=Z,104μm,19.5s,baz=158,slow=38								
	comp=Z,82nm,0.8s								
YAK	**Yakutsk**	**28.57**	**348**		P		**P**	**00 20 28.8**	**-1.5**
YAK					IAmb		IAmb	00 20 48.1	
	comp=Z,238nm,0.9s								
YAK					IAMs_20		IAMs_20	00 32 25.6	
	comp=Z,123μm,19.0s								
YAK	**Yakutsk**	**28.57**	**348**	*ce*	P		**P**	**00 20 29.8**	**-0.5**
YAK				*e*	S		**S**	**00 25 17.8**	**-0.2**
YAK				*e*	SS		**SnSn**	**00 26 35.2**	**-2.2**
YAK				*e*	SSS		SSS	00 27 05.5	
YAK					pmax		pmax		
	comp=Z,186nm,1.0s								
YAK					pmax		pmax		
	comp=N,86nm,1.0s								
YAK					pmax		pmax		
	comp=E,29nm,1.1s								
YAK					pmax		pmax		
	comp=Z,4μm,5.8s								
YAK					pmax		pmax		
	comp=N,2μm,5.8s								
YAK					smax		smax		
	comp=N,13μm,4.8s								
YAK					smax		smax		
	comp=E,9μm,5.2s								
YAK					MLR		MLR		
	comp=Z,149μm,14.0s								
YAK					MLR		MLR		
	comp=N,94μm,15.0s								
ULN	**Ulaanbaatar**	**28.98**	**308**		P		**P**	**00 20 32.4**	**-1.8**
ULN	**Ulaanbaatar**	**28.98**	**308**	*ce*	P		**P**	**00 20 33.3**	**-0.9**
ULN					pmax		pmax		
	comp=Z,67nm,2.5s								
ULN	**Ulaanbaatar**	**28.98**	**308**		P		**P**	**00 20 34.7**	**+0.5**
ULN					P		**P**	**00 20 34.7**	**+0.5**
ULN					P		**P**	**00 20 34.7**	**+0.5**
SEY	**Seymchan**	**29.25**	**10**		P		**P**	**00 20 37.1**	**+0.8**
	comp=Z,54nm,0.9s,baz=209,slow=7.1,SNR=19								
SEY					S		**S**	**00 25 30.0**	**+1.4**
	comp=Z,4.4nm,0.9s,baz=348,slow=23,SNR=1.5								
SEY					LR		LR	00 34 48.5	
	comp=Z,49μm,18.7s,baz=204,slow=42								
	comp=Z,54nm,0.9s								
GHBP	**Garcia Hernand**	**29.39**	**217**	⇓	*i*P		**P**	**00 20 35.2**	**-2.8**
SHEM	**Shemya Is, Ala**	**29.40**	**42**		LR		LR	00 31 33.4	
	comp=Z,29μm,18.9s,baz=235,slow=35								
SMY	**Shemya**	**29.40**	**42**		P		P	00 20 31.3	-6.4
SMY	**Shemya**	**29.40**	**42**		P		P	00 20 31.3	-6.4
SMY					pmax		pmax		
	comp=Z,173nm,1.1s								
SONM	**Songino Array**	**29.40**	**308**		P		**P**	**00 20 37.2**	**-0.8**
	comp=Z,15nm,0.7s,baz=112,slow=8.3,SNR=23								
SONM					PcP		**PcP**	**00 23 44.9**	**+1.1**
	comp=Z,6.4nm,0.6s,baz=82,slow=2.8,SNR=2.5								
SONM					S		**S**	**00 25 31.0**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=76,slow=41,SNR=1.1								
SONM					LR		LR	00 33 35.1	
	comp=Z,103μm,18.3s,baz=99,slow=39								
	comp=Z,15nm,0.7s								
SONM	**Songino Array**	**29.40**	**308**		P		**P**	**00 20 37.3**	**-0.6**
TBP	**Tagbilaran**	**29.57**	**218**	⇓	*e*P		**P**	**00 20 35.3**	**-4.2**
BOD	**Bodaibo**	**29.78**	**330**	*e*	P		**P**	**00 20 39.8**	**-1.2**
BOD					pmax		pmax		
	comp=Z,338nm,1.2s								
LZH	**Lanzhou**	**30.74**	**284**	⇑	*i*P		**P**	**00 20 48.5**	**-1.5**
LZH					pP		pP	00 20 52.1	+0.3
LZH					sP		sP	00 20 54.0	+1.5
LZH					S		**S**	**00 25 57.8**	**+4.8**
LZH					pmax		pmax		
	comp=Z,18nm,1.0s								
LZH					pmax		pmax		
	comp=Z,5μm,6.2s								
LZH					LR		LR		
	comp=Z,67μm,12.5s								
LZH					LR		LR		
	comp=Z,144μm,12.7s								
LZH					LR		LR		
	comp=Z,148μm,17.2s								
DAV	**Davao City (W)**	**31.05**	**212**		LR		LR	00 34 16.6	
	comp=Z,37μm,18.0s,baz=40,slow=38								
GYA	**Guiyang**	**31.05**	**265**	⇑	P		**P**	**00 20 50.1**	**-2.7**
GYA					sP		sP	00 20 58.9	+4.1
GYA					S		**S**	**00 25 54.9**	**-3.0**
GYA					pmax		pmax		
	comp=Z,48nm,0.6s								
GYA					pmax		pmax		
	comp=Z,3μm,9.4s								
GYA					LR		LR		
	comp=Z,56μm,13.0s								
GYA					LR		LR		
	comp=Z,64μm,15.2s								
GYA					LR		LR		
	comp=Z,83μm,18.3s								
KCP	**Kidapawan**	**31.32**	**213**	⇓	*e*P		**P**	**00 20 55.6**	**+0.5**
PATS	**Pohnpei**	**31.55**	**147**		P		**P**	**00 20 56.6**	**-0.4**
PATS					IAMs_20		IAMs_20	00 35 05.3	
	comp=Z,74μm,18.0s								
PATS	**Pohnpei**	**31.55**	**147**		P		P	00 21 02.0	+5.0
AMKA	**Amchitka**	**31.90**	**46**		P		**P**	**00 20 58.6**	**-1.2**
CD2	**Chengdu**	**31.93**	**274**		P		**P**	**00 20 58.5**	**-1.9**
CD2					pP		pP	00 21 01.9	-0.3
CD2					PP		**PP**	**00 22 08.9**	**-3.6**
CD2					S		**S**	**00 26 10.8**	**-0.7**
CD2					pmax		pmax		
	comp=Z,130nm,0.8s								
CD2					pmax		pmax		
	comp=Z,5μm,10.8s								
CD2					LR		LR		
	comp=Z,170μm,16.7s								
CD2					LR		LR		
	comp=Z,222μm,17.2s								
CD2					LR		LR		
	comp=Z,282μm,14.7s								
IRK	**Irkutsk**	**31.96**	**315**	*e*	P		**P**	**00 21 01.3**	**+0.9**
IRK					pmax		pmax		
	comp=Z,568nm,2.9s								
ZAK	**Zakamensk**	**32.02**	**312**	*e*	P		**P**	**00 21 04.3**	**+3.3**
ZAK					pmax		pmax		
	comp=Z,180nm,1.3s								
QIZ	**Qiongzhong**	**32.11**	**250**	⇑	*i*P		**P**	**00 21 00.3**	**-1.7**
QIZ					PP		**PP**	**00 22 13.1**	**-1.5**
QIZ					S		**S**	**00 26 18.0**	**+3.6**
QIZ					LR		LR		
	comp=Z,43μm,17.5s								
QIZ					LR		LR		
	comp=Z,34μm,15.9s								
QIZ					LR		LR		
	comp=Z,43μm,14.3s								
QIZ	**Qiongzhong**	**32.11**	**250**		P		**P**	**00 21 02.8**	**+0.8**
GTA	**Gaotai**	**33.54**	**291**	⇑	P		**P**	**00 21 14.1**	**-0.4**
GTA					pP		sP	00 21 18.0	+1.1
GTA					sP		pwP	00 21 21.5	-2.6
GTA					PP		**PP**	**00 22 28.3**	**-2.0**
GTA					S		**S**	**00 26 37.8**	**+1.3**
GTA					sS		sS	00 26 43.8	+4.3
GTA					SS		**SnSn**	**00 28 43.8**	**+5.0**
GTA					pmax		pmax		
	comp=Z,5μm,7.6s								
GTA					LR		LR		
	comp=Z,123μm,16.4s								
GTA					LR		LR		
	comp=Z,64μm,18.9s								
GTA					LR		LR		
	comp=Z,91μm,17.8s								
MOY	**Mondy**	**33.74**	**313**	*e*	P		**P**	**00 21 17.4**	**+1.3**
MOY					pmax		pmax		
	comp=Z,567nm,3.3s								
SGSI	**Sangihe**	**34.11**	**210**		P		**P**	**00 21 17.8**	**-1.7**
	comp=Z,161nm,0.8s								
KIWB	**Kanaga Island**	**34.16**	**47**		P		**P**	**00 21 16.2**	**-3.4**
ADK	**Adak**	**34.45**	**47**		P		**P**	**00 21 17.9**	**-4.1**
KMI	**Kunming**	**34.82**	**265**	⇑	P		**P**	**00 21 23.3**	**-2.6**
KMI					pP		pP	00 21 26.3	-1.1
KMI					PcP		**PcP**	**00 24 01.5**	**+2.4**
KMI					S		**S**	**00 26 54.0**	**-2.7**
KMI					SS		**SnSn**	**00 29 12.4**	**+2.0**
KMI					pmax		pmax		
	comp=Z,76nm,0.8s								
KMI					pmax		pmax		
	comp=Z,3μm,11.1s								
KMI					LR		LR		
	comp=Z,79μm,15.5s								
KMI					LR		LR		
	comp=Z,172μm,17.8s								
KMI					LR		LR		
	comp=Z,212μm,17.4s								
GSTR	**Great Sitkin T**	**34.87**	**47**		P		**P**	**00 21 22.1**	**-3.7**
PZH	**PanZhiHua**	**35.09**	**268**		P		**P**	**00 21 26.3**	**-1.7**
PZH					sP		**sP**	**00 21 31.4**	**+1.3**
PZH					PcP		**PcP**	**00 24 01.8**	**+2.1**
PZH					S		**S**	**00 27 01.3**	**+0.7**
PZH					pmax		pmax		
	comp=Z,100nm,0.8s								
PZH					pmax		pmax		
	comp=Z,4μm,12.0s								
PZH					LR		LR		
	comp=Z,87μm,15.3s								
PZH					LR		LR		
	comp=Z,80μm,14.5s								
PZH					LR		LR		
	comp=Z,102μm,14.1s								
MIDW	**Midway**	**35.40**	**89**		P		**P**	**00 21 28.4**	**-2.2**
MIDW					IAmb		IAmb	00 21 41.1	
	comp=Z,170nm,1.1s								
MIDW					IAMs_20		IAMs_20	00 38 20.0	
	comp=Z,73μm,18.0s								
KNGR	**Kungurtug, Tuv**	**35.66**	**310**	*i*	P		**P**	**00 21 32.8**	**+0.1**
KNGR					pmax		pmax		
	comp=Z,363nm,1.1s								
BAKI	**Biak**	**35.88**	**189**		P		**P**	**00 21 33.9**	**-0.8**
	comp=Z,5μmcomp=Z,151nm,1.2s								
TNTI	**Ternate**	**36.10**	**205**		P		**P**	**00 21 34.8**	**-1.8**
TNTI	**Ternate**	**36.10**	**205**		P		**P**	**00 21 36.0**	**-0.6**
	comp=Z,6μmcomp=Z,3μmcomp=Z,152nm,1.1s								
TNTI	**Ternate**	**36.10**	**205**		P		**P**	**00 21 39.0**	**+2.4**
MYLDM	**Lahad Datu**	**36.19**	**221**		P		**P**	**00 21 37.5**	**+0.2**
MYLDM					IAMs_20		IAMs_20	00 38 24.7	
	comp=Z,90μm,19.0s								
SMPI	**Sarmi**	**36.40**	**185**		P		**P**	**00 21 38.9**	**-0.2**
	comp=Z,9μmcomp=Z,4μmcomp=Z,116nm,1.6s								
BILL	**Bilibino**	**36.41**	**15**		P		**P**	**00 21 39.2**	**+0.4**
BILL					IAMs_20		IAMs_20	00 38 18.4	
	comp=Z,52μm,19.0s								
BILL	**Bilibino**	**36.41**	**15**	*de*	P		**P**	**00 21 38.9**	**+0.1**
BILL				*e*				00 23 01.3	
BILL				*e*	S		**S**	**00 27 23.3**	**+3.5**
BILL					pmax		pmax		
	comp=Z,226nm,1.7s								
BILL					MLR		MLR		
	comp=Z,49μm,18.0s								
SIJI	**Sorong**	**36.50**	**198**		LR		LR	00 34 30.4	
	comp=Z,60μm,18.5s,baz=15,slow=33								
SRPI	**Serui, Papua**	**36.53**	**189**		P		**P**	**00 21 41.8**	**+1.6**
	comp=Z,7μmcomp=Z,7μmcomp=Z,188nm,1.0s								
MANU	**Manus Island**	**36.75**	**170**		P		**P**	**00 21 40.9**	**-1.3**
KKM	**Kota Kinabalu**	**36.78**	**225**		P		**P**	**00 21 41.0**	**-1.5**
KKM					IAMs_20		IAMs_20	00 37 30.4	
	comp=Z,59μm,20.0s								
KKM	**Kota Kinabalu**	**36.78**	**225**		P		**P**	**00 21 45.5**	**+3.0**
GENI	**Genyem**	**36.92**	**182**		P		**P**	**00 21 43.7**	**+0.1**
	comp=Z,14μmcomp=Z,8μmcomp=Z,346nm,1.8s								
GENI	**Genyem**	**36.92**	**182**		P		**P**	**00 21 47.9**	**+4.3**
LBMI	**Labuha**	**37.37**	**204**		P		**P**	**00 21 46.7**	**-0.8**
	comp=Z,5μmcomp=Z,210nm,1.0s								
KMSI	**Cibinong**	**37.56**	**210**		P		**P**	**00 21 48.0**	**-1.1**
	comp=Z,574nm,0.8s								
UBPT	**Khong Chiam**	**37.69**	**249**		P		**P**	**00 21 48.9**	**-1.2**
TIXI	**Tiksi**	**37.82**	**353**		P		**P**	**00 21 50.6**	**0.0**
	comp=Z,32nm,0.7s,baz=270,slow=23,SNR=14								
TIXI					S		**S**	**00 27 40.3**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=270,slow=24,SNR=1.1								
TIXI					LR		LR	00 39 11.3	
	comp=Z,113μm,18.1s,baz=180,slow=39								
	comp=Z,32nm,0.7s								
TIXI	**Tiksi**	**37.82**	**353**				**P**	**00 21 50.0**	**-0.6**
GTOI	**Gorontalo**	**37.92**	**211**		P		**P**	**00 21 50.2**	**-1.8**
	comp=Z,1μmcomp=Z,73nm,1.1s								
GOMU	**GeErMu**	**37.92**	**286**	⇓	*e*P		**P**	**00 21 51.3**	**-1.1**
GOMU					pP		pP	00 21 54.5	+0.3
GOMU					sP		sP	00 21 55.6	+0.7
GOMU					pmax		pmax		
	comp=Z,14nm,0.5s								
GOMU					pmax		pmax		
	comp=Z,2μm,4.0s								
GOMU					LR		LR		
	comp=Z,44μm,15.5s								
GOMU					LR		LR		
	comp=Z,44μm,14.6s								
GOMU					LR		LR		
	comp=Z,54μm,14.1s								
FAKI	**Fak Fak**	**38.25**	**195**		P		**P**	**00 21 52.6**	**-2.3**
FAKI					IAMs_20		IAMs_20	00 39 15.3	
	comp=Z,64μm,18.0s								
FAKI	**Fak Fak**	**38.25**	**195**		P		**P**	**00 21 53.8**	**-1.1**
	comp=Z,11μmcomp=Z,4μmcomp=Z,131nm,1.1s								
FAKI	**Fak Fak**	**38.25**	**195**		P		**P**	**00 21 58.5**	**+3.6**
TOLI2	**Tolitoli**	**38.50**	**215**		P		**P**	**00 21 53.9**	**-3.0**
TOLI2	**Tolitoli**	**38.50**	**215**		P		**P**	**00 21 53.6**	**-3.4**
MRSI	**Marisa**	**38.52**	**213**		P		**P**	**00 21 56.0**	**-1.2**
	comp=Z,13μmcomp=Z,5μmcomp=Z,351nm,1.0s								
CLES	**Cleveland East**	**38.71**	**47**		P		**P**	**00 21 54.3**	**-4.1**
CLES					IAmb		IAmb	00 22 14.8	
	comp=Z,1μm,1.2s								
CRAI	**Chiangrai**	**39.01**	**260**		P		**P**	**00 21 59.8**	**-1.6**
SANI	**Sanana**	**39.21**	**205**		P		**P**	**00 21 59.8**	**-3.1**
	comp=Z,12μmcomp=Z,4μmcomp=Z,158nm,1.1s								
SANI	**Sanana**	**39.21**	**205**		P		**P**	**00 21 59.9**	**-3.0**
NIKH	**Nikolski High**	**39.36**	**47**		P		**P**	**00 22 00.4**	**-3.4**
NIKH					IAmb		IAmb	00 22 08.6	
	comp=Z,588nm,1.8s								
NIKH	**Nikolski High**	**39.36**	**47**		P		**P**	**00 22 03.1**	**-0.8**
	baz=262								
NIKH					S		**S**	**00 28 04.5**	**-0.2**
	baz=262								
SPIA	**Saint Paul Isl**	**39.37**	**40**		P		**P**	**00 22 03.0**	**-0.8**
	baz=256								
SPIA					S		**S**	**00 28 08.2**	**+3.3**
	baz=256								
MSAI	**Masohi**	**39.49**	**200**		P		**P**	**00 22 04.9**	**-0.4**
	comp=Z,37nm,1.0s								
LUWI	**Luwuk**	**39.53**	**210**		P		**P**	**00 22 04.3**	**-1.3**
LUWI	**Luwuk**	**39.53**	**210**		P		**P**	**00 22 04.6**	**-1.0**
	comp=Z,13μmcomp=Z,4μmcomp=Z,242nm,1.0s								
LUWI	**Luwuk**	**39.53**	**210**		P		**P**	**00 22 06.8**	**+1.2**
MPSI	**Mapaga**	**39.59**	**215**		P		**P**	**00 22 04.7**	**-1.4**
	comp=Z,14μmcomp=Z,2μmcomp=Z,54nm,0.9s								
LKP	**Lekhapani**	**39.64**	**272**	*e*	P		**P**	**00 22 05.5**	**-1.0**
LKP					IAmb		IAmb	00 22 15.0	
	comp=Z,398nm,0.9s								
RABL	**Rabaul**	**39.75**	**163**		P		**P**	**00 22 05.3**	**-2.1**
RABL					IAmb		IAmb	00

CM31 Chiang Mai Arr 41.08 258 P **P** **00 22 16.7 -1.8**
CMAR Chiang Mai Arr 41.08 258 P **P** **00 22 15.6 -2.9**
comp=Z,25nm,0.6s,baz=49,slow=8.0,SNR=45
CMAR ScP **ScP** **00 28 07.2 -0.6**
comp=Z,1.6nm,0.6s,baz=29,slow=2.1,SNR=2.4
CMAR LR LR 00 41 02.3
comp=Z,22µm,18.4s,baz=55,slow=39
comp=Z,25nm,0.6s
CMAR Chiang Mai Arr 41.08 258 **P** **00 22 16.5 -1.9**
MOKO MOKOCHONG 41.13 272 *e*P **P** **00 22 16.9 -2.1**
MOKO IAmb IAmb 00 22 34.6
comp=Z,400nm,0.5s
JORH JORHAT 41.18 272 *e*P **P** **00 22 20.3 +1.0**
ZIRO ZIRO 41.22 274 *e*P **P** **00 22 19.4 -0.3**
ZIRO IAmb IAmb 00 22 28.0
comp=Z,137nm,0.8s
SMKI Samarinda 41.61 218 P **P** **00 22 21.7 -1.1**
comp=Z,25µmcomp=Z,8µmcomp=Z,115nm,1.1s
KOHI KOHIMA 41.70 271 *e*P **P** **00 22 21.0 -2.7**
SBUM Sibu 42.02 227 P **P** **00 22 25.4 -0.8**
SBUM Sibu 42.02 227 P **P** **00 22 27.0 +0.8**
DGZ Jazzator, Alta 42.04 308 *c i*P **P** **00 22 25.9 -0.3**
DGZ pmax pmax
comp=Z,278nm,0.7s
DGZ MLR MLR
comp=Z,135µm,16.0s
WMQ Urumqi 42.17 299 P **P** **00 22 28.6 +1.3**
WMQ pP pwP 00 22 34.0 -3.0
WMQ PcP **PcP** **00 24 21.0 -0.5**
WMQ S **S** **00 28 52.8 +5.7**
WMQ sS sS 00 29 02.3 +12
WMQ ScS **ScS** **00 32 30.0 +0.4**
WMQ pmax pmax
comp=Z,420nm,1.9s
WMQ pmax pmax
comp=Z,8µm,8.5s
WMQ LR LR
comp=Z,83µm,19.7s
WMQ LR LR
comp=Z,31µm,18.9s
WMQ LR LR
comp=Z,21µm,21.3s
TEZP TEZPUR 42.43 273 *e*P **P** **00 22 26.4 -3.0**
TEZP IAmb IAmb 00 22 37.1
comp=Z,340nm,1.5s
BKB Balikpapan 42.46 218 P **P** **00 22 25.4 -4.4**
BKB IAmb IAmb 00 22 33.7
comp=Z,309nm,1.3s
BKB Balikpapan 42.46 218 P **P** **00 22 27.4 -2.4**
comp=Z,24µmcomp=Z,5µmcomp=Z,175nm,1.2s
BKB Balikpapan 42.46 218 P **P** **00 22 29.7 -0.1**
TTSI Tana Toraja 42.60 213 P **P** **00 22 30.1 -0.8**
comp=Z,10µmcomp=Z,2µmcomp=Z,47nm,0.9s
LSA Lhasa 42.66 278 P **P** **00 22 31.9 +0.1**
LSA IAMs_20 IAMs_20 00 42 21.6
comp=Z,52µm,19.0s
LSA Lhasa 42.66 278 P **P** **00 22 30.8 -1.1**
LSA S **S** **00 28 54.6 -0.8**
LSA pmax pmax
comp=Z,6µm,12.1s
LSA LR LR
comp=Z,12µm,15.3s
LSA LR LR
comp=Z,42µm,13.9s
LSA LR LR
comp=Z,56µm,14.6s
LSA Lhasa 42.66 278 P **P** **00 22 32.0 +0.1**
LSA pmax pmax
comp=Z,60nm,1.0s
LSA MLR MLR
comp=Z,52µm,19.0s
LSA Lhasa 42.66 278 P **P** **00 22 31.2 -0.7**
LSA P **P** **00 22 31.2 -0.7**
LSA Lhasa 42.66 278 P **P** **00 22 30.9 -1.1**
MTKI Muara Teweh, K 43.25 221 P **P** **00 22 34.9 -1.2**
comp=Z,10µmcomp=Z,62nm,0.9s
SAUI Saumlaki 43.37 195 P **P** **00 22 35.6 -1.5**
SAUI Saumlaki 43.37 195 P **P** **00 22 36.5 -0.5**
comp=Z,22µmcomp=Z,18µmcomp=Z,529nm,1.1s
SPSI Sidrap Palu 43.44 213 P **P** **00 22 36.3 -1.4**
comp=Z,12µmcomp=Z,3µmcomp=Z,101nm,1.0s
GUWA GUWAHATI 43.51 273 *e*P **P** **00 22 38.0 -0.2**
GUWA IAmb IAmb 00 22 42.8
comp=Z,133nm,1.2s
SHL Shillong 43.60 272 P **P** **00 22 38.8 -0.4**
SHL Shillong 43.60 272 P **P** **00 22 38.8 -0.4**
SHL pmax pmax
comp=Z,45nm,0.7s
SHL Shillong 43.60 272 P **P** **00 22 40.0 +0.8**
SNR=14
SHL Shillong 43.60 272 *e*P **P** **00 22 39.9 +0.7**
SHL IAmb IAmb 00 22 50.9
comp=Z,43nm,0.9s
BBSI Bau Bau 43.65 208 P **P** **00 22 38.5 -0.8**
comp=Z,4µmcomp=Z,112nm,1.0s
ANM Nome 43.69 30 P **P** **00 22 36.3 -2.9**
ANM IAmb IAmb 00 22 46.6
comp=Z,403nm,1.4s
ANM IAMs_20 IAMs_20 00 43 00.7
comp=Z,38nm,20.0s
ANM Nome 43.69 30 P **P** **00 22 36.3 -2.9**
ANM pmax pmax
comp=Z,403nm,1.4s
ANM MLR MLR
comp=Z,38nm,20.0s
ANM Nome 43.69 30 P **P** **00 22 39.6 +0.4**
baz=253
ANM S **S** **00 29 12.6 +4.0**
baz=253
ZAA0 Zalesovo Array 43.77 314 P **P** **00 22 39.4 -0.5**
ZAA0 IAmb IAmb 00 22 57.7
comp=Z,197nm,1.2s
ZALV Zalesovo Beam 43.77 314 P **P** **00 22 38.0 -2.0**
comp=Z,34nm,0.6s,baz=92,slow=6.5,SNR=52
ZALV PcP **PcP** **00 24 26.2 -0.3**
comp=Z,34nm,0.7s,baz=93,slow=3.1,SNR=9.5
ZALV LR LR 00 42 31.4
comp=Z,21µm,18.2s,baz=95,slow=38
comp=Z,34nm,0.6s
ZALV Zalesovo Beam 43.77 314 P **P** **00 22 38.9 -1.0**
ZSN Zaisan 43.83 305 *e*P **P** **00 22 40.3 -0.2**
ZSN *e*S **S** **00 29 12.7 +1.6**
ZSN pmax pmax
comp=Z,78nm,1.1s
ZSN Zaisan 43.83 305 *e*P **P** **00 22 40.3 -0.2**
comp=Z,78nm,1.1s,baz=305
ZSN *e*S **S** **00 29 12.8 +1.6**
baz=305
PMG Port Moresby 43.98 172 LR LR 00 40 36.6
comp=Z,10µm,19.4s,baz=354,slow=36
PMG Port Moresby 43.98 172 P **P** **00 22 41.3 -0.7**
PMG Port Moresby 43.98 172 P **P** **00 22 41.3 -0.7**
PMG pmax pmax
comp=Z,130nm,1.1s
PMG Port Moresby 43.98 172 P **P** **00 22 45.2 +3.2**
PMG Port Moresby 43.98 172 P **P** **00 22 45.1 +3.1**
TARA Tarawa 44.06 132 P **P** **00 22 41.3 -1.4**
TARA IAmb IAmb 00 23 02.0
comp=Z,275nm,1.2s
TARA Tarawa 44.06 132 IAMs_20 IAMs_20 00 42 50.3
comp=Z,52µm,19.0s
TARA Tarawa 44.06 132 P P 00 22 48.3 +5.6
comp=Z,214nm,2.0s
STKI Sintang 44.36 226 P **P** **00 22 44.0 -1.1**
comp=Z,8µmcomp=Z,111nm,0.9s
KAPI Kappang 44.38 212 P **P** **00 22 44.0 -1.3**
KAPI IAmb IAmb 00 23 27.9
comp=Z,228nm,1.4s
KAPI Kappang 44.38 212 P **P** **00 22 44.0 -1.3**
KAPI pmax pmax
comp=Z,228nm,1.4s
KAPI Kappang 44.38 212 P **P** **00 22 45.7 +0.4**
comp=Z,137nm,1.3s
SDPT Sand Point 44.49 44 P **P** **00 22 44.2 -1.5**
SDPT Sand Point 44.49 44 P **P** **00 22 44.7 -1.0**
baz=267
SDPT S **S** **00 29 23.4 +2.9**
baz=267
BKSI Bulukumba 44.50 211 P **P** **00 22 45.1 -1.1**
comp=Z,3µmcomp=Z,84nm,0.9s
DHUB DHUBRI 44.97 274 *e*P **P** **00 22 48.6 -1.3**
DHUB IAmb IAmb 00 22 57.4
comp=Z,504nm,2.0s
CHNA Chernabura Isl 44.98 44 P **P** **00 22 49.4 -0.2**
baz=268
CHNA S **S** **00 29 25.6 -2.0**
baz=268
CNBA Chernabura Isl 44.98 44 P **P** **00 22 48.3 -1.3**
CNBA IAmb IAmb 00 22 54.1
comp=Z,200nm,1.1s
BRDH Bariadhala 45.03 269 P **P** **00 22 49.3 -1.1**
comp=Z,320nm,0.7s,baz=58,slow=13,SNR=12
BRDH LR LR 00 45 03.2
comp=Z,88µm,18.4s,baz=70,slow=41
comp=Z,320nm,0.7s
S14K Fog Glacier 45.06 42 P **P** **00 22 49.2 -1.1**
baz=267
S14K S **S** **00 29 28.5 -0.5**
baz=267
BSSI Bau Bau, Buton 45.08 210 P **P** **00 22 48.8 -2.0**
comp=Z,10µmcomp=Z,2µmcomp=Z,85nm,1.1s
BBKI Banjar Baru 45.40 219 P **P** **00 22 52.3 -1.0**
comp=Z,7µmcomp=Z,129nm,0.9s
MK31 Makanchi Array 45.64 304 IAmb IAmb 00 23 04.3
comp=Z,128nm,1.0s
MK31 Makanchi Array 45.64 304 *i* P **P** **00 22 53.3 -1.7**
MKAR Makanchi Array 45.64 304 P **P** **00 22 53.9 -1.2**
comp=Z,32nm,0.7s,baz=84,slow=9.0,SNR=34
MKAR S **S** **00 29 39.7 +2.2**
comp=Z,2.6nm,0.9s,baz=84,slow=9.4,SNR=1.7
MKAR LR LR 00 43 37.5
comp=Z,41µm,19.1s,baz=87,slow=38
comp=Z,32nm,0.7s
MKAR Makanchi Array 45.64 304 P **P** **00 22 54.0 -1.0**
NRIK Noril'sk 45.64 336 P **P** **00 22 53.6 -1.0**
comp=Z,78nm,1.0s,baz=110,slow=8.1,SNR=23
NRIK S **S** **00 29 37.5 +0.7**
comp=Z,5.0nm,1.0s,baz=290,slow=23,SNR=1.2
NRIK LR LR 00 44 31.0
comp=Z,101µm,18.5s,baz=108,slow=40
comp=Z,78nm,1.0s
NRIK Noril'sk 45.64 336 P **P** **00 22 54.1 -0.6**
NRIK IAmb IAmb 00 23 00.6
comp=Z,194nm,1.1s
CHGN Chignik 45.70 42 P **P** **00 22 52.8 -2.4**
CHGN Chignik 45.70 42 P **P** **00 22 53.7 -1.5**
baz=268
CHGN S **S** **00 29 35.3 -2.6**
baz=268
RDOG Red Dog Mine 45.70 26 P **P** **00 22 53.7 -1.5**
baz=252
N16K Nishlik Lake 45.84 37 P **P** **00 22 58.0 +1.6**
baz=263,SNR=36
N16K S **S** **00 29 42.2 +2.2**
baz=263
MAKZ Makanchi 45.85 304 P **P** **00 22 56.1 -0.6**
MAKZ IAmb IAmb 00 23 06.1
comp=Z,127nm,0.8s
MAKZ IAMs_20 IAMs_20 00 43 33.7
comp=Z,56µm,18.0s
MAKZ Makanchi 45.85 304 P **P** **00 22 56.4 -0.3**
O16K Kokwok River B 46.08 38 P **P** **00 22 57.9 -0.3**
baz=265,SNR=13
O16K S **S** **00 29 45.2 +1.8**
baz=265
P16K Nushagak River 46.09 39 P **P** **00 22 59.1 +0.8**
baz=265
P16K S **S** **00 29 45.2 +1.8**
baz=265
R16K Pilot Point 46.21 41 P **P** **00 22 58.7 -0.6**
baz=267
SRIT Nakonsritamara 46.32 246 P **P** **00 23 00.8 0.0**
SRIT IAmb IAmb 00 23 18.5
comp=Z,182nm,1.2s
TAPN Taplejung 46.33 277 *e*P **P** **00 22 59.1 -2.0**
comp=Z,470nm,1.2s
PBKI Pangkalan Bun 46.49 223 P **P** **00 23 00.8 -1.2**
comp=Z,156nm,1.1s
O17K Koliganek Bris 46.60 38 P **P** **00 23 02.3 -0.1**
baz=265
O17K S **S** **00 29 52.1 +1.3**
baz=265
SEM Semipalatinsk 46.64 309 *e*P **P** **00 23 02.0 -1.1**
SEM *e*S **S** **00 29 52.8 +0.6**
SEM pmax pmax
comp=Z,76nm,1.1s
SEM MLR MLR
comp=Z,45µm,15.0s
SEM Semipalatinsk 46.64 309 *e*P **P** **00 23 02.0 -1.1**
comp=Z,76nm,1.1s,baz=310
SEM *e*S **S** **00 29 52.8 +0.6**
baz=310
SEM LR LR 00 42 46.6
comp=Z,45µm,15.1s,baz=310
MMRI Maumere 46.66 207 P **P** **00 23 02.6 -0.7**
MMRI Maumere 46.66 207 P **P** **00 23 02.2 -1.1**
comp=Z,15µmcomp=Z,6µmcomp=Z,448nm,0.9s
MMRI Maumere 46.66 207 P **P** **00 23 05.4 +2.1**
Q16K King Salmon 46.76 39 P **P** **00 23 04.6 +1.0**
baz=267,SNR=8.4
Q16K S **S** **00 29 53.9 +0.8**
baz=267
ODAN Odare 46.79 276 *e*P **P** **00 23 02.4 -2.2**
R17K Ugashik Creek 46.85 41 P **P** **00 23 04.1 -0.3**
baz=268
R17K S **S** **00 29 52.4 -2.2**
baz=268
P17K Kvichak River 46.90 38 P **P** **00 23 04.9 +0.2**
baz=267
P17K S **S** **00 29 54.4 -0.7**
baz=267
EDFI Ende, Flores 46.97 207 P **P** **00 23 03.4 -2.4**
comp=Z,9µmcomp=Z,2µmcomp=Z,118nm,1.0s
SOEI Soe 46.99 204 P **P** **00 23 04.7 -1.2**
SOEI Soe 46.99 204 P **P** **00 23 06.6 +0.6**
JOHN Johnston Islan 47.00 99 P **P** **00 23 04.5 -1.5**
HNR Honiara 47.02 155 P **P** **00 23 06.5 +0.5**
comp=Z,830nm,0.5s,baz=348,slow=11,SNR=1.2
HNR S **S** **00 29 57.9 +0.2**
comp=Z,838nm,0.4s,baz=69,slow=4.1,SNR=1.8
HNR LR LR 00 43 33.1
comp=Z,375µm,19.3s,baz=329,slow=37
HNR Honiara 47.02 155 IAMs_20 IAMs_20 00 43 13.2
comp=Z,34µm,19.0s
CHIR Chirikof Islan 47.25 43 P **P** **00 23 07.1 -0.4**
CHIR Chirikof Islan 47.25 43 P **P** **00 23 07.0 -0.4**
baz=270
CHIR S **S** **00 29 59.4 -0.9**
baz=270
N18K Kilae Creek 47.27 36 P **P** **00 23 07.2 -0.5**
N18K IAmb IAmb 00 23 15.1
comp=Z,154nm,1.2s
N18K Kilae Creek 47.27 36 P **P** **00 23 08.9 +1.2**
baz=266,SNR=23
N18K S **S** **00 30 03.1 +2.6**
baz=266
GCSA Galena City Sc 47.29 31 P **P** **00 23 08.6 +0.9**
baz=261
GCSA S **S** **00 30 01.0 +0.5**
baz=261
RAMN Ramite 47.40 277 *e*P **P** **00 23 06.9 -2.5**
TTA Tatalina 47.42 33 P **P** **00 23 08.2 -0.6**
TTA Tatalina 47.42 33 P **P** **00 23 08.3 -0.6**
TTA pmax pmax
comp=Z,77nm,1.1s
TTA Tatalina 47.42 33 P **P** **00 23 09.3 +0.4**
baz=264,SNR=22
TTA S **S** **00 30 03.7 +1.0**
baz=264
SVW2 Sparrevohn 47.45 36 P **P** **00 23 08.4 -0.6**
SVW2 IAmb IAmb 00 23 17.1
comp=Z,163nm,1.2s
JIRN Jiri 47.46 278 *e*P **P** **00 23 08.2 -1.8**
comp=Z,552nm,0.7s
P18K Big Mountain, 47.53 38 P **P** **00 23 10.8 +1.1**
P18K Big Mountain, 47.53 38 P **P** **00 23 10.4 +0.7**
baz=268
P18K S **S** **00 30 05.0 +0.8**
baz=268
O18K Koktuh Hills 47.56 38 P **P** **00 23 10.0 +0.1**
O18K IAmb IAmb 00 23 16.3
comp=Z,199nm,1.2s
O18K Koktuh Hills 47.56 38 P **P** **00 23 11.1 +1.2**
baz=267
O18K S **S** **00 30 06.4 +1.8**
baz=267
BATI Baumata 47.61 204 S **S** **00 30 05.7 -0.4**
comp=Z,17nm,0.4s,baz=260,slow=23,SNR=1.9
BATI LR LR 00 41 50.6
comp=Z,16µm,20.5s,baz=25,slow=34
BATI Baumata 47.61 204 P **P** **00 23 09.7 -1.0**
comp=Z,8µmcomp=Z,4µmcomp=Z,294nm,1.0s
GUN Gumba 47.62 278 *e*P **P** **00 23 09.4 -1.8**
comp=Z,395nm,0.8s
KURK Kurchatov 47.65 310 P **P** **00 23 09.9 -0.8**
KURK Kurchatov 47.65 310 P **P** **00 23 09.5 -1.2**
KURK S **S** **00 30 07.9 +1.8**
KURK Kurchatov 47.65 310 P **P** **00 23 09.5 -1.2**
KURBB Kurchatov Arra 47.72 310 P **P** **00 23 09.5 -1.7**
comp=Z,62nm,0.6s,baz=86,slow=7.3,SNR=92
KURBB S **S** **00 30 07.9 +0.9**
comp=Z,4.6nm,0.7s,baz=82,slow=7.4,SNR=1.9
KURBB LR LR 00 44 33.8
comp=Z,54µm,18.4s,baz=59,slow=38
comp=Z,62nm,0.6s
KDU Kakadu 47.72 192 P **P** **00 23 12.5 +1.0**
KULM Kulim 47.73 242 P **P** **00 23 10.7 -1.0**
KULM IAmb IAmb 00 23 29.1
comp=Z,110nm,1.3s
KULM Kulim 47.73 242 P **P** **00 23 13.0 +1.3**
L19K White Mountain 47.89 34 P **P** **00 23 13.0 +0.6**
L19K IAmb IAmb 00 23 19.5
comp=Z,175nm,1.2s
L19K White Mountain 47.89 34 P **P** **00 23 13.8 +1.4**
baz=265,SNR=40
L19K S **S** **00 30 10.7 +1.5**
baz=265
MYKOM Kota Tinggi 47.92 236 P **P** **00 23 13.1 -0.1**
N19K Bonanza Creek 47.97 36 P **P** **00 23 12.7 -0.4**
N19K Bonanza Creek 47.97 36 P **P** **00 23 13.8 +0.6**
baz=267
N19K S **S** **00 30 13.6 +3.0**
baz=267
IPM Ipoh 48.01 241 IAmb IAmb 00 23 30.5
comp=Z,137nm,1.2s
IPM Ipoh 48.01 241 P **P** **00 23 15.0 +1.1**
IPM Ipoh 48.01 241 P **P** **00 23 15.0 +1.1**
O19K Port Alsworth 48.02 37 P **P** **00 23 14.0 +0.6**
O19K IAmb IAmb 00 23 28.8
comp=Z,133nm,1.4s
O19K Port Alsworth 48.02 37 P **P** **00 23 14.2 +0.8**
baz=268
O19K S **S** **00 30 13.4 +2.4**
baz=268
SII Sitkinak Islan 48.05 42 P **P** **00 23 13.1 -0.6**
SII Sitkinak Islan 48.05 42 P **P** **00 23 13.7 0.0**
baz=271
M19K Big River Lodg 48.08 35 P **P** **00 23 13.4 -0.5**
M19K IAMs_20 IAMs_20 00 47 23.1
comp=Z,33µm,18.0s
M19K Big River Lodg 48.08 35 P **P** **00 23 14.4 +0.5**
baz=266,SNR=7.7
M19K S **S** **00 30 16.8 +4.8**
baz=266
TPRI Tanjung Pinang 48.11 234 P **P** **00 23 13.4 -1.2**
comp=Z,10µmcomp=Z,4µmcomp=Z,53nm,0.7s
MTN Manton Dam 48.12 194 P **P** **00 23 12.6 -2.0**
MTN Manton Dam 48.12 194 P **P** **00 23 13.2 -1.4**
PKI Pulchoki 48.13 278 *e*P **P** **00 23 12.7 -2.5**
comp=Z,315nm,0.9s
PDGK Podgornoye 48.14 300 P **P** **00 23 13.1 -1.7**
PKIN Phulchoki 48.14 278 *e*P **P** **00 23 12.8 -2.3**
comp=Z,280nm,0.7s
KKN Kakani 48.15 278 *e*P **P** **00 23 12.9 -2.3**
SHLS Shalkode 48.19 300 *e*P **P** **00 23 11.8 -3.4**
SHLS *e*S **S** **00 30 10.4 -3.9**
SHLS pmax pmax
comp=Z,76nm,1.0s
SHLS Shalkode 48.19 300 *e*P **P** **00 23 11.8 -3.4**
comp=Z,76nm,1.0s,baz=300
SHLS *e*S **S** **00 30 10.5 -3.9**
baz=300
COEN Coen 48.21 178 P **P** **00 23 13.8 -1.5**
COEN Coen 48.21 178 P **P** **00 23 18.3 +3.0**
Q19K Cape Douglas, 48.33 39 P **P** **00 23 14.8 -1.1**
Q19K IAmb IAmb 00 23 35.6
comp=Z,214nm,1.4s
Q19K Cape Douglas, 48.33 39 P **P** **00 23 16.8 +0.9**
baz=269
Q19K S **S** **00 30 14.1 -1.5**
baz=269
K20K Telida 48.34 33 P **P** **00 23 15.8 -0.1**
K20K IAmb IAmb 00 23 23.3
comp=Z,184nm,1.1s
K20K Telida 48.34 33 P **P** **00 23 17.3 +1.4**
baz=265,SNR=65
K20K S **S** **00 30 20.0 +4.3**
baz=265
L20K Farewell, AK 48.36 34 P **P** **00 23 17.7 +1.6**
baz=266,SNR=31
L20K S **S** **00 30 18.4 +2.4**
baz=266
DMN Daman 48.37 278 *e*P **P** **00 23 14.7 -2.2**
comp=Z,588nm,1.2s
J20K Nowinta River 48.39 32 IAMs_20 IAMs_20 00 47 05.4
comp=Z,53µm,19.0s
J20K Nowinta River 48.39 32 P **P** **00 23 17.1 +0.9**
baz=264,SNR=91
J20K S **S** **00 30 19.8 +3.5**
baz=264
UZB Uzynbulak 48.51 300 *e*P **P** **00 23 16.2 -1.5**
UZB Uzynbulak 48.51 300 *e*P **P** **00 23 16.2 -1.5**
baz=300
OHAK Old Harbor 48.53 41 P **P** **00 23 15.5 -1.9**
OHAK Old Harbor 48.53 41 P **P** **00 23 17.4 +0.1**
baz=271
OHAK S **S** **00 30 17.9 -0.4**
baz=271
P19K Oil Pt 48.55 38 P **P** **00 23 18.4 +0.8**
P19K IAmb IAmb 00 23 23.1
comp=Z,127nm,1.2s
P19K Oil Pt 48.55 38 P **P** **00 23 17.1 -0.5**
baz=269
P19K S **S** **00 30 19.2 +0.5**
baz=269
BWJI Bawean 48.56 220 P **P** **00 23 16.9 -1.2**
comp=Z,9µmcomp=Z,202nm,1.8s
TDK Taldyqorghan 48.59 302 *e*P **P** **00 23 18.6 +0.6**
TDK Taldyqorghan 48.59 302 *e*P **P** **00 23 18.6 +0.6**
baz=302
TDK LR LR 00 45 11.4
baz=302
GKN Gorkha 48.60 279 *e*P **P** **00 23 16.6 -1.9**
comp=Z,864nm,1.0s
ILSW Iliamna Southw 48.60 37 P **P** **00 23 16.5 -1.6**
ILSW IAmb IAmb 00 23 26.6
comp=Z,83nm,1.4s
PLAI Plampang 48.65 212 P **P** **00 23 17.7 -1.0**
comp=Z,15µmcomp=Z,4µmcomp=Z,263nm,0.9s
PLAI Plampang 48.65 212 P **P** **00 23 18.2 -0.5**
comp=Z,263nm,0.9s
M20K Styx River 48.68 35 P **P** **00 23 18.4 -0.2**
M20K IAmb IAmb 00 24 50.1
comp=Z,126nm,1.4s
M20K IAMs_20 IAMs_20 00 47 42.1
comp=Z,33µm,18.0s
M20K Styx River 48.68 35 P **P** **00 23 19.5 +0.9**
baz=267
M20K S **S** **00 30 24.2 +3.7**
baz=267
KPKS Kokpek 48.69 300 *e*P **P** **00 23 18.0 -0.9**
KPKS *e*S **S** **00 30 22.0 +0.8**
KPKS pmax pmax
comp=Z,38nm,0.9s
KPKS Kokpek 48.69 300 *e*P **P** **00 23 18.0 -0.9**
comp=Z,38nm,0.9s,baz=300
KPKS *e*S **S** **00 30 22.1 +0.8**
baz=300
A21K Barrow 48.73 22 P **P** **00 23 18.6 -0.1**
A21K Barrow 48.73 22 P **P** **00 23 19.8 +1.1**
baz=255
A21K S **S** **00 30 22.5 +1.7**
baz=255
IMAR Indian Mountai 48.76 29 P **P** **00 23 18.0 -1.0**
DGPR DIGLIPUR 48.79 257 *e*P **P** **00 23 18.0 -1.9**
DGPR IAmb IAmb 00 23 34.2
comp=Z,137nm,1.0s
RSO Redoubt South 48.81 37 P **P** **00 23 18.8 -1.0**
O20K Slope Mountain 48.87 37 P **P** **00 23 21.2 +1.2**
baz=269
O20K S **S** **00 30 22.8 -0.4**
baz=269
KDAK Kodiak Island 48.90 40 P **P** **00 23 19.1 -1.1**
comp=Z,74nm,0.9s,baz=290,slow=7.2,SNR=10
KDAK S **S** **00 30 24.9 +1.4**
comp=Z,6.9nm,0.9s,baz=137,slow=19,SNR=1.4
KDAK LR LR 00 46 11.7
comp=Z,13µm,18.0s,baz=274,slow=39
comp=Z,74nm,0.9s

KDAK Kodiak Island 48.90 40 P P 00 23 19.7 -0.5
KDAK IAmb IAmb 00 23 39.3
comp=Z,123nm,0.9s
KDAK Kodiak Island 48.90 40 IAMs_20 IAMs_20 00 46 44.6
comp=Z,32µm,18.0s
KDAK Kodiak Island 48.90 40 P P 00 23 21.2 +1.1
baz=271
KDAK S S 00 30 24.1 +0.6
baz=271
KMMI Kalianget 48.90 218 P P 00 23 17.8 -2.8
comp=Z,19µmcomp=Z,5µmcomp=Z,145nm,0.9s
TPI Tanjungpandan 48.90 228 P P 00 23 19.1 -1.6
comp=Z,12µmcomp=Z,2µmcomp=Z,115nm,1.0s
G21K Allakaket 48.92 29 P P 00 23 21.2 +0.9
baz=263,SNR=86
G21K S S 00 30 26.7 +3.0
baz=263
ZHN Zhinishke 48.93 300 eP P 00 23 20.9 +0.1
ZHN eS S 00 30 26.4 +1.8
ZHN Zhinishke 48.93 300 eP P 00 23 21.0 +0.1
baz=300
ZHN eS S 00 30 26.4 +1.8
baz=300
TWSI Taliwang, Sumb 48.97 213 P P 00 23 18.1 -3.1
comp=Z,9µmcomp=Z,3µmcomp=Z,214nm,1.0s
Q20K Shuyak Island 48.98 39 P P 00 23 20.4 -0.4
baz=271
Q20K S S 00 30 22.5 -2.2
baz=271
F21K Alatna River 49.03 28 P P 00 23 21.5 +0.4
baz=262,SNR=48
F21K S S 00 30 26.4 +1.2
baz=262
N20K Mount Spurr 49.09 36 P P 00 23 23.0 +1.2
baz=268,SNR=25
N20K S S 00 30 29.1 +2.7
baz=268
SPCR Spurr Chakacha 49.09 36 P P 00 23 23.5 +1.8
baz=268,SNR=15
SPCR S S 00 30 28.5 +2.1
baz=268
H21K Melozitna Rive 49.11 30 IAMs_20 IAMs_20 00 47 39.4
comp=Z,36µm,18.0s
H21K Melozitna Rive 49.11 30 P P 00 23 23.4 +1.7
baz=264,SNR=120
H21K S S 00 30 29.3 +2.9
baz=264
DSRI Dabo 49.11 233 P P 00 23 21.0 -1.4
comp=Z,10µmcomp=Z,6µmcomp=Z,26nm,1.4s
PPLA Purkeypile 49.17 34 P P 00 23 21.5 -0.8
PPLA Purkeypile 49.17 34 P P 00 23 23.5 +1.2
baz=267,SNR=37
PPLA S S 00 30 30.8 +3.3
baz=267
CHUM Lake Minchumin 49.17 32 P P 00 23 24.1 +2.0
baz=266,SNR=14
CHUM S S 00 30 30.3 +3.1
baz=266
SPU Mount Spurr 49.17 36 P P 00 23 21.7 -0.6
SRBI Singaraja 49.18 216 P P 00 23 22.0 -0.8
comp=Z,21µmcomp=Z,9µmcomp=Z,403nm,1.1s
DANN Dangsing 49.18 280 eP P 00 23 21.2 -2.0
comp=Z,670nm,0.6s
CAST Castle Rocks 49.24 33 P P 00 23 21.7 -1.1
CAST IAmb IAmb 00 23 29.4
comp=Z,245nm,1.4s
CAST IAMs_20 IAMs_20 00 47 39.5
comp=Z,36µm,18.0s
CAST Castle Rocks 49.24 33 P P 00 23 23.5 +0.7
baz=267,SNR=49
CAST S S 00 30 30.8 +2.5
baz=267
BOK Bokaro 49.29 273 eP P 00 23 21.9 -1.8
HOM Homer 49.36 38 P P 00 23 23.5 -0.2
baz=270
HOM S S 00 30 28.8 -1.2
baz=270
PPBI Pangkal Pinang 49.38 230 P P 00 23 23.8 -0.6
comp=Z,17µmcomp=Z,19µmcomp=Z,77nm,1.0s
ABJI Asem Bagus 49.40 217 P P 00 23 23.8 -0.7
comp=Z,6µmcomp=Z,201nm,1.3s
I21K Tanana 49.41 31 IAMs_20 IAMs_20 00 47 24.1
comp=Z,43µm,18.0s
I21K Tanana 49.41 31 P P 00 23 25.3 +1.3
baz=265,SNR=78
I21K S S 00 30 33.8 +3.3
baz=265
SKT Skwentna 49.44 35 P P 00 23 23.8 -0.6
SKT IAmb IAmb 00 23 30.6
comp=Z,203nm,1.5s
SKT IAMs_20 IAMs_20 00 48 11.7
comp=Z,29µm,18.0s
SKT Skwentna 49.44 35 P P 00 23 25.3 +1.0
baz=268,SNR=20
SKT S S 00 30 32.3 +1.2
baz=268
KOLN Koldanda 49.53 279 eP P 00 23 23.6 -2.2
F22K John River 49.56 28 P P 00 23 27.2 +2.0
baz=263
F22K S S 00 30 35.1 +2.4
baz=263
CNPM China Poot 49.57 38 P P 00 23 25.2 -0.2
CNPM IAmb IAmb 00 24 34.7
comp=Z,265nm,1.8s
CAPN Captain Cook N 49.60 36 P P 00 23 26.8 +1.3
baz=270
DNP Denpasar 49.69 215 P P 00 23 25.9 -0.8
comp=Z,833nm,1.0s
TARG Taragay, Kyrgy 49.70 298 P P 00 23 26.9 -0.2
TARG IAmb IAmb 00 23 38.9
comp=Z,221nm,1.0s
TARG Taragay, Kyrgy 49.70 298 P P 00 23 26.9 -0.2
TARG pmax pmax
comp=Z,221nm,1.0s
H22K Ishtalitna Cre 49.72 30 P P 00 23 28.6 +2.2
baz=265,SNR=120
H22K S S 00 30 39.0 +4.2
baz=265
BRLK Bradley Lake 49.74 38 P P 00 23 24.8 -1.9
G22K Bettles 49.76 28 P P 00 23 27.6 +0.9
baz=264
G22K S S 00 30 37.7 +2.3
baz=264
BPAW Bear Paw Mtn. 49.77 32 P P 00 23 25.4 -1.4
BPAW Bear Paw Mtn. 49.77 32 P P 00 23 28.4 +1.6
baz=267,SNR=27
BPAW S S 00 30 37.1 +1.5
baz=267
KTH Kantishna Hill 49.77 33 P P 00 23 26.1 -0.7
KTH IAmb IAmb 00 23 33.9
comp=Z,288nm,1.4s
KTH IAMs_20 IAMs_20 00 47 34.4
comp=Z,39µm,19.0s
E22K Anaktuvuk Pass 49.78 27 P P 00 23 30.2 +3.4
baz=263
E22K S S 00 30 36.1 +0.4
baz=263
TBJI Tambak Boyo 49.80 220 P P 00 23 26.5 -1.1
comp=Z,10µmcomp=Z,3µmcomp=Z,136nm,1.2s
SUA Susitna One 49.80 36 P P 00 23 26.1 -1.1
SUA Susitna One 49.80 36 P P 00 23 27.2 0.0
baz=270
SUA S S 00 30 37.9 +1.5
baz=270
PBA Port Blair 49.81 255 P P 00 23 27.2 -0.4
PBA IAmb IAmb 00 24 23.6
comp=Z,98nm,0.9s
PBA Port Blair 49.81 255 eP P 00 23 29.6 +1.9
CHKK Chushkaly 49.81 301 eP P 00 23 26.3 -1.1
CHKK Chushkaly 49.81 301 eP P 00 23 26.3 -1.1
baz=301
BRSE Bradley Lake S 49.82 38 P P 00 23 28.2 +0.9
baz=271
BRSE S S 00 30 34.6 -1.8
baz=271
IGBI Denpasar 49.85 215 P P 00 23 23.9 -4.0
comp=Z,9µmcomp=Z,4µmcomp=Z,179nm,0.8s
MDOK Medeo 49.92 300 eP P 00 23 27.3 -1.1
MDOK eS S 00 30 38.6 0.0
MDOK MLR MLR
comp=Z,24µm,14.0s
MDOK Medeo 49.92 300 eP P 00 23 27.3 -1.1
baz=300
MDOK eS S 00 30 38.7 0.0
baz=300
MDOK LR LR 00 45 45.0
comp=Z,24µm,14.3s,baz=300

MLY Manley 49.92 31 P P 00 23 27.9 -0.1
MLY IAmb IAmb 00 23 35.2
comp=Z,180nm,1.2s
MLY IAMs_20 IAMs_20 00 47 32.4
comp=Z,48µm,18.0s
MLY Manley 49.92 31 P P 00 23 29.6 +1.6
baz=267,SNR=98
MLY S S 00 30 40.0 +2.2
baz=267
AAA Alma-Ata 50.00 300 eP P 00 23 28.8 -0.1
AAA MLR MLR
comp=Z,38µm,14.0s
AAA Alma-Ata 50.00 300 eP P 00 23 28.9 -0.1
baz=300
AAA LR LR 00 46 18.4
comp=Z,38µm,14.5s,baz=300
TNSS Tian-Shan 50.02 300 eP P 00 23 28.6 -0.9
TNSS Tian-Shan 50.02 300 eP P 00 23 28.6 -0.9
baz=300
JAGI Jajag, Banyuwa 50.02 217 P P 00 23 27.2 -2.1
JAGI IAmb IAmb 00 23 54.5
comp=Z,162nm,1.0s
JAGI Jajag, Banyuwa 50.02 217 P P 00 23 27.8 -1.5
comp=Z,14µmcomp=Z,4µmcomp=Z,176nm,1.1s
JAGI Jajag, Banyuwa 50.02 217 P P 00 23 28.8 -0.5
CUT Chulitna 50.04 34 P P 00 23 28.0 -0.9
CUT Chulitna 50.04 34 P P 00 23 29.3 +0.5
baz=269,SNR=6.3
CUT S S 00 30 39.2 -0.2
baz=269
TRF Thorofare Moun 50.05 33 P P 00 23 28.0 -1.2
TRF IAmb IAmb 00 24 26.1
comp=Z,204nm,1.5s
TRF IAMs_20 IAMs_20 00 47 43.9
comp=Z,35µm,20.0s
TRF Thorofare Moun 50.05 33 P P 00 23 30.0 +0.8
baz=268,SNR=19
TRF S S 00 30 40.4 +0.5
baz=268
M22K Willow 50.10 35 P P 00 23 29.5 +0.2
M22K Willow 50.10 35 P P 00 23 29.5 +0.2
baz=270
M22K S S 00 30 39.6 -0.6
baz=270
KUU Kurty 50.26 301 eP P 00 23 29.6 -1.2
KUU eS S 00 30 43.8 +0.8
KUU MLR MLR
comp=Z,28µm,14.0s
KUU Kurty 50.26 301 eP P 00 23 29.7 -1.2
baz=301
KUU eS S 00 30 43.9 +0.8
baz=301
KUU LR LR 00 45 43.9
comp=Z,28µm,13.7s,baz=301
D23K Nanushuk River 50.29 26 P P 00 23 31.7 +1.0
baz=263,SNR=96
D23K S S 00 30 44.0 +1.2
baz=263
RC01 Rabbit Creek A 50.29 36 P P 00 23 29.9 -0.9
RC01 IAmb IAmb 00 23 40.0
comp=Z,126nm,1.1s
RC01 IAMs_20 IAMs_20 00 48 50.3
comp=Z,42µm,18.0s
RC01 Rabbit Creek A 50.29 36 P P 00 23 30.4 -0.4
baz=271
RC01 S S 00 30 42.2 -0.8
baz=271
COLD Coldfoot 50.30 28 P P 00 23 31.5 +0.7
COLD IAmb IAmb 00 23 38.0
comp=Z,249nm,1.7s
COLD Coldfoot 50.30 28 P P 00 23 31.4 +0.6
baz=265,SNR=43
COLD S S 00 30 44.0 +1.1
baz=265
O22K Cooper Landing 50.31 37 P P 00 23 31.5 +0.6
O22K Cooper Landing 50.31 37 P P 00 23 31.9 +1.0
baz=271
O22K S S 00 30 40.0 -3.1
baz=271
G23K Bananza Creek 50.33 29 P P 00 23 31.7 +0.6
baz=266,SNR=77
G23K S S 00 30 43.7 +0.3
baz=266
C23K Itkillik River 50.42 25 P P 00 23 32.2 +0.6
baz=263,SNR=104
C23K S S 00 30 45.0 +0.5
baz=263
BWN Browne 50.44 32 P P 00 23 33.1 +1.2
BWN IAMs_20 IAMs_20 00 48 28.0
comp=Z,46µm,19.0s
SEW Seward 50.45 37 P P 00 23 30.7 -1.3
SEW IAmb IAmb 00 23 43.3
comp=Z,299nm,1.4s
SEW Seward 50.45 37 P P 00 23 34.1 +2.1
baz=272,SNR=6.2
SEW S S 00 30 44.0 -1.2
baz=272
TSI Tuntungan 50.46 242 P P 00 23 31.6 -1.0
comp=Z,18µmcomp=Z,7µmcomp=Z,91nm,0.5s
H23K Yukon River 50.47 30 IAMs_20 IAMs_20 00 48 03.2
comp=Z,30µm,19.0s
H23K Yukon River 50.47 30 P P 00 23 33.7 +1.6
baz=267,SNR=138
H23K S S 00 30 47.6 +2.2
baz=267
LHMI Lhok Sumawe 50.50 245 P P 00 23 32.1 -0.8
LHMI IAmb IAmb 00 24 23.4
comp=Z,222nm,1.2s
LHMI Lhok Sumawe 50.50 245 P P 00 23 31.8 -1.2
comp=Z,20µmcomp=Z,6µmcomp=Z,162nm,0.8s
LHMI Lhok Sumawe 50.50 245 P P 00 23 34.6 +1.6
PMR Palmer 50.58 35 P P 00 23 32.3 -0.6
PMR IAmb IAmb 00 23 38.6
comp=Z,256nm,1.4s
PMR Palmer 50.58 35 P P 00 23 32.3 -0.6
PMR pmax pmax
comp=Z,256nm,1.4s
PMR Palmer 50.58 35 P P 00 23 32.8 -0.1
baz=271,SNR=12
PMR S S 00 30 45.5 -1.4
baz=271
E23K Chandalar 50.59 27 P P 00 23 34.0 +1.0
baz=265,SNR=148
E23K S S 00 30 48.5 +1.4
baz=265
JMBI JAMBI 50.59 233 P P 00 23 32.1 -1.5
comp=Z,4µmcomp=Z,117nm,0.5s
NEA2 Nenana 50.62 31 P P 00 23 33.2 0.0
baz=268,SNR=108
NEA2 S S 00 30 49.8 +2.4
baz=268
TOLK Toolik Lake Re 50.66 26 P P 00 23 34.1 +0.7
TOLK Toolik Lake Re 50.66 26 P P 00 23 33.8 +0.3
TOLK IAmb IAmb 00 23 40.6
comp=Z,322nm,1.2s
TOLK Toolik Lake Re 50.66 26 P P 00 23 34.2 +0.7
baz=265,SNR=164
TOLK S S 00 30 49.6 +1.6
baz=265
MCK McKinley 50.66 33 P P 00 23 33.9 +0.3
MCK IAmb IAmb 00 23 39.9
comp=Z,240nm,1.3s
MCK IAMs_20 IAMs_20 00 47 48.0
comp=Z,44µm,20.0s
MCK McKinley 50.66 33 P P 00 23 33.9 +0.3
MCK pmax pmax
comp=Z,240nm,1.3s
MCK MLR MLR
comp=Z,44µm,20.0s
MCK McKinley 50.66 33 P P 00 23 34.0 +0.5
baz=269,SNR=30
MCK S S 00 30 46.7 -1.4
baz=269
GHO Glory Hole Cre 50.67 35 P P 00 23 34.3 +0.5
PSI Prapat 50.67 241 P P 00 23 35.0 +0.6
comp=Z,89nm,0.9s
RND Reindeer 50.70 33 IAmb IAmb 00 23 39.8
comp=Z,233nm,1.2s
RND IAMs_20 IAMs_20 00 48 03.8
comp=Z,44µm,19.0s
ULHL Ulahol 50.71 299 P P 00 23 33.3 -1.2
SNR=26
RPSI Rantau Prapat 50.75 241 IAMs_20 IAMs_20 00 47 30.6
comp=Z,30µm,18.0s
SMRI Semarang 50.75 222 P P 00 23 34.5 -0.3
SMRI Semarang 50.75 222 P P 00 23 33.9 -0.9
comp=Z,19µmcomp=Z,8µmcomp=Z,187nm,0.8s

SMRI Semarang 50.75 222 P P 00 23 36.5 +1.7
WAT1 Susitna Watana 50.83 34 P P 00 23 35.0 +0.1
baz=270
WAT1 S S 00 30 50.8 +0.3
baz=270
PWJI Pagerwojo 50.84 219 P P 00 23 31.9 -3.5
comp=Z,5µmcomp=Z,298nm,0.9s
PMBI Palembang 50.84 231 P P 00 23 33.1 -2.4
comp=Z,646nm,0.8s
KNK Knik Glacier 50.90 36 P P 00 23 35.1 -0.3
KNK IAmb IAmb 00 23 48.3
comp=Z,128nm,1.0s
KNK Knik Glacier 50.90 36 P P 00 23 36.4 +1.0
baz=272,SNR=12
KNK S S 00 30 49.6 -1.9
baz=272
BKNI Bangkinang 50.91 237 P P 00 23 36.9 +0.9
BKNI Bangkinang 50.91 237 P P 00 23 35.4 -0.6
comp=Z,20µmcomp=Z,6µmcomp=Z,372nm,0.8s
BKNI Bangkinang 50.91 237 P P 00 23 39.1 +3.1
BWNR Bhubaneshwar 50.94 269 eP P 00 23 37.2 +1.0
SML Sawmill 50.95 35 P P 00 23 36.0 +0.1
SML IAmb IAmb 00 23 51.6
comp=Z,149nm,1.1s
SML Sawmill 50.95 35 P P 00 23 37.0 +1.2
baz=271,SNR=12
SML S S 00 30 52.3 +0.1
baz=271
D24K Happy Valley 50.97 26 P P 00 23 36.7 +0.9
baz=265,SNR=122
D24K S S 00 30 53.7 +1.5
baz=265
PWL Port Wells 50.98 36 P P 00 23 35.7 -0.3
PWL IAmb IAmb 00 24 04.0
comp=Z,146nm,1.0s
PWL IAMs_20 IAMs_20 00 49 22.5
comp=Z,39µm,18.0s
PWL Port Wells 50.98 36 P P 00 23 36.1 +0.1
baz=272
PWL S S 00 30 53.6 +1.1
baz=272
MDM Murphy Dome 50.98 31 IAMs_20 IAMs_20 00 47 55.6
comp=Z,37µm,19.0s
TKM2 Tokmak 2 51.01 300 P P 00 23 36.5 -0.3
SNR=63
TKM2 Tokmak 2 51.01 300 P P 00 23 35.5 -1.3
E24K Your Creek 51.01 27 P P 00 23 37.6 +1.4
baz=266
E24K S S 00 30 54.0 +1.0
baz=266
KCSI Kotacane, Aceh 51.02 243 P P 00 23 35.6 -1.3
comp=Z,2µmcomp=Z,32nm,1.1s
WRH Wood River Hil 51.04 32 IAMs_20 IAMs_20 00 48 22.0
comp=Z,31µm,19.0s
C24K Franklin Bluff 51.07 25 P P 00 23 37.2 +0.7
baz=265
C24K S S 00 30 54.4 +1.0
baz=265
TCOL CIGO, UAF Yank 51.14 31 P P 00 23 38.0 +0.9
TCOL IAMs_20 IAMs_20 00 47 59.9
comp=Z,42µm,18.0s
TCOL CIGO, UAF Yank 51.14 31 P P 00 23 38.5 +1.4
baz=269
TCOL S S 00 30 58.3 +3.7
baz=269
COLA College 51.15 31 P P 00 23 38.4 +1.3
COLA IAMs_20 IAMs_20 00 48 00.1
comp=Z,42µm,18.0s
COLA College 51.15 31 P P 00 23 38.4 +1.3
COLA pmax pmax
comp=Z,73nm,0.9s
COLA MLR MLR
comp=Z,42µm,18.0s
COLA College 51.15 31 P P 00 23 38.5 +1.3
baz=269
COLA S S 00 30 58.3 +3.7
baz=269
H24K Noodor Dome 51.15 30 IAmb IAmb 00 23 44.0
comp=Z,308nm,1.5s
H24K IAMs_20 IAMs_20 00 48 41.4
comp=Z,28µm,18.0s
H24K Noodor Dome 51.15 30 P P 00 23 38.3 +1.0
baz=269,SNR=62
H24K S S 00 30 57.8 +2.9
baz=269
F24K Squaw Lake 51.21 28 P P 00 23 38.7 +1.0
baz=267,SNR=43
F24K S S 00 31 00.0 +4.4
baz=267
WAT6 Susitna Watana 51.21 34 P P 00 23 38.7 +0.8
baz=271
WAT6 S S 00 30 56.5 +0.5
baz=271
M23K Glacier View 51.24 35 P P 00 23 38.6 +0.7
baz=272,SNR=5.5
M23K S S 00 30 56.2 0.0
baz=272
PCJI Pacitan 51.31 220 P P 00 23 37.7 -1.3
comp=Z,12µmcomp=Z,4µmcomp=Z,108nm,0.7s
POKR Poker Plat Res 51.33 31 P P 00 23 39.2 +0.7
POKR IAMs_20 IAMs_20 00 48 14.6
comp=Z,44µm,18.0s
POKR Poker Plat Res 51.33 31 P P 00 23 40.2 +1.6
baz=270,SNR=45
POKR S S 00 30 58.0 +0.8
baz=270
G24K Hadweenzic Riv 51.34 29 P P 00 23 40.6 +2.0
baz=268,SNR=92
G24K S S 00 30 59.8 +2.5
baz=268
DHY Denali Highway 51.37 33 P P 00 23 38.9 -0.1
DHY IAMs_20 IAMs_20 00 47 56.7
comp=Z,35µm,20.0s
DHY Denali Highway 51.37 33 P P 00 23 39.0 0.0
baz=271,SNR=6.8
DHY S S 00 30 56.6 -1.6
baz=271
KNRA Kununurra 51.37 196 P P 00 23 38.0 -1.3
KNRA Kununurra 51.37 196 P P 00 23 38.8 -0.5
SCM Sheep Creek Mo 51.43 35 P P 00 23 38.3 -1.1
SCM Sheep Creek Mo 51.43 35 P P 00 23 38.3 -1.1
SCM pmax pmax
comp=Z,355nm,1.3s
SCM Sheep Creek Mo 51.43 35 P P 00 23 40.6 +1.2
baz=272,SNR=16
SCM S S 00 31 00.4 +1.6
baz=272
UGM Wanagama 51.43 221 P P 00 23 38.6 -1.3
comp=Z,14µmcomp=Z,9µmcomp=Z,387nm,0.9s
UGM Wanagama 51.43 221 P P 00 23 38.1 -1.8
YOGI Yogyakarta 51.47 221 P P 00 23 39.3 -0.9
comp=Z,7µmcomp=Z,4µmcomp=Z,283nm,0.9s
P23K Montague Islan 51.49 37 P P 00 23 39.9 +0.1
baz=274
P23K S S 00 31 00.3 +0.7
baz=274
BRZS Berezniki 51.52 310 eP P 00 23 38.8 -1.4
BRZS eS S 00 31 01.0 +0.7
BRZS pmax pmax
comp=Z,43nm,0.7s
BRZS Berezniki 51.52 310 eP P 00 23 38.9 -1.4
comp=Z,43nm,0.7s,baz=310
BRZS eS S 00 31 01.1 +0.7
baz=310
HDA Harding Lake 51.53 32 IAmb IAmb 00 23 45.8
comp=Z,175nm,1.3s
HDA IAMs_20 IAMs_20 00 47 06.1
comp=Z,29µm,19.0s
HDA Harding Lake 51.53 32 P P 00 23 40.0 -0.1
baz=270,SNR=38
HDA S S 00 31 00.1 0.0
baz=270
HDA S S 00 31 00.1 0.0
baz=270
KBK Karagaybulak 51.54 300 P P 00 23 40.2 -0.5
SNR=45
MLSI Meulaboh, Aceh 51.54 245 P P 00 23 39.2 -1.6
comp=Z,423nmcomp=Z,67nm,0.7s
SDSI Sungai Dareh 51.55 235 P P 00 23 38.6 -2.2
comp=Z,11µmcomp=Z,2µmcomp=Z,66nm,0.6s
IL31 51.56 31 IAmb IAmb 00 23 45.3
comp=Z,135nm,1.1s
ILAR Eielson Array 51.56 31 P P 00 23 38.9 -1.4
comp=Z,58nm,1.1s,baz=266,slow=5.6,SNR=69
ILAR S S 00 31 03.7 +3.2
comp=Z,0.2nm,0.5s,baz=140,slow=23,SNR=1.4
ILAR LR LR 00 48 45.1

comp=Z,19µm,19.5s,baz=270,slow=40
ILAR PKP2bc 00 54 39.0
comp=Z,1.7nm,1.1s,baz=46,slow=2.6,SNR=4.5
comp=Z,58nm,1.1s
ILAR Eielson Array 51.56 31 P **P** **00 23 38.7 -1.6**
SGDS Sogindy 51.57 301 *e*P **P** **00 23 39.9 -0.9**
SGDS pmax pmax
comp=Z,112nm,1.5s
SGDS Sogindy 51.57 301 *e*P **P** **00 23 39.9 -0.9**
comp=Z,112nm,1.5s,baz=301
GLI Glacier Island 51.59 36 P **P** **00 23 39.4 -1.2**
GLI IAmb IAmb 00 23 56.1
comp=Z,181nm,1.3s
GLI Glacier Island 51.59 36 P **P** **00 23 39.3 -1.3**
baz=273
GLI S **S** **00 31 02.7 +1.8**
baz=273
CHMS Chumysh 51.59 301 P **P** **00 23 43.1 +2.2**
SNR=20
CHMS Chumysh 51.59 301 *i* P **P** **00 23 39.0 -1.9**
CHMS pmax pmax
comp=Z,279nm,1.6s
PTH Pithoragarh 51.60 283 *e*P **P** **00 23 39.7 -1.6**
PTH *e*P PcP 00 24 32.1 -23
BTLS Baital 51.60 303 *e*P **P** **00 23 40.5 -0.4**
BTLS Baital 51.60 303 *e*P **P** **00 23 40.5 -0.4**
baz=303
LGTI Lohaghat 51.61 282 *e*P **P** **00 23 40.7 -0.5**
KSH Kashi 51.62 296 P **P** **00 23 43.3 +2.0**
KSH sP pwP 00 23 50.3 -0.8
KSH S S 00 31 11.6 +9.3
KSH pmax pmax
comp=Z,74nm,0.8s
KSH pmax pmax
comp=Z,7µm,9.1s
KSH LR LR
comp=Z,41µm,13.4s
KSH LR LR
comp=Z,69µm,15.5s
KSH LR LR
comp=Z,119µm,15.8s
USP Ospenovka 51.71 301 P **P** **00 23 40.9 -0.9**
SNR=44
D25K Kavik River 51.86 25 P **P** **00 23 43.6 +1.1**
baz=267
D25K S **S** **00 31 05.4 +0.9**
baz=267
AAK Ala-Archa 51.87 300 P **P** **00 23 45.3 +2.1**
SNR=30
AAK Ala-Archa 51.87 300 P **P** **00 23 42.2 -1.0**
comp=Z,35nm,0.8s,baz=134,slow=6.7,SNR=26
AAK S **S** **00 31 06.5 +0.9**
comp=Z,0.7nm,0.3s,baz=262,slow=20,SNR=1.6
AAK LR LR 00 48 13.9
comp=Z,61µm,18.0s,baz=76,slow=39
comp=Z,35nm,0.8s
AAK Ala-Archa 51.87 300 P **P** **00 23 42.3 -0.8**
AAK Ala-Archa 51.87 300 *ce*P **P** **00 23 42.5 -0.6**
AAK pmax pmax
comp=Z,170nm,2.5s
AAK MLR MLR
comp=Z,53µm,17.0s
AAK Ala-Archa 51.87 300 P **P** **00 23 43.0 -0.1**
AAK P **P** **00 23 43.0 -0.1**
AAK P **P** **00 23 43.0 -0.1**
AAK Ala-Archa 51.87 300 *i* P **P** **00 23 43.3 +0.2**
SNR=35
FID Port Fidalgo 51.90 36 P **P** **00 23 41.9 -1.0**
FID IAMs_20 IAMs_20 00 49 50.2
comp=Z,30µm,18.0s
HIN Hinchinbrook I 51.91 37 P **P** **00 23 43.0 +0.1**
HIN IAMs_20 IAMs_20 00 49 25.0
comp=Z,29µm,19.0s
M24K Tolsona, Glenn 51.96 35 P **P** **00 23 42.9 -0.5**
M24K IAmb IAmb 00 23 50.4
comp=Z,311nm,1.4s
M24K Tolsona, Glenn 51.96 35 P **P** **00 23 45.1 +1.7**
baz=273
M24K S **S** **00 31 08.4 +2.2**
baz=273
UCH Uchtor 51.96 300 P **P** **00 23 43.2 -1.0**
SNR=43
H25K Birch Creek 52.00 29 P **P** **00 23 45.5 +2.0**
baz=270,SNR=34
H25K S **S** **00 31 11.6 +5.2**
baz=270
ALBI Allahabad 52.00 277 *e*P **P** **00 23 43.7 -0.4**
K24K Donnelly Dome 52.06 32 P **P** **00 23 45.1 +1.0**
baz=272
K24K S **S** **00 31 07.5 0.0**
baz=272
Q23K Middleton Isla 52.06 38 P **P** **00 23 45.9 +1.8**
baz=275
OTUK Ortayu 52.07 308 P **P** **00 23 42.3 -2.1**
F25K Christian Rive 52.07 28 P **P** **00 23 46.1 +1.9**
baz=269,SNR=113
F25K S **S** **00 31 13.3 +5.7**
baz=269
E25K Arctic Village 52.11 27 P **P** **00 23 45.2 +0.8**
baz=269,SNR=154
E25K S **S** **00 31 10.7 +2.7**
baz=269
KLU Klutina 52.12 35 P **P** **00 23 44.2 -0.4**
KLU IAmb IAmb 00 24 09.9
comp=Z,164nm,1.1s
KLU Klutina 52.12 35 P **P** **00 23 45.4 +0.9**
baz=274,SNR=13
KLU S **S** **00 31 10.1 +1.8**
baz=274
PRP Porcupine Dome 52.12 30 P **P** **00 23 44.0 -0.7**
PRP IAMs_20 IAMs_20 00 48 56.9
comp=Z,35µm,19.0s
PRP Porcupine Dome 52.12 30 P **P** **00 23 45.9 +1.2**
baz=271,SNR=24
PRP S **S** **00 31 11.4 +2.9**
baz=271
LEM Lembang 52.17 225 LR LR 00 47 11.7
comp=Z,12µm,18.5s,baz=30,slow=38
LEM Lembang 52.17 225 P **P** **00 23 44.4 -1.2**
comp=Z,9µmcomp=Z,3µmcomp=Z,148nm,1.2s
PDSI Padang 52.20 236 P **P** **00 23 44.8 -0.9**
comp=Z,9µmcomp=Z,32nm,0.6s
DIV Divide 52.21 36 P **P** **00 23 44.9 -0.4**
DIV IAmb IAmb 00 23 52.0
comp=Z,374nm,1.4s
J25K Salcha River, 52.21 31 IAMs_20 IAMs_20 00 48 25.2
comp=Z,29µm,19.0s
J25K Salcha River, 52.21 31 P **P** **00 23 45.1 -0.2**
baz=272,SNR=19
J25K S **S** **00 31 08.0 -1.6**
baz=272
FYU Fort Yukon 52.23 29 P **P** **00 23 45.3 0.0**
FYU IAMs_20 IAMs_20 00 49 02.7
comp=Z,30µm,19.0s
PAX Paxson 52.24 34 P **P** **00 23 45.7 +0.2**
PAX Paxson 52.24 34 P **P** **00 23 45.7 +0.2**
PAX pmax pmax
comp=Z,129nm,1.3s
PAX Paxson 52.24 34 P **P** **00 23 45.3 -0.2**
baz=273,SNR=22
PAX S **S** **00 31 09.9 -0.1**
baz=273
EYAK Cordova Ski Ar 52.27 37 P **P** **00 23 44.6 -1.0**
EYAK IAmb IAmb 00 24 01.9
comp=Z,180nm,1.3s
EYAK Cordova Ski Ar 52.27 37 P **P** **00 23 46.9 +1.3**
baz=275
EYAK S **S** **00 31 13.5 +3.3**
baz=275
KLI Kotabumi 52.27 229 P **P** **00 23 45.2 -1.0**
comp=Z,16µmcomp=Z,7µmcomp=Z,420nm,1.2s
EKS2 Erkin-Say 52.37 300 P **P** **00 23 49.0 +2.1**
SNR=36
KRJI Kerinci 52.38 234 P **P** **00 23 46.0 -1.1**
comp=Z,16µmcomp=Z,358nm,2.0s
C26K Camden Bay 52.39 25 P **P** **00 23 48.1 +1.7**
baz=268,SNR=82
C26K S **S** **00 31 15.1 +3.4**
baz=268
MTSU Mount Surprise 52.41 177 P **P** **00 23 50.1 +3.0**
BVA0 Borovoye Array 52.42 314 P **P** **00 23 45.3 -1.6**
BVAR Borovoye Array 52.42 314 P **P** **00 23 45.1 -1.7**
comp=Z,9.0nm,0.4s,baz=86,slow=7.6,SNR=39
BVAR PcP **PcP** **00 24 57.9 +0.3**
comp=Z,18nm,0.6s,baz=58,slow=3.6,SNR=1.9
BVAR LR LR 00 48 24.9
comp=Z,45µm,18.2s,baz=75,slow=39
comp=Z,9.0nm,0.4s
HARP HAARP 52.42 34 P **P** **00 23 47.4 +0.7**
baz=274
HARP S **S** **00 31 14.6 +2.3**
baz=274
BLSI Bandar Lampung 52.43 228 P **P** **00 23 45.9 -1.4**
comp=Z,204nm,0.5s
BRVK Borovoye 52.47 314 P **P** **00 23 46.7 -0.6**
BRVK Borovoye 52.47 314 P **P** **00 23 46.7 -0.6**
BRVK pmax pmax
comp=Z,596nm,1.9s
BRVK MLR MLR
comp=Z,57µm,19.0s
BRVK Borovoye 52.47 314 P **P** **00 23 46.7 -0.6**
BRVK P **P** **00 23 46.7 -0.6**
BRVK P **P** **00 23 46.7 -0.6**
RIDG Independent Ri 52.48 33 P **P** **00 23 46.4 -0.9**
RIDG IAMs_20 IAMs_20 00 49 59.1
comp=Z,28µm,20.0s
RIDG Independent Ri 52.48 33 P **P** **00 23 46.8 -0.5**
baz=273,SNR=13
RIDG S **S** **00 31 14.5 +1.3**
baz=273
BMAR Burnt Mountain 52.48 28 P **P** **00 23 48.0 +0.8**
KEKH Kekaha 52.53 87 P **P** **00 23 45.9 -2.2**
KEKH IAmb IAmb 00 23 59.0
comp=Z,274nm,1.3s
AML Almayashu 52.57 300 P **P** **00 23 48.5 -0.2**
SNR=105
MASI Maura Aman, Be 52.64 233 P **P** **00 23 47.4 -1.6**
comp=Z,10µmcomp=Z,5µmcomp=Z,403nm,0.8s
F26K Sheenjek River 52.65 28 P **P** **00 23 49.9 +1.5**
baz=270,SNR=154
F26K S **S** **00 31 20.4 +5.0**
baz=270
GSI Gunungsitoli 52.68 241 P **P** **00 23 46.5 -2.7**
GSI Gunungsitoli 52.68 241 P **P** **00 23 46.8 -2.4**
comp=Z,18µmcomp=Z,20µmcomp=Z,534nm,0.8s
GSI Gunungsitoli 52.68 241 P **P** **00 23 47.5 -1.7**
N25K Chitina, Valde 52.74 35 P **P** **00 23 49.3 +0.1**
N25K IAmb IAmb 00 24 14.9
comp=Z,265nm,1.9s
N25K IAMs_20 IAMs_20 00 49 43.2
comp=Z,28µm,20.0s
N25K Chitina, Valde 52.74 35 P **P** **00 23 48.7 -0.5**
baz=275
N25K S **S** **00 31 19.3 +2.4**
baz=275
BMRM Bremner River 52.79 36 P **P** **00 23 48.1 -1.5**
BMRM IAmb IAmb 00 24 15.0
comp=Z,230nm,1.1s
BMRM Bremner River 52.79 36 P **P** **00 23 50.5 +0.9**
baz=275,SNR=10
BMRM S **S** **00 31 19.1 +1.5**
baz=275
G26K Porcupine Rive 52.80 28 P **P** **00 23 51.5 +2.1**
baz=271,SNR=126
G26K S **S** **00 31 21.5 +4.2**
baz=271
C27K Jago River 52.80 25 P **P** **00 23 50.5 +1.0**
baz=269,SNR=91
C27K S **S** **00 31 20.4 +3.0**
baz=269
RAGM Ragged Mountai 52.81 37 P **P** **00 23 50.9 +1.1**
RAGM IAmb IAmb 00 24 38.0
comp=Z,109nm,0.6s
RAGM IAMs_20 IAMs_20 00 50 31.9
comp=Z,37µm,19.0s
SCRK Sand Creek 52.85 32 IAmb IAmb 00 23 56.1
comp=Z,287nm,1.5s
SCRK IAMs_20 IAMs_20 00 49 18.7
comp=Z,26µm,18.0s
SCRK Sand Creek 52.85 32 P **P** **00 23 50.5 +0.5**
baz=274,SNR=79
SCRK S **S** **00 31 18.4 0.0**
baz=274
LWLI Liwa 52.89 230 P **P** **00 23 49.9 -1.0**
comp=Z,9µmcomp=Z,148nm,0.6s
J26L Joseph Creek 53.00 32 P **P** **00 23 50.5 -0.5**
J26L IAMs_20 IAMs_20 00 48 59.0
comp=Z,33µm,20.0s
J26L Joseph Creek 53.00 32 P **P** **00 23 49.8 -1.3**
baz=274
J26L S **S** **00 31 19.5 -0.8**
baz=274
KASI Kota Agung 53.01 229 P **P** **00 23 50.6 -1.0**
comp=Z,13µmcomp=Z,3µmcomp=Z,82nm,0.7s
HMT Hamilton 53.02 37 P **P** **00 23 51.6 +0.3**
HMT IAmb IAmb 00 23 58.0
comp=Z,177nm,1.3s
HMT IAMs_20 IAMs_20 00 50 39.5
comp=Z,31µm,19.0s
MENT Mentasta 53.04 34 P **P** **00 23 51.8 +0.5**
MENT IAmb IAmb 00 23 57.0
comp=Z,184nm,1.4s
MNAI Manna 53.09 231 P **P** **00 23 50.7 -1.6**
I26K Coal Creek Min 53.12 31 P **P** **00 23 52.1 +0.2**
I26K IAMs_20 IAMs_20 00 46 44.1
comp=Z,30µm,19.0s
I26K Coal Creek Min 53.12 31 P **P** **00 23 51.5 -0.3**
baz=273
I26K S **S** **00 31 21.6 -0.2**
baz=273
BLSP Bilaspur 53.13 273 *e*P **P** **00 23 53.3 +0.7**
GLB Gilahina Butte 53.13 35 P **P** **00 23 52.4 +0.3**
GLB IAmb IAmb 00 23 58.9
comp=Z,198nm,1.4s
L26K Log Cabin Wild 53.20 33 P **P** **00 23 52.9 +0.4**
L26K IAmb IAmb 00 23 59.5
comp=Z,249nm,1.3s
L26K Log Cabin Wild 53.20 33 P **P** **00 23 53.5 +1.0**
baz=275,SNR=54
L26K S **S** **00 31 25.0 +2.0**
baz=275
SUCK Suckling Hills 53.29 37 IAMs_20 IAMs_20 00 50 51.6
comp=Z,29µm,19.0s
BERG Berg Lake 53.29 37 P **P** **00 23 53.6 +0.4**
BERG IAmb IAmb 00 24 00.8
comp=Z,294nm,1.4s
RAGD RAYAGADA 53.38 269 *e*P **P** **00 23 53.5 -1.0**
M26K Nabesna, AK 53.42 34 P **P** **00 23 53.5 -0.7**
M26K IAmb IAmb 00 24 17.1
comp=Z,236nm,1.6s
M26K IAMs_20 IAMs_20 00 50 24.1
comp=Z,42µm,19.0s
M26K Nabesna, AK 53.42 34 P **P** **00 23 55.6 +1.5**
baz=276,SNR=11
M26K S **S** **00 31 28.3 +2.2**
baz=276
SISI Saibi 53.45 237 P **P** **00 23 53.8 -1.1**
comp=Z,8µmcomp=Z,3µmcomp=Z,63nm,1.0s
SMLA Simla 53.45 286 *e*P **P** **00 23 53.1 -1.6**
SMLA IAmb IAmb 00 23 59.3
comp=Z,202nm,0.9s
MCARA McCarthy VSAT 53.51 35 P **P** **00 23 54.5 -0.4**
MCARA IAmb IAmb 00 24 01.6
comp=Z,218nm,1.2s
MCARA McCarthy VSAT 53.51 35 P **P** **00 23 54.1 -0.7**
baz=276,SNR=21
MCARA S **S** **00 31 30.1 +2.8**
baz=276
E27K Coleen River 53.59 27 P **P** **00 23 56.5 +1.1**
baz=272,SNR=108
E27K S **S** **00 31 31.9 +3.7**
baz=272
G27K Doyon Strip 53.65 29 P **P** **00 23 57.6 +1.9**
baz=274,SNR=41
G27K S **S** **00 31 32.8 +3.9**
baz=274
TGL Tana Glacier 53.68 36 P **P** **00 23 56.4 +0.2**
TGL IAmb IAmb 00 24 02.1
comp=Z,181nm,1.2s
K27K Chicken 53.68 32 P **P** **00 23 56.0 0.0**
K27K IAmb IAmb 00 24 02.2
comp=Z,146nm,1.2s
K27K IAMs_20 IAMs_20 00 49 22.9
comp=Z,35µm,20.0s
K27K Chicken 53.68 32 P **P** **00 23 57.3 +1.3**
baz=275
K27K S **S** **00 31 30.8 +1.3**
baz=275
WAX Waxell Ridge 53.71 37 P **P** **00 23 55.6 -0.7**
WAX IAmb IAmb 00 24 03.2
comp=Z,148nm,1.2s
WAX IAMs_20 IAMs_20 00 51 08.5
comp=Z,26µm,19.0s
H27K Steamboat Moun 53.73 29 P **P** **00 23 57.4 +1.0**
baz=274,SNR=92
H27K S **S** **00 31 36.3 +6.1**
baz=274
I27K Kandik River 53.74 30 P **P** **00 23 57.8 +1.3**
baz=274,SNR=18
I27K S **S** **00 31 34.1 +3.7**
baz=274
SNH Sunshine Point 53.75 37 P **P** **00 23 54.8 -1.8**
SNH IAMs_20 IAMs_20 00 51 13.6
comp=Z,40µm,18.0s
L27K Beaver Creek, 53.89 33 P **P** **00 23 58.1 +0.5**
L27K IAmb IAmb 00 24 03.9
comp=Z,150nm,1.2s
L27K IAMs_20 IAMs_20 00 49 50.5
comp=Z,29µm,18.0s
L27K Beaver Creek, 53.89 33 P **P** **00 23 58.5 +0.9**
baz=276,SNR=40
L27K S **S** **00 31 36.3 +3.9**
baz=276
BHK Bhakra 53.94 286 *e*P **P** **00 23 58.6 +0.3**
ISLE Juniper Island 53.94 36 P **P** **00 23 57.0 -1.1**
ISLE IAmb IAmb 00 24 04.4
comp=Z,191nm,1.2s
M27K Edge Creek, AK 53.94 34 P **P** **00 23 57.9 -0.2**
M27K IAmb IAmb 00 24 04.3
comp=Z,159nm,1.2s
M27K Edge Creek, AK 53.94 34 P **P** **00 23 58.6 +0.5**
baz=276,SNR=14
M27K S **S** **00 31 36.1 +2.8**
baz=276
EGAK Eagle 54.01 31 P **P** **00 23 59.1 +0.8**
baz=275,SNR=20
EGAK S **S** **00 31 36.0 +2.2**
baz=275
DZA Taraz 54.05 301 *e*P **P** **00 23 57.7 -1.3**
DZA pmax pmax
comp=Z,45nm,0.7s
DZA Taraz 54.05 301 *e*P **P** **00 23 57.8 -1.3**
comp=Z,45nm,0.7s,baz=301
OPA Opana 54.07 87 P **P** **00 23 58.1 -1.3**
OPA Opana 54.07 87 P **P** **00 23 58.1 -1.3**
THN Thein Dam 54.11 288 *e*P **P** **00 24 00.9 +1.3**
MESA MESA 54.19 37 P **P** **00 24 01.4 +1.4**
baz=278
MESA S **S** **00 31 39.0 +2.2**
baz=278
KIP Kipapa 54.19 87 P **P** **00 23 58.4 -1.8**
KIP IAmb IAmb 00 24 06.6
comp=Z,201nm,1.1s
KIP Kipapa 54.19 87 *ce*P **P** **00 24 00.2 -0.1**
KIP pmax pmax
comp=Z,216nm,1.3s
KIP Kipapa 54.19 87 P **P** **00 24 03.7 +3.4**
YAH Yahtse 54.26 37 P **P** **00 23 59.5 -1.1**
YAH IAmb IAmb 00 24 06.5
comp=Z,230nm,1.3s
NDI New Delhi 54.35 283 *e*P **P** **00 24 01.0 -0.4**
CTG Chitna Glacier 54.37 36 P **P** **00 23 59.1 -2.2**
baz=278
CTGM Chitina Glacie 54.38 36 P **P** **00 24 01.6 +0.3**
CTGM IAmb IAmb 00 24 21.1
comp=Z,284nm,1.9s
CTGM IAMs_20 IAMs_20 00 50 30.4
comp=Z,29µm,19.0s
WB0 Warramunga Arr 54.40 188 P **P** **00 24 00.5 -1.2**
BVCY Beaver Creek 54.41 34 P **P** **00 24 02.3 +0.9**
baz=277
BVCY S **S** **00 31 42.3 +3.0**
baz=277
CTA Charters Tower 54.47 175 S **S** **00 31 39.2 -1.6**
comp=Z,3.4nm,1.0s,baz=255,slow=12,SNR=1.8
CTA LR LR 00 46 14.3
comp=Z,11µm,21.9s,baz=341,slow=35
CTA Charters Tower 54.47 175 P **P** **00 24 05.6 +3.5**
CTAO Charters Tower 54.47 175 P **P** **00 24 01.1 -1.1**
CTAO IAmb IAmb 00 24 33.0
comp=Z,235nm,1.6s
CTAO Charters Tower 54.47 175 P **P** **00 24 01.1 -1.1**
CTAO pmax pmax
comp=Z,235nm,1.7s
CTAO Charters Tower 54.47 175 P **P** **00 24 05.6 +3.5**
FITZ Fitzroy Crossi 54.47 199 S **S** **00 31 40.5 -0.4**
comp=Z,8.7nm,1.2s,baz=360,slow=20,SNR=2.2
FITZ LR LR 00 46 57.5
comp=Z,10µm,19.9s,baz=89,slow=36
FITZ Fitzroy Crossi 54.47 199 IAmb IAmb 00 24 10.4
comp=Z,91nm,0.8s
FITZ Fitzroy Crossi 54.47 199 P **P** **00 24 02.2 0.0**
TABL Table Mountain 54.55 36 P **P** **00 24 01.3 -1.4**
LOGN Logan Glacier 54.56 36 P **P** **00 24 01.8 -0.9**
LOGN IAmb IAmb 00 24 13.8
comp=Z,139nm,1.5s
LOGN IAMs_20 IAMs_20 00 50 27.0
comp=Z,30µm,19.0s
KK31 Karatay Array 54.56 302 *i* P **P** **00 24 01.3 -1.5**
WRAB Tennant Creek 54.57 188 P **P** **00 24 02.5 -0.4**
WRAB Tennant Creek 54.57 188 P **P** **00 24 02.5 -0.4**
WRAB pmax pmax
comp=Z,421nm,1.5s
WRAB Tennant Creek 54.57 188 P **P** **00 24 03.3 +0.4**
WR0 Warramunga Arr 54.57 188 P **P** **00 24 01.4 -1.5**
WR0 IAmb IAmb 00 24 27.5
comp=Z,206nm,1.1s
WB2 Warramunga Arr 54.58 188 P **P** **00 24 01.6 -1.4**
WRA Warramunga Arr 54.58 188 P **P** **00 24 00.8 -2.2**
comp=Z,44nm,0.9s,baz=3.8,slow=7.6,SNR=47
WRA ScP **ScP** **00 29 06.0 +1.7**
comp=Z,5.4nm,1.1s,baz=7.6,slow=3.3,SNR=3.3
WRA S **S** **00 31 45.5 +3.1**
comp=Z,5.4nm,1.0s,baz=9.3,slow=14,SNR=4.6
WRA LR LR 00 46 54.2
comp=Z,15µm,19.5s,baz=356,slow=36
comp=Z,44nm,0.9s
WRA Warramunga Arr 54.58 188 P **P** **00 24 01.5 -1.5**
WRA Warramunga Arr 54.58 188 P **P** **00 24 01.5 -1.5**
WRA pmax pmax
comp=Z,48nm,1.4s
JHNI Jhansi 54.61 279 *e*P **P** **00 23 60.0 -3.4**
SONA Sohna 54.63 282 *e*P **P** **00 24 04.0 +0.6**
YUK3 Moose Creek 54.68 35 P **P** **00 24 04.3 +0.7**
baz=278
YUK3 S **S** **00 31 44.3 +0.9**
baz=278
DRK Karamyk 54.72 297 P **P** **00 24 03.9 -0.4**
DRK IAmb IAmb 00 24 15.1
comp=Z,106nm,0.7s
QIS Mount Isa 54.78 182 P **P** **00 24 03.8 -0.7**
DAWY Dawson 54.85 32 P **P** **00 24 04.5 -0.1**
DAWY IAmb IAmb 00 24 12.3
comp=Z,178nm,1.6s
DAWY Dawson 54.85 32 P **P** **00 24 04.7 +0.1**
baz=277,SNR=20
DAWY S **S** **00 31 47.3 +1.9**
baz=277
O28M Mount Upton 54.96 36 P **P** **00 24 06.0 +0.3**
baz=279
O28M S **S** **00 31 48.6 +1.2**
baz=279
PCA Pinnacle 55.04 37 P **P** **00 24 05.1 -0.9**
PCA IAmb IAmb 00 24 49.0
comp=Z,144nm,1.3s
PINM Pinnacle 55.04 37 P **P** **00 24 07.4 +1.4**
baz=280
PINM S **S** **00 31 48.0 0.0**
baz=280
I29M Ogilvie Camp, 55.14 30 IAmb IAmb 00 24 12.8
comp=Z,220nm,1.4s
I29M IAMs_20 IAMs_20 00 51 44.5
comp=Z,41µm,18.0s
I29M Ogilvie Camp, 55.14 30 P **P** **00 24 07.4 +0.7**
baz=278,SNR=25
I29M S **S** **00 31 51.7 +2.5**
baz=278
IUG Iuzhnay 55.18 301 *e*P **P** **00 24 06.2 -1.2**
IUG Iuzhnay 55.18 301 *e*P **P** **00 24 06.2 -1.2**
baz=301
BTK Batken 55.25 298 P **P** **00 24 07.7 -0.2**
BTK Batken 55.25 298 P **P** **00 24 07.7 -0.2**
BTK pmax pmax
comp=Z,59nm,0.7s
J29M Klondike Camp 55.31 31 P **P** **00 24 09.0 +1.1**
J29M IAMs_20 IAMs_20 00 50 09.8
comp=Z,34µm,19.0s
J29M Klondike Camp 55.31 31 P **P** **00 24 09.7 +1.7**
baz=278
J29M S **S** **00 31 55.1 +3.6**

baz=278
BCPM Bancas Point 55.37 37 P **P** **00 24 08.0 -0.3**
BCPM IAmb IAmb 00 24 27.0
comp=Z,271nm,1.6s
M29M Somme Creek 55.51 34 P **P** **00 24 09.4 0.0**
baz=279,SNR=30
M29M S **S** **00 31 58.2 +4.0**
baz=279
L29M L29M 55.55 33 P **P** **00 24 11.2 +1.6**
baz=279,SNR=66
L29M S **S** **00 31 59.1 +4.4**
baz=279
YUK4 Talbot Arm 55.60 35 P **P** **00 24 10.0 -0.2**
baz=280
FUNA Funafuti 55.65 133 P **P** **00 24 10.2 -0.6**
FUNA Funafuti 55.65 133 IAMs_20 IAMs_20 00 47 56.9
comp=Z,28µm,18.0s
EPYK Eagle Plains 55.65 29 IAMs_20 IAMs_20 00 50 27.9
comp=Z,25µm,19.0s
EPYK Eagle Plains 55.65 29 P **P** **00 24 11.1 +0.7**
baz=278,SNR=60
EPYK S **S** **00 32 01.0 +5.1**
baz=278
K29M Barlow Dome 55.70 32 P **P** **00 24 12.5 +1.7**
baz=279,SNR=46
K29M S **S** **00 32 00.2 +3.4**
baz=279
KHET Khetri 55.73 283 *eP* **P** **00 24 11.2 -0.3**
KHLH Kahului Airpor 55.74 87 P **P** **00 24 10.7 -0.9**
YUK6 Outpost Mounta 55.81 36 P **P** **00 24 13.0 +1.2**
baz=280,SNR=11
YUK6 S **S** **00 32 01.0 +2.3**
baz=280
O29M Mount Kennedy 55.83 36 P **P** **00 24 13.1 +1.3**
baz=281,SNR=20
O29M S **S** **00 32 02.8 +4.2**
baz=281
TAS Tashkent 55.95 300 P **P** **00 24 12.7 -0.2**
TAS Tashkent 55.95 300 P **P** **00 24 12.7 -0.2**
TAS pmax pmax
comp=Z,355nm,1.4s
GAR Garm 55.96 297 P **P** **00 24 12.4 -0.7**
NGP Nagpur 56.12 274 *eP* **P** **00 24 12.2 -2.1**
HYT Haines Junctio 56.25 36 P **P** **00 24 14.8 +0.1**
HYT Haines Junctio 56.25 36 P **P** **00 24 17.5 +2.7**
baz=281,SNR=26
HYT S **S** **00 32 06.9 +2.7**
baz=281
XMIS Christmas Isla 56.25 224 P **P** **00 24 14.2 -1.0**
N30M Aishikik Lake 56.32 35 P **P** **00 24 17.4 +2.2**
baz=281,SNR=8.7
N30M S **S** **00 32 09.8 +4.7**
baz=281
P29M Windy Craggy 56.37 37 P **P** **00 24 15.6 0.0**
P29M IAmb IAmb 00 25 15.0
comp=Z,116nm,1.1s
P29M IAMs_20 IAMs_20 00 52 47.1
comp=Z,40µm,19.0s
P29M Windy Craggy 56.37 37 P **P** **00 24 17.5 +1.9**
baz=282
P29M S **S** **00 32 09.0 +3.3**
baz=282
MAYO Mayo, Yukon 56.46 32 P **P** **00 24 16.4 +0.3**
MAYO Mayo, Yukon 56.46 32 P **P** **00 24 17.9 +1.8**
baz=281
BHPL Bhopal 56.49 277 *eP* **P** **00 24 17.0 0.0**
BHPL IAmb IAmb 00 24 18.0
comp=Z,246nm,1.0s
INK Inuvik 56.57 26 P **P** **00 24 16.4 -0.4**
comp=Z,51nm,1.0s,baz=275,slow=7.0,SNR=41
INK S **S** **00 32 07.7 -0.2**
comp=Z,3.2nm,1.2s,baz=195,slow=22,SNR=1.3
INK LR LR 00 52 46.5
comp=Z,27µm,18.4s,baz=268,slow=40
comp=Z,51nm,1.0s
INK Inuvik 56.57 26 IAmb IAmb 00 24 22.5
comp=Z,110nm,1.0s
INK Inuvik 56.57 26 P **P** **00 24 17.6 +0.9**
baz=280,SNR=57
INK S **S** **00 32 10.5 +2.5**
baz=280
F31M Tsiigehtchic 56.64 27 P **P** **00 24 18.4 +1.1**
baz=280,SNR=28
F31M S **S** **00 32 10.4 +1.5**
baz=280
P30M Million Dollar 56.65 36 P **P** **00 24 17.8 +0.2**
baz=282
P30M S **S** **00 32 14.4 +4.9**
baz=282
N31M Braeburn, Yuko 56.93 35 P **P** **00 24 19.4 -0.1**
N31M IAmb IAmb 00 24 27.0
comp=Z,178nm,1.1s
N31M IAMs_20 IAMs_20 00 52 40.8
comp=Z,35µm,18.0s
N31M Braeburn, Yuko 56.93 35 P **P** **00 24 21.8 +2.3**
baz=282,SNR=17
N31M S **S** **00 32 18.1 +5.0**
baz=282
O30N Mendenhall 56.94 35 P **P** **00 24 21.0 +1.4**
baz=282
O30N S **S** **00 32 18.7 +5.5**
baz=282
POHA Pohakuloa 57.02 88 P **P** **00 24 20.5 -0.5**
POHA Pohakuloa 57.02 88 P **P** **00 24 24.2 +3.2**
VJD Vijayawada 57.05 268 *eP* **P** **00 24 21.4 +0.5**
MLOA Mauna Loa Obse 57.09 88 P **P** **00 24 21.2 -0.5**
PLBC Pleasant Camp 57.09 37 P **P** **00 24 22.6 +2.0**
baz=283,SNR=5.7
PLBC S **S** **00 32 18.6 +3.5**
baz=283
MWH Moku'aweowe 57.10 88 P **P** **00 24 21.1 -0.8**
HMH Humu'ula Sheep 57.13 88 P **P** **00 24 20.8 -1.1**
KHU Kahuku 57.20 88 P **P** **00 24 20.6 -1.6**
KHU Kahuku 57.20 88 P **P** **00 24 20.6 -1.6**
KHU pmax pmax
comp=Z,562nm,1.3s
AIN Ainahou 57.27 88 P **P** **00 24 20.4 -2.3**
AJM Ajmer 57.34 282 *eP* **P** **00 24 23.0 +0.1**
M31M Drury Creek, Y 57.42 34 P **P** **00 24 23.2 +0.3**
M31M IAmb IAmb 00 24 29.3
comp=Z,145nm,1.2s
M31M Drury Creek, Y 57.42 34 P **P** **00 24 24.4 +1.4**
baz=283,SNR=28
M31M S **S** **00 32 24.9 +5.5**
baz=283
WHY Whitehorse 57.54 35 P **P** **00 24 24.8 +0.8**
WHY IAmb IAmb 00 24 40.6
comp=Z,351nm,1.7s
WHY Whitehorse 57.54 35 P **P** **00 24 25.2 +1.3**
baz=283,SNR=16
WHY S **S** **00 32 25.2 +4.0**
baz=283
SKAG Skagway 57.61 37 P **P** **00 24 25.2 +1.0**
SKAG IAmb IAmb 00 24 32.5
comp=Z,169nm,1.4s
SKAG Skagway 57.61 37 P **P** **00 24 26.2 +2.0**
baz=284,SNR=5.3
SKAG S **S** **00 32 27.4 +5.5**
baz=284
R31K City Hall, Gus 57.65 38 P **P** **00 24 26.2 +1.7**
baz=284
FARO Faro, Yukon 57.89 33 P **P** **00 24 26.9 +0.7**
FARO IAmb IAmb 00 24 33.2
comp=Z,116nm,1.2s
FARO Faro, Yukon 57.89 33 P **P** **00 24 27.7 +1.4**
baz=284,SNR=16
FARO S **S** **00 32 29.4 +3.8**
baz=284
AKL Akola 58.01 274 *eP* **P** **00 24 26.5 -1.1**
BESE Bessie Mountai 58.06 38 P **P** **00 24 28.3 +0.7**
BESE IAmb IAmb 00 24 34.7
comp=Z,126nm,1.2s
RK1H Rockhampton Ha 58.18 170 P **P** **00 24 31.5 +2.9**
SIT Sitka 58.22 40 P **P** **00 24 28.0 -0.5**
baz=285
SIT S **S** **00 32 35.1 +5.2**
baz=285
N32M Quiet Lake 58.27 35 P **P** **00 24 28.7 -0.3**
baz=285
N32M S **S** **00 32 33.8 +3.1**
baz=285
ASAR Alice Springs 58.31 188 P **P** **00 24 27.6 -1.9**
comp=Z,12nm,0.7s,baz=14,slow=9.6,SNR=40
ASAR S **S** **00 32 29.6 -2.1**
comp=Z,1.4nm,1.0s,baz=20,slow=13,SNR=1.6
ASAR LR LR 00 50 17.9
comp=Z,11µm,18.8s,baz=5.0,slow=37
ASAR PKPPKP 00 54 08.6
comp=Z,1.5nm,0.9s,baz=147,slow=2.5,SNR=4.2
ASAR PKP2bc 00 54 22.1
comp=Z,6.7nm,1.0s,baz=175,slow=3.1,SNR=9.8
ASAR PKP2ab 00 54 35.5
comp=Z,7.3nm,0.9s,baz=173,slow=1.6,SNR=8.2
comp=Z,12nm,0.7s
R32K Eaglecrest 58.31 38 P **P** **00 24 29.0 -0.3**
baz=285
HYB Hyderabad 58.33 270 *eP* **P** **00 24 28.0 -2.0**
HYB IAmb IAmb 00 24 33.0
comp=Z,190nm,0.8s
HYBB Hyderabad (bro 58.33 270 *eP* **P** **00 24 28.9 -1.1**
HYBB *e* 00 25 16.1
HYBB *eS* **S** **00 32 31.3 -1.3**
HYBB IVMs_BB IVMs_BB 00 56 27.3
comp=Z,6µm,15.8s
P32M Atlin 58.37 37 P **P** **00 24 29.9 +0.2**
baz=285,SNR=13
P32M S **S** **00 32 37.3 +5.3**
baz=285
ARU Arti 58.38 320 P **P** **00 24 28.3 -1.4**
comp=Z,127nm,0.6s,baz=70,slow=2.6,SNR=33
ARU S **S** **00 32 32.4 +0.4**
comp=Z,2.5nm,0.7s,baz=134,slow=20,SNR=1.5
ARU LR LR 00 53 46.0
comp=Z,14µm,19.1s,baz=59,slow=40
comp=Z,127nm,0.6s
ARU Arti 58.38 320 P **P** **00 24 28.9 -0.8**
ARU Arti 58.38 320 *c iP* **P** **00 24 27.7 -2.0**
ARU 00 25 19.3
ARU S **S** **00 32 34.0 +1.9**
ARU 00 34 17.0
ARU SS **SS** **00 36 26.9 +3.3**
ARU pmax pmax
comp=Z,99nm,0.7s
ARU MLR MLR
comp=Z,58µm,16.0s
JIS Juneau Island 58.38 38 P **P** **00 24 29.6 0.0**
JIS IAmb IAmb 00 24 46.4
comp=Z,130nm,1.2s
JIS IAMs_20 IAMs_20 00 54 12.2
comp=Z,40µm,19.0s
S32K Killisnoo 58.50 39 P **P** **00 24 32.1 +1.6**
baz=286
KBL Kabul 58.50 293 P **P** **00 24 29.5 -1.7**
KBL Kabul 58.50 293 P **P** **00 24 29.5 -1.7**
KBL pmax pmax
comp=Z,303nm,1.6s
KBL Kabul 58.50 293 P **P** **00 24 30.8 -0.5**
SNR=68
A36M Sachs Harbour 58.55 21 P **P** **00 24 30.8 +0.1**
A36M Sachs Harbour 58.55 21 P **P** **00 24 31.8 +1.2**
baz=285,SNR=5.1
A36M S **S** **00 32 37.5 +3.7**
baz=285
P33M Teslin, Yukon 58.64 36 P **P** **00 24 31.9 +0.3**
P33M IAMs_20 IAMs_20 00 54 17.1
comp=Z,29µm,18.0s
P33M Teslin, Yukon 58.64 36 P **P** **00 24 33.5 +1.9**
baz=285,SNR=34
P33M S **S** **00 32 39.2 +3.6**
baz=285
MMPY Sheldon Lake, 58.73 33 P **P** **00 24 34.0 +1.9**
baz=285,SNR=28
MMPY S **S** **00 32 42.1 +5.5**
baz=285
KOUNC Koumac, New Ca 58.84 155 P **P** **00 24 33.6 +0.3**
KOUNC IAmb IAmb 00 24 59.2
comp=Z,228nm,1.8s
KOUNC Koumac, New Ca 58.84 155 P P 00 24 38.1 +4.8
MBWA Marble Bar 59.13 204 P **P** **00 24 34.4 -0.9**
MBWA IAmb IAmb 00 25 00.4
comp=Z,102nm,0.9s
MBWA Marble Bar 59.13 204 P **P** **00 24 34.5 -0.8**
MDRS Chennai 59.18 265 *eP* **P** **00 24 37.9 +2.0**
MDRS IAmb IAmb 00 24 40.0
comp=Z,167nm,1.1s
Q32M Nakina River 59.26 37 P **P** **00 24 38.0 +2.0**
baz=286
Q32M S **S** **00 32 49.7 +5.9**
baz=286
PSA00 Pilbara Seismi 59.48 204 IAmb IAmb 00 24 57.6
comp=Z,76nm,0.7s
PSA00 Pilbara Seismi 59.48 204 P **P** **00 24 39.5 +1.8**
LATR Latur 59.48 272 *eP* **P** **00 24 36.8 -1.1**
T33K Petersburg 59.53 39 P **P** **00 24 38.3 +0.6**
baz=287
U33K Whale Pass 59.65 40 P **P** **00 24 39.4 +0.8**
baz=288
U33K S **S** **00 32 50.2 +1.6**
baz=288
C36M Paulatuk 59.66 24 P **P** **00 24 39.1 +0.6**
C36M Paulatuk 59.66 24 P **P** **00 24 39.0 +0.6**
baz=287,SNR=12
C36M S **S** **00 32 47.5 -0.8**
baz=287
AB31 Akbulak array 59.71 311 *i* P **P** **00 24 37.1 -2.0**
ABKAR Akbulak array 59.71 311 P **P** **00 24 37.3 -1.8**
ABKAR Akbulak array 59.71 311 P **P** **00 24 37.6 -1.5**
ABKAR IAmb IAmb 00 24 53.7
comp=Z,87nm,0.8s
R33M Jennings River 59.77 36 P **P** **00 24 40.8 +1.2**
baz=287,SNR=17
R33M S **S** **00 32 52.7 +2.4**
baz=287
CRAG Craig 59.85 41 P **P** **00 24 41.3 +1.4**
baz=288
CRAG S **S** **00 32 56.1 +5.0**
baz=288
WRAK Wrangell Islan 59.97 40 P **P** **00 24 41.1 +0.4**
WRAK Wrangell Islan 59.97 40 P **P** **00 24 42.1 +1.4**
baz=288
LIFNC LIFOU 60.13 152 P **P** **00 24 42.8 +0.6**
LIFNC IAmb IAmb 00 25 44.1
comp=Z,210nm,1.4s
LIFNC LIFOU 60.13 152 P **P** **00 24 46.2 +4.0**
S34M Telegraph Cree 60.14 38 P **P** **00 24 43.0 +1.1**
baz=288,SNR=16
S34M S **S** **00 32 57.5 +2.7**
baz=288
EIDS Eidsvold 60.22 170 P **P** **00 24 42.0 -0.7**
EIDS IAmb IAmb 00 25 02.1
comp=Z,102nm,1.1s
EIDS Eidsvold 60.22 170 P **P** **00 24 42.6 -0.1**
TGTN Hyland Airport 60.39 33 P **P** **00 24 44.2 +0.5**
baz=288,SNR=26
TGTN S **S** **00 33 02.7 +4.6**
baz=288
AKTO Aktyubinsk 60.50 313 P **P** **00 24 43.5 -1.0**
comp=Z,87nm,0.7s,baz=79,slow=7.7,SNR=54
AKTO S **S** **00 32 59.3 -0.5**
comp=Z,1.2nm,0.5s,baz=264,slow=13,SNR=1.7
AKTO LR LR 00 53 14.2
comp=Z,43µm,18.4s,baz=62,slow=38
comp=Z,87nm,0.7s
DLBC Dease Lake 60.53 37 P **P** **00 24 44.8 +0.1**
comp=Z,34nm,1.1s,baz=281,slow=9.1,SNR=14
DLBC LR LR 00 55 23.6
comp=Z,9µm,18.1s,baz=307,slow=40
comp=Z,34nm,1.1s
DLBC Dease Lake 60.53 37 P **P** **00 24 45.4 +0.7**
DLBC Dease Lake 60.53 37 P **P** **00 24 46.8 +2.1**
baz=288,SNR=27
DLBC S **S** **00 33 04.2 +4.2**
baz=288
WRKA Warakurna 60.55 194 P **P** **00 24 45.4 +0.4**
WTLY Watson Lake, Y 60.60 35 P **P** **00 24 45.7 +0.7**
WTLY IAmb IAmb 00 24 52.2
comp=Z,198nm,1.3s
WTLY Watson Lake, Y 60.60 35 P **P** **00 24 47.5 +2.5**
baz=288,SNR=12
WTLY S **S** **00 33 02.9 +2.2**
baz=288
V35K Ketchikan 60.71 41 P **P** **00 24 47.1 +1.4**
baz=289
V35K S **S** **00 33 08.2 +6.1**
baz=289
QLP Quilpie 60.80 177 P **P** **00 24 48.4 +1.8**
T35M Bob Quinn 60.89 39 P **P** **00 24 48.7 +1.6**
baz=289,SNR=17
T35M S **S** **00 33 08.9 +4.4**
baz=289
DIB Dawson Inlet, 60.93 43 P **P** **00 24 47.8 +0.5**
DIB IAmb IAmb 00 24 52.9
comp=Z,145nm,1.3s
NOUC Port Laguerre 60.99 154 P **P** **00 24 49.8 +1.8**
DZM Mont Dzumac 61.01 154 *eP* **P** **00 24 48.3 0.0**
comp=Z,276nm,1.3s
DZM *eS* **S** **00 33 06.9 +0.1**
comp=Z,8µm,24.2s
DZM *eLR* LR 00 42 49.3
comp=Z,40µm,20.4s
DZM Mont Dzumac 61.01 154 LR LR 00 50 30.0
comp=Z,42µm,19.8s,baz=326,slow=35
DZM Mont Dzumac 61.01 154 P **P** **00 24 49.2 +0.9**
DZM IAmb IAmb 00 24 55.2
comp=Z,110nm,1.1s
DZM Mont Dzumac 61.01 154 P **P** **00 24 50.4 +2.1**
comp=Z,102nm,1.2s
RMQ Roma 61.03 173 P **P** **00 24 51.1 +2.9**
comp=Z,84nm,0.9s
YATNC Mamie plateau, 61.17 153 P **P** **00 24 53.5 +4.3**
ONTNC Ouen Toro 61.23 154 P **P** **00 24 50.6 +0.9**
ONTNC IAmb IAmb 00 25 06.2
comp=Z,161nm,1.3s
ONTNC Ouen Toro 61.23 154 P **P** **00 24 53.0 +3.4**
SALM Salem 61.62 265 *eP* **P** **00 24 51.9 -0.7**
POO Poona 61.66 274 *eP* **P** **00 24 51.7 -1.2**
POO IAmb IAmb 00 25 05.0
comp=Z,194nm,1.1s
RUBB Prince Rupert 61.79 42 P **P** **00 24 53.3 +0.2**
RUBB IAmb IAmb 00 24 59.0
comp=Z,123nm,1.4s
FUTU Fugatoga 61.81 135 P **P** **00 24 56.7 +3.0**
PINNC Pines Island, 61.88 153 P **P** **00 24 52.1 -1.9**
PINNC IAmb IAmb 00 25 43.6
comp=Z,249nm,1.9s
PINNC Pines Island, 61.88 153 P **P** **00 24 58.3 +4.3**
INKA Innaminka 61.91 181 P **P** **00 24 57.5 +3.4**
WRGLY Wrigley 61.93 31 P **P** **00 24 55.4 +1.5**
baz=291
WRGLY S **S** **00 33 18.8 +1.4**
baz=291
PALK Pallekele 62.01 259 P **P** **00 24 53.5 -1.8**
comp=Z,76nm,0.8s,baz=151,slow=6.6,SNR=16
PALK LR LR 00 54 16.4
comp=Z,16µm,18.8s,baz=149,slow=38
comp=Z,76nm,0.8s
PALK Pallekele 62.01 259 P **P** **00 24 54.0 -1.2**
PALK IAmb IAmb 00 25 11.8
comp=Z,100nm,0.8s
PALK Pallekele 62.01 259 P **P** **00 24 54.1 -1.2**
PALK pmax pmax
comp=Z,99nm,0.9s
PALK MLR MLR
comp=Z,17µm,18.0s
PALK Pallekele 62.01 259 P **P** **00 24 55.9 +0.6**
PALK P **P** **00 24 55.9 +0.6**
PALK P **P** **00 24 55.9 +0.6**
GRNB Grenville Isla 62.12 42 P **P** **00 24 54.7 -0.8**
GRNB IAmb IAmb 00 25 02.1
comp=Z,195nm,1.5s
OOD Oodnadatta 62.21 186 P **P** **00 24 58.8 +2.7**
KIRV Kirov 62.37 324 P **P** **00 24 55.9 -1.0**
comp=Z,153nm,0.6s,baz=61,slow=1.1,SNR=49
KIRV S **S** **00 33 22.5 -0.6**
comp=Z,4.9nm,0.5s,baz=52,slow=21,SNR=1.9
KIRV LR LR 00 54 41.5
comp=Z,40µm,18.4s,baz=54,slow=39
comp=Z,153nm,0.6s
MSVF Nonsavu 62.45 140 LR LR 00 48 15.6
comp=Z,14µm,20.7s,baz=330,slow=32
MSVF Nonsavu 62.45 140 P **P** **00 24 58.5 +0.5**
MSVF Nonsavu 62.45 140 IAMs_20 IAMs_20 00 55 51.3
comp=Z,22µm,18.0s
MSVF Nonsavu 62.45 140 P **P** **00 24 58.5 +0.5**
MSVF pmax pmax
comp=Z,335nm,1.7s
MSVF MLR MLR
comp=Z,22µm,18.0s
MSVF Nonsavu 62.45 140 P **P** **00 25 02.2 +4.2**
GIRL Giralia 62.50 209 P **P** **00 24 58.6 +0.4**
HOPEN Hopen 62.53 346 *eP* **P** **00 24 58.1 +0.3**
HOPEN IVmBBB 00 25 05.8
comp=Z,4µm,3.3s
HOPEN *eS* **S** **00 33 26.6 +1.8**
HOPEN IVMs_BB IVMs_BB 00 56 42.0
comp=Z,34µm,16.5s
EUNU Eureka 62.66 8 P **P** **00 24 59.8 +1.1**
TAVE Taveuni 62.71 138 P **P** **00 25 04.0 +4.3**
COCO West Island 62.94 231 P **P** **00 25 00.6 -0.7**
COCO West Island 62.94 231 P **P** **00 25 00.6 -0.7**
COCO pmax pmax
comp=Z,332nm,1.0s
PRGR Permogore 62.98 328 *eP* **P** **00 24 59.9 -1.1**
PRGR pmax pmax
comp=Z,166nm,1.5s
KOD Kodaikanal 63.00 264 *eP* **P** **00 25 00.2 -1.9**
SPA0 Spitsbergen Ar 63.04 349 *eP* **P** **00 25 00.9 -0.3**
SPA0 *eS* **S** **00 33 32.6 +1.6**
SPA0 IVMs_BB IVMs_BB 00 56 45.9
comp=Z,21µm,15.4s
SPB2 Spitsbergen Ar 63.04 349 P **P** **00 25 02.2 +1.1**
SPB2 IAmb IAmb 00 25 50.8
comp=Z,108nm,1.1s
SPITS Spitsbergen Ar 63.04 349 LR LR 00 56 40.1
comp=Z,39µm,18.4s,baz=4.5,slow=40
SPITS Spitsbergen Ar 63.04 349 P **P** **00 25 02.8 +1.6**
SPITS pmax pmax
comp=Z,86nm,1.0s
FLDN Fort Liard 63.04 34 P **P** **00 25 02.6 +1.2**
baz=293
FLDN S **S** **00 33 35.3 +3.8**
baz=293
KBS Kingsbay 63.18 350 P **P** **00 25 02.2 +0.2**
KBS IAmb IAmb 00 25 19.9
comp=Z,82nm,0.8s
KBS Kingsbay 63.18 350 P **P** **00 25 02.2 +0.2**
KBS pmax pmax
comp=Z,82nm,0.9s
KBS MLR MLR
comp=Z,39µm,19.0s
KBS Kingsbay 63.18 350 *i* P **P** **00 25 00.4 -1.6**
KBS Kingsbay 63.18 350 *eP* **P** **00 25 03.5 +1.5**
KBS IVmB_BB 00 25 08.6
comp=Z,2µm,3.2s
KBS IAmb IAmb 00 25 19.0
comp=Z,85nm,0.8s
KBS *eS* **S** **00 33 34.6 +1.9**
KBS IVMs_BB IVMs_BB 00 54 45.1
comp=Z,15µm,16.7s
NOR Nord 63.59 357 *i* P **P** **00 25 04.6 -0.1**
NOR IAmb IAmb 00 25 20.0
comp=Z,71nm,1.1s
HRA Herat 63.70 295 P **P** **00 25 05.7 -0.9**
PCHI Peechi 63.76 265 *eP* **P** **00 25 06.5 -0.3**
BBB Bella Bella 63.78 43 LR LR 00 53 24.7
comp=Z,7µm,18.2s,baz=310,slow=36
BBB Bella Bella 63.78 43 P **P** **00 25 07.1 +0.8**
BBB IAmb IAmb 00 26 09.0
comp=Z,185nm,1.6s
HSPB Hornsund (broa 63.95 348 *eP* **P** **00 25 07.9 +0.7**
HSPB *ePP* **PP** **00 27 24.7 -2.6**
HSPB *eS* **S** **00 33 38.2 -4.2**
HSPB *eL* L 00 55 26.5
comp=Z,38µm,20.8s
TRD Trivandrum 64.37 263 *eP* **P** **00 25 12.5 +1.6**
TRD IAmb IAmb 00 25 15.4
comp=Z,245nm,1.3s
LVZ Lovozero 64.49 336 P **P** **00 25 10.8 0.0**
LVZ IAmb IAmb 00 25 26.2
comp=Z,87nm,1.2s
LVZ Lovozero 64.49 336 P **P** **00 25 10.9 0.0**
LVZ pmax pmax
comp=Z,87nm,1.2s
LVZ MLR MLR
comp=Z,105µm,18.0s
LKBA Tubou, Lakemba 64.55 138 P **P** **00 25 15.8 +4.0**
MEEK Meekatharra 64.59 203 P **P** **00 25 14.2 +2.2**
LCRK Leigh Creek 64.68 183 P **P** **00 25 15.9 +3.5**
MULG Mulgathing 64.83 187 P **P** **00 25 15.8 +2.4**
BJO1 Bjornoya 64.95 346 *eP* P 00 25 07.0 -6.7
BJO1 IVmBBB 00 25 41.4
comp=Z,2µm,5.8s
BJO1 *eS* **S** **00 33 55.7 +0.8**
BJO1 IVMs_BB IVMs_BB 00 59 06.1
comp=Z,35µm,15.7s
RES Resolute Bay 65.01 14 P **P** **00 25 14.8 +0.7**
comp=Z,186nm,1.1s,baz=335,slow=3.9,SNR=25
RES S **S** **00 33 55.4 -0.1**
comp=Z,9.0nm,1.0s,baz=289,slow=6.5,SNR=2.0

RES LR LR 00 57 04.0
comp=Z,24µm,18.7s,baz=318,slow=39
comp=Z,186nm,1.1s
APA Apatity 65.06 336 ⇓*i* P **P 00 25 15.8 +1.2**
APA *i* 00 25 30.0
APA *i* S **S 00 33 52.0 -4.4**
APA pmax pmax
comp=Z,43nm,0.9s
APA MLR MLR
comp=Z,123µm,17.0s
GEYT Alibeck 65.22 300 P **P 00 25 15.1 -1.1**
comp=Z,18nm,0.7s,baz=40,slow=2.5,SNR=34
GEYT PP **PP 00 27 40.2 +0.8**
comp=Z,11nm,1.1s,baz=45,slow=11,SNR=1.6
GEYT S **S 00 34 00.3 +0.9**
comp=Z,0.4nm,0.5s,baz=29,slow=46,SNR=1.5
GEYT LR LR 00 56 24.9
comp=Z,20µm,18.6s,baz=82,slow=39
comp=Z,18nm,0.7s
GEYT Alibeck 65.22 300 IAmb IAmb 00 25 25.5
comp=Z,138nm,1.1s
GYA0B ALIBECK ARRAY 65.22 300 IAmb IAmb 00 25 25.4
comp=Z,122nm,1.0s
ARMA Armidale 65.26 170 P **P 00 25 16.6 +0.3**
ARMA IAmb IAmb 00 25 33.1
comp=Z,78nm,1.1s
ARMA Armidale 65.26 170 P **P 00 25 18.8 +2.5**
AFI Afiamalu 65.40 129 LR LR 00 49 43.9
comp=Z,27µm,19.8s,baz=326,slow=32
AFI Afiamalu 65.40 129 P **P 00 25 17.8 +0.3**
AFI IAmb IAmb 00 25 45.7
comp=Z,137nm,1.1s
AFI Afiamalu 65.40 129 IAMs_20 IAMs_20 00 54 22.0
comp=Z,28µm,18.0s
AFI Afiamalu 65.40 129 P **P 00 25 17.8 +0.3**
AFI pmax pmax
comp=Z,137nm,1.2s
AFI MLR MLR
comp=Z,28µm,18.0s
AFI Afiamalu 65.40 129 P **P 00 25 22.1 +4.6**
BELG Belogornoye 65.77 318 P **P 00 25 19.3 -0.1**
comp=Z,82nm,0.7s,baz=298,slow=2.6,SNR=30
BELG S **S 00 34 05.2 -0.2**
comp=Z,11nm,0.7s,baz=64,slow=14,SNR=1.9
BELG LR LR 00 56 57.1
comp=Z,40µm,18.2s,baz=52,slow=39
comp=Z,82nm,0.7s
CMSA Cobar Meteorol 65.80 176 P **P 00 25 22.9 +3.2**
KEV Kevo 65.87 340 P **P 00 25 19.9 +0.2**
KEV IAmb IAmb 00 25 48.9
comp=Z,188nm,1.6s
KEV Kevo 65.87 340 P **P 00 25 19.9 +0.2**
KEV pmax pmax
comp=Z,188nm,1.6s
KEV MLR MLR
comp=Z,111µm,18.0s
YKA Yellowknife Ar 65.92 30 P **P 00 25 20.2 0.0**
comp=Z,42nm,1.1s,baz=294,slow=6.2,SNR=16
comp=Z,42nm,1.1s
YKA Yellowknife Ar 65.92 30 P **P 00 25 20.9 +0.7**
YKA Yellowknife Ar 65.92 30 P **P 00 25 20.9 +0.7**
KLMR Klimovskoe 65.99 328*c i* P **P 00 25 20.1 -0.5**
KLMR *e* 00 25 52.6
KLMR 00 27 43.8
KLMR S **S 00 34 03.9 -3.9**
KLMR SSS SSS 00 41 22.1
KLMR pmax pmax
comp=Z,119nm,1.0s
KLMR pmax pmax
comp=Z,1µm,3.5s
KLMR Klimovskoe 65.99 328⇑ *i* P **P 00 25 20.1 -0.5**
KLMR ⇓ *i* P **P 00 25 20.1 -0.5**
KLMR *eP* **P 00 25 20.1 -0.5**
KLMR AMP 00 25 27.1
comp=Z,119nm,1.0s
KLMR AMP 00 25 38.4
comp=Z,1µm,3.5s
KLMR *e*PcP **PcP 00 25 52.6 +1.3**
KLMR PP **PP 00 27 43.8 -1.6**
KLMR S **S 00 34 04.0 -3.9**
KLMR S **S 00 34 04.0 -3.9**
KLMR SS **SS 00 38 12.6 -10**
KLMR SS **SS 00 38 12.6 -10**
KLMR SSS SSS 00 41 22.1
KLMR SSS SSS 00 41 22.1
KLMR LQ LQ 00 46 59.0
KLMR LQ LQ 00 46 59.0
KLMR LR LR 00 49 08.2
KLMR AMP 01 00 27.9
comp=Z,35µm,14.7s
STKA Stephens Creek 66.03 180 P **P 00 25 21.9 +0.8**
comp=Z,8.5nm,0.8s,baz=344,slow=12,SNR=9.8
STKA S **S 00 34 05.4 -3.4**
comp=Z,2.0nm,0.8s,baz=264,slow=21,SNR=1.0
STKA LR LR 00 53 27.3
comp=Z,15µm,21.1s,baz=359,slow=35
comp=Z,8.5nm,0.8s
STKA Stephens Creek 66.03 180 P **P 00 25 22.0 +0.8**
STKA Stephens Creek 66.03 180 P **P 00 25 24.7 +3.6**
FORT Forrest 66.18 193 P **P 00 25 23.1 +1.0**
CBB Campbell River 66.25 45 P **P 00 25 22.5 0.0**
HAMF Hammerfest 66.26 341 *eP* **P 00 25 24.0 +1.8**
HAMF IVmBBB 00 25 30.4
comp=Z,2µm,5.7s
HAMF *eS* **S 00 34 10.7 -0.3**
HAMF IVMs_BB IVMs_BB 00 59 36.5
comp=Z,30µm,16.5s
ARA0 ARCESS Array S 66.42 340 *eP* **P 00 25 23.7 +0.4**
ARA0 IVmBBB 00 25 31.3
comp=Z,2µm,4.2s
ARA0 *eS* **S 00 34 13.4 +0.4**
ARA0 *e* 00 38 24.4
ARA0 IVMs_BB IVMs_BB 00 59 37.5
comp=Z,40µm,16.1s
ARCES ARCESS Array B 66.42 340 P **P 00 25 23.4 0.0**
comp=Z,21nm,0.8s,baz=61,slow=6.2,SNR=28
ARCES S **S 00 34 12.5 -0.5**
comp=Z,4.2nm,1.1s,baz=91,slow=6.3,SNR=3.6
ARCES PKP2bc 00 53 58.3
comp=Z,2.3nm,0.8s,baz=305,slow=7.2,SNR=3.8
ARCES LR LR 01 00 55.1
comp=Z,36µm,18.4s,baz=50,slow=42
comp=Z,21nm,0.8s
OZB Mount Ozzard 66.64 46 P **P 00 25 25.4 +0.3**
BBOO Buckleboo 67.16 185 P **P 00 25 27.6 -0.7**
BBOO IAmb IAmb 00 25 54.7
comp=Z,102nm,1.1s
BBOO Buckleboo 67.16 185 P **P 00 25 31.0 +2.6**
WHYH Whyalla 67.28 184 P **P 00 25 32.4 +3.3**
KTK1 Kautokeino 67.38 340 *eP* **P 00 25 27.7 -1.7**
KTK1 IVmBBB 00 25 46.4
comp=Z,2µm,5.5s
KTK1 *eS* **S 00 34 23.9 -0.7**
KTK1 IVMs_BB IVMs_BB 01 02 52.8
comp=Z,24µm,15.5s
TULEG Thule 67.59 7 P **P 00 25 30.2 -0.4**
TULEG Thule 67.59 7 *i* P **P 00 25 30.0 -0.6**
TULEG IAmb IAmb 00 25 42.1
comp=Z,263nm,1.3s
HTT Hallett 67.62 182 P **P 00 25 34.5 +3.2**
C03A Quillayute Air 67.64 46 P **P 00 25 31.1 -0.3**
MORW Morawa 67.69 204 P **P 00 25 32.2 +0.5**
MORW Morawa 67.69 204 P **P 00 25 33.1 +1.3**
MNCI Minicoy 67.69 265 P **P 00 25 31.6 -0.6**
MNCY Minicoy 67.72 265 *eP* **P 00 25 34.2 +1.8**
MNCY IAmb IAmb 00 25 39.0
comp=Z,171nm,1.2s
JETT Jettan, Norway 67.82 341 *eP* **P 00 25 32.1 -0.2**
JETT IVmBBB 00 25 40.1
comp=Z,2µm,3.8s
JETT *eS* **S 00 34 30.9 +1.1**
JETT *eSS* **SS 00 38 53.9 +3.5**
JETT IVMs_BB IVMs_BB 01 02 46.8
comp=Z,47µm,15.8s
LLLB Lillooet 67.98 43 IAmb IAmb 00 25 49.5
comp=Z,187nm,1.4s
PGC Sidney 67.98 45 P **P 00 25 32.3 -1.2**
PGC IAmb IAmb 00 25 39.6
comp=Z,142nm,1.3s
NEEM North Greenlan 68.04 3 *i* P **P 00 25 34.1 +0.2**
NEEM IAmb IAmb 00 25 38.9
comp=Z,170nm,0.9s
TRO Tromso 68.16 341 *eP* **P 00 25 33.2 -1.1**
TRO IVmBBB 00 25 51.1
comp=Z,2µm,4.1s
TRO *eS* **S 00 34 34.5 +0.7**
TRO *eSS* **SS 00 38 59.7 +4.2**
TRO IVMs_BB IVMs_BB 01 01 04.5
comp=Z,51µm,16.7s
B04A Port Angeles 68.23 46 P **P 00 25 34.6 -0.5**
B04A IAmb IAmb 00 25 41.6
comp=Z,146nm,1.2s
DAG Danmarks Havn 68.31 355 *i* P **P 00 25 35.0 -0.1**
DAG IAmb IAmb 00 25 39.8
comp=Z,100nm,0.9s
NLWA Neilton Lookou 68.32 47 P **P 00 25 35.8 0.0**
SYDH Sydney Hard Ro 68.44 172 P **P 00 25 40.0 +3.6**
WISH Wishkah 68.50 47 P **P 00 25 37.5 +0.7**
RADR Rader Ridge 68.81 48 P **P 00 25 38.7 -0.1**
RADR IAmb IAmb 00 25 56.6
comp=Z,330nm,1.4s
BLDU Ballidu 68.89 203 P **P 00 25 41.9 +2.6**
E03A Lebam 68.90 47 P **P 00 25 39.9 +0.6**
E03A IAmb IAmb 00 25 45.9
comp=Z,157nm,1.2s
B06A Marblemount 69.20 45 P **P 00 25 42.0 +0.9**
MOS Moscow 69.39 324 *eP* **P 00 25 40.3 -1.9**
MOS *e* 00 26 02.0
MOS *e* 00 28 14.5
MOS *e*PPP PPP 00 29 58.1
MOS *eS* **S 00 34 49.1 +0.4**
MOS *e* 00 35 41.7
MOS *eSS* **SS 00 39 14.0 -1.0**
MOS pmax pmax
comp=Z,245nm,1.3s
MOS pmax pmax
comp=E,62nm,1.0s
MOS pmax pmax
comp=Z,2µm,4.2s
MOS pmax pmax
comp=N,700nm,3.8s
MOS pmax pmax
comp=N,97nm,1.2s
MOS pmax pmax
comp=E,1µm,4.4s
MOS smax smax
comp=N,5µm,8.6s
MOS smax smax
comp=E,7µm,9.0s
MOS MLR MLR
comp=Z,53µm,15.0s
MOS MLR MLR
comp=E,67µm,16.0s
HEBO Mount Hebo 69.41 49 P **P 00 25 41.0 -1.7**
HEBO IAmb IAmb 00 25 56.1
comp=Z,162nm,1.3s
F04D Rainier, OR 69.45 48 P **P 00 25 43.5 +0.7**
baz=299
F04D S **S 00 34 50.2 +0.2**
baz=299
KLBR Kellerberrin 69.47 202 P **P 00 25 43.8 +0.9**
D05A Enumclaw 69.54 46 P **P 00 25 44.4 +1.1**
VRH Novokhopyorsk 69.57 319 *eP* **P 00 25 43.6 +0.2**
VRH *eS* **S 00 34 49.5 -1.6**
VRH pmax pmax
comp=Z,120nm,0.8s
VRH pmax pmax
comp=Z,130nm,0.7s
VRH smax smax
comp=E,2µm,7.8s
VRH MLR MLR
comp=Z,41µm,15.0s
G03D McMinnville, O 69.72 49 P **P 00 25 43.0 -1.4**
G03D IAmb IAmb 00 26 15.4
comp=Z,160nm,1.2s
G03D IAMs_20 IAMs_20 00 55 36.5
comp=Z,18µm,18.0s
G03D McMinnville, O 69.72 49 P **P 00 25 46.2 +1.8**
baz=299
G03D S **S 00 34 55.8 +2.8**
baz=299
CAN Canberra 69.80 174 P **P 00 25 44.5 -0.4**
CAN IAmb IAmb 00 25 56.8
comp=Z,83nm,1.1s
CAN IAMs_20 IAMs_20 00 59 34.5
comp=Z,17µm,18.0s
CAN Canberra 69.80 174 P **P 00 25 44.5 -0.4**
CAN pmax pmax
comp=Z,83nm,1.1s
CAN MLR MLR
comp=Z,17µm,18.0s
CAN Canberra 69.80 174 P **P 00 25 48.3 +3.4**
CNB Canberra Magne 69.83 173 P **P 00 25 47.4 +2.3**
I02E Swisshome, OR 69.88 50 P **P 00 25 44.9 -0.5**
I02E IAMs_20 IAMs_20 01 01 47.9
comp=Z,17µm,18.0s
I02E Swisshome, OR 69.88 50 P **P 00 25 48.1 +2.7**
baz=299
I02E S **S 00 34 58.0 +3.0**
baz=299
COR Corvallis 69.99 49 P **P 00 25 45.6 -0.5**
COR Corvallis 69.99 49 IAMs_20 IAMs_20 00 58 23.8
comp=Z,24µm,19.0s
COR Corvallis 69.99 49 P **P 00 25 45.6 -0.5**
COR pmax pmax
comp=Z,341nm,1.4s
COR MLR MLR
comp=Z,24µm,19.0s
MAK Makhachkala 70.16 309 *eP* P 00 25 42.2 -5.0
MAK *eS* **S 00 34 52.4 -5.8**
MAK *eSS* **SS 00 39 22.9 -4.6**
MAK *eSSS* SSS 00 42 38.3
MAK pmax pmax
comp=Z,338nm,1.7s
MAK pmax pmax
comp=Z,2µm,3.5s
MAK smax smax
comp=E,8µm,8.1s
MAK smax smax
comp=N,7µm,14.3s
MAK MLR MLR
comp=Z,50µm,14.0s
MAK MLR MLR
comp=N,75µm,14.0s
MAK MLR MLR
comp=E,84µm,13.0s
KEBM Edson Butte 70.17 51 P **P 00 25 47.8 +0.5**
OBN Obninsk 70.22 324 LR LR 00 58 46.2
comp=E,10µm,18.1s,baz=57,slow=38
OBN Obninsk 70.22 324 P **P 00 25 47.6 +0.2**
OBN IAmb IAmb 00 25 52.9
comp=Z,113nm,1.0s
OBN Obninsk 70.22 324*ce* P **P 00 25 46.6 -0.7**
OBN *e* 00 28 22.9
OBN *i* S **S 00 34 58.0 -0.6**
OBN *i* SS **SS 00 39 24.0 -3.9**
OBN pmax pmax
comp=Z,61nm,0.6s
OBN MLR MLR
comp=Z,66µm,15.0s
J01E Myrtle Point 70.28 51 P **P 00 25 47.4 -0.6**
J01E IAmb IAmb 00 26 16.6
comp=Z,215nm,1.4s
J01E IAMs_20 IAMs_20 01 00 16.6
comp=Z,17µm,18.0s
J01E Myrtle Point 70.28 51 P **P 00 25 50.0 +2.1**
baz=299
J01E S **S 00 35 02.2 +2.4**
baz=299
LTY Liberty 70.29 46 IAmb IAmb 00 26 17.4
comp=Z,134nm,1.4s
STEI Steigen 70.31 341 *eP* **P 00 25 47.9 +0.3**
STEI IVmBBB 00 25 55.0
comp=Z,2µm,2.5s
STEI *eS* **S 00 34 58.8 -0.4**
STEI *eSS* **SS 00 39 30.9 +2.3**
STEI IVMs_BB IVMs_BB 01 01 43.1
comp=Z,25µm,16.5s
LPSR Galich'ya Gora 70.36 321 *eP* **P 00 25 48.8 +0.6**
LPSR *eS* **S 00 35 00.0 -0.2**
LPSR pmax pmax
comp=Z,390nm,1.7s
LPSR pmax pmax
comp=Z,130nm,0.8s
LPSR smax smax
comp=E,3µm,9.6s
LPSR MLR MLR
comp=Z,108µm,16.0s
H04D Lebanon 70.38 49 P **P 00 25 49.4 +0.9**
H04D IAmb IAmb 00 25 55.3
comp=Z,178nm,1.3s
H04D IAMs_20 IAMs_20 00 57 43.0
comp=Z,16µm,19.0s
H04D Lebanon 70.38 49 P **P 00 25 49.5 +0.9**
baz=299,SNR=20
H04D S **S 00 35 03.8 +3.0**
baz=299
BUCK Buck Mountain 70.38 49 P **P 00 25 49.1 +0.5**
I03D Drain, OR 70.39 50 P **P 00 25 50.4 +1.8**
baz=299
I03D S **S 00 35 01.7 +0.7**
baz=299
B08A Colville Reser 70.52 44 IAmb IAmb 00 25 55.2
comp=Z,190nm,1.2s
KBO Bosley Butte 70.56 52 P **P 00 25 49.3 -0.4**
LOF Lofoten 70.61 342 *eP* **P 00 25 48.8 -0.7**
LOF IVmB_BB 00 26 13.5
comp=Z,3µm,7.0s
LOF *eS* **S 00 35 03.7 +0.9**
LOF *eSS* **SS 00 39 38.8 +5.6**
LOF IVMs_BB IVMs_BB 01 02 16.2
comp=Z,27µm,16.2s
H04A Detroit Lake 70.64 49 P **P 00 25 49.4 -0.7**
H04A IAmb IAmb 00 26 10.9
comp=Z,148nm,1.2s
HOOD Mount Hood Mea 70.66 48 P **P 00 25 50.4 0.0**
K02D Willamette Mer 70.68 51 P **P 00 25 51.6 +1.1**
baz=299,SNR=30
K02D S **S 00 35 07.4 +2.8**
baz=299
FAUS Fauske 70.69 341 *eP* **P 00 25 51.4 +1.4**
FAUS IVmBBB 00 25 57.8
comp=Z,2µm,4.3s
FAUS *eS* **S 00 35 05.2 +1.5**
FAUS IVMs_BB IVMs_BB 01 01 16.9
comp=Z,35µm,16.6s
VORR Voronezh 70.69 320 *eP* **P 00 25 50.8 +0.5**
VORR pmax pmax
comp=Z,112nm,1.3s
VORR MLR MLR
comp=Z,78µm,15.0s
DBO Dodson Butte 70.75 51 P **P 00 25 50.5 -0.4**
DBO IAmb IAmb 00 25 57.5
comp=Z,93nm,1.2s
DBG Daneborg 70.79 355 *i* P **P 00 25 49.4 -1.2**
DBG IAmb IAmb 00 26 22.5
comp=Z,814nm,3.3s
NWAO Narrogin (SRO) 70.87 202 S **S 00 35 06.9 +0.4**
comp=Z,11nm,1.0s,baz=199,slow=8.1,SNR=1.7
NWAO LR LR 00 57 56.3
comp=Z,6µm,19.1s,baz=236,slow=37
NWAO Narrogin (SRO) 70.87 202 P **P 00 25 52.1 +0.7**
NWAO IAmb IAmb 00 26 38.8
comp=Z,193nm,1.4s
NWAO Narrogin (SRO) 70.87 202 P **P 00 25 52.1 +0.7**
NWAO pmax pmax
comp=Z,193nm,1.4s
NWAO Narrogin (SRO) 70.87 202 P **P 00 25 53.9 +2.4**
G05D Wamic, OR 70.90 48 P **P 00 25 52.4 +0.6**
baz=300,SNR=18
G05D S **S 00 35 09.9 +2.9**
baz=300
ARPS Mount Arapiles 70.91 180 P **P 00 25 55.1 +3.6**
I04A Tendick Farm, 70.94 50 P **P 00 25 53.5 +1.4**
baz=300,SNR=35
I04A S **S 00 35 09.0 +1.5**
baz=300
VSR Storozhevoye 70.95 319 *eP* **P 00 25 51.4 -0.5**
VSR *eS* **S 00 35 03.8 -3.4**
VSR pmax pmax
comp=Z,320nm,1.6s
VSR pmax pmax
comp=Z,100nm,0.8s
VSR smax smax
comp=N,3µm,11.9s
VSR MLR MLR
comp=Z,86µm,16.0s
KSXB Camp Six Broad 70.97 52 **P 00 25 52.7 +0.4**
JASK Jask - Hormozg 70.99 289 P **P 00 25 53.9 +1.3**
SNR=8.3
L02F Cave Junction 71.03 52 P **P 00 25 54.3 +1.8**
baz=300,SNR=18
L02F S **S 00 35 11.3 +2.8**
baz=300
KRMB Red Mountain 71.10 52 P **P 00 25 52.9 -0.2**
KRMB IAmb IAmb 00 26 00.6
comp=Z,142nm,1.5s
FIA1 FINESS Array S 71.13 333 IAmb IAmb 00 26 09.3
comp=Z,150nm,1.0s
FIA0 FINESS Array S 71.13 333 P **P 00 25 52.8 0.0**
FIA0 FINESS Array S 71.13 333 P **P 00 25 52.8 0.0**
FINES FINESS Array B 71.13 333 P **P 00 25 51.2 -1.6**
comp=Z,22nm,0.7s,baz=91,slow=7.6,SNR=34
FINES S **S 00 35 08.7 -0.3**
comp=Z,3.8nm,1.0s,baz=167,slow=27,SNR=2.0
FINES LR LR 01 00 33.1
comp=Z,46µm,18.3s,baz=45,slow=39
comp=Z,22nm,0.7s
GROC Groznyy 71.13 310 *eP* **P 00 25 52.9 -0.2**
GROC *eS* **S 00 35 11.8 +2.2**
GROC pmax pmax
comp=Z,477nm,1.2s
GROC MLR MLR
comp=Z,28µm,13.0s
HUMO Hull Mountain 71.18 51 P **P 00 25 54.0 +0.5**
KRPM Rodgers 71.20 53 P **P 00 25 53.6 -0.1**
KRPM IAmb IAmb 00 26 01.5
comp=Z,201nm,1.4s
EDM Edmonton 71.24 38 P **P 00 25 53.1 -0.5**
EDM Edmonton 71.24 38 P **P 00 25 53.1 -0.5**
EDM pmax pmax
comp=Z,226nm,1.2s
I05D Terrebonne, OR 71.34 49 P **P 00 25 55.0 +0.6**
baz=300,SNR=9.6
I05D S **S 00 35 14.3 +2.1**
baz=300
JCC Jacoby Creek, 71.37 53 P **P 00 25 54.3 -0.3**
HAWA Hanford 71.40 46 P **P 00 25 54.9 +0.2**
HAWA IAmb IAmb 00 26 01.6
comp=Z,112nm,1.4s
J04D Umpqua Nationa 71.41 50 P **P 00 25 54.8 -0.3**
J04D Umpqua Nationa 71.41 50 P **P 00 25 56.3 +1.2**
baz=300,SNR=21
J04D S **S 00 35 15.8 +2.5**
baz=300
F07A Phinny Hill Vi 71.42 47 P **P 00 25 55.6 +0.8**
F07A IAmb IAmb 00 26 01.1
comp=Z,100nm,1.1s
C09A Chrisman Ranch 71.42 44 IAmb IAmb 00 26 00.7
comp=Z,160nm,1.2s
D08A Wollman Farm, 71.42 45 IAmb IAmb 00 26 00.7
comp=Z,99nm,1.2s
KMPM Mount Pierce 71.51 53 P **P 00 25 55.7 +0.1**
KMPM IAmb IAmb 00 26 02.5
comp=Z,196nm,1.2s
KHMM Horse Mountain 71.54 53 P **P 00 25 56.2 +0.3**
KHMM IAmb IAmb 00 26 03.3
comp=Z,204nm,1.2s
E08A Dider Farm, El 71.63 46 P **P 00 25 56.8 +0.7**
WSAR Wadi Sarin 71.70 286 LR LR 01 02 19.6
comp=Z,20µm,18.5s,baz=88,slow=40
BRAT Ballarat 71.72 178 P **P 00 25 59.7 +3.3**
WBK Wadi Bani Khal 71.74 285 P **P 00 25 57.4 +0.2**
SNR=24
WBK P **P 00 25 57.4 +0.2**
SNR=24
YBH Yreka Blue Hor 71.78 52 LR LR 00 55 15.0
comp=Z,12µm,18.4s,baz=307,slow=34
YBH Yreka Blue Hor 71.78 52 pP 00 25 58.2 -1.0
L04D Klamath Falls 71.79 51 P **P 00 25 58.9 +1.6**
baz=300
L04D S **S 00 35 19.3 +1.7**
baz=300
MOR8 Moi Rana 71.79 340 *eP* **P 00 25 55.7 -1.1**
MOR8 IVmBBB 00 26 03.0
comp=Z,2µm,3.7s
MOR8 *eS* **S 00 35 13.0 -3.6**
MOR8 *eSS* **SS 00 39 52.3 +0.8**
MOR8 IVMs_BB IVMs_BB 01 02 33.2
comp=Z,36µm,16.5s
TOO Toolangi 71.80 177 P **P 00 25 56.5 -0.4**
TOO Toolangi 71.80 177 P **P 00 25 56.6 -0.4**
TOO pmax pmax
comp=Z,66nm,1.2s
TOO Toolangi 71.80 177 P **P 00 26 00.5 +3.5**
NEW Newport 71.84 44 IAmb IAmb 00 26 03.1
comp=Z,153nm,1.2s

NEW	Newport	71.84	44		IAMs_20	IAMs_20	01 02 40.5			
	comp=Z,23µm,19.0s									
NEW	Newport	71.84	44		P	P	00 25 58.0	+0.6		
	baz=302,SNR=64									
NEW					S	S	00 35 17.8	0.0		
	baz=302									
PINE	Pine Mountain	71.86	49		P	P	00 25 58.1	+0.3		
KMRM	Mail Ridge	71.88	53		P	P	00 25 58.0	+0.2		
KMRM					IAmb	IAmb	00 26 18.2			
	comp=Z,332nm,1.9s									
GOF	Gofitskoye	71.91	312	⇑	eP	P	00 25 57.4	-0.4		
GOF					pmax	pmax				
	comp=Z,308nm,1.1s									
KONS	Konsvik	71.92	341		eP	P	00 25 59.5	+2.0		
KONS					eS	S	00 35 19.3	+1.4		
KONS					IVMs_BB	IVMs_BB	01 03 34.4			
	comp=Z,26µm,15.1s									
J05D	Fort Rock, OR	71.94	50		P	P	00 25 59.2	+1.0		
	baz=300,SNR=41									
J05D					S	S	00 35 22.4	+3.2		
	baz=300									
K04D	Chiloquin, OR	71.94	50		P	P	00 25 59.3	+1.1		
	baz=300									
K04D					S	S	00 35 21.9	+2.6		
	baz=300									
BIDO	Bidbid	71.95	286		P	P	00 25 59.1	+0.7		
	SNR=31									
BIDO					P	P	00 25 59.1	+0.7		
	SNR=31									
E09A	Wood Farm, Sta	72.16	46		IAmb	IAmb	00 26 06.0			
	comp=Z,204nm,1.4s									
BANOM	Banah	72.19	289		P	P	00 26 00.4	+0.6		
	SNR=7.0									
BANOM					P	P	00 26 00.4	+0.6		
	SNR=7.0									
BANOM	Banah	72.19	289	i	P	P	00 25 60.0	+0.2		
	SNR=9.0									
KAAM	Kaadhehdhoo	72.19	258		P	P	00 25 59.2	-0.7		
KCPM	Cahto Peak	72.23	54		P	P	00 25 59.4	-0.5		
SHME	Shamn	72.25	290		P	P	00 26 00.0	-0.1		
	SNR=15									
SHME					P	P	00 26 00.0	-0.1		
	SNR=15									
SHME	Shamm	72.25	290	i	P	P	00 26 00.3	+0.2		
	SNR=26									
SMDO	Samad	72.25	286		P	P	00 26 00.6	+0.3		
	SNR=26									
SMDO					P	P	00 26 00.6	+0.3		
	SNR=26									
UPNV	Upernavik	72.30	5	i	P	P	00 25 59.3	-0.3		
UPNV					IAmb	IAmb	00 26 04.5			
	comp=Z,130nm,1.1s									
G08A	Pilot Rock	72.31	47			P	00 26 00.4	0.0		
GUDG	Gudauri	72.34	310		P	P	00 25 57.9	-2.8		
GUDG	Gudauri	72.34	310		P	P	00 25 57.9	-2.8		
GUDG					pmax	pmax				
	comp=Z,174nm,1.0s									
NCK	Nalchik	72.37	311	c	i P	P	00 25 59.7	-0.9		
NCK					pmax	pmax				
	comp=Z,90nm,1.2s									
NCK					MLR	MLR				
	comp=Z,34µm,15.0s									
ZEI	Tsey	72.54	310		eP	P	00 26 00.1	-1.8		
ZEI					pmax	pmax				
	comp=Z,82nm,1.4s									
MEF	Metsahovi	72.55	332		eP	P	00 26 01.9	+0.6		
JMDO	Jabal Madar	72.56	285		P	P	00 26 02.4	+0.3		
	SNR=18									
JMDO					P	P	00 26 02.4	+0.3		
	SNR=18									
HOQ	Hoqain	72.57	287		P	P	00 26 01.8	-0.3		
	SNR=30									
HOQ					P	P	00 26 01.8	-0.3		
	SNR=30									
MASF	Masafi	72.57	289		P	P	00 26 02.6	+0.5		
	SNR=13									
MASF					P	P	00 26 02.6	+0.5		
	SNR=13									
MSFE	Esma-Masafi	72.58	289	i	P	P	00 26 01.8	-0.4		
	SNR=16									
JMIC	Jan Mayen	72.66	350		LR	LR	01 00 46.2			
	comp=Z,10µm,18.5s,baz=26,slow=38									
JMIC	Jan Mayen	72.66	350		eP	P	00 26 03.0	+1.2		
JMIC					eS	S	00 35 28.8	+2.4		
KBZ	Khabaz	72.68	311		P	P	00 26 02.5	+0.2		
	comp=Z,20nm,0.7s,baz=59,slow=3.9,SNR=32									
KBZ					S	S	00 35 28.5	+1.1		
	comp=Z,1.6nm,1.0s,baz=78,slow=22,SNR=1.5									
KBZ					LR	LR	01 00 11.5			
	comp=Z,31µm,18.4s,baz=44,slow=38									
	comp=Z,20nm,0.7s									
KVAR	Kislovodsk Arr	72.69	312		P	P	00 26 02.4	-0.2		
	comp=Z,12nm,0.8s,baz=286,slow=23,SNR=0.9									
KVAR					S	S	00 35 28.6	+0.8		
	comp=Z,4.1nm,1.0s,baz=217,slow=9.0,SNR=1.6									
	comp=Z,12nm,0.8s									
KIV	Kislovodsk	72.70	312	⇑	P	P	00 26 04.5	+1.9		
KIV	Kislovodsk	72.70	312		P	P	00 26 02.5	-0.2		
KIV					IAMs_20	IAMs_20	01 01 16.7			
	comp=Z,23µm,18.0s									
KIV	Kislovodsk	72.70	312		eP	P	00 25 59.8	-2.8		
KIV					e		00 28 42.4			
KIV					eS	S	00 35 26.4	-1.4		
KIV					eSS	SS	00 40 04.7	-1.9		
KIV					pmax	pmax				
	comp=Z,492nm,4.7s									
KIV					pmax	pmax				
	comp=Z,226nm,1.1s									
KIV					MLR	MLR				
	comp=Z,21µm,18.0s									
KIV	Kislovodsk	72.70	312	i	P	P	00 26 02.1	-0.6		
	SNR=63									
VSU	Vasula	72.72	330	c	i P	P	00 26 02.3	0.0		
VSU					pmax	pmax				
	comp=Z,310nm,1.0s									
VSU	Vasula	72.72	330		eP	P	00 26 02.5	+0.2		
UOSS	Minazif	72.75	289		P	P	00 26 03.4	+0.3		
UOSS					IAmb	IAmb	00 26 12.2			
	comp=Z,89nm,0.8s									
UOSS	Minazif	72.75	289		P	P	00 26 02.3	-0.8		
UOSS					P	P	00 26 02.3	-0.8		
UOSS	Minazif	72.75	289	i	P	P	00 26 02.7	-0.5		
	SNR=23									
SHA1	Shidzhatmaz	72.83	311	c	i P	P	00 26 01.8	-1.8		
HATD	Hatta, Dubai	72.87	289		P	P	00 26 04.2	+0.4		
	SNR=30									
HATD					P	P	00 26 04.2	+0.4		
	SNR=30									
HATD	Hatta, Dubai	72.87	289	i	P	P	00 26 03.5	-0.3		
	SNR=58									
UMQ	Umm Al-Quwin	72.88	289		P	P	00 26 04.5	+0.6		
UMQ					P	P	00 26 04.5	+0.6		
UMQ	Umm Al-Quwin	72.88	289		P	P	00 26 04.7	+0.8		
HOPS	Hopland Field	72.92	54		P	P	00 26 03.9	-0.1		
HOPS					IAmb	IAmb	00 26 20.1			
	comp=Z,150nm,1.3s									
ONI	Oni	72.93	310		P	P	00 26 04.8	+0.8		
ONI					IAmb	IAmb	00 26 26.1			
	comp=Z,170nm,1.2s									
ONI	Oni	72.93	310		P	P	00 26 04.8	+0.8		
ONI					pmax	pmax				
	comp=Z,170nm,1.2s									
F10A	Beach Ranch, E	72.99	46		P	P	00 26 04.6	+0.2		
ASHO	Ashiyiah	73.00	288		P	P	00 26 05.3	+0.6		
	SNR=24									
ASHO					P	P	00 26 05.3	+0.6		
	SNR=24									
ASHO	Ashiyiah	73.00	288	i	P	P	00 26 04.1	-0.5		
	SNR=27									
RAF	Rauma	73.00	334		eP	P	00 26 04.0	+0.1		
BSY	Bisya	73.08	286		P	P	00 26 05.3	+0.1		
	SNR=32									
BSY					P	P	00 26 05.3	+0.1		
	SNR=32									
NAZ	Nazwa, Dubai	73.15	289		P	P	00 26 05.9	+0.4		
	SNR=17									
NAZ					P	P	00 26 05.9	+0.4		
	SNR=17									
NAZ	Nazwa, Dubai	73.15	289	i	P	P	00 26 05.2	-0.3		
	SNR=16									
GDXM	Geysers	73.20	54		P	P	00 26 06.1	+0.4		
GDXM					IAmb	IAmb	00 26 12.9			
	comp=Z,126nm,1.4s									
WALA	Waterton Lakes	73.21	42		IAmb	IAmb	00 26 12.2			
	comp=Z,153nm,1.2s									
SUMG	Summit	73.21	0		IAmb	IAmb	00 26 14.0			
	comp=Z,105nm,0.8s									
SUMG	Summit	73.21	0	i	P	P	00 26 04.0	-1.6		
SUMG					IAmb	IAmb	00 26 12.5			
	comp=Z,3µm,3.1s									
MOD	Modoc Plateau	73.23	51		IAmb	IAmb	00 26 12.0			
	comp=Z,127nm,1.2s									
ARQ	Araqi	73.32	287		P	P	00 26 07.6	+1.0		
	SNR=25									
ARQ					P	P	00 26 07.6	+1.0		
	SNR=25									
FAQ	Al Faqa, Dubai	73.33	289		P	P	00 26 06.6	+0.1		
	SNR=17									
FAQ					P	P	00 26 06.6	+0.1		
	SNR=17									
FAQ	Al Faqa, Dubai	73.33	289	i	P	P	00 26 06.1	-0.5		
	SNR=48									
GNI	Garni	73.36	307		LR	LR	01 01 36.5			
	comp=Z,23µm,18.2s,baz=54,slow=38									
GNI	Garni	73.36	307		P	P	00 26 07.3	+0.6		
GNI	Garni	73.36	307		P	P	00 26 07.3	+0.6		
GNI					pmax	pmax				
	comp=Z,338nm,1.2s									
GNI					MLR	MLR				
	comp=Z,36µm,18.0s									
GNI	Garni	73.36	307		P	P	00 26 08.4	+1.7		
GNI					P	P	00 26 08.4	+1.7		
GNI	Garni	73.36	307		P	P	00 26 07.8	+1.1		
MHTO	MHTO	73.37	284		P	P	00 26 07.1	+0.3		
	SNR=31									
MHTO					P	P	00 26 07.1	+0.3		
	SNR=31									
MCCM	Marconi Confer	73.48	55		IAMs_20	IAMs_20	00 55 14.5			
	comp=Z,23µm,19.0s									
BMO	Blue Mountains	73.54	47		IAmb	IAmb	00 26 23.7			
	comp=Z,162nm,1.6s									
BMO					IAMs_20	IAMs_20	01 04 45.5			
	comp=Z,15µm,18.0s									
ALNE	Al Ain	73.56	288		P	P	00 26 08.6	+0.6		
	SNR=34									
ALNE					P	P	00 26 08.6	+0.6		
	SNR=34									
ALNE	Al Ain	73.56	288	i	P	P	00 26 07.3	-0.7		
	SNR=30									
ASUD	Al Ashush, Dub	73.60	289		P	P	00 26 08.8	+0.7		
	SNR=16									
ASUD					P	P	00 26 08.8	+0.7		
	SNR=16									
ASUD	Al Ashush, Dub	73.60	289	i	P	P	00 26 08.0	-0.1		
	SNR=44									
J08A	Circle Bar Ran	73.62	48		P	P	00 26 08.4	+0.3		
J08A					IAmb	IAmb	00 26 14.6			
	comp=Z,177nm,1.2s									
ORV	Oroville	73.68	53		IAmb	IAmb	00 26 23.9			
	comp=Z,148nm,1.4s									
NSS	Namsos	73.71	340		eP	P	00 26 01.7	-6.3		
NSS					IVmBBB		00 26 25.1			
	comp=Z,2µm,4.6s									
NSS					eS	SKiKP	00 35 36.7	-0.7		
NSS					IVMs_BB	IVMs_BB	01 02 53.3			
	comp=Z,27µm,15.9s									
JTMT	Jette	73.73	43		IAmb	IAmb	00 26 14.7			
	comp=Z,159nm,1.2s									
NUUG	Nuugaatsiaq	73.74	5	i	P	P	00 26 09.3	+1.2		
NUUG					IAmb	IAmb	00 26 47.1			
	comp=Z,653nm,3.0s									
MTSE	Matsula	73.74	331		eP	P	00 26 08.7	+0.3		
AJN	Ajban	73.90	289		P	P	00 26 10.3	+0.3		
	SNR=10									
AJN					P	P	00 26 10.3	+0.3		
	SNR=10									
AJN	Ajban	73.90	289	i	P	P	00 26 09.2	-0.7		
	SNR=12									
WVOR	Wild Horse Val	74.01	49		P	P	00 26 11.5	+1.0		
WVOR					IAmb	IAmb	00 26 26.8			
	comp=Z,210nm,1.5s									
WVOR	Wild Horse Val	74.01	49		P	P	00 26 11.5	+1.0		
WVOR					pmax	pmax				
	comp=Z,210nm,1.5s									
RAO	Raoul Island	74.04	144		LR	LR	00 59 23.0			
	comp=Z,17µm,18.0s,baz=7.0,slow=36									
RAO	Raoul Island	74.04	144		P	P	00 26 09.7	-0.7		
RAO	Raoul Island	74.04	144		IAMs_20	IAMs_20	01 00 14.1			
	comp=Z,24µm,18.0s									
RAO	Raoul Island	74.04	144		P	P	00 26 09.7	-0.7		
RAO					pmax	pmax				
	comp=Z,302nm,1.0s									
RAO					MLR	MLR				
	comp=Z,24µm,18.0s									
PLID	Pearl Lake	74.19	46		IAMs_20	IAMs_20	01 00 35.8			
	comp=Z,17µm,18.0s									
KARS	Kars	74.19	309		P	P	00 26 12.6	+1.0		
KARS	Kars	74.19	309		P	P	00 26 12.6	+1.0		
KARS					pmax	pmax				
	comp=Z,558nm,1.4s									
DQM	DQM	74.26	284		P	P	00 26 14.4	+2.3		
	SNR=12									
DQM					P	P	00 26 14.4	+2.3		
	SNR=12									
BEKR	Beckworth	74.26	52		IAmb	IAmb	00 26 17.8			
	comp=Z,165nm,1.4s									
AFDM	Forest Hills D	74.34	53		P	P	00 26 13.0	+0.6		
AFDM					IAmb	IAmb	00 26 28.2			
	comp=Z,207nm,1.7s									
PLTX	Planet X, Gerl	74.40	51		P	P	00 26 12.8	+0.1		
PLTX					IAmb	IAmb	00 26 19.0			
	comp=Z,206nm,1.3s									
MSO	Missoula	74.43	44		IAmb	IAmb	00 26 28.4			
	comp=Z,152nm,1.5s									
MSO	Missoula	74.43	44		P	P	00 26 13.4	+0.6		
	baz=304,SNR=31									
MSO					S	S	00 35 46.8	-0.5		
	baz=304									
SCO	Scoresbysund	74.64	354		P	P	00 26 12.9	-0.5		
SCO					IAMs_20	IAMs_20	01 04 31.5			
	comp=Z,19µm,18.0s									
SCO	Scoresbysund	74.64	354		P	P	00 26 12.9	-0.5		
SCO					pmax	pmax				
	comp=Z,868nm,1.8s									
SCO	Scoresbysund	74.64	354		eP	P	00 26 13.8	+0.3		
SCO					IAmb	IAmb	00 26 23.8			
	comp=Z,16µm,5.7s									
MNK	Minsk	74.68	326		i P	P	00 26 15.5	+1.6		
MNK					i		00 26 29.3			
MNK					i		00 29 02.4			
MNK					i PPP	PPP	00 30 48.0			
MNK					i S	S	00 35 52.1	+2.5		
MNK					i		00 36 27.2			
MNK					i SS	SS	00 40 41.4	+5.4		
MNK					pmax	pmax				
	comp=Z,127nm,1.0s									
MNK					pmax	pmax				
	comp=E,18nm,1.2s									
MNK					MLR	MLR				
	comp=E,5µm,19.0s									
MNK					MLR	MLR				
	comp=Z,28µm,19.0s									
MNK	Minsk	74.68	326		i P	P	00 26 15.6	+1.6		
	comp=E,18nm,1.2s									
MNK					i P	P	00 26 15.6	+1.6		
MNK					i P	P	00 26 15.6	+1.6		
	comp=Z,127nm,1.1s,baz=52									
MNK					i PcP	PcP	00 26 29.4	+1.2		
MNK					i PP	PP	00 29 02.5	+2.1		
MNK					i PPP	PPP	00 30 48.1			
MNK					i S	S	00 35 52.1	+2.5		
MNK					i SS	SS	00 40 41.5	+5.4		
MNK					i SSS	SSS	00 44 18.4			
MNK					i LQ	LQ	00 54 10.9			
MNK					i LR	LR	00 59 17.3			
MNK					i LRM	MLR	01 01 28.7			
	comp=E,5µm,18.5s									
MNK					i LRM	MLR	01 01 28.7			
	comp=N,1.0nm,14.1s									
MNK					i LRM	MLR	01 01 28.7			
	comp=Z,28µm,18.5s									
UMZA	Um Al Zommool	74.71	287		P	P	00 26 13.9	-0.7		
UMZA					P	P	00 26 13.9	-0.7		
SOC	Sochi	74.72	313	c	i P	P	00 26 14.1	-0.3		
SOC					e		00 29 01.7			
SOC					ePPP	PPP	00 30 48.6			
SOC					eS	S	00 35 53.6	+3.2		
SOC					eSS	SS	00 40 38.5	+1.4		
SOC					pmax	pmax				
	comp=Z,102nm,1.1s									
SOC					MLR	MLR				
	comp=Z,23µm,19.0s									
MPK	Martis Peak	74.78	53		P	P	00 26 15.5	+0.3		
MPK					IAmb	IAmb	00 26 27.6			
	comp=Z,252nm,1.3s									
ISAL	Salakas	74.80	328		eP	P	00 26 15.4	+0.8		
EMB	Emerald Bay	74.91	53		P	P	00 26 15.9	+0.1		
EMB					IAmb	IAmb	00 26 31.9			
	comp=Z,196nm,1.3s									
NACGM	Naroch	74.93	327	⇓	i P	P	00 26 16.1	+0.7		
PAHR	Pah Rah Range	74.99	52		IAmb	IAmb	00 26 22.1			
	comp=Z,134nm,1.3s									
VCNR	Virginia City	75.03	53		P	P	00 26 17.4	+0.8		
SLIT	Slitere, Latvi	75.07	331		eP	P	00 26 15.8	-0.2		
TBLU	Trondheim	75.17	339		eP	P	00 26 12.9	-3.7		
TBLU					IVmBBB		00 26 22.3			
	comp=Z,2µm,2.9s									
TBLU					eS	S	00 35 51.0	-3.8		
TBLU					IVMs_BB	IVMs_BB	01 06 03.4			
	comp=Z,25µm,16.2s									
PNTR	Pine Nut	75.17	53		P	P	00 26 18.2	+0.8		
SAO	San Andreas Ge	75.17	56		P	P	00 26 17.0	-0.1		
SAO					IAMs_20	IAMs_20	00 58 19.3			
	comp=Z,18µm,18.0s									
SAO	San Andreas Ge	75.17	56		P	P	00 26 17.0	-0.1		
SAO					pmax	pmax				
	comp=Z,91nm,1.3s									
MZWR	Madinat Zayed	75.18	289		P	P	00 26 19.0	+1.6		
MZWR					P	P	00 26 19.0	+1.6		
MFID	Camas Ranch	75.21	47		IAmb	IAmb	00 26 23.6			
	comp=Z,186nm,1.4s									
MFID					IAMs_20	IAMs_20	01 05 51.9			
	comp=Z,19µm,18.0s									
CMB	Columbia Colle	75.22	54		IAmb	IAmb	00 26 23.4			
	comp=Z,160nm,1.2s									
CMB					IAMs_20	IAMs_20	00 55 46.3			
	comp=Z,21µm,19.0s									
ANN	Anapa	75.41	314	i	P	P	00 26 17.6	-0.7		
ANN					e		00 29 06.3			
ANN					ePPP	PPP	00 30 54.6			
ANN					eS	S	00 35 59.6	+1.6		
ANN					eSS	SS	00 40 49.2	+1.7		
ANN					pmax	pmax				
	comp=N,40nm,0.9s									
ANN					pmax	pmax				
	comp=Z,226nm,1.1s									
ANN					pmax	pmax				
	comp=E,32nm,0.7s									
ANN					pmax	pmax				
	comp=E,792nm,6.0s									
ANN					pmax	pmax				
	comp=Z,5µm,7.9s									
ANN					pmax	pmax				
	comp=N,2µm,7.3s									
ANN					smax	smax				
	comp=N,7µm,12.1s									
ANN					smax	smax				
	comp=E,680nm,4.1s									
GEVA	Gevas	75.44	307		P	P	00 26 19.3	+0.4		
YERR	Yerington	75.47	53		IAmb	IAmb	00 26 35.1			
	comp=Z,210nm,1.3s									
VSVD	Vaisvydziai	75.48	329		eP	P	00 26 19.7	+1.2		
OUZ	Omahuta	75.53	153		P	P	00 26 20.1	+1.3		
OUZ					IAmb	IAmb	00 26 36.5			
	comp=Z,197nm,1.5s									
BBGB	Big Mountain B	75.55	56		P	P	00 26 18.2	-1.3		
BBGB					IAmb	IAmb	00 26 25.6			
	comp=Z,212nm,1.2s									
FFC	Flin Flon	75.75	32		P	P	00 26 19.4	-0.7		
FFC					IAmb	IAmb	00 26 25.9			
	comp=Z,140nm,1.1s									
FFC	Flin Flon	75.75	32		IAMs_20	IAMs_20	01 03 01.5			
	comp=Z,15µm,18.0s									
FFC	Flin Flon	75.75	32		P	P	00 26 19.4	-0.7		
FFC					pmax	pmax				
	comp=Z,140nm,1.2s									
FFC					MLR	MLR				
	comp=Z,15µm,18.0s									
PABE	Paberze	75.78	329		IAmb	IAmb	00 26 27.0			
	comp=Z,162nm,1.4s									
PABE	Paberze	75.78	329		eP	P	00 26 20.3	+0.1		
GHWR	Ruwais	75.86	289		P	P	00 26 21.8	+0.6		
MZR	Muzera	75.89	288		P	P	00 26 23.0	+1.5		
	SNR=27									
MZR	Muzera	75.89	288	i	P	P	00 26 20.8	-0.7		
	SNR=47									
PMPB	Monarch Peak	75.91	56		P	P	00 26 20.8	-0.6		
PMPB					IAmb	IAmb	00 26 53.1			
	comp=Z,161nm,1.4s									
HLID	Hailey	75.98	47		P	P	00 26 22.0	+0.1		
HLID					IAMs_20	IAMs_20	01 05 59.3			
	comp=Z,19µm,20.0s									
HLID	Hailey	75.98	47		P	P	00 26 23.2	+1.3		
	baz=304,SNR=57									
HLID					S	S	00 36 06.7	+1.8		
	baz=304									
BMN	Battle Mountai	75.99	51		IAmb	IAmb	00 26 38.4			
	comp=Z,249nm,1.5s									
GURO	Guroymak-BITLI	75.99	307		IAmb	IAmb	00 26 29.5			
	comp=Z,257nm,1.5s									
EGMT	Eagleton	76.07	41		IAmb	IAmb	00 26 38.6			
	comp=Z,231nm,1.4s									
EGMT					IAMs_20	IAMs_20	01 04 58.3			
	comp=Z,18µm,20.0s									
EGMT	Eagleton	76.07	41		P	P	00 26 22.5	+0.3		
	baz=306,SNR=25									
EGMT					S	S	00 36 04.8	-0.7		
	baz=306									
RYN	Ryan	76.13	53		P	P	00 26 23.3	+0.5		
RYN					IAmb	IAmb	00 26 38.2			
	comp=Z,104nm,1.1s									
BCYI	Bear Canyon	76.16	46		P	P	00 26 23.3	+0.4		
ILULI	Ilulissat	76.17	5		P	P	00 26 23.1	+0.9		
ILULI					IAmb	IAmb	00 26 28.6			
	comp=Z,220nm,1.5s									
ILULI	Ilulissat	76.17	5		P	P	00 26 23.1	+0.9		
ILULI					pmax	pmax				
	comp=Z,220nm,1.5s									
ILULI	Ilulissat	76.17	5	i	P	P	00 26 20.6	-1.6		
ILULI					IAmb	IAmb	00 26 28.0			
	comp=Z,226nm,1.5s									
KVN	Kaiserville	76.18	52		P	P	00 26 23.4	+0.3		
KVN					IAmb	IAmb	00 26 39.2			
	comp=Z,201nm,1.4s									
KVN	Kaiserville	76.18	52		P	P	00 26 23.4	+0.3		
KVN					pmax	pmax				
	comp=Z,201nm,1.4s									
KOPT	Kop Dagi	76.18	309		P	P	00 26 23.7	+0.5		
MCMT	McKenzie Canyo	76.19	45		P	P	00 26 24.1	+0.9		
PBUR	Paburge	76.29	330		eP	P	00 26 23.7	+0.6		
MDPB	Devils Postpil	76.31	54		P	P	00 26 24.1	+0.2		
SHMA	Al-Shehemyia	76.34	292		P	P	00 26 23.2	-0.8		
LHV	Little Huntoon	76.35	53		P	P	00 26 25.0	+1.2		
LHV					IAmb	IAmb	00 26 40.6			
	comp=Z,210nm,1.2s									
OMMB	Old Mammoth Mi	76.37	54		P	P	00 26 24.5	+0.1		
NVAR	Mina Array Bea	76.38	53		P	P	00 26 23.8	-0.6		
	comp=Z,64nm,1.1s,baz=293,slow=5.7,SNR=

BOZ **Bozeman (W)** **76.45 44** P **P** **00 26 25.3 +0.8**
baz=306,SNR=59
BOZ S **S** **00 36 10.4 +0.5**
baz=306
HFS **Hagfors** **76.46 336** LR LR 01 04 11.7
comp=Z,85µm,18.4s,baz=31,slow=39
DOMB **Dombas** **76.46 339** *eP* **P** **00 26 24.1 0.0**
DOMB *eS* **S** **00 36 09.6 +0.3**
DOMB IVMs_BB IVMs_BB 01 04 30.3
comp=Z,30µm,16.6s
AK05 **Malin Array Si** **76.46 323** P **P** **00 26 23.8 -0.5**
AK05 IAmb IAmb 00 26 30.6
comp=Z,229nm,1.6s
MLAC **Mammoth, Mammo** **76.47 54** P **P** **00 26 26.1 +1.2**
baz=303
MLAC S **S** **00 36 12.4 +1.8**
baz=303
NV11 **Mina Array Sit** **76.48 53** IAmb IAmb 00 26 40.9
comp=Z,206nm,1.8s
MOL **Molde** **76.48 340** IVmBBB 00 26 31.1
comp=Z,2µm,3.7s
MOL *eS* **S** **00 36 09.1 -0.2**
MOL IVMs_BB IVMs_BB 01 07 36.6
comp=Z,19µm,16.2s
NC204 **NORSAR Array S** **76.54 338** P **P** **00 26 23.9 -0.7**
NB2 **NORSAR Subarra** **76.58 338** P **P** **00 26 23.7 -1.1**
comp=Z,203nm,1.1s,baz=38,slow=5.9
NB2 **NORSAR Subarra** **76.58 338** P **P** **00 26 23.7 -1.1**
baz=38,slow=5.9
NOA **NORSAR Array B** **76.58 338** P **P** **00 26 23.4 -1.4**
comp=Z,18nm,0.7s,baz=40,slow=5.7,SNR=68
NOA PP **PP** **00 29 16.5 +0.3**
comp=Z,11nm,1.0s,baz=42,slow=8.6,SNR=6.0
NOA LR LR 01 05 04.3
comp=Z,53µm,18.2s,baz=35,slow=40
comp=Z,18nm,0.7s
NC602 **NORSAR Array S** **76.71 337** P **P** **00 26 25.1 -0.3**
NC602 **NORSAR Array S** **76.71 337** *eP* **P** **00 26 23.0 -2.4**
NC602 IVmBBB 00 26 32.6
comp=Z,2µm,3.8s
NC602 *eS* **S** **00 36 13.4 +1.5**
NC602 IVMs_BB IVMs_BB 01 04 28.9
comp=Z,35µm,17.1s
ICESG **Greenland Ices** **76.71 0** *i* P **P** **00 26 25.2 -0.5**
ICESG IAmb IAmb 00 26 31.3
comp=Z,250nm,1.1s
SLWR **Sila** **76.72 290** P **P** **00 26 26.9 +0.7**
NBO00 **NORSAR Array S** **76.73 338** IAmb IAmb 00 26 33.0
comp=Z,133nm,0.9s
MOO **Moorlands** **76.74 176** P **P** **00 26 28.8 +3.2**
SHAO **Shalim** **76.80 283** P **P** **00 26 27.6 +0.9**
SHAO **Shalim** **76.80 283** P **P** **00 26 26.4 -0.3**
VOG **Valley Oaks Go** **76.81 55** P **P** **00 26 26.9 +0.4**
baz=303
VOG S **S** **00 36 13.2 -0.6**
baz=303
NAO01 **NORSAR Array S** **76.84 338** P **P** **00 26 25.1 -1.1**
Q09A **Carvers** **76.89 52** P **P** **00 26 28.2 +1.1**
Q09A IAmb IAmb 00 27 15.4
comp=Z,164nm,1.4s
SMMC **Simmler** **76.94 56** P **P** **00 26 27.7 +0.4**
baz=303
SMMC S **S** **00 36 16.3 +0.8**
baz=303
AKN **Aaknes** **76.95 340** *eP* **P** **00 26 25.0 -1.8**
AKN IVmBBB 00 26 34.7
comp=Z,2µm,3.5s
AKN *eS* **S** **00 36 15.6 +1.1**
AKN IVMs_BB IVMs_BB 01 04 43.7
comp=Z,30µm,16.3s
QLMT **Earthquake Lak** **77.01 44** P **P** **00 26 28.3 +0.6**
ELK **Elko** **77.07 49** LR LR 00 56 59.0
comp=Z,6µm,19.5s,baz=345,slow=33
ELK **Elko** **77.07 49** P **P** **00 26 28.4 +0.3**
ELK IAmb IAmb 00 26 44.7
comp=Z,220nm,1.6s
ELK **Elko** **77.07 49** P **P** **00 26 28.5 +0.3**
ELK pmax pmax
comp=Z,220nm,1.6s
YHL **Hebgen Lake** **77.14 44** P **P** **00 26 27.7 -0.9**
YHL IAmb IAmb 00 26 45.0
comp=Z,204nm,1.6s
DSP **Deep Springs** **77.19 53** P **P** **00 26 29.1 +0.6**
DSP IAmb IAmb 00 26 45.1
comp=Z,213nm,1.7s
TIN **Tinemaha, Big** **77.19 54** P **P** **00 26 29.9 +1.1**
baz=304
TIN S **S** **00 36 19.3 +1.1**
baz=304
YHB **Horse Butte** **77.19 44** P **P** **00 26 28.6 -0.2**
YHB IAmb IAmb 00 26 36.0
comp=Z,136nm,1.4s
TAU **Tasmania Unive** **77.22 176** P **P** **00 26 27.8 -0.5**
TAU IAmb IAmb 00 26 44.1
comp=Z,132nm,1.4s
TAU **Tasmania Unive** **77.22 176** IAMs_20 IAMs_20 01 00 55.9
comp=Z,21µm,18.0s
TAU **Tasmania Unive** **77.22 176** P **P** **00 26 27.8 -0.5**
TAU pmax pmax
comp=Z,132nm,1.5s
TAU MLR MLR
comp=Z,21µm,18.0s
TAU **Tasmania Unive** **77.22 176** P **P** **00 26 31.5 +3.2**
SIM **Simferopol'** **77.25 316** *eP* **P** **00 26 30.9 +2.1**
SIM *e* 00 29 26.4
SIM *eS* **S** **00 36 21.3 +3.0**
SIM *eSS* **SS** **00 41 22.7 +7.3**
SIM pmax pmax
comp=Z,160nm,1.0s
SIM smax smax
comp=N,540nm,6.2s
VES **Vestal, Richgr** **77.28 55** P **P** **00 26 29.6 +0.4**
baz=303,SNR=7.3
VES S **S** **00 36 19.8 +0.9**
baz=303
TPH **Tonopah** **77.29 53** P **P** **00 26 29.0 -0.4**
TPH **Tonopah** **77.29 53** P **P** **00 26 29.0 -0.4**
TPH pmax pmax
comp=Z,892nm,1.4s
PKM **Mcpherson Peak** **77.30 56** P **P** **00 26 31.4 +1.9**
baz=303,SNR=9.9
PKM S **S** **00 36 20.6 +0.9**
baz=303
YHH **Holmes Hill** **77.37 44** P **P** **00 26 29.6 -0.3**
YMR **Madison River** **77.38 44** P **P** **00 26 30.9 +1.1**
YMR IAmb IAmb 00 26 47.3
comp=Z,237nm,1.5s
MZP **Montezuma Peak** **77.39 53** P **P** **00 26 30.6 +0.5**
SOEG **Soedalen** **77.47 357** *i* P **P** **00 26 29.7 +0.1**
SOEG IAmb IAmb 00 26 43.5
comp=Z,461nm,1.7s
LCH **Last Change Ra** **77.48 53** IAmb IAmb 00 26 48.3
comp=Z,152nm,1.7s
YNM **Yellowstone No** **77.49 44** P **P** **00 26 32.8 +2.3**
YNM IAmb IAmb 00 26 47.6
comp=Z,137nm,1.3s
YNR **Norris Junctio** **77.51 44** P **P** **00 26 31.1 +0.5**
BCW **Bitter Crk WRg** **77.55 56** P **P** **00 26 31.7 +0.9**
BCW IAmb IAmb 00 26 47.2
comp=Z,155nm,1.2s
YFT **Old Faithful** **77.58 44** P **P** **00 26 32.7 +1.7**
OSL **Oslo** **77.59 337** *eP* **P** **00 26 27.6 -2.7**
OSL IVmBBB 00 26 37.9
comp=Z,3µm,4.2s
OSL *eS* **S** **00 36 22.4 +1.1**
OSL IVMs_BB IVMs_BB 01 05 04.1
comp=Z,34µm,17.3s
YUF **Upper Falls** **77.61 44** P **P** **00 26 31.8 +0.6**
YUF IAmb IAmb 00 27 20.0
comp=Z,206nm,1.7s
SBC **Santa Barbara** **77.61 57** P **P** **00 26 31.7 +0.7**
baz=303
SBC S **S** **00 36 23.5 +0.8**
baz=303
CWC **Cottonwood Cre** **77.63 54** P **P** **00 26 31.2 -0.1**
baz=304
CWC S **S** **00 36 22.9 -0.2**
baz=304
DOK **Doka** **77.68 284** P P 00 26 39.0 +7.4
SNR=7.0
GMN **Gold Mountain** **77.69 53** P **P** **00 26 30.2 -1.6**
YPP **Pitchstone Pla** **77.70 44** P **P** **00 26 31.9 +0.1**
YPP IAmb IAmb 00 27 04.0
comp=Z,203nm,1.5s
H17A **Grant Village** **77.76 44** P **P** **00 26 33.8 +1.8**
H17A **Grant Village** **77.76 44** P **P** **00 26 34.0 +2.0**
baz=306,SNR=100
H17A S **S** **00 36 31.5 +7.0**
baz=306
LKWY **Lake** **77.76 44** P **P** **00 26 33.4 +1.4**
LKWY **Lake** **77.76 44** P **P** **00 26 33.4 +1.4**
LKWY pmax pmax
comp=Z,295nm,1.6s
LKWY MLR MLR
comp=Z,36µm,20.0s
SKAR **Skarslia** **77.76 339** *eP* **P** **00 26 30.8 -0.6**
SKAR IVmBBB 00 26 49.0
comp=Z,3µm,4.9s
SKAR *eS* **S** **00 36 25.4 +1.9**
SKAR IVMs_BB IVMs_BB 01 04 59.9
comp=Z,30µm,17.3s
ISA **Isabella, Lake** **77.79 55** P **P** **00 26 32.9 +0.8**
ISA **Isabella, Lake** **77.79 55** P **P** **00 26 32.9 +0.8**
ISA pmax pmax
comp=Z,57nm,1.4s
ISA **Isabella, Lake** **77.79 55** P **P** **00 26 31.6 -0.5**
baz=304,SNR=10
ISA S **S** **00 36 23.3 -1.4**
baz=304
GRAC **Grapevine Rang** **77.79 54** P **P** **00 26 32.5 +0.5**
GRAC IAmb IAmb 00 26 49.4
comp=Z,259nm,1.6s
GRAC **Grapevine Rang** **77.79 54** P **P** **00 26 34.6 +2.6**
baz=304,SNR=10.0
GRAC S **S** **00 36 23.8 -0.8**
baz=304
YMP **Mirror Lake Pl** **77.80 44** P **P** **00 26 33.0 +0.7**
YMP IAmb IAmb 00 27 09.2
comp=Z,175nm,1.3s
ARVC **Arvin** **77.84 56** P **P** **00 26 31.6 -0.7**
baz=304
ARVC S **S** **00 36 27.0 +1.9**
baz=304
IMW **Indian Meadow** **77.85 45** P **P** **00 26 32.2 -0.3**
IMW IAmb IAmb 00 26 39.4
comp=Z,172nm,1.2s
SCZ2 **Santa Cruz Isl** **77.91 57** P **P** **00 26 33.4 +0.7**
baz=304
FXWY **Fox Creek** **77.95 45** IAmb IAmb 00 26 49.8
comp=Z,236nm,1.6s
FOO **Floro** **77.97 340** *eP* **P** **00 26 30.8 -1.6**
FOO IVmB_BB 00 26 57.1
comp=Z,2µm,8.1s
FOO *eS* **S** **00 36 27.7 +2.3**
FOO IVMs_BB IVMs_BB 01 05 25.1
comp=Z,21µm,16.3s
HVU **Hansel Valley** **78.00 47** IAmb IAmb 00 26 49.8
comp=Z,187nm,1.3s
HYA **Hoyanger** **78.00 340** *eP* **P** **00 26 36.8 +4.2**
HYA IAmb IAmb 00 26 49.4
comp=Z,125nm,1.1s
HYA *eS* **S** **00 36 29.9 +4.1**
HYA IVMs_BB IVMs_BB 01 05 23.2
comp=Z,27µm,16.5s
MOOW **Moose Ponds** **78.05 45** IAmb IAmb 00 26 50.4
comp=Z,199nm,1.4s
RLMT **Red Lodge** **78.07 43** IAmb IAmb 00 26 50.2
comp=Z,202nm,1.6s
RLMT IAMs_20 IAMs_20 01 07 33.4
comp=Z,17µm,18.0s
RLMT **Red Lodge** **78.07 43** P **P** **00 26 35.2 +1.5**
baz=307,SNR=43
RLMT S **S** **00 36 27.0 -0.7**
baz=307
TPAW **Teton Pass** **78.08 45** IAmb IAmb 00 26 41.2
comp=Z,191nm,1.6s
ECR **Eagle Creek** **78.09 46** P **P** **00 26 33.8 -0.1**
KONO **Kongsberg** **78.17 337** P **P** **00 26 33.1 -0.5**
KONO **Kongsberg** **78.17 337** P **P** **00 26 33.1 -0.5**
KONO pmax pmax
comp=Z,66nm,1.2s
KONO MLR MLR
comp=Z,55µm,19.0s
KONO **Kongsberg** **78.17 337** *eP* **P** **00 26 34.8 +1.2**
KONO IVmBBB 00 26 50.8
comp=Z,2µm,4.5s
KONO *eS* **S** **00 36 28.7 +1.0**
KONO IVMs_BB IVMs_BB 01 07 40.0
comp=Z,24µm,16.0s
OSI **Osito Audit: C** **78.20 56** P **P** **00 26 34.2 -0.2**
baz=304
OSI S **S** **00 36 30.7 +1.6**
baz=304
R11A **Troy Canyon, C** **78.20 52** IAmb IAmb 00 26 41.4
comp=Z,175nm,1.5s
R11A **Troy Canyon, C** **78.20 52** P **P** **00 26 35.5 +1.0**
baz=305,SNR=112
R11A S **S** **00 36 31.8 +2.5**
baz=305
LOHW **Long Hollow** **78.21 45** IAmb IAmb 00 26 46.7
comp=Z,147nm,1.6s
SNOW **Snow King Moun** **78.21 45** IAmb IAmb 00 26 41.2
comp=Z,117nm,1.1s
REDW **Red Top Meadow** **78.21 45** P **P** **00 26 33.7 -0.8**
REDW IAmb IAmb 00 26 51.9
comp=Z,173nm,1.4s
REDW IAMs_20 IAMs_20 01 05 12.0
comp=Z,13µm,18.0s
RBK **Rabkut** **78.22 283** P **P** **00 26 38.0 +3.3**
SNR=7.2
MPMC **Manual Prospec** **78.24 54** P **P** **00 26 35.7 +1.0**
baz=304,SNR=23
MPMC S **S** **00 36 29.7 0.0**
baz=304
BGU **Big Grassy Mou** **78.33 48** P **P** **00 26 35.4 +0.3**
BGU IAmb IAmb 00 26 54.0
comp=Z,158nm,1.4s
WHFO **Wadi Hawf** **78.34 284** P **P** **00 26 33.4 -2.0**
CCAC **Calif City Air** **78.39 55** P **P** **00 26 35.5 +0.1**
SFJD **Kangerlussuaq** **78.39 5** LR LR 01 05 50.4
comp=Z,20µm,18.0s,baz=354,slow=39
SFJD **Kangerlussuaq** **78.39 5** P **P** **00 26 35.6 +0.9**
SFJD IAmb IAmb 00 26 40.2
comp=Z,106nm,1.1s
SFJD **Kangerlussuaq** **78.39 5** IAMs_20 IAMs_20 01 05 20.7
comp=Z,22µm,18.0s
SFJD **Kangerlussuaq** **78.39 5** P **P** **00 26 35.6 +0.9**
SFJD pmax pmax
comp=Z,106nm,1.2s
SFJD MLR MLR
comp=Z,22µm,18.0s
SFJD **Kangerlussuaq** **78.39 5** *i* P **P** **00 26 34.8 +0.1**
SFJD IAmb IAmb 00 26 39.6
comp=Z,133nm,1.2s
SNCC **San Nicolas Is** **78.40 58** P **P** **00 26 36.7 +1.3**
baz=304
SNCC S **S** **00 36 32.4 +1.2**
baz=304
AHID **Auburn Hatcher** **78.42 46** IAmb IAmb 00 26 51.9
comp=Z,140nm,1.4s
AHID IAMs_20 IAMs_20 01 08 06.7
comp=Z,15µm,18.0s
FURC **Furnace Creek,** **78.42 54** P **P** **00 26 36.2 +0.7**
baz=304,SNR=5.5
FURC S **S** **00 36 30.8 -0.5**
baz=304
LRMC **Laurel Mtn Rad** **78.43 55** P **P** **00 26 36.5 +0.8**
baz=304
LRMC S **S** **00 36 33.1 +1.4**
baz=304
SPUT **South Promonto** **78.47 48** P **P** **00 26 36.4 +0.5**
SPUT IAmb IAmb 00 26 53.4
comp=Z,243nm,1.5s
SUE **Sulen** **78.49 340** *eP* **P** **00 26 34.8 -0.5**
SUE IVmBBB 00 26 43.2
comp=Z,3µm,3.7s
SUE *eS* **S** **00 36 33.1 +2.0**
SUE IVMs_BB IVMs_BB 01 06 05.1
comp=Z,26µm,14.9s
S11A **Rachel** **78.50 52** P **P** **00 26 36.8 +0.7**
DIKM **Dikmen** **78.52 313** ⇑P **P** **00 26 38.3 +2.3**
RAR **Rarotonga** **78.55 126** LR LR 00 58 58.7
comp=Z,22µm,18.9s,baz=310,slow=34
RAR **Rarotonga** **78.55 126** IAMs_20 IAMs_20 00 58 57.3
comp=Z,27µm,19.0s
EDW2 **Edwards Air Fo** **78.55 56** P **P** **00 26 37.8 +1.5**
baz=304
EDW2 S **S** **00 36 34.4 +1.5**
baz=304
TPNV **Topopah Spring** **78.56 53** P **P** **00 26 37.8 +1.3**
TPNV IAmb IAmb 00 26 53.5
comp=Z,252nm,1.4s
TPNV IAMs_20 IAMs_20 01 00 55.8
comp=Z,20µm,19.0s
TPNV **Topopah Spring** **78.56 53** P **P** **00 26 37.8 +1.3**
TPNV pmax pmax
comp=Z,252nm,1.4s
TPNV MLR MLR
comp=Z,20µm,19.0s
TPNV **Topopah Spring** **78.56 53** P **P** **00 26 37.5 +1.0**
baz=305,SNR=14
TPNV S **S** **00 36 34.4 +1.2**
baz=305
SPR3 **Spring Creek 3** **78.63 50** P **P** **00 26 37.7 +0.7**
SPR3 IAmb IAmb 00 26 44.5
comp=Z,170nm,1.4s
PURM **Purcari** **78.66 319** ⇑P **P** **00 26 37.5 +0.9**
DECC **Green Verdugo** **78.67 56** P **P** **00 26 35.9 -1.0**
baz=304
DECC S **S** **00 36 36.2 +2.1**
baz=304
QSM **Queen of Sheba** **78.70 54** IAmb IAmb 00 26 53.0
comp=Z,198nm,1.5s
GWY **Greenwater Val** **78.71 54** IAmb IAmb 00 27 05.5
comp=Z,236nm,1.5s
DGMT **Dagmar** **78.72 38** P **P** **00 26 37.5 +0.5**
DGMT IAmb IAmb 00 26 43.0
comp=Z,200nm,1.4s
DGMT **Dagmar** **78.72 38** P **P** **00 26 35.3 -1.6**
baz=310
DGMT S **S** **00 36 32.1 -2.1**
baz=310
DGMT **Dagmar** **78.72 38** P **P** **00 26 37.1 +0.1**
baz=310,SNR=7.9
DGMT S **S** **00 36 34.5 +0.4**
baz=310
LAO **LASA Array** **78.79 41** P **P** **00 26 38.2 +0.8**
LAO IAmb IAmb 00 26 43.5
comp=Z,160nm,1.2s
LAO IAMs_20 IAMs_20 01 05 15.2
comp=Z,16µm,18.0s
LAO **LASA Array** **78.79 41** P **P** **00 26 38.7 +1.3**
baz=309
LAO S **S** **00 36 35.5 +0.5**
baz=309
LAO **LASA Array** **78.79 41** P **P** **00 26 38.3 +0.9**
baz=309,SNR=5.5
LAO S **S** **00 36 33.7 -1.2**
baz=309
PASC **Pasadena Art C** **78.82 56** P **P** **00 26 38.7 +1.0**
PASC IAmb IAmb 00 27 05.8
comp=Z,218nm,1.8s
ASK **Askoy** **78.84 340** *eP* **P** **00 26 41.2 +3.9**
ASK IVmBBB 00 26 54.6
comp=Z,6µm,4.4s
BER **Bergen** **78.88 340** *eP* P 00 26 32.5 -5.0
BER IVmBBB 00 26 46.2
comp=Z,2µm,5.1s
BER *eS* **S** **00 36 36.6 +1.4**
BER IVMs_BB IVMs_BB 01 05 49.4
comp=Z,32µm,16.9s
ODD1 **Odda** **78.88 339** *eP* **P** **00 26 38.9 +1.3**
ODD1 *eS* **S** **00 36 37.7 +2.3**
ODD1 IVMs_BB IVMs_BB 01 05 44.7
comp=Z,30µm,16.8s
DUG **Dugway, Tooele** **78.89 49** IAmb IAmb 00 26 44.6
comp=Z,234nm,1.2s
DUG **Dugway, Tooele** **78.89 49** P **P** **00 26 39.3 +1.1**
baz=306,SNR=141
DUG S **S** **00 36 38.4 +1.9**
baz=306
HIZ **Hauiti** **78.92 154** P **P** **00 26 38.8 +1.0**
HIZ IAmb IAmb 00 27 04.6
comp=Z,136nm,1.1s
HIZ IAMs_20 IAMs_20 01 07 53.9
comp=Z,24µm,18.0s
KIS **Kishinev** **78.93 320** ⇑*iP* **P** **00 26 34.0 -4.1**
comp=Z,1µm,8.6s
KIS *eS* **S** **00 36 32.0 -4.3**
KIS *eL* L 00 56 39.0
KIS LQM 00 59 18.0
comp=Z,22µm,17.0s
KIS LRM MLR 01 05 06.0
comp=Z,21µm,16.5s
KIS **Kishinev** **78.93 320** *ceP* P 00 26 24.0 -14
KIS *e* 00 26 53.0
KIS *eS* **S** **00 36 32.0 -4.3**
KIS *e* 00 36 50.0
KIS pmax pmax
comp=Z,1µm,8.6s
KIS MLR MLR
comp=Z,44µm,16.5s
MILM **Milestii Mici** **78.98 320** ⇓P **P** **00 26 37.6 -0.7**
MILM **Milestii Mici** **78.98 320** *ciP* **P** **00 26 34.0 -4.3**
MILM *e* 00 26 53.0
MILM *eS* **S** **00 36 30.5 -6.3**
MILM pmax pmax
comp=Z,3µm,6.6s
MILM MLR MLR
comp=Z,108µm,16.3s
MILM MLR MLR
comp=N,22µm,16.7s
MILM MLR MLR
comp=E,63µm,15.7s
FMP **Fort Macarthur** **79.00 57** P **P** **00 26 39.1 +0.5**
baz=304
FMP S **S** **00 36 36.3 -1.2**
baz=304
ABTO **Aybut** **79.03 283** P **P** **00 26 38.3 -0.8**
SNR=10
PRN **Pahroc Range** **79.09 52** P **P** **00 26 39.2 -0.1**
PRN IAmb IAmb 00 26 46.3
comp=Z,132nm,1.2s
CIS **Catalina Islan** **79.09 57** P **P** **00 26 39.4 +0.1**
baz=304
CIS S **S** **00 36 37.9 -0.7**
baz=304
BZK **Bozkurt** **79.09 314** P **P** **00 26 38.8 -0.2**
GSC **Goldstone, Bar** **79.12 55** P **P** **00 26 40.1 +0.6**
GSC IAmb IAmb 00 26 55.3
comp=Z,256nm,1.9s
GSC **Goldstone, Bar** **79.12 55** P **P** **00 26 40.1 +0.6**
GSC pmax pmax
comp=Z,255nm,2.0s
GSC **Goldstone, Bar** **79.12 55** P **P** **00 26 40.1 +0.6**
baz=305
GSC S **S** **00 36 39.2 +0.2**
baz=305
SHOC **Shoshone, Teco** **79.14 54** P **P** **00 26 40.4 +0.9**
baz=305
SHOC S **S** **00 36 39.8 +0.8**
baz=305
BFSC **Mount Baldy Ra** **79.14 56** P **P** **00 26 40.2 +0.5**
baz=304
BFSC S **S** **00 36 39.9 +0.6**
baz=304
DY2G **Dye2** **79.16 3** *i* P **P** **00 26 39.2 -0.1**
DY2G IAmb IAmb 00 26 46.0
comp=Z,1µm,2.2s
FRB **Frobisher Bay** **79.20 13** LR LR 01 05 04.7
comp=Z,22µm,18.8s,baz=345,slow=38
PSUT **Pine Spring** **79.21 51** IAmb IAmb 00 26 57.0
comp=Z,173nm,1.3s
RRX **Edison Barstow** **79.23 55** P **P** **00 26 41.0 +0.9**
baz=305
RRX S **S** **00 36 39.2 -0.8**
baz=305
SCI2 **San Clemente I** **79.23 57** P **P** **00 26 40.2 +0.2**
baz=304
CTU **Camp Tracy** **79.26 48** P **P** **00 26 40.9 +0.6**
CTU IAmb IAmb 00 26 46.4
comp=Z,206nm,1.3s
BLS5 **Blasjo** **79.33 338** *eP* **P** **00 26 40.9 +0.8**
BLS5 IVmBBB 00 26 57.2
comp=Z,3µm,5.6s
BLS5 *eS* **S** **00 36 41.5 +1.4**
BLS5 IVMs_BB IVMs_BB 01 05 57.3
comp=Z,36µm,17.3s
BW06 **Boulder Array** **79.33 45** P **P** **00 26 40.5 -0.2**
baz=307,SNR=32
BW06 S **S** **00 36 40.2 -1.1**
baz=307
PDAR **Pinedale Array** **79.33 45** P **P** **00 26 40.0 -0.6**
comp=Z,20nm,1.0s,baz=272,slow=4.3,SNR=38
PDAR PP **PP** **00 29 41.2 +1.2**
comp=Z,2.8nm,1.1s,baz=302,slow=5.2,SNR=1.7
PDAR PKKPbc **PKKPbc** **00 45 31.9 +2.0**
comp=Z,0.5nm,0.7s,baz=111,slow=4.0,SNR=3.7
comp=Z,20nm,1.0s
MXZ **Matakaoa Point** **79.40 151** P **P** **00 26 39.4 -1.1**

IAS Iasi 79.47 321 ⇑P P **00 26 43.9 +2.9**
NLU North Lily Min 79.49 49 P P **00 26 41.1 -0.5**
NLU IAmb IAmb 00 26 57.9
comp=Z,118nm,1.1s
JLU Jordanelle 79.50 48 P P **00 26 41.1 -0.5**
JLU IAmb IAmb 00 26 58.1
comp=Z,261nm,1.4s
LVV L'vov 79.52 324 ⇓*i*P P **00 26 41.5 +0.2**
LVV *e* 00 29 43.8
LVV *e*S S **00 36 39.1 -3.4**
LVV *e* 00 37 46.8
LVV *e* 00 41 54.1
LVV pmax pmax
comp=Z,300nm,1.4s
LVV MLR MLR
comp=N,40μm,17.0s
LVV MLR MLR
comp=E,33μm,17.0s
LVV MLR MLR
comp=Z,46μm,17.0s
SHPR Sheep Range 79.53 53 pP 00 26 43.2 -0.6
URZ Urewera 79.53 152 LR LR 00 57 42.1
comp=Z,7μm,21.6s,baz=59,slow=32
URZ Urewera 79.53 152 P P **00 26 41.3 +0.1**
URZ IAMs_20 IAMs_20 01 06 54.1
comp=Z,14μm,18.0s
HOMB Homborsund 79.61 337 *e*P P **00 26 41.2 -0.3**
HOMB IVmBBB 00 26 48.8
comp=Z,2μm,3.1s
HOMB *e*S S **00 36 44.4 +1.4**
HOMB IVMs_BB IVMs_BB 01 06 04.1
comp=Z,28μm,17.4s
BBRC Big Bear Solar 79.63 56 P P **00 26 41.7 -0.7**
baz=305
BBRC S S **00 36 44.8 +0.1**
baz=305
ELS Elsinore Mount 79.63 56 P P **00 26 42.1 -0.1**
ELS IAmb IAmb 00 26 54.5
comp=Z,206nm,1.8s
TUQ Turquoise Moun 79.64 54 P P **00 26 42.6 +0.2**
baz=305
BEL Belsk 79.66 327 *e*P P **00 26 42.5 +0.5**
BEL *e*PP PP 00 29 50.0 +7.9
BEL *e*S S **00 36 46.8 +3.0**
BEL *e*SS SS **00 41 41.0 -10**
BEL *e*L L 01 04 56.2
comp=Z,55μm,17.5s
HEC Hector,Ludlow 79.71 55 P P **00 26 42.1 -0.5**
baz=305
HEC S S **00 36 45.2 0.0**
baz=305
MPU Maple Canyon 79.73 48 P **00 26 42.4 -0.4**
BSD Bornholm Skovb 79.75 332 *e*P P **00 26 42.2 -0.2**
BSD Bornholm Skovb 79.75 332 *i*P P **00 26 41.0 -1.4**
BSD IAmb IAmb 00 26 47.2
comp=Z,144nm,1.1s
OVD Ostervraa, Den 79.79 336 *i*P P **00 26 40.9 -1.6**
OVD IAmb IAmb 00 27 08.9
comp=Z,176nm,1.0s
ILGA Ilgaz 79.81 313 P P **00 26 44.0 +0.7**
WTNK Soaring Height 79.81 53 P P **00 26 43.0 -0.2**
WTNK IAmb IAmb 00 26 50.1
comp=Z,44nm,1.3s
MURC Murrieta 79.82 56 P P **00 26 42.2 -1.0**
baz=305
MURC S S **00 36 44.7 -1.6**
baz=305
SNART Snartemo 79.97 338 *e*P P **00 26 44.6 +1.1**
SNART *e*S S **00 36 48.7 +1.8**
TCRU Three Creeks R 80.06 50 P P **00 26 45.4 +0.6**
TCRU IAmb IAmb 00 26 55.2
comp=Z,159nm,1.1s
BKZ Black Stump Fm 80.09 153 P P **00 26 43.8 -0.6**
BKZ IAMs_20 IAMs_20 01 00 30.9
comp=Z,17μm,20.0s
BKZ Black Stump Fm 80.09 153 P P **00 26 48.2 +3.9**
CCUT Cedar City 80.09 51 IAmb IAmb 00 26 51.3
comp=Z,166nm,1.3s
GKP Gorka Klasztor 80.17 330 *e*P P **00 26 44.6 -0.1**
GKP *e*PP PP **00 29 47.2 +0.9**
GKP *e*S S **00 36 51.8 +2.6**
GKP *e*SS SS **00 42 03.1 +4.4**
GKP *e*L L 01 06 18.0
comp=Z,83μm,17.2s
GKP Gorka Klasztor 80.17 330 *e*P P **00 26 44.2 -0.4**
BORG Borgarnes 80.17 353 LR LR 01 05 52.4
comp=Z,14μm,18.0s,baz=360,slow=38
BORG Borgarnes 80.17 353 IAMs_20 IAMs_20 01 05 59.0
comp=Z,19μm,18.0s
QRZ Quartz Range 80.18 157 P P **00 26 42.1 -2.6**
QRZ IAMs_20 IAMs_20 01 04 32.8
comp=Z,15μm,19.0s
V12A Nelson 80.19 53 P **00 26 45.9 +0.6**
GMRC Granite Mounta 80.19 55 P P **00 26 46.1 +0.8**
baz=305,SNR=17
GMRC S S **00 36 50.7 +0.3**
baz=305
ANGG Ammassalik, Gr 80.21 360 P P **00 26 45.3 +0.7**
ANGG IAmb IAmb 00 26 56.9
comp=Z,161nm,1.3s
ANGG Ammassalik, Gr 80.21 360 *i*P P **00 26 43.5 -1.1**
ANGG IAmb IAmb 00 26 56.4
comp=Z,152nm,1.3s
SZCU Shurtz Canyon 80.25 51 P P **00 26 45.5 -0.2**
SZCU IAmb IAmb 00 26 52.5
comp=Z,141nm,1.3s
COP Copenhagen 80.26 334 *i*P P **00 26 44.3 -0.8**
COP IAmb IAmb 00 27 01.3
comp=Z,258nm,0.9s
MVU Marysvale 80.27 50 P P **00 26 46.4 +0.5**
KWP Kalwaria Pacla 80.28 325 *e*P P **00 26 46.1 +0.7**
KWP *e*PP PP **00 29 51.5 +4.1**
KWP *e*S S **00 36 49.5 -1.1**
KWP *e*L L 01 06 40.4
comp=Z,81μm,17.1s
109C Camp Elliot, M 80.28 57 P P **00 26 45.5 -0.2**
109C IAMs_20 IAMs_20 01 00 21.6
comp=Z,19μm,19.0s
109C Camp Elliot, M 80.28 57 P P **00 26 45.3 -0.4**
baz=305
109C S S **00 36 51.3 +0.1**
baz=305
MSU Marysvale 80.28 50 P P **00 26 46.6 +0.7**
MSU Marysvale 80.28 50 P P **00 26 46.6 +0.7**
PFO Pinyon Flats O 80.32 56 LR LR 00 59 19.4
comp=Z,38μm,19.0s,baz=316,slow=33
PFO Pinyon Flats O 80.32 56 P P **00 26 45.0 -1.0**
PFO IAmb IAmb 00 26 52.5
comp=Z,182nm,1.6s
PFO Pinyon Flats O 80.32 56 P P **00 26 45.0 -1.0**
PFO pmax pmax
comp=Z,182nm,1.6s
PFO Pinyon Flats O 80.32 56 P P **00 26 45.5 -0.6**
baz=305,SNR=15
PFO S S **00 36 51.4 -0.4**
baz=305
TPFO Pinon Flats 80.32 56 P P **00 26 45.2 -0.9**
baz=305,SNR=14
TPFO S S **00 36 51.4 -0.4**
baz=305
GOET G??ttrup 80.34 336 *i*P P **00 26 45.3 -0.2**
GOET IAmb IAmb 00 27 02.2
comp=Z,6μm,4.5s
PMD Palm Desert 80.35 56 P P **00 26 46.5 +0.4**
PMD IAmb IAmb 00 26 52.4
comp=Z,130nm,1.4s
TESR Tescani 80.39 321 ⇑P P **00 26 45.2 -0.8**
BIZ Bicaz 80.39 321 ⇓P P **00 26 46.2 +0.1**
BURAR Bucovina Array 80.40 322 ⇑P P **00 26 46.3 +0.1**
BELC Belle Mtn. Jos 80.41 55 P P **00 26 46.8 +0.2**
baz=305,SNR=14
BELC S S **00 36 49.6 -3.1**
baz=305
TMUT Trail Mountain 80.42 49 IAmb IAmb 00 26 53.7
comp=Z,130nm,1.2s
CFR Carcaliu 80.45 319 ⇑P P **00 26 47.8 +1.5**
LCMT Little Creek M 80.49 52 P P **00 26 47.5 +0.6**
LCMT IAmb IAmb 00 26 53.3
comp=Z,213nm,1.3s
TPGR Topolog 80.50 318 ⇓P P **00 26 47.0 +0.3**
MTPU Mount Pierson 80.56 50 P P **00 26 47.3 -0.3**
MTPU IAmb IAmb 00 27 05.2
comp=Z,276nm,1.5s
P17A Butcher Ranch, 80.61 48 P P **00 26 47.6 0.0**
BR131 Keskin Array S 80.66 312 IAmb IAmb 00 27 04.7
comp=Z,157nm,1.2s
BRTR Keskin Array B 80.66 312 P P **00 26 46.9 -0.9**
comp=Z,18nm,0.7s,baz=113,slow=3.9,SNR=46
BRTR PP PP **00 29 52.2 +1.3**
comp=Z,4.2nm,0.9s,baz=64,slow=9.8,SNR=2.2
BRTR PKPPKP P'P'df **00 53 35.4 -1.6**
comp=Z,0.4nm,0.7s,baz=252,slow=2.9,SNR=3.9
BRTR LR LR 01 07 41.4
comp=Z,22μm,19.4s,baz=44,slow=40
comp=Z,18nm,0.7s
BRTR Keskin Array B 80.66 312 *ce*P P **00 26 47.5 -0.3**
BRTR pmax pmax
comp=Z,29nm,0.7s
Q16A Castle Valley 80.67 49 P P **00 26 48.0 0.0**
BAR Barrett 80.70 57 P P **00 26 47.9 -0.1**
MONP2 Monument Peak 80.75 57 P P **00 26 49.8 +1.3**
baz=305
MONP2 S S **00 36 56.6 +0.1**
baz=305
KNB Kanab 80.76 51 P P **00 26 49.1 +0.7**
KNB Kanab 80.76 51 P P **00 26 49.1 +0.7**
KNB pmax pmax
comp=Z,467nm,1.3s
TIRR Tirgusor 80.76 318 P P **00 26 47.8 -0.2**
TIRR IAmb IAmb 00 27 02.7
comp=Z,186nm,1.2s
TIRR Tirgusor 80.76 318 P P **00 26 47.8 -0.2**
TIRR pmax pmax
comp=Z,186nm,1.2s
TIRR MLR MLR
comp=Z,109μm,20.0s
VRI Vrincioaia 80.76 320 ⇑P P **00 26 49.8 +1.7**
RGN Rugen 80.79 332 P P **00 26 47.8 -0.2**
RGN IAmb IAmb 00 27 14.5
comp=Z,165nm,1.1s
TKX Tecate 80.81 57 P P **00 26 47.9 -0.7**
NNZ Nelson 80.81 156 P P **00 26 48.9 +0.8**
P18A Preston Nutter 80.82 48 P P **00 26 49.2 +0.3**
MUD Monsted U'grnd 80.82 335 *i*P P **00 26 46.2 -1.9**
MUD IAmb IAmb 00 27 04.4
comp=Z,99nm,1.2s
PKCU Pink Cliffs 80.83 51 P P **00 26 49.1 +0.1**
PKCU IAmb IAmb 00 27 19.7
comp=Z,329nm,1.7s
HARR Harsova 80.88 319 ⇑P P **00 26 49.5 +0.8**
IRM Iron Mountain 80.90 55 P P **00 26 49.7 +0.6**
baz=306,SNR=12
IRM S S **00 36 57.9 +0.3**
baz=306
NEE2 Needles Airpor 80.90 54 P P **00 26 49.1 +0.1**
baz=306
NEE2 S S **00 36 57.9 +0.4**
baz=306
CBX Cerro Bola 80.92 57 P P **00 26 50.0 +0.7**
KOLS Kolonicke sedl 80.97 324 *e*P P **00 26 50.8 +1.7**
KOLS pmax pmax
comp=Z,25nm,0.9s
KOLS Kolonicke sedl 80.97 324 *e*P P **00 26 50.8 +1.7**
BC3 Big Chuckawall 80.98 55 P P **00 26 50.1 +0.6**
baz=306,SNR=11
BC3 S S **00 36 58.9 +0.3**
baz=306
COVR Voineasa-Covas 81.05 320 ⇑P P **00 26 49.9 +0.2**
ANTO Ankara 81.08 312 ⇑P P **00 26 51.3 +1.3**
ANTO Ankara 81.08 312 P P **00 26 50.6 +0.6**
ANTO Ankara 81.08 312 IAMs_20 IAMs_20 01 04 28.5
comp=Z,17μm,20.0s
ANTO Ankara 81.08 312 P P **00 26 50.6 +0.6**
ANTO pmax pmax
comp=Z,75nm,0.9s
ANTO MLR MLR
comp=Z,17μm,20.0s
ANTO Ankara 81.08 312 P P **00 26 50.3 +0.3**
NUUK Nuuk 81.08 6 *i*P P **00 26 49.6 +0.2**
NUUK IAmb IAmb 00 26 55.3
comp=Z,304nm,1.6s
IKP In-Ko-Pah, Jac 81.11 57 P P **00 26 50.3 0.0**
baz=305,SNR=11
IKP S S **00 37 00.2 +0.2**
baz=305
OZUR 81.11 321 ⇑P P **00 26 50.0 +0.1**
BR231 Keskin MP Arra 81.11 312 P P **00 26 50.7 +0.5**
THZ Tophouse 81.15 157 P P **00 26 50.8 +0.9**
THZ IAmb IAmb 00 27 09.6
comp=Z,175nm,1.3s
THZ IAMs_20 IAMs_20 01 05 11.8
comp=Z,16μm,18.0s
SWSC Sam W. Stewart 81.15 56 P P **00 26 50.5 +0.2**
baz=305
SWSC S S **00 37 02.2 +2.0**
baz=305
K22A Casper 81.16 44 IAmb IAmb 00 27 07.9
comp=Z,240nm,1.3s
K22A Casper 81.16 44 P P **00 26 50.7 +0.3**
baz=309
K22A S S **00 36 58.2 -2.1**
baz=309
K22A Casper 81.16 44 P P **00 26 50.9 +0.5**
baz=309,SNR=40
K22A S S **00 36 59.7 -0.6**
baz=309
UZH Uzhgorod 81.17 324 *e*P P **00 26 48.3 -1.8**
UZH *i* 00 26 55.0
UZH *e* 00 29 49.6
UZH *e*PPP PPP 00 31 47.1
UZH *i*S S **00 36 53.3 -6.5**
UZH MLR MLR
comp=N,17μm,15.0s
UZH MLR MLR
comp=E,19μm,15.0s
UZH MLR MLR
comp=Z,6μm,15.0s
CCX Cicese 81.17 57 P P **00 26 49.9 -0.6**
ARCR ARCALIA 81.19 322 ⇑P P **00 26 51.9 +1.6**
W13A Hualapai Mount 81.19 53 P P **00 26 50.8 0.0**
TUWZ Tuamarina 81.19 156 P P **00 26 50.3 +0.3**
OJC Ojcow 81.23 326 *e*L L 01 07 10.0
comp=Z,71μm,16.6s
OJC Ojcow 81.23 326 P P **00 26 49.9 -0.6**
OJC IAmb IAmb 00 27 06.3
comp=Z,155nm,1.3s
OJC Ojcow 81.23 326 P P **00 26 49.9 -0.6**
OJC pmax pmax
comp=Z,155nm,1.3s
OJC Ojcow 81.23 326 *e*P P **00 26 49.3 -1.2**
OJC Ojcow 81.23 326 *e*PP PP 00 29 53.7 -1.5
OJC Ojcow 81.23 326 *e*S S **00 36 58.6 -1.9**
OJC Ojcow 81.23 326 *e*SS SS 00 42 25.9 +11
YUH Yuha Desert 81.24 56 P P **00 26 51.2 +0.4**
YUH IAmb IAmb 00 27 06.5
comp=Z,131nm,1.4s
BFZ Birch Farm 81.33 154 P P **00 26 51.3 +0.5**
BFZ IAMs_20 IAMs_20 01 07 49.8
comp=Z,19μm,18.0s
BFZ Birch Farm 81.33 154 P P **00 26 51.6 +0.8**
SNZO South Karori 81.35 155 IAMs_20 IAMs_20 01 08 46.2
comp=Z,16μm,18.0s
RWWY Rawlins 81.37 45 IAmb IAmb 00 26 57.1
comp=Z,207nm,1.2s
RWWY IAMs_20 IAMs_20 01 08 41.6
comp=Z,13μm,19.0s
CRVS Cervenica-Dubn 81.38 325 *e*P P **00 26 51.5 +0.2**
CRVS pmax pmax
comp=Z,284nm,1.8s
CRVS Cervenica-Dubn 81.38 325 *e*P P **00 26 51.5 +0.2**
CRVS Cervenica-Dubn 81.38 325 *e*S S **00 37 01.8 -0.3**
CRVS *e*SS SS **00 42 17.6 +0.7**
CRVS *e*L L 01 07 36.5
TRPA Tarpa 81.39 324 P P **00 26 51.6 +0.3**
DOPR Dopca 81.40 321 ⇓P P **00 26 51.9 +0.4**
MLR Muntele Rosu 81.42 320 LR LR 01 06 43.5
comp=Z,70μm,18.2s,baz=36,slow=38
MLR Muntele Rosu 81.42 320 P P **00 26 52.5 +0.7**
MLR IAmb IAmb 00 27 39.0
comp=Z,306nm,2.0s
MLR Muntele Rosu 81.42 320 P P **00 26 52.5 +0.7**
MLR pmax pmax
comp=Z,306nm,2.0s
MLR MLR MLR
comp=Z,89μm,18.0s
BSWZ Blackbirch Sta 81.43 156 P P **00 26 50.3 -1.0**
MDND Maddock 81.44 37 P P **00 26 51.3 -0.4**
MDND IAmb IAmb 00 27 07.7
comp=Z,150nm,1.0s
MDND Maddock 81.44 37 P P **00 26 52.0 +0.3**
baz=313
MDND S S **00 37 00.7 -2.1**
baz=313
MDND Maddock 81.44 37 P P **00 26 51.8 +0.1**
baz=313
MDND S S **00 37 01.7 -1.0**
baz=313
U15A North Rim 81.45 52 P P **00 26 51.9 -0.4**
U15A IAmb IAmb 00 27 08.7
comp=Z,269nm,1.6s
PDMCI Parker Dam,Lak 81.49 54 P P **00 26 52.5 +0.4**
baz=306,SNR=22
PDMCI S S **00 37 06.8 +3.1**
baz=306
ULM Lac du Bonnet 81.53 33 P P **00 26 51.1 -0.9**
comp=Z,51nm,1.2s,baz=302,slow=6.4,SNR=12
ULM S S **00 37 00.6 -2.9**
comp=Z,1.2nm,0.5s,baz=59,slow=10,SNR=1.4
ULM LR LR 01 10 34.4
comp=Z,9μm,18.8s,baz=345,slow=41
comp=Z,51nm,1.2s
ULM Lac du Bonnet 81.53 33 P P **00 26 51.5 -0.5**
ULM IAmb IAmb 00 26 56.7
comp=Z,115nm,1.3s
ULM Lac du Bonnet 81.53 33 P P **00 26 51.5 -0.5**
ULM pmax pmax
comp=Z,115nm,1.3s
BLYC Blythe 81.55 55 P P **00 26 51.7 -0.7**
BLYC IAmb IAmb 00 27 08.5
comp=Z,209nm,1.6s
NIE Niedzica 81.56 326 *e*P P **00 26 53.5 +1.2**
NIE *e*PP PP **00 30 02.9 +4.8**
NIE *e*S S **00 37 06.0 +1.9**
NIE *e*SS SS 00 42 33.2 +13
CMWZ Cape Campbell 81.57 156 P P **00 26 51.2 -0.9**
ESJX Sierra Juarez 81.59 57 P P **00 26 53.1 +0.1**
ESJX IAmb IAmb 00 26 58.9
comp=Z,148nm,1.2s
RSSD Black Hills 81.61 42 P P **00 26 52.1 -0.8**
RSSD IAmb IAmb 00 27 08.3
comp=Z,139nm,1.6s
RSSD Black Hills 81.61 42 IAMs_20 IAMs_20 01 10 15.9
comp=Z,16μm,18.0s
RSSD Black Hills 81.61 42 P P **00 26 52.1 -0.8**
RSSD pmax pmax
comp=Z,139nm,1.6s
RSSD Black Hills 81.61 42 P P **00 26 53.4 +0.6**
baz=310
RSSD S S **00 37 02.8 -2.3**
baz=310
RSSD Black Hills 81.61 42 P P **00 26 52.7 -0.1**
baz=310
RSSD S S **00 37 03.8 -1.3**
baz=310
MSWZ Moikau Station 81.63 155 P P **00 26 53.1 +0.7**
O20A White River Ci 81.72 47 P P **00 26 53.4 -0.2**
O20A IAmb IAmb 00 27 04.2
comp=Z,179nm,1.2s
O20A White River Ci 81.72 47 P P **00 26 54.2 +0.7**
baz=308,SNR=72
O20A S S **00 37 05.6 -0.8**
baz=308
E28A Huff 81.75 38 P P **00 26 54.2 +0.9**
E28A IAmb IAmb 00 27 08.8
comp=Z,167nm,1.4s
E28A Huff 81.75 38 P P **00 26 55.0 +1.7**
baz=312
E28A S S **00 37 05.2 -0.9**
baz=312
GLA Glamis 81.75 56 P P **00 26 53.2 -0.4**
GLA IAmb IAmb 00 26 59.6
comp=Z,113nm,1.2s
GLA Glamis 81.75 56 P P **00 26 53.2 -0.4**
GLA pmax pmax
comp=Z,113nm,1.2s
GLA Glamis 81.75 56 P P **00 26 54.5 +0.9**
baz=306,SNR=14
GLA S S **00 37 06.5 -0.1**
baz=306
PLWZ Palliser 81.77 155 P P **00 26 52.1 -1.1**
RAYN Ar Rayn 81.77 293 P P **00 26 53.1 -0.7**
RAYN Ar Rayn 81.77 293 IAMs_20 IAMs_20 01 08 22.4
comp=Z,15μm,19.0s
RAYN Ar Rayn 81.77 293 P P **00 26 53.2 -0.7**
RAYN pmax pmax
comp=Z,426nm,1.6s
RAYN Ar Rayn 81.77 293 P P **00 26 54.3 +0.4**
RAYN Ar Rayn 81.77 293 *i*P P **00 26 53.5 -0.4**
SNR=34
FOZ Fox Glacier 81.81 160 P P **00 26 52.7 -0.5**
MESR Meseseni 81.85 323 ⇓P P **00 26 56.0 +2.2**
LTZ Lake Taylor 81.87 158 P P **00 26 53.8 +0.1**
KHZ Kahutara 81.94 157 P P **00 26 52.6 -1.4**
KHZ IAMs_20 IAMs_20 01 05 29.8
comp=Z,13μm,18.0s
PRD Provadia 82.13 318 P P **00 26 55.0 -0.3**
LANS Liptovska Anna 82.14 326 *e*P P **00 26 58.0 +2.7**
LANS pmax pmax
comp=Z,67nm,1.9s
LANS Liptovska Anna 82.14 326 *e*P P **00 26 58.0 +2.7**
RUE Ruedersdorf 82.17 331 *e*P P **00 26 55.3 0.0**
ARR Arges 82.20 321 ⇑P P **00 26 57.1 +1.4**
LTVH Ltavrtes, Hu 82.21 323 P P **00 26 57.7 +2.0**
DRCR 82.22 323 ⇓P P **00 26 57.6 +1.8**
OKC Ostrava-Krasne 82.25 327 *e*P P **00 26 57.1 +1.3**
OKC *e* 00 37 16.2
OKC MLR MLR
comp=Z,57μm,16.0s
OKC Ostrava-Krasne 82.25 327 *e*P P **00 26 57.1 +1.3**
OKC *e*S S **00 37 16.2 +5.2**
OKC AMS AMS 01 11 00.0
comp=Z,57μm,16.0s
PV21 Cone Mtn., Par 82.25 48 P P **00 26 55.9 -0.5**
OXZ Oxford 82.29 158 P P **00 26 55.7 -0.2**
OXZ IAmb IAmb 00 27 10.5
comp=Z,236nm,1.8s
OXZ IAMs_20 IAMs_20 00 59 34.9
comp=Z,16μm,19.0s
PV23 Carpenter Ridg 82.30 48 P P **00 26 56.7 0.0**
KSP Ksiaz 82.34 329 *e*P P **00 26 56.7 +0.4**
KSP *e*PP PP **00 30 04.7 +0.4**
KSP *e*S S **00 37 14.4 +2.5**
KSP *e*SS SS **00 42 33.9 +2.8**
KSP *e*L L 01 07 12.0
comp=Z,43μm,19.7s
RPZ Rata Peaks 82.34 159 P P **00 26 55.6 -0.5**
comp=Z,2.6nm,0.6s,baz=34,slow=3.6,SNR=2.3
RPZ LR LR 01 07 42.4
comp=Z,8μm,18.0s,baz=328,slow=39
comp=Z,2.6nm,0.6s
RPZ Rata Peaks 82.34 159 P P **00 26 56.5 +0.4**
RPZ IAmb IAmb 00 27 13.4
comp=Z,182nm,2.0s
RPZ IAMs_20 IAMs_20 00 59 02.6
comp=Z,14μm,20.0s
PV22 Blue Mesa, Par 82.38 48 P P **00 26 57.9 +0.8**
PV20 West Nyswonger 82.39 48 P P **00 26 56.9 -0.2**
Y14A Wickenburg 82.46 54 P P **00 26 57.2 -0.1**
BORA Eskisehir 82.49 314 P P **00 26 57.2 -0.2**
PV07 Paradox Valley 82.53 48 P P **00 26 56.8 -1.1**
MORC Moravsky Berou 82.57 327 ⇑P P **00 26 57.7 +0.2**
MORC Moravsky Berou 82.57 327 P P **00 26 57.0 -0.6**
MORC Moravsky Berou 82.57 327 ⇑*i*P P **00 26 57.8 +0.2**
MORC Moravsky Berou 82.57 327 *e*S S **00 37 16.0 +1.6**
MORC Moravsky Berou 82.57 327 P P **00 26 57.0 -0.6**
MORC pmax pmax
comp=Z,437nm,1.4s
OSTC Ostas 82.58 328 *e*P P **00 26 58.1 +0.5**
OSTC *e*S S **00 37 20.4 +6.0**
OSTC AMS AMS 01 09 30.0
comp=Z,48μm,15.0s
WUAZ Wupatki 82.59 52 IAMs_20 IAMs_20 01 03 29.4
comp=Z,17μm,19.0s
WUAZ Wupatki 82.59 52 P P **00 26 58.9 +0.8**
baz=307,SNR=36
WUAZ S S **00 37 17.7 +2.3**
baz=307
PV13 Radium Mtn., P 82.60 49 P P **00 26 57.5 -0.7**
N23A Red Feather La 82.61 45 P P **00 26 57.8 -0.4**
N23A Red Feather La 82.61 45 P P **00 26 59.2 +1.0**
baz=310,SNR=184
N23A S S **00 37 18.8 +3.2**
baz=310
PHWY Pilot Hill 82.63 44 P P **00 26 57.2 -1.2**
PHWY IAmb IAmb 00 27 04.9

comp=Z,169nm,1.4s
CHVC Chvalec 82.63 328 AMS AMS 01 09 40.0
comp=Z,41µm,15.5s
113A Mohawk Valley, 82.64 55 P **P** **00 26 58.6 +0.4**
DPC Dobruska-Polom 82.69 328 *e*P **P** **00 26 57.1 -1.1**
DPC *e* 00 37 17.3
DPC MLR MLR
comp=Z,44µm,14.7s
DPC Dobruska-Polom 82.69 328 *e*P **P** **00 26 57.1 -1.1**
DPC *e*S **S** **00 37 17.3 +1.7**
DPC AMS AMS 01 09 40.0
comp=Z,44µm,14.7s
KRLC Kraliky 82.69 328 *e*P **P** **00 26 58.8 +0.6**
KRLC MLR MLR
comp=Z,58µm,15.9s
KRLC Kraliky 82.69 328 *e*P **P** **00 26 58.8 +0.6**
KRLC *e*S **S** **00 37 21.8 +6.2**
KRLC AMS AMS 01 10 40.0
comp=Z,58µm,15.9s
PV15 Paradox Valley 82.69 48 P **P** **00 26 58.4 -0.3**
LBZ Lake Benmore 82.70 160 P **P** **00 26 57.1 -0.8**
LBZ IAmb IAmb 00 27 13.2
comp=Z,134nm,1.4s
LBZ IAMs_20 IAMs_20 00 58 04.1
comp=Z,16µm,20.0s
UPC Upice 82.71 328 *e*P **P** **00 26 59.5 +1.3**
UPC *e* 00 37 21.2
UPC MLR MLR
comp=Z,46µm,14.9s
UPC Upice 82.71 328 *e*P **P** **00 26 59.5 +1.3**
UPC *e*S **S** **00 37 21.2 +5.5**
UPC AMS AMS 01 09 40.0
comp=Z,46µm,14.9s
COPA Copaceanca 82.71 319 ⇓P **P** **00 26 59.5 +1.1**
MAUC Maruska 82.74 327 *e*P **P** **00 26 59.5 +1.1**
MAUC *e*SKS **S** **00 37 22.1 +6.0**
MAUC AMS AMS 01 08 00.0
comp=Z,107µm,16.1s
WKZ Wanaka 82.78 161 P **P** **00 26 57.4 -1.0**
WKZ IAMs_20 IAMs_20 00 58 14.8
comp=Z,14µm,19.0s
PSZ Piszkesteto 82.81 325 ⇑P **P** **00 26 58.9 -0.1**
PSZ Piszkesteto 82.81 325 P **P** **00 26 59.0 +0.2**
PSZ IAmb IAmb 00 27 05.4
comp=Z,207nm,1.4s
PSZ Piszkesteto 82.81 325 P **P** **00 26 59.1 +0.2**
PSZ pmax pmax
comp=Z,207nm,1.4s
PSZ Piszkesteto 82.81 325 P **P** **00 27 00.3 +1.4**
MQZ McQueen's Vall 82.82 158 P **P** **00 26 59.1 +0.5**
MQZ IAmb IAmb 00 27 13.9
comp=Z,233nm,1.9s
DCZ Deep Cove 82.89 162 P **P** **00 26 57.7 -1.1**
SZH Strazhica 82.90 318 P **P** **00 26 58.0 -1.3**
VYHS Vyhne 82.90 326 *e*P **P** **00 26 59.5 +0.2**
VYHS pmax pmax
comp=Z,196nm,1.8s
VYHS Vyhne 82.90 326 *e*P **P** **00 26 59.4 +0.2**
VYHS Vyhne 82.90 326 *e*S **S** **00 37 16.0 -1.7**
VYHS *e*SS **SS** **00 42 48.3 +8.7**
VYHS *e*L L 01 09 09.2
SFX San Felipe 82.92 57 P **P** **00 26 59.9 +0.3**
SFX IAmb IAmb 00 27 05.4
comp=Z,76nm,1.1s
AGMN Agassiz Nation 82.92 35 P **P** **00 26 58.6 -0.8**
AGMN IAmb IAmb 00 27 03.9
comp=Z,94nm,1.2s
AGMN IAMs_20 IAMs_20 01 10 52.2
comp=Z,17µm,19.0s
AGMN Agassiz Nation 82.92 35 P **P** **00 26 59.0 -0.4**
baz=316,SNR=19
AGMN S **S** **00 37 13.1 -4.9**
baz=316
AGMN Agassiz Nation 82.92 35 P **P** **00 26 59.5 +0.1**
baz=316,SNR=19
AGMN S **S** **00 37 14.1 -3.9**
baz=316
MLZ Mavora Lakes 83.04 162 P **P** **00 26 58.9 -0.8**
MLZ IAMs_20 IAMs_20 01 11 18.6
comp=Z,21µm,18.0s
ASF Jabal al Asfar 83.06 304 LR LR 01 08 33.6
comp=Z,15µm,18.0s,baz=62,slow=39
JMB Yambol 83.06 318 P **P** **00 26 57.0 -3.2**
BSZH Besenyszg 83.07 324 ⇑P **P** **00 27 02.0 +1.9**
BSZH Besenyszg 83.07 324 P **P** **00 27 00.7 +0.6**
SIRR Siria 83.11 323 ⇓P **P** **00 27 01.0 +0.6**
GZR Gura Zlata 83.14 322 ⇓P **P** **00 27 00.4 -0.2**
JAVC Velka Javorina 83.17 327 ⇑*i*P **P** **00 27 02.1 +1.3**
JAVC Velka Javorina 83.17 327 *e*S **S** **00 37 24.7 +4.1**
D32A Dogwood Acres, 83.20 36 P **P** **00 27 01.2 +0.4**
PVCC Panska Ves 83.31 329 *e*P **P** **00 27 01.5 +0.2**
PVCC *e* 00 37 20.4
PVCC MLR MLR
comp=Z,68µm,15.4s
PVCC Panska Ves 83.31 329 *e*P **P** **00 27 01.5 +0.2**
PVCC *e*SKS **S** **00 37 20.4 -1.4**
PVCC AMS AMS 01 09 10.0
comp=Z,68µm,15.4s
BRG Berggiesshubel 83.31 330 *e*P **P** **00 27 01.6 +0.2**
BRG Amp 00 27 03.5
comp=Z,47nm,1.6s
BRG *i* x x 00 27 05.8
BRG Amp 00 27 07.3
comp=Z,69nm,1.4s
BRG *i* x x 00 27 13.6
BRG Amp 00 27 18.4
comp=Z,205nm,1.9s
BRG PP **PP** **00 30 14.0 +1.7**
BRG Amp 00 30 18.6
comp=Z,43nm,1.4s
BRG Berggiesshubel 83.31 330 SS SS 00 42 49.0 +3.5
BRG PKKP 00 45 29.4
BRG Amp 00 45 32.0
comp=Z,9.3nm,1.4s
BRG *ex* x 00 53 30.2
BRG Amp 00 53 31.9
comp=Z,3.4nm,1.1s
BRG Amp 01 09 51.0
comp=E,41nm,15.5s
BRG Amp 01 09 52.0
comp=N,37nm,16.9s
BRG Amp 01 09 55.0
comp=Z,80nm,15.9s
BRG Berggiesshubel 83.31 330 *e*P **P** **00 27 01.5 +0.2**
BRG *i* 00 27 05.7
BRG *i* 00 27 13.5
BRG 00 30 13.9
BRG S **S** **00 37 23.0 +1.2**
BRG PS 00 38 06.0
BRG SS **SS** **00 42 49.0 +3.5**
BRG pmax pmax
comp=Z,47nm,1.6s
BRG pmax pmax
comp=Z,43nm,1.4s
VRAC Vranov 83.33 327 ⇑P **P** **00 27 01.5 0.0**
VRAC Vranov 83.33 327 LR LR 01 08 56.5
comp=Z,33µm,18.7s,baz=26,slow=39
VRAC Vranov 83.33 327 ⇑*i*P **P** **00 27 02.1 +0.6**
VRAC Vranov 83.33 327 *e*S **S** **00 37 23.1 +1.0**
PPT Papeete 83.36 116 LR LR 01 06 32.9
comp=Z,16µm,18.1s,baz=310,slow=37
CLL Collm 83.37 330 IAmb IAmb 00 27 18.2
comp=Z,144nm,1.4s
CLL Collm 83.37 330 *e*P **P** **00 27 01.0 -0.6**
CLL *e* 00 27 13.0
CLL *e*S **S** **00 37 20.0 -2.3**
CLL pmax pmax
comp=Z,136nm,1.5s
CLL MLR MLR
comp=Z,45µm,17.5s
CLL Collm 83.37 330 *e*P **P** **00 27 01.0 -0.6**
comp=Z,136nm,1.5s
CLL *e*Plp 00 27 03.0
comp=Z,4µm,17.2s
CLL *e*Pmax 00 27 06.0
CLL *ex* x 00 27 13.0
comp=Z,184nm,1.5s
CLL *e*PP **PP** **00 30 11.0 -1.7**
CLL *ex* x 00 30 28.0
CLL *e*S **S** **00 37 20.0 -2.3**
comp=N,7µm,17.2s
CLL *e*S **S** **00 37 20.0 -2.3**
comp=E,7µm,19.2s
CLL *e*PS 00 38 11.0
CLL *e*PPS PPS 00 38 33.0
CLL *e*SS **SS** **00 42 51.0 +4.7**
CLL *e*SSS SSS 00 46 24.0
CLL *ex* x 00 47 36.0
CLL Lmax 01 13 00.0
PPT2 Papeete2 83.38 116 *e*P **P** **00 27 02.9 +0.8**
comp=E,1µm,21.0s
PPT2 Papeete2 83.38 116 *e*SS SS 00 42 48.9 -0.3
comp=E,4µm,25.5s
PPT2 Papeete2 83.38 116 *e*LR LR 00 53 10.4
comp=E,14µm,22.2s
EDRB Edirne 83.38 317 P **P** **00 27 01.4 -0.5**
PPTF Pamatai, Papee 83.38 116 P **P** **00 27 00.2 -2.0**
PPTF IAmb IAmb 00 27 09.2
comp=Z,182nm,1.4s
PPTF IAMs_20 IAMs_20 01 05 30.3
comp=Z,20µm,18.0s
MVCO Mesa Verde 83.39 49 P **P** **00 27 01.3 -1.0**
MVCO IAMs_20 IAMs_20 01 01 50.6
comp=Z,13µm,20.0s
MVCO Mesa Verde 83.39 49 P **P** **00 27 03.3 +1.0**
baz=309,SNR=89
MVCO S **S** **00 37 25.2 +1.7**
baz=309
ODZ Otahua Downs 83.44 160 P **P** **00 27 01.2 -0.5**
ODZ IAMs_20 IAMs_20 00 59 34.6
comp=Z,14µm,19.0s
WHZ Wether Hill Ro 83.49 162 P **P** **00 27 01.9 -0.1**
WHZ IAmb IAmb 00 27 19.6
comp=Z,132nm,2.0s
ISCO Idaho Springs 83.50 46 P **P** **00 27 02.0 -1.0**
ISCO IAMs_20 IAMs_20 01 10 37.2
comp=Z,16µm,19.0s
ISCO Idaho Springs 83.50 46 P **P** **00 27 02.0 -1.0**
ISCO pmax pmax
comp=Z,207nm,1.5s
ISCO Idaho Springs 83.50 46 P **P** **00 27 03.9 +1.0**
baz=310,SNR=65
ISCO Idaho Springs 83.50 46 P **P** **00 27 03.8 +0.8**
baz=310,SNR=65
ISCO S **S** **00 37 27.4 +2.6**
baz=310
BUD Budapest 83.53 325 P **P** **00 27 04.8 +2.3**
SMOL Smolenice 83.54 326 *e*P **P** **00 27 03.4 +0.9**
SMOL pmax pmax
comp=Z,74nm,1.4s
MMAI Mount Meron Ar 83.57 306 LR LR 01 08 52.8
comp=Z,31µm,18.1s,baz=268,slow=39
PIX Pinacate 83.57 56 P **P** **00 27 01.6 -1.4**
KRUC Moravsky 83.60 327 ⇑*i*P **P** **00 27 03.1 +0.2**
KRUC Moravsky 83.60 327 *e*S **S** **00 37 27.2 +2.4**
SRO Srobarova 83.63 325 *e*P **P** **00 27 04.0 +1.0**
SRO pmax pmax
comp=Z,191nm,1.7s
SRO Srobarova 83.63 325 *e*P **P** **00 27 04.0 +1.0**
GOPC GO Pecny, Ondr 83.68 329 *e*P **P** **00 27 02.7 -0.6**
GOPC *e* 00 37 28.1
GOPC MLR MLR
comp=Z,47µm,14.6s
GOPC GO Pecny, Ondr 83.68 329 *e*P **P** **00 27 02.7 -0.6**
GOPC *e*S **S** **00 37 28.1 +2.5**
GOPC AMS AMS 01 11 20.0
comp=Z,47µm,14.6s
HERR Herculane 83.68 321 ⇓P **P** **00 27 02.9 -0.5**
MODS Modra-Piesok 83.71 326 *e*P **P** **00 27 04.0 +0.5**
MODS pmax pmax
comp=Z,468nm,1.7s
MODS Modra-Piesok 83.71 326 *e*P **P** **00 27 04.0 +0.5**
MODS Modra-Piesok 83.71 326 *e*S **S** **00 37 28.9 +3.0**
MODS *e*SS **SS** **00 43 00.2 +8.7**
MODS *e*L L 01 09 06.2
PRU Pruhonice 83.73 329 *e*P **P** **00 27 03.2 -0.3**
PRU *e* 00 37 24.8
PRU MLR MLR
comp=Z,63µm,14.9s
PRU Pruhonice 83.73 329 *e*P **P** **00 27 03.2 -0.3**
PRU *e*PP PP 00 30 32.8 +17
PRU *e*SKS **S** **00 37 24.8 -1.2**
PRU AMS AMS 01 11 20.0
comp=Z,63µm,14.9s
ISP Isparta 83.75 312 P **P** **00 27 03.3 -0.7**
ISP IAmb IAmb 00 27 20.2
comp=Z,78nm,1.0s
ISP Isparta 83.75 312 IAMs_20 IAMs_20 01 09 54.0
comp=Z,21µm,19.0s
ISP Isparta 83.75 312 P **P** **00 27 03.3 -0.7**
ISP pmax pmax
comp=Z,78nm,1.0s
214A Organ Pipe Nat 83.77 55 P **P** **00 27 04.1 0.0**
214A IAmb IAmb 00 27 20.2
comp=Z,145nm,1.4s
214A Organ Pipe Nat 83.77 55 P **P** **00 27 05.6 +1.5**
baz=307,SNR=29
214A S **S** **00 37 29.0 +1.8**
baz=307
BAIL Bailesti 83.78 320 ⇓P **P** **00 27 05.0 +1.1**
TREC Trest 83.83 328 *e*P **P** **00 27 04.2 +0.1**
TREC *e* 00 37 29.6
TREC MLR MLR
comp=Z,55µm,15.5s
TREC Trest 83.83 328 *e*P **P** **00 27 04.2 +0.1**
TREC *e*S **S** **00 37 29.6 +2.4**
TREC AMS AMS 01 11 40.0
comp=Z,55µm,15.5s
B35A Bob, Littlefor 83.87 33 P **P** **00 27 03.1 -1.1**
B35A IAmb IAmb 00 27 09.0
comp=Z,109nm,1.2s
B35A Bob, Littlefor 83.87 33 P **P** **00 27 04.5 +0.3**
baz=317,SNR=23
W18A Petrified Fore 83.89 51 P **P** **00 27 04.4 -0.5**
W18A IAmb IAmb 00 27 21.1
comp=Z,158nm,1.4s
W18A Petrified Fore 83.89 51 P **P** **00 27 05.6 +0.7**
baz=308,SNR=15
W18A S **S** **00 37 33.0 +4.3**
baz=308
ZST Bratislava 83.92 326 *e*P **P** **00 27 06.1 +1.6**
ZST pmax pmax
comp=Z,1µm,2.4s
ZST Bratislava 83.92 326 *e*P **P** **00 27 06.1 +1.6**
ZST Bratislava 83.92 326 *e*S **S** **00 37 27.3 -0.7**
DIM Dimitrovgrad 83.92 318 P **P** **00 27 05.0 +0.4**
CSKK Cskako 83.98 325 P **P** **00 27 05.0 +0.2**
S22A 4UR Ranch, Cre 84.08 48 P **P** **00 27 05.8 -0.1**
S22A 4UR Ranch, Cre 84.08 48 P **P** **00 27 06.6 +0.6**
baz=310,SNR=128
S22A S **S** **00 37 35.0 +4.3**
baz=310
SUSD Miller 84.10 39 P **P** **00 27 04.9 -0.7**
SUSD Miller 84.10 39 P **P** **00 27 05.9 +0.3**
baz=314
SUSD Miller 84.10 39 P **P** **00 27 05.7 +0.1**
baz=314
SUSD S **S** **00 37 29.3 -0.8**
baz=314
MDVR Moldovita 84.11 322 ⇓P **P** **00 27 05.2 -0.4**
X18A Snowflake 84.12 52 P **P** **00 27 05.6 -0.5**
X18A IAmb IAmb 00 27 12.0
comp=Z,75nm,1.2s
KDZ Kurdzhali 84.26 317 P **P** **00 27 07.0 +0.6**
IVI Ivigtut 84.30 5 P **P** **00 27 06.5 +0.4**
IVI IAmb IAmb 00 27 12.1
comp=Z,99nm,1.2s
IVI Ivigtut 84.30 5 *i*P **P** **00 27 06.1 0.0**
IVI IAmb IAmb 00 27 13.2
comp=Z,69nm,1.0s
Q24A Divide 84.31 46 P **P** **00 27 06.5 -0.7**
Q24A IAmb IAmb 00 27 13.7
comp=Z,103nm,1.2s
Q24A Divide 84.31 46 P **P** **00 27 07.9 +0.8**
baz=310,SNR=25
Q24A S **S** **00 37 32.7 -0.3**
baz=310
PGB Panagyurishte 84.34 319 P **P** **00 27 06.0 -0.8**
PLD Plovdiv 84.35 318 P **P** **00 27 06.0 -0.8**
EGYH Egyhazaskeszo 84.38 326 P **P** **00 27 08.9 +2.1**
ALN Alexandroupoli 84.40 317 P **P** **00 27 06.7 -0.4**
ALN Alexandroupoli 84.40 317 P **P** **00 27 06.5 -0.5**
ALN IAmb IAmb 00 27 46.6
comp=Z,134nm,1.5s
ALN Alexandroupoli 84.40 317 P **P** **00 27 06.6 -0.5**
ALN pmax pmax
comp=Z,134nm,1.5s
BLKB Belogradchik 84.41 320 ⇓P **P** **00 27 06.8 -0.4**
NKC Novy Kostel 84.42 330 *e*P **P** **00 27 07.1 0.0**
NKC *e* 00 37 32.8
NKC MLR MLR
comp=Z,72µm,15.4s
NKC Novy Kostel 84.42 330 *e*P **P** **00 27 07.1 0.0**
NKC *e*PP PP 00 30 35.8 +14
NKC *e*S **S** **00 37 32.8 -0.2**
NKC AMS AMS 01 09 30.0
comp=Z,72µm,15.4s
KPL Plockton 84.43 343 *e*P **P** **00 27 07.0 +0.1**
KPL IAMs_20 IAMs_20 01 13 47.2
comp=Z,21µm,16.5s
MPLH Magyarpolny 84.46 325 P **P** **00 27 06.3 -1.0**
F33A 5 Mile Ranch, 84.47 37 P **P** **00 27 06.8 -0.6**
baz=315,SNR=56
GHAJ Ghor Haditha 84.48 304 P **P** **00 27 07.9 +0.2**
TIH Tihany 84.49 325 P **P** **00 27 08.5 +1.1**
NRS Narsarsuaq 84.51 3 P **P** **00 27 07.8 +0.6**
NRS IAmb IAmb 00 27 44.9
comp=Z,94nm,1.3s
NRS Narsarsuaq 84.51 3 P **P** **00 27 07.8 +0.6**
NRS pmax pmax
comp=Z,94nm,1.3s
NRS MLR MLR
comp=Z,28µm,21.0s
NRS Narsarsuaq 84.51 3 *i*P **P** **00 27 05.1 -2.1**
NRS IAmb IAmb 00 27 42.4
comp=Z,2µm,3.5s
MANT Manisa 84.51 313 P **P** **00 27 07.1 -0.9**
SOP Sopron 84.54 326 P **P** **00 27 08.9 +1.3**
MORH Mrgy, Hungar 84.63 324 P **P** **00 27 06.8 -1.3**
RONA Rosalia, Austr 84.65 326 *i*P **P** **00 27 08.9 +0.6**
comp=Z,23nm,0.8s,SNR=73
RONA *e*P **PP** **00 30 23.3 0.0**
comp=Z,4.3nm,0.6s
MEH Mehetia 84.67 116 *e*T T 02 00 37.5
comp=Z,24nm,0.2s
CONA Conrad Observa 84.68 327 *i*P **P** **00 27 08.0 -0.5**
comp=Z,19nm,0.7s,SNR=81
CONA *e*S **S** **00 37 36.7 +0.8**
comp=Z,7.3nm,1.9s
CKRC Cesky Krumlov 84.70 328 *e*P **P** **00 27 07.3 -1.2**
CKRC *e*S **S** **00 37 35.4 -0.5**
CKRC AMS AMS 01 09 50.0
comp=Z,62µm,16.1s
KHC Kasperske Hory 84.78 329 P **P** **00 27 07.6 -1.4**
KHC Kasperske Hory 84.78 329 *e*P **P** **00 27 08.0 -0.9**
KHC *e* 00 27 21.0
KHC *e* 00 37 37.8
KHC MLR MLR
comp=Z,45µm,15.4s
KHC Kasperske Hory 84.78 329 *e*P **P** **00 27 08.0 -0.9**
KHC *ex* x 00 27 21.0
KHC *e*S **S** **00 37 37.8 +1.1**
KHC AMS AMS 01 12 00.0
comp=Z,45µm,15.4s
VTS Vitosha 84.80 319 ⇑P **P** **00 27 09.3 0.0**
VTS Vitosha 84.80 319 P **P** **00 27 08.7 -0.6**
VTS IAmb IAmb 00 27 31.8
comp=Z,98nm,1.0s
VTS Vitosha 84.80 319 P **P** **00 27 08.7 -0.6**
VTS pmax pmax
comp=Z,98nm,1.0s
VTS Vitosha 84.80 319 P **P** **00 27 08.0 -1.3**
FRGS Fruska Gora 84.81 323 ⇑P **P** **00 27 08.3 -0.8**
FRGS Fruska Gora 84.81 323 *e*P **P** **00 27 08.9 -0.2**
OGNE Ogallala 84.82 43 P **P** **00 27 09.1 -0.3**
OGNE IAMs_20 IAMs_20 01 09 10.8
comp=Z,15µm,18.0s
OGNE Ogallala 84.82 43 P **P** **00 27 09.8 +0.4**
baz=312
OGNE Ogallala 84.82 43 P **P** **00 27 09.3 0.0**
baz=312
OGNE S **S** **00 37 35.8 -1.7**
baz=312
SDCO Great Sand Dun 84.89 47 IAMs_20 IAMs_20 01 10 14.0
comp=Z,15µm,18.0s
SDCO Great Sand Dun 84.89 47 P **P** **00 27 09.8 -0.2**
baz=310,SNR=199
SDCO Great Sand Dun 84.89 47 P **P** **00 27 10.6 +0.6**
baz=310,SNR=199
SDCO S **S** **00 37 39.7 +0.9**
baz=310
BOVS Bovan 84.91 321 ⇑P **P** **00 27 10.0 +0.4**
TUC Tucson 84.93 54 P **P** **00 27 09.7 -0.4**
TUC IAmb IAmb 00 27 25.9
comp=Z,90nm,1.4s
TUC Tucson 84.93 54 P **P** **00 27 09.7 -0.4**
TUC pmax pmax
comp=Z,91nm,1.4s
TUC Tucson 84.93 54 P **P** **00 27 10.6 +0.6**
baz=308
TUC S **S** **00 37 41.1 +2.3**
baz=308
GERES GERESS Array B 84.95 328 P **P** **00 27 07.8 -2.0**
comp=Z,3.8nm,0.6s,baz=41,slow=4.3,SNR=28
GERES PP **PP** **00 30 26.8 +1.0**
comp=Z,4.6nm,0.8s,baz=46,slow=5.8,SNR=3.7
GERES S **S** **00 37 36.4 -2.1**
comp=Z,0.1nm,0.3s,baz=264,slow=40,SNR=1.5
GERES PKKPbc **PKKPbc** **00 45 19.4 +2.3**
comp=Z,0.8nm,0.8s,baz=197,slow=2.8,SNR=5.8
GERES LR LR 01 09 25.0
comp=Z,32µm,18.0s,baz=32,slow=39
comp=Z,3.8nm,0.6s
EZN Ezine 84.95 316 P **P** **00 27 09.8 -0.1**
KOVH Kovagotottos 84.98 324 P **P** **00 27 08.5 -1.5**
EYMN Ely 85.18 33 P **P** **00 27 10.9 0.0**
EYMN IAmb IAmb 00 27 16.4
comp=Z,147nm,1.2s
EYMN Ely 85.18 33 IAMs_20 IAMs_20 01 09 51.7
comp=Z,21µm,20.0s
EYMN Ely 85.18 33 P **P** **00 27 10.6 -0.4**
baz=318,SNR=18
EYMN Ely 85.18 33 P **P** **00 27 10.5 -0.4**
baz=318,SNR=18
EYMN S **S** **00 37 36.4 -4.2**
baz=318
MMB Musomiste 85.23 318 P **P** **00 27 08.0 -3.3**
AKAS Kas 85.32 311 P **P** **00 27 11.6 -0.4**
AKAS IAmb IAmb 00 27 25.1
comp=Z,138nm,1.0s
ARSA Arzberg 85.33 326 *i*P **P** **00 27 13.6 +1.9**
comp=Z,11nm,0.8s,SNR=23
ARSA *e*P **PP** **00 30 26.6 -2.3**
comp=Z,0.9nm,0.3s
GRFO Grafenberg 85.34 330 P **P** **00 27 12.2 +0.5**
GRFO Grafenberg 85.34 330 P **P** **00 27 12.2 +0.5**
GRFO pmax pmax
comp=Z,382nm,1.3s
GRFO MLR MLR
comp=Z,25µm,18.0s
THAS Thassos island 85.35 317 P **P** **00 27 09.6 -2.2**
TEKS Tekeris 85.38 323 *e*P **P** **00 27 14.3 +2.3**
KKB Krupnik 85.40 319 P **P** **00 27 11.0 -1.1**
TAOE Nuku Hiva Isla 85.40 104 *e*P **P** **00 27 12.2 -0.4**
comp=Z,1µm,21.0s
TAOE Nuku Hiva Isla 85.40 104 *e*S **S** **00 37 42.8 -1.1**
comp=Z,5µm,24.5s
TAOE *e*SS **SS** **00 43 19.0 -0.2**
comp=Z,3µm,22.6s
TAOE Nuku Hiva Isla 85.40 104 *e*LR LR 00 54 07.3
comp=Z,19µm,22.1s
MOA Molln 85.45 328 *i*P **P** **00 27 12.9 +0.6**
comp=Z,10nm,0.9s,SNR=28
DIVS Divibare 85.47 322 IAmb IAmb 00 27 19.1
comp=Z,106nm,1.2s
DIVS Divibare 85.47 322 *e*P **P** **00 27 11.9 -0.6**
K31A O'Neill 85.47 40 P **P** **00 27 12.3 -0.2**
K31A O'Neill 85.47 40 P **P** **00 27 12.1 -0.3**
baz=314
BLCB Balcova 85.48 314 P **P** **00 27 11.8 -0.8**
PGBU Glenifferbraes 85.50 342 *e*P **P** **00 27 12.5 +0.2**
PGBU IAmb IAmb 00 27 18.2
comp=Z,195nm,1.1s
PGBU IAMs_20 IAMs_20 01 11 04.0
comp=Z,37µm,16.0s
YER Yerkesik 85.55 313 P **P** **00 27 12.8 -0.2**
EKA Eskdalemuir Ar 85.57 341 LR LR 01 10 30.7
comp=Z,38µm,18.3s,baz=28,slow=39
KOGS Kog 85.59 326 *i*P **P** **00 27 12.4 -0.6**
KOGS *e*PP **PP** **00 30 32.9 +1.9**
KOGS *e*S **S** **00 37 46.5 +1.8**
ESK Eskdalemuir 85.60 341 P **P** **00 27 13.2 +0.4**
ESK IAmb IAmb 00 27 29.9
comp=Z,104nm,1.2s

ESK Eskdalemuir 85.60 341 P P 00 27 13.2 +0.4
ESK pmax pmax
comp=Z,104nm,1.2s
SRS Serrai 85.63 318 P P 00 27 13.0 -0.3
SIGR SIGRI 85.63 315 P P 00 27 12.0 -1.3
GDLE Glaisdale, N Y 85.70 339 *eP* **P 00 27 13.3 -0.1**
GDLE IAMs_20 IAMs_20 01 11 17.5
comp=Z,57µm,17.6s
KSCO Kaye Shedlock' 85.77 45 P P 00 27 14.4 +0.2
baz=312
KSCO S S **00 37 44.0 -3.0**
baz=312
F36A Milaca 85.79 35 P P 00 27 13.9 -0.1
F36A Milaca 85.79 35 P P 00 27 13.2 -0.8
baz=317
ECSD EROS Data Cent 85.80 38 IAmb IAmb 00 27 19.1
comp=Z,123nm,1.2s
ECSD EROS Data Cent 85.80 38 IAMs_20 IAMs_20 01 12 38.5
comp=Z,13µm,18.0s
ECSD EROS Data Cent 85.80 38 P P 00 27 12.5 -1.6
baz=315,SNR=54
ECSD EROS Data Cent 85.80 38 P P 00 27 14.8 +0.7
baz=315,SNR=54
ECSD S S **00 37 44.1 -2.8**
baz=315
BIOA Bad Ischl, Aus 85.85 328 *i* P P **00 27 15.4 +1.1**
comp=Z,14nm,0.7s,SNR=27
EIL Elat 85.89 303 LR LR 01 08 09.6
comp=Z,8µm,19.6s,baz=153,slow=38
T25A Trinidad 85.94 47 P P 00 27 15.2 0.0
T25A Trinidad 85.94 47 P P 00 27 15.9 +0.7
baz=311,SNR=25
T25A S S **00 37 48.3 -0.6**
baz=311
OUR Ouranopolis 85.94 317 P P 00 27 14.4 -0.4
SOH Sokhos 85.96 318 P P 00 27 13.3 -1.7
KNT Kendrikon 85.98 318 P P 00 27 14.5 -0.5
SOKA Soboth 85.99 326 *i* P P **00 27 14.9 -0.2**
comp=Z,25nm,1.0s,SNR=60
SOKA *eS* S **00 37 48.9 +0.1**
comp=Z,4.9nm,1.8s
STIP Stip 86.00 319 *i* P P **00 27 15.4 +0.3**
NEWG New Galloway 86.05 341 *eP* P **00 27 14.4 -0.6**
NEWG IAMs_20 IAMs_20 01 10 48.5
comp=Z,34µm,16.3s
VAY Valandovo 86.05 319 *i* P P **00 27 17.5 +2.1**
CHOS Chios island 86.06 315 P P **00 27 15.6 0.0**
ANMO Albuquerque 86.09 50 LR LR 01 06 53.1
comp=Z,13µm,18.0s,baz=330,slow=36
ANMO Albuquerque 86.09 50 P P **00 27 16.3 +0.3**
ANMO Albuquerque 86.09 50 IAMs_20 IAMs_20 01 07 18.1
comp=Z,15µm,18.0s
ANMO Albuquerque 86.09 50 P P **00 27 16.3 +0.3**
ANMO pmax pmax
comp=Z,60nm,1.2s
ANMO MLR MLR
comp=Z,15µm,18.0s
ANMO Albuquerque 86.09 50 P P **00 27 16.8 +0.9**
baz=310,SNR=34
ANMO Albuquerque 86.09 50 P P **00 27 16.7 +0.7**
baz=310
ANMO S S **00 37 49.7 -0.8**
baz=310
RUDO Rudo 86.12 322 *eP* P **00 27 16.3 +0.6**
E38A The Farm, Brul 86.16 34 IAmb IAmb 00 27 20.9
comp=Z,144nm,1.1s
E38A The Farm, Brul 86.16 34 P P **00 27 15.1 -0.7**
baz=319,SNR=20
SKO Skopje 86.21 320 *i* P P **00 27 16.5 +0.4**
OBKA Obir 86.33 326 *eP* P **00 27 17.0 +0.2**
OBKA Obir 86.33 326 *eP* P **00 27 17.8 +1.0**
comp=Z,5.4nm,0.7s
A051A Mrakovica 86.34 324 *eP* P **00 27 18.3 +1.5**
HPK Haverah Park 86.34 339 *eP* P **00 27 16.9 +0.4**
HPK IAMs_20 IAMs_20 01 11 37.8
comp=Z,56µm,17.1s
Y22D IRIS PASSCAL I 86.36 51 P P **00 27 17.7 +0.5**
baz=310
Y22D IRIS PASSCAL I 86.36 51 P P **00 27 17.7 +0.5**
baz=310
Y22D S S **00 37 53.9 +0.9**
baz=310
LMK Market Rasen 86.39 338 *eP* P **00 27 16.6 -0.2**
LMK IAMs_20 IAMs_20 01 11 09.8
comp=Z,29µm,17.9s
PAIG Paliouri 86.39 317 P P **00 27 15.1 -1.9**
GRG Griva 86.39 319 P P **00 27 15.9 -1.2**
BLY Banja Luka 86.40 324 *eP* P **00 27 17.0 0.0**
Y22A Socorro 86.42 51 P P **00 27 17.6 +0.1**
baz=310,SNR=12
Y22A S S **00 37 54.6 +0.9**
baz=310
KBA Koelnbreinsper 86.44 327 *i* P P **00 27 18.3 +0.9**
comp=Z,7.1nm,0.6s,SNR=13
BNM Barren Site 86.50 51 P P **00 27 17.9 -0.1**
CLGH Cloghs, Cushen 86.57 342 *eP* P **00 27 17.4 -0.2**
CLGH IAMs_20 IAMs_20 01 11 39.3
comp=Z,41µm,16.4s
SPMN Marine on St. 86.60 35 IAmb IAmb 00 27 23.6
comp=Z,117nm,1.2s
SPMN Marine on St. 86.60 35 P P **00 27 17.5 -0.4**
baz=318,SNR=16
SPMN Marine on St. 86.60 35 P P **00 27 17.3 -0.7**
baz=318,SNR=16
SPMN S S **00 37 50.3 -4.3**
baz=318
BEBN Eben Emael 86.61 334 *dP* P **00 27 17.6 -0.3**
comp=Z,69nm,1.0s
BGNE Belgrade 86.64 41 P P **00 27 18.3 0.0**
BGNE Belgrade 86.64 41 P P **00 27 18.8 +0.5**
baz=314,SNR=12
BGNE S S **00 37 50.8 -4.4**
baz=314
BGNE Belgrade 86.64 41 P P **00 27 17.8 -0.5**
baz=314,SNR=12
BGNE S S **00 37 50.0 -5.2**
baz=314
MEM Membach 86.64 333 *dP* P **00 27 18.2 +0.1**
comp=Z,34nm,1.0s
MGRS Mrkonjic Grad 86.69 324 *eP* P **00 27 19.3 +0.8**
LJU Ljubljana 86.69 326 *i* P P **00 27 17.9 -0.5**
LJU *e* 00 27 33.7
LJU *e* 00 28 19.3
LJU *i* PP PP **00 30 42.5 +2.6**
LJU *eSS* S **00 37 53.3 -2.2**
LJU IAMs_20 IAMs_20 01 11 24.2
comp=Z,73µm,15.8s
WACR West Acre 86.72 337 *eP* P **00 27 18.4 0.0**
WACR IAmb IAmb 00 27 23.7
comp=Z,105nm,1.1s
WACR IAMs_20 IAMs_20 01 11 34.7
comp=Z,37µm,17.0s
121A Cookes Peak, D 86.77 52 P P **00 27 20.3 +1.0**
baz=309,SNR=9.4
121A Cookes Peak, D 86.77 52 P P **00 27 19.8 +0.5**
baz=309,SNR=9.4
121A S S **00 37 53.7 -3.5**
baz=309
BSTI Sart Tilman 86.83 334 *dP* P **00 27 19.5 +0.6**
comp=Z,11nm,0.9s
HSIG 86.83 57 P P **00 27 18.8 -0.6**
BHOU Houvegnez 86.85 333 *dP* P **00 27 19.1 -0.1**
comp=Z,27nm,1.3s
SRKV Kupres RS 86.90 323 *eP* P **00 27 18.9 -0.7**
A050A Klekovaca 86.91 324 *eP* P **00 27 20.5 +0.9**
PHP Peshkopia 86.94 320 P P **00 27 18.3 -1.5**
CEY Cerknica 86.97 326 *eP* P **00 27 19.6 -0.2**
PDG Podgorica 87.03 321 P P **00 27 20.4 +0.3**
PDG IAmb IAmb 00 27 36.5
comp=Z,89nm,1.2s
WTTA Wattenberg 87.05 328 *eP* P **00 27 22.0 +1.6**
comp=Z,3.4nm,0.6s
BCLA Clavier 87.06 334 *dP* P **00 27 19.8 -0.3**
comp=Z,31nm,1.3s
ABTA Abfaltersbach 87.07 328 *i* P P **00 27 21.6 +1.3**
comp=Z,7.0nm,0.8s,SNR=7.8
TBI Tubuai 87.09 121 *eS* S **00 37 58.5 -1.2**
comp=Z,3µm,25.8s
TBI *eSS* SS **00 43 43.2 -0.5**
comp=Z,2µm,27.5s
TBI Tubuai 87.09 121 *eLR* LR 00 54 54.9
comp=Z,28µm,21.0s
TBI Tubuai 87.09 121 *eT* T 02 03 36.6
comp=Z,6.2nm,0.3s
CLUD Cludinico 87.12 327 P P **00 27 19.6 -0.9**
ELMS Elmsett, Ipswi 87.14 337 *eP* P **00 27 19.6 -0.9**
ELMS IAmb IAmb 00 27 24.0
comp=Z,61nm,0.7s
ELMS IAMs_20 IAMs_20 01 11 36.8
comp=Z,39µm,16.3s
D41A Chassel 87.14 32 P P **00 27 20.7 +0.1**
D41A Chassel 87.14 32 P P **00 27 20.4 -0.2**
baz=321
L34A Svendsen Farm, 87.18 39 P P **00 27 20.3 -0.6**
baz=316,SNR=20
I37B Waseca 87.21 36 P P **00 27 20.6 -0.3**
baz=317,SNR=68
MOTA Moosalm 87.22 329 *i* P P **00 27 23.8 +2.6**
comp=Z,6.6nm,0.9s
RETA Reutte 87.25 329 *i* P P **00 27 21.8 +0.5**
comp=Z,13nm,0.9s,SNR=33
STNC Stoke 87.27 339 *eP* P **00 27 21.2 +0.1**
STNC IAMs_20 IAMs_20 01 12 14.5
comp=Z,49µm,16.4s
SQTA Sankt Quirin 87.27 329 *eP* P 00 27 26.2 +4.8
comp=Z,3.1nm,0.5s
RCHB Rochefort 87.30 334 *dP* P **00 27 20.6 -0.7**
comp=Z,36nm,1.2s
CWF Charnwood Fore 87.31 338 *eP* P **00 27 20.2 -1.0**
CWF IAMs_20 IAMs_20 01 12 39.4
comp=Z,25µm,19.4s
BMRD Maredsous 87.35 334 *dP* P **00 27 19.9 -1.5**
comp=Z,48nm,1.2s
STAL STAGIAL 87.35 327 IAmb IAmb 00 27 25.7
comp=Z,66nm,1.5s
WLF Walferdange 87.36 333 P P **00 27 20.3 -1.3**
WLF IAmb IAmb 00 27 48.9
comp=Z,122nm,1.3s
WLF Walferdange 87.36 333 P P **00 27 20.3 -1.3**
WLF pmax pmax
comp=Z,122nm,1.3s
WLF Walferdange 87.36 333 *dP* P **00 27 22.0 +0.4**
comp=Z,34nm,1.3s
CIMO Cimolais 87.43 327 P P **00 27 21.1 -0.9**
CIMO IAmb IAmb 00 27 26.1
comp=Z,53nm,1.5s
KBN Korca 87.50 319 P P **00 27 19.8 -2.8**
NEST Nestorio 87.51 319 P P **00 27 21.4 -1.2**
STON Ston 87.51 322 *eP* P **00 27 25.8 +3.4**
CBKS Cedar Bluff 87.56 43 P P **00 27 22.7 -0.1**
CBKS IAMs_20 IAMs_20 01 11 40.2
comp=Z,12µm,18.0s
CBKS Cedar Bluff 87.56 43 P P **00 27 22.7 -0.1**
CBKS pmax pmax
comp=Z,173nm,1.2s
CBKS Cedar Bluff 87.56 43 P P **00 27 22.8 -0.1**
baz=314,SNR=11
CBKS S S **00 38 01.6 -2.6**
baz=314
CBKS Cedar Bluff 87.56 43 P P **00 27 22.6 -0.1**
baz=314,SNR=11
CBKS S S **00 38 01.9 -2.3**
baz=314
DOU Dourbes 87.58 334 *dP* P **00 27 21.5 -1.1**
comp=Z,17nm,1.2s
BFO Black Forest 87.59 331 P P **00 27 22.3 -0.5**
BFO IAmb IAmb 00 27 39.1
comp=Z,102nm,1.4s
BFO Black Forest 87.59 331 P P **00 27 22.3 -0.5**
BFO pmax pmax
comp=Z,102nm,1.4s
BFO MLR MLR
comp=Z,28µm,18.0s
FETA Feichten 87.63 329 *i* P P **00 27 23.7 +0.5**
comp=Z,4.9nm,0.7s,SNR=5.3
COWI Conover 87.63 33 IAmb IAmb 00 27 28.6
comp=Z,120nm,1.4s
COWI IAMs_20 IAMs_20 01 09 51.6
comp=Z,15µm,19.0s
COWI Conover 87.63 33 P P **00 27 22.6 -0.4**
baz=320
COWI S S **00 38 01.4 -3.2**
baz=320
WLF1 Llynfaes 87.72 340 *eP* P **00 27 23.2 0.0**
WLF1 IAMs_20 IAMs_20 01 12 12.2
comp=Z,116µm,17.4s
SCHQ Schefferville 87.72 16 P P **00 27 21.9 -1.3**
comp=Z,15nm,0.8s,baz=359,slow=6.8,SNR=15
SCHQ S S 00 37 54.4 -11
comp=Z,2.8nm,0.8s,baz=21,slow=12,SNR=1.6
SCHQ LR LR 01 07 29.5
comp=Z,20µm,21.9s,baz=350,slow=36
comp=Z,15nm,0.8s
SCHQ Schefferville 87.72 16 IAmb IAmb 00 27 29.1
comp=Z,66nm,1.0s
FOEL Foel Wylfa 87.73 340 *eP* P **00 27 22.4 -0.9**
FOEL IAmb IAmb 00 27 27.3
comp=Z,89nm,1.0s
FOEL IAMs_20 IAMs_20 01 12 29.1
comp=Z,53µm,17.2s
DAVA Damuels 87.78 329 *i* P P **00 27 25.7 +1.8**
comp=Z,5.8nm,0.3s,SNR=14
G40A Rib Lake 87.78 34 IAmb IAmb 00 27 29.4
comp=Z,136nm,1.4s
G40A Rib Lake 87.78 34 P P **00 27 23.3 -0.5**
baz=320,SNR=32
G40A S S **00 38 03.3 -2.7**
baz=320
MAKR Makrakomi, Fth 87.89 317 P P **00 27 22.9 -1.5**
LSK Leskovik 87.94 319 P P **00 27 23.9 -0.8**
CTI Castel Tesino 87.99 328 P P **00 27 23.2 -1.6**
CTI Castel Tesino 87.99 328 P P **00 27 23.2 -1.6**
CTI pmax pmax
comp=Z,46nm,1.3s
EPT El Paso 88.09 52 IAMs_20 IAMs_20 01 03 55.1
comp=Z,20µm,20.0s
ECH Echery 88.15 331 IAmb IAmb 00 27 41.8
comp=Z,100nm,1.7s
DAVOX Davos/Dischmat 88.18 329 LR LR 01 10 18.3
comp=Z,35µm,18.5s,baz=18,slow=38
F42A Maple Grove Fa 88.34 32 P P **00 27 26.7 +0.4**
F42A Maple Grove Fa 88.34 32 S S **00 38 09.9 -1.4**
baz=321
SERG Sergoula 88.35 317 P P **00 27 23.8 -2.8**
E43A Lone Tree Farm 88.35 31 P P **00 27 26.8 +0.4**
E43A IAmb IAmb 00 27 41.5
comp=Z,121nm,1.2s
E43A Lone Tree Farm 88.35 31 P P **00 27 26.4 0.0**
baz=322
E43A S S **00 38 07.6 -3.8**
baz=322
N35A Tabor 88.36 40 P P **00 27 26.9 +0.3**
baz=316,SNR=29
N35A S S **00 38 08.5 -3.2**
baz=316
HMNX Herstmonceux 88.40 337 *eP* P **00 27 25.8 -0.7**
HMNX IAMs_20 IAMs_20 01 11 57.7
comp=Z,42µm,17.5s
STRD Stroud 88.40 338 *eP* P **00 27 26.5 0.0**
STRD IAmb IAmb 00 27 31.9
comp=Z,221nm,1.3s
STRD IAMs_20 IAMs_20 01 16 27.6
comp=Z,31µm,15.8s
R32A Long Quarter, 88.41 43 P P **00 27 26.7 -0.1**
baz=314
EFP Efpalio 88.42 317 P P **00 27 25.0 -1.9**
MCH1 Michaelchurch 88.46 339 *eP* P **00 27 27.2 +0.4**
MCH1 IAmb IAmb 00 27 31.4
comp=Z,134nm,1.5s
MCH1 IAMs_20 IAMs_20 01 15 31.1
comp=Z,41µm,16.4s
TEOL Teolo 88.51 327 P P **00 27 27.1 0.0**
TEOL IAmb IAmb 00 27 52.9
comp=Z,57nm,1.1s
SWN1 Swindon 88.52 338 *eP* P **00 27 27.0 -0.1**
SWN1 IAmb IAmb 00 27 32.6
comp=Z,390nm,1.6s
SWN1 IAMs_20 IAMs_20 01 12 05.5
comp=Z,40µm,17.9s
K38A Parkersburg 88.53 37 P P **00 27 28.1 +0.8**
K38A Parkersburg 88.53 37 P P **00 27 27.2 -0.1**
baz=318
MONM Monmouth 88.54 339 *eP* P **00 27 27.6 +0.5**
MONM IAmb IAmb 00 27 31.8
comp=Z,125nm,1.3s
MONM IAMs_20 IAMs_20 01 15 35.1
comp=Z,44µm,15.9s
I40A Norwalk 88.64 35 P P **00 27 27.6 -0.3**
I40A IAmb IAmb 00 27 44.4
comp=Z,91nm,1.3s
I40A Norwalk 88.64 35 P P **00 27 27.2 -0.6**
baz=319
IDI Anoyia 88.83 313 LR LR 01 11 26.6
comp=Z,4µm,18.0s,baz=16,slow=38
SCIA State Center 88.85 38 IAMs_20 IAMs_20 01 10 32.1
comp=Z,13µm,19.0s
SCIA State Center 88.85 38 P P **00 27 29.0 +0.1**
baz=318
SCIA S S **00 38 14.8 -1.5**
baz=318
MSTX Muleshoe 89.03 49 P P **00 27 30.6 +0.6**
baz=312
MSTX Muleshoe 89.03 49 P P **00 27 29.4 -0.6**
baz=312
AMTX Amarillo 89.09 47 P P **00 27 29.4 -0.9**
AMTX IAmb IAmb 00 27 41.8
comp=Z,168nm,1.8s
AMTX IAMs_20 IAMs_20 01 05 41.3
comp=Z,15µm,20.0s
AMTX Amarillo 89.09 47 P P **00 27 30.7 +0.4**
baz=312
AMTX Amarillo 89.09 47 P P **00 27 30.8 +0.5**
baz=312
AMTX S S **00 38 20.1 +1.1**
baz=312
KSU1 Kansas State U 89.10 41 IAMs_20 IAMs_20 01 11 49.9
comp=Z,16µm,20.0s
KSU1 Kansas State U 89.10 41 P P **00 27 30.1 0.0**
baz=316,SNR=13
KSU1 S S **00 38 14.4 -4.3**
baz=316
KSU1 Kansas State U 89.10 41 P P **00 27 30.5 +0.4**
baz=316,SNR=13
KSU1 S S **00 38 13.8 -5.0**
baz=316
CLN7 Carlsbad 7 89.42 50 P P **00 27 31.9 +0.1**
I42A Draeger Farm, 89.43 34 P P **00 27 31.4 -0.1**
I42A Draeger Farm, 89.43 34 P P **00 27 31.3 -0.2**
baz=320,SNR=8.9
I42A S S **00 38 14.3 -7.4**
baz=320
HTMS Hat Mesa 89.49 50 P P **00 27 32.1 -0.1**
E46A Sault Ste Mari 89.49 30 P P **00 27 29.1 -2.7**
baz=324,SNR=20
H43A Windswept, Lux 89.50 33 P P **00 27 32.5 +0.7**
H43A IAmb IAmb 00 27 48.7
comp=Z,137nm,1.2s
H43A Windswept, Lux 89.50 33 S S **00 38 17.4 -4.9**
baz=321
JFWS Jewell Farm 89.55 35 P P **00 27 32.7 +0.6**
JFWS Jewell Farm 89.55 35 IAMs_20 IAMs_20 01 12 05.8
comp=Z,20µm,18.0s
JFWS Jewell Farm 89.55 35 P P **00 27 32.7 +0.6**
JFWS pmax pmax
comp=Z,57nm,1.1s
JFWS Jewell Farm 89.55 35 P P **00 27 31.3 -0.8**
baz=320
JFWS Jewell Farm 89.55 35 P P **00 27 32.0 -0.2**
baz=320
JFWS S S **00 38 20.4 -2.5**
baz=320
SENIN Lac Senin/Sane 89.59 330 P P **00 27 32.8 +0.3**
ZCCA Zocca 89.60 327 P P **00 27 32.5 +0.1**
ELIS Ellis County 89.64 45 P P **00 27 33.9 +1.2**
ELIS IAmb IAmb 00 27 38.6
comp=Z,135nm,1.3s
FDMO Fiordimonte 89.64 325 IAmb IAmb 00 28 02.3
comp=Z,75nm,0.9s
N38A Joes South For 89.66 38 P P **00 27 32.6 -0.1**
baz=318,SNR=18
N38A S S **00 38 21.0 -2.9**
baz=318
U32A Winter Ranch, 89.66 45 P P **00 27 32.7 -0.1**
U32A IAmb IAmb 00 27 40.5
comp=Z,63nm,1.1s
U32A Winter Ranch, 89.66 45 P P **00 27 31.4 -1.4**
baz=314
U32A S S **00 38 23.1 -1.1**
baz=314
L40A Anamosa 89.72 36 IAmb IAmb 00 27 38.5
comp=Z,139nm,1.2s
L40A Anamosa 89.72 36 P P **00 27 32.8 -0.1**
baz=319,SNR=29
L40A S S **00 38 21.7 -2.8**
baz=319
MURB Monte Urbino 89.73 325 IAmb IAmb 00 28 18.1
comp=Z,88nm,1.1s
OK038 West end E0370 89.74 44 IAMs_20 IAMs_20 01 14 43.1
comp=Z,14µm,19.0s
HTL Hartland 89.78 339 *eP* P **00 27 32.8 -0.2**
HTL IAMs_20 IAMs_20 01 13 43.5
comp=Z,53µm,17.1s
NRCA Norcia 89.78 325 P P **00 27 33.9 +0.6**
NRCA IAmb IAmb 00 28 02.2
comp=Z,73nm,1.0s
KAN14 Manchester OK 89.86 44 P P **00 27 33.4 -0.3**
CAMP Campotosto 89.87 324 P P **00 27 33.7 -0.1**
CAMP IAmb IAmb 00 28 03.2
comp=Z,85nm,1.1s
KAN17 Caldwell West 89.91 44 P **00 27 33.6 -0.3**
KAN17 IAmb IAmb 00 27 39.4
comp=Z,134nm,1.4s
G45A Suttons Bay 89.98 31 P P **00 27 34.9 +0.8**
G45A Suttons Bay 89.98 31 P P **00 27 34.0 0.0**
baz=323
G45A P P **00 27 34.0 0.0**
baz=323
G45A S S **00 38 22.4 -4.3**
baz=323
G45A S S **00 38 22.4 -4.3**
baz=323
AQU L'Aquila 90.01 324 P P **00 27 34.0 -0.3**
AQU IAmb IAmb 00 27 51.2
comp=Z,58nm,0.9s
AQU L'Aquila 90.01 324 P P **00 27 34.0 -0.3**
AQU pmax pmax
comp=Z,58nm,0.9s
KAN13 South Haven SW 90.09 43 P **00 27 34.2 -0.6**
KAN13 IAmb IAmb 00 27 40.1
comp=Z,128nm,1.3s
OSSC Osservatorio P 90.12 326 P P **00 27 34.3 -0.5**
OSSC IAmb IAmb 00 28 06.4
comp=Z,103nm,1.6s
CLF Chambon-Foret 90.16 334 P P **00 27 35.2 +0.4**
CLF IAmb IAmb 00 27 51.9
comp=Z,131nm,1.4s
CESX Cesi 90.21 325 P P **00 27 35.4 +0.2**
LPIG La Paz 90.30 60 LR LR 01 07 56.9
comp=Z,9µm,18.0s,baz=320,slow=36
P38A Dawn 90.37 39 IAmb IAmb 00 27 52.8
comp=Z,87nm,1.2s
P38A Dawn 90.37 39 P P **00 27 34.5 -1.5**
baz=317,SNR=18
P38A S S **00 38 27.1 -3.4**
baz=317
BLOK Blackwell 90.42 43 P **00 27 37.2 +0.9**
BLOK IAmb IAmb 00 27 42.3
comp=Z,112nm,1.2s
PAOL Paolisi 90.44 323 P P **00 27 35.8 -0.6**
L42A Oliver, Polo 90.52 36 IAmb IAmb 00 27 42.0
comp=Z,67nm,1.2s
L42A Oliver, Polo 90.52 36 P P **00 27 35.9 -0.7**
baz=320
L42A S S **00 38 28.6 -3.3**
baz=320
I45A Fountain 90.53 32 S S **00 38 30.1 -1.7**
baz=322
I45A S S **00 38 30.1 -1.7**
baz=322
GLMI Grayling 90.60 31 P P **00 27 37.4 +0.4**
GLMI IAMs_20 IAMs_20 01 13 21.2
comp=Z,15µm,19.0s
GLMI Grayling 90.60 31 P P **00 27 37.7 +0.7**
baz=323
GLMI S S **00 38 29.6 -2.8**
baz=323
GLMI Grayling 90.60 31 P P **00 27 37.1 +0.1**
baz=323
GLMI S S **00 38 30.3 -2.1**
baz=323
K43A Burlington 90.62 34 P P **00 27 35.6 -1.5**
baz=321
K43A S S **00 38 27.4 -5.3**
baz=321
OK049 E0420 Rd and N 90.62 44 P **00 27 37.2 0.0**
OK049 IAmb IAmb 00 27 42.7
comp=Z,130nm,1.3s
OK049 IAMs_20 IAMs_20 01 14 19.3
comp=Z,19µm,19.0s
ATD Arta Tunnel 90.65 284 LR LR 01 14 49.5

comp=Z,6µm,18.4s,baz=44,slow=40
ATD Arta Tunnel 90.65 284 eP P 00 27 43.3 +5.5
ATD eS PP 00 31 26.5 +14
ATD Arta Tunnel 90.65 284‖ eP **P 00 27 36.9 -0.9**
ATD eS PP 00 31 24.1 +11
ATD Arta Tunnel 90.65 284 eP P 00 27 29.4 -8.4
ATD eS **PP 00 31 13.9 +1.1**
ATD Arta Tunnel 90.65 284 eP P 00 27 43.3 +5.5
ATD eS PP 00 31 26.5 +14
ATD IAMs_20 IAMs_20 00 38 46.7
comp=N,12µm,9.3s
ATD Arta Tunnel 90.65 284 eP **P 00 27 35.3 -2.5**
ATD eS S 00 38 17.3 -17
JSA Saint Aubin 90.67 337 eP **P 00 27 38.2 +1.1**
JSA IAMs_20 IAMs_20 01 13 33.4
comp=Z,43µm,17.7s
T35A Sooner Cattle 90.71 43 IAmb IAmb 00 27 43.6
comp=Z,133nm,1.2s
T35B Sooner Cattle 90.71 43 P **P 00 27 37.7 +0.1**
baz=316,SNR=32
T35B S **S 00 38 30.7 -3.1**
baz=316
OK045 Pawnee Station 90.81 43 P **P 00 27 38.0 -0.1**
OK045 IAmb IAmb 00 27 43.5
comp=Z,87nm,1.2s
OK050 Pawnee Station 90.81 44 **P 00 27 39.4 +1.2**
OK050 IAmb IAmb 00 27 43.5
comp=Z,87nm,1.2s
OK050 IAMs_20 IAMs_20 01 14 33.4
comp=Z,20µm,19.0s
OK051 E0350 and S346 90.82 43 **P 00 27 38.3 +0.2**
OK051 IAmb IAmb 00 27 43.4
comp=Z,67nm,1.2s
OK048 Pawnee Station 90.82 43 P **P 00 27 38.5 +0.4**
OK048 IAmb IAmb 00 27 43.5
comp=Z,86nm,1.2s
SLBS Sierra La Lagu 90.82 60 IAMs_20 IAMs_20 01 06 01.9
comp=Z,16µm,19.0s
OK046 Pawnee Station 90.85 43 P **P 00 27 38.5 +0.2**
OK046 IAmb IAmb 00 27 43.7
comp=Z,82nm,1.2s
BNI Bardonecchia 90.90 330 P **P 00 27 38.6 +0.1**
BNI Bardonecchia 90.90 330 P **P 00 27 38.7 +0.1**
BNI pmax pmax
comp=Z,44nm,1.3s
BNI MLR MLR
comp=Z,34µm,18.0s
OK047 Pawnee, Statio 90.91 43 **P 00 27 39.5 +0.9**
OK047 IAmb IAmb 00 27 43.9
comp=Z,105nm,1.2s
N41A Harden Midland 90.93 37 P **P 00 27 38.9 +0.3**
N41A Harden Midland 90.93 37 P **P 00 27 38.7 +0.1**
baz=319
N41A S **S 00 38 32.4 -3.2**
baz=319
WMOK Wichita Mounta 90.93 46 **P 00 27 38.6 -0.1**
WMOK Wichita Mounta 90.93 46 P **P 00 27 38.6 -0.1**
WMOK pmax pmax
comp=Z,50nm,1.2s
WMOK Wichita Mounta 90.93 46 P **P 00 27 38.9 +0.2**
baz=314,SNR=34
WMOK Wichita Mounta 90.93 46 P **P 00 27 39.6 +0.9**
baz=314,SNR=34
WMOK S **S 00 38 34.9 -1.0**
baz=314
OK044 Pawnee Station 90.93 43 **P 00 27 39.9 +1.2**
OK044 IAmb IAmb 00 27 44.7
comp=Z,103nm,1.2s
OK029 Liberty Lake 90.96 44 **P 00 27 39.5 +0.7**
OK029 IAmb IAmb 00 27 54.5
comp=Z,142nm,1.3s
OK029 IAMs_20 IAMs_20 01 14 45.4
comp=Z,12µm,19.0s
OK033 Mehan 91.08 44 **P 00 27 40.2 +0.8**
OK033 IAmb IAmb 00 27 44.7
comp=Z,82nm,1.2s
OK033 IAMs_20 IAMs_20 01 14 32.6
comp=Z,19µm,19.0s
QUOK Quay 91.12 44 **P 00 27 40.0 +0.4**
QUOK IAmb IAmb 00 27 45.5
comp=Z,138nm,1.2s
OK025 Westminster Rd 91.18 44 **P 00 27 40.2 +0.4**
OK025 IAMs_20 IAMs_20 01 07 02.2
comp=Z,11µm,19.0s
OK031 S. Brethren Rd 91.20 44 **P 00 27 40.3 +0.3**
OK031 IAmb IAmb 00 27 45.3
comp=Z,80nm,1.2s
OK031 IAMs_20 IAMs_20 01 14 24.8
comp=Z,18µm,20.0s
P40A Paris 91.21 39 P **P 00 27 38.9 -1.0**
baz=318,SNR=37
P40A S **S 00 38 36.1 -2.0**
baz=318
L44A Lake County Fo 91.22 34 P **P 00 27 40.2 +0.4**
L44A IAMs_20 IAMs_20 01 12 18.9
comp=Z,16µm,19.0s
L44A Lake County Fo 91.22 34 P **P 00 27 39.8 0.0**
baz=321
L44A S **S 00 38 36.1 -2.1**
baz=321
L44A Lake County Fo 91.22 34 P **P 00 27 39.2 -0.7**
baz=321
L44A S **S 00 38 35.5 -2.7**
baz=321
OK034 N. Norfolk Rd. 91.24 44 IAmb IAmb 00 27 45.4
comp=Z,116nm,1.2s
OK034 IAMs_20 IAMs_20 01 14 36.6
comp=Z,19µm,20.0s
FNO Franklin 91.37 45 **P 00 27 41.1 +0.3**
DEOK Depew 91.48 44 **P 00 27 41.1 -0.1**
DEOK IAmb IAmb 00 27 47.2
comp=Z,107nm,1.1s
TX31 Lajitas Ar. Si 91.53 53 P **P 00 27 41.6 -0.1**
baz=312,SNR=46
TX31 S **S 00 38 42.3 +0.5**
baz=312
TXAR Lajitas Array 91.53 53 P **P 00 27 40.9 -0.8**
comp=Z,13nm,0.9s,baz=294,slow=2.9,SNR=43
TXAR PP **PP 00 31 20.7 +1.5**
comp=Z,3.2nm,1.2s,baz=324,slow=4.5,SNR=1.3
TXAR PKKPbc **PKKPbc 00 45 03.6 +2.9**
comp=Z,0.5nm,0.7s,baz=153,slow=6.1,SNR=6.5
TXAR LR LR 01 07 34.2
comp=Z,22µm,18.7s,baz=329,slow=35
comp=Z,13nm,0.9s
HQIL Hanson Quary C 91.54 35 IAMs_20 IAMs_20 01 12 38.4
comp=Z,16µm,20.0s
HPIG 91.76 55 P **P 00 27 43.4 +0.5**
HPIG IAmb IAmb 00 27 58.9
comp=Z,75nm,1.4s
M44A Midewin, Midew 91.77 35 P **P 00 27 43.0 +0.5**
M44A IAmb IAmb 00 27 59.1
comp=Z,83nm,1.2s
M44A Midewin, Midew 91.77 35 P **P 00 27 42.4 -0.1**
baz=321
M44A S **S 00 38 39.9 -3.3**
baz=321
J47A Sunmer 91.78 32 S **S 00 38 40.3 -3.0**
baz=323
J47A S **S 00 38 40.3 -3.0**
baz=323
HDIL Hopedale 91.81 36 P **P 00 27 43.3 +0.6**
HDIL IAMs_20 IAMs_20 01 14 34.5
comp=Z,17µm,18.0s
HDIL Hopedale 91.81 36 P **P 00 27 41.1 -1.6**
baz=320
HDIL S **S 00 38 40.9 -2.7**
baz=320
HDIL Hopedale 91.81 36 P **P 00 27 41.6 -1.0**
baz=320
HDIL S **S 00 38 41.2 -2.5**
baz=320
TUL1 Leonard 91.83 43 **P 00 27 43.1 +0.3**
TUL1 IAmb IAmb 00 27 48.1
comp=Z,97nm,1.1s
TUL1 IAMs_20 IAMs_20 01 13 49.3
comp=Z,18µm,20.0s
TUL1 Leonard 91.83 43 P **P 00 27 43.7 +0.9**
baz=316,SNR=15
TUL1 S **S 00 38 41.1 -2.9**
baz=316
TUL1 Leonard 91.83 43 P **P 00 27 43.2 +0.4**
baz=316,SNR=15
TUL1 S **S 00 38 43.0 -0.9**
baz=316
ABTX Abilene, Hawle 91.87 48 P **P 00 27 42.6 -0.5**
baz=314
ABTX Abilene, Hawle 91.87 48 P **P 00 27 44.4 +1.3**
baz=314,SNR=9.5
ABTX Abilene, Hawle 91.87 48 P **P 00 27 42.1 -1.1**
S39A Bolivar 91.90 41 IAmb IAmb 00 27 48.1
comp=Z,50nm,1.1s
S39A Bolivar 91.90 41 P **P 00 27 41.7 -1.4**
baz=318,SNR=18
S39A S **S 00 38 40.2 -4.4**
baz=318
R40A Maddies Statio 92.02 39 IAmb IAmb 00 27 49.0
comp=Z,100nm,1.2s
R40A Maddies Statio 92.02 39 P **P 00 27 43.0 -0.6**
baz=318,SNR=42
R40A S **S 00 38 40.7 -4.8**
baz=318
I49A Point Hope 92.07 30 P **P 00 27 44.5 +0.8**
I49A IAmb IAmb 00 27 49.4
comp=Z,95nm,1.2s
I49A Point Hope 92.07 30 P **P 00 27 44.9 +1.1**
baz=325
I49A P **P 00 27 44.9 +1.1**
baz=325
I49A S **S 00 38 43.2 -2.6**
baz=325
I49A S **S 00 38 43.2 -2.6**
baz=325
RLO Rose Lookout 92.08 43 **P 00 27 44.2 +0.2**
RLO IAmb IAmb 00 27 49.7
comp=Z,77nm,1.2s
L46A Eue Claire 92.10 34 P **P 00 27 44.4 +0.4**
L46A IAmb IAmb 00 27 48.8
comp=Z,63nm,1.1s
L46A Eue Claire 92.10 34 P **P 00 27 44.6 +0.6**
baz=322
L46A P **P 00 27 44.6 +0.6**
baz=322
L46A S **S 00 38 43.4 -2.8**
baz=322
L46A S **S 00 38 43.4 -2.8**
baz=322
U38A Gravette 92.23 42 IAmb IAmb 00 27 50.2
comp=Z,88nm,1.1s
U38A Gravette 92.23 42 P **P 00 27 45.2 +0.5**
baz=317,SNR=38
U38A S **S 00 38 43.3 -4.3**
baz=317
LOOK Love County 92.39 45 **P 00 27 45.6 +0.1**
LOOK IAmb IAmb 00 27 50.6
comp=Z,63nm,1.2s
P43A Skaggs, Pawnee 92.40 37 P **P 00 27 46.0 +0.6**
P43A Skaggs, Pawnee 92.40 37 P **P 00 27 45.7 +0.3**
baz=320
P43A S **S 00 38 45.6 -3.3**
baz=320
O44A Mansfield 92.53 36 P **P 00 27 45.9 -0.1**
baz=321
O44A S **S 00 38 45.4 -4.7**
baz=321
HHAR Hobbs 92.60 42 IAmb IAmb 00 27 51.1
comp=Z,70nm,1.2s
HHAR Hobbs 92.60 42 P **P 00 27 45.7 -0.7**
baz=317
HHAR S **S 00 38 45.4 -5.5**
baz=317
CCM Cathedral Cave 92.73 39 P **P 00 27 46.3 -0.6**
CCM Cathedral Cave 92.73 39 IAMs_20 IAMs_20 01 13 19.8
comp=Z,18µm,20.0s
CCM Cathedral Cave 92.73 39 P **P 00 27 46.3 -0.6**
CCM pmax pmax
comp=Z,119nm,1.2s
CCM MLR MLR
comp=Z,18µm,20.0s
CCM Cathedral Cave 92.73 39 P **P 00 27 46.7 -0.3**
baz=319,SNR=55
CCM S **S 00 38 46.7 -5.2**
baz=319
CCM Cathedral Cave 92.73 39 P **P 00 27 46.4 -0.5**
baz=319
CCM S **S 00 38 47.7 -4.2**
baz=319
SLM Saint Louis 92.81 38 S **S 00 38 49.1 -3.5**
baz=320
Z35A Perchaven, San 92.82 46 P **P 00 27 47.2 -0.3**
Z35A Perchaven, San 92.82 46 P **P 00 27 48.4 +1.0**
baz=315,SNR=12
MGMO Mountain Grove 92.86 40 IAmb IAmb 00 27 52.8
comp=Z,81nm,1.1s
SADO Sadowa 92.86 28 LR LR 01 16 50.0
comp=Z,12µm,18.1s,baz=1.0,slow=40
L48A N Adams 92.99 33 IAmb IAmb 00 28 03.2
comp=Z,60nm,1.1s
L48A N Adams 92.99 33 P **P 00 27 48.0 -0.1**
baz=324
L48A P **P 00 27 48.0 -0.1**
baz=324
L48A S **S 00 38 49.9 -4.3**
baz=324
L48A S **S 00 38 49.9 -4.3**
baz=324
SFIN Lafayette 93.01 35 P **P 00 27 48.2 0.0**
SFIN IAmb IAmb 00 28 04.9
comp=Z,78nm,1.4s
SFIN Lafayette 93.01 35 P **P 00 27 49.2 +1.0**
baz=322
SFIN S **S 00 38 50.8 -3.5**
baz=322
SFIN Lafayette 93.01 35 P **P 00 27 48.5 +0.4**
baz=322
SFIN S **S 00 38 51.2 -3.1**
baz=322
X37A Clayton 93.02 44 **P 00 27 48.0 -0.3**
X37A IAmb IAmb 00 28 29.1
comp=Z,52nm,1.4s
X37A Clayton 93.02 44 P **P 00 27 48.9 +0.5**
baz=316
X37A S **S 00 38 52.9 -1.7**
baz=316
AAM Ann Arbor 93.05 32 IAMs_20 IAMs_20 01 14 47.0
comp=Z,13µm,20.0s
AAM Ann Arbor 93.05 32 P **P 00 27 47.8 -0.5**
baz=324
AAM S **S 00 38 50.8 -3.8**
baz=324
K50A Casco 93.11 31 S **S 00 38 52.3 -2.7**
baz=325
K50A S **S 00 38 52.3 -2.7**
baz=325
VAE Valguarnera 93.19 321 LR LR 01 15 01.1
comp=Z,32µm,18.2s,baz=20,slow=39
FVM French Village 93.20 39 P **P 00 27 50.1 +1.0**
FVM French Village 93.20 39 P **P 00 27 50.2 +1.0**
FVM French Village 93.20 39 P **P 00 27 49.4 +0.2**
baz=319
Q44A Meyer Farm, Va 93.22 37 P **P 00 27 49.9 +0.7**
Q44A IAmb IAmb 00 27 54.8
comp=Z,91nm,1.3s
Q44A Meyer Farm, Va 93.22 37 P **P 00 27 49.3 +0.1**
baz=320
Q44A S **S 00 38 51.7 -4.5**
baz=320
JCT Junction City 93.24 49 P **P 00 27 49.7 +0.2**
JCT IAMs_20 IAMs_20 01 08 23.3
comp=Z,15µm,19.0s
JCT Junction City 93.24 49 P **P 00 27 49.7 +0.2**
JCT pmax pmax
comp=Z,27nm,0.9s
JCT MLR MLR
comp=Z,15µm,19.0s
JCT Junction City 93.24 49 P **P 00 27 49.3 -0.3**
baz=314
JCT S **S 00 38 52.9 -4.0**
baz=314
JCT Junction City 93.24 49 P **P 00 27 48.7 -0.8**
baz=314
JCT S **S 00 38 53.6 -3.2**
baz=314
N47A Urbana 93.27 34 IAmb IAmb 00 27 54.7
comp=Z,65nm,1.2s
N47A Urbana 93.27 34 P **P 00 27 48.6 -0.8**
baz=323,SNR=11
N47A P **P 00 27 48.6 -0.8**
baz=323,SNR=11
N47A S **S 00 38 51.1 -5.5**
baz=323
N47A S **S 00 38 51.1 -5.5**
baz=323
LMQ La Malbaie 93.44 21 IAmb IAmb 00 27 55.6
comp=Z,66nm,1.1s
P46A Rosedale 93.55 36 P **P 00 27 50.7 0.0**
P46A IAmb IAmb 00 28 07.5
comp=Z,93nm,1.4s
P46A Rosedale 93.55 36 P **P 00 27 49.2 -1.5**
baz=322
P46A S **S 00 38 56.8 -2.3**
baz=322
WHTX Lake Whitney, 93.64 47 IAmb IAmb 00 27 57.4
comp=Z,80nm,1.1s
WHTX Lake Whitney, 93.64 47 P **P 00 27 51.5 +0.3**
baz=315
WHTX Lake Whitney, 93.64 47 P **P 00 27 50.5 -0.8**
baz=315
WHTX S **S 00 38 56.6 -3.6**
baz=315
DELO Deloro Mine 93.65 27 P **P 00 27 51.1 0.0**
OLIL Olney 93.80 37 P **P 00 27 52.5 +0.6**
OLIL IAmb IAmb 00 27 57.7
comp=Z,86nm,1.1s
OLIL Olney 93.80 37 P **P 00 27 52.3 +0.5**
baz=321,SNR=12
OLIL S **S 00 38 59.6 -1.8**
baz=321
FCAR Ozark Folk Cen 93.88 41 IAmb IAmb 00 27 57.5
comp=Z,81nm,1.2s
N49A Columbus Grove 93.92 33 P **P 00 27 52.9 +0.5**
N49A Columbus Grove 93.92 33 P **P 00 27 52.4 0.0**
baz=324
N49A P **P 00 27 52.4 0.0**
baz=324
N49A S **S 00 38 58.9 -3.5**
baz=324
N49A S **S 00 38 58.9 -3.5**
baz=324
O48B Farmland 94.01 34 P **P 00 27 52.3 -0.6**
baz=323,SNR=10
O48B S **S 00 39 04.5 +1.3**
baz=323
O48B Farmland 94.01 34 P **P 00 27 52.6 -0.3**
baz=323,SNR=10
O48B S **S 00 39 01.0 -2.2**
baz=323
S44A Carbondale 94.03 38 P **P 00 27 52.9 0.0**
S44A IAmb IAmb 00 28 08.7
comp=Z,60nm,1.1s
S44A Carbondale 94.03 38 P **P 00 27 54.8 +1.9**
baz=320
S44A S **S 00 39 01.0 -2.3**
baz=320
SIUC Southern Illin 94.03 38 P **P 00 27 53.2 +0.2**
SIUC IAmb IAmb 00 28 08.7
comp=Z,68nm,1.2s
MIAR Mount Ida 94.07 43 P **P 00 27 53.3 +0.1**
MIAR IAmb IAmb 00 27 58.4
comp=Z,65nm,1.2s
MIAR IAMs_20 IAMs_20 01 14 09.5
comp=Z,17µm,19.0s
MIAR Mount Ida 94.07 43 P **P 00 27 53.3 +0.1**
MIAR pmax pmax
comp=Z,65nm,1.2s
MIAR Mount Ida 94.07 43 P **P 00 27 53.4 +0.2**
baz=317,SNR=32
MIAR S **S 00 38 58.9 -4.9**
baz=317
MIAR Mount Ida 94.07 43 P **P 00 27 52.9 -0.2**
baz=317,SNR=32
MIAR S **S 00 38 59.0 -4.8**
baz=317
PBMO Poplar Bluff 94.11 39 S **S 00 39 02.2 -1.9**
baz=319
CGM3 Cape Girardeau 94.12 39 P **P 00 27 54.6 +1.3**
CGM3 IAmb IAmb 00 28 12.1
comp=Z,76nm,1.6s
Z38A Mt. Pleasant 94.20 45 S **S 00 39 05.1 +0.1**
baz=316
MNTQ Montreal, Queb 94.22 24 P **P 00 27 54.0 +0.3**
WHAR Wooly Hollow 94.23 42 P **P 00 27 54.7 +0.8**
WHAR IAmb IAmb 00 28 10.2
comp=Z,105nm,1.3s
D62A Allapoint, All 94.24 20 P **P 00 27 53.7 0.0**
D62A Allapoint, All 94.24 20 P **P 00 27 53.3 -0.4**
baz=335
D62A P **P 00 27 53.3 -0.4**
baz=335
D62A S **S 00 39 01.4 -3.5**
baz=335
D62A S **S 00 39 01.4 -3.5**
baz=335
ANKE Ethiopia-Afar 94.26 285 eP **P 00 27 55.0 +0.1**
ANKE eS **SKSac 00 38 38.0 +7.4**
LCAR Lake Charles 94.26 40 P **P 00 27 54.1 +0.1**
LCAR IAmb IAmb 00 27 59.6
comp=Z,59nm,1.4s
LCAR Lake Charles 94.26 40 P **P 00 27 54.2 +0.2**
baz=319,SNR=21
LCAR S **S 00 39 02.6 -2.9**
baz=319
J54A Appleton 94.32 28 S **S 00 39 02.6 -3.0**
baz=328
J54A S **S 00 39 02.6 -3.0**
baz=328
435B Jarrell 94.41 48 S **S 00 39 07.3 +0.4**
baz=315
435B Jarrell 94.41 48 P **P 00 27 55.1 +0.3**
baz=315
435B S **S 00 39 02.9 -4.0**
baz=315
O49A Covington 94.45 34 P **P 00 27 54.7 -0.1**
O49A Covington 94.45 34 P **P 00 27 54.6 -0.1**
baz=324
O49A P **P 00 27 54.6 -0.1**
baz=324
O49A S **S 00 39 06.1 -0.9**
baz=324
O49A S **S 00 39 06.1 -0.9**
baz=324
BMNY Brushton-Moira 94.50 25 P **P 00 27 53.7 -1.2**
baz=331
BMNY S **S 00 39 05.4 -1.8**
baz=331
E62A Clayton Lake 94.52 21 P **P 00 27 54.5 -0.5**
E62A Clayton Lake 94.52 21 P **P 00 27 56.9 +1.9**
baz=335
E62A P **P 00 27 56.9 +1.9**
baz=335
E62A S **S 00 39 06.2 -1.1**
baz=335
E62A S **S 00 39 06.2 -1.1**
baz=335
P48A Milroy 94.52 35 P **P 00 27 58.0 +2.8**
baz=323
P48A P **P 00 27 58.0 +2.8**
baz=323
P48A S **S 00 39 05.2 -2.4**
baz=323
P48A S **S 00 39 05.2 -2.4**
baz=323
237A Washetta, Mont 94.62 46 P **P 00 27 58.2 +2.4**
baz=316
J55A Hilton 94.64 28 P **P 00 27 53.5 -2.1**
J55A Hilton 94.64 28 P **P 00 27 57.6 +1.9**
baz=328
J55A P **P 00 27 57.6 +1.9**
baz=328
J55A S **S 00 39 04.1 -4.4**
baz=328
J55A S **S 00 39 04.1 -4.4**
baz=328
M52A Chesterland 94.66 31 S **S 00 39 05.4 -3.4**
baz=326
M52A S **S 00 39 05.4 -3.4**
baz=326
LONY Lake Ozonia 94.66 25 P **P 00 27 55.1 -0.7**
LONY IAMs_20 IAMs_20 01 12 31.7
comp=Z,13µm,19.0s
LONY Lake Ozonia 94.66 25 P **P 00 27 54.6 -1.1**
baz=331
LONY S **S 00 39 03.8 -4.9**
baz=331
N51A Ashland 94.73 32 P **P 00 27 58.0 +1.9**
baz=325
N51A P **P 00 27 58.0 +1.9**
baz=325
N51A S **S 00 39 07.3 -2.1**
baz=325
N51A S **S 00 39 07.3 -2.1**

baz=325
ERPA Erie 94.75 30 P **P** **00 27 56.7 +0.6**
ERPA Erie 94.75 30 P **P** **00 27 55.6 -0.5**
baz=327
ERPA S **S** **00 39 06.5 -3.0**
baz=327
P49A Miami Univ. Ec 94.79 34 P **P** **00 27 54.9 -1.5**
P49A IAmb IAmb 00 28 12.0
comp=Z,135nm,1.8s
P49A IAMs_20 IAMs_20 01 16 56.4
comp=Z,16µm,19.0s
P49A Miami Univ. Ec 94.79 34 P **P** **00 27 58.3 +1.9**
baz=323
P49A S **S** **00 39 07.3 -2.8**
baz=323
P49A Miami Univ. Ec 94.79 34 P **P** **00 27 55.6 -0.8**
baz=323
P49A S **S** **00 39 05.7 -4.4**
baz=323
FRNY Flat Rock 94.82 24 P **P** **00 27 58.8 +2.4**
baz=332
FRNY S **S** **00 39 05.7 -4.3**
baz=332
WCNY West Carthage 94.84 26 P **P** **00 27 59.1 +2.6**
baz=330
WCNY S **S** **00 39 05.4 -4.8**
baz=330
T45B Paducah 94.86 38 S **S** **00 39 08.0 -2.6**
baz=320
BATG Bathurst New B 94.88 19 P **P** **00 27 55.9 -0.7**
PQI Presque Isle 94.91 20 P **P** **00 27 56.6 -0.2**
PQI IAmb IAmb 00 28 02.2
comp=Z,49nm,1.2s
WLAR White Oak Lake 94.96 43 P **P** **00 27 57.9 +0.6**
WLAR IAmb IAmb 00 28 02.5
comp=Z,54nm,1.2s
833A Chaparral WMA, 94.98 51 P **P** **00 27 55.5 -1.9**
baz=314
833A S **S** **00 39 12.4 +0.4**
baz=314
833A Chaparral WMA, 94.98 51 P **P** **00 27 57.5 +0.1**
baz=314,SNR=9.7
833A S **S** **00 39 09.0 -3.0**
baz=314
J56A Wolcott 95.00 27 P **P** **00 27 57.7 +0.4**
J56A Wolcott 95.00 27 P **P** **00 27 57.8 +0.5**
baz=329
J56A P **P** **00 27 57.8 +0.5**
baz=329
J56A S **S** **00 39 06.1 -5.5**
baz=329
J56A S **S** **00 39 06.1 -5.5**
baz=329
E63A Oxbow 95.02 20 P **P** **00 27 56.8 -0.4**
baz=336,SNR=5.6
E63A P **P** **00 27 56.8 -0.4**
baz=336,SNR=5.6
E63A S **S** **00 39 08.5 -3.2**
baz=336
E63A S **S** **00 39 08.5 -3.2**
baz=336
ACSO Alum Creek Sta 95.02 33 P **P** **00 27 58.0 +0.5**
ACSO IAMs_20 IAMs_20 01 14 24.3
comp=Z,15µm,20.0s
ACSO Alum Creek Sta 95.02 33 P **P** **00 27 59.8 +2.4**
baz=324
ACSO S **S** **00 39 09.1 -2.9**
baz=324
ACSO Alum Creek Sta 95.02 33 P **P** **00 27 57.2 -0.3**
baz=324
ACSO S **S** **00 39 08.4 -3.6**
baz=324
M53A WI Miller and 95.03 31 P **P** **00 27 57.4 -0.1**
M53A WI Miller and 95.03 31 P **P** **00 27 56.1 -1.4**
baz=326
M53A S **S** **00 39 09.0 -3.0**
baz=326
F62A Pittston Farm, 95.04 22 P **P** **00 27 57.1 -0.3**
F62A IAmb IAmb 00 28 03.3
comp=Z,48nm,1.1s
F62A Pittston Farm, 95.04 22 P **P** **00 27 58.4 +1.0**
baz=334,SNR=14
F62A P **P** **00 27 58.4 +1.0**
baz=334,SNR=14
F62A S **S** **00 39 07.8 -4.1**
baz=334
F62A S **S** **00 39 07.8 -4.1**
baz=334
MMNY Mt. Morris Dam 95.06 28 P **P** **00 27 57.7 +0.1**
WVNY West Valley, N 95.06 29 P **P** **00 27 57.7 +0.1**
WVNY West Valley, N 95.06 29 P **P** **00 27 56.2 -1.4**
baz=328
WVNY S **S** **00 39 08.4 -3.9**
baz=328
WCI Wyandotte Cave 95.08 36 P **P** **00 27 57.9 +0.1**
WCI IAmb IAmb 00 28 16.6
comp=Z,84nm,1.5s
WCI Wyandotte Cave 95.08 36 P **P** **00 27 57.9 +0.1**
WCI pmax pmax
comp=Z,84nm,1.5s
WCI Wyandotte Cave 95.08 36 P **P** **00 27 58.3 +0.5**
baz=322
WCI S **S** **00 39 10.2 -2.4**
baz=322
WCI Wyandotte Cave 95.08 36 P **P** **00 27 57.2 -0.6**
baz=322
WCI S **S** **00 39 11.0 -1.6**
baz=322
J57A Williamstown 95.20 27 P **P** **00 27 58.6 +0.4**
J57A Williamstown 95.20 27 P **P** **00 27 58.8 +0.6**
baz=330,SNR=8.9
J57A P **P** **00 27 58.8 +0.6**
baz=330,SNR=8.9
J57A S **S** **00 39 10.6 -2.8**
baz=330
J57A S **S** **00 39 10.6 -2.8**
baz=330
NCB Newcomb 95.36 25 P **P** **00 27 58.6 -0.3**
NCB Newcomb 95.36 25 P **P** **00 27 59.4 +0.4**
baz=331
NCB S **S** **00 39 10.9 -3.9**
baz=331
AAE Adis Abeba 95.36 285 *e*P **P** **00 28 03.2 +3.4**
AAE *e*S PP 00 32 06.4 +16
AAE Adis Abeba 95.36 285‖ *e*P **P** **00 27 59.8 0.0**
AAE *e*S PP 00 31 58.1 +8.1
AAE Adis Abeba 95.36 285 *e*P P 00 27 54.7 -5.1
AAE *e*S PP 00 32 00.0 +10
AAE Adis Abeba 95.36 285 *e*P **P** **00 28 03.2 +3.4**
AAE *e*S PP 00 32 06.4 +16
AAE IAMs_20 IAMs_20 00 38 53.8
comp=E,6µm,15.8s
AAE IAMs_20 IAMs_20 00 41 24.4
comp=N,11µm,21.8s
AAE Adis Abeba 95.36 285 *e*P **P** **00 27 57.9 -1.9**
AAE *e*S **SKSac** **00 38 43.3 +7.0**
NATX Nacogdoches 95.47 45 IAMs_20 IAMs_20 01 10 39.8
comp=Z,17µm,20.0s
NATX Nacogdoches 95.47 45 P **P** **00 27 59.1 -0.6**
baz=316
NATX S **S** **00 39 13.4 -2.7**
baz=316
F63A Nahmakanta, Br 95.47 21 P **P** **00 28 01.0 +1.6**
baz=335
F63A P **P** **00 28 01.0 +1.6**
baz=335
F63A S **S** **00 39 11.8 -3.9**
baz=335
F63A S **S** **00 39 11.8 -3.9**
baz=335
G62A West of Eustis 95.47 22 P **P** **00 28 00.0 +0.6**
G62A West of Eustis 95.47 22 P **P** **00 27 58.5 -1.0**
baz=334
G62A P **P** **00 27 58.5 -1.0**
baz=334
G62A S **S** **00 39 13.0 -2.7**
baz=334
G62A S **S** **00 39 13.0 -2.7**
baz=334
N53A Lisbon 95.48 31 P **P** **00 27 59.9 +0.3**
N53A Lisbon 95.48 31 P **P** **00 27 59.8 +0.2**
baz=326
N53A P **P** **00 27 59.8 +0.2**
baz=326
N53A S **S** **00 39 11.9 -4.0**
baz=326
N53A S **S** **00 39 11.9 -4.0**
baz=326
J58A Remsen 95.51 26 P **P** **00 27 59.6 -0.1**
J58A Remsen 95.51 26 P **P** **00 28 00.1 +0.5**
baz=330
J58A P **P** **00 28 00.1 +0.5**
baz=330
J58A S **S** **00 39 10.0 -6.1**
baz=330
J58A S **S** **00 39 10.0 -6.1**
baz=330
FURI Furi 95.51 285 IAMs_20 IAMs_20 01 18 02.0
comp=Z,12µm,18.0s
FURI Furi 95.51 285 *e*P P 00 28 09.2 +8.7
FURI *e*S PP 00 32 02.4 +11
FURI Furi 95.51 285‖ *e*P **P** **00 28 02.8 +2.3**
FURI *e*S PP 00 32 02.8 +12
FURI Furi 95.51 285 *e*P P 00 27 55.6 -4.9
FURI *e*S PP 00 31 59.8 +8.6
FURI Furi 95.51 285 *e*P P 00 28 09.2 +8.7
FURI *e*S PP 00 32 02.4 +11
FURI IAMs_20 IAMs_20 00 40 49.1
comp=Z,7µm,18.0s
FURI IAMs_20 IAMs_20 00 41 20.5
comp=Z,4µm,12.1s
FURI Furi 95.51 285 *e*P **P** **00 28 04.8 +4.3**
FURI *e*S **SKSac** **00 38 39.6 +2.4**
VT1 Waterbury 95.54 24 IAMs_20 IAMs_20 01 13 07.3
comp=Z,16µm,20.0s
F64A Sherman 95.55 21 P **P** **00 28 00.2 +0.5**
F64A Sherman 95.55 21 P **P** **00 28 00.1 +0.3**
baz=336,SNR=5.9
F64A P **P** **00 28 00.1 +0.3**
baz=336,SNR=5.9
F64A S **S** **00 39 14.1 -2.2**
baz=336
F64A S **S** **00 39 14.1 -2.2**
baz=336
R49A Shelbyville 95.57 35 P **P** **00 27 58.2 -1.8**
R49A Shelbyville 95.57 35 P **P** **00 28 00.3 +0.3**
baz=323
R49A P **P** **00 28 00.3 +0.3**
baz=323
R49A S **S** **00 39 13.2 -3.6**
baz=323
R49A S **S** **00 39 13.2 -3.6**
baz=323
K57A Scipio Center 95.59 27 P **P** **00 28 02.1 +2.1**
baz=329
K57A S **S** **00 39 11.2 -5.7**
baz=329
P51A Williamsport 95.59 33 S **S** **00 39 13.7 -3.3**
baz=324
P51A S **S** **00 39 13.7 -3.3**
baz=324
O52A Adamsville 95.62 32 P **P** **00 27 59.8 -0.4**
O52A Adamsville 95.62 32 P **P** **00 28 03.1 +2.9**
baz=325
O52A P **P** **00 28 03.1 +2.9**
baz=325
O52A S **S** **00 39 11.8 -5.4**
baz=325
O52A S **S** **00 39 11.8 -5.4**
baz=325
T47A Sharon Grove 95.66 37 P **P** **00 27 59.8 -0.6**
T47A Sharon Grove 95.66 37 P **P** **00 28 00.5 +0.1**
baz=322
T47A S **S** **00 39 14.8 -2.8**
baz=322
L56A Greenwood 95.70 28 P **P** **00 28 01.5 +0.9**
L56A IAmb IAmb 00 28 29.8
comp=Z,57nm,1.6s
L56A Greenwood 95.70 28 P **P** **00 28 03.4 +2.8**
baz=328
L56A P **P** **00 28 03.4 +2.8**
baz=328
L56A S **S** **00 39 10.9 -7.0**
baz=328
L56A S **S** **00 39 10.9 -7.0**
baz=328
O53A New Philadelph 95.78 32 P **P** **00 28 00.8 -0.1**
O53A IAMs_20 IAMs_20 01 15 09.6
comp=Z,17µm,19.0s
O53A New Philadelph 95.78 32 P **P** **00 28 00.3 -0.6**
baz=326
O53A S **S** **00 39 13.6 -5.0**
baz=326
M55A Ridgway 95.79 29 P **P** **00 28 01.0 0.0**
M55A Ridgway 95.79 29 P **P** **00 28 01.9 +1.0**
baz=328
M55A P **P** **00 28 01.9 +1.0**
baz=328
M55A S **S** **00 39 13.7 -4.9**
baz=328
M55A S **S** **00 39 13.7 -4.9**
baz=328
MCVT Middlebury Col 95.80 24 P **P** **00 28 03.2 +2.2**
baz=332
MCVT S **S** **00 39 16.1 -2.5**
baz=332
PKME Peaks-Kenny Pk 95.81 21 P **P** **00 27 59.3 -1.6**
baz=335
PKME S **S** **00 39 13.3 -5.3**
baz=335
PKME Peaks-Kenny Pk 95.81 21 P **P** **00 27 59.8 -1.1**
baz=335
PKME S **S** **00 39 14.2 -4.4**
baz=335
Q51A Peebles 95.83 34 P **P** **00 28 01.6 +0.4**
Q51A IAmb IAmb 00 28 18.2
comp=Z,46nm,1.2s
Q51A Peebles 95.83 34 P **P** **00 28 01.4 +0.2**
baz=324
Q51A P **P** **00 28 01.4 +0.2**
baz=324
Q51A S **S** **00 39 13.6 -5.5**
baz=324
Q51A S **S** **00 39 13.6 -5.5**
baz=324
H62A Milan 95.85 23 P **P** **00 28 00.9 -0.2**
H62A Milan 95.85 23 S **S** **00 39 13.1 -5.9**
baz=333
H62A S **S** **00 39 13.1 -5.9**
baz=333
P52A Corning 95.89 32 P **P** **00 28 01.7 +0.3**
P52A IAMs_20 IAMs_20 01 15 36.2
comp=Z,14µm,19.0s
P52A Corning 95.89 32 P **P** **00 28 00.5 -0.9**
baz=325
P52A S **S** **00 39 14.0 -5.5**
baz=325
LBNH Lisbon 95.90 24 S **S** **00 39 13.8 -5.7**
baz=333
LBNH Lisbon 95.90 24 P **P** **00 28 01.4 0.0**
baz=333
LBNH S **S** **00 39 16.3 -3.2**
baz=333
WVT Waverly 95.96 38 P **P** **00 28 02.8 +1.0**
WVT Waverly 95.96 38 IAMs_20 IAMs_20 01 17 56.2
comp=Z,18µm,18.0s
WVT Waverly 95.96 38 P **P** **00 28 02.8 +1.0**
WVT pmax pmax
comp=Z,23nm,1.3s
WVT Waverly 95.96 38 P **P** **00 28 00.5 -1.3**
baz=321
WVT S **S** **00 39 16.2 -4.0**
baz=321
WVT Waverly 95.96 38 P **P** **00 28 00.9 -0.9**
baz=321
WVT S **S** **00 39 15.6 -4.7**
baz=321
R50A Paris 95.98 35 P **P** **00 28 02.4 +0.6**
R50A IAmb IAmb 00 28 16.8
comp=Z,46nm,1.4s
R50A Paris 95.98 35 P **P** **00 27 57.9 -4.0**
baz=323
R50A P **P** **00 27 57.9 -4.0**
baz=323
R50A S **S** **00 39 15.4 -4.9**
baz=323
R50A S **S** **00 39 15.4 -4.9**
baz=323
ACCN Adirondack Com 96.06 25 P **P** **00 28 02.9 +0.7**
baz=331
ACCN S **S** **00 39 17.3 -3.6**
baz=331
HKT Hockley 96.06 47 P **P** **00 28 02.1 -0.2**
baz=316
O54A Avella 96.20 31 P **P** **00 28 02.0 -0.9**
O54A IAmb IAmb 00 28 18.7
comp=Z,123nm,1.9s
O54A Avella 96.20 31 P **P** **00 28 07.2 +4.4**
baz=326
O54A P **P** **00 28 07.2 +4.4**
baz=326
O54A S **S** **00 39 21.5 -0.6**
baz=326
O54A S **S** **00 39 21.5 -0.6**
baz=326
BINY Binghamton 96.25 27 P **P** **00 28 02.7 -0.3**
baz=330
BINY S **S** **00 39 16.8 -5.8**
baz=330
HNH Hanover 96.25 24 IAMs_20 IAMs_20 01 16 40.8
comp=Z,18µm,19.0s
WVL Waterville 96.33 22 P **P** **00 28 02.8 -0.5**
P53A Whipple 96.33 32 P **P** **00 28 04.2 +0.8**
P53A Whipple 96.33 32 P **P** **00 28 06.0 +2.6**
baz=326
P53A P **P** **00 28 06.0 +2.6**
baz=326
OXF Oxford 96.37 40 IAMs_20 IAMs_20 01 18 53.9
comp=Z,13µm,18.0s
OXF Oxford 96.37 40 P **P** **00 28 06.3 +2.6**
baz=320
OXF Oxford 96.37 40 P **P** **00 28 02.8 -0.9**
baz=320
OXF S **S** **00 39 18.0 -5.8**
baz=320
Q52A Bidwell 96.37 33 P **P** **00 28 05.7 +2.1**
baz=325
Q52A P **P** **00 28 05.7 +2.1**
baz=325
G65A Princeton 96.38 20 P **P** **00 28 03.5 +0.1**
G65A Princeton 96.38 20 P **P** **00 28 06.9 +3.4**
baz=336
G65A P **P** **00 28 06.9 +3.4**
baz=336
G65A S **S** **00 39 23.8 +0.4**
baz=336
G65A S **S** **00 39 23.8 +0.4**
baz=336
HCNY Howe Caverns 96.41 26 S **S** **00 39 16.5 -7.4**
baz=331
I62A Tamworth 96.42 23 P **P** **00 28 03.9 +0.2**
baz=333
I62A P **P** **00 28 03.9 +0.2**
baz=333
I62A S **S** **00 39 25.2 +1.3**
baz=333
I62A S **S** **00 39 25.2 +1.3**
baz=333
KVTX Kingsville 96.47 50 IAMs_20 IAMs_20 01 10 52.0
comp=Z,15µm,19.0s
J61A Chester 96.48 24 S **S** **00 39 23.9 -0.6**
baz=332
J61A S **S** **00 39 23.9 -0.6**
baz=332
I63A Otisfield 96.51 23 P **P** **00 28 06.2 +2.1**
baz=334
I63A P **P** **00 28 06.2 +2.1**
baz=334
I63A S **S** **00 39 22.8 -1.8**
baz=334
I63A S **S** **00 39 22.8 -1.8**
baz=334
M57A Sunshine Farm, 96.55 28 P **P** **00 28 04.8 +0.4**
M57A IAmb IAmb 00 28 12.2
comp=Z,48nm,1.3s
M57A Sunshine Farm, 96.55 28 P **P** **00 28 05.1 +0.7**
baz=329,SNR=7.4
M57A P **P** **00 28 05.1 +0.7**
baz=329,SNR=7.4
M57A S **S** **00 39 21.9 -3.3**
baz=329
M57A S **S** **00 39 21.9 -3.3**
baz=329
L59A Walton 96.61 27 P **P** **00 28 04.7 0.0**
L59A Walton 96.61 27 S **S** **00 39 18.2 -7.6**
baz=330
L59A S **S** **00 39 18.2 -7.6**
baz=330
FFD Franklin Falls 96.67 24 IAMs_20 IAMs_20 01 12 05.9
comp=Z,16µm,20.0s
U49A Red Boiling Sp 96.69 37 P **P** **00 28 05.2 +0.1**
U49A IAmb IAmb 00 28 21.5
comp=Z,52nm,1.5s
U49A Red Boiling Sp 96.69 37 P **P** **00 28 06.1 +1.0**
baz=322
U49A S **S** **00 39 20.2 -6.3**
baz=322
PLAL Pickwick Lake 96.72 39 IAMs_20 IAMs_20 01 15 03.4
comp=Z,17µm,19.0s
T50A Nancy 96.74 36 P **P** **00 28 05.2 -0.2**
T50A Nancy 96.74 36 P **P** **00 28 04.5 -0.8**
baz=323
T50A P **P** **00 28 04.5 -0.8**
baz=323
CLTN Cedars of Leba 96.74 37 P **P** **00 28 05.6 +0.2**
V48A Smith Brothers 96.77 38 S **S** **00 39 29.0 +1.7**
baz=322
S51A Beattyville 96.84 35 P **P** **00 28 04.4 -1.4**
baz=324
S51A P **P** **00 28 04.4 -1.4**
baz=324
SSPA Standing Stone 96.85 29 IAMs_20 IAMs_20 01 16 43.7
comp=Z,16µm,20.0s
SSPA Standing Stone 96.85 29 P **P** **00 28 02.5 -3.2**
baz=328
SSPA S **S** **00 39 28.4 +0.7**
baz=328
SSPA Standing Stone 96.85 29 P **P** **00 28 03.5 -2.3**
baz=328
SSPA S **S** **00 39 22.9 -4.8**
baz=328
MCWV Mont Chateau 96.86 31 S **S** **00 39 28.1 +0.2**
baz=327
MCWV Mont Chateau 96.86 31 P **P** **00 28 06.6 +0.8**
baz=327
MCWV S **S** **00 39 22.4 -5.5**
baz=327
EMMW East Machias 96.86 20 S **S** **00 39 28.0 +0.4**
baz=336
KSPA Keystone Colle 96.89 27 P **P** **00 28 06.0 +0.1**
KSPA Keystone Colle 96.89 27 P **P** **00 28 06.3 +0.4**
baz=330
KSPA S **S** **00 39 25.4 -2.7**
baz=330
Q54A Coxs Mills 96.99 32 P **P** **00 28 06.7 +0.3**
Q54A IAmb IAmb 00 28 14.2
comp=Z,72nm,1.6s
Q54A Coxs Mills 96.99 32 P **P** **00 28 07.3 +0.8**
baz=326
Q54A P **P** **00 28 07.3 +0.8**
baz=326
Q54A S **S** **00 39 27.1 -1.9**
baz=326
Q54A S **S** **00 39 27.1 -1.9**
baz=326
R53A Hurricane 97.03 33 P **P** **00 28 03.4 -3.2**
baz=325
R53A P **P** **00 28 03.4 -3.2**
baz=325
KEST Kesra 97.13 323 P **P** **00 28 07.2 -0.1**
comp=Z,7.8nm,1.1s,baz=162,slow=3.2,SNR=3.2
KEST PP **PP** **00 32 02.9 +0.5**
comp=Z,5.4nm,1.1s,baz=347,slow=8.2,SNR=2.5
KEST LR LR 01 15 32.7
comp=Z,24µm,19.1s,baz=331,slow=38
comp=Z,7.8nm,1.1s
KEST Kesra 97.13 323 P **P** **00 28 05.9 -1.3**
N58A Sunbury 97.14 28 P **P** **00 28 05.8 -1.2**
N58A Sunbury 97.14 28 P **P** **00 28 05.1 -1.9**
baz=329
N58A P **P** **00 28 05.1 -1.9**
baz=329
N58A S **S** **00 39 27.3 -2.9**
baz=329
N58A S **S** **00 39 27.3 -2.9**
baz=329
K62A Royalston 97.19 24 S **S** **00 39 28.3 -2.3**
baz=332
K62A S **S** **00 39 28.3 -2.3**
baz=332
L61B Northampton 97.23 25 P **P** **00 28 06.5 -0.9**
baz=332

UNH	**University of**	**97.27**	**23**	P		Pdif	00 28 08.6	+0.9	
	baz=334								
NPNY	**Mohonk Preserv**	**97.32**	**26**	S		**S**	**00 39 28.9**	**-2.8**	
	baz=331								
QUA2	**Belchertown**	**97.50**	**25**	IAMs_20	IAMs_20		01 18 19.7		
	comp=E,17µm,20.0s								
QUA2	**Belchertown**	**97.50**	**25**	S		**S**	**00 39 31.3**	**-1.9**	
	baz=332								
VBMS	**Vicksburg**	**97.50**	**42**	IAMs_20	IAMs_20		01 18 33.5		
	comp=E,14µm,19.0s								
VBMS	**Vicksburg**	**97.50**	**42**	P		**P**	**00 28 06.6**	**-2.3**	
	baz=319								
VBMS				S		**S**	**00 39 30.6**	**-3.1**	
	baz=319								
HRV	**Adam Dziewonsk**	**97.56**	**24**	P		Pdif	00 28 11.2	+2.2	
	baz=333								
HRV				S		**S**	**00 39 30.0**	**-3.8**	
	baz=333								
HRV	**Adam Dziewonsk**	**97.56**	**24**	P		**P**	**00 28 08.9**	**-0.1**	
	baz=333								
HRV				S		**S**	**00 39 30.1**	**-3.8**	
	baz=333								
SWET	**Sewanee**	**97.63**	**38**	P		Pdif	00 28 09.6	+0.1	
Q56A	**Snyder Ridge,**	**97.65**	**31**	P		**P**	**00 28 09.3**	**-0.2**	
Q56A	**Snyder Ridge,**	**97.65**	**31**	S		**S**	**00 39 32.1**	**-2.7**	
	baz=327								
Q56A				S		**S**	**00 39 32.1**	**-2.7**	
	baz=327								
BRNY	**Black Rk. Fore**	**97.67**	**26**	S		**S**	**00 39 30.9**	**-3.9**	
	baz=331								
TZTN	**Tazewell**	**97.74**	**35**	P		**P**	**00 28 09.4**	**-0.5**	
TZTN				IAmb	IAmb		00 28 26.4		
	comp=E,54nm,1.6s								
TZTN				IAMs_20	IAMs_20		01 18 41.5		
	comp=E,18µm,19.0s								
TZTN	**Tazewell**	**97.74**	**35**	P		Pdif	00 28 10.2	+0.3	
	baz=324								
TZTN	**Tazewell**	**97.74**	**35**	P		Pdif	00 28 10.6	+0.7	
	baz=324								
R55A	**Marlinton**	**97.89**	**32**	P		Pdif	00 28 11.0	+0.4	
	baz=326								
R55A				P		Pdif	00 28 11.0	+0.4	
	baz=326								
V51A	**Loudon**	**97.95**	**36**	P		**P**	**00 28 10.3**	**-0.5**	
V51A				IAmb	IAmb		00 28 27.0		
	comp=E,49nm,1.5s								
V51A	**Loudon**	**97.95**	**36**	P		Pdif	00 28 10.9	0.0	
	baz=323								
W50A	**Signal Mountai**	**97.95**	**37**	P		Pdif	00 28 11.0	0.0	
	baz=323								
PAL	**Palisades**	**98.06**	**26**	P		Pdif	00 28 11.4	+0.2	
	baz=331								
PAL				S		**S**	**00 39 32.9**	**-5.2**	
	baz=331								
CPCT	**Cooper Cave**	**98.15**	**36**	P		**P**	**00 28 11.3**	**-0.4**	
CPCT				IAmb	IAmb		00 28 30.3		
	comp=E,40nm,1.6s								
V52A	**Sevierville**	**98.28**	**36**	P		**P**	**00 28 12.0**	**-0.4**	
V52A				IAmb	IAmb		00 28 17.9		
	comp=E,50nm,1.6s								
V52A	**Sevierville**	**98.28**	**36**	P		Pdif	00 28 14.4	+2.0	
	baz=324								
TKL	**Tuckaleechee C**	**98.35**	**36**	LR		LR	01 17 31.3		
	comp=Z,4µm,18.8s,baz=348,slow=38								
TKL	**Tuckaleechee C**	**98.35**	**36**	P		**P**	**00 28 12.5**	**-0.1**	
TKL				IAmb	IAmb		00 28 18.0		
	comp=E,34nm,1.5s								
TKL	**Tuckaleechee C**	**98.35**	**36**	P		**P**	**00 28 12.5**	**-0.1**	
TKL				pmax	pmax				
	comp=E,34nm,1.5s								
TKL	**Tuckaleechee C**	**98.35**	**36**	P		**P**	**00 28 12.5**	**-0.1**	
	baz=324								
BLA	**Blacksburg**	**98.64**	**33**	P		**P**	**00 28 12.9**	**-1.0**	
	baz=326								
BLA				S		**S**	**00 39 37.8**	**-5.5**	
	baz=326								
PBRG	**Braganca**	**98.70**	**337**	*e*Pdif		Pdif	00 28 16.2	+2.1	
LRAL	**Lakeview Retre**	**98.79**	**40**	IAMs_20	IAMs_20		01 18 51.2		
	comp=Z,17µm,20.0s								
LRAL	**Lakeview Retre**	**98.79**	**40**	P		**P**	**00 28 13.1**	**-1.5**	
	baz=321								
V53A	**Saluda**	**98.80**	**35**	P		**P**	**00 28 14.6**	**-0.1**	
UCM	**Universidad Co**	**98.81**	**334**	Pdif		**P**	**00 28 13.8**	**-0.8**	
UCM	**Universidad Co**	**98.81**	**334**	PP		PP	00 32 23.0	+8.0	
PGAV	**Gavieira, Arco**	**99.04**	**338**	*e*Pdif		**Pdif**	**00 28 20.7**	**+5.0**	
PGAV	**Gavieira, Arco**	**99.04**	**338**	*e*PP		**PP**	**00 32 20.5**	**+3.8**	
PGAV				*e*SKSac		**SKSac**	**00 38 49.4**	**-4.7**	
PGAV	**Gavieira, Arco**	**99.04**	**338**	*e*LR		LR	01 07 38.0		
	comp=Z,32µm,18.0s								
CBN	**Corbin Frederi**	**99.12**	**30**	P		**Pdif**	**00 28 14.2**	**-1.8**	
	baz=328								
BG3	**Lake Jocassee**	**99.29**	**36**	P		**Pdif**	**00 28 17.3**	**+0.5**	
BG3				IAmb	IAmb		00 28 33.6		
	comp=E,37nm,1.5s								
T57A	**Hurt**	**99.33**	**32**			**Pdif**	**00 28 16.2**	**-0.8**	
MVO	**Moncorvo**	**99.37**	**337**	*e*Pdif		**Pdif**	**00 28 20.5**	**+3.3**	
MVO	**Moncorvo**	**99.37**	**337**	*e*PP		**PP**	**00 32 26.7**	**+7.5**	
MVO				*e*SKSac		**SKSac**	**00 38 57.7**	**+2.0**	
MVO	**Moncorvo**	**99.37**	**337**	*e*LR		LR	01 08 18.7		
	comp=Z,20µm,18.0s								
POLO	**Lamas de Olo**	**99.43**	**337**	*e*Pdif		**Pdif**	**00 28 18.9**	**+1.5**	
ESDC	**Sonseca Array**	**99.63**	**334**	P		**Pdif**	**00 28 18.7**	**+0.3**	
	comp=Z,1.9nm,1.1s,baz=9.6,slow=4.1,SNR=8.0								
ESDC				PP		**PP**	**00 32 20.7**	**-0.5**	
	comp=Z,1.8nm,0.8s,baz=30,slow=7.7,SNR=6.0								
ESDC				LR		LR	01 19 11.2		
	comp=E,32nm,18.8s,baz=22,slow=39								
	comp=Z,1.9nm,1.1s								
KMSC	**Kings Mountain**	**99.93**	**35**	P		**Pdif**	**00 28 17.5**	**-2.1**	
	baz=325								
BRAL	**Brewton**	**100.21**	**41**	IAMs_20	IAMs_20		01 19 46.0		
	comp=Z,16µm,19.0s								
BRAL	**Brewton**	**100.21**	**41**	P		**Pdif**	**00 28 20.3**	**-0.7**	
	baz=321								
MTE	**Manteigas**	**100.23**	**337**	*e*Pdif		**Pdif**	**00 28 22.9**	**+1.9**	
MTE	**Manteigas**	**100.23**	**337**	*e*PP		**PP**	**00 32 30.7**	**+5.0**	
MTE				*e*SKSac		**SKSac**	**00 39 02.1**	**+2.2**	
MTE	**Manteigas**	**100.23**	**337**	*e*LR		LR	01 07 31.8		
	comp=Z,23µm,18.0s								
GOGA	**Godfrey**	**100.30**	**37**	P		**Pdif**	**00 28 21.2**	**-0.2**	
	baz=324								
PCBR	**Castelo Branco**	**100.71**	**336**	*e*Pdif		**Pdif**	**00 28 26.1**	**+3.1**	
PCAS	**Casmilo, Conde**	**100.85**	**337**	*e*Pdif		**Pdif**	**00 28 29.4**	**+5.7**	
PMRV	**Marv??o**	**101.05**	**336**	*e*Pdif		**Pdif**	**00 28 30.2**	**+5.6**	
PMRV	**Marv??o**	**101.05**	**336**	*e*PP		**PP**	**00 32 32.4**	**+0.5**	
PMRV				*e*SKSac		**SKSac**	**00 39 04.7**	**+0.8**	
PMRV	**Marv??o**	**101.05**	**336**	*e*LR		LR	01 08 01.8		
	comp=Z,25µm,18.0s								
UNM	**Universidad Na**	**101.25**	**57**	IAMs_20	IAMs_20		01 09 48.0		
	comp=Z,15µm,19.0s								
CNNC	**Cliffs of the**	**101.41**	**32**	IAMs_20	IAMs_20		01 17 20.4		
	comp=Z,15µm,19.0s								
CNNC	**Cliffs of the**	**101.41**	**32**	P		**Pdif**	**00 28 25.5**	**-0.7**	
	baz=328								
PSBE	**So Bento**	**101.43**	**337**	*e*Pdif		**Pdif**	**00 28 27.0**	**+0.7**	
PESTR	**Estremoz**	**101.62**	**336**	*e*Pdif		**Pdif**	**00 28 31.3**	**+4.1**	
PMTG	**Montargil**	**101.65**	**336**	*e*Pdif		**Pdif**	**00 28 30.8**	**+3.6**	
TIGA	**Tifton**	**101.82**	**38**	P		**Pdif**	**00 28 28.2**	**+0.1**	
	baz=323								
PBAR	**Barrancos**	**102.06**	**335**	*e*Pdif		**Pdif**	**00 28 30.9**	**+1.8**	
PMAFR	**Mafra**	**102.10**	**337**	*e*Pdif		**Pdif**	**00 28 31.2**	**+1.9**	
PACT	**Alcochete**	**102.12**	**337**	*e*Pdif		**Pdif**	**00 28 33.4**	**+4.1**	
LIS	**Lisbon**	**102.27**	**337**	*e*Pdif		**Pdif**	**00 28 30.3**	**+0.3**	
LIS				*e*PP		**PP**	**00 32 42.6**	**+1.5**	
LIS				IAMs_20	IAMs_20		01 13 41.3		
	comp=E,35µm,18.4s								
LIS	**Lisbon**	**102.27**	**337**	*e*P		**Pdif**	**00 28 30.3**	**+0.3**	
LIS				*e*			00 32 42.6		
EMAL	**Malaga-Limoner**	**102.36**	**333**	Pdif		**Pdif**	**00 28 28.0**	**-2.4**	
EMAL	**Malaga-Limoner**	**102.36**	**333**	PP		**PP**	**00 32 44.8**	**+3.0**	
KMBO	**Kilima Mbogo**	**102.46**	**277**	P		**Pdif**	**00 28 32.2**	**+0.6**	
	comp=E,1.1nm,0.8s,baz=226,slow=23,SNR=2.6								
KMBO				PP		**PP**	**00 32 44.9**	**+0.5**	
	comp=E,3.3nm,1.0s,baz=51,slow=11,SNR=4.4								
KMBO				S		**SKSac**	**00 39 14.8**	**+3.0**	
	comp=E,0.3nm,0.4s,baz=247,slow=22,SNR=1.2								
KMBO	**Kilima Mbogo**	**102.46**	**277**	*e*P		**Pdif**	**00 28 39.1**	**+7.5**	
KMBO				*e*S		**PP**	**00 32 42.3**	**-2.1**	
KMBO	**Kilima Mbogo**	**102.46**	**277**⇑	*e*P		**Pdif**	**00 28 35.6**	**+4.1**	
KMBO				*e*S		**PP**	**00 32 47.5**	**+3.1**	
KMBO	**Kilima Mbogo**	**102.46**	**277**	*e*P		**Pdif**	**00 28 39.1**	**+7.5**	
KMBO				*e*S		**PP**	**00 32 42.3**	**-2.1**	
KMBO				IAMs_20	IAMs_20		00 39 26.1		
	comp=E,2µm,16.0s								
KMBO				IAMs_20	IAMs_20		00 41 58.5		
	comp=Z,3µm,19.5s								
KMBO	**Kilima Mbogo**	**102.46**	**277**	*e*S		**SKSac**	**00 39 14.8**	**+3.0**	
KMBO				*e*P		**Pdif**	**00 28 30.4**	**-1.2**	
KMBO				*e*S		**SKSac**	**00 39 10.9**	**-0.9**	
PNCL	**Nicolau / Gran**	**102.62**	**336**	*e*Pdif		**Pdif**	**00 28 33.6**	**+2.0**	
MESJ	**Messejana**	**102.76**	**336**	*e*Pdif		**Pdif**	**00 28 32.5**	**+0.3**	
MESJ				*e*PP		**PP**	**00 32 46.2**	**+1.4**	
MESJ				IAMs_20	IAMs_20		01 19 35.6		
	comp=Z,35µm,18.9s								
MESJ	**Messejana**	**102.76**	**336**	*e*Pdif		**Pdif**	**00 28 35.7**	**+3.5**	
MESJ	**Messejana**	**102.76**	**336**	*e*P		**Pdif**	**00 28 32.5**	**+0.3**	
MESJ				*e*			00 32 46.2		
PCVE	**Castro Verde**	**102.89**	**336**	*e*Pdif		**Pdif**	**00 28 35.2**	**+2.4**	
CHAS	**Isla Isabel II**	**102.96**	**330**	Pdif		**Pdif**	**00 28 30.6**	**-2.5**	
CHAS	**Isla Isabel II**	**102.96**	**330**	PP		**PP**	**00 32 52.9**	**+6.5**	
PVAQ	**Vaqueiros**	**102.98**	**335**	*e*Pdif		**Pdif**	**00 28 36.2**	**+3.0**	
PVAQ	**Vaqueiros**	**102.98**	**335**	*e*SKSac		**SKSac**	**00 39 16.0**	**+2.9**	
PVAQ	**Vaqueiros**	**102.98**	**335**	*e*LR		LR	01 04 25.3		
WMELI	**Melilla**	**103.05**	**331**	Pdif		**Pdif**	**00 28 32.9**	**-0.6**	
WMELI	**Melilla**	**103.05**	**331**	PP		**PP**	**00 32 54.6**	**+7.6**	
SFS	**San Fernando**	**103.29**	**334**	Pdif		**Pdif**	**00 28 35.6**	**+1.0**	
SFS	**San Fernando**	**103.29**	**334**	PP		PP	00 32 58.4	+10	
MORF	**Marmelete**	**103.39**	**336**	*e*Pdif		**Pdif**	**00 28 35.3**	**+0.2**	
MORF				*e*PP		**PP**	**00 32 50.9**	**+1.4**	
MORF				IAMs_20	IAMs_20		01 13 27.2		
	comp=E,32µm,20.5s								
MORF	**Marmelete**	**103.39**	**336**	*e*Pdif		**Pdif**	**00 28 40.1**	**+5.0**	
MORF	**Marmelete**	**103.39**	**336**	*e*P		**Pdif**	**00 28 35.3**	**+0.2**	
MORF				*e*			00 32 50.9		
CEU	**Ceuta**	**103.48**	**333**	Pdif		**Pdif**	**00 28 35.2**	**-0.2**	
CEU	**Ceuta**	**103.48**	**333**	PP		PP	00 32 58.1	+7.9	
PFVI	**Vila Bisbo**	**103.61**	**336**	*e*Pdif		**Pdif**	**00 28 39.3**	**+3.3**	
PVLZ	**Peæn de**	**103.71**	**332**	Pdif		**Pdif**	**00 28 34.5**	**-2.0**	
PVLZ	**Peæn de**	**103.71**	**332**	PP		**PP**	**00 32 57.5**	**+5.5**	
ABPO	**Ambohimpanom**	**104.03**	**256**	IAMs_20	IAMs_20		01 18 37.1		
	comp=Z,10µm,18.0s								
DWPF	**Disney Wildern**	**105.60**	**39**	IAMs_20	IAMs_20		01 25 58.6		
	comp=Z,11µm,19.0s								
DWPF	**Disney Wildern**	**105.60**	**39**	P		**PKiKP**	**00 33 01.2**	**+3.0**	
	baz=324								
CMLA	**Cha da Macela**	**107.11**	**349**	IAMs_20	IAMs_20		01 18 22.8		
	comp=Z,13µm,19.0s								
MBAR	**Mbarara**	**107.47**	**282**	*e*P		**Pdif**	**00 28 57.0**	**+3.3**	
MBAR				*e*S		**PP**	**00 33 22.1**	**+0.8**	
MBAR	**Mbarara**	**107.47**	**282**⇑	*e*P		**Pdif**	**00 28 55.9**	**+2.2**	
MBAR				*e*S		**PP**	**00 33 20.4**	**-0.9**	
MBAR	**Mbarara**	**107.47**	**282**	*e*P		**Pdif**	**00 28 51.6**	**-2.1**	
MBAR				*e*S		PP	00 33 39.7	+18	
MBAR	**Mbarara**	**107.47**	**282**	*e*P		**Pdif**	**00 28 57.0**	**+3.3**	
MBAR				*e*S		**PP**	**00 33 22.1**	**+0.8**	
MBAR				IAMs_20	IAMs_20		00 38 48.1		
MBAR				IAMs_20	IAMs_20		00 42 44.0		
	comp=Z,3µm,18.0s								
MBAR	**Mbarara**	**107.47**	**282**	*e*P		**Pdif**	**00 28 56.5**	**+2.8**	
MBAR				*e*S		**SKSac**	**00 39 34.8**	**+0.5**	
BBSR	**BB Station**	**109.03**	**23**	IAMs_20	IAMs_20		01 25 17.0		
	comp=Z,9µm,19.0s								
PMOZ	**Porto Moniz, M**	**110.13**	**341**	*e*PP		**PP**	**00 33 41.8**	**+2.7**	
PMOZ	**Porto Moniz, M**	**110.13**	**341**	*e*LR		LR	01 07 13.5		
	comp=Z,13µm,16.0s								
SNET	**Serv Nac Est T**	**111.98**	**54**	IAMs_20	IAMs_20		01 31 02.1		
	comp=Z,10µm,19.0s								
VNDA	**Vanda**	**112.44**	**175**	PKiKP		**PKiKP**	**00 33 08.9**	**-0.6**	
	comp=Z,1.2nm,0.7s,baz=309,slow=6.1,SNR=6.7								
VNDA				PP		**PP**	**00 33 58.0**	**+1.8**	
	comp=Z,2.8nm,1.0s,baz=326,slow=8.7,SNR=4.4								
TGUH	**Tegucigalpa,Un**	**113.01**	**53**	IAMs_20	IAMs_20		01 31 05.3		
	comp=Z,11µm,19.0s								
BOAB	**BOACO BROADBAN**	**116.25**	**53**	IAMs_20	IAMs_20		01 19 13.5		
	comp=Z,14µm,20.0s								
GTBY	**Guantanamo Bay**	**115.58**	**39**	IAMs_20	IAMs_20		01 28 45.1		
	comp=Z,14µm,20.0s								
MTDJ	**Mount Denham**	**115.69**	**42**	IAMs_20	IAMs_20		01 27 02.1		
	comp=Z,13µm,20.0s								
MAW	**Mawson**	**117.32**	**205**	PKP		**PKPdf**	**00 33 17.8**	**-1.2**	
	comp=Z,2.6nm,0.6s,baz=74,slow=17,SNR=2.9								
MAW				PP		**PP**	**00 34 32.0**	**+1.2**	
	comp=Z,12nm,1.1s,baz=67,slow=8.8,SNR=5.6								
MAW				PKKPab		**PKKPbc**	**00 43 47.2**	**+3.1**	
	comp=Z,3.1nm,0.9s,baz=284,slow=8.1,SNR=3.9								
LSZ	**Lusaka**	**117.68**	**270**	IAMs_20	IAMs_20		01 29 50.8		
	comp=Z,10µm,18.0s								
HDC	**Heredia**	**118.07**	**53**	IAMs_20	IAMs_20		01 29 20.5		
	comp=Z,9µm,20.0s								
TOA0	**Torodi Ar. Sit**	**119.22**	**314**	PKPdf		**PKiKP**	**00 33 24.8**	**+0.3**	
TORD	**Torodi Ar. Bea**	**119.22**	**314**	PKP		**PKPdf**	**00 33 23.1**	**-1.3**	
	comp=Z,2.8nm,0.5s,baz=26,slow=1.7,SNR=24								
TORD				PP		**PP**	**00 34 44.9**	**+0.9**	
	comp=Z,14nm,1.1s,baz=34,slow=5.3,SNR=6.2								
TORD				PKKPab		**PKKPab**	**00 43 39.7**	**-1.6**	
	comp=Z,4.9nm,1.1s,baz=204,slow=2.9,SNR=10								
DR12	**Loma Pena Alta**	**119.36**	**34**			**PKPdf**	**00 33 21.5**	**-3.2**	
KOWA	**Kowa**	**121.33**	**320**	PKPdf		**PKiKP**	**00 33 29.2**	**+0.6**	
SJG	**San Juan**	**121.39**	**31**	IAMs_20	IAMs_20		01 25 12.6		
	comp=Z,8µm,21.0s								
SMRT	**St. Maarten**	**122.70**	**28**	IAMs_20	IAMs_20		01 33 02.4		
	comp=Z,9µm,19.0s								
ANWB	**Willy Bob**	**123.55**	**27**	IAMs_20	IAMs_20		01 26 27.6		
	comp=Z,11µm,21.0s								
QSPA	**South Pole Qui**	**124.25**	**180**			**PKPdf**	**00 33 31.1**	**-1.4**	
QSPA	**South Pole Qui**	**124.25**	**180**	IAMs_20	IAMs_20		01 30 09.4		
	comp=Z,8µm,18.0s								
LBTB	**Lobatse**	**124.45**	**261**	PKPdf		**PKiKP**	**00 33 35.0**	**+0.4**	
LBTB	**Lobatse**	**124.45**	**261**	PKiKP		**PKiKP**	**00 33 35.0**	**+0.4**	
ABD	**La Joyeuse, An**	**124.75**	**27**	IAMs_20	IAMs_20		01 27 57.5		
	comp=Z,12µm,21.0s								
GDHS	**Morne Mazeau,**	**124.83**	**28**	IAMs_20	IAMs_20		01 28 04.6		
	comp=Z,12µm,21.0s								
GDSD	**La Dsirade Is**	**125.06**	**27**	IAMs_20	IAMs_20		01 27 53.6		
	comp=Z,12µm,21.0s								
CBE	**Ff, Capester**	**125.07**	**28**	IAMs_20	IAMs_20		01 28 21.2		
	comp=Z,13µm,20.0s								
HATO	**Hato, Curacao**	**125.25**	**38**	IAMs_20	IAMs_20		01 38 50.1		
	comp=Z,10µm,18.0s								
MAGL	**Barre de l'Ile**	**125.31**	**27**	IAMs_20	IAMs_20		01 28 14.3		
	comp=Z,11µm,22.0s								
BOSA	**Boshof**	**126.23**	**258**	PKP		**PKPdf**	**00 33 36.2**	**-1.3**	
	comp=Z,4.1nm,0.5s,baz=114,slow=2.7,SNR=21								
SVN	**Savane Anatole**	**126.36**	**28**	IAMs_20	IAMs_20		01 29 08.3		
	comp=Z,11µm,20.0s								
FDF	**Fort de France**	**126.47**	**28**	IAMs_20	IAMs_20		01 29 01.1		
	comp=Z,11µm,21.0s								
ILAM	**Ilet Lapin Mar**	**126.53**	**27**	IAMs_20	IAMs_20		01 29 21.7		
	comp=Z,8µm,20.0s								
BIM	**Bijot**	**126.69**	**28**	IAMs_20	IAMs_20		01 29 07.2		
	comp=Z,11µm,21.0s								
MPOM	**Morne Pois Mar**	**126.84**	**28**	IAMs_20	IAMs_20		01 31 37.0		
	comp=Z,10µm,20.0s								
SDV	**Santo Domingo**	**127.14**	**41**	PKP		**PKPdf**	**00 33 39.7**	**-0.2**	
	comp=Z,58nm,0.8s,baz=314,slow=2.6,SNR=16								
SDV	**Santo Domingo**	**127.14**	**41**	PKPdf		**PKiKP**	**00 33 40.1**	**-0.2**	
DBIC	**Dimbokro**	**128.23**	**316**	PKP		**PKiKP**	**00 33 42.4**	**0.0**	
	comp=Z,13nm,1.0s,baz=290,slow=1.4,SNR=8.3								
DBIC				PP		**PP**	**00 35 44.8**	**+0.1**	
	comp=Z,9.6nm,1.0s,baz=35,slow=7.7,SNR=3.3								
ROSC	**El Rosal**	**128.25**	**48**	PKP		**PKiKP**	**00 33 42.9**	**+0.1**	
	comp=Z,33nm,1.0s,baz=249,slow=2.7,SNR=8.2								
TIC	**Toumodi**	**128.34**	**316**⇑	*i*PKP1		**PKiKP**	**00 33 43.7**	**+1.1**	
	comp=Z,4.3nm,0.3s								
TSUM	**Tsumeb**	**128.40**	**272**	IAMs_20	IAMs_20		01 30 12.2		
	comp=Z,8µm,20.0s								
KIC	**Kosan Boka**	**128.41**	**315**⇑	*i*PKP1		**PKiKP**	**00 33 44.6**	**+1.9**	
	comp=Z,8.7nm,0.6s								
BBGH	**Gun Hill**	**128.52**	**27**	IAMs_20	IAMs_20		01 40 03.6		
	comp=Z,9µm,19.0s								
GRGR	**Grenville**	**128.63**	**30**	IAMs_20	IAMs_20		01 31 32.3		
	comp=Z,8µm,19.0s								
LIC	**Lamto**	**128.69**	**316**⇑	*e*PKP1		**PKiKP**	**00 33 43.6**	**+0.4**	
	comp=Z,19nm,0.4s								
OTAV	**Otavalo**	**129.03**	**56**	IAMs_20	IAMs_20		01 34 11.1		
	comp=Z,11µm,19.0s								
OTAV	**Otavalo**	**129.03**	**56**	*e*P		**PKiKP**	**00 33 44.3**	**-0.2**	
PCRV	**Puerto La Cruz**	**129.07**	**34**	PKP		**PKiKP**	**00 33 44.1**	**+0.1**	
	comp=Z,16nm,1.0s,baz=76,slow=2.4,SNR=5.6								
PCRV				PP		**PP**	**00 35 50.7**	**+0.8**	
	comp=Z,6.0nm,1.0s,baz=352,slow=5.1,SNR=1.9								
SUR	**Sutherland**	**131.17**	**255**	IAMs_20	IAMs_20		01 33 15.7		
	comp=Z,9µm,20.0s								
ATAH	**Atahualpa**	**134.22**	**63**	PKP		**PKiKP**	**00 33 54.2**	**-0.7**	
	comp=Z,4.5nm,0.7s,baz=110,slow=12,SNR=2.6								
NVL	**N'lazarevskaya**	**135.00**	**201**	*e*PKiKP		PKiKP	00 34 06.9	+13	
NVL				*e*			00 36 28.9		
NVL				*e*			00 46 51.0		
NVL				*e*SS		SS	00 54 17.6	-3.5	
NVL				MLR	MLR				
	comp=Z,5µm,18.0s								
BELA	**Belgrano 2**	**136.49**	**181**	PKPdf		**PKiKP**	**00 33 57.9**	**+0.8**	
TROLL	**Troll, Antarti**	**136.87**	**197**	PKPdf		PKPdf	00 33 47.9	-8.5	
BOAV	**Boa Vista**	**137.81**	**34**	*e*P		**PKiKP**	**00 34 00.9**	**-0.8**	
TBTG	**Tabatinga, AM**	**137.99**	**51**	*e*P		**PKiKP**	**00 34 01.6**	**-0.4**	
SNAA	**Sanae**	**138.37**	**196**	PKPdf		PKPdf	00 33 50.8	-8.3	
SNAA	**Sanae**	**138.37**	**196**	PKhKP		PKPpre	00 33 48.7		
	comp=Z,2.1nm,0.8s,baz=307,slow=2.7,SNR=3.4								
SNAA				PKP		pPKPdf	00 34 00.1	-0.8	
	comp=Z,8.7nm,1.1s,baz=124,slow=3.6,SNR=14								
SNAA				PP		**PP**	**00 36 51.2**	**+2.1**	
	comp=Z,4.0nm,0.7s,baz=141,slow=6.1,SNR=3.8								
MDP	**Montagnes des**	**138.38**	**22**	PKP		**PKPdf**	**00 34 01.5**	**+0.8**	
	comp=Z,11nm,0.9s,baz=256,slow=7.8,SNR=4.3								
MDP				PP		**PP**	**00 36 51.8**	**+2.9**	
	comp=Z,11nm,1.0s,baz=330,slow=5.3,SNR=6.8								
NNA	**Nana**	**138.52**	**67**	IAMs_20	IAMs_20		01 40 08.0		
	comp=Z,7µm,18.0s								
CZSB	**Cruzeiro do Su**	**138.71**	**58**	*e*P		**PKiKP**	**00 34 03.0**	**-0.5**	
VNA2	**Neumayer--Watz**	**139.93**	**195**	PKPdf		PKPdf	00 33 53.1	-8.7	
	baz=109,slow=3.0								
VNA3	**Neumayer Olymp**	**140.16**	**194**	PKPdf		**PKPdf**	**00 33 55.9**	**-6.4**	
VNA1	**Neumayer--Stat**	**140.32**	**195**	PKPdf		**PKPdf**	**00 33 56.1**	**-6.4**	
MACA	**Manacapuru-AM**	**142.55**	**39**	PKPdf		**PKPdf**	**00 34 05.9**	**-2.4**	
MACA	**Manacapuru-AM**	**142.55**	**39**	*e*P		**PKPdf**	**00 34 09.1**	**+0.8**	
MALB	**Monte Alegre**	**144.30**	**28**	*e*P		**PKPdf**	**00 34 12.8**	**+1.4**	
SHEL	**Horse Pasture**	**145.39**	**294**	IAMs_20	IAMs_20		01 45 25.2		
	comp=Z,7µm,20.0s								
ASCN	**Ascension**	**145.54**	**315**	IAMs_20	IAMs_20		01 41 06.8		
	comp=Z,6µm,22.0s								
PMSA	**Palmer Station**	**145.94**	**161**	IAMs_20	IAMs_20		01 46 57.2		
	comp=Z,7µm,18.0s								
ITTB	**Itaituba**	**145.97**	**32**	*e*P		**PKPdf**	**00 34 14.4**	**+0.2**

JHJ				Sn		**Sb**	**00 20 04.6**	**0.0**	
	82nm,0.3s,baz=254,slow=23,SNR=1.3								
	183nm,0.4s								
MJAR	**Matsushiro Arr**	**3.59**	**311**	Pn		**Pn**	**00 20 01.7**	**-1.0**	
	1.2nm,0.3s,baz=121,slow=17,SNR=4.9								
MJAR				Sn		**Sn**	**00 20 45.1**	**+0.7**	
	0.9nm,0.3s,baz=234,slow=21,SNR=1.9								
	20nm,0.6s								
JCJ	**Chichijima**	**7.13**	**176**	Sn		**Sn**	**00 22 09.1**	**-2.6**	
	4.5nm,0.3s,baz=87,slow=24,SNR=1.4								
SONM	**Songino Array**	**29.54**	**308**	P		**P**	**00 25 11.4**	**+0.2**	
	6.6nm,1.0s,baz=98,slow=6.0,SNR=2.2								
	6.6nm,1.0s								
CMAR	**Chiang Mai Arr**	**40.99**	**259**	P		**P**	**00 26 50.2**	**+0.4**	
	3.1nm,0.9s,baz=54,slow=6.7,SNR=2.7								
	3.1nm,0.9s								
ZALV	**Zalesovo Beam**	**43.94**	**315**	P		**P**	**00 27 12.0**	**-1.3**	
	3.4nm,0.6s,baz=93,slow=5.8,SNR=2.2								
	3.4nm,0.6s								
KURBB	**Kurchatov Arra**	**47.87**	**310**	P		**P**	**00 27 44.0**	**-0.4**	
	8.3nm,0.8s,baz=86,slow=7.6,SNR=4.2								
	8.3nm,0.8s								
ILAR	**Eielson Array**	**51.81**	**31**	P		**P**	**00 28 13.2**	**-0.9**	
	2.8nm,1.1s,baz=271,slow=5.7,SNR=2.5								
	2.8nm,1.1s								
WRA	**Warramunga Arr**	**54.31**	**188**	P		**P**	**00 28 36.1**	**+3.1**	
	1.4nm,0.7s,baz=2.2,slow=7.5,SNR=1.4								
	1.4nm,0.7s								
NVAR	**Mina Array Bea**	**76.57**	**53**	P		**P**	**00 30 57.3**	**0.0**	
	2.1nm,0.7s,baz=299,slow=4.0,SNR=1.8								
	2.1nm,0.7s								
PDAR	**Pinedale Array**	**79.54**	**45**	P		**P**	**00 31 14.5**	**+0.7**	
	1.8nm,1.1s,baz=253,slow=6.1,SNR=1.7								
	1.8nm,1.1s								

*IDC **23** 00:20:59.4±0.7,34˚.41N×141˚.59E,h0km,mb4.2/22, mbtmp4.2/24,ML3.7/2,Error ellipse: s-maj=17.5km s-min=14.7km az=107.0*
*NEIC **23** 00:21:01.7±2.0,34˚.49N±0˚.05×141˚.66E±0˚.09,h11km±4km, mb4.9/33,Error ellipse: s-maj=11.2km s-min=7.2km az=105.0*
*JMA **23** 00:21:01.4±0.2,34˚.5N±0˚.7×14˚2E±˚,h54km,MV4.2/29, FAR SE OFF BOSO PEN*

ISC 23 00:21:03.4±0.5,34˚.43N±0˚.04×141˚.68E±0˚.06,h27km,n93, σ1$45/92,mb4.6/37,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**1.24**	**297**	*eP*	**Pn**	**00 21 23.4**	**-1.5**
KTR	**Katsuura**	**1.33**	**303**	P	**Pn**	**00 21 24.6**	**-1.6**
JKUC	**kamogawauchiur**	**1.42**	**301**	P	**Pn**	**00 21 25.8**	**-1.6**
JKUC				*eS*	**Sn**	**00 21 43.9**	**-1.4**
CHOJ	**Chosi**	**1.44**	**332**	P	**Pn**	**00 21 25.7**	**-2.0**
CHOJ				*eS*	**Sn**	**00 21 43.5**	**-2.1**
JMKN	**Mikurajimanish**	**1.81**	**253**	P	**Pn**	**00 21 31.4**	**-1.4**
JHJ2	**Mitsune**	**2.04**	**230**	Pn	**Pn**	**00 21 36.3**	**+0.4**
JHJ	**Hachijo jima 2**	**2.05**	**231**	Pn	**Pn**	**00 21 36.0**	**-0.2**
	42nm,0.3s,baz=329,slow=20,SNR=1.1						
JHJ				Sn	**Sn**	**00 22 02.2**	**+1.4**
	120nm,0.3s,baz=71,slow=23,SNR=2.8						
JYT	**Yasato**	**2.17**	**326**	Pn	**Pn**	**00 21 36.5**	**-1.2**
JOD2	**Odawara 2**	**2.29**	**292**	P	**Pn**	**00 21 37.9**	**-1.5**
JIZS	**Izushimoda**	**2.33**	**278**	*eP*	**Pn**	**00 21 39.1**	**-0.8**
JMM	**Marumori**	**3.50**	**348**	Pn	**Pn**	**00 21 55.0**	**-1.0**
MJAR	**Matsushiro Arr**	**3.53**	**308**	Pn	**Pn**	**00 21 55.6**	**-0.9**
	3.5nm,0.3s,baz=294,slow=8.3,SNR=15						
MJAR				Sn	**Sn**	**00 22 35.6**	**-1.8**
	1.9nm,0.3s,baz=113,slow=9.8,SNR=4.7						
	16nm,0.3s						
MAJO	**Matsushiro**	**3.53**	**308**	Pn	**Pn**	**00 21 56.0**	**-0.5**
MJB9	**Matsu-Tunnel**	**3.54**	**308**	Pn	**Pn**	**00 21 56.1**	**-0.4**
JGF	**Kuroka**	**3.74**	**289**	Pn	**Pn**	**00 21 58.4**	**-0.9**
INU	**Inuyama**	**3.94**	**285**	Pn	**Pn**	**00 22 01.6**	**-0.5**
JSD	**Sado**	**4.54**	**323**	Pn	**Pn**	**00 22 08.6**	**-1.7**
JTM	**Tenmabayashi**	**6.36**	**356**	Pn	**Pn**	**00 22 34.4**	**-1.0**
JMN	**Monobe**	**6.51**	**266**	Pn	**Pn**	**00 22 35.9**	**-1.6**
JHS	**Saijyo**	**7.08**	**277**	Pn	**Pn**	**00 22 45.5**	**+0.3**
JCJ	**Chichijima**	**7.32**	**176**	Pn	**Pn**	**00 22 47.5**	**-1.1**
	2.6nm,0.3s,baz=82,slow=21,SNR=1.5						
JCJ				Sn	**Sn**	**00 24 05.6**	**-5.3**
	6.2nm,0.3s,baz=315,slow=16,SNR=1.7						
	70nm,0.7s						
JCJ	**Chichijima**	**7.32**	**176**	Pn	**Pn**	**00 22 48.3**	**-0.3**
ERM	**Erimo**	**7.66**	**8**	Pn	**Pn**	**00 22 52.0**	**-1.1**
KSRS	**Korea Array**	**11.55**	**289**	Pn	**Pn**	**00 23 48.3**	**+1.8**
	0.3nm,0.3s,baz=106,slow=13,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**26.71**	**117**	T	T	00 54 50.0	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**26.71**	**117**	T	T	00 54 57.0	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**26.72**	**117**	T	T	00 54 53.8	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	00 55 43.3	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.34**	**119**	T	T	00 55 46.8	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	00 55 40.7	
	baz=312						
SEY	**Seymchan**	**29.30**	**10**	P	**P**	**00 27 05.4**	**+2.2**
	1.8nm,0.4s,baz=192,slow=21,SNR=1.6						
	1.8nm,0.4s						
SONM	**Songino Array**	**29.48**	**308**	P	**P**	**00 27 05.3**	**0.0**
	4.6nm,0.9s,baz=98,slow=8.9,SNR=3.5						
	4.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.12**	**258**	P	**P**	**00 28 43.4**	**-1.9**
	1.6nm,0.6s,baz=51,slow=8.2,SNR=2.1						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	**00 29 06.6**	**-0.5**
	3.2nm,0.8s,baz=94,slow=4.5,SNR=2.5						
ZALV				PcP	**PcP**	**00 30 51.7**	**-1.3**
	1.6nm,0.6s,baz=142,slow=0.9,SNR=1.9						
	3.2nm,0.8s						
MK31	**Makanchi Array**	**45.72**	**304**	P	**P**	**00 29 21.9**	**-0.2**
MK31				IAmb	IAmb	00 29 36.1	
	comp=Z,14nm,1.4s						
MKAR	**Makanchi Array**	**45.72**	**304**	P	**P**	**00 29 20.9**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=90,slow=8.4,SNR=7.0						
	comp=Z,2.6nm,0.6s						
MKAR	**Makanchi Array**	**45.72**	**304**	P	**P**	**00 29 22.8**	**+0.7**
KURK	**Kurchatov**	**47.74**	**310**	P	**P**	**00 29 36.9**	**-0.9**
KURBB	**Kurchatov Arra**	**47.80**	**310**	P	**P**	**00 29 37.5**	**-0.8**
	comp=Z,7.4nm,0.9s,baz=84,slow=7.7,SNR=4.8						
	comp=Z,7.4nm,0.9s						
K20K	**Telida**	**48.37**	**33**	P	**P**	**00 29 41.9**	**-0.6**
K20K				IAmb	IAmb	00 29 54.1	
	comp=Z,15nm,1.4s						
KDAK	**Kodiak Island**	**48.91**	**40**	P	**P**	**00 29 46.8**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=245,slow=5.5,SNR=1.4						
	comp=Z,5.4nm,0.8s						
H21K	**Melozitna Rive**	**49.14**	**30**	P	**P**	**00 29 49.5**	**+1.0**
PPLA	**Purkeypile**	**49.19**	**34**	P	**P**	**00 29 47.4**	**-1.6**
PPLA				IAmb	IAmb	00 30 02.7	
	comp=Z,21nm,1.4s						
TARG	**Taragay, Kyrgy**	**49.79**	**298**	P	**P**	**00 29 53.9**	**-0.3**
TARG				IAmb	IAmb	00 30 18.3	
	comp=Z,11nm,1.1s						
MDM	**Murphy Dome**	**51.02**	**31**	P	**P**	**00 30 04.1**	**+1.4**
MDM				IAmb	IAmb	00 30 21.6	
	comp=Z,14nm,1.1s						
ILAR	**Eielson Array**	**51.59**	**31**	P	**P**	**00 30 06.9**	**0.0**
	comp=Z,1.6nm,0.9s,baz=259,slow=5.6,SNR=4.2						
	comp=Z,1.6nm,0.9s						
BVAR	**Borovoye Array**	**52.51**	**314**	P	**P**	**00 30 13.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=104,slow=8.8,SNR=1.8						
	comp=Z,0.5nm,0.3s						
K27K	**Chicken**	**53.71**	**32**	P	**P**	**00 30 22.4**	**-0.2**
L27K	**Beaver Creek,**	**53.91**	**33**	P	**P**	**00 30 25.0**	**+0.8**
BCAR	**Beaver Creek A**	**53.93**	**33**	P	**P**	**00 30 26.0**	**+1.6**
WB0	**Warramunga Arr**	**54.34**	**188**	P	**P**	**00 30 27.9**	**+0.3**
WB0				IAmb	IAmb	00 30 40.6	
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**54.39**	**175**	P	**P**	**00 30 26.4**	**-1.6**
CTAO				IAmb	IAmb	00 30 35.9	
	comp=Z,11nm,1.4s						
FITZ	**Fitzroy Crossi**	**54.42**	**199**	P	**P**	**00 30 27.8**	**-0.5**
	comp=Z,3.8nm,0.7s,baz=360,slow=8.5,SNR=2.1						
	comp=Z,3.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.42**	**199**	P	**P**	**00 30 28.4**	**+0.2**
WRAB	**Tennant Creek**	**54.51**	**188**	P	**P**	**00 30 25.0**	**-3.8**
WRAB				IAmb	IAmb	00 30 27.2	
	comp=Z,25nm,1.3s						
WR0	**Warramunga Arr**	**54.51**	**188**	P	P	00 30 34.1	+5.2
WR0				IAmb	IAmb	00 30 41.5	
	comp=Z,8.8nm,0.7s						
WB2	**Warramunga Arr**	**54.52**	**188**	P	**P**	**00 30 30.6**	**+1.7**
WB2				IAmb	IAmb	00 30 52.3	
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**54.52**	**188**	P	**P**	**00 30 28.7**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=4.2,slow=7.3,SNR=2.3						
	comp=Z,1.5nm,0.5s						
WRA	**Warramunga Arr**	**54.52**	**188**	P	**P**	**00 30 30.6**	**+1.7**
KKAR	**Karatay Array**	**54.65**	**302**	P	**P**	**00 30 29.6**	**-0.2**
EPYK	**Eagle Plains**	**55.69**	**29**	P	**P**	**00 30 38.3**	**+1.4**
EPYK				IAmb	IAmb	00 31 01.6	
	comp=Z,10nm,0.9s						
GAR	**Garm**	**56.04**	**297**	P	**P**	**00 30 40.3**	**+0.3**
INK	**Inuvik**	**56.61**	**26**	P	**P**	**00 30 44.1**	**+0.7**
	comp=Z,5.7nm,1.1s,baz=332,slow=7.3,SNR=4.9						
	comp=Z,5.7nm,1.1s						
INK	**Inuvik**	**56.61**	**26**	P	**P**	**00 30 44.2**	**+0.8**
INK				IAmb	IAmb	00 31 06.5	
	comp=Z,9.5nm,1.2s						
N31M	**Braeburn, Yuko**	**56.96**	**35**	P	**P**	**00 30 47.1**	**+1.0**
CHGR	**Chuyangaron**	**57.01**	**297**	P	**P**	**00 30 46.5**	**-0.4**
AS31	**Alice Springs**	**58.25**	**188**	P	**P**	**00 30 59.3**	**+3.8**
ASAR	**Alice Springs**	**58.25**	**188**	P	**P**	**00 30 55.2**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=6.9,slow=6.1,SNR=1.8						
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**58.25**	**188**	P	**P**	**00 30 59.4**	**+3.9**
ARU	**Arti**	**58.47**	**320**	P	**P**	**00 30 55.9**	**-0.9**
	comp=Z,4.2nm,0.5s,baz=53,slow=16,SNR=2.6						
	comp=Z,4.2nm,0.5s						
ARU	**Arti**	**58.47**	**320**	P	**P**	**00 30 55.8**	**-0.9**
ARU				IAmb	IAmb	00 31 13.8	
	comp=Z,11nm,1.0s						
MBWA	**Marble Bar**	**59.09**	**204**	P	**P**	**00 31 02.2**	**+0.8**
PSA00	**Pilbara Seismi**	**59.44**	**204**	P	**P**	**00 31 05.0**	**+1.2**
C36M	**Paulatuk**	**59.70**	**24**	P	**P**	**00 31 05.3**	**+0.3**
ABKAR	**Akbulak array**	**59.80**	**311**	P	**P**	**00 31 05.5**	**-0.6**
AKTO	**Aktyubinsk**	**60.59**	**313**	P	**P**	**00 31 10.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=263,slow=19,SNR=1.5						
	comp=Z,1.5nm,0.6s						
FINES	**FINESS Array B**	**71.22**	**333**	P	**P**	**00 32 21.7**	**+2.1**
	comp=Z,3.0nm,0.8s,baz=79,slow=3.0,SNR=1.6						
	comp=Z,3.0nm,0.8s						
JTMT	**Jette**	**73.74**	**43**	P	**P**	**00 32 35.7**	**+0.6**
FFC	**Flin Flon**	**75.78**	**32**	P	**P**	**00 32 47.1**	**+0.5**
FFC				IAmb	IAmb	00 32 56.1	
	comp=Z,19nm,1.5s						
KVN	**Kaiserville**	**76.17**	**52**	P	**P**	**00 32 51.0**	**+1.6**
AKASG	**Malin Array Be**	**76.49**	**323**	P	**P**	**00 32 52.0**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=51,slow=6.1,SNR=1.8						
	comp=Z,0.7nm,0.5s						
NB2	**NORSAR Subarra**	**76.67**	**338**	P	**P**	**00 32 53.0**	**+1.4**
	comp=Z,9.4nm,1.1s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**76.67**	**338**	P	**P**	**00 32 51.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=39,slow=5.7,SNR=2.5						
	comp=Z,0.6nm,0.6s						
RLMT	**Red Lodge**	**78.08**	**43**	P	**P**	**00 32 57.1**	**-3.0**
PDAR	**Pinedale Array**	**79.34**	**45**	P	**P**	**00 33 06.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=289,slow=5.6,SNR=2.3						
	comp=Z,0.5nm,0.7s						
RDMU	**Red Mountain**	**80.66**	**47**	P	**P**	**00 33 16.3**	**+2.1**
RDMU				IAmb	IAmb	00 33 20.5	
	comp=Z,12nm,1.2s						
BRTR	**Keskin Array B**	**80.75**	**312**	P	**P**	**00 33 15.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=135,slow=4.1,SNR=2.1						
	comp=Z,0.8nm,0.7s						
BRTR	**Keskin Array B**	**80.75**	**312**	P	**P**	**00 33 16.2**	**+1.6**
RAYN	**Ar Rayn**	**81.85**	**293**	P	**P**	**00 33 20.1**	**-0.5**
RAYN				IAmb	IAmb	00 33 39.5	
	comp=Z,16nm,1.3s						
MQZ	**McQueen's Vall**	**82.73**	**158**	P	**P**	**00 33 23.8**	**-0.6**
MQZ				IAmb	IAmb	00 33 45.8	
	comp=Z,13nm,1.3s						
GERES	**GERESS Array B**	**85.04**	**328**	P	**P**	**00 33 36.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=36,slow=7.3,SNR=1.4						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**91.53**	**53**	P	**P**	**00 34 08.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=301,slow=1.9,SNR=1.5						
	comp=Z,0.4nm,0.6s						
LPAZ	**La Paz**	**147.74**	**63**	PKPbc	**PKiKP**	**00 40 48.1**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=251,slow=3.8,SNR=4.6						

*IDC **23** 00:23:48.3±1.5,34˚.44N×141˚.64E,h0km,mb3.9/5, mbtmp3.8/7,ML3.1/2,Error ellipse: s-maj=30.1km s-min=23.5km az=112.0*

ISC 23 00:23:51.9±1.2,34˚.32N±0˚.09×141˚.6E±0˚.1,h27km,n7, σ1$48/9,mb3.9/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.91**	**232**	Pn	**Pb**	**00 24 24.2**	**-1.7**
	30nm,0.3s,baz=64,slow=22,SNR=1.3						
JHJ				Sn	**Sb**	**00 24 49.9**	**+0.5**
	94nm,0.3s,baz=336,slow=19,SNR=2.3						
	161nm,0.4s						
MJAR	**Matsushiro Arr**	**3.52**	**310**	Pn	**Pn**	**00 24 44.3**	**-0.5**
	0.8nm,0.3s,baz=29,slow=46,SNR=1.4						
MJAR				Sn	**Sn**	**00 25 26.7**	**+1.1**
	1.1nm,0.3s,baz=34,slow=40,SNR=1.9						
	10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.00**	**258**	P	**P**	**00 31 32.6**	**-0.2**
	1.0nm,0.4s,baz=47,slow=7.8,SNR=5.0						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**45.70**	**304**	P	**P**	**00 32 12.2**	**+1.7**
	0.6nm,0.6s,baz=84,slow=6.9,SNR=1.8						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**47.80**	**310**	P	**P**	**00 32 26.2**	**-0.5**
	2.0nm,0.6s,baz=85,slow=7.1,SNR=2.4						
	2.0nm,0.6s						
ILAR	**Eielson Array**	**51.73**	**31**	P	**P**	**00 32 55.3**	**-1.2**
	0.8nm,0.8s,baz=251,slow=5.4,SNR=2.8						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**54.40**	**188**	P	**P**	**00 33 18.5**	**+1.9**
	1.3nm,0.8s,baz=2.0,slow=7.7,SNR=1.8						
	1.3nm,0.8s						

ROM 23 00:24:02.5±0.1,42˚.821N±0˚.002×13˚.126E±0˚.004, h12km,ML0.8/3,Error ellipse: s-maj=0.2km s-min=0.2km az=278.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.02**	**325**	P	Pg	00 24 05.0	+0.2
NRCA				S	Sg	00 24 06.3	0.0
NRCA				AML	AML		
	comp=E,179μm,0.5s						
NRCA				AML	AML		
	comp=N,252μm,1.3s						
NRCA				AML	AML		
	comp=E,180μm,0.5s						
T1242	**Castelluccio d**	**0.06**	**81**	P	Pg	00 24 05.2	+0.1
T1242				S	Sg	00 24 07.1	+0.2
T1242				AML	AML		
	comp=E,49μm,0.2s						
T1242				AML	AML		
	comp=N,84μm,0.4s						
MC2	**Monte Cornacci**	**0.10**	**27**	P	Pg	00 24 05.9	+0.3
MC2				S	Sg	00 24 08.3	+0.4
T1216	**Preci, Frazion**	**0.10**	**312**	P	Pg	00 24 05.8	+0.4
T1216				S	Sg	00 24 08.2	+0.6
T1202	**Accumoli, Fraz**	**0.14**	**148**	P	Pg	00 24 06.3	+0.4
T1202				S	Sg	00 24 09.2	+0.8
MMO1	**Montemonaco**	**0.17**	**62**	P	Pg	00 24 06.8	+0.4
MMO1				S	Sg	00 24 09.7	+0.5
T1217	**Poggiodomo (PG**	**0.18**	**233**	P	Pg	00 24 07.1	+0.5
T1217				S	Sg	00 24 10.6	+1.1
T1215	**Vallo di Nera,**	**0.19**	**264**	P	Pg	00 24 07.2	+0.4
T1215				S	Sg	00 24 10.5	+0.8
FDMO	**Fiordimonte**	**0.22**	**352**	P	Pg	00 24 07.6	+0.4
FDMO				S	Sg	00 24 11.4	+0.9
FDMO				AML	AML		
	comp=E,25μm,1.0s						
FDMO				AML	AML		
	comp=E,25μm,1.0s						
FDMO				AML	AML		
	comp=N,17μm,1.6s						
LNSS	**Leonessa**	**0.23**	**196**	P	Pg	00 24 07.6	+0.3
LNSS				S	Sg	00 24 11.5	+0.8
CSP1	**Cessapalombo**	**0.28**	**12**	P	Pg	00 24 08.6	+0.3
CSP1				S	Sb	00 24 13.3	-0.9

*SJA **23** 00:25:13.8±1.7,27˚.92S×71˚.78W,h13km±10km,ML4.4, MW4.1*
*IDC **23** 00:25:16.4±0.9,27˚.92S×71˚.42W,h0km,mb4.3/8, mbtmp4.2/11,ML3.8/3,MS3.3/1,Error ellipse: s-maj=25.8km s-min=25.4km az=103.0*
*GUC **23** 00:25:17.7±0.9,27˚.95S×71˚.32W,h44km±4km,ML4.1*
*NEIC **23** 00:25:19.7±1.4,27˚.90S±0˚.02×71˚.31W±0˚.08,h23km±5km, mb4.3/13,Mwr4.1/33,ML4.1(GUC),Error ellipse: s-maj=10.1km s-min=1.9km az=100.0*
*NEIC **23** 00:25:19.6,27˚.91S×71˚.32W,h26km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.69; Mθθ0.16; Mϕϕ-0.85; Mrθ0.45; Mrϕ-0.88; Mθϕ-1.28; Fault plane solution: M₀1.80000×10¹⁵ NP1:φs64.35000°, δ36.72000°,λ156.46000°. NP2:φs173.61000°,δ76.18000°, λ55.64000°. Principal axes: T 1.8412, Plg47.0000°, Azm48.0000°; N -0.0910, Plg33.0000°, Azm183.0000°; P -1.7502, Plg23.0000°, Azm289.0000°;*
*VAO **23** 00:25:33.2±0.7,27˚.35S×70˚.25W,h56km±7km,mb4.2*

ISC 23 00:25:16.5±1.5,27˚.91S±0˚.03×71˚.50W±0˚.05,h6km±9km, n124,σ1$47/141,mb4.4/13,9C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.47**	**128**	Pg	**Pg**	**00 25 27.0**	**+1.3**
AC04					**Sg**	**00 25 32.2**	**+0.3**
AC04	**Llanos de Chal**	**0.47**	**128**	*eP*	**Pg**	**00 25 27.0**	**+1.3**
AC04				*eS*	**Sg**	**00 25 32.2**	**+0.3**
AC04				IAML		00 25 32.9	
	comp=E,55μm,0.5s						
AC04	**Llanos de Chal**	**0.47**	**128**	*i* P	**Pg**	**00 25 27.0**	**+1.3**
AC04				IAML		00 25 34.2	
	comp=Z,8μm,0.6s						
AC06	**Mina Casimiro**	**1.16**	**62**		**Pb**	**00 25 38.5**	**-0.5**
AC06				Sn	**Sb**	**00 25 52.0**	**-2.2**
AC06	**Mina Casimiro**	**1.16**	**62**	*eP*	**Pb**	**00 25 37.1**	**-1.8**
AC06				*i* S	**Sb**	**00 25 52.0**	**-2.2**
AC06				IAML		00 25 57.9	
	comp=N,4μm,0.5s						
LCO	**Las Campanas**	**1.30**	**148**		**Pn**	**00 25 40.7**	**-0.8**
LCO				Sn	**Sb**	**00 25 57.4**	**-1.2**
LCO	**Las Campanas**	**1.30**	**148**	*eP*	**Pn**	**00 25 40.7**	**-0.8**
LCO				*eS*	**Sb**	**00 25 57.0**	**-1.6**
LCO	**Las Campanas**	**1.30**	**148**	*i* P	**Pn**	**00 25 41.0**	**-0.5**
LCO				IAML		00 26 03.0	
	comp=Z,26μm,0.4s						
AC05	**El Transito**	**1.42**	**131**		**Pn**	**00 25 42.3**	**-0.7**
AC05				Sn	**Sn**	**00 25 59.8**	**-2.3**
AC05	**El Transito**	**1.42**	**131**	*eP*	**Pn**	**00 25 41.5**	**-1.5**
AC05				*eS*	**Sn**	**00 25 58.4**	**-3.7**
AC05				IAML		00 26 07.2	
	comp=N,3μm,0.6s						
AC01	**Pan de Azucar**	**1.93**	**25**		**Pn**	**00 25 50.3**	**+0.3**
AC01	**Pan de Azucar**	**1.93**	**25**	*eP*	**Pn**	**00 25 49.9**	**-0.1**
AC01				*eS*	**Sn**	**00 26 14.6**	**0.0**
AC01				IAML		00 26 29.7	
	comp=E,1μm,0.2s						
AC01	**Pan de Azucar**	**1.93**	**25**	*i* P	**Pn**	**00 25 50.0**	**0.0**
AC01				*eS*	**Sn**	**00 26 14.7**	**+0.1**
AC01				IAML		00 26 23.6	
	comp=Z,813nm,0.6s						
CO05	**La Serena**	**2.01**	**174**		**Pn**	**00 25 51.2**	**+0.2**
CO05	**La Serena**	**2.01**	**174**	*eP*	**Pn**	**00 25 50.8**	**-0.3**
CO05				*eS*	**Sn**	**00 26 15.4**	**-1.2**
CO05				IAML		00 26 24.4	
	comp=E,5μm,0.6s						
GO04	**Tololo Observa**	**2.33**	**165**	Pn	**Pn**	**00 25 56.4**	**+0.7**
GO04	**Tololo Observa**	**2.33**	**165**	*eP*	**Pn**	**00 25 55.9**	**+0.3**
GO04				*eS*	**Sn**	**00 26 26.2**	**+1.3**
GO04	**Tololo Observa**	**2.33**	**165**	*i* P	**Pn**	**00 25 56.0**	**+0.3**
GO04				*eS*	**Sn**	**00 26 26.6**	**+1.7**
AC02	**Maricunga**	**2.36**	**64**	Pn	**Pn**	**00 25 56.0**	**-0.3**
AC02	**Maricunga**	**2.36**	**64**	*eP*	**Pb**	**00 25 58.6**	**-1.2**
AC02				*eS*	**Sn**	**00 26 26.1**	**+0.2**
AC02				IAML		00 26 37.8	
	comp=E,3μm,0.4s						
AC02	**Maricunga**	**2.36**	**64**	*i* P	**Pb**	**00 25 59.0**	**-0.8**
AC02				IAML		00 26 38.7	
	comp=Z,1μm,0.4s						
CO01	**Juntas del Tor**	**2.40**	**149**		**Pn**	**00 25 57.4**	**+0.8**
CO01	**Juntas del Tor**	**2.40**	**149**	*eP*	**Pn**	**00 25 58.1**	**+1.5**
CO01				*eS*	**Sn**	**00 26 25.7**	**-0.7**
CO01				IAML		00 26 30.5	
	comp=E,2μm,0.4s						
CO01	**Juntas del Tor**	**2.40**	**149**	*i* P	**Pn**	**00 25 58.0**	**+1.4**
CO01				*eS*	**Sn**	**00 26 26.8**	**+0.3**
CO01				IAML		00 26 31.4	
	comp=Z,2μm,0.3s						
CO06	**Fray Jorge**	**2.75**	**182**		**Pn**	**00 26 00.8**	**-0.5**
AROD	**Rodeo**	**2.86**	**142**	*i* P	**Pn**	**00 26 06.0**	**+3.0**
AROD				*eS*	**Sb**	**00 26 41.7**	**-1.9**
VCA	**Vinchina

PB12	**IPOC Station P**	**9.32**	**7**	Pn	**Pn**	**00 27 30.2**	**-1.4**
PB16	**IPOC Station P**	**9.71**	**11**	Pn	**Pn**	**00 27 37.6**	**+0.3**
LPAZ	**La Paz**	**11.98**	**16**	Pn	**Pn**	**00 28 10.1**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=210,slow=6.1,SNR=7.2						
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**11.98**	**16**	Pn	**Pn**	**00 28 08.4**	**-0.1**
LPAZ	**La Paz**	**11.98**	**16**	*eP*	**Pn**	**00 28 10.3**	**+1.8**
CPUP	**Villa Florida**	**12.72**	**86**	Pn	**Pn**	**00 28 17.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=212,slow=17,SNR=2.4						
CPUP				Sn	**Sn**	**00 30 45.1**	**+5.1**
	comp=Z,0.1nm,0.3s,baz=4.1,slow=12,SNR=2.0						
	comp=Z,1.7nm,0.7s						
CPUP	**Villa Florida**	**12.72**	**86**	Pn	**Pn**	**00 28 18.7**	**+0.7**
PLCA	**Paso Flores**	**12.81**	**177**	Pn	**Pn**	**00 28 20.5**	**+1.2**
TRQA	**Tornquist**	**12.88**	**144**	Pn	**Pn**	**00 28 20.1**	**-0.1**
LL04	**Puerto Octay**	**12.99**	**183**	Pn	**Pn**	**00 28 22.6**	**+1.0**
ITQB	**Itaqui**	**13.16**	**101**	Pn	**Pn**	**00 28 22.4**	**-1.6**
ITQB	**Itaqui**	**13.16**	**101**	*eP*	**Pn**	**00 28 23.2**	**-0.8**
SIV	**San Ignacio**	**15.29**	**41**	Pn	**Pn**	**00 28 46.9**	**-6.2**
	baz=232,slow=13,SNR=6.0						
CPSB	**Cacapava Do Su**	**15.97**	**103**	*eP*	**Pn**	**00 29 02.9**	**+1.0**
PLTB	**Pedras Altas**	**15.99**	**108**	P	**Pn**	**00 29 03.7**	**+1.5**
PLTB				IAmb	IAmb	00 29 05.0	
	comp=Z,14nm,0.7s						
PLTB	**Pedras Altas**	**15.99**	**108**	*eP*	**Pn**	**00 29 03.5**	**+1.3**
ITAB	**Concordia**	**17.19**	**92**		**Pn**	**00 29 15.8**	**-1.6**
VILB	**Vilhena**	**18.24**	**38**	Pn	**Pn**	**00 29 27.2**	**-3.3**
VILB				IAmb	IAmb	00 29 34.5	
	comp=Z,5.2nm,0.7s						
ETMB	**Extrema**	**18.68**	**16**	P	**P**	**00 29 35.7**	**+0.2**
ETMB				IAmb	IAmb	00 29 45.4	
	comp=Z,3.8nm,0.6s						
ETMB	**Extrema**	**18.68**	**16**	*eP*	**Pn**	**00 29 37.6**	**+1.9**
PDRB	**Porto dos Gac**	**21.32**	**43**	*eP*	**P**	**00 30 04.5**	**+0.2**
BB19B	**Bebedouro**	**21.97**	**77**	*eP*	**P**	**00 30 10.4**	**-0.9**
CLDB	**Colider**	**22.46**	**44**	*eP*	**P**	**00 30 15.7**	**-0.9**
VAO	**Valinhos**	**22.67**	**83**	*eP*	**P**	**00 30 16.4**	**-2.4**
GO09	**Cerro Castillo**	**23.34**	**181**	P	**P**	**00 30 25.9**	**+0.5**
GO09				IAmb	IAmb	00 30 43.8	
	comp=Z,11nm,1.1s						
IPMB	**Ipameri, GO**	**23.57**	**70**	*eP*	**P**	**00 30 25.8**	**-2.3**
SNDB	**Serra Nova Dou**	**24.68**	**54**	*eP*	**P**	**00 30 37.4**	**-1.1**
PMNB	**Patos De Minas**	**24.81**	**73**	*eP*	**P**	**00 30 38.9**	**-0.8**
BDFB	**Brasilia**	**24.94**	**66**	P	**P**	**00 30 41.0**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=239,slow=5.9,SNR=3.5						
	comp=Z,1.6nm,0.4s						
BDFB	**Brasilia**	**24.94**	**66**	P	**P**	**00 30 39.8**	**-1.1**
BDFB				IAmb	IAmb	00 30 50.5	
	comp=Z,3.3nm,0.9s						
MACA	**Manacapuru-AM**	**26.69**	**25**	P	**P**	**00 30 56.2**	**-0.3**
MACA				IAmb	IAmb	00 31 01.4	
	comp=Z,6.0nm,0.7s						
ITTB	**Itaituba**	**27.82**	**35**	*eP*	**P**	**00 31 06.5**	**-0.2**
JANB	**Januaria**	**28.27**	**69**	*eP*	**P**	**00 31 09.8**	**-1.1**
PTGA	**Pitinga**	**29.20**	**24**	P	**P**	**00 31 19.3**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=176,slow=19,SNR=4.0						
	comp=Z,2.6nm,0.9s						
BOAV	**Boa Vista**	**31.93**	**21**	P	**P**	**00 31 42.8**	**-0.4**
BOAV				IAmb	IAmb	00 32 00.4	
	comp=Z,3.1nm,1.2s						
TMAB	**Tom-Au,PA,Br**	**33.84**	**45**	*eP*	**P**	**00 32 00.5**	**+0.6**
MDP	**Montagnes des**	**37.53**	**32**	P	**P**	**00 32 31.6**	**0.0**
	comp=Z,3.2nm,0.6s,baz=197,slow=11,SNR=4.9						
	comp=Z,3.2nm,0.6s						
BCIP	**Isla Barro Col**	**37.73**	**346**	P	**P**	**00 32 33.4**	**+0.1**
BCIP				IAmb	IAmb	00 32 37.3	
	comp=Z,15nm,1.1s						
CRPR	**Cabo Rojo, PR**	**45.84**	**6**	P	**P**	**00 33 39.3**	**-0.2**
CELP	**Cerrillos**	**45.96**	**7**	P	**P**	**00 33 39.1**	**-1.4**
SMRT	**St. Maarten**	**46.41**	**11**	P	**P**	**00 33 44.6**	**+0.5**
CMIG	**Matias Romero**	**50.15**	**330**	P	**P**	**00 34 12.6**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=191,slow=10						
	comp=Z,1.7nm,0.3s						
W50A	**Signal Mountai**	**64.11**	**347**	P	**P**	**00 35 52.6**	**+1.0**
W50A				IAmb	IAmb	00 35 53.7	
	comp=Z,5.5nm,0.8s						
DBIC	**Dimbokro**	**72.85**	**73**	P	**P**	**00 36 46.6**	**-0.1**
	comp=Z,6.3nm,0.8s,baz=229,slow=5.1,SNR=5.1						
	comp=Z,6.3nm,0.8s						
KOWA	**Kowa**	**77.73**	**66**	P	**P**	**00 37 15.1**	**+0.3**
	baz=255,slow=6.6						
PDAR	**Pinedale Array**	**78.58**	**332**	P	**P**	**00 37 20.5**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=144,slow=6.3,SNR=1.7						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.72**	**70**	P	**P**	**00 37 36.7**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=262,slow=4.6,SNR=9.6						
	comp=Z,2.5nm,0.7s						
BOSA	**Boshof**	**82.51**	**118**	P	**P**	**00 37 40.6**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=249,slow=4.5,SNR=4.4						
	comp=Z,5.0nm,0.8s						
ASAR	**Alice Springs**	**123.17**	**208**	PKP	**PKiKP**	**00 44 15.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=169,slow=2.6,SNR=4.8						
WRA	**Warramunga Arr**	**126.26**	**211**	PKP	**PKiKP**	**00 44 21.2**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=153,slow=1.4,SNR=7.9						
KURBB	**Kurchatov Arra**	**147.92**	**37**	PKPbc	**PKiKP**	**00 45 03.4**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=304,slow=3.1,SNR=13						
ZALV	**Zalesovo Beam**	**148.72**	**27**	PKPbc	**PKiKP**	**00 45 05.7**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=298,slow=3.3,SNR=18						
AAK	**Ala-Archa**	**148.83**	**53**	PKPbc	**PKiKP**	**00 45 07.1**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=230,slow=3.4,SNR=7.0						
KSH	**Kashi**	**150.72**	**58**	PKPbc	**PKiKP**	**00 45 11.3**	**+0.7**
MKAR	**Makanchi Array**	**152.11**	**40**	PKPbc	**PKiKP**	**00 45 13.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=338,slow=1.8,SNR=9.9						

PRE 23 00:25:26.7±1.4,**21°31S×33°56E,h10**km,**ML2.1,**
Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.97**	**222**	*eP*	Pn	00 26 14.6	+0.7
MOPA				*eS*	Sn	00 26 49.0	-0.7
MUSN	**Musina, Limpop**	**3.57**	**254**	*eP*	Pn	00 26 21.5	-0.8
MUSN				*eS*	Sn	00 27 04.8	+0.2
MUSN				IAML		00 27 21.9	
	comp=Z,3.5nm,0.3s						
BLWY	**Bulawayo**	**4.78**	**283**	*eP*	Pn	00 26 42.0	+3.0
BLWY				*eS*	Sn	00 27 36.2	+1.8
BLWY				IAML		00 28 00.8	
	comp=Z,12nm,0.5s						
MATP	**Matopo**	**4.81**	**280**	*eP*	Pn	00 26 41.2	+1.8
MATP				*eS*	Sn	00 27 33.9	-1.4
MATP				IAML		00 28 02.0	
	comp=Z,5.7nm,0.4s						
MMAL	**MMAL**	**5.18**	**204**	*eP*	Pn	00 26 46.3	+1.8
MMAL				*eS*	Sn	00 27 44.9	+0.5
MMAL				IAML		00 28 17.7	
	comp=Z,2.5nm,0.5s						
LEPH	**Lephalale, Lim**	**5.90**	**243**	*eP*	Pn	00 26 56.1	+1.9
LEPH				*eS*	Sn	00 28 00.8	-1.2
LEPH				IAML		00 28 31.1	
	comp=Z,3.1nm,0.6s						
LBTB	**Lobatse**	**8.20**	**242**	*eS*	Sn	00 28 54.3	-4.4
LBTB				IAML		00 29 45.6	
	comp=Z,1.0nm,0.6s						

IDC ***23*** *00:26:06.1*±*0.6,34˚.44N×141˚.68E,h0*km*,mb4.1/22, mbtmp4.1/27,ML3.8/4,Error ellipse: s-maj=15.5km s-min=12.8km az=86.0*
JMA ***23*** *00:26:07.3*±*0.6,34˚.N*±*1˚×14˚.2E*±*˚, h34*km*±2*km*, MV4.0/33, FAR SE OFF BOSO PEN*
NEIC ***23*** *00:26:08.7*±*2.1,34˚.48N*±*0˚.04×141˚.69E*±*0˚.10,h10*km*±1*km, mb4.8/52,Error ellipse: s-maj=14.7km s-min=3.0km az=115.0*

ISC 23 00:26:10.3±0.4,**34˚.42N**±**0˚.04×141˚.68E**±**0˚.05,h27**km,**n127,**
σ1§14/123,mb4.6/47,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.62**	**292**	*eP*	**Pn**	**00 26 21.5**	**-1.4**
BSO4	**Boso 4**	**1.24**	**298**	*eP*	**Pb**	**00 26 31.6**	**-1.4**
JKUC	**kamogawauchiur**	**1.42**	**302**	P	**Pn**	**00 26 33.4**	**-1.0**
CHOJ	**Chosi**	**1.45**	**333**	P	**Pn**	**00 26 32.9**	**-1.8**
JMKN	**Mikurajimanish**	**1.81**	**254**	P	**Pn**	**00 26 38.8**	**-0.8**
JMKN				*eS*	**Sb**	**00 27 02.5**	**-2.4**
JHJ2	**Mitsune**	**2.02**	**230**	Pn	**Pn**	**00 26 42.5**	**-0.1**
JHJ2	**Mitsune**	**2.02**	**230**	*eP*	**Pn**	**00 26 42.9**	**+0.3**
JHJ	**Hachijo jima 2**	**2.04**	**231**	Pn	**Pn**	**00 26 42.7**	**-0.1**
	85nm,0.3s,baz=305,slow=23,SNR=7.2						
JHJ				Sn	**Sn**	**00 27 07.6**	**+0.1**
	145nm,0.3s,baz=69,slow=22,SNR=9.7						
	220nm,0.3s						
JYT	**Yasato**	**2.17**	**327**	Pn	**Pn**	**00 26 43.7**	**-1.0**
JOD2	**Odawara 2**	**2.29**	**292**	*eP*	**Pn**	**00 26 45.7**	**-0.6**
JIZS	**Izushimoda**	**2.33**	**278**	*eP*	**Pn**	**00 26 46.7**	**-0.1**
JMM	**Marumori**	**3.51**	**349**	Pn	**Pn**	**00 27 02.2**	**-0.9**
MJAR	**Matsushiro Arr**	**3.53**	**308**	Pn	**Pn**	**00 27 02.5**	**-0.9**
	3.0nm,0.3s,baz=19,slow=17,SNR=13						
MJAR				Sn	**Sn**	**00 27 45.6**	**+1.3**
	1.7nm,0.3s,baz=102,slow=15,SNR=6.4						
	15nm,0.4s						
MAJO	**Matsushiro**	**3.54**	**308**		**Pn**	**00 27 04.1**	**+0.7**
MJB9	**Matsu-Tunnel**	**3.54**	**308**		**Pn**	**00 27 04.3**	**+0.8**
JGF	**Kuroka**	**3.74**	**290**	Pn	**Pn**	**00 27 07.3**	**+1.1**
INU	**Inuyama**	**3.94**	**285**	Pn	**Pn**	**00 27 10.5**	**+1.5**
JSD	**Sado**	**4.54**	**324**		**Pn**	**00 27 16.2**	**-1.1**
JTM	**Tenmabayashi**	**6.38**	**356**	Pn	**Pn**	**00 27 41.6**	**-0.8**
JMN	**Monobe**	**6.51**	**266**	Pn	**Pn**	**00 27 46.0**	**+1.7**
JHS	**Saijyo**	**7.07**	**277**	Pn	**Pn**	**00 27 55.1**	**+3.1**
JCJ	**Chichijima**	**7.31**	**176**	Pn	**Pn**	**00 27 54.0**	**-1.4**
	7.7nm,0.3s,baz=255,slow=22,SNR=1.8						
JCJ				Sn	**Sn**	**00 29 11.3**	**-6.1**
	5.8nm,0.3s,baz=286,slow=21,SNR=1.2						
	71nm,0.6s						
KSRS	**Korea Array**	**11.55**	**289**	Pn	**Pn**	**00 28 55.1**	**+1.7**
	0.4nm,0.3s,baz=102,slow=14,SNR=11						
USRK	**Ussuriysk Ar.**	**12.30**	**325**	Pn	**Pn**	**00 29 01.8**	**-1.8**
	1.9nm,0.7s,baz=153,slow=14,SNR=2.4						
KLR	**Kul'dur**	**16.52**	**337**	Pn	**Pn**	**00 29 59.4**	**-0.6**
	0.3nm,0.3s,baz=354,slow=8.9,SNR=2.2						
	0.9nm,0.4s						
TPUB	**Ta-pu**	**21.46**	**244**	P	**P**	**00 30 57.0**	**+0.4**
TPUB				IAmb	IAmb	00 31 00.2	
	comp=Z,58nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**26.70**	**117**	T	T	00 59 56.2	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**26.71**	**117**	T	T	00 59 47.9	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**26.72**	**117**	T	T	00 59 58.4	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	01 00 49.1	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	01 00 46.1	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	01 00 47.8	
	baz=312						
SONM	**Songino Array**	**29.49**	**308**	P	**P**	**00 32 12.7**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=119,slow=8.6,SNR=5.7						
	comp=Z,1.7nm,0.5s						
SONM	**Songino Array**	**29.49**	**308**	P	**P**	**00 32 12.5**	**+0.3**
CHTO	**Chiang Mai**	**40.93**	**259**	P	**P**	**00 33 49.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**41.11**	**258**	P	**P**	**00 33 51.3**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=48,slow=7.5,SNR=20						
	comp=Z,3.7nm,0.6s						
AKUT	**Akutan**	**41.35**	**45**	P	**P**	**00 33 52.2**	**-1.4**
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	**00 34 13.9**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=87,slow=6.3,SNR=9.7						
ZALV				PcP	**PcP**	**00 35 58.8**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=108,slow=2.9,SNR=3.2						
	comp=Z,3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	**00 34 14.2**	**+0.2**
MK31	**Makanchi Array**	**45.73**	**304**	P	**P**	**00 34 29.4**	**+0.4**
MKAR	**Makanchi Array**	**45.73**	**304**	P	**P**	**00 34 28.6**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=92,slow=7.5,SNR=9.8						
	comp=Z,1.7nm,0.5s						
MKAR	**Makanchi Array**	**45.73**	**304**	P	**P**	**00 34 29.1**	**+0.1**
RAMN	**Ramite**	**47.46**	**277**	*eP*	**P**	**00 34 42.1**	**-1.1**
	comp=Z,33nm,0.8s						
JIRN	**Jiri**	**47.52**	**278**	*eP*	**P**	**00 34 43.2**	**-0.6**
	comp=Z,41nm,0.6s						
GUN	**Gumba**	**47.68**	**278**	*eP*	**P**	**00 34 44.4**	**-0.6**
KURK	**Kurchatov**	**47.74**	**310**		**P**	**00 34 44.3**	**-0.4**
KURBB	**Kurchatov Arra**	**47.81**	**310**	P	**P**	**00 34 44.8**	**-0.4**
	comp=Z,6.3nm,0.6s,baz=86,slow=7.3,SNR=26						
	comp=Z,6.3nm,0.6s						
PKI	**Pulchoki**	**48.20**	**278**	*eP*	**P**	**00 34 47.7**	**-1.2**
	comp=Z,20nm,0.7s						
PKIN	**Phulchoki**	**48.20**	**278**	*eP*	**P**	**00 34 47.7**	**-1.2**
K20K	**Telida**	**48.38**	**33**	P	**P**	**00 34 49.9**	**+0.4**
GKN	**Gorkha**	**48.66**	**279**	*eP*	**P**	**00 34 51.6**	**-0.7**
DANN	**Dangsing**	**49.25**	**280**	*eP*	**P**	**00 34 56.6**	**-0.4**
	comp=Z,34nm,0.6s						
MDM	**Murphy Dome**	**51.03**	**31**	P	**P**	**00 35 09.9**	**+0.3**
WRH	**Wood River Hil**	**51.08**	**32**	P	**P**	**00 35 10.8**	**+0.8**
WRH				IAmb	IAmb	00 35 24.2	
	comp=Z,9.1nm,1.2s						
H24K	**Noodor Dome**	**51.19**	**30**	P	**P**	**00 35 11.5**	**+0.6**
KNRA	**Kununurra**	**51.31**	**196**	P	**P**	**00 35 13.8**	**+1.6**
KNRA				IAmb	IAmb	00 35 40.4	
	comp=Z,14nm,0.9s						
UGM	**Wanagama**	**51.40**	**221**	P	**P**	**00 35 12.3**	**-0.7**
SCM	**Sheep Creek Mo**	**51.46**	**35**	P	**P**	**00 35 14.0**	**+1.0**
ILAR	**Eielson Array**	**51.60**	**31**	P	**P**	**00 35 13.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=271,slow=5.4,SNR=5.1						
	comp=Z,0.9nm,0.7s						
AAK	**Ala-Archa**	**51.95**	**300**	P	**P**	**00 35 17.4**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=234,slow=8.6,SNR=2.2						
	comp=Z,1.4nm,0.5s						
BMAR	**Burnt Mountain**	**52.53**	**28**	P	**P**	**00 35 22.6**	**+1.8**
BRVK	**Borovoye**	**52.57**	**314**	P	**P**	**00 35 21.7**	**+0.5**
WB0	**Warramunga Arr**	**54.33**	**188**	P	**P**	**00 35 34.3**	**-0.2**
WB0				IAmb	IAmb	00 35 39.0	
	comp=Z,11nm,1.0s						
FITZ	**Fitzroy Crossi**	**54.41**	**199**	P	**P**	**00 35 35.2**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=10,slow=3.6,SNR=7.7						
	comp=Z,2.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**54.41**	**199**	P	**P**	**00 35 35.8**	**+0.8**
WR0	**Warramunga Arr**	**54.50**	**188**	P	**P**	**00 35 35.9**	**+0.2**
WR0				IAmb	IAmb	00 35 48.5	
	comp=Z,6.8nm,0.8s						
WB2	**Warramunga Arr**	**54.51**	**188**	P	**P**	**00 35 35.9**	**+0.1**
WB2				IAmb	IAmb	00 35 55.6	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**54.51**	**188**	P	**P**	**00 35 35.4**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=2.1,slow=7.5,SNR=11						
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**54.51**	**188**	P	**P**	**00 35 35.2**	**-0.5**
KK31	**Karatay Array**	**54.65**	**302**	IAmb	IAmb	00 35 49.7	
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**54.65**	**302**	P	**P**	**00 35 37.1**	**+0.4**
KKAR	**Karatay Array**	**54.65**	**302**	IAmb	IAmb	00 35 49.7	
	comp=Z,14nm,1.0s						
INK	**Inuvik**	**56.62**	**26**	P	**P**	**00 35 50.1**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=339,slow=8.8,SNR=4.4						
	comp=Z,1.4nm,0.6s						
INK	**Inuvik**	**56.62**	**26**	P	**P**	**00 35 49.7**	**-0.7**
ASAR	**Alice Springs**	**58.24**	**188**	P	**P**	**00 36 01.9**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=16,slow=12,SNR=8.1						
	comp=Z,1.0nm,0.7s						
HYBB	**Hyderabad (bro**	**58.39**	**270**	*eP*	**P**	**00 36 03.4**	**-0.2**
ARU	**Arti**	**58.47**	**320**	P	**P**	**00 36 03.3**	**-0.4**
ARU				IAmb	IAmb	00 36 16.5	
	comp=Z,26nm,1.4s						
MBWA	**Marble Bar**	**59.08**	**204**	P	**P**	**00 36 08.7**	**+0.5**
PSA00	**Pilbara Seismi**	**59.43**	**204**	P	**P**	**00 36 10.8**	**+0.2**
ABKAR	**Akbulak array**	**59.80**	**311**	P	**P**	**00 36 12.5**	**-0.4**
HRA	**Herat**	**63.79**	**295**	P	**P**	**00 36 40.7**	**+0.4**
HRA				IAmb	IAmb	00 36 53.4	
	comp=Z,3.7nm,0.8s						
RES	**Resolute Bay**	**65.08**	**14**	P	**P**	**00 36 49.3**	**+1.5**
GEYT	**Alibeck**	**65.31**	**300**	P	**P**	**00 36 49.9**	**0.0**
	comp=Z,2.3nm,0.9s,baz=81,slow=9.3,SNR=3.9						
	comp=Z,2.3nm,0.9s						
STKA	**Stephens Creek**	**65.94**	**180**	P	**P**	**00 36 55.0**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=342,slow=8.4,SNR=2.2						
	comp=Z,0.7nm,0.3s						
STKA	**Stephens Creek**	**65.94**	**180**	P	P	00 36 59.6	+5.8
FORT	**Forrest**	**66.11**	**193**	P	**P**	**00 36 56.3**	**+1.4**
CBB	**Campbell River**	**66.26**	**45**	P	**P**	**00 36 56.4**	**+0.5**
CBB				IAmb	IAmb	00 37 24.9	
	comp=Z,13nm,1.4s						
ARCES	**ARCESS Array B**	**66.52**	**340**	P	**P**	**00 36 54.9**	**-2.3**
ARCES				IAmb	IAmb	00 37 01.1	
	comp=Z,6.6nm,1.4s						
H04A	**Detroit Lake**	**70.65**	**49**	P	**P**	**00 37 24.2**	**+0.7**
H04A				IAmb	IAmb	00 37 46.3	
	comp=Z,11nm,1.5s						
FIA1	**FINESS Array S**	**71.23**	**333**	P	**P**	**00 37 26.4**	**-0.1**
FIA1				IAmb	IAmb	00 37 43.4	
	comp=Z,15nm,1.2s						
FINES	**FINESS Array B**	**71.23**	**333**	P	**P**	**00 37 26.6**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=64,slow=4.4,SNR=5.9						
	comp=Z,2.5nm,0.8s						
FINES	**FINESS Array B**	**71.23**	**333**	P	**P**	**00 37 26.3**	**-0.3**
PINE	**Pine Mountain**	**71.88**	**49**	P	**P**	**00 37 32.2**	**+1.1**
PINE				IAmb	IAmb	00 37 55.4	
	comp=Z,6.0nm,1.1s						
KBZ	**Khabaz**	**72.78**	**311**	P	**P**	**00 37 36.9**	**+0.7**
	comp=Z,4.0nm,1.1s,baz=70,slow=2.5,SNR=3.5						
	comp=Z,4.0nm,1.1s						
SUMG	**Summit**	**73.29**	**0**	P	**P**	**00 37 40.3**	**+1.0**
SUMG				IAmb	IAmb	00 38 01.3	
	comp=Z,15nm,1.4s						
JTMT	**Jette**	**73.75**	**43**	P	**P**	**00 37 42.5**	**+0.4**
JTMT				IAmb	IAmb	00 37 57.8	
	comp=Z,14nm,1.5s						
PNTR	**Pine Nut**	**75.18**	**53**	P	**P**	**00 37 53.6**	**+3.0**
PNTR				IAmb	IAmb	00 38 10.3	
	comp=Z,13nm,1.4s						
FFC	**Flin Flon**	**75.79**	**32**	P	**P**	**00 37 53.4**	**-0.1**
FFC				IAmb	IAmb	00 38 11.0	
	comp=Z,5.9nm,1.1s						
NVAR	**Mina Array Bea**	**76.39**	**53**	P	**P**	**00 37 57.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=291,slow=6.4,SNR=4.7						
	comp=Z,1.3nm,0.7s						
NC405	**NORSAR Array S**	**76.46**	**337**	P	**P**	**00 37 57.1**	**-0.1**
AKASG	**Malin Array Be**	**76.50**	**323**	P	**P**	**00 37 57.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=46,slow=5.6,SNR=2.4						
	comp=Z,0.3nm,0.3s						
NC204	**NORSAR Array S**	**76.64**	**338**	P	**P**	**00 37 58.2**	**-0.1**
NB201	**NORSAR Array S**	**76.64**	**338**	P	**P**	**00 37 58.0**	**-0.3**
NB2	**NORSAR Subarra**	**76.68**	**338**	P	**P**	**00 37 58.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**76.68**	**338**	P	**P**	**00 37 58.0**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=40,slow=5.7,SNR=8.3						
	comp=Z,1.2nm,0.6s						
NB000	**NORSAR Array S**	**76.82**	**338**	P	**P**	**00 37 59.0**	**-0.3**
FXWY	**Fox Creek**	**77.97**	**45**	P	**P**	**00 38 03.3**	**-3.1**
FXWY				IAmb	IAmb	00 38 03.9	
	comp=Z,5.6nm,0.7s						
PDAR	**Pinedale Array**	**79.35**	**45**	P	**P**	**00 38 14.3**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=290,slow=2.3,SNR=4.3						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**79.35**	**45**	P	**P**	**00 38 14.8**	**+0.9**
QRZ	**Quartz Range**	**80.09**	**157**	P	**P**	**00 38 16.9**	**-0.5**
RDMU	**Red Mountain**	**80.67**	**47**	P	**P**	**00 38 22.2**	**+1.0**
RDMU				IAmb	IAmb	00 38 31.9	
	comp=Z,6.8nm,1.0s						
BRTR	**Keskin Array B**	**80.75**	**312**	P	**P**	**00 38 21.8**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=38,slow=3.2,SNR=2.5						
	comp=Z,0.9nm,0.9s						
BRTR	**Keskin Array B**	**80.75**	**312**	P	**P**	**00 38 22.5**	**+1.0**
P18A	**Preston Nutter**	**80.83**	**48**	P	**P**	**00 38 22.0**	**-0.1**
SRU	**San Rafael Swe**	**80.97**	**49**	P	**P**	**00 38 23.7**	**+1.0**
SRU				IAmb	IAmb	00 38 28.7	
	comp=Z,4.0nm,0.7s						
RAYN	**Ar Rayn**	**81.85**	**293**	P	**P**	**00 38 27.6**	**+0.1**
RAYN				IAmb	IAmb	00 38 40.5	
	comp=Z,9.6nm,1.1s						
PV23	**Carpenter Ridg**	**82.31**	**48**	P	**P**	**00 38 31.2**	**+1.3**
PV23				IAmb	IAmb	00 38 34.0	
	comp=Z,12nm,0.8s						
PV20	**West Nyswonger**	**82.41**	**48**	P	**P**	**00 38 31.4**	**+1.1**
WKZ	**Wanaka**	**82.69**	**161**	P	**P**	**00 38 32.1**	**+1.0**
WKZ				IAmb	IAmb	00 38 35.2	
	comp=Z,15nm,1.3s						
CLL	**Collm**	**83.47**	**330**	*eP*	**P**	**00 38 37.0**	**+

JGF Kuroka 3.77 289 Pn **Pn 00 31 21.8 +1.3**
INU Inuyama 3.98 285 **Pn 00 31 23.9 +0.7**
JSD Sado 4.57 323 **Pn 00 31 30.6 -0.7**
JTM Tenmabayashi 6.38 355 Pn **Pn 00 31 55.7 -0.3**
JMN Monobe 6.55 266 Pn **Pn 00 31 59.0 +0.4**
JHS Saijyo 7.12 277 Pn **Pn 00 32 08.4 +2.0**
JCJ Chichijima 7.31 177 Pn **Pn 00 32 07.2 -1.9**
1.7nm,0.3s,baz=301,slow=20,SNR=1.4
JCJ Sn **Sn 00 33 25.6 -6.6**
baz=278,slow=18
JCJ Chichijima 7.31 177 Pn **Pn 00 32 11.1 +2.1**
ERM Erimo 7.66 8 Pn **Pn 00 32 13.1 -0.7**
KSRS Korea Array 11.59 289 Pn **Pn 00 33 11.2 +3.6**
0.2nm,0.3s,baz=105,slow=14,SNR=10
USRK Ussuriysk Ar. 12.33 325 Pn **Pn 00 33 16.8 -0.9**
2.9nm,0.8s,baz=141,slow=12,SNR=4.2
CN2 Changchun 15.71 311 *e*P **P 00 34 07.3 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 21.86 26 P **P 00 35 15.3 +0.4**
HIA Hailar 21.98 319 P **P 00 35 16.7 +0.4**
HHC Hu-ho-hao-te 24.66 294 *e*P **P 00 35 46.1 +3.0**
H11N2 WAKE ISLAND Hy 26.67 117 T T 01 04 04.9
baz=309
H11N1 WAKE ISLAND Hy 26.67 117 T T 01 04 04.9
baz=309
H11N3 WAKE ISLAND Hy 26.68 117 T T 01 04 05.6
baz=309
H11S3 WAKE ISLAND Hy 27.30 119 T T 01 04 54.6
baz=312
H11S1 WAKE ISLAND Hy 27.30 119 T T 01 05 02.0
baz=312
H11S2 WAKE ISLAND Hy 27.31 119 T T 01 05 01.7
baz=312
ENH Enshi 27.49 270 P **P 00 36 06.7 -2.0**
ENH IAmb IAmb 00 36 10.1
comp=Z,14nm,1.1s
ULN Ulaanbaatar 29.10 308 P **P 00 36 23.2 +0.2**
SONM Songino Array 29.52 308 P **P 00 36 25.9 -0.9**
comp=Z,3.3nm,0.9s,baz=112,slow=9.2,SNR=8.8
comp=Z,3.3nm,0.9s
SONM Songino Array 29.52 308 P **P 00 36 26.8 0.0**
GTA Gaotai 33.66 291 *e*P **P 00 37 03.0 -0.2**
GTA pP pwP 00 37 11.4 -1.2
GTA sP sP 00 37 15.3 +11
GTA pmax pmax
comp=Z,9.0nm,1.0s
PZH PanZhiHua 35.18 268 P **P 00 37 16.9 +0.3**
PZH pmax pmax
comp=Z,20nm,1.1s
TOLI2 Tolitoli 38.49 215 P **P 00 37 44.4 -0.2**
CRAI Chiangrai 39.09 260 P **P 00 37 49.6 -0.1**
CMAR Chiang Mai Arr 41.15 258 P **P 00 38 06.0 -0.8**
comp=Z,1.1nm,0.3s,baz=51,slow=7.1,SNR=7.3
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 41.15 258 P **P 00 38 06.7 -0.1**
WMQ Urumqi 42.30 299 *e*P **P 00 38 17.1 +1.1**
WMQ sP pwP 00 38 29.3 +4.0
WMQ pmax pmax
comp=Z,44nm,1.3s
ZAA0 Zalesovo Array 43.89 314 P **P 00 38 29.6 +1.0**
ZALV Zalesovo Beam 43.89 314 P **P 00 38 28.4 -0.3**
comp=Z,2.0nm,0.7s,baz=78,slow=5.6,SNR=5.1
ZALV PcP **PcP 00 40 14.3 -0.4**
comp=Z,0.8nm,0.4s,baz=106,slow=4.7,SNR=2.3
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 43.89 314 P **P 00 38 27.8 -0.9**
NRIK Noril'sk 45.75 336 P **P 00 38 43.4 +0.1**
comp=Z,1.7nm,0.4s,baz=111,slow=6.5,SNR=3.7
comp=Z,1.7nm,0.4s
NRIK Noril'sk 45.75 336 P **P 00 38 43.4 +0.1**
NRIK IAmb IAmb 00 38 56.6
comp=Z,15nm,1.0s
MK31 Makanchi Array 45.76 304 P **P 00 38 43.2 -0.5**
MKAR Makanchi Array 45.76 304 P **P 00 38 43.4 -0.4**
comp=Z,2.5nm,0.8s,baz=87,slow=9.8,SNR=6.6
comp=Z,2.5nm,0.8s
MKAR Makanchi Array 45.76 304 P **P 00 38 43.0 -0.7**
TAPN Taplejung 46.44 277 *e*P **P 00 38 49.3 -0.3**
SOEI Soe 46.95 204 P **P 00 38 52.8 -0.7**
RAMN Ramite 47.50 277 *e*P **P 00 38 56.9 -1.0**
comp=Z,55nm,1.1s
JIRN Jiri 47.56 278 *e*P **P 00 38 58.1 -0.4**
comp=Z,60nm,1.0s
BATI Baumata 47.58 204 P **P 00 38 58.3 +0.1**
comp=Z,10nm,0.3s,baz=159,slow=4.1,SNR=6.5
GUN Gumba 47.72 278 *e*P **P 00 38 59.6 -0.1**
comp=Z,16nm,0.6s
KURK Kurchatov 47.77 310 P **P 00 38 58.8 -0.5**
KURBB Kurchatov Arra 47.84 310 P **P 00 38 59.4 -0.5**
comp=Z,6.3nm,0.9s,baz=85,slow=7.9,SNR=12
comp=Z,6.3nm,0.9s
PKI Pulchoki 48.24 278 *e*P **P 00 39 02.9 -0.8**
PKIN Phulchoki 48.25 278 *e*P **P 00 39 02.9 -0.8**
M20K Styx River 48.69 35 P **P 00 39 08.0 +1.6**
M20K IAmb IAmb 00 39 42.0
comp=Z,6.7nm,1.1s
GKN Gorkha 48.70 279 *e*P **P 00 39 06.7 -0.4**
DANN Dangsing 49.29 280 *e*P **P 00 39 11.5 -0.2**
comp=Z,75nm,1.0s
KOLN Koldanda 49.64 279 *e*P **P 00 39 12.7 -1.6**
TARG Taragay, Kyrgy 49.82 298 P **P 00 39 15.8 0.0**
TARG IAmb IAmb 00 39 17.5
comp=Z,7.5nm,1.0s
LHMI Lhok Sumawe 50.56 245 P **P 00 39 21.7 +0.5**
RPSI Rantau Prapat 50.79 241 P **P 00 39 22.5 -0.4**
RPSI IAmb IAmb 00 39 33.7
comp=Z,9.4nm,1.1s
MDM Murphy Dome 51.00 31 P **P 00 39 25.7 +1.8**
MDM IAmb IAmb 00 39 39.0
comp=Z,12nm,1.1s
POKR Poker Plat Res 51.34 31 P **P 00 39 27.1 +0.7**
POKR IAmb IAmb 00 39 35.6
comp=Z,8.4nm,0.9s
IL31 51.58 31 P **P 00 39 28.7 +0.6**
IL31 IAmb IAmb 00 39 44.6
comp=Z,8.7nm,1.3s
ILAR Eielson Array 51.58 31 P **P 00 39 29.1 +1.0**
comp=Z,2.0nm,0.8s,baz=268,slow=6.6,SNR=12
comp=Z,2.0nm,0.8s
ILAR Eielson Array 51.58 31 P **P 00 39 29.0 +0.8**
BRVK Borovoye 52.60 314 P **P 00 39 34.8 -1.1**
BRVK IAmb IAmb 00 39 48.8
comp=Z,6.1nm,0.8s
MENT Mentasta 53.05 33 P **P 00 39 42.0 +2.8**
WB0 Warramunga Arr 54.34 189 P **P 00 39 49.5 +0.6**
FITZ Fitzroy Crossi 54.43 199 P **P 00 39 50.5 +0.8**
comp=Z,0.9nm,0.4s,baz=197,slow=1.1,SNR=3.1
comp=Z,0.9nm,0.4s
FITZ Fitzroy Crossi 54.43 199 P **P 00 39 51.8 +2.1**
WRAB Tennant Creek 54.51 189 pP **P 00 39 49.5 -0.7**
WR0 Warramunga Arr 54.51 188 P **P 00 39 50.2 0.0**
WR0 IAmb IAmb 00 40 08.4
comp=Z,16nm,1.2s
WB2 Warramunga Arr 54.52 189 P **P 00 39 50.4 +0.1**
WB2 IAmb IAmb 00 40 03.5
comp=Z,8.9nm,0.9s
WRA Warramunga Arr 54.52 189 P **P 00 39 50.2 -0.1**
comp=Z,4.7nm,0.8s,baz=1.4,slow=7.6,SNR=11
comp=Z,4.7nm,0.8s
WRA Warramunga Arr 54.52 189 P **P 00 39 50.6 +0.3**
KK31 Karatay Array 54.68 302 P **P 00 39 51.4 0.0**
KKAR Karatay Array 54.68 302 P **P 00 39 51.5 +0.1**
KKAR Karatay Array 54.68 302 P **P 00 39 51.1 -0.3**
KKAR IAmb IAmb 00 40 04.6
comp=Z,12nm,0.9s
GAR Garm 56.08 297 P **P 00 40 01.1 -0.6**
GAR IAmb IAmb 00 40 14.3
comp=Z,9.4nm,0.8s
P29M Windy Craggy 56.38 37 P **P 00 40 04.4 +1.0**
INK Inuvik 56.60 26 P **P 00 40 05.9 +1.2**
comp=Z,3.4nm,1.0s,baz=287,slow=15,SNR=3.8
comp=Z,3.4nm,1.0s
INK Inuvik 56.60 26 P **P 00 40 05.8 +1.1**
INK IAmb IAmb 00 40 18.9
comp=Z,4.9nm,0.8s
CHGR Chuyangaron 57.05 297 P **P 00 40 08.2 -0.3**
ASAR Alice Springs 58.24 188 P **P 00 40 17.4 +0.5**
comp=Z,2.5nm,0.9s,baz=10,slow=6.1,SNR=7.6
comp=Z,2.5nm,0.9s
ASAR Alice Springs 58.24 188 P **P 00 40 17.2 +0.3**
ARU Arti 58.50 320 P **P 00 40 17.6 -0.7**
KBL Kabul 58.62 293 P **P 00 40 18.5 -1.3**
KBL IAmb IAmb 00 40 54.7
comp=Z,8.9nm,1.3s

ABKAR Akbulak array 59.84 311 P **P 00 40 27.5 -0.2**
HRA Herat 63.82 295 P **P 00 40 54.2 -0.9**
HRA IAmb IAmb 00 40 56.5
comp=Z,12nm,1.5s
GEYT Alibeck 65.34 300 P **P 00 41 05.6 +0.8**
comp=Z,3.7nm,1.0s,baz=29,slow=3.4,SNR=6.5
comp=Z,3.7nm,1.0s
GEYT Alibeck 65.34 300 P **P 00 41 04.7 0.0**
GEYT IAmb IAmb 00 41 17.9
comp=Z,5.1nm,0.9s
GYA0B ALIBECK ARRAY 65.34 300 P **P 00 41 04.2 -0.6**
GYA0B IAmb IAmb 00 41 08.0
comp=Z,4.3nm,0.9s
EDM Edmonton 71.24 38 P **P 00 41 42.3 +0.9**
EDM IAmb IAmb 00 41 56.6
comp=Z,13nm,1.2s
FINES FINESS Array B 71.24 333 P **P 00 41 41.5 +0.4**
comp=Z,1.7nm,0.7s,baz=61,slow=12,SNR=4.8
comp=Z,1.7nm,0.7s
C09A Chrisman Ranch 71.41 44 P **P 00 41 43.4 +0.8**
C09A IAmb IAmb 00 41 48.9
comp=Z,6.1nm,1.1s
KBZ Khabaz 72.81 311 P **P 00 41 51.5 +0.6**
comp=Z,2.2nm,0.8s,baz=341,slow=5.0,SNR=3.4
comp=Z,2.2nm,0.8s
J08A Circle Bar Ran 73.60 49 P **P 00 41 57.0 +1.2**
ORV Oroville 73.65 53 P **P 00 41 57.5 +1.5**
BEKR Beckworth 74.24 52 P **P 00 42 00.2 +0.5**
LRM Limekiln Ridge 75.84 44 P **P 00 42 09.6 +0.7**
GURO Guroymak-BITLI 76.11 307 P **P 00 42 10.9 +0.5**
GURO IAmb IAmb 00 42 24.4
comp=Z,6.2nm,0.9s
NVAR Mina Array Bea 76.36 53 P **P 00 42 13.9 +2.0**
comp=Z,1.9nm,0.8s,baz=286,slow=6.5,SNR=3.6
comp=Z,1.9nm,0.8s
NVAR Mina Array Bea 76.36 53 P **P 00 42 12.4 +0.4**
NV11 Mina Array Sit 76.45 53 P **P 00 42 13.2 +0.8**
NV11 IAmb IAmb 00 42 14.9
comp=Z,5.8nm,1.2s
AKASG Malin Array Be 76.52 323 P **P 00 42 11.0 -1.3**
comp=Z,0.4nm,0.4s,baz=51,slow=5.5,SNR=7.7
comp=Z,0.4nm,0.4s
AKBB Malin Array Si 76.52 323 P **P 00 42 12.6 +0.3**
AKBB IAmb IAmb 00 42 24.8
comp=Z,7.5nm,0.8s
AK05 Malin Array Si 76.58 323 P **P 00 42 12.6 0.0**
AK05 IAmb IAmb 00 42 24.8
comp=Z,4.2nm,0.8s
NC204 NORSAR Array S 76.65 338 P **P 00 42 13.3 +0.3**
NB2 NORSAR Subarra 76.69 338 P **P 00 42 12.9 -0.3**
comp=Z,4.5nm,0.8s,baz=40,slow=5.9
NOA NORSAR Array B 76.69 338 P **P 00 42 12.8 -0.3**
comp=Z,1.4nm,0.8s,baz=40,slow=5.7,SNR=5.1
comp=Z,1.4nm,0.8s
MARD Mardin 77.62 307 P **P 00 42 19.0 0.0**
YPP Pitchstone Pla 77.69 45 P **P 00 42 20.8 +1.3**
YPP IAmb IAmb 00 42 36.4
comp=Z,7.6nm,1.1s
H17A Grant Village 77.75 44 P **P 00 42 20.1 +0.4**
H17A IAmb IAmb 00 42 42.1
comp=Z,8.0nm,1.4s
FXWY Fox Creek 77.94 45 P **P 00 42 21.3 +0.6**
QSM Queen of Sheba 78.67 54 P **P 00 42 25.2 +0.5**
QSM IAmb IAmb 00 42 28.8
comp=Z,7.3nm,1.2s
GWY Greenwater Val 78.68 54 P **P 00 42 25.5 +0.6**
GWY IAmb IAmb 00 42 28.8
comp=Z,6.1nm,1.1s
HWUT Hardware Ranch 78.81 47 P **P 00 42 26.3 +0.8**
HWUT IAmb IAmb 00 42 29.0
comp=Z,7.9nm,1.2s
DUG Dugway, Tooele 78.88 49 P **P 00 42 26.2 +0.4**
PDAR Pinedale Array 79.32 45 P **P 00 42 29.9 +1.6**
comp=Z,0.7nm,0.8s,baz=270,slow=1.5,SNR=5.3
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 79.32 45 P **P 00 42 29.5 +1.1**
MPU Maple Canyon 79.71 48 P **P 00 42 31.2 +0.7**
CCUT Cedar City 80.07 51 P **P 00 42 33.4 +0.8**
KWP Kalwaria Pacla 80.40 325 P **P 00 42 34.5 +0.7**
TMUT Trail Mountain 80.40 49 P **P 00 42 34.7 +0.3**
BURAR Bucovina Array 80.52 322 P **P 00 42 34.8 +0.2**
P17A Butcher Ranch, 80.59 48 P **P 00 42 35.7 +0.5**
P17A IAmb IAmb 00 42 37.9
comp=Z,8.6nm,1.1s
RDMU Red Mountain 80.64 47 P **P 00 42 36.7 +1.1**
RDMU IAmb IAmb 00 42 38.7
comp=Z,14nm,1.3s
KNB Kanab 80.73 51 P **P 00 42 36.8 +0.7**
KNB IAmb IAmb 00 42 39.6
comp=Z,6.4nm,1.0s
BR131 Keskin Array S 80.78 312 P **P 00 42 35.6 -0.6**
BR131 IAmb IAmb 00 42 49.8
comp=Z,5.2nm,0.8s
BRTR Keskin Array 1 80.78 312 P **P 00 42 34.9 -1.3**
comp=Z,6.6nm,1.1s,baz=100,slow=5.6,SNR=6.2
comp=Z,2.6nm,1.1s
BRTR Keskin Array B 80.78 312 P **P 00 42 36.6 +0.4**
SRU San Rafael Swe 80.94 49 P **P 00 42 37.9 +0.7**
SRU IAmb IAmb 00 42 39.9
comp=Z,8.5nm,1.1s
U15A North Rim 81.42 52 P **P 00 42 40.3 +0.4**
U15A IAmb IAmb 00 43 00.9
comp=Z,6.0nm,1.2s
ULM Lac du Bonnet 81.54 33 P **P 00 42 40.2 +0.3**
ULM IAmb IAmb 00 43 00.2
comp=Z,8.2nm,1.1s
RAYN Ar Rayn 81.89 293 P **P 00 42 42.2 0.0**
RAYN IAmb IAmb 00 42 54.9
comp=Z,8.4nm,0.9s
PV23 Carpenter Ridg 82.28 48 P **P 00 42 44.6 +0.3**
PV10 Paradox Valley 82.31 48 P **P 00 42 45.9 +1.5**
PV22 Blue Mesa, Par 82.36 48 P **P 00 42 45.1 +0.4**
PV22 IAmb IAmb 00 42 47.2
comp=Z,9.0nm,1.2s
PV11 David Mesa, Pa 82.46 48 P **P 00 42 45.9 +0.7**
WUAZ Wupatki 82.56 52 P **P 00 42 46.5 +0.7**
WUAZ IAmb IAmb 00 42 49.0
comp=Z,7.7nm,1.1s
PV13 Radium Mtn., P 82.58 49 P **P 00 42 47.2 +1.3**
N23A Red Feather La 82.59 45 P **P 00 42 46.0 0.0**
N23A IAmb IAmb 00 43 01.2
comp=Z,10nm,1.2s
PSZ Piszkesteto 82.93 325 P **P 00 42 47.1 -0.2**
VYHS Vyhne 83.02 326 *e*P P 00 43 00.3 +13
CLL Collm 83.49 330 *e*P **P 00 42 52.0 +2.0**
CLL *i* x x 00 43 01.6
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 83.49 46 P **P 00 42 51.5 +0.8**
S22A 4UR Ranch, Cre 84.06 48 P **P 00 42 53.4 -0.2**
S22A IAmb IAmb 00 42 56.6
comp=Z,4.4nm,1.1s
F33A 5 Mile Ranch, 84.47 37 P **P 00 42 54.7 -0.5**
F33A IAmb IAmb 00 42 56.7
comp=Z,8.4nm,1.3s
GHAJ Ghor Haditha 84.61 304 P **P 00 42 55.1 -0.9**
CKRC Cesky Krumlov 84.82 328 *e*P **P 00 42 57.3 +0.4**
CKRC *ex* x 00 43 09.2
KHC Kasperske Hory 84.90 329 *e*P **P 00 42 57.6 +0.3**
KHC *ex* x 00 43 09.0
VTS Vitosha 84.92 319 P **P 00 42 57.6 -0.1**
GERES GERESS Array B 85.06 329 P **P 00 42 57.5 -0.7**
comp=Z,0.2nm,0.4s,baz=260,slow=41,SNR=2.4
comp=Z,0.2nm,0.4s
GERES GERESS Array B 85.06 329 P **P 00 42 58.1 -0.1**
TXAR Lajitas Array 91.51 53 P **P 00 43 30.9 +1.5**
comp=Z,0.7nm,0.9s,baz=315,slow=1.3,SNR=4.6
comp=Z,0.7nm,0.9s
LPAZ La Paz 147.71 64 PKPbc **PKPbc 00 50 08.9 +0.5**
comp=Z,2.2nm,0.9s,baz=359,slow=7.4,SNR=3.9

IDC ***23*** *00:38:00.1±0.8, 34.°40N×141.°59E, h0km, mb4.0/16, mbtmp4.0/18, ML3.5/2, Error ellipse: s-maj=25.2km s-min=14.7km az=69.0*
NEIC ***23*** *00:38:14.7±2.2, 35.°11N±0.°06×141.°24E±0.°04, h50km±11km, mb4.1/4, Error ellipse: s-maj=9.7km s-min=3.1km az=196.0*
ISC 23 00:38:02.9±0.7, 34.°46N±0.°07×141.°87E±0.°09, h21km, n43, σ1§36/36, mb4.0/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.17**	**232**	Pn		Pb	00 38 51.4	+10
JYT	**Yasato**	**2.23**	**323**			**Pn**	**00 38 37.1**	**-1.4**
JMM	**Marumori**	**3.51**	**346**			**Pn**	**00 38 56.6**	**+0.5**
MJAR	**Matsushiro Arr**	**3.64**	**306**	Pn		**Pn**	**00 38 56.7**	**-1.3**
	1.0nm,0.3s,baz=135,slow=9.9,SNR=11							
MJAR				Sn		**Sn**	**00 39 39.0**	**-1.2**
	0.4nm,0.3s,baz=103,slow=10,SNR=4.2							
	3.6nm,0.3s							
MAJO	**Matsushiro**	**3.64**	**306**			**Pn**	**00 38 57.6**	**-0.3**
MJB9	**Matsu-Tunnel**	**3.64**	**306**			**Pn**	**00 38 57.5**	**-0.6**
JGF	**Kuroka**	**3.87**	**288**	Pn		**Pn**	**00 39 00.1**	**-1.1**
INU	**Inuyama**	**4.08**	**284**	Pn		**Pn**	**00 39 06.0**	**+1.9**
JSD	**Sado**	**4.61**	**322**	Pn		**Pn**	**00 39 10.6**	**-0.6**
JMN	**Monobe**	**6.67**	**266**	Pn		**Pn**	**00 39 42.2**	**+2.6**
JHS	**Saijyo**	**7.22**	**277**	Pn		**Pn**	**00 39 50.2**	**+3.0**
JCJ	**Chichijima**	**7.34**	**178**	Pn		**Pn**	**00 39 47.0**	**-1.9**
	3.9nm,0.3s,baz=102,slow=21,SNR=1.3							
JCJ				Sn		**Sn**	**00 41 10.4**	**-1.2**
	6.5nm,0.3s,baz=143,slow=23,SNR=2.1							
	41nm,0.5s							
KSRS	**Korea Array**	**11.69**	**289**	Pn		**Pn**	**00 40 49.7**	**+1.4**
	0.1nm,0.3s,baz=104,slow=14,SNR=6.4							
H11N2	**WAKE ISLAND Hy**	**26.58**	**117**	T		T	01 11 47.7	
	baz=312							
H11N1	**WAKE ISLAND Hy**	**26.59**	**117**	T		T	01 11 51.5	
	baz=312							
H11N3	**WAKE ISLAND Hy**	**26.60**	**117**	T		T	01 11 50.6	
	baz=312							
H11S3	**WAKE ISLAND Hy**	**27.21**	**119**	T		T	01 12 43.5	
	baz=309							
H11S1	**WAKE ISLAND Hy**	**27.21**	**119**	T		T	01 12 43.0	
	baz=309							
H11S2	**WAKE ISLAND Hy**	**27.23**	**119**	T		T	01 12 42.1	
	baz=309							
ULN	**Ulaanbaatar**	**29.16**	**308**	P		**P**	**00 44 03.8**	**+1.1**
ULN				IAmb		IAmb	00 44 22.2	
	comp=Z,4.0nm,1.4s							
SONM	**Songino Array**	**29.59**	**308**	P		**P**	**00 44 07.0**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=108,slow=9.5,SNR=4.7							
	comp=Z,0.7nm,0.4s							
MYLDM	**Lahad Datu**	**36.29**	**222**	P		P	00 45 15.0	+10
CMAR	**Chiang Mai Arr**	**41.27**	**259**	P		**P**	**00 45 45.1**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=53,slow=7.9,SNR=6.3							
	comp=Z,1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**43.95**	**314**	P		**P**	**00 46 07.9**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=86,slow=2.6,SNR=3.6							
	comp=Z,1.8nm,0.7s							
ZALV	**Zalesovo Beam**	**43.95**	**314**	P		**P**	**00 46 07.3**	**-0.8**
MK31	**Makanchi Array**	**45.83**	**304**	P		**P**	**00 46 25.9**	**+2.6**
MKAR	**Makanchi Array**	**45.83**	**304**	P		**P**	**00 46 22.8**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=87,slow=8.7,SNR=8.5							
	comp=Z,1.4nm,0.6s							
MKAR	**Makanchi Array**	**45.83**	**304**	P		**P**	**00 46 25.2**	**+2.0**
KURK	**Kurchatov**	**47.84**	**310**	P		**P**	**00 46 38.1**	**-0.8**
KURK				IAmb		IAmb	00 47 14.0	
	comp=Z,4.1nm,1.1s							
KURBB	**Kurchatov Arra**	**47.90**	**310**	P		**P**	**00 46 38.5**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=86,slow=7.9,SNR=13							
	comp=Z,3.0nm,0.8s							
ILAR	**Eielson Array**	**51.48**	**31**	P		**P**	**00 47 08.1**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=262,slow=6.3,SNR=3.4							
	comp=Z,0.6nm,0.8s							
BMAR	**Burnt Mountain**	**52.42**	**28**	P		P	00 47 17.3	+3.9
BVAR	**Borovoye Array**	**52.60**	**314**	P		**P**	**00 47 14.4**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=77,slow=7.8,SNR=6.1							
	comp=Z,0.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**54.50**	**199**	P		**P**	**00 47 28.5**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=1.6,slow=6.4,SNR=8.9							
	comp=Z,3.4nm,0.9s							
WRA	**Warramunga Arr**	**54.57**	**189**	P		**P**	**00 47 29.6**	**0.0**
	comp=Z,1.2nm,0.6s,baz=5.2,slow=7.6,SNR=12							
	comp=Z,1.2nm,0.6s							
ASAR	**Alice Springs**	**58.30**	**189**	P		**P**	**00 47 56.6**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=14,slow=10.0,SNR=7.4							
	comp=Z,0.8nm,0.8s							
ARU	**Arti**	**58.54**	**320**	P		**P**	**00 47 57.0**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=25,slow=3.8,SNR=6.6							
	comp=Z,3.2nm,0.5s							
AKTO	**Aktyubinsk**	**60.68**	**313**	P		**P**	**00 48 11.0**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=69,slow=13,SNR=6.3							
	comp=Z,1.7nm,0.6s							
GEYT	**Alibeck**	**65.42**	**300**	P		**P**	**00 48 44.0**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=50,slow=12,SNR=2.6							
	comp=Z,0.6nm,0.5s							
AKASG	**Malin Array Be**	**76.56**	**323**	P		**P**	**00 49 51.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=46,slow=5.8,SNR=2.4							
	comp=Z,0.5nm,0.5s							
NOA	**NORSAR Array B**	**76.70**	**338**	P		**P**	**00 49 52.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=42,slow=5.4,SNR=3.5							
	comp=Z,0.7nm,0.8s							
TXAR	**Lajitas Array**	**91.39**	**53**	P		**P**	**00 51 09.6**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=297,slow=4.0,SNR=2.4							
	comp=Z,0.3nm,0.8s							
LPAZ	**La Paz**	**147.59**	**64**	PKPbc		**PKPab**	**00 57 48.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=329,slow=4.3,SNR=4.5							

JMA ***23*** *00:39:31.9±0.2, 34.°5N±0.°7×14.°2E±.°, h37km±1km, MV3.3/23, FAR SE OFF BOSO PEN*
IDC ***23*** *00:39:36.5±2.9, 33.°62N×139.°66E, h0km, mb3.9/3, mbtmp3.8/4, ML2.7/1, Error ellipse: s-maj=102.5km s-min=25.0km az=73.0*
ISC 23 00:39:32.8±1.3, 34.°37N±0.°07×141.°5E±0.°1, h27km, n16, σ1§68/12, mb3.9/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.55**	**302**	*e*P		**Pn**	**00 39 44.4**	**0.0**
JKUC	**kamogawauchiur**	**1.36**	**306**	*e*P		**Pb**	**00 39 56.5**	**-1.2**
CHOJ	**Chosi**	**1.45**	**337**	P		**Pn**	**00 39 56.2**	**-1.0**
CHOJ				*e*S		**Sn**	**00 40 13.6**	**-1.8**
JMKN	**Mikurajimanish**	**1.69**	**254**	S		**Sb**	**00 40 23.9**	**-0.2**
JTHY	**Toshimahigashi**	**1.87**	**275**	P		**Pb**	**00 40 04.7**	**-1.6**
MJAR	**Matsushiro Arr**	**3.48**	**310**	Pn		**Pn**	**00 40 27.2**	**+2.0**
	1.0nm,0.3s,baz=161,slow=14,SNR=7.4							
MJAR				Sn		**Sn**	**00 41 05.3**	**-0.3**
	0.6nm,0.3s,baz=147,slow=13,SNR=4.4							
	6.4nm,0.3s							
JCJ	**Chichijima**	**7.27**	**175**	Sn		**Sn**	**00 42 36.8**	**-2.1**
	6.6nm,0.3s,baz=237,slow=21,SNR=1.3							
H11N2	**WAKE ISLAND Hy**	**26.78**	**116**	T		T	01 13 18.1	
	baz=309							
H11N1	**WAKE ISLAND Hy**	**26.78**	**116**	T		T	01 13 21.4	
	baz=309							
H11N3	**WAKE ISLAND Hy**	**26.80**	**116**	T		T	01 13 22.2	
	baz=309							
H11S3	**WAKE ISLAND Hy**	**27.40**	**119**	T		T	01 14 09.4	
	baz=312							
H11S1	**WAKE ISLAND Hy**	**27.40**	**119**	T		T	01 14 07.3	
	baz=312							
H11S2	**WAKE ISLAND Hy**	**27.42**	**119**	T		T	01 14 07.3	
	baz=312							
MKAR	**Makanchi Array**	**45.67**	**304**	P		**P**	**00 47 53.9**	**+2.7**
	0.7nm,0.7s,baz=81,slow=8.9,SNR=3.0							
	0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**47.76**	**310**	P		**P**	**00 48 08.0**	**+0.6**
	2.9nm,1.1s,baz=84,slow=7.5,SNR=3.8							
	2.9nm,1.1s							
WRA	**Warramunga Arr**	**54.44**	**188**	P		**P**	**00 48 58.6**	**+0.7**
	1.1nm,0.9s,baz=4.3,slow=7.5,SNR=5.2							
	1.1nm,0.9s							

CNRM ***23*** *00:41:35.3, 35.°41N×2.°93E, MI3.5, Northern Algeria*
CRAAG 23 00:41:50.7, 34.°64N×2.°93E, MI3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ADJB	**Djebel Djouab**	**1.57**	**15**	P		Pg	00 42 21.2	+0.3
FIGM	**Figuig**	**4.30**	**236**	P		Pn	00 43 01.1	+3.5
TAF	**Taforalt**	**4.40**	**274**	P		Pn	00 42 59.6	+0.8
JBK	**JBK**	**4.55**	**268**	P		Pn	00 43 02.5	+1.5
JBK				S		Sg	00 44 12.7	-4.1
MDT	**Midelt**	**6.53**	**256**	P		Pn	00 43 30.6	+2.4
MD31	**MD31**	**6.64**	**257**	P		Pn	00 43 31.8	+2.2

BJI ***23*** *00:42:31.6±0.0, 34.°59N×142.°02E, h15km, mb4.6/28*
MOS ***23*** *00:42:32.9±1.1, 34.°57N×141.°74E, h10km, mb4.9/39, Error ellipse: s-maj=9.2km s-min=5.2km az=119.2*
IDC ***23*** *00:42:33.1±0.5, 34.°48N×141.°63E, h0km, mb4.4/33, mbtmp4.4/37, ML3.1/3, Error ellipse: s-maj=13.6km s-min=11.3km az=101.0*
JMA ***23*** *00:42:34.2±0.5, 34.°N±1.°×14.°2E±.°, h31km±2km, MV4.2/32, FAR SE OFF BOSO PEN*
NEIC ***23*** *00:42:35.1±1.2, 34.°50N±0.°05×141.°75E±0.°10, h10km±1km, mb4.9/90, Error ellipse: s-maj=13.7km s-min=8.7km az=105.0*

ISC 23 00:42:37.0±0.4,34°47N±0°04×141°73E±0°05,h27km,n260,
σ1834/263,mb4.8/102,4C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.65**	**287**	P	**Pb**	**00 42 46.8**	**-2.6**
BSO3	**Boso 3**	**1.06**	**288**	P	**Pn**	**00 42 54.0**	**-1.8**
BSO4	**Boso 4**	**1.26**	**295**	P	**Pn**	**00 42 56.5**	**-2.2**
KTR	**Katsuura**	**1.35**	**300**	P	**Pn**	**00 42 58.2**	**-1.8**
KTR				*e*S	**Sn**	**00 43 14.7**	**-2.3**
CHOJ	**Chosi**	**1.42**	**330**	P	**Pn**	**00 42 58.6**	**-2.4**
CHOJ				S	**Sn**	**00 43 17.1**	**-1.8**
JKUC	**kamogawauchiur**	**1.44**	**299**	P	**Pn**	**00 42 58.6**	**-2.6**
JKUC				S	**Sn**	**00 43 16.1**	**-3.1**
JMKN	**Mikurajimanish**	**1.87**	**253**	P	**Pn**	**00 43 04.9**	**-2.3**
JIM2	**Oshima 3**	**1.91**	**278**	*e*P	**Pn**	**00 43 06.3**	**-1.5**
JHJ2	**Mitsune**	**2.09**	**230**	Pn	**Pn**	**00 43 09.5**	**-0.8**
JHJ2	**Mitsune**	**2.09**	**230**	P	**Pn**	**00 43 09.4**	**-0.9**
JHJ	**Hachijo jima 2**	**2.11**	**231**	Pn	**Pn**	**00 43 09.4**	**-1.1**
	59nm,0.3s,baz=84,slow=23,SNR=4.9						
JHJ				Sn	**Sn**	**00 43 36.2**	**+0.4**
	288nm,0.3s,baz=266,slow=22,SNR=4.7						
	254nm,0.3s						
JYT	**Yasato**	**2.16**	**325**		**Pn**	**00 43 09.9**	**-1.3**
JMM	**Marumori**	**3.47**	**348**	Pn	**Pn**	**00 43 27.1**	**-2.1**
MJAR	**Matsushiro Arr**	**3.54**	**307**	Pn	**Pn**	**00 43 29.3**	**-0.9**
	2.7nm,0.3s,baz=110,slow=8.2,SNR=26						
MJAR				Sn	**Sn**	**00 44 10.7**	**-0.5**
	4.0nm,0.3s,baz=257,slow=26,SNR=3.7						
	12nm,0.4s						
MAJO	**Matsushiro**	**3.54**	**307**	Pn	**Pn**	**00 43 30.0**	**-0.2**
MAJO	**Matsushiro**	**3.54**	**307**	*i* P	**Pn**	**00 43 30.7**	**+0.5**
MJB9	**Matsu-Tunnel**	**3.55**	**307**		**Pn**	**00 43 30.4**	**+0.1**
JGF	**Kuroka**	**3.76**	**289**		**Pn**	**00 43 33.8**	**+0.5**
INU	**Inuyama**	**3.97**	**284**	Pn	**Pn**	**00 43 36.8**	**+0.7**
JSD	**Sado**	**4.53**	**323**	Pn	**Pn**	**00 43 42.2**	**-1.6**
JTM	**Tenmabayashi**	**6.33**	**355**	Pn	**Pn**	**00 44 06.1**	**-2.3**
JMN	**Monobe**	**6.56**	**266**	Pn	**Pn**	**00 44 13.8**	**+2.2**
JHS	**Saijyo**	**7.11**	**277**	Pn	**Pn**	**00 44 20.9**	**+1.6**
JCJ	**Chichijima**	**7.36**	**177**	Pn	**Pn**	**00 44 21.3**	**-1.4**
	88nm,0.4s,baz=312,slow=20,SNR=9.9						
JCJ				Sn	**Sn**	**00 45 39.3**	**-6.0**
	10nm,0.3s,baz=115,slow=23,SNR=1.9						
JCJ	**Chichijima**	**7.36**	**177**	Pn	**Pn**	**00 44 22.3**	**-0.4**
ERM	**Erimo**	**7.62**	**8**	Pn	**Pn**	**00 44 22.4**	**-3.6**
ERM	**Erimo**	**7.62**	**8**	*i* P	**Pn**	**00 44 22.5**	**-3.6**
JEW	**Eniwo**	**8.36**	**359**	Pn	**Pn**	**00 44 34.9**	**-1.4**
KSRS	**Korea Array**	**11.58**	**289**	Pn	**Pn**	**00 45 23.4**	**+2.9**
	baz=102,slow=14						
KSAR	**Wonju Array Be**	**11.61**	**289**	Pn	**Pn**	**00 45 21.2**	**+0.4**
KSAR	**Wonju Array Be**	**11.61**	**289**	P	**Pn**	**00 45 21.2**	**+0.4**
KS19	**Wonju Array Si**	**11.63**	**289**	Pn	**Pn**	**00 45 21.2**	**0.0**
TJN	**Taejon**	**11.88**	**283**	Pn	**Pn**	**00 45 24.2**	**-0.3**
TJN	**Taejon**	**11.88**	**283**	P	**Pn**	**00 45 24.2**	**-0.3**
USA0B	**Ussuriysk Arra**	**12.29**	**325**	Pn	**Pn**	**00 45 28.5**	**-1.6**
USA0B	**Ussuriysk Arra**	**12.29**	**325**	P	**Pn**	**00 45 28.5**	**-1.6**
USRK	**Ussuriysk Ar.**	**12.29**	**325**	Pn	**Pn**	**00 45 28.8**	**-1.3**
	0.2nm,0.3s,baz=134,slow=12,SNR=4.6						
	4.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**12.29**	**325**	Pn	**Pn**	**00 45 27.9**	**-2.2**
YSS	**Yuzh-Sakhalins**	**12.49**	**3**		**Pn**	**00 45 29.6**	**-3.3**
YSS	**Yuzh-Sakhalins**	**12.49**	**3**	*i* P	**Pn**	**00 45 31.0**	**-1.9**
CN2	**Changchun**	**15.68**	**311**	*e*P	**Pn**	**00 46 15.3**	**-0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**16.49**	**336**	Pn	**Pn**	**00 46 22.5**	**-3.8**
	0.2nm,0.3s,baz=146,slow=10,SNR=5.6						
KLR	**Kul'dur**	**16.49**	**336**	*i* P	**Pn**	**00 46 23.4**	**-2.9**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NJ2	**Nanjing**	**19.28**	**269**	*e*P	**Pn**	**00 47 03.0**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ZEA	**Zeya**	**21.81**	**336**	*e*P	**P**	**00 47 26.3**	**-0.5**
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,40nm,0.8s						
PETK	**Petropavlovsk-**	**21.82**	**27**	P	**P**	**00 47 30.9**	**+4.0**
	comp=Z,4.2nm,1.0s,baz=224,slow=16,SNR=3.6						
HHC	**Hu-ho-hao-te**	**24.64**	**294**	*e*P	**P**	**00 47 55.3**	**-0.1**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
MA2	**Magadan**	**25.81**	**11**	P	**P**	**00 48 05.7**	**+0.1**
	comp=Z,12nm,0.8s,baz=327,slow=18,SNR=1.8						
	comp=Z,12nm,0.8s						
MA2	**Magadan**	**25.81**	**11**	P	**P**	**00 48 05.8**	**+0.1**
MA2				IAmb	IAmb	00 48 12.9	
	comp=Z,58nm,1.5s						
MA2	**Magadan**	**25.81**	**11**	P	**P**	**00 48 05.8**	**+0.1**
MA2				pmax	pmax		
	comp=Z,58nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**26.69**	**117**	T	T	01 16 23.2	
	baz=309,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**26.69**	**117**	T	T	01 16 26.0	
	baz=309,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**26.70**	**117**	T	T	01 16 29.0	
	baz=309,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**27.32**	**119**	T	T	01 17 13.1	
	baz=312,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**27.32**	**119**	T	T	01 17 16.0	
	baz=312,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	01 17 12.3	
	baz=312,slow=75,SNR=20						
YAK	**Yakutsk**	**28.62**	**348**	*i* P	**P**	**00 48 30.8**	**0.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ULN	**Ulaanbaatar**	**29.07**	**308**	P	**P**	**00 48 33.9**	**-1.3**
ULN	**Ulaanbaatar**	**29.07**	**308**	*i* P	**P**	**00 48 35.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SEY	**Seymchan**	**29.26**	**10**	P	**P**	**00 48 37.1**	**+0.7**
	comp=Z,2.6nm,0.2s,baz=28,slow=22,SNR=1.3						
	comp=Z,2.6nm,0.2s						
SONM	**Songino Array**	**29.49**	**308**	P	**P**	**00 48 39.8**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=110,slow=10,SNR=8.2						
	comp=Z,1.7nm,0.6s						
SONM	**Songino Array**	**29.49**	**308**	P	**P**	**00 48 39.1**	**+0.2**
SONM				IAmb	IAmb	00 49 27.5	
	comp=Z,33nm,2.0s						
BOD	**Bodaibo**	**29.85**	**330**	*e*P	**P**	**00 48 42.1**	**+0.3**
BOD				pmax	pmax		
	comp=Z,21nm,1.4s						
ZAK	**Zakamensk**	**32.11**	**311**	*e*P	**P**	**00 49 02.0**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GTA	**Gaotai**	**33.64**	**291**	*e*P	**P**	**00 49 17.6**	**+2.1**
GTA				pP	sP	00 49 24.3	+0.2
GTA				sP	pwP	00 49 27.4	-2.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
PZH	**PanZhiHua**	**35.19**	**268**	P	**P**	**00 49 29.9**	**+0.9**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
BILL	**Bilibino**	**36.42**	**15**	*e*P	**P**	**00 49 38.4**	**-0.5**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GOMU	**GeErMu**	**38.02**	**286**	*e*P	**P**	**00 49 53.8**	**+0.4**
GOMU				pP	pP	00 49 56.9	-2.7
GOMU				sP	sP	00 49 57.9	-4.1
CMAR	**Chiang Mai Arr**	**41.17**	**258**	P	**P**	**00 50 18.2**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=47,slow=7.7,SNR=6.2						
	comp=Z,1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.17**	**258**	*i* P	**P**	**00 50 21.7**	**+2.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DGZ	**Jazzator, Alta**	**42.14**	**308**	*i* P	**P**	**00 50 27.3**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ	**Urumqi**	**42.27**	**299**	*e*P	**P**	**00 50 27.1**	**-1.0**
WMQ				pP	pP	00 50 33.3	-1.1
WMQ				pmax	pmax		
	comp=Z,34nm,1.1s						
ZAA0	**Zalesovo Array**	**43.86**	**314**	P	**P**	**00 50 40.9**	**+0.2**
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	**00 50 40.4**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=103,slow=7.3,SNR=10						
ZALV				PcP	**PcP**	**00 52 26.9**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=112,slow=2.1,SNR=2.2						
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	**00 50 40.6**	**-0.1**
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	**00 50 40.6**	**-0.1**
NRIK	**Noril'sk**	**45.71**	**336**	P	**P**	**00 50 55.1**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=97,slow=12,SNR=5.5						
	comp=Z,4.5nm,0.9s						
NRIK	**Noril'sk**	**45.71**	**336**	P	**P**	**00 50 54.9**	**-0.3**
NRIK				IAmb	IAmb	00 51 08.3	
	comp=Z,19nm,1.4s						
NRIK	**Noril'sk**	**45.71**	**336**	*i* P	**P**	**00 50 55.3**	**+0.1**
NRIK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MK31	**Makanchi Array**	**45.74**	**304**	P	**P**	**00 50 55.6**	**-0.2**
MK31	**Makanchi Array**	**45.74**	**304**	*i* P	**P**	**00 50 56.2**	**+0.4**
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**00 50 55.4**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=85,slow=9.4,SNR=9.5						
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**00 50 55.8**	**0.0**
MKAR	**Makanchi Array**	**45.74**	**304**	*i* P	**P**	**00 50 56.5**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**45.95**	**304**	P	**P**	**00 50 57.3**	**-0.2**
MAKZ				IAmb	IAmb	00 51 11.2	
	comp=Z,11nm,0.8s						
MAKZ	**Makanchi**	**45.95**	**304**	P	**P**	**00 50 57.3**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,11nm,0.9s						
SRIT	**Nakonsritamara**	**46.40**	**246**	P	**P**	**00 51 01.1**	**-0.3**
SRIT				IAmb	IAmb	00 51 26.4	
	comp=Z,18nm,1.0s						
MMRI	**Maumere**	**46.68**	**207**	P	**P**	**00 51 03.5**	**0.0**
BATI	**Baumata**	**47.62**	**204**	P	**P**	**00 51 10.4**	**-0.4**
	comp=Z,18nm,0.4s,baz=238,slow=1.7,SNR=6.7						
	comp=Z,18nm,0.4s						
KURK	**Kurchatov**	**47.74**	**310**	P	**P**	**00 51 11.1**	**-0.4**
KURK	**Kurchatov**	**47.74**	**310**	*ce*P	**P**	**00 51 11.6**	**+0.2**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURBB	**Kurchatov Arra**	**47.81**	**310**	P	**P**	**00 51 11.5**	**-0.4**
	comp=Z,4.2nm,0.5s,baz=84,slow=7.7,SNR=32						
	comp=Z,4.2nm,0.5s						
MTN	**Manton Dam**	**48.12**	**194**	P	**P**	**00 51 13.6**	**-1.0**
IMAR	**Indian Mountai**	**48.74**	**29**	P	**P**	**00 51 19.5**	**+0.6**
KDAK	**Kodiak Island**	**48.85**	**40**	P	**P**	**00 51 20.9**	**+1.0**
	comp=Z,7.5nm,0.8s,baz=262,slow=14,SNR=2.1						
	comp=Z,7.5nm,0.8s						
H21K	**Melozitna Rive**	**49.09**	**30**	P	**P**	**00 51 22.3**	**+0.7**
H21K				IAmb	IAmb	00 51 35.4	
	comp=Z,14nm,1.2s						
TARG	**Taragay, Kyrgy**	**49.80**	**298**	P	**P**	**00 51 28.1**	**+0.2**
TARG				IAmb	IAmb	00 51 42.4	
	comp=Z,11nm,1.0s						
TARG	**Taragay, Kyrgy**	**49.80**	**298**	P	**P**	**00 51 28.1**	**+0.2**
TARG				pmax	pmax		
	comp=Z,11nm,1.0s						
MLY	**Manley**	**49.90**	**31**	pP	**P**	**00 51 30.4**	**+2.6**
NEA2	**Nenana**	**50.59**	**31**	P	**P**	**00 51 33.0**	**0.0**
NEA2				IAmb	IAmb	00 51 49.3	
	comp=Z,21nm,1.3s						
TOLK	**Toolik Lake Re**	**50.64**	**26**	P	**P**	**00 51 33.7**	**+0.3**
TOLK				IAmb	IAmb	00 51 40.9	
	comp=Z,19nm,1.2s						
MDM	**Murphy Dome**	**50.96**	**31**	P	**P**	**00 51 36.1**	**+0.3**
MDM				IAmb	IAmb	00 51 51.6	
	comp=Z,18nm,1.1s						
H24K	**Noodor Dome**	**51.13**	**30**	P	**P**	**00 51 36.9**	**-0.2**
KNRA	**Kununurra**	**51.37**	**196**	P	**P**	**00 51 39.7**	**+0.4**
IL31		**51.53**	**31**	P	**P**	**00 51 40.5**	**+0.5**
IL31				IAmb	IAmb	00 51 47.0	
	comp=Z,8.4nm,0.8s						
ILAR	**Eielson Array**	**51.53**	**31**	P	**P**	**00 51 40.9**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=265,slow=6.3,SNR=31						
	comp=Z,4.2nm,0.7s						
ILAR	**Eielson Array**	**51.53**	**31**	P	**P**	**00 51 39.7**	**-0.4**
KSH	**Kashi**	**51.72**	**296**	P	**P**	**00 51 45.8**	**+3.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AAK	**Ala-Archa**	**51.97**	**300**	P	**P**	**00 51 44.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=228,slow=3.3,SNR=2.0						
	comp=Z,0.7nm,0.3s						
AAK	**Ala-Archa**	**51.97**	**300**	P	**P**	**00 51 43.5**	**-0.3**
AAK				IAmb	IAmb	00 52 03.2	
	comp=Z,19nm,1.8s						
BMAR	**Burnt Mountain**	**52.46**	**28**	P	**P**	**00 51 47.9**	**+0.9**
BVAR	**Borovoye Array**	**52.51**	**314**	P	**P**	**00 51 47.4**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=106,slow=9.9,SNR=7.9						
	comp=Z,0.7nm,0.4s						
BRVK	**Borovoye**	**52.57**	**314**	P	**P**	**00 51 47.8**	**-0.2**
BRVK	**Borovoye**	**52.57**	**314**	*i* P	**P**	**00 51 48.3**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SCRK	**Sand Creek**	**52.82**	**32**	P	**P**	**00 51 50.2**	**+0.4**
SCRK				IAmb	IAmb	00 52 04.7	
	comp=Z,17nm,1.3s						
L26K	**Log Cabin Wild**	**53.17**	**33**	P	**P**	**00 51 52.6**	**+0.3**
K27K	**Chicken**	**53.65**	**32**	P	**P**	**00 51 56.5**	**+0.8**
K27K				IAmb	IAmb	00 52 16.7	
	comp=Z,10nm,1.1s						
BCAR	**Beaver Creek A**	**53.88**	**33**	P	**P**	**00 51 57.7**	**+0.2**
WB0	**Warramunga Arr**	**54.39**	**189**	P	**P**	**00 52 01.1**	**-0.5**
WB0				IAmb	IAmb	00 52 20.0	
	comp=Z,24nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.47**	**199**	P	**P**	**00 52 03.1**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=0.1,slow=11,SNR=7.7						
	comp=Z,4.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.47**	**199**	P	**P**	**00 52 02.7**	**+0.5**
FITZ				IAmb	IAmb	00 52 21.8	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**54.56**	**189**	P	**P**	**00 52 02.7**	**-0.1**
WRAB				IAmb	IAmb	00 52 23.3	
	comp=Z,19nm,1.1s						
WRAB	**Tennant Creek**	**54.56**	**189**	P	**P**	**00 52 02.7**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,19nm,1.2s						
WR0	**Warramunga Arr**	**54.56**	**188**	IAmb	IAmb	00 52 19.5	
	comp=Z,8.4nm,0.8s						
WRA	**Warramunga Arr**	**54.57**	**189**	P	**P**	**00 52 02.7**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=5.7,slow=7.6,SNR=22						
	comp=Z,4.9nm,0.8s						
KK31	**Karatay Array**	**54.66**	**302**	P	**P**	**00 52 03.4**	**-0.1**
KK31				IAmb	IAmb	00 52 19.8	
	comp=Z,14nm,1.1s						
KK31	**Karatay Array**	**54.66**	**302**	P	**P**	**00 52 03.4**	**-0.1**
KK31				pmax	pmax		
	comp=Z,14nm,1.1s						
KKAR	**Karatay Array**	**54.66**	**302**	P	**P**	**00 52 03.3**	**-0.2**
KKAR				IAmb	IAmb	00 52 19.7	
	comp=Z,14nm,1.1s						
KKAR	**Karatay Array**	**54.66**	**302**	P	**P**	**00 52 04.1**	**+0.6**
KKAR	**Karatay Array**	**54.66**	**302**	P	**P**	**00 52 04.1**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,14nm,1.1s						
INK	**Inuvik**	**56.55**	**26**	P	**P**	**00 52 17.1**	**+0.5**
	comp=Z,5.9nm,0.7s,baz=285,slow=4.6,SNR=19						
	comp=Z,5.9nm,0.7s						
INK	**Inuvik**	**56.55**	**26**	P	**P**	**00 52 17.3**	**+0.7**
INK				IAmb	IAmb	00 52 23.8	
	comp=Z,6.4nm,0.8s						
INK	**Inuvik**	**56.55**	**26**	P	**P**	**00 52 17.3**	**+0.7**
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHGR	**Chuyangaron**	**57.03**	**297**	P	**P**	**00 52 20.9**	**+0.3**
CHGR	**Chuyangaron**	**57.03**	**297**	P	**P**	**00 52 20.9**	**+0.3**
CHGR				pmax	pmax		
	comp=Z,22nm,0.8s						
AS31	**Alice Springs**	**58.29**	**188**	P	**P**	**00 52 29.7**	**+0.3**
ASAR	**Alice Springs**	**58.29**	**188**	P	**P**	**00 52 29.8**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=8.1,slow=6.1,SNR=14						
	comp=Z,2.8nm,0.9s						
ASAR	**Alice Springs**	**58.29**	**188**	P	**P**	**00 52 29.9**	**+0.5**
ASAR	**Alice Springs**	**58.29**	**188**	P	**P**	**00 52 29.9**	**+0.5**
ARU	**Arti**	**58.46**	**320**	P	**P**	**00 52 29.8**	**-0.5**
	comp=Z,4.0nm,0.5s,baz=66,slow=5.3,SNR=8.4						
	comp=Z,4.0nm,0.5s						
ARU	**Arti**	**58.46**	**320**	P	**P**	**00 52 30.3**	**0.0**
ARU				IAmb	IAmb	00 52 47.3	
	comp=Z,8.3nm,0.8s						
ARU	**Arti**	**58.46**	**320**	*c* *i* P	**P**	**00 52 30.1**	**-0.2**
ARU				S	**S**	**01 00 36.2**	**+4.6**
ARU				SS	**SS**	**01 04 18.5**	**-5.1**
ARU				pmax	pmax		
	comp=Z,13nm,1.0s						
KBL	**Kabul**	**58.61**	**293**	P	**P**	**00 52 31.5**	**-0.4**
KBL	**Kabul**	**58.61**	**293**	P	**P**	**00 52 31.5**	**-0.4**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ABKAR	**Akbulak array**	**59.81**	**311**	P	**P**	**00 52 38.9**	**-0.8**
AKTO	**Aktyubinsk**	**60.60**	**313**	P	**P**	**00 52 43.9**	**-1.2**
	comp=Z,3.4nm,0.6s,baz=81,slow=8.8,SNR=8.2						
	comp=Z,3.4nm,0.6s						
PRGR	**Permogore**	**63.06**	**328**	*e*P	P	00 52 53.8	-7.6
PRGR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GEYT	**Alibeck**	**65.32**	**300**	P	**P**	**00 53 17.4**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=117,slow=0.3,SNR=5.2						
	comp=Z,2.2nm,0.9s						
GEYT	**Alibeck**	**65.32**	**300**	P	**P**	**00 53 16.9**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**65.32**	**300**	P	**P**	**00 53 16.7**	**-0.1**
BELG	**Belogornoye**	**65.86**	**318**	P	**P**	**00 53 19.8**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=75,slow=12,SNR=2.3						
	comp=Z,4.8nm,0.7s						
KLMR	**Klimovskoe**	**66.06**	**328**	*e*P	**P**	**00 53 22.0**	**+1.0**
KLMR				pmax	pmax		
	comp=Z,24nm,1.6s						
KLMR	**Klimovskoe**	**66.06**	**328**	*e*P	**P**	**00 53 22.1**	**+1.0**
KLMR				AMP		00 53 32.2	
	comp=Z,24nm,1.6s						
ARCES	**ARCESS Array B**	**66.48**	**340**	P	**P**	**00 53 23.8**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=53,slow=8.1,SNR=4.3						
	comp=Z,1.4nm,0.8s						
MOS	**Moscow**	**69.47**	**324**	*e*P	**P**	**00 53 45.4**	**+2.8**
VRH	**Novokhopyorsk**	**69.66**	**319**	*e*P	**P**	**00 53 42.2**	**-1.7**
VRH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
OBN	**Obninsk**	**70.31**	**324**	*e*P	**P**	**00 53 47.2**	**-0.5**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPSR	**Galich'ya Gora**	**70.44**	**321**	*e*P	**P**	**00 53 47.7**	**-0.9**
LPSR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VORR	**Voronezh**	**70.78**	**320**	*e*P	P	00 53 45.0	-5.7
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
VSR	**Storozhevoye**	**71.04**	**320**	*e*P	**P**	**00 53 49.2**	**-3.1**
VSR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
EDM	**Edmonton**	**71.20**	**38**	P	**P**	**00 53 51.7**	**-1.6**
EDM	**Edmonton**	**71.20**	**38**	P	**P**	**00 53 51.7**	**-1.6**
EDM				pmax	pmax		
	comp=Z,53nm,1.9s						
FINES	**FINESS Array B**	**71.20**	**333**	P	**P**	**00 53 53.1**	**0.0**
	comp=Z,3.8nm,0.9s,baz=38,slow=3.4,SNR=6.7						
	comp=Z,3.8nm,0.9s						
FINES	**FINESS Array B**	**71.20**	**333**	P	**P**	**00 53 53.7**	**+0.6**
FINES	**FINESS Array B**	**71.20**	**333**	P	**P**	**00 53 53.7**	**+0.6**
HAWA	**Hanford**	**71.35**	**46**	P	**P**	**00 53 52.3**	**-2.0**
HAWA				IAmb	IAmb	00 54 08.0	
	comp=Z,21nm,1.7s						
F07A	**Phinny Hill Vi**	**71.36**	**47**	P	**P**	**00 53 54.7**	**+0.3**
NEW	**Newport**	**71.79**	**44**	P	**P**	**00 53 57.0**	**0.0**
NEW	**Newport**	**71.79**	**44**	P	**P**	**00 53 57.0**	**0.0**
NEW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GOF	**Gofitskoye**	**72.00**	**313**	*e*P	P	00 53 44.6	-14
K05A	**Summer Lake**	**72.38**	**50**		**P**	**00 54 01.7**	**+0.9**
ZEI	**Tsey**	**72.64**	**310**	*e*P	**P**	**00 54 04.2**	**+1.9**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.6s						
KBZ	**Khabaz**	**72.78**	**311**	P	**P**	**00 54 02.8**	**0.0**
	comp=Z,2.6nm,0.8s,baz=42,slow=1.0,SNR=3.5						
	comp=Z,2.6nm,0.8s						
KIV	**Kislovodsk**	**72.79**	**312**	P	**P**	**00 54 03.8**	**+0.7**
KIV				IAmb	IAmb	00 54 17.9	
	comp=Z,13nm,0.9s						
KIV	**Kislovodsk**	**72.79**	**312**	*e*P	**P**	**00 54 04.9**	**+1.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SHA1	**Shidzhatmaz**	**72.92**	**312**	*i* P	**P**	**00 54 02.5**	**-1.5**
SUMG	**Summit**	**73.24**	**0**	*i* P	**P**	**00 54 06.0**	**+0.4**
JTMT	**Jette**	**73.68**	**43**	P	**P**	**00 54 09.3**	**+0.9**
JTMT				IAmb	IAmb	00 54 15.2	
	comp=Z,14nm,1.2s						
BEKR	**Beckworth**	**74.20**	**52**	P	**P**	**00 54 11.6**	**0.0**
MNK	**Minsk**	**74.76**	**326**	*i* P	**P**	**00 54 11.6**	**-2.7**
MNK				*i*		00 56 58.7	
MNK				*i* PPP	PPP	00 58 44.3	
MNK				*i* S	**S**	**01 03 49.2**	**+0.3**
MNK				*i* SS	**SS**	**01 08 38.0**	**+2.2**
MNK				pmax	pmax		
	comp=E,1.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MNK				MLR	MLR		
	comp=N,1.0nm,18.0s						
MNK				MLR	MLR		
	comp=Z,5μm,18.0s						
MNK				MLR	MLR		

NLU	**North Lily Min**	**79.44**	**49**	P	**P**	**00 54 42.2**	**+1.0**		
JLU	**Jordanelle**	**79.44**	**48**	P	**P**	**00 54 42.0**	**+0.8**		
JLU				IAmb	IAmb	00 55 00.2			
	comp=Z,32nm,1.9s								
MPU	**Maple Canyon**	**79.68**	**48**	P	**P**	**00 54 43.4**	**+1.0**		
MTPU	**Mount Pierson**	**80.50**	**50**	P	**P**	**00 54 45.7**	**-1.4**		
P17A	**Butcher Ranch,**	**80.55**	**48**	P	**P**	**00 54 47.7**	**+0.5**		
RDMU	**Red Mountain**	**80.61**	**47**	P	**P**	**00 54 48.7**	**+1.2**		
Q16A	**Castle Valley**	**80.62**	**49**	P	**P**	**00 54 47.8**	**+0.2**		
Q16A				IAmb	IAmb	00 55 04.3			
	comp=Z,12nm,1.2s								
KNB	**Kanab**	**80.70**	**51**	P	**P**	**00 54 47.9**	**-0.1**		
KNB				IAmb	IAmb	00 55 04.8			
	comp=Z,12nm,1.0s								
KNB	**Kanab**	**80.70**	**51**	P	**P**	**00 54 47.9**	**-0.1**		
KNB				pmax	pmax				
	comp=Z,12nm,1.0s								
BRTR	**Keskin Array B**	**80.75**	**312**	P	**P**	**00 54 48.0**	**-0.1**		
	comp=Z,1.1nm,0.7s,baz=165,slow=2.3,SNR=5.8								
	comp=Z,1.1nm,0.7s								
P18A	**Preston Nutter**	**80.76**	**48**	P	**P**	**00 54 48.0**	**-0.5**		
P18A				IAmb	IAmb	00 55 02.7			
	comp=Z,8.2nm,0.9s								
SRU	**San Rafael Swe**	**80.91**	**49**	P	**P**	**00 54 49.3**	**+0.2**		
SRU				IAmb	IAmb	00 54 52.1			
	comp=Z,11nm,0.8s								
SRU	**San Rafael Swe**	**80.91**	**49**	P	**P**	**00 54 49.3**	**+0.2**		
SRU				pmax	pmax				
	comp=Z,11nm,0.8s								
ULM	**Lac du Bonnet**	**81.50**	**33**	P	**P**	**00 54 51.1**	**-0.6**		
	comp=Z,3.7nm,0.8s,baz=200,slow=1.0,SNR=3.6								
	comp=Z,3.7nm,0.8s								
RAYN	**Ar Rayn**	**81.88**	**293**	P	**P**	**00 54 53.9**	**-0.4**		
RAYN				IAmb	IAmb	00 54 55.5			
	comp=Z,16nm,1.4s								
RAYN	**Ar Rayn**	**81.88**	**293**	P	**P**	**00 54 53.9**	**-0.4**		
RAYN				pmax	pmax				
	comp=Z,16nm,1.5s								
PV23	**Carpenter Ridg**	**82.24**	**48**	P	**P**	**00 54 57.7**	**+1.4**		
PV10	**Paradox Valley**	**82.27**	**48**	P	**P**	**00 54 57.8**	**+1.4**		
PV22	**Blue Mesa, Par**	**82.33**	**48**	P	**P**	**00 54 57.5**	**+0.9**		
Y14A	**Wickenburg**	**82.40**	**54**	P	**P**	**00 54 57.9**	**+1.0**		
PV07	**Paradox Valley**	**82.48**	**48**	P	**P**	**00 54 57.7**	**+0.3**		
PV13	**Radium Mtn., P**	**82.54**	**49**	P	**P**	**00 54 58.6**	**+0.8**		
PV13				IAmb	IAmb	00 55 00.9			
	comp=Z,12nm,0.8s								
N23A	**Red Feather La**	**82.56**	**45**	P	**P**	**00 54 58.6**	**+0.7**		
N23A				IAmb	IAmb	00 55 10.8			
	comp=Z,16nm,1.2s								
DPC	**Dobruska-Polom**	**82.77**	**328**	*e*P	P	00 55 07.3	+8.8		
DPC	**Dobruska-Polom**	**82.77**	**328**	*e*P	P	00 55 07.3	+8.8		
VYHS	**Vyhne**	**82.98**	**326**	*e*P	**P**	**00 55 00.0**	**+0.4**		
VYHS	**Vyhne**	**82.98**	**326**	*e*P	Pg	00 55 00.0	+0.8		
MVCO	**Mesa Verde**	**83.33**	**49**	P	**P**	**00 55 02.3**	**+0.5**		
MVCO				IAmb	IAmb	00 55 10.0			
	comp=Z,6.5nm,0.9s								
CLL	**Collm**	**83.45**	**330**	*e*P	**P**	**00 55 04.0**	**+2.1**		
CLL	**Collm**	**83.45**	**330**	*e*P	**P**	**00 55 04.0**	**+2.1**		
CLL				*ex*	x	00 55 25.0			
ISCO	**Idaho Springs**	**83.45**	**46**	P	**P**	**00 55 02.4**	**-0.1**		
ISCO				IAmb	IAmb	00 55 11.0			
	comp=Z,13nm,1.6s								
ISCO	**Idaho Springs**	**83.45**	**46**	P	**P**	**00 55 02.4**	**-0.1**		
ISCO				pmax	pmax				
	comp=Z,13nm,1.6s								
S22A	**4UR Ranch, Cre**	**84.03**	**48**	P	**P**	**00 55 05.7**	**+0.2**		
Q24A	**Divide**	**84.26**	**46**	P	**P**	**00 55 06.7**	**0.0**		
F33A	**5 Mile Ranch,**	**84.43**	**37**	P	**P**	**00 55 06.7**	**-0.3**		
F33A				IAmb	IAmb	00 55 08.6			
	comp=Z,7.0nm,0.7s								
CKRC	**Cesky Krumlov**	**84.78**	**328**	*e*P	**P**	**00 55 07.7**	**-1.1**		
SDCO	**Great Sand Dun**	**84.84**	**47**	P	**P**	**00 55 10.3**	**+0.7**		
SDCO				IAmb	IAmb	00 55 12.8			
	comp=Z,15nm,1.8s								
KHC	**Kasperske Hory**	**84.86**	**329**	*e*P	**P**	**00 55 08.9**	**-0.3**		
KHC	**Kasperske Hory**	**84.86**	**329**	*e*P	**P**	**00 55 08.9**	**-0.3**		
VTS	**Vitosha**	**84.89**	**319**	P	**P**	**00 55 10.3**	**+0.7**		
VTS				IAmb	IAmb	00 55 29.8			
	comp=Z,6.0nm,0.9s								
VTS	**Vitosha**	**84.89**	**319**	P	**P**	**00 55 10.3**	**+0.7**		
VTS				pmax	pmax				
	comp=Z,6.0nm,0.9s								
GERES	**GERESS Array B**	**85.03**	**329**	P	**P**	**00 55 08.5**	**-1.6**		
	comp=Z,0.5nm,0.8s,baz=45,slow=2.3,SNR=4.0								
	comp=Z,0.5nm,0.8s								
ECSD	**EROS Data Cent**	**85.77**	**38**	P	**P**	**00 55 13.8**	**0.0**		
SCHQ	**Schefferville**	**87.72**	**16**	P	**P**	**00 55 23.9**	**+0.8**		
	comp=Z,5.0nm,0.8s,baz=316,slow=4.1,SNR=4.3								
	comp=Z,5.0nm,0.8s								
TX32	**Lajitas Array**	**91.47**	**53**	P	**P**	**00 55 41.3**	**0.0**		
TX32				IAmb	IAmb	00 57 02.1			
	comp=Z,15nm,1.8s								
TXAR	**Lajitas Array**	**91.47**	**53**	P	**P**	**00 55 42.4**	**+1.1**		
	comp=Z,1.0nm,0.8s,baz=298,slow=3.4,SNR=14								
	comp=Z,1.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**119.31**	**314**	PKP	**PKPdf**	**01 01 24.2**	**-0.2**		
	comp=Z,0.4nm,0.7s,baz=16,slow=2.0,SNR=2.9								
VNA2	**Neumayer--Watz**	**139.93**	**195**	PKPdf	**PKiKP**	**01 02 03.6**	**-0.5**		
	baz=101,slow=2.0								
VNA3	**Neumayer Olymp**	**140.15**	**194**	PKPdf	**PKiKP**	**01 02 04.5**	**0.0**		
LPAZ	**La Paz**	**147.69**	**63**	PKPbc	**PKPbc**	**01 02 21.4**	**+1.0**		
	comp=Z,3.5nm,0.8s,baz=292,slow=2.0,SNR=16								

*IDC **23** 00:45:47.1±1.2,34.˚48N×141.˚61E, h0km, mb3.9/5, mbtmp3.8/7, ML3.1/2, Error ellipse: s-maj=27.3km s-min=21.6km az=128.0*
*JMA **23** 00:45:49.1±0.3,34.˚6N±1.˚0×14˚2E±˚, h58km, MV3.5/22, FAR SE OFF BOSO PEN*

ISC 23 00:45:50.9±1.0, 34˚51N±0.˚06×141˚61E±0.˚10, h27km, n13, σ0s83/16, mb3.9/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTR	**Katsuura**	**1.24**	**301**	*e*S	**Sn**	**00 46 28.6**	**+0.2**
JKUC	**kamogawauchiur**	**1.33**	**300**	*e*P	**Pn**	**00 46 13.2**	**-0.6**
JKUC				*e*S	**Sn**	**00 46 31.2**	**+0.7**
CHOJ	**Chosi**	**1.34**	**333**	*e*S	**Sn**	**00 46 29.0**	**-1.9**
JMKN	**Mikurajimanish**	**1.78**	**251**	P	**Pn**	**00 46 19.4**	**-0.5**
JMKN				S	**Sn**	**00 46 41.2**	**-0.5**
JHJ	**Hachijo jima 2**	**2.06**	**228**	Pn	**Pn**	**00 46 23.2**	**-0.5**
	29nm,0.3s,baz=257,slow=20,SNR=0.9						
JHJ				Sn	**Sn**	**00 46 48.8**	**+0.3**
	146nm,0.3s,baz=90,slow=22,SNR=4.2						
	80nm,0.3s						
MJAR	**Matsushiro Arr**	**3.44**	**307**	Pn	**Pn**	**00 46 43.4**	**+0.7**
	0.8nm,0.3s,baz=360,slow=39,SNR=1.0						
MJAR				Sn	**Sn**	**00 47 22.4**	**-0.2**
	1.3nm,0.3s,baz=110,slow=27,SNR=2.5						
	3.9nm,0.3s						
JCJ	**Chichijima**	**7.40**	**176**	Pn	Pn	00 47 32.5	-4.7
	1.5nm,0.3s,baz=274,slow=20,SNR=1.0						
JCJ				Sn	Sn	00 48 44.8	-16
	1.5nm,0.3s,baz=292,slow=22,SNR=1.4						
MKAR	**Makanchi Array**	**45.63**	**304**	P	**P**	**00 54 10.2**	**+1.3**
	0.8nm,0.7s,baz=79,slow=7.8,SNR=2.7						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**47.71**	**310**	P	**P**	**00 54 24.1**	**-0.9**
	1.7nm,0.9s,baz=87,slow=7.8,SNR=3.3						
	1.7nm,0.9s						
ILAR	**Eielson Array**	**51.55**	**31**	P	**P**	**00 54 54.2**	**+0.1**
	1.0nm,0.8s,baz=263,slow=6.5,SNR=3.5						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**54.59**	**188**	P	**P**	**00 55 16.5**	**-0.5**
	1.0nm,0.7s,baz=0.5,slow=7.9,SNR=2.2						
	1.0nm,0.7s						
INK	**Inuvik**	**56.57**	**26**	P	**P**	**00 55 31.1**	**+0.5**
	2.6nm,1.0s,baz=267,slow=5.9,SNR=2.2						
	2.6nm,1.0s						
LPAZ	**La Paz**	**147.76**	**63**	PKPbc	**PKPbc**	**01 05 35.1**	**+0.7**
	1.1nm,0.8s,baz=284,slow=5.4,SNR=2.4						

ATH 23 00:51:04.0, 39˚26N×21˚60E, h15km±2km, ML1.5/5, Error ellipse: s-maj=2.5km s-min=1.1km az=19.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.38**	**155**	P	Pg	00 51 11.2	-0.7
EVR				S	Sg	00 51 17.3	+0.1
EVR				AML	AML	00 51 17.8	
	comp=N,161μm,0.1s						
EVR				AML	AML	00 51 18.8	
	comp=E,151μm,0.1s						
THL	**Klokotos Trika**	**0.44**	**47**	P	Pg	00 51 12.4	-0.5
THL				S	Sb	00 51 19.5	-0.5
THL				AML	AML	00 51 23.5	
	comp=N,65μm,0.4s						
THL				AML	AML	00 51 24.3	
	comp=E,74μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.48**	**121**	P	Pg	00 51 12.7	-0.9
MAKR				S	Sg	00 51 20.4	+0.2
MAKR				AML	AML	00 51 25.1	
	comp=E,201μm,0.2s						
MAKR				AML	AML	00 51 28.3	
	comp=N,160μm,0.2s						
PVO	**Paravola**	**0.65**	**185**	P	Pg	00 51 16.3	-0.5
PVO				S	Sb	00 51 26.2	+0.2
JAN	**Janina**	**0.70**	**304**	P	Pb	00 51 18.1	+0.1
JAN				S	Sg	00 51 26.2	-0.7
EFP	**Efpalio**	**0.87**	**164**	P	Pb	00 51 20.1	-0.7
EFP				S	Sg	00 51 32.2	-0.1
EFP				AML	AML	00 51 35.1	
	comp=E,124μm,0.2s						
EFP				AML	AML	00 51 35.5	
	comp=N,94μm,0.3s						
SERG	**Sergoula**	**0.92**	**157**	P	Pb	00 51 20.7	-1.1
SERG				S	Sb	00 51 33.3	-0.6
SERG				AML	AML	00 51 36.0	
	comp=E,73μm,0.2s						
SERG				AML	AML	00 51 37.8	
	comp=N,99μm,0.2s						
AXAR	**Agios Charalam**	**0.96**	**121**	P	Pb	00 51 22.1	-0.4
AXAR				S	Sg	00 51 35.4	+0.1
LAKA	**Lakka**	**1.06**	**164**	P	Pn	00 51 24.4	-0.1
RLS	**Riolos of Patr**	**1.21**	**185**	P	Pg	00 51 27.0	-0.3
KLV	**Kalavryta, Ach**	**1.29**	**160**	P	Pn	00 51 27.7	0.0
KLV				S	Sb	00 51 44.1	-0.5
DRO	**Drossia**	**1.31**	**176**	P	Pb	00 51 28.8	+0.4
DRO				S	Sb	00 51 44.6	-0.5

ROM 23 00:52:48.9±0.1, 42˚863N±0.˚004×13˚153E±0.˚005, h12km, Md1.1/5, 2C, Error ellipse: s-maj=0.4km s-min=0.1km az=311.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.04**	**224**	P	Pg	00 52 51.5	+0.4
NRCA				S	Sg	00 52 52.8	0.0
NRCA				AML	AML		
	comp=E,2185μm,0.1s						
NRCA				AML	AML		
	comp=N,1930μm,0.1s						
NRCA				AML	AML		
	comp=E,2410μm,0.1s						
NRCA				AML	AML		
	comp=N,2005μm,0.1s						
NRCA				AML	AML		
	comp=E,25500μm,1.0s						
NRCA				AML	AML		
	comp=N,35350μm,0.7s						
NRCA				AML	AML		
	comp=E,26700μm,1.0s						
NRCA				AML	AML		
	comp=N,39350μm,0.7s						
NRCA				END			
T1242	**Castelluccio d**	**0.05**	**132**	P	Pg	00 52 51.6	+0.3
T1242				S	Sg	00 52 53.0	-0.1
T1242				AML	AML		
	comp=E,27800μm,0.1s						
T1242				AML	AML		
	comp=N,30450μm,0.4s						
T1242				AML	AML		
	comp=E,28150μm,0.1s						
T1242				AML	AML		
	comp=N,29900μm,0.4s						
T1242				END			
MC2	**Monte Cornacci**	**0.06**	**29**	P	Pg	00 52 51.7	+0.3
MC2				S	Sg	00 52 53.6	+0.2
MC2				END			
T1216	**Preci, Frazion**	**0.10**	**286**	P	Pg	00 52 52.3	+0.5
T1216				S	Sg	00 52 54.1	+0.2
T1216				AML	AML		
	comp=E,2250μm,0.4s						
T1216				AML	AML		
	comp=N,2155μm,0.4s						
T1216				AML	AML		
	comp=E,2074μm,1.6s						
T1216				AML	AML		
	comp=N,2285μm,0.7s						
T1216				END			
MMO1	**Montemonaco**	**0.13**	**74**	P	Pg	00 52 52.6	+0.4
MMO1				S	Sg	00 52 54.8	+0.2
MMO1				END			
T1202	**Accumoli, Fraz**	**0.17**	**162**	P	Pg	00 52 53.3	+0.6
T1202				S	Sg	00 52 56.4	+0.9
T1202				AML	AML		
	comp=E,5870μm,1.4s						
T1202				AML	AML		
	comp=N,8085μm,0.7s						
FDMO	**Fiordimonte**	**0.18**	**344**	P	Pg	00 52 53.4	+0.5
FDMO				S	Sg	00 52 56.1	+0.4
FDMO				AML	AML		
	comp=E,96μm,1.2s						
FDMO				AML	AML		
	comp=N,64μm,1.1s						
FDMO				AML	AML		
	comp=E,1235μm,1.4s						
FDMO				AML	AML		
	comp=N,1605μm,0.3s						
AM05	**Amandola Campo**	**0.19**	**52**	P	Pg	00 52 53.5	+0.6
AM05				S	Sg	00 52 56.4	+0.5
AM05				AML	AML		
	comp=E,148μm,0.1s						
AM05				AML	AML		
	comp=N,190μm,0.4s						
AM05				AML	AML		
	comp=E,501μm,0.9s						
AM05				AML	AML		
	comp=N,629μm,0.1s						
AM05				AML	AML		
	comp=E,1915μm,0.9s						
AM05				AML	AML		
	comp=N,2540μm,0.1s						
T1241	**Roccafluvione,**	**0.20**	**92**	P	Pg	00 52 53.8	+0.5
T1241				S	Sg	00 52 57.1	+0.8
T1241				AML	AML		
	comp=E,1850μm,0.3s						
T1241				AML	AML		
	comp=N,1210μm,0.4s						
T1241				AML	AML		
	comp=E,1810μm,0.3s						
T1241				AML	AML		
	comp=N,1244μm,0.4s						
T1215	**Vallo di Nera,**	**0.22**	**254**	P	Pg	00 52 54.2	+0.6
T1215				S	Sg	00 52 57.8	+1.1
T1204	**Amatrice, Fraz**	**0.22**	**147**	P	Pg	00 52 54.2	+0.6
T1204				AML	AML		
	comp=E,2570μm,1.3s						
T1204				AML	AML		
	comp=N,2365μm,0.9s						
T1217	**Poggiodomo (PG**	**0.22**	**227**	P	Pg	00 52 54.1	+0.5
T1217				S	Sg	00 52 57.4	+0.5
T1217				AML	AML		
	comp=E,630μm,0.3s						
T1217				AML	AML		
	comp=N,974μm,0.2s						
CESI	**CESI - Serrava**	**0.23**	**308**	P	Pg	00 52 54.4	+0.6
CESI				S	Sg	00 52 58.4	+1.3
CESI				AML	AML		
	comp=E,112μm,0.2s						
CESI				AML	AML		
	comp=N,234μm,0.1s						
CESI				AML	AML		
	comp=E,1049μm,0.5s						
CESI				AML	AML		
	comp=N,2135μm,0.3s						
CSP1	**Cessapalombo**	**0.23**	**9**	P	Pg	00 52 54.4	+0.6
CSP1				S	Sg	00 52 58.0	+0.8
CSP1				AML	AML		
	comp=E,2144μm,0.4s						
CSP1				AML	AML		
	comp=N,2560μm,0.4s						
GUMA	**Gualdo di Mace**	**0.24**	**34**	P	Pb	00 52 54.7	-0.5
GUMA				S	Sg	00 52 58.9	+1.6
GUMA				AML	AML		
	comp=E,2145μm,0.3s						
GUMA				AML	AML		
	comp=N,1835μm,0.2s						
GUMA				AML	AML		
	comp=E,1970μm,0.3s						
GUMA				AML	AML		
	comp=N,2200μm,0.2s						
LNSS	**Leonessa**	**0.27**	**198**	P	Pg	00 52 55.0	+0.4
LNSS				AML	AML		
	comp=E,72μm,0.2s						
LNSS				AML	AML		
	comp=N,98μm,0.7s						
LNSS				AML	AML		
	comp=E,1815μm,0.7s						
LNSS				AML	AML		
	comp=N,1625μm,0.9s						
T1243	**Rocca Santa Ma**	**0.27**	**127**	P	Pg	00 52 54.8	+0.3
ARRO	**Arrone**	**0.40**	**225**	⇑P	Pb	00 52 57.6	-0.3
ARRO				AML	AML		
	comp=E,216μm,0.2s						
ARRO				AML	AML		
	comp=N,302μm,0.2s						
TERO	**Teramo**	**0.41**	**126**	P	Pg	00 52 56.7	-0.3
TERO				AML	AML		
	comp=E,1420μm,0.6s						
TERO				AML	AML		
	comp=N,1890μm,0.5s						
EL6	**Elcito**	**0.47**	**355**	⇑P	Pb	00 52 58.9	-0.2
CING	**Cingoli**	**0.51**	**3**	P	Pb	00 52 59.5	-0.3
CING				AML	AML		
	comp=E,238μm,0.7s						
CING				AML	AML		
	comp=N,245μm,0.7s						

*NEIC **23** 00:53:53.8±2.1,34˚22N±0.˚04×142˚50E±0.˚08, h10km±1km, mb4.6/6, Error ellipse: s-maj=11.9km s-min=6.1km az=78.0*
*IDC **23** 00:53:59.2±1.5,34˚36N×141˚74E, h0km, mb3.8/8, mbtmp3.8/11, ML3.3/3, Error ellipse: s-maj=33.6km s-min=19.0km az=73.0*
*JMA **23** 00:54:00.7±0.4,34˚N±1˚×14˚2E±˚, h34km±2km, MV3.5/29, FAR SE OFF BOSO PEN*

ISC 23 00:54:01.3±1.0, 34˚43N±0.˚05×141˚88E±0.˚09, h21km, n44, σ1s35/39, mb3.9/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.78**	**287**	P	**Pb**	**00 54 14.8**	**-1.0**
BSO3	**Boso 3**	**1.19**	**289**	*e*P	**Pn**	**00 54 21.7**	**-0.7**
BSO4	**Boso 4**	**1.39**	**294**	P	**Pn**	**00 54 24.9**	**-0.4**
CHOJ	**Chosi**	**1.52**	**327**	P	**Pn**	**00 54 26.5**	**-0.8**
CHOJ				*e*S	**Sn**	**00 54 44.7**	**-1.7**
JKUC	**kamogawauchiur**	**1.56**	**298**	P	**Pn**	**00 54 26.9**	**-0.9**
JKUC				*e*S	**Sn**	**00 54 46.1**	**-1.4**
JMKN	**Mikurajimanish**	**1.97**	**255**	*e*P	**Pn**	**00 54 31.9**	**-1.5**
JHJ2	**Mitsune**	**2.16**	**233**	Pn	**Pn**	**00 54 34.7**	**-1.4**
JHJ2	**Mitsune**	**2.16**	**233**	P	**Pn**	**00 54 36.0**	**-0.1**
JHJ	**Hachijo jima 2**	**2.18**	**234**	Pn	**Pn**	**00 54 35.2**	**-1.2**
	26nm,0.3s,baz=332,slow=21,SNR=8.3						
JHJ				Sn	**Sn**	**00 55 00.9**	**-1.8**
	75nm,0.3s,baz=68,slow=23,SNR=9.4						
	58nm,0.4s						
JYT	**Yasato**	**2.26**	**323**		**Pn**	**00 54 37.2**	**-0.3**
JMM	**Marumori**	**3.54**	**346**		**Pn**	**00 54 54.1**	**-0.9**
JMM				Sn	**Sn**	**00 55 34.1**	**-2.2**
MJAR	**Matsushiro Arr**	**3.66**	**306**	Pn	**Pn**	**00 54 57.2**	**+0.4**
	1.3nm,0.3s,baz=63,slow=20,SNR=15						
MJAR				Sn	**Sn**	**00 55 38.8**	**-0.5**
	1.2nm,0.3s,baz=192,slow=19,SNR=2.6						
	8.8nm,0.4s						
MAJO	**Matsushiro**	**3.67**	**306**		**Pn**	**00 54 57.4**	**+0.6**
MJB9	**Matsu-Tunnel**	**3.67**	**306**		**Pn**	**00 54 57.2**	**+0.4**
JGF	**Kuroka**	**3.89**	**289**	Pn	**Pn**	**00 54 60.0**	**0.0**
INU	**Inuyama**	**4.10**	**284**		**Pn**	**00 55 04.0**	**+1.3**
JSD	**Sado**	**4.64**	**322**		**Pn**	**00 55 09.8**	**-0.4**
JSD					**Sn**	**00 56 05.7**	**+2.4**
JMN	**Monobe**	**6.68**	**266**	Pn	**Pn**	**00 55 39.1**	**+1.0**
JKA	**Kamikawa-asahi**	**9.69**	**3**	Pn	**Pn**	**00 56 16.3**	**-3.1**
KSRS	**Korea Array**	**11.71**	**289**	Pn	**Pn**	**00 56 48.5**	**+1.5**
	0.3nm,0.3s,baz=101,slow=14,SNR=6.1						
	2.5nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**26.56**	**117**	T	T	01 27 40.3	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**26.56**	**117**	T	T	01 27 42.5	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**26.57**	**117**	T	T	01 27 46.4	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**27.19**	**119**	T	T	01 28 28.4	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.19**	**119**	T	T	01 28 37.5	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.20**	**119**	T	T	01 28 36.7	
	baz=312						
SONM	**Songino Array**	**29.62**	**308**	P	**P**	**01 00 06.6**	**+1.5**
	1.0nm,0.9s,baz=85,slow=6.5,SNR=2.9						
	1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.28**	**259**	P	**P**	**01 01 44.4**	**-1.0**
	0.7nm,0.3s,baz=53,slow=7.3,SNR=5.3						
	0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**43.98**	**314**	P	**P**	**01 02 07.3**	**+0.5**
	1.3nm,0.7s,baz=93,slow=7.4,SNR=5.6						
	1.3nm,0.7s						
MK31	**Makanchi Array**	**45.86**	**304**	P	**P**	**01 02 19.1**	**-2.9**
MKAR	**Makanchi Array**	**45.86**	**304**	P	**P**	**01 02 22.2**	**+0.3**
	0.9nm,0.6s,baz=99,slow=8.9,SNR=4.9						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**45.86**	**304**	P	**P**	**01 02 19.4**	**-2.5**
KURK	**Kurchatov**	**47.87**	**310**	P	**P**	**01 02 37.5**	**0.0**
KURK				IAmb	IAmb	01 02 38.2	
	comp=Z,4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**47.93**	**310**	P	**P**	**01 02 38.1**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=84,slow=7.8,SNR=22						
	comp=Z,2.2nm,0.6s						
J20K	**Nowinta River**	**48.33**	**32**	P	P	01 02 33.3	-7.6
J20K				IAmb	IAmb	01 02 46.0	
	comp=Z,8.7nm,1.3s						
WRAB	**Tennant Creek**	**54.53**	**189**	P	P	01 03 20.6	-7.2
WR0	**Warramunga Arr**	**54.54**	**188**	P	P	01 03 20.4	-7.4
WR0				IAmb	IAmb	01 03 21.2	
	comp=Z,14nm,1.5s						
WB2	**Warramunga Arr**	**54.54**	**189**	P	P	01 03 21.8	-6.0
WB2				IAmb	IAmb	01 03 48.2	
	comp=Z,4.6nm,1.3s						
WRA	**Warramunga Arr**	**54.54**	**189**	P	**P**	**01 03 28.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=1.4,slow=7.6,SNR=8.5						
	comp=Z,0.7nm,0.6s						
KKAR	**Karatay Array**	**54.79**	**302**	P	**P**	**01 03 29.9**	**+0.4**
ASAR	**Alice Springs**	**58.27**	**189**	P	**P**	**01 03 55.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=14,slow=3.3,SNR=3.3						
	comp=Z,0.4nm,0.7s						
ABKAR	**Akbulak array**	**59.93**	**311**	P	**P**	**01 04 06.0**	**+0.3**
BRTR	**Keskin Array B**	**80.87**	**312**	P	**P**	**01 06 15.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=54,slow=3.7,SNR=2.3						
	comp=Z,0.5nm,0.6s						
PV20	**West Nyswonger**	**82.27**	**49**	P	P	01 06 12.6	-8.9

*IDC **23** 00:54:43.5±0.9,34˚32N×141˚80E, h0km, mb3.8/10, mbtmp3.9/12, ML4.0/2, Error ellipse: s-maj=22.5km s-min=18.0km az=113.0*
*JMA **23** 00:54:47.6±0.3,

0.3nm,0.3s,baz=108,slow=15,SNR=4.4
H11N2 WAKE ISLAND Hy 26.59 117 T T 01 28 27.7
baz=309,slow=76
H11N1 WAKE ISLAND Hy 26.60 117 T T 01 28 27.6
baz=309,slow=76
H11N3 WAKE ISLAND Hy 26.61 117 T T 01 28 28.8
baz=309,slow=76
H11S3 WAKE ISLAND Hy 27.22 119 T T 01 29 14.1
baz=312
H11S1 WAKE ISLAND Hy 27.22 119 T T 01 29 20.6
baz=312,slow=76
H11S2 WAKE ISLAND Hy 27.23 119 T T 01 29 18.8
baz=312,slow=76
SONM Songino Array 29.60 308 P **P 01 00 51.9 +1.7**
0.9nm,0.8s,baz=104,slow=8.9,SNR=4.0
0.9nm,0.8s
CMAR Chiang Mai Arr 41.21 259 P **P 01 02 29.4 -0.6**
0.9nm,0.4s,baz=172,slow=25,SNR=4.2
0.9nm,0.4s
ZALV Zalesovo Beam 43.97 314 P **P 01 02 52.1 +0.1**
0.7nm,0.5s,baz=90,slow=7.4,SNR=3.5
0.7nm,0.5s
MKAR Makanchi Array 45.84 304 P **P 01 03 06.6 -0.5**
1.3nm,1.0s,baz=79,slow=7.6,SNR=2.4
1.3nm,1.0s
KURBB Kurchatov Arra 47.92 310 P **P 01 03 22.7 -0.5**
1.8nm,0.7s,baz=86,slow=7.2,SNR=6.1
1.8nm,0.7s
ILAR Eielson Array 51.58 31 P **P 01 03 51.7 +0.8**
0.7nm,0.8s,baz=274,slow=6.3,SNR=4.8
0.7nm,0.8s
WRA Warramunga Arr 54.48 189 P **P 01 04 11.6 -1.2**
2.0nm,0.9s,baz=4.3,slow=7.6,SNR=6.5
2.0nm,0.9s
ASAR Alice Springs 58.21 189 P **P 01 04 38.5 -0.8**
1.1nm,0.9s,baz=1.4,slow=5.0,SNR=5.2
1.1nm,0.9s
NB2 NORSAR Subarra 76.76 338 P P 01 06 48.0 +12
comp=Z,0.4nm,0.6s,baz=41,slow=5.9
PDAR Pinedale Array 79.30 45 P **P 01 06 52.3 +1.4**
comp=Z,0.3nm,0.5s,baz=255,slow=2.7,SNR=3.6
comp=Z,0.3nm,0.5s
TXAR Lajitas Array 91.48 53 P **P 01 07 52.3 +0.4**
comp=Z,0.3nm,0.7s,baz=325,slow=2.0,SNR=4.4
comp=Z,0.3nm,0.7s

---

*JMA **23** 01:07:32.5±0.5,34°N±1″×14°2E±″,h27km±2km,MV3.0/16, FAR SE OFF BOSO PEN*
*IDC **23** 01:07:33.1±2.5,34°46N×141°54E,h0km,mb3.5/3, mbtmp3.4/4,ML2.2/1,Error ellipse: s-maj=59.9km s-min=26.4km az=75.0*
ISC 23 01:07:36.1±1.6,34°50N±0°08×141°6E±0°1,h27km,n11, σ1s11/12,mb3.6/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.55**	**286**	*eP*	**Pb**	**01 07 46.3**	**-0.7**
BSO4	**Boso 4**	**1.17**	**295**	*eP*	**Pn**	**01 07 56.4**	**-0.2**
JKUC	**kamogawauchiur**	**1.34**	**300**	P	**Pn**	**01 07 58.1**	**-1.0**
JKUC				*eS*	**Sn**	**01 08 16.8**	**+0.7**
CHOJ	**Chosi**	**1.36**	**333**	*eP*	**Pn**	**01 07 57.8**	**-1.5**
JMKN	**Mikurajimanish**	**1.79**	**251**	P	**Pn**	**01 08 04.3**	**-0.9**
JHJ	**Hachijo jima 2**	**2.06**	**229**	Pn	**Pn**	**01 08 08.3**	**-0.6**
	15nm,0.3s,baz=41,slow=14,SNR=1.7						
JAG	**Ashikaga**	**2.61**	**318**	*eP*	**Pn**	**01 08 16.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.45**	**307**	Pn	**Pn**	**01 08 29.1**	**+0.9**
	0.3nm,0.3s,baz=126,slow=14,SNR=2.4						
	2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**43.78**	**314**	P	**P**	**01 15 41.1**	**+1.9**
	0.4nm,0.4s,baz=98,slow=6.0,SNR=1.9						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**47.72**	**310**	P	**P**	**01 16 09.6**	**-0.8**
	0.3nm,0.3s,baz=85,slow=6.9,SNR=5.1						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**54.58**	**188**	P	**P**	**01 17 02.7**	**+0.5**
	0.2nm,0.4s,baz=1.2,slow=7.5,SNR=6.5						
	0.2nm,0.4s						

---

*NEIC **23** 01:07:42.3±2.1,34°65N±0°02×142°1E±0°1,h10km±2km, mb4.2/8,Error ellipse: s-maj=20.7km s-min=3.9km az=91.0*
*IDC **23** 01:07:44.6±2.1,34°82N×141°80E,h0km,mb3.9/5, mbtmp3.8/7,ML2.9/2,Error ellipse: s-maj=51.9km s-min=22.8km az=69.0*
*JMA **23** 01:07:48.9±0.6,34°N±2″×14°2E±″,h32km±3km,MV3.3/16, FAR SE OFF BOSO PEN*
ISC 23 01:07:45.1±1.1,34°58N±0°07×142°07E±0°09,h21km,n31, σ2s14/27,mb4.2/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.91**	**275**	P	**Pn**	**01 08 03.3**	**+1.2**
BSO4	**Boso 4**	**1.48**	**286**	P	**Pb**	**01 08 13.4**	**+1.5**
CHOJ	**Chosi**	**1.50**	**319**	P	**Pb**	**01 08 14.3**	**+2.1**
CHOJ				S	**Sb**	**01 08 33.6**	**+2.9**
JKUC	**kamogawauchiur**	**1.65**	**291**	P	**Pn**	**01 08 14.9**	**+2.1**
JKUC				S	**Sb**	**01 08 34.4**	**-0.6**
JMKN	**Mikurajimanish**	**2.17**	**252**	P	**Pn**	**01 08 21.2**	**+1.3**
JMKN				S	**Sn**	**01 08 44.1**	**-2.1**
JYT	**Yasato**	**2.25**	**318**	Pn	**Pn**	**01 08 20.2**	**-0.9**
JHJ2	**Mitsune**	**2.38**	**233**	Pn	**Pn**	**01 08 21.4**	**-1.5**
JHJ	**Hachijo jima 2**	**2.40**	**233**	Pn	**Pn**	**01 08 24.1**	**+1.0**
	32nm,0.3s,baz=80,slow=22,SNR=4.8						
	87nm,0.4s						
JOD2	**Odawara 2**	**2.54**	**286**	S	**Sn**	**01 08 56.8**	**+1.3**
MJAR	**Matsushiro Arr**	**3.71**	**303**	Pn	**Pn**	**01 08 40.2**	**-1.0**
	0.3nm,0.3s,baz=117,slow=8.3,SNR=6.1						
	1.9nm,0.3s						
MAJO	**Matsushiro**	**3.71**	**303**		**Pn**	**01 08 39.5**	**-1.7**
MJB9	**Matsu-Tunnel**	**3.71**	**303**		**Pn**	**01 08 39.8**	**-1.5**
JGF	**Kuroka**	**4.00**	**286**	Pn	**Pn**	**01 08 43.4**	**-1.8**
KSAR	**Wonju Array Be**	**11.84**	**288**	Pn	**Pn**	**01 10 31.9**	**-0.8**
BJT	**Baijiatuan**	**21.27**	**292**	P	**P**	**01 12 25.9**	**-4.2**
BJT				IAmb	IAmb	01 12 54.5	
	comp=Z,4.9nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**26.49**	**118**	T	T	01 41 33.1	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**26.49**	**118**	T	T	01 41 28.2	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**26.50**	**118**	T	T	01 41 32.9	
	baz=309						
CMAR	**Chiang Mai Arr**	**41.46**	**259**	P	**P**	**01 15 32.6**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=53,slow=7.1,SNR=5.3						
	comp=Z,0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**43.98**	**314**	P	**P**	**01 15 50.7**	**0.0**
	comp=Z,1.0nm,0.6s,baz=104,slow=6.8,SNR=4.6						
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**45.91**	**304**	P	P	01 16 02.9	-3.2
MAKZ	**Makanchi**	**46.12**	**304**	P	P	01 16 05.1	-2.7
KURK	**Kurchatov**	**47.89**	**310**	P	**P**	**01 16 19.7**	**-1.8**
KURBB	**Kurchatov Arra**	**47.96**	**310**	P	**P**	**01 16 21.2**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=85,slow=7.4,SNR=8.7						
	comp=Z,2.6nm,1.0s						
IL31		**51.29**	**31**	P	P	01 16 44.3	-2.9
WB2	**Warramunga Arr**	**54.72**	**189**	P	**P**	**01 17 11.3**	**-1.6**
WB2				IAmb	IAmb	01 17 11.9	
	comp=Z,3.1nm,1.1s						
WRA	**Warramunga Arr**	**54.72**	**189**	P	**P**	**01 17 17.2**	**+4.2**
	comp=Z,0.8nm,0.6s,baz=1.6,slow=7.6,SNR=6.8						
	comp=Z,0.8nm,0.6s						
KK31	**Karatay Array**	**54.84**	**302**	P	P	01 17 11.1	-2.7
KK31				IAmb	IAmb	01 17 19.4	
	comp=Z,2.3nm,0.9s						
KKAR	**Karatay Array**	**54.84**	**302**	P	**P**	**01 17 12.1**	**-1.7**
KKAR				IAmb	IAmb	01 17 19.4	
	comp=Z,2.3nm,0.9s						
ASAR	**Alice Springs**	**58.44**	**189**	P	**P**	**01 17 43.5**	**+4.0**
	comp=Z,0.5nm,0.7s,baz=9.8,slow=12,SNR=5.0						
	comp=Z,0.5nm,0.7s						
ABKAR	**Akbulak array**	**59.94**	**311**	P	**P**	**01 17 48.2**	**-1.4**

---

*BGR **23** 01:10:23.0±0.3,50°74N×6°61E,h10km,ML2.3/4,Error ellipse: s-maj=3.3km s-min=3.3km az=135.0*
*LDG **23** 01:10:23.4±0.1,50°76N×6°56E,h10km,Md2.7/1,Ml2.6/37, Error ellipse: s-maj=1.4km s-min=1.2km az=142.0*
*UCC **23** 01:10:23.5±0.7,50°75N×6°55E,h8km±1km,ML2.0*
*STR **23** 01:10:23.8±1.7,51°N±6″×±″,h2km±11km,MLv2.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=9.6, preliminary*
*BNS **23** 01:10:23.2±0.5,50°77N×6°54E,h9km±1km,ML2.0*
*BUG **23** 01:10:24.6±0.0,50°97N×6°76E,h30km±9km,MD2.6/10, ML2.9/5*
ISC 23 01:10:22.7±0.9,50°75N±0°01×6°54E±0°01,h18km±2km, n106,σ1s87/177,23C-39D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSH	**Grosshau**	**0.10**	**260**	⇑*iPg*	**Pg**	**01 10 25.8**	**-0.6**
GSH				*eSg*	**Sg**	**01 10 27.6**	**-1.2**
	678nm,0.1s						
JUE	**Julich**	**0.18**	**332**	*ePg*	**Pg**	**01 10 27.1**	**-0.1**
KLL	**Kalltalsperre**	**0.18**	**233**	⇑*iPg*	**Pg**	**01 10 27.2**	**-0.1**
KLL				*eSg*	**Sg**	**01 10 29.7**	**-0.7**
	121nm,0.1s						
BA05	**Sindorf**	**0.18**	**26**	⇑*ePg*	**Pg**	**01 10 27.2**	**-0.1**
BD07	**Roetschberg**	**0.21**	**24**	⇑*ePg*	**Pg**	**01 10 27.8**	**+0.1**
BD01	**Bergheim Laure**	**0.21**	**17**	⇑*ePg*	**Pg**	**01 10 27.9**	**+0.1**
DREG	**Dreilaegerbach**	**0.21**	**245**	⇑*iPg*	**Pg**	**01 10 27.8**	**0.0**
STB	**Steinbach**	**0.25**	**130**	⇑*iPg*	**Pg**	**01 10 28.6**	**+0.2**
STB				*eSg*	**Sg**	**01 10 32.1**	**-0.1**
	224nm,0.1s						
OLFT	**Oleftalsperre**	**0.27**	**196**	⇑*ePg*	**Pg**	**01 10 28.8**	**+0.1**
OLFT				*eSg*	**Sg**	**01 10 32.6**	**-0.2**
PLH	**Pulheim**	**0.31**	**35**	⇑*ePg*	**Pg**	**01 10 29.0**	**-0.3**
PLH				*eSg*	**Sg**	**01 10 33.4**	**-0.4**
BTNL	**Ternell**	**0.31**	**237**	*bP*	**Pg**	**01 10 29.5**	**+0.1**
BTNL				*dS*	**Sg**	**01 10 33.8**	**-0.1**
TDN	**Todenfeld**	**0.32**	**125**	⇑*ePg*	**Pg**	**01 10 29.7**	**+0.3**
TDN				*eSg*	**Sg**	**01 10 34.0**	**0.0**
	161nm,0.2s						
MEM	**Membach**	**0.37**	**247**	*bP*	**Pg**	**01 10 30.5**	**+0.1**
MEM				*dS*	**Sg**	**01 10 35.6**	**+0.1**
	comp=N,41nm,0.0s						
MEM	**Membach**	**0.37**	**247**	*ePg*	**Pg**	**01 10 30.5**	**+0.1**
MEM				*eSg*	**Sg**	**01 10 35.9**	**+0.3**
HGN	**Heimansgroeve**	**0.39**	**272**	Pg	**Pg**	**01 10 30.7**	**0.0**
RODG	**Roetgen-Dahlhe**	**0.45**	**330**	*ePg*	**Pg**	**01 10 32.2**	**+0.3**
BNS	**Bensberg**	**0.46**	**62**	⇑*ePg*	**Pg**	**01 10 31.7**	**-0.2**
HILG	**Hillesheim**	**0.47**	**169**	*ePg*	**Pg**	**01 10 32.7**	**+0.5**
BHOU	**Houvegnez**	**0.53**	**221**	*bP*	**Pg**	**01 10 33.5**	**+0.3**
BHOU				*dS*	**Sg**	**01 10 40.4**	**+0.1**
	comp=N,73nm,0.0s						
BEBN	**Eben Emael**	**0.55**	**275**	*dP*	**Pg**	**01 10 34.1**	**+0.5**
HOBG	**Hohbusch**	**0.55**	**65**	⇑*ePg*	**Pg**	**01 10 33.5**	**-0.2**
LOH	**Wallersheim-Lo**	**0.57**	**180**	*ePg*	**Pg**	**01 10 34.4**	**+0.4**
LOH				*eSg*	**Sg**	**01 10 42.3**	**+0.6**
	comp=N,25nm,0.1s						
BHE	**Schloss Buerre**	**0.57**	**134**	*ePg*	**Pg**	**01 10 34.5**	**+0.5**
BHE				*eSg*	**Sg**	**01 10 42.0**	**+0.3**
	comp=N,70nm,0.2s						
BSTI	**Sart Tilman**	**0.64**	**255**	*bP*	**Pg**	**01 10 35.6**	**+0.3**
BSTI				*dS*	**Sg**	**01 10 44.7**	**+0.8**
LAUG	**Laupendahl**	**0.65**	**23**	*ePg*	**Pg**	**01 10 34.9**	**-0.6**
BOPT	**Opiter**	**0.68**	**302**	*kP*	**Pg**	**01 10 36.8**	**+0.8**
BOPT				*dS*	**Sn**	**01 10 50.1**	**+2.7**
LKLB	**Kalborn**	**0.71**	**203**	*bP*	**Pg**	**01 10 36.5**	**-0.1**
LKLB				*dS*	**Sg**	**01 10 45.4**	**-0.6**
	comp=N,19nm,0.0s						
ENTS	**Ennepetalsperr**	**0.74**	**48**	*ePg*	**Pg**	**01 10 36.3**	**-0.8**
ENTS				*eSg*	**Sg**	**01 10 46.8**	**-0.1**
BGG	**Burgeitz**	**0.75**	**137**	*ePg*	**Pg**	**01 10 37.8**	**+0.5**
BKLB	**Ruhr-Universit**	**0.83**	**34**	Pg	**Pb**	**01 10 38.9**	**+0.4**
BUG	**Bochum--Univer**	**0.83**	**34**	*ePg*	**Pb**	**01 10 39.0**	**+0.5**
BUG				*eSg*	**Sb**	**01 10 50.6**	**+1.2**
KOE	**Koeppel**	**0.83**	**113**	*ePg*	**Pb**	**01 10 39.1**	**+0.5**
BULI	**Ruhr-Universit**	**0.84**	**33**	Pg	**Pb**	**01 10 39.4**	**+0.7**
BULI				Sg	**Sb**	**01 10 50.0**	**+0.4**
BTEZ	**Ruhr-Universit**	**0.84**	**34**	Pg	**Pb**	**01 10 39.6**	**+0.9**
LVIA	**Vianden**	**0.85**	**195**	*dP*	**Pb**	**01 10 39.4**	**+0.5**
BCLA	**Clavier**	**0.86**	**247**	*bP*	**Pb**	**01 10 39.5**	**+0.5**
BCLA				*dS*	**Sg**	**01 10 52.0**	**+1.4**
	comp=N,20nm,0.0s						
BZER	**Hlnxe**	**0.89**	**13**	Pg	**Pb**	**01 10 40.4**	**+0.7**
BZER				Sg	**Sb**	**01 10 51.8**	**+0.6**
OPLO	**Oploo**	**0.95**	**332**	*eSg*	**Sn**	**01 10 55.6**	**+1.3**
NAST	**IGS Nastaetten**	**1.01**	**123**	*ePg*	**Pb**	**01 10 42.4**	**+0.7**
BMOL	**Mol**	**1.03**	**297**	*bP*	**Pb**	**01 10 43.2**	**+1.3**
RCHB	**Rochefort**	**1.03**	**235**	*bP*	**Pb**	**01 10 42.8**	**+0.8**
RCHB				*dS*	**Sb**	**01 10 56.7**	**+1.5**
	comp=N,41nm,0.0s						
RCHB	**Rochefort**	**1.03**	**235**	Pg	**Pb**	**01 10 43.0**	**+1.0**
RCHB	**Rochefort**	**1.03**	**235**	Sg	**Sb**	**01 10 56.7**	**+1.5**
BDSL	**Dessel**	**1.04**	**297**	*bP*	**Pb**	**01 10 43.4**	**+1.2**
BDSL				*dS*	**Sb**	**01 10 57.1**	**+1.6**
SORT	**Sorpetalsperre**	**1.08**	**56**	*ePg*	**Pb**	**01 10 43.1**	**+0.2**
SORT				*eSg*	**Sb**	**01 10 57.6**	**+0.9**
	comp=N,52nm,0.2s						
ABH	**Alteburg**	**1.09**	**143**	Sg	**Sb**	**01 10 58.7**	**+1.9**
ABH	**Alteburg**	**1.09**	**143**	⇑Pg	**Pb**	**01 10 43.8**	**+0.8**
WLF	**Walferdange**	**1.12**	**193**	*kP*	**Pb**	**01 10 44.3**	**+0.9**
WLF				*dS*	**Sb**	**01 10 59.1**	**+1.4**
	comp=N,13nm,0.0s						
WLF	**Walferdange**	**1.12**	**193**	*ePg*	**Pb**	**01 10 44.5**	**+1.0**
WLF				*eSg*	**Sb**	**01 10 59.3**	**+1.6**
WLF	**Walferdange**	**1.12**	**193**	Pg	**Pb**	**01 10 44.4**	**+0.9**
HMES	**Hamm, Michael-**	**1.17**	**39**	Sg	**Sn**	**01 11 01.3**	**+1.5**
BMRD	**Maredsous**	**1.22**	**249**	*bP*	**Pn**	**01 10 46.0**	**+1.1**
BMRD				*dS*	**Sn**	**01 11 02.7**	**+1.9**
	comp=N,19nm,0.0s						
WTSB	**Winterswijk**	**1.23**	**8**	*eSg*	**Sb**	**01 11 02.3**	**+1.5**
KASTN	**Kahler Asten**	**1.27**	**69**	*ePg*	**Pn**	**01 10 46.1**	**+0.5**
KASTN				*eSg*	**Sb**	**01 11 03.3**	**+1.2**
GIVF	**Givet**	**1.28**	**240**	*ePn*	**Pn**	**01 10 46.3**	**+0.6**
GIVF	**Givet**	**1.28**	**240**	*ePg*	**Pn**	**01 10 47.3**	**+1.6**
GIVF				*eSg*	**Sb**	**01 11 04.2**	**+1.9**
	comp=N,65nm,0.2s						
TNS	**Taunus Mts**	**1.33**	**113**	*ePg*	**Pn**	**01 10 47.1**	**+0.6**
TNS				*eSg*	**Sn**	**01 11 04.5**	**+0.7**
	comp=N,1μm,5.3s						
DOU	**Dourbes**	**1.41**	**243**	*kP*	**Pn**	**01 10 48.8**	**+1.4**
DOU				*dS*	**Sn**	**01 11 07.7**	**+2.1**
	comp=N,27nm,0.0s						
DOU	**Dourbes**	**1.41**	**243**	Pn	**Pn**	**01 10 49.0**	**+1.5**
DOU				Sn	**Sb**	**01 11 08.0**	**+2.0**
BRQR	**Ronquire**	**1.48**	**265**	*kP*	**Pn**	**01 10 49.8**	**+1.4**
BRQR				*dS*	**Sn**	**01 11 08.9**	**+1.6**
BSKQ	**Steenkerk**	**1.57**	**267**	*kP*	**Pn**	**01 10 50.9**	**+1.3**
BSKQ				*dS*	**Sn**	**01 11 11.1**	**+1.6**
BAIF	**Baives**	**1.65**	**246**	*eP*	**Pn**	**01 10 52.9**	**+2.2**
BAIF	**Baives**	**1.65**	**246**	*ePg*	**Pb**	**01 10 54.5**	**+2.0**
BAIF				*eSn*	**Sn**	**01 11 11.0**	**-0.4**
	comp=N,27nm,0.2s						
BAIF				*eSg*	**Sb**	**01 11 14.8**	**+1.9**
BBOU	**Bougnies**	**1.69**	**259**	*kP*	**Pn**	**01 10 53.7**	**+2.3**
BBOU				*dS*	**Sb**	**01 11 16.8**	**+2.5**
	comp=Z,11nm,0.0s						
IBBN	**Ibbenburen**	**1.73**	**26**	*eSg*	**Sb**	**01 11 17.2**	**+1.8**
	comp=Z,28nm,0.7s						
UBBA	**Unterbreizbach**	**2.20**	**87**	*eSg*	**Sb**	**01 11 30.6**	**+1.9**
PAGF	**Fort de Pagny**	**2.26**	**194**	*ePn*	**Pn**	**01 10 59.5**	**+0.3**
PAGF	**Fort de Pagny**	**2.26**	**194**	*ePg*	**Pb**	**01 11 05.3**	**+2.3**
	baz=15						
PAGF				*eSn*	**Sn**	**01 11 25.7**	**-1.0**
PAGF				*eSg*	**Sb**	**01 11 34.5**	**+3.8**
	comp=Z,4.7nm,0.3s,baz=24						
SAVF	**Savonnieres en**	**2.33**	**204**	*eP*	**Pn**	**01 11 02.0**	**+1.9**
	baz=24						
SAVF	**Savonnieres en**	**2.33**	**204**	*ePg*	**Pb**	**01 11 06.8**	**+2.6**
SAVF				*eSn*	**Sn**	**01 11 26.9**	**-1.4**
SAVF				*eSg*	**Sb**	**01 11 36.6**	**+4.0**
	comp=Z,3.9nm,0.2s,baz=27						
CDF	**Champ du Feu**	**2.39**	**168**	*ePn*	**Pn**	**01 11 02.0**	**+0.9**
CDF	**Champ du Feu**	**2.39**	**168**	*ePg*	**Pb**	**01 11 07.8**	**+2.5**
CDF				*eSn*	**Sn**	**01 11 27.9**	**-2.1**
CDF				*eSg*	**Sb**	**01 11 38.4**	**+3.9**
	comp=Z,6.0nm,0.6s						
MEZF	**Maizieres J'vi**	**2.45**	**204**	*eP*	**Pn**	**01 11 03.5**	**+1.7**
	baz=25						
MEZF	**Maizieres J'vi**	**2.45**	**204**	*ePg*	**Pb**	**01 11 08.9**	**+2.6**
	baz=31						
MEZF				*eSn*	**Sn**	**01 11 29.9**	**-1.5**
	baz=28						
MEZF				*eSg*	**Sb**	**01 11 40.1**	**+4.0**
	comp=Z,3.5nm,0.2s,baz=23						
CLZ	**Clausthal**	**2.64**	**64**	*eSg*	**Sb**	**01 11 44.6**	**+3.0**
SFTF	**Sexfontaines**	**2.73**	**202**	*ePn*	**Pn**	**01 11 05.4**	**-0.3**
	baz=25						
SFTF	**Sexfontaines**	**2.73**	**202**	*ePg*	**Pb**	**01 11 14.1**	**+3.1**
SFTF				*eSn*	**Sn**	**01 11 36.4**	**-1.9**
SFTF				*eSg*	**Sg**	**01 11 49.5**	**-1.0**
	comp=Z,5.2nm,0.3s,baz=32						
HAU	**Haudompre**	**2.75**	**183**	*ePn*	**Pn**	**01 11 05.7**	**-0.3**
HAU	**Haudompre**	**2.75**	**183**	*ePg*	**Pb**	**01 11 14.2**	**+2.8**
HAU				*eSn*	**Sn**	**01 11 37.4**	**-1.4**
HAU				*eSg*	**Sb**	**01 11 49.7**	**+4.9**
	comp=Z,4.6nm,0.3s						
HINF	**Hinteralfeld**	**2.95**	**176**	*ePn*	**Pn**	**01 11 09.2**	**+0.5**
HINF	**Hinteralfeld**	**2.95**	**176**	*ePg*	**Pb**	**01 11 17.9**	**+3.2**
HINF				*eSn*	**Sn**	**01 11 42.0**	**-1.6**
	comp=Z,1.1nm,0.3s						
HINF				*eSg*	**Sb**	**01 11 55.7**	**+5.3**
	comp=Z,1.1nm,0.2s						
SLE	**Schleitheim**	**3.25**	**156**	Pn	**Pn**	**01 11 14.2**	**+1.3**
BALST	**Balsthal**	**3.50**	**167**	Pn	**Pn**	**01 11 17.7**	**+1.3**
CHMF	**Charmoille**	**3.51**	**179**	Pn	**Pn**	**01 11 17.2**	**+0.7**
LOR	**Lormes**	**3.91**	**208**	*ePn*	**Pn**	**01 11 22.9**	**+1.0**
	baz=30						
LOR	**Lormes**	**3.91**	**208**	*ePg*	Pb	01 11 35.9	+4.8
LOR				*eSn*	**Sn**	**01 12 05.1**	**-2.2**
	comp=Z,3.0nm,0.2s						
LOR				*eSg*	**Sg**	**01 12 26.0**	**-2.1**
	comp=Z,2.2nm,0.2s,baz=22						
LOR	**Lormes**	**3.91**	**208**	Pn	**Pn**	**01 11 22.7**	**+0.9**
CLL	**Collm**	**4.12**	**80**	*eSg*	**Sg**	**01 12 32.0**	**-2.8**
CABF	**La Chapelle**	**4.16**	**184**	*ePn*	**Pn**	**01 11 26.3**	**+0.9**
SSF	**Saint Saulge**	**4.20**	**210**	*ePn*	**Pn**	**01 11 26.7**	**+0.8**
SSF				*eSn*	**Sn**	**01 12 12.2**	**-2.3**
	comp=Z,2.4nm,0.3s						
SSF				*eSg*	**Sg**	**01 12 35.2**	**-2.3**
	comp=Z,2.9nm,0.4s						
SMF	**Signal de Mont**	**4.48**	**205**	*ePn*	**Pn**	**01 11 30.6**	**+0.8**
SMF	**Signal de Mont**	**4.48**	**205**	*ePg*	Pb	01 11 46.1	+5.2
SMF				*eSn*	**Sn**	**01 12 18.9**	**-2.6**
	comp=Z,1.1nm,0.2s						
SMF				*eSg*	**Sg**	**01 12 43.8**	**-2.7**
	comp=Z,2.4nm,0.3s						
AVF	**Avril sur Loir**	**4.49**	**209**	*ePn*	**Pn**	**01 11 30.8**	**+1.0**
AVF				*eSn*	**Sn**	**01 12 19.1**	**-2.5**
	comp=Z,1.1nm,0.2s						
AVF				*eSg*	**Sg**	**01 12 44.0**	**-2.8**
	comp=Z,1.3nm,0.4s						
LDF	**La Druitiere**	**4.83**	**246**	*ePn*	**Pn**	**01 11 36.1**	**+1.5**
LDF	**La Druitiere**	**4.83**	**246**	*ePg*	**Pg**	**01 11 53.4**	**-1.8**
LDF				*eSn*	**Sn**	**01 12 27.6**	**-2.5**
LDF				*eSg*	**Sg**	**01 12 55.3**	**-2.5**
	comp=Z,1.2nm,0.3s						
BGF	**Bois d'Agland**	**4.86**	**212**	*ePn*	**Pn**	**01 11 35.5**	**+0.6**
BGF				*eSn*	**Sn**	**01 12 27.9**	**-2.8**
	comp=Z,5.6nm,0.4s						
BGF				*eSg*	**Sg**	**01 12 55.7**	**-2.9**
	comp=Z,5.8nm,0.4s						
FLN	**La Foliniere**	**4.97**	**249**	*ePn*	**Pn**	**01 11 37.8**	**+1.4**
FLN	**La Foliniere**	**4.97**	**249**	*ePg*	**Pg**	**01 11 56.1**	**-1.7**
	baz=66						
FLN				*eSn*	**Sn**	**01 12 31.2**	**-2.2**
	comp=Z,2.2nm,0.2s						
FLN				*eSg*	**Sg**	**01 12 59.3**	**-2.7**
	comp=Z,2.0nm,0.3s						
LPG	**La Plagne**	**5.26**	**178**	*ePn*	**Pn**	**01 11 40.6**	**-0.1**
TCF	**Toulx Ste Croi**	**5.31**	**214**	*ePn*	**Pn**	**01 11 41.8**	**+0.6**
TCF				*eSn*	**Sn**	**01 12 38.9**	**-3.1**
	comp=Z,3.0nm,0.6s						
TCF				*eSg*	**Sg**	**01 13 09.9**	**-3.2**
	comp=Z,0.8nm,0.2s						
GRR	**Gorron**	**5.36**	**247**	*eSn*	**Sn**	**01 12 39.8**	**-3.3**
	comp=Z,3.9nm,0.3s						
GRR				*eSg*	**Sg**	**01 13 11.8**	**-2.9**
	comp=Z,1.2nm,0.2s						
MFF	**Saint Martin d**	**6.07**	**229**	*ePn*	**Pn**	**01 11 52.6**	**+1.1**
MFF				*eSn*	**Sn**	**01 12 57.0**	**-3.5**
	comp=Z,0.5nm,0.2s						
RJF	**Les Rejaudoux**	**6.41**	**214**	*ePn*	**Pn**	**01 11 57.0**	**+0.8**
RJF				*eSn*	**Sn**	**01 13 04.4**	**-4.5**
RJF				*eSg*	**Sg**	**01 13 42.1**	**-6.1**
	comp=Z,1.0nm,0.5s						
SGMF	**Saint Gilles**	**6.43**	**251**	*ePn*	**Pn**	**01 11 57.2**	**+0.7**
SGMF				*eSn*	**Sn**	**01 13 05.3**	**-4.1**
	comp=Z,0.4nm,0.3s						
CAF	**Calviac**	**6.56**	**209**	*ePn*	**Pn**	**01 11 57.2**	**-1.1**
CAF				*eSn*	**Sn**	**01 13 08.1**	**-4.6**
	comp=Z,0.4nm,0.4s						
ROSF	**Rostrenen**	**6.83**	**253**	*ePn*	**Pn**	**01 12 01.9**	**0.0**
ROSF				*eSn*	**Sn**	**01 13 15.2**	**-3.9**
	comp=Z,0.8nm,0.2s						

---

*IDC **

*IDC **23** 01:29:35.6±1.7,34˚.16N×141˚.21E,h0km,mb3.3/3, mbtmp3.3/4,ML2.5/1,Error ellipse: s-maj=45.6km s-min=32.9km az=73.0*

ISC 23 01:29:37.4±1.6,34˚.37N±0˚.07×141˚.4E±0˚.1,h27km,n15, σ1º46/11,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.46**	**308**	P	**Pb**	**01 29 46.5**	**-0.2**
BSO4	**Boso 4**	**1.08**	**305**	P	**Pb**	**01 29 57.3**	**-0.2**
JKUC	**kamogawauchiur**	**1.27**	**308**	P	**Pn**	**01 29 58.8**	**-0.7**
JKUC				S	**Sb**	**01 30 17.3**	**+0.5**
CHOJ	**Chosi**	**1.41**	**341**	P	**Pn**	**01 29 59.3**	**-2.0**
CHOJ				*eS*	**Sn**	**01 30 17.1**	**-1.8**
JMKN	**Mikurajimanish**	**1.59**	**253**	P	**Pb**	**01 30 04.2**	**-1.9**
JMKN				*eS*	**Sb**	**01 30 25.8**	**+0.1**
MJAR	**Matsushiro Arr**	**3.40**	**311**	Pn	**Pn**	**01 30 29.8**	**+1.1**
	0.4nm,0.3s,baz=141,slow=9.0,SNR=6.7 2.6nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.88**	**116**	T	T	02 03 21.6	
	baz=309,slow=76,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**26.88**	**116**	T	T	02 03 20.3	
	baz=309,slow=76,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**26.89**	**116**	T	T	02 03 27.8	
	baz=309,slow=76,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**27.50**	**119**	T	T	02 04 16.6	
	baz=302,slow=74,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**27.50**	**119**	T	T	02 04 13.5	
	baz=302,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**27.51**	**119**	T	T	02 04 28.0	
	baz=302						
MKAR	**Makanchi Array**	**45.58**	**304**	P	**P**	**01 37 56.9**	**+1.9**
	0.3nm,0.4s,baz=81,slow=9.5,SNR=1.9 0.3nm,0.4s						
ILAR	**Eielson Array**	**51.75**	**31**	P	P	01 38 46.4	+4.2
	0.3nm,0.7s,baz=265,slow=5.3,SNR=3.0 0.3nm,0.7s						
WRA	**Warramunga Arr**	**54.43**	**188**	P	**P**	**01 39 03.0**	**+0.6**
	0.1nm,0.5s,baz=5.7,slow=7.4,SNR=1.5 0.1nm,0.5s						

*NEIC **23** 01:43:34.4±1.3,34˚.50N±0˚.05×142˚.0E±0˚.1,h10km±2km, mb4.2/6,Error ellipse: s-maj=17.0km s-min=8.0km az=99.0*

*IDC **23** 01:43:35.1±1.1,34˚.52N×141˚.67E,h0km,mb3.9/7, mbtmp3.8/9,ML3.1/2,Error ellipse: s-maj=28.2km s-min=18.9km az=91.0*

*JMA **23** 01:43:36.7±0.2,34˚.5N±0˚.8×14˚2E±˚,h39km±1km, MV3.3/33,FAR SE OFF BOSO PEN*

ISC 23 01:43:37.3±0.9,34˚.53N±0˚.05×141˚.76E±0˚.07,h21km,n39, σ0º94/37,mb4.1/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.66**	**281**	*eP*	**Pb**	**01 43 50.1**	**+0.2**
BSO2	**Boso 2**	**0.88**	**285**	*eS*	**Sb**	**01 44 04.7**	**+0.4**
BSO3	**Boso 3**	**1.07**	**285**	S	**Sb**	**01 44 10.9**	**+0.6**
BSO4	**Boso 4**	**1.26**	**292**	*eP*	**Pn**	**01 43 59.9**	**+0.3**
CHOJ	**Chosi**	**1.38**	**328**	*eP*	**Pn**	**01 44 00.8**	**-0.7**
CHOJ				*eS*	**Sn**	**01 44 18.4**	**-0.6**
JKUC	**kamogawauchiur**	**1.43**	**296**	P	**Pn**	**01 44 01.8**	**-0.2**
JKUC				*eS*	**Sn**	**01 44 19.6**	**-0.6**
JMKN	**Mikurajimanish**	**1.91**	**251**	*eP*	**Pn**	**01 44 07.7**	**-0.9**
JMKN				S	**Sn**	**01 44 31.3**	**-0.7**
JYT	**Yasato**	**2.12**	**323**		**Pn**	**01 44 10.8**	**-0.8**
JHJ2	**Mitsune**	**2.15**	**229**	Pn	**Pn**	**01 44 11.5**	**-0.4**
JHJ2	**Mitsune**	**2.15**	**229**	P	**Pn**	**01 44 12.0**	**+0.1**
JHJ	**Hachijo jima 2**	**2.17**	**230**	Pn	**Pn**	**01 44 12.3**	**+0.2**
	31nm,0.3s,baz=66,slow=20,SNR=4.1						
JHJ				Sn	**Sn**	**01 44 38.9**	**+0.5**
	80nm,0.3s,baz=244,slow=20,SNR=7.7 79nm,0.4s						
JOD2	**Odawara 2**	**2.32**	**289**	*eS*	**Sn**	**01 44 42.0**	**-0.1**
JIZS	**Izushimoda**	**2.38**	**275**	P	**Pn**	**01 44 14.8**	**-0.4**
JMM	**Marumori**	**3.42**	**347**		**Pn**	**01 44 29.0**	**-0.4**
MJAR	**Matsushiro Arr**	**3.52**	**306**	Pn	**Pn**	**01 44 31.6**	**+0.7**
	0.8nm,0.3s,baz=116,slow=8.4,SNR=9.8 3.6nm,0.3s						
MAJO	**Matsushiro**	**3.53**	**306**		**Pn**	**01 44 31.3**	**+0.4**
MJB9	**Matsu-Tunnel**	**3.53**	**306**		**Pn**	**01 44 31.3**	**+0.3**
INU	**Inuyama**	**3.98**	**283**	Pn	**Pn**	**01 44 37.6**	**+0.5**
BJT	**Baijiatuan**	**21.06**	**293**	P	**P**	**01 48 19.9**	**0.0**
BJT				IAmb	IAmb	01 48 22.7	
	comp=Z,4.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**26.69**	**117**	T	T	02 17 28.4	
	baz=309,slow=75,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**26.70**	**117**	T	T	02 17 27.7	
	baz=309,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**26.71**	**117**	T	T	02 17 35.1	
	baz=309,slow=75,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**27.32**	**119**	T	T	02 18 21.0	
	baz=309						
H11S1	**WAKE ISLAND Hy**	**27.32**	**119**	T	T	02 18 18.8	
	baz=309						
H11S2	**WAKE ISLAND Hy**	**27.34**	**119**	T	T	02 18 22.4	
	baz=309						
ZALV	**Zalesovo Beam**	**43.84**	**314**	P	**P**	**01 51 41.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=66,slow=8.1,SNR=1.9 comp=Z,0.4nm,0.3s						
MK31	**Makanchi Array**	**45.72**	**304**	P	**P**	**01 51 55.9**	**-1.0**
MK31				IAmb	IAmb	01 52 02.7	
	comp=Z,4.6nm,1.4s						
MKAR	**Makanchi Array**	**45.72**	**304**	P	**P**	**01 51 57.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=83,slow=10,SNR=4.3 comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**45.72**	**304**	P	**P**	**01 51 55.6**	**-1.3**
KURBB	**Kurchatov Arra**	**47.79**	**310**	P	**P**	**01 52 13.2**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=87,slow=7.4,SNR=4.8 comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**51.47**	**31**	P	**P**	**01 52 42.7**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=263,slow=6.1,SNR=6.3 comp=Z,0.4nm,0.7s						
WB2	**Warramunga Arr**	**54.63**	**189**	P	**P**	**01 53 01.5**	**-3.0**
WRA	**Warramunga Arr**	**54.63**	**189**	P	**P**	**01 53 05.0**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=1.7,slow=7.6,SNR=12 comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**54.63**	**189**	P	**P**	**01 53 02.6**	**-2.0**
KK31	**Karatay Array**	**54.65**	**302**	P	**P**	**01 53 05.0**	**+0.4**
KK31				IAmb	IAmb	01 53 06.7	
	comp=Z,3.0nm,1.1s						
KKAR	**Karatay Array**	**54.65**	**302**	P	**P**	**01 53 04.5**	**-0.1**
KKAR				IAmb	IAmb	01 53 06.7	
	comp=Z,3.0nm,1.1s						
ASAR	**Alice Springs**	**58.36**	**188**	P	**P**	**01 53 32.2**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=18,slow=10,SNR=5.9 comp=Z,0.7nm,0.7s						
ARU	**Arti**	**58.43**	**320**	P	**P**	**01 53 31.5**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=40,slow=8.5,SNR=4.3 comp=Z,1.8nm,0.5s						
ABKAR	**Akbulak array**	**59.78**	**311**	P	**P**	**01 53 39.1**	**-1.7**

*IDC **23** 01:45:50.0±5.6,53˚.62N×161˚.47E,h0km,mb3.7/2, mbtmp3.6/3,ML2.6/1,Error ellipse: s-maj=123.0km s-min=39.5km az=138.0*

*KRSC **23** 01:45:56.6±0.8,53˚.62N×160˚.79E,h52km±16km,ML3.8*

ISC 23 01:45:58.6±1.1,53˚.62N±0˚.04×160˚.76E±0˚.05,h46km±15km, n35,σ1º01/50,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.68**	**221**	*eP*	**Pn**	**01 46 11.7**	**-0.2**
SPN				*eS*	**Sn**	**01 46 21.2**	**-0.3**
KII	**Karymskiy**	**0.88**	**299**	P	**Pn**	**01 46 14.5**	**-0.2**
KII				S	**Sn**	**01 46 25.8**	**-0.6**
NLC	**Nalytchevo**	**0.96**	**243**	P	**Pn**	**01 46 15.5**	**0.0**
NLC				S	**Sn**	**01 46 27.9**	**-0.1**
MKZ	**Mys Kozlova**	**1.10**	**31**	P	**Pn**	**01 46 17.5**	**0.0**
MKZ				S	**Sn**	**01 46 31.1**	**-0.5**
SDLR	**Sedlovina**	**1.17**	**254**	P	**Pn**	**01 46 18.9**	**+0.3**
SDLR				S	**Sn**	**01 46 33.3**	**-0.2**
SMAR	**Somma**	**1.22**	**254**	P	**Pn**	**01 46 19.7**	**+0.3**
UGLR	**Uglovaya**	**1.23**	**251**	P	**Pn**	**01 46 20.0**	**+0.6**
UGLR				S	**Sn**	**01 46 35.1**	**+0.3**
KRER	**Koryakskii**	**1.24**	**256**	P	**Pn**	**01 46 20.3**	**+0.7**
KRER				S	**Sn**	**01 46 35.4**	**+0.1**
AVH	**Avacha**	**1.26**	**255**	*eP*	**Pn**	**01 46 20.4**	**+0.6**
AVH				*eS*	**Sn**	**01 46 35.0**	**-0.5**
KRX	**Arik**	**1.28**	**259**	P	**Pn**	**01 46 20.6**	**+0.4**
KRX				S	**Sn**	**01 46 35.3**	**-1.0**
KOK	**Koryaka**	**1.31**	**256**	P	**Pn**	**01 46 21.0**	**+0.5**
KOK				S	**Sn**	**01 46 36.6**	**-0.2**
DALK	**Dalny**	**1.34**	**245**	*eP*	**Pn**	**01 46 21.2**	**+0.5**
DALK				S	**Sn**	**01 46 36.7**	**-0.6**
PET	**Petropavlovsk**	**1.39**	**246**	P	**Pn**	**01 46 22.2**	**+0.7**
PET				S	**Sn**	**01 46 39.1**	**+0.4**
GNL	**Ganaly**	**1.68**	**274**	P	**Pn**	**01 46 26.4**	**+0.9**
TUMR	**Tumrok**	**1.71**	**348**	P	**Pn**	**01 46 27.1**	**+1.1**
TUMR				S	**Sn**	**01 46 47.5**	**+0.9**
KRMR	**Karymshinskiy**	**1.77**	**245**	P	**Pn**	**01 46 26.8**	**+0.2**
KRMR				*eS*	**Sn**	**01 46 46.4**	**-1.4**
RUS	**Russkaya**	**1.80**	**230**	P	**Pn**	**01 46 28.4**	**+1.3**
RUS				S	**Sn**	**01 46 49.4**	**+0.7**
PETK	**Petropavlovsk-**	**1.90**	**256**	Pn	**Pn**	**01 46 29.7**	**+1.2**
	7.2nm,0.3s,baz=78,slow=19,SNR=9.4 23nm,0.5s						
MTVR	**Mutnovka**	**1.92**	**235**	P	**Pn**	**01 46 30.0**	**+1.1**
MTVR				S	**Sn**	**01 46 52.5**	**+0.5**
GRL	**Gorelyy**	**1.94**	**238**	P	**Pn**	**01 46 30.3**	**+1.2**
GRL				S	**Sn**	**01 46 52.4**	**+0.1**
ASAK	**Asacha**	**2.12**	**236**	P	**Pn**	**01 46 33.9**	**+2.3**
ASAK				*eS*	**Sn**	**01 46 57.8**	**+1.0**
APC	**Apacha**	**2.27**	**254**	*eP*	**Pn**	**01 46 34.6**	**+1.1**
KDTR	**Khodutka, Kamc**	**2.44**	**223**	P	**Pn**	**01 46 37.5**	**+1.7**
KDTR				S	**Sn**	**01 47 05.1**	**+0.8**
ESO	**Esso**	**2.60**	**334**	P	**Pn**	**01 46 39.0**	**+0.9**
SRDR	**Sredinnyy**	**2.77**	**348**	P	**Pn**	**01 46 41.5**	**+1.0**
KBTR	**Krutoberegovo**	**2.86**	**24**	P	**Pn**	**01 46 43.4**	**+1.8**
KBTR				S	**Sn**	**01 47 17.1**	**+2.4**
BKI	**Bering**	**3.44**	**60**	*eP*	**Pn**	**01 46 50.3**	**+0.8**
BKI				S	**Sn**	**01 47 26.8**	**-2.1**
H11N2	**WAKE ISLAND Hy**	**34.15**	**170**	T	T	02 28 54.6	
	baz=354,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**34.17**	**170**	T	T	02 28 52.1	
	baz=354,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**34.17**	**170**	T	T	02 29 01.3	
	baz=354,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**35.34**	**170**	T	T	02 30 26.9	
	baz=352						
H11S3	**WAKE ISLAND Hy**	**35.35**	**170**	T	T	02 30 26.3	
	baz=352,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**35.36**	**170**	T	T	02 30 32.1	
	baz=352						
FINES	**FINESS Array B**	**59.80**	**337**	P	**P**	**01 55 56.9**	**-1.5**
	0.9nm,0.7s,baz=31,slow=7.0,SNR=6.1 0.9nm,0.7s						
NOA	**NORSAR Array B**	**63.15**	**344**	P	**P**	**01 56 20.1**	**-1.0**
	0.3nm,0.5s,baz=22,slow=6.7,SNR=4.8 0.3nm,0.5s						

*IDC **23** 01:48:15.8±1.0,34˚.38N×141˚.69E,h0km,mb3.9/10, mbtmp3.9/12,ML3.1/2,MS4.7/1,Error ellipse: s-maj=23.4km s-min=17.5km az=90.0*

*JMA **23** 01:48:16.4±0.5,34˚.N±2˚×14˚2E±˚,h37km±3km,MV3.5/34, FAR SE OFF BOSO PEN*

*NEIC **23** 01:48:20.7±1.7,34˚.88N±0˚.04×141˚.7E±0˚.1,h10km±2km, mb4.4/5,Error ellipse: s-maj=19.7km s-min=5.5km az=103.0*

ISC 23 01:48:20.4±0.8,34˚.52N±0˚.05×141˚.68E±0˚.08,h27km,n48, σ1º38/42,mb4.0/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.60**	**283**	P	**Pb**	**01 48 31.0**	**-1.0**
BSO3	**Boso 3**	**1.01**	**286**	*eP*	**Pn**	**01 48 37.9**	**-0.6**
BSO4	**Boso 4**	**1.20**	**293**	P	**Pn**	**01 48 41.1**	**-0.3**
CHOJ	**Chosi**	**1.36**	**330**	P	**Pn**	**01 48 42.7**	**-0.9**
JKUC	**kamogawauchiur**	**1.38**	**298**	P	**Pn**	**01 48 43.0**	**-0.8**
JKUC				*eS*	**Sn**	**01 49 00.5**	**-0.7**
JMKN	**Mikurajimanish**	**1.84**	**251**	P	**Pn**	**01 48 48.3**	**-2.0**
JMKN				*eS*	**Sn**	**01 49 12.0**	**-0.7**
JIM2	**Oshima 3**	**1.87**	**277**	*eS*	**Sn**	**01 49 13.6**	**+0.2**
JYT	**Yasato**	**2.09**	**325**		Pn	01 48 49.5	-4.2
JHJ2	**Mitsune**	**2.10**	**228**	Pn	**Pb**	**01 48 59.5**	**+1.7**
JHJ2	**Mitsune**	**2.10**	**228**	*eS*	**Sn**	**01 49 17.7**	**-1.2**
JHJ	**Hachijo jima 2**	**2.11**	**229**	Pn	**Pn**	**01 48 52.5**	**-1.4**
	29nm,0.3s,baz=334,slow=18,SNR=13						
JHJ				Sn	**Sn**	**01 49 17.9**	**-1.4**
	116nm,0.3s,baz=251,slow=23,SNR=25 68nm,0.3s						
JOD2	**Odawara 2**	**2.26**	**290**	P	**Pn**	**01 48 54.6**	**-1.4**
JIZS	**Izushimoda**	**2.32**	**276**	*eP*	**Pn**	**01 48 55.0**	**-1.8**
JAG	**Ashikaga**	**2.63**	**317**	P	**Pn**	**01 49 00.4**	**-0.7**
JAG				*eS*	**Sn**	**01 49 33.2**	**+1.1**
JMM	**Marumori**	**3.41**	**348**	Pn	**Pn**	**01 49 09.9**	**-2.0**
MJAR	**Matsushiro Arr**	**3.48**	**306**	Pn	**Pn**	**01 49 12.5**	**-0.2**
	1.0nm,0.3s,baz=153,slow=13,SNR=16 4.5nm,0.4s						
MAJO	**Matsushiro**	**3.48**	**306**	Pn	**Pn**	**01 49 12.1**	**-0.7**
MJB9	**Matsu-Tunnel**	**3.48**	**306**		**Pn**	**01 49 12.1**	**-0.7**
INU	**Inuyama**	**3.92**	**283**	Pn	**Pn**	**01 49 20.4**	**+1.5**
JSD	**Sado**	**4.47**	**323**	Pn	**Pn**	**01 49 24.1**	**-2.2**
KSRS	**Korea Array**	**11.53**	**289**	Pn	**Pn**	**01 51 05.2**	**+2.1**
	0.1nm,0.3s,baz=102,slow=13,SNR=5.1						
KSAR	**Wonju Array Be**	**11.55**	**289**	*eP*	**Pn**	**01 51 04.7**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**26.75**	**117**	T	T	02 22 06.0	
	baz=309,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**26.76**	**117**	T	T	02 21 55.1	
	baz=309,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**26.76**	**117**	T	T	02 22 01.8	
	baz=309,slow=75,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	02 23 00.9	
	baz=312,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	02 22 52.2	
	baz=312,slow=76,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**27.39**	**119**	T	T	02 22 45.0	
	baz=312,slow=76,SNR=5.3						
SONM	**Songino Array**	**29.43**	**308**	P	**P**	**01 54 22.6**	**+0.8**
	0.8nm,0.6s,baz=109,slow=9.2,SNR=5.8 0.8nm,0.6s						
DAV	**Davao City (W)**	**31.10**	**212**	LR	LR	02 04 34.3	
	comp=Z,1µm,20.1s,baz=333,slow=32						
CMAR	**Chiang Mai Arr**	**41.14**	**259**	P	**P**	**01 56 00.9**	**-1.6**
	1.0nm,0.3s,baz=53,slow=7.7,SNR=5.5 1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**43.80**	**314**	P	**P**	**01 56 23.5**	**-0.1**
	1.1nm,0.6s,baz=90,slow=5.9,SNR=5.0 1.1nm,0.6s						
MKAR	**Makanchi Array**	**45.67**	**304**	P	**P**	**01 56 38.8**	**0.0**
	1.2nm,0.6s,baz=91,slow=10,SNR=8.3 1.2nm,0.6s						
MKAR	**Makanchi Array**	**45.67**	**304**	P	**P**	**01 56 39.6**	**+0.9**
KURBB	**Kurchatov Arra**	**47.75**	**310**	P	**P**	**01 56 54.4**	**-0.5**
	1.8nm,0.2s,baz=86,slow=7.7,SNR=13 1.8nm,0.2s						
ILAR	**Eielson Array**	**51.51**	**31**	P	**P**	**01 57 23.8**	**+0.5**
	0.5nm,0.8s,baz=274,slow=5.8,SNR=5.1 0.5nm,0.8s						
BVAR	**Borovoye Array**	**52.44**	**314**	P	**P**	**01 57 30.5**	**0.0**
	0.5nm,0.5s,baz=86,slow=7.6,SNR=4.7 0.5nm,0.5s						
BRVK	**Borovoye**	**52.50**	**314**	P	**P**	**01 57 31.8**	**+1.0**
BRVK				IAmb	IAmb	01 57 37.9	
	comp=Z,4.1nm,1.0s						
KK31	**Karatay Array**	**54.60**	**302**	P	**P**	**01 57 46.5**	**0.0**
KK31				IAmb	IAmb	01 57 47.8	
	comp=Z,4.1nm,1.1s						
KKAR	**Karatay Array**	**54.60**	**302**	P	**P**	**01 57 46.5**	**0.0**
KKAR				IAmb	IAmb	01 57 47.8	
	comp=Z,4.1nm,1.1s						
WRAB	**Tennant Creek**	**54.60**	**188**	P	P	01 57 51.6	+5.1
WRA	**Warramunga Arr**	**54.61**	**188**	P	**P**	**01 57 44.9**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=6.2,slow=7.5,SNR=12 comp=Z,1.8nm,0.8s						
WRA	**Warramunga Arr**	**54.61**	**188**	P	**P**	**01 57 51.2**	**+4.6**
ASAR	**Alice Springs**	**58.34**	**188**	P	**P**	**01 58 11.3**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=15,slow=10,SNR=7.7 comp=Z,0.9nm,0.8s						
ABKAR	**Akbulak array**	**59.74**	**311**	P	**P**	**01 58 22.3**	**-0.4**
NB2	**NORSAR Subarra**	**76.58**	**338**	P	P	02 00 18.3	+10
	comp=Z,0.3nm,0.5s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**76.58**	**338**	P	**P**	**02 00 08.2**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=48,slow=8.8,SNR=1.5 comp=Z,0.7nm,0.9s						
LPAZ	**La Paz**	**147.70**	**63**	PKPbc	**PKPbc**	**02 08 04.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=329,slow=5.9,SNR=2.3						

*TRN **23** 01:48:32.5,17˚.86N×62˚.46W,h89km,MD4.3*

*IDC **23** 01:48:33.9±1.6,17˚.71N×62˚.57W,h89km±21km,mb3.0/3, mbtmp3.4/4,Error ellipse: s-maj=36.4km s-min=7.5km az=26.0*

*NEIC **23** 01:48:34.3±0.7,17˚.8N±0˚.1×62˚.50W±0˚.05,h85km±8km, mb4.0/5,Error ellipse: s-maj=17.1km s-min=4.4km az=199.0*

ISC 23 01:48:34.0±0.8,17˚.84N±0˚.06×62˚.50W±0˚.05,h90km±6km, n60,σ0º69/82,mb3.7/6,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.58**	**291**		**Pn**	**01 48 49.4**	**0.0**
SMRT				Sn	**Sn**	**01 49 00.6**	**-0.4**
SMRT	**St. Maarten**	**0.58**	**291**	*eP*	**Pn**	**01 48 49.6**	**+0.2**
SMRT				*eS*	**Sn**	**01 49 00.9**	**-0.1**
ANWB	**Willy Bob**	**0.70**	**104**		**Pn**	**01 48 50.5**	**0.0**
ANWB				Sn	**Sn**	**01 49 01.9**	**-1.0**
ANWB	**Willy Bob**	**0.70**	**104**	*eP*	**Pn**	**01 48 50.3**	**-0.2**
ANWB				*eS*	**Sn**	**01 49 02.3**	**-0.6**
ANDO	**Antigua, Disas**	**0.97**	**138**	*eP*	**Pn**	**01 48 53.3**	**0.0**
ANDO				*eS*	**Sn**	**01 49 07.7**	**-0.1**
ANBD	**Bethesda, Anti**	**1.05**	**138**	*eP*	**Pn**	**01 48 54.2**	**-0.1**
ANBD				*eS*	**Sn**	**01 49 09.7**	**+0.1**
MBFL	**Flemmings, Mon**	**1.12**	**166**	*eP*	**Pn**	**01 48 55.1**	**0.0**
MBFL				*eS*	**Sn**	**01 49 11.8**	**+0.8**
ABD	**La Joyeuse, An**	**1.67**	**144**		**Pn**	**01 49 01.4**	**-0.5**
ABD	**La Joyeuse, An**	**1.67**	**144**	*i* P	**Pn**	**01 49 01.5**	**-0.4**
ABD				*eS*	**Sn**	**01 49 23.2**	**+0.1**
GDHS	**Morne Mazeau,**	**1.71**	**156**		**Pn**	**01 49 02.0**	**-0.5**
CBE	**Ff, Capester**	**1.96**	**154**		**Pn**	**01 49 05.7**	**0.0**
CBE	**Ff, Capester**	**1.96**	**154**	*eP*	**Pn**	**01 49 05.8**	**0.0**
CBE				*eS*	**Sn**	**01 49 30.8**	**+0.9**
GDSD	**La Dsirade Is**	**2.05**	**138**		**Pn**	**01 49 06.5**	**-0.4**
H05N1	**Guadeloupe/Mar**	**2.05**	**137**	P	**Pn**	**01 49 06.5**	**-0.4**
	SNR=429						
H05N1				S	**Sn**	**01 49 31.3**	**-0.7**
TBG	**Guadaloupe-3**	**2.14**	**157**	*eP*	**Pn**	**01 49 08.3**	**+0.2**
TBG				*eS*	**Sn**	**01 49 33.3**	**-0.7**
TDBA	**Terre de Bas,**	**2.15**	**157**		**Pn**	**01 49 08.1**	**0.0**
TDBA	**Terre de Bas,**	**2.15**	**157**	*eP*	**Pn**	**01 49 08.2**	**0.0**
TDBA				*eS*	**Sn**	**01 49 34.2**	**-0.1**
CDVI	**St. Croix**	**2.16**	**268**		**Pn**	**01 49 08.3**	**+0.1**
MAGL	**Barre de l'ile**	**2.21**	**148**		**Pn**	**01 49 08.5**	**-0.5**
MAGL	**Barre de l'ile**	**2.21**	**148**	*eP*	**Pn**	**01 49 08.9**	**-0.2**
MAGL				*eS*	**Sn**	**01 49 35.4**	**-0.4**
STVI	**Saint Thomas**	**2.39**	**283**		**Pn**	**01 49 10.7**	**-0.6**
MDCT	**Cottage Hill,**	**2.42**	**156**	*eP*	**Pn**	**01 49 12.1**	**+0.3**
MDCT				*eS*	**Sn**	**01 49 40.5**	**-0.3**
MDPV	**Dominica, Penn**	**2.43**	**155**	*eP*	**Pn**	**01 49 14.6**	**+2.7**
MDPV				*eS*	**Sn**	**01 49 40.2**	**-0.8**
MDVC	**Dominica, Viel**	**2.45**	**154**	*eP*	**Pn**	**01 49 12.4**	**+0.3**
MDVC				*eS*	**Sn**	**01 49 40.5**	**-1.0**
DSLB	**Salisbury**	**2.60**	**156**	*i* P	**Pn**	**01 49 14.3**	**0.0**
DSLB				*eS*	**Sn**	**01 49 44.6**	**-0.6**
MDN	**Morne-Daniel**	**2.72**	**157**	*eP*	**Pn**	**01 49 15.9**	**+0.1**
MDN				*eS*	**Sn**	**01 49 48.0**	**+0.1**
DLPL	**La Plaine**	**2.77**	**154**	*eP*	**Pn**	**01 49 17.3**	**+0.8**
CBYP	**Canovanas**	**3.22**	**278**		**Pn**	**01 49 22.1**	**+0.1**
SVN	**Savane Anatole**	**3.24**	**157**		**Pn**	**01 49 22.2**	**-0.7**
FDF	**Fort de France**	**3.35**	**157**		**Pn**	**01 49 23.9**	**-0.4**
FDF	**Fort de France**	**3.35**	**157**	*eP*	**Pn**	**01 49 24.1**	**-0.3**
ILAM	**Ilet Lapin Mar**	**3.42**	**153**	Pn	**Pn**	**01 49 24.3**	**-1.0**
ILAM	**Ilet Lapin Mar**	**3.42**	**153**	*eP*	**Pn**	**01 49 24.6**	**-0.7**
ILAM				*eS*	**Sn**	**01 50 04.0**	**-0.9**
SJG	**San Juan**	**3.48**	**275**	P	**Pn**	**01 49 26.2**	**+0.2**
	15nm,0.5s,baz=95,slow=14,SNR=12						
SJG				S	**Sn**	**01 50 05.0**	**-1.3**
	31nm,0.3s,baz=348,slow=17,SNR=15						
BIM	**Bigot**	**3.58**	**157**		**Pn**	**01 49 27.1**	**-0.2**
BIM	**Bigot**	**3.58**	**157**	*eP*	**Pn**	**01 49 27.4**	**0.0**
BIM				*eS*	**Sn**	**01 50 07.3**	**-1.3**
MPOM	**Morne Pois Mar**	**3.73**	**155**		**Pn**	**01 49 28.5**	**-0.7**
MPOM	**Morne Pois Mar**	**3.73**	**155**	*eP*	**Pn**	**01 49 28.8**	**-0.6**
MPOM				*eS*	**Sn**	**01 50 11.2**	**-1.0**
H05S1	**Guadeloupe/Mar**	**3.75**	**155**	P	**Pn**	**01 49 29.3**	**-0.4**
	SNR=234						
H05S1				S	**Sn**	**01 50 11.0**	**-1.8**
ICMP	**Isla Caja de M**	**3.83**	**271**	Pn	**Pn**	**01 49 30.7**	**0.0**
CELP	**Cerrillos**	**3.89**	**274**		**Pn**	**01 49 31.7**

comp=Z,8.4nm,0.4s
MUSN Musina, Limpop 3.34 256 *e*P Pn 01 50 00.2 +1.6
MUSN *e*S Sn 01 50 38.1 -0.3
MUSN IAML 01 50 55.2
comp=Z,4.9nm,0.8s
BLWY Bulawayo 4.64 286 *e*P Pn 01 50 17.9 +1.3
BLWY *e*S Sn 01 51 11.4 +0.8
BLWY IAML 01 51 35.0
comp=Z,9.2nm,0.4s
MATP Matopo 4.66 282 *e*P Pn 01 50 17.1 +0.2
MATP *e*S Sn 01 51 06.5 -4.6
MATP IAML 01 51 31.2
comp=Z,38nm,5.8s
MATP Matopo 4.66 282 *e*P Pn 01 50 18.5 +1.7
MATP *e*S Sn 01 51 11.4 +0.2
MATP IAML 01 51 37.5
comp=Z,7.4nm,0.3s
MMAL MMAL 4.94 203 *e*P Pn 01 50 22.7 +2.1
MMAL *e*S Sn 01 51 17.4 -0.4
MMAL IAML 01 51 40.3
comp=Z,2.6nm,0.5s
LEPH Lephalale, Lim 5.64 244 *e*P Pn 01 50 31.4 +1.1
LEPH *e*S Sn 01 51 28.2 -7.1
LEPH IAML 01 51 34.5
comp=Z,22nm,4.3s
LEPH Lephalale, Lim 5.64 244 *e*P Pn 01 50 32.3 +2.0
LEPH *e*S Sn 01 51 33.8 -1.4
LEPH IAML 01 52 11.4
comp=Z,3.4nm,0.4s
LBTB Lobatse 7.95 242 *e*P Pn 01 51 02.5 +0.6
LBTB *e*S Sn 01 52 28.0 -4.0
LBTB IAML 01 53 26.6
comp=Z,1.5nm,0.6s

---

*IDC **23** 01:49:29.5±2.5,4˚.98N×126˚.26E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=205.2km s-min=29.0km az=65.0*
*MAN **23** 01:49:47.5,4˚.61N×125˚.91E, h120km, mb4.4, ML3.3, MS3.1*
ISC 23 01:49:46.5±1.3,**4˚.8N**±0˚.1×**126˚.2E**±0˚.3,**h150**km,**n6,** σ0°**80**/8,**mb3.3**/3,**1C-2D**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.40**	**339**⇓	*e*P	**Pn**	**01 50 15.2**	**+0.1**
DDMP				*e*S	**Sn**	**01 50 37.2**	**+0.3**
MATI	**Mati**	**2.14**	**1**⇓	*e*P	Pn	01 50 17.1	-6.2
MATI				*e*S	**Sn**	**01 50 52.0**	**+0.3**
KCP	**Kidapawan**	**2.47**	**333**⇑	*e*P	**Pn**	**01 50 26.5**	**-0.9**
KCP				*i* S	**Sn**	**01 51 00.2**	**+1.4**
WRA	**Warramunga Arr**	**25.85**	**162**	P	**P**	**01 55 04.4**	**+0.1**
	0.3nm,0.4s,baz=342,slow=9.7,SNR=11						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**29.27**	**165**	P	**P**	**01 55 35.1**	**+0.4**
	0.3nm,0.4s,baz=340,slow=7.2,SNR=4.8						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**56.39**	**325**	P	**P**	**01 59 11.8**	**-0.5**
	0.1nm,0.4s,baz=121,slow=9.2,SNR=1.6						
	0.1nm,0.4s						

---

*IDC **23** 01:52:10.7±0.8,34˚.46N×141˚.57E, h0km, mb4.0/16, mbtmp4.0/17, ML3.0/1, Error ellipse: s-maj=18.9km s-min=17.0km az=122.0*
*JMA **23** 01:52:11.5±0.4,34˚.N±1˚×14˚.2E±˚, h42km±2km, MV3.6/33, FAR SE OFF BOSO PEN*
*NEIC **23** 01:52:12.5±2.1,34˚.64N±0˚.06×141˚.7E±0˚.1, h10km±1km, mb4.5/15, Error ellipse: s-maj=17.2km s-min=9.9km az=101.0*
ISC 23 01:52:11.8±3.2,**34˚.55N**±0˚.05×**141˚.68E**±0˚.07,**h9**km±19km, **n68,** σ1°**19**/67,**mb4.2**/28,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.59**	**280**	*e*P	**Pb**	**01 52 25.4**	**+1.5**
BSO4	**Boso 4**	**1.19**	**292**	P	**Pn**	**01 52 35.4**	**+0.8**
CHOJ	**Chosi**	**1.33**	**330**	P	**Pn**	**01 52 36.4**	**-0.2**
CHOJ				*e*S	**Sn**	**01 52 53.1**	**-1.4**
JKUC	**kamogawauchiur**	**1.36**	**297**	P	**Pn**	**01 52 37.0**	**-0.1**
JKUC				*e*S	**Sn**	**01 52 55.0**	**-0.2**
JMKN	**Mikurajimanish**	**1.85**	**250**	P	**Pn**	**01 52 43.0**	**-0.8**
JMKN				S	**Sn**	**01 53 05.3**	**-2.0**
JIM2	**Oshima 3**	**1.86**	**276**	*e*S	**Sn**	**01 53 07.4**	**-0.2**
JYT	**Yasato**	**2.07**	**324**		**Pn**	**01 52 46.7**	**0.0**
JHJ2	**Mitsune**	**2.12**	**228**		**Pb**	**01 52 50.2**	**-0.1**
JHJ	**Hachijo jima 2**	**2.13**	**228**	Pn	**Pn**	**01 52 47.4**	**-0.2**
	43nm,0.3s,baz=259,slow=21,SNR=3.4						
JHJ				Sn	**Sn**	**01 53 13.4**	**-0.8**
	137nm,0.3s,baz=252,slow=24,SNR=8.8						
JOD2	**Odawara 2**	**2.25**	**289**	P	**Pn**	**01 52 49.2**	**-0.1**
JOD2				*e*S	**Sn**	**01 53 17.2**	**+0.1**
JIZS	**Izushimoda**	**2.32**	**275**	*e*P	**Pn**	**01 52 50.2**	**0.0**
JIZS				*e*S	**Sn**	**01 53 19.2**	**-0.7**
JMM	**Marumori**	**3.38**	**348**	Pn	**Pn**	**01 53 03.4**	**-1.4**
MJAR	**Matsushiro Arr**	**3.46**	**306**	Pn	**Pn**	**01 53 07.0**	**+1.1**
	1.6nm,0.3s,baz=16,slow=18,SNR=14						
	9.4nm,0.3s						
MAJO	**Matsushiro**	**3.46**	**306**	Pn	**Pn**	**01 53 06.6**	**+0.7**
MJB9	**Matsu-Tunnel**	**3.46**	**306**		**Pn**	**01 53 06.0**	**+0.1**
INU	**Inuyama**	**3.91**	**283**	Pn	**Pn**	**01 53 11.9**	**-0.2**
JSD	**Sado**	**4.44**	**323**	Pn	**Pn**	**01 53 19.1**	**-0.3**
JHS	**Saijyo**	**7.06**	**276**		**Pn**	**01 53 56.2**	**+0.8**
KSRS	**Korea Array**	**11.51**	**289**	Pn	**Pn**	**01 54 59.5**	**+3.2**
	0.1nm,0.3s,baz=103,slow=14,SNR=15						
KS19	**Wonju Array Si**	**11.57**	**289**	Pn	**Pn**	**01 54 57.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**12.41**	**3**	Pn	**Pn**	**01 55 05.9**	**-2.7**
HIA	**Hailar**	**21.86**	**319**	P	**P**	**01 57 04.5**	**-0.3**
HIA				IAmb	IAmb	01 57 21.1	
	comp=Z,11nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**26.76**	**117**	T	T	02 25 52.7	
	baz=309,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**26.77**	**117**	T	T	02 25 59.4	
	baz=309,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**26.78**	**117**	T	T	02 25 53.5	
	baz=309,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**27.39**	**119**	T	T	02 26 53.4	
	baz=312,slow=75,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**27.39**	**119**	T	T	02 26 47.1	
	baz=312,slow=75,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**27.41**	**119**	T	T	02 26 47.4	
	baz=312,slow=75,SNR=3.9						
ULN	**Ulaanbaatar**	**28.99**	**308**	P	**P**	**01 58 10.0**	**-1.9**
ULN				IAmb	IAmb	01 58 18.9	
	comp=Z,5.6nm,1.2s						
SONM	**Songino Array**	**29.41**	**308**	P	**P**	**01 58 16.7**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=104,slow=7.9,SNR=5.1						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**29.41**	**308**	P	**P**	**01 58 15.1**	**-0.5**
LZH	**Lanzhou**	**30.79**	**284**	*e*P	**P**	**01 58 25.3**	**-2.7**
LZH				pP	pP	01 58 29.5	+0.7
LZH				pmax	pmax		
	comp=Z,19nm,1.4s						
GTA	**Gaotai**	**33.57**	**291**	*e*P	**P**	**01 58 53.3**	**+0.9**
GTA				sP	pwP	01 59 06.4	+5.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.14**	**258**	P	**P**	**01 59 55.1**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=44,slow=6.6,SNR=5.5						
	comp=Z,1.5nm,0.3s						
ZAA0	**Zalesovo Array**	**43.77**	**314**	P	**P**	**02 00 16.6**	**-1.0**
ZALV	**Zalesovo Beam**	**43.77**	**314**	P	**P**	**02 00 17.7**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=89,slow=6.1,SNR=8.3						
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**43.77**	**314**	P	**P**	**02 00 16.6**	**-1.0**
MK31	**Makanchi Array**	**45.66**	**304**	P	**P**	**02 00 33.3**	**+0.6**
MK31				IAmb	IAmb	02 00 48.2	
	comp=Z,2.5nm,0.9s						
MKAR	**Makanchi Array**	**45.66**	**304**	P	**P**	**02 00 32.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=92,slow=9.7,SNR=6.6						
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**45.66**	**304**	P	**P**	**02 00 32.5**	**-0.2**
KURK	**Kurchatov**	**47.66**	**310**	P	**P**	**02 00 47.6**	**-0.7**
KURBB	**Kurchatov Arra**	**47.73**	**310**	P	**P**	**02 00 48.5**	**-0.3**
	comp=Z,2.5nm,0.2s,baz=87,slow=7.4,SNR=8.1						
	comp=Z,2.5nm,0.2s						
TARG	**Taragay, Kyrgy**	**49.73**	**298**	P	**P**	**02 01 05.0**	**+0.1**
TARG				IAmb	IAmb	02 01 19.1	
	comp=Z,5.3nm,0.8s						
IL31		**51.48**	**31**	P	**P**	**02 01 18.3**	**+1.1**
IL31				IAmb	IAmb	02 01 30.8	
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**51.48**	**31**	P	**P**	**02 01 18.1**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=264,slow=6.5,SNR=7.9						
	comp=Z,0.9nm,0.8s						
KSH	**Kashi**	**51.65**	**296**	P	**P**	**02 01 23.3**	**+4.2**
KSH				pP	pwP	02 01 28.6	+1.0
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BMAR	**Burnt Mountain**	**52.41**	**28**	P	**P**	**02 01 24.7**	**+0.5**
KK31	**Karatay Array**	**54.58**	**302**	P	**P**	**02 01 40.9**	**+0.3**
KK31				IAmb	IAmb	02 01 41.5	
	comp=Z,5.6nm,1.0s						
KKAR	**Karatay Array**	**54.58**	**302**	P	**P**	**02 01 40.5**	**0.0**
WB2	**Warramunga Arr**	**54.64**	**188**	P	**P**	**02 01 42.5**	**+1.5**
WB2				IAmb	IAmb	02 01 57.8	
	comp=Z,5.0nm,0.9s						
WRA	**Warramunga Arr**	**54.64**	**188**	P	**P**	**02 01 40.0**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=2.7,slow=7.4,SNR=7.9						
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**54.64**	**188**	P	**P**	**02 01 42.6**	**+1.5**
GAR	**Garm**	**55.99**	**297**	P	**P**	**02 01 51.5**	**+0.6**
GAR				IAmb	IAmb	02 02 07.3	
	comp=Z,7.5nm,1.0s						
ASAR	**Alice Springs**	**58.37**	**188**	P	**P**	**02 02 06.7**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=16,slow=11,SNR=4.0						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**58.37**	**188**	P	**P**	**02 02 06.9**	**-0.6**
ARU	**Arti**	**58.37**	**320**	P	**P**	**02 02 07.2**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=90,slow=9.1,SNR=6.8						
	comp=Z,3.1nm,0.6s						
ARU	**Arti**	**58.37**	**320**	P	**P**	**02 02 07.5**	**+0.2**
KBL	**Kabul**	**58.54**	**293**	P	**P**	**02 02 08.7**	**-0.3**
KBL				IAmb	IAmb	02 02 20.4	
	comp=Z,2.6nm,0.7s						
ABKAR	**Akbulak array**	**59.72**	**311**	P	**P**	**02 02 16.4**	**-0.3**
AKTO	**Aktyubinsk**	**60.51**	**313**	P	**P**	**02 02 21.9**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=79,slow=14,SNR=8.6						
	comp=Z,2.4nm,0.8s						
KBZ	**Khabaz**	**72.69**	**311**	P	**P**	**02 03 40.9**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=352,slow=6.3,SNR=3.8						
	comp=Z,2.9nm,0.9s						
NVAR	**Mina Array Bea**	**76.31**	**53**	P	**P**	**02 04 04.0**	**+2.5**
	comp=Z,1.2nm,0.8s,baz=311,slow=5.0,SNR=4.7						
	comp=Z,1.2nm,0.8s						
NB2	**NORSAR Subarra**	**76.56**	**338**	P	**P**	**02 04 01.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**76.56**	**338**	P	**P**	**02 04 02.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=39,slow=5.7,SNR=5.1						
	comp=Z,0.8nm,0.7s						
PDAR	**Pinedale Array**	**79.25**	**45**	P	**P**	**02 04 19.0**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=267,slow=2.8,SNR=3.8						
	comp=Z,0.3nm,0.7s						
BRTR	**Keskin Array B**	**80.66**	**312**	P	**P**	**02 04 25.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=101,slow=6.0,SNR=2.7						
	comp=Z,0.5nm,0.7s						
CLL	**Collm**	**83.35**	**330**	*e*Pmax		02 04 50.0	
TXAR	**Lajitas Array**	**91.46**	**53**	P	**P**	**02 05 20.3**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=302,slow=4.4,SNR=4.6						
	comp=Z,0.3nm,0.7s						

DJA 23 01:54:25.9±1.2,**4˚N**±8˚×**12˚3E**±˚,**h532**km±15km,**M4.2**/10, **mb4.1**/5,**mB4.4**/1,**MLv4.2**/10,**Mw(mB)3.5**/1,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.90**	**89**	P	P	01 55 39.4	+0.5
GTOI	**Gorontalo**	**3.01**	**173**	P	P	01 55 38.4	-1.2
MRSI	**Marisa**	**3.21**	**192**	P	P	01 55 41.3	+0.4
MPSI	**Mapaga**	**4.26**	**220**	P	P	01 55 48.6	0.0
APSI	**Ampana**	**4.62**	**192**	P	P	01 55 51.1	-0.5
LUWI	**Luwuk**	**4.65**	**178**	P	P	01 55 51.0	-0.8
LBMI	**Labuha**	**6.47**	**131**	P	P	01 56 08.7	+0.5
	0.2nm22nm,0.5s						
TTSI	**Tana Toraja**	**7.21**	**203**	P	P	01 56 16.5	+1.2
	0.2nm19nm,0.7s						
SPSI	**Sidrap Palu**	**8.07**	**201**	P	P	01 56 23.7	-0.2
	687nm41nm,0.8s						

---

*CNRM **23** 01:54:48.6,36˚.28N×9˚.48W, h30km, ml1.4*
*MDD **23** 01:54:49.9±1.1,36˚.63N×9˚.77W, h19km±6km, mb_Lg2.6/8, Error ellipse: s-maj=10.0km s-min=6.3km az=39.0*
*INMG **23** 01:54:50.5±1.2,36˚.54N×9˚.79W, h31km, ML1.9, Error ellipse: s-maj=6.3km s-min=4.2km az=79.0*
*IGIL **23** 01:54:50.1,36˚.54N×9˚.78W, h24km, ML1.8*
ISC 23 01:54:43.3±1.7,**36˚.36N**±0˚.05×**9˚.99W**±0˚.08,**h30**km,**n40,** σ2°**51**/69,**2C-1D**,**West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.21**	**50**⇑	*i*P	**Pn**	**01 55 06.7**	**+2.5**
PFVI				*e*S	**Sn**	**01 55 19.0**	**-0.6**
PFVI				A	A	01 55 19.6	
	12nm,0.2s						
PFVI	**Vila Bisbo**	**1.21**	**50**	P	**Pn**	**01 55 06.0**	**+1.8**
PFVI				S	**Sn**	**01 55 19.0**	**-0.6**
MORF	**Marmelete**	**1.43**	**48**	*e*P	**Pn**	**01 55 09.7**	**+2.4**
MORF				*e*S	**Sn**	**01 55 24.0**	**-1.1**
MORF				IAML		01 55 25.3	
	comp=N,21nm,0.1s						
MORF	**Marmelete**	**1.43**	**48**	*e*P	**Pn**	**01 55 09.7**	**+2.4**
MORF				*e*S	**Sn**	**01 55 24.2**	**-0.9**
MORF				A	A	01 55 24.4	
	comp=N,12nm,0.2s						
PTEO	**Sao Teotonio**	**1.56**	**40**	*e*P	**Pn**	**01 55 11.3**	**+2.3**
PTEO				*e*S	**Sn**	**01 55 27.1**	**-1.1**
PTEO				A	A	01 55 28.0	
	comp=N,6.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.87**	**61**	*e*Sn	**Sn**	**01 55 34.5**	**-1.5**
PCVE	**Castro Verde**	**2.01**	**50**	*e*Pn	**Pn**	**01 55 18.0**	**+2.7**
PCVE				*e*Sn	**Sn**	**01 55 39.2**	**-0.2**
PCVE				A	A	01 55 40.3	
	comp=N,4.3nm,0.5s						
MESJ	**Messejana**	**2.05**	**43**	*e*P	**Pn**	**01 55 18.1**	**+2.4**
MESJ				*e*S	**Sn**	**01 55 38.6**	**-1.6**
MESJ				IAML		01 55 41.0	
	comp=N,5.7nm,0.1s						
MESJ	**Messejana**	**2.05**	**43**⇓	*e*Pn	**Pn**	**01 55 18.1**	**+2.4**
PVAQ	**Vaqueiros**	**2.10**	**60**⇓	*e*Pn	**Pn**	**01 55 19.3**	**+2.7**
PVAQ				*e*Sn	**Sn**	**01 55 40.4**	**-1.1**
PVAQ				A	A	01 55 42.1	
	comp=N,5.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.10**	**60**	P	**Pn**	**01 55 18.4**	**+1.9**
PVAQ				S	**Sn**	**01 55 41.1**	**-0.4**
PNCL	**Nicolau / Gran**	**2.10**	**33**	*e*Pn	**Pn**	**01 55 18.6**	**+2.1**
PNCL				*e*Sn	**Sn**	**01 55 39.5**	**-2.1**
PNCL				A	A	01 55 40.7	
	comp=N,6.0nm,0.3s						
EGRO	**El Granado**	**2.33**	**59**	P	**Pn**	**01 55 22.1**	**+2.6**
EGRO				S	**Sn**	**01 55 45.7**	**-1.4**
EGRO				*i* Vmb_Lg		01 55 47.7	
PBEJ	**Beja**	**2.38**	**45**	*e*Pn	**Pn**	**01 55 22.3**	**+2.1**
PBEJ				*e*Sn	**Sn**	**01 55 46.5**	**-1.9**
PBEJ				A	A	01 55 48.1	
	comp=N,2.4nm,0.2s						
PACT	**Alcochete**	**2.58**	**21**	*e*Pn	**Pn**	**01 55 25.8**	**+2.9**
PACT				*e*Sn	**Sn**	**01 55 53.2**	**0.0**
PACT				A	A	01 55 54.8	
	comp=N,10nm,0.4s						
PMAFR	**Mafra**	**2.65**	**12**	*e*Pn	**Pn**	**01 55 26.9**	**+2.8**
PMAFR				*e*Sn	**Sn**	**01 55 53.7**	**-1.5**
PMAFR				A	A	01 55 56.6	
	comp=N,15nm,0.2s						
PBAR	**Barrancos**	**2.97**	**52**	*e*Pn	**Pn**	**01 55 30.8**	**+2.4**
PBAR				*e*Sn	**Sn**	**01 56 01.6**	**-1.4**
PBAR				A	A	01 56 03.4	
	comp=N,1.3nm,0.5s						
PMTG	**Montargil**	**3.05**	**27**	*e*Pn	**Pn**	**01 55 31.7**	**+2.3**
PMTG				*e*Sn	**Sn**	**01 56 02.3**	**-2.6**
PMTG				A	A	01 56 03.9	
	comp=N,4.6nm,0.1s						
PESTR	**Estremoz**	**3.15**	**37**	*e*Pn	**Pn**	**01 55 32.6**	**+1.8**
PESTR				*e*Sn	**Sn**	**01 56 04.9**	**-2.5**
PSBE	**So Bento**	**3.29**	**16**	*e*Pn	**Pn**	**01 55 35.6**	**+2.8**
PSBE				*e*Sn	**Sn**	**01 56 08.9**	**-2.0**
PSBE				A	A	01 56 09.9	
	comp=N,3.9nm,0.5s						
EBAD	**Badajoz**	**3.36**	**44**	P	**Pn**	**01 55 35.4**	**+1.6**
EBAD				S	**Sn**	**01 56 10.3**	**-2.5**
EBAD				*i* Vmb_Lg		01 56 12.9	
ESPR	**Espera**	**3.36**	**80**	P	**Pn**	**01 55 37.2**	**+3.4**
ESPR				S	**Sn**	**01 56 12.5**	**-0.2**
ESPR				*i* Vmb_Lg		01 56 14.5	
PMRV	**Marv??o**	**3.69**	**33**	*e*Pn	**Pn**	**01 55 40.3**	**+2.0**
PMRV				*e*Sn	**Sn**	**01 56 17.4**	**-3.4**
PMRV				A	A	01 56 20.0	
	comp=N,4.7nm,0.2s						

PCAS	**Casmilo, Conde**	**3.87**	**17**	*e*Sn	**Sn**	**01 56 23.9**	**-1.3**
PCAS				A	A	01 56 28.1	
	comp=N,1.1nm,0.3s						
PCBR	**Castelo Branco**	**4.00**	**29**	*e*Sn	**Sn**	**01 56 25.8**	**-2.6**
PCBR				A	A	01 56 29.6	
	comp=N,1.3nm,0.7s						
ECAB	**El Cabril**	**4.03**	**63**	P	**Pn**	**01 55 45.7**	**+2.7**
ECAB				S	**Sn**	**01 56 27.4**	**-1.8**
ECAB				*i* Vmb_Lg		01 56 29.4	
MTE	**Manteigas**	**4.47**	**25**	*e*Sn	**Sn**	**01 56 37.3**	**-2.8**
MTE				A	A	01 56 40.8	
	comp=N,2.2nm,0.9s						
EADA	**Adamuz**	**4.68**	**66**	P	**Pn**	**01 55 54.5**	**+2.6**
EADA				S	**Sn**	**01 56 41.8**	**-3.5**
EADA				*i* Vmb_Lg		01 56 48.7	
EPLA	**Plasencia**	**4.81**	**39**	P	**Pn**	**01 55 55.5**	**+1.7**
EPLA				S	**Sn**	**01 56 44.7**	**-3.8**
EPLA				*i* Vmb_Lg		01 56 46.4	
LCRM	**LCR**	**4.98**	**121**	P	**Pn**	**01 55 56.8**	**+0.6**
LCRM				S	**Sn**	**01 56 48.5**	**-4.4**
POLO	**Lamas de Olo**	**5.29**	**18**	*e*Sn	**Sn**	**01 56 56.9**	**-3.5**
POLO				A	A	01 56 59.8	
	comp=N,0.6nm,0.2s						
MVO	**Moncorvo**	**5.33**	**25**	*e*Pn	**Pn**	**01 56 02.8**	**+1.9**
MVO				*e*Sn	**Sn**	**01 56 58.2**	**-3.0**
MVO				A	A	01 56 59.7	
	comp=N,1.2nm,0.3s						
PAB	**San Pablo**	**5.48**	**53**	P	**Pn**	**01 56 05.7**	**+2.7**
PAB				S	**Sn**	**01 57 01.2**	**-3.7**
PAB				*i* Vmb_Lg		01 57 04.3	
MD31	**MD31**	**5.54**	**127**	P	**Pn**	**01 56 07.2**	**+3.4**
MD31				S	**Sn**	**01 57 02.9**	**-3.8**
PCAB	**Cabril**	**5.56**	**15**	*e*Sn	**Sn**	**01 57 03.0**	**-3.9**
PCAB				A	A	01 57 09.2	
	comp=N,1.3nm,0.2s						
MDT	**Midelt**	**5.67**	**127**	P	**Pn**	**01 56 08.0**	**+2.3**
MDT				S	**Sn**	**01 57 06.2**	**-3.7**
ELOB	**Lobios**	**5.70**	**15**	S	**Sn**	**01 57 05.8**	**-4.6**
ELOB				*i* Vmb_Lg		01 57 09.7	
EQES	**Quesada**	**5.71**	**73**	S	**Sn**	**01 57 09.5**	**-1.3**
PGAV	**Gavieira, Arco**	**5.76**	**13**	*e*Sn	**Sn**	**01 57 07.8**	**-4.0**
TTIG	**Tnine Tigouga,**	**5.94**	**167**	P	**Pn**	**01 56 10.5**	**+1.1**

---

*NEIC **23** 01:57:42.1±1.5,34˚.46N±0˚.06×142˚.3E±0˚.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=16.4km s-min=8.1km az=115.0*
*MOS **23** 01:57:46.5±1.6,34˚.66N×141˚.70E, h12km, mb4.5/17, Error ellipse: s-maj=12.2km s-min=6.2km az=118.4*
*IDC **23** 01:57:46.8±0.7,34˚.52N×141˚.59E, h0km, mb4.0/16, mbtmp3.9/19, ML2.9/3, Error ellipse: s-maj=17.6km s-min=16.5km az=108.0*
*JMA **23** 01:57:49.0±0.3,34˚.5N±0˚.9×14˚.2E±˚, h36km±1km, MV3.9/36, FAR SE OFF BOSO PEN*
ISC 23 01:57:50.0±0.6,**34˚.59N**±0˚.04×**141˚.65E**±0˚.05,**h27**km,**n99,** σ1°**84**/100,**mb4.4**/37,**3C-2D**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.56**	**277**	⇓P	**Pn**	**01 58 00.7**	**-0.9**
BSO3	**Boso 3**	**0.96**	**283**	*e*P	**Pb**	**01 58 07.5**	**-0.4**
BSO4	**Boso 4**	**1.15**	**291**	P	**Pb**	**01 58 10.1**	**-1.1**
KTR	**Katsuura**	**1.23**	**297**	*e*S	**Sb**	**01 58 27.8**	**-0.2**
CHOJ	**Chosi**	**1.29**	**330**	P	**Pn**	**01 58 12.5**	**-1.1**
CHOJ				*e*S	**Sn**	**01 58 28.8**	**+0.2**
JKUC	**kamogawauchiur**	**1.32**	**296**	P	**Pn**	**01 58 27.8**	**-1.3**
JKUC				S	**Sn**	**01 58 29.5**	**+0.1**
JSMT	**Sammumatsuo**	**1.44**	**317**	*e*S	**Sn**	**01 58 31.9**	**-0.4**
JMKN	**Mikurajimanish**	**1.84**	**248**	P	**Pn**	**01 58 18.5**	**-1.3**
JMKN				*e*S	**Sn**	**01 58 41.3**	**-0.9**
JTHY	**Toshimahigashi**	**1.95**	**269**	*e*P	**Pb**	**01 58 22.2**	**-2.6**
JYT	**Yasato**	**2.02**	**324**		**Pn**	**01 58 22.4**	**+0.1**
JYT	**Yasato**	**2.02**	**324**	P	**Pn**	**01 58 23.1**	**+0.8**
JHJ2	**Mitsune**	**2.12**	**226**	Pn	**Pn**	**01 58 22.4**	**-1.3**
JHJ	**Hachijo jima 2**	**2.13**	**227**	Pn	**Pn**	**01 58 23.3**	**-0.5**
	34nm,0.3s,baz=148,slow=23,SNR=12						
JHJ				Sn	**Sn**	**01 58 49.5**	**0.0**
	198nm,0.3s,baz=73,slow=23,SNR=17						
	80nm,0.3s						
JMM	**Marumori**	**3.34**	**348**	Pn	**Pn**	**01 58 38.1**	**-2.4**
MJAR	**Matsushiro Arr**	**3.41**	**306**	Pn	**Pn**	**01 58 42.2**	**+0.6**
	1.1nm,0.3s,baz=113,slow=9.3,SNR=19						
	7.6nm,0.3s						
MAJO	**Matsushiro**	**3.42**	**306**	Pn	**Pn**	**01 58 42.2**	**+0.7**
MAJO	**Matsushiro**	**3.42**	**306**	*i* P	**Pn**	**01 58 43.1**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.42**	**306**		**Pn**	**01 58 42.4**	**+0.8**
JGF	**Kuroka**	**3.66**	**287**		**Pn**	**01 58 47.2**	**+2.3**
INU	**Inuyama**	**3.88**	**283**		**Pn**	**01 58 49.2**	**+1.3**
JSD	**Sado**	**4.40**	**323**	Pn	**Pn**	**01 58 55.5**	**+0.6**
ERM	**Erimo**	**7.51**	**9**	*i* P	**Pn**	**01 59 35.9**	**-1.8**
NMR	**Nemuro--Hokkai**	**9.32**	**19**	*e*

MKAR	**Makanchi Array**	**45.61**	**304**	*ce*P		P	02 06 11.8	+3.9
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KURK	**Kurchatov**	**47.62**	**310**	P		**P**	**02 06 21.9**	**-1.6**
KURK	**Kurchatov**	**47.62**	**310**	P		**P**	**02 06 24.6**	**+1.1**
KURBB	**Kurchatov Arra**	**47.68**	**310**	P		**P**	**02 06 24.6**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=87,slow=7.4,SNR=21							
	comp=Z,3.3nm,0.7s							
TARG	**Taragay, Kyrgy**	**49.69**	**298**	P		**P**	**02 06 38.5**	**-1.5**
TARG				IAmb		IAmb	02 07 05.8	
	comp=Z,4.5nm,1.0s							
TARG	**Taragay, Kyrgy**	**49.69**	**298**	P		**P**	**02 06 38.5**	**-1.5**
TARG				pmax		pmax		
	comp=Z,4.0nm,1.0s							
IL31		**51.47**	**31**	P		P	02 06 45.5	-7.1
IL31				IAmb		IAmb	02 06 58.6	
	comp=Z,4.8nm,1.1s							
ILAR	**Eielson Array**	**51.47**	**31**	P		**P**	**02 06 53.8**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=260,slow=6.1,SNR=12							
	comp=Z,1.3nm,0.7s							
ILAR	**Eielson Array**	**51.47**	**31**	P		P	02 06 46.6	-6.1
KSH	**Kashi**	**51.61**	**296**	P		P	02 07 04.3	+10
KSH				PcP		**PP**	**02 08 50.9**	**-0.7**
KSH				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AAK	**Ala-Archa**	**51.85**	**300**	P		**P**	**02 06 54.7**	**-1.3**
AAK	**Ala-Archa**	**51.85**	**300**	*i* P		**P**	**02 06 56.2**	**+0.2**
AAK				pmax		pmax		
	comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**52.38**	**314**	P		**P**	**02 07 00.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=94,slow=4.5,SNR=4.7							
	comp=Z,0.7nm,0.5s							
BRVK	**Borovoye**	**52.44**	**314**	*ce*P		**P**	**02 06 59.2**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KK31	**Karatay Array**	**54.54**	**302**	P		**P**	**02 07 15.2**	**-0.5**
KK31				IAmb		IAmb	02 07 35.3	
	comp=Z,6.9nm,1.1s							
KK31	**Karatay Array**	**54.54**	**302**	P		**P**	**02 07 15.2**	**-0.5**
KK31				pmax		pmax		
	comp=Z,7.0nm,1.2s							
KKAR	**Karatay Array**	**54.54**	**302**	P		**P**	**02 07 14.1**	**-1.6**
KKAR				IAmb		IAmb	02 07 35.4	
	comp=Z,6.9nm,1.1s							
KKAR	**Karatay Array**	**54.54**	**302**	P		**P**	**02 07 14.1**	**-1.6**
KKAR				pmax		pmax		
	comp=Z,7.0nm,1.2s							
FITZ	**Fitzroy Crossi**	**54.56**	**199**	P		P	02 07 09.5	-6.4
FITZ				IAmb		IAmb	02 07 33.6	
	comp=Z,8.9nm,1.4s							
WB2	**Warramunga Arr**	**54.67**	**188**	P		P	02 07 10.6	-6.1
WB2				IAmb		IAmb	02 07 46.8	
	comp=Z,4.5nm,0.8s							
WRA	**Warramunga Arr**	**54.67**	**188**	P		**P**	**02 07 16.2**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=5.1,slow=7.7,SNR=7.4							
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**54.67**	**188**	P		P	02 07 09.8	-6.9
WRA	**Warramunga Arr**	**54.67**	**188**	P		P	02 07 09.8	-6.9
INK	**Inuvik**	**56.48**	**26**	P		**P**	**02 07 31.4**	**+2.3**
	comp=Z,1.5nm,0.3s,baz=301,slow=5.9,SNR=3.4							
	comp=Z,1.5nm,0.3s							
ARU	**Arti**	**58.33**	**320**	P		**P**	**02 07 43.3**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=38,slow=5.0,SNR=4.9							
	comp=Z,3.0nm,0.7s							
ARU	**Arti**	**58.33**	**320**	P		**P**	**02 07 39.4**	**-2.9**
ARU	**Arti**	**58.33**	**320**	*d* P		**P**	**02 07 43.9**	**+1.5**
ARU				S		**S**	**02 15 48.3**	**+5.4**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ASAR	**Alice Springs**	**58.40**	**188**	P		**P**	**02 07 43.9**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=6.8,slow=7.3,SNR=5.9							
	comp=Z,0.8nm,0.8s							
ASAR	**Alice Springs**	**58.40**	**188**	P		P	02 07 36.9	-6.3
KBL	**Kabul**	**58.50**	**292**	P		**P**	**02 07 41.9**	**-2.3**
KBL	**Kabul**	**58.50**	**292**	P		**P**	**02 07 41.9**	**-2.3**
KBL				pmax		pmax		
	comp=Z,7.0nm,1.3s							
ABKAR	**Akbulak array**	**59.68**	**311**	P		**P**	**02 07 50.8**	**-1.0**
AKTO	**Aktyubinsk**	**60.47**	**313**	P		**P**	**02 07 58.2**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=81,slow=14,SNR=6.7							
	comp=Z,1.7nm,0.6s							
GEYT	**Alibeck**	**65.20**	**300**	P		**P**	**02 08 26.2**	**-2.8**
GEYT				IAmb		IAmb	02 08 43.0	
	comp=Z,3.6nm,1.0s							
OBN	**Obninsk**	**70.17**	**324**	*e*P		**P**	**02 09 01.3**	**+1.3**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MNK	**Minsk**	**74.63**	**326**	*i* P		**P**	**02 09 25.0**	**-1.5**
MNK				*i*			02 12 11.4	
MNK				*i* PPP		PPP	02 13 56.8	
MNK				*i* S		**S**	**02 19 01.1**	**+0.7**
MNK				*i* SS		**SS**	**02 23 48.8**	**+2.0**
MNK				*i* SSS		SSS	02 27 10.8	
MNK				pmax		pmax		
	comp=E,1.0nm,1.0s							
MNK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MNK				MLR		MLR		
	comp=Z,1μm,18.0s							
MNK				MLR		MLR		
	comp=N,2.0nm,19.0s							
MNK				MLR		MLR		
	comp=E,126nm,19.0s							
MNK	**Minsk**	**74.63**	**326**	*i* P		**P**	**02 09 25.1**	**-1.5**
	comp=E,1.0nm,1.0s							
MNK				*i* P		**P**	**02 09 25.1**	**-1.5**
MNK				*i* P		**P**	**02 09 25.1**	**-1.5**
	comp=Z,4.0nm,0.9s,baz=51							
MNK				*i* PP		**PP**	**02 12 11.4**	**-1.6**
MNK				*i* PPP		PPP	02 13 56.8	
MNK				*i* S		**S**	**02 19 01.2**	**+0.7**
MNK				*i* SS		**SS**	**02 23 48.9**	**+2.0**
MNK				*i* SSS		SSS	02 27 10.8	
MNK				*i* LR		LR	02 42 55.2	
MNK				*i* LRM		MLR	02 44 33.1	
	comp=Z,1μm,17.9s							
MNK				*i* LRM		MLR	02 44 44.8	
	comp=N,2.0nm,19.2s							
MNK				*i* LRM		MLR	02 45 02.7	
	comp=E,126nm,18.5s							
NVAR	**Mina Array Bea**	**76.31**	**53**	P		**P**	**02 09 39.1**	**+2.3**
	comp=E,0.5nm,0.5s,baz=292,slow=4.8,SNR=4.0							
	comp=E,0.5nm,0.5s							
AKASG	**Malin Array Be**	**76.35**	**323**	P		**P**	**02 09 37.4**	**+0.9**
	comp=E,0.6nm,0.5s,baz=48,slow=5.7,SNR=4.2							
	comp=E,0.6nm,0.5s							
AKASG	**Malin Array Be**	**76.35**	**323**	*i* P		**P**	**02 09 38.2**	**+1.7**
NB2	**NORSAR Subarra**	**76.51**	**338**	P		**P**	**02 09 37.9**	**+0.6**
	comp=Z,6.8nm,1.4s,baz=42,slow=5.9							
NOA	**NORSAR Array B**	**76.51**	**338**	P		**P**	**02 09 38.1**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=39,slow=5.7,SNR=5.2							
	comp=Z,0.8nm,0.8s							
PDAR	**Pinedale Array**	**79.25**	**45**	P		**P**	**02 09 54.7**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=276,slow=2.8,SNR=3.6							
	comp=Z,0.2nm,0.6s							
CLL	**Collm**	**83.31**	**330**	*e*Pmax			02 10 22.0	
TXAR	**Lajitas Array**	**91.46**	**53**	P		**P**	**02 10 55.7**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=302,slow=3.9,SNR=4.1							
	comp=Z,0.2nm,0.6s							
LPAZ	**La Paz**	**147.69**	**63**	PKPbc		**PKPab**	**02 17 34.8**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=318,slow=5.4,SNR=6.5							

*JMA **23** 02:03:42.8±0.5,34°N±1°×14°2E±°, h29km±2km, MV3.3/18, FAR SE OFF BOSO PEN*
*IDC **23** 02:03:43.7±2.2,34.42N×141.63E, h0km, mb3.4/3, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=43.1km s-min=26.0km az=84.0*
ISC 23 02:03:47.4±1.7,34.42N±0.07×141.6E±0.1, h27km, n11, σ0§60/13, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.59**	**293**	P		**Pb**	**02 03 58.1**	**-0.7**
JKUC	**kamogawauchiur**	**1.39**	**302**	P		**Pn**	**02 04 10.4**	**-0.6**
JKUC				*e*S		**Sb**	**02 04 30.5**	**+0.5**
JMKN	**Mikurajimanish**	**1.77**	**253**	P		**Pn**	**02 04 15.4**	**-0.9**
JHJ	**Hachijo jima 2**	**2.02**	**230**	Pn		**Pn**	**02 04 19.7**	**+0.1**
	19nm,0.3s,baz=77,slow=21,SNR=19							
JHJ				Sn		**Sn**	**02 04 44.7**	**+0.8**
	33nm,0.3s,baz=71,slow=23,SNR=11							
JAG	**Ashikaga**	**2.68**	**319**	P		**Pn**	**02 04 28.6**	**-0.1**
JRY	**Ryogami san**	**2.75**	**306**	P		**Pn**	**02 04 30.4**	**+0.7**
JYN	**Shimob**	**2.75**	**294**	P		**Pn**	**02 04 30.1**	**+0.2**
MJAR	**Matsushiro Arr**	**3.50**	**308**	Pn		**Pn**	**02 04 40.1**	**-0.1**
	0.4nm,0.3s,baz=134,slow=10.0,SNR=5.5							
	2.2nm,0.3s							
MKAR	**Makanchi Array**	**45.70**	**304**	P		**P**	**02 12 06.6**	**+0.7**
	0.3nm,0.6s,baz=86,slow=9.0,SNR=2.2							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**47.78**	**310**	P		**P**	**02 12 21.7**	**-0.4**
	0.4nm,0.5s,baz=82,slow=7.8,SNR=3.1							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**54.51**	**188**	P		**P**	**02 13 12.9**	**+0.1**
	0.2nm,0.4s,baz=1.1,slow=7.6,SNR=7.4							
	0.2nm,0.4s							

*IDC **23** 02:04:10.8±1.4,34.43N×141.67E, h0km, mb3.5/4, mbtmp3.5/6, ML3.1/2, Error ellipse: s-maj=30.4km s-min=23.1km az=104.0*
*JMA **23** 02:04:11.1±0.2,34.4N±0.8×141.8E±1.0, h42km±2km, MV3.2/16, FAR SE OFF BOSO PEN*
ISC 23 02:04:14.6±1.2,34.47N±0.06×141.62E±0.09, h27km, n11, σ0§72/13, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.56**	**289**	P		**Pb**	**02 04 25.1**	**-0.4**
BSO1				X			02 04 36.2	
JKUC	**kamogawauchiur**	**1.36**	**301**	*e*S		**Sb**	**02 04 56.0**	**-0.3**
CHOJ	**Chosi**	**1.38**	**333**	P		**Pn**	**02 04 36.7**	**-1.3**
CHOJ				S		**Sn**	**02 04 55.4**	**+0.1**
JMKN	**Mikurajimanish**	**1.78**	**252**	S		**Sn**	**02 05 04.6**	**-0.7**
JHJ	**Hachijo jima 2**	**2.04**	**229**	Pn		**Pn**	**02 04 46.7**	**-0.4**
	39nm,0.3s,baz=70,slow=23,SNR=3.9							
JHJ				Sn		**Sn**	**02 05 11.6**	**-0.1**
	81nm,0.3s,baz=55,slow=23,SNR=8.5							
	102nm,0.3s							
JOD2	**Odawara 2**	**2.23**	**291**	*e*S		**Sn**	**02 05 17.6**	**+1.3**
MJAR	**Matsushiro Arr**	**3.46**	**308**	Pn		**Pn**	**02 05 07.2**	**+0.4**
	0.7nm,0.3s,baz=119,slow=9.9,SNR=7.3							
	3.0nm,0.4s							
MKAR	**Makanchi Array**	**45.66**	**304**	P		**P**	**02 12 33.6**	**+0.8**
	0.4nm,0.7s,baz=86,slow=12,SNR=2.4							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**47.74**	**310**	P		**P**	**02 12 49.0**	**0.0**
	0.3nm,0.5s,baz=85,slow=7.5,SNR=2.3							
	0.3nm,0.5s							
ILAR	**Eielson Array**	**51.58**	**31**	P		**P**	**02 13 18.1**	**+0.1**
	0.4nm,0.8s,baz=280,slow=5.3,SNR=3.3							
	0.4nm,0.8s							
WRA	**Warramunga Arr**	**54.55**	**188**	P		**P**	**02 13 40.8**	**+0.4**
	0.7nm,0.9s,baz=1.8,slow=7.5,SNR=6.9							
	0.7nm,0.9s							

*NEIC **23** 02:10:37.8±0.9,34.41N±0.03×142.2E±0.1, h10km±2km, mb4.1/5, Error ellipse: s-maj=19.5km s-min=3.0km az=105.0*
*IDC **23** 02:10:41.0±1.2,34.49N×141.64E, h0km, mb3.8/4, mbtmp3.7/6, ML3.0/2, Error ellipse: s-maj=30.6km s-min=21.0km az=106.0*
*JMA **23** 02:10:41.9±0.3,34.5N±0.9×14°2E±°, h36km±1km, MV3.3/34, FAR SE OFF BOSO PEN*
ISC 23 02:10:41.7±1.0,34.53N±0.06×141.83E±0.08, h21km, n41, σ1§42/38, mb4.0/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.71**	**280**	P		**Pn**	**02 10 55.5**	**-0.5**
BSO3	**Boso 3**	**1.12**	**284**	*e*P		**Pn**	**02 11 01.8**	**0.0**
BSO4	**Boso 4**	**1.31**	**291**	P		**Pb**	**02 11 05.3**	**-0.2**
CHOJ	**Chosi**	**1.41**	**326**	P		**Pn**	**02 11 06.3**	**+0.1**
JKUC	**kamogawauchiur**	**1.48**	**296**	P		**Pn**	**02 11 07.2**	**+0.1**
JKUC				*e*S		**Sn**	**02 11 25.6**	**-0.2**
JMKN	**Mikurajimanish**	**1.96**	**252**	P		**Pn**	**02 11 13.2**	**-0.4**
JMKN				S		**Sn**	**02 11 36.6**	**-1.1**
JIM2	**Oshima 3**	**1.99**	**276**	P		**Pn**	**02 11 14.8**	**+0.8**
JYT	**Yasato**	**2.15**	**322**			**Pn**	**02 11 16.6**	**+0.2**
JHJ2	**Mitsune**	**2.19**	**230**	Pn		**Pn**	**02 11 16.4**	**-0.5**
JHJ2	**Mitsune**	**2.19**	**230**	P		**Pn**	**02 11 17.7**	**+0.8**
JHJ	**Hachijo jima 2**	**2.21**	**231**	Pn		**Pn**	**02 11 17.6**	**+0.5**
	20nm,0.3s,baz=112,slow=21,SNR=12							
JHJ				Sn		**Sn**	**02 11 44.4**	**+0.6**
	103nm,0.3s,baz=89,slow=23,SNR=12							
	50nm,0.3s							
JOD2	**Odawara 2**	**2.37**	**289**	P		**Pn**	**02 11 19.7**	**+0.4**
JIZS	**Izushimoda**	**2.44**	**275**	P		**Pn**	**02 11 21.1**	**+0.8**
JMM	**Marumori**	**3.43**	**346**			**Pn**	**02 11 34.0**	**+0.1**
MJAR	**Matsushiro Arr**	**3.57**	**305**	Pn		**Pn**	**02 11 36.6**	**+0.8**
	0.7nm,0.3s,baz=115,slow=8.4,SNR=9.0							
	3.3nm,0.3s							
MAJO	**Matsushiro**	**3.57**	**305**			**Pn**	**02 11 37.3**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.57**	**305**			**Pn**	**02 11 37.0**	**+1.1**
JGF	**Kuroka**	**3.82**	**287**	Pn		**Pn**	**02 11 41.7**	**+2.4**
INU	**Inuyama**	**4.04**	**283**	Pn		**Pn**	**02 11 43.0**	**+0.8**
JSD	**Sado**	**4.53**	**322**			**Pn**	**02 11 49.9**	**+0.9**
JWT	**Wachi**	**5.33**	**280**	Pn		**Pn**	**02 12 00.7**	**+0.6**
KSAR	**Wonju Array Be**	**11.66**	**288**	Pn		**Pn**	**02 13 29.2**	**+2.3**
BJT	**Baijiatuau**	**21.11**	**293**	P		**P**	**02 15 24.5**	**-0.3**
BJT				IAmb		IAmb	02 15 30.3	
	comp=Z,6.5nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**26.64**	**117**	T		T	02 44 30.6	
	baz=309,slow=75,SNR=7.9							
H11N1	**WAKE ISLAND Hy**	**26.65**	**117**	T		T	02 44 24.1	
	baz=309,slow=75,SNR=8.8							
H11N3	**WAKE ISLAND Hy**	**26.66**	**117**	T		T	02 44 32.9	
	baz=309,slow=75,SNR=7.1							
H11S3	**WAKE ISLAND Hy**	**27.28**	**119**	T		T	02 45 19.3	
	baz=312,slow=75,SNR=6.6							
H11S1	**WAKE ISLAND Hy**	**27.28**	**119**	T		T	02 45 23.1	
	baz=312,slow=75,SNR=7.7							
H11S2	**WAKE ISLAND Hy**	**27.29**	**119**	T		T	02 45 20.5	
	baz=312,slow=75,SNR=8.3							
MKAR	**Makanchi Array**	**45.77**	**304**	P		**P**	**02 19 00.8**	**-0.8**
MAKZ	**Makanchi**	**45.98**	**304**	P		**P**	**02 19 01.1**	**-2.1**
KURK	**Kurchatov**	**47.77**	**310**	P		**P**	**02 19 16.3**	**-0.8**
KURK				IAmb		IAmb	02 19 28.0	
	comp=Z,4.8nm,1.4s							
KURBB	**Kurchatov Arra**	**47.83**	**310**	P		**P**	**02 19 18.8**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=85,slow=7.7,SNR=4.2							
	comp=Z,0.9nm,0.6s							
ILAR	**Eielson Array**	**51.44**	**31**	P		**P**	**02 19 48.5**	**+3.6**
	comp=Z,0.8nm,0.9s,baz=261,slow=6.6,SNR=6.0							
	comp=Z,0.8nm,0.9s							
ILAR	**Eielson Array**	**51.44**	**31**	P		**P**	**02 19 42.0**	**-2.9**
WRA	**Warramunga Arr**	**54.64**	**189**	P		**P**	**02 20 10.7**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=1.4,slow=7.7,SNR=22							
	comp=Z,1.1nm,0.7s							
WRA	**Warramunga Arr**	**54.64**	**189**	P		**P**	**02 20 05.6**	**-3.4**
KK31	**Karatay Array**	**54.70**	**302**	P		**P**	**02 20 09.7**	**+0.5**
KK31				IAmb		IAmb	02 20 11.8	
	comp=Z,2.8nm,1.4s							
KKAR	**Karatay Array**	**54.70**	**302**	P		**P**	**02 20 08.7**	**-0.6**
ASAR	**Alice Springs**	**58.37**	**189**	P		**P**	**02 20 37.4**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=15,slow=9.6,SNR=6.7							
	comp=Z,0.7nm,0.7s							
ABKAR	**Akbulak array**	**59.83**	**311**	P		**P**	**02 20 44.4**	**-0.9**

*IDC **23** 02:14:44.4±1.5,34.39N×141.75E, h0km, mb3.5/4, mbtmp3.5/6, ML2.5/2, Error ellipse: s-maj=31.1km s-min=23.7km az=106.0*
ISC 23 02:14:48.3±1.3,34.4N±0.1×141.6E±0.1, h27km, n6, σ0§96/7, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.94**	**231**	Pn		**Pb**	**02 15 21.8**	**-1.1**
	6.4nm,0.3s,baz=56,slow=21,SNR=1.5							
JHJ				Sn		**Sb**	**02 15 47.6**	**+1.0**
	34nm,0.3s,baz=66,slow=21,SNR=7.0							
	30nm,0.4s							
MJAR	**Matsushiro Arr**	**3.52**	**309**	Pn		**Pn**	**02 15 40.6**	**-0.5**
	0.2nm,0.3s,baz=114,slow=9.2,SNR=4.4							
	1.3nm,0.3s							
SONM	**Songino Array**	**29.47**	**308**	P		**P**	**02 20 51.0**	**+1.0**
	0.4nm,0.6s,baz=118,slow=12,SNR=2.1							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**47.79**	**310**	P		**P**	**02 23 23.0**	**-0.1**
	0.5nm,0.6s,baz=90,slow=7.6,SNR=3.2							
	0.5nm,0.6s							
ILAR	**Eielson Array**	**51.70**	**31**	P		**P**	**02 23 52.5**	**-0.1**
	0.5nm,0.8s,baz=252,slow=5.6,SNR=2.8							
	0.5nm,0.8s							
WRA	**Warramunga Arr**	**54.43**	**188**	P		**P**	**02 24 13.3**	**+0.2**
	0.5nm,0.7s,baz=4.5,slow=7.6,SNR=6.3							
	0.5nm,0.7s							

*NOU **23** 02:16:12.0,43.08S×174.01E, h0km, MLv3.6/8, Off E. Coast of S. Island, N.Z.*
*WEL **23** 02:16:13.9±0.5,43°S±3°×17°4E±°, h12km, M3.3/19, ML3.5/19, MLv3.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=131.2*
ISC 23 02:16:12.7±1.4,43.04S±0.04×173.96E±0.04, h10km±10km, n72, σ1§09/83, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GVZ	**Greta Valley S**	**0.69**	**276**	P		**Pb**	**02 16 27.2**	**+0.6**
GVZ				S		**Sb**	**02 16 36.4**	**+0.2**
KHZ	**Kahutara**	**0.70**	**333**	P		**Pg**	**02 16 26.2**	**+0.1**
KHZ				S		**Sg**	**02 16 35.0**	**-0.2**
KHZ	**Kahutara**	**0.70**	**333**	P		**Pg**	**02 16 26.0**	**-0.1**
OKCZ	**Okains Bay**	**0.95**	**224**	P		**Pn**	**02 16 32.9**	**+0.8**
AMCZ	**Amberley**	**0.97**	**261**	P		**Pb**	**02 16 32.3**	**+0.7**
AKCZ	**Akaroa Harbour**	**1.13**	**222**	P		**Pn**	**02 16 35.2**	**+0.6**
MQZ	**McQueen's Vall**	**1.17**	**235**	P		**Pg**	**02 16 34.8**	**-0.2**
MQZ				S		**Sb**	**02 16 50.5**	**+0.5**
LTZ	**Lake Taylor**	**1.27**	**281**	P		**Pg**	**02 16 36.2**	**-0.8**
LTZ				S		**Sg**	**02 16 52.1**	**-1.5**
CMWZ	**Cape Campbell**	**1.30**	**8**	P		**Pg**	**02 16 38.2**	**+0.5**
BSWZ	**Blackbirch Sta**	**1.32**	**357**	P		**Pn**	**02 16 37.3**	**+0.1**
BSWZ				S		**Sb**	**02 16 54.7**	**+0.1**
OXZ	**Oxford**	**1.44**	**258**	P		**Pn**	**02 16 38.3**	**-0.4**
OXZ				S		**Sb**	**02 16 56.0**	**-1.9**
THZ	**Tophouse**	**1.50**	**328**	P		**Pn**	**02 16 39.8**	**+0.2**
THZ				S		**Sn**	**02 16 57.3**	**-1.9**
RACZ	**Rakaia**	**1.50**	**242**	P		**Pn**	**02 16 39.8**	**+0.3**
RACZ				S		**Sn**	**02 16 58.8**	**-0.3**
TUWZ	**Tuamarina**	**1.61**	**359**	P		**Pn**	**02 16 41.3**	**+0.2**
PLWZ	**Palliser**	**1.75**	**34**	P		**Pn**	**02 16 43.1**	**0.0**
WACZ	**Wakanui South**	**1.79**	**239**	P		**Pn**	**02 16 44.1**	**+0.5**
WACZ				S		**Sn**	**02 17 06.0**	**-0.4**
SNZO	**South Karori**	**1.81**	**18**	P		**Pn**	**02 16 44.0**	**+0.2**
TCW	**Tory Channel**	**1.84**	**7**	P		**Pn**	**02 16 44.1**	**-0.2**
TCW				S		**Sn**	**02 17 05.7**	**-1.9**
MRNZ	**Matariki Terra**	**1.87**	**331**	P		**Pn**	**02 16 46.1**	**+1.5**
NNZ	**Nelson**	**1.87**	**346**	P		**Pn**	**02 16 44.5**	**-0.1**
INZ	**Inchbonnie**	**1.88**	**279**	P		**Pn**	**02 16 45.7**	**+1.0**
INZ				S		**Sn**	**02 17 08.0**	**-0.5**
MSWZ	**Moikau Station**	**1.88**	**31**	P		**Pn**	**02 16 44.6**	**-0.2**
PAWZ	**Paruwai Farm**	**1.98**	**34**	P		**Pb**	**02 16 49.1**	**+0.3**
DSZ	**Denniston Nort**	**2.06**	**308**	P		**Pn**	**02 16 47.2**	**-0.1**
TRWZ	**Traveller**	**2.08**	**39**	P		**Pn**	**02 16 47.7**	**+0.1**
CAW	**Cannon Point**	**2.10**	**23**	P		**Pn**	**02 16 47.8**	**0.0**
TKNZ	**Takaka Hill**	**2.14**	**339**	P		**Pn**	**02 16 49.1**	**+0.7**
MTW	**Mount Morrison**	**2.20**	**32**	P		**Pn**	**02 16 48.8**	**-0.4**
ARCZ	**Arundel**	**2.22**	**245**	P		**Pn**	**02 16 49.7**	**+0.2**
RPZ	**Rata Peaks**	**2.23**	**251**	P		**Pn**	**02 16 49.4**	**-0.2**
RPZ	**Rata Peaks**	**2.23**	**251**	P		**Pn**	**02 16 49.8**	**+0.2**
DUWZ	**D'Urville Isla**	**2.23**	**359**	P		**Pn**	**02 16 50.4**	**+0.7**
KIW	**Kapiti Island**	**2.29**	**18**	P		**Pn**	**02 16 50.6**	**+0.2**
WVZ	**Waitaha Valley**	**2.37**	**268**	P		**Pn**	**02 16 52.5**	**+1.1**
OGWZ	**Otaki Gorge**	**2.40**	**22**	P		**Pn**	**02 16 51.9**	**0.0**
HOWZ	**Holdsworth Sta**	**2.43**	**29**	P		**Pn**	**02 16 52.8**	**+0.4**
QRZ	**Quartz Range**	**2.46**	**334**	P		**Pn**	**02 16 53.8**	**+1.1**
QRZ	**Quartz Range**	**2.46**	**334**	P		**Pn**	**02 16 54.2**	**+1.5**
TMZ	**Timaru**	**2.53**	**237**	P		**Pn**	**02 16 54.6**	**+0.8**
MRZ	**Mangatainoka R**	**2.66**	**27**	P		**Pn**	**02 16 55.5**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.67**	**263**	P		**Pn**	**02 16 56.9**	**+1.2**
BFZ	**Birch Farm**	**2.91**	**37**	P		**Pn**	**02 16 58.4**	**-0.5**
BFZ	**Birch Farm**	**2.91**	**37**	P		**Pn**	**02 16 58.3**	**-0.6**
FOZ	**Fox Glacier**	**3.07**	**259**	P		**Pn**	**02 17 02.6**	**+1.5**
ODZ	**Otahua Downs**	**3.12**	**229**	P		**Pn**	**02 17 02.6**	**+0.7**
ODZ	**Otahua Downs**	**3.12**	**229**	P		**Pn**	**02 17 02.7**	**+0.8**
PNHZ	**Pukenui**	**3.54**	**29**	P		**Pn**	**02 17 09.0**	**+1.3**
HHSZ	**Highcliff Hill**	**3.73**	**219**	P		**Pn**	**02 17 11.1**	**+0.9**
KHEZ	**Kahui Hut**	**3.74**

comp=N,269nm,0.7s
MOKO MOKOCHONG 6.00 230 *e*P **Pn 02 20 06.0 -0.7**
MOKO *e*S **Sn 02 21 16.7 +1.2**
MOKO IAML 02 21 25.1
comp=N,77nm,0.8s
KOHI KOHIMA 6.68 229 *e*P **Pn 02 20 15.6 -0.3**
KOHI *e*S **Sn 02 21 31.5 -0.7**
KOHI IAML 02 21 33.6
comp=N,82nm,0.9s
KOHI IAML 02 21 37.6
comp=E,89nm,0.9s
TEZP TEZPUR 7.05 241 *e*P **Pn 02 20 19.9 -1.0**
TEZP *e*S **Sn 02 21 39.1 -2.0**
TEZP IAML 02 21 43.0
comp=E,465nm,0.2s
LSA Lhasa 7.40 268 Pn **Pn 02 20 26.8 +0.7**
SHL Shillong 8.32 238 **Pn 02 20 35.4 -3.1**
SHL Shillong 8.32 238 *e*P **Pn 02 20 35.7 -2.8**
SHL *e*S **Sn 02 22 08.8 -3.9**
ENH Enshi 8.50 88 Pn **Pn 02 20 39.2 -1.8**
MND Mandalay 8.81 202 Pn Pn 02 20 39.8 -5.3
TAPN Taplejung 10.87 257 *e*P **Pn 02 21 12.6 -1.1**
ODAN Odare 11.30 256 *e*P **Pn 02 21 18.9 -0.6**
CM31 Chiang Mai Arr 11.78 183 Pn Pn 02 21 18.9 -6.9
CMAR Chiang Mai Arr 11.78 183 Pg Pg 02 22 16.8
comp=E,0.3nm,0.3s,baz=357,slow=17,SNR=16
CMAR Lg Lg 02 24 50.9
comp=E,1.9nm,0.3s,baz=359,slow=29,SNR=9.2
CMAR Chiang Mai Arr 11.78 183 Pn Pn 02 21 18.9 -6.9
RAMN Ramite 11.94 257 *e*P **Pn 02 21 26.4 -1.8**
JIRN Jiri 12.07 261 *e*P **Pn 02 21 29.1 -1.1**
GUN Gumba 12.28 262 *e*P **Pn 02 21 31.5 -1.4**
comp=E,30nm,0.3s
PKI Pulchoki 12.77 261 *e*P **Pn 02 21 37.3 -2.3**
comp=E,21nm,0.4s
PKIN Phulchoki 12.77 261 *e*P **Pn 02 21 37.4 -2.3**
comp=E,20nm,0.3s
KKN Kakani 12.82 262 *e*P **Pn 02 21 38.4 -1.8**
DANN Dangsing 14.00 266 *e*P **Pn 02 21 52.4 -4.0**
KOLN Koldanda 14.27 264 *e*P **Pn 02 21 56.6 -3.4**
SONM Songino Array 18.29 15 P **P 02 22 53.1 +1.4**
comp=E,0.1nm,0.3s,baz=190,slow=14,SNR=5.0
comp=E,0.3nm,0.3s
SONM Songino Array 18.29 15 P **P 02 22 54.4 +2.6**
ULN Ulaanbaatar 18.47 16 P **Pn 02 22 56.0 +2.2**
TARG Taragay, Kyrgy 20.99 309 P **P 02 23 22.9 +1.3**
MK31 Makanchi Array 21.29 326 P **P 02 23 27.2 +2.8**
MKAR Makanchi Array 21.29 326 P **P 02 23 25.4 +1.0**
comp=E,2.4nm,0.6s,baz=134,slow=10,SNR=19
comp=E,2.4nm,0.6s
MKAR Makanchi Array 21.29 326 P **P 02 23 28.0 +3.7**
KSH Kashi 21.45 302 P **P 02 23 27.8 +1.5**
KSH pmax pmax
comp=E,2.0nm,0.6s
NRN Naryn 22.10 307 P **P 02 23 35.5 +2.0**
NRN IAmb IAmb 02 23 35.6
comp=Z,5.1nm,0.7s
NIL Nilore 22.63 285 P **P 02 23 38.2 -0.7**
NIL IAmb IAmb 02 23 43.1
comp=Z,9.3nm,0.9s
AAK Ala-Archa 23.61 308 P **P 02 23 50.5 +1.6**
comp=Z,3.8nm,0.7s,baz=117,slow=6.3,SNR=8.2
comp=Z,3.8nm,0.7s
AAK Ala-Archa 23.61 308 P **P 02 23 49.8 +0.9**
AAK IAmb IAmb 02 23 51.9
comp=Z,4.2nm,0.8s
HIA Hailar 24.33 33 P **P 02 23 57.0 +1.5**
KS19 Wonju Array Si 24.45 65 P **P 02 23 56.2 -0.5**
KS19 IAmb IAmb 02 24 04.5
comp=Z,11nm,1.1s
KSRS Korea Array 24.48 65 P **P 02 23 57.4 +0.4**
comp=Z,3.6nm,0.7s,baz=257,slow=10.0,SNR=18
comp=Z,3.6nm,0.7s
CN2 Changchun 24.50 49 *e*P **P 02 23 50.5 -6.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
BTK Batken 25.42 300 P **P 02 24 06.5 +0.9**
BTK IAmb IAmb 02 24 17.7
comp=Z,3.8nm,0.7s
KURBB Kurchatov Arra 25.75 328 P **P 02 24 09.1 +0.7**
comp=Z,2.0nm,0.7s,baz=142,slow=9.2,SNR=18
comp=Z,2.0nm,0.7s
KURK Kurchatov 25.78 328 P **P 02 24 09.7 +1.2**
KURK IAmb IAmb 02 24 13.7
comp=Z,20nm,1.5s
ZAA0 Zalesovo Array 25.99 340 P **P 02 24 11.4 +0.9**
ZAA0 IAmb IAmb 02 24 15.0
comp=Z,4.3nm,0.8s
ZALV Zalesovo Beam 25.99 340 P **P 02 24 11.1 +0.7**
comp=Z,1.7nm,0.4s,baz=148,slow=12,SNR=11
comp=Z,1.7nm,0.4s
ZALV Zalesovo Beam 25.99 340 P **P 02 24 11.2 +0.8**
KBL Kabul 26.14 287 P **P 02 24 11.9 -0.4**
KBL IAmb IAmb 02 24 46.7
comp=Z,5.1nm,1.1s
KK31 Karatay Array 26.50 307 P **P 02 24 17.6 +2.4**
KK31 IAmb IAmb 02 24 23.8
comp=Z,5.8nm,1.1s
KKAR Karatay Array 26.50 307 P **P 02 24 18.4 +3.2**
KKAR IAmb IAmb 02 24 23.8
comp=Z,5.8nm,1.1s
BVAR Borovoye Array 31.18 325 ScP **ScP 02 31 39.9 +5.4**
comp=Z,0.4nm,0.5s,baz=120,slow=5.2,SNR=4.0
GEYT Alibeck 35.01 294 P **P 02 25 31.9 +1.5**
comp=Z,5.8nm,0.7s,baz=102,slow=6.2,SNR=14
comp=Z,5.8nm,0.7s
GEYT Alibeck 35.01 294 P **P 02 25 31.1 +0.7**
GYA0B ALIBECK ARRAY 35.01 294 P **P 02 25 30.8 +0.4**
ABKAR Akbulak array 35.42 314 P **P 02 25 35.0 +1.3**
AKTO Aktyubinsk 36.96 315 P **P 02 25 48.5 +1.6**
comp=Z,1.3nm,0.6s,baz=104,slow=7.2,SNR=5.7
comp=Z,1.3nm,0.6s
ARU Arti 38.81 324 P **P 02 26 03.1 +0.7**
comp=Z,2.3nm,0.5s,baz=95,slow=2.8,SNR=3.8
comp=Z,2.3nm,0.5s
BRTR Keskin Array B 53.81 299 P **P 02 27 59.1 -1.7**
comp=Z,0.9nm,0.8s,baz=83,slow=11,SNR=5.0
comp=Z,0.9nm,0.8s
FINES FINESS Array B 56.12 326 P **P 02 28 17.0 0.0**
comp=Z,1.3nm,0.7s,baz=74,slow=6.8,SNR=5.0
comp=Z,1.3nm,0.7s
ARCES ARCESS Array B 56.45 336 P **P 02 28 19.5 +0.3**
comp=Z,2.1nm,0.8s,baz=86,slow=7.7,SNR=6.2
comp=Z,2.1nm,0.8s
WRA Warramunga Ar 60.05 142 P **P 02 28 43.0 -2.0**
comp=Z,1.1nm,0.5s,baz=329,slow=7.7,SNR=23
comp=Z,1.1nm,0.5s
ASAR Alice Springs 62.90 145 P **P 02 29 02.1 -2.2**
comp=Z,0.3nm,0.4s,baz=326,slow=6.4,SNR=2.4
comp=Z,0.3nm,0.4s
NB2 NORSAR Subarra 63.28 327 P **P 02 29 05.4 -1.0**
comp=Z,2.2nm,1.2s,baz=74,slow=6.9
NOA NORSAR Array B 63.28 327 P **P 02 29 05.6 -0.8**
comp=Z,0.3nm,0.5s,baz=76,slow=5.1,SNR=2.4
comp=Z,0.3nm,0.5s
GERES GERESS Array B 65.36 314 P **P 02 29 20.4 +0.1**
comp=Z,0.4nm,0.6s,baz=52,slow=6.9,SNR=3.7
comp=Z,0.4nm,0.6s
KMBO Kilima Mbogo 66.99 254 P **P 02 29 30.1 -1.3**
comp=Z,1.1nm,0.6s,baz=27,slow=2.3,SNR=3.5
comp=Z,1.1nm,0.6s
TORD Torodi Ar. Bea 90.19 285 P **P 02 31 38.2 -0.7**
comp=Z,1.3nm,0.9s,baz=25,slow=3.4,SNR=6.3
comp=Z,1.3nm,0.9s

*JMA **23** 02:22:20.9±0.7,34˚N±2˚×14˚2E±˚, h30km, MV3.1/21, FAR SE OFF BOSO PEN*
*IDC **23** 02:22:20.2±1.4, 34˚.38N×141˚.62E, h0km, mb3.7/4, mbtmp3.6/5, ML2.5/1, Error ellipse: s-maj=31.5km s-min=22.4km az=117.0*
ISC 23 02:22:24.3±1.3, 34˚40N±0˚.07×141˚4E±0˚.1, h27km, n17, σ1s05/13, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.46**	**304**	P		**Pb**		**02 22 32.8**	**-0.7**
BSO3	**Boso 3**	**0.86**	**298**	*e*P		**Pn**		**02 22 39.9**	**-0.5**
BSO4	**Boso 4**	**1.08**	**303**	*e*P		**Pn**		**02 22 43.1**	**-0.4**
JKUC	**kamogawauchiur**	**1.27**	**307**	P		**Pn**		**02 22 45.4**	**-0.8**
JKUC				*e*S		**Sn**		**02 23 02.7**	**+0.3**
JMKN	**Mikurajimanish**	**1.61**	**252**	P		**Pn**		**02 22 50.9**	**-0.1**
JHJ	**Hachijo jima 2**	**1.88**	**228**	Pn		**Pn**		**02 22 54.2**	**-0.5**
JHJ	11nm,0.3s,baz=98,slow=19,SNR=2.0			Sn		**Sb**		**02 23 20.8**	**-0.2**
	106nm,0.3s,baz=62,slow=21,SNR=12								
MJAR	**Matsushiro Arr**	**3.39**	**310**	Pn		**Pn**		**02 23 16.0**	**+0.5**
	0.5nm,0.3s,baz=115,slow=9.7,SNR=7.7								
	2.8nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**26.87**	**116**	T		T		02 56 15.1	
	baz=309,slow=75,SNR=5.6								
H11N1	**WAKE ISLAND Hy**	**26.88**	**116**	T		T		02 56 15.9	
	baz=309,slow=75,SNR=5.1								
H11N3	**WAKE ISLAND Hy**	**26.89**	**116**	T		T		02 56 18.2	
	baz=309,slow=75,SNR=5.7								
H11S3	**WAKE ISLAND Hy**	**27.50**	**119**	T		T		02 57 04.1	
	baz=302,slow=74,SNR=4.1								
H11S1	**WAKE ISLAND Hy**	**27.50**	**119**	T		T		02 57 07.5	
	baz=302,slow=74,SNR=5.9								
H11S2	**WAKE ISLAND Hy**	**27.51**	**119**	T		T		02 57 14.1	
	baz=302								
MKAR	**Makanchi Array**	**45.57**	**304**	P		**P**		**02 30 44.7**	**+2.8**
	0.2nm,0.4s,baz=94,slow=12,SNR=2.5								
	0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**47.67**	**310**	P		**P**		**02 30 57.5**	**-0.7**
	1.6nm,0.8s,baz=85,slow=8.0,SNR=5.6								
	1.6nm,0.8s								
ILAR	**Eielson Array**	**51.72**	**31**	P		**P**		**02 31 28.2**	**-0.6**
	0.8nm,0.7s,baz=269,slow=5.6,SNR=8.4								
	0.8nm,0.7s								
WRA	**Warramunga Arr**	**54.46**	**188**	P		**P**		**02 31 49.6**	**+0.2**
	0.5nm,0.8s,baz=12,slow=7.6,SNR=5.4								
	0.5nm,0.8s								

*IDC **23** 02:25:43.6±1.5, 34˚.40N×141˚.58E, h0km, mb3.7/6, mbtmp3.7/7, ML2.9/1, Error ellipse: s-maj=33.1km s-min=22.4km az=113.0*
*JMA **23** 02:25:44.3±0.5, 34˚N±2˚×14˚2E±˚, h33km±2km, FAR SE OFF BOSO PEN*
ISC 23 02:25:47.7±1.0, 34˚46N±0˚.06×141˚52E±0˚.09, h27km, n19, σ0s71/21, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.49**	**293**	P		**Pb**		**02 25 57.0**	**-0.5**
BSO3	**Boso 3**	**0.90**	**292**	P		**Pn**		**02 26 03.9**	**-0.5**
BSO4	**Boso 4**	**1.11**	**299**	P		**Pn**		**02 26 07.5**	**+0.1**
JKUC	**kamogawauchiur**	**1.29**	**303**	P		**Pn**		**02 26 09.3**	**-0.7**
JKUC				*e*S		**Sb**		**02 26 27.5**	**-0.1**
CHOJ	**Chosi**	**1.35**	**336**	P		**Pn**		**02 26 09.4**	**-1.4**
JMKN	**Mikurajimanish**	**1.70**	**251**	P		**Pn**		**02 26 14.9**	**-0.7**
JHJ	**Hachijo jima 2**	**1.97**	**228**	Pn		**Pn**		**02 26 19.2**	**-0.2**
	18nm,0.3s,baz=78,slow=19,SNR=1.9								
JHJ				Sn		**Sn**		**02 26 42.9**	**-0.4**
	63nm,0.3s,baz=107,slow=23,SNR=8.5								
JOD2	**Odawara 2**	**2.16**	**292**	P		**Pn**		**02 26 21.6**	**-0.3**
JAG	**Ashikaga**	**2.59**	**320**	P		**Pn**		**02 26 27.3**	**-0.5**
JRY	**Ryogami san**	**2.65**	**307**	*e*P		**Pn**		**02 26 28.3**	**-0.3**
JYN	**Shimob**	**2.66**	**294**	P		**Pn**		**02 26 28.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.41**	**308**	Pn		**Pn**		**02 26 39.7**	**+0.6**
	1.2nm,0.3s,baz=129,slow=15,SNR=15								
	4.1nm,0.4s								
MKAR	**Makanchi Array**	**45.60**	**304**	P		**P**		**02 34 05.5**	**0.0**
	0.6nm,0.6s,baz=86,slow=10,SNR=4.8								
	0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**47.68**	**310**	P		**P**		**02 34 20.9**	**-0.8**
	0.6nm,0.4s,baz=86,slow=7.7,SNR=7.1								
	0.6nm,0.4s								
ILAR	**Eielson Array**	**51.63**	**31**	P		**P**		**02 34 51.4**	**-0.1**
	0.7nm,0.8s,baz=273,slow=6.0,SNR=3.2								
	0.7nm,0.8s								
WRA	**Warramunga Arr**	**54.53**	**188**	P		**P**		**02 35 12.9**	**-0.5**
	0.4nm,0.8s,baz=4.3,slow=7.8,SNR=3.0								
	0.4nm,0.8s								
AKTO	**Aktyubinsk**	**60.48**	**313**	P		**P**		**02 35 56.3**	**+1.3**
	0.7nm,0.5s,baz=74,slow=10,SNR=3.6								
	0.7nm,0.5s								
ARCES	**ARCESS Array B**	**66.43**	**340**	P		**P**		**02 36 35.1**	**+1.0**
	1.3nm,0.9s,baz=58,slow=6.7,SNR=2.0								
	1.3nm,0.9s								
ARCES	**ARCESS Array B**	**66.43**	**340**	P		**P**		**02 36 35.1**	**+1.0**

*BJI **23** 02:25:56.0±0.0, 36˚.10N×142˚.20E, h10km, mb4.7/34, mB5.1/5, Ms4.8/3, Ms7 4.9/3*
*IDC **23** 02:25:57.9±0.9, 36˚.06N×142˚.01E, h0km, mb4.2/18, mbtmp4.2/21, ML3.1/3, Error ellipse: s-maj=24.2km s-min=20.7km az=19.0*
*JMA **23** 02:26:00.2±0.3, 36˚.1N±0˚.7×14˚2E±˚, h72km, MD4.3/27, MV4.1/27, FAR E OFF IBARAKI PREF*
*NIED **23** 02:26:00.2, 36˚.12N×142˚.11E, h72km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}2.57; $M_{\theta\theta}$0.75; $M_{\phi\phi}$-3.32; $M_{r\theta}$-0.58; $M_{\theta\phi}$-0.99; $M_{\phi r}$1.22; Fault plane solution: $M_0$3.40000×10¹⁵ NP1: ϕ_s215.00000°, δ40.00000°, λ124.00000°. NP2: ϕ_s354.00000°, δ58.00000°, λ65.00000°.*
*MOS **23** 02:26:01.0±0.9, 36˚.31N×142˚.01E, h26km, mb4.7/25 Error ellipse: s-maj=11.9km s-min=6.3km az=123.9*
*NEIC **23** 02:26:04.7±1.6, 36˚.29N±0˚.08×141˚.84E±0˚.08, h33km±4km, mb4.5/25, Error ellipse: s-maj=13.8km s-min=5.8km az=145.0*
ISC 23 02:26:01.6±0.6, 36˚20N±0˚.05×142˚06E±0˚.06, h23km, n152, σ1s35/135, mb4.5/46, 5C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.10**	**243**	P		**Pn**		**02 26 20.1**	**-1.5**
CHOJ				*e*S		**Sb**		**02 26 34.8**	**-1.0**
CHOJ	**Chosi**	**1.10**	**243**	A		A		02 26 20.1	
	comp=E,11nm,2.2s,comp=E,6.0nm,1.0s								
JHYU	**Hitachinakayam**	**1.20**	**277**	P		**Pn**		**02 26 22.3**	**-0.7**
JHYU				S		**Sn**		**02 26 38.8**	**+0.3**
JHYU	**Hitachinakayam**	**1.20**	**277**	A		A		02 26 22.3	
	comp=E,10.0nm,1.6s,comp=E,10.0nm,0.5s								
JIHU	**Itakohorinouch**	**1.27**	**260**	P		**Pn**		**02 26 23.2**	**-0.7**
JIHU				*e*S		**Sn**		**02 26 40.3**	**+0.1**
JIHU	**Itakohorinouch**	**1.27**	**260**	A		A		02 26 23.2	
	comp=E,24nm,4.4s,comp=E,21nm,2.3s								
JHO	**Hitachi**	**1.27**	**289**	P		**Pn**		**02 26 23.0**	**-1.0**
JHO	**Hitachi**	**1.27**	**289**	A		A		02 26 23.0	
	comp=E,4.0nm,1.1s,comp=E,4.0nm,6.1s								
JSMT	**Sammumatsuo**	**1.42**	**247**	P		**Pn**		**02 26 25.5**	**-0.6**
JSMT	**Sammumatsuo**	**1.42**	**247**	A		A		02 26 25.5	
	comp=E,17nm,6.7s,comp=E,17nm,5.4s								
JFFD	**Fukushimafurud**	**1.50**	**307**	A		A		02 26 26.6	
	comp=E,5.0nm,5.5s,comp=E,4.0nm,6.6s								
JFK	**Kawauchi**	**1.50**	**321**	P		**Pn**		**02 26 27.0**	**-0.3**
JFK				*e*S		**Sb**		**02 26 46.7**	**-0.8**
JFK	**Kawauchi**	**1.50**	**321**	A		A		02 26 27.0	
	comp=E,3.0nm,2.4s,comp=E,3.0nm,3.3s								
JYT	**Yasato**	**1.51**	**271**	Pn		**Pn**		**02 26 26.1**	**-1.2**
JYT	**Yasato**	**1.51**	**271**	A		A		02 26 26.4	
	comp=E,7.0nm,2.9s,comp=E,7.0nm,1.0s								
JCN	**Nagara**	**1.70**	**243**	A		A		02 26 28.4	
	comp=E,13nm,3.4s,comp=E,11nm,2.6s								
JKUC	**kamogawauchiur**	**1.84**	**236**	A		A		02 26 30.1	
	comp=E,5.0nm,4.0s,comp=E,6.0nm,5.8s								
JSB	**Shiboa**	**1.89**	**295**	A		A		02 26 31.9	
	comp=E,12nm,5.1s,comp=E,9.0nm,3.6s								
TOK	**Tokyo**	**1.94**	**255**	A		A		02 26 31.9	
	comp=E,9.0nm,6.5s,comp=E,10.0nm,7.5s								
JMM	**Marumori**	**1.95**	**329**	Pn		**Pn**		**02 26 33.2**	**-0.1**
JMM	**Marumori**	**1.95**	**329**	P		**Pn**		**02 26 33.0**	**-0.3**
JMM	**Marumori**	**1.95**	**329**	A		A		02 26 33.0	
	comp=E,5.0nm,7.9s,comp=E,3.0nm,5.7s								
JAG	**Ashikaga**	**2.12**	**277**	P		**Pn**		**02 26 35.4**	**-0.2**
JYAR	**Yonezawaarcadi**	**2.29**	**319**	A		A		02 26 37.8	
	comp=E,9.0nm,0.9s,comp=E,9.0nm,1.1s								
JKT	**Katashina**	**2.34**	**285**	A		A		02 26 38.0	
	comp=E,5.0nm,9.4s,comp=E,3.0nm,0.5s								
JOU	**Okura**	**2.43**	**333**	A		A		02 26 39.8	
	comp=E,5.0nm,1.3s,comp=E,4.0nm,2.0s								
JRY	**Ryogami san**	**2.57**	**267**	P		**Pn**		**02 26 40.7**	**-1.1**
JRY	**Ryogami san**	**2.57**	**267**	A		A		02 26 40.7	
	comp=E,3.0nm,6.0s,comp=E,3.0nm,13.7s								
JYS	**Shirataka**	**2.57**	**322**	A		A		02 26 41.7	
	comp=E,6.0nm,4.3s,comp=E,5.0nm,6.5s								
JYA	**Atsumi**	**3.03**	**323**	A		A		02 26 48.1	
	comp=E,3.0nm,4.1s,comp=E,3.0nm,1.5s								
MJAR	**Matsushiro Arr**	**3.13**	**277**	Pn		**Pn**		**02 26 48.8**	**-0.8**
	3.6nm,0.3s,baz=100,slow=7.7,SNR=15								
	26nm,0.4s								
MAJO	**Matsushiro**	**3.13**	**277**	Pn		**Pn**		**02 26 50.2**	**+0.6**
MAJO	**Matsushiro**	**3.13**	**277**	P		**Pn**		**02 26 50.2**	**+0.6**
MJB9	**Matsu-Tunnel**	**3.13**	**277**	Pn		**Pn**		**02 26 49.8**	**+0.2**
JJN	**Nakama**	**3.26**	**287**	A		A		02 26 51.0	
	comp=E,3.0nm,3.9s,comp=E,2.0nm,17.6s								
SHZ3	**Shizuoka 3**	**3.34**	**251**	A		A		02 26 51.2	
	comp=E,2.0nm,6.0s,comp=E,2.0nm,6.4s								
JSD	**Sado**	**3.55**	**302**	Pn		**Pn**		**02 26 52.9**	**-2.4**
JHJ	**Hachijo jima 2**	**3.60**	**212**	Sn		**Sn**		**02 27 32.6**	**-5.3**
	84nm,0.3s,baz=319,slow=22,SNR=3.7								
JGF	**Kuroka**	**3.87**	**262**			**Pn**		**02 26 58.4**	**-1.3**
INU	**Inuyama**	**4.19**	**260**	Pn		**Pn**		**02 27 03.6**	**-0.5**
JTM	**Tenmabayashi**	**4.64**	**351**	Pn		**Pn**		**02 27 11.8**	**+1.5**
ERM	**Erimo**	**5.87**	**8**	Pn		**Pn**		**02 27 26.1**	**-1.0**
ERM	**Erimo**	**5.87**	**8**	P		**Pn**		**02 27 26.1**	**-1.0**
JMN	**Monobe**	**7.16**	**252**	Pn		**Pn**		**02 27 45.2**	**+0.2**
JHS	**Saijyo**	**7.39**	**263**	Pn		**Pn**		**02 27 47.5**	**-0.6**
NMR	**Nemuro--Hokkai**	**7.69**	**20**	*e*P		**Pn**		**02 27 49.2**	**-3.0**
NMR				*e*S		**Sn**		**02 29 11.5**	**-7.1**
YSS	**Yuzh-Sakhalins**	**10.76**	**3**	*e*P		**Pn**		**02 28 33.3**	**-0.8**
YSS				pmax		pmax			
	comp=Z,20nm,1.1s								
USA0B	**Ussuriysk Arra**	**11.09**	**319**	Pn		**Pn**		**02 28 37.8**	**-1.0**
USA0B	**Ussuriysk Arra**	**11.09**	**319**	P		**Pn**		**02 28 37.8**	**-1.0**
USRK	**Ussuriysk Ar.**	**11.09**	**319**	Pn		**Pn**		**02 28 40.1**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=94,slow=15,SNR=5.7								
	comp=Z,2.9nm,0.7s								
USRK	**Ussuriysk Ar.**	**11.09**	**319**	Pn		**Pn**		**02 28 38.5**	**-0.3**
KSRS	**Korea Array**	**11.40**	**280**	Pn		**Pn**		**02 28 40.6**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=99,slow=11,SNR=2.0								
	comp=Z,0.6nm,0.3s								
KSAR	**Wonju Array Be**	**11.43**	**280**	Pn		**Pn**		**02 28 42.8**	**-0.7**
KSAR	**Wonju Array Be**	**11.43**	**280**	P		**Pn**		**02 28 42.8**	**-0.7**
KS19	**Wonju Array Si**	**11.45**	**281**			**Pn**		**02 28 43.2**	**-0.5**
KLR	**Kul'dur**	**15.04**	**333**	Pn		**P**		**02 29 37.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=157,slow=11,SNR=5.4								
KLR	**Kul'dur**	**15.04**	**333**	P		**P**		**02 29 37.0**	**-0.8**
NJ2	**Nanjing**	**19.64**	**265**	*e*P		**P**		**02 30 27.3**	**-1.4**
NJ2				pmax		pmax			
	comp=Z,13nm,0.7s								
ZEA	**Zeya**	**20.35**	**334**	*e*P		Pn		02 30 38.0	-0.4
ZEA				pmax		pmax			
	comp=Z,20nm,1.2s								
HIA	**Hailar**	**20.86**	**316**	*i* P		**P**		**02 30 41.2**	**-0.7**
HIA				pmax		pmax			
	comp=Z,8.0nm,0.6s								
XLT	**XiLinHaoTe**	**21.26**	**299**	*e*P		**P**		**02 30 44.4**	**-1.9**
XLT				pP		pP		02 30 48.3	-3.8
XLT				sP		sP		02 30 51.3	-3.4
XLT				PP		**PnPn**		**02 31 06.4**	**+0.3**
XLT				pmax		pmax			
	comp=Z,23nm,0.7s								
HHC	**Hu-ho-hao-te**	**24.24**	**290**	*e*P		**P**		**02 31 16.9**	**0.0**
HHC				pmax		pmax			
	comp=Z,29nm,0.9s								
YAK	**Yakutsk**	**26.99**	**347**	*i* P		**P**		**02 31 42.4**	**+1.0**
YAK				pmax		pmax			
	comp=Z,13nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**27.28**	**120**	T		T		03 00 42.4	
	baz=312,slow=75,SNR=18								
H11N1	**WAKE ISLAND Hy**	**27.29**	**120**	T		T		03 00 17.7	
	baz=312,slow=75,SNR=10								
H11N3	**WAKE ISLAND Hy**	**27.30**	**120**	T		T		03 00 16.6	
	baz=312,slow=75,SNR=7.6								
ENH	**Enshi**	**27.80**	**267**	P		**P**		**02 31 48.1**	**-1.0**
H11S1	**WAKE ISLAND Hy**	**27.97**	**122**	T		T		03 01 17.1	
	baz=314,slow=75,SNR=26								
H11S3	**WAKE ISLAND Hy**	**27.97**	**123**	T		T		03 01 07.3	
	baz=314,slow=75,SNR=19								
H11S2	**WAKE ISLAND Hy**	**27.99**	**123**	T		T		03 01 10.8	
	baz=314,slow=75,SNR=11								
ULN	**Ulaanbaatar**	**28.26**	**305**	P		**P**		**02 31 52.5**	**-0.6**
ULN				IAmb		IAmb		02 31 56.6	
	comp=Z,8.3nm,0.8s								
ULN	**Ulaanbaatar**	**28.26**	**305**	*ce*P		**P**		**02 31 52.9**	**-0.2**
ULN				pmax		pmax			
	comp=Z,11nm,1.0s								
BOD	**Bodaibo**	**28.51**	**328**	*e*P		**P**		**02 31 55.7**	**+0.7**
BOD				pmax		pmax			
	comp=Z,14nm,1.3s								
SONM	**Songino Array**	**28.68**	**305**	P		**P**		**02 31 57.8**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=100,slow=9.1,SNR=17								
	comp=Z,3.5nm,0.8s								
SONM	**Songino Array**	**28.68**	**305**	P		**P**		**02 31 57.3**	**+0.4**
ZAK	**Zakamensk**	**31.20**	**309**	*e*P		**P**		**02 32 19.6**	**+0.5**
ZAK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
MOY	**Mondy**	**32.87**	**311**	*e*P		**P**		**02 32 35.5**	**+1.7**
GTA	**Gaotai**	**33.31**	**288**	⇑P		**P**		**02 32 38.3**	**+0.5**
GTA				sP		pwP		02 32 49.3	+2.1
GTA				pmax		pmax			
	comp=Z,17nm,0.8s								
BILL	**Bilibino**	**34.68**	**16**	*e*P		**P**		**02 32 48.2**	**-0.9**
BILL				pmax		pmax			
	comp=Z,40nm,1.9s								
PZH	**PanZhiHua**	**35.55**	**266**	P		**P**		**02 32 57.6**	**+0.3**
PZH				pmax		pmax			
	comp=Z,20nm,0.9s								
GOMU	**GeErMu**	**37.83**	**284**	⇓*e*P		**P**		**02 33 17.1**	**+0.2**
GOMU				pP		pP		02 33 20.3	-2.8
GOMU				sP		sP		02 33 21.3	-4.4
GOMU				pmax		pmax			
	comp=Z,12nm,0.9s								
DGZ	**Jazzator, Alta**	**41.30**	**307**	*i* P		**P**		**02 33 44.9**	**-0.5**
DGZ				pmax		pmax			
	comp=Z,19nm,1.1s								
WMQ	**Urumqi**	**41.68**	**298**	*e*P		**P**		**02 33 51.0**	**+2.5**
CMAR	**Chiang Mai Arr**	**41.80**	**257**	P		**P**		**02 33 49.0**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=43,slow=6.6,SNR=6.5							

comp=Z,3.5nm,0.9s
KK31 Karatay Array 53.99 301 P **P** **02 35 23.9 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 53.99 301 IAmb IAmb 02 35 29.3
comp=Z,3.5nm,0.9s
NIL Nilore 55.38 289 P **P** **02 35 34.4 +0.4**
NIL IAmb IAmb 02 35 39.5
comp=Z,4.5nm,0.8s
NIL Nilore 55.38 289 P **P** **02 35 34.4 +0.4**
NIL pmax pmax
comp=Z,5.0nm,0.8s
GAR Garm 55.53 296 P **P** **02 35 35.4 +0.2**
WRAB Tennant Creek 56.30 189 P **P** **02 35 42.9 +2.3**
WRAB Tennant Creek 56.30 189 P **P** **02 35 42.9 +2.3**
WRAB pmax pmax
comp=Z,7.0nm,0.6s
WRA Warramunga Arr 56.32 189 P **P** **02 35 39.2 -1.5**
comp=Z,1.4nm,0.8s,baz=7.5,slow=7.6,SNR=6.7
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 56.32 189 P **P** **02 35 42.2 +1.5**
WRA Warramunga Arr 56.32 189 P **P** **02 35 42.2 +1.5**
ARU Arti 57.33 319 P **P** **02 35 47.9 +0.4**
comp=Z,4.8nm,0.5s,baz=56,slow=3.6,SNR=8.4
comp=Z,4.8nm,0.5s
ARU Arti 57.33 319 P **P** **02 35 47.5 0.0**
ARU IAmb IAmb 02 35 48.7
comp=Z,6.5nm,0.8s
ABKAR Akbulak array 58.87 311 P **P** **02 35 58.1 -0.3**
AKTO Aktyubinsk 59.62 312 P **P** **02 36 03.6 0.0**
comp=Z,3.0nm,0.9s,baz=76,slow=13,SNR=10
comp=Z,3.0nm,0.9s
AS31 Alice Springs 60.04 189 P **P** **02 36 08.3 +1.6**
AS31 IAmb IAmb 02 36 19.4
comp=Z,1.2nm,0.5s
ASAR Alice Springs 60.04 189 P **P** **02 36 07.5 +0.8**
ASAR Alice Springs 60.04 189 P **P** **02 36 07.5 +0.8**
KIRV Kirov 61.22 323 P **P** **02 36 15.0 +0.7**
comp=Z,10nm,0.6s,baz=72,slow=6.2,SNR=7.4
comp=Z,10nm,0.6s
OBN Obninsk 69.07 324 *eP* **P** **02 37 06.1 +0.7**
OBN *e* 02 39 38.9
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,798nm,15.0s
FINES FINESS Array B 69.79 333 P **P** **02 37 09.9 +0.2**
comp=Z,1.3nm,0.7s,baz=57,slow=7.0,SNR=4.6
comp=Z,1.3nm,0.7s
FINES FINESS Array B 69.79 333 *ceP* **P** **02 37 10.8 +1.1**
FINES pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 71.84 311 P **P** **02 37 23.4 +0.9**
comp=Z,2.7nm,0.8s,baz=24,slow=2.8,SNR=5.9
comp=Z,2.7nm,0.8s
KIV Kislovodsk 71.84 311 *eP* **P** **02 37 23.6 +0.9**
KIV pmax pmax
comp=Z,7.0nm,1.0s
MNK Minsk 73.47 326 *i* P **P** **02 37 30.8 -1.1**
MNK *i* 02 37 47.1
MNK *i* 02 40 13.7
MNK *i* PPP PPP 02 41 58.3
MNK *i* S **S** **02 46 59.7 -0.3**
MNK *i* 02 47 39.2
MNK *i* SS **SS** **02 51 42.1 +0.4**
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK MLR MLR
comp=N,1.0nm,16.0s
MNK MLR MLR
comp=E,88nm,18.0s
MNK MLR MLR
comp=Z,644nm,17.0s
MNK Minsk 73.47 326 *i* P **P** **02 37 30.9 -1.1**
comp=E,1.0nm,1.1s
MNK *i* P **P** **02 37 30.9 -1.1**
MNK *i* P **P** **02 37 30.9 -1.1**
comp=Z,5.0nm,0.8s,baz=230
MNK *i* PcP **PcP** **02 37 47.1 -0.9**
MNK *i* PP **PP** **02 40 13.7 -1.6**
MNK *i* PPP PPP 02 41 58.3
MNK *i* S **S** **02 46 59.8 -0.3**
MNK *i* SS **SS** **02 51 42.2 +0.4**
MNK *i* SSS SSS 02 55 03.1
MNK *i* LQ LQ 03 04 21.8
MNK *i* LR LR 03 09 52.8
MNK *i* LRM MLR 03 12 01.2
comp=E,88nm,17.9s
MNK *i* LRM MLR 03 12 01.2
comp=N,1.0nm,16.0s
MNK *i* LRM MLR 03 12 08.1
comp=Z,644nm,17.2s
NB2 NORSAR Subarra 75.15 338 P P 02 37 35.0 -6.7
comp=Z,1.8nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 75.15 338 P **P** **02 37 42.1 +0.3**
comp=Z,1.7nm,0.8s,baz=39,slow=5.7,SNR=7.7
comp=Z,1.7nm,0.8s
AKASG Malin Array Be 75.27 323 P **P** **02 37 42.3 -0.2**
comp=Z,1.1nm,0.5s,baz=44,slow=5.2,SNR=8.4
comp=Z,1.1nm,0.5s
TPNV Topopah Spring 77.25 54 P **P** **02 37 57.5 +3.2**
TPNV Topopah Spring 77.25 54 P **P** **02 37 57.5 +3.2**
TPNV pmax pmax
comp=Z,6.0nm,0.7s
PD31 Pinedale Array 77.88 46 P **P** **02 37 58.5 +0.7**
BURAR Bucovina Array 79.28 322 P **P** **02 38 05.5 +0.3**
BRTR Keskin Array B 79.79 312 P **P** **02 38 08.9 +0.7**
comp=Z,1.5nm,0.9s,baz=98,slow=4.5,SNR=6.7
comp=Z,1.5nm,0.9s
BRTR Keskin Array B 79.79 312 P **P** **02 38 09.0 +0.7**
CLL Collm 82.08 331 *eP* **P** **02 38 20.0 0.0**
CLL pmax pmax
comp=Z,4.0nm,1.1s
CLL Collm 82.08 331 *eP* **P** **02 38 20.0 0.0**
comp=Z,4.0nm,1.1s
GERES GERESS Array B 83.69 329 P **P** **02 38 28.6 0.0**
comp=Z,0.4nm,0.6s,baz=17,slow=5.6,SNR=5.3
comp=Z,0.4nm,0.6s
GERES GERESS Array B 83.69 329 P **P** **02 38 27.6 -0.9**
GRFO Grafenberg 84.05 330 P **P** **02 38 30.3 +0.1**
GRFO IAmb IAmb 02 38 32.0
comp=Z,5.6nm,0.9s
GRFO Grafenberg 84.05 330 P **P** **02 38 30.3 +0.1**
GRFO pmax pmax
comp=Z,6.0nm,0.9s
TXAR Lajitas Array 90.21 53 P **P** **02 39 01.4 +0.8**
comp=Z,0.2nm,0.7s,baz=305,slow=3.2,SNR=4.2
comp=Z,0.2nm,0.7s
LPAZ La Paz 146.65 61 PKPbc **PKPbc** **02 45 43.4 +0.8**
comp=Z,1.0nm,0.7s,baz=27,slow=4.5,SNR=3.3

---

*IDC **23** 02:34:33.5±0.9,34˚.47N×141˚.79E,h0km,mb3.8/8, mbtmp3.7/10,ML3.0/2,Error ellipse: s-maj=25.9km s-min=18.4km az=101.0*
*JMA **23** 02:34:33.6±0.5,34˚.N±1˚×14˚2E±˚,h38km±2km,MV3.2/32, FAR SE OFF BOSO PEN*
*NEIC **23** 02:34:33.6±0.9,34˚.48N±0˚.07×141˚.9E±0˚.1,h20km±6km, mb4.1/10,Error ellipse: s-maj=14.5km s-min=7.7km az=118.0*
ISC 23 02:34:36.8±0.8,34˚.50N±0˚.05×141˚.64E±0˚.07,h27km,n46, σ1§30/47,mb3.9/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.57**	**286**	P	**Pn**	**02 34 48.1**	**-0.5**
BSO3	**Boso 3**	**0.98**	**288**	P	**Pb**	**02 34 54.6**	**-0.4**
BSO4	**Boso 4**	**1.18**	**295**	P	**Pb**	**02 34 57.9**	**-0.5**
JKUC	**kamogawauchiur**	**1.35**	**299**	P	**Pn**	**02 34 59.7**	**-0.2**
CHOJ	**Chosi**	**1.36**	**332**	P	**Pn**	**02 34 59.3**	**-0.7**
CHOJ				*eS*	**Sb**	**02 35 18.4**	**0.0**
JMKN	**Mikurajimanish**	**1.81**	**251**	P	**Pn**	**02 35 05.8**	**-0.3**
JMKN				S	**Sn**	**02 35 29.1**	**+1.0**
JHJ2	**Mitsune**	**2.06**	**228**	Pn	**Pn**	**02 35 08.4**	**-1.2**
JHJ2	**Mitsune**	**2.06**	**228**	*eP*	**Pn**	**02 35 11.0**	**+1.4**
JHJ2				*eS*	**Sb**	**02 35 37.2**	**-1.4**
JHJ	**Hachijo jima 2**	**2.07**	**229**	Pn	**Pn**	**02 35 11.1**	**+1.3**
	26nm,0.3s,baz=336,slow=20,SNR=7.4						
JHJ				Sn	**Sb**	**02 35 37.2**	**-1.8**
	67nm,0.3s,baz=70,slow=22,SNR=7.9						
	67nm,0.3s						
JYT	**Yasato**	**2.09**	**326**		**Pn**	**02 35 09.7**	**-0.3**
JOD2	**Odawara 2**	**2.23**	**291**	P	**Pn**	**02 35 11.3**	**-0.7**
JIZS	**Izushimoda**	**2.29**	**276**	P	**Pn**	**02 35 13.7**	**+1.0**
JMM	**Marumori**	**3.42**	**349**		**Pn**	**02 35 27.2**	**-1.2**
MJAR	**Matsushiro Arr**	**3.46**	**307**	Pn	**Pn**	**02 35 29.4**	**+0.5**
	0.5nm,0.3s,baz=120,slow=8.5,SNR=9.7						
	3.0nm,0.4s						
MAJO	**Matsushiro**	**3.46**	**307**		**Pn**	**02 35 29.1**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.47**	**307**		**Pn**	**02 35 29.1**	**+0.1**
JGF	**Kuroka**	**3.68**	**289**		**Pn**	**02 35 32.8**	**+0.8**
INU	**Inuyama**	**3.89**	**284**	Pn	**Pn**	**02 35 35.4**	**+0.6**
KSAR	**Wonju Array Be**	**11.53**	**289**	Pn	**Pn**	**02 37 21.5**	**+2.0**
KS19	**Wonju Array Si**	**11.55**	**289**	Pn	**Pn**	**02 37 20.2**	**+0.3**
MDJ	**Mudanjiang**	**13.71**	**321**	Pn	**Pn**	**02 37 48.8**	**-0.5**
BJT	**Baijiatuau**	**20.98**	**293**	P	**P**	**02 39 17.3**	**-0.5**
BJT				IAmb	IAmb	02 39 25.9	
	comp=Z,3.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**26.77**	**117**	T	T	03 08 18.3	
	baz=309,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**26.77**	**117**	T	T	03 08 17.8	
	baz=309,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**26.79**	**117**	T	T	03 08 30.1	
	baz=309,slow=75,SNR=9.1						
ULN	**Ulaanbaatar**	**28.99**	**308**	P	**P**	**02 40 34.6**	**+0.4**
ULN				IAmb	IAmb	02 40 55.3	
	comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**29.41**	**308**	P	**P**	**02 40 37.9**	**-0.1**
ZALV	**Zalesovo Beam**	**43.78**	**314**	P	**P**	**02 42 41.0**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=81,slow=9.2,SNR=4.1						
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**43.78**	**314**	P	**P**	**02 42 38.6**	**-1.3**
MK31	**Makanchi Array**	**45.66**	**304**	P	**P**	**02 42 53.8**	**-1.2**
MK31				IAmb	IAmb	02 43 02.9	
	comp=Z,6.2nm,1.4s						
MKAR	**Makanchi Array**	**45.66**	**304**	P	**P**	**02 42 56.2**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=89,slow=10,SNR=3.4						
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**45.66**	**304**	P	**P**	**02 42 54.8**	**-0.2**
KURK	**Kurchatov**	**47.67**	**310**	P	**P**	**02 43 09.6**	**-1.0**
ILAR	**Eielson Array**	**51.54**	**31**	P	**P**	**02 43 40.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=261,slow=5.3,SNR=7.2						
	comp=Z,0.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.48**	**199**	P	**P**	**02 43 58.9**	**-3.1**
KK31	**Karatay Array**	**54.58**	**302**	P	**P**	**02 44 02.4**	**-0.3**
KK31				IAmb	IAmb	02 44 06.0	
	comp=Z,2.2nm,0.9s						
KKAR	**Karatay Array**	**54.58**	**302**	P	**P**	**02 44 02.4**	**-0.3**
KKAR				IAmb	IAmb	02 44 06.0	
	comp=Z,2.2nm,0.9s						
WB2	**Warramunga Arr**	**54.59**	**188**	P	**P**	**02 43 59.9**	**-3.0**
WRA	**Warramunga Arr**	**54.59**	**188**	P	**P**	**02 44 03.2**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=4.8,slow=7.5,SNR=26						
	comp=Z,1.8nm,0.7s						
WRA	**Warramunga Arr**	**54.59**	**188**	P	**P**	**02 44 00.1**	**-2.7**
AS31	**Alice Springs**	**58.31**	**188**	P	**P**	**02 44 26.9**	**-2.4**
AS31				IAmb	IAmb	02 44 42.9	
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**58.31**	**188**	P	**P**	**02 44 30.2**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=14,slow=10,SNR=11						
	comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**59.73**	**311**	P	**P**	**02 44 38.8**	**-0.2**
NOA	**NORSAR Array B**	**76.59**	**338**	P	**P**	**02 46 25.5**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=25,slow=3.4,SNR=3.5						
	comp=Z,0.5nm,0.7s						
BRTR	**Keskin Array B**	**80.67**	**312**	P	**P**	**02 46 50.9**	**+3.3**
	comp=Z,0.8nm,0.9s,baz=44,slow=4.4,SNR=4.1						
	comp=Z,0.8nm,0.9s						
TXAR	**Lajitas Array**	**91.51**	**53**	P	**P**	**02 47 42.5**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=283,slow=4.5,SNR=2.5						
	comp=Z,0.2nm,0.6s						

---

*IDC **23** 02:40:20.2±0.8,34˚.49N×141˚.62E,h0km,mb3.9/10, mbtmp3.8/12,ML3.1/2,MS3.4/1,Error ellipse: s-maj=21.8km s-min=17.0km az=108.0*
*JMA **23** 02:40:21.2±0.3,34˚.5N±0˚.9×14˚2E±˚,h32km±2km, MV3.7/36,FAR SE OFF BOSO PEN*
*NEIC **23** 02:40:21.6±0.7,34˚.51N±0˚.06×141˚.66E±0˚.09,h10km±1km, mb4.3/13,Error ellipse: s-maj=14.3km s-min=8.8km az=302.0*
ISC 23 02:40:22.6±0.9,34˚.53N±0˚.05×141˚.72E±0˚.09,h21km±5km, n56,σ0§73/53,mb4.1/17,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.62**	**282**	P	**Pn**	**02 40 34.5**	**-1.2**
BSO2	**Boso 2**	**0.83**	**286**	*eS*	**Sb**	**02 40 49.8**	**+1.1**
BSO3	**Boso 3**	**1.03**	**286**	P	**Pb**	**02 40 41.4**	**-0.2**
BSO4	**Boso 4**	**1.23**	**292**	P	**Pb**	**02 40 44.5**	**-0.5**
BSO4				*eS*	**Sb**	**02 41 01.1**	**+0.8**
KTR	**Katsuura**	**1.31**	**299**	P	**Pb**	**02 40 45.9**	**-0.6**
CHOJ	**Chosi**	**1.37**	**329**	P	**Pn**	**02 40 45.7**	**-0.7**
CHOJ				*eS*	**Sn**	**02 41 02.5**	**-1.4**
JKUC	**kamogawauchiur**	**1.40**	**297**	P	**Pn**	**02 40 46.5**	**-0.4**
JKUC				*eS*	**Sn**	**02 41 04.3**	**-0.4**
JMKN	**Mikurajimanish**	**1.88**	**251**	P	**Pn**	**02 40 52.3**	**-1.1**
JMKN				*eS*	**Sn**	**02 41 15.3**	**-1.1**
JYT	**Yasato**	**2.10**	**324**		**Pn**	**02 40 56.4**	**-0.1**
JHJ2	**Mitsune**	**2.12**	**229**		**Pn**	**02 40 55.8**	**-1.0**
JHJ2	**Mitsune**	**2.12**	**229**	P	**Pn**	**02 40 56.8**	**0.0**
JHJ	**Hachijo jima 2**	**2.14**	**229**	Pn	**Pn**	**02 40 56.4**	**-0.6**
	39nm,0.3s,baz=44,slow=20,SNR=22						
JHJ				Sn	**Sn**	**02 41 22.8**	**-0.2**
	113nm,0.3s,baz=255,slow=24,SNR=16						
	82nm,0.3s						
JOD2	**Odawara 2**	**2.28**	**289**	P	**Pn**	**02 40 58.8**	**-0.2**
JOD2				*eS*	**Sn**	**02 41 26.9**	**+0.3**
JIZS	**Izushimoda**	**2.35**	**275**	P	**Pn**	**02 40 59.4**	**-0.4**
JMM	**Marumori**	**3.41**	**348**		**Pn**	**02 41 13.4**	**-1.1**
MJAR	**Matsushiro Arr**	**3.50**	**306**	Pn	**Pn**	**02 41 16.1**	**+0.3**
	0.7nm,0.3s,baz=115,slow=7.3,SNR=15						
MJAR				LR	LR	02 43 05.6	
	comp=Z,494nm,18.3s,baz=45,slow=48						
	9.8nm,0.9s						
MAJO	**Matsushiro**	**3.50**	**306**		**Pn**	**02 41 15.2**	**-0.5**
MJB9	**Matsu-Tunnel**	**3.50**	**306**		**Pn**	**02 41 15.8**	**-0.1**
JGF	**Kuroka**	**3.73**	**288**	Pn	**Pn**	**02 41 18.7**	**-0.3**
INU	**Inuyama**	**3.95**	**283**	Pn	**Pn**	**02 41 22.8**	**+0.8**
JSD	**Sado**	**4.48**	**322**		**Pn**	**02 41 28.1**	**-1.1**
USRK	**Ussuriysk Ar.**	**12.24**	**325**	Pn	**Pn**	**02 43 15.4**	**-0.1**
BJT	**Baijiatuau**	**21.03**	**293**	P	**P**	**02 45 03.2**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**26.72**	**117**	T	T	03 14 05.8	
	baz=309,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**26.73**	**117**	T	T	03 14 16.4	
	baz=309,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**26.74**	**117**	T	T	03 14 12.2	
	baz=309,slow=75,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	03 15 12.1	
	baz=313,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	03 14 57.6	
	baz=313,slow=75,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**27.37**	**119**	T	T	03 14 58.3	
	baz=313,slow=75,SNR=8.6						
SONM	**Songino Array**	**29.45**	**308**	P	**P**	**02 46 26.3**	**+1.4**
	0.8nm,0.8s,baz=92,slow=8.9,SNR=2.3						
	0.8nm,0.8s						
SONM	**Songino Array**	**29.45**	**308**	P	**P**	**02 46 25.0**	**+0.2**
ZALV	**Zalesovo Beam**	**43.81**	**314**	P	**P**	**02 48 27.1**	**+0.4**
	0.7nm,0.4s,baz=115,slow=8.5,SNR=2.6						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**43.81**	**314**	P	**P**	**02 48 26.9**	**+0.1**
MK31	**Makanchi Array**	**45.70**	**304**	P	**P**	**02 48 41.7**	**-0.2**
MK31				IAmb	IAmb	02 48 52.6	
	comp=Z,3.7nm,1.1s						
MKAR	**Makanchi Array**	**45.70**	**304**	P	**P**	**02 48 42.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=84,slow=11,SNR=3.1						
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**47.70**	**310**	P	**P**	**02 48 57.7**	**+0.3**
NEA2	**Nenana**	**50.55**	**31**	P	**P**	**02 49 20.3**	**+1.2**
NEA2				IAmb	IAmb	02 49 22.4	
	comp=Z,4.0nm,0.9s						
IL31		**51.49**	**31**	P	P	02 49 27.9	+1.8
IL31				IAmb	IAmb	02 49 53.6	
	comp=Z,4.6nm,1.3s						
ILAR	**Eielson Array**	**51.49**	**31**	P	**P**	**02 49 27.4**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=269,slow=5.8,SNR=10						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**51.49**	**31**	P	**P**	**02 49 26.9**	**+0.7**
BRVK	**Borovoye**	**52.52**	**314**	P	**P**	**02 49 34.2**	**+0.2**
BRVK				IAmb	IAmb	02 50 06.6	
	comp=Z,3.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.53**	**199**	P	**P**	**02 49 48.3**	**-0.7**
FITZ				IAmb	IAmb	02 50 18.3	
	comp=Z,5.7nm,1.2s						
WB2	**Warramunga Arr**	**54.62**	**189**	P	**P**	**02 49 49.7**	**0.0**
WRA	**Warramunga Arr**	**54.62**	**189**	P	**P**	**02 49 49.8**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=4.5,slow=7.6,SNR=32						
	comp=Z,2.4nm,0.7s						
WRA	**Warramunga Arr**	**54.62**	**189**	P	**P**	**02 49 49.2**	**-0.5**
KK31	**Karatay Array**	**54.62**	**302**	P	**P**	**02 49 49.7**	**+0.1**
KK31				IAmb	IAmb	02 49 55.3	
	comp=Z,4.8nm,1.0s						
KKAR	**Karatay Array**	**54.62**	**302**	P	**P**	**02 49 49.7**	**+0.1**
ASAR	**Alice Springs**	**58.35**	**188**	P	**P**	**02 50 16.8**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=14,slow=12,SNR=14						
	comp=Z,0.9nm,0.7s						
KBL	**Kabul**	**58.57**	**293**	P	**P**	**02 50 18.9**	**+0.8**
KBL				IAmb	IAmb	02 50 30.9	
	comp=Z,3.6nm,1.0s						
ABKAR	**Akbulak array**	**59.76**	**311**	P	**P**	**02 50 25.7**	**-0.1**
NVAR	**Mina Array Bea**	**76.30**	**53**	P	P	02 52 12.4	+2.2
	comp=Z,0.6nm,0.7s,baz=284,slow=7.3,SNR=4.0						
	comp=Z,0.6nm,0.7s						
AKASG	**Malin Array Be**	**76.43**	**323**	P	**P**	**02 52 10.4**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=50,slow=4.9,SNR=4.7						
	comp=Z,0.6nm,0.4s						
NB2	**NORSAR Subarra**	**76.59**	**338**	P	**P**	**02 52 11.5**	**+0.3**
	comp=Z,2.9nm,1.1s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**76.59**	**338**	P	**P**	**02 52 11.5**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=40,slow=5.6,SNR=3.5						
	comp=Z,1.2nm,1.0s						
TXAR	**Lajitas Array**	**91.45**	**53**	P	P	02 53 29.3	+1.7
	comp=Z,0.3nm,0.7s,baz=301,slow=4.7,SNR=4.5						
	comp=Z,0.3nm,0.7s						
LPAZ	**La Paz**	**147.67**	**63**	PKPbc	**PKPab**	**03 00 08.2**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=287,slow=3.4,SNR=4.5						

---

*NEIC **23** 02:43:26.2±1.3,34˚.48N±0˚.06×142˚.07E±0˚.05,h10km±2km, mb4.1/6,Error ellipse: s-maj=11.6km s-min=4.7km az=29.0*
*IDC **23** 02:43:28.2±0.9,34˚.49N×141˚.67E,h0km,mb3.8/9, mbtmp3.8/12,ML2.8/3,Error ellipse: s-maj=23.3km s-min=18.1km az=95.0*
*JMA **23** 02:43:29.1±0.5,34˚.N±1˚×14˚2E±˚,h35km±2km,MV3.6/34, FAR SE OFF BOSO PEN*
ISC 23 02:43:30.1±0.7,34˚.52N±0˚.05×141˚.77E±0˚.07,h21km,n47, σ1§24/48,mb3.9/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.67**	**282**	P	**Pb**	**02 43 43.3**	**+0.5**
BSO3	**Boso 3**	**1.08**	**286**	*eP*	**Pn**	**02 43 50.2**	**+0.6**
BSO4	**Boso 4**	**1.27**	**292**	*eP*	**Pn**	**02 43 53.1**	**+0.6**
KTR	**Katsuura**	**1.35**	**298**	P	**Pn**	**02 43 54.0**	**+0.3**
CHOJ	**Chosi**	**1.40**	**328**	P	**Pn**	**02 43 54.2**	**-0.1**
JKUC	**kamogawauchiur**	**1.44**	**297**	P	**Pn**	**02 43 55.1**	**+0.2**
JKUC				S	**Sn**	**02 44 14.1**	**+0.8**
JMKN	**Mikurajimanish**	**1.91**	**252**	P	**Pn**	**02 44 00.6**	**-0.8**
JMKN				S	**Sn**	**02 44 23.6**	**-1.2**
JYT	**Yasato**	**2.14**	**323**	Pn	**Pn**	**02 44 04.2**	**-0.3**
JHJ2	**Mitsune**	**2.15**	**230**	Pn	**Pn**	**02 44 05.0**	**+0.4**
JHJ2	**Mitsune**	**2.15**	**230**	P	**Pn**	**02 44 05.0**	**+0.4**
JHJ2				*eS*	**Sn**	**02 44 30.3**	**-0.3**
JHJ	**Hachijo jima 2**	**2.16**	**230**	Pn	**Pn**	**02 44 05.1**	**+0.3**
	30nm,0.3s,baz=63,slow=23,SNR=9.0						
JHJ				Sn	**Sn**	**02 44 30.4**	**-0.6**
	141nm,0.3s,baz=257,slow=22,SNR=10						
	67nm,0.3s						
JOD2	**Odawara 2**	**2.33**	**289**	P	**Pn**	**02 44 06.6**	**-0.5**
JAG	**Ashikaga**	**2.69**	**316**	P	**Pn**	**02 44 12.5**	**+0.5**
JRY	**Ryogami san**	**2.79**	**303**	*eP*	**Pn**	**02 44 13.8**	**+0.4**
JYN	**Shimob**	**2.82**	**291**	P	**Pn**	**02 44 14.1**	**+0.1**
JMM	**Marumori**	**3.44**	**347**	Pn	**Pn**	**02 44 22.0**	**-0.4**
MJAR	**Matsushiro Arr**	**3.54**	**306**	Pn	**Pn**	**02 44 24.3**	**+0.5**
	1.3nm,0.3s,baz=117,slow=9.3,SNR=14						
	6.2nm,0.3s						
MAJO	**Matsushiro**	**3.54**	**306**		**Pn**	**02 44 24.2**	**+0.3**
MJB9	**Matsu-Tunnel**	**3.54**	**306**		**Pn**	**02 44 23.9**	**0.0**
INU	**Inuyama**	**3.99**	**283**	Pn	**Pn**	**02 44 29.4**	**-0.7**
JSD	**Sado**	**4.52**	**322**		**Pn**	**02 44 36.6**	**-0.6**
KSRS	**Korea Array**	**11.60**	**289**	Pn	**Pn**	**02 46 17.2**	**+3.0**
	0.6nm,0.3s,baz=102,slow=15,SNR=4.1						
USRK	**Ussuriysk Ar.**	**12.27**	**325**	Pn	**Pn**	**02 46 23.6**	**+0.1**
	0.1nm,0.3s,baz=115,slow=14,SNR=3.7						
	1.7nm,0.6s						
MDJ	**Mudanjiang**	**13.77**	**321**	Pn	**Pn**	**02 46 41.7**	**-2.2**
H11N2	**WAKE ISLAND Hy**	**26.68**	**117**	T	T	03 17 14.2	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**26.68**	**117**	T	T	03 17 14.3	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**26.70**	**117**	T	T	03 17 17.7	
	baz=305						
SONM	**Songino Array**	**29.49**	**308**	P	**P**	**02 49 34.3**	**+1.5**
	0.9nm,0.6s,baz=108,slow=9.3,SNR=4.2						
	0.9nm,0.6s						
SONM	**Songino Array**	**29.49**	**308**	P	**P**	**02 49 32.3**	**-0.5**
SONM				IAmb	IAmb	02 49 38.5	
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**43.85**	**314**	P	**P**	**02 51 35.6**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=100,slow=7.7,SNR=5.0						
	comp=Z,1.6nm,0.6s						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**02 51 50.4**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=90,slow=9.7,SNR=5.2						
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**02 51 49.2**	**-0.5**
KURK	**Kurchatov**	**47.74**	**310**	P	**P**	**02 52 04.5**	**-0.8**
IL31		**51.48**	**31**	P	**P**	**02 52 30.9**	**-2.6**
IL31				IAmb	IAmb	02 52 46.5	
	comp=Z,5.3nm,1.4s						
ILAR	**Eielson Array**	**51.48**	**31**	P	**P**	**02 52 35.5**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=265,slow=6.0,SNR=6.6						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**51.48**	**31**	P	**P**	**02 52 30.4**	**-3.2**
WRA	**Warramunga Arr**	**54.62**	**189**	P	**P**	**02 52 57.9**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=0.4,slow=7.6,SNR=12						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**54.62**	**189**	P	**P**	**02 52 54.2**	**-2.9**
KK31	**Karatay Array**	**54.67**	**302**	P	**P**	**02 52 55.4**	**-2.0**
**K

comp=Z,88nm,0.7s
BLWY Bulawayo 4.48 288 *i* P **Pn 02 51 14.3 -0.5**
BLWY *i* S **Sn 02 52 05.5 -1.4**
BLWY Bulawayo 4.48 288 *i* P **Pn 02 51 14.3 -0.5**
BLWY *i* S **Sn 02 52 05.5 -1.4**
MATP Matopo 4.49 284 *e*P **Pn 02 51 12.9 -2.1**
MATP *e*S **Sn 02 52 07.5 +0.3**
MATP IAML 02 52 38.8
comp=Z,45nm,0.2s
MATP Matopo 4.49 284 *i* P **Pn 02 51 14.4 -0.6**
MATP *i* S **Sn 02 52 06.3 -0.9**
MATP Matopo 4.49 284 *i* P **Pn 02 51 14.4 -0.6**
MATP *i* S **Sn 02 52 06.3 -0.9**
CRLN Carolina, Mapu 5.25 212 *e*S **Sn 02 52 28.1 +2.3**
CRLN IAML 02 53 05.3
comp=Z,6.5nm,0.5s
LEPH Lephalale, Lim 5.44 244 *e*P **Pn 02 51 27.2 -0.8**
LEPH *e*S **Sn 02 52 23.6 -6.9**
LEPH IAML 02 52 31.5
comp=Z,20nm,3.1s
LEPH Lephalale, Lim 5.44 244 *e*P **Pn 02 51 27.2 -0.8**
LEPH *e*S **Sn 02 52 33.1 +2.6**
LEPH IAML 02 53 05.0
comp=Z,28nm,0.7s
POGA Pongola 5.89 193 *e*P **Pn 02 51 33.9 -0.3**
POGA *e*S **Sn 02 52 43.8 +2.3**
POGA IAML 02 53 21.1
comp=Z,6.5nm,0.5s
SLR Silverton 6.08 226 *e*S **Sn 02 52 50.0 +3.5**
SLR IAML 02 53 42.7
comp=Z,12nm,0.5s
HRAO HartRAO 6.59 228 *e*P **Pn 02 51 45.0 +1.1**
HRAO *e*S **Sn 02 53 00.2 +1.1**
HRAO IAML 02 53 40.2
comp=Z,9.0nm,0.7s
NWCL Newcastle 6.81 205 *e*P **Pn 02 51 47.0 +0.2**
NWCL *e*S **Sn 02 53 04.3 0.0**
NWCL IAML 02 53 48.3
comp=Z,10nm,0.5s
KSR Koster 7.13 232 *e*P **Pn 02 51 51.8 +0.4**
KSR *e*S **Sn 02 53 07.5 -4.9**
KSR IAML 02 53 25.9
comp=Z,44nm,2.8s
PRYS Parys 7.50 224 *e*P **Pn 02 51 56.3 0.0**
PRYS *e*S **Sn 02 53 21.9 +0.6**
PRYS IAML 02 54 23.1
comp=Z,5.9nm,0.5s
LBTB Lobatse 7.74 242 *e*P **Pn 02 52 00.3 +0.8**
LBTB *e*S **Sn 02 53 29.1 +1.9**
LBTB IAML 02 54 17.1
comp=Z,6.5nm,0.5s
SNKL Senekal, Frees 8.26 215 *e*P **Pn 02 52 06.4 -0.4**
SNKL *e*S **Sn 02 53 41.2 +1.0**
SNKL IAML 02 54 39.4
comp=Z,8.0nm,0.5s
SWZ Schweizer 9.05 230 *e*P **Pn 02 52 18.7 +1.1**
SWZ *e*S **Sn 02 53 57.6 -1.8**
SWZ IAML 02 54 55.9
comp=Z,3.9nm,0.6s
KSTD Kokstad 9.64 200 *e*P **Pn 02 52 24.1 -1.6**
KSTD *e*S **Sn 02 54 13.7 -0.3**
KSTD IAML 02 55 21.8
comp=Z,2.2nm,0.8s
BOSA Boshof 10.01 224 *e*P **Pn 02 52 29.2 -1.5**
BOSA *e*S **Sn 02 54 20.5 -2.5**
BOSA IAML 02 55 53.9
comp=Z,2.6nm,0.6s
UPI Upington 12.72 236 *e*P **Pn 02 53 07.5 -0.3**

BJI ***23*** *02:56:40.9±0.0, 7°.14S×156°.01E, h10km, mb5.1/60, mB5.4/23, Ms5.4/26, Ms7 5.2/25*
NEIC ***23*** *02:56:41.4±1.6, 7°.35S±0°.08×156°.35E±0°.07, h10km±1km, mb5.2/129, Error ellipse: s-maj=13.8km s-min=11.3km az=200.0*
MOS ***23*** *02:56:42.3±1.0, 7°.34S×156°.24E, h29km, mb5.3/42, Error ellipse: s-maj=9.5km s-min=6.7km az=126.3*
IDC ***23*** *02:56:43.4±0.5, 7°.39S×156°.22E, h28km±3km, mb4.8/29, mbtmp5.0/31, ML4.3/2, MS4.8/38, Error ellipse: s-maj=13.5km s-min=9.3km az=79.0*
GCMT ***23*** *02:56:46.4±0.1, 7°.59S±0°.01×156°.18E±0°.01, h28km, MW5.4/132, Moment Tensor Solution. s119,c184; s132,c224; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.39±.03; Mθθ -1.11±.02; Mϕϕ -0.27±.02; Mrθ 0.05±.04; Mϕθ 0.83±.02; Mϕr -0.75±.04; Best double couple: Mo1.69300×10^17 NP1:ϕ143.00000°, δ57.00000°, λ116.00000°. NP2:ϕ281.00000°, δ41.00000°, λ56.00000°. Principal axes: T 1.7020, Plg66.0000°, Azm104.0000°; N -0.0120, Plg22.0000°, Azm308.0000°; P -1.6840, Plg9.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***23*** *02:56:49.7±0.5, 8°S±3°×15°6E±°, h89km±4km, M5.3/70, mB5.7/26, mb5.2/70, MLv5.8/2, Mw(mB)5.2/26*

ISC 23 02:56:43.4±0.5, 7°41S±0°.04×156°31E±0°.04, h28km±3km, n752, σ1$23/715, mb5.2/151, **MS4.9**/51, **27C-13D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.12**	**119**	Pn	**Pn**	**Pn**	**02 57 47.0**	**+2.5**
	1μm,0.3s,baz=285,slow=4.1,SNR=11							
HNR				Lg	Lg	Lg	02 58 49.7	
	5μm,0.3s,baz=208,slow=22,SNR=6.7							
HNR				LR	LR	LR	02 59 27.6	
	comp=Z,416μm,18.2s,baz=297,slow=39							
HNR	**Honiara**	**4.12**	**119**	Pn	**Pn**	**Pn**	**02 57 45.0**	**+0.4**
HNR	**Honiara**	**4.12**	**119**	P	**Pn**	**Pn**	**02 57 45.0**	**+0.4**
HNR	**Honiara**	**4.12**	**119**	P	**Pn**	**Pn**	**02 57 47.8**	**+3.3**
RABL	**Rabaul**	**5.22**	**308**			Pn	02 58 04.5	+4.9
RABL	**Rabaul**	**5.22**	**308**	P	**Pn**	**Pn**	**02 58 02.2**	**+2.6**
KRVT	**Keravat (AS076**	**5.26**	**306**	Lg	Lg	Lg	02 59 22.7	
	152nm,0.3s,baz=208,slow=8.3,SNR=7.7							
KRVT				LR	LR	LR	02 59 26.7	
	comp=Z,929nm,20.4s,baz=262,slow=32							
PMG	**Port Moresby**	**9.27**	**257**	Pn	**Pn**	**Pn**	**02 58 59.0**	**+3.9**
	2.3nm,0.3s,baz=42,slow=8.4,SNR=12							
PMG				Sn	Sn	Sn	03 00 48.2	+10
	4.6nm,0.3s,baz=58,slow=18,SNR=2.7							
PMG				LR	LR	LR	03 02 23.8	
	comp=Z,10μm,18.9s,baz=69,slow=37							
PMG	**Port Moresby**	**9.27**	**257**			**Pn**	**02 58 56.8**	**+1.6**
PMG	**Port Moresby**	**9.27**	**257**	P		**Pn**	**02 58 56.8**	**+1.6**
PMG	**Port Moresby**	**9.27**	**257**	P		**Pn**	**02 58 59.1**	**+3.9**
PMG	**Port Moresby**	**9.27**	**257**	P		**Pn**	**02 58 58.7**	**+3.5**
PATS	**Pohnpei**	**14.29**	**8**	P		**Pn**	**03 00 04.8**	**+0.8**
	baz=14,SNR=5.4							
PATS	**Pohnpei**	**14.29**	**8**	Pn		**Pn**	**03 00 01.5**	**-2.5**
PATS	**Pohnpei**	**14.29**	**8**	P		**Pn**	**03 00 04.7**	**+0.7**
COEN	**Coen**	**14.45**	**242**	P		**Pn**	**03 00 08.1**	**+1.9**
	baz=14,SNR=18							
COEN	**Coen**	**14.45**	**242**	Pn		**Pn**	**03 00 08.0**	**+1.8**
COEN	**Coen**	**14.45**	**242**	P		**Pn**	**03 00 09.1**	**+2.9**
KOUNC	**Koumac, New Ca**	**15.18**	**150**			**Pn**	**03 00 17.4**	**+1.5**
KOUNC					IAmb	IAmb	03 00 30.3	
	comp=Z,108nm,1.4s							
KOUNC	**Koumac, New Ca**	**15.18**	**150**	P		**P**	**03 00 18.4**	**-2.3**
MMPI	**Merauke**	**15.81**	**265**	P		**P**	**03 00 26.2**	**-1.5**
	comp=Z,13nm,0.8s							
MTSU	**Mount Surprise**	**15.81**	**226**	P		**Pn**	**03 00 24.6**	**+0.4**
	baz=16,SNR=25							
MTSU	**Mount Surprise**	**15.81**	**226**	P		**Pn**	**03 00 25.8**	**+1.6**
CTA	**Charters Tower**	**15.93**	**217**	Pn		**Pn**	**03 00 26.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=40,slow=13,SNR=48							
CTA				LR		LR	03 06 05.7	
	comp=Z,4μm,18.4s,baz=48,slow=35							
	comp=Z,34nm,0.8s							
CTA	**Charters Tower**	**15.93**	**217**	P		**P**	**03 00 27.5**	**-1.6**
CTAO	**Charters Tower**	**15.93**	**217**	Pn		**Pn**	**03 00 27.0**	**+1.3**
CTAO	**Charters Tower**	**15.93**	**217**	P		**Pn**	**03 00 27.0**	**+1.3**
CTAO				pmax		pmax		
	comp=Z,40nm,0.9s							
CTAO	**Charters Tower**	**15.93**	**217**	P		**P**	**03 00 27.5**	**-1.6**
GENI	**Genyem**	**16.77**	**286**	P		**P**	**03 00 39.5**	**+1.1**
	comp=Z,66nm,1.0s							
GENI	**Genyem**	**16.77**	**286**	P		**P**	**03 00 38.4**	**0.0**
RK1H	**Rockhampton Ha**	**16.84**	**199**	P		**P**	**03 00 38.9**	**-0.2**
LIFNC	**LIFOU**	**16.98**	**143**			**Pn**	**03 00 38.9**	**-0.2**
LIFNC	**LIFOU**	**16.98**	**143**	P		**P**	**03 00 41.5**	**+0.8**
NOUC	**Port Laguerre**	**17.50**	**148**	P		**P**	**03 00 47.3**	**+0.9**
DZM	**Mont Dzumac**	**17.55**	**147**	*e*Pn		**Pn**	**03 00 46.7**	**+0.5**
	comp=Z,211nm,1.1s							
DZM				*e*LR		LR	03 04 49.0	
	comp=Z,4μm,26.4s							
DZM	**Mont Dzumac**	**17.55**	**147**	P		**P**	**03 00 48.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=5.3,slow=11,SNR=22							
DZM				LR		LR	03 07 00.9	
	comp=Z,3μm,18.1s,baz=288,slow=35							
	comp=Z,57nm,1.1s							
DZM	**Mont Dzumac**	**17.55**	**147**	P		**P**	**03 00 47.3**	**+0.2**
DZM	**Mont Dzumac**	**17.55**	**147**	P		**P**	**03 00 48.2**	**+1.1**
ONTNC	**Ouen Toro**	**17.75**	**148**	P		**P**	**03 00 49.4**	**+0.2**
ONTNC	**Ouen Toro**	**17.75**	**148**	P		**P**	**03 00 49.9**	**+0.7**
YATNC	**Mamie plateau,**	**17.78**	**146**	P		**P**	**03 00 50.7**	**+1.1**
MARNC	**Mare, Loyalty**	**18.00**	**142**	P		**P**	**03 00 52.4**	**+0.5**
MARNC	**Mare, Loyalty**	**18.00**	**142**	P		**P**	**03 00 54.2**	**+2.3**
SMPI	**Sarmi**	**18.34**	**286**	P		**Pn**	**03 00 57.7**	**+1.8**
	comp=Z,4μmcomp=Z,95nm,1.1s							
PINNC	**Pines Island,**	**18.53**	**146**			**Pn**	**03 00 59.3**	**+1.2**
PINNC	**Pines Island,**	**18.53**	**146**	P		**Pn**	**03 01 00.6**	**+2.4**
EIDS	**Eidsvold**	**18.54**	**195**	P		**P**	**03 00 57.7**	**-0.2**
	baz=19,SNR=6.2							
EIDS	**Eidsvold**	**18.54**	**195**			**Pn**	**03 00 58.8**	**+0.6**
EIDS	**Eidsvold**	**18.54**	**195**	P		**Pn**	**03 00 58.9**	**+0.6**
TARA	**Tarawa**	**18.72**	**63**	P		**P**	**03 00 59.3**	**-0.7**
TARA				IAmb		IAmb	03 01 05.9	
	comp=Z,372nm,1.3s							
TARA	**Tarawa**	**18.72**	**63**	P		**Pn**	**03 01 01.6**	**+1.0**
RMQ	**Roma**	**20.29**	**200**	P		**P**	**03 01 18.1**	**+1.1**
	baz=20,SNR=83							
RMQ	**Roma**	**20.29**	**200**	P		Pn	03 01 19.3	+0.2
QIS	**Mount Isa**	**20.79**	**229**	P		**P**	**03 01 22.5**	**-0.1**
	baz=21,SNR=28							
QIS	**Mount Isa**	**20.79**	**229**	P		**P**	**03 01 22.8**	**+0.2**
BAKI	**Biak**	**21.06**	**286**	P		**P**	**03 01 25.4**	**-0.1**
	comp=Z,2μmcomp=Z,219nm,1.1s							
QLP	**Quilpie**	**22.26**	**210**	P		**P**	**03 01 38.1**	**-0.2**
	baz=22,SNR=3.7							
QLP	**Quilpie**	**22.26**	**210**	P		**P**	**03 01 37.9**	**-0.3**
FUNA	**Funafuti**	**22.70**	**94**	P		**P**	**03 01 42.9**	**-0.1**
FUNA	**Funafuti**	**22.70**	**94**	P		**P**	**03 01 45.4**	**+2.4**
ARMA	**Armidale**	**23.31**	**190**	P		**P**	**03 01 49.4**	**+0.1**
	baz=23							
ARMA	**Armidale**	**23.31**	**190**	P		**P**	**03 01 49.8**	**+0.5**
MSVF	**Nonsavu**	**23.54**	**118**	P		**P**	**03 01 52.4**	**+0.7**
	comp=Z,38nm,1.0s,baz=271,slow=4.7,SNR=18							
MSVF				LR		LR	03 09 49.7	
	comp=Z,2μm,20.8s,baz=224,slow=33							
	comp=Z,38nm,1.0s							
MSVF	**Nonsavu**	**23.54**	**118**	P		**P**	**03 01 51.7**	**0.0**
MSVF				IAmb		IAmb	03 01 55.0	
	comp=Z,82nm,1.1s							
MSVF	**Nonsavu**	**23.54**	**118**	P		**P**	**03 01 51.7**	**0.0**
MSVF				pmax		pmax		
	comp=Z,82nm,1.2s							
MSVF	**Nonsavu**	**23.54**	**118**	P		**P**	**03 01 52.7**	**+1.0**
GUMO	**Guam**	**23.75**	**331**	LR		LR	03 10 05.7	
	comp=Z,716nm,21.9s,baz=146,slow=34							
KDU	**Kakadu**	**24.04**	**255**	P		**P**	**03 01 55.2**	**-1.1**
	baz=24,SNR=17							
KDU	**Kakadu**	**24.04**	**255**	P		**P**	**03 01 56.2**	**-0.1**
FAKI	**Fak Fak**	**24.37**	**279**	P		**P**	**03 01 59.7**	**+0.3**
	comp=Z,1μmcomp=Z,73nm,0.9s							
FAKI	**Fak Fak**	**24.37**	**279**	P		**P**	**03 02 01.3**	**+1.9**
WRAB	**Tennant Creek**	**24.66**	**237**	P		**P**	**03 02 01.7**	**-0.3**
WRAB	**Tennant Creek**	**24.66**	**237**	*i* P		**P**	**03 02 02.5**	**+0.5**
WRAB				pmax		pmax		
	comp=Z,20nm,0.9s							
WRAB	**Tennant Creek**	**24.66**	**237**	P		**P**	**03 02 02.0**	**0.0**
WB2	**Warramunga Arr**	**24.66**	**237**	P		**P**	**03 02 01.7**	**-0.3**
	baz=25							
WRA	**Warramunga Arr**	**24.67**	**237**	P		**P**	**03 02 01.5**	**-0.6**
	comp=Z,33nm,0.9s,baz=62,slow=9.5,SNR=93							
WRA				pP		**pP**	**03 02 10.4**	**+0.3**
	comp=Z,124nm,0.8s,baz=64,slow=9.7,SNR=56							
WRA				PcP		**PcP**	**03 05 39.2**	**+0.1**
	comp=Z,8.2nm,0.9s,baz=62,slow=2.2,SNR=7.0							
WRA				LR		LR	03 11 28.7	
	comp=Z,4μm,18.2s,baz=66,slow=36							
	comp=Z,33nm,0.9s							
WRA	**Warramunga Arr**	**24.67**	**237**	P		**P**	**03 02 01.1**	**-1.0**
TAVE	**Taveuni**	**25.00**	**114**	P		**P**	**03 02 05.8**	**+0.7**
INKA	**Innaminka**	**25.02**	**214**	P		**P**	**03 02 05.2**	**+0.1**
MTN	**Manton Dam**	**25.35**	**256**	P		**P**	**03 02 08.0**	**-0.3**
	baz=25							
MTN	**Manton Dam**	**25.35**	**256**	P		**P**	**03 02 08.4**	**+0.1**
MTN	**Manton Dam**	**25.35**	**256**	P		**P**	**03 02 08.8**	**+0.5**
SIJI	**Sorong**	**25.79**	**283**	LR		LR	03 14 41.6	
	comp=Z,1μm,18.5s,baz=95,slow=42							
CMSA	**Cobar Meteorol**	**25.97**	**201**	P		**P**	**03 02 13.1**	**-0.6**
	baz=26,SNR=11							
CMSA	**Cobar Meteorol**	**25.97**	**201**	P		**P**	**03 02 13.2**	**-0.5**
FUTU	**Fugatoga**	**26.01**	**107**	P		**P**	**03 02 16.3**	**+2.0**
LKBA	**Tubou, Lakemba**	**26.50**	**116**	P		**P**	**03 02 18.7**	**+0.1**
AS31	**Alice Springs**	**26.89**	**231**	P		**P**	**03 02 21.3**	**-0.9**
ASAR	**Alice Springs**	**26.89**	**231**	P		**P**	**03 02 20.9**	**-1.3**
	comp=Z,3.3nm,0.7s,baz=61,slow=9.3,SNR=31							
ASAR				pP		**pP**	**03 02 28.8**	**-1.4**
	comp=Z,18nm,0.7s,baz=60,slow=9.1,SNR=39							
ASAR				PcP		**PcP**	**03 05 44.1**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=54,slow=3.0,SNR=4.4							
ASAR				ScP		**ScP**	**03 09 23.4**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=55,slow=2.0,SNR=6.0							
ASAR				LR		LR	03 12 36.0	
	comp=Z,2μm,19.4s,baz=77,slow=36							
	comp=Z,3.3nm,0.7s							
ASAR	**Alice Springs**	**26.89**	**231**	P		**P**	**03 02 21.2**	**-1.0**
ASAR	**Alice Springs**	**26.89**	**231**	P		**P**	**03 02 21.2**	**-1.0**
ASPA	**Alice Springs**	**26.90**	**231**	P		**P**	**03 02 20.5**	**-1.8**
	baz=27							
MSAI	**Masohi**	**27.55**	**277**	P		**P**	**03 02 28.7**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**27.70**	**22**	T		T	03 30 45.2	
	baz=202,slow=76,SNR=43							
H11S2	**WAKE ISLAND Hy**	**27.71**	**22**	T		T	03 30 45.3	
	baz=202,slow=76,SNR=826							
H11S1	**WAKE ISLAND Hy**	**27.72**	**22**	T		T	03 30 53.5	
	baz=202,slow=76,SNR=101							
STKA	**Stephens Creek**	**27.94**	**207**	P		**P**	**03 02 31.6**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=38,slow=12,SNR=8.5							
STKA				pP		**pP**	**03 02 40.2**	**+0.7**
	comp=Z,20nm,0.8s,baz=16,slow=10,SNR=16							
STKA				LR		LR	03 13 42.4	
	comp=Z,3μm,18.1s,baz=4.2,slow=36							
	comp=Z,3.4nm,0.5s							
STKA	**Stephens Creek**	**27.94**	**207**	P		**P**	**03 02 31.3**	**-0.1**
	baz=28,SNR=7.4							
STKA	**Stephens Creek**	**27.94**	**207**	P		**P**	**03 02 31.4**	**-0.1**
STKA	**Stephens Creek**	**27.94**	**207**	*i* P		**P**	**03 02 31.9**	**+0.4**
STKA	**Stephens Creek**	**27.94**	**207**	P		**P**	**03 02 33.7**	**+2.2**
OOD	**Oodnadatta**	**28.14**	**221**	P		**P**	**03 02 35.4**	**+2.1**
KNRA	**Kununurra**	**28.18**	**251**	P		**P**	**03 02 33.9**	**+0.1**
	baz=28,SNR=6.6							
KNRA	**Kununurra**	**28.18**	**251**	P		**P**	**03 02 33.8**	**+0.1**
KNRA	**Kununurra**	**28.18**	**251**	P		**P**	**03 02 34.3**	**+0.5**
AAI	**Ambon**	**28.22**	**276**	P		**P**	**03 02 33.6**	**-0.5**
	comp=Z,3μmcomp=Z,48nm,0.8s							
CNB	**Canberra Magne**	**28.50**	**192**	P		**P**	**03 02 37.2**	**+0.8**
	baz=29							
LCRK	**Leigh Creek**	**28.51**	**214**	P		**P**	**03 02 36.5**	**0.0**
H11N1	**WAKE ISLAND Hy**	**28.90**	**21**	T		T	03 32 23.0	
	baz=201,slow=76,SNR=66							
H11N3	**WAKE ISLAND Hy**	**28.91**	**21**	T		T	03 32 23.5	
	baz=201,slow=76,SNR=30							
H11N2	**WAKE ISLAND Hy**	**28.92**	**21**	T		T	03 32 22.9	
	baz=201,slow=76,SNR=33							
LBMI	**Labuha**	**29.50**	**282**	P		**P**	**03 02 45.8**	**+0.3**
	comp=Z,1μmcomp=Z,148nm,1.1s							
TNTI	**Ternate**	**29.99**	**285**	P		**P**	**03 02 51.1**	**+1.2**
TNTI				IAmb		IAmb	03 03 02.7	
	comp=Z,35nm,0.9s							
TNTI	**Ternate**	**29.99**	**285**	P		**P**	**03 02 50.1**	**+0.2**
	comp=Z,3μmcomp=Z,39nm,1.1s							
TNTI	**Ternate**	**29.99**	**285**	P		**P**	**03 02 51.5**	**+1.6**
HTT	**Hallett**	**30.49**	**210**	P		**P**	**03 02 58.5**	**+4.4**
	baz=31,SNR=3.1							
HTT	**Hallett**	**30.49**	**210**	P		**P**	**03 02 55.7**	**+1.6**
SANI	**Sanana**	**30.67**	**278**	P		**P**	**03 02 56.2**	**+0.3**
	comp=Z,922nmcomp=Z,84nm,1.0s							
SANI	**Sanana**	**30.67**	**278**	P		**P**	**03 02 57.2**	**+1.3**
WHYH	**Whyalla**	**30.85**	**212**	P		**P**	**03 02 59.2**	**+1.9**
BBOO	**Buckleboo**	**31.50**	**214**	P		**P**	**03 03 03.0**	**0.0**
BBOO				IAmb		IAmb	03 03 24.1	
	comp=Z,33nm,1.2s							
FITZ	**Fitzroy Crossi**	**31.69**	**247**	LR		LR	03 15 56.9	
	comp=Z,3μm,18.1s,baz=269,slow=36							
FITZ	**Fitzroy Crossi**	**31.69**	**247**	P		**P**	**03 03 04.0**	**-0.7**
	baz=32,SNR=60							
FITZ	**Fitzroy Crossi**	**31.69**	**247**	P		**P**	**03 03 04.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**31.69**	**247**	P		**P**	**03 03 05.9**	**+1.1**
SOEI	**Soe**	**31.76**	**263**	P		**P**	**03 03 03.9**	**-1.7**
	comp=Z,60nm,0.8s							
SOEI	**Soe**	**31.76**	**263**	P		**P**	**03 03 06.9**	**+1.3**
WRKA	**Warakurna**	**31.99**	**234**	P		**P**	**03 03 06.4**	**-1.0**
	baz=32,SNR=7.1							
WRKA	**Warakurna**	**31.99**	**234**	P		**P**	**03 03 06.2**	**-1.2**
AFI	**Afiamalu**	**32.00**	**104**	P		**P**	**03 03 08.8**	**+1.1**
	comp=Z,45nm,0.3s,baz=280,slow=18,SNR=15							
AFI				LR		LR	03 14 54.7	
	comp=Z,1μm,18.5s,baz=274,slow=34							
	comp=Z,45nm,0.3s							
AFI	**Afiamalu**	**32.00**	**104**	P		**P**	**03 03 07.9**	**+0.3**
AFI	**Afiamalu**	**32.00**	**104**	P		**P**	**03 03 07.9**	**+0.3**
AFI				pmax		pmax		
	comp=Z,143nm,0.9s							
AFI	**Afiamalu**	**32.00**	**104**	P		**P**	**03 03 08.9**	**+1.2**
ARPS	**Mount Arapiles**	**32.06**	**202**	P		**P**	**03 03 07.6**	**-0.3**
	baz=32,SNR=4.9							
ARPS	**Mount Arapiles**	**32.06**	**202**	P		**P**	**03 03 09.5**	**+1.6**
BATI	**Baumata**	**32.37**	**263**	LR		LR	03 18 24.9	
	comp=Z,5μm,18.2s,baz=112,slow=40							
BATI	**Baumata**	**32.37**	**263**	P		**P**	**03 03 10.5**	**-0.4**
	comp=Z,27nm,0.8s							
RAO	**Raoul Island**	**32.57**	**135**	LR		LR	03 14 56.8	
	comp=Z,1μm,19.6s,baz=270,slow=34							
KMSI	**Cibinong**	**33.20**	**282**	P		**P**	**03 03 18.6**	**+0.4**
	comp=Z,194nm,0.7s							
MMRI	**Maumere**	**33.75**	**266**	P		**P**	**03 03 21.5**	**-1.5**
MMRI	**Maumere**	**33.75**	**266**	P		**P**	**03 03 22.7**	**-0.2**
	comp=Z,78nm,0.8s							
MMRI	**Maumere**	**33.75**	**266**	P		**P**	**03 03 22.4**	**-0.5**
LUWI	**Luwuk**	**34.02**	**279**	P		**P**	**03 03 26.5**	**+1.2**
LUWI	**Luwuk**	**34.02**	**279**	P		**P**	**03 03 24.5**	**-0.8**
	comp=Z,8μmcomp=Z,82nm,0.8s							
LUWI	**Luwuk**	**34.02**	**279**	P		**P**	**03 03 27.4**	**+2.1**
GTOI	**Gorontalo**	**34.16**	**282**	P		**P**	**03 03 27.9**	**+1.4**
	comp=Z,294nmcomp=Z,29nm,0.9s							
EDFI	**Ende, Flores**	**34.29**	**265**	P		**P**	**03 03 25.4**	**-2.4**
	comp=Z,471nmcomp=Z,47nm,0.8s							
APSI	**Ampana**	**35.15**	**279**	P		**P**	**03 03 34.9**	**-0.1**
	comp=Z,620nmcomp=Z,38nm,1.0s							
FORT	**Forrest**	**35.20**	**225**	P		**P**	**03 03 33.9**	**-1.3**
FORT	**Forrest**	**35.20**	**225**	P		**P**	**03 03 37.5**	**+2.2**
BSSI	**Bau Bau, Buton**	**35.58**	**270**	P		**P**	**03 03 38.3**	**-0.5**
	comp=Z,58nm,0.9s							
MOO	**Moorlands**	**35.81**	**192**	P		**P**	**03 03 41.7**	**+1.4**
	baz=36							
BKSI	**Bulukumba**	**36.02**	**271**	P		**P**	**03 03 42.5**	**0.0**
	comp=Z,489nmcomp=Z,31nm,0.9s							
URZ	**Urewera**	**36.02**	**152**	P		**P**	**03 03 42.6**	**+0.4**
	comp=Z,27nm,1.1s,baz=92,slow=7.0,SNR=5.6							
URZ				LR		LR	03 16 26.6	
	comp=Z,1μm,18.1s,baz=72,slow=33							
	comp=Z,27nm,1.1s							
URZ	**Urewera**	**36.02**	**152**	P		**P**	**03 03 41.4**	**-0.8**
URZ				IAmb		IAmb	03 03 44.2	
	comp=Z,35nm,1.1s							
TAU	**Tasmania Unive**	**36.23**	**191**	P		**P**	**03 03 45.5**	**+1.6**
KAPI	**Kappang**	**36.41**	**272**	LR		LR	03 19 24.7	
	comp=Z,571nm,19.8s,baz=108,slow=38							
KAPI	**Kappang**	**36.41**	**272**	P		**P**	**03 03 45.9**	**0.0**
KAPI				IAmb		IAmb	03 04 00.6	
	comp=Z,49nm,0.9s							
KAPI	**Kappang**	**36.41**	**272**	*i* P		**P**	**03 03 46.0**	**+0.1**
KAPI				pmax		pmax		
	comp=Z,28nm,1.1s							
KAPI	**Kappang**	**36.41**	**272**	P		**P**	**03 03 47.8**	**+1.9**
TOLI2	**Tolitoli**	**36.44**	**282**	P		**P**	**03 03 45.7**	**-0.4**
TOLI2	**Tolitoli**	**36.44**	**282**	P		**P**	**03 03 45.7**	**-0.4**
BKZ	**Black Stump Fm**	**36.46**	**153**	P		**P**	**03 03 46.3**	**+0.2**
BKZ				IAmb		IAmb	03 04 01.4	
	comp=Z,98nm,1.8s							
BKZ	**Black Stump Fm**	**36.46**	**153**	P		**P**	**03 03 47.7**	**+1.6**
SPSI	**Sidrap Palu**	**36.51**	**273**	P		**P**	**03 03 45.9**	**-0.8**
	comp=Z,36nm,1.2s							
MPSI	**Mapaga**	**37.12**	**280**	P		**P**	**03 03 50.7**	**-1.2**
	comp=Z,1μmcomp=Z,25nm,0.7s							
THZ	**Tophouse**	**37.24**	**159**	P		**P**	**03 03 53.2**	**+0.6**
MBWA	**Marble Bar**	**37.87**	**245**	P		**P**	**03 03 57.4**	**-0.9**
MBWA				IAmb		IAmb	03 04 06.5	
	comp=Z,31nm,0.8s							
MBWA	**Marble Bar**	**37.87**	**245**	P		**P**	**03 03 59.3**	**+1.1**
PSA00	**Pilbara Seismi**	**37.88**	**244**	P		**P**	**03 03 57.8**	**-0.5**
PSA00				IAmb		IAmb	03 04 07.1	
	comp=Z,54nm,0.8s							

comp=Z,11nm,0.9s,baz=148,slow=7.9,SNR=8.9
KSRS PcP **PcP** **03 07 02.5 +0.4**
comp=Z,3.2nm,0.7s,baz=145,slow=4.2,SNR=4.2
comp=Z,7.3nm,0.6s
KSAR Wonju Array Be 51.93 331 P **P** **03 05 49.6 -0.2**
KSAR Wonju Array Be 51.93 331 P **P** **03 05 49.6 -0.2**
KS19 Wonju Array Si 51.98 331 IAmb IAmb 03 06 02.5
comp=Z,22nm,0.9s
INCN Inchon 52.57 330 P **P** **03 05 54.0 -0.5**
INCN IAmb IAmb 03 06 07.7
comp=Z,62nm,1.2s
INCN Inchon 52.57 330 P **P** **03 05 54.0 -0.5**
INCN pmax pmax
comp=Z,62nm,1.2s
INCN Inchon 52.57 330 P **P** **03 05 56.6 +2.0**
QIZ Qiongzhong 52.79 301 P **P** **03 05 56.8 +0.3**
QIZ S **S** **03 13 27.9 +4.4**
QIZ LR LR
comp=Z,690nm,19.1s
QIZ LR LR
comp=Z,1μm,17.5s
QIZ LR LR
comp=Z,1μm,22.3s
NJ2 Nanjing 53.07 320 *e*P **P** **03 05 58.3 0.0**
NJ2 pmax pmax
comp=Z,26nm,0.8s
NJ2 LR LR
comp=Z,2μm,18.0s
NJ2 LR LR
comp=Z,2μm,16.1s
NJ2 LR LR
comp=Z,930nm,17.1s
PPT Papeete 53.63 106 LR LR 03 26 33.8
comp=Z,459nm,18.1s,baz=261,slow=33
PPT2 Papeete2 53.63 106 *e*S **S** **03 13 36.4 +1.2**
comp=Z,533nm,23.5s
PPT2 *e*LR LR 03 21 30.9
comp=Z,992nm,27.0s
TBI Tubuai 54.32 113 *e*LR LR 03 21 49.9
comp=Z,2μm,33.0s
SDSI Sungai Dareh 55.07 274 P **P** **03 06 11.6 -1.7**
comp=Z,22nm,1.1s
WHN Wuhan 55.15 315 ⇑P P 03 06 21.8 +8.3
YSS Yuzh-Sakhalins 55.45 349 *e*P **P** **03 06 13.8 -1.6**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 55.45 349 P **P** **03 06 16.8 +1.4**
USA0B Ussuriysk Arra 55.87 339 P **P** **03 06 19.4 +0.9**
USA0B Ussuriysk Arra 55.87 339 P **P** **03 06 19.4 +0.9**
USA0B pmax pmax
comp=Z,15nm,1.0s
USRK Ussuriysk Ar. 55.87 339 P **P** **03 06 18.0 -0.5**
comp=Z,2.4nm,0.7s,baz=143,slow=7.8,SNR=6.7
USRK LR LR 03 27 37.5
comp=Z,734nm,20.2s,baz=31,slow=33
comp=Z,2.4nm,0.7s
IPM Ipoh 56.41 280 P **P** **03 06 23.0 +0.1**
IPM IAmb IAmb 03 06 39.9
comp=Z,33nm,1.2s
IPM Ipoh 56.41 280 P **P** **03 06 21.3 -1.7**
TIA Tai'an 56.88 322 ⇑P **P** **03 06 25.0 -0.9**
TIA SS **SS** **03 18 03.6 -3.1**
TIA pmax pmax
comp=Z,13nm,0.7s
TIA pmax pmax
comp=Z,62nm,4.9s
TIA LR LR
comp=Z,370nm,8.5s
TIA LR LR
comp=Z,860nm,8.5s
TIA LR LR
comp=Z,910nm,12.8s
CN2 Changchun 58.13 334 *e*P **P** **03 06 37.5 +3.0**
CN2 *es*P pP 03 06 44.0 +1.2
CN2 S **S** **03 14 37.4 +3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,14.0s
PSI Prapat 58.15 278 LR LR 03 34 55.2
comp=Z,489nm,18.6s,baz=124,slow=40
ENH Enshi 58.48 312 P **P** **03 06 36.5 -0.8**
ENH IAmb IAmb 03 06 45.8
comp=Z,16nm,0.7s
LYN LuoYang 58.80 318 *e*P **P** **03 06 37.0 -2.3**
LYN S **S** **03 14 44.8 +1.8**
LYN SS **SS** **03 18 36.9 +0.1**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN pmax pmax
comp=Z,440nm,13.7s
LYN LR LR
comp=Z,560nm,17.2s
LYN LR LR
comp=Z,2μm,16.5s
LYN LR LR
comp=Z,3μm,16.5s
BNX BinXian 58.90 337 ⇑P **P** **03 06 41.3 +1.5**
BNX pmax pmax
comp=Z,16nm,0.6s
HNS HongShan 59.13 322 ⇑P **P** **03 06 41.3 -0.2**
HNS pmax pmax
comp=Z,48nm,1.1s
GSI Gunungsitoli 59.22 276 P **P** **03 06 41.2 -1.5**
comp=Z,42nm,0.9s
BJI Beijing 60.00 325 P **P** **03 06 46.8 -0.7**
BJI PP **PP** **03 09 02.1 +1.9**
BJI PcS **PcS** **03 11 34.9 -0.7**
BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI LR LR
comp=Z,140nm,16.7s
BJI LR LR
comp=Z,800nm,16.8s
BJI LR LR
comp=Z,1μm,17.9s
PEA0B Petropavlovsk- 60.30 1 P **P** **03 06 50.2 +0.9**
PEA0B Petropavlovsk- 60.30 1 P **P** **03 06 50.2 +0.9**
PEA0B pmax pmax
comp=Z,59nm,1.2s
PETK Petropavlovsk- 60.30 1 P **P** **03 06 49.5 +0.2**
comp=Z,15nm,1.0s,baz=128,slow=5.8,SNR=9.8
PETK LR LR 03 30 40.5
comp=Z,1μm,20.7s,baz=171,slow=34
comp=Z,15nm,1.0s
PETK Petropavlovsk- 60.30 1 P **P** **03 06 49.9 +0.6**
PETK Petropavlovsk- 60.30 1 P **P** **03 06 49.9 +0.6**
KLR Kul'dur 60.36 342 P **P** **03 06 50.4 +0.6**
comp=Z,7.2nm,1.0s,baz=151,slow=5.7,SNR=12
comp=Z,7.2nm,1.0s
KLR Kul'dur 60.36 342 *ce*P **P** **03 06 47.5 -2.3**
KLR pmax pmax
comp=Z,9.0nm,1.0s
TIY Taiyuan 60.73 321 *e*P **P** **03 06 52.8 +0.1**
TIY LR LR
comp=Z,930nm,14.4s
TIY LR LR
comp=Z,1μm,14.4s
TIY LR LR
comp=Z,2μm,15.8s
MLSI Meulaboh, Aceh 60.89 279 P **P** **03 06 53.3 -0.8**
comp=Z,3μmcomp=Z,22nm,0.7s
KMI Kunming 61.33 304 ⇓P **P** **03 06 57.8 +0.6**
KMI pP pP 03 07 05.8 +0.1
KMI pmax pmax
comp=Z,27nm,1.1s
KMI LR LR
comp=Z,720nm,16.9s
KMI LR LR
comp=Z,630nm,17.5s
KMI LR LR
comp=Z,1μm,15.5s
CRAI Chiangrai 61.47 298 P **P** **03 06 58.0 0.0**
SHEM Shemya Is, Ala 61.80 12 LR LR 03 28 53.3
comp=Z,1μm,22.0s,baz=190,slow=31
CM31 Chiang Mai Arr 62.14 295 P **P** **03 07 02.8 +0.3**
CM31 IAmb IAmb 03 07 14.7
comp=Z,30nm,1.1s
CMAR Chiang Mai Arr 62.14 295 P **P** **03 07 02.4 -0.1**
comp=Z,3.5nm,0.4s,baz=107,slow=4.6,SNR=24
CMAR LR LR 03 32 26.0
comp=Z,349nm,21.0s,baz=100,slow=34
comp=Z,3.5nm,0.4s
CHTO Chiang Mai 62.25 296 P **P** **03 07 03.2 -0.1**
CHTO Chiang Mai 62.25 296 P **P** **03 07 03.2 -0.1**
CHTO pmax pmax
comp=Z,1.0nm,1.2s
CHTO Chiang Mai 62.25 296 P **P** **03 07 03.2 -0.1**
XLT XiLinHaoTe 62.69 328 *e*P **P** **03 07 06.0 +0.2**
XLT pP pP 03 07 10.1 -4.1
XLT sP sP 03 07 14.6 -2.9
XLT PcS **PcS** **03 11 50.3 +2.6**
XLT S **S** **03 15 31.8 -0.8**
XLT sS pS 03 15 44.0 +1.1
XLT pmax pmax
comp=Z,67nm,1.1s
XLT pmax pmax
comp=Z,940nm,13.1s
XLT LR LR
comp=Z,2μm,14.3s
XLT LR LR
comp=Z,2μm,16.4s
PZH PanZhiHua 62.72 305 P **P** **03 07 09.3 +2.9**
PZH pmax pmax
comp=Z,20nm,0.9s
TAOE Nuku Hiva Isla 62.86 96 *e*LR LR 03 25 46.9
comp=Z,626nm,21.4s
CD2 Chengdu 63.07 310 P **P** **03 07 10.8 +2.2**
CD2 pmax pmax
comp=Z,20nm,0.7s
HHC Hu-ho-hao-te 63.20 323 *e*P **P** **03 07 12.3 +3.0**
HHC pmax pmax
comp=Z,39nm,0.9s
HHC pmax pmax
comp=Z,93nm,4.8s
HIA Hailar 64.85 334 P **P** **03 07 20.9 +1.0**
HIA IAmb IAmb 03 07 32.0
comp=Z,15nm,0.8s
HIA Hailar 64.85 334 P **P** **03 07 20.9 +1.0**
HIA pmax pmax
comp=Z,15nm,0.8s
LZH Lanzhou 65.52 315 *e*P **P** **03 07 21.4 -3.3**
LZH PcP **PcP** **03 07 53.3 -3.0**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=Z,1μm,19.3s
LZH LR LR
comp=Z,1μm,18.0s
LZH LR LR
comp=Z,1μm,19.3s
ZEA Zeya 65.67 342 *e*P **P** **03 07 26.6 +1.6**
ZEA *e* 03 07 35.4
ZEA pmax pmax
comp=Z,20nm,1.4s
MA2 Magadan 66.92 357 *i*P **P** **03 07 33.2 +0.3**
MA2 pmax pmax
comp=Z,11nm,1.1s
GTA Gaotai 69.93 317 ⇑P **P** **03 07 52.6 +0.2**
GTA pP pP 03 07 57.6 -3.4
GTA sP sP 03 08 01.3 -2.8
GTA pmax pmax
comp=Z,25nm,1.2s
GTA pmax pmax
comp=Z,400nm,9.6s
GTA LR LR
comp=Z,400nm,19.3s
GTA LR LR
comp=Z,530nm,20.0s
GTA LR LR
comp=Z,610nm,19.3s
ULN Ulaanbaatar 70.05 327 P **P** **03 07 53.5 +0.6**
ULN IAmb IAmb 03 07 55.3
comp=Z,25nm,1.0s
ULN Ulaanbaatar 70.05 327 P **P** **03 07 53.6 +0.6**
ULN pmax pmax
comp=Z,25nm,1.0s
VNDA Vanda 70.14 179 P **P** **03 07 52.6 -0.1**
comp=Z,5.1nm,0.9s,baz=334,slow=6.6,SNR=26
comp=Z,5.1nm,0.9s
VNDA Vanda 70.14 179 P **P** **03 07 53.4 +0.6**
VNDA Vanda 70.14 179 P **P** **03 07 53.4 +0.6**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
SEY Seymchan 70.20 358 P **P** **03 07 53.3 0.0**
comp=Z,14nm,1.0s,baz=193,slow=7.3,SNR=14
comp=Z,14nm,1.0s
SEY Seymchan 70.20 358 *ce*P **P** **03 07 54.1 +0.8**
SEY pmax pmax
comp=Z,25nm,1.3s
SONM Songino Array 70.39 327 P **P** **03 07 55.2 +0.2**
comp=Z,24nm,1.0s,baz=137,slow=6.3,SNR=29
SONM pP **pP** **03 08 04.5 +0.9**
comp=Z,15nm,0.7s,baz=136,slow=4.6,SNR=13
SONM PKPPKP **P'P'df** **03 35 55.6 +0.7**
comp=Z,0.7nm,0.3s,baz=270,slow=1.4,SNR=4.1
comp=Z,24nm,1.0s
SONM Songino Array 70.39 327 P **P** **03 07 55.1 +0.1**
SONM IAmb IAmb 03 08 17.6
comp=Z,30nm,0.9s
SONM Songino Array 70.39 327 P **P** **03 07 55.1 +0.1**
SONM pmax pmax
comp=Z,30nm,0.9s
SBA Scott Base 70.62 178 P **P** **03 07 56.6 +0.9**
SBA Scott Base 70.62 178 P **P** **03 07 56.6 +0.9**
SBA pmax pmax
comp=Z,11nm,1.2s
GOMU GeErMu 72.09 312 *e*P **P** **03 08 06.3 +0.5**
GOMU pP pP 03 08 09.4 -5.1
GOMU pmax pmax
comp=Z,5.0nm,1.0s
YAK Yakutsk 72.24 347 P **P** **03 08 05.9 +0.3**
comp=Z,14nm,0.4s,baz=69,slow=0.5,SNR=1.5
comp=Z,14nm,0.4s
YAK Yakutsk 72.24 347 P **P** **03 08 06.9 +1.2**
YAK Yakutsk 72.24 347 *i*P **P** **03 08 06.2 +0.5**
YAK pmax pmax
comp=Z,37nm,1.0s
LSA Lhasa 72.58 304 P **P** **03 08 09.6 +0.6**
LSA IAmb IAmb 03 08 11.3
comp=Z,26nm,1.1s
LSA Lhasa 72.58 304 P **P** **03 08 09.6 +0.6**
LSA pmax pmax
comp=Z,27nm,1.1s
BOD Bodaibo 73.48 338 *e*P **P** **03 08 11.6 -1.5**
BOD pmax pmax
comp=Z,20nm,1.1s
TAPN Taplejung 74.73 301 *e*P **P** **03 08 20.9 -0.6**
comp=Z,138nm,1.1s
ODAN Odare 74.86 300 *e*P **P** **03 08 22.3 +0.1**
MOY Mondy 75.45 328 *e*P **P** **03 08 25.3 +0.4**
MOY pmax pmax
comp=Z,34nm,1.4s
RAMN Ramite 75.57 300 *e*P **P** **03 08 25.7 -0.5**
BILL Bilibino 75.60 4 P **P** **03 08 26.1 +0.8**
BILL IAmb IAmb 03 08 43.1
comp=Z,38nm,1.1s
BILL Bilibino 75.60 4 *ce*P **P** **03 08 26.6 +1.4**
BILL *e* 03 08 36.9
BILL pmax pmax
comp=Z,83nm,2.5s
BILL MLR MLR
comp=Z,614nm,16.0s
JIRN Jiri 76.11 301 *e*P **P** **03 08 29.0 -0.5**
comp=Z,51nm,1.0s
GUN Gumba 76.45 301 *e*P **P** **03 08 31.0 -0.4**
comp=Z,81nm,1.0s
O17K Koliganek Bris 76.45 22 P **P** **03 08 30.4 +0.2**
baz=228
PKI Pulchoki 76.75 300 *e*P **P** **03 08 32.2 -0.9**
comp=Z,68nm,1.1s
PKIN Phulchoki 76.77 300 *e*P **P** **03 08 32.2 -0.9**
PALK Pallekele 76.79 279 LR LR 03 43 54.4
comp=Z,334nm,21.1s,baz=223,slow=37
DMN Daman 77.02 300 *e*P **P** **03 08 34.0 -0.5**
comp=Z,140nm,1.1s
Q19K Cape Douglas, 77.25 24 P **P** **03 08 36.3 +1.5**
baz=231
N18K Kilae Creek 77.51 22 P **P** **03 08 36.5 +0.3**
baz=229
GKN Gorkha 77.53 301 *e*P **P** **03 08 36.5 -0.7**
P19K Oil Pt 77.86 24 P **P** **03 08 38.6 +0.4**
baz=231
SVW2 Sparrevohn 77.89 22 P **P** **03 08 38.6 +0.3**
SVW2 IAmb IAmb 03 08 58.6
comp=Z,26nm,1.3s
N19K Bonanza Creek 78.12 22 P **P** **03 08 40.4 +0.7**
baz=230
KOLN Koldanda 78.36 300 *e*P **P** **03 08 40.8 -1.1**
DANN Dangsing 78.37 301 *e*P **P** **03 08 41.0 -1.1**
HOM Homer 78.51 24 P **P** **03 08 42.6 +0.9**
baz=233
M19K Big River Lodg 78.85 21 IAmb IAmb 03 09 06.3
comp=Z,17nm,0.9s
M19K Big River Lodg 78.85 21 P **P** **03 08 44.7 +1.1**
baz=230
L19K White Mountain 78.87 21 IAmb IAmb 03 09 05.6
comp=Z,16nm,1.0s
L19K White Mountain 78.87 21 P **P** **03 08 44.7 +1.0**
baz=230
TTA Tatalina 78.96 20 P **P** **03 08 44.6 +0.3**
baz=228
CAPN Captain Cook N 79.37 23 P **P** **03 08 46.5 +0.1**
baz=233
L20K Farewell, AK 79.41 21 P **P** **03 08 47.0 +0.3**
baz=230
SEW Seward 79.66 24 P **P** **03 08 50.5 +2.5**
baz=235
WMQ Urumqi 80.02 317 ⇑P **P** **03 08 51.4 +0.9**
WMQ sP sP 03 09 02.8 +0.5
WMQ pmax pmax
comp=Z,44nm,1.1s
RC01 Rabbit Creek A 80.12 24 P **P** **03 08 50.9 +0.4**
baz=234
PPLA Purkeypile 80.28 21 P **P** **03 08 51.8 +0.2**
baz=232
J20K Nowinta River 80.41 20 P **P** **03 08 52.2 +0.2**
baz=230
PWL Port Wells 80.55 24 P **P** **03 08 53.1 +0.2**
baz=236
HYBB Hyderabad (bro 80.64 289 *e*P **P** **03 08 55.3 +1.0**
CAST Castle Rocks 80.64 21 P **P** **03 08 53.0 -0.3**
baz=232
PMR Palmer 80.65 23 P **P** **03 08 53.7 +0.4**
baz=235
CHUM Lake Minchumin 80.85 21 P **P** **03 08 54.8 +0.4**
baz=232
TIXI Tiksi 80.95 352 *i*P **P** **03 08 54.7 0.0**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
SML Sawmill 81.08 23 P **P** **03 08 55.8 0.0**
baz=236
KTH Kantishna Hill 81.14 21 IAmb IAmb 03 09 04.5
comp=Z,34nm,1.6s
TRF Thorofare Moun 81.30 21 P **P** **03 08 57.1 +0.1**
baz=234
BPAW Bear Paw Mtn. 81.44 21 P **P** **03 08 57.6 0.0**
baz=233
SCM Sheep Creek Mo 81.50 24 P **P** **03 08 58.5 +0.6**
baz=236
WAT1 Susitna Watana 81.58 22 P **P** **03 08 58.9 +0.5**
baz=235
IMAR Indian Mountai 81.70 18 P **P** **03 08 58.3 -0.6**
WAT6 Susitna Watana 81.75 23 P **P** **03 08 60.0 +0.6**
baz=236
I21K Tanana 81.77 20 P **P** **03 09 00.1 +0.9**
baz=232
H21K Melozitna Rive 81.79 19 P **P** **03 08 59.8 +0.4**
baz=231
KLU Klutina 81.88 24 IAmb IAmb 03 09 21.0
comp=Z,37nm,1.2s
KLU Klutina 81.88 24 P **P** **03 09 01.3 +1.3**
baz=238,SNR=6.2
MCK McKinley 81.96 22 IAmb IAmb 03 09 02.5
comp=Z,44nm,1.2s
MCK McKinley 81.96 22 P **P** **03 09 00.6 +0.3**
baz=235
MLY Manley 82.09 20 P **P** **03 09 01.3 +0.3**
baz=233
M24K Tolsona, Glenn 82.10 24 P **P** **03 09 01.1 0.0**
baz=238
G21K Allakaket 82.12 18 P **P** **03 09 02.0 +0.9**
baz=230
BMRM Bremner River 82.14 25 P **P** **03 09 02.0 +0.6**
baz=239
DHY Denali Highway 82.17 22 P **P** **03 09 01.9 +0.4**
baz=236
DGZ Jazzator, Alta 82.26 322 *i*P **P** **03 09 02.0 -0.4**
DGZ pmax pmax
comp=Z,36nm,1.0s
NEA2 Nenana 82.41 21 IAmb IAmb 03 09 20.9
comp=Z,22nm,1.2s
NEA2 Nenana 82.41 21 P **P** **03 09 02.3 -0.3**
baz=235
N25K Chitina, Valde 82.47 24 P **P** **03 09 03.6 +0.5**
baz=239
QSPA South Pole Qui 82.57 180 P **P** **03 09 03.9 +0.2**
F21K Alatna River 82.58 18 P **P** **03 09 04.0 +0.5**
baz=230
CCB Clear Creek Bu 82.89 21 IAmb IAmb 03 09 21.0
comp=Z,16nm,1.2s
MESA MESA 82.89 26 P **P** **03 09 05.2 -0.3**
baz=242
H23K Yukon River 82.97 20 IAmb IAmb 03 09 22.8
comp=Z,14nm,1.1s
H23K Yukon River 82.97 20 P **P** **03 09 05.4 -0.1**
baz=234
G22K Bettles 82.99 18 P **P** **03 09 06.0 +0.4**
baz=232
TCOL CIGO, UAF Yank 83.00 21 P **P** **03 09 06.0 +0.4**
baz=236
COLA College 83.00 21 P **P** **03 09 06.0 +0.4**
baz=236
MCARA McCarthy VSAT 83.02 25 P **P** **03 09 05.8 0.0**
baz=240
HDA Harding Lake 83.06 21 P **P** **03 09 06.2 +0.2**
baz=237
ZSN Zaisan 83.10 320 *e*P **P** **03 09 06.5 -0.1**
ZSN pmax pmax
comp=Z,19nm,1.1s
ZSN Zaisan 83.10 320 *e*P **P** **03 09 06.6 -0.1**
comp=Z,19nm,1.1s,baz=320
F22K John River 83.15 18 P **P** **03 09 07.0 +0.5**
baz=231
POKR Poker Plat Res 83.28 21 P **P** **03 09 06.5 -0.7**
baz=236
IL31 83.28 21 IAmb IAmb 03 09 23.5
comp=Z,27nm,1.6s
ILAR Eielson Array 83.28 21 P **P** **03 09 05.6 -1.5**
comp=Z,5.2nm,0.9s,baz=254,slow=3.9,SNR=27
comp=Z,5.2nm,0.9s
ILAR Eielson Array 83.28 21 P **P** **03 09 06.0 -1.1**
ILAR Eielson Array 83.28 21 P **P** **03 09 06.0 -1.1**
G23K Bananza Creek 83.33 19 P **P** **03 09 07.9 +0.4**
baz=234
RIDG Independent Ri 83.48 23 IAmb IAmb 03 09 27.8
comp=Z,21nm,1.1s
RIDG Independent Ri 83.48 23 P **P** **03 09 09.0 +0.7**
baz=239
M26K Nabesna, AK 83.53 24 IAmb IAmb 03 09 28.9
comp=Z,32nm,1.5s
M26K Nabesna, AK 83.53 24 P **P** **03 09 08.6 +0.1**
baz=240
CTG Chitna Glacier 83.53 26 P **P** **03 09 08.3 -0.4**
baz=242
H24K Noodor Dome 83.53 20 P **P** **03 09 09.0 +0.5**
baz=236
PINM Pinnacle 83.61 27 P **P** **03 09 09.1 +0.1**
baz=243
E22K Anaktuvuk Pass 83.65 17 P **P** **03 09 10.2 +1.2**
baz=232
L26K Log Cabin Wild 83.70 23 P **P** **03 09 09.9 +0.6**
baz=240
DOT Dot Lake 83.74 23 IAmb IAmb 03 09 28.5
comp=Z,23nm,1.2s
J25K Salcha River, 83.75 22 IAmb IAmb 03 09 27.3
comp=Z,39nm,1.6s
J25K Salcha River, 83.75 22 P **P** **03 09 09.8 +0.2**
baz=238,SNR=8.0
SCRK Sand Creek 83.93 23 IAmb IAmb 03 09 34.2
comp=Z,11nm,1.0s
SCRK Sand Creek 83.93 23 P **P** **03 09 11.7 +1.0**
baz=239,SNR=5.6
O28M Mount Upton 83.94 26 P **P** **03 09 11.4 +0.4**
baz=243
M27K Edge Creek, AK 83.97 24 P **P** **03 09 11.5 +0.6**
baz=242,SNR=8.8
G24K Hadweenzic Riv 84.16 19 P **P** **03 09 12.8 +1.2**
baz=236
E23K Chandalar 84.26 18 P **P** **03 09 13.2 +1.0**
baz=234
YUK3 Moose Creek 84.28 25 P **P** **03 09 13.7 +1.1**
baz=243
L27K Beaver Creek, 84.32 24 IAmb IAmb 03 09 15.5

L27K **Beaver Creek,** 84.32 24 P P 03 09 13.8 +1.2
baz=241,SNR=5.2
J26L **Joseph Creek** 84.36 22 P P 03 09 13.6 +0.8
baz=240
H25K **Birch Creek** 84.47 20 P P 03 09 13.9 +0.7
baz=238
F24K **Squaw Lake** 84.49 19 P P 03 09 14.7 +1.4
baz=235
D23K **Nanushuk River** 84.49 17 P P 03 09 14.4 +1.2
baz=233,SNR=8.7
MAW **Mawson** 84.52 203 P P 03 09 13.6 +0.2
comp=Z,14nm,0.6s,baz=98,slow=5.9,SNR=42
MAW LR LR 03 45 03.0
comp=Z,256nm,18.5s,baz=94,slow=34
comp=Z,14nm,0.6s
MAW **Mawson** 84.52 203 P P 03 09 13.8 +0.3
baz=84,SNR=26
MAW **Mawson** 84.52 203 P P 03 09 13.5 +0.1
MAW **Mawson** 84.52 203 P P 03 09 13.5 +0.1
MAW pmax pmax
comp=Z,4.0nm,0.7s
MK31 **Makanchi Array** 84.58 318 P P 03 09 14.1 -0.1
MK31 **Makanchi Array** 84.58 318 *i* P P 03 09 14.5 +0.3
MKAR **Makanchi Array** 84.58 318 P P 03 09 14.0 -0.2
comp=Z,77nm,0.7s,baz=101,slow=5.8,SNR=434
MKAR pP pP 03 09 22.0 -0.9
comp=Z,84nm,0.8s,baz=104,slow=5.5,SNR=20
comp=Z,77nm,0.7s
E24K **Your Creek** 84.62 18 P P 03 09 15.3 +1.3
baz=235
TOLK **Toolik Lake Re** 84.62 17 P P 03 09 15.3 +1.4
baz=234
K27K **Chicken** 84.69 23 IAmb IAmb 03 09 17.2
comp=Z,25nm,1.4s
K27K **Chicken** 84.69 23 P P 03 09 15.8 +1.5
baz=241
MAKZ **Makanchi** 84.79 318 P P 03 09 15.5 +0.2
MAKZ **Makanchi** 84.79 318 P P 03 09 15.5 +0.2
MAKZ pmax pmax
comp=Z,150nm,1.0s
YUK6 **Outpost Mounta** 84.82 26 P P 03 09 16.7 +1.3
baz=245
C23K **Itkillik River** 85.04 16 P P 03 09 17.2 +1.2
baz=233
PLBC **Pleasant Camp** 85.12 28 P P 03 09 17.8 +1.3
baz=247
D24K **Happy Valley** 85.14 17 P P 03 09 18.0 +1.5
baz=234
HYT **Haines Junctio** 85.15 27 IAmb IAmb 03 09 20.1
comp=Z,18nm,1.1s
HYT **Haines Junctio** 85.15 27 P P 03 09 18.2 +1.3
baz=246
F25K **Christian Rive** 85.25 19 P P 03 09 18.9 +1.7
baz=238,SNR=5.2
ZAA0 **Zalesovo Array** 85.25 326 P P 03 09 16.4 -1.0
ZALV **Zalesovo Beam** 85.25 326 P P 03 09 16.3 -1.1
comp=Z,41nm,0.6s,baz=117,slow=5.5,SNR=121
ZALV pP pP 03 09 25.0 -1.1
comp=Z,33nm,0.7s,baz=107,slow=5.5,SNR=13
comp=Z,41nm,0.6s
ZALV **Zalesovo Beam** 85.25 326 *i* P P 03 09 16.2 -1.1
ZALV pmax pmax
comp=Z,42nm,0.6s
EGAK **Eagle** 85.40 22 IAmb IAmb 03 09 20.6
comp=Z,18nm,1.3s
EGAK **Eagle** 85.40 22 P P 03 09 18.7 +0.8
baz=242
M29M **Somme Creek** 85.42 25 P P 03 09 18.9 +0.7
baz=244
C24K **Franklin Bluff** 85.51 17 P P 03 09 19.2 +0.9
baz=234
G26K **Porcupine Rive** 85.52 20 P P 03 09 19.8 +1.4
baz=239,SNR=13
SHLS **Shalkode** 85.54 314 *e*P P 03 09 17.2 -2.0
SHLS pmax pmax
comp=Z,11nm,0.9s
SHLS **Shalkode** 85.54 314 *e*P P 03 09 17.2 -2.0
comp=Z,11nm,0.9s,baz=314
E25K **Arctic Village** 85.55 19 P P 03 09 19.8 +1.2
baz=238,SNR=5.1
N30M **Aishikik Lake** 85.60 26 P P 03 09 20.1 +1.1
baz=246
I27K **Kandik River** 85.62 22 P P 03 09 20.1 +1.1
baz=241,SNR=5.7
DAWY **Dawson** 85.75 23 P P 03 09 20.7 +0.9
baz=244
F26K **Sheenjek River** 85.79 19 P P 03 09 21.0 +1.2
baz=239,SNR=7.3
L29M **L29M** 85.84 25 P P 03 09 20.8 +0.6
baz=245
UZB **Uzynbulak** 85.84 314 *e*P P 03 09 20.3 -0.5
UZB **Uzynbulak** 85.84 314 *e*P P 03 09 20.3 -0.5
baz=314
H27K **Steamboat Moun** 85.95 21 P P 03 09 21.7 +1.0
baz=242
D25K **Kavik River** 85.96 17 P P 03 09 21.0 +0.4
baz=237,SNR=8.2
KPKS **Kokpek** 86.16 315 *e*P P 03 09 21.7 -0.6
KPKS pmax pmax
comp=Z,15nm,1.4s
KPKS **Kokpek** 86.16 315 *e*P P 03 09 21.8 -0.6
comp=Z,14nm,1.4s,baz=314
N31M **Braeburn, Yuko** 86.19 26 P P 03 09 23.4 +1.5
baz=247
G27K **Doyon Strip** 86.19 21 P P 03 09 23.2 +1.4
baz=241
TARG **Taragay, Kyrgy** 86.39 313 IAmb IAmb 03 09 35.9
comp=Z,21nm,1.0s
K29M **Barlow Dome** 86.40 24 P P 03 09 24.3 +1.3
baz=245
P32M **Atlin** 86.42 29 P P 03 09 24.2 +1.1
baz=249
C26K **Camden Bay** 86.71 17 P P 03 09 26.1 +1.9
baz=238,SNR=11
TDK **Taldyqorghan** 86.72 316 *e*P P 03 09 24.5 -0.4
TDK **Taldyqorghan** 86.72 316 *e*P P 03 09 24.6 -0.4
baz=316
I29M **Ogilvie Camp,** 86.74 22 IAmb IAmb 03 09 26.6
comp=Z,14nm,1.1s
I29M **Ogilvie Camp,** 86.74 22 P P 03 09 25.4 +0.8
baz=244,SNR=7.9
E27K **Coleen River** 86.87 19 P P 03 09 26.1 +1.0
baz=241,SNR=14
SEM **Semipalatinsk** 86.88 322 *e*P P 03 09 23.6 -2.1
SEM pmax pmax
comp=Z,21nm,1.2s
SEM **Semipalatinsk** 86.88 322 *e*P P 03 09 23.7 -2.1
comp=Z,21nm,1.2s,baz=322
C27K **Jago River** 86.92 18 P P 03 09 26.1 +0.8
baz=239,SNR=12
BBB **Bella Bella** 87.07 37 LR LR 03 44 19.8
comp=Z,734nm,18.3s,baz=272,slow=33
S34M **Telegraph Cree** 87.12 31 P P 03 09 27.7 +1.2
baz=251
MDOK **Medeo** 87.25 314 *e*P P 03 09 27.3 -0.4
MDOK **Medeo** 87.25 314 *e*P P 03 09 27.3 -0.4
baz=314
KSH **Kashi** 87.27 310 P P 03 09 28.9 +1.1
KSH sP pP 03 09 37.1 +0.5
KSH pmax pmax
comp=Z,15nm,1.1s
TNSS **Tian-Shan** 87.30 314 *e*P P 03 09 27.6 -0.6
TNSS **Tian-Shan** 87.30 314 *e*P P 03 09 27.7 -0.6
baz=314
AAA **Alma-Ata** 87.36 314 *e*P P 03 09 27.3 -0.8
AAA **Alma-Ata** 87.36 314 *e*P P 03 09 27.3 -0.8
baz=314
CHKK **Chushkaly** 87.45 315 *e*P P 03 09 27.4 -1.0
CHKK **Chushkaly** 87.45 315 *e*P P 03 09 27.4 -1.0
baz=315
ULHL **Ulahol** 87.64 313 P P 03 09 30.1 +0.5
SNR=14
NRN **Naryn** 87.64 312 IAmb IAmb 03 09 31.4
comp=Z,18nm,1.4s
R33M **Jennings River** 87.67 29 P P 03 09 30.5 +1.2
baz=251
K02D **Willamette Mer** 87.70 47 P P 03 09 30.1 +0.3
baz=258
EPYK **Eagle Plains** 87.76 22 P P 03 09 30.0 +0.6
baz=246
DLBC **Dease Lake** 87.84 30 P P 03 09 31.1 +1.1
baz=252
I02E **Swisshome, OR** 87.87 45 P P 03 09 31.3 +0.9
baz=258
KUU **Kurty** 87.92 315 *e*P P 03 09 29.9 -0.7
KUU **Kurty** 87.92 315 *e*P P 03 09 30.0 -0.7
baz=315

KURK **Kurchatov** 87.96 322 P P 03 09 29.2 -1.5
KURK **Kurchatov** 87.96 322 *ce*P P 03 09 29.8 -0.9
KURK pmax pmax
comp=Z,31nm,1.3s
KURBB **Kurchatov Arra** 88.00 321 P P 03 09 29.6 -1.2
comp=Z,12nm,0.6s,baz=102,slow=4.2,SNR=99
comp=Z,12nm,0.6s
I03D **Drain, OR** 88.14 46 P P 03 09 32.6 +0.9
baz=258
YBH **Yreka Blue Hor** 88.20 48 LR LR 03 42 33.4
comp=Z,829nm,20.9s,baz=252,slow=31
TKM2 **Tokmak 2** 88.24 314 P P 03 09 32.4 -0.1
SNR=21
MMPY **Sheldon Lake,** 88.58 26 P P 03 09 35.1 +1.7
baz=251
L04D **Klamath Falls** 88.59 47 P P 03 09 35.0 +0.9
baz=259
H04D **Lebanon** 88.74 45 P P 03 09 36.2 +1.6
baz=258
CHMS **Chumysh** 88.87 313 P P 03 09 35.0 -0.2
SNR=9.1
UCH **Uchtor** 88.89 313 P P 03 09 36.4 +0.5
SNR=19
J04D **Umpqua Nationa** 88.93 46 P P 03 09 36.1 +0.3
baz=259
WTLY **Watson Lake, Y** 88.94 29 P P 03 09 36.6 +1.5
baz=253
AAK **Ala-Archa** 88.98 313 P P 03 09 35.6 -0.4
SNR=7.0
AAK **Ala-Archa** 88.98 313 P P 03 09 35.8 -0.1
comp=Z,12nm,1.0s,baz=125,slow=4.2,SNR=14
comp=Z,12nm,1.0s
AAK **Ala-Archa** 88.98 313 P P 03 09 35.3 -0.7
AAK IAmb IAmb 03 09 37.1
comp=Z,17nm,1.1s
AAK **Ala-Archa** 88.98 313 *ce*P P 03 09 35.8 -0.1
AAK pmax pmax
comp=Z,18nm,1.3s
SGDS **Sogindy** 89.04 314 *e*P P 03 09 35.1 -1.0
SGDS pmax pmax
comp=Z,8.0nm,1.2s
SGDS **Sogindy** 89.04 314 *e*P P 03 09 35.2 -1.0
comp=Z,8.1nm,1.2s,baz=314
USP **Ospenovka** 89.10 314 P P 03 09 35.8 -0.6
SNR=12
F31M **Tsiigehtchic** 89.26 21 P P 03 09 37.9 +1.5
baz=243
AML **Almayashu** 89.47 312 P P 03 09 38.8 +0.3
SNR=23
EKS2 **Erkin-Say** 89.51 313 P P 03 09 38.1 -0.3
SNR=7.3
NRIK **Noril'sk** 89.56 341 P P 03 09 36.9 -0.9
comp=Z,22nm,1.2s,baz=138,slow=5.1,SNR=3.9
comp=Z,22nm,1.2s
NRIK **Noril'sk** 89.56 341 P P 03 09 36.5 -1.2
NRIK IAmb IAmb 03 09 38.2
comp=Z,16nm,1.1s
NRIK **Noril'sk** 89.56 341 P P 03 09 36.6 -1.2
NRIK pmax pmax
comp=Z,16nm,1.2s
J05D **Fort Rock, OR** 89.57 46 P P 03 09 39.8 +1.2
baz=259
INK **Inuvik** 89.65 20 P P 03 09 37.8 -0.4
comp=Z,3.4nm,1.0s,baz=227,slow=7.5,SNR=3.3
comp=Z,3.4nm,1.0s
BTLS **Baital** 89.75 315 *e*P P 03 09 38.2 -1.1
BTLS pmax pmax
comp=Z,12nm,1.2s
BTLS **Baital** 89.75 315 *e*P P 03 09 38.2 -1.1
comp=Z,12nm,1.2s,baz=315
VES **Vestal, Richgr** 89.94 54 P P 03 09 40.9 +0.6
baz=261
MOD **Modoc Plateau** 90.00 48 P P 03 09 40.1 -0.6
CIS **Catalina Islan** 90.11 56 P P 03 09 42.1 +0.8
baz=261
ISA **Isabella, Lake** 90.40 54 P P 03 09 43.2 +0.6
baz=261
RPN **Rapa Nui** 90.52 117 LR LR 03 42 00.8
comp=Z,421nm,21.9s,baz=264,slow=30
EDW2 **Edwards Air Fo** 90.67 55 P P 03 09 44.5 +0.6
baz=262
CWC **Cottonwood Cre** 90.84 54 P P 03 09 45.6 +0.8
baz=261
BFSC **Mount Baldy Ra** 90.86 56 P P 03 09 45.4 +0.6
baz=262
NVAR **Mina Array Bea** 90.96 52 P P 03 09 46.3 +1.0
comp=Z,9.4nm,1.1s,baz=248,slow=6.5,SNR=20
NVAR LR LR 03 48 45.4
comp=Z,458nm,18.2s,baz=268,slow=34
comp=Z,9.4nm,1.1s
DSP **Deep Springs** 91.06 53 P P 03 09 45.5 0.0
DSP IAmb IAmb 03 09 49.4
comp=Z,16nm,1.3s
NV11 **Mina Array Sit** 91.07 52 P P 03 09 45.9 +0.1
NV11 IAmb IAmb 03 09 49.3
comp=Z,11nm,1.1s
KVN **Kaiserville** 91.21 51 IAmb IAmb 03 09 49.3
comp=Z,12nm,1.3s
MPMC **Manual Prospec** 91.25 54 P P 03 09 48.2 +1.4
baz=262
BRZS **Berezniki** 91.54 320 *e*P P 03 09 45.4 -2.0
BRZS pmax pmax
comp=Z,7.0nm,1.1s
BRZS **Berezniki** 91.54 320 *e*P P 03 09 45.5 -2.0
comp=Z,6.7nm,1.1s,baz=320
GSC **Goldstone, Bar** 91.70 55 P P 03 09 50.0 +1.3
baz=262
QSM **Queen of Sheba** 91.74 54 IAmb IAmb 03 09 52.2
comp=Z,19nm,1.2s
PFO **Pinyon Flats O** 91.76 57 LR LR 03 46 16.3
comp=Z,524nm,18.2s,baz=266,slow=32
PFO **Pinyon Flats O** 91.76 57 P P 03 09 50.4 +1.3
baz=262
TPFO **Pinon Flats** 91.76 57 P P 03 09 50.1 +1.1
baz=262
FURC **Furnace Creek,** 91.81 54 P P 03 09 50.6 +1.6
baz=262
KBL **Kabul** 91.91 304 P P 03 09 47.8 -2.0
KBL IAmb IAmb 03 10 09.1
comp=Z,7.8nm,1.1s
KBL **Kabul** 91.91 304 P P 03 09 47.8 -2.0
KBL pmax pmax
comp=Z,8.0nm,1.1s
IKP **In-Ko-Pah, Jac** 91.92 57 P P 03 09 51.1 +1.3
baz=262
GWY **Greenwater Val** 91.93 54 IAmb IAmb 03 09 52.5
comp=Z,13nm,1.2s
KK31 **Karatay Array** 91.95 313 P P 03 09 48.5 -1.1
KK31 IAmb IAmb 03 09 57.4
comp=Z,8.8nm,0.9s
KK31 **Karatay Array** 91.95 313 P P 03 09 48.5 -1.1
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR **Karatay Array** 91.95 313 P P 03 09 49.4 -0.2
KKAR IAmb IAmb 03 09 57.4
comp=Z,8.8nm,0.9s
KKAR **Karatay Array** 91.95 313 P P 03 09 49.4 -0.2
KKAR pmax pmax
comp=Z,9.0nm,1.0s
WCT **Wildcat Mounta** 92.04 53 IAmb IAmb 03 09 53.7
comp=Z,12nm,1.0s
IUG **Iuzhnay** 92.16 312 *e*P P 03 09 50.0 -0.7
IUG **Iuzhnay** 92.16 312 *e*P P 03 09 50.1 -0.7
baz=312
BELC **Belle Mtn. Jos** 92.19 56 P P 03 09 52.4 +1.3
baz=263
SHOC **Shoshone, Teco** 92.21 54 P P 03 09 52.2 +1.3
baz=262
TPNV **Topopah Spring** 92.36 53 P P 03 09 52.5 +0.7
baz=262
GMRC **Granite Mounta** 92.56 55 P P 03 09 54.0 +1.2
baz=263
BC3 **Big Chuckawall** 92.59 57 P P 03 09 54.3 +1.4
baz=263
IRM **Iron Mountain** 92.91 56 P P 03 09 55.8 +1.5
baz=263
R11A **Troy Canyon, C** 93.06 52 IAmb IAmb 03 09 58.5
comp=Z,7.8nm,1.2s
R11A **Troy Canyon, C** 93.06 52 P P 03 09 56.3 +1.2
baz=263
SHPR **Sheep Range** 93.18 54 P P 03 09 56.5 +0.9
NEW **Newport** 93.19 42 LR LR 03 45 44.1
comp=Z,618nm,20.3s,baz=255,slow=32
NEW **Newport** 93.19 42 P P 03 09 56.7 +1.5
baz=262
PRN **Pahroc Range** 93.37 53 IAmb IAmb 03 10 00.2
comp=Z,13nm,1.0s
BVAR **Borovoye Array** 93.41 323 P P 03 09 54.5 -1.6
comp=Z,10nm,0.6s,baz=106,slow=5.3,SNR=63
BVAR LR LR 03 52 00.2
comp=Z,371nm,20.2s,baz=96,slow=36
comp=Z,10nm,0.6s
BRVK **Borovoye** 93.48 323 P P 03 09 54.7 -1.6
BRVK **Borovoye** 93.48 323 *ce*P P 03 09 54.9 -1.5
BRVK pmax pmax
comp=Z,25nm,0.9s
ELK **Elko** 93.61 50 LR LR 03 50 11.7
comp=Z,440nm,18.1s,baz=264,slow=34
ELK **Elko** 93.61 50 IAmb IAmb 03 10 15.2
comp=Z,11nm,1.6s
SPR3 **Spring Creek 3** 94.11 51 P P 03 10 00.2 +0.2
SPR3 IAmb IAmb 03 10 03.5
comp=Z,7.2nm,1.1s
BELA **Belgrano 2** 94.62 178 P P 03 10 00.9 -0.4
LPIG **La Paz** 96.06 67 LR LR 03 45 02.0
comp=Z,505nm,21.2s,baz=276,slow=30
YKA **Yellowknife Ar** 96.09 28 P P 03 10 07.9 -0.2
comp=Z,2.2nm,0.6s,baz=267,slow=4.7,SNR=5.6
comp=Z,2.2nm,0.6s
BOZ **Bozeman (W)** 96.68 45 P P 03 10 11.3 0.0
baz=266
PDAR **Pinedale Array** 98.01 48 P P 03 10 16.7 -0.9
comp=Z,1.3nm,1.0s,baz=202,slow=0.8,SNR=6.9
PDAR LR LR 03 50 52.8
comp=Z,294nm,18.9s,baz=304,slow=33
comp=Z,1.3nm,1.0s
PDAR **Pinedale Array** 98.01 48 P P 03 10 17.2 -0.4
TROLL **Troll, Antarti** 98.90 188 Pdiff P 03 10 19.4 -1.5
SNAA **Sanae** 99.89 187 Pdiff Pdif 03 10 22.2 -3.0
WSAR **Wadi Sarin** 99.91 292 LR LR 03 57 21.3
comp=Z,75nm,20.8s,baz=122,slow=36
ARU **Arti** 100.42 326 *c* iP Pdif 03 10 24.1 -3.6
ARU 03 14 30.3
ARU S SKSac 03 21 02.9 -1.6
ARU SP SP 03 23 40.6 +10
ARU SS SS 03 29 00.3 +2.7
ARU pmax pmax
comp=Z,7.0nm,0.8s
AKTO **Aktyubinsk** 100.95 320 P Pdif 03 10 28.2 -2.0
comp=Z,2.4nm,0.9s,baz=118,slow=6.1,SNR=5.9
VNA3 **Neumayer Olymp** 100.95 185 PKiKP PKiKP 03 14 54.0 -1.1
VNA3 **Neumayer Olymp** 100.95 185 Pdiff Pdif 03 10 27.2 -2.7
VNA2 **Neumayer--Watz** 101.07 185 PKiKP PKiKP 03 14 54.7 -0.6
VNA2 **Neumayer--Watz** 101.07 185 Pdiff Pdif 03 10 26.0 -4.4
baz=170,slow=5.0
VNA1 **Neumayer--Stat** 101.41 185 PKiKP PKiKP 03 14 56.5 +0.7
TXAR **Lajitas Array** 102.31 62 PKiKP PKiKP 03 14 59.2 +0.4
comp=Z,0.6nm,1.0s,baz=289,slow=5.5,SNR=3.7
TXAR PKKPbc PKKPbc 03 26 39.5 0.0
comp=Z,0.3nm,0.9s,baz=114,slow=2.3,SNR=3.7
PRGR **Permogore** 106.25 332 *e*P Pdif 03 10 49.9 -3.6
PRGR pmax pmax
comp=Z,6.0nm,0.9s
KLMR **Klimovskoe** 109.30 332 *e*P Pdif 03 11 03.0 -4.1
KLMR pmax pmax
comp=Z,8.0nm,1.3s
KLMR **Klimovskoe** 109.30 332 *e*Pdif Pdif 03 11 03.0 -4.1
KLMR AMP 03 11 15.4
comp=Z,8.0nm,1.3s
ARCES **ARCESS Array B** 110.36 344 PKiKP PKiKP 03 15 13.0 +0.6
comp=Z,2.0nm,1.0s,baz=94,slow=1.8,SNR=5.6
OBN **Obninsk** 112.80 327 *i* PKiKP PKiKP 03 15 17.3 -0.1
OBN pmax pmax
comp=Z,4.0nm,1.0s
FINES **FINESS Array B** 114.84 336 PKP PKiKP 03 15 20.2 -0.9
comp=Z,3.3nm,1.1s,baz=90,slow=3.8,SNR=7.2
PLCA **Paso Flores** 115.60 142 PKP PKiKP 03 15 23.3 -0.1
comp=Z,3.1nm,1.0s,baz=327,slow=4.2,SNR=4.3
PLCA PKKPbc PKKPbc 03 25 56.6 -0.8
comp=Z,1.9nm,0.6s,baz=27,slow=2.5,SNR=4.9
GLMI **Grayling** 115.66 44 P PKiKP 03 15 23.1 -0.2
baz=286
LRAL **Lakeview Retre** 116.34 57 P PKPdf 03 15 23.8 -1.0
baz=279
O48B **Farmland** 116.43 49 P PKPdf 03 15 24.3 -0.5
baz=283
P49A **Miami Univ. Ec** 116.92 49 P PKPdf 03 15 25.0 -0.9
baz=283
MNK **Minsk** 117.62 329 *i* PKiKP PKiKP 03 15 26.7 0.0
MNK *i* 03 16 38.4
MNK *i* PPP PPP 03 19 07.5
MNK *i* 03 22 38.0
MNK *i* PS PS 03 26 23.4 -1.0
MNK *i* SS SS 03 32 51.9 +3.1
MNK *i* SSS SSS 03 37 13.0
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=E,53nm,23.0s
MNK MLR MLR
comp=N,1.0nm,15.0s
MNK MLR MLR
comp=Z,334nm,18.0s
MNK **Minsk** 117.62 329 *i* PKP PKiKP 03 15 26.7 0.0
comp=E,2.0nm,0.9s
MNK *i* PKP PKiKP 03 15 26.7 0.0
MNK *i* PKP PKiKP 03 15 26.7 0.0
comp=Z,5.0nm,0.7s,baz=241
MNK *i* PP PP 03 16 38.4 -0.6
MNK *i* PPP PPP 03 19 07.5
MNK *i* SKS SKSdf 03 22 38.0 +1.2
MNK *i* PS PS 03 26 23.4 -1.0
MNK *i* SS SS 03 32 52.0 +3.1
MNK *i* SSS SSS 03 37 13.1
MNK *i* LR LR 04 05 05.7
MNK *i* LRM MLR 04 05 53.4
comp=E,53nm,23.2s
MNK *i* LRM MLR 04 06 15.3
comp=N,1.0nm,15.5s
MNK *i* LRM MLR 04 06 37.2
comp=Z,334nm,18.1s
W52A **Murphy** 118.49 54 PKPdf 03 15 28.0 -1.0
AKASG **Malin Array Be** 118.63 325 PKP PKPdf 03 15 27.6 -1.1
comp=Z,5.1nm,0.8s,baz=65,slow=2.4,SNR=11
AKBB **Malin Array Si** 118.63 325 PKPdf 03 15 28.0 -0.7
AKBB **Malin Array Si** 118.63 325 *c* iPKiKP PKPdf 03 15 28.6 -0.1
P52A **Corning** 118.83 49 P PKPdf 03 15 28.6 -0.9
baz=285
O53A **New Philadelph** 119.35 48 P PKPdf 03 15 29.9 -0.6
baz=286
M53A **WI Miller and** 119.39 46 P PKPdf 03 15 30.0 -0.6
baz=287
BR131 **Keskin Array S** 119.63 312 PKPdf PKPdf 03 15 29.7 -1.5
BR131 **Keskin Array S** 119.63 312 PKiKP PKPdf 03 15 29.7 -1.5
BRTR **Keskin Array B** 119.63 312 PKP PKPdf 03 15 30.1 -1.2
comp=Z,3.9nm,0.9s,baz=118,slow=2.7,SNR=11
BRTR **Keskin Array B** 119.63 312 PKiKP PKPdf 03 15 30.2 -1.0
ANTO **Ankara** 120.22 312 PKPdf 03 15 31.3 -0.9
ANTO **Ankara** 120.22 312 PKiKP PKPdf 03 15 31.3 -0.9
NB2 **NORSAR Subarra** 120.52 341 PKPdf PKPdf 03 15 30.8 -1.3
comp=Z,0.5nm,0.7s,baz=41,slow=1.9
NOA **NORSAR Array B** 120.52 341 PKP PKPdf 03 15 30.5 -1.6
comp=Z,0.5nm,0.6s,baz=42,slow=2.0,SNR=4.1
NOA pPKP pPKPdf 03 15 42.3 +1.2
comp=Z,1.2nm,0.9s,baz=47,slow=2.0,SNR=4.7
KMSC **Kings Mountain** 120.56 54 P PKPdf 03 15 32.3 -0.6
baz=283
R55A **Marlinton** 120.71 50 PKPdf 03 15 32.8 -0.5
BLA **Blacksburg** 120.77 51 P PKPdf 03 15 32.5 -0.9
baz=285
BOSA **Boshof** 120.77 231 PKP PKPdf 03 15 33.3 -0.4
comp=Z,2.1nm,0.6s,baz=152,slow=1.1,SNR=8.0
W57A **Gilead** 121.62 53 PKPdf PKPdf 03 15 33.9 -1.1
SSPA **Standing Stone** 121.65 46 P PKPdf 03 15 34.0 -0.8
baz=289
BIZ **Bicaz** 122.14 322 ⇓P PKiKP 03 15 36.1 +0.3
BUR08 **Bucovina Ar. S** 122.36 323 PKPdf PKiKP 03 15 36.5 +0.1
BURAR **Bucovina Array** 122.37 323 ⇑P PKiKP 03 15 37.4 +1.0
BURAR **Bucovina Array** 122.37 323 ⇑PKiKP PKiKP 03 15 37.4 +1.0
BINY **Binghamton** 122.44 44 P PKPdf 03 15 35.5 -0.8
baz=292
LONY **Lake Ozonia** 122.44 41 P PKPdf 03 15 35.6 -0.7
baz=294
AC05 **El Transito** 122.45 131 PKPdf PKPdf 03 15 36.0 -0.9
KWP **Kalwaria Pacla** 122.82 326 *e*PKiKP PKiKP 03 15 37.4 +0.3
MLR **Muntele Rosu** 122.88 320 P PKPdf 03 15 37.1 -0.2
MLR **Muntele Rosu** 122.88 320 PKiKP PKPdf 03 15 37.1 -0.2
FRNY **Flat Rock** 123.00 40 PKPdf 03 15 36.3 -1.0
KOLS **Kolonicke sedl** 123.43 325 *e*PKiKP PKiKP 03 15 38.4 +0.1
KOLS **Kolonicke sedl** 123.43 325 *e*PKP PKiKP 03 15 38.4 +0.1
TRPA **Tarpa** 123.69 324 ⇑P PKPpre 03 15 32.0

ARR	Arges	123.76	321	⇑P		PKiKP	03 15 39.6	+0.5
CRVS	Cervenica-Dubn	123.90	326	*e*PKiKP		PKPdf	03 15 38.2	-0.8
CRVS	Cervenica-Dubn	123.90	326	*e*PKP		PKPdf	03 15 38.2	-0.8
OJC	Ojcow	124.08	328	*e*PKiKP		PKPdf	03 15 36.8	-2.4
DRGR		124.26	323	⇑P		PKPdf	03 15 37.5	-2.3
DRGR		124.26	323	⇑PKiKP		PKPdf	03 15 39.5	-0.3
NIE	Niedzica	124.26	327	*e*PKiKP		PKiKP	03 15 40.4	+0.4
LBNH	Lisbon	124.33	40	P		PKPdf	03 15 39.7	-0.2
	baz=296							
PAL	Palisades	124.34	45	P		PKPdf	03 15 39.7	-0.3
	baz=293							
L61B	Northampton	124.60	43	P		PKPdf	03 15 40.4	0.0
	baz=295							
H62A	Milan	124.67	40	PKPdf		PKPdf	03 15 40.5	0.0
D62A	Allapoint, All	124.74	36			PKPdf	03 15 39.7	-0.9
LANS	Liptovska Anna	124.86	327	*e*PKiKP		PKiKP	03 15 41.9	+0.7
LANS	Liptovska Anna	124.86	327	*e*PKP		PKiKP	03 15 41.9	+0.7
GZR	Gura Zlata	124.91	321	⇑P		PKPpre	03 15 32.6	
GZR	Gura Zlata	124.91	321	⇓PKiKP		PKPdf	03 15 39.9	-1.2
MBAR	Mbarara	125.14	264	*c i*PKiKP		PKiKP	03 15 43.2	+0.3
MBAR				pmax		pmax		
	comp=Z,5.0nm,1.3s							
SIRR	Siria	125.15	323	⇑P		PKPdf	03 15 39.0	-2.5
PSZ	Piszkesteto	125.31	325	PKPdf		PKPdf	03 15 40.3	-1.5
PSZ	Piszkesteto	125.31	325	PKiKP		PKiKP	03 15 40.3	-1.5
HRV	Adam Dziewonsk	125.33	42	P		PKPdf	03 15 41.9	+0.1
	baz=296							
PKME	Peaks-Kenny Pk	125.50	38	P		PKPdf	03 15 41.9	-0.2
	baz=300							
BZS	Buzias	125.51	322	⇑P		PKPdf	03 15 38.8	-3.3
BZS	Buzias	125.51	322	⇑PKiKP		PKPdf	03 15 41.4	-0.7
KSP	Ksiaz	125.51	330	*e*PKiKP		PKiKP	03 15 42.2	-0.1
MORC	Moravsky Berou	125.53	328	⇓P		PKiKP	03 15 42.5	0.0
MORC	Moravsky Berou	125.53	328	*e*PKP		PKPdf	03 15 42.1	0.0
MORC	Moravsky Berou	125.53	328	⇓PKiKP		PKiKP	03 15 42.5	0.0
VYHS	Vyhne	125.58	326	*e*PKiKP		PKPdf	03 15 42.3	+0.1
VYHS	Vyhne	125.58	326	*e*PKP		PKPdf	03 15 42.3	+0.1
MAUC	Maruska	125.62	328	*e*PKPDF		PKPdf	03 15 42.4	+0.1
OSTC	Ostas	125.73	330	*e*PKPDF		PKiKP	03 15 43.1	+0.3
OSTC				*ex*	x		03 15 53.4	
KRLC	Kraliky	125.74	329	*e*PKiKP		PKPdf	03 15 42.5	0.0
KRLC				*e*			03 15 53.3	
KRLC	Kraliky	125.74	329	*e*PKPDF		PKPdf	03 15 42.5	0.0
KRLC				*ex*	x		03 15 53.3	
DPC	Dobruska-Polom	125.80	329	*e*PKiKP		PKiKP	03 15 43.0	0.0
DPC				*e*			03 15 54.7	
DPC	Dobruska-Polom	125.80	329	*e*PKPDF		PKiKP	03 15 43.0	0.0
DPC				*ex*	x		03 15 54.7	
BLKB	Belogradchik	125.81	320	⇑P		PKPdf	03 15 42.9	0.0
VTS	Vitosha	125.90	318	⇓P		PKPdf	03 15 43.1	-0.1
VTS	Vitosha	125.90	318	⇓PKiKP		PKPdf	03 15 43.1	-0.1
JAVC	Velka Javorina	126.00	327	*e*PKP		PKiKP	03 15 43.8	+0.3
VRAC	Vranov	126.30	328	*e*PKP		PKPdf	03 15 43.7	+0.1
MODS	Modra-Piesok	126.50	327	*e*PKiKP		PKiKP	03 15 44.7	+0.3
MODS	Modra-Piesok	126.50	327	*e*PKP		PKiKP	03 15 44.7	+0.3
TA01	Diego Aracena	126.52	122	PKPdf		PKPdf	03 15 41.4	-3.4
KRUC	Moravsky	126.55	328	*e*PKP		PKPdf	03 15 43.5	-0.5
PVCC	Panska Ves	126.56	331	*e*PKiKP		PKiKP	03 15 44.4	0.0
PVCC	Panska Ves	126.56	331	*e*PKPDF		PKiKP	03 15 44.4	0.0
G65A	Princeton	126.59	38			PKPdf	03 15 42.9	-1.3
LVC	Limon Verde	126.62	125			PKPdf	03 15 45.0	-0.4
LVC	Limon Verde	126.62	125	PKiKP		PKPdf	03 15 45.0	-0.4
BRG	Berggiesshubel	126.64	331	*i* PKP		PKiKP	03 15 44.4	-0.3
BRG				Amp			03 15 45.7	
	comp=Z,14nm,1.2s							
BRG				*ex*	x		03 15 56.0	
BRG				Amp			03 15 57.3	
	comp=Z,5.9nm,0.8s							
BRG	Berggiesshubel	126.64	331	*i* PKiKP		PKiKP	03 15 44.3	-0.3
BRG				*e*			03 15 56.0	
BRG				pmax	pmax			
	comp=Z,14nm,1.2s							
BRG				pmax	pmax			
	comp=Z,6.0nm,0.8s							
CLL	Collm	126.79	332	*i* PKiKP		PKPdf	03 15 44.0	-0.4
CLL				*i*			03 15 55.7	
CLL				pmax	pmax			
	comp=Z,12nm,1.2s							
CLL				MLR	MLR			
	comp=Z,300nm,19.1s							
CLL	Collm	126.79	332	*i* PKPdf		PKPdf	03 15 44.0	-0.4
	comp=Z,12nm,1.2s							
CLL				*i* pPKPdf		PKiKP	03 15 48.0	+3.1
CLL				*i* x	x		03 15 55.7	
CLL				Lm	MLR		04 35 00.0	
	comp=Z,300nm,19.1s							
RONA	Rosalia, Austr	127.43	327	*e*P		PKPdf	03 15 45.8	0.0
	comp=Z,7.3nm,1.1s							
CONA	Conrad Observa	127.52	327	*e*P		PKPdf	03 15 46.1	0.0
	comp=Z,8.9nm,1.4s							
NKC	Novy Kostel	127.78	331	*e*PKiKP		PKiKP	03 15 46.8	-0.1
NKC				*e*			03 15 57.8	
NKC	Novy Kostel	127.78	331	*e*PKPDF		PKiKP	03 15 46.8	-0.1
NKC				*ex*	x		03 15 57.8	
CKRC	Cesky Krumlov	127.78	329	*e*PKPDF		PKiKP	03 15 46.8	-0.2
CKRC				*ex*	x		03 15 58.2	
KHC	Kasperske Hory	127.95	330	*e*PKiKP		PKPdf	03 15 46.1	-0.7
KHC				*e*			03 15 58.1	
KHC	Kasperske Hory	127.95	330	*e*PKPDF		PKPdf	03 15 46.1	-0.7
KHC				*ex*	x		03 15 58.1	
GERES	GERESS Array B	128.07	329	PKP		PKPdf	03 15 46.7	-0.4
	comp=Z,3.6nm,0.9s,baz=50,slow=2.1,SNR=26							
GERES	GERESS Array B	128.07	329	PKPdf		PKPdf	03 15 46.9	-0.2
GERES	GERESS Array B	128.07	329	PKiKP		PKPdf	03 15 46.9	-0.2
SOKA	Soboth	128.73	326	*e*P		PKPdf	03 15 48.1	-0.3
	comp=Z,7.8nm,1.5s							
BIOA	Bad Ischl, Aus	128.85	328	*e*P		PKPdf	03 15 48.3	-0.2
	comp=Z,3.9nm,0.8s							
KBA	Koelnbreinsper	129.39	328	*e*P		PKPdf	03 15 50.0	+0.3
	comp=Z,6.6nm,1.2s							
ROSC	El Rosal	129.62	90	PKP		PKPdf	03 15 51.5	+0.2
	comp=Z,6.2nm,0.7s,baz=317,slow=20,SNR=4.9							
ABTA	Abfaltersbach	130.04	328	*e*P		PKPdf	03 15 50.2	-0.7
	comp=Z,7.6nm,1.1s							
LPAZ	La Paz	130.12	118	PKP		PKPdf	03 15 52.7	+0.2
	comp=Z,16nm,1.1s,baz=8.0,slow=1.4,SNR=31							
LPAZ	La Paz	130.12	118	PKPdf		PKPdf	03 15 51.7	-0.8
LPAZ	La Paz	130.12	118	PKiKP		PKPdf	03 15 51.7	-0.8
WTTA	Wattenberg	130.16	329	*e*P		PKPdf	03 15 50.9	-0.3
	comp=Z,11nm,1.0s							
BTNL	Ternell	130.33	335	*d*PKPdf		PKPdf	03 15 51.4	+0.2
BTNL				*d*PKiKP		PKiKP	03 15 52.2	+0.2
MOTA	Moosalm	130.37	329	*e*P		PKPdf	03 15 51.3	-0.3
	comp=Z,13nm,1.5s							
SQTA	Sankt Quirin	130.40	329	*e*P		PKPdf	03 15 51.9	+0.3
	comp=Z,6.6nm,1.0s							
FETA	Feichten	130.78	329	*e*P		PKPdf	03 15 52.8	+0.4
	comp=Z,3.7nm,1.1s							
DAVA	Damuels	131.03	330	*e*P		PKPdf	03 15 53.0	+0.2
	comp=Z,6.7nm,1.4s							
BMRD	Maredsous	131.10	336	*d*PKiKP		PKiKP	03 15 53.4	-0.1
ITQB	Itaqui	131.40	141	PKPdf		PKPdf	03 15 53.4	-0.5
CPUP	Villa Florida	133.19	137	PKP		PKPdf	03 15 57.2	-0.2
	comp=Z,7.8nm,1.1s,baz=251,slow=2.2,SNR=6.6							
SDV	Santo Domingo	133.53	85	PKPdf		PKPdf	03 15 57.1	-1.4
ETMB	Extrema	134.32	111	PKPdf		PKPdf	03 15 58.0	-1.7
AQDB	Aquidauana	138.07	132	PKPdf		PKPdf	03 16 06.2	-0.4
PBRG	Braganca	142.59	339	*e*PKPdf		PKPdf	03 16 09.9	-4.3
BOAV	Boa Vista	142.98	96	PKPdf		PKPdf	03 16 12.0	-3.6
PCAB	Cabril	143.12	340	*e*PKPdf		PKPbc	03 16 11.7	-0.3
MVO	Moncorvo	143.26	339	*e*PKPdf		PKPbc	03 16 12.2	-0.2
ESDC	Sonseca Array	143.32	334	PKP		PKPbc	03 16 12.3	-0.3
	comp=Z,8.1nm,1.0s,baz=22,slow=2.9,SNR=41							
POLO	Lamas de Olo	143.34	340	*e*PKPdf		PKPbc	03 16 12.7	0.0
PVRL	Vila Real	143.40	340	*e*PKPdf		PKPbc	03 16 12.9	+0.1
PAB	San Pablo	143.59	334	PKPdf		PKPbc	03 16 13.2	-0.2
PAB	San Pablo	143.59	334	PKiKP		PKPbc	03 16 13.2	-0.2
PVIS	Viseu	143.96	339	*e*PKPdf		PKPbc	03 16 14.4	-0.1
MTE	Manteigas	144.12	339	*e*PKPdf		PKPbc	03 16 15.2	+0.2
MTE	Manteigas	144.12	339	PKPdf		PKPbc	03 16 15.2	+0.2
PCBR	Castelo Branco	144.59	338	*e*PKPdf		PKPbc	03 16 16.4	0.0
PCAS	Casmilo, Conde	144.76	340	*e*PKPab		PKPbc	03 16 16.9	0.0
PMRV	Marv??o	144.91	338	*e*PKPdf		PKPbc	03 16 17.5	0.0
PSBE	So Bento	145.34	340	*e*PKPdf		PKPdf	03 16 19.1	0.0
PESTR	Estremoz	145.48	338	*e*PKPab		PKPbc	03 16 18.5	-0.8
PESTR	Estremoz	145.48	338			PKPbc	03 16 19.1	-0.2
PESTR	Estremoz	145.48	338	P		PKPbc	03 16 19.2	-0.1
PMTG	Montargil	145.54	338	*e*PKPab		PKPdf	03 16 19.2	-0.2
PBAR	Barrancos	145.87	336	*e*PKPab		PKPbc	03 16 20.6	+0.1
PMAFR	Mafra	146.01	340	*e*PKPab		PKPbc	03 16 21.1	+0.1
PACT	Alcochete	146.02	339	*e*PKPab		PKPab	03 16 21.6	+0.1
PMST	Lisbon--Monsan	146.18	339	*e*PKPab		PKPab	03 16 21.8	-0.3
LIS	Lisbon	146.18	339	*e*PKPdf		PKPbc	03 16 21.3	-0.2
PBEJ	Beja	146.32	337	*e*PKPab		PKPab	03 16 22.3	-0.4
TAF	Taforalt	146.43	327	P		PKPab	03 16 23.0	-0.3
PNCL	Nicolau / Gran	146.49	338	*e*PKPab		PKPbc	03 16 22.6	+0.2
MESJ	Messejana	146.62	337	*e*PKPdf		PKPbc	03 16 22.1	-0.7
MESJ	Messejana	146.62	337	*e*PKPab		PKPbc	03 16 23.1	+0.3
PCVE	Castro Verde	146.73	337	*e*PKPab		PKPbc	03 16 23.5	+0.4
BDFB	Brasilia	146.76	134	PKPbc		PKPdf	03 16 22.8	+0.6
	comp=Z,44nm,1.0s,baz=251,slow=0.3,SNR=34							
BDFB	Brasilia	146.76	134			PKPdf	03 16 22.0	-0.2
BDFB	Brasilia	146.76	134	PKiKP		PKPdf	03 16 22.0	-0.2
PVAQ	Vaqueiros	146.80	336	*e*PKPab		PKPbc	03 16 23.9	+0.6
PVAQ	Vaqueiros	146.80	336	P		PKPbc	03 16 23.9	+0.6
JBK	JBK	146.87	327	P		PKPab	03 16 25.0	-0.2
PALE	Palemas	146.91	330	P		PKPbc	03 16 24.0	+0.3
PTEO	Sao Teotonio	147.06	338	*e*PKPab		PKPbc	03 16 24.7	+0.7
SMIR	Smir Dam	147.24	332	P		PKPbc	03 16 25.0	+0.4
MORF	Marmelete	147.25	338	*e*PKPdf		PKPdf	03 16 23.3	+0.9
MORF	Marmelete	147.25	338	*e*PKPab		PKPbc	03 16 25.0	+0.4
AKLM	AKL	147.43	329	P		PKPbc	03 16 25.0	-0.3
PFVI	Vila Bisbo	147.47	338	*e*PKPab		PKPbc	03 16 25.6	+0.4
CHEFC	Chefchaouen	147.69	331	P		PKPbc	03 16 26.0	0.0
FIGM	Figuig	147.74	323	P		PKPbc	03 16 26.2	-0.1
TAM	Tamanrasset	148.01	302			PKPdf	03 16 19.5	-4.7
TAM	Tamanrasset	148.01	302	PKHKP		PKPpre	03 16 19.5	
LCRM	LCR	148.58	329	P		PKPbc	03 16 29.0	+0.5
TORD	Torodi Ar. Bea	154.39	285	PKP		PKPdf	03 16 32.5	-1.4
	comp=Z,3.0nm,1.0s,baz=18,slow=1.6,SNR=9.0							
TORD				PKPbc		PKPbc	03 16 41.0	-1.2
	comp=Z,8.7nm,1.0s,baz=47,slow=2.2,SNR=20							
KIC	Kosan Boka	161.16	268	⇓*i*PKP2		PKPab	03 17 25.2	-0.6
	comp=Z,12nm,0.4s							
DBIC	Dimbokro	161.29	269	PKP		PKPdf	03 16 41.4	-1.1
	comp=Z,5.5nm,0.9s,baz=30,slow=2.2,SNR=3.3							
DBIC				PKPab		PKPab	03 17 25.7	-0.7
	comp=Z,10nm,0.6s,baz=105,slow=5.0,SNR=15							
LIC	Lamto	161.43	268	⇓*i*PKP2		PKPab	03 17 26.3	-0.7
	comp=Z,25nm,0.4s							
TIC	Toumodi	161.45	269	⇓*i*PKP2		PKPab	03 17 26.4	-0.7
	comp=Z,7.1nm,0.3s							

IDC ***23*** *02:59:18.6±1.6, 30.˚16N×82.˚43E, h0km, mb3.6/8, mbtmp3.6/10, ML3.6/2, MS4.6/1, Error ellipse: s-maj=33.5km s-min=29.0km az=30.0*

ISC 23 02:59:23.7±1.2, 30.˚2N±0.˚2×82.˚5E±0.˚2, h35km, n12, σ0.68/11, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	16.53	359	Pn	Pn	03 03 12.0	-0.7
	0.1nm,0.3s,baz=178,slow=9.7,SNR=5.4						
	1.0nm,0.8s						
CMAR	Chiang Mai Arr	18.99	124	P	P	03 03 41.9	-0.4
	0.2nm,0.3s,baz=312,slow=11,SNR=1.4						
	1.0nm,0.3s						
KURBB	Kurchatov Arra	20.58	353	P	P	03 03 59.3	-0.1
	0.8nm,0.7s,baz=179,slow=9.7,SNR=11						
	0.8nm,0.7s						
ZALV	Zalesovo Beam	23.75	3	P	P	03 04 32.8	+0.2
	1.1nm,0.8s,baz=184,slow=10.0,SNR=1.8						
	1.1nm,0.8s						
BVAR	Borovoye Array	24.44	342	LR	LR	03 14 43.7	
	comp=Z,1µm,18.0s,baz=233,slow=38						
SONM	Songino Array	25.39	40	P	P	03 04 48.7	+1.0
	0.9nm,0.6s,baz=220,slow=11,SNR=4.9						
	0.9nm,0.6s						
FINES	FINESS Array B	47.98	327	P	P	03 07 59.2	+0.5
	2.7nm,0.9s,baz=114,slow=9.0,SNR=8.6						
	2.7nm,0.9s						
ARCES	ARCESS Array B	50.59	338	P	P	03 08 18.9	+0.3
	0.8nm,0.7s,baz=104,slow=7.8,SNR=5.8						
	0.8nm,0.7s						
GERES	GERESS Array B	54.35	311	P	P	03 08 47.4	+0.5
	0.4nm,0.6s,baz=84,slow=10,SNR=3.1						
	0.4nm,0.6s						
NB2	NORSAR Subarra	55.05	326	P	P	03 08 50.7	-1.0
	comp=Z,1.1nm,0.8s,baz=118,slow=7.9						
NOA	NORSAR Array B	55.05	326	P	P	03 08 51.0	-0.7
	comp=Z,0.7nm,0.7s,baz=90,slow=7.4,SNR=4.1						
	comp=Z,0.7nm,0.7s						
TORD	Torodi Ar. Bea	75.66	277	P	P	03 11 05.9	+0.2
	comp=Z,0.4nm,0.8s,baz=53,slow=4.9,SNR=3.4						
	comp=Z,0.4nm,0.8s						

IDC ***23*** *03:01:58.6±2.1, 34.˚38N×141.˚74E, h0km, mb3.7/2, mbtmp3.5/4, ML2.6/2, Error ellipse: s-maj=36.1km s-min=26.5km az=98.0*
JMA ***23*** *03:02:00.1±0.4, 34.˚NL1.˚×14.˚2EL.˚, h37km±2km, MV2.9/24, FAR SE OFF BOSO PEN*

ISC 23 03:02:02.2±1.5, 34.˚44N±0.˚06×141.˚7E±0.˚1, h27km, n9, σ1.27/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.61	291	P	Pb	03 02 13.9	0.0
BSO3	Boso 3	1.02	291	*e*P	Pb	03 02 20.6	-0.5
JKUC	kamogawauchiur	1.41	301	*e*P	Pn	03 02 25.7	-0.4
JKUC				*e*S	Sb	03 02 45.1	-0.2
CHOJ	Chosi	1.43	332	*e*P	Pn	03 02 25.1	-1.2
CHOJ				*e*S	Sn	03 02 44.0	-0.2
JMKN	Mikurajimanish	1.81	253	*e*P	Pn	03 02 32.0	+0.5
JMKN				*e*S	Sn	03 02 54.2	+0.6
JHJ	Hachijo jima 2	2.05	231	Pn	Pn	03 02 35.0	+0.2
	7.6nm,0.3s,baz=127,slow=23,SNR=8.4						
JHJ				Sn	Sb	03 03 01.1	-2.7
	37nm,0.3s,baz=92,slow=22,SNR=8.0						
	65nm,0.6s						
MJAR	Matsushiro Arr	3.52	308	Pn	Pn	03 02 54.2	-0.9
	0.3nm,0.3s,baz=121,slow=14,SNR=3.5						
MJAR				Sn	Sn	03 03 37.6	+1.8
	0.3nm,0.3s,baz=126,slow=40,SNR=3.6						
	1.1nm,0.3s						
WRA	Warramunga Arr	54.53	188	P	P	03 11 27.2	-0.6
	1.1nm,0.9s,baz=8.3,slow=7.6,SNR=3.3						
	1.1nm,0.9s						
BRTR	Keskin Array B	80.73	312	P	P	03 14 15.2	+2.0
	0.7nm,0.9s,baz=46,slow=6.2,SNR=2.0						
	0.7nm,0.9s						

JMA ***23*** *03:02:14.2±0.2, 29.˚2NL0.˚6×12.˚9EL.˚, h14km, MV3.4/19, NEAR TOKARA ISLANDS*
JMA Felt II J1 at NEAR TOKARA ISLANDS .
IDC ***23*** *03:02:19.6±3.8, 29.˚11N×129.˚38E, h38km±35km, mb3.7/7, mbtmp3.9/9, ML3.2/2, MS3.5/1, Error ellipse: s-maj=33.2km s-min=17.2km az=88.0*

ISC 23 03:02:15.2±0.9, 29.˚13N±0.˚03×129.˚27E±0.˚05, h8km±6km, n26, σ1.06/29, mb4.0/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	Takarajima	0.06	289	P	Pg	03 02 16.6	-0.4
JTAJ				S	Sg	03 02 18.6	+0.2
JAM	Amami Oshima	0.78	158	*e*P	Pg	03 02 29.6	-0.5
JAM				*e*S	Sg	03 02 41.0	+0.9
JNN	Nakanoshima	0.88	36	P	Pg	03 02 31.2	-0.9
JAMN	Amaminishikomi	0.89	186	P	Pg	03 02 32.0	-0.3
JAMN				*e*S	Sg	03 02 44.6	+0.7
JZK	Kikaishima	1.02	143	*e*P	Pb	03 02 35.4	+0.3
JZK				*e*S	Sg	03 02 49.9	+1.9
JTK	Tokunoshima	1.37	192	*e*P	Pn	03 02 39.3	-1.4
JTK				*e*S	Sn	03 02 58.6	-0.4
JYAK	Yakushimahirau	1.54	44	*e*P	Pn	03 02 41.0	-2.0
JKC	Kuchinoerabu	1.55	31	P	Pn	03 02 42.0	-1.1
JOKE	Okinoerabujima	1.87	200	*e*P	Pn	03 02 47.2	-0.4
JMTN	Minamitane	1.90	48	*e*P	Pn	03 02 47.2	-0.7
JTN	Tanegashima 3	2.12	44	*e*P	Pn	03 02 50.0	-1.0
JYRO	Yoronjima	2.22	199	*e*P	Pn	03 02 52.0	-0.3
JIH	Iheya	2.39	209	*e*P	Pn	03 02 54.8	+0.2
JOW	Kunigami	2.46	201	Pn	Pn	03 02 56.7	+1.2
	12nm,0.3s,baz=63,slow=12,SNR=3.8						
JOW				Sn	Sb	03 03 28.4	-1.6
	11nm,0.3s,baz=44,slow=21,SNR=4.5						
	33nm,0.4s						
KSRS	Korea Array	8.38	353	Pn	Pn	03 04 19.2	+2.3
	0.2nm,0.3s,baz=176,slow=14,SNR=14						
KSRS				LR	LR	03 07 38.9	
	comp=Z,287nm,19.6s,baz=220,slow=38						
	3.8nm,0.9s						
USRK	Ussuriysk Ar.	15.19	7	Pn	P	03 05 55.0	-0.1
	baz=177,slow=13						
SONM	Songino Array	25.71	323	P	P	03 07 47.0	+1.0
	1.5nm,0.7s,baz=122,slow=7.7,SNR=8.2						
	1.5nm,0.7s						
CMAR	Chiang Mai Arr	29.64	256	P	P	03 08 21.7	+0.4
	1.5nm,0.4s,baz=59,slow=11,SNR=1.2						
	1.5nm,0.4s						
H11N2	WAKE ISLAND Hy	35.38	97	T	T	03 46 41.7	
	baz=296						
H11N1	WAKE ISLAND Hy	35.39	97	T	T	03 46 41.0	
	baz=296						
H11N3	WAKE ISLAND Hy	35.40	97	T	T	03 46 40.9	
	baz=296						
BVAR	Borovoye Array	48.77	317	P	P	03 11 01.7	+1.2
	2.1nm,0.8s,baz=95,slow=9.2,SNR=1.4						
	2.1nm,0.8s						
WRA	Warramunga Arr	49.03	174	P	P	03 11 02.3	-0.4
	1.9nm,0.8s,baz=350,slow=8.2,SNR=6.8						
	1.9nm,0.8s						
ASAR	Alice Springs	52.68	175	P	P	03 11 30.2	0.0
	0.7nm,0.9s,baz=13,slow=13,SNR=5.2						
	0.7nm,0.9s						
ILAR	Eielson Array	61.46	29	P	P	03 12 31.3	-0.6
	0.9nm,0.9s,baz=282,slow=6.0,SNR=4.4						
	0.9nm,0.9s						
PDAR	Pinedale Array	90.33	39	P	P	03 15 17.0	-0.3
	0.7nm,0.8s,baz=51,slow=0.9,SNR=5.0						
	0.7nm,0.8s						

NEIC ***23*** *03:08:25.4±1.9, 34.˚40N±0.˚04×142.˚1E±0.˚1, h10km±1km, mb4.2/4, Error ellipse: s-maj=17.0km s-min=3.8km az=106.0*
IDC ***23*** *03:08:28.0±0.8, 34.˚45N×141.˚70E, h0km, mb3.8/12, mbtmp3.8/16, ML2.8/3, MS4.3/6, Error ellipse: s-maj=21.4km s-min=16.3km az=94.0*
JMA ***23*** *03:08:29.2±0.8, 34.˚NL2.˚×14.˚2EL.˚, h24km, MV3.6/27, FAR SE OFF BOSO PEN*
NIED ***23*** *03:08:29.2, 34.˚37N×141.˚58E, h24km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.21; Mθθ-9.92; Mφφ 7.71; Mrθ 1.82; Mθφ2.10; Mφr-3.10; Fault plane solution: M0 9.86000×10¹⁵ NP1: φs233.00000°, δ66.00000°, λ10.00000°. NP2: φs139.00000°, δ81.00000°, λ156.00000°.*

ISC 23 03:08:30.9±0.7, 34.˚46N±0.˚06×141.˚62E±0.˚08, h27km, n46, σ1.91/38, mb3.8/14, MS4.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.56	290	*e*P	Pb	03 08 40.4	-1.5
BSO3	Boso 3	0.98	291	*e*P	Pn	03 08 47.1	-1.5
JKUC	kamogawauchiur	1.36	301	*e*P	Pn	03 08 53.9	-0.3
CHOJ	Chosi	1.39	334	*e*P	Pn	03 08 54.4	-0.2
JMKN	Mikurajimanish	1.77	252	*e*P	Pn	03 08 58.6	-1.2
JHJ2	Mitsune	2.01	229	Pn	Pn	03 09 02.4	-0.7
JHJ	Hachijo jima 2	2.03	229	Pn	Pn	03 09 03.9	+0.6
	24nm,0.3s,baz=274,slow=23,SNR=10						
JHJ				Sn	Sb	03 09 30.0	-2.0
	56nm,0.3s,baz=75,slow=23,SNR=3.9						
	55nm,0.3s						
JYT	Yasato	2.11	327		Pn	03 09 04.0	-0.5
JMM	Marumori	3.46	349		Pn	03 09 21.1	-2.0
MJAR	Matsushiro Arr	3.47	308	Pn	Pn	03 09 24.2	+1.0
	0.7nm,0.3s,baz=70,slow=20,SNR=20						
MJAR				LR	LR	03 11 17.0	
	comp=Z,5µm,18.3s,baz=101,slow=48						
	5.1nm,0.4s						
MAJO	Matsushiro	3.47	308		Pn	03 09 24.9	+1.6
MJB9	Mats

VANB	**Van**	**0.88**	**287**	PG	**Pg**	**03**	**18**	**05.2**	**-0.3**
VANB				SG	**Sb**	**03**	**18**	**18.1**	**-0.9**
CLDR	**Caldiran**	**0.91**	**332**	PG	**Pg**	**03**	**18**	**06.1**	**0.0**
CLDR				SG	**Sb**	**03**	**18**	**19.7**	**-0.3**
HAKT	**HAKKARI**	**0.98**	**217**	P	**Pb**	**03**	**18**	**08.1**	**-0.5**
HAKT				S	**Sb**	**03**	**18**	**20.7**	**-1.3**
HAKT				*i* AML	AML	03	18	26.0	
	comp=E,71nm,0.3s								
GEVA	**Gevas**	**1.10**	**269**	P	**Pg**	**03**	**18**	**08.7**	**-1.0**
AKDM	**Akdamar-Van**	**1.16**	**270**	PN	**Pb**	**03**	**18**	**11.3**	**-0.3**
AKDM				SN	**Sn**	**03**	**18**	**29.4**	**+0.6**
CUKT	**Cukurca**	**1.28**	**212**	PN	**Pn**	**03**	**18**	**13.7**	**-0.1**
PERV	**Siirt/Pervari-**	**1.56**	**256**	P	**Pg**	**03**	**18**	**20.8**	**+2.2**
AGRB	**Hanur-Agry**	**1.68**	**318**	PN	**Pn**	**03**	**18**	**19.5**	**+0.1**
KOTA	**Agri, Merkez-K**	**1.76**	**327**	P	**Pg**	**03**	**18**	**23.0**	**+0.7**
GNI	**Garni**	**1.82**	**7**	PN	**Pn**	**03**	**18**	**21.4**	**+0.1**
SVAN	**Silvan-Diyarba**	**2.57**	**267**	PN	**Pn**	**03**	**18**	**32.3**	**+0.8**

*JMA **23** 03:21:48.2±1.0,34°N±3°×14°2E±°, h27km, MV3.2/25, FAR SE OFF BOSO PEN*

*IDC **23** 03:21:48.0±1.4,34°13N×141°42E, h0km, mb3.4/4, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=41.6km s-min=23.5km az=70.0*

ISC 23 03:21:51.1±1.2,34°33N±0°.08×141°44E±0°.09, h27km, n17, σ2s24/14, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BSO1	**Boso 1**	**0.50**	**311**	P	**Pb**	**03**	**21**	**59.3**	**-1.8**
BSO3	**Boso 3**	**0.90**	**302**	*eP*	**Pn**	**03**	**22**	**05.9**	**-1.8**
BSO4	**Boso 4**	**1.12**	**306**	*eP*	**Pb**	**03**	**22**	**10.5**	**-1.2**
JKUC	**kamogawauchiur**	**1.32**	**309**	*eP*	**Pn**	**03**	**22**	**12.8**	**-0.9**
CHOJ	**Chosi**	**1.45**	**341**	*eP*	**Pn**	**03**	**22**	**13.0**	**-2.5**
CHOJ				*eS*	**Sn**	**03**	**22**	**31.2**	**-2.5**
JMKN	**Mikurajimanish**	**1.59**	**255**	*eP*	**Pb**	**03**	**22**	**17.7**	**-2.2**
JMKN				*eS*	**Sb**	**03**	**22**	**39.5**	**-0.1**
MJAR	**Matsushiro Arr**	**3.44**	**311**	Pn	**Pn**	**03**	**22**	**43.8**	**+0.9**
	0.5nm,0.3s,baz=149,slow=12,SNR=21								
MJAR				Sn	**Sn**	**03**	**23**	**26.6**	**+3.8**
	0.4nm,0.3s,baz=205,slow=22,SNR=12								
	2.1nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**26.84**	**116**	T	T	03	55	31.1	
	baz=309,slow=76,SNR=12								
H11N1	**WAKE ISLAND Hy**	**26.84**	**116**	T	T	03	55	49.0	
	baz=309,slow=76,SNR=15								
H11N3	**WAKE ISLAND Hy**	**26.86**	**116**	T	T	03	55	43.2	
	baz=309,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**27.46**	**119**	T	T	03	56	41.8	
	baz=312,slow=75,SNR=7.4								
H11S1	**WAKE ISLAND Hy**	**27.46**	**119**	T	T	03	56	35.6	
	baz=312,slow=75,SNR=14								
H11S2	**WAKE ISLAND Hy**	**27.48**	**119**	T	T	03	56	29.3	
	baz=312,slow=75,SNR=5.6								
MKAR	**Makanchi Array**	**45.62**	**304**	P	**P**	**03**	**30**	**11.3**	**+2.3**
	0.8nm,0.9s,baz=79,slow=7.6,SNR=2.5								
	0.8nm,0.9s								
ILAR	**Eielson Array**	**51.78**	**31**	P	**P**	**03**	**30**	**58.2**	**+2.1**
	0.4nm,0.7s,baz=257,slow=6.0,SNR=3.0								
	0.4nm,0.7s								
WRA	**Warramunga Arr**	**54.39**	**188**	P	**P**	**03**	**31**	**16.3**	**+0.6**
	0.5nm,0.8s,baz=5.6,slow=7.6,SNR=7.2								
	0.5nm,0.8s								
ASAR	**Alice Springs**	**58.12**	**188**	P	**P**	**03**	**31**	**40.3**	**-1.9**
	0.1nm,0.3s,baz=1.5,slow=6.9,SNR=1.5								
	0.1nm,0.3s								

*IDC **23** 03:25:52.0±0.8,22°52S×68°30W, h94km±9km, mb3.3/3, mbtmp3.6/6, Error ellipse: s-maj=31.0km s-min=18.2km az=139.0*

*VAO **23** 03:25:52.8±0.7,22°17S×68°73W, h93km±12km, mb4.2*

*GUC **23** 03:25:53.2±0.8,22°39S×68°61W, h107km±5km, ML3.5*

ISC 23 03:25:52.6±0.7,22°39S±0°.06×68°50W±0°.07, h106km±7km, n24, σ1s37/35, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LVC	**Limon Verde**	**0.44**	**240**	P	**Pn**	**03**	**26**	**10.1**	**+1.0**
	1μm,0.3s,baz=80,slow=6.1,SNR=4476								
LVC				S	**Sn**	**03**	**26**	**21.7**	**+0.3**
	2μm,0.2s,baz=85,slow=15,SNR=163								
LVC	**Limon Verde**	**0.44**	**240**	*eP*	**Pn**	**03**	**26**	**09.8**	**+0.6**
LVC				*eS*	**Sn**	**03**	**26**	**21.9**	**+0.4**
LVC	**Limon Verde**	**0.44**	**240**	*eP*	**Pn**	**03**	**26**	**10.3**	**+1.2**
LVC				*eS*	**Sn**	**03**	**26**	**20.8**	**-0.7**
PB09	**IPOC Station P**	**0.91**	**311**	⇑*iP*	**Pn**	**03**	**26**	**13.9**	**+1.1**
PB09				*i* S	**Sn**	**03**	**26**	**28.3**	**+0.4**
PB09				IAML		03	26	30.7	
	comp=N,1μm,0.5s								
PB06	**IPOC Station P**	**1.04**	**252**	⇑*iP*	**Pn**	**03**	**26**	**14.4**	**+0.3**
PB06				*i* S	**Sn**	**03**	**26**	**30.3**	**+0.1**
PB06				IAML		03	26	32.3	
	comp=N,1μm,0.1s								
PB07	**IPOC Station P**	**1.45**	**297**	⇑*iP*	**Pn**	**03**	**26**	**18.9**	**+0.2**
PB07				*i* S	**Sn**	**03**	**26**	**37.7**	**-0.8**
PB04	**IPOC Station P**	**1.53**	**272**	⇑*iP*	**Pn**	**03**	**26**	**19.5**	**-0.2**
PB04				*i* S	**Sn**	**03**	**26**	**38.9**	**-1.4**
PB04				IAML		03	26	41.3	
	comp=N,1μm,0.2s								
PB01	**IPOC Station P**	**1.62**	**325**	⇑*iP*	**Pn**	**03**	**26**	**21.2**	**+0.4**
PB01				*i* S	**Sn**	**03**	**26**	**41.9**	**-0.4**
PB01				IAML		03	26	42.8	
	comp=E,968nm,0.2s								
PB02	**IPOC Station P**	**1.68**	**309**	⇑*iP*	**Pn**	**03**	**26**	**21.7**	**+0.2**
PB02				*i* S	**Sn**	**03**	**26**	**42.2**	**-1.2**
PB02				IAML		03	26	46.1	
	comp=E,2μm,0.2s								
PB08	**IPOC Station P**	**2.32**	**345**	⇓*iP*	**Pn**	**03**	**26**	**31.4**	**+1.5**
PB08				*i* S	**Sn**	**03**	**27**	**00.5**	**+2.0**
PB08				IAML		03	27	06.4	
	comp=N,171nm,0.2s								
LPAZ	**La Paz**	**6.08**	**3**	P	**Pn**	**03**	**27**	**22.7**	**+2.0**
	comp=N,1.5nm,0.3s,baz=182,slow=5.4,SNR=18								
SIV	**San Ignacio**	**9.47**	**49**	P	**Pn**	**03**	**28**	**04.2**	**-2.0**
	comp=N,2.8nm,0.7s,baz=243,slow=9.4,SNR=16								
SIV				S	**Sn**	**03**	**29**	**47.5**	**-3.5**
	comp=N,0.6nm,0.5s,baz=216,slow=19,SNR=1.6								
PTGB	**Pitanga**	**15.25**	**102**	*eP*	**P**	**03**	**29**	**27.0**	**+2.2**
PDRB	**Porto dos Gac**	**15.53**	**48**	*eP*	**P**	**03**	**29**	**28.2**	**+0.3**
PCMB	**Pacaembu**	**16.01**	**90**	*eP*	**P**	**03**	**29**	**36.0**	**+2.9**
CLDB	**Colider**	**16.70**	**49**	*eP*	**Pn**	**03**	**29**	**40.3**	**0.0**
PLCA	**Paso Flores**	**18.37**	**185**	P	**P**	**03**	**29**	**57.4**	**-1.7**
	comp=N,0.9nm,0.8s,baz=0.0,slow=10,SNR=1.3								
NPGB	**Novo Progresso**	**19.83**	**42**	*eP*	**Pn**	**03**	**30**	**16.5**	**-1.2**
BDFB	**Brasilia**	**20.49**	**74**	P	**P**	**03**	**30**	**22.5**	**+0.2**
	comp=N,0.8nm,0.3s,baz=231,slow=9.4,SNR=3.5								
	comp=N,0.8nm,0.3s								
MACA	**Manacapuru-AM**	**20.57**	**23**	*eP*	**P**	**03**	**30**	**21.8**	**-1.3**
BOAV	**Boa Vista**	**25.84**	**19**	*eP*	**P**	**03**	**31**	**14.7**	**+0.5**
TXAR	**Lajitas Array**	**61.57**	**325**	P	**P**	**03**	**36**	**00.6**	**+1.7**
	comp=N,0.2nm,0.6s,baz=138,slow=6.8,SNR=2.0								
	comp=N,0.2nm,0.6s								
TORD	**Torodi Ar. Bea**	**77.30**	**70**	P	**P**	**03**	**37**	**35.5**	**-0.5**
	comp=N,0.8nm,0.4s,baz=249,slow=5.2,SNR=19								
	comp=N,0.8nm,0.4s								
WRA	**Warramunga Arr**	**132.38**	**210**	PKP	**PKiKP**	**03**	**44**	**56.4**	**+0.1**
	comp=N,0.2nm,0.7s,baz=134,slow=1.9,SNR=1.2								

*IDC **23** 03:35:12.1±0.5,54°97S×31°28W, h0km, mb4.4/12, mbtmp4.4/12, MS4.1/2, Error ellipse: s-maj=23.3km s-min=14.7km az=63.0*

*NEIC **23** 03:35:13.9±1.3,55°07S±0°.10×31°4W±0°.2, h10km±1km, mb4.9/41, Error ellipse: s-maj=17.8km s-min=13.8km az=40.0*

*GCMT **23** 03:35:15.9±0.2,54°87S±0°.02×31°36W±0°.04, h12km, MW5.2/99, Moment Tensor Solution. s28,c30; s99,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.48±.14; $M_{\theta\theta}$-2.69±.14; $M_{\phi\phi}$-0.78±.12; $M_{r\theta}$-5.24±.48; $M_{\theta\phi}$2.22±.10; $M_{\phi r}$-1.86±.51; Best double couple: M_o6.64800×10^{16} NP1:ϕ266.00000°,δ75.00000°,λ67.00000°. NP2: ϕ145.00000°,δ28.00000°,λ146.00000°. Principal axes: T 7.3870, Plg54.0000°, Azm147.0000°; N -1.4730, Plg23.0000°, Azm272.0000°; P -5.9080, Plg26.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 03:35:13.9±0.3,55°07S±0°.07×31°55W±0°.07, h10km, n95, σ1s60/92, mb4.8/28, MS4.3/4, 1D, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
HOPE	**Hope Point**	**2.98**	**283**	Pn	**Pn**	**03**	**36**	**01.5**	**+0.3**
ESPZ	**Base Esperanza**	**15.36**	**227**	Pn	**Pn**	**03**	**38**	**48.9**	**-1.6**
EFI	**East Falkland**	**16.14**	**271**	Pn	**Pn**	**03**	**39**	**00.2**	**-0.5**
VNA1	**Neumayer--Stat**	**18.67**	**156**	P	**P**	**03**	**39**	**32.3**	**+0.6**
PMSA	**Palmer Station**	**18.74**	**226**	P	**Pn**	**03**	**39**	**36.9**	**+4.1**
	34nm,1.0s,baz=85,slow=11,SNR=3.9								
VNA3	**Neumayer Olymp**	**18.79**	**158**	P	**P**	**03**	**39**	**33.3**	**+0.3**
VNA2	**Neumayer--Watz**	**19.07**	**156**	P	**P**	**03**	**39**	**36.0**	**-0.1**
	baz=314,slow=11								
MG01	**Puerto William**	**20.56**	**255**	P	**P**	**03**	**39**	**51.7**	**-0.7**
MG01				IAmb	IAmb	03	39	52.0	
	comp=Z,97nm,1.2s								
SNAA	**Sanae**	**20.67**	**154**	P	**P**	**03**	**39**	**53.4**	**-0.2**
SNAA	**Sanae**	**20.67**	**154**	P	**P**	**03**	**39**	**53.5**	**0.0**
	comp=Z,18nm,0.8s,baz=310,slow=9.4,SNR=51								
	comp=Z,18nm,0.8s								
SNAA	**Sanae**	**20.67**	**154**		**P**	**03**	**39**	**53.6**	**0.0**
BELA	**Belgrano 2**	**22.93**	**182**	P	**P**	**03**	**40**	**17.5**	**-0.2**
MG05	**Puerto Natales**	**24.41**	**261**	P	**P**	**03**	**40**	**32.6**	**+0.3**
MG05				IAmb	IAmb	03	40	45.0	
	comp=Z,48nm,1.1s								
TRQA	**Tornquist**	**26.66**	**297**	P	**P**	**03**	**40**	**53.4**	**+0.6**
TRQA				IAmb	IAmb	03	41	07.5	
	comp=Z,29nm,1.2s								
PLTB	**Pedras Altas**	**28.04**	**317**	P	**P**	**03**	**41**	**04.9**	**-0.3**
PLCA	**Paso Flores**	**29.38**	**283**	P	**P**	**03**	**41**	**16.3**	**-0.8**
	comp=Z,4.1nm,1.0s,baz=110,slow=0.4,SNR=3.9								
	comp=Z,4.1nm,1.0s								
CPUP	**Villa Florida**	**34.34**	**316**	P	**P**	**03**	**42**	**00.5**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=152,slow=8.3,SNR=12								
	comp=Z,3.7nm,0.8s								
CPUP	**Villa Florida**	**34.34**	**316**	P	**P**	**03**	**42**	**00.2**	**-0.5**
MT09	**Talagante**	**34.65**	**291**	P	**P**	**03**	**42**	**03.1**	**-0.3**
MT09				IAmb	IAmb	03	42	13.9	
	comp=Z,15nm,0.9s								
PEL	**Peldehue**	**34.97**	**293**	P	**P**	**03**	**42**	**06.8**	**+0.7**
MT02	**Curacav**	**35.13**	**292**	P	**P**	**03**	**42**	**08.0**	**+0.6**
QSPA	**South Pole Qui**	**35.18**	**180**	P	**P**	**03**	**42**	**08.1**	**+0.3**
	comp=Z,6.0nm,1.0s,baz=199,slow=3.8,SNR=9.9								
	comp=Z,6.0nm,1.0s								
QSPA	**South Pole Qui**	**35.18**	**180**	P	**P**	**03**	**42**	**07.9**	**+0.2**
QSPA				IAmb	IAmb	03	42	40.3	
	comp=Z,19nm,1.1s								
AC02	**Maricunga**	**39.23**	**301**	P	**P**	**03**	**42**	**43.3**	**+0.4**
GO02	**Mina Guanaco**	**40.85**	**301**	P	**P**	**03**	**42**	**56.0**	**-0.2**
GO02				IAmb	IAmb	03	42	58.8	
	comp=Z,15nm,0.8s								
BDFB	**Brasilia**	**41.36**	**336**	P	**P**	**03**	**43**	**00.1**	**0.0**
	comp=Z,3.4nm,0.9s,baz=116,slow=4.0,SNR=4.0								
	comp=Z,3.4nm,0.9s								
BDFB	**Brasilia**	**41.36**	**336**	P	**P**	**03**	**42**	**59.9**	**-0.2**
MAW	**Mawson**	**42.38**	**145**	P	**P**	**03**	**43**	**07.9**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=242,slow=11,SNR=13								
	comp=Z,5.6nm,0.8s								
MAW	**Mawson**	**42.38**	**145**	P	**P**	**03**	**43**	**07.4**	**-0.4**
LVC	**Limon Verde**	**42.68**	**304**	LR	LR	04	00	07.0	
	comp=Z,277nm,21.6s,baz=200,slow=35								
PB01	**IPOC Station P**	**44.30**	**305**	P	**P**	**03**	**43**	**23.9**	**0.0**
PTLB	**Pontes e Lacer**	**44.92**	**321**	P	**P**	**03**	**43**	**28.7**	**0.0**
PTLB				IAmb	IAmb	03	43	39.4	
	comp=Z,11nm,1.0s								
GO01	**Chusmiza**	**45.34**	**306**	P	**P**	**03**	**43**	**33.0**	**+0.3**
VNDA	**Vanda**	**47.41**	**184**	P	**P**	**03**	**43**	**48.7**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=191,slow=7.0,SNR=13								
	comp=Z,1.9nm,0.8s								
VNDA	**Vanda**	**47.41**	**184**	P	**P**	**03**	**43**	**48.4**	**+0.7**
VILB	**Vilhena**	**47.61**	**321**	P	**P**	**03**	**43**	**50.1**	**+0.2**
VILB				IAmb	IAmb	03	43	55.2	
	comp=Z,15nm,1.1s								
LPAZ	**La Paz**	**47.81**	**309**	P	**P**	**03**	**43**	**53.3**	**+1.0**
	comp=Z,11nm,0.7s,baz=121,slow=4.6,SNR=46								
	comp=Z,11nm,0.7s								
LPAZ	**La Paz**	**47.81**	**309**	P	**P**	**03**	**43**	**52.3**	**+0.1**
BOSA	**Boshof**	**48.19**	**81**	P	**P**	**03**	**43**	**53.2**	**-1.3**
	comp=Z,4.5nm,1.0s,baz=206,slow=6.2,SNR=5.2								
	comp=Z,4.5nm,1.0s								
BOSA	**Boshof**	**48.19**	**81**	P	**P**	**03**	**43**	**53.1**	**-1.5**
BOSA				IAmb	IAmb	03	44	11.4	
	comp=Z,23nm,1.4s								
H10N1	**ASCENSION HYDR**	**49.03**	**23**	T	T	04	36	48.4	
	baz=196								
H10N3	**ASCENSION HYDR**	**49.03**	**23**	T	T	04	36	41.3	
	baz=196								
H10N2	**ASCENSION HYDR**	**49.05**	**23**	T	T	04	36	44.2	
	baz=196								
LBTB	**Lobatse**	**51.16**	**78**	P	**P**	**03**	**44**	**15.7**	**-1.5**
LBTB				IAmb	IAmb	03	44	40.3	
	comp=Z,22nm,1.6s								
ETMB	**Extrema**	**52.79**	**315**	P	**P**	**03**	**44**	**28.9**	**-0.3**
ETMB				IAmb	IAmb	03	44	39.1	
	comp=Z,22nm,1.7s								
CASY	**Casey**	**55.63**	**162**	P	**P**	**03**	**44**	**49.6**	**+0.3**
CASY				IAmb	IAmb	03	44	52.9	
	comp=Z,8.4nm,0.8s								
MACA	**Manacapuru-AM**	**56.88**	**325**	P	**P**	**03**	**44**	**58.1**	**-0.7**
MACA				IAmb	IAmb	03	45	18.9	
	comp=Z,9.9nm,0.7s								
CZSB	**Cruzeiro do Su**	**57.42**	**309**	IAmb	IAmb	03	45	20.4	
	comp=Z,14nm,1.0s								
BOAV	**Boa Vista**	**62.05**	**327**	P	**P**	**03**	**45**	**33.2**	**-1.3**
BOAV				IAmb	IAmb	03	45	44.1	
	comp=Z,8.3nm,1.1s								
MCRA	**Macar, Loja**	**63.73**	**304**	P	**P**	**03**	**45**	**45.7**	**-0.1**
MCRA				IAmb	IAmb	03	46	17.9	
	comp=Z,8.6nm,1.2s								
OTAV	**Otavalo**	**67.07**	**308**	P	**P**	**03**	**46**	**08.4**	**+0.5**
TULM	**Tulcn-Chalpat**	**67.19**	**308**	P	**P**	**03**	**46**	**08.3**	**-0.4**
TULM				IAmb	IAmb	03	46	26.1	
	comp=Z,10nm,0.9s								
BAUV	**El Baul**	**70.70**	**321**	P	**P**	**03**	**46**	**29.5**	**-0.3**
BIRV	**Birongo**	**71.51**	**324**	P	**P**	**03**	**46**	**34.9**	**+0.1**
BIRV				IAmb	IAmb	03	46	41.7	
	comp=Z,13nm,1.1s								
SDV	**Santo Domingo**	**71.60**	**319**	P	**P**	**03**	**46**	**35.3**	**-0.3**
KOWA	**Kowa**	**73.11**	**28**	P	**P**	**03**	**46**	**43.7**	**-0.6**
KOWA				IAmb	IAmb	03	46	54.5	
	comp=Z,20nm,1.4s								
TOA0	**Torodi Ar. Sit**	**73.52**	**34**	P	**P**	**03**	**46**	**45.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**73.52**	**34**	P	**P**	**03**	**46**	**45.2**	**-1.5**
	comp=Z,2.8nm,0.7s,baz=205,slow=7.6,SNR=14								
	comp=Z,2.8nm,0.7s								
MBAR	**Mbarara**	**73.98**	**67**	P	**P**	**03**	**46**	**50.0**	**+0.3**
CBYP	**Canovanas**	**78.67**	**327**	P	**P**	**03**	**47**	**15.6**	**-0.5**
CBYP				IAmb	IAmb	03	47	36.0	
	comp=Z,18nm,1.4s								
RPZ	**Rata Peaks**	**79.73**	**196**	P	**P**	**03**	**47**	**21.8**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=197,slow=11,SNR=2.5								
	comp=Z,4.5nm,0.8s								
MATN	**Matagalpa**	**81.68**	**307**	P	**P**	**03**	**47**	**31.5**	**-0.9**
MATN				IAmb	IAmb	03	47	50.4	
	comp=Z,16nm,1.6s								
RAR	**Rarotonga**	**92.17**	**227**	LR	LR	04	25	01.7	
	comp=Z,91nm,20.7s,baz=312,slow=32								
ESDC	**Sonseca Array**	**97.28**	**21**	P	**P**	**03**	**48**	**45.2**	**-1.3**
	comp=Z,0.2nm,0.8s,baz=209,slow=4.0,SNR=1.6								
	comp=Z,0.2nm,0.8s								
ASAR	**Alice Springs**	**100.60**	**166**	P	**Pdif**	**03**	**49**	**00.7**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=115,slow=3.4,SNR=1.5								
MNK	**Minsk**	**119.60**	**35**	*i* PKP	**PKiKP**	**03**	**54**	**06.7**	**+4.0**
	comp=E,2.0nm,0.7s								
MNK				*i* PKP	**PKiKP**	**03**	**54**	**06.7**	**+4.0**
MNK				*i* PKP	**PKiKP**	**03**	**54**	**06.7**	**+4.0**
	comp=Z,8.0nm,0.6s,baz=215								
MNK				*i* PP	**PP**	**03**	**55**	**32.0**	**+6.0**
MNK				*i* PPP	PPP	03	58	02.1	
MNK				*i* SKS	**SKSdf**	**04**	**01**	**18.7**	**+4.7**
MNK				*i* PS	**PS**	**04**	**05**	**19.5**	**+5.5**
MNK				*i* SS	**SS**	**04**	**11**	**50.0**	**+0.4**
MNK				*i* SSS	SSS	04	16	22.1	
MNK				*i* LR	LR	04	44	03.6	
MNK				*i* LRM	MLR	04	46	22.8	
	comp=N,2.0nm,19.4s								
MNK				*i* LRM	MLR	04	46	29.2	
	comp=E,40nm,19.3s								
MNK				*i* LRM	MLR	04	46	44.7	
	comp=Z,146nm,18.1s								
FINES	**FINESS Array B**	**124.71**	**30**	PKP	**PKPdf**	**03**	**54**	**11.0**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=186,slow=1.9,SNR=4.7								
CMAR	**Chiang Mai Arr**	**127.73**	**114**	PKP	**PKPdf**	**03**	**54**	**17.4**	**-2.0**
	comp=Z,1.6nm,0.4s,baz=223,slow=3.7,SNR=1.6								
ARCES	**ARCESS Array B**	**130.98**	**23**	PKP	**PKiKP**	**03**	**54**	**24.6**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=270,slow=0.4,SNR=5.4								
YKA	**Yellowknife Ar**	**133.81**	**320**	PKP	**PKPdf**	**03**	**54**	**29.1**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=126,slow=2.7,SNR=4.9								
PZH	**PanZhiHua**	**135.76**	**111**	PKP	PKPdf	03	54	26.5	-8.0
MKAR	**Makanchi Array**	**138.95**	**73**	PKP	**PKPdf**	**03**	**54**	**39.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=251,slow=1.0,SNR=4.7								
WMQ	**Urumqi**	**140.16**	**80**	*eP*	**PKPdf**	**03**	**54**	**42.9**	**+0.9**
ZALV	**Zalesovo Beam**	**144.18**	**65**	PKP	**PKPab**	**03**	**54**	**45.8**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=234,slow=3.2,SNR=6.0								
GTA	**Gaotai**	**144.26**	**95**	*e*PKPbc	PKPbc	03	54	48.1	+0.3
GTA				pPKP	PKiKP	03	54	54.5	+1.4
GTA				LR	LR				
	comp=N,63nm,19.3s								
GTA				LR	LR				
	comp=E,130nm,18.9s								
GTA				LR	LR				
	comp=Z,110nm,17.4s								
BCAR	**Beaver Creek A**	**144.98**	**312**	PKPbc	PKPbc	03	54	49.0	-0.3
K27K	**Chicken**	**145.42**	**313**		**PKPab**	**03**	**54**	**52.0**	**+1.2**
WHN	**Wuhan**	**145.54**	**121**	PKPbc	**PKPdf**	**03**	**54**	**51.3**	**-0.5**
J26L	**Joseph Creek**	**146.18**	**314**	PKPbc	**PKPab**	**03**	**54**	**53.8**	**0.0**
PAX	**Paxson**	**146.54**	**311**	PKPbc	**PKPbc**	**03**	**54**	**54.4**	**+0.2**
IL31		**147.63**	**314**	PKPbc	**PKPbc**	**03**	**54**	**56.5**	**-0.5**
ILAR	**Eielson Array**	**147.63**	**314**	PKPbc	**PKPbc**	**03**	**54**	**56.8**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=112,slow=1.5,SNR=34								
LYN	**LuoYang**	**147.78**	**115**	*e*PKPbc	**PKPbc**	**03**	**54**	**56.8**	**-1.6**
CCB	**Clear Creek Bu**	**147.99**	**313**	PKPbc	**PKPbc**	**03**	**54**	**58.7**	**+0.7**
WRH	**Wood River Hil**	**148.06**	**313**	PKPbc	**PKiKP**	**03**	**54**	**59.9**	**0.0**
KDAK	**Kodiak Island**	**148.17**	**300**	PKPbc	**PKPbc**	**03**	**54**	**58.6**	**0.0**
	comp=Z,12nm,0.8s,baz=63,slow=2.3,SNR=3.0								
MDM	**Murphy Dome**	**148.23**	**314**	PKPbc	**PKPbc**	**03**	**54**	**58.3**	**-0.4**
H23K	**Yukon River**	**148.94**	**315**	PKPbc	**PKPdf**	**03**	**54**	**58.4**	**+1.9**
NJ2	**Nanjing**	**148.95**	**126**	*eP*	**PKPdf**	**03**	**54**	**54.1**	**-3.3**
NJ2				pmax	pmax				
	comp=Z,14nm,0.6s								
SKT	**Skwentna**	**148.96**	**308**	PKPbc	**PKPbc**	**03**	**54**	**58.7**	**-1.9**
TOLK	**Toolik Lake Re**	**149.34**	**321**	PKPbc	**PKiKP**	**03**	**55**	**02.4**	**-0.1**
HNS	**HongShan**	**151.12**	**114**	⇓P	**PKiKP**	**03**	**55**	**08.8**	**+1.7**
HNS				pmax	pmax				
	comp=Z,19nm,1.0s								
HHC	**Hu-ho-hao-te**	**151.88**	**105**	*eP*	**PKPdf**	**03**	**54**	**58.4**	**-3.5**
SONM	**Songino Array**	**153.15**	**88**	PKPbc	**PKPbc**	**03**	**55**	**09.4**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=220,slow=4.3,SNR=8.4								
KSRS	**Korea Array**	**157.52**	**133**	PKPab	**PKPab**	**03**	**55**	**41.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=220,slow=3.1,SNR=2.3								

*IDC **23** 03:36:13.0±0.7,54°73S×30°84W, h0km, mb4.4/9, mbtmp4.4/10, ML4.0/1, MS4.3/3, Error ellipse: s-maj=27.1km s-min=18.3km az=63.0*

*NEIC **23** 03:36:16.2±1.4,54°8S±0°.1×31°2W±0°.3, h13km±4

YKA	Yellowknife Ar	133.79	320	PKP	PKPdf	03 55 29.8	-0.4
	comp=Z,0.9nm,0.6s,baz=131,slow=1.8,SNR=2.1						
MKAR	Makanchi Array	138.51	72	PKP	PKPdf	03 55 36.9	-2.7
	comp=Z,0.5nm,0.7s,baz=225,slow=1.8,SNR=2.4						
ZALV	Zalesovo Beam	143.72	64	PKP	PKPbc	03 55 46.5	+0.3
	comp=Z,1.5nm,0.5s,baz=222,slow=1.9,SNR=2.3						
ILAR	Eielson Array	147.67	314	PKPbc	PKPbc	03 55 58.0	+0.1
	comp=Z,14nm,1.1s,baz=122,slow=1.3,SNR=7.6						
CCB	Clear Creek Bu	148.03	314		PKPbc	03 55 59.2	+0.4
NEA2	Nenana	148.55	313		PKPbc	03 56 00.1	-0.1
BWN	Browne	148.63	312	PKPbc	PKPbc	03 56 01.2	+0.8
BPAW	Bear Paw Mtn.	149.27	312	PKPbc	PKPbc	03 56 02.4	+0.3
H21K	Melozitna Rive	150.28	315		PKPbc	03 56 04.8	+0.3
IMAR	Indian Mountai	150.70	315		PKiKP	03 56 06.3	+0.2
SONM	Songino Array	152.78	87	PKPbc	PKPbc	03 56 11.0	+0.1
	comp=Z,1.5nm,0.6s,baz=221,slow=3.0,SNR=4.2						
KSRS	Korea Array	157.47	131	PKPab	PKPab	03 56 42.4	+0.4
	comp=Z,0.6nm,0.4s,baz=217,slow=3.8,SNR=1.7						

*JMA **23** 03:37:03.8±0.5,34°N±1°×14°2E±°, h35km±3km, MD4.7/27, MV4.0/27, FAR SE OFF BOSO PEN*
*NEIC **23** 03:37:03.4±1.8,34°47N±0°02×141°87E±0°10, h10km±1km, mb4.6/26, Error ellipse: s-maj=13.8km s-min=2.9km az=76.0*
*IDC **23** 03:37:03.4±0.7,34°31N×141°74E, h0km, mb4.0/18, mbtmp4.0/23, ML2.8/4, MS4.4/9, Error ellipse: s-maj=16.5km s-min=14.4km az=142.0*
*NIED **23** 03:37:03.8,34°38N×141°88E, h35km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.43; Mθθ-3.82; Mφφ4.25; Mrθ4.79; Mθφ4.35; Mφr-0.23; Fault plane solution: M₀7.50000×10¹⁵ NP1: φs=343.00000°, δ56.00000°, λ-170.00000°. NP2: φs=247.00000°, δ82.00000°, λ-35.00000°.*

ISC 23 03:37:03.9±3.1, 34°40N±0°04×141°78E±0°06, h9km±19km, n113, σ1s42/93, mb4.4/35, MS4.5/6, 1C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.70	291	eP	Pb	03 37 18.4	+0.4
BSO3	Boso 3	1.12	291	eP	Pb	03 37 25.6	+0.4
BSO4	Boso 4	1.32	297	eP	Pn	03 37 28.6	+0.1
CHOJ	Chosi	1.50	330	eP	Pn	03 37 30.2	-0.7
CHOJ				eS	Sn	03 37 49.3	-1.3
CHOJ	Chosi	1.50	330	A	A	03 37 30.2	
	comp=E,9.0nm,3.4s,comp=E,7.0nm,9.0s						
JKUC	kamogawauchiur	1.50	301	P	Pn	03 37 30.5	-0.5
JKUC				eS	Sn	03 37 50.3	-0.5
JKUC	kamogawauchiur	1.50	301	A	A	03 37 30.5	
	comp=E,12nm,6.4s,comp=E,17nm,5.5s						
JCN	Nagara	1.64	308	A	A	03 37 32.4	
	comp=E,39nm,4.9s,comp=E,37nm,7.5s						
JSMT	Sammumatsuo	1.65	319	A	A	03 37 32.2	
	comp=E,57nm,5.2s,comp=E,39nm,6.6s						
JMKN	Mikurajimanish	1.88	255	eP	Pn	03 37 35.4	-0.8
JMKN				eS	Sn	03 37 58.6	-1.6
JYO	Yokosk	1.92	296	A	A	03 37 36.5	
	comp=E,15nm,6.8s,comp=E,20nm,5.6s						
JIM2	Oshima 3	1.96	280	eP	Pn	03 37 36.0	-1.4
JIM2	Oshima 3	1.96	280	A	A	03 37 36.0	
	comp=E,8.0nm,2.6s,comp=E,8.0nm,2.1s						
JTHY	Toshimahigashi	2.06	274	A	A	03 37 38.5	
	comp=E,9.0nm,4.9s,comp=E,10.0nm,3.2s						
JNIO	Niijimaoohara	2.07	269	A	A	03 37 38.5	
	comp=E,17nm,3.0s,comp=E,12nm,4.2s						
JHJ2	Mitsune	2.08	232	Pn	Pn	03 37 40.4	+1.5
JHJ2	Mitsune	2.08	232	eP	Pn	03 37 39.2	+0.2
JHJ2				eS	Sn	03 38 04.6	-0.4
JHJ2	Mitsune	2.08	232	A	A	03 37 39.2	
	comp=E,7.0nm,2.7s,comp=E,9.0nm,9.0s						
TOK	Tokyo	2.09	308	A	A	03 37 38.9	
	comp=E,25nm,4.7s,comp=E,27nm,5.4s						
JHJ	Hachijo jima 2	2.10	239	Pn	Pn	03 37 39.5	+0.3
	90nm,0.3s,baz=291,slow=17,SNR=32						
JHJ				Sn	Sn	03 38 04.9	-0.6
	247nm,0.3s,baz=53,slow=19,SNR=13						
JSKK	Shikinejimakit	2.12	269	A	A	03 37 39.4	
	comp=E,9.0nm,4.3s,comp=E,8.0nm,4.9s						
JYT	Yasato	2.23	325	Pn	Pn	03 37 39.9	-1.1
JOD2	Odawara 2	2.37	292	eP	Pn	03 37 41.7	-1.3
JOD2				eS	Sn	03 38 11.6	-0.7
JOD2	Odawara 2	2.37	292	A	A	03 37 41.7	
	comp=E,5.0nm,9.2s,comp=E,5.0nm,8.4s						
JIZS	Izushimoda	2.41	278	A	A	03 37 43.5	
	comp=E,3.0nm,5.0s,comp=E,3.0nm,11.3s						
JHU	Hanno	2.50	306	A	A	03 37 44.8	
	comp=E,4.0nm,8.2s,comp=E,4.0nm,4.3s						
JSB	Shiboa	2.97	330	A	A	03 37 51.2	
	comp=E,8.0nm,3.4s,comp=E,7.0nm,5.0s						
SHZ3	Shizuoka 3	3.01	284	A	A	03 37 52.0	
	comp=E,2.0nm,1.8s,comp=E,3.0nm,14.8s						
JMM	Marumori	3.54	347		Pn	03 37 57.1	-2.0
MJAR	Matsushiro Arr	3.61	307	Pn	Pn	03 38 00.1	+0.1
	1.6nm,0.3s,baz=116,slow=9.5,SNR=40						
MJAR				Sn	Sn	03 38 44.0	+1.3
	1.4nm,0.3s,baz=138,slow=22,SNR=4.9						
	13nm,0.5s						
MAJO	Matsushiro	3.61	307	Pn	Pn	03 37 59.9	-0.1
MJB9	Matsu-Tunnel	3.62	307		Pn	03 38 00.5	+0.4
JGF	Kuroka	3.82	289	Pn	Pn	03 38 02.1	-0.8
INU	Inuyama	4.03	285	Pn	Pn	03 38 05.9	+0.2
JSD	Sado	4.61	323		Pn	03 38 11.8	-1.8
JTM	Tenmabayashi	6.40	355	Pn	Pn	03 38 37.2	-1.1
JHS	Saijyo	7.16	277	Pn	Pn	03 38 49.8	+1.0
JCJ	Chichijima	7.29	177	Pn	Pn	03 38 50.2	-0.4
	27nm,0.3s,baz=132,slow=22,SNR=1.4						
JCJ				Sn	Sn	03 40 09.3	-4.3
	12nm,0.3s,baz=269,slow=20,SNR=3.6						
JCJ	Chichijima	7.29	177	Pn	Pn	03 38 50.5	-0.1
KSRS	Korea Array	11.64	289	Pn	Pn	03 39 52.5	+2.4
	baz=103,slow=14,SNR=13						
KSRS				LR	LR	03 44 47.4	
	comp=Z,1μm,18.1s,baz=130,slow=40						
	3.8nm,0.9s						
KS19	Wonju Array Si	11.69	289	Pn	Pn	03 39 50.9	+0.1
USRK	Ussuriysk Ar.	12.37	325	Pn	Pn	03 39 59.3	-0.8
	0.1nm,0.3s,baz=119,slow=10,SNR=6.6						
	3.3nm,0.9s						
USRK	Ussuriysk Ar.	12.37	325	Pn	Pn	03 39 58.2	-1.8
USA0B	Ussuriysk Arra	12.37	325	Pn	Pn	03 39 57.4	-2.6
YSS	Yuzh-Sakhalins	12.56	3		Pn	03 39 59.2	-3.4
JOW	Kunigami	13.85	241	LR	LR	03 45 16.6	
	comp=Z,477nm,19.6s,baz=3.0,slow=36						
BNX	BinXian	15.76	320	⇓P	Pn	03 40 44.3	-1.7
BNX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLR	Kul'dur	16.57	336	Pn	P	03 40 58.9	0.0
	comp=Z,0.2nm,0.3s,baz=145,slow=6.2,SNR=4.8						
KLR				LR	LR	03 48 01.9	
	comp=Z,778nm,18.6s,baz=165,slow=40						
	comp=Z,0.7nm,0.3s						
PETK	Petropavlovsk-	21.86	26	P	P	03 41 59.6	+2.9
	comp=Z,2.4nm,1.0s,baz=186,slow=5.8,SNR=3.3						
	comp=Z,2.4nm,1.0s						
HIA	Hailar	22.02	319	P	P	03 41 56.0	-2.5
HIA				IAmb	IAmb	03 42 08.4	
	comp=Z,8.6nm,0.5s						
HHC	Hu-ho-hao-te	24.70	294	eP	P	03 42 25.4	0.0
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,190nm,4.8s						
H11N2	WAKE ISLAND Hy	26.62	117	T	T	04 10 41.9	
	baz=309,slow=75,SNR=26						
H11N1	WAKE ISLAND Hy	26.63	117	T	T	04 10 46.5	
	baz=309,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	26.64	117	T	T	04 10 49.2	
	baz=309,slow=75,SNR=19						
H11S3	WAKE ISLAND Hy	27.25	119	T	T	04 11 27.3	
	baz=312,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	27.25	119	T	T	04 11 29.8	
	baz=312,slow=76,SNR=19						
H11S2	WAKE ISLAND Hy	27.27	119	T	T	04 11 30.5	
	baz=312,slow=76,SNR=17						
ENH	Enshi	27.53	270	P	P	03 42 51.4	+0.4
ENH				IAmb	IAmb	03 43 06.0	
	comp=Z,6.6nm,0.6s						
YAK	Yakutsk	28.70	348	LR	LR	03 54 50.2	
	comp=Z,731nm,18.0s,baz=267,slow=37						
ULN	Ulaanbaatar	29.14	308	P	P	03 43 05.9	+0.6
SEY	Seymchan	29.32	10	P	P	03 43 08.1	+1.6
	comp=Z,2.2nm,0.2s,baz=212,slow=8.0,SNR=3.6						
	comp=Z,2.2nm,0.2s						

SONM	Songino Array	29.56	308	P	P	03 43 10.1	+1.1
	comp=Z,1.4nm,0.6s,baz=113,slow=8.4,SNR=9.2						
	comp=Z,1.4nm,0.6s						
SONM	Songino Array	29.56	308	P	P	03 43 07.9	-1.1
SONM				IAmb	IAmb	03 43 21.7	
	comp=Z,9.8nm,1.4s						
DAV	Davao City (W)	31.04	212	LR	LR	03 56 10.1	
	comp=Z,378nm,19.5s,baz=3.0,slow=37						
GOMU	GeErMu	38.08	287	eP	P	03 44 24.4	+1.0
GOMU				pP	pP	03 44 27.5	+3.5
GOMU				sP	sP	03 44 28.3	+4.0
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GOMU				pmax	pmax		
	comp=Z,48nm,5.0s						
CMAR	Chiang Mai Arr	41.19	258	P	P	03 44 48.2	-0.8
	comp=Z,0.8nm,0.3s,baz=47,slow=7.6,SNR=7.0						
	comp=Z,0.8nm,0.3s						
WMQ	Urumqi	42.34	300	eP	P	03 44 58.3	0.0
WMQ				pP	pP	03 45 01.3	+2.2
WMQ				pmax	pmax		
	comp=Z,20nm,1.3s						
ZAA0	Zalesovo Array	43.93	314	P	P	03 45 08.9	-2.0
ZAA0				IAmb	IAmb	03 45 26.8	
	comp=Z,7.6nm,1.2s						
ZALV	Zalesovo Beam	43.93	314	P	P	03 45 12.7	+1.8
	comp=Z,2.2nm,0.8s,baz=95,slow=5.1,SNR=5.8						
ZALV				PcP	PcP	03 46 57.3	+0.5
	comp=Z,1.0nm,0.6s,baz=64,slow=3.4,SNR=1.8						
	comp=Z,2.2nm,0.8s						
ZALV	Zalesovo Beam	43.93	314	P	P	03 45 09.1	-1.8
MK31	Makanchi Array	45.80	304	P	P	03 45 25.4	-0.6
MKAR	Makanchi Array	45.80	304	P	P	03 45 27.4	+1.4
	comp=Z,1.9nm,0.6s,baz=90,slow=10,SNR=14						
	comp=Z,1.9nm,0.6s						
HNR	Honiara	46.88	155	LR	LR	04 05 47.3	
	comp=Z,3μm,18.4s,baz=344,slow=37						
KURK	Kurchatov	47.82	310	P	P	03 45 41.6	0.0
KURBB	Kurchatov Arra	47.88	310	P	P	03 45 43.0	+1.0
	comp=Z,3.2nm,0.5s,baz=86,slow=7.7,SNR=15						
	comp=Z,3.2nm,0.5s						
MTN	Manton Dam	48.06	194	P	P	03 45 42.6	-1.1
KNRA	Kununurra	51.32	196	P	P	03 46 07.7	-0.8
KNRA				IAmb	IAmb	03 46 26.6	
	comp=Z,8.8nm,0.8s						
ILAR	Eielson Array	51.57	31	P	P	03 46 11.2	+1.2
	comp=Z,1.1nm,0.9s,baz=264,slow=6.2,SNR=8.1						
	comp=Z,1.1nm,0.9s						
KSH	Kashi	51.79	296	P	P	03 46 15.8	+3.6
KSH				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	Borovoye	52.64	314	P	P	03 46 18.8	+0.7
WB0	Warramunga Arr	54.33	189	P	P	03 46 29.6	-1.2
FITZ	Fitzroy Crossi	54.42	199	P	P	03 46 31.4	0.0
WRAB	Tennant Creek	54.50	189	P	P	03 46 30.8	-1.2
WRA	Warramunga Arr	54.51	189	P	P	03 46 31.8	-0.3
	comp=Z,4.3nm,0.8s,baz=6.3,slow=7.7,SNR=30						
	comp=Z,4.3nm,0.8s						
KK31	Karatay Array	54.73	302	P	P	03 46 33.3	-0.3
KK31				IAmb	IAmb	03 46 42.1	
	comp=Z,9.3nm,1.2s						
KKAR	Karatay Array	54.73	302	P	P	03 46 33.3	-0.3
KKAR				IAmb	IAmb	03 46 42.1	
	comp=Z,9.3nm,1.2s						
GAR	Garm	56.13	297	P	P	03 46 42.4	-1.5
GAR				IAmb	IAmb	03 47 01.1	
	comp=Z,6.0nm,0.8s						
INK	Inuvik	56.60	26	P	P	03 46 46.6	+0.1
	comp=Z,1.5nm,0.2s,baz=249,slow=4.9,SNR=2.0						
	comp=Z,1.5nm,0.2s						
AS31	Alice Springs	58.23	188	P	P	03 46 58.2	-0.5
ARU	Arti	58.54	320	P	P	03 47 00.1	-0.4
ARU				IAmb	IAmb	03 47 20.5	
	comp=Z,9.2nm,0.9s						
KBL	Kabul	58.67	293	P	P	03 47 00.8	-1.1
KBL				IAmb	IAmb	03 47 03.4	
	comp=Z,7.2nm,1.2s						
ABKAR	Akbulak array	59.88	311	P	P	03 47 08.7	-1.2
ABKAR				IAmb	IAmb	03 47 35.8	
	comp=Z,3.5nm,0.8s						
HRA	Herat	63.87	295	P	P	03 47 36.6	-0.7
HRA				IAmb	IAmb	03 47 53.4	
	comp=Z,2.4nm,0.8s						
FINES	FINESS Array B	71.28	333	P	P	03 48 26.0	+2.7
	comp=Z,1.3nm,0.9s,baz=79,slow=8.6,SNR=1.6						
	comp=Z,1.3nm,0.9s						
NVAR	Mina Array Bea	76.33	53	P	P	03 48 56.0	+2.3
	comp=Z,0.7nm,0.6s,baz=270,slow=3.6,SNR=4.8						
	comp=Z,0.7nm,0.6s						
AKASG	Malin Array Be	76.56	323	P	P	03 48 55.9	+1.5
	comp=Z,0.3nm,0.3s,baz=49,slow=5.2,SNR=4.5						
	comp=Z,0.3nm,0.3s						
NB2	NORSAR Subarra	76.72	338	P	P	03 48 55.4	+0.2
	comp=Z,5.4nm,1.7s,baz=41,slow=5.9						
NOA	NORSAR Array B	76.72	338	P	P	03 48 55.7	+0.5
	comp=Z,1.0nm,0.8s,baz=39,slow=5.7,SNR=4.5						
	comp=Z,1.0nm,0.8s						
DUG	Dugway, Tooele	78.86	49	P	P	03 49 06.0	-1.7
DUG				IAmb	IAmb	03 49 17.3	
	comp=Z,6.6nm,1.3s						
PD31	Pinedale Array	79.30	45	P	P	03 49 07.1	-3.1
PDAR	Pinedale Array	79.30	45	P	P	03 49 11.7	+1.5
	comp=Z,0.9nm,0.9s,baz=264,slow=1.5,SNR=5.3						
	comp=Z,0.9nm,0.9s						
BRTR	Keskin Array B	80.82	312	P	P	03 49 19.6	+1.3
	comp=Z,1.1nm,1.0s,baz=57,slow=5.3,SNR=2.7						
	comp=Z,1.1nm,1.0s						
BRTR	Keskin Array B	80.82	312	P	P	03 49 16.7	-1.7
RAYN	Ar Rayn	81.94	293	P	P	03 49 23.6	-0.8
RAYN				IAmb	IAmb	03 49 36.8	
	comp=Z,4.6nm,1.0s						
DPC	Dobruska-Polom	82.84	328	eP	P	03 49 30.8	+2.2
CLL	Collm	83.52	330	eP	P	03 49 32.0	0.0
MMAI	Mount Meron Ar	83.73	306	LR	LR	04 31 49.5	
	comp=Z,219nm,18.1s,baz=98,slow=39						
KHC	Kasperske Hory	84.94	329	eP	P	03 49 39.9	+0.5
GERES	GERESS Array B	85.10	329	P	P	03 49 40.8	+0.5
	comp=Z,2nm,0.4s,baz=27,slow=3.3,SNR=4.0						
	comp=Z,0.2nm,0.4s						
EIL	Elat	86.06	303	LR	LR	04 33 32.1	
	comp=Z,403nm,18.2s,baz=314,slow=39						
TXAR	Lajitas Array	91.48	53	P	P	03 50 11.9	+0.8
	comp=Z,0.3nm,0.7s,baz=262,slow=2.5,SNR=6.2						
	comp=Z,0.3nm,0.7s						
TKL	Tuckaleechee C	98.34	36	LR	LR	04 40 30.0	
	comp=Z,69nm,18.0s,baz=60,slow=39						
LPAZ	La Paz	147.68	64	PKPbc	PKiKP	03 56 51.6	-0.6
	comp=Z,0.8nm,0.5s,baz=358,slow=2.1,SNR=5.6						

*JMA **23** 03:39:10.3±0.4,34°N±1°×14°2E±°, h50km, MV3.5/29, FAR SE OFF BOSO PEN*
*IDC **23** 03:39:11.3±2.0,34°27N×141°64E, h0km, mb3.7/2, mbtmp3.9/5, ML2.7/2, Error ellipse: s-maj=33.2km s-min=21.4km az=84.0*

ISC 23 03:39:13.8±1.4, 34°41N±0°05×141°7E±0°1, h27km, n12, σ1s90/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKUC	kamogawauchiur	1.48	301	eP	Pn	03 39 36.3	-2.3
JKUC				eS	Sn	03 39 56.4	-0.6
CHOJ	Chosi	1.48	331	eP	Pn	03 39 35.7	-3.1
JMKN	Mikurajimanish	1.86	255	eP	Pn	03 39 41.9	-1.9
JMKN				eS	Sn	03 40 04.7	-1.7
JHJ2	Mitsune	2.06	232	eP	Pn	03 39 45.7	-1.0
JHJ2				eS	Sn	03 40 12.4	+1.0
JHJ	Hachijo jima 2	2.08	232	Pn	Pn	03 39 44.9	-1.9
	21nm,0.3s,baz=323,slow=20,SNR=0.8						
JHJ				Sn	Sn	03 40 10.9	-0.9
	119nm,0.3s,baz=68,slow=21,SNR=2.4						
JOD2	Odawara 2	2.34	292	eP	Pn	03 39 48.9	-1.7
JFNN	Fujinakano	2.64	288	eS	Sn	03 40 26.1	+0.5
MJAR	Matsushiro Arr	3.59	307	Pn	Pn	03 40 06.4	-1.2
	0.9nm,0.3s,baz=124,slow=14,SNR=5.8						
MJAR				Sn	Sn	03 40 50.0	+0.9
	0.9nm,0.3s,baz=128,slow=51,SNR=1.7						
	4.6nm,0.3s						
JCJ	Chichijima	7.30	177	Pn	Pn	03 40 56.1	-2.6
	94nm,0.8s,baz=18,slow=20,SNR=1.5						
USRK	Ussuriysk Ar.	12.35	325	Pn	Pn	03 42 07.9	+0.2
	0.3nm,0.3s,baz=151,slow=35,SNR=5.3						
	1.7nm,0.6s						
MKAR	Makanchi Array	45.78	304	P	P	03 47 36.2	+3.2
	0.7nm,0.7s,baz=89,slow=8.7,SNR=2.6						
	0.7nm,0.7s						

WRA	Warramunga Arr	54.50	189	P	P	03 48 39.7	+0.4
	0.6nm,0.6s,baz=7.9,slow=7.9,SNR=1.0						
	0.6nm,0.6s						

*NOU **23** 03:39:29.3,37°.84S×177°.93E, h69km, MLv4.3/8, Off E. Coast of N. Island, N.Z.*
*IDC **23** 03:39:31.3±1.8,37°.75S×177°.47E, h49km±13km, mb4.1/8, mbtmp4.3/9, ML4.0/1, Error ellipse: s-maj=27.5km s-min=19.3km az=63.0*
*NEIC **23** 03:39:31.3±1.8,37°.85S±0°.06×177°.65E±0°.07, h49km±5km, mb4.5/15, Error ellipse: s-maj=9.9km s-min=5.9km az=140.0*
*WEL **23** 03:39:32.3±0.3,38°S±3°×17°8E±°, h28km±2km, M3.9/42, ML4.2/42, MLv3.9/42, Error ellipse: s-maj=0.0km s-min=0.0km az=7.1*

ISC 23 03:39:31.4±0.6, 37°.79S±0°.03×177°.59E±0°.03, h52km±5km, n206, σ1s39/215, mb4.4/16, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	Te Kaha	0.15	77	P	Pn	03 39 39.6	-0.1
HAZ				S	Sn	03 39 45.4	-0.2
RUGZ	Raukumara Rang	0.19	159	P	Pn	03 39 39.6	-0.4
RUGZ				S	Sn	03 39 45.7	-0.5
PKGZ	Pakihiroa	0.40	104	P	Pn	03 39 41.8	0.0
WIZ	White Island	0.41	309	P	Pn	03 39 41.9	+0.1
WSRZ	White Island S	0.43	310	P	Pn	03 39 42.2	+0.2
TWGZ	Tauwhareparae	0.49	142	P	Pn	03 39 44.1	+1.3
WHRZ	Whale Island	0.49	262	P	Pn	03 39 43.6	+0.9
WHRZ				S	Sn	03 39 52.1	+1.3
MWZ	Matawai	0.54	185	P	Pn	03 39 43.9	+0.5
MWZ				S	Sn	03 39 53.0	+1.0
PUZ	Puketiti	0.60	118	P	Pn	03 39 45.1	+1.1
PUZ				S	Sn	03 39 56.1	+3.0
URZ	Urewera	0.60	219	LR	LR	03 39 37.3	
	comp=Z,281nm,19.6s,baz=107,slow=10						
URZ				P	Pn	03 39 45.0	+0.9
	968nm,0.3s,baz=342,slow=3.8,SNR=2798						
URZ				S	Sn	03 39 54.3	+1.2
	2μm,0.3s,baz=307,slow=19,SNR=31						
URZ	Urewera	0.60	219		Pn	03 39 44.8	+0.7
URZ	Urewera	0.60	219	P	Pn	03 39 44.8	+0.7
URZ				S	Sn	03 39 54.3	+1.2
URZ	Urewera	0.60	219	P	Pn	03 39 44.9	+0.9
MXZ	Matakaoa Point	0.61	68		Pn	03 39 44.7	+0.6
MXZ	Matakaoa Point	0.61	68	P	Pn	03 39 44.5	+0.4
WMGZ	Waiomatatini S	0.65	93	P	Pn	03 39 45.9	+1.3
WMGZ				S	Sn	03 39 57.9	+3.7
TKGZ	Te Karaka	0.68	163	P	Pn	03 39 46.7	+1.8
RAGZ	Rawiri	0.72	191	P	Pn	03 39 46.8	+1.3
EDRZ	Edgecumbe	0.74	245	P	Pn	03 39 46.8	+0.9
MARZ	Manawahe	0.75	255	P	Pn	03 39 46.6	+0.7
MARZ				S	Sn	03 39 57.6	+1.1
OPRZ	Ohinepanea	0.82	266	P	Pn	03 39 47.3	+0.5
OPRZ				S	Sn	03 39 58.8	+0.7
CNGZ	Carnagh Statio	0.84	145	P	Pn	03 39 48.6	+1.5
RIGZ	Rimuhau	0.92	172	P	Pn	03 39 49.5	+1.3
MUGZ	Murupara	0.94	223	P	Pn	03 39 49.2	+0.7
MKRZ	Makatiti	0.95	248	P	Pn	03 39 50.0	+1.3
RTZ	Ruatahuna	0.95	210	P	Pn	03 39 49.3	+0.7
LIRZ	Lichensteins R	0.98	257	P	Pn	03 39 50.0	+1.1
SNGZ	Shannon Statio	1.01	191	P	Pn	03 39 51.6	+2.2
RRRZ	Republican Roa	1.01	237	P	Pn	03 39 50.3	+0.9
OMRZ	Omania	1.01	252	P	Pn	03 39 50.5	+1.0
TGRZ	Tauranga	1.06	273	P	Pn	03 39 50.4	+0.4
HLRZ	Highlands Stat	1.08	244	P	Pn	03 39 51.5	+1.2
KARZ	Kaharoa	1.09	257	P	Pn	03 39 51.3	+0.9
NGRZ	Ngongotaha	1.15	254	P	Pn	03 39 52.6	+1.3
PRZ	Paritu Road	1.15	169	P	Pn	03 39 52.0	+0.7
UTU	Utuhina	1.17	250	P	Pn	03 39 53.2	+1.7
HSRZ	Hossack Road	1.18	244	P	Pn	03 39 53.1	+1.4
MYRZ	Mayor Island	1.19	295	P	Pn	03 39 52.1	+0.4
RAHZ	Arahi	1.19	199	P	Pn	03 39 53.5	+1.7
HRRZ	Handcock Road	1.19	240	P	Pn	03 39 52.9	+1.0
MTHZ	Maungataniwha	1.21	209	P	Pn	03 39 52.9	+0.8
KNZ	Kokohu	1.23	177	P	Pn	03 39 52.9	+0.6
ALRZ	Allen Road	1.25	232	P	Pn	03 39 53.5	+0.9
GRRZ	Galatos Road	1.30	244	P	Pn	03 39 54.6	+1.4
KMRZ	Kaimai	1.31	267	P	Pn	03 39 53.9	+0.5
WHHZ	Waihua	1.31	192	P	Pn	03 39 55.2	+1.8
MHGZ	Mahia Peninsul	1.38	170	P	Pn	03 39 55.1	+0.7
MRHZ	Matea Rd	1.39	221	P	Pn	03 39 55.4	+0.8
NMHZ	Naumai	1.44	205	P	Pn	03 39 57.0	+1.8
ARHZ	Aropaoanui	1.54	197	P	Pn	03 39 58.3	+1.8
WHTZ	Whakaora	1.56	235	P	Pn	03 39 58.4	+1.7
KUTZ	Kaahu Road	1.56	243	P

NMEZ	**Namu Road**	**3.33 240**	P		**Pn**	03 40 25.0	**+4.0**	
HOWZ	**Holdsworth Sta**	**3.50 207**	P		**Pn**	03 40 21.8	**-1.4**	
OGWZ	**Otaki Gorge**	**3.56 211**	P		**Pn**	03 40 23.3	**-0.7**	
TMWZ	**Te Maipa**	**3.56 201**	P		**Pn**	03 40 23.0	**-1.2**	
KIW	**Kapiti Island**	**3.71 213**	P		**Pn**	03 40 25.5	**-0.6**	
MTW	**Mount Morrison**	**3.73 205**	P		**Pn**	03 40 24.6	**-1.9**	
CAW	**Cannon Point**	**3.85 210**	P		**Pn**	03 40 26.6	**-1.4**	
TRWZ	**Traveller**	**3.89 202**	P		**Pn**	03 40 27.0	**-1.6**	
PAWZ	**Paruwai Farm**	**3.96 204**	P		**Pn**	03 40 27.8	**-1.8**	
MSWZ	**Moikau Station**	**4.05 206**			**Pn**	03 40 29.5	**-1.4**	
MSWZ	**Moikau Station**	**4.05 206**	P		**Pn**	03 40 28.9	**-1.9**	
OUZ	**Omahuta**	**4.12 307**	Pn		**Pn**	03 40 33.0	**+1.3**	
OUZ	**Omahuta**	**4.12 307**	P		**Pn**	03 40 33.1	**+1.3**	
OUZ	**Omahuta**	**4.12 307**	P		**Pn**	03 40 33.3	**+1.5**	
DUWZ	**D'Urville Isla**	**4.14 222**	P		**Pn**	03 40 31.4	**-0.7**	
SNZO	**South Karori**	**4.16 212**			**Pn**	03 40 32.5	**+0.1**	
PLWZ	**Palliser**	**4.18 205**			**Pn**	03 40 31.1	**-1.6**	
TCW	**Tory Channel**	**4.27 216**	P		**Pn**	03 40 32.4	**-1.4**	
NNZ	**Nelson**	**4.72 222**	P		**Pn**	03 40 39.3	**-0.8**	
TKNZ	**Takaka Hill**	**4.83 226**	P		**Pn**	03 40 41.7	**+0.2**	
BSWZ	**Blackbirch Sta**	**4.85 215**	P		**Pn**	03 40 40.5	**-1.4**	
QRZ	**Quartz Range**	**4.96 231**	P		**Pn**	03 40 43.0	**-0.3**	
QRZ	**Quartz Range**	**4.96 231**	P		**Pn**	03 40 43.2	**-0.1**	
MRNZ	**Matariki Terra**	**5.19 225**	P		**Pn**	03 40 45.1	**-1.3**	
THZ	**Tophouse**	**5.36 221**	Pn		**Pn**	03 40 47.8	**-1.1**	
THZ	**Tophouse**	**5.36 221**	P		**Pn**	03 40 47.2	**-1.7**	
KHZ	**Kahutara**	**5.57 213**			**Pn**	03 40 50.3	**-1.3**	
KHZ	**Kahutara**	**5.57 213**	P		**Pn**	03 40 49.5	**-2.1**	
DSZ	**Denniston Nort**	**5.96 227**	P		**Pn**	03 40 55.9	**-1.1**	
LTZ	**Lake Taylor**	**6.43 218**			**Pn**	03 41 02.2	**-1.3**	
INZ	**Inchbonnie**	**6.81 222**	P		**Pn**	03 41 07.4	**-1.2**	
OXZ	**Oxford**	**6.96 216**			**Pn**	03 41 08.2	**-2.5**	
MQZ	**McQueen's Vall**	**7.00 211**			**Pn**	03 41 08.7	**-2.5**	
CTZ	**Chatham Island**	**7.39 145**	P		**Pn**	03 41 15.7	**-0.8**	
WVZ	**Waitaha Valley**	**7.43 223**	P		**Pn**	03 41 17.0	**-0.1**	
RPZ	**Rata Peaks**	**7.72 218**	P		**Pn**	03 41 19.6	**-1.5**	
	2.2nm,0.3s,baz=252,slow=4.0,SNR=8.3							
RPZ			S		**Sn**	03 42 45.0	**-2.1**	
	12nm,0.3s,baz=142,slow=22,SNR=11							
	5.0nm,0.3s							
RPZ	**Rata Peaks**	**7.72 218**	Pn		**Pn**	03 41 19.4	**-1.8**	
RPZ	**Rata Peaks**	**7.72 218**	P		**Pn**	03 41 19.7	**-1.5**	
RPZ	**Rata Peaks**	**7.72 218**	P		**Pn**	03 41 20.3	**-0.9**	
GCSZ	**Gaunt Creek Bo**	**7.81 223**	P		**Pn**	03 41 22.7	**+0.3**	
FOZ	**Fox Glacier**	**8.23 223**	Pn		**Pn**	03 41 26.8	**-1.3**	
FOZ	**Fox Glacier**	**8.23 223**	P		**Pn**	03 41 27.7	**-0.5**	
ONTNC	**Ouen Toro**	**18.17 325**	P		**P**	03 43 39.7	**0.0**	
MARNC	**Mare, Loyalty**	**18.24 330**	P		**P**	03 43 40.1	**-0.3**	
STKA	**Stephens Creek**	**30.00 270**	P		**P**	03 45 37.1	**+2.0**	
	1.9nm,0.8s,baz=91,slow=9.1,SNR=3.5							
STKA	**Stephens Creek**	**30.00 270**	P		**P**	03 45 35.5	**+0.3**	
CTAO	**Charters Tower**	**32.40 294**	P		**P**	03 45 56.2	**-0.1**	
CTAO			IAmb		IAmb	03 46 18.1		
	comp=Z,6.8nm,1.2s							
COEN	**Coen**	**38.67 299**	P		**P**	03 46 50.4	**+0.3**	
COEN			IAmb		IAmb	03 46 59.1		
	comp=Z,16nm,1.2s							
ASAR	**Alice Springs**	**39.75 278**	P		**P**	03 46 59.0	**-0.2**	
	comp=Z,1.8nm,0.5s,baz=125,slow=8.4,SNR=38							
	comp=Z,1.8nm,0.5s							
ASAR	**Alice Springs**	**39.75 278**	P		**P**	03 46 59.3	**+0.1**	
FORT	**Forrest**	**41.13 265**	P		**P**	03 47 10.5	**+0.1**	
WB2	**Warramunga Arr**	**41.42 283**	P		**P**	03 47 12.9	**-0.1**	
WB2			IAmb		IAmb	03 47 20.6		
	comp=Z,8.0nm,1.0s							
WRA	**Warramunga Arr**	**41.43 283**	P		**P**	03 47 13.4	**+0.3**	
	comp=Z,0.9nm,0.3s,baz=124,slow=8.1,SNR=13							
	comp=Z,0.9nm,0.3s							
WRA	**Warramunga Arr**	**41.43 283**	P		**P**	03 47 12.7	**-0.4**	
CASY	**Casey**	**46.92 211**	P		**P**	03 47 56.0	**-0.4**	
KNRA	**Kununurra**	**48.22 284**	P		**P**	03 48 07.4	**+0.4**	
KNRA			IAmb		IAmb	03 48 32.7		
	comp=Z,11nm,1.3s							
FITZ	**Fitzroy Crossi**	**49.24 279**	P		**P**	03 48 15.1	**+0.2**	
FITZ			IAmb		IAmb	03 48 16.2		
	comp=Z,8.7nm,1.4s							
QSPA	**South Pole Qui**	**52.33 180**	P		**P**	03 48 40.0	**+2.3**	
	comp=Z,3.3nm,0.6s,baz=49,slow=1.2,SNR=14							
	comp=Z,3.3nm,0.6s							
QSPA	**South Pole Qui**	**52.33 180**	P		**P**	03 48 38.3	**+0.6**	
QSPA			IAmb		IAmb	03 48 40.9		
	comp=Z,4.0nm,0.8s							
BELA	**Belgrano 2**	**62.95 173**	P		**P**	03 49 52.1	**+0.2**	
BELA			IAmb		IAmb	03 49 53.1		
	comp=Z,2.1nm,0.9s							
TROLL	**Troll, Antarti**	**70.44 182**	P		**P**	03 50 40.5	**+0.6**	
SNAA	**Sanae**	**70.84 180**	P		**P**	03 50 42.5	**+0.3**	
SNAA	**Sanae**	**70.84 180**	P		**P**	03 50 42.6	**+0.4**	
	comp=Z,1.4nm,1.0s,baz=213,slow=11,SNR=7.0							
	comp=Z,1.4nm,1.0s							
SNAA	**Sanae**	**70.84 180**	P		**P**	03 50 43.3	**+1.1**	
SNAA			IAmb		IAmb	03 50 46.2		
	comp=Z,5.0nm,1.4s							
VNA3	**Neumayer Olymp**	**71.14 178**	P		**P**	03 50 43.7	**-0.3**	
VNA2	**Neumayer--Watz**	**71.53 178**	P		**P**	03 50 47.1	**+0.7**	
	baz=174,slow=6.0							
VNA1	**Neumayer--Stat**	**71.78 178**	P		**P**	03 50 46.7	**-1.1**	
H03N3	**Juan Fernandez**	**79.61 124**	T		T	05 18 14.2		
	baz=234							
H03N2	**Juan Fernandez**	**79.61 124**	T		T	05 18 15.9		
	baz=234							
H03N1	**Juan Fernandez**	**79.62 124**	T		T	05 18 12.5		
	baz=234							
PLCA	**Paso Flores**	**80.07 134**	P		**P**	03 51 36.5	**+0.9**	
	comp=Z,5.0nm,1.1s,baz=208,slow=7.6,SNR=3.4							
	comp=Z,5.0nm,1.1s							
MJB9	**Matsu-Tunnel**	**82.46 329**	P		**P**	03 51 47.6	**-0.4**	
MJB9			IAmb		IAmb	03 51 49.6		
	comp=Z,16nm,1.5s							
KSRS	**Korea Array**	**87.79 323**	P		**P**	03 52 15.4	**+0.8**	
	comp=Z,2.6nm,0.6s,baz=143,slow=5.3,SNR=12							
	comp=Z,2.6nm,0.6s							
KSAR	**Wonju Array Be**	**87.80 323**	P		**P**	03 52 15.4	**+0.7**	
KS19	**Wonju Array Si**	**87.86 323**	P		**P**	03 52 14.9	**-0.1**	
PETK	**Petropavlovsk-**	**92.16 348**	P		**P**	03 52 34.2	**-0.5**	
	comp=Z,0.9nm,0.6s,baz=119,slow=7.4,SNR=2.6							
	comp=Z,0.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**92.52 291**	P		**P**	03 52 37.3	**+0.1**	
	comp=Z,2.6nm,0.4s,baz=149,slow=3.3,SNR=12							
	comp=Z,2.6nm,0.4s							
CMAR	**Chiang Mai Arr**	**92.52 291**	P		**P**	03 52 36.8	**-0.4**	
ARCES	**ARCESS Array B**	**144.83 343**	PKP		**PKPab**	03 58 59.0	**-1.6**	
	comp=Z,2.3nm,0.7s,baz=38,slow=2.2,SNR=12							
FINES	**FINESS Array B**	**150.43 332**	PKPbc		**PKPbc**	03 59 15.0	**-1.1**	
	comp=Z,1.2nm,0.5s,baz=79,slow=4.1,SNR=9.6							
FINES			PKPab		**PKPab**	03 59 21.2	**-1.6**	
	comp=Z,3.3nm,0.5s,baz=62,slow=4.1,SNR=18							
BRTR	**Keskin Array B**	**151.94 285**	PKPbc		**PKPbc**	03 59 18.9	**-1.7**	
	comp=Z,0.5nm,0.5s,baz=158,slow=5.0,SNR=5.2							
BRTR			PKPab		**pPKPdf**	03 59 28.1	**-1.7**	
	comp=Z,1.2nm,0.8s,baz=150,slow=5.3,SNR=4.4							
TORD	**Torodi Ar. Bea**	**155.19 190**	PKP		PKPdf	03 59 27.4	+8.2	
	comp=Z,0.6nm,0.5s,baz=156,slow=2.9,SNR=8.9							
TORD			PKPab		pPKPbc	03 59 43.5	-0.2	
	comp=Z,0.4nm,0.4s,baz=167,slow=2.4,SNR=5.0							
CLL	**Collm**	**162.64 326**	*e*PKPab		**PKPab**	**04 00 14.0**	**-1.5**	

*JMA **23** 03:59:10.4±0.8,34˚N±3˚×14˚2E±˚, h24km, MV3.4/22, FAR SE OFF BOSO PEN*
*IDC **23** 03:59:16.6±1.4,34˚.02N×140˚.52E, h0km, mb3.6/3, mbtmp3.5/4, ML2.5/1, MS4.4/2, Error ellipse: s-maj=46.0km s-min=27.4km az=81.0*
ISC 23 03:59:16.0±1.6,34˚.4N±0˚.1×141˚.6E±0˚.1, h27km, n15, σ1§45/13, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.57 298**		*e*P	**Pb**	**03 59 25.8**	**-1.3**
BSO2	**Boso 2**	**0.78 298**		*e*S	**Sn**	**03 59 42.6**	**+0.9**
BSO3	**Boso 3**	**0.98 295**		P	**Pn**	**03 59 32.8**	**-0.9**
BSO4	**Boso 4**	**1.20 301**		*e*P	**Pn**	**03 59 36.6**	**-0.2**
JKUC	**kamogawauchiur**	**1.38 304**		*e*P	**Pn**	**03 59 38.0**	**-1.5**
CHOJ	**Chosi**	**1.45 336**		*e*P	**Pn**	**03 59 38.7**	**-1.7**
JMKN	**Mikurajimanish**	**1.73 254**		*e*S	**Sn**	**04 00 04.5**	**-1.0**
JAG	**Ashikaga**	**2.68 320**		*e*P	**Pn**	**03 59 56.7**	**-0.7**
JYN	**Shimob**	**2.74 295**		*e*S	**Sn**	**04 00 32.0**	**+1.6**
MJAR	**Matsushiro Arr**	**3.50 309**		Pn	**Pn**	**04 00 09.1**	**+0.4**
MJAR				Sn	**Sn**	**04 00 51.7**	**+2.5**
	0.6nm,0.3s,baz=105,slow=8.7,SNR=22						
	0.5nm,0.3s,baz=169,slow=19,SNR=6.1						
	2.0nm,0.3s						
KURBB	**Kurchatov Arra**	**47.78 310**		P	**P**	**04 07 50.5**	**-0.2**
	0.7nm,0.8s,baz=82,slow=7.0,SNR=2.8						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**51.66 31**		P	P	04 08 30.2	+10
	0.7nm,0.8s,baz=257,slow=7.2,SNR=5.2						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**54.47 188**		P	**P**	**04 08 42.6**	**+1.4**
	0.3nm,0.4s,baz=3.7,slow=7.6,SNR=9.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**58.19 188**		LR	LR	04 32 20.9	
	comp=Z,386nm,19.4s,baz=164,slow=34						
FINES	**FINESS Array B**	**71.22 333**		LR	LR	04 46 23.9	
	comp=Z,175nm,18.4s,baz=230,slow=40						

*IDC **23** 04:36:58.4±1.2,34˚.43N×141˚.65E, h0km, mb3.5/4, mbtmp3.4/5, ML2.4/1, Error ellipse: s-maj=37.2km s-min=23.5km az=86.0*
*JMA **23** 04:36:58.7±0.4,34˚N±1˚×14˚2E±˚, h30km±1km, MV3.1/20, FAR SE OFF BOSO PEN*
ISC 23 04:37:02.1±1.2,34˚.5N±0˚.1×141˚.5E±0˚.1, h27km, n10, σ1§30/14, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.44 290**		P	**Pn**	**04 37 11.1**	**-1.0**
BSO3	**Boso 3**	**0.85 290**		*e*P	**Pn**	**04 37 17.6**	**-0.4**
BSO3				*e*S	**Sn**	**04 37 31.4**	**+1.9**
BSO4	**Boso 4**	**1.05 297**		P	**Pb**	**04 37 20.9**	**-0.8**
BSO4				S	**Sb**	**04 37 36.3**	**+1.3**
JKUC	**kamogawauchiur**	**1.24 302**		P	**Pb**	**04 37 23.9**	**-0.9**
JKUC				*e*S	**Sb**	**04 37 41.7**	**+1.3**
JMKN	**Mikurajimanish**	**1.68 249**		P	**Pn**	**04 37 29.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.35 308**		Pn	**Pn**	**04 37 53.2**	**+0.5**
	0.4nm,0.3s,baz=108,slow=9.6,SNR=6.4						
MJAR				Sn	**Sb**	**04 38 38.5**	**-2.7**
	0.3nm,0.3s,baz=131,slow=27,SNR=4.9						
	1.6nm,0.5s						
ILAR	**Eielson Array**	**51.61 31**		P	**P**	**04 46 06.0**	**+0.3**
	0.3nm,0.7s,baz=277,slow=7.2,SNR=3.6						
	0.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.44 199**		P	**P**	**04 46 27.8**	**+0.7**
	0.6nm,0.6s,baz=360,slow=9.2,SNR=1.6						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**54.57 188**		P	**P**	**04 46 27.7**	**-0.3**
	0.5nm,0.7s,baz=4.3,slow=7.6,SNR=7.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**58.30 188**		P	**P**	**04 46 54.5**	**-0.1**
	0.2nm,0.4s,baz=9.7,slow=13,SNR=3.2						
	0.2nm,0.4s						

*NEIC **23** 04:44:25.0±2.1, 19˚.91N±0˚.08×146˚.4E±0˚.2, h24km±8km, mb4.1/7, Error ellipse: s-maj=33.6km s-min=11.2km az=85.0*
*IDC **23** 04:44:29.8±4.7, 19˚.87N×145˚.87E, h54km±30km, mb3.6/5, mbtmp4.0/6, ML4.9/2, MS3.6/2, Error ellipse: s-maj=106.2km s-min=12.9km az=84.0*
ISC 23 04:44:28.0±1.1, 19˚.92N±0˚.06×146˚.2E±0˚.2, h57km, n18, σ1§34/18, mb3.9/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.43 192**		P	**Pn**	**04 46 00.6**	**+0.4**
	35nm,0.3s,baz=320,slow=7.9,SNR=7.4						
GUMO				S	**Sn**	**04 47 12.4**	**+0.1**
	23nm,0.3s,baz=217,slow=20,SNR=1.4						
GUMO	**Guam**	**6.43 192**		Pn	**Pn**	**04 45 58.1**	**-2.1**
JCJ	**Chichijima**	**8.05 333**		P	**Pn**	**04 46 21.3**	**-1.0**
	12nm,0.3s,baz=281,slow=23,SNR=7.7						
JCJ				S	**Sn**	**04 47 52.5**	**+0.5**
	122nm,1.0s,baz=319,slow=20,SNR=2.7						
	37nm,0.5s						
JCJ	**Chichijima**	**8.05 333**		Pn	**Pn**	**04 46 22.1**	**-0.2**
JYT	**Yasato**	**17.09 343**		Pn	**Pn**	**04 48 21.6**	**-1.4**
JYT				IAmb	IAmb	04 48 28.6	
	comp=Z,35nm,0.6s						
MAJO	**Matsushiro**	**18.00 339**		Pn	**P**	**04 48 32.1**	**-1.9**
MAJO				IAmb	IAmb	04 48 34.9	
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**23.66 321**		P	**P**	**04 49 36.1**	**+1.9**
	comp=Z,0.9nm,0.5s,baz=137,slow=9.6,SNR=5.1						
	comp=Z,0.9nm,0.5s						
KSAR	**Wonju Array Be**	**23.68 321**		P	**P**	**04 49 35.5**	**+1.1**
KLR	**Kul'dur**	**31.47 342**		P	**P**	**04 50 45.2**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=187,slow=8.1,SNR=4.2						
	comp=Z,1.0nm,0.5s						
PETK	**Petropavlovsk-**	**34.29 12**		LR	LR	05 03 45.9	
	comp=Z,72nm,19.7s,baz=146,slow=34						
WB0	**Warramunga Arr**	**41.12 197**		P	**P**	**04 52 05.9**	**-0.7**
WB0				IAmb	IAmb	04 52 13.7	
	comp=Z,3.6nm,0.9s						
WB2	**Warramunga Arr**	**41.30 197**		P	**P**	**04 52 08.0**	**0.0**
WB2				IAmb	IAmb	04 52 24.9	
	comp=Z,4.1nm,0.9s						
WRA	**Warramunga Arr**	**41.30 197**		P	**P**	**04 52 10.2**	**+2.1**
	comp=Z,1.5nm,0.7s,baz=14,slow=11,SNR=4.8						
	comp=Z,1.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**42.85 209**		P	**P**	**04 52 20.3**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=4.8,slow=12,SNR=19						
	comp=Z,1.0nm,0.3s						
AS31	**Alice Springs**	**44.96 196**		P	**P**	**04 52 39.6**	**+2.0**
AS31				IAmb	IAmb	04 52 50.8	
	comp=Z,1.9nm,1.0s						
ASAR	**Alice Springs**	**44.96 196**		P	**P**	**04 52 37.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=15,slow=13,SNR=1.6						
	comp=Z,0.6nm,0.7s						
KDAK	**Kodiak Island**	**58.06 34**		P	**P**	**04 54 15.4**	**+0.4**
DLBC	**Dease Lake**	**69.99 34**		LR	LR	05 25 18.1	
	comp=Z,50nm,19.1s,baz=94,slow=35						

*IDC **23** 04:45:52.0±1.3,2˚.08S×140˚.65E, h0km, mb4.0/5, mbtmp4.0/7, ML3.7/2, MS3.5/3, Error ellipse: s-maj=43.1km s-min=25.8km az=89.0*
ISC 23 04:45:57.9±1.3,2˚.2S±0˚.2×140˚.6E±0˚.3, h35km, n11, σ0§33/9, mb3.8/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**16.23 15**		LR	LR	04 54 01.6	
	comp=Z,155nm,20.9s,baz=204,slow=30						
CTA	**Charters Tower**	**18.66 163**		P	**Pn**	**04 50 13.6**	**+0.1**
	0.1nm,0.3s,baz=335,slow=12,SNR=5.0						
CTA				LR	LR	04 58 04.9	
	comp=Z,169nm,18.8s,baz=68,slow=39						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**18.68 199**		P	**P**	**04 50 13.5**	**+0.2**
	0.3nm,0.3s,baz=26,slow=12,SNR=20						
	2.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.56 222**		P	**P**	**04 50 44.6**	**+0.1**
	2.9nm,0.6s,baz=2.2,slow=9.9,SNR=7.4						
	2.9nm,0.6s						
ASAR	**Alice Springs**	**22.32 196**		P	**P**	**04 50 52.9**	**+0.1**
	2.7nm,0.7s,baz=30,slow=10.0,SNR=20						
	2.7nm,0.7s						
STKA	**Stephens Creek**	**29.57 178**		P	**P**	**04 51 59.2**	**-0.4**
	3.2nm,0.9s,baz=303,slow=7.1,SNR=4.3						
	3.2nm,0.9s						
JOW	**Kunigami**	**31.17 338**		LR	LR	05 03 35.9	
	comp=Z,93nm,19.1s,baz=148,slow=34						
MKAR	**Makanchi Array**	**70.50 322**		P	**P**	**04 57 08.9**	**-0.2**
	0.8nm,0.8s,baz=102,slow=5.1,SNR=4.1						
	0.8nm,0.8s						
VNDA	**Vanda**	**76.16 175**		P	**P**	**04 57 41.8**	**-0.2**
	1.7nm,0.7s,baz=312,slow=5.2,SNR=11						
	1.7nm,0.7s						
LPAZ	**La Paz**	**146.25 124**		PKPbc	**PKPdf**	**05 05 35.6**	**+0.1**
	1.7nm,0.8s,baz=290,slow=4.6,SNR=6.4						
CPUP	**Villa Florida**	**146.81 150**		PKPbc	**PKPdf**	**05 05 36.0**	**+0.6**
	3.1nm,0.9s,baz=297,slow=2.3,SNR=4.8						

IDC 23 04:46:33.3±4.8,1˚.93S×140˚.77E, h0km, mb3.9/2, mbtmp3.9/4, ML3.8/2, MS3.5/1, Error ellipse: s-maj=89.5km s-min=69.2km az=142.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.78 140**		LR	LR	04 54 12.0	
	comp=Z,240nm,18.4s,baz=260,slow=47						
CTA	**Charters Tower**	**18.83 164**		P	Pn	04 50 55.5	+0.2
	0.2nm,0.3s,baz=351,slow=13,SNR=1.6						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**18.98 199**		P	P	04 50 55.5	-1.0
	0.4nm,0.3s,baz=22,slow=12,SNR=8.3						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**22.61 197**		P	P	04 51 35.5	-0.4
	3.0nm,0.7s,baz=29,slow=11,SNR=8.1						
	3.0nm,0.7s						
VNDA	**Vanda**	**76.38 175**		P	P	04 58 24.4	+0.4
	0.9nm,0.6s,baz=324,slow=6.4,SNR=6.0						
	0.9nm,0.6s						

IDC 23 04:47:49.3±3.3,2˚.20S×140˚.82E, h0km, mb3.9/2, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=97.6km s-min=46.9km az=121.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**18.56 164**		P	Pn	04 52 09.6	+1.6
	0.2nm,0.3s,baz=329,slow=11,SNR=3.9						
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**18.74 199**		P	P	04 52 07.9	-1.9
	0.4nm,0.3s,baz=24,slow=12,SNR=9.6						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**18.74 199**		P	P	04 52 08.1	-1.8
ASAR	**Alice Springs**	**22.37 197**		P	P	04 52 49.9	+0.6
	1.5nm,0.5s,baz=28,slow=11,SNR=6.8						
	1.5nm,0.5s						
VNDA	**Vanda**	**76.11 175**		P	P	04 59 38.4	-0.1
	1.2nm,0.6s,baz=321,slow=5.3,SNR=8.1						
	1.2nm,0.6s						
LPAZ	**La Paz**	**146.01 124**		PKPbc	PKPdf	05 07 32.0	-0.2
	2.1nm,1.0s,baz=247,slow=5.3,SNR=4.2						

*ISK **23** 05:06:59.5, 38˚.19N×27˚.02E, h14km, ML3.8/22*
*DDA **23** 05:07:00.1±0.0, 38˚.18N×27˚.05E, h7km±2km, MW3.8*
*THE **23** 05:07:01.0, 38˚.27N×27˚.06E, h12km±2km, ML3.7/4, Error ellipse: s-maj=3.3km s-min=1.6km az=58.0*
*ATH **23** 05:07:02.3, 38˚.12N×26˚.85E, h32km±11km, ML3.8/4, Error ellipse: s-maj=12.6km s-min=2.7km az=118.0*
ISC 23 05:07:00.4±0.9, 38˚.21N±0˚.02×27˚.04E±0˚.02, h12km±7km, n74, σ1§02/86, 7C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.17 1**		P	**Pg**	**05 07 04.2**	**-0.2**
BLCB	**Balcova**	**0.17 1**		PG	**Pg**	**05 07 04.1**	**-0.3**
DGB	**zmir**	**0.20 218**		P	**Pg**	**05 07 04.6**	**-0.2**
DGB				S	**Sg**	**05 07 07.3**	**-0.5**
DGB				*i* AML	AML	05 07 08.0	
	comp=E,3µm,0.6s						
DGB				*i* AML	AML	05 07 08.0	
	comp=N,2µm,0.2s						
URLA	**Izmir**	**0.38 293**		PG	**Pg**	**05 07 07.2**	**-0.9**
URLA				SG	**Sg**	**05 07 13.3**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**0.42 274**		P	**Pg**	**05 07 08.7**	**-0.1**
ZEYE				S	**Sb**	**05 07 15.5**	**-0.7**
ZEYE				*i* AML	AML	05 07 18.0	
	comp=N,7µm,0.4s						
ZEYE				*i* AML	AML	05 07 18.0	
	comp=E,4µm,0.4s						
SMG	**Samos**	**0.53 198**		P	**Pg**	**05 07 10.2**	**-0.5**
SMG				S	**Sg**	**05 07 18.4**	**+0.7**
SMG				AML	AML	05 07 22.3	
	comp=E,50473µm,0.3s						
SMG				AML	AML	05 07 23.0	
	comp=N,38717µm,0.3s						
GCAM	**G?zelcaml?**	**0.53 163**		PG	**Pg**	**05 07 10.0**	**-0.9**
GCAM				SG	**Sg**	**05 07 17.6**	**-0.3**
KRBN	**Karaburun**	**0.54 315**		PG	**Pg**	**05 07 10.6**	**-0.4**
FOCM	**Foa**	**0.56 334**		PG	**Pg**	**05 07 11.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.72 111**		PG	**Pg**	**05 07 13.9**	**-0.6**
ZEDA	**zmir-Bergama**	**0.76 2**		P	**Pg**	**05 07 15.0**	**-0.1**
ZEDA				S	**Sb**	**05 07 25.1**	**-0.6**
ZEDA				*i* AML	AML	05 07 29.0	
	comp=N,2µm,0.4s						
ZEDA				*i* AML	AML	05 07 30.0	
	comp=N,1µm,0.4s						
DDIM	**Aydin, Didim**	**0.77 168**		P	**Pg**	**05 07 14.5**	**-0.8**
DDIM				S	**Sb**	**05 07 27.3**	**+1.2**
DDIM				*i* AML	AML	05 07 28.0	
	comp=N,2µm,0.6s				

PRD	Provadia	4.99	3	P	Pn	05 08 16.0 +0.9
STIP	Stip	5.10	315	*i* Pn	Pn	05 08 17.1 +0.5
SZH	Strazhica	5.12	351	P	Pn	05 08 17.0 +0.1
VTS	Vitosha	5.27	328	⇑P	Pn	05 08 21.2 +2.1
RAZG	Razgrad	5.37	356	⇓P	Pn	05 08 20.7 +0.5
BLKB	Belogradchik	6.34	330	⇑P	Pn	05 08 35.1 +1.5
BOVS	Bovan	6.76	325	⇑P	Pn	05 08 39.8 +0.5
MLR	Muntele Rosu	7.32	354	⇑P	Pn	05 08 56.2 +9.0
VOIR		7.37	349	⇑P	Pn	05 08 48.3 +0.4
HERR	Herculane	7.51	334	⇓P	Pn	05 08 49.5 -0.2
PLOR	Plostina	7.64	358	⇓P	Pn	05 09 01.5 +10
VRI	Vrincioaia	7.65	358	⇓P	Pn	05 09 00.6 +8.9
COVR	Voineasa-Covas	7.66	356	⇓P	Pn	05 08 52.7 +0.9
MDVR	Moldovita	7.68	330	⇑P	Pn	05 08 52.5 +0.4
TIP	Timpagrande	8.10	280	⇓P	Pn	05 08 59.8 +1.9
TESR	Tescani	8.30	358	⇓P	Pn	05 09 02.8 +2.3
BZS	Buzias	8.43	333	⇓P	Pn	05 09 02.7 +0.3
BIZ	Bicaz	8.75	356	⇓P	Pn	05 09 09.2 +2.5

MOS ***23*** *05:09:21.7±0.8, 6.°44S×130.°38E, h91km, mb5.2/31, Error ellipse: s-maj=9.7km s-min=5.1km az=113.4*
IDC ***23*** *05:09:22.7±2.4, 6.°47S×130.°35E, h84km±22km, mb4.7/26, mbtmp5.0/29, MS3.5/2, Error ellipse: s-maj=12.0km s-min=8.9km az=66.0*
BJI ***23*** *05:09:24.8±0.0, 6.°64S×130.°70E, h138km, mb4.9/59, mB4.8/27*
NEIC ***23*** *05:09:27.9±1.4, 6.°47S±0.°06×130.°40E±0.°07, h132km±6km, mb5.1/92, Error ellipse: s-maj=10.4km s-min=8.6km az=76.0*
DJA ***23*** *05:09:27.8±0.2, 7.°5±2.°×13.°0E±.°, h126km±2km, M5.1/74, mB5.5/53, mb5.3/74, MLv5.7/17, Mw(mB)5.0/53, MwMwp4.8/5, Mwp5.1/5*
GCMT ***23*** *05:09:30.0±0.3, 6.°50S±0.°02×130.°41E±0.°02, h155km±4km, MW5.0/93, Moment Tensor Solution. s22,c23; s93,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.04±.16; Mθθ=2.14±.19; Mφφ3.18±.19; Mrθ=-1.28±.13; Mrφ 1.82±.21; Mθφ2.46±.14; Best double couple: Mo4.33500×10^16 NP1:φs157.00000°, δ81.00000°, λ=-137.00000°. NP2: φs59.00000°, δ48.00000°, λ=-13.00000°. Principal axes: T 4.5160, Plg21.0000°, Azm281.0000°; N -0.3630, Plg46.0000°, Azm167.0000°; P -4.1540, Plg36.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 05:09:27.4±0.3, **6.°49S**±0.°03×**130.°37E**±0.°04, **h132**km±2km, **h133**km:**pP-P, n640, σ1.°38/680, mb5.1**/119, **16C-8D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.74**	**148**	Pn	**Pn**	**05 09 58.6**	**+0.2**
SAUI	**Saumlaki**	**1.74**	**148**	P	**Pn**	**05 09 57.5**	**-0.9**
SAUI				S	**Sn**	**05 10 22.5**	**+0.4**
SAUI	**Saumlaki**	**1.74**	**148**	P	**Pn**	**05 09 59.6**	**+1.2**
BNDI	**Bandanaira**	**2.01**	**347**	P	**Pn**	**05 10 03.0**	**+1.4**
BNDI	**Bandanaira**	**2.01**	**347**	P	**Pn**	**05 10 03.4**	**+1.8**
MSAI	**Masohi**	**3.44**	**335**	P	**Pn**	**05 10 21.8**	**+1.9**
MSAI				S	**Sn**	**05 11 01.5**	**+1.1**
AAI	**Ambon**	**3.53**	**322**	P	**Pn**	**05 10 22.5**	**+1.4**
FAKI	**Fak Fak**	**4.01**	**28**	Pn	**Pn**	**05 10 25.7**	**-1.6**
FAKI	**Fak Fak**	**4.01**	**28**	P	**Pn**	**05 10 25.8**	**-1.6**
FAKI	**Fak Fak**	**4.01**	**28**	P	**Pn**	**05 10 26.2**	**-1.2**
NLAI	**Namlea**	**4.59**	**315**	P	**Pn**	**05 10 37.2**	**+2.1**
SIJI	**Sorong** 461nm,0.3s,baz=27,slow=3.5,SNR=496	**5.66**	**9**	P	**Pn**	**05 10 47.8**	**-1.6**
SIJI	807nm,0.2s,baz=246,slow=23,SNR=14			S	**Sn**	**05 11 47.4**	**-6.0**
SWI	**Sorong** 11nm2µm23µm1µm,0.6s	**5.66**	**9**	P	**Pn**	**05 10 48.0**	**-1.4**
SANI	**Sanana** 1.0nm3µm206nm,0.6s	**6.21**	**315**	P	**Pn**	**05 10 58.3**	**+1.5**
SANI	**Sanana**	**6.21**	**315**	P	**Pn**	**05 10 59.1**	**+2.3**
MTN	**Manton Dam** baz=6.3,SNR=189	**6.36**	**173**	P	**Pn**	**05 10 56.5**	**-2.3**
MTN	baz=6.3			S	**Sn**	**05 12 04.8**	**-5.4**
MTN	**Manton Dam**	**6.36**	**173**	Pn	**Pn**	**05 10 57.4**	**-1.4**
MTN	**Manton Dam**	**6.36**	**173**	P	**Pn**	**05 10 57.8**	**-0.9**
LBMI	**Labuha** 5.3nm3µm208nm,1.0s	**6.48**	**334**	P	**Pn**	**05 11 01.6**	**+1.1**
KDU	**Kakadu** baz=6.5,SNR=739	**6.49**	**162**	P	**Pn**	**05 10 58.4**	**-2.2**
KDU	**Kakadu**	**6.49**	**162**	P	**Pn**	**05 10 58.9**	**-1.7**
SOEI	**Soe**	**6.86**	**241**	Pn	**Pn**	**05 11 06.7**	**+1.1**
SOEI	**Soe** 18nm9µm1µm,0.8s	**6.86**	**241**	P	**Pn**	**05 11 07.0**	**+1.4**
SOEI	**Soe**	**6.86**	**241**	P	**Pn**	**05 11 07.3**	**+1.7**
SRPI	**Serui, Papua** 3.8nm1µm284nm,0.8s	**7.44**	**52**	P	**Pn**	**05 11 12.9**	**-0.4**
BATI	**Baumata** 694nm,0.5s,baz=142,slow=3.7,SNR=58	**7.60**	**240**	P	**Pn**	**05 11 15.9**	**+0.4**
BATI	3µm,0.5s,baz=93,slow=23,SNR=19			S	**Sn**	**05 12 36.9**	**-3.2**
BATI	**Baumata** 7.3nm6µm356nm,0.5s	**7.60**	**240**	P	**Pn**	**05 11 16.1**	**+0.6**
TNTI	**Ternate**	**7.81**	**337**	Pn	**Pn**	**05 11 18.5**	**+0.1**
TNTI	**Ternate**	**7.81**	**337**	P	**Pn**	**05 11 19.2**	**+0.8**
BBSI	**Bau Bau** 1.4nm8µm398nm,0.9s	**7.83**	**277**	P	**Pn**	**05 11 20.5**	**+2.0**
MMRI	**Maumere**	**8.34**	**255**	Pn	**Pn**	**05 11 26.4**	**+0.9**
MMRI	**Maumere** 5µm437nm,0.9s	**8.34**	**255**	P	**Pn**	**05 11 27.4**	**+1.9**
MMRI	**Maumere**	**8.34**	**255**	P	**Pn**	**05 11 27.6**	**+2.1**
WAMI	**Wamena** 17µm1µm,0.8s	**8.70**	**73**	P	**Pn**	**05 11 32.9**	**+2.6**
EDFI	**Ende, Flores** 2µm116nm,0.9s	**8.89**	**255**	P	**Pn**	**05 11 34.6**	**+1.6**
KNRA	**Kununurra** baz=9.3,SNR=1000	**9.26**	**190**	P	**Pn**	**05 11 35.1**	**-2.8**
KNRA	**Kununurra**	**9.26**	**190**	Pn	**Pn**	**05 11 35.2**	**-2.6**
KNRA	**Kununurra**	**9.26**	**190**	P	**Pn**	**05 11 36.5**	**-1.4**
LUWI	**Luwuk**	**9.32**	**305**	Pn	**Pn**	**05 11 40.2**	**+1.6**
LUWI	**Luwuk** 4µm404nm,1.0s	**9.32**	**305**	P	**Pn**	**05 11 40.2**	**+1.6**
SMPI	**Sarmi** 988nm84nm,0.7s	**9.44**	**62**	P	**Pn**	**05 11 39.8**	**-0.4**
KMSI	**Cibinong**	**9.49**	**318**	P	Pn	05 11 47.5	+6.6
BSSI	**Bau Bau, Buton** 2µm219nm,1.0s	**9.83**	**271**	P	**Pn**	**05 11 48.5**	**+3.0**
BKSI	**Bukumba** 1µm181nm,0.9s	**10.26**	**276**	P	**Pn**	**05 11 53.4**	**+2.1**
APSI	**Ampana** 4µm529nm,1.0s	**10.32**	**302**	P	**Pn**	**05 11 55.0**	**+2.9**
GENI	**Genyem** 324nm,0.7s	**10.50**	**69**	P	**Pn**	**05 11 56.3**	**+1.8**
GENI	**Genyem**	**10.50**	**69**	P	**Pn**	**05 11 55.1**	**+0.6**
KAPI	**Kappang** 30nm,0.7s,baz=129,slow=6.4,SNR=19	**10.67**	**277**	P	**Pn**	**05 11 58.3**	**+1.6**
KAPI	comp=Z,271nm,18.7s,baz=111,slow=38			LR	LR	05 16 08.2	
KAPI	**Kappang**	**10.67**	**277**	Pn	**Pn**	**05 11 58.7**	**+2.0**
KAPI	**Kappang**	**10.67**	**277**	P	**Pn**	**05 11 58.7**	**+2.0**
KAPI	**Kappang**	**10.67**	**277**	P	**Pn**	**05 12 00.1**	**+3.4**
SPSI	**Sidrap Palu** 1µm93nm,0.6s	**10.85**	**283**	P	**Pn**	**05 12 01.8**	**+2.6**
MRSI	**Marisa** 3µm366nm,0.9s	**10.90**	**309**	P	**Pn**	**05 12 02.0**	**+2.2**
TTSI	**Tana Toraja** 2µm161nm,1.2s	**11.06**	**288**	P	**Pn**	**05 12 05.5**	**+3.6**
SGSI	**Sangihe** 147nm,0.6s	**11.21**	**334**	P	**Pn**	**05 12 04.5**	**+0.6**
TOLI2	**Tolitoli**	**12.20**	**308**	Pn	**Pn**	**05 12 18.0**	**+1.1**
TOLI2	**Tolitoli**	**12.20**	**308**	P	**Pn**	**05 12 17.7**	**+0.8**
FITZ	**Fitzroy Crossi** 138nm,0.4s,baz=0.4,slow=9.9,SNR=439	**12.43**	**201**	P	**Pn**	**05 12 15.7**	**-4.2**
FITZ	531nm,0.5s,baz=0.0,slow=8.6,SNR=8.3			S	Sn	05 14 24.2	-13
FITZ	**Fitzroy Crossi** baz=12,SNR=864	**12.43**	**201**	P	Pn	05 12 15.1	-4.7
FITZ	**Fitzroy Crossi**	**12.43**	**201**	Pn	Pn	05 12 15.0	-4.8
MPSI	**Mapaga** 888nm63nm,0.9s	**12.46**	**303**	P	**Pn**	**05 12 22.7**	**+2.3**
PLAI	**Plampang**	**12.70**	**259**	P	**Pn**	**05 12 20.6**	**-2.8**
PLAI	**Plampang**	**12.70**	**259**	P	**Pn**	**05 12 22.2**	**-1.2**
TWSI	**Taliwang, Sumb** 1µm73nm,0.5s	**13.56**	**260**	P	**Pn**	**05 12 32.8**	**-1.7**
WRAB	**Tennant Creek**	**13.91**	**164**	*ce*P	**Pn**	**05 12 35.9**	**-3.1**
WRAB	comp=Z,49nm,0.7s			pmax	pmax		
WRA	**Warramunga Arr**	**13.91**	**164**	P	**Pn**	**05 12 34.7**	**-4.4**
	comp=Z,21nm,0.3s,baz=344,slow=12,SNR=255						
WRA	comp=Z,320nm,1.1s,baz=346,slow=22,SNR=11			S	Sn	05 15 00.1	-13
WRA	**Warramunga Arr**	**13.91**	**164**	Pn	**Pn**	**05 12 35.2**	**-3.9**
WRA	**Warramunga Arr**	**13.91**	**164**	P	**Pn**	**05 12 35.2**	**-3.9**
WB2	**Warramunga Arr**	**13.92**	**164**	Pn	**Pn**	**05 12 35.1**	**-4.0**
BKB	**Balikpapan**	**14.41**	**291**		**Pn**	**05 12 45.4**	**0.0**
SMKI	**Samarinda** comp=Z,14µmcomp=Z,201nm,1.0s	**14.44**	**294**	P	**P**	**05 12 50.0**	**+1.2**
COEN	**Coen** baz=15,SNR=199	**14.61**	**122**	P	**Pn**	**05 12 43.4**	**-4.6**
COEN	**Coen**	**14.61**	**122**	Pn	**Pn**	**05 12 44.2**	**-3.7**
SRBI	**Singaraja** comp=Z,1µmcomp=Z,144nm,1.1s	**15.12**	**263**	P	**Pn**	**05 12 54.1**	**-0.2**
DNP	**Denpasar** comp=Z,31µmcomp=Z,447nm,0.7s	**15.19**	**261**	P	**P**	**05 12 58.0**	**+0.9**
IGBI	**Denpasar** comp=Z,3µmcomp=Z,160nm,0.4s	**15.27**	**260**	P	**Pn**	**05 12 57.1**	**+1.0**
BBKI	**Banjar Baru** comp=Z,5µmcomp=Z,556nm,0.8s	**15.76**	**280**	P	**P**	**05 13 04.3**	**+0.8**
JAGI	**Jajag, Banyuwa**	**16.20**	**262**	Pn	**Pn**	**05 13 04.9**	**-2.8**
JAGI	**Jajag, Banyuwa** comp=Z,4µmcomp=Z,194nm,0.6s	**16.20**	**262**	P	**Pn**	**05 13 06.6**	**-1.1**
KMMI	**Kalianget** comp=Z,2µmcomp=Z,243nm,1.1s	**16.30**	**267**	P	**P**	**05 13 10.1**	**+0.7**
MTKI	**Muara Teweh, K** comp=Z,72nm,0.5s	**16.39**	**289**	P	**P**	**05 13 13.3**	**+2.8**
MYLDM	**Lahad Datu**	**16.58**	**314**		**P**	**05 13 13.0**	**+0.5**
QIS	**Mount Isa** baz=17,SNR=90	**16.60**	**148**	P	**Pn**	**05 13 09.4**	**-3.1**
QIS	**Mount Isa**	**16.60**	**148**	P	**Pn**	**05 13 10.6**	**-1.9**
PMG	**Port Moresby** comp=Z,67nm,0.6s,baz=282,slow=7.7,SNR=22	**16.87**	**101**	P	**P**	**05 13 14.6**	**-1.1**
PMG	comp=Z,61nm,0.6s,baz=12,slow=23,SNR=10			S	Sn	05 16 13.3	-11
PMG	**Port Moresby**	**16.87**	**101**	P	**P**	**05 13 14.8**	**-0.9**
PMG	**Port Moresby**	**16.87**	**101**	P	**P**	**05 13 14.8**	**-0.9**
PMG	**Port Moresby**	**16.87**	**101**	P	**Pn**	**05 13 18.5**	**+2.6**
PMG	**Port Moresby**	**16.87**	**101**	P	**Pn**	**05 13 18.2**	**+2.3**
AS31	**Alice Springs**	**17.41**	**169**	P	**P**	**05 13 21.3**	**-0.3**
ASAR	**Alice Springs** comp=Z,31nm,0.5s,baz=345,slow=10,SNR=167	**17.41**	**169**	P	**P**	**05 13 21.2**	**-0.4**
ASAR	comp=Z,82nm,0.9s,baz=350,slow=26,SNR=9.1			S	S	05 16 25.3	-11
ASAR	**Alice Springs**	**17.41**	**169**	P	**P**	**05 13 21.4**	**-0.1**
ASAR	**Alice Springs**	**17.41**	**169**	P	**P**	**05 13 21.5**	**-0.1**
MANU	**Manus Island**	**17.51**	**76**		**Pn**	**05 13 24.0**	**+0.5**
BWJI	**Bawean** comp=Z,314nm,1.0s	**17.62**	**271**	P	**Pn**	**05 13 27.9**	**+3.0**
MBWA	**Marble Bar**	**17.85**	**214**	P	**P**	**05 13 26.4**	**-0.1**
MBWA	**Marble Bar**	**17.85**	**214**	P	**Pn**	**05 13 27.4**	**-0.2**
MTSU	**Mount Surprise** baz=18,SNR=156	**17.86**	**132**	P	**P**	**05 13 26.5**	**-0.1**
MTSU	**Mount Surprise**	**17.86**	**132**	P	**P**	**05 13 26.9**	**+0.4**
PSA00	**Pilbara Seismi**	**18.12**	**213**	P	**P**	**05 13 29.6**	**+0.2**
PSA00	**Pilbara Seismi**	**18.12**	**213**	P	**Pn**	**05 13 30.6**	**-0.2**
TBJI	**Tambak Boyo** comp=Z,2µmcomp=Z,200nm,0.7s	**18.40**	**268**	P	**Pn**	**05 13 33.8**	**-0.4**
PWJI	**Pagerwojo** comp=Z,61µmcomp=Z,198nm,0.7s	**18.48**	**264**	P	**P**	**05 13 33.0**	**-0.4**
WRKA	**Warakurna** baz=19,SNR=62	**18.55**	**186**	P	**P**	**05 13 34.7**	**+0.7**
WRKA	**Warakurna**	**18.55**	**186**	P	**P**	**05 13 34.9**	**+0.8**
KKM	**Kota Kinabalu**	**18.84**	**311**	P	**P**	**05 13 38.2**	**+0.9**
KKM	**Kota Kinabalu**	**18.84**	**311**	P	**Pn**	**05 13 38.9**	**-0.5**
PBKI	**Pangkalan Bun** comp=Z,9µmcomp=Z,950nm,1.0s	**19.02**	**281**	P	**Pn**	**05 13 42.4**	**+1.0**
PCJI	**Pacitan** comp=Z,2µmcomp=Z,215nm,1.0s	**19.11**	**264**	P	**P**	**05 13 38.6**	**-1.7**
UGM	**Wanagama**	**19.74**	**265**	P	**P**	**05 13 46.4**	**-0.7**
UGM	**Wanagama**	**19.74**	**265**	P	**P**	**05 13 47.2**	**0.0**
SMRI	**Semarang**	**19.80**	**267**	P	**Pn**	**05 13 54.3**	**+3.7**
STKI	**Sintang** comp=Z,17µmcomp=Z,39nm,0.8s	**19.95**	**288**	P	**Pn**	**05 13 52.7**	**+0.4**
SBUM	**Sibu**	**20.18**	**296**	P	**P**	**05 13 52.0**	**+0.1**
CTA	**Charters Tower** comp=Z,33nm,0.8s,baz=338,slow=9.6,SNR=24	**20.50**	**133**	P	**P**	**05 13 55.7**	**+0.5**
CTA	comp=Z,21nm,0.8s,baz=38,slow=19,SNR=3.2 comp=Z,33nm,0.8s			S	**S**	**05 17 35.9**	**-1.7**
CTA	**Charters Tower**	**20.50**	**133**	P	**P**	**05 13 54.9**	**-0.3**
CTAO	**Charters Tower**	**20.50**	**133**	P	**P**	**05 13 55.2**	**0.0**
CTAO	**Charters Tower**	**20.50**	**133**	P	**P**	**05 13 55.2**	**0.0**
CTAO	**Charters Tower**	**20.50**	**133**	P	**P**	**05 13 54.8**	**-0.4**
KRVT	**Keravat (AS076** comp=Z,132nm,0.8s,baz=244,slow=2.1,SNR=14 comp=Z,132nm,0.8s	**21.66**	**85**	P	**P**	**05 14 07.7**	**0.0**
OOD	**Oodnadatta**	**21.78**	**167**	P	**P**	**05 14 09.3**	**+0.5**
RABL	**Rabaul**	**21.81**	**85**	P	**P**	**05 14 08.0**	**-1.3**
JCJI	**Jatiwangi** comp=Z,481nm,1.1s	**21.96**	**269**	P	**P**	**05 14 14.4**	**+3.6**
GIRL	**Giralia** baz=22,SNR=25	**22.36**	**222**	P	**P**	**05 14 15.6**	**+0.9**
GIRL	**Giralia**	**22.36**	**222**	P	**P**	**05 14 15.3**	**+0.6**
GIRL	**Giralia**	**22.36**	**222**	P	**P**	**05 14 15.7**	**+0.9**
LEM	**Lembang** comp=Z,246nm,1.0s,baz=52,slow=7.5,SNR=19 comp=Z,246nm,1.0s	**22.61**	**268**	P	**P**	**05 14 16.1**	**-1.4**
TPI	**Tanjungpandan** comp=Z,922nmcomp=Z,122nm,0.8s	**22.94**	**278**	P	**P**	**05 14 21.7**	**+1.2**
MEEK	**Meekatharra** baz=23,SNR=10	**22.95**	**208**	P	**P**	**05 14 20.6**	**+0.1**
MEEK	**Meekatharra**	**22.95**	**208**	P	**P**	**05 14 20.6**	**+0.1**
CNJI	**Cibinong** comp=Z,14µmcomp=Z,2µm,1.0s	**23.09**	**267**	P	**P**	**05 14 20.8**	**-1.0**
INKA	**Innaminka**	**23.31**	**156**	P	**P**	**05 14 24.7**	**+1.0**
CBJI	**Citeko** comp=Z,6µmcomp=Z,791nm,0.8s	**23.38**	**269**	P	**P**	**05 14 22.7**	**-1.8**
SKJI	**Sukabumi** comp=Z,3µmcomp=Z,438nm,0.8s	**23.66**	**267**	P	**P**	**05 14 27.4**	**+0.3**
MULG	**Mulgathing**	**23.92**	**172**	P	**P**	**05 14 29.4**	**+0.2**
QLP	**Quilpie** baz=24,SNR=4.7	**23.95**	**148**	P	**P**	**05 14 29.8**	**+0.3**
QLP	**Quilpie**	**23.95**	**148**	P	**P**	**05 14 30.1**	**+0.6**
FORT	**Forrest**	**24.26**	**185**	P	**P**	**05 14 32.0**	**-0.3**
FORT	**Forrest**	**24.26**	**185**	P	**P**	**05 14 32.0**	**-0.3**
PPBI	**Pangkal Pinang** comp=Z,31µmcomp=Z,86nm,1.3s	**24.54**	**279**	P	**P**	**05 14 38.2**	**+3.1**
GUMO	**Guam** comp=Z,121nm,0.8s,baz=153,slow=8.9,SNR=4.5 comp=Z,121nm,0.8s	**24.60**	**36**	P	**P**	**05 14 35.4**	**-0.1**
GUMO	**Guam**	**24.60**	**36**	P	**P**	**05 14 35.9**	**+0.4**
GUMO	**Guam**	**24.60**	**36**	P	**P**	**05 14 35.9**	**+0.4**
GUMO	comp=Z,291nm,1.1s			pmax	pmax		
XMIS	**Christmas Isla**	**24.76**	**259**	P	**P**	**05 14 36.6**	**-0.5**
LCRK	**Leigh Creek**	**24.94**	**164**	P	**P**	**05 14 39.4**	**+0.9**
KASI	**Kota Agung** comp=Z,160nm,0.9s	**25.75**	**271**	P	**P**	**05 14 46.5**	**+0.5**
PMBI	**Palembang**	**25.75**	**277**	P	P	05 14 53.6	+7.5
MORW	**Morawa** baz=26,SNR=13	**26.22**	**209**	P	**P**	**05 14 50.2**	**+0.1**
MORW	**Morawa**	**26.22**	**209**	P	**P**	**05 14 50.2**	**+0.1**
MORW	comp=Z,46nm,0.8s			IAmb	IAmb	05 15 25.8	
MORW	**Morawa**	**26.22**	**209**	P	**P**	**05 14 50.2**	**+0.1**
DSRI	**Dabo** comp=Z,2µmcomp=Z,12nm,1.2s	**26.42**	**282**	P	**P**	**05 14 55.6**	**+3.5**
BBOO	**Buckleboo** baz=27,SNR=6.2	**26.72**	**169**	P	**P**	**05 14 54.3**	**-0.2**
BBOO	**Buckleboo**	**26.72**	**169**	P	**P**	**05 14 54.1**	**-0.4**
BBOO	comp=Z,45nm,0.7s			IAmb	IAmb	05 15 45.9	
BBOO	**Buckleboo**	**26.72**	**169**	P	**P**	**05 14 54.3**	**-0.2**
TPRI	**Tanjung Pinang** comp=Z,4µmcomp=Z,33nm,0.6s	**26.83**	**285**	P	**P**	**05 14 59.3**	**+3.6**
BLDU	**Ballidu** baz=27,SNR=21	**27.21**	**206**	P	**P**	**05 14 59.3**	**+0.4**
BLDU	**Ballidu**	**27.21**	**206**	P	**P**	**05 14 59.2**	**+0.2**
STKA	**Stephens Creek** comp=Z,7.0nm,0.6s,baz=333,slow=9.1,SNR=14 comp=Z,7.0nm,0.6s	**27.35**	**159**	P	**P**	**05 15 00.1**	**-0.1**
STKA	**Stephens Creek** baz=27,SNR=8.0	**27.35**	**159**	P	**P**	**05 15 00.1**	**0.0**
STKA	**Stephens Creek**	**27.35**	**159**	P	**P**	**05 14 59.9**	**-0.3**
STKA	**Stephens Creek**	**27.35**	**159**	*i* P	**P**	**05 15 00.7**	**+0.6**
STKA	**Stephens Creek**	**27.35**	**159**	P	**P**	**05 15 00.2**	**0.0**
KLBR	**Kellerberrin** baz=28,SNR=19	**27.62**	**204**	P	**P**	**05 15 03.2**	**+0.6**
KLBR	**Kellerberrin**	**27.62**	**204**	P	**P**	**05 15 03.1**	**+0.6**
MYKOM	**Kota Tinggi**	**27.73**	**286**	P	**P**	**05 15 06.9**	**+3.2**
HTT	**Hallett** baz=28,SNR=6.8	**27.95**	**165**	P	**P**	**05 15 05.7**	**+0.1**
HTT	**Hallett**	**27.95**	**165**	P	**P**	**05 15 06.8**	**+1.2**
MUN	**Mundaring**	**28.60**	**206**	P	**P**	**05 15 11.8**	**+0.5**
	baz=29,SNR=4.7						
MUN	**Mundaring**	**28.60**	**206**	P	**P**	**05 15 11.7**	**+0.4**
CMSA	**Cobar Meteorol** baz=29,SNR=16	**28.74**	**152**	P	**P**	**05 15 12.9**	**+0.3**
CMSA	**Cobar Meteorol**	**28.74**	**152**	P	**P**	**05 15 13.2**	**+0.6**
NWAO	**Narrogin (SRO)** comp=Z,15nm,0.6s,baz=261,slow=6.8,SNR=21 comp=Z,15nm,0.6s	**29.00**	**203**	P	**P**	**05 15 15.3**	**+0.4**
NWAO	**Narrogin (SRO)** baz=29,SNR=14	**29.00**	**203**	P	**P**	**05 15 15.4**	**+0.6**
NWAO	baz=29,SNR=14			P	**P**	**05 15 15.4**	**+0.6**
NWAO	**Narrogin (SRO)**	**29.00**	**203**	P	**P**	**05 15 15.1**	**+0.3**
NWAO	comp=Z,77nm,1.2s			IAmb	IAmb	05 15 55.6	
NWAO	**Narrogin (SRO)**	**29.00**	**203**	P	**P**	**05 15 15.5**	**+0.6**
SDSI	**Sungai Dareh** comp=Z,29nm,1.2s	**29.40**	**280**	P	**P**	**05 15 20.2**	**+1.6**
HNR	**Honiara** comp=Z,3µm,0.9s,baz=203,slow=4.5,SNR=5.2	**29.43**	**98**	P	**P**	**05 15 17.3**	**-1.5**
HNR	**Honiara**	**29.43**	**98**	P	**P**	**05 15 17.1**	**-1.8**
BKNI	**Bangkinang**	**30.05**	**282**	P	**P**	**05 15 25.6**	**+1.3**
PDSI	**Padang** comp=Z,5µmcomp=Z,20nm,0.8s	**30.35**	**279**	P	**P**	**05 15 27.6**	**+0.6**
PATS	**Pohnpei** baz=31,SNR=4.3	**30.86**	**65**	P	**P**	**05 15 31.1**	**-0.3**
PATS	**Pohnpei**	**30.86**	**65**	P	**P**	**05 15 30.6**	**-0.8**
ARMA	**Armidale** baz=31,SNR=4.7	**31.07**	**143**	P	**P**	**05 15 33.2**	**0.0**
ARMA	**Armidale**	**31.07**	**143**	P	**P**	**05 15 34.5**	**+1.2**
ARMA	**Armidale**	**31.07**	**143**	P	**P**	**05 15 34.4**	**+1.2**
IPM	**Ipoh** comp=Z,18nm,0.6s	**31.26**	**290**	P	**P**	**05 15 34.1**	**-0.9**
IPM				IAmb	IAmb	05 15 38.8	
KULM	**Kulim**	**31.89**	**291**	P	**P**	**05 15 39.3**	**-1.2**
KULM	comp=Z,38nm,1.1s			IAmb	IAmb	05 15 44.9	
ARPS	**Mount Arapiles** baz=32,SNR=6.5	**31.91**	**162**	P	**P**	**05 15 42.6**	**+2.2**
ARPS	**Mount Arapiles**	**31.91**	**162**	P	**P**	**05 15 41.2**	**+0.8**
RPSI	**Rantau Prapat**	**32.70**	**285**	P	**P**	**05 15 46.3**	**-1.3**
RPSI	comp=Z,56nm,0.9s			IAmb	IAmb	05 15 51.0	
RPSI	**Rantau Prapat**	**32.70**	**285**	P	**P**	**05 15 46.6**	**-1.0**
PSI	**Prapat** comp=Z,47nm,0.9s,baz=109,slow=3.3,SNR=6.9	**32.73**	**285**	P	**P**	**05 15 46.6**	**-1.4**
PSI	comp=Z,90nm,21.9s,baz=76,slow=36 comp=Z,47nm,0.9s			LR	LR	05 29 08.4	
UBPT	**Khong Chiam**	**32.82**	**311**	P	**P**	**05 15 47.9**	**-0.7**
UBPT	comp=Z,66nm,1.7s			IAmb	IAmb	05 15 50.0	
MGCD	**Mangrove Creek**	**32.83**	**147**	P	**P**	**05 15 50.3**	**+1.8**
JOW	**Kunigami**	**33.19**	**357**	P	**P**	**05 15 51.9**	**+0.2**
JOW	**Kunigami**	**33.19**	**357**	P	**P**	**05 15 52.7**	**+1.1**
CAN	**Canberra**	**33.42**	**152**	P	**P**	**05 15 54.2**	**+0.5**
CAN	**Canberra**	**33.42**	**152**	P	**P**	**05 15 54.2**	**+0.5**
CAN	comp=Z,151nm,1.9s			pmax	pmax		
CAN	**Canberra**	**33.42**	**152**	P	**P**	**05 15 54.8**	**+1.1**
CAN	**Canberra**	**33.42**	**152**	P	**P**	**05 15 54.8**	**+1.1**
CNB	**Canberra Magne** baz=34,SNR=4.3	**33.59**	**151**	P	**P**	**05 15 56.8**	**+1.6**
GSI	**Gunungsitoli** comp=Z,46nm,0.8s	**33.64**	**282**	P	**P**	**05 15 55.9**	**+0.1**
GSI				IAmb	IAmb	05 15 58.6	
TOO	**Toolangi** baz=34,SNR=4.8	**33.86**	**158**	P	**P**	**05 15 59.3**	**+1.9**
KCSI	**Kotacane, Aceh** comp=Z,30nm,0.8s	**34.04**	**286**	P	**P**	**05 16 01.7**	**+2.5**
SRIT	**Nakonsritamara** comp=Z,36nm,0.9s	**34.14**	**296**	P	**P**	**05 15 59.1**	**-1.1**
SRIT				IAmb	IAmb	05 16 10.8	
JCJ	**Chichijima** comp=Z,109nm,0.6s,baz=278,slow=14,SNR=8.2 comp=Z,109nm,0.6s	**35.29**	**18**	P	**P**	**05 16 08.9**	**-0.8**
JCJ	**Chichijima**	**35.29**	**18**	P	**P**	**05 16 08.1**	**-1.7**
JCJ	**Chichijima**	**35.29**	**18**	P	**P**	**05 16 09.2**	**-0.6**
MLSI	**Meulaboh, Aceh** comp=Z,96nm,0.7s	**35.56**	**287**	P	**P**	**05 16 13.4**	**+1.1**
JSU	**Suzuyama** comp=Z,28nm,0.9s	**37.78**	**0**	P	**P**	**05 16 30.7**	**-0.2**
JSU				IAmb	IAmb	05 16 32.1	
NOUC	**Port Laguerre**	**37.98**	**118**	P	**P**	**05 16 32.6**	**-0.1**
NOUC	**Port Laguerre**	**37.98**	**118**	P	**P**	**05 16 32.7**	**-0.1**
NOUC				pP	**pP**	**05 17 00.4**	**-0.4**
NOUC				pwP	**pwP**	**05 17 05.1**	**-0.4**
DZM	**Mont Dzumac** comp=Z,18nm,0.5s,baz=267,slow=9.0,SNR=52 com

comp=Z,0.7nm,0.5s,baz=169,slow=3.2,SNR=4.2
comp=Z,3.5nm,0.6s
INCN Inchon 43.89 356 P **P** **05 17 20.9 +0.1**
INCN IAmb IAmb 05 18 53.0
comp=Z,19nm,0.5s
INCN Inchon 43.89 356 P **P** **05 17 20.9 +0.1**
INCN pmax pmax
comp=Z,19nm,0.5s
LYN LuoYang 44.19 339 *e*P **P** **05 17 23.0 -0.3**
LYN S **S** **05 23 43.3 -3.4**
LYN pmax pmax
comp=Z,60nm,12.2s
TIA Tai'an 44.26 345 P **P** **05 17 23.8 0.0**
TIA pmax pmax
comp=Z,9.0nm,0.7s
JSD Sado 44.91 9 P **P** **05 17 28.0 -0.9**
HNS HongShan 46.05 343 ⇓P **P** **05 17 38.3 +0.4**
HNS pmax pmax
comp=Z,39nm,0.8s
TIY Taiyuan 47.05 341 *e*P **P** **05 17 46.6 +0.7**
TIY S **S** **05 24 36.8 +8.9**
TIY pmax pmax
comp=Z,76nm,5.1s
MSVF Nonsavu 47.80 108 P **P** **05 17 52.9 +0.9**
comp=Z,14nm,0.7s,baz=277,slow=8.7,SNR=18
comp=Z,14nm,0.7s
MSVF Nonsavu 47.80 108 P **P** **05 17 52.1 +0.1**
MSVF IAmb IAmb 05 17 53.8
comp=Z,20nm,0.8s
MSVF Nonsavu 47.80 108 P **P** **05 17 52.9 +0.9**
MSVF Nonsavu 47.80 108 P **P** **05 17 52.5 +0.5**
MSVF sP **sP** **05 18 40.2 +4.8**
BJT Baijiatuau 48.10 345 P **P** **05 17 54.1 +0.3**
BJT IAmb IAmb 05 17 54.9
comp=Z,27nm,0.6s
BJT Baijiatuau 48.10 345 P **P** **05 17 54.1 +0.3**
BJT pmax pmax
comp=Z,27nm,0.6s
BJT Baijiatuau 48.10 345 P **P** **05 17 54.1 +0.3**
BJT sP **sP** **05 18 37.6 +0.4**
BJI Beijing 48.12 345 P **P** **05 17 53.8 -0.1**
BJI sP **sP** **05 18 38.8 +1.4**
BJI pmax pmax
comp=Z,36nm,0.7s
LZH Lanzhou 49.14 331 *e*P **P** **05 18 03.6 +1.6**
LZH ScP **ScP** **05 23 07.8 +1.2**
LZH S **S** **05 24 56.0 -1.5**
LZH SS **SS** **05 28 23.9 -6.8**
LZH pmax pmax
comp=Z,17nm,1.1s
HHC Hu-ho-hao-te 50.18 341 *e*P P 05 18 15.1 +5.3
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,190nm,5.4s
CN2 Changchun 50.26 355 ⇓P P 05 18 15.3 +5.2
CN2 *e*pP pwP 05 18 46.3 +2.6
CN2 S **S** **05 25 18.6 +6.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
USA0B Ussuriysk Arra 50.48 2 P **P** **05 18 11.9 +0.1**
USA0B IAmb IAmb 05 18 13.0
comp=Z,15nm,0.7s
USA0B Ussuriysk Arra 50.48 2 P **P** **05 18 11.9 +0.1**
USA0B pmax pmax
comp=Z,15nm,0.7s
USRK Ussuriysk Ar. 50.48 2 P **P** **05 18 12.2 +0.4**
comp=Z,13nm,0.6s,baz=185,slow=7.8,SNR=22
comp=Z,13nm,0.6s
USRK Ussuriysk Ar. 50.48 2 P **P** **05 18 11.5 -0.3**
QRZ Quartz Range 50.79 139 P **P** **05 18 15.8 +1.5**
MDJ Mudanjiang 50.88 359 P **P** **05 18 14.8 0.0**
MDJ IAmb IAmb 05 18 16.2
comp=Z,19nm,0.7s
MDJ Mudanjiang 50.88 359 P **P** **05 18 15.4 +0.6**
MDJ pmax pmax
comp=Z,28nm,0.7s
MDJ pmax pmax
comp=Z,140nm,10.2s
WHZ Wether Hill Ro 50.92 147 P **P** **05 18 14.8 -0.4**
WHZ IAmb IAmb 05 18 16.8
comp=Z,28nm,1.2s
FUTU Fugatoga 51.16 103 P **P** **05 18 19.0 +1.6**
LBZ Lake Benmore 51.27 144 P **P** **05 18 17.7 -0.1**
LBZ IAmb IAmb 05 18 19.0
comp=Z,21nm,0.8s
RPZ Rata Peaks 51.41 143 P **P** **05 18 19.8 +0.9**
comp=Z,20nm,0.8s,baz=359,slow=1.4,SNR=17
comp=Z,20nm,0.8s
RPZ Rata Peaks 51.41 143 P **P** **05 18 18.9 +0.1**
RPZ IAmb IAmb 05 18 58.9
comp=Z,26nm,0.9s
OXZ Oxford 51.79 142 P **P** **05 18 20.6 -1.2**
OXZ IAmb IAmb 05 19 03.3
comp=Z,15nm,0.6s
XLT XiLinHaoTe 51.80 347 ⇓*i*P **P** **05 18 22.3 +0.5**
XLT sP sP 05 19 03.5 -1.9
XLT S **S** **05 25 33.0 -0.8**
XLT pmax pmax
comp=Z,21nm,1.1s
XLT pmax pmax
comp=Z,130nm,4.7s
TUWZ Tuamarina 52.02 139 P **P** **05 18 23.1 -0.3**
BNX BinXian 52.06 357 ⇑P **P** **05 18 23.4 -0.2**
BNX pmax pmax
comp=Z,13nm,0.8s
BNX pmax pmax
comp=Z,59nm,5.8s
KHZ Kahutara 52.25 140 P **P** **05 18 25.0 -0.1**
SNZO South Karori 52.46 138 P **P** **05 18 26.5 -0.1**
BKZ Black Stump Fm 52.69 135 P **P** **05 18 28.3 -0.2**
URZ Urewera 52.74 134 P **P** **05 18 27.7 -1.1**
URZ IAmb IAmb 05 20 25.2
comp=Z,66nm,1.8s
TAPN Taplejung 53.23 311 *e*P **P** **05 18 32.8 -0.1**
comp=Z,29nm,0.4s
GTA Gaotai 53.71 331 ⇓P **P** **05 18 36.9 +0.9**
GTA ScP **ScP** **05 23 26.8 +0.5**
GTA S **S** **05 25 59.9 -0.2**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,68nm,6.5s
RAMN Ramite 53.85 310 *e*P **P** **05 18 37.7 +0.3**
comp=Z,71nm,0.5s
YSS Yuzh-Sakhalins 54.34 10*ce*P **P** **05 18 40.7 +0.5**
YSS pmax pmax
comp=Z,34nm,1.7s
JIRN Jiri 54.54 311 *e*P **P** **05 18 42.6 +0.1**
comp=Z,26nm,0.5s
GUN Gumba 54.90 311 *e*P **P** **05 18 45.2 +0.1**
PKI Pulchoki 55.08 310 *e*P **P** **05 18 46.0 -0.4**
comp=Z,20nm,0.6s
PKIN Phulchoki 55.09 310 *e*P **P** **05 18 45.9 -0.5**
comp=Z,22nm,0.7s
DMN Daman 55.33 310 *e*P **P** **05 18 48.0 -0.1**
KLR Kul'dur 55.50 1*ce*P **P** **05 18 49.1 +0.6**
KLR pmax pmax
comp=Z,36nm,1.7s
GKN Gorkha 55.89 310 *e*P **P** **05 18 51.9 0.0**
PCHI Peechi 56.39 287 *e*P **P** **05 18 54.5 -1.0**
HYBB Hyderabad (bro 56.43 296 *e*P **P** **05 18 55.6 -0.2**
HYBB *e* 05 19 00.8
KOLN Koldanda 56.57 309 *e*P **P** **05 18 56.9 +0.1**
DANN Dangsing 56.73 310 *e*P **P** **05 18 57.9 -0.2**
GRNR Gornyy 57.27 5⇓*i*P **P** **05 19 01.3 +0.2**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=N,4μm,16.0s
GRNR MLR MLR
comp=E,3μm,16.0s
GRNR MLR MLR
comp=Z,5μm,18.0s
AFI Afiamalu 57.30 102 P **P** **05 19 02.3 +0.3**
AFI Afiamalu 57.30 102 P **P** **05 19 02.3 +0.3**
AFI pmax pmax
comp=Z,69nm,1.2s
ULN Ulaanbaatar 57.90 342 P **P** **05 19 06.7 +0.9**
ULN IAmb IAmb 05 19 07.9
comp=Z,28nm,0.8s
ULN Ulaanbaatar 57.90 342*ce*P **P** **05 19 06.9 +1.2**
ULN pmax pmax
comp=Z,34nm,0.8s
ULN Ulaanbaatar 57.90 342 P **P** **05 19 07.1 +1.3**
ULN pP **pP** **05 19 35.9 -0.1**
ULN sP **sP** **05 19 51.2 +1.2**
SONM Songino Array 58.08 341 P **P** **05 19 08.3 +1.3**
comp=Z,8.8nm,0.7s,baz=156,slow=7.0,SNR=41
comp=Z,8.8nm,0.7s
SONM Songino Array 58.08 341 P **P** **05 19 07.8 +0.8**
TYV Tymovskoe 58.10 9 *e*P **P** **05 19 08.1 +1.3**
TYV *e*S **S** **05 27 00.0 +2.5**
TYV pmax pmax
comp=Z,100nm,1.5s
TYV pmax pmax
comp=Z,22nm,0.7s
TYV smax smax
comp=N,300nm,5.2s
TYV smax smax
comp=E,300nm,5.2s
ZEA Zeya 60.06 358 *e*P **P** **05 19 21.6 +1.3**
ZEA pmax pmax
comp=Z,20nm,0.8s
DRV Dumont d'Urvil 60.44 176 P **P** **05 19 23.4 +0.7**
CASY Casey 61.26 189 P **P** **05 19 29.1 +0.8**
CASY Casey 61.26 189 P **P** **05 19 28.8 +0.5**
ZAK Zakamensk 61.31 341 *e*P **P** **05 19 29.0 0.0**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
WMQ Urumqi 63.17 327 *e*P **P** **05 19 44.5 +3.0**
WMQ LR LR
comp=Z,6μm,20.7s
WMQ LR LR
comp=Z,2μm,19.1s
WMQ LR LR
comp=Z,1μm,19.1s
PEA0B Petropavlovsk- 63.73 18 P **P** **05 19 45.2 +0.3**
PEA0B Petropavlovsk- 63.73 18*ce*P **P** **05 19 46.3 +1.4**
PETK Petropavlovsk- 63.73 18 P **P** **05 19 45.0 +0.1**
comp=Z,19nm,0.8s,baz=172,slow=4.5,SNR=26
comp=Z,19nm,0.8s
PETK Petropavlovsk- 63.73 18 P **P** **05 19 44.3 -0.5**
PET Petropavlovsk 63.95 19*ce*P **P** **05 19 46.7 +0.4**
PET pmax pmax
comp=Z,47nm,1.3s
BOD Bodaibo 65.46 350 *e*P **P** **05 19 55.6 -0.4**
BOD pmax pmax
comp=Z,17nm,1.5s
ZSN Zaisan 67.04 328 *e*P **P** **05 20 07.6 +1.3**
ZSN Zaisan 67.04 328 *e*P **P** **05 20 07.7 +1.4**
baz=328
DGZ Jazzator, Alta 67.24 331 *i* P **P** **05 20 08.3 +0.6**
DGZ pmax pmax
comp=Z,11nm,0.6s
SHLS Shalkode 67.55 322 *e*P **P** **05 20 09.4 -0.3**
SHLS Shalkode 67.55 322 *e*P **P** **05 20 09.5 -0.3**
baz=322
PDGK Podgornoye 67.62 322 P **P** **05 20 10.2 -0.1**
UZB Uzynbulak 67.81 322 *e*P **P** **05 20 12.0 +0.6**
UZB Uzynbulak 67.81 322 *e*P **P** **05 20 12.1 +0.6**
baz=322
KSH Kashi 67.90 317 P **P** **05 20 13.8 +1.7**
KSH PcS
KSH 05 24 41.8
KSH S **S** **05 29 01.8 +1.4**
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH pmax pmax
comp=Z,99nm,5.7s
MK31 Makanchi Array 68.01 327 P **P** **05 20 13.1 +0.7**
MK31 IAmb IAmb 05 20 14.0
comp=Z,20nm,0.6s
MK31 Makanchi Array 68.01 327 *i* P **P** **05 20 13.2 +0.7**
MKAR Makanchi Array 68.01 327 P **P** **05 20 13.3 +0.8**
comp=Z,29nm,0.5s,baz=119,slow=8.3,SNR=190
comp=Z,29nm,0.5s
MAKZ Makanchi 68.19 326 P **P** **05 20 13.7 +0.1**
MAKZ IAmb IAmb 05 20 15.0
comp=Z,26nm,0.6s
MAKZ Makanchi 68.19 326 P **P** **05 20 13.7 +0.1**
MAKZ pmax pmax
comp=Z,26nm,0.6s
MAKZ Makanchi 68.19 326 P **P** **05 20 14.3 +0.7**
MAKZ x x 05 20 52.8
MAKZ sP **sP** **05 21 00.9 +2.4**
KPKS Kokpek 68.19 322 *e*P **P** **05 20 14.3 +0.5**
KPKS pmax pmax
comp=Z,9.0nm,0.8s
KPKS Kokpek 68.19 322 *e*P **P** **05 20 14.4 +0.6**
comp=Z,8.6nm,0.8s,baz=322
YAK Yakutsk 68.32 360 P **P** **05 20 14.3 +0.3**
YAK Yakutsk 68.32 360 *e*P **P** **05 20 14.1 +0.1**
YAK *e**PP **pP** **05 20 42.6 -2.6**
YAK *e*S **S** **05 29 05.0 +0.8**
YAK *e**SS **ScS** **05 30 05.6 +4.8**
YAK *e*SS **SS** **05 33 30.7 +0.4**
YAK pmax pmax
comp=Z,77nm,0.7s
YAK pmax pmax
comp=N,7.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.6s
YAK smax smax
comp=E,51nm,1.5s
YAK smax smax
comp=N,32nm,1.4s
YAK Yakutsk 68.32 360 P **P** **05 20 14.1 +0.1**
CCD Concordia, Ant 68.68 182 P **P** **05 20 18.3 +1.7**
TNSS Tian-Shan 69.04 321 *e*P **P** **05 20 20.5 +1.1**
TNSS Tian-Shan 69.04 321 *e*P **P** **05 20 20.5 +1.1**
baz=321
MDOK Medeo 69.04 321 *e*P **P** **05 20 20.1 +1.0**
MDOK Medeo 69.04 321 *e*P **P** **05 20 20.1 +1.0**
baz=321
CHKK Chushkaly 69.44 322 *e*P **P** **05 20 21.7 +0.3**
CHKK Chushkaly 69.44 322 *e*P **P** **05 20 21.8 +0.3**
baz=322
TKM2 Tokmak 2 69.83 320 P **P** **05 20 25.3 +1.3**
SNR=14
TKM2 Tokmak 2 69.83 320 P **P** **05 20 24.6 +0.5**
KUU Kurty 69.86 321 *e*P **P** **05 20 24.7 +0.8**
KUU pmax pmax
comp=Z,17nm,0.7s
KUU Kurty 69.86 321 *e*P **P** **05 20 24.8 +0.8**
comp=Z,17nm,0.7s,baz=321
UCH Uchtor 70.19 319 P **P** **05 20 28.3 +1.7**
SNR=22
AAK Ala-Archa 70.40 320 P **P** **05 20 29.1 +1.6**
SNR=7.7
AAK Ala-Archa 70.40 320 P **P** **05 20 28.1 +0.7**
AAK Ala-Archa 70.40 320 P **P** **05 20 28.1 +0.7**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AML Almayashu 70.67 319 P **P** **05 20 30.9 +1.5**
SNR=25
USP Ospenovka 70.70 320 P **P** **05 20 30.3 +1.2**
SNR=13
SGDS Sogindy 70.71 320 *e*P **P** **05 20 29.6 +0.4**
SGDS Sogindy 70.71 320 *e*P **P** **05 20 29.6 +0.4**
baz=320
KBL Kabul 70.72 310 P **P** **05 20 29.4 -0.2**
KBL Kabul 70.72 310 P **P** **05 20 29.5 -0.2**
KBL pmax pmax
comp=Z,11nm,1.1s
DRK Karamyk 70.74 316 P **P** **05 20 30.0 +0.2**
EKS2 Erkin-Say 70.87 319 P **P** **05 20 31.8 +1.6**
SNR=13
SEY Seymchan 71.24 10*ce*P **P** **05 20 32.9 +1.0**
SEY pmax pmax
comp=Z,76nm,1.7s
SEM Semipalatinsk 71.26 329 *e*P **P** **05 20 32.5 0.0**
SEM Semipalatinsk 71.26 329 *e*P **P** **05 20 32.5 0.0**
baz=329
ZAA0 Zalesovo Array 71.30 334 P **P** **05 20 32.1 -0.3**
ZALV Zalesovo Beam 71.30 334 P **P** **05 20 32.4 0.0**
comp=Z,9.1nm,0.7s,baz=122,slow=5.2,SNR=32
comp=Z,9.1nm,0.7s
ZALV Zalesovo Beam 71.30 334 P **P** **05 20 31.7 -0.7**
GAR Garm 71.57 315 P **P** **05 20 34.9 +0.3**
GAR IAmb IAmb 05 20 35.9
comp=Z,25nm,0.8s
BTLS Baital 71.86 322 *e*P **P** **05 20 36.5 +0.5**
BTLS Baital 71.86 322 *e*P **P** **05 20 36.5 +0.5**
baz=322
CHGR Chuyangaron 72.26 314 P **P** **05 20 38.4 -0.2**
CHGR IAmb IAmb 05 20 39.9
comp=Z,25nm,0.7s
CHGR Chuyangaron 72.26 314 P **P** **05 20 38.4 -0.2**
CHGR pmax pmax
comp=Z,25nm,0.7s
KURBB Kurchatov Arra 72.28 328 P **P** **05 20 38.2 -0.1**
KURK Kurchatov 72.28 328 P **P** **05 20 38.0 -0.3**
KURK Kurchatov 72.28 328*ce*P **P** **05 20 39.1 +0.7**
KURK pmax pmax
comp=Z,9.0nm,0.6s
VNDA Vanda 72.90 173 P **P** **05 20 42.3 +0.7**
comp=Z,1.7nm,0.8s,baz=314,slow=6.9,SNR=14
comp=Z,1.7nm,0.8s
VNDA Vanda 72.90 173 P **P** **05 20 41.9 +0.2**
IUG luzhnay 73.11 318*ce*P **P** **05 20 44.6 +1.0**
IUG luzhnay 73.11 318⇑*e*P **P** **05 20 44.7 +1.0**
baz=318
KK31 Karatay Array 73.21 319 P **P** **05 20 44.0 -0.1**
KK31 Karatay Array 73.21 319 *i* P **P** **05 20 44.6 +0.5**
KKAR Karatay Array 73.21 319 P **P** **05 20 43.7 -0.4**
KKAR Karatay Array 73.21 319 P **P** **05 20 43.7 -0.4**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
BRZS Berezniki 75.11 326 *e*P **P** **05 20 55.3 +0.4**
BRZS Berezniki 75.11 326 *e*P **P** **05 20 55.3 +0.4**
baz=326
MAW Mawson 75.56 201 P **P** **05 20 57.6 +0.4**
comp=Z,2.4nm,0.6s,baz=70,slow=5.4,SNR=9.0
comp=Z,2.4nm,0.6s
MAW Mawson 75.56 201 P **P** **05 20 58.6 +1.5**
baz=76,SNR=8.0
MAW Mawson 75.56 201 P **P** **05 20 57.9 +0.7**
MAW Mawson 75.56 201 P **P** **05 20 57.9 +0.7**
MAW pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 77.91 328 P **P** **05 21 10.3 -0.3**
BRVK Borovoye 77.91 328*ce*P **P** **05 21 11.3 +0.7**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 77.99 360 *i* P **P** **05 21 10.6 0.0**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
NIKH Nikolski High 78.23 33 P **P** **05 21 12.7 +0.3**
baz=242
UNV Unalaska Valle 79.88 32 P **P** **05 21 21.1 -0.2**
UNV Unalaska Valle 79.88 32 P **P** **05 21 22.2 +0.9**
baz=244
GEYT Alibeck 80.17 310 P **P** **05 21 24.2 +0.9**
comp=Z,4.7nm,0.7s,baz=174,slow=5.4,SNR=6.4
comp=Z,4.7nm,0.7s
GEYT Alibeck 80.17 310 P **P** **05 21 23.3 0.0**
NRIK Noril'sk 81.16 346 P **P** **05 21 28.8 +0.9**
comp=Z,9.5nm,0.7s,baz=131,slow=7.0,SNR=6.7
comp=Z,9.5nm,0.7s
NRIK Noril'sk 81.16 346 P **P** **05 21 28.1 +0.3**
NRIK Noril'sk 81.16 346*ce*P **P** **05 21 29.0 +1.2**
NRIK pmax pmax
comp=Z,11nm,0.9s
AB31 Akbulak array 82.34 321 *i* P **P** **05 21 34.4 -0.1**
ABKAR Akbulak array 82.34 321 P **P** **05 21 34.3 -0.2**
SDPT Sand Point 83.70 32 P **P** **05 21 40.0 -1.2**
SDPT Sand Point 83.70 32 P **P** **05 21 41.6 +0.4**
baz=249
AKTO Aktyubinsk 83.90 322 P **P** **05 21 43.0 +0.5**
comp=Z,3.4nm,0.5s,baz=132,slow=6.2,SNR=8.9
comp=Z,3.4nm,0.5s
AKTO Aktyubinsk 83.90 322 P **P** **05 21 43.0 +0.5**
CHNA Chernabura Isl 83.99 33 P **P** **05 21 43.1 +0.3**
baz=250
S14K Fog Glacier 84.51 32 P **P** **05 21 46.3 +0.8**
baz=250
CHGN Chignik 85.12 32 P **P** **05 21 48.5 +0.1**
baz=251
ARU Arti 85.47 328 P **P** **05 21 49.9 -0.3**
comp=Z,4.7nm,0.5s,baz=146,slow=7.5,SNR=5.9
comp=Z,4.7nm,0.5s
ARU Arti 85.47 328 P **P** **05 21 50.0 -0.3**
ARU Arti 85.47 328*c i*P **P** **05 21 51.2 +1.0**
ARU *PP **pP** **05 22 24.3 +1.6**
ARU 05 25 04.6
ARU S **SKSac** **05 32 03.3 +0.3**
ARU pmax pmax
comp=Z,6.0nm,1.0s
P16K Nushagak River 86.23 29 P **P** **05 21 54.8 +0.9**
baz=251
N16K Nishlik Lake 86.34 28 P **P** **05 21 56.0 +1.6**
baz=250,SNR=14
O16K Kokwok River B 86.36 29 P **P** **05 21 55.6 +1.0**
baz=251,SNR=6.6
Q16K King Salmon 86.78 30 P **P** **05 21 56.9 +0.3**
baz=252
O17K Koliganek Bris 86.90 29 P **P** **05 21 58.3 +1.2**
baz=252
P17K Kvichak River 87.04 30 P **P** **05 21 58.8 +1.0**
baz=252
SII Sitkinak Islan 87.44 32 P **P** **05 22 00.8 +0.9**
baz=254
P18K Big Mountain, 87.69 30 P **P** **05 22 02.0 +1.0**
baz=253
N18K Kilae Creek 87.75 28 P **P** **05 22 01.5 +0.3**
N18K IAmb IAmb 05 22 19.4
comp=Z,49nm,1.6s
N18K Kilae Creek 87.75 28 P **P** **05 22 01.9 +0.6**
baz=253
O18K Koktuh Hills 87.84 29 P **P** **05 22 02.6 +0.9**
baz=253
RAYN Ar Rayn 87.88 294 P **P** **05 22 02.3 -0.4**
RAYN Ar Rayn 87.88 294 P **P** **05 22 02.3 -0.4**
RAYN pmax pmax
comp=Z,10.0nm,0.7s
OHAK Old Harbor 88.08 32 P **P** **05 22 03.6 +0.8**
baz=255
TTA Tatalina 88.37 26 P **P** **05 22 05.4 +1.2**
baz=252,SNR=10
N19K Bonanza Creek 88.45 28 P **P** **05 22 05.7 +1.0**
N19K IAmb IAmb 05 22 06.5
comp=Z,15nm,0.8s
N19K Bonanza Creek 88.45 28 P **P** **05 22 05.8 +1.2**
baz=254
GCSA Galena City Sc 88.57 24 P **P** **05 22 06.4 +1.5**
baz=252
KDAK Kodiak Island 88.59 31 P **P** **05 22 05.5 +0.4**
KDAK Kodiak Island 88.59 31 P **P** **05 22 05.6 +0.4**
KDAK pmax pmax
comp=Z,45nm,0.9s
KDAK Kodiak Island 88.59 31 P **P** **05 22 06.3 +1.1**
baz=256
L19K White Mountain 88.67 27 P **P** **05 22 06.4 +0.9**
L19K White Mountain 88.67 27 P **P** **05 22 07.1 +1.5**
baz=254,SNR=14
M19K Big River Lodg 88.80 27 P **P** **05 22 06.9 +0.8**
M19K IAmb IAmb 05 22 08.9
comp=Z,17nm,0.8s
M19K Big River Lodg 88.80 27 P **P** **05 22 07.6 +1.5**
baz=254,SNR=5.1
L20K Farewell, AK 89.19 27 P **P** **05 22 09.5 +1.5**
baz=254
K20K Telida 89.34 26 P **P** **05 22 09.2 +0.5**
K20K IAmb IAmb 05 22 54.0
comp=Z,32nm,1.6s
K20K Telida 89.34 26 P **P** **05 22 09.6 +0.9**
baz=254
M20K Styx River 89.37 27 P **P** **05 22 10.0 +1.1**
baz=255
J20K Nowinta River 89.53 25 P **P** **05 22 09.5 0.0**
J20K IAmb IAmb 05 22 12.1
comp=Z,8.2nm,0.6s
J20K Nowinta River 89.53 25 P **P** **05 22 10.3 +0.8**
baz=254,SNR=6.9
SKT Skwentna 90.13 28 P **P** **05 22 13.4 +1.0**
baz=256
CAST Castle Rocks 90.22 26 P **P** **05 22 12.7 -0.1**
CAST IAmb IAmb 05 22 37.8
comp=Z,22nm,1.7s
CAST Castle Rocks 90.22 26 P **P** **05 22 13.6 +0.8**
baz=256
G21K Allakaket 90.42 23 P **P** **05 22 14.4 +0.8**
baz=255
H21K Melozitna Rive 90.48 24 P **P** **05 22 13.8 -0.2**
H21K Melozitna Rive 90.48 24 P **P** **05 22 14.7 +0.8**
baz=255
F21K Alatna River 90.62 22 P **P** **05 22 15.7 +1.1**
baz=255
I21K Tanana 90.69 24 P **P** **05 22 15.3 +0.5**
baz=256
SEW Seward 90.70 30 P **P** **05 22 15.7 +0.7**
baz=258
TRF Thorofare Moun 91.02 26 P **P** **05 22 16.5 -0.2**
baz=258

H22K	**Ishtalitna Cre**	**91.11**	**24**	P		**P**		**05 22 17.2**	**+0.4**
	baz=257								
PMR	**Palmer**	**91.16**	**28**	P		**P**		**05 22 17.4**	**+0.4**
	baz=259								
MLY	**Manley**	**91.17**	**25**	P		**P**		**05 22 17.3**	**+0.1**
	baz=257								
F22K	**John River**	**91.18**	**22**	P		**P**		**05 22 17.5**	**+0.3**
	baz=256								
G22K	**Bettles**	**91.29**	**23**	P		**P**		**05 22 18.0**	**+0.4**
	baz=257								
KNK	**Knik Glacier**	**91.44**	**28**	P		**P**		**05 22 18.6**	**+0.2**
	baz=259								
E22K	**Anaktuvuk Pass**	**91.47**	**21**	P		**P**		**05 22 18.9**	**+0.4**
	baz=256								
SML	**Sawmill**	**91.57**	**28**	P		**P**		**05 22 19.2**	**+0.1**
	baz=259								
RND	**Reindeer**	**91.64**	**26**	P		**P**		**05 22 18.4**	**-1.0**
RND				IAmb		IAmb		05 22 19.2	
	comp=Z,14nm,0.8s								
RND	**Reindeer**	**91.64**	**26**	P		**P**		**05 22 18.4**	**-1.0**
RND				pmax		pmax			
	comp=Z,14nm,0.8s								
WAT1	**Susitna Watana**	**91.66**	**27**	P		**P**		**05 22 19.3**	**-0.2**
	baz=259								
MCK	**McKinley**	**91.67**	**26**	P		**P**		**05 22 19.0**	**-0.5**
	baz=259								
NEA2	**Nenana**	**91.78**	**25**	P		**P**		**05 22 20.0**	**+0.1**
	baz=259								
G23K	**Bananza Creek**	**91.82**	**23**	P		**P**		**05 22 20.5**	**+0.4**
	baz=258,SNR=9.7								
H23K	**Yukon River**	**91.83**	**24**	P		**P**		**05 22 20.6**	**+0.4**
	baz=258,SNR=5.8								
M23K	**Glacier View**	**91.85**	**28**	P		**P**		**05 22 21.0**	**+0.6**
	baz=260								
COLD	**Coldfoot**	**91.86**	**23**	P		**P**		**05 22 20.9**	**+0.6**
	baz=258,SNR=6.1								
D23K	**Nanushuk River**	**92.06**	**21**	P		**P**		**05 22 22.0**	**+0.9**
	baz=257,SNR=8.4								
Q23K	**Middleton Isla**	**92.12**	**31**	P		**P**		**05 22 22.0**	**+0.4**
	baz=261								
DHY	**Denali Highway**	**92.23**	**27**	P		**P**		**05 22 21.6**	**-0.7**
DHY				IAmb		IAmb		05 22 27.7	
	comp=Z,9.3nm,0.8s								
DHY	**Denali Highway**	**92.23**	**27**	P		**P**		**05 22 22.0**	**-0.3**
	baz=260								
E23K	**Chandalar**	**92.25**	**22**	P		**P**		**05 22 22.7**	**+0.5**
	baz=258,SNR=13								
C23K	**Itkillik River**	**92.27**	**20**	P		**P**		**05 22 22.5**	**+0.4**
	baz=258								
CCB	**Clear Creek Bu**	**92.32**	**25**	P		**P**		**05 22 21.4**	**-1.0**
CCB				IAmb		IAmb		05 22 22.0	
	comp=Z,14nm,0.9s								
TCOL	**CIGO, UAF Yank**	**92.34**	**25**	P		**P**		**05 22 22.7**	**+0.2**
	baz=260								
COLA	**College**	**92.34**	**25**	P		**P**		**05 22 22.7**	**+0.2**
	baz=260								
TOLK	**Toolik Lake Re**	**92.39**	**21**	P		**P**		**05 22 23.2**	**+0.5**
	baz=258								
H24K	**Noodor Dome**	**92.50**	**24**	P		**P**		**05 22 23.6**	**+0.3**
	baz=260,SNR=6.2								
M24K	**Tolsona, Glenn**	**92.63**	**28**	P		**P**		**05 22 24.0**	**0.0**
HDA	**Harding Lake**	**92.65**	**26**	P		**P**		**05 22 23.6**	**-0.4**
	baz=261								
E24K	**Your Creek**	**92.67**	**22**	P		**P**		**05 22 24.7**	**+0.6**
	baz=259								
ILAR	**Eielson Array**	**92.73**	**25**	P		**P**		**05 22 22.6**	**-1.8**
	comp=Z,4.7nm,0.8s,baz=264,slow=4.3,SNR=30								
ILAR	**Eielson Array**	**92.73**	**25**	P		**P**		**05 22 22.8**	**-1.6**
ILAR	**Eielson Array**	**92.73**	**25**	P		**P**		**05 22 22.8**	**-1.6**
D24K	**Happy Valley**	**92.75**	**21**	P		**P**		**05 22 25.1**	**+0.8**
	baz=259								
KIV	**Kislovodsk**	**92.79**	**314**	*e*P		**P**		**05 22 26.5**	**+1.3**
KIV				pmax		pmax			
	comp=Z,8.0nm,1.0s								
F24K	**Squaw Lake**	**92.80**	**22**	P		**P**		**05 22 25.4**	**+0.7**
	baz=260,SNR=12								
G24K	**Hadweenzic Riv**	**92.81**	**23**	P		**P**		**05 22 25.2**	**+0.5**
	baz=260,SNR=10								
C24K	**Franklin Bluff**	**92.90**	**20**	P		**P**		**05 22 25.3**	**+0.3**
	baz=259								
NVL	**N'lazarevskaya**	**92.94**	**197**	*e*P		P		05 22 19.6	-5.7
NVL				pmax		pmax			
	comp=Z,12nm,1.0s								
KMBO	**Kilima Mbogo**	**92.97**	**269**	P		**P**		**05 22 28.2**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=60,slow=20,SNR=2.0								
	comp=Z,1.0nm,0.6s								
PAX	**Paxson**	**93.08**	**27**	P		**P**		**05 22 26.3**	**+0.2**
	baz=262								
J25K	**Salcha River,**	**93.35**	**25**	P		**P**		**05 22 25.9**	**-1.4**
J25K	**Salcha River,**	**93.35**	**25**	P		**P**		**05 22 27.9**	**+0.6**
	baz=262								
H25K	**Birch Creek**	**93.40**	**24**	P		**P**		**05 22 27.8**	**+0.5**
	baz=262,SNR=6.5								
RIDG	**Independent Ri**	**93.46**	**26**	P		**P**		**05 22 27.7**	**-0.1**
	baz=262								
D25K	**Kavik River**	**93.64**	**21**	P		**P**		**05 22 28.4**	**-0.1**
	baz=261,SNR=6.3								
F25K	**Christian Rive**	**93.66**	**22**	P		**P**		**05 22 29.3**	**+0.6**
	baz=262,SNR=6.9								
E25K	**Arctic Village**	**93.76**	**22**	P		**P**		**05 22 29.8**	**+0.7**
	baz=262,SNR=7.9								
SCRK	**Sand Creek**	**93.87**	**26**	P		**P**		**05 22 29.6**	**-0.1**
	baz=263								
BMAR	**Burnt Mountain**	**94.04**	**23**	P		**P**		**05 22 30.6**	**+0.3**
L26K	**Log Cabin Wild**	**94.05**	**27**	P		**P**		**05 22 30.7**	**+0.3**
	baz=264								
J26L	**Joseph Creek**	**94.11**	**26**	P		**P**		**05 22 31.0**	**+0.1**
	baz=264								
F26K	**Sheenjek River**	**94.24**	**22**	P		**P**		**05 22 32.2**	**+0.9**
	baz=263,SNR=6.3								
G26K	**Porcupine Rive**	**94.29**	**23**	P		**P**		**05 22 32.3**	**+0.9**
	baz=264,SNR=12								
C27K	**Jago River**	**94.61**	**21**	P		**P**		**05 22 33.6**	**+0.7**
	baz=264								
K27K	**Chicken**	**94.71**	**26**	P		**P**		**05 22 34.5**	**+1.1**
	baz=265								
L27K	**Beaver Creek,**	**94.74**	**27**	P		**P**		**05 22 34.4**	**+0.7**
	baz=265								
TROLL	**Troll, Antarti**	**94.74**	**194**	PcP		**PcP**		**05 22 34.8**	**+0.8**
I27K	**Kandik River**	**95.04**	**25**	P		**P**		**05 22 35.7**	**+0.7**
	baz=266								
G27K	**Doyon Strip**	**95.12**	**23**	P		**P**		**05 22 35.9**	**+0.6**
	baz=266								
H27K	**Steamboat Moun**	**95.12**	**24**	P		**P**		**05 22 36.1**	**+0.7**
	baz=266								
EGAK	**Eagle**	**95.17**	**25**	P		**P**		**05 22 35.7**	**+0.2**
	baz=266								
E27K	**Coleen River**	**95.25**	**22**	P		**P**		**05 22 36.2**	**+0.4**
	baz=266,SNR=7.9								
BELA	**Belgrano 2**	**95.34**	**183**	P		**P**		**05 22 35.5**	**-0.7**
BELA				IAmb		IAmb		05 22 48.8	
	comp=Z,9.9nm,1.5s								
DAWY	**Dawson**	**95.89**	**26**	P		**P**		**05 22 39.1**	**+0.2**
DAWY	**Dawson**	**95.89**	**26**	P		**P**		**05 22 39.3**	**+0.4**
	baz=267								
KLMR	**Klimovskoe**	**96.04**	**331**	*e*P		**P**		**05 22 36.9**	**-2.6**
KLMR				pmax		pmax			
	comp=Z,17nm,1.7s								
KLMR	**Klimovskoe**	**96.04**	**331**	*e*P		**P**		**05 22 37.0**	**-2.6**
KLMR				AMP				05 22 40.0	
	comp=Z,17nm,1.7s								
SNAA	**Sanae**	**96.24**	**193**	PcP		**PcP**		**05 22 41.2**	**+0.7**
SNAA	**Sanae**	**96.24**	**193**	*i* P		**P**		**05 22 41.4**	**+1.0**
SNAA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
M29M	**Somme Creek**	**96.25**	**28**	P		**P**		**05 22 40.9**	**+0.3**
	baz=268								
I29M	**Ogilvie Camp,**	**96.41**	**25**	P		**P**		**05 22 41.4**	**+0.2**
	baz=268								
L29M	**L29M**	**96.42**	**27**	P		**P**		**05 22 41.6**	**+0.2**
	baz=268								
K29M	**Barlow Dome**	**96.71**	**26**	P		**P**		**05 22 43.0**	**+0.2**
	baz=269								
EPYK	**Eagle Plains**	**97.07**	**24**	P		Pdif		05 22 44.5	+0.3
	baz=270								
OBN	**Obninsk**	**97.46**	**325**	*e*P		Pdif		05 22 46.8	+0.7
OBN				pmax		pmax			
	comp=Z,6.0nm,1.1s								
SKAG	**Skagway**	**97.73**	**31**	P		Pdif		05 22 48.0	+0.7
	baz=270								
VNA2	**Neumayer--Watz**	**97.81**	**193**	PcP		Pdif		05 22 48.1	+0.7
	baz=147,slow=4.0								
F31M	**Tsiigehtchic**	**98.22**	**23**	P		**P**		**05 22 48.7**	**-0.5**
	baz=273								
INK	**Inuvik**	**98.25**	**22**	P		**P**		**05 22 48.7**	**-0.6**
	baz=273								
MMPY	**Sheldon Lake,**	**99.58**	**28**	P		**Pdif**		**05 22 55.8**	**+0.3**
	baz=274								
ARCES	**ARCESS Array B**	**101.23**	**340**	P		**Pdif**		**05 23 01.4**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=93,slow=7.3,SNR=12								
ARCES				PKiKP		**PKiKP**		**05 27 26.9**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=101,slow=2.5,SNR=4.0								
MNK	**Minsk**	**102.51**	**324**	*i* P		**Pdif**		**05 23 04.8**	**-3.8**
MNK				*i*				05 27 19.2	
MNK				*i* S		**SKSac**		**05 33 31.9**	**-3.9**
MNK				*i* *SS		**sSKSac**		**05 34 33.1**	**-2.4**
MNK				*i* SP		**SP**		**05 36 13.2**	**-2.8**
MNK				*i* PS		**PS**		**05 36 29.5**	**-3.3**
MNK				*i* SS		**SS**		**05 41 49.0**	**-2.3**
MNK				*i* SSS		SSS		05 45 43.8	
MNK						pmax		pmax	
	comp=Z,3.0nm,0.6s								
MNK						pmax		pmax	
	comp=E,3.0nm,0.7s								
MNK						MLR		MLR	
	comp=N,1.0nm,17.0s								
MNK						MLR		MLR	
	comp=Z,97nm,14.0s								
MNK						MLR		MLR	
	comp=E,98nm,21.0s								
MNK	**Minsk**	**102.51**	**324**	*i* P		**Pdif**		**05 23 04.8**	**-3.8**
	comp=E,3.0nm,0.7s								
MNK				*i* P		**Pdif**		**05 23 04.8**	**-3.8**
MNK				*i* P		**Pdif**		**05 23 04.8**	**-3.8**
	comp=Z,3.0nm,0.6s,baz=84								
MNK				*i* pP		**pPdif**		**05 23 38.3**	**-3.5**
MNK				*i* PP		**PP**		**05 27 19.3**	**-3.8**
MNK				*i* PPP		PPP		05 29 30.0	
MNK				*i* S		**SKSac**		**05 33 31.9**	**-3.9**
MNK				*i* sS		**sSKSac**		**05 34 33.1**	**-2.4**
MNK				*i* SP		**SP**		**05 36 13.3**	**-2.8**
MNK				*i* PS		**PS**		**05 36 29.6**	**-3.3**
MNK				*i* SS		**SS**		**05 41 49.0**	**-2.3**
MNK				*i* SSS		SSS		05 45 43.9	
MNK				*i* LRM		MLR		06 09 14.3	
	comp=N,1.0nm,17.4s								
MNK				*i* LRM		MLR		06 09 15.0	
	comp=Z,97nm,13.6s								
MNK				*i* LRM		MLR		06 09 28.5	
	comp=E,98nm,20.6s								
NVAR	**Mina Array Bea**	**110.69**	**51**	PKiKP		**PKiKP**		**05 27 46.6**	**+1.3**
	comp=E,0.3nm,0.5s,baz=225,slow=2.4,SNR=2.2								
CLL	**Collm**	**111.97**	**323**	*e*P		**Pdif**		**05 23 52.0**	**+1.2**
CLL				*e*				05 28 33.0	
CLL	**Collm**	**111.97**	**323**	*e*PP		**PP**		**05 28 29.0**	**-3.3**
GERES	**GERESS Array B**	**112.27**	**320**	PKiKP		**PKiKP**		**05 27 48.0**	**+0.2**
	comp=E,0.7nm,0.5s,baz=48,slow=2.0,SNR=5.3								
GERES	**GERESS Array B**	**112.27**	**320**	*i* PKiKP		**PKiKP**		**05 27 48.0**	**+0.2**
HLID	**Hailey**	**112.63**	**45**	P		**PKiKP**		**05 27 49.7**	**+0.9**
	baz=283								
R11A	**Troy Canyon, C**	**112.81**	**51**	P		**PKiKP**		**05 27 49.3**	**+0.1**
	baz=280								
BELC	**Belle Mtn. Jos**	**113.17**	**56**	P		**PKiKP**		**05 27 50.6**	**+0.6**
	baz=278								
IKP	**In-Ko-Pah, Jac**	**113.25**	**57**	P		**PKiKP**		**05 27 50.9**	**+0.7**
	baz=277								
GMRC	**Granite Mounta**	**113.33**	**55**	P		**PKiKP**		**05 27 50.7**	**+0.4**
	baz=279								
BC3	**Big Chuckawall**	**113.66**	**56**	P		**PKiKP**		**05 27 51.2**	**+0.3**
	baz=278								
EGMT	**Eagleton**	**114.55**	**40**	P		**PKiKP**		**05 27 52.5**	**+0.3**
	baz=289								
DUG	**Dugway, Tooele**	**114.55**	**49**	P		**PKiKP**		**05 27 53.6**	**+1.1**
	baz=283								
PDAR	**Pinedale Array**	**116.27**	**45**	PKP		**PKiKP**		**05 27 56.1**	**+0.3**
	comp=E,1.1nm,0.7s,baz=222,slow=1.6,SNR=12								
TUC	**Tucson**	**117.75**	**57**	P		**PKiKP**		**05 27 59.5**	**+0.6**
	baz=280								
O20A	**White River Ci**	**117.96**	**48**	P		**PKiKP**		**05 27 59.6**	**+0.4**
	baz=286								
K22A	**Casper**	**118.44**	**45**	P		**PKiKP**		**05 28 00.2**	**+0.2**
	baz=289								
MVCO	**Mesa Verde**	**118.54**	**51**	P		**PKiKP**		**05 28 01.0**	**+0.5**
	baz=285								
RSSD	**Black Hills**	**119.63**	**42**	P		**PKPdf**		**05 28 01.9**	**-0.4**
	baz=292								
RSSD	**Black Hills**	**119.63**	**42**	P		**PKPdf**		**05 28 01.6**	**-0.6**
	baz=292								
S22A	**4UR Ranch, Cre**	**119.68**	**50**	P		**PKiKP**		**05 28 03.5**	**+0.7**
	baz=286								
ISCO	**Idaho Springs**	**119.99**	**48**	P		**PKiKP**		**05 28 03.6**	**+0.3**
	baz=288								
121A	**Cookes Peak, D**	**120.19**	**56**	P		**PKiKP**		**05 28 04.5**	**+0.8**
	baz=282								
121A	**Cookes Peak, D**	**120.19**	**56**	P		**PKiKP**		**05 28 04.4**	**+0.6**
	baz=282								
Y22D	**IRIS PASSCAL I**	**120.55**	**54**	P		**PKPdf**		**05 28 03.6**	**-0.7**
	baz=284								
Q24A	**Divide**	**120.59**	**48**	P		**PKPdf**		**05 28 04.2**	**-0.2**
	baz=288								
SDCO	**Great Sand Dun**	**120.69**	**50**	P		**PKiKP**		**05 28 05.5**	**+0.7**
	baz=287								
SDCO	**Great Sand Dun**	**120.69**	**50**	P		**PKiKP**		**05 28 05.4**	**+0.7**
	baz=287								
ANMO	**Albuquerque**	**120.71**	**53**	*c* *i* PKiKP		**PKPdf**		**05 28 04.2**	**-0.4**
ANMO				pmax		pmax			
	comp=Z,3.0nm,1.0s								
ANMO	**Albuquerque**	**120.71**	**53**	P		**PKiKP**		**05 28 05.2**	**+0.5**
	baz=285								
ANMO	**Albuquerque**	**120.71**	**53**	P		**PKiKP**		**05 28 04.8**	**+0.1**
	baz=285								
T25A	**Trinidad**	**121.70**	**50**	P		**PKiKP**		**05 28 07.2**	**+0.6**
	baz=288								
ULM	**Lac du Bonnet**	**121.82**	**33**	PKP		**PKPdf**		**05 28 05.5**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=272,slow=1.7,SNR=2.5								
OGNE	**Ogallala**	**122.18**	**45**	P		**PKPdf**		**05 28 07.0**	**0.0**
	baz=292								
F33A	**5 Mile Ranch,**	**123.85**	**38**	P		**PKPdf**		**05 28 10.0**	**0.0**
	baz=300								
MSTX	**Muleshoe**	**123.90**	**53**	P		**PKPdf**		**05 28 10.7**	**+0.1**
	baz=287								
MSTX	**Muleshoe**	**123.90**	**53**	P		**PKiKP**		**05 28 11.0**	**0.0**
	baz=287								
TX31	**Lajitas Ar. Si**	**124.35**	**59**	P		**PKiKP**		**05 28 12.0**	**+0.1**
	baz=283								
TXAR	**Lajitas Array**	**124.35**	**59**	PKP		**PKiKP**		**05 28 12.2**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=257,slow=0.7,SNR=13								
ECSD	**EROS Data Cent**	**124.66**	**40**	P		**PKPdf**		**05 28 11.3**	**-0.4**
	baz=298								
ECSD	**EROS Data Cent**	**124.66**	**40**	P		**PKPdf**		**05 28 10.9**	**-0.7**
	baz=298								
BGNE	**Belgrade**	**124.68**	**43**	P		**PKPdf**		**05 28 11.5**	**-0.3**
	baz=295								
EYMN	**Ely**	**125.50**	**33**	P		**PKPdf**		**05 28 12.8**	**-0.3**
	baz=306								
R32A	**Long Quarter,**	**125.50**	**47**	P		**PKiKP**		**05 28 14.2**	**+0.4**
	baz=293								
SPMN	**Marine on St.**	**126.27**	**37**	P		**PKiKP**		**05 28 14.9**	**-0.2**
	baz=303								
KSU1	**Kansas State U**	**126.73**	**45**	P		**PKPdf**		**05 28 15.9**	**+0.2**
	baz=295								
WMOK	**Wichita Mounta**	**126.79**	**51**	P		**PKPdf**		**05 28 16.2**	**+0.2**
	baz=290								
WMOK	**Wichita Mounta**	**126.79**	**51**	P		**PKiKP**		**05 28 16.4**	**-0.1**
	baz=290								
JCT	**Junction City**	**127.31**	**56**	P		**PKiKP**		**05 28 17.7**	**0.0**
	baz=286								
JCT	**Junction City**	**127.31**	**56**	P		**PKiKP**		**05 28 17.6**	**0.0**
	baz=286,SNR=9.2								
833A	**Chaparral WMA,**	**128.23**	**59**	P		**PKPdf**		**05 28 18.9**	**0.0**
	baz=285								
TUL1	**Leonard**	**128.63**	**49**	P		**PKPdf**		**05 28 19.4**	**0.0**
	baz=294								
P38A	**Dawn**	**128.63**	**43**	P		**PKPdf**		**05 28 19.3**	**-0.1**
	baz=298								
TORD	**Torodi Ar. Bea**	**129.07**	**282**	PKP		**PKiKP**		**05 28 21.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=69,slow=2.0,SNR=7.6								
TORD				SKPab		SKPab		05 31 28.8	-0.2
	comp=Z,4.0nm,0.7s,baz=72,slow=3.1,SNR=12								
PLCA	**Paso Flores**	**129.22**	**159**	PKP		**PKiKP**		**05 28 22.1**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=356,slow=3.7,SNR=4.4								
S39A	**Bolivar**	**129.67**	**45**	P		**PKPdf**		**05 28 20.7**	**-0.7**
	baz=297								
SCHQ	**Schefferville**	**129.85**	**13**	PKP		**PKiKP**		**05 28 22.1**	**0.0**
	comp=Z,4.0nm,0.7s,baz=256,slow=5.5,SNR=7.2								
R40A	**Maddies Statio**	**130.13**	**44**	P		**PKPdf**		**05 28 21.7**	**-0.5**
	baz=298								
L44A	**Lake County Fo**	**130.91**	**38**	P		**PKPdf**		**05 28 23.7**	**+0.1**
	baz=306								
CCM	**Cathedral Cave**	**130.95**	**44**	P		**PKPdf**		**05 28 24.0**	**+0.3**
	baz=299								
HDIL	**Hopedale**	**130.96**	**40**	P		**PKPdf**		**05 28 23.8**	**+0.1**
	baz=303								
GLMI	**Grayling**	**131.16**	**33**	P		**PKPdf**		**05 28 24.1**	**+0.1**
	baz=311								
SFIN	**Lafayette**	**132.45**	**39**	P		**PKPdf**		**05 28 26.9**	**+0.4**
	baz=305								
OLIL	**Olney**	**132.72**	**41**	P		**PKPdf**		**05 28 27.5**	**+0.4**
	baz=303								
L48A	**N Adams**	**133.12**	**36**	P		**PKPdf**		**05 28 27.7**	**-0.1**
	baz=309								
L48A				P		**PKPdf**		**05 28 27.7**	**-0.1**
	baz=309								
O48B	**Farmland**	**133.72**	**38**	P		**PKPdf**		**05 28 29.1**	**+0.1**
	baz=307								
OXF	**Oxford**	**133.94**	**47**	P		**PKPdf**		**05 28 30.1**	**+0.5**
	baz=298								
WCI	**Wyandotte Cave**	**134.18**	**41**	P		**PKPdf**		**05 28 30.5**	**+0.6**
	baz=304								
WVT	**Waverly**	**134.27**	**44**	P		**PKPdf**		**05 28 30.7**	**+0.6**
	baz=301								
P49A	**Miami Univ. Ec**	**134.43**	**38**	P		**PKiKP**		**05 28 31.3**	**-0.4**
	baz=307								
ACSO	**Alum Creek Sta**	**135.05**	**37**	P		**PKPdf**		**05 28 31.9**	**+0.5**
	baz=310								
DBIC	**Dimbokro**	**135.54**	**273**	PKP		**PKiKP**		**05 28 35.4**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=211,slow=21,SNR=9.7								
M53A	**WI Miller and**	**135.57**	**34**	P		**PKPdf**		**05 28 33.1**	**+0.7**
	baz=313								
P52A	**Corning**	**135.93**	**37**	P		**PKPdf**		**05 28 33.5**	**+0.4**
	baz=310								
O53A	**New Philadelph**	**136.07**	**35**	P		**PKPdf**		**05 28 33.8**	**+0.5**
	baz=312								
LONY	**Lake Ozonia**	**136.22**	**26**	P		**PKPdf**		**05 28 33.5**	**0.0**
	baz=323								
LRAL	**Lakeview Retre**	**136.41**	**48**	P		**PKPdf**		**05 28 35.0**	**+0.8**
	baz=299								
TZTN	**Tazewell**	**136.94**	**41**	P		**PKiKP**		**05 28 36.5**	**-0.5**
	baz=306								
TKL	**Tuckaleechee C**	**137.30**	**42**	P		**PKPdf**		**05 28 36.2**	**+0.4**
	baz=305								
BINY	**Binghamton**	**137.46**	**29**	P		**PKPdf**		**05 28 36.5**	**+0.6**
	baz=319								
LBNH	**Lisbon**	**137.64**	**24**	P		**PKiKP**		**05 28 37.2**	**-0.9**
	baz=326								
SSPA	**Standing Stone**	**137.64**	**32**	P		**PKPdf**		**05 28 36.7**	**+0.4**
	baz=316								
PKME	**Peaks-Kenny Pk**	**137.76**	**21**	P		**PKPdf**		**05 28 36.7**	**+0.4**
	baz=330								
BLA	**Blacksburg**	**138.51**	**38**	P		**PKPdf**		**05 28 38.1**	**+0.1**
	baz=310								
GOGA	**Godfrey**	**138.75**	**45**	P		**PKiKP**		**05 28 39.8**	**-0.9**
	baz=303								
L61B	**Northampton**	**138.78**	**26**	P		**PKPdf**		**05 28 39.0**	**+0.7**
	baz=324								
KMSC	**Kings Mountain**	**139.22**	**41**	P		**PKPdf**		**05 28 40.4**	**+1.1**
	baz=307								
HRV	**Adam Dziewonsk**	**139.22**	**25**	P		**PKPdf**		**05 28 40.2**	**+1.2**
	baz=326								
PAL	**Palisades**	**139.37**	**29**	P		**PKiKP**		**05 28 40.9**	**-0.8**
	baz=321								
TIGA	**Tifton**	**139.71**	**48**	P		**PKPdf**		**05 28 41.3**	**+1.0**
	baz=301								
NHSC	**New Hope**	**141.20**	**43**	P		**PKiKP**		**05 28 44.4**	**-1.3**
	baz=306								
CPUP	**Villa Florida**	**146.53**	**167**	PKPbc		**PKPab**		**05 28 54.8**	**-0.4**
	comp=Z,8.2nm,0.9s,baz=180,slow=3.3,SNR=13								
LPAZ	**La Paz**	**150.88**	**141**	PKP		**PKPdf**		**05 29 02.0**	**+1.5**
	comp=Z,10nm,0.7s,baz=202,slow=5.4,SNR=3.7								
LPAZ				PKPbc		**PKPab**		**05 29 07.7**	**+0.8**
	comp=Z,10nm,0.4s,baz=17,slow=3.1,SNR=87								
BDFB	**Brasilia**	**157.95**	**184**	PKP		**PKPdf**		**05 29 10.2**	**+0.5**
	comp=Z,2.9nm,1.0s,baz=246,slow=7.2,SNR=3.2								

IDC ***23*** *05:09:50.1±0.7, 6.86S×130.12E, h0km, mb4.8/9, mbtmp4.8/10, ML5.4/1, MS3.1/1, Error ellipse: s-maj=51.1km s-min=16.6km az=71.0*

ISC 23 05:09:55.3±0.7, 6.9S±0.1×130.1E±0.3, h35km, n14, σ1°27/13, mb4.8/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.57**	**163**	Pn	**Pn**	**05 13 04.5**	**-1.0**
	18nm,0.3s,baz=349,slow=13,SNR=3.8						
	33nm,0.4s						
GUMO	**Guam**	**25.11**	**36**	LR	LR	05 25 18.0	
	comp=Z,44nm,21.8s,baz=164,slow=37						
STKA	**Stephens Creek**	**27.03**	**158**	P	**P**	**05 15 33.1**	**-1.3**
	22nm,0.5s,baz=332,slow=10,SNR=9.1						
	22nm,0.5s						
USRK	**Ussuriysk Ar.**	**50.92**	**2**	P	**P**	**05 18 54.5**	**+1.4**
	6.9nm,0.6s,baz=200,slow=8.3,SNR=4.9						
	6.9nm

STEP				S	Sg	05 13 03.5	-0.5
STEP				*i* AML	AML	05 13 06.0	
	comp=E,174nm,0.3s						
STEP				*i* AML	AML	05 13 09.0	
	comp=N,163nm,0.5s						
BUHA	**Balikesir, Bur**	**1.29**	**1**	P	**Pn**	**05 12 46.7**	**-0.4**
BUHA				S	**Sn**	**05 13 05.9**	**+1.4**
BUHA				*i* AML	AML	05 13 09.0	
	comp=E,146nm,0.4s						
SIGR	**SIGRI**	**1.37 317**		PN	**Pg**	**05 12 48.8**	**-0.3**
GPNR	**Gulpinar-Canak**	**1.44 330**		PN	**Pb**	**05 12 49.6**	**-0.2**
YER	**Yerkesik**	**1.45 137**		PN	**Pg**	**05 12 50.3**	**-0.4**
DAT	**Datca**	**1.54 164**		PN	**Pb**	**05 12 51.0**	**-0.5**
NIS1	**Nisyros Isl.**	**1.61 176**		PN	**Pb**	**05 12 52.1**	**-0.6**
EZN	**Ezine**	**1.71 341**		PN	**Pb**	**05 12 53.6**	**-0.8**
TURN	**Turunc**	**1.72 146**		PN	**Pb**	**05 12 53.7**	**-0.9**
BOZC	**Bozcaada**	**1.81 335**		PN	**Pn**	**05 12 54.9**	**+0.8**
DST	**Dursunbey**	**1.86 41**		PN	**Pn**	**05 12 55.7**	**+0.8**
DALY	**Dalyan (Mula)**	**1.89 137**		PN	**Pb**	**05 12 56.2**	**-1.2**
GONE	**Gonen-Balikesi**	**1.90 15**		PN	**Pn**	**05 12 56.3**	**+0.8**
APMY	**Acipayam-Deniz**	**1.93 112**		PN	**Pn**	**05 12 56.8**	**+0.9**
GADA	**Gvkgeada**	**2.17 336**		PN	**Pn**	**05 13 00.3**	**+1.1**
EDC	**Edincik**	**2.23 16**		PN	**Pn**	**05 13 00.9**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.23 349**		PN	**Pn**	**05 13 00.9**	**+0.9**
TVSB	**Tavsanli**	**2.26 56**		PN	**Pn**	**05 13 01.5**	**+1.1**

IDC ***23*** *05:15:54.5±1.0,30°.50N×141°.98E, h0km, mb4.0/5, mbtmp4.0/7, ML3.4/3, MS2.8/1, Error ellipse: s-maj=43.0km s-min=20.1km az=83.0*

ISC 23 05:15:58.3±0.8, 30°.47N±0°.09×141°.7E±0°.2, h28km, n9, σ1s20/11, mb4.0/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.11**	**329**	Pn	**Pn**	**05 16 46.2**	**+0.7**
	5.4nm,0.3s,baz=90,slow=20,SNR=1.1						
JHJ				Sn	**Sn**	**05 17 19.7**	**-2.1**
	18nm,0.3s,baz=72,slow=20,SNR=2.0						
JCJ	**Chichijima**	**3.38**	**173**	Pn	**Pn**	**05 16 47.8**	**-1.5**
	13nm,0.3s,baz=263,slow=22,SNR=8.6						
JCJ				Sn	**Sn**	**05 17 28.4**	**-0.2**
	32nm,0.3s,baz=280,slow=23,SNR=5.6						
	34nm,0.3s						
MJAR	**Matsushiro Arr**	**6.73**	**335**	Pn	**Pn**	**05 17 36.1**	**+0.9**
	0.3nm,0.3s,baz=158,slow=10,SNR=5.3						
MJAR				Sn	**Sn**	**05 18 50.4**	**-0.5**
	0.2nm,0.3s,baz=350,slow=6.8,SNR=5.0						
	2.9nm,0.5s						
KSRS	**Korea Array**	**13.39**	**305**	LR	LR	05 24 42.0	
	comp=Z,38nm,18.3s,baz=325,slow=39						
WRA	**Warramunga Arr**	**50.62**	**189**	P	**P**	**05 24 55.9**	**+1.0**
	0.9nm,0.3s,baz=6.6,slow=7.7,SNR=8.6						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**54.34**	**189**	P	**P**	**05 25 24.0**	**+1.5**
	1.1nm,0.7s,baz=10.0,slow=7.0,SNR=2.1						
	1.1nm,0.7s						
FINES	**FINESS Array B**	**74.75**	**333**	P	**P**	**05 27 35.6**	**+0.3**
	1.2nm,0.8s,baz=81,slow=4.5,SNR=5.2						
	1.2nm,0.8s						
NVAR	**Mina Array Bea**	**78.78**	**52**	P	**P**	**05 27 58.4**	**-0.4**
	0.6nm,0.6s,baz=291,slow=5.7,SNR=4.0						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**93.92**	**53**	P	**P**	**05 29 13.8**	**0.0**
	0.6nm,0.7s,baz=274,slow=2.5,SNR=3.7						
	0.6nm,0.7s						

IDC ***23*** *05:25:34.3±7.0, 1°.73N×124°.45E, h224km±74km, mb3.5/6, mbtmp3.9/7, Error ellipse: s-maj=42.4km s-min=19.5km az=77.0*

DJA ***23*** *05:25:35.6±0.3, 2°.N±3°×12°.5E±°, h10km, M4.0/8, MLv4.0/8*

ISC 23 05:25:31.8±0.8, 1°.78N±0°.07×124°.63E±0°.07, h200km, n16, σ1s52/18, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.36**	**208**	P	**Pn**	**05 26 00.1**	**-4.2**
GTOI	**Gorontalo**	**1.98**	**235**	P	**Pn**	**05 26 11.0**	**+0.9**
SGSI	**Sangihe**	**2.10**	**25**	P	**Pn**	**05 26 10.9**	**-0.5**
TNTI	**Ternate**	**2.91**	**110**	P	**Pn**	**05 26 20.9**	**+0.5**
TNTI				S	**Sn**	**05 26 58.2**	**-0.2**
LUWI	**Luwuk**	**3.36**	**214**	P	**Pn**	**05 26 28.4**	**+2.6**
LBMI	**Labuha**	**3.74**	**130**	P	**Pn**	**05 26 30.9**	**+0.5**
LBMI				S	**Sn**	**05 27 14.7**	**-1.7**
APSI	**Ampana**	**4.00**	**228**	P	**Pn**	**05 26 33.1**	**-0.5**
SANI	**Sanana**	**4.04**	**160**	P	**Pn**	**05 26 33.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.78**	**177**	P	**P**	**05 29 47.4**	**+0.5**
	0.9nm,0.5s,baz=2.3,slow=11,SNR=8.8						
WRA	**Warramunga Arr**	**23.59**	**157**	P	**P**	**05 30 25.3**	**+0.6**
	3.4nm,0.5s,baz=328,slow=11,SNR=17						
	3.4nm,0.5s						
ASAR	**Alice Springs**	**26.85**	**161**	P	**P**	**05 30 54.6**	**+0.6**
	0.4nm,0.3s,baz=342,slow=8.4,SNR=5.5						
	0.4nm,0.3s						
KLR	**Kul'dur**	**47.67**	**6**	P	**P**	**05 33 48.3**	**+0.4**
	1.3nm,0.5s,baz=215,slow=4.7,SNR=5.7						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**57.99**	**327**	P	**P**	**05 35 03.4**	**-0.2**
	0.9nm,0.4s,baz=121,slow=8.2,SNR=14						
	0.9nm,0.4s						
PETK	**Petropavlovsk-**	**58.02**	**23**	P	**P**	**05 35 05.1**	**+1.5**
	1.0nm,0.6s,baz=190,slow=5.1,SNR=2.4						
	1.0nm,0.6s						
ARCES	**ARCESS Array B**	**91.54**	**340**	P	**P**	**05 38 14.2**	**-1.2**
	0.4nm,0.5s,baz=91,slow=6.1,SNR=5.9						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**121.49**	**287**	PKP	**PKPdf**	**05 44 02.2**	**-0.3**
	0.3nm,0.5s,baz=62,slow=1.0,SNR=3.1						

MAN 23 05:27:43.5, 7°.33N×123°.52E, h4km, mb4.4, ML3.2, MS3.0, 5C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.53**	**346**	*i* P	Pg	05 27 53.6	-0.1
PAGZ				*e* S	Sg	05 28 00.4	-0.2
CTBH	**Cotabato--PC H**	**0.73**	**99**	*i* P	Pb	05 27 58.4	-0.4
CTBH				*i* S	Sb	05 28 09.0	-0.3
DCPH	**Dipolog City**	**1.25**	**353**	*e* P	Pg	05 28 07.2	-0.4
DCPH				*e* S	Sg	05 28 20.9	-3.0
SKMP	**Bagumbayan, Su**	**1.30**	**128**	*e* P	Pn	05 28 08.0	-0.5
SKMP				*e* S	Sg	05 28 24.3	-1.1
KCP	**Kidapawan**	**1.59**	**102**	*i* P	Pn	05 28 12.9	+0.3
KCP				*i* S	Sg	05 28 53.1	+18
CGP	**Cagayan de Oro**	**1.61**	**46**	*e* P	Pn	05 28 11.7	-1.1
CGP				*e* S	Sn	05 28 30.5	-3.6
BUKP	**Musuan**	**1.63**	**70**	*e* P	Pn	05 28 13.1	+0.1
BUKP				*e* S	Sb	05 28 34.9	-0.2
LSIP	**Lazi, Siquijor**	**1.79**	**4**	*i* P	Pn	05 28 15.5	+0.3
LSIP				*i* S	Sn	05 28 36.1	-2.3
TBP	**Tagbilaran**	**2.37**	**8**	*e* P	Pn	05 28 20.8	-2.4
TBP				*i* S	Sn	05 28 49.2	-3.5
GHBP	**Garcia Hernand**	**2.42**	**19**	*i* P	Pn	05 28 24.6	+0.7
GHBP				*i* S	Sn	05 28 51.4	-2.6
DDMP	**Don Marcelino,**	**2.50**	**119**	*e* P	Pn	05 28 25.0	0.0
BIPH	**Bislig**	**2.94**	**73**	*e* P	Pn	05 28 24.1	-7.0
BIPH				*i* S	Sg	05 29 16.4	-1.8

BJI ***23*** *05:34:25.5±0.0, 34°.61N×142°.33E, h10km, mb4.6/58, mB5.0/55, Ms5.6/72, Ms7 5.4/69*

MOS ***23*** *05:34:30.2±1.2, 34°.46N×141°.61E, h12km, mb5.1/28, MS5.2/25, Error ellipse: s-maj=8.4km s-min=4.5km az=120.0*

IDC ***23*** *05:34:30.4±0.4, 34°.42N×141°.51E, h0km, mb4.5/32, mbtmp4.5/35, ML3.0/2, MS4.9/66, Error ellipse: s-maj=13.7km s-min=9.7km az=103.0*

NEIC ***23*** *05:34:31, 34°.48N×141°.72E, h12km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10¹⁶Nm; Mrr1.73; Mθθ-6.83; Mϕϕ5.10; Mrθ1.98; Mθϕ1.68; Mϕr-4.25; Fault plane solution: M0 7.92000×10¹⁶ NP1: ϕs237.00000°, δ53.00000°, λ14.00000°. NP2: ϕs139.00000°, δ79.00000°, λ142.00000°. Principal axes: T 7.9951, Plg34.0000°, Azm91.0000°; N -0.1607, Plg51.0000°, Azm305.0000°; P -7.8344, Plg17.0000°, Azm193.0000°;*

NIED ***23*** *05:34:31.4, 34°.39N×141°.59E, h28km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.85; Mθθ-5.95; Mϕϕ5.10; Mrθ1.53; Mθϕ1.56; Mϕr-0.12;*

Fault plane solution: M0 5.90000×10¹⁶ NP1: ϕs324.00000°, δ81.00000°, λ-172.00000°. NP2: ϕs232.00000°, δ83.00000°, λ-9.00000°.

NEIC ***23*** *05:34:31.5±1.7, 34°.52N±0°.06×141°.80E±0°.10, h10km±1km, mb5.1/67, Ms_20 5.1/261, Mww5.2 Error ellipse: s-maj=14.3km s-min=9.0km az=109.0*

JMA ***23*** *05:34:31.4±0.6, 34°.N±2°×14°.2E±°, h28km±1km, MD5.7/31, MW5.2/31, FAR SE OFF BOSO PEN*

GCMT ***23*** *05:34:34.5±0.1, 34°.50N±0°.01×141°.50E±0°.01, h12km, MW5.2/146, Moment Tensor Solution. s67,c93; s146,c270; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.11±.01; Mθθ-0.78±.01; Mϕϕ0.66±.01; Mrθ0.12±.03; Mθϕ0.16±.01; Mϕr0.08±.03; Best double couple: M0 0.75300×10¹⁷ NP1: ϕs51.00000°, δ89.00000°, λ11.00000°. NP2: ϕs321.00000°, δ79.00000°, λ179.00000°. Principal axes: T 0.6970, Plg9.0000°, Azm277.0000°; N 0.1110, Plg79.0000°, Azm58.0000°; P -0.8080, Plg7.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KEA ***23*** *05:34:43.1, 34°.64N×141°.79E, h32km, MS5.1/3*

ISC 23 05:34:32.6±0.6, 34°.49N±0°.03×141°.85E±0°.04, h16km±3km, n796, σ2s61/478, mb5.0/114, MS5.1/234, 13C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.74**	**283**	*i* P	**Pb**	**05 34 42.6**	**-4.2**
BSO3	**Boso 3**	**1.15**	**286**	P	**Pn**	**05 34 49.5**	**-4.3**
BSO4	**Boso 4**	**1.34**	**292**	P	**Pn**	**05 34 52.8**	**-3.8**
CHOJ	**Chosi**	**1.46**	**326**	P	**Pn**	**05 34 56.1**	**-2.2**
CHOJ				*e* S	**Sn**	**05 35 14.8**	**-2.3**
CHOJ	**Chosi**	**1.46**	**326**	A	A	05 34 56.1	
	comp=E,132nm,14.2s,comp=E,99nm,8.1s						
I30JP	**ISUMI INFRASON**	**1.50**	**303**	Pn	**Pn**	**05 34 56.8**	**-2.1**
	baz=144,slow=36						
JKUC	**kamogawauchiur**	**1.51**	**297**	P	**Pn**	**05 34 55.2**	**-3.9**
JKUC	**kamogawauchiur**	**1.51**	**297**	A	A	05 34 55.2	
	comp=E,159nm,6.9s,comp=E,201nm,12.4s						
JSMT	**Sammumatsuo**	**1.63**	**315**	P	**Pn**	**05 34 59.2**	**-1.4**
JSMT	**Sammumatsuo**	**1.63**	**315**	A	A	05 34 59.2	
	comp=E,562nm,5.5s,comp=E,722nm,5.4s						
JCN	**Nagara**	**1.64**	**305**	A	A	05 34 57.7	
	comp=E,678nm,8.5s,comp=E,563nm,8.9s						
JIHU	**Itakohorinouch**	**1.83**	**324**	A	A	05 35 01.4	
	comp=E,190nm,4.7s,comp=E,190nm,4.6s						
JYO	**Yokosk**	**1.94**	**293**	A	A	05 35 01.4	
	comp=E,264nm,7.2s,comp=E,256nm,6.2s						
JMKN	**Mikurajimanish**	**1.97**	**253**	P	**Pn**	**05 35 01.1**	**-4.2**
JMKN	**Mikurajimanish**	**1.97**	**253**	A	A	05 35 01.1	
	comp=E,154nm,10.4s,comp=E,180nm,8.5s						
JIM2	**Oshima 3**	**2.01**	**277**	P	Pn	05 35 00.8	-5.1
JIM2	**Oshima 3**	**2.01**	**277**	A	A	05 35 00.8	
	comp=E,81nm,5.0s,comp=E,83nm,6.1s						
TOK	**Tokyo**	**2.09**	**305**	A	A	05 35 04.2	
	comp=E,467nm,8.6s,comp=E,433nm,6.8s						
JHYU	**Hitachinakayam**	**2.11**	**331**	A	A	05 35 06.0	
	comp=E,49nm,6.5s,comp=E,46nm,5.1s						
JTHY	**Toshimahigashi**	**2.12**	**272**	P	**Pn**	**05 35 03.5**	**-3.9**
JTHY	**Toshimahigashi**	**2.12**	**272**	A	A	05 35 03.5	
	comp=E,116nm,9.5s,comp=E,105nm,5.3s						
JNIO	**Niijimaoohara**	**2.14**	**267**	A	A	05 35 03.2	
	comp=E,112nm,3.4s,comp=E,98nm,4.2s						
JHJ2	**Mitsune**	**2.18**	**231**		**Pn**	**05 35 06.4**	**-1.9**
JHJ2	**Mitsune**	**2.18**	**231**	P	**Pn**	**05 35 07.8**	**-0.5**
JHJ2	**Mitsune**	**2.18**	**231**	A	A	05 35 03.7	
	comp=E,105nm,6.5s,comp=E,105nm,5.3s						
JSKK	**Shikinejimakit**	**2.19**	**267**	A	A	05 35 04.0	
	comp=E,89nm,9.4s,comp=E,66nm,7.2s						
JYT	**Yasato**	**2.20**	**322**		**Pn**	**05 35 06.5**	**-2.0**
JYT	**Yasato**	**2.20**	**322**	A	A	05 35 06.7	
	comp=E,43nm,8.5s,comp=E,29nm,4.9s						
JHJ	**Hachijo jima 2**	**2.20**	**232**	Pn	**Pn**	**05 35 06.0**	**-2.5**
	132nm,0.3s,baz=75,slow=24,SNR=24						
JHJ				Sn	**Sn**	**05 35 31.6**	**-3.9**
	408nm,0.3s,baz=242,slow=21,SNR=10						
JHCJ	**Hachijojimakas**	**2.22**	**231**	A	A	05 35 04.3	
	comp=E,82nm,10.4s,comp=E,80nm,9.5s						
JHO	**Hitachi**	**2.36**	**334**	A	A	05 35 09.7	
	comp=E,54nm,7.4s,comp=E,28nm,15.0s						
JHTM	**Izuhatsuma**	**2.39**	**282**	A	A	05 35 07.3	
	comp=E,67nm,11.2s,comp=E,75nm,6.8s						
JOD2	**Odawara 2**	**2.40**	**289**	A	A	05 35 07.8	
	comp=E,57nm,7.5s,comp=E,79nm,8.0s						
JSGW	**Sagamiharawaka**	**2.44**	**298**	A	A	05 35 08.7	
	comp=E,49nm,6.9s,comp=E,45nm,8.2s						
JIZS	**Izushimoda**	**2.46**	**276**	A	A	05 35 08.2	
	comp=E,35nm,6.4s,comp=E,47nm,9.8s						
JHU	**Hanno**	**2.50**	**304**	A	A	05 35 10.0	
	comp=E,55nm,15.2s,comp=E,53nm,9.1s						
JAOM	**Aogashimamukai**	**2.67**	**221**	A	A	05 35 11.0	
	comp=E,118nm,6.9s,comp=E,95nm,7.5s						
JFNN	**Fujinakano**	**2.70**	**286**	A	A	05 35 11.9	
	comp=E,70nm,6.6s,comp=E,84nm,14.5s						
JAG	**Ashikaga**	**2.75**	**315**	A	A	05 35 14.1	
	comp=E,30nm,5.2s,comp=E,33nm,8.0s						
JFFD	**Fukushimafurud**	**2.80**	**338**	A	A	05 35 16.1	
	comp=E,29nm,6.8s,comp=E,29nm,12.0s						
JRY	**Ryogami san**	**2.85**	**303**	A	A	05 35 15.0	
	comp=E,28nm,7.5s,comp=E,35nm,8.5s						
JYN	**Shimob**	**2.90**	**291**	A	A	05 35 15.0	
	comp=E,36nm,10.8s,comp=E,36nm,11.7s						
JSB	**Shiboa**	**2.93**	**328**	A	A	05 35 17.4	
	comp=E,66nm,3.6s,comp=E,64nm,8.9s						
JFK	**Kawauchi**	**2.98**	**345**	A	A	05 35 19.1	
	comp=E,23nm,5.4s,comp=E,23nm,13.7s						
JSG	**Sagara**	**3.03**	**274**	A	A	05 35 16.3	
	comp=E,58nm,5.7s,comp=E,82nm,7.6s						
SHZ3	**Shizuoka 3**	**3.05**	**282**	A	A	05 35 16.8	
	comp=E,23nm,5.8s,comp=E,45nm,9.4s						
JKT	**Katashina**	**3.11**	**318**	A	A	05 35 19.4	
	comp=E,21nm,8.4s,comp=E,23nm,7.8s						
JKKS	**Kakegawashinom**	**3.20**	**276**	A	A	05 35 18.7	
	comp=E,41nm,10.8s,comp=E,61nm,8.6s						
JMST	**Minamisoumatoc**	**3.32**	**347**	A	A	05 35 24.0	
	comp=E,21nm,10.8s,comp=E,16nm,5.8s						
JGK	**Kuni**	**3.34**	**309**	A	A	05 35 22.1	
	comp=E,27nm,6.4s,comp=E,36nm,9.8s						
JNT	**Takato**	**3.34**	**295**	A	A	05 35 21.5	
	comp=E,32nm,10.0s,comp=E,35nm,4.6s						
JFY	**Yanaizu**	**3.39**	**330**	A	A	05 35 24.1	
	comp=E,32nm,17.3s,comp=E,22nm,5.5s						
JNY	**Yasuok**	**3.39**	**286**	A	A	05 35 21.8	
	comp=E,17nm,5.5s,comp=E,31nm,8.5s						
HMMJ	**Hammatsu 2**	**3.42**	**277**	A	A	05 35 21.9	
	comp=E,25nm,12.5s,comp=E,16nm,10.6s						
TTO5	**TONANKAI O.B.S**	**3.43**	**267**	A	A	05 35 21.7	
	comp=E,140nm,8.5s,comp=E,103nm,6.9s						
JMM	**Marumori**	**3.47**	**346**	Pn	**Pn**	**05 35 24.6**	**-1.4**
JMM	**Marumori**	**3.47**	**346**	A	A	05 35 26.2	
	comp=E,21nm,5.7s,comp=E,18nm,4.7s						
JUON	**Uonuma**	**3.54**	**321**	A	A	05 35 25.6	
	comp=E,25nm,11.7s,comp=E,23nm,7.8s						
JSSY	**Shinshiroyabe**	**3.60**	**278**	A	A	05 35 24.5	
	comp=E,18nm,9.5s,comp=E,22nm,10.2s						
MJAR	**Matsushiro Arr**	**3.61**	**306**	Pn	**Pn**	**05 35 26.2**	**-1.7**
	4.6nm,0.3s,baz=114,slow=10,SNR=114						
MJAR				Sn	**Sn**	**05 36 08.2**	**-2.0**
	4.0nm,0.3s,baz=112,slow=13,SNR=4.0						
MJAR				LR	LR	05 36 27.7	
	comp=Z,6μm,18.5s,baz=102,slow=34						
	27nm,0.3s						
MAJO	**Matsushiro**	**3.61**	**306**	Pn	**Pn**	**05 35 27.0**	**-1.0**
MAJO	**Matsushiro**	**3.61**	**306**	P	**Pn**	**05 35 27.0**	**-1.0**
MAJO	**Matsushiro**	**3.61**	**306**	P	**Pn**	**05 35 26.9**	**-1.0**
JNG	**Nsakai**	**3.61**	**303**	A	A	05 35 25.7	
	comp=E,25nm,6.5s,comp=E,23nm,10.6s						
MJB9	**Matsu-Tunnel**	**3.61**	**306**		**Pn**	**05 35 26.3**	**-1.7**
JYAR	**Yonezawaarcadi**	**3.68**	**338**	A	A	05 35 28.7	
	comp=E,28nm,5.7s,comp=E,24nm,5.2s						
JIKH	**Ishinomakikobu**	**3.82**	**355**	A	A	05 35 31.6	
	comp=E,17nm,6.5s,comp=E,15nm,8.0s						
JGF	**Kuroka**	**3.85**	**288**		**Pn**	**05 35 30.5**	**-0.8**
JGF	**Kuroka**	**3.85**	**288**	A	A	05 35 28.4	
	comp=E,21nm,9.6s,comp=E,21nm,4.4s						
JAO	**Obara**	**3.85**	**283**	A	A	05 35 28.3	
	comp=E,16nm,8.3s,comp=E,28nm,15.0s						
JAA	**Atsumi**	**3.89**	**273**	A	A	05 35 28.4	
	comp=E,12nm,11.8s,comp=E,18nm,13.5s						
JNS	**Sasagawa**	**3.90**	**329**	A	A	05 35 31.3	
	comp=E,31nm,5.3s,comp=E,29nm,7.4s						
JIZZ	**Izumozaki**	**3.96**	**321**	A	A	05 35 31.6	
	comp=E,72nm,3.8s,comp=E,79nm,4.8s						
JJN	**Nakama**	**3.97**	**312**	A	A	05 35 31.3	
	comp=E,30nm,9.1s,comp=E,32nm,8.2s						
JIO	**Ouri**	**3.97**	**354**	A	A	05 35 33.7	
	comp=E,20nm,15.0s,comp=E,11nm,13.8s						
JOU	**Okura**	**3.98**	**346**	A	A	05 35 33.4	
	comp=E,25nm,10.9s,comp=E,23nm,4.7s						
JYS	**Shirataka**	**3.99**	**339**	A	A	05 35 33.1	
	comp=E,24nm,4.3s,comp=E,25nm,5.0s						
INU	**Inuyama**	**4.06**	**284**	Pn	**Pn**	**05 35 32.5**	**-1.7**
INU	**Inuyama**	**4.06**	**284**	P	**Pn**	**05 35 33.8**	**-0.4**
TTO2	**TONANKAI O.B.S**	**4.07**	**261**	A	A	05 35 30.7	
	comp=E,121nm,9.0s,comp=E,161nm,10.1s						
JGN	**Niukaw**	**4.09**	**296**	A	A	05 35 32.1	
	comp=E,17nm,9.7s,comp=E,16nm,7.7s						
JOFO	**Osakifurukawao**	**4.17**	**350**	A	A	05 35 36.2	
	comp=E,72nm,5.3s,comp=E,99nm,4.5s						
JICN	**Ichinomiyachia**	**4.20**	**283**	A	A	05 35 33.0	
	comp=E,25nm,10.9s,comp=E,28nm,12.6s						
JTT	**Ttatey**	**4.25**	**301**	A	A	05 35 34.5	
	comp=E,26nm,4.6s,comp=E,33nm,5.1s						
JIE	**Ise**	**4.25**	**270**	A	A	05 35 33.5	
	comp=E,10.0nm,6.5s,comp=E,12nm,12.0s						
TTO1	**TONANKAI O.B.S**	**4.30**	**260**	A	A	05 35 33.8	
	comp=E,108nm,7.3s,comp=E,140nm,11.1s						
JKMT	**Kesennumamotoy**	**4.32**	**356**	A	A	05 35 38.6	
	comp=E,21nm,7.4s,comp=E,9.0nm,8.3s						
JYTA	**Yamagatataniai**	**4.34**	**286**	A	A	05 35 35.2	
	comp=E,14nm,9.9s,comp=E,20nm,21.8s						
JYA	**Atsumi**	**4.44**	**338**	A	A	05 35 39.3	
	comp=E,24nm,5.7s,comp=E,17nm,6.6s						
JAW	**Awa shima**	**4.48**	**333**	A	A	05 35 39.6	
	comp=E,22nm,6.6s,comp=E,22nm,3.9s						
JMK	**Ichinoseki**	**4.48**	**354**	A	A	05 35 40.8	
	comp=E,17nm,13.6s,comp=E,11nm,15.0s						
TSUJ	**Tsu 2**	**4.49**	**274**	A	A	05 35 36.8	
	comp=E,17nm,12.3s,comp=E,12nm,17.5s						
JEG	**Eigenji**	**4.54**	**280**	A	A	05 35 37.8	
	comp=E,9.0nm,7.6s,comp=E,22nm,11.4s						
JSD	**Sado**	**4.58**	**322**	Pn	**Pn**	**05 35 39.6**	**-1.6**
JSD	**Sado**	**4.58**	**322**	A	A	05 35 40.3	
	comp=E,12nm,10.9s,comp=E,13nm,15.0s						
JYK	**Kaneyama**	**4.58**	**345**	A	A	05 35 41.7	
	comp=N,16nm,8.6s						
OFUJ	**Ofunato**	**4.58**	**358**	A	A	05 35 42.4	
	comp=E,20nm,10.8s,comp=E,10.0nm,6.7s						
JKN2	**Miekihoku**	**4.62**	**268**	A	A	05 35 38.6	
	comp=E,6.0nm,10.1s,comp=E,9.0nm,7.4s						
JSZ	**Suzu**	**4.69**	**310**	A	A	05 35 41.2	
	comp=E,12nm,9.2s,comp=E,12nm,11.3s						
JYYZ	**Yamagatayuza**	**4.77**	**342**	A	A	05 35 44.1	
	comp=E,78nm,9.5s,comp=E,85nm,6.5s						
JJH	**Hakui**	**4.79**	**302**	A	A	05 35 42.2	
	comp=E,16nm,9.1s,comp=E,15nm,6.8s						
JKG	**Kaga**	**4.85**	**293**	A	A	05 35 42.7	
	comp=E,15nm,11.4s,comp=E,23nm,7.5s						
JMMH	**Miemihama**	**4.88**	**264**	A	A	05 35 42.1	
	comp=E,7.0nm,6.7s,comp=E,9.0nm,10.2s						
JFM	**Mihama**	**4.93**	**284**	A	A	05 35 43.3	
	comp=E,14nm,9.5s,comp=E,17nm,11.8s						
JNTK	**Naratenkawa**	**4.94**	**269**	A	A	05 35 43.1	
	comp=E,10.0nm,9.2s,comp=E,10.0nm,9.7s						
JOM	**Ohasama**	**4.99**	**355**	A	A	05 35 48.0	
	comp=E,15nm,5.9s,comp=E,10.0nm,8.3s						
JRG	**Rokugo**	**4.99**	**349**	A	A	05 35 47.7	
	comp=E,21nm,5.3s,comp=E,20nm,5.3s						
JTB	**Tobi-shima**	**5.04**	**339**	A	A	05 35 47.8	
	comp=E,22nm,11.4s,comp=E,13nm,15.1s						
MIYJ	**Miyakonagasawa**	**5.07**	**360**	A	A	05 35 49.4	
	comp=E,13nm,9.8s,comp=E,9.0nm,8.4s						
JHE	**Heguri**	**5.09**	**274**	A	A	05 35 45.3	
	comp=E,14nm,8.0s,comp=E,15nm,13.7s						
JWKM	**Wakayamakushim**	**5.17**	**260**	A	A	05 35 46.1	
	comp=E,9.0nm,13.5s,comp=E,12nm,11.9s						
JWY	**Kouya**	**5.18**	**269**	A	A	05 35 46.5	
	comp=E,12nm,8.2s,comp=E,12nm,12.9s						
JYW	**Yuwa**	**5.21**	**346**	A	A	05 35 50.5	
	comp=E,33nm,7.4s,comp=E,31nm,11.3s						
JHG	**Hegura jima**	**5.21**	**311**	A	A	05 35 48.6	
	comp=E,12nm,4.8s,comp=E,14nm,7.8s						
JTNC	**Tanabenakahech**	**5.22**	**264**	A	A	05 35 46.8	
	comp=E,6.0

ERM	Erimo	7.58	7	Pn	Pn	05 36 19.4	-3.0	MDJ				S	S	05 41 05.4	+22
ERM	Erimo	7.58	7	P	Pn	05 36 19.4	-3.0	MDJ				LR	LR		
ERM	Erimo	7.58	7	P	Pn	05 36 19.6	-2.8		comp=N,17µm,13.5s						
JEM	Erimo	7.58	7	A	A	05 36 24.8		MDJ				LR	LR		
	comp=E,7.0nm,8.5s,comp=E,5.0nm,9.6s								comp=E,18µm,13.5s						
JYM2	Yakumo 2	7.70	352	A	A	05 36 25.6		MDJ				LR	LR		
	comp=E,15nm,11.4s,comp=E,6.0nm,8.0s								comp=E,11µm,13.8s						
JGT2	ShimaneMisato	7.71	277	A	A	05 36 22.0		JOW	Kunigami	13.95	240	LR	LR	05 42 37.1	
	comp=E,8.0nm,9.7s,comp=E,13nm,11.5s								comp=Z,2µm,21.5s,baz=93,slow=36						
JTO	Tosashimizu	7.72	260	A	A	05 36 21.7		UGL	Uglegorsk	14.57	1	*e*P	P	05 38 02.4	-2.1
	comp=E,4.0nm,14.2s,comp=E,3.0nm,12.8s							UGL				*e*S	S	05 40 50.8	-7.7
JHM	Kurahashi	7.72	270	A	A	05 36 22.0		UGL				pmax	pmax		
	comp=E,6.0nm,9.8s,comp=E,11nm,8.9s								comp=Z,400nm,3.0s						
JHT	Toyohira	7.78	274	A	A	05 36 22.9		UGL				pmax	pmax		
	comp=E,11nm,10.0s,comp=E,9.0nm,12.7s								comp=Z,120nm,1.1s						
UWA2	Uwa jima 2	7.78	263	A	A	05 36 22.6		UGL				MLR	MLR		
	comp=E,5.0nm,13.3s,comp=E,6.0nm,10.4s								comp=N,19µm,16.0s						
JOSM	Okushiri--Mats	7.80	347	A	A	05 36 26.8		UGL				MLR	MLR		
	comp=E,14nm,15.8s,comp=E,8.0nm,14.7s								comp=E,22µm,16.0s						
JNBK	Urakawa-nobuka	7.81	5	A	A	05 36 27.8		UGL				MLR	MLR		
	comp=E,8.0nm,6.8s,comp=E,9.0nm,5.5s								comp=Z,9µm,17.0s						
JNA	Nagahama	7.84	266	A	A	05 36 23.5		SUJ	Sinuiju	14.90	297	P	P	05 38 09.9	+1.7
	comp=E,7.0nm,7.5s,comp=E,7.0nm,11.2s							SUJ				sP	P	05 38 22.7	+14
JHH2	Haha-jima-NKT2	7.84	178	A	A	05 36 25.3		SUJ				S	Sn	05 40 54.7	+7.4
	comp=E,11nm,7.6s,comp=E,9.0nm,10.9s							SUJ				AMS	AMS		
JTHR	Tokachihiroo	7.87	8	A	A	05 36 28.8			comp=N,11µm,10.3s						
	comp=E,5.0nm,22.9s,comp=E,6.0nm,23.2s							SUJ				AMS	AMS		
JNB	Noboribetsu	7.99	356	A	A	05 36 29.8			comp=E,14µm,13.2s						
	comp=N,5.0nm,11.9s							SUJ				AMS	AMS		
JHST	Hiyamasetana	8.07	350	A	A	05 36 30.6			comp=Z,14µm,13.2s						
	comp=E,13nm,15.3s,comp=E,8.0nm,14.8s							BNX	BinXian	15.73	320	⇑P	Pn	05 38 09.3	-4.2
JIAM	Iburiatsuma	8.12	0	A	A	05 36 31.8		BNX				pP	P	05 38 12.8	-4.6
	comp=E,18nm,8.1s,comp=E,19nm,8.0s							BNX				sP	pP	05 38 14.8	-5.0
JHIK	Hikimi	8.19	273	A	A	05 36 28.6		BNX				S	Sn	05 41 02.8	-4.6
	comp=E,7.0nm,10.8s,comp=E,12nm,10.3s							BNX				pmax	pmax		
JCH	Churui	8.20	8	A	A	05 36 33.3			comp=Z,6.0nm,0.8s						
	comp=E,7.0nm,16.4s,comp=E,5.0nm,13.8s							BNX				pmax	pmax		
JSH	Shimam	8.26	351	A	A	05 36 33.3			comp=Z,280nm,7.3s						
	comp=E,11nm,8.4s,comp=E,6.0nm,15.5s							BNX				LR	LR		
JKD	Kudamatsu	8.27	270	A	A	05 36 29.6			comp=Z,11µm,13.1s						
	comp=E,5.0nm,23.1s,comp=E,6.0nm,13.0s							BNX				LR	LR		
JBT2	Biratori 2	8.28	3	A	A	05 36 34.3			comp=Z,16µm,13.6s						
	comp=E,7.0nm,13.2s,comp=E,7.0nm,13.5s							BNX				LR	LR		
JEW	Eniwo	8.34	358	Pn	Pn	05 36 30.9	-1.9		comp=Z,7µm,14.7s						
JEW	Eniwo	8.34	358	A	A	05 36 34.8		CN2	Changchun	15.74	311	*e*P	Pn	05 38 12.5	-1.1
	comp=E,10.0nm,8.0s,comp=E,9.0nm,9.3s							CN2				*es*P	P	05 38 18.0	+0.5
JSKE	Saikikamae	8.47	261	A	A	05 36 32.1		CN2				S	Sn	05 41 05.8	-1.8
	comp=E,5.0nm,12.6s,comp=E,4.0nm,11.8s							CN2				pmax	pmax		
JUS	Usuki	8.53	263	A	A	05 36 33.0			comp=Z,10.0nm,0.6s						
	comp=E,4.0nm,13.4s,comp=E,8.0nm,8.9s							CN2				pmax	pmax		
JKI	Kunimi	8.58	267	A	A	05 36 33.7			comp=Z,600nm,4.0s						
	comp=E,6.0nm,9.3s,comp=E,7.0nm,10.6s							CN2				LR	LR		
JBEP	Beppuamama	8.76	265	A	A	05 36 36.2			comp=Z,13µm,13.0s						
	comp=E,9.0nm,9.2s,comp=E,11nm,9.0s							CN2				LR	LR		
JAK	Akkeshi	8.78	14	A	A	05 36 41.6			comp=Z,10µm,13.0s						
	comp=E,4.0nm,13.7s,comp=E,4.0nm,5.1s							CN2				LR	LR		
JISS	Ishikarishitsu	8.78	358	A	A	05 36 40.8			comp=Z,12µm,14.0s						
	comp=E,10.0nm,9.1s,comp=E,14nm,6.5s							SNY	Shenyang	16.11	302	⇓P	Pn	05 38 18.9	+0.5
JHGM	Hagimishima	8.83	275	A	A	05 36 37.5		SNY				S	Sn	05 41 21.4	+4.6
	comp=E,9.0nm,10.6s,comp=E,12nm,10.7s							SNY				pmax	pmax		
JTY	Toyota	8.92	272	A	A	05 36 38.6			comp=Z,19nm,0.7s						
	comp=E,9.0nm,9.7s,comp=E,10.0nm,11.0s							SNY				pmax	pmax		
JTSN	Tsuno	8.94	258	A	A	05 36 38.6			comp=Z,750nm,9.1s						
	comp=E,5.0nm,9.7s,comp=E,3.0nm,9.8s							SNY				LR	LR		
JKHN	Kushirohamanak	8.96	16	A	A	05 36 44.1			comp=Z,11µm,12.3s						
	comp=E,6.0nm,18.1s,comp=E,7.0nm,19.2s							SNY				LR	LR		
JAB	Ashibetsu	9.00	2	A	A	05 36 44.2			comp=Z,7µm,11.9s						
	comp=E,7.0nm,8.0s,comp=E,6.0nm,12.6s							SNY				LR	LR		
JNKG	Nichinankitago	9.23	255	A	A	05 36 42.6			comp=Z,8µm,15.8s						
	comp=E,4.0nm,14.6s,comp=E,5.0nm,8.5s							TYV	Tymovskoe	16.37	2	*e*P	Pn	05 38 20.8	-0.9
JNU	Nakatsue	9.23	265	A	A	05 36 42.8		TYV				*e*S	Sn	05 41 23.8	+0.9
	comp=E,5.0nm,12.1s,comp=E,5.0nm,10.4s							TYV				pmax	pmax		
JHR	Hokuryu	9.24	359	A	A	05 36 47.3			comp=Z,28nm,0.9s						
	comp=E,6.0nm,8.4s,comp=E,6.0nm,9.5s							TYV				pmax	pmax		
JTZ	Takazaki	9.38	257	A	A	05 36 44.7			comp=Z,200nm,2.1s						
	comp=E,5.0nm,9.7s,comp=E,6.0nm,9.9s							TYV				smax	smax		
JIU3	Izumi3	9.42	261	A	A	05 36 45.2			comp=N,600nm,5.0s						
	comp=E,3.0nm,8.8s,comp=E,5.0nm,12.5s							TYV				smax	smax		
JTA	Tamana	9.55	264	A	A	05 36 47.1			comp=E,100nm,5.0s						
	comp=E,6.0nm,12.5s,comp=E,6.0nm,10.6s							TYV				MLR	MLR		
JFI	Itaya	9.58	267	A	A	05 36 47.6			comp=Z,9µm,16.0s						
	comp=E,5.0nm,12.9s,comp=E,6.0nm,11.1s							KLR	Kul'dur	16.51	336	Pn	Pn	05 38 19.8	-3.7
JNSB	Nemuroshibetsu	9.59	14	A	A	05 36 52.7			comp=Z,0.4nm,0.3s,baz=137,slow=14,SNR=6.9						
	comp=E,4.0nm,11.0s,comp=E,4.0nm,4.4s							KLR				LR	LR	05 44 35.1	
JSS	Shosan	9.89	0	A	A	05 36 56.3			comp=Z,5µm,20.6s,baz=152,slow=37						
	comp=E,8.0nm,6.6s,comp=E,8.0nm,12.1s							KLR	Kul'dur	16.51	336	*ce*P	Pn	05 38 24.4	+0.9
JYG	Yagishiri	9.93	358	A	A	05 36 56.7		KLR				pmax	pmax		
	comp=E,4.0nm,16.1s,comp=E,5.0nm,6.9s								comp=Z,9.0nm,1.3s						
JHD	Hondo	9.99	262	A	A	05 36 53.1		DL2	Dalian	16.80	291	P	Pn	05 38 25.9	-1.3
	comp=E,4.0nm,7.8s,comp=E,6.0nm,10.9s							DL2				S	S	05 41 39.0	-5.1
JII	Iki	10.07	269	A	A	05 36 54.4		DL2				pmax	pmax		
	comp=E,4.0nm,8.9s,comp=E,7.0nm,14.8s								comp=Z,32nm,0.8s						
NGSJ	Nagasakinomoza	10.23	263	A	A	05 36 56.4		DL2				pmax	pmax		
	comp=E,4.0nm,8.3s,comp=E,6.0nm,12.0s								comp=Z,430nm,7.5s						
JTU	Tsushima	10.28	274	A	A	05 36 57.3		DL2				LR	LR		
	comp=E,6.0nm,12.2s,comp=E,7.0nm,10.3s								comp=Z,19µm,12.9s						
JTSM	Tsushimamitsus	10.30	273	A	A	05 36 57.6		DL2				LR	LR		
	comp=E,7.0nm,10.7s,comp=E,7.0nm,10.9s								comp=Z,7µm,12.2s						
JRR	Rishiri	10.64	358	A	A	05 37 06.3		DL2				LR	LR		
	comp=E,16nm,5.9s,comp=E,16nm,6.7s								comp=Z,16µm,16.4s						
TEY	Ternei	11.27	341	⇑*e*P	Pn	05 37 12.0	-1.0	SSE	Sheshan	17.70	265	P	Pn	05 38 38.4	-0.1
TEY				pmax	pmax			SSE				S	Sn	05 41 54.8	-0.6
	comp=N,10.0nm,1.0s							SSE				pmax	pmax		
TEY				pmax	pmax				comp=Z,21nm,0.7s						
	comp=E,10.0nm,1.0s							SSE				pmax	pmax		
TEY				pmax	pmax				comp=Z,290nm,8.9s						
	comp=Z,10.0nm,1.0s							SSE				LR	LR		
TEY				MLR	MLR				comp=Z,5µm,14.5s						
	comp=N,600nm,12.0s							SSE				LR	LR		
TEY				MLR	MLR				comp=Z,7µm,14.6s						
	comp=E,300nm,12.0s							SKR	Severo-Kuril's	19.23	28	*e*P	P	05 38 56.2	+0.2
TEY				MLR	MLR			SKR				*e*S	S	05 42 36.9	+3.6
	comp=Z,800nm,12.0s							SKR				pmax	pmax		
KSRS	Korea Array	11.67	289	Pn	Pn	05 37 18.2	-0.2		comp=Z,500nm,5.3s						
	comp=Z,0.3nm,0.3s,baz=103,slow=14,SNR=30							SKR				MLR	MLR		
KSRS				LR	LR	05 42 12.2			comp=Z,4µm,12.0s						
	comp=Z,15µm,18.0s,baz=95,slow=40							NJ2	Nanjing	19.38	269	*e*P	P	05 38 57.3	-0.5
KUR	Kuril'sk	11.68	21	P	Pn	05 37 25.9	+7.4	NJ2				pP	pP	05 39 01.3	+1.0
KUR				S	Sn	05 39 24.3	-4.2	NJ2				sP	sP	05 39 03.1	+1.6
KUR				MLR	MLR			NJ2				PP	pwP	05 39 13.0	+4.1
	comp=Z,4µm,11.0s							NJ2				S	S	05 42 37.6	+1.1
KSAR	Wonju Array Be	11.70	289		Pn	05 37 17.4	-1.4	NJ2				sS	sS	05 42 44.1	+4.7
KSAR	Wonju Array Be	11.70	289	P	Pn	05 37 17.4	-1.4	NJ2				pmax	pmax		
KS19	Wonju Array Si	11.72	289		Pn	05 37 18.6	-0.5		comp=Z,14nm,0.7s						
TJN	Taejon	11.97	283	Pn	Pn	05 37 21.9	-0.7	NJ2				pmax	pmax		
TJN	Taejon	11.97	283	*ce*P	Pn	05 37 23.1	+0.5		comp=Z,940nm,9.5s						
USA0B	Ussuriysk Arra	12.33	325		Pn	05 37 25.6	-1.9	NJ2				LR	LR		
USA0B	Ussuriysk Arra	12.33	325	P	Pn	05 37 25.6	-1.9		comp=Z,16µm,14.2s						
USRK	Ussuriysk Ar.	12.33	325	Pn	Pn	05 37 26.1	-1.4	NJ2				LR	LR		
	comp=Z,0.3nm,0.3s,baz=118,slow=13,SNR=11								comp=Z,9µm,15.6s						
USRK				LR	LR	05 41 53.1		NJ2				LR	LR		
	comp=Z,6µm,20.9s,baz=129,slow=36								comp=Z,6µm,17.1s						
	comp=Z,10nm,0.8s							TIA	Tai'an	20.23	282	P	Pn	05 39 12.3	+3.3
USRK	Ussuriysk Ar.	12.33	325	Pn	Pn	05 37 25.5	-1.9	TIA				pmax	pmax		
YSS	Yuzh-Sakhalins	12.47	3		Pn	05 37 26.7	-2.6		comp=Z,5.0nm,0.8s						
YSS	Yuzh-Sakhalins	12.47	3	*e*P	Pn	05 37 26.1	-3.2	TIA				pmax	pmax		
YSS				*e*S	Sn	05 39 43.8	-4.0		comp=Z,160nm,3.7s						
YSS				pmax	pmax			TIA				LR	LR		
	comp=Z,200nm,3.7s								comp=Z,14µm,14.2s						
YSS				pmax	pmax			TIA				LR	LR		
	comp=Z,50nm,0.9s								comp=Z,5µm,16.4s						
YSS				MLR	MLR			TIA				LR	LR		
	comp=N,6µm,17.0s								comp=Z,6µm,18.5s						
YSS				MLR	MLR			YULB	Yu-li	21.07	244	P	P	05 39 15.2	-1.1
	comp=Z,10µm,17.0s							SSLB	Suanglung	21.10	245	P	P	05 39 15.5	-1.1
HHU	Hamhung	12.64	300	P	P	05 37 38.5	-4.5	BJI	Beijing	21.14	293	P	P	05 39 15.6	-1.2
HHU				sP	P	05 37 51.9	+8.8	BJI				S	S	05 43 10.0	-1.4
HHU				S	Sn	05 39 56.8	+4.8	BJI				sS	Sn	05 43 16.0	-2.2
HHU				AMS	AMS			BJI				pmax	pmax		
	comp=N,12µm,12.8s								comp=Z,7.0nm,0.6s						
HHU				AMS	AMS			BJI				pmax	pmax		
	comp=E,15µm,16.7s								comp=Z,110nm,4.4s						
HHU				AMS	AMS			BJI				LR	LR		
	comp=Z,14µm,15.4s								comp=Z,2µm,12.0s						
INCN	Inchon	12.68	288	Pn	Pn	05 37 30.9	-1.5	BJI				LR	LR		
INCN	Inchon	12.68	288	P	Pn	05 37 30.9	-1.5		comp=Z,3µm,10.5s						
HJU	Haeju	13.49	290	P	P	05 37 50.9	-1.6	BJI				LR	LR		
HJU				pP	P	05 37 55.9	+3.4		comp=Z,6µm,13.0s						
HJU				S	Sn	05 40 18.4	+5.5	PEA0B	Petropavlovsk-	21.75	26	*i* P	P	05 39 23.4	+0.1
HJU				AMS	AMS			PETK	Petropavlovsk-	21.75	26	P	P	05 39 26.5	+3.2
	comp=N,16µm,12.1s								comp=Z,5.1nm,1.1s,baz=246,slow=9.0,SNR=4.6						
HJU				AMS	AMS			PETK				LR	LR	05 51 04.1	
	comp=E,15µm,11.2s								comp=Z,2µm,18.1s,baz=207,slow=45						
HJU				AMS	AMS				comp=Z,5.1nm,1.1s						
	comp=E,16µm,11.8s							PETK	Petropavlovsk-	21.75	26	P	P	05 39 21.6	-1.7
PYAG	Pyongyang	13.68	294	P	P	05 37 50.9	-3.7	ZEA	Zeya	21.83	336	*e*P	P	05 39 23.7	-0.4
MDJ	Mudanjiang	13.83	321	P	P	05 37 54.3	-2.0	ZEA				*e*S	S	05 43 18.7	-6.1
								ZEA				pmax	pmax		
									comp=E,20nm,0.6s						
								ZEA				pmax	pmax		
									comp=N,30nm,1.1s						
								ZEA				pmax	pmax		
									comp=Z,60nm,0.8s						
								ZEA				pmax	pmax		
									comp=E,100nm,3.3s						
								ZEA				pmax	pmax		
									comp=N,200nm,2.9s						
								ZEA				pmax	pmax		
									comp=Z,400nm,3.0s						
								ZEA				smax	smax		
									comp=E,800nm,5.8s						
								ZEA				smax	smax		
									comp=N,2µm,9.8s						
								ZEA				MLR	MLR		
									comp=E,3µm,15.0s						
								ZEA				MLR	MLR		
									comp=N,3µm,14.0s						
								ZEA				MLR	MLR		
									comp=Z,4µm,14.0s						
								XLT	XiLinHaoTe	22.00	303	*e*P	P	05 39 25.3	-0.8
								XLT				pP	pP	05 39 29.9	+1.3
								XLT				sP	sP	05 39 32.3	+2.6
								XLT				PP	PnPn	05 39 49.3	+1.4
								XLT				S	S	05 43 27.8	-0.6
								XLT				sS	Sn	05 43 36.9	-2.1
								XLT				pmax	pmax		
									comp=Z,15nm,0.9s						
								XLT				pmax	pmax		
									comp=Z,290nm,5.8s						
								XLT				LR	LR		
									comp=Z,1µm,17.7s						
								XLT				LR	LR		
									comp=Z,5µm,12.6s						
								XLT				LR	LR		
									comp=Z,6µm,12.2s						
								PET	Petropavlovsk	22.05	28	*e*P	P	05 39 25.4	-1.0
								PET				*e*S	S	05 43 22.3	-6.6
								PET				pmax	pmax		
									comp=Z,53nm,1.0s						
								PET				pmax	pmax		
									comp=Z,600nm,11.8s						
								HNS	HongShan	22.14	285	⇓P	P	05 39 31.8	+4.2
								HNS				PP	PnPn	05 39 57.3	+7.5
								HNS				LR	LR		
									comp=Z,8µm,13.3s						
								HNS				LR	LR		
									comp=Z,8µm,14.7s						
								HNS				LR	LR		
									comp=Z,9µm,13.3s						
								WHN	Wuhan	23.49	268	⇓P	P	05 39 51.6	+10
								WHN				S	Sn	05 44 08.9	-5.9
								WHN				pmax	pmax		
									comp=Z,56nm,0.9s						
								WHN				LR	LR		
									comp=N,40µm,13.1s						
								WHN				LR	LR		
									comp=E,13µm,13.8s						
								WHN				LR	LR		
									comp=Z,19µm,13.2s						
								LYN	LuoYang	24.18	279	*e*P	P	05 39 50.3	+2.0
								LYN				sP	pwP	05 39 56.8	-3.1
								LYN				PP	PnPn	05 40 23.9	+6.2
								LYN				S	S	05 44 12.0	+6.2
								LYN				pmax	pmax		
									comp=Z,10.0nm,0.8s						
								LYN				pmax	pmax		
									comp=Z,310nm,11.3s						
								LYN				LR	LR		
									comp=Z,6µm,14.3s						
								LYN				LR	LR		
									comp=Z,14µm,15.1s						
								LYN				LR	LR		
									comp=Z,19µm,15.5s						
								HHC	Hu-ho-hao-te	24.72	294	*e*P	P	05 39 53.0	-0.3
								HHC				sP	pwP	05 40 03.0	-2.0
								HHC				S	S	05 44 11.4	-3.4
								HHC				sS	sS	05 44 24.8	+5.2
								HHC				pmax	pmax		
									comp=Z,22nm,0.8s						
								HHC				pmax	pmax		
									comp=Z,640nm,4.9s						
								HHC				LR	LR		
									comp=Z,5µm,12.6s						
								HHC				LR	LR		
									comp=Z,11µm,11.2s						
								HHC				LR	LR		
									comp=Z,13µm,11.9s						
								MA2	Magadan	25.77	10	P	P	05 40 04.7	+2.3
									comp=Z,17nm,0.8s,baz=186,slow=9.5,SNR=5.3						
								MA2				LR	LR	05 52 27.5	
									comp=Z,2µm,18.1s,baz=210,slow=42						
									comp=Z,17nm,0.8s						
								MA2	Magadan	25.77	10	P	P	05 40 00.2	-2.3
								MA2				IAmb	IAmb	05 40 22.7	
									comp=Z,35nm,0.8s						
								BTO	Baotou	25.87	293	*e*P	P	05 40 03.8	+0.1
								H11N2	WAKE ISLAND Hy	26.61	117	T	T	06 08 25.1	
									baz=309,slow=75,SNR=116						
								H11N1	WAKE ISLAND Hy	26.61	117	T	T	06 08 24.0	
									baz=309,slow=75,SNR=91						
								H11N3	WAKE ISLAND Hy	26.62	117	T	T	06 08 17.1	
									baz=309,slow=75,SNR=118						
								CIT	Chita	26.80	319	*e*P	P	05 40 20.8	+8.9
								CIT				*e*		05 40 57.0	
								CIT				*e*		05 46 03.2	
								CIT				*e*		05 51 05.8	
								XAN	Xi'an	27.16	278	P	P	05 40 12.3	-3.0
								XAN				pP	pP	05 40 18.3	+0.3
								XAN				sP	sP	05 40 21.5	+2.4
								XAN				S	S	05 44 51.0	-2.3
								XAN				pmax	pmax		
									comp=Z,6.0nm,1.2s						
								XAN				LR	LR		
									comp=Z,7µm,15.7s						
								XAN				LR	LR		
									comp=Z,9µm,15.3s						
								XAN				LR	LR		
									comp=Z,14µm,16.2s						
								H11S1	WAKE ISLAND Hy	27.24	119	T	T	06 09 10.0	
									baz=312,slow=75,SNR=59						
								H11S3	WAKE ISLAND Hy	27.24	119	T	T	06 09 15.7	
									baz=312,slow=75,SNR=39						
								H11S2	WAKE ISLAND Hy	27.26	119	T	T	06 09 11.1	
									baz=312,slow=75,SNR=38						
								ENH	Enshi	27.59	270	IAMs_20	IAMs_20	05 52 10.5	
									comp=Z,4µm,20.0s						
								YAK	Yakutsk	28.62	348	LR	LR	05 52 27.5	
									comp=Z,7µm,18.1s,baz=144,slow=38						
								YAK	Yakutsk	28.62	348	P	P	05 40 26.5	-1.5
								YAK	Yakutsk	28.62	348	*e*P	P	05 40 27.8	-0.2
								YAK				*e*S	S	05 45 17.0	+1.3
								YAK				*e*SS	SnSn	05 46 34.8	-0.9
								YAK				pmax	pmax		
									comp=Z,80nm,1.0s						
								YAK				pmax	pmax		
									comp=N,33nm,1.0s						
								YAK				pmax	pmax		
									comp=E,16nm,1.1s						
								YAK				smax	smax		
									comp=E,442nm,4.5s						
								YAK				smax	smax		
									comp=N,1µm,4.7s						
								YAK				MLR	MLR		
									comp=Z,8µm,16.0s						
								YAK				MLR	MLR		
									comp=N,4µm,15.0s						
								ULN	Ulaanbaatar	29.14	308	P	P	05 40 31.1	-1.9
								ULN	Ulaanbaatar	29.14	308	IAMs_20	IAMs_20	05 52 35.1	
									comp=Z,4µm,18.0s						
								ULN	Ulaanbaatar	29.14	308	*ce*P	P	05 40 33.1	+0.1
								ULN				pmax	pmax		
									comp=Z,6.0nm,0.8s						
								SEY	Seymchan	29.22	10	P	P	05 40 34.9	+1.5
									comp=Z,4.1nm,0.8s,baz=180,slow=9.3,SNR=6.0						
								SEY				LR	LR	05 54 09.0	
									comp=Z,4µm,18.1s,baz=198,slow=40						
									comp=Z,4.1nm,0.8s						
								SHEM	Shemya Is, Ala	29.27	42	LR	LR	05 52 12.5	
									comp=Z,2µm,18.9s,baz=237,slow=36						
								SONM	Songino Array	29.56	308	P	P	05 40 35.7	-1.0
									comp=Z,4.6nm,0.7s,

comp=Z,5µm,18.5s,baz=106,slow=38
comp=Z,4.6nm,0.7s
SONM Songino Array 29.56 308 P **P** **05 40 34.7 -2.0**
SONM IAmb IAmb 05 40 57.5
comp=Z,30nm,1.2s
BOD Bodaibo 29.88 330 *e*P **P** **05 40 38.7 -0.6**
BOD pmax pmax
comp=Z,51nm,1.4s
LZH Lanzhou 30.94 284 *e*P **P** **05 40 49.3 +0.2**
LZH sP sP 05 40 56.0 +3.2
LZH PP **PP** **05 41 53.8 -5.1**
LZH S **S** **05 45 51.3 -1.7**
LZH sS sS 05 46 00.8 +2.9
LZH SS **SnSn** **05 47 40.6 +7.7**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.6s
LZH LR LR
comp=Z,12µm,15.8s
LZH LR LR
comp=Z,4µm,14.9s
LZH LR LR
comp=Z,8µm,16.8s
DAV Davao City (W) 31.15 213 LR LR 05 54 54.7
comp=Z,2µm,18.1s,baz=52,slow=40
DAV Davao City (W) 31.15 213 IAMs_20 IAMs_20 05 50 55.6
comp=Z,4µm,21.0s
GYA Guiyang 31.25 265 ⇑P **P** **05 40 52.8 +1.0**
GYA S **S** **05 46 02.0 +4.1**
GYA pmax pmax
comp=Z,15nm,0.8s
GYA LR LR
comp=Z,5µm,14.0s
GYA LR LR
comp=Z,7µm,14.7s
GYA LR LR
comp=Z,9µm,14.6s
PATS Pohnpei 31.44 147 IAMs_20 IAMs_20 05 51 53.6
comp=Z,4µm,20.0s
IRK Irkutsk 32.11 315 *e*P P 05 41 07.7 +8.7
IRK pmax pmax
comp=Z,55nm,2.9s
CD2 Chengdu 32.13 274 P **P** **05 40 58.6 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,120nm,4.9s
CD2 LR LR
comp=Z,13µm,14.2s
CD2 LR LR
comp=Z,11µm,15.2s
CD2 LR LR
comp=Z,16µm,14.5s
ZAK Zakamensk 32.17 311 *e*P **P** **05 40 58.5 -1.2**
ZAK pmax pmax
comp=Z,12nm,1.1s
QIZ Qiongzhong 32.30 250 P **P** **05 41 00.4 -0.6**
QIZ S **S** **05 46 16.1 +2.0**
QIZ LR LR
comp=Z,4µm,11.2s
QIZ LR LR
comp=Z,3µm,14.3s
QIZ LR LR
comp=Z,2µm,16.7s
GTA Gaotai 33.73 291 ⇑P **P** **05 41 15.9 +2.5**
GTA pP sP 05 41 21.6 +4.4
GTA sP pwP 05 41 24.3 -0.8
GTA S **S** **05 46 38.3 +2.0**
GTA sS sS 05 46 48.1 +6.9
GTA SS **SnSn** **05 48 43.8 +3.2**
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,210nm,4.5s
GTA LR LR
comp=Z,5µm,16.0s
GTA LR LR
comp=Z,6µm,16.4s
GTA LR LR
comp=Z,7µm,16.4s
KMI Kunming 35.02 265 ⇓P P 05 41 19.0 -5.9
KMI pP pP 05 41 26.4 -1.0
KMI S **S** **05 46 50.3 -6.4**
KMI pmax pmax
comp=Z,12nm,0.5s
KMI LR LR
comp=N,5µm,14.5s
KMI LR LR
comp=E,6µm,15.2s
KMI LR LR
comp=Z,7µm,14.5s
PZH PanZhiHua 35.29 268 P **P** **05 41 28.4 +1.3**
PZH PP **PP** **05 42 50.8 +3.7**
PZH S **S** **05 47 01.6 +1.0**
PZH SS **SnSn** **05 49 23.8 +5.1**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,130nm,5.8s
PZH LR LR
comp=Z,7µm,16.3s
PZH LR LR
comp=Z,6µm,16.5s
PZH LR LR
comp=Z,4µm,13.7s
MYLDM Lahad Datu 36.31 222 IAMs_20 IAMs_20 05 52 58.3
comp=Z,3µm,21.0s
BILL Bilibino 36.37 15 *e*P **P** **05 41 37.6 +1.9**
BILL pmax pmax
comp=Z,19nm,1.4s
SIJI Sorong 36.55 198 P **P** **05 41 36.0 -1.8**
comp=Z,19nm,0.7s,baz=330,slow=8.1,SNR=2.3
SIJI LR LR 05 54 55.1
comp=Z,943nm,18.7s,baz=28,slow=34
comp=Z,19nm,0.7s
TIXI Tiksi 37.85 353 LR LR 05 58 31.8
comp=Z,4µm,18.2s,baz=180,slow=38
TIXI Tiksi 37.85 353 *i* P **P** **05 41 47.9 -0.3**
TIXI pmax pmax
comp=Z,18nm,1.2s
GOMU GeErMu 38.11 286 *e*P **P** **05 41 49.8 -1.6**
GOMU pP pP 05 41 52.8 -1.3
GOMU sP sP 05 41 53.8 -1.4
GOMU S **S** **05 47 51.8 +7.7**
GOMU sS ScP 05 47 57.5 +4.2
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU pmax pmax
comp=Z,240nm,3.8s
GOMU LR LR
comp=Z,1µm,18.3s
GOMU LR LR
comp=Z,2µm,17.5s
GOMU LR LR
comp=Z,3µm,17.2s
FAKI Fak Fak 38.30 196 IAMs_20 IAMs_20 05 54 20.5
comp=Z,3µm,21.0s
TOLI2 Tolitoli 38.61 215 P **P** **05 41 52.9 -2.3**
CRAI Chiangrai 39.21 260 P **P** **05 41 58.8 -1.5**
KRVT Keravat (AS076 39.77 164 LR LR 06 00 47.8
comp=Z,161nm,18.9s,baz=130,slow=40
PHRA Phrae 40.21 258 P **P** **05 42 07.0 -1.5**
CMAR Chiang Mai Arr 41.27 258 P **P** **05 42 14.5 -2.9**
comp=Z,1.6nm,0.6s,baz=46,slow=8.2,SNR=7.6
CMAR LR LR 05 59 26.7
comp=Z,699nm,18.1s,baz=60,slow=36
comp=Z,1.6nm,0.6s
WMQ Urumqi 42.35 299 *e*P **P** **05 42 27.8 +1.8**
WMQ sP sP 05 42 33.3 +3.4
WMQ S **S** **05 48 48.4 +1.8**
WMQ ScS **ScS** **05 52 26.5 -1.0**
WMQ pmax pmax
comp=Z,57nm,1.1s
WMQ pmax pmax
comp=Z,820nm,4.7s
WMQ LR LR
comp=Z,8µm,20.5s
WMQ LR LR
comp=Z,2µm,20.5s
WMQ LR LR
comp=Z,2µm,19.7s
BKB Balikpapan 42.58 219 IAMs_20 IAMs_20 05 58 10.8
comp=Z,2µm,18.0s
LSA Lhasa 42.86 278 IAMs_20 IAMs_20 06 02 00.4
comp=Z,3µm,18.0s
SAUI Saumlaki 43.41 195 IAMs_20 IAMs_20 05 56 54.1
comp=Z,2µm,21.0s
TARA Tarawa 43.90 132 IAMs_20 IAMs_20 05 58 06.0
comp=Z,2µm,21.0s
ZAA0 Zalesovo Array 43.92 314 P **P** **05 42 36.9 -1.6**
ZALV Zalesovo Beam 43.92 314 P **P** **05 42 37.6 -0.8**
comp=Z,4.3nm,0.5s,baz=91,slow=6.7,SNR=18
ZALV LR LR 06 03 00.8
comp=Z,1µm,18.0s,baz=89,slow=39
comp=Z,4.3nm,0.5s
ZALV Zalesovo Beam 43.92 314 P **P** **05 42 37.3 -1.2**
PMG Port Moresby 43.95 172 LR LR 06 01 05.1
comp=Z,384nm,18.2s,baz=12,slow=36
KAPI Kappang 44.48 212 LR LR 06 00 51.3
comp=Z,352nm,19.5s,baz=13,slow=36
KAPI Kappang 44.48 212 **P** **05 42 42.9 -0.5**
KAPI IAmb IAmb 05 43 16.9
comp=Z,30nm,1.2s
KAPI Kappang 44.48 212 *i* P **P** **05 42 43.5 +0.1**
KAPI pmax pmax
comp=Z,11nm,1.1s
BRDH Bariadhala 45.23 269 LR LR 06 01 58.1
comp=Z,3µm,18.3s,baz=76,slow=37
N16K Nishlik Lake 45.73 37 P **P** **05 42 56.7 +3.9**
baz=263
NRIK Noril'sk 45.73 336 P **P** **05 42 53.2 +0.6**
comp=Z,11nm,1.0s,baz=86,slow=12,SNR=4.6
NRIK LR LR 06 03 43.7
comp=Z,3µm,18.9s,baz=109,slow=38
comp=Z,11nm,1.0s
NRIK Noril'sk 45.73 336 P **P** **05 42 52.2 -0.4**
NRIK IAmb IAmb 05 43 09.2
comp=Z,21nm,1.1s
MK31 Makanchi Array 45.81 304 P **P** **05 42 51.9 -1.7**
MK31 IAmb IAmb 05 43 08.4
comp=Z,21nm,0.9s
MK31 Makanchi Array 45.81 304 P **P** **05 42 52.4 -1.2**
MKAR Makanchi Array 45.81 304 P **P** **05 42 52.5 -1.1**
comp=Z,6.4nm,0.6s,baz=86,slow=10,SNR=29
MKAR LR LR 06 03 16.7
comp=Z,3µm,18.2s,baz=98,slow=38
comp=Z,6.4nm,0.6s
MKAR Makanchi Array 45.81 304 P **P** **05 42 52.8 -0.9**
MKAR Makanchi Array 45.81 304 P **P** **05 42 52.8 -0.9**
MAKZ Makanchi 46.02 304 P **P** **05 42 53.4 -1.9**
MAKZ IAmb IAmb 05 43 10.2
comp=Z,23nm,0.9s
MAKZ Makanchi 46.02 304 P **P** **05 42 53.4 -1.9**
MAKZ pmax pmax
comp=Z,23nm,0.9s
MAKZ MLR MLR
comp=Z,3µm,19.0s
O17K Koliganek Bris 46.49 38 P **P** **05 43 02.6 +3.8**
baz=265
HNR Honiara 46.93 155 LR LR 06 00 50.8
comp=Z,28µm,21.3s,baz=332,slow=34
HNR Honiara 46.93 155 IAMs_20 IAMs_20 06 00 40.4
comp=Z,3µm,19.0s
SOEI Soe 47.06 204 P **P** **05 43 02.3 -1.5**
TTA Tatalina 47.32 33 P **P** **05 43 08.9 +3.5**
baz=263
BATI Baumata 47.69 205 P **P** **05 43 09.0 +0.4**
comp=Z,53nm,0.8s,baz=214,slow=5.2,SNR=4.0
BATI LR LR 06 00 35.4
comp=Z,378nm,20.3s,baz=20,slow=33
comp=Z,53nm,0.8s
L19K White Mountain 47.78 34 P **P** **05 43 06.9 -2.0**
L19K IAmb IAmb 05 43 26.7
comp=Z,25nm,1.2s
KURK Kurchatov 47.81 310 P **P** **05 43 07.5 -1.6**
KURK Kurchatov 47.81 310 P **P** **05 43 07.6 -1.6**
KURK pmax pmax
comp=Z,39nm,0.9s
KURK MLR MLR
comp=Z,3µm,18.0s
KURBB Kurchatov Arra 47.87 310 LR LR 06 04 24.6
comp=Z,3µm,18.9s,baz=63,slow=38
KURBB Kurchatov Arra 47.87 310 P **P** **05 43 07.1 -2.6**
MTN Manton Dam 48.16 194 P **P** **05 43 10.8 -1.5**
K20K Telida 48.24 33 IAMs_20 IAMs_20 06 06 46.6
comp=Z,1µm,18.0s
K20K Telida 48.24 33 P **P** **05 43 16.0 +3.6**
baz=265,SNR=5.5
L20K Farewell, AK 48.26 34 P **P** **05 43 16.3 +3.8**
baz=266
J20K Nowinta River 48.29 32 P **P** **05 43 16.5 +3.7**
baz=264
PDGK Podgornoye 48.31 300 P **P** **05 43 10.5 -2.9**
SHLS Shalkode 48.37 300 *e*P **P** **05 43 10.2 -3.6**
A21K Barrow 48.66 22 P **P** **05 43 18.9 +3.5**
baz=255
IMAR Indian Mountai 48.67 29 P **P** **05 43 13.5 -2.2**
UZB Uzynbulak 48.69 300 *e*P **P** **05 43 17.1 +0.8**
KDAK Kodiak Island 48.77 40 P **P** **05 43 19.6 +3.1**
comp=Z,10nm,1.0s,baz=292,slow=5.0,SNR=4.1
comp=Z,10nm,1.0s
G21K Allakaket 48.84 29 P **P** **05 43 20.6 +3.7**
baz=263,SNR=6.7
F21K Alatna River 48.94 28 P **P** **05 43 20.9 +3.2**
baz=262
N20K Mount Spurr 48.98 36 P **P** **05 43 21.4 +3.2**
baz=268
SPCR Spurr Chakacha 48.98 36 P **P** **05 43 21.4 +3.2**
baz=268
H21K Melozitna Rive 49.02 30 IAMs_20 IAMs_20 06 06 09.9
comp=Z,1µm,20.0s
H21K Melozitna Rive 49.02 30 P **P** **05 43 21.7 +3.4**
baz=264,SNR=11
PPLA Purkeypile 49.06 34 P **P** **05 43 20.7 +1.9**
baz=267
CAST Castle Rocks 49.14 33 IAMs_20 IAMs_20 06 07 16.3
comp=Z,1µm,18.0s
CAST Castle Rocks 49.14 33 P **P** **05 43 22.4 +3.1**
baz=267
I21K Tanana 49.31 31 P **P** **05 43 20.2 -0.3**
I21K IAmb IAmb 05 43 50.0
comp=Z,14nm,1.0s
ARXS Arharly 49.32 302 *i* P **P** **05 43 20.5 -0.5**
SKT Skwentna 49.33 35 P **P** **05 43 23.8 +3.0**
baz=268
F22K John River 49.48 28 P **P** **05 43 24.9 +3.0**
baz=263
CAPN Captain Cook N 49.49 36 P **P** **05 43 25.3 +3.4**
baz=270
H22K Ishtalitna Cre 49.62 30 P **P** **05 43 25.9 +3.0**
baz=265,SNR=7.6
BPAW Bear Paw Mtn. 49.67 32 IAMs_20 IAMs_20 06 08 13.1
comp=Z,1µm,18.0s
BPAW Bear Paw Mtn. 49.67 32 P **P** **05 43 26.4 +3.1**
baz=267
KTH Kantishna Hill 49.67 33 IAMs_20 IAMs_20 06 07 31.2
comp=Z,1µm,18.0s
G22K Bettles 49.67 28 P **P** **05 43 26.1 +2.8**
baz=264
E22K Anaktuvuk Pass 49.69 27 P **P** **05 43 26.4 +2.9**
baz=263
MLY Manley 49.83 31 P **P** **05 43 27.7 +3.1**
baz=266
TRF Thorofare Moun 49.95 33 IAMs_20 IAMs_20 06 07 40.6
comp=Z,1µm,19.0s
COLD Coldfoot 50.21 28 P **P** **05 43 30.8 +3.5**
baz=265
D23K Nanushuk River 50.21 26 P **P** **05 43 30.5 +3.2**
baz=263
G23K Bananza Creek 50.24 29 P **P** **05 43 30.8 +3.2**
baz=266,SNR=10
C23K Itkillik River 50.34 25 P **P** **05 43 31.5 +3.2**
baz=263,SNR=8.7
H23K Yukon River 50.37 30 IAMs_20 IAMs_20 06 06 49.7
comp=Z,1µm,19.0s
H23K Yukon River 50.37 30 P **P** **05 43 32.2 +3.5**
baz=267,SNR=9.4
PMR Palmer 50.47 35 P **P** **05 43 30.8 +1.5**
baz=271
E23K Chandalar 50.51 27 P **P** **05 43 33.0 +3.3**
baz=265,SNR=16
NEA2 Nenana 50.52 31 IAMs_20 IAMs_20 06 07 43.7
comp=Z,1µm,18.0s
NEA2 Nenana 50.52 31 P **P** **05 43 33.3 +3.5**
baz=268,SNR=9.3
MCK McKinley 50.56 33 IAMs_20 IAMs_20 06 08 25.8
comp=Z,1µm,20.0s
MCK McKinley 50.56 33 P **P** **05 43 33.1 +3.0**
baz=269
TOLK Toolik Lake Re 50.58 26 P **P** **05 43 31.1 +0.9**
TOLK IAmb IAmb 05 43 37.5
comp=Z,21nm,1.1s
TOLK IAMs_20 IAMs_20 06 08 17.9
comp=Z,2µm,18.0s
TOLK Toolik Lake Re 50.58 26 P **P** **05 43 33.8 +3.6**
baz=265,SNR=9.0
RND Reindeer 50.59 33 IAMs_20 IAMs_20 06 08 30.6
comp=Z,1µm,19.0s
KNK Knik Glacier 50.79 36 IAMs_20 IAMs_20 06 04 55.1
comp=Z,1µm,19.0s
KNK Knik Glacier 50.79 36 P **P** **05 43 35.2 +3.3**
baz=272
SML Sawmill 50.84 35 P **P** **05 43 35.6 +3.2**
baz=271
MDM Murphy Dome 50.89 31 P **P** **05 43 32.6 0.0**
MDM IAmb IAmb 05 43 48.4
comp=Z,32nm,1.0s
MDM IAMs_20 IAMs_20 06 08 03.4
comp=Z,1µm,18.0s
D24K Happy Valley 50.89 26 P **P** **05 43 36.1 +3.5**
baz=265
RPSI Rantau Prapat 50.92 241 IAMs_20 IAMs_20 06 09 13.7
comp=Z,2µm,18.0s
E24K Your Creek 50.93 27 P **P** **05 43 37.1 +4.2**
baz=266,SNR=15
C24K Franklin Bluff 50.99 25 P **P** **05 43 35.7 +2.5**
baz=264
TCOL CIGO, UAF Yank 51.05 31 IAMs_20 IAMs_20 06 08 24.5
comp=Z,1µm,19.0s
COLA College 51.05 31 IAMs_20 IAMs_20 06 08 25.5
comp=Z,1µm,19.0s
H24K Noodor Dome 51.06 30 IAMs_20 IAMs_20 06 06 41.8
comp=Z,1µm,18.0s
H24K Noodor Dome 51.06 30 P **P** **05 43 36.6 +2.8**
baz=268
CCB Clear Creek Bu 51.07 31 P **P** **05 43 32.4 -1.4**
CCB IAMs_20 IAMs_20 06 08 00.1
comp=Z,2µm,18.0s
WAT6 Susitna Watana 51.10 34 P **P** **05 43 36.1 +1.7**
baz=271
F24K Squaw Lake 51.12 28 P **P** **05 43 37.2 +2.8**
baz=267,SNR=7.5
TKM2 Tokmak 2 51.19 300 P **P** **05 43 34.6 -0.8**
POKR Poker Plat Res 51.23 31 P **P** **05 43 34.5 -0.6**
POKR IAmb IAmb 05 43 56.5
comp=Z,56nm,1.5s
POKR Poker Plat Res 51.23 31 P **P** **05 43 38.8 +3.7**
baz=269
G24K Hadweenzic Riv 51.25 29 P **P** **05 43 39.0 +3.8**
baz=268,SNR=8.6
DHY Denali Highway 51.26 33 IAMs_20 IAMs_20 06 08 14.4
comp=Z,2µm,18.0s
NRN Naryn 51.27 298 P **P** **05 43 34.6 -1.5**
NRN Naryn 51.27 298 P **P** **05 43 34.6 -1.5**
NRN pmax pmax
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 51.32 35 P **P** **05 43 39.1 +3.2**
baz=272
KNRA Kununurra 51.42 196 P **P** **05 43 35.8 -1.2**
KNRA IAmb IAmb 05 44 15.7
comp=Z,32nm,0.8s
HDA Harding Lake 51.44 32 IAMs_20 IAMs_20 06 08 01.9
comp=Z,1µm,18.0s
HDA Harding Lake 51.44 32 P **P** **05 43 39.1 +2.5**
baz=270,SNR=8.1
IL31 51.46 31 P **P** **05 43 37.1 +0.3**
IL31 IAmb IAmb 05 43 51.5
comp=Z,19nm,0.9s
ILAR Eielson Array 51.46 31 P **P** **05 43 38.5 +1.6**
comp=Z,7.4nm,0.8s,baz=264,slow=5.8,SNR=54
ILAR LR LR 06 07 40.5
comp=Z,806nm,20.5s,baz=269,slow=38
comp=Z,7.4nm,0.8s
ILAR Eielson Array 51.46 31 P **P** **05 43 37.8 +0.9**
BRZS Berezniki 51.68 310 *e*P **P** **05 43 36.7 -2.0**
BTLS Baital 51.77 303 *e*P **P** **05 43 38.0 -1.5**
D25K Kavik River 51.78 25 P **P** **05 43 41.9 +2.7**
baz=267,SNR=17
KSH Kashi 51.80 296 P **P** **05 43 41.8 +1.9**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH LR LR
comp=Z,2µm,21.6s
KSH LR LR
comp=Z,2µm,20.5s
KSH LR LR
comp=Z,1µm,25.4s
H25K Birch Creek 51.91 29 P **P** **05 43 44.3 +4.2**
baz=270
F25K Christian Rive 51.99 28 P **P** **05 43 44.2 +3.5**
baz=269,SNR=19
KLU Klutina 52.01 35 P **P** **05 43 43.5 +2.5**
baz=274
E25K Arctic Village 52.03 27 P **P** **05 43 44.4 +3.4**
baz=269,SNR=14
PRP Porcupine Dome 52.03 30 IAMs_20 IAMs_20 06 07 49.5
comp=Z,1µm,21.0s
AAK Ala-Archa 52.04 300 LR LR 06 07 43.0
comp=Z,2µm,19.9s,baz=76,slow=38
AAK Ala-Archa 52.04 300 P **P** **05 43 41.0 -0.7**
AAK IAMs_20 IAMs_20 06 07 31.3
comp=Z,2µm,20.0s
AAK Ala-Archa 52.04 300 P **P** **05 43 41.0 -0.7**
AAK pmax pmax
comp=Z,14nm,1.0s
AAK MLR MLR
comp=Z,2µm,20.0s
J25K Salcha River, 52.12 31 IAMs_20 IAMs_20 06 08 49.8
comp=Z,2µm,18.0s
J25K Salcha River, 52.12 31 P **P** **05 43 44.3 +2.5**
baz=272
PAX Paxson 52.13 34 P **P** **05 43 44.4 +2.4**
baz=273
LEM Lembang 52.30 225 LR LR 06 05 51.9
comp=Z,619nm,20.9s,baz=22,slow=36
HARP HAARP 52.31 34 P **P** **05 43 46.4 +3.2**
baz=274
C26K Camden Bay 52.31 25 P **P** **05 43 46.1 +3.0**
baz=268
RIDG Independent Ri 52.38 33 IAMs_20 IAMs_20 06 08 06.8
comp=Z,1µm,19.0s
RIDG Independent Ri 52.38 33 P **P** **05 43 46.6 +2.8**
baz=273
F26K Sheenjek River 52.56 28 P **P** **05 43 48.8 +3.8**
baz=270,SNR=27
BVA0 Borovoye Array 52.56 314 *i* P **P** **05 43 44.5 -0.7**
BVAR Borovoye Array 52.56 314 LR LR 06 07 33.8
comp=Z,2µm,18.5s,baz=76,slow=38
BRVK Borovoye 52.62 314 P **P** **05 43 44.6 -1.0**
BRVK IAmb IAmb 05 44 08.1
comp=Z,15nm,0.9s
BRVK Borovoye 52.62 314 IAMs_20 IAMs_20 06 07 11.3
comp=Z,2µm,20.0s
BRVK Borovoye 52.62 314*ce*P **P** **05 43 45.8 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
N25K Chitina, Valde 52.63 35 P **P** **05 43 48.3 +2.6**
baz=275
BMRM Bremner River 52.68 36 P **P** **05 43 49.5 +3.5**
baz=275
G26K Porcupine Rive 52.71 28 P **P** **05 43 50.1 +4.0**
baz=271
C27K Jago River 52.73 25 P **P** **05 43 49.3 +3.1**
baz=269,SNR=11
SCRK Sand Creek 52.75 32 P **P** **05 43 49.8 +3.3**
baz=273,SNR=11
J26L Joseph Creek 52.90 32 P **P** **05 43 48.5 +0.8**
J26L IAMs_20 IAMs_20 06 08 44.6
comp=Z,2µm,20.0s
J26L Joseph Creek 52.90 32 P **P** **05 43 49.8 +2.1**
baz=273
L26K Log Cabin Wild 53.10 33 IAMs_20 IAMs_20 06 10 45.9
comp=Z,1µm,18.0s
L26K Log Cabin Wild 53.10 33 P **P** **05 43 52.0 +2.9**
baz=275
E27K Coleen River 53.51 27 P **P** **05 43 54.9 +2.9**
baz=272,SNR=23
G27K Doyon Strip 53.56 29 P P 05 43 58.2 +5.8
baz=273,SNR=8.9
K27K Chicken 53.58 32 IAMs_20 IAMs_20 06 09 10.6
comp=Z,1µm,18.0s
K27K Chicken 53.58 32 P **P** **05 43 55.9 +3.3**
baz=275
H27K Steamboat Moun 53.64 29 P P 05 43 58.0 +4.9
baz=274,SNR=9.3
I27K Kandik River 53.65 30 P **P** **05 43 56.1 +3.0**
baz=274
L27K Beaver Creek, 53.78 33 P **P** **05 43 56.0 +1.9**
L27K IAmb IAmb 05 44 11.1

comp=Z,17nm,1.1s
L27K Beaver Creek, 53.78 33 P **P** **05 43 57.8 +3.7**
baz=276,SNR=5.8
BCAR Beaver Creek A 53.80 33 P **P** **05 43 56.4 +2.1**
M27K Edge Creek, AK 53.84 34 IAMs_20 IAMs_20 06 09 45.5
comp=Z,1µm,20.0s
EGAK Eagle 53.91 31 P **P** **05 43 56.2 +1.2**
EGAK IAMs_20 IAMs_20 06 07 49.3
comp=Z,1µm,18.0s
EGAK Eagle 53.91 31 P **P** **05 43 58.0 +3.1**
baz=275
WB0 Warramunga Arr 54.42 189 P **P** **05 43 57.7 -1.4**
CTA Charters Tower 54.44 175 P **P** **05 43 57.9 -1.3**
comp=Z,0.6nm,0.3s,baz=308,slow=7.8,SNR=1.5
comp=Z,0.6nm,0.3s
FITZ Fitzroy Crossi 54.53 199 P **P** **05 43 59.8 -0.1**
comp=Z,8.6nm,0.7s,baz=359,slow=9.0,SNR=26
comp=Z,8.6nm,0.7s
FITZ Fitzroy Crossi 54.53 199 P **P** **05 43 59.1 -0.7**
YUK3 Moose Creek 54.57 35 P **P** **05 44 03.9 +3.8**
baz=278
WRAB Tennant Creek 54.59 189 P **P** **05 43 59.2 -1.2**
WRAB IAmb IAmb 05 44 35.6
comp=Z,35nm,1.0s
WRAB Tennant Creek 54.59 189 IAMs_20 IAMs_20 06 05 00.5
comp=Z,2µm,22.0s
WRAB Tennant Creek 54.59 189 *ce*P **P** **05 44 01.3 +0.9**
WRAB pmax pmax
comp=Z,16nm,1.3s
WR0 Warramunga Arr 54.59 188 P **P** **05 43 59.8 -0.6**
WR0 IAmb IAmb 05 44 35.6
comp=Z,25nm,0.9s
WRA Warramunga Arr 54.60 189 P **P** **05 43 59.2 -1.3**
comp=Z,3.1nm,0.4s,baz=3.4,slow=7.5,SNR=58
comp=Z,3.1nm,0.4s
WRA Warramunga Arr 54.60 189 P **P** **05 43 59.2 -1.3**
WRA Warramunga Arr 54.60 189 *i* P **P** **05 43 59.5 -1.0**
WRA pmax pmax
comp=Z,3.0nm,0.4s
KK31 Karatay Array 54.73 302 *i* P **P** **05 44 00.0 -1.3**
KKAR Karatay Array 54.73 302 P **P** **05 44 00.8 -0.5**
KKAR Karatay Array 54.73 302 P **P** **05 44 00.8 -0.5**
DAWY Dawson 54.75 32 P **P** **05 44 01.9 +0.7**
DAWY Dawson 54.75 32 P **P** **05 44 05.2 +4.1**
baz=277
I29M Ogilvie Camp, 55.05 30 IAMs_20 IAMs_20 06 10 34.3
comp=Z,1µm,19.0s
I29M Ogilvie Camp, 55.05 30 P **P** **05 44 06.6 +3.3**
baz=277,SNR=8.4
IUG luzhnay 55.35 301 *e*P **P** **05 44 05.0 -0.9**
M29M Somme Creek 55.40 34 P **P** **05 44 08.8 +2.9**
baz=279
BTK Batken 55.43 298 P **P** **05 44 05.3 -1.2**
BTK IAmb IAmb 05 44 06.6
comp=Z,12nm,0.5s
BTK Batken 55.43 298 P **P** **05 44 05.3 -1.2**
BTK pmax pmax
comp=Z,12nm,0.5s
L29M L29M 55.45 33 P **P** **05 44 09.4 +3.2**
baz=279,SNR=11
EPYK Eagle Plains 55.56 29 P **P** **05 44 08.6 +1.6**
EPYK IAmb IAmb 05 44 23.3
comp=Z,36nm,1.0s
EPYK Eagle Plains 55.56 29 P **P** **05 44 09.7 +2.8**
baz=278,SNR=13
K29M Barlow Dome 55.60 32 P **P** **05 44 10.2 +2.9**
baz=279
NIL Nilore 55.78 290 IAMs_20 IAMs_20 06 08 54.5
comp=Z,2µm,20.0s
HYT Haines Junctio 56.14 36 P **P** **05 44 14.7 +3.4**
baz=281
GAR Garm 56.14 297 P **P** **05 44 10.6 -1.1**
GAR IAmb IAmb 05 44 25.6
comp=Z,36nm,1.1s
P29M Windy Craggy 56.26 37 IAMs_20 IAMs_20 06 12 11.7
comp=Z,1µm,18.0s
INK Inuvik 56.49 26 P **P** **05 44 14.9 +1.5**
comp=Z,9.9nm,0.9s,baz=295,slow=6.5,SNR=14
INK LR LR 06 12 14.4
comp=Z,1µm,18.9s,baz=274,slow=40
comp=Z,9.9nm,0.9s
INK Inuvik 56.49 26 P **P** **05 44 15.8 +2.3**
baz=280
P30M Million Dollar 56.54 36 P **P** **05 44 17.2 +3.1**
baz=282
F31M Tsiigehtchic 56.55 27 P **P** **05 44 17.1 +3.2**
baz=280
N31M Braeburn, Yuko 56.82 35 P **P** **05 44 19.3 +3.3**
baz=282
CHGR Chuyangaron 57.11 297 P **P** **05 44 16.9 -1.6**
CHGR Chuyangaron 57.11 297 P **P** **05 44 16.9 -1.6**
CHGR pmax pmax
comp=Z,51nm,0.8s
M31M Drury Creek, Y 57.31 34 P **P** **05 44 19.9 +0.5**
M31M IAmb IAmb 05 44 35.0
comp=Z,17nm,1.0s
M31M Drury Creek, Y 57.31 34 P **P** **05 44 23.2 +3.8**
baz=283
FARO Faro, Yukon 57.78 33 P **P** **05 44 26.0 +3.2**
baz=284
P32M Atlin 58.26 37 P **P** **05 44 29.9 +3.7**
baz=285
AS31 Alice Springs 58.33 189 P **P** **05 44 26.3 -0.7**
ASAR Alice Springs 58.33 189 P **P** **05 44 26.1 -0.9**
comp=Z,2.5nm,0.8s,baz=14,slow=6.6,SNR=18
ASAR LR LR 06 08 12.0
comp=Z,1µm,21.9s,baz=62,slow=35
comp=Z,2.5nm,0.8s
ASAR Alice Springs 58.33 189 P **P** **05 44 26.5 -0.5**
ASAR Alice Springs 58.33 189 P **P** **05 44 26.5 -0.5**
ARU Arti 58.51 320 P **P** **05 44 26.4 -1.5**
ARU Arti 58.51 320 *c* *i*P **P** **05 44 27.6 -0.3**
ARU 05 45 13.9
ARU S **S** **05 52 33.2 +2.5**
ARU 05 54 15.6
ARU pmax pmax
comp=Z,22nm,1.2s
ARU MLR MLR
comp=Z,2µm,14.0s
HYBB Hyderabad (bro 58.53 270 *e*P **P** **05 44 27.2 -1.4**
P33M Teslin, Yukon 58.53 36 P **P** **05 44 31.9 +3.8**
baz=285
MMPY Sheldon Lake, 58.63 33 P **P** **05 44 32.7 +4.0**
baz=285
KBL Kabul 58.69 293 P **P** **05 44 28.1 -1.7**
KBL IAmb IAmb 05 44 43.8
comp=Z,15nm,1.1s
KBL Kabul 58.69 293 P **P** **05 44 28.1 -1.7**
KBL pmax pmax
comp=Z,15nm,1.1s
PSA00 Pilbara Seismi 59.55 204 P **P** **05 44 35.3 -0.1**
PSA00 IAmb IAmb 05 44 59.7
comp=Z,19nm,1.4s
AB31 Akbulak array 59.87 311 *i* P **P** **05 44 35.5 -1.9**
ABKAR Akbulak array 59.87 311 P **P** **05 44 36.5 -0.9**
ABKAR Akbulak array 59.87 311 P **P** **05 44 35.6 -1.8**
ABKAR IAmb IAmb 05 45 45.0
comp=Z,21nm,0.9s
TGTN Hyland Airport 60.29 33 P **P** **05 44 44.2 +4.0**
baz=288
DLBC Dease Lake 60.42 37 P **P** **05 44 44.9 +3.7**
baz=288
AKTO Aktyubinsk 60.65 313 LR LR 06 13 27.3
comp=Z,795nm,18.6s,baz=69,slow=39
AKTO Aktyubinsk 60.65 313 P **P** **05 44 41.3 -1.5**
DZM Mont Dzumac 60.92 154 *e*LR LR 06 02 41.8
comp=Z,5µm,23.2s
PALK Pallekele 62.21 259 LR LR 06 15 13.0
comp=Z,759nm,18.1s,baz=146,slow=40
KIRV Kirov 62.50 324 LR LR 06 13 49.5
comp=Z,2µm,19.0s,baz=64,slow=38
KIRV Kirov 62.50 324 *ce*P **P** **05 44 55.6 +0.6**
SPITS Spitsbergen Ar 63.08 349 LR LR 06 13 36.3
comp=Z,2µm,21.3s,baz=11,slow=37
PRGR Permogore 63.09 328 *e*P **P** **05 44 58.5 -0.5**
PRGR pmax pmax
comp=Z,6.0nm,0.4s
KBS Kingsbay 63.22 350 IAMs_20 IAMs_20 06 13 37.0
comp=Z,1µm,20.0s
NOR Nord 63.60 357 *i* P **P** **05 45 02.4 +0.3**
NOR IAmb IAmb 05 45 33.7
comp=Z,8.0nm,1.1s
BBB Bella Bella 63.65 43 LR LR 06 10 28.9
comp=Z,498nm,20.4s,baz=296,slow=34
RES Resolute Bay 64.97 14 P **P** **05 45 12.1 +1.0**
comp=Z,21nm,1.0s,baz=309,slow=4.6,SNR=4.2

RES LR LR 06 16 13.8
comp=Z,416nm,19.2s,baz=326,slow=38
comp=Z,21nm,1.0s
APA Apatity 65.15 336 ||*i* P P 05 45 24.3 +12
APA pmax pmax
comp=Z,9.0nm,0.9s
APA MLR MLR
comp=Z,3µm,14.0s
GEYT Alibeck 65.40 300 P **P** **05 45 13.0 -1.6**
comp=Z,3.4nm,0.7s,baz=346,slow=5.4,SNR=4.8
GEYT LR LR 06 15 43.5
comp=Z,1µm,21.9s,baz=79,slow=38
comp=Z,3.4nm,0.7s
GEYT Alibeck 65.40 300 P **P** **05 45 13.5 -1.1**
GEYT IAmb IAmb 05 45 30.3
comp=Z,15nm,1.1s
GYA0B ALIBECK ARRAY 65.40 300 P **P** **05 45 14.3 -0.3**
GYA0B IAmb IAmb 05 45 32.9
comp=Z,13nm,0.8s
YKA Yellowknife Ar 65.83 30 P **P** **05 45 17.8 +1.0**
comp=Z,3.1nm,0.9s,baz=299,slow=7.2,SNR=3.4
YKA LR LR 06 16 23.2
comp=Z,222nm,20.6s,baz=298,slow=38
comp=Z,3.1nm,0.9s
BELG Belogornoye 65.91 318 LR LR 06 14 47.5
comp=Z,791nm,18.8s,baz=68,slow=37
STKA Stephens Creek 66.02 180 P **P** **05 45 17.8 -0.6**
comp=Z,1.0nm,0.5s,baz=336,slow=20,SNR=1.8
comp=Z,1.0nm,0.5s
KLMR Klimovskoe 66.10 328 *e*P **P** **05 45 18.2 -0.4**
KLMR pmax pmax
comp=Z,25nm,1.1s
KLMR Klimovskoe 66.10 328 *e*P **P** **05 45 18.2 -0.4**
KLMR AMP 05 45 35.2
comp=Z,25nm,1.1s
KLMR LQ LQ 06 08 13.1
KLMR LQ LQ 06 08 13.1
KLMR LR LR 06 10 07.7
KLMR AMP 06 19 52.0
comp=Z,2µm,14.4s
ARCES ARCESS Array B 66.50 340 P **P** **05 45 20.2 -0.9**
comp=Z,2.3nm,0.7s,baz=59,slow=7.3,SNR=11
ARCES LR LR 06 19 41.4
comp=Z,2µm,18.1s,baz=50,slow=41
comp=Z,2.3nm,0.7s
TULEG Thule 67.57 7 IAMs_20 IAMs_20 06 18 51.1
comp=Z,1µm,20.0s
NEEM North Greenlan 68.04 3 *i* P **P** **05 45 31.7 +0.6**
NEEM IAmb IAmb 05 45 49.6
comp=Z,26nm,1.1s
MOS Moscow 69.51 324 *e*P P 05 45 48.4 +8.2
MOS *e* 05 45 53.9
MOS *e* 05 46 08.9
MOS MLR MLR
comp=N,2µm,15.0s
MOS MLR MLR
comp=E,3µm,15.0s
MOS MLR MLR
comp=Z,4µm,15.0s
VRH Novokhopyorsk 69.71 319 *e*P **P** **05 45 40.8 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,2µm,15.0s
I02E Swisshome, OR 69.73 50 P **P** **05 45 45.9 +4.1**
baz=299
COR Corvallis 69.85 49 IAMs_20 IAMs_20 06 15 42.9
comp=Z,732nm,20.0s
I03D Drain, OR 70.25 50 P **P** **05 45 48.8 +3.8**
baz=299
MAK Makhachkala 70.32 309 *e*P P 05 45 39.5 -5.9
MAK *e* 05 48 14.8
MAK *e*PPP PPP 05 49 57.0
MAK *e*S **S** **05 54 49.1 -7.9**
MAK *e*SS **SS** **05 59 22.4 -4.4**
MAK pmax pmax
comp=Z,187nm,1.2s
MAK MLR MLR
comp=Z,2µm,15.0s
OBN Obninsk 70.35 324 LR LR 06 19 50.6
comp=Z,448nm,18.3s,baz=57,slow=39
OBN Obninsk 70.35 324 *ce*P **P** **05 45 45.3 0.0**
OBN *i* 05 46 00.9
OBN *e* 05 48 20.7
OBN *e*S **S** **05 55 04.8 +7.9**
OBN pmax pmax
comp=Z,8.0nm,0.4s
OBN MLR MLR
comp=Z,2µm,16.0s
LPSR Galich'ya Gora 70.49 321 *e*P **P** **05 45 46.0 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.5s
LPSR MLR MLR
comp=Z,2µm,16.0s
K02D Willamette Mer 70.53 51 P **P** **05 45 50.6 +3.7**
baz=299
I04A Tendick Farm, 70.79 50 P **P** **05 45 52.1 +3.8**
baz=300
VORR Voronezh 70.82 320 *e*P **P** **05 45 51.6 +3.3**
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 71.08 320 *e*P **P** **05 45 48.9 -1.0**
VSR pmax pmax
comp=Z,8.0nm,0.6s
VSR MLR MLR
comp=Z,3µm,15.0s
I05D Terrebonne, OR 71.19 49 P **P** **05 45 54.0 +3.2**
baz=300
FINES FINESS Array B 71.23 333 P **P** **05 45 50.2 -0.4**
comp=Z,7.3nm,0.8s,baz=57,slow=7.0,SNR=17
FINES LR LR 06 18 37.4
comp=Z,1µm,20.5s,baz=39,slow=37
comp=Z,7.3nm,0.8s
FINES FINESS Array B 71.23 333 P **P** **05 45 50.8 +0.2**
FINES FINESS Array B 71.23 333 *i* P **P** **05 45 51.2 +0.6**
FINES pmax pmax
comp=Z,7.0nm,0.8s
L04D Klamath Falls 71.64 51 P **P** **05 45 56.8 +3.1**
baz=300
NEW Newport 71.71 44 LR LR 06 15 09.6
comp=Z,231nm,20.4s,baz=322,slow=34
NEW Newport 71.71 44 P **P** **05 45 56.3 +2.4**
baz=302
J05D Fort Rock, OR 71.79 50 P **P** **05 45 57.9 +3.3**
baz=300
WSAR Wadi Sarin 71.89 286 LR LR 06 20 40.8
comp=Z,579nm,19.1s,baz=78,slow=39
GUDG Gudauri 72.50 310 P **P** **05 45 55.6 -3.3**
GUDG Gudauri 72.50 310 P **P** **05 45 55.6 -3.3**
GUDG pmax pmax
comp=Z,57nm,0.3s
ZEI Tsey 72.70 310 *e*P **P** **05 45 58.7 -1.4**
ZEI pmax pmax
comp=Z,12nm,0.9s
JMIC Jan Mayen 72.70 350 LR LR 06 19 04.5
comp=Z,298nm,19.3s,baz=38,slow=37
KBZ Khabaz 72.84 311 P **P** **05 46 01.4 +0.9**
comp=Z,5.5nm,0.8s,baz=36,slow=5.1,SNR=8.8
KBZ LR LR 06 19 58.3
comp=Z,2µm,19.9s,baz=53,slow=38
comp=Z,5.5nm,0.8s
KIV Kislovodsk 72.85 312 P **P** **05 46 00.5 -0.3**
KIV IAMs_20 IAMs_20 06 19 58.4
comp=Z,1µm,18.0s
KIV Kislovodsk 72.85 312 *e*P **P** **05 46 00.4 -0.4**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,997nm,18.0s
SHA1 Shidzhatmaz 72.98 312 *i* P **P** **05 46 01.1 -0.7**
SUMG Summit 73.22 0 *i* P **P** **05 46 04.0 +1.1**
SUMG IAmb IAmb 05 46 25.1
comp=Z,19nm,1.0s
MCCM Marconi Confer 73.33 55 IAMs_20 IAMs_20 06 17 54.4
comp=Z,910nm,19.0s
GNI Garni 73.52 308 LR LR 06 21 27.6
comp=Z,2µm,19.3s,baz=73,slow=38
ORV Oroville 73.52 53 IAMs_20 IAMs_20 06 15 20.5
comp=Z,713nm,19.0s
MSO Missoula 74.30 44 P **P** **05 46 12.7 +3.4**
baz=304
MNK Minsk 74.80 326 *i* P **P** **05 46 12.6 +0.7**
MNK *i* 05 46 26.3
MNK *i* 05 48 57.3
MNK *i*PPP PPP 05 50 45.2
MNK *i*S **S** **05 55 50.1 +2.3**
MNK *i* 05 56 21.3

MNK *i* SS **SS** **06 00 38.8 +4.2**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,17nm,0.8s
MNK MLR MLR
comp=N,1.0nm,17.0s
MNK MLR MLR
comp=Z,1µm,17.0s
MNK MLR MLR
comp=E,242nm,18.0s
MNK Minsk 74.80 326 *i* P **P** **05 46 12.6 +0.7**
comp=E,2.0nm,0.7s
MNK *i* P **P** **05 46 12.6 +0.7**
MNK *i* P **P** **05 46 12.6 +0.7**
comp=Z,17nm,0.8s,baz=232
MNK *i* PcP **PcP** **05 46 26.4 +0.5**
MNK *i* PP **PP** **05 48 57.3 -1.3**
MNK *i* PPP PPP 05 50 45.3
MNK *i* S **S** **05 55 50.1 +2.3**
MNK *i* SS **SS** **06 00 38.9 +4.2**
MNK *i* SSS SSS 06 04 01.1
MNK *i* LQ LQ 06 14 41.5
MNK *i* LR LR 06 19 50.8
MNK *i* LRM MLR 06 21 26.8
comp=N,1.0nm,17.2s
MNK *i* LRM MLR 06 21 26.8
comp=Z,1µm,17.2s
MNK *i* LRM MLR 06 21 40.2
comp=E,242nm,17.9s
SOC Sochi 74.87 313 *e*P **P** **05 46 09.2 -3.3**
SOC *e* 05 48 56.3
SOC *e*S **S** **05 55 45.9 -3.0**
SOC *e*SS **SS** **06 00 41.2 +4.9**
SOC MLR MLR
comp=Z,1µm,17.0s
SAO San Andreas Ge 75.02 56 IAMs_20 IAMs_20 06 16 52.2
comp=Z,953nm,18.0s
NACGM Naroch 75.04 327 *e*P P 05 46 26.1 +13
baz=51
CMB Columbia Colle 75.06 54 IAMs_20 IAMs_20 06 17 58.3
comp=Z,858nm,19.0s
ANN Anapa 75.56 315 *e*P **P** **05 46 17.6 +1.2**
ANN *e*S **S** **05 56 00.1 +3.6**
ANN pmax pmax
comp=Z,33nm,0.9s
ANN MLR MLR
comp=Z,1µm,14.0s
FFC Flin Flon 75.65 33 P **P** **05 46 17.1 +0.3**
FFC IAmb IAmb 05 46 32.0
comp=Z,16nm,1.1s
FFC IAMs_20 IAMs_20 06 23 09.1
comp=Z,648nm,19.0s
FFC Flin Flon 75.65 33 P **P** **05 46 17.1 +0.3**
FFC pmax pmax
comp=Z,16nm,1.1s
FFC MLR MLR
comp=Z,600nm,19.0s
HLID Hailey 75.84 47 P **P** **05 46 21.7 +3.3**
baz=304
EGMT Eagleton 75.94 41 IAMs_20 IAMs_20 06 25 44.5
comp=Z,735nm,19.0s
EGMT Eagleton 75.94 41 P **P** **05 46 21.9 +3.2**
baz=306
NVAR Mina Array Bea 76.23 53 P **P** **05 46 23.6 +2.8**
comp=Z,2.1nm,0.7s,baz=282,slow=5.5,SNR=15
comp=Z,2.1nm,0.7s
BOZ Bozeman (W) 76.32 44 IAMs_20 IAMs_20 06 25 21.7
comp=Z,662nm,21.0s
BOZ Bozeman (W) 76.32 44 P **P** **05 46 23.8 +2.8**
baz=306
NC405 NORSAR Array S 76.45 338 P **P** **05 46 20.3 -1.0**
AKASG Malin Array Be 76.53 323 P **P** **05 46 20.5 -1.4**
comp=Z,4.6nm,0.7s,baz=46,slow=5.8,SNR=19
AKASG LR LR 06 21 47.0
comp=Z,2µm,18.7s,baz=54,slow=37
comp=Z,4.6nm,0.7s
HFS Hagfors 76.55 336 LR LR 06 24 21.1
comp=Z,2µm,18.2s,baz=32,slow=39
NB2 NORSAR Subarra 76.67 338 P **P** **05 46 21.4 -1.1**
comp=Z,2.5nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 76.67 338 P **P** **05 46 21.9 -0.6**
comp=Z,4.4nm,0.8s,baz=40,slow=5.7,SNR=20
NOA LR LR 06 23 07.4
comp=Z,2µm,21.1s,baz=40,slow=38
comp=Z,4.4nm,0.8s
ICESG Greenland Ices 76.72 1 *i* P **P** **05 46 23.3 +0.3**
ICESG IAmb IAmb 05 46 37.3
comp=Z,18nm,1.1s
NBO00 NORSAR Array S 76.81 338 P **P** **05 46 22.7 -0.6**
NBO00 IAmb IAmb 05 46 41.0
comp=Z,25nm,0.8s
SIM Simferopol' 77.39 316 *e*P **P** **05 46 27.8 +0.9**
SIM pmax pmax
comp=Z,20nm,1.2s
SIM MLR MLR
comp=Z,900nm,21.2s
H17A Grant Village 77.63 44 P **P** **05 46 32.6 +4.1**
baz=306
LKWY Lake 77.63 44 IAMs_20 IAMs_20 06 26 16.4
comp=Z,1µm,20.0s
MARD Mardin 77.66 307 P **P** **05 46 27.9 -0.7**
MARD IAmb IAmb 05 46 46.5
comp=Z,18nm,0.6s
RLMT Red Lodge 77.94 43 IAMs_20 IAMs_20 06 26 50.6
comp=Z,558nm,18.0s
RLMT Red Lodge 77.94 43 P **P** **05 46 32.4 +2.2**
baz=307
R11A Troy Canyon, C 78.05 52 P **P** **05 46 33.9 +3.0**
baz=305
SFJD Kangerlussuaq 78.38 5 LR LR 06 22 14.9
comp=Z,271nm,21.4s,baz=353,slow=36
TPNV Topopah Spring 78.41 53 IAMs_20 IAMs_20 06 20 05.7
comp=Z,1µm,20.0s
DUG Dugway, Tooele 78.75 49 P **P** **05 46 37.8 +3.1**
baz=306
KIS Kishinev 79.06 320 *e*P **P** **05 46 32.0 -4.0**
KIS *e*L L 06 23 48.0
KIS LRM MLR 06 31 27.0
comp=Z,900nm,13.4s
KIS Kishinev 79.06 320 *e*P **P** **05 46 32.0 -4.0**
DY2G Dye2 79.16 3 *i* P **P** **05 46 36.3 -0.2**
FRB Frobisher Bay 79.16 13 LR LR 06 23 48.0
comp=Z,662nm,21.1s,baz=340,slow=37
PDAR Pinedale Array 79.19 45 P **P** **05 46 39.5 +2.3**
comp=Z,1.6nm,0.8s,baz=283,slow=2.4,SNR=10.0
comp=Z,1.6nm,0.8s
URZ Urewera 79.44 152 LR LR 06 18 07.8
comp=Z,925nm,21.8s,baz=45,slow=33
CCUT Cedar City 79.94 51 P **P** **05 46 42.0 +0.6**
109C Camp Elliot, M 80.12 57 IAMs_20 IAMs_20 06 20 41.5
comp=Z,983nm,19.0s
BORG Borgarnes 80.21 353 LR LR 06 22 53.3
comp=Z,443nm,21.4s,baz=19,slow=36
BUR08 Bucovina Ar. S 80.52 322 P **P** **05 46 43.1 -1.0**
BR131 Keskin Array S 80.81 312 P **P** **05 46 45.9 +0.1**
BR131 IAmb IAmb 05 47 06.7
comp=Z,12nm,0.9s
BR131 Keskin Array S 80.81 312 P **P** **05 46 45.9 +0.1**
BR131 pmax pmax
comp=Z,12nm,1.0s
BRTR Keskin Array B 80.81 312 P **P** **05 46 45.1 -0.8**
comp=Z,2.8nm,0.8s,baz=132,slow=5.2,SNR=8.6
comp=Z,2.8nm,0.8s
BRTR Keskin Array B 80.81 312 P **P** **05 46 45.8 -0.1**
BRTR Keskin Array B 80.81 312 *i* P **P** **05 46 46.5 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 81.09 325 *e*P **P** **05 46 49.0 +2.0**
KOLS Kolonicke sedl 81.09 325 *e*P **P** **05 46 49.0 +2.0**
UZH Uzhgorod 81.29 324 ||*i* P **P** **05 46 47.1 -0.9**
UZH *e* 05 46 52.1
UZH *i* 05 46 53.9
PDMCI Parker Dam,Lak 81.33 54 P **P** **05 46 51.3 +2.7**
baz=306
OJC Ojcow 81.35 327 *e*P **P** **05 46 47.7 -0.7**
ULM Lac du Bonnet 81.43 33 P **P** **05 46 49.3 +0.6**
comp=Z,3.2nm,0.6s,baz=345,slow=1.8,SNR=3.0
ULM LR LR 06 30 38.3
comp=Z,218nm,18.4s,baz=300,slow=41
comp=Z,3.2nm,0.6s
RSSD Black Hills 81.48 42 P **P** **05 46 51.6 +2.2**
baz=310
CRVS Cervenica-Dubn 81.50 325 *e*P **P** **05 46 50.6 +1.4**
CRVS Cervenica-Dubn 81.50 325 *e*P **P** **05 46 50.6 +1.4**
MLR Muntele Rosu 81.56 320 LR LR 06 25 54.8

comp=Z,3µm,19.7s,baz=47,slow=38
O20A White River Ci 81.58 47 P **P** 05 46 52.0 +1.9
baz=308
GLA Glamis 81.59 56 P **P** 05 46 52.7 +2.7
baz=306
NIE Niedzica 81.68 326 *e*P **P** 05 46 49.7 -0.4
RAYN Ar Rayn 81.96 293 P **P** 05 46 50.5 -1.6
RAYN IAmb IAmb 05 47 22.9
comp=Z,23nm,1.2s
RAYN Ar Rayn 81.96 293 IAMs_20 IAMs_20 06 26 42.8
comp=Z,750nm,20.0s
RAYN Ar Rayn 81.96 293 P **P** 05 46 50.5 -1.6
RAYN pmax pmax
comp=Z,23nm,1.2s
RAYN MLR MLR
comp=Z,700nm,20.0s
OKC Ostrava-Krasne 82.37 327 AMS AMS 06 28 10.0
comp=Z,2µm,14.2s
WUAZ Wupatki 82.44 52 IAMs_20 IAMs_20 06 17 39.4
comp=Z,675nm,19.0s
WUAZ Wupatki 82.44 52 P **P** 05 46 57.0 +2.4
baz=307
N23A Red Feather La 82.47 45 P **P** 05 46 57.4 +2.6
baz=310
OSTC Ostas 82.69 328 AMS AMS 06 27 50.0
comp=Z,3µm,15.5s
CHVC Chvalec 82.74 329 AMS AMS 06 28 00.0
comp=Z,3µm,16.5s
DPC Dobruska-Polom 82.80 328 *e*P **P** 05 46 57.0 +1.0
DPC MLR MLR
comp=Z,2µm,14.2s
DPC Dobruska-Polom 82.80 328 *e*P **P** 05 46 57.0 +1.0
DPC AMS AMS 06 28 20.0
comp=Z,2µm,14.2s
KRLC Kraliky 82.80 328 AMS AMS 06 28 30.0
comp=Z,3µm,14.0s
UPC Upice 82.82 329 AMS AMS 06 28 00.0
comp=Z,3µm,16.1s
AGMN Agassiz Nation 82.82 35 P **P** 05 46 55.1 -1.0
AGMN IAmb IAmb 05 47 21.7
comp=Z,33nm,1.8s
AGMN IAMs_20 IAMs_20 06 29 28.9
comp=Z,638nm,20.0s
AGMN Agassiz Nation 82.82 35 P **P** 05 46 58.3 +2.2
baz=315
MAUC Maruska 82.85 327 AMS AMS 06 28 30.0
comp=Z,4µm,15.5s
VYHS Vyhne 83.02 326 *e*P **P** 05 46 57.9 +0.8
VYHS Vyhne 83.02 326 *e*P **P** 05 46 57.9 +0.8
PPT2 Papeete2 83.19 117 *e*LR LR 06 13 01.6
comp=Z,1µm,21.5s
ASF Jabal al Asfar 83.23 304 LR LR 06 27 57.4
comp=Z,585nm,18.2s,baz=82,slow=39
MVCO Mesa Verde 83.24 49 P **P** 05 47 00.7 +1.9
baz=309
ISCO Idaho Springs 83.36 46 IAMs_20 IAMs_20 06 27 05.3
comp=Z,601nm,18.0s
ISCO Idaho Springs 83.36 46 P **P** 05 47 01.8 +2.3
baz=310
PVCC Panska Ves 83.42 329 AMS AMS 06 28 50.0
comp=Z,2µm,15.9s
BRG Berggiesshubel 83.42 330 Amp 05 47 50.7
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 83.42 330 *e*P P 05 47 15.4 +16
BRG Berggiesshubel 83.42 330 Amp 05 47 16.4
comp=Z,12nm,1.4s
BRG Berggiesshubel 83.42 330 *ex* x 05 47 25.9
BRG Berggiesshubel 83.42 330 Amp 05 47 26.7
comp=Z,6.2nm,1.0s
BRG Berggiesshubel 83.42 330 *ex* x 05 47 48.6
VRAC Vranov 83.45 327 LR LR 06 26 34.2
comp=Z,2µm,18.3s,baz=37,slow=38
CLL Collm 83.48 331 IAMs_20 IAMs_20 06 27 48.6
comp=Z,980nm,19.0s
CLL Collm 83.48 331 *e*P **P** 05 47 00.0 +0.6
CLL *e*S **S** 05 57 23.0 +2.8
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 83.48 331 *e*P **P** 05 47 00.0 +0.6
comp=Z,7.0nm,1.2s
CLL *ex* x 05 47 13.0
comp=Z,20nm,1.6s
CLL *e*PP **PP** 05 50 12.0 +1.1
CLL *ex* x 05 56 50.0
CLL *e*S **S** 05 57 23.0 +2.8
CLL *e*PS **PnS** 05 58 13.0 +1.1
CLL *e*PPS PPS 05 58 28.0
CLL *e*SS **SS** 06 02 48.0 +3.3
CLL *e*SSS SSS 06 06 24.0
CLL *e*SSSS 06 09 00.0
CLL Lmax 06 31 00.0
MMAI Mount Meron Ar 83.73 306 LR LR 06 28 17.4
comp=Z,1µm,18.8s,baz=280,slow=39
GOPC GO Pecny, Ondr 83.78 329 AMS AMS 06 28 50.0
comp=Z,4µm,14.7s
MODS Modra-Piesok 83.82 326 *e*P **P** 05 47 00.4 -0.9
MODS Modra-Piesok 83.82 326 *e*P **P** 05 47 00.4 -0.9
PRU Pruhonice 83.83 329 AMS AMS 06 28 50.0
comp=Z,4µm,15.5s
ISP Isparta 83.90 312 IAMs_20 IAMs_20 06 31 20.7
comp=Z,547nm,19.0s
S22A 4UR Ranch, Cre 83.94 48 P **P** 05 47 05.3 +2.9
baz=310
TREC Trest 83.94 328 AMS AMS 06 28 50.0
comp=Z,3µm,16.9s
SUSD Miller 83.98 39 P **P** 05 47 04.6 +2.4
baz=314
F33A 5 Mile Ranch, 84.36 37 P **P** 05 47 04.2 +0.2
F33A IAmb IAmb 05 47 24.0
comp=Z,19nm,1.1s
NKC Novy Kostel 84.53 330 AMS AMS 06 31 40.0
comp=Z,3µm,13.7s
GHAJ Ghor Haditha 84.65 304 P **P** 05 47 06.0 +0.2
GHAJ IAMs_20 IAMs_20 06 28 32.4
comp=Z,858nm,18.0s
SDCO Great Sand Dun 84.75 47 P **P** 05 47 08.8 +2.2
baz=310
RONA Rosalia, Austr 84.77 327 *e*P **P** 05 47 07.2 +1.1
comp=Z,6.5nm,0.8s
CONA Conrad Observa 84.79 327 *e*P **P** 05 47 06.5 +0.2
comp=Z,4.7nm,1.2s
CKRC Cesky Krumlov 84.81 328 AMS AMS 06 29 30.0
comp=Z,3µm,15.6s
KHC Kasperske Hory 84.89 329 P **P** 05 47 06.3 -0.5
KHC IAmb IAmb 05 47 24.6
comp=Z,7.6nm,0.9s
KHC Kasperske Hory 84.89 329 *e*P **P** 05 47 06.8 +0.1
KHC *e* 05 57 32.0
KHC MLR MLR
comp=Z,3µm,14.8s
KHC Kasperske Hory 84.89 329 *e*P **P** 05 47 06.8 +0.1
KHC *ex* x 05 47 18.0
KHC *e*SKS **S** 05 57 32.0 -2.7
KHC AMS AMS 06 29 30.0
comp=Z,3µm,14.8s
GERES GERESS Array B 85.06 329 P **P** 05 47 06.4 -1.2
comp=Z,1.2nm,0.7s,baz=38,slow=6.8,SNR=10
comp=Z,1.2nm,0.7s
EYMN Ely 85.08 33 IAMs_20 IAMs_20 06 27 36.5
comp=Z,562nm,19.0s
TAOE Nuku Hiva Isla 85.21 104 *e*LR LR 06 13 56.0
comp=Z,817nm,25.7s
EKA Eskdalemuir Ar 85.64 341 LR LR 06 29 25.8
comp=Z,746nm,19.6s,baz=42,slow=38
ECSD EROS Data Cent 85.69 38 P **P** 05 47 12.4 +1.6
baz=315
T25A Trinidad 85.80 47 P **P** 05 47 14.8 +3.0
baz=311
ANMO Albuquerque 85.95 50 IAMs_20 IAMs_20 06 28 16.1
comp=Z,810nm,18.0s
SOKA Soboth 86.10 326 *e*P **P** 05 47 13.4 +0.6
comp=Z,3.8nm,0.8s
BGNE Belgrade 86.51 41 P **P** 05 47 16.2 +1.3
baz=314
TBI Tubuai 86.92 121 *e*LR LR 06 14 43.7
comp=Z,900nm,22.8s
L34A Svendsen Farm, 87.06 39 P **P** 05 47 17.9 +0.3
COWI Conover 87.53 33 IAMs_20 IAMs_20 06 34 12.3
comp=Z,610nm,18.0s
SCHQ Schefferville 87.67 16 LR LR 06 29 55.5
comp=Z,548nm,20.0s,baz=353,slow=38
SANT Santorini 87.91 314 IAMs_20 IAMs_20 06 25 42.9
comp=Z,664nm,20.0s
DAVOX Davos/Dischmat 88.29 329 LR LR 06 29 58.8
comp=Z,2µm,18.5s,baz=24,slow=38
KSU1 Kansas State U 88.97 42 IAMs_20 IAMs_20 06 31 57.4
comp=Z,462nm,19.0s
KSU1 Kansas State U 88.97 42 P **P** 05 47 29.4 +2.7
baz=315
IDI Anoyia 88.98 313 LR LR 06 34 44.8
comp=Z,429nm,18.4s,baz=54,slow=41
IDI Anoyia 88.98 313 IAMs_20 IAMs_20 06 34 33.3
comp=Z,755nm,20.0s
JFWS Jewell Farm 89.44 35 IAMs_20 IAMs_20 06 31 20.2
comp=Z,666nm,19.0s
MSEY Mahe Island 89.63 264 IAMs_20 IAMs_20 06 25 31.9
comp=Z,481nm,20.0s
OK032 Salt Plains WL 89.69 44 IAMs_20 IAMs_20 06 35 20.6
comp=Z,772nm,18.0s
OK049 E0420 Rd and N 90.49 44 IAMs_20 IAMs_20 06 34 25.7
comp=Z,614nm,18.0s
GLMI Grayling 90.50 31 IAMs_20 IAMs_20 06 33 59.9
comp=Z,710nm,20.0s
OK045 Pawnee Station 90.67 44 IAMs_20 IAMs_20 06 35 30.6
comp=Z,608nm,18.0s
OK050 Pawnee Station 90.68 44 IAMs_20 IAMs_20 06 34 12.8
comp=Z,517nm,20.0s
OK051 E0350 and S346 90.69 44 IAMs_20 IAMs_20 06 35 24.9
comp=Z,677nm,19.0s
WMOK Wichita Mounta 90.79 46 P **P** 05 47 37.7 +2.4
baz=314
ATD Arta Tunnel 90.85 285 LR LR 06 36 03.9
comp=Z,135nm,18.2s,baz=36,slow=41
ATD Arta Tunnel 90.85 285 IAMs_20 IAMs_20 06 36 08.9
comp=Z,444nm,18.0s
OK025 Westminster Rd 91.05 44 IAMs_20 IAMs_20 06 26 37.6
comp=Z,536nm,19.0s
OK031 S. Brethren Rd 91.07 44 IAMs_20 IAMs_20 06 36 22.2
comp=Z,529nm,19.0s
L44A Lake County Fo 91.11 35 IAMs_20 IAMs_20 06 28 30.4
comp=Z,866nm,19.0s
TX31 Lajitas Ar. Si 91.38 53 P **P** 05 47 37.1 -1.2
TX32 Lajitas Array 91.38 53 P **P** 05 47 36.8 -1.5
TX32 IAmb IAmb 05 48 02.6
comp=Z,17nm,1.9s
TXAR Lajitas Array 91.38 53 P **P** 05 47 39.9 +1.7
comp=Z,1.0nm,0.8s,baz=305,slow=3.1,SNR=11
comp=Z,1.0nm,0.8s
TUL1 Leonard 91.70 43 IAMs_20 IAMs_20 06 34 43.7
comp=Z,611nm,19.0s
HDIL Hopedale 91.70 36 IAMs_20 IAMs_20 06 28 46.1
comp=Z,524nm,20.0s
CCM Cathedral Cave 92.61 39 P **P** 05 47 45.6 +2.0
baz=319
SADO Sadowa 92.78 28 LR LR 06 32 01.8
comp=Z,312nm,21.0s,baz=359,slow=37
AAM Ann Arbor 92.95 32 IAMs_20 IAMs_20 06 35 18.6
comp=Z,757nm,19.0s
JCT Junction City 93.10 50 IAMs_20 IAMs_20 06 28 33.4
comp=Z,702nm,19.0s
MIAR Mount Ida 93.94 43 IAMs_20 IAMs_20 06 28 26.9
comp=Z,488nm,20.0s
LONY Lake Ozonia 94.59 25 IAMs_20 IAMs_20 06 37 44.4
comp=Z,683nm,20.0s
ERPA Erie 94.66 30 IAMs_20 IAMs_20 06 35 28.6
comp=Z,536nm,19.0s
P49A Miami Univ. Ec 94.69 34 IAMs_20 IAMs_20 06 29 35.9
comp=Z,538nm,20.0s
ACSO Alum Creek Sta 94.92 33 IAMs_20 IAMs_20 06 34 29.9
comp=Z,638nm,20.0s
M53A WI Miller and 94.93 31 IAMs_20 IAMs_20 06 32 45.1
comp=Z,732nm,21.0s
WCI Wyandotte Cave 94.97 36 IAMs_20 IAMs_20 06 30 55.6
comp=Z,644nm,19.0s
O53A New Philadelph 95.68 32 IAMs_20 IAMs_20 06 32 27.1
comp=Z,660nm,20.0s
FURI Furi 95.70 285 IAMs_20 IAMs_20 06 38 10.6
comp=Z,696nm,18.0s
P52A Corning 95.78 33 IAMs_20 IAMs_20 06 38 18.8
comp=Z,467nm,20.0s
LBNH Lisbon 95.83 24 IAMs_20 IAMs_20 06 34 06.1
comp=Z,725nm,21.0s
WVT Waverly 95.84 38 IAMs_20 IAMs_20 06 37 53.8
comp=Z,682nm,19.0s
BINY Binghamton 96.17 27 IAMs_20 IAMs_20 06 38 26.4
comp=Z,596nm,19.0s
HNH Hanover 96.18 24 IAMs_20 IAMs_20 06 36 53.5
comp=Z,751nm,19.0s
OXF Oxford 96.25 40 IAMs_20 IAMs_20 06 36 08.9
comp=Z,471nm,19.0s
TRY Troy 96.56 26 IAMs_20 IAMs_20 06 39 03.6
comp=Z,721nm,18.0s
PLAL Pickwick Lake 96.60 39 IAMs_20 IAMs_20 06 33 42.9
comp=Z,450nm,20.0s
FFD Franklin Falls 96.60 24 IAMs_20 IAMs_20 06 34 08.6
comp=Z,660nm,19.0s
SSPA Standing Stone 96.76 29 IAMs_20 IAMs_20 06 36 30.2
comp=Z,565nm,19.0s
MCWV Mont Chateau 96.76 31 IAMs_20 IAMs_20 06 34 02.5
comp=Z,693nm,21.0s
HRV Adam Dziewonsk 97.49 24 IAMs_20 IAMs_20 06 37 41.2
comp=Z,625nm,20.0s
TZTN Tazewell 97.63 35 IAMs_20 IAMs_20 06 38 58.0
comp=Z,514nm,20.0s
WES Weston 97.68 24 IAMs_20 IAMs_20 06 35 34.1
comp=Z,676nm,20.0s
BCX Boston College 97.77 24 IAMs_20 IAMs_20 06 38 26.6
comp=Z,612nm,20.0s
PAL Palisades 97.98 27 IAMs_20 IAMs_20 06 40 39.3
comp=Z,656nm,18.0s
BRYW Bryant College 98.02 25 IAMs_20 IAMs_20 06 35 04.2
comp=Z,747nm,19.0s
YLE Yale 98.06 26 IAMs_20 IAMs_20 06 39 47.4
comp=Z,721nm,18.0s
BLA Blacksburg 98.54 33 IAMs_20 IAMs_20 06 33 42.7
comp=Z,665nm,20.0s
CBN Corbin Frederi 99.03 30 IAMs_20 IAMs_20 06 37 01.4
comp=Z,743nm,19.0s
PGAV Gavieira, Arco 99.12 338 *e*LR LR 06 27 41.5
comp=Z,1µm,18.0s
MVO Moncorvo 99.45 337 *e*LR LR 06 28 00.9
comp=Z,948nm,18.0s
BRAL Brewton 100.08 41 IAMs_20 IAMs_20 06 32 59.4
comp=Z,450nm,20.0s
GOGA Godfrey 100.19 37 IAMs_20 IAMs_20 06 40 31.8
comp=Z,612nm,19.0s
MTE Manteigas 100.31 337 *e*LR LR 06 29 50.9
comp=Z,890nm,20.0s
PMRV Marv??o 101.14 336 *e*LR LR 06 30 24.9
comp=Z,1µm,18.0s
CNNC Cliffs of the 101.31 32 IAMs_20 IAMs_20 06 34 39.0
comp=Z,668nm,19.0s
NHSC New Hope 102.03 35 IAMs_20 IAMs_20 06 35 21.5
comp=Z,670nm,19.0s
PVAQ Vaqueiros 103.07 336 *e*LR LR 06 29 41.1
comp=Z,1µm,18.0s
DWPF Disney Wildern 105.48 39 IAMs_20 IAMs_20 06 44 16.2
comp=Z,532nm,18.0s
MBAR Mbarara 107.66 282 IAMs_20 IAMs_20 06 39 25.8
comp=Z,452nm,19.0s
TAM Tamanrasset 109.53 317 IAMs_20 IAMs_20 06 46 12.0
comp=Z,681nm,20.0s
LSZ Lusaka 117.88 270 IAMs_20 IAMs_20 06 44 03.2
comp=Z,563nm,20.0s
TORD Torodi Ar. Bea 119.36 314 PKP **PKPdf** 05 53 20.0 -1.9
comp=Z,0.4nm,0.5s,baz=56,slow=1.2,SNR=4.5
FDF Fort de France 126.38 28 IAMs_20 IAMs_20 06 49 09.6
comp=Z,478nm,20.0s
BIM Bigot 126.61 28 IAMs_20 IAMs_20 06 49 06.7
comp=Z,489nm,21.0s
SDV Santo Domingo 127.01 42 *e*P PKiKP 05 53 48.1 +11
TROLL Troll, Antarti 136.93 197 PKPdf **PKPdf** 05 53 49.4 -4.3
TBTG Tabatinga, AM 137.84 51 *e*P PKiKP 05 54 08.8 +10
SNAA Sanae 138.42 196 PKPdf PKPdf 05 53 46.4 -10
CZSB Cruzeiro do Su 138.54 58 *e*P PKiKP 05 54 10.6 +10
VNA2 Neumayer--Watz 139.97 195 PKPdf PKPdf 05 53 50.4 -8.8
baz=122,slow=3.0
MACA Manacapuru-AM 142.43 39 *e*P PKiKP 05 54 16.8 +8.5
MALB Monte Alegre 144.21 28 *e*P **PKiKP** 05 54 18.6 +6.6
LPAZ La Paz 147.59 64 PKPbc **PKiKP** 05 54 18.8 -0.8
comp=Z,5.1nm,0.7s,baz=339,slow=5.0,SNR=19
ROSB Rosrio 148.07 11 *e*P **PKPab** 05 54 25.7 +4.9
RCBR Riachuelo 151.40 355 *e*P **PKiKP** 05 54 28.2 +1.4
SMTB Santa Maria do 153.06 21 *e*P **PKiKP** 05 54 32.1 +1.9
PTLB Pontes e Lacer 153.24 50 *e*P **PKiKP** 05 54 33.0 +2.5
NBRF Rio Formoso - 154.16 353 *e*P **PKiKP** 05 54 33.0 +0.5

*IDC **23** 05:42:42.6±1.3,2°.06S×140°.76E, h0km, mb3.9/4, mbtmp4.0/6, ML3.9/2, Error ellipse: s-maj=49.6km s-min=24.8km az=98.0*
*NEIC **23** 05:42:47.2±1.4,2°.08S±0°.09×140°.7E±0°.1, h30km±5km, mb4.3/16, Error ellipse: s-maj=19.4km s-min=12.1km az=101.0*

ISC 23 05:42:47.3±0.7,2°.10S±0°.09×140°.7E±0°.1, h35km, n27, σ0871/27, mb4.3/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**14.27**	**221**		**Pn**	**05 46 06.4**	**-0.5**
KNRA	**Kununurra**	**17.90**	**220**		**Pn**	**05 46 53.2**	**-0.4**
KNRA				IAmb	IAmb	05 47 18.8	
	comp=Z,19nm,1.2s						
LUWI	**Luwuk**	**17.94**	**273**	P	**P**	**05 46 55.1**	**+0.6**
SOEI	**Soe**	**18.01**	**244**	P	**P**	**05 46 56.2**	**+0.9**
SOEI				IAmb	IAmb	05 47 13.5	
	comp=Z,23nm,0.8s						
CTA	**Charters Tower**	**18.69**	**163**	P	**Pn**	**05 47 03.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=355,slow=11,SNR=2.9						
	comp=Z,3.2nm,0.8s						
CTAO	**Charters Tower**	**18.69**	**163**	P	**P**	**05 47 01.2**	**-1.5**
WRAB	**Tennant Creek**	**18.78**	**199**	P	**P**	**05 47 02.8**	**-0.8**
WRAB				IAmb	IAmb	05 47 17.1	
	comp=Z,24nm,1.5s						
WB2	**Warramunga Arr**	**18.79**	**199**	P	**P**	**05 47 03.7**	**0.0**
WB2				IAmb	IAmb	05 47 25.4	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**18.79**	**199**	P	**P**	**05 47 02.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=24,slow=12,SNR=4.8						
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**18.79**	**199**	P	**P**	**05 47 03.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**05 47 35.5**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=1.3,slow=8.7,SNR=2.1						
	comp=Z,2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**05 47 35.1**	**-0.2**
AS31	**Alice Springs**	**22.42**	**197**	P	**P**	**05 47 42.5**	**-0.6**
ASAR	**Alice Springs**	**22.43**	**197**	P	**P**	**05 47 44.0**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=29,slow=11,SNR=8.1						
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**22.43**	**197**	P	**P**	**05 47 43.5**	**+0.3**
EIDS	**Eidsvold**	**25.21**	**157**	P	**P**	**05 48 10.6**	**+0.8**
PSA00	**Pilbara Seismi**	**28.04**	**225**	P	**P**	**05 48 35.1**	**-0.4**
PSA00				IAmb	IAmb	05 48 36.1	
	comp=Z,11nm,1.4s						
FORT	**Forrest**	**30.93**	**201**	P	**P**	**05 49 01.2**	**+0.2**
DZM	**Mont Dzumac**	**31.95**	**130**	P	**P**	**05 49 09.4**	**-0.7**
DZM				IAmb	IAmb	05 49 11.1	
	comp=Z,4.5nm,0.8s						
INU	**Inuyama**	**37.41**	**355**	P	**P**	**05 49 56.7**	**-0.3**
MSVF	**Nonsavu**	**39.82**	**115**	P	**P**	**05 50 17.9**	**+0.2**
MSVF				IAmb	IAmb	05 50 38.7	
	comp=Z,9.0nm,1.1s						
TUWZ	**Tuamarina**	**49.27**	**147**	P	**P**	**05 51 33.1**	**+0.4**
KLR	**Kul'dur**	**51.71**	**353**	P	**P**	**05 51 51.1**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=130,slow=7.9,SNR=4.0						
	comp=Z,1.7nm,0.9s						
MKAR	**Makanchi Array**	**70.53**	**322**	P	**P**	**05 53 58.0**	**-0.6**
VNDA	**Vanda**	**76.22**	**175**	P	**P**	**05 54 32.9**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=321,slow=6.3,SNR=13						
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**76.22**	**175**	P	**P**	**05 54 32.4**	**+0.8**
VNDA				IAmb	IAmb	05 55 05.8	
	comp=Z,4.7nm,1.5s						
LPAZ	**La Paz**	**146.17**	**124**	PKPbc	**PKPab**	**06 02 26.1**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=247,slow=4.4,SNR=7.5						

RHSSO 23 05:45:10.5±0.5, 43°.22N×17°.25E, h8km±2km, ML1.9/7, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKA	**Makarska**	**0.18**	**293**	*e*Pg	Pg	05 45 15.9	+1.6
MAKA				Sg	Sg	05 45 20.8	+3.9
RICI	**Ricice**	**0.29**	**343**	*e*Pg	Pg	05 45 15.5	-0.9
RICI				Sg	Sg	05 45 19.5	-0.7
STON	**Ston**	**0.48**	**136**	⇑*i*Pg	Pg	05 45 18.8	-0.9
STON				*e*Sg	Sg	05 45 26.9	+0.9
STON	**Ston**	**0.48**	**136**	*e*Pg	Pg	05 45 18.7	-1.0
STON				Sg	Sg	05 45 25.9	0.0
SRKV	**Kupres RS**	**0.85**	**356**	*e*Pg	Pg	05 45 25.2	-1.8
SRKV				*e*Sg	Sg	05 45 37.3	-0.8
DBRK	**Dubrovnik**	**0.85**	**129**	*e*Pg	Pg	05 45 25.6	-1.3
BRY	**Bratogost**	**0.99**	**108**	*e*Pg	Pg	05 45 28.2	-1.4
BRY				*e*Sg	Sg	05 45 41.9	-0.6
KIJV	**Kijevo**	**1.00**	**322**	*e*Pg	Pg	05 45 27.5	-2.2
KIJV				Sg	Sn	05 45 44.3	-0.7
HCY	**Herceg Novi**	**1.19**	**130**	*e*Pg	Pb	05 45 32.4	-0.9
MGRS	**Mrkonjic Grad**	**1.21**	**354**	*e*Sg	Sb	05 45 49.0	-0.3
UPM	**Unac-Piva**	**1.21**	**90**	*e*Pg	Pb	05 45 32.6	-1.1
UPM				*e*Sg	Sb	05 45 49.5	0.0
ZIRJ	**Zirje**	**1.25**	**291**	*e*Pn	Pg	05 45 34.8	+0.3
MORI	**Morici**	**1.30**	**301**	*e*Pn	Pg	05 45 37.3	+1.9
A050A	**Klekovaca**	**1.37**	**338**	*e*Pg	Pn	05 45 35.5	-0.4
A050A				*e*Sg	Sg	05 45 54.5	0.0
BLY	**Banja Luka**	**1.53**	**358**	*e*Pn	Pn	05 45 37.7	-0.4
BLY				*e*Sn	Sn	05 45 58.1	-0.1
DRME	**Dracevica, Mon**	**1.76**	**125**	*e*Pn	Pn	05 45 40.9	-0.3
DRME				*e*Sn	Sn	05 46 04.0	+0.3
DUGI	**Dugi Otok**	**1.77**	**297**	*e*Pn	Pb	05 45 43.8	+0.6
A051A	**Mrakovica**	**1.81**	**352**	*e*Pn	Pn	05 45 42.1	+0.1
A051A				*e*Sn	Sn	05 46 04.9	-0.3
VIRC	**Vir**	**1.92**	**305**	*e*Pn	Pb	05 45 44.9	-0.8

*IDC **23** 05:48:53.0±2.0,34°.51N×141°.68E, h0km, mb4.0/4, mbtmp3.9/6, ML2.5/2, Error ellipse: s-maj=41.1km s-min=22.8km az=81.0*
*JMA **23** 05:48:53.5±0.4,34°.4N±0°.9×14°.2E±°, h60km±2km, MV3.3/22, FAR SE OFF BOSO PEN*

ISC 23 05:48:56.6±1.6,34°.51N±0°.06×141°.7E±0°.1, h27km, n11, σ0880/16, mb3.9/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.59**	**284**	*e*P	**Pb**	**05 49 08.3**	**+0.2**
BSO4	**Boso 4**	**1.20**	**294**	*e*P	**Pn**	**05 49 17.2**	**-0.3**
CHOJ	**Chosi**	**1.36**	**331**	P	**Pn**	**05 49 18.7**	**-1.2**
CHOJ				S	**Sn**	**05 49 37.3**	**+0.3**
JKUC	**kamogawauchiur**	**1.38**	**298**	*e*P	**Pn**	**05 49 19.2**	**-0.8**
JKUC				*e*S	**Sn**	**05 49 37.6**	**+0.2**
JMKN	**Mikurajimanish**	**1.84**	**251**	*e*P	**Pn**	**05 49 24.8**	**-1.6**
JMKN				*e*S	**Sn**	**05 49 48.9**	**+0.2**
JHJ	**Hachijo jima 2**	**2.10**	**229**	Pn	**Pn**	**05 49 30.4**	**+0.3**
	9.4nm,0.3s,baz=98,slow=19,SNR=3.0						
JHJ				Sn	**Sn**	**05 49 55.0**	**-0.2**
	39nm,0.3s,baz=196,slow=21,SNR=6.0						
	91nm,0.7s						
MJAR	**Matsushiro Arr**	**3.48**	**307**	Pn	**Pn**	**05 49 48.8**	**-0.2**
	0.2nm,0.3s,baz=111,slow=8.3,SNR=4.5						
MJAR				Sn	**Sn**	**05 50 30.3**	**+1.0**
	0.5nm,0.3s,baz=137,slow=20,SNR=3.9						
	2.6nm,0.3s						
ZALV	**Zalesovo Beam**	**43.80**	**314**	P	**P**	**05 57 01.1**	**+1.3**
	7.8nm,0.6s,baz=104,slow=9.8,SNR=11						
	7.8nm,0.6s						
MKAR	**Makanchi Array**	**45.67**	**304**	P	**P**	**05 57 14.6**	**-0.4**
	0.8nm,0.6s,baz=89,slow=9.0,SNR=4.8						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**47.75**	**310**	P	**P**	**05 57 30.5**	**-0.6**
	0.7nm,0.5s,baz=84,slow=7.4,SNR=4.7						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**54.60**	**188**	P	**P**	**05 58 23.0**	**+0.3**
	0.6nm,0.8s,baz=3.7,slow=7.7,SNR=5.4						
	0.6nm,0.8s						

*NNC **23** 05:52:56.6±1.6,54°.50N×87°.13E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=17.4km s-min=8.9km az=174.0, Suspected Mining explosion.*

IDC 23 05:52:59.4±2.9,54°.55N×86°.92E, h0km, mbtmp3.2/2, ML2.9/2, 7C-3D, Error ellipse: s-maj=25.2km s-min=18.1km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**245**	*i*		05 59 48.2	
	0.2nm,1.2s,baz=66,slow=323,SNR=22						
ZAA0	**Zalesovo Array**	**1.37**	**245**	⇑P	Pg	05 53 23.7	-1.9
	0.4nm,0.5s						
ZAA0				⇑S	Sb	05 53 43.7	-0.2
	7.7nm,1.2s						
ZALV	**Zalesovo Beam**	**1.37**	**245**	Pg	Pg	05 53 23.6	-2.1
	1.7nm,0.3s,baz=64,slow=16,SNR=13						
ZALV				Lg	Lg	05 53 43.3	
	1.6nm,0.3s,baz=64,slow=26,SNR=5.4						
KURK	**Kurchatov**	**6.34**	**236**	⇑Lg	Lg	05 56 20.5	
	3.6nm,1.1s						

KURBB	**Kurchatov Arra**	**6.45 236**	Pn	Pn	05 54 36.1	+0.6		
	0.1nm,0.3s,baz=52,slow=14,SNR=4.1							
KURBB			Lg	Lg	05 56 24.7			
	baz=45,slow=32,SNR=5.4							
	1.0nm,0.4s							
KURBB	**Kurchatov Arra**	**6.45 236**	⇑Pn	Pn	05 54 31.3	-4.1		
	1.2nm,0.5s							
KURBB			⇑Sn	Sn	05 55 49.2	-0.5		
	3.4nm,0.6s							
KURBB			⇑Lg	Lg	05 56 23.8			
	6.0nm,0.9s							
MK31	**Makanchi Array**	**8.30 203**	Pn	Pn	05 54 58.7	-2.3		
	0.1nm,0.3s,baz=27,slow=14,SNR=11							
MK31			⇓Sn	Sn	05 56 33.9	-1.4		
	1.0nm,0.7s,baz=229,slow=31,SNR=2.9							
MK31			⇓Lg	Lg	05 57 20.8			
	5.5nm,1.2s,baz=55,slow=6.1,SNR=6.6							
MKAR	**Makanchi Array**	**8.30 203**	Pn	Pn	05 55 02.1	+1.2		
	0.4nm,0.3s,baz=23,slow=13,SNR=13							
MKAR			Sn	Sn	05 56 35.1	-0.2		
	0.2nm,0.3s,baz=18,slow=28,SNR=4.4							
MKAR			Lg	Lg	05 57 23.1			
	0.1nm,0.3s,baz=23,slow=33,SNR=2.8							
	0.5nm,0.4s							
MAKZ	**Makanchi**	**8.36 204**	⇓Pn	Pn	05 55 00.2	-1.5		
	2.2nm,0.5s							
MAKZ			⇑Lg	Lg	05 57 22.1			
	4.5nm,1.2s							

IDC 23 05:55:48.4±3.2**, 54°27'N×86°40'E, h0km, mbtmp3.0/2, ML2.3/2, Error ellipse: s-maj=25.6km s-min=15.2km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.98 251**		*i*		06 02 15.8	
	0.1nm,0.8s,baz=70,slow=325,SNR=12						
ZALV	**Zalesovo Beam**	**0.98 251**		Pg	Pg	05 56 06.5	-0.8
	0.8nm,0.3s,baz=69,slow=18,SNR=7.0						
ZALV				Lg	Lg	05 56 20.9	
	0.7nm,0.3s,baz=70,slow=25,SNR=2.4						
KURBB	**Kurchatov Arra**	**6.04 236**		Pn	Pn	05 57 20.1	+1.3
	baz=54,slow=14,SNR=6.7						
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**7.93 201**		Pn	Pn	05 57 45.3	+0.4
	0.1nm,0.3s,baz=24,slow=14,SNR=1.4						
	0.5nm,0.7s						

*WEL **23** 05:56:00,37.42S×179.06E,h10km,ML5.1,Mw5.4, Moment Tensor Solution. s4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.40; $M_{\theta\theta}$0.08; $M_{\phi\phi}$0.31; $M_{r\theta}$0.85; $M_{\theta\phi}$-0.20; $M_{\phi r}$1.05; Fault plane solution: $M_0$1.37000×10^{17} NP1: ϕ_s338.00000°,δ9.00000°,λ-147.00000°. NP2: ϕ_s215.00000°,δ85.00000°,λ-82.00000°. Principal axes: T -15514.9900, Plg40.0000°, Azm298.0000°; N 3561.1700, Plg8.0000°, Azm34.0000°; P 11953.8200, Plg49.0000°, Azm133.0000°;*

*IDC **23** 05:56:26.0±0.6,37.31S×178.73E,h0km,mb4.7/13, mbtmp4.6/14,ML6.1/1,MS4.9/12 Error ellipse: s-maj=16.6km s-min=16.1km az=81.0*

*WEL **23** 05:56:27.1±0.9,37°S×179°E,h13km±4km,M5.1/51, mB5.9/1,ML5.3/50,MLv5.1/51,Mw(mB)5.5/1,Error ellipse: s-maj=0.0km s-min=0.0km az=83.8*

*NEIC **23** 05:56:27.5±2.4,37.67S±0.08×178.97E±0.06,h10km±1km, mb4.9/33,Error ellipse: s-maj=13.3km s-min=7.4km az=11.0*

*NOU **23** 05:56:28.0,37.75S×179.08E,h23km,mb5.0/38,Off E. Coast of N. Island, N.Z.*

*GCMT **23** 05:56:31.5±0.2,37.46S±0.02×178.82E±0.02,h22km, MW5.2/96,Moment Tensor Solution. s55,c67; s96,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.06±.27; $M_{\theta\theta}$-0.26±.16; $M_{\phi\phi}$5.32±.17; $M_{r\theta}$3.07±.35; $M_{\theta\phi}$0.50±.11; $M_{\phi r}$3.44±.26; Best double couple: $M_0$6.94500×10^{16} NP1:ϕ_s207.00000°,δ66.00000°,λ-71.00000°. NP2: ϕ_s346.00000°,δ30.00000°,λ-127.00000°. Principal axes: T 6.6510, Plg19.0000°, Azm283.0000°; N 0.5850, Plg17.0000°, Azm19.0000°; P -7.2390, Plg64.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 05:56:29.4±1.4**, 37°46S±0°04×178°87E±0°05, h18km,7km, n316,σ1§56/267, mb4.9**/32**, MS4.8**/14**, 3C, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.46 257**			**Pg**	**05 56 38.8**	**-0.1**
MXZ	**Matakaoa Point**	**0.46 257**		P	**Pg**	**05 56 38.7**	**-0.1**
MXZ				S	**Sg**	**05 56 45.8**	**+0.7**
WMGZ	**Waiomatatini S**	**0.51 225**		P	**Pb**	**05 56 41.2**	**+1.3**
WMGZ				S	**Sb**	**05 56 49.6**	**+2.5**
PKGZ	**Pakihiroa**	**0.76 236**		P	**Pg**	**05 56 44.6**	**+0.2**
PKGZ				S	**Sb**	**05 56 56.6**	**+2.2**
PUZ	**Puketiti**	**0.78 218**		P	**Pg**	**05 56 45.0**	**+0.2**
PUZ				S	**Sn**	**05 56 57.9**	**+0.9**
HAZ	**Te Kaha**	**0.92 251**		P	**Pg**	**05 56 46.5**	**-0.7**
HAZ				S	**Sb**	**05 57 01.3**	**+2.6**
TWGZ	**Tauwhareparae**	**1.01 224**		P	**Pg**	**05 56 48.5**	**-0.5**
TWGZ				S	**Sn**	**05 57 04.8**	**+2.2**
RUGZ	**Raukumara Rang**	**1.07 242**		P	**Pg**	**05 56 49.5**	**-0.8**
RUGZ				S	**Sn**	**05 57 06.2**	**+1.9**
CNGZ	**Carnagh Statio**	**1.15 207**		P	**Pb**	**05 56 51.3**	**+0.5**
CNGZ				S	**Sn**	**05 57 08.7**	**+2.6**
TKGZ	**Te Karaka**	**1.27 219**		P	**Pn**	**05 56 51.7**	**-0.7**
TKGZ				S	**Sb**	**05 57 10.4**	**+1.5**
WIZ	**White Island**	**1.34 267**		P	**Pn**	**05 56 52.2**	**-1.1**
WSRZ	**White Island S**	**1.35 267**		P	**Pn**	**05 56 53.4**	**0.0**
MWZ	**Matawai**	**1.38 230**		P	**Pn**	**05 56 53.2**	**-0.7**
MWZ				S	**Sb**	**05 57 12.7**	**+0.7**
RIGZ	**Rimuhau**	**1.52 215**		P	**Pn**	**05 56 55.0**	**-0.8**
RAGZ	**Rawiri**	**1.55 228**		P	**Pn**	**05 56 55.7**	**-0.5**
WHRZ	**Whale Island**	**1.56 255**		P	**Pn**	**05 56 56.4**	**0.0**
URZ	**Urewera**	**1.61 240**		Pn	**Pn**	**05 56 57.0**	**0.0**
	931nm,0.3s,baz=305,slow=0.8,SNR=2520						
URZ				Sn	**Sn**	**05 57 18.0**	**+0.7**
	2µm,0.3s,baz=229,slow=19,SNR=8.8						
URZ				LR	LR	05 57 37.6	
	comp=Z,16µm,20.3s,baz=109,slow=45						
URZ	**Urewera**	**1.61 240**		P	**Pn**	**05 56 57.1**	**0.0**
URZ				S	**Sn**	**05 57 18.5**	**+1.2**
URZ	**Urewera**	**1.61 240**		P	**Pn**	**05 56 57.3**	**+0.3**
PRGZ	**Paritu Road**	**1.66 208**		P	**Pn**	**05 56 56.7**	**-1.0**
SNGZ	**Shannon Statio**	**1.79 222**		P	**Pn**	**05 56 58.6**	**-0.9**
EDRZ	**Edgecumbe**	**1.81 248**		P	**Pn**	**05 56 59.8**	**0.0**
MARZ	**Manawahe**	**1.82 253**		P	**Pn**	**05 56 59.7**	**-0.3**
KNZ	**Kokohu**	**1.82 211**		P	**Pn**	**05 56 58.3**	**-1.6**
MHGZ	**Mahia Peninsul**	**1.85 204**		P	**Pn**	**05 56 59.4**	**-1.0**
OPRZ	**Ohinepanea**	**1.88 257**		P	**Pn**	**05 57 00.3**	**-0.4**
RTZ	**Ruatahuna**	**1.89 232**		P	**Pn**	**05 57 01.0**	**0.0**
MUGZ	**Murupara**	**1.95 238**		P	**Pn**	**05 57 01.4**	**-0.3**
MKRZ	**Makatiti**	**2.02 250**		P	**Pn**	**05 57 03.4**	**+0.6**
RAHZ	**Arahi**	**2.03 223**		P	**Pn**	**05 57 02.4**	**-0.4**
LIRZ	**Lichensteins R**	**2.05 254**		P	**Pn**	**05 57 03.4**	**+0.3**
RRRZ	**Republican Roa**	**2.06 244**		P	**Pn**	**05 57 03.3**	**0.0**
WHHZ	**Waihua**	**2.07 218**		P	**Pn**	**05 57 02.5**	**-0.8**
OMRZ	**Omania**	**2.08 251**		P	**Pn**	**05 57 03.7**	**+0.1**
TGRZ	**Tauranga**	**2.09 262**		P	**Pn**	**05 57 03.2**	**-0.5**
MYRZ	**Mayor Island**	**2.10 274**		P	**Pn**	**05 57 02.5**	**-1.3**
MTHZ	**Maungataniwha**	**2.12 228**		P	**Pn**	**05 57 04.0**	**-0.1**
HLRZ	**Highlands Stat**	**2.15 248**		P	**Pn**	**05 57 04.7**	**+0.3**
KARZ	**Kaharoa**	**2.16 254**		P	**Pn**	**05 57 04.4**	**-0.1**
PRRZ	**Plateau Road**	**2.22 241**		P	**Pn**	**05 57 05.1**	**-0.3**
NGRZ	**Ngongotaha**	**2.22 252**		P	**Pn**	**05 57 06.0**	**+0.5**
UTU	**Utuhina**	**2.24 251**		P	**Pn**	**05 57 06.5**	**+0.8**
HSRZ	**Hossack Road**	**2.25 247**		P	**Pn**	**05 57 06.3**	**+0.5**
HRRZ	**Handcock Road**	**2.25 245**		P	**Pn**	**05 57 05.8**	**0.0**
ALRZ	**Allen Road**	**2.28 240**		P	**Pn**	**05 57 05.9**	**-0.3**
NMHZ	**Naumai**	**2.31 224**		P	**Pn**	**05 57 06.4**	**-0.3**
ARHZ	**Aropaoanui**	**2.33 219**		P	**Pn**	**05 57 06.1**	**-0.8**
KMRZ	**Kaimai**	**2.36 260**		P	**Pn**	**05 57 06.9**	**-0.4**
GRRZ	**Galatos Road**	**2.36 247**		P	**Pn**	**05 57 07.8**	**+0.4**
MRHZ	**Matea Rd**	**2.37 234**		P	**Pn**	**05 57 07.2**	**-0.4**
WPRZ	**Whakapapatarin**	**2.39 243**		P	**Pn**	**05 57 08.2**	**+0.4**
BKZ	**Black Stump Fm**	**2.53 227**		Pn	**Pn**	**05 57 09.1**	**-0.7**
BKZ	**Black Stump Fm**	**2.53 227**		P	**Pn**	**05 57 09.1**	**-0.7**
BKZ	**Black Stump Fm**	**2.53 227**		P	**Pn**	**05 57 09.4**	**-0.4**
WHTZ	**Whakaora**	**2.60 241**		P	**Pn**	**05 57 11.8**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.61 212**		P	**Pn**	**05 57 09.1**	**-1.6**
HATZ	**Hinemaiaia**	**2.62 236**		P	**Pn**	**05 57 10.4**	**-0.5**
MCHZ	**McNeill Hill**	**2.62 220**		P	**Pn**	**05 57 09.9**	**-1.0**
KUZ	**Kuaotunu**	**2.62 285**		P	**Pn**	**05 57 08.6**	**-2.2**
KUTZ	**Kaahu Road**	**2.62 246**		P	**Pn**	**05 57 10.9**	**-0.1**
TOZ	**Tahuroa Road**	**2.69 263**		P	**Pn**	**05 57 11.2**	**-0.6**
KWHZ	**Kaweka Forest**	**2.75 224**		P	**Pn**	**05 57 11.3**	**-1.4**
WATZ	**Wairara**	**2.77 242**		P	**Pn**	**05 57 13.5**	**+0.4**
TLZ	**Tolley Road**	**2.78 251**		P	**Pn**	**05 57 13.0**	**-0.1**
KAHZ	**Kahuranaki**	**2.81 213**		P	**Pn**	**05 57 11.6**	**-2.0**
RATZ	**Rangitukua**	**2.82 239**		P	**Pn**	**05 57 13.8**	**+0.1**
KATZ	**Kakaramea**	**2.93 238**		P	**Pn**	**05 57 15.0**	**-0.2**
KRHZ	**Kereru**	**2.93 221**		P	**Pn**	**05 57 13.4**	**-1.9**
MKAZ	**Koumakai**	**2.98 276**		P	**Pn**	**05 57 14.6**	**-1.3**
GRZ	**Great Barrier**	**2.99 293**		P	**Pn**	**05 57 14.3**	**-1.7**
TMVZ	**Te Maari**	**2.99 235**		P	**Pn**	**05 57 15.4**	**-0.7**
BHHZ	**Black Hill Sta**	**3.00 227**		P	**Pn**	**05 57 15.0**	**-1.2**
ETVZ	**East Tongariro**	**3.00 235**		P	**Pn**	**05 57 15.5**	**-0.7**
NTVZ	**North Tongarir**	**3.00 236**		P	**Pn**	**05 57 15.6**	**-0.7**
PXZ	**Pawanui**	**3.01 211**		P	**Pn**	**05 57 13.6**	**-2.7**
KRVZ	**Karewarewa**	**3.02 236**		P	**Pn**	**05 57 15.9**	**-0.6**
OTVZ	**Oturere**	**3.04 235**		P	**Pn**	**05 57 16.0**	**-0.9**
NNVZ	**North Ngauruho**	**3.06 236**		P	**Pn**	**05 57 16.5**	**-0.6**
WIAZ	**Waiheke Island**	**3.06 281**		P	**Pn**	**05 57 15.5**	**-1.4**
WTVZ	**West Tongariro**	**3.07 236**		P	**Pn**	**05 57 16.7**	**-0.5**
SNVZ	**South Ngauruho**	**3.07 235**		P	**Pn**	**05 57 16.4**	**-0.9**
NGZ	**Ngauruhoe**	**3.09 235**		P	**Pn**	**05 57 16.8**	**-0.7**
TUVZ	**Tukino**	**3.11 233**		P	**Pn**	**05 57 16.9**	**-0.9**
MOVZ	**Moawhango**	**3.13 231**		P	**Pn**	**05 57 16.7**	**-1.3**
TWVZ	**Taurewa**	**3.15 238**		P	**Pn**	**05 57 17.6**	**-0.7**
WHVZ	**Whangaehu Hut**	**3.16 234**		P	**Pn**	**05 57 17.6**	**-0.9**
FWVZ	**Far West T-bar**	**3.17 234**		P	**Pn**	**05 57 17.7**	**-1.0**
DRZ	**Dome Shelter**	**3.17 234**		P	**Pn**	**05 57 18.3**	**-0.4**
WNVZ	**Wahianoa**	**3.18 233**		P	**Pn**	**05 57 17.7**	**-1.1**
ETAZ	**East Tamaki Re**	**3.19 278**		P	**Pn**	**05 57 17.9**	**-0.9**
TRVZ	**Turoa**	**3.19 234**		P	**Pn**	**05 57 18.2**	**-0.8**
PNHZ	**Pukenui**	**3.22 220**		P	**Pn**	**05 57 16.7**	**-2.6**
WPHZ	**Waipukurau**	**3.22 215**		P	**Pn**	**05 57 17.0**	**-2.2**
MBAZ	**Motutapu North**	**3.25 281**		P	**Pn**	**05 57 18.6**	**-1.0**
MTVZ	**Mangateitei**	**3.29 233**		P	**Pn**	**05 57 19.5**	**-0.8**
PRHZ	**Porangahau**	**3.30 211**		P	Pn	05 57 17.4	-2.9
PKVZ	**Pokaka**	**3.32 236**		P	**Pn**	**05 57 19.9**	**-0.7**
HIZ	**Hauiti**	**3.34 250**		P	**Pn**	**05 57 21.5**	**+0.7**
HIZ	**Hauiti**	**3.34 250**		P	**Pn**	**05 57 21.6**	**+0.7**
ABAZ	**Army Bay**	**3.34 284**		P	**Pn**	**05 57 20.1**	**-0.7**
EPAZ	**Eden Park BICE**	**3.35 279**		P	**Pn**	**05 57 21.2**	**+0.2**
HBAZ	**Herne Bay Bore**	**3.37 279**		P	**Pn**	**05 57 21.4**	**+0.3**
AWAZ	**Awhitu Peninsu**	**3.40 275**		P	**Pn**	**05 57 21.1**	**-0.5**
TSZ	**Takapari Road**	**3.45 220**		P	**Pn**	**05 57 19.7**	**-2.7**
WTAZ	**Waiatarua**	**3.47 277**		P	**Pn**	**05 57 22.2**	**-0.4**
RVAZ	**Riverhead Bore**	**3.50 280**		P	**Pn**	**05 57 22.3**	**-0.7**
ANWZ	**Angora Road**	**3.53 211**		P	Pn	05 57 20.6	-2.9
DVHZ	**Dannevirke**	**3.54 216**		P	Pn	05 57 20.7	-2.9
POWZ	**Post Office Ro**	**3.80 219**		P	Pn	05 57 24.1	-3.0
WAZ	**Wanganui**	**3.81 232**		P	**Pn**	**05 57 26.7**	**-0.6**
BFZ	**Birch Farm**	**3.81 212**		Pn	Pn	05 57 23.8	-3.6
BFZ	**Birch Farm**	**3.81 212**		P	Pn	05 57 23.7	-3.6
BFZ	**Birch Farm**	**3.81 212**		P	Pn	05 57 24.1	-3.2
PRWZ	**Pori Road**	**3.83 215**		P	**Pn**	**05 57 24.9**	**-2.6**
OHWZ	**Ohakea**	**3.91 224**		P	**Pn**	**05 57 27.2**	**-1.3**
MHEZ	**Mangahewa**	**3.93 244**		P	**Pn**	**05 57 31.4**	**+2.5**
WCZ	**Waipu Caves**	**3.94 291**		P	**Pn**	**05 57 28.1**	**-0.9**
CPWZ	**Castlepoint**	**4.02 210**		P	Pn	05 57 26.9	-3.3
LREZ	**Lake Rotokare**	**4.04 239**		P	**Pn**	**05 57 30.8**	**+0.4**
TIWZ	**Tintock**	**4.05 214**		P	Pn	05 57 27.4	-3.2
DREZ	**Durham Road**	**4.06 243**		P	**Pn**	**05 57 31.9**	**+1.2**
MRZ	**Mangatainoka R**	**4.10 248**		P	Pn	05 57 27.7	-3.6
PREZ	**Paihaua Road**	**4.15 242**		P	**Pn**	**05 57 33.2**	**+1.2**
NEZ	**North Egmont**	**4.17 243**		P	**Pn**	**05 57 33.4**	**+1.2**
PKE	**Pukeiti**	**4.21 244**		P	**Pn**	**05 57 33.9**	**+1.0**
KHEZ	**Kahui Hut**	**4.24 243**		P	**Pn**	**05 57 34.2**	**+1.1**
NBEZ	**Newall Road No**	**4.33 244**		P	**Pn**	**05 57 36.5**	**+2.1**
NMEZ	**Namu Road**	**4.38 242**		P	**Pn**	**05 57 36.2**	**+1.1**
OUZ	**Omahuta**	**4.81 296**		Pn	**Pn**	**05 57 40.6**	**-0.4**
OUZ	**Omahuta**	**4.81 296**		P	**Pn**	**05 57 40.5**	**-0.4**
OUZ	**Omahuta**	**4.81 296**		P	**Pn**	**05 57 40.6**	**-0.4**
	462nm,0.6s						
MSWZ	**Moikau Station**	**4.85 214**		Pn	Pn	05 57 36.9	-4.6
PLWZ	**Palliser**	**4.97 213**		Pn	Pn	05 57 38.8	-4.4
SNZO	**South Karori**	**5.02 219**		P	Pn	05 57 40.2	-3.7
CMWZ	**Cape Campbell**	**5.59 219**		P	Pn	05 57 48.4	-3.4
QRZ	**Quartz Range**	**5.97 234**		P	Pn	05 57 53.2	-3.7
	131nm,0.9s						
KHZ	**Kahutara**	**6.43 218**		Pn	Pn	05 57 59.2	-4.0
KHZ	**Kahutara**	**6.43 218**		P	Pn	05 57 58.8	-4.4
CTZ	**Chatham Island**	**7.15 153**		P	**Pn**	**05 58 11.5**	**-1.5**
WVZ	**Waitaha Valley**	**8.37 225**		P	Pn	05 58 27.1	-2.8
RPZ	**Rata Peaks**	**8.62 221**		Pn	Pn	05 58 28.7	-4.7
	11nm,0.3s,baz=3.8,slow=0.2,SNR=32						
RPZ				Sn	Sn	05 59 58.5	-12
	25nm,0.3s,baz=354,slow=23,SNR=15						
RPZ	**Rata Peaks**	**8.62 221**		P	Pn	05 58 28.4	-5.0
	44nm,0.6s						
ODZ	**Otahua Downs**	**9.78 217**		P	Pn	05 58 42.8	-6.4
	45nm,0.8s						
MARNC	**Mare, Loyalty**	**18.48 326**		P	**P**	**06 00 45.4**	**+0.8**
YATNC	**Mamie plateau,**	**18.51 323**		P	**P**	**06 00 47.2**	**+2.3**
ONTNC	**Ouen Toro**	**18.52 321**		P	**P**	**06 00 45.3**	**+0.4**
ONTNC					IAmb	IAmb	06 01 06.0
	comp=Z,90nm,1.5s						
DZM	**Mont Dzumac**	**18.72 322**		*e*Pn	**Pn**	**06 00 50.1**	**+2.4**
	comp=Z,54nm,1.4s						
DZM				*e*LR	LR	06 05 11.5	
	comp=Z,5µm,23.2s						
DZM	**Mont Dzumac**	**18.72 322**		P	**P**	**06 00 47.9**	**+0.7**
	comp=Z,10nm,0.9s,baz=124,slow=15,SNR=6.4						
DZM				S	**Sn**	**06 04 09.2**	**-7.6**
	comp=Z,3.4nm,1.0s,baz=205,slow=19,SNR=1.7						
DZM	**Mont Dzumac**	**18.72 322**			**P**	**06 00 48.3**	**+1.1**
LIFNC	**LIFOU**	**19.45 325**		P	**P**	**06 00 56.2**	**+1.0**
LIFNC					IAmb	IAmb	06 01 24.9
	comp=Z,70nm,1.1s						
MSVF	**Nonsavu**	**19.66 358**		P	**P**	**06 00 56.9**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=160,slow=12,SNR=11						
MSVF				LR	LR	06 07 38.7	
	comp=Z,2µm,18.0s,baz=160,slow=34						
	comp=Z,10nm,0.5s						
MSVF	**Nonsavu**	**19.66 358**		P	**P**	**06 00 59.4**	**+1.8**
MSVF					IAmb	IAmb	06 01 11.6
	comp=Z,28nm,0.8s						
TAVE	**Taveuni**	**20.70 3**		P	**P**	**06 01 09.4**	**+0.7**
KOUNC	**Koumac, New Ca**	**21.09 319**			**P**	**06 01 13.5**	**+0.6**
SYDH	**Sydney Hard Ro**	**23.13 271**		P	**P**	**06 01 34.6**	**0.0**
CNB	**Canberra Magne**	**23.81 266**		P	**P**	**06 01 39.5**	**-2.0**
	baz=24,SNR=4.3						
CAN	**Canberra**	**24.10 266**		P	**P**	**06 01 42.9**	**-1.3**
CAN					IAmb	IAmb	06 01 59.5
	comp=Z,57nm,1.2s						
RAR	**Rarotonga**	**24.58 55**		LR	LR	06 09 24.5	
	comp=Z,1µm,21.1s,baz=252,slow=32						
TAU	**Tasmania Unive**	**24.63 247**		P	**P**	**06 01 46.5**	**-2.2**
TAU					IAmb	IAmb	06 01 51.7
	comp=Z,21nm,0.7s						
TAU	**Tasmania Unive**	**24.63 247**		P	**P**	**06 01 49.0**	**+0.2**
MOO	**Moorlands**	**24.71 248**		P	**P**	**06 01 49.3**	**-0.3**
	baz=24,SNR=8.6						
MOO	**Moorlands**	**24.71 248**		P	**P**	**06 01 48.9**	**-0.7**
AFI	**Afiamalu**	**24.89 22**		P	**P**	**06 01 51.2**	**-0.2**
	comp=Z,22nm,0.8s,baz=117,slow=14,SNR=3.8						
	comp=Z,22nm,0.8s						
AFI	**Afiamalu**	**24.89 22**		P	**P**	**06 01 51.5**	**0.0**
TOO	**Toolangi**	**26.40 259**		P	**P**	**06 02 04.7**	**-0.2**
	baz=26,SNR=7.9						
TOO	**Toolangi**	**26.40 259**		P	**P**	**06 02 04.4**	**-0.6**
TOO					IAmb	IAmb	06 02 26.3
	comp=Z,37nm,1.4s						
TOO	**Toolangi**	**26.40 259**		P	**P**	**06 02 04.8**	**-0.2**
EIDS	**Eidsvold**	**26.50 289**		P	**P**	**06 02 06.0**	**+0.1**
RMQ	**Roma**	**27.68 285**		P	**P**	**06 02 17.2**	**+0.7**
	baz=27,SNR=6.8						
CMSA	**Cobar Meteorol**	**27.88 272**		P	**P**	**06 02 17.8**	**-0.5**
	baz=28,SNR=31						
CMSA	**Cobar Meteorol**	**27.88 272**		P	**P**	**06 02 17.8**	**-0.5**
TBI	**Tubuai**	**30.55 72**		*e*LR	LR	06 10 44.9	
	comp=Z,2µm,22.8s						
TBI	**Tubuai**	**30.55 72**		*e*T	T	06 34 39.2	
	comp=Z,78nm,0.3s						
STKA	**Stephens Creek**	**31.02 269**		P	**P**	**06 02 45.6**	**-0.5**
	comp=Z,18nm,0.8s,baz=97,slow=10,SNR=26						
STKA					LR	LR	06 13 44.3
	comp=Z,3µm,21.7s,baz=73,slow=34						
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**31.02 269**		P	**P**	**06 02 45.7**	**-0.5**
	baz=31,SNR=13						
STKA	**Stephens Creek**	**31.02 269**		P	**P**	**06 02 45.3**	**-0.9**
STKA	**Stephens Creek**	**31.02 269**		P	**P**	**06 02 45.6**	**-0.5**
HTT	**Hallett**	**32.62 265**		P	**P**	**06 02 59.2**	**-1.1**
	baz=32,SNR=8.2						
HTT	**Hallett**	**32.62 265**		P	**P**	**06 02 59.9**	**-0.4**
HNR	**Honiara**	**32.72 324**		LR	LR	06 13 36.9	
	comp=Z,8µm,18.1s,baz=243,slow=32						
CTA	**Charters Tower**	**33.20 292**		P	**P**	**06 03 05.2**	**-0.2**
	comp=Z,8.0nm,0.9s,baz=122,slow=10,SNR=9.8						
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**33.20 292**		P	**P**	**06 03 05.2**	**-0.2**
CTAO					IAmb	IAmb	06 03 11.9
	comp=Z,16nm,0.9s						
PAE	**Paea**	**33.98 63**		*e*T	T	06 39 02.8	
	comp=Z,8.8nm,0.3s						
PPT2	**Papeete2**	**34.03 63**		*e*LR	LR	06 12 21.7	
	comp=Z,2µm,24.8s						
PPT2	**Papeete2**	**34.03 63**		*e*T	T	06 39 02.5	
	comp=Z,11nm,0.3s						
PPT	**Papeete**	**34.05 63**		LR	LR	06 15 35.2	
	comp=Z,914nm,18.9s,baz=266,slow=34						
TVO	**Taravao**	**34.14 64**		*e*T	T	06 39 09.7	
	comp=Z,9.2nm,0.3s						
TIAR	**Tiarei**	**34.22 63**		*e*T	T	06 39 08.8	
	comp=Z,2.5nm,0.2s						
LCRK	**Leigh Creek**	**34.24 270**		P	**P**	**06 03 13.9**	**-0.4**
MEH	**Mehetia**	**34.93 65**		*e*T	T	06 40 11.0	
	comp=Z,20nm,0.2s						
BBOO	**Buckleboo**	**35.10 265**		P	**P**	**06 03 19.8**	**-1.9**
	baz=35,SNR=12						
BBOO	**Buckleboo**	**35.10 265**		P	**P**	**06 03 19.9**	**-1.9**
MTSU	**Mount Surprise**	**35.85 293**		P	**P**	**06 03 27.6**	**-0.7**
	baz=36,SNR=9.0						
VAH	**Vaihoa**	**36.99 62**		*e*T	T	06 42 45.1	
	comp=Z,30nm,0.2s						
OOD	**Oodnadatta**	**37.35 272**		P	**P**	**06 03 40.2**	**-0.8**
MULG	**Mulgathing**	**37.61 267**		P	**P**	**06 03 41.4**	**-1.8**
QIS	**Mount Isa**	**37.93 285**		P	**P**	**06 03 45.4**	**-0.6**
	baz=38,SNR=5.7						
QIS	**Mount Isa**	**37.93 285**		P	**P**	**06 03 47.5**	**+1.4**
COEN	**Coen**	**39.42 297**		P	**P**	**06 03 57.4**	**-1.1**
	baz=39,SNR=12						
COEN	**Coen**	**39.42 297**		P	**P**	**06 03 57.1**	**-1.4**
COEN					IAmb	IAmb	06 04 16.1
	comp=Z,68nm,1.4s						
COEN	**Coen**	**39.42 297**		P	**P**	**06 03 57.6**	**-0.9**
PMG	**Port Moresby**	**39.98 306**		LR	LR	06 20 15.3	
	comp=Z,2µm,18.4s,baz=149,slow=36						
AS31	**Alice Springs**	**40.72 277**		P	**P**	**06 04 07.2**	**-2.2**
ASAR	**Alice Springs**	**40.72 277**		P	**P**	**06 04 07.3**	**-2.0**
	comp=Z,19nm,0.7s,baz=120,slow=7.7,SNR=132						
ASAR				S	S	06 10 12.1	-6.9
	comp=Z,1.9nm,0.8s,baz=122,slow=16,SNR=9.2						
	comp=Z,19nm,0.7s						
ASAR	**Alice Springs**

VNA3	Neumayer Olymp	71.43	177	P		P	06 07 47.2	-1.0
VNA2	Neumayer--Watz	71.83	178	P		P	06 07 49.3	-1.3
	baz=178,slow=6.0							
VNA1	Neumayer--Stat	72.07	178	P		P	06 07 50.3	-1.7
H03N3	Juan Fernandez	78.95	124	T		T	07 35 13.9	
	baz=234,slow=72,SNR=142							
H03N2	Juan Fernandez	78.95	124	T		T	07 35 12.8	
	baz=234,slow=72,SNR=164							
H03N1	Juan Fernandez	78.97	124	T		T	07 35 07.0	
	baz=234,slow=72,SNR=161							
LR03	Panguipulli	79.23	132	P		P	06 08 35.1	+1.5
PLCA	Paso Flores	79.56	134	P		P	06 08 36.9	+1.3
	comp=Z,4.0nm,0.7s,baz=269,slow=9.3,SNR=15							
	comp=Z,4.0nm,0.7s							
PLCA	Paso Flores	79.56	134	P		P	06 08 37.2	+1.7
KSRS	Korea Array	88.15	322	P		P	06 09 18.6	-0.4
	comp=Z,1.6nm,0.7s,baz=142,slow=5.6,SNR=4.9							
	comp=Z,1.6nm,0.7s							
PEA0B	Petropavlovsk-	92.05	347	P		P	06 09 38.9	+2.1
PETK	Petropavlovsk-	92.05	347	P		P	06 09 37.3	+0.5
	comp=Z,1.0nm,0.6s,baz=123,slow=7.2,SNR=2.3							
	comp=Z,1.0nm,0.6s							
CMAR	Chiang Mai Arr	93.35	291	P		P	06 09 42.7	-1.0
	comp=Z,1.1nm,0.4s,baz=128,slow=3.4,SNR=4.2							
	comp=Z,1.1nm,0.4s							
PZH	PanZhiHua	96.31	298	P		P	06 09 56.3	-0.9
PZH				pmax	pmax			
	comp=Z,20nm,1.2s							
LPAZ	La Paz	97.46	117	P		P	06 10 05.2	+1.8
	comp=Z,0.8nm,0.7s,baz=220,slow=5.8,SNR=4.4							
	comp=Z,0.8nm,0.7s							
CPUP	Villa Florida	97.47	131	LR		LR	06 47 19.3	
	comp=Z,815nm,19.2s,baz=247,slow=31							
HHC	Hu-ho-hao-te	99.31	315	*e*P		Pdif	06 10 11.5	+1.2
HHC				pmax	pmax			
	comp=Z,28nm,0.8s							
WMQ	Urumqi	115.45	307	*e*P		PKPdf	06 15 11.3	+1.4
MKAR	Makanchi Array	120.18	308	PKhKP		PKPpre	06 15 15.8	
	comp=Z,0.4nm,0.6s,baz=153,slow=1.0,SNR=2.3							
KSH	Kashi	121.42	298	PKP		PKiKP	06 15 24.6	+2.8
KSH				pmax	pmax			
	comp=Z,100nm,0.6s							
KSH				smax	smax			
	comp=N,130nm,0.6s							
KSH				smax	smax			
	comp=E,59nm,0.5s							
KURBB	Kurchatov Arra	123.91	311	PKhKP		PKPpre	06 15 22.2	
	comp=E,1.3nm,0.5s,baz=119,slow=1.8,SNR=9.1							
KMBO	Kilima Mbogo	127.72	232	PKP		PKPdf	06 15 33.4	-1.3
	comp=E,1.3nm,0.5s,baz=309,slow=2.1,SNR=3.5							
BVAR	Borovoye Array	129.42	312	PKP		PKPdf	06 15 34.6	-1.7
	comp=E,0.5nm,0.6s,baz=90,slow=2.9,SNR=4.9							
SPA0	Spitsbergen Ar	138.51	355	*e*PKPdf		PKPdf	06 15 53.0	+0.2
ARA0	ARCESS Array S	144.79	344	*e*PKPbc		PKPab	06 16 02.6	-0.6
ARA0				IAmb		IAmb	06 16 02.9	
	comp=Z,7.9nm,0.6s							
ARCES	ARCESS Array B	144.79	344	PKP		PKPab	06 16 01.3	-1.8
	comp=Z,5.0nm,0.6s,baz=38,slow=3.1,SNR=34							
KTK1	Kautokeino	145.70	345	*e*PKPdf		PKPdf	06 16 04.0	-1.8
KTK1				IAmb		IAmb	06 16 13.2	
	comp=E,11nm,1.1s							
JETT	Jettan, Norway	145.80	347	*e*PKPbc		PKPdf	06 16 06.4	+0.5
TRO	Tromso	145.99	348	*e*		PKPdf	06 16 04.8	-1.4
KBZ	Khabaz	146.30	295	PKPbc		PKPdf	06 16 07.5	0.0
	comp=Z,3.6nm,1.0s,baz=110,slow=6.0,SNR=3.5							
STEI	Steigen	148.13	348	*e*PKPdf		PKPdf	06 16 11.5	+1.7
STEI				IAmb		IAmb	06 16 17.9	
	comp=Z,9.5nm,0.8s							
LOF	Lofoten	148.20	350	*e*PKPdf		PKPdf	06 16 10.3	+0.4
ASF	Jabal al Asfar	148.49	272	PKPbc		PKPdf	06 16 13.8	+2.2
	comp=Z,3.4nm,0.8s,baz=162,slow=3.2,SNR=3.2							
FAUS	Fauske	148.62	348	*e*PKPdf		PKPdf	06 16 11.0	+0.4
FAUS				IAmb		IAmb	06 16 25.8	
	comp=Z,23nm,1.1s							
LIC	Lamto	148.71	173	⇑*e*P		PKPdf	06 16 14.7	+2.2
	comp=Z,16nm,0.6s							
KIC	Kosan Boka	148.87	173	⇑*i*P		PKPdf	06 16 15.8	+3.1
	comp=Z,4.4nm,0.5s							
EIL	Elat	149.09	266	PKPbc		PKPdf	06 16 13.8	+1.3
	comp=Z,5.5nm,0.7s,baz=244,slow=3.3,SNR=3.0							
TIC	Toumodi	149.12	172	⇑*i*P		PKPdf	06 16 14.3	+1.1
	comp=Z,4.1nm,0.3s							
DBIC	Dimbokro	149.17	173	PKPbc		PKPdf	06 16 16.4	+3.2
	comp=Z,3.6nm,0.6s,baz=152,slow=4.4,SNR=7.8							
KONS	Konsvik	149.78	349	*e*PKPbc		PKPdf	06 16 16.2	+3.7
MOR8	Moi Rana	149.86	347	*e*PKPbc		PKPdf	06 16 16.6	+3.9
MMAI	Mount Meron Ar	149.96	273	PKPbc		PKPdf	06 16 17.4	+3.4
	comp=Z,1.1nm,0.3s,baz=138,slow=4.0,SNR=3.8							
FINES	FINESS Array B	150.60	333	PKPbc		PKPdf	06 16 16.6	+2.7
	comp=Z,3.9nm,0.5s,baz=55,slow=3.9,SNR=14							
NSS	Namsos	151.79	348	*e*PKPbc		PKPdf	06 16 19.8	+4.2
NSS				IAmb		IAmb	06 16 20.6	
	comp=Z,11nm,0.7s							
BRTR	Keskin Array B	152.83	286	PKPbc		PKPdf	06 16 22.6	+4.3
	comp=Z,0.9nm,0.7s,baz=152,slow=5.8,SNR=3.7							
TBLU	Trondheim	153.26	349	*e*PKPdf		PKPdf	06 16 17.0	-0.9
AKN	Aaknes	154.75	351	*e*PKPbc		PKPbc	06 16 28.4	-0.2
NB2	NORSAR Subarra	155.15	346	PKP		PKPdf	06 16 27.8	+7.1
	comp=Z,0.5nm,0.5s,baz=37,slow=2.7							
NOA	NORSAR Array B	155.15	346	PKPbc		PKPdf	06 16 26.6	+5.9
	comp=Z,0.8nm,0.6s,baz=31,slow=2.1,SNR=4.6							
TORD	Torodi Ar. Bea	155.66	187	PKP		PKPdf	06 16 22.8	+0.1
TORD				PKPab		PKPab	06 16 47.9	-0.8
	comp=Z,2.3nm,0.8s,baz=162,slow=2.6,SNR=6.5							
PMOZ	Porto Moniz, M	166.06	105	*e*LR		LR	07 15 47.1	
	comp=Z,996nm,20.0s							
PGAV	Gavieira, Arco	172.89	49	*e*LR		LR	07 05 57.8	
	comp=Z,2µm,18.0s							
MVO	Moncorvo	174.12	49	*e*LR		LR	07 06 54.0	
	comp=Z,2µm,20.0s							
MTE	Manteigas	174.20	58	*e*LR		LR	07 07 09.2	
	comp=Z,1µm,20.0s							
PMRV	Marv??o	174.70	66	*e*LR		LR	07 08 58.1	
	comp=Z,2µm,18.0s							
PVAQ	Vaqueiros	174.75	89	*e*LR		LR	07 08 25.8	
	comp=Z,3µm,20.0s							

MAN 23 05:58:02.9, 14°.87N × 119°.92E, h30km, mb4.3, ML3.1, MS2.9, 2C-9D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.90	359	⇓*i*P	Pn	05 58 19.5	-0.1
SCZP				*e*S	Sb	05 58 32.1	+0.5
MACP	Maragondon, Ca	0.98	128	⇓*e*P	Pn	05 58 20.5	-0.2
MACP				*e*S	Sb	05 58 34.9	+1.0
LUBP	Lubang	1.17	164	⇓*i*P	Pn	05 58 23.1	-0.2
LUBP				*e*S	Sn	05 58 38.8	+0.4
TGY	Tagaytay City	1.25	128	⇑*e*P	Pn	05 58 25.0	+0.7
TGY				*e*S	Sb	05 58 44.7	+3.1
SMPP	San Manuel, Pa	1.47	30	⇓*e*P	Pn	05 58 27.8	+0.4
SMPP				*e*S	Sn	05 58 46.5	+0.9
BOLP	Bolinao	1.50	360	⇓*e*P	Pn	05 58 27.8	-0.1
BOLP				*e*S	Sn	05 58 46.5	0.0
PGP	Puerto Galera	1.69	144	⇓*e*P	Pn	05 58 30.0	-0.5
PGP				*i* S	Sn	05 58 51.7	+0.6
LQP	Lukban	1.74	116	⇑*e*P	Pn	05 58 26.1	-5.2
LQP				*i* S	Sn	05 58 54.1	+1.5
BALP	Baler	1.81	61	⇓*e*P	Pn	05 58 32.3	+0.2
BALP				*e*S	Sn	05 58 54.8	+0.7
SJMP	San Jose	2.66	154	⇓*i*P	Pn	05 58 46.0	+2.2
SJMP				*e*S	Sn	05 59 14.6	-0.5
APYP	Conner	3.23	23	⇓*e*P	Pn	05 58 53.1	+1.4
APYP				*e*S	Sn	05 59 31.2	+2.0

WEL 23 06:07:12.7±1.2, 37°S±6°×17°.9E±°, h18km±6km, M3.1/36, mB4.6/1, ML3.5/45, MLv3.1/36, Mw(mB)3.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=147.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.59	258	P	Pg	06 07 24.0	-0.4
MXZ				S	Sg	06 07 31.3	-1.0
WMGZ	Waiomatatini S	0.61	232	P	Pn	06 07 26.4	-0.2
WMGZ				S	Sn	06 07 36.0	-0.1
PKGZ	Pakihiroa	0.88	239	P	Pg	06 07 29.9	+0.1
PKGZ				S	Sg	06 07 41.8	+0.4
PUZ	Puketiti	0.88	224	P	Pn	06 07 30.2	0.0
PUZ				S	Sn	06 07 42.8	+0.3
HAZ	Te Kaha	1.04	252	P	Pb	06 07 32.1	0.0
HAZ				S	Sb	06 07 45.6	+0.2
TWGZ	Tauwhareparae	1.11	228	P	Pg	06 07 33.9	-0.3
TWGZ				S	Sg	06 07 49.0	+0.4
RUGZ	Raukumara Rang	1.19	244	P	Pb	06 07 34.9	+0.1
RUGZ				S	Sn	06 07 50.7	+0.2
CNGZ	Carnagh Statio	1.22	212	P	Pg	06 07 36.1	-0.3
CNGZ				S	Sg	06 07 54.5	+2.1
TKGZ	Te Karaka	1.36	223	P	Pn	06 07 37.2	+0.3
TKGZ				S	Sb	06 07 55.1	+0.3
MWZ	Matawai	1.48	233	P	Pn	06 07 38.7	+0.1
MWZ				S	Sn	06 07 56.5	-1.0
RIGZ	Rimuhau	1.61	218	P	Pn	06 07 40.3	0.0
RAGZ	Rawiri	1.65	230	P	Pn	06 07 39.6	-1.3
WHRZ	Whale Island	1.68	255	P	Pn	06 07 42.1	+0.9
URZ	Urewera	1.72	241	P	Pn	06 07 42.5	+0.7
PRGZ	Paritu Road	1.73	211	P	Pn	06 07 42.2	+0.2
SNGZ	Shannon Statio	1.89	224	P	Pn	06 07 44.6	+0.5
KNZ	Kokohu	1.90	214	P	Pn	06 07 43.8	-0.5
MHGZ	Mahia Peninsul	1.92	207	P	Pn	06 07 44.9	+0.3
EDRZ	Edgecumbe	1.93	249	P	Pn	06 07 45.4	+0.6
RTZ	Ruatahuna	2.00	234	P	Pn	06 07 46.3	+0.7
OPRZ	Ohinepanea	2.00	258	P	Pn	06 07 45.8	+0.2
MUGZ	Murupara	2.06	239	P	Pn	06 07 46.6	+0.1
RAHZ	Arahi	2.12	226	P	Pn	06 07 47.4	+0.1
TARZ	Mount Tarawera	2.15	248	P	Pn	06 07 48.8	+1.0
MTHZ	Maungataniwha	2.23	230	P	Pn	06 07 49.2	+0.5
NMHZ	Naumai	2.40	226	P	Pn	06 07 52.1	+0.8
ARHZ	Aropaoanui	2.42	221	P	Pn	06 07 51.4	0.0
MRHZ	Matea Rd	2.48	235	P	Pn	06 07 52.1	-0.2
BKZ	Black Stump Fm	2.63	228	P	Pn	06 07 54.3	-0.1
CKHZ	Cape Kidnapper	2.69	214	P	Pn	06 07 53.9	-1.2
MCHZ	McNeill Hill	2.71	222	P	Pn	06 07 55.1	-0.3
KWHZ	Kaweka Forest	2.84	225	P	Pn	06 07 56.7	-0.6
KAHZ	Kahuranaki	2.89	215	P	Pn	06 07 57.2	-0.7
KRHZ	Kereru	3.03	223	P	Pn	06 07 58.6	-1.2
KATZ	Kakaramea	3.04	239	P	Pn	06 08 00.7	+0.7
BHHZ	Black Hill Sta	3.10	228	P	Pn	06 08 00.2	-0.6
MKAZ	Moumakai	3.10	275	P	Pn	06 08 01.0	+0.2
TMVZ	Te Maari	3.10	236	P	Pn	06 08 00.7	-0.2
ETVZ	East Tongariro	3.11	236	P	Pn	06 08 00.9	-0.1
NTVZ	North Tongarir	3.11	237	P	Pn	06 08 00.9	-0.2
KRVZ	Karewarewa	3.13	237	P	Pn	06 08 01.2	-0.1
OTVZ	Oturere	3.15	236	P	Pn	06 08 01.4	-0.3
NNVZ	North Ngauruho	3.17	237	P	Pn	06 08 02.2	+0.3
WTVZ	West Tongariro	3.18	237	P	Pn	06 08 02.3	+0.3
SNVZ	South Ngauruho	3.18	236	P	Pn	06 08 01.8	-0.2
NGZ	Ngauruhoe	3.20	236	P	Pn	06 08 02.2	-0.1
TUVZ	Tukino	3.22	235	P	Pn	06 08 02.5	0.0
MOVZ	Moawhango	3.23	232	P	Pn	06 08 02.2	-0.5
WNVZ	Wahianoa	3.29	234	P	Pn	06 08 03.2	-0.3
PNHZ	Pukenui	3.31	221	P	Pn	06 08 02.0	-1.8
PRHZ	Porangahau	3.38	213	P	Pn	06 08 02.8	-1.8
MTVZ	Mangateitei	3.40	234	P	Pn	06 08 04.8	-0.1
PKVZ	Pokaa	3.43	236	P	Pn	06 08 05.3	-0.1
HIZ	Hauiti	3.46	251	P	Pn	06 08 06.9	+1.2
WAZ	Wanganui	3.92	233	P	Pn	06 08 12.4	+0.4
MRZ	Mangatainoka R	4.19	219	P	Pn	06 08 13.6	-2.1
NEZ	North Egmont	4.28	243	P	Pn	06 08 14.5	-2.6
PKE	Pukeiti	4.33	245	P	Pn	06 08 20.0	+2.3
BSWZ	Blackbirch Sta	5.83	221	P	Pn	06 08 36.2	-2.1
CTZ	Chatham Island	7.10	154	P	Pn	06 08 57.2	+1.5

IDC ***23*** *06:08:32.9±1.8, 23°.49S × 70°.53W, h0km, mb4.0/2, mbtmp3.9/4, ML3.4/2, MS3.3/2, Error ellipse: s-maj=64.8km s-min=20.2km az=149.0*

SJA ***23*** *06:08:32.0±0.8, 23°.13S × 70°.85W, h10km, ML4.0, MW3.8*

NEIC ***23*** *06:08:35.7±2.0, 23°.12S±0°.04 × 70°.76W±0°.08, h15km±5km, mb4.3/7, ML4.0(GUC), Error ellipse: s-maj=11.1km s-min=4.6km az=110.0*

GUC ***23*** *06:08:37.4±0.7, 23°.06S × 70°.61W, h40km±1km, ML4.0*

ISC 23 06:08:34.7±1.3, 23°.12S±0°.02 × 70°.63W±0°.05, h10km±8km, n69, σ1°28/90, mb4.2/7, 6C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	IPOC Station P	0.90	30	*e*P	Pn	06 08 53.3	-0.3
PB04	IPOC Station P	0.90	30	⇑*i*P	Pn	06 08 53.5	-0.1
PB04				*i* S	Sb	06 09 05.0	+0.4
PB04				IAML		06 09 09.6	
	comp=E,11µm,0.8s						
PB04	IPOC Station P	0.90	30	*e*P	Pg	06 08 50.1	-2.0
PB04				*e*S	Sn	06 09 07.5	+0.7
PB04				IAML		06 09 08.4	
	comp=Z,4µm,0.3s						
PB06	IPOC Station P	1.06	67		Pn	06 08 55.9	+0.1
PB06	IPOC Station P	1.06	67	⇓*i*P	Pn	06 08 56.2	+0.4
PB06				*i* S	Sg	06 09 09.6	+0.7
PB06				IAML		06 09 13.1	
	comp=N,4µm,0.3s						
PB06	IPOC Station P	1.06	67	*e*P	Pb	06 08 50.6	-4.6
PB06				*e*P	Pn	06 08 56.0	+0.2
PB06				*e*S	Sn	06 09 10.6	-0.1
PB06				IAML		06 09 11.6	
	comp=Z,2µm,0.3s						
PB15	IPOC Station P	1.07	95		Pn	06 08 56.4	+0.5
PB15	IPOC Station P	1.07	95	⇓*i*P	Pn	06 08 56.8	+0.9
PB15				*i* S	Sn	06 09 11.6	+0.6
PB15	IPOC Station P	1.07	95	*e*P	Pb	06 08 51.1	-4.3
PB15				*e*P	Pn	06 08 56.0	0.0
PB15				*e*P	Pg	06 08 56.6	+1.3
PB15				IAML		06 09 16.4	
	comp=Z,4µm,0.2s						
PB14	IPOC Station P	1.51	172	Pn	Pb	06 09 02.7	-0.3
PB14	IPOC Station P	1.51	172	*e*P	Pb	06 09 03.0	0.0
PB14				*e*S	Sb	06 09 22.9	+0.5
PB14				IAML		06 09 25.8	
	comp=Z,1µm,0.8s						
PB07	IPOC Station P	1.55	27		Pb	06 09 03.6	0.0
PB07	IPOC Station P	1.55	27	⇑*i*P	Pb	06 09 03.3	-0.3
PB07				*i* S	Sn	06 09 22.9	+0.1
PB07				IAML		06 09 26.7	
	comp=N,4µm,0.5s						
PB07	IPOC Station P	1.55	27	*e*P	Pn	06 09 03.0	+0.4
PB07				*e*S	Sg	06 09 24.4	-0.2
PB07				IAML		06 09 27.6	
	comp=Z,2µm,0.4s						
LVC	Limon Verde	1.67	73	Pn	Pb	06 09 05.8	+0.1
	comp=Z,148nm,0.3s,baz=252,slow=11,SNR=1111						
LVC				Lg	Lg	06 09 27.5	
	comp=Z,227nm,0.3s,baz=94,slow=4.9,SNR=16						
LVC				LR	LR	06 09 46.7	
	comp=Z,680nm,19.2s,baz=258,slow=43						
LVC	Limon Verde	1.67	73		Pb	06 09 06.2	+0.5
LVC	Limon Verde	1.67	73	⇓*i*P	Pb	06 09 06.5	+0.8
LVC				*i* S	Sb	06 09 27.4	+0.5
LVC	Limon Verde	1.67	73	*e*P	Pg	06 09 06.7	0.0
LVC				*e*S	Sn	06 09 22.6	-3.3
LVC				IAML		06 09 30.1	
	comp=Z,1µm,0.5s						
PB09	IPOC Station P	1.84	45		Pb	06 09 08.9	+0.3
PB09	IPOC Station P	1.84	45	⇑*i*P	Pb	06 09 08.5	-0.1
PB09				*i* S	Sn	06 09 30.7	+0.7
PB09				IAML		06 09 36.5	
	comp=N,3µm,0.5s						
PB09	IPOC Station P	1.84	45	*e*P	Pb	06 09 08.0	-0.6
PB09				*e*S	Sg	06 09 33.4	-0.5
PB09				IAML		06 09 34.6	
	comp=Z,3µm,0.5s						
PB02	IPOC Station P	1.92	21		Pb	06 09 10.4	+0.5
PB02	IPOC Station P	1.92	21	⇓*i*P	Pn	06 09 08.5	+1.0
PB02				*i* S	Sn	06 09 31.7	-0.1
PB02				IAML		06 09 40.4	
	comp=E,3µm,0.5s						
PB02	IPOC Station P	1.92	21	*e*P	Pn	06 08 56.6	-11
PB02				*e*P	Pn	06 09 08.0	+0.5
PB02				*e*S	Sb	06 09 35.4	+1.5
PB02				IAML		06 09 35.9	
	comp=Z,1µm,0.4s						
GO02	Mina Guanaco	2.24	155	Pn	Pb	06 09 14.5	-1.0
GO02	Mina Guanaco	2.24	155	⇑*i*P	Pb	06 09 15.0	-0.5
GO02				*i* S	Sb	06 09 43.5	0.0
GO02				IAML		06 09 52.1	
	comp=E,2µm,0.6s						
GO02	Mina Guanaco	2.24	155	*e*P	Pb	06 09 15.0	-0.5
GO02				*e*S	Sg	06 09 48.8	+2.0
AF01	San Pedro de A	2.27	86		Pb	06 09 15.4	-0.5
PB01	IPOC Station P	2.33	27		Pn	06 09 14.3	+1.2
PB01	IPOC Station P	2.33	27	⇑*i*P	Pn	06 09 14.4	+1.2
PB01				*i* S	Sn	06 09 42.0	+0.2
PB01				IAML		06 09 48.5	
	comp=E,830nm,0.1s						
PB01	IPOC Station P	2.33	27	*e*P	Pn	06 09 14.0	+0.9
PB01				*e*S	Sg	06 09 49.1	-0.3
PB01				IAML		06 09 50.8	
	comp=Z,644nm,0.8s						
PATCX	Punta Patache	2.33	11		Pn	06 09 12.7	-0.5
PATCX	Punta Patache	2.33	11	⇑*i*P	Pn	06 09 13.0	-0.2
PATCX				*i* S	Sb	06 09 44.8	-1.0
PATCX				IAML		06 09 53.0	
	comp=E,662nm,0.6s						
PATCX	Punta Patache	2.33	11	*e*P	Pn	06 09 13.0	-0.2
PATCX				*e*S	Sb	06 09 45.1	-0.7
PATCX				IAML		06 09 58.0	
	comp=Z,420nm,0.4s						
TA01	Diego Aracena	2.58	9		Pn	06 09 16.9	+0.5
TA01	Diego Aracena	2.58	9	*e*P	Pn	06 09 17.0	+0.5
TA01				*e*S	Sb	06 09 50.6	-2.2
TA01				IAML		06 09 57.7	
	comp=Z,387nm,0.6s						
TA02	Huaiquique	2.88	9		Pn	06 09 20.7	+0.1
AC01	Pan de Azucar	3.01	179		Pn	06 09 22.9	+0.4
AC01	Pan de Azucar	3.01	179	*e*P	Pn	06 09 22.9	+0.4
AC01				*e*P	Pn	06 09 23.7	+1.2
PB08	IPOC Station P	3.27	25	*e*P	Pn	06 09 28.8	+2.5
PB08				*e*S	Sb	06 10 10.6	-2.5
PB08				IAML		06 10 22.2	
	comp=Z,562nm,0.9s						
AC02	Maricunga	3.94	160	*e*P	Pn	06 09 38.9	+3.2
AC02				*e*S	Sb	06 10 29.1	-3.4
AC06	Mina Casimiro	4.22	177	Pn	Pn	06 09 39.3	+0.2
PB12	IPOC Station P	4.49	4		Pn	06 09 43.1	+0.1
PB12	IPOC Station P	4.49	4	*e*P	Pn	06 09 43.7	+0.7
PB12				*e*S	Sb	06 10 51.1	+3.0
PB16	IPOC Station P	4.88	13		Pn	06 09 49.2	+0.5
PB16	IPOC Station P	4.88	13	*e*P	Pn	06 09 50.0	+1.3
AC04	Llanos de Chal	5.08	184	Pn	Pn	06 09 49.4	-1.4
AC04	Llanos de Chal	5.08	184	*e*P	Pn	06 09 50.1	-0.8
AC04				*e*P	Pn	06 09 51.0	+0.1
LPAZ	La Paz	7.20	20	Pn	Pn	06 10 24.3	+3.7
	comp=Z,0.2nm,0.3s,baz=196,slow=8.3,SNR=3.4						
	comp=Z,1.0nm,0.4s						
LPAZ	La Paz	7.20	20		Pn	06 10 23.3	+2.7
SIV	San Ignacio	11.46	53	Pn	Pn	06 11 18.8	+0.2
	baz=236,slow=12,SNR=22						
SIV				LR	LR	06 16 42.7	
	comp=Z,147nm,19.7s,baz=262,slow=42						
	comp=Z,3.6nm,0.7s						
CPUP	Villa Florida	12.50	108	LR	LR	06 16 57.8	
	comp=Z,157nm,19.5s,baz=296,slow=41						
MACA	Manacapuru-AM	22.06	27	P	P	06 13 29.1	-0.7
MACA				IAmb	IAmb	06 13 57.5	
	comp=Z,9.6nm,1.2s						
BDFB	Brasilia	22.58	75	P	P	06 13 35.7	+0.2
	comp=Z,3.3nm,0.9s,baz=221,slow=19,SNR=3.5						
	comp=Z,3.3nm,0.9s						
BOAV	Boa Vista	27.21	23	P	P	06 14 18.6	-0.2
BOAV				IAmb	IAmb	06 14 49.4	
	comp=Z,3.3nm,1.1s						
BCIP	Isla Barro Col	33.33	343	P	P	06 15 12.2	-0.7
BCIP				IAmb	IAmb	06 15 53.8	
	comp=Z,8.6nm,1.0s						
BLA	Blacksburg	60.72	351	P	P	06 18 44.9	-1.5
SNAA	Sanae	61.28	160	P	P	06 18 50.9	+0.9
SNAA				IAmb	IAmb	06 18 52.2	
	comp=Z,6.3nm,1.5s						
QSPA	South Pole Qui	67.08	180	P	P	06 19 29.6	+1.4
QSPA				IAmb	IAmb	06 19 30.2	
	comp=Z,1.3nm,0.7s						
TOA0	Torodi Ar. Sit	79.40	71	P	P	06 20 40.7	-0.8
TOA0				IAmb	IAmb	06 20 42.0	
	comp=Z,2.4nm,0.8s						
TORD	Torodi Ar. Bea	79.40	71	P	P	06 20 40.9	-0.6
	comp=Z,1.3nm,0.6s,baz=256,slow=5.3,SNR=8.3						
	comp=Z,1.3nm,0.6s						
H11S2	WAKE ISLAND Hyl	26.49	276	T	T	08 46 56.7	
	baz=106,slow=74,SNR=31						
H11S1	WAKE ISLAND Hyl	26.50	276	T	T	08 46 54.1	
	baz=106,slow=74,SNR=17						
H11S3	WAKE ISLAND Hyl	26.50	276	T	T	08 46 54.3	
	baz=106,slow=74,SNR=14						
H11N3	WAKE ISLAND Hyl	26.61	278	T	T	08 47 01.4	
	baz=105,slow=75,SNR=21						
H11N2	WAKE ISLAND Hyl	26.63	278	T	T	08 47 11.3	
	baz=

comp=E,142nm,5.0s,comp=E,100nm,8.8s
JMKN Mikurajimanish 1.68 246 P **Pn 06 13 44.4 -2.4**
JMKN Mikurajimanish 1.68 246 A A 06 13 44.4
comp=E,185nm,7.2s,comp=E,230nm,8.8s
TOK Tokyo 1.75 309 A A 06 13 47.5
comp=E,437nm,6.6s,comp=E,466nm,6.5s
JTHY Toshimahigashi 1.77 268 A A 06 13 46.2
comp=E,126nm,6.6s,comp=E,181nm,6.8s
JNIO Niijimaoohara 1.80 263 A A 06 13 46.4
comp=E,135nm,11.7s,comp=E,95nm,9.9s
JSKK Shikinejimakit 1.85 263 A A 06 13 47.2
comp=E,110nm,8.0s,comp=E,78nm,10.2s
JHYU Hitachinakayam 1.87 339 A A 06 13 48.9
comp=E,40nm,5.4s,comp=E,51nm,11.0s
JYT Yasato 1.92 328 **Pn 06 13 49.6 -0.4**
JYT Yasato 1.92 328 A A 06 13 49.8
comp=E,41nm,10.2s,comp=E,30nm,11.2s
JHJ2 Mitsune 2.00 223 A A 06 13 46.2
comp=E,135nm,6.5s,comp=E,154nm,10.1s
JHJ Hachijo jima 2 2.01 223 Pn Pn 06 13 47.2 -4.2
JHJ Sn **Sn 06 14 14.0 -1.7**
499nm,0.3s,baz=70,slow=20,SNR=5.4
JHTM Izuhatsuma 2.03 281 A A 06 13 50.6
comp=E,70nm,6.7s,comp=E,76nm,6.0s
JOD2 Odawara 2 2.04 290 P **Pn 06 13 50.9 -0.8**
JOD2 Odawara 2 2.04 290 A A 06 13 50.9
comp=E,63nm,9.4s,comp=E,76nm,12.1s
JHCJ Hachijojimakas 2.04 222 A A 06 13 46.8
comp=E,115nm,7.4s,comp=E,127nm,8.0s
JSGW Sagamiharawaka 2.08 299 A A 06 13 52.0
comp=E,52nm,9.6s,comp=E,50nm,11.8s
JIZS Izushimoda 2.11 274 A A 06 13 51.5
comp=E,39nm,6.6s,comp=E,48nm,7.2s
JHO Hitachi 2.13 341 A A 06 13 52.6
comp=E,37nm,8.2s,comp=E,28nm,6.9s
JHU Hamo 2.16 306 A A 06 13 53.2
comp=E,63nm,7.5s,comp=E,52nm,12.7s
JFNN Fujinakano 2.34 286 A A 06 13 55.2
comp=E,73nm,8.6s,comp=E,82nm,11.3s
JAG Ashikaga 2.44 319 A A 06 13 57.2
comp=E,31nm,7.8s,comp=E,36nm,9.0s
JRY Ryogami san 2.51 305 A A 06 13 58.2
comp=E,42nm,8.5s,comp=E,32nm,15.9s
JYN Shimob 2.54 292 A A 06 13 58.2
comp=E,41nm,9.9s,comp=E,41nm,11.0s
JAOM Aogashimamukai 2.54 214 A A 06 13 53.2
comp=E,223nm,9.8s,comp=E,128nm,8.0s
JFFD Fukushimafurud 2.59 344 A A 06 13 59.0
comp=E,30nm,6.2s,comp=E,31nm,8.0s
JSB Shiboa 2.67 333 A A 06 14 00.5
comp=E,65nm,7.0s,comp=E,90nm,4.3s
JSG Sagara 2.68 273 A A 06 13 59.5
comp=E,72nm,6.7s,comp=E,75nm,8.4s
SHZ3 Shizuoka 3 2.69 281 A A 06 14 00.1
comp=E,24nm,10.6s,comp=E,39nm,11.5s
JFK Kawauchi 2.80 351 A A 06 14 01.8
comp=E,36nm,9.2s,comp=E,21nm,15.9s
JKT Katashina 2.80 321 A A 06 14 02.5
comp=E,30nm,11.8s,comp=E,24nm,7.3s
JKKS Kakegawashinom 2.84 274 A A 06 14 01.9
comp=E,87nm,6.8s,comp=E,63nm,8.0s
JNT Takato 2.98 296 A A 06 14 04.9
comp=E,30nm,9.5s,comp=E,36nm,7.1s
JGK Kuni 3.00 312 A A 06 14 05.4
comp=E,36nm,6.2s,comp=E,39nm,8.4s
JNY Yasuok 3.03 286 A A 06 14 05.1
comp=E,22nm,8.7s,comp=E,32nm,7.7s
HMMJ Hamamatsu 2 3.07 276 A A 06 14 05.2
comp=E,20nm,9.0s,comp=E,20nm,6.8s
JFY Yanaizu 3.13 334 A A 06 14 07.1
comp=E,29nm,11.1s,comp=E,26nm,7.0s
JMST Minamisoumatoc 3.15 352 A A 06 14 06.7
comp=E,25nm,11.7s,comp=E,16nm,7.1s
JUON Uonuma 3.24 324 A A 06 14 08.7
comp=E,29nm,10.4s,comp=E,23nm,9.9s
JSSY Shinshiroyabe 3.25 277 A A 06 14 07.8
comp=E,20nm,6.4s,comp=E,23nm,14.7s
JNG Nsakai 3.26 305 A A 06 14 08.9
comp=E,29nm,8.2s,comp=E,32nm,8.6s
MJAR Matsushiro Arr 3.27 307 Pn **Pn 06 14 08.5 -0.1**
3.6nm,0.3s,baz=123,slow=11,SNR=49
MJAR Sn **Sb 06 14 49.7 -6.1**
3.7nm,0.3s,baz=231,slow=52,SNR=4.3
26nm,0.5s
MAJO Matsushiro 3.27 307 **Pn 06 14 09.0 +0.3**
MAJO Matsushiro 3.27 307 P **Pn 06 14 09.0 +0.3**
MJB9 Matsu-Tunnel 3.27 307 **Pn 06 14 09.1 +0.4**
TTO4 TONANKAI O.B.S 3.28 261 A A 06 14 07.2
comp=E,103nm,50.8s,comp=E,101nm,67.1s
JMM Marumori 3.30 351 **Pn 06 14 06.5 -2.6**
JMM Marumori 3.30 351 A A 06 14 08.9
comp=E,22nm,11.6s,comp=E,15nm,10.4s
TTO3 TONANKAI O.B.S 3.42 259 A A 06 14 09.2
comp=E,153nm,6.8s,comp=E,193nm,8.7s
JYAR Yonezawaarcadi 3.47 343 A A 06 14 11.4
comp=E,29nm,6.3s,comp=E,25nm,9.1s
JGF Kuroka 3.49 288 **Pn 06 14 13.9 +2.2**
JGF Kuroka 3.49 288 A A 06 14 11.7
comp=E,19nm,9.4s,comp=E,23nm,16.6s
JAO Obara 3.49 282 A A 06 14 11.6
comp=E,21nm,9.5s,comp=E,30nm,8.7s
JAA Atsumi 3.54 272 A A 06 14 11.6
comp=E,16nm,9.8s,comp=E,16nm,16.0s
JNS Sasagawa 3.64 333 A A 06 14 14.2
comp=E,34nm,6.2s,comp=E,25nm,9.8s
JJN Nakama 3.65 314 A A 06 14 14.4
comp=E,37nm,5.2s,comp=E,41nm,9.1s
JIZZ Izumozaki 3.67 324 A A 06 14 14.8
comp=E,91nm,7.0s,comp=E,65nm,8.1s
INU Inuyama 3.70 283 **Pn 06 14 15.5 +0.9**
JIKH Ishinomakikobu 3.71 0 A A 06 14 14.2
comp=E,29nm,12.0s,comp=E,27nm,14.4s
JGN Niukaw 3.73 297 A A 06 14 15.4
comp=E,15nm,6.7s,comp=E,16nm,12.0s
JYS Shirataka 3.78 343 A A 06 14 15.9
comp=E,21nm,3.8s,comp=E,18nm,10.3s
JOU Okura 3.81 351 A A 06 14 16.1
comp=E,29nm,9.8s,comp=E,21nm,10.8s
JICN Ichinomiyachia 3.83 282 A A 06 14 16.2
comp=E,26nm,9.8s,comp=E,26nm,5.4s
JIO Ouri 3.85 359 A A 06 14 16.2
comp=E,29nm,10.9s,comp=E,18nm,13.9s
JTT Ttatey 3.90 302 A A 06 14 17.8
comp=E,31nm,8.0s,comp=E,25nm,6.3s
JIE Ise 3.91 268 A A 06 14 16.7
comp=E,13nm,8.1s,comp=E,17nm,9.5s
JYTA Yamagatataniai 3.98 286 A A 06 14 18.5
comp=E,13nm,11.4s,comp=E,21nm,17.1s
JOFO Osakifurukawao 4.02 354 A A 06 14 18.9
comp=E,93nm,4.3s,comp=E,72nm,2.8s
TSUJ Tsu 2 4.13 273 A A 06 14 20.1
comp=E,18nm,8.8s,comp=E,13nm,9.1s
JEG Eigenji 4.18 279 A A 06 14 21.0
comp=E,21nm,9.0s,comp=E,20nm,8.9s
JKMT Kesennumamotoy 4.21 0 A A 06 14 21.2
comp=E,24nm,14.1s,comp=E,13nm,7.9s
JYA Atsumi 4.22 341 A A 06 14 22.2
comp=E,29nm,14.0s,comp=E,16nm,7.7s
JAW Awa shima 4.23 336 A A 06 14 22.6
comp=E,28nm,6.3s,comp=E,22nm,13.5s
JKN2 Miekihoku 4.28 267 A A 06 14 21.7
comp=E,12nm,9.2s,comp=E,9.0nm,11.3s
JSD Sado 4.28 324 **Pn 06 14 22.2 -0.4**
JSD Sado 4.28 324 A A 06 14 23.4
comp=E,12nm,7.8s,comp=E,16nm,5.9s
JMK Ichinoseki 4.35 358 A A 06 14 23.4
comp=E,28nm,13.5s,comp=E,14nm,12.4s
JSZ Suzu 4.36 312 A A 06 14 24.5
comp=E,10.0nm,10.7s,comp=E,16nm,11.2s
JYK Kaneyama 4.40 349 A A 06 14 24.4
comp=E,22nm,7.8s,comp=E,18nm,12.9s
JJH Hakui 4.44 303 A A 06 14 25.5
comp=E,17nm,11.3s,comp=E,14nm,6.4s
OFUJ Ofunato 4.48 2 A A 06 14 24.9
comp=E,19nm,14.3s,comp=E,11nm,8.0s
JKG Kaga 4.49 293 A A 06 14 26.0
comp=E,21nm,10.5s,comp=E,19nm,9.6s
JMMH Miemihama 4.55 262 A A 06 14 25.2
comp=E,9.0nm,10.1s,comp=E,10.0nm,8.2s
JFM Mihama 4.56 283 A A 06 14 26.6
comp=E,15nm,10.5s,comp=E,18nm,15.5s
JYYZ Yamagatayuza 4.57 345 A A 06 14 27.0
comp=E,90nm,11.3s,comp=E,79nm,11.2s
JHE Heguri 4.74 272 A A 06 14 28.5
comp=E,10.0nm,8.4s,comp=E,16nm,10.4s
JTB Tobi-shima 4.83 342 A A 06 14 30.7
comp=E,23nm,12.5s,comp=E,14nm,12.8s

JRG Rokugo 4.83 353 A A 06 14 30.4
comp=E,38nm,8.9s,comp=E,25nm,13.8s
JWY Kouya 4.84 267 A A 06 14 29.7
comp=E,10.0nm,8.4s,comp=E,10.0nm,21.9s
JWKM Wakayamakushim 4.85 258 A A 06 14 29.1
comp=E,14nm,12.2s,comp=E,15nm,9.2s
JOM Ohasama 4.87 359 A A 06 14 30.6
comp=E,18nm,18.7s,comp=E,13nm,10.6s
JHG Hegura jima 4.88 313 A A 06 14 31.8
comp=E,13nm,9.9s,comp=E,13nm,9.0s
JTNC Tanabenakahech 4.89 262 A A 06 14 30.0
comp=E,6.0nm,6.4s,comp=E,10.0nm,13.5s
MIYJ Miyakonagasawa 4.98 3 A A 06 14 31.9
comp=E,17nm,13.7s,comp=E,10.0nm,16.3s
JWT Wachi 5.00 280 A A 06 14 32.6
comp=E,8.0nm,10.9s,comp=E,13nm,15.5s
JYW Yuwa 5.03 349 A A 06 14 33.2
comp=E,35nm,6.0s,comp=E,30nm,10.1s
JWM Minabe 5.09 263 A A 06 14 32.9
comp=E,11nm,9.6s,comp=E,9.0nm,16.0s
JSZI Iwateshizukuis 5.15 356 A A 06 14 34.6
comp=E,29nm,11.9s,comp=E,28nm,10.3s
JMIK Miki 5.26 274 A A 06 14 35.9
comp=E,17nm,8.4s,comp=E,19nm,7.9s
JKY Yasaka 5.29 283 A A 06 14 36.8
comp=E,15nm,7.9s,comp=E,12nm,16.9s
JTH Tanohata 5.34 4 A A 06 14 37.0
comp=E,17nm,12.4s,comp=E,9.0nm,8.2s
JAWN Awajishima-nag 5.39 271 A A 06 14 37.5
comp=E,9.0nm,7.9s,comp=E,12nm,8.2s
JKS Kasai 5.43 276 A A 06 14 38.5
comp=E,9.0nm,11.3s,comp=E,16nm,10.5s
JKEN Kujiedanarisaw 5.60 2 A A 06 14 40.6
comp=E,16nm,13.6s,comp=E,11nm,9.5s
JAH Hinai 5.62 354 A A 06 14 41.2
comp=E,18nm,12.9s,comp=E,12nm,11.3s
JOG3 Oga3 5.63 341 A A 06 14 39.5
comp=E,33nm,13.3s,comp=E,24nm,14.3s
JKSM Kasumi 5.64 282 A A 06 14 41.6
comp=E,14nm,7.9s,comp=E,10.0nm,8.5s
JNTW Noshirotokiwa 5.75 350 A A 06 14 43.2
comp=E,54nm,4.6s,comp=E,45nm,5.4s
JANG Nango 5.77 1 A A 06 14 43.1
comp=E,14nm,15.2s,comp=E,9.0nm,6.9s
JAD Aida 5.99 275 A A 06 14 46.2
comp=E,13nm,11.9s,comp=E,11nm,16.9s
JMAF Mimaanabuki 6.05 267 A A 06 14 46.5
comp=E,11nm,10.8s,comp=E,12nm,13.4s
JIW Iwasaki 6.09 350 A A 06 14 48.1
comp=E,21nm,13.8s,comp=E,16nm,16.6s
JHHS Hirosakihyakuz 6.11 352 A A 06 14 48.1
comp=E,49nm,5.8s,comp=E,27nm,11.1s
MRT2 Murotomisaki 2 6.17 261 A A 06 14 47.9
comp=E,8.0nm,9.8s,comp=E,5.0nm,6.0s
JTM Tennnayashi 6.19 357 A A 06 14 49.1
comp=E,14nm,15.4s,comp=E,10.0nm,10.8s
JKR Kurayoshi 6.30 279 A A 06 14 50.7
comp=E,14nm,7.7s,comp=E,13nm,11.1s
JMN Monobe 6.32 264 **Pn 06 14 53.1 +2.5**
JMN Monobe 6.32 264 A A 06 14 50.2
comp=E,7.0nm,9.8s,comp=E,9.0nm,8.8s
JSI2 Shiura 2 6.50 353 A A 06 14 53.6
comp=E,24nm,7.5s,comp=E,14nm,10.5s
JKHR Kouharuno 6.67 263 A A 06 14 55.0
comp=E,10.0nm,10.6s,comp=E,9.0nm,11.5s
JJG Jouge 6.83 273 A A 06 14 57.7
comp=E,14nm,9.2s,comp=E,10.0nm,14.3s
JHS Saijyo 6.85 276 **Pn 06 15 01.7 +3.8**
JHS Saijyo 6.85 276 A A 06 14 58.2
comp=E,10.0nm,7.6s,comp=E,15nm,14.5s
JOI OKI 6.89 287 A A 06 14 59.2
comp=E,6.0nm,13.8s,comp=E,9.0nm,16.1s
JSR Shiriuchi 6.97 354 A A 06 15 00.1
comp=E,24nm,13.7s,comp=E,17nm,13.0s
JET Tanbara 7.00 266 A A 06 14 59.7
comp=E,7.0nm,12.8s,comp=E,6.0nm,7.9s
JOMM Oshimamatsumae 7.01 351 A A 06 15 00.8
comp=E,15nm,16.8s,comp=E,10.0nm,17.3s
JKU Kubokawa 7.07 262 A A 06 15 00.5
comp=E,5.0nm,51.8s,comp=E,7.0nm,11.7s
JISK Izumosakaura 7.10 280 A A 06 15 01.8
comp=E,9.0nm,8.1s,comp=E,12nm,14.3s
JGT2 ShimaMisato 7.36 276 A A 06 15 05.2
comp=E,11nm,7.2s,comp=E,14nm,13.1s
JHM Kurahashi 7.38 269 A A 06 15 05.1
comp=E,9.0nm,14.2s,comp=E,7.0nm,9.7s
JHT Toyohira 7.43 273 A A 06 15 06.1
comp=E,13nm,9.6s,comp=E,8.0nm,10.1s
JNA Nagahama 7.50 265 A A 06 15 06.6
comp=E,8.0nm,10.2s,comp=E,6.0nm,14.7s
CBIJ Chichi jima 7.50 175 A A 06 15 00.1
comp=E,16nm,11.6s,comp=E,12nm,9.3s
JCJ Chichijima 7.50 175 Pn Pn 06 15 01.5 -5.3
165nm,0.4s,baz=271,slow=20,SNR=18
JCJ Sn **Sn 06 16 26.0 -5.1**
30nm,0.3s,baz=278,slow=24,SNR=1.6
JCJ LR LR 06 18 13.4
comp=Z,31μm,19.2s,baz=357,slow=41
JYM2 Yakumo 2 7.55 354 A A 06 15 08.2
comp=E,17nm,11.0s,comp=E,9.0nm,12.1s
JOSM Okushiri-Mats 7.63 349 A A 06 15 09.6
comp=E,23nm,13.5s,comp=E,6.0nm,9.6s
JHIK Hikimi 7.84 272 A A 06 15 11.8
comp=E,8.0nm,10.4s,comp=E,10.0nm,9.7s
JSHD Hidakashinhida 7.84 6 A A 06 15 11.6
comp=E,17nm,5.2s,comp=E,15nm,8.0s
JNB Noboribetsu 7.87 358 A A 06 15 12.3
comp=E,7.0nm,10.9s,comp=E,6.0nm,12.5s
JHST Hiyamasetana 7.91 352 A A 06 15 13.2
comp=E,18nm,16.1s,comp=E,8.0nm,13.2s
JHH2 Haha-jima-NKT2 7.96 175 A A 06 15 06.6
comp=E,20nm,7.8s,comp=E,17nm,8.3s
JIAM Iburiatsuma 8.02 3 A A 06 15 14.2
comp=E,16nm,17.2s,comp=E,20nm,15.8s
JSH Shimam 8.11 353 A A 06 15 16.0
comp=E,14nm,15.6s,comp=E,6.0nm,8.6s
JUS Usuki 8.20 262 A A 06 15 16.1
comp=E,3.0nm,9.1s,comp=E,6.0nm,9.7s
JBT2 Biratori 2 8.20 5 A A 06 15 16.7
comp=E,10.0nm,11.6s,comp=E,11nm,15.6s
JKI Kunimi 8.24 266 A A 06 15 16.9
comp=E,9.0nm,8.8s,comp=E,8.0nm,7.5s
JBEP Beppuamama 8.42 264 A A 06 15 19.2
comp=E,9.0nm,11.6s,comp=E,12nm,10.1s
JHGM Hagimishima 8.48 274 A A 06 15 20.7
comp=E,11nm,10.5s,comp=E,10.0nm,9.3s
JTY Toyota 8.57 271 A A 06 15 21.8
comp=E,10.0nm,11.5s,comp=E,9.0nm,8.4s
JAB Ashibetsu 8.92 4 A A 06 15 26.6
comp=E,11nm,10.1s,comp=E,8.0nm,10.4s
TEY Ternei 11.06 342 *eP* **Pn 06 15 53.1 -2.5**
TEY MLR MLR
comp=E,400nm,13.0s
TEY MLR MLR
comp=N,500nm,12.0s
TEY MLR MLR
comp=Z,900nm,13.0s
KSRS Konan Array 11.30 288 Pn **Pn 06 15 58.5 -0.3**
comp=Z,0.2nm,0.3s,baz=103,slow=14,SNR=14
KSRS LR LR 06 20 58.4
comp=Z,20μm,18.5s,baz=95,slow=41
comp=Z,3.9nm,0.8s
KSAR Wonju Array Be 11.33 288 **Pn 06 16 00.9 +1.6**
KSAR Wonju Array Be 11.33 288 P **Pn 06 16 00.9 +1.6**
KS19 Wonju Array Si 11.36 289 **Pn 06 16 01.5 +1.8**
TJN Taejon 11.61 283 **Pn 06 16 04.4 +1.4**
TJN Taejon 11.61 283 ⇓ *eP* **Pn 06 16 05.5 +2.5**
KUR Kuril'sk 11.71 23 P Pn 06 16 09.2 +4.8
KUR pmax pmax
comp=Z,53nm,0.6s
KUR pmax pmax
comp=N,37nm,0.5s
KUR MLR MLR
comp=Z,8μm,11.0s
USRK Ussuriysk Ar. 12.05 326 Pn **Pn 06 16 09.7 +0.7**
comp=Z,0.3nm,0.3s,baz=121,slow=9.9,SNR=8.2
USRK LR LR 06 20 39.3
comp=Z,11μm,21.2s,baz=129,slow=37
comp=Z,6.9nm,0.9s
USRK Ussuriysk Ar. 12.05 326 Pn **Pn 06 16 06.3 -2.7**
YSS Yuzh-Sakhalins 12.38 4 Pn **Pn 06 16 10.4 -3.2**
YSS Yuzh-Sakhalins 12.38 4 *eP* **Pn 06 16 11.0 -2.6**
YSS pmax pmax
comp=Z,240nm,0.8s
YSS MLR MLR
comp=N,12μm,17.0s
YSS MLR MLR
comp=Z,16μm,17.0s

MDJ Mudanjiang 13.53 321 P **P 06 16 40.9 +2.8**
MDJ S S 06 19 55.0 +33
MDJ pmax pmax
comp=Z,24nm,1.2s
MDJ pmax pmax
comp=Z,2μm,8.8s
MDJ LR LR
comp=N,18μm,13.8s
MDJ LR LR
comp=E,18μm,13.8s
MDJ LR LR
comp=Z,14μm,15.3s
UGL Uglegorsk 14.48 2 *eP* P 06 16 53.1 +4.5
UGL pmax pmax
comp=Z,120nm,0.8s
CN2 Changchun 15.41 311 *eP* **P 06 16 58.3 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BNX BinXian 15.43 320 ⇓ P **Pn 06 16 52.0 -2.9**
BNX pP **P 06 16 58.5 -0.7**
BNX PP **PnPn 06 17 01.3 -1.9**
BNX sP **pP 06 17 03.4 -1.7**
BNX S **Sn 06 19 35.3 -10**
BNX pmax pmax
comp=Z,8.0nm,0.5s
BNX pmax pmax
comp=Z,220nm,7.6s
BNX LR LR
comp=Z,11μm,13.6s
BNX LR LR
comp=Z,20μm,13.6s
BNX LR LR
comp=Z,10μm,14.4s
SNY Shenyang 15.77 303 ⇑ P **P 06 17 01.5 -1.4**
SNY S **Sn 06 19 48.3 -4.8**
SNY pmax pmax
comp=Z,11nm,0.8s
SNY pmax pmax
comp=Z,1μm,11.3s
SNY LR LR
comp=Z,14μm,12.5s
SNY LR LR
comp=Z,8μm,12.1s
SNY LR LR
comp=Z,14μm,15.5s
KLR Kul'dur 16.28 337 Pn **P 06 17 05.9 -2.7**
comp=Z,0.6nm,0.3s,baz=144,slow=6.8,SNR=9.3
KLR LR LR 06 23 31.2
comp=Z,10μm,19.7s,baz=150,slow=38
comp=Z,2.9nm,0.6s
TYV Tymovskoe 16.28 3 *eP* **P 06 17 09.1 +0.5**
TYV pmax pmax
comp=Z,80nm,0.8s
TYV pmax pmax
comp=Z,200nm,2.1s
TYV MLR MLR
comp=N,19μm,16.0s
TYV MLR MLR
comp=Z,12μm,16.0s
DL2 Dalian 16.44 291 P P 06 17 18.5 +8.1
DL2 S **S 06 20 25.8 +4.7**
DL2 pmax pmax
comp=Z,47nm,1.2s
DL2 LR LR
comp=N,24μm,13.1s
DL2 LR LR
comp=E,8μm,12.4s
DL2 LR LR
comp=Z,20μm,16.1s
GRNR Gornyy 16.57 349 ⇑ *iP* **Pn 06 17 03.2 -6.3**
GRNR pmax pmax
comp=E,5.0nm,0.6s
GRNR pmax pmax
comp=N,6.0nm,0.8s
GRNR pmax pmax
comp=Z,6.0nm,1.0s
GRNR MLR MLR
comp=E,8μm,16.0s
GRNR MLR MLR
comp=N,6μm,20.0s
GRNR MLR MLR
comp=Z,8μm,19.0s
SSE Sheshan 17.37 264 P **Pn 06 17 16.3 -3.3**
SSE S **Sn 06 20 29.8 -2.2**
SSE pmax pmax
comp=Z,9.0nm,0.5s
SSE pmax pmax
comp=Z,130nm,9.1s
SSE LR LR
comp=N,470nm,17.7s
SSE LR LR
comp=E,6μm,17.7s
NJ2 Nanjing 19.03 269 *eP* **P 06 17 38.3 -0.8**
NJ2 SS S 06 21 30.6 +17
NJ2 pmax pmax
comp=E,20nm,0.5s
NJ2 pmax pmax
comp=E,2μm,11.8s
NJ2 LR LR
comp=E,21μm,15.2s
NJ2 LR LR
comp=E,11μm,16.6s
NJ2 LR LR
comp=E,6μm,16.1s
SKR Severo-Kuril's 19.31 29 *eP* **Pn 06 17 43.6 +0.5**
SKR *eS* **S 06 21 17.8 -1.0**
SKR MLR MLR
comp=Z,5μm,13.0s
TIA Tai'an 19.87 282 P **Pn 06 17 52.1 +2.1**
TIA pmax pmax
comp=Z,910nm,12.0s
TIA LR LR
comp=Z,20μm,17.1s
TIA LR LR
comp=Z,8μm,12.8s
TIA LR LR
comp=Z,8μm,15.7s
YHNB Yeheng 20.01 246 P Pn 06 17 52.0 +0.2
BJI Beijing 20.78 293 P **P 06 17 55.1 -2.9**
BJI S S 06 21 37.4 -11
BJI pmax pmax
comp=Z,7.0nm,0.5s
BJI pmax pmax
comp=Z,550nm,11.7s
BJI LR LR
comp=Z,2μm,12.8s
BJI LR LR
comp=Z,5μm,12.2s
BJI LR LR
comp=Z,10μm,13.3s
GUMO Guam 21.15 171 P **P 06 17 58.3 -3.8**
comp=Z,29nm,0.5s,baz=3.5,slow=19,SNR=1.2
GUMO LR LR 06 24 28.4
comp=Z,5μm,21.6s,baz=4.5,slow=32
comp=Z,29nm,0.5s
GUMO Guam 21.15 171 P **P 06 18 07.8 +5.7**
GUMO Guam 21.15 171 P **P 06 18 07.8 +5.7**
GUMO pmax pmax
comp=Z,549nm,1.2s
ZEA Zeya 21.60 337 *eP* **P 06 18 06.7 0.0**
ZEA *e* 06 22 13.8
ZEA pmax pmax
comp=N,50nm,1.2s
ZEA pmax pmax
comp=Z,90nm,1.1s
ZEA pmax pmax
comp=N,1μm,12.9s
ZEA pmax pmax
comp=Z,1μm,10.3s
ZEA MLR MLR
comp=E,5μm,13.0s
ZEA MLR MLR
comp=N,4μm,14.0s
ZEA MLR MLR
comp=Z,4μm,15.0s
XLT XiLinHaoTe 21.65 303 *eP* **P 06 18 10.1 +2.6**
XLT pP pwP 06 18 18.8 -0.2
XLT sP sP 06 18 24.6 +8.7
XLT PP **PnPn 06 18 34.8 +6.3**
XLT sS sS 06 22 15.8 0.0
XLT SS **SnSn 06 22 35.5 +4.9**
XLT pmax pmax
comp=Z,17nm,0.9s
XLT LR LR
comp=Z,2μm,18.5s
XLT LR LR
comp=Z,9μm,17.3s

XLT LR LR
comp=Z,10µm,16.8s
HNS HongShan 21.78 285 ⇑P **P 06 18 06.0 -2.8**
HNS S **S 06 21 58.0 -10**
HNS pmax pmax
comp=Z,8.0nm,0.5s
HNS LR LR
comp=Z,20µm,17.1s
HNS LR LR
comp=Z,9µm,18.4s
HNS LR LR
comp=Z,12µm,13.0s
PEA0B Petropavlovsk- 21.82 27 P **P 06 18 08.8 -0.3**
PEA0B Petropavlovsk- 21.82 27⇓*eP* **P 06 18 12.3 +3.2**
PETK Petropavlovsk- 21.82 27 P **P 06 18 11.8 +2.7**
comp=Z,4.5nm,0.9s,baz=142,slow=7.5,SNR=6.2
PETK LR LR 06 29 59.6
comp=Z,3µm,18.0s,baz=204,slow=46
comp=Z,4.5nm,0.9s
PETK Petropavlovsk- 21.82 27 P **P 06 18 07.1 -2.0**
PET Petropavlovsk 22.12 28 *eP* **P 06 18 13.2 +0.9**
PET *eS* **S 06 22 06.9 -7.6**
PET pmax pmax
comp=Z,67nm,1.0s
WHN Wuhan 23.15 268 ⇓P **P 06 18 26.6 +3.2**
WHN S **S 06 22 36.1 +2.8**
WHN LR LR
comp=Z,29µm,14.1s
LYN LuoYang 23.82 278 *eP* **P 06 18 31.3 +1.4**
LYN pP pwP 06 18 41.8 -1.1
LYN PP **PnPn 06 19 01.9 +3.7**
LYN S **S 06 22 46.8 +2.8**
LYN pmax pmax
comp=Z,10.0nm,0.5s
LYN pmax pmax
comp=Z,500nm,11.2s
LYN LR LR
comp=Z,7µm,14.9s
LYN LR LR
comp=Z,16µm,15.5s
LYN LR LR
comp=Z,21µm,16.9s
HHC Hu-ho-hao-te 24.36 294 *eP* **P 06 18 38.4 +3.3**
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,950nm,4.3s
HHC LR LR
comp=Z,15µm,14.4s
HHC LR LR
comp=Z,9µm,18.2s
HHC LR LR
comp=Z,11µm,16.0s
CNSH ChangSha 25.11 263 ⇑P **P 06 18 46.9 +5.2**
CNSH S **S 06 23 12.4 +7.6**
CNSH LR LR
comp=Z,10µm,13.9s
CNSH LR LR
comp=Z,11µm,15.6s
CNSH LR LR
comp=Z,11µm,15.8s
BTO Baotou 25.52 293 *eP* P 06 18 58.0 +13
MA2 Magadan 25.73 11 P **P 06 18 49.8 +2.7**
comp=Z,12nm,0.7s,baz=178,slow=15,SNR=4.2
MA2 LR LR 06 30 40.0
comp=Z,4µm,18.7s,baz=210,slow=40
comp=Z,12nm,0.7s
MA2 Magadan 25.73 11 P **P 06 18 46.3 -0.8**
MA2 IAmb IAmb 06 19 16.7
comp=Z,45nm,0.9s
CIT Chita 26.50 320 *eP* P 06 19 06.2 +12
CIT *e* 06 19 14.2
CIT *e* 06 19 41.2
CIT *e* 06 19 57.8
CIT pmax pmax
comp=Z,82nm,3.4s
XAN Xi'an 26.80 278 P P 06 19 05.6 +8.5
XAN pP pwP 06 19 09.0 -1.2
XAN sP sP 06 19 15.4 +9.2
XAN S S 06 23 46.8 +15
XAN pmax pmax
comp=Z,16nm,0.9s
XAN LR LR
comp=N,11µm,15.8s
XAN LR LR
comp=E,8µm,16.7s
XAN LR LR
comp=Z,15µm,19.2s
H11N2 WAKE ISLAND Hy 26.96 117 T T 06 47 12.4
baz=309,slow=75,SNR=101
H11N1 WAKE ISLAND Hy 26.97 117 T T 06 47 12.9
baz=309,slow=75,SNR=103
H11N3 WAKE ISLAND Hy 26.98 117 T T 06 47 13.7
baz=309,slow=75,SNR=98
ENH Enshi 27.24 270 IAMs_20 IAMs_20 06 31 12.9
comp=Z,6µm,18.0s
H11S3 WAKE ISLAND Hy 27.59 119 T T 06 48 00.8
baz=312,slow=76,SNR=50
H11S1 WAKE ISLAND Hy 27.59 119 T T 06 48 00.3
baz=312,slow=76,SNR=54
H11S2 WAKE ISLAND Hy 27.61 119 T T 06 47 59.5
baz=312,slow=76,SNR=40
YAK Yakutsk 28.45 348 LR LR 06 31 14.6
comp=Z,10µm,18.4s,baz=147,slow=38
YAK Yakutsk 28.45 348 *eP* **P 06 19 13.8 +2.3**
YAK *e* 06 20 01.3
YAK *eS* **S 06 23 58.0 +1.1**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,155nm,2.2s
YAK smax smax
comp=N,774nm,3.8s
YAK smax smax
comp=E,336nm,3.9s
YAK MLR MLR
comp=Z,10µm,18.0s
YAK MLR MLR
comp=N,8µm,17.0s
ULN Ulaanbaatar 28.80 308 P **P 06 19 15.1 +0.1**
ULN IAmb IAmb 06 19 54.8
comp=Z,34nm,1.2s
ULN Ulaanbaatar 28.80 308 IAMs_20 IAMs_20 06 31 21.8
comp=Z,5µm,19.0s
ULN Ulaanbaatar 28.80 308⇑*eP* **P 06 19 15.4 +0.4**
ULN pmax pmax
comp=Z,22nm,1.1s
SEY Seymchan 29.18 10 P **P 06 19 20.0 +2.1**
comp=Z,2.5nm,0.2s,baz=11,slow=22,SNR=1.6
SEY LR LR 06 32 28.3
comp=Z,5µm,18.1s,baz=196,slow=39
comp=Z,2.5nm,0.2s
SEY Seymchan 29.18 10⇑*eP* **P 06 19 21.0 +3.1**
SEY pmax pmax
comp=Z,19nm,1.0s
SONM Songino Array 29.22 308 P **P 06 19 18.6 -0.1**
comp=Z,3.8nm,0.8s,baz=110,slow=8.4,SNR=16
SONM LR LR 06 31 47.4
comp=Z,6µm,19.0s,baz=106,slow=38
comp=Z,3.8nm,0.8s
SONM Songino Array 29.22 308 P **P 06 19 19.1 +0.5**
SONM Songino Array 29.22 308 P **P 06 19 19.2 +0.5**
SONM pmax pmax
comp=Z,22nm,1.1s
BOD Bodaibo 29.62 330 *eP* **P 06 19 25.6 +3.7**
BOD pmax pmax
comp=Z,61nm,1.4s
LZH Lanzhou 30.58 284 *eP* P 06 19 37.1 +6.3
LZH SS SS 06 26 15.3 -27
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,200nm,5.2s
LZH LR LR
comp=Z,19µm,16.1s
LZH LR LR
comp=Z,7µm,15.5s
LZH LR LR
comp=Z,11µm,17.0s
GYA Guiyang 30.91 264 ⇑P P 06 19 42.9 +9.1
GYA S S 06 24 49.9 +13
GYA LR LR
comp=N,6µm,14.7s
GYA LR LR
comp=E,8µm,15.0s
GYA LR LR
comp=Z,11µm,15.0s
DAV Davao City (W) 31.05 212 LR LR 06 33 40.4
comp=Z,3µm,18.2s,baz=54,slow=40
DAV Davao City (W) 31.05 212 IAMs_20 IAMs_20 06 29 28.9
comp=Z,6µm,22.0s
PATS Pohnpei 31.71 147 IAMs_20 IAMs_20 06 30 39.7
comp=Z,8µm,20.0s
CD2 Chengdu 31.78 274 P **P 06 19 43.3 +2.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,17µm,13.9s
CD2 LR LR
comp=Z,14µm,15.7s
CD2 LR LR
comp=Z,19µm,14.5s
IRK Irkutsk 31.79 315 *eP* P 06 19 46.7 +5.5
IRK pmax pmax
comp=Z,71nm,3.9s
ZAK Zakamensk 31.84 311 *eP* **P 06 19 41.3 -0.5**
ZAK pmax pmax
comp=Z,16nm,1.3s
QIZ Qiongzhong 32.01 249 P P 06 19 50.6 +7.2
QIZ S S 06 25 03.4 +10
QIZ LR LR
comp=Z,6µm,14.3s
QIZ LR LR
comp=Z,3µm,17.5s
QIZ LR LR
comp=Z,3µm,16.7s
GTA Gaotai 33.37 291 *eP* **P 06 19 58.8 +3.5**
GTA pP pwP 06 20 10.4 +1.5
GTA sP sP 06 20 14.8 +11
GTA S **S 06 25 17.6 +3.0**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,280nm,7.1s
GTA LR LR
comp=Z,7µm,16.7s
GTA LR LR
comp=Z,8µm,16.7s
GTA LR LR
comp=Z,8µm,15.3s
KMI Kunming 34.68 265 ⇓P **P 06 20 10.8 +3.9**
KMI pP pwP 06 20 19.0 -0.8
KMI pmax pmax
comp=Z,19nm,0.8s
KMI LR LR
comp=Z,7µm,14.7s
KMI LR LR
comp=Z,7µm,14.4s
KMI LR LR
comp=Z,7µm,14.6s
PZH PanZhiHua 34.94 268 P P 06 20 14.6 +5.5
PZH pmax pmax
comp=Z,20nm,0.7s
PZH LR LR
comp=Z,9µm,15.9s
PZH LR LR
comp=Z,8µm,16.7s
PZH LR LR
comp=Z,4µm,13.7s
MYLDM Lahad Datu 36.16 221 IAMs_20 IAMs_20 06 31 43.7
comp=Z,6µm,21.0s
SIJI Soron 36.55 197 LR LR 06 33 42.1
comp=Z,2µm,19.2s,baz=360,slow=34
TIXI Tiksi 37.71 354 LR LR 06 37 18.5
comp=Z,6µm,18.4s,baz=180,slow=38
TIXI Tiksi 37.71 354⇑*eP* **P 06 20 32.6 +0.7**
TIXI pmax pmax
comp=Z,4.0nm,0.3s
GOMU GeErMu 37.75 286 *eP* **P 06 20 32.9 -0.4**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
GOMU pmax pmax
comp=Z,320nm,5.7s
GOMU LR LR
comp=Z,2µm,15.3s
GOMU LR LR
comp=Z,4µm,16.7s
GOMU LR LR
comp=Z,3µm,15.6s
GTOI Gorontalo 37.92 211 P **P 06 20 34.3 0.0**
comp=Z,11nm,1.0s
FAKI Fak Fak 38.30 195 IAMs_20 IAMs_20 06 35 36.0
comp=Z,5µm,18.0s
MRSI Marisa 38.53 212 P **P 06 20 39.7 +0.3**
comp=Z,29nm,0.9s
CRAI Chiangrai 38.88 259 P **P 06 20 43.6 +1.1**
SANI Sanana 39.23 205 P **P 06 20 44.6 -0.8**
comp=Z,28nm,1.1s
MPSI Mapaga 39.59 215 P P 06 20 41.3 -7.0
PHRA Phrae 39.89 257 P **P 06 20 54.6 +3.7**
KRVT Keravat (AS076 39.96 163 LR LR 06 39 34.0
comp=Z,267nm,19.0s,baz=132,slow=40
CHTO Chiang Mai 40.76 258 P **P 06 21 01.4 +3.2**
CHTO Chiang Mai 40.76 258 P **P 06 21 01.4 +3.2**
CHTO MLR MLR
comp=Z,2µm,18.0s
CMAR Chiang Mai Arr 40.95 258 P **P 06 20 57.1 -2.5**
comp=Z,2.1nm,0.7s,baz=50,slow=7.1,SNR=11
CMAR LR LR 06 38 12.9
comp=Z,876nm,19.1s,baz=55,slow=37
comp=Z,2.1nm,0.7s
CMAR Chiang Mai Arr 40.95 258*ceP* **P 06 21 03.5 +3.8**
CMAR pmax pmax
comp=Z,6.0nm,0.6s
WMQ Urumqi 42.00 299 *eP* P 06 21 12.6 +4.5
WMQ sP pwP 06 21 25.9 +3.7
WMQ pmax pmax
comp=Z,71nm,1.1s
WMQ LR LR
comp=Z,11µm,20.9s
WMQ LR LR
comp=Z,3µm,20.9s
WMQ LR LR
comp=Z,2µm,20.9s
BKB Balikpapan 42.45 218 IAMs_20 IAMs_20 06 36 57.9
comp=Z,4µm,19.0s
LSA Lhasa 42.50 278 IAMs_20 IAMs_20 06 40 46.4
comp=Z,4µm,18.0s
MTKI Muara Teweh, K 43.22 221 P **P 06 21 20.3 +2.1**
comp=Z,65nm,0.5s
ZAA0 Zalesovo Array 43.59 314 P **P 06 21 20.7 -0.1**
ZALV Zalesovo Beam 43.59 314 P **P 06 21 19.9 -0.8**
comp=Z,5.2nm,0.8s,baz=88,slow=6.5,SNR=10
ZALV PcP **PcP 06 23 08.9 +1.0**
comp=Z,7.4nm,0.7s,baz=86,slow=5.9,SNR=2.1
ZALV LR LR 06 41 01.6
comp=Z,2µm,18.2s,baz=89,slow=38
comp=Z,5.2nm,0.8s
ZALV Zalesovo Beam 43.59 314 P **P 06 21 20.4 -0.4**
ZSN Zaisan 43.65 305 *eP* **P 06 21 21.4 +0.1**
ZSN Zaisan 43.65 305 *eP* **P 06 21 21.4 +0.1**
baz=305
ANM Nome 43.68 30 IAMs_20 IAMs_20 06 42 04.1
comp=Z,2µm,18.0s
PMG Port Moresby 44.10 172 LR LR 06 39 00.4
comp=Z,931nm,20.2s,baz=6.5,slow=35
TARA Tarawa 44.23 132 IAMs_20 IAMs_20 06 36 52.9
comp=Z,4µm,20.0s
KAPI Kappang 44.39 212 P **P 06 21 24.0 -3.5**
comp=Z,6.3nm,0.3s,baz=214,slow=17,SNR=1.8
KAPI LR LR 06 39 07.2
comp=Z,952nm,18.8s,baz=52,slow=35
comp=Z,6.3nm,0.3s
BRDH Bariadhala 44.88 268 LR LR 06 43 32.2
comp=Z,5µm,18.1s,baz=72,slow=41
BBKI Banjar Baru 45.38 219 P P 06 21 41.3 +5.9
MK31 Makanchi Array 45.46 304 P **P 06 21 37.8 +1.9**
MK31 IAmb IAmb 06 22 28.8
comp=Z,23nm,1.1s
MK31 Makanchi Array 45.46 304 P **P 06 21 37.8 +1.9**
MK31 pmax pmax
comp=Z,23nm,1.1s
MKAR Makanchi Array 45.46 304 P **P 06 21 35.0 -0.9**
comp=Z,2.5nm,0.6s,baz=74,slow=13,SNR=19
MKAR LR LR 06 42 03.4
comp=Z,5µm,18.4s,baz=98,slow=38
comp=Z,2.5nm,0.6s
MKAR Makanchi Array 45.46 304 P **P 06 21 34.9 -0.9**
NRIK Noril'sk 45.49 336 P **P 06 21 36.0 +0.3**
comp=Z,21nm,1.1s,baz=109,slow=9.0,SNR=7.8
NRIK LR LR 06 43 14.4
comp=Z,6µm,18.6s,baz=108,slow=39
comp=Z,21nm,1.1s
NRIK Noril'sk 45.49 336 P **P 06 21 35.9 +0.2**
MAKZ Makanchi 45.67 304 P **P 06 21 38.6 +1.1**
MAKZ IAmb IAmb 06 21 56.3
comp=Z,26nm,1.0s
MAKZ Makanchi 45.67 304 P **P 06 21 38.6 +1.1**
MAKZ pmax pmax
comp=Z,26nm,1.0s
MAKZ MLR MLR
comp=Z,5µm,18.0s
SEM Semipalatinsk 46.47 309 *eP* **P 06 21 43.7 -0.2**
SEM Semipalatinsk 46.47 309 *eP* **P 06 21 43.8 -0.2**
baz=309
RAMN Ramite 47.24 276 *eP* **P 06 21 48.6 -1.7**
comp=Z,94nm,1.0s
CHIR Chirikof Islan 47.28 43 IAMs_20 IAMs_20 06 39 38.7
comp=Z,2µm,20.0s
JIRN Jiri 47.30 277 *eP* **P 06 21 49.6 -1.3**
GUN Gumba 47.46 278 *eP* **P 06 21 51.7 -0.4**
comp=Z,34nm,0.8s
KURK Kurchatov 47.48 310 P **P 06 21 50.8 -0.7**
KURK Kurchatov 47.48 310 IAMs_20 IAMs_20 06 42 38.5
comp=Z,3µm,19.0s
KURK Kurchatov 47.48 310 P **P 06 21 51.5 0.0**
KURBB Kurchatov Arra 47.54 310 P **P 06 21 51.5 -0.6**
comp=Z,3.4nm,0.4s,baz=85,slow=7.6,SNR=22
KURBB LR LR 06 43 11.0
comp=Z,3µm,18.6s,baz=63,slow=38
comp=Z,3.4nm,0.4s
KURBB Kurchatov Arra 47.54 310 P **P 06 21 51.1 -0.9**
MYKOM Kota Tinggi 47.86 235 IAMs_20 IAMs_20 06 45 33.2
comp=Z,2µm,18.0s
PDGK Podgornoye 47.96 300 P **P 06 21 54.4 -1.2**
PKI Pulchoki 47.97 278 *eP* **P 06 21 54.1 -2.0**
SHLS Shalkode 48.02 300 *eP* **P 06 21 52.7 -3.3**
SHLS Shalkode 48.02 300 *eP* **P 06 21 52.7 -3.3**
baz=299
DMN Daman 48.21 278 *eP* **P 06 21 56.0 -1.8**
UZB Uzynbulak 48.34 300 *eP* **P 06 21 58.2 -0.3**
UZB Uzynbulak 48.34 300 *eP* **P 06 21 58.2 -0.3**
baz=300
K20K Telida 48.34 33 P **P 06 21 58.4 +0.3**
K20K IAmb IAmb 06 22 29.3
comp=Z,37nm,1.4s
J20K Nowinta River 48.39 32 P **P 06 21 59.1 +0.7**
J20K IAmb IAmb 06 22 30.2
comp=Z,22nm,1.0s
J20K Nowinta River 48.39 32 P **P 06 21 59.4 +1.0**
baz=265
TDK Taldyqorghan 48.41 302 *eP* **P 06 21 58.9 0.0**
TDK Taldyqorghan 48.41 302 *eP* **P 06 21 59.0 0.0**
baz=302
GKN Gorkha 48.44 279 *eP* **P 06 21 58.0 -1.5**
KPKS Kokpek 48.51 300 *eP* **P 06 21 59.6 -0.2**
KPKS Kokpek 48.51 300 *eP* **P 06 21 59.7 -0.2**
baz=300
PLAI Plampang 48.65 212 P **P 06 21 57.7 -3.3**
comp=Z,48nm,0.9s
IMAR Indian Mountai 48.75 30 P **P 06 22 01.6 +0.4**
G21K Allakaket 48.91 29 P **P 06 22 04.4 +2.0**
baz=263
KDAK Kodiak Island 48.92 40 P **P 06 22 04.2 +1.6**
comp=Z,9.8nm,0.8s,baz=298,slow=6.7,SNR=4.3
comp=Z,9.8nm,0.8s
KDAK Kodiak Island 48.92 40 IAMs_20 IAMs_20 06 42 30.6
comp=Z,3µm,20.0s
TWSI Taliwang, Sumb 48.97 213 P **P 06 22 00.1 -3.3**
comp=Z,25nm,0.8s
DANN Dangsing 49.02 279 *eP* **P 06 22 03.1 -1.0**
comp=Z,141nm,0.9s
H21K Melozitna Rive 49.10 30 P **P 06 22 04.4 +0.6**
H21K IAmb IAmb 06 22 45.4
comp=Z,43nm,1.4s
H21K IAMs_20 IAMs_20 06 45 06.4
comp=Z,2µm,20.0s
H21K Melozitna Rive 49.10 30 P **P 06 22 04.9 +1.1**
baz=265
CAST Castle Rocks 49.24 33 P **P 06 22 05.2 +0.1**
CAST IAmb IAmb 06 22 36.2
comp=Z,25nm,1.2s
CAST IAMs_20 IAMs_20 06 46 11.4
comp=Z,2µm,20.0s
KOLN Koldanda 49.37 279 *eP* **P 06 22 05.0 -1.7**
F22K John River 49.55 28 P **P 06 22 08.4 +1.1**
baz=264
CHKK Chushkaly 49.63 301 *eP* **P 06 22 08.4 +0.1**
CHKK Chushkaly 49.63 301 *eP* **P 06 22 08.4 +0.1**
baz=301
H22K Ishtalitna Cre 49.71 30 P **P 06 22 09.7 +1.2**
baz=266
MDOK Medeo 49.74 300 *eP* **P 06 22 09.1 -0.2**
MDOK Medeo 49.74 300 *eP* **P 06 22 09.2 -0.2**
baz=300
E22K Anaktuvuk Pass 49.76 27 P **P 06 22 09.3 +0.4**
baz=263
BPAW Bear Paw Mtn. 49.76 32 IAMs_20 IAMs_20 06 46 51.1
comp=Z,2µm,18.0s
KTH Kantishna Hill 49.77 33 IAMs_20 IAMs_20 06 46 18.3
comp=Z,3µm,18.0s
TNSS Tian-Shan 49.84 300 *eP* **P 06 22 10.0 -0.4**
TNSS Tian-Shan 49.84 300 *eP* **P 06 22 10.0 -0.4**
baz=300
MLY Manley 49.92 31 P **P 06 22 10.8 +0.7**
MLY IAmb IAmb 06 23 37.7
comp=Z,30nm,1.2s
MLY IAMs_20 IAMs_20 06 46 25.0
comp=Z,2µm,18.0s
TRF Thorofare Moun 50.05 33 IAMs_20 IAMs_20 06 46 17.7
comp=Z,2µm,20.0s
KUU Kurty 50.08 301 *eP* **P 06 22 11.5 -0.2**
KUU Kurty 50.08 301 *eP* **P 06 22 11.6 -0.2**
baz=301
COLD Coldfoot 50.28 28 P **P 06 22 12.9 +0.1**
G23K Bananza Creek 50.31 29 P **P 06 22 14.4 +1.3**
baz=266
BWN Browne 50.43 32 P **P 06 22 15.6 +1.6**
H23K Yukon River 50.46 30 P **P 06 22 14.8 +0.6**
H23K IAmb IAmb 06 22 56.2
comp=Z,35nm,1.2s
H23K Yukon River 50.46 30 P **P 06 22 15.8 +1.6**
baz=268
E23K Chandalar 50.57 27 P **P 06 22 16.4 +1.3**
baz=266
NENA Nenana 50.61 32 P **P 06 22 15.3 -0.1**
NEA2 IAmb IAmb 06 22 56.6
comp=Z,46nm,1.2s
NEA2 IAMs_20 IAMs_20 06 46 31.5
comp=Z,3µm,18.0s
TOLK Toolik Lake Re 50.64 26 P **P 06 22 16.1 +0.5**
TOLK IAmb IAmb 06 22 34.7
comp=Z,22nm,0.9s
TOLK IAMs_20 IAMs_20 06 47 05.7
comp=Z,3µm,19.0s
TOLK Toolik Lake Re 50.64 26 P **P 06 22 17.0 +1.4**
baz=265
MCK McKinley 50.66 33 IAMs_20 IAMs_20 06 47 29.8
comp=Z,3µm,19.0s
RPSI Rantau Prapat 50.66 241 IAMs_20 IAMs_20 06 47 59.9
comp=Z,3µm,18.0s
RND Reindeer 50.70 33 P **P 06 22 16.1 0.0**
RND IAmb IAmb 06 22 52.8
comp=Z,27nm,1.2s
RND IAMs_20 IAMs_20 06 47 17.7
comp=Z,2µm,20.0s
RND Reindeer 50.70 33 P **P 06 22 16.1 0.0**
RND pmax pmax
comp=Z,27nm,1.2s
RND MLR MLR
comp=Z,2µm,20.0s
PWJI Pagerwojo 50.82 219 P **P 06 22 16.0 -1.4**
comp=Z,54nm,0.8s
TKM2 Tokmak 2 50.83 300 P **P 06 22 17.5 -0.1**
D24K Happy Valley 50.95 26 P **P 06 22 18.6 +0.8**
baz=265
MDM Murphy Dome 50.98 31 P **P 06 22 17.9 -0.2**
MDM IAmb IAmb 06 22 38.7
comp=Z,37nm,1.0s
MDM IAMs_20 IAMs_20 06 46 19.1
comp=Z,2µm,19.0s
E24K Your Creek 50.99 27 P **P 06 22 19.5 +1.2**
baz=267
WRH Wood River Hil 51.03 32 P **P 06 22 19.6 +1.1**
WRH IAMs_20 IAMs_20 06 46 42.6
comp=Z,2µm,20.0s

C24K **Franklin Bluff** 51.04 25 P P 06 22 19.4 +0.9
baz=265
TCOL **CIGO, UAF Yank** 51.13 31 IAMs_20 IAMs_20 06 46 46.3
comp=Z,2µm,20.0s
H24K **Noodor Dome** 51.14 30 P P 06 22 20.0 +0.6
H24K IAmb IAmb 06 23 21.4
comp=Z,24nm,1.1s
H24K IAMs_20 IAMs_20 06 46 16.3
comp=Z,2µm,18.0s
CCB **Clear Creek Bu** 51.16 31 P P 06 22 20.8 +1.4
CCB IAMs_20 IAMs_20 06 46 54.9
comp=Z,3µm,18.0s
F24K **Squaw Lake** 51.19 28 P P 06 22 21.7 +2.0
baz=268
POKR **Poker Plat Res** 51.32 31 P P 06 22 21.5 +0.8
POKR IAmb IAmb 06 23 02.2
comp=Z,41nm,1.1s
POKR IAMs_20 IAMs_20 06 47 18.1
comp=Z,2µm,18.0s
BRZS **Berezniki** 51.34 310 eP P 06 22 21.1 0.0
BRZS **Berezniki** 51.34 310 eP P 06 22 21.1 0.0
baz=309
DHY **Denali Highway** 51.37 33 IAMs_20 IAMs_20 06 46 59.6
comp=Z,3µm,19.0s
DHY **Denali Highway** 51.37 33 P P 06 22 21.8 +0.6
baz=272
SGDS **Sogindy** 51.39 301 eP P 06 22 21.6 0.0
SGDS **Sogindy** 51.39 301 eP P 06 22 21.6 0.0
baz=301
BTLS **Baital** 51.43 303 eP P 06 22 21.6 -0.2
BTLS **Baital** 51.43 303 eP P 06 22 21.6 -0.2
baz=303
KSH **Kashi** 51.45 296 P P 06 22 29.3 +7.1
KSH sP pwP 06 22 43.3 +7.0
KSH pmax pmax
comp=Z,10.0nm,1.1s
SDSI **Sungai Dareh** 51.49 235 P P 06 22 24.0 +1.5
HDA **Harding Lake** 51.53 32 P P 06 22 22.6 +0.4
HDA IAMs_20 IAMs_20 06 44 43.8
comp=Z,2µm,18.0s
HDA **Harding Lake** 51.53 32 P P 06 22 21.9 -0.4
baz=271
IL31 51.55 31 P P 06 22 22.4 0.0
IL31 IAmb IAmb 06 23 02.0
comp=Z,26nm,1.1s
ILAR **Eielson Array** 51.55 31 P P 06 22 21.9 -0.6
comp=Z,7.0nm,1.0s,baz=266,slow=5.7,SNR=20
ILAR LR LR 06 46 48.3
comp=Z,1µm,20.4s,baz=268,slow=39
comp=Z,7.0nm,1.0s
AAK **Ala-Archa** 51.69 300 P P 06 22 22.7 -1.3
comp=Z,0.9nm,0.3s,baz=178,slow=8.5,SNR=1.8
AAK LR LR 06 46 29.9
comp=Z,3µm,20.2s,baz=75,slow=39
comp=Z,0.9nm,0.3s
AAK **Ala-Archa** 51.69 300 P P 06 22 25.3 +1.3
AAK IAmb IAmb 06 23 19.3
comp=Z,36nm,1.4s
AAK IAMs_20 IAMs_20 06 46 18.5
comp=Z,3µm,21.0s
AAK **Ala-Archa** 51.69 300 P P 06 22 25.3 +1.3
AAK pmax pmax
comp=Z,36nm,1.4s
AAK MLR MLR
comp=Z,3µm,21.0s
D25K **Kavik River** 51.83 25 P P 06 22 25.2 +0.7
baz=268
F25K **Christian Rive** 52.06 28 P P 06 22 27.5 +1.3
baz=270
E25K **Arctic Village** 52.09 27 P P 06 22 27.2 +0.8
baz=269
PRP **Porcupine Dome** 52.12 30 IAMs_20 IAMs_20 06 46 27.1
comp=Z,2µm,19.0s
J25K **Salcha River,** 52.21 31 IAMs_20 IAMs_20 06 47 36.7
comp=Z,2µm,20.0s
BVA0 **Borovoye Array** 52.24 314 *i* P P 06 22 26.4 -1.4
BVAR **Borovoye Array** 52.24 314 P P 06 22 26.0 -1.7
comp=Z,1.0nm,0.5s,baz=79,slow=7.7,SNR=7.3
BVAR LR LR 06 44 58.2
comp=Z,2µm,19.7s,baz=77,slow=36
comp=Z,1.0nm,0.5s
BRVK **Borovoye** 52.30 314 P P 06 22 27.7 -0.5
BRVK IAmb IAmb 06 23 20.5
comp=Z,43nm,1.5s
BRVK **Borovoye** 52.30 314 IAMs_20 IAMs_20 06 46 18.6
comp=Z,2µm,18.0s
BRVK **Borovoye** 52.30 314⇓ eP P 06 22 28.0 -0.2
BRVK pmax pmax
comp=Z,46nm,2.3s
BMAR **Burnt Mountain** 52.47 28 P P 06 22 30.5 +1.3
RIDG **Independent Ri** 52.48 33 P P 06 22 30.3 +0.9
F26K **Sheenjek River** 52.63 28 P P 06 22 32.0 +1.6
baz=271
C27K **Jago River** 52.78 25 P P 06 22 32.6 +1.1
baz=270
DOT **Dot Lake** 52.83 33 P P 06 22 32.8 +0.8
SCRK **Sand Creek** 52.84 32 P P 06 22 32.0 -0.2
SCRK **Sand Creek** 52.84 32 P P 06 22 32.4 +0.2
baz=274
J26L **Joseph Creek** 52.99 32 P P 06 22 33.8 +0.6
J26L IAMs_20 IAMs_20 06 47 53.4
comp=Z,2µm,20.0s
L26K **Log Cabin Wild** 53.20 33 P P 06 22 34.7 0.0
L26K IAmb IAmb 06 23 16.1
comp=Z,20nm,1.0s
L26K IAMs_20 IAMs_20 06 48 54.1
comp=Z,2µm,19.0s
M26K **Nabesna, AK** 53.42 34 IAMs_20 IAMs_20 06 45 30.0
comp=Z,2µm,20.0s
MCARA **McCarthy VSAT** 53.52 35 P P 06 22 39.3 +2.2
MCARA IAmb IAmb 06 23 56.8
comp=Z,41nm,1.2s
MCARA IAMs_20 IAMs_20 06 45 14.7
comp=Z,2µm,20.0s
E27K **Coleen River** 53.58 27 P P 06 22 38.5 +1.1
baz=273
H27K **Steamboat Moun** 53.72 29 P P 06 22 39.6 +1.1
baz=274
DZA **Taraz** 53.87 301 eP P 06 22 40.2 +0.3
DZA **Taraz** 53.87 301 eP P 06 22 40.2 +0.3
baz=301
L27K **Beaver Creek,** 53.89 33 P P 06 22 40.5 +0.7
BCAR **Beaver Creek A** 53.91 33 P P 06 22 40.4 +0.5
M27K **Edge Creek, AK** 53.95 34 IAMs_20 IAMs_20 06 48 52.8
comp=Z,3µm,19.0s
KK31 **Karatay Array** 54.39 302 P P 06 22 43.4 -0.3
KK31 IAmb IAmb 06 23 09.0
comp=Z,39nm,1.0s
KK31 **Karatay Array** 54.39 302 P P 06 22 43.4 -0.3
KK31 pmax pmax
comp=Z,39nm,1.0s
KKAR **Karatay Array** 54.39 302 P P 06 22 43.2 -0.5
KKAR **Karatay Array** 54.39 302 P P 06 22 43.2 -0.5
FITZ **Fitzroy Crossi** 54.51 199 P P 06 22 42.0 -2.6
comp=Z,13nm,0.7s,baz=0.0,slow=6.1,SNR=32
comp=Z,13nm,0.7s
CTA **Charters Tower** 54.57 174 LR LR 06 44 58.9
comp=Z,1µm,21.9s,baz=349,slow=35
WRAB **Tennant Creek** 54.64 188 IAMs_20 IAMs_20 06 43 57.2
comp=Z,3µm,22.0s
WRA **Warramunga Arr** 54.66 188 P P 06 22 42.5 -3.2
comp=Z,7.4nm,0.6s,baz=3.6,slow=7.5,SNR=46
WRA LR LR 06 45 44.6
comp=Z,2µm,19.2s,baz=10.0,slow=36
comp=Z,7.4nm,0.6s
DAWY **Dawson** 54.85 32 P P 06 22 47.5 +0.8
IUG **luzhnay** 55.00 301 eP P 06 22 48.0 -0.2
IUG **luzhnay** 55.00 301 eP P 06 22 48.1 -0.2
baz=300
BTK **Batken** 55.08 298 P P 06 22 49.1 +0.3
BTK IAmb IAmb 06 23 47.3
comp=Z,19nm,1.1s
BTK **Batken** 55.08 298 P P 06 22 49.1 +0.3
BTK pmax pmax
comp=Z,19nm,1.1s
I29M **Ogilvie Camp,** 55.13 30 P P 06 22 49.3 +0.6
I29M IAmb IAmb 06 23 26.4
comp=Z,40nm,1.4s
I29M IAMs_20 IAMs_20 06 49 10.9
comp=Z,2µm,20.0s
I29M **Ogilvie Camp,** 55.13 30 P P 06 22 50.1 +1.3
baz=278
J29M **Klondike Camp** 55.30 31 IAMs_20 IAMs_20 06 47 10.4
comp=Z,3µm,20.0s
M29M **Somme Creek** 55.51 34 P P 06 22 52.6 +1.0
baz=280
EPYK **Eagle Plains** 55.64 29 P P 06 22 52.8 +0.4
EPYK IAmb IAmb 06 23 09.3
comp=Z,28nm,0.8s
EPYK **Eagle Plains** 55.64 29 P P 06 22 53.1 +0.8
baz=279
GAR **Garm** 55.78 297 P P 06 22 55.3 +1.3
GAR IAmb IAmb 06 23 12.6
comp=Z,39nm,1.0s
HYT **Haines Junctio** 56.25 36 P P 06 22 58.2 +1.2
P29M **Windy Craggy** 56.38 37 IAMs_20 IAMs_20 06 50 58.6
comp=Z,2µm,18.0s
INK **Inuvik** 56.55 26 P P 06 22 59.0 +0.2
comp=Z,11nm,0.8s,baz=259,slow=5.6,SNR=6.7
INK LR LR 06 51 01.6
comp=Z,2µm,19.0s,baz=268,slow=40
comp=Z,11nm,0.8s
INK **Inuvik** 56.55 26 P P 06 22 59.0 +0.2
INK IAmb IAmb 06 23 15.0
comp=Z,14nm,0.8s
INK **Inuvik** 56.55 26 P P 06 22 59.0 +0.2
INK pmax pmax
comp=Z,15nm,0.9s
CHGR **Chuyangaron** 56.75 297 P P 06 23 01.2 +0.4
CHGR **Chuyangaron** 56.75 297 P P 06 23 01.2 +0.4
CHGR pmax pmax
comp=Z,81nm,1.0s
N31M **Braeburn, Yuko** 56.94 35 IAMs_20 IAMs_20 06 49 53.9
comp=Z,2µm,18.0s
M31M **Drury Creek, Y** 57.42 34 P P 06 23 05.9 +0.8
M31M IAmb IAmb 06 23 36.4
comp=Z,19nm,1.1s
WHY **Whitehorse** 57.55 35 P P 06 23 07.2 +1.0
FARO **Faro, Yukon** 57.89 33 P P 06 23 09.3 +0.9
FARO IAmb IAmb 06 23 42.4
comp=Z,24nm,1.3s
HYBB **Hyderabad (bro** 58.19 270 eP P 06 23 11.5 +0.4
ARU **Arti** 58.21 320 P P 06 23 10.2 -0.5
comp=Z,6.5nm,0.2s,baz=33,slow=3.9,SNR=7.8
comp=Z,6.5nm,0.2s
ARU **Arti** 58.21 320 P P 06 23 09.9 -0.8
ARU **Arti** 58.21 320 *c iP* P 06 23 09.0 -1.7
ARU 06 24 00.0
ARU S S 06 31 05.3 -5.2
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU MLR MLR
comp=Z,2µm,15.0s
KBL **Kabul** 58.33 292 P P 06 23 14.5 +2.3
KBL IAmb IAmb 06 24 00.1
comp=Z,22nm,1.1s
KBL **Kabul** 58.33 292 P P 06 23 14.5 +2.3
KBL pmax pmax
comp=Z,22nm,1.1s
ASAR **Alice Springs** 58.38 188 P P 06 23 09.4 -2.8
comp=Z,4.6nm,0.7s,baz=11,slow=6.8,SNR=35
ASAR LR LR 06 45 49.1
comp=Z,2µm,21.6s,baz=360,slow=34
comp=Z,4.6nm,0.7s
P33M **Teslin, Yukon** 58.65 36 P P 06 23 14.4 +0.6
P33M IAmb IAmb 06 23 33.0
comp=Z,38nm,1.4s
PSA00 **Pilbara Seismi** 59.51 203 P P 06 23 23.8 +3.7
PSA00 **Pilbara Seismi** 59.51 203 P P 06 23 24.2 +4.2
PSA00 IAmb IAmb 06 24 09.5
comp=Z,132nm,1.9s
AB31 **Akbulak array** 59.54 311 *i* P P 06 23 18.7 -1.3
ABKAR **Akbulak array** 59.54 311 P P 06 23 19.3 -0.8
AKTO **Aktyubinsk** 60.33 313 P P 06 23 24.5 -1.0
comp=Z,3.4nm,0.8s,baz=73,slow=12,SNR=6.6
AKTO LR LR 06 51 18.0
comp=Z,2µm,18.2s,baz=67,slow=38
comp=Z,3.4nm,0.8s
AKTO **Aktyubinsk** 60.33 313 P P 06 23 25.6 +0.1
DLBC **Dease Lake** 60.54 37 LR LR 06 52 16.8
comp=Z,600nm,19.0s,baz=297,slow=38
WTLY **Watson Lake, Y** 60.60 35 P P 06 23 27.6 +0.4
WTLY IAmb IAmb 06 23 59.3
comp=Z,37nm,1.4s
DZM **Mont Dzumac** 61.16 153 eP P 06 23 38.3 +6.8
comp=Z,52nm,1.3s
DZM **Mont Dzumac** 61.16 153 eLR LR 06 41 55.7
comp=Z,5µm,21.4s
DZM **Mont Dzumac** 61.16 153 P P 06 23 28.8 -2.6
comp=Z,3.1nm,0.9s,baz=288,slow=20,SNR=2.6
DZM LR LR 06 48 01.7
comp=Z,3µm,20.4s,baz=332,slow=34
comp=Z,3.1nm,0.9s
PALK **Pallekele** 61.89 259 LR LR 06 51 39.9
comp=Z,762nm,20.7s,baz=159,slow=37
PALK **Pallekele** 61.89 259 IAMs_20 IAMs_20 06 54 12.7
comp=Z,1µm,18.0s
KIRV **Kirov** 62.21 324 P P 06 23 37.5 -0.5
comp=Z,9.2nm,0.6s,baz=214,slow=3.6,SNR=2.0
KIRV LR LR 06 52 35.8
comp=Z,4µm,19.7s,baz=64,slow=38
comp=Z,9.2nm,0.6s
KIRV **Kirov** 62.21 324⇓ eP P 06 23 37.9 -0.1
MSVF **Nonsavu** 62.62 140 LR LR 06 46 50.9
comp=Z,755nm,19.2s,baz=331,slow=32
PRGR **Permogore** 62.82 328 eP P 06 23 44.7 +2.7
PRGR pmax pmax
comp=Z,15nm,0.9s
SPITS **Spitsbergen Ar** 62.91 349 LR LR 06 52 23.0
comp=Z,4µm,21.4s,baz=11,slow=37
KBS **Kingsbay** 63.06 350 IAMs_20 IAMs_20 06 55 35.4
comp=Z,2µm,18.0s
NOR **Nord** 63.48 356 *i* P P 06 23 50.6 +4.4
NOR IAmb IAmb 06 24 08.4
comp=Z,293nm,3.4s
HRA **Herat** 63.53 295 P P 06 23 49.7 +2.2
BBB **Bella Bella** 63.81 43 LR LR 06 49 26.0
comp=Z,821nm,20.2s,baz=295,slow=34
APA **Apatity** 64.92 336⇓ *iP* P 06 24 13.6 +18
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,6µm,19.0s
RES **Resolute Bay** 64.95 14 LR LR 06 55 10.1
comp=Z,756nm,18.9s,baz=322,slow=39
GEYT **Ailbeck** 65.05 300 P P 06 23 56.1 -1.1
comp=Z,1.7nm,0.5s,baz=301,slow=34,SNR=2.5
GEYT LR LR 06 54 18.6
comp=Z,2µm,21.1s,baz=76,slow=38
comp=Z,1.7nm,0.5s
AFI **Afiamalu** 65.58 129 LR LR 06 47 50.0
comp=Z,2µm,20.4s,baz=320,slow=32
BELG **Belogornoye** 65.60 318 P P 06 24 00.3 -0.1
comp=Z,17nm,1.0s,baz=123,slow=2.5,SNR=9.0
BELG LR LR 06 54 52.8
comp=Z,2µm,18.2s,baz=62,slow=38
comp=Z,17nm,1.0s
BELG **Belogornoye** 65.60 318⇓ eP P 06 24 03.7 +3.3
BELG pmax pmax
comp=Z,7.0nm,1.0s
KLMR **Klimovskoe** 65.83 328 eP P 06 24 00.1 -1.6
KLMR *e* 06 26 25.2
KLMR pmax pmax
comp=Z,33nm,1.4s
KLMR **Klimovskoe** 65.83 328 eP P 06 24 00.1 -1.6
KLMR AMP 06 24 18.5
comp=Z,33nm,1.4s
KLMR *e*PP PP 06 26 25.3 -1.0
KLMR LQ LQ 06 48 41.6
KLMR LQ LQ 06 48 41.6
KLMR LR LR 06 50 17.8
KLMR AMP 06 58 38.6
comp=Z,3µm,13.9s
YKA **Yellowknife Ar** 65.91 30 P P 06 24 03.4 +1.1
comp=Z,3.2nm,0.8s,baz=297,slow=6.3,SNR=4.4
YKA LR LR 06 54 59.1
comp=Z,382nm,20.8s,baz=297,slow=38
comp=Z,3.2nm,0.8s
YKA **Yellowknife Ar** 65.91 30 *i* P P 06 24 06.5 +4.3
YKA pmax pmax
comp=Z,3.0nm,0.8s
STKA **Stephens Creek** 66.12 180 P P 06 24 01.4 -2.5
comp=Z,2.6nm,0.9s,baz=35,slow=6.4,SNR=4.1
STKA LR LR 06 54 33.4
comp=Z,2µm,18.6s,baz=6.7,slow=38
comp=Z,2.6nm,0.9s
STKA **Stephens Creek** 66.12 180⇑ eP P 06 24 08.2 +4.3
ARCES **ARCESS Array B** 66.28 340 P P 06 24 04.2 -0.4
comp=Z,3.1nm,0.9s,baz=52,slow=7.9,SNR=6.4
ARCES LR LR 06 58 45.8
comp=Z,4µm,18.1s,baz=48,slow=41
comp=Z,3.1nm,0.9s
NEEM **North Greenlan** 67.96 3 *i* P P 06 24 14.5 -0.9
NEEM IAmb IAmb 06 24 42.5
comp=Z,268nm,2.4s
DAG **Danmarks Havn** 68.20 355 *i* P P 06 24 20.5 +3.9
DAG IAmb IAmb 06 24 45.3
comp=Z,33nm,1.2s
MOS **Moscow** 69.22 324 eP P 06 24 35.7 +12
MOS MLR MLR
comp=Z,5µm,15.0s
MOS MLR MLR
comp=E,5µm,16.0s
MOS MLR MLR
comp=N,5µm,15.0s
VRH **Novokhopyorsk** 69.40 319 eP P 06 24 26.6 +2.1
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,4µm,16.0s
OBN **Obninsk** 70.06 324 LR LR 06 57 20.3
comp=Z,802nm,18.2s,baz=55,slow=38
OBN **Obninsk** 70.06 324⇓ eP P 06 24 32.1 +3.7
OBN *i* 06 24 41.2
OBN *e*S S 06 33 36.2 -1.0
OBN pmax pmax
comp=Z,41nm,1.2s
OBN MLR MLR
comp=Z,3µm,16.0s
LPSR **Galich'ya Gora** 70.19 321 eP P 06 24 32.4 +3.1
LPSR pmax pmax
comp=Z,30nm,1.2s
LPSR MLR MLR
comp=Z,3µm,15.0s
VORR **Voronezh** 70.52 320 eP P 06 24 33.6 +2.3
VORR pmax pmax
comp=Z,90nm,0.4s
B08A **Colville Reser** 70.56 44 P P 06 24 32.7 +1.0
B08A IAmb IAmb 06 24 50.0
comp=Z,17nm,1.1s
VSR **Storozhevoye** 70.78 319 eP P 06 24 36.0 +3.1
VSR pmax pmax
comp=Z,20nm,1.0s
VSR MLR MLR
comp=Z,5µm,16.0s
NWAO **Narrogin (SRO)** 70.91 201 P P 06 24 30.3 -3.5
comp=Z,3.9nm,0.6s,baz=184,slow=16,SNR=1.4
comp=Z,3.9nm,0.6s
GROC **Groznyy** 70.96 310 eP P 06 24 36.1 +1.9
GROC *e* 06 24 55.8
GROC *e* 06 27 12.8
GROC pmax pmax
comp=Z,89nm,1.1s
FINES **FINESS Array B** 70.98 333 P P 06 24 33.1 -0.9
comp=Z,4.3nm,0.9s,baz=66,slow=4.6,SNR=8.4
FINES LR LR 06 57 13.4
comp=Z,2µm,21.0s,baz=36,slow=37
comp=Z,4.3nm,0.9s
FINES **FINESS Array B** 70.98 333 P P 06 24 33.7 -0.2
FINES **FINESS Array B** 70.98 333 *i* P P 06 24 35.5 +1.6
FINES pmax pmax
comp=Z,10.0nm,0.9s
WSAR **Wadi Sarin** 71.53 286 P P 06 24 35.5 -2.4
comp=Z,2.9nm,0.8s,baz=304,slow=8.3,SNR=1.6
WSAR LR LR 06 59 16.7
comp=Z,861nm,18.9s,baz=74,slow=39
comp=Z,2.9nm,0.8s
GOF **Gofitskoye** 71.73 312⇑ eP P 06 24 52.5 +14
NEW **Newport** 71.87 44 P P 06 24 41.9 +2.2
NEW **Newport** 71.87 44 IAMs_20 IAMs_20 07 02 03.0
comp=Z,1µm,18.0s
NEW **Newport** 71.87 44 P P 06 24 41.9 +2.2
NEW pmax pmax
comp=Z,11nm,1.0s
PINE **Pine Mountain** 71.91 49 P P 06 24 41.0 +0.8
PINE IAmb IAmb 06 24 57.8
comp=Z,40nm,1.2s
ZEI **Tsey** 72.36 310 eP P 06 24 41.5 -1.4
ZEI pmax pmax
comp=Z,21nm,1.5s
KBZ **Khabaz** 72.51 311 P P 06 24 41.9 -1.5
comp=Z,3.4nm,0.9s,baz=71,slow=11,SNR=4.4
KBZ LR LR 06 58 44.0
comp=Z,3µm,19.8s,baz=48,slow=38
comp=Z,3.4nm,0.9s
KIV **Kislovodsk** 72.52 312 eP P 06 24 44.0 +0.3
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,251nm,18.0s
JMIC **Jan Mayen** 72.54 350 LR LR 06 57 50.8
comp=Z,494nm,19.6s,baz=33,slow=37
ONI **Oni** 72.75 310 P P 06 24 47.0 +1.9
ONI IAmb IAmb 06 25 40.7
comp=Z,27nm,1.2s
ONI **Oni** 72.75 310 P P 06 24 47.0 +1.9
ONI pmax pmax
comp=Z,27nm,1.2s
SUMG **Summit** 73.12 360 P P 06 24 47.6 +0.5
SUMG IAmb IAmb 06 25 10.0
comp=Z,21nm,1.0s
SUMG **Summit** 73.12 360 P P 06 24 47.6 +0.5
SUMG pmax pmax
comp=Z,21nm,1.0s
SUMG MLR MLR
comp=Z,2µm,19.0s
SUMG **Summit** 73.12 360 *i* P P 06 24 47.9 +0.8
SUMG IAmb IAmb 06 25 05.2
comp=Z,1µm,4.4s
GNI **Garni** 73.18 307 LR LR 07 00 23.8
comp=Z,2µm,18.9s,baz=74,slow=39
GNI **Garni** 73.18 307 IAMs_20 IAMs_20 06 59 51.1
comp=Z,2µm,20.0s
GNI **Garni** 73.18 307⇓ eP P 06 24 51.4 +3.6
GNI pmax pmax
comp=Z,55nm,1.4s
MCCM **Marconi Confer** 73.55 55 IAMs_20 IAMs_20 06 52 36.2
comp=Z,2µm,19.0s
BMO **Blue Mountains** 73.58 47 P P 06 24 50.0 +0.1
BMO **Blue Mountains** 73.58 47 P P 06 24 50.0 +0.1
BMO pmax pmax
comp=Z,17nm,1.5s
ORV **Oroville** 73.74 53 IAMs_20 IAMs_20 06 56 34.9
comp=Z,1µm,18.0s
RAO **Raoul Island** 74.21 144 LR LR 06 53 09.9
comp=Z,1µm,19.8s,baz=338,slow=32
BEKR **Beckworth** 74.32 52 P P 06 24 54.4 -0.1
MNK **Minsk** 74.52 326 *i* P P 06 24 54.7 -0.4
MNK *i* 06 25 09.4
MNK *i* 06 27 40.2
MNK *i* PPP PPP 06 29 25.6
MNK *i* S S 06 34 26.2 -2.2
MNK *i* 06 35 02.3
MNK *i* SS SS 06 39 12.7 -1.6
MNK *i* SSS SSS 06 42 34.7
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=Z,2µm,19.0s
MNK MLR MLR
comp=N,1.0nm,18.0s
MNK MLR MLR
comp=E,374nm,18.0s
MNK **Minsk** 74.52 326 *i* P P 06 24 54.7 -0.4
comp=E,3.0nm,0.8s
MNK *i* P P 06 24 54.7 -0.4
MNK *i* P P 06 24 54.7 -0.4
comp=Z,8.0nm,0.6s,baz=52
MNK *i* PcP PcP 06 25 09.4 -0.1
MNK *i* PP PP 06 27 40.2 -1.0
MNK *i* PPP PPP 06 29 25.7
MNK *i* S S 06 34 26.2 -2.2
MNK *i* SS SS 06 39 12.7 -1.6
MNK *i* SSS SSS 06 42 34.8
MNK *i* LQ LQ 06 53 14.9
MNK *i* LR LR 06 57 52.7
MNK *i* LRM MLR 07 00 11.9
comp=Z,2µm,18.7s
MNK *i* LRM MLR 07 00 14.5
comp=N,1.0nm,18.1s
MNK *i* LRM MLR 07 00 26.8
comp=E,374nm,18.1s
ANN **Anapa** 75.24 314 eP P 06 24 54.9 -4.5
ANN *e*S S 06 34 34.3 -2.4
ANN pmax pmax
comp=Z,85nm,1.7s
ANN MLR MLR
comp=Z,2µm,15.0s

SAO San Andreas Ge 75.24 55 IAMs_20 IAMs_20 06 54 11.1
comp=Z,1µm,18.0s
CMB Columbia Colle 75.28 54 IAMs_20 IAMs_20 06 52 58.8
comp=Z,1µm,20.0s
HRY Holter Researc 75.72 43 P **P** **06 25 02.7 +0.3**
LRM Limekiln Ridge 75.88 44 P **P** **06 25 03.9 +0.5**
HLID Hailey 76.03 47 P **P** **06 25 05.2 +1.0**
HLID IAMs_20 IAMs_20 07 03 21.4
comp=Z,1µm,18.0s
ILULI Ilulissat 76.08 5 IAMs_20 IAMs_20 07 01 13.2
comp=Z,1µm,18.0s
EGMT Eagleton 76.09 41 IAMs_20 IAMs_20 07 03 52.3
comp=Z,1µm,19.0s
NC405 NORSAR Array S 76.22 337 P **P** **06 25 05.3 +0.5**
KVN Kaiserville 76.23 52 P **P** **06 25 05.9 +0.4**
KVN IAmb IAmb 06 25 21.7
comp=Z,33nm,1.5s
KVN Kaiserville 76.23 52 P **P** **06 25 05.9 +0.4**
KVN pmax pmax
comp=Z,33nm,1.5s
AKASG Malin Array Be 76.24 323 P **P** **06 25 03.9 -1.1**
comp=Z,1.7nm,0.5s,baz=48,slow=6.3,SNR=12
AKASG LR LR 07 00 33.4
comp=Z,3µm,19.5s,baz=54,slow=37
comp=Z,1.7nm,0.5s
AKBB Malin Array Si 76.24 323‖ *e*P **P** **06 25 05.4 +0.4**
AKBB pmax pmax
comp=Z,17nm,0.8s
HFS Hagfors 76.31 336 P **P** **06 25 04.5 -0.8**
comp=Z,1.2nm,0.5s,baz=85,slow=3.4,SNR=6.7
HFS LR LR 07 01 17.1
comp=Z,4µm,21.3s,baz=31,slow=38
comp=Z,1.2nm,0.5s
NB201 NORSAR Array S 76.41 338 P **P** **06 25 06.2 +0.4**
NB2 NORSAR Subarra 76.44 338 P **P** **06 25 05.0 -1.1**
comp=Z,27nm,1.1s,baz=40,slow=5.9
NB2 NORSAR Subarra 76.44 338 P **P** **06 25 05.0 -1.1**
baz=40,slow=5.9
NOA NORSAR Array B 76.44 338 P **P** **06 25 05.4 -0.6**
comp=Z,5.6nm,1.1s,baz=39,slow=5.7,SNR=8.5
NOA LR LR 07 01 53.9
comp=Z,4µm,20.7s,baz=40,slow=38
comp=Z,5.6nm,1.1s
NVAR Mina Array Bea 76.44 53 P **P** **06 25 07.0 +0.2**
comp=Z,2.3nm,0.7s,baz=292,slow=5.5,SNR=11
comp=Z,2.3nm,0.7s
NVAR Mina Array Bea 76.44 53 P **P** **06 25 06.7 -0.1**
BOZ Bozeman (W) 76.48 44 P **P** **06 25 08.0 +1.3**
BOZ IAmb IAmb 06 25 20.3
comp=Z,42nm,1.9s
BOZ IAMs_20 IAMs_20 07 04 08.0
comp=Z,1µm,19.0s
BOZ Bozeman (W) 76.48 44 P **P** **06 25 08.0 +1.3**
BOZ pmax pmax
comp=Z,42nm,2.0s
NBO00 NORSAR Array S 76.58 338 P **P** **06 25 07.9 +1.0**
ICESG Greenland Ices 76.62 0 *i* P **P** **06 25 07.5 +0.2**
SIM Simferopol' 77.08 316 *e*P **P** **06 25 13.9 +4.0**
SIM pmax pmax
comp=Z,41nm,1.3s
SIM MLR MLR
comp=Z,1µm,19.3s
ELK Elko 77.11 49 P **P** **06 25 11.2 +0.7**
ELK Elko 77.11 49 P **P** **06 25 11.2 +0.7**
ELK pmax pmax
comp=Z,11nm,1.1s
YHL Hebgen Lake 77.18 44 P **P** **06 25 11.7 +0.8**
YHL IAmb IAmb 06 25 29.5
comp=Z,50nm,1.9s
MARD Mardin 77.32 307 P **P** **06 25 13.5 +1.9**
TPH Tonopah 77.35 52 P **P** **06 25 13.3 +1.5**
TPH Tonopah 77.35 52 P **P** **06 25 13.3 +1.5**
TPH pmax pmax
comp=Z,116nm,1.4s
MZP Montezuma Peak 77.45 53 P **P** **06 25 12.2 -0.3**
MZP IAmb IAmb 06 27 07.0
comp=Z,45nm,1.6s
GRAC Grapevine Rang 77.86 53 P **P** **06 25 16.2 +1.7**
IMW Indian Meadow 77.88 45 P **P** **06 25 15.5 +0.7**
IMW IAmb IAmb 06 25 48.1
comp=Z,15nm,1.1s
HVU Hansel Valley 78.04 47 P **P** **06 25 16.6 +1.0**
HVU IAmb IAmb 06 25 29.2
comp=Z,18nm,1.2s
HVU Hansel Valley 78.04 47 P **P** **06 25 16.6 +1.0**
HVU pmax pmax
comp=Z,18nm,1.2s
TPAW Teton Pass 78.12 45 P **P** **06 25 16.4 +0.3**
TPAW IAmb IAmb 06 25 34.0
comp=Z,35nm,1.7s
R11A Troy Canyon, C 78.26 51 P **P** **06 25 17.8 +0.9**
R11A IAmb IAmb 06 25 29.4
comp=Z,24nm,1.6s
SFJD Kangerlussuaq 78.31 5 IAMs_20 IAMs_20 06 58 54.9
comp=Z,2µm,22.0s
SFJD Kangerlussuaq 78.31 5 *i* P **P** **06 25 16.8 +0.5**
TPNV Topopah Spring 78.62 53 P **P** **06 25 20.4 +1.5**
TPNV IAmb IAmb 06 25 37.1
comp=Z,16nm,1.0s
TPNV IAMs_20 IAMs_20 06 56 51.1
comp=Z,1µm,19.0s
TPNV Topopah Spring 78.62 53 P **P** **06 25 20.4 +1.5**
TPNV pmax pmax
comp=Z,16nm,1.0s
SPR3 Spring Creek 3 78.69 50 P **P** **06 25 21.0 +1.6**
SPR3 IAmb IAmb 06 25 56.5
comp=Z,24nm,1.5s
RAR Rarotonga 78.73 126 LR LR 06 59 17.6
comp=Z,818nm,18.1s,baz=304,slow=35
DGMT Dagmar 78.74 38 IAMs_20 IAMs_20 07 06 16.9
comp=Z,1µm,18.0s
DUG Dugway, Tooele 78.94 49 IAMs_20 IAMs_20 06 58 05.9
comp=Z,981nm,18.0s
DY2G Dye2 79.08 3 *i* P **P** **06 25 23.1 +2.2**
FRB Frobisher Bay 79.14 13 LR LR 07 02 24.2
comp=Z,1µm,21.2s,baz=340,slow=37
PSUT Pine Spring 79.26 51 P **P** **06 25 22.5 0.0**
PSUT IAmb IAmb 06 25 43.0
comp=Z,23nm,1.1s
CTU Camp Tracy 79.30 48 P **P** **06 25 23.5 +0.9**
LVV L'vov 79.36 324 *e*P P 06 25 33.6 +11
LVV MLR MLR
comp=N,2µm,18.0s
LVV MLR MLR
comp=E,2µm,18.0s
LVV MLR MLR
comp=Z,3µm,18.0s
PDAR Pinedale Array 79.37 45 P **P** **06 25 23.6 +0.7**
comp=Z,1.3nm,0.8s,baz=243,slow=1.0,SNR=7.2
comp=Z,1.3nm,0.8s
PDAR Pinedale Array 79.37 45 P **P** **06 25 23.4 +0.5**
SHPR Sheep Range 79.59 53 P **P** **06 25 24.8 +0.6**
URZ Urewera 79.69 152 LR LR 06 56 42.3
comp=Z,2µm,22.0s,baz=45,slow=33
MPU Maple Canyon 79.78 48 P **P** **06 25 25.8 +0.6**
KWP Kalwaria Pacla 80.12 325 *e*P P 06 25 31.4 +4.8
BUR08 Bucovina Ar. S 80.22 322 P **P** **06 25 28.6 +1.2**
BURAR Bucovina Array 80.23 322 P **P** **06 25 27.9 +0.5**
V12A Nelson 80.25 53 P **P** **06 25 30.0 +2.3**
MVU Marysvale 80.32 50 P **P** **06 25 28.9 +0.7**
MSU Marysvale 80.33 50 P **P** **06 25 29.1 +0.8**
MSU Marysvale 80.33 50 P **P** **06 25 29.1 +0.8**
109C Camp Elliot, M 80.36 57 IAMs_20 IAMs_20 06 56 50.7
comp=Z,2µm,19.0s
PFO Pinyon Flats O 80.39 56 LR LR 06 57 10.8
comp=Z,2µm,19.4s,baz=290,slow=33
BR131 Keskin Array S 80.48 312‖ *e*P **P** **06 25 31.9 +3.0**
BRTR Keskin Array B 80.48 312 P **P** **06 25 28.8 -0.2**
comp=Z,4.1nm,1.0s,baz=118,slow=3.3,SNR=8.0
BRTR LR LR 07 04 23.8
comp=Z,799nm,18.4s,baz=41,slow=38
comp=Z,4.1nm,1.0s
BRTR Keskin Array B 80.48 312 P **P** **06 25 29.9 +1.0**
BRTR Keskin Array B 80.48 312 *i* P **P** **06 25 31.6 +2.7**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
LCMT Little Creek M 80.54 52 P **P** **06 25 29.6 +0.3**
LCMT IAmb IAmb 06 26 05.9
comp=Z,19nm,1.1s
MTPU Mount Pierson 80.61 50 P **P** **06 25 31.2 +1.3**
MTPU IAmb IAmb 06 26 07.0
comp=Z,29nm,1.3s
P17A Butcher Ranch, 80.65 48 P **P** **06 25 30.7 +0.8**
KNB Kanab 80.81 51 P **P** **06 25 31.5 +0.7**
KNB IAmb IAmb 06 25 44.5
comp=Z,40nm,1.2s
KNB Kanab 80.81 51 P **P** **06 25 31.5 +0.7**
KNB pmax pmax
comp=Z,40nm,1.2s
P18A Preston Nutter 80.86 48 P **P** **06 25 32.2 +1.0**
P18A IAmb IAmb 06 25 49.6
comp=Z,51nm,1.5s
UZH Uzhgorod 81.00 324 *e*P P 06 25 36.1 +4.8
UZH *i* 06 25 37.9
SRU San Rafael Swe 81.01 48 P **P** **06 25 32.0 +0.2**
SRU IAmb IAmb 06 26 03.0
comp=Z,19nm,0.8s
SRU San Rafael Swe 81.01 48 P **P** **06 25 32.0 +0.2**
SRU pmax pmax
comp=Z,19nm,0.8s
OJC Ojcow 81.07 326 *e*P **P** **06 25 33.5 +1.8**
OJC Ojcow 81.07 326 P **P** **06 25 32.9 +1.2**
OJC IAmb IAmb 06 25 59.2
comp=Z,51nm,1.5s
OJC Ojcow 81.07 326 P **P** **06 25 32.9 +1.2**
OJC pmax pmax
comp=Z,51nm,1.5s
K22A Casper 81.19 44 P **P** **06 25 33.4 +0.7**
K22A IAmb IAmb 06 25 49.6
comp=Z,47nm,1.6s
CRVS Cervenica-Dubn 81.21 325 *e*P P 06 25 37.2 +4.7
CRVS Cervenica-Dubn 81.21 325 *e*P P 06 25 37.2 +4.7
MLR Muntele Rosu 81.25 320 LR LR 07 04 41.2
comp=Z,4µm,19.9s,baz=43,slow=38
NIE Niedzica 81.40 326 *e*P P 06 25 38.3 +4.8
RWWY Rawlins 81.40 45 P **P** **06 25 36.1 +2.2**
RWWY IAmb IAmb 06 25 49.9
comp=Z,35nm,1.4s
SNZO South Karori 81.50 155 IAMs_20 IAMs_20 06 59 27.2
comp=Z,1µm,19.0s
ULM Lac du Bonnet 81.53 33 P **P** **06 25 36.1 +2.0**
comp=Z,2.9nm,0.6s,baz=258,slow=2.1,SNR=4.3
ULM LR LR 07 09 16.8
comp=Z,501nm,18.4s,baz=322,slow=41
comp=Z,2.9nm,0.6s
RAYN Ar Rayn 81.60 293 P **P** **06 25 34.8 -0.2**
RAYN IAmb IAmb 06 25 58.0
comp=Z,26nm,1.0s
RAYN Ar Rayn 81.60 293 IAMs_20 IAMs_20 07 05 19.8
comp=Z,1µm,19.0s
RAYN Ar Rayn 81.60 293 P **P** **06 25 34.8 -0.2**
O20A White River Ci 81.77 47 P **P** **06 25 37.1 +1.2**
baz=309
FOZ Fox Glacier 81.96 160 IAMs_20 IAMs_20 07 00 44.7
comp=Z,1µm,20.0s
KSP Ksiaz 82.18 328 *e*P P 06 25 42.2 +4.7
PV23 Carpenter Ridg 82.34 48 P **P** **06 25 39.5 +0.5**
PV10 Paradox Valley 82.37 48 P **P** **06 25 39.6 +0.5**
MORC Moravsky Berou 82.41 327 *e*P P 06 25 52.0 +13
KRLC Kraliky 82.53 328 *e*P P 06 25 45.7 +6.3
KRLC Kraliky 82.53 328 *e*P P 06 25 45.7 +6.3
DPC Dobruska-Polom 82.53 328 *e*P P 06 25 44.6 +5.2
DPC Dobruska-Polom 82.53 328 *e*P P 06 25 44.6 +5.2
PV13 Radium Mtn., P 82.64 48 P **P** **06 25 40.5 0.0**
N23A Red Feather La 82.64 45 P **P** **06 25 41.1 +0.6**
N23A IAmb IAmb 06 26 17.2
comp=Z,24nm,1.0s
WUAZ Wupatki 82.65 52 IAMs_20 IAMs_20 06 59 12.5
comp=Z,1µm,18.0s
113A Mohawk Valley, 82.71 55 P **P** **06 25 42.0 +1.4**
VYHS Vyhne 82.74 326 *e*P **P** **06 25 42.1 +1.6**
VYHS Vyhne 82.74 326 *e*P **P** **06 25 42.1 +1.6**
ASF Jabal al Asfar 82.88 304 P **P** **06 25 42.0 +0.3**
comp=Z,2.7nm,0.7s,baz=136,slow=5.2,SNR=4.0
comp=Z,2.7nm,0.7s
ASF Jabal al Asfar 82.88 304 P **P** **06 25 42.0 +0.3**
AGMN Agassiz Nation 82.93 34 IAMs_20 IAMs_20 07 08 16.3
comp=Z,1µm,20.0s
JAVC Velka Javorina 83.01 326 *e*P P 06 25 56.7 +15
BRG Berggiesshubel 83.16 330 *e*P P 06 25 56.0 +13
BRG Amp 06 25 59.8
comp=Z,7.7nm,1.1s
BRG *ex* x 06 29 04.6
BRG Amp 06 29 09.4
comp=Z,5.2nm,1.0s
BRG Amp 06 31 59.0
comp=N,1.6nm,19.5s
BRG Amp 06 32 04.0
comp=Z,2.7nm,16.0s
BRG Amp 06 32 13.0
comp=E,1.3nm,14.4s
BRG Amp 07 10 43.0
comp=Z,4.5nm,15.1s
BRG Amp 07 10 45.0
comp=N,2.4nm,15.4s
BRG Amp 07 10 53.0
comp=E,1.7nm,13.2s
BRG Berggiesshubel 83.16 330 *e*P P 06 25 55.9 +13
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,1.0s
VRAC Vranov 83.17 327 LR LR 07 05 20.7
comp=Z,2µm,19.1s,baz=34,slow=38
VRAC Vranov 83.17 327 *e*P P 06 25 54.3 +12
CLL Collm 83.22 330 *e*P **P** **06 25 44.0 +1.1**
CLL *e* 06 25 55.0
CLL MLR MLR
comp=Z,3µm,18.1s
CLL Collm 83.22 330 *e*P **P** **06 25 44.0 +1.1**
CLL *e*Pmax 06 25 47.0
comp=Z,8.0nm,1.1s
CLL *ex* x 06 25 55.0
CLL *i* x x 06 26 02.4
comp=Z,23nm,1.4s
CLL *e*(PP) 06 29 06.0
CLL *e*SS SS 06 41 42.0 +17
CLL *ex* x 06 45 54.0
CLL Lmax 07 09 00.0
CLL LmV 07 10 00.0
comp=Z,3µm,18.1s
MMAI Mount Meron Ar 83.39 306 P **P** **06 25 46.1 +1.9**
comp=Z,2.0nm,0.4s,baz=30,slow=7.2,SNR=5.1
MMAI LR LR 07 07 04.4
comp=Z,1µm,19.6s,baz=282,slow=39
MVCO Mesa Verde 83.43 49 P **P** **06 25 45.2 +0.6**
MVCO Mesa Verde 83.43 49 P **P** **06 25 45.5 +0.8**
baz=309
KRUC Moravsky 83.44 327 *e*P P 06 25 57.0 +13
PPT Papeete 83.54 116 LR LR 06 59 27.1
comp=Z,788nm,18.7s,baz=298,slow=33
ISCO Idaho Springs 83.54 46 P **P** **06 25 45.9 +0.7**
ISCO IAmb IAmb 06 26 21.9
comp=Z,14nm,1.3s
ISCO Idaho Springs 83.54 46 P **P** **06 25 45.9 +0.7**
ISCO pmax pmax
comp=Z,14nm,1.3s
MODS Modra-Piesok 83.55 326 *e*P **P** **06 25 47.6 +2.9**
MODS Modra-Piesok 83.55 326 *e*P **P** **06 25 47.6 +2.9**
PPT2 Papeete2 83.55 116 *e*LR LR 06 52 12.7
comp=Z,2µm,23.8s
ISP Isparta 83.57 312 IAMs_20 IAMs_20 07 09 08.1
comp=Z,826nm,18.0s
CSS Mathiatis 83.58 308 IAMs_20 IAMs_20 07 06 02.0
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 84.12 48 P **P** **06 25 48.3 +0.1**
S22A IAmb IAmb 06 26 17.1
comp=Z,28nm,1.4s
S22A 4UR Ranch, Cre 84.12 48 P **P** **06 25 49.0 +0.8**
baz=310
GHAJ Ghor Haditha 84.31 304 IAMs_20 IAMs_20 07 07 19.2
comp=Z,1µm,18.0s
RONA Rosalia, Austr 84.49 326 *e*P **P** **06 25 51.4 +1.8**
comp=Z,33nm,1.6s
CONA Conrad Observa 84.52 327 *e*P **P** **06 25 48.8 -0.9**
comp=Z,9.2nm,1.9s
CKRC Cesky Krumlov 84.54 328 *e*P P 06 25 54.5 +4.7
KHC Kasperske Hory 84.63 329 P **P** **06 25 49.9 -0.3**
KHC IAmb IAmb 06 26 36.3
comp=Z,11nm,1.1s
KHC Kasperske Hory 84.63 329 *e*P P 06 25 54.3 +4.1
KHC Kasperske Hory 84.63 329 *e*P **P** **06 25 50.0 -0.2**
KHC *ex* x 06 25 54.3
GERES GERESS Array B 84.79 328 P **P** **06 25 51.9 +0.8**
comp=Z,1.7nm,0.8s,baz=43,slow=6.0,SNR=12
comp=Z,1.7nm,0.8s
EYMN Ely 85.18 33 IAMs_20 IAMs_20 07 11 08.5
comp=Z,817nm,19.0s
EKA Eskdalemuir Ar 85.43 341 P **P** **06 25 55.4 +1.4**
comp=Z,0.6nm,0.5s,baz=7.4,slow=6.1,SNR=2.0
EKA LR LR 07 08 22.0
comp=Z,2µm,19.1s,baz=40,slow=39
comp=Z,0.6nm,0.5s
K31A O'Neill 85.49 40 P **P** **06 25 54.7 +0.1**
TAOE Nuku Hiva Isla 85.57 104 *e*LR LR 06 53 06.6
comp=Z,1µm,25.2s
EIL Elat 85.72 303 P **P** **06 25 56.7 +0.7**
comp=Z,2.0nm,0.6s,baz=247,slow=21,SNR=1.5
comp=Z,2.0nm,0.6s
ECSD EROS Data Cent 85.82 38 IAMs_20 IAMs_20 07 07 51.3
comp=Z,1µm,20.0s
SOKA Soboth 85.82 326 *e*P **P** **06 25 56.5 +0.2**
comp=Z,14nm,1.3s
ANMO Albuquerque 86.15 50 LR LR 07 06 10.8
comp=Z,863nm,18.1s,baz=316,slow=37
ANMO Albuquerque 86.15 50 IAMs_20 IAMs_20 07 06 45.8
comp=Z,1µm,18.0s
BTNL Ternell 86.46 333 *d*PcP **PcP** **06 26 03.7 +2.0**
ABTA Abfaltersbach 86.91 328 *e*P P 06 26 15.2 +14
comp=Z,5.8nm,0.9s
RETA Reutte 87.09 329 *e*P P 06 26 14.3 +12
comp=Z,3.6nm,0.5s
BMRD Maredsous 87.20 334 *d*PcP **PcP** **06 26 06.8 +1.9**
L34A Svendsen Farm, 87.20 39 P **P** **06 26 02.3 -0.8**
TBI Tubuai 87.27 121 *e*LR LR 06 53 56.4
comp=Z,2µm,22.5s
FETA Feichten 87.47 329 *e*P P 06 26 16.5 +12
comp=Z,3.7nm,1.1s
DAVA Damuels 87.62 329 *e*P P 06 26 16.4 +11
comp=Z,6.9nm,1.1s
SCHQ Schefferville 87.67 16 P **P** **06 26 07.0 +1.9**
comp=Z,3.4nm,0.9s,baz=319,slow=11,SNR=2.2
SCHQ LR LR 07 08 51.5
comp=Z,1µm,19.6s,baz=352,slow=38
comp=Z,3.4nm,0.9s
DAVOX Davos/Dischmat 88.02 329 LR LR 07 08 45.2
comp=Z,2µm,18.6s,baz=23,slow=38
EPT El Paso 88.15 52 IAMs_20 IAMs_20 07 03 12.3
comp=Z,1µm,19.0s
IDI Anoyia 88.66 313 IAMs_20 IAMs_20 07 13 19.6
comp=Z,1µm,20.0s
SCIA State Center 88.86 38 P **P** **06 26 12.1 +1.1**
SCIA IAMs_20 IAMs_20 07 11 58.7
comp=Z,1µm,19.0s
JFWS Jewell Farm IAMs_20 IAMs_20 07 07 20.8
comp=Z,1µm,19.0s
OK035 E0210 Rd and N 89.64 44 IAMs_20 IAMs_20 07 07 08.2
comp=Z,879nm,19.0s
LPIG La Paz 90.38 60 LR LR 07 02 03.4
comp=Z,340nm,18.8s,baz=312,slow=32
ATD Arta Tunnel 90.48 284 LR LR 07 10 54.2
comp=Z,363nm,18.4s,baz=54,slow=38
ATD Arta Tunnel 90.48 284 IAMs_20 IAMs_20 07 14 46.9
comp=Z,750nm,18.0s
GLMI Grayling 90.59 31 IAMs_20 IAMs_20 07 12 55.6
comp=Z,1µm,19.0s
OK048 Pawnee Station 90.85 43 IAMs_20 IAMs_20 07 14 32.2
comp=Z,1µm,20.0s
OK046 Pawnee Station 90.88 43 IAMs_20 IAMs_20 07 14 33.1
comp=Z,1µm,20.0s
OK047 Pawnee, Statio 90.94 43 IAMs_20 IAMs_20 07 14 52.5
comp=Z,1µm,19.0s
OK044 Pawnee Station 90.96 43 IAMs_20 IAMs_20 07 14 52.2
comp=Z,1µm,19.0s
OK029 Liberty Lake 91.00 44 IAMs_20 IAMs_20 07 15 05.2
comp=Z,723nm,18.0s
L44A Lake County Fo 91.23 34 IAMs_20 IAMs_20 07 07 03.8
comp=Z,1µm,20.0s
OK031 S. Brethren Rd 91.24 44 IAMs_20 IAMs_20 07 14 29.5
comp=Z,851nm,20.0s
OK034 N. Norfolk Rd. 91.27 44 IAMs_20 IAMs_20 07 12 53.3
comp=Z,949nm,20.0s
HQIL Hanson Quary C 91.55 35 IAMs_20 IAMs_20 07 07 43.3
comp=Z,1µm,21.0s
TX31 Lajitas Ar. Si 91.59 52 P **P** **06 26 25.7 +1.7**
TX32 Lajitas Array 91.59 52 P **P** **06 26 24.7 +0.7**
TX32 IAmb IAmb 06 26 58.8
comp=Z,12nm,1.5s
TXAR Lajitas Array 91.59 52 P **P** **06 26 23.5 -0.5**
comp=Z,0.5nm,0.6s,baz=298,slow=3.3,SNR=18
TXAR LR LR 07 06 13.9
comp=Z,1µm,18.1s,baz=320,slow=35
comp=Z,0.5nm,0.6s
HDIL Hopedale 91.82 36 IAMs_20 IAMs_20 07 14 02.9
comp=Z,906nm,20.0s
SADO Sadowa 92.84 28 LR LR 07 10 59.1
comp=Z,720nm,20.8s,baz=357,slow=37
AAM Ann Arbor 93.04 32 IAMs_20 IAMs_20 07 14 16.5
comp=Z,1µm,20.0s
LONY Lake Ozonia 94.64 25 IAMs_20 IAMs_20 07 16 31.9
comp=Z,1µm,19.0s
ERPA Erie 94.74 30 IAMs_20 IAMs_20 07 05 05.1
comp=Z,837nm,20.0s
P49A Miami Univ. Ec 94.80 34 IAMs_20 IAMs_20 07 09 24.3
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 95.02 33 IAMs_20 IAMs_20 07 15 30.9
comp=Z,1µm,20.0s
M53A WI Miller and 95.02 30 IAMs_20 IAMs_20 07 11 30.6
comp=Z,1µm,21.0s
WCI Wyandotte Cave 95.09 36 IAMs_20 IAMs_20 07 09 34.3
comp=Z,1µm,20.0s
FURI Furi 95.34 285 IAMs_20 IAMs_20 07 16 56.6
comp=Z,944nm,18.0s
O53A New Philadelph 95.78 31 IAMs_20 IAMs_20 07 11 14.8
comp=Z,1µm,20.0s
LBNH Lisbon 95.87 23 IAMs_20 IAMs_20 07 10 55.4
comp=Z,1µm,21.0s
P52A Corning 95.88 32 IAMs_20 IAMs_20 07 10 15.8
comp=Z,925nm,21.0s
BINY Binghamton 96.23 27 IAMs_20 IAMs_20 07 16 07.4
comp=Z,846nm,19.0s
WVL Waterville 96.30 22 IAMs_20 IAMs_20 07 12 55.5
comp=Z,1µm,19.0s
TRY Troy 96.61 25 IAMs_20 IAMs_20 07 17 50.2
comp=Z,1µm,18.0s
SSPA Standing Stone 96.83 29 IAMs_20 IAMs_20 07 15 38.5
comp=Z,818nm,19.0s
MCWV Mont Chateau 96.85 31 IAMs_20 IAMs_20 07 15 41.2
comp=Z,1µm,19.0s
KEST Kesra 96.96 323 LR LR 07 13 39.7
comp=Z,1µm,21.7s,baz=338,slow=37
L61B Northampton 97.20 25 IAMs_20 IAMs_20 07 12 32.8
comp=Z,1µm,20.0s
HRV Adam Dziewonsk 97.54 24 IAMs_20 IAMs_20 07 10 55.5
comp=Z,1µm,20.0s
WES Weston 97.72 24 IAMs_20 IAMs_20 07 11 00.5
comp=Z,1µm,21.0s
BCX Boston College 97.82 24 IAMs_20 IAMs_20 07 16 57.0
comp=Z,1µm,18.0s
PAL Palisades 98.04 26 IAMs_20 IAMs_20 07 19 42.1
comp=Z,1µm,18.0s
BRYW Bryant College 98.07 24 IAMs_20 IAMs_20 07 13 50.6
comp=Z,1µm,20.0s
YLE Yale 98.12 25 IAMs_20 IAMs_20 07 18 53.0
comp=Z,1µm,18.0s
TKL Tuckaleechee C 98.35 36 LR LR 07 14 55.0
comp=Z,448nm,19.8s,baz=338,slow=38
BLA Blacksburg 98.64 33 IAMs_20 IAMs_20 07 12 29.8
comp=Z,860nm,20.0s
CBN Corbin Frederi 99.11 30 IAMs_20 IAMs_20 07 09 10.9
comp=Z,903nm,20.0s
ESDC Sonseca Array 99.48 334 PP PP 06 31 09.3 +7.0
comp=Z,0.7nm,0.8s,baz=18,slow=8.2,SNR=4.2
ESDC LR LR 07 16 19.6
comp=Z,2µm,22.0s,baz=36,slow=38
GOGA Godfrey 100.31 37 IAMs_20 IAMs_20 07 14 35.7
comp=Z,884nm,20.0s
CNNC Cliffs of the 101.40 32 IAMs_20 IAMs_20 07 13 26.9
comp=Z,994nm,20.0s
KMBO Kilima Mbogo 102.30 277 IAMs_20 IAMs_20 07 14 38.6
comp=Z,656nm,19.0s
MBAR Mbarara 107.30 282 IAMs_20 IAMs_20 07 15 32.1
comp=Z,724nm,19.0s
TAM Tamanrasset 109.21 317 IAMs_20 IAMs_20 07 25 08.2
comp=Z,930nm,20.0s
TORD Torodi Ar. Bea 119.04 314 PKP **PKiKP** **06 32 05.8 -0.3**
comp=Z,0.9nm,0.7s,baz=6.3,slow=3.9,SNR=5.7
TORD PP **PP** **06 33 28.3 +3.3**
comp=Z,1.8nm,0.9s,baz=25,slow=5.9,SNR=4.8
KOWA Kowa 121.16 320 PKP **PKiKP** **06 32 10.8 +0.6**
comp=Z,1.9nm,0.7s,baz=8.5,slow=1.1,SNR=4.5
SMRT St. Maarten 122.69 28 IAMs_20 IAMs_20 07 27 18.0
comp=Z,609nm,22.0s
QSPA South Pole Qui 124.34 180 PKP **PKPdf** **06 32 12.6 -2.1**
comp=Z,2.4nm,0.6s,baz=288,slow=2.0,SNR=7.4
QSPA South Pole Qui 124.34 180 IAMs_20 IAMs_20 07 25 31.7
comp=Z,778nm,20.0s
BOSA Boshof 126.10 258 PKP **PKPdf** **06 32 19.2 -0.1**
comp=Z,2.9nm,0.8s,baz=329,slow=2.9,SNR=3.3

FDF	**Fort de France**	**126.45**	**28**	IAMs_20	IAMs_20	07 27 55.7		
	comp=Z,829nm,21.0s							
GRGR	**Grenville**	**128.62**	**29**	IAMs_20	IAMs_20	07 29 11.4		
	comp=Z,719nm,20.0s							
TROLL	**Troll, Antarti**	**136.92**	**197**	PKPdf	**PKPdf**	**06 32 30.9**	**-7.6**	
SNAA	**Sanae**	**138.42**	**196**	PKPdf	PKPdf	06 32 31.7	-9.4	
VNA2	**Neumayer--Watz**	**139.98**	**195**	PKPdf	**PKPdf**	**06 32 37.4**	**-6.5**	
	baz=121,slow=4.0							
VNA3	**Neumayer Olymp**	**140.22**	**194**	PKPdf	**PKPdf**	**06 32 38.2**	**-6.1**	
VNA1	**Neumayer--Stat**	**140.38**	**195**	PKPdf	**PKPdf**	**06 32 39.1**	**-5.4**	
H03N2	**Juan Fernandez**	**146.68**	**100**	T	T	09 16 49.6		
	baz=290,slow=76,SNR=6.6							
H03N3	**Juan Fernandez**	**146.69**	**100**	T	T	09 16 58.8		
	baz=290,slow=76,SNR=6.0							
H03N1	**Juan Fernandez**	**146.69**	**100**	T	T	09 16 53.8		
	baz=290,slow=76,SNR=5.8							
LPAZ	**La Paz**	**147.85**	**63**	PKPbc	**PKPbc**	**06 33 02.2**	**-0.8**	
	comp=Z,2.4nm,0.5s,baz=352,slow=3.4,SNR=14							
PLCA	**Paso Flores**	**154.04**	**113**	PKPbc	**PKPbc**	**06 33 14.8**	**-1.5**	
	comp=Z,2.8nm,1.0s,baz=247,slow=7.7,SNR=2.5							

*SOME **23** 06:14:39.2,37˚.63N×71˚.77E, h0km*
*IDC **23** 06:14:41.8±4.4, 36˚.31N×70˚.77E, h189km±42km, mb3.4/7, mbtmp4.0/12, Error ellipse: s-maj=47.6km s-min=32.5km az=123.0*
*NNC **23** 06:14:44.3±2.8, 36˚.78N×70˚.66E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=22.9km s-min=21.1km az=130.0*

ISC 23 06:14:44.6±1.5, 36˚.5N±0˚.1×70˚.5E±0˚.1, h200km, n31, σ2§08/41, mb3.5/6, 2C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**5.64**	**356**	*e*P	**Pn**	**06 16 08.2**	**+1.0**
	592nm,0.5s						
IUG				*e*S	**Sn**	**06 17 11.8**	**-0.7**
	298nm,0.2s						
AML	**Almayashu**	**6.12**	**23**	P	**Pn**	**06 16 13.8**	**+0.1**
	SNR=93						
DZA	**Taraz**	**6.40**	**5**	*e*P	**Pn**	**06 16 17.3**	**+0.4**
	54nm,0.1s						
DZA				*e*S	**Sn**	**06 17 27.5**	**-2.7**
	243nm,0.2s						
UCH	**Uchtor**	**6.49**	**27**	P	**Pn**	**06 16 18.2**	**-0.3**
	SNR=28						
MRKS	**Merke**	**6.56**	**18**	*e*P	**Pn**	**06 16 19.1**	**+0.1**
	20nm,0.2s						
MRKS				*e*S	**Sn**	**06 17 30.7**	**-3.3**
	97nm,0.2s						
KK31	**Karatay Array**	**6.58**	**360**	P	**Pn**	**06 16 20.2**	**+0.9**
	4.7nm,0.3s,baz=176,slow=12,SNR=40						
KK31				⇓S	**Sn**	**06 17 32.2**	**-2.2**
	25nm,0.4s,baz=158,slow=56,SNR=7.5						
EKS2	**Erkin-Say**	**6.63**	**21**	P	**Pn**	**06 16 20.1**	**+0.1**
	SNR=9.3						
AAK	**Ala-Archa**	**6.84**	**25**	P	**Pn**	**06 16 22.9**	**+0.1**
	SNR=18						
AAK	**Ala-Archa**	**6.84**	**25**	P	**Pn**	**06 16 22.6**	**-0.2**
	22nm,0.5s,baz=200,slow=6.7,SNR=52						
AAK				S	**Sn**	**06 17 37.8**	**-2.9**
	9.6nm,0.4s,baz=141,slow=22,SNR=12						
ULHL	**Ulahol**	**7.23**	**36**	P	**Pn**	**06 16 27.1**	**-0.8**
	SNR=10						
CHMS	**Chumysh**	**7.25**	**25**	⇑P	**Pn**	**06 16 27.5**	**-0.4**
	3.9nm,0.4s						
CHMS				⇓S	**Sn**	**06 17 48.7**	**-1.4**
	9.4nm,0.5s						
USP	**Ospenovka**	**7.40**	**23**	P	**Pn**	**06 16 29.7**	**-0.3**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.50**	**30**	P	**Pn**	**06 16 30.9**	**-0.5**
	SNR=30						
TKM2	**Tokmak 2**	**7.50**	**30**	⇓P	**Pn**	**06 16 30.8**	**-0.5**
	26nm,0.7s						
TKM2				⇓S	**Sn**	**06 17 55.6**	**-0.7**
	13nm,0.8s						
KST	**Kastek**	**7.75**	**31**	*e*P	**Pn**	**06 16 33.7**	**-0.9**
	20nm,0.3s						
KST				*e*S	**Sn**	**06 17 55.7**	**-6.4**
	9.7nm,0.7s						
DGS	**Degeres**	**7.83**	**29**	*e*P	**Pn**	**06 16 38.6**	**+3.0**
	5.7nm,0.9s						
DGS				*e*S	**Sn**	**06 18 03.9**	**-0.2**
	6.5nm,0.3s						
KRBS	**Karabastau**	**8.18**	**27**	*e*P	Pn	06 16 43.9	+3.7
	3.4nm,0.2s						
KRBS				*e*S	**Sn**	**06 18 13.2**	**+0.8**
	2.3nm,0.3s						
MDOK	**Medeo**	**8.32**	**35**	⇓P	**Pn**	**06 16 41.5**	**-0.5**
	11nm,0.6s						
MDOK				⇑S	**Sn**	**06 18 16.4**	**+0.8**
	5.2nm,0.8s						
KTBS	**Karatobe**	**8.60**	**31**	*e*P	Pn	06 16 53.4	+7.9
	1.3nm,0.4s						
KTBS				*e*S	**Sn**	**06 18 29.8**	**+7.8**
	3.8nm,0.3s						
BTLS	**Baital**	**8.93**	**16**	*e*P	Pn	06 17 01.6	+12
	3.6nm,0.5s						
BTLS				*e*S	Sn	06 18 43.8	+14
	6.3nm,0.4s						
MKAR	**Makanchi Array**	**13.51**	**37**	P	**Pn**	**06 17 47.2**	**-1.0**
	0.3nm,0.3s,baz=206,slow=11,SNR=6.3						
KURBB	**Kurchatov Arra**	**15.23**	**20**	P	**Pn**	**06 18 08.0**	**-1.4**
	0.9nm,0.4s,baz=209,slow=11,SNR=5.2						
BVAR	**Borovoye Array**	**16.51**	**360**	P	**Pn**	**06 18 25.3**	**+0.6**
	1.9nm,0.4s,baz=167,slow=12,SNR=11						
BVAR				S	**S**	**06 21 28.3**	**+2.1**
	0.6nm,0.5s,baz=167,slow=20,SNR=3.9						
AKTO	**Aktyubinsk**	**16.58**	**331**	P	**Pn**	**06 18 26.5**	**+0.9**
	6.5nm,0.4s,baz=144,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**20.06**	**25**	P	**P**	**06 19 01.4**	**-0.9**
	3.2nm,0.4s,baz=218,slow=10,SNR=11						
	3.2nm,0.4s						
ARU	**Arti**	**21.50**	**342**	P	**P**	**06 19 18.3**	**+0.9**
	7.7nm,0.2s,baz=142,slow=7.9,SNR=7.0						
	7.7nm,0.2s						
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	**06 21 36.9**	**+0.3**
	1.7nm,0.8s,baz=111,slow=10,SNR=5.1						
	1.7nm,0.6s						
ARCES	**ARCESS Array B**	**40.98**	**338**	P	**P**	**06 22 08.2**	**+0.8**
	0.9nm,0.5s,baz=112,slow=8.3,SNR=7.8						
	0.9nm,0.5s						
HFS	**Hagfors**	**42.82**	**322**	P	**P**	**06 22 23.2**	**+0.9**
	0.9nm,0.6s,baz=109,slow=12,SNR=1.9						
	0.9nm,0.6s						
NOA	**NORSAR Array B**	**44.14**	**323**	P	**P**	**06 22 32.8**	**-0.2**
	0.1nm,0.4s,baz=99,slow=7.8,SNR=2.1						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**65.34**	**268**	P	**P**	**06 25 04.2**	**-1.4**
	0.3nm,0.6s,baz=47,slow=5.2,SNR=2.7						
	0.3nm,0.6s						

*NOU **23** 06:20:06.9, 37˚.41S×179˚.62E, h161km, MLv4.6/7, Off E. Coast of N. Island, N.Z.*
*IDC **23** 06:20:08.6±1.7, 36˚.96S×178˚.89E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=39.5km s-min=34.0km az=56.0*
*WEL **23** 06:20:13.2±0.8, 37˚.3S×17˚.9E±˚, h21km±5km, M4.0/46, ML4.3/45, MLv4.0/46, Error ellipse: s-maj=0.0km s-min=0.0km az=92.5*
*NEIC **23** 06:20:16.4±1.2, 37˚.90S±0˚.07×178˚.68E±0˚.10, h10km±2km, mb4.2/8, Error ellipse: s-maj=16.8km s-min=5.5km az=48.0*

ISC 23 06:20:12.6±1.8, 37˚.39S±0˚.05×179˚.05E±0˚.06, h15km, 9km, n151, σ1§70/162, mb4.1/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.62**	**254**		**Pg**	**06 20 24.7**	**+0.1**
MXZ					**Sg**	**06 20 31.3**	**-1.6**
MXZ	**Matakaoa Point**	**0.62**	**254**	P	**Pg**	**06 20 24.8**	**+0.1**
MXZ				S	**Sg**	**06 20 32.5**	**-0.4**
WMGZ	**Waiomatatini S**	**0.66**	**230**	P	**Pn**	**06 20 27.9**	**+0.5**
WMGZ				S	**Sn**	**06 20 37.9**	**+0.3**
PKGZ	**Pakihiroa**	**0.92**	**237**	P	**Pb**	**06 20 30.9**	**+0.6**
PKGZ				S	**Sb**	**06 20 43.1**	**+0.8**
PUZ	**Puketiti**	**0.93**	**223**	P	**Pg**	**06 20 31.5**	**+1.0**
PUZ				S	**Sn**	**06 20 44.8**	**+0.7**
HAZ	**Te Kaha**	**1.07**	**250**	P	**Pb**	**06 20 31.7**	**-1.1**
HAZ				S	**Sb**	**06 20 46.9**	**+0.2**
TWGZ	**Tauwhareparae**	**1.16**	**227**	P	**Pn**	**06 20 34.6**	**+0.4**
TWGZ				S	**Sg**	**06 20 51.4**	**+1.4**
RUGZ	**Raukumara Rang**	**1.23**	**242**	P	**Pb**	**06 20 35.6**	**+0.2**
RUGZ				S	**Sb**	**06 20 51.1**	**-0.3**
CNGZ	**Carnagh Statio**	**1.28**	**211**	P	**Pb**	**06 20 37.0**	**+0.6**
TKGZ	**Te Karaka**	**1.42**	**222**	P	**Pn**	**06 20 37.7**	**0.0**
TKGZ				S	**Sn**	**06 20 56.7**	**+0.6**
WIZ	**White Island**	**1.49**	**264**	P	**Pn**	**06 20 36.9**	**-1.8**
WSRZ	**White Island S**	**1.50**	**265**	P	**Pn**	**06 20 38.2**	**-0.7**
MWZ	**Matawai**	**1.53**	**232**	P	**Pn**	**06 20 39.2**	**-0.2**
MWZ				S	**Sn**	**06 20 59.4**	**+0.3**
RIGZ	**Rimuhau**	**1.66**	**217**	P	**Pn**	**06 20 41.1**	**-0.1**
RIGZ				S	**Sn**	**06 21 02.9**	**+0.6**
RAGZ	**Rawiri**	**1.70**	**229**	P	**Pn**	**06 20 41.7**	**0.0**
RAGZ				S	**Sn**	**06 21 03.2**	**-0.1**
WHRZ	**Whale Island**	**1.71**	**254**	P	**Pn**	**06 20 41.6**	**-0.3**
URZ	**Urewera**	**1.77**	**240**	Pn	**Pn**	**06 20 42.3**	**-0.2**
	123nm,0.3s,baz=339,slow=2.8,SNR=286						
URZ				Sn	**Sn**	**06 21 03.4**	**-1.3**
	211nm,0.3s,baz=88,slow=13,SNR=31						
URZ	**Urewera**	**1.77**	**240**	Pn	**Pn**	**06 20 42.6**	**0.0**
URZ	**Urewera**	**1.77**	**240**	P	**Pn**	**06 20 42.4**	**-0.2**
URZ				S	**Sn**	**06 21 04.0**	**-0.8**
PRGZ	**Paritu Road**	**1.79**	**211**	P	**Pn**	**06 20 42.8**	**-0.1**
SNGZ	**Shannon Statio**	**1.94**	**224**	P	**Pn**	**06 20 44.7**	**-0.3**
KNZ	**Kokohu**	**1.96**	**213**	P	**Pn**	**06 20 44.4**	**-0.8**
EDRZ	**Edgecumbe**	**1.97**	**248**	P	**Pn**	**06 20 45.1**	**-0.3**
EDRZ				S	**Sn**	**06 21 08.5**	**-1.4**
MHGZ	**Mahia Peninsul**	**1.98**	**207**	P	**Pn**	**06 20 45.4**	**-0.1**
MARZ	**Manawahe**	**1.98**	**252**	P	**Pn**	**06 20 44.8**	**-0.7**
OPRZ	**Ohinepanea**	**2.03**	**256**	P	**Pn**	**06 20 45.0**	**-1.2**
RTZ	**Ruatahuna**	**2.04**	**233**	P	**Pn**	**06 20 46.4**	**-0.1**
MUGZ	**Murupara**	**2.10**	**238**	P	**Pn**	**06 20 46.9**	**-0.4**
RAHZ	**Arahi**	**2.17**	**225**	P	**Pn**	**06 20 48.2**	**0.0**
MKRZ	**Makatiti**	**2.18**	**249**	P	**Pn**	**06 20 48.5**	**+0.1**
TARZ	**Mount Tarawera**	**2.19**	**247**	P	**Pn**	**06 20 48.4**	**-0.1**
WHHZ	**Waihua**	**2.21**	**220**	P	**Pn**	**06 20 48.6**	**-0.1**
RRRZ	**Republican Roa**	**2.22**	**244**	P	**Pn**	**06 20 48.7**	**-0.2**
OMRZ	**Omania**	**2.24**	**251**	P	**Pn**	**06 20 49.2**	**0.0**
MYRZ	**Mayor Island**	**2.24**	**272**	P	**Pn**	**06 20 47.7**	**-1.5**
TGRZ	**Tauranga**	**2.24**	**261**	P	**Pn**	**06 20 48.2**	**-1.0**
MTHZ	**Maungatapere**	**2.27**	**229**	P	**Pn**	**06 20 49.7**	**0.0**
HLRZ	**Highlands Stat**	**2.31**	**247**	P	**Pn**	**06 20 49.8**	**-0.2**
KARZ	**Kaharoa**	**2.31**	**253**	P	**Pn**	**06 20 49.4**	**-0.7**
PRRZ	**Plateau Road**	**2.38**	**241**	P	**Pn**	**06 20 50.4**	**-0.6**
NGRZ	**Ngongotaha**	**2.38**	**252**	P	**Pn**	**06 20 51.3**	**+0.2**
HSRZ	**Hossack Road**	**2.41**	**247**	P	**Pn**	**06 20 51.6**	**+0.2**
HRRZ	**Handcock Road**	**2.41**	**245**	P	**Pn**	**06 20 51.2**	**-0.2**
ALRZ	**Allen Road**	**2.44**	**241**	P	**Pn**	**06 20 51.3**	**-0.6**
NMHZ	**Naumai**	**2.46**	**225**	P	**Pn**	**06 20 52.1**	**-0.1**
ARHZ	**Aropaoanui**	**2.47**	**229**	P	**Pn**	**06 20 52.0**	**-0.3**
KMRZ	**Kaimai**	**2.51**	**259**	P	**Pn**	**06 20 51.9**	**-1.1**
GRRZ	**Galatos Road**	**2.52**	**247**	P	**Pn**	**06 20 53.0**	**+0.1**
MRHZ	**Matea Rd**	**2.53**	**234**	P	**Pn**	**06 20 52.9**	**-0.3**
WPRZ	**Whakapapatarin**	**2.55**	**243**	P	**Pn**	**06 20 53.3**	**0.0**
BKZ	**Black Stump Fm**	**2.68**	**228**	Pn	**Pn**	**06 20 54.4**	**-0.9**
BKZ	**Black Stump Fm**	**2.68**	**228**	P	**Pn**	**06 20 54.7**	**-0.5**
BKZ	**Black Stump Fm**	**2.68**	**228**	P	**Pn**	**06 20 54.9**	**-0.4**
KUZ	**Kuaotunu**	**2.74**	**283**	P	**Pn**	**06 20 53.2**	**-2.8**
CKHZ	**Cape Kidnapper**	**2.74**	**214**	P	**Pn**	**06 20 54.7**	**-1.3**
MCHZ	**McNeill Hill**	**2.76**	**221**	P	**Pn**	**06 20 55.7**	**-0.6**
HATZ	**Hinemaiaia**	**2.77**	**236**	P	**Pn**	**06 20 55.9**	**-0.6**
KUTZ	**Kaahu Road**	**2.78**	**246**	P	**Pn**	**06 20 56.2**	**-0.4**
TOZ	**Tahuroa Road**	**2.84**	**262**	P	**Pn**	**06 20 56.1**	**-1.3**
KWHZ	**Kaweka Forest**	**2.90**	**225**	P	**Pn**	**06 20 57.2**	**-1.0**
TLZ	**Tolley Road**	**2.94**	**250**	P	**Pn**	**06 20 58.1**	**-0.6**
KAHZ	**Kahuranaki**	**2.94**	**215**	P	**Pn**	**06 20 57.5**	**-1.3**
RATZ	**Rangitukua**	**2.98**	**239**	P	**Pn**	**06 20 59.0**	**-0.3**
KRHZ	**Kereru**	**3.08**	**222**	P	**Pn**	**06 20 59.2**	**-1.5**
KATZ	**Kakaramea**	**3.08**	**238**	P	**Pn**	**06 21 00.5**	**-0.3**
GRZ	**Great Barrier**	**3.10**	**290**	P	**Pn**	**06 20 58.7**	**-2.2**
MKAZ	**Moumakai**	**3.12**	**274**	P	**Pn**	**06 20 59.3**	**-1.9**
PXZ	**Pawanui**	**3.14**	**212**	P	**Pn**	**06 20 59.6**	**-1.9**
BHHZ	**Black Hill Sta**	**3.15**	**227**	P	**Pn**	**06 21 00.7**	**-1.0**
TMVZ	**Te Maari**	**3.15**	**236**	P	**Pn**	**06 21 00.9**	**-0.9**
ETVZ	**East Tongariro**	**3.15**	**235**	P	**Pn**	**06 21 00.9**	**-0.9**
NTVZ	**North Tongarir**	**3.16**	**236**	P	**Pn**	**06 21 01.0**	**-0.9**
KRVZ	**Karewarewa**	**3.18**	**237**	P	**Pn**	**06 21 01.4**	**-0.8**
WIAZ	**Waiheke Island**	**3.19**	**280**	P	**Pn**	**06 21 00.1**	**-2.0**
OTVZ	**Oturere**	**3.20**	**235**	P	**Pn**	**06 21 01.5**	**-1.0**
NNVZ	**North Ngauruho**	**3.22**	**236**	P	**Pn**	**06 21 01.9**	**-0.7**
WTVZ	**West Tongariro**	**3.22**	**237**	P	**Pn**	**06 21 02.4**	**-0.4**
SNVZ	**South Ngauruho**	**3.23**	**235**	P	**Pn**	**06 21 01.9**	**-1.0**
NGZ	**Ngauruhoe**	**3.25**	**236**	P	**Pn**	**06 21 02.2**	**-0.9**
TUVZ	**Tukino**	**3.26**	**234**	P	**Pn**	**06 21 02.3**	**-1.0**
MOVZ	**Moawhango**	**3.28**	**231**	P	**Pn**	**06 21 02.2**	**-1.4**
TWVZ	**Tauwera**	**3.30**	**238**	P	**Pn**	**06 21 03.1**	**-0.7**
WHVZ	**Whangaehu Hut**	**3.31**	**234**	P	**Pn**	**06 21 03.1**	**-1.0**
FWVZ	**Far West T-bar**	**3.32**	**235**	P	**Pn**	**06 21 03.4**	**-0.8**
ETAZ	**East Tamaki Re**	**3.32**	**276**	P	**Pn**	**06 21 02.5**	**-1.5**
WNVZ	**Wahianoa**	**3.33**	**233**	P	**Pn**	**06 21 03.2**	**-1.1**
TRVZ	**Turoa**	**3.35**	**234**	P	**Pn**	**06 21 03.8**	**-0.8**
WPHZ	**Waipukurau**	**3.36**	**217**	P	**Pn**	**06 21 03.1**	**-1.5**
PNHZ	**Pukenui**	**3.37**	**221**	P	**Pn**	**06 21 02.5**	**-2.1**
MBAZ	**Motutapu North**	**3.38**	**279**	P	**Pn**	**06 21 03.2**	**-1.5**
PRHZ	**Porangahau**	**3.44**	**213**	P	**Pn**	**06 21 03.3**	**-2.2**
MTVZ	**Mangateitei**	**3.45**	**234**	P	**Pn**	**06 21 04.6**	**-1.2**
ABAZ	**Army Bay**	**3.47**	**282**	P	**Pn**	**06 21 04.8**	**-1.2**
PKVZ	**Pokaka**	**3.48**	**236**	P	**Pn**	**06 21 05.5**	**-0.6**
EPAZ	**Eden Park BICE**	**3.48**	**277**	P	**Pn**	**06 21 05.0**	**-1.1**
HBAZ	**Herne Bay Bore**	**3.50**	**278**	P	**Pn**	**06 21 05.5**	**-0.9**
HIZ	**Hauiti**	**3.50**	**250**		**Pn**	**06 21 06.3**	**-0.2**
HIZ	**Hauiti**	**3.50**	**250**	P	**Pn**	**06 21 06.7**	**+0.2**
HIZ	**Hauiti**	**3.50**	**250**	P	**Pn**	**06 21 06.9**	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.53**	**274**	P	**Pn**	**06 21 05.8**	**-1.1**
TSZ	**Takapari Road**	**3.60**	**221**	P	**Pn**	**06 21 05.6**	**-2.3**
WTAZ	**Waiatarua**	**3.61**	**276**	P	**Pn**	**06 21 06.8**	**-1.1**
RVAZ	**Riverhead Bore**	**3.63**	**278**	P	**Pn**	**06 21 06.1**	**-2.1**
DVHZ	**Dannevirke**	**3.67**	**217**	P	**Pn**	**06 21 06.4**	**-2.5**
POWZ	**Post Office Ro**	**3.94**	**220**	P	**Pn**	**06 21 10.0**	**-2.5**
BFZ	**Birch Farm**	**3.95**	**213**	Pn	**Pn**	**06 21 08.4**	**-4.1**
BFZ	**Birch Farm**	**3.95**	**213**	P	**Pn**	**06 21 09.6**	**-3.0**
WAZ	**Wanganui**	**3.97**	**232**	P	**Pn**	**06 21 12.0**	**-0.9**
PRWZ	**Pori Road**	**3.97**	**216**	P	**Pn**	**06 21 10.8**	**-2.1**
OHWZ	**Ohakea**	**4.05**	**225**	P	**Pn**	**06 21 12.8**	**-1.2**
WCZ	**Waipu Caves**	**4.05**	**290**	P	**Pn**	**06 21 12.6**	**-1.5**
CPWZ	**Castlepoint**	**4.15**	**211**	P	**Pn**	**06 21 13.0**	**-2.4**
TIWZ	**Tintock**	**4.18**	**215**	P	**Pn**	**06 21 13.4**	**-2.5**
LREZ	**Lake Rotokare**	**4.20**	**239**	P	**Pn**	**06 21 16.4**	**+0.4**
PREZ	**Palmer Road**	**4.31**	**242**	P	**Pn**	**06 21 18.8**	**+1.1**
NEZ	**North Egmont**	**4.33**	**243**	P	**Pn**	**06 21 18.7**	**+0.9**
PKE	**Pukeiti**	**4.37**	**244**	P	**Pn**	**06 21 19.9**	**+1.4**
KHEZ	**Kahui Hut**	**4.39**	**243**	P	**Pn**	**06 21 19.6**	**+0.8**
NBEZ	**Newall Road No**	**4.49**	**244**	P	**Pn**	**06 21 21.9**	**+1.9**
NMEZ	**Namu Road**	**4.54**	**242**	P	**Pn**	**06 21 22.3**	**+1.7**
OUZ	**Omahuta**	**4.91**	**295**	P	**Pn**	**06 21 24.8**	**-1.0**
OUZ	**Omahuta**	**4.91**	**295**	P	**Pn**	**06 21 24.8**	**-1.0**
MSWZ	**Moikau Station**	**4.98**	**215**	Pn	**Pn**	**06 21 23.5**	**-3.3**
PLWZ	**Palliser**	**5.10**	**214**	Pn	**Pn**	**06 21 24.4**	**-4.1**
TUWZ	**Tuamarina**	**5.65**	**223**		**Pn**	**06 21 32.0**	**-4.0**
NNZ	**Nelson**	**5.83**	**227**	Pn	**Pn**	**06 21 34.1**	**-4.3**
QRZ	**Quartz Range**	**6.12**	**234**	P	**Pn**	**06 21 39.5**	**-3.0**
THZ	**Tophouse**	**6.45**	**225**	Pn	**Pn**	**06 21 42.9**	**-4.1**
KHZ	**Kahutara**	**6.57**	**218**	P	**Pn**	**06 21 44.7**	**-3.8**
CTZ	**Chatham Island**	**7.14**	**154**	P	**Pn**	**06 21 58.4**	**+1.9**
LTZ	**Lake Taylor**	**7.48**	**222**	Pn	**Pn**	**06 21 57.3**	**-3.9**
RPZ	**Rata Peaks**	**8.77**	**221**	Pn	Pn	06 22 14.3	-4.5
	4.0nm,0.3s,baz=77,slow=1.4,SNR=15						
RPZ	**Rata Peaks**	**8.77**	**221**	P	**Pn**	**06 22 14.9**	**-3.9**
ODZ	**Otahua Downs**	**9.92**	**217**	P	Pn	06 22 28.8	-5.8
PYZ	**Puysegur Point**	**12.72**	**223**	Pn	**Pn**	**06 23 09.4**	**-3.4**
ONTNC	**Ouen Toro**	**18.55**	**321**	P	Pn	06 24 36.2	+7.1
ONTNC				IAmb	IAmb	06 24 48.6	
	comp=Z,27nm,1.2s						
KOUNC	**Koumac, New Ca**	**21.13**	**319**	P	**P**	**06 25 02.1**	**+5.2**
KOUNC				IAmb	IAmb	06 25 09.8	
	comp=Z,13nm,1.2s						
RAR	**Rarotonga**	**24.43**	**55**	P	P	06 25 39.9	+9.3
AS31	**Alice Springs**	**40.85**	**276**	P	**P**	**06 27 55.8**	**+1.8**
ASAR	**Alice Springs**	**40.85**	**276**	P	**P**	**06 27 50.6**	**-3.3**
	comp=Z,1.3nm,0.7s,baz=116,slow=7.7,SNR=6.4						
	comp=Z,1.3nm,0.7s						
SBA	**Scott Base**	**40.91**	**184**	P	**P**	**06 27 53.6**	**0.0**
VNDA	**Vanda**	**40.91**	**186**	P	**P**	**06 27 54.0**	**+0.2**
VNDA				IAmb	IAmb	06 28 15.6	
	comp=Z,3.7nm,1.4s						
WRA	**Warramunga Arr**	**42.48**	**281**	P	**P**	**06 28 04.1**	**-3.2**
	comp=Z,1.6nm,0.5s,baz=121,slow=7.8,SNR=9.1						
	comp=Z,1.6nm,0.5s						
CASY	**Casey**	**47.86**	**211**	P	**P**	**06 28 48.9**	**-0.5**
CASY				IAmb	IAmb	06 28 56.9	
	comp=Z,2.7nm,0.9s						
QSPA	**South Pole Qui**	**52.73**	**180**	P	**P**	**06 29 29.0**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=40,slow=17,SNR=2.5						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**52.73**	**180**	P	**P**	**06 29 28.3**	**+1.8**
PZH	**PanZhiHua**	**96.41**	**298**	P	**P**	**06 33 42.9**	**+1.7**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC	**Hu-ho-hao-te**	**99.36**	**315**	*e*P	**Pdif**	**06 34 01.1**	**+7.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,3µm,7.1s						
ARCES	**ARCESS Array B**	**144.77**	**344**	PKP	**PKPab**	**06 39 45.1**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=28,slow=2.9,SNR=4.2						
FINES	**FINESS Array B**	**150.60**	**334**	PKPbc	**PKPbc**	**06 40 00.9**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=59,slow=6.8,SNR=1.3						
TORD	**Torodi Ar. Bea**	**155.74**	**186**	PKPab	**PKPab**	**06 40 30.5**	**-2.2**
	comp=Z,0.9nm,1.1s,baz=200,slow=1.7,SNR=3.5						

*CNRM **23** 06:20:51.3, 35˚.88N×3˚.45W, h11km, ml2.2*
*MDD **23** 06:20:52.4±0.5, 35˚.84N×3˚.43W, h0km, mb_Lg2.6/9, Error ellipse: s-maj=5.1km s-min=2.9km az=60.0*
*INMG **23** 06:20:52.8±1.9, 35˚.85N×3˚.40W, h0km±12km, ML2.1, Error ellipse: s-maj=11.8km s-min=4.1km az=80.0*
*SFS **23** 06:20:52.0, 35˚.81N×3˚.45W, ML2.8, ALBORAN SUR*

ISC 23 06:20:51.7±1.0, 35˚.83N±0˚.02×3˚.45W±0˚.03, h15km±9km, n27, σ1§13/50, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMELI	**Melilla**	**0.65**	**141**	P	**Pg**	**06 21 04.7**	**+0.2**
WMELI				S	**Sg**	**06 21 12.5**	**-0.6**
EMEL	**Melilla**	**0.66**	**143**	Pg	**Pg**	**06 21 04.9**	**+0.2**
EMEL				Sg	**Sg**	**06 21 13.7**	**+0.2**
PALE	**Palemas**	**0.73**	**213**	P	**Pb**	**06 21 06.9**	**+0.7**
PALE				S	**Sb**	**06 21 16.2**	**+0.3**
ELGU	**Los Guajares,**	**1.05**	**352**	Pg	**Pb**	**06 21 11.0**	**-0.6**
ELGU				Sg	**Sb**	**06 21 24.8**	**-0.3**
ELGU				*i* Vmb_Lg		06 21 27.5	
CHAS	**Isla Isabel II**	**1.05**	**127**	P	**Pb**	**06 21 10.8**	**-0.8**
CHAS				S	**Sb**	**06 21 22.6**	**-2.6**
EBER	**Berja**	**1.16**	**23**	Pg	**Pb**	**06 21 13.0**	**-0.5**
EBER				Sg	**Sb**	**06 21 27.2**	**-1.3**
EBER				*i* Vmb_Lg		06 21 38.8	
EMAL	**Malaga-Limoner**	**1.22**	**320**	P	**Pn**	**06 21 14.0**	**-0.2**
EMAL				S	**Sg**	**06 21 31.1**	**-0.1**
TAF	**Taforalt**	**1.32**	**140**	P	**Pg**	**06 21 17.1**	**0.0**
TAF				S	**Sg**	**06 21 35.0**	**+0.6**

comp=Z,2.0nm,0.9s
MKAR Makanchi Array 45.72 304 P **P 06 30 01.7 -0.1**
comp=Z,1.3nm,0.8s,baz=88,slow=8.9,SNR=5.9
comp=Z,1.3nm,0.8s
MKAR Makanchi Array 45.72 304 P **P 06 30 00.7 -1.1**
KURBB Kurchatov Arra 47.79 310 P **P 06 30 17.7 -0.2**
comp=Z,2.7nm,0.6s,baz=84,slow=7.8,SNR=17
comp=Z,2.7nm,0.6s
ILAR Eielson Array 51.55 31 P **P 06 30 47.1 +0.8**
comp=Z,1.8nm,0.9s,baz=270,slow=6.1,SNR=12
comp=Z,1.8nm,0.9s
BMAR Burnt Mountain 52.48 28 P **P 06 30 55.2 +1.9**
SCRK Sand Creek 52.84 32 P **P 06 30 56.5 +0.4**
SCRK IAmb IAmb 06 31 10.2
comp=Z,2.9nm,0.9s
BCAR Beaver Creek A 53.90 33 P **P 06 31 05.7 +1.9**
WB0 Warramunga Ar 54.38 188 P **P 06 31 07.1 -0.5**
WRA Warramunga Arr 54.55 189 P **P 06 31 11.4 +2.5**
comp=Z,2.8nm,1.0s,baz=3.8,slow=7.5,SNR=4.8
comp=Z,2.8nm,1.0s
WRA Warramunga Arr 54.55 189 P **P 06 31 08.4 -0.5**
KK31 Karatay Array 54.64 302 P **P 06 31 09.2 -0.3**
KK31 IAmb IAmb 06 31 10.8
comp=Z,2.7nm,0.7s
KKAR Karatay Array 54.64 302 P **P 06 31 09.3 -0.2**
INK Inuvik 56.57 26 P **P 06 31 23.5 +0.6**
comp=Z,2.2nm,0.5s,baz=299,slow=5.9,SNR=6.0
comp=Z,2.2nm,0.5s
ASAR Alice Springs 58.28 188 P **P 06 31 36.1 +0.7**
comp=Z,0.5nm,0.5s,baz=16,slow=11,SNR=4.2
comp=Z,0.5nm,0.5s
ABKAR Akbulak array 59.79 311 P **P 06 31 45.1 -0.6**
ARCES ARCESS Array B 66.48 340 P **P 06 32 29.1 -0.7**
comp=Z,2.0nm,1.0s,baz=75,slow=7.6,SNR=2.7
comp=Z,2.0nm,1.0s
FINES FINESS Array B 71.20 333 P **P 06 32 58.5 -0.7**
comp=Z,2.1nm,0.8s,baz=84,slow=7.3,SNR=2.5
comp=Z,2.1nm,0.8s
NVAR Mina Array Bea 76.35 53 P **P 06 33 31.5 +1.4**
comp=Z,1.3nm,0.7s,baz=298,slow=5.7,SNR=8.2
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 76.47 323 P **P 06 33 29.6 -0.7**
comp=Z,0.5nm,0.5s,baz=45,slow=6.6,SNR=2.5
comp=Z,0.5nm,0.5s
HFS Hagfors 76.52 336 P **P 06 33 30.1 -0.4**
comp=Z,0.9nm,0.5s,baz=108,slow=0.5,SNR=5.3
comp=Z,0.9nm,0.5s
NB2 NORSAR Subarra 76.64 338 P **P 06 33 31.1 -0.1**
comp=Z,0.5nm,0.5s,baz=41,slow=5.9
NOA NORSAR Array B 76.64 338 P **P 06 33 31.4 +0.2**
comp=Z,1.4nm,0.8s,baz=39,slow=5.8,SNR=5.1
comp=Z,1.4nm,0.8s
PDAR Pinedale Array 79.31 45 P **P 06 33 48.2 +1.7**
comp=Z,0.5nm,0.7s,baz=301,slow=3.6,SNR=5.9
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 80.73 312 P **P 06 33 55.3 +1.1**
comp=Z,0.7nm,0.6s,baz=134,slow=4.2,SNR=3.0
comp=Z,0.7nm,0.6s
TXAR Lajitas Array 91.50 53 P **P 06 34 48.0 +0.5**
comp=Z,0.4nm,0.7s,baz=310,slow=2.5,SNR=5.2
comp=Z,0.4nm,0.7s
LPAZ La Paz 147.72 63 PKPbc **PKiKP 06 41 27.4 -1.2**
comp=Z,1.7nm,0.5s,baz=360,slow=2.1,SNR=12

---

*IDC **23** 06:23:25.7±1.6,34°.42N×141°.64E,h0km,mb3.7/4, mbtmp3.7/6,ML2.4/1,Error ellipse: s-maj=34.5km s-min=24.3km az=115.0*
*JMA **23** 06:23:25.8±0.4,34°.N±1°×14°2E±°,h34km±2km,MV3.5/26, FAR SE OFF BOSO PEN*
ISC 23 06:23:29.6±1.2,34°.51N±0°.07×141°.53E±0°.09,h27km,n12, σ1s18/15,mb3.7/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.48**	**288**	*eP*		**Pb**	**06 23 38.8**	**-0.4**
KTR	**Katsuura**	**1.19**	**303**	*eP*		**Pn**	**06 23 50.0**	**-0.4**
JKUC	**kamogawauchiur**	**1.27**	**301**	P		**Pn**	**06 23 50.7**	**-0.9**
JKUC				*eS*		**Sb**	**06 24 08.8**	**-0.1**
CHOJ	**Chosi**	**1.31**	**335**	P		**Pn**	**06 23 50.5**	**-1.7**
JSMT	**Sammumatsuo**	**1.44**	**322**	P		**Pn**	**06 23 53.6**	**-0.3**
JMKN	**Mikurajimanish**	**1.72**	**250**	*eP*		**Pn**	**06 23 56.6**	**-1.2**
JMKN				S		**Sn**	**06 24 18.7**	**-0.2**
JHJ	**Hachijo jima 2**	**2.01**	**227**	Pn		**Pn**	**06 24 00.6**	**-1.1**
	170nm,0.6s,baz=246,slow=22,SNR=1.2							
JHJ				Sn		**Sn**	**06 24 27.2**	**+1.3**
	175nm,0.3s,baz=143,slow=22,SNR=6.7							
MJAR	**Matsushiro Arr**	**3.38**	**308**	Pn		**Pn**	**06 24 19.4**	**-1.2**
	0.3nm,0.3s,baz=112,slow=6.2,SNR=6.3							
	3.0nm,0.3s							
MKAR	**Makanchi Array**	**45.58**	**304**	P		**P**	**06 31 48.6**	**+1.3**
	0.5nm,0.5s,baz=85,slow=9.9,SNR=2.9							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**47.66**	**310**	P		**P**	**06 32 05.5**	**+2.1**
	0.7nm,0.4s,baz=83,slow=7.5,SNR=3.1							
	0.7nm,0.4s							
ILAR	**Eielson Array**	**51.59**	**31**	P		**P**	**06 32 33.1**	**-0.1**
	0.5nm,0.7s,baz=281,slow=8.6,SNR=2.8							
	0.5nm,0.7s							
WRA	**Warramunga Arr**	**54.58**	**188**	P		**P**	**06 32 55.1**	**-0.5**
	0.5nm,0.5s,baz=5.3,slow=7.7,SNR=1.6							
	0.5nm,0.5s							

IDC 23 06:24:01.2±5.8,1°.65S×140°.54E,h0km,mb3.5/3, mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=116.0km s-min=67.1km az=152.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.16**	**198**	P		P	06 28 25.9	-0.5
	0.2nm,0.3s,baz=21,slow=12,SNR=3.8							
	0.7nm,0.5s							
FITZ	**Fitzroy Crossi**	**21.93**	**221**	P		P	06 28 56.3	-0.2
	1.6nm,0.9s,baz=0.2,slow=11,SNR=1.7							
	1.6nm,0.9s							
ASAR	**Alice Springs**	**22.81**	**196**	P		P	06 29 06.0	+0.1
	0.8nm,0.5s,baz=26,slow=10,SNR=5.7							
	0.8nm,0.5s							
VNDA	**Vanda**	**76.67**	**175**	P		P	06 35 53.9	+0.3
	0.6nm,0.8s,baz=346,slow=4.2,SNR=2.6							
	0.6nm,0.8s							

IDC 23 06:28:02.9±6.3,1°.93S×140°.78E,h0km,mb3.6/2, mbtmp3.7/3,ML3.6/1,Error ellipse: s-maj=157.3km s-min=77.3km az=132.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**0.90**	**223**	P		Pn	06 28 22.5	-0.3
WRA	**Warramunga Arr**	**18.98**	**199**	P		P	06 32 26.0	-0.2
	0.2nm,0.3s,baz=23,slow=12,SNR=5.0							
	1.7nm,0.8s							
ASAR	**Alice Springs**	**22.61**	**197**	P		P	06 33 05.0	-0.6
	1.1nm,0.6s,baz=25,slow=11,SNR=5.4							
	1.1nm,0.6s							
VNDA	**Vanda**	**76.38**	**175**	P		P	06 39 54.1	+0.5
	0.6nm,0.6s,baz=320,slow=6.4,SNR=2.2							
	0.6nm,0.6s							

---

*IDC **23** 06:30:10.8±0.5,9°.26S×124°.99E,h0km,mb4.5/17, mbtmp4.5/19,ML4.5/2,Error ellipse: s-maj=20.6km s-min=13.7km az=66.0*
*NEIC **23** 06:30:11.6±1.9,9°.53S±0°.06×125°.00E±0°.05,h10km±1km, mb4.9/32,Error ellipse: s-maj=10.8km s-min=8.1km az=351.0*
*DJA **23** 06:30:14.6±0.5,10°S±2°×12°5E±°,h17km±4km,M4.7/36, mb4.8/36,mB5.3/8,MLv4.6/14,Mw(mB)4.7/8,MwMwp5.5/2, Mwp5.6/2*
ISC 23 06:30:14.4±0.3,9°.55S±0°.04×125°.10E±0°.05,h33km,n111, σ2s56/121,mb4.8/34,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**0.84**	**256**			**Pn**	**06 30 29.7**	**-0.4**
SOEI	**Soe**	**0.84**	**256**	P		**Pb**	**06 30 31.3**	**+0.6**
MMRI	**Maumere**	**2.97**	**288**	Pn		**Pn**	**06 30 58.8**	**-0.4**
MMRI	**Maumere**	**2.97**	**288**	P		**Pn**	**06 31 01.3**	**+2.1**
EDFI	**Ende, Flores**	**3.46**	**283**	P		**Pn**	**06 31 07.7**	**+1.7**
BBSI	**Bau Bau**	**4.75**	**328**	P		**Pn**	**06 31 26.2**	**+2.5**
BSSI	**Bau Bau, Buton**	**5.68**	**306**	P		**Pn**	**06 31 39.1**	**+2.5**
	0.2nm724nm56nm,0.8s							
SAUI	**Saumlaki**	**6.33**	**76**	P		**Pn**	**06 31 48.1**	**+2.7**
	1.4nm261nm,1.0s							
BKSI	**Bulukumba**	**6.48**	**310**	P		**Pn**	**06 31 50.3**	**+2.8**
	0.1nm30nm,0.9s							
NLAI	**Namlea**	**6.58**	**18**	P		**Pn**	**06 31 51.6**	**+2.8**
	0.1nm3µm33nm,0.7s							
AAI	**Ambon**	**6.59**	**28**	P		**Pn**	**06 31 51.9**	**+2.9**
	0.3nm22µm79nm,0.8s							
MTN	**Manton Dam**	**6.77**	**119**	Pn		**Pn**	**06 31 52.7**	**+1.2**
KAPI	**Kappang**	**6.96**	**310**	Pn		**Pn**	**06 31 50.9**	**-3.1**
	1.4nm,0.3s,baz=127,slow=18,SNR=1.6							
	3.8nm,0.4s							
KAPI	**Kappang**	**6.96**	**310**			**Pn**	**06 31 53.6**	**-0.5**
KNRA	**Kununurra**	**7.06**	**150**	Pn		**Pn**	**06 31 56.4**	**+0.9**
MSAI	**Masohi**	**7.24**	**32**	P		**Pb**	**06 32 18.9**	**-0.5**
PLAI	**Plampang**	**7.26**	**275**	P		**Pn**	**06 31 59.1**	**+0.8**
	0.3nm1µm107nm,0.9s							
SANI	**Sanana**	**7.50**	**7**	P		Pn	06 32 09.9	+8.3
SPSI	**Sidrap Palu**	**7.67**	**316**	P		**Pn**	**06 32 07.4**	**+3.6**
	0.1nm20nm,1.0s							
TWSI	**Taliwang, Sumb**	**8.15**	**275**	P		**Pn**	**06 32 10.9**	**+0.4**
	31nm,1.0s							
FITZ	**Fitzroy Crossi**	**8.52**	**177**	Pn		**Pn**	**06 32 15.7**	**+0.2**
	6.5nm,0.3s,baz=3.6,slow=9.9,SNR=105							
FITZ				Sn		**Sn**	**06 33 46.6**	**-3.8**
	9.1nm,0.3s,baz=180,slow=3.0,SNR=14							
LUWI	**Luwuk**	**8.76**	**345**	P		**Pn**	**06 32 22.3**	**+3.4**
	220nm,1.2s							
LBMI	**Labuha**	**9.17**	**15**	P		**Pn**	**06 32 27.3**	**+2.8**
	29nm,0.9s							
FAKI	**Fak Fak**	**9.69**	**48**	Pn		**Pn**	**06 32 33.6**	**+2.0**
FAKI	**Fak Fak**	**9.69**	**48**	P		**Pn**	**06 32 33.2**	**+1.6**
	33nm,0.7s							
GTOI	**Gorontalo**	**10.33**	**348**	P		Pn	06 32 45.7	+5.4
	7.5nm,1.0s							
TOLI2	**Tolitoli**	**11.43**	**338**	Pn		**Pn**	**06 32 53.2**	**-2.2**
PWJI	**Pagerwojo**	**13.22**	**276**	P		**Pn**	**06 33 21.3**	**+1.3**
	31nm,0.9s							
WB0	**Warramunga Arr**	**13.56**	**140**	Pn		**Pn**	**06 33 22.6**	**-1.9**
WRA	**Warramunga Arr**	**13.65**	**140**	Pn		**Pn**	**06 33 23.5**	**-2.4**
	4.3nm,0.3s,baz=316,slow=15,SNR=72							
WRA				Sn		**Sn**	**06 35 48.5**	**-8.0**
	4.0nm,0.3s,baz=311,slow=25,SNR=22							
WRAB	**Tennant Creek**	**13.65**	**140**	Pn		**Pn**	**06 33 24.8**	**-1.1**
WR0	**Warramunga Arr**	**13.80**	**140**			**Pn**	**06 33 25.7**	**-2.1**
UGM	**Wanagama**	**14.50**	**275**	P		**Pn**	**06 33 39.0**	**+1.6**
	128nm,2.2s							
SMRI	**Semarang**	**14.71**	**279**	P		**P**	**06 33 47.1**	**+1.1**
AS31	**Alice Springs**	**16.37**	**150**	Pn		**Pn**	**06 34 00.5**	**-1.4**
ASAR	**Alice Springs**	**16.37**	**150**	Pn		**Pn**	**06 34 00.7**	**-1.2**
	1.7nm,0.3s,baz=317,slow=11,SNR=33							
ASAR				Sn		**Sn**	**06 36 55.2**	**-7.4**
	1.0nm,0.3s,baz=320,slow=19,SNR=9.2							
ASAR	**Alice Springs**	**16.37**	**150**			**Pn**	**06 34 01.2**	**-0.7**
LEM	**Lembang**	**17.51**	**278**	P		**Pn**	**06 34 14.8**	**-1.6**
	11nm,0.3s,baz=53,slow=6.9,SNR=8.2							
	45nm,0.6s							
CNJI	**Cibinong**	**17.91**	**276**	P		**P**	**06 34 23.4**	**+1.9**
	143nm,1.1s							
COEN	**Coen**	**18.23**	**106**			**Pn**	**06 34 25.6**	**+0.5**
CBJI	**Citeko**	**18.33**	**278**	P		**P**	**06 34 24.8**	**-1.4**
	123nm,0.8s							
MORW	**Morawa**	**21.20**	**202**	P		**P**	**06 34 57.0**	**-0.3**
FORT	**Forrest**	**21.30**	**173**	P		**P**	**06 34 57.7**	**-0.7**
CTA	**Charters Tower**	**22.95**	**120**	P		**P**	**06 35 18.8**	**+2.7**
	24nm,0.9s,baz=292,slow=10,SNR=33							
	24nm,0.9s							
CTAO	**Charters Tower**	**22.95**	**120**	P		**P**	**06 35 18.2**	**+2.1**
CTAO						IAmb	IAmb	06 35 20.9
	comp=Z,28nm,0.9s							
BBOO	**Buckleboo**	**25.27**	**158**	P		**P**	**06 35 37.5**	**-0.2**
BBOO						IAmb	IAmb	06 35 50.1
	comp=Z,33nm,1.3s							
STKA	**Stephens Creek**	**26.98**	**148**	P		**P**	**06 35 55.9**	**+2.7**
	comp=Z,7.3nm,0.9s,baz=330,slow=8.2,SNR=8.1							
	comp=Z,7.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**37.95**	**317**	P		**P**	**06 37 28.4**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=143,slow=6.7,SNR=17							
CMAR				PcP		**PcP**	**06 39 45.9**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=178,slow=2.8,SNR=6.2							
	comp=Z,4.3nm,0.8s							
CHTO	**Chiang Mai**	**38.21**	**318**	P		**P**	**06 37 30.8**	**-0.6**
JSU	**Suzuyama**	**41.14**	**7**	P		**P**	**06 37 57.0**	**+1.4**
JSU						IAmb	IAmb	06 37 58.2
	comp=Z,18nm,1.0s							
PZH	**PanZhiHua**	**42.41**	**328**	P		**P**	**06 38 08.8**	**+2.5**
PZH						pmax	pmax	
	comp=Z,20nm,0.9s							
JHS	**Saijyo**	**44.95**	**9**	P		**P**	**06 38 26.8**	**+0.4**
JHS						IAmb	IAmb	06 38 37.9
	comp=Z,22nm,1.1s							
CD2	**Chengdu**	**45.14**	**334**	P		**P**	**06 38 27.0**	**-1.0**
CD2						pmax	pmax	
	comp=Z,20nm,1.0s							
MJAR	**Matsushiro Arr**	**47.48**	**14**	P		**P**	**06 38 45.2**	**-1.0**
	comp=Z,8.2nm,0.8s,baz=188,slow=8.5,SNR=16							
	comp=Z,8.2nm,0.8s							
JSD	**Sado**	**48.91**	**14**	P		**P**	**06 38 58.8**	**+1.5**
LZH	**Lanzhou**	**49.61**	**337**	*eP*		**P**	**06 39 03.0**	**+0.1**
LZH				pP		pP	06 39 09.3	-3.5
LZH				sP		sP	06 39 12.6	-3.7
LZH				pmax		pmax		
	comp=Z,18nm,1.1s							
RPZ	**Rata Peaks**	**52.36**	**139**	P		**P**	**06 39 24.3**	**+1.0**
RPZ						IAmb	IAmb	06 39 28.7
	comp=Z,20nm,1.2s							
USRK	**Ussuriysk Ar.**	**53.86**	**6**	P		**P**	**06 39 33.9**	**-0.3**
	comp=Z,5.3nm,0.8s,baz=208,slow=8.1,SNR=6.8							
	comp=Z,5.3nm,0.8s							
KLR	**Kul'dur**	**58.82**	**5**	P		**P**	**06 40 09.1**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=249,slow=7.7,SNR=4.4							
	comp=Z,1.4nm,0.7s							
ULN	**Ulaanbaatar**	**59.36**	**346**	P		**P**	**06 40 12.9**	**-0.6**
ULN						IAmb	IAmb	06 40 14.8
	comp=Z,15nm,1.3s							
SONM	**Songino Array**	**59.49**	**345**	P		**P**	**06 40 13.9**	**-0.4**
	comp=Z,11nm,1.1s,baz=164,slow=7.2,SNR=17							
	comp=Z,11nm,1.1s							
SONM	**Songino Array**	**59.49**	**345**	P		**P**	**06 40 14.2**	**-0.2**
SONM						IAmb	IAmb	06 40 15.6
	comp=Z,9.4nm,1.2s							
WMQ	**Urumqi**	**63.04**	**330**	*eP*		**P**	**06 40 40.8**	**+2.4**
NIL	**Nilore**	**65.33**	**314**	P		**P**	**06 40 52.6**	**-1.0**
KSH	**Kashi**	**66.74**	**320**	P		**P**	**06 41 02.9**	**+0.2**
KSH				pP		pP	06 41 14.0	+1.1
KSH				PcP		**PcP**	**06 41 32.6**	**+1.1**
KSH				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KSH				pmax		pmax		
	comp=Z,940nm,10.8s							
TARG	**Taragay, Kyrgy**	**66.95**	**323**	P		**P**	**06 41 03.9**	**-0.5**
TARG						IAmb	IAmb	06 41 06.8
	comp=Z,4.3nm,0.8s							
MK31	**Makanchi Array**	**67.83**	**330**	P		**P**	**06 41 08.6**	**-0.7**
MKAR	**Makanchi Array**	**67.83**	**330**	P		**P**	**06 41 08.8**	**-0.5**
	comp=Z,14nm,0.8s,baz=135,slow=7.9,SNR=32							
	comp=Z,14nm,0.8s							
MKAR	**Makanchi Array**	**67.83**	**330**	P		**P**	**06 41 08.4**	**-0.9**
PETK	**Petropavlovsk-**	**68.32**	**20**	P		**P**	**06 41 11.7**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=143,slow=8.2,SNR=4.0							
	comp=Z,2.5nm,0.9s							
KBL	**Kabul**	**68.80**	**313**	P		**P**	**06 41 14.6**	**-1.2**
AAK	**Ala-Archa**	**69.47**	**322**	P		**P**	**06 41 20.1**	**+0.4**
AAK						IAmb	IAmb	06 41 21.2
	comp=Z,7.5nm,0.9s							
VNDA	**Vanda**	**70.56**	**172**	P		**P**	**06 41 29.5**	**+3.7**
	comp=Z,0.9nm,0.8s,baz=303,slow=8.5,SNR=4.8							
	comp=Z,0.9nm,0.8s							
CHGR	**Chuyangaron**	**70.73**	**317**	P		**P**	**06 41 26.3**	**-1.3**
CHGR						IAmb	IAmb	06 41 28.3
	comp=Z,18nm,1.3s							
MAW	**Mawson**	**70.83**	**201**	P		**P**	**06 41 29.5**	**+2.0**
	comp=Z,1.9nm,0.7s,baz=47,slow=11,SNR=4.2							
	comp=Z,1.9nm,0.7s							
ZAA0	**Zalesovo Array**	**71.83**	**336**	P		**P**	**06 41 31.7**	**-2.0**
ZALV	**Zalesovo Beam**	**71.83**	**336**	P		**P**	**06 41 32.4**	**-1.2**
	comp=Z,14nm,0.9s,baz=130,slow=4.6,SNR=16							
	comp=Z,14nm,0.9s							
ZALV	**Zalesovo Beam**	**71.83**	**336**	P		**P**	**06 41 32.1**	**-1.6**
KKAR	**Karatay Array**	**72.16**	**321**	P		**P**	**06 41 36.0**	**+0.1**
KURK	**Kurchatov**	**72.27**	**331**	P		**P**	**06 41 35.7**	**-0.7**
WSAR	**Wadi Sarin**	**72.69**	**298**	P		**P**	**06 41 38.9**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=115,slow=6.8,SNR=4.1							
	comp=Z,4.2nm,0.7s							
SEY	**Seymchan**	**75.26**	**13**	P		**P**	**06 41 53.6**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=227,slow=6.6,SNR=6.2							
	comp=Z,1.3nm,0.3s							
OPO	**Ambohidratompo**	**75.63**	**253**	P		**P**	**06 41 58.3**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=282,slow=12,SNR=4.1							
	comp=Z,4.3nm,0.9s							
BRVK	**Borovoye**	**77.78**	**330**	P		**P**	**06 42 07.0**	**-1.1**
GEYT	**Alibeck**	**78.22**	**312**	P		**P**	**06 42 10.2**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**78.22**	**312**	P		**P**	**06 42 10.6**	**-0.4**
GYA0B						IAmb	IAmb	06 42 29.5
	comp=Z,6.7nm,1.1s							
QSPA	**South Pole Qui**	**80.45**	**180**	P		**P**	**06 42 23.5**	**+0.8**
ABKAR	**Akbulak array**	**81.55**	**323**	P		**P**	**06 42 27.3**	**-1.4**
ABKAR	**Akbulak array**	**81.55**	**323**	P		**P**	**06 42 27.6**	**-1.1**
ABKAR						IAmb	IAmb	06 42 28.7
	comp=Z,7.6nm,1.2s							
RAYN	**Ar Rayn**	**84.37**	**295**	P		**P**	**06 42 44.1**	**+0.1**
RAYN						IAmb	IAmb	06 42 45.3
	comp=Z,8.6nm,1.0s							
SPIA	**Saint Paul Isl**	**84.74**	**30**	P		**P**	**06 42 46.2**	**+1.2**
ARU	**Arti**	**85.34**	**329**	P		**P**	**06 42 46.9**	**-1.2**
ARU						IAmb	IAmb	06 42 48.0
	comp=Z,11nm,1.3s							
KMBO	**Kilima Mbogo**	**87.69**	**269**	P		**P**	**06 43 02.6**	**+1.8**
	comp=Z,6.8nm,1.0s,baz=33,slow=4.6,SNR=9.7							
	comp=Z,6.8nm,1.0s							
KMBO	**Kilima Mbogo**	**87.69**	**269**	P		**P**	**06 42 59.9**	**-0.9**
KMBO						IAmb	IAmb	06 43 04.4
	comp=Z,6.8nm,1.0s							
TROLL	**Troll, Antarti**	**90.48**	**195**	PcP		**PcP**	**06 43 15.7**	**+1.9**
KBZ	**Khabaz**	**90.94**	**314**	P		**P**	**06 43 14.6**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=41,slow=2.3,SNR=5.3							
	comp=Z,3.0nm,0.7s							
BELA	**Belgrano 2**	**91.98**	**184**	P		**P**	**06 43 21.5**	**+2.1**
SNAA	**Sanae**	**92.03**	**194**	PcP		**PcP**	**06 43 22.5**	**+1.9**
SNAA	**Sanae**	**92.03**	**194**	P		**P**	**06 43 21.1**	**+1.2**
SNAA						IAmb	IAmb	06 43 23.6
	comp=Z,6.0nm,0.8s							
VNA2	**Neumayer--Watz**	**93.64**	**194**	PcP		**PcP**	**06 43 29.8**	**+2.1**
	baz=124,slow=4.0							
VNA3	**Neumayer Olymp**	**93.94**	**193**	PcP		**PcP**	**06 43 31.2**	**+2.2**
VNA1	**Neumayer--Stat**	**94.03**	**194**	PcP		**PcP**	**06 43 31.7**	**+2.3**
KLMR	**Klimovskoe**	**96.11**	**331**	*eP*		**P**	**06 43 34.6**	**-3.9**
KLMR				AMP			06 43 37.1	
	comp=Z,5.0nm,0.9s							
MNK	**Minsk**	**101.89**	**324**	*i* P		**Pdif**	**06 43 58.1**	**-6.5**
	comp=E,3.0nm,0.7s							
MNK				*i* P		**Pdif**	**06 43 58.1**	**-6.5**
MNK				*i* P		**Pdif**	**06 43 58.1**	**-6.5**
	comp=Z,15nm,0.7s,baz=270							
MNK				*i* PP		**PP**	**06 48 08.5**	**-7.4**
MNK				*i* PPP		PPP	06 50 17.6	
MNK				*i* S		**SKSac**	**06 54 34.7**	**-6.8**
MNK				*i* PS		**PS**	**06 57 13.8**	**-7.5**
MNK				*i* SS		**SS**	**07 02 40.6**	**-7.6**
MNK				*i* SSS		SSS	07 06 33.3	
MNK				*i* LR		LR	07 29 50.1	
MNK				*i* LRM		MLR	07 30 21.5	
	comp=N,1.0nm,18.1s							
MNK				*i* LRM		MLR	07 30 21.5	
	comp=Z,236nm,12.2s							
MNK				*i* LRM		MLR	07 30 39.1	
	comp=E,35nm,16.1s							
PDAR	**Pinedale Array**	**122.12**	**45**	PKP		**PKiKP**	**06 49 08.7**	**+2.2**
	comp=E,1.1nm,0.8s,baz=211,slow=1.7,SNR=8.5							
TORD	**Torodi Ar. Bea**	**124.48**	**279**	PKP		**PKiKP**	**06 49 13.6**	**+2.0**
	comp=E,2.0nm,0.8s,baz=72,slow=2.0,SNR=11							
ESDC	**Sonseca Array**	**125.77**	**312**	PKP		**PKiKP**	**06 49 15.4**	**+1.8**
	comp=E,1.5nm,0.8s,baz=35,slow=2.6,SNR=11							
ULM	**Lac du Bonnet**	**127.19**	**32**	PKP		**PKiKP**	**06 49 17.1**	**+1.1**
	comp=E,4.9nm,0.9s,baz=304,slow=3.2,SNR=4.8							
TXAR	**Lajitas Array**	**130.39**	**60**	PKP		**PKiKP**	**06 49 25.3**	**+2.1**
	comp=E,0.3nm,0.7s,baz=191,slow=3.2,SNR=3.4							
CPUP	**Villa Florida**	**144.26**	**176**	PKP		**PKPdf**	**06 49 48.9**	**+1.1**
	comp=E,5.5nm,0.9s,baz=180,slow=4.8,SNR=10.0							
LPAZ	**La Paz**	**151.18**	**153**	PKPbc		**PKiKP**	**06 50 08.4**	**+1.7**
	comp=E,1.5nm,0.8s,baz=154,slow=1.7,SNR=5.7							
LPAZ				PKPab		**pPKPbc**	**06 50 17.1**	**+0.5**
	comp=E,7.2nm,0.8s,baz=188,slow=5.2,SNR=26							

---

*JMA **23** 06:30:45.0±0.7,34°.N±2°×14°2E±°,h25km±2km,MV3.4/29, FAR SE OFF BOSO PEN*
*IDC **23** 06:30:47.1±1.6,34°.47N×141°.54E,h0km,mb3.5/2, mbtmp3.7/4,ML3.5/2,Error ellipse: s-maj=30.3km s-min=22.8km az=105.0*
ISC 23 06:30:50.2±1.2,34°.44N±0°.05×141°.56E±0°.10,h27km,n15, σ1s28/18,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.52**	**294**	P		**Pb**	**06 30 59.5**	**-1.0**
BSO4	**Boso 4**	**1.14**	**299**	P		**Pn**	**06 31 10.1**	**-0.2**
JKUC	**kamogawauchiur**	**1.33**	**303**	P		**Pn**	**06 31

KMI pmax pmax
comp=Z,12nm,1.3s
PZH PanZhiHua 25.16 20 P **P** **06 36 32.1 +1.0**
PZH pmax pmax
comp=Z,10.0nm,1.2s
LSA Lhasa 26.71 358 P **P** **06 36 46.0 +0.5**
CD2 Chengdu 29.89 20 P **P** **06 37 13.6 +0.2**
CD2 pmax pmax
comp=Z,20nm,0.8s
BTK Batken 41.86 335 P **P** **06 38 56.1 +0.4**
BTK IAmb IAmb 06 38 58.0
comp=Z,20nm,1.4s
BJT Baijiatuau 42.81 27 P **P** **06 39 04.1 +0.7**
BJT IAmb IAmb 06 39 06.5
comp=Z,9.6nm,1.0s
KK31 Karatay Array 44.55 337 P **P** **06 39 17.3 -0.1**
KKAR Karatay Array 44.55 337 P **P** **06 39 17.1 -0.2**
KKAR Karatay Array 44.55 337 P **P** **06 39 17.3 -0.1**
KKAR IAmb IAmb 06 39 18.3
comp=Z,3.5nm,0.8s
MK31 Makanchi Array 44.63 350 P **P** **06 39 17.7 -0.3**
MK31 IAmb IAmb 06 39 19.0
comp=Z,3.9nm,0.8s
MKAR Makanchi Array 44.63 350 P **P** **06 39 18.2 +0.2**
comp=Z,4.8nm,0.8s,baz=166,slow=8.4,SNR=33
comp=Z,4.8nm,0.8s
MKAR Makanchi Array 44.63 350 P **P** **06 39 17.5 -0.5**
SONM Songino Array 46.40 13 P **P** **06 39 32.9 +0.7**
comp=Z,4.9nm,0.9s,baz=195,slow=8.3,SNR=17
comp=Z,4.9nm,0.9s
SONM Songino Array 46.40 13 P **P** **06 39 32.3 +0.1**
GEYT Alibeck 46.91 322 P **P** **06 39 36.7 +0.5**
comp=Z,3.8nm,0.5s,baz=134,slow=6.4,SNR=5.6
comp=Z,3.8nm,0.5s
GEYT Alibeck 46.91 322 P **P** **06 39 36.7 +0.5**
GEYT IAmb IAmb 06 39 38.1
comp=Z,5.2nm,0.6s
KSRS Korea Array 47.41 39 P **P** **06 39 40.2 +0.3**
comp=Z,1.7nm,0.8s,baz=223,slow=8.5,SNR=5.5
comp=Z,1.7nm,0.8s
KURK Kurchatov 49.08 348 P **P** **06 39 52.2 -0.5**
KURK IAmb IAmb 06 39 53.8
comp=Z,7.2nm,1.2s
RAYN Ar Rayn 49.73 299 P **P** **06 39 58.1 -0.2**
RAYN IAmb IAmb 06 39 59.7
comp=Z,2.6nm,0.7s
ZAA0 Zalesovo Array 51.30 354 P **P** **06 40 09.3 -0.1**
ZALV Zalesovo Beam 51.30 354 P **P** **06 40 09.7 +0.2**
comp=Z,8.7nm,0.4s,baz=189,slow=8.5,SNR=29
comp=Z,8.7nm,0.4s
ZALV Zalesovo Beam 51.30 354 P **P** **06 40 09.2 -0.3**
MAJO Matsushiro 53.85 46 P **P** **06 40 29.8 +1.0**
MJB9 Matsu-Tunnel 53.85 46 P **P** **06 40 29.6 +0.8**
ABKAR Akbulak array 53.85 334 P **P** **06 40 27.8 -0.7**
ABKAR Akbulak array 53.85 334 P **P** **06 40 27.7 -0.8**
ABKAR IAmb IAmb 06 40 29.1
comp=Z,5.7nm,1.1s
KLR Kul'dur 57.07 30 P **P** **06 40 51.0 -0.7**
comp=Z,4.5nm,0.9s,baz=246,slow=5.1,SNR=7.0
comp=Z,4.5nm,0.9s
STKA Stephens Creek 58.07 131 P **P** **06 40 59.9 +0.8**
comp=Z,5.9nm,1.1s,baz=306,slow=14,SNR=3.5
comp=Z,5.9nm,1.1s
BRTR Keskin Array B 64.45 313 P **P** **06 41 42.3 -0.1**
comp=Z,1.5nm,0.6s,baz=136,slow=9.1,SNR=5.9
comp=Z,1.5nm,0.6s
NRIK Noril'sk 66.44 358 P **P** **06 41 53.2 -1.3**
comp=Z,2.7nm,0.4s,baz=159,slow=7.6,SNR=3.5
comp=Z,2.7nm,0.4s
AKASG Malin Array Be 71.03 323 P P 06 42 22.1 -1.4
comp=Z,0.2nm,0.3s,baz=91,slow=2.2,SNR=4.5
comp=Z,0.2nm,0.3s
TIXI Tiksi 72.45 11 P **P** **06 42 30.9 -0.7**
comp=Z,4.5nm,0.5s,baz=291,slow=14,SNR=2.7
comp=Z,4.5nm,0.5s
FINES FINESS Array B 76.32 333 P **P** **06 42 53.9 -0.5**
comp=Z,3.0nm,0.7s,baz=122,slow=6.9,SNR=7.1
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 79.37 341 P **P** **06 43 10.8 -0.4**
comp=Z,2.7nm,0.8s,baz=95,slow=5.2,SNR=8.1
comp=Z,2.7nm,0.8s
GEC2 GERESS Array S 80.40 319 P **P** **06 43 17.4 +0.2**
GEC2 IAmb IAmb 06 43 18.8
comp=Z,8.4nm,0.8s
GERES GERESS Array B 80.40 319 P **P** **06 43 18.2 +0.9**
comp=Z,5.1nm,0.8s,baz=98,slow=5.9,SNR=33
comp=Z,5.1nm,0.8s
GERES GERESS Array B 80.40 319 P **P** **06 43 17.2 0.0**
CLUD Cludinico 80.69 316 P **P** **06 43 18.4 -0.4**
CLL Collm 81.13 321 *i* P **P** **06 43 21.0 0.0**
CLL Collm 81.13 321 *eP* **P** **06 43 21.0 0.0**
NOA NORSAR Array B 83.22 331 P **P** **06 43 30.9 -0.9**
comp=Z,1.4nm,0.8s,baz=99,slow=5.6,SNR=4.1
comp=Z,1.4nm,0.8s
TXAR Lajitas Array 144.48 25 PKP **PKPab** **06 50 41.5 +0.3**
comp=Z,1.2nm,0.8s,baz=235,slow=0.9,SNR=13

IDC ***23*** *06:43:46.7±1.0, 34.˚45N× 141.˚67E, h0km, mb3.6/5, mbtmp3.7/8, ML2.7/2, Error ellipse: s-maj=27.0km s-min=19.3km az=96.0*
JMA ***23*** *06:43:47.9±0.4, 34.˚N±1.˚× 14.˚2E±.˚, h38km±3km, MV3.2/27, FAR SE OFF BOSO PEN*
ISC 23 06:43:50.2±1.0, 34.˚48N±0.˚06× 141.˚66E±0.˚08, h27km, n14, σ0§69/19, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.59**	**287**	*eP*	**Pb**	**06 44 01.2**	**-0.3**
BSO4	**Boso 4**	**1.20**	**295**	*eP*	**Pn**	**06 44 11.0**	**-0.1**
BSO4				*eS*	**Sb**	**06 44 28.1**	**+0.9**
JKUC	**kamogawauchiur**	**1.38**	**300**	P	**Pn**	**06 44 13.1**	**-0.5**
JKUC				*eS*	**Sn**	**06 44 30.6**	**-0.4**
CHOJ	**Chosi**	**1.38**	**332**	*eS*	**Sn**	**06 44 30.6**	**-0.4**
JMKN	**Mikurajimanish**	**1.81**	**252**	*eP*	**Pn**	**06 44 18.9**	**-0.7**
JMKN				*eS*	**Sn**	**06 44 41.4**	**-0.3**
JHJ	**Hachijo jima 2**	**2.07**	**229**	Pn	**Pn**	**06 44 23.1**	**0.0**
	12nm,0.3s,baz=45,slow=20,SNR=1.7						
JHJ				Sn	**Sn**	**06 44 48.1**	**0.0**
	52nm,0.3s,baz=74,slow=18,SNR=6.0						
	54nm,0.3s						
MJAR	**Matsushiro Arr**	**3.48**	**307**	Pn	**Pn**	**06 44 42.9**	**+0.3**
	0.3nm,0.3s,baz=123,slow=10,SNR=4.7						
MJAR				Sn	**Sn**	**06 45 21.7**	**-1.2**
	0.4nm,0.3s,baz=157,slow=14,SNR=5.0						
	1.5nm,0.4s						
JCJ	**Chichijima**	**7.38**	**176**	Pn	**Pn**	**06 45 35.4**	**-0.8**
	56nm,0.7s,baz=285,slow=20,SNR=1.6						
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**	**06 52 09.8**	**+1.2**
	0.2nm,0.6s,baz=92,slow=10,SNR=1.7						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**47.76**	**310**	P	**P**	**06 52 24.5**	**-0.2**
	0.8nm,0.6s,baz=87,slow=7.7,SNR=5.4						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**51.55**	**31**	P	**P**	**06 52 54.0**	**+0.6**
	0.9nm,0.9s,baz=257,slow=5.5,SNR=5.8						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**54.57**	**188**	P	**P**	**06 53 16.2**	**+0.1**
	0.9nm,0.7s,baz=1.0,slow=7.6,SNR=12						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**58.30**	**188**	P	**P**	**06 53 43.1**	**+0.5**
	0.7nm,0.8s,baz=13,slow=9.6,SNR=6.7						
	0.7nm,0.8s						
LPAZ	**La Paz**	**147.73**	**63**	PKPbc	**PKiKP**	**07 03 34.6**	**-1.1**
	0.4nm,0.5s,baz=0.0,slow=1.0,SNR=2.5						

MOS ***23*** *06:45:59.2±0.9, 34.˚47N× 141.˚68E, h13km, mb4.9/15, Error ellipse: s-maj=12.7km s-min=6.3km az=121.7*
IDC ***23*** *06:45:59.2±0.6, 34.˚48N× 141.˚66E, h0km, mb4.1/24, mbtmp4.1/30, ML3.2/5, Error ellipse: s-maj=15.5km s-min=14.2km az=80.0*
NEIC ***23*** *06:46:01.4±1.4, 34.˚53N±0.˚03× 141.˚69E±0.˚09, h10km±1km, mb4.7/38, Error ellipse: s-maj=12.8km s-min=4.5km az=260.0*
JMA ***23*** *06:46:01.4±0.4, 35.˚N±1.˚× 14.˚2E±.˚, h34km±2km, MD4.4/31, MV4.1/31, FAR SE OFF BOSO PEN*
BJI ***23*** *06:46:01.0±0.0, 34.˚50N× 141.˚70E, h20km, mb4.6/27, mB5.1/5, Ms4.6/2, Ms7 4.5/2*
ISC 23 06:45:59.5±1.6, 34.˚49N±0.˚04× 141.˚77E±0.˚05, h2km±9km, n151, σ1§38/152, mb4.6/56, 4C-6D, Off east coast of Honshu

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

BSO1	**Boso 1**	**0.68**	**284**	P	**Pg**	**06 46 13.8**	**+1.5**
BSO3	**Boso 3**	**1.09**	**287**	P	**Pb**	**06 46 20.7**	**-0.1**
BSO4	**Boso 4**	**1.28**	**293**	P	**Pn**	**06 46 23.9**	**-0.4**
KTR	**Katsuura**	**1.37**	**299**	S	**Sb**	**06 46 40.9**	**-2.8**
CHOJ	**Chosi**	**1.42**	**329**	P	**Pn**	**06 46 24.8**	**-1.5**
CHOJ				S	**Sn**	**06 46 41.3**	**-4.3**
CHOJ	**Chosi**	**1.42**	**329**	A	A	06 46 24.8	
	comp=E,7.0nm,5.1s,comp=E,7.0nm,2.1s						
JKUC	**kamogawauchiur**	**1.46**	**298**	P	**Pn**	**06 46 25.6**	**-1.1**
JKUC				S	**Sn**	**06 46 43.4**	**-3.0**
JKUC	**kamogawauchiur**	**1.46**	**298**	A	A	06 46 25.6	
	comp=E,10.0nm,3.0s,comp=E,12nm,0.9s						
JSMT	**Sammumatsuo**	**1.58**	**317**	P	**Pb**	**06 46 29.0**	**-0.4**
JCN	**Nagara**	**1.59**	**306**	A	A	06 46 27.5	
	comp=E,17nm,6.4s,comp=E,20nm,6.6s						
JIHU	**Itakohorinouch**	**1.79**	**326**	A	A	06 46 30.3	
	comp=E,30nm,5.6s,comp=E,15nm,5.7s						
JMKN	**Mikurajimanish**	**1.90**	**252**	P	**Pn**	**06 46 32.1**	**-0.8**
JMKN				S	**Sn**	**06 46 54.5**	**-3.0**
JIM2	**Oshima 3**	**1.94**	**277**	A	A	06 46 32.9	
	comp=E,7.0nm,2.5s,comp=E,6.0nm,2.0s						
JHYU	**Hitachinakayam**	**2.09**	**333**	A	A	06 46 34.5	
	comp=E,5.0nm,1.4s,comp=E,5.0nm,5.7s						
JHJ2	**Mitsune**	**2.13**	**230**	Pn	**Pn**	**06 46 36.7**	**+0.7**
JHJ2	**Mitsune**	**2.13**	**230**	P	**Pn**	**06 46 36.2**	**+0.2**
JHJ2				S	**Sn**	**06 47 02.0**	**-1.1**
JHJ	**Hachijo jima 2**	**2.15**	**231**	Pn	**Pn**	**06 46 35.9**	**-0.4**
	76nm,0.3s,baz=306,slow=23,SNR=7.3						
JHJ				Sn	**Sn**	**06 47 01.8**	**-1.7**
	440nm,0.3s,baz=257,slow=23,SNR=16						
	153nm,0.3s						
JYT	**Yasato**	**2.16**	**324**		**Pn**	**06 46 36.4**	**-0.1**
JOD2	**Odawara 2**	**2.34**	**290**	P	**Pn**	**06 46 37.3**	**-1.6**
JIZS	**Izushimoda**	**2.40**	**276**	P	**Pn**	**06 46 39.4**	**-0.3**
JMM	**Marumori**	**3.46**	**347**		**Pn**	**06 46 53.2**	**-1.2**
MJA0	**Matsu Arr-Jizo**	**3.53**	**307**	*eP*	**Pn**	**06 46 56.1**	**+0.7**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.56**	**306**	Pn	**Pn**	**06 46 54.7**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=115,slow=7.3,SNR=12						
MJAR				Sn	**Sn**	**06 47 35.7**	**-2.6**
	comp=Z,2.5nm,0.3s,baz=36,slow=35,SNR=3.8						
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**3.56**	**306**		**Pn**	**06 46 56.0**	**+0.3**
MAJO	**Matsushiro**	**3.56**	**306**	*de*	**Pn**	**06 46 56.4**	**+0.7**
MJB9	**Matsu-Tunnel**	**3.56**	**306**		**Pn**	**06 46 56.0**	**+0.3**
INU	**Inuyama**	**4.00**	**284**		**Pn**	**06 47 01.9**	**+0.2**
JSD	**Sado**	**4.54**	**322**		**Pn**	**06 47 08.1**	**-1.0**
JTM	**Tenmabayashi**	**6.31**	**355**		**Pn**	**06 47 33.4**	**-0.1**
JHS	**Saijyo**	**7.14**	**277**	Pn	**Pn**	**06 47 46.0**	**+1.0**
JCJ	**Chichijima**	**7.38**	**177**	Pn	**Pn**	**06 47 47.8**	**-0.4**
	comp=Z,48nm,0.5s,baz=59,slow=18,SNR=6.2						
JCJ				Sn	**Sn**	**06 49 06.8**	**-5.7**
	comp=Z,5.8nm,0.3s,baz=304,slow=20,SNR=1.2						
ERM	**Erimo**	**7.59**	**8**		**Pn**	**06 47 51.3**	**+0.2**
ERM	**Erimo**	**7.59**	**8**	P	**Pn**	**06 47 51.3**	**+0.2**
KSRS	**Korea Array**	**11.61**	**289**	Pn	**Pn**	**06 48 46.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=102,slow=14,SNR=5.2						
	comp=Z,1.2nm,0.6s						
USA0B	**Ussuriysk Arra**	**12.29**	**325**	Pn	**Pn**	**06 48 52.6**	**-2.9**
USA0B	**Ussuriysk Arra**	**12.29**	**325**	P	**Pn**	**06 48 52.6**	**-2.9**
USRK	**Ussuriysk Ar.**	**12.29**	**325**	Pn	**Pn**	**06 48 56.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=4.6						
	comp=Z,4.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**12.29**	**325**	Pn	**Pn**	**06 48 53.1**	**-2.3**
USRK	**Ussuriysk Ar.**	**12.29**	**325**	P	**Pn**	**06 48 56.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**12.48**	**3**	P	**Pn**	**06 48 55.4**	**-2.5**
BNX	**BinXian**	**15.69**	**320**	P	**Pn**	**06 49 41.4**	**-0.1**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,830nm,11.6s						
KLR	**Kul'dur**	**16.49**	**336**	Pn	**Pn**	**06 49 52.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=172,slow=18,SNR=1.9						
	comp=Z,0.8nm,0.6s						
KLR	**Kul'dur**	**16.49**	**336**	*eP*	**P**	**06 49 52.9**	**-1.7**
NJ2	**Nanjing**	**19.31**	**269**	*eP*	**P**	**06 50 24.8**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
TATO	**Taipei**	**19.97**	**247**	P	**P**	**06 50 30.9**	**-2.1**
SSLB	**Suanglung**	**21.04**	**245**	P	**P**	**06 50 44.5**	**-0.3**
TPUB	**Ta-pu**	**21.56**	**244**	P	**P**	**06 50 50.2**	**-0.1**
PETK	**Petropavlovsk-**	**21.79**	**26**	P	**P**	**06 50 52.1**	**-0.4**
PETK	**Petropavlovsk-**	**21.79**	**26**	P	**P**	**06 50 52.1**	**-0.4**
ZEA	**Zeya**	**21.81**	**336**	*eP*	**P**	**06 50 52.3**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
WHN	**Wuhan**	**23.43**	**268**	P	**P**	**06 51 14.0**	**+4.1**
LYN	**LuoYang**	**24.11**	**279**	*eP*	**P**	**06 51 18.3**	**+1.7**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LYN				pmax	pmax		
	comp=Z,870nm,11.6s						
LYN				LR	LR		
	comp=Z,1μm,11.8s						
LYN				LR	LR		
	comp=Z,650nm,12.7s						
LYN				LR	LR		
	comp=Z,1μm,13.3s						
HHC	**Hu-ho-hao-te**	**24.66**	**294**	*eP*	**P**	**06 51 23.4**	**+1.7**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**26.66**	**117**	T	T	07 19 42.6	
	baz=309,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**26.67**	**117**	T	T	07 19 45.1	
	baz=309,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**26.68**	**117**	T	T	07 19 47.1	
	baz=309,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**27.30**	**119**	T	T	07 20 45.7	
	baz=313,slow=76,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**27.30**	**119**	T	T	07 20 43.5	
	baz=313,slow=76,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**27.31**	**119**	T	T	07 20 45.6	
	baz=313,slow=76,SNR=5.0						
ULN	**Ulaanbaatar**	**29.09**	**308**	*eP*	**P**	**06 52 01.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
SEY	**Seymchan**	**29.23**	**10**	P	**P**	**06 52 03.0**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=209,slow=19,SNR=2.4						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**29.51**	**308**	P	**P**	**06 52 05.5**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=114,slow=8.6,SNR=8.7						
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**29.51**	**308**	P	**P**	**06 52 05.2**	**0.0**
ZAK	**Zakamensk**	**32.12**	**311**	*eP*	**P**	**06 52 27.5**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA	**Gaotai**	**33.67**	**291**	*eP*	**P**	**06 52 44.9**	**+3.0**
GTA				pP	pwP	06 52 51.8	+1.6
GTA				sP	sP	06 52 55.3	+16
PZH	**PanZhiHua**	**35.22**	**268**	P	**P**	**06 52 56.3**	**+0.9**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
GOMU	**GeErMu**	**38.05**	**286**	*eP*	P	06 53 29.4	+10
GOMU				pP	pwP	06 53 32.5	+4.4
GOMU				sP	sP	06 53 33.8	+16
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,110nm,4.9s						
CMAR	**Chiang Mai Arr**	**41.20**	**258**	P	**P**	**06 53 44.0**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=46,slow=6.5,SNR=1.6						
	comp=Z,0.7nm,0.3s						
WMQ	**Urumqi**	**42.29**	**299**	*eP*	**P**	**06 53 56.6**	**+2.1**
WMQ				pP	pwP	06 54 02.1	-0.7
WMQ				pmax	pmax		
	comp=Z,28nm,1.5s						
ZALV	**Zalesovo Beam**	**43.87**	**314**	P	**P**	**06 54 06.2**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=97,slow=6.1,SNR=3.5						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**43.87**	**314**	P	**P**	**06 54 06.5**	**-0.5**
ZALV	**Zalesovo Beam**	**43.87**	**314**	P	**P**	**06 54 06.5**	**-0.5**
MK31	**Makanchi Array**	**45.75**	**304**	P	**P**	**06 54 21.8**	**-0.4**
MK31	**Makanchi Array**	**45.75**	**304**	*eP*	**P**	**06 54 22.4**	**+0.2**
MKAR	**Makanchi Array**	**45.75**	**304**	P	**P**	**06 54 21.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=90,slow=9.8,SNR=8.5						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**45.75**	**304**	P	**P**	**06 54 21.9**	**-0.4**
MKAR	**Makanchi Array**	**45.75**	**304**	*eP*	**P**	**06 54 24.4**	**+2.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.76**	**310**	P	**P**	**06 54 37.3**	**-0.5**
KURK	**Kurchatov**	**47.76**	**310**	P	**P**	**06 54 37.5**	**-0.3**
KURBB	**Kurchatov Arra**	**47.82**	**310**	P	**P**	**06 54 37.5**	**-0.8**
	comp=Z,5.6nm,0.8s,baz=88,slow=7.4,SNR=18						
	comp=Z,5.6nm,0.8s						
H21K	**Melozitna Rive**	**49.05**	**30**	P	**P**	**06 54 48.2**	**+0.6**
H23K	**Yukon River**	**50.41**	**30**	P	**P**	**06 54 59.5**	**+1.5**
H23K				IAmb	IAmb	06 55 12.8	
	comp=Z,14nm,1.2s						
NEA2	**Nenana**	**50.56**	**31**	P	**P**	**06 55 00.5**	**+1.4**
NEA2				IAmb	IAmb	06 55 02.2	
	comp=Z,13nm,1.1s						
MDM	**Murphy Dome**	**50.93**	**31**	P	**P**	**06 55 02.9**	**+1.0**
MDM				IAmb	IAmb	06 55 04.3	
	comp=Z,13nm,1.0s						
HDA	**Harding Lake**	**51.48**	**32**	P	**P**	**06 55 05.6**	**-0.4**
IL31		**51.50**	**31**	P	**P**	**06 55 06.3**	**+0.3**
ILAR	**Eielson Array**	**51.50**	**31**	P	**P**	**06 55 05.9**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=264,slow=6.3,SNR=28						
	comp=Z,3.1nm,0.8s						
ILAR	**Eielson Array**	**51.50**	**31**	P	**P**	**06 55 06.3**	**+0.2**
ILAR	**Eielson Array**	**51.50**	**31**	*eP*	**P**	**06 55 06.4**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSH	**Kashi**	**51.74**	**296**	P	P	06 55 14.9	+6.4
AAK	**Ala-Archa**	**51.99**	**300**	P	**P**	**06 55 09.4**	**-1.0**
	comp=Z,1.0nm,0.2s,baz=211,slow=2.9,SNR=2.0						
	comp=Z,1.0nm,0.2s						
BVAR	**Borovoye Array**	**52.52**	**314**	P	**P**	**06 55 13.1**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=94,slow=12,SNR=5.2						
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**52.58**	**314**	*eP*	**P**	**06 55 14.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SCRK	**Sand Creek**	**52.79**	**32**	P	**P**	**06 55 16.8**	**+0.9**
L26K	**Log Cabin Wild**	**53.14**	**33**	P	**P**	**06 55 19.4**	**+1.1**
L26K				IAmb	IAmb	06 55 40.8	
	comp=Z,14nm,1.2s						
WRAB	**Tennant Creek**	**54.58**	**189**	P	**P**	**06 55 29.3**	**0.0**
WRAB				IAmb	IAmb	06 55 30.0	
	comp=Z,9.2nm,1.0s						
WRAB	**Tennant Creek**	**54.58**	**189**	P	**P**	**06 55 29.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WR0	**Warramunga Arr**	**54.58**	**188**	P	**P**	**06 55 29.4**	**+0.1**
WR0				IAmb	IAmb	06 55 52.4	
	comp=Z,6.2nm,0.8s						
WB2	**Warramunga Arr**	**54.59**	**189**	P	**P**	**06 55 29.5**	**+0.1**
WB2				IAmb	IAmb	06 55 41.0	
	comp=Z,9.6nm,0.9s						
WRA	**Warramunga Arr**	**54.59**	**189**	P	**P**	**06 55 29.1**	**-0.2**
	comp=Z,3.4nm,0.7s,baz=5.5,slow=7.5,SNR=19						
	comp=Z,3.4nm,0.7s						
WRA	**Warramunga Arr**	**54.59**	**189**	P	**P**	**06 55 29.5**	**+0.1**
WRA	**Warramunga Arr**	**54.59**	**189**	P	**P**	**06 55 29.5**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KK31	**Karatay Array**	**54.68**	**302**	P	**P**	**06 55 30.0**	**0.0**
KK31				IAmb	IAmb	06 55 41.0	
	comp=Z,7.9nm,1.0s						
KK31	**Karatay Array**	**54.68**	**302**	P	**P**	**06 55 30.0**	**0.0**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KKAR	**Karatay Array**	**54.68**	**302**	P	**P**	**06 55 29.5**	**-0.4**
KKAR	**Karatay Array**	**54.68**	**302**	P	**P**	**06 55 29.6**	**-0.4**
KKAR				IAmb	IAmb	06 55 40.9	
	comp=Z,7.9nm,1.0s						
KKAR	**Karatay Array**	**54.68**	**302**	P	**P**	**06 55 29.6**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
INK	**Inuvik**	**56.52**	**26**	P	**P**	**06 55 43.7**	**+1.0**
	comp=Z,4.9nm,0.7s,baz=300,slow=7.1,SNR=8.5						
	comp=Z,4.9nm,0.7s						
CHGR	**Chuyangaron**	**57.05**	**297**	P	**P**	**06 55 46.3**	**-0.8**
CHGR	**Chuyangaron**	**57.05**	**297**	P	**P**	**06 55 46.3**	**-0.8**
CHGR				pmax	pmax		
	comp=Z,21nm,1.0s						
ASAR	**Alice Springs**	**58.31**	**188**	P	**P**	**06 55 55.9**	**0.0**
	comp=Z,1.4nm,0.8s,baz=14,slow=9.8,SNR=12						
	comp=Z,1.4nm,0.8s						
ARU	**Arti**	**58.47**	**320**	P	**P**	**06 55 55.6**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=87,slow=1.7,SNR=6.1						
	comp=Z,1.5nm,0.3s						
ARU	**Arti**	**58.47**	**320**	*c iP*	**P**	**06 55 55.9**	**-0.8**
ARU				S	**S**	**07 04 02.1**	**+1.5**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ABKAR	**Akbulak array**	**59.82**	**311**	P	**P**	**06 56 04.9**	**-1.2**
ABKAR	**Akbulak array**	**59.82**	**311**	P	**P**	**06 56 05.1**	**-1.1**
ABKAR				IAmb	IAmb	06 56 16.5	
	comp=Z,4.6nm,0.9s						
AKTO	**Aktyubinsk**	**60.61**	**313**	P	**P**	**06 56 10.3**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=91,slow=12,SNR=7.7						
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**66.48**	**340**	P	**P**	**06 56 51.8**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=24,slow=11,SNR=2.8						
	comp=Z,1.4nm,0.8s						
B08A	**Colville Reser**	**70.44**	**44**	P	**P**	**06 57 15.2**	**0.0**
B08A				IAmb	IAmb	06 57 29.0	
	comp=Z,6.0nm,1.1s						
FINES	**FINESS Array B**	**71.20**	**333**	P	**P**	**06 57 21.3**	**+1.8**
	comp=Z,2.8nm,0.9s,baz=109,slow=12,SNR=4.0						
	comp=Z,2.8nm,0.9s						
PINE	**Pine Mountain**	**71.77**	**49**	P	**P**	**06 57 25.4**	**+1.8**
KBZ	**Khabaz**	**72.79**	**311**	P	**P**	**06 57 29.7**	**+0.3**
	comp=Z,3.0nm,1.0s,baz=31,slow=23,SNR=3.7						
	comp=Z,3.0nm,1.0s						
KIV	**Kislovodsk**	**72.80**	**312**	*eP*	**P**	**06 57 27.6**	**-2.0**
KIV				pmax	pmax

comp=Z,0.6nm,0.8s,baz=272,slow=7.0,SNR=5.0
comp=Z,0.6nm,0.8s

MVU	**Marysvale**	**80.17**	**50**	P	**P**	**06 58 09.9**	**-1.8**
LCMT	**Little Creek M**	**80.39**	**52**	P	**P**	**06 58 13.5**	**+0.7**
LCMT				IAmb	IAmb	06 58 27.3	
	comp=Z,9.0nm,1.2s						
P17A	**Butcher Ranch,**	**80.52**	**48**	P	**P**	**06 58 14.4**	**+0.9**
P17A				IAmb	IAmb	06 58 27.9	
	comp=Z,12nm,1.1s						
KNB	**Kanab**	**80.66**	**51**	P	**P**	**06 58 15.5**	**+1.2**
KNB	**Kanab**	**80.66**	**51**	P	**P**	**06 58 15.5**	**+1.2**
KNB				pmax	pmax		
	comp=Z,21nm,1.3s						
BRTR	**Keskin Array B**	**80.76**	**312**	P	**P**	**06 58 14.4**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=52,slow=3.5,SNR=3.1						
	comp=Z,1.5nm,0.9s						
RAYN	**Ar Rayn**	**81.90**	**293**	P	**P**	**06 58 20.5**	**-0.4**
RAYN				IAmb	IAmb	06 58 31.9	
	comp=Z,5.4nm,0.9s						
RAYN	**Ar Rayn**	**81.90**	**293**	P	**P**	**06 58 20.5**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PV10	**Paradox Valley**	**82.24**	**49**	P	**P**	**06 58 23.1**	**+0.4**
PV15	**Paradox Valley**	**82.60**	**48**	P	**P**	**06 58 25.3**	**+0.7**
PV15				IAmb	IAmb	06 58 28.0	
	comp=Z,8.0nm,1.1s						
MVCO	**Mesa Verde**	**83.29**	**49**	P	**P**	**06 58 28.5**	**+0.3**
MVCO				IAmb	IAmb	06 58 42.4	
	comp=Z,7.2nm,1.1s						
CLL	**Collm**	**83.45**	**330**	*e*Px	**P**	**06 58 32.0**	**+3.6**
GERES	**GERESS Array B**	**85.03**	**329**	P	**P**	**06 58 35.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=34,slow=7.2,SNR=2.1						
	comp=Z,0.2nm,0.3s						
T25A	**Trinidad**	**85.86**	**47**	P	**P**	**06 58 41.6**	**+0.5**
T25A				IAmb	IAmb	06 58 42.8	
	comp=Z,6.0nm,1.1s						
TXAR	**Lajitas Array**	**91.44**	**53**	P	**P**	**06 59 07.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=318,slow=1.7,SNR=6.9						
	comp=Z,0.6nm,0.8s						
LPAZ	**La Paz**	**147.65**	**63**	PKPbc	**PKPbc**	**07 05 47.8**	**+1.0**
	comp=Z,3.7nm,1.0s,baz=279,slow=1.9,SNR=8.8						

*NOU **23** 06:49:10.1, 37˚.22S×179˚.85E, h0km, MLv3.9/5, Off E. Coast of N. Island, N.Z.*
*WEL **23** 06:49:21.3±1.1, 37˚S±4˚×17˚9E±˚, h17km±5km, M3.2/26, ML3.5/30, MLv3.2/26, Error ellipse: s-maj=0.0km s-min=0.0km az=94.8*

ISC 23 06:49:20.1±2.8, 37.42S±0.07×179.1E±0.1, h23km±15km, n67, σ0.88/77, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.66**	**257**	P	**Pb**	**06 49 31.4**	**-1.5**
MXZ				S	**Sb**	**06 49 39.4**	**-2.3**
WMGZ	**Waiomatatini S**	**0.69**	**234**	P	**Pn**	**06 49 34.3**	**-0.1**
WMGZ				S	**Sb**	**06 49 43.8**	**+1.3**
PUZ	**Puketiti**	**0.94**	**226**	P	**Pb**	**06 49 38.3**	**+0.5**
PUZ				S	**Sb**	**06 49 50.4**	**+0.5**
PKGZ	**Pakihiroa**	**0.95**	**240**	P	**Pn**	**06 49 37.8**	**-0.3**
PKGZ				S	**Sb**	**06 49 49.3**	**-0.8**
HAZ	**Te Kaha**	**1.11**	**252**	P	**Pn**	**06 49 40.3**	**0.0**
HAZ				S	**Sn**	**06 49 54.2**	**-0.7**
TWGZ	**Tauwhareparae**	**1.18**	**230**	P	**Pb**	**06 49 42.0**	**+0.2**
TWGZ				S	**Sn**	**06 49 56.3**	**-0.4**
RUGZ	**Raukumara Rang**	**1.27**	**244**	P	**Pn**	**06 49 42.8**	**+0.3**
RUGZ				S	**Sn**	**06 49 58.7**	**-0.2**
CNGZ	**Carnagh Statio**	**1.28**	**214**	P	**Pb**	**06 49 44.0**	**+0.4**
CNGZ				S	**Sb**	**06 50 02.1**	**+2.5**
TKGZ	**Te Karaka**	**1.43**	**224**	P	**Pn**	**06 49 44.8**	**+0.1**
TKGZ				S	**Sn**	**06 50 02.7**	**-0.1**
MWZ	**Matawai**	**1.56**	**234**	P	**Pn**	**06 49 46.7**	**+0.3**
RIGZ	**Rimuhau**	**1.67**	**219**	P	**Pn**	**06 49 48.5**	**+0.5**
RIGZ				S	**Sn**	**06 50 08.1**	**-0.7**
RAGZ	**Rawiri**	**1.72**	**231**	P	**Pn**	**06 49 49.1**	**+0.4**
WHRZ	**Whale Island**	**1.76**	**255**	P	**Pn**	**06 49 49.9**	**+0.7**
PRGZ	**Paritu Road**	**1.79**	**213**	P	**Pn**	**06 49 50.0**	**+0.4**
URZ	**Urewera**	**1.80**	**242**	P	**Pn**	**06 49 50.4**	**+0.7**
URZ				S	**Sn**	**06 50 11.3**	**-0.5**
URZ	**Urewera**	**1.80**	**242**	P	**Pn**	**06 49 50.3**	**+0.6**
SNGZ	**Shannon Statio**	**1.96**	**225**	P	**Pn**	**06 49 52.3**	**+0.3**
KNZ	**Kokohu**	**1.96**	**215**	P	**Pn**	**06 49 51.6**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.98**	**208**	P	**Pn**	**06 49 52.6**	**+0.4**
EDRZ	**Edgecumbe**	**2.01**	**249**	P	**Pn**	**06 49 53.2**	**+0.6**
RTZ	**Ruatahuna**	**2.07**	**234**	P	**Pn**	**06 49 54.1**	**+0.6**
OPRZ	**Ohinepanea**	**2.08**	**257**	P	**Pn**	**06 49 53.4**	**-0.1**
MUGZ	**Murupara**	**2.14**	**240**	P	**Pn**	**06 49 54.8**	**+0.4**
RAHZ	**Arahi**	**2.19**	**226**	P	**Pn**	**06 49 55.8**	**+0.6**
WHKZ	**Waihua**	**2.22**	**221**	P	**Pn**	**06 49 53.4**	**-2.2**
TARZ	**Mount Tarawera**	**2.22**	**248**	P	**Pn**	**06 49 56.7**	**+1.0**
MTHZ	**Maungataniwha**	**2.30**	**231**	P	**Pn**	**06 49 57.2**	**+0.5**
NMHZ	**Naumai**	**2.47**	**227**	P	**Pn**	**06 49 59.9**	**+0.8**
ARHZ	**Aropaoanui**	**2.49**	**222**	P	**Pn**	**06 49 59.3**	**+0.2**
MRHZ	**Matea Rd**	**2.56**	**236**	P	**Pn**	**06 50 00.6**	**+0.4**
BKZ	**Black Stump Fm**	**2.70**	**229**	P	**Pn**	**06 50 02.3**	**+0.1**
BKZ	**Black Stump Fm**	**2.70**	**229**	P	**Pn**	**06 50 02.2**	**0.0**
CKHZ	**Cape Kidnapper**	**2.75**	**215**	P	**Pn**	**06 50 02.2**	**-0.6**
MCHZ	**McNeill Hill**	**2.78**	**222**	P	**Pn**	**06 50 03.0**	**-0.2**
KUZ	**Kuaotunu**	**2.80**	**283**	P	**Pn**	**06 50 02.2**	**-1.3**
TOZ	**Tahuroa Road**	**2.89**	**263**	P	**Pn**	**06 50 04.7**	**0.0**
KWHZ	**Kaweka Forest**	**2.92**	**226**	P	**Pn**	**06 50 04.6**	**-0.6**
KAHZ	**Kahuranaki**	**2.95**	**216**	P	**Pn**	**06 50 05.1**	**-0.5**
KRHZ	**Kereru**	**3.10**	**223**	P	**Pn**	**06 50 06.7**	**-0.9**
GRZ	**Great Barrier**	**3.16**	**291**	P	**Pn**	**06 50 09.2**	**+0.8**
BHHZ	**Black Hill Sta**	**3.17**	**228**	P	**Pn**	**06 50 08.3**	**-0.3**
MKAZ	**Moumakai**	**3.17**	**274**	P	**Pn**	**06 50 08.9**	**+0.3**
TMAZ	**Te Maari**	**3.18**	**237**	P	**Pn**	**06 50 08.7**	**-0.1**
ETVZ	**East Tongariro**	**3.18**	**236**	P	**Pn**	**06 50 08.7**	**-0.2**
NTVZ	**North Tongarir**	**3.19**	**237**	P	**Pn**	**06 50 08.8**	**-0.1**
KRVZ	**Karewarewa**	**3.21**	**237**	P	**Pn**	**06 50 09.2**	**-0.1**
OTVZ	**Oturere**	**3.23**	**236**	P	**Pn**	**06 50 09.3**	**-0.2**
NNVZ	**North Ngauruho**	**3.25**	**237**	P	**Pn**	**06 50 10.0**	**+0.3**
WIAZ	**Waiheke Island**	**3.25**	**280**	P	**Pn**	**06 50 10.4**	**+0.8**
WTVZ	**West Tongariro**	**3.25**	**238**	P	**Pn**	**06 50 10.3**	**+0.4**
SNVZ	**South Ngauruho**	**3.26**	**236**	P	**Pn**	**06 50 09.8**	**-0.1**
NGZ	**Ngauruhoe**	**3.28**	**237**	P	**Pn**	**06 50 10.1**	**-0.1**
MOVZ	**Moawhango**	**3.31**	**232**	P	**Pn**	**06 50 10.3**	**-0.2**
TWVZ	**Taurewa**	**3.33**	**239**	P	**Pn**	**06 50 11.3**	**+0.4**
WNVZ	**Wahianoa**	**3.36**	**234**	P	**Pn**	**06 50 11.1**	**-0.2**
PNHZ	**Pukenui**	**3.38**	**222**	P	**Pn**	**06 50 10.1**	**-1.4**
PRHZ	**Porangahau**	**3.44**	**214**	P	**Pn**	**06 50 10.5**	**-1.8**
MTVZ	**Mangateitei**	**3.47**	**234**	P	**Pn**	**06 50 12.7**	**-0.1**
HIZ	**Hauiti**	**3.54**	**251**	P	**Pn**	**06 50 14.8**	**+1.1**
HIZ	**Hauiti**	**3.54**	**251**	P	**Pn**	**06 50 14.8**	**+1.1**
DVHZ	**Dannevirke**	**3.69**	**218**	P	**Pn**	**06 50 14.0**	**-1.7**
RVAZ	**Riverhead Bore**	**3.69**	**279**	P	**Pn**	**06 50 17.0**	**+1.3**
BFZ	**Birch Farm**	**3.95**	**214**	P	**Pn**	**06 50 17.5**	**-1.8**
NEZ	**North Egmont**	**4.36**	**243**	P	**Pn**	**06 50 26.9**	**+1.9**
OUZ	**Omahuta**	**4.97**	**295**	P	**Pn**	**06 50 34.3**	**+1.0**
KHZ	**Kahutara**	**6.58**	**219**	P	**Pn**	**06 50 56.8**	**+1.4**
CTZ	**Chatham Island**	**7.09**	**154**	P	Pn	06 51 05.3	+2.9

*JMA **23** 06:49:51.4±0.7, 34˚N±2˚×14˚2E±˚, h29km, MV3.7/34, FAR SE OFF BOSO PEN*
*IDC **23** 06:49:52.0±0.6, 34˚.36N×141˚.51E, h0km, mb3.9/16, mbtmp3.9/19, ML3.8/2, MS3.9/4, Error ellipse: s-maj=18.7km s-min=14.8km az=73.0*
*NIED **23** 06:49:51.4, 34˚.28N×141˚.73E, h29km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.93; Mθθ-1.25; Mφφ0.32; Mrθ1.14; Mθφ2.94; Mφr-1.29; Fault plane solution: M0 3.37000×10^15^ NP1: φs260.00000°, δ66.00000°, λ-3.00000°. NP2: φs352.00000°, δ87.00000°, λ-156.00000°.*
*NEIC **23** 06:49:52.8±1.5, 34˚.43N±0˚.06×141˚.8E±0˚.1, h10km±1km, mb4.4/10 Error ellipse: s-maj=16.9km s-min=10.4km az=106.0*

ISC 23 06:49:55.5±0.6, 34˚.38N±0˚.04×141˚.62E±0˚.06, h27km, n65, σ1.52/60, mb4.0/23, MS3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.60**	**297**	*e*P	**Pb**	**06 50 05.0**	**-2.0**
BSO1				*e*X		06 50 13.2	
BSO3	**Boso 3**	**1.01**	**295**	*e*P	**Pn**	**06 50 11.2**	**-2.4**
BSO4	**Boso 4**	**1.22**	**300**	*e*P	**Pn**	**06 50 16.1**	**-0.6**
JKUC	**kamogawauchiur**	**1.41**	**304**	*e*P	**Pn**	**06 50 17.8**	**-1.5**
CHOJ	**Chosi**	**1.46**	**335**	*e*P	**Pn**	**06 50 18.4**	**-1.7**
CHOJ				*e*S	**Sn**	**06 50 38.3**	**-0.1**
JHJ2	**Mitsune**	**1.96**	**230**		**Pn**	**06 50 27.4**	**+0.4**
JHJ	**Hachijo jima 2**	**1.98**	**231**	Pn	**Pn**	**06 50 25.8**	**-1.4**
	41nm,0.3s,baz=91,slow=24,SNR=6.0						
JHJ				Sn	**Sb**	**06 50 53.5**	**-1.6**
	96nm,0.3s,baz=41,slow=20,SNR=10						
JYT	**Yasato**	**2.18**	**328**	Pn	**Pn**	**06 50 29.1**	**-0.9**
JHO	**Hitachi**	**2.39**	**339**	*e*P	**Pn**	**06 50 30.8**	**-2.0**
JHU	**Hanno**	**2.42**	**308**	*e*P	**Pn**	**06 50 32.2**	**-1.0**
JAG	**Ashikaga**	**2.70**	**320**	*e*P	**Pn**	**06 50 35.4**	**-1.8**
JFK	**Kawauchi**	**3.04**	**349**	*e*S	**Sn**	**06 51 13.0**	**-4.4**
MJAR	**Matsushiro Arr**	**3.52**	**309**	Pn	**Pn**	**06 50 47.5**	**-1.0**
	1.1nm,0.3s,baz=157,slow=12,SNR=8.2						
MJAR				Sn	**Sn**	**06 51 29.1**	**-0.1**
	0.8nm,0.3s,baz=136,slow=14,SNR=3.2						
	11nm,0.7s						
MAJO	**Matsushiro**	**3.52**	**309**		**Pn**	**06 50 50.1**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.53**	**309**		**Pn**	**06 50 49.0**	**+0.4**
JMM	**Marumori**	**3.54**	**349**		**Pn**	**06 50 46.7**	**-2.0**
INU	**Inuyama**	**3.91**	**286**	Pn	**Pn**	**06 50 54.6**	**+0.8**
JSD	**Sado**	**4.55**	**324**		**Pn**	**06 51 02.5**	**-0.1**
JTM	**Tenmabayashi**	**6.41**	**356**	Pn	**Pn**	**06 51 25.2**	**-2.9**
JCJ	**Chichijima**	**7.28**	**176**	Pn	**Pn**	**06 51 39.6**	**-0.5**
	14nm,0.3s,baz=290,slow=22,SNR=4.6						
JCJ				Sn	**Sn**	**06 52 57.9**	**-3.9**
	5.0nm,0.3s,baz=92,slow=23,SNR=1.8						
	74nm,0.6s						
KSRS	**Korea Array**	**11.52**	**289**	Pn	**Pn**	**06 52 38.5**	**+0.4**
	2.7nm,0.8s,baz=103,slow=14,SNR=7.1						
KSRS				LR	LR	06 57 25.7	
	comp=Z,727nm,18.3s,baz=90,slow=40						
MA2	**Magadan**	**25.92**	**11**	LR	LR	07 06 20.6	
	comp=Z,259nm,19.4s,baz=212,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.73**	**117**	T	T	07 23 35.6	
	baz=309,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**26.73**	**117**	T	T	07 23 39.5	
	baz=309,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**26.75**	**117**	T	T	07 23 40.9	
	baz=309,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	07 24 32.2	
	baz=312,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	07 24 26.0	
	baz=312,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**27.37**	**119**	T	T	07 24 31.0	
	baz=312,slow=76,SNR=13						
SONM	**Songino Array**	**29.48**	**308**	P	**P**	**06 55 57.7**	**+0.4**
	2.7nm,1.0s,baz=105,slow=9.0,SNR=7.3						
	2.7nm,1.0s						
SONM	**Songino Array**	**29.48**	**308**	P	**P**	**06 55 58.2**	**+0.9**
DAV	**Davao City (W)**	**30.95**	**212**	LR	LR	07 10 39.2	
	comp=Z,136nm,18.3s,baz=350,slow=40						
SIJI	**Sorong**	**36.39**	**198**	LR	LR	07 08 04.6	
	comp=Z,180nm,22.0s,baz=232,slow=30						
KRVT	**Keravat (AS076**	**39.71**	**164**	P	**P**	**06 57 26.6**	**+0.9**
	34nm,0.4s,baz=328,slow=9.5,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	**06 57 59.2**	**-0.1**
	0.6nm,0.3s,baz=96,slow=10,SNR=2.3						
	0.6nm,0.3s						
MK31	**Makanchi Array**	**45.71**	**304**	P	**P**	**06 58 16.6**	**+2.4**
MK31				IAmb	IAmb	06 58 19.6	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**45.71**	**304**	P	**P**	**06 58 13.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=89,slow=9.6,SNR=3.0						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**45.71**	**304**	P	**P**	**06 58 15.3**	**+1.2**
KURBB	**Kurchatov Arra**	**47.80**	**310**	P	**P**	**06 58 29.7**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=85,slow=7.6,SNR=13						
	comp=Z,1.9nm,0.6s						
MTN	**Main Dam**	**48.01**	**194**	P	**P**	**06 58 32.4**	**+0.1**
Q19K	**Cape Douglas,**	**48.42**	**39**	P	**P**	**06 58 34.1**	**-1.1**
RSO	**Redoubt South**	**48.90**	**37**	P	**P**	**06 58 37.1**	**-1.8**
KNRA	**Kununurra**	**51.26**	**196**	P	**P**	**06 58 57.4**	**+0.4**
KNRA				IAmb	IAmb	06 59 26.3	
	comp=Z,9.8nm,0.8s						
ILAR	**Eielson Array**	**51.66**	**31**	P	**P**	**06 58 59.6**	**+0.1**
	comp=Z,1.3nm,1.0s,baz=265,slow=6.1,SNR=7.0						
	comp=Z,1.3nm,1.0s						
ILAR	**Eielson Array**	**51.66**	**31**	P	**P**	**06 58 59.1**	**-0.5**
BVAR	**Borovoye Array**	**52.51**	**314**	P	**P**	**06 59 06.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=78,slow=8.1,SNR=2.9						
	comp=Z,0.5nm,0.6s						
BMAR	**Burnt Mountain**	**52.58**	**28**	P	**P**	**06 59 05.3**	**-1.1**
BCAR	**Beaver Creek A**	**54.00**	**33**	P	**P**	**06 59 15.7**	**-1.3**
M27K	**Edge Creek, AK**	**54.04**	**34**	P	**P**	**06 59 17.2**	**-0.1**
M27K				IAmb	IAmb	06 59 19.8	
	comp=Z,4.1nm,0.7s						
WB0	**Warramunga Arr**	**54.28**	**188**	P	**P**	**06 59 18.9**	**-0.5**
WB0				IAmb	IAmb	06 59 34.3	
	comp=Z,5.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**54.36**	**199**	P	**P**	**06 59 19.9**	**0.0**
FITZ				IAmb	IAmb	06 59 23.9	
	comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**54.46**	**188**	P	**P**	**06 59 20.0**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=4.3,slow=7.6,SNR=10						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**54.46**	**188**	P	**P**	**06 59 20.4**	**-0.3**
INK	**Inuvik**	**56.67**	**26**	P	**P**	**06 59 35.3**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=206,slow=6.6,SNR=3.1						
	comp=Z,1.0nm,0.3s						
AS31	**Alice Springs**	**58.19**	**188**	P	**P**	**06 59 47.6**	**+0.4**
AS31				IAmb	IAmb	07 00 10.3	
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**58.19**	**188**	P	**P**	**06 59 47.5**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=11,slow=8.4,SNR=8.5						
	comp=Z,1.2nm,0.8s						
ABKAR	**Akbulak array**	**59.80**	**311**	P	**P**	**06 59 58.0**	**-0.2**
AKTO	**Aktyubinsk**	**60.59**	**313**	P	**P**	**07 00 02.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=50,slow=5.0,SNR=2.1						
	comp=Z,0.8nm,0.5s						
NVAR	**Mina Array Bea**	**76.45**	**53**	P	**P**	**07 01 45.3**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=294,slow=4.5,SNR=2.4						
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**76.50**	**323**	P	**P**	**07 01 43.5**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=49,slow=5.8,SNR=4.8						
	comp=Z,0.6nm,0.5s						
NOA	**NORSAR Array B**	**76.70**	**338**	P	**P**	**07 01 44.8**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=42,slow=5.4,SNR=2.8						
	comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	**79.41**	**45**	P	**P**	**07 02 01.8**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=225,slow=0.6,SNR=3.7						
	comp=Z,0.3nm,0.7s						
BRTR	**Keskin Array B**	**80.74**	**312**	P	**P**	**07 02 08.5**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=108,slow=4.7,SNR=2.2						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**91.60**	**53**	P	**P**	**07 03 02.7**	**+2.2**
	comp=Z,0.1nm,0.7s,baz=291,slow=3.8,SNR=1.3						
	comp=Z,0.1nm,0.7s						
LPAZ	**La Paz**	**147.81**	**63**	PKPbc	**PKPab**	**07 09 40.1**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=190,slow=6.1,SNR=2.8						

IDC 23 06:54:35.4±3.6, 54.18N×87.01E, h0km, mbtmp2.7/2, ML2.5/1, Error ellipse: s-maj=32.9km s-min=20.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**261**	*i*		07 01 48.2	
	0.1nm,1.0s,baz=80,slow=322,SNR=34						
ZALV	**Zalesovo Beam**	**1.31**	**261**	Pg	Pg	06 54 59.4	-1.1
	0.8nm,0.3s,baz=79,slow=13,SNR=6.2						
ZALV				Lg	Lg	06 55 17.6	
	0.8nm,0.3s,baz=78,slow=24,SNR=1.6						
KURBB	**Kurchatov Arra**	**6.29**	**239**	Pn	Pn	06 56 10.4	+1.0
	0.4nm,0.5s,baz=55,slow=14,SNR=1.1						
MKAR	**Makanchi Array**	**7.98**	**204**	Pn	Pn	06 56 33.7	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=1.6						
	0.3nm,0.4s						

*IDC **23** 07:04:14.4±0.9, 34˚.37N×141˚.53E, h0km, mb3.7/7, mbtmp3.7/10, ML3.6/3, Error ellipse: s-maj=21.3km s-min=17.0km az=85.0*
*JMA **23** 07:04:15.6±0.4, 34˚N±1˚×14˚2E±˚, h30km±1km, MV3.3/30, FAR SE OFF BOSO PEN*

ISC 23 07:04:18.3±0.9, 34.44N±0.05×141.50E±0.07, h27km, n18, σ1.29/23, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.48**	**296**	P	**Pb**	**07 04 26.8**	**-1.2**
BSO3	**Boso 3**	**0.90**	**294**	P	**Pn**	**07 04 33.5**	**-1.4**
BSO3				*e*S	**Sb**	**07 04 46.1**	**-0.4**
BSO4	**Boso 4**	**1.11**	**300**	P	**Pn**	**07 04 37.4**	**-0.5**
JKUC	**kamogawauchiur**	**1.29**	**304**	P	**Pn**	**07 04 39.5**	**-1.1**
JKUC				*e*S	**Sn**	**07 04 56.6**	**-0.4**
CHOJ	**Chosi**	**1.37**	**337**	P	**Pn**	**07 04 40.2**	**-1.5**
CHOJ				*e*S	**Sn**	**07 04 57.7**	**-1.2**
JSMT	**Sammumatsuo**	**1.48**	**325**	*e*P	**Pn**	**07 04 42.7**	**-0.5**
JMKN	**Mikurajimanish**	**1.68**	**252**	P	**Pn**	**07 04 45.0**	**-0.9**
JHJ	**Hachijo jima 2**	**1.95**	**228**	Pn	**Pn**	**07 04 49.4**	**-0.2**
	30nm,0.3s,baz=71,slow=22,SNR=16						
JHJ				Sn	**Sn**	**07 05 13.5**	**+0.4**
	58nm,0.3s,baz=68,slow=22,SNR=5.5						
MJAR	**Matsushiro Arr**	**3.41**	**309**	Pn	**Pn**	**07 05 10.4**	**+0.7**
	1.2nm,0.3s,baz=138,slow=10,SNR=23						
MJAR				Sn	**Sn**	**07 05 53.2**	**+3.9**
	0.9nm,0.3s,baz=97,slow=30,SNR=4.5						
	4.4nm,0.3s						
JCJ	**Chichijima**	**7.34**	**175**	Pn	**Pn**	**07 06 02.9**	**-1.0**
	7.3nm,0.3s,baz=313,slow=12,SNR=2.3						
	84nm,0.7s						
KSRS	**Korea Array**	**11.41**	**289**	Pn	**Pn**	**07 06 59.9**	**+0.4**
	0.3nm,0.3s,baz=114,slow=13,SNR=2.5						
	0.8nm,0.4s						
SONM	**Songino Array**	**29.36**	**308**	P	**P**	**07 10 19.0**	**-0.1**
	0.4nm,0.6s,baz=107,slow=9.4,SNR=2.9						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.60**	**304**	P	**P**	**07 12 37.3**	**+1.2**
	0.6nm,0.6s,baz=87,slow=10,SNR=4.6						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**47.69**	**310**	P	**P**	**07 12 51.6**	**-0.7**
	1.6nm,0.7s,baz=84,slow=7.7,SNR=7.8						
	1.6nm,0.7s						
ILAR	**Eielson Array**	**51.66**	**31**	P	**P**	**07 13 22.6**	**+0.3**
	0.5nm,0.6s,baz=248,slow=4.4,SNR=6.4						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**54.51**	**188**	P	**P**	**07 13 42.6**	**-1.2**
	0.5nm,0.5s,baz=5.0,slow=7.6,SNR=14						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**58.23**	**188**	P	**P**	**07 14 10.2**	**-0.1**
	0.3nm,0.6s,baz=17,slow=11,SNR=6.4						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**76.49**	**53**	P	**P**	**07 16 07.9**	**+1.8**
	0.3nm,0.5s,baz=268,slow=2.7,SNR=2.4						
	0.3nm,0.5s						

*IDC **23** 07:14:45.1±1.2, 34˚.34N×141˚.81E, h0km, mb3.3/4, mbtmp3.3/6, ML2.7/2, MS3.9/1, Error ellipse: s-maj=29.4km s-min=22.6km az=116.0*
*JMA **23** 07:14:46.4±0.7, 34˚N±2˚×14˚2E±˚, h30km, MV2.7/20, FAR SE OFF BOSO PEN*

ISC 23 07:14:50.5±1.3, 34.57N±0.07×141.38E±0.09, h27km, n20, σ2.97/14, mb3.3/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.34**	**285**	P	**Pb**	**07 14 57.0**	**-0.9**
BSO1				X		07 15 03.7	
BSO3	**Boso 3**	**0.75**	**288**	P	**Pb**	**07 15 03.9**	**-0.9**
BSO4	**Boso 4**	**0.95**	**297**	*e*P	**Pb**	**07 15 07.6**	**-0.8**
JKUC	**kamogawauchiur**	**1.14**	**302**	P	**Pn**	**07 15 09.2**	**-1.4**
JKUC				*e*S	**Sb**	**07 15 26.2**	**+0.3**
CHOJ	**Chosi**	**1.21**	**340**	P	**Pn**	**07 15 10.5**	**-1.2**
JMKN	**Mikurajimanish**	**1.63**	**246**	P	**Pn**	**07 15 15.8**	**-1.5**
JHJ	**Hachijo jima 2**	**1.96**	**223**	Pn	**Pn**	**07 15 20.7**	**-1.3**
	17nm,0.3s,baz=90,slow=20,SNR=7.7						
JHJ				Sn	**Sn**	**07 15 48.8**	**+3.1**
	33nm,0.3s,baz=79,slow=20,SNR=6.3						
	39nm,0.4s						

IDC 23 07:21:22.1±2.8, 54.08N×86.36E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=14.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**263**	*i*		07 26 00.0	
	0.2nm,0.9s,baz=82,slow=324,SNR=19						
ZALV	**Zalesovo Beam**	**0.92**	**263**	Pg	Pg	07 21 38.4	-1.3
	0.6nm,0.3s,baz=85,slow=17,SNR=3.6						
ZALV				Lg	Lg	07 21 53.1	
	1.2nm,0.3s,baz=78,slow=31,SNR=3.8						
KURBB	**Kurchatov Arra**	**5.91**	**237**	Pn	Pn	07 22 51.9	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=4.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.74**	**201**	Pn	Pn	07 23 16.8	+0.9
	0.1nm,0.3s,baz=25,slow=14,SNR=5.2						
	0.2nm,0.3s						

IDC 23 07:22:41.5±6.1, 2.11S×140.99E, h0km, mb3.4/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=144.8km s-min=75.5km az=134.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.88**	**200**	P	P	07 27 02.5	-1.1
	0.1nm,0.3s,baz=23,slow=12,SNR=6.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**22.50**	**197**	P	P	07 27 42.9	-0.1
	1.3nm,1.1s,baz=28,slow=11,SNR=5.8						
	1.3nm,1.1s						
VNDA	**Vanda**	**76.18**	**175**	P	P	07 34 31.8	+0.6
	0.4nm,0.8s,baz=323,slow=5.1,SNR=2.5						
	0.4nm,0.8s						

*JMA **23** 07:23:59.9±0.3, 34.3N±0.9×14.2E±, h37km±2km, MV2.7/16, FAR SE OFF BOSO PEN*
*IDC **23** 07:23:59.8±2.4, 34.40N×141.62E, h0km, mb3.5/3, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=44.5km s-min=26.4km az=84.0*

ISC 23 07:24:03.6±1.6, 34.42N±0.08×141.6E±0.1, h27km, n8, σ0§67/11, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.58**	**294**	P	**Pb**	**07 24 14.8**	**-0.1**
JKUC	**kamogawauchiur**	**1.39**	**302**	P	**Pn**	**07 24 26.9**	**-0.3**
JKUC				*eS*	**Sb**	**07 24 46.6**	**+0.5**
JMKN	**Mikurajimanish**	**1.77**	**253**	*eP*	**Pn**	**07 24 31.3**	**-1.1**
JMKN				*eS*	**Sn**	**07 24 54.2**	**+0.2**
JHJ	**Hachijo jima 2**	**2.01**	**230**	Pn	**Pn**	**07 24 35.4**	**-0.4**
	12nm,0.3s,baz=244,slow=22,SNR=1.4						
JHJ				Sn	**Sn**	**07 25 00.4**	**+0.4**
	23nm,0.3s,baz=94,slow=22,SNR=6.7						
MJAR	**Matsushiro Arr**	**3.50**	**308**	Pn	**Pn**	**07 24 55.2**	**-1.1**
	0.3nm,0.3s,baz=126,slow=16,SNR=5.6						
	1.4nm,0.3s						
SONM	**Songino Array**	**29.46**	**308**	P	**P**	**07 30 06.0**	**+0.8**
	0.3nm,0.4s,baz=121,slow=6.9,SNR=2.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.69**	**304**	P	**P**	**07 32 21.9**	**-0.1**
	0.4nm,0.6s,baz=73,slow=9.6,SNR=3.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**54.51**	**188**	P	**P**	**07 33 29.1**	**0.0**
	0.4nm,0.9s,baz=4.7,slow=7.6,SNR=4.8						
	0.4nm,0.9s						

*IDC **23** 07:28:26.4±0.9, 34.47N×141.72E, h0km, mb3.9/11, mbtmp3.9/14, ML3.4/3, Error ellipse: s-maj=24.1km s-min=15.5km az=85.0*
*JMA **23** 07:28:28.9±0.6, 34.1N±1.4×14.2E±, h29km±1km, MV3.5/35, FAR SE OFF BOSO PEN*
*NIED **23** 07:28:28.9, 34.44N×141.62E, h29km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr 0.70; Mθθ 0.16; Mφφ -0.86; Mrθ 0.20; Mθφ -0.05; Mφr 1.54; Fault plane solution: M0 1.74000×10^15 NP1: φs 176.00000°, δ 14.00000°, λ 79.00000°. NP2: φs 7.00000°, δ 77.00000°, λ 93.00000°.*

ISC 23 07:28:30.9±0.9, 34.49N±0.05×141.52E±0.09, h27km, n24, σ1§31/27, mb3.9/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.47**	**290**	P	**Pn**	**07 28 40.1**	**-1.3**
BSO4	**Boso 4**	**1.09**	**298**	P	**Pb**	**07 28 50.7**	**-0.4**
JKUC	**kamogawauchiur**	**1.27**	**302**	P	**Pb**	**07 28 52.7**	**-1.5**
CHOJ	**Chosi**	**1.33**	**336**	P	**Pb**	**07 28 53.3**	**-1.8**
CHOJ				*eS*	**Sb**	**07 29 10.8**	**-0.9**
JSMT	**Sammumatsuo**	**1.45**	**323**	P	**Pb**	**07 28 55.2**	**-2.0**
JMKN	**Mikurajimanish**	**1.71**	**250**	P	**Pn**	**07 28 58.3**	**-0.6**
JTHY	**Toshimahigashi**	**1.84**	**272**	*eP*	**Pn**	**07 29 00.8**	**+0.1**
JHJ2	**Mitsune**	**1.97**	**226**	P	**Pn**	**07 29 02.6**	**0.0**
JHJ	**Hachijo jima 2**	**1.99**	**227**	Pn	**Pn**	**07 29 02.6**	**-0.1**
	47nm,0.3s,baz=158,slow=23,SNR=13						
JHJ				Sn	**Sb**	**07 29 30.1**	**-0.7**
	103nm,0.3s,baz=247,slow=23,SNR=6.7						
	185nm,0.2s						
JOD2	**Odawara 2**	**2.14**	**292**	P	**Pb**	**07 29 05.4**	**-3.6**
MJAR	**Matsushiro Arr**	**3.39**	**308**	Pn	**Pn**	**07 29 22.4**	**+0.4**
	2.7nm,0.3s,baz=27,slow=14,SNR=28						
MJAR				Sn	**Sn**	**07 30 03.7**	**+2.3**
	0.7nm,0.3s,baz=195,slow=20,SNR=2.6						
	7.4nm,0.3s						
KSRS	**Korea Array**	**11.41**	**289**	Pn	**Pn**	**07 31 14.6**	**+2.6**
	0.3nm,0.3s,baz=104,slow=15,SNR=7.0						
	1.0nm,0.4s						
SONM	**Songino Array**	**29.34**	**308**	P	**P**	**07 34 32.6**	**+1.2**
	0.7nm,0.6s,baz=117,slow=9.0,SNR=5.7						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**43.72**	**314**	P	**P**	**07 36 34.2**	**+0.7**
	0.7nm,0.3s,baz=91,slow=7.2,SNR=1.9						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**45.58**	**304**	P	**P**	**07 36 49.1**	**+0.6**
	1.6nm,0.7s,baz=89,slow=9.6,SNR=8.8						
	1.6nm,0.7s						
ILAR	**Eielson Array**	**51.61**	**31**	P	**P**	**07 37 34.0**	**-0.5**
	0.5nm,0.8s,baz=258,slow=6.9,SNR=4.9						
	0.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**54.44**	**199**	P	**P**	**07 37 55.8**	**0.0**
	1.8nm,0.6s,baz=2.1,slow=10,SNR=8.3						
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**54.56**	**188**	P	**P**	**07 37 56.2**	**-0.5**
	0.7nm,0.3s,baz=5.2,slow=7.5,SNR=24						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**58.29**	**188**	P	**P**	**07 38 23.1**	**-0.2**
	0.4nm,0.5s,baz=358,slow=5.7,SNR=7.1						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**66.41**	**340**	P	**P**	**07 39 17.3**	**+0.2**
	0.9nm,0.9s,baz=7.0,slow=8.2,SNR=1.6						
	0.9nm,0.9s						
FINES	**FINESS Array B**	**71.11**	**333**	P	**P**	**07 39 46.5**	**+0.1**
	2.5nm,1.0s,baz=74,slow=10,SNR=4.0						
	2.5nm,1.0s						
AKASG	**Malin Array Be**	**76.36**	**323**	P	**P**	**07 40 17.0**	**-0.4**
	0.4nm,0.4s,baz=48,slow=1.4,SNR=1.3						
	0.4nm,0.4s						
NB2	**NORSAR Subarra**	**76.56**	**338**	P	**P**	**07 40 18.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**76.56**	**338**	P	**P**	**07 40 18.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=40,slow=5.7,SNR=4.0						
	comp=Z,0.7nm,0.7s						

*WEL **23** 07:28:45.0±1.5, 37.5S±6×17.9E±, h14km±5km, M3.0/41, ML3.2/48, MLv3.0/41, Error ellipse: s-maj=0.0km s-min=0.0km az=69.0*
*NOU **23** 07:28:55.4, 38.02S×178.54E, h53km, MLv3.6/6, Off E. Coast of N. Island, N.Z.*

ISC 23 07:28:46.0±2.8, 37.5S±0.1×179.0E±0.1, h31km, n71, σ1§36/75, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.57**	**259**	P	**Pb**	**07 28 56.8**	**-0.8**
MXZ				S	**Sb**	**07 29 04.0**	**-1.6**
WMGZ	**Waiomatatini S**	**0.60**	**232**	P	**Pn**	**07 28 59.0**	**+0.7**
PKGZ	**Pakihiroa**	**0.86**	**239**	P	**Pb**	**07 29 02.5**	**+0.1**
PKGZ				S	**Sb**	**07 29 14.5**	**+0.9**
PUZ	**Puketiti**	**0.86**	**224**	P	**Pb**	**07 29 02.8**	**+0.4**
PUZ				S	**Sb**	**07 29 15.0**	**+1.4**
HAZ	**Te Kaha**	**1.02**	**252**	P	**Pb**	**07 29 05.1**	**0.0**
TWGZ	**Tauwhareparae**	**1.09**	**228**	P	**Pb**	**07 29 06.5**	**+0.2**
RUGZ	**Raukumara Rang**	**1.17**	**244**	P	**Pb**	**07 29 07.5**	**-0.3**
CNGZ	**Carnagh Statio**	**1.21**	**211**	P	**Pb**	**07 29 08.7**	**+0.4**
TKGZ	**Te Karaka**	**1.35**	**223**	P	**Pb**	**07 29 09.6**	**-1.0**
TKGZ				S	**Sb**	**07 29 27.9**	**+0.5**
MWZ	**Matawai**	**1.47**	**233**	P	**Pb**	**07 29 11.3**	**-1.4**
RIGZ	**Rimuhau**	**1.59**	**218**	P	**Pb**	**07 29 13.1**	**-1.6**
RAGZ	**Rawiri**	**1.63**	**230**	P	**Pb**	**07 29 14.1**	**-1.4**
URZ	**Urewera**	**1.71**	**241**	P	**Pb**	**07 29 15.1**	**-1.6**
URZ	**Urewera**	**1.71**	**241**	P	**Pb**	**07 29 15.3**	**-1.4**
PRGZ	**Paritu Road**	**1.71**	**211**	P	**Pb**	**07 29 14.8**	**-2.0**
SNGZ	**Shannon Statio**	**1.87**	**224**	P	**Pn**	**07 29 17.0**	**+1.2**
KNZ	**Kokohu**	**1.89**	**213**	P	**Pn**	**07 29 16.4**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.91**	**207**	P	**Pn**	**07 29 17.4**	**+1.0**
EDRZ	**Edgecumbe**	**1.91**	**249**	P	**Pb**	**07 29 18.2**	**-2.0**
RTZ	**Ruatahuna**	**1.98**	**233**	P	**Pb**	**07 29 19.0**	**-2.4**
OPRZ	**Ohinepanea**	**1.99**	**258**	P	**Pb**	**07 29 18.8**	**-2.7**
MUGZ	**Murupara**	**2.04**	**239**	P	**Pn**	**07 29 19.6**	**+1.4**
TARZ	**Mount Tarawera**	**2.13**	**248**	P	**Pb**	**07 29 21.3**	**-2.7**
WHHZ	**Waihua**	**2.14**	**220**	P	**Pn**	**07 29 20.8**	**+1.2**
MTHZ	**Maungataniwha**	**2.21**	**230**	P	**Pn**	**07 29 22.0**	**+1.5**
KARZ	**Kaharoa**	**2.26**	**255**	P	**Pn**	**07 29 22.7**	**+1.4**
ALRZ	**Allen Road**	**2.38**	**241**	P	**Pn**	**07 29 24.7**	**+1.9**
NMHZ	**Naumai**	**2.39**	**226**	P	**Pn**	**07 29 24.4**	**+1.4**
ARHZ	**Aropaoanui**	**2.40**	**221**	P	**Pn**	**07 29 24.2**	**+1.0**
MRHZ	**Matea Rd**	**2.46**	**235**	P	**Pn**	**07 29 25.2**	**+1.1**
BKZ	**Black Stump Fm**	**2.62**	**228**	P	**Pn**	**07 29 27.0**	**+0.9**
BKZ	**Black Stump Fm**	**2.62**	**228**	P	**Pn**	**07 29 26.9**	**+0.7**
CKHZ	**Cape Kidnapper**	**2.67**	**214**	P	**Pn**	**07 29 27.3**	**+0.4**
MCHZ	**McNeill Hill**	**2.69**	**222**	P	**Pn**	**07 29 27.8**	**+0.6**
KUZ	**Kuaotunu**	**2.72**	**284**	P	**Pn**	**07 29 27.2**	**-0.4**
TOZ	**Tahuroa Road**	**2.80**	**263**	P	**Pn**	**07 29 29.3**	**+0.7**
KWHZ	**Kaweka Forest**	**2.83**	**225**	P	**Pn**	**07 29 29.5**	**+0.4**
KAHZ	**Kahuranaki**	**2.87**	**215**	P	**Pn**	**07 29 29.9**	**+0.2**
KRHZ	**Kereru**	**3.01**	**223**	P	**Pn**	**07 29 32.1**	**+0.5**
KATZ	**Kakaramea**	**3.02**	**239**	P	**Pn**	**07 29 33.3**	**+1.5**
PXZ	**Pawanui**	**3.07**	**212**	P	**Pn**	**07 29 31.9**	**-0.5**
BHHZ	**Black Hill Sta**	**3.08**	**228**	P	**Pn**	**07 29 32.9**	**+0.4**
TMVZ	**Te Maari**	**3.08**	**236**	P	**Pn**	**07 29 33.4**	**+0.7**
MKAZ	**Moumakai**	**3.09**	**275**	P	**Pn**	**07 29 33.1**	**+0.5**
ETVZ	**East Tongariro**	**3.09**	**236**	P	**Pn**	**07 29 33.5**	**+0.7**
NTVZ	**North Tongarir**	**3.10**	**237**	P	**Pn**	**07 29 33.5**	**+0.7**
KRVZ	**Karewarewa**	**3.12**	**237**	P	**Pn**	**07 29 33.9**	**+0.8**
OTVZ	**Oturere**	**3.14**	**236**	P	**Pn**	**07 29 34.1**	**+0.7**
NNVZ	**North Ngauruho**	**3.15**	**237**	P	**Pn**	**07 29 34.9**	**+1.2**
WTVZ	**West Tongariro**	**3.16**	**237**	P	**Pn**	**07 29 35.1**	**+1.4**
SNVZ	**South Ngauruho**	**3.17**	**236**	P	**Pn**	**07 29 34.5**	**+0.7**
NGZ	**Ngauruhoe**	**3.19**	**236**	P	**Pn**	**07 29 34.8**	**+0.8**
TUVZ	**Tukino**	**3.20**	**234**	P	**Pn**	**07 29 35.1**	**+0.8**
MOVZ	**Moawhango**	**3.22**	**232**	P	**Pn**	**07 29 34.9**	**+0.5**
TWVZ	**Taurewa**	**3.24**	**239**	P	**Pn**	**07 29 36.2**	**+1.3**
WPHZ	**Waipukurau**	**3.29**	**217**	P	**Pn**	**07 29 34.9**	**-0.5**
PNHZ	**Pukenui**	**3.30**	**221**	P	**Pn**	**07 29 35.0**	**-0.5**
PRHZ	**Porangahau**	**3.37**	**213**	P	**Pn**	**07 29 35.5**	**-0.9**
MTVZ	**Mangateitei**	**3.38**	**234**	P	**Pn**	**07 29 37.7**	**+1.0**
PKVZ	**Pokaka**	**3.41**	**236**	P	**Pn**	**07 29 38.1**	**+1.0**
HIZ	**Hauiti**	**3.45**	**251**	P	**Pn**	**07 29 39.8**	**+2.2**
HIZ	**Hauiti**	**3.45**	**251**	P	**Pn**	**07 29 39.9**	**+2.4**
DVHZ	**Dannevirke**	**3.60**	**217**	P	**Pn**	**07 29 38.9**	**-0.8**
BFZ	**Birch Farm**	**3.88**	**213**	P	**Pn**	**07 29 42.1**	**-1.3**
WAZ	**Wanganui**	**3.90**	**233**	P	**Pn**	**07 29 45.3**	**+1.5**
NEZ	**North Egmont**	**4.27**	**243**	P	**Pn**	**07 29 51.6**	**+2.7**
PKE	**Pukeiti**	**4.32**	**245**	P	**Pn**	**07 29 52.8**	**+3.3**
KHEZ	**Kahui Hut**	**4.33**	**243**	P	**Pn**	**07 29 52.7**	**+2.9**
QRZ	**Quartz Range**	**6.06**	**234**	P	**Pn**	**07 30 12.6**	**-0.8**
KHZ	**Kahutara**	**6.50**	**219**	P	**Pn**	**07 30 20.7**	**+1.3**
CTZ	**Chatham Island**	**7.10**	**153**	P	**Pn**	**07 30 30.0**	**+2.3**

*IDC **23** 07:31:55.8±0.7, 34.51N×141.67E, h0km, mb3.8/10, mbtmp3.9/13, ML2.6/2, Error ellipse: s-maj=22.6km s-min=17.0km az=99.0*
*JMA **23** 07:31:57.5±0.3, 35.1N±1.4×14.2E±, h29km±2km, MV3.5/31, FAR SE OFF BOSO PEN*
*NEIC **23** 07:31:57.7±1.2, 34.57N±0.05×141.53E±0.10, h10km±1km, mb4.4/8, Error ellipse: s-maj=13.5km s-min=8.6km az=105.0*

ISC 23 07:31:57.2±2.2, 34.50N±0.05×141.68E±0.06, h11km±13km, n48, σ1§01/55, mb4.0/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.60**	**285**	P	**Pn**	**07 32 10.5**	**-0.6**
BSO3	**Boso 3**	**1.01**	**288**	P	**Pn**	**07 32 17.2**	**+0.1**
BSO4	**Boso 4**	**1.21**	**294**	P	**Pg**	**07 32 20.6**	**+0.3**
CHOJ	**Chosi**	**1.37**	**331**	*eP*	**Pn**	**07 32 21.4**	**-0.9**
CHOJ				S	**Sb**	**07 32 39.2**	**-1.3**
JKUC	**kamogawauchiur**	**1.38**	**299**	P	**Pn**	**07 32 22.4**	**0.0**
JKUC				S	**Sb**	**07 32 40.3**	**-0.4**
JMKN	**Mikurajimanish**	**1.83**	**251**	P	**Pn**	**07 32 28.9**	**+0.3**
JMKN				S	**Sn**	**07 32 51.4**	**-0.5**
JHJ2	**Mitsune**	**2.08**	**229**		**Pn**	**07 32 32.8**	**+0.8**
JHJ2	**Mitsune**	**2.08**	**229**	S	**Sn**	**07 32 58.8**	**+0.8**
JHJ	**Hachijo jima 2**	**2.09**	**229**	Pn	**Pn**	**07 32 33.1**	**+0.9**
	4.3nm,0.3s,baz=73,slow=19,SNR=2.7						
JHJ				Sn	**Sn**	**07 32 57.0**	**-1.3**
	89nm,0.3s,baz=61,slow=17,SNR=5.6						
	94nm,0.4s						
JYT	**Yasato**	**2.11**	**325**		**Pn**	**07 32 31.3**	**-1.1**
JOD2	**Odawara 2**	**2.26**	**290**	P	**Pn**	**07 32 35.5**	**+1.0**
JOD2				*eS*	**Sn**	**07 33 03.6**	**+1.2**
JMM	**Marumori**	**3.43**	**348**	Pn	**Pn**	**07 32 49.7**	**-1.0**
MJAR	**Matsushiro Arr**	**3.48**	**307**	Pn	**Pn**	**07 32 51.6**	**+0.2**
	0.6nm,0.3s,baz=152,slow=12,SNR=6.8						
MJAR				Sn	**Sn**	**07 33 33.6**	**+0.9**
	0.8nm,0.3s,baz=195,slow=23,SNR=2.9						
	2.2nm,0.3s						
MAJO	**Matsushiro**	**3.49**	**307**	Pn	**Pn**	**07 32 50.5**	**-1.0**
MJB9	**Matsu-Tunnel**	**3.49**	**307**		**Pn**	**07 32 50.5**	**-1.0**
JGF	**Kuroka**	**3.71**	**288**	Pn	**Pn**	**07 32 52.8**	**-1.7**
INU	**Inuyama**	**3.92**	**284**	Pn	**Pn**	**07 32 56.3**	**-1.1**
JSD	**Sado**	**4.48**	**323**		**Pn**	**07 33 04.0**	**-1.0**
JCJ	**Chichijima**	**7.39**	**176**	Pn	**Pn**	**07 33 44.3**	**-0.8**
	69nm,0.8s,baz=288,slow=20,SNR=1.4						
JCJ				Sn	**Sn**	**07 35 06.3**	**-2.8**
	8.9nm,0.3s,baz=83,slow=21,SNR=1.6						
JCJ	**Chichijima**	**7.39**	**176**		**Pn**	**07 33 45.4**	**+0.3**
ERM	**Erimo**	**7.59**	**8**		**Pn**	**07 33 46.3**	**-1.5**
SONM	**Songino Array**	**29.44**	**308**	P	**P**	**07 38 00.4**	**-0.5**
	0.4nm,0.5s,baz=104,slow=9.1,SNR=2.5						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**43.81**	**314**	P	**P**	**07 40 03.3**	**+0.4**
	0.5nm,0.3s,baz=90,slow=10,SNR=1.5						
	0.5nm,0.3s						
MK31	**Makanchi Array**	**45.68**	**304**	P	**P**	**07 40 16.9**	**-1.1**
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**	**07 40 17.8**	**-0.2**
	0.3nm,0.7s,baz=85,slow=9.7,SNR=2.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**	**07 40 17.3**	**-0.8**
IMAR	**Indian Mountai**	**48.73**	**29**	P	**P**	**07 40 43.2**	**+1.7**
MDM	**Murphy Dome**	**50.96**	**31**	P	**P**	**07 40 59.5**	**+1.1**
MDM				lAmb	lAmb	07 41 00.6	
	comp=Z,3.9nm,0.9s						
COLA	**College**	**51.12**	**31**	P	**P**	**07 40 59.5**	**-0.1**
ILAR	**Eielson Array**	**51.53**	**31**	P	**P**	**07 41 02.1**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=268,slow=6.3,SNR=12						
	comp=Z,1.9nm,0.9s						
ILAR	**Eielson Array**	**51.53**	**31**	P	**P**	**07 41 03.1**	**+0.4**
BMAR	**Burnt Mountain**	**52.45**	**28**	P	**P**	**07 41 11.4**	**+1.8**
K27K	**Chicken**	**53.65**	**32**	P	**P**	**07 41 20.0**	**+1.6**
K27K				lAmb	lAmb	07 41 21.6	
	comp=Z,4.0nm,1.1s						
BCAR	**Beaver Creek A**	**53.88**	**33**	P	**P**	**07 41 21.5**	**+1.4**
WB0	**Warramunga Arr**	**54.41**	**188**	P	**P**	**07 41 24.5**	**+0.1**
WB0				lAmb	lAmb	07 41 24.9	
	comp=Z,4.2nm,0.8s						
WB2	**Warramunga Arr**	**54.59**	**188**	P	**P**	**07 41 25.8**	**0.0**
WRA	**Warramunga Arr**	**54.59**	**188**	P	**P**	**07 41 25.8**	**0.0**
	comp=Z,2.0nm,0.7s,baz=4.3,slow=7.6,SNR=18						
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**54.59**	**188**	P	**P**	**07 41 25.5**	**-0.2**
EPYK	**Eagle Plains**	**55.62**	**29**	P	**P**	**07 41 34.5**	**+1.7**
INK	**Inuvik**	**56.55**	**26**	P	**P**	**07 41 40.1**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=248,slow=6.6,SNR=4.5						
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**58.32**	**188**	P	**P**	**07 41 52.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=13,slow=11,SNR=8.1						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**58.32**	**188**	P	**P**	**07 41 52.4**	**+0.1**
ABKAR	**Akbulak array**	**59.75**	**311**	P	**P**	**07 42 01.2**	**-0.8**
ABKAR				lAmb	lAmb	07 42 02.4	
	comp=Z,2.2nm,0.5s						
NVAR	**Mina Array Bea**	**76.34**	**53**	P	**P**	**07 43 48.4**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=272,slow=4.7,SNR=4.6						
	comp=Z,0.7nm,0.6s						
NB2	**NORSAR Subarra**	**76.60**	**338**	P	**P**	**07 43 47.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**76.60**	**338**	P	**P**	**07 43 47.4**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=39,slow=5.9,SNR=3.8						
	comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**91.49**	**53**	P	**P**	**07 45 04.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=274,slow=2.2,SNR=4.9						
	comp=Z,0.3nm,0.7s						
LPAZ	**La Paz**	**147.71**	**63**	PKPbc	**PKPbc**	**07 51 43.5**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=310,slow=2.5,SNR=4.6						

ATH 23 07:33:20.4, 37.23N×20.04E, h10km±31km, ML2.6/2, Error ellipse: s-maj=31.6km s-min=2.3km az=0.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.80**	**52**	P	Pg	07 33 34.6	-1.1
LTHK				S	Sb	07 33 47.0	-0.1
PSDA	**Pessada-Kefalo**	**0.98**	**26**	P	Pg	07 33 38.0	-1.3
VLS	**Valsamata**	**1.04**	**24**	P	Pg	07 33 39.3	-1.1
VLS				S	Sg	07 33 53.5	-0.5
VLS				AML	AML	07 34 00.8	
	comp=N,635μm,0.4s						
VLS				AML	AML	07 34 02.5	
	comp=E,594μm,0.4s						
FSK	**Fiskardo**	**1.30**	**18**	P	Pb	07 33 45.0	+0.2
PYL	**PYLOS**	**1.40**	**103**	P	Pb	07 33 46.5	-0.1
PYL				S	Sn	07 34 04.1	-0.4
RLS	**Riolos of Patr**	**1.40**	**53**	P	Pn	07 33 45.3	-0.7
RLS				S	Sn	07 34 04.4	-0.2
EVGI	**Lefkada island**	**1.47**	**19**	P	Pb	07 33 47.7	-0.2
ITM	**Ithomi**	**1.51**	**91**	P	Pb	07 33 48.2	-0.3
ITM				S	Sn	07 34 07.0	-0.1
ITM				AML	AML	07 34 08.1	
	comp=E,315μm,0.4s						
ITM				AML	AML	07 34 13.5	
	comp=N,241μm,0.5s						
DRO	**Drossia**	**1.51**	**61**	P	Pb	07 33 48.3	-0.2

ROM 23 07:36:24.4±0.1, 42.877N±0.004×13.205E±0.006, h8km, ML1.5/1, 3C, Error ellipse: s-maj=0.5km s-min=0.3km az=55.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**344**	⇑P	Pg	07 36 26.1	-0.2
MC2				S	Sg	07 36 27.1	-0.4
T1242	**Castelluccio d**	**0.05**	**180**	⇑P	Pg	07 36 26.2	-0.1
T1242				S	Sg	07 36 27.2	-0.3
T1242				AML	AML		
	comp=E,362μm,0.2s						
T1242				AML	AML		
	comp=N,508μm,0.2s						
T1242				AML	AML		
	comp=E,381μm,0.5s						
T1242				AML	AML		
	comp=N,508μm,0.2s						
T1242				AML	AML		
	comp=N,502μm,0.2s						
T1242				AML	AML		
	comp=E,362μm,0.2s						
NRCA	**Norcia**	**0.08**	**237**	P	Pg	07 36 26.5	0.0
NRCA				S	Sg	07 36 28.4	+0.4
NRCA				AML	AML		
	comp=E,662μm,0.1s						
NRCA				AML	AML		
	comp=N,369μm,0.1s						
NRCA				AML	AML		
	comp=N,368μm,0.1s						
NRCA				AML	AML		
	comp=E,662μm,0.1s						
T1241	**Roccafluvione,**	**0.17**	**97**	P	Pg	07 36 28.7	+0.8
T1241				S	Sg	07 36 31.6	+1.3
T1202	**Accumoli, Fraz**	**0.17**	**175**	P	Pg	07 36 29.1	+1.0
T1202				S	Sg	07 36 32.2	+1.7
FDMO	**Fiordimonte**	**0.18**	**332**	P	Pg	07 36 28.8	+0.6
FDMO				S	Sg	07 36 32.0	+1.3
**CS

STKA	Stephens Creek	24.81 348	P		P	07 42 04.1	0.0
BBOO	Buckleboo	24.84 337	P		P	07 42 04.2	-0.2
URZ	Urewera	26.72 60	P		P	07 42 21.3	-0.1
	comp=Z,6.7nm,0.8s,baz=343,slow=3.3,SNR=4.3						
URZ			LR		LR	07 52 09.7	
	comp=Z,291nm,19.9s,baz=304,slow=35						
	comp=Z,6.7nm,0.8s						
FORT	Forrest	28.97 324	P		P	07 42 41.2	-0.3
EIDS	Eidsvold	31.06 6	P		P	07 43 00.5	+0.4
EIDS			IAmb		IAmb	07 43 04.7	
	comp=Z,9.9nm,1.2s						
H01W1	Cape Leeuwin H	31.20 299	T		T	08 15 50.9	
	baz=143,slow=76,SNR=443						
H01W2	Cape Leeuwin H	31.20 299	T		T	08 15 51.3	
	baz=143,slow=76,SNR=419						
H01W3	Cape Leeuwin H	31.21 299	T		T	08 15 52.2	
	baz=143,slow=76,SNR=246						
NWAO	Narrogin (SRO)	31.36 306	LR		LR	07 52 39.3	
	comp=Z,357nm,20.8s,baz=20,slow=31						
QSPA	South Pole Qui	33.76 180	P		P	07 43 24.0	+0.5
	comp=Z,2.0nm,0.8s,baz=268,slow=2.5,SNR=7.3						
QSPA			LR		LR	07 56 49.1	
	comp=Z,423nm,19.0s,baz=342,slow=36						
	comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	34.13 337	P		P	07 43 25.9	-1.1
	comp=Z,3.7nm,0.8s,baz=168,slow=9.4,SNR=16						
ASAR		PcP			PcP	07 46 03.5	-0.6
	comp=Z,0.4nm,0.6s,baz=100,slow=2.2,SNR=4.3						
ASAR			LR		LR	07 55 06.3	
	comp=Z,171nm,21.0s,baz=166,slow=32						
	comp=Z,3.7nm,0.8s						
ASAR	Alice Springs	34.13 337	P		P	07 43 26.6	-0.4
AS31	Alice Springs	34.13 337	P		P	07 43 26.4	-0.6
CTAO	Charters Tower	36.22 358	P		P	07 43 45.0	+0.1
CTAO			IAmb		IAmb	07 43 48.5	
	comp=Z,9.3nm,0.9s						
RAO	Raoul Island	36.46 57	LR		LR	07 56 47.2	
	comp=Z,109nm,18.8s,baz=308,slow=33						
DZM	Mont Dzumac	36.99 30	eLR		LR	07 53 50.5	
	comp=Z,752nm,26.1s						
DZM	Mont Dzumac	36.99 30	LR		LR	07 55 07.8	
	comp=Z,344nm,21.4s,baz=205,slow=30						
DZM	Mont Dzumac	36.99 30	P		P	07 43 52.4	+0.7
WR0	Warramunga Arr	37.60 340	P		P	07 43 55.9	-0.9
WR0			IAmb		IAmb	07 43 59.3	
	comp=Z,9.2nm,0.8s						
WRA	Warramunga Arr	37.66 340	P		P	07 43 55.8	-1.4
	comp=Z,11nm,0.8s,baz=166,slow=7.5,SNR=26						
WRA			PcP		PcP	07 46 13.4	-1.1
	comp=Z,1.2nm,0.9s,baz=178,slow=2.8,SNR=3.9						
	comp=Z,11nm,0.8s						
WRA	Warramunga Arr	37.66 340	P		P	07 43 55.8	-1.4
KOUNC	Koumac, New Ca	37.88 26	P		P	07 43 58.5	-0.5
MAW	Mawson	38.06 218	LR		LR	07 58 57.3	
	comp=Z,272nm,19.1s,baz=78,slow=35						
PSA00	Pilbara Seismi	40.30 318	P		P	07 44 20.7	+1.4
PSA00			IAmb		IAmb	07 44 24.6	
	comp=Z,15nm,1.4s						
MBWA	Marble Bar	40.72 318	P		P	07 44 23.6	+0.9
MBWA			IAmb		IAmb	07 44 46.6	
	comp=Z,22nm,1.3s						
KNRA	Kununurra	43.03 333	P		P	07 44 41.2	-0.5
KNRA			IAmb		IAmb	07 44 41.6	
	comp=Z,13nm,1.1s						
MTN	Manton Dam	45.21 337	P		P	07 44 57.9	-1.3
MTN			IAmb		IAmb	07 44 59.0	
	comp=Z,7.3nm,0.8s						
BELA	Belgrano 2	46.03 179	P		P	07 45 05.1	+0.1
BELA			IAmb		IAmb	07 45 11.7	
	comp=Z,5.4nm,1.2s						
HNR	Honiara	47.81 17	LR		LR	08 02 04.5	
	comp=Z,1μm,19.4s,baz=201,slow=32						
NIUE	Niue	48.89 58	P		P	07 45 27.7	-0.2
TROLL	Troll, Antarti	49.61 194	P		P	07 45 33.1	+0.1
SOEI	Soe	49.90 329	P		P	07 45 29.5	-6.3
SNAA	Sanae	50.58 192	P		P	07 45 40.5	+0.2
SNAA	Sanae	50.58 192	P		P	07 45 40.4	+0.1
SNAA			IAmb		IAmb	07 45 45.2	
	comp=Z,10nm,1.5s						
VNA3	Neumayer Olymp	51.68 189	P		P	07 45 48.3	-0.1
VNA2	Neumayer--Watz	51.77 190	P		P	07 45 48.9	-0.2
	baz=155,slow=5.0						
VNA1	Neumayer--Stat	52.12 190	P		P	07 45 51.7	0.0
AFI	Afiamalu	52.55 53	LR		LR	08 05 48.7	
	comp=Z,87nm,19.0s,baz=176,slow=33						
FAKI	Fak Fak	54.66 341	P		P	07 46 10.7	-0.2
TBI	Tubuai	56.00 81	eLR		LR	08 02 37.7	
	comp=Z,199nm,29.5s						
GUMO	Guam	69.71 357	LR		LR	08 17 24.9	
	comp=Z,82nm,19.8s,baz=190,slow=35						
PSI	Prapat	70.87 308	LR		LR	08 14 35.2	
	comp=Z,62nm,22.0s,baz=70,slow=32						
TAOE	Nuku Hiva Isla	72.92 80	eLR		LR	08 10 28.6	
	comp=Z,177nm,25.3s						
H08S2	Diego Garcia H	75.36 278	T		T	09 11 01.8	
	baz=147,slow=76,SNR=36						
H08S1	Diego Carcia H	75.37 278	T		T	09 10 56.7	
	baz=147,slow=76,SNR=32						
H08S3	Diego Garcia H	75.38 278	T		T	09 10 55.4	
	baz=147,slow=76,SNR=4.8						
PLCA	Paso Flores	78.07 151	P		P	07 48 42.7	+1.9
	comp=Z,2.2nm,0.9s,baz=122,slow=2.5,SNR=3.5						
	comp=Z,2.2nm,0.9s						
H03S2	Juan Fernandez	81.90 142	T		T	09 20 05.6	
	baz=201,SNR=45						
H03S1	Juan Fernandez	81.90 143	T		T	09 20 06.9	
	baz=201,SNR=30						
H03S3	Juan Fernandez	81.92 142	T		T	09 20 06.4	
	baz=201,SNR=45						
PALK	Pallekele	83.50 293	LR		LR	08 18 53.5	
	comp=Z,76nm,19.5s,baz=323,slow=30						
CMAR	Chiang Mai Air	84.92 314	P		P	07 49 16.5	-0.6
	comp=Z,1.0nm,0.3s,baz=181,slow=4.5,SNR=7.1						
CMAR			LR		LR	08 25 35.8	
	comp=Z,42nm,19.7s,baz=275,slow=35						
	comp=Z,1.0nm,0.3s						
JHJ	Hachijo jima 2	89.36 354	LR		LR	08 26 07.6	
	comp=Z,58nm,21.5s,baz=101,slow=33						
PZH	PanZhiHua	91.18 320	P		P	07 49 51.0	+4.0
PZH			pmax		pmax		
	comp=Z,10.0nm,1.0s						
PZH			pmax		pmax		
	comp=Z,100nm,8.0s						
LSZ	Lusaka	92.60 237	LR		LR	08 26 39.9	
	comp=Z,186nm,18.0s,baz=204,slow=32						
MKAR	Makanchi Array	116.30 316	PKP		PKPdf	07 55 22.6	-2.1
	comp=Z,0.2nm,0.4s,baz=189,slow=2.6,SNR=2.3						
TORD	Torodi Ar. Bea	129.51 225	PKP		PKPdf	07 55 50.4	-0.5
	comp=Z,0.9nm,1.0s,baz=91,slow=2.5,SNR=2.6						
AKASG	Malin Array Be	143.97 288	PKP		PKPbc	07 56 14.9	+0.5
	comp=Z,1.6nm,0.6s,baz=96,slow=3.3,SNR=5.6						
KEST	Kesra	145.12 252	PKP		PKPbc	07 56 18.2	-0.5
	comp=Z,3.8nm,0.7s,baz=318,slow=1.7,SNR=4.5						
RONA	Rosalia, Austr	149.34 275	eP		PKPbc	07 56 29.9	-0.2
	comp=Z,1.5nm,0.5s						
SOKA	Soboth	149.45 272	eP		PKPbc	07 56 30.4	-0.1
	comp=Z,9.2nm,1.3s						
ARSA	Arzberg	149.51 273	eP		PKPbc	07 56 30.0	-0.5
	comp=Z,4.6nm,1.1s						
FINES	FINESS Array B	150.22 304	PKPbc		PKPbc	07 56 30.7	-1.0
	comp=Z,5.4nm,0.9s,baz=97,slow=9.8,SNR=6.6						
ABTA	Abfaltersbach	150.89 270	eP		PKiKP	07 56 35.5	+0.9
	comp=Z,5.2nm,1.2s						
GERES	GERESS Array B	151.41 275	PKPbc		PKPbc	07 56 34.0	-1.1
	comp=Z,1.5nm,0.7s,baz=146,slow=2.6,SNR=11						
WTTA	Wattenberg	151.68 270	eP		PKPab	07 56 42.5	-2.3
	comp=Z,5.9nm,0.9s						
ARCES	ARCESS Array B	151.80 321	PKPbc		PKPbc	07 56 33.5	-1.7
	comp=Z,4.1nm,0.8s,baz=116,slow=2.8,SNR=11						
FETA	Feichten	152.04 269	eP		PKiKP	07 56 38.6	+1.6
	comp=Z,5.4nm,1.0s						
RETA	Reutte	152.29 270	eP		PKPab	07 56 42.8	-4.4
	comp=Z,2.7nm,0.6s						
DAVA	Damuels	152.67 269	eP		PKiKP	07 56 42.9	+4.5
	comp=Z,4.1nm,0.5s						
CLL	Collm	153.06 279	eP	PKPab	PKPab	07 56 53.0	+2.8
ESDC	Sonseca Array	154.91 240	PKPbc		PKPbc	07 56 42.9	-0.2
	comp=Z,0.5nm,0.7s,baz=193,slow=0.9,SNR=4.6						

*IDC **23** 07:37:03.8±0.7,34°.47N×141°.86E,h0km,mb3.8/13, mbtmp3.9/17,ML3.6/4,MS3.4/4,Error ellipse: s-maj=18.7km s-min=16.9km az=90.0*
*JMA **23** 07:37:05.6±0.3,34°.5N±1°.0×14°.2E±°,h37km±1km, MV3.7/34,FAR SE OFF BOSO PEN*
ISC 23 07:37:06.1±2.0,**34°.48N**±0°.05×**141°.74E**±0°.07,**h15**km±11km,
n35,σ1§**18**/35,**mb3.9**/13,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.65	286	P	Pg	07 37 18.8	+0.1
BSO3	Boso 3	1.06	288	P	Pb	07 37 25.0	-1.1
BSO4	Boso 4	1.26	294	P	Pn	07 37 29.1	-0.1
CHOJ	Chosi	1.42	330	P	Pn	07 37 30.3	-1.1
CHOJ				eS	Sn	07 37 48.0	-1.9
JKUC	kamogawauchiur	1.44	299	P	Pn	07 37 30.8	-0.8
JKUC				eS	Sn	07 37 48.9	-1.4
JMKN	Mikurajimanish	1.87	253	P	Pn	07 37 36.6	-1.1
JMKN				eS	Sn	07 37 59.2	-1.8
JIM2	Oshima 3	1.92	278	P	Pn	07 37 37.2	-1.1
JIM2				eS	Sn	07 38 00.8	-1.5
JHJ	Hachijo jima 2	2.12	231	Pn	Pn	07 37 41.2	+0.2
	24nm,0.3s,baz=282,slow=21,SNR=27						
JHJ				Sn	Sn	07 38 07.3	+0.2
	66nm,0.3s,baz=94,slow=22,SNR=12						
	77nm,0.2s						
JOD2	Odawara 2	2.32	291	P	Pn	07 37 42.6	-1.1
JOD2				eS	Sn	07 38 11.0	-1.0
JIZS	Izushimoda	2.37	277	P	Pn	07 37 44.4	-0.1
MJAR	Matsushiro Arr	3.54	307	Pn	Pn	07 38 01.2	+0.6
	1.4nm,0.3s,baz=140,slow=12,SNR=19						
MJAR				Sn	Sn	07 38 42.9	+0.6
	1.4nm,0.3s,baz=154,slow=29,SNR=7.2						
	6.4nm,0.3s						
JCJ	Chichijima	7.37	177	Pn	Pn	07 38 52.1	-1.0
	6.2nm,0.3s,baz=308,slow=19,SNR=1.6						
JCJ				Sn	Sn	07 40 13.8	-2.6
	5.2nm,0.3s,baz=291,slow=21,SNR=1.7						
JCJ				LR	LR	07 42 46.8	
	comp=Z,118nm,18.9s,baz=104,slow=47						
	76nm,0.9s						
KSRS	Korea Array	11.58	289	Pn	Pn	07 39 52.9	+2.0
	0.2nm,0.3s,baz=103,slow=14,SNR=6.1						
KSRS				LR	LR	07 44 45.3	
	comp=Z,301nm,18.2s,baz=95,slow=39						
	1.3nm,0.8s						
USRK	Ussuriysk Ar.	12.29	325	LR	LR	07 43 45.1	
	comp=Z,196nm,22.0s,baz=267,slow=32						
H11N2	WAKE ISLAND Hy	26.68	117	T	T	08 10 59.4	
	baz=309,slow=75,SNR=21						
H11N1	WAKE ISLAND Hy	26.69	117	T	T	08 10 54.3	
	baz=309,slow=75,SNR=21						
H11N3	WAKE ISLAND Hy	26.70	117	T	T	08 10 53.1	
	baz=309,slow=75,SNR=15						
H11S3	WAKE ISLAND Hy	27.31	119	T	T	08 11 58.0	
	baz=313,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	27.31	119	T	T	08 11 47.7	
	baz=313,slow=75,SNR=16						
H11S2	WAKE ISLAND Hy	27.33	119	T	T	08 12 01.0	
	baz=313,slow=75,SNR=8.6						
SONM	Songino Array	29.50	308	P	P	07 43 10.8	+1.0
	0.9nm,0.7s,baz=109,slow=7.4,SNR=4.9						
SONM				LR	LR	07 54 22.5	
	comp=Z,78nm,20.3s,baz=328,slow=35						
	0.9nm,0.7s						
CMAR	Chiang Mai Arr	41.17	258	P	P	07 44 50.7	+0.5
	0.6nm,0.4s,baz=50,slow=8.6,SNR=1.7						
	0.6nm,0.4s						
ZALV	Zalesovo Beam	43.86	314	P	P	07 45 13.8	+2.2
	0.7nm,0.4s,baz=76,slow=6.3,SNR=4.2						
	0.7nm,0.4s						
MKAR	Makanchi Array	45.74	304	P	P	07 45 26.5	-0.2
	1.3nm,0.7s,baz=91,slow=11,SNR=8.9						
	1.3nm,0.7s						
KURBB	Kurchatov Arra	47.81	310	P	P	07 45 42.3	-0.6
	1.7nm,0.5s,baz=85,slow=7.6,SNR=4.3						
	1.7nm,0.5s						
ILAR	Eielson Array	51.52	31	P	P	07 46 10.8	-0.2
	1.2nm,0.8s,baz=269,slow=6.3,SNR=10						
	1.2nm,0.8s						
WRA	Warramunga Arr	54.57	189	P	P	07 46 33.9	0.0
	1.8nm,0.8s,baz=4.3,slow=7.6,SNR=14						
	1.8nm,0.8s						
ASAR	Alice Springs	58.30	188	P	P	07 47 00.6	+0.2
	0.9nm,0.7s,baz=10,slow=7.5,SNR=7.3						
	0.9nm,0.7s						
NVAR	Mina Array Bea	76.31	53	P	P	07 48 53.8	-1.0
	0.2nm,0.3s,baz=269,slow=5.4,SNR=1.8						
	0.2nm,0.3s						
AKASG	Malin Array Be	76.49	323	P	P	07 48 55.5	+0.2
	0.4nm,0.5s,baz=40,slow=6.0,SNR=1.9						
	0.4nm,0.5s						
NB2	NORSAR Subarra	76.65	338	P	P	07 49 01.1	+5.0
	comp=Z,2.5nm,1.1s,baz=38,slow=5.9						
NOA	NORSAR Array B	76.65	338	P	P	07 48 56.0	0.0
	comp=Z,0.9nm,0.9s,baz=38,slow=6.0,SNR=2.8						
	comp=Z,0.9nm,0.9s						
PDAR	Pinedale Array	79.27	45	P	P	07 49 09.8	-1.4
	comp=Z,0.3nm,0.8s,baz=264,slow=7.2,SNR=2.1						
	comp=Z,0.3nm,0.8s						
TXAR	Lajitas Array	91.47	53	P	P	07 50 13.7	+1.4
	comp=Z,0.6nm,0.9s,baz=338,slow=1.9,SNR=2.7						
	comp=Z,0.6nm,0.9s						
LPAZ	La Paz	147.68	63	PKPbc	PKPbc	07 56 51.7	+0.3
	comp=Z,1.2nm,0.9s,baz=340,slow=7.1,SNR=4.0						

*IDC **23** 07:39:03.5±6.6,37°.85N×73°.66E,h0km,mb3.6/2, mbtmp3.8/3,Error ellipse: s-maj=160.2km s-min=43.7km az=127.0*
*SOME **23** 07:39:19.4,39°.27N×73°.63E,h0km*
*NNC **23** 07:39:39.3±5.4,40°.02N×73°.66E,h0km,mb3.9,mpv3.4, Error ellipse: s-maj=45.9km s-min=25.9km az=167.0*
ISC 23 07:39:04.9±1.8,**38°.0N**±0°.1×**73°.72E**±0°.09,**h10**km,**n12**, σ3§**74**/15,**3C-1D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKS	Merke	4.81	356	Pg	Pb	07 40 29.0	-0.4
	20nm,0.3s						
MRKS				Lg	Lg	07 41 19.2	
	51nm,0.3s						
IUG	luzhnay	5.06	327	eP	Pb	07 40 34.8	+1.1
	289nm,0.4s						
IUG				eS	Sb	07 41 28.6	-5.9
	52nm,0.4s						
IUG	luzhnay	5.06	327	Pg	Pb	07 40 34.8	+1.1
	289nm,0.4s						
IUG				Lg	Lg	07 41 28.6	
	52nm,0.4s						
TKM2	Tokmak 2	5.17	15	⇑Pn	Pb	07 40 32.1	-3.5
	1.5nm,0.5s						
TKM2				⇑Lg	Lg	07 41 25.1	
	9.7nm,0.8s						
KST	Kastek	5.37	18	eP	Pb	07 40 36.1	-2.8
	1.8nm,0.4s						
KST				eS	Sn	07 41 31.0	+3.8
	26nm,0.8s						
KST	Kastek	5.37	18	Pg	Pb	07 40 36.1	-2.8
	1.8nm,0.5s						
KST				Lg	Lg	07 41 31.0	
	26nm,0.8s						
KK31	Karatau Array	5.70	336	⇑Pn	Pb	07 40 41.7	-2.8
	0.9nm,0.2s,baz=140,slow=12,SNR=30						
KK31				⇓Lg	Lg	07 41 41.3	
	3.1nm,0.3s,baz=131,slow=21,SNR=13						
KRBS	Karabastau	5.93	14	eP	Pb	07 40 46.9	-1.6
	0.7nm,0.2s						
KRBS				eS	Sn	07 41 49.5	+8.5
	2.0nm,0.4s						
KRBS	Karabastau	5.93	14	Pg	Pb	07 40 46.5	-1.9
	0.7nm,0.3s						
KRBS				Lg	Lg	07 41 49.5	
	1.7nm,0.7s						
ZALV	Zalesovo Beam	17.73	22	P	P	07 43 12.8	+0.2
	2.6nm,0.6s,baz=216,slow=11,SNR=6.5						
ARCES	ARCESS Array B	40.67	336	P	P	07 46 45.5	+0.6
	0.8nm,0.6s,baz=113,slow=9.3,SNR=7.3						
	0.8nm,0.6s						
TORD	Torodi Ar. Bea	67.91	270	P	P	07 50 03.9	-0.2
	0.2nm,0.4s,baz=40,slow=7.4,SNR=2.2						
	0.2nm,0.4s						

IDC 23 07:39:29.7±1.3,**34°.40N**×**141°.78E,h0**km,**mb3.5**/3, **mbtmp3.4**/5,**ML2.3**/2,**Error ellipse: s-maj=35.9km s-min=22.6km az=121.0,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	Hachijo jima 2	2.09	233	Pn	Pn	07 40 06.5	+0.6
	3.6nm,0.3s,baz=230,slow=23,SNR=1.0						
JHJ				Sn	Sn	07 40 31.9	-0.8
	36nm,0.3s,baz=77,slow=23,SNR=2.3						
	92nm,0.6s						
MJAR	Matsushiro Arr	3.61	307	Pn	Pn	07 40 27.1	+0.2
	0.2nm,0.3s,baz=100,slow=14,SNR=2.1						
	2.1nm,0.6s						
ILAR	Eielson Array	51.58	31	P	P	07 48 36.9	-0.3
	0.3nm,0.9s,baz=280,slow=5.3,SNR=3.1						
	0.3nm,0.9s						
WRA	Warramunga Arr	54.50	189	P	P	07 48 58.8	-0.5
	0.7nm,0.8s,baz=2.7,slow=7.5,SNR=3.8						
	0.7nm,0.8s						
ASAR	Alice Springs	58.22	188	P	P	07 49 26.1	+0.3
	0.4nm,0.8s,baz=4.8,slow=5.6,SNR=1.9						
	0.4nm,0.8s						

IDC 23 07:45:24.7±3.2,**54°.18N**×**86°.53E,h0**km,**mbtmp2.7**/2, **ML2.4**/2,**Error ellipse: s-maj=24.4km s-min=14.2km az=59.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.03	258	*i*		07 50 50.0	
	0.1nm,0.8s,baz=78,slow=325,SNR=21						
ZALV	Zalesovo Beam	1.03	258	Pg	Pg	07 45 43.6	-0.9
	1.8nm,0.3s,baz=75,slow=17,SNR=13						
ZALV				Lg	Lg	07 45 59.5	
	1.7nm,0.3s,baz=75,slow=29,SNR=12						
KURBB	Kurchatov Arra	6.05	237	Pn	Pn	07 46 55.8	+0.4
	0.1nm,0.3s,baz=51,slow=13,SNR=1.8						
	0.8nm,0.8s						
MKAR	Makanchi Array	7.87	202	Pn	Pn	07 47 21.8	+1.4
	0.1nm,0.3s,baz=24,slow=14,SNR=1.7						
	0.2nm,0.3s						

ROM 23 07:47:55.9±0.2,**42°.783N**±0°.008×**13°.195E**±0°.010,**h0**km, **ML1.7**/1,**1C-2D,Error ellipse: s-maj=0.9km s-min=0.7km az=213.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	Castelluccio d	0.05	8	P	Pg	07 47 56.5	-0.4
MC2	Monte Cornacci	0.13	358	P	Pg	07 47 57.8	-0.6
MC2				S	Sg	07 48 00.8	+0.6
T1204	Amatrice, Fraz	0.14	140	P	Pg	07 47 58.8	+0.2
T1204				S	Sg	07 48 01.6	+1.2
T1216	Preci, Frazion	0.17	310	P	Pg	07 47 59.9	+0.8
T1216				S	Sg	07 48 03.3	+2.0
T1216				AML	AML		
	comp=E,499μm,1.6s						
T1216				AML	AML		
	comp=N,341μm,1.6s						
T1241	Roccafluvione,	0.19	67	P	Pg	07 48 00.5	+1.0
T1241				S	Sg	07 48 03.9	+1.9
T1243	Rocca Santa Ma	0.20	115	P	Pg	07 48 00.3	+0.5
T1243				S	Sg	07 48 03.5	+1.0
T1217	Poggiodomo (PG	0.21	250	P	Pg	07 48 00.4	+0.5
T1217				S	Sg	07 48 03.8	+1.3
T1215	Vallo di Nera,	0.24	275	⇑P	Pg	07 47 59.0	-1.5
FDMO	Fiordimonte	0.27	343	⇓P	Pg	07 48 01.9	+0.9
TERO	Teramo	0.34	118	⇓P	Pg	07 48 02.5	+0.1

IDC 23 07:49:17.5±2.7,**54°.32N**×**85°.95E,h0**km,**mbtmp2.9**/2, **ML2.7**/2,**Error ellipse: s-maj=19.3km s-min=11.4km az=50.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.77	241	*i*		07 53 42.9	
	0.1nm,0.9s,baz=62,slow=322,SNR=2.3						
ZALV	Zalesovo Beam	0.77	241	Pg	Pg	07 49 31.3	-0.9
	0.8nm,0.3s,baz=60,slow=18,SNR=4.6						
ZALV				Lg	Lg	07 49 43.2	
	4.8nm,0.3s,baz=58,slow=29,SNR=21						
KURBB	Kurchatov Arra	5.86	234	Pn	Pn	07 50 46.6	+1.1
	0.1nm,0.3s,baz=49,slow=13,SNR=2.2						
	0.5nm,0.3s						
MKAR	Makanchi Array	7.89	199	Pn	Pn	07 51 14.2	+0.8
	0.2nm,0.3s,baz=23,slow=14,SNR=6.8						
	0.2nm,0.3s						

IDC 23 07:54:29.9±2.8,**55°.49N**×**86°.39E,h0**km,**mbtmp3.1**/3, **ML2.7**/3,**Error ellipse: s-maj=26.2km s-min=19.7km az=68.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.79	211	*i*		08 04 10.0	
	baz=25,slow=322,SNR=4.4						
ZALV	Zalesovo Beam	1.79	211	Pn	Pn	07 55 01.7	-0.3
	4.7nm,0.3s,baz=28,slow=16,SNR=30						
ZALV				Lg	Lg	07 55 27.2	
	3.5nm,0.3s,baz=27,slow=29,SNR=10						
KURBB	Kurchatov Arra	6.79	227	Pn	Pn	07 56 11.1	+0.3
	baz=43,slow=14,SNR=4.8						
KURBB				Lg	Lg	07 58 07.0	
	baz=45,slow=30,SNR=7.7						
	0.8nm,0.3s						
MKAR	Makanchi Array	9.07	198	Pn	Pn	07 56 41.3	-0.8
	0.1nm,0.3s,baz=22,slow=12,SNR=4.8						
MKAR				Lg	Lg	07 59 17.8	
	0.1nm,0.3s,baz=16,slow=29,SNR=6.3						
	0.2nm,0.4s						
BVAR	Borovoye Array	9.68	262	Pn	Pn	07 56 50.0	-0.4
	0.1nm,0.3s,baz=72,slow=16,SNR=3.8						
	0.6nm,0.4s						

*NEIC **23** 07:54:50.6±1.6,16°.86N±0°.04×99°.31W±0°.02,h12km±5km, mb4.9/100,Md4.8/35(MEX),Error ellipse: s-maj=5.9km s-min=2.3km az=180.0*
*MEX **23** 07:54:50.6±0.8,16°.73N×99°.45W,h6km±3km,MD4.8*
*IDC **23** 07:54:52.1±0.9,16°.90N×99°.19W,h29km±5km,mb4.2/22, mbtmp4.3/25,ML3.7/3,MS4.1/31,Error ellipse: s-maj=19.6km s-min=10.5km az=49.0*
*GCMT **23** 07:54:55.6±0.3,16°.91N±0°.02×99°.24W±0°.03,h30km±1km, MW5.0/90,Moment Tensor Solution. s42,c44; s90,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.54±.17; Mθθ-2.45±.10; Mϕϕ-0.08±.10; Mrθ2.03±.12; Mrϕ0.41±.07; Mθϕ-1.01±.13; Best double couple: M̄o3.39600×10^16 NP1:φs111.00000°,δ66.00000°,λ99.00000°. NP2: φs270.00000°,δ25.00000°,λ71.00000°. Principal axes: T 3.4530

MEIG Mezcala 1.17 351 *i* P **Pn** 07 55 10.8 -0.8
MEIG eS **Sb** 07 55 25.0 -1.7
PNIG Pinotepa 1.30 106 **Pn** 07 55 11.6 -1.7
PNIG **Sn** 07 55 29.9 -0.2
PNIG Pinotepa 1.30 106 *eP* **Pn** 07 55 11.6 -1.7
PLIG Platanillo 1.62 357 **Pn** 07 55 17.9 +0.1
PLIG **Sn** 07 55 38.1 -0.1
PLIG Platanillo 1.62 357 *i* P **Pn** 07 55 17.9 +0.1
PLIG eS **Sn** 07 55 37.6 -0.6
TXIG Tlaxiaco 1.66 73 **Pn** 07 55 18.2 -0.3
TXIG **Sb** 07 55 40.6 -0.3
TXIG Tlaxiaco 1.66 73 *i* P **Pn** 07 55 18.2 -0.3
TXIG eS **Sn** 07 55 37.3 -2.1
FTIG Fresnillo de T 1.68 47 **Pn** 07 55 18.4 -0.3
FTIG **Sb** 07 55 41.4 -0.1
FTIG Fresnillo de T 1.68 47 *eP* **Pn** 07 55 18.4 -0.3
FTIG *i* S **Sn** 07 55 38.2 -1.4
ARIG Puente Sto Nin 1.75 330 **Pn** 07 55 19.5 0.0
ARIG **Sb** 07 55 43.3 +0.1
ARIG Puente Sto Nin 1.75 330 *eP* **Pn** 07 55 19.5 0.0
ARIG eS **Sb** 07 55 43.3 +0.1
YOIG Yosondua 1.80 87 **Pn** 07 55 19.9 -0.6
YOIG **Sb** 07 55 46.4 +1.4
YOIG Yosondua 1.80 87 *eP* **Pn** 07 55 19.9 -0.6
YOIG eS **Sb** 07 55 46.4 +1.4
HLIG Huajuapan de L 1.88 55 **Pn** 07 55 21.3 -0.2
HLIG **Sb** 07 55 45.9 -1.3
HLIG Huajuapan de L 1.88 55 *eP* **Pn** 07 55 21.3 -0.2
HLIG eS **Sb** 07 55 45.9 -1.3
YAIG Yautepec 2.12 9 **Sb** 07 55 53.0 -0.9
YAIG Yautepec 2.12 9 *eP* **Pn** 07 55 24.8 +0.1
YAIG *i* S **Sb** 07 55 53.0 -0.9
YAIG eS **Sb** 07 55 53.0 -0.9
ZIIG Zihuatanejo 2.12 294 **Pn** 07 55 23.7 -0.9
ZIIG **Sb** 07 55 53.7 -0.3
ZIIG Zihuatanejo 2.12 294 *eP* **Pn** 07 55 23.7 -0.9
ZIIG eS **Sb** 07 55 53.7 -0.3
MAVM Malinalco, Edo 2.18 358 *eP* **Pb** 07 55 30.6 +1.3
MAVM *i* S **Sb** 07 55 59.6 +3.6
TEJU Tejupilco 2.24 342 *eP* **Pn** 07 55 28.1 +1.7
TEJU eS **Sb** 07 55 58.0 +0.4
PEIG Puerto Escondi 2.31 109 *eP* **Pn** 07 55 26.6 -0.7
PEIG eS **Sb** 07 56 01.5 +1.9
PPM Popocatepetl 2.42 18 *eP* **Pn** 07 55 28.7 -0.4
PPM eS **Sb** 07 56 04.3 +1.3
UNM Universidad Na 2.56 5 **Pn** 07 55 31.3 +0.3
PHPU Puebla 2.57 28 *eS* **Sn** 07 56 01.5 -0.3
TPIG Tehuac#an 2.57 50 *eP* **Pn** 07 55 30.6 -0.4
TPIG eP **Pb** 07 55 32.5 -3.3
UON La Union 2.58 298 *i* P **Pb** 07 55 34.4 -1.5
UON eS **Sb** 07 56 04.9 -2.2
THEZ Tehuacan 2.59 48 *eP* **Pn** 07 55 30.5 -0.8
THEZ eS **Sb** 07 56 06.8 -0.8
OXBJ Oaxaca 2.60 83 *eP* **Pn** 07 55 32.1 +0.7
TOIG Toxpalan 2.62 59 *eP* **Pn** 07 55 31.1 -0.5
TOIG eS **Sb** 07 56 05.6 -2.7
OXLC Oaxaca 2.62 83 *eP* **Pn** 07 55 32.3 +0.6
OXLC eS **Sn** 07 56 04.3 +1.2
TXVM Universitario 2.70 10 *eP* **Pn** 07 55 33.8 +0.9
TXVM *i* S **Sn** 07 56 03.4 -1.7
ACIG Acambay 3.23 352 *eP* **Pn** 07 55 40.4 +0.3
ACIG *i* S **Sn** 07 56 20.7 +2.7
HUIG Huatulco 3.34 107 *eP* **Pn** 07 55 39.2 -2.1
HUIG eS **Sn** 07 56 21.9 +1.5
MOIG Morelia 3.35 330 Pn **Pn** 07 55 42.7 +1.0
MOIG Morelia 3.35 330 *eP* **Pn** 07 55 41.0 -0.7
MOIG eP **Pn** 07 55 41.5 -0.2
DEIG Demacu 3.54 6 *eP* **Pn** 07 55 52.0 -0.4
MMIG Aquila 4.04 293 *eP* **Pn** 07 55 48.6 -2.4
MMIG eS **Sn** 07 56 31.9 -5.8
JRQG Juriquilla Cam 4.04 346 *eP* **Pb** 07 55 58.1 -2.8
JRQG eS **Sb** 07 56 45.8 -3.6
IGIG Irapuato, Guan 4.36 336 *eP* **Pn** 07 56 00.1 +4.5
CMIG Matias Romero 4.36 85 Pn **Pn** 07 55 54.6 -0.8
2.7nm,0.3s,baz=268,slow=15,SNR=47
CMIG Lg Lg 07 57 04.9
101nm,0.3s,baz=26,slow=22,SNR=11
14nm,0.3s
CMIG Matias Romero 4.36 85 *eP* **Pn** 07 55 55.1 -0.3
CMIG eS **Sn** 07 56 51.4 +5.7
COIG Colima 4.72 301 *eP* **Pn** 07 56 02.5 +2.1
COIG eS **Sn** 07 57 00.1 +5.5
JUBC Volcan de Coli 4.80 305 *eP* **Pn** 07 56 04.4 +2.7
JUBC eS **Sn** 07 57 02.1 +5.2
EZ5V 4.80 305 *eP* **Pn** 07 56 04.7 +2.9
EZ5V *i* S **Sb** 07 57 06.1 -5.4
MNGA Volcan de Coli 4.81 305 *eP* **Pn** 07 56 04.3 +2.4
MNGA *i* S **Sn** 07 57 00.5 +3.3
INCO Volcan de Coli 4.83 305 *eP* **Pn** 07 56 04.1 +1.8
INCO *i* S **Sn** 07 57 00.8 +3.0
CDAR Ciudad de Arme 4.87 297 *eP* **Pn** 07 56 03.6 +1.2
CDAR eS **Sn** 07 57 00.4 +2.1
TUIG Tuzandepetl 4.94 74 *eP* **Pn** 07 56 00.8 -2.6
TUIG eS **Sn** 07 57 00.5 +0.5
R15V 4.95 300 *eP* **Pn** 07 56 05.5 +1.8
R15V *i* S **Sn** 07 57 04.4 +4.0
CJM Chamela 6.00 298 *eP* **Pn** 07 56 18.7 +0.8
ANIG Ahuacatlan 6.44 312 *eP* **Sn** 07 56 22.8 -1.3
ANIG eS **Sn** 07 57 43.2 +6.1
ZAIG Zacatecas 6.67 334 Pn **Pn** 07 56 27.8 +0.4
CCIG Comitan 7.01 93 **Pn** 07 56 33.9 +1.9
CCIG Comitan 7.01 93 *eP* **Pn** 07 56 36.3 +4.3
HUEH Huehuetenango 7.75 100 **Pn** 07 56 42.7 +0.5
LNIG Linares 8.10 360 *eP* **Pn** 07 56 48.6 +1.9
LNIG eS **Sn** 07 58 23.1 +5.4
PETF Flores 9.15 88 **Pn** 07 57 01.3 0.0
MTO3 Montecristo 9.98 102 **Pn** 07 57 13.8 +1.0
833A Chaparral WMA, 11.51 0 Pn **Pn** 07 57 35.2 +1.7
833A Chaparral WMA, 11.51 0 P **Pn** 07 57 33.5 0.0
baz=180,SNR=6.9
HPIG 11.66 331 Pn **Pn** 07 57 38.5 +2.7
TGUH Tegucigalpa,Un 12.02 101 Pn **Pn** 07 57 41.5 +0.7
LPIG La Paz 12.54 307 LR LR 08 02 13.1
comp=Z,1µm,18.2s,baz=126,slow=35
TX31 Lajitas Ar. Si 13.11 343 Pn **Pn** 07 57 57.1 +1.7
TX32 Lajitas Array 13.11 343 **Pn** 07 57 57.7 +2.2
TXAR Lajitas Array 13.11 343 Pn **Pn** 07 57 56.7 +1.3
0.1nm,0.3s,baz=162,slow=13,SNR=13
TXAR Lg Lg 08 01 46.9
0.1nm,0.3s,baz=172,slow=34,SNR=1.8
TXAR LR LR 08 02 41.9
comp=Z,233nm,18.2s,baz=162,slow=36
1.4nm,0.9s
TXAR Lajitas Array 13.11 343 **Pn** 07 57 57.1 +1.7
HKT Hockley 13.53 13 Pn **Pn** 07 58 03.8 +2.7
MATN Matagalpa 13.60 104 **Pn** 07 58 01.4 -0.8
JCT Junction City 13.66 359 Pn **Pn** 07 58 03.0 0.0
JCT Junction City 13.66 359 P **Pn** 07 58 00.9 -2.1
baz=179,SNR=13
435B Jarrell 14.06 7 P **Pn** 07 58 07.0 -1.3
baz=187
ACON Acoyapa 14.61 107 **Pn** 07 58 15.7 -0.2
HZTE Horizontes, Gu 14.71 112 Pn **Pn** 07 58 17.7 +0.2
441A DeRidder 15.04 21 **Pn** 07 58 21.2 -0.5
WHTX Lake Whitney, 15.27 6 P **Pn** 07 58 21.5 -3.2
baz=187,SNR=15
ESPN Las Esperanzas 15.33 105 **Pn** 07 58 25.6 -0.1
JTS Las Juntas de 15.47 113 **P** 07 58 30.7 -1.1
NATX Nacogdoches 15.55 15 Pn **Pn** 07 58 27.1 -1.3
NATX Nacogdoches 15.55 15 P **Pn** 07 58 25.8 -2.6
baz=197
COVE Coope Vega, Sa 15.78 110 P **P** 07 58 35.2 0.0
COVE IAmb IAmb 07 58 39.9
comp=Z,171nm,1.8s
ABTX Abilene, Hawle 15.79 359 P **P** 07 58 35.1 -0.2
ABTX Abilene, Hawle 15.79 359 P **Pn** 07 58 33.3 +1.7
baz=179
342A Flagon Creek P 15.92 23 P **P** 07 58 35.7 -0.9
342A IAmb IAmb 07 58 37.3
comp=Z,178nm,1.4s
CLN7 Carlsbad 7 16.08 347 **Pn** 07 58 35.8 +0.4
HTMS Hat Mesa 16.10 347 **Pn** 07 58 36.1 +0.5
HSIG 16.16 321 **P** 07 58 40.8 +1.4
SOR Soroa 16.57 66 P **P** 07 58 43.1 -0.8
344A Westbrook Farm 16.63 27 P **Pn** 07 58 42.8 +0.6
RIMA Rio Macho 16.66 113 P **P** 07 58 45.9 +0.7
Z38A Mt. Pleasant 16.91 13 **Pn** 07 58 45.3 -0.4
Z38A IAmb IAmb 07 58 53.8
comp=Z,161nm,1.4s
319A Douglas 17.09 330 P **P** 07 58 50.5 +0.7
VBMS Vicksburg 17.38 26 P **Pn** 07 58 51.0 -0.6
VBMS Vicksburg 17.38 26 P **Pn** 07 58 50.8 -0.9
baz=210
MSTX Muleshoe 17.40 351 **P** 07 58 53.2 0.0
MSTX Muleshoe 17.40 351 P **Pn** 07 58 51.4 -0.6
baz=169
121A Cookes Peak, D 17.43 336 P **Pn** 07 58 52.2 -0.3
baz=152
143A Socs Landing, 17.45 23 P **Pn** 07 58 52.7 +0.2
143A IAmb IAmb 07 59 00.1
comp=Z,78nm,1.1s
X34A Smith Ranch, M 17.82 4 **P** 07 58 59.0 +1.3
X34A IAmb IAmb 07 59 05.4
comp=Z,123nm,1.5s
WMOK Wichita Mounta 17.91 2 P **Pn** 07 58 56.9 -1.3
baz=182,SNR=26
X37A Clayton 18.12 11 **Pn** 07 59 00.6 -0.2
X37A IAmb IAmb 07 59 10.8
comp=Z,256nm,1.9s
AMTX Amarillo 18.16 354 **Pn** 07 59 00.6 -0.7
AMTX IAmb IAmb 07 59 12.2
comp=Z,81nm,1.1s
AMTX Amarillo 18.16 354 P **Pn** 07 59 00.3 -1.1
baz=173
BRAL Brewton 18.24 36 P **Pn** 07 59 00.3 -2.0
BRAL IAmb IAmb 07 59 11.3
comp=Z,174nm,1.7s
BRAL Brewton 18.24 36 P **Pn** 07 58 59.6 -2.7
baz=221
CRNM Carthage 18.34 340 P **Pn** 07 59 04.2 +0.5
CCAR Cane Creek 18.42 21 P **P** 07 59 02.8 -1.5
CCAR IAmb IAmb 07 59 14.0
comp=Z,68nm,1.0s
MIAR Mount Ida 18.47 15 P **P** 07 59 03.4 -1.5
baz=198,SNR=16
BNM Barren Site 18.48 341 **Pn** 07 59 06.1 +0.6
Y22D IRIS PASSCAL I 18.51 340 P **Pn** 07 59 06.4 +0.7
baz=157
TUC Tucson 18.59 328 P **P** 07 59 06.4 0.0
baz=144
OK025 Westminster Rd 18.84 5 **P** 07 59 08.6 -0.3
OK025 IAmb IAmb 07 59 19.6
comp=Z,102nm,1.0s
ANMO Albuquerque 19.17 342 P **P** 07 59 13.2 +0.4
comp=Z,0.5nm,0.3s,baz=148,slow=12,SNR=10
ANMO LR LR 08 07 41.1
comp=Z,1µm,18.6s,baz=155,slow=40
comp=Z,2.2nm,0.5s
ANMO Albuquerque 19.17 342 P **P** 07 59 13.3 +0.4
ANMO Albuquerque 19.17 342 P **Pn** 07 59 13.8 0.0
baz=159
TUL1 Leonard 19.34 9 P **P** 07 59 13.3 -1.2
baz=191,SNR=8.4
214A Organ Pipe Nat 19.40 324 **Pn** 07 59 16.2 -0.2
214A Organ Pipe Nat 19.40 324 P **Pn** 07 59 17.1 +0.7
baz=138
QUOK Quay 19.48 7 **P** 07 59 15.2 -0.8
QUOK IAmb IAmb 07 59 26.8
comp=Z,80nm,1.1s
WHAR Wooly Hollow 19.52 18 P **P** 07 59 15.8 -0.6
U32A Winter Ranch, 19.54 1 P **P** 07 59 16.5 -0.2
U32A IAmb IAmb 07 59 27.9
comp=Z,74nm,0.9s
LRAL Lakeview Retre 19.71 32 P **P** 07 59 16.6 -1.8
baz=218,SNR=9.3
OK045 Pawnee Station 19.73 6 P **P** 07 59 18.4 -0.3
NOKA Waynoka 19.80 1 **P** 07 59 19.0 -0.5
NOKA IAmb IAmb 07 59 30.7
comp=Z,114nm,1.1s
OXF Oxford 19.83 25 P **P** 07 59 17.3 -2.4
baz=209,SNR=7.3
OK035 E0211 Rd and N 19.88 2 **P** 07 59 19.8 -0.5
X18A Snowflake 20.05 334 P **Pn** 07 59 23.5 -0.8
X18A IAmb IAmb 07 59 36.6
comp=Z,79nm,1.3s
DWPF Disney Wildern 20.07 53 P **P** 07 59 21.2 -1.3
baz=239
KAN17 Caldwell West 20.26 4 P **P** 07 59 24.9 +0.4
KAN17 IAmb IAmb 07 59 35.3
comp=Z,51nm,1.0s
W18A Petrified Fore 20.47 335 P **P** 07 59 27.6 +0.6
W18A Petrified Fore 20.47 335 P **Pn** 07 59 28.5 -0.7
baz=151
TIGA Tifton 20.52 42 P **P** 07 59 26.3 -1.0
baz=228
T25A Trinidad 20.77 349 P **P** 07 59 30.3 +0.1
baz=167,SNR=8.0
X48A Hartselle 20.82 30 P **P** 07 59 28.7 -1.9
X48A IAmb IAmb 07 59 41.2
comp=Z,56nm,1.1s
MTDJ Mount Denham 20.93 83 P **P** 07 59 32.0 0.0
MTDJ IAmb IAmb 07 59 41.7
comp=Z,62nm,1.1s
Y14A Wickenburg 21.01 327 P **P** 07 59 34.1 +1.4
HALT Halls 21.08 23 P **P** 07 59 32.7 -0.6
GLA Glamis 21.36 322 P **P** 07 59 38.4 +1.9
GLA IAmb IAmb 07 59 42.3
comp=Z,53nm,1.1s
GLA Glamis 21.36 322 P **P** 07 59 38.2 +1.8
baz=136,SNR=12
GLAT Glass 21.41 23 P **P** 07 59 37.4 +0.5
WUAZ Wupatki 21.50 333 P **P** 07 59 39.4 +1.3
WUAZ Wupatki 21.50 333 P **P** 07 59 39.4 +1.3
baz=147,SNR=22
SDCO Great Sand Dun 21.58 347 P **P** 07 59 38.7 -0.3
baz=164,SNR=6.0
BLYC Blythe 21.69 324 P **P** 07 59 41.6 +1.6
BLYC IAmb IAmb 07 59 51.1
comp=Z,81nm,1.7s
IKP In-Ko-Pah, Jac 21.86 319 P **P** 07 59 40.8 -1.0
baz=133
SWSC Sam W. Stewart 21.87 320 P **P** 07 59 42.6 +0.8
baz=134
WVT Waverly 21.87 26 P **P** 07 59 39.3 -2.5
WVT IAmb IAmb 07 59 52.8
comp=Z,35nm,0.7s
WVT Waverly 21.87 26 P **P** 07 59 39.2 -2.5
baz=211
MVCO Mesa Verde 21.89 340 P **P** 07 59 42.3 0.0
baz=156,SNR=17
PDMCI Parker Dam,Lak 21.89 326 P **P** 07 59 44.4 +2.3
baz=140,SNR=10
S22A 4UR Ranch, Cre 21.90 344 P **P** 07 59 41.6 -0.8
baz=161,SNR=23
GOGA Godfrey 21.95 38 P **P** 07 59 40.1 -2.6
baz=225,SNR=6.6
CBKS Cedar Bluff 21.97 359 **P** 07 59 42.1 -0.9
CBKS Cedar Bluff 21.97 359 P **P** 07 59 42.4 -0.6
baz=179
BC3 Big Chuckawall 22.16 322 P **P** 07 59 46.2 +1.1
baz=136,SNR=7.1
MONP2 Monument Peak 22.22 319 P **P** 07 59 44.6 -1.2
baz=132
IRM Iron Mountain 22.34 324 P **P** 07 59 47.2 +0.2
baz=137
KSCO Kaye Shedlock' 22.34 353 P **P** 07 59 46.0 -1.1
baz=172
W13A Hualapai Mount 22.37 327 P **P** 07 59 48.9 +1.5
W13A IAmb IAmb 08 00 04.6
comp=Z,58nm,1.6s
KSU1 Kansas State U 22.39 6 P **P** 07 59 45.8 -1.7
baz=187
CCM Cathedral Cave 22.40 17 P **P** 07 59 45.5 -2.0
NEE2 Needles Airpor 22.50 326 P **P** 07 59 48.5 -0.2
baz=139
109C Camp Elliot, M 22.64 318 P **P** 07 59 49.4 -0.8
baz=131
U15A North Rim 22.67 332 P **P** 07 59 51.7 +0.9
U15A IAmb IAmb 08 00 07.2
comp=Z,58nm,1.3s
Q24A Divide 22.68 348 P **P** 07 59 50.8 0.0
Q24A Divide 22.68 348 P **P** 07 59 49.7 -1.2
baz=166
TPFO Pinon Flats 22.72 321 P **P** 07 59 52.6 +1.5
baz=134
BELC Belle Mtn. Jos 22.72 322 P **P** 07 59 52.2 +1.0
baz=135,SNR=7.0
PFO Pinyon Flats O 22.73 321 P **P** 07 59 53.7 +2.5
comp=Z,10nm,1.0s,baz=84,slow=6.5,SNR=6.4
comp=Z,10nm,1.0s
PFO Pinyon Flats O 22.73 321 P **P** 07 59 50.5 -0.6
PFO Pinyon Flats O 22.73 321 P **P** 07 59 53.2 +2.0
baz=134,SNR=5.1
PV07 Paradox Valley 23.06 341 P **P** 07 59 55.1 +0.4
PV07 IAmb IAmb 08 00 04.8
comp=Z,39nm,1.3s
GMRC Granite Mounta 23.09 324 P **P** 07 59 57.5 +2.6
baz=137,SNR=16
MURC Murrieta 23.17 320 P **P** 07 59 56.4 +0.7
baz=132,SNR=6.0
TKL Tuckaleechee C 23.42 34 P **P** 07 59 56.3 -1.8
comp=Z,17nm,0.9s,baz=196,slow=8.7,SNR=17
TKL LR LR 08 10 32.5
comp=Z,272nm,20.1s,baz=259,slow=41
comp=Z,17nm,0.9s
BBRC Big Bear Solar 23.45 321 P **P** 07 59 59.7 +1.0
baz=134
HEC Hector,Ludlow 23.51 323 P **P** 08 00 00.5 +1.5
baz=136,SNR=7.4
PKCU Pink Cliffs 23.53 334 P **P** 08 00 00.8 +1.2
ISCO Idaho Springs 23.58 348 P **P** 08 00 00.7 +0.7
ISCO IAmb IAmb 08 00 11.1
comp=Z,89nm,1.8s
ISCO Idaho Springs 23.58 348 P **P** 08 00 00.2 +0.2
baz=165,SNR=14
SCI2 San Clemente I 23.64 317 P **P** 08 00 01.3 +1.1
baz=129
TUQ Turquoise Moun 23.71 325 P **P** 08 00 02.8 +1.7
baz=138,SNR=8.2
NHSC New Hope 23.80 43 P **P** 08 00 01.4 -0.4
NHSC New Hope 23.80 43 P **P** 08 00 01.1 -0.7
baz=231
CIS Catalina Islan 23.81 318 P **P** 08 00 03.3 +1.3
baz=130
BFSC Mount Baldy Ra 23.88 320 P **P** 08 00 04.2 +1.5
baz=132
RRX Edison Barstow 23.92 322 P **P** 08 00 04.6 +1.6
baz=135
FMP Fort Macarthur 23.93 318 P **P** 08 00 04.0 +0.9
baz=130
V53A Saluda 23.95 35 P **P** 08 00 02.8 -0.5
V53A IAmb IAmb 08 00 12.4
comp=Z,58nm,1.2s
MTPU Mount Pierson 23.98 335 P **P** 08 00 04.2 +0.3
MTPU IAmb IAmb 08 00 16.1
comp=Z,47nm,1.0s
CCUT Cedar City 24.08 332 P **P** 08 00 05.5 +0.8
SHPR Sheep Range 24.11 328 P **P** 08 00 06.2 +1.3
GSC Goldstone, Bar 24.11 323 P **P** 08 00 05.5 +0.7
baz=136
OGNE Ogallala 24.20 355 P **P** 08 00 06.0 +0.4
OGNE Ogallala 24.20 355 P **P** 08 00 05.5 -0.1
baz=174,SNR=5.4
TZTN Tazewell 24.21 32 P **P** 08 00 04.7 -1.0
baz=220,SNR=13
SHOC Shoshone, Teco 24.25 325 P **P** 08 00 07.1 +1.1
baz=138
WCI Wyandotte Cave 24.30 26 P **P** 08 00 04.5 -1.9
baz=212
DECC Green Verdugo 24.31 319 P **P** 08 00 08.0 +1.3
baz=131
Q16A Castle Valley 24.35 337 P **P** 08 00 08.0 +0.9
Q16A IAmb IAmb 08 00 18.8
comp=Z,27nm,1.0s
KMSC Kings Mountain 24.41 38 P **P** 08 00 06.6 -0.9
baz=226,SNR=7.7
SNCC San Nicolas Is 24.45 316 P **P** 08 00 08.5 +0.7
baz=128
O20A White River Ci 24.52 344 P **P** 08 00 08.6 0.0
baz=159
EDW2 Edwards Air Fo 24.52 321 P **P** 08 00 10.4 +1.8
baz=133
BGNE Belgrade 24.59 2 P **P** 08 00 08.5 -0.5
baz=183
P17A Butcher Ranch, 24.69 339 P **P** 08 00 10.4 +0.3
P17A IAmb IAmb 08 00 21.0
comp=Z,33nm,1.3s
TMUT Trail Mountain 24.70 338 P **P** 08 00 10.8 +0.5
TMUT IAmb IAmb 08 00 21.5
comp=Z,20nm,1.0s
N23A Red Feather La 24.70 348 P **P** 08 00 10.0 -0.4
N23A IAmb IAmb 08 00 20.6
comp=Z,34nm,1.1s
N23A Red Feather La 24.70 348 P **P** 08 00 11.0 +0.6
baz=165,SNR=15
OSI Osito Audit: C 24.79 319 P **P** 08 00 14.2 +3.2
baz=131
SCZ2 Santa Cruz Isl 24.98 317 P **P** 08 00 15.0 +2.3
baz=129
FURC Furnace Creek, 24.99 325 P **P** 08 00 14.0 +1.4
baz=137,SNR=5.2
TPNV Topopah Spring 25.02 327 P **P** 08 00 14.1 +0.9
baz=139
MPMC Manual Prospec 25.04 324 P **P** 08 00 14.0 +0.6
baz=136,SNR=13
ARVC Arvin 25.19 320 P **P** 08 00 15.4 +0.9
baz=132
R50A Paris 25.21 29 P **P** 08 00 13.4 -1.3
W57A Gilead 25.23 40 P **P** 08 00 13.9 -0.9
W57A IAmb IAmb 08 00 24.8
comp=Z,42nm,1.1s
X58A Rowland 25.25 42 P **P** 08 00 14.1 -0.9
HDIL Hopedale 25.28 18 P **P** 08 00 13.9 -1.4
baz=203,SNR=6.8
SBC Santa Barbara 25.31 318 P **P** 08 00 16.7 +1.1
baz=129
ISA Isabella, Lake 25.34 322 P **P** 08 00 17.5 +1.5
baz=133,SNR=5.8
NLU North Lily Min 25.59 337 P **P** 08 00 19.4 +1.0
NLU IAmb IAmb 08 00 33.5
comp=Z,33nm,1.4s
SCIA State Center 25.62 11 P **P** 08 00 18.4 +0.1
baz=194
CWC Cottonwood Cre 25.65 323 P **P** 08 00 19.1 +0.2
baz=135
GRAC Grapevine Rang 25.65 325 P **P** 08 00 19.5 +0.7
baz=137,SNR=5.3
PKM Mcpherson Peak 25.65 319 P **P** 08 00 20.4 +1.4
baz=130
R11A Troy Canyon, C 25.76 330 P **P** 08 00 21.1 +1.2
baz=142,SNR=13
VES Vestal, Richgr 25.82 321 P **P** 08 00 21.9 +1.6
baz=132,SNR=8.4
SFIN Lafayette 25.85 22 P **P** 08 00 19.5 -1.0
baz=208
SMMC Simmler 26.04 319 P **P** 08 00 24.2 +1.9
baz=130,SNR=5.7
P49A Miami Univ. Ec 26.06 27 P **P** 08 00 20.9 -1.5
baz=214,SNR=13
DUG Dugway, Tooele 26.08 336 P **P** 08 00 23.9 +1.2
baz=150,SNR=7.0
TIN Tinemaha, Big 26.17 324 P **P** 08 00 25.3 +1.8
baz=136
VOG Valley Oaks Go 26.32 322 P **P** 08 00 26.4 +1.6
baz=133
BLA Blacksburg 26.39 36 P **P** 08 00 24.6 -0.9
baz=224,SNR=12
OTAV Otavalo 26.40 126 P **P** 08 00 28.2 +2.0
OTAV IAmb IAmb 08 00 38.0
comp=Z,43nm,1.9s
O48B Farmland 26.48 25 P **P** 08 00 24.6 -1.6
baz=212,SNR=21
K22A Casper 26.51 348 P **P** 08 00 25.5 -1.1
baz=165,SNR=5.6
IMBA Imbabura, San 26.57 126 P **P** 08 00 27.8 0.0
IMBA IAmb IAmb 08 00 39.9
comp=Z,19nm,0.7s
CNNC Cliffs of the 26.61 42 P **P** 08 00 26.0 -1.3
baz=232
TULM Tulcn-Chalpat 26.62 125 P **P** 08 00 27.4 -0.8
TULM IAmb IAmb 08 00 42.6
comp=Z,25nm,1.2s
SDDR Presa de Saban 26.86 81 P **P** 08 00 29.8 -0.1
MLAC Mammoth, Mammo 26.92 324 P **P** 08 00 30.2 -0.3
baz=136
ECSD EROS Data Cent 26.99 4 P **P** 08 00 29.5 -1.3
baz=186
L44A Lake County Fo 27.19 19 P **P** 08 00 31.8 -0.7
baz=205
NVAR Mina Array Bea 27.20 326 P **P** 08 00 34.9 +1.9
comp=Z,9.4nm,1.0s,baz=152,slow=9.8,SNR=34
comp=Z,9.4nm,1.0s
JFWS Jewell Farm 27.22 15 P **P** 08 00 30.3 -2.5
baz=200
PORT Chimborazo Vol 27.26 130 P **P** 08 00 35.4 +1.3
PORT IAmb IAmb 08 00 50.9
comp=Z,23nm,1.2s
P52A Corning 27.32 30 P **P** 08 00 32.3 -1.4
baz=218,SNR=8.4
BW06 Boulder Array 27.33 344 P **P** 08 00 33.9 -0.2
baz=159
PDAR Pinedale Array 27.33 344 P **P** 08 00 34.5 +0.5
comp=Z,17nm,1.1s,baz=147,slow=8.9,SNR=51

PDAR pP **sP** **08 00 42.5 -0.4**
comp=Z,15nm,1.0s,baz=150,slow=11,SNR=17
comp=Z,17nm,1.1s
ACSO Alum Creek Sta **27.40 28** P **P** **08 00 33.3 -1.2**
baz=216,SNR=6.4
ELK Elko **27.54 333** P **P** **08 00 37.9 +2.0**
comp=Z,1.8nm,0.8s,baz=165,slow=5.6,SNR=7.2
ELK pP **sP** **08 00 46.0 +1.2**
comp=Z,2.9nm,1.0s,baz=149,slow=6.6,SNR=3.8
comp=Z,1.8nm,0.8s
RSSD Black Hills **27.55 353** P **P** **08 00 35.3 -0.7**
baz=170
SUSD Miller **27.60 1** P **P** **08 00 35.9 -0.2**
baz=181
O53A New Philadelph **28.24 30** P **P** **08 00 40.4 -1.6**
baz=219,SNR=5.2
MCWV Mont Chateau **28.48 33** P **P** **08 00 43.4 -0.7**
baz=222,SNR=7.9
BOSC San Juan Bosco **28.62 132** P **P** **08 00 48.1 +2.4**
BOSC IAmb IAmb 08 00 55.3
comp=Z,18nm,0.9s
AAM Ann Arbor **28.82 25** P **P** **08 00 45.4 -1.6**
baz=213
CBN Corbin Frederi **28.83 38** P **P** **08 00 46.2 -1.0**
baz=228
SPMN Marine on St. **28.92 10** P **P** **08 00 45.6 -2.3**
baz=193
H17A Grant Village **29.11 343** P **P** **08 00 48.3 -1.7**
baz=158
SDV Santo Domingo **29.12 102** P **P** **08 00 50.8 +0.5**
comp=Z,2.4nm,0.3s,baz=292,slow=3.4,SNR=5.6
comp=Z,2.4nm,0.3s
SDV Santo Domingo **29.12 102** P **P** **08 00 50.5 +0.2**
P57A Homestead Farm **29.34 35** P **P** **08 00 51.0 -0.7**
P57A IAmb IAmb 08 01 01.3
comp=Z,29nm,1.1s
M53A WI Miller and **29.42 29** P **P** **08 00 49.7 -2.7**
baz=219
RLMT Red Lodge **29.46 346** P **P** **08 00 52.1 -0.9**
baz=161,SNR=15
YMR Madison River **29.47 343** P **P** **08 00 53.7 +0.6**
YMR IAmb IAmb 08 01 03.9
comp=Z,19nm,1.3s
HLID Hailey **29.59 338** P **P** **08 00 54.5 +0.4**
baz=150,SNR=8.6
MFID Camas Ranch **30.00 336** P **P** **08 00 57.9 +0.1**
SSPA Standing Stone **30.22 34** P **P** **08 00 59.0 -0.5**
SSPA Standing Stone **30.22 34** P **P** **08 00 59.0 -0.5**
baz=224
ERPA Erie **30.27 29** P **P** **08 00 58.8 -1.2**
baz=219
LAO LASA Array **30.37 351** P **P** **08 01 01.0 +0.1**
baz=167
M55A Ridgway **30.37 32** P **P** **08 00 59.9 -1.0**
BOZ Bozeman (W) **30.51 343** P **P** **08 01 02.9 +0.7**
baz=157,SNR=9.7
GLMI Grayling **30.63 21** P **P** **08 01 02.1 -0.9**
baz=209
MOD Modoc Plateau **30.80 329** P **P** **08 01 05.5 +0.7**
MOD IAmb IAmb 08 01 15.8
comp=Z,11nm,0.9s
MDND Maddock **31.00 360** P **P** **08 01 06.3 0.0**
baz=180
L56A Greenwood **31.47 32** P **P** **08 01 09.5 -1.1**
PLID Pearl Lake **31.48 337** P **P** **08 01 11.2 +0.2**
ATAH Atahualpa **31.57 137** P **P** **08 01 13.5 +1.4**
comp=Z,3.7nm,0.9s,baz=330,slow=18,SNR=1.6
comp=Z,3.7nm,0.9s
AGMN Agassiz Nation **31.59 5** P **P** **08 01 11.6 +0.1**
baz=187
SJG San Juan **31.75 83** LR LR 08 14 19.3
comp=Z,176nm,21.7s,baz=232,slow=37
EYMN Ely **31.77 10** P **P** **08 01 13.3 +0.1**
baz=194
DGMT Dagmar **31.86 354** P **P** **08 01 14.2 +0.3**
baz=171
L04D Klamath Falls **32.05 327** P **P** **08 01 16.3 +0.4**
L04D Klamath Falls **32.05 327** P **P** **08 01 16.7 +0.9**
baz=136
I07A Izee **32.09 332** P **P** **08 01 17.3 +1.1**
J05D Fort Rock, OR **32.29 329** P **P** **08 01 18.6 +0.7**
baz=138
MSO Missoula **32.31 341** P **P** **08 01 18.7 +0.7**
MSO IAmb IAmb 08 01 31.7
comp=Z,17nm,1.2s
MSO Missoula **32.31 341** P **P** **08 01 18.5 +0.6**
baz=153,SNR=7.9
EGMT Eagleton **32.31 347** P **P** **08 01 18.8 +0.9**
baz=161,SNR=5.3
BINY Binghamton **32.33 34** P **P** **08 01 17.4 -0.8**
BINY Binghamton **32.33 34** P **P** **08 01 17.6 -0.6**
baz=225,SNR=6.3
PAL Palisades **32.68 37** P **P** **08 01 20.0 -1.2**
baz=230
J04D Umpqua Nationa **32.69 329** P **P** **08 01 22.4 +1.0**
baz=137
F10A Beach Ranch, E **32.69 337** P **P** **08 01 21.2 -0.1**
SADO Sadowa **32.73 27** LR LR 08 15 28.5
comp=Z,210nm,21.1s,baz=178,slow=38
K02D Willamette Mer **33.10 326** P **P** **08 01 25.7 +0.7**
baz=134
I05D Terrebonne, OR **33.13 331** P **P** **08 01 25.5 +0.4**
baz=139
J57A Williamstown **33.19 32** P **P** **08 01 24.6 -1.0**
I04A Tendick Farm, **33.24 329** P **P** **08 01 27.3 +1.1**
baz=137
ULM Lac du Bonnet **33.53 4** P **P** **08 01 26.8 -1.7**
comp=Z,3.8nm,0.7s,baz=220,slow=5.8,SNR=3.0
comp=Z,3.8nm,0.7s
J01E Myrtle Point **33.57 327** P **P** **08 01 30.5 +1.6**
baz=134
I03D Drain, OR **33.64 328** P **P** **08 01 29.4 -0.1**
baz=136
H04D Lebanon **33.94 330** P **P** **08 01 32.2 0.0**
baz=137
NEW Newport **34.60 339** P **P** **08 01 39.1 +1.2**
baz=149,SNR=5.5
G03D McMinnville, O **34.70 330** P **P** **08 01 39.1 +0.4**
baz=137
LONY Lake Ozonia **34.77 32** P **P** **08 01 38.5 -0.8**
baz=225
F04D Rainier, OR **35.22 331** P **P** **08 01 44.5 +1.3**
baz=138
LBNH Lisbon **35.90 34** P **P** **08 01 49.5 +0.4**
baz=229
CZSB Cruzeiro do Su **35.93 131** P **P** **08 01 51.2 +1.6**
CZSB IAmb IAmb 08 01 57.8
comp=Z,13nm,1.0s
NNA Nana **36.26 141** LR LR 08 14 02.7
comp=Z,383nm,19.4s,baz=94,slow=32
FFC Flin Flon **37.94 358** P **P** **08 02 05.6 -0.6**
FFC IAmb IAmb 08 02 15.3
comp=Z,24nm,0.9s
LLLB Lillooet **38.27 337** P **P** **08 02 10.1 +0.9**
LLLB IAmb IAmb 08 02 23.7
comp=Z,34nm,1.4s
ETMB Extrema **42.15 126** P **P** **08 02 40.7 -0.9**
ETMB IAmb IAmb 08 02 47.9
comp=Z,5.7nm,0.9s
MACA Manacapuru-AM **43.08 114** P **P** **08 02 48.7 -0.6**
MACA IAmb IAmb 08 02 57.9
comp=Z,15nm,1.2s
RPN Rapa Nui **44.67 193** LR LR 08 17 26.6
comp=Z,393nm,18.8s,baz=28,slow=30
LPAZ La Paz **45.06 135** P **P** **08 03 06.2 +0.3**
comp=Z,0.9nm,0.8s,baz=352,slow=9.2,SNR=4.0
comp=Z,0.9nm,0.8s
LPAZ La Paz **45.06 135** P **P** **08 03 06.0 +0.1**
SCHQ Schefferville **45.51 26** P **P** **08 03 06.8 -1.4**
comp=Z,18nm,1.0s,baz=220,slow=7.8,SNR=17
comp=Z,18nm,1.0s
V35K Ketchikan **45.69 335** P **P** **08 03 11.0 +1.4**
baz=135
YKA Yellowknife Ar **46.91 350** P **P** **08 03 18.8 -0.3**
comp=Z,6.1nm,1.0s,baz=162,slow=7.9,SNR=7.1
YKA pP **pP** **08 03 26.6 +1.0**
comp=Z,7.9nm,0.8s,baz=161,slow=7.4,SNR=11
YKA LR LR 08 24 40.5
comp=Z,427nm,18.1s,baz=134,slow=38
comp=Z,6.1nm,1.0s
DLBC Dease Lake **47.35 339** LR LR 08 25 22.8
comp=Z,534nm,20.0s,baz=128,slow=39
S34M Telegraph Cree **47.36 338** P **P** **08 03 24.9 +2.3**
baz=137
TAOE Nuku Hiva Isla **47.65 241** *e*LR LR 08 17 05.4
comp=Z,315nm,21.8s
TAOE Nuku Hiva Isla **47.65 241** *e*T T 08 54 09.3
comp=Z,58nm,0.3s

WTLY Watson Lake, Y **48.22 341** P **P** **08 03 30.2 +0.8**
WTLY IAmb IAmb 08 03 40.5
comp=Z,15nm,1.0s
WTLY Watson Lake, Y **48.22 341** P **P** **08 03 30.7 +1.3**
baz=141,SNR=6.5
R33M Jennings River **48.39 339** P **P** **08 03 32.5 +1.7**
baz=138
Q32M Nakina River **48.53 338** P **P** **08 03 34.4 +2.4**
baz=136
VILB Vilhena **48.73 125** P **P** **08 03 34.1 +0.2**
VILB IAmb IAmb 08 03 43.5
comp=Z,16nm,1.0s
TGTN Hyland Airport **49.18 342** P **P** **08 03 37.9 +1.2**
baz=142
WRGLY Wrigley **49.32 346** P **P** **08 03 37.9 +0.1**
baz=149
P32M Atlin **49.50 338** P **P** **08 03 40.8 +1.6**
baz=135
SIV San Ignacio **49.90 129** P **P** **08 03 42.1 -0.7**
comp=Z,2.2nm,1.0s,baz=306,slow=9.2,SNR=3.6
comp=Z,2.2nm,1.0s
MMPY Sheldon Lake, **50.92 342** P **P** **08 03 51.7 +1.7**
baz=140,SNR=5.1
O30N Mendenhall **51.18 338** P **P** **08 03 52.0 +0.1**
baz=133
FARO Faro, Yukon **51.27 340** P **P** **08 03 53.4 +0.8**
baz=137
FRB Frobisher Bay **51.51 17** LR LR 08 27 30.5
comp=Z,348nm,19.0s,baz=214,slow=38
N31M Braeburn, Yuko **51.56 339** P **P** **08 03 55.8 +1.0**
baz=134
M31M Drury Creek, Y **51.59 340** P **P** **08 03 55.6 +0.6**
baz=136
PNL Peninsula **51.71 335** P **P** **08 03 56.8 +0.9**
baz=128
HYT Haines Junctio **51.73 337** P **P** **08 03 57.4 +1.3**
baz=131
O29M Mount Kennedy **51.79 336** P **P** **08 03 58.1 +1.5**
baz=130
N30M Aishikik Lake **52.00 338** P **P** **08 03 59.8 +1.7**
baz=132
M29M Somme Creek **53.14 339** P **P** **08 04 08.8 +2.2**
baz=131
POHA Pohakuloa **53.17 282** P **P** **08 04 09.1 +1.5**
MLOA Mauna Loa Obse **53.23 282** P **P** **08 04 09.2 +0.9**
L29M L29M **53.47 339** P **P** **08 04 10.8 +1.9**
baz=132
H03N2 Juan Fernandez **53.62 159** T T 09 01 52.2
baz=338,slow=77,SNR=398
H03N1 Juan Fernandez **53.63 159** T T 09 01 53.4
baz=338,slow=77,SNR=268
H03N3 Juan Fernandez **53.63 159** T T 09 01 50.3
baz=338,slow=77,SNR=288
K29M Barlow Dome **53.76 340** P **P** **08 04 11.6 +0.5**
baz=133
MCARA McCarthy VSAT **54.18 336** P **P** **08 04 16.2 +2.1**
baz=126
M27K Edge Creek, AK **54.32 337** P **P** **08 04 16.8 +1.6**
baz=127
DAWY Dawson **54.53 340** P **P** **08 04 17.7 +1.1**
baz=131
BMRM Bremner River **54.58 335** P **P** **08 04 18.7 +1.7**
baz=124
L27K Beaver Creek, **54.73 338** P **P** **08 04 19.4 +1.3**
baz=128
C36M Paulatuk **54.77 350** P **P** **08 04 19.5 +1.3**
baz=151
M26K Nabesna, AK **54.77 337** P **P** **08 04 19.5 +1.1**
baz=126
N25K Chitina, Valde **54.93 336** P **P** **08 04 20.1 +0.5**
baz=124
I29M Ogilvie Camp, **55.05 341** P **P** **08 04 19.8 -0.6**
baz=133
F31M Tsiigehtchic **55.27 345** P **P** **08 04 21.3 -0.5**
baz=139
EPYK Eagle Plains **55.28 343** P **P** **08 04 22.0 0.0**
baz=135
KLU Klutina **55.40 335** P **P** **08 04 23.3 +0.3**
baz=122
K27K Chicken **55.42 339** P **P** **08 04 24.4 +1.4**
K27K IAmb IAmb 08 04 35.5
comp=Z,10.0nm,1.0s
K27K Chicken **55.42 339** P **P** **08 04 24.3 +1.4**
baz=128
EGAK Eagle **55.58 340** P **P** **08 04 23.8 -0.3**
baz=129
INK Inuvik **55.87 345** P **P** **08 04 26.3 +0.1**
INK Inuvik **55.87 345** P **P** **08 04 27.0 +0.9**
baz=140,SNR=7.3
PAX Paxson **56.03 337** P **P** **08 04 28.7 +1.2**
baz=124
SCRK Sand Creek **56.06 338** P **P** **08 04 28.8 +1.0**
baz=126
SCM Sheep Creek Mo **56.15 335** P **P** **08 04 29.4 +1.1**
baz=121
J26L Joseph Creek **56.22 339** P **P** **08 04 30.4 +1.6**
J26L IAmb IAmb 08 04 40.9
comp=Z,21nm,1.4s
J26L Joseph Creek **56.22 339** P **P** **08 04 30.1 +1.2**
baz=127
RIDG Independent Ri **56.23 338** P **P** **08 04 30.2 +1.3**
baz=125
I27K Kandik River **56.25 340** P **P** **08 04 30.1 +1.1**
baz=129
SML Sawmill **56.54 335** P **P** **08 04 31.7 +0.5**
baz=120
BRSE Bradley Lake S **56.60 332** P **P** **08 04 31.8 +0.2**
baz=116
H27K Steamboat Moun **56.62 341** P **P** **08 04 32.7 +1.1**
baz=130
KDAK Kodiak Island **56.65 329** LR LR 08 29 21.9
comp=Z,291nm,19.4s,baz=115,slow=36
PMR Palmer **56.77 334** P **P** **08 04 33.7 +1.0**
baz=119
DHY Denali Highway **56.82 336** P **P** **08 04 32.3 -0.9**
baz=122
HOM Homer **56.98 331** P **P** **08 04 35.4 +1.2**
baz=116
G27K Doyon Strip **57.03 342** P **P** **08 04 34.7 +0.1**
baz=130
HDA Harding Lake **57.37 338** P **P** **08 04 36.9 0.0**
baz=123
PRP Porcupine Dome **57.49 339** P **P** **08 04 37.4 -0.5**
baz=125
IL31 **57.55 338** P **P** **08 04 38.4 +0.3**
IL31 IAmb IAmb 08 04 52.0
comp=Z,29nm,1.6s
ILAR Eielson Array **57.55 338** P **P** **08 04 38.2 0.0**
comp=Z,3.6nm,1.1s,baz=147,slow=4.8,SNR=16
ILAR LR LR 08 30 32.8
comp=Z,205nm,21.0s,baz=109,slow=37
comp=Z,3.6nm,1.1s
MCK McKinley **57.76 336** P **P** **08 04 39.7 0.0**
baz=121
G26K Porcupine Rive **57.78 341** P **P** **08 04 39.7 0.0**
baz=128
E27K Coleen River **57.91 343** P **P** **08 04 42.0 +1.4**
baz=131,SNR=6.4
POKR Poker Plat Res **57.93 338** P **P** **08 04 41.2 +0.4**
baz=123
SKT Skwentna **57.96 334** P **P** **08 04 41.5 +0.4**
baz=117
RES Resolute Bay **57.99 1** LR LR 08 32 01.1
comp=Z,168nm,19.6s,baz=162,slow=38
H25K Birch Creek **58.03 340** P **P** **08 04 42.4 +1.0**
baz=125
TRF Thorofare Moun **58.14 336** P **P** **08 04 42.7 +0.2**
baz=119
NEA2 Nenana **58.25 337** P **P** **08 04 44.4 +1.3**
baz=121
F26K Sheenjek River **58.35 342** P **P** **08 04 44.4 +0.7**
baz=128
H24K Noodor Dome **58.48 339** P **P** **08 04 45.6 +0.9**
baz=123
M20K Styx River **58.59 333** P **P** **08 04 45.9 +0.3**
baz=115
PPLA Purkeypile **58.65 335** P **P** **08 04 45.9 -0.2**
baz=117
F25K Christian Rive **58.74 341** P **P** **08 04 46.8 +0.3**
baz=126
N19K Bonanza Creek **58.75 332** P **P** **08 04 47.0 +0.3**
baz=113
G24K Hadweenzic Riv **58.82 340** P **P** **08 04 48.3 +1.3**
baz=124
CAST Castle Rocks **58.84 335** P **P** **08 04 47.0 -0.2**
baz=117
E25K Arctic Village **59.03 342** P **P** **08 04 48.8 +0.3**
baz=126

H23K Yukon River **59.06 338** P **P** **08 04 49.4 +0.7**
baz=121
MLY Manley **59.09 337** P **P** **08 04 49.3 +0.3**
baz=119
M19K Big River Lodg **59.15 333** P **P** **08 04 49.7 +0.4**
baz=114
L20K Farewell, AK **59.17 334** P **P** **08 04 50.0 +0.5**
baz=115
SFJD Kangerlussuaq **59.23 20** LR LR 08 33 58.0
comp=Z,139nm,18.8s,baz=212,slow=40
CPUP Villa Florida **59.23 136** P **P** **08 04 49.9 -0.5**
comp=Z,3.4nm,1.1s,baz=309,slow=4.9,SNR=3.3
comp=Z,3.4nm,1.1s
N18K Kilae Creek **59.34 332** P **P** **08 04 51.1 +0.4**
baz=112
F24K Squaw Lake **59.41 340** P **P** **08 04 51.2 +0.1**
baz=124
C27K Jago River **59.43 344** P **P** **08 04 51.7 +0.5**
baz=129
L19K White Mountain **59.46 333** P **P** **08 04 52.1 +0.5**
baz=114
O17K Koliganek Bris **59.57 330** P **P** **08 04 52.9 +0.6**
baz=110
K20K Telida **59.62 335** P **P** **08 04 53.0 +0.3**
baz=115
I21K Tanana **59.62 337** P **P** **08 04 53.1 +0.6**
baz=118
G23K Bananza Creek **59.68 339** P **P** **08 04 53.5 +0.5**
baz=121
H22K Ishtalitna Cre **59.74 338** P **P** **08 04 54.3 +0.9**
baz=119
E24K Your Creek **59.91 341** P **P** **08 04 55.6 +1.0**
baz=123
D25K Kavik River **59.98 343** P **P** **08 04 55.1 +0.1**
baz=126
J20K Nowinta River **60.00 336** P **P** **08 04 55.7 +0.6**
baz=116
COLD Coldfoot **60.01 340** P **P** **08 04 56.3 +1.1**
baz=121
PPT Papeete **60.02 238** LR LR 08 24 12.9
comp=Z,168nm,21.7s,baz=65,slow=29
PPT2 Papeete2 **60.04 238** *e*LR LR 08 22 49.5
comp=Z,201nm,21.5s
BDFB Brasilia **60.07 120** P **P** **08 04 55.7 -0.8**
comp=Z,5.0nm,0.9s,baz=328,slow=6.3,SNR=5.8
comp=Z,5.0nm,0.9s
H21K Melozitna Rive **60.15 337** P **P** **08 04 56.6 +0.3**
baz=118
TTA Tatalina **60.25 334** P **P** **08 04 56.7 -0.3**
baz=113
E23K Chandalar **60.26 341** P **P** **08 04 57.8 +0.8**
baz=122
G22K Bettles **60.30 339** P **P** **08 04 57.7 +0.5**
baz=120
TOLK Toolik Lake Re **60.55 341** P **P** **08 04 59.6 +0.6**
baz=122
N16K Nishlik Lake **60.60 331** P **P** **08 04 59.2 -0.2**
baz=109
D24K Happy Valley **60.60 342** P **P** **08 04 59.2 -0.1**
baz=124
G21K Allakaket **60.80 338** P **P** **08 05 00.8 +0.1**
baz=117
F22K John River **60.81 339** P **P** **08 05 01.6 +0.9**
baz=119
C24K Franklin Bluff **60.88 342** P **P** **08 05 01.5 +0.3**
baz=124
E22K Anaktuvuk Pass **61.00 340** P **P** **08 05 02.5 +0.4**
baz=120
D23K Nanushuk River **61.07 341** P **P** **08 05 03.1 +0.7**
baz=121
F21K Alatna River **61.12 339** P **P** **08 05 04.0 +1.2**
baz=118,SNR=5.8
C23K Itkillik River **61.51 342** P **P** **08 05 05.7 +0.3**
baz=122
TBI Tubuai **63.09 232** *e*LR LR 08 24 14.2
comp=Z,233nm,23.2s
TBI Tubuai **63.09 232** *e*T T 09 13 30.5
comp=Z,11nm,0.2s
PLCA Paso Flores **63.18 156** P **P** **08 05 18.5 +1.5**
comp=Z,3.5nm,1.1s,baz=349,slow=7.9,SNR=7.0
PLCA LR LR 08 26 02.9
comp=Z,276nm,20.8s,baz=32,slow=30
comp=Z,3.5nm,1.1s
SUMG Summit **65.58 17** *i* P **P** **08 05 32.0 -0.7**
RCBR Riachuelo **66.67 104** LR LR 08 35 02.1
comp=Z,72nm,21.9s,baz=108,slow=36
BORG Borgarnes **69.90 27** LR LR 08 38 51.4
comp=Z,97nm,18.1s,baz=250,slow=38
RAR Rarotonga **70.17 240** LR LR 08 30 13.9
comp=Z,183nm,18.8s,baz=82,slow=30
JMIC Jan Mayen **74.59 20** LR LR 08 41 03.2
comp=Z,114nm,20.0s,baz=252,slow=37
AFI Afiamalu **77.67 251** LR LR 08 34 30.8
comp=Z,87nm,18.7s,baz=95,slow=30
SPITS Spitsbergen Ar **78.78 11** LR LR 08 43 41.0
comp=Z,180nm,19.4s,baz=266,slow=37
EKA Eskdalemuir Ar **79.89 35** LR LR 08 44 58.6
comp=Z,75nm,18.7s,baz=239,slow=38
SEY Seynchan **83.22 334** P **P** **08 07 14.9 -0.1**
comp=Z,6.4nm,1.1s,baz=94,slow=6.0,SNR=4.8
comp=Z,6.4nm,1.1s
ESDC Sonseca Array **83.58 51** P **P** **08 07 15.8 -1.6**
comp=Z,1.3nm,0.9s,baz=302,slow=5.4,SNR=7.7
comp=Z,1.3nm,0.9s
PETK Petropavlovsk- **84.26 324** P **P** **08 07 20.4 -0.2**
comp=Z,2.7nm,0.9s,baz=169,slow=3.0,SNR=3.5
comp=Z,2.7nm,0.9s
MDT Midelt **85.02 57** LR LR 08 40 46.4
comp=Z,210nm,20.7s,baz=275,slow=32
NOA NORSAR Array B **85.06 27** LR LR 08 48 25.8
comp=Z,51nm,18.0s,baz=240,slow=38
ARCES ARCESS Array B **85.68 17** P **P** **08 07 26.7 -0.7**
comp=Z,1.0nm,0.8s,baz=316,slow=3.8,SNR=2.1
comp=Z,1.0nm,0.8s
HFS Hagfors **86.57 27** LR LR 08 46 22.0
comp=Z,88nm,21.0s,baz=272,slow=36
KOWA Kowa **90.93 75** LR LR 08 47 10.0
comp=Z,64nm,18.6s,baz=228,slow=35
GERES GERESS Array B **91.91 37** P **P** **08 07 55.7 -1.8**
comp=Z,0.2nm,0.3s,baz=270,slow=5.3,SNR=4.8
comp=Z,0.2nm,0.3s
VRAC Vranov **93.35 36** LR LR 08 54 20.8
comp=Z,67nm,18.1s,baz=263,slow=38
NACGM Naroch **95.33 28** PP **PP** **08 12 00.8 -1.8**
baz=308
TORD Torodi Ar. Bea **96.62 74** P **P** **08 08 17.7 -1.9**
comp=Z,0.8nm,1.1s,baz=249,slow=2.8,SNR=2.7
TORD LR LR 08 48 28.5
comp=Z,77nm,20.7s,baz=214,slow=33
comp=Z,0.8nm,1.1s
OBN Obninsk **99.28 24** LR LR 08 53 31.7
comp=Z,21nm,21.5s,baz=306,slow=36
DZM Mont Dzumac **99.85 250** *e*LR LR 08 41 16.7
comp=Z,174nm,21.7s
LYN LuoYang **120.64 330** *e*PKP **PKiKP** **08 13 48.3 +7.0**
MAW Mawson **127.91 172** PKP **PKiKP** **08 13 54.3 -0.3**
comp=Z,1.7nm,0.8s,baz=70,slow=5.3,SNR=3.7
WRA Warramunga Arr **129.04 258** PKP **PKPdf** **08 13 57.3 -0.4**
comp=Z,3.2nm,1.1s,baz=87,slow=1.5,SNR=8.3
ASAR Alice Springs **129.72 253** PKP **PKPdf** **08 13 59.0 +0.1**
comp=Z,1.7nm,1.1s,baz=118,slow=2.1,SNR=4.9
PZH PanZhiHua **132.33 334** PKP **PKiKP** **08 14 05.0 0.0**
CMAR Chiang Mai Arr **140.61 332** PKP **PKPdf** **08 14 19.8 +0.5**
comp=Z,1.7nm,0.4s,baz=318,slow=1.2,SNR=1.7

IDC 23 07:56:03.8±2.7, 53°.94N×86°.59E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=22.1km s-min=13.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res	ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**271**	*i*				08 01 50.0		
	0.1nm,0.9s,baz=91,slow=328,SNR=7.9									
ZALV	**Zalesovo Beam**	**1.04**	**271**			Pg	Pg	07 56 22.4	-1.4	
	baz=89,slow=16									
ZALV						Lg	Lg	07 56 38.6		
	2.2nm,0.3s,baz=92,slow=29,SNR=6.5									
KURBB	**Kurchatov Arra**	**5.95**	**239**			Pn	Pn	07 57 34.1	+1.0	
	0.1nm,0.3s,baz=56,slow=13,SNR=4.9									
KURBB						Lg	Lg	07 59 13.6		
	baz=48,slow=33,SNR=2.1									
	0.7nm,0.3s									
MKAR	**Makanchi Array**	**7.66**	**203**			Pn	Pn	07 57 57.5	+1.0	
	0.2nm,0.3s,baz=24,slow=13,SNR=6.0									
MKAR						Lg	Lg	08 00 07.6		
	baz=25,slow=33,SNR=2.8									
	0.3nm,0.3s									

*NEIC **23** 07:57:15.6±2.0, 16°.74N±0°.01×99°.45W±0°.01, h10km±1km, mb3.9/5, Md4.2/26(MEX), Error ellipse: s-maj=2.9km s-min=2.8km az=222.0*

*MEX **23** 07:57:17.3±1.0, 16°.64N×99°.45W, h15km, MD4.2*

ISC 23 07:57:14.1±1.8, 16.72N±0.04×99.46W±0.02, h6km±13km, n33, σ0s62/58, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIG	**Cruz Grande**	**0.32**	**87**		**Pb**	**07 57 22.7**	**+0.5**
CRIG					**Sb**	**07 57 27.2**	**-0.5**
CRIG	**Cruz Grande**	**0.32**	**87**	*i* P	**Pb**	**07 57 22.7**	**+0.5**
CRIG				*i* S	**Sb**	**07 57 27.2**	**-0.5**
DAIG	**Los Arroyos**	**0.35**	**329**		**Pb**	**07 57 23.2**	**+0.5**
DAIG					**Sb**	**07 57 28.2**	**-0.3**
DAIG	**Los Arroyos**	**0.35**	**329**	*i* P	**Pb**	**07 57 23.2**	**+0.5**
DAIG				*i* S	**Sb**	**07 57 28.2**	**-0.3**
VNTA	**La Mica**	**0.39**	**299**	*i* P	**Pb**	**07 57 23.9**	**+0.4**
VNTA				*i* S	**Sb**	**07 57 29.6**	**-0.1**
ACP2	**Acapulco**	**0.43**	**291**		**Pb**	**07 57 24.7**	**+0.6**
ACP2					**Sb**	**07 57 31.0**	**0.0**
ACP2	**Acapulco**	**0.43**	**291**	*e*P	**Pb**	**07 57 24.7**	**+0.6**
ACP2				*e*S	**Sb**	**07 57 31.0**	**0.0**
CAIG	**El Cayaco**	**0.83**	**293**		**Pn**	**07 57 31.2**	**-1.2**
CAIG					**Sb**	**07 57 41.6**	**-0.9**
CAIG	**El Cayaco**	**0.83**	**293**	*e*P	**Pn**	**07 57 31.2**	**-1.2**
CAIG				*e*S	**Sb**	**07 57 41.6**	**-0.9**
MGIG	**Malinaltepec**	**0.94**	**57**		**Pb**	**07 57 32.8**	**-0.2**
MGIG					**Sg**	**07 57 44.9**	**+0.4**
MGIG	**Malinaltepec**	**0.94**	**57**	*i* P	**Pb**	**07 57 32.8**	**-0.2**
MGIG				*i* S	**Sg**	**07 57 44.9**	**+0.4**
TLIG	**Tlapa**	**1.20**	**46**	Pn	**Pn**	**07 57 37.9**	**+0.4**
TLIG	**Tlapa**	**1.20**	**46**	*i* P	**Pb**	**07 57 37.3**	**0.0**
TLIG				*i* S	**Sg**	**07 57 52.7**	**0.0**
MEIG	**Mezcala**	**1.21**	**353**		**Pb**	**07 57 37.3**	**-0.2**
MEIG					**Sg**	**07 57 52.8**	**-0.1**
MEIG	**Mezcala**	**1.21**	**353**	*i* P	**Pb**	**07 57 37.3**	**-0.2**
MEIG				*i* S	**Sg**	**07 57 52.8**	**-0.1**
PNIG	**Pinotepa**	**1.32**	**104**		**Pn**	**07 57 38.5**	**-0.7**
PNIG					**Sb**	**07 57 56.3**	**-0.3**
PNIG	**Pinotepa**	**1.32**	**104**	*e*P	**Pn**	**07 57 38.5**	**-0.7**
PNIG				*e*S	**Sb**	**07 57 56.3**	**-0.3**
HMTT	**Tlapaneco**	**1.38**	**39**		**Pn**	**07 57 39.6**	**-0.3**
HMTT					**Sb**	**07 57 57.9**	**-0.3**
HMTT	**Tlapaneco**	**1.38**	**39**	*i* P	**Pn**	**07 57 39.6**	**-0.3**
HMTT				*e*P	**Pb**	**07 57 39.9**	**-0.5**
HMTT				*i* S	**Sb**	**07 57 57.9**	**-0.3**
PLIG	**Platanillo**	**1.66**	**359**		**Pb**	**07 57 44.7**	**-0.5**
PLIG					**Sn**	**07 58 05.8**	**+0.2**
PLIG	**Platanillo**	**1.66**	**359**	*e*P	**Pb**	**07 57 44.7**	**-0.5**
PLIG				*e*S	**Sn**	**07 58 05.8**	**+0.2**
FTIG	**Fresnillo de T**	**1.73**	**47**		**Pn**	**07 57 44.8**	**-0.1**
FTIG					**Sn**	**07 58 06.9**	**-0.6**
FTIG	**Fresnillo de T**	**1.73**	**47**	*e*P	**Pn**	**07 57 44.8**	**-0.1**
FTIG				*e*S	**Sn**	**07 58 06.9**	**-0.6**
ARIG	**Puente Sto Nin**	**1.77**	**332**		**Pb**	**07 57 46.1**	**-0.8**
ARIG					**Sn**	**07 58 08.8**	**+0.7**
ARIG	**Puente Sto Nin**	**1.77**	**332**	*e*P	**Pb**	**07 57 46.1**	**-0.8**
ARIG				*e*S	**Sn**	**07 58 08.8**	**+0.7**
UNM	**Universidad Na**	**2.61**	**6**	Pn	**Pn**	**07 57 58.1**	**+1.1**
MOIG	**Morelia**	**3.37**	**331**	Pn	**Pn**	**07 58 08.8**	**+1.3**
HUEH	**Huehuetenango**	**7.78**	**99**	Pn	**Pn**	**07 59 09.8**	**+1.7**
WMOK	**Wichita Mounta**	**17.95**	**2**	P	**P**	**08 01 25.1**	**+0.1**
TUC	**Tucson**	**18.60**	**329**	P	**Pn**	**08 01 33.1**	**+0.6**
TUC				IAmb	IAmb	08 01 44.5	
	comp=Z,4.5nm,1.2s						
PLAL	**Pickwick Lake**	**20.84**	**27**	P	**P**	**08 01 56.7**	**+0.1**
PLAL				IAmb	IAmb	08 02 07.8	
	comp=Z,5.4nm,0.8s						
MVCO	**Mesa Verde**	**21.91**	**340**	P	**P**	**08 02 09.4**	**+1.0**
WVT	**Waverly**	**21.92**	**26**	P	**P**	**08 02 07.1**	**-1.1**
WVT				IAmb	IAmb	08 02 10.9	
	comp=Z,4.1nm,0.7s						

DNK 23 08:00:50.5±0.7, 57°.74N×11°.87E, h0km, ML0.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TJOU	**Tjoern**	**0.32**	**337**	P	Pg	08 00 56.6	-0.1
TJOU				S	Sg	08 01 00.9	0.0
ONAU	**Onsala**	**0.34**	**175**	*i* P	Pg	08 00 56.6	-0.3
ONAU				P	Pb	08 00 56.7	-2.7
ONAU				*i* S	Sg	08 01 01.1	-0.3
ONAU				S	Sb	08 01 01.2	-4.1
VANU	**Vaenersborg**	**0.77**	**8**	P	Pg	08 01 04.7	-0.5
FABU	**Falkenberg**	**0.87**	**148**	P	Pg	08 01 06.4	-0.8
FABU				*i* P	Pb	08 01 06.5	-2.0
FABU				*i* S	Sg	08 01 18.6	+0.3
FKPU	**Falk**	**1.08**	**66**	P	Pg	08 01 10.3	-0.9
GNOU	**Gnosjoe**	**1.11**	**113**	P	Pg	08 01 10.6	-1.2
DEL	**Delary**	**1.68**	**138**	*i* P	Pn	08 01 20.8	-0.2
DEL				*i* S	Sn	08 01 41.8	-1.4
DEL				IAML		08 01 43.4	
	comp=Z,0.3nm,0.2s						

BER 23 08:00:56.6±1.5, 60°.18N×10°.97E, h7km±5km, ML0.7, Confirmed Earthquake, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSL	**Oslo**	**0.27**	**207**	*e*P	Pg	08 01 01.9	0.0
OSL				*e*S	Sg	08 01 06.1	+0.5
OSL				IAML		08 01 06.2	
	comp=Z,50nm,0.1s						
NC602	**NORSAR Array S**	**0.62**	**27**	*e*P	Pg	08 01 07.9	-0.7
NC602				*e*S	Sg	08 01 16.4	-0.4
NC602				IAML		08 01 16.9	
	comp=Z,1.1nm,0.1s						
NAO01	**NORSAR Array S**	**0.67**	**356**	*e*S	Sg	08 01 17.3	-0.8
NBO00	**NORSAR Array S**	**0.86**	**354**	*e*P	Pg	08 01 11.7	-1.4
NBO00				*e*S	Sg	08 01 23.1	-1.1
NBO00				IAML		08 01 23.4	
	comp=Z,4.0nm,0.2s						
KONO	**Kongsberg**	**0.87**	**233**	*e*P	Pg	08 01 12.1	-1.2
KONO				*e*S	Sg	08 01 23.3	-1.4
KONO				IAML		08 01 26.7	
	comp=Z,1.4nm,0.3s						
NB201	**NORSAR Array S**	**0.89**	**10**	*e*P	Pg	08 01 12.4	-1.2
NB201				*e*S	Sg	08 01 24.3	-0.8
NB201				IAML		08 01 25.1	
	comp=Z,2.9nm,0.3s						
NC303	**NORSAR Array S**	**1.07**	**10**	*e*P	Pg	08 01 15.5	-1.5
NC303				*e*S	Sg	08 01 29.6	-1.2
NC303				IAML		08 01 32.2	
	comp=Z,2.1nm,0.2s						
NC204	**NORSAR Array S**	**1.10**	**355**	*e*S	Sg	08 01 30.5	-1.6
STRU	**Stroemstad**	**1.15**	**175**	P	Pg	08 01 15.0	-3.7
STRU				*i* P	Pb	08 01 15.2	-3.5
STRU				*i* S	Sg	08 01 32.6	-1.1
STRU				S	Sb	08 01 33.0	-0.9
STRU	**Stroemstad**	**1.15**	**175**	*e*P	Pg	08 01 15.2	-3.5
STRU				*e*S	Sg	08 01 32.9	-0.8
SKAR	**Skarslia**	**1.42**	**292**	*e*P	Pn	08 01 20.7	-2.1
SKAR				*e*S	Sb	08 01 38.9	-2.6
SKAR				IAML		08 01 42.6	
	comp=Z,1.6nm,0.4s						
DOMB	**Dombas**	**2.09**	**334**	*e*S	Sn	08 01 56.2	-1.9
DOMB				IAML		08 02 15.9	
	comp=Z,2.5nm,0.3s						

*IDC **23** 08:02:05.3±0.7, 54°.63S×30°.81W, h0km, mb4.0/10, mbtmp4.1/10, Error ellipse: s-maj=34.2km s-min=15.4km az=62.0*

*NEIC **23** 08:02:07.8±2.1, 54°.85S±0°.1×31°.2W±0°.2, h10km±2km, mb4.5/18, Error ellipse: s-maj=20.7km s-min=15.7km az=53.0*

ISC 23 08:02:07.1±0.6, 54°.70S±0°.09×31°.0W±0°.1, h10km, n40, σ0s85/38, mb4.4/16, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.21**	**275**		**Pn**	**08 02 56.5**	**-1.0**
ORCD	**Orcadas**	**9.50**	**225**	Pn	**Pn**	**08 04 23.0**	**-0.7**
VNA1	**Neumayer--Stat**	**18.89**	**157**	P	**Pn**	**08 06 28.4**	**+0.5**
VNA3	**Neumayer Olymp**	**19.03**	**159**	P	**P**	**08 06 28.7**	**0.0**
VNA2	**Neumayer--Watz**	**19.29**	**156**	P	**P**	**08 06 31.4**	**-0.3**
	baz=319,slow=12						
SNAA	**Sanae**	**20.88**	**155**	P	**P**	**08 06 47.8**	**-1.2**
SNAA	**Sanae**	**20.88**	**155**	P	**P**	**08 06 47.6**	**-1.4**
	3.1nm,0.9s,baz=303,slow=9.4,SNR=21						
SNAA				PcP	**PcP**	**08 10 56.0**	**-0.5**
	0.5nm,0.6s,baz=294,slow=3.2,SNR=2.4						
	3.1nm,0.9s						
SNAA	**Sanae**	**20.88**	**155**	P	**P**	**08 06 47.6**	**-1.4**
TROLL	**Troll, Antarti**	**22.44**	**153**	P	**P**	**08 07 04.9**	**-0.9**
BELA	**Belgrano 2**	**23.32**	**182**	P	**P**	**08 07 14.7**	**0.0**
MG05	**Puerto Natales**	**24.77**	**260**	P	**P**	**08 07 29.3**	**+0.7**
LL02	**Futaleuf**	**28.76**	**277**	P	**P**	**08 08 04.1**	**-0.6**
LL02				IAmb	IAmb	08 08 27.6	
	comp=Z,8.3nm,1.4s						
CPUP	**Villa Florida**	**34.28**	**315**	P	**P**	**08 08 52.6**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=145,slow=7.0,SNR=7.4						
	comp=Z,2.7nm,0.6s						
CPUP	**Villa Florida**	**34.28**	**315**	P	**P**	**08 08 52.8**	**-0.5**
CPUP				IAmb	IAmb	08 09 04.7	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**35.56**	**180**	P	**P**	**08 09 04.9**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=205,slow=2.9,SNR=19						
	comp=Z,2.4nm,0.7s						
QSPA	**South Pole Qui**	**35.56**	**180**	P	**P**	**08 09 05.2**	**+1.1**
QSPA				IAmb	IAmb	08 09 26.8	
	comp=Z,13nm,1.4s						
GO02	**Mina Guanaco**	**40.92**	**300**	P	**P**	**08 09 50.7**	**+0.9**
GO02				IAmb	IAmb	08 10 11.1	
	comp=Z,19nm,1.4s						
BDFB	**Brasilia**	**41.15**	**335**	P	**P**	**08 09 51.4**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=174,slow=10.0,SNR=3.1						
	comp=Z,1.4nm,0.5s						
MAW	**Mawson**	**42.52**	**146**	P	**P**	**08 10 01.9**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=242,slow=8.7,SNR=4.1						
	comp=Z,2.7nm,0.8s						
MAW	**Mawson**	**42.52**	**146**	P	**P**	**08 10 02.2**	**+0.1**
LVC	**Limon Verde**	**42.72**	**303**	P	**P**	**08 10 04.2**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=215,slow=2.4,SNR=4.4						
	comp=Z,3.5nm,0.7s						
LVC	**Limon Verde**	**42.72**	**303**	P	**P**	**08 10 05.6**	**+0.9**
PB01	**IPOC Station P**	**44.33**	**304**	P	**P**	**08 10 17.4**	**+0.1**
PB01				IAmb	IAmb	08 10 29.4	
	comp=Z,6.7nm,0.8s						
PTLB	**Pontes e Lacer**	**44.82**	**320**	P	**P**	**08 10 20.6**	**-0.5**
PTLB				IAmb	IAmb	08 10 33.6	
	comp=Z,7.5nm,1.2s						
PB08	**IPOC Station P**	**44.94**	**305**	P	**P**	**08 10 22.2**	**-0.3**
PB08				IAmb	IAmb	08 10 36.0	
	comp=Z,5.5nm,0.9s						
SIV	**San Ignacio**	**45.07**	**317**	P	**P**	**08 10 23.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=235,slow=3.7,SNR=3.5						
	comp=Z,0.4nm,0.5s						
GO01	**Chusmiza**	**45.37**	**305**	P	**P**	**08 10 26.2**	**+0.2**
GO01				IAmb	IAmb	08 10 38.2	
	comp=Z,8.2nm,0.8s						
VNDA	**Vanda**	**47.80**	**184**	P	**P**	**08 10 44.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=192,slow=5.3,SNR=4.0						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**47.80**	**184**	P	**P**	**08 10 44.6**	**+0.7**
VNDA				IAmb	IAmb	08 11 00.7	
	comp=Z,3.1nm,1.2s						
LPAZ	**La Paz**	**47.81**	**309**	P	**P**	**08 10 45.9**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=211,slow=7.8,SNR=18						
	comp=Z,4.3nm,0.7s						
LPAZ	**La Paz**	**47.81**	**309**	P	**P**	**08 10 46.2**	**+0.9**
H10N1	**ASCENSION HYDR**	**48.57**	**22**	T	T	09 03 08.4	
	baz=192,slow=76,SNR=4.5						
H10N3	**ASCENSION HYDR**	**48.57**	**22**	T	T	09 03 09.1	
	baz=192,slow=76,SNR=5.2						
H10N2	**ASCENSION HYDR**	**48.59**	**22**	T	T	09 03 10.7	
	baz=192,slow=76,SNR=5.7						
MCRA	**Macar, Loja**	**63.77**	**303**	P	**P**	**08 12 39.2**	**0.0**
MCRA				IAmb	IAmb	08 12 50.5	
	comp=Z,3.4nm,0.9s						
GRGR	**Grenville**	**71.43**	**328**	P	**P**	**08 13 30.0**	**+2.6**
TORD	**Torodi Ar. Bea**	**73.04**	**33**	P	**P**	**08 13 36.5**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=198,slow=6.5,SNR=8.2						
	comp=Z,1.2nm,0.7s						
WKZ	**Wanaka**	**79.39**	**194**	P	**P**	**08 14 12.8**	**-0.1**
ILAR	**Eielson Array**	**147.59**	**314**	PKPbc	**PKPbc**	**08 21 49.5**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=121,slow=1.8,SNR=13						
SONM	**Songino Array**	**152.84**	**87**	PKPbc	**PKPbc**	**08 22 02.3**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=218,slow=4.0,SNR=4.0						

*IDC **23** 08:03:00.3±0.8, 27°.39N×140°.12E, h447km±20km, mb3.2/7, mbtmp4.0/7, Error ellipse: s-maj=54.8km s-min=23.5km az=78.0*

ISC 23 08:03:00.5±0.9, 27°.4N±0°.2×140°.1E±0°.2, h450km, n8, σ0s43/9, mb3.6/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.87**	**98**	P	**P**	**08 04 00.6**	**+0.3**
	72nm,0.5s,baz=14,slow=22,SNR=14						
JCJ				S	**S**	**08 04 48.3**	**-0.6**
	63nm,0.3s,baz=272,slow=23,SNR=8.8						
KLR	**Kul'dur**	**22.76**	**346**	P	**P**	**08 07 26.9**	**+0.2**
	1.1nm,0.7s,baz=170,slow=17,SNR=3.5						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**47.36**	**187**	P	**P**	**08 10 52.7**	**+0.1**
	0.4nm,0.9s,baz=5.8,slow=7.5,SNR=1.8						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**48.87**	**309**	P	**P**	**08 11 03.6**	**0.0**
	0.5nm,0.8s,baz=88,slow=9.7,SNR=1.6						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**51.53**	**314**	P	**P**	**08 11 22.7**	**-0.3**
	2.3nm,0.8s,baz=92,slow=8.1,SNR=16						
	2.3nm,0.6s						
BVAR	**Borovoye Array**	**56.59**	**317**	P	**P**	**08 11 58.9**	**-0.1**
	3.7nm,0.4s,baz=91,slow=7.0,SNR=33						
	3.7nm,0.4s						
ARCES	**ARCESS Array B**	**72.67**	**340**	P	**P**	**08 13 41.5**	**+0.6**
	1.5nm,0.9s,baz=75,slow=6.4,SNR=4.1						
	1.5nm,0.9s						
FINES	**FINESS Array B**	**76.88**	**333**	P	**P**	**08 14 04.3**	**-0.5**
	1.6nm,0.3s,baz=68,slow=5.2,SNR=20						
	1.6nm,0.3s						

*IDC **23** 08:03:48.1±1.1, 34°.40N×141°.71E, h0km, mb3.5/6, mbtmp3.5/9, ML2.9/3, Error ellipse: s-maj=25.8km s-min=18.8km az=75.0*

*JMA **23** 08:03:49.0±0.3, 34°.5N±1°.0×14°.2E, h26km±1km, MV2.8/31, FAR SE OFF BOSO PEN*

ISC 23 08:03:49.9±2.2, 34°.48N±0°.06×141°.65E±0°.08, h13km±12km, n16, σ1s30/21, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.58**	**288**	P	**Pg**	**08 04 01.2**	**+0.1**
BSO3	**Boso 3**	**0.99**	**289**	P	**Pb**	**08 04 08.4**	**-0.4**
BSO3				S	**Sb**	**08 04 21.7**	**-0.1**
BSO4	**Boso 4**	**1.20**	**296**	P	**Pn**	**08 04 11.8**	**-0.4**
JKUC	**kamogawauchiur**	**1.38**	**300**	P	**Pn**	**08 04 13.9**	**-0.9**
JKUC				S	**Sn**	**08 04 31.7**	**-1.2**
CHOJ	**Chosi**	**1.39**	**332**	P	**Pn**	**08 04 13.7**	**-1.2**
CHOJ				*e*S	**Sn**	**08 04 30.9**	**-2.3**
JMKN	**Mikurajimanish**	**1.80**	**252**	P	**Pn**	**08 04 19.5**	**-1.2**
JMKN				*e*S	**Sn**	**08 04 42.0**	**-1.5**
JHJ	**Hachijo jima 2**	**2.06**	**230**	Pn	**Pn**	**08 04 22.3**	**-1.9**
	9.9nm,0.3s,baz=131,slow=23,SNR=11						
JHJ				Sn	**Sn**	**08 04 50.4**	**+0.6**
	68nm,0.3s,baz=73,slow=22,SNR=15						
	31nm,0.3s						
MJAR	**Matsushiro Arr**	**3.48**	**307**	Pn	**Pn**	**08 04 43.4**	**-0.5**
	0.3nm,0.3s,baz=157,slow=12,SNR=10						
	1.4nm,0.3s						
KSRS	**Korea Array**	**11.52**	**289**	Pn	**Pn**	**08 06 36.2**	**+2.2**
	0.3nm,0.3s,baz=93,slow=15,SNR=1.6						
	0.4nm,0.3s						
KRVT	**Keravat (AS076**	**39.80**	**164**	P	**P**	**08 11 22.0**	**-0.8**
	61nm,0.5s,baz=158,slow=1.6,SNR=5.2						
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**	**08 12 12.4**	**+2.0**
	0.4nm,0.6s,baz=93,slow=8.7,SNR=2.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**47.76**	**310**	P	**P**	**08 12 26.5**	**0.0**
	0.4nm,0.4s,baz=84,slow=7.0,SNR=4.2						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**51.56**	**31**	P	**P**	**08 12 55.2**	**-0.1**
	0.4nm,0.9s,baz=276,slow=4.4,SNR=2.5						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**54.56**	**188**	P	**P**	**08 13 17.9**	**0.0**
	0.6nm,0.7s,baz=2.1,slow=7.6,SNR=6.8						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**58.29**	**188**	P	**P**	**08 13 44.5**	**+0.1**
	0.2nm,0.5s,baz=14,slow=11,SNR=2.6						
	0.2nm,0.5s						
AKTO	**Aktyubinsk**	**60.54**	**313**	P	**P**	**08 14 01.1**	**+1.3**
	0.8nm,0.5s,baz=21,slow=6.6,SNR=3.9						
	0.8nm,0.5s						

*NNC **23** 08:05:07.4±2.5, 55°.12N×85°.42E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=40.1km s-min=14.3km az=100.0, Suspected Mining explosion.*

IDC 23 08:05:10.7±3.0, 54°.57N×86°.37E, h0km, mbtmp3.0/2, ML2.7/2, 5C-3D, Error ellipse: s-maj=24.1km s-min=15.1km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**236**	*i*		08 11 15.4	
	0.1nm,1.1s,baz=56,slow=320,SNR=14						
ZAA0	**Zalesovo Array**	**1.10**	**236**	⇑P	Pg	08 05 30.3	-1.5
	0.3nm,0.5s						
ZAA0				⇑S	Sb	08 05 47.3	-0.2
	21nm,1.4s						
ZALV	**Zalesovo Beam**	**1.10**	**236**	Pg	Pg	08 05 31.1	-0.8
	1.0nm,0.3s,baz=54,slow=18,SNR=7.1						
ZALV				Lg	Lg	08 05 47.2	
	2.6nm,0.3s,baz=52,slow=28,SNR=13						
KURK	**Kurchatov**	**6.09**	**234**	⇑Pn	Pn	08 06 37.6	-4.3
	0.6nm,0.6s						
KURK				⇓Lg	Lg	08 08 22.1	
	6.9nm,1.1s						
KURBB	**Kurchatov Arra**	**6.20**	**234**	Pn	Pn	08 06 44.1	+0.8
	0.1nm,0.3s,baz=51,slow=14,SNR=8.9						
KURBB				Lg	Lg	08 08 28.7	
	baz=54,slow=33,SNR=9.6						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.20**	**234**	⇑Pn	Pn	08 06 40.4	-3.0
	2.7nm,0.8s						
KURBB				⇓Lg	Lg	08 08 24.6	
	11nm,1.1s						
MK31	**Makanchi Array**	**8.21**	**200**	⇓Lg	Lg	08 09 39.5	
	6.7nm,1.1s,baz=8.9,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**8.21**	**200**	Pn	Pn	08 07 11.7	+0.7
	0.2nm,0.3s,baz=21,slow=12,SNR=6.3						
MKAR				Lg	Lg	08 09 29.7	
	0.1nm,0.3s,baz=20,slow=26,SNR=6.5						
	0.3nm,0.4s						
MAKZ	**Makanchi**	**8.26**	**201**	⇑Lg	Lg	08 09 40.6	
	3.1nm,0.9s						

*NIED **23** 08:06:17.0, 34°.33N×141°.76E, h21km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr1.27; Mθθ-0.88; Mϕϕ-0.39; Mrθ-0.15; Mϕθ1.39; Mϕr-0.24; Fault plane solution: M0 1.72000×10^15 NP1: ϕs288.00000°, δ49.00000°, λ58.00000°. NP2: ϕs152.00000°, δ50.00000°, λ122.00000°.*

*JMA **23** 08:06:17.0±0.5, 34°.N±1°×14°.2E±°, h21km±1km, MV3.5/26, FAR SE OFF BOSO PEN*

*IDC **23** 08:06:18.3±0.7, 34°.40N×141°.59E, h0km, mb3.7/13, mbtmp3.7/15, ML2.9/2, MS3.5/4, Error ellipse: s-maj=19.3km s-min=16.7km az=99.0*

ISC 23 08:06:22.4±0.7, 34°.42N±0°.06×141°.52E±0°.07, h27km, n32, σ1s19/28, mb3.7/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.50**	**298**	P	**Pb**	**08 06 30.7**	**-1.7**
BSO1				X		08 06 40.9	
BSO3	**Boso 3**	**0.91**	**295**	*e*P	**Pn**	**08 06 37.5**	**-1.8**
BSO3				*e*S	**Sn**	**08 06 52.0**	**+0.6**
BSO4	**Boso 4**	**1.13**	**301**	P	**Pn**	**08 06 41.6**	**-0.7**
JKUC	**kamogawauchiur**	**1.31**	**305**	P	**Pn**	**08 06 44.0**	**-1.0**
JKUC				S	**Sb**	**08 07 03.4**	**+0.5**
CHOJ	**Chosi**	**1.39**	**337**	P	**Pn**	**08 06 43.9**	**-2.3**
CHOJ				S	**Sn**	**08 07 03.6**	**0.0**
JMKN	**Mikurajimanish**	**1.68**	**252**	P	**Pn**	**08 06 48.7**	**-1.4**
JHJ	**Hachijo jima 2**	**1.94**	**229**	Pn	**Pn**	**08 06 53.1**	**-0.5**
	27nm,0.3s,baz=65,slow=21,SNR=6.2						
JHJ				Sn	**Sb**	**08 07 19.2**	**-1.6**
	70nm,0.3s,baz=76,slow=22,SNR=6.8						
MJAR	**Matsushiro Arr**	**3.43**	**309**	Pn	**Pn**	**08 07 13.8**	**-0.4**
	0.6nm,0.3s,baz=135,slow=10,SNR=8.2						
MJAR				Sn	**Sn**	**08 07 55.1**	**+1.1**
	0.5nm,0.3s,baz=156,slow=13,SNR=6.8						
	4.8nm,0.6s						
JCJ	**Chichijima**	**7.32**	**175**	LR	LR	08 10 39.1	
	comp=Z,310nm,18.9s,baz=110,slow=36						
KSRS	**Korea Array**	**11.43**	**289**	Pn	**Pn**	**08 09 05.8**	**+2.0**
	0.2nm,0.3s,baz=100,slow=14,SNR=2.7						
KSRS				LR	LR	08 14 03.1	
	comp=Z,256nm,19.4s,baz=90,slow=40						
	0.5nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.82**	**117**	T	T	08 40 04.9	
	baz=309,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**26.83**	**117**	T	T	08 40 11.8	
	baz=309,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**26.84**	**117**	T	T	08 40 08.5	
	baz=309,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	08 41 00.6	
	baz=305,slow=71,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	08 40 49.7	
	baz=

0.8nm,0.4s
MKAR Makanchi Array 7.85 202 Pn Pn 08 17 12.1 +1.3
0.1nm,0.3s,baz=26,slow=14,SNR=3.0
0.4nm,0.6s

*BUL **23** 08:15:35.5±1.2,21°.26S×33°.76E,h24km±20km,MD4.8*
*EAF **23** 08:15:35.6±1.6,21°.22S×33°.64E,h10km±26km,MD4.2*
*PRE **23** 08:15:36.1±0.7,21°.37S×33°.43E,h5km,ML3.5*
ISC 23 08:15:35.8±1.5,21°.38S±0°.05×33°.33E±0°.08,h13km,n49, σ2s67/85,Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MOPA	**Mopani**	**2.78**	**220**	*eP*		**Pb**		**08 16 23.4**	**-2.0**
MOPA				*eS*		**Sb**		**08 16 58.0**	**-1.3**
MOPA				IAML				08 17 01.5	
	comp=Z,250nm,0.5s								
MOPA	**Mopani**	**2.78**	**220**	*eP*		**Pb**		**08 16 23.4**	**-2.0**
MOPA				*eS*		**Sn**		**08 16 57.5**	**+4.0**
MOPA				IAML				08 17 02.5	
	comp=Z,298nm,0.5s								
MOPA	**Mopani**	**2.78**	**220**	*iP*		**Pb**		**08 16 23.8**	**-1.6**
MOPA				*iS*		**Sb**		**08 17 00.9**	**+1.6**
MOPA	**Mopani**	**2.78**	**220**	*iP*		**Pb**		**08 16 23.8**	**-1.6**
MOPA				*iS*		**Sb**		**08 17 00.9**	**+1.6**
MUSN	**Musina, Limpop**	**3.35**	**254**	*eP*		**Pn**		**08 16 31.8**	**+3.9**
MUSN				*eS*		**Sn**		**08 17 13.3**	**+5.7**
MUSN				IAML				08 17 27.8	
	comp=Z,176nm,0.5s								
MUSN	**Musina, Limpop**	**3.35**	**254**	*eP*		**Pn**		**08 16 31.4**	**+3.5**
MUSN				*eS*		**Sn**		**08 17 11.9**	**+4.4**
MUSN				IAML				08 17 27.6	
	comp=Z,180nm,0.5s								
MUSN	**Musina, Limpop**	**3.35**	**254**	*iP*		**Pb**		**08 16 32.5**	**-2.5**
MUSN				*iS*		**Sb**		**08 17 13.7**	**-2.1**
MUSN	**Musina, Limpop**	**3.35**	**254**	*iP*		**Pb**		**08 16 32.5**	**-2.5**
MUSN				*iS*		**Sb**		**08 17 13.7**	**-2.1**
BLWY	**Bulawayo**	**4.58**	**285**	*eP*		**Pn**		**08 16 48.3**	**+3.3**
BLWY				*eS*		**Sn**		**08 17 42.1**	**+3.9**
BLWY				IAML				08 18 12.2	
	comp=Z,640nm,0.6s								
BLWY	**Bulawayo**	**4.58**	**285**	*iP*		**Pn**		**08 16 48.7**	**+3.7**
BLWY				*iS*		**Sn**		**08 17 40.9**	**+2.6**
BLWY	**Bulawayo**	**4.58**	**285**	*iP*		**Pn**		**08 16 48.7**	**+3.7**
BLWY				*iS*		**Sn**		**08 17 40.9**	**+2.6**
MATP	**Matopo**	**4.61**	**281**	*eP*		**Pn**		**08 16 48.5**	**+3.1**
MATP				*eS*		**Sn**		**08 17 41.8**	**+2.9**
MATP				IAML				08 18 12.7	
	comp=Z,252nm,0.6s								
MATP	**Matopo**	**4.61**	**281**	*eP*		**Pn**		**08 16 48.9**	**+3.5**
MATP				*eS*		**Sn**		**08 17 42.0**	**+3.1**
MATP				IAML				08 18 12.5	
	comp=Z,308nm,0.8s								
MATP	**Matopo**	**4.61**	**281**	*iP*		**Pn**		**08 16 48.7**	**+3.3**
MATP				*iS*		**Sn**		**08 17 41.2**	**+2.3**
MATP	**Matopo**	**4.61**	**281**	*iP*		**Pn**		**08 16 48.7**	**+3.3**
MATP				*iS*		**Sn**		**08 17 41.2**	**+2.3**
MMAL	**MMAL**	**5.04**	**202**	*eP*		**Pn**		**08 16 53.2**	**+2.0**
MMAL				*eS*		**Sn**		**08 17 50.2**	**+0.8**
MMAL				IAML				08 18 20.9	
	comp=Z,79nm,0.5s								
CRLN	**Carolina, Mapu**	**5.50**	**213**	*eS*		**Sn**		**08 18 02.0**	**+1.1**
CRLN				IAML				08 18 36.5	
	comp=Z,35nm,0.5s								
LEPH	**Lephalale, Lim**	**5.67**	**243**	*eP*		**Pn**		**08 17 03.9**	**+3.9**
LEPH				*eS*		**Sn**		**08 18 08.6**	**+3.6**
LEPH				IAML				08 18 45.1	
	comp=Z,142nm,0.6s								
LEPH	**Lephalale, Lim**	**5.67**	**243**	*eP*		**Pn**		**08 17 02.5**	**+2.6**
LEPH				*eS*		**Sn**		**08 18 06.8**	**+1.7**
LEPH				IAML				08 18 36.5	
	comp=Z,142nm,0.7s								
POGA	**Pongola**	**6.12**	**194**	*eP*		**Pn**		**08 17 07.9**	**+1.9**
POGA				*eS*		**Sn**		**08 18 15.8**	**-0.1**
POGA				IAML				08 18 59.2	
	comp=Z,36nm,0.5s								
POGA	**Pongola**	**6.12**	**194**	*eP*		**Pn**		**08 17 08.8**	**+2.8**
POGA				*eS*		**Sn**		**08 18 16.2**	**+0.3**
POGA				IAML				08 18 49.4	
	comp=Z,33nm,0.6s								
SLR	**Silverton**	**6.34**	**226**	*eS*		**Sn**		**08 18 24.2**	**+2.6**
SLR				IAML				08 19 04.6	
	comp=Z,78nm,0.5s								
HRAO	**HartRAO**	**6.85**	**228**	*eP*		**Pn**		**08 17 18.1**	**+1.9**
HRAO				*eS*		**Sn**		**08 18 35.1**	**+1.0**
HRAO				IAML				08 19 25.0	
	comp=Z,81nm,0.6s								
NWCL	**Newcastle**	**7.06**	**206**	*eP*		**Pn**		**08 17 20.4**	**+1.4**
NWCL				*eS*		**Sn**		**08 18 38.2**	**-1.0**
NWCL				IAML				08 19 23.8	
	comp=Z,49nm,0.7s								
PRYS	**Parys**	**7.76**	**223**	*eP*		**Pn**		**08 17 31.0**	**+2.4**
PRYS				*eS*		**Sn**		**08 18 55.6**	**-0.8**
PRYS				IAML				08 19 48.5	
	comp=Z,30nm,0.6s								
LSZ	**Lusaka**	**7.79**	**320**	*eP*		**Pn**		**08 17 30.3**	**+1.3**
LSZ				*eS*		**Sn**		**08 18 54.8**	**-2.4**
LSZ				IAML				08 19 41.7	
	comp=Z,510nm,0.7s								
LSZ	**Lusaka**	**7.79**	**320**	*iP*		**Pn**		**08 17 28.2**	**-0.8**
LSZ				*iS*		**Sn**		**08 18 51.3**	**-5.9**
LSZ	**Lusaka**	**7.79**	**320**	*iP*		**Pn**		**08 17 28.2**	**-0.8**
LSZ				*iS*		**Sn**		**08 18 51.3**	**-5.9**
LBTB	**Lobatse**	**7.98**	**242**	*eP*		**Pn**		**08 17 34.0**	**+2.3**
LBTB				*eS*		**Sn**		**08 19 02.8**	**+1.0**
LBTB				IAML				08 20 01.2	
	comp=Z,43nm,0.6s								
LBTB	**Lobatse**	**7.98**	**242**	*eP*		**Pn**		**08 17 35.0**	**+3.4**
LBTB				*eS*		**Sn**		**08 19 01.8**	**-0.1**
LBTB				IAML				08 19 06.2	
	comp=Z,22nm,3.9s								
LBTB	**Lobatse**	**7.98**	**242**	*iP*		**Pn**		**08 17 34.4**	**+2.8**
LBTB				*iS*		**Sn**		**08 19 00.0**	**-1.8**
LBTB	**Lobatse**	**7.98**	**242**	*iP*		**Pn**		**08 17 34.4**	**+2.8**
LBTB				*iS*		**Sn**		**08 19 00.0**	**-1.8**
SNKL	**Senekal, Frees**	**8.52**	**215**	*eP*		**Pn**		**08 17 40.4**	**+1.3**
SNKL				*eS*		**Sn**		**08 19 14.7**	**-0.6**
SNKL				IAML				08 20 11.9	
	comp=Z,36nm,0.7s								
SWZ	**Schweizer**	**9.30**	**230**	*eP*		**Pn**		**08 17 52.7**	**+2.9**
SWZ				*eS*		**Sn**		**08 19 32.8**	**-1.6**
SWZ				IAML				08 20 40.1	
	comp=Z,27nm,0.5s								
KSTD	**Kokstad**	**9.88**	**201**	*eP*		**Pn**		**08 17 59.9**	**+2.1**
KSTD				*eS*		**Sn**		**08 19 47.8**	**-1.0**
KSTD				IAML				08 20 55.1	
	comp=Z,9.9nm,0.6s								
BOSA	**Boshof**	**10.27**	**224**	*eP*		**Pn**		**08 18 03.5**	**+0.5**
BOSA				*eS*		**Sn**		**08 19 55.8**	**-2.3**
BOSA				IAML				08 21 10.6	
	comp=Z,20nm,0.7s								
BOSA	**Boshof**	**10.27**	**224**	*iP*		**Pn**		**08 18 03.6**	**+0.5**
BOSA				*iS*		**Sn**		**08 19 53.1**	**-5.0**
BOSA	**Boshof**	**10.27**	**224**	*iP*		**Pn**		**08 18 03.6**	**+0.5**
BOSA				*iS*		**Sn**		**08 19 53.1**	**-5.0**
UPI	**Upington**	**12.97**	**235**	*eP*		**Pn**		**08 18 42.6**	**+2.6**
KEIM	**Keimoes**	**13.36**	**234**	*eP*		**Pn**		**08 18 46.7**	**+1.5**
GRAF	**Camdeboo Natio**	**13.41**	**214**	*eP*		**Pn**		**08 18 47.0**	**+1.0**
BFON	**Badsfontein, M**	**13.48**	**218**	*eP*		**Pn**		**08 18 48.6**	**+1.6**
ARMS	**Ukamas**	**14.01**	**239**	*eP*		**Pn**		**08 18 57.6**	**+3.4**
ROOI	**Rooidraai Farm**	**14.08**	**216**	*eP*		**Pn**		**08 18 56.0**	**+0.9**
GRAN	**Grantham**	**14.74**	**220**	*eP*		**Pn**		**08 19 06.5**	**+2.5**
TSUM	**Tsumeb**	**14.93**	**276**	*eP*		**P**		**08 19 11.5**	**-1.0**
FRAZ	**Fraserburg**	**14.95**	**223**	*eP*		**Pn**		**08 19 09.1**	**+2.0**
MERW	**Merweville**	**15.39**	**221**	*eP*		**P**		**08 19 15.7**	**-1.7**
AUSN	**Aus**	**16.45**	**248**	*eP*		**P**		**08 19 31.1**	**+1.8**

IDC 23 08:20:23.7±3.0,54°.23N×87°.23E,h0km,mbtmp2.9/2, ML2.7/2,Error ellipse: s-maj=26.5km s-min=18.3km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**260**	*i*			08 27 36.3	
	0.3nm,0.8s,baz=79,slow=323,SNR=21							
ZALV	**Zalesovo Beam**	**1.44**	**260**	Pg		Pn	08 20 49.5	-1.6
	1.3nm,0.3s,baz=79,slow=16,SNR=8.9							
ZALV				Lg		Lg	08 21 09.7	
	0.8nm,0.3s,baz=76,slow=29,SNR=5.6							
KURBB	**Kurchatov Arra**	**6.42**	**239**	Pn		Pn	08 22 00.3	+0.8
	0.1nm,0.3s,baz=56,slow=14,SNR=1.7							
KURBB				Lg		Lg	08 23 48.4	
	baz=60,slow=32,SNR=2.8							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**8.08**	**205**	Pn		Pn	08 22 23.4	+1.2
	0.1nm,0.3s,baz=25,slow=14,SNR=6.6							
MKAR				Lg		Lg	08 24 40.7	
	baz=27,slow=29,SNR=3.5							
	0.2nm,0.4s							

*NNC **23** 08:28:46.8±4.2,54°.02N×86°.67E,h0km,mb2.6,mpv2.5, Error ellipse: s-maj=56.9km s-min=21.5km az=6.0, Suspected Mining explosion.*
IDC 23 08:28:49.0±2.6,53°.94N×86°.54E,h0km,mbtmp3.0/2, ML2.7/2,6C-2D,Error ellipse: s-maj=20.7km s-min=12.8km az=64.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**271**	*i*			08 34 33.7	
	baz=90,slow=327,SNR=6.4							
ZAA0	**Zalesovo Array**	**1.02**	**271**	⇑P		Pg	08 29 07.3	-1.2
	0.1nm,0.3s							
ZAA0				⇓S		Sb	08 29 22.8	-0.6
	2.1nm,0.7s							
ZALV	**Zalesovo Beam**	**1.02**	**271**	Pg		Pg	08 29 07.4	-1.1
	1.0nm,0.3s,baz=94,slow=12,SNR=6.4							
ZALV				Lg		Lg	08 29 22.5	
	2.6nm,0.3s,baz=91,slow=29,SNR=15							
KURK	**Kurchatov**	**5.83**	**240**	⇑Pn		Pn	08 30 17.9	+1.3
	1.9nm,0.5s							
KURK				⇑Lg		Lg	08 31 54.2	
	3.9nm,0.8s							
KURBB	**Kurchatov Arra**	**5.93**	**239**	Pn		Pn	08 30 19.2	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=5.8							
KURBB				Lg		Lg	08 31 59.4	
	baz=58,slow=32,SNR=3.7							
	1.4nm,0.5s							
KURBB	**Kurchatov Arra**	**5.93**	**239**	⇑Pn		Pn	08 30 19.0	+1.0
	0.4nm,0.3s							
KURBB				⇓Lg		Lg	08 31 57.8	
	7.0nm,0.8s							
MK31	**Makanchi Array**	**7.65**	**202**	⇑Lg		Lg	08 32 51.5	
	3.7nm,1.1s,baz=26,slow=24,SNR=3.5							
MKAR	**Makanchi Array**	**7.65**	**202**	Pn		Pn	08 30 42.4	+0.7
	0.2nm,0.3s,baz=19,slow=12,SNR=5.7							
MKAR				Lg		Lg	08 32 54.2	
	0.1nm,0.3s,baz=21,slow=30,SNR=6.4							
	0.3nm,0.3s							
MAKZ	**Makanchi**	**7.71**	**204**	⇑Lg		Lg	08 32 53.1	
	3.3nm,1.1s							

*IDC **23** 08:34:16.4±0.8,34°.43N×141°.54E,h0km,mb3.7/8, mbtmp3.8/10,ML3.4/2,MS2.6/1,Error ellipse: s-maj=23.6km s-min=16.5km az=106.0*
*JMA **23** 08:34:17.1±0.5,34°.N±1°.×14°.2E±°,h30km±1km,MV3.2/37, FAR SE OFF BOSO PEN*
ISC 23 08:34:19.9±0.8,34°.43N±0°.05×141°.56E±0°.08,h27km,n22, σ1s21/26,mb3.8/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**0.53**	**295**	P			**Pb**	**08 34 29.3**	**-1.0**
BSO3	**Boso 3**	**0.94**	**293**	P			**Pn**	**08 34 36.4**	**-0.7**
BSO4	**Boso 4**	**1.15**	**299**	P			**Pn**	**08 34 39.6**	**-0.5**
JKUC	**kamogawauchiur**	**1.33**	**303**	P			**Pn**	**08 34 42.1**	**-0.7**
JKUC				*e*S			**Sn**	**08 35 00.1**	**+0.5**
CHOJ	**Chosi**	**1.39**	**336**	P			**Pn**	**08 34 42.5**	**-1.0**
JMKN	**Mikurajimanish**	**1.72**	**252**	P			**Pn**	**08 34 47.4**	**-0.6**
JHJ	**Hachijo jima 2**	**1.98**	**229**	Pn			**Pn**	**08 34 52.1**	**+0.5**
	26nm,0.3s,baz=154,slow=23,SNR=18								
JHJ				Sn			**Sn**	**08 35 16.8**	**+1.3**
	78nm,0.3s,baz=108,slow=21,SNR=18								
JYT	**Yasato**	**2.11**	**328**	*eP*			**Pn**	**08 34 53.0**	**-0.4**
JHU	**Hanno**	**2.34**	**308**	P			**Pn**	**08 34 56.4**	**-0.2**
JHU				*e*S			**Sn**	**08 35 25.6**	**+1.1**
JAG	**Ashikaga**	**2.63**	**320**	P			**Pn**	**08 35 00.4**	**-0.2**
MJAR	**Matsushiro Arr**	**3.45**	**309**	Pn			**Pn**	**08 35 11.8**	**-0.1**
	0.4nm,0.3s,baz=163,slow=13,SNR=10								
MJAR				Sn			**Sn**	**08 35 50.0**	**-1.9**
	0.3nm,0.3s,baz=165,slow=19,SNR=5.0								
	2.6nm,0.4s								
JCJ	**Chichijima**	**7.33**	**176**	Pn			**Pn**	**08 36 05.4**	**+0.2**
	6.2nm,0.3s,baz=308,slow=19,SNR=1.3								
JCJ				Sn			**Sn**	**08 37 23.4**	**-4.2**
	4.7nm,0.3s,baz=273,slow=19,SNR=1.7								
	46nm,0.6s								
KSRS	**Korea Array**	**11.46**	**289**	LR			LR	08 40 48.3	
	comp=Z,27nm,19.7s,baz=50,slow=34								
MKAR	**Makanchi Array**	**45.64**	**304**	P			**P**	**08 42 38.0**	**0.0**
	0.3nm,0.4s,baz=88,slow=9.5,SNR=2.3								
	0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**47.73**	**310**	P			**P**	**08 42 54.0**	**-0.2**
	0.7nm,0.4s,baz=86,slow=7.5,SNR=5.9								
	0.7nm,0.4s								
ILAR	**Eielson Array**	**51.64**	**31**	P			**P**	**08 43 24.4**	**+0.6**
	0.9nm,0.7s,baz=270,slow=6.2,SNR=9.0								
	0.9nm,0.7s								
FITZ	**Fitzroy Crossi**	**54.39**	**199**	P			**P**	**08 43 45.6**	**+1.1**
	1.1nm,0.6s,baz=360,slow=8.0,SNR=5.5								
	1.0nm,0.6s								
WRA	**Warramunga Arr**	**54.51**	**188**	P			**P**	**08 43 46.0**	**+0.6**
	0.3nm,0.5s,baz=1.7,slow=7.5,SNR=13								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**58.24**	**188**	P			**P**	**08 44 11.8**	**-0.1**
	0.3nm,0.7s,baz=16,slow=12,SNR=5.1								
	0.3nm,0.7s								
STKA	**Stephens Creek**	**65.96**	**180**	P			**P**	**08 45 03.2**	**-0.3**
	1.0nm,0.6s,baz=313,slow=14,SNR=2.8								
	1.0nm,0.6s								
NVAR	**Mina Array Bea**	**76.46**	**53**	P			**P**	**08 46 09.0**	**+1.5**
	0.6nm,0.7s,baz=283,slow=6.2,SNR=4.7								
	0.6nm,0.7s								
LPAZ	**La Paz**	**147.83**	**63**	PKPbc			**PKPbc**	**08 54 04.8**	**+1.2**
	1.3nm,0.7s,baz=262,slow=2.5,SNR=5.0								

*NOU **23** 08:49:59.8,37°.14S×179°.65W,h0km,MLv4.2/6,East of North Island, N.Z.*
*WEL **23** 08:50:15.2±0.9,37°.S±5°.×17°.9E±°,h20km,M3.4/30, ML3.6/35,MLv3.4/30,Error ellipse: s-maj=0.0km s-min=0.0km az=90.8*
ISC 23 08:50:10.7±3.0,37°.37S±0°.08×179°.3E±0°.1,h2km±14km, n92,σ1s13/98,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
MXZ	**Matakaoa Point**	**0.84**	**257**	P		**Pg**	**08 50 25.7**	**-1.1**
MXZ				S		**Sg**	**08 50 33.5**	**-4.2**
WMGZ	**Waiomatatini S**	**0.86**	**238**	P		**Pb**	**08 50 29.1**	**+0.8**
PUZ	**Puketiti**	**1.10**	**230**	P		**Pg**	**08 50 32.9**	**+1.0**
PUZ				S		**Sb**	**08 50 47.8**	**+0.4**
PKGZ	**Pakihiroa**	**1.12**	**242**	P		**Pg**	**08 50 32.4**	**+0.1**
PKGZ				S		**Sg**	**08 50 46.7**	**-0.2**
HAZ	**Te Kaha**	**1.29**	**252**	P		**Pn**	**08 50 34.0**	**-1.7**
TWGZ	**Tauwhareparae**	**1.34**	**233**	P		**Pb**	**08 50 36.8**	**+0.2**
TWGZ				S		**Sg**	**08 50 54.9**	**+1.0**
CNGZ	**Carnagh Statio**	**1.42**	**218**	P		**Pb**	**08 50 38.5**	**+0.5**
CNGZ				S		**Sg**	**08 50 58.5**	**+2.1**
RUGZ	**Raukumara Rang**	**1.44**	**245**	P		**Pn**	**08 50 37.6**	**-0.4**
RUGZ				S		**Sn**	**08 50 56.5**	**-1.0**
TKGZ	**Te Karaka**	**1.59**	**227**	P		**Pn**	**08 50 39.8**	**0.0**
MWZ	**Matawai**	**1.72**	**236**	P		**Pn**	**08 50 41.3**	**-0.5**
RIGZ	**Rimuhau**	**1.82**	**223**	P		**Pn**	**08 50 43.2**	**+0.1**
RAGZ	**Rawiri**	**1.89**	**233**	P		**Pn**	**08 50 43.9**	**-0.1**
PRGZ	**Paritu Road**	**1.93**	**216**	P		**Pn**	**08 50 44.5**	**0.0**
WHRZ	**Whale Island**	**1.94**	**255**	P		**Pn**	**08 50 45.5**	**+0.8**
URZ	**Urewera**	**1.97**	**243**	P		**Pn**	**08 50 45.5**	**+0.4**
URZ	**Urewera**	**1.97**	**243**	P		**Pn**	**08 50 45.5**	**+0.4**
KNZ	**Kokohu**	**2.10**	**218**	P		**Pn**	**08 50 46.6**	**-0.4**
MHGZ	**Mahia Peninsul**	**2.10**	**212**	P		**Pn**	**08 50 47.7**	**+0.8**
SNGZ	**Shannon Statio**	**2.11**	**228**	P		**Pn**	**08 50 47.4**	**+0.3**
EDRZ	**Edgecumbe**	**2.18**	**250**	P		**Pn**	**08 50 48.6**	**+0.4**
MARZ	**Manawahe**	**2.20**	**253**	P		**Pn**	**08 50 48.5**	**+0.2**
RTZ	**Ruatahuna**	**2.24**	**236**	P		**Pn**	**08 50 49.1**	**+0.2**
OPRZ	**Ohinepanea**	**2.26**	**257**	P		**Pn**	**08 50 48.8**	**-0.2**
MUGZ	**Murupara**	**2.31**	**241**	P		**Pn**	**08 50 49.8**	**0.0**
RAHZ	**Arahi**	**2.35**	**228**	P		**Pn**	**08 50 50.5**	**+0.1**
TARZ	**Mount Tarawera**	**2.40**	**248**	P		**Pn**	**08 50 51.8**	**+0.6**
RRRZ	**Republican Roa**	**2.43**	**246**	P		**Pn**	**08 50 52.9**	**+1.4**
MTHZ	**Maungataniwha**	**2.46**	**232**	P		**Pn**	**08 50 52.2**	**+0.3**
OMRZ	**Omania**	**2.46**	**252**	P		**Pn**	**08 50 52.5**	**+0.6**
TGRZ	**Tauranga**	**2.47**	**261**	P		**Pn**	**08 50 51.8**	**-0.1**
KARZ	**Kaharoa**	**2.54**	**254**	P		**Pn**	**08 50 53.1**	**+0.2**
PRRZ	**Plateau Road**	**2.58**	**243**	P		**Pn**	**08 50 53.5**	**-0.1**
NGRZ	**Ngongotaha**	**2.60**	**253**	P		**Pn**	**08 50 54.8**	**+0.9**
HRRZ	**Handcock Road**	**2.62**	**246**	P		**Pn**	**08 50 54.4**	**+0.3**
HSRZ	**Hossack Road**	**2.62**	**248**	P		**Pn**	**08 50 55.0**	**+0.9**
NMHZ	**Naumai**	**2.63**	**228**	P		**Pn**	**08 50 54.4**	**+0.1**
ARHZ	**Aropaoanui**	**2.64**	**224**	P		**Pn**	**08 50 54.3**	**0.0**
MRHZ	**Matea Rd**	**2.73**	**237**	P		**Pn**	**08 50 55.3**	**-0.3**
BKZ	**Black Stump Fm**	**2.87**	**230**	P		**Pn**	**08 50 57.2**	**-0.3**
BKZ	**Black Stump Fm**	**2.87**	**230**	P		**Pn**	**08 50 57.1**	**-0.4**
CKHZ	**Cape Kidnapper**	**2.89**	**217**	P		**Pn**	**08 50 57.0**	**-0.7**
MCHZ	**McNeill Hill**	**2.93**	**224**	P		**Pn**	**08 50 58.0**	**-0.2**
KUZ	**Kuaotunu**	**2.96**	**281**	P		**Pn**	**08 50 57.5**	**-1.2**
TOZ	**Tahuroa Road**	**3.07**	**262**	P		**Pn**	**08 50 60.0**	**-0.2**
KWHZ	**Kaweka Forest**	**3.07**	**227**	P		**Pn**	**08 50 59.5**	**-0.8**
KAHZ	**Kahuranaki**	**3.09**	**218**	P		**Pn**	**08 50 59.8**	**-0.8**
TLZ	**Tolley Road**	**3.15**	**251**	P		**Pn**	**08 51 01.6**	**+0.2**
RATZ	**Rangitukua**	**3.18**	**241**	P		**Pn**	**08 51 02.5**	**+0.7**
KRHZ	**Kereru**	**3.25**	**225**	P		**Pn**	**08 51 01.6**	**-1.1**
KATZ	**Kakaramea**	**3.28**	**240**	P		**Pn**	**08 51 03.5**	**+0.1**
PXZ	**Pawanui**	**3.28**	**215**	P		**Pn**	**08 51 01.7**	**-1.5**
GRZ	**Great Barrier**	**3.31**	**289**	P		**Pn**	**08 51 04.4**	**+0.9**
BHHZ	**Black Hill Sta**	**3.33**	**230**	P		**Pn**	**08 51 03.0**	**-0.8**
MKAZ	**Moumakai**	**3.34**	**273**	P		**Pn**	**08 51 04.3**	**+0.4**
TMVZ	**Te Maari**	**3.35**	**238**	P		**Pn**	**08 51 03.7**	**-0.5**
ETVZ	**East Tongariro**	**3.35**	**237**	P		**Pn**	**08 51 03.7**	**-0.5**
NTVZ	**North Tongarir**	**3.36**	**238**	P		**Pn**	**08 51 03.7**	**-0.6**
KRVZ	**Karewarewa**	**3.38**	**238**	P		**Pn**	**08 51 04.1**	**-0.5**
OTVZ	**Oturere**	**3.40**	**237**	P		**Pn**	**08 51 04.2**	**-0.6**
NNVZ	**North Ngauruho**	**3.41**	**238**	P		**Pn**	**08 51 05.3**	**+0.2**
WTVZ	**West Tongariro**	**3.42**	**238**	P		**Pn**	**08 51 05.2**	**-0.1**
SNVZ	**South Ngauruho**	**3.42**	**237**	P		**Pn**	**08 51 04.7**	**-0.6**
NGZ	**Ngauruhoe**	**3.45**	**237**	P		**Pn**	**08 51 05.1**	**-0.5**
TUVZ	**Tukino**	**3.46**	**236**	P		**Pn**	**08 51 05.4**	**-0.3**
MOVZ	**Moawhango**	**3.47**	**233**	P		**Pn**	**08 51 05.7**	**-0.1**
TWVZ	**Taurewa**	**3.51**	**240**	P		**Pn**	**08 51 06.3**	**0.0**
WPHZ	**Waipukurau**	**3.51**	**219**	P		**Pn**	**08 51 05.1**	**-1.2**
WNVZ	**Wahianoa**	**3.53**	**235**	P		**Pn**	**08 51 06.1**	**-0.6**
PNHZ	**Pukenui**	**3.53**	**223**	P		**Pn**	**08 51 05.0**	**-1.6**
ETAZ	**East Tamaki Re**	**3.54**	**275**	P		**Pn**	**08 51 07.6**	**+0.8**
PRHZ	**Porangahau**	**3.58**	**215**	P		**Pn**	**08 51 05.5**	**-1.8**
MTVZ	**Mangateitei**	**3.64**	**235**	P		**Pn**	**08 51 08.2**	**+0.1**
HIZ	**Hauiti**	**3.72**	**251**	P		**Pn**	**08 51 10.2**	**+1.0**
HIZ	**Hauiti**	**3.72**	**251**	P		**Pn**	**08 51 10.1**	**+1.0**
AWAZ	**Awhitu Peninsu**	**3.76**	**273**	P		**Pn**	**08 51 11.3**	**+1.6**
DVHZ	**Dannevirke**	**3.83**	**219**	P		**Pn**	**08 51 08.9**	**-1.8**
RVAZ	**Riverhead Bore**	**3.85**	**278**	P		**Pn**	**08 51 12.0**	**+1.1**
BFZ	**Birch Farm**	**4.09**	**215**	P		**Pn**	**08 51 11.8**	**-2.4**
BFZ	**Birch Farm**	**4.09**	**215**	P		**Pn**	**08 51 11.9**	**-2.4**
POWZ	**Post Office Ro**	**4.10**	**222**	P		**Pn**	**08 51 12.5**	**-2.0**
PRWZ	**Pori Road**	**4.12**	**218**	P		**Pn**	**08 51 13.0**	**-1.7**
WAZ	**Wanganui**	**4.16**	**234**	P		**Pn**	**08 51 15.2**	**0.0**
WCZ	**Waipu Caves**	**4.26**	**288**	P		**Pn**	**08 51 16.8**	**+0.2**
TIWZ	**Tintock**	**4.33**	**217**	P		**Pn**	**08 51 15.2**	**-2.4**
NEZ	**North Egmont**	**4.54**	**244**	P		**Pn**	**08 51 22.5**	**+2.0**
PKE	**Pukeiti**	**4.58**	**245**

WRA	**Warramunga Arr**	**37.34**	**343**	P		P	09 05 11.3	-0.8
	1.9nm,1.0s,baz=169,slow=7.6,SNR=6.1							
	1.9nm,1.0s							

*IDC **23** 08:59:08.7±2.1,56.˙12S×147.˙82E,h0km,mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=163.2km s-min=24.8km az=80.0*

ISC 23 08:59:10.1±2.0,56.˙3S±0.˙3×14.˙7E±.˚,h10km,n18,σ1s21/9, mb3.9/4,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**21.98**	**171**	P		**P**		**09 04 03.6**	**-0.1**
	2.6nm,1.2s,baz=343,slow=13,SNR=2.6								
	2.6nm,1.2s								
STKA	**Stephens Creek**	**24.67**	**349**	P		**P**		**09 04 31.9**	**+1.0**
	4.6nm,0.9s,baz=151,slow=15,SNR=4.8								
	4.6nm,0.9s								
H01W1	**Cape Leeuwin H**	**30.95**	**300**	T		T		09 38 19.0	
	baz=143,slow=76,SNR=41								
H01W2	**Cape Leeuwin H**	**30.95**	**300**	T		T		09 38 19.4	
	baz=143,slow=76,SNR=45								
H01W3	**Cape Leeuwin H**	**30.97**	**300**	T		T		09 38 20.4	
	baz=143,slow=76,SNR=28								
ASAR	**Alice Springs**	**33.96**	**338**	P		**P**		**09 05 53.9**	**+0.3**
	1.0nm,0.9s,baz=176,slow=9.5,SNR=5.1								
	1.0nm,0.9s								
WRA	**Warramunga Arr**	**37.49**	**340**	P		**P**		**09 06 22.4**	**-1.5**
	3.5nm,1.1s,baz=167,slow=7.4,SNR=8.3								
	3.5nm,1.1s								
H08S2	**Diego Garcia H**	**75.12**	**279**	T		T		10 33 33.6	
	baz=147,slow=76,SNR=9.5								
H08S1	**Diego Garcia H**	**75.13**	**279**	T		T		10 33 31.7	
	baz=147,slow=76,SNR=8.9								
H08S3	**Diego Garcia H**	**75.14**	**279**	T		T		10 33 45.7	
	baz=147,slow=76,SNR=12								
H03S2	**Juan Fernandez**	**82.11**	**143**	T		T		10 42 45.4	
	baz=200,SNR=11								
H03S1	**Juan Fernandez**	**82.11**	**143**	T		T		10 42 45.4	
	baz=200,SNR=13								
H03S3	**Juan Fernandez**	**82.13**	**143**	T		T		10 42 45.4	
	baz=200,SNR=14								
AKASG	**Malin Array Be**	**143.72**	**288**	PKP		**PKiKP**		**09 18 46.2**	**-1.3**
	0.4nm,0.3s,baz=71,slow=1.8,SNR=1.7								
KEST	**Kesra**	**144.93**	**252**	PKPbc		**PKPdf**		**09 18 47.1**	**+0.2**
	3.2nm,0.9s,baz=280,slow=3.5,SNR=4.0								
FINES	**FINESS Array B**	**149.98**	**305**	PKPbc		**PKPbc**		**09 18 58.8**	**-0.4**
	3.1nm,0.9s,baz=189,slow=7.0,SNR=2.3								
GERES	**GERESS Array B**	**151.18**	**275**	PKPbc		**PKiKP**		**09 19 05.1**	**+1.9**
	0.3nm,0.2s,baz=229,slow=1.4,SNR=3.4								
ARCES	**ARCESS Array B**	**151.59**	**321**	PKPbc		**PKiKP**		**09 19 03.2**	**-0.1**
	1.5nm,0.8s,baz=132,slow=3.4,SNR=7.8								

*IDC **23** 08:59:15.7±0.7,53.˙64N×163.˙73W,h0km,mb4.5/37, mbtmp4.5/40,ML3.8/3,MS4.0/63,Error ellipse: s-maj=19.1km s-min=9.7km az=5.0*

*MOS **23** 08:59:17.3±0.9,53.˙61N×163.˙62W,h23km,mb5.0/52, MS4.1/8,Error ellipse: s-maj=9.4km s-min=5.8km az=97.9*

*AEIC **23** 08:59:18±2.7,53.˙46N±0.˙06×163.˙50W±0.˙06,h13km±2km, ML4.2,mb4.7/84(NEIC),ML4.4/12(NEIC),Error ellipse: s-maj=9.0km s-min=4.6km az=164.0*

*NEIC **23** 08:59:19.7±1.8,53.˙49N±0.˙03×163.˙59W±0.˙07,h28km±5km, Error ellipse: s-maj=5.7km s-min=4.6km az=68.0*

*GCMT **23** 08:59:23.0±0.4,53.˙47N±0.˙02×163.˙17W±0.˙05,h24km±1km, MW4.9/78,Moment Tensor Solution. s28,c33; s78,c96; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.13±.17; Mθθ-1.93±.11; Mφφ-0.19±. 12; Mrθ1.31±.13; Mrφ-0.71±.06; Mθφ1.02±.17; Best double couple: M0 2.72300×10^16^ NP1:φs261.00000°,δ28.00000°,λ109.00000°. Principal axes: T 2.7360, Plg69.0000°, Azm309.0000°; N -0.0210, Plg9.0000°, Azm64.0000°; P -2.7110, Plg18.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 08:59:18.9±0.7,53.˙52N±0.˙05×163.˙59W±0.˙03,h27km±4km, n646,σ1s21/631,mb4.7/138,MS4.1/80,19C-28D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.12**	**329**			**Pb**		**08 59 39.2**	**-0.5**
BRPK	**Brown Peak**	**1.13**	**356**			**Pn**		**08 59 38.7**	**-0.3**
WESP	**Westdahl Peak**	**1.18**	**326**			**Pb**		**08 59 40.2**	**-0.6**
WESN	**West Dahl Nort**	**1.20**	**331**			**Pb**		**08 59 40.7**	**-0.3**
ISLZ	**Isanotski Laza**	**1.21**	**357**			**Pb**		**08 59 39.9**	**-0.3**
ISLZ						**Sb**		**08 59 58.2**	**+1.8**
SSLS	**Shishaldin Sou**	**1.22**	**349**			**Pn**		**08 59 40.4**	**+0.2**
SSLS						**Sb**		**08 59 58.1**	**+1.4**
WECS	**Westdahl Cape**	**1.23**	**326**			**Pb**		**08 59 41.0**	**-0.5**
WECS						**Sb**		**08 59 59.5**	**+2.5**
SSBA	**Shishaldin**	**1.30**	**346**			**Pn**		**08 59 41.4**	**+0.1**
SSBA						**Sb**		**08 59 59.3**	**+0.4**
SSLN	**Shishaldin Nor**	**1.32**	**350**			**Pb**		**08 59 42.5**	**-0.5**
SSLN						**Sb**		**09 00 00.8**	**+1.3**
ISNN	**Isanotski Nort**	**1.32**	**355**			**Pb**		**08 59 42.2**	**-0.9**
AKSA	**Akutan Strait**	**1.39**	**297**			**Pb**		**08 59 43.1**	**-1.1**
AKSA						**Sb**		**09 00 02.6**	**+1.0**
AKUT	**Akutan**	**1.43**	**296**	Pn		**Pb**		**08 59 43.7**	**-1.2**
AKUT	**Akutan**	**1.43**	**296**			**Sb**		**09 00 02.4**	**-0.3**
AKUT	**Akutan**	**1.43**	**296**	IAML				09 00 04.2	
	comp=E,4μm,0.9s								
AKUT				IAML				09 00 14.9	
	comp=N,3μm,1.1s								
AKBBA	**Akutan Broad B**	**1.50**	**294**			**Pb**		**08 59 44.9**	**-1.3**
ZRO	**Akutan Zero**	**1.53**	**293**			**Pb**		**08 59 45.2**	**-1.4**
AKLV	**Akutan Long Va**	**1.54**	**296**			**Pb**		**08 59 45.3**	**-1.5**
AKMO	**Akutan Morgan**	**1.54**	**293**			**Pb**		**08 59 45.5**	**-1.3**
AKMO						**Sb**		**09 00 04.9**	**-1.1**
AKRB	**Akutan Reef Bi**	**1.59**	**294**			**Pb**		**08 59 46.2**	**-1.4**
UNV	**Unalaska Valle**	**1.76**	**282**			**Pn**		**08 59 47.8**	**+0.2**
UNV	**Unalaska Valle**	**1.76**	**282**	P		**Pn**		**08 59 47.5**	**-0.1**
	baz=101,SNR=52								
DT1	**Dutton Round H**	**1.77**	**25**			**Pn**		**08 59 47.3**	**-0.4**
MNAT	**Makushin Natee**	**1.88**	**283**			**Pn**		**08 59 49.7**	**+0.5**
MTBL	**Makushin Table**	**1.89**	**285**			**Pn**		**08 59 50.3**	**+0.8**
MGOD	**Makushin Gods**	**1.97**	**279**			**Pn**		**08 59 51.2**	**+0.7**
MCIR	**Makushin Cirqu**	**2.01**	**284**			**Pn**		**08 59 52.2**	**+1.1**
MAPS	**Pakushin South**	**2.01**	**280**			**Pn**		**08 59 51.8**	**+0.7**
HAG	**Hague Volcano**	**2.06**	**28**			**Pn**		**08 59 52.1**	**+0.4**
HAG	**Hague Volcano**	**2.06**	**28**	P		**Pn**		**08 59 52.1**	**+0.4**
PS4A	**Pavlof South-4**	**2.09**	**28**			**Pn**		**08 59 52.7**	**+0.5**
PVV	**Pavlof Volcano**	**2.14**	**29**			**Pn**		**08 59 53.6**	**+0.9**
SDPT	**Sand Point**	**2.58**	**44**	Pn		**Pn**		**08 59 59.2**	**+0.3**
SDPT				IAML				09 00 53.7	
	comp=N,2μm,1.3s								
SDPT	**Sand Point**	**2.58**	**44**	P		**Pn**		**08 59 59.1**	**+0.3**
	baz=224,SNR=59								
OKTU	**Okmok Mt. Tuli**	**2.66**	**269**			**Pn**		**09 00 01.1**	**+1.0**
OKER	**Okmok East Rim**	**2.67**	**270**			**Pn**		**09 00 01.3**	**+1.2**
CNBA	**Chernabura Isl**	**2.69**	**59**	Pn		**Pn**		**08 59 59.6**	**-0.8**
CHNA	**Chernabura Isl**	**2.69**	**59**	P		**Pn**		**08 59 59.6**	**-0.8**
	baz=241,SNR=7.1								
OKNC	**Okmok New Cone**	**2.71**	**271**			**Pn**		**09 00 02.0**	**+1.4**
OKSP	**Okmok Steeple**	**2.83**	**266**			**Pn**		**09 00 02.7**	**+0.4**
NIKH	**Nikolski High**	**3.21**	**262**			**Pn**		**09 00 08.2**	**+0.7**
NIKH	**Nikolski High**	**3.21**	**262**	P		**Pn**		**09 00 07.9**	**+0.4**
	baz=79								
S14K	**Fog Glacier**	**3.62**	**38**	P		**Pn**		**09 00 14.2**	**+0.9**
	baz=220								
CLCO	**Concord Point,**	**3.76**	**261**			**Pn**		**09 00 15.9**	**+0.8**
CLES	**Cleveland East**	**3.86**	**262**			**Pn**		**09 00 16.8**	**+0.4**
CLES				IAML				09 00 46.9	
	comp=E,8μm,0.4s								
CLES				IAML				09 00 51.6	
	comp=N,6μm,0.5s								
CHGN	**Chignik**	**4.09**	**45**			**Pn**		**09 00 20.4**	**+0.8**
CHGN				IAML				09 01 37.8	
	comp=N,504nm,1.1s								
CHGN				IAML				09 01 41.1	
	comp=E,568nm,1.3s								
CHGN	**Chignik**	**4.09**	**45**	P		**Pn**		**09 00 20.2**	**+0.6**
	baz=228,SNR=12								
CHIR	**Chirikof Islan**	**5.17**	**60**			**Pn**		**09 00 33.7**	**-0.7**
CHIR	**Chirikof Islan**	**5.17**	**60**	IAML				09 02 19.3	
	comp=E,314nm,1.9s								
CHIR				IAML				09 02 25.2	
	comp=N,254nm,1.6s								
CHIR	**Chirikof Islan**	**5.17**	**60**	P		**Pn**		**09 00 34.3**	**-0.1**
	baz=246								
R17K	**Ugashik Creek**	**5.81**	**42**			**Pn**		**09 00 43.9**	**+0.7**
R17K	**Ugashik Creek**	**5.81**	**42**	P		**Pn**		**09 00 41.9**	**-1.2**
	baz=227								
SII	**Sitkinak Islan**	**6.21**	**57**	Pn		**Pn**		**09 00 47.6**	**-1.1**
SII	**Sitkinak Islan**	**6.21**	**57**	P		**Pn**		**09 00 47.8**	**-0.9**
	baz=244								
Q16K	**King Salmon**	**6.46**	**34**	P		**Pn**		**09 00 52.3**	**+0.2**
	baz=219								
ANCK	**Angle Creek**	**6.54**	**41**			**Pn**		**09 00 53.5**	**+0.3**
O16K	**Kotzebue River B**	**6.80**	**24**	P		**Pn**		**09 00 56.4**	**-0.4**
	baz=208								
OHAK	**Old Harbor**	**6.95**	**54**	Pn		**Pn**		**09 00 56.9**	**-1.9**
OHAK	**Old Harbor**	**6.95**	**54**	P		**Pn**		**09 00 56.8**	**-1.9**
	baz=241								
O17K	**Koliganek Bris**	**7.22**	**27**	P		**Pn**		**09 01 02.8**	**+0.3**
	baz=212								
N16K	**Nishlik Lake**	**7.45**	**19**			**Pn**		**09 01 07.1**	**+1.4**
N16K	**Nishlik Lake**	**7.45**	**19**	P		**Pn**		**09 01 06.5**	**+0.8**
	baz=202,SNR=12								
P18K	**Big Mountain,**	**7.49**	**35**			**Pn**		**09 01 06.5**	**+0.3**
P18K	**Big Mountain,**	**7.49**	**35**	P		**Pn**		**09 01 06.3**	**0.0**
	baz=221								
KDAK	**Kodiak Island**	**7.55**	**51**	Pn		**Pn**		**09 01 05.3**	**-1.7**
	comp=N,1.8nm,0.3s,baz=192,slow=5.3,SNR=40								
KDAK						Sn		**Sn** 09 02 26.2	**-5.5**
	baz=140,slow=22								
	comp=N,4.9nm,0.4s								
KDAK	**Kodiak Island**	**7.55**	**51**	Pn		**Pn**		**09 01 05.9**	**-1.1**
KDAK	**Kodiak Island**	**7.55**	**51**	P		**Pn**		**09 01 05.9**	**-1.1**
KDAK	**Kodiak Island**	**7.55**	**51**	P		**Pn**		**09 01 06.7**	**-0.3**
	baz=240								
Q19K	**Cape Douglas,**	**7.75**	**42**			**Pn**		**09 01 10.2**	**+0.4**
Q19K	**Cape Douglas,**	**7.75**	**42**	P		**Pn**		**09 01 10.2**	**+0.4**
	baz=229								
GSTD	**Great Sitkin T**	**7.75**	**264**			**Pn**		**09 01 11.7**	**+1.7**
O18K	**Koktuh Hills**	**7.85**	**33**			**Pn**		**09 01 11.7**	**+0.6**
O18K	**Koktuh Hills**	**7.85**	**33**	P		**Pn**		**09 01 11.3**	**+0.2**
	baz=219,SNR=5.5								
Q20K	**Shuyak Island**	**8.07**	**46**	P		**Pn**		**09 01 14.7**	**+0.5**
	baz=235								
ADK	**Adak**	**8.12**	**264**			**Pn**		**09 01 15.5**	**+0.6**
ADK	**Adak**	**8.12**	**264**	P		**Pn**		**09 01 15.5**	**+0.6**
N18K	**Kilae Creek**	**8.31**	**27**			**Pn**		**09 01 19.7**	**+2.2**
N18K	**Kilae Creek**	**8.31**	**27**	P		**Pn**		**09 01 17.8**	**+0.3**
	baz=213								
P19K	**Oil Pt**	**8.39**	**39**	Pn		**Pn**		**09 01 20.0**	**+1.4**
P19K	**Oil Pt**	**8.39**	**39**	P		**Pn**		**09 01 19.4**	**+0.8**
	baz=227								
O19K	**Port Alsworth**	**8.39**	**33**	P		**Pn**		**09 01 18.9**	**+0.2**
	baz=221								
KIWB	**Kanaga Island**	**8.41**	**264**			**Pn**		**09 01 19.9**	**+1.1**
KIMD	**Kanaga Island**	**8.48**	**264**			**Pn**		**09 01 20.5**	**+0.6**
ILSW	**Iliamna Southw**	**8.65**	**37**			**Pn**		**09 01 22.9**	**+0.6**
SVW2	**Sparrevohn**	**8.74**	**26**			**Pn**		**09 01 24.0**	**+0.6**
N19K	**Bonanza Creek**	**8.82**	**30**			**Pn**		**09 01 26.2**	**+1.7**
N19K	**Bonanza Creek**	**8.82**	**30**	P		**Pn**		**09 01 25.4**	**+0.8**
	baz=218								
M19K	**Big River Lodg**	**9.73**	**27**			**Pn**		**09 01 37.8**	**+0.8**
M19K	**Big River Lodg**	**9.73**	**27**	P		**Pn**		**09 01 37.4**	**+0.5**
	baz=214,SNR=10								
N20K	**Mount Spurr**	**9.84**	**34**	P		**Pn**		**09 01 38.1**	**-0.4**
	baz=223								
SPCR	**Spurr Chakacha**	**9.84**	**34**	P		**Pn**		**09 01 38.4**	**-0.1**
	baz=233								
L19K	**White Mountain**	**9.85**	**25**			**Pn**		**09 01 39.4**	**+0.8**
L19K	**White Mountain**	**9.85**	**25**	P		**Pn**		**09 01 38.9**	**+0.3**
	baz=212								
M20K	**Styx River**	**10.07**	**29**	Pn		**Pn**		**09 01 43.1**	**+1.4**
M20K	**Styx River**	**10.07**	**29**	P		**Pn**		**09 01 41.3**	**-0.4**
	baz=218,SNR=14								
SEW	**Seward**	**10.16**	**44**	P		**Pn**		**09 01 42.9**	**0.0**
	baz=235								
TTA	**Tatalina**	**10.24**	**20**	Pn		**Pn**		**09 01 45.3**	**+1.3**
TTA	**Tatalina**	**10.24**	**20**	P		**Pn**		**09 01 45.3**	**+1.3**
TTA	**Tatalina**	**10.24**	**20**	P		**Pn**		**09 01 44.3**	**+0.3**
	baz=206								
O22K	**Cooper Landing**	**10.27**	**42**	Pn		**Pn**		**09 01 45.8**	**+1.4**
L20K	**Farewell, AK**	**10.34**	**26**	P		**Pn**		**09 01 46.3**	**+1.0**
	baz=214,SNR=7.0								
SUA	**Susitna One**	**10.53**	**36**			**Pn**		**09 01 47.7**	**-0.2**
SUA	**Susitna One**	**10.53**	**36**	P		**Pn**		**09 01 48.3**	**+0.4**
	baz=226								
SKT	**Skwentna**	**10.63**	**32**	Pn		**Pn**		**09 01 50.6**	**+1.3**
SKT	**Skwentna**	**10.63**	**32**	P		**Pn**		**09 01 50.1**	**+0.8**
	baz=222								
AMKA	**Amchitka**	**10.66**	**265**	Pn		**Pn**		**09 01 50.3**	**+0.7**
M22K	**Willow**	**10.94**	**36**	P		**Pn**		**09 01 53.3**	**-0.2**
	baz=227								
K20K	**Telida**	**11.04**	**23**			**Pn**		**09 01 57.5**	**+2.7**
K20K	**Telida**	**11.04**	**23**	P		**Pn**		**09 01 55.2**	**+0.4**
	baz=211,SNR=15								
PWL	**Port Wells**	**11.05**	**42**			**Pn**		**09 01 54.3**	**-0.8**
PWL	**Port Wells**	**11.05**	**42**	P		**Pn**		**09 01 55.1**	**+0.1**
	baz=235								
PPLA	**Purkeypile**	**11.14**	**28**	P		**Pn**		**09 01 56.6**	**+0.2**
	baz=217								
PMR	**Palmer**	**11.19**	**38**	P		**Pn**		**09 01 55.4**	**-1.5**
	baz=230								
KNK	**Knik Glacier**	**11.33**	**40**	P		**Pn**		**09 01 58.1**	**-0.7**
	baz=232								
CUT	**Chulitna**	**11.35**	**33**	P		**Pn**		**09 01 58.3**	**-0.8**
	baz=224								
HIN	**Hinchinbrook I**	**11.57**	**47**	Pn		**Pn**		**09 02 00.6**	**-1.5**
CAST	**Castle Rocks**	**11.59**	**27**	P		**Pn**		**09 02 01.0**	**-1.3**
	baz=216								
SML	**Sawmill**	**11.62**	**38**	P		**Pn**		**09 02 02.1**	**-0.8**
	baz=231								
J20K	**Nowinta River**	**11.74**	**21**			**Pn**		**09 02 05.0**	**+0.7**
J20K	**Nowinta River**	**11.74**	**21**	P		**Pn**		**09 02 03.3**	**-1.0**
	baz=208,SNR=15								
M23K	**Glacier View**	**11.84**	**39**	P		**Pn**		**09 02 04.2**	**-1.6**
	baz=232								
EYAK	**Cordova Ski Ar**	**11.97**	**47**	P		**Pn**		**09 02 06.2**	**-1.4**
	baz=242								
SCM	**Sheep Creek Mo**	**12.02**	**40**			**Pn**		**09 02 07.5**	**-0.8**
SCM	**Sheep Creek Mo**	**12.02**	**40**	P		**Pn**		**09 02 07.5**	**-0.8**
SCM	**Sheep Creek Mo**	**12.02**	**40**	P		**Pn**		**09 02 06.9**	**-1.4**
	baz=233								
TRF	**Thorofare Moun**	**12.12**	**30**			**Pn**		**09 02 11.6**	**+1.9**
TRF	**Thorofare Moun**	**12.12**	**30**	P		**Pn**		**09 02 09.1**	**-0.6**
	baz=220,SNR=8.3								
WAT1	**Susitna Watana**	**12.22**	**34**	P		**Pn**		**09 02 09.5**	**-1.4**
	baz=227								
KAIM	**Kayak Island**	**12.30**	**51**	Pn		**Pn**		**09 02 11.7**	**-0.4**
WAT6	**Susitna Watana**	**12.33**	**36**	P		**Pn**		**09 02 10.0**	**-2.6**
	baz=229								
KLU	**Klutina**	**12.38**	**43**			**Pn**		**09 02 10.7**	**-2.5**
KLU	**Klutina**	**12.38**	**43**	P		**Pn**		**09 02 12.3**	**-0.8**
	baz=237,SNR=5.6								
BPAW	**Bear Paw Mtn.**	**12.43**	**26**			**Pn**		**09 02 15.9**	**+2.1**
BPAW	**Bear Paw Mtn.**	**12.43**	**26**	P		**Pn**		**09 02 14.1**	**+0.2**
	baz=217								
M24K	**Tolsona, Glenn**	**12.62**	**40**			**Pn**		**09 02 15.7**	**-0.8**
M24K	**Tolsona, Glenn**	**12.62**	**40**	P		**Pn**		**09 02 15.2**	**-1.3**
	baz=234								
BMRM	**Bremner River**	**12.67**	**46**			**Pn**		**09 02 15.8**	**-1.3**
BMRM	**Bremner River**	**12.67**	**46**	P		**Pn**		**09 02 14.8**	**-2.4**
	baz=242								
DHY	**Denali Highway**	**12.78**	**35**	P		**Pn**		**09 02 17.2**	**-1.5**
	baz=228								
N25K	**Chitina, Valde**	**12.98**	**44**			**Pn**		**09 02 20.1**	**-1.3**
N25K	**Chitina, Valde**	**12.98**	**44**	P		**Pn**		**09 02 20.1**	**-1.3**
	baz=240								
I21K	**Tanana**	**13.08**	**22**	P		**Pn**		**09 02 22.4**	**-0.3**
	baz=212,SNR=5.5								
HARP	**HAARP**	**13.18**	**40**	P		**Pn**		**09 02 21.9**	**-2.2**
	baz=236								
GLB	**Gilahina Butte**	**13.23**	**45**			**Pn**		**09 02 23.3**	**-1.5**
MLY	**Manley**	**13.24**	**24**			**Pn**		**09 02 26.0**	**+1.1**
MLY	**Manley**	**13.24**	**24**	P		**Pn**		**09 02 24.7**	**-0.3**
	baz=215,SNR=12								
H21K	**Melozitna Rive**	**13.31**	**20**			**Pn**		**09 02 28.8**	**+2.9**
H21K	**Melozitna Rive**	**13.31**	**20**	P		**Pn**		**09 02 25.4**	**-0.4**
	baz=209,SNR=9.0								
NEA2	**Nenana**	**13.34**	**28**	P		**Pn**		**09 02 24.4**	**-1.8**
	baz=220								
PAX	**Paxson**	**13.39**	**38**			**Pn**		**09 02 26.2**	**-0.8**
PAX	**Paxson**	**13.39**	**38**	P		**Pn**		**09 02 26.2**	**-0.8**
PAX	**Paxson**	**13.39**	**38**	P		**Pn**		**09 02 25.9**	**-1.2**
	baz=233,SNR=6.3								
SHEM	**Shemya Is, Ala**	**13.41**	**276**	LR		LR		09 07 58.1	
	comp=N,577nm,18.6s,baz=100,slow=39								
IMAR	**Indian Mountai**	**13.43**	**18**			**Pn**		**09 02 29.1**	**+1.7**
ISLE	**Juniper Island**	**13.52**	**50**	Pn		**Pn**		**09 02 28.2**	**-0.6**
MCARA	**McCarthy VSAT**	**13.54**	**46**			**Pn**		**09 02 30.0**	**+1.0**
MCARA	**McCarthy VSAT**	**13.54**	**46**	P		**Pn**		**09 02 27.9**	**-1.0**
	baz=243								
MESA	**MESA**	**13.55**	**52**	Pn		**Pn**		**09 02 30.5**	**+1.2**
MESA	**MESA**	**13.55**	**52**	P		**Pn**		**09 02 29.1**	**-0.2**
	baz=250								
CCB	**Clear Creek Bu**	**13.74**	**30**			**Pn**		**09 02 30.8**	**-0.9**
K24K	**Donnelly Dome**	**13.80**	**35**	P		**Pn**		**09 02 31.1**	**-1.5**
	baz=230								
H22K	**Ishtalitna Cre**	**13.82**	**21**	P		**Pn**		**09 02 30.5**	**-2.3**
	baz=212								
HDA	**Harding Lake**	**13.83**	**31**			**Pn**		**09 02 30.5**	**-2.4**
HDA	**Harding Lake**	**13.83**	**31**	P		**Pn**		**09 02 31.1**	**-1.8**
	baz=225								
MDM	**Murphy Dome**	**13.85**	**28**			**Pn**		**09 02 31.2**	**-2.1**
TCOL	**CIGO, UAF Yank**	**13.89**	**29**	P		**Pn**		**09 02 32.9**	**-0.8**
	baz=222								
COLA	**College**	**13.89**	**29**	||e	**P**		**09 02 34.3**	**+0.6**
G21K	**Allakaket**	**13.95**	**17**	P		**Pn**		**09 02 34.0**	**-0.5**
	baz=205								
TABL	**Table Mountain**	**14.02**	**51**			**Pn**		**09 02 34.1**	**-1.5**
M26K	**Nabesna, AK**	**14.03**	**43**			**Pn**		**09 02 33.9**	**-1.8**
M26K	**Nabesna, AK**	**14.03**	**43**	P		**Pn**		**09 02 34.6**	**-1.1**
	baz=240								
RIDG	**Independent Ri**	**14.08**	**36**	P		**Pn**		**09 02 35.2**	**-1.2**
	baz=232								
IL31		**14.10**	**30**			**Pn**		**09 02 34.0**	**-2.6**
ILAR	**Eielson Array**	**14.10**	**30**	Pn		**Pn**		**09 02 34.2**	**-2.5**
	comp=N,0.2nm,0.3s,baz=218,slow=10,SNR=8.4								
ILAR					LR	LR		09 08 33.8	
	comp=N,2μm,18.1s,baz=220,slow=40								
	comp=N,0.7nm,0.6s								
H23K	**Yukon River**	**14.18**	**24**			**Pn**		**09 02 36.6**	**-1.2**
H23K	**Yukon River**	**14.18**	**24**	P		**Pn**		**09 02 36.7**	**-1.0**
	baz=216,SNR=13								
LOGN	**Logan Glacier**	**14.21**	**50**			**Pn**		**09 02 37.4**	**-0.9**
L26K	**Log Cabin Wild**	**14.22**	**40**			**Pn**		**09 02 37.0**	**-1.3**
L26K	**Log Cabin Wild**	**14.22**	**40**	P		**Pn**		**09 02 37.6**	**-0.7**
	baz=237								
PINM	**Pinnacle**	**14.33**	**53**	P		**Pn**		**09 02 39.4**	**-0.4**
	baz=253								
M27K	**Edge Creek, AK**	**14.47**	**44**			**Pn**		**09 02 41.0**	**-0.8**
M27K	**Edge Creek, AK**	**14.47**	**44**	P		**Pn**		**09 02 40.9**	**-0.8**
	baz=242,SNR=8.7								
J25K	**Salcha River,**	**14.47**	**33**	Pn		**Pn**		**09 02 40.6**	**-1.1**
J25K	**Salcha River,**	**14.47**	**33**	P		**Pn**		**09 02 40.5**	**-1.2**
	baz=228								
SCRK	**Sand Creek**	**14.53**	**36**	P		**Pn**		**09 02 41.7**	**-0.9**
	baz=233								
O28M	**Mount Upton**	**14.57**	**51**	P		**Pn**		**09 02 42.4**	**-0.9**
	baz=250								
F21K	**Alatna River**	**14.60**	**16**	P		**Pn**		**09 02 42.8**	**-0.6**
	baz=204,SNR=8.4								
H24K	**Noodor Dome**	**14.62**	**26**	P		**Pn**		**09 02 42.0**	**-1.7**
	baz=220								
PNL	**Peninsula**	**14.63**	**55**	P		**Pn**		**09 02 43.9**	**+0.1**
	baz=255								
G22K	**Bettles**	**14.68**	**19**	P		**Pn**		**09 02 44.9**	**+0.5**
	baz=209								
G23K	**Bananza Creek**	**14.80**	**21**	P		**Pn**		**09 02 45.9**	**-0.3**
	baz=213,SNR=23								
YUK3	**Moose Creek**	**14.82**	**47**	P		**Pn**		**09 02 45.4**	**-1.2**
	baz=246								
L27K	**

M31M Drury Creek, Y 17.66 49 P P 09 03 24.0 +0.6
M31M IAmb IAmb 09 03 41.3
comp=Z,59nm,1.0s
M31M Drury Creek, Y 17.66 49 P P 09 03 24.6 +1.2
baz=254,SNR=9.0
D25K Kavik River 17.74 20 P Pn 09 03 22.9 -0.8
baz=215,SNR=12
P33M Teslin, Yukon 17.98 56 P P 09 03 28.2 +1.1
P33M IAmb IAmb 09 03 42.8
comp=Z,43nm,0.9s
P33M Teslin, Yukon 17.98 56 P P 09 03 29.7 +2.6
baz=262,SNR=23
N32M Quiet Lake 18.01 53 P P 09 03 27.7 +0.3
baz=258
E27K Coleen River 18.02 27 P P 09 03 27.5 +0.1
baz=226
WRAK Wrangell Islan 18.09 68 P P 09 03 30.2 +2.1
baz=274
Q32M Nakina River 18.13 60 P P 09 03 29.1 +0.3
baz=266
FARO Faro, Yukon 18.13 49 P P 09 03 29.1 +0.4
FARO IAmb IAmb 09 03 43.7
comp=Z,106nm,1.2s
FARO Faro, Yukon 18.13 49 P P 09 03 29.1 +0.4
baz=255,SNR=26
EPYK Eagle Plains 18.41 35 P P 09 03 30.3 -1.5
EPYK Eagle Plains 18.41 35 P P 09 03 30.3 -1.5
baz=238,SNR=6.5
C26K Camden Bay 18.53 20 P P 09 03 31.9 -1.0
baz=217
C27K Jago River 18.56 22 P P 09 03 32.7 -0.6
baz=219,SNR=7.9
V35K Ketchikan 18.61 72 P P 09 03 33.6 -0.3
baz=278
S34M Telegraph Cree 18.69 63 P P 09 03 34.4 -0.4
baz=270,SNR=5.6
R33M Jennings River 18.82 59 P P 09 03 35.8 -0.6
baz=266
MMPY Sheldon Lake, 19.17 49 P P 09 03 40.0 -0.1
baz=256,SNR=12
T35M Bob Quinn 19.20 66 P Pn 09 03 40.8 -0.7
baz=274
DLBC Dease Lake 19.28 62 P Pn 09 03 42.4 0.0
comp=Z,0.2nm,0.3s,baz=271,slow=11,SNR=5.3
DLBC LR LR 09 10 01.4
comp=Z,224nm,19.5s,baz=288,slow=34
comp=Z,3.9nm,0.8s
DLBC Dease Lake 19.28 62 P P 09 03 41.4 +0.1
DLBC IAmb IAmb 09 03 56.4
comp=Z,68nm,1.3s
DLBC Dease Lake 19.28 62 P Pn 09 03 41.8 -0.7
baz=270
WTLY Watson Lake, Y 19.97 57 P Pn 09 03 49.6 -1.0
WTLY Watson Lake, Y 19.97 57 P Pn 09 03 50.1 -0.5
baz=266
F31M Tsiigehtchic 19.97 34 P P 09 03 46.7 -2.0
baz=240
TGTN Hyland Airport 20.36 53 P P 09 03 53.0 -0.1
baz=263
BILL Bilibino 20.37 327⇓*e* P P 09 03 53.6 +0.6
BILL *e* 09 04 07.5
BILL pmax pmax
comp=Z,50nm,1.2s
BILL MLR MLR
comp=Z,1μm,16.0s
INK Inuvik 20.48 32 P P 09 03 53.0 -1.2
comp=Z,6.0nm,0.7s,baz=248,slow=12,SNR=15
INK LR LR 09 12 36.0
comp=Z,676nm,19.3s,baz=235,slow=39
comp=Z,6.0nm,0.7s
INK Inuvik 20.48 32 P P 09 03 53.4 -0.8
baz=238
PET Petropavlovsk 22.42 284 P P 09 04 15.4 +0.3
PET Petropavlovsk 22.42 284 *e*P P 09 04 15.0 -0.1
PET *e*S S 09 08 12.8 -6.8
PET pmax pmax
comp=Z,64nm,1.2s
PET pmax pmax
comp=Z,200nm,12.0s
PET MLR MLR
comp=Z,400nm,15.0s
WRGLY Wrigley 22.79 49 P P 09 04 19.3 +0.3
baz=263
PEA0B Petropavlovsk- 22.94 285 P P 09 04 20.5 -0.2
PEA0B IAmb IAmb 09 04 23.1
comp=Z,33nm,1.0s
PEA0B Petropavlovsk- 22.94 285*d* *i*P P 09 04 21.6 +0.9
PETK Petropavlovsk- 22.94 285 P P 09 04 19.1 -1.7
comp=Z,6.8nm,0.6s,baz=78,slow=15,SNR=14
PETK LR LR 09 13 09.1
comp=Z,527nm,20.7s,baz=78,slow=36
comp=Z,6.8nm,0.6s
PETK Petropavlovsk- 22.94 285 P P 09 04 19.8 -0.9
PETK Petropavlovsk- 22.94 285 P P 09 04 19.8 -0.9
SEY Seymchan 24.54 310 P P 09 04 34.4 -1.4
comp=Z,6.0nm,1.0s,baz=85,slow=4.6,SNR=5.7
comp=Z,6.0nm,1.0s
SEY Seymchan 24.54 310⇑ *e*P P 09 04 37.0 +1.1
SEY pmax pmax
comp=Z,25nm,2.3s
SKR Severo-Kuril's 24.68 280⇓ *e*P P 09 04 37.3 0.0
A36M Sachs Harbour 24.77 27 P P 09 04 38.1 +0.3
baz=242
MA2 Magadan 25.45 302 LR LR 09 15 35.0
comp=Z,361nm,18.3s,baz=102,slow=39
LLLB Lillooet 25.54 79 P P 09 04 47.0 +1.9
LLLB IAmb IAmb 09 05 03.7
comp=Z,15nm,1.1s
YKA Yellowknife Ar 26.83 51 P P 09 04 57.5 +0.9
comp=Z,2.9nm,0.8s,baz=260,slow=7.6,SNR=3.5
YKA LR LR 09 16 34.0
comp=Z,572nm,19.2s,baz=272,slow=39
comp=Z,2.9nm,0.8s
LTY Liberty 27.73 85 P P 09 05 04.5 -0.4
B08A Colville Reser 28.00 82 P P 09 05 09.2 +1.9
HOOD Mount Hood Mea 28.13 90 P P 09 05 10.1 +1.4
HOOD IAmb IAmb 09 05 36.6
comp=Z,14nm,0.8s
I04A Tendick Farm, 28.52 93 P P 09 05 12.2 +0.3
baz=305
HAWA Hanford 28.84 86 P P 09 05 16.1 +1.3
HAWA IAmb IAmb 09 05 29.5
comp=Z,10nm,0.7s
I05D Terrebonne, OR 28.86 91 P P 09 05 16.5 +1.6
baz=304
D08A Wollman Farm, 28.87 85 P P 09 05 16.1 +1.0
E08A Dider Farm, El 29.07 86 P P 09 05 17.6 +0.8
NEW Newport 29.36 81 P P 09 05 20.2 +0.8
comp=Z,3.7nm,0.8s,baz=301,slow=8.9,SNR=9.9
NEW LR LR 09 14 50.6
comp=Z,192nm,21.3s,baz=304,slow=32
comp=Z,3.7nm,0.8s
NEW Newport 29.36 81 P P 09 05 19.8 +0.5
NEW Newport 29.36 81 P P 09 05 19.8 +0.5
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 29.36 81 P P 09 05 19.5 +0.1
baz=298
EDM Edmonton 29.48 70 P P 09 05 21.1 +0.8
EDM IAmb IAmb 09 05 34.8
comp=Z,13nm,1.0s
EDM Edmonton 29.48 70 P P 09 05 21.2 +0.8
EDM pmax pmax
comp=Z,13nm,1.0s
L04D Klamath Falls 29.50 96 P P 09 05 21.2 +0.4
baz=307
J05D Fort Rock, OR 29.51 93 P P 09 05 22.1 +1.2
baz=305
YBH Yreka Blue Hor 29.56 97 P P 09 05 23.1 +1.9
comp=Z,1.3nm,0.7s,baz=345,slow=6.7,SNR=5.9
YBH LR LR 09 14 09.1
comp=Z,360nm,21.0s,baz=302,slow=30
comp=Z,1.3nm,0.7s
G08A Pilot Rock 29.76 88 P P 09 05 23.7 +0.7
K05A Summer Lake 30.04 94 P P 09 05 27.5 +1.9
K05A IAmb IAmb 09 05 42.1
comp=Z,11nm,1.0s
F10A Beach Ranch, E 30.43 85 P P 09 05 29.6 +0.7
F10A IAmb IAmb 09 05 54.3
comp=Z,8.8nm,0.9s
MOD Modoc Plateau 30.88 94 P P 09 05 34.3 +1.2
MOD IAmb IAmb 09 05 49.1
comp=Z,19nm,1.5s
BMO Blue Mountains 30.98 87 P P 09 05 34.1 +0.3
BMO Blue Mountains 30.98 87 P P 09 05 34.1 +0.3
BMO pmax pmax
comp=Z,8.0nm,1.3s
J08A Circle Bar Ran 31.12 90 P P 09 05 36.5 +1.5
J08A IAmb IAmb 09 05 52.7
comp=Z,10nm,1.2s
WVOR Wild Horse Val 31.56 92 P P 09 05 40.0 +1.0
WVOR IAmb IAmb 09 05 54.8
comp=Z,12nm,1.1s
WVOR Wild Horse Val 31.56 92 P P 09 05 40.0 +1.0
WVOR pmax pmax
comp=Z,12nm,1.1s
MFID Camas Ranch 32.67 88 P P 09 05 49.4 +0.7
MFID IAmb IAmb 09 05 57.4
comp=Z,8.3nm,0.8s
PNTR Pine Nut 33.06 98 P P 09 05 53.5 +1.2
PNTR IAmb IAmb 09 06 13.7
comp=Z,12nm,0.8s
YERR Yerington 33.34 98 P P 09 05 55.9 +1.2
YERR IAmb IAmb 09 06 10.5
comp=Z,10nm,0.9s
HLID Hailey 33.43 87 P P 09 05 56.0 +0.7
HLID Hailey 33.43 87 P P 09 05 56.1 +0.7
baz=305,SNR=5.9
TIXI Tiksi 33.58 328 P P 09 05 55.2 -0.9
comp=Z,12nm,0.9s,baz=267,slow=24,SNR=4.8
comp=Z,12nm,0.9s
TIXI Tiksi 33.58 328⇑ *e*P P 09 05 55.4 -0.8
TIXI pmax pmax
comp=Z,19nm,1.2s
BCYI Bear Canyon 33.60 85 P P 09 05 57.7 +0.8
BMN Battle Mountai 33.62 94 P P 09 05 58.1 +1.0
BMN Battle Mountai 33.62 94 P P 09 05 58.1 +1.0
BMN pmax pmax
comp=Z,8.0nm,1.2s
EGMT Eagleton 33.79 77 P P 09 05 58.5 +0.1
baz=300
BOZ Bozeman (W) 33.95 82 P P 09 06 00.6 +0.7
baz=303
KVN Kaiserville 33.98 96 P P 09 06 01.4 +1.2
KVN IAmb IAmb 09 06 15.9
comp=Z,7.6nm,1.1s
KVN Kaiserville 33.98 96 P P 09 06 01.4 +1.2
KVN pmax pmax
comp=Z,8.0nm,1.1s
YSS Yuzh-Sakhalins 34.23 281⇓ *e*P P 09 06 04.4 +2.4
YSS pmax pmax
comp=Z,8.0nm,0.6s
NVAR Mina Array Bea 34.26 98 P P 09 06 04.5 +1.8
comp=Z,1.8nm,0.7s,baz=297,slow=9.1,SNR=13
NVAR LR LR 09 17 24.5
comp=Z,210nm,20.0s,baz=274,slow=32
comp=Z,1.8nm,0.7s
NVAR Mina Array Bea 34.26 98 P P 09 06 03.7 +1.0
MLAC Mammoth, Mammo 34.48 99 P P 09 06 05.2 +0.6
baz=312
ELK Elko 34.61 92 P P 09 06 06.8 +1.1
ELK IAmb IAmb 09 06 21.1
comp=Z,12nm,1.2s
ELK Elko 34.61 92 P P 09 06 06.8 +1.1
ELK pmax pmax
comp=Z,12nm,1.3s
YNR Norris Junctio 35.00 83 P P 09 06 09.8 +0.7
YAK Yakutsk 35.05 311 LR LR 09 22 11.6
comp=Z,542nm,18.6s,baz=89,slow=39
HVU Hansel Valley 35.45 88 P P 09 06 13.8 +0.9
HVU Hansel Valley 35.45 88 P P 09 06 13.8 +0.9
HVU pmax pmax
comp=Z,5.0nm,0.9s
TPAW Teton Pass 35.53 85 P P 09 06 14.8 +1.2
VES Vestal, Richgr 35.55 102 P P 09 06 14.5 +1.0
baz=314
RLMT Red Lodge 35.60 81 P P 09 06 13.8 -0.4
baz=304
CWC Cottonwood Cre 35.73 100 P P 09 06 16.5 +1.3
baz=313
BGU Big Grassy Mou 35.82 90 P P 09 06 17.2 +1.2
BGU IAmb IAmb 09 06 31.5
comp=Z,13nm,1.4s
AHID Auburn Hatcher 35.86 86 P P 09 06 17.7 +1.3
R11A Troy Canyon, C 35.93 95 P P 09 06 17.6 +0.5
baz=311
GRNR Gornyy 35.97 291⇑ *i*P P 09 06 15.2 -1.8
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,140nm,15.0s
GRNR MLR MLR
comp=N,60nm,16.0s
GRNR MLR MLR
comp=Z,160nm,18.0s
SPR3 Spring Creek 3 36.25 93 P P 09 06 21.5 +1.5
SPR3 IAmb IAmb 09 06 36.2
comp=Z,19nm,1.5s
DUG Dugway, Tooele 36.40 90 P P 09 06 21.7 +0.7
DUG IAmb IAmb 09 06 41.3
comp=Z,18nm,1.3s
DUG Dugway, Tooele 36.40 90 P P 09 06 21.7 +0.7
DUG pmax pmax
comp=Z,18nm,1.3s
DUG Dugway, Tooele 36.40 90 P P 09 06 21.8 +0.7
baz=309,SNR=5.7
FURC Furnace Creek, 36.42 99 P P 09 06 21.7 +0.6
baz=313
TPNV Topopah Spring 36.46 98 P P 09 06 22.8 +1.2
TPNV IAmb IAmb 09 06 56.3
comp=Z,12nm,1.1s
TPNV Topopah Spring 36.46 98 P P 09 06 22.8 +1.2
TPNV pmax pmax
comp=Z,12nm,1.2s
TPNV Topopah Spring 36.46 98 P P 09 06 22.8 +1.2
baz=312
GWY Greenwater Val 36.73 99 P P 09 06 24.7 +0.8
DGMT Dagmar 36.77 73 P P 09 06 24.6 +0.6
DGMT Dagmar 36.77 73 P P 09 06 24.0 +0.1
baz=301
PDAR Pinedale Array 36.78 85 P P 09 06 24.9 +0.6
comp=Z,1.1nm,0.8s,baz=260,slow=3.4,SNR=6.6
PDAR LR LR 09 19 39.1
comp=Z,104nm,18.3s,baz=314,slow=33
PDAR Pinedale Array 36.78 85 P P 09 06 24.6 +0.3
PSUT Pine Spring 36.84 93 P P 09 06 25.7 +0.9
TMUT Trail Mountain 37.93 90 P P 09 06 34.7 +0.5
TMUT IAmb IAmb 09 06 48.8
comp=Z,12nm,1.0s
RDMU Red Mountain 38.10 87 P P 09 06 36.6 +1.1
RDMU IAmb IAmb 09 06 56.1
comp=Z,10nm,1.0s
SRU San Rafael Swe 38.45 90 P P 09 06 39.1 +0.7
SRU IAmb IAmb 09 07 13.3
comp=Z,10nm,0.9s
SRU San Rafael Swe 38.45 90 P P 09 06 39.1 +0.7
SRU pmax pmax
comp=Z,10.0nm,0.9s
PFO Pinyon Flats O 38.65 102 LR LR 09 19 37.6
comp=Z,318nm,18.6s,baz=290,slow=32
O20A White River Ci 39.17 87 P P 09 06 45.3 +0.8
O20A IAmb IAmb 09 06 58.3
comp=Z,14nm,0.8s
O20A White River Ci 39.17 87 P P 09 06 44.8 +0.3
baz=309,SNR=13
RSSD Black Hills 39.25 79 P P 09 06 44.0 -1.1
baz=306
KLR Kul'dur 39.35 291 P P 09 06 43.9 -1.7
comp=Z,6.7nm,1.1s,baz=44,slow=10,SNR=10.0
KLR LR LR 09 23 02.8
comp=Z,237nm,19.9s,baz=62,slow=36
comp=Z,6.7nm,1.1s
KLR Kul'dur 39.35 291⇓ *e*P P 09 06 44.2 -1.4
KLR pmax pmax
comp=Z,14nm,1.4s
ZEA Zeya 39.52 299 *e*P P 09 06 46.1 -0.8
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=Z,300nm,17.0s
MDND Maddock 39.71 71 P P 09 06 49.5 +0.9
MDND Maddock 39.71 71 P P 09 06 48.7 0.0
baz=303
E28A Huff 39.79 74 P P 09 06 49.8 +0.4
PV11 David Mesa, Pa 39.96 90 P P 09 06 51.7 +0.6
PV11 IAmb IAmb 09 07 07.5
comp=Z,16nm,1.1s
N23A Red Feather La 40.06 84 P P 09 06 52.5 +0.6
baz=308
PV13 Radium Mtn., P 40.09 90 P P 09 06 52.5 +0.4
PV13 IAmb IAmb 09 07 16.9
comp=Z,15nm,0.9s
PV15 Paradox Valley 40.17 89 P P 09 06 53.9 +1.1
PV15 IAmb IAmb 09 07 12.1
comp=Z,14nm,1.0s
ULM Lac du Bonnet 40.50 66 P P 09 06 57.6 +2.5
comp=Z,5.1nm,0.9s,baz=302,slow=11,SNR=3.6
ULM LR LR 09 22 56.6
comp=Z,188nm,21.8s,baz=314,slow=35
comp=Z,5.1nm,0.9s
H11N2 WAKE ISLAND Hy 40.65 225 T T 09 50 38.4
baz=26,slow=76,SNR=89
H11N3 WAKE ISLAND Hy 40.65 225 T T 09 50 38.8
baz=26,slow=76,SNR=104
H11N1 WAKE ISLAND Hy 40.67 225 T T 09 50 35.9
baz=26,slow=76,SNR=107
MVCO Mesa Verde 40.90 91 P P 09 06 59.3 +0.4
baz=312
S22A 4UR Ranch, Cre 41.55 89 P P 09 07 04.1 -0.1
baz=311
AGMN Agassiz Nation 41.56 69 P P 09 07 04.8 +0.9
AGMN IAmb IAmb 09 07 18.2
comp=Z,12nm,0.9s
AGMN Agassiz Nation 41.56 69 P P 09 07 04.1 +0.2
baz=304
H11S1 WAKE ISLAND Hy 41.82 225 T T 09 52 06.3
baz=26,slow=76,SNR=92
H11S2 WAKE ISLAND Hy 41.83 225 T T 09 52 07.5
baz=26,slow=76,SNR=92
H11S3 WAKE ISLAND Hy 41.84 225 T T 09 52 07.6
baz=26,slow=76,SNR=105
SUSD Miller 42.02 75 P P 09 07 06.6 -1.1
baz=306
USRK Ussuriysk Ar. 42.04 284 LR LR 09 25 49.5
comp=Z,131nm,19.0s,baz=27,slow=38
TUC Tucson 42.92 98 P P 09 07 14.5 -0.7
baz=316
MJAR Matsushiro Arr 43.20 271 P P 09 07 17.1 -0.3
comp=Z,4.5nm,0.7s,baz=37,slow=7.6,SNR=16
MJAR LR LR 09 23 24.8
comp=Z,217nm,21.8s,baz=64,slow=34
comp=Z,4.5nm,0.7s
MAJO Matsushiro 43.20 271*c* *i*P P 09 07 18.3 +0.9
MAJO pmax pmax
comp=Z,33nm,1.1s
MJB9 Matsu-Tunnel 43.20 271 P P 09 07 18.1 +0.7
ANMO Albuquerque 43.65 91 P P 09 07 22.3 +1.1
comp=Z,1.1nm,0.8s,baz=312,slow=9.9,SNR=5.6
ANMO LR LR 09 23 33.5
comp=Z,175nm,19.1s,baz=313,slow=33
comp=Z,1.1nm,0.8s
ANMO Albuquerque 43.65 91⇓ *e*P P 09 07 25.2 +4.0
ANMO pmax pmax
comp=Z,5.0nm,1.4s
ANMO Albuquerque 43.65 91 P P 09 07 20.2 -1.0
baz=313
ECSD EROS Data Cent 43.79 75 P P 09 07 22.8 +0.7
ECSD EROS Data Cent 43.79 75 P P 09 07 21.4 -0.7
baz=307
BOD Bodaibo 43.96 310 *e*P P 09 07 22.2 -1.0
BOD pmax pmax
comp=Z,15nm,1.5s
BNM Barren Site 44.09 92 P P 09 07 25.3 +0.4
CRNM Carthage 44.17 93 P P 09 07 26.3 +0.9
121A Cookes Peak, D 44.54 95 P P 09 07 28.3 0.0
baz=315
JHJ Hachijo jima 2 44.61 266 LR LR 09 24 14.7
comp=Z,112nm,21.1s,baz=91,slow=34
SPMN Marine on St. 45.06 71 P P 09 07 31.7 -0.4
baz=307
I37A Lemond, Waseca 45.46 72 P P 09 07 37.9 +2.6
FRB Frobisher Bay 45.97 38 LR LR 09 29 47.6
comp=Z,700nm,18.2s,baz=304,slow=40
NRIK Noril'sk 47.05 333 P P 09 07 47.8 +0.3
NRIK LR LR 09 29 12.8
comp=Z,211nm,20.9s,baz=46,slow=38
comp=Z,1.1nm,1.0s
NRIK Noril'sk 47.05 333*ce*P P 09 07 47.1 -0.3
NRIK pmax pmax
comp=Z,29nm,1.3s
KBS Kingsbay 47.79 1⇑ *e*P P 09 07 54.3 +1.2
KBS pmax pmax
comp=Z,16nm,1.3s
JFWS Jewell Farm 47.94 71 P P 09 07 53.5 -1.2
baz=310
WMOK Wichita Mounta 48.37 86 P P 09 07 57.8 -0.4
baz=314
SPITS Spitsbergen Ar 48.57 0 P P 09 07 59.8 +0.6
comp=Z,9.0nm,0.9s,baz=29,slow=18,SNR=2.0
SPITS LR LR 09 29 26.0
comp=Z,151nm,18.1s,baz=336,slow=37
comp=Z,9.0nm,0.9s
SUMG Summit 48.60 19 P P 09 07 59.9 0.0
SUMG Summit 48.60 19 P P 09 07 59.9 0.0
SUMG pmax pmax
comp=Z,28nm,1.0s
SUMG Summit 48.60 19 *i*P P 09 08 00.0 +0.1
KSRS Korea Array 48.70 280 P P 09 08 01.9 +1.3
comp=Z,11nm,1.0s,baz=57,slow=7.0,SNR=36
KSRS LR LR 09 28 15.3
comp=Z,86nm,20.9s,baz=60,slow=36
comp=Z,11nm,1.0s
KSAR Wonju Array Be 48.73 280 P P 09 08 01.4 +0.5
KSAR Wonju Array Be 48.73 280 P P 09 08 01.4 +0.5
TX31 Lajitas Ar. Si 49.29 95 P P 09 08 06.2 +0.8
TX32 Lajitas Array 49.29 95 P P 09 08 05.7 +0.3
TX32 IAmb IAmb 09 08 32.0
comp=Z,5.0nm,0.8s
TXAR Lajitas Array 49.29 95 P P 09 08 06.2 +0.7
comp=Z,2.2nm,0.6s,baz=301,slow=5.6,SNR=45
TXAR ScP ScP 09 13 22.0 +0.9
comp=Z,1.1nm,1.0s,baz=300,slow=2.7,SNR=6.0
TXAR LR LR 09 27 59.3
comp=Z,96nm,18.4s,baz=316,slow=35
comp=Z,2.2nm,0.6s
TXAR Lajitas Array 49.29 95 P P 09 08 06.0 +0.6
TXAR Lajitas Array 49.29 95 P P 09 08 06.0 +0.6
LPIG La Paz 49.31 105 LR LR 09 26 04.6
comp=Z,91nm,18.4s,baz=338,slow=33
INCN Inchon 49.44 281 P P 09 08 07.3 +0.9
INCN Inchon 49.44 281 P P 09 08 07.3 +0.9
INCN pmax pmax
comp=Z,34nm,1.3s
TJN Taejon 49.76 279*d* *i*P P 09 08 10.2 +1.4
SFJD Kangerlussuaq 49.76 28 LR LR 09 33 09.7
comp=Z,207nm,18.6s,baz=316,slow=41
HDIL Hopedale 50.01 73 P P 09 08 10.2 -0.4
baz=311,SNR=13
CCM Cathedral Cave 50.55 77 P P 09 08 13.0 -1.8
baz=313
JCT Junction City 50.76 90 P P 09 08 16.3 -0.3
baz=316
XLT XiLinHaoTe 51.19 294 *e*P P 09 08 20.3 +0.7
XLT pP pP 09 08 26.9 0.0
XLT sP pwP 09 08 29.3 -1.3
XLT PcS PcS 09 13 25.9 -6.5
XLT S S 09 15 43.9 +7.8
XLT pmax pmax
comp=Z,25nm,1.1s
XLT pmax pmax
comp=Z,86nm,4.2s
XLT LR LR
comp=N,26nm,16.0s
XLT LR LR
comp=E,190nm,18.5s
XLT LR LR
comp=Z,230nm,17.7s
SFIN Lafayette 51.38 72 P P 09 08 20.2 -0.8
baz=312
MIAR Mount Ida 51.59 82 P P 09 08 21.7 -1.0
baz=314
SCHQ Schefferville 52.15 47 P P 09 08 27.9 +1.3
comp=Z,6.7nm,0.9s,baz=284,slow=5.7,SNR=4.2
SCHQ LR LR 09 33 21.3
comp=Z,236nm,19.6s,baz=286,slow=39
comp=Z,6.7nm,0.9s
O48B Farmland 52.56 71 P P 09 08 28.1 -1.7
baz=313
833A Chaparral WMA, 52.57 92 P P 09 08 30.4 +0.4
baz=318
SADO Sadowa 52.83 63 LR LR 09 32 00.1
comp=Z,140nm,18.5s,baz=343,slow=37
WCI Wyandotte Cave 53.29 73 P P 09 08 35.3 +0.1
baz=313
P49A Miami Univ. Ec 53.30 71 P P 09 08 37.8 +2.6
P49A Miami Univ. Ec 53.30 71 P P 09 08 34.4 -0.8
baz=313
ULN Ulaanbaatar 53.30 303*c* *i*P P 09 08 35.5 +0.1
ULN pmax pmax

comp=Z,24nm,1.0s
ZAK Zakamensk 53.46 307 *e*P **P 09 08 35.7 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
SONM Songino Array 53.66 303 P **P 09 08 38.6 +0.7**
comp=Z,10nm,0.9s,baz=55,slow=7.1,SNR=36
SONM PcP **PcP 09 09 45.7 +1.7**
comp=Z,2.1nm,0.9s,baz=34,slow=3.8,SNR=1.8
SONM LR LR 09 32 11.2
comp=Z,175nm,21.1s,baz=50,slow=37
comp=Z,10nm,0.9s
SONM Songino Array 53.66 303 P **P 09 08 37.9 0.0**
SONM Songino Array 53.66 303 P **P 09 08 37.9 0.0**
SONM pmax pmax
comp=Z,25nm,1.2s
BJI Beijing 53.72 290 P **P 09 08 39.0 +0.7**
BJI sP **pwP 09 08 47.5 -1.8**
BJI PcP **PcP 09 09 43.6 -0.5**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI pmax pmax
comp=Z,140nm,11.8s
BJI LR LR
comp=N,46nm,21.2s
BJI LR LR
comp=E,190nm,20.2s
BJI LR LR
comp=Z,240nm,21.5s
WVT Waverly 53.86 76 P **P 09 08 38.4 -0.9**
baz=314
OXF Oxford 54.07 79 P **P 09 08 40.0 -0.9**
baz=315
P52A Corning 54.68 69 P **P 09 08 44.5 -0.9**
baz=314
HHC Hu-ho-hao-te 55.71 294 *e*P **P 09 08 54.3 +1.4**
HHC pmax pmax
comp=Z,50nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.6s
TIA Tai'an 55.83 286 P **P 09 08 53.8 +0.1**
TIA pmax pmax
comp=Z,2.0nm,0.2s
TIA pmax pmax
comp=Z,64nm,3.5s
TIA LR LR
comp=N,180nm,17.8s
TIA LR LR
comp=E,150nm,17.1s
TIA LR LR
comp=Z,220nm,19.2s
TZTN Tazewell 56.03 73 P **P 09 08 54.1 -1.1**
baz=315
BINY Binghamton 56.27 63 P **P 09 08 54.8 -1.9**
baz=314
SSPA Standing Stone 56.33 66 P **P 09 08 56.2 -1.0**
baz=314
HNS HongShan 56.38 289 ⇑P **P 09 08 58.9 +1.4**
HNS *e*S **S 09 16 47.4 +1.2**
HNS pmax pmax
comp=Z,25nm,1.4s
HNS LR LR
comp=N,170nm,20.8s
HNS LR LR
comp=E,240nm,18.8s
HNS LR LR
comp=Z,290nm,19.2s
LRAL Lakeview Retre 56.53 78 P **P 09 08 57.3 -1.4**
baz=316
TKL Tuckaleechee C 56.53 74 LR LR 09 31 55.3
comp=Z,180nm,21.5s,baz=327,slow=35
LBNH Lisbon 56.96 59 P **P 09 08 58.0 -3.6**
baz=315
ARCES ARCESS Array B 57.08 356 P **P 09 09 01.5 -0.5**
comp=Z,1.7nm,0.7s,baz=19,slow=7.7,SNR=6.7
ARCES LR LR 09 36 01.5
comp=Z,204nm,18.1s,baz=5.0,slow=39
comp=Z,1.7nm,0.7s
BLA Blacksburg 57.34 70 P **P 09 09 03.6 -0.8**
baz=315
NJ2 Nanjing 57.80 281 *e*P **P 09 09 08.0 +0.4**
NJ2 pmax pmax
comp=Z,13nm,0.7s
L61B Northampton 57.83 61 P **P 09 09 07.3 -0.5**
baz=315
KMSC Kinge Mountain 58.29 73 P **P 09 09 10.2 -0.8**
baz=316
BORG Borgarnes 58.53 18 LR LR 09 36 38.0
comp=Z,112nm,19.5s,baz=336,slow=38
ZAA0 Zalesovo Array 58.86 320 P **P 09 09 14.4 -0.4**
ZAA0 IAmb IAmb 09 09 15.7
comp=Z,4.6nm,0.8s
ZALV Zalesovo Beam 58.86 320 P **P 09 09 14.2 -0.6**
comp=Z,3.7nm,0.8s,baz=36,slow=5.8,SNR=11
ZALV PcP **PcP 09 10 04.6 +0.7**
comp=Z,2.0nm,0.6s,baz=79,slow=3.2,SNR=3.8
ZALV LR LR 09 37 20.3
comp=Z,319nm,18.8s,baz=352,slow=39
comp=Z,3.7nm,0.8s
ZALV Zalesovo Beam 58.86 320 P **P 09 09 14.8 +0.1**
ZALV Zalesovo Beam 58.86 320 P **P 09 09 14.9 +0.1**
DGZ Jazzator, Alta 61.06 315 ⇑*i*P **P 09 09 30.6 +0.5**
DGZ pmax pmax
comp=Z,11nm,1.3s
PRGR Permogore 62.88 345 *e*P **P 09 09 40.6 -1.3**
PRGR *e* 09 11 56.7
PRGR pmax pmax
comp=Z,22nm,1.1s
GTA Gaotai 62.99 300 ⇑P **P 09 09 43.4 +0.2**
GTA pP pP 09 09 50.0 -0.7
GTA pmax pmax
comp=Z,14nm,1.2s
GTA pmax pmax
comp=Z,56nm,4.2s
GTA LR LR
comp=N,200nm,16.4s
GTA LR LR
comp=E,190nm,16.7s
GTA LR LR
comp=Z,320nm,17.1s
LZH Lanzhou 63.34 295 *e*P **P 09 09 46.9 +1.3**
LZH pP pP 09 09 51.8 -1.2
LZH sP pwP 09 09 55.3 -1.4
LZH pmax pmax
comp=Z,33nm,1.0s
LZH LR LR
comp=N,320nm,13.6s
LZH LR LR
comp=E,230nm,14.3s
LZH LR LR
comp=Z,340nm,15.5s
KURK Kurchatov 63.76 321 P **P 09 09 48.3 +0.4**
KURK Kurchatov 63.76 321*c i*P **P 09 09 48.1 +0.2**
KURK pmax pmax
comp=Z,20nm,1.0s
KURBB Kurchatov Arra 63.86 321 LR LR 09 40 30.4
comp=Z,282nm,19.0s,baz=42,slow=39
KURBB Kurchatov Arra 63.86 321 P **P 09 09 47.9 -0.7**
KLMR Klimovskoe 64.50 348 *e*P **P 09 09 51.1 -1.5**
KLMR pmax pmax
comp=Z,25nm,1.4s
KLMR Klimovskoe 64.50 348 *e*P **P 09 09 51.2 -1.4**
KLMR AMP 09 09 54.0
comp=Z,25nm,1.4s
BVA0 Borovoye Array 64.71 327 *i* P **P 09 09 53.9 -0.3**
BVAR Borovoye Array 64.71 327 LR LR 09 41 05.7
comp=Z,138nm,20.1s,baz=41,slow=39
BRVK Borovoye 64.72 327 P **P 09 09 54.3 +0.1**
BRVK Borovoye 64.72 327*c i*P **P 09 09 54.7 +0.5**
BRVK pmax pmax
comp=Z,19nm,1.0s
ARU Arti 65.10 336 P **P 09 09 57.1 +0.5**
comp=Z,5.8nm,0.2s,baz=16,slow=4.4,SNR=17
ARU LR LR 09 42 33.1
comp=Z,133nm,19.2s,baz=46,slow=40
comp=Z,5.8nm,0.2s
ARU Arti 65.10 336*c i*P **P 09 09 56.6 0.0**
ARU 09 12 15.5
ARU S **S 09 18 37.5 +0.5**
ARU SS **SS 09 22 46.0 -2.4**
ARU pmax pmax
comp=Z,19nm,0.9s
ARU MLR MLR
comp=Z,229nm,17.0s
KIRV Kirov 65.10 342 P **P 09 09 56.8 +0.3**
comp=Z,12nm,0.6s,baz=23,slow=4.9,SNR=8.5
KIRV LR LR 09 43 16.5
comp=Z,121nm,18.5s,baz=32,slow=41
comp=Z,12nm,0.6s
KIRV Kirov 65.10 342*ce*P **P 09 09 56.2 -0.3**
FINES FINESS Array B 65.13 355 P **P 09 09 56.7 +0.1**
comp=Z,9.2nm,0.9s,baz=17,slow=8.0,SNR=15
FINES LR LR 09 40 33.3
comp=Z,116nm,18.4s,baz=44,slow=38
comp=Z,9.2nm,0.9s
TAOE Nuku Hiva Isla 65.25 154 *e*LR LR 09 29 35.1
comp=Z,113nm,27.0s
MK31 Makanchi Array 65.47 316 P **P 09 09 58.5 -0.7**
MK31 IAmb IAmb 09 09 60.0
comp=Z,4.8nm,1.0s
MK31 Makanchi Array 65.47 316*ce*P **P 09 09 58.7 -0.5**
MKAR Makanchi Array 65.47 316 P **P 09 09 58.8 -0.5**
comp=Z,3.3nm,0.8s,baz=50,slow=6.5,SNR=25
MKAR LR LR 09 41 55.9
comp=Z,230nm,18.1s,baz=43,slow=39
comp=Z,3.3nm,0.8s
WMQ Urumqi 65.50 311 *e*P **P 09 10 02.3 +2.8**
WMQ LR LR
comp=N,130nm,18.1s
WMQ LR LR
comp=E,210nm,19.7s
NB2 NORSAR Subarra 65.72 3 P **P 09 10 00.7 +0.1**
comp=Z,2.3nm,0.8s,baz=357,slow=6.9
NOA NORSAR Array B 65.72 3 P **P 09 10 00.6 +0.1**
comp=Z,6.7nm,1.0s,baz=357,slow=6.6,SNR=13
NOA LR LR 09 39 58.9
comp=Z,73nm,19.0s,baz=5.0,slow=37
comp=Z,6.7nm,1.0s
HFS Hagfors 66.68 1 P **P 09 10 06.6 -0.1**
comp=Z,11nm,0.8s,baz=41,slow=4.6,SNR=7.5
HFS LR LR 09 41 14.6
comp=Z,62nm,20.6s,baz=5.0,slow=38
comp=Z,11nm,0.8s
CD2 Chengdu 67.28 291 P **P 09 10 12.4 +1.4**
CD2 pmax pmax
comp=Z,20nm,0.9s
GOMU GeErMu 68.00 301⇑ *e*P **P 09 10 16.1 +0.2**
GOMU pP pP 09 10 19.1 -4.3
GOMU sP sP 09 10 20.0 -6.3
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU LR LR
comp=N,230nm,15.7s
GOMU LR LR
comp=E,170nm,15.5s
GOMU LR LR
comp=Z,130nm,16.8s
OBN Obninsk 70.46 348 P **P 09 10 30.1 -0.2**
comp=Z,4.6nm,0.4s,baz=121,slow=5.9,SNR=3.8
comp=Z,4.6nm,0.4s
OBN Obninsk 70.46 348*de*P **P**
OBN *e* 09 10 30.6 +0.3
OBN pmax pmax 09 13 05.3
comp=Z,12nm,0.7s
AKTO Aktyubinsk 70.66 333 P **P 09 10 31.9 +0.2**
comp=Z,20nm,0.9s,baz=20,slow=5.9,SNR=38
AKTO LR LR 09 45 51.2
comp=Z,105nm,18.4s,baz=37,slow=40
comp=Z,20nm,0.9s
AB31 Akbulak array 71.20 332 *i* P **P 09 10 34.9 0.0**
ABKAR Akbulak array 71.20 332 P **P 09 10 35.3 +0.4**
BELG Belogornoye 71.28 340 P **P 09 10 35.9 +0.5**
comp=Z,31nm,0.9s,baz=160,slow=1.1,SNR=9.6
BELG LR LR 09 46 38.9
comp=Z,120nm,18.4s,baz=333,slow=40
comp=Z,31nm,0.9s
BELG Belogornoye 71.28 340*c i*P **P 09 10 35.2 -0.2**
BELG pmax pmax
comp=Z,9.0nm,1.1s
TKM2 Tokmak 2 71.36 318 P **P 09 10 36.4 +0.1**
NACGM Naroch 71.60 354‖ *e*P **P 09 10 37.9 +0.6**
baz=6.2
PZH PanZhiHua 71.79 290 P **P 09 10 41.3 +2.3**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,120nm,3.8s
PPT Papeete 71.82 166 LR LR 09 34 33.6
comp=Z,104nm,20.8s,baz=350,slow=29
PPT2 Papeete2 71.84 166 *e*LR LR 09 32 39.6
comp=Z,136nm,23.2s
MNK Minsk 71.93 353 *i* P **P 09 10 39.6 +0.4**
MNK *i* 09 10 58.5
MNK *i* 09 13 18.4
MNK *i* PPP PPP 09 15 01.9
MNK *i* S **S 09 19 58.7 +0.6**
MNK *i* 09 20 43.6
MNK *i* SS **SS 09 24 35.3 +1.8**
MNK pmax pmax
comp=Z,17nm,1.0s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK MLR MLR
comp=E,17nm,19.0s
MNK MLR MLR
comp=Z,79nm,19.0s
MNK MLR MLR
comp=N,1.0nm,15.0s
MNK Minsk 71.93 353 *i* P **P 09 10 39.6 +0.4**
comp=E,1.0nm,0.8s
MNK *i* P **P 09 10 39.6 +0.4**
MNK *i* P **P 09 10 39.6 +0.4**
comp=Z,17nm,1.0s,baz=187
MNK *i* PcP **PcP 09 10 58.5 +0.7**
MNK *i* PP **PP 09 13 18.5 +0.2**
MNK *i* PPP PPP 09 15 01.9
MNK *i* S **S 09 19 58.8 +0.6**
MNK *i* SS **SS 09 24 35.3 +1.8**
MNK *i* SSS SSS 09 27 54.7
MNK *i* LR LR 09 42 42.6
MNK *i* LRM MLR 09 44 55.1
comp=E,17nm,18.6s
MNK *i* LRM MLR 09 45 07.0
comp=Z,79nm,18.6s
MNK *i* LRM MLR 09 45 10.3
comp=N,1.0nm,15.2s
AAK Ala-Archa 72.04 319 LR LR 09 44 42.3
comp=N,181nm,19.1s,baz=35,slow=38
AAK Ala-Archa 72.04 319 P **P 09 10 41.2 +0.8**
AAK Ala-Archa 72.04 319 P **P 09 10 41.2 +0.8**
AAK pmax pmax
comp=Z,11nm,0.9s
NRN Naryn 72.45 317 P **P 09 10 44.0 +1.0**
NRN IAmb IAmb 09 10 45.6
comp=Z,10nm,1.2s
NRN Naryn 72.45 317 P **P 09 10 44.0 +1.0**
NRN pmax pmax
comp=Z,10.0nm,1.2s
LPSR Galich'ya Gora 72.59 346 *e*P **P 09 10 42.2 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.5s
MSVF Nonsavu 72.70 198 LR LR 09 38 17.4
comp=Z,85nm,19.6s,baz=349,slow=32
KK31 Karatay Array 73.16 322 P **P 09 10 46.7 -0.2**
KK31 IAmb IAmb 09 10 48.6
comp=Z,6.7nm,0.8s
KK31 Karatay Array 73.16 322 *i* P **P 09 10 46.8 0.0**
KKAR Karatay Array 73.16 322 P **P 09 10 47.4 +0.6**
KKAR Karatay Array 73.16 322 P **P 09 10 47.4 +0.6**
VORR Voronezh 73.45 345 *e*P **P 09 10 52.3 +4.0**
VORR pmax pmax
comp=Z,70nm,0.4s
VRH Novokhopyorsk 73.51 344 *e*P **P 09 10 47.0 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 73.90 345 *e*P **P 09 10 50.2 -0.8**
VSR pmax pmax
comp=Z,20nm,1.3s
KSH Kashi 74.08 316 P **P 09 10 56.6 +4.2**
KSH sP PcP 09 11 07.4 -0.1
KSH pmax pmax
comp=Z,11nm,1.5s
KSH LR LR
comp=N,740nm,25.4s
KSH LR LR
comp=E,560nm,27.8s
KSH LR LR
comp=Z,430nm,17.3s
RAR Rarotonga 74.49 176 LR LR 09 39 15.1
comp=Z,66nm,18.9s,baz=310,slow=32
PMG Port Moresby 75.26 231 LR LR 09 37 37.8
comp=Z,88nm,22.0s,baz=74,slow=31
CLL Collm 75.51 2 *i* P **P 09 11 00.7 +0.4**
CLL *e* 09 11 12.0
CLL pmax pmax
comp=Z,12nm,1.2s
CLL Collm 75.51 2 *i* P **P 09 11 00.7 +0.4**
comp=Z,12nm,1.2s
CLL *ex* x 09 11 12.0
AKASG Malin Array Be 75.59 352 P **P 09 11 00.3 -0.5**
comp=Z,6.2nm,0.7s,baz=11,slow=5.8,SNR=20
comp=Z,6.2nm,0.7s
AKASG Malin Array Be 75.59 352 *i* P **P 09 11 00.3 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 75.59 352 P **P 09 10 59.9 -0.9**
AKBB Malin Array Si 75.59 352*c i*P **P 09 11 00.1 -0.7**
AKBB pmax pmax
comp=Z,21nm,1.4s
BSTI Sart Tilman 75.87 7 *d*P **P 09 11 02.8 +0.4**
BSTI *d*PcP **PcP 09 11 14.9 +0.1**
MEM Membach 75.88 7 *d*P **P 09 11 02.2 -0.2**
MEM *d*PcP **PcP 09 11 14.4 -0.5**
BTNL Ternell 75.91 7 *d*P **P 09 11 02.9 +0.3**
comp=Z,12nm,1.1s
BTNL *d*PcP **PcP 09 11 14.8 -0.2**
BRG Berggiesshubel 75.96 2 *e*P **P 09 11 03.2 +0.3**
BRG Amp 09 11 05.2
comp=Z,6.1nm,1.1s
BRG *ex* x 09 11 15.5
BRG Amp 09 11 16.2
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 75.96 2 *e*P **P 09 11 03.2 +0.3**
BRG *e* 09 11 15.4
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,0.9s
BCLA Clavier 76.01 7 *d*P **P 09 11 02.8 -0.4**
BMRD Maredsous 76.09 8 *d*P **P 09 11 04.1 +0.4**
BMRD *d*PcP **PcP 09 11 16.1 +0.4**
BHOU Houvegnez 76.13 7 *d*P **P 09 11 04.5 +0.6**
BHOU *d*PcP **PcP 09 11 16.6 +0.6**
RCHB Rochefort 76.27 7 *d*P **P 09 11 05.1 +0.5**
RCHB *d*PcP **PcP 09 11 16.6 +0.1**
DOU Dourbes 76.28 8 *d*P **P 09 11 04.7 0.0**
DOU *d*PcP **PcP 09 11 16.9 +0.3**
DPC Dobruska-Polom 76.50 0 *e*P **P 09 11 07.3 +1.2**
DPC MLR MLR
comp=Z,100nm,18.2s
DPC Dobruska-Polom 76.50 0 *e*P **P 09 11 07.3 +1.2**
DPC AMS AMS 09 53 40.0
comp=Z,100nm,18.2s
GAR Garm 76.78 320 P **P 09 11 08.3 +0.4**
WLF Walferdange 76.83 7 *d*P **P 09 11 08.1 +0.2**
WLF *d*PcP **PcP 09 11 20.3 +1.3**
LVV L'vov 76.84 355 *e*P **P 09 11 08.5 +0.6**
PRU Pruhonice 76.86 1 AMS AMS 09 55 50.0
comp=Z,100nm,17.4s
MORC Moravsky Berou 77.08 359 *e*P **P 09 11 09.8 +0.5**
CRAI Chiangrai 77.48 287 P **P 09 11 12.7 +0.7**
CRAI IAmb IAmb 09 11 25.1
comp=Z,10nm,1.0s
TBI Tubuai 77.52 167 *e*LR LR 09 35 16.6
comp=Z,110nm,26.0s
CHGR Chuyangaron 77.53 320 P **P 09 11 12.3 +0.2**
CHGR Chuyangaron 77.53 320 P **P 09 11 12.3 +0.2**
CHGR pmax pmax
comp=Z,30nm,0.8s
VRAC Vranov 77.55 360 P **P 09 11 12.3 +0.4**
comp=Z,3.8nm,0.6s,baz=357,slow=7.1,SNR=7.1
VRAC LR LR 09 45 20.7
comp=Z,48nm,21.9s,baz=348,slow=36
comp=Z,3.8nm,0.6s
VRAC Vranov 77.55 360 *e*P **P 09 11 12.7 +0.8**
LANS Liptovska Anna 77.67 358 *e*P **P 09 11 14.0 +1.3**
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 77.67 358 *e*P **P 09 11 14.0 +1.3**
KHC Kasperske Hory 77.70 2 P **P 09 11 13.1 +0.3**
KHC Kasperske Hory 77.70 2 *e*P **P 09 11 13.9 +1.1**
KHC *e* 09 11 24.0
KHC MLR MLR
comp=Z,100nm,19.5s
KHC Kasperske Hory 77.70 2 *e*P **P 09 11 13.9 +1.1**
KHC *ep*P **pwP 09 11 24.0 +0.6**
KHC AMS AMS 09 55 00.0
comp=Z,100nm,19.5s
KRUC Moravsky 77.80 0 *e*P **P 09 11 13.2 -0.1**
KOLS Kolonicke sedl 77.80 356 *e*P **P 09 11 14.7 +1.4**
KOLS Kolonicke sedl 77.80 356 *e*P **P 09 11 14.7 +1.4**
CRVS Cervenica-Dubn 77.86 357 *e*P **P 09 11 14.5 +0.8**
CRVS pmax pmax
comp=Z,13nm,1.2s
CRVS Cervenica-Dubn 77.86 357 *e*P **P 09 11 14.5 +0.8**
GERES GERESS Array B 77.99 2 P **P 09 11 15.4 +1.0**
comp=Z,2.1nm,0.7s,baz=20,slow=4.3,SNR=16
comp=Z,2.1nm,0.7s
GERES GERESS Array B 77.99 2 P **P 09 11 14.9 +0.4**
GERES GERESS Array B 77.99 2 P **P 09 11 14.9 +0.4**
JAVC Velka Javorina 77.99 359 *e*P **P 09 11 16.2 +1.7**
UZH Uzhgorod 78.10 356 *e*P **P 09 11 14.9 -0.1**
UZH *i* 09 11 22.4
UZH *i* 09 11 26.7
VYHS Vyhne 78.34 358 *e*P **P 09 11 17.1 +0.8**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 78.34 358 *e*P **P 09 11 17.1 +0.8**
MODS Modra-Piesok 78.48 359 *e*P **P 09 11 18.2 +1.1**
MODS pmax pmax
comp=Z,19nm,1.1s
MODS Modra-Piesok 78.48 359 *e*P **P 09 11 18.2 +1.1**
ZST Bratislava 78.66 360 *e*P **P 09 11 19.8 +1.7**
ZST pmax pmax
comp=Z,45nm,1.5s
ZST Bratislava 78.66 360 *e*P **P 09 11 19.8 +1.7**
TAPN Taplejung 78.68 301 *e*P **P 09 11 19.5 +0.6**
CONA Conrad Observa 78.93 0 *e*P **P 09 11 21.0 +1.3**
comp=Z,8.6nm,1.2s
MOA Molln 78.99 1 *e*P **P 09 11 24.2 +4.3**
comp=Z,3.2nm,0.7s
BIOA Bad Ischl, Aus 79.14 2 *e*P **P 09 11 22.6 +1.8**
comp=Z,1.1nm,0.3s
GUN Gumba 79.15 302 *e*P **P 09 11 22.7 +1.1**
RONA Rosalia, Austr 79.16 0 *e*P **P 09 11 22.5 +1.6**
comp=Z,5.3nm,0.8s
JIRN Jiri 79.20 302 *e*P **P 09 11 22.7 +0.8**
comp=Z,49nm,0.6s
RETA Reutte 79.26 4 *e*P **P 09 11 22.8 +1.3**
comp=Z,3.2nm,0.8s
MOTA Moosalm 79.41 4 *e*P **P 09 11 23.2 +0.7**
comp=Z,9.1nm,0.8s
WATA Walderalm 79.44 3 *e*P **P 09 11 23.8 +1.3**
comp=Z,4.3nm,0.5s
WTTA Wattenberg 79.51 3 *e*P **P 09 11 24.2 +1.3**
comp=Z,4.8nm,0.7s
SQTA Sankt Quirin 79.54 4 *e*P **P 09 11 24.4 +1.3**
comp=Z,22nm,1.2s
RAMN Ramite 79.57 301 *e*P **P 09 11 24.2 +0.5**
comp=Z,68nm,1.0s
ARSA Arzberg 79.60 1 *e*P **P 09 11 24.8 +1.5**
comp=Z,6.9nm,1.1s
DZM Mont Dzumac 79.62 208 *e*LR LR 09 36 14.4
comp=Z,156nm,21.4s
DZM Mont Dzumac 79.62 208 LR LR 09 39 37.8
comp=Z,115nm,19.3s,baz=36,slow=30
PKI Pulchoki 79.67 303 *e*P **P 09 11 24.9 +0.5**
comp=Z,58nm,1.1s
PKIN Phulchoki 79.67 303 *e*P **P 09 11 24.7 +0.4**
GKN Gorkha 79.70 303 *e*P **P 09 11 25.1 +0.8**
CMAR Chiang Mai Arr 79.70 287 P **P 09 11 25.0 +0.8**
comp=Z,5.9nm,1.0s,baz=18,slow=5.2,SNR=26
comp=Z,5.9nm,1.0s
CMAR Chiang Mai Arr 79.70 287 P **P 09 11 24.6 +0.3**
FETA Feichten 79.72 4 *e*P **P 09 11 25.8 +1.7**
comp=Z,11nm,0.9s
KBA Koelnbreinsper 79.75 2 *e*P **P 09 11 26.0 +1.7**
comp=Z,12nm,0.7s
DMN Daman 79.79 303 *e*P **P 09 11 25.9 +1.0**
DANN Dangsing 79.85 304 *e*P **P 09 11 26.4 +1.1**
comp=Z,125nm,0.8s
DAVOX Davos/Dischmat 79.92 5 LR LR 09 48 20.7
comp=Z,39nm,19.3s,baz=82,slow=37
ABTA Abfaltersbach 80.06 3 *e*P **P 09 11 25.9 0.0**
comp=Z,8.8nm,1.0s
SOKA Soboth 80.17 1 *e*P **P 09 11 28.0 +1.5**
comp=Z,17nm,1.2s
MAK Makhachkala 80.25 337 *e*P **P 09 11 24.1 -2.7**
MAK *e* 09 14 24.4

MAK				*e*S	**S**	09 21 26.0	-4.1	
MAK				*e*SS	**SS**	09 26 36.6	-3.2	
MAK				pmax	pmax			
	comp=Z,300nm,1.2s							
KIV	**Kislovodsk**	**80.32**	**341**	*e*P	**P**	09 11 27.5	+0.2	
KIV				pmax	pmax			
	comp=Z,11nm,1.0s							
OBKA	**Obir**	**80.34**	**1**	*e*P	**P**	09 11 28.4	+1.1	
	comp=Z,13nm,0.8s							
KOLN	**Koldanda**	**80.41**	**304**	*e*P	**P**	09 11 28.8	+0.6	
	comp=Z,7.0nm,1.1s							
KBZ	**Khabaz**	**80.50**	**341**	P	**P**	09 11 29.5	+1.4	
	comp=Z,8.2nm,0.9s,baz=282,slow=2.4,SNR=9.9							
KBZ				LR	LR	09 52 06.8		
	comp=Z,109nm,19.0s,baz=24,slow=40 comp=Z,8.2nm,0.9s							
KBZ	**Khabaz**	**80.50**	**341**	*c i*P	**P**	09 11 29.3	+1.2	
KBZ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MLR	**Muntele Rosu**	**81.03**	**353**	LR	LR	09 50 40.2		
	comp=Z,176nm,18.1s,baz=294,slow=38							
KBL	**Kabul**	**81.17**	**318**	P	**P**	09 11 30.9	-1.2	
KBL				IAmb	IAmb	09 11 33.8		
	comp=Z,10nm,1.3s							
KBL	**Kabul**	**81.17**	**318**	P	**P**	09 11 30.9	-1.2	
KBL				pmax	pmax			
	comp=Z,10.0nm,1.3s							
ZEI	**Tsey**	**81.20**	**340**	*e*P	**P**	09 11 32.0	-0.2	
ZEI				pmax	pmax			
	comp=Z,13nm,0.9s							
GEYT	**Alibeck**	**82.04**	**328**	P	**P**	09 11 36.7	+0.2	
	comp=Z,4.0nm,0.6s,baz=336,slow=7.0,SNR=5.5 comp=Z,4.0nm,0.6s							
GYA0B	**ALIBECK ARRAY**	**82.04**	**328**	P	**P**	09 11 37.4	+0.9	
POLO	**Lamas de Olo**	**83.21**	**18**	*e*P	P	09 11 54.4	+12	
	comp=Z,8.1nm,1.6s							
MVO	**Moncorvo**	**83.55**	**18**	*e*P	P	09 11 49.8	+5.5	
	comp=Z,19nm,1.2s							
GNI	**Garni**	**83.55**	**339**	LR	LR	09 54 49.5		
	comp=Z,125nm,18.6s,baz=16,slow=40							
PVIS	**Viseu**	**83.83**	**18**	*e*P	P	09 11 51.3	+5.6	
	comp=Z,22nm,1.6s							
HRA	**Herat**	**83.86**	**323**	P	**P**	09 11 46.4	+0.2	
ESDC	**Sonseca Array**	**85.53**	**16**	P	**P**	09 11 54.5	+0.2	
	comp=Z,2.2nm,1.1s,baz=337,slow=5.0,SNR=4.7 comp=Z,2.2nm,1.1s							
BR131	**Keskin Array S**	**85.94**	**347**	*i*P	**P**	09 11 57.7	+1.2	
BRTR	**Keskin Array B**	**85.94**	**347**	P	**P**	09 11 57.6	+1.2	
	comp=Z,4.8nm,0.9s,baz=36,slow=2.0,SNR=13							
BRTR				LR	LR	09 54 46.0		
	comp=Z,120nm,19.0s,baz=25,slow=39 comp=Z,4.8nm,0.9s							
IDI	**Anoyia**	**91.25**	**353**	LR	LR	09 57 33.9		
	comp=Z,42nm,19.9s,baz=68,slow=38							
MDT	**Midelt**	**92.11**	**18**	LR	LR	09 57 01.4		
	comp=Z,48nm,18.7s,baz=14,slow=38							
MMAI	**Mount Meron Ar**	**92.26**	**344**	LR	LR	09 56 54.6		
	comp=Z,33nm,21.2s,baz=177,slow=38							
URZ	**Urewera**	**92.92**	**195**	LR	LR	09 47 47.5		
	comp=Z,34nm,19.4s,baz=96,slow=31							
ASAR	**Alice Springs**	**93.86**	**235**	LR	LR	09 47 07.9		
	comp=Z,67nm,21.4s,baz=7.5,slow=31							
EIL	**Elat**	**95.61**	**344**	LR	LR	10 00 08.3		
	comp=Z,46nm,20.3s,baz=151,slow=38							
STKA	**Stephens Creek**	**97.40**	**225**	LR	LR	09 53 57.9		
	comp=Z,38nm,20.4s,baz=23,slow=34							
RPZ	**Rata Peaks**	**99.27**	**198**	LR	LR	09 51 13.5		
	comp=Z,42nm,19.4s,baz=322,slow=31							
H03N2	**Juan Fernandez**	**113.17**	**115**	T	T	11 21 42.2		
	baz=322,slow=77,SNR=8.6							
H03N1	**Juan Fernandez**	**113.18**	**115**	T	T	11 21 42.2		
	baz=322,slow=77,SNR=10							
H03N3	**Juan Fernandez**	**113.19**	**115**	T	T	11 21 31.0		
	baz=322,slow=77,SNR=9.6							
VNDA	**Vanda**	**132.53**	**190**	PKhKP	PKPpre	09 18 25.8		
	comp=Z,2.5nm,1.1s,baz=315,slow=0.4,SNR=4.7							
QSPA	**South Pole Qui**	**143.29**	**180**	PKhKP	PKPpre	09 18 46.2		
	comp=Z,0.5nm,0.5s,baz=18,slow=1.4,SNR=6.8							
VNA2	**Neumayer--Watz**	**159.58**	**158**	PKPab	**PKPab**	**09 19 51.4**	**-0.5**	
VNA2	**Neumayer--Watz**	**159.58**	**158**	pPKPdf	**pPKPdf**	**09 19 22.8**	**+1.5**	
VNA2				x	x	09 19 22.8		
	baz=314,slow=3.0							
SNAA	**Sanae**	**159.93**	**162**	pPKPdf	pPKPdf	09 19 23.5	+1.6	

IDC ***23*** *09:59:48.1±2.2,56.˚06S×147.˚78E,h0km,mb4.0/6, mbtmp4.1/6,MS3.9/2,Error ellipse: s-maj=177.2km s-min=19.1km az=81.0*

ISC 23 08:59:49.7±0.8,56.˚1S±0.˚1×147.˚0E±0.˚3,h9km,n15, σ1s15/11,mb4.1/6,MS3.8/5,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**22.11**	**171**	P	**P**	**09 04 43.7**	**-1.2**
	6.5nm,1.1s,baz=296,slow=9.9,SNR=3.9 6.5nm,1.1s						
STKA	**Stephens Creek**	**24.54**	**349**	P	**P**	**09 05 08.1**	**-1.4**
	4.2nm,1.0s,baz=195,slow=12,SNR=2.3 4.2nm,1.0s						
URZ	**Urewera**	**26.87**	**61**	LR	LR	09 14 42.7	
	comp=Z,336nm,21.9s,baz=290,slow=34						
ASAR	**Alice Springs**	**33.82**	**338**	P	**P**	**09 06 31.1**	**-1.0**
	0.7nm,0.7s,baz=171,slow=10,SNR=4.1 0.7nm,0.7s						
QSPA	**South Pole Qui**	**33.97**	**180**	P	**P**	**09 06 33.5**	**+0.3**
	4.6nm,1.1s,baz=5.5,slow=4.7,SNR=3.9 4.6nm,1.1s						
RAO	**Raoul Island**	**36.59**	**58**	LR	LR	09 20 06.7	
	comp=Z,146nm,21.6s,baz=200,slow=34						
DZM	**Mont Dzumac**	**36.95**	**31**	*e*S	**S**	**09 12 44.6**	**+0.3**
	71nm,23.9s						
DZM				*e*LR	LR	09 16 55.9	
	comp=Z,608nm,26.9s						
WRA	**Warramunga Arr**	**37.35**	**340**	P	**P**	**09 07 02.3**	**-0.1**
	3.9nm,0.9s,baz=167,slow=7.6,SNR=2.5 3.9nm,0.9s						
SNAA	**Sanae**	**50.73**	**192**	P	**P**	**09 08 48.9**	**-0.3**
	3.0nm,1.1s,baz=136,slow=7.5,SNR=4.3 3.0nm,1.1s						
TBI	**Tubuai**	**56.26**	**82**	*e*LR	LR	09 25 43.4	
	comp=Z,75nm,31.8s						
LUWI	**Luwuk**	**58.29**	**331**	P	**P**	**09 09 44.9**	**+0.2**
PPT2	**Papeete2**	**60.83**	**78**	*e*LR	LR	09 27 51.2	
	comp=Z,92nm,26.0s						
FINES	**FINESS Array B**	**149.85**	**305**	PKPbc	**PKiKP**	**09 19 41.0**	**+1.3**
	3.1nm,0.8s,baz=121,slow=5.4,SNR=2.3						
GERES	**GERESS Array B**	**151.10**	**275**	PKPbc	**PKiKP**	**09 19 44.0**	**+1.3**
	2.0nm,0.9s,baz=204,slow=2.9,SNR=6.1						
ARCES	**ARCESS Array B**	**151.45**	**321**	PKPbc	**PKiKP**	**09 19 44.3**	**+1.6**
	2.7nm,0.8s,baz=134,slow=3.5,SNR=6.6						

IDC ***23*** *09:01:34.9±5.7,1.˚50S×140.˚11E,h0km,mb3.6/2, mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=155.4km s-min=71.4km az=129.0*

DJA ***23*** *09:01:38.4±2.5,2.˚5±12.˚×14.˚1E±2.˚1,h97km±7km,M4.1/5, mb4.8/1,MLv3.8/5*

ISC 23 09:01:39.8±2.8,2.˚0S±0.˚2×139.˚7E±0.˚2,h10km,n8,σ1s64/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.78**	**146**	P	**Pg**	**09 01 54.2**	**-0.6**
GENI				S	**Sb**	**09 02 06.6**	**+0.5**
SMPI	**Sarmi**	**1.02**	**268**	P	Pn	09 02 09.6	+9.5
WAMI	**Wamena**	**2.18**	**208**	P	**Pn**	**09 02 14.1**	**-2.0**
SRPI	**Serui, Papua**	**3.49**	**271**	P	**Pb**	**09 02 41.6**	**-0.1**
LUWI	**Luwuk**	**16.97**	**273**	P	**Pn**	**09 05 37.9**	**+0.3**
WRA	**Warramunga Arr**	**18.64**	**196**	P	**Pn**	**09 06 00.1**	**+1.9**
	0.1nm,0.3s,baz=19,slow=12,SNR=10.0 1.4nm,0.8s						
ASAR	**Alice Springs**	**22.32**	**194**	P	**P**	**09 06 39.9**	**+2.2**
	0.6nm,0.6s,baz=26,slow=12,SNR=11 0.6nm,0.6s						
VNDA	**Vanda**	**76.45**	**175**	P	**P**	**09 13 28.6**	**-0.7**
	1.0nm,0.7s,baz=320,slow=5.3,SNR=6.8 1.0nm,0.7s						

IDC ***23*** *09:06:52.9±1.6,9.˚35S×125.˚34E,h0km,mb3.7/2, mbtmp3.8/5,ML3.9/3,Error ellipse: s-maj=30.1km s-min=25.2km az=85.0*

ISC 23 09:06:58.8±1.2,9.˚6S±0.˚1×125.˚37E±0.˚09,h35km,n15, σ2s40/16,Timor region

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

BATI	**Baumata**	**1.79**	**250**	Pn	**Pn**	**09 07 27.1**	**-0.3**	
	22nm,0.3s,baz=305,slow=4.9,SNR=7.3							
BATI				Sn	**Sn**	**09 07 50.2**	**+1.2**	
	30nm,0.3s,baz=82,slow=21,SNR=5.2							
KNRA	**Kununurra**	**6.90**	**152**	P	**Pn**	**09 08 40.5**	**+3.0**	
KDU	**Kakadu**	**7.62**	**115**	P	Pn	09 08 52.6	+5.2	
	12nm,1.0s							
FITZ	**Fitzroy Crossi**	**8.47**	**178**	Pn	**Pn**	**09 09 00.3**	**+1.2**	
	0.9nm,0.3s,baz=358,slow=8.8,SNR=26							
FITZ				Sn	**Sn**	**09 10 32.1**	**-1.3**	
	2.4nm,0.3s,baz=356,slow=1.8,SNR=10.0 1.4nm,0.3s							
FITZ	**Fitzroy Crossi**	**8.47**	**178**	P	**Pn**	**09 09 00.3**	**+1.2**	
WRAB	**Tennant Creek**	**13.45**	**141**	P	**Pn**	**09 10 09.0**	**+1.6**	
WRA	**Warramunga Arr**	**13.45**	**141**	Pn	**Pn**	**09 10 07.9**	**+0.5**	
	0.9nm,0.3s,baz=318,slow=16,SNR=68							
WRA				Sn	**Sn**	**09 12 32.0**	**-3.8**	
	1.0nm,0.3s,baz=324,slow=22,SNR=10.0 1.0nm,0.3s							
WRKA	**Warakurna**	**15.62**	**170**	P	**Pn**	**09 10 38.3**	**+1.8**	
ASAR	**Alice Springs**	**16.20**	**151**	Pn	**Pn**	**09 10 44.8**	**+0.8**	
	0.4nm,0.3s,baz=320,slow=11,SNR=25							
ASAR				Sn	**Sn**	**09 13 38.8**	**-4.0**	
	0.3nm,0.3s,baz=229,slow=31,SNR=5.8 0.9nm,0.5s							
QIS	**Mount Isa**	**17.53**	**130**	P	**P**	**09 11 05.4**	**+3.9**	
OOD	**Oodnadatta**	**20.56**	**153**	P	Pn	09 11 40.2	+3.3	
MKAR	**Makanchi Array**	**68.00**	**330**	P	**P**	**09 17 52.6**	**-1.9**	
	0.6nm,0.7s,baz=141,slow=7.4,SNR=3.5 0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**72.41**	**331**	P	**P**	**09 18 19.5**	**-1.9**	
	0.7nm,0.7s,baz=132,slow=4.0,SNR=1.9 0.7nm,0.7s							
TROLL	**Troll, Antarti**	**90.51**	**195**	PKPab	**P**	**09 19 56.5**	**-0.5**	
SNAA	**Sanae**	**92.07**	**194**	PKPab	P	09 19 52.7	-11	

IDC 23 09:13:24.4±5.3,56.˚71S×145.˚84E,h0km,mb3.7/3, mbtmp3.7/3,MS3.5/5,Error ellipse: s-maj=247.3km s-min=54.9km az=92.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**20.57**	**62**	LR	LR	09 23 41.1	
	comp=Z,88nm,21.2s,baz=286,slow=30						
STKA	**Stephens Creek**	**25.01**	**351**	P	P	09 18 51.1	+1.3
	2.0nm,0.9s,baz=184,slow=14,SNR=2.1 2.0nm,0.9s						
URZ	**Urewera**	**27.69**	**62**	LR	LR	09 28 42.0	
	comp=Z,51nm,18.1s,baz=285,slow=33						
H01W1	**Cape Leeuwin H**	**30.60**	**302**	T	T	09 52 23.1	
	baz=143,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**30.60**	**302**	T	T	09 52 23.3	
	baz=143,slow=76,SNR=12						
H01W3	**Cape Leeuwin H**	**30.61**	**302**	T	T	09 52 31.8	
	baz=143,slow=76,SNR=8.5						
NWAO	**Narrogin (SRO)**	**30.86**	**308**	LR	LR	09 29 33.7	
	comp=Z,109nm,18.9s,baz=66,slow=31						
ASAR	**Alice Springs**	**34.14**	**340**	P	P	09 20 11.7	+0.6
	0.6nm,0.9s,baz=168,slow=9.8,SNR=4.3 0.6nm,0.9s						
CTA	**Charters Tower**	**36.57**	**1**	LR	LR	09 33 59.4	
	comp=Z,99nm,18.1s,baz=80,slow=34						
WRA	**Warramunga Arr**	**37.70**	**342**	P	P	09 20 40.0	-1.6
	1.2nm,0.8s,baz=166,slow=7.5,SNR=8.1 1.2nm,0.8s						
PSI	**Prapat**	**70.39**	**309**	LR	LR	09 50 46.3	
	comp=Z,47nm,21.6s,baz=41,slow=32						
GERES	**GERESS Array B**	**150.54**	**275**	PKPbc	PKPbc	09 33 16.9	-0.2
	0.2nm,0.2s,baz=93,slow=3.9,SNR=1.2						

IDC 23 09:17:39.8±2.7,53.˚74N×86.˚81E,h0km,mbtmp3.0/2, ML2.6/2,Error ellipse: s-maj=24.3km s-min=14.6km az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**281**	*i*		09 24 17.8	
	0.1nm,1.0s,baz=102,slow=328,SNR=8.1						
ZALV	**Zalesovo Beam**	**1.20**	**281**	Pg	Pg	09 18 01.6	-1.2
	1.0nm,0.3s,baz=99,slow=16,SNR=14						
ZALV				Lg	Lg	09 18 19.6	
	1.4nm,0.3s,baz=99,slow=28,SNR=8.0						
KURBB	**Kurchatov Arra**	**5.97**	**242**	Pn	Pn	09 19 09.8	+0.4
	0.1nm,0.3s,baz=48,slow=11,SNR=2.5						
KURBB				Lg	Lg	09 20 51.0	
	baz=67,slow=36,SNR=3.1 0.3nm,0.2s						
MKAR	**Makanchi Array**	**7.53**	**204**	Pn	Pn	09 19 32.4	+1.5
	0.2nm,0.3s,baz=24,slow=13,SNR=8.4 0.3nm,0.2s						

IDC 23 09:20:08.0±2.6,53.˚99N×86.˚59E,h0km,mbtmp3.1/2, ML2.8/2,Error ellipse: s-maj=21.3km s-min=13.0km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**268**	*i*		09 25 42.4	
	0.2nm,0.9s,baz=86,slow=324,SNR=17						
ZALV	**Zalesovo Beam**	**1.05**	**268**	Pg	Pg	09 20 27.1	-0.9
	1.4nm,0.3s,baz=86,slow=18,SNR=6.2						
ZALV				Lg	Lg	09 20 42.5	
	2.2nm,0.3s,baz=90,slow=32,SNR=9.4						
KURBB	**Kurchatov Arra**	**5.99**	**239**	Pn	Pn	09 21 38.3	+0.6
	0.2nm,0.3s,baz=56,slow=14,SNR=11						
KURBB				Lg	Lg	09 23 20.0	
	baz=59,slow=32,SNR=4.8 1.5nm,0.4s						
MKAR	**Makanchi Array**	**7.71**	**203**	Pn	Pn	09 22 02.6	+1.1
	0.2nm,0.3s,baz=26,slow=13,SNR=5.2						
MKAR				Lg	Lg	09 24 15.1	
	0.1nm,0.3s,baz=13,slow=21,SNR=1.8 0.3nm,0.4s						

IDC 23 09:24:25.1±3.6,54.˚14N×87.˚33E,h0km,mbtmp2.7/2, ML2.3/2,Error ellipse: s-maj=32.3km s-min=20.2km az=47.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**264**	*i*		09 31 56.8	
	0.1nm,1.0s,baz=82,slow=327,SNR=16						
ZALV	**Zalesovo Beam**	**1.49**	**264**	Pg	Pn	09 24 51.1	-2.0
	1.6nm,0.3s,baz=80,slow=11,SNR=13						
ZALV				Lg	Lg	09 25 12.9	
	2.5nm,0.3s,baz=82,slow=22,SNR=9.4						
KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn	Pn	09 26 02.2	+1.2
	baz=51,slow=12,SNR=2.5 0.2nm,0.2s						
MKAR	**Makanchi Array**	**8.03**	**206**	Pn	Pn	09 26 24.0	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=2.0 0.1nm,0.3s						

JMA ***23*** *09:26:28.8±0.1,24.˚2N±0.˚4×121.˚8E±0.˚5,h54km±1km, MV2.5/11,TAIWAN REGION*

TAP ***23*** *09:26:29.3,24.˚27N×121.˚76E,h49km,ML3.4,C*

ISC 23 09:26:30.1±1.2,24.˚25N±0.˚02×121.˚80E±0.˚02,h43km±5km, n116,σ1s08/209,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**320**	P	**Pn**	**09 26 37.4**	**+0.3**
	baz=355						
ETL	**Fush Village**	**0.18**	**242**	*i* P	**Pn**	**09 26 37.5**	**-0.1**
	baz=242						
ETL				*i* S	**Sn**	**09 26 43.6**	**+0.7**
	baz=242						
ENA	**Nanau**	**0.19**	**343**	*i* P	**Pn**	**09 26 37.6**	**0.0**
	baz=351						
ENA				*i* S	**Sn**	**09 26 44.0**	**+1.0**
	baz=351						
EWUT	**Wuta**	**0.20**	**354**	P	**Pn**	**09 26 36.8**	**-0.9**
	baz=14						
EWUT				S	**Sn**	**09 26 43.2**	**+0.2**
	baz=14						
NACB	**Ninganchiao**	**0.20**	**250**	P	**Pn**	**09 26 37.4**	**-0.3**
	baz=247						
NACB				S	**Sn**	**09 26 43.9**	**+0.8**
	baz=247						
TWD	**Chiawan**	**0.25**	**229**	*e*P	**Pn**	**09 26 37.7**	**-0.4**
	baz=225						
TWD				*e*S	**Sn**	**09 26 44.1**	**+0.4**
	baz=225						

ETLH	**Xiulin Townshi**	**0.29**	**263**	P	**Pn**	**09 26 38.2**	**-0.5**	
	baz=256							
ETLH				S	**Sn**	**09 26 45.3**	**+0.6**	
	baz=256							
HWA	**Hwalien**	**0.32**	**214**	*i* P	**Pn**	**09 26 39.1**	**+0.2**	
	baz=192							
HWA				*i* S	**Sn**	**09 26 46.6**	**+1.7**	
	baz=192							
TWC	**Suao**	**0.37**	**7**	P	**Pn**	**09 26 39.5**	**+0.2**	
	baz=22							
TWC				*e*S	**Sn**	**09 26 47.7**	**+1.8**	
	baz=22							
LATG	**Datong**	**0.38**	**319**	*i* P	**Pn**	**09 26 39.2**	**-0.5**	
	baz=318							
LATG				*e*S	**Sn**	**09 26 45.7**	**-0.7**	
	baz=318							
ETM	**Tongmen**	**0.40**	**225**	P	**Pn**	**09 26 38.7**	**-0.9**	
	baz=228							
ETM				*e*S	**Sn**	**09 26 45.8**	**-0.6**	
	baz=228							
TEYL	**Yanliau Villag**	**0.42**	**206**	*i* P	**Pn**	**09 26 39.9**	**-0.1**	
	baz=192							
TEYL				S	**Sn**	**09 26 48.4**	**+1.5**	
	baz=192							
NNSB	**Datong**	**0.42**	**296**	P	**Pn**	**09 26 39.5**	**-0.6**	
	baz=295							
NNSB				S	**Sn**	**09 26 47.2**	**0.0**	
	baz=295							
NNSH	**Datong**	**0.42**	**296**	P	**Pn**	**09 26 39.6**	**-0.5**	
	baz=291							
NNSH				*e*S	**Sn**	**09 26 47.3**	**+0.1**	
	baz=291							
NNS	**Nan Shan**	**0.44**	**297**	P	**Pn**	**09 26 38.8**	**-1.5**	
	baz=297							
NNS				S	**Sn**	**09 26 46.6**	**-0.9**	
	baz=297							
NDT	**Datong Townshi**	**0.44**	**324**	*e*P	**Pn**	**09 26 39.2**	**-1.0**	
	baz=324							
NDT				*e*S	**Sn**	**09 26 47.1**	**-0.3**	
	baz=324							
ENTT	**Nioudou**	**0.45**	**332**	*e*P	**Pn**	**09 26 38.9**	**-1.5**	
	baz=333							
ENTT				*e*S	**Sn**	**09 26 46.1**	**-1.4**	
	baz=333							
TWE	**Neicheng**	**0.49**	**346**	P	**Pn**	**09 26 40.5**	**-0.3**	
	baz=346							
TWE				S	**Sn**	**09 26 49.2**	**+0.8**	
	baz=346							
WHF	**Hehuan Shan**	**0.50**	**259**	P	**Pn**	**09 26 40.5**	**-0.8**	
	baz=257							
WHF				*e*S	**Sn**	**09 26 49.0**	**-0.3**	
	baz=257							
ILA	**Ilan**	**0.52**	**355**	*e*P	**Pn**	**09 26 40.6**	**-0.6**	
	baz=356							
ILA				*e*S	**Sn**	**09 26 51.1**	**+2.0**	
	baz=356							
ESL	**Shilin**	**0.55**	**218**	*e*P	**Pn**	**09 26 40.2**	**-1.4**	
	baz=219							
ESL				*e*S	**Sn**	**09 26 48.8**	**-0.9**	
	baz=219							
TWT	**Tachien**	**0.57**	**271**	*i* P	**Pn**	**09 26 42.0**	**0.0**	
	baz=268							
TWT				S	**Sn**	**09 26 50.4**	**-0.1**	
	baz=268							
YHNB	**Yeheng**	**0.57**	**318**	P	**Pn**	**09 26 41.4**	**-0.6**	
	baz=312							
YHNB				S	**Sn**	**09 26 49.7**	**-0.8**	
	baz=312							
TDCB	**Techi**	**0.59**	**271**	*i* P	**Pn**	**09 26 42.0**	**-0.2**	
	baz=269							
TDCB				*i* S	**Sn**	**09 26 50.3**	**-0.5**	
	baz=269							
NSK	**Sanguang**	**0.59**	**317**	*e*P	**Pn**	**09 26 40.5**	**-1.7**	
	baz=312							
NSK				*e*S	**Sn**	**09 26 49.1**	**-1.8**	
	baz=312							
CHGB	**Renai**	**0.60**	**252**	P	**Pn**	**09 26 42.0**	**-0.5**	
	baz=243							
CHGB				*e*S	**Sn**	**09 26 51.5**	**+0.2**	
	baz=243							
NTC	**Toucheng**	**0.61**	**2**	*e*P	**Pn**	**09 26 42.1**	**-0.3**	
	baz=360							
NTC				*e*S	**Sn**	**09 26 52.3**	**+1.2**	
	baz=360							
EGS		**0.61**	**11**	P	**Pn**	**09 26 42.8**	**+0.4**	
	baz=27							
EGS				*e*S	**Sn**	**09 26 53.1**	**+1.9**	
	baz=27							
OWD	**Renai**	**0.64**	**243**	P	**Pn**	**09 26 42.2**	**-0.7**	
	baz=234							
OWD				*e*S	**Sn**	**09 26 50.8**	**-1.3**	
	baz=234							
EGFH	**Guangfu**	**0.67**	**211**	*e*P	**Pn**	**09 26 41.6**	**-1.5**	
	baz=214							
EGFH				*e*S	**Sn**	**09 26 51.3**	**-1.3**	
	baz=214							
WUSB	**Renai**	**0.67**	**248**	P	**Pn**	**09 26 42.9**	**-0.5**	
	baz=239							
WUSB				*e*S	**Sn**	**09 26 52.0**	**-0.9**	
	baz=239							
TIPB	**Shuangxi**	**0.72**	**2**	P	**Pn**	**09 26 44.3**	**+0.3**	
	baz=1.0							
TIPB				S	**Sn**	**09 26 55.2**	**+1.2**	
	baz=1.0							
NFF	**Wufeng Townshi**	**0.73**	**302**	*e*P	**Pn**	**09 26 42.8**	**-1.3**	
	baz=300							
NFF				*e*S	**Sn**	**09 26 52.8**	**-1.5**	
	baz=300							
NHDH	**Xindian Distri**	**0.76**	**341**	*i* P	**Pn**	**09 26 44.0**	**-0.4**	
	baz=336							
NHDH				S	**Sn**	**09 26 55.0**	**+0.3**	
	baz=336							
TWA	**Mucha**	**0.76**	**345**	*i* P	**Pn**	**09 26 44.2**	**-0.2**	
	baz=337							
TWA				*e*S	**Sn**	**09 26 55.4**	**+0.6**	
	baz=337							
VWDT	**VWDT**	**0.78**	**231**	P	**Pn**	**09 26 44.0**	**-0.6**	
	baz=221							
VWDT				*e*S	**Sn**	**09 26 54.8**	**-0.4**	
	baz=221							
TWB1	**Santiao Chiao**	**0.78**	**13**	*i* P	**Pn**	**09 26 44.8**	**+0.2**	
	baz=26							
TWB1				S	**Sn**	**09 26 56.8**	**+1.5**	
	baz=26							
TATO	**Taipei**	**0.78**	**339**	*e*P	**Pn**	**09 26 44.3**	**-0.4**	
	baz=342							
TATO				S	**Sn**	**09 26 55.0**	**-0.3**	
	baz=342							
WHP	**Taichung City**	**0.78**	**273**	*i* P	**Pn**	**09 26 45.0**	**+0.2**	
	baz=268							
WHP				S	**Sn**	**09 26 55.5**	**+0.1**	
	baz=268							
WPL	**Puli Township**	**0.81**	**253**	P	**Pn**	**09 26 44.5**	**-0.5**	
	baz=248							
WPL				*e*S	**Sn**	**09 26 55.9**	**0.0**	
	baz=248							
NJD	**Zhudong**	**0.81**	**307**	P	**Pn**	**09 26 45.2**	**+0.1**	
	baz=307							
NJD				*e*S	**Sn**	**09 26 57.4**	**+1.3**	
	baz=307							

TAP	**Taipei**	**0.83**	**341**	*e*S		**Sn**	**09 26 56.6**	**0.0**
	baz=345							
SXI1	**Grass Mountain**	**0.85**	**5**	P		**Pn**	**09 26 46.0**	**+0.3**
SXI1	baz=358				*e*S	**Sn**	**09 26 58.6**	**+1.6**
EHY	**Hungye**	**0.86**	**211**	*e*P		**Pn**	**09 26 43.7**	**-2.0**
EHY	baz=205				*e*S	**Sn**	**09 26 56.4**	**-0.7**
HSN1	**Hsinchu**	**0.89**	**307**	*e*P		**Pn**	**09 26 46.0**	**-0.1**
	baz=307							
SSLB	**Suanglung**	**0.90**	**240**	*e*P		**Pn**	**09 26 45.6**	**-0.7**
SSLB	baz=232				*e*S	**Sn**	**09 26 58.4**	**+0.2**
SMLT	**Sun Moon Lake**	**0.90**	**247**	*e*P		**Pn**	**09 26 46.7**	**+0.4**
	baz=236							
SMLT					*e*S	**Sn**	**09 26 59.8**	**+1.5**
NCU	**National Centr**	**0.91**	**322**	*e*P		**Pn**	**09 26 45.9**	**-0.6**
	baz=323							
NCU					*e*S	**Sn**	**09 26 59.3**	**+0.8**
NCUH	**Zhongli**	**0.91**	**322**	*e*P		**Pn**	**09 26 45.9**	**-0.5**
	baz=323							
NCUH					*e*S	**Sn**	**09 26 59.3**	**+0.8**
SBCB	**Hsinchu**	**0.92**	**306**	*e*P		**Pn**	**09 26 46.2**	**-0.4**
	baz=306							
SBCB					*e*S	**Sn**	**09 26 59.5**	**+0.9**
TWS1	**Kuangyinshan**	**0.92**	**338**	P		**Pn**	**09 26 45.8**	**-0.8**
	baz=341							
TWS1					*e*S	**Sn**	**09 26 58.4**	**-0.3**
YM01	**YM01**	**0.92**	**347**	*e*P		**Pn**	**09 26 45.7**	**-0.9**
	baz=338							
TYC	**Yuchr**	**0.93**	**249**	*e*P		**Pn**	**09 26 46.6**	**-0.1**
	baz=240							
TYC					*e*S	**Sn**	**09 26 59.6**	**+0.9**
HSN	**Hsinchu**	**0.94**	**306**	*e*P		**Pn**	**09 26 46.5**	**-0.3**
	baz=309							
HSN					*e*S	**Sn**	**09 26 59.7**	**+0.6**
YM08	**YM08**	**0.96**	**348**	*e*P		**Pn**	**09 26 46.0**	**-1.2**
	baz=340							
YM08					*e*S	**Sn**	**09 26 58.0**	**-1.7**
NSY	**Sanyi**	**0.96**	**280**	*e*P		**Pn**	**09 26 47.1**	**-0.1**
	baz=279							
NSY					*e*S	**Sn**	**09 27 00.5**	**+0.7**
NMLH	**Miaoli**	**0.97**	**288**	P		**Pn**	**09 26 46.9**	**-0.3**
	baz=286							
NMLH					*e*S	**Sn**	**09 27 00.1**	**+0.4**
YULB	**Yu-li**	**0.97**	**209**	*e*P		**Pn**	**09 26 45.1**	**-2.1**
	baz=203							
YULB					*e*S	**Sn**	**09 26 57.9**	**-1.9**
NTST	**Danshui**	**0.97**	**341**	*e*S		**Sn**	**09 26 59.7**	**-0.2**
	baz=343							
ECBN	**Changbin**	**0.98**	**199**	*e*P		**Pn**	**09 26 46.0**	**-1.4**
	baz=183							
EYUL	**Yuli**	**1.00**	**206**	*e*P		**Pn**	**09 26 47.1**	**-0.5**
	baz=210							
TWF1	**Yuli**	**1.00**	**208**	*e*P		**Pn**	**09 26 45.4**	**-2.3**
	baz=210							
WHYT	**Xinyi Township**	**1.02**	**238**	*e*P		**Pn**	**09 26 48.9**	**+0.8**
	baz=234							
WHYT					*e*S	**Sn**	**09 27 03.1**	**+1.9**
WWF	**Wufeng**	**1.03**	**259**	*e*P		**Pn**	**09 26 46.5**	**-1.5**
	baz=270							
WWF					*e*S	**Sn**	**09 27 01.4**	**+0.1**
TCU	**Taichung**	**1.03**	**265**	*e*P		**Pn**	**09 26 48.3**	**+0.2**
	baz=275							
TCU					*e*S	**Sn**	**09 27 02.7**	**+1.3**
TWY	**Chenhua**	**1.04**	**350**	*e*P		**Pn**	**09 26 47.4**	**-0.8**
	baz=341							
TWY					*e*S	**Sn**	**09 27 01.6**	**0.0**
JYNG	**Yonagunijimaku**	**1.06**	**79**	P		**Pn**	**09 26 48.4**	**-0.1**
JYNG				S		**Sn**	**09 27 02.8**	**+0.6**
WDJ	**Dajia District**	**1.06**	**276**	*e*P		**Pn**	**09 26 48.4**	**-0.2**
	baz=274							
WDJ					*e*S	**Sn**	**09 27 01.8**	**-0.3**
WJS	**Zhushan**	**1.07**	**247**	*e*P		**Pn**	**09 26 49.3**	**+0.7**
	baz=244							
WJS					*e*S	**Sn**	**09 27 04.2**	**+2.0**
WNT1	**Nantou City**	**1.08**	**252**	*e*P		**Pn**	**09 26 49.6**	**+0.9**
	baz=249							
WNT1					*e*S	**Sn**	**09 27 04.7**	**+2.2**
WNT	**Mingjian**	**1.08**	**251**	*e*P		**Pn**	**09 26 49.5**	**+0.7**
	baz=248							
WNT					*e*S	**Sn**	**09 27 04.5**	**+1.9**
YOJ	**Yonaguni jima**	**1.12**	**79**	*i* P		**Pn**	**09 26 48.9**	**-0.4**
	baz=82							
YOJ				*i* S		**Sn**	**09 27 03.9**	**+0.3**
YOJ	**Yonaguni jima**	**1.12**	**79**	P		**Pn**	**09 26 49.3**	**-0.1**
YOJ				S		**Sn**	**09 27 04.4**	**+0.7**
FULB	**Fuli**	**1.14**	**204**	*e*P		**Pn**	**09 26 48.2**	**-1.4**
	baz=207							
FULB					*e*S	**Sn**	**09 27 05.7**	**+1.6**
WCHH	**Zhanghua**	**1.15**	**262**	*e*P		**Pn**	**09 26 50.1**	**+0.4**
	baz=270							
WCHH					*e*S	**Sn**	**09 27 05.1**	**+0.9**
ALS	**Alishan**	**1.17**	**231**	*e*P		**Pn**	**09 26 50.2**	**0.0**
	baz=218							
ALS					*e*S	**Sn**	**09 27 07.0**	**+1.8**
WDLH	**Douliu**	**1.28**	**245**	*e*P		**Pn**	**09 26 52.3**	**+0.8**
	baz=242							
WDLH					*e*S	**Sn**	**09 27 09.3**	**+1.9**
WRL	**Guolierlin Hig**	**1.34**	**256**	*e*P		**Pn**	**09 26 51.1**	**-1.3**
	baz=254							
WRL					*e*S	**Sn**	**09 27 09.6**	**+0.5**
EDH	**Donghe**	**1.35**	**200**	*e*P		**Pn**	**09 26 51.0**	**-1.4**
	baz=196							
WCKO	**Fanlu**	**1.36**	**234**	*e*P		**Pn**	**09 26 52.4**	**-0.2**
	baz=230							
WCKO					*e*S	**Sn**	**09 27 11.2**	**+1.8**
PCYT	**Pengchaiyu**	**1.40**	**10**	*i* P		**Pn**	**09 26 53.1**	**0.0**
	baz=16							
PCYT				S		**Sn**	**09 27 11.1**	**+0.7**
CHN2	**Minshiung**	**1.41**	**240**	*e*P		**Pn**	**09 26 54.4**	**+1.2**
	baz=237							
CHN2					*e*S	**Sn**	**09 27 12.9**	**+2.3**
STYH	**Taoyuan**	**1.42**	**222**	*e*P		**Pn**	**09 26 52.4**	**-1.0**
	baz=217							
STYH					*e*S	**Sn**	**09 27 12.3**	**+1.3**
TPUB	**Ta-pu**	**1.43**	**229**	*e*P		**Pn**	**09 26 54.1**	**+0.5**
	baz=215							
TPUB					*e*S	**Sn**	**09 27 13.2**	**+2.1**
CHY	**Chiayi**	**1.46**	**240**	P		**Pn**	**09 26 54.6**	**+0.6**
	baz=237							
CHY					*e*S	**Sn**	**09 27 14.3**	**+2.3**
LONT	**Longtian**	**1.47**	**205**	*e*P		**Pn**	**09 26 51.9**	**-2.2**
	baz=199							
LONT					*e*S	**Sn**	**09 27 10.1**	**-2.0**
	baz=199							
WTP	**Ta-pu**	**1.47**	**228**	*e*P		**Pn**	**09 26 54.4**	**+0.2**
	baz=223							
WTP					*e*S	**Sn**	**09 27 15.1**	**+2.8**
	baz=223							
TWK	**Hsinying**	**1.55**	**231**	*e*P		**Pn**	**09 26 55.8**	**+0.5**
	baz=228							
TWK					*e*S	**Sn**	**09 27 16.0**	**+1.9**
	baz=228							

TWG	**Pinlang**	**1.57**	**205**	*e*P		**Pn**	**09 26 54.1**	**-1.4**
	baz=191							
TWGBT	**Beinan**	**1.57**	**205**	*e*P		**Pn**	**09 26 53.8**	**-1.6**
	baz=191							
SNST	**Tainan City**	**1.57**	**230**	*e*P		**Pn**	**09 26 55.5**	**0.0**
	baz=228							
CHN1	**Nanshi**	**1.57**	**228**	*e*P		**Pn**	**09 26 55.6**	**+0.1**
	baz=224							
CHN1					*e*S	**Sn**	**09 27 17.1**	**+2.3**
	baz=224							
LDUT	**Ludao**	**1.59**	**191**	*e*P		**Pn**	**09 26 53.1**	**-2.7**
	baz=178							
SGST	**Jiashian**	**1.61**	**224**	*e*P		**Pn**	**09 26 55.7**	**-0.3**
	baz=210							
SGST					*e*S	**Sn**	**09 27 16.8**	**+1.2**
	baz=210							
ICHU	**Yijhu**	**1.65**	**238**	*e*P		**Pn**	**09 26 57.2**	**+0.7**
	baz=222							
ICHU					*e*S	**Sn**	**09 27 19.8**	**+3.3**
	baz=222							
IRIF	**Iriomote-Funau**	**1.76**	**87**	P		**Pn**	**09 26 57.7**	**-0.4**
IRIF					*e*S	**Sn**	**09 27 18.4**	**-0.9**
SCST	**Cishan**	**1.81**	**222**	*e*P		**Pn**	**09 26 59.7**	**+1.0**
	baz=218							
HATJ	**Hateruma jima**	**1.84**	**95**	P		**Pn**	**09 26 59.4**	**+0.2**
HATJ					*e*S	**Sn**	**09 27 22.0**	**+0.8**
TSMG	**Majia**	**1.86**	**215**	*e*P		**Pn**	**09 27 00.4**	**+0.9**
	baz=199							
TSCK	**Chigu Township**	**1.91**	**236**	*e*P		**Pn**	**09 26 59.8**	**-0.4**
	baz=236							
MASBT	**Mashibuluo**	**1.95**	**214**	*e*P		**Pn**	**09 27 01.5**	**+0.9**
	baz=208							
JKRS	**Kuro-shima**	**2.02**	**90**	P		**Pn**	**09 27 01.7**	**+0.1**
JKRS					*e*S	**Sn**	**09 27 25.7**	**+0.1**
JIJ	**Ishigaki jima**	**2.14**	**86**	P		**Pn**	**09 27 02.8**	**-0.5**
JIJ				S		**Sn**	**09 27 27.4**	**-1.2**
SCZT	**Fangliau**	**2.16**	**210**	*e*P		**Pn**	**09 27 03.9**	**+0.4**
	baz=195							
WDGT	**Dungji**	**2.19**	**244**	*e*P		**Pn**	**09 27 02.6**	**-1.4**
	baz=244							
VWUC	**VWUC**	**2.27**	**290**	*e*P		**Pn**	**09 27 03.1**	**-1.9**
	baz=288							
JISG	**Ishigakijimahi**	**2.31**	**81**	S		**Sn**	**09 27 32.1**	**-0.8**
PTMZ	**Houxiangcun**	**2.56**	**289**	*e*P		**Pn**	**09 27 07.0**	**-2.1**
	baz=287							
JTJ	**Tarama**	**2.67**	**81**	*e*S		**Sn**	**09 27 41.5**	**-0.2**

IDC 23 09:28:59.7±1.6, 54°.62N×83°.78E, h0km, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=14.1km s-min=9.6km az=8.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**137**	*i*		09 35 00.0	
	baz=316,slow=314,SNR=4.4						
ZALV	**Zalesovo Beam**	**0.91**	**138**	Pg	Pg	09 29 16.2	-0.9
	4.3nm,0.3s,baz=318,slow=15,SNR=19						
ZALV				Lg	Lg	09 29 30.5	
	11nm,0.3s,baz=316,slow=30,SNR=30						
KURBB	**Kurchatov Arra**	**5.12**	**221**	Pn	Pn	09 30 18.5	+0.8
	0.1nm,0.3s,baz=42,slow=13,SNR=2.5						
KURBB				Lg	Lg	09 31 45.3	
	0.1nm,0.3s,baz=42,slow=32,SNR=4.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.89**	**187**	Pn	Pn	09 30 55.4	-0.4
	0.1nm,0.3s,baz=7.4,slow=14,SNR=2.7						
MKAR				Lg	Lg	09 33 13.9	
	0.1nm,0.3s,baz=26,slow=39,SNR=3.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**8.09**	**264**	Pn	Pn	09 30 57.2	-1.1
	0.4nm,0.3s,baz=67,slow=13,SNR=5.9						
	0.7nm,0.4s						

ROM 23 09:35:42.9±0.2, 42°.803N±0°.004×13°.235E±0°.005, h8km±1km, Md1.5/3, Error ellipse: s-maj=0.4km s-min=0.2km az=236.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**319**	P	Pg	09 35 44.8	+0.1
T1242				S	Sg	09 35 45.9	-0.2
T1242				AML	AML		
	comp=E,700μm,0.3s						
T1242				AML	AML		
	comp=N,1095μm,0.3s						
T1242				AML	AML		
	comp=E,701μm,0.3s						
T1242				END			
NRCA	**Norcia**	**0.09**	**289**	P	Pg	09 35 45.8	+0.5
NRCA				S	Sg	09 35 47.7	+0.7
MC2	**Monte Cornacci**	**0.11**	**343**	END			
MMO1	**Montemonaco**	**0.12**	**35**	P	Pg	09 35 46.1	+0.4
MMO1				S	Sg	09 35 48.3	+0.7
T1204	**Amatrice, Fraz**	**0.14**	**155**	P	Pg	09 35 46.6	+0.6
T1204				S	Sg	09 35 49.1	+0.9
T1204				END			
T1241	**Roccafluvione,**	**0.15**	**70**	P	Pg	09 35 46.8	+0.6
T1241				S	Sg	09 35 49.7	+1.2
T1216	**Preci, Frazion**	**0.18**	**299**	P	Pg	09 35 46.8	+0.1
T1216				S	Sg	09 35 50.5	+1.2
SMA1	**SAN MARTINO**	**0.19**	**157**	P	Pg	09 35 47.3	+0.5
SMA1				S	Sg	09 35 50.5	+1.1
T1243	**Rocca Santa Ma**	**0.19**	**124**	P	Pg	09 35 47.3	+0.5
T1243				S	Sg	09 35 50.5	+0.9
LNSS	**Leonessa**	**0.25**	**216**	P	Pg	09 35 48.6	+0.7
LNSS				S	Sg	09 35 53.0	+1.7
FDMO	**Fiordimonte**	**0.26**	**335**	S	Sg	09 35 49.0	-2.6
CSP1	**Cessapalombo**	**0.29**	**356**	S	Sg	09 35 50.0	-2.6
RM33	**Pellescritta (**	**0.29**	**183**	P	Pb	09 35 49.7	-0.7
RM33				S	Sb	09 35 54.7	-0.9
TERO	**Teramo**	**0.33**	**123**	S	Sg	09 35 50.0	-3.7
PIEI	**Pieia**	**0.89**	**325**	S	Sg	09 36 10.0	-1.8

IDC 23 09:42:40.8±13.0, 18°.83S×179°.20E, h448km±69km, mb3.2/3, mbtmp4.1/3, Error ellipse: s-maj=306.1km s-min=100.6km az=87.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.55**	**315**	P	P	09 43 39.0	-0.1
	6.7nm,0.6s,baz=135,slow=17,SNR=17						
STKA	**Stephens Creek**	**36.20**	**242**	P	P	09 49 04.1	0.0
	1.4nm,0.5s,baz=73,slow=9.3,SNR=7.2						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**42.24**	**261**	P	P	09 49 53.2	-0.2
	0.3nm,0.4s,baz=96,slow=7.1,SNR=23						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**42.36**	**255**	P	P	09 49 54.1	-0.2
	3.6nm,0.5s,baz=90,slow=8.5,SNR=99						
	3.6nm,0.5s						

IDC 23 09:44:33.8±2.1, 34°.45N×141°.70E, h0km, mb3.4/3, mbtmp3.3/5, ML2.5/2, Error ellipse: s-maj=39.7km s-min=24.5km az=67.0
JMA 23 09:44:34.5±0.5, 34°.N±1°.×14°.2E±°, h35km±2km, MV2.7/25, FAR SE OFF BOSO PEN
ISC 23 09:44:36.9±1.5, 34°.45N±0°.06×141°.7E±0°.1, h27km, n11, σ1°.41/15, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.62**	**289**	P	**Pb**	**09 44 48.2**	**-0.6**
BSO1				*e*X		09 44 58.4	
BSO3	**Boso 3**	**1.03**	**290**	*e*P	**Pn**	**09 44 55.0**	**-0.4**
BSO4	**Boso 4**	**1.23**	**296**	P	**Pn**	**09 44 58.3**	**0.0**
JKUC	**kamogawauchiur**	**1.41**	**300**	P	**Pn**	**09 45 00.4**	**-0.5**
CHOJ	**Chosi**	**1.42**	**332**	*e*P	**Pn**	**09 44 59.2**	**-1.7**
CHOJ				*e*S	**Sn**	**09 45 16.9**	**-1.8**
JMKN	**Mikurajimanish**	**1.82**	**253**	*e*P	**Pn**	**09 45 05.9**	**-0.6**
JMKN				*e*S	**Sn**	**09 45 28.3**	**-0.4**
JHJ	**Hachijo jima 2**	**2.07**	**230**	Pn	**Pn**	**09 45 09.0**	**-0.9**
	5.3nm,0.3s,baz=326,slow=21,SNR=6.9						
JHJ				Sn	**Sb**	**09 45 37.8**	**-1.3**
	16nm,0.3s,baz=53,slow=23,SNR=7.5						
	17nm,0.3s						
MJAR	**Matsushiro Arr**	**3.52**	**307**	Pn	**Pn**	**09 45 30.0**	**+0.1**
	0.3nm,0.3s,baz=116,slow=21,SNR=9.9						
MJAR				Sn	**Sn**	**09 46 14.0**	**+3.4**
	0.2nm,0.3s,baz=105,slow=28,SNR=2.7						
	1.1nm,0.3s						
KURBB	**Kurchatov Arra**	**47.79**	**310**	P	**P**	**09 53 12.1**	**+0.3**
	0.5nm,0.6s,baz=82,slow=7.7,SNR=2.2						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**54.54**	**188**	P	**P**	**09 54 03.7**	**+1.1**
	0.4nm,0.8s,baz=5.1,slow=7.5,SNR=5.9						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**58.27**	**188**	P	**P**	**09 54 30.4**	**+1.2**
	0.3nm,0.8s,baz=14,slow=12,SNR=2.3						
	0.3nm,0.8s						

JMA 23 09:44:52.6±0.1, 41°.8N±0°.4×140°.8E±0°.6, h125km±1km, MV2.8/38, TSUGARU STRAIT REGION
IDC 23 09:44:53.4±7.2, 41°.65N×140°.69E, h143km±51km, mb3.4/7, mbtmp3.8/8, Error ellipse: s-maj=85.1km s-min=28.3km az=67.0
ISC 23 09:44:52.0±0.8, 41°.73N±0°.05×140°.75E±0°.05, h129km±6km, n23, σ0°.55/33, mb3.8/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKB	**Kayabe**	**0.27**	**53**	P	**Pn**	**09 45 10.1**	**+0.2**
JKB				*e*S	**Sn**	**09 45 23.1**	**-0.3**
JSR	**Shiriuchi**	**0.32**	**232**	*i* P	**Pn**	**09 45 10.3**	**+0.3**
JSR				S	**Sn**	**09 45 23.4**	**-0.2**
JOT	**Ohata**	**0.41**	**147**	*i* P	**Pn**	**09 45 10.8**	**+0.3**
JYM2	**Yakumo 2**	**0.48**	**324**	*i* P	**Pn**	**09 45 11.1**	**+0.3**
JOMM	**Oshimamatsumae**	**0.59**	**250**	*i* P	**Pn**	**09 45 11.8**	**+0.4**
JOMM				S	**Sn**	**09 45 26.4**	**+0.3**
JNB	**Noboribetsu**	**0.77**	**16**	*i* P	**Pn**	**09 45 12.7**	**-0.1**
JHST	**Hiyamasetana**	**0.95**	**317**	P	**Pn**	**09 45 14.5**	**+0.2**
JHST				*e*S	**Sn**	**09 45 31.1**	**-0.2**
JTM	**Tenmabayashi**	**0.97**	**165**	*i* P	**Pn**	**09 45 15.1**	**+0.6**
JTM				S	**Sn**	**09 45 32.0**	**+0.5**
JOSM	**Okushiri--Mats**	**1.01**	**291**	*i* P	**Pn**	**09 45 14.8**	**0.0**
JOSM				S	**Sn**	**09 45 31.6**	**-0.7**
JSH	**Shimam**	**1.05**	**331**	P	**Pn**	**09 45 15.6**	**+0.3**
JSH				*e*S	**Sn**	**09 45 32.9**	**-0.1**
JEW	**Eniwo**	**1.23**	**25**	P	**Pn**	**09 45 17.5**	**+0.5**
JIAM	**Iburiatsuma**	**1.25**	**44**	P	**Pn**	**09 45 18.0**	**+0.8**
JIAM				S	**Sn**	**09 45 37.6**	**+1.1**
JIW	**Iwasaki**	**1.26**	**207**	*i* P	**Pn**	**09 45 18.4**	**+1.0**
JIW				S	**Sn**	**09 45 37.5**	**+0.7**
JANG	**Nango**	**1.47**	**157**	*i* P	**Pn**	**09 45 19.6**	**-0.1**
JANG				S	**Sn**	**09 45 40.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.59**	**69**	*i* P	**Pn**	**09 45 21.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**6.88**	**294**	P	**Pn**	**09 46 31.7**	**+1.4**
	2.8nm,0.5s,baz=89,slow=14,SNR=7.6						
SONM	**Songino Array**	**24.99**	**296**	P	**P**	**09 50 03.1**	**-0.6**
	0.7nm,0.6s,baz=79,slow=7.5,SNR=2.2						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**38.49**	**308**	P	**P**	**09 52 01.2**	**0.0**
	1.8nm,0.5s,baz=84,slow=8.0,SNR=7.9						
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**41.34**	**298**	P	**P**	**09 52 24.9**	**-0.1**
	1.1nm,0.6s,baz=85,slow=9.2,SNR=11						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**42.83**	**304**	P	**P**	**09 52 37.0**	**+0.1**
	1.7nm,0.5s,baz=79,slow=8.9,SNR=13						
	1.7nm,0.5s						
BVAR	**Borovoye Array**	**47.12**	**309**	P	**P**	**09 53 11.2**	**+0.3**
	0.4nm,0.3s,baz=74,slow=11,SNR=3.3						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**61.64**	**187**	P	**P**	**09 54 55.3**	**-0.7**
	0.3nm,0.8s,baz=3.9,slow=7.6,SNR=2.1						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**64.44**	**331**	P	**P**	**09 55 14.1**	**0.0**
	0.9nm,0.5s,baz=36,slow=10,SNR=4.5						
	0.9nm,0.5s						

JMA 23 10:11:40.4±0.7, 34°.N±2°.×14°.2E±°, h21km±2km, MV3.0/24, FAR SE OFF BOSO PEN
IDC 23 10:11:41.8±1.2, 34°.25N×141°.59E, h0km, mb3.7/5, mbtmp3.6/6, ML2.5/1, MS3.0/3, Error ellipse: s-maj=25.6km s-min=21.1km az=95.0
ISC 23 10:11:45.9±1.1, 34°.50N±0°.05×141°.36E±0°.10, h27km, n22, σ1°.72/16, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.35**	**296**	P	**Pb**	**10 11 52.8**	**-0.6**
BSO1				X		10 12 00.4	
BSO3	**Boso 3**	**0.76**	**294**	*e*P	**Pb**	**10 11 59.6**	**-0.8**
BSO4	**Boso 4**	**0.97**	**301**	P	**Pn**	**10 12 04.1**	**+0.4**
JKUC	**kamogawauchiur**	**1.16**	**305**	P	**Pn**	**10 12 05.9**	**-0.5**
CHOJ	**Chosi**	**1.27**	**341**	P	**Pn**	**10 12 06.2**	**-1.7**
CHOJ				S	**Sn**	**10 12 24.5**	**+0.4**
JMKN	**Mikurajimanish**	**1.58**	**248**	P	**Pn**	**10 12 11.4**	**-0.9**
JHJ	**Hachijo jima 2**	**1.90**	**224**	Pn	**Pn**	**10 12 16.2**	**-0.4**
	28nm,0.3s,baz=54,slow=9.9,SNR=13						
JHJ				Sn	**Sn**	**10 12 41.4**	**+1.7**
	59nm,0.3s,baz=78,slow=22,SNR=7.7						
MJAR	**Matsushiro Arr**	**3.28**	**309**	Pn	**Pn**	**10 12 37.7**	**+2.1**
	0.4nm,0.3s,baz=152,slow=11,SNR=5.3						
MJAR				Sn	**Sb**	**10 13 20.4**	**-2.6**
	0.5nm,0.3s,baz=137,slow=12,SNR=3.0						
	2.3nm,0.4s						
KSRS	**Korea Array**	**11.28**	**289**	LR	LR	10 19 08.2	
	comp=Z,52nm,19.2s,baz=110,slow=39						
USRK	**Ussuriysk Ar.**	**12.09**	**326**	LR	LR	10 19 35.0	
	comp=Z,84nm,18.9s,baz=175,slow=38						
KLR	**Kul'dur**	**16.35**	**337**	LR	LR	10 21 42.9	
	comp=Z,70nm,18.5s,baz=111,slow=36						
H11N2	**WAKE ISLAND Hy**	**26.97**	**116**	T	T	10 45 30.7	
	baz=309,slow=75,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**26.98**	**116**	T	T	10 45 36.2	
	baz=309,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**26.99**	**116**	T	T	10 45 35.2	
	baz=309,slow=75,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**27.60**	**119**	T	T	10 46 26.2	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.60**	**119**	T	T	10 46 20.9	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**27.61**	**119**	T	T	10 46 32.0	
	baz=313						
CMAR	**Chiang Mai Arr**	**40.87**	**258**	P	**P**	**10 19 25.2**	**-0.6**
	0.4nm,0.3s,baz=57,slow=7.1,SNR=4.3						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**45.47**	**304**	P	**P**	**10 20 06.0**	**+3.4**
	0.4nm,0.5s,baz=86,slow=9.3,SNR=4.3						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**51.67**	**31**	P	**P**	**10 20 51.1**	**+1.1**
	0.4nm,0.7s,baz=254,slow=7.3,SNR=4.1						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**54.55**	**188**	P	**P**	**10 21 09.8**	**-1.9**
	1.2nm,0.6s,baz=5.1,slow=7.7,SNR=17						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**58.27**	**188**	P	**P**	**10 21 36.8**	**-1.5**
	0.6nm,0.6s,baz=2.5,slow=6.4,SNR=8.5						
	0.6nm,0.6s						

IDC 23 10:12:09.9±0.7, 29°.99N×139°.35E, h404km±11km, mb3.0/11, mbtmp3.8/16, Error ellipse: s-maj=32.8km s-min=9.4km az=73.0
ISC 23 10:12:09.7±0.7, 29°.91N±0°.09×139°.3E±0°.1, h400km, n17, σ0°.82/20, mb3.4/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.23**	**8**	P	**Pn**	**10 13 16.5**	**+1.8**
	92n

0.5nm,0.8s
WRA Warramunga Arr 49.79 186 P **P** **10 20 24.6 +0.9**
0.3nm,0.4s,baz=1.0,slow=7.7,SNR=19
0.3nm,0.4s
ASAR Alice Springs 53.52 186 P **P** **10 20 52.6 +1.6**
0.1nm,0.4s,baz=13,slow=8.8,SNR=7.5
0.1nm,0.4s
ARCES ARCESS Array B 70.04 340 P **P** **10 22 39.5 +0.3**
1.4nm,0.7s,baz=75,slow=10,SNR=8.8
1.4nm,0.7s
FINES FINESS Array B 74.29 333 P **P** **10 23 03.2 -0.9**
0.9nm,0.5s,baz=76,slow=7.3,SNR=8.7
0.9nm,0.5s
AKASG Malin Array Be 78.83 322 P **P** **10 23 28.8 -0.7**
0.5nm,0.4s,baz=51,slow=5.2,SNR=2.7
0.5nm,0.4s
NB2 NORSAR Subarra 80.04 337 P **P** **10 23 35.2 -0.6**
comp=Z,0.6nm,0.6s,baz=43,slow=5.3
NOA NORSAR Array B 80.04 337 P **P** **10 23 35.1 -0.7**
comp=Z,1.3nm,0.8s,baz=44,slow=5.4,SNR=4.8
comp=Z,1.3nm,0.8s
BRTR Keskin Array B 82.22 311 P **P** **10 23 47.6 -0.1**
comp=Z,0.9nm,0.6s,baz=98,slow=1.5,SNR=3.9
comp=Z,0.9nm,0.6s

KRSC 23 10:12:37.2±2.5, 53°37N×168°27E, h31km±67km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.28**	**325**	P			Pb	10 13 15.7	-1.9
BKI				S			Sn	10 13 41.4	+1.7
MKZ	**Mys Kozlova**	**4.04**	**290**	P			Pn	10 13 39.7	+2.8
MKZ				S			Sn	10 14 29.1	+6.0
SPN	**Mys Shipunski**	**4.96**	**270**	S			Sn	10 14 50.5	+4.7
TUMR	**Tumrok**	**5.12**	**295**	P			Pn	10 13 55.8	+3.9
NLC	**Nalytchevo**	**5.36**	**271**	S			Sn	10 15 02.5	+6.9
KRER	**Koryakskii**	**5.70**	**273**	P			Pn	10 14 05.9	+6.0
DALK	**Dalny**	**5.73**	**270**	S			Sn	10 15 11.0	+6.3
KRX	**Arik**	**5.76**	**274**	P			Pn	10 14 04.6	+4.0
KRX				S			Sn	10 15 12.0	+6.3
RUS	**Russkaya**	**5.98**	**265**	P			Pn	10 14 08.1	+4.6
RUS				S			Sn	10 15 16.0	+5.2
GNL	**Ganaly**	**6.17**	**277**	P			Pn	10 14 12.6	+6.4
KDTR	**Khodutka, Kamc**	**6.40**	**260**	S			Sn	10 15 24.6	+3.3

*JMA **23** 10:27:01.4±0.8, 34°N±2°×14°2E±°, h25km, MV4.0/31, FAR SE OFF BOSO PEN*
*MOS **23** 10:27:01.5±1.4, 34.°60N×141.°79E, h15km, mb4.7/14, Error ellipse: s-maj=14.8km s-min=7.2km az=118.3*
*BJI **23** 10:27:01.9±0.0, 34.°65N×141.°56E, h10km, mb4.4/25, mB4.5/17, Ms7 4.8/1*
*NEIC **23** 10:27:01.5±1.6, 34.°57N±0.°03×141.°90E±0.°09, h10km±1km, mb4.7/30, Error ellipse: s-maj=12.7km s-min=3.0km az=74.0*
*IDC **23** 10:27:01.8±0.6, 34.°47N×141.°60E, h0km, mb4.0/15, mbtmp4.0/19, ML2.7/3, Error ellipse: s-maj=17.8km s-min=14.8km az=103.0*

ISC 23 10:27:03.9±0.6, 34°56N±0.°06×141°76E±0.°07, h21km, n123, σ1s44/121, mb4.5/43, 7C-7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.65**	**278**	P			**Pb**	**10 27 15.0**	**-1.3**
BSO3	**Boso 3**	**1.06**	**283**	P			**Pn**	**10 27 21.6**	**-1.6**
BSO4	**Boso 4**	**1.25**	**290**	P			**Pb**	**10 27 25.8**	**-0.9**
KTR	**Katsuura**	**1.33**	**297**	P			**Pn**	**10 27 26.5**	**-0.7**
CHOJ	**Chosi**	**1.36**	**327**	P			**Pb**	**10 27 27.3**	**-1.3**
JKUC	**kamogawauchiur**	**1.42**	**295**	P			**Pn**	**10 27 27.5**	**-0.9**
JMKN	**Mikurajimanish**	**1.92**	**250**	P			**Pn**	**10 27 33.3**	**-2.0**
JYT	**Yasato**	**2.10**	**323**				**Pn**	**10 27 37.7**	**-0.1**
JHJ2	**Mitsune**	**2.17**	**229**	Pn			**Pn**	**10 27 36.7**	**-2.1**
JHJ	**Hachijo jima 2**	**2.19**	**229**	Pn			**Pn**	**10 27 37.7**	**-1.3**
JHJ	24nm,0.3s,baz=336,slow=22,SNR=34			Sn			**Sn**	**10 28 05.0**	**-0.5**
	79nm,0.3s,baz=62,slow=22,SNR=15								
	55nm,0.2s								
JOD2	**Odawara 2**	**2.31**	**288**	P			**Pn**	**10 27 39.6**	**-1.0**
JIZS	**Izushimoda**	**2.38**	**275**	P			**Pn**	**10 27 40.3**	**-1.4**
JMM	**Marumori**	**3.39**	**347**	Pn			**Pn**	**10 27 53.9**	**-1.6**
MJAR	**Matsushiro Arr**	**3.51**	**305**	Pn			**Pn**	**10 27 57.2**	**0.0**
	1.0nm,0.3s,baz=259,slow=4.9,SNR=32								
MJAR				Sn			**Sn**	**10 28 34.1**	**-3.9**
	0.7nm,0.3s,baz=208,slow=15,SNR=6.6								
	4.9nm,0.3s								
MAJO	**Matsushiro**	**3.51**	**305**	Pn			**Pn**	**10 27 56.9**	**-0.3**
MAJO	**Matsushiro**	**3.51**	**305**	*ce*P			**Pn**	**10 27 57.8**	**+0.6**
MJB9	**Matsu-Tunnel**	**3.51**	**305**				**Pn**	**10 27 57.6**	**+0.3**
JGF	**Kuroka**	**3.76**	**287**				**Pn**	**10 28 01.2**	**+0.5**
INU	**Inuyama**	**3.98**	**283**				**Pn**	**10 28 04.0**	**+0.4**
JSD	**Sado**	**4.47**	**322**	Pn			**Pn**	**10 28 10.7**	**+0.3**
JTM	**Tenmabayashi**	**6.24**	**355**	Pn			**Pn**	**10 28 33.1**	**-1.5**
JMN	**Monobe**	**6.59**	**265**	Pn			**Pn**	**10 28 39.2**	**-0.3**
JCJ	**Chichijima**	**7.45**	**177**	Pn			**Pn**	**10 28 50.8**	**-0.5**
	46nm,0.6s,baz=274,slow=19,SNR=1.3								
ERM	**Erimo**	**7.52**	**8**	Pn			**Pn**	**10 28 50.6**	**-1.7**
ERM	**Erimo**	**7.52**	**8**	⇓*eP*			**Pn**	**10 28 50.7**	**-1.6**
JEW	**Eniwo**	**8.27**	**358**	Pn			**Pn**	**10 29 00.3**	**-2.3**
KSRS	**Korea Array**	**11.57**	**288**	Pn			**Pn**	**10 29 49.9**	**+2.0**
	0.2nm,0.3s,baz=104,slow=14,SNR=6.9								
KS19	**Wonju Array Si**	**11.63**	**289**	Pn			**Pn**	**10 29 47.2**	**-1.4**
USRK	**Ussuriysk Ar.**	**12.23**	**325**	Pn			**Pn**	**10 29 57.1**	**+0.4**
	0.1nm,0.3s,baz=140,slow=12,SNR=9.6								
	3.6nm,0.9s								
USRK	**Ussuriysk Ar.**	**12.23**	**325**	Pn			**Pn**	**10 29 56.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**12.40**	**3**	Pn			**Pn**	**10 29 57.3**	**-1.8**
YSS	**Yuzh-Sakhalins**	**12.40**	**3**	*eP*			**Pn**	**10 29 57.3**	**-1.8**
YSS				pmax			pmax		
	comp=Z,30nm,0.9s								
BNX	**BinXian**	**15.63**	**320**	⇑P			**Pn**	**10 30 43.0**	**+0.2**
BNX				pmax			pmax		
	comp=Z,4.0nm,0.6s								
BNX				pmax			pmax		
	comp=Z,52nm,4.3s								
TYV	**Tymovskoe**	**16.30**	**2**	*eP*			Pn	10 30 39.4	-12
TYV				pmax			pmax		
	comp=Z,15nm,1.2s								
TYV				pmax			pmax		
	comp=Z,100nm,2.2s								
NJ2	**Nanjing**	**19.30**	**269**	*eP*			**Pn**	**10 31 27.8**	**-0.8**
NJ2				pmax			pmax		
	comp=Z,9.0nm,0.5s								
ZEA	**Zeya**	**21.74**	**336**	*eP*			**P**	**10 31 54.9**	**+1.2**
ZEA				pmax			pmax		
	comp=N,20nm,0.7s								
ZEA				pmax			pmax		
	comp=Z,30nm,1.1s								
HHC	**Hu-ho-hao-te**	**24.63**	**294**	*eP*			**P**	**10 32 23.0**	**+0.1**
HHC				pmax			pmax		
	comp=Z,24nm,0.9s								
HHC				pmax			pmax		
	comp=Z,99nm,5.6s								
H11N2	**WAKE ISLAND Hy**	**26.70**	**117**	T			T	11 00 47.5	
	baz=310								
H11N1	**WAKE ISLAND Hy**	**26.71**	**117**	T			T	11 00 47.5	
	baz=310								
H11N3	**WAKE ISLAND Hy**	**26.72**	**117**	T			T	11 00 48.0	
	baz=310								
YAK	**Yakutsk**	**28.54**	**348**	⇑*eP*			**P**	**10 33 00.3**	**+2.5**
ULN	**Ulaanbaatar**	**29.04**	**308**	⇓*eP*			**P**	**10 33 03.8**	**+1.2**
ULN				pmax			pmax		
	comp=Z,5.0nm,1.5s								
SONM	**Songino Array**	**29.46**	**308**	P			**P**	**10 33 07.3**	**+1.0**
	comp=Z,1.7nm,1.1s,baz=90,slow=5.9,SNR=7.6								
	comp=Z,1.7nm,1.1s								
SONM	**Songino Array**	**29.46**	**308**	P			**P**	**10 33 06.6**	**+0.4**
LZH	**Lanzhou**	**30.85**	**284**	*eP*			P	10 33 30.8	+12
LZH				pP			pwP	10 33 41.8	+12
LZH				pmax			pmax		
	comp=Z,19nm,1.5s								
GTA	**Gaotai**	**33.63**	**291**	*eP*			**P**	**10 33 44.8**	**+1.7**
GTA				pP			pwP	10 33 52.3	-2.3
GTA				sP			sP	10 33 55.4	+5.7
GTA				pmax			pmax		
	comp=Z,4.0nm,1.1s								
PZH	**PanZhiHua**	**35.21**	**268**	P			**P**	**10 33 55.5**	**-1.4**
PZH				pmax			pmax		
	comp=Z,20nm,0.9s								
PZH				pmax			pmax		
	comp=Z,80nm,4.0s								
GOMU	**GeErMu**	**38.02**	**286**	⇑*eP*			**P**	**10 34 22.3**	**+1.3**
GOMU				pP			sP	10 34 25.9	-1.9
GOMU				sP			pP	10 34 28.1	+2.1
GOMU				pmax			pmax		
	comp=Z,5.0nm,0.5s								
GOMU	**GeErMu**	**38.02**	**286**	P			**P**	**10 34 23.4**	**+2.4**
GOMU				pP			sP	10 34 28.0	+0.2
GOMU				sP			pwP	10 34 29.6	-2.9
GOMU				pmax			pmax		
	comp=Z,3.0nm,0.6s								
DGZ	**Jazzator, Alta**	**42.10**	**308**	⇓*eP*			**P**	**10 34 55.8**	**+1.3**
DGZ				pmax			pmax		
	comp=Z,9.0nm,1.1s								
WMQ	**Urumqi**	**42.25**	**299**	*eP*			**P**	**10 34 56.4**	**+0.7**
WMQ				LR			LR		
	comp=Z,1μm,18.1s								
ZALV	**Zalesovo Beam**	**43.81**	**314**	P			**P**	**10 35 09.7**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=74,slow=7.9,SNR=3.7								
	comp=Z,0.8nm,0.5s								
ZALV	**Zalesovo Beam**	**43.81**	**314**	P			**P**	**10 35 09.0**	**+0.9**
ZALV	**Zalesovo Beam**	**43.81**	**314**	*i* P			**P**	**10 35 10.8**	**+2.7**
ZALV				pmax			pmax		
	comp=Z,1.0nm,0.6s								
NRIK	**Noril'sk**	**45.63**	**336**	P			**P**	**10 35 20.9**	**-1.4**
NRIK				lAmb			lAmb	10 35 27.5	
	comp=Z,12nm,1.2s								
NRIK	**Noril'sk**	**45.63**	**336**	P			**P**	**10 35 20.9**	**-1.4**
NRIK				pmax			pmax		
	comp=Z,12nm,1.2s								
MK31	**Makanchi Array**	**45.71**	**304**	P			**P**	**10 35 22.5**	**-0.8**
MK31	**Makanchi Array**	**45.71**	**304**	P			**P**	**10 35 22.5**	**-0.8**
MK31				pmax			pmax		
	comp=Z,6.0nm,1.1s								
MKAR	**Makanchi Array**	**45.71**	**304**	P			**P**	**10 35 23.5**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=122,slow=5.2,SNR=2.1								
	comp=Z,0.9nm,0.8s								
MKAR	**Makanchi Array**	**45.71**	**304**	P			**P**	**10 35 23.0**	**-0.3**
MKAR	**Makanchi Array**	**45.71**	**304**	*i* P			P	10 35 28.7	+5.4
MKAR				pmax			pmax		
	comp=Z,2.0nm,0.9s								
KURK	**Kurchatov**	**47.71**	**310**	P			**P**	**10 35 38.7**	**-0.2**
KURK	**Kurchatov**	**47.71**	**310**	P			**P**	**10 35 39.3**	**+0.5**
KURBB	**Kurchatov Arra**	**47.77**	**310**	P			**P**	**10 35 39.3**	**0.0**
	comp=Z,2.6nm,0.8s,baz=85,slow=7.8,SNR=9.4								
	comp=Z,2.4nm,0.8s								
MTN	**Manton Dam**	**48.21**	**194**	P			**P**	**10 35 43.0**	**-0.1**
IMAR	**Indian Mountai**	**48.65**	**29**	P			**P**	**10 35 43.6**	**-2.3**
H21K	**Melozitna Rive**	**48.99**	**30**	P			**P**	**10 35 46.4**	**-2.2**
H21K				lAmb			lAmb	10 35 53.0	
	comp=Z,7.5nm,1.1s								
SPU	**Mount Spurr**	**49.05**	**36**	P			**P**	**10 35 46.1**	**-3.0**
PPLA	**Purkeypile**	**49.05**	**34**	P			**P**	**10 35 46.9**	**-2.3**
NEA2	**Nenana**	**50.50**	**32**	P			**P**	**10 35 58.7**	**-1.4**
NEA2				lAmb			lAmb	10 36 04.2	
	comp=Z,13nm,1.2s								
TOLK	**Toolik Lake Re**	**50.55**	**26**	P			**P**	**10 35 58.9**	**-1.5**
KNK	**Knik Glacier**	**50.78**	**36**	P			**P**	**10 36 01.6**	**-0.6**
MDM	**Murphy Dome**	**50.87**	**31**	P			**P**	**10 36 02.6**	**-0.2**
MDM				lAmb			lAmb	10 36 09.8	
	comp=Z,9.7nm,1.0s								
IL31		**51.44**	**31**	P			**P**	**10 36 06.2**	**-0.9**
IL31				lAmb			lAmb	10 36 09.5	
	comp=Z,6.0nm,1.0s								
ILAR	**Eielson Array**	**51.44**	**31**	P			**P**	**10 36 09.2**	**+2.1**
	comp=Z,3.2nm,0.9s,baz=266,slow=6.4,SNR=17								
	comp=Z,3.2nm,0.9s								
ILAR	**Eielson Array**	**51.44**	**31**	P			**P**	**10 36 06.5**	**-0.6**
KNRA	**Kununurra**	**51.47**	**196**	P			**P**	**10 36 08.6**	**+0.8**
KSH	**Kashi**	**51.71**	**296**	P			P	10 36 13.8	+4.1
BRVK	**Borovoye**	**52.52**	**314**	⇓*eP*			**P**	**10 36 14.5**	**-0.8**
BRVK				pmax			pmax		
	comp=Z,4.0nm,1.0s								
BCAR	**Beaver Creek A**	**53.79**	**33**	P			**P**	**10 36 22.6**	**-2.0**
EGAK	**Eagle**	**53.89**	**31**	P			**P**	**10 36 23.2**	**-2.0**
EGAK				lAmb			lAmb	10 36 52.7	
	comp=Z,6.3nm,1.2s								
WB0	**Warramunga Arr**	**54.48**	**189**	P			**P**	**10 36 28.7**	**-1.3**
WB0				lAmb			lAmb	10 36 37.5	
	comp=Z,11nm,1.2s								
WRAB	**Tennant Creek**	**54.65**	**189**	⇑*eP*			**P**	**10 36 32.8**	**+1.6**
WRAB				pmax			pmax		
	comp=Z,10.0nm,1.6s								
WR0	**Warramunga Arr**	**54.65**	**188**	P			**P**	**10 36 30.8**	**-0.5**
WB2	**Warramunga Arr**	**54.66**	**189**	P			**P**	**10 36 30.4**	**-0.9**
WB2				lAmb			lAmb	10 37 02.6	
	comp=Z,9.5nm,1.2s								
WRA	**Warramunga Arr**	**54.66**	**189**	P			**P**	**10 36 31.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=3.3,slow=7.5,SNR=24								
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**54.66**	**189**	P			**P**	**10 36 30.6**	**-0.7**
I29M	**Ogilvie Camp,**	**55.03**	**30**	P			**P**	**10 36 32.3**	**-1.2**
I29M				lAmb			lAmb	10 36 37.6	
	comp=Z,12nm,1.4s								
EPYK	**Eagle Plains**	**55.54**	**29**	P			**P**	**10 36 35.5**	**-1.7**
INK	**Inuvik**	**56.46**	**26**	P			**P**	**10 36 45.7**	**+2.0**
	comp=Z,2.3nm,0.5s,baz=285,slow=6.5,SNR=11								
	comp=Z,2.3nm,0.5s								
M31M	**Drury Creek, Y**	**57.30**	**34**	P			**P**	**10 36 48.1**	**-1.7**
M31M				lAmb			lAmb	10 36 54.4	
	comp=Z,9.1nm,1.2s								
ASAR	**Alice Springs**	**58.39**	**188**	P			**P**	**10 36 58.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=5.1,slow=6.3,SNR=8.6								
	comp=Z,0.4nm,0.4s								
ASAR	**Alice Springs**	**58.39**	**188**	P			**P**	**10 36 58.0**	**+0.2**
ARU	**Arti**	**58.41**	**320**	*d* /P			**P**	**10 36 58.4**	**+0.8**
ARU								10 39 06.5	
ARU					S		**S**	**10 45 03.2**	**+4.0**
ARU					SS		**SS**	**10 48 51.7**	**+0.7**
ARU				pmax			pmax		
	comp=Z,8.0nm,1.1s								
ABKAR	**Akbulak array**	**59.76**	**311**	P			**P**	**10 37 06.8**	**-0.3**
KIRV	**Kirov**	**62.40**	**324**	⇑*eP*			**P**	**10 37 25.3**	**+0.5**
FINES	**FINESS Array B**	**71.13**	**333**	P			**P**	**10 38 21.5**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=176,slow=30,SNR=2.6								
	comp=Z,3.2nm,0.9s								
GOF	**Gofitskoye**	**71.96**	**313**	⇑*eP*			P	10 38 17.9	-7.9
KIV	**Kislovodsk**	**72.75**	**312**	*eP*			**P**	**10 38 29.6**	**-1.0**
KIV				pmax			pmax		
	comp=Z,7.0nm,1.0s								
GNI	**Garni**	**73.42**	**307**	⇓*eP*			**P**	**10 38 37.0**	**+2.3**
GNI				pmax			pmax		
	comp=Z,8.0nm,0.6s								
BEKR	**Beckworth**	**74.13**	**52**	P			**P**	**10 38 38.5**	**-0.5**
SOC	**Sochi**	**74.77**	**313**	*eP*			**P**	**10 38 43.2**	**+0.9**
SOC				*e*				10 41 27.8	
SOC				*e*PPP			PPP	10 43 18.5	
SOC				*e*S			**S**	**10 48 20.5**	**+2.9**
SOC				*e*SS			**SS**	**10 53 03.3**	**-1.4**
SOC				*e*SSS			SSS	10 56 23.8	
SOC				MLR			MLR		
	comp=Z,1μm,17.0s								
NVAR	**Mina Array Bea**	**76.25**	**53**	P			**P**	**10 38 54.0**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=289,slow=4.5,SNR=4.5								
	comp=Z,0.5nm,0.6s								
AKASG	**Malin Array Be**	**76.43**	**323**	P			**P**	**10 38 53.2**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=43,slow=4.6,SNR=6.7								
	comp=Z,0.7nm,0.5s								
NB2	**NORSAR Subarra**	**76.57**	**338**	P			**P**	**10 38 53.0**	**+0.6**
	comp=Z,7.2nm,1.2s,baz=41,slow=5.9								
NOA	**NORSAR Array B**	**76.57**	**338**	P			**P**	**10 38 53.1**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=39,slow=5.7,SNR=3.8								
	comp=Z,1.6nm,0.9s								
DUG	**Dugway, Tooele**	**78.76**	**49**	P			**P**	**10 39 04.3**	**-0.8**
DUG				lAmb			lAmb	10 39 09.4	
	comp=Z,6.7nm,1.2s								
DUG	**Dugway, Tooele**	**78.76**	**49**	P			**P**	**10 39 04.3**	**-0.8**
DUG				pmax			pmax		
	comp=Z,7.0nm,1.2s								
PDAR	**Pinedale Array**	**79.20**	**45**	P			**P**	**10 39 10.2**	**+2.6**
	comp=Z,0.9nm,0.9s,baz=284,slow=3.1,SNR=5.1								
	comp=Z,0.9nm,0.9s								
BRTR	**Keskin Array B**	**80.71**	**312**	P			**P**	**10 39 16.6**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=69,slow=8.7,SNR=1.7								
	comp=Z,0.5nm,0.5s								
RAYN	**Ar Rayn**	**81.86**	**293**	P			**P**	**10 39 21.6**	**-0.4**
RAYN				lAmb			lAmb	10 39 26.7	
	comp=Z,8.4nm,1.3s								
RAYN	**Ar Rayn**	**81.86**	**293**	P			**P**	**10 39 21.6**	**-0.4**
RAYN				pmax			pmax		
	comp=Z,8.0nm,1.3s								
PV13	**Radium Mtn., P**	**82.46**	**49**	P			**P**	**10 39 23.7**	**-1.5**
MVCO	**Mesa Verde**	**83.25**	**49**	P			**P**	**10 39 26.4**	**-2.8**
MVCO				lAmb			lAmb	10 39 33.0	
	comp=Z,7.6nm,1.2s								
RCHB	**Rochefort**	**87.30**	**334**	*d*PcP			**PcP**	**10 39 49.7**	**-1.3**
TXAR	**Lajitas Array**	**91.40**	**53**	P			**P**	**10 40 11.0**	**+2.3**
	comp=Z,0.6nm,0.9s,baz=320,slow=3.7,SNR=5.5								
	comp=Z,0.6nm,0.9s								
LPAZ	**La Paz**	**147.62**	**63**	PKPbc			**PKPab**	**10 46 49.8**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=321,slow=4.0,SNR=5.9								

---

*KEA **23** 10:28:17.0, 34.°41N×142.°08E, h13km, MS4.9/1*
*JMA **23** 10:28:19.6±0.6, 34.°N±1°×14.°2E±°, h9km, MD5.7/24, MW5.2/24, FAR SE OFF BOSO PEN*
*MOS **23** 10:28:19.5±1.2, 34.°64N×141.°39E, h11km, mb5.2/44, MS5.2/19, Error ellipse: s-maj=6.9km s-min=4.1km az=111.4*
*NIED **23** 10:28:19.6, 34.°45N×141.°64E, h9km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr 1.40; Mθθ -2.86; Mφφ 1.46; Mrθ -0.84; Mrφ 2.79; Mθφ -1.70; Fault plane solution: M0 4.18000×10^16 NP1: φs 156.00000°, δ66.00000°, λ154.00000°. NP2: φs 257.00000°, δ66.00000°, λ26.00000°.*
*NEIC **23** 10:28:20.4±1.8, 34.°60N±0.°05×141.°23E±0.°08, h10km±1km, mb5.2/242, Mww5.0 Error ellipse: s-maj=10.9km s-min=8.2km az=114.0*
*IDC **23** 10:28:20.2±0.5, 34.°64N×141.°42E, h0km, mb4.5/31, mbtmp4.5/34, ML3.2/3, MS4.9/30, Error ellipse: s-maj=14.7km s-min=11.2km az=93.0*
*BJI **23** 10:28:21.6±0.0, 34.°59N×141.°41E, h26km, mb4.6/64, mB5.1/55, Ms5.6/80, Ms7 5.4/74*
*GCMT **23** 10:28:22.2±0.2, 34.°52N±0.°01×141.°44E±0.°01, h12km, MW5.0/136, Moment Tensor Solution. s55, c67; s136, c234; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.62±.09; Mθθ -3.97±.08; Mφφ 2.34±.08; Mrθ -0.46±.23; Mθφ 3.45±.07; Mrφ 0.47±.23; Best double couple: M0 4.71400×10^16 NP1: φs 339.00000°, δ89.00000°, λ172.00000°. NP2: φs 69.00000°, δ82.00000°, λ1.00000°. Principal axes: T 3.8860, Plg6.0000°, Azm293.0000°; N 1.6460, Plg82.0000°, Azm152.0000°; P -5.5420, Plg5.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 10:28:27, 34.°66N×141.°38E, h12km, Moment Tensor Solution. Duration: 60 Moment tensor: Scale 10^16 Nm; Mrr 1.56; Mθθ -3.38; Mφφ 1.82; Mrθ -0.37; Mrφ 3.25; Mθφ 1.08; Fault plane solution: M0 4.52000×10^16 NP1: φs 72.00000°, δ70.00000°, λ11.00000°. NP2: φs 338.00000°, δ80.00000°, λ159.00000°. Principal axes: T 3.7023, Plg22.0000°, Azm294.0000°; N 1.3365, Plg67.0000°, Azm133.0000°; P -5.0388, Plg7.0000°, Azm26.0000°;*

ISC 23 10:28:20.2±0.5, 34°51N±0.°03×141°48E±0.°03, h8km±2km, h8km: pP-P, n924, σ1s85/796, mb5.1/212, MS5.2/70, 28C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**1.15**	**304**	P			**Pn**	**10 28 44.0**	**+1.5**
KTR				S			**Sn**	**10 29 01.3**	**+2.9**
JKUC	**kamogawauchiur**	**1.23**	**302**	P			**Pn**	**10 28 44.8**	**+1.1**
JKUC				S			**Sn**	**10 29 03.6**	**+3.1**
JKUC	**kamogawauchiur**	**1.23**	**302**	A			A	10 28 44.8	
	comp=E,273nm,12.5s,comp=E,202nm,5.9s								
I30JP	**ISUMI INFRASON**	**1.24**	**310**	Pn			**Pn**	**10 28 45.5**	**+1.7**
	baz=145,slow=43								
CHOJ	**Chosi**	**1.29**	**337**	P			**Pg**	**10 28 44.9**	**-0.1**
CHOJ	**Chosi**	**1.29**	**337**	A			A	10 28 44.9	
	comp=E,186nm,15.8s,comp=E,117nm,6.2s								
JCN	**Nagara**	**1.38**	**311**	A			A	10 28 47.2	
	comp=E,672nm,6.1s,comp=E,601nm,10.4s								
JSMT	**Sammumatsuo**	**1.41**	**324**	P			**Pg**	**10 28 48.4**	**+1.2**
JSMT	**Sammumatsuo**	**1.41**	**324**	A			A	10 28 48.4	
	comp=E,730nm,5.9s,comp=E,1μm,6.7s								
JIHU	**Itakohorinouch**	**1.65**	**332**	A			A	10 28 50.8	
	comp=E,283nm,6.8s,comp=E,304nm,5.0s								
JYO	**Yokosk**	**1.65**	**296**	A			A	10 28 51.3	
	comp=E,301nm,7.6s,comp=E,237nm,7.1s								
JMKN	**Mikurajimanish**	**1.68**	**249**	P			**Pb**	**10 28 51.4**	**+0.1**
JMKN	**Mikurajimanish**	**1.68**	**249**	A			A	10 28 51.4	
	comp=E,154nm,6.2s,comp=E,140nm,9.1s								
JIM2	**Oshima 3**	**1.70**	**278**	P			**Pg**	**10 28 51.9**	**-0.9**
JIM2	**Oshima 3**	**1.70**	**278**	A			A	10 28 51.9	
	comp=E,139nm,4.7s,comp=E,111nm,3.1s								
JTHY	**Toshimahigashi**	**1.81**	**271**	A			A	10 28 53.5	
	comp=E,137nm,5.8s,comp=E,129nm,6.5s								
JNIO	**Niijimaoohara**	**1.83**	**266**	A			A	10 28 53.6	
	comp=E,130nm,3.3s,comp=E,102nm,7.9s								
TOK	**Tokyo**	**1.83**	**310**	A			A	10 28 54.0	
	comp=E,378nm,4.3s,comp=E,511nm,8.9s								
JSKK	**Shikinejimakit**	**1.88**	**265**	A			A	10 28 54.3	
	comp=E,110nm,8.6s,comp=E,71nm

JFY **Yanaizu** 3.23 334 A A 10 29 13.6
comp=E,31nm,3.8s,comp=E,26nm,7.0s
JMST **Minamisoumatoc** 3.24 352 A A 10 29 13.2
comp=E,26nm,10.4s,comp=E,21nm,6.4s
JSSY **Shinshiroyabe** 3.29 278 A A 10 29 14.8
comp=E,12nm,7.7s,comp=E,20nm,8.7s
JUON **Uonuma** 3.33 325 A A 10 29 15.1
comp=E,22nm,6.4s,comp=E,29nm,6.7s
JNG **Nsakai** 3.34 305 A A 10 29 15.6
comp=E,24nm,4.2s,comp=E,28nm,12.8s
MJAR **Matsushiro Arr** 3.35 308 Pn **Pn** **10 29 14.9 +2.1**
2.2nm,0.3s,baz=110,slow=11,SNR=1.9
MJAR Sn Sn 10 29 42.6 -10
2.1nm,0.3s,baz=195,slow=16,SNR=5.4
MJAR LR LR 10 30 46.2
comp=Z,11μm,21.2s,baz=90,slow=45
MAJO **Matsushiro** 3.35 308 Pn **Pn** **10 29 08.1 -4.7**
MAJO **Matsushiro** 3.35 308 P **Pn** **10 29 08.1 -4.7**
MJB9 **Matsu-Tunnel** 3.35 308 Pn **Pn** **10 29 09.6 -3.3**
JMM **Marumori** 3.39 351 Pn **Pn** **10 29 12.8 -0.6**
JMM **Marumori** 3.39 351 A A 10 29 15.4
comp=E,28nm,8.7s,comp=E,20nm,4.4s
JAO **Obara** 3.55 283 A A 10 29 18.6
comp=E,18nm,4.8s,comp=E,28nm,5.9s
JGF **Kuroka** 3.55 289 Pn **Pn** **10 29 12.9 -2.7**
JGF **Kuroka** 3.55 289 A A 10 29 18.6
comp=E,17nm,10.2s,comp=E,20nm,6.3s
JYAR **Yonezawaarcadi** 3.56 343 A A 10 29 17.9
comp=E,65nm,5.1s,comp=E,35nm,3.6s
JAA **Atsumi** 3.58 273 A A 10 29 18.8
comp=E,12nm,5.5s,comp=E,20nm,6.6s
JJN **Nakama** 3.73 315 A A 10 29 21.1
comp=E,40nm,5.3s,comp=E,35nm,4.8s
JNS **Sasagawa** 3.73 333 A A 10 29 20.8
comp=E,34nm,7.6s,comp=E,34nm,6.0s
INU **Inuyama** 3.76 284 Pn **Pn** **10 29 14.7 -3.7**
JIZZ **Izumozaki** 3.76 324 A A 10 29 21.2
comp=E,118nm,5.1s,comp=E,105nm,5.3s
JIKH **Ishinomakikobu** 3.79 360 A A 10 29 20.8
comp=E,21nm,4.4s,comp=E,18nm,6.4s
JGN **Niukaw** 3.81 298 A A 10 29 22.1
comp=E,17nm,7.9s,comp=E,21nm,14.4s
JYS **Shirataka** 3.87 343 A A 10 29 22.4
comp=E,45nm,5.8s,comp=E,22nm,4.3s
JICN **Ichinomiyachia** 3.89 283 A A 10 29 23.2
comp=E,24nm,8.5s,comp=E,30nm,7.8s
JOU **Okura** 3.90 351 A A 10 29 22.6
comp=E,36nm,9.6s,comp=E,24nm,6.5s
JIO **Ouri** 3.94 359 A A 10 29 22.8
comp=E,19nm,5.5s,comp=E,16nm,8.5s
JIE **Ise** 3.94 270 A A 10 29 23.9
comp=E,15nm,6.2s,comp=E,18nm,8.3s
JTT **Ttatey** 3.97 303 A A 10 29 24.6
comp=E,52nm,4.3s,comp=E,29nm,3.6s
JYTA **Yamagatataniai** 4.04 287 A A 10 29 25.4
comp=E,13nm,6.0s,comp=E,22nm,11.0s
JOFO **Osakifurukawao** 4.11 354 A A 10 29 25.4
comp=E,157nm,3.3s,comp=E,119nm,3.4s
TSUJ **Tsu 2** 4.17 274 A A 10 29 27.2
comp=E,18nm,9.8s,comp=E,16nm,8.1s
JEG **Eigenji** 4.23 280 A A 10 29 28.1
comp=E,17nm,7.3s,comp=E,17nm,11.2s
JKMT **Kesennumamotoy** 4.29 360 A A 10 29 27.7
comp=E,15nm,5.8s,comp=E,10.0nm,6.9s
JKN2 **Miekihoku** 4.31 268 A A 10 29 29.1
comp=E,8.0nm,8.9s,comp=E,9.0nm,6.3s
JYA **Atsumi** 4.31 341 A A 10 29 28.7
comp=E,35nm,3.9s,comp=E,20nm,8.4s
JAW **Awa shima** 4.33 336 A A 10 29 29.1
comp=E,31nm,5.9s,comp=E,32nm,6.1s
JSD **Sado** 4.37 325 Pn **Pn** **10 29 24.1 -2.8**
JSD **Sado** 4.37 325 A A 10 29 29.9
comp=E,20nm,6.6s,comp=E,14nm,4.9s
JMK **Ichinoseki** 4.44 357 A A 10 29 29.9
comp=E,14nm,5.5s,comp=E,10.0nm,9.7s
JSZ **Suzu** 4.44 313 A A 10 29 31.1
comp=E,9.0nm,8.3s,comp=E,17nm,6.9s
JYK **Kaneyama** 4.49 349 A A 10 29 30.9
comp=E,31nm,4.5s,comp=E,17nm,12.0s
JJH **Hakui** 4.51 304 A A 10 29 32.1
comp=E,15nm,5.5s,comp=E,17nm,10.0s
JKG **Kaga** 4.56 294 A A 10 29 32.7
comp=E,18nm,9.2s,comp=E,22nm,19.6s
OFUJ **Ofunato** 4.56 2 A A 10 29 31.6
comp=E,16nm,11.0s,comp=E,12nm,6.8s
JMMH **Miemihama** 4.57 263 A A 10 29 32.6
comp=E,5.0nm,6.9s,comp=E,8.0nm,6.5s
JFM **Mihama** 4.62 284 A A 10 29 33.6
comp=E,11nm,5.2s,comp=E,16nm,9.6s
JNTK **Naratenkawa** 4.63 269 A A 10 29 33.5
comp=E,7.0nm,6.0s,comp=E,11nm,6.3s
JYYZ **Yamagatayuza** 4.67 345 A A 10 29 33.5
comp=E,117nm,5.4s,comp=E,124nm,4.6s
JHE **Heguri** 4.78 273 A A 10 29 35.7
comp=E,14nm,6.2s,comp=E,15nm,12.3s
JWKM **Wakayamakushim** 4.87 259 A A 10 29 36.7
comp=E,11nm,13.1s,comp=E,10.0nm,9.0s
JWY **Kouya** 4.87 268 A A 10 29 37.0
comp=E,14nm,13.6s,comp=E,14nm,10.5s
JTNC **Tanabenakahech** 4.91 264 A A 10 29 37.5
comp=E,8.0nm,13.1s,comp=E,7.0nm,8.2s
JTB **Tobi-shima** 4.92 342 A A 10 29 37.2
comp=E,33nm,5.5s,comp=E,19nm,4.4s
JRG **Rokugo** 4.92 352 A A 10 29 37.0
comp=E,37nm,9.7s,comp=E,26nm,9.3s
JOM **Ohasama** 4.96 358 A A 10 29 37.1
comp=E,13nm,4.2s,comp=E,11nm,7.8s
JHG **Hegura jima** 4.97 313 A A 10 29 38.5
comp=E,19nm,9.9s,comp=E,13nm,14.7s
JWT **Wachi** 5.05 280 A A 10 29 39.6
comp=E,6.0nm,8.6s,comp=E,14nm,5.9s
MIYJ **Miyakonagasawa** 5.06 3 A A 10 29 38.5
comp=E,15nm,5.2s,comp=E,9.0nm,7.6s
JWM **Minabe** 5.12 264 A A 10 29 40.4
comp=E,10.0nm,7.2s,comp=E,11nm,9.7s
JYW **Yuwa** 5.12 349 A A 10 29 39.9
comp=E,45nm,6.7s,comp=E,31nm,4.6s
JSZI **Iwateshizukuis** 5.24 356 A A 10 29 41.2
comp=E,27nm,6.4s,comp=E,34nm,3.7s
JMIK **Miki** 5.30 275 A A 10 29 43.0
comp=E,13nm,8.5s,comp=E,14nm,7.4s
JKY **Yasaka** 5.34 284 A A 10 29 43.7
comp=E,7.0nm,5.9s,comp=E,18nm,6.7s
JTH **Tanohata** 5.43 3 A A 10 29 43.6
comp=E,13nm,7.1s,comp=E,7.0nm,16.3s
JAWN **Awajishima-nag** 5.43 272 A A 10 29 44.7
comp=E,7.0nm,7.0s,comp=E,8.0nm,3.9s
JKZ **Kuzumaki** 5.46 359 A A 10 29 44.4
comp=E,16nm,5.4s,comp=E,10.0nm,7.9s
JKS **Kasai** 5.48 277 A A 10 29 45.6
comp=E,10.0nm,8.7s,comp=E,11nm,11.5s
JKEN **Kujiedanarisaw** 5.69 2 A A 10 29 47.2
comp=E,20nm,5.1s,comp=E,8.0nm,3.3s
JKSM **Kasumi** 5.69 283 A A 10 29 48.6
comp=E,7.0nm,6.1s,comp=E,10.0nm,7.7s
JAH **Hinai** 5.71 354 A A 10 29 47.9
comp=E,19nm,4.8s,comp=E,13nm,4.7s
JOG3 **Oga3** 5.73 341 A A 10 29 46.0
comp=E,36nm,9.8s,comp=E,24nm,6.3s
JNTW **Noshirotokiwa** 5.84 350 A A 10 29 49.9
comp=E,110nm,4.6s,comp=E,51nm,4.6s
JANG **Nango** 5.85 0 A A 10 29 49.6
comp=E,12nm,4.2s,comp=E,9.0nm,7.8s
JAI **Aioi** 5.87 265 A A 10 29 50.9
comp=E,7.0nm,12.9s,comp=E,9.0nm,9.8s
JAD **Aida** 6.03 276 A A 10 29 53.4
comp=E,7.0nm,10.0s,comp=E,9.0nm,8.9s
JMAF **Mimaanabuki** 6.08 268 A A 10 29 53.9
comp=E,6.0nm,8.7s,comp=E,11nm,7.4s
JIW **Iwasaki** 6.18 350 A A 10 29 54.6
comp=E,15nm,4.4s,comp=E,15nm,6.4s
JHHS **Hirosakihyakuz** 6.19 352 A A 10 29 54.6
comp=E,54nm,5.6s,comp=E,32nm,4.7s
MRT2 **Murotomisaki 2** 6.20 262 A A 10 29 55.4
comp=E,6.0nm,7.9s,comp=E,5.0nm,7.3s
JTM **Tenmabayashi** 6.27 357 Pn **Pn** **10 29 51.8 -1.1**
JTM **Tenmabayashi** 6.27 357 A A 10 29 55.6
comp=E,16nm,4.5s,comp=E,12nm,4.4s
JKR **Kurayoshi** 6.35 280 A A 10 29 57.7
comp=E,10.0nm,6.9s,comp=E,11nm,8.0s
JMN **Monobe** 6.35 265 Pn **Pn** **10 29 51.9 -2.2**
JMN **Monobe** 6.35 265 A A 10 29 57.5
comp=E,9.0nm,10.5s,comp=E,15nm,13.0s
JARK **Aomorirokkasho** 6.49 359 A A 10 29 58.5
comp=E,12nm,6.5s,comp=E,10.0nm,7.0s
JSI2 **Shiura 2** 6.59 353 A A 10 30 00.2
comp=E,13nm,4.5s,comp=E,11nm,9.3s
JKHR **Kochiharuno** 6.70 264 A A 10 30 02.5
comp=E,11nm,13.2s,comp=E,12nm,10.5s
JAHD **Aomorihigashid** 6.74 359 A A 10 30 02.1
comp=E,13nm,5.8s,comp=E,9.0nm,10.9s
JJG **Jouge** 6.87 273 A A 10 30 05.0
comp=E,9.0nm,8.1s,comp=E,8.0nm,9.6s
JOT **Ohata** 6.87 357 A A 10 30 04.0
comp=E,19nm,6.9s,comp=E,9.0nm,5.6s
JHS **Saijyo** 6.90 276 Pn **Pn** **10 29 57.7 -3.9**
JHS **Saijyo** 6.90 276 A A 10 30 05.5
comp=E,4.0nm,7.1s,comp=E,6.0nm,7.2s
JOI **OKI** 6.95 287 A A 10 30 06.2
comp=E,4.0nm,15.4s,comp=E,7.0nm,16.2s
JNM **Ikuma** 7.00 280 A A 10 30 07.0
comp=E,7.0nm,7.6s,comp=E,11nm,11.2s
JET **Tanbara** 7.03 266 A A 10 30 07.0
comp=E,4.0nm,8.7s,comp=E,6.0nm,16.3s
JSR **Shiriuchi** 7.06 354 A A 10 30 06.7
comp=E,15nm,10.4s,comp=E,17nm,6.9s
JKU **Kubokawa** 7.09 263 A A 10 30 08.0
comp=E,5.0nm,10.8s,comp=E,7.0nm,16.0s
JOMM **Oshimamatsumae** 7.10 351 A A 10 30 07.3
comp=E,9.0nm,7.1s,comp=E,11nm,5.3s
JISK **Izumosakaura** 7.15 280 A A 10 30 08.9
comp=E,7.0nm,10.1s,comp=E,10.0nm,12.1s
JKB **Kayabe** 7.37 357 A A 10 30 11.0
comp=E,10.0nm,15.9s,comp=E,8.0nm,9.9s
JGT2 **ShimaneMisato** 7.40 277 A A 10 30 12.4
comp=E,4.0nm,7.5s,comp=E,9.0nm,8.4s
JHM **Kurahashi** 7.41 270 A A 10 30 12.4
comp=E,9.0nm,9.6s,comp=E,6.0nm,8.5s
JTO **Tosashimizu** 7.41 260 A A 10 30 12.3
comp=E,4.0nm,9.2s,comp=E,3.0nm,10.8s
JCJ **Chichijima** 7.42 175 Pn **Pn** **10 30 08.8 +0.1**
21nm,0.3s,baz=100,slow=23,SNR=5.8
JCJ Sn **Sn** **10 31 26.7 -6.3**
baz=115,slow=22
JCJ LR LR 10 33 31.9
comp=Z,8μm,18.6s,baz=356,slow=41
JCJ **Chichijima** 7.42 175 Pn **Pn** **10 30 09.9 +1.2**
JHT **Toyohira** 7.47 274 A A 10 30 13.3
comp=E,7.0nm,7.0s,comp=E,7.0nm,7.7s
UWA2 **Uwa jima 2** 7.47 263 A A 10 30 13.2
comp=E,4.0nm,11.7s,comp=E,8.0nm,8.6s
JNA **Nagahama** 7.53 265 A A 10 30 14.1
comp=E,5.0nm,7.3s,comp=E,7.0nm,11.6s
ERM **Erimo** 7.61 10 Pn **Pn** **10 30 08.4 -2.8**
ERM **Erimo** 7.61 10⇑ *eP* **Pn** **10 30 10.7 -0.6**
JEM **Erimo** 7.61 10 A A 10 30 13.8
comp=E,6.0nm,5.8s,comp=E,4.0nm,10.3s
JYM2 **Yakumo 2** 7.64 354 A A 10 30 14.9
comp=E,9.0nm,10.2s,comp=E,9.0nm,9.7s
JOSM **Okushiri--Mats** 7.72 349 A A 10 30 16.1
comp=E,12nm,11.1s,comp=E,7.0nm,13.1s
JNBK **Urakawa-nobuka** 7.82 7 A A 10 30 16.9
comp=E,8.0nm,6.1s,comp=E,13nm,5.5s
JHIK **Hikimi** 7.88 273 A A 10 30 19.1
comp=E,6.0nm,8.6s,comp=E,9.0nm,7.4s
JTHR **Tokachihiroo** 7.90 10 A A 10 30 17.9
comp=E,6.0nm,7.0s,comp=E,3.0nm,13.8s
JSHD **Hidakashinhida** 7.92 5 A A 10 30 18.4
comp=E,14nm,5.0s,comp=E,13nm,4.9s
JNB **Noboribetsu** 7.95 358 A A 10 30 19.1
comp=E,7.0nm,14.3s,comp=E,4.0nm,16.7s
JKD **Kudamatsu** 7.96 269 A A 10 30 20.1
comp=E,8.0nm,37.4s,comp=E,4.0nm,5.6s
JHST **Hiyamasetana** 8.00 351 A A 10 30 19.9
comp=E,10.0nm,8.1s,comp=E,7.0nm,13.6s
JIAM **Iburiatsuma** 8.11 2 A A 10 30 21.1
comp=E,18nm,5.9s,comp=E,18nm,6.5s
JSKE **Saikikamae** 8.16 261 A A 10 30 22.7
comp=E,3.0nm,6.9s,comp=E,5.0nm,12.8s
JSH **Shimam** 8.20 353 A A 10 30 22.6
comp=E,9.0nm,12.4s,comp=E,7.0nm,16.0s
JUS **Usuki** 8.22 263 A A 10 30 23.6
comp=E,6.0nm,8.2s,comp=E,8.0nm,10.4s
JCH **Churui** 8.22 10 A A 10 30 22.4
comp=E,6.0nm,4.9s,comp=E,5.0nm,14.1s
JKI **Kunimi** 8.27 267 A A 10 30 24.4
comp=E,8.0nm,11.3s,comp=E,6.0nm,13.7s
JBT2 **Biratori 2** 8.29 5 A A 10 30 23.4
comp=Z,7.0nm,7.7s,comp=Z,7.0nm,12.9s,comp=Z,7.0nm,10.8s
JEW **Eniwo** 8.32 360 Pn **Pn** **10 30 18.7 -2.3**
JEW **Eniwo** 8.32 360 A A 10 30 24.1
comp=E,15nm,15.4s,comp=E,12nm,7.2s
JBEP **Beppuamama** 8.45 265 A A 10 30 26.7
comp=E,8.0nm,8.0s,comp=E,11nm,9.2s
JHHC **Hyugahichiya** 8.47 259 A A 10 30 27.1
comp=E,4.0nm,94.4s,comp=E,3.0nm,12.4s
JHGM **Hagimishima** 8.52 275 A A 10 30 27.9
comp=E,7.0nm,7.3s,comp=E,8.0nm,8.0s
JKIT **Kitakata** 8.57 260 A A 10 30 28.4
comp=E,4.0nm,14.1s,comp=E,5.0nm,7.8s
JOB **Onta** 8.58 12 A A 10 30 27.2
comp=E,8.0nm,9.3s,comp=E,6.0nm,6.5s
JTY **Toyota** 8.61 271 A A 10 30 29.1
comp=E,6.0nm,8.6s,comp=E,6.0nm,9.8s
JISS **Ishikarishitsu** 8.75 360 A A 10 30 30.1
comp=E,12nm,7.9s,comp=E,14nm,6.5s
JSK **Shakotan** 8.86 355 A A 10 30 31.7
comp=E,6.0nm,6.8s,comp=E,4.0nm,15.4s
JNU **Nakatsue** 8.93 264 A A 10 30 33.4
comp=E,4.0nm,9.8s,comp=E,6.0nm,10.8s
JNAR **Kushima--Naru** 9.07 254 A A 10 30 35.1
comp=E,6.0nm,13.1s,comp=E,6.0nm,9.0s
JZO **Okuchi** 9.40 258 A A 10 30 39.9
comp=E,8.0nm,16.4s,comp=E,6.0nm,7.8s
JHD **Hondo** 9.69 261 A A 10 30 43.7
comp=E,5.0nm,10.0s,comp=E,6.0nm,8.6s
JSU **Suzuyama** 9.73 255 Pn **Pn** **10 30 37.9 -2.6**
JII **Iki** 9.76 269 A A 10 30 44.9
comp=E,7.0nm,7.8s,comp=E,6.0nm,9.6s
JSS **Shosan** 9.88 2 A A 10 30 45.5
comp=E,13nm,16.3s,comp=E,8.0nm,7.7s
JYG **Yagishiri** 9.90 360 A A 10 30 45.9
comp=E,5.0nm,17.2s,comp=E,3.0nm,9.4s
NGSJ **Nagasakinomoza** 9.92 262 A A 10 30 47.0
comp=E,2.0nm,6.6s,comp=E,6.0nm,10.6s
YUK **Yuzh-Kuril'sk** 10.10 18 *eP* **Pn** **10 30 46.9 +1.5**
YUK *eS* **Sn** **10 32 42.3 +3.5**
YUK pmax pmax
comp=Z,137nm,0.7s
YUK pmax pmax
comp=N,59nm,0.4s
YUK pmax pmax
comp=E,49nm,0.5s
YUK MLR MLR
comp=Z,5μm,12.0s
YUK MLR MLR
comp=N,5μm,10.0s
YUK MLR MLR
comp=E,4μm,16.0s
JRR **Rishiri** 10.62 359 A A 10 30 55.6
comp=E,12nm,6.5s,comp=E,21nm,6.5s
JWK2 **Keihoku** 10.80 2 A A 10 30 58.0
comp=E,8.0nm,8.4s,comp=E,8.0nm,15.5s
TEY **Ternei** 11.16 342 *eP* **Pn** **10 30 58.8 -1.1**
TEY pmax pmax
comp=N,20nm,1.2s
TEY pmax pmax
comp=Z,20nm,1.1s
TEY pmax pmax
comp=E,10.0nm,0.9s
TEY MLR MLR
comp=N,500nm,12.0s
TEY MLR MLR
comp=E,300nm,12.0s
TEY MLR MLR
comp=Z,600nm,14.0s
KSRS **Korea Array** 11.37 289 Pn **Pn** **10 31 06.7 +3.9**
comp=Z,0.1nm,0.3s,baz=103,slow=14,SNR=20
KSRS LR LR 10 35 51.0
comp=Z,9μm,18.4s,baz=100,slow=40
KSAR **Wonju Array Be** 11.39 289 Pn **Pn** **10 31 01.5 -1.7**
KSAR **Wonju Array Be** 11.39 289 P **Pn** **10 31 01.5 -1.7**
KS19 **Wonju Array Si** 11.42 289 Pn **Pn** **10 31 01.3 -2.3**
KUR **Kuril'sk** 11.78 23 P **Pn** **10 31 12.6 +4.3**
KUR *eS* **Sn** **10 33 14.5 -5.4**
KUR pmax pmax
comp=Z,44nm,0.8s
KUR MLR MLR
comp=Z,8μm,14.0s
USA0B **Ussuriysk Arra** 12.14 326 Pn **Pn** **10 31 10.3 -3.0**
USA0B **Ussuriysk Arra** 12.14 326 P **Pn** **10 31 10.3 -3.0**
USRK **Ussuriysk Ar.** 12.14 326 Pn **Pn** **10 31 13.1 -0.2**
comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=6.3
USRK LR LR 10 35 53.0
comp=Z,2μm,20.5s,baz=131,slow=38
comp=Z,8.9nm,1.0s
USRK **Ussuriysk Ar.** 12.14 326 Pn **Pn** **10 31 09.9 -3.4**
HHU **Hamhung** 12.36 300 P **Pn** **10 31 19.4 +3.0**
HHU pP 10 31 22.3
HHU S Sn 10 33 43.0 +8.8
HHU AMS AMS
comp=N,15μm,11.4s
HHU AMS AMS
comp=E,15μm,11.4s
HHU AMS AMS
comp=Z,16μm,12.4s
YSS **Yuzh-Sakhalins** 12.47 4 Pn **Pn** **10 31 14.4 -3.4**
YSS **Yuzh-Sakhalins** 12.47 4 *eP* **Pn** **10 31 15.5 -2.3**
YSS *eS* **Sn** **10 33 32.6 -4.2**
YSS pmax pmax
comp=Z,220nm,0.8s
YSS MLR MLR
comp=Z,9μm,17.0s
YSS MLR MLR
comp=N,11μm,15.0s
HJU **Haeju** 13.19 290 P **Pn** **10 31 30.3 +2.6**
MDJ **Mudanjiang** 13.62 321 Pn **Pn** **10 31 31.2 -2.3**
MDJ **Mudanjiang** 13.62 321 P **P** **10 31 39.0 -3.6**
MDJ S **Sn** **10 34 06.3 +1.3**
MDJ pmax pmax
comp=N,13nm,2.5s
MDJ pmax pmax
comp=N,930nm,11.3s
MDJ LR LR
comp=N,18μm,13.2s
MDJ LR LR
comp=N,21μm,13.2s
UGL **Uglegorsk** 14.56 2 *eP* **P** **10 31 51.9 -1.1**
UGL pmax pmax
comp=Z,120nm,1.1s
UGL MLR MLR
comp=N,9μm,15.0s
UGL MLR MLR
comp=E,14μm,15.0s
UGL MLR MLR
comp=Z,14μm,14.0s
SUJ **Sinuiju** 14.62 297 P **Pn** **10 31 48.5 +1.3**
BNX **BinXian** 15.52 320 ⇑P **Pn** **10 31 58.4 -0.8**
BNX pP **P** **10 32 03.0 -0.7**
BNX sP **sP** **10 32 06.8 +2.3**
BNX S **Sn** **10 34 49.8 -1.4**
BNX sS **S** **10 34 56.8 -10**
BNX pmax pmax
comp=Z,12nm,0.9s
BNX pmax pmax
comp=Z,370nm,5.7s
BNX LR LR
comp=Z,14μm,12.4s
BNX LR LR
comp=Z,16μm,12.5s
BNX LR LR
comp=Z,8μm,13.1s
SNY **Shenyang** 15.84 303 ⇑P **Pn** **10 32 03.1 -0.3**
SNY S **Sn** **10 34 54.3 -4.9**
SNY pmax pmax
comp=Z,330nm,4.6s
SNY LR LR
comp=Z,5μm,12.1s
SNY LR LR
comp=Z,5μm,12.5s
SNY LR LR
comp=Z,8μm,12.3s
TYV **Tymovskoe** 16.37 3 *eP* **Pn** **10 32 08.2 -1.9**
TYV *eS* **Sn** **10 35 09.6 -2.2**
TYV pmax pmax
comp=Z,37nm,1.0s
TYV pmax pmax
comp=Z,600nm,2.4s
TYV smax smax
comp=N,300nm,3.3s
KLR **Kul'dur** 16.37 337 Pn **Pn** **10 32 09.9 -0.4**
comp=N,0.2nm,0.3s,baz=151,slow=17,SNR=2.0
KLR Sn **S** **10 35 24.9 +0.4**
comp=N,0.1nm,0.3s,baz=326,slow=22,SNR=1.2
comp=N,1.3nm,0.6s
DL2 **Dalian** 16.50 291 P **P** **10 32 17.0 +2.4**
DL2 S **S** **10 35 21.6 -5.7**
DL2 pmax pmax
comp=N,45nm,1.1s
DL2 pmax pmax
comp=N,980nm,8.5s
DL2 LR LR
comp=N,16μm,14.7s
DL2 LR LR
comp=N,8μm,16.1s
DL2 LR LR
comp=N,11μm,15.8s
GRNR **Gornyy** 16.66 349 ⇓*iP* **P** **10 32 15.2 -1.1**
GRNR *eS* **S** **10 35 24.0 -6.4**
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=E,4.0nm,0.9s
GRNR pmax pmax
comp=Z,5.0nm,0.8s
GRNR smax smax
comp=N,3.0nm,0.6s
GRNR MLR MLR
comp=N,5μm,13.0s
GRNR MLR MLR
comp=E,5μm,13.0s
GRNR MLR MLR
comp=Z,8μm,14.0s
SSE **Sheshan** 17.39 264 P **Pn** **10 32 22.6 -0.6**
SSE S **Sn** **10 35 36.8 -0.1**
SSE pmax pmax
comp=Z,21nm,0.6s
SSE LR LR
comp=Z,6μm,17.1s
SSE LR LR
comp=Z,3μm,17.1s
NJ2 **Nanjing** 19.07 269 *eP* **P** **10 32 42.8 -0.2**
NJ2 PP **PnPn** **10 32 58.8 +2.6**
NJ2 SS S 10 36 38.8 +19
NJ2 pmax pmax
comp=Z,14nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,8.1s
NJ2 LR LR
comp=Z,12μm,16.6s
NJ2 LR LR
comp=Z,6μm,16.1s
NJ2 LR LR
comp=Z,5μm,15.2s
SKR **Severo-Kuril's** 19.37 29 *eP* **P** **10 32 45.9 -0.2**
SKR *eS* **S** **10 36 27.5 +2.3**
SKR pmax pmax
comp=Z,700nm,4.0s
SKR MLR MLR
comp=Z,2μm,12.0s
TIA **Tai'an** 19.92 282 P **Pn** **10 32 56.3 +2.3**
TIA pmax pmax
comp=Z,4.0nm,0.4s
TIA LR LR
comp=Z,11μm,16.4s
TIA LR LR
comp=Z,3μm,12.8s
TIA LR LR
comp=Z,4μm,16.4s
BJI **Beijing** 20.84 293 P **P** **10 32 57.3 -5.0**
BJI sP **pwP** **10 33 09.4 -1.6**
BJI PP **PnPn** **10 33 17.4 -3.1**
BJI sS Sn 10 37 03.5 +3.4
BJI pmax pmax
comp=Z,4.0nm,1.1s
BJI pmax pmax
comp=Z,130nm,4.0s
BJI LR LR
comp=N,1μm,13.9s
BJI LR LR
comp=E,4μm,14.9s
BJI LR LR
comp=Z,5μm,15.8s
GUMO **Guam** 21.05 171 P **P** **10 33 08.6 +4.0**
comp=Z,58nm,0.8s,baz=63,slow=14,SNR=1.4
GUMO LR LR 10 39 53.5
comp=Z,3μm,21.0s,baz=7.0,slow=33
comp=Z,58nm,0.8s
TPUB **Ta-pu** 21.35 244 P **P** **10 33 04.7 -3.2**
TPUB IAmb IAmb 10 33 16.7
comp=Z,206nm,2.0s
ZEA **Zeya** 21.69 337 *eP* **P** **10 33 11.3 0.0**

ZEA				*e*S	**S**	**10 37 01.7**	**-10**		
ZEA				*e*		10 37 48.7			
ZEA				pmax	pmax				
	comp=N,30nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,50nm,1.0s								
ZEA				pmax	pmax				
	comp=E,200nm,3.3s								
ZEA				pmax	pmax				
	comp=N,400nm,3.8s								
ZEA				pmax	pmax				
	comp=Z,400nm,4.1s								
ZEA				smax	smax				
	comp=E,700nm,7.7s								
ZEA				MLR	MLR				
	comp=E,4μm,13.0s								
ZEA				MLR	MLR				
	comp=N,2μm,14.0s								
ZEA				MLR	MLR				
	comp=Z,4μm,15.0s								
XLT	**XiLinHaoTe**	**21.73**	**303**	*e*P	**P**	**10 33 10.3**	**-1.6**		
XLT				pP	pwP	10 33 19.6	-1.1		
XLT				sP	sP	10 33 23.5	+11		
XLT				S	**S**	**10 37 10.3**	**-2.1**		
XLT				PcP	**PcP**	**10 37 15.8**	**+3.3**		
XLT				sS	Sn	10 37 20.4	-1.1		
XLT				pmax	pmax				
	comp=Z,24nm,0.9s								
XLT				pmax	pmax				
	comp=Z,300nm,4.1s								
XLT				LR	LR				
	comp=Z,910nm,14.3s								
XLT				LR	LR				
	comp=Z,5μm,13.5s								
XLT				LR	LR				
	comp=Z,5μm,12.2s								
HIA	**Hailar**	**21.78**	**319**	P	**P**	**10 33 11.0**	**-1.3**		
HIA	**Hailar**	**21.78**	**319**	P	**P**	**10 33 11.0**	**-1.3**		
HIA				pmax	pmax				
	comp=Z,33nm,1.3s								
HNS	**HongShan**	**21.84**	**285**	⇑P	**P**	**10 33 12.1**	**-0.9**		
HNS				pP	**pwP**	**10 33 22.4**	**+0.9**		
HNS				pmax	pmax				
	comp=Z,18nm,0.9s								
HNS				LR	LR				
	comp=Z,8μm,15.5s								
HNS				LR	LR				
	comp=Z,9μm,16.1s								
HNS				LR	LR				
	comp=Z,7μm,12.0s								
PEA0B	**Petropavlovsk-**	**21.88**	**27**	P	**P**	**10 33 14.7**	**+1.4**		
PEA0B	**Petropavlovsk-**	**21.88**	**27**	P	**P**	**10 33 14.7**	**+1.4**		
PEA0B				pmax	pmax				
	comp=Z,68nm,1.3s								
PETK	**Petropavlovsk-**	**21.88**	**27**	P	**P**	**10 33 13.9**	**+0.6**		
	comp=Z,10nm,1.2s,baz=192,slow=5.1,SNR=4.4								
PETK				LR	LR	10 42 18.2			
	comp=Z,722nm,19.3s,baz=216,slow=38								
	comp=Z,10nm,1.2s								
PETK	**Petropavlovsk-**	**21.88**	**27**	P	**P**	**10 33 11.6**	**-1.7**		
QZH	**Quanzhou**	**22.00**	**250**	*e*P	**P**	**10 33 17.5**	**+2.7**		
QZH				S	**S**	**10 37 20.0**	**+2.2**		
QZH				LR	LR				
	comp=Z,3μm,14.6s								
QZH				LR	LR				
	comp=Z,3μm,12.6s								
QZH				LR	LR				
	comp=Z,4μm,11.9s								
PET	**Petropavlovsk**	**22.18**	**28**	P	**P**	**10 33 14.1**	**-2.3**		
PET				IAmb	IAmb	10 33 21.4			
	comp=Z,202nm,1.9s								
PET	**Petropavlovsk**	**22.18**	**28**	*e*P	**P**	**10 33 19.3**	**+2.8**		
PET				*e*S	**S**	**10 37 16.4**	**-4.3**		
PET				pmax	pmax				
	comp=Z,60nm,2.0s								
PET				pmax	pmax				
	comp=Z,800nm,11.5s								
PET				pmax	pmax				
	comp=Z,400nm,10.7s								
WHN	**Wuhan**	**23.18**	**268**	⇓P	**P**	**10 33 28.8**	**+1.5**		
WHN				pP	**pwP**	**10 33 33.4**	**-2.2**		
WHN				S	**S**	**10 37 38.8**	**-0.4**		
WHN				LR	LR				
	comp=Z,24μm,14.5s								
WHN				LR	LR				
	comp=Z,7μm,14.6s								
WHN				LR	LR				
	comp=Z,25μm,11.6s								
LYN	**LuoYang**	**23.86**	**278**	*e*P	**P**	**10 33 36.6**	**+2.6**		
LYN				pP	pwP	10 33 41.3	-1.5		
LYN				sP	sP	10 33 44.1	+9.1		
LYN				PP	**PnPn**	**10 34 07.4**	**+5.5**		
LYN				S	**S**	**10 37 45.1**	**-5.2**		
LYN				sS	sS	10 37 58.6	+7.2		
LYN				SS	**SnSn**	**10 38 33.6**	**+4.6**		
LYN				pmax	pmax				
	comp=Z,10.0nm,1.2s								
LYN				pmax	pmax				
	comp=Z,260nm,10.4s								
LYN				LR	LR				
	comp=Z,5μm,15.7s								
LYN				LR	LR				
	comp=Z,9μm,16.7s								
LYN				LR	LR				
	comp=Z,10μm,15.5s								
HHC	**Hu-ho-hao-te**	**24.43**	**294**	*e*P	**P**	**10 33 40.1**	**+0.7**		
HHC				S	**S**	**10 37 55.8**	**-3.7**		
HHC				sS	sS	10 38 04.9	+4.4		
HHC				pmax	pmax				
	comp=Z,34nm,1.0s								
HHC				pmax	pmax				
	comp=Z,470nm,4.3s								
HHC				LR	LR				
	comp=Z,10μm,13.1s								
HHC				LR	LR				
	comp=Z,8μm,13.1s								
HHC				LR	LR				
	comp=Z,8μm,11.8s								
BTO	**Baotou**	**25.58**	**293**	*e*P	**P**	**10 33 51.5**	**+1.7**		
MA2	**Magadan**	**25.81**	**11**	P	**P**	**10 33 52.6**	**+1.1**		
	comp=Z,4.5nm,0.4s,baz=192,slow=18,SNR=2.0								
MA2				S	S	10 38 35.8	+15		
	comp=Z,3.4nm,0.4s,baz=24,slow=20,SNR=1.6								
	comp=Z,4.5nm,0.4s								
MA2	**Magadan**	**25.81**	**11**	P	**P**	**10 33 48.5**	**-3.1**		
MA2				IAmb	IAmb	10 34 04.5			
	comp=Z,120nm,1.5s								
XAN	**Xi'an**	**26.84**	**278**	P	**P**	**10 34 00.8**	**-0.4**		
XAN				pP	pwP	10 34 06.3	-3.7		
XAN				sP	sP	10 34 09.9	+7.8		
XAN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
XAN				LR	LR				
	comp=Z,6μm,15.3s								
XAN				LR	LR				
	comp=Z,6μm,17.7s								
XAN				LR	LR				
	comp=Z,8μm,14.7s								
H11N2	**WAKE ISLAND Hy**	**26.89**	**117**	T	T	11 02 15.6			
	baz=309,slow=75,SNR=134								
H11N1	**WAKE ISLAND Hy**	**26.90**	**117**	T	T	11 02 09.4			
	baz=309,slow=75,SNR=26								
H11N3	**WAKE ISLAND Hy**	**26.91**	**117**	T	T	11 02 12.5			
	baz=309,slow=75,SNR=26								
ENH	**Enshi**	**27.28**	**270**	P	**P**	**10 34 02.8**	**-2.3**		
H11S3	**WAKE ISLAND Hy**	**27.52**	**119**	T	T	11 03 05.3			
	baz=312,slow=75,SNR=18								
H11S1	**WAKE ISLAND Hy**	**27.52**	**119**	T	T	11 03 02.1			
	baz=312,slow=75,SNR=18								
H11S2	**WAKE ISLAND Hy**	**27.54**	**119**	T	T	11 03 00.9			
	baz=312,slow=75,SNR=18								
YAK	**Yakutsk**	**28.54**	**348**	P	**P**	**10 34 17.0**	**+1.0**		
	comp=Z,12nm,0.4s,baz=316,slow=3.7,SNR=2.3								
YAK				S	**S**	**10 39 03.6**	**-0.2**		
	comp=Z,7.1nm,0.3s,baz=22,slow=1.2,SNR=1.5								
YAK				LR	LR	10 46 05.0			
	comp=Z,5μm,18.5s,baz=134,slow=38								
	comp=Z,12nm,0.4s								
YAK	**Yakutsk**	**28.54**	**348**	P	**P**	**10 34 16.2**	**+0.2**		
YAK	**Yakutsk**	**28.54**	**348**	*e*P	**P**	**10 34 16.4**	**+0.4**		
YAK				*e*S	**S**	**10 39 02.4**	**-1.5**		
YAK				*e*SS	**SnSn**	**10 40 24.0**	**+1.3**		
YAK				pmax	pmax				
	comp=Z,86nm,1.2s								
YAK				pmax	pmax				
	comp=N,40nm,1.1s								
YAK				pmax	pmax				
	comp=E,23nm,1.2s								
YAK				smax	smax				
	comp=N,931nm,4.1s								
YAK				smax	smax				
	comp=E,278nm,3.2s								
YAK				MLR	MLR				
	comp=Z,4μm,13.0s								
YAK				MLR	MLR				
	comp=N,3μm,13.0s								
ULN	**Ulaanbaatar**	**28.88**	**308**	⇑*e*P	**P**	**10 34 20.7**	**+1.3**		
ULN				pmax	pmax				
	comp=Z,31nm,2.5s								
SEY	**Seymchan**	**29.26**	**10**	P	**P**	**10 34 23.4**	**+1.1**		
	comp=Z,2.5nm,0.9s,baz=242,slow=4.0,SNR=4.2								
SEY				LR	LR	10 48 14.2			
	comp=Z,3μm,18.7s,baz=186,slow=41								
	comp=Z,2.5nm,0.9s								
SONM	**Songino Array**	**29.30**	**308**	P	**P**	**10 34 24.5**	**+1.3**		
	comp=Z,5.2nm,0.9s,baz=104,slow=9.5,SNR=9.4								
SONM				S	**S**	**10 39 24.2**	**+7.8**		
	comp=Z,0.4nm,0.5s,baz=117,slow=39,SNR=1.9								
SONM				LR	LR	10 46 47.2			
	comp=Z,5μm,18.3s,baz=106,slow=38								
	comp=Z,5.2nm,0.9s								
SONM	**Songino Array**	**29.30**	**308**	P	**P**	**10 34 21.4**	**-1.7**		
BOD	**Bodaibo**	**29.71**	**330**	*e*P	**P**	**10 34 30.4**	**+3.9**		
BOD				pmax	pmax				
	comp=Z,63nm,1.5s								
LZH	**Lanzhou**	**30.63**	**284**	*e*P	**P**	**10 34 35.9**	**+0.8**		
LZH				pP	sP	10 34 38.9	+2.9		
LZH				PP	**PnPn**	**10 35 36.5**	**+2.3**		
LZH				S	S	10 39 24.4	-13		
LZH				SS	**ScP**	**10 41 18.5**	**+2.3**		
LZH				pmax	pmax				
	comp=Z,21nm,1.0s								
LZH				LR	LR				
	comp=Z,9μm,14.8s								
LZH				LR	LR				
	comp=Z,2μm,16.0s								
LZH				LR	LR				
	comp=Z,8μm,16.1s								
GYA	**Guiyang**	**30.94**	**265**	*e*P	**P**	**10 34 37.3**	**-0.5**		
GYA				S	**S**	**10 39 48.0**	**+5.5**		
GYA				pmax	pmax				
	comp=Z,10.0nm,0.5s								
GYA				LR	LR				
	comp=Z,4μm,12.5s								
GYA				LR	LR				
	comp=Z,6μm,11.3s								
GYA				LR	LR				
	comp=Z,7μm,12.0s								
CD2	**Chengdu**	**31.82**	**274**	P	**P**	**10 34 44.8**	**-0.6**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CD2				pmax	pmax				
	comp=Z,160nm,5.0s								
CD2				LR	LR				
	comp=Z,10μm,14.3s								
CD2				LR	LR				
	comp=Z,7μm,14.9s								
CD2				LR	LR				
	comp=Z,8μm,15.7s								
IRK	**Irkutsk**	**31.88**	**315**	*e*P	**P**	**10 34 47.1**	**+1.4**		
IRK				pmax	pmax				
	comp=Z,73nm,2.9s								
ZAK	**Zakamensk**	**31.93**	**312**	*e*P	**P**	**10 34 46.4**	**+0.2**		
ZAK				pmax	pmax				
	comp=Z,22nm,1.8s								
QIZ	**Qiongzhong**	**32.01**	**249**	P	**P**	**10 34 48.8**	**+1.6**		
QIZ				PP	**PP**	**10 35 57.9**	**-1.5**		
QIZ				S	**S**	**10 39 58.4**	**-0.7**		
QIZ				LR	LR				
	comp=Z,4μm,12.7s								
QIZ				LR	LR				
	comp=Z,2μm,11.2s								
QIZ				LR	LR				
	comp=Z,3μm,11.9s								
GTA	**Gaotai**	**33.43**	**291**	⇓P	**P**	**10 34 59.6**	**0.0**		
GTA				pP	pwP	10 35 05.9	-2.5		
GTA				sP	pP	10 35 09.4	+9.2		
GTA				S	**S**	**10 40 15.8**	**-5.4**		
GTA				pmax	pmax				
	comp=Z,12nm,1.2s								
GTA				pmax	pmax				
	comp=Z,83nm,4.5s								
GTA				LR	LR				
	comp=Z,5μm,16.7s								
GTA				LR	LR				
	comp=Z,4μm,16.0s								
GTA				LR	LR				
	comp=Z,4μm,16.4s								
MOY	**Mondy**	**33.65**	**313**	*e*P	**P**	**10 35 02.1**	**+0.8**		
MOY				pmax	pmax				
	comp=Z,30nm,3.1s								
KMI	**Kunming**	**34.71**	**265**	⇑P	**P**	**10 35 11.4**	**+0.5**		
KMI				pP	pwP	10 35 22.1	+2.5		
KMI				pmax	pmax				
	comp=Z,10.0nm,0.5s								
KMI				LR	LR				
	comp=Z,5μm,12.3s								
KMI				LR	LR				
	comp=Z,6μm,12.8s								
KMI				LR	LR				
	comp=Z,7μm,12.6s								
PZH	**PanZhiHua**	**34.98**	**268**	P	**P**	**10 35 11.0**	**-2.1**		
PZH				PP	**PP**	**10 36 34.5**	**+2.2**		
PZH				S	**S**	**10 40 45.0**	**-0.2**		
PZH				pmax	pmax				
	comp=Z,20nm,1.0s								
PZH				pmax	pmax				
	comp=Z,140nm,5.7s								
PZH				LR	LR				
	comp=Z,6μm,15.5s								
PZH				LR	LR				
	comp=Z,5μm,16.2s								
PZH				LR	LR				
	comp=Z,3μm,13.5s								
TIXI	**Tiksi**	**37.80**	**354**	LR	LR	10 52 28.5			
	comp=Z,4μm,18.0s,baz=180,slow=38								
FAKI	**Fak Fak**	**38.23**	**195**	P	**P**	**10 35 40.5**	**-0.2**		
FAKI				IAmb	IAmb	10 35 59.6			
	comp=Z,127nm,2.0s								
CRAI	**Chiangrai**	**38.90**	**259**	P	**P**	**10 35 44.0**	**-2.5**		
SANI	**Sanana**	**39.17**	**205**	P	**P**	**10 35 48.2**	**-0.4**		
	comp=Z,437nmcomp=Z,21nm,0.8s								
PHRA	**Phrae**	**39.91**	**257**	P	**P**	**10 35 54.0**	**-0.8**		
CHTO	**Chiang Mai**	**40.78**	**259**	P	**P**	**10 35 59.9**	**-2.2**		
CHTO	**Chiang Mai**	**40.78**	**259**	P	**P**	**10 35 59.9**	**-2.2**		
CHTO				pmax	pmax				
	comp=Z,1.0nm,1.5s								
CMAR	**Chiang Mai Arr**	**40.97**	**258**	P	**P**	**10 36 04.7**	**+1.1**		
	comp=Z,1.2nm,0.3s,baz=46,slow=7.5,SNR=4.5								
CMAR				LR	LR	10 53 44.1			
	comp=Z,463nm,20.5s,baz=30,slow=37								
	comp=Z,1.2nm,0.3s								
DGZ	**Jazzator, Alta**	**41.95**	**308**	⇑*e*P	**P**	**10 36 12.6**	**+1.1**		
DGZ				pmax	pmax				
	comp=Z,51nm,0.9s								
WMQ	**Urumqi**	**42.07**	**299**	*e*P	**P**	**10 36 15.3**	**+2.8**		
WMQ				sP	pwP	10 36 29.6	+8.3		
WMQ				S	**S**	**10 42 31.8**	**-0.1**		
WMQ				sS	sS	10 42 44.8	+12		
WMQ				pmax	pmax				
	comp=Z,61nm,1.5s								
WMQ				pmax	pmax				
	comp=Z,150nm,5.3s								
WMQ				LR	LR				
	comp=Z,6μm,21.7s								
WMQ				LR	LR				
	comp=Z,2μm,19.7s								
WMQ				LR	LR				
	comp=Z,880nm,20.7s								
ZAA0	**Zalesovo Array**	**43.68**	**314**	P	**P**	**10 36 23.5**	**-1.7**		
ZALV	**Zalesovo Beam**	**43.68**	**314**	P	**P**	**10 36 25.2**	**-0.1**		
	comp=Z,6.4nm,0.9s,baz=95,slow=6.7,SNR=6.6								
	comp=Z,6.4nm,0.9s								
ZALV	**Zalesovo Beam**	**43.68**	**314**	P	**P**	**10 36 22.7**	**-2.6**		
ZSN	**Zaisan**	**43.73**	**305**	*e*P	**P**	**10 36 26.5**	**+0.7**		
ZSN				*e*S	**S**	**10 42 56.8**	**+0.7**		
ZSN				pmax	pmax				
	comp=Z,14nm,1.0s								
ZSN	**Zaisan**	**43.73**	**305**	*e*P	**P**	**10 36 26.5**	**+0.7**		
	comp=Z,14nm,1.0s,baz=305								
ZSN				*e*S	**S**	**10 42 56.9**	**+0.7**		
	baz=305								
PMG	**Port Moresby**	**44.01**	**172**	LR	LR	10 54 36.9			
	comp=Z,455nm,19.2s,baz=358,slow=36								
CHNA	**Chernabura Isl**	**45.05**	**44**	P	**P**	**10 36 39.0**	**+2.9**		
	baz=269								
MK31	**Makanchi Array**	**45.54**	**304**	P	**P**	**10 36 39.3**	**-1.0**		
MK31	**Makanchi Array**	**45.54**	**304**	*i* P	**P**	**10 36 40.8**	**+0.5**		
MKAR	**Makanchi Array**	**45.54**	**304**	P	**P**	**10 36 40.8**	**+0.5**		
	comp=Z,14nm,0.9s,baz=93,slow=9.7,SNR=19								
MKAR				S	**S**	**10 43 16.5**	**-5.9**		
	comp=Z,0.2nm,0.5s,baz=122,slow=30,SNR=1.5								
MKAR				LR	LR	10 56 31.1			
	comp=Z,2μm,20.2s,baz=100,slow=37								
	comp=Z,14nm,0.9s								
MKAR	**Makanchi Array**	**45.54**	**304**	P	**P**	**10 36 39.3**	**-1.0**		
NRIK	**Noril'sk**	**45.58**	**336**	P	**P**	**10 36 39.3**	**-0.9**		
	comp=Z,5.6nm,0.5s,baz=101,slow=7.1,SNR=6.7								
NRIK				LR	LR	10 58 14.0			
	comp=Z,2μm,18.2s,baz=112,slow=40								
	comp=Z,5.6nm,0.5s								
NRIK	**Noril'sk**	**45.58**	**336**	P	**P**	**10 36 39.3**	**-0.9**		
NRIK				IAmb	IAmb	10 36 51.9			
	comp=Z,25nm,1.1s								
NRIK	**Noril'sk**	**45.58**	**336**	*ce*P	**P**	**10 36 39.4**	**-0.9**		
NRIK				pmax	pmax				
	comp=Z,29nm,1.4s								
MAKZ	**Makanchi**	**45.75**	**304**	P	**P**	**10 36 40.1**	**-1.9**		
MAKZ				IAmb	IAmb	10 36 56.0			
	comp=Z,24nm,1.1s								
MAKZ	**Makanchi**	**45.75**	**304**	P	**P**	**10 36 40.1**	**-1.9**		
MAKZ				pmax	pmax				
	comp=Z,25nm,1.1s								
N16K	**Nishlik Lake**	**45.90**	**37**	P	**P**	**10 36 43.4**	**+0.5**		
	baz=264								
O16K	**Kokwok River B**	**46.15**	**38**	P	**P**	**10 36 46.0**	**+1.2**		
	baz=265								
SEM	**Semipalatinsk**	**46.55**	**309**	*e*P	**P**	**10 36 48.4**	**0.0**		
SEM				*e*S	**S**	**10 43 36.9**	**-0.3**		
SEM				pmax	pmax				
	comp=Z,10.0nm,1.0s								
SEM	**Semipalatinsk**	**46.55**	**309**	*e*P	**P**	**10 36 48.5**	**0.0**		
	comp=Z,9.9nm,1.0s,baz=309								
SEM				*e*S	**S**	**10 43 37.0**	**-0.3**		
	baz=309								
N18K	**Kilae Creek**	**47.33**	**36**	P	**P**	**10 36 56.2**	**+2.1**		
N18K	**Kilae Creek**	**47.33**	**36**	P	**P**	**10 36 56.3**	**+2.1**		
	baz=266								
TTA	**Tatalina**	**47.48**	**33**	P	**P**	**10 36 55.7**	**+0.4**		
TTA				IAmb	IAmb	10 37 54.5			
	comp=Z,30nm,1.4s								
TTA	**Tatalina**	**47.48**	**33**	P	**P**	**10 36 55.7**	**+0.4**		
TTA				pmax	pmax				
	comp=Z,30nm,1.4s								
TTA	**Tatalina**	**47.48**	**33**	P	**P**	**10 36 55.7**	**+0.4**		
	baz=264								
KURK	**Kurchatov**	**47.56**	**310**	P	**P**	**10 36 53.2**	**-2.8**		
KURK	**Kurchatov**	**47.56**	**310**	P	**P**	**10 36 56.4**	**+0.4**		
P18K	**Big Mountain,**	**47.59**	**38**	P	**P**	**10 36 56.7**	**+0.6**		
	baz=268								
O18K	**Koktuh Hills**	**47.62**	**38**	P	**P**	**10 36 56.6**	**+0.2**		
	baz=268								
KURBB	**Kurchatov Arra**	**47.62**	**310**	P	**P**	**10 36 56.4**	**-0.1**		
	comp=Z,26nm,0.9s,baz=86,slow=8.5,SNR=12								
	comp=Z,26nm,0.9s								
L19K	**White Mountain**	**47.94**	**34**	P	**P**	**10 36 59.2**	**+0.3**		
L19K	**White Mountain**	**47.94**	**34**	P	**P**	**10 37 00.9**	**+2.0**		
	baz=266								
N19K	**Bonanza Creek**	**48.03**	**36**	P	**P**	**10 37 01.3**	**+1.6**		
	baz=267								
PDGK	**Podgornoye**	**48.04**	**300**	P	**P**	**10 36 59.4**	**-0.6**		
SHLS	**Shalkode**	**48.09**	**300**	*e*P	**P**	**10 36 58.0**	**-2.4**		
SHLS				*e*S	**S**	**10 43 54.7**	**-4.5**		
SHLS				pmax	pmax				
	comp=Z,6.0nm,1.0s								
SHLS	**Shalkode**	**48.09**	**300**	*e*P	**P**	**10 36 58.1**	**-2.4**		
	comp=Z,5.8nm,1.0s,baz=300								
SHLS				*e*S	**S**	**10 43 54.8**	**-4.5**		
	baz=300								
MTN	**Manton Dam**	**48.11**	**194**	P	**P**	**10 37 00.4**	**-0.1**		
SII	**Sitkinak Islan**	**48.12**	**42**	P	**P**	**10 37 00.1**	**-0.2**		
	baz=271								
M19K	**Big River Lodg**	**48.14**	**35**	P	**P**	**10 37 01.3**	**+0.9**		
	baz=266								
COEN	**Coen**	**48.23**	**178**	P	**P**	**10 37 01.9**	**+0.5**		
COEN				IAmb	IAmb	10 37 20.7			
	comp=Z,28nm,1.2s								
Q19K	**Cape Douglas,**	**48.39**	**39**	P	**P**	**10 37 03.0**	**+0.6**		
	baz=270								
K20K	**Telida**	**48.40**	**33**	P	**P**	**10 37 03.7**	**+1.4**		
K20K				IAmb	IAmb	10 37 23.8			
	comp=Z,39nm,1.3s								
K20K	**Telida**	**48.40**	**33**	P	**P**	**10 37 03.8**	**+1.4**		
	baz=265,SNR=5.3								
UZB	**Uzynbulak**	**48.41**	**300**	*e*P	**P**	**10 37 03.0**	**+0.1**		
UZB				*e*S	**S**	**10 44 03.7**	**0.0**		
UZB	**Uzynbulak**	**48.41**	**300**	*e*P	**P**	**10 37 03.1**	**+0.1**		
	baz=300								
UZB				*e*S	**S**	**10 44 03.8**	**0.0**		
	baz=300								
L20K	**Farewell, AK**	**48.42**	**34**	P	**P**	**10 37 03.9**	**+1.3**		
	baz=266								
J20K	**Nowinta River**	**48.44**	**32**	P	**P**	**10 37 02.5**	**-0.1**		
J20K				IAmb	IAmb	10 37 15.1			
	comp=Z,19nm,0.9s								
J20K	**Nowinta River**	**48.44**	**32**	P	**P**	**10 37 03.1**	**+0.5**		
	baz=265								
TDK	**Taldyqorghan**	**48.49**	**302**	*e*P	**P**	**10 37 03.8**	**+0.5**		
TDK				MLR	MLR				
	comp=Z,1μm,12.0s								
TDK	**Taldyqorghan**	**48.49**	**302**	*e*P	**P**	**10 37 03.9**	**+0.5**		
	baz=302								
TDK				*i* LR	LR	10 59 05.0			
	comp=Z,1μm,12.4s,baz=302								
KPKS	**Kokpek**	**48.59**	**300**	*e*P	**P**	**10 37 04.4**	**+0.2**		
KPKS				*e*S	**S**	**10 44 06.3**	**+0.2**		
KPKS	**Kokpek**	**48.59**	**300**	*e*P	**P**	**10 37 04.5**	**+0.2**		
	baz=300								
KPKS				*e*S	**S**	**10 44 06.4**	**+0.2**		
	baz=300								
M20K	**Styx River**	**48.73**	**35**	P	**P**	**10 37 06.7**	**+1.6**		
	baz=268								
IMAR	**Indian Mountai**	**48.81**	**29**	P	**P**	**10 37 05.4**	**0.0**		
KDAK	**Kodiak Island**	**48.96**	**40**	P	**P**	**10 37 07.2**	**+0.5**		
	comp=Z,9.2nm,0.9s,baz=287,slow=7.1,SNR=3.7								
	comp=Z,9.2nm,0.9s								
KDAK	**Kodiak Island**	**48.96**	**40**	P	**P**	**10 37 07.2**	**+0.5**		
	baz=272								
G21K	**Allakaket**	**48.97**	**29**	P	**P**	**10 37 07.5**	**+0.8**		
	baz=263								
Q20K	**Shuyak Island**	**49.05**	**39**	P	**P**	**10 37 07.2**	**-0.2**		
	baz=271								
F21K	**Alatna River**	**49.07**	**28**	P	**P**	**10 37 07.4**	**-0.1**		
	baz=263								
N20K	**Mount Spurr**	**49.15**	**36**	P	**P**	**10 37 10.3**	**+2.0**		
	baz=269								
SPCR	**Spurr Chakacha**	**49.15**	**36**	P	**P**	**10 37 09.5**	**+1.2**		
	baz=269								
H21K	**Melozitna Rive**	**49.16**	**30**	P	**P**	**10 37 07.0**	**-1.1**		
H21K				IAmb	IAmb	10 37 20.6			
	comp=Z,19nm,1.1s								
H21K	**Melozitna Rive**	**49.16**	**30**	P	**P**	**10 37 09.7**	**+1.6**		
	baz=265,SNR=10.0								
CHUM	**Lake Minchumin**	**49.22**	**32**	P	**P**	**10 37 10.7**	**+2.1**		
	baz=267								
PPLA	**Purkeypile**	**49.22**	**34**	P	**P**	**10 37 09.5**	**+0.7**		
PPLA	**Purkeypile**	**49.22**	**34**	P	**P**	**10 37 09.9**	**+1.1**		
	baz=268					

TARG pmax pmax
comp=Z,37nm,1.2s
F22K John River 49.61 28 P **P 10 37 13.1 +1.5**
baz=264,SNR=6.3
CAPN Captain Cook N 49.66 36 P **P 10 37 14.2 +2.2**
baz=270
CHKK Chushkaly 49.71 301 *eP* **P 10 37 13.3 +0.6**
CHKK Chushkaly 49.71 301 *eP* **P 10 37 13.4 +0.6**
baz=301
H22K Ishtalitna Cre 49.77 30 P **P 10 37 14.8 +2.0**
baz=266,SNR=10.0
G22K Bettles 49.80 28 P **P 10 37 14.7 +1.7**
baz=265
BPAW Bear Paw Mtn. 49.82 32 P **P 10 37 12.3 -0.9**
BPAW Bear Paw Mtn. 49.82 32 P **P 10 37 14.0 +0.8**
baz=268
MDOK Medeo 49.82 300 *eP* **P 10 37 13.9 +0.2**
MDOK *eS* **S 10 44 23.7 +0.1**
MDOK MLR MLR
comp=Z,926nm,12.0s
MDOK Medeo 49.82 300 *eP* **P 10 37 14.0 +0.2**
baz=300
MDOK *eS* **S 10 44 23.7 +0.1**
baz=300
MDOK LR LR 11 00 57.4
comp=Z,926nm,12.0s,baz=300
E22K Anaktuvuk Pass 49.82 27 P **P 10 37 14.9 +1.7**
baz=263,SNR=13
SUA Susitna One 49.86 36 P **P 10 37 14.4 +0.7**
baz=270
AAA Alma-Ata 49.90 300 *eP* **P 10 37 14.3 +0.1**
AAA Alma-Ata 49.90 300 *eP* **P 10 37 14.3 +0.1**
baz=300
TNSS Tian-Shan 49.92 300 *eP* **P 10 37 14.8 +0.1**
TNSS Tian-Shan 49.92 300 *eP* **P 10 37 14.9 +0.1**
baz=300
MLY Manley 49.97 31 P **P 10 37 15.1 +0.6**
MLY IAmb IAmb 10 37 26.9
comp=Z,24nm,1.0s
MLY Manley 49.97 31 P **P 10 37 16.2 +1.7**
baz=267,SNR=5.1
CUT Chulitna 50.09 34 P **P 10 37 15.0 -0.3**
baz=270
TRF Thorofare Moun 50.10 33 P **P 10 37 16.2 +0.6**
baz=269
KUU Kurty 50.16 301 *eP* **P 10 37 15.8 -0.3**
KUU pmax pmax
comp=Z,16nm,1.0s
KUU MLR MLR
comp=Z,655nm,11.0s
KUU Kurty 50.16 301 *eP* **P 10 37 15.8 -0.3**
comp=Z,16nm,1.0s,baz=301
KUU LR LR 11 00 19.8
comp=Z,655nm,11.2s,baz=301
D23K Nanushuk River 50.33 26 P **P 10 37 16.9 -0.1**
baz=264
COLD Coldfoot 50.34 28 P **P 10 37 16.7 -0.4**
COLD IAmb IAmb 10 37 38.4
comp=Z,51nm,1.8s
COLD Coldfoot 50.34 28 P **P 10 37 18.2 +1.1**
baz=266
RC01 Rabbit Creek A 50.35 36 P **P 10 37 19.4 +2.1**
baz=271
G23K Bananza Creek 50.37 29 P **P 10 37 18.6 +1.1**
baz=266,SNR=6.7
C23K Itkillik River 50.46 25 P **P 10 37 18.2 +0.3**
baz=263
BWN Browne 50.49 32 P **P 10 37 17.8 -0.5**
H23K Yukon River 50.51 30 P **P 10 37 18.1 -0.4**
H23K IAmb IAmb 10 37 22.6
comp=Z,56nm,1.4s
H23K Yukon River 50.51 30 P **P 10 37 20.7 +2.2**
baz=268,SNR=9.2
SEW Seward 50.52 37 P **P 10 37 19.0 +0.5**
baz=272
E23K Chandalar 50.63 27 P **P 10 37 21.3 +1.8**
baz=266,SNR=11
PMR Palmer 50.63 35 P **P 10 37 18.7 -0.7**
PMR IAmb IAmb 10 37 22.3
comp=Z,54nm,1.5s
PMR Palmer 50.63 35 P **P 10 37 18.7 -0.7**
PMR pmax pmax
comp=Z,54nm,1.5s
PMR Palmer 50.63 35 P **P 10 37 20.7 +1.3**
baz=271
NEA2 Nenana 50.67 31 P **P 10 37 19.5 -0.1**
NEA2 IAmb IAmb 10 37 32.4
comp=Z,38nm,1.1s
NEA2 Nenana 50.67 31 P **P 10 37 21.3 +1.7**
baz=269,SNR=8.5
TOLK Toolik Lake Re 50.70 26 P **P 10 37 19.3 -0.5**
TOLK IAmb IAmb 10 37 32.2
comp=Z,31nm,1.0s
TOLK Toolik Lake Re 50.70 26 P **P 10 37 20.9 +1.0**
baz=265
MCK McKinley 50.71 33 P **P 10 37 19.9 -0.1**
MCK IAmb IAmb 10 37 40.5
comp=Z,30nm,1.3s
MCK McKinley 50.71 33 P **P 10 37 19.9 -0.1**
MCK pmax pmax
comp=Z,30nm,1.3s
MCK McKinley 50.71 33 P **P 10 37 20.0 -0.1**
baz=270
RND Reindeer 50.75 33 P **P 10 37 19.8 -0.5**
RND IAmb IAmb 10 37 51.3
comp=Z,34nm,1.3s
RND Reindeer 50.75 33 P **P 10 37 19.8 -0.5**
RND pmax pmax
comp=Z,34nm,1.3s
WAT1 Susitna Watana 50.89 34 P **P 10 37 21.7 +0.4**
baz=271
TKM2 Tokmak 2 50.91 300 P **P 10 37 23.2 +1.2**
KNK Knik Glacier 50.96 36 P **P 10 37 22.4 +0.4**
KNK IAmb IAmb 10 37 50.5
comp=Z,38nm,1.2s
KNK Knik Glacier 50.96 36 P **P 10 37 22.7 +0.8**
baz=272
NRN Naryn 50.98 298 P **P 10 37 21.5 -1.3**
NRN Naryn 50.98 298 P **P 10 37 21.5 -1.3**
NRN pmax pmax
comp=Z,17nm,1.2s
SML Sawmill 51.01 35 P **P 10 37 22.3 0.0**
baz=272
D24K Happy Valley 51.01 26 P **P 10 37 23.1 +0.9**
baz=265
MDM Murphy Dome 51.03 31 P **P 10 37 23.5 +1.1**
PWL Port Wells 51.04 36 P **P 10 37 22.5 0.0**
baz=273
E24K Your Creek 51.05 27 P **P 10 37 24.1 +1.5**
baz=267,SNR=8.1
WRH Wood River Hil 51.09 32 P **P 10 37 22.5 -0.3**
C24K Franklin Bluff 51.10 25 P **P 10 37 23.9 +1.1**
baz=265
TCOL CIGO, UAF Yank 51.19 31 P **P 10 37 22.9 -0.6**
TCOL CIGO, UAF Yank 51.19 31 P **P 10 37 23.9 +0.4**
baz=270
COLA College 51.20 31⇑ *eP* **P 10 37 24.5 +1.0**
COLA pmax pmax
comp=Z,19nm,1.1s
H24K Noodor Dome 51.20 30 P **P 10 37 23.3 -0.4**
H24K Noodor Dome 51.20 30 P **P 10 37 25.2 +1.5**
baz=269
CCB Clear Creek Bu 51.21 31 P **P 10 37 23.5 -0.2**
F24K Squaw Lake 51.25 28 P **P 10 37 25.9 +1.9**
baz=268
WAT6 Susitna Watana 51.27 34 P **P 10 37 25.0 +0.6**
baz=272
M23K Glacier View 51.30 35 P **P 10 37 24.0 -0.4**
baz=272
KNRA Kununurra 51.35 196 P **P 10 37 25.4 +0.1**
KNRA IAmb IAmb 10 38 25.6
comp=Z,32nm,0.9s
POKR Poker Plat Res 51.37 31 P **P 10 37 24.0 -0.9**
POKR IAmb IAmb 10 37 45.2
comp=Z,47nm,1.1s
POKR Poker Plat Res 51.37 31 P **P 10 37 24.9 -0.1**
baz=270
G24K Hadweenzic Riv 51.38 29 P **P 10 37 26.9 +1.9**
baz=269
DHY Denali Highway 51.42 33 P **P 10 37 26.5 +1.0**
baz=272
BRZS Berezniki 51.43 310 *eP* **P 10 37 25.9 +0.3**
BRZS *eS* **S 10 44 45.9 +0.5**
BRZS Berezniki 51.43 310 *eP* **P 10 37 25.9 +0.3**
baz=310
BRZS *eS* **S 10 44 45.9 +0.5**
baz=310

SGDS Sogindy 51.47 301 *eP* **P 10 37 26.1 +0.1**
SGDS Sogindy 51.47 301 *eP* **P 10 37 26.1 +0.1**
baz=301
SCM Sheep Creek Mo 51.48 35 P **P 10 37 25.4 -0.5**
baz=273
BTLS Baital 51.51 303 *i* P **P 10 37 26.4 +0.2**
BTLS pmax pmax
comp=Z,15nm,1.4s
BTLS Baital 51.51 303 *i* P **P 10 37 26.4 +0.2**
comp=Z,15nm,1.4s,baz=303
KSH Kashi 51.52 296 P P 10 37 31.8 +5.3
KSH sP pwP 10 37 43.3 +7.9
KSH PP **PP 10 39 25.8 +2.1**
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,280nm,10.8s
KSH LR LR
comp=Z,3μm,17.8s
KSH LR LR
comp=Z,2μm,15.2s
KSH LR LR
comp=Z,2μm,16.7s
P23K Montague Islan 51.55 37 P **P 10 37 25.6 -0.7**
baz=274
HDA Harding Lake 51.59 32 P **P 10 37 25.4 -1.2**
HDA IAmb IAmb 10 37 46.5
comp=Z,50nm,1.4s
HDA Harding Lake 51.59 32 P **P 10 37 26.9 +0.4**
baz=271,SNR=6.3
IL31 51.61 31 P **P 10 37 24.8 -1.8**
ILAR Eielson Array 51.61 31 P **P 10 37 27.1 +0.4**
comp=Z,4.0nm,0.8s,baz=267,slow=5.1,SNR=15
comp=Z,4.0nm,0.8s
ILAR Eielson Array 51.61 31 P **P 10 37 26.5 -0.2**
AAK Ala-Archa 51.76 300 LR LR 10 59 11.7
comp=Z,1μm,19.3s,baz=78,slow=36
AAK Ala-Archa 51.76 300 P **P 10 37 24.9 -3.5**
AAK Ala-Archa 51.76 300 P **P 10 37 24.9 -3.5**
AAK pmax pmax
comp=Z,17nm,1.1s
D25K Kavik River 51.90 25 P **P 10 37 30.4 +1.5**
baz=268,SNR=7.3
M24K Tolsona, Glenn 52.01 35 P **P 10 37 29.8 -0.1**
baz=274
H25K Birch Creek 52.04 29 P **P 10 37 29.4 -0.5**
baz=271
K24K Donnelly Dome 52.11 32 P **P 10 37 29.2 -1.3**
baz=272
F25K Christian Rive 52.12 28 P **P 10 37 31.1 +0.6**
baz=270,SNR=10
Q23K Middleton Isla 52.12 38 P **P 10 37 32.3 +1.8**
baz=276
E25K Arctic Village 52.15 27 P **P 10 37 31.4 +0.6**
baz=269,SNR=9.0
KLU Klutina 52.17 35 P **P 10 37 31.4 +0.3**
baz=274
PRP Porcupine Dome 52.17 30 P **P 10 37 28.8 -2.3**
baz=271
DIV Divide 52.27 36 P **P 10 37 32.5 +0.7**
DIV IAmb IAmb 10 37 50.5
comp=Z,36nm,1.1s
FYU Fort Yukon 52.28 29 P **P 10 37 31.9 +0.3**
PAX Paxson 52.29 34 P **P 10 37 31.0 -1.0**
baz=273
BVA0 Borovoye Array 52.33 314 *i* P **P 10 37 33.2 +1.0**
EYAK Cordova Ski Ar 52.33 37 P **P 10 37 32.1 +0.1**
baz=275
BRVK Borovoye 52.38 314 P **P 10 37 30.9 -1.7**
BRVK IAmb IAmb 10 37 51.8
comp=Z,62nm,1.6s
BRVK Borovoye 52.38 314 *ce* P **P 10 37 33.6 +1.0**
BRVK pmax pmax
comp=Z,36nm,2.2s
C26K Camden Bay 52.43 25 P **P 10 37 32.9 +0.2**
baz=269
HARP HAARP 52.47 34 P **P 10 37 34.3 +1.2**
baz=274
BMAR Burnt Mountain 52.52 28 P **P 10 37 33.3 -0.2**
RIDG Independent Ri 52.53 33 P **P 10 37 33.5 -0.1**
RIDG IAmb IAmb 10 38 13.8
comp=Z,58nm,1.8s
RIDG Independent Ri 52.53 33 P **P 10 37 34.3 +0.7**
baz=273
GSI Gunungsitoli 52.58 241 P **P 10 37 33.2 -1.4**
GSI IAmb IAmb 10 38 10.7
comp=Z,49nm,1.1s
F26K Sheenjek River 52.69 28 P **P 10 37 37.2 +2.4**
baz=271,SNR=14
N25K Chitina, Valde 52.80 35 P **P 10 37 38.0 +2.3**
baz=275
C27K Jago River 52.84 25 P **P 10 37 38.4 +2.6**
baz=270
G26K Porcupine Rive 52.84 28 P **P 10 37 38.4 +2.6**
baz=272,SNR=8.9
BMRM Bremner River 52.85 36 P **P 10 37 37.2 +1.1**
baz=276
DOT Dot Lake 52.88 33 P **P 10 37 35.9 -0.3**
DOT IAmb IAmb 10 37 56.4
comp=Z,44nm,1.6s
SCRK Sand Creek 52.90 32 P **P 10 37 38.0 +1.5**
SCRK IAmb IAmb 10 37 47.8
comp=Z,20nm,1.0s
SCRK Sand Creek 52.90 32 P **P 10 37 37.6 +1.1**
baz=274,SNR=5.9
J26L Joseph Creek 53.05 32 P **P 10 37 36.4 -1.1**
J26L Joseph Creek 53.05 32 P **P 10 37 37.3 -0.2**
baz=274
KAIM Kayak Island 53.05 37 P **P 10 37 37.1 -0.4**
baz=277
MENT Mentasta 53.09 34 P **P 10 37 37.1 -0.6**
L26K Log Cabin Wild 53.25 33 P **P 10 37 39.4 +0.5**
L26K IAmb IAmb 10 37 51.8
comp=Z,19nm,0.8s
L26K Log Cabin Wild 53.25 33 P **P 10 37 38.9 -0.1**
baz=275
M26K Nabesna, AK 53.47 34 P **P 10 37 41.3 +0.7**
baz=276
MCARA McCarthy VSAT 53.57 35 P **P 10 37 40.7 -0.6**
MCARA IAmb IAmb 10 38 01.2
comp=Z,36nm,1.0s
MCARA McCarthy VSAT 53.57 35 P **P 10 37 42.0 +0.8**
baz=277
BGLC Bering Glacier 53.59 37 P **P 10 37 41.9 +0.5**
baz=277
E27K Coleen River 53.64 27 P **P 10 37 43.5 +1.8**
baz=273,SNR=8.1
G27K Doyon Strip 53.69 29 P **P 10 37 43.9 +1.8**
baz=274
K27K Chicken 53.73 32 P **P 10 37 43.5 +1.0**
K27K IAmb IAmb 10 37 54.6
comp=Z,18nm,0.9s
K27K Chicken 53.73 32 P **P 10 37 42.3 -0.1**
baz=276
H27K Steamboat Moun 53.78 29 P **P 10 37 44.9 +2.1**
baz=274,SNR=11
I27K Kandik River 53.79 30 P **P 10 37 43.1 +0.2**
baz=275
L27K Beaver Creek, 53.94 33 P **P 10 37 43.9 -0.1**
L27K Beaver Creek, 53.94 33 P **P 10 37 46.3 +2.3**
baz=276
DZA Taraz 53.94 301 *eP* **P 10 37 44.7 +0.4**
DZA Taraz 53.94 301 *eP* **P 10 37 44.7 +0.4**
baz=301
BCAR Beaver Creek A 53.96 33 P **P 10 37 44.6 +0.4**
EGAK Eagle 54.06 31 P **P 10 37 43.4 -1.4**
EGAK IAmb IAmb 10 37 57.2
comp=Z,22nm,1.3s
EGAK Eagle 54.06 31 P **P 10 37 45.9 +1.1**
baz=276
WB0 Warramunga Arr 54.40 188 P **P 10 37 48.3 +0.6**
CTG Chitna Glacier 54.43 36 P **P 10 37 47.8 +0.1**
baz=278
FITZ Fitzroy Crossi 54.44 199 P **P 10 37 49.5 +1.4**
FITZ IAmb IAmb 10 38 32.4
comp=Z,45nm,1.4s
KK31 Karatay Array 54.46 302 P **P 10 37 47.0 -1.1**
KK31 Karatay Array 54.46 302 *i* P **P 10 37 47.4 -0.7**
KKAR Karatay Array 54.46 302 P **P 10 37 47.4 -0.7**
KKAR Karatay Array 54.46 302 P **P 10 37 47.1 -1.0**
KKAR IAmb IAmb 10 38 06.0
comp=Z,47nm,1.2s
KKAR Karatay Array 54.46 302 P **P 10 37 47.1 -1.0**
KKAR pmax pmax
comp=Z,47nm,1.2s
CTA Charters Tower 54.49 174 P **P 10 37 51.3 +2.9**
comp=Z,1.8nm,0.9s,baz=351,slow=4.9,SNR=3.5
CTA LR LR 11 00 25.5
comp=Z,492nm,21.3s,baz=348,slow=35
comp=Z,1.8nm,0.9s
WRAB Tennant Creek 54.56 188 P **P 10 37 49.2 +0.3**
WRAB Tennant Creek 54.56 188 ||*eP* **P 10 37 49.7 +0.8**
WRAB pmax pmax
comp=Z,35nm,1.8s
WR0 Warramunga Arr 54.57 188 P **P 10 37 49.1 +0.2**
WB2 Warramunga Arr 54.57 188 P **P 10 37 49.1 +0.1**
WRA Warramunga Arr 54.58 188 P **P 10 37 49.6 +0.6**
comp=Z,10.0nm,1.1s,baz=3.4,slow=7.4,SNR=8.8
comp=Z,10.0nm,1.1s
WRA Warramunga Arr 54.58 188 P **P 10 37 49.4 +0.4**
TABL Table Mountain 54.60 36 P **P 10 37 48.3 -0.8**
TABL IAmb IAmb 10 37 53.8
comp=Z,36nm,1.1s
DAWY Dawson 54.90 32 P **P 10 37 51.1 +0.1**
DAWY Dawson 54.90 32 P **P 10 37 50.4 -0.6**
baz=278
O28M Mount Upton 55.02 36 P **P 10 37 52.9 +0.8**
baz=280
IUG Iuzhnay 55.08 301 *eP* **P 10 37 53.2 +0.6**
IUG Iuzhnay 55.08 301 *eP* **P 10 37 53.3 +0.6**
baz=301
I29M Ogilvie Camp, 55.19 30 P **P 10 37 53.4 +0.3**
I29M IAmb IAmb 10 38 21.0
comp=Z,54nm,1.6s
I29M Ogilvie Camp, 55.19 30 P **P 10 37 52.8 -0.2**
baz=278,SNR=7.8
NIL Nilore 55.49 290 P **P 10 37 53.0 -2.7**
NIL Nilore 55.49 290 P **P 10 37 53.0 -2.7**
NIL pmax pmax
comp=Z,100nm,1.7s
M29M Somme Creek 55.56 34 P **P 10 37 56.8 +0.9**
baz=280
L29M L29M 55.60 33 P **P 10 37 58.0 +2.0**
baz=280,SNR=8.6
YUK4 Talbot Arm 55.66 35 P **P 10 37 56.6 -0.1**
baz=280
EPYK Eagle Plains 55.70 29 P **P 10 37 55.7 -1.0**
EPYK Eagle Plains 55.70 29 P **P 10 37 57.6 +1.0**
baz=279,SNR=9.1
K29M Barlow Dome 55.75 32 P **P 10 37 56.5 -0.7**
baz=280
GAR Garm 55.85 297 P **P 10 37 57.2 -1.1**
YUK6 Outpost Mounta 55.87 36 P **P 10 37 56.2 -2.0**
baz=281
O29M Mount Kennedy 55.89 36 P **P 10 37 58.8 +0.6**
baz=281
HYT Haines Junctio 56.30 36 P **P 10 38 01.4 +0.1**
baz=282
N30M Aishikik Lake 56.38 35 P **P 10 38 03.1 +1.4**
baz=282
P29M Windy Craggy 56.43 37 P **P 10 38 03.1 +1.1**
baz=282
MAYO Mayo, Yukon 56.51 32 P **P 10 38 01.6 -0.9**
MAYO IAmb IAmb 10 38 24.8
comp=Z,35nm,1.1s
MAYO Mayo, Yukon 56.51 32 P **P 10 38 04.3 +1.8**
baz=281
INK Inuvik 56.61 26 P **P 10 38 03.6 +0.5**
comp=Z,5.3nm,0.8s,baz=306,slow=8.5,SNR=11
comp=Z,5.3nm,0.8s
INK Inuvik 56.61 26 P **P 10 38 04.0 +0.9**
INK IAmb IAmb 10 38 14.8
comp=Z,22nm,0.9s
INK Inuvik 56.61 26 P **P 10 38 04.0 +0.9**
INK pmax pmax
comp=Z,22nm,1.0s
INK Inuvik 56.61 26 P **P 10 38 03.3 +0.2**
baz=280
F31M Tsiigehtchic 56.68 27 P **P 10 38 03.8 +0.2**
baz=280,SNR=7.2
P30M Million Dollar 56.71 36 P **P 10 38 04.3 +0.2**
baz=283
CHGR Chuyangaron 56.82 297 P **P 10 38 04.9 -0.3**
CHGR Chuyangaron 56.82 297 P **P 10 38 04.9 -0.3**
CHGR pmax pmax
comp=Z,74nm,1.0s
N31M Braeburn, Yuko 56.99 35 P **P 10 38 07.8 +1.8**
baz=283
O30N Mendenhall 56.99 35 P **P 10 38 07.5 +1.4**
baz=283
PLBC Pleasant Camp 57.15 37 P **P 10 38 09.4 +2.4**
baz=283
M31M Drury Creek, Y 57.47 34 P **P 10 38 11.5 +2.2**
M31M Drury Creek, Y 57.47 34 P **P 10 38 11.6 +2.2**
baz=283
WHY Whitehorse 57.60 35 P **P 10 38 11.0 +0.7**
WHY IAmb IAmb 10 38 23.6
comp=Z,62nm,1.7s
WHY Whitehorse 57.60 35 P **P 10 38 12.1 +1.8**
baz=284
SKAG Skagway 57.67 37 P **P 10 38 13.5 +2.8**
baz=284
FARO Faro, Yukon 57.94 33 P **P 10 38 14.0 +1.4**
FARO Faro, Yukon 57.94 33 P **P 10 38 14.9 +2.2**
baz=284
HYBB Hyderabad (bro 58.22 270 *eP* **P 10 38 14.8 -0.5**
ARU Arti 58.30 320 P **P 10 38 13.8 -1.4**
ARU IAmb IAmb 10 38 29.6
comp=Z,27nm,0.9s
ARU Arti 58.30 320 *c i* P **P 10 38 15.9 +0.7**
ARU 10 39 01.8
ARU 10 40 24.3
ARU PPP PPP 10 41 42.7
ARU S **S 10 46 20.4 +3.0**
ARU SS **SS 10 50 11.4 +2.7**
ARU pmax pmax
comp=Z,34nm,1.1s
ARU MLR MLR
comp=Z,2μm,16.0s
AS31 Alice Springs 58.30 188 P **P 10 38 15.2 -0.3**
ASAR Alice Springs 58.30 188 P **P 10 38 16.8 +1.2**
comp=Z,3.0nm,0.8s,baz=15,slow=11,SNR=11
comp=Z,3.0nm,0.8s
ASAR Alice Springs 58.30 188 P **P 10 38 16.5 +1.0**
KBL Kabul 58.39 292 P **P 10 38 14.5 -2.0**
KBL IAmb IAmb 10 38 32.8
comp=Z,37nm,1.3s
KBL Kabul 58.39 292 P **P 10 38 14.5 -2.0**
KBL pmax pmax
comp=Z,37nm,1.3s
P32M Atlin 58.43 36 P **P 10 38 17.2 +1.0**
baz=285
P33M Teslin, Yukon 58.70 36 P **P 10 38 19.0 +1.0**
baz=286
MMPY Sheldon Lake, 58.78 33 P **P 10 38 17.9 -0.7**
baz=286
MBWA Marble Bar 59.10 204 P **P 10 38 21.4 +0.3**
Q32M Nakina River 59.32 37 P **P 10 38 23.7 +1.2**
baz=287
PSA00 Pilbara Seismi 59.45 203 P **P 10 38 23.6 +0.1**
PSA00 IAmb IAmb 10 38 40.8
comp=Z,36nm,1.6s
AB31 Akbulak array 59.62 311 *i* P **P 10 38 23.7 -0.8**
ABKAR Akbulak array 59.62 311 P **P 10 38 22.5 -2.0**
U33K Whale Pass 59.72 40 P **P 10 38 26.2 +1.2**
baz=288
R33M Jennings River 59.83 36 P **P 10 38 28.9 +2.9**
baz=288
WRAK Wrangell Islan 60.03 40 P **P 10 38 29.2 +2.0**
baz=289
S34M Telegraph Cree 60.20 38 P **P 10 38 30.7 +2.3**
baz=288
AKTO Aktyubinsk 60.41 313 P **P 10 38 28.7 -1.2**
TGTN Hyland Airport 60.45 33 P **P 10 38 32.2 +2.1**
baz=289
DLBC Dease Lake 60.59 37 P **P 10 38 33.0 +1.9**
comp=Z,7.0nm,1.1s,baz=273,slow=10,SNR=4.9
comp=Z,7.0nm,1.1s
DLBC Dease Lake 60.59 37 IAmb IAmb 10 38 54.5
comp=Z,29nm,1.2s
DLBC Dease Lake 60.59 37 P **P 10 38 34.5 +3.4**
baz=289
WTLY Watson Lake, Y 60.65 35 P **P 10 38 32.0 +0.6**
baz=289
T35M Bob Quinn 60.95 39 P **P 10 38 36.6 +3.1**
baz=290
DZM Mont Dzumac 61.07 153 *eP* **P 10 38 36.0 +1.3**
comp=Z,41nm,1.4s
DZM Mont Dzumac 61.07 153 *e* LR LR 10 56 48.3
comp=Z,2μm,23.2s
DZM Mont Dzumac 61.07 153 LR LR 11 02 54.5
comp=Z,1μm,20.1s,baz=5.0,slow=34
WRGLY Wrigley 61.98 31 P **P 10 38 42.5 +2.2**

baz=292
KIRV **Kirov** 62.30 324 *ce*P P 10 38 42.3 -0.2
COCO **West Island** 62.86 231 *i* P P 10 38 49.0 +2.2
PRGR **Permogore** 62.91 328 *eP* P 10 38 44.2 -2.4
PRGR pmax pmax
comp=Z,34nm,1.6s
SPITS **Spitsbergen Ar** 63.00 349 LR LR 11 09 35.9
comp=Z,1μm,18.1s,baz=9.5,slow=39
NOR **Nord** 63.57 356 *i* P P 10 38 48.6 -2.0
NOR IAmb IAmb 10 39 16.7
comp=Z,72nm,2.1s
HRA **Herat** 63.60 295 P P 10 38 49.6 -2.3
APA **Apatity** 65.01 336 ⇓ *i* P P 10 38 59.2 -1.1
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,2μm,15.0s
GEYT **Alibeck** 65.12 300 P P 10 39 02.5 +0.9
comp=Z,5.3nm,0.8s,baz=358,slow=4.5,SNR=7.2
comp=Z,5.3nm,0.8s
GEYT **Alibeck** 65.12 300 P P 10 39 00.4 -1.2
GEYT IAmb IAmb 10 39 32.2
comp=Z,24nm,1.4s
GYA0B **ALIBECK ARRAY** 65.12 300 P P 10 39 00.5 -1.1
BELG **Belogornoye** 65.69 318 LR LR 11 10 58.4
comp=Z,1μm,18.2s,baz=86,slow=39
BELG **Belogornoye** 65.69 318 ⇓ *eP* P 10 39 04.0 -0.9
BELG pmax pmax
comp=Z,5.0nm,1.3s
KLMR **Klimovskoe** 65.92 328 *eP* P 10 39 04.3 -2.0
KLMR *e* 10 39 33.0
KLMR S S 10 47 54.7 +1.3
KLMR pmax pmax
comp=Z,26nm,1.4s
KLMR MLR MLR
comp=Z,1μm,13.0s
KLMR **Klimovskoe** 65.92 328 *eP* P 10 39 04.4 -1.9
KLMR *eP* P 10 39 04.4 -1.9
KLMR *eP* P 10 39 04.4 -1.9
KLMR AMP 10 39 25.6
comp=Z,26nm,1.4s
KLMR *e*PcP PcP 10 39 33.0 -4.0
KLMR S S 10 47 54.8 +1.3
KLMR S S 10 47 54.8 +1.3
KLMR SS SS 10 52 21.4 +14
KLMR SS SS 10 52 21.4 +14
KLMR LQ LQ 11 02 59.6
KLMR LQ LQ 11 02 59.6
KLMR LR LR 11 03 53.8
KLMR AMP 11 12 01.3
comp=Z,1μm,12.5s
YKA **Yellowknife Ar** 65.97 30 P P 10 39 07.8 +1.3
comp=Z,3.7nm,0.9s,baz=294,slow=6.0,SNR=3.2
comp=Z,3.7nm,0.9s
STKA **Stephens Creek** 66.04 180 P P 10 39 10.4 +3.2
comp=Z,1.7nm,0.6s,baz=339,slow=8.6,SNR=1.6
comp=Z,1.7nm,0.6s
ARCES **ARCESS Array B** 66.37 340 P P 10 39 10.6 +1.5
comp=Z,3.6nm,1.0s,baz=38,slow=4.6,SNR=4.1
comp=Z,3.6nm,1.0s
NEEM **North Greenlan** 68.04 3 *i* P P 10 39 21.5 +1.6
NEEM IAmb IAmb 10 39 30.2
comp=Z,454nm,2.6s
LLLB **Lillooet** 68.05 43 P P 10 39 19.2 -0.9
LLLB IAmb IAmb 10 40 26.1
comp=Z,27nm,1.4s
MOS **Moscow** 69.31 324 *eP* P 10 39 27.5 -0.3
MOS *e* 10 42 07.0
MOS *e* 10 49 30.3
MOS pmax pmax
comp=Z,42nm,0.9s
MOS MLR MLR
comp=Z,2μm,14.0s
VRH **Novokhopyorsk** 69.49 319 *eP* P 10 39 21.7 -7.3
VRH pmax pmax
comp=Z,50nm,0.6s
MAK **Makhachkala** 70.06 309 *eP* P 10 39 26.1 -6.5
MAK *eS* S 10 48 33.3 -10
MAK *eSS* SS 10 53 04.6 -7.8
MAK pmax pmax
comp=Z,166nm,1.0s
MAK MLR MLR
comp=Z,2μm,11.0s
OBN **Obninsk** 70.15 324 ⇓ *eP* P 10 39 32.7 -0.2
OBN *i* 10 39 51.5
OBN *eS* S 10 48 37.0 -7.1
OBN *eSS* SS 10 53 16.7 +3.6
OBN pmax pmax
comp=Z,67nm,2.2s
OBN MLR MLR
comp=Z,2μm,16.0s
LPSR **Galich'ya Gora** 70.28 321 *eP* P 10 39 32.3 -1.5
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LTY **Liberty** 70.36 46 P P 10 39 33.7 -0.9
LTY IAmb IAmb 10 40 18.0
comp=Z,32nm,1.6s
B08A **Colville Reser** 70.59 44 P P 10 39 35.3 -0.6
B08A IAmb IAmb 10 39 38.9
comp=Z,31nm,1.5s
H04A **Detroit Lake** 70.72 49 P P 10 39 36.7 0.0
HOOD **Mount Hood Mea** 70.73 48 P P 10 39 36.5 -0.4
HOOD IAmb IAmb 10 40 11.3
comp=Z,33nm,1.2s
K02D **Willamette Mer** 70.76 51 P P 10 39 39.4 +2.3
baz=300
VSR **Storozhevoye** 70.87 319 *eP* P 10 39 36.5 -0.9
VSR pmax pmax
comp=Z,7.0nm,0.9s
I04A **Tendick Farm,** 71.02 50 P P 10 39 40.9 +2.3
baz=300
GROC **Groznyy** 71.04 310 P P 10 39 40.3 +1.7
GROC *e* 10 40 00.9
GROC pmax pmax
comp=Z,81nm,0.9s
FINES **FINESS Array B** 71.07 333 P P 10 39 38.8 +0.4
comp=Z,6.6nm,0.9s,baz=79,slow=9.9,SNR=8.8
comp=Z,6.6nm,0.9s
FINES **FINESS Array B** 71.07 333 P P 10 39 36.5 -1.9
L02F **Cave Junction** 71.11 52 P P 10 39 41.1 +2.0
baz=300
I05D **Terrebonne, OR** 71.42 49 P P 10 39 42.0 +1.1
baz=300
HAWA **Hanford** 71.47 46 P P 10 39 40.7 -0.5
HAWA IAmb IAmb 10 39 44.6
comp=Z,24nm,1.6s
J04D **Umpqua Nationa** 71.48 50 P P 10 39 43.3 +1.7
baz=300
C09A **Chrisman Ranch** 71.49 44 P P 10 39 40.7 -0.6
C09A IAmb IAmb 10 40 10.6
comp=Z,23nm,1.3s
D08A **Wollman Farm,** 71.50 45 P P 10 39 41.1 -0.3
D08A IAmb IAmb 10 40 24.2
comp=Z,37nm,1.7s
YBH **Yreka Blue Hor** 71.86 52 P P 10 39 44.2 +0.5
YBH IAmb IAmb 10 40 09.9
comp=Z,23nm,1.6s
YBH **Yreka Blue Hor** 71.86 52 P P 10 39 44.2 +0.5
YBH pmax pmax
comp=Z,23nm,1.6s
L04D **Klamath Falls** 71.87 51 P P 10 39 43.7 -0.1
L04D **Klamath Falls** 71.87 51 P P 10 39 46.9 +3.1
baz=301
NEW **Newport** 71.91 44 P P 10 39 43.5 -0.4
NEW **Newport** 71.91 44 P P 10 39 43.5 -0.4
NEW pmax pmax
comp=Z,14nm,1.2s
NEW **Newport** 71.91 44 P P 10 39 44.0 +0.1
baz=302
PINE **Pine Mountain** 71.94 49 P P 10 39 43.3 -1.0
PINE IAmb IAmb 10 40 06.1
comp=Z,20nm,1.1s
J05D **Fort Rock, OR** 72.01 50 P P 10 39 46.9 +2.2
baz=301
G08A **Pilot Rock** 72.39 47 P P 10 39 45.9 -1.0
G08A IAmb IAmb 10 40 24.4
comp=Z,28nm,1.9s
ZEI **Tsey** 72.45 310 *eP* P 10 39 47.0 -0.4
ZEI pmax pmax
comp=Z,21nm,1.3s
KBZ **Khabaz** 72.59 311 P P 10 39 48.9 +1.0
comp=Z,10nm,0.9s,baz=62,slow=4.0,SNR=12
KBZ LR LR 11 13 26.0
comp=Z,1μm,19.3s,baz=68,slow=37
comp=Z,10nm,0.9s
KIV **Kislovodsk** 72.61 312 P P 10 39 46.6 -1.6
KIV **Kislovodsk** 72.61 312 *eP* P 10 39 50.2 +2.1
KIV *eS* S 10 49 14.9 +1.7
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,944nm,18.0s
ONI **Oni** 72.83 310 P P 10 39 46.7 -2.8
ONI **Oni** 72.83 310 P P 10 39 46.7 -2.8
ONI pmax pmax
comp=Z,55nm,1.4s
SUMG **Summit** 73.20 360 P P 10 39 50.8 -0.8
SUMG **Summit** 73.20 360 P P 10 39 50.8 -0.8
SUMG pmax pmax
comp=Z,90nm,1.6s
SUMG **Summit** 73.20 360 *i* P P 10 39 53.0 +1.4
SUMG IAmb IAmb 10 40 18.7
comp=Z,566nm,2.9s
GNI **Garni** 73.26 307 LR LR 11 14 55.7
comp=Z,2μm,18.4s,baz=66,slow=38
GNI **Garni** 73.26 307 *de*P P 10 39 55.5 +3.3
GNI pmax pmax
comp=Z,38nm,1.4s
MOD **Modoc Plateau** 73.32 50 P P 10 39 52.8 +0.4
BMO **Blue Mountains** 73.61 47 P P 10 39 52.0 -2.0
BMO **Blue Mountains** 73.61 47 P P 10 39 52.1 -2.0
BMO pmax pmax
comp=Z,15nm,1.5s
J08A **Circle Bar Ran** 73.70 48 P P 10 39 54.0 -0.7
ORV **Oroville** 73.76 53 P P 10 39 54.7 -0.2
ORV **Oroville** 73.76 53 P P 10 39 54.7 -0.2
ORV pmax pmax
comp=Z,8.0nm,1.1s
WVOR **Wild Horse Val** 74.09 49 P P 10 39 57.1 +0.1
WVOR IAmb IAmb 10 40 40.2
comp=Z,30nm,1.6s
WVOR **Wild Horse Val** 74.09 49 P P 10 39 57.1 +0.1
WVOR pmax pmax
comp=Z,30nm,1.6s
RAO **Raoul Island** 74.12 144 LR LR 11 11 24.0
comp=Z,342nm,19.3s,baz=316,slow=35
PLID **Pearl Lake** 74.26 46 IAmb IAmb 10 40 01.8
comp=Z,38nm,2.0s
MSO **Missoula** 74.50 44 IAmb IAmb 10 40 02.0
comp=Z,36nm,1.8s
MSO **Missoula** 74.50 44 P P 10 39 59.7 +0.4
baz=304
MNK **Minsk** 74.61 326 *i* P P 10 40 01.7 +2.1
MNK *i* 10 40 16.0
MNK *i* 10 42 47.8
MNK *i* PPP PPP 10 44 33.1
MNK *i* S S 10 49 37.3 +2.0
MNK *i* 10 50 12.7
MNK *i* SS SS 10 54 24.6 +3.3
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=Z,14nm,1.0s
MNK MLR MLR
comp=N,1.0nm,18.0s
MNK MLR MLR
comp=E,142nm,16.0s
MNK **Minsk** 74.61 326 *i* P P 10 40 01.8 +2.1
comp=E,1.0nm,0.7s
MNK *i* P P 10 40 01.8 +2.1
MNK *i* P P 10 40 01.8 +2.1
comp=Z,14nm,0.8s,baz=232
MNK *i* PcP PcP 10 40 16.1 +2.1
MNK *i* PP PP 10 42 47.8 +2.0
MNK *i* PPP PPP 10 44 33.2
MNK *i* S S 10 49 37.3 +2.0
MNK *i* SS SS 10 54 24.6 +3.3
MNK *i* SSS SSS 10 57 46.5
MNK *i* LQ LQ 11 07 48.7
MNK *i* LR LR 11 12 36.1
MNK *i* LRM MLR 11 15 07.4
comp=Z,14nm,0.8s
MNK *i* LRM MLR 11 15 16.6
comp=N,1.0nm,18.1s
MNK *i* LRM MLR 11 15 33.4
comp=E,142nm,16.1s
NACGM **Naroch** 74.86 327 *eP* P 10 39 55.9 -5.1
baz=52
MFID **Camas Ranch** 75.29 47 P P 10 40 04.3 +0.4
MFID IAmb IAmb 10 40 08.2
comp=Z,33nm,1.6s
CMB **Columbia Colle** 75.30 54 P P 10 40 04.8 +0.8
CMB **Columbia Colle** 75.30 54 P P 10 40 04.8 +0.8
CMB pmax pmax
comp=Z,12nm,1.2s
ANN **Anapa** 75.32 314 *eP* P 10 40 07.7 +3.8
ANN *eS* S 10 49 50.5 +7.0
ANN pmax pmax
comp=Z,86nm,1.4s
ANN MLR MLR
comp=Z,965nm,14.0s
YERR **Yerington** 75.55 53 P P 10 40 06.2 +0.6
YERR IAmb IAmb 10 40 26.9
comp=Z,18nm,1.1s
FFC **Flin Flon** 75.80 32 P P 10 40 07.0 +0.5
FFC IAmb IAmb 10 40 36.6
comp=Z,27nm,1.3s
FFC **Flin Flon** 75.80 32 P P 10 40 07.0 +0.5
FFC pmax pmax
comp=Z,27nm,1.3s
GURO **Guroymak-BITLI** 75.89 307 P P 10 40 05.8 -1.6
LRM **Limekiln Ridge** 75.92 44 P P 10 40 08.0 +0.4
HLID **Hailey** 76.06 47 P P 10 40 08.6 +0.2
HLID **Hailey** 76.06 47 P P 10 40 10.0 +1.6
baz=305
EGMT **Eagleton** 76.14 41 P P 10 40 07.6 -1.0
EGMT IAmb IAmb 10 40 37.8
comp=Z,27nm,1.2s
EGMT **Eagleton** 76.14 41 P P 10 40 09.4 +0.8
baz=307
KVN **Kaiserville** 76.26 52 P P 10 40 09.4 -0.2
KVN IAmb IAmb 10 40 36.1
comp=Z,64nm,1.9s
KVN **Kaiserville** 76.26 52 P P 10 40 09.4 -0.2
KVN pmax pmax
comp=Z,64nm,1.9s
NC405 **NORSAR Array S** 76.32 337 P P 10 40 07.7 -1.6
AKASG **Malin Array Be** 76.33 323 P P 10 40 09.9 +0.4
comp=Z,2.8nm,0.6s,baz=49,slow=5.7,SNR=11
AKASG LR LR 11 17 24.0
comp=Z,1μm,19.1s,baz=54,slow=39
comp=Z,2.8nm,0.6s
AKASG **Malin Array Be** 76.33 323 P P 10 40 07.4 -2.1
AKASG IAmb IAmb 10 40 46.3
comp=Z,26nm,1.6s
AKBB **Malin Array Si** 76.33 323 P P 10 40 08.7 -0.8
AKBB **Malin Array Si** 76.33 323 *ce*P P 10 40 10.0 +0.5
AKBB pmax pmax
comp=Z,28nm,2.0s
NC303 **NORSAR Array S** 76.34 338 P P 10 40 08.2 -1.2
NC303 IAmb IAmb 10 40 37.6
comp=Z,42nm,1.4s
LHV **Little Huntoon** 76.43 53 P P 10 40 11.4 +1.0
OMMB **Old Mammoth Mi** 76.45 54 P P 10 40 09.5 -1.4
NVAR **Mina Array Bea** 76.47 53 P P 10 40 11.2 +0.4
comp=Z,1.8nm,0.8s,baz=299,slow=3.7,SNR=7.0
comp=Z,1.8nm,0.8s
NVAR **Mina Array Bea** 76.47 53 P P 10 40 10.3 -0.6
NC204 **NORSAR Array S** 76.49 338 P P 10 40 08.9 -1.5
BOZ **Bozeman (W)** 76.52 44 P P 10 40 08.9 -2.0
BOZ IAmb IAmb 10 40 15.0
comp=Z,25nm,1.6s
BOZ **Bozeman (W)** 76.52 44 P P 10 40 08.9 -2.0
BOZ pmax pmax
comp=Z,25nm,1.6s
BOZ **Bozeman (W)** 76.52 44 P P 10 40 11.7 +0.8
baz=306
NOA **NORSAR Array B** 76.53 338 P P 10 40 10.1 -0.5
comp=Z,4.1nm,0.9s,baz=39,slow=5.7,SNR=9.2
comp=Z,4.1nm,0.9s
NV11 **Mina Array Sit** 76.56 53 P P 10 40 11.4 +0.1
YHL **Hebgen Lake** 77.21 44 P P 10 40 14.0 -1.0
YHL IAmb IAmb 10 40 19.5
comp=Z,26nm,1.5s
VES **Vestal, Richgr** 77.37 55 P P 10 40 15.3 -0.3
baz=304
TPH **Tonopah** 77.37 52 P P 10 40 15.9 -0.1
TPH **Tonopah** 77.37 52 P P 10 40 15.9 -0.1
TPH pmax pmax
comp=Z,94nm,1.3s
YHH **Holmes Hill** 77.44 44 P P 10 40 15.6 -0.8
GCMT **Greycliff** 77.52 43 P P 10 40 15.5 -1.0
LCH **Last Change Ra** 77.56 53 P P 10 40 15.9 -1.0
YFT **Old Faithful** 77.65 44 P P 10 40 18.0 +0.6
YFT IAmb IAmb 10 40 24.5
comp=Z,30nm,1.5s
CWC **Cottonwood Cre** 77.71 54 P P 10 40 18.4 +0.6
baz=304
YPP **Pitchstone Pla** 77.77 44 P P 10 40 17.6 -0.6
YPP IAmb IAmb 10 40 57.0
comp=Z,43nm,1.9s
H17A **Grant Village** 77.83 44 P P 10 40 18.9 +0.4
H17A IAmb IAmb 10 40 24.4
comp=Z,48nm,1.6s
YMP **Mirror Lake Pl** 77.87 44 IAmb IAmb 10 41 09.3
comp=Z,39nm,1.6s
GRAC **Grapevine Rang** 77.88 53 P P 10 40 21.0 +2.4
baz=304
IMW **Indian Meadow** 77.92 45 IAmb IAmb 10 40 23.1
comp=Z,24nm,1.5s
FXWY **Fox Creek** 78.02 45 P P 10 40 20.9 +1.4
FXWY IAmb IAmb 10 40 24.2
comp=Z,40nm,1.8s
HVU **Hansel Valley** 78.07 47 P P 10 40 20.4 +0.7
HVU **Hansel Valley** 78.07 47 P P 10 40 20.4 +0.7
HVU pmax pmax
comp=Z,10.0nm,1.0s
MOOW **Moose Ponds** 78.12 45 P P 10 40 19.7 -0.4
MOOW IAmb IAmb 10 40 24.8
comp=Z,39nm,1.9s
RLMT **Red Lodge** 78.14 43 P P 10 40 18.7 -1.5
RLMT IAmb IAmb 10 40 24.6
comp=Z,31nm,1.6s
RLMT **Red Lodge** 78.14 43 P P 10 40 22.4 +2.3
baz=308
TPAW **Teton Pass** 78.15 45 P P 10 40 19.3 -1.0
TPAW IAmb IAmb 10 40 33.0
comp=Z,32nm,1.6s
LOHW **Long Hollow** 78.28 45 P P 10 40 21.1 +0.1
LOHW IAmb IAmb 10 40 25.5
comp=Z,30nm,1.9s
R11A **Troy Canyon, C** 78.28 52 IAmb IAmb 10 40 42.4
comp=Z,23nm,1.4s
R11A **Troy Canyon, C** 78.28 52 P P 10 40 22.7 +1.7
baz=305
REDW **Red Top Meadow** 78.29 45 IAmb IAmb 10 40 25.4
comp=Z,28nm,1.6s
MPMC **Manual Prospec** 78.32 54 P P 10 40 21.8 +0.6
baz=304
BGU **Big Grassy Mou** 78.41 48 P P 10 40 21.0 -0.7
BGU IAmb IAmb 10 40 26.2
comp=Z,48nm,1.9s
AHID **Auburn Hatcher** 78.50 46 IAmb IAmb 10 40 35.0
comp=Z,47nm,1.9s
FURC **Furnace Creek,** 78.51 54 P P 10 40 24.1 +2.1
baz=305
S11A **Rachel** 78.58 52 P P 10 40 22.1 -0.5
TPNV **Topopah Spring** 78.64 53 IAmb IAmb 10 40 27.2
comp=Z,56nm,1.9s
TPNV **Topopah Spring** 78.64 53 P P 10 40 24.8 +1.8
baz=305
SPR3 **Spring Creek 3** 78.72 50 IAmb IAmb 10 40 28.3
comp=Z,36nm,1.6s
DGMT **Dagmar** 78.78 38 P P 10 40 23.7 +0.3
baz=310
QSM **Queen of Sheba** 78.79 54 P P 10 40 23.3 -0.3
QSM IAmb IAmb 10 40 49.9
comp=Z,42nm,1.6s
GWY **Greenwater Val** 78.80 54 IAmb IAmb 10 40 52.2
comp=Z,36nm,1.7s
HWUT **Hardware Ranch** 78.91 47 P P 10 40 25.3 +0.9
DUG **Dugway, Tooele** 78.97 49 P P 10 40 24.7 0.0
DUG **Dugway, Tooele** 78.97 49 P P 10 40 24.7 0.0
DUG pmax pmax
comp=Z,13nm,1.1s
DUG **Dugway, Tooele** 78.97 49 P P 10 40 26.8 +2.1
baz=306
DY2G **Dye2** 79.16 3 *i* P P 10 40 23.3 -2.0
DY2G IAmb IAmb 10 40 53.2
comp=Z,211nm,2.3s
PRN **Pahroc Range** 79.17 52 P P 10 40 26.7 +0.8
GSC **Goldstone, Bar** 79.21 55 P P 10 40 26.7 +0.7
baz=305
PSUT **Pine Spring** 79.29 51 P P 10 40 26.8 +0.2
TCUT **Toone Canyon** 79.29 47 P P 10 40 25.6 -0.9
TCUT IAmb IAmb 10 41 00.3
comp=Z,37nm,1.3s
SCI2 **San Clemente I** 79.32 57 P P 10 40 29.9 +3.3
baz=304
CTU **Camp Tracy** 79.33 48 P P 10 40 27.1 +0.4
BW06 **Boulder Array** 79.40 45 P P 10 40 28.1 +0.9
BW06 **Boulder Array** 79.40 45 P P 10 40 29.0 +1.9
baz=306
PD31 **Pinedale Array** 79.40 45 P P 10 40 27.3 +0.1
PDAR **Pinedale Array** 79.40 45 P P 10 40 28.3 +1.2
comp=Z,1.0nm,0.9s,baz=297,slow=5.9,SNR=6.3
comp=Z,1.0nm,0.9s
PDAR **Pinedale Array** 79.40 45 P P 10 40 27.1 0.0
JLU **Jordanelle** 79.57 48 IAmb IAmb 10 40 41.4
comp=Z,51nm,1.8s
NLU **North Lily Min** 79.57 49 P P 10 40 28.0 -0.1
URZ **Urewera** 79.60 152 LR LR 11 11 36.1
comp=Z,621nm,21.9s,baz=50,slow=33
BNN **Bunyan** 79.71 310 P P 10 40 26.4 -2.4
HEC **Hector,Ludlow** 79.79 55 P P 10 40 30.3 +1.1
baz=305
MPU **Maple Canyon** 79.81 48 IAmb IAmb 10 40 33.7
comp=Z,56nm,1.9s
CCUT **Cedar City** 80.18 51 P P 10 40 31.5 +0.1
KWP **Kalwaria Pacla** 80.21 325 *eP* P 10 40 32.7 +1.6
V12A **Nelson** 80.27 53 P P 10 40 30.8 -1.0
V12A IAmb IAmb 10 40 58.4
comp=Z,38nm,1.6s
BUR08 **Bucovina Ar. S** 80.31 322 P P 10 40 32.1 +0.3
BURAR **Bucovina Array** 80.32 322 ⇑P P 10 40 33.6 +1.8
BURAR **Bucovina Array** 80.32 322 P P 10 40 31.9 +0.1
BURAR **Bucovina Array** 80.32 322 ⇑P P 10 40 33.6 +1.8
SZCU **Shurtz Canyon** 80.33 51 P P 10 40 32.1 -0.1
PFO **Pinyon Flats O** 80.40 56 LR LR 11 12 43.2
comp=Z,934nm,19.2s,baz=289,slow=33
TPFO **Pinon Flats** 80.41 56 P P 10 40 33.7 +1.1
baz=305
BELC **Belle Mtn. Jos** 80.50 55 P P 10 40 34.5 +1.4
baz=306
TMUT **Trail Mountain** 80.50 49 IAmb IAmb 10 41 12.7
comp=Z,34nm,1.7s
BR131 **Keskin Array S** 80.56 312 P P 10 40 31.5 -1.9
BR131 IAmb IAmb 10 40 51.4
comp=Z,21nm,1.0s
BR131 **Keskin Array S** 80.56 312 *de*P P 10 40 34.8 +1.4
BRTR **Keskin Array B** 80.56 312 P P 10 40 34.0 +0.6
comp=Z,2.9nm,0.9s,baz=91,slow=5.8,SNR=7.1
comp=Z,2.9nm,0.9s
BRTR **Keskin Array B** 80.56 312 P P 10 40 32.3 -1.1
MTPU **Mount Pierson** 80.64 50 IAmb IAmb 10 40 38.8
comp=Z,73nm,2.0s
VRI **Vrincioaia** 80.68 320 ⇓ P P 10 40 36.8 +3.1
VRI **Vrincioaia** 80.68 320 ⇓ P P 10 40 36.8 +3.1
RDMU **Red Mountain** 80.73 47 IAmb IAmb 10 40 37.7
comp=Z,46nm,1.4s
KNB **Kanab** 80.84 51 IAmb IAmb 10 40 38.6
comp=Z,30nm,1.2s
SRU **San Rafael Swe** 81.04 49 IAmb IAmb 10 40 57.0
comp=Z,16nm,0.9s
BC3 **Big Chuckawall** 81.06 55 P P 10 40 35.9 -0.2
baz=306
OJC **Ojcow** 81.16 326 *eP* P 10 40 36.4 +0.2
IKP **In-Ko-Pah, Jac** 81.20 56 P P 10 40 34.3 -2.5
baz=306
K22A **Casper** 81.23 44 IAmb IAmb 10 40 54.5
comp=Z,52nm,1.8s
K22A **Casper** 81.23 44 P P 10 40 38.4 +1.5
baz=310
W13A **Hualapai Mount** 81.28 53 P P 10 40 38.7 +1.4
CRVS **Cervenica-Dubn** 81.30 325 *eP* P 10 40 46.2 +9.2
CRVS **Cervenica-Dubn** 81.30 325 *e* P 10 40 46.2 +9.2
MLR **Muntele Rosu** 81.34 320 ⇑P P 10 40 39.9 +2.5
MLR **Muntele Rosu** 81.34 320 LR LR 11 19 42.5
comp=Z,1μm,18.6s,baz=44,slow=38
MLR **Muntele Rosu** 81.34 320 ⇑P P 10 40 39.9 +2.5
NIE **Niedzica** 81.49 326 *eP* P 10 40 40.0 +2.0
U15A **North Rim** 81.53 52 P P 10 40 40.4 +1.6
PDMCI **Parker Dam,Lak** 81.57 54 P P 10 40 41.4 +2.8
baz=306
RAYN **Ar Rayn** 81.67 293 P P 10 40 39.6 +0.3

RAYN	**Ar Rayn**		**81.67**	**293**	P	**P**	**10 40 39.6**	**+0.3**
RAYN	comp=Z,71nm,1.5s				pmax	pmax			
RSSD	**Black Hills**		**81.68**	**41**	P	**P**	**10 40 39.9**	**+0.6**
RSSD	**Black Hills**		**81.68**	**41**	P	**P**	**10 40 39.9**	**+0.6**
RSSD	comp=Z,21nm,1.5s				pmax	pmax			
RSSD	**Black Hills**		**81.68**	**41**	P	**P**	**10 40 41.1**	**+1.8**
	baz=311								
O20A	**White River Ci**		**81.80**	**47**	P	**P**	**10 40 39.6**	**-0.4**
O20A	comp=Z,54nm,1.9s				IAmb	IAmb	10 40 43.8		
O20A	**White River Ci**		**81.80**	**47**	P	**P**	**10 40 40.7**	**+0.7**
	baz=309								
VOIR			**81.85**	**320**	⇑P	**P**	**10 40 40.9**	**+0.9**
VOIR			**81.85**	**320**	⇑P	**P**	**10 40 40.9**	**+0.9**
OKC	**Ostrava-Krasne**		**82.18**	**327**	AMS	AMS	11 23 10.0		
	comp=Z,2μm,13.9s								
KSP	**Ksiaz**		**82.27**	**328**	*e*P	**P**	**10 40 43.6**	**+1.6**
PV10	**Paradox Valley**		**82.41**	**48**	P	**P**	**10 40 43.1**	**-0.1**
MORC	**Moravsky Berou**		**82.50**	**327**	⇑P	**P**	**10 40 41.7**	**-1.6**
MORC	**Moravsky Berou**		**82.50**	**327**	*e*P	**P**	**10 40 45.3**	**+2.0**
MORC	**Moravsky Berou**		**82.50**	**327**	⇑P	**P**	**10 40 41.7**	**-1.6**
CHVC	**Chvalec**		**82.56**	**328**	AMS	AMS	11 21 40.0		
	comp=Z,2μm,15.2s								
PV07	**Paradox Valley**		**82.61**	**48**	IAmb	IAmb	10 41 09.8		
	comp=Z,32nm,1.5s								
KRLC	**Kraliky**		**82.62**	**328**	AMS	AMS	11 21 40.0		
	comp=Z,2μm,14.4s								
DPC	**Dobruska-Polom**		**82.62**	**328**	*e*P	**P**	**10 40 47.0**	**+3.1**
DPC	comp=Z,2μm,16.0s				MLR	MLR			
DPC	**Dobruska-Polom**		**82.62**	**328**	*e*P	**P**	**10 40 47.0**	**+3.1**
DPC	comp=Z,2μm,16.0s				AMS	AMS	11 21 10.0		
UPC	**Upice**		**82.64**	**328**	AMS	AMS	11 21 40.0		
	comp=Z,2μm,15.7s								
WUAZ	**Wupatki**		**82.67**	**52**	P	**P**	**10 40 44.0**	**-0.6**
WUAZ	**Wupatki**		**82.67**	**52**	P	**P**	**10 40 46.7**	**+2.1**
	baz=308								
PV13	**Radium Mtn., P**		**82.67**	**48**	P	**P**	**10 40 43.8**	**-0.8**
N23A	**Red Feather La**		**82.68**	**45**	P	**P**	**10 40 45.0**	**+0.3**
N23A	comp=Z,27nm,1.2s				IAmb	IAmb	10 41 06.0		
N23A	**Red Feather La**		**82.68**	**45**	P	**P**	**10 40 46.4**	**+1.8**
	baz=310								
PV15	**Paradox Valley**		**82.77**	**48**	P	**P**	**10 40 45.5**	**+0.3**
VYHS	**Vyhne**		**82.83**	**326**	*e*P	**P**	**10 40 46.2**	**+1.2**
VYHS	**Vyhne**		**82.83**	**326**	*e*	**P**	**10 40 46.1**	**+1.1**
WKZ	**Wanaka**		**82.83**	**161**	P	**P**	**10 40 44.9**	**+0.2**
MQZ	**McQueen's Vall**		**82.87**	**158**	P	**P**	**10 40 45.5**	**+0.6**
AGMN	**Agassiz Nation**		**82.98**	**34**	P	**P**	**10 40 44.7**	**-1.0**
AGMN	**Agassiz Nation**		**82.98**	**34**	P	**P**	**10 40 45.6**	**-0.2**
	baz=316								
JAVC	**Velka Javorina**		**83.10**	**326**	*e*P	**P**	**10 40 49.5**	**+3.1**
PVCC	**Panska Ves**		**83.24**	**329**	AMS	AMS	11 22 50.0		
	comp=Z,2μm,15.7s								
BRG	**Berggiesshubel**		**83.25**	**330**	*e*P	**P**	**10 40 48.6**	**+1.5**
BRG	comp=Z,4.2nm,0.9s				Amp		10 40 50.5		
BRG					*e*x	x	10 41 06.0		
BRG	comp=Z,18nm,1.4s				Amp		10 41 07.8		
BRG					*e*x	x	10 41 52.9		
BRG	comp=Z,19nm,1.6s				Amp		10 41 54.9		
BRG	comp=E,1.3nm,14.5s				Amp		11 23 03.0		
BRG	comp=N,1.2nm,13.6s				Amp		11 23 11.0		
BRG	comp=Z,2.7nm,15.0s				Amp		11 23 14.0		
BRG	**Berggiesshubel**		**83.25**	**330**	*e*P	**P**	**10 40 48.5**	**+1.5**
BRG	comp=Z,4.0nm,0.9s				pmax	pmax			
BRG	comp=Z,18nm,1.4s				pmax	pmax			
BRG	comp=Z,19nm,1.6s				pmax	pmax			
VRAC	**Vranov**		**83.26**	**327**	LR	LR	11 21 33.4		
	comp=Z,748nm,18.6s,baz=40,slow=38								
VRAC	**Vranov**		**83.26**	**327**	*e*P	**P**	**10 40 49.5**	**+2.3**
CLL	**Collm**		**83.31**	**330**	*i* P	**P**	**10 40 47.7**	**+0.4**
CLL					*e*		10 40 54.0		
CLL					*e*S	**S**	**10 51 11.0**	**+2.9**
CLL	comp=Z,9.0nm,1.1s				pmax	pmax			
CLL	**Collm**		**83.31**	**330**	*i* P	**P**	**10 40 47.7**	**+0.4**
	comp=Z,9.0nm,1.1s								
CLL	comp=Z,13nm,1.3s				*e*Pmax		10 40 54.0		
CLL					*e*x	x	10 40 58.0		
CLL					*i* x	x	10 41 04.1		
CLL					*e*x	x	10 43 52.0		
CLL					*e*PP	**PP**	**10 43 59.0**	**+0.8**
CLL					*e*S	**S**	**10 51 11.0**	**+2.9**
CLL					*e*PS	**PnS**	**10 52 02.0**	**+3.6**
CLL					*e*PPS	PPS	10 52 24.0		
CLL					*e*SS	**SS**	**10 56 36.0**	**+4.3**
CLL					*e*SSS	SSS	11 00 00.0		
CLL					*e*SSSS		11 02 42.0		
CLL					Lmax		11 26 00.0		
MVCO	**Mesa Verde**		**83.46**	**49**	P	**P**	**10 40 48.7**	**-0.1**
MVCO	comp=Z,41nm,1.6s				IAmb	IAmb	10 40 51.8		
MVCO	**Mesa Verde**		**83.46**	**49**	P	**P**	**10 40 50.3**	**+1.5**
	baz=309								
MMAI	**Mount Meron Ar**		**83.47**	**306**	LR	LR	11 22 04.4		
	comp=Z,1μm,18.5s,baz=290,slow=39								
PPT2	**Papeete2**		**83.48**	**116**	*e*LR	LR	11 07 11.9		
	comp=Z,456nm,21.8s								
KRUC	**Moravsky**		**83.53**	**327**	*e*P	**P**	**10 40 50.7**	**+2.1**
ISCO	**Idaho Springs**		**83.58**	**46**	P	**P**	**10 40 48.5**	**-0.8**
ISCO	comp=Z,44nm,2.0s				IAmb	IAmb	10 40 53.9		
ISCO	**Idaho Springs**		**83.58**	**46**	P	**P**	**10 40 48.6**	**-0.8**
ISCO	comp=Z,44nm,2.0s				pmax	pmax			
ISCO	**Idaho Springs**		**83.58**	**46**	P	**P**	**10 40 51.5**	**+2.1**
	baz=310								
HERR	**Herculane**		**83.60**	**321**	⇑P	**P**	**10 40 48.6**	**-0.4**
GOPC	**GO Pecny, Ondr**		**83.61**	**329**	AMS	AMS	11 22 30.0		
	comp=Z,2μm,14.1s								
MODS	**Modra-Piesok**		**83.64**	**326**	*e*P	**P**	**10 40 51.8**	**+2.7**
MODS	**Modra-Piesok**		**83.64**	**326**	*e*	**P**	**10 40 51.8**	**+2.7**
PRU	**Pruhonice**		**83.66**	**329**	*e*SKS	**S**	**10 51 15.2**	**+3.5**
PRU	comp=Z,2μm,14.0s				AMS	AMS	11 22 30.0		
MDVR	**Moldovita**		**84.03**	**322**	⇑P	**P**	**10 40 50.0**	**-1.3**
S22A	**4UR Ranch, Cre**		**84.16**	**48**	IAmb	IAmb	10 41 04.9		
	comp=Z,23nm,1.3s								
S22A	**4UR Ranch, Cre**		**84.16**	**48**	P	**P**	**10 40 54.6**	**+2.2**
	baz=310								
BLKB	**Belogradchik**		**84.33**	**320**	⇑P	**P**	**10 40 53.7**	**+0.9**
NKC	**Novy Kostel**		**84.36**	**330**	AMS	AMS	11 23 50.0		
	comp=Z,2μm,14.1s								
Q24A	**Divide**		**84.39**	**46**	P	**P**	**10 40 53.6**	**+0.1**
Q24A	comp=Z,44nm,2.0s				IAmb	IAmb	10 41 26.6		
Q24A	**Divide**		**84.39**	**46**	P	**P**	**10 40 54.4**	**+0.9**
	baz=311								
MORH	**Mrgy, Hungar**		**84.55**	**324**	⇑P	**P**	**10 40 53.0**	**-0.8**
RONA	**Rosalia, Austr**		**84.58**	**326**	*e*P	**P**	**10 40 55.4**	**+1.4**
	comp=Z,20nm,1.5s								
CONA	**Conrad Observa**		**84.61**	**327**	*e*P	**P**	**10 40 55.4**	**+1.2**
	comp=Z,11nm,1.2s								
CKRC	**Cesky Krumlov**		**84.64**	**328**	*e*SKS	**S**	**10 51 22.9**	**+1.3**
CKRC	comp=Z,2μm,14.5s				AMS	AMS	11 23 00.0		
KHC	**Kasperske Hory**		**84.72**	**329**	P	**P**	**10 40 52.8**	**-1.8**
KHC	comp=Z,29nm,1.6s				IAmb	IAmb	10 41 23.1		
KHC	**Kasperske Hory**		**84.72**	**329**	*e*P	**P**	**10 40 55.1**	**+0.4**
KHC					*e*		10 51 23.2		
KHC	comp=Z,2μm,15.2s				MLR	MLR			
KHC	**Kasperske Hory**		**84.72**	**329**	*e*P	**P**	**10 40 55.1**	**+0.4**
KHC					*e*x	x	10 41 20.5		
KHC					*e*SKS	**S**	**10 51 23.2**	**+0.7**
KHC	comp=Z,2μm,15.2s				AMS	AMS	11 23 30.0		
VTS	**Vitosha**		**84.72**	**319**	⇑P	**P**	**10 40 53.6**	**-1.3**
VTS	**Vitosha**		**84.72**	**319**	P	**P**	**10 40 53.5**	**-1.4**
VTS	comp=Z,21nm,1.2s				IAmb	IAmb	10 41 13.5		
VTS	**Vitosha**		**84.72**	**319**	⇑P	**P**	**10 40 53.6**	**-1.4**
GEC2	**GERESS Array S**		**84.88**	**328**	P	**P**	**10 40 54.7**	**-0.8**
GEC2	comp=Z,16nm,1.5s				IAmb	IAmb	10 41 27.2		
GERES	**GERESS Array B**		**84.88**	**328**	P	**P**	**10 40 56.5**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=42,slow=4.2,SNR=7.9								
	comp=Z,1.7nm,0.9s								
GERES	**GERESS Array B**		**84.88**	**328**	P	**P**	**10 40 54.6**	**-1.0**
OGNE	**Ogallala**		**84.89**	**43**	P	**P**	**10 40 55.2**	**-0.6**
SDCO	**Great Sand Dun**		**84.97**	**47**	P	**P**	**10 40 54.4**	**-2.0**
SDCO	comp=Z,30nm,1.6s				IAmb	IAmb	10 41 34.3		
SDCO	**Great Sand Dun**		**84.97**	**47**	P	**P**	**10 40 58.2**	**+1.7**
	baz=311								
TUC	**Tucson**		**85.01**	**54**	P	**P**	**10 40 56.7**	**+0.2**
	baz=308								
EYMN	**Ely**		**85.23**	**33**	P	**P**	**10 40 57.3**	**0.0**
	baz=319								
ARSA	**Arzberg**		**85.26**	**326**	*e*P	**P**	**10 40 59.3**	**+1.9**
	comp=Z,5.2nm,0.9s								
DIVS	**Divibare**		**85.39**	**322**	P	**P**	**10 40 56.6**	**-1.6**
TAOE	**Nuku Hiva Isla**		**85.52**	**104**	*e*LR	LR	11 08 07.5		
	comp=Z,531nm,25.8s								
K31A	**O'Neill**		**85.53**	**40**	P	**P**	**10 40 58.4**	**-0.5**
KSCO	**Kaye Shedlock'**		**85.84**	**45**	P	**P**	**10 41 01.3**	**+0.7**
	baz=312								
ECSD	**EROS Data Cent**		**85.87**	**38**	P	**P**	**10 41 00.1**	**-0.4**
ECSD	comp=Z,25nm,1.4s				IAmb	IAmb	10 41 32.6		
ECSD	**EROS Data Cent**		**85.87**	**38**	P	**P**	**10 40 59.5**	**-1.0**
	baz=316								
SOKA	**Soboth**		**85.91**	**326**	*e*P	**P**	**10 41 01.8**	**+1.1**
	comp=Z,13nm,1.2s								
ANMO	**Albuquerque**		**86.17**	**50**	P	**P**	**10 41 01.4**	**-1.0**
ANMO	**Albuquerque**		**86.17**	**50**	P	**P**	**10 41 01.4**	**-1.0**
ANMO	comp=Z,7.0nm,1.3s				pmax	pmax			
ANMO	**Albuquerque**		**86.17**	**50**	P	**P**	**10 41 03.9**	**+1.5**
	baz=310								
BNM	**Barren Site**		**86.58**	**50**	P	**P**	**10 41 04.5**	**+0.1**
BGNE	**Belgrade**		**86.70**	**41**	P	**P**	**10 41 05.2**	**+0.5**
BGNE	**Belgrade**		**86.70**	**41**	P	**P**	**10 41 04.3**	**-0.4**
	baz=315								
TBI	**Tubuai**		**87.19**	**121**	*e*LR	LR	11 08 56.4		
	comp=Z,524nm,22.2s								
L34A	**Svendsen Farm,**		**87.25**	**39**	P	**P**	**10 41 07.1**	**-0.2**
I37A	**Lemond, Waseca**		**87.27**	**36**	P	**P**	**10 41 07.1**	**-0.2**
ECH	**Echery**		**88.08**	**331**	IAmb	IAmb	10 41 21.6		
	comp=Z,12nm,0.9s								
N35A	**Tabor**		**88.42**	**40**	P	**P**	**10 41 12.3**	**-0.6**
KSU1	**Kansas State U**		**89.17**	**41**	P	**P**	**10 41 16.1**	**-0.4**
KSU1	comp=Z,17nm,1.1s				IAmb	IAmb	10 41 35.0		
P40A	**Paris**		**91.27**	**38**	P	**P**	**10 41 25.8**	**-0.4**
TX31	**Lajitas Ar. Si**		**91.62**	**52**	P	**P**	**10 41 29.0**	**+0.9**
TX32	**Lajitas Array**		**91.62**	**52**	P	**P**	**10 41 29.4**	**+1.2**
TX32	comp=Z,24nm,1.9s				IAmb	IAmb	10 42 07.2		
TXAR	**Lajitas Array**		**91.62**	**52**	P	**P**	**10 41 28.9**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=285,slow=2.5,SNR=5.5								
	comp=Z,0.8nm,0.8s								
TXAR	**Lajitas Array**		**91.62**	**52**	P	**P**	**10 41 28.7**	**+0.5**
R40A	**Maddies Statio**		**92.08**	**39**	P	**P**	**10 41 28.9**	**-1.1**
R40A	comp=Z,9.2nm,1.1s				IAmb	IAmb	10 41 41.3		
U38A	**Gravette**		**92.30**	**42**	P	**P**	**10 41 31.1**	**0.0**
U38A	comp=Z,12nm,1.3s				IAmb	IAmb	10 41 42.1		
CCM	**Cathedral Cave**		**92.79**	**39**	P	**P**	**10 41 32.5**	**-0.8**
CCM	comp=Z,16nm,1.4s				IAmb	IAmb	10 42 06.1		
CCM	**Cathedral Cave**		**92.79**	**39**	P	**P**	**10 41 32.5**	**-0.8**
CCM	comp=Z,16nm,1.4s				pmax	pmax			
CCM	**Cathedral Cave**		**92.79**	**39**	P	**P**	**10 41 34.5**	**+1.2**
	baz=319								
MGMO	**Mountain Grove**		**92.92**	**40**	P	**P**	**10 41 34.2**	**+0.2**
MGMO	comp=Z,20nm,1.5s				IAmb	IAmb	10 42 08.3		
VAE	**Valguarnera**		**93.11**	**321**	LR	LR	11 29 04.6		
	comp=Z,704nm,18.3s,baz=31,slow=39								
FCAR	**Ozark Folk Cen**		**93.94**	**41**	P	**P**	**10 41 38.1**	**-0.6**
FCAR	comp=Z,20nm,1.7s				IAmb	IAmb	10 41 41.1		
TZTN	**Tazewell**		**97.80**	**35**	P	**P**	**10 41 53.5**	**-2.7**
	baz=324								
ESDC	**Sonseca Array**		**99.57**	**334**	LR	LR	11 30 22.3		
	comp=Z,662nm,20.9s,baz=34,slow=37								
TORD	**Torodi Ar. Bea**		**119.13**	**314**	PKP	**PKPdf**	**10 47 10.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=29,slow=3.3,SNR=4.3								
SNAA	**Sanae**		**138.35**	**196**	PKPdf	**PKPdf**	**10 47 43.3**	**-1.8**
VNA2	**Neumayer--Watz**		**139.91**	**195**	PKPdf	**PKPdf**	**10 47 46.2**	**-1.7**
	baz=108,slow=4.0								
ETMB	**Extrema**		**144.71**	**52**	PKPdf	**PKPab**	**10 47 55.2**	**-1.6**
PB12	**IPOC Station P**		**147.62**	**69**	PKPdf	**PKPdf**	**10 48 00.1**	**-2.9**
PB12					PKPbc	**PKPbc**	**10 48 05.6**	**-0.1**
LPAZ	**La Paz**		**147.86**	**63**	PKPbc	**PKPbc**	**10 48 08.0**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=322,slow=2.5,SNR=6.2								
LPAZ	**La Paz**		**147.86**	**63**	PKPdf	**PKPdf**	**10 48 01.1**	**-3.1**
LPAZ					PKPab	**PKiKP**	**10 48 08.4**	**-0.6**
LPAZ	**La Paz**		**147.86**	**63**	PKP2	**PKiKP**	**10 48 08.4**	**-0.6**
PB16	**IPOC Station P**		**148.08**	**68**	PKPdf	**PKPdf**	**10 48 01.9**	**-2.5**
PB16					PKPab	**sPKPbc**	**10 48 09.2**	**+0.6**
GO01	**Chusmiza**		**149.10**	**69**	PKPbc	**PKPbc**	**10 48 10.3**	**+0.2**
PB08	**IPOC Station P**		**149.40**	**70**	PKPdf	**PKPdf**	**10 48 03.8**	**-2.4**
PB08					PKPbc	**PKPbc**	**10 48 10.4**	**-0.3**
PB02	**IPOC Station P**		**149.46**	**73**	PKPdf	**PKPdf**	**10 48 03.7**	**-2.3**
PB02					PKPbc	**pPKPbc**	**10 48 11.1**	**-0.1**
PB01	**IPOC Station P**		**149.63**	**72**	PKPdf	**PKPdf**	**10 48 03.5**	**-2.8**
PB01						**PKiKP**	**10 48 13.1**	**+1.2**
PB07	**IPOC Station P**		**149.68**	**73**	PKPdf	**PKPdf**	**10 48 04.1**	**-2.3**
LVC	**Limon Verde**		**150.91**	**74**	PKPdf	**PKPdf**	**10 48 05.8**	**-2.8**
LVC						**PKPbc**	**10 48 13.6**	**-0.7**
LVC	**Limon Verde**		**150.91**	**74**	PKIKP	**PKPdf**	**10 48 05.8**	**-2.8**
LVC							10 48 13.6		
GO02	**Mina Guanaco**		**151.58**	**79**	PKPdf	**PKPdf**	**10 48 05.9**	**-3.5**
GO02						**PKPbc**	**10 48 15.2**	**-0.4**
AC05	**El Transito**		**152.46**	**87**		**PKiKP**	**10 48 18.4**	**+0.8**
AC05					PKPab	**PKPab**	**10 48 27.5**	**-0.1**
PTLB	**Pontes e Lacer**		**153.46**	**49**	PKPdf	**PKPdf**	**10 48 09.2**	**-2.8**
PTLB						**PKPbc**	**10 48 19.1**	**-0.6**
BO02	**Sierra Bellavi**		**153.52**	**100**	PKPdf	**PKPdf**	**10 48 10.1**	**-1.6**
BO02						**PKPbc**	**10 48 19.1**	**-0.3**
BO02					PKPab	**PKPab**	**10 48 31.4**	**-0.5**

*NNC **23** 10:30:49.9±1.0, 51°.77N×75°.32E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=50.9km s-min=6.4km az=26.0, Suspected Mining explosion.*
*IDC **23** 10:30:54.7±3.1, 51°.60N×75°.58E, h0km, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=28.3km s-min=21.9km az=82.0*

ISC 23 10:30:50.3±1.2, 51°.60N±0°.09×75°.19E±0°.08, h0km, n10, σ1§51/12, 7C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.32**	**114**	Pn	**Pn**	**10 31 30.5**	**+0.8**
	0.4nm,0.3s,baz=301,slow=18,SNR=17						
KURBB				Lg	Lg	10 32 01.4	
	0.5nm,0.3s,baz=307,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**2.32**	**114**	⇓Pn	**Pn**	**10 31 27.8**	**-1.9**
	1.9nm,0.4s						
	2.8nm,0.2s						
KURBB				⇑Sn	**Sb**	**10 32 00.6**	**-1.7**
	31nm,0.7s						
KURK	**Kurchatov**	**2.33**	**111**	⇑Pn	**Pn**	**10 31 30.7**	**+0.8**
	2.4nm,0.6s						
KURK				⇑Sn	**Sn**	**10 31 59.1**	**-0.2**
	9.5nm,0.7s						
BVA0	**Borovoye Array**	**3.27**	**298**	⇑Pg	**Pb**	**10 31 49.1**	**-0.2**
	1.0nm,0.5s,baz=112,slow=16,SNR=5.4						
BVA0				⇑Lg	Lg	10 32 37.0	
	6.4nm,0.9s,baz=112,slow=28,SNR=7.5						
BRVK	**Borovoye**	**3.35**	**298**	⇑Pg	**Pb**	**10 31 49.7**	**-0.8**
	3.2nm,1.4s						
BRVK				⇓Lg	Lg	10 32 38.2	
	6.3nm,0.6s						
ZALV	**Zalesovo Beam**	**6.30**	**64**	Pn	**Pn**	**10 32 25.8**	**+1.4**
	0.4nm,0.3s,baz=257,slow=14,SNR=7.1						
ZALV				Sn	**Sn**	**10 33 37.0**	**0.0**
	0.3nm,0.3s,baz=255,slow=26,SNR=2.3						
ZALV				Lg	Lg	10 34 08.7	
	0.1nm,0.3s,baz=271,slow=30,SNR=1.6						
	1.5nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.30**	**64**	*i*		11 09 30.0	
	baz=250,slow=330,SNR=3.6						
MAKZ	**Makanchi**	**6.54**	**135**	⇑Lg	Lg	10 34 18.2	
	5.0nm,0.8s						
MK31	**Makanchi Array**	**6.69**	**133**	⇓Sn	**Sn**	**10 33 49.2**	**+2.5**
	0.9nm,0.6s						
MK31				⇓Lg	Lg	10 34 23.2	
	2.5nm,0.6s,baz=322,slow=25,SNR=5.8						
MKAR	**Makanchi Array**	**6.69**	**133**	Pn	**Pn**	**10 32 31.4**	**+1.6**
	0.1nm,0.3s,baz=320,slow=12,SNR=5.1						
MKAR				Sn	**Sn**	**10 33 45.5**	**-1.2**
	0.1nm,0.3s,baz=331,slow=23,SNR=3.7						
MKAR				Lg	Lg	10 34 20.6	
	0.2nm,0.3s,baz=325,slow=21,SNR=3.8						
	0.3nm,0.5s						

HEL 23 10:29:07.6±0.1, 62°.47N×22°.71E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**0.57**	**358**	PG	Pg	10 29 17.9	-0.7
	baz=181						
VAF				SG	Sg	10 29 25.3	-0.7
KEF	**Keuruu**	**1.05**	**106**	PG	Pg	10 29 26.6	-1.2
KEF				MSG		10 29 39.8	
	comp=Z,0.9nm,0.2s						
KEF				SB	Sg	10 29 41.1	-0.3
RAF	**Rauma**	**1.52**	**198**	MSG		10 29 53.2	
	comp=Z,0.8nm,0.2s						
RAF				SG	Sg	10 29 54.4	-2.0
UMAU	**Umeaa**	**1.69**	**328**	PG	Pn	10 29 38.1	-0.2
UMAU				SN	Sn	10 30 00.6	0.0
KAF	**Kangasniemi**	**1.72**	**101**	PG	Pn	10 29 38.4	-0.3
	baz=281						
KAF				MSG		10 29 58.9	
	comp=Z,1.1nm,0.2s						
KAF				SG	Sn	10 30 01.0	-0.3
HUSU	**Husum**	**1.82**	**300**	SG	Sb	10 30 05.5	+0.4
OBF8	**Ulkokalla**	**1.90**	**10**	PG	Pn	10 29 41.8	+0.7
FIA0	**FINESS Array S**	**1.90**	**122**	PG	Pn	10 29 41.3	+0.1
	baz=304						
FIA0				SG	Sn	10 30 06.4	+0.7
OUF	**Merijarvi**	**2.11**	**25**	PG	Pb	10 29 45.4	-1.2
OUF				MSG		10 30 10.1	
	comp=Z,0.8nm,0.2s						
OUF				SG	Sb	10 30 12.4	-0.9
OBF0	**Syolatti, Pyha**	**2.15**	**18**	PG	Pb	10 29 45.9	-1.3
OBF0				SG	Sb	10 30 13.8	-0.6
HEMU	**Hemsoen**	**2.17**	**277**	PB	Pn	10 29 45.4	+0.5
HEMU				SG	Sb	10 30 14.5	-0.7
BURU	**Burvik**	**2.20**	**345**	PG	Pn	10 29 46.7	+1.4
BURU				SG	Sb	10 30 14.7	-1.3
VSU	**Vasula**	**4.49**	**152**	SG	Sg	10 31 27.5	-4.2

*STR **23** 10:38:20.2±0.2, 44°.N±2°×°±°, h5km, MLv3.2/14, Error ellipse: s-maj=0.0km s-min=0.0km az=145.5, preliminary*
*LDG **23** 10:38:20.2±0.0, 43°.53N×3°.14E, h3km, Md3.3/4, Ml3.4/57, Error ellipse: s-maj=0.9km s-min=0.6km az=157.0*
*MDD **23** 10:38:21.9±0.3, 43°.49N×3°.10E, h12km, mb_Lg3.3/11, Error ellipse: s-maj=2.3km s-min=1.8km az=136.0*
*GEN **23** 10:38:57.5, 43°.98N×6°.72E, h33km±21km, Ml0.0*

ISC 23 10:38:19.3±0.6, 43°.56N±0°.01×3°.12E±0°.01, h6km±4km, n135, σ2§19/236, 2C, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLAF	**Gruissan**	**0.42**	**183**	Pg	**Pg**	**10 38 28.5**	**+1.0**
CLAF				Sg	**Sg**	**10 38 34.1**	**+1.1**
MTLF	**Montolieu**	**0.69**	**252**	*e*Pg	**Pg**	**10 38 33.3**	**+0.7**
MTLF				*e*Sg	**Sg**	**10 38 42.4**	**+0.9**
MTLF				*e*Sn	**Sb**	**10 38 45.5**	**+2.0**
	1μm,0.2s						
MTLF	**Montolieu**	**0.69**	**252**	⇑Pg	**Pg**	**10 38 33.3**	**+0.7**
MTLF				Sg	**Sg**	**10 38 42.8**	**+1.2**
LASF	**Ste Croix**	**0.75**	**46**	*e*Pg	**Pg**	**10 38 34.1**	**+0.4**
LASF	**Ste Croix**	**0.75**	**46**	*e*P	**Pg**	**10 38 35.7**	**+2.0**
LASF				*e*Sg	**Sg**	**10 38 44.3**	**+0.9**
	544nm,0.2s						
LASF				*e*Sn	**Sb**	**10 38 47.4**	**+2.2**
	354nm,0.3s						
FNEB	**Nbias**	**0.98**	**229**	⇑Pg	**Pg**	**10 38 38.7**	**+0.5**
FNEB				Sg	**Sg**	**10 38 52.1**	**+1.2**
FILF	**Fillols**	**1.07**	**203**	Pg	**Pb**	**10 38 41.4**	**+1.0**
FILF				Sg	**Sb**	**10 38 56.2**	**+1.6**
SJAF	**Saint Jean de**	**1.08**	**189**	P	**Pb**	**10 38 38.9**	**-1.5**
SJAF				Pg	**Pg**	**10 38 40.7**	**+0.6**
SJAF				Sg	**Sb**	**10 38 54.7**	**-0.1**
EJON	**La Jonquera**	**1.12**	**189**	Pg	**Pb**	**10 38 39.3**	**-1.8**
EJON				Sg	**Sb**	**10 38 55.0**	**-0.9**
EJON				*i* Vmb_Lg		10 38 56.6	
SAUF	**chteau de Sau**	**1.49**	**74**	Pn	**Pn**	**10 38 48.3**	**+1.7**
SAUF				Sn	**Sn**	**10 39 07.5**	**+1.2**
PAND	**Andorre**	**1.55**	**229**	Pn	**Pn**	**10 38 48.1**	**+0.6**
PAND				Pg	**Pb**	**

TRIGF Pg Pb 10 39 04.5 +1.7
ORIF Oris-en-Rattie 2.41 55 *e*Pn Pn 10 38 58.6 -0.7
ORIF Oris-en-Rattie 2.41 55 *e*Pg Pb 10 39 05.2 +2.1
ORIF *e*Sn Sn 10 39 26.9 -2.2
6.5nm,0.2s
ORIF *e*Sg Sb 10 39 36.0 +3.0
50nm,0.6s
ORIF Oris-en-Rattie 2.41 55 Pn Pn 10 39 00.6 +1.3
LMR La Mourre 2.48 94 *e*Pn Pn 10 38 59.1 -1.1
LMR La Mourre 2.48 94 *e*Pg Pb 10 39 05.8 +1.6
LMR *e*Sn Sn 10 39 27.5 -3.2
29nm,0.2s
LMR *e*Sg Sb 10 39 37.7 +2.7
47nm,0.2s
OGAG Argentiere 2.63 69 Pn Pn 10 39 05.4 +3.0
EPOB Poblet 2.67 215 Pn Pn 10 39 04.6 +1.7
EPOB Pg Pb 10 39 08.7 +1.2
EPOB Sg Sb 10 39 42.5 +1.9
EPOB *i* Vmb_Lg 10 39 46.1
ENAUX Enaux 2.71 77 Pn Pn 10 39 04.5 +1.1
GDM Grand'Maison 2.71 51 Pn Pn 10 39 04.8 +1.3
OGSM Saint Maurice 2.76 41 Pn Pn 10 39 05.0 +1.0
JAUF Jausiers 2.76 70 Pn Pn 10 39 05.2 +1.0
ETSF Etsaut 2.77 258 *e*Pn Pn 10 39 03.6 -0.6
ETSF Etsaut 2.77 258 *e*P Pn 10 39 06.4 +2.2
ETSF Etsaut 2.77 258 *e*Pg Pb 10 39 11.4 +2.2
ETSF *e*Sn Sn 10 39 35.5 -2.4
102nm,0.4s
ETSF *e*Sg Sb 10 39 47.2 +3.9
43nm,0.3s
CALF Calern 2.77 85 Pn Pn 10 39 04.9 +0.7
CALF Pg Pb 10 39 10.9 +1.7
CANF Canfranc 2.77 255 Pn Pn 10 39 04.7 +0.4
TCF Toulx Ste Croi 2.81 347 *e*Pn Pn 10 39 04.7 0.0
TCF Toulx Ste Croi 2.81 347 *e*P Pn 10 39 07.5 +2.8
TCF Toulx Ste Croi 2.81 347 *e*Pg Pb 10 39 13.1 +3.2
TCF *e*Sn Sn 10 39 38.1 -0.8
TCF *e*Sg Sb 10 39 48.7 +4.2
49nm,0.3s
SURF Saint Ours 2.82 70 Pn Pn 10 39 06.4 +1.3
ATE Arette 2.83 262 Pn Pn 10 39 05.6 +0.6
MBDF Montbardon 2.88 65 *e*Pn Pn 10 39 04.0 -1.8
MBDF Montbardon 2.88 65 *e*P Pn 10 39 08.1 +2.3
MBDF Montbardon 2.88 65 *e*Pg Pb 10 39 13.7 +2.6
MBDF *e*Sn Sn 10 39 38.4 -2.4
11nm,0.4s
MBDF *e*Sg Sb 10 39 50.6 +3.9
16nm,0.5s
ISO Isola 2.91 76 P Pn 10 39 06.0 -0.2
ISO Isola 2.91 76 Pn Pn 10 39 07.1 +0.9
ISO Pg Pb 10 39 13.8 +2.2
BGF Bois d'Agland 3.01 356 *e*Pn Pn 10 39 07.1 -0.4
BGF Bois d'Agland 3.01 356 *e*P Pn 10 39 10.2 +2.7
BGF Bois d'Agland 3.01 356 *e*Pg Pb 10 39 16.6 +3.3
BGF *e*Sg Sb 10 39 54.8 +4.6
120nm,0.3s
ESCA l'Escarene 3.10 83 P Pn 10 39 08.6 -0.1
STV Sant Anna di V 3.12 76 P Pn 10 39 08.8 -0.3
TURF col de Turini 3.12 81 P Pn 10 39 08.5 -0.7
SMF Signal de Mont 3.13 9 *e*Pn Pn 10 39 08.7 -0.5
SMF Signal de Mont 3.13 9 *e*P Pn 10 39 11.5 +2.3
SMF Signal de Mont 3.13 9 *e*Pg Pb 10 39 19.2 +3.8
SMF *e*Sn Sn 10 39 44.8 -2.1
4.3nm,0.2s
SMF *e*Sg Sb 10 39 59.2 +5.4
32nm,0.3s
SBF Sospel 3.15 83 *e*Pn Pn 10 39 08.6 -0.8
SBF Sospel 3.15 83 *e*P Pn 10 39 11.5 +2.1
SBF Sospel 3.15 83 *e*Pg Pb 10 39 18.1 +2.5
SBF *e*Sn Sn 10 39 44.0 -3.3
14nm,0.1s
SBF *e*Sg Sb 10 39 57.8 +3.6
41nm,0.3s
SJPF Ste Jean 3.20 264 *e*Pn Pn 10 39 09.6 -0.5
SJPF Ste Jean 3.20 264 *e*P Pn 10 39 12.7 +2.6
SJPF Ste Jean 3.20 264 *e*Pg Pb 10 39 20.2 +3.7
SJPF *e*Sn Sn 10 39 44.1 -4.4
16nm,0.3s
SJPF *e*Sg Sb 10 40 01.0 +5.3
10nm,0.2s
ESAC San Caprasio 3.22 237 Pn Pn 10 39 11.8 +1.4
ESAC Pg Pb 10 39 17.0 +0.2
ESAC Sg Sb 10 39 57.7 +1.4
AVF Avril sur Loir 3.24 3 *e*Pn Pn 10 39 10.2 -0.4
AVF Avril sur Loir 3.24 3 *e*P Pn 10 39 13.4 +2.8
AVF Avril sur Loir 3.24 3 *e*Pg Pb 10 39 20.1 +2.9
AVF *e*Sg Sg 10 40 02.8 -0.6
26nm,0.3s
SAOF Saorge 3.24 81 P Pn 10 39 10.1 -0.6
LPG La Plagne 3.24 52 *e*Pn Pn 10 39 10.3 -0.7
LPG La Plagne 3.24 52 *e*P Pn 10 39 13.4 +2.4
LPG La Plagne 3.24 52 *e*Pg Pb 10 39 20.4 +3.0
LPG *e*Sn Sn 10 39 47.1 -2.9
18nm,0.5s
LPG *e*Sg Sg 10 40 02.6 -0.9
12nm,0.3s
LPL La Plagne 3.24 52 *e*Pn Pn 10 39 10.6 -0.3
LPL La Plagne 3.24 52 *e*P Pn 10 39 13.4 +2.5
LPL La Plagne 3.24 52 *e*Pg Pb 10 39 20.7 +3.3
LPL *e*Sn Sn 10 39 46.7 -3.2
8.0nm,0.3s
LPL *e*Sg Sg 10 40 02.8 -0.7
6.9nm,0.3s
EORO Oroz-Betelu 3.30 260 Pn Pn 10 39 11.3 -0.2
EORO Pg Pb 10 39 18.9 +0.6
EORO Sn Sn 10 39 49.9 -1.2
EORO *i* Vmb_Lg 10 39 57.7
ERTA Horta de San J 3.32 219 Pn Pn 10 39 11.4 -0.3
ERTA Pg Pb 10 39 20.5 +1.9
ERTA Sg Sb 10 40 00.3 +1.2
ERTA *i* Vmb_Lg 10 40 08.5
EALK Alkurruntz 3.39 266 Pg Pb 10 39 20.5 +0.7
EALK Sn Sn 10 39 49.8 -3.5
EALK Sg Sb 10 40 05.6 +4.4
EALK *i* Vmb_Lg 10 40 09.5
SSF Saint Saulge 3.52 4 *e*P Pn 10 39 16.9 +2.4
SSF Saint Saulge 3.52 4 *e*Pg Pb 10 39 25.6 +3.7
SSF *e*Sg Sg 10 40 11.4 -0.9
41nm,0.5s
CABF La Chapelle 3.71 34 *e*Pn Pn 10 39 16.1 -1.1
CABF La Chapelle 3.71 34 *e*Pg Pb 10 39 29.1 +3.8
CABF *e*Sn Sn 10 39 59.2 -2.0
CABF *e*Sg Sg 10 40 17.2 -1.2
44nm,0.4s
HYF Humbligny 3.73 355 *e*Pn Pn 10 39 17.3 -0.1
HYF Humbligny 3.73 355 *e*Pg Pb 10 39 30.0 +4.5
HYF *e*Sg Sg 10 40 18.1 -0.9
LOR Lormes 3.75 8 *e*Pn Pn 10 39 17.4 -0.3
baz=188
LOR Lormes 3.75 8 *e*Pg Pb 10 39 29.6 +3.7
baz=186
LOR *e*Sn Sn 10 39 59.8 -2.3
LOR *e*Sg Sg 10 40 18.4 -1.3
17nm,0.3s,baz=191
MFF Saint Martin d 3.82 324 *e*Pn Pn 10 39 18.5 -0.2
MFF Saint Martin d 3.82 324 *e*P Pn 10 39 22.1 +3.4
MFF Saint Martin d 3.82 324 *e*Pg Pb 10 39 31.8 +4.7
MFF *e*Sn Sn 10 40 01.6 -2.3
MFF *e*Sg Sg 10 40 21.4 -0.7
17nm,0.3s
SENIN Lac Senin/Sane 4.08 45 Pn Pn 10 39 21.3 -1.2
SENIN Pg Pb 10 39 31.8 +0.1
SENIN Sg Sg 10 40 28.6 -1.9
PGF Pioggiola 4.43 101 *e*Pn Pn 10 39 25.2 -1.8
PGF *e*Sn Sn 10 40 13.7 -5.2
20nm,0.3s
ETOR Torete 4.72 236 Pn Pn 10 39 31.0 0.0
ETOR Pg Pg 10 39 48.9 -0.7
ETOR Sn Sn 10 40 26.3 +0.3
ETOR Sg Sg 10 40 48.8 -2.0
ETOR *i* Vmb_Lg 10 40 55.6
ELAN Lanestosa 4.79 268 Pn Pn 10 39 32.5 +0.5
ELAN Sn Sn 10 40 24.1 -3.6
SFTF Sexfontaines 4.84 15 *e*Pn Pn 10 39 31.9 -0.7
SFTF Sexfontaines 4.84 15 *e*Pg Pb 10 39 49.8 +5.3
SFTF *e*Sg Sg 10 40 52.8 -1.9
36nm,0.5s
HAU Haudompre 4.99 26 *e*Pg Pb 10 39 53.2 +6.2
HAU *e*Sg Sg 10 40 56.2 -3.3
18nm,0.3s
HINF Hinteralfeld 5.00 30 *e*Pn Pn 10 39 34.3 -0.6
HINF Hinteralfeld 5.00 30 *e*Pg Pb 10 39 53.3 +6.1
HINF *e*Sg Sg 10 40 57.7 -2.1
15nm,0.3s
MEZF Maizieres J'vi 5.13 15 *e*Pg Pb 10 39 55.4 +6.1
baz=194
MEZF *e*Sn Sn 10 40 32.8 -3.2
MEZF *e*Sg Sg 10 41 02.4 -1.5
47nm,0.4s,baz=200
SAVF Savonnieres en 5.25 15 *e*Pn Pn 10 39 37.5 -0.7
baz=196
SAVF Savonnieres en 5.25 15 *e*Pg Pb 10 39 58.0 +6.6
baz=195
SAVF *e*Sg Sg 10 41 05.4 -2.4
40nm,0.5s,baz=199
PAGF Fort de Pagny 5.32 19 *e*Pg Pg 10 39 59.5 -1.7
PAGF *e*Sg Sg 10 41 07.3 -2.8
20nm,0.4s,baz=198
LDF La Druitiere 5.52 337 *e*Pn Pn 10 39 41.6 -0.4
LDF La Druitiere 5.52 337 *e*Pg Pb 10 40 01.9 +5.9
LDF *e*Sg Sg 10 41 13.9 -2.6
6.6nm,0.4s
GRR Gorron 5.57 332 *e*Pn Pn 10 39 42.5 -0.1
GRR *e*Sn Sn 10 40 43.7 -3.2
GRR *e*Sg Sg 10 41 16.0 -2.1
13nm,0.4s
CDF Champ du Feu 5.66 29 *e*Pn Pn 10 39 43.4 -0.5
CDF Champ du Feu 5.66 29 *e*Pg Pg 10 40 06.7 -0.9
CDF *e*Sg Sg 10 41 17.8 -3.0
12nm,0.5s
FLN La Foliniere 5.78 336 *e*Pn Pn 10 39 45.3 -0.2
baz=156
FLN La Foliniere 5.78 336 *e*Pg Pb 10 40 07.5 +7.1
baz=157
FLN *e*Sn Sn 10 40 48.1 -3.9
baz=157
FLN *e*Sg Sg 10 41 22.7 -2.0
10nm,0.3s,baz=154
SGMF Saint Gilles 6.14 322 *e*Pn Pn 10 39 50.5 0.0
SGMF Saint Gilles 6.14 322 *e*Pg Pb 10 40 13.3 +6.7
SGMF *e*Sn Sn 10 40 57.7 -3.3
5.4nm,0.5s
SGMF *e*Sg Sg 10 41 33.5 -3.0
20nm,0.6s
QUIF Quistinic 6.19 317 *e*Pn Pn 10 39 50.9 -0.3
QUIF *e*Sn Sn 10 40 58.1 -4.1
QUIF *e*Sg Sg 10 41 35.4 -2.6
11nm,0.3s
ROSF Rostrenen 6.53 319 *e*Pn Pn 10 39 55.6 -0.3
ROSF Rostrenen 6.53 319 *e*Pg Pb 10 40 21.1 +7.8
ROSF *e*Sn Sn 10 41 06.0 -4.6
5.0nm,0.3s
ROSF *e*Sg Sg 10 41 45.2 -3.8
7.4nm,0.4s
BAIF Baives 6.55 6 *e*Pn Pn 10 39 56.2 +0.1
BAIF *e*Sn Sn 10 41 04.0 -7.0
6.0nm,0.4s
BAIF *e*Sg Sg 10 41 46.1 -3.4
19nm,0.9s
GIVF Givet 6.65 10 *e*Sg Sg 10 41 49.7 -3.1
30nm,0.7s

IDC 23 10:43:20.6±2.0, 10°40S×125°67E, h0km, mb3.4/1, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=67.3km s-min=24.1km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.65**	**180**	Pn		Pn	Pn	10 45 12.9	-0.5
	0.2nm,0.3s,baz=6.2,slow=8.9,SNR=10								
FITZ				Sn		Sn	Sn	10 46 43.6	+2.7
	0.2nm,0.3s,baz=183,slow=6.9,SNR=1.8								
	0.4nm,0.2s								
WRA	**Warramunga Arr**	**12.64**	**140**	Pn		Pn	Pn	10 46 20.9	-0.9
	0.1nm,0.3s,baz=316,slow=15,SNR=10								
WRA				Sn		Sn	Sn	10 48 45.7	+2.2
	0.1nm,0.3s,baz=318,slow=20,SNR=2.1								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**15.35**	**150**	Pn		Pn	Pn	10 46 59.0	+0.2
	baz=318,slow=11,SNR=2.0								
ASAR				Sn		Sn	Sn	10 49 52.2	+2.5
	baz=325,slow=23,SNR=1.8								
	0.1nm,0.5s								
MKAR	**Makanchi Array**	**68.84**	**330**	P		P	P	10 54 27.1	+0.1
	0.2nm,0.5s,baz=134,slow=8.3,SNR=1.8								
	0.2nm,0.5s								

*MOS **23** 10:50:49.4±1.3, 30°51N×50°41E, h15km, mb4.9/26, Error ellipse: s-maj=5.8km s-min=4.3km az=94.8*
*IDC **23** 10:50:49.5±0.7, 30°56N×50°37E, h0km, mb4.2/27, mbtmp4.2/33, ML4.0/6, MS3.9/13, Error ellipse: s-maj=15.3km s-min=11.1km az=6.0*
*NEIC **23** 10:50:50.9±2.7, 30°58N±0°04×50°33E±0°05, h10km±1km, mb4.7/86, mb_Lg4.5(TEH), Error ellipse: s-maj=7.5km s-min=5.9km az=238.0*
*TEH **23** 10:50:52.6, 30°62N×50°43E, h16km, ML4.5*
*DSN **23** 10:50:56.3±2.0, 30°26N×50°52E, h15km, ML4.3/14, Error ellipse: s-maj=26.8km s-min=9.7km az=3.0*
*OMAN **23** 10:50:59.1±1.1, 30°36N×50°68E, h135km±34km, mb4.0/20, Error ellipse: s-maj=11.9km s-min=6.2km az=8.0*

ISC 23 10:50:53.3±0.9, 30°61N±0°03×50°44E±0°03, h29km±6km, n416, σ2s03/434, mb4.6/102, MS4.2/12, 31C-12D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.16**	**267**	*e*Pg		**Pb**	**Pb**	**10 50 57.9**	**-1.0**
KLNJ	**Kolanjah**	**1.07**	**68**	*e*Pg		**Pn**	**Pn**	**10 51 12.2**	**-0.5**
KAZ1	**Kazerun**	**1.43**	**133**	Pg		**Pb**	**Pb**	**10 51 20.8**	**+1.5**
KAZ1	**Kazerun**	**1.43**	**133**	*e*Pg		**Pb**	**Pb**	**10 51 20.2**	**+0.9**
KAZ1				*e*				10 51 47.7	
	comp=Z,57μm,0.4s								
AMIS	**Naft Sefid**	**1.45**	**317**	*e*Pg		**Pb**	**Pb**	**10 51 19.0**	**-0.6**
AMIS				*e*Sg		**Sb**	**Sb**	**10 51 39.6**	**+2.0**
AHWZ	**Ahwaz**	**1.70**	**295**	Pg		**Pb**	**Pb**	**10 51 23.5**	**-0.4**
AHWZ	**Ahwaz**	**1.70**	**295**	*e*Pg		**Pb**	**Pb**	**10 51 23.6**	**-0.4**
AHWZ				*e*Sg		**Sb**	**Sb**	**10 51 47.2**	**+2.3**
SHK1	**Shahrekord**	**1.76**	**12**	*e*Pg		**Pb**	**Pb**	**10 51 24.6**	**-0.4**
SHK1				*e*				10 51 52.1	
	comp=Z,53μm,0.9s								
AHBU	**AHRAM**	**1.89**	**157**	*e*Pn		**Pb**	**Pb**	**10 51 27.1**	**0.0**
AHBU				*e*				10 51 57.4	
	comp=Z,99nm,0.3s								
SHI	**Shiraz**	**2.04**	**118**	Pn		**Pb**	**Pb**	**10 51 29.2**	**-0.5**
SHI	**Shiraz**	**2.04**	**118**	P		**Pb**	**Pb**	**10 51 29.2**	**-0.5**
SHI	**Shiraz**	**2.04**	**118**	*e*Pn		**Pb**	**Pb**	**10 51 28.5**	**-1.2**
IRAM	**Ramesheh**	**2.05**	**54**	Pn		**Pb**	**Pb**	**10 51 29.5**	**-0.5**
IRAM	**Ramesheh**	**2.05**	**54**	*e*Pn		**Pb**	**Pb**	**10 51 29.4**	**-0.5**
IRAM				*e*				10 52 15.2	
	comp=Z,17μm,0.6s								
IPIR	**Pirpir**	**2.11**	**10**	Pn		**Pb**	**Pb**	**10 51 30.4**	**-0.6**
IPIR	**Pirpir**	**2.11**	**10**	*e*Pn		**Pb**	**Pb**	**10 51 30.3**	**-0.7**
IGAR	**Gharneh**	**2.25**	**37**	Pn		**Pb**	**Pb**	**10 51 31.9**	**-1.5**
IGAR	**Gharneh**	**2.25**	**37**	*e*Pn		**Pb**	**Pb**	**10 51 32.0**	**-1.5**
IGAR				*e*				10 52 14.1	
	comp=Z,22μm,1.0s								
IZEF	**Zefreh**	**2.79**	**35**	Pn		**Pb**	**Pb**	**10 51 39.5**	**-3.1**
IZEF	**Zefreh**	**2.79**	**35**	*e*Pn		**Pn**	**Pn**	**10 51 39.0**	**+2.7**
IKLH	**Kolahrood**	**2.87**	**19**	*e*Pn		**Pn**	**Pn**	**10 51 39.8**	**+2.4**
IKLH				*e*				10 52 40.3	
	comp=Z,17μm,0.6s								
NASN	**Na'in**	**2.97**	**42**	*e*Pn		**Pn**	**Pn**	**10 51 41.2**	**+2.3**
ISAD	**Sadrabad**	**3.07**	**64**	Pn		**Pn**	**Pn**	**10 51 43.2**	**+3.1**
ISAD	**Sadrabad**	**3.07**	**64**	*e*Pn		**Pn**	**Pn**	**10 51 43.0**	**+2.9**
ISAD				*e*				10 52 39.8	
	comp=Z,7μm,0.8s								
QIR1	**Qir**	**3.11**	**132**	*e*Pn		**Pn**	**Pn**	**10 51 42.6**	**+2.1**
QIR1				*e*				10 52 25.8	
	comp=Z,18μm,0.3s								
KHMZ	**Khomeyn**	**3.15**	**353**	*e*Pn		**Pn**	**Pn**	**10 51 43.6**	**+2.4**
QAMS	**Qamsar**	**3.22**	**14**	Pn		**Pn**	**Pn**	**10 51 45.4**	**+3.2**
QAMS	**Qamsar**	**3.22**	**14**	*e*Pn		**Pn**	**Pn**	**10 51 45.2**	**+3.0**
QAMS				*e*				10 52 39.9	
	comp=Z,9μm,0.5s								
KRSH	**Karshahi**	**3.65**	**23**	*e*Pn		**Pn**	**Pn**	**10 51 50.5**	**+2.5**
KRSH				*e*				10 53 17.9	
	comp=Z,7μm,0.7s								
IKFM	**Kafar-mosalman**	**3.65**	**324**	*e*Pn		**Pn**	**Pn**	**10 51 49.9**	**+2.1**
IMEH	**Mehriz**	**3.67**	**77**	Pn		**Pn**	**Pn**	**10 51 51.4**	**+3.1**
IMEH	**Mehriz**	**3.67**	**77**	*e*Pn		**Pn**	**Pn**	**10 51 51.0**	**+2.7**
IDOB	**Doab**	**3.71**	**329**	*e*Pn		**Pn**	**Pn**	**10 51 51.7**	**+2.9**
ICHK	**Chekchek**	**3.76**	**63**	Pn		**Pn**	**Pn**	**10 51 52.2**	**+2.6**
ICHK	**Chekchek**	**3.76**	**63**	*e*Pn		**Pn**	**Pn**	**10 51 53.2**	**+3.6**
ICHK				*e*				10 52 49.5	
	comp=Z,4μm,0.4s								
HSAM	**Samen**	**3.92**	**337**	Pn		**Pn**	**Pn**	**10 51 53.8**	**+2.0**
HSAM	**Samen**	**3.92**	**337**	*e*Pn		**Pn**	**Pn**	**10 51 53.9**	**+2.1**
HSAM				*e*				10 53 13.3	
	comp=Z,5μm,0.6s								
ASAO	**Ashtian**	**3.94**	**355**	*e*Pn		**Pn**	**Pn**	**10 51 54.6**	**+2.5**
YZKH	**Yazd**	**3.97**	**62**	*e*Pn		**Pn**	**Pn**	**10 51 54.9**	**+2.6**
ISFB	**Sefidab**	**4.03**	**22**	*e*Pn		**Pn**	**Pn**	**10 51 55.3**	**+2.1**
ISFB				*e*				10 52 13.5	
	comp=Z,4μm,0.8s								
LMD1	**Lamerd**	**4.04**	**143**	*e*Pn		**Pn**	**Pn**	**10 51 55.2**	**+2.0**
LMD1				*e*				10 52 47.9	
	comp=Z,7μm,0.4s								
IQOM	**Qom**	**4.26**	**7**	*e*Pn		**Pn**	**Pn**	**10 51 58.4**	**+2.0**
IKOM	**Komasi**	**4.33**	**326**	*e*Pn		**Pn**	**Pn**	**10 51 59.0**	**+1.6**
HAGD	**Aghdareh**	**4.34**	**346**	*e*Pn		**Pn**	**Pn**	**10 52 00.5**	**+2.9**
HAGD				*e*				10 53 13.7	
	comp=Z,6μm,0.5s								
IBZA	**Bozab**	**4.42**	**331**	*e*Pn		**Pn**	**Pn**	**10 52 00.3**	**+1.6**
IBZA				*e*				10 52 52.5	
	comp=Z,6μm,0.6s								
IBAF	**Bafgh**	**4.50**	**76**	*e*Pn		**Pn**	**Pn**	**10 52 02.7**	**+3.0**
IVRN	**Varamin**	**4.51**	**14**	*e*Pn		**Pn**	**Pn**	**10 52 01.8**	**+2.1**
LAR1	**LAR**	**4.52**	**129**	*e*Pn		**Pn**	**Pn**	**10 52 02.3**	**+2.4**
LAR1				*e*				10 53 13.3	
	comp=Z,9μm,0.3s								
KCHF	**Cheshme Sefid,**	**4.65**	**323**	*e*Pn		**Pn**	**Pn**	**10 52 04.0**	**+2.2**
KCHF				*e*				10 53 27.0	
	comp=Z,8μm,0.7s								
KER	**Kermanshah**	**4.69**	**324**	*e*Pn		**Pn**	**Pn**	**10 52 04.0**	**+1.7**
SHMA	**Al-Shehemyia**	**4.76**	**174**	P		**Pn**	**Pn**	**10 52 05.9**	**+2.8**
SHMA				S			**Sn**	**10 52 59.7**	**+2.5**
IRAZ	**Razeghan**	**4.80**	**355**	*e*Pn		**Pn**	**Pn**	**10 52 05.9**	**+2.0**
IHSB	**Hasanabad**	**4.87**	**8**	*e*Pn		**Pn**	**Pn**	**10 52 07.1**	**+2.4**
IGHG	**Ghalehazi**	**4.95**	**320**	*e*Pn		**Pn**	**Pn**	**10 52 07.5**	**+1.6**
IMHD	**Mahdasht**	**5.07**	**2**	*e*Pn		**Pn**	**Pn**	**10 52 09.1**	**+1.7**
IDMV	**Damavand**	**5.13**	**15**	*e*Pn		**Pn**	**Pn**	**10 52 10.5**	**+2.0**
DAMV	**Damavand**	**5.17**	**14**	*e*Pn		**Pn**	**Pn**	**10 52 11.1**	**+2.1**
SNGE	**Sanandaj**	**5.17**	**331**	*e*Pn		**Pn**	**Pn**	**10 52 10.5**	**+1.5**
TEH	**Tehran**	**5.18**	**9**	*e*Pn		**Pn**	**Pn**	**10 52 11.3**	**+2.3**
ILAS	**Lasjerd**	**5.21**	**23**	*e*Pn		**Pn**	**Pn**	**10 52 11.4**	**+1.9**
KHGB	**Koh Gabri**	**5.21**	**91**	*e*Pn		**Pn**	**Pn**	**10 52 11.8**	**+2.2**
CHTH	**Charan**	**5.32**	**6**	*e*Pn		**Pn**	**Pn**	**10 52 13.2**	**+2.2**
IFIR	**Firoozkooh**	**5.38**	**21**	*e*Pn		**Pn**	**Pn**	**10 52 14.5**	**+2.6**
KRBR	**Kerman**	**5.50**	**95**	*e*Pn		**Pn**	**Pn**	**10 52 16.2**	**+2.6**
TVBK	**TV Kerman**	**5.50**	**95**	*e*Pn		**Pn**	**Pn**	**10 52 16.0**	**+2.4**
NGRK	**Negar Kerman**	**5.53**	**98**	*e*Pn		**Pn**	**Pn**	**10 52 16.5**	**+2.4**
QALM	**Alamut, Qazvin**	**5.81**	**2**	*e*Pn		**Pn**	**Pn**	**10 52 20.6**	**+2.8**
TPRV	**Parvadeh(Tabas**	**5.84**	**64**	*e*Pn		**Pn**	**Pn**	**10 52 20.6**	**+2.6**
IPRN	**Peran**	**5.84**	**15**	*e*Pn		**Pn**	**Pn**	**10 52 21.3**	**+3.2**
SMRA	**Abu-Samra**	**5.85**	**177**	P		**Pn**	**Pn**	**10 52 19.5**	**+1.5**
SMRA				S			**Sn**	**10 53 24.5**	**+0.3**
JRN	**Qarnain Island**	**6.03**	**159**	P		**Pn**	**Pn**	**10 52 22.5**	**+1.9**
JRN				S			**Sn**	**10 53 28.2**	**-0.5**
TNSJ	**Nastanj**	**6.20**	**56**	*e*Pn		**Pn**	**Pn**	**10 52 25.3**	**+2.3**
ZNJK	**Zanjan**	**6.22**	**347**	*e*Pn		**Pn**	**Pn**	**10 52 25.6**	**+2.2**
GIDE	**GILAN DEYLAMAN**	**6.32**	**356**	*e*Pn		**Pn**	**Pn**	**10 52 26.9**	**+2.3**
TKDS	**Koohdasht(Tabas**	**6.41**	**60**	*e*Pn		**Pn**	**Pn**	**10 52 28.1**	**+2.2**
TABS	**Tabas**	**6.42**	**60**	*e*Pn		**Pn**	**Pn**	**10 52 28.4**	**+2.3**
SLWR	**Sila**	**6.61**	**170**	P		**Pn**	**Pn**	**10 52 30.3**	**+1.8**
SLWR				S			**Sn**	**10 53 42.0**	**-0.9**
SHME	**Shamm**	**6.77**	**131**	P		**Pn**	**Pn**	**10 52 31.8**	**+1.1**
	SNR=9.0								
SHME				S			**Sn**	**10 53 45.0**	**-1.9**
SHME	**Shamm**	**6.77**	**131**	*i* P		**Pn**	**Pn**	**10 52 31.7**	**+0.9**
	SNR=7.7								
BANOM	**Banah**	**6.96**	**131**	P		**Pn**	**Pn**	**10 52 34.0**	**+0.6**
	SNR=54								
BANOM				S			**Sn**	**10 53 48.5**	**-3.1**
BANOM	**Banah**	**6.96**	**131**	*i* P		**Pn**	**Pn**	**10 52 33.5**	**+0.1**
	SNR=54								
BANOM				S			**Sn**	**10 53 50.2**	**-1.5**
GHWR	**Ruwais**	**6.96**	**161**	P		**Pn**	**Pn**	**10 52 35.2**	**+1.8**
GHWR				S			**Sn**	**10 53 48.4**	**-3.2**
SHRO	**Shahrood**	**7.11**	**39**	*e*Pn		**Pn**	**Pn**	**10 52 37.7**	**+2.2**
KBAM	**BAM**	**7.11**	**100**	*e*Pn		**Pn**	**Pn**	**10 52 37.6**	**+2.1**
AJN	**Ajban**	**7.25**	**145**	P		**Pn**	**Pn**	**10 52 39.1**	**+1.8**
	SNR=6.8								
AJN				S			**Sn**	**10 53 57.7**	**-0.9**
AJN	**Ajban**	**7.25**	**145**	*i* P		**Pn**	**Pn**	**10 52 39.1**	**+1.8**
	SNR=6.5								
NAZ	**Nazwa, Dubai**	**7.26**	**139**	P		**Pn**	**Pn**	**10 52 38.4**	**+0.9**
	SNR=6.6								
NAZ				S			**Sn**	**10 53 57.8**	**-1.1**
NAZ	**Nazwa, Dubai**	**7.26**	**139**	*i* P		**Pn**	**Pn**	**10 52 38.6**	**+1.1**
	SNR=6.6								
MASF	**Masafi**	**7.26**	**135**	P		**Pn**	**Pn**	**10 52 38.2**	**+0.7**
	SNR=12								
MASF				S			**Sn**	**10 53 56.8**	**-2.3**
MSFE	**Esma-Masafi**	**7.27**	**135**	*i* P		**Pn**	**Pn**	**10 52 37.5**	**-0.2**
	SNR=12								
ASUD	**Al Ashush, Dub**	**7.37**	**143**	P		**Pn**	**Pn**	**10 52 40.6**	**+1.6**
	SNR=38								
ASUD				S			**Sn**	**10 53 59.0**	**-2.7**
ASUD	**Al Ashush, Dub**	**7.37**	**143**	*i* P		**Pn**	**Pn**	**10 52 40.2**	**+1.3**
	SNR=38								
FAQ	**Al Faqa, Dubai**	**7.41**	**141**	P		**Pn**	**Pn**	**10 52 40.3**	**+0.7**
MZWR	**Madinat Zayed**	**7.47**	**155**	P		**Pn**	**Pn**	**10 52 42.3**	**+1.9**
BSRN	**Basiran**	**7.55**	**77**	*e*Pn		**Pn**	**Pn**	**10 52 44.2**	**+2.5**
UOSS	**Minazif**	**7.61**	**136**	Pn		**Pn**	**Pn**	**10 52 42.5**	**+0.2**
UOSS	**Minazif**	**7.61**	**136**	P		**Pn**	**Pn**	**10 52 42.1**	**-0.1**
HATD	**Hatta, Dubai**	**7.65**	**137**	P		**Pn**	**Pn**	**10 52 43.8**	**+0.9**
ASHO	**Ashiyiah**	**7.72**	**138**	P		**Pn**	**Pn**	**10 52 44.8**	**+0.9**
	SNR=14								
ASHO				S			**Sn**	**10 54 07.6**	**-2.7**
ASHO	**Ashiyiah**	**7.72**	**138**	*i* P		**Pn**	**Pn**	**10 52 43.8**	**0.0**
	SNR=14								
IMND	**Minoodasht**	**7.81**	**31**	*e*Pn		**Pn**	**Pn**	**10 52 46.9**	**+1.9**
MZR	**Muzera**	**8.05**	**160**	P		**Pn**	**Pn**	**10 52 49.8**	**+1.6**
	SNR=25								
MZR	**Muzera**	**8.05**	**160**	*i* P		**Pn**	**Pn**	**10 52 49.2**	**+0.9**
	SNR=12								
ALNE	**Al Ain**	**8.

ASF	**Jabal al Asfar**	**11.68**	**281**	Pn		**Pn**	**10 53 36.9**	**-1.2**	
	comp=Z,2.5nm,0.3s,baz=84,slow=6.3,SNR=16								
ASF				Sn		**Sn**	**10 55 39.7**	**-7.9**	
	comp=Z,1.6nm,0.3s,baz=130,slow=16,SNR=2.4								
	comp=Z,6.4nm,0.3s								
MHTO	**MHTO**	**11.73**	**143**	P		**Pn**	**10 53 38.8**	**0.0**	
	SNR=6.5								
MAK	**Makhachkala**	**12.55**	**350**	*e*P		**Pn**	**10 53 51.4**	**+1.6**	
MAK				*e*S		**Sn**	**10 56 12.6**	**+4.0**	
MAK				pmax		pmax			
	comp=Z,208nm,1.0s								
MAK				MLR		MLR			
	comp=Z,308nm,10.0s								
GHAJ	**Ghor Haditha**	**12.79**	**277**	Pn		**Pn**	**10 53 50.5**	**-2.7**	
MMAI	**Mount Meron Ar**	**13.01**	**285**	Pn		**Pn**	**10 53 55.1**	**-1.2**	
	comp=Z,2.3nm,0.3s,baz=88,slow=7.9,SNR=1.7								
MMAI				Sn		**Sn**	**10 56 16.8**	**-3.4**	
	comp=Z,2.2nm,0.3s,baz=78,slow=36,SNR=2.4								
MMAI				LR		LR	11 00 21.3		
	comp=Z,611nm,18.7s,baz=313,slow=44								
	comp=Z,0.6nm,0.3s								
GROC	**Groznyy**	**13.11**	**345**	*e*P		**Pn**	**10 54 00.4**	**+3.0**	
GROC				pmax		pmax			
	comp=Z,60nm,1.1s								
ONI	**Oni**	**13.20**	**337**	Pn		**Pn**	**10 53 56.4**	**-2.5**	
ONI	**Oni**	**13.20**	**337**	P		**Pn**	**10 53 56.4**	**-2.5**	
ZEI	**Tsey**	**13.23**	**339**	*e*P		**Pn**	**10 54 02.5**	**+3.1**	
ZEI				pmax		pmax			
	comp=Z,12nm,1.4s								
EIL	**Elat**	**13.44**	**270**	Pn		**Pn**	**10 54 01.6**	**-0.5**	
	comp=Z,0.7nm,0.3s,baz=149,slow=19,SNR=1.7								
EIL				Sn		**Sn**	**10 56 31.7**	**+1.1**	
	comp=Z,0.9nm,0.3s,baz=114,slow=20,SNR=1.9								
EIL				LR		LR	11 00 21.7		
	comp=Z,747nm,19.5s,baz=210,slow=43								
	comp=Z,3.0nm,0.7s								
DMTO	**DMTO**	**13.47**	**161**	P		**Pn**	**10 54 01.1**	**-1.5**	
	SNR=12								
KBZ	**Khabaz**	**14.40**	**338**	Pn		**Pn**	**10 54 17.8**	**+2.7**	
	comp=Z,0.1nm,0.3s,baz=137,slow=7.9,SNR=8.9								
KBZ				LR		LR	11 00 30.3		
	comp=Z,230nm,20.0s,baz=121,slow=40								
	comp=Z,5.3nm,1.1s								
KBZ	**Khabaz**	**14.40**	**338**	*ce*P		**Pn**	**10 54 17.9**	**+2.8**	
BNN	**Bunyan**	**14.54**	**308**	Pn		**Pn**	**10 54 16.7**	**-0.4**	
KIV	**Kislovodsk**	**14.67**	**337**	Pn		**Pn**	**10 54 18.1**	**-0.8**	
KIV	**Kislovodsk**	**14.67**	**337**	*e*P		**Pn**	**10 54 21.6**	**+2.7**	
KIV				pmax		pmax			
	comp=Z,26nm,1.0s								
KIV				MLR		MLR			
	comp=Z,149nm,13.0s								
SOC	**Sochi**	**15.50**	**330**	*e*P		**Pn**	**10 54 29.0**	**-0.8**	
SOC				*e*S		**Sn**	**10 57 20.3**	**-0.3**	
SOC				MLR		MLR			
	comp=Z,83nm,14.0s								
KBL	**Kabul**	**16.16**	**71**	Pn		**Pn**	**10 54 37.6**	**-1.0**	
KBL	**Kabul**	**16.16**	**71**	P		**Pn**	**10 54 37.6**	**-1.0**	
KBL				pmax		pmax			
	comp=Z,9.0nm,1.1s								
BR131	**Keskin Array S**	**16.46**	**308**			**Pn**	**10 54 40.2**	**-2.0**	
BR131	**Keskin Array S**	**16.46**	**308**	P		**Pn**	**10 54 40.2**	**-2.0**	
BR131				pmax		pmax			
	comp=Z,22nm,1.1s								
BRTR	**Keskin Array B**	**16.46**	**308**	Pn		**P**	**10 54 46.0**	**+1.3**	
	comp=Z,0.2nm,0.3s,baz=134,slow=8.8,SNR=10								
BRTR				LR		LR	11 03 11.2		
	comp=Z,303nm,21.1s,baz=108,slow=45								
BRTR	**Keskin Array B**	**16.46**	**308**	Pn		**Pn**	**10 54 40.7**	**-1.5**	
BRTR	**Keskin Array B**	**16.46**	**308**	P		**Pn**	**10 54 40.7**	**-1.5**	
ILGA	**Ilgaz**	**17.08**	**312**	Pn		**Pn**	**10 54 47.0**	**-3.2**	
ILGA				IAmb		IAmb	10 55 08.4		
	comp=Z,66nm,1.0s								
ANTO	**Ankara**	**17.10**	**307**	Pn		**Pn**	**10 54 48.2**	**-2.1**	
ANTO	**Ankara**	**17.10**	**307**	P		**Pn**	**10 54 48.2**	**-2.1**	
ANTO				pmax		pmax			
	comp=Z,38nm,1.3s								
CHGR	**Chuyangaron**	**17.35**	**57**	Pn		**Pn**	**10 54 51.2**	**-2.2**	
CHGR	**Chuyangaron**	**17.35**	**57**	P		**Pn**	**10 54 51.2**	**-2.2**	
CHGR				pmax		pmax			
	comp=Z,160nm,1.5s								
ISP	**Isparta**	**17.96**	**299**			**Pn**	**10 54 59.9**	**-1.1**	
ISP	**Isparta**	**17.96**	**299**	P		**Pn**	**10 54 59.9**	**-1.1**	
ISP				pmax		pmax			
	comp=Z,34nm,1.4s								
ELL	**Elmali**	**18.14**	**295**			**Pn**	**10 55 00.0**	**-3.2**	
ELL				IAmb		IAmb	10 55 26.1		
	comp=Z,59nm,0.8s								
ELL	**Elmali**	**18.14**	**295**	P		**Pn**	**10 55 00.0**	**-3.2**	
ELL				pmax		pmax			
	comp=Z,59nm,0.8s								
GAR	**Garm**	**18.32**	**57**	P		**P**	**10 55 02.9**	**-2.4**	
GAR				IAmb		IAmb	10 55 19.0		
	comp=Z,53nm,1.4s								
MDUB	**Mudurnu**	**18.46**	**307**	P		**P**	**10 55 04.3**	**-2.6**	
BORA	**Eskisehir**	**18.73**	**305**	P		**P**	**10 55 07.8**	**-2.0**	
ARG	**Arkhangelos**	**19.43**	**293**	P		**P**	**10 55 14.8**	**-2.6**	
ARG				IAmb		IAmb	10 55 38.8		
	comp=Z,50nm,1.1s								
ARG	**Arkhangelos**	**19.43**	**293**	P		**P**	**10 55 14.8**	**-2.6**	
ARG				pmax		pmax			
	comp=Z,50nm,1.1s								
IUG	**Iuzhnay**	**19.48**	**48**	*e*P		**P**	**10 55 18.5**	**+0.5**	
AB31	**Akbulak array**	**19.97**	**18**	P		**P**	**10 55 23.6**	**+0.5**	
ABKAR	**Akbulak array**	**19.97**	**18**	P		**P**	**10 55 23.8**	**+0.7**	
ATD	**Arta Tunnel**	**20.25**	**202**	P		Pn	10 55 28.7	+0.1	
	comp=Z,11nm,0.9s,baz=325,slow=11,SNR=4.2								
ATD				LR		LR	11 03 53.3		
	comp=Z,385nm,19.2s,baz=354,slow=39								
KK31	**Karatay Array**	**20.27**	**47**	P		**P**	**10 55 27.0**	**+0.5**	
KK31				IAmb		IAmb	10 55 36.7		
	comp=Z,59nm,1.4s								
KK31	**Karatay Array**	**20.27**	**47**	*i* P		Pn	10 55 27.9	-0.7	
KKAR	**Karatay Array**	**20.27**	**47**	P		**P**	**10 55 26.8**	**+0.3**	
KKAR	**Karatay Array**	**20.27**	**47**	P		**P**	**10 55 26.8**	**+0.3**	
AKTO	**Aktyubinsk**	**20.61**	**14**	P		**P**	**10 55 30.6**	**+0.6**	
	comp=Z,3.6nm,0.5s,baz=200,slow=12,SNR=10.0								
	comp=Z,3.6nm,0.5s								
VRH	**Novokhopyorsk**	**21.57**	**345**	*e*P		**P**	**10 55 39.9**	**-0.5**	
VRH				*e*S		**S**	**10 59 33.2**	**-4.7**	
VRH				pmax		pmax			
	comp=Z,110nm,0.7s								
VRH				smax		smax			
	comp=E,70nm,0.7s								
SANT	**Santorini**	**21.59**	**292**	P		**P**	**10 55 40.4**	**-0.4**	
BELG	**Belogornoye**	**21.87**	**355**	P		**P**	**10 55 43.2**	**-0.3**	
	comp=E,47nm,0.9s,baz=201,slow=1.6,SNR=27								
	comp=E,47nm,0.9s								
IDI	**Anoyia**	**21.92**	**289**	⇑P		**P**	**10 55 46.5**	**+2.1**	
IDI	**Anoyia**	**21.92**	**289**	P		**P**	**10 55 46.1**	**+1.7**	
	comp=E,14nm,0.4s,baz=93,slow=11,SNR=11								
IDI	**Anoyia**	**21.92**	**289**	P		**P**	**10 55 43.8**	**-0.6**	
TIRR	**Tirgusor**	**22.19**	**315**	P		**P**	**10 55 51.5**	**+4.4**	
TIRR	**Tirgusor**	**22.19**	**315**	P		**P**	**10 55 51.5**	**+4.4**	
VSR	**Storozhevoye**	**22.23**	**341**	*e*P		**P**	**10 55 46.7**	**-0.8**	
VSR				*e*S		**S**	**10 59 46.4**	**-4.1**	
VSR				pmax		pmax			
	comp=Z,30nm,1.1s								
VSR				smax		smax			
	comp=N,50nm,0.8s								
ALN	**Alexandroupoli**	**22.24**	**304**	P		**P**	**10 55 48.3**	**+0.6**	
ALN	**Alexandroupoli**	**22.24**	**304**	P		**P**	**10 55 48.3**	**+0.6**	
ALN				pmax		pmax			
	comp=Z,12nm,0.9s								
TLCR		**22.33**	**317**	⇑P		**P**	**10 55 52.2**	**+3.6**	
TLCR		**22.33**	**317**	⇑P		**P**	**10 55 52.2**	**+3.6**	
TPGR	**Topolog**	**22.39**	**316**	⇑P		**P**	**10 55 52.7**	**+3.4**	
HARR	**Harsova**	**22.60**	**315**	P		**P**	**10 55 55.6**	**+4.1**	
HARR	**Harsova**	**22.60**	**315**	P		**P**	**10 55 55.6**	**+4.1**	
VORR	**Voronezh**	**22.63**	**342**	*e*P		**P**	**10 55 53.0**	**+1.3**	
VORR				*e*S		**S**	**10 59 55.9**	**-1.8**	
VORR				pmax		pmax			
	comp=Z,31nm,1.6s								
AAK	**Ala-Archa**	**22.65**	**51**	P		**P**	**10 55 59.4**	**+7.1**	
	comp=Z,1.3nm,0.3s,baz=293,slow=10,SNR=11								
AAK	**Ala-Archa**	**22.65**	**51**	P		**P**	**10 55 50.1**	**-2.1**	
AAK	**Ala-Archa**	**22.65**	**51**	P		**P**	**10 55 50.2**	**-2.1**	
AAK				pmax		pmax			
	comp=Z,17nm,1.3s								
KSH	**Kashi**	**22.65**	**60**	P		**P**	**10 55 49.8**	**-2.5**	
KSH				pmax		pmax			
	comp=Z,20nm,1.7s								
KSH				LR		LR			
	comp=N,2μm,15.2s								
KSH				LR		LR			
	comp=E,2μm,14.8s								
KSH				LR		LR			
	comp=Z,3μm,15.6s								
RDO	**Rodhopi**	**22.68**	**304**	P		**P**	**10 55 50.9**	**-1.5**	
RDO				IAmb		IAmb	10 56 23.4		
	comp=Z,25nm,1.1s								
CFR	**Carcaliu**	**22.73**	**316**	P		**P**	**10 55 55.7**	**+2.8**	
CFR	**Carcaliu**	**22.73**	**316**	P		**P**	**10 55 55.7**	**+2.8**	
SGDS	**Sogindy**	**23.08**	**50**	*e*P		**P**	**10 55 57.4**	**+0.7**	
NRN	**Naryn**	**23.24**	**55**	P		**P**	**10 55 58.3**	**-0.3**	
NRN				IAmb		IAmb	10 56 03.3		
	comp=Z,27nm,1.1s								
NRN	**Naryn**	**23.24**	**55**	P		**P**	**10 55 58.3**	**-0.3**	
NRN				pmax		pmax			
	comp=Z,27nm,1.1s								
BTLS	**Baital**	**23.45**	**46**	*e*P		**P**	**10 56 00.6**	**+0.4**	
LPSR	**Galich'ya Gora**	**23.54**	**342**	*e*P		**P**	**10 55 58.6**	**-2.4**	
LPSR				*e*S		**S**	**11 00 09.5**	**-3.6**	
LPSR				pmax		pmax			
	comp=Z,50nm,1.0s								
LPSR				smax		smax			
	comp=E,110nm,1.6s								
VRI	**Vrincioaia**	**23.94**	**316**	⇑P		**P**	**10 56 06.9**	**+2.0**	
VRI	**Vrincioaia**	**23.94**	**316**	⇑P		**P**	**10 56 06.9**	**+2.0**	
MLR	**Muntele Rosu**	**24.22**	**315**	⇑P		**P**	**10 56 09.8**	**+2.2**	
MLR	**Muntele Rosu**	**24.22**	**315**	P		**P**	**10 56 09.1**	**+1.5**	
	comp=E,7.4nm,0.8s,baz=147,slow=2.3,SNR=7.4								
	comp=E,7.4nm,0.8s								
MLR	**Muntele Rosu**	**24.22**	**315**	P		**P**	**10 56 06.4**	**-1.2**	
MLR				IAmb		IAmb	10 56 25.6		
	comp=Z,14nm,0.9s								
MLR	**Muntele Rosu**	**24.22**	**315**	⇑P		**P**	**10 56 09.8**	**+2.2**	
COVR	**Voineasa-Covas**	**24.24**	**316**	⇑P		**P**	**10 56 09.8**	**+2.2**	
OTUK	**Ortayu**	**24.28**	**37**	P		**P**	**10 56 08.2**	**+0.2**	
TESR	**Tescani**	**24.32**	**317**	⇓P		**P**	**10 56 09.4**	**+1.0**	
ITM	**Ithomi**	**24.50**	**293**	P		**P**	**10 56 11.1**	**+0.9**	
LIT	**Litokhoron**	**24.60**	**300**	P		**P**	**10 56 13.1**	**+2.1**	
LIT				IAmb		IAmb	10 56 36.8		
	comp=Z,26nm,1.4s								
LIT	**Litokhoron**	**24.60**	**300**	P		**P**	**10 56 13.1**	**+2.1**	
LIT				pmax		pmax			
	comp=Z,26nm,1.4s								
TARG	**Taragay, Kyrgy**	**24.62**	**56**	P		**P**	**10 56 12.6**	**+1.0**	
TARG				IAmb		IAmb	10 56 26.6		
	comp=Z,15nm,1.1s								
TARG	**Taragay, Kyrgy**	**24.62**	**56**	P		**P**	**10 56 12.6**	**+1.0**	
TARG				pmax		pmax			
	comp=Z,15nm,1.1s								
MTUR	**Matau**	**24.64**	**313**	⇑P		**P**	**10 56 14.2**	**+2.8**	
MTUR	**Matau**	**24.64**	**313**	⇑P		**P**	**10 56 14.2**	**+2.8**	
VOIR		**24.75**	**314**	⇑P		**P**	**10 56 14.3**	**+1.9**	
VOIR		**24.75**	**314**	⇑P		**P**	**10 56 14.3**	**+1.9**	
DOPR	**Dopca**	**24.80**	**315**	⇑P		**P**	**10 56 14.5**	**+1.8**	
VTS	**Vitosha**	**24.80**	**306**	⇑P		**P**	**10 56 15.3**	**+2.3**	
VTS	**Vitosha**	**24.80**	**306**	⇑P		**P**	**10 56 15.3**	**+2.3**	
BIZ	**Bicaz**	**24.87**	**318**	⇑P		**P**	**10 56 15.1**	**+1.7**	
ARR	**Arges**	**24.98**	**313**	⇑P		**P**	**10 56 16.3**	**+1.9**	
AK05	**Malin Array Si**	**25.52**	**328**	P		**P**	**10 56 18.1**	**-1.1**	
AK05				IAmb		IAmb	10 56 31.7		
	comp=Z,13nm,0.8s								
BLKB	**Belogradchik**	**25.54**	**308**	⇑P		**P**	**10 56 21.1**	**+1.7**	
LOT	**Lotru**	**25.55**	**313**	⇑P		**P**	**10 56 21.1**	**+1.4**	
BRZS	**Berezniki**	**25.57**	**34**	*e*P		**P**	**10 56 19.8**	**+0.2**	
AKASG	**Malin Array Be**	**25.57**	**328**	P		**P**	**10 56 19.5**	**-0.1**	
	comp=Z,0.7nm,0.3s,baz=132,slow=8.8,SNR=18								
AKASG				S		**S**	**11 00 49.7**	**+4.2**	
	comp=Z,0.3nm,0.4s,baz=33,slow=35,SNR=1.6								
	comp=Z,0.7nm,0.3s								
AKASG	**Malin Array Be**	**25.57**	**328**	P		**P**	**10 56 19.9**	**+0.4**	
AKBB	**Malin Array Si**	**25.57**	**328**	P		**P**	**10 56 19.3**	**-0.3**	
AKBB				IAmb		IAmb	10 56 39.4		
	comp=Z,12nm,0.9s								
AKBB	**Malin Array Si**	**25.57**	**328**	⇓*i*P		**P**	**10 56 19.6**	**0.0**	
BURAR	**Bucovina Array**	**25.74**	**318**	⇑P		**P**	**10 56 23.3**	**+1.9**	
BURAR	**Bucovina Array**	**25.74**	**318**	P		**P**	**10 56 20.8**	**-0.6**	
BURAR	**Bucovina Array**	**25.74**	**318**	⇑P		**P**	**10 56 23.3**	**+1.9**	
BUR08	**Bucovina Ar. S**	**25.77**	**318**	P		**P**	**10 56 21.2**	**-0.4**	
UZB	**Uzynbulak**	**25.93**	**53**	*e*P		**P**	**10 56 23.1**	**-0.1**	
KBN	**Korca**	**25.99**	**301**	P		**P**	**10 56 23.9**	**+0.2**	
KBN	**Korca**	**25.99**	**301**	P		**P**	**10 56 23.9**	**+0.2**	
KBN				pmax		pmax			
	comp=Z,88nm,1.3s								
GZR	**Gura Zlata**	**26.16**	**312**	⇑P		**P**	**10 56 27.0**	**+1.8**	
GZR	**Gura Zlata**	**26.16**	**312**	⇑P		**P**	**10 56 27.0**	**+1.8**	
HERR	**Herculane**	**26.19**	**311**	⇑P		**P**	**10 56 27.0**	**+1.7**	
BOVS	**Bovan**	**26.20**	**308**	⇓P		**P**	**10 56 27.7**	**+2.2**	
SHLS	**Shalkode**	**26.24**	**53**	*e*P		**P**	**10 56 29.4**	**+3.5**	
OBN	**Obninsk**	**26.42**	**342**	P		**P**	**10 56 27.9**	**+0.6**	
	comp=Z,3.9nm,0.4s,baz=342,slow=23,SNR=5.0								
	comp=Z,3.9nm,0.4s								
OBN	**Obninsk**	**26.42**	**342**	⇑*i*P		**P**	**10 56 28.1**	**+0.9**	
OBN				*e*			10 57 08.6		
OBN				*e*S		**S**	**11 01 06.7**	**+7.9**	
OBN				*e*SS		**SnSn**	**11 02 10.2**	**+9.3**	
OBN				pmax		pmax			
	comp=Z,19nm,0.6s								
OBN				MLR		MLR			
	comp=Z,788nm,18.0s								
ARU	**Arti**	**26.44**	**10**	P		**P**	**10 56 25.6**	**-1.9**	
ARU	**Arti**	**26.44**	**10**	*d* *i*P		**P**	**10 56 29.1**	**+1.7**	
ARU							10 57 09.8		
ARU				S		**S**	**11 01 03.7**	**+4.5**	
ARU				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MDVR	**Moldovita**	**26.61**	**310**	⇑P		**P**	**10 56 31.0**	**+1.8**	
BRVK	**Borovoye**	**26.69**	**27**	P		**P**	**10 56 30.4**	**+0.6**	
BRVK	**Borovoye**	**26.69**	**27**	*ce*P		**P**	**10 56 30.7**	**+0.9**	
BRVK				pmax		pmax			
	comp=Z,9.0nm,1.3s								
BVA0	**Borovoye Array**	**26.71**	**27**	*i* P		**P**	**10 56 31.0**	**+1.1**	
BVAR	**Borovoye Array**	**26.71**	**27**	P		**P**	**10 56 31.4**	**+1.5**	
	comp=Z,2.5nm,0.5s,baz=219,slow=9.0,SNR=14								
	comp=Z,2.5nm,0.5s								
MOS	**Moscow**	**26.71**	**344**	*e*P		**P**	**10 56 28.5**	**-1.4**	
DRGR		**26.82**	**315**	⇓P		**P**	**10 56 32.6**	**+1.5**	
DRGR		**26.82**	**315**	⇓P		**P**	**10 56 32.6**	**+1.5**	
SIRR	**Siria**	**27.24**	**313**	⇑P		**P**	**10 56 36.5**	**+1.7**	
KIRV	**Kirov**	**27.98**	**359**	P		**P**	**10 56 42.6**	**+1.4**	
	comp=Z,6.9nm,0.5s,baz=156,slow=10.0,SNR=5.8								
	comp=Z,6.9nm,0.5s								
MNK	**Minsk**	**28.85**	**332**	*i* P		P	10 56 43.9	-5.1	
MNK				*i* PPP		PPP	10 57 44.8		
MNK				*i*			10 59 52.3		
MNK				*i* S		**S**	**11 01 32.9**	**-4.2**	
MNK				*i* SSS		SSS	11 03 13.3		
MNK				pmax		pmax			
	comp=Z,11nm,0.7s								
MNK				pmax		pmax			
	comp=E,2.0nm,0.8s								
MNK				MLR		MLR			
	comp=N,1.0nm,21.0s								
MNK				MLR		MLR			
	comp=E,105nm,19.0s								
MNK				MLR		MLR			
	comp=Z,369nm,19.0s								
MNK	**Minsk**	**28.85**	**332**	*i* P		P	10 56 44.0	-5.0	
	comp=E,2.0nm,0.8s								
MNK				*i* P		P	10 56 44.0	-5.0	
MNK				*i* P		P	10 56 44.0	-5.0	
	comp=Z,11nm,0.7s,baz=137								
MNK				*i* PP		**PnPn**	**10 57 36.0**	**-4.6**	
MNK				*i* PPP		PPP	10 57 44.8		
MNK				*i* S		**S**	**11 01 33.0**	**-4.2**	
MNK				*i* SS		**SnSn**	**11 02 58.0**	**-2.1**	
MNK				*i* SSS		SSS	11 03 13.4		
MNK				*i* LR		LR	11 08 02.5		
MNK				*i* LRM		MLR	11 09 54.9		
	comp=N,1.0nm,20.6s								
MNK				*i* LRM		MLR	11 10 00.1		
	comp=E,105nm,18.7s								
MNK				*i* LRM		MLR	11 10 14.3		
	comp=Z,369nm,19.4s								
KURBB	**Kurchatov Arra**	**28.95**	**38**	P		**P**	**10 56 52.0**	**+2.1**	
	comp=Z,7.4nm,0.8s,baz=240,slow=9.4,SNR=20								
	comp=Z,7.4nm,0.8s								
KURK	**Kurchatov**	**29.05**	**38**	P		**P**	**10 56 49.6**	**-1.2**	
KURK				IAmb		IAmb	10 56 54.0		
	comp=Z,14nm,0.9s								
KURK	**Kurchatov**	**29.05**	**38**	*d* *i*P		**P**	**10 56 53.1**	**+2.3**	
KURK				pmax		pmax			
	comp=Z,19nm,1.3s								
MK31	**Makanchi Array**	**29.39**	**48**	P		**P**	**10 56 53.7**	**-0.3**	
MK31	**Makanchi Array**	**29.39**	**48**	*i* P		**P**	**10 56 54.3**	**+0.3**	
MKAR	**Makanchi Array**	**29.39**	**48**	P		**P**	**10 56 55.8**	**+1.8**	
	comp=Z,1.6nm,0.4s,baz=243,slow=8.0,SNR=21								
MKAR				LR		LR	11 10 21.2		
	comp=Z,495nm,18.2s,baz=156,slow=40								
	comp=Z,1.6nm,0.4s								
MKAR	**Makanchi Array**	**29.39**	**48**	P		**P**	**10 56 53.1**	**-0.9**	
KLMR	**Klimovskoe**	**31.11**	**350**	*e*P		**P**	**10 57 05.6**	**-3.3**	
KLMR				pmax		pmax			
	comp=Z,29nm,1.4s								
KLMR	**Klimovskoe**	**31.11**	**350**	*e*P		**P**	**10 57 05.7**	**-3.2**	
KLMR				AMP			10 57 10.0		
	comp=Z,29nm,1.4s								
PRGR	**Permogore**	**31.20**	**356**	*e*P		**P**	**10 57 08.7**	**-1.0**	
PRGR				pmax		pmax			
	comp=Z,9.0nm,0.6s								
ARSA	**Arzberg**	**31.52**	**312**	*e*P		P	10 57 19.2	+6.5	
	comp=Z,6.8nm,1.4s								
CONA	**Conrad Observa**	**31.53**	**313**	*e*P		P	10 57 19.1	+6.1	
	comp=Z,4.5nm,1.0s								
WMQ	**Urumqi**	**32.19**	**55**	*e*P		**P**	**10 57 22.0**	**+3.2**	
MOA	**Molln**	**32.52**	**312**	*e*P		P	10 57 27.7	+6.2	
	comp=Z,5.6nm,0.8s								
KBA	**Koelnbreinsper**	**32.88**	**311**	*e*P		P	10 57 30.4	+5.5	
	comp=Z,6.0nm,0.6s								
GEC2	**GERESS Array S**	**33.20**	**314**	P		**P**	**10 57 28.1**	**+0.5**	
GERES	**GERESS Array B**	**33.20**	**314**	P		**P**	**10 57 27.7**	**+0.1**	
	comp=Z,0.7nm,0.7s,baz=90,slow=9.6,SNR=3.6								
	comp=Z,0.7nm,0.7s								
GERES	**GERESS Array B**	**33.20**	**314**	P		**P**	**10 57 27.1**	**-0.5**	
ABTA	**Abfaltersbach**	**33.34**	**310**	*e*P		P	10 57 34.6	+5.8	
	comp=Z,3.9nm,0.8s								
KHC	**Kasperske Hory**	**33.37**	**314**	P		**P**	**10 57 29.0**	**0.0**	
KHC	**Kasperske Hory**	**33.37**	**314**	*e*P		**P**	**10 57 29.5**	**+0.5**	
KHC	**Kasperske Hory**	**33.37**	**314**	*e*P		**P**	**10 57 29.5**	**+0.5**	
DGZ	**Jazzator, Alta**	**33.65**	**45**	⇑*i*P		**P**	**10 57 33.3**	**+1.7**	
DGZ				pmax		pmax			
	comp=Z,7.0nm,1.2s								
ZCCA	**Zocca**	**33.85**	**305**	P		**P**	**10 57 32.4**	**-0.9**	
ZAA0	**Zalesovo Array**	**33.98**	**37**	P		**P**	**10 57 34.6**	**+0.4**	
ZAA0				IAmb		IAmb	10 57 36.3		
	comp=Z,8.4nm,0.8s								
ZALV	**Zalesovo Beam**	**33.98**	**37**	P		**P**	**10 57 35.1**	**+1.0**	
	comp=Z,6.0nm,0.6s,baz=250,slow=9.8,SNR=24								
	comp=Z,6.0nm,0.6s								
ZALV	**Zalesovo Beam**	**33.98**	**37**	P		**P**	**10 57 34.7**	**+0.6**	
WTTA	**Wattenberg**	**34.05**	**310**	*e*P		P	10 57 40.6	+5.5	
	comp=Z,4.9nm,0.7s								
WATA	**Walderalm**	**34.11**	**310**	*e*P		P	10 57 40.8	+5.2	
	comp=Z,9.4nm,0.8s								
MOTA	**Moosalm**	**34.42**	**310**	*e*P		P	10 57 43.5	+5.2	
	comp=Z,8.2nm,0.8s								
CLL	**Collm**	**34.50**	**318**	*i* P		**P**	**10 57 40.0**	**+1.3**	
CLL				pmax		pmax			
	comp=Z,4.0nm,0.9s								
CLL	**Collm**	**34.50**	**318**	*i* P		**P**	**10 57 40.0**	**+1.3**	
	comp=Z,4.0nm,0.9s								
CLL				*i* x		x	10 57 56.7		
FETA	**Feichten**	**34.59**	**310**	*e*P		**P**	**10 57 40.6**	**+0.8**	
	comp=Z,11nm,1.3s								
RETA	**Reutte**	**34.68**	**310**	*e*P		**P**	**10 57 40.6**	**+0.2**	
	comp=Z,1.0nm,0.4s								
FIA1	**FINESS Array S**	**34.75**	**340**	P		**P**	**10 57 40.9**	**+0.2**	
FIA1				IAmb		IAmb	10 57 54.1		
	comp=Z,14nm,1.1s								
FINES	**FINESS Array B**	**34.75**	**340**	P		**P**	**10 57 40.3**	**-0.4**	
	comp=Z,1.2nm,0.4s,baz=144,slow=9.3,SNR=9.5								
	comp=Z,1.2nm,0.4s								
FINES	**FINESS Array B**	**34.75**	**340**	P		**P**	**10 57 40.9**	**+0.2**	
FINES	**FINESS Array B**	**34.75**	**340**	P		**P**	**10 57 40.9

TORD Torodi Ar. Bea 48.06 260 P **P** 10 59 31.0 +0.5
comp=Z,6.2nm,0.9s,baz=58,slow=8.1,SNR=26
comp=Z,6.2nm,0.9s
PNCL Nicolau / Gran 48.55 296 *e*P **P** 10 59 32.4 -1.6
comp=Z,19nm,1.9s
HHC Hu-ho-hao-te 49.76 60 *e*P **P** 10 59 43.8 +0.4
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,690nm,6.7s
SPB2 Spitsbergen Ar 49.98 351 P **P** 10 59 44.2 -0.1
SPITS Spitsbergen Ar 49.98 351 P **P** 10 59 45.2 +0.8
SPITS pmax pmax
comp=Z,28nm,1.2s
LSZ Lusaka 50.40 208 LR LR 11 22 25.9
comp=Z,186nm,19.3s,baz=84,slow=38
LYN LuoYang 51.70 68 *e*P **P** 10 59 58.4 +0.5
LYN sP pP 11 00 08.0 +1.2
LYN S **S** 11 07 15.4 -2.3
LYN pmax pmax
comp=Z,680nm,12.3s
LYN LR LR
comp=N,430nm,20.2s
LYN LR LR
comp=E,400nm,15.7s
LYN LR LR
comp=Z,480nm,18.4s
KOWA Kowa 52.30 265 P **P** 11 00 03.3 +0.6
comp=Z,4.0nm,0.3s,baz=29,slow=6.1,SNR=6.0
comp=Z,4.0nm,0.3s
KOWA Kowa 52.30 265 P **P** 11 00 03.3 +0.6
KOWA IAmb IAmb 11 00 09.0
comp=Z,7.7nm,0.8s
XLT XiLinHaoTe 52.62 56 *e*P **P** 11 00 06.6 +1.9
XLT pP sP 11 00 16.3 -0.9
XLT sP pP 11 00 19.6 +5.9
XLT pmax pmax
comp=Z,15nm,1.2s
HIA Hailar 54.38 49⇓ *e*P **P** 11 00 19.7 +2.2
HIA pmax pmax
comp=Z,7.0nm,0.7s
TIA Tai'an 54.97 65 ⇓P **P** 11 00 23.8 +1.9
TIA pmax pmax
comp=Z,8.0nm,0.9s
PMOZ Porto Moniz, M 56.67 291 *e*LR LR 11 30 31.0
comp=Z,420nm,20.0s
DBIC Dimbokro 56.91 257 P **P** 11 00 36.0 0.0
comp=Z,6.0nm,0.9s,baz=33,slow=9.1,SNR=3.5
comp=Z,6.0nm,0.9s
DBIC Dimbokro 56.91 257 P **P** 11 00 34.7 -1.3
DBIC IAmb IAmb 11 00 43.4
comp=Z,14nm,1.1s
NJ2 Nanjing 57.53 69 *e*P **P** 11 00 40.6 +0.4
NJ2 pmax pmax
comp=Z,14nm,0.6s
ZEA Zeya 58.37 43 *e*P **P** 11 00 48.1 +2.3
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
YAK Yakutsk 58.49 33⇓ *e*P **P** 11 00 46.8 +0.4
YAK pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 60.78 340 P **P** 11 01 02.4 -0.2
SUMG Summit 60.78 340 P **P** 11 01 02.4 -0.2
SUMG pmax pmax
comp=Z,18nm,1.5s
SUMG Summit 60.78 340 *i* P **P** 11 01 03.0 +0.4
KLR Kul'dur 62.10 47 P **P** 11 01 12.2 +0.8
comp=Z,1.4nm,0.6s,baz=300,slow=6.1,SNR=5.7
KLR LR LR 11 31 10.6
comp=Z,134nm,18.5s,baz=276,slow=39
comp=Z,1.4nm,0.6s
KS19 Wonju Array Si 62.84 61 P **P** 11 01 15.5 -1.1
KS19 IAmb IAmb 11 01 18.6
comp=Z,6.9nm,1.0s
KSAR Wonju Array Be 62.88 61 P **P** 11 01 15.4 -1.4
KSAR Wonju Array Be 62.88 61 P **P** 11 01 15.4 -1.4
KSRS Korea Array 62.90 61 P **P** 11 01 17.6 +0.7
comp=Z,2.9nm,0.6s,baz=277,slow=7.5,SNR=16
KSRS LR LR 11 31 56.1
comp=Z,115nm,19.1s,baz=0.0,slow=39
comp=Z,2.9nm,0.6s
USRK Ussuriysk Ar. 63.70 53 P **P** 11 01 22.1 0.0
USRK Ussuriysk Ar. 63.70 53 P **P** 11 01 22.1 0.0
YSS Yuzh-Sakhalins 69.80 47 *de*P **P** 11 02 01.6 +0.6
YSS pmax pmax
comp=Z,13nm,1.7s
JTM Tenmabayashi 71.19 53 P **P** 11 02 08.9 -0.6
SCHQ Schefferville 79.36 328 P **P** 11 02 56.5 +0.2
comp=Z,2.1nm,0.4s,baz=46,slow=1.7,SNR=7.5
comp=Z,2.1nm,0.4s
SCHQ Schefferville 79.36 328 P **P** 11 02 56.6 +0.2
SCHQ IAmb IAmb 11 03 09.3
comp=Z,9.4nm,1.1s
TOLK Toolik Lake Re 79.94 7 P **P** 11 02 58.9 -0.4
BMAR Burnt Mountain 81.61 6 P **P** 11 03 10.3 +2.1
IMAR Indian Mountai 81.93 10 P **P** 11 03 10.9 +1.0
J20K Nowinta River 83.56 11 P **P** 11 03 18.1 -0.2
J20K IAmb IAmb 11 03 33.0
comp=Z,5.9nm,1.2s
SHEM Shemya Is, Ala 83.59 31 LR LR 11 45 41.0
comp=Z,99nm,18.2s,baz=324,slow=39
IL31 83.97 7 P **P** 11 03 20.2 -0.2
IL31 IAmb IAmb 11 03 45.2
comp=Z,4.7nm,1.4s
ILAR Eielson Array 83.97 7 P **P** 11 03 21.1 +0.6
comp=Z,0.4nm,0.6s,baz=316,slow=2.9,SNR=5.2
comp=Z,0.4nm,0.6s
ILAR Eielson Array 83.97 7 P **P** 11 03 19.8 -0.7
J25K Salcha River, 84.29 7 P **P** 11 03 22.4 +0.2
J25K IAmb IAmb 11 03 49.4
comp=Z,11nm,1.4s
K20K Telida 84.34 11 P **P** 11 03 23.4 +1.0
K20K IAmb IAmb 11 04 01.8
comp=Z,8.8nm,1.4s
FAKI Fak Fak 84.43 97 P **P** 11 03 22.7 -0.9
J26L Joseph Creek 84.57 6 P **P** 11 03 22.9 -0.7
J26L IAmb IAmb 11 03 30.8
comp=Z,8.5nm,1.4s
RND Reindeer 85.06 9 P **P** 11 03 26.0 -0.1
RND IAmb IAmb 11 03 54.3
comp=Z,4.6nm,1.0s
RND Reindeer 85.06 9 P **P** 11 03 26.0 -0.1
RND pmax pmax
comp=Z,5.0nm,1.0s
K27K Chicken 85.17 5 P **P** 11 03 27.9 +1.4
K27K IAmb IAmb 11 03 46.9
comp=Z,11nm,1.4s
RIDG Independent Ri 85.19 7 P **P** 11 03 27.4 +0.6
RIDG IAmb IAmb 11 04 01.9
comp=Z,8.3nm,1.3s
DAWY Dawson 85.33 4 P **P** 11 03 27.4 +0.1
DAWY IAmb IAmb 11 03 30.4
comp=Z,3.8nm,1.1s
DOT Dot Lake 85.36 6 P **P** 11 03 27.3 -0.2
DOT IAmb IAmb 11 03 56.4
comp=Z,7.0nm,1.2s
DHY Denali Highway 85.56 8 P **P** 11 03 28.1 -0.6
DHY IAmb IAmb 11 03 29.8
comp=Z,4.5nm,1.0s
SKT Skwentna 86.04 10 P **P** 11 03 30.8 -0.1
SKT IAmb IAmb 11 03 46.9
comp=Z,11nm,1.2s
BCAR Beaver Creek A 86.14 6 P **P** 11 03 32.7 +1.3
L27K Beaver Creek, 86.14 6 P **P** 11 03 32.0 +0.6
L27K IAmb IAmb 11 03 52.0
comp=Z,5.8nm,1.2s
GHO Glory Hole Cre 86.62 9 P **P** 11 03 33.3 -0.5
M24K Tolsona, Glenn 86.64 8 P **P** 11 03 35.4 +1.5
SML Sawmill 86.67 9 P **P** 11 03 32.7 -1.3
PMR Palmer 86.76 9 P **P** 11 03 34.0 -0.4
PMR Palmer 86.76 9 P **P** 11 03 34.0 -0.4
PMR pmax pmax
comp=Z,14nm,1.3s
SCM Sheep Creek Mo 86.77 8 P **P** 11 03 34.0 -0.6
SCM Sheep Creek Mo 86.77 8 P **P** 11 03 34.0 -0.6
SCM pmax pmax
comp=Z,20nm,1.2s
FITZ Fitzroy Crossi 86.96 113 P **P** 11 03 36.3 +0.3
comp=Z,2.0nm,0.9s,baz=2.2,slow=7.2,SNR=2.7
comp=Z,2.0nm,0.9s
FITZ Fitzroy Crossi 86.96 113 P **P** 11 03 35.2 -0.9
FITZ IAmb IAmb 11 03 50.3
comp=Z,6.4nm,1.1s
RC01 Rabbit Creek A 87.16 10 P **P** 11 03 36.1 -0.3
WRA Warramunga Arr 94.91 110 P **P** 11 04 12.6 -0.6
comp=Z,0.4nm,0.8s,baz=319,slow=3.8,SNR=2.3
comp=Z,0.4nm,0.8s
WRAB Tennant Creek 94.91 110 P **P** 11 04 12.7 -0.5
WRAB Tennant Creek 94.91 110 P **P** 11 04 12.7 -0.5
WRAB pmax pmax
comp=Z,8.0nm,1.3s
ASAR Alice Springs 96.44 114 P **P** 11 04 19.9 -0.1
comp=Z,0.3nm,0.9s,baz=313,slow=4.9,SNR=4.1
comp=Z,0.3nm,0.9s
ASAR Alice Springs 96.44 114 P **P** 11 04 20.0 -0.1
MDP Montagnes des 98.61 281 LR LR 11 48 24.4
comp=Z,210nm,22.0s,baz=53,slow=35

*BUL **23** 10:52:32.8±0.7,21°.64S×33°.28E,h10km,MD3.7*
*EAF **23** 10:52:33.1±3.3,24°.89S×28°.92E,h10km,MD3.6*
PRE 23 10:52:26.6±2.0, 21°.25S×33°.51E, h10km, ML2.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.98**	**221**	*e*P		Pn		10 53 14.7	+0.7
MOPA				*e*S		Sn		10 53 49.7	-0.2
MOPA				IAML				10 53 52.0	
	comp=Z,21nm,0.3s								
MOPA	**Mopani**	**2.98**	**221**	*i* P		Pn		10 53 15.6	+1.6
MOPA				*i* S		Sn		10 53 46.7	-3.2
MOPA	**Mopani**	**2.98**	**221**	*i* P		Pn		10 53 15.6	+1.6
MOPA				*i* S		Sn		10 53 46.7	-3.2
MUSN	**Musina, Limpop**	**3.55**	**252**	*e*P		Pn		10 53 23.1	+1.3
MUSN				*e*S		Sn		10 54 05.0	+1.1
MUSN				IAML				10 54 17.0	
	comp=Z,10nm,0.4s								
MUSN	**Musina, Limpop**	**3.55**	**252**	*i* P		Pn		10 53 23.6	+1.8
MUSN				*i* S		Sn		10 54 00.7	-3.1
MUSN	**Musina, Limpop**	**3.55**	**252**	*i* P		Pn		10 53 23.6	+1.8
MUSN				*i* S		Sn		10 54 00.7	-3.1
BLWY	**Bulawayo**	**4.72**	**283**	*e*S		Sn		10 54 33.5	+0.6
BLWY				IAML				10 54 55.4	
	comp=Z,24nm,0.5s								
BLWY	**Bulawayo**	**4.72**	**283**	*i* P		Pn		10 53 42.2	+4.2
BLWY				*i* S		Sn		10 54 33.4	+0.4
BLWY	**Bulawayo**	**4.72**	**283**	*i* P		Pn		10 53 42.2	+4.2
BLWY				*i* S		Sn		10 54 33.4	+0.4
MATP	**Matopo**	**4.76**	**279**	*e*P		Pn		10 53 39.3	+0.7
MATP				*e*S		Sn		10 54 33.6	-0.2
MATP				IAML				10 54 52.9	
	comp=Z,15nm,0.4s								
MATP	**Matopo**	**4.76**	**279**	*i* P		Pn		10 53 42.2	+3.7
MATP				*i* S		Sn		10 54 32.3	-1.6
MATP	**Matopo**	**4.76**	**279**	*i* P		Pn		10 53 42.2	+3.7
MATP				*i* S		Sn		10 54 32.3	-1.6
MMAL	**MMAL**	**5.22**	**203**	*e*P		Pn		10 53 48.1	+3.3
MMAL				*e*S		Sn		10 54 44.4	-0.8
MMAL				IAML				10 55 12.6	
	comp=Z,4.8nm,0.6s								
LEPH	**Lephalale, Lim**	**5.88**	**243**	*e*P		Pn		10 53 53.4	-0.5
LEPH				*e*S		Sn		10 54 58.6	-3.0
LEPH				IAML				10 55 29.7	
	comp=Z,8.1nm,0.7s								
LBTB	**Lobatse**	**8.19**	**241**	*e*S		Sn		10 55 55.0	-3.4
LBTB				IAML				10 56 44.0	
	comp=Z,2.0nm,0.5s								

*JMA **23** 11:00:34.6±0.2,34°.3N±0°.7×141°.8E±0°.8,h30km±1km,*
MV3.8/33,FAR SE OFF BOSO PEN
*IDC **23** 11:00:35.2±0.7,34°.42N×141°.65E,h0km,mb3.9/15,*
mbtmp3.9/20,ML3.0/4,Error ellipse: s-maj=17.3km
s-min=13.4km az=91.0
ISC 23 11:00:36.8±1.8, 34°.44N±0°.05×141°.65E±0°.06, h11km±10km, n43, σ0°89/45, mb3.9/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.59**	**291**	P		Pg		11 00 48.6	+0.4
BSO3	**Boso 3**	**1.01**	**291**	*e*P		Pb		11 00 55.1	-1.0
BSO3				*e*S		Sn		11 01 10.3	-0.2
BSO4	**Boso 4**	**1.21**	**297**	*e*S		Sg		11 01 15.8	-0.1
KTR	**Katsuura**	**1.30**	**303**	*e*S		Sb		11 01 18.3	+0.3
JKUC	**kamogawauchiur**	**1.39**	**301**	P		Pn		11 01 00.9	-1.2
JKUC				*e*S		Sn		11 01 19.8	-0.7
CHOJ	**Chosi**	**1.42**	**333**	P		Pn		11 01 01.4	-1.0
CHOJ				*e*S		Sn		11 01 20.8	-0.3
JSMT	**Sammumatsuo**	**1.55**	**321**	*e*S		Sn		11 01 24.4	0.0
JMKN	**Mikurajimanish**	**1.79**	**253**	*e*S		Sn		11 01 28.3	-2.1
JHJ2	**Mitsune**	**2.02**	**230**	P		Pn		11 01 10.8	0.0
JHJ	**Hachijo jima 2**	**2.04**	**230**	Pn		Pn		11 01 10.9	-0.1
	19nm,0.3s,baz=61,slow=19,SNR=9.7								
JHJ						Sn		**11 01 36.5**	**+0.1**
	80nm,0.3s,baz=72,slow=22,SNR=9.5								
	60nm,0.3s								
JOD2	**Odawara 2**	**2.26**	**292**	P		Pn		11 01 13.6	-0.4
JOD2				*e*S		Sn		11 01 41.8	-0.2
JIZS	**Izushimoda**	**2.30**	**278**	*e*P		Pn		11 01 13.7	-0.9
JIZS				S		Sn		11 01 42.2	-0.7
MJAR	**Matsushiro Arr**	**3.50**	**308**	Pn		Pn		11 01 31.3	+0.1
	2.1nm,0.3s,baz=112,slow=9.7,SNR=55								
MJAR						Sn		**11 02 12.8**	**+0.1**
	2.7nm,0.3s,baz=195,slow=23,SNR=6.1								
	7.6nm,0.4s								
MAJO	**Matsushiro**	**3.50**	**308**	P		Pn		11 01 32.2	+1.0
INU	**Inuyama**	**3.91**	**285**	P		Pn		11 01 39.3	+2.5
JCJ	**Chichijima**	**7.34**	**176**	Pn		Pn		11 02 23.3	-0.5
	64nm,0.3s,baz=345,slow=20,SNR=14								
JCJ	**Chichijima**	**7.34**	**176**	P		Pn		11 02 24.1	+0.3
ERM	**Erimo**	**7.65**	**8**	P		Pn		11 02 27.7	-0.4
KSRS	**Korea Array**	**11.53**	**289**	Pn		Pn		11 03 23.0	+1.8
	0.2nm,0.3s,baz=103,slow=14,SNR=6.3								
	0.3nm,0.8s								
USRK	**Ussuriysk Ar.**	**12.28**	**325**	Pn		Pn		11 03 30.8	-0.6
	0.1nm,0.3s,baz=132,slow=14,SNR=3.0								
	2.2nm,0.7s								
PETK	**Petropavlovsk-**	**21.87**	**27**	P		P		**11 05 28.9**	**-0.6**
	1.6nm,0.8s,baz=229,slow=5.5,SNR=5.0								
	1.6nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**26.73**	**117**	T		T		11 34 24.5	
	baz=310,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy**	**26.74**	**117**	T		T		11 34 25.6	
	baz=310,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy**	**26.75**	**117**	T		T		11 34 23.4	
	baz=310,slow=75,SNR=18								
H11S3	**WAKE ISLAND Hy**	**27.36**	**119**	T		T		11 35 13.0	
	baz=313,slow=76,SNR=4.6								
H11S1	**WAKE ISLAND Hy**	**27.36**	**119**	T		T		11 35 11.6	
	baz=313,slow=76,SNR=5.5								
H11S2	**WAKE ISLAND Hy**	**27.38**	**119**	T		T		11 35 13.3	
	baz=313,slow=76,SNR=7.4								
SONM	**Songino Array**	**29.46**	**308**	P		P		**11 06 41.1**	**+0.5**
	1.1nm,0.7s,baz=111,slow=8.9,SNR=6.1								
	1.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**41.09**	**258**	P		P		**11 08 19.9**	**-0.9**
	0.5nm,0.4s,baz=43,slow=8.8,SNR=4.8								
	0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**43.83**	**314**	P		P		**11 08 43.7**	**+1.1**
	0.9nm,0.5s,baz=85,slow=7.9,SNR=4.6								
ZALV						PcP		**PcP**	**11 10 28.9**	**0.0**
	1.0nm,0.5s,baz=145,slow=5.3,SNR=2.3								
	0.9nm,0.5s								
MKAR	**Makanchi Array**	**45.70**	**304**	P		P		**11 08 57.6**	**-0.1**
	1.1nm,0.7s,baz=89,slow=9.7,SNR=8.3								
	1.1nm,0.7s								
KURBB	**Kurchatov Arra**	**47.78**	**310**	P		P		**11 09 13.7**	**-0.2**
	1.7nm,0.6s,baz=84,slow=7.4,SNR=18								
	1.7nm,0.6s								
ILAR	**Eielson Array**	**51.59**	**31**	P		P		**11 09 43.0**	**+0.4**
	0.6nm,0.8s,baz=264,slow=6.0,SNR=8.4								
	0.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**54.42**	**199**	P		P		**11 10 04.3**	**+0.3**
	3.4nm,0.6s,baz=358,slow=7.7,SNR=14								
	3.4nm,0.6s								
WRA	**Warramunga Arr**	**54.53**	**188**	P		P		**11 10 04.5**	**-0.3**
	1.5nm,0.4s,baz=3.0,slow=7.3,SNR=40								
	1.5nm,0.4s								
ASAR	**Alice Springs**	**58.25**	**188**	P		P		**11 10 31.3**	**0.0**
	1.0nm,0.5s,baz=2.9,slow=6.8,SNR=22								
	1.0nm,0.5s								
AKASG	**Malin Array Be**	**76.47**	**323**	P		P		**11 12 26.1**	**-0.3**
	0.4nm,0.4s,baz=45,slow=6.0,SNR=4.3								
	0.4nm,0.4s								
NB2	**NORSAR Subarra**	**76.65**	**338**	P		P		**11 12 25.0**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=39,slow=5.9								
NOA	**NORSAR Array B**	**76.65**	**338**	P		P		**11 12 27.4**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=38,slow=5.9,SNR=4.1								
	comp=Z,0.7nm,0.7s								
PDAR	**Pinedale Array**	**79.35**	**45**	P		P		**11 12 43.5**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=207,slow=3.0,SNR=3.6								
	comp=Z,0.2nm,0.4s								
BRTR	**Keskin Array B**	**80.72**	**312**	P		P		**11 12 51.4**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=48,slow=2.1,SNR=2.2								
	comp=Z,0.7nm,0.7s								
TXAR	**Lajitas Array**	**91.55**	**53**	P		P		**11 13 44.4**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=284,slow=3.6,SNR=3.0								
	comp=Z,0.1nm,0.5s								
LPAZ	**La Paz**	**147.76**	**63**	PKPbc		**PKPbc**		**11 20 23.4**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=297,slow=4.5,SNR=3.3								

*IDC **23** 11:04:51.3±0.5,34°.41N×141°.49E,h0km,mb4.3/23,*
mbtmp4.3/26,ML3.0/2,MS3.6/4,Error ellipse:
s-maj=14.8km s-min=11.8km az=109.0
*JMA **23** 11:04:51.3±0.3,34°.3N±0°.9×14°.2E±°,h31km±1km,*
MD4.1/32,MV4.0/32,FAR SE OFF BOSO PEN
*MOS **23** 11:04:51.4±0.9,34°.36N×141°.43E,h14km,mb4.7/34,Error*
ellipse: s-maj=10.5km s-min=6.0km az=110.4
*NEIC **23** 11:04:53.3±1.6,34°.43N±0°.06×141°.54E±0°.09,h10km±1km,*
mb4.6/101,Error ellipse: s-maj=13.1km s-min=9.2km
az=103.0
ISC 23 11:04:54.7±0.4, 34°.38N±0°.04×141°.55E±0°.05, h27km, n240, σ1°20/238, mb4.5/94, MS3.5/4, 5C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.55**	**300**	P		Pn		**11 05 04.8**	**-1.5**
BSO3	**Boso 3**	**0.95**	**296**	P		Pb		**11 05 11.7**	**-0.8**
JKUC	**kamogawauchiur**	**1.36**	**305**	P		Pb		**11 05 17.4**	**-2.0**
JKUC				S		Sb		**11 05 36.3**	**-0.1**
JKUC	**kamogawauchiur**	**1.36**	**305**	A		A		11 05 17.4	
	comp=E,6.0nm,4.3s,comp=E,5.0nm,1.5s								
CHOJ	**Chosi**	**1.43**	**337**	⇓P		Pb		**11 05 17.9**	**-2.9**
CHOJ	**Chosi**	**1.43**	**337**	A		A		11 05 17.9	
	comp=E,3.0nm,3.2s,comp=E,3.0nm,5.0s								
JMKN	**Mikurajimanish**	**1.70**	**254**	S		Sn		**11 05 43.7**	**+0.3**
JMKN	**Mikurajimanish**	**1.70**	**254**	A		A		11 05 43.7	
	comp=E,6.0nm,4.3s,comp=E,4.0nm,2.4s								
JIM2	**Oshima 3**	**1.78**	**281**	A		A		11 05 23.3	
	comp=E,5.0nm,1.6s,comp=E,5.0nm,1.4s								
JHJ2	**Mitsune**	**1.92**	**229**			Pn		**11 05 26.3**	**+0.6**
JHJ2	**Mitsune**	**1.92**	**229**	A		A		11 05 24.0	
	comp=E,5.0nm,3.9s,comp=E,4.0nm,3.6s								
JHJ	**Hachijo jima 2**	**1.94**	**230**	Pn		Pn		**11 05 26.1**	**+0.2**
	50nm,0.3s,baz=324,slow=8.5,SNR=30								
JHJ						Sn		**11 05 50.5**	**+1.1**
	426nm,0.3s,baz=90,slow=20,SNR=8.3								
JYT	**Yasato**	**2.15**	**329**			Pn		**11 05 27.7**	**-1.1**
JOD2	**Odawara 2**	**2.21**	**294**	P		Pn		**11 05 29.3**	**-0.3**
JIZS	**Izushimoda**	**2.23**	**279**	P		Pn		**11 05 29.6**	**-0.3**
JAG	**Ashikaga**	**2.66**	**321**	⇓P		Pn		**11 05 35.8**	**0.0**
MJAR	**Matsushiro Arr**	**3.48**	**309**			Pn		**11 05 47.1**	**0.0**
	3.8nm,0.3s,baz=133,slow=10,SNR=66								
MJAR						Sn		**11 06 28.1**	**+0.8**
	2.4nm,0.3s,baz=131,slow=27,SNR=3.6								
	55nm,0.7s								
MAJO	**Matsushiro**	**3.48**	**309**			**Pn**		**11 05 48.2**	**+1.1**
MAJO	**Matsushiro**	**3.48**	**309**	P		Pn		**11 05 48.2**	**+1.1**
MJB9	**Matsu-Tunnel**	**3.48**	**309**			Pn		**11 05 48.3**	**+1.1**
JMM	**Marumori**	**3.53**	**350**			Pn		**11 05 46.2**	**-1.6**
JGF	**Kuroka**	**3.65**	**291**			Pn		**11 05 49.2**	**-0.3**
INU	**Inuyama**	**3.85**	**286**			Pn		**11 05 51.7**	**-0.5**
JSD	**Sado**	**4.51**	**325**			Pn		**11 06 00.5**	**-0.8**
JMN	**Monobe**	**6.40**	**266**	Pn		Pn		**11 06 26.1**	**-1.2**
JTM	**Tenmabayashi**	**6.41**	**357**			Pn		**11 06 26.4**	**-0.9**
JCJ	**Chichijima**	**7.28**	**176**	Pn		Pn		**11 06 39.0**	**-0.4**
	43nm,0.3s,baz=67,slow=17,SNR=11								
JCJ						Sn		**11 07 56.2**	**-5.0**
	11nm,0.3s,baz=285,slow=20,SNR=1.8								
ERM	**Erimo**	**7.72**	**9**			Pn		**11 06 43.4**	**-2.0**
ERM	**Erimo**	**7.72**	**9**	P		Pn		**11 06 43.4**	**-2.0**
JEW	**Eniwo**	**8.45**	**359**	Pn		Pn		**11 06 54.7**	**-0.5**
JTU	**Tsushima**	**10.04**	**274**	Pn		Pn		**11 07 15.2**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**10.20**	**18**	P		Pn		11 07 06.0	-13
KSRS	**Korea Array**	**11.47**	**289**	Pn		Pn		**11 07 39.2**	**+2.5**
	0.2nm,0.3s,baz=105,slow=14,SNR=15								
USA0B	**Ussuriysk Arra**	**12.28**	**326**	Pn		Pn		**11 07 46.9**	**-0.8**
USA0B	**Ussuriysk Arra**	**12.28**	**326**	P		Pn		**11 07 46.9**	**-0.8**
USRK	**Ussuriysk Ar.**	**12.28**	**326**	Pn		Pn		**11 07 47.1**	**-0.6**
	0.3nm,0.3s,baz=125,slow=12,SNR=6.6								
	4.6nm,0.6s								
USRK	**Ussuriysk Ar.**	**12.28**	**326**	P		**Pn**		**11 07 47.2**	**-0.5**
YSS	**Yuzh-Sakhalins**	**12.59**	**4**			Pn		**11 07 49.0**	**-3.0**
YSS	**Yuzh-Sakhalins**	**12.59**	**4**	*c* P		Pn		**11 07 48.6**	**-3.4**
JOW	**Kunigami**	**13.68**	**240**	Pn		Pn		**11 08 05.0**	**-2.0**
BNX	**BinXian**	**15.66**	**321**	⇑P		Pn		**11 08 30.4**	**-3.0**
BNX				pmax		pmax			
	comp=Z,8.0nm,0.5s								
KLR	**Kul'dur**	**16.51**	**337**	Pn		**Pn**		**11 08 41.4**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=133,slow=11,SNR=5.1								
KLR				LR		LR		11 15 13.0	
	comp=Z,240nm,18.6s,baz=195,slow=38								
KLR	**Kul'dur**	**16.51**	**337**	⇓ *e*P		**Pn**		**11 08 43.5**	**-0.8**
NJ2	**Nanjing**	**19.13**	**269**	*e*P		**Pn**		**11 09 15.9**	**-0.8**
NJ2				pmax		pmax			
	comp=Z,14nm,0.6s								
GUMO	**Guam**	**20.92**	**171**	LR		LR		11 17 15.5	
	comp=Z,134nm,19.8s,baz=6.5,slow=36								
ZEA	**Zeya**	**21.83**	**337**	*e*P		**P**		**11 09 45.1**	**+0.3**
ZEA				pmax		pmax			
	comp=E,20nm,1.0s								
ZEA				pmax		pmax			
	comp=N,40nm,0.9s								
ZEA				pmax		pmax			
	comp=Z,70nm,0.7s								
XLT	**XiLinHaoTe**	**21.85**	**303**	*e*P		P		11 09 51.4	+6.2
XLT				pP		pwP		11 10 02.0	+2.1
XLT				sP		sP		11 10 06.6	+13
XLT				pmax		pmax			
	comp=Z,12nm,0.8s								
PETK	**Petropavlovsk-**	**21.96**	**27**	P		**P**		**11 09 48.3**	**+2.1**
	comp=Z,1.5nm,0.7s,baz=188,slow=1.0,SNR=5.0								
PETK				LR		LR		11 21 11.1	
	comp=Z,84nm,18.3s,baz=229,slow=45								
	comp=Z,1.5nm,0.7s								
HHC	**Hu-ho-hao-te**	**24.54**	**294**	*e*P		**P**		**11 10 13.9**	**+1.7**
HHC				pmax		pmax			
	comp=Z,23nm,0.8s								
MA2	**Magadan**	**25.93**	**11**	P		**P**		**11 10 25.0**	**+0.6**
	comp=Z,6.8nm,0.6s,baz=212,slow=13,SNR=2.3								
MA2				LR		LR		11 20 60.0	
	comp=Z,192nm,18.5s,baz=274,slow=37								
	comp=Z,6.8nm,0.6s								
MA2	**Magadan**	**25.93**	**11**	P		**P**		**11 10 25.0**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**26.78**	**116**	T		T		11 38 38.7	
	baz=

	comp=Z,12nm,1.1s								
CMAR	Chiang Mai Arr	41.00	258	P		P		11 12 35.1	-0.6
	comp=Z,1.0nm,0.4s,baz=42,slow=8.2,SNR=7.8								
	comp=Z,1.0nm,0.4s								
DGZ	Jazzator, Alta	42.08	308	⇓ *e*P		P		11 12 45.5	+1.2
DGZ				pmax		pmax			
	comp=Z,14nm,0.7s								
WMQ	Urumqi	42.19	299	*e*P		P		11 12 47.8	+2.6
WMQ				pmax		pmax			
	comp=Z,18nm,0.9s								
ZAA0	Zalesovo Array	43.81	314	P		P		11 12 58.4	+0.3
ZALV	Zalesovo Beam	43.81	314	P		P		11 12 58.3	+0.2
	comp=Z,3.1nm,0.6s,baz=92,slow=6.6,SNR=12								
ZALV				PcP		PcP		11 14 44.4	+0.1
	comp=Z,3.5nm,0.5s,baz=94,slow=2.1,SNR=6.4								
	comp=Z,3.1nm,0.6s								
MK31	Makanchi Array	45.66	304	P		P		11 13 12.7	-0.3
MK31	Makanchi Array	45.66	304	P		P		11 13 12.7	-0.3
MK31				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MKAR	Makanchi Array	45.66	304	P		P		11 13 13.2	+0.2
	comp=Z,1.5nm,0.5s,baz=86,slow=9.9,SNR=11								
	comp=Z,1.5nm,0.5s								
MKAR	Makanchi Array	45.66	304	P		P		11 13 12.6	-0.5
NRIK	Noril'sk	45.73	336	P		P		11 13 13.5	+0.4
NRIK				IAmb		IAmb		11 13 14.2	
	comp=Z,13nm,1.2s								
NRIK	Noril'sk	45.73	336	P		P		11 13 13.5	+0.4
NRIK				pmax		pmax			
	comp=Z,13nm,1.3s								
KURK	Kurchatov	47.69	310	P		P		11 13 28.7	0.0
KURK	Kurchatov	47.69	310	P		P		11 13 28.7	0.0
KURK				pmax		pmax			
	comp=Z,12nm,0.8s								
MTN	Manton Dam	48.00	194	P		P		11 13 32.1	+0.7
K20K	Telida	48.47	33	P		P		11 13 36.6	+1.9
K20K				IAmb		IAmb		11 13 37.2	
	comp=Z,4.5nm,0.8s								
J20K	Nowinta River	48.52	32	P		P		11 13 36.4	+1.4
J20K				IAmb		IAmb		11 13 37.5	
	comp=Z,5.7nm,0.9s								
IMAR	Indian Mountai	48.89	29	P		P		11 13 38.4	+0.6
KDAK	Kodiak Island	49.02	40	P		P		11 13 39.4	+0.5
	comp=Z,3.7nm,0.7s,baz=276,slow=10,SNR=4.3								
	comp=Z,3.7nm,0.7s								
KDAK	Kodiak Island	49.02	40	P		P		11 13 39.7	+0.8
KDAK	Kodiak Island	49.02	40	P		P		11 13 39.7	+0.8
KDAK				pmax		pmax			
	comp=Z,39nm,1.5s								
H21K	Melozitna Rive	49.24	30	P		P		11 13 42.5	+2.0
H21K				IAmb		IAmb		11 13 43.0	
	comp=Z,3.7nm,0.8s								
TARG	Taragay, Kyrgy	49.71	298	P		P		11 13 46.2	+1.2
TARG				IAmb		IAmb		11 13 46.8	
	comp=Z,4.0nm,0.7s								
TARG	Taragay, Kyrgy	49.71	298	P		P		11 13 46.2	+1.2
TARG				pmax		pmax			
	comp=Z,4.0nm,0.7s								
MLY	Manley	50.05	31	P		P		11 13 48.7	+1.9
MLY				IAmb		IAmb		11 13 48.9	
	comp=Z,3.7nm,0.7s								
TRF	Thorofare Moun	50.18	33	P		P		11 13 48.6	+0.7
TRF				IAmb		IAmb		11 14 30.5	
	comp=Z,11nm,1.4s								
H23K	Yukon River	50.59	30	P		P		11 13 53.0	+2.2
H23K				IAmb		IAmb		11 13 53.9	
	comp=Z,5.3nm,1.1s								
NEA2	Nenana	50.74	31	P		P		11 13 53.4	+1.4
NEA2				IAmb		IAmb		11 13 54.3	
	comp=Z,6.6nm,0.8s								
TOLK	Toolik Lake Re	50.78	26	P		P		11 13 53.5	+1.2
TOLK				IAmb		IAmb		11 13 57.1	
	comp=Z,7.7nm,1.0s								
RND	Reindeer	50.82	33	P		P		11 13 53.4	+0.8
RND				IAmb		IAmb		11 13 56.9	
	comp=Z,9.0nm,1.4s								
RND	Reindeer	50.82	33	P		P		11 13 53.4	+0.8
RND				pmax		pmax			
	comp=Z,9.0nm,1.4s								
SML	Sawmill	51.08	35	P		P		11 13 53.8	-0.8
MDM	Murphy Dome	51.11	31	P		P		11 13 56.2	+1.5
KNRA	Kununurra	51.25	196	P		P		11 13 56.8	+0.6
TCOL	CIGO, UAF Yank	51.27	31	P		P		11 13 57.6	+1.7
TCOL				IAmb		IAmb		11 13 58.2	
	comp=Z,5.8nm,0.8s								
COLA	College	51.27	31	⇓ *e*P		P		11 13 56.6	+0.8
COLA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
H24K	Noodor Dome	51.28	30	P		P		11 13 55.9	-0.1
CCB	Clear Creek Bu	51.29	31	P		P		11 13 57.6	+1.6
POKR	Poker Plat Res	51.45	31	P		P		11 13 58.0	+0.8
POKR				IAmb		IAmb		11 13 59.8	
	comp=Z,6.7nm,0.8s								
KSH	Kashi	51.63	296	P		P		11 14 02.8	+3.7
KSH				pmax		pmax			
	comp=Z,3.0nm,0.6s								
HDA	Harding Lake	51.66	32	P		P		11 13 59.2	+0.4
HDA				IAmb		IAmb		11 13 59.9	
	comp=Z,4.6nm,0.7s								
IL31		51.69	31	P		P		11 13 59.6	+0.6
IL31				IAmb		IAmb		11 14 00.1	
	comp=Z,5.9nm,0.7s								
ILAR	Eielson Array	51.69	31	P		P		11 13 59.4	+0.4
	comp=Z,3.9nm,0.7s,baz=264,slow=6.1,SNR=69								
	comp=Z,3.9nm,0.7s								
BRVK	Borovoye	52.52	314	P		P		11 14 05.0	-0.4
BRVK				IAmb		IAmb		11 14 06.6	
	comp=Z,5.2nm,0.9s								
BRVK	Borovoye	52.52	314	*de*P		P		11 14 05.5	+0.2
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BMAR	Burnt Mountain	52.61	28	P		P		11 14 08.1	+2.2
DOT	Dot Lake	52.96	33	P		P		11 14 09.3	+0.8
SCRK	Sand Creek	52.97	32	P		P		11 14 09.1	+0.4
SCRK				IAmb		IAmb		11 14 10.2	
	comp=Z,4.1nm,0.7s								
L26K	Log Cabin Wild	53.33	33	P		P		11 14 12.9	+1.7
L26K				IAmb		IAmb		11 14 13.7	
	comp=Z,5.2nm,0.7s								
SNH	Sunshine Point	53.87	37	P		P		11 14 14.4	-0.9
L27K	Beaver Creek,	54.01	33	P		P		11 14 17.0	+0.7
BCAR	Beaver Creek A	54.03	33	P		P		11 14 17.1	+0.7
EGAK	Eagle	54.14	31	P		P		11 14 17.6	+0.5
EGAK				IAmb		IAmb		11 14 33.3	
	comp=Z,4.3nm,1.0s								
WB0	Warramunga Arr	54.28	188	P		P		11 14 19.0	+0.5
WB0				IAmb		IAmb		11 14 47.2	
	comp=Z,7.9nm,0.9s								
FITZ	Fitzroy Crossi	54.34	199	P		P		11 14 21.0	+2.0
	comp=Z,2.2nm,0.5s,baz=0.0,slow=10,SNR=9.5								
	comp=Z,2.2nm,0.5s								
FITZ	Fitzroy Crossi	54.34	199	P		P		11 14 20.7	+1.7
FITZ				IAmb		IAmb		11 14 35.8	
	comp=Z,13nm,1.4s								
WRAB	Tennant Creek	54.45	188	P		P		11 14 20.7	+0.9
WRAB				IAmb		IAmb		11 14 40.1	
	comp=Z,4.1nm,0.8s								
WRAB	Tennant Creek	54.45	188	P		P		11 14 20.7	+0.9
WRAB				pmax		pmax			
	comp=Z,4.0nm,0.8s								
WR0	Warramunga Arr	54.45	188	P		P		11 14 20.8	+1.0
WR0				IAmb		IAmb		11 15 01.2	
	comp=Z,5.5nm,0.8s								
WRA	Warramunga Arr	54.46	188	P		P		11 14 20.1	+0.2
	comp=Z,1.0nm,0.4s,baz=4.9,slow=7.6,SNR=17								
	comp=Z,1.0nm,0.4s								
WRA	Warramunga Arr	54.46	188	P		P		11 14 20.1	+0.2
WRA	Warramunga Arr	54.46	188	*i* P		P		11 14 20.3	+0.4
WRA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KK31	Karatay Array	54.58	302	P		P		11 14 20.4	-0.3
KK31				IAmb		IAmb		11 14 22.0	
	comp=Z,6.0nm,0.9s								
KK31	Karatay Array	54.58	302	P		P		11 14 20.4	-0.3
KK31				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KKAR	Karatay Array	54.58	302	P		P		11 14 20.4	-0.3
KKAR				IAmb		IAmb		11 14 22.0	
	comp=Z,6.0nm,0.9s								
KKAR	Karatay Array	54.58	302	P		P		11 14 20.4	-0.3
KKAR				pmax		pmax			
	comp=Z,6.0nm,0.9s								
I29M	Ogilvie Camp,	55.27	30	P		P		11 14 25.9	+0.6
I29M				IAmb		IAmb		11 14 49.3	
	comp=Z,7.9nm,1.2s								

EPYK	Eagle Plains	55.78	29	P		P		11 14 30.2	+1.3
GAR	Garm	55.97	297	P		P		11 14 30.4	-0.5
INK	Inuvik	56.70	26	P		P		11 14 36.5	+1.1
INK	Inuvik	56.70	26	P		P		11 14 36.5	+1.1
INK				pmax		pmax			
	comp=Z,7.0nm,0.7s								
CHGR	Chuyangaron	56.94	297	P		P		11 14 38.0	+0.3
CHGR	Chuyangaron	56.94	297	P		P		11 14 38.0	+0.3
CHGR				pmax		pmax			
	comp=Z,14nm,0.6s								
M31M	Drury Creek, Y	57.54	34	P		P		11 14 43.5	+1.9
M31M				IAmb		IAmb		11 14 44.0	
	comp=Z,5.2nm,1.0s								
FARO	Faro, Yukon	58.01	33	P		P		11 14 46.7	+1.8
FARO				IAmb		IAmb		11 14 59.8	
	comp=Z,8.4nm,1.4s								
AS31	Alice Springs	58.18	188	P		P		11 14 46.7	+0.3
ASAR	Alice Springs	58.18	188	P		P		11 14 46.9	+0.4
	comp=Z,0.9nm,0.6s,baz=359,slow=6.3,SNR=14								
	comp=Z,0.9nm,0.6s								
PSA00	Pilbara Seismi	59.35	204	P		P		11 14 55.5	+1.0
PSA00				IAmb		IAmb		11 15 25.3	
	comp=Z,9.8nm,1.5s								
ABKAR	Akbulak array	59.75	311	P		P		11 14 57.4	+0.3
GEYT	Alibeck	65.24	300	P		P		11 15 34.4	+0.4
	comp=Z,2.3nm,0.6s,baz=50,slow=7.9,SNR=4.1								
	comp=Z,2.3nm,0.6s								
BELG	Belogornoye	65.83	318	*ce*P		P		11 15 37.7	+0.3
BELG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
STKA	Stephens Creek	65.91	180	P		P		11 15 44.6	+6.5
	comp=Z,1.1nm,0.5s,baz=340,slow=9.3,SNR=5.9								
STKA	Stephens Creek	65.91	180	P		P		11 15 37.9	-0.2
STKA	Stephens Creek	65.91	180	P		P		11 15 37.9	-0.2
STKA				pmax		pmax			
	comp=Z,1.0nm,1.3s								
FORT	Forrest	66.05	193	P		P		11 15 37.5	-1.5
KLMR	Klimovskoe	66.06	328	*e*P		P		11 15 37.4	-1.4
KLMR				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KLMR	Klimovskoe	66.06	328	*e*P		P		11 15 37.4	-1.4
KLMR				AMP				11 15 39.4	
	comp=Z,6.0nm,0.7s								
ARCES	ARCESS Array B	66.52	340	P		P		11 15 41.3	-0.4
	comp=Z,1.6nm,0.7s,baz=69,slow=6.6,SNR=5.1								
	comp=Z,1.6nm,0.7s								
ARCES	ARCESS Array B	66.52	340	P		P		11 15 41.0	-0.6
FIA1	FINESS Array S	71.21	333	P		P		11 16 11.3	+0.4
FINES	FINESS Array B	71.21	333	P		P		11 16 11.1	+0.2
	comp=Z,3.3nm,0.7s,baz=104,slow=8.0,SNR=8.7								
	comp=Z,3.3nm,0.7s								
FINES	FINESS Array B	71.21	333	*i* P		P		11 16 11.5	+0.6
FINES				pmax		pmax			
	comp=Z,3.0nm,0.7s								
YBH	Yreka Blue Hor	71.89	52	P		P		11 16 17.3	+1.8
YBH	Yreka Blue Hor	71.89	52	P		P		11 16 17.3	+1.8
YBH				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NEW	Newport	71.96	44	P		P		11 16 17.0	+1.2
NEW				IAmb		IAmb		11 16 17.3	
	comp=Z,4.5nm,1.0s								
NEW	Newport	71.96	44	P		P		11 16 17.0	+1.2
NEW				pmax		pmax			
	comp=Z,4.0nm,1.0s								
PINE	Pine Mountain	71.98	49	P		P		11 16 17.7	+1.5
G08A	Pilot Rock	72.43	47	P		P		11 16 17.7	-1.0
K05A	Summer Lake	72.55	50	P		P		11 16 21.8	+2.2
ZEI	Tsey	72.58	310	*e*P		P		11 16 18.9	-0.9
ZEI				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KBZ	Khabaz	72.72	311	P		P		11 16 21.4	+1.1
	comp=Z,4.0nm,0.8s,baz=330,slow=4.9,SNR=5.5								
	comp=Z,4.0nm,0.8s								
KBZ	Khabaz	72.72	311	⇑ *e*P		P		11 16 21.6	+1.3
KBZ				pmax		pmax			
	comp=Z,8.0nm,1.0s								
KIV	Kislovodsk	72.74	312	*e*P		P		11 16 18.6	-1.9
KIV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
SUMG	Summit	73.33	0	P		P		11 16 24.5	+0.6
SUMG	Summit	73.33	0	P		P		11 16 24.5	+0.6
SUMG				pmax		pmax			
	comp=Z,10.0nm,1.2s								
WALA	Waterton Lakes	73.33	42	P		P		11 16 24.3	+0.3
MOD	Modoc Plateau	73.35	50	P		P		11 16 25.0	+0.7
BMO	Blue Mountains	73.66	47	P		P		11 16 26.8	+0.8
BMO	Blue Mountains	73.66	47	P		P		11 16 26.8	+0.8
BMO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
J08A	Circle Bar Ran	73.74	48	P		P		11 16 27.6	+1.2
JTMT	Jette	73.85	43	P		P		11 16 27.9	+0.8
JTMT				IAmb		IAmb		11 17 05.9	
	comp=Z,5.3nm,1.0s								
BEKR	Beckworth	74.38	52	P		P		11 16 30.8	+0.4
BEKR				IAmb		IAmb		11 16 32.0	
	comp=Z,4.0nm,0.8s								
MNK	Minsk	74.75	326	*i* P		P		11 16 30.7	-1.3
MNK				*i*				11 16 44.9	
MNK				*i*				11 19 17.0	
MNK				*i* PPP		PPP		11 21 02.4	
MNK				*i* S		S		11 26 06.7	+0.2
MNK				*i*				11 26 41.8	
MNK				*i* SS		SS		11 30 54.3	+0.9
MNK				*i* SSS		SSS		11 34 16.2	
MNK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
MNK				pmax		pmax			
	comp=E,3.0nm,0.7s								
MNK				MLR		MLR			
	comp=N,1.0nm,16.0s								
MNK				MLR		MLR			
	comp=Z,122nm,18.0s								
MNK				MLR		MLR			
	comp=E,154nm,19.0s								
MNK	Minsk	74.75	326	*i* P		P		11 16 30.8	-1.3
	comp=E,3.0nm,0.7s								
MNK				*i* P		P		11 16 30.8	-1.3
MNK				*i* P		P		11 16 30.8	-1.3
	comp=Z,10.0nm,0.8s,baz=232								
MNK				*i* PcP		PcP		11 16 45.0	-1.1
MNK				*i* PP		PP		11 19 17.1	-1.7
MNK				*i* PPP		PPP		11 21 02.5	
MNK				*i* S		S		11 26 06.7	+0.2
MNK				*i* SS		SS		11 30 54.3	+0.9
MNK				*i* SSS		SSS		11 34 16.3	
MNK				*i* LQ		LQ		11 44 19.6	
MNK				*i* LR		LR		11 49 39.0	
MNK				*i* LRM		MLR		11 51 38.2	
	comp=E,154nm,19.3s								
MNK				*i* LRM		MLR		11 51 38.2	
	comp=N,1.0nm,16.1s								
MNK				*i* LRM		MLR		11 51 38.2	
	comp=Z,122nm,18.0s								
MFID	Camas Ranch	75.33	47	P		P		11 16 36.1	+0.4
MFID				IAmb		IAmb		11 16 38.0	
	comp=Z,2.9nm,0.7s								
FFC	Flin Flon	75.88	32	P		P		11 16 39.2	+0.7
FFC				IAmb		IAmb		11 16 39.7	
	comp=Z,5.8nm,0.8s								
FFC	Flin Flon	75.88	32	P		P		11 16 39.2	+0.7
FFC				pmax		pmax			
	comp=Z,6.0nm,0.8s								
LRM	Limekiln Ridge	75.97	44	P		P		11 16 40.5	+1.0
BMN	Battle Mountai	76.10	50	P		P		11 16 40.7	+0.4
BMN				IAmb		IAmb		11 16 42.9	
	comp=Z,3.5nm,0.7s								
BMN	Battle Mountai	76.10	50	P		P		11 16 40.7	+0.4
BMN				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KVN	Kaiserville	76.29	52	P		P		11 16 42.6	+1.2
KVN				IAmb		IAmb		11 16 43.7	
	comp=Z,3.2nm,0.8s								
KVN	Kaiserville	76.29	52	P		P		11 16 42.6	+1.2
KVN				pmax		pmax			
	comp=Z,3.0nm,0.8s								
NC405	NORSAR Array S	76.46	337	P		P		11 16 41.5	-0.2
AKASG	Malin Array Be	76.47	323	P		P		11 16 41.7	-0.2
	comp=Z,2.2nm,0.5s,baz=46,slow=6.3,SNR=16								
	comp=Z,2.2nm,0.5s								
AKBB	Malin Array Si	76.47	323	P		P		11 16 41.4	-0.5
AKBB				IAmb		IAmb		11 16 42.5	
	comp=Z,5.4nm,0.8s								
AKBB	Malin Array Si	76.47	323	⇓ *e*P		P		11 16 41.7	-0.2
AKBB				pmax		pmax			
	comp=Z,6.0nm,0.8s								

NVAR	Mina Array Bea	76.50	53	P		P		11 16 44.2	+1.6
	comp=Z,1.9nm,0.7s,baz=289,slow=6.0,SNR=13								
	comp=Z,1.9nm,0.7s								
NVAR	Mina Array Bea	76.50	53	P		P		11 16 43.2	+0.6
NC204	NORSAR Array S	76.63	338	P		P		11 16 42.9	+0.1
NB2	NORSAR Subarra	76.67	338	P		P		11 16 43.2	+0.3
	comp=Z,1.8nm,0.7s,baz=40,slow=5.6								
NOA	NORSAR Array B	76.67	338	P		P		11 16 43.3	+0.3
	comp=Z,2.6nm,0.7s,baz=40,slow=5.7,SNR=12								
	comp=Z,2.6nm,0.7s								
ELK	Elko	77.18	49	P		P		11 16 47.2	+0.7
ELK				IAmb		IAmb		11 16 49.1	
	comp=Z,6.2nm,1.4s								
ELK	Elko	77.18	49	P		P		11 16 47.2	+0.7
ELK				pmax		pmax			
	comp=Z,6.0nm,1.4s								
GCMT	Greycliff	77.57	43	P		P		11 16 49.2	+0.8
IMW	Indian Meadow	77.97	45	P		P		11 16 52.6	+1.8
HVU	Hansel Valley	78.11	47	P		P		11 16 53.5	+1.9
HVU				IAmb		IAmb		11 16 54.3	
	comp=Z,4.5nm,0.8s								
HVU	Hansel Valley	78.11	47	P		P		11 16 53.5	+1.9
HVU				pmax		pmax			
	comp=Z,4.0nm,0.8s								
TPAW	Teton Pass	78.20	45	P		P		11 16 53.6	+1.5
TPAW				IAmb		IAmb		11 16 59.0	
	comp=Z,4.2nm,1.1s								
REDW	Red Top Meadow	78.33	45	P		P		11 16 54.4	+1.6
REDW				IAmb		IAmb		11 16 56.3	
	comp=Z,7.1nm,1.4s								
HWUT	Hardware Ranch	78.95	47	P		P		11 16 56.9	+0.7
HWUT				IAmb		IAmb		11 16 58.9	
	comp=Z,7.1nm,1.1s								
DUG	Dugway, Tooele	79.01	49	P		P		11 16 57.5	+1.0
DUG				IAmb		IAmb		11 16 59.1	
	comp=Z,6.4nm,0.8s								
DUG	Dugway, Tooele	79.01	49	P		P		11 16 57.5	+1.0
DUG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
TCUT	Toone Canyon	79.33	47	P		P		11 16 58.4	0.0
TCUT				IAmb		IAmb		11 17 00.9	
	comp=Z,6.4nm,0.8s								
PD31	Pinedale Array	79.45	45	P		P		11 16 58.4	-0.6
PDAR	Pinedale Array	79.45	45	P		P		11 16 59.8	+0.8
	comp=Z,1.2nm,0.8s,baz=280,slow=1.5,SNR=13								
	comp=Z,1.2nm,0.8s								
NLU	North Lily Min	79.61	49	P		P		11 17 00.2	+0.3
JLU	Jordanelle	79.61	48	P		P		11 17 00.6	+0.7
MPU	Maple Canyon	79.85	48	P		P		11 17 01.6	+0.5
MPU				IAmb		IAmb		11 17 03.6	
	comp=Z,4.0nm,0.7s								
CCUT	Cedar City	80.21	51	P		P		11 17 05.1	+1.9
MVU	Marysvale	80.38	50	P		P		11 17 06.0	+1.9
MSU	Marysvale	80.40	50	P		P		11 17 05.4	+1.2
MSU	Marysvale	80.40	50	P		P		11 17 05.4	+1.2
TMUT	Trail Mountain	80.54	49	P		P		11 17 06.5	+1.4
LCMT	Little Creek M	80.60	52	P		P		11 17 06.5	+1.4
BR131	Keskin Array S	80.70	312	⇑ *e*P		P		11 17 05.3	-0.3
BRTR	Keskin Array B	80.70	312	P		P		11 17 06.4	+0.8
	comp=Z,2.3nm,0.7s,baz=118,slow=4.2,SNR=8.2								
	comp=Z,2.3nm,0.7s								
BRTR	Keskin Array B	80.70	312	P		P		11 17 05.5	-0.1
BRTR	Keskin Array B	80.70	312	*i* P		P		11 17 06.5	+0.8
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
RDMU	Red Mountain	80.78	47	P		P		11 17 07.4	+1.3
KNB	Kanab	80.87	51	P		P		11 17 07.8	+1.1
KNB				IAmb		IAmb		11 17 09.6	
	comp=Z,6.3nm,1.0s								
KNB	Kanab	80.87	51	P		P		11 17 07.8	+1.1
KNB				pmax		pmax			
	comp=Z,6.0nm,1.0s								
U15A	North Rim	81.56	52	P		P		11 17 09.5	-1.0
RAYN	Ar Rayn	81.77	293	P		P		11 17 11.3	-0.1
RAYN				IAmb		IAmb		11 17 14.0	
	comp=Z,4.1nm,1.0s								
RAYN	Ar Rayn	81.77	293	P		P		11 17 11.4	-0.1
RAYN				pmax		pmax			
	comp=Z,4.0nm,1.0s								
O20A	White River Ci	81.84	47	P		P		11 17 12.7	+0.9
O20A				IAmb		IAmb		11 17 13.8	
	comp=Z,5.2nm,1.1s								
PV11	David Mesa, Pa	82.59	48	P		P		11 17 16.6	+0.9
PV13	Radium Mtn., P	82.71	48	P		P		11 17 17.3	+0.9
N23A	Red Feather La	82.73	45	P		P		11 17 17.0	+0.5
N23A				IAmb		IAmb		11 17 19.2	
	comp=Z,5.7nm,1.0s								
S22A	4UR Ranch, Cre	84.20	48	P		P		11 17 25.0	+0.9
S22A				IAmb		IAmb		11 17 26.9	
	comp=Z,2.6nm,0.9s								
GERES	GERESS Array B	85.02	328	P		P		11 17 28.0	+0.2
	comp=Z,1.0nm,0.8s,baz=46,slow=6.3,SNR=7.1								
	comp=Z,1.0nm,0.8s								
TXAR	Lajitas Array	91.65	52	P		P		11 18 01.0	+1.1
	comp=Z,0.6nm,0.6s,baz=300,slow=3.3,SNR=12								
	comp=Z,0.6nm,0.6s								
TXAR	Lajitas Array	91.65	52	P		P		11 18 01.0	+1.1
TORD	Torodi Ar. Bea	119.26	314	PKP		PKiKP		11 23 41.8	-0.3
	comp=Z,0.5nm,0.5s,baz=2.3,slow=1.9,SNR=4.0								
LPAZ	La Paz	147.86	63	PKPbc		PKiKP		11 24 39.7	-0.8
	comp=Z,4.4nm,0.6s,baz=267,slow=2.4,SNR=17								

JMA ***23*** *11:23:01.8±0.3,34.4N±0.9×14.2E±, h30km±1km, MV3.2/23,FAR SE O

BSO1	**Boso 1**	**0.62**	**283**	P	**Pg**	**11 33 02.0 +0.2**
CHOJ	**Chosi**	**1.38**	**330**	*e*P	**Pn**	**11 33 12.8 -1.4**
CHOJ				*e*S	**Sn**	**11 33 30.8 -1.1**
JKUC	**kamogawauchiur**	**1.40**	**298**	P	**Pn**	**11 33 13.7 -0.8**
JKUC				S	**Sn**	**11 33 31.9 -0.7**
JMKN	**Mikurajimanish**	**1.86**	**251**	P	**Pn**	**11 33 19.9 -1.0**
JMKN				S	**Sn**	**11 33 42.7 -1.4**
JHJ	**Hachijo jima 2**	**2.12**	**230**	Pn	**Pn**	**11 33 24.2 -0.3**
	8.9nm,0.3s,baz=67,slow=21,SNR=8.1					
JHJ				Sn	**Sn**	**11 33 50.5 0.0**
	85nm,0.3s,baz=268,slow=24,SNR=9.0					
JAG	**Ashikaga**	**2.65**	**317**	*e*P	**Pn**	**11 33 31.3 -0.4**
JAG				*e*S	**Sn**	**11 34 02.6 -0.9**
MJAR	**Matsushiro Arr**	**3.50**	**306**	Pn	**Pn**	**11 33 44.2 +0.8**
	0.2nm,0.3s,baz=158,slow=17,SNR=9.6					
MJAR				Sn	**Sn**	**11 34 27.8 +3.3**
	0.1nm,0.3s,baz=198,slow=13,SNR=1.7 1.2nm,0.3s					
H11N2	**WAKE ISLAND Hy**	**26.72**	**117**	T	T	12 06 32.8
	baz=309,slow=75,SNR=5.7					
H11N1	**WAKE ISLAND Hy**	**26.73**	**117**	T	T	12 06 33.9
	baz=309,slow=75,SNR=4.4					
H11N3	**WAKE ISLAND Hy**	**26.74**	**117**	T	T	12 06 30.8
	baz=309,slow=75,SNR=3.6					
H11S3	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	12 07 26.9
	baz=312					
H11S1	**WAKE ISLAND Hy**	**27.36**	**119**	T	T	12 07 24.6
	baz=312					
H11S2	**WAKE ISLAND Hy**	**27.37**	**119**	T	T	12 07 30.2
	baz=312					
WRA	**Warramunga Arr**	**54.61**	**189**	P	**P**	**11 42 17.7 +0.3**
	0.4nm,0.6s,baz=2.1,slow=7.7,SNR=11 0.4nm,0.6s					
ASAR	**Alice Springs**	**58.34**	**188**	P	**P**	**11 42 44.9 +0.9**
	0.3nm,0.7s,baz=19,slow=11,SNR=5.4 0.3nm,0.7s					

MAN 23 11:37:45.0,8.63N×125.65E,h57km,mb4.0,ML2.8,MS2.5, 4C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.34**	**355**↓	*e*P	Pn	11 37 56.3	+1.2
BUKP	**Musuan**	**0.94**	**218**↓	*i*P	Pn	11 38 03.6	+1.4
BUKP				*e*S	Sn	11 38 18.1	+3.2
CGP	**Cagayan de Oro**	**0.96**	**260**↑	*e*P	Pn	11 38 03.3	+1.0
CGP				*e*S	Sn	11 38 15.5	+1.3
CDOP	**Cateel, Davao**	**1.15**	**137**↑	*i*P	Pn	11 38 05.5	+0.7
CDOP				*i* S	Sn	11 38 21.3	+1.8
GLSP	**General Luna,**	**1.24**	**22**↓	*e*P	Pn	11 38 06.6	+0.5
GLSP				*e*S	Sn	11 38 24.0	+2.1
GHBP	**Garcia Hernand**	**1.65**	**307**↓	*i*P	Pn	11 38 12.6	+1.0
GHBP				*i* S	Sn	11 38 33.6	+1.8
KCP	**Kidapawan**	**1.70**	**199**↑	*e*P	Pn	11 38 05.5	-6.9
KCP				*e*S	Sn	11 38 34.9	+1.8
LSIP	**Lazi, Siquijor**	**2.06**	**284**↑	*i*P	Pn	11 38 18.1	+1.0
LSIP				*e*S	Sn	11 38 42.0	+0.3
TBP	**Tagbilaran**	**2.06**	**301**	*e*P	Pn	11 38 19.0	+1.9
TBP				*i* S	Sn	11 38 22.5	-19

*VAO **23** 11:38:51.2±0.7, 17°.93S×69°.23W,h118km±6km, mb4.2*
*GUC **23** 11:38:52.2±0.5, 18°.00S×69°.37W,h130km±3km, ML3.9*
*IDC **23** 11:38:52.9±1.4, 18°.17S×68°.99W,h136km±8km, mb3.8/5, mbtmp4.3/8, Error ellipse: s-maj=35.1km s-min=8.9km az=103.0*
ISC 23 11:38:51.4±0.7,18°.03S±0°.05×69°.33W±0°.08,h133km±7km, n53,σ1§13/56,mb4.1/4,3C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.35**	**209**↓	*i*P	**Pn**	**11 39 11.3**	**+0.5**
PB16				*i* S	**Sn**	**11 39 26.2**	**+0.7**
PB16				IAML		11 39 27.1	
	comp=E,2μm,0.4s						
AP01	**Chacalluta**	**1.02**	**250**	*i* P	**Pn**	**11 39 14.4**	**-0.3**
AP01				*i* S	**Sn**	**11 39 31.8**	**-0.6**
PB12	**IPOC Station P**	**1.11**	**238**↑	*i*P	**Pn**	**11 39 15.0**	**-0.8**
PB12				*i* S	**Sn**	**11 39 33.1**	**-1.1**
PB12				IAML		11 39 34.0	
	comp=E,2μm,0.2s						
GO01	**Chusmiza**	**1.64**	**175**↑	*i*P	**Pn**	**11 39 22.9**	**+1.1**
GO01				*i* S	**Sn**	**11 39 46.3**	**+1.4**
GO01				IAML		11 39 50.4	
	comp=N,884nm,0.4s						
LPAZ	**La Paz**	**2.08**	**34**	P	**Pn**	**11 39 28.9**	**+1.7**
	comp=N,256nm,0.3s,baz=176,slow=2.6,SNR=1936						
LPAZ				S	**Sn**	**11 39 55.8**	**+1.4**
	comp=N,79nm,0.4s,baz=94,slow=2.9,SNR=12						
LPAZ	**La Paz**	**2.08**	**34**↑	*i*P	**Pn**	**11 39 28.8**	**+1.7**
LPAZ				*i* S	**Sn**	**11 39 55.2**	**+0.7**
PB08	**IPOC Station P**	**2.11**	**175**↓	*i*P	**Pn**	**11 39 28.1**	**+0.8**
PB08				*i* S	**Sn**	**11 39 55.1**	**+0.4**
PB08				IAML		11 39 58.3	
	comp=N,370nm,0.2s						
TA02	**Huaiquique**	**2.35**	**199**	IAML		11 40 05.7	
	comp=N,570nm,0.1s						
TA01	**Diego Aracena**	**2.65**	**198**	IAML		11 40 10.0	
	comp=E,252nm,0.3s						
PATCX	**Punta Patache**	**2.88**	**195**	IAML		11 40 18.5	
	comp=E,413nm,0.8s						
PB01	**IPOC Station P**	**3.00**	**183**	*e*P	**Pn**	**11 39 38.4**	**+0.1**
PB01				*i* S	**Sn**	**11 40 12.6**	**-1.9**
PB01				IAML		11 40 19.4	
	comp=E,419nm,0.2s						
PB02	**IPOC Station P**	**3.31**	**189**	*e*P	**Pn**	**11 39 42.4**	**+0.1**
PB02				IAML		11 40 32.4	
	comp=E,473nm,0.3s						
PB09	**IPOC Station P**	**3.75**	**179**	*e*P	**Pn**	**11 39 48.7**	**+0.6**
LVC	**Limon Verde**	**4.57**	**175**	P	**Pn**	**11 39 59.3**	**+0.1**
	comp=E,15nm,0.3s,baz=35,slow=11,SNR=38						
LVC				S	**Sn**	**11 40 49.2**	**-2.7**
	comp=E,40nm,0.3s,baz=77,slow=23,SNR=15						
LVC	**Limon Verde**	**4.57**	**175**	*e*P	**Pn**	**11 39 59.6**	**+0.4**
SIV	**San Ignacio**	**8.16**	**77**	P	**Pn**	**11 40 44.9**	**-2.2**
	comp=E,22nm,0.3s,baz=252,slow=7.8,SNR=72						
ETMB	**Extrema**	**8.71**	**21**	*e*P	**Pn**	**11 40 52.6**	**-1.9**
PTLB	**Pontes e Lacer**	**10.10**	**77**	*e*P	**Pn**	**11 41 11.1**	**-2.0**
VILB	**Vilhena**	**10.14**	**61**	*e*P	**Pn**	**11 41 11.9**	**-1.9**
SALV	**Santo Antonio**	**13.22**	**83**	*e*P	**Pn**	**11 41 53.1**	**-1.0**
CLDB	**Colider**	**14.91**	**63**	*e*P	**Pn**	**11 42 13.4**	**-2.3**
PTGB	**Pitanga**	**17.39**	**115**	*e*P	**Pn**	**11 42 46.7**	**+0.5**
NPGB	**Novo Progresso**	**17.46**	**53**	*e*P	**P**	**11 42 45.9**	**-0.3**
H03N1	**Juan Fernandez**	**17.59**	**207**	T	T	12 00 51.3	
	baz=28,slow=73,SNR=4.0						
H03N2	**Juan Fernandez**	**17.60**	**207**	T	T	12 00 41.0	
	baz=28,slow=73,SNR=2.9						
H03N3	**Juan Fernandez**	**17.61**	**207**	T	T	12 01 08.8	
	baz=28,slow=73,SNR=2.4						
ITAB	**Concordia**	**18.31**	**123**	*e*P	**Pn**	**11 42 56.6**	**-0.4**
SNDB	**Serra Nova Dou**	**18.43**	**73**	*e*P	**P**	**11 42 56.4**	**-0.4**
CPSB	**Cacapava Do Su**	**18.99**	**133**	*e*P	**P**	**11 43 04.0**	**+1.2**
ITTB	**Itaituba**	**19.01**	**46**	*e*P	**P**	**11 43 02.0**	**-1.1**
BB19B	**Bebedouro**	**19.84**	**102**	*e*P	**P**	**11 43 11.9**	**-0.1**
IPMB	**Ipameri, GO**	**20.09**	**93**	*e*P	**P**	**11 43 14.6**	**-0.2**
TIJ01	**Guaruva-PR**	**20.22**	**115**	*e*P	**P**	**11 43 16.9**	**+0.7**
BDFB	**Brasilia**	**20.54**	**87**	P	**P**	**11 43 19.0**	**-0.8**
	comp=E,2.8nm,0.3s,baz=246,slow=12,SNR=5.3 comp=E,2.8nm,0.3s						
BDFB	**Brasilia**	**20.54**	**87**	*e*P	**P**	**11 43 19.4**	**-0.3**
PMNB	**Patos De Minas**	**21.74**	**95**	*e*P	**P**	**11 43 31.5**	**-1.0**
MALB	**Monte Alegre**	**21.84**	**44**	*e*P	**P**	**11 43 33.4**	**-0.1**
BOAV	**Boa Vista**	**22.07**	**24**	*e*P	**P**	**11 43 35.8**	**-0.1**
PLCA	**Paso Flores**	**22.65**	**182**	P	**P**	**11 43 42.2**	**+0.8**
	comp=E,1.8nm,0.7s,baz=353,slow=9.2,SNR=6.6 comp=E,1.8nm,0.7s						
PLCA	**Paso Flores**	**22.65**	**182**	*e*P	**P**	**11 43 42.7**	**+1.3**
SMTB	**Santa Maria do**	**23.00**	**70**	*e*P	**P**	**11 43 44.9**	**-0.1**
JANB	**Januaria**	**24.16**	**87**	*e*P	**P**	**11 43 54.5**	**-1.1**
SDBA	**SAO DESIDERIO**	**24.21**	**80**	*e*P	**P**	**11 43 55.9**	**-0.2**
DIAM	**Diamantina, MG**	**24.38**	**95**	*e*P	**P**	**11 43 57.8**	**+0.1**
VNA3	**Neumayer Olymp**	**63.48**	**162**	P	**P**	**11 49 07.9**	**+1.0**
VNA1	**Neumayer--Stat**	**63.67**	**161**	P	**P**	**11 49 09.3**	**+1.2**
VNA2	**Neumayer--Watz**	**64.04**	**161**	P	**P**	**11 49 11.5**	**+0.9**
	baz=300,slow=8.0						
SNAA	**Sanae**	**65.67**	**161**	P	**P**	**11 49 21.9**	**+0.6**
TROLL	**Troll, Antarti**	**67.39**	**161**	P	**P**	**11 49 33.3**	**+1.1**
DBIC	**Dimbokro**	**68.17**	**75**	P	**P**	**11 49 37.0**	**-1.0**
	comp=E,4.4nm,1.0s,baz=268,slow=7.5,SNR=2.4 comp=E,4.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.59**	**71**	P	**P**	**11 50 26.9**	**-1.0**
	comp=E,1.9nm,0.4s,baz=252,slow=5.7,SNR=29 comp=E,1.9nm,0.4s						
MAW	**Mawson**	**87.75**	**163**	P	**P**	**11 51 26.4**	**+1.4**
	comp=E,1.0nm,0.7s,baz=243,slow=4.5,SNR=2.1 comp=E,1.0nm,0.7s						
SONM	**Songino Array**	**150.07**	**6**	PKPbc	**PKPbc**	**11 58 27.3**	**+0.7**
	comp=E,0.7nm,0.4s,baz=221,slow=4.4,SNR=5.1						

*NOU **23** 11:39:49.2,37°.49S×179°.75E,h120km,MLv4.1/9, Off E. Coast of N. Island, N.Z.*
*WEL **23** 11:39:56.7±0.8,37°.5S±4°×17°.9E±°,h18km±4km, M3.5/35, ML3.7/37,MLv3.5/35, Error ellipse: s-maj=0.0km s-min=0.0km az=94.6*
ISC 23 11:39:53.4±2.1,37°.43S±0°.07×179°.21E±0°.10,h53km±20km, n130,σ1§85/143,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.73**	**259**	P	**Pn**	**11 40 06.3**	**-1.4**
MXZ				S	**Sn**	**11 40 12.7**	**-5.4**
WMGZ	**Waiomatatini S**	**0.75**	**238**	P	**Pn**	**11 40 09.0**	**+1.1**
WMGZ				S	**Sn**	**11 40 18.0**	**-0.5**
PUZ	**Puketiti**	**0.99**	**229**	P	**Pn**	**11 40 12.8**	**+1.6**
PUZ				S	**Sn**	**11 40 25.1**	**+0.8**
PKGZ	**Pakihiroa**	**1.01**	**243**	P	**Pn**	**11 40 12.2**	**+0.8**
PKGZ				S	**Sn**	**11 40 23.5**	**-1.3**
HAZ	**Te Kaha**	**1.18**	**253**	P	**Pn**	**11 40 14.1**	**+0.5**
HAZ				S	**Sn**	**11 40 28.4**	**-0.3**
TWGZ	**Tauwhareparae**	**1.23**	**232**	P	**Pn**	**11 40 16.3**	**+1.9**
TWGZ				S	**Sn**	**11 40 31.5**	**+1.5**
CNGZ	**Carnagh Statio**	**1.32**	**217**	P	**Pn**	**11 40 18.7**	**+3.1**
CNGZ				S	**Sn**	**11 40 36.7**	**+4.6**
RUGZ	**Raukumara Rang**	**1.33**	**246**	P	**Pn**	**11 40 17.2**	**+1.4**
RUGZ				S	**Sn**	**11 40 33.2**	**+0.7**
TKGZ	**Te Karaka**	**1.48**	**226**	P	**Pn**	**11 40 19.4**	**+1.8**
MWZ	**Matawai**	**1.61**	**235**	P	**Pn**	**11 40 20.9**	**+1.4**
MWZ				S	**Sn**	**11 40 40.7**	**+1.5**
WIZ	**White Island**	**1.61**	**266**	P	**Pn**	**11 40 21.5**	**+2.0**
RIGZ	**Rimuhau**	**1.72**	**221**	P	**Pn**	**11 40 22.9**	**+1.9**
RAGZ	**Rawiri**	**1.78**	**233**	P	**Pn**	**11 40 23.4**	**+1.6**
PRGZ	**Paritu Road**	**1.83**	**215**	P	**Pn**	**11 40 24.6**	**+2.2**
WHRZ	**Whale Island**	**1.83**	**256**	P	**Pn**	**11 40 25.0**	**+2.5**
URZ	**Urewera**	**1.86**	**243**	P	**Pn**	**11 40 24.9**	**+2.0**
URZ				S	**Sn**	**11 40 45.5**	**+0.3**
URZ	**Urewera**	**1.86**	**243**	P	**Pn**	**11 40 24.7**	**+1.8**
KNZ	**Kokohu**	**2.00**	**217**	P	**Pn**	**11 40 26.4**	**+1.6**
SNGZ	**Shannon Statio**	**2.00**	**227**	P	**Pn**	**11 40 26.8**	**+1.9**
SNGZ				S	**Sn**	**11 40 50.0**	**+1.2**
MHGZ	**Mahia Peninsul**	**2.01**	**210**	P	**Pn**	**11 40 27.2**	**+2.3**
EDRZ	**Edgecumbe**	**2.08**	**250**	P	**Pn**	**11 40 27.6**	**+1.7**
MARZ	**Manawahe**	**2.09**	**254**	P	**Pn**	**11 40 27.6**	**+1.5**
MARZ				S	**Sn**	**11 40 49.4**	**-1.5**
RTZ	**Ruatahuna**	**2.13**	**235**	P	**Pn**	**11 40 28.7**	**+2.1**
OPRZ	**Ohinepanea**	**2.15**	**258**	P	**Pn**	**11 40 28.1**	**+1.3**
OPRZ				S	**Sn**	**11 40 50.1**	**-2.2**
MUGZ	**Murupara**	**2.20**	**241**	P	**Pn**	**11 40 29.1**	**+1.6**
MUGZ				S	**Sn**	**11 40 52.9**	**-0.6**
RAHZ	**Arahi**	**2.24**	**228**	P	**Pn**	**11 40 30.0**	**+1.9**
WHHZ	**Waihua**	**2.27**	**223**	P	**Pn**	**11 40 30.4**	**+2.0**
TARZ	**Mount Tarawera**	**2.29**	**249**	P	**Pn**	**11 40 30.6**	**+1.8**
RRRZ	**Republican Roa**	**2.32**	**246**	P	**Pn**	**11 40 31.0**	**+1.8**
MTHZ	**Maungataniwha**	**2.35**	**232**	P	**Pn**	**11 40 31.6**	**+2.0**
OMRZ	**Omania**	**2.35**	**252**	P	**Pn**	**11 40 32.4**	**+2.8**
TGMZ	**Tauranga**	**2.37**	**262**	P	**Pn**	**11 40 30.9**	**+1.2**
MYRZ	**Mayor Island**	**2.37**	**273**	P	**Pn**	**11 40 32.3**	**+2.4**
HLRZ	**Highlands Stat**	**2.41**	**249**	P	**Pn**	**11 40 32.5**	**+2.1**
KARZ	**Kaharoa**	**2.43**	**255**	P	**Pn**	**11 40 32.2**	**+1.5**
PRRZ	**Plateau Road**	**2.47**	**243**	P	**Pn**	**11 40 32.7**	**+1.4**
NGRZ	**Ngongotaha**	**2.49**	**253**	P	**Pn**	**11 40 34.0**	**+2.4**
HRRZ	**Handcock Road**	**2.51**	**247**	P	**Pn**	**11 40 33.5**	**+1.7**
HSRZ	**Hossack Road**	**2.51**	**248**	P	**Pn**	**11 40 34.2**	**+2.4**
NMHZ	**Naumai**	**2.52**	**228**	P	**Pn**	**11 40 34.0**	**+2.0**
ARHZ	**Aropaoanui**	**2.53**	**223**	P	**Pn**	**11 40 33.9**	**+1.9**
ALRZ	**Allen Road**	**2.54**	**243**	P	**Pn**	**11 40 33.8**	**+1.7**
MRHZ	**Matea Rd**	**2.62**	**237**	P	**Pn**	**11 40 34.9**	**+1.6**
KMRZ	**Kaimai**	**2.63**	**260**	P	**Pn**	**11 40 35.0**	**+1.6**
WPRZ	**Whakapapatarin**	**2.65**	**245**	P	**Pn**	**11 40 35.8**	**+2.1**
BKZ	**Black Stump Fm**	**2.76**	**230**	P	**Pn**	**11 40 36.8**	**+1.6**
BKZ	**Black Stump Fm**	**2.76**	**230**	P	**Pn**	**11 40 36.8**	**+1.6**
CKHZ	**Cape Kidnapper**	**2.79**	**216**	P	**Pn**	**11 40 37.0**	**+1.4**
MCHZ	**McNeill Hill**	**2.82**	**224**	P	**Pn**	**11 40 37.6**	**+1.6**
KUZ	**Kuaotunu**	**2.87**	**283**	P	**Pn**	**11 40 36.3**	**-0.4**
KUTZ	**Kaahu Road**	**2.88**	**247**	P	**Pn**	**11 40 38.9**	**+2.0**
KWHZ	**Kaweka Forest**	**2.96**	**227**	P	**Pn**	**11 40 39.1**	**+1.1**
TOZ	**Tahuroa Road**	**2.96**	**263**	P	**Pn**	**11 40 39.1**	**+1.1**
KAHZ	**Kahuranaki**	**2.99**	**217**	P	**Pn**	**11 40 39.6**	**+1.3**
TLZ	**Tolley Road**	**3.04**	**252**	P	**Pn**	**11 40 40.7**	**+1.6**
RATZ	**Rangitukua**	**3.07**	**241**	P	**Pn**	**11 40 41.6**	**+2.1**
KRHZ	**Kereru**	**3.14**	**224**	P	**Pn**	**11 40 41.4**	**+1.0**
KATZ	**Kakaramea**	**3.17**	**240**	P	**Pn**	**11 40 42.8**	**+1.8**
PXZ	**Pawanui**	**3.19**	**215**	P	**Pn**	**11 40 41.4**	**+0.5**
BHHZ	**Black Hill Sta**	**3.22**	**229**	P	**Pn**	**11 40 42.7**	**+1.2**
GRZ	**Great Barrier**	**3.23**	**290**	P	**Pn**	**11 40 42.2**	**+0.6**
TMVZ	**Te Maari**	**3.24**	**238**	P	**Pn**	**11 40 43.2**	**+1.4**
ETVZ	**East Tongariro**	**3.24**	**237**	P	**Pn**	**11 40 43.2**	**+1.3**
NTVZ	**North Tongarir**	**3.25**	**238**	P	**Pn**	**11 40 43.3**	**+1.3**
MKAZ	**Moumakai**	**3.25**	**274**	P	**Pn**	**11 40 42.3**	**+0.5**
KRVZ	**Karewarewa**	**3.27**	**233**	P	**Pn**	**11 40 43.8**	**+1.4**
OTVZ	**Otuzo**	**3.29**	**237**	P	**Pn**	**11 40 43.8**	**+1.3**
NNVZ	**North Ngauruho**	**3.31**	**238**	P	**Pn**	**11 40 44.2**	**+1.4**
WTVZ	**West Tongariro**	**3.31**	**238**	P	**Pn**	**11 40 44.6**	**+1.8**
SNVZ	**South Ngauruho**	**3.31**	**237**	P	**Pn**	**11 40 44.2**	**+1.3**
WIAZ	**Waiheke Island**	**3.32**	**280**	P	**Pn**	**11 40 43.2**	**+0.4**
NGZ	**Ngauruhoe**	**3.34**	**237**	P	**Pn**	**11 40 44.5**	**+1.3**
TUVZ	**Tukino**	**3.35**	**236**	P	**Pn**	**11 40 44.9**	**+1.5**
MOVZ	**Moawhango**	**3.36**	**233**	P	**Pn**	**11 40 44.8**	**+1.3**
TWVZ	**Taurewa**	**3.40**	**240**	P	**Pn**	**11 40 45.4**	**+1.4**
WHVZ	**Whangaehu Hut**	**3.40**	**236**	P	**Pn**	**11 40 45.5**	**+1.4**
FWVZ	**Far West T-bar**	**3.41**	**236**	P	**Pn**	**11 40 45.6**	**+1.4**
WPHZ	**Waipukurau**	**3.41**	**219**	P	**Pn**	**11 40 44.8**	**+0.7**
WNVZ	**Wahianoa**	**3.42**	**235**	P	**Pn**	**11 40 45.4**	**+1.1**
PNHZ	**Pukenui**	**3.43**	**223**	P	**Pn**	**11 40 44.4**	**+0.1**
ETAZ	**East Tamaki Re**	**3.46**	**277**	P	**Pn**	**11 40 45.5**	**+0.8**
PRHZ	**Porangahau**	**3.48**	**215**	P	**Pn**	**11 40 44.8**	**-0.3**
MBAZ	**Motutapu North**	**3.51**	**275**	P	**Pn**	**11 40 46.7**	**+1.2**
MTVZ	**Mangateitei**	**3.53**	**235**	P	**Pn**	**11 40 47.0**	**+1.2**
PKVZ	**Pokaka**	**3.56**	**237**	P	**Pn**	**11 40 47.5**	**+1.3**
HIZ	**Hauiti**	**3.61**	**251**	P	**Pn**	**11 40 49.3**	**+2.5**
HIZ	**Hauiti**	**3.61**	**251**	P	**Pn**	**11 40 49.3**	**+2.5**
TSZ	**Takapari Road**	**3.66**	**223**	P	**Pn**	**11 40 47.7**	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.67**	**274**	P	**Pn**	**11 40 49.7**	**+2.1**
DVHZ	**Dannevirke**	**3.73**	**219**	P	**Pn**	**11 40 48.6**	**+0.2**
RVAZ	**Riverhead Bore**	**3.76**	**279**	P	**Pn**	**11 40 50.1**	**+1.2**
BFZ	**Birch Farm**	**3.99**	**214**	P	**Pn**	**11 40 51.5**	**-0.5**
BFZ	**Birch Farm**	**3.99**	**214**	P	**Pn**	**11 40 51.6**	**-0.4**
POWZ	**Post Office Ro**	**4.00**	**221**	P	**Pn**	**11 40 52.0**	**-0.2**
PRWZ	**Pori Road**	**4.02**	**218**	P	**Pn**	**11 40 52.7**	**+0.3**
WAZ	**Wanganui**	**4.05**	**234**	P	**Pn**	**11 40 54.7**	**+1.9**
WCZ	**Waipu Caves**	**4.18**	**289**	P	**Pn**	**11 40 55.7**	**+1.0**
CPWZ	**Castlepoint**	**4.19**	**213**	P	**Sn**	**11 41 40.9**	**-1.6**
PREZ	**Palmer Road**	**4.41**	**243**	P	**Pn**	**11 41 01.2**	**+3.4**
NEZ	**North Egmont**	**4.42**	**244**	P	**Pn**	**11 41 01.1**	**+3.0**
PKE	**Pukeiti**	**4.47**	**245**	P	**Pn**	**11 41 02.5**	**+3.8**
KHEZ	**Mehui Hut**	**4.49**	**244**	P	**Pn**	**11 41 02.0**	**+3.1**
NBEZ	**Newall Road No**	**4.59**	**245**	P	**Pn**	**11 41 04.1**	**+3.9**
OUZ	**Omahuta**	**5.04**	**294**	P	**Pn**	**11 41 08.2**	**+1.8**
OUZ	**Omahuta**	**5.04**	**294**	P	**Pn**	**11 41 08.2**	**+1.8**
SNZO	**South Karori**	**5.22**	**221**	P	**Pn**	**11 41 08.2**	**-0.6**
TUWZ	**Tuamarina**	**5.71**	**224**	P	**Pn**	**11 41 14.2**	**-1.4**
NNZ	**Nelson**	**5.90**	**228**	P	**Pn**	**11 41 16.7**	**-1.5**
BSWZ	**Blackbirch Sta**	**5.95**	**222**	P	**Pn**	**11 41 18.1**	**-0.7**
QRZ	**Quartz Range**	**6.21**	**235**	P	**Pn**	**11 41 22.0**	**-0.4**
MRNZ	**Matariki Terra**	**6.38**	**230**	P	**Pn**	**11 41 22.9**	**-1.9**
THZ	**Tophouse**	**6.52**	**226**	P	**Pn**	**11 41 25.1**	**-1.6**
KHZ	**Kahutara**	**6.62**	**219**	P	**Pn**	**11 41 25.7**	**-2.4**
KHZ	**Kahutara**	**6.62**	**219**	P	**Pn**	**11 41 26.8**	**-1.2**
CTZ	**Chatham Island**	**7.06**	**155**	P	Pn	11 41 40.4	+6.4
CTZ	**Chatham Island**	**7.06**	**155**	P	**Sn**	**11 42 54.0**	**+1.2**
DSZ	**Denniston Nort**	**7.16**	**231**	P	**Pn**	**11 41 33.0**	**-2.6**
GVZ	**Greta Valley S**	**7.28**	**219**	P	**Pn**	**11 41 35.9**	**-1.2**
LTZ	**Lake Taylor**	**7.54**	**223**	P	**Pn**	**11 41 37.9**	**-2.8**
OKCZ	**Okains Bay**	**7.84**	**215**	P	**Pn**	**11 41 42.0**	**-2.8**
INZ	**Inchbonnie**	**7.97**	**226**	P	**Pn**	**11 41 44.1**	**-2.3**
MQZ	**McQueen's Vall**	**8.02**	**216**	P	**Pn**	**11 41 44.2**	**-2.9**
AKCZ	**Akaroa Harbour**	**8.02**	**215**	P	**Pn**	**11 41 45.2**	**-2.0**
OXZ	**Oxford**	**8.04**	**221**	P	**Pn**	**11 41 45.0**	**-2.5**
RPZ	**Rata Peaks**	**8.83**	**222**	P	**Pn**	**11 41 56.3**	**-2.0**
RPZ	**Rata Peaks**	**8.83**	**222**	P	**Pn**	**11 41 57.0**	**-1.3**
ARCZ	**Arundel**	**8.92**	**221**	P	**Pn**	**11 41 58.3**	**-1.3**
GCSZ	**Gaunt Creek Bo**	**8.97**	**226**	P	**Pn**	**11 42 00.3**	**0.0**
TMZ	**Timaru**	**9.32**	**219**	P	**Pn**	**11 42 02.4**	**-2.6**
ODZ	**Otahua Downs**	**9.97**	**218**	P	**Pn**	**11 42 10.6**	**-3.3**

*JMA **23** 11:41:03.8±0.4,34°.N±1°×14°.2E±°,h31km±1km,MV2.8/20, FAR SE OFF BOSO PEN*
*IDC **23** 11:41:05.7±1.5,34°.34N×141°.43E,h0km,mb3.2/3, mbtmp3.1/4,ML2.0/1,Error ellipse: s-maj=38.2km s-min=23.5km az=121.0*
ISC 23 11:41:07.0±1.3,34°.39N±0°.05×141°.3E±0°.1,h10km,n16, σ1§11/12,mb3.2/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.35**	**319**	P	**Pb**	**11 41 14.7**	**-0.3**
BSO3	**Boso 3**	**0.74**	**304**	*e*P	**Pg**	**11 41 20.9**	**-0.3**
BSO4	**Boso 4**	**0.97**	**309**	*e*P	**Pb**	**11 41 24.4**	**-1.3**
BSO4				*e*S	**Sb**	**11 41 39.2**	**+0.7**
JKUC	**kamogawauchiur**	**1.16**	**312**	*e*S	**Sb**	**11 41 44.7**	**+0.4**
JMKN	**Mikurajimanish**	**1.47**	**251**	*e*P	**Pn**	**11 41 33.0**	**-0.5**
JHJ	**Hachijo jima 2**	**1.76**	**225**	Pn	**Pb**	**11 41 38.3**	**-1.1**
	7.4nm,0.3s,baz=116,slow=23,SNR=8.9						
JHJ				Sn	**Sb**	**11 42 04.0**	**+2.4**
	15nm,0.3s,baz=73,slow=23,SNR=8.6						
MJAR	**Matsushiro Arr**	**3.29**	**312**	Pn	**Pn**	**11 41 59.6**	**+1.1**
	0.2nm,0.3s,baz=113,slow=14,SNR=3.0 0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.00**	**116**	T	T	12 14 46.1	
	baz=309,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**27.01**	**116**	T	T	12 14 45.6	
	baz=309,slow=75,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**27.02**	**116**	T	T	12 14 46.9	
	baz=309,slow=75,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**27.62**	**118**	T	T	12 15 49.6	
	baz=310,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.62**	**118**	T	T	12 15 50.6	
	baz=310,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.64**	**118**	T	T	12 15 50.6	
	baz=310						
ILAR	**Eielson Array**	**51.81**	**31**	P	**P**	**11 50 14.8**	**+

Coast of N. Island, N.Z.

ISC 23 11:54:14.7±2.2, 37°44S±0.06′ × 179°32E±0.08′, h1km±11km, n159, σ1§50/147, mb4.0/4, MS3.3/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.82**	**242**	P	**Pb**	**11 54 33.3**	**+1.6**
WMGZ				S	**Sn**	**11 54 46.0**	**-0.1**
MXZ	**Matakaoa Point**	**0.82**	**261**	P	**Pg**	**11 54 29.9**	**-0.5**
MXZ				S	**Sg**	**11 54 37.8**	**-3.2**
PUZ	**Puketiti**	**1.06**	**233**	P	**Pb**	**11 54 37.1**	**+1.2**
PKGZ	**Pakihiroa**	**1.09**	**245**	P	**Pb**	**11 54 37.2**	**+0.8**
PKGZ				S	**Sb**	**11 54 51.1**	**-0.1**
HAZ	**Te Kaha**	**1.27**	**255**	P	**Pg**	**11 54 38.1**	**-0.9**
HAZ				S	**Sb**	**11 54 56.1**	**0.0**
TWGZ	**Tauwhareparae**	**1.30**	**235**	P	**Pg**	**11 54 40.9**	**+1.3**
CNGZ	**Carnagh Statio**	**1.37**	**220**	P	**Pn**	**11 54 42.6**	**+1.7**
RUGZ	**Raukumara Rang**	**1.41**	**247**	P	**Pn**	**11 54 41.7**	**+0.1**
TKGZ	**Te Karaka**	**1.54**	**229**	P	**Pn**	**11 54 43.9**	**+0.7**
MWZ	**Matawai**	**1.68**	**237**	P	**Pn**	**11 54 45.6**	**+0.3**
WIZ	**White Island**	**1.70**	**266**	P	**Pb**	**11 54 46.7**	**-0.1**
RIGZ	**Rimuhau**	**1.77**	**224**	P	**Pn**	**11 54 47.2**	**+0.7**
RAGZ	**Rawiri**	**1.84**	**234**	P	**Pn**	**11 54 48.0**	**+0.5**
PRGZ	**Paritu Road**	**1.87**	**217**	P	**Pn**	**11 54 48.8**	**+0.9**
WHRZ	**Whale Island**	**1.91**	**257**	P	**Pn**	**11 54 49.9**	**+1.4**
URZ	**Urewera**	**1.94**	**244**	Pn	**Pn**	**11 54 49.7**	**+0.9**
	83nm,0.3s,baz=100,slow=1.0,SNR=304						
URZ				Sn	**Sn**	**11 55 14.2**	**+0.5**
	39nm,0.3s,baz=206,slow=9.4,SNR=7.8						
URZ	**Urewera**	**1.94**	**244**	P	**Pn**	**11 54 49.6**	**+0.8**
URZ				S	**Sn**	**11 55 14.6**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.04**	**213**	P	**Pn**	**11 54 51.6**	**+1.3**
KNZ	**Kokohu**	**2.05**	**219**	P	**Pn**	**11 54 50.7**	**+0.4**
SNGZ	**Shannon Statio**	**2.06**	**229**	P	**Pn**	**11 54 51.2**	**+0.7**
EDRZ	**Edgecumbe**	**2.15**	**251**	P	**Pn**	**11 54 52.8**	**+0.9**
MARZ	**Manawahe**	**2.17**	**255**	P	**Pn**	**11 54 52.9**	**+0.6**
RTZ	**Ruatahuna**	**2.19**	**237**	P	**Pn**	**11 54 53.3**	**+0.9**
OPRZ	**Ohinepanea**	**2.24**	**259**	P	**Pn**	**11 54 53.0**	**+0.1**
MUGZ	**Murupara**	**2.27**	**242**	P	**Pn**	**11 54 54.0**	**+0.6**
RAHZ	**Arahi**	**2.30**	**229**	P	**Pn**	**11 54 54.7**	**+0.8**
WHHZ	**Waihua**	**2.32**	**224**	P	**Pn**	**11 54 55.0**	**+0.9**
MKRZ	**Makatiti**	**2.37**	**252**	P	**Pn**	**11 54 57.1**	**+2.3**
TARZ	**Mount Tarawera**	**2.37**	**249**	P	**Pn**	**11 54 55.8**	**+1.0**
LIRZ	**Lichensteins R**	**2.40**	**255**	P	**Pn**	**11 54 56.2**	**+1.0**
RRRZ	**Republican Roa**	**2.40**	**247**	P	**Pn**	**11 54 56.0**	**+0.9**
MTHZ	**Maungataniwha**	**2.42**	**233**	P	**Pn**	**11 54 56.3**	**+0.9**
OMRZ	**Omania**	**2.43**	**253**	P	**Pn**	**11 54 56.6**	**+1.0**
TGRZ	**Tauranga**	**2.45**	**262**	P	**Pn**	**11 54 56.0**	**+0.1**
MYRZ	**Mayor Island**	**2.46**	**273**	P	**Pn**	**11 54 56.5**	**+0.5**
HLRZ	**Highlands Stat**	**2.49**	**250**	P	**Pn**	**11 54 57.6**	**+1.2**
KARZ	**Kaharoa**	**2.51**	**256**	P	**Pn**	**11 54 57.3**	**+0.6**
PRRZ	**Plateau Road**	**2.55**	**244**	P	**Pn**	**11 54 57.6**	**+0.4**
NGRZ	**Ngongotaha**	**2.57**	**254**	P	**Pn**	**11 54 59.1**	**+1.5**
ARHZ	**Aropaoanui**	**2.58**	**224**	P	**Pn**	**11 54 58.5**	**+0.8**
NMHZ	**Naumai**	**2.58**	**229**	P	**Pn**	**11 54 58.5**	**+0.8**
HRRZ	**Handcock Road**	**2.59**	**247**	P	**Pn**	**11 54 58.4**	**+0.7**
UTU	**Utuhina**	**2.59**	**252**	P	**Pn**	**11 54 59.9**	**+2.2**
HSRZ	**Hossack Road**	**2.59**	**249**	P	**Pn**	**11 54 59.2**	**+1.4**
ALRZ	**Allen Road**	**2.61**	**244**	P	**Pn**	**11 54 58.7**	**+0.6**
MRHZ	**Matea Rd**	**2.68**	**238**	P	**Pn**	**11 54 59.5**	**+0.4**
GRRZ	**Galatos Road**	**2.70**	**249**	P	**Pn**	**11 55 00.5**	**+1.1**
KMRZ	**Kaimai**	**2.72**	**260**	P	**Pn**	**11 54 59.7**	**+0.1**
WPRZ	**Whakapapatarin**	**2.72**	**246**	P	**Pn**	**11 55 00.6**	**+0.9**
BKZ	**Black Stump Fm**	**2.82**	**231**	P	**Pn**	**11 55 01.3**	**+0.3**
BKZ	**Black Stump Fm**	**2.82**	**231**	P	**Pn**	**11 55 01.3**	**+0.3**
CKHZ	**Cape Kidnapper**	**2.83**	**218**	P	**Pn**	**11 55 01.3**	**+0.2**
MCHZ	**McNeill Hill**	**2.88**	**225**	P	**Pn**	**11 55 02.0**	**+0.3**
KUTZ	**Kaahu Road**	**2.96**	**248**	P	**Pn**	**11 55 03.5**	**+0.6**
KWHZ	**Kaweka Forest**	**3.02**	**228**	P	**Pn**	**11 55 03.6**	**-0.1**
KAHZ	**Kahuranaki**	**3.04**	**218**	P	**Pn**	**11 55 03.9**	**0.0**
TOZ	**Tahuroa Road**	**3.05**	**263**	P	**Pn**	**11 55 04.3**	**+0.2**
TLZ	**Tolley Road**	**3.12**	**252**	P	**Pn**	**11 55 05.8**	**+0.6**
RATZ	**Rangitukua**	**3.14**	**242**	P	**Pn**	**11 55 07.8**	**+2.4**
KRHZ	**Kereru**	**3.20**	**226**	P	**Pn**	**11 55 05.7**	**-0.4**
PXZ	**Pawanui**	**3.23**	**216**	P	**Pn**	**11 55 05.8**	**-0.7**
KATZ	**Kakaramea**	**3.25**	**241**	P	**Pn**	**11 55 07.5**	**+0.6**
BHHZ	**Black Hill Sta**	**3.28**	**230**	P	**Pn**	**11 55 07.2**	**-0.1**
TMVZ	**Te Maari**	**3.31**	**238**	P	**Pn**	**11 55 07.8**	**+0.1**
ETVZ	**East Tongariro**	**3.31**	**238**	P	**Pn**	**11 55 07.8**	**0.0**
NTVZ	**North Tongarir**	**3.32**	**239**	P	**Pn**	**11 55 07.9**	**+0.1**
GRZ	**Great Barrier**	**3.32**	**290**	P	**Pn**	**11 55 08.6**	**+0.9**
MKAZ	**Moumakai**	**3.34**	**274**	P	**Pn**	**11 55 07.0**	**-1.0**
KRVZ	**Karewarewa**	**3.34**	**239**	P	**Pn**	**11 55 08.2**	**+0.1**
OTVZ	**Oturere**	**3.35**	**238**	P	**Pn**	**11 55 08.4**	**0.0**
NNVZ	**North Ngauruho**	**3.37**	**239**	P	**Pn**	**11 55 08.9**	**+0.2**
WTVZ	**West Tongariro**	**3.38**	**239**	P	**Pn**	**11 55 09.2**	**+0.4**
SNVZ	**South Ngauruho**	**3.38**	**238**	P	**Pn**	**11 55 08.8**	**0.0**
NGZ	**Ngauruhoe**	**3.41**	**238**	P	**Pn**	**11 55 09.1**	**0.0**
WIAZ	**Waiheke Island**	**3.41**	**280**	P	**Pn**	**11 55 08.2**	**-0.6**
TUVZ	**Tukino**	**3.42**	**237**	P	**Pn**	**11 55 09.5**	**+0.2**
MOVZ	**Moawhango**	**3.43**	**234**	P	**Pn**	**11 55 09.4**	**0.0**
WPHZ	**Waipukurau**	**3.46**	**220**	P	**Pn**	**11 55 09.2**	**-0.6**
TWVZ	**Taurewa**	**3.47**	**241**	P	**Pn**	**11 55 10.5**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.47**	**237**	P	**Pn**	**11 55 10.1**	**+0.1**
FWVZ	**Far West T-bar**	**3.48**	**237**	P	**Pn**	**11 55 10.3**	**+0.1**
PNHZ	**Pukenui**	**3.48**	**224**	P	**Pn**	**11 55 09.0**	**-1.0**
WNVZ	**Wahianoa**	**3.48**	**236**	P	**Pn**	**11 55 10.4**	**+0.2**
PRHZ	**Porangahau**	**3.52**	**216**	P	**Pn**	**11 55 09.5**	**-1.1**
ETAZ	**East Tamaki Re**	**3.54**	**276**	P	**Pn**	**11 55 11.2**	**+0.4**
MTVZ	**Mangateitei**	**3.60**	**236**	P	**Pn**	**11 55 12.2**	**+0.5**
MBAZ	**Motutapu North**	**3.60**	**279**	P	**Pn**	**11 55 13.6**	**+2.0**
PKVZ	**Pokaka**	**3.63**	**238**	P	**Pn**	**11 55 12.4**	**+0.3**
HIZ	**Hauiti**	**3.69**	**252**	P	**Pn**	**11 55 14.2**	**+1.4**
HIZ	**Hauiti**	**3.69**	**252**	P	**Pn**	**11 55 14.3**	**+1.4**
TSZ	**Takapari Road**	**3.71**	**224**	P	**Pn**	**11 55 11.7**	**-1.5**
HBAZ	**Herne Bay Bore**	**3.72**	**278**	P	**Pn**	**11 55 15.1**	**+2.0**
ANWZ	**Angora Road**	**3.75**	**215**	P	**Pg**	**11 55 30.6**	**+4.1**
AWAZ	**Awhitu Peninsu**	**3.75**	**274**	P	**Pn**	**11 55 14.8**	**+1.1**
DVHZ	**Dannevirke**	**3.77**	**220**	P	**Pn**	**11 55 12.9**	**-1.2**
WTAZ	**Waiatarua**	**3.83**	**276**	P	**Pn**	**11 55 16.3**	**+1.5**
RVAZ	**Riverhead Bore**	**3.85**	**279**	P	**Pn**	**11 55 13.8**	**-1.3**
BFZ	**Birch Farm**	**4.03**	**216**	P	**Pn**	**11 55 15.8**	**-1.8**
BFZ	**Birch Farm**	**4.03**	**216**	P	**Pn**	**11 55 16.0**	**-1.6**
POWZ	**Post Office Ro**	**4.05**	**222**	P	**Pn**	**11 55 16.5**	**-1.4**
PRWZ	**Pori Road**	**4.07**	**219**	P	**Pn**	**11 55 17.0**	**-1.0**
WAZ	**Wanganui**	**4.11**	**234**	P	**Pn**	**11 55 19.3**	**+0.5**
CPWZ	**Castlepoint**	**4.23**	**214**	P	**Pn**	**11 55 18.8**	**-1.6**
TIWZ	**Tintock**	**4.28**	**218**	P	**Pn**	**11 55 19.3**	**-1.6**
MRZ	**Mangatainoka R**	**4.34**	**221**	P	**Pn**	**11 55 19.8**	**-2.0**
LREZ	**Lake Rotokare**	**4.36**	**241**	P	**Pn**	**11 55 23.2**	**+1.1**
DREZ	**Durham Road**	**4.39**	**245**	P	**Pn**	**11 55 25.1**	**+2.6**
PREZ	**Palmer Road**	**4.48**	**243**	P	**Pn**	**11 55 26.0**	**+2.2**
NEZ	**North Egmont**	**4.50**	**244**	P	**Pn**	**11 55 26.0**	**+1.9**
TMWZ	**Te Maipa**	**4.53**	**215**	P	**Pn**	**11 55 22.3**	**-2.2**
HOWZ	**Holdsworth Sta**	**4.55**	**219**	P	**Pn**	**11 55 22.4**	**-2.3**
PKE	**Pukeiti**	**4.55**	**246**	P	**Pn**	**11 55 27.1**	**+2.4**
KHEZ	**Kahui Hut**	**4.57**	**244**	P	**Pn**	**11 55 27.0**	**+2.0**
NBEZ	**Newall Road No**	**4.66**	**245**	P	**Pn**	**11 55 28.9**	**+2.6**
OGWZ	**Otaki Gorge**	**4.67**	**222**	P	**Pn**	**11 55 24.3**	**-2.1**
MTW	**Mount Morrison**	**4.75**	**217**	P	**Pn**	**11 55 25.1**	**-2.4**
KIW	**Kapiti Island**	**4.84**	**224**	P	**Pn**	**11 55 26.3**	**-2.5**
TRWZ	**Traveller**	**4.86**	**214**	P	**Pn**	**11 55 26.0**	**-2.9**
PAWZ	**Paruwai Farm**	**4.96**	**216**	P	**Pn**	**11 55 27.6**	**-2.8**
MSWZ	**Moikau Station**	**5.07**	**217**	P	**Pn**	**11 55 28.8**	**-3.1**
OUZ	**Omahuta**	**5.13**	**294**	P	**Pn**	**11 55 32.1**	**-0.5**
SNZO	**South Karori**	**5.27**	**221**	P	**Pn**	**11 55 32.0**	**-2.6**
TCW	**Tory Channel**	**5.43**	**225**	P	**Pn**	**11 55 35.0**	**-1.8**
TUWZ	**Tuamarina**	**5.77**	**225**	P	**Pn**	**11 55 38.6**	**-2.8**
BSWZ	**Blackbirch Sta**	**6.00**	**223**	P	**Pn**	**11 55 42.1**	**-2.5**
QRZ	**Quartz Range**	**6.27**	**235**	P	**Pn**	**11 55 45.9**	**-2.5**
THZ	**Tophouse**	**6.57**	**227**	P	**Pn**	**11 55 50.1**	**-2.5**
KHZ	**Kahutara**	**6.67**	**220**	P	**Pn**	**11 55 51.0**	**-2.7**
KHZ	**Kahutara**	**6.67**	**220**	P	**Pn**	**11 55 50.9**	**-2.9**
CTZ	**Chatham Island**	**7.01**	**155**	P	**Pn**	**11 56 02.9**	**+4.4**
GVZ	**Greta Valley S**	**7.33**	**219**	P	**Pn**	**11 55 59.9**	**-2.9**
LTZ	**Lake Taylor**	**7.59**	**223**	P	Pn	11 56 03.1	-3.5
OKCZ	**Okains Bay**	**7.88**	**215**	P	Pn	11 56 07.1	-3.4
INZ	**Inchbonnie**	**8.02**	**226**	P	Pn	11 56 08.8	-3.6
MQZ	**McQueen's Vall**	**8.06**	**217**	P	Pn	11 56 08.3	-4.6
OXZ	**Oxford**	**8.09**	**221**	P	Pn	11 56 09.4	-3.9
RPZ	**Rata Peaks**	**8.88**	**223**	Pn	**Pn**	**11 56 21.5**	**-2.7**
	1.2nm,0.3s,baz=113,slow=3.9,SNR=9.6						
RPZ				Sn	Sn	11 57 53.5	-11
	1.5nm,0.3s,baz=17,slow=20,SNR=8.8						
	2.1nm,0.3s						
RPZ	**Rata Peaks**	**8.88**	**223**	P	**Pn**	**11 56 21.4**	**-2.8**
RPZ	**Rata Peaks**	**8.88**	**223**	P	**Pn**	**11 56 21.6**	**-2.6**
ARCZ	**Arundel**	**8.97**	**221**	P	Pn	11 56 22.0	-3.4
TMZ	**Timaru**	**9.37**	**220**	P	Pn	11 56 26.8	-4.0
ODZ	**Otahua Downs**	**10.02**	**218**	P	Pn	11 56 35.1	-4.6
ODZ	**Otahua Downs**	**10.02**	**218**	P	Pn	11 56 35.9	-3.8
JCZ	**Jackson Bay**	**10.38**	**227**	P	**Pn**	**11 56 42.7**	**-2.1**
DZM	**Mont Dzumac**	**18.93**	**320**	LR	LR	12 05 32.5	
	comp=Z,66nm,19.1s,baz=138,slow=36						
STKA	**Stephens Creek**	**31.38**	**269**	P	**P**	**12 00 37.8**	**+0.7**
	4.1nm,1.0s,baz=86,slow=9.4,SNR=3.8						
STKA				LR	LR	12 13 02.5	
	comp=Z,40nm,20.6s,baz=39,slow=36						
	4.1nm,1.0s						
PPT	**Papeete**	**33.72**	**63**	LR	LR	12 12 02.4	
	comp=Z,58nm,21.8s,baz=312,slow=32						
ASAR	**Alice Springs**	**41.07**	**276**	P	**P**	**12 01 59.7**	**-0.4**
	3.5nm,1.0s,baz=124,slow=8.2,SNR=16						
	3.5nm,1.0s						
WRA	**Warramunga Arr**	**42.70**	**281**	P	**P**	**12 02 12.7**	**-0.7**
	2.2nm,0.8s,baz=122,slow=7.5,SNR=14						
	2.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.56**	**277**	P	**P**	**12 03 14.1**	**-1.0**
	1.1nm,0.6s,baz=175,slow=6.1,SNR=2.0						
	1.1nm,0.6s						
H03S2	**Juan Fernandez**	**78.43**	**124**	T	T	13 32 41.3	
	baz=232						
H03S1	**Juan Fernandez**	**78.44**	**124**	T	T	13 32 42.5	
	baz=232						
H03S3	**Juan Fernandez**	**78.45**	**124**	T	T	13 32 41.7	
	baz=232						
H03N3	**Juan Fernandez**	**78.66**	**123**	T	T	13 32 58.9	
	baz=234,slow=72,SNR=80						
H03N2	**Juan Fernandez**	**78.67**	**123**	T	T	13 32 56.2	
	baz=234,slow=72,SNR=84						
H03N1	**Juan Fernandez**	**78.68**	**123**	T	T	13 32 54.0	
	baz=234,slow=72,SNR=67						
YBH	**Yreka Blue Hor**	**94.90**	**40**	LR	LR	12 42 43.9	
	comp=Z,52nm,20.4s,baz=274,slow=31						
ARCES	**ARCESS Array B**	**144.87**	**344**	PKPbc	**PKPab**	**12 13 52.2**	**+0.7**
	0.5nm,0.4s,baz=75,slow=1.4,SNR=5.9						
FINES	**FINESS Array B**	**150.74**	**334**	PKPbc	**PKPbc**	**12 14 07.6**	**-0.2**
	3.9nm,1.1s,baz=5.7,slow=1.4,SNR=2.3						

JMA ***23*** *11:58:26.9±0.3,34.5′N±0.9′ × 14°2E±°, h43km±2km, MV3.6/32, FAR SE OFF BOSO PEN*

IDC ***23*** *11:58:26.5±1.0,34.4′46N × 141.68E, h0km, mb3.7/9, mbtmp3.8/13, ML3.5/4, Error ellipse: s-maj=23.6km s-min=16.0km az=80.0*

NIED ***23*** *11:58:26.9,34.4′45N × 141.87E, h43km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.65; Mθθ 0.21; Mϕϕ -1.87; Mrθ 1.45; Mθϕ -2.16; Mϕr 0.92; Fault plane solution: M₀3.14000×10¹⁵ NP1: ϕs177.00000°, δ40.00000°, λ34.00000°. NP2:ϕs60.00000°, δ69.00000°, λ125.00000°.*

ISC 23 11:58:28.1±2.1, 34°46N±0.05′ × 141°77E±0.08′, h16km±12km, n28, σ1§34/30, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.68**	**287**	P	**Pg**	**11 58 41.3**	**+0.1**
BSO3	**Boso 3**	**1.09**	**289**	P	**Pb**	**11 58 47.6**	**-0.9**
BSO4	**Boso 4**	**1.29**	**295**	P	**Pn**	**11 58 51.0**	**-0.4**
CHOJ	**Chosi**	**1.45**	**329**	P	**Pn**	**11 58 52.1**	**-1.5**
CHOJ				*e*S	**Sn**	**11 59 10.3**	**-2.0**
JKUC	**kamogawauchiur**	**1.47**	**299**	P	**Pn**	**11 58 52.8**	**-1.2**
JKUC				*e*S	**Sn**	**11 59 11.6**	**-1.2**
JMKN	**Mikurajimanish**	**1.89**	**253**	P	**Pn**	**11 58 58.6**	**-1.1**
JMKN				S	**Sn**	**11 59 22.3**	**-0.9**
JHJ	**Hachijo jima 2**	**2.12**	**232**	Pn	**Pn**	**11 59 02.8**	**-0.2**
	34nm,0.3s,baz=290,slow=21,SNR=47						
JHJ				Sn	**Sn**	**11 59 28.9**	**-0.1**
	218nm,0.3s,baz=71,slow=23,SNR=17						
	95nm,0.2s						
JOD2	**Odawara 2**	**2.34**	**291**	P	**Pn**	**11 59 05.4**	**-0.6**
JOD2				S	**Sn**	**11 59 33.8**	**-0.7**
JIZS	**Izushimoda**	**2.40**	**277**	P	**Pn**	**11 59 06.1**	**-0.6**
JAG	**Ashikaga**	**2.73**	**317**	P	**Pn**	**11 59 10.6**	**-0.7**
JAG				S	**Sn**	**11 59 42.8**	**-1.1**
MJAR	**Matsushiro Arr**	**3.57**	**307**	Pn	**Pn**	**11 59 22.3**	**-0.6**
	1.9nm,0.3s,baz=212,slow=31,SNR=44						
MJAR				Sn	**Sn**	**12 00 04.8**	**0.0**
	0.6nm,0.3s,baz=104,slow=16,SNR=5.9						
	11nm,0.3s						
JCJ	**Chichijima**	**7.34**	**177**	Pn	**Pn**	**12 00 14.8**	**+0.1**
	6.4nm,0.3s,baz=234,slow=16,SNR=2.3						
JCJ				Sn	**Sn**	**12 01 33.1**	**-4.7**
	6.3nm,0.3s,baz=297,slow=21,SNR=1.6						
	64nm,0.6s						
KSRS	**Korea Array**	**11.61**	**289**	Pn	**Pn**	**12 01 14.4**	**+1.3**
	0.1nm,0.3s,baz=98,slow=13,SNR=4.8						
	0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**26.66**	**117**	T	T	12 32 15.9	
	baz=309,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**26.66**	**117**	T	T	12 32 16.0	
	baz=309,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**26.67**	**117**	T	T	12 32 18.8	
	baz=309,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**27.29**	**119**	T	T	12 33 07.4	
	baz=312,slow=75,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**27.29**	**119**	T	T	12 33 11.0	
	baz=312,slow=75,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**27.30**	**119**	T	T	12 33 03.5	
	baz=312,slow=75,SNR=7.8						
SONM	**Songino Array**	**29.52**	**308**	P	**P**	**12 04 32.8**	**+0.9**
	0.7nm,0.6s,baz=112,slow=10,SNR=4.4						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.19**	**258**	P	**P**	**12 06 11.9**	**-0.3**
	0.3nm,0.3s,baz=40,slow=7.5,SNR=2.2						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**43.89**	**314**	P	**P**	**12 06 34.0**	**+0.3**
	0.7nm,0.3s,baz=65,slow=7.0,SNR=4.0						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**45.77**	**304**	P	**P**	**12 06 48.1**	**-0.7**
	0.3nm,0.4s,baz=90,slow=9.2,SNR=5.4						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**51.53**	**31**	P	**P**	**12 07 34.2**	**+1.4**
	0.8nm,0.9s,baz=254,slow=6.2,SNR=5.3						
	0.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.47**	**199**	P	**P**	**12 07 56.2**	**+1.3**
	1.1nm,0.7s,baz=0.2,slow=8.7,SNR=1.6						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**54.55**	**189**	P	**P**	**12 07 56.2**	**+0.6**
	1.0nm,0.7s,baz=3.1,slow=7.5,SNR=12						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**58.28**	**188**	P	**P**	**12 08 23.2**	**+1.1**
	0.4nm,0.7s,baz=15,slow=14,SNR=10						
	0.4nm,0.7s						
NOA	**NORSAR Array B**	**76.67**	**338**	P	**P**	**12 10 18.5**	**+0.4**
	0.5nm,0.7s,baz=39,slow=5.7,SNR=2.2						
	0.5nm,0.7s						

BJI ***23*** *12:04:49.7±0.0,34.7′5N × 141.63E, h7km, mb4.6/51, mB4.8/39, Ms4.8/48, Ms7 4.5/46*

IDC ***23*** *12:04:51.3±0.5,34.4′5N × 141.46E, h0km, mb4.4/27, mbtmp4.4/30, ML2.9/2, MS4.0/31, Error ellipse: s-maj=14.8km s-min=10.5km az=95.0*

NEIC ***23*** *12:04:51.2±2.0,34.5′5N±0.04′ × 141.80E±0.07′, h10km±1km, mb4.9/60, Error ellipse: s-maj=12.1km s-min=2.8km az=123.0*

JMA ***23*** *12:04:51.4±0.6,34.6′N±1.1′ × 14°2E±°, h24km±2km, MD4.7/39, MW4.6/39, FAR SE OFF BOSO PEN*

MOS ***23*** *12:04:51.2±1.2,34.6′56N × 141.58E, h17km, mb5.0/24, MS4.1/7, Error ellipse: s-maj=8.5km s-min=4.6km az=118.9*

NIED ***23*** *12:04:51.4,34.4′46N × 141.72E, h24km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.91; Mθθ -3.33; Mϕϕ 0.43; Mrθ 2.39; Mθϕ 6.11; Mϕr -2.79; Fault plane solution: M₀7.16000×10¹⁵ NP1: ϕs261.00000°, δ57.00000°, λ9.00000°. NP2:ϕs166.00000°, δ83.00000°, λ147.00000°.*

ISC 23 12:04:52.0±1.1, 34°53N±0.03′ × 141°64E±0.04′, h13km±6km, n299, σ1§58/264, mb4.8/90, MS4.3/42, 7C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.56**	**283**	P	**Pn**	**12 05 03.7**	**-1.6**
BSO3	**Boso 3**	**0.97**	**286**	P	**Pn**	**12 05 11.0**	**-0.2**
BSO4	**Boso 4**	**1.17**	**293**	P	**Pg**	**12 05 14.3**	**-0.2**
BSO4				S	**Sn**	**12 05 30.0**	**+0.3**
KTR	**Katsuura**	**1.25**	**300**	P	**Pg**	**12 05 15.5**	**-0.6**
CHOJ	**Chosi**	**1.33**	**331**	P	**Pg**	**12 05 16.4**	**-1.3**
CHOJ				*e*S	**Sg**	**12 05 34.4**	**-0.6**
CHOJ	**Chosi**	**1.33**	**331**	A	A	12 05 16.4	
	comp=E,12nm,5.8s,comp=E,14nm,3.1s						
JKUC	**kamogawauchiur**	**1.34**	**298**	P	**Pg**	**12 05 16.6**	**-1.3**
JKUC				S	**Sn**	**12 05 33.4**	**-0.8**
JKUC	**kamogawauchiur**	**1.34**	**298**	A	A	12 05 16.6	
	comp=E,22nm,2.8s,comp=E,22nm,9.4s						
JCN	**Nagara**	**1.48**	**307**	A	A	12 05 18.5	
	comp=E,48nm,4.2s,comp=E,43nm,4.6s						
JSMT	**Sammumatsuo**	**1.48**	**319**	P	**Pg**	**12 05 19.4**	**-1.0**
JSMT	**Sammumatsuo**	**1.48**	**319**	A	A	12 05 19.4	
	comp=E,60nm,5.3s,comp=E,76nm,5.1s						
JIHU	**Itakohorinouch**	**1.70**	**328**	A	A	12 05 21.7	
	comp=E,33nm,7.8s,comp=E,24nm,3.0s						
JYO	**Yokosk**	**1.77**	**294**	A	A	12 05 22.6	
	comp=E,23nm,7.0s,comp=E,23nm,5.3s						
JMKN	**Mikurajimanish**	**1.82**	**250**	*i* P	**Pn**	**12 05 22.4**	**-0.7**
JMKN				*e*S	**Sn**	**12 05 43.3**	**-2.6**
JMKN	**Mikurajimanish**	**1.82**	**250**	A	A	12 05 22.4	
	comp=E,9.0nm,4.5s,comp=E,11nm,13.8s						
JIM2	**Oshima 3**	**1.83**	**276**	*e*P	**Pn**	**12 05 22.9**	**-0.4**
JIM2	**Oshima 3**	**1.83**	**276**	A	A	12 05 22.9	
	comp=E,12nm,2.3s,comp=E,13nm,1.6s						
TOK	**Tokyo**	**1.93**	**307**	A	A	12 05 25.0	
	comp=E,30nm,5.8s,comp=E,27nm,4.8s						
JTHY	**Toshimahigashi**	**1.94**	**270**	*e*P	**Pn**	**12 05 24.8**	**0.0**
JTHY				*e*S	**Sn**	**12 05 48.2**	**-0.9**
JTHY	**Toshimahigashi**	**1.94**	**270**	A	A	12 05 24.8	
	comp=E,12nm,5.4s,comp=E,13nm,6.0s						
JNIO	**Niijimaoohara**	**1.97**	**266**	A	A	12 05 25.0	
	comp=E,16nm,2.8s,comp=E,18nm,2.3s						
JHYU	**Hitachinakayam**	**2.00**	**335**	A	A	12 05 26.0	
	comp=E,8.0nm,1.9s,comp=E,7.0nm,10.0s						
JSKK	**Shikinejimakit**	**2.02**	**265**	A	A	12 05 25.8	
	comp=E,11nm,1.9s,comp=E,9.0nm,11.9s						
JYT	**Yasato**	**2.06**	**325**		**Pn**	**12 05 26.1**	**-0.4**
JYT	**Yasato**	**2.06**	**325**	A	A	12 05 27.1	
	comp=E,6.0nm,10.0s,comp=E,6.0nm,12.1s						
JHJ2	**Mitsune**	**2.08**	**228**	Pn	**Pn**	**12 05 26.5**	**-0.1**
JHJ2	**Mitsune**	**2.08**	**228**	P	**Pn**	**12 05 26.7**	**0.0**
JHJ2				*e*S	**Sn**	**12 05 51.8**	**-0.7**
JHJ2	**M

KLR **Kul'dur** **16.41 336** Pn **Pn** **12 08 40.4 -1.6**
comp=E,0.2nm,0.3s,baz=139,slow=11,SNR=7.4
KLR LR LR 12 15 13.7
comp=E,516nm,18.8s,baz=146,slow=38
KLR Kul'dur **16.41 336**⇑ *eP* **Pn** **12 08 40.7 -1.2**
KLR pmax pmax
comp=Z,16nm,3.7s
GRNR Gornyy **16.67 348**⇓ *i*P **Pn** **12 08 42.8 -2.5**
GRNR pmax pmax
comp=Z,4.0nm,0.8s
GRNR MLR MLR
comp=E,460nm,15.0s
GRNR MLR MLR
comp=N,520nm,14.0s
GRNR MLR MLR
comp=Z,850nm,13.0s
SSE Sheshan **17.53 264** P **Pn** **12 08 56.0 -0.2**
SSE S **Sn** **12 12 14.1 +2.8**
SSE pmax pmax
comp=Z,21nm,0.7s
SSE pmax pmax
comp=Z,72nm,8.2s
SSE LR LR
comp=Z,580nm,14.4s
SSE LR LR
comp=Z,1μm,14.0s
NJ2 Nanjing **19.21 269** *eP* **P** **12 09 15.4 -0.3**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 LR LR
comp=Z,2μm,18.9s
NJ2 LR LR
comp=Z,1μm,14.2s
NJ2 LR LR
comp=Z,1μm,15.2s
TATO Taipei **19.89 247** P **P** **12 09 21.8 -1.5**
TIA Tai'an **20.05 282** *eP* **P** **12 09 23.8 -1.2**
TIA pmax pmax
comp=Z,34nm,5.4s
TIA LR LR
comp=Z,950nm,9.3s
TIA LR LR
comp=Z,2μm,14.2s
TIA LR LR
comp=Z,2μm,15.7s
NACB Ninganchiao **20.26 245** P **P** **12 09 25.7 -1.6**
NACB IAmb IAmb 12 09 35.8
comp=Z,139nm,2.0s
GUMO Guam **21.06 171** P **P** **12 09 41.9 +6.0**
comp=Z,123nm,0.7s,baz=155,slow=7.1,SNR=6.0
ZEA Zeya **21.72 336** *eP* **P** **12 09 41.1 -1.7**
ZEA *e* 12 14 25.2
ZEA pmax pmax
comp=N,40nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,60nm,0.9s
ZEA MLR MLR
comp=E,600nm,14.0s
ZEA MLR MLR
comp=N,600nm,15.0s
ZEA MLR MLR
comp=Z,600nm,16.0s
PEA0B Petropavlovsk- **21.79 27** P **P** **12 09 42.5 -1.1**
PEA0B Petropavlovsk- **21.79 27** P **P** **12 09 42.5 -1.1**
PEA0B pmax pmax
comp=Z,32nm,1.5s
PETK Petropavlovsk- **21.79 27** P **P** **12 09 42.7 -0.9**
PETK Petropavlovsk- **21.79 27** P **P** **12 09 42.7 -0.9**
XLT XiLinHaoTe **21.83 303** *eP* **P** **12 09 41.8 -2.4**
XLT pP pwP 12 09 50.4 -4.0
XLT sP sP 12 09 55.0 +8.0
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,99nm,5.5s
WHN Wuhan **23.32 268**⇓ P **P** **12 09 58.3 -1.6**
WHN S S 12 14 01.3 -11
WHN LR LR
comp=Z,7μm,16.4s
WHN LR LR
comp=Z,2μm,16.6s
WHN LR LR
comp=Z,3μm,13.8s
HHC Hu-ho-hao-te **24.55 294** *eP* **P** **12 10 12.8 +1.2**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,200nm,6.0s
HHC LR LR
comp=Z,920nm,16.1s
HHC LR LR
comp=Z,1μm,15.4s
HHC LR LR
comp=Z,2μm,16.2s
MA2 Magadan **25.76 11** P **P** **12 10 24.6 +2.3**
comp=Z,11nm,0.8s,baz=180,slow=13,SNR=2.7
MA2 LR LR 12 22 50.0
comp=Z,127nm,18.6s,baz=211,slow=42
comp=Z,11nm,0.8s
H11N2 WAKE ISLAND Hy **26.78 117** T T 12 38 33.6
baz=309,slow=75,SNR=54
H11N1 WAKE ISLAND Hy **26.79 117** T T 12 38 40.3
baz=309,slow=75,SNR=61
H11N3 WAKE ISLAND Hy **26.80 117** T T 12 38 40.0
baz=309,slow=75,SNR=52
XAN Xi'an **26.98 278** P **P** **12 10 35.4 +1.8**
XAN pP sP 12 10 37.6 +1.0
XAN sP pwP 12 10 39.6 -4.2
XAN S **S** **12 15 11.4 +0.7**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,37nm,4.6s
XAN LR LR
comp=Z,1μm,16.5s
XAN LR LR
comp=Z,920nm,16.5s
XAN LR LR
comp=Z,1μm,12.4s
H11S3 WAKE ISLAND Hy **27.41 119** T T 12 39 41.4
baz=312,slow=75,SNR=36
H11S1 WAKE ISLAND Hy **27.41 119** T T 12 39 29.0
baz=312,slow=75,SNR=38
H11S2 WAKE ISLAND Hy **27.43 119** T T 12 39 47.6
baz=312,slow=75,SNR=33
YAK Yakutsk **28.55 348** LR LR 12 22 46.8
comp=Z,457nm,18.6s,baz=90,slow=38
YAK Yakutsk **28.55 348** *eP* **P** **12 10 47.6 +0.4**
YAK *eS* **S** **12 15 34.4 -0.3**
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK smax smax
comp=E,34nm,1.9s
YAK smax smax
comp=N,19nm,1.6s
YAK MLR MLR
comp=Z,553nm,14.0s
YAK MLR MLR
comp=N,518nm,14.0s
ULN Ulaanbaatar **28.97 308**⇓ *eP* **P** **12 10 52.5 +1.1**
ULN pmax pmax
comp=Z,7.0nm,1.1s
SEY Seymchan **29.21 10** P **P** **12 10 55.7 +2.6**
comp=Z,4.6nm,1.0s,baz=193,slow=5.8,SNR=3.8
comp=Z,4.6nm,1.0s
SHEM Shemya Is, Ala **29.36 42** LR LR 12 19 49.6
comp=Z,110nm,20.7s,baz=294,slow=30
SONM Songino Array **29.40 308** P **P** **12 10 56.5 +1.3**
comp=Z,5.5nm,0.9s,baz=110,slow=9.3,SNR=13
comp=Z,5.5nm,0.9s
SONM Songino Array **29.40 308** P **P** **12 10 55.7 +0.6**
BOD Bodaibo **29.76 330** *eP* **P** **12 10 58.5 +0.4**
BOD pmax pmax
comp=Z,18nm,1.3s
LZH Lanzhou **30.76 284** *eP* **P** **12 11 10.3 +2.9**
LZH pP pwP 12 11 14.5 -3.1
LZH sP sP 12 11 17.6 +7.3
LZH pmax pmax
comp=Z,11nm,1.1s
LZH LR LR
comp=Z,1μm,17.2s
LZH LR LR
comp=Z,300nm,13.6s
LZH LR LR
comp=Z,930nm,16.0s
DAV Davao City (W) **31.09 212** LR LR 12 22 25.1
comp=Z,154nm,19.5s,baz=60,slow=34
ZAK Zakamensk **32.01 311** *eP* **P** **12 11 19.1 +0.9**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
ZAK pmax pmax
comp=Z,7.0nm,1.0s
QIZ Qiongzhong **32.15 250** P **P** **12 11 17.8 -1.7**
QIZ S **S** **12 16 37.0 +5.0**
QIZ LR LR
comp=Z,560nm,15.9s
QIZ LR LR
comp=Z,320nm,13.5s
QIZ LR LR
comp=Z,320nm,15.9s
GTA Gaotai **33.55 291**⇑ P **P** **12 11 32.4 +0.6**
GTA pP pwP 12 11 42.9 +0.8
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,65nm,6.2s
GTA LR LR
comp=Z,820nm,16.0s
GTA LR LR
comp=Z,470nm,17.4s
GTA LR LR
comp=Z,630nm,17.1s
PZH PanZhiHua **35.11 268** P **P** **12 11 48.6 +3.1**
PZH S **S** **12 17 12.5 -5.6**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.2s
PZH LR LR
comp=Z,1μm,15.1s
PZH LR LR
comp=Z,820nm,16.1s
PZH LR LR
comp=Z,650nm,17.2s
SIJI Sorong **36.54 198** P **P** **12 11 57.4 -0.2**
comp=Z,9.8nm,0.7s,baz=0.0,slow=13,SNR=8.2
SIJI LR LR 12 24 58.8
comp=Z,252nm,18.5s,baz=18,slow=33
comp=Z,9.8nm,0.7s
GOMU GeErMu **37.94 286** *eP* **P** **12 12 10.4 +0.6**
GOMU pP sP 12 12 14.1 +1.4
GOMU pmax pmax
comp=Z,2.0nm,0.4s
GOMU pmax pmax
comp=Z,33nm,4.3s
FAKI Fak Fak **38.29 195** P **P** **12 12 11.5 -0.9**
CRAI Chiangrai **39.04 260** P **P** **12 12 19.2 +0.4**
BNDI Bandanaira **40.39 198** P **P** **12 12 31.2 +1.3**
comp=Z,96nm,0.9s
CMAR Chiang Mai Arr **41.11 258** P **P**
comp=Z,3.0nm,0.3s,baz=55,slow=7.8,SNR=8.0
CMAR LR LR 12 28 18.8
comp=Z,51nm,21.3s,baz=45,slow=34
comp=Z,3.0nm,0.3s
DGZ Jazzator, Alta **42.04 308** *ceP* **P** **12 12 45.0 +1.6**
DGZ pmax pmax
comp=Z,25nm,0.8s
WMQ Urumqi **42.18 299** *eP* **P** **12 12 46.1 +1.6**
WMQ pmax pmax
comp=Z,37nm,1.1s
WMQ pmax pmax
comp=Z,110nm,5.3s
WMQ LR LR
comp=Z,790nm,20.5s
WMQ LR LR
comp=Z,440nm,17.5s
WMQ LR LR
comp=Z,220nm,18.9s
ZAA0 Zalesovo Array **43.76 314** P **P** **12 12 56.2 -0.9**
ZALV Zalesovo Beam **43.76 314** P **P** **12 12 57.7 +0.6**
comp=Z,5.3nm,0.8s,baz=88,slow=6.5,SNR=18
comp=Z,5.3nm,0.8s
ZALV Zalesovo Beam **43.76 314** P **P** **12 12 56.8 -0.3**
ZSN Zaisan **43.83 305** *eP* **P** **12 12 58.0 +0.3**
ZSN Zaisan **43.83 305** *eP* **P** **12 12 58.0 +0.3**
baz=305
BRDH Bariadhala **45.05 268** LR LR 12 32 06.4
comp=Z,175nm,18.1s,baz=116,slow=36
NRIK Noril'sk **45.62 336** P **P** **12 13 12.5 +0.8**
comp=Z,6.3nm,0.8s,baz=115,slow=8.5,SNR=5.8
comp=Z,6.3nm,0.8s
NRIK Noril'sk **45.62 336** P **P** **12 13 10.9 -0.8**
NRIK IAmb IAmb 12 13 13.9
comp=Z,16nm,1.1s
NRIK Noril'sk **45.62 336** *d iP* **P** **12 13 12.7 +1.0**
NRIK pmax pmax
comp=Z,19nm,1.3s
MK31 Makanchi Array **45.64 304** P **P** **12 13 11.8 -0.4**
MK31 IAmb IAmb 12 13 17.2
comp=Z,11nm,0.9s
MK31 Makanchi Array **45.64 304** P **P** **12 13 11.8 -0.4**
MK31 pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array **45.64 304** P **P** **12 13 12.9 +0.7**
comp=Z,9.3nm,0.8s,baz=90,slow=9.7,SNR=23
comp=Z,9.3nm,0.8s
MKAR Makanchi Array **45.64 304** P **P** **12 13 11.7 -0.5**
MAKZ Makanchi **45.85 304** P **P** **12 13 12.4 -1.5**
MAKZ IAmb IAmb 12 13 19.0
comp=Z,11nm,0.8s
MAKZ Makanchi **45.85 304** P **P** **12 13 12.4 -1.5**
MAKZ pmax pmax
comp=Z,11nm,0.9s
MMRI Maumere **46.70 207** P **P** **12 13 18.9 -1.9**
EDFI Ende, Flores **47.01 207** P **P** **12 13 24.0 +0.6**
comp=Z,9.8nm,0.8s
HNR Honiara **47.04 155** LR LR 12 33 06.2
comp=Z,2μm,19.4s,baz=355,slow=36
KURK Kurchatov **47.65 310** P **P** **12 13 27.5 -0.3**
KURK Kurchatov **47.65 310** *c iP* **P** **12 13 27.8 -0.1**
KURK pmax pmax
comp=Z,21nm,0.7s
BATI Baumata **47.65 204** P **P** **12 13 27.8 -0.5**
comp=Z,28nm,0.8s,baz=104,slow=4.4,SNR=4.1
BATI LR LR 12 35 11.5
comp=Z,60nm,19.1s,baz=110,slow=38
comp=Z,28nm,0.8s
KURBB Kurchatov Arra **47.71 310** P **P** **12 13 28.3 -0.1**
PDGK Podgornoye **48.15 300** P **P** **12 13 30.7 -1.3**
MTN Manton Dam **48.16 194** P **P** **12 13 31.7 -0.4**
SHLS Shalkode **48.20 300** *eP* **P** **12 13 30.3 -2.1**
SHLS Shalkode **48.20 300** *eP* **P** **12 13 30.3 -2.1**
baz=300
J20K Nowinta River **48.35 32** P **P** **12 13 33.5 +0.5**
J20K IAmb IAmb 12 13 47.8
comp=Z,8.5nm,0.8s
UZB Uzynbulak **48.52 300** *eP* **P** **12 13 34.9 0.0**
UZB Uzynbulak **48.52 300** *eP* **P** **12 13 34.9 0.0**
baz=300
KPKS Kokpek **48.69 300** *eP* **P** **12 13 36.2 0.0**
KPKS Kokpek **48.69 300** *eP* **P** **12 13 36.2 0.0**
baz=300
KDAK Kodiak Island **48.85 40** P **P** **12 13 39.5 +2.5**
comp=Z,10nm,1.1s,baz=285,slow=12,SNR=2.2
comp=Z,10nm,1.1s
KMMI Kalianget **48.94 218** P **P** **12 13 39.8 +1.6**
comp=Z,19nm,1.3s
TWSI Taliwang, Sumb **49.01 213** P **P** **12 13 39.2 +0.5**
comp=Z,16nm,0.9s
TARG Taragay, Kyrgy **49.71 298** P **P** **12 13 42.9 -1.5**
TARG IAmb IAmb 12 14 13.9
comp=Z,8.9nm,0.8s
TARG Taragay, Kyrgy **49.71 298** P **P** **12 13 42.9 -1.5**
TARG pmax pmax
comp=Z,9.0nm,0.8s
CHKK Chushkaly **49.81 301** *eP* **P** **12 13 44.6 -0.1**
CHKK Chushkaly **49.81 301** *eP* **P** **12 13 44.6 -0.1**
baz=301
MLY Manley **49.88 31** P **P** **12 13 43.4 -1.5**
MLY IAmb IAmb 12 13 59.5
comp=Z,8.3nm,0.8s
MDOK Medeo **49.92 300** *eP* **P** **12 13 46.2 +0.6**
MDOK Medeo **49.92 300** *eP* **P** **12 13 46.3 +0.6**
baz=300
MDOK LR LR 12 35 34.3
baz=300
CUT Chulitna **49.99 34** P **P** **12 13 42.7 -2.9**
TNSS Tian-Shan **50.02 300** *eP* **P** **12 13 46.8 +0.1**
TNSS Tian-Shan **50.02 300** *eP* **P** **12 13 46.9 +0.1**
baz=300
KUU Kurty **50.27 301** *eP* **P** **12 13 47.8 -0.2**
KUU Kurty **50.27 301** *eP* **P** **12 13 47.9 -0.2**
baz=301
H23K Yukon River **50.42 30** P **P** **12 13 49.7 +0.7**
H23K IAmb IAmb 12 14 04.1
comp=Z,13nm,1.1s
LHMI Lhok Sumawe **50.54 245** P **P** **12 13 49.0 -1.4**
LHMI Lhok Sumawe **50.54 245** P **P** **12 13 49.3 -1.1**
comp=Z,99nm,1.0s
NEA2 Nenana **50.58 31** P **P** **12 13 48.9 -1.2**
NEA2 IAmb IAmb 12 14 04.5
comp=Z,11nm,0.8s
TOLK Toolik Lake Re **50.62 26** P **P** **12 13 50.7 +0.3**
TOLK IAmb IAmb 12 14 04.9
comp=Z,11nm,0.9s
MDM Murphy Dome **50.94 31** P **P** **12 13 51.2 -1.7**
MDM IAmb IAmb 12 14 07.3
comp=Z,17nm,0.8s
TKM2 Tokmak 2 **51.02 300** P **P** **12 13 54.4 +0.4**
KNRA Kununurra **51.41 196** P **P** **12 13 54.2 -2.6**
KNRA IAmb IAmb 12 14 13.8
comp=Z,20nm,0.8s
HDA Harding Lake **51.49 32** P **P** **12 13 56.2 -0.8**
HDA IAmb IAmb 12 14 10.1
comp=Z,9.1nm,0.7s
IL31 **51.52 31** P **P** **12 13 55.9 -1.2**
IL31 IAmb IAmb 12 14 10.4
comp=Z,9.4nm,0.7s
ILAR Eielson Array **51.52 31** P **P** **12 13 59.1 +1.9**
comp=Z,2.3nm,0.7s,baz=263,slow=6.0,SNR=27
comp=Z,2.3nm,0.7s
ILAR Eielson Array **51.52 31** P **P** **12 13 55.4 -1.7**
BRZS Berezniki **51.52 310** *eP* **P** **12 13 56.8 -0.6**
BRZS Berezniki **51.52 310** *eP* **P** **12 13 56.9 -0.5**
baz=310
SGDS Sogindy **51.57 301** *eP* **P** **12 13 57.7 -0.3**
SGDS Sogindy **51.57 301** *eP* **P** **12 13 57.7 -0.3**
baz=301
BTLS Baital **51.61 303** *eP* **P** **12 13 58.5 +0.4**
BTLS Baital **51.61 303** *eP* **P** **12 13 58.5 +0.4**
baz=303
KSH Kashi **51.63 296** P P 12 14 03.6 +5.0
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,280nm,16.0s
KSH LR LR
comp=Z,270nm,15.3s
KSH LR LR
comp=Z,650nm,14.8s
AAK Ala-Archa **51.87 300** LR LR 12 38 37.3
comp=Z,291nm,18.3s,baz=80,slow=39
M24K Tolsona, Glenn **51.92 35** P **P** **12 13 58.9 -1.3**
BVA0 Borovoye Array **52.41 314** *i* P **P** **12 14 04.5 +0.5**
BRVK Borovoye **52.47 314** P **P** **12 14 04.2 -0.2**
BRVK Borovoye **52.47 314** *d iP* **P** **12 14 05.4 +1.0**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
L26K Log Cabin Wild **53.16 33** P **P** **12 14 07.9 -1.5**
L26K IAmb IAmb 12 14 23.9
comp=Z,12nm,0.8s
L27K Beaver Creek, **53.85 33** P **P** **12 14 15.5 +1.1**
L27K IAmb IAmb 12 14 37.9
comp=Z,35nm,1.8s
BCAR Beaver Creek A **53.86 33** P **P** **12 14 15.7 +1.1**
EGAK Eagle **53.97 31** P **P** **12 14 13.3 -2.0**
WB0 Warramunga Arr **54.44 188** P **P** **12 14 19.7 +0.5**
WB0 IAmb IAmb 12 14 20.4
comp=Z,11nm,0.6s
CTA Charters Tower **54.49 175** P **P** **12 14 20.7 +1.1**
comp=Z,0.9nm,0.4s,baz=18,slow=3.2,SNR=1.6
comp=Z,0.9nm,0.4s
FITZ Fitzroy Crossi **54.51 199** P **P** **12 14 20.0 +0.4**
FITZ IAmb IAmb 12 14 22.3
comp=Z,9.7nm,0.7s
KK31 Karatay Array **54.57 302** P **P** **12 14 20.2 +0.2**
KK31 IAmb IAmb 12 14 46.1
comp=Z,16nm,1.1s
KK31 Karatay Array **54.57 302** *i* P **P** **12 14 20.8 +0.8**
KKAR Karatay Array **54.57 302** P **P** **12 14 21.1 +1.2**
KKAR IAmb IAmb 12 14 46.1
comp=Z,16nm,1.1s
KKAR Karatay Array **54.57 302** P **P** **12 14 21.2 +1.2**
KKAR pmax pmax
comp=Z,15nm,1.1s
WRAB Tennant Creek **54.61 188** P **P** **12 14 17.7 -2.6**
WRAB Tennant Creek **54.61 188**⇓ *eP* **P** **12 14 20.5 +0.1**
WRAB pmax pmax
comp=Z,15nm,1.3s
WR0 Warramunga Arr **54.61 188** P **P** **12 14 19.2 -1.2**
WR0 IAmb IAmb 12 14 37.9
comp=Z,20nm,1.1s
WB2 Warramunga Arr **54.62 188** P **P** **12 14 19.8 -0.6**
WB2 IAmb IAmb 12 14 38.4
comp=Z,12nm,0.9s
WRA Warramunga Arr **54.62 188** P **P** **12 14 20.7 +0.2**
comp=Z,5.1nm,0.4s,baz=2.6,slow=7.7,SNR=123
comp=Z,5.1nm,0.4s
WRA Warramunga Arr **54.62 188** P **P** **12 14 20.0 -0.5**
WRA Warramunga Arr **54.62 188** *i* P **P** **12 14 20.7 +0.2**
WRA pmax pmax
comp=Z,6.0nm,0.4s
IUG luzhnay **55.18 301** *eP* **P** **12 14 24.6 0.0**
IUG luzhnay **55.18 301** *eP* **P** **12 14 24.6 0.0**
baz=301
GAR Garm **55.97 297** P **P** **12 14 28.9 -1.4**
GAR IAmb IAmb 12 14 51.5
comp=Z,14nm,0.9s
INK Inuvik **56.53 26** P **P** **12 14 36.0 +2.4**
comp=Z,3.9nm,0.7s,baz=8.0,slow=3.2,SNR=6.5
comp=Z,3.9nm,0.7s
INK Inuvik **56.53 26** P **P** **12 14 34.9 +1.3**
INK IAmb IAmb 12 14 47.5
comp=Z,10nm,0.7s
CHGR Chuyangaron **56.94 297** P **P** **12 14 36.7 -0.5**
CHGR Chuyangaron **56.94 297** P **P** **12 14 36.7 -0.5**
CHGR pmax pmax
comp=Z,40nm,0.8s
AS31 Alice Springs **58.34 188** P **P** **12 14 46.7 -0.2**
ASAR Alice Springs **58.34 188** P **P** **12 14 47.5 +0.6**
comp=Z,2.9nm,0.5s,baz=16,slow=11,SNR=56
comp=Z,2.9nm,0.5s
ASAR Alice Springs **58.34 188** P **P** **12 14 47.4 +0.4**
HYBB Hyderabad (bro **58.36 270** *eP* **P** **12 14 47.9 +0.5**
KBL Kabul **58.51 293** P **P** **12 14 47.4 -1.1**
KBL Kabul **58.51 293** P **P** **12 14 47.4 -1.1**
KBL pmax pmax
comp=Z,6.0nm,1.1s
MBWA Marble Bar **59.17 204** P **P** **12 14 52.2 -0.5**
PSA00 Pilbara Seismi **59.52 204** P **P** **12 14 54.7 -0.5**
PSA00 IAmb IAmb 12 14 56.8
comp=Z,5.0nm,0.8s
AB31 Akbulak array **59.71 311** *i* P **P** **12 14 56.5 +0.3**
ABKAR Akbulak array **59.71 311** P **P** **12 14 56.3 0.0**
EIDS Eidsvold **60.24 170** P **P** **12 14 59.8 -0.3**
EIDS IAmb IAmb 12 15 02.4
comp=Z,7.1nm,1.0s
AKTO Aktyubinsk **60.50 313** P **P** **12 15 01.3 -0.4**
DZM Mont Dzumac **61.03 154** LR LR 12 40 43.1
comp=Z,217nm,19.6s,baz=16,slow=35
PALK Palikelo **62.05 259** LR LR 12 45 42.1
comp=Z,111nm,18.2s,baz=133,slow=40
KIRV Kirov **62.36 324**⇓ *i*P **P** **12 15 15.1 +1.1**
PRGR Permogore **62.97 328** *eP* **P** **12 15 18.3 +0.2**
PRGR pmax pmax
comp=Z,9.0nm,1.0s
GEYT Alibeck **65.23 300** P **P** **12 15 34.7 +1.3**
comp=Z,3.7nm,0.8s,baz=46,slow=4.3,SNR=5.9
comp=Z,3.7nm,0.8s
AFI Afiamalu **65.40 129** LR LR 12 39 29.6
comp=Z,76nm,19.7s,baz=292,slow=32
STKA Stephens Creek **66.06 180** P **P** **12 15 39.1 +0.6**
comp=Z,1.1nm,0.5s,baz=348,slow=9.9,SNR=5.7
comp=Z,1.1nm,0.5s
FORT Forrest **66.22 193** P **P** **12 15 40.9 +1.3**
ARCES ARCESS Array B **66.40 340** P **P** **12 15 41.5 +1.2**
comp=Z,1.4nm,0.8s,baz=68,slow=7.9,SNR=3.1
ARCES LR LR 12 50 54.3
comp=Z,230nm,18.0s,baz=38,slow=42
comp=Z,1.4nm,0.8s
MAK Makhachkala **70.16 309** *eP* P 12 15 58.8 -5.5
MAK *eS* **S** **12 25 08.6 -6.7**
MAK pmax pmax
comp=Z,276nm,1.3s
MAK MLR MLR
comp=Z,595nm,16.0s

OBN	**Obninsk**	**70.21 324**	eP		**P**	**12 16 04.5**	**+0.1**
OBN			pmax	pmax			
	comp=Z,13nm,0.5s						
FINES	**FINESS Array B**	**71.11 333**	P		**P**	**12 16 10.8**	**+1.0**
	comp=Z,5.5nm,0.8s,baz=44,slow=6.3,SNR=9.3						
FINES			LR	LR		12 51 41.5	
	comp=Z,110nm,18.1s,baz=36,slow=40						
	comp=Z,5.5nm,0.8s						
PINE	**Pine Mountain**	**71.82 49**	P		**P**	**12 16 13.8**	**-0.9**
PINE			IAmb	IAmb		12 16 29.7	
	comp=Z,7.8nm,0.8s						
ZEI	**Tsey**	**72.54 310**	eP		**P**	**12 16 17.2**	**-1.8**
ZEI			pmax	pmax			
	comp=Z,4.0nm,1.1s						
KBZ	**Khabaz**	**72.68 311**	P		**P**	**12 16 21.0**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=54,slow=5.4,SNR=4.0						
	comp=Z,2.4nm,0.8s						
KIV	**Kislovodsk**	**72.69 312**	eP		**P**	**12 16 19.8**	**0.0**
KIV			pmax	pmax			
	comp=Z,11nm,1.1s						
KIV			MLR	MLR			
	comp=Z,161nm,18.0s						
GNI	**Garni**	**73.36 307**	LR	LR		12 51 17.7	
	comp=Z,167nm,19.1s,baz=67,slow=38						
MNK	**Minsk**	**74.67 326**	*i* P		**P**	**12 16 29.8**	**-1.2**
MNK			*i*			12 16 43.7	
MNK			*i*			12 19 16.7	
MNK			*i* PPP	PPP		12 21 02.2	
MNK			*i* S	**S**		**12 22 06.9**	**+0.3**
MNK			*i*			12 26 41.4	
MNK			*i* SS	**SS**		**12 30 55.4**	**+2.5**
MNK			pmax	pmax			
	comp=Z,10.0nm,0.7s						
MNK			pmax	pmax			
	comp=E,2.0nm,0.6s						
MNK			MLR	MLR			
	comp=N,1.0nm,17.0s						
MNK			MLR	MLR			
	comp=Z,81nm,16.0s						
MNK			MLR	MLR			
	comp=E,116nm,19.0s						
MNK	**Minsk**	**74.67 326**	*i* P		**P**	**12 16 29.9**	**-1.2**
	comp=E,2.0nm,0.6s						
MNK			*i* P		**P**	**12 16 29.9**	**-1.2**
MNK			*i* P		**P**	**12 16 29.9**	**-1.2**
	comp=Z,10.0nm,0.7s,baz=232						
MNK			*i* PcP		**PcP**	**12 16 43.8**	**-1.5**
MNK			*i* PP		**PP**	**12 19 16.7**	**-0.7**
MNK			*i* PPP	PPP		12 21 02.3	
MNK			*i* S		**S**	**12 26 07.0**	**+0.3**
MNK			*i* SS		**SS**	**12 30 55.4**	**+2.5**
MNK			*i* SSS	SSS		12 34 17.5	
MNK			*i* LQ	LQ		12 44 24.2	
MNK			*i* LR	LR		12 50 05.6	
MNK			*i* LRM	MLR		12 51 42.2	
	comp=N,1.0nm,17.4s						
MNK			*i* LRM	MLR		12 52 00.2	
	comp=Z,81nm,16.1s						
MNK			*i* LRM	MLR		12 52 19.5	
	comp=E,116nm,19.0s						
NACGM	**Naroch**	**74.92 327**	eP		**P**	**12 16 33.0**	**+0.5**
	baz=52						
LRM	**Limekiln Ridge**	**75.81 44**	P		**P**	**12 16 37.1**	**-1.1**
NVAR	**Mina Array Bea**	**76.34 53**	P		**P**	**12 16 44.5**	**+3.2**
	comp=E,1.2nm,0.7s,baz=294,slow=5.6,SNR=9.7						
	comp=E,1.2nm,0.7s						
AKASG	**Malin Array Be**	**76.39 323**	P		**P**	**12 16 41.3**	**+0.3**
	comp=E,1.3nm,0.4s,baz=48,slow=6.2,SNR=14						
AKASG			LR	LR		12 53 57.2	
	comp=E,170nm,18.1s,baz=62,slow=39						
	comp=E,1.3nm,0.4s						
AKBB	**Malin Array Si**	**76.39 323**	⇓		**P**	**12 16 41.6**	**+0.6**
AKBB			pmax	pmax			
	comp=Z,5.0nm,0.8s						
HFS	**Hagfors**	**76.44 336**	LR	LR		12 52 38.3	
	comp=Z,116nm,20.4s,baz=26,slow=38						
NC204	**NORSAR Array S**	**76.52 338**	P		**P**	**12 16 41.0**	**-0.7**
NB2	**NORSAR Subarra**	**76.56 338**	P		**P**	**12 16 42.2**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**76.56 338**	P		**P**	**12 16 42.8**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=39,slow=5.7,SNR=9.5						
NOA			LR	LR		12 53 36.9	
	comp=Z,151nm,18.7s,baz=45,slow=38						
	comp=Z,2.5nm,0.8s						
IMW	**Indian Meadow**	**77.80 45**	P		**P**	**12 16 47.5**	**-2.0**
FXWY	**Fox Creek**	**77.91 45**	P		**P**	**12 16 49.0**	**-1.0**
SFJD	**Kangerlussuaq**	**78.36 5**	LR	LR		12 54 43.2	
	comp=Z,55nm,18.1s,baz=288,slow=38						
PDAR	**Pinedale Array**	**79.29 45**	P		**P**	**12 17 00.2**	**+2.6**
	comp=Z,0.6nm,1.0s,baz=325,slow=1.8,SNR=4.0						
	comp=Z,0.6nm,1.0s						
BRTR	**Keskin Array B**	**80.65 312**	P		**P**	**12 17 06.3**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=57,slow=4.6,SNR=3.8						
	comp=Z,1.1nm,0.7s						
BRTR	**Keskin Array B**	**80.65 312**	P		**P**	**12 17 05.3**	**+0.3**
BRTR	**Keskin Array B**	**80.65 312**	*i* P		**P**	**12 17 06.4**	**+1.5**
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.7s						
KNB	**Kanab**	**80.72 51**	P		**P**	**12 17 04.9**	**-0.5**
KNB			IAmb	IAmb		12 17 20.4	
	comp=Z,13nm,1.1s						
KNB	**Kanab**	**80.72 51**	P		**P**	**12 17 04.9**	**-0.5**
KNB			pmax	pmax			
	comp=Z,13nm,1.1s						
P18A	**Preston Nutter**	**80.78 48**	P		**P**	**12 17 04.3**	**-1.5**
SRU	**San Rafael Swe**	**80.92 49**	P		**P**	**12 17 05.0**	**-1.4**
SRU			IAmb	IAmb		12 17 20.7	
	comp=Z,14nm,0.8s						
SRU	**San Rafael Swe**	**80.92 49**	P		**P**	**12 17 05.0**	**-1.4**
SRU			pmax	pmax			
	comp=Z,14nm,0.8s						
MLR	**Muntele Rosu**	**81.42 320**	LR	LR		12 57 59.1	
	comp=Z,211nm,18.7s,baz=80,slow=39						
ULM	**Lac du Bonnet**	**81.49 33**	LR	LR		12 53 50.6	
	comp=Z,35nm,22.0s,baz=172,slow=36						
RAYN	**Ar Rayn**	**81.78 293**	P		**P**	**12 17 09.5**	**-1.6**
RAYN	**Ar Rayn**	**81.78 293**	P		**P**	**12 17 09.5**	**-1.6**
RAYN			pmax	pmax			
	comp=Z,6.0nm,1.0s						
PV13	**Radium Mtn., P**	**82.56 49**	P		**P**	**12 17 15.3**	**+0.2**
N23A	**Red Feather La**	**82.57 45**	P		**P**	**12 17 14.8**	**-0.4**
VRAC	**Vranov**	**83.32 327**	LR	LR		12 57 32.3	
	comp=Z,115nm,19.3s,baz=44,slow=38						
PPT	**Papeete**	**83.35 116**	LR	LR		12 50 23.8	
	comp=Z,73nm,19.2s,baz=304,slow=33						
CLL	**Collm**	**83.36 330**	eP		**P**	**12 17 18.0**	**-0.7**
CLL			*e*			12 17 30.0	
CLL			pmax	pmax			
	comp=Z,3.0nm,0.5s						
CLL	**Collm**	**83.36 330**	eP		**P**	**12 17 18.0**	**-0.7**
	comp=Z,3.0nm,0.5s						
CLL			*ex*	x		12 17 30.0	
CLL			ePP		**PP**	**12 20 32.0**	**+2.2**
MMAI	**Mount Meron Ar**	**83.57 306**	LR	LR		12 58 04.4	
	comp=Z,85nm,18.2s,baz=277,slow=38						
S22A	**4UR Ranch, Cre**	**84.04 48**	P		**P**	**12 17 21.6**	**-1.3**
S22A			IAmb	IAmb		12 17 37.7	
	comp=Z,6.6nm,0.9s						
KHC	**Kasperske Hory**	**84.77 329**	eP		**P**	**12 17 25.0**	**-1.0**
KHC	**Kasperske Hory**	**84.77 329**	eP		**P**	**12 17 25.0**	**-1.0**
KHC			*ex*	x		12 17 37.5	
GERES	**GERESS Array B**	**84.93 328**	P		**P**	**12 17 27.9**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=26,slow=3.4,SNR=5.6						
	comp=Z,0.6nm,0.6s						
GERES	**GERESS Array B**	**84.93 328**	P		**P**	**12 17 26.4**	**-0.6**
SCHQ	**Schefferville**	**87.68 16**	LR	LR		13 02 48.7	
	comp=Z,63nm,18.2s,baz=170,slow=40						
DAVOX	**Davos/Dischmat**	**88.16 329**	LR	LR		13 00 27.9	
	comp=Z,146nm,19.8s,baz=77,slow=38						
IDI	**Anoyia**	**88.83 313**	LR	LR		13 05 12.1	
	comp=Z,65nm,18.3s,baz=96,slow=41						
TXAR	**Lajitas Array**	**91.49 53**	P		**P**	**12 18 01.0**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=295,slow=3.4,SNR=6.0						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**124.28 180**	PKPdf		**PKiKP**	**12 23 50.8**	**+0.7**
LPAZ	**La Paz**	**147.72 63**	PKPbc		**PKPab**	**12 24 39.9**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=308,slow=4.5,SNR=5.9						

*IDC **23** 12:16:50.1±5.0,2.2°20S×140.7°49E,h162km±53km, mb3.4/7, mbtmp4.1/11, MS3.4/6, Error ellipse: s-maj=24.7km s-min=19.4km az=117.0*
ISC 23 12:16:37.3±0.9,2.2°0S±0.1°×140.7°7E±0.2°,h35km,n15, σ0s79/11,mb3.9/8,MS3.4/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**11.59 102**		P	Pn	12 19 33.4	+13
	20nm,0.6s,baz=231,slow=6.5,SNR=2.1						
BATI	**Baumata**	**18.77 243**		P	**Pn**	**12 20 54.2**	**-0.1**
	19nm,0.5s,baz=315,slow=6.2,SNR=5.4						
CTA	**Charters Tower**	**18.84 164**		P	**Pn**	**12 20 56.4**	**+1.3**
	2.2nm,0.7s,baz=358,slow=11,SNR=3.6						
CTA				LR	LR	12 28 04.6	
	comp=Z,93nm,18.9s,baz=348,slow=36						
WRA	**Warramunga Arr**	**18.92 199**		P	**P**	**12 20 54.7**	**-0.5**
	5.5nm,0.9s,baz=20,slow=11,SNR=20						
WRA				LR	LR	12 29 10.0	
	comp=Z,169nm,18.4s,baz=23,slow=40						
FITZ	**Fitzroy Crossi**	**21.79 222**		P	**P**	**12 21 26.0**	**-0.3**
	4.9nm,0.8s,baz=0.8,slow=9.2,SNR=8.1						
	4.9nm,0.8s						
ASAR	**Alice Springs**	**22.56 196**		P	**P**	**12 21 34.1**	**-0.5**
	3.4nm,0.7s,baz=30,slow=11,SNR=44						
	3.4nm,0.7s						
STKA	**Stephens Creek**	**29.78 178**		P	**P**	**12 22 40.1**	**-0.7**
	2.7nm,0.9s,baz=344,slow=3.6,SNR=5.0						
	2.7nm,0.9s						
NWAO	**Narrogin (SRO)**	**37.85 213**		LR	LR	12 40 05.0	
	comp=Z,99nm,18.8s,baz=129,slow=37						
KSRS	**Korea Array**	**40.94 344**		LR	LR	12 38 01.0	
	comp=Z,33nm,22.0s,baz=120,slow=31						
CMAR	**Chiang Mai Arr**	**45.77 298**		P	**P**	**12 24 56.0**	**+0.2**
	0.5nm,0.4s,baz=97,slow=6.4,SNR=4.7						
	0.5nm,0.4s						
KLR	**Kul'dur**	**51.55 353**		P	**P**	**12 25 40.0**	**+0.2**
	1.4nm,0.8s,baz=225,slow=5.7,SNR=4.0						
KLR				LR	LR	12 44 53.5	
	comp=Z,41nm,19.4s,baz=134,slow=32						
	1.4nm,0.8s						
SHEM	**Shemya Is, Ala**	**61.29 22**		LR	LR	12 49 45.8	
	comp=Z,24nm,20.9s,baz=334,slow=32						
MKAR	**Makanchi Array**	**70.39 322**		P	**P**	**12 27 48.6**	**+0.7**
	0.8nm,0.8s,baz=131,slow=6.6,SNR=4.8						
	0.8nm,0.8s						
VNDA	**Vanda**	**76.37 175**		P	**P**	**12 28 22.9**	**+0.5**
	2.1nm,0.7s,baz=328,slow=6.4,SNR=18						
ILAR	**Eielson Array**	**84.34 24**		P	**P**	**12 29 04.4**	**-1.1**
	0.4nm,0.7s,baz=251,slow=4.7,SNR=4.3						
	0.4nm,0.7s						

*JMA **23** 12:23:19.4±0.3,34.°N±1.°×14.°2E±.°,h36km±1km, MV2.7/27, FAR SE OFF BOSO PEN*
*IDC **23** 12:23:19.9±2.0,34.°37N×141.°59E,h0km,mb3.4/3, mbtmp3.3/4, ML2.3/1, Error ellipse: s-maj=39.0km s-min=23.7km az=64.0*
ISC 23 12:23:21.0±2.4,34.°47N±0.°06×141.°62E±0.°10,h13km±11km, n14,σ1s01/18,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.56 290**		P	**Pg**	**12 23 32.8**	**+1.0**
BSO1				X		12 23 42.9	
BSO3	**Boso 3**	**0.97 290**		P	**Pg**	**12 23 39.1**	**-0.6**
BSO3				S	**Sg**	**12 23 52.8**	**+0.3**
BSO4	**Boso 4**	**1.18 297**		P	**Pg**	**12 23 42.8**	**-0.9**
BSO4				*e*S	**Sg**	**12 23 59.5**	**+0.5**
JKUC	**kamogawauchiur**	**1.36 301**		P	**Pn**	**12 23 44.9**	**-0.8**
JKUC				S	**Sb**	**12 24 02.9**	**-0.7**
CHOJ	**Chosi**	**1.38 333**		P	**Pn**	**12 23 44.6**	**-1.4**
CHOJ				S	**Sb**	**12 24 03.4**	**-0.9**
JMKN	**Mikurajimanish**	**1.78 252**		P	**Pn**	**12 23 50.4**	**-1.0**
JMKN				S	**Sn**	**12 24 13.3**	**-0.6**
JHJ	**Hachijo jima 2**	**2.04 229**		Pn	**Pn**	**12 23 55.2**	**+0.2**
	6.4nm,0.3s,baz=233,slow=20,SNR=7.2						
JHJ				Sn	**Sn**	**12 24 19.2**	**-1.0**
	16nm,0.3s,baz=75,slow=23,SNR=8.2						
MJAR	**Matsushiro Arr**	**3.47 308**		Pn	**Pn**	**12 24 14.6**	**-0.1**
	0.3nm,0.3s,baz=111,slow=10,SNR=13						
MJAR				Sn	**Sn**	**12 24 57.4**	**+1.7**
	0.2nm,0.3s,baz=137,slow=20,SNR=6.0						
	1.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**26.77 117**		T	T	12 57 10.9	
	baz=309,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.77 117**		T	T	12 57 09.6	
	baz=309,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.78 117**		T	T	12 57 13.5	
	baz=309						
MKAR	**Makanchi Array**	**45.66 304**		P	**P**	**12 31 43.0**	**+1.6**
	0.3nm,0.6s,baz=90,slow=7.0,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**54.55 188**		P	**P**	**12 32 48.6**	**-0.2**
	0.4nm,0.6s,baz=3.3,slow=7.4,SNR=16						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**58.27 188**		P	**P**	**12 33 15.3**	**-0.1**
	0.3nm,0.8s,baz=13,slow=8.8,SNR=3.9						
	0.3nm,0.8s						

*NOU **23** 12:38:21.1,37.°46S×179.°89E,h111km, MLv4.1/8, Off E. Coast of N. Island, N.Z.*
*WEL **23** 12:38:28.9±1.1,37.°5±4.°×17.°9E±.°,h17km±5km, M3.4/33, ML3.6/37, MLv3.4/33, Error ellipse: s-maj=0.0km s-min=0.0km az=88.3*
ISC 23 12:38:27.8±2.6,37.°52S±0.°08×179.°09E±0.°10,h18km±4km, n108,σ1s17/114,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.62 241**		P	**Pn**	**12 38 41.8**	**+0.2**
WMGZ				S	**Sn**	**12 38 50.5**	**-0.5**
MXZ	**Matakaoa Point**	**0.63 266**		P	**Pg**	**12 38 39.6**	**-0.6**
MXZ				S	**Sb**	**12 38 47.3**	**-1.2**
PUZ	**Puketiti**	**0.86 230**		P	**Pg**	**12 38 45.6**	**+0.9**
PUZ				S	**Sn**	**12 38 57.9**	**+0.7**
PKGZ	**Pakihiroa**	**0.89 245**		P	**Pg**	**12 38 45.3**	**+0.2**
PKGZ				S	**Sg**	**12 38 56.7**	**-0.2**
HAZ	**Te Kaha**	**1.07 257**		P	**Pb**	**12 38 47.7**	**0.0**
HAZ				S	**Sg**	**12 39 00.7**	**-1.8**
TWGZ	**Tauwhareparae**	**1.10 233**		P	**Pn**	**12 38 49.3**	**+1.0**
TWGZ				S	**Sg**	**12 39 05.0**	**+1.4**
CNGZ	**Carnagh Statio**	**1.19 216**		P	**Pb**	**12 38 51.5**	**+1.7**
RUGZ	**Raukumara Rang**	**1.21 248**		P	**Pg**	**12 38 50.3**	**+0.2**
RUGZ				S	**Sg**	**12 39 06.1**	**-0.9**
TKGZ	**Te Karaka**	**1.35 227**		P	**Pn**	**12 38 52.3**	**+0.7**
TKGZ				S	**Sn**	**12 39 08.9**	**-0.1**
MWZ	**Matawai**	**1.48 236**		P	**Pn**	**12 38 53.9**	**+0.4**
RIGZ	**Rimuhau**	**1.58 221**		P	**Pn**	**12 38 55.8**	**+0.8**
RAGZ	**Rawiri**	**1.65 233**		P	**Pn**	**12 38 56.4**	**+0.6**
PRGZ	**Paritu Road**	**1.70 214**		P	**Pn**	**12 38 57.4**	**+1.0**
URZ	**Urewera**	**1.73 244**		P	**Pn**	**12 38 57.8**	**+0.9**
URZ				S	**Sn**	**12 39 18.7**	**+0.1**
URZ	**Urewera**	**1.73 244**		P	**Pn**	**12 38 57.8**	**+0.9**
KNZ	**Kokohu**	**1.87 216**		P	**Pn**	**12 38 59.1**	**+0.3**
SNGZ	**Shannon Statio**	**1.87 227**		P	**Pn**	**12 38 59.6**	**+0.7**
MHGZ	**Mahia Peninsul**	**1.88 209**		P	**Pn**	**12 39 00.2**	**+1.2**
EDRZ	**Edgecumbe**	**1.96 252**		P	**Pn**	**12 39 00.9**	**+0.9**
RTZ	**Ruatahuna**	**2.00 236**		P	**Pn**	**12 38 59.4**	**-1.2**
OPRZ	**Ohinepanea**	**2.04 260**		P	**Pn**	**12 39 01.2**	**+0.1**
MUGZ	**Murupara**	**2.07 242**		P	**Pn**	**12 39 02.0**	**+0.5**
RAHZ	**Arahi**	**2.11 228**		P	**Pn**	**12 39 03.1**	**+0.9**
WHHZ	**Waihua**	**2.14 223**		P	**Pn**	**12 39 03.1**	**+0.6**
TARZ	**Mount Tarawera**	**2.17 250**		P	**Pn**	**12 39 04.0**	**+1.0**
RRRZ	**Republican Roa**	**2.20 247**		P	**Pn**	**12 39 04.7**	**+1.3**
MTHZ	**Maungataniwha**	**2.22 232**		P	**Pn**	**12 39 04.5**	**+0.8**
TGRZ	**Tauranga**	**2.26 264**		P	**Pn**	**12 39 04.2**	**0.0**
KARZ	**Kaharoa**	**2.31 257**		P	**Pn**	**12 39 05.2**	**+0.2**
PRRZ	**Plateau Road**	**2.35 244**		P	**Pn**	**12 39 05.8**	**+0.5**
HRRZ	**Handcock Road**	**2.39 248**		P	**Pn**	**12 39 06.5**	**+0.6**
HSRZ	**Hossack Road**	**2.39 250**		P	**Pn**	**12 39 07.3**	**+1.4**
NMHZ	**Naumai**	**2.39 228**		P	**Pn**	**12 39 06.9**	**+0.8**
ARHZ	**Aropaoanui**	**2.40 223**		P	**Pn**	**12 39 06.8**	**+0.7**
ALRZ	**Allen Road**	**2.41 243**		P	**Pn**	**12 39 06.7**	**+0.5**
MRHZ	**Matea Rd**	**2.48 237**		P	**Pn**	**12 39 07.7**	**+0.4**
KMRZ	**Kaimai**	**2.52 262**		P	**Pn**	**12 39 08.1**	**+0.3**
WPRZ	**Whakapapatarin**	**2.52 246**		P	**Pn**	**12 39 07.7**	**-0.1**
BKZ	**Black Stump Fm**	**2.62 230**		P	**Pn**	**12 39 09.7**	**+0.4**
BKZ	**Black Stump Fm**	**2.62 230**		P	**Pn**	**12 39 09.7**	**+0.4**
CKHZ	**Cape Kidnapper**	**2.66 216**		P	**Pn**	**12 39 09.7**	**+0.1**
MCHZ	**McNeill Hill**	**2.69 224**		P	**Pn**	**12 39 10.4**	**+0.3**
KUTZ	**Kaahu Road**	**2.76 248**		P	**Pn**	**12 39 11.8**	**+0.7**
KUZ	**Kuaotunu**	**2.80 285**		P	**Pn**	**12 39 09.6**	**-2.0**
KWHZ	**Kaweka Forest**	**2.83 227**		P	**Pn**	**12 39 12.0**	**-0.1**
TOZ	**Tahuroa Road**	**2.86 265**		P	**Pn**	**12 39 12.5**	**+0.1**
KAHZ	**Kahuranaki**	**2.86 217**		P	**Pn**	**12 39 12.6**	**+0.2**
KRHZ	**Kereru**	**3.01 224**		P	**Pn**	**12 39 14.2**	**-0.3**
KATZ	**Kakaramea**	**3.05 240**		P	**Pn**	**12 39 15.6**	**+0.5**
PXZ	**Pawanui**	**3.06 214**		P	**Pn**	**12 39 14.3**	**-0.8**
BHHZ	**Black Hill Sta**	**3.09 229**		P	**Pn**	**12 39 15.5**	**-0.1**
TMVZ	**Te Maari**	**3.11 238**		P	**Pn**	**12 39 16.0**	**+0.1**
ETVZ	**East Tongariro**	**3.11 238**		P	**Pn**	**12 39 16.0**	**0.0**
NTVZ	**North Tongarir**	**3.12 239**		P	**Pn**	**12 39 16.2**	**+0.1**
KRVZ	**Karewarewa**	**3.14 239**		P	**Pn**	**12 39 16.5**	**+0.1**
OTVZ	**Oturere**	**3.16 238**		P	**Pn**	**12 39 16.7**	**0.0**
MKAZ	**Moumakai**	**3.16 276**		P	**Pn**	**12 39 15.7**	**-0.8**
NNVZ	**North Ngauruho**	**3.17 238**		P	**Pn**	**12 39 17.2**	**+0.2**
GRZ	**Great Barrier**	**3.18 292**		P	**Pn**	**12 39 15.7**	**-1.0**
WTVZ	**West Tongariro**	**3.18 239**		P	**Pn**	**12 39 17.3**	**+0.3**
SNVZ	**South Ngauruho**	**3.19 237**		P	**Pn**	**12 39 17.1**	**0.0**
NGZ	**Ngauruhoe**	**3.21 238**		P	**Pn**	**12 39 17.4**	**+0.1**
TUVZ	**Tukino**	**3.22 236**		P	**Pn**	**12 39 17.7**	**+0.2**
MOVZ	**Moawhango**	**3.23 233**		P	**Pn**	**12 39 17.5**	**-0.1**
WIAZ	**Waiheke Island**	**3.24 282**		P	**Pn**	**12 39 16.6**	**-1.1**
TWVZ	**Taurewa**	**3.27 241**		P	**Pn**	**12 39 18.7**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.27 236**		P	**Pn**	**12 39 18.3**	**0.0**
FWVZ	**Far West T-bar**	**3.28 237**		P	**Pn**	**12 39 18.9**	**+0.5**
WPHZ	**Waipukurau**	**3.28 218**		P	**Pn**	**12 39 17.6**	**-0.6**
WNVZ	**Wahianoa**	**3.29 236**		P	**Pn**	**12 39 18.3**	**-0.2**
PNHZ	**Pukenui**	**3.29 223**		P	**Pn**	**12 39 17.3**	**-1.1**
PRHZ	**Porangahau**	**3.35 214**		P	**Pn**	**12 39 17.0**	**-2.2**
ETAZ	**East Tamaki Re**	**3.37 278**		P	**Pn**	**12 39 19.0**	**-0.5**
MTVZ	**Mangateitei**	**3.40 236**		P	**Pn**	**12 39 20.0**	**+0.1**
MBAZ	**Motutapu North**	**3.43 281**		P	**Pn**	**12 39 21.9**	**+1.6**
PKVZ	**Pokaka**	**3.43 238**		P	**Pn**	**12 39 20.9**	**+0.5**
HIZ	**Hauiti**	**3.49 252**		P	**Pn**	**12 39 22.3**	**+1.2**
HIZ	**Hauiti**	**3.49 252**		P	**Pn**	**12 39 22.5**	**+1.4**
TSZ	**Takapari Road**	**3.53 223**		P	**Pn**	**12 39 20.6**	**-1.0**
ANWZ	**Angora Road**	**3.58 214**		P	Pn	12 39 18.5	-3.8
AWAZ	**Awahiu Peninsu**	**3.58 276**		P	**Pn**	**12 39 23.4**	**+1.1**
DVHZ	**Dannevirke**	**3.59 219**		P	**Pn**	**12 39 21.6**	**-1.0**
RVAZ	**Riverhead Bore**	**3.68 280**		P	**Pn**	**12 39 23.5**	**-0.3**
BFZ	**Birch Farm**	**3.86 214**		P	**Pn**	**12 39 24.3**	**-1.8**
BFZ	**Birch Farm**	**3.86 214**		P	**Pn**	**12 39 24.6**	**-1.6**
POWZ	**Post Office Ro**	**3.87 221**		P	**Pn**	**12 39 25.2**	**-1.1**
PRWZ	**Pori Road**	**3.89 218**		P	**Pn**	**12 39 25.6**	**-1.0**
WAZ	**Wanganui**	**3.92 234**		P	**Pn**	**12 39 27.7**	**+0.7**
TIWZ	**Tintock**	**4.10 216**		P	**Pn**	**12 39 28.1**	**-1.4**
WCZ	**Waipu Caves**	**4.13 291**		P	**Pn**	**12 39 29.1**	**-0.8**
MRZ	**Mangatainoka R**	**4.16 220**		P	**Pn**	**12 39 28.1**	**-2.2**
PREZ	**Palmer Road**	**4.28 243**		P	**Pn**	**12 39 33.9**	**+1.9**
NEZ	**North Egmont**	**4.30 244**		P	**Pn**	**12 39 34.2**	**+1.9**
PKE	**Pukeiti**	**4.35 246**		P	**Pn**	**12 39 35.5**	**+2.6**
TMWZ	**Te Maipa**	**4.36 214**		P	**Pn**	**12 39 30.8**	**-2.3**
KHEZ	**Kahui Hut**	**4.37 244**		P	**Pn**	**12 39 35.3**	**+2.1**
HOWZ	**Holdsworth Sta**	**4.37 218**		P	**Pn**	**12 39 30.9**	**-2.3**
OGWZ	**Otaki Gorge**	**4.49 222**		P	**Pn**	**12 39 32.6**	**-2.2**
MTW	**Mount Morrison**	**4.58 216**		P	**Pn**	**12 39 33.3**	**-2.8**
TRWZ	**Traveller**	**4.69 213**		P	**Pn**	**12 39 34.5**	**-3.0**
CAW	**Cannon Point**	**4.75 220**		P	**Pn**	12 39 34.0	-4.5
OUZ	**Omahuta**	**4.99 296**		P	**Pn**	**12 39 41.6**	**-0.2**
OUZ	**Omahuta**	**4.99 296**		P	**Pn**	**12 39 41.4**	**-0.3**
PLWZ	**Palliser**	**5.02 215**		P	Pn	12 39 38.6	-3.5
QRZ	**Quartz Range**	**6.08 235**		P	**Pn**	**12 39 55.8**	**-0.8**
KHZ	**Kahutara**	**6.49 219**		P	**Pn**	**12 40 00.8**	**-1.5**
CTZ	**Chatham Island**	**7.01 154**		P	**Pn**	**12 40 13.0**	**+3.5**
ODZ	**Otahua Downs**	**9.84 218**		P	**Pn**	**12 40 44.8**	**-3.5**

*IDC **23** 12:43:59.3±2.1,34.°40N×141.°62E,h0km,mb3.4/3, mbtmp3.3/4, ML2.2/1, Error ellipse: s-maj=40.8km s-min=24.1km az=64.0*
*JMA **23** 12:44:00.7±0.5,34.°4N±1.°×14.°2E±.°,h37km±2km, MV2.5/22, FAR SE OFF BOSO PEN*
ISC 23 12:44:02.9±1.5,34.°49N±0.°06×141.°6E±0.°1,h27km,n14, σ1s23/14,mb3.6/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

	comp=N,24955µm,0.2s							
AXAR					AML	AML	12 48 59.2	
	comp=E,21359µm,0.5s							
DLFA	**Delphi**	**0.61**	**136**		P	**Pg**	**12 48 44.9**	**-0.6**
DLFA					S	**Sg**	**12 48 53.8**	**+0.2**
DLFA					AML	AML	12 48 55.4	
	comp=E,11022µm,0.4s							
DLFA					AML	AML	12 48 58.1	
	comp=N,9978µm,0.5s							
UPR	**University Cam**	**0.65**	**192**		P	**Pg**	**12 48 46.2**	**+0.1**
UPR					S	**Sb**	**12 48 55.8**	**-0.1**
THL	**Klokotos Trika**	**0.65**	**4**		P	**Pg**	**12 48 45.1**	**-1.1**
THL					S	**Sg**	**12 48 55.3**	**+0.6**
	comp=N,4µm,0.5s							
THL	**Klokotos Trika**	**0.65**	**4**		P	**Pg**	**12 48 45.6**	**-0.6**
THL					S	**Sg**	**12 48 54.8**	**+0.1**
THL					AML	AML	12 48 57.0	
	comp=E,7563µm,0.3s							
THL					AML	AML	12 48 59.5	
	comp=N,6266µm,0.3s							
ALIK	**Aliki, Aigiali**	**0.67**	**169**		P	**Pg**	**12 48 46.3**	**-0.2**
ALIK					S	**Sb**	**12 48 57.2**	**+0.7**
LAKA	**Lakka**	**0.68**	**178**		P	**Pg**	**12 48 46.0**	**-0.7**
LAKA	**Lakka**	**0.68**	**178**		P	**Pg**	**12 48 46.5**	**-0.3**
LAKA					S	**Sb**	**12 48 56.2**	**-0.6**
LAKA					AML	AML	12 49 02.6	
	comp=E,3954µm,0.6s							
LAKA					AML	AML	12 49 08.5	
	comp=N,5670µm,0.5s							
KLV	**Kalavryta, Ach**	**0.89**	**170**		P	**Pg**	**12 48 49.6**	**-1.1**
KLV					S	**Sb**	**12 49 02.8**	**-0.1**
	comp=N,3µm,0.7s							
KLV	**Kalavryta, Ach**	**0.89**	**170**		P	**Pg**	**12 48 50.2**	**-0.5**
KLV					S	**Sb**	**12 49 02.9**	**+0.1**
KLV					AML	AML	12 49 07.5	
	comp=N,6160µm,0.6s							
KLV					AML	AML	12 49 08.2	
	comp=E,5986µm,0.4s							
RLS	**Riolos of Patr**	**0.94**	**204**		P	**Pg**	**12 48 51.5**	**-0.2**
RLS					S	**Sn**	**12 49 06.4**	**+0.3**
	comp=E,8µm,0.5s							
RLS	**Riolos of Patr**	**0.94**	**204**		P	**Pg**	**12 48 51.6**	**-0.1**
RLS					S	**Sb**	**12 49 05.0**	**+0.7**
RLS					AML	AML	12 49 07.5	
	comp=N,17356µm,0.6s							
RLS					AML	AML	12 49 07.6	
	comp=E,14665µm,0.4s							
DRO	**Drossia**	**0.98**	**191**		P	**Pg**	**12 48 51.5**	**-1.0**
DRO					S	**Sn**	**12 49 06.8**	**-0.4**
	comp=E,8µm,0.4s							
DRO	**Drossia**	**0.98**	**191**		P	**Pg**	**12 48 51.9**	**-0.6**
TSLK	**Tsoukalades, L**	**1.02**	**265**		P	**Pb**	**12 48 52.4**	**-0.8**
TSLK					S	**Sn**	**12 49 07.9**	**-0.1**
	comp=E,4µm,0.6s							
TSLK	**Tsoukalades, L**	**1.02**	**265**		P	**Pb**	**12 48 52.6**	**-0.6**
THAL	**Thalero**	**1.04**	**147**		P	**Pg**	**12 48 53.5**	**-0.1**
THAL					S	**Sn**	**12 49 08.1**	**-0.5**
	comp=E,7µm,0.4s							
THAL	**Thalero**	**1.04**	**147**		P	**Pg**	**12 48 53.6**	**0.0**
EVGI	**Lefkada island**	**1.06**	**254**		P	**Pb**	**12 48 52.8**	**-1.1**
EVGI					S	**Sn**	**12 49 10.0**	**+1.0**
	comp=E,7µm,0.3s							
EVGI	**Lefkada island**	**1.06**	**254**		P	**Pb**	**12 48 52.7**	**-1.1**
NEO	**Neokhori**	**1.06**	**68**		P	**Pb**	**12 48 53.2**	**-0.8**
NEO					S	**Sn**	**12 49 09.4**	**+0.2**
	comp=E,4µm,0.5s							
NEO	**Neokhori**	**1.06**	**68**		P	**Pb**	**12 48 53.6**	**-0.4**
NEO					S	**Sb**	**12 49 08.2**	**+0.3**
NEO					AML	AML	12 49 10.9	
	comp=N,10215µm,0.3s							
NEO					AML	AML	12 49 16.0	
	comp=E,7946µm,0.4s							
XOR	**Xorichti**	**1.06**	**65**		P	**Pb**	**12 48 53.3**	**-0.7**
XOR					S	**Sn**	**12 49 08.8**	**-0.4**
	comp=E,5µm,0.7s							
XOR	**Xorichti**	**1.06**	**65**		P	**Pb**	**12 48 53.7**	**-0.3**
JAN	**Janina**	**1.13**	**311**		P	**Pb**	**12 48 53.3**	**-1.9**
KPRO	**Kipourio**	**1.13**	**336**		P	**Pb**	**12 48 53.9**	**-1.3**
KPRO					S	**Sb**	**12 49 09.9**	**-0.1**
	comp=E,3µm,0.7s							
FSK	**Fiskardo**	**1.18**	**248**		P	**Pn**	**12 48 55.2**	**-0.8**
FSK					S	**Sn**	**12 49 12.9**	**+0.9**
	comp=E,5µm,0.8s							
FSK	**Fiskardo**	**1.18**	**248**		P	**Pn**	**12 48 55.5**	**-0.5**
LOUT	**Loutraki**	**1.23**	**139**		P	**Pb**	**12 48 56.6**	**-0.2**
LOUT					S	**Sn**	**12 49 14.0**	**+0.8**
	comp=E,2µm,0.7s							
LOUT	**Loutraki**	**1.23**	**139**		P	**Pb**	**12 48 56.7**	**-0.2**
VIL2	**Platees**	**1.25**	**124**		P	**Pg**	**12 48 58.2**	**+0.6**
LIT	**Litokhoron**	**1.25**	**19**		P	**Pn**	**12 48 55.9**	**-1.2**
LIT					S	**Sb**	**12 49 13.3**	**-0.1**
	comp=E,3µm,0.7s							
LIT	**Litokhoron**	**1.25**	**19**		P	**Pn**	**12 48 56.8**	**-0.3**
LIT					S	**Sg**	**12 49 14.6**	**+0.6**
LIT	**Litokhoron**	**1.25**	**19**		P	**Pn**	**12 48 56.5**	**-0.6**
VLS	**Valsamata**	**1.30**	**236**		P	**Pn**	**12 48 56.4**	**-1.2**
VLS					S	**Sn**	**12 49 15.1**	**+0.1**
	comp=E,4µm,0.6s							
VLS	**Valsamata**	**1.30**	**236**		P	**Pn**	**12 48 56.5**	**-1.2**
VILL	**Villia**	**1.30**	**125**		P	**Pn**	**12 48 57.4**	**-0.4**
VILL					S	**Sg**	**12 49 15.4**	**-0.2**
	comp=E,3µm,0.7s							
PSDA	**Pessada-Kefalo**	**1.34**	**234**		P	**Pn**	**12 48 57.1**	**-1.1**
PSDA					S	**Sg**	**12 49 16.8**	**+0.1**
PSDA	**Pessada-Kefalo**	**1.34**	**234**		P	**Pn**	**12 48 57.3**	**-0.9**
KEF4	**Livadi, Kephal**	**1.37**	**242**		P	**Pn**	**12 48 57.6**	**-1.0**
ARGA	**Argostoli. Kep**	**1.37**	**238**		P	**Pn**	**12 48 58.9**	**+0.3**
KZN	**Kozani**	**1.39**	**354**		P	**Pn**	**12 48 58.6**	**-0.5**
KZN					S	**Sb**	**12 49 17.9**	**+0.4**
	comp=E,2µm,0.7s							
KZN	**Kozani**	**1.39**	**354**		P	**Pn**	**12 48 58.6**	**-0.5**
DMLN	**Damoulianata-K**	**1.41**	**242**		P	**Pn**	**12 48 58.4**	**-0.8**
DMLN					S	**Sg**	**12 49 19.2**	**+0.2**
	comp=E,5µm,0.5s							
PENT	**Pentalofos**	**1.42**	**334**		P	**Pn**	**12 48 59.1**	**-0.4**
LTHK	**Lithakia**	**1.49**	**216**		P	**Pn**	**12 49 00.4**	**+0.1**
LTHK					S	**Sg**	**12 49 21.3**	**-0.3**
EPID	**Epidavros**	**1.59**	**144**		P	**Pn**	**12 49 02.0**	**+0.3**
EPID					S	**Sg**	**12 49 24.0**	**-0.8**
EPID	**Epidavros**	**1.59**	**144**		P	**Pn**	**12 49 02.0**	**+0.3**
LSK	**Leskovik**	**1.61**	**320**		P	**Pn**	**12 49 02.8**	**+0.7**
	baz=320							
LSK					AMP			
	comp=E,7.9nm,0.7s,baz=320							
ATH	**Athens Observa**	**1.68**	**124**		P	**Pb**	**12 49 03.7**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.70**	**99**		P	**Pn**	**12 49 03.0**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.70**	**99**		P	**Pn**	**12 49 03.0**	**-0.2**
DION	**Dionisos Attik**	**1.77**	**118**		P	**Pn**	**12 49 04.6**	**+0.5**
DION					S	**Sn**	**12 49 26.1**	**-0.5**
	comp=E,2µm,0.6s							
DION	**Dionisos Attik**	**1.77**	**118**		P	**Pn**	**12 49 04.6**	**+0.5**
SRN	**Sarande**	**1.79**	**303**		P	**Pb**	**12 49 07.0**	**+0.6**
	baz=305							
SRN					AMP			
	comp=N,2.1nm,0.5s,baz=305							
VLY	**Voula,Athens**	**1.80**	**126**		P	**Pn**	**12 49 04.9**	**+0.4**
VLY					S	**Sn**	**12 49 26.8**	**-0.5**
	comp=N,892nm,0.4s							
VLY	**Voula,Athens**	**1.80**	**126**		P	**Pn**	**12 49 05.0**	**+0.5**
KBN	**Korca**	**1.93**	**333**		P	**Pb**	**12 49 08.7**	**-0.1**
	baz=331							
KBN					AMP			
	comp=E,3.1nm,1.1s,baz=331							
VLI	**Velíai**	**2.33**	**160**		P	**Pn**	**12 49 12.3**	**+0.5**
OHR	**Ohrid**	**2.36**	**338**	*i* Pn		**Pn**	**12 49 14.0**	**+1.7**
VAY	**Valandovo**	**2.45**	**11**	*i* Pn		**Pn**	**12 49 14.6**	**+1.2**
VLO	**Vlora**	**2.45**	**310**		P	**Pb**	**12 49 16.3**	**-1.3**
	baz=311							
TIR	**Tirane**	**2.91**	**327**	⇑P		**Pn**	**12 49 22.3**	**+2.6**
TIR	**Tirane**	**2.91**	**327**	P		**Pn**	**12 49 22.0**	**+2.2**
	baz=327							
SCTE	**Santa Cesarea**	**2.93**	**294**	P		**Pn**	**12 49 22.1**	**+2.0**
	baz=297							
PHP	**Peshkopia**	**3.00**	**338**	P		**Pn**	**12 49 22.2**	**+1.1**
	baz=337							
SKO	**Skopje**	**3.08**	**353**	*i* Pn		**Pn**	**12 49 22.7**	**+0.6**
KOCA	**Canakkale, Ayv**	**3.30**	**79**	P		**Pn**	**12 49 25.1**	**-0.1**
BOZC	**Bozcaada**	**3.31**	**73**	P		**Pn**	**12 49 24.8**	**-0.5**
APE	**Apeiranthos**	**3.38**	**122**	⇑P		**Pn**	**12 49 26.3**	**0.0**
APE				⇑S		**Sn**	**12 50 04.7**	**-1.6**
APE	**Apeiranthos**	**3.38**	**122**	P		**Pn**	**12 49 26.3**	**0.0**
APE				S		**Sn**	**12 50 03.6**	**-2.7**
EZN	**Ezine**	**3.51**	**74**	P		**Pn**	**12 49 28.1**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**3.66**	**76**	P		**Pn**	**12 49 30.4**	**+0.3**
ULC	**Ulcinj**	**3.68**	**327**	⇑*i*Pn		**Pn**	**12 49 30.9**	**+0.5**
ULC				*i* Sn		**Sn**	**12 50 15.2**	**+1.5**
URLA	**Izmir**	**3.68**	**97**	P		**Pn**	**12 49 29.0**	**-1.4**
ALN	**Alexandroupoli**	**3.72**	**57**	P		**Pn**	**12 49 29.6**	**-1.2**
ALN				S		**Sn**	**12 50 09.3**	**-5.3**
BCI	**Bajram Curri**	**3.73**	**338**	P		**Pn**	**12 49 32.8**	**+1.7**
	baz=337							
VTS	**Vitosha**	**3.82**	**14**	⇓P		**Pn**	**12 49 32.4**	**-0.1**
VTS				⇓S		**Sn**	**12 50 17.3**	**-0.2**
DRME	**Dracevica, Mon**	**3.89**	**328**	*e*Pn		**Pn**	**12 49 34.7**	**+1.5**
DRME	**Dracevica, Mon**	**3.89**	**328**	⇑*i*Pn		**Pn**	**12 49 34.2**	**+1.0**
DRME				*i* Sn		**Sn**	**12 50 20.4**	**+1.5**
PVY	**Plav**	**3.97**	**338**	⇑*i*Pn		**Pn**	**12 49 35.5**	**+1.0**
PVY				*i* Sn		**Sn**	**12 50 22.2**	**+1.0**
TIP	**Timpagrande**	**4.05**	**275**	⇓P		**Pn**	**12 49 36.9**	**+1.3**
TIP				⇓S		**Sn**	**12 50 23.1**	**+0.1**
TTG	**Podgorica**	**4.06**	**331**	⇑*i*Pn		**Pn**	**12 49 36.6**	**+0.9**
TTG				*i* Sn		**Sn**	**12 50 24.6**	**+1.4**
NOCI	**Noci**	**4.20**	**298**	P		**Pn**	**12 49 39.0**	**+1.4**
	baz=300							
IVA	**Berane**	**4.25**	**339**	⇑*i*Pn		**Pn**	**12 49 38.8**	**+0.5**
IVA				*i* Sn		**Sn**	**12 50 28.5**	**+0.6**
CEME	**Cevo**	**4.30**	**329**	⇑*i*Pn		**Pn**	**12 49 39.3**	**+0.4**
CEME				*i* Sn		**Sn**	**12 50 30.2**	**+1.2**
IDI	**Anoyia**	**4.32**	**146**	⇑P		**Pn**	**12 49 40.5**	**+1.3**
IDI				⇓S		**Sn**	**12 50 28.8**	**-0.7**
IDI	**Anoyia**	**4.32**	**146**	P		**Pn**	**12 49 40.5**	**+1.3**
	comp=E,1.1nm,0.3s,baz=322,slow=7.8,SNR=9.9							
IDI				S		**Sn**	**12 50 30.3**	**+0.8**
	comp=E,19nm,0.5s,baz=57,slow=23,SNR=4.0							
	comp=E,16nm,1.0s							
KOME	**Kolasin**	**4.34**	**336**	⇑*i*Pn		**Pn**	**12 49 39.9**	**+0.3**
KOME				*i* Sn		**Sn**	**12 50 31.0**	**+0.8**
MATE	**Matera**	**4.40**	**295**	⇓P		**Pn**	**12 49 43.3**	**+3.1**
HCY	**Herceg Novi**	**4.40**	**324**	*e*Pn		**Pn**	**12 49 40.6**	**+0.3**
HCY	**Herceg Novi**	**4.40**	**324**	⇑*i*Pn		**Pn**	**12 49 40.8**	**+0.5**
HCY				*i* Sn		**Sn**	**12 50 32.6**	**+1.1**
NKME	**Niksic**	**4.47**	**330**	⇓*i*Pn		**Pn**	**12 49 42.1**	**+0.8**
NKME				*i* Sn		**Sn**	**12 50 34.1**	**+0.9**
BALY	**Balya**	**4.47**	**78**	P		**Pn**	**12 49 40.6**	**-0.7**
NKY	**Niksic**	**4.49**	**331**	⇑*i*Pn		**Pn**	**12 49 42.4**	**+0.7**
NKY				*i* Sn		**Sn**	**12 50 34.9**	**+1.0**
KNL	**Balıkesir**	**4.51**	**71**	P		**Pn**	**12 49 41.6**	**-0.2**
BOVS	**Bovan**	**4.72**	**358**	⇑P		**Pn**	**12 49 44.3**	**-0.3**
BLKB	**Belogradchik**	**4.73**	**6**	⇑P		**Pn**	**12 49 44.8**	**-0.1**
BLKB				⇑S		**Sn**	**12 50 38.2**	**-1.6**
BRY	**Bratogost**	**4.75**	**328**	*e*Pn		**Pn**	**12 49 46.0**	**+0.8**
BRY	**Bratogost**	**4.75**	**328**	⇓*i*Pn		**Pn**	**12 49 45.9**	**+0.8**
BRY				*i* Sn		**Sn**	**12 50 40.6**	**+0.4**
KIRK	**Kırklareli**	**4.86**	**52**	P		**Pn**	**12 49 45.8**	**-0.9**
UPM	**Unac-Piva**	**4.86**	**333**	*e*Pn		**Pn**	**12 49 48.7**	**+1.9**
UPM	**Unac-Piva**	**4.86**	**333**	⇓*i*Pn		**Pn**	**12 49 47.3**	**+0.5**
UPM				*i* Sn		**Sn**	**12 50 44.0**	**+0.9**
RUDO	**Rudo**	**5.08**	**338**	*e*Pn		**Pn**	**12 49 49.0**	**-0.7**
STON	**Ston**	**5.10**	**322**	*e*Pn		**Pn**	**12 49 45.7**	**-4.1**
STON	**Ston**	**5.10**	**322**	*e*Pn		**Pn**	**12 49 48.6**	**-1.2**
STON				Sn		**Sn**	**12 50 42.1**	**-6.5**
ARMN	**Kirklareli, Me**	**5.11**	**53**	P		**Pn**	**12 49 46.5**	**-3.6**
DIVS	**Divibare**	**5.38**	**345**	*e*Pn		**Pn**	**12 49 53.4**	**-0.5**
LSTV	**Lastovo**	**5.43**	**317**	*e*Pn		**Pn**	**12 49 53.9**	**-0.6**
LSTV				Sn		**Sn**	**12 50 53.1**	**-3.8**
SGRT	**San Giovanni R**	**5.53**	**303**	P		**Pn**	**12 49 56.5**	**+0.6**
	baz=304							
RICI	**Ricice**	**5.84**	**323**	*e*Pn		**Pn**	**12 49 59.6**	**-0.5**
MDVR	**Moldovita**	**5.86**	**358**	⇑P		**Pn**	**12 50 01.1**	**+0.6**
TEKS	**Tekeris**	**5.91**	**343**	*e*Pn		**Pn**	**12 49 59.6**	**-1.5**
HERR	**Herculane**	**5.97**	**3**	⇑P		**Pn**	**12 50 01.5**	**-0.3**
SRKY	**Kupres RS**	**6.28**	**327**	*e*Pn		**Pn**	**12 50 07.9**	**+1.7**
FRGS	**Fruska Gora**	**6.44**	**346**	⇓P		**Pn**	**12 50 08.6**	**+0.3**
FRGS				⇑S		**Sn**	**12 51 21.3**	**-0.3**
FRGS	**Fruska Gora**	**6.44**	**346**	*e*Pn		**Pn**	**12 50 08.6**	**+0.3**
GZR	**Gura Zlata**	**6.50**	**5**	⇑S		**Sn**	**12 51 21.1**	**-2.3**
ZIRJ	**Zirje**	**6.70**	**317**	*e*Pn		**Pn**	**12 50 11.9**	**0.0**
BLY	**Banja Luka**	**6.83**	**330**	*e*Pn		**Pn**	**12 50 13.9**	**+0.3**
A050A	**Klekovaca**	**6.88**	**326**	*e*Pn		**Pn**	**12 50 15.6**	**+1.2**
VOIR		**6.91**	**18**	⇑P		**Pn**	**12 50 15.3**	**+0.5**
A051A	**Mrakovica**	**7.16**	**330**	*e*Pn		**Pn**	**12 50 18.4**	**+0.2**
MLR	**Muntele Rosu**	**7.21**	**23**	⇑P		**Pn**	**12 50 19.7**	**+0.8**
MLR	**Muntele Rosu**	**7.21**	**23**	P		**Pn**	**12 50 20.3**	**+1.4**
	comp=E,2.0nm,0.3s,baz=129,slow=0.7,SNR=17							
DUGI	**Dugi Otok**	**7.25**	**317**	*e*Pn		**Pn**	**12 50 20.2**	**+0.8**
UDBI	**Udbina**	**7.27**	**322**	*e*Pn		**Pn**	**12 50 21.1**	**+1.4**
DOPR	**Dopca**	**7.49**	**19**	⇑P		**Pn**	**12 50 23.7**	**+1.0**
COVR	**Voineasa-Covas**	**7.60**	**23**	⇑P		**Pn**	**12 50 24.7**	**+0.4**
MORH	**Mrgy, Hungar**	**7.69**	**343**	⇓P		**Pn**	**12 50 26.1**	**+0.7**
NVLJ	**Novalja**	**7.73**	**319**	*e*Pn		**Pn**	**12 50 26.2**	**+0.2**
PLOR	**Plostina**	**7.75**	**25**	⇓P		Pn	12 50 20.5	-5.8
VRI	**Vrincioaia**	**7.79**	**25**	⇑P		**Pn**	**12 50 27.4**	**+0.5**
A253A	**Karojba, Istri**	**8.78**	**315**	*e*Pn		**Pn**	**12 50 39.1**	**-1.3**
CEY	**Cerknica**	**8.80**	**323**	*e*Pn		**Pn**	**12 50 39.0**	**-1.7**
BURAR	**Burovina Array**	**9.01**	**14**	⇓P		**Pn**	**12 50 43.1**	**-0.6**
BRTR	**Keskin Array B**	**9.09**	**81**	P		**Pn**	**12 50 47.1**	**+2.2**
	comp=E,0.3nm,0.3s,baz=258,slow=12,SNR=7.5							
	comp=E,1.0nm,0.4s							
PSZ	**Piszkesteto**	**9.12**	**351**	⇓P		**Pn**	**12 50 45.7**	**+0.5**
PSZ	**Piszkesteto**	**9.12**	**351**	P		**Pn**	**12 50 46.3**	**+1.2**
OBKA	**Obir**	**9.34**	**327**	*e*Pn		**Pn**	**12 50 50.6**	**+2.5**
VYHS	**Vyhne**	**9.83**	**348**	*e*PN		**Pn**	**12 50 56.4**	**+1.5**
KEST	**Kesra**	**10.53**	**256**	P		**Pn**	**12 51 07.2**	**+2.7**
	comp=E,0.2nm,0.3s,baz=340,slow=4.5,SNR=6.5							
	comp=E,6.0nm,0.8s							
GERES	**GERESS Array B**	**11.56**	**332**	P		**Pn**	**12 51 19.6**	**+1.0**
	comp=E,0.6nm,0.6s,baz=150,slow=14,SNR=1.4							
DAVOX	**Davos/Dischmat**	**11.83**	**315**	P		**Pn**	**12 51 22.9**	**+0.6**
	comp=E,0.6nm,0.3s,baz=144,slow=19,SNR=3.3							
DAVOX				S		**Sn**	**12 53 33.8**	**-0.7**
	comp=E,2.7nm,0.6s,baz=337,slow=21,SNR=3.6							
	comp=E,1.3nm,0.3s							
KHC	**Kasperske Hory**	**11.85**	**332**	*e*PN		**Pn**	**12 51 24.2**	**+1.8**
AKASG	**Malin Array Be**	**12.85**	**21**	P		**Pn**	**12 51 37.7**	**+1.6**
	comp=E,0.8nm,0.3s,baz=208,slow=12,SNR=3.0							
	comp=E,0.2nm,0.4s							
ESDC	**Sonseca Array**	**20.05**	**280**	P		**P**	**12 53 07.4**	**+0.6**
	comp=E,1.1nm,0.7s,baz=74,slow=10,SNR=10.0							
	comp=E,1.1nm,0.7s							
HFS	**Hagfors**	**21.87**	**349**	P		**P**	**12 53 26.2**	**+0.1**
	comp=E,1.0nm,0.5s,baz=158,slow=12,SNR=5.6							
	comp=E,1.0nm,0.5s							
MDT	**Midelt**	**22.33**	**262**	P		**P**	**12 53 32.0**	**+0.6**
	comp=E,1.4nm,0.8s,baz=90,slow=7.1,SNR=3.8							
	comp=E,1.4nm,0.8s							
FINES	**FINESS Array B**	**22.70**	**5**	P		**P**	**12 53 33.9**	**-1.0**
	comp=E,1.8nm,0.7s,baz=188,slow=12,SNR=5.1							
	comp=E,1.8nm,0.7s							
NB2	**NORSAR Subarra**	**23.14**	**347**	P		**P**	**12 53 39.2**	**-0.4**
	comp=Z,2.3nm,1.1s,baz=159,slow=9.3							
NOA	**NORSAR Array B**	**23.14**	**347**	P		**P**	**12 53 39.1**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=161,slow=13,SNR=5.2							
	comp=Z,0.8nm,0.7s							
EKA	**Eskdalemuir Ar**	**23.50**	**323**	P		**P**	**12 53 42.8**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=123,slow=9.1,SNR=5.0							
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	**30.74**	**2**	P		**P**	**12 54 48.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=194,slow=9.9,SNR=4.6							
	comp=Z,1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**31.32**	**220**	P		**P**	**12 54 54.1**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=32,slow=9.4,SNR=16							
	comp=Z,2.4nm,0.7s							
MBAR	**Mbarara**	**40.15**	**166**	LR		LR	13 15 20.3	
	comp=Z,76nm,18.6s,baz=62,slow=40							
DBIC	**Dimbokro**	**40.20**	**224**	P		**P**	**12 56 10.1**	**0.0**
	comp=Z,4.2nm,0.8s,baz=48,slow=12,SNR=3.0							
	comp=Z,4.2nm,0.8s							
MKAR	**Makanchi Array**	**43.96**	**59**	P		**P**	**12 56 40.2**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=276,slow=7.2,SNR=23							
	comp=Z,1.5nm,0.5s							
ZALV	**Zalesovo Beam**	**44.36**	**49**	P		**P**	**12 56 43.3**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=275,slow=8.3,SNR=20							
	comp=Z,4.6nm,0.6s							
LBTB	**Lobatse**	**63.69**	**176**	LR		LR	13 32 02.1	
	comp=Z,53nm,18.7s,baz=29,slow=41							
ASAR	**Alice Springs**	**121.14**	**97**	PKP		**PKPdf**	**13 07 26.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=314,slow=1.6,SNR=4.5							

*JMA **23** 12:50:18.9±0.3,34.4°N±1.0×14.2°E, h34km±1km, MV3.2/31, FAR SE OFF BOSO PEN*
*IDC **23** 12:50:18.2±1.9, 34.35°N×141.61°E, h0km, mb3.5/4, mbtmp3.6/6, ML3.5/2, MS2.9/1, Error ellipse: s-maj=38.1km s-min=20.1km az=67.0*
ISC 23 12:50:21.5±1.3, 34°45N±0.05×141°6E±0.1, h27km, n18, σ1s31/20, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.54**	**293**	P		**Pb**	**Pb**	**12 50 30.7**	**-1.3**
BSO3	**Boso 3**	**0.95**	**292**	*e*P		**Pn**	**Pn**	**12 50 37.3**	**-1.5**
BSO3				*e*S		**Sn**	**Sn**	**12 50 50.7**	**-0.6**
BSO4	**Boso 4**	**1.16**	**298**	*e*P		**Pn**	**Pn**	**12 50 40.8**	**-1.0**
JKUC	**kamogawauchiur**	**1.34**	**302**	P		**Pn**	**Pn**	**12 50 43.4**	**-1.0**
JKUC				*e*S		**Sn**	**Sn**	**12 51 01.4**	**0.0**
CHOJ	**Chosi**	**1.38**	**335**	*e*P		**Pn**	**Pn**	**12 50 43.8**	**-1.3**
CHOJ				*e*S		**Sn**	**Sn**	**12 51 01.2**	**-1.2**
JSMT	**Sammumatsuo**	**1.51**	**322**	*e*P		**Pn**	**Pn**	**12 50 46.0**	**-0.8**
JMKN	**Mikurajimanish**	**1.74**	**252**	*e*P		**Pn**	**Pn**	**12 50 48.6**	**-1.3**
JIM2	**Oshima 3**	**1.79**	**279**	*e*P		**Pn**	**Pn**	**12 50 48.9**	**-1.8**
JHJ	**Hachijo jima 2**	**2.00**	**229**	Pn		**Pn**	**Pn**	**12 50 52.9**	**-0.6**
	28nm,0.3s,baz=146,slow=22,SNR=44								
JHJ				S		**Sn**	**Sn**	**12 51 18.5**	**+0.9**
	60nm,0.3s,baz=254,slow=22,SNR=8.3								
MJAR	**Matsushiro Arr**	**3.45**	**308**	P		**Pn**	**P**	**12 51 14.1**	**+0.6**
	0.7nm,0.3s,baz=138,slow=9.8,SNR=28								
MJAR				Sn		**Sn**	**Sn**	**12 51 56.1**	**+2.5**
	0.4nm,0.3s,baz=14,slow=21,SNR=2.1								
MJAR				LR		LR	LR	12 52 51.9	
	comp=Z,157nm,18.3s,baz=80,slow=44								
	3.4nm,0.4s								
JCJ	**Chichijima**	**7.35**	**176**	Pn		**Pn**	**Pn**	**12 52 05.8**	**-1.2**
	4.4nm,0.3s,baz=279,slow=23,SNR=1.2								
	27nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**26.79**	**117**	T		T	T	13 24 15.1	
	baz=309								
H11N1	**WAKE ISLAND Hy**	**26.80**	**117**	T		T	T	13 24 17.9	
	baz=309								
H11N3	**WAKE ISLAND Hy**	**26.81**	**117**	T		T	T	13 24 14.5	
	baz=309								
SONM	**Songino Array**	**29.41**	**308**	P		**P**	**P**	**12 56 23.6**	**+0.9**
	0.4nm,0.6s,baz=119,slow=12,SNR=2.4								
	0.4nm,0.6s								
MKAR	**Makanchi Array**	**45.64**	**304**	P		**P**	**P**	**12 58 41.5**	**+1.9**
	0.4nm,0.6s,baz=75,slow=7.6,SNR=3.1								
	0.4nm,0.6s								
WRA	**Warramunga Arr**	**54.52**	**188**	P		**P**	**P**	**12 59 47.0**	**-0.1**
	0.3nm,0.4s,baz=3.8,slow=7.6,SNR=9.6								
	0.3nm,0.4s								

MKAR PKPab **PKPab** **13 13 31.5 +0.5**
comp=N,1.8nm,0.7s,baz=303,slow=2.6,SNR=8.2

*NNC **23** 13:02:15.8±1.3,50˚.03N×78˚.68E,h0km,mb3.1,mpv2.6, Error ellipse: s-maj=25.6km s-min=7.1km az=81.0, Suspected Mining explosion.*
*IDC **23** 13:02:20.8±2.1,50˚.01N×79˚.40E,h0km,mbtmp3.4/2, ML1.7/2,Error ellipse: s-maj=26.5km s-min=17.7km az=86.0*
ISC 23 13:02:15.7±1.1,50˚.45N±0˚.07×79˚.52E±0˚.06,h0km,n9, σ1s25/10,3C-5D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**0.63**	**296**	⇓P	**Pb**	**13 02 28.8**	**-0.9**
	4.8nm,0.7s						
KURK				⇑S	**Sb**	**13 02 39.2**	**+0.1**
	18nm,0.6s						
KURBB	**Kurchatov Arra**	**0.66**	**286**	⇓P	**Pg**	**13 02 27.4**	**-0.9**
	5.7nm,0.3s						
KURBB				⇑S	**Sg**	**13 02 37.0**	**+0.3**
	34nm,0.7s						
MAKZ	**Makanchi**	**3.99**	**155**	⇓Pn	**Pn**	**13 03 20.0**	**+1.9**
	1.5nm,0.7s						
MAKZ				⇓Lg	Lg	13 04 18.9	
	7.1nm,0.6s						
MK31	**Makanchi Array**	**4.09**	**152**	Pn	**Pn**	**13 03 19.6**	**+0.1**
	baz=11,slow=3.6,SNR=12						
MK31				Lg	Lg	13 04 22.1	
	7.0nm,0.6s,baz=332,slow=24,SNR=16						
MKAR	**Makanchi Array**	**4.09**	**152**	Pn	**Pn**	**13 03 19.5**	**0.0**
	0.1nm,0.3s,baz=331,slow=11,SNR=16						
MKAR				Pg	**Pb**	**13 03 27.1**	**-1.5**
	0.1nm,0.3s,baz=326,slow=13,SNR=9.3						
MKAR				Lg	Lg	13 04 20.9	
	1.3nm,0.3s,baz=330,slow=27,SNR=19						
ZALV	**Zalesovo Beam**	**4.79**	**41**	Pn	**Pb**	**13 03 39.9**	**-0.5**
	0.2nm,0.3s,baz=229,slow=15,SNR=2.3						
ZALV				Lg	Lg	13 05 05.5	
	0.1nm,0.3s,baz=219,slow=20,SNR=1.7						
	0.5nm,0.4s						
I46RU	**ZALESOVO INFRA**	**4.79**	**41**	*i*		13 37 30.0	
	baz=224,slow=332,SNR=4.6						
OTUK	**Ortayu**	**5.18**	**248**	⇑Pn	Pn	13 03 26.6	-7.9
	0.9nm,0.7s						
OTUK				⇓Lg	Lg	13 04 40.0	
	3.0nm,0.5s						
GEYT	**Alibeck**	**19.71**	**239**	P	**Pn**	**13 06 49.8**	**+1.7**
	1.4nm,0.4s,baz=39,slow=9.3,SNR=2.0						

*IDC **23** 13:09:13.2±1.4,59˚.97N×152˚.52W,h82km±18km,mb3.6/2, mbtmp3.8/6,Error ellipse: s-maj=27.0km s-min=10.1km az=103.0*
*NEIC **23** 13:09:14.5±0.7,59˚.97N±0˚.04×152˚.69W±0˚.08, h104km±4km,Error ellipse: s-maj=5.7km s-min=4.9km az=117.0*
*AEIC **23** 13:09:15±1.0,59˚.96N±0˚.04×152˚.69W±0˚.08,h99km±3km, ML3.2,ML3.4/146(NEIC),Error ellipse: s-maj=5.7km s-min=4.8km az=124.0*
ISC 23 13:09:14.5±0.9,59˚.96N±0˚.04×152˚.64W±0˚.04, h105km±5km,n346,σ0s61/322,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
O20K	**Slope Mountain**	**0.12**	**5**		**Pn**	**13 09 29.1**	**-0.1**
O20K					**Sn**	**13 09 40.4**	**+0.2**
O20K	**Slope Mountain**	**0.12**	**5**	P	**Pn**	**13 09 29.1**	**-0.1**
	baz=195						
O20K				S	**Sn**	**13 09 40.4**	**+0.2**
	baz=195						
IVE	**Iliamna Volcan**	**0.20**	**287**		**Pn**	**13 09 29.0**	**-0.4**
IVE					**Sn**	**13 09 40.1**	**-0.5**
ILS	**Iliamna Low So**	**0.21**	**270**		**Pn**	**13 09 29.1**	**-0.4**
ILS					**Sn**	**13 09 40.2**	**-0.5**
ILSW	**Iliamna Southw**	**0.25**	**276**	IAML		13 09 22.4	
	comp=N,16nm,4.6s						
ILSW				IAML		13 09 23.6	
	comp=E,10nm,2.2s						
ILSW	**Iliamna Southw**	**0.25**	**276**		**Pn**	**13 09 29.0**	**-0.7**
ILSW					**Sn**	**13 09 40.5**	**-0.5**
OPT	**Oil Point**	**0.43**	**224**		**Pn**	**13 09 30.2**	**-0.2**
OPT	**Oil Point**	**0.43**	**224**	P	**Pn**	**13 09 30.2**	**-0.2**
	baz=40						
P19K	**Oil Pt**	**0.43**	**224**		**Pn**	**13 09 30.1**	**-0.3**
P19K	**Oil Pt**	**0.43**	**224**		**Sn**	**13 09 42.2**	**-0.1**
P19K	**Oil Pt**	**0.43**	**224**	IAML		13 09 33.7	
	comp=N,136nm,0.4s						
P19K				IAML		13 09 37.9	
	comp=E,159nm,0.2s						
P19K	**Oil Pt**	**0.43**	**224**	P	**Pn**	**13 09 30.2**	**-0.3**
	baz=40						
P19K				S	**Sn**	**13 09 42.2**	**-0.1**
	baz=40						
RED	**Redoubt Volcan**	**0.47**	**352**		**Pn**	**13 09 30.4**	**-0.3**
RDSO	**Redoubt South**	**0.50**	**354**		**Pn**	**13 09 30.8**	**-0.2**
RDSO					**Sn**	**13 09 42.9**	**-0.5**
RSO	**Redoubt South**	**0.51**	**354**	Pn	**Pn**	**13 09 30.8**	**-0.3**
REF	**Redoubt East F**	**0.53**	**357**		**Pn**	**13 09 31.0**	**-0.2**
REF					**Sn**	**13 09 43.4**	**-0.4**
RDWB	**Redoubt West**	**0.54**	**350**		**Pn**	**13 09 31.0**	**-0.3**
RDWB					**Sn**	**13 09 43.1**	**-0.8**
HOM	**Homer**	**0.59**	**120**		**Pn**	**13 09 31.9**	**+0.5**
HOM	**Homer**	**0.59**	**120**	IAML		13 09 45.7	
	comp=N,2μm,0.3s						
HOM				IAML		13 09 47.1	
	comp=E,2μm,0.2s						
HOM	**Homer**	**0.59**	**120**	P	**Pn**	**13 09 31.9**	**+0.5**
	baz=302						
NCT	**North Crescent**	**0.62**	**347**		**Pn**	**13 09 31.5**	**-0.3**
NCT					**Sn**	**13 09 44.0**	**-0.9**
DFR	**Drift River**	**0.64**	**358**		**Pn**	**13 09 31.8**	**-0.2**
DFR					**Sn**	**13 09 44.4**	**-0.7**
RDJH	**Redoubt Jeurge**	**0.64**	**353**		**Pn**	**13 09 31.8**	**-0.3**
RDJH					**Sn**	**13 09 44.5**	**-0.7**
AU22	**Augustine Moun**	**0.69**	**212**		**Pn**	**13 09 32.1**	**-0.2**
AUL	**Augustine Lava**	**0.70**	**215**		**Pn**	**13 09 32.3**	**-0.2**
AGU	**Augustine-Summ**	**0.72**	**214**		**Pn**	**13 09 32.6**	**-0.2**
AUQ	**Augustine Qik'**	**0.72**	**213**		**Pn**	**13 09 32.5**	**-0.1**
AUH	**Augustine H**	**0.72**	**215**		**Pn**	**13 09 32.5**	**-0.1**
AUCH	**Augustine Cone**	**0.72**	**215**		**Pn**	**13 09 32.5**	**-0.2**
CNPM	**China Poot**	**0.83**	**121**		**Pn**	**13 09 33.9**	**+0.3**
CNPM	**China Poot**	**0.83**	**121**	IAML		13 09 48.9	
	comp=N,3μm,0.7s						
O19K	**Port Alsworth**	**0.87**	**286**		**Pn**	**13 09 33.6**	**-0.3**
O19K					**Sn**	**13 09 48.1**	**-0.5**
O19K	**Port Alsworth**	**0.87**	**286**	P	**Pn**	**13 09 33.6**	**-0.3**
	baz=104						
O19K				S	**Sn**	**13 09 48.1**	**-0.5**
	baz=104						
BRLK	**Bradley Lake**	**0.91**	**102**		**Pn**	**13 09 34.7**	**+0.4**
BRLK	**Bradley Lake**	**0.91**	**102**	IAML		13 09 50.4	
	comp=E,2μm,0.1s						
BRSE	**Bradley Lake S**	**0.98**	**102**		**Pn**	**13 09 35.4**	**+0.2**
BRSE	**Bradley Lake S**	**0.98**	**102**	P	**Pn**	**13 09 35.4**	**+0.2**
	baz=284						
CAPN	**Captain Cook N**	**1.10**	**42**		**Pn**	**13 09 38.2**	**+1.9**
CAPN	**Captain Cook N**	**1.10**	**42**	P	**Pn**	**13 09 38.2**	**+1.9**
	baz=224						
Q19K	**Cape Douglas,**	**1.15**	**207**		**Pn**	**13 09 36.5**	**-0.6**
Q19K	**Cape Douglas,**	**1.15**	**207**	IAML		13 09 58.3	
	comp=E,314nm,0.8s						
Q19K	**Cape Douglas,**	**1.15**	**207**	P	**Pn**	**13 09 36.5**	**-0.6**
	baz=25						
CKL	**Chakachamna La**	**1.25**	**7**		**Pn**	**13 09 38.3**	**+0.1**
N19K	**Bonanza Creek**	**1.25**	**314**		**Pn**	**13 09 37.8**	**-0.3**
N19K	**Bonanza Creek**	**1.25**	**314**	P	**Pn**	**13 09 37.8**	**-0.3**
	baz=133						
SPU	**Mount Spurr**	**1.26**	**13**		**Pn**	**13 09 38.3**	**+0.1**
N20K	**Mount Spurr**	**1.26**	**10**	P	**Pn**	**13 09 38.3**	**0.0**
	baz=191						
SPCR	**Spurr Chakacha**	**1.26**	**10**		**Pn**	**13 09 38.3**	**0.0**
SPCR	**Spurr Chakacha**	**1.26**	**10**		**Pn**	**13 09 38.2**	**0.0**
SPCR	**Spurr Chakacha**	**1.26**	**10**	P	**Pn**	**13 09 38.2**	**0.0**
	baz=191						
SPCN	**Chakachatna No**	**1.29**	**10**		**Pn**	**13 09 38.8**	**+0.3**
O18K	**Koktuh Hills**	**1.30**	**266**		**Pn**	**13 09 38.2**	**-0.4**
O18K	**Koktuh Hills**	**1.30**	**266**	P	**Pn**	**13 09 38.2**	**-0.4**
	baz=84						
SPCP	**Crater Peak Br**	**1.33**	**10**		**Pn**	**13 09 39.5**	**+0.3**
Q20K	**Shuyak Island**	**1.36**	**174**	P	**Pn**	**13 09 39.1**	**-0.2**
	baz=354						
SYI	**Shuyak Island**	**1.36**	**174**		**Pn**	**13 09 39.1**	**-0.2**
P18K	**Big Mountain,**	**1.43**	**248**		**Pn**	**13 09 39.5**	**-0.7**
P18K	**Big Mountain,**	**1.43**	**248**	P	**Pn**	**13 09 39.5**	**-0.7**
	baz=65						
O22K	**Cooper Landing**	**1.55**	**69**		**Pn**	**13 09 41.7**	**+0.2**
O22K	**Cooper Landing**	**1.55**	**69**	IAML		13 10 04.0	
	comp=E,821nm,0.3s						
O22K				IAML		13 10 06.6	
	comp=N,940nm,0.7s						
O22K	**Cooper Landing**	**1.55**	**69**	P	**Pn**	**13 09 41.7**	**+0.2**
	baz=252						
STLK	**Strandline Lak**	**1.59**	**14**		**Pn**	**13 09 42.6**	**+0.4**
SEW	**Seward**	**1.61**	**83**		**Pn**	**13 09 42.3**	**0.0**
SEW	**Seward**	**1.61**	**83**	P	**Pn**	**13 09 42.3**	**0.0**
	baz=267						
KAPH	**Katmai Pasha**	**1.62**	**213**		**Pn**	**13 09 42.6**	**+0.1**
FIS	**Fire Island**	**1.69**	**44**	Pn	**Pn**	**13 09 43.2**	**-0.1**
FIS				IAML		13 10 11.6	
	comp=E,496nm,1.0s						
FIS				IAML		13 10 12.4	
	comp=N,645nm,0.7s						
KAHG	**Katmai Hook Gl**	**1.77**	**214**		**Pn**	**13 09 44.5**	**+0.2**
N18K	**Kilae Creek**	**1.77**	**296**		**Pn**	**13 09 43.9**	**-0.4**
N18K	**Kilae Creek**	**1.77**	**296**	P	**Pn**	**13 09 43.9**	**-0.4**
	baz=113						
SUA	**Susitna One**	**1.77**	**31**		**Pn**	**13 09 45.1**	**+0.7**
SUA				IAML		13 10 10.1	
	comp=N,538nm,0.9s						
KAHC	**Katmai Hardscr**	**1.79**	**224**		**Pn**	**13 09 44.6**	**-0.1**
KAHC	**Katmai Hardscr**	**1.79**	**224**	P	**Pn**	**13 09 44.6**	**-0.1**
	baz=41						
RC01	**Rabbit Creek A**	**1.83**	**50**		**Pn**	**13 09 45.3**	**+0.2**
RC01	**Rabbit Creek A**	**1.83**	**50**	IAML		13 10 09.6	
	comp=E,649nm,0.4s						
RC01	**Rabbit Creek A**	**1.83**	**50**	P	**Pn**	**13 09 45.3**	**+0.2**
	baz=234						
SVW2	**Sparrevohn**	**1.85**	**309**		**Pn**	**13 09 44.7**	**-0.6**
KAWH	**Katmai**	**1.93**	**216**		**Pn**	**13 09 46.5**	**+0.1**
M20K	**Styx River**	**1.94**	**353**		**Pn**	**13 09 46.9**	**+0.3**
M20K	**Styx River**	**1.94**	**353**	P	**Pn**	**13 09 46.9**	**+0.3**
	baz=173						
P17K	**Kvichak River**	**2.08**	**250**		**Pn**	**13 09 48.2**	**0.0**
P17K	**Kvichak River**	**2.08**	**250**	P	**Pn**	**13 09 48.2**	**0.0**
	baz=66						
KAKN	**Katmai Knife C**	**2.08**	**218**		**Pn**	**13 09 48.4**	**0.0**
KCG	**Knife Ck. Glac**	**2.09**	**219**		**Pn**	**13 09 48.5**	**0.0**
KVTA	**Katmai Vly 10**	**2.09**	**222**		**Pn**	**13 09 48.5**	**0.0**
SKT	**Skwentna**	**2.10**	**14**		**Pn**	**13 09 48.5**	**0.0**
SKT	**Skwentna**	**2.10**	**14**	IAML		13 10 17.0	
	comp=E,107nm,0.3s						
SKT				IAML		13 10 20.2	
	comp=N,116nm,0.2s						
SKT	**Skwentna**	**2.10**	**14**	P	**Pn**	**13 09 48.5**	**0.0**
	baz=196						
M19K	**Big River Lodg**	**2.13**	**337**		**Pn**	**13 09 48.9**	**0.0**
M19K	**Big River Lodg**	**2.13**	**337**	P	**Pn**	**13 09 48.9**	**0.0**
	baz=156						
M22K	**Willow**	**2.18**	**33**		**Pn**	**13 09 49.9**	**+0.4**
M22K	**Willow**	**2.18**	**33**	P	**Pn**	**13 09 49.9**	**+0.4**
	baz=216						
KDAK	**Kodiak Island**	**2.18**	**179**	P	**Pn**	**13 09 48.3**	**-1.3**
KDAK					S	**Sn**	**13 10 14.5**	**-1.9**
	comp=N,40nm,0.3s,baz=30,slow=13,SNR=512						
	comp=N,32nm,0.4s,baz=140,slow=21,SNR=17						
KDAK	**Kodiak Island**	**2.18**	**179**	IAML		13 10 15.9	
	comp=N,99nm,0.3s						
KDAK				IAML		13 10 16.6	
	comp=N,151nm,0.3s						
KELA	**Mount Kelaz**	**2.21**	**228**		**Pn**	**13 09 49.7**	**-0.2**
O17K	**Koliganek Bris**	**2.25**	**267**		**Pn**	**13 09 50.1**	**-0.3**
O17K	**Koliganek Bris**	**2.25**	**267**	P	**Pn**	**13 09 50.1**	**-0.3**
	baz=83						
ANCK	**Angle Creek**	**2.30**	**221**		**Pn**	**13 09 51.2**	**+0.1**
PWL	**Port Wells**	**2.32**	**65**		**Pn**	**13 09 51.5**	**+0.1**
PWL	**Port Wells**	**2.32**	**65**	IAML		13 10 20.0	
	comp=E,326nm,0.2s						
PWL				IAML		13 10 20.6	
	comp=N,392nm,0.3s						
PWL	**Port Wells**	**2.32**	**65**	P	**Pn**	**13 09 51.5**	**+0.1**
	baz=250						
PMR	**Palmer**	**2.38**	**45**		**Pn**	**13 09 51.4**	**-0.7**
PMR	**Palmer**	**2.38**	**45**	IAML		13 10 20.2	
	comp=N,149nm,0.2s						
PMR				IAML		13 10 21.1	
	comp=E,142nm,0.3s						
PMR	**Palmer**	**2.38**	**45**	P	**Pn**	**13 09 51.4**	**-0.7**
	baz=228						
Q16K	**King Salmon**	**2.43**	**240**		**Pn**	**13 09 52.7**	**0.0**
Q16K	**King Salmon**	**2.43**	**240**	P	**Pn**	**13 09 52.7**	**0.0**
	baz=56						
L19K	**White Mountain**	**2.48**	**335**		**Pn**	**13 09 53.3**	**-0.1**
L19K	**White Mountain**	**2.48**	**335**	P	**Pn**	**13 09 53.3**	**-0.1**
	baz=154						
KNK	**Knik Glacier**	**2.52**	**53**		**Pn**	**13 09 53.5**	**-0.6**
KNK	**Knik Glacier**	**2.52**	**53**	IAML		13 10 23.5	
	comp=N,307nm,0.5s						
KNK	**Knik Glacier**	**2.52**	**53**	P	**Pn**	**13 09 53.5**	**-0.6**
	baz=237						
GHO	**Glory Hole Cre**	**2.57**	**43**		**Pn**	**13 09 54.1**	**-0.6**
GHO	**Glory Hole Cre**	**2.57**	**43**	IAML		13 10 25.2	
	comp=N,273nm,0.3s						
GHO				IAML		13 10 27.2	
	comp=E,278nm,0.3s						
L20K	**Farewell, AK**	**2.60**	**347**		**Pn**	**13 09 55.3**	**+0.3**
L20K	**Farewell, AK**	**2.60**	**347**	P	**Pn**	**13 09 55.3**	**+0.3**
	baz=166						
P23K	**Montague Islan**	**2.63**	**87**		**Pn**	**13 09 55.7**	**+0.2**
P23K	**Montague Islan**	**2.63**	**87**	P	**Pn**	**13 09 55.7**	**+0.2**
	baz=272						
CUT	**Chulitna**	**2.71**	**24**		**Pn**	**13 09 57.0**	**+0.5**
CUT	**Chulitna**	**2.71**	**24**	IAML		13 10 30.6	
	comp=N,192nm,0.4s						
CUT				IAML		13 10 33.6	
	comp=E,272nm,0.3s						
CUT	**Chulitna**	**2.71**	**24**	P	**Pn**	**13 09 57.0**	**+0.5**
	baz=207						
OHAK	**Old Harbor**	**2.77**	**187**		**Pn**	**13 09 55.6**	**-1.6**
OHAK	**Old Harbor**	**2.77**	**187**	P	**Pn**	**13 09 55.6**	**-1.6**
	baz=6.3						
O16K	**Kokwok River B**	**2.78**	**265**		**Pn**	**13 09 57.3**	**-0.1**
O16K	**Kokwok River B**	**2.78**	**265**	P	**Pn**	**13 09 57.3**	**-0.1**
	baz=80						
SML	**Sawmill**	**2.81**	**47**		**Pn**	**13 09 57.2**	**-0.6**
SML	**Sawmill**	**2.81**	**47**	IAML		13 10 31.1	
	comp=E,127nm,0.7s						
SML				IAML		13 10 31.4	
	comp=N,154nm,0.7s						
SML	**Sawmill**	**2.81**	**47**	P	**Pn**	**13 09 57.2**	**-0.6**
	baz=231						
P16K	**Nushagak River**	**2.88**	**253**		**Pn**	**13 09 58.9**	**+0.2**
P16K	**Nushagak River**	**2.88**	**253**	P	**Pn**	**13 09 58.9**	**+0.2**
	baz=68						
GLI	**Glacier Island**	**2.90**	**69**		**Pn**	**13 09 59.0**	**0.0**
GLI	**Glacier Island**	**2.90**	**69**	IAML		13 10 31.9	
	comp=E,112nm,1.0s						
GLI				IAML		13 10 44.0	
	comp=N,84nm,0.9s						
GLI	**Glacier Island**	**2.90**	**69**	P	**Pn**	**13 09 59.0**	**0.0**
	baz=254						
PPLA	**Purkeypile**	**2.96**	**4**		**Pn**	**13 10 00.6**	**+0.7**
PPLA	**Purkeypile**	**2.96**	**4**	P	**Pn**	**13 10 00.6**	**+0.7**
	baz=185						
PLK1	**Peulik 1**	**2.99**	**225**		**Pn**	**13 10 00.2**	**+0.1**
M23K	**Glacier View**	**3.03**	**50**		**Pn**	**13 10 00.2**	**-0.5**
M23K	**Glacier View**	**3.03**	**50**	P	**Pn**	**13 10 00.2**	**-0.5**
	baz=235						
R17K	**Ugashik Creek**	**3.04**	**222**		**Pn**	**13 10 01.2**	**+0.5**
R17K	**Ugashik Creek**	**3.04**	**222**	P	**Pn**	**13 10 01.2**	**+0.5**
	baz=38						
HIN	**Hinchinbrook I**	**3.10**	**79**		**Pn**	**13 10 01.5**	**-0.2**
HIN	**Hinchinbrook I**	**3.10**	**79**	IAML		13 10 39.3	
	comp=N,121nm,1.1s						
HIN				IAML		13 10 39.4	
	comp=E,109nm,1.6s						
N16K	**Nishlik Lake**	**3.10**	**282**		**Pn**	**13 10 01.2**	**-0.5**
N16K	**Nishlik Lake**	**3.10**	**282**	P	**Pn**	**13 10 01.2**	**-0.5**
	baz=97						
FID	**Port Fidalgo**	**3.16**	**73**		**Pn**	**13 10 02.3**	**-0.2**
FID	**Port Fidalgo**	**3.16**	**73**	IAML		13 10 36.8	
	comp=E,133nm,0.3s						
FID				IAML		13 10 39.3	
	comp=N,140nm,0.4s						
JPK	**Jack Peak**	**3.19**	**67**		**Pn**	**13 10 02.4**	**-0.5**
SCM	**Sheep Creek Mo**	**3.21**	**52**		**Pn**	**13 10 02.7**	**-0.4**
SCM	**Sheep Creek Mo**	**3.21**	**52**	IAML		13 10 40.8	
	comp=E,145nm,0.8s						
SCM				IAML		13 10 43.1	
	comp=N,132nm,0.6s						
SCM	**Sheep Creek Mo**	**3.21**	**52**	P	**Pn**	**13 10 02.7**	**-0.4**
	baz=237						
Q23K	**Middleton Isla**	**3.23**	**97**		**Pn**	**13 10 03.8**	**+0.4**
Q23K	**Middleton Isla**	**3.23**	**97**	P	**Pn**	**13 10 03.8**	**+0.4**
	baz=282						
MID	**Middleton Isla**	**3.24**	**97**		**Pn**	**13 10 03.8**	**+0.3**
TT01	**Tatalina**	**3.37**	**333**		**Pn**	**13 10 04.8**	**-0.4**
TTA	**Tatalina**	**3.39**	**333**		**Pn**	**13 10 05.0**	**-0.5**
TTA	**Tatalina**	**3.39**	**333**	P	**Pn**	**13 10 05.0**	**-0.5**
	baz=150						
WAT7	**Susitna Watana**	**3.41**	**31**		**Pn**	**13 10 05.8**	**-0.1**
K20K	**Telida**	**3.48**	**349**		**Pn**	**13 10 06.8**	**+0.2**
K20K	**Telida**	**3.48**	**349**	P	**Pn**	**13 10 06.8**	**+0.2**
	baz=168						
CAST	**Castle Rocks**	**3.48**	**4**		**Pn**	**13 10 06.6**	**-0.1**
CAST	**Castle Rocks**	**3.48**	**4**	P	**Pn**	**13 10 06.6**	**-0.1**
	baz=185						
EYAK	**Cordova Ski Ar**	**3.49**	**77**		**Pn**	**13 10 06.5**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.49**	**77**	P	**Pn**	**13 10 06.5**	**-0.2**
	baz=264						
WAT1	**Susitna Watana**	**3.49**	**33**		**Pn**	**13 10 06.6**	**-0.3**
WAT1	**Susitna Watana**	**3.49**	**33**	P	**Pn**	**13 10 06.6**	**-0.3**
	baz=216						
SII	**Sitkinak Islan**	**3.51**	**194**		**Pn**	**13 10 05.7**	**-1.4**
SII	**Sitkinak Islan**	**3.51**	**194**	IAML		13 11 28.1	
	comp=N,103nm,3.6s						
SII				IAML		13 11 38.4	
	comp=E,103nm,3.7s						
SII	**Sitkinak Islan**	**3.51**	**194**	P	**Pn**	**13 10 05.7**	**-1.4**
	baz=12						
WAT6	**Susitna Watana**	**3.54**	**40**		**Pn**	**13 10 07.3**	**-0.3**
WAT6	**Susitna Watana**	**3.54**	**40**	P	**Pn**	**13 10 07.3**	**-0.3**
	baz=224						
DIV	**Divide**	**3.59**	**68**		**Pn**	**13 10 08.5**	**+0.2**
KLU	**Klutina**	**3.64**	**62**		**Pn**	**13 10 08.2**	**-0.7**
KLU	**Klutina**	**3.64**	**62**	IAML		13 10 51.2	
	comp=E,100nm,0.1s						
KLU	**Klutina**	**3.64**	**62**	P	**Pn**	**13 10 08.2**	**-0.7**
	baz=248						
TRF	**Thorofare Moun**	**3.68**	**17**		**Pn**	**13 10 10.3**	**+0.9**
TRF	**Thorofare Moun**	**3.68**	**17**	IAML		13 10 55.8	
	comp=N,39nm,0.4s						
TRF				IAML		13 10 55.8	
	comp=E,36nm,0.6s						
TRF	**Thorofare Moun**	**3.68**	**17**	P	**Pn**	**13 10 10.4**	**+0.9**
	baz=199						
KTH	**Kantishna Hill**	**3.70**	**12**		**Pn**	**13 10 09.0**	**-0.7**
KTH	**Kantishna Hill**	**3.70**	**12**	IAML		13 11 26.0	
	comp=E,26nm,1.0s						
KTH				IAML		13 11 27.2	
	comp=N,32nm,1.8s						
M24K	**Tolsona, Glenn**	**3.81**	**53**		**Pn**	**13 10 11.2**	**0.0**
M24K	**Tolsona, Glenn**	**3.81**	**53**	IAML		13 10 56.0	
	comp=E,92nm,0.8s						
M24K				IAML		13 10 57.1	
	comp=N,101nm,0.8s						
M24K	**Tolsona, Glenn**	**3.81**	**53**	P	**Pn**	**13 10 11.2**	**0.0**
	baz=239						
RND	**Reindeer**	**3.90**	**26**		**Pn**	**13 10 12.5**	**+0.1**
RND	**Reindeer**	**3.90**	**26**	IAML		13 10 58.0	
	comp=E,45nm,0.3s						
RND				IAML		13 10 58.1	
	comp=N,41nm,0.5s						
CHUM	**Lake Minchumin**	**3.94**	**2**		**Pn**	**13 10 12.9**	**+0.1**
CHUM	**Lake Minchumin**	**3.94**	**2**	P	**Pn**	**13 10 12.9**	**+0.1**
	baz=183						
GOAT	**Goat Mountain**	**3.99**	**78**		**Pn**	**13 10 13.9**	**+0.3**
RAGM	**Ragged Mountai**	**4.00**	**80**		**Pn**	**13 10 14.0**	**+0.2**
DHY	**Denali Highway**	**4.02**	**37**		**Pn**	**13 10 13.8**	**-0.2**
DHY	**Denali Highway**	**4.02**	**37**	IAML		13 11 01.0	
	comp=N,69nm,0.4s						
DHY				IAML		13 11 01.5	
	comp=E,95nm,0.3s						
DHY	**Denali Highway**	**4.02**	**37**	P	**Pn**	**13 10 13.8**	**-0.2**
	baz=222						
BMRM	**Bremner River**	**4.11**	**72**		**Pn**	**13 10 15.0**	**-0.1**
BMRM	**Bremner River**	**4.11**	**72**	P	**Pn**	**13 10 15.0**	**-0.1**
	baz=260						
KAIM	**Kayak Island**	**4.14**	**87**		**Pn**	**13 10 15.5**	**0.0**
KAIM	**Kayak Island**	**4.14**	**87**	P	**Pn**	**13 10 15.5**	**0.0**
	baz=274						
MCK	**McKinley**	**4.17**	**23**		**Pn**	**13 10 16.4**	**+0.4**
MCK	**McKinley**	**4.17**	**23**	IAML		13 11 02.8	
	comp=N,20nm,0.5s						
MCK				IAML		13 11 05.8	
	comp=E,25nm,0.4s						
MCK	**McKinley**	**4.17**	**23**	P	**Pn**	**13 10 16.4**	**+0.4**
	baz=207						
BPAW	**Bear Paw Mtn.**	**4.23**	**10**		**Pn**	**13 10 16.5**	**-0.3**
BPAW	**Bear Paw Mtn.**	**4.23**	**10**	IAML		13 11 03.3	
	comp=N,18nm,0.7s						
BPAW	**Bear Paw Mtn.**	**4.23**	**10**	P	**Pn**	**13 10 16.5**	**-0.3**
	baz=192						
N25K	**Chitina, Valde**	**4.28**	**64**		**Pn**	**13 10 17.2**	**-0.2**
N25K	**Chitina, Valde**	**4.28**	**64**	IAML		13 11 04.8	
	comp=N,29nm,0.5s						
N25K				IAML		13 11 05.8	
	comp=E,32nm,0.5s						
N25K	**Chitina, Valde**	**4.28**	**64**	P	**Pn**	**13 10 17.2**	**-0.2**
	baz=251						
J20K	**Nowinta River**	**4.29**	**351**		**Pn**	**13 10 17.8**	**+0.3**
J20K	**Now

CCB	**Clear Creek Bu**	**5.22**	**24**	IAML		13 11 30.4	
	comp=E,17nm,0.4s						
CCB				IAML		13 11 31.4	
	comp=N,15nm,0.5s						
MENT	**Mentasta**	**5.22**	**51**	Pn	**Pn**	**13 10 30.6**	**+0.4**
MENT				IAML		13 11 43.0	
	comp=E,28nm,1.2s						
MENT				IAML		13 11 48.7	
	comp=N,36nm,0.5s						
I21K	**Tanana**	**5.25**	**3**		**Pn**	**13 10 30.4**	**-0.1**
I21K	**Tanana**	**5.25**	**3**	IAML		13 12 18.9	
	comp=E,12nm,3.4s						
I21K				IAML		13 13 38.5	
	comp=N,17nm,3.7s						
I21K	**Tanana**	**5.25**	**3**	P	**Pn**	**13 10 30.4**	**-0.1**
	baz=184						
M26K	**Nabesna, AK**	**5.27**	**58**		**Pn**	**13 10 30.9**	**0.0**
M26K	**Nabesna, AK**	**5.27**	**58**	IAML		13 11 30.5	
	comp=N,20nm,0.6s						
M26K				IAML		13 11 35.6	
	comp=E,20nm,4.5s						
M26K	**Nabesna, AK**	**5.27**	**58**	P	**Pn**	**13 10 30.8**	**0.0**
	baz=247						
BAGL	**Bagley Icefiel**	**5.29**	**80**		**Pn**	**13 10 31.8**	**+0.8**
RIDG	**Independent Ri**	**5.29**	**41**		**Pn**	**13 10 31.3**	**+0.1**
RIDG	**Independent Ri**	**5.29**	**41**	IAML		13 11 45.8	
	comp=N,33nm,0.8s						
RIDG	**Independent Ri**	**5.29**	**41**	P	**Pn**	**13 10 31.3**	**+0.1**
	baz=228						
PS08	**TAPS Pump Stn8**	**5.34**	**28**		**Pn**	**13 10 31.6**	**-0.2**
MESA	**MESA**	**5.36**	**83**		**Pn**	**13 10 32.6**	**+0.4**
MESA	**MESA**	**5.36**	**83**	P	**Pn**	**13 10 32.6**	**+0.4**
	baz=272						
TCOL	**CIGO, UAF Yank**	**5.41**	**22**		**Pn**	**13 10 32.3**	**-0.3**
TCOL	**CIGO, UAF Yank**	**5.41**	**22**	P	**Pn**	**13 10 32.3**	**-0.3**
	baz=207						
COLA	**College**	**5.41**	**22**		**Pn**	**13 10 32.4**	**-0.2**
L26K	**Log Cabin Wild**	**5.41**	**51**	Pn	**Pn**	**13 10 33.2**	**+0.4**
MDM	**Murphy Dome**	**5.42**	**20**		**Pn**	**13 10 32.6**	**-0.2**
YAH	**Yahtse**	**5.46**	**81**		**Pn**	**13 10 34.2**	**+0.6**
DOT	**Dot Lake**	**5.50**	**44**	Pn	**Pn**	**13 10 33.9**	**0.0**
IL31		**5.52**	**27**		**Pn**	**13 10 33.6**	**-0.5**
ILAR	**Eielson Array**	**5.52**	**27**	P	**Pn**	**13 10 33.4**	**-0.8**
	comp=N,8.1nm,0.4s,baz=215,slow=14,SNR=115						
ILAR				S	**Sn**	**13 11 32.8**	**-3.4**
	comp=N,3.8nm,0.4s,baz=199,slow=18,SNR=5.2						
POKR	**Poker Plat Res**	**5.71**	**23**		**Pn**	**13 10 36.6**	**-0.1**
POKR	**Poker Plat Res**	**5.71**	**23**	P	**Pn**	**13 10 36.6**	**-0.1**
	baz=208						
H21K	**Melozitna Rive**	**5.72**	**359**		**Pn**	**13 10 36.8**	**-0.1**
H21K	**Melozitna Rive**	**5.72**	**359**	P	**Pn**	**13 10 36.8**	**-0.1**
	baz=179						
SCRK	**Sand Creek**	**5.73**	**42**		**Pn**	**13 10 36.4**	**-0.8**
SCRK	**Sand Creek**	**5.73**	**42**	P	**Pn**	**13 10 36.4**	**-0.8**
	baz=230						
M27K	**Edge Creek, AK**	**5.74**	**61**	Pn	**Pn**	**13 10 38.3**	**+1.0**
TABL	**Table Mountain**	**5.76**	**80**		**Pn**	**13 10 38.1**	**+0.5**
J25K	**Salcha River,**	**5.77**	**33**		**Pn**	**13 10 37.2**	**-0.4**
J25K	**Salcha River,**	**5.77**	**33**	P	**Pn**	**13 10 37.2**	**-0.4**
	baz=220						
CHX	**Chaix Hills**	**5.78**	**84**		**Pn**	**13 10 38.5**	**+0.7**
LOGN	**Logan Glacier**	**5.84**	**76**		**Pn**	**13 10 39.1**	**+0.4**
SAMH	**Samovar Hills**	**5.95**	**83**		**Pn**	**13 10 40.7**	**+0.6**
H22K	**Ishtalitna Cre**	**5.99**	**5**		**Pn**	**13 10 40.5**	**+0.1**
H22K	**Ishtalitna Cre**	**5.99**	**5**	P	**Pn**	**13 10 40.5**	**+0.1**
	baz=186						
L27K	**Beaver Creek,**	**6.04**	**54**	Pn	**Pn**	**13 10 41.9**	**+0.7**
H23K	**Yukon River**	**6.05**	**12**		**Pn**	**13 10 41.4**	**0.0**
H23K	**Yukon River**	**6.05**	**12**	P	**Pn**	**13 10 41.4**	**0.0**
	baz=195						
BC03		**6.06**	**54**		**Pn**	**13 10 41.2**	**-0.2**
BCAR	**Beaver Creek A**	**6.06**	**54**	Pn	**Pn**	**13 10 42.0**	**+0.5**
IMAR	**Indian Mountai**	**6.07**	**356**	Pn	**Pn**	**13 10 42.0**	**+0.5**
PCA	**Pinnacle**	**6.21**	**83**		**Pn**	**13 10 43.9**	**+0.3**
PINM	**Pinnacle**	**6.21**	**83**	P	**Pn**	**13 10 43.9**	**+0.3**
	baz=274						
J26L	**Joseph Creek**	**6.22**	**39**		**Pn**	**13 10 43.2**	**-0.5**
J26L	**Joseph Creek**	**6.22**	**39**	P	**Pn**	**13 10 43.2**	**-0.5**
	baz=227						
O28M	**Mount Upton**	**6.23**	**77**		**Pn**	**13 10 45.1**	**+1.0**
O28M	**Mount Upton**	**6.23**	**77**	P	**Pn**	**13 10 45.1**	**+1.0**
	baz=268						
H24K	**Noodor Dome**	**6.29**	**18**		**Pn**	**13 10 44.3**	**-0.3**
H24K	**Noodor Dome**	**6.29**	**18**	P	**Pn**	**13 10 44.3**	**-0.3**
	baz=203						
K27K	**Chicken**	**6.43**	**46**		**Pn**	**13 10 46.6**	**+0.1**
K27K	**Chicken**	**6.43**	**46**	P	**Pn**	**13 10 46.6**	**+0.1**
	baz=236						
PRP	**Porcupine Dome**	**6.46**	**27**		**Pn**	**13 10 46.8**	**-0.2**
PRP	**Porcupine Dome**	**6.46**	**27**	P	**Pn**	**13 10 46.8**	**-0.2**
	baz=214						
G21K	**Allakaket**	**6.59**	**357**		**Pn**	**13 10 48.5**	**-0.2**
G21K	**Allakaket**	**6.59**	**357**	P	**Pn**	**13 10 48.5**	**-0.2**
	baz=176						
PNL	**Peninsula**	**6.69**	**87**		**Pn**	**13 10 50.2**	**+0.1**
PNL	**Peninsula**	**6.69**	**87**	P	**Pn**	**13 10 50.2**	**+0.1**
	baz=278						
G23K	**Bananza Creek**	**6.88**	**9**		**Pn**	**13 10 52.5**	**-0.1**
G23K	**Bananza Creek**	**6.88**	**9**	P	**Pn**	**13 10 52.5**	**-0.1**
	baz=191						
O29M	**Mount Kennedy**	**7.04**	**81**		**Pn**	**13 10 55.6**	**+0.8**
O29M	**Mount Kennedy**	**7.04**	**81**	P	**Pn**	**13 10 55.7**	**+0.8**
	baz=273						
H25K	**Birch Creek**	**7.04**	**23**		**Pn**	**13 10 53.7**	**-1.0**
H25K	**Birch Creek**	**7.04**	**23**	P	**Pn**	**13 10 53.7**	**-1.0**
	baz=209						
G24K	**Hadweenzic Riv**	**7.15**	**17**		**Pn**	**13 10 56.3**	**0.0**
G24K	**Hadweenzic Riv**	**7.15**	**17**	P	**Pn**	**13 10 56.3**	**0.0**
	baz=202						
EGAK	**Eagle**	**7.20**	**43**	Pn	**Pn**	**13 10 56.1**	**-0.7**
M29M	**Somme Creek**	**7.29**	**64**		**Pn**	**13 10 57.6**	**-0.6**
M29M	**Somme Creek**	**7.29**	**64**	P	**Pn**	**13 10 57.6**	**-0.6**
	baz=256						
F21K	**Alatna River**	**7.30**	**357**		**Pn**	**13 10 57.9**	**-0.4**
F21K	**Alatna River**	**7.30**	**357**	P	**Pn**	**13 10 57.9**	**-0.4**
	baz=177						
COLD	**Coldfoot**	**7.38**	**7**		**Pn**	**13 10 58.9**	**-0.4**
COLD	**Coldfoot**	**7.38**	**7**	P	**Pn**	**13 10 58.9**	**-0.4**
	baz=190						
FYU	**Fort Yukon**	**7.42**	**24**	Pn	**Pn**	**13 10 59.7**	**-0.2**
DAWY	**Dawson**	**7.47**	**51**		**Pn**	**13 10 59.5**	**-1.1**
DAWY	**Dawson**	**7.47**	**51**	P	**Pn**	**13 10 59.5**	**-1.1**
	baz=243						
P29M	**Windy Craggy**	**7.53**	**86**		**Pn**	**13 11 01.8**	**+0.3**
P29M	**Windy Craggy**	**7.53**	**86**	P	**Pn**	**13 11 01.8**	**+0.3**
	baz=279						
HYT	**Haines Junctio**	**7.55**	**77**	Pn	**Pn**	**13 11 03.6**	**+1.8**
F22K	**John River**	**7.58**	**1**		**Pn**	**13 11 02.1**	**0.0**
F22K	**John River**	**7.58**	**1**	P	**Pn**	**13 11 02.1**	**0.0**
	baz=182						
I27K	**Kandik River**	**7.58**	**37**		**Pn**	**13 11 01.5**	**-0.7**
I27K	**Kandik River**	**7.58**	**37**	P	**Pn**	**13 11 01.5**	**-0.7**
	baz=227						
N30M	**Aishikik Lake**	**7.78**	**72**		**Pn**	**13 11 04.6**	**-0.2**
N30M	**Aishikik Lake**	**7.78**	**72**	P	**Pn**	**13 11 04.6**	**-0.2**
	baz=266						
H27K	**Steamboat Moun**	**8.05**	**34**		**Pn**	**13 11 07.5**	**-1.0**
H27K	**Steamboat Moun**	**8.05**	**34**	P	**Pn**	**13 11 07.5**	**-1.0**
	baz=224						
E22K	**Anaktuvuk Pass**	**8.22**	**2**		**Pn**	**13 11 10.9**	**+0.2**
E22K	**Anaktuvuk Pass**	**8.22**	**2**	P	**Pn**	**13 11 10.9**	**+0.2**
	baz=183						
BMAR	**Burnt Mountain**	**8.30**	**22**	Pn	**Pn**	**13 11 11.1**	**-0.8**
E24K	**Your Creek**	**8.35**	**11**		**Pn**	**13 11 11.0**	**-1.5**
E24K	**Your Creek**	**8.35**	**11**	P	**Pn**	**13 11 11.0**	**-1.5**
	baz=195						
SKAG	**Skagway**	**8.77**	**86**	Pn	**Pn**	**13 11 19.5**	**+1.3**
TOLK	**Toolik Lake Re**	**8.82**	**7**	Pn	**Pn**	**13 11 19.3**	**+0.4**
WHY	**Whitehorse**	**8.84**	**78**	Pn	**Pn**	**13 11 20.1**	**+0.8**
D23K	**Nanushuk River**	**9.08**	**4**		**Pn**	**13 11 22.5**	**+0.1**
D23K	**Nanushuk River**	**9.08**	**4**	P	**Pn**	**13 11 22.5**	**+0.1**
	baz=186						
BESE	**Bessie Mountai**	**9.21**	**91**	Pn	**Pn**	**13 11 26.6**	**+2.3**
JIS	**Juneau Island**	**9.54**	**92**	Pn	**Pn**	**13 11 30.6**	**+2.0**
P33M	**Teslin, Yukon**	**9.90**	**80**	Pn	**Pn**	**13 11 35.2**	**+1.5**
INK	**Inuvik**	**11.76**	**37**	P	**Pn**	**13 11 58.8**	**+0.2**
	comp=N,1.6nm,0.8s,baz=230,slow=16,SNR=1.8						
YKA	**Yellowknife Ar**	**18.30**	**66**	P	**P**	**13 13 19.6**	**-0.3**
	comp=N,0.8nm,0.5s,baz=277,slow=9.8,SNR=1.8						
YBH	**Yreka Blue Hor**	**25.91**	**121**	P	**P**	**13 14 37.1**	**+0.5**
	comp=N,1.0nm,0.3s,baz=279,slow=13,SNR=9.3						
	comp=N,1.0nm,0.3s						
SONM	**Songino Array**	**54.96**	**306**	P	**P**	**13 18 35.6**	**+1.2**
	comp=N,0.5nm,0.4s,baz=54,slow=7.3,SNR=2.9						
	comp=N,0.5nm,0.4s						

*NNC **23** 13:10:12.1±3.8, 48°.73N×78°.10E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=58.6km s-min=14.4km az=74.0, Suspected Mining explosion.*

IDC 23 13:10:07.5±3.1, 48.71N×77.28E, h0km, mbtmp2.7/2, ML2.1/2, 2C-4D, Error ellipse: s-maj=33.7km s-min=11.4km az=72.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.08**	**22**	Pg	Pb	13 10 45.2	-0.9
	0.4nm,0.3s,baz=201,slow=16,SNR=30						
KURBB				Lg	Lg	13 11 12.5	
	0.2nm,0.3s,baz=203,slow=29,SNR=8.9						
KURBB	**Kurchatov Arra**	**2.08**	**22**	⇓Pn	Pb	13 10 45.0	-1.1
	6.9nm,0.6s						
KURBB				⇑Sn	Sb	13 11 12.4	0.0
	11nm,0.8s						
KURK	**Kurchatov**	**2.19**	**23**	⇓Pn	Pb	13 10 47.4	-0.6
	3.9nm,0.5s						
KURK				⇓Sn	Sn	13 11 13.8	+0.9
	4.4nm,0.8s						
MK31	**Makanchi Array**	**3.88**	**118**	⇑Pn	Pn	13 11 07.8	-0.8
	0.5nm,0.7s,baz=326,slow=11,SNR=5.6						
MK31				⇓Lg	Lg	13 11 58.4	
	2.3nm,0.7s,baz=314,slow=28,SNR=6.0						
MKAR	**Makanchi Array**	**3.88**	**118**	Pn	Pn	13 11 07.8	-0.7
	0.1nm,0.3s,baz=300,slow=12,SNR=5.2						
MKAR				Sn	Sn	13 11 56.9	+2.1
	0.2nm,0.3s,baz=306,slow=26,SNR=9.7						
	0.5nm,0.6s						
I46RU	**ZALESOVO INFRA**	**7.05**	**39**	*i*		13 53 50.0	
	baz=221,slow=331,SNR=2.3						
ZALV	**Zalesovo Beam**	**7.05**	**39**	Pn	Pn	13 11 54.0	+2.0
	0.3nm,0.3s,baz=243,slow=16,SNR=1.9						
	0.5nm,0.3s						

*IDC **23** 13:10:40.0±2.8, 24°.49N×109°.07W, h0km, mb3.9/1, mbtmp3.5/5, ML3.3/4, MS3.2/3, Error ellipse: s-maj=47.3km s-min=10.5km az=145.0*

*MEX **23** 13:10:45.4±0.5, 24°.86N×109°.31W, h16km, MD4.3*

ISC 23 13:10:41.5±3.4, 24°.79N±0°.05×109°.31W±0°.06, h7km±25km, n18, σ1°68/21, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.84**	**17**	*e*P	**Pb**	**13 10 58.0**	**-0.5**
TSIG				*e*S	**Sb**	**13 11 07.5**	**-2.5**
LPIG	**La Paz**	**1.14**	**233**	Pg	**Pn**	**13 11 02.8**	**-1.1**
	72nm,0.3s,baz=45,slow=6.8,SNR=38						
LPIG				Lg	Lg	13 11 19.3	
	179nm,0.3s,baz=99,slow=2.4,SNR=9.0						
LPIG	**La Paz**	**1.14**	**233**	*e*P	**Pn**	**13 11 03.2**	**-0.6**
LPIG				⇑*i*S	**Sb**	**13 11 18.2**	**-0.3**
SLBS	**Sierra La Lagu**	**1.24**	**208**	*e*P	**Pn**	**13 11 05.7**	**+0.2**
SLBS				*i* S	**Sb**	**13 11 20.2**	**-1.5**
SSIG	**Sanalona**	**1.98**	**89**	*i* P	**Pn**	**13 11 14.6**	**-0.8**
SSIG				*e*S	**Sn**	**13 11 37.9**	**-2.6**
CSIG	**Choix**	**2.20**	**23**	*e*P	**Pn**	**13 11 18.6**	**+0.1**
CSIG				*i* S	**Sn**	**13 11 44.0**	**-2.0**
PDIG	**Papasquiaro**	**3.57**	**85**	*i* P	**Pn**	**13 11 39.2**	**+1.7**
PDIG				*i* S	**Sn**	**13 12 20.4**	**+0.4**
HPIG		**3.92**	**56**	*e*P	**Pn**	**13 11 43.1**	**+0.8**
HPIG				*i* S	**Sn**	**13 12 27.1**	**-1.7**
TXAR	**Lajitas Array**	**6.77**	**47**	Pn	**Pn**	**13 12 21.8**	**+0.4**
	0.3nm,0.3s,baz=214,slow=13,SNR=22						
TXAR				Pg	**Pb**	**13 12 39.0**	**-0.6**
	0.4nm,0.3s,baz=223,slow=13,SNR=4.6						
TXAR				Sn	**Sn**	**13 13 37.9**	**-0.9**
	2.2nm,0.3s,baz=210,slow=22,SNR=12						
TXAR				Lg	Lg	13 14 15.2	
	1.0nm,0.3s,baz=228,slow=30,SNR=4.0						
	0.4nm,0.3s						
ANMO	**Albuquerque**	**10.42**	**13**	Pn	Pn	13 13 16.4	+4.9
	baz=190,slow=13,SNR=4.1						
ANMO				Lg	Lg	13 16 21.1	
	0.1nm,0.3s,baz=259,slow=23,SNR=3.5						
	2.0nm,1.0s						
NVAR	**Mina Array Bea**	**15.59**	**333**	Pn	**P**	**13 14 28.3**	**+1.9**
	0.1nm,0.3s,baz=156,slow=13,SNR=9.8						
	1.3nm,0.7s						
PDAR	**Pinedale Array**	**17.93**	**359**	P	**P**	**13 14 54.8**	**+2.6**
	baz=178,slow=12,SNR=4.9						
PDAR				LR	LR	13 22 21.3	
	comp=Z,40nm,20.2s,baz=240,slow=38						
	0.3nm,0.6s						
NEW	**Newport**	**24.22**	**347**	P	**P**	**13 16 01.8**	**+2.8**
	1.9nm,0.6s,baz=156,slow=10.0,SNR=4.5						
	1.9nm,0.6s						
TKL	**Tuckaleechee C**	**24.51**	**58**	LR	LR	13 26 32.1	
	comp=Z,70nm,20.2s,baz=272,slow=39						
SJG	**San Juan**	**40.59**	**91**	LR	LR	13 36 16.0	
	comp=Z,34nm,18.1s,baz=249,slow=38						
H03N2	**Juan Fernandez**	**64.73**	**152**	T	T	14 31 43.0	
	baz=322,slow=77						
H03N1	**Juan Fernandez**	**64.74**	**152**	T	T	14 31 42.6	
	baz=322,slow=77						
H03N3	**Juan Fernandez**	**64.75**	**152**	T	T	14 31 50.0	
	baz=322,slow=77						

*JMA **23** 13:16:12.5±0.4, 34°.N±1°.×14°.1E±°, h32km±1km, MV3.0/27, FAR SE OFF BOSO PEN*

*IDC **23** 13:16:22.7±3.1, 33°.99N×140°.70E, h68km±19km, mb3.4/5, mbtmp3.8/7, MS3.1/4, Error ellipse: s-maj=58.2km s-min=11.5km az=70.0*

ISC 23 13:16:14.8±1.2, 34°.30N±0°.05×141°.37E±0°.09, h27km, n24, σ2°82/18, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.48**	**318**	P	**Pb**	**13 16 22.4**	**-2.0**
BSO1				*e*X		13 16 29.0	
BSO3	**Boso 3**	**0.87**	**305**	*e*P	**Pn**	**13 16 28.9**	**-2.1**
JKUC	**kamogawauchiur**	**1.29**	**312**	*e*S	**Sn**	**13 16 50.8**	**-2.7**
CHOJ	**Chosi**	**1.46**	**343**	*e*P	**Pn**	**13 16 35.8**	**-3.6**
JMKN	**Mikurajimanish**	**1.53**	**255**	*e*P	**Pn**	**13 16 40.5**	**+0.1**
JMKN				*e*S	**Sb**	**13 17 01.1**	**-0.4**
JTHY	**Toshimahigashi**	**1.74**	**278**	*e*P	**Pn**	**13 16 42.0**	**-1.2**
JTHY				*e*S	**Sn**	**13 17 04.5**	**0.0**
JHJ	**Hachijo jima 2**	**1.77**	**229**	P	**Pn**	**13 16 44.0**	**+0.4**
	47nm,0.3s,baz=48,slow=16,SNR=22						
JHJ				S	**Sn**	**13 16 57.7**	**-7.5**
	60nm,0.2s,baz=66,slow=19,SNR=9.8						
MJAR	**Matsushiro Arr**	**3.42**	**312**	P	**Pn**	**13 17 09.2**	**+2.9**
	3.2nm,0.3s,baz=137,slow=11,SNR=5.1						
MJAR				S	**Sn**	**13 17 48.6**	**+2.6**
	6.6nm,0.4s,baz=153,slow=22,SNR=5.4						
JCJ	**Chichijima**	**7.21**	**174**	P	**Pn**	**13 18 00.6**	**+2.2**
	46nm,0.4s,baz=323,slow=20,SNR=5.4						
KSRS	**Korea Array**	**11.36**	**290**	LR	LR	13 23 27.4	
	comp=Z,41nm,18.8s,baz=90,slow=39						
KLR	**Kul'dur**	**16.54**	**337**	LR	LR	13 26 32.5	
	comp=Z,46nm,18.0s,baz=122,slow=37						
H11N2	**WAKE ISLAND Hy**	**26.88**	**116**	T	T	13 50 09.2	
	baz=309,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**26.88**	**116**	T	T	13 49 59.5	
	baz=309,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**26.89**	**116**	T	T	13 50 00.6	
	baz=309,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.49**	**118**	T	T	13 50 49.0	
	baz=313,slow=75						
H11S1	**WAKE ISLAND Hy**	**27.49**	**118**	T	T	13 50 52.8	
	baz=313,slow=75						
H11S2	**WAKE ISLAND Hy**	**27.51**	**118**	T	T	13 50 56.6	
	baz=313,slow=75						
SONM	**Songino Array**	**29.36**	**308**	P	**P**	**13 22 17.0**	**+1.5**
	0.2nm,0.3s,baz=101,slow=7.6,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.59**	**304**	P	**P**	**13 24 34.5**	**+2.0**
	0.3nm,0.5s,baz=80,slow=7.5,SNR=4.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**47.69**	**310**	P	**P**	**13 24 51.3**	**+2.5**
	0.3nm,0.3s,baz=86,slow=8.5,SNR=2.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**54.35**	**188**	P	**P**	**13 25 39.4**	**+0.3**
	0.8nm,0.4s,baz=3.8,slow=7.6,SNR=24						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**58.08**	**188**	P	**P**	**13 26 06.1**	**+0.4**
	0.7nm,0.8s,baz=3.4,slow=6.5,SNR=15						
	0.7nm,0.8s						
KIRV	**Kirov**	**62.42**	**324**	LR	LR	13 54 24.9	
	comp=Z,28nm,21.1s,baz=352,slow=37						
NOA	**NORSAR Array B**	**76.69**	**338**	LR	LR	14 04 45.2	
	comp=Z,16nm,19.7s,baz=5.0,slow=38						

*EAF **23** 13:21:02.6±16.0, 22°.04S×33°.82E, h10km, MD3.7*

*BUL **23** 13:21:07.8±16.0, 21°.96S×33°.54E, h10km, MD3.9*

PRE 23 13:21:08.8±2.4, 21°.39S×33°.57E, h10km, ML2.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.92**	**223**	*e*P	Pn	13 21 57.8	+2.4
MOPA				*e*S	Sn	13 22 30.6	+0.1
MOPA				IAML		13 22 36.7	
	comp=Z,21nm,0.3s						
MOPA	**Mopani**	**2.92**	**223**	*i* P	Pb	13 21 59.4	-1.5
MOPA				*i* Sg	Sb	13 22 36.5	-0.3
MOPA	**Mopani**	**2.92**	**223**	*i* P	Pb	13 21 59.4	-1.5
MOPA				*i* Sg	Sb	13 22 36.5	-0.3
MUSN	**Musina, Limpop**	**3.56**	**255**	*e*P	Pn	13 22 02.8	-1.4
MUSN				*e*S	Sn	13 22 44.8	-1.5
MUSN				IAML		13 22 58.7	
	comp=Z,14nm,0.4s						
MUSN	**Musina, Limpop**	**3.56**	**255**	*i* P	Pn	13 22 05.7	+1.5
MUSN				*i* S	Sn	13 22 47.1	+0.8
MUSN	**Musina, Limpop**	**3.56**	**255**	*i* P	Pn	13 22 05.7	+1.5
MUSN				*i* S	Sn	13 22 47.1	+0.8
BLWY	**Bulawayo**	**4.80**	**284**	*e*P	Pn	13 22 25.6	+4.3
BLWY				*e*S	Sn	13 23 18.2	+1.1
BLWY				IAML		13 23 41.2	
	comp=Z,27nm,0.6s						
BLWY	**Bulawayo**	**4.80**	**284**	*i* P	Pn	13 22 23.0	+1.6
BLWY				*i* S	Sn	13 23 15.4	-1.7
BLWY	**Bulawayo**	**4.80**	**284**	*i* P	Pn	13 22 23.0	+1.6
BLWY				*i* S	Sn	13 23 15.4	-1.7
MATP	**Matopo**	**4.83**	**281**	*e*P	Pn	13 22 22.6	+0.8
MATP				*e*S	Sn	13 23 17.7	-0.3
MATP				IAML		13 23 49.1	
	comp=Z,21nm,0.5s						
MATP	**Matopo**	**4.83**	**281**	*i* P	Pn	13 22 22.5	+0.7
MATP				*i* S	Sn	13 23 14.7	-3.2
MATP	**Matopo**	**4.83**	**281**	*i* P	Pn	13 22 22.5	+0.7
MATP				*i* S	Sn	13 23 14.7	-3.2
MMAL	**MMAL**	**5.12**	**205**	*e*P	Pn	13 22 26.2	+0.5
MMAL				*e*S	Sn	13 23 24.8	-0.2
MMAL				IAML		13 23 57.9	
	comp=Z,5.4nm,0.5s						
LEPH	**Lephalale, Lim**	**5.87**	**244**	*e*P	Pn	13 22 38.6	+2.6
LEPH				*e*S	Sn	13 23 42.5	-0.9
LEPH				IAML		13 24 13.4	
	comp=Z,11nm,0.5s						
LBTB	**Lobatse**	**8.17**	**242**	*e*P	Pn	13 23 08.7	+1.1
LBTB				*e*S	Sn	13 24 37.6	-2.5
LBTB				IAML		13 25 24.9	
	comp=Z,2.8nm,0.5s						

*NEIC **23** 13:26:09.9±1.8, 65°.02N±0°.02×150°.77W±0°.06, h20km±7km, Error ellipse: s-maj=3.7km s-min=2.2km az=83.0*

*AEIC **23** 13:26:09.2±2.2, 65°.00N±0°.02×150°.80W±0°.05, h18km±5km, ML3.6, ML3.8/132(NEIC), Error ellipse: s-maj=3.6km s-min=2.0km az=53.0*

ISC 23 13:26:09.9±1.0, 65°.01N±0°.02×150°.75W±0°.02, h20km±5km, n231, σ0°82/217, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLY	**Manley**	**0.02**	**12**		**Pg**	**13 26 13.4**	**-0.1**
MLY	**Manley**	**0.02**	**12**	IAML		13 26 15.9	
	comp=N,19μm,0.2s						
MLY				IAML		13 26 15.9	
	comp=E,12μm,0.4s						
MLY	**Manley**	**0.02**	**12**	P	**Pg**	**13 26 13.4**	**-0.1**
	baz=207						
I21K	**Tanana**	**0.55**	**289**		**Pg**	**13 26 20.9**	**-0.1**
I21K	**Tanana**	**0.55**	**289**	IAML		13 26 28.7	
	comp=N,6μm,0.4s						
I21K				IAML		13 26 29.0	
	comp=E,12μm,0.5s						
I21K	**Tanana**	**0.55**	**289**	P	**Pg**	**13 26 20.9**	**-0.1**
	baz=110						
NEA2	**Nenana**	**0.83**	**120**		**Pb**	**13 26 25.8**	**+0.1**
NEA2					**Sg**	**13 26 37.6**	**+0.3**
NEA2	**Nenana**	**0.83**	**120**	IAML		13 26 38.2	
	comp=N,4μm,0.3s						
NEA2				IAML		13 26 38.5	
	comp=E,3μm,0.3s						
NEA2	**Nenana**	**0.83**	**120**	P	**Pb**	**13 26 25.8**	**+0.1**
	baz=299						
NEA2				S	**Sg**	**13 26 37.6**	**+0.3**
	baz=299						
BPAW	**Bear Paw Mtn.**	**0.92**	**187**		**Pb**	**13 26 26.9**	**-0.3**
BPAW					**Sb**	**13 26 38.7**	**-0.3**
BPAW	**Bear Paw Mtn.**	**0.92**

MCK	McKinley	1.51 148		Pn	13 26 35.2	-0.5
MCK				Sb	13 26 56.3	+0.4
MCK	McKinley baz=328	1.51 148	P	Pn	13 26 35.2	-0.5
MCK			S	Sb	13 26 56.3	+0.4
	baz=328					
TRF	Thorofare Moun	1.58 172		Pn	13 26 36.5	-0.5
TRF	Thorofare Moun comp=E,823nm,0.7s	1.58 172	IAML		13 26 59.6	
TRF	Thorofare Moun baz=352	1.58 172	P	Pn	13 26 36.5	-0.5
IM03		1.59 309		Pn	13 26 36.4	-0.4
IMAR	Indian Mountai	1.59 309		Pn	13 26 36.5	-0.3
IL31		1.67 97		Pn	13 26 37.1	-0.8
ILAR	Eielson Array	1.67 97		Pn	13 26 36.9	-1.1
J20K	Nowinta River	1.69 242		Pn	13 26 37.5	-0.8
J20K	Nowinta River baz=59	1.69 242	P	Pn	13 26 37.5	-0.8
CAST	Castle Rocks	1.70 201		Pn	13 26 38.0	-0.5
CAST	Castle Rocks comp=N,1µm,0.4s	1.70 201	IAML		13 27 03.9	
CAST			IAML		13 27 04.1	
	comp=E,1µm,0.5s					
CAST	Castle Rocks baz=19	1.70 201	P	Pn	13 26 38.0	-0.5
G23K	Bananza Creek	1.73 10		Pn	13 26 39.2	+0.3
G23K	Bananza Creek baz=191	1.73 10	P	Pn	13 26 39.2	+0.3
HDA	Harding Lake	1.74 109		Pn	13 26 38.3	-0.7
HDA	Harding Lake baz=291	1.74 109	P	Pn	13 26 38.3	-0.7
PS08	TAPS Pump Stn8	1.75 104		Pn	13 26 38.3	-0.8
PS05	TAPS Pump Stn5	1.81 1		Pn	13 26 40.3	+0.4
RND	Reindeer	1.81 152		Pn	13 26 39.9	-0.1
G21K	Allakaket	1.89 324		Pn	13 26 41.2	+0.1
G21K	Allakaket baz=143	1.89 324	P	Pn	13 26 41.2	+0.1
G24K	Hadweenzic Riv	2.17 37		Pn	13 26 44.7	-0.1
G24K	Hadweenzic Riv baz=220	2.17 37	P	Pn	13 26 44.7	-0.1
K20K	Telida	2.21 223		Pn	13 26 44.4	-1.0
K20K	Telida comp=E,562nm,0.4s	2.21 223	IAML		13 27 19.6	
K20K			IAML		13 27 24.8	
	comp=N,756nm,0.6s					
K20K	Telida baz=40	2.21 223	P	Pn	13 26 44.4	-1.0
PPLA	Purkeypile	2.22 197		Pn	13 26 46.2	+0.6
PPLA	Purkeypile baz=16	2.22 197	P	Pn	13 26 46.2	+0.6
COLD	Coldfoot	2.24 5		Pn	13 26 45.6	-0.2
COLD	Coldfoot baz=186	2.24 5	P	Pn	13 26 45.6	-0.2
PRP	Porcupine Dome	2.25 75		Pn	13 26 45.6	-0.6
PRP	Porcupine Dome comp=N,640nm,0.4s	2.25 75	IAML		13 27 22.7	
PRP			IAML		13 27 24.6	
	comp=E,573nm,0.4s					
PRP	Porcupine Dome baz=259	2.25 75	P	Pn	13 26 45.6	-0.6
J25K	Salcha River,	2.34 97		Pn	13 26 46.5	-0.7
J25K	Salcha River, comp=N,410nm,0.8s	2.34 97	IAML		13 27 23.3	
J25K			IAML		13 27 25.0	
	comp=E,406nm,0.3s					
J25K	Salcha River, baz=282	2.34 97	P	Pn	13 26 46.5	-0.7
WAT7	Susitna Watana	2.34 158		Pn	13 26 47.8	+0.5
WAT1	Susitna Watana	2.40 155		Pn	13 26 48.3	+0.3
WAT1	Susitna Watana baz=336	2.40 155	P	Pn	13 26 48.3	+0.3
H25K	Birch Creek	2.40 56		Pn	13 26 47.7	-0.3
H25K	Birch Creek baz=240	2.40 56	P	Pn	13 26 47.7	-0.3
DHY	Denali Highway	2.44 141		Pn	13 26 49.1	+0.3
DHY	Denali Highway comp=N,317nm,0.9s	2.44 141	IAML		13 27 35.1	
DHY	Denali Highway baz=324	2.44 141	P	Pn	13 26 49.1	+0.3
K24K	Donnelly Dome	2.48 117		Pn	13 26 49.3	+0.2
K24K	Donnelly Dome baz=301	2.48 117	P	Pn	13 26 49.3	+0.2
F21K	Alatna River	2.48 335		Pn	13 26 49.9	+0.6
F21K	Alatna River baz=153	2.48 335	P	Pn	13 26 49.9	+0.6
F22K	John River	2.57 348		Pn	13 26 51.5	+1.1
F22K	John River baz=167	2.57 348	P	Pn	13 26 51.5	+1.1
CUT	Chulitna	2.63 175		Pn	13 26 50.9	-0.2
CUT	Chulitna comp=N,504nm,0.6s	2.63 175	IAML		13 27 35.4	
CUT	Chulitna baz=355	2.63 175	P	Pn	13 26 50.9	-0.2
FYU	Fort Yukon	2.76 53	Pn	Pn	13 26 52.3	-0.7
FYU			IAML		13 27 40.2	
	comp=N,409nm,0.4s					
F24K	Squaw Lake	2.77 23		Pn	13 26 54.1	+0.9
F24K	Squaw Lake baz=206	2.77 23	P	Pn	13 26 54.1	+0.9
WAT6	Susitna Watana	2.78 150		Pn	13 26 53.5	+0.1
WAT6	Susitna Watana baz=332	2.78 150	P	Pn	13 26 53.5	+0.1
RIDG	Independent Ri	2.87 114		Pn	13 26 54.2	-0.3
RIDG			IAML		13 27 41.3	
	comp=E,366nm,1.2s					
RIDG			IAML		13 27 42.0	
	comp=N,384nm,1.0s					
L20K	Farewell, AK	2.90 210		Pn	13 26 54.2	-0.7
L20K	Farewell, AK baz=27	2.90 210	P	Pn	13 26 54.2	-0.7
SKT	Skwentna	3.06 187		Pn	13 26 57.7	+0.5
SKT	Skwentna comp=E,251nm,0.8s	3.06 187	IAML		13 27 46.9	
SKT			IAML		13 27 49.7	
	comp=N,267nm,0.5s					
SKT	Skwentna baz=5.9	3.06 187	P	Pn	13 26 57.7	+0.5
E23K	Chandalar baz=189	3.09 8	P	Pn	13 26 58.9	+1.2
PAX	Paxson	3.10 129		Pn	13 26 58.2	+0.5
PAX	Paxson baz=313	3.10 129	P	Pn	13 26 58.2	+0.5
SCRK	Sand Creek	3.10 106		Pn	13 26 57.6	-0.2
SCRK	Sand Creek comp=E,226nm,0.6s	3.10 106	IAML		13 27 51.2	
SCRK	Sand Creek baz=292	3.10 106	P	Pn	13 26 57.6	-0.2
J26L	Joseph Creek	3.12 96		Pn	13 26 58.4	+0.3
J26L	Joseph Creek comp=E,288nm,0.5s	3.12 96	IAML		13 27 53.2	
J26L	Joseph Creek baz=282	3.12 96	P	Pn	13 26 58.4	+0.3
TTA	Tatalina	3.12 230		Pn	13 26 56.8	-1.2
TTA	Tatalina comp=E,260nm,0.7s	3.12 230	IAML		13 27 51.6	
TTA			IAML		13 27 55.0	
	comp=N,222nm,0.5s					
TTA	Tatalina baz=46	3.12 230	P	Pn	13 26 56.8	-1.2
TT01	Tatalina	3.14 230		Pn	13 26 57.2	-1.1
E22K	Anaktuvuk Pass	3.17 353		Pn	13 26 59.4	+0.8
E22K	Anaktuvuk Pass baz=172	3.17 353	P	Pn	13 26 59.4	+0.8
E24K	Your Creek	3.21 15		Pn	13 26 59.9	+0.8
E24K	Your Creek baz=198	3.21 15	P	Pn	13 26 59.9	+0.8
DOT	Dot Lake	3.22 112		Pn	13 26 59.6	+0.3
M22K	Willow baz=355	3.28 175	P	Pn	13 27 00.5	+0.4
F25K	Christian Rive	3.31 36		Pn	13 27 00.6	0.0
F25K	Christian Rive baz=221	3.31 36	P	Pn	13 27 00.6	0.0
M20K	Styx River	3.32 200		Pn	13 27 00.9	+0.2
M20K	Styx River comp=N,254nm,0.8s	3.32 200	IAML		13 27 57.1	
M20K			IAML		13 28 01.0	
	comp=E,224nm,0.8s					
M20K	Styx River baz=18	3.32 200	P	Pn	13 27 00.9	+0.2
GHO	Glory Hole Cre	3.35 165		Pn	13 27 01.2	0.0
L19K	White Mountain	3.38 215		Pn	13 27 00.6	-0.9
L19K	White Mountain comp=E,238nm,0.6s	3.38 215	IAML		13 27 56.9	
L19K	White Mountain baz=31	3.38 215	P	Pn	13 27 00.6	-0.9
SML	Sawmill	3.40 160		Pn	13 27 01.9	+0.1
SML	Sawmill comp=E,162nm,0.9s	3.40 160	IAML		13 28 04.7	
SML	Sawmill baz=342	3.40 160	P	Pn	13 27 01.8	+0.1
G26K	Porcupine Rive	3.45 53		Pn	13 27 01.8	-0.6
G26K	Porcupine Rive baz=239	3.45 53	P	Pn	13 27 01.8	-0.6
BMAR	Burnt Mountain	3.48 43	Pn	Pn	13 27 02.6	-0.4
M23K	Glacier View	3.50 156		Pn	13 27 03.4	+0.1
M23K	Glacier View baz=338	3.50 156	P	Pn	13 27 03.4	+0.1
PMR	Palmer	3.51 167		Pn	13 27 03.8	+0.6
PMR	Palmer baz=348	3.51 167	P	Pn	13 27 03.8	+0.6
M19K	Big River Lodg	3.52 209	Pn	Pn	13 27 03.3	-0.2
M19K			IAML		13 28 04.5	
	comp=N,154nm,0.8s					
SCM	Sheep Creek Mo	3.54 153		Pn	13 27 04.0	+0.2
SCM	Sheep Creek Mo comp=N,165nm,0.6s	3.54 153	IAML		13 28 01.0	
SCM	Sheep Creek Mo baz=335	3.54 153	P	Pn	13 27 04.0	+0.2
STLK	Strandline Lak	3.56 188		Pn	13 27 04.7	+0.6
M24K	Tolsona, Glenn	3.56 143		Pn	13 27 05.0	+1.0
M24K	Tolsona, Glenn comp=N,154nm,1.2s	3.56 143	IAML		13 28 13.8	
M24K			IAML		13 28 15.3	
	comp=E,212nm,1.5s					
M24K	Tolsona, Glenn baz=326	3.56 143	P	Pn	13 27 05.1	+1.0
SUA	Susitna One	3.56 180		Pn	13 27 04.0	-0.1
SUA			IAML		13 28 02.5	
	comp=N,130nm,0.5s					
SUA			IAML		13 28 08.6	
	comp=E,130nm,0.9s					
HARP	HAARP	3.62 134		Pn	13 27 05.3	+0.6
HARP	HAARP baz=318	3.62 134	P	Pn	13 27 05.3	+0.6
TOLK	Toolik Lake Re	3.67 7		Pn	13 27 07.5	+1.9
TOLK	Toolik Lake Re comp=N,150nm,0.6s	3.67 7	IAML		13 28 10.8	
TOLK			IAML		13 28 13.1	
	comp=E,174nm,1.0s					
TOLK	Toolik Lake Re baz=188	3.67 7	P	Pn	13 27 07.5	+1.9
MENT	Mentasta	3.73 121		Pn	13 27 06.7	+0.3
MENT			IAML		13 28 18.0	
	comp=E,196nm,0.6s					
KNK	Knik Glacier	3.76 163		Pn	13 27 08.0	+1.3
KNK	Knik Glacier baz=345	3.76 163	P	Pn	13 27 08.0	+1.3
F26K	Sheenjek River	3.79 42		Pn	13 27 06.7	-0.4
F26K	Sheenjek River baz=228	3.79 42	P	Pn	13 27 06.7	-0.4
L26K	Log Cabin Wild	3.82 118		Pn	13 27 06.1	-1.4
K27K	Chicken	3.88 101		Pn	13 27 08.4	+0.1
K27K			IAML		13 28 16.3	
	comp=E,106nm,0.5s					
I27K	Kandik River	3.88 77		Pn	13 27 07.5	-0.9
I27K	Kandik River baz=265	3.88 77	P	Pn	13 27 07.5	-0.9
SPU	Mount Spurr	3.89 189		Pn	13 27 07.6	-0.9
RC01	Rabbit Creek A	3.96 173		Pn	13 27 10.4	+0.9
RC01	Rabbit Creek A baz=354	3.96 173	P	Pn	13 27 10.4	+0.9
D23K	Nanushuk River	3.97 0		Pn	13 27 11.6	+2.0
D23K	Nanushuk River baz=181	3.97 0	P	Pn	13 27 11.6	+2.0
H27K	Steamboat Moun	4.01 68		Pn	13 27 09.1	-1.1
H27K	Steamboat Moun baz=256	4.01 68	P	Pn	13 27 09.1	-1.1
EGAK	Eagle	4.09 89		Pn	13 27 10.6	-0.7
EGAK	Eagle baz=277	4.09 89	P	Pn	13 27 10.6	-0.7
G27K	Doyon Strip	4.14 60		Pn	13 27 10.8	-1.1
G27K	Doyon Strip baz=248	4.14 60	P	Pn	13 27 10.8	-1.1
KLU	Klutina	4.15 146		Pn	13 27 13.7	+1.6
KLU	Klutina baz=330	4.15 146	P	Pn	13 27 13.7	+1.6
PWL	Port Wells	4.31 164		Pn	13 27 16.1	+1.7
PWL	Port Wells baz=346	4.31 164	P	Pn	13 27 16.1	+1.7
M26K	Nabesna, AK	4.33 124	Pn	Pn	13 27 15.3	+0.7
M26K			IAML		13 28 24.5	
M26K	comp=N,99nm,0.8s		IAML		13 28 37.0	
	comp=E,118nm,0.7s					
L27K	Beaver Creek,	4.38 112		Pn	13 27 14.9	-0.4
L27K	Beaver Creek, comp=N,75nm,1.1s	4.38 112	IAML		13 28 29.0	
L27K	Beaver Creek, baz=300	4.38 112	P	Pn	13 27 14.9	-0.4
BCAR	Beaver Creek A	4.40 112	Pn	Pn	13 27 15.6	+0.1
JPK	Jack Peak	4.40 153		Pn	13 27 16.4	+0.9
N25K	Chitina, Valde	4.40 138		Pn	13 27 16.8	+1.2
N25K	Chitina, Valde baz=323	4.40 138	P	Pn	13 27 16.8	+1.2
GLI	Glacier Island	4.47 156	Pn	Pn	13 27 17.7	+1.2
GLI			IAML		13 28 45.0	
	comp=N,66nm,1.6s					
SVW2	Sparrevohn	4.50 211		Pn	13 27 16.8	-0.1
SVW2			IAML		13 28 36.5	
	comp=E,95nm,0.7s					
SVW2			IAML		13 28 36.7	
	comp=N,104nm,0.5s					
DIV	Divide	4.50 148	Pn	Pn	13 27 18.0	+1.0
N19K	Bonanza Creek	4.55 204		Pn	13 27 17.6	0.0
N19K			IAML		13 28 36.8	
	comp=N,90nm,1.3s					
O22K	Cooper Landing	4.57 174	Pn	Pn	13 27 19.0	+1.2
D25K	Kavik River	4.65 20		Pn	13 27 20.7	+1.7
D25K	Kavik River baz=204	4.65 20	P	Pn	13 27 20.7	+1.7
RSO	Redoubt South	4.66 192		Pn	13 27 19.0	-0.2
FID	Port Fidalgo	4.70 154		Pn	13 27 21.1	+1.4
GLB	Gilahina Butte	4.76 136	Pn	Pn	13 27 21.6	+1.1
M27K	Edge Creek, AK	4.76 120		Pn	13 27 21.7	+1.1
M27K			IAML		13 28 48.2	
	comp=E,68nm,0.8s					
M27K			IAML		13 28 51.0	
	comp=N,88nm,1.0s					
E27K	Coleen River	4.84 45		Pn	13 27 21.9	+0.4
E27K	Coleen River baz=233	4.84 45	P	Pn	13 27 21.9	+0.4
BMRM	Bremner River	4.93 143	Pn	Pn	13 27 23.4	+0.6
N18K	Kilae Creek	4.94 211	Pn	Pn	13 27 24.4	+1.4
N18K			IAML		13 28 51.9	
	comp=N,59nm,0.9s					
N18K			IAML		13 28 56.3	
	comp=E,72nm,0.8s					
SEW	Seward	4.96 172	Pn	Pn	13 27 25.0	+1.8
DAWY	Dawson	4.99 96		Pn	13 27 23.2	-0.5
DAWY	Dawson baz=286	4.99 96	P	Pn	13 27 23.2	-0.5
HIN	Hinchinbrook I	5.03 155	Pn	Pn	13 27 25.6	+1.4
EYAK	Cordova Ski Ar	5.03 151	Pn	Pn	13 27 25.0	+0.9
MCARA	McCarthy VSAT	5.05 133	Pn	Pn	13 27 26.2	+1.8
MCARA			IAML		13 29 00.0	
	comp=N,54nm,1.8s					
ILSW	Illamna Southw	5.17 193	Pn	Pn	13 27 27.5	+1.4
ILSW			IAML		13 28 10.9	
	comp=E,26nm,3.8s					
ILSW			IAML		13 29 13.3	
	comp=N,35nm,4.6s					
I29M	Ogilvie Camp,	5.25 81	Pn	Pn	13 27 27.1	-0.1
I29M			IAML		13 29 05.0	
	comp=N,57nm,0.8s					
I29M			IAML		13 29 08.5	
	comp=E,50nm,0.9s					
CNPM	China Poot	5.51 183	Pn	Pn	13 27 32.7	+1.9
O18K	Koktuh Hills	5.57 204	Pn	Pn	13 27 31.8	+0.1
WAX	Waxell Ridge	5.84 138	Pn	Pn	13 27 36.8	+1.5
N16K	Nishlik Lake	5.86 223		Pn	13 27 34.6	-0.8
N16K	Nishlik Lake baz=36	5.86 223	P	Pn	13 27 34.6	-0.8
L29M	L29M	5.86 103		Pn	13 27 36.0	+0.5
L29M	L29M baz=294	5.86 103	P	Pn	13 27 36.0	+0.5
ISLE	Juniper Island	5.87 135	Pn	Pn	13 27 37.4	+1.7
EPYK	Eagle Plains	5.95 70		Pn	13 27 36.5	-0.3
M29M	Somme Creek	6.03 110		Pn	13 27 38.4	+0.4
M29M	Somme Creek baz=300	6.03 110	P	Pn	13 27 38.4	+0.4
LOGN	Logan Glacier	6.12 129	Pn	Pn	13 27 41.1	+1.9
Q19K	Cape Douglas,	6.25 194	Pn	Pn	13 27 42.9	+1.9
TABL	Table Mountain	6.36 132	Pn	Pn	13 27 40.8	-1.8
MAYO	Mayo, Yukon	6.62 96	Pn	Pn	13 27 44.1	-1.8
KDAK	Kodiak Island	7.31 188	Pn	Pn	13 27 56.7	+1.3
INK	Inuvik	7.58 57	Pn	Pn	13 27 59.2	+0.1

NEIC ***23*** *13:49:07.7±2.2, 19°.81S±0°.09×173°.6W±0°.1, h48km±9km, mb4.8/29, Error ellipse: s-maj=16.9km s-min=12.6km az=112.0*

IDC ***23*** *13:49:13.2±2.0, 19°.66S×175°.38W, h0km, mb4.8/6, mbtmp4.8/6, Error ellipse: s-maj=87.5km s-min=29.9km az=152.0*

ISC 23 13:49:05.2±0.6, 19°.79S±0°.09×173°.62W±0°.09, h25km, n51, σ1s28/51, mb4.9/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	3.55	79	Pn	Pn	13 50 00.3	+1.6
AFI	Afiamalu	6.10	17	Pn	Pn	13 50 34.1	+0.2
RAO	Raoul Island	10.20	202	Pn	Pn	13 51 30.4	+0.3
MARNC	Mare, Loyalty	17.26	261	P	P	13 53 06.5	+0.5
PINNC	Pines Island,	17.88	258		P	13 53 15.2	+2.3
LIFNC	LIFOU	17.99	264	P	P	13 53 14.2	+0.2
LIFNC				IAmb	IAmb	13 53 15.2	
	comp=Z,69nm,0.6s						
DZM	Mont Dzumac	18.77	260	P	Pn	13 53 23.5	+0.3
DZM				IAmb	IAmb	13 53 26.6	
	comp=Z,28nm,0.8s						
ONTNC	Ouen Toro	18.77	259	P	Pn	13 53 23.7	+0.5
KOUNC	Koumac, New Ca	20.76	264	P	Pn	13 53 47.9	+1.1
KOUNC				IAmb	IAmb	13 53 49.0	
	comp=Z,34nm,0.7s						
MSWZ	Moikau Station	23.55	201	P	P	13 54 13.2	-0.4
PLWZ	Palliser	23.69	201	P	P	13 54 13.9	-1.0
EIDS	Eidsvold	33.00	254	P	P	13 55 37.0	-1.4
EIDS				IAmb	IAmb	13 55 38.0	
	comp=Z,6.3nm,0.5s						
ARMA	Armidale	33.09	244	P	P	13 55 40.1	+0.8
ARMA				IAmb	IAmb	13 56 08.4	
	comp=Z,17nm,1.4s						
CTA	Charters Tower	37.66	263	P	P	13 56 17.4	-1.3
	comp=Z,15nm,0.4s,baz=89,slow=12,SNR=66						
	comp=Z,15nm,0.4s						
CTAO	Charters Tower	37.66	263	P	P	13 56 17.4	-1.3
CTAO	Charters Tower	37.66	263	P	P	13 56 17.5	-1.2
PMG	Port Moresby	39.25	279	P	P	13 56 32.5	+0.5
PMG				pP	pwP	13 56 45.4	+1.2
TOO	Toolangi	39.65	235	P	P	13 56 36.8	+1.6
COEN	Coen	41.67	271	P	P	13 56 50.9	-1.1
COEN				IAmb	IAmb	13 56 52.1	
	comp=Z,7.6nm,0.8s						
STKA	Stephens Creek	41.80	244	P	P	13 56 53.6	+0.6
	comp=Z,2.5nm,0.4s,baz=78,slow=11,SNR=15						
	comp=Z,2.5nm,0.4s						
STKA	Stephens Creek	41.80	244	P	P	13 56 53.4	+0.4
BBOO	Buckleboo	46.55	243	P	P	13 57 31.1	+0.1
BBOO				IAmb	IAmb	13 57 49.3	
	comp=Z,18nm,1.2s						
WR0	Warramunga Arr	48.59	260	P	P	13 57 45.5	-1.6
WR0				IAmb	IAmb	13 57 46.5	
	comp=Z,6.4nm,0.3s						
AS31	Alice Springs	48.69	256	P	P	13 57 46.7	-1.1
AS31				IAmb	IAmb	13 57 47.8	
	comp=Z,6.5nm,0.8s						
ASAR	Alice Springs	48.69	256	P	P	13 57 45.6	-2.2
	comp=Z,18nm,0.6s,baz=97,slow=8.2,SNR=154						
ASAR				PcP	PcP	13 59 21.1	+8.1
	comp=Z,0.5nm,0.7s,baz=96,slow=5.0,SNR=2.1						
	comp=Z,18nm,0.6s						
ASAR	Alice Springs	48.69	256	P	P	13 57 46.8	-1.0
WB0	Warramunga Arr	48.76	261	P	P	13 57 46.7	-1.6
WB0				IAmb	IAmb	13 57 47.3	
	comp=Z,9.4nm,0.5s						
WB2	Warramunga Arr	48.77	260	P	P	13 57 46.9	-1.6
WRAB	Tennant Creek	48.77	260	P	P	13 57 46.8	-1.7
WRAB	Tennant Creek	48.77	260	P	P	13 57 46.6	-1.8
WRA	Warramunga Arr	48.78	260	P	P	13 57 46.7	-1.8
	comp=Z,5.7nm,0.3s,baz=95,slow=7.5,SNR=69						
	comp=Z,5.7nm,0.3s						
WRA	Warramunga Arr	48.78	260	P	P	13 57 46.8	-1.8
MTN	Manton Dam	53.29	269	P	P	13 58 21.5	-0.9
MTN				IAmb	IAmb	13 58 22.1	
	comp=Z,6.9nm,0.8s						
FORT	Forrest	53.35	246	P	P	13 58 22.8	0.0
KNRA	Kununurra	54.82	264	P	P	13 58 33.4	-0.2
SIJI	Sorong	57.08	282	P	P	13 58 51.0	+1.2
	comp=Z,10nm,0.8s,baz=114,slow=0.8,SNR=7.3						
	comp=Z,10nm,0.8s						
FITZ	Fitzroy Crossi	57.21	261	P	P	13 58 50.1	-0.6
	comp=Z,2.1nm,0.5s,baz=181,slow=2.0,SNR=14						
	comp=Z,2.1nm,0.5s						
FITZ	Fitzroy Crossi	57.21	261	P	P	13 58 50.8	+0.2
FITZ				IAmb	IAmb	13 58 52.8	
	comp=Z,7.6nm,1.4s						
VNDA	Vanda	59.02	186	P	P	13 59 01.3	-1.1
PSA00	Pilbara Seismi	61.84	256	P	P	13 59 22.0	-0.6
PSA00				IAmb	IAmb	13 59 23.5	
	comp=Z,3.7nm,1.0s						
PSA00	Pilbara Seismi	61.84	256	P	P	13 59 22.2	-0.5
PSA00				IAmb	IAmb	13 59 23.4	
	comp=Z,8.3nm,0.8s						
MBWA	Marble Bar	62.03	256	P	P	13 59 23.5	-0.4
MBWA	Marble Bar	62.03	256	P	P	13 59 24.0	+0.1
MBWA				pP	pwP	13 59 39.5	+3.5
PEA0B	Petropavlovsk-	76.73	343	P	P	14 00 53.9	-0.2
PEA0B				IAmb	IAmb	14 01 03.5	
	comp=Z,18nm,1.2s						
PETK	Petropavlovsk-	76.73	343	P	P	14 00 55.8	+1.7
NVAR	Mina Array Bea	77.72	41	P	P	14 01 17.5	+17
	comp=Z,0.1nm,0.3s,baz=226,slow=8.7,SNR=2.0						
DAWY	Dawson	87.70	14	P	P	14 01 49.5	-1.8
SNAA	Sanae	88.56	177	P	P	14 01 54.4	-1.2
XLT	XiLinHaoTe	90.18	317	eP	P	14 02 04.1	+0.6
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,76nm,5.2s						
HHC	Hu-ho-hao-te	91.85	313	eP	P	14 02 11.5	+0.1
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,50nm,6.9s						
PZH	PanZhiHua	94.05	297	P	P	14 02 20.4	-1.5
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						

NEIC ***23*** *13:51:15.1±1.1, 2°.49N±0°.06×126°.2E±0°.1, h35km±2km, mb4.0/12, Error ellipse: s-maj=18.7km s-min=6.1km az=244.0*

DJA ***23*** *13:51:18.2±2.4, 2°.N±3°×12°.6E±°, h21km±22km, M4.2/10, mb4.5/4, MLv4.1/10*

IDC ***23*** *13:51:25.2±3.0, 2°.14N×125°.67E, h141km±27km, mb3.6/10, mbtmp4.0/10, MS2.9/2, Error ellipse: s-maj=34.5km s-min=10.8km az=74.0*

ISC 23 13:51:15.2±0.6, 2°.35N±0°.05×126°.36E±0°.08, h35km, n42, σ2s83/41, mb4.0/14, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	1.56	328	P	Pn	13 51 42.7	+2.2
SGSI				S	Sn	13 52 01.7	+2.1
TNTI	Ternate	1.87	147	Pn	Pn	13 51 48.7	+3.9
TNTI	Ternate	1.87	147	P	Pn	13 51 50.1	+5.4
KMSI	Cibinong	2.96	233	P	Pn	13 52 04.1	+4.3
LBMI	Labuha	3.18	159	P	Pn	13 52 08.7	+5.8
GTOI	Gorontalo	3.76	243	P	Pn	13 52 12.3	+1.6
SANI	Sanana	4.39	185	P	Pn	13 52 23.8	+4.4
MRSI	Marisa	4.79	247	P	Pn	13 52 27.8	+2.8
LUWI	Luwuk	4.92	227	Pn	Pn	13 52 28.8	+2.0
LUWI	Luwuk	4.92	227	P	Pn	13 52 31.2	+4.4
CTBH	Cotabato--PC H	5.27	337	iP	Pn	13 52 35.4	+3.8
TOLI2	Tolitoli	5.71	258		Pn	13 52 38.3	+0.7
APSI	Ampana	5.72	236	P	Pn	13 52 41.5	+3.8
	0.2nm37nm,0.7s						
SIJI	Sorong	5.86	123	LR	LR	13 55 48.0	
	comp=Z,48nm,19.9s,baz=328,slow=41					

MTN				IAmb	IAmb	13 55 10.6	
	comp=Z,7.6nm,0.8s						
KNRA	**Kununurra**	**18.07**	**173**	P	**P**	**13 55 25.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**20.34**	**182**	P	**P**	**13 55 48.3**	**-0.3**
	comp=Z,3.7nm,1.1s,baz=4.2,slow=12,SNR=7.3 comp=Z,3.7nm,1.1s						
WB0	**Warramunga Arr**	**23.36**	**161**	P	**P**	**13 56 21.5**	**+0.8**
WB0				IAmb	IAmb	13 56 50.3	
	comp=Z,5.9nm,1.1s						
WRAB	**Tennant Creek**	**23.50**	**161**	P	**P**	**13 56 23.2**	**+1.1**
WRAB				IAmb	IAmb	13 56 23.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**23.50**	**161**	P	**P**	**13 56 22.6**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=338,slow=10,SNR=43						
WRA				S	**S**	**14 00 26.9**	**-6.8**
	comp=Z,0.4nm,0.8s,baz=323,slow=20,SNR=1.2 comp=Z,1.3nm,0.4s						
WRA	**Warramunga Arr**	**23.50**	**161**	P	**P**	**13 56 22.4**	**+0.2**
WB2	**Warramunga Arr**	**23.50**	**161**	P	**P**	**13 56 22.6**	**+0.4**
WB2				IAmb	IAmb	13 56 23.6	
	comp=Z,4.9nm,0.9s						
WR0	**Warramunga Arr**	**23.58**	**160**	P	**P**	**13 56 24.0**	**+1.1**
WR0				IAmb	IAmb	13 56 47.6	
	comp=Z,8.3nm,1.2s						
PMG	**Port Moresby**	**23.79**	**120**	P	P	13 56 31.2	+6.3
	comp=Z,13nm,0.8s,baz=295,slow=19,SNR=4.0 comp=Z,13nm,0.8s						
JOW	**Kunigami**	**24.41**	**4**	LR	LR	14 06 47.8	
	comp=Z,48nm,19.8s,baz=118,slow=37						
AS31	**Alice Springs**	**26.89**	**165**	P	**P**	**13 56 53.9**	**+0.9**
ASAR	**Alice Springs**	**26.89**	**165**	P	**P**	**13 56 53.6**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=344,slow=7.9,SNR=32						
ASAR				PcP	**PcP**	**14 00 14.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=351,slow=1.9,SNR=5.0						
ASAR				S	**S**	**14 01 20.2**	**-7.5**
	comp=Z,0.1nm,0.5s,baz=344,slow=19,SNR=1.6 comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**26.89**	**165**	P	**P**	**13 56 53.8**	**+0.8**
FORT	**Forrest**	**32.99**	**177**	P	**P**	**13 57 46.5**	**-0.5**
KSRS	**Korea Array**	**34.96**	**2**	P	**P**	**13 58 05.2**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=173,slow=9.0,SNR=5.4 comp=Z,0.6nm,0.6s						
BBOO	**Buckleboo**	**36.16**	**166**	P	**P**	**13 58 14.8**	**+0.4**
STKA	**Stephens Creek**	**36.99**	**158**	P	**P**	**13 58 20.6**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=321,slow=6.5,SNR=5.2 comp=Z,1.2nm,0.3s						
STKA	**Stephens Creek**	**36.99**	**158**	P	**P**	**13 58 21.7**	**+0.2**
KLR	**Kul'dur**	**46.93**	**5**	P	**P**	**13 59 42.4**	**0.0**
	comp=Z,0.7nm,0.5s,baz=180,slow=18,SNR=1.8 comp=Z,0.7nm,0.5s						
PETK	**Petropavlovsk-**	**56.84**	**22**	P	**P**	**14 00 57.6**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=192,slow=5.6,SNR=1.8 comp=Z,1.5nm,0.8s						
MK31	**Makanchi Array**	**58.47**	**326**	P	**P**	**14 01 05.5**	**-2.4**
MK31				IAmb	IAmb	14 01 07.6	
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**58.47**	**326**	P	**P**	**14 01 05.4**	**-2.5**
	comp=Z,0.6nm,0.4s,baz=121,slow=7.4,SNR=13						
MKAR				PcP	**PcP**	**14 01 55.1**	**-3.1**
	comp=Z,0.4nm,0.7s,baz=123,slow=4.3,SNR=4.4 comp=Z,0.6nm,0.4s						
MKAR	**Makanchi Array**	**58.47**	**326**	P	**P**	**14 01 05.7**	**-2.2**
VNDA	**Vanda**	**82.12**	**173**	P	P	14 03 27.1	-4.6
	comp=Z,0.5nm,0.5s,baz=315,slow=5.7,SNR=5.4 comp=Z,0.5nm,0.5s						
BMAR	**Burnt Mountain**	**87.48**	**23**	P	**P**	**14 04 00.8**	**+1.8**
TORD	**Torodi Ar. Bea**	**122.98**	**287**	PKP	**PKPdf**	**14 10 04.6**	**-4.4**
	comp=Z,0.2nm,0.6s,baz=74,slow=1.8,SNR=1.6						

IDC 23 13:51:35.0±1.5,2°04'S×141°32E,h0km,mb3.4/3, mbtmp3.6/5,ML3.5/1,MS3.1/2,Error ellipse: s-maj=48.6km s-min=25.7km az=91.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC	h	m	s	ISC
PMG	**Port Moresby**	**9.34**	**142**	Pn	Pn	13	53	50.4	-0.6
	7.5nm,0.7s,baz=315,slow=16,SNR=2.3								
WRA	**Warramunga Arr**	**19.06**	**201**	P	P	13	55	58.6	-0.5
	0.1nm,0.3s,baz=23,slow=12,SNR=16								
WRA				LR	LR	14	04	48.8	
	comp=Z,74nm,20.5s,baz=22,slow=42 1.3nm,0.9s								
ASAR	**Alice Springs**	**22.67**	**198**	P	P	13	56	38.5	+0.3
	0.9nm,0.6s,baz=29,slow=11,SNR=21								
ASAR				LR	LR	14	06	40.8	
	comp=Z,49nm,21.8s,baz=136,slow=40 0.9nm,0.6s								
MKAR	**Makanchi Array**	**70.88**	**321**	P	P	14	02	53.5	-0.5
	0.2nm,0.6s,baz=112,slow=5.5,SNR=1.7 0.2nm,0.6s								
ILAR	**Eielson Array**	**84.15**	**24**	P	P	14	04	08.5	+0.7
	0.5nm,1.0s,baz=238,slow=5.0,SNR=2.5 0.5nm,1.0s								

*IDC **23** 13:58:04.7±0.5,34°43N×141°66E,h0km,mb4.0/20, mbtmp4.0/25,ML3.4/4,MS3.4/5,Error ellipse: s-maj=14.5km s-min=11.5km az=100.0*
*JMA **23** 13:58:06.7±0.4,34°N±1°×14°2E±°,h37km±2km,MD4.2/39, MV4.0/39,FAR SE OFF BOSO PEN*
*MOS **23** 13:58:06.3±1.0,34°43N×141°65E,h24km,mb4.7/11,Error ellipse: s-maj=13.1km s-min=7.0km az=117.5*
*NEIC **23** 13:58:06.0±1.9,34°46N±0°05×141°79E±0°06,h10km±1km, mb4.7/27,Error ellipse: s-maj=10.1km s-min=5.3km az=46.0*
ISC 23 13:58:06.6±1.8,34°42N±0°04×141°78E±0°05,h17km±10km, n151,σ1§37/149,mb4.5/51,MS3.5/6,6C-7D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC	h	m	s	ISC
BSO1	**Boso 1**	**0.70**	**290**	*i* P	**Pb**	**13**	**58**	**20.4**	**+0.4**
BSO3	**Boso 3**	**1.11**	**291**	P	**Pn**	**13**	**58**	**27.2**	**+0.1**
BSO4	**Boso 4**	**1.31**	**296**	P	**Pb**	**13**	**58**	**30.4**	**-0.3**
KTR	**Katsuura**	**1.41**	**302**	P	**Pn**	**13**	**58**	**30.3**	**-1.1**
CHOJ	**Chosi**	**1.49**	**330**	P	**Pn**	**13**	**58**	**31.6**	**-0.9**
CHOJ				*e*S	**Sn**	**13**	**58**	**48.6**	**-2.9**
CHOJ	**Chosi**	**1.49**	**330**	A	A	13	58	31.6	
	comp=E,2.0nm,5.9s,comp=E,3.0nm,5.9s								
JKUC	**kamogawauchiur**	**1.49**	**300**	*i* P	**Pn**	**13**	**58**	**32.4**	**-0.2**
JKUC				S	**Sn**	**13**	**58**	**51.8**	**+0.1**
JKUC	**kamogawauchiur**	**1.49**	**300**	A	A	13	58	32.4	
	comp=E,5.0nm,7.0s,comp=E,4.0nm,8.1s								
JCN	**Nagara**	**1.64**	**308**	A	A	13	58	34.1	
	comp=E,9.0nm,2.8s,comp=E,9.0nm,3.2s								
JSMT	**Sammumatsuo**	**1.64**	**319**	P	**Pn**	**13**	**58**	**34.9**	**+0.3**
JSMT				*e*S	**Sb**	**13**	**58**	**55.8**	**-0.9**
JSMT	**Sammumatsuo**	**1.64**	**319**	A	A	13	58	34.9	
	comp=E,10.0nm,3.3s,comp=E,10.0nm,3.6s								
JIHU	**Itakohorinouch**	**1.85**	**327**	A	A	13	58	37.1	
	comp=E,13nm,5.4s,comp=E,13nm,4.2s								
JMKN	**Mikurajimanish**	**1.89**	**255**	P	**Pn**	**13**	**58**	**37.6**	**-0.4**
JIM2	**Oshima 3**	**1.96**	**280**	P	**Pn**	**13**	**58**	**38.3**	**-0.7**
JIM2	**Oshima 3**	**1.96**	**280**	A	A	13	58	38.3	
	comp=E,2.0nm,1.9s,comp=E,3.0nm,1.4s								
TOK	**Tokyo**	**2.08**	**308**	A	A	13	58	40.6	
	comp=E,8.0nm,7.8s,comp=E,6.0nm,8.2s								
JHJ2	**Mitsune**	**2.09**	**232**		**Pn**	**13**	**58**	**41.1**	**+0.3**
JHJ2	**Mitsune**	**2.09**	**232**	*i* P	**Pn**	**13**	**58**	**41.4**	**+0.6**
JHJ2	**Mitsune**	**2.09**	**232**	A	A	13	58	41.4	
	comp=E,4.0nm,4.7s,comp=E,3.0nm,2.5s								
JHJ	**Hachijo jima 2**	**2.10**	**233**	Pn	**Pn**	**13**	**58**	**41.2**	**+0.3**
	149nm,0.3s,baz=62,slow=18,SNR=171								
JHJ				Sn	**Sn**	**13**	**59**	**07.4**	**+0.7**
	210nm,0.3s,baz=52,slow=19,SNR=14 263nm,0.3s								
JYT	**Yasato**	**2.22**	**325**		**Pn**	**13**	**58**	**41.8**	**-0.8**
JOD2	**Odawara 2**	**2.37**	**292**	P	**Pn**	**13**	**58**	**44.7**	**+0.1**
JOD2				S	**Sn**	**13**	**59**	**13.1**	**-0.2**
JOD2	**Odawara 2**	**2.37**	**292**	A	A	13	58	44.7	
	comp=E,2.0nm,8.2s,comp=E,2.0nm,6.1s								
JIZS	**Izushimoda**	**2.41**	**278**	P	**Pn**	**13**	**58**	**44.8**	**-0.4**
JIZS				*e*S	**Sn**	**13**	**59**	**13.0**	**-1.3**
JAOM	**Aogashimamukai**	**2.57**	**221**	P	**Pn**	**13**	**58**	**48.7**	**+1.2**
JFNN	**Fujinakano**	**2.66**	**288**	P	**Pn**	**13**	**58**	**49.2**	**+0.6**
JFNN				*e*S	**Sn**	**13**	**59**	**20.8**	**+0.4**
JAG	**Ashikaga**	**2.76**	**317**	P	**Pn**	**13**	**58**	**50.0**	**0.0**
JMM	**Marumori**	**3.53**	**347**		**Pn**	**13**	**58**	**59.2**	**-1.5**
MJAR	**Matsushiro Ar**	**3.60**	**307**	Pn	**Pn**	**13**	**59**	**01.4**	**-0.2**
	2.3nm,0.3s,baz=109,slow=10,SNR=110								
MJAR				Sn	**Sn**	**13**	**59**	**43.7**	**-0.1**
	1.3nm,0.3s,baz=124,slow=32,SNR=6.2 8.9nm,0.4s								

MAJO	**Matsushiro**	**3.60**	**307**	Pn	**Pn**	**13 59 01.2**	**-0.4**
MAJO	**Matsushiro**	**3.60**	**307**	*de*P	**Pn**	**13 59 01.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**3.61**	**307**		**Pn**	**13 59 01.9**	**+0.2**
JGF	**Kuroka**	**3.81**	**289**		**Pn**	**13 59 03.7**	**-0.8**
INU	**Inuyama**	**4.02**	**285**	Pn	**Pn**	**13 59 08.3**	**+0.9**
JSD	**Sado**	**4.60**	**323**	Pn	**Pn**	**13 59 14.6**	**-0.7**
JTM	**Tenmabayashi**	**6.38**	**355**	Pn	**Pn**	**13 59 39.4**	**-0.4**
JHS	**Saijyo**	**7.16**	**277**	Pn	**Pn**	**13 59 53.5**	**+3.0**
JCJ	**Chichijima**	**7.30**	**177**	Pn	**Pn**	**13 59 52.6**	**+0.1**
	54nm,0.3s,baz=0.4,slow=16,SNR=19						
JCJ				Sn	**Sn**	**14 01 10.3**	**-4.7**
	4.2nm,0.3s,baz=310,slow=19,SNR=1.9						
ERM	**Erimo**	**7.67**	**8**	Pn	**Pn**	**13 59 56.2**	**-1.2**
ERM	**Erimo**	**7.67**	**8**	*i*P	**Pn**	**13 59 57.4**	**0.0**
JEW	**Eniwo**	**8.42**	**358**	Pn	**Pn**	**14 00 07.8**	**+0.1**
KSRS	**Korea Array**	**11.63**	**289**	Pn	**Pn**	**14 00 50.6**	**-1.1**
	0.1nm,0.3s,baz=104,slow=14,SNR=15 2.9nm,0.8s						
KUR	**Kuril'sk**	**11.77**	**22**	P	**Pn**	**14 00 52.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**12.55**	**3**	*e*P	**Pn**	**14 01 01.8**	**-2.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
KLR	**Kul'dur**	**16.56**	**336**	Pn	**Pn**	**14 01 56.1**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=157,slow=15,SNR=1.5						
KLR				LR	LR	14 08 51.0	
	comp=Z,100nm,18.2s,baz=128,slow=39 comp=Z,0.5nm,0.5s						
NJ2	**Nanjing**	**19.31**	**269**	*e*P	**Pn**	**14 02 31.9**	**0.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
TIA	**Tai'an**	**20.19**	**282**	*e*P	Pn	14 02 42.4	+0.1
BJI	**Beijing**	**21.11**	**293**	P	**P**	**14 02 49.3**	**-1.0**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,140nm,4.4s						
PETK	**Petropavlovsk-**	**21.85**	**26**	P	**P**	**14 02 57.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=44,slow=24,SNR=4.6 comp=Z,1.5nm,0.8s						
ZEA	**Zeya**	**21.88**	**336**	*e*P	**P**	**14 02 58.6**	**+0.2**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
ZEA				MLR	MLR		
	comp=N,100nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,14.0s						
HHC	**Hu-ho-hao-te**	**24.70**	**294**	*e*P	**P**	**14 03 27.3**	**+0.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,78nm,6.2s						
H11N2	**WAKE ISLAND Hy**	**26.63**	**117**	T	T	14 31 46.2	
	baz=309,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**26.64**	**117**	T	T	14 31 57.9	
	baz=309,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**26.65**	**117**	T	T	14 31 47.5	
	baz=309,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**27.26**	**119**	T	T	14 32 42.1	
	baz=314,slow=75,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**27.26**	**119**	T	T	14 32 43.2	
	baz=314,slow=75,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**27.27**	**119**	T	T	14 32 42.8	
	baz=314,slow=75,SNR=7.0						
YAK	**Yakutsk**	**28.69**	**348**	*e*P	**P**	**14 04 02.7**	**+0.4**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ULN	**Ulaanbaatar**	**29.13**	**308**	*e*P	**P**	**14 04 07.8**	**+1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**29.55**	**308**	P	**P**	**14 04 11.5**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=99,slow=8.9,SNR=6.3						
SONM				LR	LR	14 17 08.6	
	comp=Z,94nm,18.0s,baz=58,slow=39 comp=Z,1.4nm,0.6s						
GTA	**Gaotai**	**33.70**	**291**	*e*P	**P**	**14 04 47.3**	**+0.4**
GTA				pP	pwP	14 04 54.1	-4.7
GTA				sP	sP	14 04 56.8	+5.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PZH	**PanZhiHua**	**35.22**	**268**	P	**P**	**14 05 00.6**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.6s						
GOMU	**GeErMu**	**38.08**	**287**	*e*P	**P**	**14 05 24.8**	**0.0**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FAKI	**Fak Fak**	**38.20**	**196**	P	**P**	**14 05 26.5**	**+1.0**
FAKI				IAmb	IAmb	14 06 01.0	
	comp=Z,21nm,1.4s						
CRAI	**Chiangrai**	**39.13**	**260**	P	**P**	**14 05 31.1**	**-2.2**
CHTO	**Chiang Mai**	**41.01**	**259**	P	**P**	**14 05 47.2**	**-1.7**
CHTO	**Chiang Mai**	**41.01**	**259**	P	**P**	**14 05 47.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**41.19**	**258**	P	**P**	**14 05 50.0**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=48,slow=7.5,SNR=24						
CMAR				LR	LR	14 25 41.2	
	comp=Z,17nm,18.3s,baz=185,slow=40 comp=Z,2.1nm,0.7s						
DGZ	**Jazzator, Alta**	**42.20**	**308**	*c i*P	**P**	**14 05 59.8**	**+1.2**
DGZ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ	**Urumqi**	**42.33**	**299**	*e*P	**P**	**14 05 59.3**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
ZAA0	**Zalesovo Array**	**43.92**	**314**	P	**P**	**14 06 11.7**	**-0.6**
ZALV	**Zalesovo Beam**	**43.92**	**314**	P	**P**	**14 06 12.0**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=92,slow=8.7,SNR=12						
ZALV				PcP	**PcP**	**14 07 58.6**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=82,slow=2.9,SNR=6.1 comp=Z,2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**43.92**	**314**	P	**P**	**14 06 11.2**	**-1.1**
MK31	**Makanchi Array**	**45.80**	**304**	P	**P**	**14 06 26.2**	**-1.1**
MK31	**Makanchi Array**	**45.80**	**304**	*de*P	**P**	**14 06 27.8**	**+0.5**
MKAR	**Makanchi Array**	**45.80**	**304**	P	**P**	**14 06 27.0**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=93,slow=9.2,SNR=12						
MKAR				PcP	**PcP**	**14 08 05.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=88,slow=5.2,SNR=1.7 comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**45.80**	**304**	*ce*P	**P**	**14 06 27.8**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HNR	**Honiara**	**46.89**	**155**	P	**P**	**14 06 36.5**	**+0.5**
	comp=Z,361nm,0.5s,baz=343,slow=17,SNR=2.5						
RAMN	**Ramite**	**47.54**	**277**	*e*P	**P**	**14 06 41.1**	**-0.4**
BATI	**Baumata**	**47.59**	**204**	P	**P**	**14 06 40.8**	**-0.8**
	comp=Z,12nm,0.5s,baz=41,slow=11,SNR=2.3						
JIRN	**Jiri**	**47.60**	**278**	*e*P	**P**	**14 06 42.0**	**-0.1**
	comp=Z,22nm,0.6s						
GUN	**Gumba**	**47.76**	**278**	*e*P	**P**	**14 06 43.4**	**+0.1**
	comp=Z,18nm,0.7s						
KURK	**Kurchatov**	**47.81**	**310**	P	**P**	**14 06 43.0**	**+0.1**
KURK				IAmb	IAmb	14 06 48.5	
	comp=Z,11nm,0.8s						
KURK	**Kurchatov**	**47.81**	**310**	P	**P**	**14 06 43.0**	**+0.1**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s						
MTN	**Manton Dam**	**48.07**	**194**	P	**P**	**14 06 43.3**	**-1.9**
COEN	**Coen**	**48.12**	**178**	P	**P**	**14 06 45.8**	**+0.2**
COEN				IAmb	IAmb	14 07 02.1	
	comp=Z,13nm,1.3s						
PKI	**Pulchoki**	**48.28**	**278**	*e*P	**P**	**14 06 46.7**	**-0.6**
	comp=Z,13nm,0.8s						
PKIN	**Phulchoki**	**48.29**	**278**	*e*P	**P**	**14 06 46.6**	**-0.7**
	comp=Z,8.6nm,0.5s						
K20K	**Telida**	**48.34**	**33**	P	**P**	**14 06 49.0**	**+2.1**
K20K				IAmb	IAmb	14 07 31.5	
	comp=Z,12nm,1.5s						
GKN	**Gorkha**	**48.74**	**279**	*e*P	**P**	**14 06 50.3**	**-0.4**
	comp=Z,23nm,0.7s						
DANN	**Dangsing**	**49.33**	**280**	*e*P	**P**	**14 06 55.6**	**+0.3**
	comp=Z,45nm,0.7s						
TARG	**Taragay, Kyrgy**	**49.86**	**298**	P	**P**	**14 06 55.3**	**-4.1**
TARG				IAmb	IAmb	14 07 01.8	
	comp=Z,4.4nm,0.7s						
TARG	**Taragay, Kyrgy**	**49.86**	**298**	P	**P**	**14 06 55.3**	**-4.1**
TARG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PYUN	**Piuthan**	**50.05**	**280**	*e*P	**P**	**14 07 00.4**	**-0.3**
	comp=Z,41nm,0.9s						
UGM	**Wanagama**	**51.45**	**221**	P	**P**	**14 07 11.1**	**+0.1**
ILAR	**Eielson Array**	**51.56**	**31**	P	**P**	**14 07 12.7**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=265,slow=5.9,SNR=17						

	comp=Z,1.6nm,0.8s						
ILAR	**Eielson Array**	**51.56**	**31**	P	**P**	**14 07 12.4**	**+1.0**
KSH	**Kashi**	**51.78**	**296**	P	**P**	**14 07 17.9**	**+4.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BMAR	**Burnt Mountain**	**52.49**	**28**	P	**P**	**14 07 20.4**	**+2.1**
BRVK	**Borovoye**	**52.63**	**314**	P	**P**	**14 07 18.0**	**-1.5**
BRVK				IAmb	IAmb	14 07 20.8	
	comp=Z,3.3nm,0.7s						
BRVK	**Borovoye**	**52.63**	**314**	*de*P	**P**	**14 07 20.0**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GSI	**Gunungsitoli**	**52.75**	**241**	P	**P**	**14 07 20.5**	**-0.4**
SCRK	**Sand Creek**	**52.85**	**32**	P	**P**	**14 07 22.8**	**+1.7**
SCRK				IAmb	IAmb	14 07 39.0	
	comp=Z,4.5nm,1.2s						
BCAR	**Beaver Creek A**	**53.90**	**33**	P	**P**	**14 07 30.1**	**+1.4**
WB0	**Warramunga Arr**	**54.34**	**189**	P	**P**	**14 07 32.7**	**+0.4**
WB0				IAmb	IAmb	14 07 34.0	
	comp=Z,4.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.43**	**199**	P	**P**	**14 07 34.5**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=360,slow=10.0,SNR=9.2 comp=Z,2.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.43**	**199**	P	**P**	**14 07 33.9**	**+1.0**
FITZ				IAmb	IAmb	14 07 36.6	
	comp=Z,6.2nm,1.1s						
WRAB	**Tennant Creek**	**54.51**	**189**	P	**P**	**14 07 34.2**	**+0.8**
WRAB				IAmb	IAmb	14 07 35.3	
	comp=Z,4.7nm,0.8s						
WRAB	**Tennant Creek**	**54.51**	**189**	*ie*P	**P**	**14 07 34.3**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,15nm,2.5s						
WR0	**Warramunga Arr**	**54.51**	**188**	P	**P**	**14 07 34.5**	**+1.0**
WR0				IAmb	IAmb	14 07 35.2	
	comp=Z,4.6nm,0.8s						
WB2	**Warramunga Arr**	**54.52**	**189**	P	**P**	**14 07 34.4**	**+0.9**
WB2				IAmb	IAmb	14 07 35.3	
	comp=Z,4.3nm,0.8s						
WRA	**Warramunga Arr**	**54.52**	**189**	P	**P**	**14 07 34.3**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=1.0,slow=7.6,SNR=50 comp=Z,3.4nm,0.7s						
WRA	**Warramunga Arr**	**54.52**	**189**	P	**P**	**14 07 33.1**	**-0.4**
KKAR	**Karatay Array**	**54.72**	**302**	P	**P**	**14 07 34.3**	**-0.7**
KKAR	**Karatay Array**	**54.72**	**302**	P	**P**	**14 07 34.3**	**-0.7**
INK	**Inuvik**	**56.59**	**26**	P	**P**	**14 07 48.6**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=270,slow=6.1,SNR=3.3 comp=Z,1.6nm,0.6s						
CHGR	**Chuyangaron**	**57.09**	**297**	P	**P**	**14 07 51.4**	**-0.7**
CHGR	**Chuyangaron**	**57.09**	**297**	P	**P**	**14 07 51.4**	**-0.7**
CHGR				pmax	pmax		
	comp=Z,14nm,0.6s						
AS31	**Alice Springs**	**58.24**	**188**	P	**P**	**14 08 00.9**	**+0.8**
ASAR	**Alice Springs**	**58.24**	**188**	P	**P**	**14 08 00.5**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=2.3,slow=4.7,SNR=28 comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**58.24**	**188**	P	**P**	**14 08 00.8**	**+0.7**
ASAR	**Alice Springs**	**58.24**	**188**	P	**P**	**14 08 00.8**	**+0.7**
ARU	**Arti**	**58.53**	**320**	*d i*P	**P**	**14 08 02.2**	**+0.4**
ARU						14 10 08.8	
ARU				S	**S**	**14 16 08.1**	**+3.6**
ARU				SS	**SS**	**14 19 59.2**	**+2.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MBWA	**Marble Bar**	**59.11**	**204**	P	**P**	**14 08 07.0**	**+0.8**
PSA00	**Pilbara Seismi**	**59.46**	**204**	P	**P**	**14 08 07.6**	**-0.9**
PSA00				IAmb	IAmb	14 08 33.5	
	comp=Z,18nm,1.3s						
ABKAR	**Akbulak array**	**59.87**	**311**	P	**P**	**14 08 11.4**	**+0.2**
ABKAR				IAmb	IAmb	14 08 12.0	
	comp=Z,5.1nm,0.5s						
ABKAR	**Akbulak array**	**59.87**	**311**	P	**P**	**14 08 11.2**	**+0.1**
KIRV	**Kirov**	**62.52**	**324**	*ce*P	**P**	**14 08 30.4**	**+1.5**
BBB	**Bella Bella**	**63.75**	**43**	LR	LR	14 35 59.3	
	comp=Z,24nm,18.5s,baz=272,slow=36						
STKA	**Stephens Creek**	**65.94**	**180**	P	**P**	**14 08 52.5**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=4.0,slow=9.6,SNR=1.5 comp=Z,0.5nm,0.5s						
FORT	**Forrest**	**66.12**	**193**	P	**P**	**14 08 54.3**	**+1.5**
ARCES	**ARCESS Array B**	**66.55**	**340**	P	**P**	**14 08 55.7**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=56,slow=6.5,SNR=3.8 comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**71.27**	**333**	P	**P**	**14 09 24.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=64,slow=3.2,SNR=4.8 comp=Z,1.4

s-min=22.5km az=113.0
*JMA **23** 14:06:10.8±0.3,34°4′N±0°8′×14°2′E±°, h40km±2km, MV3.3/31, FAR SE OFF BOSO PEN*
ISC 23 14:06:10.9±1.1,34°32′N±0°05′×141°82′E±0°08, h21km, n17, σ1§17/23, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.77**	**296**	P	**Pn**	**14 06 25.7**	**-0.2**
BSO1				*eX*		14 06 36.6	
BSO3	**Boso 3**	**1.18**	**295**	P	**Pb**	**14 06 32.4**	**0.0**
BSO4	**Boso 4**	**1.39**	**299**	P	**Pb**	**14 06 35.2**	**-0.9**
JKUC	**kamogawauchiur**	**1.57**	**303**	P	**Pb**	**14 06 37.8**	**-1.5**
JKUC				*eS*	**Sb**	**14 06 57.0**	**-1.7**
CHOJ	**Chosi**	**1.59**	**331**	P	**Pn**	**14 06 37.0**	**-0.7**
CHOJ				*eS*	**Sn**	**14 06 56.2**	**-1.5**
JMKN	**Mikurajimanish**	**1.89**	**258**	P	**Pn**	**14 06 42.6**	**+0.6**
JMKN				*eS*	**Sn**	**14 07 05.7**	**+0.5**
JHJ2	**Mitsune**	**2.05**	**235**	S	**Sb**	**14 07 11.4**	**-1.1**
JHJ	**Hachijo jima 2** 28nm,0.3s,baz=52,slow=12,SNR=16	**2.07**	**235**	Pn	**Pb**	**14 06 46.1**	**-1.6**
JHJ	48nm,0.3s,baz=47,slow=22,SNR=15 57nm,0.3s			Sn	**Sn**	**14 07 10.9**	**+1.4**
JOD2	**Odawara 2**	**2.44**	**294**	S	**Sn**	**14 07 19.8**	**+1.2**
JAG	**Ashikaga**	**2.85**	**318**	P	**Pn**	**14 06 55.2**	**0.0**
JRY	**Ryogami san**	**2.93**	**306**	P	**Pn**	**14 06 56.6**	**+0.4**
JRY				S	**Sn**	**14 07 31.0**	**+0.2**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=128,slow=11,SNR=8.2	**3.69**	**308**	Pn	**Pn**	**14 07 07.9**	**+1.2**
MJAR	0.6nm,0.3s,baz=125,slow=25,SNR=12			Sn	**Sn**	**14 07 48.8**	**-0.7**
MJAR	comp=Z,90nm,20.3s,baz=134,slow=46 3.0nm,0.4s			LR	LR	14 08 57.4	
JCJ	**Chichijima** 5.9nm,0.3s,baz=304,slow=18,SNR=7.0	**7.20**	**177**	Pn	**Pn**	**14 07 55.3**	**+0.3**
JCJ	4.9nm,0.3s,baz=308,slow=19,SNR=1.9 92nm,0.9s			Sn	**Sn**	**14 09 14.2**	**-2.0**
KSRS	**Korea Array** comp=Z,47nm,18.5s,baz=100,slow=38	**11.70**	**290**	LR	LR	14 13 34.3	
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=47,slow=6.8,SNR=4.4 0.4nm,0.3s	**41.20**	**259**	P	**P**	**14 13 54.3**	**+0.1**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=90,slow=8.6,SNR=2.2 0.3nm,0.7s	**45.88**	**304**	P	**P**	**14 14 32.6**	**+1.0**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=262,slow=6.3,SNR=1.9 0.2nm,0.7s	**51.63**	**31**	P	**P**	**14 15 17.4**	**+1.9**

*JMA **23** 14:07:50.2±0.2,35°.0N±0°.7×139°.9E±0°.8, h115km±1km, MV3.8/39, SOUTHERN BOSO PENINSULA*
JMA Felt I J1 at SOUTHERN BOSO PENINSULA .
*IDC **23** 14:07:51.4±1.1,34°.89N×139°.57E, h122km±7km, mb3.4/7, mbtmp3.8/8, Error ellipse: s-maj=32.5km s-min=6.8km az=71.0*
ISC 23 14:07:50.3±0.8,34°99N±0°04×139°87E±0°05, h117km±6km, n35, σ0§79/38, mb3.7/7, 7D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	**Yokosk**	**0.29**	**324**	P	**Pn**	**14 08 07.1**	**+0.2**
JKUC	**kamogawauchiur**	**0.32**	**57**	*iP*	**Pn**	**14 08 06.9**	**0.0**
JKUC				*eS*	**Sn**	**14 08 19.2**	**-0.3**
BSO4	**Boso 4**	**0.38**	**89**	P	**Pn**	**14 08 07.4**	**+0.3**
JIM2	**Oshima 3**	**0.45**	**234**	P	**Pn**	**14 08 07.4**	**-0.3**
JIM2				S	**Sn**	**14 08 20.1**	**-0.6**
BSO3	**Boso 3**	**0.56**	**109**	P	**Pn**	**14 08 08.1**	**+0.2**
BSO3				S	**Sn**	**14 08 22.0**	**+0.8**
JOD2	**Odawara 2**	**0.70**	**294**	P	**Pn**	**14 08 09.2**	**-0.2**
JOD2				S	**Sn**	**14 08 23.3**	**-0.5**
JIZS	**Izushimoda**	**0.86**	**252**	P	**Pn**	**14 08 11.0**	**+0.3**
JIZS				S	**Sn**	**14 08 26.5**	**+0.3**
BSO1	**Boso 1**	**0.97**	**110**	P	**Pn**	**14 08 11.2**	**+0.2**
BSO1				S	**Sn**	**14 08 27.6**	**+0.7**
JFNN	**Fujinakano**	**1.00**	**282**	P	**Pn**	**14 08 12.8**	**+0.8**
JFNN				S	**Sn**	**14 08 29.6**	**+1.2**
JMKN	**Mikurajimanish**	**1.11**	**192**	⇓P	**Pn**	**14 08 13.2**	**0.0**
JMKN				⇓S	**Sn**	**14 08 30.3**	**-0.3**
JYN	**Shimob**	**1.20**	**296**	P	**Pn**	**14 08 15.2**	**+1.0**
JYN				S	**Sn**	**14 08 33.6**	**+1.2**
JRY	**Ryogami san**	**1.30**	**323**	⇓P	**Pn**	**14 08 15.4**	**+0.1**
JRY				⇓*e*S	**Sn**	**14 08 33.9**	**-0.4**
SHZ3	**Shizuoka 3**	**1.37**	**274**	P	**Pn**	**14 08 17.2**	**+1.2**
JAG	**Ashikaga**	**1.48**	**347**	⇓P	**Pn**	**14 08 16.9**	**-0.3**
JAG				⇓S	**Sn**	**14 08 36.6**	**-1.2**
JHJ	**Hachijo jima 2** 490nm,0.3s,baz=37,slow=22,SNR=25	**1.86**	**182**	P	**Pn**	**14 08 22.1**	**+0.2**
JHJ	357nm,0.3s,baz=67,slow=23,SNR=8.0			S	**Sn**	**14 08 46.0**	**0.0**
JHJ2	**Mitsune**	**1.87**	**181**	⇓P	**Pn**	**14 08 22.0**	**0.0**
MJAR	**Matsushiro Arr** 54nm,0.3s,baz=155,slow=10,SNR=106	**2.06**	**319**	P	**Pn**	**14 08 24.5**	**+0.2**
MJAR	68nm,0.4s,baz=159,slow=29,SNR=4.5			S	**Sn**	**14 08 50.1**	**-0.3**
JCJ	**Chichijima** 30nm,0.3s,baz=3.1,slow=20,SNR=9.7	**8.11**	**165**	P	Pn	14 09 40.0	-5.2
JCJ	15nm,0.3s,baz=288,slow=20,SNR=1.0			S	Sn	14 11 03.8	-11
KLR	**Kul'dur** 1.3nm,0.5s,baz=180,slow=13,SNR=3.8	**15.44**	**340**	P	**Pn**	**14 11 20.8**	**-0.7**
H11N2	**WAKE ISLAND Hy 28.29** baz=308,slow=75,SNR=37	**115**		T	T	14 43 21.4	
H11N1	**WAKE ISLAND Hy 28.29** baz=308,slow=75,SNR=27	**115**		T	T	14 43 34.5	
H11N3	**WAKE ISLAND Hy 28.30** baz=308,slow=75,SNR=26	**115**		T	T	14 43 21.5	
H11S3	**WAKE ISLAND Hy 28.91** baz=310,slow=76,SNR=7.0	**118**		T	T	14 44 06.1	
H11S1	**WAKE ISLAND Hy 28.91** baz=310,slow=76,SNR=7.2	**118**		T	T	14 44 07.1	
H11S2	**WAKE ISLAND Hy 28.92** baz=310,slow=76,SNR=8.0	**118**		T	T	14 44 07.8	
CMAR	**Chiang Mai Arr** 0.6nm,0.9s,baz=46,slow=7.7,SNR=1.2 0.6nm,0.9s	**39.78**	**256**	P	**P**	**14 15 10.0**	**-1.9**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=89,slow=15,SNR=2.6 0.5nm,0.4s	**42.41**	**314**	P	**P**	**14 15 33.7**	**+0.8**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=84,slow=9.5,SNR=4.6 0.5nm,0.6s	**44.18**	**304**	P	**P**	**14 15 46.4**	**-1.0**
WRA	**Warramunga Arr** 1.1nm,0.4s,baz=3.6,slow=7.6,SNR=9.1 1.1nm,0.4s	**54.88**	**186**	P	**P**	**14 17 08.5**	**-0.1**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=4.8,slow=6.7,SNR=4.1 0.3nm,0.4s	**58.60**	**186**	P	**P**	**14 17 34.0**	**-0.9**
FINES	**FINESS Array B** 2.8nm,1.0s,baz=57,slow=7.0,SNR=5.4 2.8nm,1.0s	**70.04**	**332**	P	**P**	**14 18 49.8**	**+0.8**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=346,slow=4.7,SNR=1.8 0.2nm,0.3s	**77.22**	**52**	P	**P**	**14 19 33.7**	**+2.0**
H03N2	**Juan Fernandez** baz=290,slow=76,SNR=4.2	**148.00**	**99**	T	T	17 12 34.3	
H03N3	**Juan Fernandez** baz=290,slow=76,SNR=4.6	**148.01**	**99**	T	T	17 12 35.1	
H03N1	**Juan Fernandez** baz=290,slow=76,SNR=4.4	**148.02**	**99**	T	T	17 12 36.1	

RSNC 23 14:17:57.0±1.2,6°.83N×73°.13W, h147km±4km, ML3.0, Mw3.7, 2C-5D, Fault plane solution: NP1:ϕ=59.00000°, δ73.00000°, λ-62.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**192**	⇓*e*P	Pn	14 18 16.9	-0.4
BARC				*e*S	Sn	14 18 31.7	-1.0
BARC	comp=Z,254nm,0.2s			IAML		14 18 33.1	
BRRC	**Barranca, Sant** comp=Z,169nm,0.3s	**0.64**	**296**	⇑*i*P	Pn	14 18 18.7	-0.1
BRRC				*e*S	Sn	14 18 35.7	+0.4
BRRC	comp=Z,169nm,0.3s			IAML		14 18 39.0	
PAMC	**Pamplona, Colo**	**0.67**	**40**	⇓*e*P	Pn	14 18 19.9	+0.4
PAMC				*e*S	Sn	14 18 36.8	+0.2
PAMC	comp=Z,79nm,0.4s			IAML		14 18 39.5	
RUSC	**La Rusia**	**0.93**	**177**	*e*P	Pn	14 18 20.8	-0.6
RUSC				*e*S	Sn	14 18 39.7	-0.4
RUSC	comp=Z,87nm,0.2s			IAML		14 18 40.6	
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*e*P	Pn	14 18 23.4	-1.3
PTBC				*e*S	Sn	14 18 44.6	-1.3
PTBC	comp=Z,94nm,0.3s			IAML		14 18 49.7	
TAMC	**Tame, Arauca**	**1.39**	**106**	*e*P	Pn	14 18 25.3	+0.1
TAMC	comp=Z,72nm,0.4s			IAML		14 18 46.2	
TAMC				*e*S	Sn	14 18 46.7	0.0
OCAC	**Ocana**	**1.41**	**352**	*e*P	Pn	14 18 25.0	-0.6
OCAC				*e*S	Sn	14 18 46.9	-0.6
OCAC	comp=Z,199nm,0.4s			IAML		14 18 53.9	
SPBC	**San Pablo de B**	**1.50**	**219**	*e*P	Pn	14 18 25.8	-0.6
SPBC				*e*S	Sn	14 18 48.1	-0.8
SPBC	comp=Z,143nm,0.5s			IAML		14 18 52.2	
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P	Pn	14 18 29.6	-0.5
ZARC				*e*S	Sn	14 18 54.8	-0.5
ZARC	comp=Z,121nm,0.3s			IAML		14 19 00.0	
NORC	**Norcasia**	**2.14**	**234**	⇓*e*P	Pn	14 18 32.9	-0.7
NORC				*e*S	Sn	14 19 01.3	-0.4
NORC	comp=Z,67nm,0.2s			IAML		14 19 06.3	
CHIC	**Chingaza**	**2.26**	**195**	*e*P	Pn	14 18 35.1	-0.4
CHIC				*e*S	Sn	14 19 04.3	-0.8
CHIC	comp=Z,65nm,0.4s			IAML		14 19 09.5	
ROSC	**El Rosal**	**2.30**	**211**	*e*P	Pn	14 18 36.9	+0.9
ROSC				*e*S	Sn	14 19 07.2	+1.3
ROSC	comp=Z,201nm,0.4s			IAML		14 19 11.4	
HELC	**Santa Helena**	**2.46**	**255**	*e*P	Pn	14 18 39.1	+1.2
HELC				*e*S	Sn	14 19 09.4	+0.1
HELC	comp=Z,58nm,0.3s			IAML		14 19 15.0	
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P	Pn	14 18 37.0	-1.6
UREC				*e*S	Sn	14 19 07.3	-3.4
UREC	comp=Z,57nm,0.2s			IAML		14 19 15.9	
SOCV	**Socops**	**2.68**	**57**	⇑*i*P	Pn	14 18 39.7	-0.5
SOCV				*e*S	Sn	14 19 12.2	-1.4
GUY2C	**Guyana, Caldas**	**2.73**	**234**	*e*P	Pn	14 18 41.8	+0.5
GUY2C				*e*S	Sn	14 19 18.5	+3.0
GUY2C	comp=Z,68nm,0.3s			IAML		14 19 23.1	
VILC	**Villavicencio,**	**2.75**	**192**	*e*P	Pn	14 18 40.7	-0.6
VILC				*e*S	Sn	14 19 14.8	-0.7
VILC	comp=Z,93nm,0.4s			IAML		14 19 24.6	
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇓*e*P	Pn	14 18 40.0	-1.7
PTGC				*e*S	Sn	14 19 13.7	-2.5
PTGC	comp=Z,43nm,0.3s			IAML		14 19 16.2	
LL6C	**La Loma 6 Bece**	**2.89**	**357**	*e*P	Pn	14 18 42.4	-0.5
LL6C				*e*S	Sn	14 19 18.0	-0.4
LL6C	comp=Z,18nm,0.4s			IAML		14 19 22.9	
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P	Pn	14 18 45.3	+0.6
CBOC				*e*S	Sn	14 19 21.5	+0.1
CBOC	comp=Z,14nm,0.3s			IAML		14 19 25.3	
ANIL	**Santa Ana**	**3.24**	**224**	*e*P	Pn	14 18 47.9	+0.3
ANIL				*e*S	Sn	14 19 27.2	+0.5
SJCC	**San Jacinto, C**	**3.66**	**327**	*e*P	Pn	14 18 50.9	-1.9
SJCC				*e*S	Sn	14 19 31.3	-4.9
SJCC	comp=Z,16nm,0.6s			IAML		14 19 46.7	
PLMC	**San Jos del P**	**3.67**	**239**	⇓*e*P	Pn	14 18 52.4	-0.6
PLMC				*e*S	Sn	14 19 32.1	-4.3
PLMC	comp=Z,13nm,0.3s			IAML		14 19 42.3	
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e*P	Pn	14 18 57.2	-2.3
CRJC				*e*S	Sn	14 19 44.2	-4.0
CRJC	comp=Z,20nm,0.2s			IAML		14 19 48.1	

*DRS **23** 14:28:49.8±0.0,42°.08N×45°.92E, h16km*
*MOS **23** 14:28:49.5±0.0,42°.08N×46°.10E, h29km, MPVA3.7*
ISC 23 14:28:49.7±1.0,42°08N±0°02×45°98E±0°02, h13km±9km, n26, σ1§61/50, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGD	**Lagodekhi**	**0.31**	**141**	P	**Pg**	**14 28 55.7**	**-0.4**
LGD				S	**Sg**	**14 29 00.3**	**-0.1**
DDFL	**Dedoflistskaro**	**0.64**	**171**	P	**Pn**	**14 29 04.8**	**+0.3**
DDFL				S	**Sn**	**14 29 19.2**	**+4.6**
XNZR	**Khunzakh**	**0.71**	**49**	*e*Pg	**Pb**	**14 29 03.3**	**-0.8**
XNZR				*e*Sg	**Sg**	**14 29 13.2**	**+0.2**
DGRG	**David-gareji**	**0.77**	**216**	P	**Pb**	**14 29 04.4**	**-0.6**
DGRG				S	**Sn**	**14 29 16.9**	**-0.9**
GNBR	**Gunib**	**0.80**	**67**	*e*Pg	**Pb**	**14 29 04.8**	**-0.7**
GNBR				*e*Sg	**Sg**	**14 29 15.8**	**+0.2**
KMKR	**Kumukh**	**0.83**	**86**	*e*Pg	**Pb**	**14 29 05.3**	**-0.9**
KMKR				*e*Sg	**Sb**	**14 29 16.5**	**-0.9**
SHTL	**Shatili**	**0.84**	**314**	P	**Pb**	**14 29 04.9**	**-1.4**
SHTL				S	**Sb**	**14 29 15.9**	**-1.7**
UNCR	**Uncukul**	**0.88**	**43**	*e*Pg	**Pb**	**14 29 06.3**	**-0.5**
UNCR				*e*Sg	**Sg**	**14 29 18.4**	**+0.2**
DVE	**Vedeno**	**0.89**	**7**	*e*Pg	**Pb**	**14 29 06.8**	**-0.2**
DVE				*e*Sg	**Sn**	**14 29 19.7**	**-1.0**
ARKR	**Arakani**	**0.92**	**55**	*e*Pg	**Pb**	**14 29 07.0**	**-0.5**
ARKR				*e*Sg	**Sg**	**14 29 19.5**	**0.0**
SEAG	**Tbilisi Sea**	**0.93**	**251**	P	**Pb**	**14 29 07.8**	**0.0**
SEAG				S	**Sg**	**14 29 21.1**	**+1.2**
BTNK	**Botanikuri**	**0.96**	**246**	P	Pb	14 28 58.6	-10
BTNK				S	**Sb**	**14 29 12.8**	**-8.2**
KRNR	**Karanay**	**1.02**	**42**	*e*Pg	**Pb**	**14 29 08.5**	**-0.7**
KRNR				*e*Sg	**Sb**	**14 29 22.0**	**-0.5**
DLMR	**Dylym**	**1.10**	**26**	*e*Pg	**Pg**	**14 29 11.1**	**+0.1**
DLMR				*e*Sg	**Sg**	**14 29 25.8**	**+0.5**
BUJR	**Buynaksk**	**1.12**	**48**	*e*Pg	**Pg**	**14 29 11.5**	**+0.2**
BUJR				*e*Sg	**Sg**	**14 29 25.8**	**-0.2**
DBC	**Dubki**	**1.13**	**33**	*e*Pg	**Pn**	**14 29 10.8**	**-0.5**
DBC				*e*Sg	**Sg**	**14 29 26.9**	**+0.5**
GROC	**Groznyy**	**1.13**	**353**	*e*Pg	**Pg**	**14 29 12.9**	**+1.4**
GROC				*e*Sg	**Sg**	**14 29 29.5**	**+3.2**
PNSH	**Pansheti**	**1.15**	**299**	P	**Pn**	**14 29 11.5**	**-0.2**
AKT	**Akhty**	**1.44**	**114**	*e*Pg	**Pb**	**14 29 15.9**	**-0.5**
AKT				*e*Sg	**Sb**	**14 29 34.9**	**+0.2**
BRNG	**Burnasheti**	**1.67**	**255**	P	**Pn**	**14 29 19.1**	**+0.3**
BRNG				S	**Sb**	**14 29 41.8**	**+0.4**
ZEI	**Tsey**	**1.69**	**296**	*e*Pg	**Pg**	**14 29 22.2**	**-0.1**
ZEI				*e*Sg	**Sb**	**14 29 43.6**	**+1.5**
ALIG	**Mtskhetisjvari**	**1.73**	**272**	P	**Pn**	**14 29 19.9**	**+0.3**
ALIG				S	**Sb**	**14 29 42.9**	**-0.3**
AKH	**Akhalkalaki**	**1.98**	**251**	P	**Pb**	**14 29 24.9**	**-0.7**
AKH				S	**Sb**	**14 29 50.2**	**0.0**
AKH	**Akhalkalaki**	**1.98**	**251**	*e*Pg	**Pb**	**14 29 24.9**	**-0.7**
AKH				*e*Sg	**Sb**	**14 29 49.5**	**-0.7**
GNI	**Garni**	**2.14**	**206**	*e*Pn	**Pn**	**14 29 25.8**	**+0.6**
GNI				*e*Sn	**Sb**	**14 29 55.4**	**+0.5**
TKB	**Tkibuli**	**2.23**	**278**	P	**Pb**	**14 29 29.1**	**-0.8**
TKB				S	**Sb**	**14 29 57.6**	**+0.1**

*AUST **23** 14:30:13.3±0.6,26°.56S×132°.68E, h0km, Error ellipse: s-maj=8.5km s-min=5.9km az=53.0*
*IDC **23** 14:30:13.7±3.0,26°.50S×132°.77E, h0km, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=27.2km s-min=21.8km az=71.0*
ISC 23 14:30:12.9±0.7,26°52S±0°04×132°72E±0°05, h10km, n24, σ2§13/41, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OOD	**Oodnadatta** baz=2.9,SNR=8.5	**2.94**	**116**	P	**Pn**	**14 31 02.0**	**+2.3**
OOD	baz=2.9			S	**Sb**	**14 31 39.8**	**-1.5**
ASPA	**Alice Springs** baz=3.1	**3.03**	**21**	P	**Pn**	**14 31 03.8**	**+2.8**
ASPA	baz=3.1			S	**Sb**	**14 31 42.8**	**-1.3**
ASAR	**Alice Springs** 0.7nm,0.3s,baz=200,slow=12,SNR=66	**3.03**	**21**	Pn	**Pn**	**14 31 03.2**	**+2.2**
ASAR	2.3nm,0.3s,baz=200,slow=15,SNR=18			Pg	**Pg**	**14 31 10.1**	**-0.9**
ASAR	2.1nm,0.3s,baz=197,slow=21,SNR=7.9			Sn	**Sn**	**14 31 41.1**	**+3.6**
ASAR	5.7nm,0.3s,baz=201,slow=26,SNR=9.5 1.6nm,0.4s			Lg	Lg	14 31 49.0	
MULG	**Mulgathing** baz=3.9,SNR=3.9	**3.94**	**163**	P	**Pn**	**14 31 14.7**	**+1.4**
MULG	baz=3.9			S	**Sn**	**14 32 02.3**	**+2.6**
WRKA	**Warakurna** baz=4.2	**4.25**	**289**	P	**Pn**	**14 31 19.5**	**+1.8**
WRKA	baz=4.2			S	**Sn**	**14 32 10.5**	**+3.1**
FORT	**Forrest** baz=5.8	**5.90**	**223**	P	**Pn**	**14 31 40.3**	**0.0**
FORT	baz=5.8			S	**Sn**	**14 32 45.9**	**-2.1**
LCRK	**Leigh Creek** baz=6.2	**6.23**	**130**	P	**Pn**	**14 31 46.3**	**+1.5**
LCRK	baz=6.2			S	**Sn**	**14 32 58.5**	**+2.3**
WC3	**Warramunga Arr** baz=6.8	**6.70**	**13**	P	**Pn**	**14 31 52.9**	**+1.5**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=192,slow=14,SNR=151	**6.71**	**13**	Pn	**Pn**	**14 31 53.0**	**+1.5**
WRA	1.4nm,0.3s,baz=187,slow=23,SNR=13			Sn	**Sn**	**14 33 06.3**	**-1.8**
WRA	0.4nm,0.3s,baz=192,slow=29,SNR=2.2 1.0nm,0.3s			Lg	Lg	14 33 41.9	
WB2	**Warramunga Arr** baz=6.8	**6.71**	**13**	P	**Pn**	**14 31 53.0**	**+1.5**
WB2	baz=6.8			S	**Sn**	**14 33 07.9**	**-0.3**
BBOO	**Buckleboo** baz=6.9	**6.91**	**156**	P	**Pn**	**14 31 55.8**	**+1.5**
BBOO	baz=6.9			S	**Sn**	**14 33 11.3**	**-1.8**
INKA	**Innaminka** baz=7.3	**7.26**	**101**	P	**Pn**	**14 32 00.9**	**+1.9**
INKA	baz=7.3			S	**Sn**	**14 33 21.9**	**+0.4**
QIS	**Mount Isa** baz=8.7	**8.67**	**48**	P	**Pn**	**14 32 21.0**	**+2.6**
QIS	baz=8.7			S	**Sn**	**14 33 55.2**	**-1.1**
HTT	**Hallett** baz=8.7	**8.74**	**143**	P	**Pn**	**14 32 20.8**	**+1.3**
HTT	baz=8.7			S	**Sn**	**14 33 56.1**	**-2.0**
STKA	**Stephens Creek** 0.3nm,0.3s,baz=308,slow=14,SNR=7.1	**9.42**	**127**	Pn	**Pn**	**14 32 29.7**	**+1.0**
STKA	0.5nm,0.3s,baz=35,slow=9.6,SNR=6.6 0.7nm,0.3s			Sn	**Sn**	**14 34 12.3**	**-2.4**
STKA	**Stephens Creek** baz=9.4,SNR=5.1	**9.42**	**127**	P	**Pn**	**14 32 30.1**	**+1.4**
STKA	baz=9.4			S	**Sn**	**14 34 11.9**	**-2.8**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=158,slow=8.8,SNR=8.9	**10.63**	**321**	Pn	**Pn**	**14 32 46.5**	**+1.2**
FITZ	0.2nm,0.3s,baz=180,slow=10,SNR=1.5 1.6nm,1.0s			Sn	**Sn**	**14 34 39.1**	**-5.3**
FITZ	**Fitzroy Crossi** baz=11	**10.63**	**321**	P	**Pn**	**14 32 46.6**	**+1.3**
KNRA	**Kununurra** baz=12	**11.40**	**340**	P	**Pn**	**14 32 55.8**	**0.0**
AUKAT	**Katherine High** baz=12	**12.00**	**358**	P	**Pn**	**14 33 08.0**	**+3.9**
CMSA	**Cobar Meteorol** baz=12	**12.41**	**117**	P	**Pn**	**14 33 10.0**	**+0.5**
MEEK	**Meekatharra** baz=13	**12.62**	**266**	P	**Pn**	**14 33 14.3**	**+1.7**
MTN	**Manton Dam** baz=14	**13.68**	**353**	P	**Pn**	**14 33 26.7**	**-0.3**
KDU	**Kakadu** baz=14	**13.76**	**359**	P	**Pn**	**14 33 26.2**	**-1.9**

*IDC **23** 14:57:48.1±0.6,34°.42N×141°.71E, h0km, mb4.0/18, mbtmp4.0/23, ML2.8/4, MS3.9/3, Error ellipse: s-maj=17.0km s-min=13.4km az=86.0*
*JMA **23** 14:57:50.1±0.7,34°1N±2°×14°2E±°, h32km±1km, MV3.5/25, FAR SE OFF BOSO PEN*
ISC 23 14:57:51.7±0.6,34°39N±0°05×141°65E±0°07, h27km, n40, σ1§58/38, mb4.0/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.61**	**296**	P	**Pb**	**14 58 01.0**	**-2.6**
JKUC	**kamogawauchiur**	**1.42**	**303**	P	**Pn**	**14 58 13.5**	**-2.3**
CHOJ	**Chosi**	**1.46**	**334**	P	**Pn**	**14 58 14.4**	**-1.9**
JHJ2	**Mitsune**	**1.99**	**231**	P	**Pb**	**14 58 25.3**	**-1.9**
JHJ	**Hachijo jima 2** 36nm,0.3s,baz=48,slow=23,SNR=30	**2.01**	**231**	Pn	**Pb**	**14 58 24.6**	**-2.9**
JHJ	111nm,0.3s,baz=72,slow=20,SNR=7.6 72nm,0.3s			Sn	**Sb**	**14 58 49.1**	**-3.0**
MJAR	**Matsushiro Arr** 1.2nm,0.3s,baz=133,slow=9.7,SNR=63	**3.54**	**308**	Pn	**Pn**	**14 58 44.6**	**-0.3**
MJAR	0.9nm,0.3s,baz=131,slow=16,SNR=4.0			Sn	**Sn**	**14 59 26.6**	**+0.8**
MJAR	comp=Z,2μm,18.1s,baz=111,slow=44 7.5nm,0.4s			LR	LR	15 00 23.2	
MAJO	**Matsushiro**	**3.54**	**308**	P	**Pn**	**14 58 45.6**	**+0.7**
INU	**Inuyama**	**3.93**	**285**	P	**Pn**	**14 58 53.0**	**+2.8**
JCJ	**Chichijima** 51nm,0.4s,baz=337,slow=16,SNR=9.4	**7.29**	**176**	Pn	**Pn**	**14 59 37.2**	**+0.8**
JCJ	9.8nm,0.3s,baz=274,slow=18,SNR=2.8			Sn	**Sn**	**15 00 56.6**	**-1.6**
JCJ	**Chichijima**	**7.29**	**176**	P	**Pn**	**14 59 38.7**	**+2.3**
ERM	**Erimo**	**7.71**	**8**	P	**Pn**	**14 59 38.6**	**-3.5**
KSRS	**Korea Array** 0.1nm,0.3s,baz=104,slow=14,SNR=16 4.2nm,0.9s	**11.54**	**289**	Pn	**Pn**	**15 00 36.4**	**+1.7**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=106,slow=11,SNR=3.4	**12.32**	**326**	Pn	**Pn**	**15 00 43.4**	**-1.8**
USRK	comp=Z,479nm,18.8s,baz=127,slow=37 2.0nm,0.7s			LR	LR	15 05 22.8	
KLR	**Kul'dur** comp=Z,502nm,18.9s,baz=153,slow=37	**16.54**	**337**	LR	LR	15 08 04.5	
H11N2	**WAKE ISLAND Hy 26.71** baz=309,slow=76,SNR=20	**117**		T	T	15 31 37.6	
H11N1	**WAKE ISLAND Hy 26.72** baz=309,slow=76,SNR=14	**117**		T	T	15 31 35.4	
H11N3	**WAKE ISLAND Hy 26.73** baz=309,slow=76,SNR=14	**117**		T	T	15 31 40.6	
H11S3	**WAKE ISLAND Hy 27.34** baz=312,slow=76,SNR=17	**119**		T	T	15 32 38.0	
H11S1	**WAKE ISLAND Hy 27.34** baz=312,slow=76,SNR=20	**119**		T	T	15 32 37.8	
H11S2	**WAKE ISLAND Hy 27.35** baz=312,slow=76,SNR=14	**119**		T	T	15 32 31.1	
SONM	**Songino Array** 2.5nm,0.9s,baz=119,slow=6.6,SNR=4.8 2.5nm,0.9s	**29.49**	**308**	P	**P**	**15 03 54.3**	**+0.6**
CMAR	**Chiang Mai Arr** 0.8nm,0.7s,baz=50,slow=7.8,SNR=7.3 0.8nm,0.7s	**41.08**	**258**	P	**P**	**15 05 33.5**	**+0.1**
ZALV	**Zalesovo Beam** 1.3nm,0.5s,baz=79,slow=7.7,SNR=5.4	**43.87**	**314**	P	**P**	**15 05 55.6**	**+0.1**
ZALV	0.5nm,0.4s,ba

	1.4nm,0.6s							
ASAR	**Alice Springs**	**58.20**	**188**	P		**P**	**15 07 44.5**	**+1.0**
	1.0nm,0.7s,baz=16,slow=12,SNR=17							
	1.0nm,0.7s							
ARU	**Arti**	**58.48**	**320**	P		**P**	**15 07 45.1**	**-0.1**
	2.2nm,0.4s,baz=35,slow=8.5,SNR=5.9							
	2.2nm,0.4s							
GEYT	**Alibeck**	**65.30**	**300**	P		**P**	**15 08 32.9**	**+1.5**
	1.3nm,0.6s,baz=76,slow=6.1,SNR=3.7							
	1.3nm,0.6s							
FINES	**FINESS Array B**	**71.24**	**333**	P		**P**	**15 09 08.3**	**+0.2**
	3.3nm,0.9s,baz=101,slow=7.4,SNR=4.7							
	3.3nm,0.9s							
NVAR	**Mina Array Bea**	**76.43**	**53**	P		**P**	**15 09 38.4**	**-0.9**
	0.1nm,0.3s,baz=233,slow=4.4,SNR=1.6							
	0.1nm,0.3s							
AKASG	**Malin Array Be**	**76.51**	**323**	P		**P**	**15 09 39.4**	**+0.3**
	0.7nm,0.4s,baz=46,slow=6.3,SNR=6.0							
	0.7nm,0.4s							
NB2	**NORSAR Subarra**	**76.70**	**338**	P		**P**	**15 09 41.1**	**+1.0**
	comp=Z,2.4nm,0.9s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**76.70**	**338**	P		**P**	**15 09 40.9**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=40,slow=5.7,SNR=4.0							
	comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	**80.75**	**312**	P		**P**	**15 10 04.2**	**+1.3**
	comp=Z,1.6nm,1.1s,baz=106,slow=4.7,SNR=1.5							
	comp=Z,1.6nm,1.1s							
TXAR	**Lajitas Array**	**91.58**	**53**	P		**P**	**15 10 55.6**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=294,slow=4.5,SNR=2.8							
	comp=Z,0.2nm,0.6s							
LPAZ	**La Paz**	**147.78**	**63**	PKPbc		**PKiKP**	**15 17 36.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=346,slow=8.3,SNR=1.9							

*HVO **23** 14:57:55.9±1.2, 19.34N±0.02×155.13W±0.02, h1km±8km, ML2.5/21, ML2.0/44(NEIC), Error ellipse: s-maj=3.8km s-min=1.2km az=151.0*

NEIC 23 14:57:57.2±1.1, 19.36N±0.02×155.14W±0.02, h5km±3km, Error ellipse: s-maj=3.9km s-min=1.3km az=141.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.03**	**303**		Pg	14 57 58.6	+0.1
NPOC	**North of Pu'u**	**0.04**	**46**	Pg	Pg	14 57 58.4	-0.2
JCUZ	**Jacuzzi**	**0.04**	**61**	Pg	Pg	14 57 58.3	-0.3
PUH	**Pauahi**	**0.07**	**279**		Pg	14 57 59.0	+0.1
PUH	**Pauahi**	**0.07**	**279**		Sg	14 58 01.2	+1.0
PUH	**Pauahi**	**0.07**	**279**	IAML		14 57 59.3	
	comp=E,209nm,0.2s						
BYL	**Byron's Ledge**	**0.12**	**294**		Pg	14 57 59.9	+0.1
BYL	**Byron's Ledge**	**0.12**	**294**	IAML		14 58 02.9	
	comp=E,418nm,0.4s						
BYL				IAML		14 58 02.9	
	comp=N,429nm,0.5s						
KKO	**Keanakako'i**	**0.12**	**287**		Pg	14 57 59.9	+0.1
KKO	**Keanakako'i**	**0.12**	**287**	IAML		14 58 02.9	
	comp=E,298nm,0.7s						
KKO				IAML		14 58 03.0	
	comp=N,309nm,0.3s						
HATHI	**Halema'uma'u T**	**0.13**	**298**		Pg	14 57 60.0	+0.1
HATHI	**Halema'uma'u T**	**0.13**	**298**	IAML		14 58 02.7	
	comp=N,330nm,0.6s						
HATHI				IAML		14 58 03.6	
	comp=E,355nm,0.6s						
RIM	**Rim**	**0.13**	**285**		Pg	14 57 60.0	+0.1
RIM	**Rim**	**0.13**	**285**	IAML		14 58 03.2	
	comp=E,361nm,0.4s						
RIM				IAML		14 58 03.4	
	comp=N,704nm,0.4s						
SBLHI	**Steaming Bluff**	**0.14**	**298**		Pg	14 58 00.0	0.0
SBLHI	**Steaming Bluff**	**0.14**	**298**	IAML		14 58 03.2	
	comp=E,182nm,0.2s						
NPH	**North Pit**	**0.14**	**291**	Pg	Pg	14 57 58.6	-1.5
UWB	**Uwekahuna B**	**0.14**	**296**	IAML		14 58 04.0	
	comp=N,270nm,1.0s						
UWB	**Uwekahuna B**	**0.14**	**296**		Pg	14 58 00.1	0.0
UWB					Sg	14 58 03.2	+1.1
OBL	**Observatory Le**	**0.14**	**292**		Pg	14 58 00.3	+0.1
OBL	**Observatory Le**	**0.14**	**292**	IAML		14 58 04.3	
	comp=N,748nm,0.6s						
OBL				IAML		14 58 04.5	
	comp=E,385nm,0.3s						
SDHHI	**Sand Hill**	**0.15**	**281**		Pg	14 58 00.2	0.0
SDHHI					Sg	14 58 03.4	+1.1
SDHHI	**Sand Hill**	**0.15**	**281**	IAML		14 58 03.6	
	comp=E,576nm,0.4s						
JOKA	**Jonika Flow**	**0.15**	**62**		Pg	14 57 59.5	-0.7
UWE	**Uwekahuna**	**0.15**	**292**		Pg	14 58 00.4	0.0
UWE	**Uwekahuna**	**0.15**	**292**	IAML		14 58 02.7	
	comp=N,502nm,1.7s						
WRMHI	**West Rim**	**0.15**	**286**		Pg	14 58 00.6	+0.1
WRMHI	**West Rim**	**0.15**	**286**	IAML		14 58 04.2	
	comp=E,377nm,0.4s						
WRMHI				IAML		14 58 04.3	
	comp=N,615nm,0.8s						
HLP	**Hilina Pali**	**0.17**	**247**		Pg	14 58 00.6	0.0
HLP					Sg	14 58 04.0	+1.1
HLP	**Hilina Pali**	**0.17**	**247**	IAML		14 58 04.2	
	comp=E,430nm,0.2s						
HLP				IAML		14 58 04.2	
	comp=N,406nm,0.2s						
MLH	**Mauna Loa**	**0.26**	**300**		Pg	14 58 02.4	-0.1
MLH					Sb	14 58 07.9	-1.6
MLH	**Mauna Loa**	**0.26**	**300**	IAML		14 58 10.0	
	comp=E,189nm,0.2s						
MLH				IAML		14 58 10.8	
	comp=N,230nm,0.3s						
HTC	**Hot Caves**	**0.27**	**243**		Pg	14 58 02.8	+0.3
AIN	**Ainahou**	**0.30**	**272**		Pg	14 58 02.9	-0.2
AIN					Sb	14 58 09.3	-1.2
AIN	**Ainahou**	**0.30**	**272**	IAML		14 58 09.9	
	comp=N,2μm,0.4s						
AIN				IAML		14 58 10.0	
	comp=E,2μm,0.3s						
HMH	**Humu'ula Sheep**	**0.40**	**307**		Pg	14 58 05.2	+0.1
HMH					Sb	14 58 12.0	-1.5
HMH	**Humu'ula Sheep**	**0.40**	**307**	IAML		14 58 12.6	
	comp=E,771nm,0.4s						
HMH				IAML		14 58 19.2	
	comp=N,871nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.44**	**293**		Pg	14 58 05.5	-0.4
MLOA				IAML		14 58 10.3	
	comp=N,186nm,2.5s						
MWH	**Moku'aweowe**	**0.45**	**286**		Pg	14 58 05.5	-0.5
KHU	**Kahuku**	**0.46**	**256**		Pg	14 58 05.7	-0.5
KHU	**Kahuku**	**0.46**	**256**		Sg	14 58 13.6	+1.4
KHU	**Kahuku**	**0.46**	**256**	IAML		14 58 14.0	
	comp=N,197nm,3.7s						
ALEP	**Alea Permanent**	**0.51**	**291**		Pg	14 58 06.3	-0.7
ALEP					Sg	14 58 14.7	+1.0
POHA	**Pohakuloa**	**0.54**	**317**		Pg	14 58 07.0	-0.7
POHA					Sg	14 58 15.4	+0.7
POHA	**Pohakuloa**	**0.54**	**317**	IAML		14 58 15.9	
	comp=N,278nm,0.3s						
HUH	**Hualalai**	**0.73**	**296**		Pg	14 58 11.2	-0.1
CPH	**Captain Cook**	**0.74**	**280**		Pg	14 58 10.8	-0.7
KHLU	**Kahalu`u**	**0.74**	**288**		Pg	14 58 10.6	-0.9
KHLU					Sg	14 58 22.1	+0.8
HPAH	**Hawaii Prepara**	**0.84**	**322**	Pg	Pg	14 58 12.2	-1.2
MHA	**Mahukona**	**1.09**	**319**	Pg	Pg	14 58 16.6	-1.5

*NEIC **23** 15:02:20.6±1.3, 34.55N±0.05×141.8E±0.1, h10km±1km, mb4.3/9, Error ellipse: s-maj=15.3km s-min=8.1km az=96.0*

*JMA **23** 15:02:22.8±0.7, 35.2N±2.1×14.1E±0.1, h26km±1km, MV2.9/25, FAR SE OFF BOSO PEN*

*IDC **23** 15:02:26.7±2.1, 34.44N×141.55E, h49km±19km, mb3.6/13, mbtmp3.9/17, ML2.3/3, Error ellipse: s-maj=20.6km s-min=9.7km az=86.0*

ISC 23 15:02:23.4±0.7, 34.56N±0.05×141.54E±0.07, h27km, n46, σ1§51/49, mb4.1/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.48**	**282**	*eP*	**Pb**	**15 02 32.0**	**-0.9**
BSO1				*eX*		15 02 38.9	
BSO3	**Boso 3**	**0.89**	**286**	*eP*	**Pn**	**15 02 39.4**	**-0.5**
JKUC	**kamogawauchiur**	**1.26**	**299**	*eP*	**Pn**	**15 02 45.4**	**+0.2**
CHOJ	**Chosi**	**1.27**	**334**	*eP*	**Pn**	**15 02 45.5**	**+0.1**
CHOJ				S	**Sn**	**15 03 00.6**	**-1.1**
JMKN	**Mikurajimanish**	**1.75**	**248**	*eP*	**Pn**	**15 02 50.5**	**-1.5**
JYT	**Yasato**	**2.00**	**327**		**Pn**	**15 02 56.2**	**+0.8**
JHJ2	**Mitsune**	**2.03**	**225**	Pn	**Pn**	**15 02 56.8**	**+0.9**
JHJ	**Hachijo jima 2**	**2.05**	**226**	P	**Pn**	**15 02 56.7**	**+0.6**
	43nm,0.3s,baz=70,slow=23,SNR=6.4						
JHJ				S	**Sn**	**15 03 21.1**	**+0.3**
	112nm,0.3s,baz=50,slow=23,SNR=7.4						
JMM	**Marumori**	**3.36**	**350**		**Pn**	**15 03 14.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.37**	**307**	P	**Pn**	**15 03 15.8**	**+1.5**
	0.5nm,0.3s,baz=117,slow=8.7,SNR=12						
MJAR				S	**Sb**	**15 03 58.6**	**-4.3**
	8.8nm,0.6s,baz=145,slow=13,SNR=5.1						
	4.3nm,0.4s						
MAJO	**Matsushiro**	**3.37**	**307**		**Pn**	**15 03 14.8**	**+0.5**
MJB9	**Matsu-Tunnel**	**3.37**	**307**		**Pn**	**15 03 14.3**	**0.0**
INU	**Inuyama**	**3.80**	**283**	Pn	**Pn**	**15 03 21.6**	**+1.4**
JSD	**Sado**	**4.37**	**324**	Pn	**Pn**	**15 03 28.3**	**+0.3**
JTM	**Tenmabayashi**	**6.23**	**357**	Pn	**Pn**	**15 03 54.1**	**+0.5**
JCJ	**Chichijima**	**7.46**	**176**	P	**Pn**	**15 04 10.2**	**-0.3**
	40nm,0.6s,baz=296,slow=21,SNR=1.8						
JCJ	**Chichijima**	**7.46**	**176**	Pn	**Pn**	**15 04 07.5**	**-3.0**
ERM	**Erimo**	**7.55**	**9**	Pn	**Pn**	**15 04 11.3**	**-0.5**
KSRS	**Korea Array**	**11.40**	**289**	P	**Pn**	**15 05 08.2**	**+3.6**
	baz=103,slow=14,SNR=8.9						
	2.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**12.13**	**325**	P	**Pn**	**15 05 16.9**	**+2.5**
	baz=91,slow=13,SNR=2.5						
	2.2nm,0.9s						
ULN	**Ulaanbaatar**	**28.90**	**308**	P	**P**	**15 08 19.2**	**-0.9**
ULN				IAmb	IAmb	15 08 24.3	
	comp=Z,3.4nm,1.1s						
SONM	**Songino Array**	**29.32**	**308**	P	**P**	**15 08 25.4**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=111,slow=7.9,SNR=3.4						
	comp=Z,1.0nm,0.7s						
ADK	**Adak**	**34.45**	**47**	P	**P**	**15 09 04.5**	**-4.1**
CMAR	**Chiang Mai Arr**	**41.03**	**258**	P	**P**	**15 10 04.1**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=51,slow=8.7,SNR=1.6						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**43.69**	**314**	P	**P**	**15 10 26.9**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=99,slow=3.6,SNR=2.3						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.56**	**304**	P	**P**	**15 10 42.3**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=90,slow=9.7,SNR=8.7						
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**45.56**	**304**	P	**P**	**15 10 42.4**	**+1.5**
KURBB	**Kurchatov Arra**	**47.64**	**310**	P	**P**	**15 10 57.8**	**+0.7**
	comp=Z,4.6nm,0.9s,baz=86,slow=8.3,SNR=6.5						
	comp=Z,4.6nm,0.9s						
MTN	**Manton Dam**	**48.16**	**194**	P	**P**	**15 10 60.0**	**-1.4**
ILAR	**Eielson Array**	**51.54**	**31**	P	**P**	**15 11 27.8**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=273,slow=5.7,SNR=10.0						
	comp=Z,0.9nm,0.8s						
WB0	**Warramunga Arr**	**54.45**	**188**	P	**P**	**15 11 48.1**	**-0.4**
WB0				IAmb	IAmb	15 12 15.8	
	comp=Z,5.8nm,1.1s						
KKAR	**Karatay Array**	**54.48**	**302**	P	**P**	**15 11 49.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**54.50**	**199**	P	**P**	**15 11 48.7**	**-0.2**
FITZ				IAmb	IAmb	15 11 51.1	
	comp=Z,3.0nm,0.9s						
WRAB	**Tennant Creek**	**54.62**	**188**	P	**P**	**15 11 47.6**	**-2.1**
WRAB				IAmb	IAmb	15 11 52.3	
	comp=Z,2.9nm,1.1s						
WR0	**Warramunga Arr**	**54.62**	**188**	P	**P**	**15 11 48.9**	**-0.9**
WR0				IAmb	IAmb	15 11 59.7	
	comp=Z,7.2nm,1.4s						
WRA	**Warramunga Arr**	**54.63**	**188**	P	**P**	**15 11 49.9**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=4.4,slow=7.6,SNR=20						
	comp=Z,0.9nm,0.5s						
WRA	**Warramunga Arr**	**54.63**	**188**	P	**P**	**15 11 49.4**	**-0.4**
ARU	**Arti**	**58.30**	**320**	P	**P**	**15 12 16.4**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=48,slow=15,SNR=3.7						
	comp=Z,1.7nm,0.5s						
AS31	**Alice Springs**	**58.35**	**188**	P	**P**	**15 12 15.2**	**-1.1**
ASAR	**Alice Springs**	**58.35**	**188**	P	**P**	**15 12 17.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=2.1,slow=6.7,SNR=11						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**58.35**	**188**	P	**P**	**15 12 15.4**	**-0.9**
FINES	**FINESS Array B**	**71.06**	**333**	P	**P**	**15 13 37.8**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=45,slow=7.0,SNR=2.2						
	comp=Z,2.2nm,0.9s						
AKASG	**Malin Array Be**	**76.32**	**323**	P	**P**	**15 14 10.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=48,slow=5.4,SNR=5.1						
	comp=Z,0.6nm,0.5s						
NVAR	**Mina Array Bea**	**76.39**	**53**	P	**P**	**15 14 12.8**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=293,slow=5.4,SNR=2.4						
	comp=Z,0.5nm,0.6s						
NB2	**NORSAR Subarra**	**76.51**	**338**	P	**P**	**15 14 11.7**	**+0.9**
	comp=Z,2.3nm,1.0s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**76.51**	**338**	P	**P**	**15 14 11.6**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=39,slow=5.7,SNR=4.0						
	comp=Z,1.4nm,0.9s						

*BJI **23** 15:05:08.9±0.0, 30.35N×142.03E, h13km, mb5.0/79, mB4.9/54, Ms4.8/78, Ms7 4.8/74*

*IDC **23** 15:05:11.0±0.3, 30.38N×141.78E, h0km, mb4.8/48, mbtmp4.8/51, ML4.2/4, MS4.4/55, Error ellipse: s-maj=11.9km s-min=9.1km az=70.0*

*MOS **23** 15:05:12.5±0.9, 30.39N×141.78E, h20km, mb5.3/54, MS4.7/18, Error ellipse: s-maj=8.9km s-min=4.0km az=119.2*

*NIED **23** 15:05:12.3, 30.49N×142.18E, h45km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr2.02; Mθθ0.13; Mϕϕ-2.15; Mrθ1.03; Mθϕ-0.85; Mϕr3.77; Fault plane solution: M0 4.50000×10^16 NP1: ϕs203.00000°, δ15.00000°, λ97.00000°. NP2:ϕs16.00000°, δ75.00000°, λ88.00000°.*

*JMA **23** 15:05:12.3±0.3, 30°N±1°×14°2E±°, h45km, MD5.0/26, MW5.0/26, NEAR TORISHIMA IS*

*GCMT **23** 15:05:16.1±0.2, 30.34N±0.02×141.90E±0.01, h19km, MW5.1/124, Moment Tensor Solution. s64, c89; s124, c215; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr4.61±.14; Mθθ0.24±.08; Mϕϕ-4.85±.10; Mrθ0.96±.20; Mθϕ-0.50±.07; Mϕr1.27±.19; Best double couple: M0 5.01800×10^16 NP1:ϕs15.00000°, δ54.00000°, λ102.00000°. NP2:ϕs175.00000°, δ38.00000°, λ74.00000°. Principal axes: T 4.9470, Plg77.0000°, Azm328.0000°; N 0.1410, Plg10.0000°, Azm188.0000°; P -5.0900, Plg8.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **23** 15:05:17.1±1.9, 30.49N±0.06×141.8E±0.1, h35km±1km, mb5.2/79, Mww5.1 Error ellipse: s-maj=15.0km s-min=9.6km az=74.0*

*NEIC **23** 15:05:21, 30.36N×141.81E, h30km, Moment Tensor Solution. Duration: 12±0 Moment tensor: Scale 10^16 Nm; Mrr4.69; Mθθ0.96; Mϕϕ-5.64; Mrθ1.82; Mθϕ-0.34; Mϕr1.64; Fault plane solution: M0 5.79000×10^16 NP1: ϕs163.00000°, δ39.00000°, λ58.00000°. NP2:ϕs22.00000°, δ57.00000°, λ113.00000°. Principal axes: T 5.6048, Plg68.0000°, Azm341.0000°; N 0.3518, Plg20.0000°, Azm189.0000°; P -5.9565, Plg10.0000°, Azm95.0000°;*

ISC 23 15:05:15.1±0.3, 30.38N±0.03×141.92E±0.04, h27km±2km, h26km:pP-P, n589, σ1§60/631, mb5.1/178, MS4.6/97, 33C-11D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.78**	**319**	*eP*	**Pn**	**15 05 56.6**	**-1.2**
JAOM	**Aogashimamukai**	**2.78**	**319**	A	A	15 05 56.6	
	comp=E,18nm,5.1s,comp=E,16nm,5.8s						
JHCJ	**Hachijojimakas**	**3.24**	**327**	P	**Pn**	**15 06 02.1**	**-2.0**
JHCJ				*eS*	**Sn**	**15 06 39.1**	**-2.7**
JHCJ	**Hachijojimakas**	**3.24**	**327**	A	A	15 06 02.1	
	comp=E,7.0nm,7.6s,comp=E,8.0nm,6.7s						
JHJ2	**Mitsune**	**3.26**	**327**		**Pn**	**15 06 02.9**	**-1.6**
JHJ2	**Mitsune**	**3.26**	**327**	P	**Pn**	**15 06 03.4**	**-1.0**
JHJ2	**Mitsune**	**3.26**	**327**	A	A	15 06 03.4	
	comp=E,9.0nm,4.4s,comp=E,7.0nm,8.2s						
CBIJ	**Chichi jima**	**3.28**	**176**	P	**Pn**	**15 06 04.4**	**-0.3**
CBIJ				S	**Sn**	**15 06 41.3**	**-1.6**
CBIJ	**Chichi jima**	**3.28**	**176**	A	A	15 06 04.4	
	comp=E,16nm,7.9s,comp=E,8.0nm,9.2s						
JCJ	**Chichijima**	**3.28**	**176**	Pn	**Pn**	**15 06 03.3**	**-1.5**
	62nm,0.3s,baz=341,slow=10,SNR=21						
JCJ				Sn	**Sn**	**15 06 40.5**	**-2.4**
	238nm,0.3s,baz=72,slow=23,SNR=11						
	212nm,0.4s						
JCJ	**Chichijima**	**3.28**	**176**	Pn	**Pn**	**15 06 04.8**	**+0.1**
JHJ	**Hachijo jima 2**	**3.28**	**327**	Pn	**Pn**	**15 06 02.2**	**-2.6**
	32nm,0.3s,baz=220,slow=18,SNR=3.1						
JHJ				Sn	**Sn**	**15 06 40.1**	**-2.8**
	102nm,0.3s,baz=229,slow=19,SNR=4.9						
JHJ				LR	LR	15 07 21.5	
	comp=Z,9μm,18.2s,baz=105,slow=41						
JHH2	**Haha-jima-NKT2**	**3.74**	**176**	*eP*	**Pn**	**15 06 11.1**	**+0.1**
JHH2				*eS*	**Sn**	**15 06 55.3**	**+1.1**
JHH2	**Haha-jima-NKT2**	**3.74**	**176**	A	A	15 06 11.1	
	comp=E,18nm,6.5s,comp=E,8.0nm,9.6s						
JMKN	**Mikurajimanish**	**4.02**	**331**	*eP*	**Pn**	**15 06 13.0**	**-2.0**
JMKN				S	**Sn**	**15 06 59.0**	**-2.2**
JOD2	**Odawara 2**	**5.42**	**335**	*eP*	**Pn**	**15 06 34.7**	**+0.5**
JIE	**Ise**	**5.95**	**314**	*eP*	**Pn**	**15 06 42.4**	**+0.9**
JYT	**Yasato**	**6.01**	**347**	Pn	**Pn**	**15 06 40.8**	**-1.4**
JRY	**Ryogami san**	**6.17**	**337**	P	**Pn**	**15 06 44.5**	**+0.1**
JRY				S	**Sn**	**15 07 53.0**	**-1.1**
JTNC	**Tanabenakahech**	**6.36**	**304**	*eP*	**Pn**	**15 06 47.7**	**+0.7**
INU	**Inuyama**	**6.45**	**322**		**Pn**	**15 06 48.4**	**+0.2**
JGF	**Kuroka**	**6.46**	**325**		**Pn**	**15 06 50.4**	**+1.9**
MJAR	**Matsushiro Arr**	**6.88**	**334**	Pn	**Pn**	**15 06 53.8**	**-0.5**
	1.7nm,0.3s,baz=155,slow=11,SNR=47						
MJAR				Sn	**Sn**	**15 08 08.1**	**-3.6**
	baz=155,slow=12						
MJAR				LR	LR	15 09 34.1	
	comp=Z,4μm,19.4s,baz=174,slow=38						
	54nm,0.7s						
MAJO	**Matsushiro**	**6.88**	**334**	Pn	**Pn**	**15 06 54.8**	**+0.5**
MAJO	**Matsushiro**	**6.88**	**334**	P	**Pn**	**15 06 54.8**	**+0.5**
MJB9	**Matsu-Tunnel**	**6.89**	**334**		**Pn**	**15 06 54.6**	**+0.3**
JMM	**Marumori**	**7.53**	**353**	Pn	**Pn**	**15 07 00.7**	**-2.4**
JMN	**Monobe**	**7.60**	**298**		**Pn**	**15 07 07.2**	**+3.2**
JSD	**Sado**	**8.22**	**339**	Pn	**Pn**	**15 07 11.1**	**-1.5**
JMK	**Ichinoseki**	**8.57**	**356**	*eP*	**Pn**	**15 07 14.4**	**-3.0**
JMK				S	Sn	15 08 43.5	-10
JTM	**Tenmabayashi**	**10.41**	**356**	Pn	**Pn**	**15 07 39.4**	**-3.1**
JMZ	**Minamidaito 2**	**10.48**	**247**	P	**Pn**	**15 07 47.8**	**+4.2**
JSJ	**Shimokoshiki**	**10.55**	**280**	P	**Pn**	**15 07 47.5**	**+3.0**
JAMN	**Amaminishikomi**	**11.32**	**262**	P	**Pn**	**15 07 59.5**	**+4.4**
ERM	**Erimo**	**11.66**	**5**	Pn	**Pn**	**15 07 56.2**	**-3.3**
ERM	**Erimo**	**11.66**	**5**	*cP*	**Pn**	**15 07 56.3**	**-3.3**
ERM				pmax	pmax		
	comp=Z,129nm,2.5s						
JEW	**Eniwo**	**12.44**	**358**	Pn	**Pn**	**15 08 06.9**	**-3.5**
JOW	**Kunigami**	**12.50**	**257**	LR	LR	15 12 45.1	
	comp=Z,4μm,19.2s,baz=59,slow=37						
NMR	**Nemuro--Hokkai**	**13.32**	**12**	*eP*	**Pn**	**15 08 17.8**	**-4.5**
KSRS	**Korea Array**	**13.59**	**305**	Pn	**Pn**	**15 08 27.3**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=114,slow=13,SNR=29						
KSAR	**Wonju Array Be**	**13.61**	**305**	Pn	**Pn**	**15 08 27.2**	**+0.9**
KSAR	**Wonju Array Be**	**13.61**	**305**	P	**Pn**	**15 08 27.2**	**+0.9**
KS19	**Wonju Array Si**	**13.65**	**305**	Pn	**Pn**	**15 08 27.6**	**+0.7**
RUSJ	**Misakicho**	**13.95**	**10**	*eP*	Pn	15 08 25.5	-5.5
YUK	**Yuzh-Kuril'sk**	**13.99**	**12**	*eP*	Pn	15 08 26.5	-4.9
YUK				pmax	pmax		
	comp=Z,82nm,0.3s						
YUK				pmax	pmax		
	comp=E,54nm,0.4s						
YUK				pmax	pmax		
	comp=N,32nm,0.3s						
INCN	**Inchon**	**14.52**	**303**		**P**	**15 08 43.3**	**-1.9**
INCN	**Inchon**	**14.52**	**303**	P	**P**	**15 08 43.3**	**-1.9**
KUR	**Kuril'sk**	**15.55**	**16**	*eP*	**Pn**	**15 08 48.0**	**-4.4**
KUR				pmax	pmax		
	comp=Z,49nm,0.8s						
KUR				MLR	MLR		
	comp=Z,1μm,12.0s						
USRK	**Ussuriysk Ar.**	**15.88**	**333**	Pn	**Pn**	**15 08 53.8**	**-2.9**
	comp=Z,8.2nm,0.9s,baz=147,slow=13,SNR=12						
USRK				LR	LR	15 14 56.1	
	comp=Z,1μm,18.0s,baz=139,slow=37						
USRK	**Ussuriysk Ar.**	**15.88**	**333**		**Pn**	**15 08 53.9**	**-2.8**
USRK	**Ussuriysk Ar.**	**15.88**	**333**	P	**Pn**	**15 08 53.9**	**-2.8**
YSS	**Yuzh-Sakhalins**	**16.56**	**2**	Pn	**Pn**	**15 09 01.6**	**-3.8**
YSS	**Yuzh-Sakhalins**	**16.56**	**2**	*cP*	**Pn**	**15 09 02.7**	**-2.6**
YSS				pmax	pmax		
	comp=Z,43nm,0.7s						
GUMO	**Guam**	**16.93**	**170**	Pn	**P**	**15 09 11.1**	**-0.8**
	comp=Z,2.2nm,0.3s,baz=7.5,slow=20,SNR=5.6						
GUMO				LR	LR	15 14 03.3	
	comp=Z,780nm,20.1s,baz=356,slow=31						
MDJ	**Mudanjiang**	**17.22**	**329**	Pn	**Pn**	**15 09 09.5**	**-4.2**
SNY	**Shenyang**	**18.67**	**313**	⇓P	**P**	**15 09 29.8**	**-1.2**
SNY				S	**S**	**15 13 05.3**	**+3.2**
SNY				pmax	pmax		
	comp=Z,32nm,0.8s						
SNY				pmax	pmax		
	comp=Z,770nm,9.6s						
SNY				LR	LR		
	comp=Z,2μm,15.7s						
SNY				LR	LR		
	comp=Z,2μm,15.9s						
SNY				LR	LR		
	comp=Z,3μm,16.5s						
UGL	**Uglegorsk**	**18.68**	**0**	*eP*	**Pn**	**15 09 34.4**	**+2.9**
UGL				*eS*	**S

GRNR *e*S Sn 15 13 50.1 -0.1
GRNR pmax pmax
comp=N,9.0nm,1.0s
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR smax smax
comp=N,2.0nm,0.9s
QZH Quanzhou 21.34 261 ⇑*i*P **P 15 09 59.8 -0.4**
QZH S **S 15 13 54.0 -2.0**
QZH pmax pmax
comp=N,270nm,5.3s
QZH LR LR
comp=N,1μm,17.7s
QZH LR LR
comp=N,940nm,15.5s
QZH LR LR
comp=N,1μm,17.1s
TIA Tai'an 21.50 292 P **P 15 10 00.4 -1.4**
TIA pmax pmax
comp=N,22nm,1.1s
BJT Baijiatuau 23.07 302 P **P 15 10 16.1 -2.4**
BJT IAmb IAmb 15 10 17.3
comp=Z,44nm,0.8s
BJT Baijiatuau 23.07 302 P **P 15 10 16.1 -2.4**
BJT pmax pmax
comp=Z,44nm,0.8s
BJI Beijing 23.07 302 P **P 15 10 15.1 -3.4**
BJI ScS ScS 15 21 31.6 +2.6
BJI pmax pmax
comp=Z,58nm,0.9s
BJI pmax pmax
comp=Z,250nm,7.4s
BJI LR LR
comp=Z,2μm,16.3s
BJI LR LR
comp=Z,3μm,17.1s
HNS HongShan 23.60 295 ⇓P **P 15 10 20.8 -2.9**
HNS S **S 15 14 38.8 +2.3**
HNS pmax pmax
comp=Z,27nm,0.9s
HNS LR LR
comp=Z,2μm,15.4s
HNS LR LR
comp=Z,3μm,15.5s
HNS LR LR
comp=Z,3μm,16.7s
WHN Wuhan 23.75 277 ⇓P **P 15 10 23.9 -1.3**
WHN pmax pmax
comp=Z,56nm,0.9s
WHN LR LR
comp=Z,3μm,13.9s
WHN LR LR
comp=Z,4μm,18.0s
WHN LR LR
comp=Z,5μm,16.0s
XLT XiLinHaoTe 24.50 311 *e*P **P 15 10 33.0 +0.8**
XLT pP sP 15 10 39.8 -1.2
XLT PP **PnPn 15 11 08.8 +5.2**
XLT ScP **ScP 15 17 47.3 +0.2**
XLT pmax pmax
comp=Z,23nm,1.2s
XLT pmax pmax
comp=Z,520nm,12.2s
XLT LR LR
comp=Z,97nm,16.4s
XLT LR LR
comp=Z,910nm,17.7s
XLT LR LR
comp=Z,1μm,15.6s
H11N2 WAKE ISLAND Hy 24.93 109 T T 15 36 19.1
baz=308
H11N1 WAKE ISLAND Hy 24.94 109 T T 15 36 17.8
baz=308
H11N3 WAKE ISLAND Hy 24.95 109 T T 15 36 21.2
baz=308
LYN LuoYang 25.15 287 ⇑P **P 15 10 38.0 -0.1**
LYN sP sP 15 10 45.6 -1.7
LYN LR LR
comp=Z,530nm,14.7s
LYN LR LR
comp=Z,920nm,18.2s
LYN LR LR
comp=Z,1μm,18.8s
H11S3 WAKE ISLAND Hy 25.40 112 T T 15 37 02.1
baz=304,slow=76,SNR=10
H11S1 WAKE ISLAND Hy 25.41 112 T T 15 37 03.3
baz=304,slow=76,SNR=9.8
H11S2 WAKE ISLAND Hy 25.42 112 T T 15 37 06.2
baz=304,slow=76,SNR=13
TIY Taiyuan 25.43 295 *e*P **P 15 10 39.8 -0.9**
TIY pmax pmax
comp=Z,53nm,1.0s
TIY LR LR
comp=Z,860nm,13.7s
TIY LR LR
comp=Z,2μm,16.5s
TIY LR LR
comp=Z,2μm,16.5s
PEA0B Petropavlovsk- 25.47 22*c*eP **P 15 10 37.6 -3.2**
PETK Petropavlovsk- 25.47 22 P **P 15 10 42.3 +1.5**
comp=Z,2.5nm,0.9s,baz=198,slow=9.1,SNR=1.8
PETK LR LR 15 24 51.8
comp=Z,359nm,18.0s,baz=207,slow=46
comp=Z,2.5nm,0.9s
ZEA Zeya 25.66 340 *e*P **P 15 10 42.6 +0.2**
ZEA pmax pmax
comp=N,200nm,1.3s
ZEA pmax pmax
comp=Z,300nm,1.4s
ZEA pmax pmax
comp=E,40nm,1.0s
ZEA pmax pmax
comp=N,100nm,0.9s
ZEA pmax pmax
comp=Z,170nm,0.9s
ZEA MLR MLR
comp=E,400nm,13.0s
ZEA MLR MLR
comp=N,400nm,14.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
PET Petropavlovsk 25.72 24 *e*P **P 15 10 48.6 +5.6**
PET *e*S **S 15 15 12.6 +2.5**
PET pmax pmax
comp=Z,33nm,1.2s
PET MLR MLR
comp=Z,900nm,15.0s
PET MLR MLR
comp=Z,900nm,15.0s
HHC Hu-ho-hao-te 26.68 301 *e*P **P 15 10 50.0 -2.0**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,340nm,6.0s
HHC LR LR
comp=Z,1μm,15.8s
HHC LR LR
comp=Z,3μm,16.8s
HHC LR LR
comp=Z,4μm,16.5s
BTO Baotou 27.77 300 *e*P **P 15 11 01.4 -0.4**
XAN Xi'an 28.09 286 ⇑*i*P **P 15 11 02.3 -2.3**
XAN pP pP 15 11 06.8 -4.3
XAN sP sP 15 11 12.9 -1.0
XAN pmax pmax
comp=Z,53nm,0.9s
XAN LR LR
comp=Z,820nm,17.9s
XAN LR LR
comp=Z,870nm,20.4s
XAN LR LR
comp=Z,1μm,17.9s
MA2 Magadan 29.80 9 LR LR 15 25 37.2
comp=Z,224nm,19.3s,baz=196,slow=41
QIZ Qiongzhong 31.15 256 P **P 15 11 33.3 +1.5**
QIZ S **S 15 16 35.0 -1.2**
QIZ LR LR
comp=Z,530nm,19.1s
QIZ LR LR
comp=Z,620nm,15.1s
QIZ LR LR
comp=Z,800nm,18.3s
GYA Guiyang 31.17 272 ⇑*i*P **P 15 11 31.6 -0.5**
GYA S **S 15 16 36.8 +0.1**
GYA pmax pmax
comp=Z,23nm,0.8s
GYA LR LR
comp=Z,1μm,18.1s
GYA LR LR
comp=Z,460nm,16.7s
GYA LR LR
comp=Z,580nm,19.8s
ULN Ulaanbaatar 31.85 313 P **P 15 11 38.0 +0.1**
ULN IAmb IAmb 15 11 39.3
comp=Z,20nm,0.8s
ULN Ulaanbaatar 31.85 313 P **P 15 11 38.0 +0.1**
ULN pmax pmax
comp=Z,20nm,0.8s
ULN Ulaanbaatar 31.85 313 P **P 15 11 38.0 +0.1**
ULN pP **sP 15 11 48.0 +1.3**
ULN sP **pwP 15 11 52.3 +2.0**
LZH Lanzhou 32.21 290 ⇓P **P 15 11 39.9 -1.3**
LZH pP sP 15 11 50.4 -0.1
LZH sP pwP 15 11 53.8 0.0
LZH pmax pmax
comp=Z,66nm,0.9s
LZH pmax pmax
comp=Z,130nm,4.5s
LZH LR LR
comp=Z,590nm,14.1s
LZH LR LR
comp=Z,1μm,14.8s
LZH LR LR
comp=Z,2μm,14.8s
SONM Songino Array 32.25 313 P **P 15 11 41.2 -0.2**
comp=Z,18nm,0.8s,baz=119,slow=8.2,SNR=40
SONM PcP **PcP 15 14 29.8 +0.5**
comp=Z,3.4nm,1.0s,baz=56,slow=5.4,SNR=2.8
SONM LR LR 15 25 19.9
comp=Z,934nm,19.0s,baz=96,slow=38
comp=Z,18nm,0.8s
SONM Songino Array 32.25 313 P **P 15 11 40.4 -1.0**
SONM IAmb IAmb 15 11 46.5
comp=Z,18nm,0.8s
SMPI Sarmi 32.33 186 P **P 15 11 42.9 +0.7**
comp=Z,19nm,1.1s
SHEM Shemya Is, Ala 32.41 37 LR LR 15 22 37.0
comp=Z,302nm,21.2s,baz=227,slow=32
YAK Yakutsk 32.66 349 P **P 15 11 43.4 -1.2**
comp=Z,9.1nm,0.6s,baz=170,slow=3.9,SNR=8.6
YAK LR LR 15 25 06.5
comp=Z,478nm,18.7s,baz=224,slow=37
comp=Z,9.1nm,0.6s
YAK Yakutsk 32.66 349 *e*P **P 15 11 43.6 -0.9**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK MLR MLR
comp=Z,686nm,17.0s
YAK MLR MLR
comp=N,400nm,13.0s
YAK MLR MLR
comp=E,207nm,15.0s
CD2 Chengdu 32.73 281 P **P 15 11 44.0 -1.7**
CD2 pmax pmax
comp=E,30nm,0.6s
CD2 LR LR
comp=E,1μm,16.2s
CD2 LR LR
comp=E,2μm,16.7s
CD2 LR LR
comp=E,2μm,14.1s
GENI Genyem 32.83 183 P P 15 12 01.6 +15
SEY Seymchan 33.26 9 P **P 15 11 49.1 -0.7**
comp=E,5.3nm,1.0s,baz=186,slow=10,SNR=8.1
comp=E,5.3nm,1.0s
SEY Seymchan 33.26 9⇑*e*P **P 15 11 50.7 +0.9**
SEY pmax pmax
comp=Z,9.0nm,1.0s
BOD Bodaibo 33.52 333 *e*P **P 15 11 51.8 -0.3**
BOD pmax pmax
comp=Z,48nm,0.9s
LBMI Labuha 33.76 207 P **P 15 11 54.3 -0.4**
comp=Z,601nmcomp=Z,39nm,0.9s
KMSI Cibinong 34.19 213 P P 15 12 13.4 +15
GTOI Gorontalo 34.61 215 P **P 15 11 59.5 -2.5**
comp=Z,4μmcomp=Z,217nmcomp=Z,22nm,1.1s
KMI Kunming 34.94 271 ⇑P **P 15 12 05.0 -0.2**
KMI pP sP 15 12 13.8 -0.7
KMI pmax pmax
comp=Z,13nm,0.7s
KMI LR LR
comp=Z,380nm,14.6s
KMI LR LR
comp=Z,550nm,14.2s
KMI LR LR
comp=Z,790nm,16.1s
ZAK Zakamensk 35.05 316 *e*P **P 15 12 05.6 0.0**
ZAK pmax pmax
comp=Z,21nm,1.4s
IRK Irkutsk 35.16 319 *e*P **P 15 12 06.0 -0.5**
IRK pmax pmax
comp=Z,67nm,2.2s
MRSI Marisa 35.28 216 P **P 15 12 08.3 +0.5**
comp=Z,120nm,1.1s
TOLI2 Tolitoli 35.35 219 P **P 15 12 07.0 -1.4**
TOLI2 IAmb IAmb 15 12 20.1
comp=Z,49nm,1.2s
PZH PanZhiHua 35.41 274 P **P 15 12 09.6 +0.5**
PZH S **S 15 17 40.1 -2.4**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,140nm,7.2s
PZH LR LR
comp=Z,1μm,17.2s
PZH LR LR
comp=Z,1μm,17.6s
PZH LR LR
comp=Z,1μm,16.7s
GTA Gaotai 35.42 296 ⇑P **P 15 12 07.0 -2.1**
GTA sP sP 15 12 16.8 -1.6
GTA PP **PP 15 13 29.3 -0.3**
GTA PcP **PcP 15 14 40.0 +1.5**
GTA pmax pmax
comp=Z,32nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.1s
GTA LR LR
comp=Z,510nm,17.8s
GTA LR LR
comp=Z,2μm,18.2s
GTA LR LR
comp=Z,2μm,17.4s
SANI Sanana 35.65 208 P **P 15 12 10.1 -0.9**
comp=Z,351nmcomp=Z,30nm,0.7s
MSAI Masohi 35.76 203 P P 15 12 17.3 +5.4
LUWI Luwuk 36.18 214 P **P 15 12 13.6 -1.9**
LUWI IAmb IAmb 15 12 44.5
comp=Z,39nm,0.9s
LUWI Luwuk 36.18 214 P P 15 12 26.6 +11
APSI Ampana 36.62 216 P **P 15 12 19.4 +0.1**
comp=Z,384nmcomp=Z,45nm,1.1s
MOY Mondy 36.84 317 *e*P **P 15 12 21.2 +0.2**
MOY pmax pmax
comp=Z,39nm,2.2s
CRAI Chiangrai 38.71 265 P **P 15 12 35.9 -1.1**
CRAI PcP **PcP 15 14 50.2 +1.6**
GOMU GeErMu 39.50 291 *e*P **P 15 12 42.8 -1.1**
GOMU pP pP 15 12 46.1 -4.4
GOMU sP sP 15 12 47.3 -6.0
GOMU S **S 15 18 51.3 +6.5**
GOMU pmax pmax
comp=Z,51nm,1.0s
GOMU LR LR
comp=Z,500nm,16.7s
GOMU LR LR
comp=Z,470nm,15.9s
GOMU LR LR
comp=Z,340nm,14.6s
SPSI Sidrap Palu 40.19 216 P **P 15 12 50.6 +1.3**
comp=Z,38nm,0.9s
BILL Bilibino 40.33 14*de*P **P 15 12 49.5 -0.4**
BILL *e* 15 14 21.8
BILL pmax pmax
comp=Z,37nm,2.2s
BILL MLR MLR
comp=Z,311nm,16.0s
MTKI Muara Teweh, K 40.40 224 P **P 15 12 51.4 +0.3**
comp=Z,2μmcomp=Z,80nm,1.1s
CHTO Chiang Mai 40.52 264 P **P 15 12 50.2 -1.9**
CHTO Chiang Mai 40.52 264 P **P 15 12 50.2 -1.9**
CHTO pmax pmax
comp=Z,1.0nm,0.9s
CHTO Chiang Mai 40.52 264 P **P 15 12 50.5 -1.6**
CHTO pP **sP 15 13 00.8 -0.7**
CHTO sP **pwP 15 13 06.2 +1.4**
CM31 Chiang Mai Arr 40.67 263 P **P 15 12 51.5 -1.9**
CMAR Chiang Mai Arr 40.67 263 P **P 15 12 51.9 -1.5**
comp=Z,4.1nm,0.7s,baz=57,slow=6.5,SNR=33
CMAR PcP **PcP 15 14 56.5 +1.6**
comp=Z,3.5nm,0.9s,baz=30,slow=1.3,SNR=8.0
CMAR LR LR 15 30 41.4
comp=Z,868nm,19.1s,baz=65,slow=38
comp=Z,4.1nm,0.7s
CMAR Chiang Mai Arr 40.67 263 P **P 15 12 51.2 -2.2**
CMAR PcP **PcP 15 14 57.0 +2.2**
KAPI Kappang 41.10 215 P **P 15 12 54.3 -2.5**
comp=Z,10nm,0.6s,baz=342,slow=6.4,SNR=4.9
comp=Z,10nm,0.6s
KAPI Kappang 41.10 215 P **P 15 12 54.7 -2.1**
KAPI pP **sP 15 13 06.6 +0.5**
BKSI Bulukumba 41.18 214 P P 15 13 09.2 +12
BSSI Bau Bau, Buton 41.72 213 P P 15 13 12.9 +11
STKI Sintang 41.79 229 P P 15 13 14.8 +12
TIXI Tiksi 41.93 354 P **P 15 13 01.2 -1.8**
comp=Z,5.0nm,0.7s,baz=90,slow=20,SNR=2.6
comp=Z,5.0nm,0.7s
TIXI Tiksi 41.93 354⇑*e*P **P 15 13 03.6 +0.6**
TIXI pmax pmax
comp=Z,16nm,1.4s
BBKI Banjar Baru 42.45 222 P P 15 13 20.5 +13
MMRI Maumere 43.15 209 P P 15 13 18.8 +5.2
HNR Honiara 43.21 154 LR LR 15 30 50.1
comp=Z,4μm,20.3s,baz=349,slow=36
EDFI Ende, Flores 43.49 210 P **P 15 13 16.6 +0.2**
comp=Z,426nmcomp=Z,20nm,0.9s
BATI Baumata 44.01 206 P P 15 13 31.7 +11
COEN Coen 44.09 178 P **P 15 13 22.1 +1.0**
COEN IAmb IAmb 15 13 35.3
comp=Z,110nm,1.6s
MTN Manton Dam 44.21 195 P **P 15 13 21.4 -0.6**
MTN IAmb IAmb 15 13 34.6
comp=Z,39nm,0.8s
WMQ Urumqi 44.53 303 ⇓P **P 15 13 24.6 +0.1**
WMQ S **S 15 19 56.8 -1.6**
WMQ pmax pmax
comp=Z,61nm,1.3s
WMQ pmax pmax
comp=Z,350nm,8.1s
WMQ LR LR
comp=Z,600nm,18.5s
WMQ LR LR
comp=Z,680nm,18.5s
WMQ LR LR
comp=Z,340nm,23.7s
DGZ Jazzator, Alta 44.88 311*c i*P **P 15 13 27.5 +0.2**
DGZ pmax pmax
comp=Z,89nm,0.9s
BRDH Bariadhala 45.33 273 LR LR 15 35 14.7
comp=Z,700nm,18.5s,baz=74,slow=40
PLAI Plampang 45.36 215 P **P 15 13 30.7 -0.5**
comp=Z,764nmcomp=Z,75nm,1.0s
TWSI Taliwang, Sumb 45.73 216 P **P 15 13 34.1 -0.1**
comp=Z,31nm,1.0s
KMMI Kalianget 45.87 220 P **P 15 13 35.6 +0.3**
comp=Z,65nm,1.1s
MYKOM Kota Tinggi 45.92 239 P **P 15 13 36.1 +0.3**
SRBI Singaraja 46.04 218 P **P 15 13 39.2 +2.6**
comp=Z,76nm,1.0s
KULM Kulim 46.14 246 P **P 15 13 37.2 -0.3**
KULM IAmb IAmb 15 13 49.3
comp=Z,31nm,0.9s
ZSN Zaisan 46.49 308 *e*P **P 15 13 39.6 -0.3**
ZSN pmax pmax
comp=Z,33nm,1.2s
ZSN Zaisan 46.49 308 *e*P **P 15 13 39.6 -0.3**
comp=Z,33nm,1.2s,baz=308
ZAA0 Zalesovo Array 46.90 317 P **P 15 13 41.1 -1.8**
ZAA0 IAmb IAmb 15 15 28.9
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 46.90 317 P **P 15 13 41.9 -1.1**
comp=Z,7.3nm,0.7s,baz=98,slow=7.6,SNR=24
ZALV PcP **PcP 15 15 15.5 +0.2**
comp=Z,6.3nm,0.7s,baz=110,slow=3.2,SNR=5.6
ZALV LR LR 15 34 07.6
comp=Z,1μm,18.4s,baz=96,slow=37
comp=Z,7.3nm,0.7s
ZALV Zalesovo Beam 46.90 317 P **P 15 13 41.6 -1.3**
TAPN Taplejung 47.20 280 *e*P **P 15 13 45.0 -1.0**
comp=Z,39nm,0.8s
ODAN Odare 47.61 280 *e*P **P 15 13 46.8 -2.4**
MK31 Makanchi Array 48.26 307 P **P 15 13 52.9 -0.8**
MK31 IAmb IAmb 15 14 04.9
comp=Z,30nm,1.0s
MK31 Makanchi Array 48.26 307 *i* P **P 15 13 53.3 -0.4**
MKAR Makanchi Array 48.26 307 *i* P **P 15 13 53.1 -0.6**
comp=Z,15nm,0.8s,baz=90,slow=9.3,SNR=70
MKAR LR LR 15 35 06.8
comp=Z,566nm,18.1s,baz=93,slow=37
comp=Z,15nm,0.8s
MKAR Makanchi Array 48.26 307 P **P 15 13 52.2 -1.4**
MKAR Makanchi Array 48.26 307 *i* P **P 15 13 53.4 -0.3**
MKAR pmax pmax
comp=Z,15nm,0.8s
RAMN Ramite 48.26 280 *e*P **P 15 13 52.4 -1.8**
comp=Z,82nm,0.9s
JIRN Jiri 48.39 281 *e*P **P 15 13 54.2 -1.2**
comp=Z,108nm,0.9s
MAKZ Makanchi 48.47 307 P **P 15 13 55.1 -0.2**
MAKZ IAmb IAmb 15 13 56.4
comp=Z,59nm,1.4s
MAKZ Makanchi 48.47 307 P **P 15 13 55.1 -0.2**
MAKZ pmax pmax
comp=Z,59nm,1.4s
MAKZ Makanchi 48.47 307 P **P 15 13 55.2 -0.2**
MAKZ pP **sP 15 14 04.7 +0.4**
GUN Gumba 48.58 282 *e*P **P 15 13 55.7 -1.2**
comp=Z,142nm,0.9s
PKI Pulchoki 49.08 282 *e*P **P 15 13 58.9 -1.8**
comp=Z,42nm,1.0s
PKIN Phulchoki 49.09 282 *e*P **P 15 13 58.7 -2.0**
comp=Z,35nm,0.9s
KKN Kakani 49.13 282 *e*P **P 15 13 59.6 -1.3**
comp=Z,9.5nm,1.0s
DMN Daman 49.33 282 *e*P **P 15 14 01.1 -1.4**
NRIK Noril'sk 49.52 338 P **P 15 14 03.1 +0.1**
comp=Z,36nm,1.1s,baz=112,slow=9.0,SNR=18
NRIK LR LR 15 36 08.5
comp=Z,506nm,18.5s,baz=118,slow=38
comp=Z,36nm,1.1s
NRIK Noril'sk 49.52 338 P **P 15 14 01.2 -1.8**
NRIK IAmb IAmb 15 14 04.3
comp=Z,42nm,1.1s
SEM Semipalatinsk 49.52 312*c i*P **P 15 14 02.5 -1.1**
SEM pmax pmax
comp=Z,13nm,0.8s
SEM Semipalatinsk 49.52 312⇑*i*P **P 15 14 02.6 -1.1**
comp=Z,13nm,0.8s,baz=312
GKN Gorkha 49.61 282 *e*P **P 15 14 02.7 -1.8**
comp=Z,63nm,0.9s
DANN Dangsing 50.24 283 *e*P **P 15 14 07.9 -1.6**
comp=Z,87nm,0.8s
CTAO Charters Tower 50.35 175 P **P 15 14 10.3 +0.5**
CTAO pP **pwP 15 14 21.7 -1.3**
WB0 Warramunga Arr 50.38 189 P **P 15 14 09.2 -0.9**
PDGK Podgornoye 50.51 303 P **P 15 14 09.5 -1.6**
WR0 Warramunga Arr 50.55 189 P **P 15 14 10.4 -0.9**
WR0 IAmb IAmb 15 14 12.1
comp=Z,34nm,0.9s
WRAB Tennant Creek 50.55 189 P **P 15 14 11.4 +0.1**
WRAB Tennant Creek 50.55 189 P **P 15 14 11.4 +0.1**
WRAB pmax pmax
comp=Z,43nm,0.9s
WRAB Tennant Creek 50.55 189 P **P 15 14 11.0 -0.3**
WRAB pP **pwP 15 14 22.9 -1.3**
KOLN Koldanda 50.55 282 *e*P **P 15 14 10.3 -1.4**
SHLS Shalkode 50.55 303*c i*P **P 15 14 08.2 -3.2**
SHLS pmax pmax
comp=Z,16nm,1.2s
SHLS Shalkode 50.55 303⇑*i*P **P 15 14 08.2 -3.2**
comp=Z,16nm,1.2s,baz=303
KURK Kurchatov 50.56 313 P **P 15 14 10.8 -0.3**
KURK Kurchatov 50.56 313 P **P 15 14 11.1 0.0**
KURK 15 15 29.5
KURK Kurchatov 50.56 313 P **P 15 14 10.7 -0.4**

KURK pP **sP** **15 14 21.4 +1.2**
WRA **Warramunga Arr** **50.56 189** P **P** **15 14 10.5 -0.9**
comp=Z,34nm,0.8s,baz=10.0,slow=8.1,SNR=78
WRA ScP **ScP** **15 19 24.7 +1.5**
comp=Z,3.8nm,1.2s,baz=5.2,slow=4.9,SNR=4.7
WRA S **S** **15 21 20.1 -4.1**
comp=Z,0.9nm,0.9s,baz=13,slow=14,SNR=6.1
comp=Z,34nm,0.8s
WRA **Warramunga Arr** **50.56 189** P **P** **15 14 09.9 -1.5**
WRA **Warramunga Arr** **50.56 189** *i* P **P** **15 14 10.5 -0.9**
WRA pmax pmax
comp=Z,34nm,0.8s
KURBB **Kurchatov Arra** **50.62 313** P **P** **15 14 11.1 -0.5**
comp=Z,27nm,0.8s,baz=89,slow=7.2,SNR=78
KURBB PcP **PcP** **15 15 29.5 +0.7**
comp=Z,0.9nm,0.6s,baz=89,slow=7.0,SNR=1.1
KURBB LR LR 15 36 20.5
comp=Z,710nm,19.5s,baz=64,slow=37
comp=Z,27nm,0.8s
KURBB **Kurchatov Arra** **50.62 313** P **P** **15 14 10.7 -0.9**
FITZ **Fitzroy Crossi** **50.68 200** P **P** **15 14 12.3 0.0**
FITZ IAmb IAmb 15 14 25.7
comp=Z,29nm,1.1s
UZB **Uzynbulak** **50.87 303** *e*P **P** **15 14 12.8 -1.0**
UZB **Uzynbulak** **50.87 303** *e*P **P** **15 14 12.8 -1.0**
baz=303
KPKS **Kokpek** **51.08 303** *e*P **P** **15 14 14.3 -1.0**
KPKS pmax pmax
comp=Z,13nm,0.8s
KPKS **Kokpek** **51.08 303** *e*P **P** **15 14 14.3 -1.0**
comp=Z,13nm,0.8s,baz=303
TDK **Taldyqorghan** **51.09 305** *e*P **P** **15 14 14.8 -0.5**
TDK pmax pmax
comp=Z,19nm,0.9s
TDK **Taldyqorghan** **51.09 305** *e*P **P** **15 14 14.9 -0.5**
comp=Z,19nm,0.9s,baz=305
ZHN **Zhinishke** **51.30 303** *e*P **P** **15 14 16.0 -0.9**
ZHN **Zhinishke** **51.30 303** *e*P **P** **15 14 16.1 -0.9**
baz=303
L20K **Farewell, AK** **51.66 32** P **P** **15 14 21.4 +2.1**
baz=263
K20K **Telida** **51.69 31** P **P** **15 14 21.4 +1.9**
baz=262
J20K **Nowinta River** **51.78 30** P **P** **15 14 21.9 +1.8**
baz=261
KDAK **Kodiak Island** **51.91 38** P **P** **15 14 20.9 -0.3**
comp=Z,12nm,0.8s,baz=334,slow=5.7,SNR=8.8
KDAK LR LR 15 34 59.2
comp=Z,498nm,21.4s,baz=268,slow=34
comp=Z,12nm,0.8s
IMAR **Indian Mountai** **52.24 28** P **P** **15 14 23.6 +0.1**
CHKK **Chushkaly** **52.24 304** *e*P **P** **15 14 23.3 -0.6**
CHKK **Chushkaly** **52.24 304** *e*P **P** **15 14 23.4 -0.6**
baz=304
MDOK **Medeo** **52.30 303** *i* P **P** **15 14 23.8 -0.7**
MDOK **Medeo** **52.30 303** *i* P **P** **15 14 23.8 -0.7**
baz=303
AAA **Alma-Ata** **52.39 303** *e*P **P** **15 14 24.8 -0.2**
AAA **Alma-Ata** **52.39 303** *e*P **P** **15 14 24.9 -0.2**
baz=303
TNSS **Tian-Shan** **52.39 303** *e*P **P** **15 14 25.1 -0.4**
TNSS **Tian-Shan** **52.39 303** *e*P **P** **15 14 25.2 -0.4**
baz=303
G21K **Allakaket** **52.43 27** P **P** **15 14 26.1 +1.2**
baz=260
PPLA **Purkeypile** **52.48 32** P **P** **15 14 27.3 +1.7**
baz=264
CAST **Castle Rocks** **52.59 31** P **P** **15 14 27.8 +1.6**
CAST **Castle Rocks** **52.59 31** P **P** **15 14 27.5 +1.3**
baz=264
KUU **Kurty** **52.70 304***c* *i*P **P** **15 14 26.8 -0.5**
KUU **Kurty** **52.70 304**⇑ *i*P **P** **15 14 26.8 -0.5**
baz=304
ULHL **Ulahol** **53.03 302** P **P** **15 14 30.5 +0.5**
SNR=5.7
F22K **John River** **53.12 26** P **P** **15 14 31.5 +1.6**
baz=260
H22K **Ishtalitna Cre** **53.19 28** P **P** **15 14 32.0 +1.4**
baz=262
NRN **Naryn** **53.35 301** P **P** **15 14 32.1 -0.4**
NRN IAmb IAmb 15 14 46.2
comp=Z,32nm,1.0s
NRN **Naryn** **53.35 301** P **P** **15 14 32.1 -0.4**
NRN pmax pmax
comp=Z,32nm,1.0s
E22K **Anaktuvuk Pass** **53.36 25** P **P** **15 14 32.9 +1.1**
baz=260
TKM2 **Tokmak 2** **53.39 303** P **P** **15 14 32.8 +0.1**
SNR=23
TKM2 **Tokmak 2** **53.39 303** P **P** **15 14 32.1 -0.5**
KSH **Kashi** **53.75 299** P **P** **15 14 38.4 +3.2**
KSH PcP **PcP** **15 15 42.6 +1.6**
KSH pmax pmax
comp=Z,63nm,1.1s
KSH pmax pmax
comp=Z,210nm,10.5s
KSH LR LR
comp=Z,430nm,18.2s
KSH LR LR
comp=Z,890nm,16.5s
KSH LR LR
comp=Z,920nm,17.2s
KBK **Karagaybulak** **53.91 303** P **P** **15 14 36.6 +0.2**
SNR=32
H23K **Yukon River** **53.93 28** P **P** **15 14 37.8 +1.7**
baz=264
CHMS **Chumysh** **53.99 303** P **P** **15 14 37.1 +0.3**
SNR=15
SGDS **Sogindy** **54.00 304** *e*P **P** **15 14 36.3 -0.6**
SGDS **Sogindy** **54.00 304** *e*P **P** **15 14 36.4 -0.6**
baz=304
NEA2 **Nenana** **54.02 30** P **P** **15 14 37.2 +0.5**
NEA2 IAmb IAmb 15 14 50.1
comp=Z,21nm,0.9s
NEA2 **Nenana** **54.02 30** P **P** **15 14 37.9 +1.3**
baz=266
USP **Ospenovka** **54.12 304** P **P** **15 14 38.1 +0.3**
SNR=6.7
BTLS **Baital** **54.15 306** *i* P **P** **15 14 37.3 -0.6**
BTLS pmax pmax
comp=Z,32nm,1.2s
BTLS **Baital** **54.15 306** *i* P **P** **15 14 37.3 -0.6**
comp=Z,32nm,1.2s,baz=306
AAK **Ala-Archa** **54.24 303** P **P** **15 14 39.1 +0.3**
SNR=16
AAK **Ala-Archa** **54.24 303** P **P** **15 14 37.9 -0.9**
comp=Z,19nm,0.9s,baz=114,slow=5.0,SNR=38
AAK LR LR 15 39 56.9
comp=Z,597nm,18.4s,baz=78,slow=38
comp=Z,19nm,0.9s
AAK **Ala-Archa** **54.24 303** P **P** **15 14 38.3 -0.5**
AAK IAmb IAmb 15 14 50.6
comp=Z,35nm,0.9s
AAK **Ala-Archa** **54.24 303** P **P** **15 14 38.3 -0.5**
AAK pmax pmax
comp=Z,35nm,1.0s
AAK **Ala-Archa** **54.24 303** P **P** **15 14 38.6 -0.2**
AAK **Ala-Archa** **54.24 303** P **P** **15 14 38.5 -0.3**
AAK pP **pwP** **15 14 49.5 -1.9**
AS31 **Alice Springs** **54.28 189** P **P** **15 14 38.5 -0.5**
ASAR **Alice Springs** **54.28 189** P **P** **15 14 38.9 -0.2**
comp=Z,9.7nm,0.8s,baz=6.8,slow=6.0,SNR=48
ASAR S **S** **15 22 13.4 -1.7**
comp=Z,1.0nm,0.9s,baz=16,slow=14,SNR=5.5
comp=Z,9.7nm,0.8s
ASAR **Alice Springs** **54.28 189** P **P** **15 14 38.1 -0.9**
UCH **Uchtor** **54.30 302** P **P** **15 14 40.2 +0.6**
SNR=53
BRZS **Berezniki** **54.41 312***c* *i*P **P** **15 14 39.3 -0.4**
BRZS pmax pmax
comp=Z,13nm,1.0s
BRZS **Berezniki** **54.41 312**⇑ *i*P **P** **15 14 39.3 -0.4**
comp=Z,13nm,1.0s,baz=312
MDM **Murphy Dome** **54.41 29** P **P** **15 14 40.3 +0.8**
MDM IAmb IAmb 15 15 01.8
comp=Z,35nm,1.4s
COLA **College** **54.56 30**⇑ *e*P **P** **15 14 40.9 +0.4**
COLA pmax pmax
comp=Z,23nm,2.7s
D24K **Happy Valley** **54.59 24** P **P** **15 14 42.3 +1.5**
baz=262
DHY **Denali Highway** **54.69 32** P **P** **15 14 43.1 +1.4**
baz=268
EKS2 **Erkin-Say** **54.75 303** P **P** **15 14 42.9 +0.4**
SNR=19
F24K **Squaw Lake** **54.75 26** P **P** **15 14 43.4 +1.4**
baz=264
POKR **Poker Plat Res** **54.75 29** P **P** **15 14 43.4 +1.4**
baz=267
AML **Almayashu** **54.92 302** P **P** **15 14 44.7 +0.7**
SNR=86
HDA **Harding Lake** **54.93 30** P **P** **15 14 43.1 -0.1**
baz=268
IL31 **54.97 30** P **P** **15 14 42.8 -0.7**
IL31 IAmb IAmb 15 15 05.2
comp=Z,17nm,1.1s
ILAR **Eielson Array** **54.97 30** P **P** **15 14 43.1 -0.4**
comp=Z,5.4nm,0.9s,baz=258,slow=6.5,SNR=45
ILAR LR LR 15 41 17.4
comp=Z,103nm,18.5s,baz=268,slow=39
comp=Z,5.4nm,0.9s
ILAR **Eielson Array** **54.97 30** P **P** **15 14 42.4 -1.2**
BVA0 **Borovoye Array** **55.50 316** *i* P **P** **15 14 46.3 -1.3**
BVAR **Borovoye Array** **55.50 316** P **P** **15 14 47.2 -0.3**
comp=Z,5.7nm,0.7s,baz=98,slow=9.1,SNR=43
BVAR LR LR 15 39 25.9
comp=Z,767nm,18.9s,baz=80,slow=37
comp=Z,5.7nm,0.7s
PAX **Paxson** **55.56 32** P **P** **15 14 48.9 +1.0**
baz=270
BRVK **Borovoye** **55.56 316** P **P** **15 14 47.2 -0.8**
BRVK IAmb IAmb 15 15 02.9
comp=Z,26nm,0.8s
BRVK **Borovoye** **55.56 316***c* *i*P **P** **15 14 47.8 -0.2**
BRVK pmax pmax
comp=Z,24nm,1.3s
BRVK **Borovoye** **55.56 316** P **P** **15 14 47.8 -0.2**
BRVK pP **sP** **15 14 58.8 +1.7**
F26K **Sheenjek River** **56.20 26** P **P** **15 14 55.4 +3.0**
baz=268
SCRK **Sand Creek** **56.22 31** P **P** **15 14 53.4 +0.8**
baz=271
J26L **Joseph Creek** **56.40 30** P **P** **15 14 53.0 -0.9**
J26L **Joseph Creek** **56.40 30** P **P** **15 14 54.3 +0.4**
baz=271
DZA **Taraz** **56.47 304** *e*P **P** **15 14 54.2 -0.5**
DZA pmax pmax
comp=Z,14nm,1.1s
DZA **Taraz** **56.47 304** *e*P **P** **15 14 54.3 -0.5**
comp=Z,14nm,1.1s,baz=304
L26K **Log Cabin Wild** **56.52 32** P **P** **15 14 56.3 +1.5**
baz=272
KK31 **Karatay Array** **57.02 304** P **P** **15 14 58.4 -0.2**
KK31 **Karatay Array** **57.02 304** P **P** **15 14 58.4 -0.2**
KK31 pmax pmax
comp=Z,87nm,1.2s
KKAR **Karatay Array** **57.02 304** P **P** **15 14 58.3 -0.3**
KKAR **Karatay Array** **57.02 304** P **P** **15 14 58.3 -0.3**
E27K **Coleen River** **57.17 26** P **P** **15 15 00.6 +1.4**
baz=270
NOUC **Port Laguerre** **57.20 153** P **P** **15 15 02.5 +2.6**
NOUC pP **pwP** **15 15 13.8 +0.7**
L27K **Beaver Creek,** **57.22 32** P **P** **15 15 00.3 +0.7**
L27K IAmb IAmb 15 15 22.2
comp=Z,20nm,1.1s
L27K **Beaver Creek,** **57.22 32** P **P** **15 15 01.1 +1.4**
baz=273
H27K **Steamboat Moun** **57.22 28** P **P** **15 15 01.8 +2.1**
baz=271
DZM **Mont Dzumac** **57.23 153** *e*P **P** **15 15 01.3 +1.1**
comp=Z,92nm,1.4s
DZM *e*S **S** **15 22 54.8 +0.3**
comp=Z,169nm,25.4s
DZM *e*LR LR 15 31 47.1
comp=Z,330nm,25.8s
DZM **Mont Dzumac** **57.23 153** P **P** **15 15 02.1 +1.9**
comp=Z,19nm,1.1s,baz=3.6,slow=8.6,SNR=6.0
comp=Z,19nm,1.1s
DZM **Mont Dzumac** **57.23 153** P **P** **15 15 02.3 +2.1**
DZM IAmb IAmb 15 15 15.3
comp=Z,33nm,1.1s
DZM **Mont Dzumac** **57.23 153** P **P** **15 15 02.6 +2.4**
BCAR **Beaver Creek A** **57.23 32** P **P** **15 15 00.7 +0.8**
EGAK **Eagle** **57.42 30** P **P** **15 15 01.9 +0.9**
IUG **luzhnay** **57.58 303***c* *i*P **P** **15 15 02.9 +0.3**
IUG **luzhnay** **57.58 303**⇑ *i*P **P** **15 15 02.9 +0.3**
baz=303
GAR **Garm** **58.14 299** P **P** **15 15 04.7 -1.9**
DAWY **Dawson** **58.23 30** P **P** **15 15 07.8 +1.0**
DAWY IAmb IAmb 15 15 31.9
comp=Z,12nm,0.9s
I29M **Ogilvie Camp,** **58.59 29** P **P** **15 15 10.0 +0.8**
I29M IAmb IAmb 15 15 31.7
comp=Z,12nm,0.9s
I29M **Ogilvie Camp,** **58.59 29** P **P** **15 15 10.3 +1.0**
baz=275
M29M **Somme Creek** **58.81 32** P **P** **15 15 12.9 +2.0**
baz=276
L29M **L29M** **58.89 32** P **P** **15 15 13.7 +2.3**
baz=276
K29M **Barlow Dome** **59.08 31** P **P** **15 15 14.3 +1.5**
baz=276
CHGR **Chuyangaron** **59.10 299** P **P** **15 15 13.0 -0.3**
CHGR **Chuyangaron** **59.10 299** P **P** **15 15 13.0 -0.3**
CHGR pmax pmax
comp=Z,438nm,0.9s
EPYK **Eagle Plains** **59.15 28** P **P** **15 15 14.2 +1.0**
baz=276
HYT **Haines Junctio** **59.47 34** P **P** **15 15 15.9 +0.4**
HYT IAmb IAmb 15 15 23.3
comp=Z,58nm,1.9s
INK **Inuvik** **60.16 25** P **P** **15 15 19.7 -0.2**
comp=Z,3.2nm,0.5s,baz=286,slow=7.5,SNR=7.3
comp=Z,3.2nm,0.5s
INK **Inuvik** **60.16 25** P **P** **15 15 19.7 -0.2**
INK **Inuvik** **60.16 25** P **P** **15 15 19.7 -0.2**
INK pmax pmax
comp=Z,6.0nm,0.8s
INK **Inuvik** **60.16 25** P **P** **15 15 20.6 +0.7**
baz=277
N31M **Braeburn, Yuko** **60.20 33** P **P** **15 15 21.4 +1.0**
N31M IAmb IAmb 15 17 00.3
comp=Z,59nm,1.8s
N31M **Braeburn, Yuko** **60.20 33** P **P** **15 15 22.8 +2.4**
baz=279
KBL **Kabul** **60.39 295** P **P** **15 15 20.5 -1.9**
KBL **Kabul** **60.39 295** P **P** **15 15 20.5 -1.9**
KBL pmax pmax
comp=Z,43nm,1.1s
M31M **Drury Creek, Y** **60.73 32** P **P** **15 15 24.5 +0.5**
M31M IAmb IAmb 15 15 46.5
comp=Z,26nm,1.6s
M31M **Drury Creek, Y** **60.73 32** P **P** **15 15 24.9 +0.9**
baz=280
FARO **Faro, Yukon** **61.20 32** P **P** **15 15 28.0 +0.8**
baz=281
ARU **Arti** **61.71 321** P **P** **15 15 29.8 -0.9**
comp=Z,48nm,0.8s,baz=77,slow=4.1,SNR=66
ARU LR LR 15 44 20.7
comp=Z,404nm,18.7s,baz=80,slow=38
comp=Z,48nm,0.8s
ARU **Arti** **61.71 321** P **P** **15 15 29.7 -0.9**
ARU **Arti** **61.71 321***c* *i*P **P** **15 15 30.4 -0.3**
ARU 15 16 10.7
ARU PPP PPP 15 19 10.9
ARU S **S** **15 23 55.0 +3.4**
ARU SS **SS** **15 27 52.4 -0.4**
ARU pmax pmax
comp=Z,68nm,0.9s
ARU MLR MLR
comp=Z,625nm,17.0s
ARU **Arti** **61.71 321** P **P** **15 15 30.4 -0.3**
ARU pP **sP** **15 15 41.5 +1.6**
STKA **Stephens Creek** **61.92 180** P **P** **15 15 32.5 +0.2**
comp=Z,11nm,0.8s,baz=341,slow=8.0,SNR=17
comp=Z,11nm,0.8s
STKA **Stephens Creek** **61.92 180** P **P** **15 15 32.8 +0.5**
STKA **Stephens Creek** **61.92 180***ce*P **P** **15 15 33.1 +0.8**
FORT **Forrest** **62.23 193** P **P** **15 15 34.7 +0.3**
AB31 **Akbulak array** **62.67 313** *i* P **P** **15 15 36.8 -0.4**
ABKAR **Akbulak array** **62.67 313** P **P** **15 15 37.0 -0.3**
BBOO **Buckleboo** **63.09 186** P **P** **15 15 40.8 +0.7**
BBOO IAmb IAmb 15 15 45.2
comp=Z,39nm,1.1s
AKTO **Aktyubinsk** **63.54 315** P **P** **15 15 42.4 -0.7**
comp=Z,16nm,0.8s,baz=78,slow=14,SNR=34
comp=Z,16nm,0.8s
DLBC **Dease Lake** **63.68 36** P **P** **15 15 45.6 +1.7**
comp=Z,1.4nm,0.4s,baz=195,slow=16,SNR=2.1
DLBC LR LR 15 40 13.7
comp=Z,141nm,21.8s,baz=280,slow=33
comp=Z,1.4nm,0.4s
TGTN **Hyland Airport** **63.70 32** P **P** **15 15 46.0 +2.0**
baz=285
CAN **Canberra** **65.69 174** P **P** **15 15 58.4 +1.3**
CAN **Canberra** **65.69 174** P **P** **15 15 58.4 +1.3**
CAN pmax pmax
comp=Z,51nm,1.3s
KIRV **Kirov** **65.87 325** P **P** **15 15 58.2 +0.2**
comp=Z,14nm,0.6s,baz=121,slow=2.9,SNR=11
comp=Z,14nm,0.6s
PRGR **Permogore** **66.62 329** *e*P **P** **15 16 01.6 -1.2**
PRGR pmax pmax
comp=Z,34nm,0.9s
SPA0 **Spitsbergen Ar** **67.12 350** *e*P **P** **15 16 06.3 +0.4**
SPITS **Spitsbergen Ar** **67.12 350** P **P** **15 16 06.1 +0.3**
comp=Z,11nm,0.9s,baz=123,slow=21,SNR=3.6
SPITS LR LR 15 48 03.9
comp=Z,173nm,18.2s,baz=17,slow=38
comp=Z,11nm,0.9s
NWAO **Narrogin (SRO)** **67.16 202** P P 15 16 00.6 -5.9
NWAO sP pwP 15 16 17.7 -1.9
KBS **Kingsbay** **67.27 351** P **P** **15 16 07.4 +0.6**
KBS x x 15 16 13.8
KBS pP **pwP** **15 16 18.6 -1.5**
GEYT **Alibeck** **67.56 302** P **P** **15 16 09.8 +0.5**
comp=Z,33nm,0.9s,baz=29,slow=3.4,SNR=56
GEYT LR LR 15 47 35.9
comp=Z,278nm,19.9s,baz=76,slow=38
comp=Z,33nm,0.9s
GEYT **Alibeck** **67.56 302** P **P** **15 16 09.0 -0.2**
GYA0B **ALIBECK ARRAY** **67.56 302** P **P** **15 16 09.0 -0.3**
RES **Resolute Bay** **68.94 14** LR LR 15 54 41.3
comp=Z,101nm,18.0s,baz=98,slow=43
APA **Apatity** **68.94 337**⇓ *i*P **P** **15 16 15.9 -1.4**
APA pmax pmax
comp=Z,16nm,0.8s
BELG **Belogornoye** **69.02 319** P **P** **15 16 17.9 -0.1**
comp=Z,53nm,0.8s,baz=22,slow=0.6,SNR=8.9
BELG LR LR 15 48 12.5
comp=Z,590nm,18.8s,baz=95,slow=37
comp=Z,53nm,0.8s
BELG **Belogornoye** **69.02 319***c* *i*P **P** **15 16 18.2 +0.1**
BELG pmax pmax
comp=Z,12nm,0.9s
YKA **Yellowknife Ar** **69.38 29** P **P** **15 16 19.9 -0.3**
comp=Z,2.0nm,0.6s,baz=251,slow=3.8,SNR=2.8
YKA LR LR 15 47 39.5
comp=Z,47nm,20.8s,baz=294,slow=37
comp=Z,2.0nm,0.6s
KLMR **Klimovskoe** **69.64 329** *e*P **P** **15 16 20.7 -1.1**
KLMR *e* 15 18 54.5
KLMR S **S** **15 25 29.5 +1.3**
KLMR pmax pmax
comp=Z,29nm,1.0s
KLMR MLR MLR
comp=Z,283nm,15.0s
KLMR **Klimovskoe** **69.64 329** *e*P **P** **15 16 20.7 -1.1**
KLMR *e*P **P** **15 16 20.7 -1.1**
KLMR *e*P **P** **15 16 20.7 -1.1**
KLMR AMP 15 16 22.9
comp=Z,29nm,1.0s
KLMR *e*PP **PP** **15 18 54.6 -0.8**
KLMR S **S** **15 25 29.6 +1.3**
KLMR S **S** **15 25 29.6 +1.3**
KLMR LR LR 15 46 28.5
KLMR AMP 15 49 59.2
comp=Z,283nm,14.6s
KEV **Kevo** **69.82 340** P **P** **15 16 22.4 -0.3**
ARA0 **ARCESS Array S** **70.38 340** *e*P **P** **15 16 26.9 +0.7**
ARA0 IAmb IAmb 15 16 27.0
comp=Z,15nm,1.0s
ARCES **ARCESS Array B** **70.38 340** P **P** **15 16 26.2 +0.1**
comp=Z,9.2nm,0.8s,baz=60,slow=7.2,SNR=23
ARCES LR LR 15 51 57.4
comp=Z,397nm,18.5s,baz=69,slow=40
comp=Z,9.2nm,0.8s
ARCES **ARCESS Array B** **70.38 340** P **P** **15 16 26.0 -0.2**
ARCES IAmb IAmb 15 16 27.8
comp=Z,12nm,0.9s
KTK1 **Kautokeino** **71.34 341** *e*P **P** **15 16 32.6 +0.5**
KTK1 IAmb IAmb 15 16 32.7
comp=Z,12nm,1.0s
TRO **Tromso** **72.14 342** *e*P **P** **15 16 37.1 +0.3**
TRO IAmb IAmb 15 16 37.7
comp=Z,11nm,1.0s
VRH **Novokhopyorsk** **72.85 320** *e*P **P** **15 16 39.8 -1.6**
VRH pmax pmax
comp=Z,20nm,0.8s
MOS **Moscow** **72.88 325** *e*P **P** **15 16 40.5 -1.0**
MOS pmax pmax
comp=Z,37nm,0.9s
MOS MLR MLR
comp=Z,1μm,17.0s
MAK **Makhachkala** **72.97 310** *e*P P 15 16 36.4 -5.8
MAK *e* 15 19 19.0
MAK *e*S **S** **15 25 59.5 -7.9**
MAK pmax pmax
comp=Z,170nm,1.1s
MAK MLR MLR
comp=Z,1μm,17.0s
VALR **Valaam** **73.05 332***de*P **P** **15 16 42.5 +0.1**
VALR pmax pmax
comp=Z,56nm,1.1s
WSAR **Wadi Sarin** **73.12 287** LR LR 15 53 42.7
comp=Z,247nm,18.0s,baz=95,slow=40
H04A **Detroit Lake** **73.18 48** P **P** **15 16 44.7 +1.1**
H04A IAmb IAmb 15 16 48.8
comp=Z,12nm,0.8s
I04A **Tendick Farm,** **73.43 49** P **P** **15 16 47.1 +2.1**
baz=296
OBN **Obninsk** **73.72 325** P **P** **15 16 47.0 +0.6**
comp=Z,5.2nm,0.4s,baz=348,slow=4.6,SNR=5.9
OBN LR LR 15 51 45.0
comp=Z,166nm,19.2s,baz=31,slow=38
comp=Z,5.2nm,0.4s
OBN **Obninsk** **73.72 325***de*P **P** **15 16 47.0 +0.6**
OBN *i* 15 16 57.0
OBN *i* 15 19 29.1
OBN *e*S **SKiKP** **15 26 13.4 -0.7**
OBN pmax pmax
comp=Z,17nm,0.6s
OBN MLR MLR
comp=Z,742nm,15.0s
LPSR **Galich'ya Gora** **73.72 322** *e*P **P** **15 16 45.3 -1.2**
LPSR pmax pmax
comp=Z,20nm,0.9s
BANOM **Banah** **73.84 291** P **P** **15 16 48.2 +0.4**
SHME **Shamm** **73.92 291** *i* P **P** **15 16 48.5 +0.4**
SNR=27
GROC **Groznyy** **73.99 311** *e*P **P** **15 16 48.0 -0.2**
GROC *e* 15 17 00.1
GROC *e* 15 19 35.8
GROC pmax pmax
comp=Z,130nm,1.0s
VORR **Voronezh** **74.02 321** *e*P **P** **15 16 48.8 +0.6**
VORR pmax pmax
comp=Z,50nm,0.5s
YBH **Yreka Blue Hor** **74.15 51** P **P** **15 16 51.0 +1.7**
comp=Z,3.7nm,0.7s,baz=278,slow=0.7,SNR=11
YBH LR LR 15 42 28.6
comp=Z,234nm,21.2s,baz=297,slow=30
comp=Z,3.7nm,0.7s
MSFE **Esma-Masafi** **74.21 290** P **P** **15 16 50.2 +0.3**
VSR **Storozhevoye** **74.26 320** *e*P **P** **15 16 48.5 -1.2**
VSR pmax pmax
comp=Z,30nm,1.1s
STEI **Steigen** **74.29 342** *e*P **P** **15 16 48.7 -0.8**
STEI IAmb IAmb 15 16 50.9
comp=Z,11nm,0.8s
UOSS **Minazif** **74.36 290** P **P** **15 16 50.2 -0.5**
UOSS IAmb IAmb 15 16 51.7
comp=Z,21nm,0.9s
UOSS **Minazif** **74.36 290** *i* P **P** **15 16 50.4 -0.3**
SNR=5.9
PINE **Pine Mountain** **74.38 48** P **P** **15 16 51.5 +0.7**
PINE IAmb IAmb 15 17 06.2
comp=Z,21nm,0.9s
J05D **Fort Rock, OR** **74.42 49** P **P** **15 16 52.8 +1.8**
baz=297
HATD **Hatta, Dubai** **74.47 290** *i* P **P** **15 16 51.7 +0.3**
SNR=10
ASHO **Ashiyiah** **74.59 290** *i* P **P** **15 16 52.2 +0.1**
SNR=9.3
NEW **Newport** **74.66 43** P **P** **15 16 53.1 +1.0**
comp=Z,5.3nm,0.9s,baz=302,slow=4.2,SNR=6.3
NEW LR LR 15 45 11.8
comp=Z,101nm,20.3s,baz=304,slow=32
comp=Z,5.3nm,0.9s

NEW	**Newport**	**74.66**	**43**	P		**P**		**15 16 53.7**	**+1.6**
	baz=298								
FAUS	**Fauske**	**74.66**	**341**	*eP*		**P**		**15 16 52.2**	**+0.5**
FAUS				IAmb		IAmb		15 16 52.7	
	comp=Z,28nm,1.0s								
GOF	**Gofitskoye**	**74.90**	**314⇑**	*eP*		**P**		**15 16 53.5**	**0.0**
FINES	**FINESS Array B**	**74.91**	**333**	P		**P**		**15 16 53.3**	**0.0**
	comp=Z,9.5nm,0.8s,baz=59,slow=5.5,SNR=22								
FINES				LR		LR		15 52 12.6	
	comp=Z,267nm,18.4s,baz=55,slow=38								
	comp=Z,9.5nm,0.8s								
FAQ	**Al Faqa, Dubai**	**74.94**	**290**	*i* P		**P**		**15 16 54.0**	**-0.1**
	SNR=7.7								
ALNE	**Al Ain**	**75.12**	**289**	P		**P**		**15 16 55.4**	**+0.2**
ASUD	**Al Ashush, Dub**	**75.21**	**290**	P		**P**		**15 16 55.8**	**+0.2**
ZEI	**Tsey**	**75.41**	**311**	*eP*		**P**		**15 16 56.0**	**-0.8**
ZEI				pmax		pmax			
	comp=Z,23nm,1.0s								
KBZ	**Khabaz**	**75.62**	**312**	P		**P**		**15 16 58.4**	**+0.8**
	comp=Z,27nm,0.9s,baz=99,slow=1.9,SNR=27								
KBZ				LR		LR		15 52 27.9	
	comp=Z,348nm,20.7s,baz=66,slow=38								
	comp=Z,27nm,0.9s								
KIV	**Kislovodsk**	**75.65**	**313**	*eP*		**P**		**15 16 58.6**	**+0.6**
KIV				*eS*		**S**		**15 26 40.6**	**+3.0**
KIV				pmax		pmax			
	comp=Z,45nm,1.1s								
KIV				pmax		pmax			
	comp=Z,57nm,4.3s								
KIV				MLR		MLR			
	comp=Z,307nm,18.0s								
KIV	**Kislovodsk**	**75.65**	**313**	*i* P		**P**		**15 16 58.8**	**+0.8**
	SNR=6.8								
MOR8	**Moi Rana**	**75.75**	**341**	*eP*		**P**		**15 16 57.0**	**-1.0**
MOR8				IAmb		IAmb		15 16 57.8	
	comp=Z,15nm,0.9s								
URZ	**Urewera**	**75.78**	**152**	P		**P**		**15 16 58.6**	**+0.2**
	comp=Z,8.5nm,0.9s,baz=345,slow=12,SNR=2.7								
	comp=Z,8.5nm,0.9s								
GNI	**Garni**	**76.09**	**308***c*	*i* P		**P**		**15 17 01.6**	**+1.0**
GNI				pmax		pmax			
	comp=Z,45nm,0.9s								
WALA	**Waterton Lakes**	**76.12**	**41**	P		**P**		**15 17 01.4**	**+0.8**
WALA				IAmb		IAmb		15 17 14.2	
	comp=Z,14nm,0.8s								
MEF	**Metsahovi**	**76.31**	**333**	*eP*		**P**		**15 17 01.5**	**+0.2**
VSU	**Vasula**	**76.42**	**331***c*	*i* P		**P**		**15 17 01.9**	**0.0**
VSU				pmax		pmax			
	comp=Z,92nm,1.1s								
VSU	**Vasula**	**76.42**	**331**	*eP*		**P**		**15 17 02.3**	**+0.4**
RAF	**Rauma**	**76.81**	**334**	*eP*		**P**		**15 17 04.2**	**+0.1**
THZ	**Tophouse**	**77.27**	**157**	P		**P**		**15 17 09.2**	**+2.3**
SUMG	**Summit**	**77.32**	**0**	P		**P**		**15 17 07.7**	**+0.4**
SUMG				IAmb		IAmb		15 17 27.0	
	comp=Z,27nm,1.1s								
SUMG	**Summit**	**77.32**	**0**	P		**P**		**15 17 07.7**	**+0.4**
SUMG				pmax		pmax			
	comp=Z,27nm,1.1s								
SUMG	**Summit**	**77.32**	**0**	*i* P		**P**		**15 17 08.0**	**+0.7**
MZR	**Muzera**	**77.45**	**289**	*i* P		**P**		**15 17 08.4**	**-0.1**
	SNR=10								
MTSE	**Matsula**	**77.48**	**332**	*eP*		**P**		**15 17 08.2**	**+0.3**
PNTR	**Pine Nut**	**77.48**	**52**	P		**P**		**15 17 08.8**	**+0.2**
NSS	**Namsos**	**77.66**	**340**	*eP*		**P**		**15 17 08.9**	**+0.2**
SOC	**Sochi**	**77.70**	**313**	*eP*		**P**		**15 17 07.2**	**-2.3**
SOC				*e*				15 20 00.6	
SOC				*e*PPP		PPP		15 21 48.7	
SOC				*eS*		**S**		**15 26 59.7**	**-0.2**
SOC				*eSS*		**SS**		**15 32 03.4**	**+4.1**
SOC				*e*SSS		SSS		15 35 24.5	
SOC				MLR		MLR			
	comp=Z,470nm,17.0s								
SHAO	**Shalim**	**78.00**	**284**	P		**P**		**15 17 11.5**	**0.0**
MNK	**Minsk**	**78.26**	**327**	*i* P		**P**		**15 17 13.4**	**+1.1**
MNK				*i*				15 17 22.5	
MNK				*i*				15 20 10.0	
MNK				*i* PPP		PPP		15 21 57.9	
MNK				*i* S		**S**		**15 27 09.2**	**+3.8**
MNK				*i*				15 27 33.5	
MNK				*i* SS		**SS**		**15 32 12.5**	**+5.5**
MNK				pmax		pmax			
	comp=E,2.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,20nm,0.9s								
MNK				MLR		MLR			
	comp=E,75nm,17.0s								
MNK				MLR		MLR			
	comp=Z,487nm,15.0s								
MNK				MLR		MLR			
	comp=N,2.0nm,20.0s								
MNK	**Minsk**	**78.26**	**327**	*i* P		**P**		**15 17 13.5**	**+1.1**
	comp=E,2.0nm,0.9s								
MNK				*i* P		**P**		**15 17 13.5**	**+1.1**
MNK				*i* P		**P**		**15 17 13.5**	**+1.1**
	comp=Z,20nm,0.9s,baz=234								
MNK				*i* PcP		**PcP**		**15 17 22.6**	**+0.9**
MNK				*i* PP		**PP**		**15 20 10.1**	**+1.3**
MNK				*i* PPP		PPP		15 21 57.9	
MNK				*i* S		**S**		**15 27 09.3**	**+3.8**
MNK				*i* SS		**SS**		**15 32 12.5**	**+5.5**
MNK				*i* SSS		SSS		15 35 37.2	
MNK				*i* LQ		LQ		15 46 40.5	
MNK				*i* LR		LR		15 51 56.5	
MNK				*i* LRM		MLR		15 54 59.2	
	comp=E,75nm,17.2s								
MNK				*i* LRM		MLR		15 55 08.8	
	comp=Z,487nm,14.7s								
MNK				*i* LRM		MLR		15 55 09.4	
	comp=N,2.0nm,20.4s								
RPZ	**Rata Peaks**	**78.42**	**159**	P		**P**		**15 17 13.2**	**+0.1**
	comp=N,4.0nm,0.8s,baz=34,slow=15,SNR=2.2								
	comp=N,4.0nm,0.8s								
ANN	**Anapa**	**78.49**	**315**	*eP*		P		15 17 06.3	-7.5
ANN				*eS*		S		15 26 59.1	-9.2
ANN				pmax		pmax			
	comp=Z,64nm,1.5s								
ANN				MLR		MLR			
	comp=Z,465nm,16.0s								
KVN	**Kaiserville**	**78.52**	**51**	P		**P**		**15 17 14.4**	**+0.1**
KVN	**Kaiserville**	**78.52**	**51**	P		**P**		**15 17 14.4**	**+0.1**
KVN				pmax		pmax			
	comp=Z,10.0nm,1.1s								
NACGM	**Naroch**	**78.53**	**328⇑**	*eP*		**P**		**15 17 13.2**	**-0.6**
	baz=53								
HLID	**Hailey**	**78.63**	**46**	P		**P**		**15 17 16.6**	**+1.7**
	baz=301								
NVAR	**Mina Array Bea**	**78.69**	**52**	P		**P**		**15 17 16.2**	**+1.0**
	comp=Z,4.9nm,0.8s,baz=285,slow=5.7,SNR=24								
NVAR				LR		LR		15 50 21.5	
	comp=Z,150nm,18.6s,baz=272,slow=34								
	comp=Z,4.9nm,0.8s								
BOZ	**Bozeman (W)**	**79.25**	**43**	P		**P**		**15 17 18.9**	**+0.7**
	baz=302								
PABE	**Paberze**	**79.43**	**329**	*eP*		**P**		**15 17 19.1**	**+0.4**
ELK	**Elko**	**79.56**	**49**	LR		LR		15 48 06.4	
	comp=Z,268nm,19.8s,baz=274,slow=32								
AKASG	**Malin Array Be**	**79.84**	**323**	P		**P**		**15 17 20.4**	**-0.6**
	comp=Z,6.9nm,0.8s,baz=49,slow=5.9,SNR=24								
AKASG				PP		**PP**		**15 20 20.9**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=48,slow=8.3,SNR=4.8								
AKASG				LR		LR		15 55 17.8	
	comp=Z,916nm,19.1s,baz=51,slow=38								
	comp=Z,6.9nm,0.8s								
AKASG	**Malin Array Be**	**79.84**	**323**	*i* P		**P**		**15 17 20.7**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,7.0nm,0.8s								
AKBB	**Malin Array Si**	**79.84**	**323**	P		**P**		**15 17 20.6**	**-0.5**
AKBB				IAmb		IAmb		15 17 32.8	
	comp=Z,18nm,0.8s								
AKBB	**Malin Array Si**	**79.84**	**323**	P		**P**		**15 17 20.6**	**-0.5**
AKBB				pmax		pmax			
	comp=Z,18nm,0.8s								
NC405	**NORSAR Array S**	**80.27**	**338**	P		**P**		**15 17 22.8**	**-0.4**
HFS	**Hagfors**	**80.33**	**336**	LR		LR		15 55 04.6	
	comp=Z,223nm,19.8s,baz=44,slow=37								
DOMB	**Dombas**	**80.40**	**339**	*eP*		**P**		**15 17 24.1**	**+0.2**
SIM	**Simferopol'**	**80.41**	**317**	*eP*		**P**		**15 17 24.8**	**+0.6**
SIM				*eS*		**S**		**15 27 26.1**	**-2.5**
SIM				pmax		pmax			
	comp=Z,27nm,1.1s								
SIM				smax		smax			
	comp=E,152nm,19.0s								
SIM				MLR		MLR			
	comp=Z,180nm,19.8s								
NB2	**NORSAR Subarra**	**80.49**	**338**	P		**P**		**15 17 24.0**	**-0.4**
	comp=Z,21nm,1.1s,baz=42,slow=5.3								
NB2	**NORSAR Subarra**	**80.49**	**338**	P		**P**		**15 17 24.0**	**-0.4**
	baz=42,slow=5.3								
NOA	**NORSAR Array B**	**80.49**	**338**	P		**P**		**15 17 23.5**	**-0.9**
	comp=Z,9.2nm,0.9s,baz=40,slow=5.2,SNR=24								
NOA				PP		**PP**		**15 20 25.4**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=49,slow=8.8,SNR=3.8								
NOA				LR		LR		15 56 13.3	
	comp=Z,369nm,20.0s,baz=40,slow=38								
	comp=Z,9.2nm,0.9s								
RLMT	**Red Lodge**	**80.91**	**43**	P		**P**		**15 17 28.1**	**+0.9**
RLMT	**Red Lodge**	**80.91**	**43**	P		**P**		**15 17 28.9**	**+1.7**
	baz=304								
PPT	**Papeete**	**81.31**	**116**	P		**P**		**15 17 28.7**	**-0.6**
	comp=Z,17nm,0.9s,baz=33,slow=13,SNR=2.4								
	comp=Z,17nm,0.9s								
PPT2	**Papeete2**	**81.32**	**116**	*e*LR		LR		15 42 56.0	
	comp=Z,333nm,24.5s								
DUG	**Dugway, Tooele**	**81.42**	**48**	P		**P**		**15 17 30.3**	**+0.4**
DUG	**Dugway, Tooele**	**81.42**	**48**	P		**P**		**15 17 30.3**	**+0.4**
DUG				pmax		pmax			
	comp=Z,10.0nm,1.0s								
DUG	**Dugway, Tooele**	**81.42**	**48**	P		**P**		**15 17 31.4**	**+1.5**
	baz=303								
OSL	**Oslo**	**81.48**	**337**	*eP*		**P**		**15 17 30.1**	**+0.5**
SKAR	**Skarslia**	**81.68**	**339**	*eP*		**P**		**15 17 31.4**	**+0.6**
HYA	**Hoyanger**	**81.94**	**340**	*eP*		**P**		**15 17 32.2**	**+0.2**
PDAR	**Pinedale Array**	**82.05**	**45**	P		**P**		**15 17 32.2**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=271,slow=2.1,SNR=14								
PDAR				LR		LR		15 51 32.8	
	comp=Z,136nm,20.1s,baz=303,slow=34								
	comp=Z,1.4nm,0.6s								
PDAR	**Pinedale Array**	**82.05**	**45**	P		**P**		**15 17 31.7**	**-1.6**
KONO	**Kongsberg**	**82.07**	**338**	*eP*		**P**		**15 17 32.6**	**-0.2**
GMRC	**Granite Mounta**	**82.37**	**54**	P		**P**		**15 17 36.3**	**+1.3**
	baz=302								
PFO	**Pinyon Flats O**	**82.42**	**56**	P		**P**		**15 17 35.6**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=290,slow=4.5,SNR=5.7								
PFO				LR		LR		15 50 27.5	
	comp=Z,295nm,19.1s,baz=270,slow=33								
	comp=Z,5.5nm,0.8s								
PFO	**Pinyon Flats O**	**82.42**	**56**	P		**P**		**15 17 36.7**	**+1.4**
	baz=302								
SFJD	**Kangerlussuaq**	**82.46**	**5**	LR		LR		15 57 01.4	
	comp=Z,80nm,19.9s,baz=346,slow=38								
BELC	**Belle Mtn. Jos**	**82.54**	**55**	P		**P**		**15 17 36.7**	**+0.7**
	baz=302								
BC3	**Big Chuckawall**	**83.11**	**55**	P		**P**		**15 17 40.4**	**+1.5**
	baz=302								
FRB	**Frobisher Bay**	**83.14**	**13**	LR		LR		15 58 54.5	
	comp=Z,134nm,20.3s,baz=355,slow=39								
BEL	**Belsk**	**83.26**	**328**	*eP*		**P**		**15 17 39.9**	**+0.8**
BR131	**Keskin Array S**	**83.61**	**313**	P		**P**		**15 17 41.3**	**-0.1**
BR131	**Keskin Array S**	**83.61**	**313***c*	*i* P		**P**		**15 17 41.5**	**+0.1**
BRTR	**Keskin Array B**	**83.61**	**313**	P		**P**		**15 17 40.5**	**-0.9**
	comp=Z,22nm,0.9s,baz=98,slow=3.5,SNR=45								
BRTR				LR		LR		15 59 05.7	
	comp=Z,315nm,18.3s,baz=60,slow=39								
	comp=Z,22nm,0.9s								
BRTR	**Keskin Array B**	**83.61**	**313**	P		**P**		**15 17 40.9**	**-0.5**
BRTR	**Keskin Array B**	**83.61**	**313**	*i* P		**P**		**15 17 41.7**	**+0.3**
BRTR				pmax		pmax			
	comp=Z,23nm,0.9s								
RAYN	**Ar Rayn**	**83.62**	**293**	P		**P**		**15 17 41.0**	**-0.6**
RAYN	**Ar Rayn**	**83.62**	**293**	P		**P**		**15 17 41.0**	**-0.6**
RAYN				pmax		pmax			
	comp=Z,124nm,1.0s								
RAYN	**Ar Rayn**	**83.62**	**293**	*i* P		**P**		**15 17 42.5**	**+0.9**
	SNR=78								
KWP	**Kalwaria Pacla**	**83.80**	**325**	*eP*		**P**		**15 17 42.4**	**+0.5**
TAOE	**Nuku Hiva Isla**	**84.17**	**104**	*eS*		**S**		**15 28 04.5**	**-3.7**
	comp=Z,62nm,24.8s								
TAOE				*e*SS		**SS**		**15 33 36.1**	**-1.8**
	comp=Z,47nm,22.9s								
TAOE	**Nuku Hiva Isla**	**84.17**	**104**	*e*LR		LR		15 44 13.5	
	comp=Z,303nm,23.9s								
KOLS	**Kolonicke sedl**	**84.47**	**325**	*eP*		**P**		**15 17 46.1**	**+0.7**
KOLS				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KOLS	**Kolonicke sedl**	**84.47**	**325**	*eP*		**P**		**15 17 46.1**	**+0.7**
UZH	**Uzhgorod**	**84.66**	**325**	*eP*		**P**		**15 17 45.4**	**-0.9**
UZH				*e*				15 17 48.2	
MLR	**Muntele Rosu**	**84.75**	**321**	LR		LR		15 58 21.0	
	comp=Z,580nm,18.4s,baz=69,slow=38								
OJC	**Ojcow**	**84.81**	**327**	*eP*		**P**		**15 17 45.9**	**-1.2**
OJC				*eS*		**S**		**15 28 12.1**	**-1.3**
CRVS	**Cervenica-Dubn**	**84.89**	**325**	*eP*		**P**		**15 17 48.0**	**+0.5**
CRVS				pmax		pmax			
	comp=Z,23nm,1.4s								
CRVS	**Cervenica-Dubn**	**84.89**	**325**	*eP*		**P**		**15 17 48.0**	**+0.5**
NIE	**Niedzica**	**85.11**	**326**	*eP*		**P**		**15 17 49.0**	**+0.4**
NIE				*e*PP		**PP**		**15 21 07.3**	**+2.0**
LANS	**Liptovska Anna**	**85.69**	**326**	*eP*		**P**		**15 17 52.4**	**+0.8**
LANS	**Liptovska Anna**	**85.69**	**326**	*eP*		**P**		**15 17 52.4**	**+0.8**
OKC	**Ostrava-Krasne**	**85.85**	**327**	AMS		AMS		15 59 30.0	
	comp=Z,500nm,17.7s								
KSP	**Ksiaz**	**85.99**	**329**	*eP*		**P**		**15 17 53.0**	**0.0**
KSP				*eS*		**S**		**15 28 26.6**	**+1.6**
MORC	**Moravsky Berou**	**86.17**	**328**	*eP*		**P**		**15 17 53.6**	**-0.3**
MORC				*e*				15 18 06.1	
OSTC	**Ostas**	**86.22**	**329**	AMS		AMS		16 00 20.0	
	comp=Z,600nm,16.2s								
CHVC	**Chvalec**	**86.27**	**329**	AMS		AMS		16 00 20.0	
	comp=Z,400nm,15.3s								
KRLC	**Kraliky**	**86.31**	**328**	*eP*		**P**		**15 17 54.9**	**+0.3**
KRLC				*e*				15 18 07.9	
KRLC				MLR		MLR			
	comp=Z,500nm,15.2s								
KRLC	**Kraliky**	**86.31**	**328**	*eP*		**P**		**15 17 54.9**	**+0.3**
KRLC				*ex*		x		15 18 07.9	
KRLC				AMS		AMS		16 00 30.0	
	comp=Z,500nm,15.2s								
DPC	**Dobruska-Polom**	**86.32**	**329**	*eP*		**P**		**15 17 55.2**	**+0.5**
DPC				MLR		MLR			
	comp=Z,600nm,17.0s								
DPC	**Dobruska-Polom**	**86.32**	**329**	*eP*		**P**		**15 17 55.2**	**+0.5**
DPC				AMS		AMS		16 00 10.0	
	comp=Z,600nm,17.0s								
MAUC	**Maruska**	**86.32**	**327**	AMS		AMS		15 59 50.0	
	comp=Z,1μm,15.1s								
UPC	**Upice**	**86.35**	**329**	AMS		AMS		16 00 20.0	
	comp=Z,500nm,15.6s								
VYHS	**Vyhne**	**86.45**	**326**	*eP*		**P**		**15 17 55.5**	**+0.2**
VYHS				pmax		pmax			
	comp=Z,11nm,1.0s								
VYHS	**Vyhne**	**86.45**	**326**	*eP*		**P**		**15 17 55.5**	**+0.2**
JAVC	**Velka Javorina**	**86.75**	**327**	*eP*		**P**		**15 17 57.7**	**+0.9**
JAVC				*e*				15 18 10.1	
VRAC	**Vranov**	**86.94**	**328**	LR		LR		16 00 04.8	
	comp=Z,227nm,19.6s,baz=41,slow=38								
VRAC	**Vranov**	**86.94**	**328**	*eP*		**P**		**15 17 57.5**	**-0.1**
VRAC				*e*				15 18 09.9	
PVCC	**Panska Ves**	**86.98**	**329**	AMS		AMS		16 07 20.0	
	comp=Z,300nm,16.5s								
BRG	**Berggiesshubel**	**87.00**	**330**	*eP*		**P**		**15 17 59.3**	**+1.4**
BRG				Amp				15 18 00.8	
	comp=Z,5.5nm,1.0s								
BRG				*ex*		x		15 18 12.5	
BRG				Amp				15 18 14.3	
	comp=Z,6.2nm,1.1s								
BRG				PP		**PP**		**15 21 21.6**	**+1.1**
BRG				Amp				15 21 23.9	
	comp=Z,5.1nm,1.2s								
BRG	**Berggiesshubel**	**87.00**	**330**	*eP*		**P**		**15 17 59.3**	**+1.4**
BRG				*e*				15 18 12.5	
BRG								15 21 21.5	
BRG				S		**S**		**15 28 39.0**	**+4.2**
BRG				pmax		pmax			
	comp=Z,6.0nm,1.0s								
BRG				pmax		pmax			
	comp=Z,6.0nm,1.1s								
BRG				pmax		pmax			
	comp=Z,5.0nm,1.2s								
CLL	**Collm**	**87.08**	**331**	*eP*		**P**		**15 17 58.0**	**-0.2**
CLL				*e*				15 18 08.0	
CLL				*eS*		**S**		**15 28 33.0**	**-2.6**
CLL				pmax		pmax			
	comp=Z,14nm,1.8s								
CLL				MLR		MLR			
	comp=Z,300nm,19.5s								
CLL	**Collm**	**87.08**	**331**	*eP*		**P**		**15 17 58.0**	**-0.2**
	comp=Z,14nm,1.8s								
CLL				*ep*P		**sP**		**15 18 08.0**	**+0.1**
	comp=Z,7.0nm,0.9s								
CLL				*eP*P		**PP**		**15 21 21.0**	**-0.1**
CLL				*eP*PP		PPP		15 23 24.0	
CLL				*eS*		**S**		**15 28 33.0**	**-2.6**
CLL				*e*PS				15 29 36.0	
CLL				*eSS*		**SS**		**15 34 24.0**	**+6.3**
CLL				*ex*		x		15 38 36.0	
CLL				LmV				15 55 00.0	
	comp=Z,300nm,19.5s								
SMOL	**Smolenice**	**87.11**	**327**	*eP*		**P**		**15 17 59.1**	**+0.6**
SMOL				pmax		pmax			
	comp=Z,7.0nm,1.3s								
KRUC	**Moravsky**	**87.21**	**328**	*eP*		**P**		**15 17 58.9**	**0.0**
KRUC				*e*				15 18 11.0	
MODS	**Modra-Piesok**	**87.28**	**327**	*eP*		**P**		**15 17 59.6**	**+0.3**
MODS				pmax		pmax			
	comp=Z,25nm,1.1s								
MODS	**Modra-Piesok**	**87.28**	**327**	*eP*		**P**		**15 17 59.6**	**+0.3**
GOPC	**GO Pecny, Ondr**	**87.33**	**329**	AMS		AMS		16 00 50.0	
	comp=Z,400nm,18.8s								
PRU	**Pruhonice**	**87.38**	**329**	AMS		AMS		16 01 50.0	
	comp=Z,400nm,17.2s								
ZST	**Bratislava**	**87.49**	**327**	*eP*		**P**		**15 18 01.0**	**+0.7**
ZST	**Bratislava**	**87.49**	**327**	*eP*		**P**		**15 18 01.0**	**+0.7**
NKC	**Novy Kostel**	**88.11**	**330**	AMS		AMS		16 05 50.0	
	comp=Z,500nm,16.3s								
RONA	**Rosalia, Austr**	**88.22**	**327**	*eP*		**P**		**15 18 03.7**	**-0.2**
	comp=Z,12nm,1.5s								
RONA				*eP*		**PP**		**15 21 28.5**	**-1.9**
	comp=Z,0.2nm,0.4s								
CONA	**Conrad Observa**	**88.26**	**327**	*eP*		**P**		**15 18 04.2**	**0.0**
	comp=Z,6.0nm,1.1s								
CONA				*eP*		**PP**		**15 21 30.1**	**-0.7**
	comp=Z,3.8nm,1.3s								
CKRC	**Cesky Krumlov**	**88.33**	**328**	AMS		AMS		16 01 30.0	
	comp=Z,600nm,15.3s								
KHC	**Kasperske Hory**	**88.44**	**329**	*eP*		**P**		**15 18 08.3**	**+3.4**
KHC				*e*				15 18 16.7	
KHC				MLR		MLR			
	comp=Z,600nm,15.8s								
KHC	**Kasperske Hory**	**88.44**	**329**	*eP*		**P**		**15 18 08.3**	**+3.4**
KHC				*ex*		x		15 18 16.7	
KHC				AMS		AMS		16 02 10.0	
	comp=Z,600nm,15.8s								
ANMO	**Albuquerque**	**88.55**	**50**	LR		LR		15 54 53.4	
	comp=Z,228nm,18.8s,baz=311,slow=34								
GERES	**GERESS Array B**	**88.59**	**329**	P		**P**		**15 18 04.3**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=64,slow=6.7,SNR=5.7								
GERES				PP		**PP**		**15 21 31.7**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=53,slow=8.9,SNR=3.9								
	comp=Z,1.0nm,0.7s								
ARSA	**Arzberg**	**88.91**	**327**	*eP*		**P**		**15 18 07.0**	**-0.1**
	comp=Z,1.6nm,0.5s								
BIOA	**Bad Ischl, Aus**	**89.47**	**328**	*eP*		**P**		**15 18 09.3**	**-0.4**
EKA	**Eskdalemuir Ar**	**89.54**	**341**	LR		LR		16 02 12.6	
	comp=Z,181nm,18.4s,baz=17,slow=38								
PERS	**Pernice**	**89.55**	**327**	*i* P		**P**		**15 18 09.6**	**-0.6**
SOKA	**Soboth**	**89.56**	**327**	*eP*		**P**		**15 18 09.7**	**-0.5**
	comp=Z,9.8nm,1.0s								
SOKA				*eP*		**PP**		**15 21 38.3**	**-2.8**
	comp=Z,2.5nm,0.7s								
OBKA	**Obir**	**89.91**	**327**	*eP*		**P**		**15 18 10.9**	**-1.0**
	comp=Z,4.2nm,0.8s								
OBKA				*eP*		**PP**		**15 21 40.5**	**-3.4**
	comp=Z,7.9nm,1.1s								
KBA	**Koelnbreinsper**	**90.05**	**328**	*eP*		**P**		**15 18 11.6**	**-1.1**
	comp=Z,7.0nm,1.1s								
KBA				*eP*		**PP**		**15 21 42.5**	**-2.7**
	comp=Z,10nm,1.1s								
MYKA	**Terra Mystica**	**90.25**	**327**	*eP*		**P**		**15 18 12.7**	**-0.7**
	comp=Z,5.2nm,0.9s								
MYKA				*eP*		**PP**		**15 21 44.4**	**-2.2**
	comp=Z,5.8nm,1.0s								
VISS	**Visnje**	**90.28**	**326**	*i* P		**P**		**15 18 12.7**	**-0.8**
JAVS	**Javornik**	**90.59**	**327**	*i* P		**P**		**15 18 13.7**	**-1.4**
WATA	**Walderalm**	**90.67**	**329**	*eP*		**P**		**15 21 48.5**	**-1.5**
	comp=Z,16nm,1.5s								
ABTA	**Abfaltersbach**	**90.68**	**328**	*eP*		**P**		**15 18 14.3**	**-1.2**
	comp=Z,7.7nm,0.9s								
ABTA				*eP*		**PP**		**15 21 47.5**	**-2.6**
	comp=Z,4.2nm,0.8s								
WTTA	**Wattenberg**	**90.69**	**329**	*eP*		**P**		**15 18 15.0**	**-0.6**
	comp=Z,5.2nm,0.8s								
WTTA				*eP*		**PP**		**15 21 47.2**	**-3.0**
	comp=Z,12nm,1.2s								
MOTA	**Moosalm**	**90.87**	**329**	*eP*		**P**		**15 18 15.9**	**-0.5**
	comp=Z,6.9nm,1.3s								
MOTA				*eP*		**PP**		**15 21 48.2**	**-3.5**
	comp=Z,8.3nm,1.4s								
RETA	**Reutte**	**90.91**	**329**	*eP*		**P**		**15 18 16.4**	**-0.1**
	comp=Z,8.0nm,1.1s								
RETA				*eP*		**PP**		**15 21 50.0**	**-1.8**
	comp=Z,3.0nm,1.0s								
SQTA	**Sankt Quirin**	**90.92**	**329**	*eP*		**P**		**15 18 15.9**	**-0.8**
	comp=Z,5.9nm,1.2s								
SQTA				*eP*		**PP**		**15 21 49.8**	**-2.1**
	comp=Z,1.4nm,0.5s								
FETA	**Feichten**	**91.28**	**329**	*eP*		**P**		**15 18 18.0**	**-0.4**
	comp=Z,5.9nm,1.0s								
FETA				*eP*		**PP**		**15 21 51.1**	**-3.8**
	comp=

NPGB	Novo Progresso	151.69	38	*eP*		PKPdf	15 25 04.2	+2.7
PLCA	Paso Flores	151.78	120	PKPbc		PKiKP	15 25 08.6	+0.8
	comp=Z,3.6nm,0.8s,baz=259,slow=2.7,SNR=7.9							
PLCA	Paso Flores	151.78	120			PKiKP	15 25 09.2	+1.5
PLCA	Paso Flores	151.78	120	PKIKP		PKiKP	15 25 09.2	+1.5
PLCA	Paso Flores	151.78	120	*eP*		PKPbc	15 25 05.0	-2.4
AC05	El Transito	152.02	95			PKiKP	15 25 10.1	+1.4
ROSB	Rosrio	152.07	13	*eP*		PKPdf	15 25 05.2	+3.0
VILB	Vilhena	153.19	54	*eP*		PKPdf	15 25 05.5	+1.7
PDRB	Porto dos Gac	154.54	47	*eP*		PKPdf	15 25 09.3	+3.7
CLDB	Colider	154.54	44	*eP*		PKPdf	15 25 06.4	+0.7
PTLB	Pontes e Lacer	155.63	57	*eP*		PKPdf	15 25 09.9	+2.9
SDBA	SAO DESIDERIO	161.03	21	*eP*		PKPdf	15 25 17.1	+3.4

EAF ***23*** *15:07:39.7±13.0, 2°.70S×28°.04E, h0km±999km, MD4.4*
IDC ***23*** *15:07:44.2±0.6, 2°.76S×29°.04E, h0km, mb4.2/17,*
mbtmp4.1/21, ML3.9/4, MS3.5/11, Error ellipse:
s-maj=16.0km s-min=11.9km az=93.0
NEIC ***23*** *15:07:46.6±1.2, 2°.67S±0°.09×29°.0E±0°.1, h10km±2km,*
mb4.5/12, Error ellipse: s-maj=19.9km s-min=14.5km
az=117.0

ISC 23 15:07:46.4±0.5**, 2°.70S**±0°.05×**29°.02E**±0°.07**, h12**km**, n82, σ1§59/75, mb4.3/34, MS3.5/9, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**2.70**	**40**	Pn	**Pn**	**15 08 28.9**	**-0.9**
	90nm,0.3s,baz=218,slow=18,SNR=67						
MBAR				Lg	Lg	15 09 06.2	
	4µm,0.3s,baz=196,slow=22,SNR=17						
	128nm,0.2s						
MBAR	**Mbarara**	**2.70**	**40**		**Pn**	**15 08 29.9**	**0.0**
MBAR				Sn	**Sn**	**15 09 01.5**	**-1.1**
MBAR	**Mbarara**	**2.70**	**40**	*eP*	**Pn**	**15 08 31.4**	**+1.5**
MBAR				*eS*	**Sn**	**15 09 01.5**	**-1.1**
MBAR	**Mbarara**	**2.70**	**40**	*eP*	**Pb**	**15 08 34.8**	**0.0**
MBAR				*eS*	**Sn**	**15 09 02.3**	**-0.3**
KMBO	**Kilima Mbogo**	**8.38**	**79**	Pn	**Pn**	**15 09 47.1**	**-0.8**
	0.9nm,0.3s,baz=228,slow=22,SNR=6.4						
KMBO				Sn	**Sn**	**15 11 22.6**	**-0.2**
	3.9nm,0.3s,baz=313,slow=17,SNR=4.2						
KMBO				Lg	Lg	15 12 09.8	
	17nm,0.3s,baz=326,slow=19,SNR=11						
KMBO				LR	LR	15 12 32.5	
	comp=Z,210nm,20.2s,baz=264,slow=34						
	2.8nm,0.4s						
KMBO	**Kilima Mbogo**	**8.38**	**79**		**Pn**	**15 09 49.5**	**+1.5**
KMBO	**Kilima Mbogo**	**8.38**	**79**	*eS*	Sg	15 12 06.2	-9.2
LODK	**Lodwar**	**8.78**	**46**		**Pn**	**15 09 51.6**	**-1.8**
LODK	**Lodwar**	**8.78**	**46**	*eS*	Sg	15 12 13.3	-15
KIBK	**Kibwezi**	**9.03**	**88**		**Pn**	**15 09 57.5**	**+0.8**
LSZ	**Lusaka**	**12.53**	**184**	Pn	**Pn**	**15 10 46.7**	**+2.0**
	0.3nm,0.3s,baz=3.5,slow=11,SNR=4.8						
LSZ				Sn	**Sn**	**15 13 04.6**	**+0.2**
	0.8nm,0.3s,baz=67,slow=6.9,SNR=3.2						
LSZ				Lg	Lg	15 14 25.4	
	1.2nm,0.3s,baz=292,slow=19,SNR=10						
MATP	**Matopo**	**17.63**	**182**	P	**P**	**15 11 52.5**	**-0.6**
	0.1nm,0.3s,baz=352,slow=14,SNR=1.9						
MATP				S	**Sn**	**15 15 06.4**	**-2.3**
	2.4nm,0.7s,baz=96,slow=20,SNR=1.8						
MATP				Lg	Lg	15 17 04.0	
	0.2nm,0.3s,baz=263,slow=18,SNR=2.3						
	1.1nm,0.6s						
ATD	**Arta Tunnel**	**19.72**	**44**	P	**P**	**15 12 15.2**	**-1.0**
	0.6nm,0.3s,baz=153,slow=23,SNR=1.1						
	2.1nm,0.3s						
TSUM	**Tsumeb**	**19.86**	**213**	S	**Sn**	**15 16 01.7**	**-0.8**
	4.5nm,0.6s,baz=315,slow=23,SNR=2.5						
TSUM				Lg	Lg	15 18 08.4	
	0.3nm,0.3s,baz=311,slow=20,SNR=3.0						
TSUM				LR	LR	15 18 39.5	
	comp=Z,43nm,21.3s,baz=134,slow=33						
LBTB	**Lobatse**	**22.43**	**188**	P	**P**	**15 12 44.1**	**-1.3**
	5.6nm,0.5s,baz=342,slow=9.5,SNR=20						
LBTB				LR	LR	15 21 07.4	
	comp=Z,50nm,20.1s,baz=20,slow=36						
	5.6nm,0.5s						
LBTB	**Lobatse**	**22.43**	**188**	P	**P**	**15 12 42.6**	**-2.9**
LBTB				IAmb	IAmb	15 12 53.7	
	comp=Z,16nm,1.0s						
OPO	**Ambohidratompo**	**23.78**	**133**	P	**P**	**15 12 59.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=357,slow=17,SNR=1.4						
OPO				LR	LR	15 21 04.0	
	comp=Z,182nm,20.4s,baz=148,slow=34						
	comp=Z,0.6nm,0.3s						
BOSA	**Boshof**	**26.02**	**188**	P	**P**	**15 13 19.2**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=19,slow=9.1,SNR=2.3						
BOSA				LR	LR	15 24 25.3	
	comp=Z,84nm,18.2s,baz=12,slow=39						
	comp=Z,2.3nm,0.6s						
BOSA	**Boshof**	**26.02**	**188**	P	**P**	**15 13 19.6**	**-0.1**
TOA0	**Torodi Ar. Sit**	**31.36**	**301**	P	**P**	**15 14 07.4**	**+0.1**
TOA0				IAmb	IAmb	15 14 26.8	
	comp=Z,7.3nm,1.3s						
TORD	**Torodi Ar. Bea**	**31.36**	**301**	P	**P**	**15 14 07.0**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=104,slow=7.6,SNR=11						
TORD				LR	LR	15 27 10.2	
	comp=Z,176nm,18.9s,baz=204,slow=37						
	comp=Z,1.7nm,0.6s						
DBIC	**Dimbokro**	**35.07**	**286**	P	**P**	**15 14 39.1**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=86,slow=6.3,SNR=1.8						
DBIC				LR	LR	15 28 51.1	
	comp=Z,81nm,21.0s,baz=116,slow=36						
	comp=Z,2.5nm,0.6s						
DBIC	**Dimbokro**	**35.07**	**286**	P	**P**	**15 14 35.5**	**-4.2**
KOWA	**Kowa**	**36.92**	**298**	P	**P**	**15 14 56.0**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=82,slow=14,SNR=1.9						
KOWA				LR	LR	15 30 39.9	
	comp=Z,201nm,18.3s,baz=96,slow=37						
	comp=Z,1.6nm,0.6s						
BRTR	**Keskin Array B**	**42.43**	**5**	P	**P**	**15 15 40.6**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=190,slow=9.6,SNR=8.0						
	comp=Z,1.9nm,0.7s						
BRTR	**Keskin Array B**	**42.43**	**5**	P	**P**	**15 15 41.9**	**+0.7**
KEST	**Kesra**	**42.43**	**336**	P	**P**	**15 15 41.9**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=172,slow=7.1,SNR=4.5						
	comp=Z,3.6nm,0.8s						
LIT	**Litokhoron**	**43.01**	**353**	P	**P**	**15 15 45.1**	**-0.7**
DIVS	**Divibare**	**47.28**	**351**	P	**P**	**15 16 19.6**	**-0.2**
DIVS				IAmb	IAmb	15 16 24.8	
	comp=Z,5.7nm,1.0s						
MDT	**Midelt**	**47.53**	**321**	LR	LR	15 36 52.8	
	comp=Z,33nm,19.2s,baz=122,slow=37						
BBTS	**Babate**	**48.30**	**292**	LR	LR	15 37 42.4	
	comp=Z,88nm,18.0s,baz=90,slow=37						
BURAR	**Bucovina Array**	**50.21**	**357**	P	**P**	**15 16 42.0**	**-0.3**
BUR08	**Bucovina Ar. S**	**50.24**	**357**	P	**P**	**15 16 42.7**	**+0.2**
BUR08				IAmb	IAmb	15 16 47.9	
	comp=Z,8.5nm,1.2s						
TEOL	**Teolo**	**50.27**	**344**	P	**P**	**15 16 42.7**	**0.0**
OBKA	**Obir**	**50.63**	**347**	*eP*	P	15 16 49.7	+4.2
	comp=Z,2.7nm,0.8s						
SOKA	**Soboth**	**50.69**	**348**	*eP*	**P**	**15 16 49.6**	**+3.7**
	comp=Z,2.1nm,0.8s						
ARSA	**Arzberg**	**51.13**	**348**	*eP*	P	15 16 53.0	+3.8
	comp=Z,5.1nm,1.1s						
ABTA	**Abfaltersbach**	**51.34**	**346**	*eP*	**P**	**15 16 54.4**	**+3.6**
	comp=Z,2.0nm,0.7s						
RONA	**Rosalia, Austr**	**51.41**	**349**	*eP*	**P**	**15 16 54.8**	**+3.5**
	comp=Z,3.2nm,0.6s						
CONA	**Conrad Observa**	**51.71**	**349**	*eP*	P	15 16 57.4	+3.8
	comp=Z,4.5nm,1.5s						
VYHS	**Vyhne**	**51.75**	**351**	*e*	**P**	**15 16 54.2**	**+0.5**
CRVS	**Cervenica-Dubn**	**51.81**	**354**	*e*	**P**	**15 16 54.7**	**+0.5**
MODS	**Modra-Piesok**	**51.88**	**350**	*e*	**P**	**15 16 52.6**	**-2.2**
ESDC	**Sonseca Array**	**51.90**	**328**	P	**P**	**15 16 55.6**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=139,slow=6.8,SNR=9.7						
	comp=Z,1.5nm,0.9s						
ESDC	**Sonseca Array**	**51.90**	**328**	P	**P**	**15 16 54.9**	**-0.2**
WTTA	**Wattenberg**	**52.04**	**345**	*eP*	**P**	**15 16 59.5**	**+3.3**
	comp=Z,6.9nm,0.8s						
FETA	**Feichten**	**52.06**	**344**	*eP*	**P**	**15 16 59.9**	**+3.6**
	comp=Z,2.5nm,0.8s						
SQTA	**Sankt Quirin**	**52.12**	**345**	*eP*	**P**	**15 16 59.7**	**+3.0**
	comp=Z,4.7nm,0.7s						
WATA	**Walderalm**	**52.12**	**345**	*eP*	**P**	**15 16 59.9**	**+3.2**
	comp=Z,3.6nm,0.7s						
MOTA	**Moosalm**	**52.26**	**345**	*eP*	**P**	**15 17 00.4**	**+2.6**
	comp=Z,3.5nm,0.8s						
JAVC	**Velka Javorina**	**52.28**	**351**	*eP*	**P**	**15 16 56.8**	**-1.0**
LANS	**Liptovska Anna**	**52.30**	**352**	*e*	**P**	**15 16 59.5**	**+1.6**
RETA	**Reutte**	**52.48**	**344**	*eP*	**P**	**15 17 02.0**	**+2.7**
	comp=Z,6.3nm,0.9s						
DAVA	**Damuels**	**52.54**	**344**	*eP*	**P**	**15 17 02.3**	**+2.5**
	comp=Z,9.1nm,0.8s						
KRUC	**Moravsky**	**52.70**	**350**	*eP*	**P**	**15 17 00.3**	**-0.5**
MAUC	**Maruska**	**52.75**	**351**	*eP*	**P**	**15 17 04.7**	**+3.5**
CKRC	**Cesky Krumlov**	**52.88**	**348**	*eP*	**P**	**15 17 02.7**	**+0.6**
CKRC				*ex*	x	15 17 05.2	
VRAC	**Vranov**	**52.90**	**350**	*eP*	**P**	**15 17 02.4**	**+0.1**
GEC2	**GERESS Array S**	**53.03**	**347**	P	**P**	**15 17 02.5**	**-0.9**
GEC2				IAmb	IAmb	15 17 06.8	
	comp=Z,4.5nm,0.8s						
GERES	**GERESS Array B**	**53.03**	**347**	P	**P**	**15 17 03.2**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=161,slow=8.5,SNR=16						
	comp=Z,1.1nm,0.3s						
GERES	**GERESS Array B**	**53.03**	**347**	P	**P**	**15 17 03.1**	**-0.3**
AKASG	**Malin Array Be**	**53.19**	**0**	P	**P**	**15 17 03.3**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=180,slow=6.4,SNR=2.3						
	comp=Z,2.1nm,0.7s						
MORC	**Moravsky Berou**	**53.20**	**351**	P	**P**	**15 17 04.2**	**-0.3**
MORC				IAmb	IAmb	15 17 08.1	
	comp=Z,4.0nm,0.7s						
MORC	**Moravsky Berou**	**53.20**	**351**	*eP*	**P**	**15 17 04.7**	**+0.2**
KHC	**Kasperske Hory**	**53.33**	**347**	P	**P**	**15 17 05.3**	**-0.2**
KHC	**Kasperske Hory**	**53.33**	**347**	*eP*	**P**	**15 17 05.6**	**+0.1**
KHC				*ex*	x	15 17 08.3	
KRLC	**Kraliky**	**53.61**	**350**	*eP*	**P**	**15 17 08.0**	**+0.4**
KRLC				*ex*	x	15 17 10.8	
DPC	**Dobruska-Polom**	**53.95**	**350**	*eP*	**P**	**15 17 10.5**	**+0.4**
ARU	**Arti**	**63.64**	**18**	P	**P**	**15 18 17.7**	**+0.4**
	comp=Z,4.1nm,0.5s,baz=231,slow=11,SNR=2.7						
	comp=Z,4.1nm,0.5s						
FINES	**FINESS Array B**	**64.00**	**358**	P	**P**	**15 18 20.2**	**+0.7**
	comp=Z,5.8nm,0.9s,baz=184,slow=11,SNR=2.1						
	comp=Z,5.8nm,0.9s						
RCBR	**Riachuelo**	**64.79**	**265**	LR	LR	15 43 23.0	
	comp=Z,56nm,18.5s,baz=268,slow=33						
NB2	**NORSAR Subarra**	**65.03**	**351**	P	**P**	**15 18 27.0**	**+0.6**
	comp=Z,7.5nm,1.1s,baz=162,slow=6.5						
NOA	**NORSAR Array B**	**65.03**	**351**	P	**P**	**15 18 26.8**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=163,slow=6.2,SNR=5.8						
	comp=Z,3.6nm,0.9s						
KURBB	**Kurchatov Arra**	**67.84**	**32**	P	**P**	**15 18 44.5**	**0.0**
	comp=Z,9.9nm,0.8s,baz=247,slow=6.6,SNR=3.7						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**67.88**	**36**	P	**P**	**15 18 45.6**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=249,slow=6.2,SNR=5.5						
	comp=Z,1.6nm,0.6s						
TROLL	**Troll, Antarti**	**71.20**	**188**	P	P	15 19 10.9	+5.8
SNAA	**Sanae**	**71.78**	**190**	P	P	15 19 14.7	+6.2
VNA1	**Neumayer--Stat**	**72.00**	**192**	P	P	15 19 15.7	+6.0
VNA2	**Neumayer--Watz**	**72.04**	**192**	P	P	15 19 15.1	+5.2
	baz=33,slow=5.0						
ARCES	**ARCESS Array B**	**72.12**	**359**	P	**P**	**15 19 10.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=171,slow=6.2,SNR=5.4						
	comp=Z,1.1nm,0.6s						
VNA3	**Neumayer Olymp**	**72.76**	**192**	P	P	15 19 19.3	+5.0
TXAR	**Lajitas Array**	**127.89**	**306**	PKP	**PKiKP**	**15 26 53.3**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=80,slow=6.5,SNR=3.1						

TAP ***23*** *15:09:56.0, 23°.29N×121°.57E, h36km, ML3.3, C*
JMA ***23*** *15:09:55.1±0.2, 23°.3N±0°.6×121°.7E±0°.9, h21km±2km,*
MV2.9/11, TAIWAN REGION

ISC 23 15:09:55.6±0.9**, 23°.29N**±0°.02×**121°.62E**±0°.02**, h31**km±6km**, n106, σ0§89/193, 14C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBN	**Changbin**	**0.16**	**279**	⇑*iP*	**Pn**	**15 10 01.7**	**-0.2**
	baz=286						
ECBN				S	**Sb**	**15 10 06.5**	**+0.9**
	baz=286						
HGSD	**Ruisui**	**0.27**	**318**	⇑*iP*	**Pn**	**15 10 03.3**	**-0.2**
	baz=328						
EYUL	**Yuli**	**0.28**	**281**	⇑*iP*	**Pn**	**15 10 03.9**	**+0.3**
	baz=285						
EYUL				S	**Sn**	**15 10 09.9**	**+1.1**
	baz=285						
CHKT	**Chengkung**	**0.30**	**231**	⇓*iP*	**Pb**	**15 10 03.1**	**-0.1**
	baz=217						
CHKT				S	**Sb**	**15 10 08.7**	**+0.3**
	baz=217						
TWF1	**Yuli**	**0.30**	**282**	⇑*iP*	**Pn**	**15 10 03.8**	**-0.2**
	baz=285						
TWF1				S	**Sn**	**15 10 09.3**	**-0.1**
	baz=285						
YULB	**Yu-li**	**0.31**	**289**	⇑*iP*	**Pn**	**15 10 03.8**	**-0.3**
	baz=294						
YULB				S	**Sn**	**15 10 09.4**	**-0.2**
	baz=294						
FULB	**Fuli**	**0.31**	**253**	P	**Pb**	**15 10 03.6**	**+0.2**
	baz=249						
FULB				S	**Sn**	**15 10 09.8**	**+0.1**
	baz=249						
EHY	**Hungye**	**0.35**	**308**	⇑*iP*	**Pn**	**15 10 04.1**	**-0.4**
	baz=303						
EHY				S	**Sn**	**15 10 10.0**	**-0.5**
	baz=303						
EGFH	**Guangfu**	**0.41**	**335**	P	**Pn**	**15 10 05.3**	**-0.2**
	baz=330						
EGFH				*eS*	**Sn**	**15 10 12.4**	**+0.3**
	baz=330						
ECS	**Chishang**	**0.42**	**242**	P	**Pn**	**15 10 05.4**	**-0.1**
	baz=249						
ECS				S	**Sn**	**15 10 12.5**	**+0.3**
	baz=249						
TEGC	**Jichi Village**	**0.42**	**350**	*eP*	**Pb**	**15 10 05.2**	**+0.3**
	baz=5.0						
TEGC				S	**Sn**	**15 10 12.7**	**+0.4**
	baz=5.0						
EDH	**Donghe**	**0.43**	**223**	P	**Pb**	**15 10 05.2**	**+0.2**
	baz=209						
EDH				S	**Sb**	**15 10 11.9**	**+0.4**
	baz=209						
ESL	**Shilin**	**0.55**	**342**	P	**Pb**	**15 10 06.7**	**-0.2**
	baz=338						
ESL				*eS*	**Sb**	**15 10 14.0**	**-0.6**
	baz=338						
ELDTW	**Lidau**	**0.56**	**260**	P	**Pb**	**15 10 06.5**	**-0.7**
	baz=253						
ELDTW				S	**Sb**	**15 10 13.2**	**-2.0**
	baz=253						
TEYL	**Yanliau Villag**	**0.57**	**358**	⇑*iP*	**Pn**	**15 10 07.9**	**+0.3**
	baz=13						
TEYL				S	**Sn**	**15 10 16.8**	**+0.8**
	baz=13						
LONT	**Longtian**	**0.59**	**230**	P	**Pb**	**15 10 07.1**	**-0.5**
	baz=235						
LONT				S	**Sb**	**15 10 15.1**	**-0.7**
	baz=235						
LDUT	**Ludao**	**0.63**	**193**	*eP*	**Pb**	**15 10 07.1**	**-1.2**
	baz=187						
LDUT				*eS*	**Sb**	**15 10 15.9**	**-0.9**
	baz=187						
VWDT	**VWDT**	**0.64**	**316**	⇑*iP*	**Pb**	**15 10 08.3**	**0.0**
	baz=320						
VWDT				*eS*	**Sb**	**15 10 15.9**	**-1.2**
	baz=320						
YUS	**Yu-Shan**	**0.65**	**288**	⇓*iP*	**Pb**	**15 10 08.6**	**-0.2**
	baz=290						
YUS				S	**Sb**	**15 10 17.1**	**-0.7**
	baz=290						
ETM	**Tongmen**	**0.68**	**350**	P	**Pb**	**15 10 08.6**	**-0.5**
	baz=344						
HWA	**Hwalien**	**0.68**	**359**	P	**Pb**	**15 10 09.0**	**-0.1**
	baz=13						
HWA				S	**Sn**	**15 10 19.3**	**+0.6**
	baz=13						
TWGBT	**Beinan**	**0.69**	**227**	P	**Pb**	**15 10 07.8**	**-1.4**
	baz=232						
TWGBT				S	**Sb**	**15 10 17.1**	**-1.3**
	baz=232						
TWG	**Pinlang**	**0.69**	**227**	P	**Pb**	**15 10 08.0**	**-1.3**
	baz=232						
TWG				S	**Sb**	**15 10 17.0**	**-1.5**
	baz=232						
OWD	**Renai**	**0.78**	**328**	P	**Pb**	**15 10 10.1**	**-0.7**
	baz=340						
OWD				S	**Sb**	**15 10 19.3**	**-1.8**
	baz=340						
ALS	**Alishan**	**0.78**	**286**	⇓*iP*	**Pn**	**15 10 10.9**	**+0.2**
	baz=288						
ALS				S	**Sb**	**15 10 21.1**	**-0.2**
	baz=288						
TWD	**Chiawan**	**0.79**	**358**	P	**Pb**	**15 10 10.2**	**-0.6**
	baz=350						
TWD				S	**Sb**	**15 10 20.1**	**-1.1**
	baz=350						
SSLB	**Suanglung**	**0.79**	**309**	⇑*iP*	**Pb**	**15 10 10.3**	**-0.6**
	baz=312						
SSLB				S	**Sb**	**15 10 18.3**	**-3.0**
	baz=312						
STYH	**Taoyuan**	**0.79**	**261**	P	**Pb**	**15 10 09.4**	**-1.4**
	baz=258						
STYH				S	**Sb**	**15 10 19.4**	**-1.8**
	baz=258						
WHYT	**Xinyi Township**	**0.81**	**300**	⇑*iP*	**Pb**	**15 10 11.2**	**-0.1**
	baz=306						
WHYT				S	**Sb**	**15 10 21.5**	**-0.5**
	baz=306						
WUSB	**Renai**	**0.84**	**327**	⇑*iP*	**Pn**	**15 10 11.2**	**-0.2**
	baz=331						
WUSB				S	**Sb**	**15 10 21.3**	**-1.5**
	baz=331						
ETL	**Fush Village**	**0.86**	**0**	P	**Pn**	**15 10 11.4**	**-0.3**
	baz=13						
ETL				S	**Sb**	**15 10 22.3**	**-1.2**
	baz=13						
CHGB	**Renai**	**0.87**	**332**	P	**Pn**	**15 10 11.9**	**0.0**
	baz=343						
CHGB				S	**Sb**	**15 10 22.2**	**-1.5**
	baz=343						
NACB	**Ninganchiao**	**0.88**	**358**	P	**Pn**	**15 10 11.3**	**-0.6**
	baz=351						
NACB				S	**Sb**	**15 10 22.7**	**-1.1**
	baz=351						
SMLT	**Sun Moon Lake**	**0.89**	**312**	⇓*iP*	**Pn**	**15 10 12.3**	**+0.2**
	baz=319						
SMLT				S	**Sb**	**15 10 23.4**	**-0.7**
	baz=319						
WHF	**Hehuan Shan**	**0.91**	**339**	P	**Pn**	**15 10 12.1**	**-0.6**
	baz=344						
WHF				S	**Sb**	**15 10 23.4**	**-1.8**
	baz=344						
TPUB	**Ta-pu**	**0.91**	**271**	P	**Pb**	**15 10 12.9**	**0.0**
	baz=271						
TPUB				S	**Sn**	**15 10 25.0**	**+0.6**
	baz=271						
ETLH	**Xiulin Townshi**	**0.92**	**352**	P	**Pn**	**15 10 12.3**	**-0.3**
	baz=358						
ECL	**Taimali**	**0.93**	**222**	*eP*	**Pn**	**15 10 11.2**	**-1.2**
	baz=217						
ECL				*eS*	**Sn**	**15 10 22.6**	**-2.1**
	baz=217						
WTP	**Ta-pu**	**0.93**	**267**	P	**Pb**	**15 10 13.2**	**0.0**
	baz=267						
WTP				S	**Sn**	**15 10 25.3**	**+0.5**
	baz=267						
TYC	**Yuchr**	**0.93**	**311**	⇓*iP*	**Pb**	**15 10 12.9**	**-0.3**
	baz=324						
WPL	**Puli Township**	**0.94**	**320**	⇓*iP*	**Pn**	**15 10 13.0**	**+0.3**
	baz=331						
WCKO	**Fanlu**	**0.94**	**279**	P	**Pn**	**15 10 12.7**	**-0.1**
	baz=280						
WCKO				S	**Sn**	**15 10 25.2**	**0.0**
	baz=280						
CHN4	**Tsaushan**	**0.95**	**274**	⇑*iP*	**Pn**	**15 10 12.7**	**-0.1**
	baz=274						
CHN4				S	**Sn**	**15 10 25.4**	**+0.1**
	baz=274						
WJS	**Zhushan**	**0.97**	**303**	P	**Pb**	**15 10 14.3**	**+0.3**
	baz=306						
WJS				S	**Sb**	**15 10 26.7**	**+0.2**
	baz=306						
DPDB	**Guoxing**	**0.97**	**319**	⇑*iP*	**Pb**	**15 10 13.6**	**-0.4**
	baz=330						
SGST	**Jiashian**	**0.98**	**258**	P	**Pn**	**15 10 13.0**	**-0.2**
	baz=256						
SGST				S	**Sb**	**15 10 26.4**	**-0.3**
	baz=256						
WCS	**Beigang Elemen**	**1.00**	**320**	P	**Pn**	**15 10 13.0**	**-0.6**
	baz=323						
WCS				*eS*	**Sn**	**15 10 26.3**	**-0.3**
	baz=323						
CHN1	**Nanshi**	**1.01**	**264**	P	**Pb**	**15 10 14.9**	**+0.3**
	baz=263						
CHN1				S	**Sb**	**15 10 28.2**	**+0.6**
	baz=263						
FUSS	**Fushou**	**1.01**	**340**	P	**Pn**	**15 10 14.0**	**0.0**
	baz=344						
FUSS				*eS*	**Sn**	**15 10 26.1**	**-1.2**
	baz=344						
SNST	**Tainan City**	**1.03**	**266**	P	**Pb**	**15 10 14.9**	**-0.1**
	baz=266						
SNST				S	**Sb**	**15 10 29.1**	**+0.9**
	baz=266						
WNT	**Mingjian**	**1.04**	**304**	⇓*iP*	**Pb**	**15 10 15.2**	**+0.2**
	baz=307						
WNT				S	**Sb**	**15 10 28.7**	**+0.4**
	baz=307						
TWT	**Tachien**	**1.04**	**337**	*eP*	**Pn**	**15 10 14.5**	**+0.3**
	baz=347						
TWT				*eS*	**Sn**	**15 10 26.7**	**-1.2**
	baz=347						
TWK	**Hsinying**	**1.04**	**269**	P	**Pb**	**15 10 15.1**	**-0.1**
	baz=268						
TWK				S	**Sb**	**15 10 29.0**	**+0.5**
	baz=268						
TDCB	**Techi**	**1.05**	**336**	P	**Pn**	**15 10 14.8**	**+0.5**
	baz=332						
WGK	**Gukeng**	**1.05**	**292**	P	**Pb**	**15 10 15.5**	**+0.3**
	baz=294						
WGK				S	**Sb**	**15 10 29.8**	**+1.2**
	baz=294						
SSD	**Sandimen**	**1.06**	**239**	P	**Pn**	**15 10 14.7**	**+0.4**
	baz=236						
SSD				S	**Sb**	**15 10 29.4**	**+0.4**
	baz=236						
WDLH	**Douliu**	**1.07**	**292**	P	**Pb**	**15 10 15.8**	**+0.2**
	baz=293						
WDLH				S	**Sb**	**15 10 29.6**	**+0.4**
	baz=293						
TSMG	**Majia**	**1.07**	**237**	*eP*	**Pn**	**15 10 14.8**	**+0.3**
	baz=234						
TSMG				*eS*	**Sb**	**15 10 29.0**	**-0.3**
	baz=234						
CHN2	**Minshiung**	**1.08**	**283**	S	**Sb**	**15 10 30.9**	**+

TCU	**Taichung**	**1.21**	**315**	P		**Pb**	**15 10 17.9**	**-0.1**
	baz=305							
TCU				S		**Sb**	**15 10 34.4**	**+1.0**
	baz=305							
ICHU	**Yijhu**	**1.23**	**273**	P		**Pb**	**15 10 17.6**	**-0.7**
	baz=274							
ICHU				S		**Sn**	**15 10 33.0**	**+0.6**
	baz=274							
SSHA	**Shanhua**	**1.23**	**263**	P		**Pb**	**15 10 18.6**	**+0.2**
	baz=262							
SSHA				S		**Sb**	**15 10 35.6**	**+1.7**
	baz=262							
LATG	**Datong**	**1.24**	**356**	P		**Pn**	**15 10 16.9**	**-0.1**
	baz=2.0							
LAY	**Lan-yu**	**1.25**	**183**	*e*S		**Sn**	**15 10 31.2**	**-1.5**
	baz=173							
WCHH	**Zhanghua**	**1.25**	**309**	P		**Pb**	**15 10 18.6**	**0.0**
	baz=311							
WCHH				S		**Sb**	**15 10 34.7**	**+0.3**
	baz=311							
WRL	**Guolierlin Hig**	**1.29**	**298**	P		**Pn**	**15 10 17.5**	**0.0**
	baz=300							
WRL				S		**Sn**	**15 10 33.2**	**-0.5**
	baz=300							
SCZT	**Fangliau**	**1.30**	**225**	P		**Pn**	**15 10 18.3**	**+0.7**
	baz=211							
SCZT				S		**Sb**	**15 10 36.4**	**+0.6**
	baz=211							
WSL	**Shuilin Townsh**	**1.30**	**280**	P		**Pn**	**15 10 17.1**	**-0.6**
	baz=281							
WSL				S		**Sn**	**15 10 33.3**	**-0.7**
	baz=281							
TWQ1	**Liyutan**	**1.31**	**324**	P		**Pb**	**15 10 19.8**	**+0.2**
	baz=327							
TWQ1				S		**Sb**	**15 10 36.7**	**+0.6**
	baz=327							
NDT	**Datong Townshi**	**1.31**	**356**	*e*P		**Pn**	**15 10 17.4**	**-0.4**
	baz=2.0							
SLIU	**Shizi**	**1.31**	**215**	*e*P		**Pn**	**15 10 18.4**	**+0.5**
	baz=198							
TWC	**Suao**	**1.33**	**9**	*e*P		**Pn**	**15 10 18.6**	**+0.6**
	baz=13							
TWC				*e*S		**Sb**	**15 10 35.8**	**-0.8**
	baz=13							
WSF	**Szhu**	**1.33**	**285**	*e*P		**Pn**	**15 10 18.3**	**+0.3**
	baz=286							
WSF				*e*S		**Sn**	**15 10 35.4**	**+0.7**
	baz=286							
ENTT	**Nioudou**	**1.34**	**358**	*e*P		**Pn**	**15 10 18.2**	**-0.1**
	baz=4.0							
NSY	**Sanyi**	**1.37**	**325**	P		**Pb**	**15 10 20.5**	**-0.2**
	baz=328							
NSY				S		**Sb**	**15 10 38.8**	**+1.0**
	baz=328							
WDJ	**Dajia District**	**1.38**	**320**	*e*P		**Pb**	**15 10 21.0**	**+0.1**
	baz=336							
WDJ				*i* S		**Sb**	**15 10 38.6**	**+0.4**
	baz=336							
YHNB	**Yeheng**	**1.39**	**351**	P		**Pn**	**15 10 19.5**	**+0.6**
	baz=354							
YHNB				*e*S		**Sn**	**15 10 36.1**	**-0.2**
	baz=354							
NSK	**Sanguang**	**1.40**	**350**	*e*P		**Pn**	**15 10 18.8**	**-0.3**
	baz=354							
NSK				*e*S		**Sn**	**15 10 35.7**	**-0.9**
	baz=354							
WSSB	**Gushan**	**1.41**	**243**	P		**Pb**	**15 10 21.0**	**-0.4**
	baz=239							
WSSB				S		**Sb**	**15 10 40.0**	**+1.0**
	baz=239							
NFF	**Wufeng Townshi**	**1.41**	**341**	P		**Pn**	**15 10 19.8**	**+0.5**
	baz=350							
NFF				*e*S		**Sn**	**15 10 36.8**	**0.0**
	baz=350							
TSCK	**Chigu Township**	**1.42**	**264**	P		**Pn**	**15 10 19.6**	**+0.3**
	baz=264							
TSCK				S		**Sn**	**15 10 37.5**	**+0.6**
	baz=264							
TWE	**Neicheng**	**1.42**	**2**	*e*P		**Pb**	**15 10 20.9**	**-0.7**
NSTT	**Nanjuang**	**1.45**	**337**	P		**Pb**	**15 10 21.7**	**-0.3**
	baz=341							
NSTT				S		**Sb**	**15 10 39.1**	**-1.0**
	baz=341							
NMLH	**Miaoli**	**1.45**	**329**	*e*P		**Pn**	**15 10 20.6**	**+0.8**
	baz=332							
NMLH				S		**Sb**	**15 10 39.9**	**-0.4**
	baz=332							
JYNG	**Yonagunijimaku**	**1.67**	**46**	P		**Pn**	**15 10 23.7**	**+0.9**
JYNG				S		**Sn**	**15 10 44.1**	**+0.9**
HATJ	**Hateruma jima**	**2.14**	**69**	P		**Pn**	**15 10 30.0**	**+0.8**
HATJ				*e*S		**Sn**	**15 10 55.5**	**+0.7**
IRIF	**Iriomote-Funau**	**2.19**	**61**	P		**Pn**	**15 10 30.8**	**+0.9**
IRIF				S		**Sn**	**15 10 56.8**	**+0.8**
JKRS	**Kuro-shima**	**2.38**	**66**	P		**Pn**	**15 10 33.8**	**+1.3**
JKRS				S		**Sn**	**15 11 01.8**	**+1.1**
JIJ	**Ishigaki jima**	**2.54**	**65**	P		**Pn**	**15 10 35.7**	**+0.9**
JIJ				S		**Sn**	**15 11 04.4**	**-0.3**
JISG	**Ishigakijimahi**	**2.78**	**62**	P		**Pn**	**15 10 38.5**	**+0.5**
JISG				S		**Sn**	**15 11 09.7**	**-0.8**
JTJ	**Tarama**	**3.12**	**64**	P		**Pn**	**15 10 44.2**	**+1.5**
JTJ				S		**Sn**	**15 11 20.3**	**+1.3**

JMA ***23*** *15:35:07.9±0.7,35°N±2°×14°2E±°, h31km±2km, MV3.3/35, FAR SE OFF BOSO PEN*
IDC ***23*** *15:35:10.4±2.6,34°.44N×141°.63E, h42km±22km, mb3.7/10, mbtmp3.9/14, ML3.0/3, MS3.1/1, Error ellipse: s-maj=21.9km s-min=11.8km az=91.0*
ISC 23 15:35:08.7±0.8, 34°.53N±0°.05×141°.58E±0°.07, h27km, n28, σ1s73/28, mb3.8/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.51**	**285**	P	**Pn**	**15 35 17.9**	**-1.8**
BSO1				X		15 35 24.0	
BSO3	**Boso 3**	**0.92**	**288**	P	**Pb**	**15 35 24.4**	**-1.5**
BSO3				X		15 35 34.0	
BSO4	**Boso 4**	**1.12**	**295**	P	**Pb**	**15 35 28.5**	**-0.9**
JKUC	**kamogawauchiur**	**1.30**	**300**	*e*P	**Pn**	**15 35 29.8**	**-1.2**
JKUC				*e*S	**Sn**	**15 35 44.1**	**-3.4**
CHOJ	**Chosi**	**1.31**	**333**	P	**Pb**	**15 35 30.4**	**-2.3**
CHOJ				*e*S	**Sn**	**15 35 46.2**	**-1.7**
JCN	**Nagara**	**1.44**	**309**	*e*P	**Pb**	**15 35 32.6**	**-2.2**
JMKN	**Mikurajimanish**	**1.77**	**250**	P	**Pn**	**15 35 37.1**	**-0.4**
JMKN				S	**Sn**	**15 35 57.9**	**-1.1**
JIM2	**Oshima 3**	**1.78**	**277**	*e*S	**Sn**	**15 35 58.7**	**-0.8**
JHJ	**Hachijo jima 2**	**2.05**	**227**	P	**Pn**	**15 35 41.2**	**-0.2**
	14nm,0.3s,baz=61,slow=19,SNR=16						
JHJ				S	**Sn**	**15 36 06.3**	**+0.2**
	161nm,0.3s,baz=58,slow=19,SNR=11						
	40nm,0.2s						
MJAR	**Matsushiro Arr**	**3.41**	**307**	P	**Pn**	**15 36 00.3**	**+0.3**
	1.6nm,0.3s,baz=206,slow=25,SNR=21						
MJAR				S	**Sn**	**15 36 42.4**	**+2.8**
	9.8nm,0.8s,baz=164,slow=15,SNR=4.6						
	11nm,0.5s						
JCJ	**Chichijima**	**7.42**	**176**	P	**Pn**	**15 36 54.5**	**-0.7**
	35nm,0.3s,baz=318,slow=22,SNR=12						
JCJ				S	**Sn**	**15 38 13.9**	**-4.7**
	38nm,0.5s,baz=287,slow=19,SNR=1.4						
KSRS	**Korea Array**	**11.44**	**289**	P	**Pn**	**15 37 52.5**	**+2.3**
	0.1nm,0.3s,baz=103,slow=14,SNR=8.9						
KSRS				LR	LR	15 43 05.5	
	comp=Z,80nm,18.4s,baz=170,slow=41						
	1.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**26.82**	**117**	T	T	16 09 01.7	
	baz=309,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**26.83**	**117**	T	T	16 09 03.9	
	baz=309,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**26.84**	**117**	T	T	16 09 04.7	
	baz=309,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	16 09 51.0	
	baz=313,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	16 09 55.3	
	baz=313,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**27.47**	**119**	T	T	16 09 54.7	
	baz=313,slow=75,SNR=16						
SONM	**Songino Array**	**29.36**	**308**	P	**P**	**15 41 10.5**	**+1.1**
	0.8nm,0.5s,baz=109,slow=8.8,SNR=4.8						
	0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.05**	**258**	P	**P**	**15 42 49.4**	**-0.6**
	0.4nm,0.6s,baz=51,slow=8.1,SNR=5.6						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**43.73**	**314**	P	**P**	**15 43 11.2**	**-0.2**
	0.6nm,0.4s,baz=93,slow=7.4,SNR=4.3						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**45.60**	**304**	P	**P**	**15 43 26.9**	**+0.5**
	1.8nm,0.8s,baz=88,slow=11,SNR=13						
	1.8nm,0.8s						
NRIK	**Noril'sk**	**45.60**	**336**	P	**P**	**15 43 26.8**	**+0.7**
	2.8nm,0.8s,baz=106,slow=1.9,SNR=3.6						
	2.8nm,0.8s						
ILAR	**Eielson Array**	**51.55**	**31**	P	**P**	**15 44 12.7**	**+0.8**
	0.5nm,0.6s,baz=267,slow=5.9,SNR=7.8						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**71.10**	**333**	P	**P**	**15 46 24.0**	**-0.2**
	2.4nm,0.9s,baz=116,slow=8.7,SNR=3.6						
	2.4nm,0.9s						
AKASG	**Malin Array Be**	**76.37**	**323**	P	**P**	**15 46 55.2**	**0.0**
	1.2nm,0.5s,baz=48,slow=5.9,SNR=9.5						
	1.2nm,0.5s						
NOA	**NORSAR Array B**	**76.55**	**338**	P	**P**	**15 46 56.9**	**+0.7**
	0.5nm,0.5s,baz=336,slow=7.8,SNR=3.4						
	0.5nm,0.5s						
BRTR	**Keskin Array B**	**80.62**	**312**	P	**P**	**15 47 20.2**	**+1.1**
	0.5nm,0.7s,baz=66,slow=4.2,SNR=1.8						
	0.5nm,0.7s						

NEIC ***23*** *15:37:25.3±2.9, 10°.11S±0°.06×123°.60E±0°.04, h35km±1km, mb4.9/36, Error ellipse: s-maj=10.4km s-min=6.9km az=14.0*
IDC ***23*** *15:37:26.8±0.6,9°.78S×123°.65E, h42km±6km, mb4.4/25, mbtmp4.6/26, ML4.8/1, MS3.6/20, Error ellipse: s-maj=15.5km s-min=9.6km az=85.0*
DJA ***23*** *15:37:29.1±0.2, 10°S±2°×12°4E±°, h55km±2km, M4.7/55, mB5.2/31, mb5.1/55, MLv5.2/16, Mw(mB)4.6/31, MwMwp4.5/1, Mwp4.9/1*
ISC 23 15:37:27.4±0.4, 10°.05S±0°.03×123°.63E±0°.04, h55km±3km, h56km:pP-P, n315, σ2s05/322, mb4.8/60, MS3.8/17, 3C-2D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.15**	**168**	P	**Pn**	**15 37 37.8**	**+1.7**
	91μm,0.4s,baz=347,slow=0.9						
BATI				S	**Sn**	**15 37 46.2**	**+3.9**
	104μm,0.5s,baz=143,slow=15,SNR=14						
BATI	**Baumata**	**0.15**	**168**	P	**Pn**	**15 37 37.5**	**+1.4**
BATI				S	**Sn**	**15 37 45.6**	**+3.3**
MMRI	**Maumere**	**1.97**	**316**	Pn	**Pn**	**15 37 57.2**	**-1.1**
MMRI				Sn	**Sn**	**15 38 19.9**	**-2.0**
MMRI	**Maumere**	**1.97**	**316**	P	**Pn**	**15 37 59.7**	**+1.3**
MMRI				S	**Sn**	**15 38 23.8**	**+1.9**
MMRI	**Maumere**	**1.97**	**316**	P	**Pn**	**15 38 00.4**	**+2.0**
EDFI	**Ende, Flores**	**2.31**	**304**	P	**Pn**	**15 38 03.8**	**+0.7**
BASI	**Baing, Sumba**	**3.01**	**267**	P	**Pn**	**15 38 14.0**	**+1.4**
BBSI	**Bau Bau**	**4.66**	**347**	P	**Pn**	**15 38 38.2**	**+3.0**
BSSI	**Bau Bau, Buton**	**4.98**	**321**	P	**Pn**	**15 38 41.9**	**+2.3**
	1.2nm3μm358nm,0.6s						
BKSI	**Bulukumba**	**5.85**	**323**	P	**Pn**	**15 38 52.9**	**+1.4**
	1.3nm4μm409nm,0.7s						
PLAI	**Plampang**	**5.90**	**281**	P	**Pn**	**15 38 53.8**	**+1.5**
	3.0nm10μm597nm,0.5s						
PLAI	**Plampang**	**5.90**	**281**	P	**Pn**	**15 38 53.9**	**+1.6**
KAPI	**Kappang**	**6.31**	**322**	P	**Pn**	**15 39 00.8**	**+2.9**
	93nm,0.5s,baz=140,slow=9.7,SNR=38						
KAPI	**Kappang**	**6.31**	**322**	Pn	**Pn**	**15 38 57.3**	**-0.6**
KAPI	**Kappang**	**6.31**	**322**	P	**Pn**	**15 39 02.0**	**+4.1**
TWSI	**Taliwang, Sumb**	**6.79**	**281**	P	**Pn**	**15 39 05.8**	**+1.4**
	1.0nm3μm159nm,0.5s						
SPSI	**Sidrap Palu**	**7.16**	**327**	P	**Pn**	**15 39 12.2**	**+2.7**
	0.3nm864nm87nm,0.9s						
KNRA	**Kununurra**	**7.50**	**139**	P	**Pn**	**15 39 12.6**	**-1.6**
	baz=7.5,SNR=725						
KNRA				S	**Sn**	**15 40 31.9**	**-6.1**
	baz=7.5						
KNRA	**Kununurra**	**7.50**	**139**	Pn	**Pn**	**15 39 11.1**	**-3.1**
KNRA	**Kununurra**	**7.50**	**139**	P	**Pn**	**15 39 13.1**	**-1.1**
NLAI	**Namlea**	**7.60**	**27**	P	**Pn**	**15 39 19.6**	**+4.1**
	0.4nm132nm,1.0s						
AAI	**Ambon**	**7.78**	**36**	P	**Pn**	**15 39 20.9**	**+2.9**
	0.6nm2μm156nm,0.7s						
SAUI	**Saumlaki**	**7.85**	**75**	Pn	**Pn**	**15 39 18.7**	**-0.3**
SAUI	**Saumlaki**	**7.85**	**75**	P	**Pn**	**15 39 21.0**	**+2.0**
MTN	**Manton Dam**	**7.86**	**111**	P	**Pn**	**15 39 17.9**	**-1.2**
	baz=7.9,SNR=655						
MTN				S	**Sn**	**15 40 39.8**	**-6.9**
	baz=7.9						
MTN	**Manton Dam**	**7.86**	**111**	Pn	**Pn**	**15 39 17.3**	**-1.8**
MTN	**Manton Dam**	**7.86**	**111**	P	**Pn**	**15 39 18.3**	**-0.8**
TTSI	**Tana Toraja**	**7.92**	**331**	P	**Pn**	**15 39 22.5**	**+2.5**
	0.4nm1μm109nm,0.9s						
FITZ	**Fitzroy Crossi**	**8.23**	**167**	P	**Pn**	**15 39 22.8**	**-1.4**
	77nm,0.4s,baz=0.0,slow=11,SNR=228						
FITZ				S	**Sn**	**15 40 48.9**	**-6.9**
	269nm,0.5s,baz=180,slow=7.0,SNR=20						
FITZ				LR	LR	15 42 59.6	
	comp=Z,498nm,21.5s,baz=310,slow=39						
FITZ	**Fitzroy Crossi**	**8.23**	**167**	P	**Pn**	**15 39 22.6**	**-1.6**
	baz=8.3,SNR=177						
FITZ				S	**Sn**	**15 40 48.4**	**-7.4**
	baz=8.3						
FITZ	**Fitzroy Crossi**	**8.23**	**167**	Pn	**Pn**	**15 39 21.5**	**-2.7**
FITZ	**Fitzroy Crossi**	**8.23**	**167**	P	**Pn**	**15 39 23.1**	**-1.1**
SANI	**Sanana**	**8.29**	**17**	P	**Pn**	**15 39 29.3**	**+4.3**
	2μm173nm,0.7s						
SANI	**Sanana**	**8.29**	**17**	P	Pn	15 39 30.5	+5.5
BNDI	**Bandanaira**	**8.30**	**49**	P	**Pn**	**15 39 29.9**	**+4.7**
	3μm61nm,0.7s						
DNP	**Denpasar**	**8.42**	**279**	P	**Pn**	**15 39 27.3**	**+0.5**
	25μm243nm,0.8s						
IGBI	**Denpasar**	**8.46**	**278**	P	**Pn**	**15 39 28.7**	**+1.4**
	3μm122nm,0.6s						
MSAI	**Masohi**	**8.49**	**39**	P	**Pn**	**15 39 31.2**	**+3.4**
	137nm17nm,0.6s						
SRBI	**Singaraja**	**8.54**	**283**	P	**Pn**	**15 39 29.8**	**+1.4**
	59nm,0.8s						
LUWI	**Luwuk**	**8.99**	**355**	Pn	**Pn**	**15 39 36.0**	**+1.4**
LUWI	**Luwuk**	**8.99**	**355**	P	**Pn**	**15 39 38.5**	**+3.9**
	3μm214nm,0.8s						
LUWI	**Luwuk**	**8.99**	**355**	P	**Pn**	**15 39 38.6**	**+3.9**
KDU	**Kakadu**	**9.06**	**108**	P	**Pn**	**15 39 34.9**	**-0.6**
	baz=9.1,SNR=165						
KDU				S	**Sn**	**15 41 10.6**	**-5.5**
	baz=9.1						
KDU	**Kakadu**	**9.06**	**108**	P	**Pn**	**15 39 36.1**	**+0.6**
APSI	**Ampana**	**9.29**	**348**	P	**Pn**	**15 39 41.7**	**+2.9**
	1μm133nm,0.7s						
JAGI	**Jajag, Banyuwa**	**9.49**	**279**	P	**Pn**	**15 39 40.7**	**-0.7**
	2μm92nm,0.6s						
JAGI	**Jajag, Banyuwa**	**9.49**	**279**	P	**Pn**	**15 39 39.8**	**-1.6**
KMMI	**Kalianget**	**10.01**	**287**	P	**Pn**	**15 39 47.3**	**-1.3**
	38nm,0.7s						
LBMI	**Labuha**	**10.12**	**23**	P	**Pn**	**15 39 53.7**	**+3.7**
	1μm168nm,0.7s						
KMSI	**Cibinong**	**10.56**	**2**	P	**Pn**	**15 40 00.5**	**+4.3**
	58nm,0.6s						
MRSI	**Marisa**	**10.60**	**351**	P	**Pn**	**15 39 58.1**	**+1.5**
	628nm66nm,0.8s						
GTOI	**Gorontalo**	**10.64**	**357**	P	Pn	15 40 02.4	+5.2
	180nm25nm,0.8s						
BBKI	**Banjar Baru**	**10.91**	**306**	P	**Pn**	**15 40 03.6**	**+2.7**
	5μm47nm,1.0s						
MPSI	**Mapaga**	**10.97**	**340**	P	Pn	15 40 08.9	+7.2
	435nm52nm,0.8s						
FAKI	**Fak Fak**	**11.11**	**51**	Pn	**Pn**	**15 40 00.1**	**-3.6**
FAKI	**Fak Fak**	**11.11**	**51**	P	**Pn**	**15 40 06.7**	**+3.0**
	641nm51nm,0.7s						
FAKI	**Fak Fak**	**11.11**	**51**	P	**Pn**	**15 40 03.6**	**-0.1**
TNTI	**Ternate**	**11.38**	**19**	P	**Pn**	**15 40 12.0**	**+4.7**
	750nm79nm,0.9s						
TOLI2	**Tolitoli**	**11.45**	**346**	P	Pn	15 40 13.5	+5.3
MBWA	**Marble Bar**	**11.66**	**198**	Pn	Pn	15 40 06.7	-4.5
MBWA	**Marble Bar**	**11.66**	**198**	P	**Pn**	**15 40 10.3**	**-0.8**
PWJI	**Pagerwojo**	**11.85**	**279**	P	Pn	15 40 29.4	+16
SIJI	**Sorong**	**11.87**	**40**	P	**Pn**	**15 40 15.7**	**+1.6**
	22nm,0.5s,baz=197,slow=22,SNR=17						
SIJI				S	**Sn**	**15 42 26.8**	**+1.7**
	4.3nm,0.5s,baz=270,slow=20,SNR=1.4						
SIJI				LR	LR	15 44 21.6	
	comp=Z,231nm,21.9s,baz=249,slow=36						
PSA00	**Pilbara Seismi**	**12.02**	**197**	Pn	**Pn**	**15 40 12.2**	**-3.7**
PCJI	**Pacitan**	**12.43**	**278**	P	**Pn**	**15 40 20.7**	**-1.0**
	98nm,1.4s						
MTKI	**Muara Teweh, K**	**12.54**	**316**	P	**P**	**15 40 34.6**	**+1.4**
UGM	**Wanagama**	**13.12**	**278**	Pn	**Pn**	**15 40 30.3**	**-0.8**
UGM	**Wanagama**	**13.12**	**278**	P	**Pn**	**15 40 31.2**	**+0.1**
	94nm,1.9s						
WB0	**Warramunga Arr**	**14.18**	**134**	Pn	Pn	15 40 39.7	-5.8
WRA	**Warramunga Arr**	**14.26**	**135**	P	Pn	15 40 41.5	-5.0
	44nm,0.7s,baz=305,slow=15,SNR=327						
WRA				S	Sn	15 43 09.2	-14
	50nm,0.6s,baz=313,slow=27,SNR=8.9						
WRA				LR	LR	15 47 19.4	
	comp=Z,154nm,20.3s,baz=266,slow=41						
WRA	**Warramunga Arr**	**14.26**	**135**	Pn	Pn	15 40 39.5	-7.1
WRAB	**Tennant Creek**	**14.26**	**135**	Pn	Pn	15 40 40.1	-6.5
WRAB	**Tennant Creek**	**14.26**	**135**	P	Pn	15 40 42.1	-4.4
WB2	**Warramunga Arr**	**14.27**	**135**	Pn	Pn	15 40 41.0	-5.6
WR0	**Warramunga Arr**	**14.41**	**134**	Pn	Pn	15 40 43.3	-5.3
SRPI	**Serui, Papua**	**14.94**	**58**	P	**P**	**15 41 00.6**	**+0.8**
	116nm,0.7s						
GIRL	**Giralia**	**15.42**	**215**	P	**Pn**	**15 41 02.7**	**+1.2**
	baz=15,SNR=14						
GIRL	**Giralia**	**15.42**	**215**		**Pn**	**15 41 02.7**	**+1.2**
GIRL				IAmb	IAmb	15 41 05.3	
	comp=Z,73nm,0.7s						
GIRL	**Giralia**	**15.42**	**215**	P	**Pn**	**15 41 03.1**	**+1.6**
WRKA	**Warakurna**	**15.55**	**164**	P	**Pn**	**15 41 00.3**	**-2.9**
	baz=16,SNR=61						
WRKA	**Warakurna**	**15.55**	**164**	P	**Pn**	**15 41 00.8**	**-2.4**
STKI	**Sintang**	**15.72**	**309**	P	P	15 41 17.9	+9.4
LEM	**Lembang**	**16.16**	**280**	P	**Pn**	**15 41 11.1**	**-0.1**
	comp=Z,3.6nm,0.3s,baz=65,slow=14,SNR=5.3						
LEM				S	**S**	**15 44 18.9**	**-1.4**
	comp=Z,68nm,0.9s,baz=73,slow=17,SNR=4.8						
LEM				LR	LR	15 49 31.6	
	comp=Z,136nm,18.5s,baz=90,slow=45						
	comp=Z,24nm,0.7s						
WAMI	**Wamena**	**16.17**	**69**	P	**P**	**15 41 19.1**	**+5.6**
	comp=Z,2μmcomp=Z,155nm,0.6s						
CNJI	**Cibinong**	**16.54**	**278**	P	**P**	**15 41 18.3**	**+0.7**
	comp=Z,162nm,0.6s						
AS31	**Alice Springs**	**16.72**	**145**		**Pn**	**15 41 15.4**	**-2.6**
ASAR	**Alice Springs**	**16.72**	**145**	P	**Pn**	**15 41 16.4**	**-1.7**
	comp=Z,72nm,0.6s,baz=316,slow=12,SNR=1064						
ASAR				S	Sn	15 44 07.9	-15
	comp=Z,38nm,0.6s,baz=321,slow=24,SNR=8.6						
ASAR				LR	LR	15 48 27.5	
	comp=Z,261nm,20.3s,baz=334,slow=39						
ASAR	**Alice Springs**	**16.72**	**145**		**Pn**	**15 41 14.8**	**-3.2**
SMPI	**Sarmi**	**16.99**	**63**	P	**P**	**15 41 25.1**	**+2.5**
	comp=Z,34nm,0.8s						
CBJI	**Citeko**	**16.99**	**281**	P	**P**	**15 41 25.0**	**+2.4**
	comp=Z,270nm,0.8s						
DAV	**Davao City (W)**	**17.12**	**7**	LR	LR	15 48 34.1	
	comp=Z,101nm,20.6s,baz=173,slow=40						
MEEK	**Meekatharra**	**17.16**	**195**	P	**Pn**	**15 41 23.5**	**0.0**
	baz=17,SNR=43						
MEEK	**Meekatharra**	**17.16**	**195**	P	**Pn**	**15 41 23.3**	**-0.2**
	comp=Z,50nm,0.8s						
KKM	**Kota Kinabalu**	**17.61**	**335**		**Pn**	**15 41 29.4**	**+0.2**
KKM	**Kota Kinabalu**	**17.61**	**335**	P	**P**	**15 41 32.1**	**+2.5**
GENI	**Genyem**	**18.02**	**67**	P	**Pn**	**15 41 37.2**	**+3.1**
	comp=Z,1μmcomp=Z,124nm,0.7s						
QIS	**Mount Isa**	**18.60**	**126**	P	**P**	**15 41 38.9**	**-1.4**
	baz=19,SNR=65						
QIS	**Mount Isa**	**18.60**	**126**	P	**P**	**15 41 39.5**	**-0.8**
PPBI	**Pangkal Pinang**	**19.07**	**293**	P	**Pn**	**15 41 47.2**	**+0.5**
	comp=Z,27nm,1.0s						
KASI	**Kota Agung**	**19.48**	**282**	P	**Pn**	**15 41 51.4**	**-0.2**
	comp=Z,3μmcomp=Z,192nm,0.5s						
COEN	**Coen**	**19.50**	**103**	P	**Pn**	**15 41 52.0**	**+0.1**
	baz=20,SNR=42						
COEN	**Coen**	**19.50**	**103**		**Pn**	**15 41 52.1**	**+0.1**
COEN				IAmb	IAmb	15 41 53.2	
	comp=Z,33nm,0.7s						
COEN	**Coen**	**19.50**	**103**	P	**Pn**	**15 41 52.3**	**+0.4**
LWLI	**Liwa**	**20.03**	**283**	P	Pn	15 42 12.7	+14
MORW	**Morawa**	**20.21**	**200**	P	**P**	**15 41 59.0**	**+1.2**
	baz=20,SNR=5.2						
MORW	**Morawa**	**20.21**	**200**	P	**P**	**15 41 55.1**	**-2.7**
MORW	**Morawa**	**20.21**	**200**	P	Pn	15 41 59.1	-1.0
FORT	**Forrest**	**21.03**	**169**	P	**P**	**15 42 07.7**	**+1.1**
	baz=21,SNR=16						
FORT	**Forrest**	**21.03**	**169**	P	**P**	**15 42 03.1**	**-3.5**
FORT				IAmb	IAmb	15 42 08.2	
	comp=Z,64nm,0.8s						
FORT	**Forrest**	**21.03**	**169**	P	**P**	**15 42 07.7**	**+1.1**
DSRI	**Dabo**	**21.20**	**296**	P	**P**	**15 42 11.6**	**+3.0**
	comp=Z,441nmcomp=Z,18nm,0.7s						
MNAI	**Manna**	**21.27**	**284**	P	**P**	**15 42 08.4**	**-1.0**
MNAI	**Manna**	**21.27**	**284**	P	**P**	**15 42 15.2**	**+5.8**
BLDU	**Ballidu**	**21.45**	**197**	P	**P**	**15 42 12.6**	**+1.5**
	baz=22,SNR=15						
BLDU	**Ballidu**	**21.45**	**197**	P	**P**	**15 42 12.3**	**+1.2**
MTSU	**Mount Surprise**	**21.60**	**114**	P	**P**	**15 42 15.0**	**+2.2**
	baz=22,SNR=73						
MTSU	**Mount Surprise**	**21.60**	**114**	P	**P**	**15 42 15.1**	**+2.2**
TPRI	**Tanjung Pinang**	**21.92**	**299**	P	P	15 42 32.5	+16
KLBR	**Kellerberrin**	**

comp=Z,16nm,0.6s,baz=134,slow=9.6,SNR=2.0
comp=Z,16nm,0.6s
CMAR Chiang Mai Arr 37.36 319 P **P** **15 44 34.5 -0.4**
comp=Z,4.4nm,1.0s,baz=143,slow=6.6,SNR=29
CMAR PcP **PcP** **15 46 55.3 +2.1**
comp=Z,4.7nm,0.6s,baz=175,slow=2.7,SNR=16
CMAR ScP **ScP** **15 50 37.6 +1.7**
comp=Z,1.5nm,0.7s,baz=169,slow=3.3,SNR=9.4
CMAR LR LR 16 02 32.6
comp=Z,49nm,18.2s,baz=140,slow=40
comp=Z,4.4nm,1.0s
CHTO Chiang Mai 37.62 320 P **P** **15 44 36.1 -1.1**
CHTO Chiang Mai 37.62 320 P **P** **15 44 36.4 -0.8**
GYA Guiyang 39.86 336 ⇑P **P** **15 44 55.4 -0.6**
GYA pP pwP 15 45 14.4 +4.3
GYA pmax pmax
comp=Z,16nm,1.1s
KMI Kunming 40.46 330 ⇑P **P** **15 45 01.8 +0.7**
KMI pP pP 15 45 10.0 -4.8
KMI pmax pmax
comp=Z,6.0nm,1.1s
JCJ Chichijima 41.08 26 P **P** **15 45 03.7 -2.2**
comp=Z,96nm,0.8s,baz=322,slow=14,SNR=4.6
JCJ LR LR 16 01 30.9
comp=Z,55nm,21.2s,baz=122,slow=35
JSU Suzuyama 41.84 9 P **P** **15 45 11.1 -0.9**
JSU IAmb IAmb 15 45 11.7
comp=Z,11nm,0.7s
PZH PanZhiHua 42.10 330 P **P** **15 45 16.8 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,6.9s
NJ2 Nanjing 42.12 354 *e*P **P** **15 45 15.5 +1.3**
NJ2 pmax pmax
comp=Z,20nm,0.6s
ENH Enshi 42.34 342 P **P** **15 45 14.8 -1.3**
ENH sP **pP** **15 45 31.6 +1.4**
DZM Mont Dzumac 42.70 112 LR LR 16 02 59.1
comp=Z,137nm,18.1s,baz=280,slow=36
JMN Monobe 44.62 12 P **P** **15 45 33.5 -0.9**
CD2 Chengdu 44.98 336 P **P** **15 45 36.3 -1.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
XAN Xi'an 46.02 343 P **P** **15 45 43.6 -2.0**
XAN pP **pP** **15 45 55.6 -4.2**
TIA Tai'an 46.42 353 P **P** **15 45 48.1 -0.6**
TIA pmax pmax
comp=Z,5.0nm,0.6s
KSRS Korea Array 47.43 5 P **P** **15 45 54.6 -1.8**
comp=Z,1.6nm,0.5s,baz=187,slow=8.7,SNR=16
KSRS PcP **PcP** **15 47 26.9 +0.7**
comp=Z,3.0nm,0.6s,baz=179,slow=3.2,SNR=14
comp=Z,1.6nm,0.5s
HNS HongShan 47.94 350 ⇑P **P** **15 45 59.0 -1.4**
HNS pmax pmax
comp=Z,10.0nm,0.7s
MJAR Matsushiro Arr 48.34 16 P **P** **15 46 01.2 -2.3**
comp=Z,7.0nm,0.6s,baz=191,slow=9.1,SNR=26
MJAR PcP **PcP** **15 47 30.3 +0.8**
comp=Z,1.2nm,0.6s,baz=97,slow=11,SNR=2.3
MJAR LR LR 16 09 32.0
comp=Z,25nm,18.0s,baz=184,slow=40
comp=Z,7.0nm,0.6s
MAJO Matsushiro 48.34 16 P **P** **15 46 02.2 -1.4**
MAJO IAmb IAmb 15 46 02.9
comp=Z,10.0nm,0.7s
MAJO Matsushiro 48.34 16 P **P** **15 46 02.0 -1.5**
LZH Lanzhou 49.54 339 *e*P **P** **15 46 12.6 -0.4**
LZH pP pP 15 46 21.4 -5.9
LZH sP sP 15 46 29.6 -3.9
LZH pmax pmax
comp=Z,32nm,1.0s
LZH LR LR
comp=N,130nm,17.4s
LZH LR LR
comp=E,200nm,18.9s
LZH LR LR
comp=Z,210nm,18.9s
JSD Sado 49.76 15 P **P** **15 46 12.9 -1.5**
BJI Beijing 50.32 353 P **P** **15 46 16.8 -1.7**
BJI PP **PP** **15 48 17.3 +2.7**
BJI PcS **PcS** **15 51 32.0 -1.7**
BJI ScS ScS 15 56 05.1 +0.3
BJI pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 50.41 323 P **P** **15 46 19.0 -1.0**
LSA IAmb IAmb 15 46 32.3
comp=Z,15nm,0.8s
LSA Lhasa 50.41 323 P **P** **15 46 19.5 -0.5**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 50.41 323 P **P** **15 46 20.0 0.0**
LSA sP **pP** **15 46 36.3 +2.1**
TAPN Taplejung 50.94 318 *e*P **P** **15 46 23.5 -0.4**
comp=Z,21nm,0.4s
RAMN Ramite 51.42 317 *e*P **P** **15 46 26.4 -1.0**
comp=Z,38nm,0.5s
HHC Hu-ho-hao-te 51.86 348 *e*P P 15 46 35.9 +5.6
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.9s
JIRN Jiri 52.16 317 *e*P **P** **15 46 32.1 -1.0**
comp=Z,28nm,0.5s
GUN Gumba 52.53 317 *e*P **P** **15 46 34.6 -1.2**
comp=Z,43nm,0.6s
PKI Pulchoki 52.63 316 *e*P **P** **15 46 35.2 -1.3**
comp=Z,24nm,0.6s
PKIN Phulchoki 52.64 316 *e*P **P** **15 46 35.2 -1.3**
comp=Z,38nm,0.4s
DMN Daman 52.86 316 *e*P **P** **15 46 36.5 -1.6**
RPZ Rata Peaks 52.95 138 LR LR 16 08 48.2
comp=Z,136nm,18.1s,baz=289,slow=35
MSVF Nonsavu 53.23 105 LR LR 16 07 41.5
comp=Z,34nm,18.4s,baz=265,slow=34
MSVF Nonsavu 53.23 105 P **P** **15 46 43.8 +3.0**
MSVF sP **pP** **15 46 58.9 +3.3**
GOMU GeErMu 53.42 331 ⇓*e*P **P** **15 46 42.3 +0.1**
GOMU pP pP 15 46 45.3 -11
GOMU sP pwP 15 46 46.8 -10
GOMU pmax pmax
comp=Z,56nm,3.8s
GKN Gorkha 53.43 316 *e*P **P** **15 46 41.1 -1.1**
comp=Z,31nm,0.5s
GTA Gaotai 53.96 337 ⇓P **P** **15 46 45.1 -0.7**
GTA pP pP 15 46 52.3 -8.0
GTA sP sP 15 46 55.9 -11
GTA PcP **PcP** **15 47 51.8 +1.2**
GTA pmax pmax
comp=Z,11nm,0.7s
GTA LR LR
comp=N,59nm,17.4s
GTA LR LR
comp=E,99nm,18.9s
GTA LR LR
comp=Z,110nm,18.9s
KOLN Koldanda 54.00 315 *e*P **P** **15 46 44.7 -1.7**
XLT XiLinHaoTe 54.13 353 *e*P P 15 46 52.3 +5.4
XLT pP sP 15 47 11.0 +3.0
XLT sP pP 15 47 15.4 +14
XLT pmax pmax
comp=Z,16nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.4s
DANN Dangsing 54.25 316 *e*P **P** **15 46 46.5 -1.8**
comp=Z,72nm,0.5s
USRK Ussuriysk Ar. 54.53 7 P **P** **15 46 48.4 -1.2**
comp=Z,11nm,0.6s,baz=186,slow=6.9,SNR=26
comp=Z,11nm,0.6s
USRK Ussuriysk Ar. 54.53 7 P **P** **15 46 49.0 -0.7**
SNZO South Karori 54.53 134 P **P** **15 46 48.8 -1.0**
PYUN Piuthan 54.62 315 *e*P **P** **15 46 49.0 -2.0**
comp=Z,20nm,0.4s
MDJ Mudanjiang 54.68 5 P **P** **15 46 50.4 -0.4**
MDJ pP **pP** **15 47 01.0 -4.5**
URZ Urewera 55.37 130 LR LR 16 10 15.9
comp=Z,81nm,21.7s,baz=26,slow=36
CASY Casey 56.86 186 P **P** **15 47 07.0 +0.9**
CASY pP **pP** **15 47 17.8 -3.3**
KLR Kul'dur 59.46 6 P **P** **15 47 22.6 -1.8**
comp=Z,3.1nm,0.6s,baz=181,slow=4.9,SNR=11
comp=Z,3.1nm,0.6s
ULN Ulaanbaatar 59.51 347 P **P** **15 47 23.7 -1.4**
SONM Songino Array 59.63 347 P **P** **15 47 24.9 -1.0**
comp=Z,3.3nm,0.6s,baz=167,slow=7.6,SNR=12
SONM ScP **ScP** **15 52 09.6 +0.7**
comp=Z,0.7nm,0.8s,baz=90,slow=4.3,SNR=1.8
comp=Z,3.3nm,0.6s
SONM Songino Array 59.63 347 P **P** **15 47 24.6 -1.2**
WMQ Urumqi 62.77 331 *e*P **P** **15 47 47.0 -0.1**
WMQ pP pP 15 48 06.8 +4.7
WMQ pmax pmax
comp=Z,26nm,0.9s
CCD Concordia, Ant 65.02 180 P **P** **15 48 04.4 +2.5**
KSH Kashi 66.22 321 P **P** **15 48 09.3 -0.5**
KSH sP sP 15 48 35.9 +5.4
KSH S **S** **15 56 51.5 -3.5**
KSH Kashi 66.22 321 SS SS 16 01 18.8 +6.6
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,390nm,15.5s
SHLS Shalkode 66.50 326 *e*P **P** **15 48 09.3 -2.2**
baz=326
UZB Uzynbulak 66.74 326 *e*P **P** **15 48 10.8 -2.3**
baz=326
ZSN Zaisan 66.81 332 *e*P **P** **15 48 11.6 -1.7**
baz=332
KPKS Kokpek 67.13 326 *e*P **P** **15 48 14.6 -0.9**
baz=326
MK31 Makanchi Array 67.54 331 P **P** **15 48 16.9 -1.1**
MK31 IAmb IAmb 15 48 28.7
comp=Z,11nm,0.9s
MKAR Makanchi Array 67.54 331 P **P** **15 48 17.2 -0.7**
comp=Z,11nm,0.8s,baz=136,slow=8.0,SNR=59
comp=Z,11nm,0.8s
MKAR Makanchi Array 67.54 331 P **P** **15 48 17.1 -0.8**
TNSS Tian-Shan 67.83 325 *e*P **P** **15 48 19.3 -1.0**
baz=325
MDOK Medeo 67.85 325 *e*P **P** **15 48 18.5 -1.6**
baz=325
KBL Kabul 68.09 314 P **P** **15 48 20.4 -1.5**
KBL IAmb IAmb 15 48 33.4
comp=Z,13nm,0.7s
TDK Taldyqorghan 68.29 327 *e*P **P** **15 48 21.3 -1.4**
baz=327
CHKK Chushkaly 68.32 326 *e*P **P** **15 48 21.1 -1.8**
baz=326
KUU Kurty 68.71 325 *e*P **P** **15 48 24.0 -1.4**
comp=Z,7.8nm,0.5s,baz=325
AAK Ala-Archa 69.00 323 P **P** **15 48 26.8 -0.5**
AAK IAmb IAmb 15 48 46.0
comp=Z,8.1nm,0.9s
AAK Ala-Archa 69.00 323 P **P** **15 48 27.1 -0.2**
AAK pP **pP** **15 48 36.6 -5.9**
PEA0B Petropavlovsk- 69.30 21 P **P** **15 48 27.9 -0.8**
PETK Petropavlovsk- 69.30 21 P **P** **15 48 27.7 -1.1**
comp=Z,3.4nm,0.5s,baz=220,slow=3.8,SNR=26
comp=Z,3.4nm,0.5s
PETK Petropavlovsk- 69.30 21 P **P** **15 48 29.3 +0.5**
SGDS Sogindy 69.41 324 *e*P **P** **15 48 28.0 -1.8**
baz=324
MAW Mawson 69.85 201 P **P** **15 48 34.1 +2.2**
comp=Z,3.2nm,0.6s,baz=94,slow=6.4,SNR=11
comp=Z,3.2nm,0.6s
MAW Mawson 69.85 201 P **P** **15 48 34.3 +2.4**
baz=70,SNR=5.2
MAW Mawson 69.85 201 P **P** **15 48 32.3 +0.4**
VNDA Vanda 70.27 172 P **P** **15 48 35.5 +1.1**
comp=Z,1.4nm,0.5s,baz=315,slow=7.2,SNR=24
VNDA LR LR 16 17 18.4
comp=Z,141nm,21.4s,baz=331,slow=34
comp=Z,1.4nm,0.5s
VNDA Vanda 70.27 172 P **P** **15 48 35.0 +0.6**
VNDA IAmb IAmb 15 49 02.6
comp=Z,18nm,1.9s
VNDA Vanda 70.27 172 P **P** **15 48 35.8 +1.4**
BTLS Baital 70.71 325 *e*P **P** **15 48 35.8 -1.8**
baz=325
SBA Scott Base 71.23 171 P **P** **15 48 41.6 +1.3**
SBA IAmb IAmb 15 49 39.4
comp=Z,20nm,1.7s
SBA Scott Base 71.23 171 P **P** **15 48 42.5 +2.3**
SBA pP **pP** **15 48 53.1 -2.5**
SBA sP **PcP** **15 48 59.0 -0.8**
IUG Iuzhnay 71.42 321 *e*P **P** **15 48 41.1 -0.9**
baz=321
KKAR Karatay Array 71.65 322 P **P** **15 48 43.2 -0.2**
ZAA0 Zalesovo Array 71.72 337 P **P** **15 48 41.9 -1.6**
ZAA0 IAmb IAmb 15 48 55.4
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 71.72 337 P **P** **15 48 42.0 -1.5**
comp=Z,7.2nm,0.5s,baz=128,slow=3.9,SNR=35
comp=Z,7.2nm,0.5s
ZALV Zalesovo Beam 71.72 337 P **P** **15 48 41.9 -1.5**
YAK Yakutsk 72.02 3 P **P** **15 48 43.9 -1.1**
comp=Z,8.8nm,0.5s,baz=122,slow=2.5,SNR=10
comp=Z,8.8nm,0.5s
YAK Yakutsk 72.02 3 P **P** **15 48 43.7 -1.3**
KURK Kurchatov 72.02 332 P **P** **15 48 43.9 -1.4**
KURK IAmb IAmb 15 48 58.9
comp=Z,14nm,0.8s
MA2 Magadan 72.74 14 P **P** **15 48 49.7 +0.3**
comp=Z,6.0nm,0.6s,baz=160,slow=9.3,SNR=5.3
comp=Z,6.0nm,0.6s
MA2 Magadan 72.74 14 P **P** **15 48 49.5 +0.1**
RAR Rarotonga 74.02 109 LR LR 16 18 59.0
comp=Z,16nm,21.8s,baz=270,slow=34
VOI Vohitsoka 74.18 250 P **P** **15 48 59.1 +0.2**
VOI IAmb IAmb 15 49 01.7
comp=Z,20nm,1.1s
UOSS Minazif 74.31 299 P **P** **15 48 58.9 -0.6**
HATD Hatta, Dubai 74.33 299 *i* P **P** **15 48 58.9 -0.7**
SNR=8.6
ASHO Ashiyiah 74.35 299 *i* P **P** **15 48 59.6 -0.1**
SNR=8.3
ALNE Al Ain 74.41 298 *i* P **P** **15 49 00.0 -0.1**
SNR=6.0
BRZS Berezniki 74.45 329 *e*P **P** **15 48 58.5 -1.3**
baz=329
MSFE Esma-Masafi 74.48 300 P **P** **15 49 00.7 +0.2**
BANOM Banah 74.55 300 P **P** **15 49 00.7 -0.1**
SHME Shamm 74.72 301 *i* P **P** **15 49 02.1 +0.3**
SNR=6.9
FAQ Al Faqa, Dubai 74.77 299 *i* P **P** **15 49 02.0 -0.1**
SNR=19
NAZ Nazwa, Dubai 74.79 299 P **P** **15 49 02.2 0.0**
ASUD Al Ashush, Dub 74.96 299 P **P** **15 49 03.7 +0.5**
UMQ Umm Al-Quwin 74.96 300 P **P** **15 49 04.1 +0.9**
MZR Muzera 76.07 297 *i* P **P** **15 49 09.7 +0.1**
SNR=8.2
GEYT Alibeck 77.49 313 P **P** **15 49 17.2 -0.1**
comp=Z,4.2nm,0.9s,baz=145,slow=3.6,SNR=7.0
comp=Z,4.2nm,0.9s
QSPA South Pole Qui 79.94 180 P **P** **15 49 30.4 -0.1**
QSPA IAmb IAmb 15 49 33.0
comp=Z,8.3nm,0.9s
ABKAR Akbulak array 81.08 324 P **P** **15 49 35.5 -1.2**
AKTO Aktyubinsk 82.72 324 LR LR 16 30 08.9
comp=Z,59nm,21.1s,baz=127,slow=38
NRIK Noril'sk 83.09 348 P **P** **15 49 45.8 -0.9**
comp=Z,4.0nm,0.5s,baz=143,slow=5.6,SNR=5.6
comp=Z,4.0nm,0.5s
RAYN Ar Rayn 83.27 295 P **P** **15 49 49.1 +0.4**
RAYN IAmb IAmb 15 49 50.3
comp=Z,12nm,0.8s
RAYN Ar Rayn 83.27 295 *i* P **P** **15 49 49.4 +0.7**
SNR=13
KMBO Kilima Mbogo 86.24 270 P **P** **15 50 05.4 +1.2**
comp=Z,3.4nm,0.7s,baz=70,slow=9.3,SNR=8.1
comp=Z,3.4nm,0.7s
KMBO Kilima Mbogo 86.24 270 P **P** **15 50 05.7 +1.5**
TROLL Troll, Antarti 89.61 195 PcP **PcP** **15 50 21.1 +0.8**
SNAA Sanae 91.18 195 PcP **PcP** **15 50 27.7 +0.6**
SNAA Sanae 91.18 195 P **P** **15 50 26.4 +0.2**
BELA Belgrano 2 91.37 184 P **P** **15 50 27.7 +0.8**
BOSA Boshof 92.49 241 P **P** **15 50 34.6 +1.4**
comp=Z,2.3nm,0.6s,baz=99,slow=3.3,SNR=5.9
comp=Z,2.3nm,0.6s
VNA2 Neumayer--Watz 92.79 194 PcP **PcP** **15 50 35.4 +1.2**
baz=134,slow=5.0
LBTB Lobatse 92.98 244 P **P** **15 50 36.8 +1.3**
comp=Z,3.3nm,0.7s,baz=102,slow=3.5
comp=Z,3.3nm,0.7s
VNA3 Neumayer Olymp 93.12 194 PcP **PcP** **15 50 36.9 +1.2**
VNA1 Neumayer--Stat 93.19 194 PcP **PcP** **15 50 36.8 +0.8**
SUR Sutherland 95.30 236 P **P** **15 50 47.7 +1.5**
comp=Z,3.6nm,0.8s,baz=173,slow=17
comp=Z,3.6nm,0.8s
KLMR Klimovskoe 95.84 331 *e*P **P** **15 50 44.5 -3.1**
KLMR AMP 15 50 52.8
comp=Z,14nm,1.7s
BRTR Keskin Array B 96.33 309 P **P** **15 50 49.4 -1.1**
comp=Z,0.6nm,0.6s,baz=134,slow=5.4,SNR=2.4
comp=Z,0.6nm,0.6s
ILAR Eielson Array 98.80 26 P **P** **15 50 58.6 -2.3**
comp=Z,0.3nm,0.7s,baz=232,slow=5.0,SNR=3.5
comp=Z,0.3nm,0.7s
AKASG Malin Array Be 100.48 320 P **Pdif** **15 51 07.2 -1.5**
comp=Z,0.2nm,0.3s,baz=83,slow=3.4,SNR=4.5
ARCES ARCESS Array B 102.20 339 P **Pdif** **15 51 14.4 -1.5**
comp=Z,0.5nm,0.4s,baz=72,slow=4.0,SNR=2.4
ARCES PKiKP **PKiKP** **15 55 39.0 +1.2**
comp=Z,0.9nm,0.7s,baz=108,slow=1.9,SNR=6.0
FINES FINESS Array B 102.38 331 PKiKP **PKiKP** **15 55 39.3 +1.1**
comp=Z,1.4nm,0.6s,baz=101,slow=1.9,SNR=5.4
NOA NORSAR Array B 109.53 331 PKiKP **PKiKP** **15 55 52.2 +0.7**
comp=Z,1.2nm,0.8s,baz=80,slow=1.9,SNR=4.5
GERES GERESS Array B 110.61 318 PKiKP **PKiKP** **15 55 54.9 +0.9**
comp=Z,0.5nm,0.6s,baz=132,slow=1.5,SNR=6.2
YKA Yellowknife Ar 113.22 25 PKiKP **PKiKP** **15 55 58.5 0.0**
comp=Z,1.5nm,0.5s,baz=298,slow=2.1,SNR=6.8
NVAR Mina Array Bea 118.12 52 PKP **PKiKP** **15 56 11.0 +2.1**
comp=Z,1.6nm,0.6s,baz=250,slow=3.0,SNR=12
TORD Torodi Ar. Bea 123.14 279 PKP **PKiKP** **15 56 19.9 +0.7**
comp=Z,9.6nm,0.7s,baz=74,slow=1.7,SNR=64
PDAR Pinedale Array 123.50 45 PKP **PKiKP** **15 56 19.8 +0.4**
comp=Z,2.6nm,0.8s,baz=202,slow=1.2,SNR=15
ESDC Sonseca Array 125.03 312 PKP **PKiKP** **15 56 23.9 +1.6**
comp=Z,2.1nm,0.8s,baz=28,slow=3.0,SNR=17
PLCA Paso Flores 127.80 166 PKP **PKiKP** **15 56 27.6 -0.3**
comp=Z,1.8nm,0.8s,baz=124,slow=3.6,SNR=6.0
ULM Lac du Bonnet 128.38 31 PKP **PKiKP** **15 56 28.7 +0.1**
comp=Z,4.4nm,0.5s,baz=233,slow=1.1,SNR=6.6
DBIC Dimbokro 128.96 270 PKP **PKPdf** **15 56 30.1 0.0**
comp=Z,5.7nm,0.5s,baz=37,slow=1.6,SNR=12
TXAR Tejitas Array 131.89 60 PKP **PKiKP** **15 56 36.1 -0.3**
comp=Z,1.5nm,0.7s,baz=229,slow=1.9,SNR=15
SCHQ Schefferville 134.57 8 PKP **PKiKP** **15 56 41.2 +0.3**
comp=Z,6.0nm,0.5s,baz=331,slow=1.4,SNR=13
Y49A Blount Mountai 143.67 45 PKPdf PKPbc 15 56 55.2 +0.9
CPUP Villa Florida 143.82 179 PKP **PKPdf** **15 56 56.5 -0.7**
comp=Z,5.5nm,0.6s,baz=170,slow=2.8,SNR=9.9
CPUP Villa Florida 143.82 179 PKPdf **PKPdf** **15 56 56.7 -0.5**
BG3 Lake Jocassee 145.31 40 **PKPab** **15 57 01.2 +1.7**
T57A Hurt 146.13 34 **PKPab** **15 57 02.6 0.0**
W57A Gilead 147.01 37 PKPab **PKPab** **15 57 06.0 0.0**
T59A Double "B" Far 147.07 32 PKPab **PKPab** **15 57 06.0 -0.2**
BIRD Birdtown, Kers 147.08 38 PKPab **PKPab** **15 57 06.0 -0.2**
PB16 IPOC Station P 148.95 155 **PKPab** **15 57 13.6 -1.3**
LPAZ La Paz 151.36 156 PKP **PKPdf** **15 57 12.2 +1.5**
comp=Z,6.6nm,1.1s,baz=297,slow=4.5,SNR=3.5
LPAZ PKPbc **PKiKP** **15 57 18.6 +1.4**
comp=Z,11nm,0.6s,baz=150,slow=2.8,SNR=28
LPAZ PKPab **pPKPdf** **15 57 27.1 -0.1**
comp=Z,4.7nm,0.6s,baz=221,slow=9.2,SNR=4.7
BDFB Brasilia 153.16 198 PKP **PKPdf** **15 57 14.4 +1.7**
comp=Z,4.5nm,0.9s,baz=134,slow=4.0,SNR=4.7
BDFB PKPbc **PKiKP** **15 57 22.0 +1.7**
comp=Z,5.6nm,0.7s,baz=123,slow=3.0,SNR=8.3

---

*IDC **23** 15:49:22.9±1.4,51.16N×16.87E,h0km,mbtmp3.7/2, ML2.4/3,Error ellipse: s-maj=29.1km s-min=12.5km az=132.0*
*PRU **23** 15:49:23.3±0.0,51.53N×16.09E,h0km*
ISC 23 15:49:21.8±1.1,51.55N±0.05×16.15E±0.04,h0km,n20, σ0.69/37,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**173**	*e*Pg	**Pg**		**15 49 36.5**	**+1.2**
KSP				*e*Sg	**Sb**		**15 49 46.2**	**-1.2**
CHVC	**Chvalec**	**0.96**	**184**	*e*PG	**Pb**		**15 49 41.4**	**+0.1**
CHVC				*e*SG	**Sb**		**15 49 54.1**	**-0.5**
	comp=Z,15nm,0.2s							
OSTC	**Ostas**	**0.99**	**178**	*e*PG	**Pb**		**15 49 41.9**	**0.0**
OSTC				*e*SG	**Sb**		**15 49 55.0**	**-0.5**
	comp=Z,19nm,0.5s							
UPC	**Upice**	**1.04**	**185**	*e*PG	**Pb**		**15 49 42.6**	**-0.1**
UPC				*e*SG	**Sb**		**15 49 56.5**	**-0.5**
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*PG	**Pg**		**15 49 45.4**	**+0.6**
DPC				*e*SG	**Sb**		**15 50 00.9**	**-0.7**
	comp=Z,10nm,0.3s							
PVCC	**Panska Ves**	**1.43**	**225**	*e*PG	**Pb**		**15 49 49.7**	**+0.5**
PVCC				*e*SG	**Sn**		**15 50 08.9**	**+0.5**
	comp=Z,98nm,0.2s							
KRLC	**Kraliky**	**1.53**	**165**	*e*PG	**Pn**		**15 49 51.0**	**+0.6**
KRLC				*e*SG	**Sn**		**15 50 11.6**	**+0.7**
	comp=Z,11nm,0.2s							
BRG	**Berggiesshubel**	**1.54**	**245**	Pg	**Pb**		**15 49 51.4**	**+0.2**
BRG				Sg	**Sn**		**15 50 12.0**	**+0.7**
BRG				Amp			15 50 13.5	
	comp=Z,31nm,0.4s							
BRG				Amp			16 05 17.0	
	comp=E,0.2nm,16.9s							
BRG				Amp			16 05 18.0	
	comp=N,0.3nm,17.3s							
BRG				Amp			16 05 20.0	
	comp=Z,0.4nm,17.6s							
GOPC	**GO Pecny, Ondr**	**1.85**	**208**	*e*PG	**Pb**		**15 49 56.6**	**+0.1**
PRU	**Pruhonice**	**1.86**	**214**	*e*PG	**Pg**		**15 49 57.3**	**-0.2**
PRU				*e*SG	**Sg**		**15 50 21.4**	**-0.3**
	comp=Z,12nm,0.3s							
MORC	**Moravsky Berou**	**1.98**	**153**	*e*PN	**Pn**		**15 49 56.5**	**-0.1**
MORC				*e*SG	**Sg**		**15 50 22.2**	**-0.2**
CLL	**Collm**	**1.98**	**264**	*e*Pg	**Pb**		**15 49 59.0**	**+0.3**
CLL				ex	x		15 50 03.0	
CLL				*e*Sg	**Sg**		**15 50 25.0**	**-0.5**
	comp=Z,13nm,0.3s							
VRAC	**Vranov**	**2.26**	**173**	*e*PN	**Pn**		**15 50 01.3**	**+0.9**
VRAC				*e*SG	**Sg**		**15 50 33.8**	**-0.5**
KRUC	**Moravsky**	**2.49**	**176**	*e*SG	**Sg**		**15 50 41.1**	**-0.7**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**		**15 50 06.8**	**+0.5**
NKC				*e*PG	**Pg**		**15 50 13.2**	**-0.1**
NKC				*e*SG	**Sg**		**15 50 48.7**	**+0.6**
	comp=Z,13nm,0.4s							
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**		**15 50 09.8**	**+0.2**
KHC				*e*PG	**Pb**		**15 50 15.9**	**+1.1**
KHC				*e*SN	**Sn**		**15 50 44.6**	**-0.9**
KHC				*e*SG	**Sg**		**15 50 54.4**	**-1.4**
	comp=Z,3.9nm,0.4s							
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*SG	**Sg**		**15 50 56.2**	**-1.1**
	comp=Z,4.1nm,0.2s							
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**		**15 50 13.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=36,slow=16,SNR=5.5							
GERES				Pg	**Pb**		**15 50 19.4**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=36,slow=17,SNR=14							
GERES				Lg	Lg		15 51 01.4	
	comp=Z,1.5nm,0.3s,baz=38,slow=29,SNR=9.9							
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**		**15 52 03.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=2.9							
	comp=Z,4.3nm,1.0s							
BRTR	**Keskin Array B**	**16.96**	**127**	Pn	Pn		15 53 14.3	-6.1
	comp=Z,0.1nm,0.3s,baz=323,slow=12,SNR=2.4							
	comp=Z,1.3nm,1.0s							

IDC 23 15:59:59.0±1.7,6.86S×148.06E,h0km,mb3.1/2, mbtmp3.2/5,ML3.1/2,Error ellipse: s-maj=70.0km s-min=21.2km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.68**	**199**	Pn	Pn		16 00 44.8	+1.3
	10nm,0.3s,baz=26,slow=12							
PMG				Sn	Sn		16 01 16.2	-0.6
	5.6nm,0.3s,baz=6.7,slow=17,SNR=2.5							
KRVT	**Keravat (AS076**	**4.69**	**58**	Pn	Pn		16 01 13.2	+2.0
	2.0nm,0.3s,baz=311,slow=19,SNR=5.2							
KRVT				Sn	Sn		16 02 11.3	+4.9
	0.6nm,0.3s,baz=18,slow=19,SNR=1.3							
	15nm,0.6s							
WRA	**Warramunga Arr**	**18.61**	**224**	P	Pn		16 04 18.4	0.0
	0.1nm,0.3s,baz=50,slow=10,SNR=2.0							
	0.1nm,0.4s							
ASAR	**Alice Springs**	**21.55**	**218**	P	P		16 04 49.4	-0.8
	0.1nm,0.4s,baz=58,slow=9.3,SNR=11							
	0.1nm,0.4s							
ILAR	**Eielson Array**	**85.85**	**23**	P	P		16 12 39.8	-0.6
	0.4nm,0.9s,baz=257,slow=4.8,SNR=3.1							
	0.4nm,0.9s							

---

*NOU **23** 16:04:33.0,18.26S×177.42W,h397km,MLv4.4/9,Fiji Islands Region*
*IDC **23** 16:04:35.8±2.7,18.36S×177.90W,h412km±22km,*

mb3.2/10,mbtmp3.9/11,Error ellipse: s-maj=53.1km s-min=18.1km az=149.0

ISC 23 16:04:33.5±0.7,18°4S±0.1×177°58W±0.1°0,h400km,n20, σ1§59/22,**mb3.4**/10,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**2.75**	**306**	P	Op	**Pn**	**16 05 34.6**	**-0.2**
FUTU	**Fugatoga**	**4.05**	**353**	P		**Pn**	**16 05 45.4**	**-0.8**
MSVF	**Nonsavu**	**4.20**	**278**	P		**Pn**	**16 05 47.9**	**+0.3**
	5.5nm,0.6s,baz=123,slow=15,SNR=10							
MSVF	**Nonsavu**	**4.20**	**278**	P		**Pn**	**16 05 47.9**	**+0.3**
AFI	**Afiamalu**	**7.11**	**52**	P		**Pn**	**16 06 14.6**	**-4.0**
	9.6nm,0.3s,baz=260,slow=11,SNR=9.0							
AFI				S		S	16 07 34.4	-10
	9.0nm,0.4s,baz=169,slow=10,SNR=3.9							
NIUE	**Niue**	**7.29**	**97**	P		**Pn**	**16 06 18.6**	**-1.9**
URZ	**Urewera**	**20.37**	**192**	P		**P**	**16 08 41.1**	**-0.1**
BKZ	**Black Stump Fm**	**21.37**	**193**	P		**P**	**16 08 50.4**	**0.0**
QRZ	**Quartz Range**	**23.96**	**199**	P		**P**	**16 09 16.2**	**+2.5**
CTA	**Charters Tower**	**34.15**	**261**	P		**P**	**16 10 42.2**	**-1.0**
	0.9nm,0.3s,baz=78,slow=9.5,SNR=6.0 0.9nm,0.3s							
STKA	**Stephens Creek**	**39.11**	**242**	P		**P**	**16 11 23.9**	**-0.5**
	1.0nm,0.9s,baz=94,slow=14,SNR=1.1 1.0nm,0.9s							
WRA	**Warramunga Arr**	**45.33**	**260**	P		**P**	**16 12 12.1**	**-2.0**
	0.4nm,0.4s,baz=92,slow=8.2,SNR=27							
WRA				PcP		**PcP**	**16 13 46.0**	**+0.1**
	0.7nm,1.0s,baz=100,slow=3.0,SNR=3.1 0.4nm,0.4s							
ASAR	**Alice Springs**	**45.43**	**255**	P		**P**	**16 12 13.6**	**-1.2**
	3.0nm,0.4s,baz=90,slow=8.4,SNR=120							
ASAR				PcP		**PcP**	**16 13 46.1**	**-0.1**
	0.3nm,0.4s,baz=108,slow=3.8,SNR=6.5 3.0nm,0.4s							
SIJI	**Sorong**	**53.10**	**283**	P		**P**	**16 13 11.8**	**-0.3**
	2.6nm,0.5s,baz=198,slow=20,SNR=3.6 2.6nm,0.5s							
FITZ	**Fitzroy Crossi**	**53.73**	**261**	P		**P**	**16 13 16.0**	**-0.6**
	1.4nm,0.6s,baz=180,slow=3.5,SNR=6.1 1.4nm,0.6s							
KSRS	**Korea Array**	**75.55**	**318**	P		**P**	**16 15 36.3**	**+0.8**
	0.2nm,0.3s,baz=123,slow=6.6,SNR=2.4 0.2nm,0.3s							
NVAR	**Mina Array Bea**	**79.20**	**43**	P		**P**	**16 15 57.9**	**+2.1**
	0.3nm,0.6s,baz=220,slow=8.3,SNR=2.0 0.3nm,0.6s							
TXAR	**Lajitas Array**	**85.57**	**57**	P		**P**	**16 16 31.3**	**+2.9**
	0.6nm,0.8s,baz=232,slow=4.4,SNR=4.8 0.6nm,0.8s							
ILAR	**Eielson Array**	**86.14**	**13**	P		**P**	**16 16 30.6**	**+0.4**
	0.4nm,0.7s,baz=208,slow=3.6,SNR=3.3 0.4nm,0.7s							
GERES	**GERESS Array B**	**148.23**	**346**	PKPbc		**PKPbc**	**16 23 33.2**	**0.0**
	0.4nm,0.5s,baz=38,slow=4.0,SNR=2.1							

*JMA **23** 16:06:41.9±0.7,35°N±2°×14°2E±°,h17km±2km,MV2.7/22, FAR SE OFF BOSO PEN*

*IDC **23** 16:06:47.0±3.7,33°80N×140°12E,h0km,mb3.2/2, mbtmp3.1/3,ML2.0/1,Error ellipse: s-maj=156.6km s-min=25.9km az=72.0*

ISC 23 16:06:44.5±1.7,34°5N±0°1×141°6E±0°1,h27km,n9, σ0§91/11,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.55**	**284**	P		**Pb**	**16 06 53.8**	**-1.4**
BSO3	**Boso 3**	**0.96**	**287**	P		**Pn**	**16 07 01.6**	**-0.3**
BSO4	**Boso 4**	**1.16**	**294**	*eP*		**Pn**	**16 07 05.0**	**+0.2**
JKUC	**kamogawauchiur**	**1.33**	**299**	P		**Pn**	**16 07 06.8**	**-0.4**
CHOJ	**Chosi**	**1.33**	**332**	P		**Pn**	**16 07 06.7**	**-0.6**
CHOJ				*eS*		**Sn**	**16 07 24.3**	**+0.2**
JCN	**Nagara**	**1.47**	**308**	*eP*		**Pn**	**16 07 09.7**	**+0.6**
MJAR	**Matsushiro Arr**	**3.44**	**307**	Pn		**Pn**	**16 07 37.1**	**+0.9**
	0.2nm,0.3s,baz=150,slow=12,SNR=6.6							
MJAR				Sn		**Sn**	**16 08 17.7**	**+1.6**
	0.1nm,0.3s,baz=128,slow=17,SNR=4.2 0.9nm,0.4s							
WRA	**Warramunga Arr**	**54.60**	**188**	P		**P**	**16 16 11.1**	**+0.4**
	0.2nm,0.5s,baz=4.8,slow=7.5,SNR=6.2 0.2nm,0.5s							
ASAR	**Alice Springs**	**58.33**	**188**	P		**P**	**16 16 37.5**	**+0.3**
	0.1nm,0.7s,baz=2.9,slow=5.6,SNR=2.1 0.1nm,0.7s							

*EAF **23** 16:11:46.5±11.0,2°88S×28°01E,h0km±999km,MD4.3*

*IDC **23** 16:11:56.3±0.5,2°46S×28°89E,h0km,mb4.4/24, mbtmp4.4/28,ML4.3/4,MS3.8/41,Error ellipse: s-maj=13.9km s-min=9.8km az=96.0*

*NEIC **23** 16:11:56.6±1.9,2°65S±0°07×29°06E±0°09,h10km±1km, mb4.8/46,Error ellipse: s-maj=15.7km s-min=11.2km az=286.0*

*GCMT **23** 16:11:57.6±0.4,2°33S±0°04×28°69E±0°02,h28km±1km, MW4.8/68,Moment Tensor Solution. s18,c23; s68,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.17±.21; Mθθ0.08±.11; Mφφ2.09±.12; Mrθ0.18±.19; Mθφ0.12±.07; Mφr0.73±.15; Best double couple: Mo2.26000×10¹⁶ NP1:φs187.00000°,δ55.00000°,λ-86.00000°. NP2: φs0.00000°,δ36.00000°,λ-95.00000°. Principal axes: T 2.2200, Plg10.0000°, Azm274.0000°; N 0.0850, Plg3.0000°, Azm4.0000°; P -2.3010, Plg80.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 16:11:57.5±0.4,2°54S±0°04×29°02E±0°06,h12km,n224, σ1§64/202,**mb4.7**/73,**MS3.8**/40,**25C-9D,Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**2.58**	**42**	Pn		**Pn**	**16 12 39.7**	**+0.4**
	51nm,0.3s,baz=221,slow=20,SNR=88							
MBAR				Pg		**Pb**	**16 12 43.8**	**0.0**
	326nm,0.3s,baz=210,slow=20,SNR=100							
MBAR				LR		LR	16 13 06.3	
	comp=Z,503nm,18.6s,baz=195,slow=27							
MBAR				Sn		**Sb**	**16 13 14.3**	**-1.4**
	934nm,0.3s,baz=195,slow=20,SNR=13 543nm,0.2s							
MBAR	**Mbarara**	**2.58**	**42**	Pn		**Pn**	**16 12 38.7**	**-0.6**
MBAR				Sn		**Sb**	**16 13 12.7**	**-3.0**
MBAR	**Mbarara**	**2.58**	**42**	*eP*		**Pb**	**16 12 40.8**	**-3.1**
MBAR				*eS*		**Sn**	**16 13 11.1**	**+0.3**
MBAR	**Mbarara**	**2.58**	**42**	*eP*		**Pb**	**16 12 44.3**	**+0.5**
MBAR				*eS*		**Sb**	**16 13 13.7**	**-2.0**
KMBO	**Kilima Mbogo**	**8.35**	**80**	Pn		**Pn**	**16 14 00.4**	**+1.7**
	3.4nm,0.3s,baz=241,slow=16,SNR=36							
KMBO				Sn		**Sn**	**16 15 37.0**	**+3.8**
	4.4nm,0.3s,baz=246,slow=19,SNR=6.2							
KMBO				Lg		Lg	16 16 14.7	
	5.0nm,0.3s,baz=229,slow=19,SNR=5.3 28nm,0.8s							
KMBO	**Kilima Mbogo**	**8.35**	**80**			**Pn**	**16 13 59.1**	**+0.4**
KMBO	**Kilima Mbogo**	**8.35**	**80**	*eP*		**Pn**	**16 14 00.9**	**+2.2**
KMBO	**Kilima Mbogo**	**8.35**	**80**	*eS*		Sg	16 16 15.2	-11
LODK	**Lodwar**	**8.68**	**47**	Pn		**Pn**	**16 14 00.7**	**-2.4**
KIBK	**Kibwezi**	**9.03**	**89**	Pn		**Pn**	**16 14 04.4**	**-3.4**
LSZ	**Lusaka**	**12.68**	**184**	Pn		**Pn**	**16 14 57.0**	**-0.9**
	1.2nm,0.3s,baz=8.7,slow=12,SNR=12							
LSZ				Sn		**Sn**	**16 17 19.4**	**+0.1**
	3.0nm,0.3s,baz=315,slow=19,SNR=3.7							
LSZ				Lg		Lg	16 18 32.1	
	6.1nm,0.3s,baz=287,slow=18,SNR=11 6.3nm,0.5s							
LSZ	**Lusaka**	**12.68**	**184**	Pn		**Pn**	**16 14 55.2**	**-2.7**
BLWY	**Bulawayo**	**17.50**	**181**	*eP*		**P**	**16 16 03.9**	**+1.1**
MATP	**Matopo**	**17.79**	**182**	P		**P**	**16 16 04.8**	**-1.2**
	0.2nm,0.3s,baz=353,slow=12,SNR=9.7							
MATP				S		**Sn**	**16 19 23.2**	**-0.3**
	12nm,0.7s,baz=29,slow=13,SNR=4.0							
MATP				Lg		Lg	16 21 15.1	
	0.7nm,0.3s,baz=328,slow=19,SNR=6.1 6.6nm,0.8s							
MATP	**Matopo**	**17.79**	**182**	*eP*		**Pn**	**16 16 03.6**	**-1.6**
ATD	**Arta Tunnel**	**19.61**	**44**	Lg		Lg	16 22 13.8	
	1.5nm,0.3s,baz=246,slow=20,SNR=1.7							
ATD				LR		LR	16 23 35.0	
	comp=Z,301nm,18.5s,baz=202,slow=36							
MUSN	**Musina, Limpop**	**19.65**	**178**	*eP*		**Pn**	**16 16 26.3**	**-1.4**
MUSN						IAmb	16 16 33.4	
	comp=Z,17nm,1.0s							
TSUM	**Tsumeb**	**19.98**	**213**	P		**Pn**	**16 16 33.0**	**+1.1**
	comp=Z,7.6nm,0.6s,baz=57,slow=9.8,SNR=7.4							
TSUM				S		**Sn**	**16 20 15.8**	**-0.9**
	comp=Z,16nm,0.8s,baz=154,slow=9.4,SNR=3.7							
TSUM				Lg		Lg	16 22 19.3	
	comp=Z,0.7nm,0.3s,baz=80,slow=19,SNR=3.4							
MOPA	**Mopani**	**20.98**	**174**	*eP*		Pn	16 16 41.9	-1.5
MOPA						IAmb	IAmb	16 16 47.4
	comp=Z,118nm,1.8s							
LBTB	**Lobatse**	**22.59**	**188**	P		**P**	**16 16 59.1**	**+1.0**
	comp=Z,21nm,0.9s,baz=2.2,slow=11,SNR=23							
LBTB				S		Sn	16 21 11.2	-7.8
	comp=Z,2.2nm,0.6s,baz=26,slow=20,SNR=1.5							
LBTB				Lg		Lg	16 23 49.5	
	comp=Z,0.3nm,0.3s,baz=299,slow=11,SNR=4.5 comp=Z,21nm,0.9s							
LBTB	**Lobatse**	**22.59**	**188**	P		**P**	**16 16 57.5**	**-0.6**
LBTB						IAmb	IAmb	16 17 01.3
	comp=Z,36nm,1.0s							
LBTB	**Lobatse**	**22.59**	**188**	*eP*		**P**	**16 16 53.5**	**-4.6**
OPO	**Ambohidratompo**	**23.89**	**133**	P		**P**	**16 17 13.8**	**+2.3**
	comp=Z,13nm,1.1s,baz=300,slow=7.4,SNR=6.0							
OPO				LR		LR	16 25 24.4	
	comp=Z,354nm,20.6s,baz=176,slow=34 comp=Z,13nm,1.1s							
PRYS	**Parys**	**24.30**	**184**	*eP*		**P**	**16 17 18.1**	**+2.9**
POGA	**Pongola**	**24.80**	**174**	*eP*		**P**	**16 17 22.0**	**+2.5**
POGA						IAmb	IAmb	16 17 25.9
	comp=Z,438nm,3.2s							
NWCL	**Newcastle**	**25.07**	**178**	*eP*		**P**	**16 17 22.8**	**+0.7**
NWCL						IAmb	IAmb	16 17 24.4
	comp=Z,64nm,1.6s							
VOI	**Vohitsoka**	**25.87**	**139**	P		**P**	**16 17 27.0**	**-2.4**
BOSA	**Boshof**	**26.18**	**188**	P		**P**	**16 17 32.6**	**+0.5**
	comp=Z,5.0nm,0.7s,baz=11,slow=8.2,SNR=13							
BOSA				Lg		Lg	16 25 43.9	
	comp=Z,0.1nm,0.3s,baz=24,slow=20,SNR=1.9							
BOSA				LR		LR	16 28 34.5	
	comp=Z,187nm,19.0s,baz=6.0,slow=38 comp=Z,5.0nm,0.7s							
BOSA	**Boshof**	**26.18**	**188**	P		**P**	**16 17 29.4**	**-2.7**
BOSA	**Boshof**	**26.18**	**188**	*eP*		**P**	**16 17 31.7**	**-0.4**
BOSA						IAmb	IAmb	16 17 33.3
	comp=Z,72nm,1.8s							
MSEY	**Mahe Island**	**26.50**	**95**	P		**P**	**16 17 30.7**	**-4.5**
MSEY						IAmb	IAmb	16 17 55.1
	comp=Z,34nm,0.9s							
SUR	**Sutherland**	**30.67**	**194**	LR		LR	16 30 10.1	
	comp=Z,119nm,19.6s,baz=22,slow=36							
SUR	**Sutherland**	**30.67**	**194**	P		**P**	**16 18 09.0**	**-3.3**
MERW	**Merweville**	**30.79**	**192**	*eP*		**P**	**16 18 13.1**	**-0.2**
MERW						IAmb	IAmb	16 18 15.1
	comp=Z,22nm,0.9s							
TOA0	**Torodi Ar. Sit**	**31.28**	**301**	P		**P**	**16 18 15.0**	**-2.6**
TORD	**Torodi Ar. Bea**	**31.28**	**301**	P		**P**	**16 18 15.8**	**-1.9**
	comp=Z,6.4nm,0.9s,baz=111,slow=8.0,SNR=18							
TORD				Lg		Lg	16 28 18.5	
	baz=136,slow=25,SNR=5.4							
TORD				LR		LR	16 31 19.5	
	comp=Z,365nm,19.8s,baz=54,slow=37 comp=Z,6.4nm,0.9s							
KIC	**Kosan Boka**	**34.84**	**285**	*iP*		**P**	**16 18 51.6**	**+2.8**
	comp=Z,3.5nm,0.3s							
DBIC	**Dimbokro**	**35.03**	**285**	P		**P**	**16 18 50.1**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=108,slow=6.1,SNR=1.9							
DBIC				LR		LR	16 32 59.5	
	comp=Z,240nm,20.5s,baz=68,slow=36 comp=Z,4.4nm,0.9s							
DBIC	**Dimbokro**	**35.03**	**285**	P		**P**	**16 18 48.3**	**-2.2**
DBIC						IAmb	IAmb	16 19 06.4
	comp=Z,23nm,1.5s							
LIC	**Lamto**	**35.09**	**284**	*eP*		**P**	**16 18 53.1**	**+2.1**
	comp=Z,24nm,0.5s							
TIC	**Toumodi**	**35.18**	**285**	*iP*		**P**	**16 18 53.1**	**+1.3**
	comp=Z,8.8nm,0.3s							
KOWA	**Kowa**	**36.84**	**298**	P		**P**	**16 19 05.2**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=126,slow=2.8,SNR=6.7							
KOWA				LR		LR	16 34 48.0	
	comp=Z,497nm,18.5s,baz=102,slow=37 comp=Z,3.2nm,0.7s							
RAFF	**Raffo Rosso**	**41.84**	**342**	P		**P**	**16 19 46.3**	**-1.1**
BR131	**Keskin Array S**	**42.27**	**5**	P		**P**	**16 19 50.2**	**-0.8**
BRTR	**Keskin Array B**	**42.27**	**5**	P		**P**	**16 19 51.9**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=176,slow=7.4,SNR=11 comp=Z,2.4nm,0.6s							
BRTR	**Keskin Array B**	**42.27**	**5**	P		**P**	**16 19 49.3**	**-1.8**
KEST	**Kesra**	**42.28**	**336**	P		**P**	**16 19 51.6**	**+0.5**
	comp=Z,6.4nm,0.8s,baz=141,slow=3.8,SNR=7.3							
KEST				LR		LR	16 39 48.7	
	comp=Z,136nm,20.3s,baz=297,slow=40 comp=Z,6.4nm,0.8s							
KEST	**Kesra**	**42.28**	**336**	P		**P**	**16 19 51.3**	**+0.1**
CEL	**Celeste**	**42.37**	**345**	P		**P**	**16 19 49.9**	**-1.8**
CEL						IAmb	IAmb	16 19 55.6
	comp=Z,40nm,1.2s							
LIT	**Litokhoron**	**42.85**	**353**	P		**P**	**16 19 55.3**	**-0.3**
ALN	**Alexandroupoli**	**43.31**	**357**	P		**P**	**16 19 59.4**	**+0.1**
RDO	**Rodhopi**	**43.59**	**356**	P		**P**	**16 20 00.2**	**-1.3**
MATE	**Matera**	**44.43**	**347**	P		**P**	**16 20 10.0**	**+1.7**
TIR	**Tirane**	**44.47**	**350**	P		**P**	**16 20 10.1**	**+1.5**
VTS	**Vitosha**	**45.25**	**354**	P		**P**	**16 20 16.2**	**+1.2**
PDG	**Podgorica**	**45.63**	**350**	P		**P**	**16 20 20.1**	**+2.3**
RAZG	**Razgrad**	**45.95**	**357**	P		**P**	**16 20 21.2**	**+0.9**
BOVS	**Bovan**	**46.43**	**353**	P		**P**	**16 20 26.3**	**+2.2**
DIVS	**Divibare**	**47.13**	**351**	P		**P**	**16 20 30.3**	**+0.6**
DIVS						IAmb	IAmb	16 20 33.5
	comp=Z,14nm,1.1s							
TPGR	**Topolog**	**47.19**	**359**	P		**P**	**16 20 30.8**	**+0.7**
MDT	**Midelt**	**47.41**	**321**	P		**P**	**16 20 31.1**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=138,slow=14,SNR=2.9							
MDT				LR		LR	16 40 28.1	
	comp=Z,68nm,19.8s,baz=141,slow=36 comp=Z,1.5nm,0.8s							
ISR	**Istrita**	**47.50**	**358**	P		**P**	**16 20 33.5**	**+1.0**
MDVR	**Moldovita**	**47.56**	**353**	P		**P**	**16 20 34.9**	**+2.0**
LATE	**Laterza**	**47.56**	**343**	P		**P**	**16 20 33.3**	**+0.3**
HERR	**Herculane**	**47.58**	**354**	P		**P**	**16 20 33.9**	**+0.9**
FDMO	**Fiordimonte**	**47.59**	**344**	P		**P**	**16 20 33.0**	**-0.2**
KBZ	**Khabaz**	**47.72**	**14**	LR		LR	16 41 02.0	
	comp=Z,58nm,18.4s,baz=149,slow=37							
ARR	**Arges**	**47.86**	**356**	P		**P**	**16 20 36.1**	**+0.8**
VOIR		**47.90**	**356**	P		**P**	**16 20 37.6**	**+2.0**
MLR	**Muntele Rosu**	**47.90**	**357**	P		**P**	**16 20 37.1**	**+1.4**
MLR	**Muntele Rosu**	**47.90**	**357**	LR		LR	16 41 16.6	
	comp=Z,48nm,20.1s,baz=65,slow=37							
MLR	**Muntele Rosu**	**47.90**	**357**	P		**P**	**16 20 35.4**	**-0.3**
MLR						IAmb	IAmb	16 20 39.2
	comp=Z,8.7nm,0.7s							
CASP	**Castiglione de**	**48.01**	**342**	P		**P**	**16 20 36.7**	**+0.2**
GZR	**Gura Zlata**	**48.05**	**354**	P		**P**	**16 20 37.7**	**+1.0**
FRGS	**Fruska Gora**	**48.19**	**351**	P		**P**	**16 20 39.5**	**+1.7**
PLOR	**Plostina**	**48.23**	**358**	P		**P**	**16 20 39.2**	**+1.1**
BBTS	**Babate**	**48.23**	**292**	LR		LR	16 41 01.0	
	comp=Z,148nm,21.8s,baz=82,slow=36							
VRI	**Vrincioaia**	**48.24**	**357**	P		**P**	**16 20 40.3**	**+2.1**
COVR	**Voineasa-Covas**	**48.24**	**357**	P		**P**	**16 20 39.2**	**+0.9**
BZS	**Buzias**	**48.40**	**353**	P		**P**	**16 20 41.0**	**+1.6**
DOPR	**Dopca**	**48.41**	**357**	P		**P**	**16 20 40.2**	**+0.7**
GHRR		**48.41**	**359**	P		**P**	**16 20 39.7**	**+0.3**
GEYT	**Alibeck**	**48.45**	**31**	LR		LR	16 40 55.7	
	comp=Z,112nm,20.8s,baz=83,slow=36							
OZUR		**48.51**	**357**	P		**P**	**16 20 41.4**	**+1.1**
OSSC	**Osservatorio P**	**48.56**	**343**	P		**P**	**16 20 40.3**	**-0.4**
OSSC						IAmb	IAmb	16 20 42.6
	comp=Z,8.0nm,0.9s							
TESR	**Tescani**	**48.89**	**358**	P		**P**	**16 20 44.7**	**+1.6**
SIRR	**Siria**	**49.03**	**353**	P		**P**	**16 20 45.7**	**+1.4**
BIZ	**Bicaz**	**49.34**	**358**	P		**P**	**16 20 49.3**	**+2.7**
KOVH	**Kovagotottos**	**49.38**	**350**	P		**P**	**16 20 49.2**	**+2.3**
MORH	**Mrgy, Hungar**	**49.41**	**351**	P		**P**	**16 20 49.1**	**+1.9**
MORH	**Mrgy, Hungar**	**49.41**	**351**	P		**P**	**16 20 49.0**	**+1.9**
DRGR		**49.44**	**354**	P		**P**	**16 20 48.8**	**+1.4**
GBRS	**Gornja Briga**	**49.50**	**347**	*iP*		**P**	**16 20 50.4**	**+2.5**
CEY	**Cerknica**	**49.78**	**347**	*iP*		**P**	**16 20 52.2**	**+2.2**
BURAR	**Bucovina Array**	**50.06**	**357**	P		**P**	**16 20 53.2**	**+1.0**
BURAR	**Bucovina Array**	**50.06**	**357**	P		**P**	**16 20 53.4**	**+1.2**
BURAR						IAmb	IAmb	16 20 56.7
	comp=Z,9.1nm,1.1s							
BUR08	**Bucovina Ar. S**	**50.09**	**357**	P		**P**	**16 20 53.0**	**+0.6**
BUR08						IAmb	IAmb	16 20 56.6
	comp=Z,12nm,1.1s							
TEOL	**Teolo**	**50.12**	**344**	P		**P**	**16 20 52.9**	**+0.3**
TEOL						IAmb	IAmb	16 20 56.0
	comp=Z,19nm,1.1s							
OBKA	**Obir**	**50.48**	**347**	*eP*		**P**	**16 20 56.7**	**+1.3**
MPLH	**Magyarpolny**	**50.52**	**350**	P		**P**	**16 20 56.9**	**+1.3**
SOKA	**Soboth**	**50.54**	**348**	*iP*		**P**	**16 20 58.6**	**+2.8**
	comp=Z,4.7nm,0.7s,SNR=6.0							
STAL	**STALIGIAL**	**50.69**	**345**	P		**P**	**16 20 54.9**	**-2.0**
STAL						IAmb	IAmb	16 21 05.9
	comp=Z,14nm,1.3s							
CTI	**Castel Tesino**	**50.77**	**344**	P		**P**	**16 20 56.7**	**-0.8**
CTI						IAmb	IAmb	16 21 01.7
	comp=Z,9.6nm,0.8s							
TRPA	**Tarpa**	**50.78**	**354**	⇑P		**P**	**16 20 59.9**	**+2.5**
TRPA	**Tarpa**	**50.78**	**354**	P		**P**	**16 20 58.0**	**+0.6**
CIMO	**Cimolais**	**50.80**	**345**	P		**P**	**16 20 57.9**	**+0.1**
CIMO						IAmb	IAmb	16 21 00.8
	comp=Z,9.0nm,0.9s							
PSZ	**Piszkesteto**	**50.88**	**352**	P		**P**	**16 21 00.4**	**+2.0**
PSZ	**Piszkesteto**	**50.88**	**352**	P		**P**	**16 20 58.4**	**0.0**
PSZ						IAmb	IAmb	16 21 01.5
	comp=Z,12nm,0.8s							
PSZ	**Piszkesteto**	**50.88**	**352**	P		**P**	**16 21 00.7**	**+2.3**
ARSA	**Arzberg**	**50.98**	**348**	*eP*		**P**	**16 21 01.9**	**+2.8**
	comp=Z,3.1nm,0.5s							
ABTA	**Abfaltersbach**	**51.19**	**345**	*eP*		**P**	**16 21 03.7**	**+2.9**
	comp=Z,8.8nm,1.2s							
RONA	**Rosalia, Austr**	**51.26**	**349**	*iP*		**P**	**16 21 03.9**	**+2.7**
	comp=Z,6.9nm,0.9s,SNR=5.6							
KBA	**Koelnbreinsper**	**51.30**	**346**	*eP*		**P**	**16 21 03.7**	**+2.0**
	comp=Z,9.5nm,0.8s							
KECS	**Kecovo**	**51.36**	**353**	*eP*		**P**	**16 21 04.7**	**+2.9**
BNI	**Bardonecchia**	**51.39**	**340**	P		**P**	**16 21 03.5**	**+1.2**
BNI						IAmb	IAmb	16 21 06.3
	comp=Z,8.0nm,0.9s							
CONA	**Conrad Observa**	**51.56**	**349**	*iP*		**P**	**16 21 06.3**	**+2.8**
	comp=Z,8.8nm,1.0s,SNR=5.2							
ZST	**Bratislava**	**51.59**	**350**	*eP*		**P**	**16 21 05.9**	**+2.3**
VYHS	**Vyhne**	**51.59**	**351**	*eP*		**P**	**16 21 05.9**	**+2.2**
CRVS	**Cervenica-Dubn**	**51.65**	**354**	*eP*		**P**	**16 21 06.9**	**+2.8**
MODS	**Modra-Piesok**	**51.73**	**350**	*eP*		**P**	**16 21 07.0**	**+2.3**
ESDC	**Sonseca Array**	**51.77**	**328**	P		**P**	**16 21 05.2**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=137,slow=9.0,SNR=17							
ESDC				PcP		**PcP**	**16 22 20.6**	**+2.3**
	comp=Z,1.5nm,1.0s,baz=141,slow=4.9,SNR=4.5 comp=Z,3.4nm,1.0s							
TUE	**Stuetta**	**51.80**	**343**	P		**P**	**16 21 06.2**	**+0.7**
TUE						IAmb	IAmb	16 21 09.3
	comp=Z,26nm,1.3s							
BIOA	**Bad Ischl, Aus**	**51.81**	**347**	*eP*		**P**	**16 21 06.8**	**+1.5**
	comp=Z,6.7nm,1.0s							
MOA	**Molln**	**51.81**	**347**	*iP*		**P**	**16 21 07.2**	**+1.8**
	comp=Z,4.0nm,0.5s,SNR=8.3							
WTTA	**Wattenberg**	**51.89**	**345**	*iP*		**P**	**16 21 08.5**	**+2.4**
	comp=Z,18nm,1.1s,SNR=5.9							
FETA	**Feichten**	**51.91**	**344**	*eP*		**P**	**16 21 08.4**	**+2.2**
	comp=Z,7.6nm,1.1s							
DAVOX	**Davos/Dischmat**	**51.93**	**343**	LR		LR	16 43 48.4	
	comp=Z,100nm,18.5s,baz=250,slow=37							
SQTA	**Sankt Quirin**	**51.97**	**345**	*eP*		**P**	**16 21 08.8**	**+2.3**
	comp=Z,7.3nm,0.6s							
WATA	**Walderalm**	**51.98**	**345**	*eP*		**P**	**16 21 08.8**	**+2.1**
	comp=Z,12nm,1.2s							
MOTA	**Moosalm**	**52.11**	**345**	*iP*		**P**	**16 21 09.3**	**+1.6**
	comp=Z,6.5nm,0.6s,SNR=5.7							
JAVC	**Velka Javorina**	**52.13**	**351**	*eP*		**P**	**16 21 10.4**	**+2.7**
LANS	**Liptovska Anna**	**52.15**	**352**	*eP*		**P**	**16 21 11.0**	**+3.2**
KWP	**Kalwaria Pacla**	**52.25**	**355**	P		**P**	**16 21 08.8**	**+0.3**
RETA	**Reutte**	**52.33**	**344**	*eP*		**P**	**16 21 10.6**	**+1.4**
	comp=Z,8.6nm,0.8s							
SENIN	**Lac Senin/Sane**	**52.34**	**341**	P		**P**	**16 21 10.2**	**+0.7**
DAVA	**Damuels**	**52.39**	**344**	*iP*		**P**	**16 21 11.2**	**+1.4**
	comp=Z,11nm,0.6s,SNR=9.0							
PALK	**Pallekele**	**52.49**	**79**	LR		LR	16 40 58.2	
	comp=Z,80nm,19.7s,baz=7.2,slow=33							
KRUC	**Moravsky**	**52.55**	**350**	*eP*		**P**	**16 21 12.5**	**+1.8**
MAUC	**Maruska**	**52.60**	**351**	*

FINES	**FINESS Array B**	**63.84**	**358**	P		**P**	**16 22 29.5**	**0.0**
	comp=Z,10nm,0.9s,baz=168,slow=7.1,SNR=18							
	comp=Z,10nm,0.9s							
FINES	**FINESS Array B**	**63.84**	**358**	P		**P**	**16 22 29.5**	**0.0**
RCBR	**Riachuelo**	**64.80**	**265**	LR		LR	16 46 44.7	
	comp=Z,165nm,20.5s,baz=266,slow=32							
NB2	**NORSAR Subarra**	**64.88**	**351**	P		**P**	**16 22 35.9**	**-0.5**
	comp=Z,8.6nm,0.8s,baz=162,slow=6.5							
NOA	**NORSAR Array B**	**64.88**	**351**	P		**P**	**16 22 36.3**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=162,slow=6.3,SNR=15							
	comp=Z,5.7nm,0.8s							
NC303	**NORSAR Array S**	**65.03**	**351**	P		**P**	**16 22 38.3**	**+0.9**
BVAR	**Borovoye Array**	**65.31**	**26**	LR		LR	16 54 23.6	
	comp=Z,47nm,19.9s,baz=228,slow=39							
BRDH	**Bariadhala**	**65.96**	**64**	LR		LR	16 53 32.5	
	comp=Z,89nm,18.2s,baz=255,slow=38							
MK31	**Makanchi Array**	**67.76**	**37**	P		**P**	**16 22 55.6**	**+0.4**
MKAR	**Makanchi Array**	**67.76**	**37**	P		**P**	**16 22 55.3**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=238,slow=6.9,SNR=26							
	comp=Z,2.7nm,0.6s							
MKAR	**Makanchi Array**	**67.76**	**37**	P		**P**	**16 22 54.6**	**-0.6**
MAW	**Mawson**	**68.99**	**167**	P		**P**	**16 23 04.3**	**+1.9**
	comp=Z,3.4nm,0.9s,baz=347,slow=7.5,SNR=5.3							
	comp=Z,3.4nm,0.9s							
WMQ	**Urumqi**	**69.79**	**41**	*e*P		**P**	**16 23 09.6**	**+1.7**
PSI	**Prapat**	**70.08**	**86**	LR		LR	16 48 44.8	
	comp=Z,49nm,21.1s,baz=238,slow=32							
TROLL	**Troll, Antarti**	**71.35**	**188**	pP		pP	16 23 18.9	-2.7
CMAR	**Chiang Mai Arr**	**71.84**	**70**	P		**P**	**16 23 22.4**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=255,slow=6.4,SNR=8.7							
	comp=Z,0.5nm,0.3s							
SNAA	**Sanae**	**71.93**	**190**	pP		pP	16 23 22.2	-2.7
ARCES	**ARCESS Array B**	**71.97**	**359**	P		**P**	**16 23 19.6**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=165,slow=7.3,SNR=20							
	comp=Z,2.1nm,0.5s							
VNA1	**Neumayer--Stat**	**72.15**	**192**	pP		pP	16 23 24.8	-1.3
VNA2	**Neumayer--Watz**	**72.19**	**192**	pP		pP	16 23 24.4	-2.0
	baz=25,slow=6.0							
GOMU	**GeErMu**	**72.22**	**51**	⇑*e*P		**P**	**16 23 25.0**	**+1.8**
GOMU				pP		sP	16 23 30.1	+0.8
GOMU				sP		pP	16 23 31.5	+3.8
GOMU				pmax		pmax		
	comp=Z,4.0nm,1.0s							
GOMU				pmax		pmax		
	comp=Z,81nm,4.6s							
ZALV	**Zalesovo Beam**	**72.76**	**31**	P		**P**	**16 23 26.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=267,slow=3.0,SNR=3.7							
ZALV				LR		LR	16 56 47.7	
	comp=Z,72nm,18.9s,baz=220,slow=37							
	comp=Z,1.1nm,0.7s							
VNA3	**Neumayer Olymp**	**72.91**	**192**	pP		pP	16 23 28.0	-2.8
PZH	**PanZhiHua**	**75.74**	**62**	P		**P**	**16 23 44.0**	**+0.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,90nm,5.1s							
BDFB	**Brasilia**	**76.83**	**255**	P		**P**	**16 23 50.7**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=129,slow=10,SNR=3.3							
	comp=Z,1.6nm,0.4s							
GTA	**Gaotai**	**76.90**	**49**	*e*P		**P**	**16 23 51.4**	**+1.3**
GTA				pP		sP	16 23 54.4	-1.8
GTA				sP		PcP	16 23 57.6	-3.6
GTA				pmax		pmax		
	comp=Z,2.0nm,1.2s							
LEM	**Lembang**	**78.39**	**96**	LR		LR	16 52 23.1	
	comp=Z,40nm,18.9s,baz=233,slow=31							
LZH	**Lanzhou**	**79.28**	**53**	*e*P		**P**	**16 24 03.0**	**-0.4**
LZH				pP		sP	16 24 07.6	-2.0
LZH				sP		PcP	16 24 10.8	-0.9
LZH				pmax		pmax		
	comp=Z,15nm,1.0s							
NRIK	**Noril'sk**	**81.73**	**18**	P		**P**	**16 24 17.6**	**+2.0**
	comp=Z,1.2nm,0.4s,baz=243,slow=6.9,SNR=4.8							
	comp=Z,1.2nm,0.4s							
MDP	**Montagnes des**	**81.92**	**275**	LR		LR	16 54 04.4	
	comp=Z,58nm,20.7s,baz=256,slow=31							
SONM	**Songino Array**	**83.42**	**41**	P		**P**	**16 24 27.5**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=251,slow=4.4,SNR=4.1							
SONM				LR		LR	17 06 44.0	
	comp=Z,34nm,18.1s,baz=46,slow=39							
	comp=Z,0.9nm,0.8s							
HHC	**Hu-ho-hao-te**	**86.01**	**49**	*e*P		**P**	**16 24 38.0**	**-0.3**
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,100nm,7.7s							
NWAO	**Narrogin (SRO)**	**87.14**	**123**	LR		LR	16 59 36.1	
	comp=Z,70nm,20.4s,baz=110,slow=33							
SIV	**San Ignacio**	**89.39**	**254**	LR		LR	17 02 16.5	
	comp=Z,72nm,19.2s,baz=104,slow=34							
KAPI	**Kappang**	**90.52**	**95**	LR		LR	17 02 35.2	
	comp=Z,25nm,18.3s,baz=260,slow=34							
NJ2	**Nanjing**	**91.20**	**58**	*e*P		**P**	**16 25 02.8**	**-0.2**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
TIXI	**Tiksi**	**95.50**	**18**	LR		LR	17 14 07.1	
	comp=Z,27nm,18.6s,baz=352,slow=39							
FITZ	**Fitzroy Crossi**	**95.51**	**108**	LR		LR	17 01 04.4	
	comp=Z,56nm,21.5s,baz=224,slow=31							
PLCA	**Paso Flores**	**95.60**	**229**	LR		LR	17 02 44.9	
	comp=Z,108nm,21.6s,baz=171,slow=32							
FRB	**Frobisher Bay**	**95.62**	**334**	LR		LR	17 07 58.3	
	comp=Z,29nm,18.1s,baz=178,slow=35							
SJG	**San Juan**	**95.69**	**288**	LR		LR	17 06 36.7	
	comp=Z,25nm,21.6s,baz=205,slow=34							
LPAZ	**La Paz**	**96.15**	**253**	LR		LR	17 06 24.4	
	comp=Z,49nm,20.0s,baz=74,slow=34							
DAV	**Davao City (W)**	**96.82**	**83**	LR		LR	17 05 00.6	
	comp=Z,27nm,20.7s,baz=106,slow=33							
YAK	**Yakutsk**	**97.24**	**28**	LR		LR	17 12 18.5	
	comp=Z,42nm,19.1s,baz=265,slow=37							
KSRS	**Korea Array**	**98.61**	**53**	LR		LR	17 13 32.1	
	comp=Z,14nm,19.1s,baz=310,slow=38							
SDV	**Santo Domingo**	**99.32**	**279**	LR		LR	17 05 57.3	
	comp=Z,45nm,21.6s,baz=176,slow=32							
ILAR	**Eielson Array**	**117.83**	**358**	PKP		**PKiKP**	**16 30 43.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=345,slow=3.1,SNR=4.7							
PDAR	**Pinedale Array**	**125.55**	**323**	PKP		**PKiKP**	**16 30 59.3**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=64,slow=2.1,SNR=5.1							
TXAR	**Lajitas Array**	**127.79**	**306**	PKP		**PKiKP**	**16 31 03.9**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=113,slow=2.3,SNR=8.5							

*SOME **23** 16:31:17.7,39°.12N×72°.12E,h15km*
*IDC **23** 16:31:19.2±1.3,38°.79N×72°.60E,h0km,mb3.5/5, mbtmp3.6/10,ML3.2/5,MS3.3/3,Error ellipse: s-maj=21.3km s-min=19.0km az=144.0*
*NNC **23** 16:31:23.3±3.6,38°.97N×72°.56E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=27.1km s-min=20.7km az=179.0*
ISC 23 16:31:21.0±1.0,38°.71N±0°.07×72°.33E±0°.06,h10km,n34, σ2s07/47,mb3.5/5,MS3.1/3,4C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.85**	**334**			*e*P	**Pn**	**16 32 21.8**	**+1.4**
	238nm,0.3s								
IUG						*e*S	**Sn**	**16 33 08.5**	**+2.7**
	166nm,0.4s								
IUG	**Iuzhnay**	**3.85**	**334**	Pg			**Pn**	**16 32 21.8**	**+1.4**
	238nm,0.3s								
IUG				Lg		Lg		16 33 08.5	
	84nm,0.5s								
MRKS	**Merke**	**4.09**	**9**	*e*P			**Pn**	**16 32 23.8**	**+0.1**
	9.0nm,0.6s								
MRKS				*e*S			**Sn**	**16 33 11.9**	**+0.3**
	24nm,0.2s								
MRKS	**Merke**	**4.09**	**9**	Pg			**Pn**	**16 32 23.8**	**+0.1**
	9.0nm,0.6s								
AAK	**Ala-Archa**	**4.25**	**22**	Pn			**Pn**	**16 32 26.5**	**+0.5**
	2.8nm,0.3s,baz=201,slow=12,SNR=22								
AAK							Sn	**Sn**	**16 33 17.3**	**+1.6**
	1.5nm,0.3s,baz=160,slow=6.1,SNR=1.6								
	8.9nm,0.5s								
KK31	**Karatay Array**	**4.60**	**343**	⇑Pn			**Pn**	**16 32 31.4**	**+0.8**
	5.8nm,0.3s,baz=149,slow=12,SNR=150								
KK31				⇑Sn			**Sn**	**16 33 24.7**	**+0.6**
	5.9nm,0.4s,baz=144,slow=25,SNR=4.3								
KK31				⇓Lg		Lg		16 33 41.6	
	1.7nm,0.3s,baz=170,slow=23,SNR=4.1								
CHMS	**Chumysh**	**4.66**	**22**	⇓Pn			**Pn**	**16 32 31.7**	**+0.3**
	8.4nm,0.6s								
CHMS				⇓Sn			**Sn**	**16 33 26.6**	**+1.0**
	10nm,0.8s								
CHMS				⇑Lg		Lg		16 33 43.9	
	11nm,0.7s								
TKM2	**Tokmak 2**	**4.88**	**30**	⇓Pn			**Pn**	**16 32 35.0**	**+0.4**
	1.7nm,0.5s								
TKM2				⇑Lg		Lg		16 33 50.6	
	12nm,0.8s								
KST	**Kastek**	**5.13**	**31**	*e*P			**Pb**	**16 32 50.0**	**-0.9**
KST				*e*S			**Sb**	**16 33 56.7**	**+4.1**
DGS	**Degeres**	**5.22**	**29**	*e*P			**Pb**	**16 32 50.1**	**-2.3**
	5.4nm,0.3s								
DGS				*e*S			**Sb**	**16 33 56.5**	**+1.2**
	12nm,0.3s								
DGS	**Degeres**	**5.22**	**29**	Pg			**Pb**	**16 32 50.1**	**-2.3**
	5.4nm,0.7s								
DGS				Lg		Lg		16 33 56.5	
	10nm,0.6s								
MTBS	**Maitube**	**5.40**	**34**	*e*P			**Pb**	**16 32 52.9**	**-2.5**
	2.0nm,0.1s								
MTBS				*e*S			**Sb**	**16 34 01.1**	**+0.8**
	5.4nm,0.3s								
MTBS	**Maitube**	**5.40**	**34**	Pg			**Pb**	**16 32 52.9**	**-2.5**
	2.0nm,0.3s								
MTBS				Lg		Lg		16 34 01.1	
	6.2nm,0.3s								
KRBS	**Karabastau**	**5.58**	**26**	*e*P			**Pb**	**16 32 56.0**	**-2.5**
	1.6nm,0.4s								
KRBS				*e*S			**Sb**	**16 34 06.8**	**+1.2**
	9.5nm,0.3s								
KRBS	**Karabastau**	**5.58**	**26**	Pg			**Pb**	**16 32 56.0**	**-2.5**
	1.6nm,0.4s								
KRBS				Lg		Lg		16 34 06.8	
	4.6nm,0.7s								
MDOK	**Medeo**	**5.70**	**37**	*e*P			**Pb**	**16 32 58.1**	**-2.6**
	1.6nm,0.3s								
MDOK				*e*S			**Sb**	**16 34 10.0**	**+0.8**
	8.0nm,0.4s								
MDOK	**Medeo**	**5.70**	**37**	Pn			**Pn**	**16 32 46.5**	**+0.5**
	3.9nm,0.9s								
MDOK				Pg			**Pb**	**16 32 58.1**	**-2.6**
	1.6nm,0.7s								
MDOK				Lg		Lg		16 34 10.0	
	8.6nm,0.9s								
MDOK				Lg		Lg		16 34 16.8	
	25nm,1.4s								
KUU	**Kurty**	**5.99**	**29**	*e*P			**Pb**	**16 33 04.3**	**-1.2**
	1.6nm,0.2s								
KUU				*e*S			**Sb**	**16 34 20.7**	**+3.3**
	9.8nm,0.6s								
KUU	**Kurty**	**5.99**	**29**	Pg			**Pb**	**16 33 04.3**	**-1.2**
	1.6nm,0.2s								
KUU				Lg		Lg		16 34 20.7	
	9.8nm,0.6s								
CHKK	**Chushkaly**	**6.22**	**33**	*e*P			**Pb**	**16 33 08.6**	**-0.8**
	1.1nm,0.1s								
CHKK				*e*S			**Sb**	**16 34 28.0**	**+4.1**
	7.5nm,0.3s								
CHKK	**Chushkaly**	**6.22**	**33**	Pg			**Pb**	**16 33 08.6**	**-0.8**
	1.1nm,0.1s								
CHKK				Lg		Lg		16 34 28.0	
	5.9nm,0.3s								
BTLS	**Baital**	**6.45**	**11**	*e*P			**Pb**	**16 33 10.9**	**-2.5**
	2.0nm,0.1s								
BTLS				*e*S			**Sb**	**16 34 32.9**	**+2.4**
	4.3nm,0.6s								
BTLS	**Baital**	**6.45**	**11**	Pg			**Pb**	**16 33 10.9**	**-2.5**
	2.0nm,0.4s								
BTLS				Lg		Lg		16 34 32.9	
	1.3nm,0.4s								
MKAR	**Makanchi Array**	**10.90**	**39**	Pn			**Pn**	**16 33 56.5**	**-0.4**
	0.1nm,0.3s,baz=238,slow=14,SNR=1.5								
	0.8nm,0.9s								
GEYT	**Alibeck**	**11.19**	**270**	Pn			**Pn**	**16 34 03.6**	**+2.5**
	0.4nm,0.3s,baz=70,slow=12,SNR=1.9								
	0.8nm,0.3s								
AKTO	**Aktyubinsk**	**15.50**	**324**	Pn			**Pn**	**16 34 58.6**	**-1.0**
	0.2nm,0.3s,baz=130,slow=17,SNR=3.8								
AKTO							Sn	**Sn**	**16 37 45.1**	**-6.1**
	0.1nm,0.3s,baz=81,slow=13,SNR=4.3								
	2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**17.47**	**25**	P			**Pn**	**16 35 22.5**	**-2.1**
	0.2nm,0.3s,baz=226,slow=9.9,SNR=5.1								
	0.8nm,0.5s								
FINES	**FINESS Array B**	**36.27**	**324**	P			**P**	**16 38 24.0**	**-0.2**
	0.5nm,0.3s,baz=116,slow=9.0,SNR=8.9								
	0.5nm,0.3s								
ARCES	**ARCESS Array B**	**39.52**	**336**	P			**P**	**16 38 51.2**	**-0.3**
	0.4nm,0.5s,baz=115,slow=10.0,SNR=6.8								
ARCES				LR			LR	16 53 52.5	
	comp=Z,28nm,18.7s,baz=207,slow=34								
	0.4nm,0.5s								
NOA	**NORSAR Array B**	**43.28**	**322**	P			**P**	**16 39 22.4**	**-0.1**
	0.3nm,0.6s,baz=107,slow=7.3,SNR=1.8								
	0.3nm,0.6s								
TORD	**Torodi Ar. Bea**	**66.83**	**268**	P			**P**	**16 42 14.0**	**+0.7**
	0.3nm,0.6s,baz=46,slow=5.4,SNR=2.2								
	0.3nm,0.6s								
GUMO	**Guam**	**68.06**	**90**	LR			LR	17 12 59.0	
	comp=Z,12nm,21.1s,baz=238,slow=37								
YKA	**Yellowknife Ar**	**78.98**	**3**	LR			LR	17 21 40.7	
	comp=Z,48nm,18.6s,baz=284,slow=38								
WRA	**Warramunga Arr**	**82.29**	**123**	P			**P**	**16 43 42.3**	**-0.6**
	0.3nm,0.7s,baz=321,slow=4.8,SNR=4.6								
	0.3nm,0.7s								

*EAF **23** 16:35:32.1±1.6,21°.71S×32°.96E,h10km±26km,MD3.6*
*BUL **23** 16:35:32.6±1.2,21°.85S×33°.10E,h38km±18km,MD3.6*
PRE 23 16:35:20.1±0.6,21°.34S×33°.45E,h5km,ML2.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.88**	**221**			*e*P	Pn	16 36 07.5	+0.7
MOPA						*e*S	Sn	16 36 41.9	+0.1
MOPA						IAML		16 36 49.5	
	comp=Z,9.4nm,0.6s								
MOPA	**Mopani**	**2.88**	**221**		*i*	P	Pn	16 36 08.9	+2.1
MOPA					*i*	Sg	Sn	16 36 44.3	+2.4
MOPA	**Mopani**	**2.88**	**221**		*i*	P	Pn	16 36 08.9	+2.1
MOPA					*i*	Sg	Sn	16 36 44.3	+2.4
MUSN	**Musina, Limpop**	**3.47**	**254**		*e*	P	Pn	16 36 15.6	+0.7
MUSN					*e*	S	Sn	16 36 56.6	+0.2
MUSN					IAML			16 37 12.3	
	comp=Z,19nm,1.0s								
MUSN	**Musina, Limpop**	**3.47**	**254**		*i*	P	Pn	16 36 17.2	+2.4
MUSN					*i*	S	Sn	16 36 51.6	-4.7
MUSN	**Musina, Limpop**	**3.47**	**254**		*i*	P	Pn	16 36 17.2	+2.4
MUSN					*i*	S	Sn	16 36 51.6	-4.7
BLWY	**Bulawayo**	**4.69**	**284**		*i*	P	Pb	16 36 38.8	-4.1
BLWY					*i*	S	Sn	16 37 25.2	-1.4
BLWY	**Bulawayo**	**4.69**	**284**		*i*	P	Pb	16 36 38.8	-4.1
BLWY					*i*	S	Sn	16 37 25.2	-1.4
MATP	**Matopo**	**4.72**	**280**		*e*	P	Pn	16 36 33.3	+1.1
MATP					*e*	S	Sn	16 37 25.7	-1.6
MATP					IAML			16 37 30.6	
	comp=Z,22nm,5.9s								
MATP	**Matopo**	**4.72**	**280**		*i*	P	Pb	16 36 38.7	-4.8
MATP					*i*	S	Sn	16 37 25.8	-1.6
MATP	**Matopo**	**4.72**	**280**		*i*	P	Pb	16 36 38.7	-4.8
MATP					*i*	S	Sn	16 37 25.8	-1.6

NOU 23 16:40:14.9,17°.91S×167°.90E,h25km,MLv4.1/7,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.33**	**56**	P			Pn	16 40 24.8	+0.7
RTV	**Rentapao**	**0.51**	**77**	P			Pb	16 40 25.7	+0.4
LIFNC	**LIFOU**	**2.92**	**192**	P			Pn	16 40 59.9	+0.1
MARNC	**Mare, Loyalty**	**3.56**	**178**	P			Pn	16 41 08.2	-0.3

MAN 23 16:47:35.8,8°.34N×125°.80E,h32km,mb3.9,ML2.6,MS2.2, 2C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.58**	**106**	⇓*e*P			Pb	16 47 46.8	-0.8
BIPH				*e*S			Sb	16 47 54.5	-1.3
BUTP	**Butuan**	**0.65**	**344**	⇓*i*P			Pn	16 47 49.1	+0.3
CDOP	**Cateel, Davao**	**0.84**	**131**	⇑*i*P			Pn	16 47 51.7	+0.3
CDOP				*i*S			Sb	16 48 03.1	0.0
BUKP	**Musuan**	**0.86**	**238**	⇓*i*P			Pn	16 47 51.5	-0.3
BUKP				*e*S			Sb	16 48 09.7	+6.0
CGP	**Cagayan de Oro**	**1.10**	**276**	⇑*e*P			Pb	16 48 01.6	+5.3
CGP				*e*S			Sb	16 48 13.5	+3.2
GLSP	**General Luna,**	**1.47**	**13**	⇓*e*P			Pb	16 48 03.6	+1.0
GLSP				*e*S			Sb	16 48 25.6	+4.8

IDC 23 16:50:31.2±5.3,8°.34S×119°.79E,h217km±65km,mb2.7/2, mbtmp3.2/3,Error ellipse: s-maj=152.4km s-min=17.8km az=48.0,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.21**	**131**	P		P	P	16 54 28.0	-0.3
	0.2nm,0.6s,baz=304,slow=12,SNR=12								
WRA				S		S	S	16 57 46.1	+0.7
	0.2nm,0.6s,baz=308,slow=24,SNR=2.5								
ASAR	**Alice Springs**	**20.38**	**140**	P		P	P	16 54 51.8	+0.2
	0.3nm,0.6s,baz=315,slow=9.1,SNR=9.4								
	0.3nm,0.6s								
MKAR	**Makanchi Array**	**64.23**	**332**	P		P	P	17 00 43.1	0.0
	0.5nm,0.8s,baz=135,slow=7.6,SNR=2.2								
	0.5nm,0.8s								

*NEIC **23** 17:15:02.9±2.9,8°.69S±0°.06×115°.35E±0°.05,h119km±7km, mb4.2/27,Error ellipse: s-maj=10.8km s-min=1.8km az=218.0*
*IDC **23** 17:15:03.8±1.7,8°.64S×115°.27E,h131km±15km,mb3.8/12, mbtmp4.2/16,MS3.4/5,Error ellipse: s-maj=18.0km s-min=11.4km az=55.0*
*DJA **23** 17:15:04.6±0.6,9°.5±8°.×11°.5E±°,h103km±7km,M4.2/14, mb4.3/3,mB5.1/2,MLv4.2/14,Mw(mB)4.5/2*
ISC 23 17:15:02.4±0.7,8.76S±0°.05×115°.27E±0°.04,h122km±6km, n95,σ1s69/95,mb4.1/23,Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.10**	**323**			P	**Pn**	**17 15 20.4**	**+1.3**
IGBI	**Denpasar**	**0.14**	**245**			P		**17 15 20.1**	**+1.0**
SRBI	**Singaraja**	**0.67**	**355**			P	Pn	**17 15 23.4**	**+1.6**
JAGI	**Jajag, Banyuwa**	**1.14**	**284**				**Pn**	**17 15 26.7**	**+0.6**
JAGI						Sn	**Sn**	**17 15 44.2**	**+0.2**
JAGI	**Jajag, Banyuwa**	**1.14**	**284**			P	**Pn**	**17 15 27.1**	**+1.0**
ABJI	**Asem Bagus**	**1.40**	**313**			P	**Pn**	**17 15 31.0**	**+2.1**
TWSI	**Taliwang, Sumb**	**1.59**	**89**			P	**Pn**	**17 15 32.7**	**+1.7**
KMMI	**Kalianget**	**2.13**	**323**			P	**Pn**	**17 15 40.5**	**+2.8**
PLAI	**Plampang**	**2.48**	**92**			P	**Pn**	**17 15 44.0**	**+2.0**
PWJI	**Pagerwojo**	**3.51**	**282**			P	**Pn**	**17 15 56.1**	**+0.6**
BWJI	**Bawean**	**3.88**	**318**			P	**Pn**	**17 16 03.9**	**+3.4**
TBJI	**Tambak Boyo**	**3.90**	**299**			P	**Pn**	**17 16 04.0**	**+3.3**
PCJI	**Pacitan**	**4.09**	**278**			P	**Pn**	**17 16 05.7**	**+2.5**
UGM	**Wanagama**	**4.77**	**280**			Pn	**Pn**	**17 16 13.4**	**+1.0**
UGM						Sn	**Sn**	**17 17 06.1**	**-0.8**
SMRI	**Semarang**	**5.08**	**289**			Pn	**Pn**	**17 16 16.2**	**-0.3**
BBKI	**Banjar Baru**	**5.28**	**355**			P	Pn	17 16 22.8	+3.6
	0.7nm11µm37nm,0.9s								
BSSI	**Bau Bau, Buton**	**5.79**	**64**			P	**Pn**	**17 16 29.3**	**+3.2**
	0.1nm470nm20nm,0.4s								
KAPI	**Kappang**	**5.80**	**50**			P	**Pn**	**17 16 28.2**	**+2.0**
	10.0nm,0.3s,baz=127,slow=0.6,SNR=8.1								
KAPI						S	**Sn**	**17 17 32.8**	**+1.3**
	19nm,0.6s,baz=87,slow=24,SNR=2.3								
KAPI	**Kappang**	**5.80**	**50**			Pn	**Pn**	**17 16 23.4**	**-2.8**
EDFI	**Ende, Flores**	**6.34**	**90**			P	**Pn**	**17 16 33.3**	**-0.4**
MMRI	**Maumere**	**6.89**	**90**				**Pn**	**17 16 40.1**	**-0.8**
MMRI						Sn	**Sn**	**17 17 55.3**	**-2.6**
MMRI	**Maumere**	**6.89**	**90**			P	**Pn**	**17 16 41.0**	**+0.1**
	40nm,0.9s								
LEM	**Lembang**	**7.82**	**284**			P	**Pn**	**17 16 53.6**	**-0.1**
	13nm,0.5s,baz=292,slow=20,SNR=2.0								
BATI	**Baumata**	**8.40**	**101**			P	**Pn**	**17 17 00.5**	**-1.0**
	12nm,0.3s,baz=249,slow=5.0,SNR=3.6								
BATI						S	**Sn**	**17 18 29.9**	**-4.8**
	12nm,0.4s,baz=275,slow=16,SNR=2.1								
XMIS	**Christmas Isla**	**9.64**	**259**			Pn	**Pn**	**17 17 15.0**	**-3.1**
MNAI	**Manna**	**12.99**	**289**			Pn	**Pn**	**17 18 01.4**	**-1.2**
MBWA	**Marble Bar**	**13.06**	**161**				**Pn**	**17 18 01.2**	**-2.2**
MBWA	**Marble Bar**	**13.06**	**161**			P	**Pn**	**17 18 01.6**	**-1.8**
	15nm,2.6s								
PSA00	**Pilbara Seismi**	**13.48**	**161**			Pn	**Pn**	**17 18 07.1**	**-1.7**
PSA00	**Pilbara Seismi**	**13.48**	**161**			Pn	**Pn**	**17 18 06.9**	**-2.0**
PSA00	**Pilbara Seismi**	**13.48**	**161**			P	**Pn**	**17 18 08.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**13.70**	**134**			P	**Pn**	**17 18 12.7**	**+0.9**
	3.5nm,0.3s,baz=357,slow=8.2,SNR=27								
FITZ						S	Sn	17 20 30.9	-12
	2.5nm,0.5s,baz=360,slow=4.3,SNR=2.8								
FITZ	**Fitzroy Crossi**	**13.70**	**134**			P	**Pn**	**17 18 12.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**13.70**	**134**			P	**Pn**	**17 18 12.6**	**+0.9**
	7.8nm,0.6s								
**

H08S1	**Diego Carcia H**	**42.36**	**268**	T	T	18 08 09.6	
	baz=95						
KSRS	**Korea Array**	**47.47**	**14**	P	**P**	**17 23 23.3**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=206,slow=8.0,SNR=3.0						
KSRS				LR	LR	17 44 51.9	
	comp=Z,4.6nm,20.8s,baz=355,slow=38						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**56.89**	**353**	P	**P**	**17 24 32.2**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=189,slow=6.7,SNR=2.2						
	comp=Z,0.6nm,0.6s						
MSEY	**Mahe Island**	**59.47**	**270**	P	**P**	**17 24 52.3**	**-0.9**
MK31	**Makanchi Array**	**62.63**	**335**	P	**P**	**17 25 14.0**	**+0.1**
MK31				IAmb	IAmb	17 25 17.9	
	comp=Z,7.1nm,1.5s						
MKAR	**Makanchi Array**	**62.63**	**335**	P	**P**	**17 25 13.7**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=150,slow=7.1,SNR=34						
	comp=Z,1.5nm,0.4s						
AAK	**Ala-Archa**	**63.24**	**327**	LR	LR	17 55 12.3	
	comp=Z,36nm,20.6s,baz=159,slow=38						
KK31	**Karatay Array**	**65.73**	**326**	P	**P**	**17 25 33.7**	**-0.5**
KK31				IAmb	IAmb	17 26 08.8	
	comp=Z,3.2nm,1.4s						
KKAR	**Karatay Array**	**65.73**	**326**	P	**P**	**17 25 34.0**	**-0.3**
UOSS	**Minazif**	**66.56**	**302**	P	**P**	**17 25 39.6**	**-0.3**
UOSS				IAmb	IAmb	17 25 56.1	
	comp=Z,11nm,1.3s						
ZALV	**Zalesovo Beam**	**67.56**	**341**	P	**P**	**17 25 44.2**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=167,slow=5.4,SNR=5.7						
	comp=Z,0.6nm,0.3s						
GEYT	**Alibeck**	**70.65**	**315**	P	**P**	**17 26 05.7**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=160,slow=5.7,SNR=5.9						
	comp=Z,1.5nm,0.5s						
GEYT	**Alibeck**	**70.65**	**315**	P	**P**	**17 26 05.2**	**+0.1**
GEYT				IAmb	IAmb	17 26 06.6	
	comp=Z,2.9nm,0.8s						
ABKAR	**Akbulak array**	**75.28**	**326**	P	**P**	**17 26 31.9**	**-0.2**
ABKAR	**Akbulak array**	**75.28**	**326**	P	**P**	**17 26 31.6**	**-0.4**
ABKAR				IAmb	IAmb	17 26 32.6	
	comp=Z,2.1nm,0.7s						
AKTO	**Aktyubinsk**	**76.96**	**326**	LR	LR	18 02 57.9	
	comp=Z,33nm,21.6s,baz=162,slow=37						
JOHN	**Johnston Islan**	**78.54**	**71**	P	**P**	**17 26 51.0**	**0.0**
QSPA	**South Pole Qui**	**81.23**	**180**	P	**P**	**17 27 07.1**	**+2.3**
QSPA				IAmb	IAmb	17 27 23.3	
	comp=Z,3.5nm,1.4s						
MMAI	**Mount Meron Ar**	**86.33**	**304**	LR	LR	18 13 10.7	
	comp=Z,36nm,18.4s,baz=248,slow=40						
BRTR	**Keskin Array B**	**89.16**	**310**	P	**P**	**17 27 45.0**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=128,slow=4.3,SNR=3.6						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**97.24**	**331**	P	**P**	**17 28 20.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=128,slow=9.0,SNR=1.4						
FINES				LR	LR	18 15 17.2	
	comp=Z,54nm,21.5s,baz=87,slow=37						
	comp=Z,1.2nm,0.7s						

*IDC **23** 17:15:57.5±0.6,54.°72S×30.°46W,h0km,mb4.3/10, mbtmp4.3/10,MS3.5/12,Error ellipse: s-maj=26.3km s-min=17.1km az=66.0*
*NEIC **23** 17:16:00.0±2.1,54.°8S±0.°1×30.°7W±0.°2,h15km±4km, mb4.7/28,Error ellipse: s-maj=17.2km s-min=12.3km az=195.0*

ISC 23 17:15:58.8±0.5,54.°76S±0.°08×30.°76W±0.°08,h10km,n65, σ1s16/55,mb4.6/19,MS3.6/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.37**	**276**		**Pn**	**17 16 51.5**	**+0.1**
HOPE				Sn	**Sn**	**17 17 27.9**	**-3.6**
VNA1	**Neumayer--Stat**	**18.78**	**157**	P	**Pn**	**17 20 18.5**	**+0.3**
VNA3	**Neumayer Olymp**	**18.91**	**159**	P	**Pn**	**17 20 22.8**	**+2.9**
VNA2	**Neumayer--Watz**	**19.18**	**157**	P	**P**	**17 20 21.0**	**-1.2**
	baz=311,slow=13						
SNAA	**Sanae**	**20.76**	**155**	P	**P**	**17 20 38.5**	**-1.0**
SNAA	**Sanae**	**20.76**	**155**	P	**P**	**17 20 38.8**	**-0.7**
	6.8nm,0.6s,baz=297,slow=11,SNR=38						
SNAA				PcP	**PcP**	**17 24 49.0**	**+0.9**
	0.7nm,0.5s,baz=250,slow=4.5,SNR=6.6						
SNAA				LR	LR	17 27 16.3	
	comp=Z,53nm,19.8s,baz=302,slow=33						
	6.8nm,0.6s						
SNAA	**Sanae**	**20.76**	**155**	P	**P**	**17 20 38.2**	**-1.3**
TROLL	**Troll, Antarti**	**22.32**	**153**	P	**P**	**17 20 54.3**	**-2.0**
BELA	**Belgrano 2**	**23.26**	**182**	P	**P**	**17 21 04.9**	**-1.1**
AY01	**Puyuhuapi**	**28.65**	**274**	P	**P**	**17 21 55.2**	**-0.2**
PLCA	**Paso Flores**	**29.76**	**282**	LR	LR	17 32 05.4	
	comp=Z,35nm,21.1s,baz=180,slow=32						
CPUP	**Villa Florida**	**34.44**	**315**	P	**P**	**17 22 46.5**	**+0.1**
	2.9nm,0.5s,baz=171,slow=7.1,SNR=6.7						
CPUP				LR	LR	17 37 45.4	
	comp=Z,40nm,18.2s,baz=210,slow=38						
	2.9nm,0.5s						
CPUP	**Villa Florida**	**34.44**	**315**	P	**P**	**17 22 46.8**	**+0.5**
CPUP				IAmb	IAmb	17 22 49.1	
	comp=Z,10nm,1.2s						
MT09	**Talagante**	**34.96**	**290**	P	**P**	**17 22 51.9**	**+0.9**
MT09				IAmb	IAmb	17 23 14.2	
	comp=Z,16nm,1.2s						
MT01	**Popeta**	**35.04**	**290**	P	**P**	**17 22 52.9**	**+1.4**
MT02	**Curacav**	**35.44**	**291**	P	**P**	**17 22 56.0**	**+1.0**
QSPA	**South Pole Qui**	**35.50**	**180**	LR	LR	17 36 33.0	
	comp=Z,88nm,21.1s,baz=178,slow=35						
QSPA	**South Pole Qui**	**35.50**	**180**	P	**P**	**17 22 56.2**	**+0.8**
CO02	**Combarbal**	**36.95**	**293**	P	**P**	**17 23 09.7**	**+1.7**
CO01	**Juntas del Tor**	**37.43**	**295**	P	**P**	**17 23 14.1**	**+1.8**
AC05	**El Transito**	**38.44**	**296**	P	**P**	**17 23 21.3**	**+0.7**
AC05				IAmb	IAmb	17 23 25.6	
	comp=Z,27nm,1.5s						
GO02	**Mina Guanaco**	**41.09**	**300**	P	**P**	**17 23 44.6**	**+1.6**
GO02				IAmb	IAmb	17 23 45.3	
	comp=Z,13nm,0.6s						
BDFB	**Brasilia**	**41.27**	**334**	P	**P**	**17 23 44.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=109,slow=20,SNR=1.6						
	comp=Z,1.0nm,0.3s						
SUR	**Sutherland**	**42.34**	**80**	P	**P**	**17 23 53.7**	**+0.6**
SUR				IAmb	IAmb	17 24 00.9	
	comp=Z,32nm,1.4s						
MAW	**Mawson**	**42.39**	**145**	P	**P**	**17 23 51.9**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=243,slow=9.9,SNR=5.5						
MAW				LR	LR	17 40 12.9	
	comp=Z,39nm,18.6s,baz=230,slow=34						
	comp=Z,1.6nm,0.5s						
MAW	**Mawson**	**42.39**	**145**	P	**P**	**17 23 52.2**	**-0.5**
LVC	**Limon Verde**	**42.89**	**303**	P	**P**	**17 23 59.0**	**+1.3**
PB01	**IPOC Station P**	**44.50**	**304**	P	**P**	**17 24 11.2**	**+0.8**
PTLB	**Pontes e Lacer**	**44.97**	**320**	P	**P**	**17 24 14.4**	**+0.4**
PTLB				IAmb	IAmb	17 24 48.4	
	comp=Z,4.6nm,1.0s						
GO01	**Chusmiza**	**45.53**	**305**	P	**P**	**17 24 20.2**	**+1.1**
GO01				IAmb	IAmb	17 24 21.7	
	comp=Z,8.8nm,0.7s						
PB16	**IPOC Station P**	**46.83**	**305**	P	**P**	**17 24 31.4**	**+2.0**
PB16				IAmb	IAmb	17 25 05.1	
	comp=Z,8.4nm,1.3s						
H10S2	**ASCENSION HYDR**	**47.45**	**22**	T	T	18 15 47.6	
	baz=191						
H10S3	**ASCENSION HYDR**	**47.45**	**22**	T	T	18 15 38.2	
	baz=29						
BOSA	**Boshof**	**47.69**	**80**	P	**P**	**17 24 33.5**	**-2.1**
	comp=Z,3.4nm,0.9s,baz=144,slow=7.4,SNR=3.5						
	comp=Z,3.4nm,0.9s						
BOSA	**Boshof**	**47.69**	**80**	P	**P**	**17 24 34.5**	**-1.1**
VNDA	**Vanda**	**47.76**	**184**	P	**P**	**17 24 35.7**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=187,slow=6.6,SNR=18						
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**47.76**	**184**	P	**P**	**17 24 36.0**	**+0.7**
LPAZ	**La Paz**	**47.97**	**308**	P	**P**	**17 24 39.1**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=146,slow=5.0,SNR=7.2						
	comp=Z,3.0nm,0.8s						
LPAZ	**La Paz**	**47.97**	**308**	P	**P**	**17 24 39.2**	**+0.9**
LPAZ				IAmb	IAmb	17 25 13.1	
	comp=Z,3.9nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.56**	**22**	T	T	18 17 05.3	
	baz=193						
H10N3	**ASCENSION HYDR**	**48.56**	**22**	T	T	18 17 08.2	
	baz=193						
H10N2	**ASCENSION HYDR**	**48.58**	**22**	T	T	18 17 10.5	
	baz=193						
LBTB	**Lobatse**	**50.65**	**78**	P	**P**	**17 24 56.3**	**-1.9**
LBTB				IAmb	IAmb	17 25 23.3	
	comp=Z,9.4nm,1.1s						
TSUM	**Tsumeb**	**50.91**	**65**	LR	LR	17 42 35.3	
	comp=Z,26nm,19.0s,baz=184,slow=32						
DBIC	**Dimbokro**	**64.92**	**29**	P	**P**	**17 26 37.6**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=283,slow=11,SNR=1.5						
	comp=Z,1.9nm,0.7s						
DBIC	**Dimbokro**	**64.92**	**29**	P	**P**	**17 26 37.6**	**-0.7**
DBIC				IAmb	IAmb	17 26 43.9	
	comp=Z,11nm,1.3s						
BBTS	**Babate**	**70.19**	**15**	LR	LR	17 50 48.9	
	comp=Z,67nm,21.2s,baz=157,slow=30						
BIRV	**Birongo**	**71.53**	**323**	P	**P**	**17 27 19.6**	**-0.2**
SDV	**Santo Domingo**	**71.67**	**318**	LR	LR	18 00 49.3	
	comp=Z,68nm,18.2s,baz=166,slow=38						
KOWA	**Kowa**	**72.62**	**27**	LR	LR	17 53 16.9	
	comp=Z,38nm,19.7s,baz=155,slow=31						
TOA0	**Torodi Ar. Sit**	**73.00**	**33**	P	**P**	**17 27 28.2**	**-0.3**
TOA0				IAmb	IAmb	17 27 29.8	
	comp=Z,4.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.00**	**33**	P	**P**	**17 27 28.8**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=201,slow=6.6,SNR=22						
TORD				LR	LR	17 54 07.4	
	comp=Z,68nm,18.2s,baz=211,slow=31						
	comp=Z,4.0nm,0.7s						
LTZ	**Lake Taylor**	**80.87**	**197**	P	**P**	**17 28 12.6**	**-0.1**
LTZ				IAmb	IAmb	17 28 17.9	
	comp=Z,7.9nm,1.0s						
KHZ	**Kahutara**	**81.00**	**198**	P	**P**	**17 28 13.5**	**+0.2**
KHZ				IAmb	IAmb	17 28 38.9	
	comp=Z,6.1nm,0.9s						
URZ	**Urewera**	**84.31**	**202**	P	**P**	**17 28 31.1**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=225,slow=16,SNR=2.7						
	comp=Z,7.5nm,0.9s						
MDT	**Midelt**	**90.08**	**22**	LR	LR	18 02 18.3	
	comp=Z,48nm,20.3s,baz=185,slow=31						
ESDC	**Sonseca Array**	**96.82**	**21**	LR	LR	18 08 02.3	
	comp=Z,42nm,18.4s,baz=174,slow=32						
FINES	**FINESS Array B**	**124.21**	**29**	PKP	**PKPdf**	**17 34 55.8**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=177,slow=3.6,SNR=9.4						
ARCES	**ARCESS Array B**	**130.51**	**23**	PKP	**PKPdf**	**17 35 07.7**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=211,slow=3.2,SNR=6.4						
YKA	**Yellowknife Ar**	**133.86**	**320**	PKP	**PKPdf**	**17 35 15.2**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=132,slow=2.9,SNR=2.5						
MKAR	**Makanchi Array**	**138.42**	**72**	PKP	**PKPdf**	**17 35 23.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=217,slow=1.6,SNR=1.7						
ZALV	**Zalesovo Beam**	**143.63**	**64**	PKhKP	PKPpre	17 35 30.0	
	comp=Z,0.7nm,0.5s,baz=250,slow=2.3,SNR=4.3						
ILAR	**Eielson Array**	**147.74**	**314**	PKP	**PKPdf**	**17 35 39.0**	**-0.4**
	comp=Z,8.8nm,0.9s,baz=123,slow=1.7,SNR=27						
ILAR				PKPbc	**PKPbc**	**17 35 42.8**	**+0.5**
	comp=Z,8.8nm,0.9s,baz=129,slow=1.5,SNR=37						
KDAK	**Kodiak Island**	**148.41**	**300**	PKPbc	**PKPbc**	**17 35 44.9**	**+0.8**
	comp=Z,4.2nm,0.6s,baz=142,slow=5.2,SNR=6.5						
SONM	**Songino Array**	**152.68**	**87**	PKP	**PKPdf**	**17 35 47.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=206,slow=2.3,SNR=2.0						
SONM				PKPbc	**PKPbc**	**17 35 54.7**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=196,slow=3.5,SNR=5.3						

*AEIC **23** 17:22:59.3±1.3,55.°17N±0.°05×160.°50W±0.°06,h58km±6km, Error ellipse: s-maj=7.5km s-min=4.5km az=184.0*
NEIC 23 17:22:60.0±1.3,55.°15N±0.°05×160.°47W±0.°06,h58km±9km, ML3.3/18,ML2.8/33(AEIC),Error ellipse: s-maj=7.4km s-min=4.4km az=186.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.20**	**360**		Pn	17 23 09.0	-0.2
SDPT					Sn	17 23 16.1	+0.3
CNBA	**Chernabura Isl**	**0.61**	**123**		Pn	17 23 12.5	-0.5
CNBA	**Chernabura Isl**	**0.61**	**123**	Sn	Sn	17 23 22.5	+0.1
PVV	**Pavlof Volcano**	**0.79**	**287**		Sn	17 23 25.5	-0.7
PS4A	**Pavlof South-4**	**0.81**	**284**		Pn	17 23 15.0	-0.6
HAG	**Hague Volcano**	**0.84**	**282**		Pn	17 23 15.3	-0.5
PN7A	**Pavlof North-7**	**0.92**	**289**		Pn	17 23 16.9	0.0
DT1	**Dutton Round H**	**1.04**	**268**		Pn	17 23 17.8	-0.6
VNFG	**Fog Glacier, M**	**1.25**	**24**		Pn	17 23 21.5	+0.2
VNFG					Sn	17 23 38.2	+0.9
CHGN	**Chignik**	**1.64**	**44**		Pn	17 23 25.8	-0.7
CHGN				Sn	Sn	17 23 46.6	+0.2
CHGN				IAML		17 23 48.9	
	comp=N,109nm,0.1s						
CHGN				IAML		17 23 48.0	
	comp=E,230nm,0.1s						
ISLZ	**Isanotski Laza**	**1.92**	**258**		Pn	17 23 30.2	0.0
ISLZ					Sn	17 23 53.7	+0.5
ISNN	**Isanotski Nort**	**1.93**	**262**		Pn	17 23 30.8	+0.4
ANPB	**Aniakchak Plen**	**2.06**	**36**		Pn	17 23 32.4	+0.1
SSLS	**Shishaldin Sou**	**2.08**	**259**		Pn	17 23 33.0	+0.4
SSLW	**Shishaldin Wes**	**2.14**	**261**		Pn	17 23 33.5	+0.2
SSBA	**Shishaldin**	**2.14**	**261**		Pn	17 23 33.5	+0.2
SSBA					Sn	17 23 59.8	+1.1
ANNE	**Aniakchak Nort**	**2.23**	**37**		Pn	17 23 34.5	0.0
WESN	**West Dahl Nort**	**2.45**	**258**		Pn	17 23 38.2	+0.7
WESE	**West Dahl East**	**2.48**	**256**		Pn	17 23 38.5	+0.6
WECS	**Westdahl Cape**	**2.56**	**258**		Pn	17 23 39.4	+0.3
CHIR	**Chirikof Islan**	**2.84**	**74**		Pn	17 23 42.2	-0.7
CHIR	**Chirikof Islan**	**2.84**	**74**	IAML		17 24 07.5	
	comp=E,97nm,4.6s						
CHIR				IAML		17 24 10.1	
	comp=N,98nm,1.8s						
CHIR				Sn	Sn	17 24 12.9	-2.9
R16K	**Pilot Point**	**2.91**	**32**		Pn	17 23 43.7	0.0
AKSA	**Akutan Strait**	**3.20**	**254**		Pn	17 23 47.7	-0.1
AKSA	**Akutan Strait**	**3.20**	**254**		Pn	17 23 48.6	+0.9
AKUT	**Akutan**	**3.24**	**254**	Pn	Pn	17 23 48.6	+0.3
AKUT				IAML		17 24 46.3	
	comp=E,68nm,3.1s						
AKUT				IAML		17 25 30.4	
	comp=N,119nm,3.8s						
R17K	**Ugashik Creek**	**3.37**	**41**		Pn	17 23 50.5	+0.4
UNV	**Unalaska Valle**	**3.75**	**252**	Pn	Pn	17 23 54.5	-0.8
SII	**Sitkinak Islan**	**3.81**	**66**	Pn	Pn	17 23 55.4	-0.7
SII				IAML		17 25 18.4	
	comp=N,88nm,2.9s						
ANCK	**Angle Creek**	**4.11**	**40**		Pn	17 24 00.2	0.0
P16K	**Nushagak River**	**4.12**	**18**		Pn	17 24 00.0	-0.3
OHAK	**Old Harbor**	**4.52**	**60**	Pn	Pn	17 24 04.2	-1.6
OHAK				IAML		17 25 37.7	
	comp=N,31nm,3.8s						
OHAK				IAML		17 25 42.8	
	comp=E,38nm,4.4s						
KDAK	**Kodiak Island**	**5.11**	**56**	Pn	Pn	17 24 12.2	-1.6
KDAK				IAML		17 25 22.6	
	comp=E,36nm,3.7s						
Q19K	**Cape Douglas,**	**5.31**	**42**	Pn	Pn	17 24 16.7	0.0
O18K	**Koktuh Hills**	**5.50**	**29**	Pn	Pn	17 24 16.0	-3.3
N18K	**Kilae Creek**	**6.06**	**22**	Pn	Pn	17 24 26.7	-0.2
ILSW	**Iliamna Southw**	**6.24**	**36**	Pn	Pn	17 24 30.5	+1.0
SVW2	**Sparrevohn**	**6.50**	**21**	Pn	Pn	17 24 33.3	+0.4
N19K	**Bonanza Creek**	**6.51**	**27**	Pn	Pn	17 24 33.7	+0.6
M19K	**Big River Lodg**	**7.48**	**23**	Pn	Pn	17 24 46.9	+0.7
L19K	**White Mountain**	**7.63**	**20**	Pn	Pn	17 24 49.6	+1.3

IDC 23 17:29:45.2±3.2,32.°95S×178.°34W,h0km,mb3.4/2, mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=76.5km s-min=48.2km az=125.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.46**	**214**	Pn	Pn	17 31 21.5	-0.1
	0.8nm,0.3s,baz=258,slow=17,SNR=1.6						
URZ				Sn	Sn	17 32 33.0	-3.1
	1.3nm,0.3s,baz=197,slow=23,SNR=5.8						
	1.8nm,0.3s						
ASAR	**Alice Springs**	**42.75**	**270**	P	P	17 37 44.2	-0.4
	0.3nm,0.6s,baz=106,slow=7.2,SNR=5.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**43.97**	**275**	P	P	17 37 54.4	0.0
	0.5nm,0.5s,baz=116,slow=7.2,SNR=12						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**147.42**	**338**	PKPbc	PKPbc	17 49 29.6	-0.6
	1.7nm,1.0s,baz=66,slow=3.5,SNR=4.8						

IDC 23 17:32:35.6±2.7,5.°95S×151.°57E,h0km,mb3.1/2, mbtmp3.3/3,ML1.4/1,Error ellipse: s-maj=103.6km s-min=18.1km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.69**	**16**	Pn	Pn	17 33 07.0	+0.5
	52nm,0.3s,baz=269,slow=1.8,SNR=54						
KRVT				Sn	Sn	17 33 29.1	+0.2
	83nm,0.3s,baz=142,slow=19,SNR=9.1						
PMG	**Port Moresby**	**5.56**	**232**	Pn	Pn	17 34 00.8	+1.1
	0.8nm,0.3s,baz=23,slow=12,SNR=3.3						
PMG				Sn	Sn	17 35 04.3	0.0
	0.6nm,0.3s,baz=98,slow=19,SNR=2.4						
	6.9nm,0.6s						
WRA	**Warramunga Arr**	**21.77**	**229**	P	P	17 37 28.6	-0.6
	0.2nm,0.4s,baz=54,slow=10,SNR=3.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**24.48**	**222**	P	P	17 37 57.1	+0.4
	0.6nm,0.9s,baz=57,slow=8.7,SNR=6.8						
	0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.46**	**286**	PKPbc	PKPbc	17 52 26.8	-1.1
	0.4nm,0.7s,baz=70,slow=1.7,SNR=2.3						

*IDC **23** 17:36:55.7±1.1,0.°75S×60.°32W,h0km,mb3.6/4, mbtmp4.0/9,ML4.0/5,MS3.0/1,Error ellipse: s-maj=33.7km s-min=25.6km az=82.0*

ISC 23 17:36:56.5±0.8,0.°73S±0.°07×60.°3W±0.°1,h10km,n14, σ2s64/15,mb3.7/4,Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**9.63**	**53**	Pn	**Pn**	**17 39 14.9**	**-0.3**
	5.2nm,0.3s,baz=229,slow=12,SNR=37						
MDP				Sn	Sn	17 40 53.3	-10
	6.5nm,0.3s,baz=147,slow=22,SNR=10.0						
MDP				Lg	Lg	17 41 46.5	
	9.2nm,0.3s,baz=321,slow=20,SNR=9.9						
MDP				LR	LR	17 42 50.4	
	comp=Z,83nm,18.7s,baz=178,slow=37						
	16nm,0.4s						
PCRV	**Puerto La Cruz**	**11.65**	**339**	Pn	**Pn**	**17 39 42.4**	**-0.6**
	0.9nm,0.3s,baz=341,slow=11,SNR=1.9						
PCRV				Sn	**Sn**	**17 41 48.7**	**-4.5**
	0.7nm,0.3s,baz=154,slow=24,SNR=1.6						
PCRV				Lg	Lg	17 42 51.4	
	1.5nm,0.3s,baz=68,slow=19,SNR=2.5						
	3.9nm,0.4s						
SDV	**Santo Domingo**	**14.01**	**313**	Lg	Lg	17 44 06.8	
	1.0nm,0.3s,baz=44,slow=21,SNR=1.5						
ROSC	**El Rosal**	**15.02**	**292**	Pn	**Pn**	**17 40 28.9**	**-0.5**
	2.0nm,0.3s,baz=225,slow=11,SNR=3.5						
ROSC				Lg	Lg	17 44 40.2	
	2.6nm,0.3s,baz=286,slow=23,SNR=1.5						
	7.7nm,0.4s						
SIV	**San Ignacio**	**15.18**	**183**	Pn	**Pn**	**17 40 30.7**	**-0.5**
	0.3nm,0.3s,baz=13,slow=11,SNR=23						
SIV				Sn	**Sn**	**17 43 13.2**	**-6.4**
	0.1nm,0.3s,baz=20,slow=8.7,SNR=11						
SIV				Lg	Lg	17 44 55.2	
	0.1nm,0.3s,baz=295,slow=23,SNR=1.6						
	6.1nm,0.4s						
LPAZ	**La Paz**	**17.26**	**206**	P	**P**	**17 40 59.5**	**-0.5**
	0.2nm,0.3s,baz=350,slow=5.7,SNR=3.1						
LPAZ				S	**S**	**17 44 23.6**	**+3.4**
	1.5nm,0.6s,baz=76,slow=25,SNR=2.1						
LPAZ				Lg	Lg	17 45 58.4	
	0.1nm,0.3s,baz=192,slow=5.7,SNR=1.6						
	0.9nm,0.6s						
BDFB	**Brasilia**	**19.17**	**141**	Lg	Lg	17 47 01.7	
	0.4nm,0.3s,baz=171,slow=23,SNR=2.6						
TXAR	**Lajitas Array**	**51.02**	**310**	P	**P**	**17 46 00.7**	**+1.5**
	0.8nm,0.8s,baz=129,slow=8.7,SNR=7.1						
	0.8nm,0.8s						
PDAR	**Pinedale Array**	**61.81**	**321**	P	**P**	**17 47 16.3**	**+0.3**
	0.7nm,0.9s,baz=136,slow=12,SNR=4.2						
	0.7nm,0.9s						
NVAR	**Mina Array Bea**	**65.87**	**313**	P	**P**	**17 47 44.3**	**+1.4**
	0.2nm,0.4s,baz=135,slow=5.7,SNR=1.8						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**89.17**	**335**	P	**P**	**17 49 53.8**	**+1.7**
	0.4nm,0.9s,baz=90,slow=4.6,SNR=2.9						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**152.08**	**209**	PKPbc	**PKPbc**	**17 56 53.0**	**-0.2**
	0.4nm,0.6s,baz=137,slow=2.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**153.09**	**48**	PKPbc	**PKiKP**	**17 56 56.9**	**+1.3**
	0.5nm,0.7s,baz=305,slow=4.5,SNR=6.1						
WRA	**Warramunga Arr**	**154.92**	**214**	PKPab	**PKPab**	**17 57 15.3**	**+0.8**
	0.4nm,0.9s,baz=142,slow=3.6,SNR=2.5						

*IDC **23** 17:41:02.1±0.6,54.°73S×30.°48W,h0km,mb4.3/11, mbtmp4.3/11,MS3.4/10,Error ellipse: s-maj=23.1km s-min=16.6km az=61.0*
*NEIC **23** 17:41:04.9±1.5,54.°8S±0.°1×30.°6W±0.°1,h15km±4km, mb4.9/22,Error ellipse: s-maj=17.0km s-min=8.4km az=162.0*

ISC 23 17:41:03.6±0.5,54.°7S±0.°1×30.°6W±0.°1,h10km,n54, σ0s72/46,mb4.6/18,MS3.4/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.45**	**275**		**Pn**	**17 41 55.9**	**-1.4**
VNA1	**Neumayer--Stat**	**18.76**	**157**	P	**P**	**17 45 22.3**	**+0.1**
VNA3	**Neumayer Olymp**	**18.90**

	comp=Z,34nm,20.1s,baz=143,slow=33							
	comp=Z,1.8nm,0.8s							
LPAZ	**La Paz**	**48.02**	**308**	P		**P**	**17 49 44.3**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=167,slow=8.0,SNR=3.7							
	comp=Z,2.2nm,0.6s							
LPAZ	**La Paz**	**48.02**	**308**	P		**P**	**17 49 42.5**	**-1.0**
LPAZ				IAmb		IAmb	17 49 54.6	
	comp=Z,5.4nm,0.9s							
H10N1	**ASCENSION HYDR**	**48.52**	**22**	T		T	18 42 57.0	
	baz=191							
H10N3	**ASCENSION HYDR**	**48.52**	**22**	T		T	18 42 52.1	
	baz=191							
H10N2	**ASCENSION HYDR**	**48.54**	**22**	T		T	18 43 22.1	
	baz=191							
RCBR	**Riachuelo**	**48.96**	**353**	LR		LR	18 07 29.3	
	comp=Z,33nm,18.9s,baz=318,slow=32							
LBTB	**Lobatse**	**50.57**	**78**	P		**P**	**17 50 02.1**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=222,slow=8.7,SNR=5.7							
	comp=Z,2.7nm,0.7s							
LBTB	**Lobatse**	**50.57**	**78**	P		**P**	**17 50 02.1**	**-0.3**
MDP	**Montagnes des**	**62.39**	**335**	LR		LR	18 15 49.5	
	comp=Z,44nm,20.7s,baz=277,slow=33							
TOA0	**Torodi Ar. Sit**	**72.95**	**33**	P		**P**	**17 52 33.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**72.95**	**33**	P		**P**	**17 52 33.2**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=202,slow=6.5,SNR=15							
	comp=Z,2.9nm,0.7s							
RPZ	**Rata Peaks**	**80.19**	**196**	P		**P**	**17 53 13.3**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=105,slow=9.9,SNR=3.8							
	comp=Z,3.5nm,0.8s							
MDT	**Midelt**	**90.04**	**22**	LR		LR	18 31 16.6	
	comp=Z,58nm,18.6s,baz=198,slow=34							
STKA	**Stephens Creek**	**93.47**	**173**	LR		LR	18 35 26.2	
	comp=Z,33nm,18.3s,baz=204,slow=35							
FINES	**FINESS Array B**	**124.16**	**29**	PKP		**PKiKP**	**18 00 01.2**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=170,slow=3.3,SNR=10							
ARCES	**ARCESS Array B**	**130.47**	**23**	PKP		**PKPdf**	**18 00 12.2**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=240,slow=2.4,SNR=8.6							
YKA	**Yellowknife Ar**	**133.90**	**320**	PKP		**PKPdf**	**18 00 19.8**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=136,slow=2.9,SNR=5.4							
MKAR	**Makanchi Array**	**138.34**	**72**	PKP		**PKPdf**	**18 00 27.9**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=196,slow=1.0,SNR=1.8							
ZALV	**Zalesovo Beam**	**143.55**	**64**	PKhKP		PKPpre	18 00 33.5	
	comp=Z,0.7nm,0.5s,baz=245,slow=3.3,SNR=4.9							
ILAR	**Eielson Array**	**147.79**	**314**	PKPbc		**PKPbc**	**18 00 47.2**	**+0.1**
	comp=Z,10nm,0.9s,baz=124,slow=1.8,SNR=59							
SONM	**Songino Array**	**152.60**	**87**	PKPbc		**PKPbc**	**18 00 58.3**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=234,slow=3.4,SNR=5.6							

IDC 23 18:07:36.1±3.7, 56.05S×148.64E, h0km, mb3.2/3, mbtmp3.3/3, MS3.4/3, Error ellipse: s-maj=358.5km s-min=28.3km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPZ	**Rata Peaks**	**18.89**	**59**	LR		LR	18 18 17.2	
	comp=Z,146nm,19.7s,baz=182,slow=34							
VNDA	**Vanda**	**22.06**	**172**	P		P	18 12 32.0	0.0
	0.5nm,0.8s,baz=344,slow=12,SNR=3.8							
	0.5nm,0.8s							
H01W1	**Cape Leeuwin H**	**31.62**	**297**	T		T	18 46 38.4	
	baz=143,slow=76,SNR=17							
H01W2	**Cape Leeuwin H**	**31.63**	**297**	T		T	18 46 49.8	
	baz=143,slow=76,SNR=16							
H01W3	**Cape Leeuwin H**	**31.64**	**297**	T		T	18 46 39.6	
	baz=143,slow=76,SNR=15							
ASAR	**Alice Springs**	**34.12**	**335**	P		P	18 14 21.8	-0.6
	0.2nm,0.7s,baz=164,slow=10,SNR=1.5							
	0.2nm,0.7s							
DZM	**Mont Dzumac**	**36.41**	**29**	LR		LR	18 27 17.4	
	comp=Z,49nm,19.7s,baz=208,slow=32							
WRA	**Warramunga Arr**	**37.62**	**338**	P		P	18 14 52.8	+0.3
	0.7nm,0.8s,baz=166,slow=7.6,SNR=6.9							
	0.7nm,0.8s							
MAW	**Mawson**	**38.70**	**218**	LR		LR	18 30 32.3	
	comp=Z,37nm,18.1s,baz=169,slow=36							
H08S2	**Diego Garcia H**	**75.96**	**277**	T		T	19 41 49.8	
	baz=147							
H08S1	**Diego Carcia H**	**75.97**	**277**	T		T	19 41 52.2	
	baz=147							
H08S3	**Diego Garcia H**	**75.98**	**277**	T		T	19 41 57.8	
	baz=147							
H03S2	**Juan Fernandez**	**81.74**	**142**	T		T	19 51 09.0	
	baz=202							
H03S1	**Juan Fernandez**	**81.74**	**142**	T		T	19 51 15.2	
	baz=202							
H03S3	**Juan Fernandez**	**81.75**	**142**	T		T	19 51 13.9	
	baz=202							

*VAO **23** 18:15:08.3±1.5, 21.56S×68.98W, h106km±9km, mb4.4*
*GUC **23** 18:15:11.6±0.6, 22.04S×68.77W, h116km±4km, ML3.9*
*NEIC **23** 18:15:11.2±1.4, 22.03S±0.04×68.84W±0.06, h115km±7km, Error ellipse: s-maj=8.7km s-min=5.2km az=83.0*
*IDC **23** 18:15:15.2±7.0, 21.82S×68.56W, h150km±52km, mb3.3/4, mbtmp3.7/5, Error ellipse: s-maj=71.8km s-min=26.8km az=19.0*

ISC 23 18:15:10.8±0.7, 22.06S±0.03×68.81W±0.05, h119km±5km, n68, σ1°13/91, mb3.5/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.47**	**303**			**Pn**	**18 15 28.4**	**-0.4**
PB09				Sn		**Sn**	**18 15 42.1**	**-0.2**
PB09	**IPOC Station P**	**0.47**	**303**	*e*P		**Pn**	**18 15 29.0**	**+0.2**
PB09				*i* S		**Sn**	**18 15 42.2**	**0.0**
PB09				IAML			18 15 44.2	
	comp=E,4μm,0.5s							
LVC	**Limon Verde**	**0.56**	**189**	Pn		**Pn**	**18 15 29.3**	**-0.2**
LVC				Sn		**Sn**	**18 15 42.6**	**-1.0**
LVC	**Limon Verde**	**0.56**	**189**	*e*P		**Sn**	**18 15 28.8**	**-0.7**
LVC				*i* S		**Sn**	**18 15 43.0**	**-0.6**
LVC	**Limon Verde**	**0.56**	**189**	*e*P		**Pn**	**18 15 29.5**	**0.0**
PB06	**IPOC Station P**	**0.95**	**227**			**Pn**	**18 15 32.5**	**0.0**
PB06				Sn		**Sn**	**18 15 49.5**	**+0.6**
PB06	**IPOC Station P**	**0.95**	**227**	*e*P		**Pn**	**18 15 33.2**	**+0.6**
PB06				*i* S		**Sn**	**18 15 49.9**	**+1.0**
PB06				IAML			18 15 51.1	
	comp=E,6μm,0.1s							
PB07	**IPOC Station P**	**1.05**	**288**			**Pn**	**18 15 32.9**	**-0.6**
PB07				Sn		**Sn**	**18 15 51.1**	**+0.5**
PB07	**IPOC Station P**	**1.05**	**288**	*e*P		**Pn**	**18 15 34.0**	**+0.5**
PB07				*i* S		**Sn**	**18 15 51.0**	**+0.4**
PB07				IAML			18 15 53.4	
	comp=N,3μm,0.2s							
AF01	**San Pedro de A**	**1.07**	**147**	Pn		**Pn**	**18 15 34.0**	**+0.2**
AF01				Sn		**Sn**	**18 15 51.3**	**+0.1**
AF01	**San Pedro de A**	**1.07**	**147**	*e*P		**Pn**	**18 15 34.0**	**+0.2**
AF01				*i* S		**Sn**	**18 15 51.5**	**+0.3**
PB01	**IPOC Station P**	**1.19**	**328**			**Pn**	**18 15 34.0**	**-0.8**
PB01				Sn		**Sn**	**18 15 52.5**	**-0.6**
PB01	**IPOC Station P**	**1.19**	**328**	*e*P		**Pn**	**18 15 34.7**	**-0.1**
PB01				*i* S		**Sn**	**18 15 52.9**	**-0.2**
PB01				IAML			18 15 54.8	
	comp=E,3μm,0.7s							
PB02	**IPOC Station P**	**1.25**	**306**			**Pn**	**18 15 35.1**	**-0.3**
PB02				Sn		**Sn**	**18 15 54.1**	**-0.1**
PB02	**IPOC Station P**	**1.25**	**306**	*e*P		**Pn**	**18 15 35.7**	**+0.2**
PB02				*i* S		**Sn**	**18 15 54.4**	**+0.2**
PB02				IAML			18 15 55.5	
	comp=E,3μm,0.2s							
PB04	**IPOC Station P**	**1.27**	**257**	Pn		**Pn**	**18 15 35.8**	**0.0**
PB04				Sn		**Sn**	**18 15 55.1**	**+0.4**
PB04	**IPOC Station P**	**1.27**	**257**	*e*P		**Pn**	**18 15 36.4**	**+0.6**
PB04				*i* S		**Sn**	**18 15 55.3**	**+0.6**
PB04				IAML			18 15 58.4	
PB15	**IPOC Station P**	**1.30**	**208**			**Pn**	**18 15 36.6**	**+0.5**
PB15				Sn		**Sn**	**18 15 56.5**	**+1.2**
PB15	**IPOC Station P**	**1.30**	**208**	*e*P		**Pn**	**18 15 36.9**	**+0.8**
PB15				*i* S		**Sn**	**18 15 56.9**	**+1.6**
PATCX	**Punta Patache**	**1.75**	**314**			**Pn**	**18 15 40.8**	**-0.5**
PATCX				Sn		**Sn**	**18 16 04.0**	**-0.5**
PATCX	**Punta Patache**	**1.75**	**314**	*e*P		**Pn**	**18 15 41.1**	**-0.2**
PATCX				*i* S		**Sn**	**18 16 04.2**	**-0.4**
PATCX				IAML			18 16 11.6	
	comp=E,935nm,0.5s							
PB08	**IPOC Station P**	**1.93**	**350**			**Pn**	**18 15 43.7**	**-0.1**
PB08				Sn		**Sn**	**18 16 09.1**	**+0.1**
PB08	**IPOC Station P**	**1.93**	**350**	*e*P		**Pn**	**18 15 44.1**	**+0.2**
PB08				*i* S		**Sn**	**18 16 09.4**	**+0.5**
TA01	**Diego Aracena**	**1.96**	**319**	Pn		**Pn**	**18 15 43.1**	**-0.6**
TA01				Sn		**Sn**	**18 16 07.5**	**-1.3**
TA01	**Diego Aracena**	**1.96**	**319**	*e*P		**Pn**	**18 15 43.2**	**-0.5**
TA01				*i* S		**Sn**	**18 16 08.4**	**-0.4**
TA01				IAML			18 16 11.1	
	comp=N,834nm,0.3s							
TA02	**Huaiquique**	**2.16**	**325**			**Pn**	**18 15 45.4**	**-0.9**
PB10	**IPOC Station P**	**2.16**	**228**			**Pn**	**18 15 46.6**	**+0.3**
PB10	**IPOC Station P**	**2.16**	**228**	*e*P		**Pn**	**18 15 46.5**	**+0.2**
PB10				*i* S		**Sn**	**18 16 11.4**	**-2.1**
GO01	**Chusmiza**	**2.40**	**351**			**Pn**	**18 15 49.8**	**-0.1**
GO01	**Chusmiza**	**2.40**	**351**	*e*P		**Pn**	**18 15 50.0**	**+0.1**
GO01				*i* S		**Sn**	**18 16 20.0**	**+0.3**
PB14	**IPOC Station P**	**2.94**	**209**	Pn		**Pn**	**18 15 56.5**	**-0.2**
GO02	**Mina Guanaco**	**3.17**	**193**	Pn		**Pn**	**18 15 59.8**	**+0.2**
PB12	**IPOC Station P**	**3.71**	**337**			**Pn**	**18 16 04.5**	**-2.1**
PB16	**IPOC Station P**	**3.76**	**350**			**Pn**	**18 16 07.3**	**-0.4**
AP01	**Chacalluta**	**3.94**	**338**	Pn		**Pn**	**18 16 06.9**	**-2.6**
AC01	**Pan de Azucar**	**4.39**	**201**	Pn		**Pn**	**18 16 13.9**	**-1.6**
AC02	**Maricunga**	**4.77**	**183**	Pn		**Pn**	**18 16 21.4**	**+0.4**
AC06	**Mina Casimiro**	**5.46**	**195**	Pn		**Pn**	**18 16 30.9**	**+0.9**
LPAZ	**La Paz**	**5.78**	**7**	P		**Pn**	**18 16 36.2**	**+1.4**
	comp=N,1.2nm,0.3s,baz=188,slow=4.9,SNR=3.9							
LPAZ	**La Paz**	**5.78**	**7**	Pn		**Pn**	**18 16 35.1**	**+0.3**
AC04	**Llanos de Chal**	**6.46**	**198**	Pn		**Pn**	**18 16 42.0**	**-1.4**
AC05	**El Transito**	**6.88**	**191**	Pn		**Pn**	**18 16 47.6**	**-1.6**
CO01	**Juntas del Tor**	**7.97**	**188**	Pn		**Pn**	**18 17 02.6**	**-1.5**
GO04	**Tololo Observa**	**8.28**	**192**	Pn		**Pn**	**18 17 05.0**	**-3.2**
CO06	**Fray Jorge**	**8.95**	**196**	Pn		**Pn**	**18 17 13.8**	**-3.3**
CO02	**Combarbal**	**9.32**	**192**	Pn		**Pn**	**18 17 18.9**	**-3.3**
H03N1	**Juan Fernandez**	**14.43**	**216**	T		T	18 32 58.9	
	baz=43							
H03N2	**Juan Fernandez**	**14.44**	**216**	T		T	18 33 00.4	
	baz=43							
H03N3	**Juan Fernandez**	**14.45**	**216**	T		T	18 32 55.8	
	baz=43							
TRCB	**Terra Rica**	**14.98**	**96**	P		**P**	**18 18 38.8**	**-0.3**
TRCB	**Terra Rica**	**14.98**	**96**	*e*P		**P**	**18 18 38.5**	**-0.6**
ITAB	**Concordia**	**16.02**	**112**	P		**P**	**18 18 49.8**	**-0.6**
ITAB				IAmb		IAmb	18 18 50.7	
	comp=Z,26nm,1.3s							
PCMB	**Pacaembu**	**16.31**	**92**	*e*P		**P**	**18 18 53.3**	**-0.4**
TRQA	**Tornquist**	**17.00**	**161**	P		**P**	**18 19 02.0**	**+0.8**
TRQA				IAmb		IAmb	18 19 17.6	
	comp=Z,24nm,1.4s							
TRQA	**Tornquist**	**17.00**	**161**	*e*P		**P**	**18 19 05.8**	**+4.6**
BB19B	**Bebedouro**	**18.89**	**91**	*e*P		**P**	**18 19 21.9**	**-0.3**
SNDB	**Serra Nova Dou**	**19.50**	**62**	*e*P		**P**	**18 19 27.4**	**-1.4**
IPMB	**Ipameri, GO**	**19.77**	**82**	*e*P		**P**	**18 19 30.8**	**-1.0**
BDFB	**Brasilia**	**20.68**	**76**	P		**P**	**18 19 40.8**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=230,slow=12,SNR=2.3							
	comp=Z,2.0nm,0.4s							
JANB	**Januaria**	**24.23**	**78**	*e*P		**P**	**18 20 15.0**	**-1.8**
BOAV	**Boa Vista**	**25.62**	**19**	P		**P**	**18 20 30.5**	**+1.3**
BOAV				IAmb		IAmb	18 20 48.4	
	comp=Z,2.0nm,1.1s							
TXAR	**Lajitas Array**	**61.13**	**325**	P		**P**	**18 25 12.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=134,slow=6.4,SNR=4.4							
	comp=Z,0.3nm,0.7s							
PDAR	**Pinedale Array**	**74.64**	**330**	P		**P**	**18 26 38.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=135,slow=10,SNR=1.3							
	comp=Z,0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.46**	**70**	P		**P**	**18 26 52.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=254,slow=5.0,SNR=9.6							
	comp=Z,0.4nm,0.3s							
ASAR	**Alice Springs**	**129.46**	**207**	PKP		**PKiKP**	**18 34 07.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=118,slow=1.9,SNR=1.6							
WRA	**Warramunga Arr**	**132.52**	**210**	PKP		**PKiKP**	**18 34 13.1**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=150,slow=1.7,SNR=1.8							
MKAR	**Makanchi Array**	**146.03**	**36**	PKPbc		**PKPab**	**18 34 37.7**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=335,slow=2.1,SNR=3.0							
SONM	**Songino Array**	**153.99**	**7**	PKPbc		**PKPbc**	**18 34 55.3**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=330,slow=5.0,SNR=3.6							

IDC 23 18:16:05.1±1.7, 29.81S×60.37E, h0km, mb3.6/5, mbtmp3.6/5, MS3.2/2, Error ellipse: s-maj=65.6km s-min=32.8km az=26.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S1	**Diego Carcia H**	**24.80**	**30**	T		T	18 47 09.7	
	baz=204							
H08S2	**Diego Garcia H**	**24.81**	**30**	T		T	18 47 08.0	
	baz=204							
H08S3	**Diego Garcia H**	**24.82**	**30**	T		T	18 47 01.3	
	baz=204							
ATD	**Arta Tunnel**	**44.43**	**335**	LR		LR	18 40 14.3	
	comp=Z,19nm,19.6s,baz=164,slow=33							
CMAR	**Chiang Mai Arr**	**60.70**	**43**	P		P	18 26 17.4	-1.1
	0.3nm,0.3s,baz=232,slow=7.3,SNR=4.6							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**64.95**	**104**	P		P	18 26 47.3	+0.2
	0.4nm,0.7s,baz=242,slow=6.3,SNR=7.7							
	0.4nm,0.7s							
WRA	**Warramunga Arr**	**66.83**	**100**	P		P	18 26 59.0	-0.1
	0.2nm,0.6s,baz=247,slow=5.4,SNR=4.9							
	0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**70.83**	**298**	P		P	18 27 23.5	-0.5
	0.6nm,0.9s,baz=134,slow=4.2,SNR=2.5							
	0.6nm,0.9s							
AKTO	**Aktyubinsk**	**79.91**	**358**	LR		LR	19 01 12.3	
	comp=Z,20nm,18.7s,baz=289,slow=34							
ZALV	**Zalesovo Beam**	**86.06**	**14**	P		P	18 28 48.9	+1.8
	0.3nm,0.3s,baz=216,slow=4.4,SNR=1.7							
	0.3nm,0.3s							

*IDC **23** 18:33:46.2±1.1, 5.89S×154.42E, h369km±8km, mb3.4/16, mbtmp4.1/18, Error ellipse: s-maj=18.0km s-min=9.8km az=98.0*
*NEIC **23** 18:33:46.1±1.5, 5.90S±0.09×154.54E±0.09, h365km±5km, mb4.1/29, Error ellipse: s-maj=14.7km s-min=10.9km az=130.0*

ISC 23 18:33:44.4±0.5, 5.94S±0.06×154.58E±0.09, h350km, n63, σ1°14/69, mb3.9/30, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**2.97**	**306**			**Pn**	**18 34 45.0**	**+1.5**
RABL				Sn		**S**	**18 35 32.2**	**+1.2**
KRVT	**Keravat (AS076**	**3.01**	**302**	P		**Pn**	**18 34 46.5**	**+2.6**
	153nm,0.5s,baz=348,slow=0.7,SNR=54							
KRVT				S		**S**	**18 35 33.8**	**+2.0**
	150nm,0.6s,baz=8.1,slow=23,SNR=17							
PMG	**Port Moresby**	**8.12**	**244**	P		**Pn**	**18 35 40.6**	**+0.6**
	7.6nm,0.9s,baz=242,slow=8.6,SNR=2.9							
MANU	**Manus Island**	**8.17**	**298**			**Pn**	**18 35 42.2**	**+1.6**
COEN	**Coen**	**13.76**	**234**	Pn		**Pn**	**18 36 48.6**	**+1.6**
CTA	**Charters Tower**	**16.22**	**209**	P		**P**	**18 37 13.0**	**+0.7**
	3.0nm,0.9s,baz=41,slow=12,SNR=2.8							
CTAO	**Charters Tower**	**16.22**	**209**	P		**P**	**18 37 14.2**	**+1.9**
CTAO				IAmb		IAmb	18 37 20.5	
	comp=Z,6.9nm,1.1s							
EIDS	**Eidsvold**	**19.61**	**189**	P		**P**	**18 37 49.0**	**+0.6**
EIDS				IAmb		IAmb	18 38 32.7	
	comp=Z,6.9nm,1.1s							
DZM	**Mont Dzumac**	**19.72**	**146**	P		**P**	**18 37 50.7**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=275,slow=20,SNR=1.1							
FAKI	**Fak Fak**	**22.46**	**277**	P		**P**	**18 38 14.2**	**-0.8**
FAKI				IAmb		IAmb	18 38 25.2	
	comp=Z,8.8nm,0.9s							
WR0	**Warramunga Arr**	**23.95**	**233**	P		**P**	**18 38 28.8**	**+0.4**
WR0				IAmb		IAmb	18 38 30.2	
	comp=Z,7.8nm,1.2s							
WRAB	**Tennant Creek**	**24.08**	**233**	P		**P**	**18 38 29.9**	**+0.2**
WRA	**Warramunga Arr**	**24.10**	**233**	P		**P**	**18 38 30.1**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=58,slow=8.9,SNR=29							
WRA				PcP		**PcP**	**18 42 00.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=57,slow=2.6,SNR=5.7							
	comp=Z,2.3nm,0.6s							
WRA	**Warramunga Arr**	**24.10**	**233**	P		**P**	**18 38 28.9**	**-0.9**
MTN	**Manton Dam**	**24.11**	**252**	P		**P**	**18 38 29.9**	**0.0**
MTN				IAmb		IAmb	18 38 38.0	
	comp=Z,11nm,1.4s							
AS31	**Alice Springs**	**26.57**	**226**	P		**P**	**18 38 51.8**	**-0.1**
ASAR	**Alice Springs**	**26.58**	**226**	P		**P**	**18 38 51.4**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=56,slow=9.2,SNR=23							
ASAR				PcP		**PcP**	**18 42 06.1**	**0.0**
	comp=Z,1.0nm,0.6s,baz=61,slow=2.4,SNR=13							
ASAR				S		**S**	**18 42 55.7**	**-4.7**
	comp=Z,0.4nm,0.7s,baz=58,slow=14,SNR=4.1							
	comp=Z,0.8nm,0.4s							
ASAR	**Alice Springs**	**26.58**	**226**	P		**P**	**18 38 51.0**	**-0.9**
KNRA	**Kununurra**	**27.11**	**247**	P		**P**	**18 38 56.1**	**-0.5**
KNRA				IAmb		IAmb	18 39 25.4	
	comp=Z,23nm,1.4s							
STKA	**Stephens Creek**	**28.52**	**204**	P		**P**	**18 39 08.9**	**0.0**
FITZ	**Fitzroy Crossi**	**30.71**	**244**	P		**P**	**18 39 27.5**	**-0.9**
FITZ				IAmb		IAmb	18 39 28.7	
	comp=Z,6.9nm,0.8s							
BBOO	**Buckleboo**	**31.82**	**210**	P		**P**	**18 39 38.0**	**+0.2**
FORT	**Forrest**	**35.08**	**222**	P		**P**	**18 40 05.7**	**0.0**
MBWA	**Marble Bar**	**36.98**	**242**	P		**P**	**18 40 20.8**	**-1.0**
MBWA				IAmb		IAmb	18 40 22.8	
	comp=Z,21nm,1.3s							
PSA00	**Pilbara Seismi**	**37.01**	**242**	P		**P**	**18 40 21.5**	**-0.6**
LTZ	**Lake Taylor**	**39.89**	**160**	P		**P**	**18 40 46.7**	**+1.2**
JMN	**Monobe**	**44.06**	**335**	P		**P**	**18 41 19.2**	**+0.2**
MJAR	**Matsushiro Arr**	**44.95**	**341**	P		**P**	**18 41 24.9**	**-1.1**
	comp=Z,16nm,0.7s,baz=162,slow=8.3,SNR=6.0							
	comp=Z,1.6nm,0.7s							
JHS	**Saijyo**	**45.47**	**335**	P		**P**	**18 41 29.6**	**-0.3**
JHS				IAmb		IAmb	18 41 36.9	
	comp=Z,17nm,1.2s							
KSRS	**Korea Array**	**49.82**	**332**	P		**P**	**18 42 02.7**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=150,slow=7.4,SNR=15							
	comp=Z,3.4nm,0.8s							
USRK	**Ussuriysk Ar.**	**53.90**	**340**	P		**P**	**18 42 32.0**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=124,slow=9.4,SNR=4.2							
	comp=Z,4.4nm,0.9s							
USRK	**Ussuriysk Ar.**	**53.90**	**340**	P		**P**	**18 42 32.0**	**-0.7**
KLR	**Kul'dur**	**58.44**	**343**	P		**P**	**18 43 04.4**	**0.0**
	comp=Z,0.8nm,0.3s,baz=6.0,slow=16,SNR=3.7							
	comp=Z,0.8nm,0.3s							
PETK	**Petropavlovsk-**	**58.88**	**2**	P		**P**	**18 43 06.7**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=200,slow=12,SNR=4.7							
	comp=Z,1.1nm,0.7s							
PETK	**Petropavlovsk-**	**58.88**	**2**	P		**P**	**18 43 07.4**	**+0.1**
CM31	**Chiang Mai Arr**	**59.96**	**295**	P		**P**	**18 43 15.2**	**-0.2**
CM31				IAmb		IAmb	18 43 16.6	
	comp=Z,3.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**59.96**	**295**	P		**P**	**18 43 15.6**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=118,slow=5.1,SNR=21							
	comp=Z,1.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**59.96**	**295**	P		**P**	**18 43 14.8**	**-0.5**
CHTO	**Chiang Mai**	**60.07**	**296**	P		**P**	**18 43 15.8**	**-0.3**
GTA	**Gaotai**	**67.69**	**317**	⇑P		**P**	**18 44 05.6**	**+0.5**
YAK	**Yakutsk**	**70.44**	**348**	P		**P**	**18 44 20.6**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=349,slow=1.7,SNR=6.0							
	comp=Z,2.0nm,0.3s							
YAK	**Yakutsk**	**70.44**	**348**	P		**P**	**18 44 20.8**	**-0.3**
VNDA	**Vanda**	**71.64**	**178**	P		**P**	**18 44 28.8**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=330,slow=6.9,SNR=11							
	comp=Z,0.7nm,0.6s							
VNDA	**Vanda**	**71.64**	**178**	P		**P**	**18 44 29.5**	**+1.3**
CNPM	**China Poot**	**77.98**	**25**	P		**P**	**18 45 04.6**	**+0.2**
L19K	**White Mountain**	**78.14**	**22**	P		**P**	**18 45 05.7**	**+0.4**
J20K	**Nowinta River**	**79.62**	**20**	P		**P**	**18 45 14.4**	**+1.3**
J20K				IAmb		IAmb	18 45 47.8	
	comp=Z,5.7nm,1.5s							
CAST	**Castle Rocks**	**79.90**	**22**	P		**P**	**18 45 14.7**	**0.0**
CAST				IAmb		IAmb	18 45 44.7	
	comp=Z,3.7nm,1.3s							
IMAR	**Indian Mountai**	**80.87**	**19**	P		**P**	**18 45 19.6**	**-0.2**
MK31	**Makanchi Array**	**82.34**	**319**	P		**P**	**18 45 26.7**	**-1.1**
MK31				IAmb		IAmb	18 45 28.2	
	comp=Z,3.1nm,0.8s							
MKAR	**Makanchi Array**	**82.34**	**319**	P		**P**	**18 45 26.5**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=98,slow=6.8,SNR=12							
	comp=Z,2.7nm,0.7s							
MKAR	**Makanchi Array**	**82.34**	**319**	P		**P**	**18 45 27.0**	**-0.9**

DJO	**Djoy, Khakassi**	**5.04 302**	Pn	**Pn**	**18 43 03.3**	**+3.8**
DJO			Pg	**Pg**	**18 43 18.4**	**-1.9**
DJO			Sg	**Sg**	**18 44 21.4**	**-4.2**
ORY	**Orie**	**5.08 339**	PN	**Pb**	**18 43 14.9**	**+2.1**
MINR	**Mina**	**5.22 333**	Pg	**Pg**	**18 43 23.3**	**-0.6**
MINR			Sg	**Sg**	**18 44 31.9**	**+0.4**
ABNR	**Abakan**	**5.42 312**	PN	**Pb**	**18 43 19.5**	**+0.9**
TRG	**Tyrgan**	**5.63 61**	*e*PN	**Pn**	**18 43 08.5**	**+0.9**
SONM	**Songino Array**	**5.90 112**	Pn	**Pn**	**18 43 11.1**	**-0.2**
	comp=N,1.2nm,0.3s,baz=295,slow=15,SNR=12					
SONM			Pg	**Pb**	**18 43 28.3**	**+1.5**
	comp=N,8.6nm,0.3s,baz=297,slow=18,SNR=37					
SONM			Lg	Lg	18 44 45.7	
	comp=N,5.5nm,0.3s,baz=300,slow=31,SNR=2.7					
	comp=N,1.9nm,0.3s					
ULN	**Ulaanbaatar**	**6.28 109**	*d* iPN	**Pn**	**18 43 16.2**	**-0.4**
ULN	**Ulaanbaatar**	**6.28 109**	Pg	**Pb**	**18 43 36.3**	**+3.0**
ULN			Sg	**Sg**	**18 45 00.5**	**-4.8**
CUR	**Chagan-Uzun**	**6.36 272**	Pg	**Pb**	**18 43 38.5**	**+4.0**
CUR			Sg	**Sg**	**18 45 04.6**	**-3.1**
KRAR	**Krasnoyarsk**	**6.57 333**	*e*PN	Pn	18 43 26.6	+6.2
CHBI	**Chibit, Altay**	**6.88 274**	Pn	**Pn**	**18 43 28.3**	**+3.5**
CHBI			Pg	**Pg**	**18 43 52.7**	**-2.8**
CHBI			Sg	**Sg**	**18 45 23.1**	**-1.4**
TASR	**Tashtagol**	**6.92 295**	Pn	**Pn**	**18 43 29.7**	**+4.4**
TASR			Pg	**Pg**	**18 43 54.8**	**-1.5**
TASR			Sg	**Sg**	**18 45 23.2**	**-2.5**
DGZ	**Jazzator, Alta**	**7.00 269**	*e*PN	**Pn**	**18 43 28.1**	**+1.7**
DGZ	**Jazzator, Alta**	**7.00 269**	Pn	**Pn**	**18 43 28.5**	**+2.1**
DGZ			Pg	Pb	18 43 51.6	+6.1
DGZ			Sg	**Sg**	**18 45 24.9**	**-3.3**
ARTR	**Artybash**	**7.07 286**	Pn	**Pn**	**18 43 30.0**	**+2.7**
ARTR			Pg	Pg	18 43 53.7	-5.4
ARTR			Sg	**Sg**	**18 45 28.3**	**-2.4**
ELT	**Eltsovka**	**8.01 296**	Pn	Pn	18 43 45.7	+5.5
ELT			Pg	Pg	18 44 12.2	-4.9
ELT			Sg	**Sg**	**18 45 56.2**	**-4.6**
ZALV	**Zalesovo Beam**	**9.03 299**	Pn	**Pn**	**18 43 57.4**	**+3.3**
	comp=N,0.2nm,0.3s,baz=110,slow=12,SNR=2.5					
ZALV			Lg	Lg	18 46 26.4	
	comp=N,0.5nm,0.3s,baz=112,slow=24,SNR=6.9					
	comp=N,0.5nm,0.3s					
MKAR	**Makanchi Array**	**11.14 258**	Pn	**Pn**	**18 44 26.3**	**+3.2**
	baz=76,slow=15,SNR=1.6					
MKAR			Pg		18 45 09.2	
	comp=N,0.1nm,0.3s,baz=72,slow=16,SNR=4.7					
MKAR			Lg	Lg	18 47 36.3	
	comp=N,0.2nm,0.3s,baz=64,slow=26,SNR=5.3					
MKAR			LR	LR	18 48 49.9	
	comp=N,31nm,19.0s,baz=74,slow=38					
	comp=N,0.4nm,0.8s					
KURK	**Kurchatov**	**12.50 279**	P	**Pn**	**18 44 44.5**	**+2.9**
KURBB	**Kurchatov Arra**	**12.56 279**	Pn	**Pn**	**18 44 44.5**	**+2.0**
	baz=86,slow=14,SNR=2.2					
KURBB			Lg	Lg	18 48 21.4	
	baz=65,slow=20,SNR=4.4					
	comp=N,0.3nm,0.8s					
BVAR	**Borovoye Array**	**17.45 290**	Pn	**Pn**	**18 45 47.8**	**+0.7**
	baz=82,slow=15,SNR=1.7					
	comp=N,0.1nm,0.4s					
PZH	**PanZhiHua**	**23.91 172**	P	**P**	**18 46 57.1**	**-0.8**
PZH			pmax	pmax		
	comp=Z,20nm,0.9s					
PZH			pmax	pmax		
	comp=Z,100nm,7.5s					
KSRS	**Korea Array**	**24.77 110**	P	**P**	**18 47 06.5**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=309,slow=7.7,SNR=7.5					
KSRS			LR	LR	18 57 49.1	
	comp=Z,12nm,21.2s,baz=195,slow=39					
	comp=Z,0.9nm,0.5s					
BELG	**Belogornoye**	**31.16 294**	LR	LR	19 01 12.3	
	comp=Z,35nm,18.4s,baz=149,slow=37					
CLL	**Collm**	**50.90 306**	*e*P	**P**	**18 50 46.0**	**+1.3**
CLL	**Collm**	**50.90 306**	*e*P	**P**	**18 50 46.0**	**+1.3**

NNC 23 18:42:39.6±1.6, 52°.16N×95°.37E, h0km, mb3.8, mpv2.5, 5C-5D, Error ellipse: s-maj=16.2km s-min=12.7km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**6.61**	**290**	⇓Pn	Pn	18 44 17.7	-0.2
	0.3nm,0.8s						
ZAA0				⇓Lg	Lg	18 46 10.4	
	12nm,1.4s						
MK31	**Makanchi Array**	**10.06**	**243**	⇑Pn	Pn	18 45 05.0	-0.2
	2.9nm,0.8s,baz=90,slow=8.1,SNR=6.8						
MK31				⇓Lg	Lg	18 47 58.4	
	16nm,1.2s,baz=52,slow=28,SNR=6.1						
MAKZ	**Makanchi**	**10.22**	**244**	⇑Pn	Pn	18 45 07.1	-0.4
	13nm,1.4s						
MAKZ				⇑Lg	Lg	18 48 03.6	
	27nm,1.2s						
KURK	**Kurchatov**	**10.56**	**269**	⇑Pn	Pn	18 45 13.0	+0.9
	2.4nm,1.1s						
KURK				⇑Lg	Lg	18 48 15.8	
	16nm,1.0s						
KURBB	**Kurchatov Arra**	**10.64**	**268**	⇓Pn	Pn	18 45 13.0	-0.1
	1.2nm,0.8s						
KURBB				⇓Lg	Lg	18 48 18.0	
	13nm,0.8s						

*NOU **23** 18:47:01.3, 37°.58S×179°.49E, h133km, MLv4.3/10, Off E. Coast of N. Island, N.Z.*
*WEL **23** 18:47:05.7±0.9, 37°.5S±4°.×17°.9E±°, h20km±4km, M3.8/37, ML4.0/38, MLv3.8/37, Error ellipse: s-maj=0.0km s-min=0.0km az=98.5*

ISC 23 18:47:00.7±2.7, 37°.43S±0°.07×179°.4E±0°.1, h24km±14km, n111, σ1s51/125, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.85**	**243**	P	**Pn**	**18 47 18.4**	**+1.2**
WMGZ				S	**Sb**	**18 47 27.6**	**-0.2**
MXZ	**Matakaoa Point**	**0.86**	**261**	P	**Pb**	**18 47 16.2**	**-0.7**
MXZ				S	**Sb**	**18 47 25.3**	**-2.7**
PUZ	**Puketiti**	**1.09**	**234**	P	**Pb**	**18 47 22.4**	**+1.6**
PUZ				S	**Sb**	**18 47 34.5**	**-0.1**
PKGZ	**Pakihiroa**	**1.12**	**246**	P	**Pb**	**18 47 21.9**	**+0.5**
PKGZ				S	**Sn**	**18 47 33.6**	**-2.1**
HAZ	**Te Kaha**	**1.30**	**255**	P	**Pn**	**18 47 24.4**	**-0.1**
HAZ				S	**Sn**	**18 47 38.1**	**-1.9**
TWGZ	**Tauwhareparae**	**1.33**	**236**	P	**Pb**	**18 47 25.9**	**+1.0**
TWGZ				S	**Sn**	**18 47 41.0**	**+0.3**
CNGZ	**Carnagh Statio**	**1.40**	**221**	P	**Pb**	**18 47 27.9**	**+1.9**
CNGZ				S	**Sb**	**18 47 46.1**	**+2.7**
RUGZ	**Raukumara Rang**	**1.45**	**248**	P	**Pb**	**18 47 26.7**	**-0.2**
RUGZ				S	**Sn**	**18 47 43.0**	**-0.7**
TKGZ	**Te Karaka**	**1.57**	**230**	P	**Pb**	**18 47 29.0**	**0.0**
TKGZ				S	**Sn**	**18 47 46.3**	**-0.2**
MWZ	**Matawai**	**1.71**	**238**	P	**Pb**	**18 47 30.5**	**-1.0**
WIZ	**White Island**	**1.74**	**266**	P	**Pb**	**18 47 31.0**	**-0.8**
RIGZ	**Rimuhau**	**1.80**	**224**	P	**Pn**	**18 47 29.7**	**-0.4**
RIGZ				S	**Sn**	**18 47 53.0**	**+0.7**
PRGZ	**Paritu Road**	**1.90**	**218**	P	**Pb**	**18 47 33.9**	**-0.7**
PRGZ				S	**Sn**	**18 47 55.6**	**+1.0**
WHRZ	**Whale Island**	**1.95**	**257**	P	**Pn**	**18 47 33.9**	**+1.7**
WHRZ				S	**Sn**	**18 47 54.9**	**-1.0**
URZ	**Urewera**	**1.97**	**245**	P	**Pb**	**18 47 34.5**	**-1.4**
URZ				S	**Sn**	**18 47 55.4**	**-1.1**
URZ	**Urewera**	**1.97**	**245**	P	**Pb**	**18 47 34.7**	**-1.1**
MHGZ	**Mahia Peninsul**	**2.07**	**213**	P	**Pb**	**18 47 36.6**	**-0.9**
KNZ	**Kokohu**	**2.08**	**220**	P	**Pn**	**18 47 35.8**	**+1.8**
SNGZ	**Shannon Statio**	**2.09**	**229**	P	**Pb**	**18 47 36.6**	**-1.4**
SNGZ				S	**Sn**	**18 47 58.6**	**-0.9**
EDRZ	**Edgecumbe**	**2.19**	**251**	P	**Pn**	**18 47 37.2**	**+1.6**
MARZ	**Manawahe**	**2.21**	**255**	P	**Pn**	**18 47 37.0**	**+1.2**
RTZ	**Ruatahuna**	**2.23**	**237**	P	**Pn**	**18 47 38.1**	**+2.0**
RTZ				S	**Sn**	**18 48 03.5**	**+0.5**
OPRZ	**Ohinepanea**	**2.27**	**259**	P	**Pn**	**18 47 37.5**	**+0.8**
MUGZ	**Murupara**	**2.31**	**242**	P	**Pn**	**18 47 38.8**	**+1.7**
RAHZ	**Arahi**	**2.33**	**230**	P	**Pn**	**18 47 39.7**	**+2.2**
WHHZ	**Waihua**	**2.35**	**225**	P	**Pn**	**18 47 39.9**	**+2.1**
MKRZ	**Makatiti**	**2.41**	**252**	P	**Pn**	**18 47 40.9**	**+2.3**
TARZ	**Mount Tarawera**	**2.41**	**250**	P	**Pn**	**18 47 40.6**	**+2.0**
RRRZ	**Republican Roa**	**2.43**	**247**	P	**Pn**	**18 47 41.0**	**+2.0**
MTHZ	**Maungataniwha**	**2.45**	**234**	P	**Pn**	**18 47 41.1**	**+2.0**
OMRZ	**Omania**	**2.47**	**253**	P	**Pn**	**18 47 41.1**	**+1.7**
TGRZ	**Tauranga**	**2.49**	**262**	P	**Pn**	**18 47 40.5**	**+0.9**
MYRZ	**Mayor Island**	**2.50**	**273**	P	**Pn**	**18 47 41.1**	**+1.3**
HLRZ	**Highlands Stat**	**2.53**	**250**	P	**Pn**	**18 47 42.3**	**+2.1**
KARZ	**Kaharoa**	**2.55**	**256**	P	**Pn**	**18 47 41.9**	**+1.4**
PRRZ	**Plateau Road**	**2.58**	**245**	P	**Pn**	**18 47 42.4**	**+1.5**
ARHZ	**Aropaoanui**	**2.61**	**225**	P	**Pn**	**18 47 43.4**	**+2.0**
NMHZ	**Naumai**	**2.62**	**230**	P	**Pn**	**18 47 43.5**	**+2.0**
ALRZ	**Allen Road**	**2.64**	**244**	P	**Pn**	**18 47 43.3**	**+1.5**
MRHZ	**Matea Rd**	**2.72**	**238**	P	**Pn**	**18 47 44.4**	**+1.6**
KMRZ	**Kaimai**	**2.75**	**260**	P	**Pn**	**18 47 44.2**	**+0.9**
WPRZ	**Whakapapataran**	**2.76**	**246**	P	**Pn**	**18 47 45.3**	**+1.9**
BKZ	**Black Stump Fm**	**2.85**	**232**	P	**Pn**	**18 47 46.4**	**+1.7**
BKZ	**Black Stump Fm**	**2.85**	**232**	P	**Pn**	**18 47 46.7**	**+2.0**
CKHZ	**Cape Kidnapper**	**2.86**	**218**	P	**Pn**	**18 47 46.2**	**+1.5**
MCHZ	**McNeill Hill**	**2.91**	**225**	P	**Pn**	**18 47 47.1**	**+1.7**
KUTZ	**Kaahu Road**	**3.00**	**248**	P	**Pn**	**18 47 48.6**	**+1.9**
KUTZ	**Kuaotunu**	**3.00**	**282**	P	**Pn**	**18 47 48.3**	**-0.3**
KWHZ	**Kaweka Forest**	**3.05**	**228**	P	**Pn**	**18 47 48.7**	**+1.2**
KAHZ	**Kahuranaki**	**3.06**	**219**	P	**Pn**	**18 47 48.9**	**+1.3**
TOZ	**Tahuroa Road**	**3.09**	**263**	P	**Pn**	**18 47 48.8**	**+0.9**
TLZ	**Tolley Road**	**3.16**	**252**	P	**Pn**	**18 47 50.4**	**+1.4**
RATZ	**Rangitukua**	**3.18**	**242**	P	**Pn**	**18 47 50.9**	**+1.8**
KRHZ	**Kereru**	**3.23**	**226**	P	**Pn**	**18 47 50.6**	**+0.7**
PXZ	**Pawanui**	**3.25**	**216**	P	**Pn**	**18 47 50.8**	**+0.6**
KATZ	**Kakaramea**	**3.28**	**241**	P	**Pn**	**18 47 52.3**	**+1.6**
BHHZ	**Black Hill Sta**	**3.31**	**231**	P	**Pn**	**18 47 52.2**	**+1.2**
TMVZ	**Te Maari**	**3.34**	**239**	P	**Pn**	**18 47 52.6**	**+1.2**
ETVZ	**East Tongariro**	**3.34**	**238**	P	**Pn**	**18 47 52.8**	**+1.2**
NTVZ	**North Tongarir**	**3.35**	**239**	P	**Pn**	**18 47 52.8**	**+1.2**
GRZ	**Great Barrier**	**3.35**	**289**	P	**Pn**	**18 47 52.3**	**+0.8**
KRVZ	**Karewarewa**	**3.37**	**239**	P	**Pn**	**18 47 53.2**	**+1.2**
MKAZ	**Moumakai**	**3.37**	**274**	P	**Pn**	**18 47 52.2**	**+0.4**
OTVZ	**Oturere**	**3.39**	**238**	P	**Pn**	**18 47 53.4**	**+1.2**
NNVZ	**North Ngauruho**	**3.41**	**239**	P	**Pn**	**18 47 53.8**	**+1.4**
SNVZ	**South Ngauruho**	**3.42**	**238**	P	**Pn**	**18 47 53.7**	**+1.2**
WTVZ	**West Tongariro**	**3.42**	**239**	P	**Pn**	**18 47 54.0**	**+1.4**
NGZ	**Ngauruhoe**	**3.44**	**238**	P	**Pn**	**18 47 54.0**	**+1.2**
WIAZ	**Waiheke Island**	**3.45**	**279**	P	**Pn**	**18 47 53.2**	**+0.4**
TUVZ	**Tukino**	**3.45**	**237**	P	**Pn**	**18 47 54.2**	**+1.2**
MOVZ	**Moawhango**	**3.46**	**234**	P	**Pn**	**18 47 54.0**	**+1.0**
WPHZ	**Waipukurau**	**3.49**	**220**	P	**Pn**	**18 47 54.2**	**+0.8**
WHVZ	**Whangaehu Hut**	**3.50**	**237**	P	**Pn**	**18 47 55.0**	**+1.2**
TWVZ	**Taurewa**	**3.50**	**241**	P	**Pn**	**18 47 55.3**	**+1.6**
PNHZ	**Pukenui**	**3.51**	**224**	P	**Pn**	**18 47 53.9**	**+0.2**
FWVZ	**Far West T-bar**	**3.51**	**238**	P	**Pn**	**18 47 55.4**	**+1.5**
WNVZ	**Wahianoa**	**3.52**	**236**	P	**Pn**	**18 47 54.9**	**+1.0**
TRVZ	**Turoa**	**3.54**	**237**	P	**Pn**	**18 47 55.5**	**+1.2**
PRHZ	**Porangahau**	**3.55**	**216**	P	**Pn**	**18 47 54.6**	**+0.4**
ETAZ	**East Tamaki Re**	**3.58**	**276**	P	**Pn**	**18 47 55.6**	**+1.0**
MTVZ	**Mangateitei**	**3.63**	**236**	P	**Pn**	**18 47 56.8**	**+1.4**
MBAZ	**Motutapu North**	**3.64**	**279**	P	**Pn**	**18 47 57.5**	**+2.1**
PKVZ	**Pokaka**	**3.67**	**238**	P	**Pn**	**18 47 57.3**	**+1.4**
HIZ	**Hauiti**	**3.73**	**252**	P	**Pn**	**18 47 58.9**	**+2.2**
HIZ	**Hauiti**	**3.73**	**252**	P	**Pn**	**18 47 58.8**	**+2.1**
EPAZ	**Eden Park BICE**	**3.74**	**277**	P	**Pn**	**18 47 59.0**	**+2.2**
TSZ	**Takapari Road**	**3.74**	**224**	P	**Pn**	**18 47 56.9**	**0.0**
AWAZ	**Awhitu Peninsu**	**3.79**	**274**	P	**Pn**	**18 47 59.8**	**+2.3**
DVHZ	**Dannevirke**	**3.80**	**220**	P	**Pn**	**18 47 57.9**	**+0.2**
WTAZ	**Waiatarua**	**3.86**	**276**	P	**Pn**	**18 48 01.2**	**+2.6**
RVAZ	**Riverhead Bore**	**3.89**	**278**	P	**Pn**	**18 48 00.3**	**+1.4**
BFZ	**Birch Farm**	**4.05**	**216**	P	**Pn**	**18 48 00.9**	**-0.3**
BFZ	**Birch Farm**	**4.05**	**216**	P	**Pn**	**18 48 01.2**	**0.0**
POWZ	**Post Office Ro**	**4.08**	**222**	P	**Pn**	**18 48 01.7**	**+0.2**
PRWZ	**Pori Road**	**4.09**	**219**	P	**Pn**	**18 48 01.9**	**+0.2**
WAZ	**Wanganui**	**4.14**	**235**	P	**Pn**	**18 48 03.9**	**+1.5**
CPWZ	**Castlepoint**	**4.26**	**214**	P	**Pn**	**18 48 04.1**	**+0.1**
TIWZ	**Tintock**	**4.30**	**218**	P	**Pn**	**18 48 04.7**	**+0.1**
WCZ	**Waipu Caves**	**4.30**	**289**	P	**Pn**	**18 48 05.9**	**+1.2**
PREZ	**Palmer Road**	**4.52**	**243**	P	**Pn**	**18 48 10.6**	**+3.1**
NEZ	**North Egmont**	**4.53**	**245**	P	**Pn**	**18 48 08.4**	**+2.9**
PKE	**Pukeiti**	**4.58**	**246**	P	**Pn**	**18 48 12.2**	**+3.7**
KHEZ	**Kahui Hut**	**4.60**	**245**	P	**Pn**	**18 48 11.8**	**+3.0**
OUZ	**Omahuta**	**5.16**	**294**	P	**Pn**	**18 48 18.3**	**+2.0**
OUZ	**Omahuta**	**5.16**	**294**	P	**Pn**	**18 48 18.4**	**+2.1**
SNZO	**South Karori**	**5.30**	**222**	P	**Pn**	**18 48 16.9**	**-1.3**
QRZ	**Quartz Range**	**6.31**	**235**	P	**Pn**	**18 48 30.9**	**-1.2**
KHZ	**Kahutara**	**6.70**	**220**	P	**Pn**	**18 48 36.4**	**-1.0**
CTZ	**Chatham Island**	**7.00**	**155**	P	Pn	18 48 49.3	+7.7
RPZ	**Rata Peaks**	**8.91**	**223**	P	**Pn**	**18 49 06.6**	**-1.2**
ODZ	**Otahua Downs**	**10.04**	**218**	P	**Pn**	**18 49 21.3**	**-2.1**

*IDC **23** 18:49:46.8±1.6, 6°.15S×152°.21E, h0km, mb3.6/4, mbtmp3.7/5, ML1.8/1, MS2.8/1, Error ellipse: s-maj=53.7km s-min=18.2km az=107.0*

ISC 23 18:49:52.0±1.4, 6°.1S±0°.1×152°.1E±0°.3, h36km, n8, σ0s61/8, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.82**	**357**	Pn	**Pn**	**18 50 20.7**	**-0.2**
	110nm,0.3s,baz=155,slow=18,SNR=94						
KRVT				Sn	**Sn**	**18 50 42.9**	**+0.2**
	326nm,0.3s,baz=85,slow=23,SNR=24						
PMG	**Port Moresby**	**5.90**	**236**	Pn	**Pn**	**18 51 17.1**	**+0.1**
	1.6nm,0.3s,baz=64,slow=6.3,SNR=6.9						
PMG				Sn	Sn	18 52 16.5	-6.9
	2.1nm,0.3s,baz=89,slow=16,SNR=2.5						
	10.0nm,0.6s						
SIJI	**Sorong**	**21.47**	**283**	LR	LR	19 03 45.4	
	comp=Z,24nm,19.7s,baz=227,slow=39						
WRA	**Warramunga Arr**	**22.07**	**230**	P	**P**	**18 54 43.4**	**-0.7**
	0.4nm,0.4s,baz=53,slow=9.9,SNR=16						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**24.73**	**223**	P	**P**	**18 55 11.2**	**+0.9**
	1.2nm,0.9s,baz=58,slow=9.0,SNR=10.0						
	1.2nm,0.9s						
STKA	**Stephens Creek**	**27.44**	**200**	P	**P**	**18 55 34.0**	**-0.6**
	1.5nm,0.9s,baz=42,slow=12,SNR=1.8						
	1.5nm,0.9s						
ILAR	**Eielson Array**	**83.64**	**22**	P	**P**	**19 02 16.9**	**+0.3**
	0.6nm,0.9s,baz=251,slow=5.6,SNR=3.3						
	0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**150.06**	**286**	PKPbc	**PKPbc**	**19 09 39.8**	**-0.2**
	0.5nm,0.5s,baz=67,slow=3.6,SNR=4.7						

*NEIC **23** 19:00:51.2±1.7, 15°.95S±0°.02×75°.5W±0°.1, h10km±2km, ML4.0/2, Error ellipse: s-maj=18.0km s-min=3.1km az=277.0*
*IDC **23** 19:00:57.0±4.9, 15°.58S×75°.36W, h53km±37km, mb3.4/2, mbtmp3.8/5, ML3.5/3, MS3.4/2, Error ellipse: s-maj=76.3km s-min=26.0km az=33.0*

ISC 23 19:00:52.2±0.9, 15°.98S±0°.10×75°.67W±0°.10, h25km, n38, σ1s58/28, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.12**	**344**	P	**Pn**	**19 01 54.2**	**+0.5**
	1.5nm,0.3s,baz=161,slow=18,SNR=1.5						
	5.4nm,0.3s						
NNA	**Nana**	**4.12**	**344**	Pn	**Pn**	**19 01 54.3**	**+0.5**
NNA				IAML		19 03 04.3	
	160nm,0.8s						
NNA				IAML		19 03 10.1	
	171nm,0.7s						
PB12	**IPOC Station P**	**5.74**	**118**	Pn	**Pn**	**19 02 13.7**	**-2.3**
PB16	**IPOC Station P**	**6.34**	**113**	Pn	**Pn**	**19 02 23.4**	**-1.2**
TA02	**Huaiquique**	**6.78**	**130**	Pn	**Pn**	**19 02 28.3**	**-1.9**
TA01	**Diego Aracena**	**6.93**	**132**	Pn	**Pn**	**19 02 31.1**	**-1.1**
PATCX	**Punta Patache**	**7.12**	**133**	Pn	**Pn**	**19 02 34.0**	**-0.9**
GO01	**Chusmiza**	**7.18**	**122**		**Pn**	**19 02 34.5**	**-1.6**
LPAZ	**La Paz**	**7.25**	**93**	P	**Pn**	**19 02 37.0**	**-0.2**
LPAZ				S	**Sn**	**19 04 02.5**	**+3.4**
	1.5nm,0.3s,baz=270,slow=10,SNR=22						
	3.5nm,0.8s,baz=181,slow=21,SNR=1.5						
	4.9nm,0.4s						
LPAZ	**La Paz**	**7.25**	**93**	Pn	**Pn**	**19 02 37.0**	**-0.2**
PB08	**IPOC Station P**	**7.46**	**125**		**Pn**	**19 02 38.8**	**-1.0**
PB02	**IPOC Station P**	**7.63**	**135**		**Pn**	**19 02 40.5**	**-1.4**
PB01	**IPOC Station P**	**7.70**	**132**		**Pn**	**19 02 42.2**	**-1.1**
PB07	**IPOC Station P**	**7.92**	**137**		**Pn**	**19 02 45.0**	**-0.9**
PB04	**IPOC Station P**	**8.20**	**141**	Pn	**Pn**	**19 02 48.8**	**-0.9**
PB09	**IPOC Station P**	**8.40**	**135**		**Pn**	**19 02 52.6**	**0.0**
PB06	**IPOC Station P**	**8.83**	**140**	Pn	**Pn**	**19 02 56.3**	**-2.1**
PB10	**IPOC Station P**	**8.91**	**148**	Pn	**Pn**	**19 02 59.8**	**+0.4**
LVC	**Limon Verde**	**9.18**	**137**	Pn	**Pn**	**19 03 00.8**	**-2.6**
ATAH	**Atahualpa**	**9.18**	**343**	P	**Pn**	**19 03 03.6**	**+0.1**
	0.4nm,0.3s,baz=280,slow=12,SNR=2.5						
	3.9nm,0.7s						
PB15	**IPOC Station P**	**9.27**	**142**	Pn	**Pn**	**19 03 03.0**	**-1.5**
PB14	**IPOC Station P**	**9.92**	**151**	Pn	**Pn**	**19 03 12.1**	**-1.4**
ETMB	**Extrema**	**11.06**	**58**	Pn	**Pn**	**19 03 25.7**	**-3.2**
SIV	**San Ignacio**	**14.04**	**92**	P	Pn	19 04 02.1	-7.5
	0.4nm,0.4s,baz=316,slow=20,SNR=1.7						
SIV				LR	LR	19 09 44.5	
	comp=Z,98nm,18.4s,baz=280,slow=38						
H03N1	**Juan Fernandez**	**17.63**	**189**	T	T	19 23 42.8	
	baz=12,slow=74,SNR=481						
H03N2	**Juan Fernandez**	**17.64**	**189**	T	T	19 23 24.5	
	baz=12,slow=74,SNR=319						
H03N3	**Juan Fernandez**	**17.65**	**189**	T	T	19 23 23.8	
	baz=12,slow=74,SNR=422						
TXAR	**Lajitas Array**	**52.53**	**329**	P	**P**	**19 10 03.2**	**-0.5**
	0.1nm,0.5s,baz=153,slow=11,SNR=1.6						
	0.1nm,0.5s						
SCHQ	**Schefferville**	**70.93**	**5**	LR	LR	19 46 00.9	
	comp=Z,30nm,18.5s,baz=102,slow=38						
TORD	**Torodi Ar. Bea**	**81.77**	**74**	P	**P**	**19 13 08.9**	**-0.6**
	3.4nm,0.9s,baz=255,slow=5.2,SNR=12						
	3.4nm,0.9s						
H11N3	**WAKE ISLAND Hyl**	**20.60**	**284**	T	T	21 32 16.6	
	baz=98,slow=74,SNR=6.7						
H11N2	**WAKE ISLAND Hyl**	**20.61**	**284**	T	T	21 32 16.2	
	baz=98,slow=74,SNR=9.7						
H11N1	**WAKE ISLAND Hyl**	**20.61**	**284**	T	T	21 32 19.3	
	baz=98,slow=74,SNR=7.1						
H11S2	**WAKE ISLAND Hyl**	**20.63**	**282**	T	T	21 32 19.7	
	baz=98,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hyl**	**20.64**	**282**	T	T	21 32 14.5	
	baz=98,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hyl**	**20.65**	**282**	T	T	21 32 16.1	
	baz=98,slow=75,SNR=14						
ASAR	**Alice Springs**	**131.13**	**217**	PKP	**PKPdf**	**19 20 04.1**	**+1.2**
	0.2nm,1.0s,baz=141,slow=1.2,SNR=1.0						
WRA	**Warramunga Arr**	**133.70**	**221**	PKP	**PKiKP**	**19 20 10.4**	**+1.4**
	0.2nm,0.8s,baz=132,slow=2.1,SNR=1.5						

*VAO **23** 19:16:00.2±0.8, 21°.42S×68°.93W, h150km±8km, mb4.0*
*GUC **23** 19:16:00.6±0.6, 21°.33S×68°.71W, h124km±4km, ML3.7*
*IDC **23** 19:16:01.1±1.2, 21°.38S×68°.33W, h113km±16km, mb3.6/2, mbtmp4.1/4, Error ellipse: s-maj=41.7km s-min=18.3km az=113.0*

ISC 23 19:16:00.3±0.7, 21°.32S±0°.04×68°.75W±0°.08, h125km±9km, n36, σ0s80/49, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.67**	**224**	*e*P	**Pn**	**19 16 20.5**	**+0.4**
PB09				*i* S	**Sn**	**19 16 35.3**	**+0.3**
PB09				IAML		19 16 36.6	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**0.74**	**291**	*e*P	**Pn**	**19 16 20.3**	**-0.3**
PB01				*i* S	**Sn**	**19 16 35.8**	**-0.1**
PB01				IAML		19 16 36.8	
	comp=N,2μm,0.2s						
PB02	**IPOC Station P**	**1.07**	**270**	*e*P	**Pn**	**19 16 23.7**	**+0.2**
PB02				*i* S	**Sn**	**19 16 41.1**	**-0.1**
PB02				IAML		19 16 43.0	
	comp=E,3μm,0.2s						
PB07	**IPOC Station P**	**1.14**	**249**	*e*P	**Pn**	**19 16 24.4**	**+0.1**
PB07				*i* S	**Sn**	**19 16 42.2**	**-0.3**
PB07				IAML		19 16 43.5	
	comp=E,2μm,0.4s						
PB08	**IPOC

NPH	**North Pit**	**0.13**	**95**	IAML			19 29 31.1	
	comp=E,2μm,0.3s							
NPH				IAML			19 29 33.0	
	comp=N,3μm,0.3s							
UWB	**Uwekahuna B**	**0.13**	**90**		Pg		19 29 28.4	0.0
UWB					Sg		19 29 30.6	0.0
UWB	**Uwekahuna B**	**0.13**	**90**	IAML			19 29 30.7	
	comp=E,2μm,0.2s							
UWB				IAML			19 29 30.9	
	comp=N,4μm,0.5s							
RSD	**Rainshed**	**0.13**	**73**		Pg		19 29 28.8	+0.3
RSD					Sg		19 29 31.4	+0.5
RSD	**Rainshed**	**0.13**	**73**	IAML			19 29 32.7	
	comp=N,10μm,0.2s							
RSD				IAML			19 29 33.4	
	comp=E,10μm,0.1s							
RIM	**Rim**	**0.14**	**102**		Pg		19 29 28.5	0.0
RIM	**Rim**	**0.14**	**102**	IAML			19 29 32.9	
	comp=E,5μm,0.2s							
RIM				IAML			19 29 33.1	
	comp=N,5μm,0.3s							
SBLHI	**Steaming Bluff**	**0.14**	**89**		Pg		19 29 28.5	0.0
SBLHI					Sg		19 29 30.9	0.0
SBLHI	**Steaming Bluff**	**0.14**	**89**	IAML			19 29 31.1	
	comp=E,5μm,0.2s							
SBLHI				IAML			19 29 31.2	
	comp=N,8μm,0.3s							
KKO	**Keanakako`i**	**0.14**	**101**		Pg		19 29 28.6	0.0
KKO					Sg		19 29 31.1	0.0
KKO	**Keanakako`i**	**0.14**	**101**	IAML			19 29 31.3	
	comp=E,3μm,0.3s							
KKO				IAML			19 29 33.1	
	comp=N,5μm,0.6s							
HATHI	**Halema'uma'u T**	**0.14**	**90**		Pg		19 29 28.6	0.0
HATHI					Sg		19 29 31.3	+0.3
HATHI	**Halema'uma'u T**	**0.14**	**90**	IAML			19 29 31.5	
	comp=E,5μm,0.2s							
HATHI				IAML			19 29 33.2	
	comp=N,5μm,0.2s							
BYL	**Byron's Ledge**	**0.14**	**95**		Pg		19 29 28.6	0.0
BYL					Sg		19 29 31.0	-0.1
BYL	**Byron's Ledge**	**0.14**	**95**	IAML			19 29 31.0	
	comp=E,2μm,0.3s							
BYL				IAML			19 29 31.6	
	comp=N,3μm,0.5s							
HLP	**Hilina Pali**	**0.16**	**142**		Pg		19 29 28.9	+0.1
HLP					Sg		19 29 31.6	+0.2
HLP	**Hilina Pali**	**0.16**	**142**	IAML			19 29 31.8	
	comp=N,19μm,0.4s							
HLP				IAML			19 29 32.0	
	comp=E,11μm,0.3s							
MWH	**Moku'aweowe**	**0.18**	**289**		Pg		19 29 29.6	0.0
MWH	**Moku'aweowe**	**0.18**	**289**	IAML			19 29 33.4	
	comp=E,7μm,0.6s							
MWH				IAML			19 29 35.1	
	comp=N,5μm,0.2s							
HTC	**Hot Caves**	**0.19**	**175**		Pg		19 29 29.2	0.0
HMH	**Humu'ula Sheep**	**0.19**	**340**		Pg		19 29 29.9	+0.4
HMH					Sg		19 29 33.3	+0.8
HMH	**Humu'ula Sheep**	**0.19**	**340**	IAML			19 29 33.4	
	comp=E,6μm,0.3s							
HMH				IAML			19 29 33.5	
	comp=N,6μm,0.4s							
MLOA	**Mauna Loa Obse**	**0.19**	**306**		Pg		19 29 29.8	+0.2
MLOA					Sg		19 29 33.0	+0.3
MLOA	**Mauna Loa Obse**	**0.19**	**306**	IAML			19 29 33.2	
	comp=N,10μm,0.4s							
MLOA				IAML			19 29 37.0	
	comp=E,8μm,0.3s							
PUH	**Pauahi**	**0.19**	**105**		Pg		19 29 29.3	-0.1
PUH	**Pauahi**	**0.19**	**105**	IAML			19 29 34.4	
	comp=N,2μm,0.3s							
PUH				IAML			19 29 35.8	
	comp=E,2μm,0.5s							
KNHH	**Kane Nui o Ham**	**0.23**	**101**		Pg		19 29 29.9	-0.2
ALEP	**Alea Permanent**	**0.25**	**298**		Pg		19 29 30.5	0.0
ALEP					Sg		19 29 34.4	+0.3
KHU	**Kahuku**	**0.26**	**227**		Pg		19 29 30.4	-0.3
KHU					Sg		19 29 34.3	0.0
KHU	**Kahuku**	**0.26**	**227**	IAML			19 29 34.5	
	comp=E,5μm,0.3s							
KHU				IAML			19 29 34.9	
	comp=N,3μm,0.1s							
NPOC	**North of Pu'u**	**0.29**	**96**		Pg		19 29 30.8	-0.3
NPOC	**North of Pu'u**	**0.29**	**96**	IAML			19 29 37.2	
	comp=E,1μm,0.4s							
NPOC				IAML			19 29 41.1	
	comp=N,1μm,0.4s							
JCUZ	**Jacuzzi**	**0.30**	**98**		Pg		19 29 31.0	-0.3
JCUZ					Sg		19 29 35.6	+0.3
JCUZ	**Jacuzzi**	**0.30**	**98**	IAML			19 29 37.9	
	comp=E,1μm,0.4s							
JCUZ				IAML			19 29 38.0	
	comp=N,805nm,0.7s							
POHA	**Pohakuloa**	**0.35**	**341**		Pg		19 29 32.3	0.0
POHA				Sg		Sb	19 29 38.3	-0.9
POHA				IAML			19 29 42.3	
	comp=N,3μm,0.3s							
HPO	**Honuapo**	**0.36**	**202**		Pg		19 29 32.5	+0.2
JOKA	**Jonika Flow**	**0.39**	**88**		Pg		19 29 32.4	-0.5
JOKA					Sg		19 29 38.8	+0.8
HUH	**Hualalai**	**0.47**	**303**		Pb		19 29 35.2	-0.5
HUH	**Hualalai**	**0.47**	**303**		Sb		19 29 42.9	0.0
HUH				IAML			19 29 45.2	
	comp=E,7μm,0.4s							
HUH				IAML			19 29 48.9	
	comp=N,6μm,0.4s							
CPH	**Captain Cook**	**0.48**	**278**		Pg		19 29 34.4	-0.2
KHLU	**Kahalu`u**	**0.48**	**290**		Pg		19 29 34.6	0.0
KHLU					Sg		19 29 41.9	+0.8
KHLU	**Kahalu`u**	**0.48**	**290**	IAML			19 29 42.2	
	comp=E,3μm,0.3s							
KHLU				IAML			19 29 42.5	
	comp=N,3μm,0.5s							
PHO	**Puu Honuaula**	**0.50**	**83**		Pg		19 29 35.1	+0.2
HPAH	**Hawaii Prepara**	**0.66**	**336**		Pg		19 29 37.2	-0.8
HPAH	**Hawaii Prepara**	**0.66**	**336**		Sg		19 29 45.6	-1.1
MHA	**Mahukona**	**0.89**	**329**	Pg	Pg		19 29 40.5	-1.8
HLK	**Haleakala**	**1.54**	**330**	Pn	Pn		19 29 51.4	-1.4
KHLH	**Kahului Airpor**	**1.75**	**327**		Pn		19 29 54.8	-0.6
OPA	**Opana**	**3.31**	**313**	Pn	Pn		19 30 16.5	-0.5

IDC ***23*** *19:30:08.4±1.9, 6˚.23S×152˚.53E, h0km, mb3.6/4, mbtmp3.6/4, MS2.9/1, Error ellipse: s-maj=59.6km s-min=22.9km az=115.0*

ISC 23 19:30:14.5±1.7, 6˚.1S±0˚.1×152˚.3E±0˚.3, h38km, n7, σ0°24/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.81**	**351**	Pn	**Pn**	**19 30 43.1**	**-0.1**
	63nm,0.3s,baz=273,slow=1.4,SNR=39						
KRVT				Sn	**Sn**	**19 31 05.0**	**+0.1**
	89nm,0.3s,baz=260,slow=22,SNR=28						
CTA	**Charters Tower**	**15.10**	**202**	LR	LR	19 38 43.1	
	comp=Z,44nm,18.4s,baz=120,slow=34						
WRA	**Warramunga Arr**	**22.23**	**230**	P	**P**	**19 35 08.4**	**+0.3**
	0.8nm,0.8s,baz=56,slow=10,SNR=5.7						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**24.87**	**224**	P	**P**	**19 35 33.8**	**-0.1**
	0.6nm,0.9s,baz=62,slow=8.9,SNR=8.5						
	0.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.63**	**243**	P	**P**	**19 36 07.5**	**-0.1**
	1.1nm,0.5s,baz=352,slow=5.5,SNR=10.0						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**19 42 38.2**	**-0.1**
	0.5nm,0.8s,baz=246,slow=6.0,SNR=4.4						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.22**	**286**	PKPbc	**PKPbc**	**19 50 02.9**	**+0.3**
	1.1nm,0.8s,baz=73,slow=2.9,SNR=6.3						

MAN ***23*** *19:50:05.4, 8˚.39N×125˚.89E, h16km, mb5.1, ML4.0, MS4.1*
MAN INTENSITY IV- TALACOGON AGUSAN DEL SUR;
INTENSITY III - ROSARIO AGUSAN DEL SUR.
IDC ***23*** *19:50:07.2±1.8, 8˚.43N×126˚.19E, h48km±19km, mb3.8/17, mbtmp4.1/19, ML4.3/2, MS3.1/6, Error ellipse: s-maj=19.4km s-min=12.0km az=84.0*
NEIC ***23*** *19:50:07.7±2.0, 8˚.36N±0˚.07×126˚.06E±0˚.09, h45km±8km, mb4.5/51, Error ellipse: s-maj=12.8km s-min=10.0km az=77.0*
DJA ***23*** *19:50:30.5±2.6, 7˚N±14˚×12˚6E±˚, h33km±21km, M4.4/8, mB5.4/2, mb4.4/8, MLv4.4/6, Mw(mB)4.8/2*

ISC 23 19:50:07.0±0.8, 8˚34N±0˚.03×126˚.03E±0˚.03, h43km±8km, n136, σ1°65/145, mb4.3/37, MS3.4/3, 10C-18D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.36**	**115**	*iP*	**Pn**	**19 50 13.8**	**-2.4**
BIPH				*i* S	**Sn**	**19 50 20.6**	**-2.0**
CDOP	**Cateel, Davao**	**0.68**	**143**	*eP*	**Pn**	**19 50 18.4**	**-1.8**
CDOP				*i* S	**Sn**	**19 50 30.0**	**+0.2**
BUTP	**Butuan**	**0.75**	**327**	*eP*	**Pn**	**19 50 18.0**	**-3.1**
BUTP				*eS*	**Sn**	**19 50 29.5**	**-1.9**
BUKP	**Musuan**	**1.06**	**245**	*eP*	**Pn**	**19 50 23.1**	**-2.3**
BUKP				*eS*	**Sn**	**19 50 40.8**	**+1.8**
CGP	**Cagayan de Oro**	**1.33**	**275**	*eP*	**Pn**	**19 50 26.4**	**-2.6**
CGP				*i* S	**Sn**	**19 50 43.1**	**-2.4**
DAV	**Davao City (W)**	**1.33**	**200**	P	**Pn**	**19 50 30.6**	**+1.4**
	479nm,0.3s,baz=46,slow=2.9,SNR=34						
DAV				S	**Sn**	**19 50 49.7**	**+3.9**
	743nm,0.6s,baz=79,slow=21,SNR=9.4						
DAV	**Davao City (W)**	**1.33**	**200**		**Pn**	**19 50 29.9**	**+0.8**
MATI	**Mati**	**1.40**	**171**	*eP*	**Pn**	**19 50 30.2**	**+0.1**
MATI				*eS*	**Sn**	**19 50 50.6**	**+3.3**
GLSP	**General Luna,**	**1.44**	**4**	*iP*	**Pn**	**19 50 29.8**	**-0.9**
GLSP				*eS*	**Sn**	**19 50 49.5**	**+1.1**
SCPH	**Surigao**	**1.53**	**340**	*eP*	**Pn**	**19 50 31.3**	**-0.6**
SCPH				*i* S	**Sn**	**19 50 54.4**	**+3.7**
KCP	**Kidapawan**	**1.61**	**215**	*iP*	**Pn**	**19 50 32.3**	**-0.7**
KCP				*i* S	**Sn**	**19 50 53.9**	**+1.2**
CTBH	**Cotabato--PC H**	**2.08**	**238**	*iP*	**Pn**	**19 50 38.7**	**-0.8**
GHBP	**Garcia Hernand**	**2.12**	**307**	*eP*	**Pn**	**19 50 38.5**	**-1.5**
GHBP				*eS*	**Sn**	**19 51 04.3**	**-0.9**
MSLP	**Maasin**	**2.13**	**327**	*iP*	**Pn**	**19 50 38.3**	**-1.8**
DDMP	**Don Marcelino,**	**2.24**	**188**	*iP*	**Pn**	**19 50 43.2**	**+1.6**
DDMP				*eS*	Sn	19 51 25.6	+16
SKMP	**Bagumbayan, Su**	**2.33**	**219**	*eP*	**Pn**	**19 50 45.4**	**+2.5**
GSPH	**General Santos**	**2.48**	**206**	*eP*	**Pn**	**19 50 47.3**	**+2.4**
GSPH				*i* S	**Sn**	**19 51 11.1**	**-3.0**
LSIP	**Lazi, Siquijor**	**2.50**	**289**	*eP*	**Pn**	**19 50 44.3**	**-0.8**
LSIP				*i* S	**Sn**	**19 51 12.4**	**-2.0**
TBP	**Tagbilaran**	**2.53**	**302**	*eP*	**Pn**	**19 50 44.1**	**-1.5**
TBP				*i* S	**Sn**	**19 51 15.7**	**+0.5**
DCPH	**Dipolog City**	**2.66**	**276**	*eP*	**Pn**	**19 50 48.1**	**+0.8**
PAGZ	**Pagadian**	**2.67**	**260**	*eP*	**Pn**	**19 50 50.0**	**+2.6**
LLP	**Lapu-Lapu**	**2.83**	**314**	*eP*	**Pn**	**19 50 49.3**	**-0.5**
LLP				*i* S	**Sn**	**19 51 22.8**	**+0.1**
SNPH	**Sibulan**	**2.94**	**290**	*iP*	**Pn**	**19 50 49.9**	**-1.4**
SNPH				*i* S	**Sn**	**19 51 23.0**	**-2.3**
CNOP	**Candoni, Negro**	**3.66**	**294**	*iP*	**Pn**	**19 51 00.2**	**-1.0**
CNOP				*eS*	**Sn**	**19 51 42.2**	**-0.9**
GUIM	**Jordan**	**4.09**	**304**	*eP*	**Pn**	**19 51 06.2**	**-0.8**
GUIM				*eS*	**Sn**	**19 51 53.0**	**-0.6**
CNP	**Catarman**	**4.36**	**342**	*iP*	**Pn**	**19 51 13.1**	**+2.4**
CNP				*eS*	**Sn**	**19 52 06.6**	**+6.3**
RCP	**Roxas**	**4.55**	**315**	*eP*	**Pn**	**19 51 13.4**	**0.0**
SGSI	**Sangihe**	**4.64**	**186**	P	Pn	19 51 20.1	+5.4
JAP	**San Jose, Anti**	**4.69**	**301**	*eP*	**Pn**	**19 51 15.9**	**+0.7**
PVCP	**Virac**	**5.54**	**341**	*eP*	**Pn**	**19 51 28.4**	**+1.4**
PVCP				*eS*	**Sn**	**19 52 35.7**	**+6.3**
BUSP	**Coron**	**6.80**	**303**	*iP*	**Pn**	**19 51 42.8**	**-1.4**
LQP	**Lukban**	**7.24**	**323**	*eP*	**Pn**	**19 51 54.7**	**+4.2**
TNTI	**Ternate**	**7.63**	**170**		**Pn**	**19 51 53.7**	**-2.0**
TNTI	**Ternate**	**7.63**	**170**	P	**Pn**	**19 52 00.3**	**+4.6**
	0.1nm736nm23nm,0.8s						
MYLDM	**Lahad Datu**	**8.11**	**248**	Pn	**Pn**	**19 52 04.2**	**+2.0**
GTOI	**Gorontalo**	**8.22**	**202**	P	**Pn**	**19 52 01.7**	**-2.0**
MRSI	**Marisa**	**8.80**	**208**	P	Pn	19 52 25.1	+13
	0.1nm22nm,0.6s						
LBMI	**Labuha**	**9.03**	**171**	P	Pn	19 52 21.3	+6.4
	0.1nm11nm,0.5s						
LUWI	**Luwuk**	**9.86**	**199**	Pn	**Pn**	**19 52 27.3**	**+1.0**
SANI	**Sanana**	**10.32**	**180**	P	**Pn**	**19 52 32.5**	**0.0**
SIJI	**Sorong**	**10.53**	**150**	P	**Pn**	**19 52 36.6**	**+1.2**
	2.2nm,0.3s,baz=323,slow=20,SNR=6.6						
	3.0nm,0.3s						
KAPI	**Kappang**	**14.66**	**205**	LR	LR	19 59 43.1	
	comp=Z,64nm,19.8s,baz=38,slow=39						
SBUM	**Sibu**	**14.93**	**248**	Pn	**Pn**	**19 53 36.0**	**+0.6**
TWG	**Pinlang**	**15.17**	**342**	Pn	**Pn**	**19 53 37.2**	**-1.2**
TWG				IAmb	IAmb	19 53 47.3	
	comp=Z,23nm,1.0s						
TPUB	**Ta-pu**	**15.76**	**341**	Pn	**Pn**	**19 53 45.3**	**-0.7**
TPUB				IAmb	IAmb	19 54 09.0	
	comp=Z,62nm,1.5s						
SSLB	**Suanglung**	**16.12**	**343**	Pn	**Pn**	**19 53 50.7**	**+0.1**
SMPI	**Sarmi**	**16.28**	**129**	P	**P**	**19 53 55.1**	**-0.1**
YOJ	**Yonaguni jima**	**16.29**	**350**	Pn	**Pn**	**19 53 52.9**	**0.0**
YOJ				IAmb	IAmb	19 54 30.4	
	comp=Z,76nm,1.0s						
GENI	**Genyem**	**17.80**	**127**	P	P	19 54 26.1	+14
	comp=Z,6μmcomp=Z,568nm,0.7s						
JOW	**Kunigami**	**18.52**	**6**	LR	LR	20 00 15.1	
	comp=Z,43nm,21.4s,baz=90,slow=33						
BATI	**Baumata**	**18.57**	**187**	P	**Pn**	**19 54 21.9**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=64,slow=10,SNR=2.5						
	comp=Z,9.4nm,0.6s						
GUMO	**Guam**	**19.21**	**73**	LR	LR	20 00 05.0	
	comp=Z,28nm,20.4s,baz=226,slow=31						
MTN	**Manton Dam**	**21.64**	**166**	P	**P**	**19 54 54.8**	**+1.0**
MTN				IAmb	IAmb	19 55 26.7	
	comp=Z,12nm,1.1s						
KNRA	**Kununurra**	**24.01**	**174**	P	**P**	**19 55 17.7**	**-0.2**
KNRA				IAmb	IAmb	19 55 27.0	
	comp=Z,11nm,0.9s						
JCJ	**Chichijima**	**24.13**	**37**	P	**P**	**19 55 17.8**	**-1.3**
JTU	**Tsushima**	**26.25**	**6**	P	**P**	**19 55 37.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**26.27**	**181**	P	**P**	**19 55 38.8**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=13,slow=3.1,SNR=10						
	comp=Z,3.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.27**	**181**	P	**P**	**19 55 39.4**	**+1.0**
JMN	**Monobe**	**26.29**	**15**	P	**P**	**19 55 38.6**	**0.0**
JMN				IAmb	IAmb	19 55 49.4	
	comp=Z,15nm,0.9s						
JHS	**Saijyo**	**27.32**	**13**	P	**P**	**19 55 50.1**	**+2.3**
JHS				IAmb	IAmb	19 56 01.1	
	comp=Z,12nm,1.0s						
CRAI	**Chiangrai**	**27.48**	**298**	P	**P**	**19 55 51.9**	**+2.4**
COEN	**Coen**	**27.93**	**142**	P	**P**	**19 55 53.4**	**0.0**
COEN				IAmb	IAmb	19 55 57.7	
	comp=Z,8.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.16**	**294**	P	**P**	**19 55 57.9**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=113,slow=7.3,SNR=7.5						
CMAR				PcP	**PcP**	**19 59 09.3**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=90,slow=0.3,SNR=5.3						
	comp=Z,0.7nm,0.8s						
INU	**Inuyama**	**28.71**	**19**	P	**P**	**19 55 58.7**	**-1.5**
INU				IAmb	IAmb	19 56 10.9	
	comp=Z,8.3nm,1.0s						
LHMI	**Lhok Sumawe**	**29.04**	**266**	P	**P**	**19 56 04.3**	**+0.9**
KSRS	**Korea Array**	**29.04**	**3**	P	**P**	**19 56 02.0**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=183,slow=10.0,SNR=11						
KSRS				LR	LR	20 06 46.3	
	comp=Z,18nm,21.5s,baz=190,slow=34						
	comp=Z,1.6nm,0.6s						
WB0	**Warramunga Arr**	**29.11**	**164**	P	**P**	**19 56 02.4**	**-1.5**
WRAB	**Tennant Creek**	**29.26**	**164**	P	**P**	**19 56 05.2**	**0.0**
WRAB				IAmb	IAmb	19 56 41.7	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**29.27**	**164**	P	**P**	**19 56 04.7**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=351,slow=9.7,SNR=5.3						
	comp=Z,1.0nm,1.0s						
WRA	**Warramunga Arr**	**29.27**	**164**	P	**P**	**19 56 04.0**	**-1.3**
WB2	**Warramunga Arr**	**29.27**	**164**	P	**P**	**19 56 03.8**	**-1.5**
WR0	**Warramunga Arr**	**29.34**	**163**	P	**P**	**19 56 03.3**	**-2.6**
WR0				IAmb	IAmb	19 56 34.0	
	comp=Z,10nm,1.5s						
MAJO	**Matsushiro**	**30.19**	**20**	P	**P**	**19 56 11.3**	**-2.0**
MJAR	**Matsushiro Arr**	**30.19**	**20**	P	**P**	**19 56 11.2**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=195,slow=9.3,SNR=10						
	comp=Z,1.9nm,0.7s						
MJB9	**Matsu-Tunnel**	**30.19**	**20**	P	**P**	**19 56 11.0**	**-2.4**
JSD	**Sado**	**31.57**	**19**	P	**P**	**19 56 24.2**	**-1.2**
JSD				IAmb	IAmb	19 56 25.1	
	comp=Z,20nm,1.3s						
JMM	**Marumori**	**32.29**	**22**	P	**P**	**19 56 31.1**	**-0.6**
ASAR	**Alice Springs**	**32.72**	**167**	P	**P**	**19 56 36.3**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=345,slow=7.5,SNR=6.6						
	comp=Z,0.3nm,0.4s						
BRDH	**Bariadhala**	**35.96**	**297**	LR	LR	20 12 22.0	
	comp=Z,61nm,18.6s,baz=354,slow=37						
USA0B	**Ussuriysk Arra**	**36.10**	**7**	P	**P**	**19 57 04.4**	**-0.4**
USRK	**Ussuriysk Ar.**	**36.10**	**7**	P	**P**	**19 57 04.5**	**-0.3**
	comp=Z,22nm,0.7s,baz=197,slow=7.3,SNR=40						
USRK	**Ussuriysk Ar.**	**36.10**	**7**	P	**P**	**19 57 04.6**	**-0.1**
MDJ	**Mudanjiang**	**36.28**	**4**	P	**P**	**19 57 05.8**	**-0.5**
ERM	**Erimo**	**36.80**	**21**	P	**P**	**19 57 12.1**	**+1.4**
FORT	**Forrest**	**38.94**	**177**	P	**P**	**19 57 29.5**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**40.73**	**71**	T	T	20 40 50.7	
	baz=262,slow=74,SNR=28						
H11S1	**WAKE ISLAND Hy**	**40.74**	**71**	T	T	20 40 51.7	
	baz=262,slow=74,SNR=23						
H11S2	**WAKE ISLAND Hy**	**40.74**	**71**	T	T	20 40 48.0	
	baz=262,slow=74,SNR=21						
TAPN	**Taplejung**	**40.85**	**303**	*eP*	**P**	**19 57 45.8**	**+0.5**
	comp=Z,9.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**41.12**	**70**	T	T	20 41 28.0	
	baz=265,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**41.13**	**70**	T	T	20 41 29.8	
	baz=265,slow=74,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**41.14**	**70**	T	T	20 41 29.9	
	baz=265,slow=74,SNR=14						
BBOO	**Buckleboo**	**42.02**	**167**	P	**P**	**19 57 54.7**	**+0.4**
BBOO				IAmb	IAmb	19 57 55.8	
	comp=Z,11nm,0.9s						
JIRN	**Jiri**	**42.23**	**302**	*eP*	**P**	**19 57 57.7**	**+1.1**
	comp=Z,11nm,0.5s						
ULN	**Ulaanbaatar**	**42.56**	**341**	P	**P**	**19 57 58.2**	**-0.6**
PKIN	**Phulchoki**	**42.87**	**302**	*eP*	**P**	**19 58 02.0**	**+0.3**
	comp=Z,6.4nm,0.6s						
KOLN	**Koldanda**	**44.44**	**301**	*eP*	**P**	**19 58 13.7**	**-0.6**
DANN	**Dangsing**	**44.48**	**302**	*eP*	**P**	**19 58 15.2**	**+0.5**
	comp=Z,14nm,0.6s						
PYUN	**Piuthan**	**45.05**	**302**	*eP*	**P**	**19 58 20.0**	**+0.8**
	comp=Z,27nm,1.0s						
DZM	**Mont Dzumac**	**49.83**	**128**	P	**P**	**19 58 57.1**	**+0.9**
DZM				IAmb	IAmb	19 59 31.2	
	comp=Z,9.4nm,1.2s						
PEA0B	**Petropavlovsk-**	**51.49**	**24**	P	**P**	**19 59 09.2**	**+1.0**
PETK	**Petropavlovsk-**	**51.49**	**24**	P	**P**	**19 59 06.4**	**-1.7**
	comp=Z,2.0nm,0.9s,baz=86,slow=20,SNR=5.7						
	comp=Z,2.0nm,0.9s						
PETK	**Petropavlovsk-**	**51.49**	**24**	P	**P**	**19 59 08.6**	**+0.4**
KAAM	**Kaadhehdhoo**	**53.40**	**264**	P	**P**	**19 59 22.9**	**+0.1**
MK31	**Makanchi Array**	**53.42**	**324**	P	**P**	**19 59 22.2**	**-0.4**
MK31				IAmb	IAmb	19 59 23.0	
	comp=Z,8.1nm,1.4s						
MKAR	**Makanchi Array**	**53.42**	**324**	P	**P**	**19 59 22.8**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=117,slow=7.6,SNR=12						
MKAR				PcP	**PcP**	**20 00 29.0**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=118,slow=4.6,SNR=5.7						
	comp=Z,0.9nm,0.5s						
ZAA0	**Zalesovo Array**	**56.21**	**332**	P	**P**	**19 59 41.9**	**-0.7**
ZALV	**Zalesovo Beam**	**56.21**	**332**	P	**P**	**19 59 41.6**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=144,slow=4.8,SNR=5.3						
ZALV				PcP	**PcP**	**20 00 38.4**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=138,slow=5.4,SNR=2.1						
	comp=Z,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**56.21**	**332**	P	**P**	**19 59 41.4**	**-1.2**
KURK	**Kurchatov**	**57.53**	**326**	P	**P**	**19 59 52.2**	**+0.3**
KURK				IAmb	IAmb	19 59 53.5	
	comp=Z,5.0nm,0.8s						
KURBB	**Kurchatov Arra**	**57.53**	**326**	P	**P**	**19 59 51.9**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=122,slow=7.1,SNR=22						
	comp=Z,1.9nm,0.6s						
BTK	**Batken**	**58.29**	**312**	P	**P**	**19 59 58.4**	**+0.7**
BTK				IAmb	IAmb	20 00 10.5	
	comp=Z,7.2nm,1.3s						
GAR	**Garm**	**58.35**	**311**	P	**P**	**19 59 58.2**	**0.0**
CHGR	**Chuyangaron**	**59.13**	**310**	P	**P**	**20 00 02.7**	**-0.8**
KK31	**Karatay Array**	**59.44**	**315**	P	**P**	**20 00 05.5**	**0.0**
KK31				IAmb	IAmb	20 00 07.2	
	comp=Z,3.6nm,0.9s						
KKAR	**Karatay Array**	**59.44**	**315**	P	**P**	**20 00 05.2**	**-0.4**
KKAR				IAmb	IAmb	20 00 07.2	
	comp=Z,3.6nm,0.9s						
BVAR	**Borovoye Array**	**63.12**	**326**	P	**P**	**20 00 30.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=150,slow=15,SNR=6.9						
BVAR				LR	LR	20 28 50.2	
	comp=Z,44nm,18.6s,baz=71,slow=37						
	comp=Z,1.6nm,0.7s						
BRVK	**Borovoye**	**63.19**	**326**	P	**P**	**20 00 30.9**	**+0.3**
BRVK				IAmb	IAmb	20 00 31.9	
	comp=Z,3.5nm,0.8s						
THZ	**Tophouse**	**65.76**

JIZS	**Izushimoda**	**2.39 279**	P		**Pn**	**20 05 27.3**	**-0.6**
MJAR	**Matsushiro Arr**	**3.59 308**	Pn		**Pn**	**20 05 45.3**	**+0.8**
	1.3nm,0.3s,baz=152,slow=14,SNR=27						
MJAR				Sn	**Sn**	**20 06 28.1**	**+1.6**
	1.1nm,0.3s,baz=260,slow=23,SNR=11						
	5.9nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**26.64 117**	T		T	20 38 28.0	
	baz=309,slow=75,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**26.65 117**	T		T	20 38 31.6	
	baz=309,slow=75,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**26.66 117**	T		T	20 38 32.6	
	baz=309,slow=75,SNR=4.0						
SONM	**Songino Array**	**29.55 308**	P		**P**	**20 10 54.1**	**+0.8**
	0.8nm,0.6s,baz=99,slow=8.9,SNR=2.2						
	0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.16 258**	P		**P**	**20 12 32.4**	**-0.7**
	0.5nm,0.6s,baz=46,slow=8.0,SNR=6.7						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**43.92 314**	P		**P**	**20 12 55.2**	**+0.1**
	0.3nm,0.3s,baz=64,slow=9.8,SNR=2.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**45.79 304**	P		**P**	**20 13 10.2**	**+0.1**
	0.4nm,0.5s,baz=83,slow=8.3,SNR=5.9						
	0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**54.41 199**	P		**P**	**20 14 15.9**	**+0.2**
	0.9nm,0.4s,baz=327,slow=2.6,SNR=6.9						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**54.49 189**	P		**P**	**20 14 16.4**	**+0.1**
	0.6nm,0.5s,baz=1.2,slow=7.6,SNR=22						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**58.22 188**	P		**P**	**20 14 43.0**	**+0.1**
	0.3nm,0.5s,baz=2.3,slow=7.1,SNR=10						
	0.3nm,0.5s						
NOA	**NORSAR Array B**	**76.72 338**	P		**P**	**20 16 39.3**	**-0.1**
	0.2nm,0.6s,baz=22,slow=12,SNR=2.8						
	0.2nm,0.6s						

MAN 23 20:05:03.9, 5.83N×126.38E, h84km, mb4.5, ML3.4, MS3.2, 3C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.72**	**293**	↓*eP*	Pn	20 05 20.9	+0.8
DDMP				*eS*	Sn	20 05 35.7	+3.5
MATI	**Mati**	**1.12**	**354**	↓*iP*	Pn	20 05 27.4	+2.8
MATI				*eS*	Sn	20 05 45.2	+5.0
GSPH	**General Santos**	**1.45**	**280**	↑*eP*	Pn	20 05 27.4	-1.4
GSPH				*i* S	Sn	20 05 45.6	-2.1
KCP	**Kidapawan**	**1.74**	**313**	↑*iP*	Pn	20 05 32.9	+0.3
KCP				*i* S	Sn	20 05 52.6	-1.7
CDOP	**Cateel, Davao**	**1.94**	**2**	↓*eP*	Pn	20 05 35.6	+0.4
CDOP				*i* S	Sn	20 05 59.3	+0.3
SKMP	**Bagumbayan, Su**	**1.95**	**291**	↓*iP*	Pn	20 05 35.5	+0.2
SKMP				*eS*	Sn	20 05 58.8	-0.5
BIPH	**Bislig**	**2.34**	**360**	↓*eP*	Pn	20 05 40.5	0.0
BIPH				*i* S	Sn	20 06 10.2	+1.7
BUKP	**Musuan**	**2.42**	**327**	↓*iP*	Pn	20 05 42.4	+0.8
BUKP				*eS*	Sn	20 06 12.0	+1.5
CTBH	**Cotabato--PC H**	**2.53**	**303**	↑*eP*	Pn	20 05 42.4	-0.6
BUTP	**Butuan**	**3.21**	**346**	↓*iP*	Pn	20 05 54.2	+2.0

IDC ***23*** *20:12:32.6± 1.1, 34.°45N×141.°59E, h0km, mb3.8/7, mbtmp3.9/9, ML2.6/1, MS2.9/5, Error ellipse: s-maj=25.2km s-min=17.2km az=81.0*
JMA ***23*** *20:12:32.4± 0.6, 34.°N± 1.°×14.°2E± .°, h17km± 2km, MV3.2/29, FAR SE OFF BOSO PEN*
NEIC ***23*** *20:12:35.2± 1.6, 34.°55N± 0.°06×141.°8E± 0.°1, h24km± 7km, mb4.4/10, Error ellipse: s-maj=14.3km s-min=8.4km az=90.0*

ISC 23 20:12:35.8± 0.8, 34.°49N± 0.°05×141.°64E± 0.°07, h27km, n52, σ1§26/46, mb4.2/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.57**	**287**	P	**Pb**	**20 12 44.8**	**-2.1**
BSO3	**Boso 3**	**0.98**	**289**	P	**Pn**	**20 12 52.5**	**-1.1**
BSO4	**Boso 4**	**1.18**	**295**	P	**Pb**	**20 12 56.4**	**-1.1**
JKUC	**kamogawauchiur**	**1.36**	**300**	P	**Pn**	**20 12 58.5**	**-0.4**
JKUC				*eS*	**Sb**	**20 13 17.2**	**-0.4**
CHOJ	**Chosi**	**1.37**	**332**	P	**Pn**	**20 12 58.4**	**-0.7**
CHOJ				*eS*	**Sn**	**20 13 16.5**	**+0.1**
JSMT	**Sammumatsuo**	**1.51**	**320**	*eP*	**Pn**	**20 13 00.5**	**-0.5**
JMKN	**Mikurajimanish**	**1.80**	**251**	P	**Pn**	**20 13 04.0**	**-1.0**
JMKN				*eS*	**Sn**	**20 13 26.7**	**-0.2**
JIM2	**Oshima 3**	**1.84**	**278**	P	**Pn**	**20 13 04.2**	**-1.3**
JHJ2	**Mitsune**	**2.05**	**228**		**Pn**	**20 13 08.3**	**-0.2**
JHJ	**Hachijo jima 2**	**2.06**	**229**	Pn	**Pn**	**20 13 08.6**	**-0.1**
	26nm,0.3s,baz=67,slow=22,SNR=17						
JHJ				Sn	**Sb**	**20 13 34.5**	**-3.3**
	37nm,0.3s,baz=78,slow=22,SNR=7.3						
JYT	**Yasato**	**2.10**	**326**		**Pn**	**20 13 08.7**	**-0.4**
JMM	**Marumori**	**3.44**	**349**		**Pn**	**20 13 26.3**	**-1.3**
MJAR	**Matsushiro Arr**	**3.47**	**307**	Pn	**Pn**	**20 13 28.5**	**+0.5**
	0.6nm,0.3s,baz=86,slow=18,SNR=32						
MJAR				Sn	**Sn**	**20 14 10.5**	**+2.3**
	0.4nm,0.3s,baz=310,slow=16,SNR=7.1						
	2.3nm,0.3s						
MAJO	**Matsushiro**	**3.47**	**307**		**Pn**	**20 13 28.3**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.47**	**307**		**Pn**	**20 13 28.3**	**+0.3**
INU	**Inuyama**	**3.89**	**284**	Pn	**Pn**	**20 13 35.5**	**+1.7**
JSD	**Sado**	**4.47**	**323**		**Pn**	**20 13 41.2**	**-0.5**
JHS	**Saijyo**	**7.04**	**277**	Pn	**Pn**	**20 14 19.1**	**+2.0**
JCJ	**Chichijima**	**7.38**	**176**	Pn	**Pn**	**20 14 21.4**	**-0.4**
	49nm,0.5s,baz=278,slow=22,SNR=6.6						
JCJ	**Chichijima**	**7.38**	**176**	Pn	**Pn**	**20 14 21.8**	**-0.1**
ERM	**Erimo**	**7.61**	**9**	Pn	**Pn**	**20 14 21.2**	**-3.6**
KSRS	**Korea Array**	**11.50**	**289**	LR	LR	20 20 16.5	
	comp=Z,105nm,18.1s,baz=90,slow=40						
USA0B	**Ussuriysk Arra**	**12.23**	**325**	Pn	**Pn**	**20 15 26.1**	**-2.0**
USRK	**Ussuriysk Ar.**	**12.23**	**325**	LR	LR	20 19 04.9	
	comp=Z,47nm,20.1s,baz=93,slow=32						
JOW	**Kunigami**	**13.80**	**240**	LR	LR	20 20 57.8	
	comp=Z,25nm,21.7s,baz=108,slow=37						
PETK	**Petropavlovsk-**	**21.83**	**27**	LR	LR	20 29 41.5	
	comp=Z,10nm,18.0s,baz=307,slow=47						
H11N2	**WAKE ISLAND Hy**	**26.76 117**	T		T	20 46 25.3	
	baz=309,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**26.77 117**	T		T	20 46 27.7	
	baz=309,slow=76,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**26.78 117**	T		T	20 46 23.2	
	baz=309,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**27.39 119**	T		T	20 47 18.0	
	baz=312,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**27.39 119**	T		T	20 47 18.8	
	baz=312,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**27.41 119**	T		T	20 47 13.4	
	baz=312,slow=75,SNR=5.3						
SONM	**Songino Array**	**29.42 308**	P		**P**	**20 18 38.4**	**+1.4**
	1.0nm,0.8s,baz=106,slow=11,SNR=2.9						
	1.0nm,0.8s						
SIJI	**Sorong**	**36.49 198**	P		**P**	**20 19 39.0**	**+0.2**
	3.2nm,0.5s,baz=35,slow=9.7,SNR=3.6						
	3.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.10 258**	P		**P**	**20 20 16.6**	**-0.9**
	0.3nm,0.6s,baz=46,slow=7.7,SNR=5.6						
	0.3nm,0.6s						
KURK	**Kurchatov**	**47.67 310**	P		**P**	**20 21 09.8**	**+0.2**
KURK				IAmb	IAmb	20 21 15.0	
	comp=Z,2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**47.74 310**	P		**P**	**20 21 10.4**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=82,slow=6.8,SNR=6.3						
	comp=Z,0.6nm,0.4s						
MTN	**Manton Dam**	**48.12 194**	P		**P**	**20 21 13.6**	**+0.2**
KNRA	**Kununurra**	**51.37 196**	P		**P**	**20 21 38.0**	**-0.1**
ILAR	**Eielson Array**	**51.55 31**	P		**P**	**20 21 40.5**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=265,slow=6.4,SNR=4.7						
	comp=Z,0.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**54.47 199**	P		**P**	**20 22 03.2**	**+2.3**
FITZ				IAmb	IAmb	20 22 03.7	
	comp=Z,3.1nm,0.7s						
WR0	**Warramunga Arr**	**54.57 188**	P		**P**	**20 22 02.2**	**+0.6**
WR0				IAmb	IAmb	20 22 14.6	
	comp=Z,7.7nm,1.4s						
WRA	**Warramunga Arr**	**54.57 188**	P		**P**	**20 22 02.4**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=5.1,slow=7.7,SNR=34						
	comp=Z,1.5nm,0.6s						
WRA	**Warramunga Arr**	**54.57 188**	P		**P**	**20 22 01.6**	**-0.1**
AS31	**Alice Springs**	**58.30 188**	P		**P**	**20 22 28.9**	**+0.7**
ASAR	**Alice Springs**	**58.30 188**	P		**P**	**20 22 29.2**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=18,slow=12,SNR=16						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**58.30 188**	P		**P**	**20 22 28.8**	**+0.5**
ARU	**Arti**	**58.40 320**	P		**P**	**20 22 28.3**	**-0.3**
ARU				IAmb	IAmb	20 22 45.4	
	comp=Z,6.0nm,1.3s						
PSA00	**Pilbara Seismi**	**59.48 204**	P		**P**	**20 22 37.7**	**+1.3**
PSA00				IAmb	IAmb	20 22 59.8	
	comp=Z,9.4nm,1.4s						
ABKAR	**Akbulak array**	**59.74 311**	P		**P**	**20 22 38.3**	**+0.3**
ABKAR	**Akbulak array**	**59.74 311**	P		**P**	**20 22 37.9**	**-0.1**
ABKAR				IAmb	IAmb	20 22 43.4	
	comp=Z,1.2nm,0.9s						
KEST	**Kesra**	**97.15 323**	LR		LR	21 12 38.6	
	comp=Z,22nm,19.6s,baz=272,slow=37						

IDC ***23*** *20:16:17.6± 1.1, 35.°26N×80.°99E, h0km, mb3.4/6, mbtmp3.5/10, ML3.0/4, MS2.9/3, Error ellipse: s-maj=34.4km s-min=19.0km az=65.0*

ISC 23 20:16:22.8± 1.1, 35.°4N± 0.°1×81.°0E± 0.°2, h35km, n12, σ1§46/10, mb3.4/6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**8.87**	**327**	Lg	Lg	20 21 00.3	
	0.3nm,0.3s,baz=350,slow=10,SNR=3.8						
AAK				LR	LR	20 22 15.1	
	comp=Z,48nm,19.1s,baz=136,slow=40						
MKAR	**Makanchi Array**	**11.46**	**4**	Pn	**Pn**	**20 19 03.4**	**-0.6**
	0.2nm,0.3s,baz=180,slow=13,SNR=12						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**15.36**	**354**	Pn	**Pn**	**20 19 53.6**	**-3.2**
	baz=176,slow=12,SNR=9.7						
KURBB				LR	LR	20 26 43.3	
	comp=Z,49nm,22.0s,baz=121,slow=40						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**18.77**	**7**	P	**P**	**20 20 38.3**	**-0.4**
	0.1nm,0.3s,baz=194,slow=12,SNR=7.8						
	1.7nm,0.8s						
BVAR	**Borovoye Array**	**19.20**	**340**	P	**Pn**	**20 20 44.3**	**-0.2**
	0.2nm,0.3s,baz=140,slow=12,SNR=5.3						
	0.6s						
SONM	**Songino Array**	**22.58**	**49**	P	**P**	**20 21 21.3**	**+1.2**
	0.7nm,0.5s,baz=262,slow=9.7,SNR=2.3						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**23.14**	**132**	P	**P**	**20 21 25.6**	**-0.5**
	0.5nm,0.8s,baz=309,slow=12,SNR=7.4						
	0.5nm,0.8s						
ARCES	**ARCESS Array B**	**45.41**	**336**	P	**P**	**20 24 39.1**	**+1.5**
	1.4nm,0.8s,baz=121,slow=12,SNR=2.8						
	1.4nm,0.8s						
NOA	**NORSAR Array B**	**50.17**	**323**	LR	LR	20 47 31.3	
	comp=Z,14nm,19.5s,baz=30,slow=37						
TORD	**Torodi Ar. Bea**	**73.89**	**275**	P	**P**	**20 27 54.4**	**-0.1**
	0.5nm,0.9s,baz=29,slow=5.6,SNR=2.1						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**74.68**	**129**	P	**P**	**20 27 58.8**	**-0.2**
	0.3nm,0.8s,baz=326,slow=5.4,SNR=1.9						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**77.15**	**131**	P	**P**	**20 28 12.7**	**-0.3**
	0.2nm,0.6s,baz=324,slow=6.2,SNR=1.7						
	0.2nm,0.6s						

IDC ***23*** *20:17:05.2± 2.4, 35.°07N×141.°61E, h0km, mb3.6/3, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=59.0km s-min=23.4km az=67.0*
NEIC ***23*** *20:17:11.5± 2.2, 34.°89N± 0.°04×141.°3E± 0.°1, h42km± 10km, mb4.4/8, Error ellipse: s-maj=12.8km s-min=6.1km az=91.0*
JMA ***23*** *20:17:12.9± 0.2, 34.°9N± 0.°6×140.°9E± 0.°7, h53km± 2km, MV3.1/36, SE OFF BOSO PENINSULA*

ISC 23 20:17:12.2± 1.1, 34.°90N± 0.°04×141.°08E± 0.°07, h51km± 10km, n36, σ1§21/44, mb4.2/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.26**	**199**	*i* P	**Pn**	**20 17 21.9**	**+1.5**
BSO3	**Boso 3**	**0.48**	**258**	*i* P	**Pn**	**20 17 22.7**	**-0.3**
BSO4	**Boso 4**	**0.62**	**278**	*i* P	**Pn**	**20 17 24.4**	**-0.4**
KTR	**Katsuura**	**0.68**	**292**	P	**Pn**	**20 17 24.8**	**-0.9**
KTR				S	**Sn**	**20 17 33.4**	**-2.0**
JKUC	**kamogawauchiur**	**0.77**	**290**	*i* P	**Pn**	**20 17 26.1**	**-0.8**
JKUC				S	**Sn**	**20 17 35.1**	**-2.5**
JCN	**Nagara**	**0.89**	**306**	P	**Pn**	**20 17 28.3**	**-0.1**
JSMT	**Sammumatsuo**	**0.90**	**325**	P	**Pn**	**20 17 29.0**	**+0.4**
JIM2	**Oshima 3**	**1.37**	**263**	*i* P	**Pn**	**20 17 33.7**	**-1.3**
JYT	**Yasato**	**1.51**	**332**		**Pn**	**20 17 37.2**	**+0.4**
JTHY	**Toshimahigashi**	**1.53**	**256**	P	**Pn**	**20 17 36.3**	**-0.7**
JMKN	**Mikurajimanish**	**1.59**	**231**	P	**Pn**	**20 17 37.4**	**-0.5**
JHJ2	**Mitsune**	**2.07**	**211**		**Pn**	**20 17 44.0**	**-0.5**
JHJ2				Sn	**Sn**	**20 18 08.6**	**-0.6**
JHJ	**Hachijo jima 2**	**2.08**	**212**	Pn	**Pn**	**20 17 45.2**	**+0.6**
	36nm,0.3s,baz=334,slow=20,SNR=27						
JHJ				Sn	**Sn**	**20 18 08.7**	**-0.7**
	86nm,0.3s,baz=92,slow=23,SNR=16						
	76nm,0.3s						
MJAR	**Matsushiro Arr**	**2.85**	**306**	Pn	**Pn**	**20 17 55.5**	**+0.2**
	5.2nm,0.4s,baz=117,slow=13,SNR=19						
MJAR				Sn	**Sn**	**20 18 29.7**	**+1.3**
	0.6nm,0.3s,baz=100,slow=16,SNR=6.9						
MAJO	**Matsushiro**	**2.86**	**306**		**Pn**	**20 17 56.0**	**+0.7**
MAJO				Sn	**Sn**	**20 18 28.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**2.86**	**306**		**Pn**	**20 17 56.6**	**+1.3**
MJB9				Sn	**Sn**	**20 18 29.0**	**+0.5**
JMM	**Marumori**	**2.97**	**356**		**Pn**	**20 17 57.4**	**+0.7**
JMM				Sn	**Sn**	**20 18 31.0**	**-0.2**
JGF	**Kuroka**	**3.13**	**284**	Pn	**Pn**	**20 17 59.8**	**+0.7**
INU	**Inuyama**	**3.36**	**279**		**Pn**	**20 18 02.9**	**+0.7**
JSD	**Sado**	**3.87**	**325**		**Pn**	**20 18 10.0**	**+0.9**
JMN	**Monobe**	**6.08**	**261**	Pn	**Pn**	**20 18 42.5**	**+3.0**
JHS	**Saijyo**	**6.54**	**273**	Pn	**Pn**	**20 18 48.4**	**+2.6**
ERM	**Erimo**	**7.29**	**12**	Pn	**Pn**	**20 18 55.5**	**-0.4**
JCJ	**Chichijima**	**7.84**	**173**	Pn	**Pn**	**20 19 03.0**	**-0.7**
	5.5nm,0.3s,baz=307,slow=20,SNR=1.5						
	63nm,0.3s						
KURK	**Kurchatov**	**47.06**	**310**	P	**P**	**20 25 38.8**	**+0.3**
KURK				IAmb	IAmb	20 25 39.9	
	comp=Z,4.3nm,1.3s						
KURBB	**Kurchatov Arra**	**47.12**	**310**	P	**P**	**20 25 40.4**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=82,slow=7.6,SNR=7.2						
	comp=Z,0.6nm,0.5s						
MTN	**Manton Dam**	**48.41**	**193**	P	**P**	**20 25 50.3**	**+1.0**
RSO	**Redoubt South**	**48.75**	**37**	P	**P**	**20 25 50.0**	**-1.8**
KNRA	**Kununurra**	**51.64**	**195**	P	**P**	**20 26 15.2**	**+1.5**
FITZ	**Fitzroy Crossi**	**54.71**	**198**	P	**P**	**20 26 37.1**	**+0.8**
FITZ				IAmb	IAmb	20 26 42.1	
	comp=Z,3.8nm,1.1s						
WB0	**Warramunga Arr**	**54.74**	**188**	P	**P**	**20 26 36.2**	**-0.2**
WB0				IAmb	IAmb	20 26 50.4	
	comp=Z,6.0nm,1.2s						
WR0	**Warramunga Arr**	**54.91**	**188**	P	**P**	**20 26 38.3**	**+0.6**
WR0				IAmb	IAmb	20 26 58.7	
	comp=Z,6.7nm,1.3s						
WB2	**Warramunga Arr**	**54.91**	**188**	P	**P**	**20 26 37.3**	**-0.4**
WB2				IAmb	IAmb	20 27 12.5	
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**54.92**	**188**	P	**P**	**20 26 39.7**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=17,slow=8.9,SNR=16						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**54.92**	**188**	P	**P**	**20 26 37.0**	**-0.8**
ASAR	**Alice Springs**	**58.64**	**188**	P	**P**	**20 27 05.8**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=3.2,slow=6.3,SNR=2.8						
	comp=Z,0.2nm,0.5s						

IDC ***23*** *20:26:22.3± 0.8, 34.°48N×141.°64E, h0km, mb3.8/9, mbtmp3.9/12, ML3.1/2, MS3.2/12, Error ellipse: s-maj=22.0km s-min=16.4km az=99.0*
JMA ***23*** *20:26:23.1± 0.4, 35.°N± 1.°×14.°2E± .°, h27km± 2km, MV3.7/36, FAR SE OFF BOSO PEN*
NIED ***23*** *20:26:23.1, 34.°52N×141.°82E, h27km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.80; Mθθ0.62; Mφφ-1.41; Mrθ-0.48; Mθφ-0.08; Mφr-0.08; Fault plane solution: M0 1.31000×10^15 NP1: φs329.00000°, δ55.00000°, λ39.00000°. NP2: φs214.00000°, δ59.00000°, λ138.00000°.*
NEIC ***23*** *20:26:24.3± 2.2, 34.°55N± 0.°06×141.°8E± 0.°1, h18km± 5km, mb4.6/24 Error ellipse: s-maj=13.0km s-min=7.9km az=100.0*

ISC 23 20:26:23.2± 1.9, 34.°51N± 0.°05×141.°77E± 0.°06, h11km± 11km, n81, σ1§37/76, mb4.4/23, MS3.3/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.67**	**283**	P	**Pg**	**20 26 36.4**	**+0.5**
BSO3	**Boso 3**	**1.08**	**286**	P	**Pg**	**20 26 43.7**	**-0.2**
BSO4	**Boso 4**	**1.27**	**293**	P	**Pb**	**20 26 46.9**	**-0.2**
KTR	**Katsuura**	**1.35**	**299**	P	**Pb**	**20 26 47.7**	**-0.8**
KTR				S	**Sb**	**20 27 05.5**	**-0.4**
CHOJ	**Chosi**	**1.41**	**328**	P	**Pn**	**20 26 47.5**	**-1.2**
CHOJ				*eS*	**Sb**	**20 27 06.0**	**-1.4**
JKUC	**kamogawauchiur**	**1.44**	**297**	P	**Pn**	**20 26 48.6**	**-0.7**
JKUC				*eS*	**Sn**	**20 27 06.7**	**-1.5**
JMKN	**Mikurajimanish**	**1.91**	**252**	P	**Pn**	**20 26 54.7**	**-1.0**
JMKN				S	**Sn**	**20 27 18.0**	**-1.6**
JHJ2	**Mitsune**	**2.14**	**230**		**Pn**	**20 26 58.6**	**-0.3**
JHJ2	**Mitsune**	**2.14**	**230**	P	**Pn**	**20 26 59.1**	**+0.3**
JHJ2				S	**Sn**	**20 27 25.4**	**0.0**
JYT	**Yasato**	**2.14**	**324**		**Pn**	**20 26 58.1**	**-0.8**
JHJ	**Hachijo jima 2**	**2.15**	**231**	Pn	**Pn**	**20 26 59.1**	**+0.1**
	34nm,0.3s,baz=279,slow=23,SNR=24						
JHJ				Sn	**Sn**	**20 27 25.6**	**-0.2**
	324nm,0.3s,baz=81,slow=23,SNR=18						
	73nm,0.3s						
JOD2	**Odawara 2**	**2.33**	**290**	P	**Pn**	**20 27 00.5**	**-0.9**
JIZS	**Izushimoda**	**2.39**	**276**	P	**Pn**	**20 27 02.0**	**-0.3**
JMM	**Marumori**	**3.44**	**347**		**Pn**	**20 27 15.0**	**-1.7**
MJAR	**Matsushiro Arr**	**3.54**	**306**	Pn	**Pn**	**20 27 18.7**	**+0.6**
	0.9nm,0.3s,baz=116,slow=8.8,SNR=44						
MJAR				Sn	**Sn**	**20 28 02.3**	**+2.3**
	1.2nm,0.3s,baz=276,slow=30,SNR=5.0						
MJAR				LR	LR	20 28 59.1	
	comp=Z,331nm,19.6s,baz=106,slow=45						
	9.2nm,0.5s						
MAJO	**Matsushiro**	**3.54**	**306**		**Pn**	**20 27 17.7**	**-0.5**
MJB9	**Matsu-Tunnel**	**3.55**	**306**		**Pn**	**20 27 17.8**	**-0.4**
JGF	**Kuroka**	**3.78**	**288**		**Pn**	**20 27 21.1**	**-0.4**
INU	**Inuyama**	**3.99**	**283**		**Pn**	**20 27 24.4**	**+0.1**
JSD	**Sado**	**4.52**	**322**	Pn	**Pn**	**20 27 31.2**	**-0.4**
JTM	**Tenmabayashi**	**6.29**	**355**	Pn	**Pn**	**20 27 54.7**	**-1.2**
JMN	**Monobe**	**6.59**	**265**	Pn	**Pn**	**20 27 59.2**	**-0.8**
JHS	**Saijyo**	**7.14**	**276**	Pn	**Pn**	**20 28 05.2**	**-2.4**
JCJ	**Chichijima**	**7.40**	**177**	Pn	**Pn**	**20 28 11.6**	**+0.5**
	103nm,0.7s,baz=284,slow=21,SNR=8.9						
JCJ				Sn	**Sn**	**20 29 29.9**	**-5.2**
	7.8nm,0.3s,baz=270,slow=20,SNR=1.4						
ERM	**Erimo**	**7.57**	**8**	Pn	**Pn**	**20 28 10.9**	**-2.5**
JEW	**Eniwo**	**8.32**	**358**	Pn	**Pn**	**20 28 22.1**	**-1.7**
KSRS	**Korea Array**	**11.59**	**289**	Pn	**Pn**	**20 29 11.6**	**+3.0**
	baz=101,slow=15,SNR=4.3						
KSRS				LR	LR	20 34 04.7	
	comp=Z,197nm,18.6s,baz=95,slow=40						
USRK	**Ussuriysk Ar.**	**12.28**	**325**	LR	LR	20 33 56.4	
	comp=Z,105nm,18.9s,baz=96,slow=37						
PETK	**Petropavlovsk-**	**21.77**	**26**	LR	LR	20 41 18.9	
	comp=Z,23nm,19.0s,baz=132,slow=41						
H11N2	**WAKE ISLAND Hy**	**26.68 117**	T		T	21 00 10.2	
	baz=309,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**26.68 117**	T		T	21 00 08.2	
	baz=309,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**26.70 117**	T		T	21 00 11.7	
	baz=309,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**27.31 119**	T		T	21 01 02.4	
	baz=311,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**27.31 119**	T		T	21 00 56.4	
	baz=311,slow=74,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**27.33 119**	T		T	21 01 04.1	
	baz=311,slow=74,SNR=10						
SONM	**Songino Array**	**29.49 308**	P		**P**	**20 32 28.2**	**+0.7**
	0.4nm,0.4s,baz=118,slow=12,SNR=2.0						
SONM				LR	LR	20 44 22.6	
	comp=Z,45nm,19.5s,baz=48,slow=37						
	0.4nm,0.4s						
LZH	**Lanzhou**	**30.86**	**284**	*e*P	P	20 32 48.9	+9.2
LZH				sP	pwP	20 32 55.3	+5.9
LZH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LZH				LR	LR		
	comp=N,170nm,13.7s						
LZH				LR	LR		
	comp=E,110nm,14.1s						
LZH				LR	LR		
	comp=Z,160nm,17.7s						
DAV	**Davao City (W)**	**31.12**	**212**	LR	LR	20 44 29.3	
	comp=Z,22nm,20.6s,baz=8

ABKAR	**Akbulak array**	**59.80**	**311**	P	**P**	**20 36 27.9**	**-0.4**
AKTO	**Aktyubinsk**	**60.59**	**313**	LR	LR	21 04 45.2	
	comp=Z,30nm,18.3s,baz=66,slow=38						
NVAR	**Mina Array Bea**	**76.28**	**53**	P	**P**	**20 38 15.1**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=301,slow=7.2,SNR=1.8						
	comp=Z,0.2nm,0.3s						
HFS	**Hagfors**	**76.51**	**336**	LR	LR	21 14 33.4	
	comp=Z,50nm,18.1s,baz=15,slow=38						
NOA	**NORSAR Array B**	**76.62**	**338**	P	**P**	**20 38 14.0**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=43,slow=9.7,SNR=1.8						
NOA				LR	LR	21 15 09.5	
	comp=Z,27nm,20.0s,baz=45,slow=38						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**119.30**	**314**	PKP	**PKiKP**	**20 45 12.9**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=70,slow=1.7,SNR=1.4						

WEL 23 20:29:13.1±0.7, 45.°S±4.°×16.°7E±.°, h106km±5km, M4.0/16, MLv4.0/16, Error ellipse: s-maj=0.0km s-min=0.0km az=126.1, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.21**	**228**	P	Pn	20 29 28.3	+0.3
DCZ				S	Sn	20 29 39.3	+0.2
MLZ	**Mavora Lakes**	**0.53**	**95**	P	Pn	20 29 31.5	+1.7
MLZ				S	Sn	20 29 45.3	+3.1
WHZ	**Wether Hill Ro**	**0.70**	**145**	P	Pn	20 29 32.2	+1.2
WHZ				S	Sn	20 29 46.0	+1.5
MSZ	**Milford Sound**	**0.76**	**31**	P	Pn	20 29 33.3	+1.7
MSZ				S	Sn	20 29 48.3	+2.8
PYZ	**Puysegur Point**	**0.97**	**210**	P	Pn	20 29 33.4	-0.2
PYZ				S	Sn	20 29 48.4	-0.8
WKZ	**Wanaka**	**1.27**	**67**	P	Pn	20 29 39.0	+2.0
WKZ				S	Sn	20 29 57.9	+2.9
EAZ	**Earnscleugh**	**1.37**	**87**	P	Pn	20 29 39.9	+1.8
EAZ				S	Sn	20 29 58.9	+1.8
APZ	**The Paps**	**1.57**	**164**	P	Pn	20 29 40.9	+0.4
APZ				S	Sn	20 30 01.4	+0.1
JCZ	**Jackson Bay**	**1.61**	**39**	P	Pn	20 29 42.3	+1.2
JCZ				S	Sn	20 30 03.5	+1.2
TUZ	**Tuapeka**	**1.71**	**112**	P	Pn	20 29 43.7	+1.5
TUZ				S	Sn	20 30 04.6	+0.3
SYZ	**Scrubby Hill**	**1.73**	**135**	P	Pn	20 29 43.6	+1.1
SYZ				S	Sn	20 30 05.3	+0.5
LBZ	**Lake Benmore**	**2.21**	**66**	P	Pn	20 29 48.9	+0.3
LBZ				S	Sn	20 30 15.8	0.0
ODZ	**Otahua Downs**	**2.33**	**84**	P	Pn	20 29 50.8	+0.6
ODZ				S	Sn	20 30 18.4	-0.1
HHSZ	**Highcliff Hill**	**2.33**	**105**	P	Pn	20 29 51.3	+1.1
HHSZ				S	Sn	20 30 17.9	-0.8
FOZ	**Fox Glacier**	**2.51**	**45**	P	Pn	20 29 52.3	-0.1
FOZ				S	Sn	20 30 22.7	+0.1
TMZ	**Timaru**	**2.75**	**71**	P	Pn	20 29 55.6	-0.1
TMZ				S	Sn	20 30 27.1	-1.4
GCSZ	**Gaunt Creek Bo**	**2.92**	**48**	P	Pn	20 29 57.3	-0.6
GCSZ				S	Sn	20 30 31.3	-1.2
ARCZ	**Arundel**	**3.05**	**64**	P	Pn	20 29 59.0	-0.6
ARCZ				S	Sn	20 30 33.9	-1.6
RPZ	**Rata Peaks**	**3.09**	**60**	P	Pn	20 29 59.8	-0.4
RPZ				S	Sn	20 30 36.3	-0.1
WVZ	**Waitaha Valley**	**3.31**	**48**	P	Pn	20 30 02.4	-0.7
WACZ	**Wakanui South**	**3.48**	**68**	P	Pn	20 30 05.0	-0.3
WACZ				S	Sn	20 30 44.5	-1.2
RACZ	**Rakaia**	**3.77**	**67**	P	Pn	20 30 10.7	+1.5
OXZ	**Oxford**	**3.90**	**61**	P	Pn	20 30 09.7	-1.3
OXZ				S	Sn	20 30 53.1	-2.8
INZ	**Inchbonnie**	**3.92**	**50**	P	Pn	20 30 10.8	-0.5
MQZ	**McQueen's Vall**	**4.11**	**69**	P	Pn	20 30 13.2	-0.6
AKCZ	**Akaroa Harbour**	**4.21**	**72**	P	Pn	20 30 15.2	-0.1
LTZ	**Lake Taylor**	**4.35**	**56**	P	Pn	20 30 15.9	-1.2
AMCZ	**Amberley**	**4.36**	**62**	P	Pn	20 30 16.6	-0.6
OKCZ	**Okains Bay**	**4.37**	**71**	P	Pn	20 30 17.7	+0.3
GVZ	**Greta Valley S**	**4.71**	**62**	P	Pn	20 30 21.1	-0.8
DSZ	**Denniston Nort**	**4.82**	**44**	P	Pn	20 30 22.2	-1.2
KHZ	**Kahutara**	**5.32**	**59**	P	Pn	20 30 29.8	-0.4
THZ	**Tophouse**	**5.37**	**50**	P	Pn	20 30 29.6	-1.3
MRNZ	**Matariki Terra**	**5.55**	**47**	P	Pn	20 30 32.8	-0.5
QRZ	**Quartz Range**	**5.87**	**42**	P	Pn	20 30 36.7	-1.0
NNZ	**Nelson**	**6.01**	**49**	P	Pn	20 30 37.4	-2.1
TUWZ	**Tuamarina**	**6.17**	**53**	P	Pn	20 30 42.6	+0.9
TCW	**Tory Channel**	**6.50**	**53**	P	Pn	20 30 46.4	+0.2
DUWZ	**D'Urville Isla**	**6.59**	**49**	P	Pn	20 30 48.6	+1.1
PLWZ	**Palliser**	**6.86**	**60**	P	Pn	20 30 50.8	-0.2
MSWZ	**Moikau Station**	**6.94**	**59**	P	Pn	20 30 51.6	-0.6
CAW	**Cannon Point**	**7.03**	**56**	P	Pn	20 30 52.4	-0.9
KIW	**Kapiti Island**	**7.09**	**54**	P	Pn	20 30 53.3	-1.0
MTW	**Mount Morrison**	**7.25**	**58**	P	Pn	20 30 55.1	-1.2
OGWZ	**Otaki Gorge**	**7.27**	**54**	P	Pn	20 30 55.7	-0.9
MRZ	**Mangatainoka R**	**7.61**	**55**	P	Pn	20 31 00.5	-0.8
KHEZ	**Kahui Hut**	**7.78**	**42**	P	Pn	20 31 05.3	+1.7
NEZ	**North Egmont**	**7.84**	**42**	P	Pn	20 31 06.2	+1.7
PKE	**Pukeiti**	**7.85**	**41**	P	Pn	20 31 07.0	+2.5
BFZ	**Birch Farm**	**7.99**	**58**	P	Pn	20 31 05.0	-1.4
OTVZ	**Oturere**	**8.70**	**48**	P	Pn	20 31 16.8	+0.6

*NEIC **23** 20:29:52.4±1.2, 20.°3S±0.°2×178.°4W±0.°2, h588km±19km, mb4.3/21, Error ellipse: s-maj=25.6km s-min=22.6km az=79.0*
*IDC **23** 20:29:54.3±1.8, 20.°42S×178.°48W, h615km±20km, mb3.2/8, mbtmp4.2/9, Error ellipse: s-maj=29.5km s-min=16.9km az=151.0*
ISC 23 20:29:52.9±0.6, 20.°3S±0.°1×178.°45W±0.°10, h600km, n49, σ0s97/50, mb4.2/18, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.17**	**307**	P	**P**	**20 31 22.4**	**+2.6**
	2.5nm,0.4s,baz=280,slow=24,SNR=6.3						
NIUE	**Niue**	**8.11**	**83**	P	**P**	**20 31 54.3**	**+1.0**
AFI	**Afiamalu**	**8.98**	**46**	P	**P**	**20 32 00.1**	**-1.7**
FUNA	**Funafuti**	**11.90**	**349**	P	**P**	**20 32 30.0**	**-0.7**
DZM	**Mont Dzumac**	**14.21**	**260**	P	**P**	**20 32 56.2**	**+2.3**
	3.5nm,0.5s,baz=115,slow=21,SNR=10						
DZM	**Mont Dzumac**	**14.21**	**260**	P	**P**	**20 32 53.6**	**-0.3**
URZ	**Urewera**	**18.33**	**191**	P	**P**	**20 33 30.3**	**-1.0**
	9.1nm,0.3s,baz=346,slow=0.6,SNR=16						
BKZ	**Black Stump Fm**	**19.33**	**192**	P	**P**	**20 33 39.7**	**-0.7**
KHZ	**Kahutara**	**23.09**	**195**	P	**P**	**20 34 13.3**	**-0.7**
KHZ				IAmb	IAmb	20 34 18.8	
	comp=Z,9.2nm,1.0s						
LTZ	**Lake Taylor**	**23.76**	**197**	P	**P**	**20 34 18.7**	**-1.4**
LTZ				IAmb	IAmb	20 34 23.5	
	comp=Z,10nm,1.2s						
FOZ	**Fox Glacier**	**25.19**	**200**	P	**P**	**20 34 32.6**	**+0.1**
FOZ				IAmb	IAmb	20 34 34.8	
	comp=Z,8.8nm,0.9s						
WHZ	**Wether Hill Ro**	**27.89**	**201**	P	**P**	**20 34 56.7**	**+0.5**
EIDS	**Eidsvold**	**28.51**	**254**	P	**P**	**20 35 01.5**	**-0.4**
EIDS				IAmb	IAmb	20 35 05.3	
	comp=Z,11nm,1.3s						
PYZ	**Puysegur Point**	**28.57**	**202**	P	**P**	**20 35 01.2**	**-0.8**
CTA	**Charters Tower**	**33.10**	**264**	P	**P**	**20 35 41.4**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=90,slow=11,SNR=8.3						
	comp=Z,3.0nm,0.3s						
CTAO	**Charters Tower**	**33.10**	**264**	P	**P**	**20 35 41.6**	**+0.5**
CTAO				IAmb	IAmb	20 36 04.8	
	comp=Z,11nm,1.4s						
COEN	**Coen**	**37.15**	**274**	P	**P**	**20 36 14.1**	**-0.6**
COEN				IAmb	IAmb	20 36 14.2	
	comp=Z,17nm,1.4s						
BBOO	**Buckleboo**	**42.27**	**243**	P	**P**	**20 36 55.6**	**+0.3**
WR0	**Warramunga Arr**	**44.03**	**262**	P	**P**	**20 37 08.5**	**-0.6**
WR0				IAmb	IAmb	20 37 09.6	
	comp=Z,3.5nm,0.4s						
AS31	**Alice Springs**	**44.16**	**257**	P	**P**	**20 37 10.3**	**+0.1**
ASAR	**Alice Springs**	**44.16**	**257**	P	**P**	**20 37 10.2**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=88,slow=8.2,SNR=43						
ASAR				PcP	**PcP**	**20 38 41.3**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=105,slow=3.8,SNR=7.5						
	comp=Z,4.0nm,0.6s						
ASAR	**Alice Springs**	**44.16**	**257**	P	**P**	**20 37 09.5**	**-0.7**
ASAR					**PcP**	**20 38 41.1**	**-0.4**
WB0	**Warramunga Arr**	**44.20**	**262**	P	**P**	**20 37 09.7**	**-0.7**
WB0				IAmb	IAmb	20 37 10.4	
	comp=Z,4.8nm,0.5s						
WB2	**Warramunga Arr**	**44.21**	**262**	P	**P**	**20 37 10.1**	**-0.4**
WRAB	**Tennant Creek**	**44.21**	**262**	P	**P**	**20 37 09.9**	**-0.6**
WRA	**Warramunga Arr**	**44.22**	**262**	P	**P**	**20 37 10.1**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=97,slow=7.1,SNR=82						
	comp=Z,2.4nm,0.3s						
WRA	**Warramunga Arr**	**44.22**	**262**	P	**P**	**20 37 10.3**	**-0.3**
MTN	**Manton Dam**	**48.74**	**271**	P	**P**	**20 37 43.8**	**-0.8**
MTN				IAmb	IAmb	20 37 44.9	
	comp=Z,8.3nm,0.9s						
KNRA	**Kununurra**	**50.26**	**266**	P	**P**	**20 37 55.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.64**	**262**	P	**P**	**20 38 13.0**	**+0.1**
MBWA	**Marble Bar**	**57.49**	**257**	P	**P**	**20 38 45.6**	**-0.8**
MBWA				IAmb	IAmb	20 39 26.4	
	comp=Z,18nm,1.2s						
NVAR	**Mina Array Bea**	**81.15**	**44**	P	**P**	**20 41 08.5**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=234,slow=7.7,SNR=1.9						
	comp=Z,0.3nm,0.3s						
IPM	**Ipoh**	**82.69**	**277**	P	**P**	**20 41 15.8**	**+0.4**
IPM				IAmb	IAmb	20 41 59.3	
	comp=Z,11nm,1.1s						
TXAR	**Lajitas Array**	**87.29**	**58**	P	**P**	**20 41 39.2**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=210,slow=7.2,SNR=7.1						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**20 41 39.7**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=217,slow=5.9,SNR=7.2						
	comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	**89.09**	**43**	P	**P**	**20 41 46.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=214,slow=5.0,SNR=5.0						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**20 41 49.6**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=122,slow=3.1,SNR=7.3						
	comp=Z,0.9nm,0.9s						
ARCES	**ARCESS Array B**	**128.62**	**349**	PKP	**PKPdf**	**20 47 51.4**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=354,slow=1.2,SNR=7.2						
AKASG	**Malin Array Be**	**142.62**	**331**	PKhKP	PKPpre	20 48 14.5	
	comp=Z,1.8nm,0.4s,baz=42,slow=4.5,SNR=14						
BRTR	**Keskin Array B**	**146.38**	**312**	PKPbc	**PKPbc**	**20 48 27.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=143,slow=2.9,SNR=5.4						
CLL	**Collm**	**147.75**	**346**	∥PKPbc	**PKPbc**	**20 48 30.6**	**-0.4**
	comp=Z,6.0nm,0.6s						
GERES	**GERESS Array B**	**149.87**	**344**	PKPbc	**PKiKP**	**20 48 36.1**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=59,slow=3.6,SNR=9.2						
CONA	**Conrad Observa**	**150.08**	**341**	*eP*	**PKiKP**	**20 48 36.6**	**-0.8**
	comp=Z,0.9nm,0.5s						
RONA	**Rosalia, Austr**	**150.14**	**340**	*eP*	**PKiKP**	**20 48 36.7**	**-0.8**
	comp=Z,0.8nm,0.2s						
KBA	**Koelnbreinsper**	**151.59**	**343**	*eP*	**PKPbc**	**20 48 38.8**	**-1.6**
	comp=Z,1.3nm,0.5s						
WATA	**Walderalm**	**151.80**	**345**	*eP*	**PKPbc**	**20 48 39.8**	**-1.1**
	comp=Z,1.5nm,0.5s						
WTTA	**Wattenberg**	**151.85**	**345**	*eP*	**PKPbc**	**20 48 40.2**	**-0.9**
	comp=Z,1.6nm,0.3s						
MOTA	**Moosalm**	**151.90**	**346**	*eP*	**PKPbc**	**20 48 40.1**	**-1.0**
	comp=Z,0.9nm,0.4s						
ABTA	**Abfaltersbach**	**152.12**	**344**	*eP*	**PKPbc**	**20 48 40.2**	**-1.3**
	comp=Z,1.2nm,0.4s						

*IDC **23** 20:43:11.1±42.0, 23.°88S×176.°17W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=781.4km s-min=160.5km az=88.0*
*NEIC **23** 20:43:14.0±2.1, 23.°25S±0.°10×176.°3W±0.°1, h10km±1km, mb4.4/12, Error ellipse: s-maj=19.2km s-min=15.5km az=293.0*
ISC 23 20:43:13.4±1.0, 23.°1S±0.°2×176.°5W±0.°2, h10km, n16, σ1s71/15, mb4.3/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.30**	**58**	Pn	**Pn**	**20 45 00.0**	**-0.2**
QRZ	**Quartz Range**	**19.96**	**205**		**Pn**	**20 47 48.1**	**+0.7**
KHZ	**Kahutara**	**20.99**	**201**	Pn	Pn	20 47 58.0	-1.5
KHZ				IAmb	IAmb	20 48 27.8	
	comp=Z,28nm,1.4s						
LTZ	**Lake Taylor**	**21.75**	**203**		**P**	**20 48 05.9**	**+0.8**
LTZ				IAmb	IAmb	20 48 13.0	
	comp=Z,12nm,1.5s						
STKA	**Stephens Creek**	**38.02**	**247**	P	**P**	**20 50 30.0**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=108,slow=9.6,SNR=3.5						
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**38.02**	**247**	P	**P**	**20 50 29.8**	**-2.2**
COEN	**Coen**	**39.22**	**276**	P	**P**	**20 50 42.7**	**+0.5**
COEN				IAmb	IAmb	20 51 24.2	
	comp=Z,23nm,1.4s						
BBOO	**Buckleboo**	**42.74**	**246**	P	**P**	**20 51 08.2**	**-2.9**
AS31	**Alice Springs**	**45.36**	**259**	P	**P**	**20 51 31.9**	**-0.3**
ASAR	**Alice Springs**	**45.37**	**259**	P	**P**	**20 51 32.4**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=89,slow=7.0,SNR=18						
	comp=Z,2.2nm,0.9s						
WB2	**Warramunga Arr**	**45.69**	**264**	P	**P**	**20 51 35.5**	**+0.7**
WB2				IAmb	IAmb	20 51 50.1	
	comp=Z,6.4nm,1.4s						
WB0	**Warramunga Arr**	**45.69**	**264**	P	**P**	**20 51 36.1**	**+1.2**
WB0				IAmb	IAmb	20 51 39.7	
	comp=Z,6.8nm,1.4s						
WRA	**Warramunga Arr**	**45.70**	**264**	P	**P**	**20 51 36.1**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=104,slow=7.9,SNR=19						
	comp=Z,1.7nm,0.7s						
WRA	**Warramunga Arr**	**45.70**	**264**	P	**P**	**20 51 36.0**	**+1.0**
KNRA	**Kununurra**	**51.94**	**268**	P	**P**	**20 52 25.7**	**+2.8**
FITZ	**Fitzroy Crossi**	**54.13**	**264**	P	**P**	**20 52 41.3**	**+2.2**
FITZ				IAmb	IAmb	20 52 45.3	
	comp=Z,7.2nm,1.4s						

IDC 23 21:02:42.5±2.0, 5.°08N×126.°62E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=146.2km s-min=27.7km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.00**	**163**	P	P	21 08 16.9	-0.4
	1.0nm,0.6s,baz=343,slow=10,SNR=18						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**29.45**	**166**	P	P	21 08 47.7	-0.5
	0.2nm,0.5s,baz=350,slow=7.5,SNR=7.3						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**39.43**	**160**	P	P	21 10 15.2	+0.8
	2.6nm,0.8s,baz=348,slow=6.8,SNR=5.2						
	2.6nm,0.8s						
MKAR	**Makanchi Array**	**56.39**	**325**	P	P	21 12 25.6	-0.1
	0.2nm,0.4s,baz=123,slow=7.7,SNR=1.6						
	0.2nm,0.4s						

*NIED **23** 21:06:32.6, 25.°86N×125.°57E, h14km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=1.18; Mθθ=1.19; Mφφ=-0.01; Mrθ=0.20; Mθφ=0.09; Mφr=0.17; Fault plane solution: M0=1.21000×10^15 NP1:φ=93.00000°, δ=40.00000°, λ=-79.00000°. NP2:φ=259.00000°, δ=51.00000°, λ=-99.00000°.*
*JMA **23** 21:06:32.6±0.2, 25.°9N±0.°6×125.°6E±0.°7, h14km±2km, MD4.5/17, MV4.1/17, NW OFF MIYAKOJIMA ISLAND*
*IDC **23** 21:06:40.4±3.0, 25.°88N×125.°91E, h73km±30km, mb3.7/12, mbtmp4.0/13, MS3.4/32, Error ellipse: s-maj=26.5km s-min=15.4km az=66.0*
ISC 23 21:06:33.4±3.4, 25.°79N±0.°07×125.°63E±0.°06, h12km±22km, n62, σ0s97/43, mb3.9/12, MS3.5/28, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.93**	**202**	P	**Pb**	**21 06 50.8**	**-0.6**
JIKM				S	**Sb**	**21 07 03.9**	**+0.2**
JIKM	**Ikemajima**	**0.93**	**202**	A	A	21 06 50.8	
	comp=E,31nm,0.7s,comp=E,25nm,1.3s						
JIRB	**Irabujima**	**1.04**	**204**	P	**Pb**	**21 06 52.8**	**-0.6**
JIRB				S	**Sb**	**21 07 06.9**	**-0.2**
JIRB	**Irabujima**	**1.04**	**204**	A	A	21 06 52.8	
	comp=E,15nm,3.3s,comp=E,20nm,3.2s						
JOGS	**Gusukube**	**1.04**	**191**	P	**Pb**	**21 06 53.2**	**-0.2**
JOGS				S	**Sb**	**21 07 07.6**	**+0.5**
JOGS	**Gusukube**	**1.04**	**191**	A	A	21 06 53.2	
	comp=E,27nm,1.9s,comp=E,33nm,0.8s						
JMJ2	**Miyako jima3**	**1.08**	**195**	P	**Pb**	**21 06 53.2**	**-0.8**
JMJ2				S	**Sb**	**21 07 08.4**	**+0.3**
JMJ2	**Miyako jima3**	**1.08**	**195**	A	A	21 06 53.2	
	comp=E,21nm,4.3s,comp=E,30nm,0.6s						
JKE	**Kume jima 2**	**1.17**	**62**	P	**Pn**	**21 06 54.4**	**-1.2**
JKE				S	**Sb**	**21 07 10.3**	**-0.4**
JKE	**Kume jima 2**	**1.17**	**62**	A	A	21 06 54.4	
	comp=E,5.0nm,6.7s,comp=E,3.0nm,7.4s						
JTJ	**Tarama**	**1.42**	**217**	P	**Pn**	**21 06 58.7**	**-0.3**
JTJ				S	**Sb**	**21 07 17.4**	**-0.5**
JTJ	**Tarama**	**1.42**	**217**	A	A	21 06 58.7	
	comp=E,12nm,1.2s,comp=E,8.0nm,4.1s						
JAGN	**Aguni-jima**	**1.65**	**61**	P	**Pn**	**21 07 02.1**	**-0.1**
JAGN				S	**Sn**	**21 07 23.1**	**-0.3**
JAGN	**Aguni-jima**	**1.65**	**61**	A	A	21 07 02.1	
	comp=E,4.0nm,6.2s,comp=E,3.0nm,4.1s						
JIJ	**Ishigaki jima**	**1.96**	**224**	P	**Pn**	**21 07 06.0**	**-0.5**
JIJ				S	**Sn**	**21 07 31.3**	**+0.3**
JJT3	**Tamagusuku3**	**1.97**	**79**	P	**Pn**	**21 07 07.3**	**+0.7**
JKRS	**Kuro-shima**	**2.13**	**224**	P	**Pn**	**21 07 08.8**	**-0.1**
JKRS				S	**Sn**	**21 07 34.8**	**-0.5**
JKRS	**Kuro-shima**	**2.13**	**224**	A	A	21 07 08.8	
	comp=E,6.0nm,1.7s,comp=E,6.0nm,4.3s						
IRIF	**Iriomote-Funau**	**2.25**	**230**	P	**Pn**	**21 07 10.6**	**+0.1**
IRIF				S	**Sn**	**21 07 38.1**	**-0.1**
JNTH	**Nagotoyohara**	**2.27**	**71**	*eP*	**Pn**	**21 07 11.2**	**+0.5**
JNTH				S	**Sn**	**21 07 39.1**	**+0.5**
HATJ	**Hateruma jima**	**2.39**	**224**	P	**Pn**	**21 07 12.8**	**+0.4**
HATJ				S	**Sn**	**21 07 42.1**	**+0.4**
JIH	**Iheya**	**2.43**	**59**	P	**Pn**	**21 07 13.7**	**+0.7**
JIH				S	**Sn**	**21 07 43.4**	**+0.7**
JOW	**Kunigami**	**2.59**	**66**	P	**Pn**	**21 07 15.9**	**+0.8**
	43nm,0.3s,baz=166,slow=15,SNR=43						
JOW				S	**Sb**	**21 07 50.9**	**-0.7**
	132nm,0.4s,baz=128,slow=26,SNR=4.5						
KSRS	**Korea Array**	**11.79**	**9**	P	Pn	21 09 27.4	+6.0
	6.9nm,0.9s,baz=187,slow=13,SNR=20						
KSRS				LR	LR	21 14 08.2	
	comp=Z,140nm,20.0s,baz=185,slow=38						
MJAR	**Matsushiro Arr**	**15.18**	**42**	P	**P**	**21 10 13.4**	**+0.7**
	0.7nm,0.5s,baz=206,slow=10,SNR=2.1						
MJAR				LR	LR	21 15 49.3	
	comp=Z,33nm,21.4s,baz=225,slow=37						
DAV	**Davao City (W)**	**18.61**	**180**	LR	LR	21 17 58.7	
	comp=Z,47nm,21.8s,baz=1.5,slow=36						
USRK	**Ussuriysk Ar.**	**19.08**	**14**	LR	LR	21 18 13.6	
	comp=Z,74nm,19.5s,baz=152,slow=37						
GUMO	**Guam**	**21.77**	**120**	LR	LR	21 18 05.9	
	comp=Z,37nm,21.8s,baz=318,slow=32						
KLR	**Kul'dur**	**23.88**	**10**	LR	LR	21 20 16.6	
	comp=Z,68nm,20.6s,baz=184,slow=34						
CMAR	**Chiang Mai Arr**	**25.75**	**259**	P	**P**	**21 12 07.8**	**+3.8**
	1.3nm,0.3s,baz=54,slow=9.2,SNR=4.2						
CMAR				LR	LR	21 22 46.6	
	comp=Z,14nm,18.8s,baz=135,slow=37						
	1.3nm,0.3s						
SONM	**Songino Array**	**26.72**	**330**	P	**P**	**21 12 15.2**	**+2.4**
	7.4nm,0.9s,baz=145,slow=10,SNR=23						
SONM				LR	LR	21 24 18.9	
	comp=Z,109nm,20.5s,baz=142,slow=40						
	7.4nm,0.9s						
SIJI	**Sorong**	**27.05**	**168**	LR	LR	21 21 06.5	
	comp=Z,82nm,21.2s,baz=228,slow=32						
KAPI	**Kappang**	**31.15**	**191**	LR	LR	21 25 14.8	
	comp=Z,38nm,20.9s,baz=23,slow=36						
PETK	**Petropavlovsk-**	**36.31**	**33**	LR	LR	21 29 21.6	
	comp=Z,37nm,19.8s,baz=252,slow=38						
YAK	**Yakutsk**	**36.34**	**3**	LR	LR	21 29 25.6	
	comp=Z,38nm,19.8s,baz=268,slow=38						
MA2	**Magadan**	**38.02**	**21**	LR	LR	21 29 38.5	
	comp=Z,37nm,19.4s,baz=192,slow=36						
MKAR	**Makanchi Array**	**40.10**	**313**	P	**P**	**21 14 09.4**	**+0.5**
	0.7nm,0.6s,baz=103,slow=12,SNR=7.0						
MKAR				PcP	**PcP**	**21 16 13.1**	**-0.3**
	0.5nm,0.7s,baz=80,slow=5.1,SNR=1.8						
MKAR				LR	LR	21 31 56.4	
	comp=Z,47nm,18.9s,baz=72,slow=38						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**41.21**	**324**	P	**P**	**21 14 17.9**	**+0.1**
	1.4nm,0.7s,baz=111,slow=8.1,SNR=6.9						
ZALV				LR	LR	21 32 41.1	
	comp=Z,57nm,18.2s,baz=122,slow=38						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**43.58**	**317**	P	**P**	**21 14 37.3**	**+0.1**
	2.4nm,0.2s,baz=108,slow=8.1,SNR=8.6						
	2.4nm,0.2s						
AAK	**Ala-Archa**	**44.81**	**305**	LR	LR	21 36 17.7	
	comp=Z,61nm,18.4s,baz=100,slow=40						
TIXI	**Tiksi**	**45.93**	**1**	LR	LR	21 35 42.7	
	comp=Z,65nm,18.7s,baz=181,slow=38						
WRA	**Warramunga Arr**	**46.24**	**169**	P	**P**	**21 14 58.5**	**-0.2**
	1.2nm,0.6s,baz=350,slow=8.4,SNR=15						
	1.2nm,0.6s						
NRIK	**Noril'sk**	**48.98**	**343**	LR	LR	21 38 37.3	
	comp=Z,115nm,18.2s,baz=194,slow=39						
BVAR	**Borovoye

URZ	Urewera	1.84	244	P	Pn	21 11 24.1 +1.2
KNZ	Kokohu	1.97	217	P	Pn	21 11 25.2 +0.5
MHGZ	Mahia Peninsul	1.97	211	P	Pn	21 11 25.9 +1.2
SNGZ	Shannon Statio	1.97	228	P	Pn	21 11 25.8 +1.0
EDRZ	Edgecumbe	2.06	251	P	Pn	21 11 26.8 +0.8
MARZ	Manawahe	2.08	255	P	Pn	21 11 26.6 +0.4
RTZ	Ruatahuna	2.10	236	P	Pn	21 11 27.5 +0.9
OPRZ	Ohinepanea	2.14	259	P	Pn	21 11 27.0 -0.1
MUGZ	Murupara	2.17	242	P	Pn	21 11 28.1 +0.5
RAHZ	Arahi	2.21	228	P	Pn	21 11 28.8 +0.8
WHHZ	Waihua	2.24	223	P	Pn	21 11 29.2 +0.8
MKRZ	Makatiti	2.27	252	P	Pn	21 11 30.3 +1.3
TARZ	Mount Tarawera	2.27	249	P	Pn	21 11 29.9 +0.9
RRRZ	Republican Roa	2.30	247	P	Pn	21 11 30.1 +0.8
MTHZ	Maungataniwha	2.32	233	P	Pn	21 11 30.6 +0.9
OMRZ	Omania	2.34	253	P	Pn	21 11 30.4 +0.6
MYRZ	Mayor Island	2.37	274	P	Pn	21 11 30.7 +0.5
HLRZ	Highlands Stat	2.39	250	P	Pn	21 11 31.7 +1.1
KARZ	Kaharoa	2.41	256	P	Pn	21 11 31.4 +0.6
PRRZ	Plateau Road	2.45	244	P	Pn	21 11 31.7 +0.3
HSRZ	Hossack Road	2.49	249	P	Pb	21 11 35.3 -0.9
NMHZ	Naumai	2.50	229	P	Pn	21 11 32.9 +0.8
ARHZ	Aropaoanui	2.50	223	P	Pn	21 11 32.8 +0.8
ALRZ	Allen Road	2.51	243	P	Pn	21 11 32.7 +0.5
MRHZ	Matea Rd	2.59	237	P	Pn	21 11 33.8 +0.5
BKZ	Black Stump Fm	2.73	231	P	Pn	21 11 35.9 +0.7
BKZ	Black Stump Fm	2.73	231	P	Pn	21 11 35.6 +0.4
CKHZ	Cape Kidnapper	2.75	217	P	Pn	21 11 35.6 +0.1
MCHZ	McNeill Hill	2.79	224	P	Pn	21 11 36.5 +0.5
KWHZ	Kaweka Forest	2.93	227	P	Pn	21 11 38.0 0.0
TOZ	Tahuroa Road	2.96	264	P	Pn	21 11 38.3 0.0
KAHZ	Kahuranaki	2.96	157	P	Pn	21 11 38.3 0.0
TLZ	Tolley Road	3.03	252	P	Pn	21 11 39.8 +0.5
RITZ	Rihia Road	3.04	239	P	Pn	21 11 40.1 +0.7
RATZ	Rangitukua	3.05	242	P	Pn	21 11 40.4 +0.8
KRHZ	Kereru	3.11	225	P	Pn	21 11 39.9 -0.6
PXZ	Pawanui	3.15	215	P	Pn	21 11 40.1 -0.9
KATZ	Kakaramea	3.15	240	P	Pn	21 11 41.7 +0.6
BHHZ	Black Hill Sta	3.19	230	P	Pn	21 11 41.6 0.0
TMVZ	Te Maari	3.21	238	P	Pn	21 11 42.1 +0.1
ETVZ	East Tongariro	3.22	238	P	Pn	21 11 42.1 +0.1
NTVZ	North Tongarir	3.22	239	P	Pn	21 11 42.2 +0.2
GRZ	Great Barrier	3.24	291	P	Pn	21 11 42.4 +0.2
KRVZ	Karewarewa	3.24	239	P	Pn	21 11 42.6 +0.3
MKAZ	Moumakai	3.25	275	P	Pn	21 11 42.5 +0.2
OTVZ	Oturere	3.26	238	P	Pn	21 11 42.7 +0.1
NNVZ	North Ngauruho	3.28	238	P	Pn	21 11 43.2 +0.4
WTVZ	West Tongariro	3.29	239	P	Pn	21 11 43.4 +0.5
SNVZ	South Ngauruho	3.29	237	P	Pn	21 11 43.1 +0.1
NGZ	Ngauruhoe	3.31	238	P	Pn	21 11 43.4 +0.1
TUVZ	Tukino	3.32	236	P	Pn	21 11 43.8 +0.3
WIAZ	Waiheke Island	3.32	280	P	Pn	21 11 42.6 -0.7
MOVZ	Moawhango	3.33	233	P	Pn	21 11 43.5 0.0
TWVZ	Taurewa	3.37	240	P	Pn	21 11 44.8 +0.7
WHVZ	Whangaehu Hut	3.37	236	P	Pn	21 11 44.4 +0.2
WPHZ	Waipukurau	3.38	219	P	Pn	21 11 43.5 -0.6
FWVZ	Far West T-bar	3.38	237	P	Pn	21 11 44.7 +0.3
WNVZ	Wahianoa	3.39	236	P	Pn	21 11 44.3 -0.1
PNHZ	Pukenui	3.39	223	P	Pn	21 11 43.3 -1.0
PRHZ	Porangahau	3.44	215	P	Pn	21 11 44.0 -1.0
ETAZ	East Tamaki Re	3.46	277	P	Pn	21 11 46.1 +1.0
MTVZ	Mangateitei	3.50	236	P	Pn	21 11 46.1 +0.2
MBAZ	Motutapu North	3.51	280	P	Pn	21 11 47.1 +1.1
PKVZ	Pokaka	3.54	238	P	Pn	21 11 46.7 +0.4
HIZ	Hauiti	3.59	252	P	Pn	21 11 48.6 +1.5
HIZ	Hauiti	3.59	252	P	Pn	21 11 48.5 +1.5
TSZ	Takapari Road	3.60	223	P	Pn	21 11 48.1 -1.5
AWAZ	Awhitu Peninsu	3.66	275	P	Pn	21 11 49.1 +1.1
ANWZ	Angora Road	3.67	215	P	Pn	21 11 47.8 -0.3
DVHZ	Dannevirke	3.69	219	P	Pn	21 11 47.2 -1.2
WTAZ	Waiatarua	3.74	277	P	Pn	21 11 50.4 +1.4
RVAZ	Riverhead Bore	3.76	279	P	Pn	21 11 50.7 +1.3
POWZ	Post Office Ro	3.97	221	P	Pn	21 11 50.7 -1.5
PRWZ	Pori Road	3.98	218	P	Pn	21 11 51.4 -1.0
WAZ	Wanganui	4.02	234	P	Pn	21 11 53.7 +0.8
CPWZ	Castlepoint	4.16	213	P	Pn	21 11 53.4 -1.3
WCZ	Waipu Caves	4.19	290	P	Pn	21 11 55.5 +0.2
TIWZ	Tintock	4.20	217	P	Pn	21 11 54.1 -1.3
NEZ	North Egmont	4.40	244	P	Pn	21 12 00.2 +1.9
PKE	Pukeiti	4.45	246	P	Pn	21 12 01.6 +2.8
KHEZ	Kahui Hut	4.47	244	P	Pn	21 12 01.2 +2.0
OUZ	Omahuta	5.05	295	P	Pn	21 12 07.7 +0.6
OUZ	Omahuta	5.05	295	P	Pn	21 12 08.1 +1.0
KHZ	Kahutara	6.59	220	P	Pn	21 12 25.2 -2.9
CTZ	Chatham Island	7.06	157	P	Pn	21 12 38.5 +4.4
RPZ	Rata Peaks	8.80	222	P	Pn	21 12 55.9 -2.6
ODZ	Otahua Downs	9.94	218	P	Pn	21 13 10.0 -4.1

TAP ***23*** *21:22:09.1,24.04N×121.74E,h38km,ML3.5,C*
JMA ***23*** *21:22:09.5±0.1,24.0N±0.3×121.8E±0.3,h33km,MV2.6/11,*
TAIWAN REGION

ISC 23 21:22:09.9±0.9,24.01N±0.02×121.75E±0.02,h30km±6km,
n137,σ1§15/232,21C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=244	0.13	254	⇓*i*	P		**Pn**	21 22 15.9	0.0
HWA				S			**Sb**	21 22 21.1	+1.8
TWD	**Chiawan** baz=290	0.15	296	⇓*i*	P		**Pn**	21 22 15.7	-0.5
TWD				S			**Sn**	21 22 20.3	+0.3
ETL	**Fush Village** baz=319	0.18	322	*i*	P		**Pn**	21 22 15.9	-0.7
ETL				*e*S			**Sn**	21 22 21.1	+0.3
TEYL	**Yanliau Villag** baz=224	0.20	223		P		**Pn**	21 22 16.1	-0.6
TEYL				S			**Sb**	21 22 21.8	+1.4
NACB	**Ninganchiao** baz=316	0.21	319	⇑	P		**Pn**	21 22 16.1	-0.9
NACB				S			**Sn**	21 22 20.8	-0.6
ETM	**Tongmen** baz=253	0.24	258	⇓*i*	P		**Pn**	21 22 16.5	-0.8
ETM				*e*S			**Sn**	21 22 22.1	+0.1
EHP	**Heping Village** baz=1.0	0.29	359	*e*	P		**Pb**	21 22 17.0	-0.3
EHP				*e*S			**Sn**	21 22 22.9	-0.7
ETLH	**Xiulin Townshi** baz=306	0.31	309	⇑*i*	P		**Pb**	21 22 17.3	-0.3
ETLH				*e*S			**Sn**	21 22 23.0	-1.0
ESL	**Shilin** baz=241	0.35	235	*e*	P		**Pb**	21 22 17.5	-0.6
ESL				*e*S			**Sn**	21 22 23.4	-1.5
TEGC	**Jichi Village** baz=201	0.36	212	*e*	P		**Pb**	21 22 18.5	+0.4
TEGC				*e*S			**Sn**	21 22 24.6	-0.4
ENA	**Nanau** baz=1.0	0.41	359	⇑*i*	P		**Pb**	21 22 18.6	-0.4
ENA				*e*S			**Sb**	21 22 24.5	-0.7
EWUT	**Wuta** baz=4.0	0.43	4	⇑*i*	P		**Pb**	21 22 18.0	-1.3
EWUT				*e*S			**Sb**	21 22 24.6	-1.1
EGFH	**Guangfu** baz=229	0.45	220	*e*	P		**Pb**	21 22 19.0	-0.5
EGFH				*e*S			**Sb**	21 22 26.2	+0.1
WHF	**Hehuan Shan** baz=278	0.46	287	⇑*i*	P		**Pb**	21 22 19.4	-0.6
WHF				*e*S			**Sb**	21 22 26.3	-0.6
FUSS	**Fushou** baz=295	0.52	297	⇑*i*	P		**Pn**	21 22 20.4	-1.0
FUSS				*e*S			**Sb**	21 22 28.1	-0.1
CHGB	**Renai** baz=267	0.53	275	*e*	P		**Pn**	21 22 20.5	-1.0
CHGB				*e*S			**Sb**	21 22 28.2	-0.2
OWD	**Renai** baz=267	0.53	264	*e*	P		**Pn**	21 22 20.3	-1.1
OWD				*e*S			**Sb**	21 22 27.7	-0.6
NNSB	**Datong** baz=320	0.53	321	⇑*i*	P		**Pn**	21 22 20.4	-1.0
NNSB				*e*S			**Sn**	21 22 27.6	-1.8
NNSH	**Datong** baz=320	0.53	321	⇑*i*	P		**Pn**	21 22 20.4	-1.0
NNSH				S			**Sn**	21 22 28.1	-1.3
NNS	**Nan Shan** baz=321	0.54	321	⇑*i*	P		**Pn**	21 22 19.6	-2.1
NNS				*e*S			**Sn**	21 22 27.6	-2.2
LATG	**Datong** baz=331	0.56	339	⇑*i*	P		**Pn**	21 22 20.6	-1.2
LATG				*e*S			**Sn**	21 22 27.7	-2.5
TWT	**Tachien** baz=287	0.57	295	*e*	P		**Pn**	21 22 21.4	-0.7
TWT				*e*S			**Sn**	21 22 29.8	-0.8
WUSB	**Renai** baz=266	0.57	268	*e*	P		**Pn**	21 22 21.2	-0.9
WUSB				*e*S			**Sn**	21 22 28.8	-1.8
TDCB	**Techi** baz=287	0.59	294		P		**Pn**	21 22 21.4	-0.9
TDCB				*e*S			**Sn**	21 22 29.8	-1.1
HGSD	**Ruisui** baz=205	0.60	210		P		**Pn**	21 22 21.1	-1.1
HGSD				*e*S			**Sb**	21 22 31.7	+1.6
TWC	**Suao** baz=11	0.60	9	⇑*i*	P		**Pn**	21 22 21.6	-0.7
TWC				*e*S			**Sn**	21 22 30.8	-0.3
VWDT	**VWDT** baz=234	0.61	245	⇑*i*	P		**Pn**	21 22 21.8	-0.7
VWDT				*e*S			**Sn**	21 22 30.1	-1.1
NDT	**Datong Townshi** baz=340	0.62	340	⇑*i*	P		**Pn**	21 22 20.9	-1.7
NDT				*e*S			**Sn**	21 22 30.1	-1.6
EHY	**Hungye** baz=224	0.64	218	*e*	P		**Pn**	21 22 21.0	-1.9
EHY				*e*S			**Sn**	21 22 30.3	-1.7
ENTT	**Nioudou** baz=346	0.65	345	⇑*i*	P		**Pn**	21 22 21.0	-2.0
ENTT				*e*S			**Sn**	21 22 30.9	-1.3
TWE	**Neicheng** baz=349	0.71	354		P		**Pn**	21 22 23.1	-0.7
TWE				*e*S			**Sn**	21 22 32.6	-1.1
WPL	**Puli Township** baz=269	0.72	270		P		**Pn**	21 22 23.8	-0.2
WPL				*e*S			**Sn**	21 22 34.8	+0.8
YHNB	**Yeheng** baz=333	0.73	333	⇑*i*	P		**Pn**	21 22 23.6	-0.7
YHNB				*e*S			**Sn**	21 22 33.0	-1.5
YULB	**Yu-li** baz=221	0.74	214	*e*	P		**Pn**	21 22 22.4	-1.9
YULB				*e*S			**Sn**	21 22 31.9	-2.7
ECBN	**Changbin** baz=188	0.74	201	*e*	P		**Pn**	21 22 21.9	-2.4
NSK	**Sanguang** baz=332	0.75	332	⇑*i*	P		**Pn**	21 22 22.7	-1.7
NSK				*e*S			**Sn**	21 22 32.5	-2.3
FUSB	**Fushanzhiwuyua** baz=340	0.76	349	⇑*i*	P		**Pn**	21 22 23.7	-0.9
FUSB				*e*S			**Sn**	21 22 33.9	-1.1
SSLB	**Suanglung** baz=256	0.76	253	*e*	P		**Pn**	21 22 23.6	-0.9
SSLB				*e*S			**Sn**	21 22 33.0	-2.0
WCS	**Beigang Elemen** baz=276	0.76	273	*e*	P		**Pn**	21 22 23.4	-1.2
EYUL	**Yuli** baz=221	0.77	211	*e*	P		**Pn**	21 22 23.1	-1.6
TWF1	**Yuli** baz=222	0.78	212	⇑*i*	P		**Pn**	21 22 23.0	-1.7
TWF1				*e*S			**Sn**	21 22 33.2	-2.2
WHP	**Taichung City** baz=289	0.78	290		P		**Pn**	21 22 24.7	-0.1
WHP				*e*S			**Sn**	21 22 34.6	-1.0
SMLT	**Sun Moon Lake** baz=257	0.79	261		P		**Pn**	21 22 24.4	-0.6
SMLT				*e*S			**Sn**	21 22 34.9	-0.9
TYC	**Yuchr** baz=261	0.82	263		P		**Pn**	21 22 24.9	-0.4
TYC				*e*S			**Sn**	21 22 36.9	+0.5
NTC	**Toucheng** baz=12	0.84	5	*e*	P		**Pn**	21 22 25.5	-0.2
NTC				*e*S			**Sn**	21 22 37.1	+0.1
NFF	**Wufeng Townshi** baz=317	0.84	317		P		**Pn**	21 22 24.2	-1.5
NFF				*e*S			**Sn**	21 22 36.3	-0.8
YUS	**Yu-Shan** baz=224	0.90	235	⇑*i*	P		**Pn**	21 22 26.1	-0.7
YUS				*e*S			**Sn**	21 22 36.7	-2.3
FULB	**Fuli** baz=216	0.91	207	*e*	P		**Pn**	21 22 25.6	-1.0
FULB				*e*S			**Sn**	21 22 39.1	+0.4
LIOB	**Emei** baz=313	0.92	313	⇑*i*	P		**Pn**	21 22 27.3	+0.6
LIOB				*e*S			**Sn**	21 22 39.0	+0.1
NSTT	**Nanjuang** baz=312	0.92	312	⇑	P		**Pn**	21 22 27.1	+0.4
NSTT				*e*S			**Sn**	21 22 39.1	+0.3
NJD	**Zhudong** baz=320	0.94	320	*e*	P		**Pn**	21 22 27.4	+0.4
NJD				*e*S			**Sn**	21 22 40.6	+1.3
TWQ1	**Liyutan** baz=290	0.95	291	*e*	P		**Pn**	21 22 27.8	+0.6
TWQ1				*e*S			**Sn**	21 22 40.8	+1.1
WJS	**Zhushan** baz=258	0.95	259	*e*	P		**Pn**	21 22 27.7	+0.5
WJS				*e*S			**Sn**	21 22 41.3	+1.6
TIPB	**Shuangxi** baz=355	0.96	4	*e*	P		**Pn**	21 22 27.3	0.0
TIPB				*e*S			**Sn**	21 22 41.1	+1.2
NHDH	**Xindian Distri** baz=341	0.97	348	*e*	P		**Pn**	21 22 27.1	-0.2
NHDH				*e*S			**Sn**	21 22 39.6	-0.4
TWA	**Mucha** baz=345	0.97	351	*e*	P		**Pn**	21 22 27.2	-0.3
TWA				*e*S			**Sn**	21 22 40.6	+0.4
WNT	**Mingjian** baz=261	0.98	262	*e*	P		**Pn**	21 22 28.4	+0.8
WNT				*e*S			**Sn**	21 22 41.6	+1.2
NSY	**Sanyi** baz=294	0.98	294	*e*	P		**Pn**	21 22 28.3	+0.7
NSY				*e*S			**Sn**	21 22 42.5	+1.9
TATO	**Taipei** baz=347	0.99	346	*e*	P		**Pn**	21 22 27.2	-0.4
TATO				*e*S			**Sn**	21 22 40.6	+0.1
TCU	**Taichung** baz=278	0.99	278	*e*	P		**Pn**	21 22 28.5	+0.9
TCU				*e*S			**Sn**	21 22 42.4	+1.8
ALS	**Alishan** baz=231	1.00	240		P		**Pn**	21 22 28.0	0.0
ALS				*e*S			**Sn**	21 22 39.9	-1.4
HSN1	**Hsinchu** baz=319	1.01	319	*e*	P		**Pn**	21 22 27.8	-0.2
HSN1				*e*S			**Sn**	21 22 41.6	+0.4
TWB1	**Santiao Chiao** baz=13	1.01	12		P		**Pn**	21 22 28.6	+0.6
TWB1				*e*S			**Sn**	21 22 42.2	+1.0
NMLH	**Miaoli** baz=301	1.02	301	*e*	P		**Pn**	21 22 28.3	+0.3
NMLH				*e*S			**Sn**	21 22 43.2	+1.9
ECS	**Chishang** baz=216	1.03	208	*e*	P		**Pn**	21 22 27.0	-1.4
SBCB	**Hsinchu** baz=325	1.04	318	*e*	P		**Pn**	21 22 28.6	+0.2
NWF	**Wu-fen Shan** baz=351	1.05	2	*e*	P		**Pn**	21 22 28.8	+0.2
NWF				*e*S			**Sn**	21 22 42.3	0.0
WFSB	**Wu-fen Shan** baz=351	1.05	2	*e*	P		**Pn**	21 22 28.9	+0.3
WFSB				*e*S			**Sn**	21 22 43.5	+1.3
HSN	**Hsinchu** baz=321	1.06	318	*e*	P		**Pn**	21 22 29.3	+0.7
HSN				*e*S			**Sn**	21 22 43.7	+1.4
ELDTW	**Lidau** baz=218	1.06	219	*e*	P		**Pn**	21 22 27.4	-1.4
ELDTW				*e*S			**Sn**	21 22 41.0	-1.6
WDJ	**Dajia District** baz=288	1.06	288	*e*	P		**Pn**	21 22 28.9	+0.2
WDJ				*e*S			**Sn**	21 22 43.9	+1.5
NCU	**National Centr** baz=333	1.08	332	*e*	P		**Pn**	21 22 29.2	+0.3
SXI1	**Grass Mountain** baz=354	1.08	6	*e*	P		**Pn**	21 22 29.6	+0.6
SXI1				*e*S			**Sb**	21 22 45.6	+1.7
WCHH	**Zhanghua** baz=273	1.09	274	*e*	P		**Pn**	21 22 28.9	-0.1
WCHH				*e*S			**Sn**	21 22 45.1	+2.0
EDH	**Donghe** baz=191	1.11	201	*e*	P		**Pn**	21 22 27.5	-1.8
TWS1	**Kuangyinshan** baz=353	1.12	345	*e*	P		**Pn**	21 22 29.6	+0.1
TWS1				*e*S			**Sn**	21 22 43.5	-0.4
YM01	**YM01** baz=339	1.14	352	*e*	P		**Pn**	21 22 29.9	+0.1
WDLH	**Douliu** baz=254	1.15	254	*e*	P		**Pn**	21 22 30.5	+0.6
WDLH				*e*S			**Sn**	21 22 46.4	+1.8
NTST	**Danshui** baz=355	1.18	347	*e*	P		**Pn**	21 22 30.9	+0.6
NTST				*e*S			**Sn**	21 22 47.0	+1.7
JYNG	**Yonagunijimaku**	1.18	68		P		**Pn**	21 22 30.3	0.0
JYNG					S		**Sn**	21 22 45.1	-0.1
ANP	**Anpu** baz=351	1.19	350	*e*	P		**Pn**	21 22 29.7	-0.8
WCKO	**Fanlu** baz=241	1.19	242	*e*	P		**Pn**	21 22 30.7	+0.2
WCKO				*e*S			**Sn**	21 22 46.9	+1.2
STYH	**Taoyuan** baz=221	1.22	227	*e*	P		**Pn**	21 22 29.8	-1.1
STYH				*e*S			**Sn**	21 22 46.1	-0.3
YOJ	**Yonaguni jima** baz=69	1.24	69	*e*	P		**Pn**	21 22 30.6	-0.5
YOJ				*e*S			**Sn**	21 22 46.4	-0.3
YOJ	**Yonaguni jima**	1.24	69		P		**Pn**	21 22 30.9	-0.2
YOJ					S		**Sn**	21 22 46.9	+0.1
LONT	**Longtian** baz=194	1.24	207	*e*	P		**Pn**	21 22 28.8	-2.3
TPUB	**Ta-pu** baz=229	1.25	235	*e*	P		**Pn**	21 22 31.9	+0.7
TPUB				*e*S			**Sn**	21 22 48.8	+1.8
WRL	**Guolierlin Hig** baz=277	1.26	265	*e*	P		**Pn**	21 22 31.1	-0.3
WRL				*e*S			**Sn**	21 22 47.9	+0.7
CHN2	**Minshiung** baz=248	1.26	248	*e*	P		**Pb**	21 22 33.8	+0.8
CHN2				*e*S			**Sb**	21 22 50.8	+1.9
TWY	**Chenhua** baz=343	1.26	354	*e*	P		**Pn**	21 22 31.0	-0.5
TWY				*e*S			**Sn**	21 22 46.8	-0.6
WTP	**Ta-pu** baz=233	1.29	234	*e*	P		**Pn**	21 22 32.6	+0.8
WTP				*e*S			**Sn**	21 22 49.9	+1.8
CHY	**Chiayi** baz=246	1.32	247	*e*	P		**Pn**	21 22 31.4	-0.8
TWG	**Pinlang** baz=194	1.34	208	*e*	P		**Pn**	21 22 30.3	-2.2
TWG				*e*S			**Sn**	21 22 48.5	-0.8
TWGBT	**Beinan** baz=195	1.34	207	*e*	P		**Pn**	21 22 29.8	-2.7
LDUT	**Ludao** baz=189	1.36	191	*e*	P		**Pn**	21 22 29.9	-2.8
TWK	**Hsinying** baz=227	1.37	237	*e*	P		**Pn**	21 22 33.6	+0.6
TWK				*e*S			**Sn**	21 22 51.9	+1.7
CHN1	**Nanshi** baz=233	1.39	234	*e*	P		**Pn**	21 22 33.9	+0.7
CHN1				*e*S			**Sn**	21 22 52.1	+1.6
SNST	**Tainan City** baz=235	1.39	236	*e*	P		**Pn**	21 22 34.8	+1.6
SNST				*e*S			**Sn**	21 22 52.3	+1.7
SGST	**Jiashian** baz=229	1.41	229	*e*	P		**Pn**	21 22 33.4	-0.2
SGST				*e*S			**Sn**	21 22 52.2	+1.1
WSF	**Szhu** baz=255	1.45	255	*e*	P		**Pn**	21 22 35.2	+1.3
WSF				*e*S			**Sn**	21 22 54.4	+2.6
WSL	**Shuilin Townsh** baz=250	1.48	251	*e*	P		**Pn**	21 22 34.4	+0.1
ICHU	**Yijhu** baz=244	1.49	244	*e*	P		**Pn**	21 22 35.2	+0.6
CHN3	**Shinhua** baz=247	1.57	234	*e*	P		**Pn**	21 22 37.1	+1.4
ECL	**Taimali** baz=197	1.59	207	*e*	P		**Pn**	21 22 33.7	-2.2
SCST	**Cishan** baz=226	1.61	226	*e*	P		**Pn**	21 22 37.8	+1.6
SCST				*e*S			**Sb**	21 22 59.4	+0.5
SHHT	**Tainan City** baz=246	1.62	233	*e*	P		**Pn**	21 22 37.3	+0.9
SSD	**Sandimen** baz=218	1.62	219	*e*	P		**Pn**	21 22 37.2	+0.8
PCYT	**Pengchaiyu** baz=10.0	1.64	10	*e*	P		**Pn**	21 22 37.1	+0.6
TSMG	**Majia** baz=217	1.65	218	*e*	P		**Pn**	21 22 37.5	+0.8
TWM1	**Shoushan** baz=236	1.70	226	*e*	P		**Pn**	21 22 39.8	+2.3
MASBT	**Mashibuluo** baz=215	1.73	216	*e*	P		**Pn**	21 22 37.6	-0.3
MASBT				*e*S			**Sn**	21 23 00.1	+1.1
TSCK	**Chigu Township** baz=240	1.75	241	*e*	P		**Pn**	21 22 38.1	-0.1
IRIF	**Iriomote-Funau**	1.84	80		P		**Pn**	21 22 39.7	+0.4
IRIF					S		**Sn**	21 23 01.9	+0.3
TAWH	**Dawu Township** baz=196	1.84	206	*e*	P		**Pn**	21 22 38.9	-0.5

HATJ	**Hateruma jima**	**1.88**	**88**	P	**Pn**	**21 22 40.5**	**+0.6**
HATJ				S	**Sn**	**21 23 02.8**	**+0.1**
WSSB	**Gushan**	**1.93**	**225**	*eP*	**Pn**	**21 22 41.7**	**+1.1**
	baz=225						
SCZT	**Fangliau**	**1.94**	**213**	*eP*	**Pn**	**21 22 41.5**	**+0.8**
	baz=228						
SCZT				*eS*	**Sn**	**21 23 05.3**	**+1.3**
	baz=228						
LAY	**Lan-yu**	**1.97**	**185**	*eP*	**Pn**	**21 22 38.7**	**-2.6**
	baz=183						
SLIU	**Shizi**	**1.99**	**206**	*eP*	**Pn**	**21 22 41.0**	**-0.5**
	baz=195						
LYUB	**Lan-yu**	**2.01**	**184**	*eP*	Pn	21 22 38.2	-3.5
	baz=182						
PHUB	**P'eng-hu**	**2.05**	**256**	*eP*	**Pn**	**21 22 41.2**	**-1.1**
	baz=256						
WDGT	**Dungji**	**2.06**	**249**	*eP*	**Pn**	**21 22 42.0**	**-0.4**
	baz=248						
PNG	**Penghu**	**2.06**	**258**	*eP*	**Pn**	**21 22 42.0**	**-0.4**
	baz=257						
JKRS	**Kuro-shima**	**2.08**	**83**	P	**Pn**	**21 22 43.4**	**+0.8**
JKRS				S	**Sn**	**21 23 08.0**	**+0.5**
JIJ	**Ishigaki jima**	**2.22**	**80**	P	**Pn**	**21 22 45.2**	**+0.7**
JIJ				S	**Sn**	**21 23 11.5**	**+0.6**
VCHM	**Qimei**	**2.27**	**250**	*eP*	**Pn**	**21 22 45.1**	**-0.2**
	baz=237						
VWUC	**VWUC**	**2.31**	**295**	*eP*	**Pn**	**21 22 44.5**	**-1.3**
	baz=295						
JISG	**Ishigakijimahi**	**2.41**	**76**	P	**Pn**	**21 22 47.1**	**-0.1**
JISG				S	**Sn**	**21 23 15.3**	**-0.4**
PTMZ	**Houxiangcun**	**2.60**	**294**	*eP*	**Pn**	**21 22 48.6**	**-1.2**
	baz=293						
MATB	**Ma-tsu**	**2.68**	**323**	*eP*	**Pn**	**21 22 51.6**	**+0.7**
	baz=323						
JTJ	**Tarama**	**2.77**	**76**	P	**Pn**	**21 22 53.3**	**+1.2**
JTJ				S	**Sn**	**21 23 25.7**	**+1.2**
KNM	**Kinmen**	**3.05**	**278**	*eP*	**Pn**	**21 22 56.6**	**+0.6**
	baz=277						
LYJJ	**Jianjiangzhen**	**3.10**	**325**	*eP*	**Pn**	**21 22 55.9**	**-0.8**
	baz=326						
AXDP	**Jialang**	**3.55**	**285**	*eP*	**Pn**	**21 23 01.8**	**-1.1**
	baz=285						
ZPLA	**Ao Xicun**	**3.66**	**270**	*eP*	**Pn**	**21 23 03.3**	**-1.0**
	baz=269						
DSXP	**Dongshan**	**3.97**	**266**	*eP*	**Pn**	**21 23 07.7**	**-0.9**
	baz=267						
SXFK	**Yanhouchang**	**4.41**	**303**	*eP*	**Pn**	**21 23 13.4**	**-1.3**
	baz=303						

*IDC **23** 21:27:34.1±0.7, 34°.49N×141°.58E, h0km, mb3.8/13, mbtmp3.8/16, ML3.2/4, MS3.3/5, Error ellipse: s-maj=17.3km s-min=15.2km az=106.0*
*JMA **23** 21:27:35.1±0.4, 35°.N±1°×14°.2E±°, h29km±2km, MV3.4/32, FAR SE OFF BOSO PEN*

ISC 23 21:27:36.8±1.3, 34°.44N±0°.05×141°.60E±0°.06, h20km±5km, n36, σ0°87/36, mb3.8/13, MS3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.55**	**293**	P	**Pn**	**21 27 48.2**	**-0.9**
BSO3	**Boso 3**	**0.97**	**292**	P	**Pg**	**21 27 55.3**	**-0.2**
BSO4	**Boso 4**	**1.17**	**298**	P	**Pg**	**21 27 58.7**	**-0.8**
KTR	**Katsuura**	**1.27**	**304**	P	**Pn**	**21 27 59.1**	**-0.3**
KTR				S	**Sn**	**21 28 16.5**	**+0.6**
JKUC	**kamogawauchiur**	**1.36**	**302**	P	**Pn**	**21 28 00.4**	**-0.3**
JKUC				S	**Sb**	**21 28 18.9**	**+0.4**
CHOJ	**Chosi**	**1.40**	**335**	P	**Pn**	**21 27 59.8**	**-1.4**
CHOJ				S	**Sn**	**21 28 17.7**	**-1.5**
JMKN	**Mikurajimanish**	**1.75**	**252**	P	**Pn**	**21 28 06.7**	**+0.6**
JMKN				S	**Sb**	**21 28 30.1**	**+0.4**
JIM2	**Oshima 3**	**1.81**	**280**	P	**Pn**	**21 28 07.4**	**+0.5**
JIM2				S	**Sb**	**21 28 31.3**	**-0.2**
JHJ	**Hachijo jima 2**	**2.00**	**229**	Pn	**Pb**	**21 28 10.9**	**-1.7**
	9.9nm,0.3s,baz=154,slow=23,SNR=18						
JHJ				Sn	**Sb**	**21 28 36.0**	**-1.0**
	42nm,0.3s,baz=81,slow=23,SNR=5.4						
MJAR	**Matsushiro Arr**	**3.47**	**308**	Pn	**Pn**	**21 28 30.1**	**+0.4**
	0.6nm,0.3s,baz=115,slow=8.6,SNR=42						
MJAR				Sn	**Sn**	**21 29 12.0**	**+1.7**
	0.7nm,0.3s,baz=282,slow=17,SNR=3.8						
	5.2nm,0.5s						
JCJ	**Chichijima**	**7.33**	**176**	Pn	**Pn**	**21 29 22.6**	**-0.2**
	3.0nm,0.3s,baz=260,slow=18,SNR=1.7						
JCJ				Sn	**Sn**	**21 30 44.2**	**-1.3**
	4.1nm,0.3s,baz=294,slow=20,SNR=1.8						
	66nm,0.8s						
KSRS	**Korea Array**	**11.48**	**289**	Pn	**Pn**	**21 30 19.9**	**+0.3**
	0.2nm,0.3s,baz=103,slow=14,SNR=5.4						
KSRS				LR	LR	21 35 02.8	
	comp=Z,80nm,18.6s,baz=95,slow=39						
	1.1nm,0.7s						
JOW	**Kunigami**	**13.74**	**240**	LR	LR	21 36 44.1	
	comp=Z,99nm,18.3s,baz=305,slow=40						
H11N2	**WAKE ISLAND Hy**	**26.77**	**117**	T	T	22 01 25.0	
	baz=309,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**26.78**	**117**	T	T	22 01 25.6	
	baz=309,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**26.79**	**117**	T	T	22 01 28.1	
	baz=309,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.40**	**119**	T	T	22 02 17.0	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.40**	**119**	T	T	22 02 16.2	
	baz=313,slow=74,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**27.41**	**119**	T	T	22 02 16.7	
	baz=313,slow=74,SNR=5.5						
SONM	**Songino Array**	**29.43**	**308**	P	**P**	**21 33 39.8**	**+0.7**
	0.9nm,0.6s,baz=112,slow=9.8,SNR=5.3						
SONM				LR	LR	21 46 18.4	
	comp=Z,56nm,18.3s,baz=98,slow=38						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.05**	**258**	P	**P**	**21 35 18.8**	**-0.4**
	0.4nm,0.6s,baz=45,slow=6.9,SNR=6.3						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**43.80**	**314**	P	**P**	**21 35 40.8**	**-0.3**
	1.0nm,0.6s,baz=86,slow=6.6,SNR=5.9						
ZALV				PcP	**PcP**	**21 37 27.0**	**-0.3**
	0.9nm,0.7s,baz=108,slow=4.8,SNR=3.7						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.66**	**304**	P	**P**	**21 35 56.5**	**+0.4**
	0.6nm,0.7s,baz=88,slow=12,SNR=4.9						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**51.62**	**31**	P	**P**	**21 36 41.8**	**+0.2**
	2.3nm,0.7s,baz=268,slow=6.3,SNR=24						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**54.52**	**188**	P	**P**	**21 37 03.8**	**+0.4**
	1.3nm,0.7s,baz=4.1,slow=7.6,SNR=23						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**58.24**	**188**	P	**P**	**21 37 30.9**	**+1.0**
	0.6nm,0.8s,baz=11,slow=9.7,SNR=9.6						
	0.6nm,0.8s						
NVAR	**Mina Array Bea**	**76.43**	**53**	P	**P**	**21 39 27.4**	**+2.0**
	0.5nm,0.3s,baz=276,slow=6.8,SNR=5.1						
	0.5nm,0.3s						
AKASG	**Malin Array Be**	**76.44**	**323**	P	**P**	**21 39 23.9**	**-1.0**
	1.0nm,0.5s,baz=46,slow=6.3,SNR=6.9						
	1.0nm,0.5s						
NB2	**NORSAR Subarra**	**76.64**	**338**	P	**P**	**21 39 25.4**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**76.64**	**338**	P	**P**	**21 39 25.6**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=40,slow=5.8,SNR=5.5						
	comp=Z,1.4nm,0.8s						
ELK	**Elko**	**77.12**	**49**	LR	LR	22 12 27.4	
	comp=Z,29nm,18.3s,baz=186,slow=35						
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**21 39 41.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=18,slow=3.8,SNR=2.7						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**80.69**	**312**	LR	LR	22 20 09.2	
	comp=Z,22nm,18.7s,baz=150,slow=39						
GERES	**GERESS Array B**	**85.00**	**328**	P	**P**	**21 40 10.6**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=50,slow=4.2,SNR=3.8						
	comp=Z,0.5nm,0.9s						
TXAR	**Lajitas Array**	**91.58**	**53**	P	**P**	**21 40 43.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=286,slow=5.2,SNR=5.2						
	comp=Z,0.3nm,0.6s						
LPAZ	**La Paz**	**147.80**	**63**	PKPbc	**PKPbc**	**21 47 22.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=278,slow=2.1,SNR=5.0						

*IDC **23** 21:42:35.9±0.6, 18°.73S×65°.55E, h0km, mb4.1/18, mbtmp4.1/19, ML3.7/1, MS3.7/24, Error ellipse: s-maj=21.3km s-min=15.7km az=86.0*
*NEIC **23** 21:42:35.5±1.4, 19°.0S±0°.1×65°.52E±0°.07, h10km±1km, mb4.6/32, Error ellipse: s-maj=22.7km s-min=6.4km az=156.0*

ISC 23 21:42:36.1±0.5, 18°.79S±0°.10×65°.57E±0°.08, h10km, n89, σ1°52/67, mb4.2/39, MS3.7/24, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.29**	**245**		**Pn**	**21 43 11.7**	**-2.3**
H08S1	**Diego Garcia H**	**12.95**	**32**	T	T	21 58 57.5	
	baz=211,slow=76,SNR=104						
H08S2	**Diego Garcia H**	**12.96**	**32**	T	T	21 58 58.4	
	baz=211,slow=76,SNR=72						
H08S3	**Diego Garcia H**	**12.97**	**32**	T	T	21 58 59.4	
	baz=211,slow=76,SNR=171						
OPO	**Ambohidratompo**	**17.42**	**268**	Pn	**P**	**21 46 42.6**	**+1.7**
	baz=123,slow=14,SNR=2.7						
	2.8nm,0.7s						
VOI	**Vohitsoka**	**17.88**	**257**		**P**	**21 46 45.4**	**-0.5**
PALK	**Pallekele**	**29.89**	**31**	LR	LR	21 58 10.1	
	comp=Z,94nm,18.5s,baz=307,slow=31						
POGA	**Pongola**	**32.22**	**248**	P	**P**	**21 49 02.9**	**-1.9**
LSZ	**Lusaka**	**35.87**	**270**	LR	LR	22 02 06.6	
	comp=Z,122nm,21.7s,baz=124,slow=33						
GSI	**Gunungsitoli**	**37.26**	**61**	P	**P**	**21 49 48.5**	**+0.1**
LBTB	**Lobatse**	**37.50**	**253**	P	**P**	**21 49 51.6**	**+1.1**
	3.2nm,0.8s,baz=89,slow=7.8,SNR=4.8						
LBTB				LR	LR	22 03 17.6	
	comp=Z,187nm,18.1s,baz=82,slow=33						
	3.2nm,0.8s						
BOSA	**Boshof**	**38.03**	**247**	LR	LR	22 02 42.3	
	comp=Z,58nm,21.9s,baz=38,slow=32						
MBAR	**Mbarara**	**38.65**	**294**	LR	LR	22 03 20.0	
	comp=Z,68nm,20.9s,baz=74,slow=32						
PSI	**Prapat**	**39.21**	**60**	LR	LR	22 03 17.4	
	comp=Z,147nm,19.7s,baz=226,slow=32						
MNAI	**Manna**	**39.22**	**73**	P	**P**	**21 50 04.1**	**-0.8**
SUR	**Sutherland**	**42.28**	**242**	LR	LR	22 05 25.3	
	comp=Z,138nm,18.8s,baz=90,slow=32						
TSUM	**Tsumeb**	**45.26**	**261**	LR	LR	22 09 07.2	
	comp=Z,80nm,18.4s,baz=125,slow=35						
BRDH	**Bariadhala**	**48.45**	**33**	LR	LR	22 11 47.1	
	comp=Z,57nm,18.7s,baz=244,slow=36						
MAW	**Mawson**	**48.83**	**181**	P	**P**	**21 51 23.6**	**+2.3**
	2.0nm,0.8s,baz=11,slow=14,SNR=4.9						
	2.0nm,0.8s						
CM31	**Chiang Mai Arr**	**49.44**	**43**	P	**P**	**21 51 27.0**	**+0.4**
CM31				IAmb	IAmb	21 51 36.6	
	comp=Z,4.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.44**	**43**	P	**P**	**21 51 28.9**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=237,slow=7.9,SNR=6.8						
CMAR				LR	LR	22 08 59.7	
	comp=Z,59nm,21.5s,baz=225,slow=32						
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.44**	**43**	P	**P**	**21 51 26.7**	**+0.1**
SBUM	**Sibu**	**50.50**	**70**	P	**P**	**21 51 33.4**	**-1.5**
SBUM				IAmb	IAmb	21 51 51.6	
	comp=Z,13nm,1.5s						
KBL	**Kabul**	**53.13**	**4**	P	**P**	**21 51 52.9**	**-1.4**
KBL				IAmb	IAmb	21 51 57.2	
	comp=Z,5.5nm,1.1s						
KAPI	**Kappang**	**54.54**	**83**	LR	LR	22 13 24.1	
	comp=Z,23nm,19.8s,baz=262,slow=34						
MMRI	**Maumere**	**55.77**	**88**	P	**P**	**21 52 11.1**	**-2.7**
EIL	**Elat**	**56.50**	**328**	LR	LR	22 13 14.2	
	comp=Z,37nm,19.4s,baz=340,slow=33						
BATI	**Baumata**	**56.69**	**90**	LR	LR	22 12 38.7	
	comp=Z,43nm,22.0s,baz=214,slow=32						
FITZ	**Fitzroy Crossi**	**56.74**	**100**	LR	LR	22 15 09.5	
	comp=Z,48nm,18.8s,baz=185,slow=34						
GURO	**Guroymak-BITLI**	**61.16**	**339**	P	**P**	**21 52 51.0**	**0.0**
GURO				IAmb	IAmb	21 53 04.4	
	comp=Z,3.6nm,1.0s						
AAK	**Ala-Archa**	**61.67**	**7**	LR	LR	22 18 21.7	
	comp=Z,46nm,18.6s,baz=199,slow=35						
KKAR	**Karatay Array**	**61.75**	**4**	P	**P**	**21 52 54.4**	**-0.3**
GNI	**Garni**	**61.76**	**342**	P	**P**	**21 52 57.7**	**+2.7**
	comp=Z,9.3nm,0.9s,baz=21,slow=1.2,SNR=5.5						
	comp=Z,9.3nm,0.9s						
GNI	**Garni**	**61.76**	**342**	P	**P**	**21 52 54.9**	**-0.2**
ASAR	**Alice Springs**	**63.36**	**108**	P	**P**	**21 53 07.4**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=270,slow=6.3,SNR=4.6						
ASAR				LR	LR	22 17 01.8	
	comp=Z,148nm,20.3s,baz=272,slow=33						
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**63.36**	**108**	P	**P**	**21 53 04.5**	**-1.6**
AS31	**Alice Springs**	**63.36**	**108**	P	**P**	**21 53 04.2**	**-1.9**
WRA	**Warramunga Arr**	**64.45**	**104**	P	**P**	**21 53 15.2**	**+1.9**
	comp=Z,1.3nm,1.1s,baz=261,slow=5.9,SNR=4.7						
WRA				LR	LR	22 19 13.3	
	comp=Z,107nm,18.6s,baz=280,slow=34						
	comp=Z,1.3nm,1.1s						
WRA	**Warramunga Arr**	**64.45**	**104**	P	**P**	**21 53 11.2**	**-2.1**
WB2	**Warramunga Arr**	**64.46**	**104**	P	**P**	**21 53 11.8**	**-1.6**
WB2				IAmb	IAmb	21 53 22.8	
	comp=Z,5.3nm,1.2s						
WRAB	**Tennant Creek**	**64.47**	**104**	P	**P**	**21 53 12.9**	**-0.5**
WRAB				IAmb	IAmb	21 53 22.2	
	comp=Z,5.2nm,1.0s						
ENH	**Enshi**	**64.54**	**42**	P	**P**	**21 53 13.3**	**-0.3**
ENH				IAmb	IAmb	21 53 21.4	
	comp=Z,9.5nm,1.3s						
BRTR	**Keskin Array B**	**65.39**	**333**	P	**P**	**21 53 19.9**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=153,slow=9.7,SNR=4.8						
	comp=Z,1.3nm,0.9s						
SNAA	**Sanae**	**65.55**	**199**	LR	LR	22 16 31.6	
	comp=Z,35nm,19.5s,baz=40,slow=31						
SANT	**Santorini**	**66.68**	**326**	P	**P**	**21 53 25.8**	**-1.6**
MKAR	**Makanchi Array**	**66.99**	**12**	P	**P**	**21 53 29.6**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=134,slow=5.2,SNR=4.2						
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**66.99**	**12**	P	**P**	**21 53 29.1**	**+0.1**
ABKAR	**Akbulak array**	**67.92**	**356**	P	**P**	**21 53 34.6**	**-0.1**
STKA	**Stephens Creek**	**68.73**	**118**	LR	LR	22 19 45.2	
	comp=Z,45nm,18.6s,baz=206,slow=32						
KURBB	**Kurchatov Arra**	**70.04**	**9**	P	**P**	**21 53 49.1**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=206,slow=6.5,SNR=7.8						
	comp=Z,1.3nm,0.9s						
KURK	**Kurchatov**	**70.14**	**9**	P	**P**	**21 53 48.6**	**0.0**
KURK				IAmb	IAmb	21 53 56.5	
	comp=Z,3.2nm,0.8s						
QSPA	**South Pole Qui**	**71.32**	**180**	P	**P**	**21 53 57.4**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=265,slow=2.8,SNR=8.8						
	comp=Z,3.2nm,0.9s						
QSPA	**South Pole Qui**	**71.32**	**180**		**P**	**21 53 54.8**	**-1.1**
QSPA				IAmb	IAmb	21 54 06.2	
	comp=Z,9.6nm,1.2s						
BVAR	**Borovoye Array**	**71.63**	**3**	P	**P**	**21 53 58.4**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=155,slow=7.4,SNR=12						
	comp=Z,1.5nm,0.9s						
BRVK	**Borovoye**	**71.66**	**3**	P	**P**	**21 53 57.5**	**-0.2**
WDD	**Wied Dalam**	**72.70**	**319**	P	**P**	**21 54 02.6**	**-1.7**
VNDA	**Vanda**	**73.15**	**167**	P	**P**	**21 54 08.2**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=265,slow=7.3,SNR=6.9						
VNDA				LR	LR	22 22 08.5	
	comp=Z,42nm,18.0s,baz=158,slow=32						
	comp=Z,0.9nm,0.9s						
RAFF	**Raffo Rosso**	**73.68**	**320**	P	**P**	**21 54 05.7**	**-4.5**
DBIC	**Dimbokro**	**73.84**	**283**	LR	LR	22 24 09.3	
	comp=Z,63nm,19.5s,baz=131,slow=34						
ZAA0	**Zalesovo Array**	**74.31**	**12**	P	**P**	**21 54 13.5**	**+0.1**
ZAA0				IAmb	IAmb	21 54 20.5	
	comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**74.31**	**12**	P	**P**	**21 54 14.2**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=217,slow=3.7,SNR=7.4						
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**74.31**	**12**	P	**P**	**21 54 13.9**	**+0.5**
ARU	**Arti**	**75.15**	**356**	P	**P**	**21 54 18.5**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=101,slow=6.8,SNR=4.7						
	comp=Z,1.1nm,0.5s						
ARU	**Arti**	**75.15**	**356**	P	**P**	**21 54 18.0**	**-0.3**
ARU				IAmb	IAmb	21 54 20.2	
	comp=Z,4.6nm,1.1s						
DIVS	**Divibare**	**75.18**	**328**	P	**P**	**21 54 17.9**	**-0.9**
DIVS				IAmb	IAmb	21 54 21.1	
	comp=Z,7.6nm,1.2s						
CTA	**Charters Tower**	**75.32**	**107**	LR	LR	22 25 12.9	
	comp=Z,60nm,19.1s,baz=260,slow=34						
BURAR	**Bucovina Array**	**75.36**	**333**	P	**P**	**21 54 19.6**	**-0.2**
SONM	**Songino Array**	**75.73**	**27**	P	**P**	**21 54 23.7**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=232,slow=9.1,SNR=4.4						
	comp=Z,0.9nm,0.9s						
SONM	**Songino Array**	**75.73**	**27**	P	**P**	**21 54 22.3**	**+0.3**
AKASG	**Malin Array Be**	**76.22**	**337**	P	**P**	**21 54 25.2**	**+0.7**
	comp=Z,4.4nm,1.0s,baz=139,slow=4.7,SNR=6.9						
	comp=Z,4.4nm,1.0s						
AKBB	**Malin Array Si**	**76.22**	**337**	P	**P**	**21 54 25.1**	**+0.6**
AKBB				IAmb	IAmb	21 54 27.4	
	comp=Z,6.5nm,0.9s						
KWP	**Kalwaria Pacla**	**77.97**	**333**	P	**P**	**21 54 34.6**	**+0.2**
RONA	**Rosalia, Austr**	**79.54**	**329**	*eP*	**P**	**21 54 44.1**	**+0.9**
	comp=Z,0.4nm,0.2s						
ARSA	**Arzberg**	**79.62**	**328**	*eP*	**P**	**21 54 46.1**	**+2.5**
	comp=Z,0.9nm,0.3s						
CONA	**Conrad Observa**	**79.91**	**329**	*eP*	**P**	**21 54 47.1**	**+1.9**
	comp=Z,0.5nm,0.4s						
STAL	**STALIGIAL**	**80.42**	**326**	P	**P**	**21 54 48.6**	**+0.6**
STAL				IAmb	IAmb	21 54 56.5	
	comp=Z,7.4nm,1.5s						
MOA	**Molln**	**80.66**	**328**	*eP*	**P**	**21 54 52.3**	**+3.1**
	comp=Z,0.2nm,0.2s						
ABTA	**Abfaltersbach**	**80.84**	**326**	*eP*	**P**	**21 54 53.4**	**+3.1**
	comp=Z,1.1nm,0.5s						
KSAR	**Wonju Array Be**	**80.99**	**46**	P	**P**	**21 54 51.1**	**0.0**
GERES	**GERESS Array B**	**81.59**	**328**	P	**P**	**21 54 53.0**	**-1.3**
WATA	**Walderalm**	**81.71**	**326**	*eP*	**P**	**21 54 56.4**	**+1.4**
	comp=Z,0.9nm,0.3s						
FETA	**Feichten**	**81.96**	**326**	*eP*	**P**	**21 54 57.9**	**+1.6**
	comp=Z,0.6nm,0.5s						
MOTA	**Moosalm**	**81.97**	**326**	*eP*	**P**	**21 54 58.0**	**+1.7**
	comp=Z,1.4nm,0.7s						
DAVA	**Damuels**	**82.58**	**325**	*eP*	**P**	**21 55 00.7**	**+1.2**
	comp=Z,0.8nm,0.5s						
MDT	**Midelt**	**84.38**	**307**	LR	LR	22 33 01.3	
	comp=Z,40nm,19.0s,baz=181,slow=36						
ESDC	**Sonseca Array**	**87.01**	**314**	P	**P**	**21 55 23.1**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=122,slow=3.8,SNR=8.4						
	comp=Z,1.0nm,0.9s						
ESDC	**Sonseca Array**	**87.01**	**314**	P	**P**	**21 55 21.8**	**-0.2**
BBTS	**Babate**	**87.39**	**286**	LR	LR	22 33 38.2	
	comp=Z,84nm,19.7s,baz=108,slow=35						
MJAR	**Matsushiro Arr**	**87.83**	**50**	P	**P**	**21 55 27.7**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=234,slow=7.3,SNR=5.1						
	comp=Z,0.8nm,0.6s						

*JMA **23** 21:55:36.7±0.2, 35°.1N±0°.7×140°.0E±0°.8, h85km±1km, MV3.3/40, SOUTHERN BOSO PENINSULA*
*IDC **23** 21:55:37.1±4.8, 35°.12N×140°.20E, h78km±28km, mb3.3/4, mbtmp3.6/7, Error ellipse: s-maj=75.1km s-min=6.3km az=70.0*

ISC 23 21:55:38.0±0.9, 35°.10N±0°.04×140°.03E±0°.05, h79km±6km, n29, σ0°78/36, mb3.6/4, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKUC	**kamogawauchiur**	**0.15**	**67**	⇓*iP*	**Pn**	**21 55 48.9**	**-0.5**
JKUC				⇓S	**Sn**	**21 55 57.9**	**0.0**
KTR	**Katsuura**	**0.24**	**78**	⇓*iP*	**Pn**	**21 55 49.2**	**-0.6**
KTR				⇓S	**Sn**	**21 55 58.3**	**-0.1**
BSO4	**Boso 4**	**0.28**	**113**	⇓*iP*	**Pn**	**21 55 49.8**	**0.0**
JYO	**Yokosk**	**0.32**	**292**	*iP*	**Pn**	**21 55 50.1**	**-0.1**
JYO				S	**Sn**	**21 56 00.1**	**+0.8**
JCN	**Nagara**	**0.35**	**24**	*iP*	**Pn**	**21 55 50.6**	**+0.2**
JCN				S	**Sn**	**21 56 00.2**	**+0.6**
BSO3	**Boso 3**	**0.49**	**127**	⇓*iP*	**Pn**	**21 55 51.0**	**-0.2**
JIM2	**Oshima 3**	**0.62**	**232**	*iP*	**Pn**	**21 55 52.0**	**-0.8**
JIM2				S	**Sn**	**21 56 02.9**	**-0.8**
JOD2	**Odawara 2**	**0.79**	**282**	*iP*	**Pn**	**21 55 53.6**	**-0.9**
JOD2				S	**Sn**	**21 56 05.8**	**-1.1**
BSO1	**Boso 1**	**0.90**	**120**	*iP*	**Pn**	**21 55 54.6**	**-0.5**
JIZS	**Izushimoda**	**1.02**	**248**	*iP*	**Pn**	**21 55 56.9**	**-0.2**
JIZS				S	**Sn**	**21 56 11.8**	**+0.3**
JFNN	**Fujinakano**	**1.11**	**275**	P	**Pn**	**21 55 58.1**	**-0.1**
JFNN				*iS*	**Sn**	**21 56 13.3**	**-0.1**
JMKN	**Mikurajimanish**	**1.26**	**197**	*iP*	**Pn**	**21 55 59.9**	**-0.2**
JMKN				S	**Sn**	**21 56 16.9**	**+0.1**
JYN	**Shimob**	**1.28**	**288**	*iP*	**Pn**	**21 56 00.1**	**-0.4**
JYN				S	**Sn**	**21 56 17.4**	**0.0**
JRY	**Ryogami san**	**1.30**	**315**	*iP*	**Pn**	**21 56 00.2**	**-0.5**
JRY				S	**Sn**	**21 56 17.8**	**0.0**
JAG	**Ashikaga**	**1.40**	**341**	*iP*	**Pn**	**21 56 01.0**	**-1.0**
SHZ3	**Shizuoka 3**	**1.49**	**269**	P	**Pn**	**21 56 03.5**	**+0.3**
JHJ	**Hachijo jima 2**	**1.99**	**186**	P	**Pn**	**21 56 09.9**	**+0.3**
	95nm,0.3s,baz=309,slow=20,SNR=23						
JHJ				S	**Sn**	**21 56 34.3**	**+0.5**
	172nm,0.3s,baz=269,slow=22,SNR=11						
MJAR	**Matsushiro Arr**	**2.06**	**315**

mb4.9(NEIC)

GCMT ***23*** *22:27:22.0±0.3,8.29N±0.02×94.21E±0.02,h20km±1km, MW5.0/85,Moment Tensor Solution. s34,c43; s85,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.89±.15; Mθθ=1.23±.11; Mϕϕ2.12±.12; Mrθ=-1.52±.27; Mθϕ2.94±.12; Mϕr=-0.92±.24; Best double couple: M3.79900×10^16 NP1:ϕs73.00000°,δ86.00000°,λ-29.00000°. NP2: ϕs165.00000°,δ62.00000°,λ-176.00000°. Principal axes: T 4.3070, Plg17.0000°, Azm122.0000°; N -1.0210, Plg61.0000°, Azm246.0000°; P -3.2900, Plg22.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***23*** *22:27:22.7±0.0,8.23N×94.41E,h49km,mb4.6/50, mB4.7/33,Ms4.6/44,Ms7 4.3/40*

IDC ***23*** *22:27:23.8±2.7,8.34N×94.22E,h49km±26km,mb3.9/28, mbtmp4.2/30,ML4.5/2,MS4.2/7,Error ellipse: s-maj=16.6km s-min=10.7km az=60.0*

NEIC ***23*** *22:27:24.0±1.8,8.39N±0.06×94.38E±0.08,h35km±1km, mb4.9/107,Error ellipse: s-maj=13.8km s-min=9.5km az=58.0*

DJA ***23*** *22:27:24.7±0.2,9.1N±3.3×9.5E±.5,h10km,MM4.7/29,mB5.2/18, mb4.9/29,MLv4.9/9,Mw(mB)4.6/18,MwMwp4.7/3, Mwp5.1/3*

ISC 23 22:27:22.1±0.5,**8.37N**±0.04×**94.27E**±0.04,**h27**km±3km, **h27**km**:pP-P,n318,**σ1s**73**/313,**mb4.8**/114,**MS4.4**/15, **21C-7D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PBA	**Port Blair**	**3.59**	**335**		**Pn**	**22 28 16.7**	**+0.7**
PBA	**Port Blair**	**3.59**	**335**	*eP*	**Pn**	**22 28 15.7**	**-0.3**
LHMI	**Lhok Sumawe**	**4.10**	**139**	Pn	**Pn**	**22 28 23.0**	**0.0**
LHMI	**Lhok Sumawe**	**4.10**	**139**	P	**Pn**	**22 28 26.5**	**+3.5**
LHMI	**Lhok Sumawe**	**4.10**	**139**	P	**Pn**	**22 28 23.6**	**+0.6**
MLSI	**Meulaboh, Aceh**	**4.60**	**152**	P	**Pn**	**22 28 32.5**	**+2.7**
DGPR	**DIGLIPUR**	**4.95**	**345**	*eP*	**Pn**	**22 28 37.3**	**+2.6**
SRIT	**Nakonsritamara**	**5.28**	**87**	Pn	**Pn**	**22 28 39.5**	**+0.3**
KCSI	**Kotacane, Aceh**	**5.95**	**144**	P	**Pn**	**22 28 51.9**	**+3.5**
	0.6nm13µm2µm139nm,1.1s						
TSI	**Tuntungan**	**6.46**	**138**	P	Pn	22 29 01.8	+6.4
	1.1nm182nm,0.9s						
KULM	**Kulim**	**7.04**	**115**	Pn	**Pn**	**22 29 02.7**	**-0.7**
PSI	**Prapat**	**7.22**	**140**	P	**Pn**	**22 29 09.3**	**+3.3**
	4.0nm,0.3s,baz=296,slow=8.9,SNR=19						
PSI				LR	LR	22 32 19.7	
	comp=Z,3µm,18.5s,baz=312,slow=40						
	15nm,0.3s						
RPSI	**Rantau Prapat**	**7.30**	**140**		**Pn**	**22 29 09.3**	**+2.3**
RPSI	**Rantau Prapat**	**7.30**	**140**	Pn	**Pn**	**22 29 08.9**	**+1.9**
IPM	**Ipoh**	**7.75**	**120**	Pn	**Pn**	**22 29 11.0**	**-2.1**
IPM	**Ipoh**	**7.75**	**120**	P	**Pn**	**22 29 11.7**	**-1.5**
GSI	**Gunungsitoli**	**7.76**	**155**		**Pn**	**22 29 15.1**	**+1.8**
GSI	**Gunungsitoli**	**7.76**	**155**	P	Pn	22 29 20.5	+7.2
	0.3nm90nm,1.1s						
GSI	**Gunungsitoli**	**7.76**	**155**	P	**Pn**	**22 29 14.6**	**+1.3**
BKNI	**Bangkinang**	**10.46**	**140**	Pn	**Pn**	**22 29 52.0**	**+1.6**
BKNI	**Bangkinang**	**10.46**	**140**	P	**Pn**	**22 29 52.6**	**+2.2**
	2µm204nm,1.2s						
CM31	**Chiang Mai Arr**	**11.01**	**24**	Pn	**Pn**	**22 29 59.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**11.01**	**24**	P	**Pn**	**22 30 00.2**	**+2.4**
	1.3nm,0.3s,baz=214,slow=14,SNR=66						
CMAR				LR	LR	22 34 32.4	
	comp=Z,1µm,18.4s,baz=210,slow=39						
	9.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.01**	**24**		**Pn**	**22 29 58.7**	**+0.9**
PDSI	**Padang**	**11.10**	**146**	P	**Pn**	**22 29 59.4**	**+0.3**
CHTO	**Chiang Mai**	**11.33**	**23**	Pn	**Pn**	**22 30 03.3**	**+1.0**
CHTO	**Chiang Mai**	**11.33**	**23**	P	**Pn**	**22 30 04.1**	**+1.8**
PHRA	**Phrae**	**11.61**	**29**		**Pn**	**22 30 07.2**	**+1.0**
SDSI	**Sungai Dareh**	**11.68**	**142**	P	**Pn**	**22 30 07.0**	**0.0**
TPRI	**Tanjung Pinang**	**12.62**	**125**	P	Pn	22 30 25.0	+5.1
	25nm,0.6s						
CRAI	**Chiangrai**	**13.18**	**26**		**Pn**	**22 30 28.1**	**+0.5**
PALK	**Pallekele**	**13.49**	**266**	S	Sn	22 32 45.9	-15
	4.2nm,0.4s,baz=112,slow=19,SNR=1.7						
PALK				LR	LR	22 35 02.3	
	comp=Z,1µm,22.0s,baz=185,slow=34						
DSRI	**Dabo**	**13.52**	**130**	P	**Pn**	**22 30 35.1**	**+2.8**
	492nm52nm,1.2s						
MND	**Mandalay**	**13.68**	**7**		**Pn**	**22 30 33.4**	**-1.0**
MASI	**Maura Aman, Be**	**13.93**	**145**	P	**P**	**22 30 45.6**	**-0.1**
	113nm,1.1s						
BRDH	**Bariadhala**	**14.45**	**350**	LR	LR	22 37 45.1	
	comp=Z,1µm,20.2s,baz=186,slow=43						
MDRS	**Chennai**	**14.54**	**290**	*eP*	Pn	22 30 41.2	-5.0
KSI	**Kapahiang**	**14.55**	**145**	P	**P**	**22 30 56.5**	**+3.9**
RAGD	**RAYAGADA**	**15.06**	**317**	*eP*	**Pn**	**22 30 53.5**	**+0.3**
RAGD				*eS*	Sn	22 33 26.0	-13
PPBI	**Pangkal Pinang**	**15.80**	**131**	P	**Pn**	**22 31 04.6**	**+1.8**
	4µm103nm,1.2s						
SALM	**Salem**	**16.16**	**283**	*eP*	**Pn**	**22 31 05.1**	**-2.3**
SALM				*eS*	Sn	22 33 52.1	-14
LWLI	**Liwa**	**16.50**	**143**	P	P	22 31 21.8	+7.5
SHL	**Shillong**	**17.25**	**353**		**P**	**22 31 24.9**	**+2.2**
BOK	**Bokaro**	**17.31**	**333**	*eP*	**P**	**22 31 23.6**	**+0.5**
BOK				*eS*	Sn	22 34 22.8	-11
TPI	**Tanjungpandan**	**17.33**	**129**	P	**P**	**22 31 24.4**	**+1.0**
	395nm29nm,1.8s						
HYB	**Hyderabad**	**17.75**	**302**	*eP*	**Pn**	**22 31 27.3**	**-0.1**
HYB				IAmb	IAmb	22 31 35.9	
	comp=Z,95nm,1.7s						
HYBB	**Hyderabad (bro**	**17.75**	**302**	*eP*	**P**	**22 31 29.1**	**+1.0**
HYBB				*eS*	**Sn**	**22 34 46.2**	**+1.6**
PCHI	**Peechi**	**17.81**	**278**	*eP*	**Pn**	**22 31 25.2**	**-3.0**
MOKO	**MOKOCHONG**	**17.85**	**1**	*eP*	**P**	**22 31 31.9**	**+2.6**
MOKO				IAmb	IAmb	22 31 39.9	
	comp=Z,46nm,0.8s						
QIZ	**Qiongzhong**	**18.45**	**53**	P	**P**	**22 31 36.0**	**+0.2**
QIZ				S	**Sn**	**22 35 00.6**	**-1.0**
QIZ				pmax	pmax		
	comp=Z,240nm,11.9s						
QIZ				LR	LR		
	comp=Z,5µm,13.5s						
QIZ				LR	LR		
	comp=Z,980nm,12.0s						
QIZ				LR	LR		
	comp=Z,1µm,11.2s						
KMI	**Kunming**	**18.51**	**25**	⇓P	**Pn**	**22 31 40.3**	**+3.4**
KMI				pP	pP	22 31 45.8	+2.4
KMI				PP	sP	22 31 56.0	+10
KMI				pmax	pmax		
	comp=Z,21nm,1.2s						
KMI				pmax	pmax		
	comp=Z,250nm,6.4s						
KMI				LR	LR		
	comp=Z,780nm,16.0s						
KMI				LR	LR		
	comp=Z,850nm,12.7s						
KMI				LR	LR		
	comp=Z,880nm,16.1s						
SBUM	**Sibu**	**18.81**	**107**	P	**P**	**22 31 38.8**	**-0.9**
STKI	**Sintang**	**19.03**	**115**	P	**Pn**	**22 31 46.9**	**+3.9**
	comp=Z,3µmcomp=Z,41nm,1.6s						
PZH	**PanZhiHua**	**19.38**	**21**	P	**Pn**	**22 31 48.8**	**+1.5**
PZH				S	**S**	**22 35 20.1**	**-3.7**
PZH				sS	**sS**	**22 35 33.0**	**-1.7**
PZH				SS	**SnSn**	**22 35 45.8**	**+7.2**
PZH				pmax	pmax		
	comp=Z,40nm,1.4s						
PZH				pmax	pmax		
	comp=Z,230nm,7.1s						
PZH				LR	LR		
	comp=Z,2µm,14.3s						
PZH				LR	LR		
	comp=Z,2µm,14.7s						
PZH				LR	LR		
	comp=Z,2µm,15.8s						
ODAN	**Odare**	**19.51**	**341**	*eP*	**P**	**22 31 46.4**	**-1.2**
RAMN	**Ramite**	**19.86**	**339**	*eP*	**P**	**22 31 51.1**	**-0.3**
TAPN	**Taplejung**	**19.87**	**343**	*eP*	**P**	**22 31 50.7**	**-0.9**
LEM	**Lembang**	**20.13**	**138**	LR	LR	22 41 06.3	
	comp=Z,995nm,18.2s,baz=295,slow=41						
JIRN	**Jiri**	**20.65**	**339**	*eP*	**P**	**22 31 59.5**	**-0.6**
PKI	**Pulchoki**	**20.85**	**337**	*eP*	**P**	**22 32 01.5**	**-0.8**
	comp=Z,414nm,1.4s						
PKIN	**Phulchoki**	**20.86**	**337**	*eP*	**P**	**22 32 01.3**	**-1.1**
	comp=Z,462nm,1.7s						
GUN	**Gumba**	**20.99**	**339**	*eP*	**P**	**22 32 02.4**	**-1.4**
DMN	**Daman**	**21.00**	**337**	*eP*	**P**	**22 32 03.0**	**-0.9**
KKN	**Kakani**	**21.10**	**337**	*eP*	**P**	**22 32 03.5**	**-1.3**
LSA	**Lhasa**	**21.42**	**353**	P	**P**	**22 32 06.8**	**-1.7**
LSA				pmax	pmax		
	comp=Z,17nm,0.8s						
GYA	**Guiyang**	**21.50**	**32**	⇑P	**P**	**22 32 11.1**	**+2.1**
GYA				sP	sP	22 32 27.8	+9.1
GYA				S	**S**	**22 36 09.6**	**+3.4**
GYA				pmax	pmax		
	comp=Z,28nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,3.5s						
GYA				LR	LR		
	comp=Z,1µm,11.8s						
GYA				LR	LR		
	comp=Z,2µm,12.8s						
GYA				LR	LR		
	comp=Z,1µm,14.6s						
GKN	**Gorkha**	**21.54**	**336**	*eP*	**P**	**22 32 08.0**	**-1.5**
	comp=Z,314nm,1.3s						
KOLN	**Koldanda**	**21.77**	**334**	*eP*	**P**	**22 32 11.2**	**-0.8**
	comp=Z,42nm,1.6s						
KKM	**Kota Kinabalu**	**21.89**	**95**	P	**P**	**22 32 11.6**	**-1.7**
KKM				IAmb	IAmb	22 32 31.7	
	comp=Z,37nm,1.1s						
DANN	**Dangsing**	**22.21**	**335**	*eP*	**P**	**22 32 15.1**	**-1.7**
SMRI	**Semarang**	**22.24**	**133**	P	**P**	**22 32 16.9**	**-0.1**
SMRI				IAmb	IAmb	22 32 27.1	
	comp=Z,51nm,0.8s						
PYUN	**Piuthan**	**22.33**	**333**	*eP*	**P**	**22 32 16.8**	**-1.2**
MTKI	**Muara Teweh, K**	**22.55**	**113**	P	**P**	**22 32 22.7**	**+2.4**
	comp=Z,45nm,1.1s						
NGJI	**Ngawi**	**23.20**	**132**	P	P	22 32 37.2	+10
BBKI	**Banjar Baru**	**23.65**	**119**	P	**P**	**22 32 33.1**	**+1.7**
	comp=Z,3µmcomp=Z,69nm,0.9s						
PWJI	**Pagerwojo**	**23.89**	**133**	P	P	22 32 45.9	+12
CD2	**Chengdu**	**24.11**	**20**	P	**P**	**22 32 36.6**	**+0.9**
CD2				S	**S**	**22 36 52.8**	**+0.9**
CD2				pmax	pmax		
	comp=Z,50nm,1.0s						
CD2				pmax	pmax		
	comp=Z,140nm,5.1s						
CD2				LR	LR		
	comp=Z,730nm,10.3s						
CD2				LR	LR		
	comp=Z,990nm,10.8s						
CD2				LR	LR		
	comp=Z,1µm,12.7s						
MYLDM	**Lahad Datu**	**24.27**	**96**	P	**P**	**22 32 37.1**	**-0.2**
KMMI	**Kalianget**	**24.91**	**127**	P	P	22 32 51.2	+8.2
ENH	**Enshi**	**26.03**	**31**	P	**P**	**22 32 52.9**	**-0.2**
ENH				IAmb	IAmb	22 33 15.0	
	comp=Z,22nm,0.9s						
CNSH	**ChangSha**	**26.43**	**39**	*eP*	**P**	**22 32 54.3**	**-2.4**
CNSH				S	**S**	**22 37 23.6**	**-5.1**
CNSH				LR	LR		
	comp=Z,640nm,12.0s						
CNSH				LR	LR		
	comp=Z,660nm,13.1s						
MPSI	**Mapaga**	**26.75**	**106**	P	**P**	**22 33 06.1**	**+6.3**
	comp=Z,1µmcomp=Z,47nm,1.0s						
H08S3	**Diego Garcia H**	**26.91**	**234**	T	T	22 59 55.5	
	baz=53,slow=75,SNR=63						
H08S2	**Diego Garcia H**	**26.91**	**234**	T	T	22 59 45.8	
	baz=53,slow=75,SNR=63						
H08S1	**Diego Carcia H**	**26.93**	**234**	T	T	22 59 51.4	
	baz=53,slow=75,SNR=22						
GOMU	**GeErMu**	**27.70**	**1**	*eP*	**P**	**22 33 09.5**	**+1.0**
GOMU				S	**S**	**22 37 53.5**	**+4.0**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,82nm,4.2s						
GOMU				LR	LR		
	comp=Z,290nm,12.2s						
GOMU				LR	LR		
	comp=Z,160nm,14.7s						
GOMU				LR	LR		
	comp=Z,170nm,12.2s						
MRSI	**Marisa**	**28.66**	**104**	P	P	22 33 25.4	+8.5
KAPI	**Kappang**	**28.68**	**117**	LR	LR	22 45 11.4	
	comp=Z,289nm,19.1s,baz=293,slow=37						
KAPI	**Kappang**	**28.68**	**117**	P	**P**	**22 33 15.7**	**-1.4**
KAPI				IAmb	IAmb	22 33 38.8	
	comp=Z,23nm,1.2s						
APSI	**Ampana**	**28.81**	**107**	P	P	22 33 31.7	+14
XAN	**Xi'an**	**28.89**	**26**	P	**P**	**22 33 18.9**	**+0.1**
XAN				S	**S**	**22 38 09.5**	**+1.9**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				LR	LR		
	comp=Z,590nm,15.0s						
XAN				LR	LR		
	comp=Z,880nm,15.1s						
XAN				LR	LR		
	comp=Z,1µm,13.7s						
LZH	**Lanzhou**	**28.94**	**16**	*eP*	**P**	**22 33 23.8**	**+4.5**
LZH				pP	pP	22 33 27.8	+1.4
LZH				S	**S**	**22 38 08.3**	**-0.2**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				LR	LR		
	comp=Z,350nm,12.4s						
LZH				LR	LR		
	comp=Z,810nm,14.8s						
LZH				LR	LR		
	comp=Z,620nm,17.7s						
BKSI	**Bulukumba**	**29.15**	**117**	P	**P**	**22 33 23.2**	**+2.0**
	comp=Z,415nmcomp=Z,39nm,0.8s						
SSLB	**Suanglung**	**29.79**	**56**	P	**P**	**22 33 25.8**	**-1.0**
LUWI	**Luwuk**	**29.91**	**107**	P	**P**	**22 33 29.8**	**+1.8**
LUWI	**Luwuk**	**29.91**	**107**	P	P	22 33 38.6	+11
YHNB	**Yeheng**	**30.53**	**55**	P	**P**	**22 33 31.6**	**-1.8**
LYN	**LuoYang**	**30.96**	**30**	⇑P	**P**	**22 33 37.9**	**+0.9**
LYN				S	**S**	**22 38 44.3**	**+4.3**
LYN				pmax	pmax		
	comp=Z,130nm,4.5s						
LYN				LR	LR		
	comp=Z,650nm,10.8s						
LYN				LR	LR		
	comp=Z,520nm,17.6s						
LYN				LR	LR		
	comp=Z,600nm,16.7s						
GTA	**Gaotai**	**31.30**	**8**	*eP*	P	22 33 50.0	+10
GTA				pP	pwP	22 33 57.8	+6.7
GTA				S	S	22 39 00.3	+15
GTA				pmax	pmax		
	comp=Z,6.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,74nm,5.8s						
GTA				LR	LR		
	comp=N,260nm,20.0s						
GTA				LR	LR		
	comp=E,230nm,17.5s						
GTA				LR	LR		
	comp=Z,360nm,18.2s						
BBSI	**Bau Bau**	**31.40**	**115**	P	P	22 33 51.2	+10
MMRI	**Maumere**	**32.59**	**121**	P	**P**	**22 33 49.2**	**-2.4**
SANI	**Sanana**	**33.28**	**107**	P	P	22 34 08.0	+10
HNS	**HongShan**	**34.32**	**30**	⇓P	**P**	**22 34 08.1**	**+1.7**
HNS				pmax	pmax		
	comp=Z,20nm,0.8s						
HNS				LR	LR		
	comp=Z,400nm,13.1s						
HNS				LR	LR		
	comp=Z,570nm,13.5s						
HNS				LR	LR		
	comp=Z,560nm,16.4s						
KBL	**Kabul**	**34.86**	**322**	P	**P**	**22 34 11.9**	**+0.5**
KBL				IAmb	IAmb	22 34 17.3	
	comp=Z,18nm,1.1s						
KSH	**Kashi**	**35.08**	**335**	P	**P**	**22 34 16.3**	**+3.2**
KSH				sP	pwP	22 34 36.0	+12
KSH				PP	**PnPn**	**22 35 31.8**	**+1.0**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,160nm,6.7s						
KSH				LR	LR		
	comp=Z,900nm,19.6s						
KSH				LR	LR		
	comp=Z,810nm,21.1s						
KSH				LR	LR		
	comp=Z,480nm,23.0s						
WMQ	**Urumqi**	**35.78**	**352**	*eP*	**P**	**22 34 20.8**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,25nm,1.3s						
HHC	**Hu-ho-hao-te**	**35.81**	**23**	*eP*	**P**	**22 34 21.0**	**+1.6**
HHC				sP	pwP	22 34 41.0	+11
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,90nm,4.8s						
HHC				LR	LR		
	comp=Z,530nm,13.3s						
HHC				LR	LR		
	comp=Z,460nm,13.5s						
HHC				LR	LR		
	comp=Z,520nm,14.9s						
TARG	**Taragay, Kyrgy**	**36.27**	**339**	P	**P**	**22 34 23.8**	**+0.1**
TARG				IAmb	IAmb	22 34 36.4	
	comp=Z,11nm,0.9s						
NRN	**Naryn**	**36.69**	**337**	P	**P**	**22 34 26.9**	**-0.2**
BJT	**Baijiatuao**	**37.09**	**28**	P	**P**	**22 34 30.2**	**+0.1**
BJT				IAmb	IAmb	22 34 47.5	
	comp=Z,31nm,1.6s						
BJT	**Baijiatuao**	**37.09**	**28**	P	**P**	**22 34 32.0**	**+1.9**
BJI	**Beijing**	**37.11**	**28**	P	**P**	**22 34 32.3**	**+2.0**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,90nm,5.5s						
BJI				LR	LR		
	comp=Z,43nm,19.2s						
BJI				LR	LR		
	comp=Z,370nm,21.0s						
BJI				LR	LR		
	comp=Z,420nm,23.1s						
WSAR	**Wadi Sarin**	**37.21**	**298**	LR	LR	22 50 36.2	
	comp=Z,235nm,19.1s,baz=110,slow=37						
BTK	**Batken**	**37.87**	**330**	P	**P**	**22 34 38.0**	**+1.2**
BTK				IAmb	IAmb	22 35 13.4	
	comp=Z,29nm,1.1s						
SWI	**Sorong**	**37.99**	**102**	P	P	22 34 53.5	+15
SIJI	**Sorong**	**38.00**	**102**	P	**P**	**22 34 37.7**	**-0.5**
	comp=Z,3.1nm,0.4s,baz=272,slow=8.7,SNR=4.2						
	comp=Z,3.1nm,0.4s						
AAK	**Ala-Archa**	**38.30**	**336**	P	**P**	**22 34 40.5**	**-0.1**
AAK				IAmb	IAmb	22 34 47.6	
	comp=Z,23nm,1.4s						
PSA00	**Pilbara Seismi**	**38.93**	**140**	P	**P**	**22 34 46.5**	**+0.6**
PSA00				IAmb	IAmb	22 36 07.9	
	comp=Z,51nm,1.6s						
HRA	**Herat**	**39.19**	**316**	P	**P**	**22 34 48.3**	**+0.2**
FAKI	**Fak Fak**	**39.50**	**105**	P	**P**	**22 34 49.0**	**-1.8**
FAKI				IAmb	IAmb	22 35 09.5	
	comp=Z,21nm,1.1s						
FAKI	**Fak Fak**	**39.50**	**105**	P	**P**	**22 34 51.7**	**+0.9**
TAS	**Tashkent**	**39.58**	**330**	P	**P**	**22 34 52.2**	**+1.1**
MK31	**Makanchi Array**	**39.63**	**347**	P	**P**	**22 34 49.8**	**-1.7**
MKAR	**Makanchi Array**	**39.63**	**347**	P	**P**	**22 34 50.0**	**-1.5**
	comp=Z,3.6nm,0.7s,baz=177,slow=7.9,SNR=18						
	comp=Z,3.6nm,0.7s						
MKAR	**Makanchi Array**	**39.63**	**347**	P	**P**	**22 34 49.9**	**-1.6**
UOSS	**Minazif**	**39.84**	**299**	P	**P**	**22 34 53.0**	**-0.5**
UOSS				IAmb	IAmb	22 35 01.4	
	comp=Z,16nm,1.1s						
XLT	**XiLinHaoTe**	**40.18**	**25**	*eP*	**P**	**22 34 55.0**	**-1.1**
XLT				pP	sP	22 35 06.8	+0.5
XLT				sP	pwP	22 35 12.0	+4.7
XLT				pmax	pmax		
	comp=Z,19nm,1.1s						
XLT				pmax	pmax		
	comp=Z,58nm,4.4s						
KK31	**Karatay Array**	**40.38**	**333**	P	**P**	**22 34 56.5**	**-1.2**
KKAR	**Karatay Array**	**40.38**	**333**	P	**P**	**22 34 56.5**	**-1.2**
KKAR	**Karatay Array**	**40.38**	**333**	IAmb	IAmb	22 35 03.6	
	comp=Z,8.3nm,1.1s						
SONM	**Songino Array**	**40.65**	**13**	P	**P**	**22 35 00.3**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=196,slow=9.2,SNR=8.1						
	comp=Z,2.1nm,1.0s						
SONM	**Songino Array**	**40.65**	**13**	P	**P**	**22 34 59.3**	**-0.7**
ULN	**Ulaanbaatar**	**40.83**	**13**	P	**P**	**22 35 01.8**	**+0.3**
INCN	**Inchon**	**41.19**	**40**	P	**P**	**22 35 03.6**	**-0.9**
KSAR	**Wonju Array Be**	**41.98**	**41**	P	**P**	**22 35 11.1**	**+0.2**
KS19	**Wonju Array Si**	**42.00**	**41**	P	**P**	**22 35 11.3**	**+0.2**
KSRS	**Korea Array**	**42.01**	**41**	P	**P**	**22 35 11.4**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=230,slow=9.0,SNR=6.8						
	comp=Z,1.2nm,0.7s						
GEYT	**Alibeck**	**43.92**	**318**	P	**P**	**22 35 26.3**	**-0.4**
	comp=Z,6.2nm,0.6s,baz=149,slow=6.9,SNR=17						
	comp=Z,6.2nm,0.6s						
GEYT	**Alibeck**	**43.92**	**318**	IAmb	IAmb	22 35 33.3	
	comp=Z,21nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**43.92**	**318**	P	**P**	**22 35 27.0**	**+0.3**
GYA0B				IAmb	IAmb	22 35 33.3	
	comp=Z,19nm,0.8s						
KURBB	**Kurchatov Arra**	**44.10**	**346**	P	**P**	**22 35 26.7**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=165,slow=7.3,SNR=22						
KURBB				PcP	**PcP**	**22 37 14.4**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=164,slow=3.1,SNR=5.1						
	comp=Z,3.5nm,0.8s						
KURK	**Kurchatov**	**44.16**	**346**	P	**P**	**22 35 27.3**	**-1.0**
KURK				IAmb	IAmb	22 35 34.3	
	comp=Z,15nm,0.9s						
KURK	**Kurchatov**	**44.16**	**346**	P	**P**	**22 35 27.1**	**-1.2**
KURK				pP	**pP**	**22 35 35.3**	**-0.3**
KURK				sP	**sP**	**22 35 39.4**	**+0.8**
MUN	**Mundaring**	**45.27**	**153**	P	**P**	**22 35 37.2**	**-0.3**
KLBR	**Kellerberrin**	**45.65**	**152**	P	**P**	**22 35 39.9**	**-0.6**
HIA	**Hailar**	**46.02**	**23**	P	**P**	**22 35 43.0**	**-0.2**
HIA				IAmb	IAmb	22 35 53.5	
	comp=Z,19nm,1.3s						
ZAA0	**Zalesovo Array**	**46.08**	**352**	IAmb	IAmb	22 35 50.0	
	comp=Z,24nm,1.1s						
ZALV	**Zalesovo Beam**	**46.08**	**352**	P	**P**	**22 35 42.5**	**-1.0**
	comp=Z,5.4nm,0.7s,baz=177,slow=7.6,SNR=26						
	comp=Z,5.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**46.53**	**153**	P	**P**	**22 35 45.8**	**-1.6**
	comp=Z,18nm,0.8s,baz=175,slow=6.0,SNR=8.9						
	comp=Z,18nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.53**	**153**	P	**P**	**22 35 46.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**46.53**	**153**	P	**P**	**22 35 46.7**	**-0.7**
NWAO	**Narrogin (SRO)**	**46.53**	**153**	P	**P**	**22 35 46.4**	**-1.0**
NWAO				pP	**pP**	**22 35 54.5**	**-0.3**
NWAO				sP	**sP**	**22 35 59.4**	**+1.6**
BNX	**BinXian**	**46.88**	**32**	⇑P	**P**	**22 35 50.8**	**+0.8**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX				pmax	pmax		
	comp=Z,73nm,3.9s						
WRKA	**Warakurna**	**46.92**	**136**	P	**P**	**22 35 51.6**	**+1.0**
	comp=Z,12nm,1.8s						
WB0	**Warramunga Arr**	**48.40**	**126**	P	**P**	**22 36 00.8**	**-1.4**
WB0				IAmb	IAmb	22 36 12.8	
	comp=Z,34nm,1.9s						
USRK	**Ussuriysk Ar.**	**48.44**	**36**	P	**P**	**22 36 03.1**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=277,slow=3.6,SNR=3.4						
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**48.45**	**126**	P	**P**	**22 36 00.9**	**-1.6**
	comp=Z,3.1nm,0.8s,baz=306,slow=8.5,SNR=37						
WRA		

	comp=Z,24nm,1.3s						
ARU	**Arti**	**55.48**	**337**	P	**P**	**22 36 54.7**	**+0.3**
ARU				IAmb	IAmb	22 36 59.8	
	comp=Z,14nm,1.1s						
ARU	**Arti**	**55.48**	**337**	P	**P**	**22 36 52.9**	**-1.4**
PMG	**Port Moresby**	**55.56**	**107**	P	**P**	**22 36 54.0**	**-1.6**
GURO	**Guroymak-BITLI**	**55.60**	**311**	P	**P**	**22 36 56.5**	**+0.7**
YSS	**Yuzh-Sakhalins**	**56.31**	**38**	P	**P**	**22 37 00.5**	**0.0**
KBZ	**Khabaz**	**56.81**	**317**	P	**P**	**22 37 04.8**	**+0.8**
	comp=Z,5.7nm,1.0s,baz=90,slow=2.0,SNR=4.7						
	comp=Z,5.7nm,1.0s						
KIV	**Kislovodsk**	**57.04**	**318**	P	**P**	**22 37 06.6**	**+0.8**
KIV				IAmb	IAmb	22 37 13.1	
	comp=Z,12nm,1.0s						
KIV	**Kislovodsk**	**57.04**	**318**	P	**P**	**22 37 07.7**	**+1.8**
KIBK	**Kibwezi**	**57.06**	**262**	P	**P**	**22 37 07.4**	**+0.9**
KIBK				IAmb	IAmb	22 39 13.2	
	comp=Z,12nm,0.9s						
KMBO	**Kilima Mbogo**	**57.61**	**263**	P	**P**	**22 37 10.8**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=58,slow=13,SNR=7.2						
	comp=Z,1.7nm,0.6s						
KMBO	**Kilima Mbogo**	**57.61**	**263**	P	**P**	**22 37 11.5**	**+1.0**
KMBO	**Kilima Mbogo**	**57.61**	**263**	P	**P**	**22 37 11.3**	**+0.8**
KMBO				pP	**pP**	**22 37 19.9**	**+1.8**
NRIK	**Noril'sk**	**61.05**	**357**	P	**P**	**22 37 34.2**	**+1.1**
NRIK				IAmb	IAmb	22 38 01.2	
	comp=Z,8.0nm,1.0s						
BR131	**Keskin Array S**	**62.20**	**311**	P	**P**	**22 37 43.1**	**+1.5**
BR131				IAmb	IAmb	22 37 45.3	
	comp=Z,10nm,0.9s						
BRTR	**Keskin Array B**	**62.20**	**311**	P	**P**	**22 37 38.7**	**-2.9**
	comp=Z,1.4nm,0.7s,baz=134,slow=7.8,SNR=6.2						
	comp=Z,1.4nm,0.7s						
BRTR	**Keskin Array B**	**62.20**	**311**	P	**P**	**22 37 42.3**	**+0.7**
OBN	**Obninsk**	**65.03**	**328**	P	**P**	**22 38 00.9**	**+1.2**
KLMR	**Klimovskoe**	**66.06**	**334**	*e*P	**P**	**22 38 05.1**	**-1.2**
KLMR				AMP		22 38 12.2	
	comp=Z,19nm,1.1s						
TIXI	**Tiksi**	**66.72**	**11**	P	**P**	**22 38 08.8**	**-1.6**
	comp=Z,4.3nm,0.5s,baz=94,slow=23,SNR=6.2						
	comp=Z,4.3nm,0.5s						
TIXI	**Tiksi**	**66.72**	**11**	P	**P**	**22 38 08.7**	**-1.6**
MILM	**Milestii Mici**	**67.23**	**317**	⇑P	**P**	**22 38 17.8**	**+3.8**
AKASG	**Malin Array Be**	**67.84**	**322**	P	**P**	**22 38 15.5**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=89,slow=4.9,SNR=6.5						
	comp=Z,0.4nm,0.5s						
AKBB	**Malin Array Si**	**67.84**	**322**	P	**P**	**22 38 18.3**	**+0.4**
AKBB				IAmb	IAmb	22 38 21.8	
	comp=Z,7.0nm,0.8s						
VRI	**Vrincioaia**	**68.43**	**316**	⇑P	**P**	**22 38 20.5**	**-1.2**
PLOR	**Plostina**	**68.48**	**316**	⇑P	**P**	**22 38 22.2**	**+0.1**
RDO	**Rodhopi**	**68.54**	**311**	P	**P**	**22 38 24.2**	**+1.8**
RDO				IAmb	IAmb	22 38 29.0	
	comp=Z,8.8nm,1.2s						
TESR	**Tescani**	**68.61**	**317**	⇑P	**P**	**22 38 27.0**	**+4.2**
MLR	**Muntele Rosu**	**68.91**	**316**	⇑P	**P**	**22 38 23.3**	**-1.5**
DOPR	**Dopca**	**69.37**	**316**	⇑P	**P**	**22 38 31.1**	**+3.6**
VOIR		**69.52**	**315**	⇓P	**P**	**22 38 27.2**	**-1.3**
MNK	**Minsk**	**69.59**	**325**	*i* P	**P**	**22 38 27.0**	**-1.7**
	comp=E,3.0nm,1.0s						
MNK				*i* P	**P**	**22 38 27.0**	**-1.7**
MNK				*i* P	**P**	**22 38 27.0**	**-1.7**
	comp=Z,30nm,1.1s,baz=284						
MNK				*i* PcP	**PcP**	**22 38 49.3**	**-2.3**
MNK				*i* PP	**PP**	**22 41 01.1**	**-1.5**
MNK				*i* PPP	PPP	22 42 42.5	
MNK				*i* S	**S**	**22 47 36.3**	**+1.2**
MNK				*i* SS	**SS**	**22 52 05.9**	**+2.8**
MNK				*i* SSS	SSS	22 55 23.6	
MNK				*i* LQ	LQ	23 05 15.4	
MNK				*i* LRM	MLR	23 11 40.1	
MNK				*i* LRM	MLR	23 11 40.1	
MNK				*i* LRM	MLR	23 11 40.1	
BURAR	**Bucovina Array**	**69.77**	**318**	⇑P	P	22 38 34.7	+4.6
BURAR	**Bucovina Array**	**69.77**	**318**	P	**P**	**22 38 30.0**	**-0.1**
BUR08	**Bucovina Ar. S**	**69.78**	**318**	P	**P**	**22 38 30.2**	**+0.1**
ARR	**Arges**	**69.80**	**315**	⇑P	**P**	**22 38 33.6**	**+3.4**
NACGM	**Naroch**	**70.31**	**325**⇑	*e*P	**P**	**22 38 37.3**	**+4.2**
	baz=104						
VTS	**Vitosha**	**70.43**	**312**	⇑P	**P**	**22 38 30.9**	**-3.4**
VTS	**Vitosha**	**70.43**	**312**	P	**P**	**22 38 33.8**	**-0.5**
LIT	**Litokhoron**	**70.72**	**309**	P	**P**	**22 38 36.6**	**+0.7**
LIT				IAmb	IAmb	22 38 40.0	
	comp=Z,10nm,1.0s						
IIGN	**Ignalina**	**70.73**	**326**	*e*P	**P**	**22 38 35.9**	**+0.3**
ISAL	**Salakas**	**70.84**	**326**	*e*P	**P**	**22 38 36.4**	**+0.2**
BLKB	**Belogradchik**	**70.95**	**313**	⇑P	**P**	**22 38 40.0**	**+2.7**
HERR	**Herculane**	**71.29**	**314**	⇑P	**P**	**22 38 37.6**	**-1.6**
DRGR		**71.33**	**317**	⇑P	**P**	**22 38 40.0**	**+0.4**
TRPA	**Tarpa**	**71.63**	**318**	⇑P	P	22 38 46.0	+4.8
BOVS	**Bovan**	**71.66**	**313**	⇑P	**P**	**22 38 44.4**	**+2.9**
KOLS	**Kolonicke sedl**	**71.92**	**319**	*e*P	**P**	**22 38 45.0**	**+2.0**
SIRR	**Siria**	**71.98**	**316**	⇑P	P	22 38 48.5	+5.0
FINES	**FINESS Array B**	**72.33**	**332**	P	**P**	**22 38 43.2**	**-2.0**
	comp=Z,1.6nm,0.6s,baz=96,slow=7.7,SNR=7.1						
	comp=Z,1.6nm,0.6s						
FINES	**FINESS Array B**	**72.33**	**332**	P	**P**	**22 38 46.4**	**+1.2**
CRVS	**Cervenica-Dubn**	**72.44**	**319**	*e*P	**P**	**22 38 49.2**	**+3.1**
DIVS	**Divibare**	**72.93**	**313**	P	**P**	**22 38 50.2**	**+0.9**
PBUR	**Paburge**	**73.25**	**326**	*e*P	**P**	**22 38 50.4**	**-0.3**
PSZ	**Piszkesteto**	**73.36**	**317**	P	**P**	**22 38 52.2**	**+0.5**
OJC	**Ojcow**	**73.68**	**320**	P	**P**	**22 38 52.6**	**-0.8**
OJC				IAmb	IAmb	22 38 57.9	
	comp=Z,14nm,1.1s						
MORH	**Mrgy, Hungar**	**74.06**	**316**	⇑P	**P**	**22 38 57.7**	**+2.1**
VYHS	**Vyhne**	**74.12**	**318**	*e*P	**P**	**22 39 00.2**	**+4.1**
RAF	**Rauma**	**74.27**	**331**	*e*P	**P**	**22 38 55.4**	**-1.2**
ARCES	**ARCESS Array B**	**74.84**	**340**	P	**P**	**22 38 58.6**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=95,slow=7.4,SNR=8.1						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**74.84**	**340**	P	**P**	**22 39 00.3**	**+0.5**
ARCES				IAmb	IAmb	22 39 24.6	
	comp=Z,22nm,1.4s						
MAUC	**Maruska**	**74.86**	**319**	*e*P	**P**	**22 39 00.8**	**+0.4**
JAVC	**Velka Javorina**	**74.93**	**318**	*e*P	**P**	**22 39 01.9**	**+1.1**
MORC	**Moravsky Berou**	**75.08**	**319**	⇑P	**P**	**22 39 00.2**	**-1.4**
MORC	**Moravsky Berou**	**75.08**	**319**	P	**P**	**22 39 02.0**	**+0.4**
MORC				IAmb	IAmb	22 39 08.0	
	comp=Z,12nm,1.1s						
MORC	**Moravsky Berou**	**75.08**	**319**	*e*P	**P**	**22 39 00.6**	**-1.1**
MODS	**Modra-Piesok**	**75.15**	**318**	*e*P	**P**	**22 39 04.4**	**+2.4**
CASY	**Casey**	**75.41**	**173**	P	**P**	**22 39 03.7**	**+0.7**
CASY				IAmb	IAmb	22 39 11.1	
	comp=Z,32nm,1.5s						
KRLC	**Kraliky**	**75.60**	**320**	*e*P	**P**	**22 39 04.0**	**-0.6**
KRLC				*ex*	x	22 39 09.8	
RONA	**Rosalia, Austr**	**75.76**	**317**	*e*P	**P**	**22 39 07.3**	**+1.7**
	comp=Z,4.7nm,1.1s						
KRUC	**Moravsky**	**75.78**	**318**	*e*P	**P**	**22 39 06.0**	**+0.4**
DPC	**Dobruska-Polom**	**75.91**	**320**	*e*P	**P**	**22 39 06.2**	**-0.2**
DPC				*ex*	x	22 39 11.6	
BOSA	**Boshof**	**75.96**	**238**	P	**P**	**22 39 07.4**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=121,slow=5.9,SNR=2.5						
	comp=Z,2.1nm,0.6s						
OSTC	**Ostas**	**75.99**	**320**	*e*P	**P**	**22 39 06.2**	**-0.6**
CONA	**Conrad Observa**	**76.07**	**317**	*e*P	**P**	**22 39 07.6**	**+0.3**
	comp=Z,3.1nm,1.1s						
CHVC	**Chvalec**	**76.10**	**320**	*e*P	**P**	**22 39 07.2**	**-0.2**
ARSA	**Arzberg**	**76.26**	**317**	*e*P	**P**	**22 39 10.4**	**+2.0**
	comp=Z,6.6nm,1.3s						
SOKA	**Soboth**	**76.58**	**316**	*e*P	**P**	**22 39 12.7**	**+2.4**
	comp=Z,7.5nm,1.1s						
DZM	**Mont Dzumac**	**76.88**	**115**	P	**P**	**22 39 11.2**	**-1.3**
DZM				IAmb	IAmb	22 39 21.9	
	comp=Z,11nm,1.1s						
OBKA	**Obir**	**76.91**	**316**	*e*P	**P**	**22 39 13.4**	**+1.2**
	comp=Z,4.7nm,1.1s						
PRU	**Pruhonice**	**77.03**	**319**	*e*P	**P**	**22 39 17.2**	**+4.5**
MOA	**Molln**	**77.14**	**317**	*e*P	**P**	**22 39 15.3**	**+2.0**
	comp=Z,5.9nm,1.1s						
CKRC	**Cesky Krumlov**	**77.14**	**318**	*e*P	P	22 39 18.1	+4.8
BRG	**Berggiesshubel**	**77.45**	**320**	*e*P	**P**	**22 39 16.3**	**+1.3**
BRG				Amp		22 39 21.8	
	comp=Z,6.8nm,1.2s						
MYKA	**Terra Mystica**	**77.53**	**316**	*e*P	**P**	**22 39 17.2**	**+1.6**
	comp=Z,6.1nm,1.1s						
GEC2	**GERESS Array S**	**77.54**	**318**	P	**P**	**22 39 16.0**	**+0.3**
GEC2				IAmb	IAmb	22 39 21.4	
	comp=Z,8.1nm,1.0s						
GERES	**GERESS Array B**	**77.54**	**318**	P	**P**	**22 39 14.9**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=91,slow=5.5,SNR=14						
	comp=Z,1.3nm,0.7s						
SABO	**M.te Sabotino**	**77.55**	**315**	P	**P**	**22 39 16.7**	**+0.9**
SABO				IAmb	IAmb	22 39 30.1	
	comp=Z,6.1nm,0.8s						
BIOA	**Bad Ischl, Aus**	**77.56**	**317**	*e*P	**P**	**22 39 17.5**	**+1.8**
	comp=Z,2.1nm,0.6s						
PRED	**Cave del Predi**	**77.58**	**316**	P	**P**	**22 39 16.4**	**+0.5**
RUE	**Ruedersdorf**	**77.62**	**322**	*e*P	**P**	**22 39 16.5**	**+0.6**
KHC	**Kasperske Hory**	**77.63**	**318**	P	**P**	**22 39 16.1**	**0.0**
KHC	**Kasperske Hory**	**77.63**	**318**	*e*P	**P**	**22 39 16.4**	**+0.3**
KHC				*ex*	x	22 39 21.0	
KBA	**Koelnbreinsper**	**77.75**	**316**	*e*P	**P**	**22 39 19.5**	**+2.5**
	comp=Z,0.0nm,1.3s						
FDMO	**Fiordimonte**	**77.90**	**312**	P	**P**	**22 39 17.7**	**0.0**
CLUD	**Cludinico**	**78.06**	**316**	P	**P**	**22 39 18.6**	**+0.1**
CLUD				IAmb	IAmb	22 39 36.1	
	comp=Z,12nm,0.9s						
CLL	**Collm**	**78.06**	**321**	P	**P**	**22 39 19.1**	**+0.8**
CLL				IAmb	IAmb	22 39 23.8	
	comp=Z,18nm,1.5s						
CLL	**Collm**	**78.06**	**321**	*e*Px	Px	22 39 23.0	
	comp=Z,15nm,1.5s						
CLL				*ex*	x	22 39 48.0	
STAL	**STALIGIAL**	**78.17**	**315**	P	**P**	**22 39 20.3**	**+1.1**
STAL				IAmb	IAmb	22 39 24.8	
	comp=Z,12nm,1.1s						
ABTA	**Abfaltersbach**	**78.31**	**316**	*e*P	**P**	**22 39 17.7**	**-2.3**
	comp=Z,2.7nm,1.1s						
MURB	**Monte Urbino**	**78.31**	**312**	P	**P**	**22 39 20.5**	**+0.4**
MURB				IAmb	IAmb	22 39 59.2	
	comp=Z,8.1nm,1.0s						
CIMO	**Cimolais**	**78.36**	**316**	P	**P**	**22 39 20.4**	**+0.2**
CIMO				IAmb	IAmb	22 39 26.0	
	comp=Z,14nm,1.0s						
LATE	**Laterza**	**78.85**	**312**	P	**P**	**22 39 23.2**	**+0.2**
LATE				IAmb	IAmb	22 39 31.4	
	comp=Z,23nm,1.3s						
TEOL	**Teolo**	**78.91**	**315**	P	**P**	**22 39 23.4**	**+0.2**
TEOL				IAmb	IAmb	22 40 42.3	
	comp=Z,7.8nm,0.8s						
CTI	**Castel Tesino**	**78.91**	**315**	P	**P**	**22 39 24.3**	**+1.0**
CTI				IAmb	IAmb	22 39 32.9	
	comp=Z,10nm,1.1s						
WTTA	**Wattenberg**	**78.91**	**317**	*e*P	**P**	**22 39 21.3**	**-2.1**
	comp=Z,1.1nm,0.9s						
WATA	**Walderalm**	**78.95**	**317**	*e*P	**P**	**22 39 21.5**	**-2.1**
	comp=Z,4.5nm,0.8s						
MAW	**Mawson**	**79.05**	**192**	P	**P**	**22 39 21.1**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=302,slow=3.7,SNR=2.4						
	comp=Z,0.7nm,0.3s						
MAW	**Mawson**	**79.05**	**192**	P	**P**	**22 39 24.9**	**+1.6**
NC405	**NORSAR Array S**	**79.12**	**331**	P	**P**	**22 39 24.9**	**+0.8**
GRA1	**Grafenberg Arr**	**79.18**	**319**	P	**P**	**22 39 25.6**	**+1.0**
GRA1				IAmb	IAmb	22 39 30.7	
	comp=Z,17nm,1.2s						
GRFO	**Grafenberg**	**79.18**	**319**	P	**P**	**22 39 25.9**	**+1.3**
GRFO				IAmb	IAmb	22 39 30.7	
	comp=Z,16nm,1.2s						
SQTA	**Sankt Quirin**	**79.20**	**316**	*e*P	**P**	**22 39 22.6**	**-2.4**
	comp=Z,2.0nm,0.5s						
OSSC	**Osservatorio P**	**79.24**	**313**	P	**P**	**22 39 23.4**	**-1.7**
MOTA	**Moosalm**	**79.27**	**317**	*e*P	**P**	**22 39 28.6**	**+3.2**
	comp=Z,12nm,1.1s						
NC303	**NORSAR Array S**	**79.29**	**331**	P	**P**	**22 39 24.9**	**-0.1**
NC303				IAmb	IAmb	22 39 35.1	
	comp=Z,24nm,1.2s						
NB2	**NORSAR Subarra**	**79.36**	**331**	P	**P**	**22 39 23.2**	**-2.2**
	comp=Z,9.7nm,1.1s,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**79.36**	**331**	P	**P**	**22 39 23.4**	**-2.1**
	comp=Z,0.9nm,0.9s,baz=95,slow=5.1,SNR=2.4						
	comp=Z,0.9nm,0.9s						
ZCCA	**Zocca**	**79.42**	**314**	P	**P**	**22 39 25.5**	**-0.6**
RETA	**Reutte**	**79.50**	**317**	*e*P	**P**	**22 39 25.3**	**-1.3**
	comp=Z,4.3nm,0.7s						
NAO01	**NORSAR Array S**	**79.52**	**330**	P	**P**	**22 39 25.2**	**-1.0**
FETA	**Feichten**	**79.53**	**316**	*e*P	**P**	**22 39 26.6**	**-0.2**
	comp=Z,3.8nm,1.3s						
DAVA	**Damuels**	**80.11**	**317**	*e*P	**P**	**22 39 29.2**	**-0.7**
	comp=Z,6.0nm,0.9s						
TSUM	**Tsumeb**	**80.33**	**249**	P	**P**	**22 39 32.4**	**+0.9**
TSUM				IAmb	IAmb	22 39 43.5	
	comp=Z,28nm,1.8s						
MSSA	**Maissana**	**80.46**	**314**	P	**P**	**22 39 33.4**	**+1.6**
MSSA				IAmb	IAmb	22 39 36.7	
	comp=Z,12nm,1.1s						
TUE	**Stuetta**	**80.50**	**316**	P	**P**	**22 39 33.7**	**+1.6**
TUE				IAmb	IAmb	22 39 40.9	
	comp=Z,12nm,1.0s						
KEST	**Kesra**	**81.06**	**305**	P	**P**	**22 39 34.2**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=312,slow=0.6,SNR=4.5						
	comp=Z,2.0nm,0.6s						
KEST	**Kesra**	**81.06**	**305**	P	**P**	**22 39 35.9**	**+0.7**
SENIN	**Lac Senin/Sane**	**81.92**	**316**	IAmb	IAmb	22 40 10.9	
	comp=Z,19nm,1.4s						
BTNL	**Ternell**	**82.42**	**320**	*d*PcP	**PcP**	**22 39 47.1**	**0.0**
BNI	**Bardonecchia**	**82.44**	**314**	P	**P**	**22 39 43.7**	**+1.3**
BNI				IAmb	IAmb	22 39 51.3	
	comp=Z,13nm,1.1s						
WLF	**Walferdange**	**82.47**	**319**	*d*PcP	**PcP**	**22 39 47.4**	**+0.1**
BMRD	**Maredsous**	**83.31**	**320**	*d*PcP	**PcP**	**22 39 51.2**	**+0.2**
DOU	**Dourbes**	**83.44**	**320**	*d*PcP	**PcP**	**22 39 50.9**	**-0.6**
SSB	**Saint Sauveur**	**83.93**	**315**	P	**P**	**22 39 50.6**	**+0.7**
SSB				IAmb	IAmb	22 39 55.8	
	comp=Z,6.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**90.61**	**283**	P	**P**	**22 40 22.3**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=95,slow=5.4,SNR=8.0						
	comp=Z,0.7nm,0.8s						
ESDC	**Sonseca Array**	**91.00**	**310**	P	**P**	**22 40 23.2**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=66,slow=3.5,SNR=12						
	comp=Z,0.8nm,0.7s						
ESDC	**Sonseca Array**	**91.00**	**310**	IAmb	IAmb	22 40 30.6	
	comp=Z,4.0nm,1.0s						
IMAR	**Indian Mountai**	**91.12**	**22**	P	**P**	**22 40 24.6**	**+0.4**
K20K	**Telida**	**92.04**	**25**	P	**P**	**22 40 29.0**	**+0.5**
CAST	**Castle Rocks**	**92.83**	**24**	P	**P**	**22 40 32.5**	**+0.4**
VNDA	**Vanda**	**93.39**	**168**	P	**P**	**22 40 34.8**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=300,slow=5.9,SNR=2.7						
	comp=Z,4.0nm,0.7s						
ILAR	**Eielson Array**	**94.24**	**22**	P	**P**	**22 40 38.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=289,slow=2.8,SNR=2.1						
	comp=Z,0.4nm,0.8s						
PDAR	**Pinedale Array**	**124.66**	**21**	PKP	**PKPdf**	**22 46 19.6**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=222,slow=1.2,SNR=1.6						
TXAR	**Lajitas Array**	**138.72**	**24**	PKP	**PKPdf**	**22 46 44.5**	**-2.0**
	comp=Z,0.1nm,0.5s,baz=268,slow=2.4,SNR=2.6						
PLCA	**Paso Flores**	**145.06**	**200**	PKPbc	**PKPbc**	**22 46 55.6**	**-1.2**
	comp=Z,9.6nm,1.0s,baz=179,slow=4.2,SNR=6.5						
CPUP	**Villa Florida**	**147.66**	**233**	PKPbc	**PKPdf**	**22 47 01.0**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=180,slow=3.0,SNR=1.3						

IDC 23 22:27:24.2±3.4, 5.79S×153.82E, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=147.2km s-min=49.5km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**232**	P	P	22 32 38.1	+1.2
	0.4nm,0.5s,baz=58,slow=10.0,SNR=9.1						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**26.14**	**225**	P	P	22 32 59.0	-1.3
	0.2nm,0.7s,baz=53,slow=9.5,SNR=1.6						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.57**	**287**	PKPbc	PKPbc	22 47 21.2	-0.3
	0.4nm,0.7s,baz=79,slow=1.0,SNR=4.3						

ROM 23 22:39:14.9±0.1, 42.840N±0.002×13.022E±0.004, h8km, ML1.0/4, 6C, Error ellipse: s-maj=0.2km s-min=0.2km az=289.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1216	**Preci, Frazion**	**0.05**	**358**	⇑P	Pg	22 39 16.8	+0.2
T1216				S	Sg	22 39 18.1	+0.2
T1216				AML	AML		
	comp=E,707μm,0.3s						
T1216				AML	AML		
	comp=N,488μm,0.5s						
NRCA	**Norcia**	**0.07**	**95**	⇑P	Pg	22 39 17.0	+0.1
NRCA				AML	AML		
	comp=N,197μm,1.5s						
NRCA				AML	AML		
	comp=E,209μm,1.3s						
NRCA				AML	AML		
	comp=N,196μm,1.5s						
NRCA	**Norcia**	**0.07**	**95**	P	Pg	22 39 17.1	+0.3
T1215	**Vallo di Nera,**	**0.12**	**252**	⇑P	Pg	22 39 18.0	+0.4
T1215				S	Sg	22 39 20.1	+0.7
T1242	**Castelluccio d**	**0.14**	**94**	P	Pg	22 39 18.4	+0.6
T1242				AML	AML		
	comp=E,53μm,1.2s						
T1242				AML	AML		
	comp=N,80μm,0.5s						
T1242				AML	AML		
	comp=E,136μm,0.3s						
T1242				AML	AML		
	comp=N,157μm,0.4s						
MC2	**Monte Cornacci**	**0.14**	**59**	P	Pg	22 39 18.7	+0.7
T1217	**Poggiodomo (PG**	**0.14**	**208**	⇑P	Pg	22 39 18.5	+0.5
T1217				S	Sg	22 39 21.3	+1.2
FDMO	**Fiordimonte**	**0.20**	**14**	⇑P	Pg	22 39 19.6	+0.6
FDMO				S	Sg	22 39 23.1	+1.3
FDMO				AML	AML		
	comp=E,51μm,0.9s						
FDMO				AML	AML		
	comp=N,60μm,0.2s						
FDMO				AML	AML		
	comp=N,60μm,0.2s						
FDMO				AML	AML		
	comp=E,51μm,0.9s						
MMO1	**Montemonaco**	**0.23**	**75**	⇑P	Pg	22 39 20.1	+0.5
MMO1				S	Sg	22 39 24.2	+1.5
LNSS	**Leonessa**	**0.24**	**177**	P	Pg	22 39 20.2	+0.5
LNSS				S	Sg	22 39 24.3	+1.5
LNSS				AML	AML		
	comp=E,66μm,1.5s						
LNSS				AML	AML		
	comp=N,53μm,0.2s						
CSP1	**Cessapalombo**	**0.29**	**28**	P	Pg	22 39 21.2	+0.6
CSP1				S	Sb	22 39 26.1	-1.3
T1243	**Rocca Santa Ma**	**0.34**	**114**	P	Pb	22 39 22.8	-0.6
SNTG	**Esanatoglia**	**0.42**	**352**	P	Pg	22 39 23.5	+0.4
SNTG				S	Sb	22 39 30.7	-0.5
TERO	**Teramo**	**0.48**	**117**	P	Pb	22 39 25.0	-0.6
TERO				S	Sb	22 39 32.2	-0.7
ARVD	**Arcevia**	**0.66**	**355**	P	Pb	22 39 29.1	+0.4

*MOS **23** 22:53:06.7±1.1, 6.57N×126.48E, h54km, mb6.1/36, MS5.7/31, Error ellipse: s-maj=6.7km s-min=3.8km az=113.7*

*KLM **23** 22:53:07, 6.54N×126.98E, h32km, mb6.3*

*MAN **23** 22:53:09.0, 6.59N×126.50E, h38km, mb6.6, ML5.7, MS6.5*

MAN INTENSITY V - MATI DAVAO ORIENTAL; DAVAO CITY; TAGUM CITY & ISLAND GARDEN CITY OF SAMAL DAVAO DEL NORTE; BAGANGA DAVAO ORIENTAL; INTENSITY IV - GENERAL SANTOS CITY; ALABEL GLAN & MALAPATAN SARANGANI; POLOMOLOK SOUTH COTABATO; BUTUAN CITY GOVERNOR GENEROSO & CATEEL DAVAO ORIENTAL; DIGOS CITY DAVAO DEL SUR; JOSE ABAD SANTOS DAVAO OCCIDENTAL; BRAULIO DUJALI DAVAO DEL NORTE; TALACOGON AGUSAN DEL SUR; INTENSITY III - TUPI SOUTH COTABATO; CAGAYAN DE ORO CITY; GINGOOG MISAMIS ORIENTAL; MALAYBALAYVALENCIA MARAMAG DON CARLOS QUEZON & MONOLO FORTICH BUKIDNON; BOSTONDAVAO ORIENTAL; MANAY DAVAO ORIENTAL; BAGUMBAYAN SULTAN KUDARAT; KIBLAWAN DAVAO DEL SUR; INTENSITY II - KIDAPAWAN CITY; MAKILALA NORTH COTOBATO; LEBAK SULTAN KUDARAT.

*BJI **23** 22:53:08.7±0.0, 6.58N×126.46E, h60km, mb5.6/68, mB5.9/74, Ms6.0/95, Ms7 5.8/90*

*IDC **23** 22:53:09.1±1.0, 6.63N×126.56E, h67km±8km, mb5.1/53, mbtmp5.4/53, MS5.6/73, Error ellipse: s-maj=9.7km s-min=6.5km az=70.0*

*NEIC **23** 22:53:10.3, 6.58N×126.48E, h64km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.06; $M_{\theta\theta}$1.09; $M_{\phi\phi}$-2.15; $M_{r\theta}$-1.36; $M_{\theta\phi}$-0.20; $M_{r\phi}$0.06; Fault plane solution: $M_0$2.31000×10^{18} NP1:ϕ_s328.17000°, δ59.76000°, λ34.45000°. NP2:ϕ_s219.11000°, δ60.74000°, λ144.74000°. Principal axes: T 2.4404, Plg45.0000°, Azm183.0000°; N -0.2796, Plg45.0000°, Azm4.0000°; P -2.1608, Plg1.0000°, Azm274.0000°;*

*NEIC **23** 22:53:10.4±1.9, 6.572N±0.009×126.49E±0.06, h65km±1km, mb6.1/396, Mwb6.2/89, Mww6.3 Error ellipse: s-maj=10.7km s-min=2.9km az=264.0*

*GCMT **23** 22:53:10.4±0.0, 6.55N×126.49E, h63km, MW6.3/172, Moment Tensor Solution. s171,c400; s172,c704; Duration: 3s5 Moment tensor: Scale 10^{18}Nm; M_{rr}0.98±.01; $M_{\theta\theta}$2.54±.01; $M_{\phi\phi}$-3.52±.01; $M_{r\theta}$-1.58±.01; $M_{\theta\phi}$-0.70±.01; $M_{r\phi}$0.07±.01; Best double couple: $M_0$3.59000×10^{18} NP1:ϕ_s227.00000°, δ70.00000°, λ156.00000°. NP2:ϕ_s326.00000°, δ67.00000°, λ22.00000°

GUIM **Jordan** 5.63 316 ⇓*i*P Pn 22 54 32.2 +1.5
TNTI **Ternate** 5.79 172 Pn Pn 22 54 33.9 +1.0
TNTI **Ternate** 5.79 172 P Pn 22 54 35.4 +2.5
33nm56µm93µm10µm,0.9s
TNTI **Ternate** 5.79 172 P Pn 22 54 35.8 +2.9
JAP **San Jose, Anti** 6.17 313⇑*e*P Pn 22 54 39.7 +1.6
CNP **Catarman** 6.21 343⇓*e*P Pn 22 54 39.4 +0.7
RCP **Roxas** 6.24 323⇓*e*P Pn 22 54 40.2 +1.1
KMSI **Cibinong** 6.45 203 P Pn 22 54 44.4 +2.4
48nm4µm113µm16µm,0.9s
MMPH **Masbate** 6.46 334⇑*i*P Pn 22 54 44.2 +2.3
GTOI **Gorontalo** 6.84 211 P Pn 22 54 48.6 +1.3
34nm50µm89µm9µm,0.9s
LBMI **Labuha** 7.20 172 P Pn 22 54 54.2 +2.0
34nm82µm4µm,1.1s
PVCP **Virac** 7.39 342⇓*i*P Pn 22 55 01.9 +7.0
MRSI **Marisa** 7.57 217 P Pn 22 54 58.9 +1.6
57nm101µm124µm17µm,0.8s
I39PW **PALAU INFRASON** 8.01 82 P Pn 22 55 01.0 -2.3
baz=230,slow=9.9,SNR=1.8
I39PW S Sn 22 56 24.0 -8.4
baz=274,slow=46,SNR=2.6
I39PW *i* 23 41 30.0
0.1nm,0.7s,baz=268,slow=308,SNR=3.8
MYLDM **Lahad Datu** 8.11 261 Pn Pn 22 55 05.8 +1.2
MYLDM **Lahad Datu** 8.11 261 ⇓P Pn 22 55 07.1 +2.4
BUSP **Coron** 8.28 311⇓*e*P Pn 22 55 08.9 +1.9
BOAC **Boac** 8.28 326⇓*i*P Pn 22 55 12.8 +5.7
GQP **Guinayangan** 8.35 331⇓*e*P Pn 22 55 10.4 +2.4
PPR **Puerto Princes** 8.37 293⇓*e*P Pn 22 55 08.7 +0.5
LUWI **Luwuk** 8.42 207 Pn Pn 22 55 11.7 +2.8
LUWI **Luwuk** 8.42 207 P Pn 22 55 11.4 +2.5
184µm285µm15µm,1.0s
LUWI S Pn 22 55 11.9 +3.0
184µm285µm15µm,1.0s
LUWI **Luwuk** 8.42 207 P Pn 22 55 14.7 +5.8
SANI **Sanana** 8.55 184 P Pn 22 55 08.1 -2.6
104µm81µm9µm,1.0s
SANI S Pn 22 55 08.2 -2.5
104µm81µm9µm,1.0s
SANI **Sanana** 8.55 184 P Pn 22 55 10.5 -0.2
JCNP **Jose Panganiba** 8.58 334⇓*e*P Pn 22 55 15.8 +4.8
SWI **Sorong** 8.73 147 P Pn 22 55 14.3 +1.1
105µm28µm3µm,0.9s
SIJI **Sorong** 8.74 147 P Pn 22 55 14.6 +1.2
804nm,0.3s,baz=12,slow=8.9,SNR=133
SIJI S Sn 22 56 46.0 -4.5
138nm,0.4s,baz=0.0,slow=20,SNR=1.0
PGP **Puerto Galera** 8.84 322⇓*e*P Pn 22 55 17.2 +2.5
APSI **Ampana** 8.87 214 P Pn 22 55 17.2 +2.2
67µm83µm7µm,1.0s
APSI S Pn 22 55 16.9 +1.9
67µm83µm7µm,1.0s
BATP **Bataraza** 8.95 285⇓*e*P Pn 22 55 21.6 +5.5
LQP **Lukban** 8.99 327⇓*e*P Pn 22 55 21.2 +4.4
MPSI **Mapaga** 9.05 227 P Pn 22 55 18.6 +1.1
118µm16µm1µm,0.8s
MPSI S Sn 22 56 57.6 -0.3
118µm16µm1µm,0.8s
TGY **Tagaytay City** 9.32 324 P Pn 22 55 22.8 +1.5
baz=270,slow=14
TGY **Tagaytay City** 9.32 324⇓*e*P Pn 22 55 25.9 +4.6
TGY *i* S Sn 22 57 16.6 +12
LUBP **Lubang** 9.46 320⇓*i*P Pn 22 55 25.9 +2.8
MACP **Maragondon, Ca** 9.57 324⇓*i*P Pn 22 55 26.9 +2.3
NLAI **Namlea** 9.73 177 P Pn 22 55 26.7 -0.1
40µm3µm,0.8s
MSAI **Masohi** 10.11 166 P Pn 22 55 34.7 +2.7
555nm4µm195nm,1.2s
SPMM **Sapulut** 10.19 260 P Pn 22 55 37.0 +3.8
KKM **Kota Kinabalu** 10.28 268 Pn Pn 22 55 36.1 +1.8
KKM **Kota Kinabalu** 10.28 268 P Pn 22 55 36.3 +1.9
KKM **Kota Kinabalu** 10.28 268 ⇓P Pn 22 55 36.9 +2.5
AAI **Ambon** 10.29 171 P Pn 22 55 35.8 +1.3
57µm23µm1µm,1.3s
BALP **Baler** 10.36 332⇓*i*P Pn 22 55 42.9 +7.6
FAKI **Fak Fak** 10.99 149 Pn Pn 22 55 45.2 +1.1
FAKI **Fak Fak** 10.99 149 P Pn 22 55 46.2 +2.1
77µm31µm1µm,0.7s
FAKI **Fak Fak** 10.99 149 P Pn 22 55 46.5 +2.4
SMPP **San Manuel, Pa** 11.14 329⇓*i*P Pn 22 55 45.8 -0.4
CAUP **Cauayan** 11.32 336⇓*e*P Pn 22 55 52.5 +4.0
BNDI **Bandanaira** 11.49 163 P Pn 22 55 53.5 +2.6
100µm106µm4µm,1.7s
BNDI **Bandanaira** 11.49 163 P Pn 22 55 56.2 +5.3
SMKI **Samarinda** 11.62 234 P Pn 22 55 54.2 +1.6
128µm24µm2µm,1.1s
TTSI **Tana Toraja** 11.65 215 P Pn 22 55 54.5 +1.4
83µm108µm5µm,0.9s
BOLP **Bolinao** 11.73 327⇓*i*P Pn 22 55 59.8 +5.6
SAMP **Sagada Mountai** 11.84 333⇓*e*P Pn 22 55 59.3 +3.7
BAKI **Biak** 12.26 128 P Pn 22 56 05.4 +4.0
84µm5µm,1.3s
BKB **Balikpapan** 12.36 231 Pn Pn 22 56 03.0 +0.2
BKB **Balikpapan** 12.36 231 P Pn 22 56 02.7 0.0
118µm36µm3µm,1.0s
BKB **Balikpapan** 12.36 231 P Pn 22 56 07.6 +4.9
SPSI **Sidrap Palu** 12.43 213 P Pn 22 56 05.5 +1.7
95µm73µm1µm,0.9s
BBSI **Bau Bau** 12.59 198 P Pn 22 56 04.9 -1.0
21µm1µm,1.2s
SRPI **Serui, Papua** 12.79 130 P Pn 22 56 11.7 +3.1
59µm33µm1µm,0.9s
KAPI **Kappang** 13.33 211 P Pn 22 56 17.3 +1.4
952nm,0.7s,baz=22,slow=8.9,SNR=140
KAPI **Kappang** 13.33 211 P Pn 22 56 16.4 +0.4
KAPI **Kappang** 13.33 211 ⇑P Pn 22 56 16.3 +0.4
BKSI **Bulukumba** 13.41 209 P Pn 22 56 16.9 -0.2
61µm39µm938nm,1.0s
CICP **Calayan Island** 13.57 339⇑*i*P P 22 56 27.3 +1.3
MTKI **Muara Teweh, K** 13.80 238 P Pn 22 56 23.4 +1.2
39µm19µm536nm,0.8s
BSSI **Bau Bau, Buton** 13.97 206 P Pn 22 56 24.6 +0.1
32µm15µm906nm,1.2s
SMPI **Sarmi** 14.81 125 P P 22 56 37.8 -2.1
63µm54µm2µm,1.5s
SBUM **Sibu** 14.84 255 Pn 22 56 37.6 +1.7
SBUM **Sibu** 14.84 255 P P 22 56 39.0 -1.2
SBUM **Sibu** 14.84 255 ⇓P Pn 22 56 37.6 +1.7
SAUI **Saumlaki** 15.19 162 Pn 22 56 39.7 -0.6
SAUI **Saumlaki** 15.19 162 P Pn 22 56 42.0 +1.6
66µm40µm3µm,0.9s
SAUI **Saumlaki** 15.19 162 P P 22 56 46.1 +2.0
BBKI **Banjar Baru** 15.34 230 P Pn 22 56 43.6 +1.3
38µm42µm2µm,1.1s
MMRI **Maumere** 15.68 196 Pn Pn 22 56 46.2 -0.4
MMRI **Maumere** 15.68 196 P Pn 22 56 46.5 -0.1
61µm37µm2µm,1.0s
MMRI **Maumere** 15.68 196 P P 22 56 48.4 -1.1
EDFI **Ende, Flores** 15.94 198 P Pn 22 56 49.1 -1.0
36µm13µm911nm,0.8s
STKI **Sintang** 16.35 247 P Pn 22 56 54.3 -0.8
52µm23µm483nm,1.5s
GENI **Genyem** 16.35 123 P P 22 56 58.2 +1.2
134µm79µm3µm,1.8s
BATI **Baumata** 16.88 190 P P 22 57 02.8 -0.1
1µm,0.6s,baz=352,slow=0.6,SNR=78
BATI S S 23 00 17.9 +2.0
343nm,0.8s,baz=22,slow=19,SNR=2.5
BATI LR LR 23 04 59.1
comp=Z,15µm,20.9s,baz=360,slow=42
BATI **Baumata** 16.88 190 P P 22 57 03.0 +0.1
56µm29µm2µm,0.6s
TWG **Pinlang** 17.02 343 P P 22 57 04.5 +0.2
PBKI **Pangkalan Bun** 17.46 239 P P 22 57 10.3 +1.1
39µm2µm,1.0s
YULB **Yu-li** 17.50 344 P Pn 22 57 09.1 -0.1
PLAI **Plampang** 17.59 210 P Pn 22 57 10.0 -0.5
72µm36µm4µm,1.0s
PLAI **Plampang** 17.59 210 P Pn 22 57 09.9 -0.5
TPUB **Ta-pu** 17.61 342 P Pn 22 57 10.2 -0.5
TPUB **Ta-pu** 17.61 342 P P 22 57 12.7 +1.9
SSLB **Suanglung** 17.97 343 P 22 57 14.8 0.0
SSLB **Suanglung** 17.97 343 P Pn 22 57 16.9 +1.9
TWSI **Taliwang, Sumb** 17.98 213 P P 22 57 13.3 -1.6
42µm14µm938nm,1.3s
YOJ **Yonaguni jima** 18.14 350 P P 22 57 16.5 -0.1
YOJ **Yonaguni jima** 18.14 350 P P 22 57 16.5 -0.1
YOJ pmax pmax
comp=Z,190nm,1.1s
NACB **Ninganchiao** 18.16 345 P Pn 22 57 17.6 +0.3
SRBI **Singaraja** 18.40 218 P Pn 22 57 20.0 -0.3
comp=Z,79µmcomp=Z,31µmcomp=Z,1µm,0.9s
KMMI **Kalianget** 18.43 223 P Pn 22 57 20.8 +0.1
comp=Z,79µmcomp=Z,34µmcomp=Z,1µm,0.9s

BWJI **Bawean** 18.53 229 P Pn 22 57 23.0 +1.1
comp=Z,46µmcomp=Z,56µmcomp=Z,3µm,1.0s
YHNB **Yeheng** 18.69 345 P P 22 57 23.1 +0.2
YHNB **Yeheng** 18.69 345 P Pn 22 57 27.1 +3.3
ABJI **Asem Bagus** 18.80 221 P Pn 22 57 25.1 0.0
comp=Z,24µmcomp=Z,742nm,1.0s
DNP **Denpasar** 18.87 217 P P 22 57 25.3 +0.5
comp=Z,83µmcomp=Z,67µmcomp=Z,4µm,1.1s
TATO **Taipei** 18.96 346 P P 22 57 25.1 -0.5
IGBI **Denpasar** 19.02 217 P Pn 22 57 27.1 -0.6
comp=Z,32µmcomp=Z,25µmcomp=Z,1µm,0.6s
GUMO **Guam** 19.35 67 P Pn 22 57 32.0 +0.4
comp=Z,312nm,0.9s,baz=217,slow=12,SNR=8.6
GUMO LR LR 23 04 37.3
comp=Z,16µm,20.6s,baz=242,slow=36
GUMO **Guam** 19.35 67 Pn Pn 22 57 32.7 +1.1
GUMO IAmb IAmb 22 57 38.1
comp=Z,2µm,1.4s
GUMO **Guam** 19.35 67 P Pn 22 57 32.7 +1.1
GUMO pmax pmax
comp=Z,2µm,1.5s
GUMO **Guam** 19.35 67 P Pn 22 57 32.0 +0.4
GUMO **Guam** 19.35 67 ⇓P Pn 22 57 31.7 +0.1
JAGI **Jajag, Banyuwa** 19.36 220 P P 22 57 29.2 -1.0
JAGI **Jajag, Banyuwa** 19.36 220 P Pn 22 57 31.2 -0.6
comp=Z,53µmcomp=Z,18µmcomp=Z,2µm,1.0s
JAGI **Jajag, Banyuwa** 19.36 220 P P 22 57 30.6 +0.4
HKC **Hong Kong Obse** 19.70 324 ⇑P Pn 22 57 35.0 -0.7
TBJI **Tambak Boyo** 19.77 228 P Pn 22 57 37.6 +0.9
comp=Z,44µmcomp=Z,40µmcomp=Z,2µm,1.0s
MTN **Manton Dam** 19.79 167 P P 22 57 35.5 +0.7
baz=20,SNR=184
MTN **Manton Dam** 19.79 167 P P 22 57 34.8 0.0
MTN IAmb IAmb 22 57 40.8
comp=Z,934nm,0.9s
MTN **Manton Dam** 19.79 167 P Pn 22 57 35.8 -1.0
MTN **Manton Dam** 19.79 167 ⇑P P 22 57 34.7 -0.1
QZH **Quanzhou** 19.82 338⇑*i*P P 22 57 32.4 -2.6
QZH sP sP 22 57 54.4 -2.9
QZH S S 23 01 06.8 -8.1
QZH sS sS 23 01 27.8 -8.4
QZH pmax pmax
comp=Z,840nm,6.1s
QZH LR LR
comp=Z,26µm,17.5s
QZH LR LR
comp=Z,12µm,13.3s
QZH LR LR
comp=Z,34µm,17.5s
MCO **Taipa Grande** 19.93 322 P Pn 22 57 40.0 +1.6
KDU **Kakadu** 19.99 163 P P 22 57 37.3 +0.4
baz=20,SNR=185
KDU **Kakadu** 19.99 163 ⇑P P 22 57 36.6 -0.4
JOW **Kunigami** 20.25 4 P P 22 57 39.5 -0.2
comp=Z,29nm,0.3s,baz=169,slow=12,SNR=13
JOW S S 23 01 23.9 +0.6
comp=Z,22nm,0.9s,baz=180,slow=18,SNR=1.8
JOW LR LR 23 05 46.1
comp=Z,21µm,19.5s,baz=188,slow=38
comp=Z,29nm,0.3s
JOW **Kunigami** 20.25 4 P P 22 57 39.3 -0.3
JOW IAmb IAmb 22 57 57.8
comp=Z,2µm,1.3s
JOW **Kunigami** 20.25 4 P P 22 57 39.8 +0.1
JOW **Kunigami** 20.25 4 ⇑P P 22 57 39.5 -0.2
NGJI **Ngawi** 20.43 228 P Pn 22 57 44.7 +0.4
QIZ **Qiongzhong** 20.45 309 P P 22 57 41.5 -0.4
QIZ IAmb IAmb 22 58 00.9
comp=Z,824nm,1.1s
QIZ **Qiongzhong** 20.45 309 P P 22 57 41.9 0.0
QIZ sP pP 22 57 57.8 +2.3
QIZ S S 23 01 28.8 +1.4
QIZ pmax pmax
comp=Z,200nm,1.8s
QIZ pmax pmax
comp=Z,8µm,9.4s
QIZ LR LR
comp=Z,30µm,16.6s
QIZ LR LR
comp=Z,29µm,17.8s
QIZ LR LR
comp=Z,42µm,22.3s
QIZ **Qiongzhong** 20.45 309 P Pn 22 57 43.5 -1.1
PWJI **Pagerwojo** 20.62 226 P P 22 57 44.6 +0.8
comp=Z,41µmcomp=Z,21µmcomp=Z,808nm,1.1s
GZH **Guangzhou** 20.79 324 P Pn 22 57 48.8 +0.3
GZH S Sn 23 01 38.8 -3.9
GZH LR LR
comp=Z,49µm,13.0s
GZH LR LR
comp=Z,78µm,14.4s
SMRI **Semarang** 20.98 230 P P 22 57 48.4 +0.7
SMRI **Semarang** 20.98 230 P P 22 57 48.4 +0.7
comp=Z,79µmcomp=Z,48µmcomp=Z,2µm,1.0s
TPI **Tanjungpandan** 21.00 244 P P 22 57 48.8 +0.9
comp=Z,12µmcomp=Z,320nm,0.8s
PCJI **Pacitan** 21.19 227 P P 22 57 50.6 +0.7
comp=Z,41µmcomp=Z,18µmcomp=Z,663nm,1.0s
UGM **Wanagama** 21.48 228 P P 22 57 52.5 -0.5
UGM IAmb IAmb 22 58 05.5
comp=Z,990nm,0.8s
UGM **Wanagama** 21.48 228 P P 22 57 53.7 +0.7
comp=Z,55µmcomp=Z,28µmcomp=Z,1µm,0.8s
UGM **Wanagama** 21.48 228 P P 22 57 52.7 -0.3
YOGI **Yogyakarta** 21.59 229 P P 22 57 54.9 +0.7
comp=Z,23µmcomp=Z,19µmcomp=Z,995nm,0.7s
PPBI **Pangkal Pinang** 22.13 248 P P 22 58 00.0 0.0
comp=Z,45µmcomp=Z,19µmcomp=Z,390nm,0.7s
KNRA **Kununurra** 22.18 174 P P 22 58 00.4 -0.2
baz=22,SNR=465
KNRA **Kununurra** 22.18 174 P P 22 58 00.3 -0.2
KNRA **Kununurra** 22.18 174 P P 22 58 00.1 -0.4
JCJI **Jatiwangi** 22.36 235 P P 22 58 05.0 +2.5
comp=Z,79µmcomp=Z,112µmcomp=Z,3µm,0.9s
UBPT **Khong Chiam** 22.42 295 P P 22 58 02.0 -1.1
UBPT IAmb IAmb 22 58 25.3
comp=Z,2µm,1.9s
UBPT **Khong Chiam** 22.42 295 ⇓P P 22 58 01.7 -1.4
MANU **Manus Island** 22.47 112 P P 22 58 04.6 +0.9
MANU IAmb IAmb 22 58 28.6
comp=Z,2µm,1.4s
MANU PcP PcP 23 01 57.2 +1.1
MANU **Manus Island** 22.47 112 ⇑P P 22 58 03.5 -0.2
MANU ⇑P PcP 23 01 48.9 -7.3
TPRI **Tanjung Pinang** 22.66 257 P P 22 58 06.0 +0.3
comp=Z,22µmcomp=Z,10µmcomp=Z,429nm,1.1s
DSRI **Dabo** 23.00 253 P P 22 58 08.4 -0.8
comp=Z,23µmcomp=Z,14µmcomp=Z,335nm,0.7s
LEM **Lembang** 23.08 235 P P 22 58 09.9 -0.2
comp=Z,535nm,1.0s,baz=90,slow=11
comp=Z,535nm,1.0s
LEM **Lembang** 23.08 235 P P 22 58 10.0 -0.2
MYKOM **Kota Tinggi** 23.11 259 IAmb IAmb 22 58 33.0
comp=Z,2µm,1.7s
CBJI **Citeko** 23.49 237 P P 22 58 16.4 +2.5
comp=Z,66µmcomp=Z,86µmcomp=Z,3µm,0.9s
PMBI **Palembang** 23.68 247 P P 22 58 16.1 +0.5
PMBI **Palembang** 23.68 247 P P 22 58 18.1 +2.5
comp=Z,46µmcomp=Z,29µmcomp=Z,2µm,1.2s
CNJI **Cibinong** 23.75 235 P P 22 58 15.6 -0.7
comp=Z,42µmcomp=Z,26µmcomp=Z,2µm,1.0s
SBJI **Serang** 23.94 239 P P 22 58 20.7 +2.8
comp=Z,51µmcomp=Z,2µm,1.3s
SKJI **Sukabumi** 24.05 236 P P 22 58 19.5 +0.5
comp=Z,3µmcomp=Z,12µmcomp=Z,674nm,0.8s
GULI **GuiLin** 24.23 322 ⇓P P 22 58 19.8 -0.7
GULI S S 23 02 30.5 -4.2
GULI pmax pmax
comp=Z,60nm,1.4s
GULI LR LR
comp=Z,44µm,17.3s
GULI LR LR
comp=Z,59µm,17.1s
GULI LR LR
comp=Z,30µm,18.1s
JMBI **JAMBI** 24.26 251 P P 22 58 22.9 +2.1
comp=Z,17µmcomp=Z,683nm,0.8s
BLSI **Bandar Lampung** 24.33 241 P P 22 58 22.9 +1.4
comp=Z,45µmcomp=Z,27µmcomp=Z,1µm,0.8s
KLI **Kotabumi** 24.43 243 P P 22 58 23.9 +1.5
comp=Z,45µmcomp=Z,30µmcomp=Z,3µm,0.9s
FITZ **Fitzroy Crossi** 24.50 182 P P 22 58 22.4 -0.6
comp=Z,553nm,0.9s,baz=360,slow=9.2,SNR=249
FITZ S S 23 02 36.9 -2.1
comp=Z,84nm,1.1s,baz=180,slow=10,SNR=1.6
comp=Z,553nm,0.9s

FITZ **Fitzroy Crossi** 24.50 182 P P 22 58 22.4 -0.6
baz=25,SNR=484
FITZ **Fitzroy Crossi** 24.50 182 IAmb IAmb 22 58 33.5
comp=Z,614nm,0.8s
FITZ **Fitzroy Crossi** 24.50 182 P P 22 58 23.1 +0.2
FITZ **Fitzroy Crossi** 24.50 182 ⇑P P 22 58 22.3 -0.6
SSE **Sheshan** 24.94 349 P P 22 58 27.3 +0.5
SSE pP pP 22 58 43.4 +1.4
SSE S S 23 02 49.1 +3.3
SSE LR LR
comp=Z,5µm,17.7s
KASI **Kota Agung** 25.05 242 P P 22 58 29.2 +1.1
comp=Z,40µmcomp=Z,20µmcomp=Z,1µm,1.0s
CNSH **ChangSha** 25.09 331 ⇓P P 22 58 28.3 0.0
CNSH S S 23 02 42.3 -6.1
CNSH LR LR
comp=Z,33µm,28.9s
CNSH LR LR
comp=Z,29µm,27.9s
CNSH LR LR
comp=Z,32µm,26.5s
JSU **Suzuyama** 25.11 8 ⇑P P 22 58 27.9 -0.6
LWLI **Liwa** 25.21 243 P P 22 58 31.4 +1.8
comp=Z,23µmcomp=Z,20µmcomp=Z,2µm,1.1s
JCJ **Chichijima** 25.28 34 P P 22 58 27.0 -3.0
comp=Z,246nm,0.4s,baz=255,slow=7.3,SNR=30
JCJ S S 23 02 45.2 -6.3
comp=Z,59nm,0.7s,baz=338,slow=19,SNR=1.2
JCJ LR LR 23 08 07.2
comp=Z,6µm,21.0s,baz=215,slow=36
comp=Z,246nm,0.4s
JCJ **Chichijima** 25.28 34 P P 22 58 28.3 -1.7
JCJ **Chichijima** 25.28 34 ⇑P P 22 58 27.9 -2.1
IPM **Ipoh** 25.48 267 IAmb IAmb 22 58 53.2
comp=Z,1µm,1.3s
IPM **Ipoh** 25.48 267 P P 22 58 32.8 +0.8
IPM **Ipoh** 25.48 267 ⇓P P 22 58 32.0 0.0
KULM **Kulim** 25.78 269 IAmb IAmb 22 58 41.3
comp=Z,584nm,1.0s
KULM **Kulim** 25.78 269 ⇑P P 22 58 35.3 +0.5
MNAI **Manna** 25.92 246 P P 22 58 36.4 +0.5
MNAI **Manna** 25.92 246 P P 22 58 38.9 +3.0
comp=Z,40µmcomp=Z,44µmcomp=Z,2µm,1.7s
MNAI **Manna** 25.92 246 P P 22 58 37.2 +1.3
PMG **Port Moresby** 25.95 127 P P 22 58 34.3 -1.9
comp=Z,61nm,1.1s,baz=312,slow=7.5,SNR=9.2
PMG S S 23 02 55.5 -6.7
comp=Z,11nm,0.7s,baz=327,slow=17,SNR=1.1
PMG LR LR 23 10 38.0
comp=Z,10µm,18.5s,baz=294,slow=40
comp=Z,61nm,1.1s
PMG **Port Moresby** 25.95 127 P P 22 58 35.6 -0.6
PMG **Port Moresby** 25.95 127 P P 22 58 35.6 -0.6
PMG pmax pmax
comp=Z,310nm,1.1s
KSI **Kapahiang** 25.96 248 P P 22 58 36.8 +0.4
comp=Z,20µmcomp=Z,1µm,1.0s
MASI **Maura Aman, Be** 26.10 249 P P 22 58 39.2 +1.6
comp=Z,21µmcomp=Z,14µmcomp=Z,1µm,0.8s
SDSI **Sungai Dareh** 26.14 254 P P 22 58 36.5 -1.5
comp=Z,16µmcomp=Z,8µmcomp=Z,420nm,1.9s
BKNI **Bangkinang** 26.18 257 P P 22 58 38.7 +0.4
BKNI IAmb IAmb 22 59 10.3
comp=Z,822nm,1.0s
BKNI **Bangkinang** 26.18 257 P P 22 58 39.4 +1.1
comp=Z,25µmcomp=Z,13µmcomp=Z,662nm,1.1s
COEN **Coen** 26.22 141 P P 22 58 37.1 -1.5
baz=26,SNR=38
COEN **Coen** 26.22 141 P P 22 58 38.4 -0.2
COEN **Coen** 26.22 141 P P 22 58 39.2 +0.6
COEN **Coen** 26.22 141 ⇑P P 22 58 37.5 -1.1
NJ2 **Nanjing** 26.38 345⇑*i*P P 22 58 41.8 +1.9
NJ2 pP pP 22 58 54.6 -0.4
NJ2 sP sP 22 59 05.3 +2.8
NJ2 S S 23 03 05.8 -2.8
NJ2 sS sS 23 03 36.5 +2.2
NJ2 pmax pmax
comp=Z,40nm,0.9s
NJ2 pmax pmax
comp=Z,3µm,10.9s
NJ2 LR LR
comp=Z,10µm,16.1s
NJ2 LR LR
comp=Z,8µm,23.2s
NJ2 LR LR
comp=Z,15µm,22.7s
KRJI **Kerinci** 26.46 252 P P 22 58 44.2 +3.2
comp=Z,31µmcomp=Z,61µmcomp=Z,2µm,0.9s
WHN **Wuhan** 26.48 336 ⇑P P 22 58 41.0 +0.2
WHN pP pP 22 58 58.8 +2.5
WHN sP sP 22 59 03.8 -0.1
WHN S S 23 03 15.3 +5.0
WHN pmax pmax
comp=Z,310nm,1.1s
WHN pmax pmax
comp=Z,10µm,5.4s
WHN LR LR
comp=Z,14µm,14.1s
WHN LR LR
comp=Z,22µm,11.5s
WHN LR LR
comp=Z,78µm,25.9s
SRIT **Nakonsritamara** 26.78 276 P P 22 58 44.0 +0.2
SRIT IAmb IAmb 22 59 17.9
comp=Z,553nm,1.2s
XMIS **Christmas Isla** 26.81 231 P P 22 58 45.0 +1.1
XMIS IAmb IAmb 22 59 26.1
comp=Z,584nm,1.3s
XMIS **Christmas Isla** 26.81 231 P P 22 58 44.9 +0.9
PDSI **Padang** 27.06 255 P P 22 58 45.5 -0.8
comp=Z,17µmcomp=Z,6µmcomp=Z,165nm,0.8s
WB0 **Warramunga Arr** 27.26 164 P P 22 58 47.4 -0.6
WB0 IAmb IAmb 22 59 21.0
comp=Z,567nm,0.9s
GYA **Guiyang** 27.40 319⇑*i*P P 22 58 52.8 +3.5
GYA S S 23 03 31.3 +6.0
GYA pmax pmax
comp=Z,42nm,0.8s
GYA pmax pmax
comp=Z,3µm,9.2s
GYA LR LR
comp=Z,12µm,20.6s
GYA LR LR
comp=Z,16µm,17.1s
GYA LR LR
comp=Z,24µm,19.2s
WRAB **Tennant Creek** 27.41 164 P P 22 58 48.6 -0.7
WRAB IAmb IAmb 22 59 33.4
comp=Z,589nm,0.9s
WRAB **Tennant Creek** 27.41 164 P P 22 58 48.6 -0.7
WRAB pmax pmax
comp=Z,589nm,0.9s
WRAB **Tennant Creek** 27.41 164 P P 22 58 48.7 -0.6
WRAB **Tennant Creek** 27.41 164 ⇑P P 22 58 47.6 -1.7
WRA **Warramunga Arr** 27.41 164 P P 22 58 47.7 -1.7
comp=Z,50nm,0.7s,baz=333,slow=11,SNR=132
WRA S S 23 03 15.7 -10
comp=Z,11nm,0.7s,baz=337,slow=15,SNR=1.5
WRA ScP ScP 23 05 40.3 -1.8
comp=Z,6.9nm,0.5s,baz=344,slow=3.1,SNR=2.2
WRA LR LR 23 12 23.4
comp=Z,13µm,20.1s,baz=340,slow=42
comp=Z,50nm,0.7s
WR0 **Warramunga Arr** 27.49 164 IAmb IAmb 22 59 25.6
comp=Z,604nm,1.1s
KRVT **Keravat (AS076** 27.63 112 P P 22 58 51.0 -0.4
comp=Z,238nm,0.9s,baz=279,slow=4.4,SNR=20
KRVT S S 23 03 29.7 +0.8
comp=Z,23nm,0.5s,baz=342,slow=20,SNR=1.2
KRVT LR LR 23 09 22.7
comp=Z,13µm,18.2s,baz=82,slow=35
comp=Z,238nm,0.9s
RABL **Rabaul** 27.71 112 P P 22 58 53.9 +1.8
PSI **Prapat** 27.77 264 P P 22 58 53.4 +0.6
baz=73,slow=20
PSI S S 23 03 23.6 -7.6
comp=Z,26nm,1.0s,baz=72,slow=18,SNR=1.0
PSI ScP ScP 23 05 43.4 -0.1
comp=Z,22nm,0.9s,baz=189,slow=3.9,SNR=6.5
PSI **Prapat** 27.77 264 P P 22 58 53.6 +0.9
RPSI **Rantau Prapat** 27.78 263 ScP 23 05 43.4 0.0
RPSI **Rantau Prapat** 27.78 263 IAmb IAmb 22 59 15.2
comp=Z,608nm,1.2s
JMN **Monobe** 27.89 13 IAmb IAmb 22 59 15.9
comp=Z,470nm,1.1s
JMN **Monobe** 27.89 13 ⇑P P 22 58 54.0 +0.4

JTU	**Tsushima**	**27.97**	**5**			**P**		**22 58 52.6**	**-1.5**	
TSI	**Tuntungan**	**28.03**	**265**		P	**P**		**22 58 57.0**	**+2.1**	
	comp=Z,25µmcomp=Z,15µmcomp=Z,477nm,0.9s									
PHRA	**Phrae**	**28.25**	**297**		P	**P**		**22 58 57.2**	**+0.3**	
MBWA	**Marble Bar**	**28.33**	**193**		P	**P**		**22 58 56.4**	**-1.0**	
MBWA					IAmb	IAmb		22 59 06.7		
	comp=Z,705nm,1.0s									
MBWA	**Marble Bar**	**28.33**	**193**		P	**P**		**22 58 56.4**	**-1.0**	
MBWA	**Marble Bar**	**28.33**	**193**	⇑	P	**P**		**22 58 55.8**	**-1.6**	
SISI	**Saibi**	**28.49**	**255**		P	**P**		**22 58 57.7**	**-1.4**	
	comp=Z,9µmcomp=Z,703nm,1.7s									
ENH	**Enshi**	**28.54**	**328**		P	**P**		**22 58 58.5**	**-0.8**	
ENH					IAmb	IAmb		22 59 16.6		
	comp=Z,940nm,1.4s									
PSA00	**Pilbara Seismi**	**28.70**	**193**		IAmb	IAmb		22 59 04.7		
	comp=Z,785nm,1.1s									
PSA00	**Pilbara Seismi**	**28.70**	**193**		IAmb	IAmb		22 59 04.7		
	comp=Z,751nm,1.1s									
PSA00	**Pilbara Seismi**	**28.70**	**193**		P	**P**		**22 58 59.5**	**-1.3**	
CRAI	**Chiangrai**	**28.80**	**301**		IAmb	IAmb		22 59 59.6		
	comp=Z,803nm,1.7s									
KCSI	**Kotacane, Aceh**	**28.81**	**265**		P	**P**		**22 59 01.3**	**-0.6**	
	comp=Z,9µmcomp=Z,695nm,1.2s									
JHS	**Saijyo**	**28.96**	**11**		P	**P**		**22 59 04.4**	**+1.4**	
JHS	**Saijyo**	**28.96**	**11**	⇑	P	**P**		**22 59 04.7**	**+1.7**	
JHJ	**Hachijo jima 2**	**29.17**	**23**		P	**P**		**22 59 02.5**	**-2.3**	
	comp=Z,44nm,0.7s,baz=40,slow=14,SNR=1.5									
JHJ					LR	LR		23 08 43.3		
	comp=Z,10µm,21.8s,baz=220,slow=32 comp=Z,44nm,0.7s									
JHJ2	**Mitsune**	**29.18**	**23**		P	**P**		**22 59 04.7**	**-0.2**	
JHJ2					IAmb	IAmb		22 59 54.6		
	comp=Z,696nm,1.6s									
KMI	**Kunming**	**29.32**	**312**	⇓	P	**P**		**22 59 06.0**	**-0.6**	
KMI					pP	pP		22 59 22.5	+0.1	
KMI					sP	sP		22 59 30.9	+0.9	
KMI					PP	**PnPn**		**23 00 05.0**	**+2.1**	
KMI					PcP	**PcP**		**23 02 13.5**	**+1.6**	
KMI					S	**S**		**23 03 53.4**	**-2.3**	
KMI					pmax	pmax				
	comp=Z,120nm,0.9s									
KMI					pmax	pmax				
	comp=Z,4µm,4.8s									
KMI					LR	LR				
	comp=Z,18µm,20.9s									
KMI					LR	LR				
	comp=Z,21µm,21.8s									
KMI					LR	LR				
	comp=Z,38µm,24.1s									
GSI	**Gunungsitoli**	**29.35**	**261**		P	**P**		**22 59 04.8**	**-1.9**	
GSI					IAmb	IAmb		22 59 31.4		
	comp=Z,473nm,0.8s									
GSI	**Gunungsitoli**	**29.35**	**261**		P	**P**		**22 59 05.6**	**-1.1**	
	comp=Z,35µmcomp=Z,9µmcomp=Z,646nm,0.7s									
GSI	**Gunungsitoli**	**29.35**	**261**		P	**P**		**22 59 05.0**	**-1.7**	
CM31	**Chiang Mai Arr**	**29.38**	**296**		P	**P**		**22 59 08.0**	**+1.1**	
CM31					IAmb	IAmb		22 59 58.0		
	comp=Z,896nm,1.9s									
CMAR	**Chiang Mai Arr**	**29.38**	**296**		P	**P**		**22 59 06.6**	**-0.3**	
	comp=Z,7.5nm,0.8s,baz=121,slow=7.3,SNR=46									
CMAR					PcP	**PcP**		**23 02 11.3**	**-0.6**	
	comp=Z,5.5nm,0.7s,baz=119,slow=1.1,SNR=1.9									
CMAR					ScP	**ScP**		**23 05 47.8**	**-0.6**	
	comp=Z,4.8nm,0.7s,baz=93,slow=1.7,SNR=6.8									
CMAR					LR	LR		23 11 10.4		
	comp=Z,14µm,18.3s,baz=110,slow=37 comp=Z,7.5nm,0.8s									
LHMI	**Lhok Sumawe**	**29.46**	**269**		P	**P**		**22 59 08.1**	**+0.4**	
LHMI	**Lhok Sumawe**	**29.46**	**269**		P	**P**		**22 59 09.1**	**+1.4**	
	comp=Z,29µmcomp=Z,15µmcomp=Z,696nm,1.0s									
LHMI	**Lhok Sumawe**	**29.46**	**269**		P	**P**		**22 59 10.0**	**+2.3**	
CHTO	**Chiang Mai**	**29.50**	**297**		P	**P**		**22 59 08.2**	**+0.2**	
CHTO	**Chiang Mai**	**29.50**	**297**		P	**P**		**22 59 08.2**	**+0.2**	
CHTO					pmax	pmax				
	comp=Z,15nm,1.6s									
CHTO	**Chiang Mai**	**29.50**	**297**		P	**P**		**22 59 11.6**	**+3.7**	
CHTO					P	**P**		**22 59 11.6**	**+3.7**	
CHTO	**Chiang Mai**	**29.50**	**297**		P	**P**		**22 59 09.8**	**+1.8**	
CHTO	**Chiang Mai**	**29.50**	**297**	⇓	P	**P**		**22 59 06.9**	**-1.1**	
TJN	**Taejon**	**29.70**	**1**			**P**		**22 59 10.5**	**+1.0**	
TJN	**Taejon**	**29.70**	**1**	*de*	P	**P**		**22 59 11.9**	**+2.4**	
QIS	**Mount Isa**	**29.84**	**155**		P	**P**		**22 59 10.0**	**-0.9**	
	baz=30,SNR=211									
QIS	**Mount Isa**	**29.84**	**155**		P	**P**		**22 59 10.3**	**-0.6**	
MLSI	**Meulaboh, Aceh**	**30.08**	**267**		P	**P**		**22 59 12.5**	**-0.7**	
	comp=Z,743nmcomp=Z,5µmcomp=Z,477nm,0.9s									
MTSU	**Mount Surprise**	**30.15**	**145**		P	**P**		**22 59 13.0**	**-0.7**	
	baz=30,SNR=72									
MTSU	**Mount Surprise**	**30.15**	**145**		P	**P**		**22 59 13.4**	**-0.3**	
INU	**Inuyama**	**30.25**	**17**		P	**P**		**22 59 14.1**	**-0.2**	
INU	**Inuyama**	**30.25**	**17**	⇓	P	**P**		**22 59 13.2**	**-1.1**	
INU	**Inuyama**	**30.25**	**17**		P	**P**		**22 59 13.2**	**-1.1**	
INU					pP	**pP**		**22 59 27.8**	**-1.6**	
INU					ScP	**ScP**		**23 05 51.6**	**+0.9**	
JGF	**Kuroka**	**30.58**	**17**		P	**P**		**22 59 17.9**	**+0.6**	
LYN	**LuoYang**	**30.75**	**337**	⇓	*iP*	**P**		**22 59 18.1**	**-0.7**	
LYN					pP	pP		22 59 29.8	-4.5	
LYN					S	**S**		**23 04 16.5**	**-0.9**	
LYN					sS	sS		23 04 39.3	-3.9	
LYN					pmax	pmax				
	comp=Z,40nm,1.2s									
LYN					pmax	pmax				
	comp=Z,1µm,4.3s									
LYN					LR	LR				
	comp=Z,15µm,28.4s									
LYN					LR	LR				
	comp=Z,19µm,26.5s									
LYN					LR	LR				
	comp=Z,18µm,30.4s									
TIA	**Tai'an**	**30.77**	**345**		P	**P**		**22 59 19.0**	**+0.1**	
TIA					PcP	**PcP**		**23 02 18.5**	**+3.3**	
TIA					S	**S**		**23 04 15.3**	**-2.3**	
TIA					pmax	pmax				
	comp=Z,410nm,3.7s									
TIA					LR	LR				
	comp=Z,10µm,19.2s									
TIA					LR	LR				
	comp=Z,4µm,7.8s									
TIA					LR	LR				
	comp=Z,14µm,17.8s									
KSRS	**Korea Array**	**30.80**	**2**		P	**P**		**22 59 18.2**	**-0.9**	
	comp=Z,3.6nm,0.5s,baz=180,slow=10,SNR=12									
KSRS					ScP	**ScP**		**23 05 51.5**	**-1.0**	
	comp=Z,7.3nm,0.9s,baz=198,slow=3.2,SNR=5.0									
KSRS					LR	LR		23 14 16.2		
	comp=Z,8µm,18.3s,baz=180,slow=41 comp=Z,3.6nm,0.5s									
INCN	**Inchon**	**30.80**	**0**		P	**P**		**22 59 20.4**	**+1.2**	
INCN	**Inchon**	**30.80**	**0**		P	**P**		**22 59 20.4**	**+1.2**	
INCN					pmax	pmax				
	comp=Z,44nm,1.1s									
KS19	**Wonju Array Si**	**30.84**	**2**		P	**P**		**22 59 19.6**	**0.0**	
PZH	**PanZhiHua**	**30.85**	**313**		P	**P**		**22 59 23.5**	**+3.5**	
PZH					pP	**pP**		**22 59 34.8**	**-1.0**	
PZH					sP	**sP**		**22 59 43.3**	**-0.2**	
PZH					S	**S**		**23 04 17.3**	**-2.2**	
PZH					sS	**sS**		**23 04 43.8**	**-1.5**	
PZH					SS	**SnSn**		**23 06 06.0**	**+1.5**	
PZH					pmax	pmax				
	comp=Z,100nm,1.0s									
PZH					pmax	pmax				
	comp=Z,4µm,6.1s									
PZH					LR	LR				
	comp=Z,20µm,17.1s									
PZH					LR	LR				
	comp=Z,14µm,17.7s									
PZH					LR	LR				
	comp=Z,20µm,17.2s									
ASAR	**Alice Springs**	**30.87**	**167**		P	**P**		**22 59 19.4**	**-0.7**	
	comp=Z,68nm,0.5s,baz=346,slow=7.2,SNR=220									
ASAR					ScP	**ScP**		**23 05 51.8**	**-1.3**	
	comp=Z,6.0nm,0.6s,baz=343,slow=3.0,SNR=1.9									
ASAR					LR	LR		23 14 16.3		
	comp=Z,9µm,19.8s,baz=352,slow=41 comp=Z,68nm,0.5s									
HJU	**Haeju**	**31.37**	**359**		P	P		22 59 35.0	+11	
HJU					sP	sP		23 00 01.6	+15	
HJU					S	S		23 04 38.4	+11	
HJU					AmB					
	comp=Z,3µm,5.0s									
HJU					AMS	AMS				
	comp=N,25µm,23.1s									
HJU					AMS	AMS				
	comp=E,12µm,11.3s									
HJU					AMS	AMS				
	comp=Z,18µm,16.2s									
GIRL	**Giralia**	**31.41**	**202**		P	**P**		**22 59 25.6**	**+1.0**	
	baz=32,SNR=32									
GIRL	**Giralia**	**31.41**	**202**		P	**P**		**22 59 24.8**	**+0.1**	
GIRL	**Giralia**	**31.41**	**202**	⇑	P	**P**		**22 59 24.8**	**+0.1**	
WRKA	**Warakurna**	**31.43**	**177**		P	**P**		**22 59 24.4**	**-0.5**	
	baz=32,SNR=218									
WRKA	**Warakurna**	**31.43**	**177**		P	**P**		**22 59 25.0**	**+0.1**	
WRKA	**Warakurna**	**31.43**	**177**	⇑	P	**P**		**22 59 24.3**	**-0.6**	
PATS	**Pohnpei**	**31.55**	**88**		P	**P**		**22 59 25.0**	**-1.2**	
	baz=32,SNR=4.9									
PATS	**Pohnpei**	**31.55**	**88**		P	**P**		**22 59 26.5**	**+0.3**	
PATS					IAmb	IAmb		22 59 54.5		
	comp=Z,568nm,1.2s									
MAJO	**Matsushiro**	**31.71**	**18**		P	**P**		**22 59 26.6**	**-0.6**	
MAJO					IAmb	IAmb		23 00 40.7		
	comp=Z,675nm,1.9s									
MAJO	**Matsushiro**	**31.71**	**18**	*c*	*iP*	**P**		**22 59 26.7**	**-0.6**	
MAJO					pmax	pmax				
	comp=Z,306nm,1.9s									
MAJO					MLR	MLR				
	comp=Z,6µm,18.0s									
MAJO	**Matsushiro**	**31.71**	**18**	⇑	P	**P**		**22 59 26.5**	**-0.6**	
MAJO	**Matsushiro**	**31.71**	**18**		P	**P**		**22 59 24.8**	**-2.4**	
MAJO					pP	**pP**		**22 59 39.6**	**-2.7**	
MAJO					ScP	**ScP**		**23 05 56.9**	**+1.3**	
MJAR	**Matsushiro Arr**	**31.71**	**18**		P	**P**		**22 59 25.4**	**-1.9**	
	comp=Z,6.1nm,0.6s,baz=190,slow=9.1,SNR=18									
MJAR					ScP	**ScP**		**23 05 53.0**	**-2.6**	
	comp=Z,5.6nm,0.8s,baz=168,slow=4.3,SNR=3.9									
MJAR					LR	LR		23 10 13.0		
	comp=Z,6µm,21.4s,baz=210,slow=32 comp=Z,6.1nm,0.6s									
MJB9	**Matsu-Tunnel**	**31.71**	**18**		IAmb	IAmb		23 00 40.7		
	comp=Z,641nm,1.8s									
XAN	**Xi'an**	**31.85**	**332**		P	**P**		**22 59 27.1**	**-1.5**	
XAN					pP	pP		22 59 43.3	-0.7	
XAN					sP	sP		22 59 49.0	-2.4	
XAN					S	**S**		**23 04 32.3**	**-2.5**	
XAN					pmax	pmax				
	comp=Z,250nm,1.0s									
XAN					pmax	pmax				
	comp=Z,5µm,5.5s									
XAN					LR	LR				
	comp=Z,20µm,17.9s									
XAN					LR	LR				
	comp=Z,32µm,16.5s									
XAN					LR	LR				
	comp=Z,34µm,22.0s									
XAN	**Xi'an**	**31.85**	**332**		P	**P**		**22 59 27.0**	**-1.6**	
XAN					pP	**pP**		**22 59 42.4**	**-1.6**	
XAN					sP	**sP**		**22 59 50.7**	**-0.7**	
XAN					ScP	**ScP**		**23 05 58.3**	**+2.1**	
JYT	**Yasato**	**32.09**	**21**		P	**P**		**22 59 30.6**	**+0.1**	
CD2	**Chengdu**	**32.31**	**321**		P	**P**		**22 59 32.5**	**-0.1**	
CD2					pP	pP		22 59 46.3	-2.0	
CD2					S	**S**		**23 04 42.3**	**+0.4**	
CD2					sS	sS		23 05 09.3	+1.5	
CD2					pmax	pmax				
	comp=Z,240nm,0.8s									
CD2					pmax	pmax				
	comp=Z,1µm,10.3s									
CD2					LR	LR				
	comp=Z,40µm,15.1s									
CD2					LR	LR				
	comp=Z,43µm,16.7s									
CD2					LR	LR				
	comp=Z,23µm,17.6s									
PYAG	**Pyongyang**	**32.37**	**359**		P	P		22 59 44.3	+11	
DL2	**Dalian**	**32.52**	**353**		P	**P**		**22 59 36.3**	**+2.0**	
DL2					S	**S**		**23 04 48.3**	**+3.4**	
DL2					pmax	pmax				
	comp=Z,65nm,1.0s									
DL2					pmax	pmax				
	comp=Z,1µm,8.4s									
DL2					LR	LR				
	comp=Z,8µm,21.1s									
DL2					LR	LR				
	comp=Z,12µm,16.1s									
DL2					LR	LR				
	comp=Z,12µm,20.4s									
HNS	**HongShan**	**32.55**	**342**	⇓	P	**P**		**22 59 33.0**	**-1.6**	
HNS					pP	**pwP**		**22 59 51.8**	**+1.8**	
HNS					sP	**sP**		**22 59 58.3**	**+0.9**	
HNS					S	**S**		**23 04 43.8**	**-1.6**	
HNS					pmax	pmax				
	comp=Z,150nm,1.1s									
HNS					LR	LR				
	comp=Z,10µm,24.1s									
HNS					LR	LR				
	comp=Z,15µm,22.3s									
HNS					LR	LR				
	comp=Z,26µm,18.6s									
CTA	**Charters Tower**	**32.81**	**144**		P	**P**		**22 59 37.3**	**+0.3**	
	comp=Z,75nm,0.9s,baz=323,slow=10.0,SNR=34									
CTA					S	**S**		**23 04 47.6**	**-2.2**	
	comp=Z,8.3nm,0.9s,baz=209,slow=19,SNR=0.8									
CTA					LR	LR		23 14 54.0		
	comp=Z,13µm,18.4s,baz=324,slow=40 comp=Z,75nm,0.9s									
CTA	**Charters Tower**	**32.81**	**144**		P	**P**		**22 59 37.1**	**+0.1**	
CTAO	**Charters Tower**	**32.81**	**144**		P	**P**		**22 59 37.1**	**+0.1**	
CTAO					IAmb	IAmb		23 00 07.1		
	comp=Z,265nm,1.1s									
CTAO	**Charters Tower**	**32.81**	**144**		P	**P**		**22 59 37.1**	**+0.1**	
CTAO					pmax	pmax				
	comp=Z,265nm,1.2s									
CTAO	**Charters Tower**	**32.81**	**144**		P	**P**		**22 59 37.9**	**+0.9**	
CTAO	**Charters Tower**	**32.81**	**144**	⇑	P	**P**		**22 59 37.2**	**+0.1**	
CTAO	**Charters Tower**	**32.81**	**144**		P	**P**		**22 59 37.1**	**+0.1**	
CTAO					pP	**pP**		**22 59 52.9**	**+1.2**	
JSD	**Sado**	**33.11**	**17**		P	**P**		**22 59 40.1**	**+0.7**	
JSD	**Sado**	**33.11**	**17**	⇑	P	**P**		**22 59 39.2**	**-0.2**	
HHU	**Hamhung**	**33.25**	**1**		P	P		22 59 51.9	+11	
HHU					sP	sP		23 00 14.3	+11	
HHU					S	S		23 05 05.8	+10	
HHU					AmB					
	comp=Z,3µm,4.1s									
HHU					AMS	AMS				
	comp=N,20µm,18.8s									
HHU					AMS	AMS				
	comp=E,9µm,8.3s									
HHU					AMS	AMS				
	comp=Z,25µm,23.1s									
SUJ	**Sinuiju**	**33.47**	**357**		P	P		22 59 53.8	+11	
SUJ					sP	sP		23 00 18.9	+14	
SUJ					S	S		23 05 09.4	+10	
SUJ					AmB					
	comp=Z,2µm,4.2s									
SUJ					AMS	AMS				
	comp=N,3µm,7.5s									
SUJ					AMS	AMS				
	comp=E,5µm,13.8s									
SUJ					AMS	AMS				
	comp=Z,3µm,7.3s									
TIY	**Taiyuan**	**33.58**	**340**	⇓	P	**P**		**22 59 44.0**	**+0.4**	
TIY					pP	**pP**		**22 59 58.6**	**-0.7**	
TIY					S	**S**		**23 05 01.1**	**-0.4**	
TIY					pmax	pmax				
	comp=Z,880nm,4.7s									
TIY					LR	LR				
	comp=Z,11µm,19.2s									
TIY					LR	LR				
	comp=Z,9µm,20.6s									
TIY					LR	LR				
	comp=Z,16µm,24.7s									
DGPR	**DIGLIPUR**	**33.74**	**284**		*eP*	**P**		**22 59 43.5**	**-1.7**	
PBA	**Port Blair**	**33.74**	**281**			**P**		**22 59 45.1**	**-0.1**	
JMM	**Marumori**	**33.77**	**21**		P	**P**		**22 59 44.2**	**-0.9**	
JMM	**Marumori**	**33.77**	**21**	⇑	P	**P**		**22 59 43.3**	**-1.8**	
MEEK	**Meekatharra**	**33.87**	**193**		P	**P**		**22 59 44.8**	**-1.4**	
	baz=34,SNR=116									
MEEK	**Meekatharra**	**33.87**	**193**		P	**P**		**22 59 45.2**	**-1.0**	
BJT	**Baijiatuao**	**34.61**	**346**		P	**P**		**22 59 52.5**	**+0.1**	
BJT	**Baijiatuao**	**34.61**	**346**		P	**P**		**22 59 52.5**	**+0.1**	
BJT					pmax	pmax				
	comp=Z,663nm,1.4s									
BJT	**Baijiatuao**	**34.61**	**346**		P	**P**		**22 59 53.2**	**+0.7**	
BJI	**Beijing**	**34.63**	**346**		P	**P**		**22 59 51.8**	**-0.8**	
BJI					sP	**sP**		**23 00 14.1**	**-1.5**	
BJI					S	**S**		**23 05 14.1**	**-3.4**	
BJI					sS	**sS**		**23 05 44.8**	**+1.4**	
BJI					ScS	**ScS**		**23 10 07.6**	**-1.1**	
BJI					pmax	pmax				
	comp=Z,68nm,1.0s									
BJI					pmax	pmax				
	comp=Z,2µm,9.5s									
BJI					LR	LR				
	comp=Z,1µm,18.1s									
BJI					LR	LR				
	comp=Z,6µm,17.2s									
BJI					LR	LR				
	comp=Z,9µm,20.2s									
COCO	**West Island**	**34.91**	**238**		P	**P**		**22 59 56.5**	**+1.2**	
COCO	**West Island**	**34.91**	**238**		P	**P**		**22 59 56.5**	**+1.2**	
COCO					pmax	pmax				
	comp=Z,830nm,1.7s									
SNY	**Shenyang**	**35.24**	**356**	⇓	P	**P**		**22 59 57.1**	**-0.7**	
SNY					pP	**pP**		**23 00 13.4**	**+0.4**	
SNY					sP	**sP**		**23 00 20.8**	**+0.5**	
SNY					S	**S**		**23 05 28.5**	**+1.7**	
SNY					pmax	pmax				
	comp=Z,24nm,0.9s									
SNY					pmax	pmax				
	comp=Z,280nm,3.5s									
SNY					LR	LR				
	comp=Z,17µm,18.8s									
SNY					LR	LR				
	comp=Z,13µm,17.9s									
SNY					LR	LR				
	comp=Z,22µm,24.2s									
OOD	**Oodnadatta**	**35.26**	**166**		P	**P**		**22 59 58.1**	**-0.1**	
LZH	**Lanzhou**	**36.02**	**328**	⇑	P	**P**		**23 00 06.5**	**+1.7**	
LZH					pP	pP		23 00 22.8	+2.4	
LZH					sP	sP		23 00 29.3	+1.6	
LZH					S	**S**		**23 05 39.8**	**+0.5**	
LZH					sS	sS		23 06 03.8	-1.5	
LZH					pmax	pmax				
	comp=Z,140nm,1.1s									
LZH					LR	LR				
	comp=Z,32µm,14.1s									
LZH					LR	LR				
	comp=Z,32µm,14.6s									
LZH					LR	LR				
	comp=Z,48µm,18.2s									
JTM	**Tenmabayashi**	**36.49**	**19**		P	**P**		**23 00 08.4**	**-0.2**	
JTM					IAmb	IAmb		23 00 27.1		
	comp=Z,232nm,1.0s									
JTM	**Tenmabayashi**	**36.49**	**19**	⇑	P	**P**		**23 00 09.4**	**+0.9**	
HHC	**Hu-ho-hao-te**	**36.69**	**341**	*e*	P	**P**		**23 00 11.3**	**+0.9**	
HHC					pP	pP		23 00 25.6	-0.7	
HHC					S	**S**		**23 05 52.4**	**+3.0**	
HHC					pmax	pmax				
	comp=Z,150nm,1.4s									
HHC					pmax	pmax				
	comp=Z,5µm,5.4s									
HHC					LR	LR				
	comp=Z,15µm,20.8s									
HHC					LR	LR				
	comp=Z,10µm,22.5s									
HHC					LR	LR				
	comp=Z,20µm,21.3s									
INKA	**Innaminka**	**36.74**	**159**		P	**P**		**23 00 11.0**	**+0.2**	
MORW	**Morawa**	**36.82**	**195**		P	**P**		**23 00 10.3**	**-1.1**	
	baz=37,SNR=200									
MORW	**Morawa**	**36.82**	**195**		P	**P**		**23 00 10.4**	**-1.1**	
MORW	**Morawa**	**36.82**	**195**	⇑	P	**P**		**23 00 10.2**	**-1.3**	
HNR	**Honiara**	**36.88**	**115**		LR	LR		23 13 41.4		
	comp=Z,81µm,21.5s,baz=290,slow=33									
HNR	**Honiara**	**36.88**	**115**			**P**		**23 00 12.5**	**+0.3**	
HNR	**Honiara**	**36.88**	**115**		P	**P**		**23 00 12.5**	**+0.3**	
HNR					pmax	pmax				
	comp=Z,1µm,1.4s									
HNR	**Honiara**	**36.88**	**115**	⇑	p	P		23 00 25.5	+13	
BTO	**Baotou**	**37.00**	**339**	*e*	P	**P**		**23 00 14.4**	**+1.4**	
BTO					S	**S**		**23 05 57.3**	**+3.2**	
BTO					LR	LR				
	comp=Z,43µm,17.9s									
BTO					LR	LR				
	comp=Z,86µm,23.4s									
CN2	**Changchun**	**37.12**	**359**	*e*	P	**P**		**23 00 16.1**	**+2.2**	
CN2					pP	pP		23 00 30.0	+0.7	
CN2					S	**S**		**23 05 58.1**	**+2.5**	
CN2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
CN2					pmax	pmax				
	comp=Z,100nm,4.0s									
CN2					LR	LR				
	comp=Z,2µm,16.0s									
CN2					LR	LR				
	comp=Z,2µm,16.0s									
CN2					LR	LR				
	comp=Z,2µm,15.0s									
QLP	**Quilpie**	**37.13**	**153**		P	**P**		**23 00 13.2**	**-0.9**	
	baz=37,SNR=23									
QLP	**Quilpie**	**37.13**	**153**		P	**P**		**23 00 13.1**	**-1.1**	
QLP	**Quilpie**	**37.13**	**153**	⇑	P	**P**		**23 00 13.2**	**-0.9**	
FORT	**Forrest**	**37.14**	**178**		P	**P**		**23 00 14.0**	**-0.1**	
	baz=37,SNR=213									
FORT	**Forrest**	**37.14**	**178**		P	**P**		**23 00 14.4**	**+0.3**	
FORT	**Forrest**	**37.14**	**178**	⇑	P	**P**		**23 00 13.7**	**-0.5**	
BRDH	**Bariadhala**	**37.25**	**299**		P	**P**		**23 00 16.0**	**+0.8**	
	comp=Z,131nm,0.5s,baz=270,slow=20,SNR=1.7									
BRDH					LR	LR		23 17 38.4		
	comp=Z,13µm,18.2s,baz=116,slow=40 comp=Z,131nm,0.5s									
MULG	**Mulgathing**	**37.32**	**169**		P	**P**		**23 00 16.2**	**+0.5**	
USA0B	**Ussuriysk Arra**	**37.81**	**6**		P	**P**		**23 00 19.9**	**+0.2**	
USA0B					IAmb	IAmb		23 00 38.0		
	comp=Z,240nm,1.0s									
USA0B	**Ussuriysk Arra**	**37.81**	**6**		P	**P**		**23 00 19.9**	**+0.2**	
USA0B					pmax	pmax				
	comp=Z,240nm,1.0s									
USRK	**Ussuriysk Ar.**	**37.81**	**6**		P	**P**		**23 00 17.9**	**-1.8**	
	comp=Z,23nm,0.7s,baz=188,slow=5.7,SNR=32									
USRK					LR	LR		23 14 40.1		
	comp=Z,7µm,21.7s,baz=177,slow=34 comp=Z,23nm,0.7s									
USRK	**Ussuriysk Ar.**	**37.81**	**6**		P	**P**		**23 00 19.3**	**-0.4**	
USRK	**Ussuriysk Ar.**	**37.81**	**6**		P	**P**		**23 00 19.3**	**-0.4**	
RK1H	**Rockhampton Ha**	**37.85**	**143**		P	**P**		**23 00 20.8**	**+0.5**	
MDJ	**Mudanjiang**	**38.02**	**4**		P	**P**		**23 00 21.2**	**-0.3**	
MDJ					IAmb	IAmb		23 00 39.7		
	comp=Z,232nm,1.2s									
MDJ	**Mudanjiang**	**38.02**	**4**		P	**P**		**23 00 21.6**	**+0.1**	
MDJ					pP	**pwP**	

KLBR Kellerberrin 38.84 192 P **P** **23 00 28.2 -0.3**
BNX BinXian 39.06 1 ⇓P **P** **23 00 28.6 -1.5**
BNX sP **pwP** **23 00 47.8 -0.7**
BNX S **S** **23 06 24.8 0.0**
BNX sS **sS** **23 06 46.6 -4.4**
BNX pmax pmax
comp=Z,11nm,0.7s
BNX pmax pmax
comp=Z,260nm,5.9s
BNX LR LR
comp=Z,10μm,26.0s
BNX LR LR
comp=Z,3μm,14.6s
BNX LR LR
comp=Z,14μm,23.8s
RMQ Roma 39.27 148 P **P** **23 00 32.5 +0.3**
baz=39,SNR=14
RMQ Roma 39.27 148 P **P** **23 00 32.2 0.0**
TEY Ternei 39.34 11 *e*P **P** **23 00 32.7 +0.3**
TEY *e* 23 00 44.7
TEY *e* 23 06 23.8
MUN Mundaring 39.55 194 P **P** **23 00 33.5 -0.9**
baz=40,SNR=85
MUN Mundaring 39.55 194 P **P** **23 00 34.1 -0.3**
EIDS Eidsvold 39.70 144 P **P** **23 00 34.7 -1.0**
baz=40,SNR=22
EIDS Eidsvold 39.70 144 P **P** **23 00 35.0 -0.7**
EIDS IAmb IAmb 23 01 02.1
comp=Z,275nm,1.2s
EIDS Eidsvold 39.70 144 P **P** **23 00 34.7 -1.0**
EIDS Eidsvold 39.70 144 ⇑P **P** **23 00 34.5 -1.3**
BBOO Buckleboo 40.17 168 P **P** **23 00 39.5 0.0**
baz=40,SNR=528
BBOO Buckleboo 40.17 168 P **P** **23 00 39.7 +0.2**
BBOO Buckleboo 40.17 168 P **P** **23 00 40.0 +0.5**
NWAO Narrogin (SRO) 40.23 192 P **P** **23 00 40.0 -0.1**
comp=Z,290nm,0.5s,baz=242,slow=6.9,SNR=160
NWAO LR LR 23 19 57.8
comp=Z,3μm,18.8s,baz=226,slow=40
comp=Z,290nm,0.5s
NWAO Narrogin (SRO) 40.23 192 P **P** **23 00 40.0 -0.1**
baz=40,SNR=311
NWAO P **P** **23 00 40.0 -0.1**
baz=40,SNR=311
NWAO Narrogin (SRO) 40.23 192 P **P** **23 00 40.0 -0.1**
NWAO Narrogin (SRO) 40.23 192 P **P** **23 00 40.0 -0.1**
NWAO pmax pmax
comp=Z,539nm,0.9s
NWAO Narrogin (SRO) 40.23 192 P **P** **23 00 40.4 +0.3**
NWAO Narrogin (SRO) 40.23 192 P **P** **23 00 40.0 -0.1**
NWAO pP **pP** **23 00 56.8 +1.1**
LSA Lhasa 40.49 309 P **P** **23 00 41.8 -1.1**
LSA IAmb IAmb 23 01 27.4
comp=Z,552nm,1.7s
LSA Lhasa 40.49 309 P **P** **23 00 40.4 -2.5**
LSA LR LR
comp=Z,12μm,21.0s
LSA LR LR
comp=Z,8μm,25.6s
LSA LR LR
comp=Z,13μm,21.4s
LSA Lhasa 40.49 309 P **P** **23 00 41.8 -1.1**
LSA pmax pmax
comp=Z,552nm,1.7s
LSA Lhasa 40.49 309 P **P** **23 00 43.2 +0.4**
LSA Lhasa 40.49 309 P **P** **23 00 43.1 +0.3**
LSA sP **sP** **23 01 07.9 +1.6**
GTA Gaotai 40.62 328 ⇓P **P** **23 00 42.4 -1.0**
GTA pP pP 23 01 01.8 +2.6
GTA S **S** **23 06 44.5 -4.2**
GTA sS sS 23 07 18.0 +3.0
GTA SS **SS** **23 09 49.3 -1.7**
GTA pmax pmax
comp=Z,140nm,1.2s
GTA pmax pmax
comp=Z,1μm,5.3s
GTA LR LR
comp=Z,16μm,24.7s
GTA LR LR
comp=Z,16μm,22.5s
GTA LR LR
comp=Z,35μm,24.9s
WHYH Whyalla 40.73 166 P **P** **23 00 44.7 +0.6**
STKA Stephens Creek 40.82 160 P **P** **23 00 44.6 -0.2**
comp=Z,199nm,0.7s,baz=335,slow=8.1,SNR=153
STKA LR LR 23 19 55.0
comp=Z,4μm,18.5s,baz=329,slow=39
comp=Z,199nm,0.7s
STKA Stephens Creek 40.82 160 P **P** **23 00 44.5 -0.4**
baz=41,SNR=155
STKA Stephens Creek 40.82 160 P **P** **23 00 44.5 -0.4**
STKA Stephens Creek 40.82 160 *ce*P **P** **23 00 44.9 0.0**
STKA Stephens Creek 40.82 160 P **P** **23 00 44.7 -0.2**
H11S3 WAKE ISLAND Hy 40.85 69 T T 23 45 00.4
baz=258,slow=75,SNR=347
H11S1 WAKE ISLAND Hy 40.87 69 T T 23 44 53.9
baz=258,slow=75,SNR=372
H11S2 WAKE ISLAND Hy 40.87 69 T T 23 44 54.4
baz=258,slow=75,SNR=280
PTPS Port Pirie 40.97 165 P **P** **23 00 47.9 +1.8**
WAKE Wake Island 40.98 68 P **P** **23 00 47.4 +0.9**
YUK Yuzh-Kuril'sk 41.01 21 *e*P P 23 00 53.2 +6.9
YUK *e* 23 02 20.6
YUK *e*S **S** **23 07 01.9 +8.0**
YUK pmax pmax
comp=Z,1μm,1.9s
YUK pmax pmax
comp=Z,664nm,1.0s
YUK pmax pmax
comp=E,284nm,1.1s
YUK pmax pmax
comp=N,336nm,1.0s
H11N1 WAKE ISLAND Hy 41.30 68 T T 23 45 07.8
baz=254,SNR=198
H11N2 WAKE ISLAND Hy 41.31 68 T T 23 45 07.1
baz=254,slow=74,SNR=340
H11N3 WAKE ISLAND Hy 41.31 68 T T 23 45 05.7
baz=254,slow=74,SNR=125
GOMU GeErMu 41.40 320 *e*P **P** **23 00 51.6 +1.5**
GOMU PP **PnPn** **23 02 31.1 -0.8**
GOMU S **S** **23 07 02.6 +1.8**
GOMU LR LR
comp=N,7μm,19.7s
GOMU LR LR
comp=N,4μm,18.8s
GOMU LR LR
comp=N,9μm,19.4s
HTT Hallett 41.45 164 P **P** **23 00 50.7 +0.5**
baz=42,SNR=182
HTT Hallett 41.45 164 P **P** **23 00 50.7 +0.5**
HTT Hallett 41.45 164 ⇑P **P** **23 00 50.4 +0.2**
RKGY Rocky Gully 41.91 192 P **P** **23 00 55.0 +1.2**
baz=42,SNR=96
RKGY Rocky Gully 41.91 192 P **P** **23 00 55.3 +1.5**
CMSA Cobar Meteorol 42.05 155 P **P** **23 00 54.8 -0.2**
baz=42,SNR=64
CMSA Cobar Meteorol 42.05 155 P **P** **23 00 55.3 +0.3**
TAPN Taplejung 42.25 304 *e*P **P** **23 00 55.0 -2.2**
comp=N,111nm,0.6s
ODAN Odare 42.34 303 *e*Pg **P** **23 00 56.3 -1.5**
YSS Yuzh-Sakhalins 42.61 16 P **P** **23 00 58.7 -0.6**
YSS IAmb IAmb 23 01 24.1
comp=Z,365nm,1.5s
YSS Yuzh-Sakhalins 42.61 16 *e*P **P** **23 00 59.7 +0.4**
YSS *e* 23 02 42.3
YSS *e* 23 02 51.2
YSS *e*S **S** **23 07 20.2 +2.7**
YSS *e**SS **sS** **23 07 41.4 -2.6**
YSS pmax pmax
comp=Z,2μm,7.5s
YSS pmax pmax
comp=Z,140nm,1.3s
YSS Yuzh-Sakhalins 42.61 16 P **P** **23 00 59.0 -0.3**
BOK Bokaro 42.62 298 *e*P **P** **23 00 56.7 -3.1**
BOK IAmb IAmb 23 01 23.0
comp=Z,456nm,1.3s
KLR Kul'dur 42.77 5 P **P** **23 00 58.8 -1.8**
comp=Z,16nm,0.6s,baz=213,slow=4.2,SNR=40
KLR LR LR 23 18 22.0
comp=Z,6μm,21.5s,baz=186,slow=35
comp=Z,16nm,0.6s
KLR Kul'dur 42.77 5 *de*P **P** **23 00 59.8 -0.8**
KLR pmax pmax
comp=Z,125nm,1.6s
KUR Kuril'sk 42.77 22 *e*P **P** **23 01 00.4 -0.3**

KUR *e*PPP PPP 23 03 12.4
KUR S **S** **23 07 20.3 +0.3**
KUR pmax pmax
comp=Z,4μm,5.2s
KUR pmax pmax
comp=Z,558nm,1.2s
KUR pmax pmax
comp=N,222nm,0.9s
KUR MLR MLR
comp=Z,4μm,14.0s
H01W3 Cape Leeuwin H 42.83 195 P **P** **23 01 03.5 +2.5**
baz=19,slow=5.0,SNR=10
H01W1 Cape Leeuwin H 42.84 195 P **P** **23 01 03.4 +2.4**
baz=19,slow=5.0,SNR=12
H01W2 Cape Leeuwin H 42.85 195 P **P** **23 01 03.6 +2.5**
baz=19,slow=5.0,SNR=9.2
HIA Hailar 42.96 353 P **P** **23 01 01.6 -0.6**
HIA Hailar 42.96 353 ⇑ *e*P **P** **23 01 01.9 -0.3**
HIA pmax pmax
comp=Z,29nm,0.7s
HIA MLR MLR
comp=Z,7μm,18.0s
RAMN Ramite 43.03 303 *e*P **P** **23 01 01.4 -2.0**
comp=Z,186nm,0.9s
JIRN Jiri 43.62 304 *e*P **P** **23 01 06.1 -2.2**
RAGD RAYAGADA 43.72 291 *e*P **P** **23 01 07.6 -1.2**
ARMA Armidale 43.92 148 P **P** **23 01 10.0 -0.4**
baz=44,SNR=46
ARMA Armidale 43.92 148 P **P** **23 01 09.9 -0.4**
ARMA IAmb IAmb 23 01 36.7
comp=Z,593nm,1.5s
ARMA Armidale 43.92 148 P **P** **23 01 10.4 +0.1**
ARMA Armidale 43.92 148 ⇑P **P** **23 01 10.2 -0.1**
GUN Gumba 43.97 304 *e*P **P** **23 01 08.9 -2.2**
PKI Pulchoki 44.24 303 *e*P **P** **23 01 10.3 -2.9**
PKIN Phulchoki 44.25 303 *e*P **P** **23 01 10.3 -2.9**
comp=Z,42nm,0.5s
UGL Uglegorsk 44.38 15 *e*P **P** **23 01 14.6 +1.1**
UGL *e*S S 23 08 02.2 +19
UGL *e*SS **SS** **23 10 59.5 -4.8**
UGL pmax pmax
comp=Z,3μm,4.5s
UGL pmax pmax
comp=Z,250nm,0.9s
UGL pmax pmax
comp=Z,5μm,6.0s
UGL pmax pmax
comp=E,2μm,3.5s
UGL pmax pmax
comp=N,2μm,5.0s
UGL smax smax
comp=E,5μm,8.0s
UGL smax smax
comp=N,10μm,9.0s
ULN Ulaanbaatar 44.41 341 P **P** **23 01 13.7 -0.3**
ULN IAmb IAmb 23 01 33.7
comp=Z,407nm,1.2s
ULN Ulaanbaatar 44.41 341 P **P** **23 01 13.7 -0.3**
ULN pmax pmax
comp=Z,407nm,1.3s
ULN Ulaanbaatar 44.41 341 ⇑P **P** **23 01 13.7 -0.3**
ULN Ulaanbaatar 44.41 341 P **P** **23 01 14.0 -0.1**
ULN pP **pwP** **23 01 31.8 -0.3**
KKN Kakani 44.42 303 *e*P **P** **23 01 11.9 -2.6**
DMN Daman 44.50 303 *e*P **P** **23 01 12.7 -2.6**
comp=Z,166nm,0.9s
SONM Songino Array 44.59 341 P **P** **23 01 15.6 +0.2**
comp=Z,21nm,0.8s,baz=163,slow=6.5,SNR=50
SONM LR LR 23 21 41.0
comp=Z,10μm,21.9s,baz=160,slow=38
comp=Z,21nm,0.8s
SONM Songino Array 44.59 341 P **P** **23 01 15.0 -0.5**
SONM IAmb IAmb 23 01 35.7
comp=Z,258nm,1.2s
GRNR Gornyy 44.85 9 ⇑ *i*P **P** **23 01 17.7 +0.4**
GRNR *e*S **S** **23 07 53.7 +3.5**
GRNR pmax pmax
comp=E,4.0nm,0.6s
GRNR pmax pmax
comp=N,7.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR smax smax
comp=N,7.0nm,0.5s
GRNR MLR MLR
comp=E,3μm,19.0s
GRNR MLR MLR
comp=N,3μm,17.0s
GRNR MLR MLR
comp=Z,4μm,18.0s
GKN Gorkha 45.03 303 *e*P **P** **23 01 16.4 -2.9**
ARPS Mount Arapiles 45.41 163 P **P** **23 01 22.6 +0.7**
baz=46,SNR=63
ARPS Mount Arapiles 45.41 163 P **P** **23 01 22.5 +0.7**
PALK Pallekele 45.50 274 P **P** **23 01 22.1 -1.0**
comp=Z,31nm,0.9s,baz=173,slow=7.5,SNR=9.0
PALK LR LR 23 21 24.7
comp=Z,6μm,21.4s,baz=193,slow=37
comp=Z,31nm,0.9s
PALK Pallekele 45.50 274 P **P** **23 01 22.7 -0.4**
PALK IAmb IAmb 23 02 25.8
comp=Z,418nm,1.8s
PALK Pallekele 45.50 274 P **P** **23 01 22.7 -0.4**
PALK pmax pmax
comp=Z,418nm,1.8s
PALK Pallekele 45.50 274 ⇓P **P** **23 01 25.0 +1.9**
BLSP Bilaspur 45.53 295 *e*P **P** **23 01 22.5 -0.7**
KOLN Koldanda 45.81 303 *e*P **P** **23 01 23.2 -2.4**
KOUNC Koumac, New Ca 45.83 127 P **P** **23 01 26.9 +1.4**
KOUNC IAmb IAmb 23 02 05.8
comp=Z,242nm,1.2s
DANN Dangsing 45.88 303 *e*P **P** **23 01 23.5 -2.7**
comp=Z,303nm,0.8s
VJD Vijayawada 45.94 287 *e*P **P** **23 01 27.6 +1.1**
TYV Tymovskoe 46.17 14 *e*P P 23 01 33.7 +6.0
TYV *e*S S 23 08 22.5 +13
TYV pmax pmax
comp=Z,23nm,1.3s
TYV pmax pmax
comp=Z,3μm,5.4s
TYV smax smax
comp=N,3μm,6.4s
TYV smax smax
comp=E,3μm,6.4s
PYUN Piuthan 46.43 303 *e*P **P** **23 01 28.0 -2.4**
comp=E,250nm,0.9s
RIV Riverview 46.43 151 P **P** **23 01 30.6 +0.6**
baz=47,SNR=5.2
RIV Riverview 46.43 151 ⇑P **P** **23 01 32.0 +2.1**
TARA Tarawa 46.54 94 P **P** **23 01 32.1 +0.9**
CIT Chita 46.59 349 *e*P **P** **23 01 31.2 +0.1**
CIT *e* 23 03 01.3
CIT *e* 23 03 17.7
CIT *e* 23 08 33.2
CIT pmax pmax
comp=Z,528nm,2.1s
ALBI Allahabad 46.61 299 *e*P **P** **23 01 30.9 -0.6**
CAN Canberra 46.71 155 P **P** **23 01 32.9 +0.7**
CAN IAmb IAmb 23 01 36.7
comp=Z,277nm,1.0s
CAN Canberra 46.71 155 P **P** **23 01 32.9 +0.7**
CAN pmax pmax
comp=Z,277nm,1.0s
CAN Canberra 46.71 155 P **P** **23 01 33.9 +1.7**
CAN Canberra 46.71 155 ⇑P **P** **23 01 32.9 +0.7**
CAN Canberra 46.71 155 P **P** **23 01 32.7 +0.5**
CAN pP **pwP** **23 01 51.0 -1.0**
BRAT Ballarat 46.77 161 P **P** **23 01 33.2 +0.6**
CNB Canberra Magne 46.86 154 P **P** **23 01 34.1 +0.7**
baz=47,SNR=69
CNB Canberra Magne 46.86 154 P **P** **23 01 34.1 +0.7**
ZEA Zeya 47.06 1 *e*P **P** **23 01 33.8 -0.8**
ZEA *e*S **S** **23 08 20.9 -0.9**
ZEA *e* 23 11 26.4
ZEA pmax pmax
comp=N,500nm,14.2s
ZEA pmax pmax
comp=Z,1μm,13.1s
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,60nm,1.0s
ZEA pmax pmax
comp=N,1μm,6.1s

ZEA pmax pmax
comp=Z,2μm,7.8s
ZEA smax smax
comp=N,2μm,19.3s
TOO Toolangi 47.32 159 P **P** **23 01 37.9 +1.0**
baz=48,SNR=57
TOO Toolangi 47.32 159 P **P** **23 01 38.0 +1.0**
TOO IAmb IAmb 23 02 08.8
comp=Z,350nm,1.2s
TOO Toolangi 47.32 159 P **P** **23 01 38.0 +1.0**
TOO pmax pmax
comp=Z,350nm,1.3s
TOO Toolangi 47.32 159 P **P** **23 01 37.8 +0.9**
TOO Toolangi 47.32 159 ⇑P **P** **23 01 37.9 +1.0**
ZAK Zakamensk 47.83 340 *e*P **P** **23 01 40.4 -0.4**
ZAK pmax pmax
comp=Z,31nm,0.9s
SALM Salem 47.95 280 *e*P **P** **23 01 44.6 +2.4**
HYB Hyderabad 48.04 287 *e*P **P** **23 01 43.6 +0.7**
HYB IAmb IAmb 23 02 18.8
comp=Z,237nm,1.2s
HYBB Hyderabad (bro 48.05 287 *e*P **P** **23 01 43.0 +0.1**
HYBB IVmB_BB 23 02 03.7
comp=Z,2μm,2.6s
HYBB *e*S **S** **23 08 34.7 -2.3**
NGP Nagpur 48.14 292 *e*P **P** **23 01 43.4 -0.2**
NOUC Port Laguerre 48.24 127 P **P** **23 01 47.3 +3.0**
NOUC Port Laguerre 48.24 127 P **P** **23 01 46.5 +2.2**
MILA Mila 48.25 156 P **P** **23 01 47.1 +2.9**
baz=48,SNR=6.7
MILA Mila 48.25 156 ⇑P **P** **23 01 45.4 +1.2**
LIFNC LIFOU 48.32 125 P **P** **23 01 45.8 +0.9**
DZM Mont Dzumac 48.34 127 *e*P **P** **23 01 46.6 +1.5**
comp=Z,521nm,1.1s
DZM *e*pP **pP** **23 02 01.7 +1.2**
DZM *e*S **S** **23 08 43.0 +2.0**
DZM comp=Z,6μm,35.0s
DZM *e*LR LR 23 15 35.4
comp=Z,18μm,25.6s
DZM Mont Dzumac 48.34 127 P **P** **23 01 44.8 -0.3**
comp=Z,19nm,0.5s,baz=252,slow=10,SNR=23
DZM LR LR 23 20 24.2
comp=Z,4μm,21.6s,baz=317,slow=34
comp=Z,19nm,0.5s
DZM Mont Dzumac 48.34 127 IAmb IAmb 23 02 07.9
comp=Z,258nm,1.0s
DZM Mont Dzumac 48.34 127 P **P** **23 01 45.5 +0.4**
DZM Mont Dzumac 48.34 127 ⇑P **P** **23 01 45.0 -0.1**
DZM Mont Dzumac 48.34 127 P **P** **23 01 44.8 -0.3**
DZM pP **pP** **23 02 01.9 +1.4**
ONTNC Ouen Toro 48.47 127 P **P** **23 01 46.2 +0.2**
ONTNC IAmb IAmb 23 02 10.8
comp=Z,239nm,1.2s
ONTNC Ouen Toro 48.47 127 ⇓P **P** **23 01 49.0 +3.0**
KOD Kodaikanal 48.65 278 *e*P **P** **23 01 47.3 -0.7**
YATNC Mamie plateau, 48.69 127 P **P** **23 01 51.1 +3.4**
LHI Lord Howe Isla 48.96 143 P **P** **23 01 49.5 -0.1**
LHI IAmb IAmb 23 02 17.2
comp=Z,281nm,1.1s
IRK Irkutsk 49.11 342 *e*P **P** **23 01 53.5 +3.0**
IRK pmax pmax
comp=Z,644nm,2.2s
LGTI Lohaghat 49.15 304 *e*P **P** **23 01 50.0 -1.2**
TRD Trivandrum 49.17 276 *e*P **P** **23 01 50.7 -0.9**
PTH Pithoragarh 49.20 304 *e*P **P** **23 01 51.4 -0.5**
MARNC Mare, Loyalty 49.31 126 P **P** **23 01 54.0 +1.5**
PINNC Pines Island, 49.41 127 P **P** **23 01 54.6 +1.4**
PINNC IAmb IAmb 23 02 10.8
comp=Z,411nm,1.2s
JHNI Jhansi 49.51 298 *e*P **P** **23 01 53.0 -1.0**
MOY Mondy 49.70 339 *e*P **P** **23 01 55.1 0.0**
MOY pmax pmax
comp=Z,284nm,2.2s
PCHI Peechi 49.76 278 *e*P **P** **23 01 55.3 -0.7**
AKL Akola 49.94 291 *e*P **P** **23 01 58.6 +1.2**
BHPL Bhopal 50.02 295 *e*P **P** **23 01 57.2 -0.7**
BHPL IAmb IAmb 23 02 19.2
comp=Z,160nm,0.9s
KNGR Kungurtug, Tuv 50.15 336 *c i*P **P** **23 01 59.3 +0.8**
KNGR pmax pmax
comp=Z,181nm,1.4s
KNGR MLR MLR
comp=Z,3μm,16.0s
WMQ Urumqi 50.34 324 P **P** **23 02 01.5 +1.4**
WMQ pP pP 23 02 18.5 +2.3
WMQ sP sP 23 02 26.4 +3.1
WMQ S **S** **23 09 04.8 -3.7**
WMQ ScS **ScS** **23 11 38.3 -7.2**
WMQ pmax pmax
comp=Z,260nm,2.1s
WMQ pmax pmax
comp=Z,5μm,5.3s
WMQ LR LR
comp=Z,36μm,19.3s
WMQ LR LR
comp=Z,13μm,19.3s
WMQ LR LR
comp=Z,22μm,23.5s
SKR Severo-Kuril's 50.43 24 ⇑ *i*P **P** **23 02 01.7 +1.2**
SKR *i* 23 02 13.8
SKR *e* 23 04 03.3
SKR *e*S **S** **23 09 16.6 +7.4**
SKR pmax pmax
comp=Z,29nm,0.9s
SKR pmax pmax
comp=Z,400nm,3.6s
SKR MLR MLR
comp=Z,3μm,18.0s
DDI Dehra Dun 51.22 304 *e*P **P** **23 02 06.7 -0.2**
DDI IAmb IAmb 23 02 28.4
comp=Z,604nm,1.1s
SONA Sohna 51.46 301 *e*P **P** **23 02 07.8 -0.8**
NDI New Delhi 51.46 302 *e*P **P** **23 02 11.0 +2.3**
BOD Bodaibo 52.07 352 *e*P **P** **23 02 12.5 -0.2**
BOD pmax pmax
comp=Z,200nm,1.3s
SMLA Simla 52.19 305 *e*P **P** **23 02 12.5 -1.6**
SMLA IAmb IAmb 23 02 35.6
comp=Z,230nm,0.9s
MOO Moorlands 52.26 161 P **P** **23 02 15.6 +1.3**
baz=52,SNR=12
MOO Moorlands 52.26 161 P **P** **23 02 16.0 +1.7**
POO Poona 52.62 288 *e*P **P** **23 02 17.4 -0.1**
TAU Tasmania Unive 52.72 161 P **P** **23 02 18.7 +1.0**
TAU IAmb IAmb 23 02 23.4
comp=Z,118nm,0.9s
TAU Tasmania Unive 52.72 161 P **P** **23 02 18.7 +1.0**
TAU pmax pmax
comp=Z,118nm,0.9s
TAU Tasmania Unive 52.72 161 P **P** **23 02 18.5 +0.8**
TAU Tasmania Unive 52.72 161 ⇑P **P** **23 02 18.8 +1.2**
TAU Tasmania Unive 52.72 161 P **P** **23 02 18.0 +0.3**
TAU sP **sP** **23 02 41.1 +1.1**
BHK Bhakra 52.89 305 *e*P **P** **23 02 17.4 -1.9**
PEA0B Petropavlovsk- 52.92 23 P **P** **23 02 20.1 +1.0**
PEA0B Petropavlovsk- 52.92 23 *c i*P **P** **23 02 21.4 +2.3**
PETK Petropavlovsk- 52.92 23 P **P** **23 02 19.5 +0.4**
comp=Z,24nm,0.8s,baz=208,slow=8.8,SNR=14
PETK LR LR 23 23 52.8
comp=Z,3μm,20.8s,baz=214,slow=35
comp=Z,24nm,0.8s
MNCI Minicoy 53.03 275 P **P** **23 02 19.6 -0.9**
AJM Ajmer 53.15 298 *e*P **P** **23 02 20.9 -0.4**
PET Petropavlovsk 53.23 24 P **P** **23 02 22.0 +0.6**
PET Petropavlovsk 53.23 24 *c i*P **P** **23 02 23.1 +1.8**
PET *e*S **S** **23 09 50.8 +3.2**
PET *e*SS **SS** **23 13 29.9 +1.8**
PET pmax pmax
comp=Z,2μm,13.6s
PET pmax pmax
comp=Z,4μm,14.9s
PET pmax pmax
comp=Z,369nm,1.3s
PET MLR MLR
comp=Z,3μm,17.0s
PET MLR MLR
comp=Z,3μm,21.0s
PET Petropavlovsk 53.23 24 ⇑P **P** **23 02 23.8 +2.4**
KAAM Kaadhehdhoo 53.75 266 P **P** **23 02 24.8 -1.0**
KAAM IAmb IAmb 23 02 50.5
comp=Z,185nm,1.0s
THN Thein Dam 53.76 306 *e*P **P** **23 02 25.1 -0.5**
ZSN Zaisan 54.07 326 *e*P **P** **23 02 26.9 -0.7**
ZSN *e*S **S** **23 09 59.4 +0.2**

ZSN Zaisan 54.07 326 *e*P **P** **23 02 26.9 -0.7**
baz=326
ZSN *e*S **S** **23 09 59.5 +0.2**
baz=326
DGZ Jazzator, Alta 54.08 330 *d i*P **P** **23 02 27.2 -0.6**
DGZ pmax pmax
comp=Z,169nm,1.2s
JMU Jammu 54.50 306 *e*P **P** **23 02 33.3 +2.3**
FUNA Funafuti 54.59 105 P **P** **23 02 32.1 +0.2**
FUNA Funafuti 54.59 105 P **P** **23 02 33.1 +1.3**
FUNA pP **pP** **23 02 49.9 +2.7**
SHLS Shalkode 55.09 319 *e*P **P** **23 02 31.6 -3.6**
SHLS pmax pmax
comp=Z,27nm,0.9s
SHLS Shalkode 55.09 319 *e*P **P** **23 02 31.7 -3.6**
comp=Z,27nm,0.9s,baz=319
MK31 Makanchi Array 55.16 324 P **P** **23 02 35.1 -0.4**
MK31 IAmb IAmb 23 02 57.8
comp=Z,224nm,1.1s
MK31 Makanchi Array 55.16 324 P **P** **23 02 35.2 -0.4**
MK31 pmax pmax
comp=Z,224nm,1.1s
MKAR Makanchi Array 55.16 324 P **P** **23 02 33.4 -2.2**
comp=Z,49nm,0.6s,baz=116,slow=7.0,SNR=161
MKAR LR LR 23 28 31.6
comp=Z,15µm,19.7s,baz=112,slow=38
comp=Z,49nm,0.6s
MKAR Makanchi Array 55.16 324 P **P** **23 02 35.3 -0.3**
MKAR Makanchi Array 55.16 324 P **P** **23 02 35.3 -0.3**
MAKZ Makanchi 55.35 324 P **P** **23 02 36.5 -0.5**
MAKZ IAmb IAmb 23 02 59.1
comp=Z,359nm,1.1s
MAKZ Makanchi 55.35 324 P **P** **23 02 36.5 -0.5**
MAKZ pmax pmax
comp=Z,359nm,1.2s
MAKZ Makanchi 55.35 324 ⇑P **P** **23 02 36.1 -0.8**
MAKZ Makanchi 55.35 324 P **P** **23 02 35.9 -1.0**
UZB Uzynbulak 55.37 319 *e*P **P** **23 02 35.9 -1.4**
UZB Uzynbulak 55.37 319 *e*P **P** **23 02 36.0 -1.4**
baz=319
YAK Yakutsk 55.42 2 P **P** **23 02 35.6 -1.5**
comp=Z,32nm,0.6s,baz=162,slow=1.3,SNR=12
YAK S **S** **23 10 14.2 -2.6**
comp=Z,5.4nm,0.3s,baz=12,slow=14,SNR=1.4
YAK LR LR 23 26 13.6
comp=Z,4µm,21.2s,baz=174,slow=36
comp=Z,32nm,0.6s
YAK Yakutsk 55.42 2 P **P** **23 02 36.9 -0.2**
YAK IAmb IAmb 23 03 20.9
comp=Z,199nm,0.8s
YAK Yakutsk 55.42 2 *e*P **P** **23 02 36.6 -0.5**
YAK *e**PP **pwP** **23 02 54.7 -1.3**
YAK *e* 23 03 34.3
YAK *e* 23 04 42.8
YAK *e*S **S** **23 10 15.1 -1.7**
YAK *e* 23 12 17.1
YAK *e*SS **SS** **23 13 55.1 -7.2**
YAK *e*SSS SSS 23 16 09.4
YAK pmax pmax
comp=Z,88nm,0.8s
YAK pmax pmax
comp=N,26nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,867nm,3.3s
YAK pmax pmax
comp=N,662nm,3.0s
YAK pmax pmax
comp=E,208nm,2.8s
YAK smax smax
comp=N,2µm,6.0s
YAK smax smax
comp=E,895nm,4.4s
YAK Yakutsk 55.42 2 ⇓P **P** **23 02 36.2 -0.9**
YAK Yakutsk 55.42 2 P **P** **23 02 36.0 -1.0**
YAK pP **pwP** **23 02 54.7 -1.3**
YAK sP **sP** **23 03 02.6 +2.5**
KPKS Kokpek 55.74 319 *e*P **P** **23 02 38.0 -1.8**
KPKS *e*S **S** **23 10 21.1 -0.8**
KPKS pmax pmax
comp=Z,42nm,0.8s
KPKS Kokpek 55.74 319 *e*P **P** **23 02 38.0 -1.8**
comp=Z,42nm,0.8s,baz=319
KPKS *e*S **S** **23 10 21.2 -0.8**
baz=319
KSH Kashi 55.95 314 P **P** **23 02 41.8 +0.3**
KSH pP pP 23 02 57.3 -1.0
KSH S **S** **23 10 24.5 -0.5**
KSH pmax pmax
comp=Z,68nm,1.6s
KSH LR LR
comp=Z,6µm,25.4s
KSH LR LR
comp=Z,16µm,18.7s
KSH LR LR
comp=Z,18µm,24.4s
MA2 Magadan 56.05 15 P **P** **23 02 41.2 -0.4**
comp=Z,18nm,0.8s,baz=196,slow=11,SNR=6.0
MA2 LR LR 23 25 25.5
comp=Z,3µm,21.5s,baz=208,slow=35
comp=Z,18nm,0.8s
MA2 Magadan 56.05 15 P **P** **23 02 41.1 -0.5**
MA2 Magadan 56.05 15 ⇑*e*P **P** **23 02 43.4 +1.8**
MA2 pmax pmax
comp=Z,278nm,3.0s
MA2 MLR MLR
comp=Z,4µm,20.0s
MA2 Magadan 56.05 15 ⇓p P 23 02 54.8 +13
MA2 Magadan 56.05 15 P **P** **23 02 41.3 -0.3**
MA2 pP **pP** **23 02 58.6 +1.1**
MSVF Nonsavu 56.28 116 P **P** **23 02 44.7 +0.6**
comp=Z,86nm,1.1s,baz=269,slow=6.8,SNR=34
MSVF LR LR 23 23 42.3
comp=Z,5µm,21.6s,baz=297,slow=33
comp=Z,86nm,1.1s
MSVF Nonsavu 56.28 116 P **P** **23 02 44.4 +0.3**
MSVF IAmb IAmb 23 03 07.6
comp=Z,273nm,0.9s
MSVF Nonsavu 56.28 116 ⇑P **P** **23 02 44.7 +0.6**
MSVF Nonsavu 56.28 116 P **P** **23 02 44.0 -0.1**
MSVF pP **pP** **23 03 01.7 +1.9**
MSVF pwP **pwP** **23 03 05.2 +1.0**
TDK Taldyqorghan 56.62 321 *e*P **P** **23 02 44.4 -1.6**
TDK *e*S **S** **23 10 32.1 -1.3**
TDK pmax pmax
comp=Z,34nm,0.8s
TDK MLR MLR
comp=Z,10µm,22.0s
TDK Taldyqorghan 56.62 321 *e*P **P** **23 02 44.5 -1.6**
comp=Z,34nm,0.8s,baz=321
TDK *e*S **S** **23 10 32.1 -1.3**
baz=321
TDK LR LR 23 25 15.7
comp=Z,10µm,21.7s,baz=321
NRN Naryn 56.67 316 IAmb IAmb 23 03 08.1
comp=Z,132nm,1.2s
MDOK Medeo 56.68 318 *e*P **P** **23 02 45.1 -1.5**
MDOK *e*S **S** **23 10 33.1 -1.4**
MDOK MLR MLR
comp=Z,7µm,20.0s
MDOK Medeo 56.68 318 *e*P **P** **23 02 45.1 -1.5**
baz=318
MDOK *e*S **S** **23 10 33.2 -1.4**
baz=318
MDOK LR LR 23 25 28.0
comp=Z,7µm,19.8s,baz=318
TNSS Tian-Shan 56.69 318 *e*P **P** **23 02 45.0 -2.0**
TNSS Tian-Shan 56.69 318 *e*P **P** **23 02 45.1 -2.0**
baz=318
ULHL Ulahol 56.83 317 P **P** **23 02 50.4 +2.6**
SNR=29
CHKK Chushkaly 57.01 319 *e*P **P** **23 02 47.1 -1.7**
CHKK Chushkaly 57.01 319 *e*P **P** **23 02 47.1 -1.7**
baz=319
MIDW Midway 57.15 61 P **P** **23 02 50.1 0.0**
MIDW IAmb IAmb 23 03 18.9
comp=Z,143nm,0.9s
KUU Kurty 57.45 319 *e*P **P** **23 02 50.3 -1.6**
KUU *e*S **S** **23 10 43.6 -0.8**
KUU pmax pmax
comp=Z,74nm,0.9s
KUU Kurty 57.45 319 *e*P **P** **23 02 50.3 -1.6**
comp=Z,74nm,0.9s,baz=319
KUU *e*S **S** **23 10 43.7 -0.8**
baz=319

TKM2 Tokmak 2 57.54 317 P **P** **23 02 52.1 -0.8**
SNR=42
KBK Karagaybulak 57.88 317 P **P** **23 02 54.8 -0.3**
SNR=26
UCH Uchtor 58.01 316 P **P** **23 02 53.0 -3.4**
SNR=10
ZAA0 Zalesovo Array 58.02 332 P **P** **23 02 54.4 -1.2**
ZAA0 IAmb IAmb 23 03 16.9
comp=Z,456nm,1.8s
ZALV Zalesovo Beam 58.02 332 P **P** **23 02 53.7 -2.0**
comp=Z,43nm,0.8s,baz=122,slow=5.7,SNR=70
ZALV LR LR 23 29 19.0
comp=Z,7µm,19.9s,baz=134,slow=37
ZALV PKP2bc 23 32 51.4
comp=Z,3.5nm,0.9s,baz=289,slow=4.4,SNR=2.8
comp=Z,43nm,0.8s
ZALV Zalesovo Beam 58.02 332 P **P** **23 02 54.4 -1.2**
ZALV Zalesovo Beam 58.02 332 P **P** **23 02 54.4 -1.2**
CHMS Chumysh 58.14 317 P **P** **23 02 57.0 +0.2**
SNR=23
AAK Ala-Archa 58.18 317 P **P** **23 02 59.3 +2.1**
SNR=12
AAK Ala-Archa 58.18 317 P **P** **23 02 57.3 0.0**
comp=Z,8.3nm,0.5s,baz=148,slow=8.3,SNR=14
AAK LR LR 23 30 11.7
comp=Z,6µm,21.5s,baz=97,slow=38
comp=Z,8.3nm,0.5s
AAK Ala-Archa 58.18 317 P **P** **23 02 56.9 -0.3**
AAK IAmb IAmb 23 03 19.0
comp=Z,181nm,1.3s
AAK Ala-Archa 58.18 317 P **P** **23 02 57.2 0.0**
AAK Ala-Archa 58.18 317 *i* P **P** **23 02 57.9 +0.6**
SNR=51
AAK Ala-Archa 58.18 317 ⇓P **P** **23 02 56.1 -1.1**
AAK Ala-Archa 58.18 317 P **P** **23 02 56.4 -0.8**
SEM Semipalatinsk 58.25 327 *e*P **P** **23 02 55.8 -1.8**
SEM *e*S **S** **23 10 54.0 -0.9**
SEM Semipalatinsk 58.25 327 *e*P **P** **23 02 55.8 -1.8**
baz=327
SEM *e*S **S** **23 10 54.0 -0.9**
baz=327
SGDS Sogindy 58.40 318 *e*P **P** **23 02 57.0 -1.7**
SGDS pmax pmax
comp=Z,26nm,1.4s
SGDS Sogindy 58.40 318 *e*P **P** **23 02 57.0 -1.7**
comp=Z,26nm,1.4s,baz=318
USP Ospenovka 58.42 317 P **P** **23 02 56.9 -1.9**
SNR=51
AML Almayashu 58.53 316 P **P** **23 02 57.3 -2.7**
SNR=62
EKS2 Erkin-Say 58.67 317 P **P** **23 03 00.2 -0.5**
SNR=57
KURK Kurchatov 59.29 327 P **P** **23 03 03.8 -0.7**
KURK Kurchatov 59.29 327 P **P** **23 03 03.8 -0.7**
KURK pmax pmax
comp=Z,910nm,1.3s
KURK Kurchatov 59.29 327 P **P** **23 03 04.8 +0.2**
KURK P **P** **23 03 04.8 +0.2**
KURK Kurchatov 59.29 327 ⇑P **P** **23 03 02.4 -2.1**
KURK Kurchatov 59.29 327 P **P** **23 03 02.7 -1.8**
KURK pwP **pwP** **23 03 25.3 +4.0**
KURK sP **sP** **23 03 29.3 +0.9**
KURBB Kurchatov Arra 59.29 327 P **P** **23 03 02.4 -2.2**
comp=Z,127nm,0.8s,baz=123,slow=6.9,SNR=175
KURBB LR LR 23 30 16.7
comp=Z,9µm,19.6s,baz=102,slow=38
KURBB PKP2bc 23 32 40.5
comp=Z,4.3nm,0.9s,baz=268,slow=3.5,SNR=5.5
comp=Z,127nm,0.8s
SEY Seymchan 59.36 13 P **P** **23 03 04.0 -0.8**
comp=Z,5.9nm,0.8s,baz=206,slow=8.5,SNR=7.2
SEY LR LR 23 27 52.8
comp=Z,3µm,21.2s,baz=203,slow=35
comp=Z,5.9nm,0.8s
SEY Seymchan 59.36 13 ⇓*e*P **P** **23 03 05.2 +0.4**
SEY pmax pmax
comp=Z,181nm,1.3s
SEY MLR MLR
comp=Z,5µm,19.0s
BTLS Baital 59.42 319 *e*P **P** **23 03 03.7 -1.9**
BTLS pmax pmax
comp=Z,24nm,1.0s
BTLS Baital 59.42 319 *e*P **P** **23 03 03.8 -1.9**
comp=Z,24nm,1.0s,baz=319
KBL Kabul 59.70 306 P **P** **23 03 05.8 -2.1**
KBL IAmb IAmb 23 03 29.3
comp=Z,189nm,1.1s
KBL Kabul 59.70 306 P **P** **23 03 05.8 -2.1**
KBL pmax pmax
comp=Z,189nm,1.1s
KBL Kabul 59.70 306 P **P** **23 03 06.7 -1.3**
SNR=30
KBL P **P** **23 03 06.7 -1.3**
SNR=30
BTK Batken 59.87 313 P **P** **23 03 07.9 -1.0**
BTK Batken 59.87 313 P **P** **23 03 07.9 -1.0**
BTK pmax pmax
comp=Z,864nm,1.6s
GAR Garm 59.91 312 P **P** **23 03 08.2 -1.0**
SHEM Shemya Is, Ala 60.16 31 P **P** **23 03 10.2 -0.2**
comp=Z,58nm,0.8s,baz=252,slow=20,SNR=2.0
SHEM LR LR 23 27 10.8
comp=Z,2µm,21.0s,baz=236,slow=34
comp=Z,58nm,0.8s
DZA Taraz 60.44 316 *e*P **P** **23 03 11.1 -1.5**
DZA pmax pmax
comp=Z,36nm,0.9s
DZA Taraz 60.44 316 *e*P **P** **23 03 11.1 -1.5**
comp=Z,36nm,0.9s,baz=316
CHGR Chuyangaron 60.68 311 P **P** **23 03 13.0 -1.4**
CHGR Chuyangaron 60.68 311 P **P** **23 03 13.0 -1.4**
CHGR pmax pmax
comp=Z,374nm,0.9s
OUZ Omahuta 60.71 137 **P** **23 03 14.9 +0.4**
OUZ Omahuta 60.71 137 P **P** **23 03 15.6 +1.1**
OUZ Omahuta 60.71 137 ⇑P **P** **23 03 18.1 +3.6**
KK31 Karatay Array 61.07 316 P **P** **23 03 14.2 -2.7**
KK31 IAmb IAmb 23 03 46.7
comp=Z,263nm,1.2s
KK31 Karatay Array 61.07 316 P **P** **23 03 14.2 -2.7**
KK31 pmax pmax
comp=Z,263nm,1.3s
KKAR Karatay Array 61.07 316 P **P** **23 03 14.7 -2.3**
KKAR pP **pP** **23 03 33.9 +0.6**
KKAR IAmb IAmb 23 03 46.7
comp=Z,263nm,1.2s
KKAR Karatay Array 61.07 316 P **P** **23 03 15.4 -1.6**
KKAR pP **pP** **23 03 33.6 +0.3**
KKAR Karatay Array 61.07 316 ⇓P **P** **23 03 14.6 -2.3**
IUG luznay 61.09 315 *e*P **P** **23 03 15.7 -1.5**
IUG *e*S **S** **23 11 29.8 -1.9**
IUG luznay 61.09 315 *e*P **P** **23 03 15.8 -1.5**
baz=315
IUG *e*S **S** **23 11 29.8 -1.9**
baz=315
TAS Tashkent 61.36 314 P **P** **23 03 17.8 -1.1**
TAS Tashkent 61.36 314 P **P** **23 03 17.8 -1.1**
TAS pmax pmax
comp=Z,378nm,1.2s
AMKA Amchitka 62.29 34 **P** **23 03 25.1 +0.2**
AMKA pP **pP** **23 03 40.5 -0.4**
BRZS Berezniki 62.31 324 *e*P **P** **23 03 23.6 -1.5**
BRZS *e*S **S** **23 11 46.1 -0.5**
BRZS pmax pmax
comp=Z,37nm,1.3s
BRZS Berezniki 62.31 324 *e*P **P** **23 03 23.6 -1.5**
comp=Z,37nm,1.3s,baz=324
BRZS *e*S **S** **23 11 46.2 -0.5**
baz=324
JOHN Johnston Islan 63.21 75 P **P** **23 03 31.2 -0.4**
JOHN pP **pP** **23 03 47.7 +0.3**
DCZ Deep Cove 63.23 149 IAmb IAmb 23 03 58.4
comp=Z,216nm,1.0s
QRZ Quartz Range 63.24 142 P **P** **23 03 31.3 -0.1**
QRZ pP **pP** **23 03 49.5 +2.1**
QRZ IAmb IAmb 23 03 58.9
comp=Z,173nm,1.1s
QRZ Quartz Range 63.24 142 P **P** **23 03 32.6 +1.2**
HIZ Hauiti 63.37 139 P **P** **23 03 32.6 +0.3**
HIZ IAmb IAmb 23 04 00.4
comp=Z,285nm,1.3s
PYZ Puysegur Point 63.48 150 P **P** **23 03 33.6 +0.7**
PYZ IAmb IAmb 23 04 01.6
comp=Z,193nm,1.0s
WKZ Wanaka 63.77 148 P **P** **23 03 35.5 +0.6**
NNZ Nelson 63.99 142 P **P** **23 03 36.4 +0.1**

THZ Tophouse 64.03 143 P **P** **23 03 36.6 -0.1**
LBZ Lake Benmore 64.11 147 P **P** **23 03 37.9 +0.8**
LBZ pP **pwP** **23 03 55.4 -2.3**
LBZ IAmb IAmb 23 03 57.4
comp=Z,301nm,1.2s
RAO Raoul Island 64.14 127 LR LR 23 28 15.5
comp=Z,3µm,21.9s,baz=294,slow=33
RAO Raoul Island 64.14 127 P **P** **23 03 36.5 -1.0**
RAO pP **pP** **23 03 53.4 -0.2**
RAO IAmb IAmb 23 03 56.8
comp=Z,359nm,1.1s
RPZ Rata Peaks 64.16 146 LR LR 23 32 27.2
comp=Z,6µm,19.5s,baz=310,slow=37
RPZ Rata Peaks 64.16 146 P **P** **23 03 37.1 -0.3**
AFI Afiamalu 64.49 109 P **P** **23 03 39.6 -0.6**
comp=Z,31nm,0.9s,baz=206,slow=14,SNR=4.0
AFI LR LR 23 26 26.5
comp=Z,7µm,21.9s,baz=286,slow=31
comp=Z,31nm,0.9s
AFI Afiamalu 64.49 109 P **P** **23 03 40.1 -0.1**
AFI IAmb IAmb 23 04 06.9
comp=Z,440nm,1.4s
AFI Afiamalu 64.49 109 P **P** **23 03 40.1 -0.1**
AFI pmax pmax
comp=Z,440nm,1.4s
KIWB Kanaga Island 64.49 35 P **P** **23 03 40.0 +0.5**
URZ Urewera 64.72 138 LR LR 23 33 27.5
comp=Z,6µm,19.2s,baz=32,slow=37
URZ Urewera 64.72 138 P **P** **23 03 44.2 +3.0**
URZ Urewera 64.72 138 ⇑P **P** **23 03 43.3 +2.1**
ADK Adak 64.77 35 P **P** **23 03 41.3 +0.1**
ADK IAmb IAmb 23 03 57.9
comp=Z,269nm,1.1s
ADK Adak 64.77 35 P **P** **23 03 41.3 +0.1**
ADK pmax pmax
comp=Z,269nm,1.1s
ADK Adak 64.77 35 P P 23 03 46.4 +5.1
ADK Adak 64.77 35 ⇓p P 23 03 55.1 +14
ADK Adak 64.77 35 P **P** **23 03 41.8 +0.6**
ADK pP **pwP** **23 03 59.6 -2.1**
ODZ Otahua Downs 64.79 147 P **P** **23 03 42.3 +0.8**
ODZ Otahua Downs 64.79 147 P **P** **23 03 42.1 +0.6**
ODZ Otahua Downs 64.79 147 ⇓P **P** **23 03 43.6 +2.2**
BKZ Black Stump Fm 64.80 139 IAmb IAmb 23 04 20.5
comp=Z,227nm,1.1s
BKZ Black Stump Fm 64.80 139 P **P** **23 03 41.6 -0.1**
KHZ Kahutara 64.80 143 P **P** **23 03 40.9 -0.7**
KHZ Kahutara 64.80 143 ⇑P **P** **23 03 41.1 -0.5**
CMWZ Cape Campbell 64.81 142 P **P** **23 03 42.3 +0.6**
SNZO South Karori 64.86 142 P **P** **23 03 39.5 -2.4**
SNZO IAmb IAmb 23 04 08.2
comp=Z,188nm,1.1s
SNZO South Karori 64.86 142 P **P** **23 03 45.6 +3.6**
SNZO South Karori 64.86 142 P **P** **23 03 39.2 -2.8**
BVAR Borovoye Array 64.88 326 P **P** **23 03 40.5 -1.5**
comp=Z,55nm,0.8s,baz=119,slow=8.6,SNR=95
BVAR LR LR 23 33 03.6
comp=Z,5µm,21.8s,baz=107,slow=37
comp=Z,55nm,0.8s
BRVK Borovoye 64.95 326 P **P** **23 03 41.8 -0.7**
BRVK Borovoye 64.95 326 P **P** **23 03 41.8 -0.7**
BRVK pmax pmax
comp=Z,1µm,2.0s
BRVK Borovoye 64.95 326 ⇓P **P** **23 03 40.7 -1.8**
BRVK Borovoye 64.95 326 P **P** **23 03 40.5 -1.9**
BRVK pP **pP** **23 03 58.9 -0.5**
BRVK pwP **sP** **23 04 02.7 -3.9**
TIXI Tiksi 65.05 1 P **P** **23 03 41.0 -1.8**
comp=Z,7.5nm,0.3s,baz=90,slow=20,SNR=2.4
TIXI LR LR 23 33 37.6
comp=Z,5µm,20.0s,baz=180,slow=37
comp=Z,7.5nm,0.3s
TIXI Tiksi 65.05 1 P **P** **23 03 42.5 -0.3**
TIXI IAmb IAmb 23 04 05.4
comp=Z,182nm,1.1s
TIXI Tiksi 65.05 1 *ce*P **P** **23 03 43.6 +0.9**
TIXI pmax pmax
comp=Z,222nm,1.2s
TIXI MLR MLR
comp=Z,5µm,20.0s
TIXI Tiksi 65.05 1 ⇑P **P** **23 03 41.1 -1.6**
TIXI Tiksi 65.05 1 P **P** **23 03 40.9 -1.8**
TIXI pP **pP** **23 04 00.5 +1.4**
TIXI sP **sP** **23 04 07.7 +1.7**
MQZ McQueen's Vall 65.06 145 P **P** **23 03 43.4 +0.1**
MQZ pP **pP** **23 04 00.7 +1.3**
HRA Herat 65.17 305 IAmb IAmb 23 04 05.8
comp=Z,422nm,1.9s
MXZ Matakaoa Point 65.17 137 P **P** **23 03 45.1 +1.0**
MXZ pP **pP** **23 04 00.2 +0.1**
MXZ IAmb IAmb 23 04 25.5
comp=Z,201nm,1.3s
GSTR Great Sitkin T 65.21 35 pP 23 04 01.5 +1.2
MSWZ Moikau Station 65.26 142 P **P** **23 03 46.1 +1.5**
MSWZ pP **pwP** **23 04 03.0 -2.3**
BFZ Birch Farm 65.47 140 P **P** **23 03 46.5 +0.5**
MCQ Macquarie Isla 66.59 160 P **P** **23 03 54.3 +1.5**
MCQ IAmb IAmb 23 04 22.1
comp=Z,214nm,1.1s
MCQ Macquarie Isla 66.59 160 P **P** **23 03 54.3 +1.5**
MCQ pmax pmax
comp=Z,214nm,1.1s
WBK Wadi Bani Khal 66.82 292 P P 23 04 10.8 +16
SNR=7.1
BILL Bilibino 66.90 15 P **P** **23 03 56.5 +1.8**
BILL IAmb IAmb 23 04 40.7
comp=Z,477nm,2.0s
BILL Bilibino 66.90 15 *de*P **P** **23 03 56.8 +2.1**
BILL *e* 23 06 20.1
BILL *e*SS SS 23 17 09.7 +7.9
BILL pmax pmax
comp=Z,108nm,1.8s
WSAR Wadi Sarin 67.16 292 LR LR 23 37 16.9
comp=Z,2µm,19.0s,baz=94,slow=39
ROCAM Rodrigues Isla 67.40 246 P **P** **23 03 58.6 0.0**
ROCAM Rodrigues Isla 67.40 246 P **P** **23 03 58.3 -0.4**
NIUE Niue 67.54 114 P **P** **23 03 57.7 -1.9**
baz=68,SNR=7.7
NIUE Niue 67.54 114 P **P** **23 04 00.1 +0.5**
JMDO Jabal Madar 67.61 291 P **P** **23 03 59.3 -0.8**
BIDO Bidbid 67.64 293 P **P** **23 04 01.0 +0.8**
SNR=12
NRIK Noril'sk 67.67 346 P **P** **23 03 58.9 -0.6**
comp=Z,42nm,0.7s,baz=127,slow=7.5,SNR=33
NRIK LR LR 23 36 29.6
comp=Z,13µm,19.4s,baz=154,slow=38
comp=Z,42nm,0.7s
NRIK Noril'sk 67.67 346 P **P** **23 03 59.2 -0.2**
NRIK IAmb IAmb 23 04 23.3
comp=Z,278nm,1.2s
NRIK Noril'sk 67.67 346 P **P** **23 03 59.3 -0.2**
NRIK pmax pmax
comp=Z,278nm,1.2s
SMDO Samad 67.69 292 P **P** **23 04 02.9 +2.3**
SNR=5.1
MHTO MHTO 67.70 290 P **P** **23 04 01.0 +0.4**
SNR=11
MHTO P **P** **23 04 01.0 +0.4**
SNR=11
JASK Jask - Hormozg 68.00 295 P **P** **23 04 06.3 +3.9**
DQM DQM 68.08 289 P **P** **23 04 05.0 +1.9**
SNR=8.0
HOQ Hoqain 68.39 293 P **P** **23 04 06.0 +1.0**
SNR=15
HOQ P **P** **23 04 06.0 +1.0**
SNR=15
BSY Bisya 68.46 292 P **P** **23 04 07.5 +2.1**
SNR=7.8
CLES Cleveland East 69.00 36 P **P** **23 04 08.6 +0.5**
CLES IAmb IAmb 23 04 28.4
comp=Z,801nm,1.0s
GEYT Alibeck 69.01 308 P **P** **23 04 07.7 -0.9**
comp=Z,71nm,1.1s,baz=151,slow=3.4,SNR=48
GEYT LR LR 23 38 47.7
comp=Z,5µm,20.4s,baz=82,slow=40
comp=Z,71nm,1.1s
GEYT Alibeck 69.01 308 IAmb IAmb 23 04 30.9
comp=Z,260nm,1.1s
GYA0B ALIBECK ARRAY 69.01 308 IAmb IAmb 23 04 30.9
comp=Z,267nm,1.2s
ARQ Araqi 69.11 292 P **P** **23 04 11.0 +1.6**
SNR=8.2
BANOM Banah 69.41 295 P **P** **23 04 13.0 +1.8**
SNR=5.7
BANOM Banah 69.41 295 *i* P **P** **23 04 10.6 -0.6**

SNR=6.0
UOSS Minazif 69.45 294 P **P** 23 04 11.1 -0.4
UOSS Minazif 69.45 294 ⇑P **P** 23 04 10.5 -1.0
MSFE Esma-Masafi 69.51 295 *i* P **P** 23 04 12.0 +0.1
SNR=6.7
MASF Masafi 69.51 295 P **P** 23 04 13.6 +1.7
SNR=6.7
HATD Hatta, Dubai 69.51 294 P **P** 23 04 13.0 +1.1
SNR=13
HATD Hatta, Dubai 69.51 294 *i* P **P** 23 04 10.6 -1.3
SNR=13
SHME Shamm 69.56 295 P **P** 23 04 15.4 +3.3
SNR=5.1
SHME Shamm 69.56 295 *i* P **P** 23 04 12.2 +0.1
SNR=5.4
ASHO Ashiyiah 69.58 294 P **P** 23 04 14.0 +1.7
SNR=16
ASHO Ashiyiah 69.58 294 *i* P **P** 23 04 12.1 -0.2
SNR=15
NIKH Nikolski High 69.65 36 P **P** 23 04 11.9 -0.2
NIKH IAmb IAmb 23 04 34.1
comp=Z,236nm,0.9s
NIKH Nikolski High 69.65 36 P **P** 23 04 12.7 +0.6
baz=253
ALNE Al Ain 69.83 293 P **P** 23 04 14.7 +0.9
SNR=11
ALNE Al Ain 69.83 293 *i* P **P** 23 04 11.6 -2.3
SNR=14
ABKAR Akbulak array 69.88 320 P **P** 23 04 12.0 -1.6
ABKAR Akbulak array 69.88 320 P **P** 23 04 11.8 -1.8
ABKAR IAmb IAmb 23 04 34.5
comp=Z,236nm,1.2s
ABKAR Akbulak array 69.88 320 ⇑P **P** 23 04 10.8 -2.8
SHAO Shalim 69.88 287 P pP 23 04 33.1 +1.7
SNR=6.1
SHAO Shalim 69.88 287 *i* P **P** 23 04 13.6 -0.7
SNR=5.6
NAZ Nazwa, Dubai 69.95 294 P **P** 23 04 16.6 +2.0
SNR=8.0
NAZ Nazwa, Dubai 69.95 294 P **P** 23 04 12.9 -1.7
UMQ Umm Al-Quwin 69.97 295 P **P** 23 04 15.9 +1.2
UMQ Umm Al-Quwin 69.97 295 *i* P **P** 23 04 14.8 +0.1
SNR=6.9
FAQ Al Faqa, Dubai 70.00 294 *i* P **P** 23 04 13.3 -1.6
SNR=7.0
SPIA Saint Paul Isl 70.20 31 P **P** 23 04 15.9 +0.6
baz=250
ASUD Al Ashush, Dub 70.24 294 P **P** 23 04 18.7 +2.3
SNR=7.6
ASUD Al Ashush, Dub 70.24 294 *i* P **P** 23 04 16.0 -0.3
SNR=6.9
DMTO DMTO 70.53 286 P **P** 23 04 20.4 +2.2
SNR=5.6
UNV Unalaska Valle 71.24 35 P **P** 23 04 21.5 -0.3
UNV IAmb IAmb 23 04 38.4
comp=Z,435nm,1.3s
UNV Unalaska Valle 71.24 35 P **P** 23 04 21.7 -0.1
baz=255
RBK Rabkut 71.25 286 P **P** 23 04 26.2 +3.6
SNR=10
DOK Doka 71.30 287 P **P** 23 04 24.9 +2.0
SNR=6.9
AKTO Aktyubinsk 71.36 321 P **P** 23 04 20.8 -1.9
comp=Z,43nm,0.7s,baz=90,slow=9.1,SNR=33
AKTO LR LR 23 38 35.9
comp=Z,12µm,20.3s,baz=103,slow=38
comp=Z,43nm,0.7s
WHFO Wadi Hawf 71.65 287 P **P** 23 04 25.8 +0.8
SNR=6.4
AKUT Akutan 71.73 35 IAmb IAmb 23 04 44.9
comp=Z,391nm,1.0s
AKUT Akutan 71.73 35 ⇑P **P** 23 04 23.4 -1.4
MSEY Mahe Island 71.80 263 P **P** 23 04 25.1 -1.0
MSEY Mahe Island 71.80 263 P **P** 23 04 25.1 -1.0
MSEY pmax pmax
comp=Z,209nm,1.5s
MZR Muzera 71.90 292 P **P** 23 04 27.3 +0.9
SNR=28
MZR Muzera 71.90 292 *i* P **P** 23 04 25.2 -1.3
SNR=52
ABTO Aybut 72.11 286 P P 23 04 33.7 +5.9
SNR=8.9
ARU Arti 72.48 327 P **P** 23 04 27.2 -2.0
comp=Z,64nm,0.6s,baz=112,slow=3.2,SNR=63
ARU LR LR 23 40 16.2
comp=Z,5µm,18.6s,baz=96,slow=39
comp=Z,64nm,0.6s
ARU Arti 72.48 327 P **P** 23 04 28.0 -1.2
ARU PcP **PcP** 23 04 47.0 +0.3
ARU IAmb IAmb 23 04 50.1
comp=Z,242nm,1.1s
ARU Arti 72.48 327*c i* P **P** 23 04 26.5 -2.7
ARU *PP **pP** 23 04 42.6 -3.6
ARU 23 04 46.9
ARU PPP PPP 23 08 51.0
ARU S **S** 23 13 44.2 -4.1
ARU 23 14 35.7
ARU pmax pmax
comp=Z,57nm,0.6s
ARU MLR MLR
comp=Z,7µm,23.0s
ARU Arti 72.48 327 ⇓P **P** 23 04 26.7 -2.5
KEKH Kekaha 72.53 69 **P** 23 04 30.2 0.0
KEKH **PcP** 23 04 48.2 +0.7
KEKH IAmb IAmb 23 04 49.5
comp=Z,503nm,1.3s
SLWR Sila 73.54 293 P **P** 23 04 37.0 +0.9
CASY Casey 73.57 187 P **P** 23 04 35.0 -0.4
CASY PcP **pP** 23 04 53.5 +1.8
CASY IAmb IAmb 23 04 60.0
comp=Z,445nm,1.4s
CASY Casey 73.57 187 ⇑P **P** 23 04 35.6 +0.3
KIP Kipapa 74.11 70 P **P** 23 04 38.9 -0.6
KIP **pP** 23 04 55.4 -0.1
KIP IAmb IAmb 23 04 58.7
comp=Z,370nm,1.4s
KIP Kipapa 74.11 70 P **P** 23 04 38.9 -0.6
KIP *PP **pP** 23 04 55.4 -0.1
KIP pmax pmax
comp=Z,370nm,1.4s
OPA Opana 74.11 69 P **P** 23 04 39.9 +0.4
OPA **pP** 23 04 55.2 -0.3
OPA IAmb IAmb 23 05 14.7
comp=Z,334nm,1.2s
OPA Opana 74.11 69 P **P** 23 04 39.9 +0.4
OPA 23 04 55.2
OPA pmax pmax
comp=Z,334nm,1.2s
HON Honolulu 74.13 70 P **P** 23 04 38.5 -1.0
HON PcP **pP** 23 04 55.9 +0.3
HON Honolulu 74.13 70 P **P** 23 04 38.6 -1.0
HON 23 04 55.9
HON pmax pmax
comp=Z,784nm,1.3s
RER Riviere de l'E 74.66 246 IAmb IAmb 23 05 10.4
comp=Z,219nm,1.0s
ANM Nome 74.80 25 P **P** 23 04 42.5 -0.1
ANM PcP **PcP** 23 04 56.4 -0.1
ANM Nome 74.80 25 P **P** 23 04 42.6 -0.1
ANM 23 04 56.4
ANM pmax pmax
comp=Z,163nm,1.5s
ANM Nome 74.80 25 P **P** 23 04 42.8 +0.2
baz=253
SDPT Sand Point 74.99 34 P **P** 23 04 43.9 0.0
SDPT PcP **pP** 23 04 59.1 -1.1
SDPT IAmb IAmb 23 05 00.5
comp=Z,429nm,1.2s
SDPT Sand Point 74.99 34 P **P** 23 04 44.6 +0.7
baz=260
CNBA Chernabura Isl 75.40 35 P **P** 23 04 46.1 -0.2
CHNA Chernabura Isl 75.40 35 P **P** 23 04 46.8 +0.5
baz=260
KHLH Kahului Airpor 75.61 70 P **P** 23 04 47.5 -0.7
KHLH **pP** 23 05 05.9 +1.8
KHLH IAmb IAmb 23 05 18.1
comp=Z,572nm,1.4s
S14K Fog Glacier 75.67 34 P **P** 23 04 48.2 +0.2
baz=260
HLK Haleakala 75.78 70 P **P** 23 04 49.0 -0.5
HLK IAmb IAmb 23 05 08.8
comp=Z,435nm,1.3s
MHA Mahukona 76.12 71 P **P** 23 04 52.0 +0.9
MHA Mahukona 76.12 71 P **P** 23 04 52.0 +0.9
KHLU Kahalu`u 76.15 71 P **P** 23 04 51.2 -0.2
KHLU IAmb IAmb 23 05 10.4
comp=Z,537nm,1.3s
HUH Hualalai 76.20 71 P **P** 23 04 50.9 -1.0
HUH IAmb IAmb 23 05 34.6
comp=Z,439nm,1.3s
CHGN Chignik 76.30 34 pP **pP** 23 05 07.3 -0.8
CHGN IAmb IAmb 23 05 11.2
comp=Z,236nm,1.2s
CHGN Chignik 76.30 34 P **P** 23 04 51.8 +0.5
baz=261
HPAH Hawaii Prepara 76.32 71 P **P** 23 04 51.9 -0.4
HPAH IAmb IAmb 23 05 11.3
comp=Z,420nm,1.3s
KHU Kahuku 76.42 72 P **P** 23 04 53.1 0.0
KHU **pP** 23 05 10.3 +1.1
MWH Moku'aweowe 76.43 72 P **P** 23 04 51.5 -2.0
MWH **pP** 23 05 09.6 0.0
MLOA Mauna Loa Obse 76.45 72 P **P** 23 04 54.4 +0.9
MLOA pP **pP** 23 05 11.6 +2.1
POHA Pohakuloa 76.48 71 P **P** 23 04 53.0 -0.5
POHA IAmb IAmb 23 05 12.5
comp=Z,438nm,1.2s
HMH Humu'ula Sheep 76.53 71 P **P** 23 04 53.1 -0.7
HMH **pP** 23 05 10.6 +0.7
AIN Ainahou 76.57 72 P **P** 23 04 52.7 -1.2
MLH Mauna Loa 76.63 72 P **P** 23 04 53.8 -0.5
MLH pP **pP** 23 05 11.1 +0.8
HLP Hilina Pali 76.71 72 P **P** 23 04 54.0 -0.6
WRMHI West Rim 76.72 72 P **P** 23 04 54.7 +0.1
SDHHI Sand Hill 76.72 72 P **P** 23 04 55.3 +0.6
UWE Uwekahuna 76.72 72 P **P** 23 04 55.0 +0.3
RIM Rim 76.74 72 P **P** 23 04 55.2 +0.5
SBLHI Steaming Bluff 76.74 72 P **P** 23 04 55.1 +0.3
KKO Keanakako`i 76.75 72 P **P** 23 04 55.7 +0.9
RDOG Red Dog Mine 76.75 21 P **P** 23 04 54.3 +0.6
baz=254
HATHI Halema'uma'u T 76.75 72 P **P** 23 04 54.3 -0.5
BYL Byron's Ledge 76.75 72 P **P** 23 04 54.5 -0.4
BYL IAmb IAmb 23 05 14.0
comp=Z,452nm,1.1s
PUH Pauahi 76.80 72 P **P** 23 04 55.3 +0.2
N16K Nishlik Lake 76.81 29 P **P** 23 04 54.9 +0.7
baz=260,SNR=10
R16K Pilot Point 76.94 32 P **P** 23 04 55.7 +0.7
baz=262
P16K Nushagak River 76.95 31 P **P** 23 04 55.2 +0.2
baz=261
O16K Kokwok River B 76.99 30 P **P** 23 04 55.3 +0.1
baz=261,SNR=6.5
RAR Rarotonga 77.31 113 P **P** 23 04 55.9 -1.8
comp=Z,3.9nm,0.5s,baz=311,slow=20,SNR=1.3
RAR LR LR 23 33 44.9
comp=Z,2µm,21.6s,baz=274,slow=32
RAR Rarotonga 77.31 113 P **P** 23 04 58.0 +0.2
RAR Rarotonga 77.31 113 P **P** 23 04 58.0 +0.2
RAR pmax pmax
comp=Z,826nm,1.9s
O17K Koliganek Bris 77.52 30 P **P** 23 04 58.4 +0.3
baz=255
MAK Makhachkala 77.55 312 *e*P **P** 23 04 58.0 -0.7
MAK *e*PP **pP** 23 05 13.5 -2.3
MAK *e*SP **pwP** 23 05 19.8 +1.9
MAK *e* 23 07 51.2
MAK *e*PPP PPP 23 09 36.8
MAK *e*S **S** 23 14 44.7 -0.5
MAK *e*SS **ScS** 23 15 12.7 +0.9
MAK *e*SS **SS** 23 19 42.9 -2.6
MAK pmax pmax
comp=Z,511nm,1.3s
MAK MLR MLR
comp=Z,4µm,19.0s
Q16K King Salmon 77.58 31 P **P** 23 04 58.1 -0.4
baz=262
R17K Ugashik Creek 77.59 32 P **P** 23 04 58.4 -0.2
baz=263
KIRV Kirov 77.74 328 LR LR 23 43 24.7
comp=Z,5µm,18.3s,baz=103,slow=39
KIRV Kirov 77.74 328*d i* P **P** 23 04 57.6 -1.8
P17K Kvichak River 77.77 31 P **P** 23 04 58.9 -0.6
baz=262
CHIR Chirikof Islan 77.79 34 P **P** 23 05 00.0 +0.3
CHIR IAmb IAmb 23 05 20.9
comp=Z,262nm,1.0s
CHIR Chirikof Islan 77.79 34 P **P** 23 04 59.7 0.0
baz=264
BELG Belogornoye 78.08 322 LR LR 23 42 32.4
comp=Z,5µm,20.7s,baz=89,slow=38
BELG Belogornoye 78.08 322*d i* P **P** 23 04 59.2 -2.2
BELG pmax pmax
comp=Z,173nm,1.0s
BELG MLR MLR
comp=Z,871nm,22.0s
N18K Kilae Creek 78.24 29 P **P** 23 05 03.3 +1.1
N18K pP **pP** 23 05 19.6 +0.6
N18K Kilae Creek 78.24 29 P **P** 23 05 02.2 0.0
baz=262
GCSA Galena City Sc 78.40 25 P **P** 23 05 03.1 +0.2
baz=261
P18K Big Mountain, 78.41 31 P **P** 23 05 03.4 +0.2
baz=263
SVW2 Sparrevohn 78.45 29 pP pP 23 05 20.3 +0.2
O18K Koktuh Hills 78.47 30 pP **pP** 23 05 21.2 +0.9
O18K IAmb IAmb 23 05 21.4
comp=Z,290nm,1.1s
O18K Koktuh Hills 78.47 30 P **P** 23 05 03.7 +0.2
baz=263,SNR=6.3
TTA Tatalina 78.50 27 pP pP 23 05 19.8 -0.6
TTA Tatalina 78.50 27 P **P** 23 05 04.2 +0.5
baz=262
TTA Tatalina 78.50 27 ⇑P **P** 23 05 04.5 +0.8
TTA ⇓p **pP** 23 05 17.8 -2.6
SII Sitkinak Islan 78.66 34 P **P** 23 05 05.9 +1.3
SII IAmb IAmb 23 05 25.9
comp=Z,422nm,1.2s
SII Sitkinak Islan 78.66 34 P **P** 23 05 04.1 -0.5
baz=265
GROC Groznyy 78.81 313 *e*P **P** 23 05 03.3 -2.4
GROC *e* 23 05 12.6
GROC *e*SP **pP** 23 05 23.5 +0.7
GROC pmax pmax
comp=Z,356nm,1.1s
L19K White Mountain 78.93 28 P **P** 23 05 05.5 -0.5
baz=263,SNR=12
N19K Bonanza Creek 78.94 29 P **P** 23 05 06.9 +0.7
baz=264,SNR=12
O19K Port Alsworth 78.96 30 P **P** 23 05 06.9 +0.8
O19K IAmb IAmb 23 05 27.1
comp=Z,221nm,1.2s
O19K Port Alsworth 78.96 30 P **P** 23 05 05.2 -0.9
baz=264
M19K Big River Lodg 79.11 28 P **P** 23 05 06.7 -0.2
baz=264
Q19K Cape Douglas, 79.17 31 pP **pP** 23 05 23.2 -1.0
Q19K IAmb IAmb 23 05 30.1
comp=Z,153nm,0.9s
Q19K Cape Douglas, 79.17 31 P **P** 23 05 06.6 -0.8
baz=265
OHAK Old Harbor 79.21 33 pP **pP** 23 05 24.3 0.0
OHAK IAmb IAmb 23 05 24.9
comp=Z,197nm,1.1s
OHAK Old Harbor 79.21 33 P **P** 23 05 07.5 0.0
baz=265,SNR=5.7
RAYN Ar Rayn 79.22 293 P **P** 23 05 06.7 -1.7
RAYN pP **pP** 23 05 22.3 -3.2
RAYN IAmb IAmb 23 05 30.5
comp=Z,155nm,0.8s
RAYN Ar Rayn 79.22 293 *i* P **P** 23 05 07.5 -0.9
SNR=9.2
L20K Farewell, AK 79.42 28 P **P** 23 05 08.6 -0.1
baz=264
K20K Telida 79.43 27 P **P** 23 05 08.4 -0.2
baz=264,SNR=8.9
P19K Oil Pt 79.45 31 P **P** 23 05 09.3 +0.4
P19K IAmb IAmb 23 05 44.6
comp=Z,278nm,1.6s
P19K Oil Pt 79.45 31 P **P** 23 05 08.3 -0.5
baz=265
J20K Nowinta River 79.49 26 pP pP 23 05 26.7 +1.0
J20K Nowinta River 79.49 26 P **P** 23 05 09.2 +0.2
baz=263,SNR=14
ILSW Iliamna Southw 79.52 30 pP **pP** 23 05 25.1 -1.1
ILSW IAmb IAmb 23 05 28.2
comp=Z,108nm,1.2s
GNI Garni 79.55 310 P **P** 23 05 10.2 +0.1
GNI Garni 79.55 310*de* P **P** 23 05 11.0 +1.0
GNI pmax pmax
comp=Z,512nm,1.6s
GNI Garni 79.55 310 P **P** 23 05 11.2 +1.2
GNI Garni 79.55 310 ⇑P **P** 23 05 10.0 0.0
GNI ⇓p **pP** 23 05 25.9 -1.3
A21K Barrow 79.63 19 P **P** 23 05 09.8 +0.2
A21K Barrow 79.63 19 P **P** 23 05 09.3 -0.3
baz=260
KDAK Kodiak Island 79.63 33 P **P** 23 05 08.9 -1.0
comp=Z,28nm,0.6s,baz=266,slow=6.1
KDAK LR LR 23 37 09.0
comp=Z,2µm,21.3s,baz=268,slow=33
comp=Z,28nm,0.6s
KDAK Kodiak Island 79.63 33 P **P** 23 05 09.9 +0.1
KDAK pP **pP** 23 05 26.8 +0.1
KDAK IAmb IAmb 23 05 27.2
comp=Z,221nm,1.0s
KDAK Kodiak Island 79.63 33 P **P** 23 05 09.9 +0.1
KDAK *PP **pP** 23 05 26.8 +0.1
KDAK pmax pmax
comp=Z,221nm,1.0s
KDAK Kodiak Island 79.63 33 P **P** 23 05 09.6 -0.3
baz=266
M20K Styx River 79.70 28 P **P** 23 05 09.9 -0.4
baz=265
RSO Redoubt South 79.76 30 P **P** 23 05 10.4 -0.4
RSO pP **pP** 23 05 27.4 -0.1
O20K Slope Mountain 79.79 30 P **P** 23 05 10.4 -0.4
baz=265
Q20K Shuyak Island 79.79 32 P **P** 23 05 11.5 +0.8
baz=266
IMAR Indian Mountai 79.87 24 P **P** 23 05 10.5 -0.5
IMAR pP **pP** 23 05 28.9 +1.1
PRGR Permogore 79.96 331 *e*P **P** 23 05 10.4 -1.1
PRGR *e*PP **pP** 23 05 26.7 -1.7
PRGR pmax pmax
comp=Z,116nm,0.8s
G21K Allakaket 80.03 24 P **P** 23 05 12.1 +0.2
baz=263,SNR=12
N20K Mount Spurr 80.08 29 P **P** 23 05 11.8 -0.6
baz=266
SPCR Spurr Chakacha 80.08 29 P **P** 23 05 12.0 -0.4
baz=266
F21K Alatna River 80.12 23 P **P** 23 05 11.9 -0.4
baz=263,SNR=6.0
SPU Mount Spurr 80.16 29 pP pP 23 05 29.1 -0.4
ZEI Tsey 80.19 312 *e*P **P** 23 05 11.2 -2.3
ZEI pmax pmax
comp=Z,142nm,1.3s
H21K Melozitna Rive 80.22 25 pP **pP** 23 05 30.6 +0.9
H21K IAmb IAmb 23 05 33.4
comp=Z,502nm,1.9s
H21K Melozitna Rive 80.22 25 P **P** 23 05 12.7 -0.2
baz=264,SNR=14
PPLA Purkeypile 80.23 27 pP **pP** 23 05 30.4 +0.4
PPLA IAmb IAmb 23 05 44.6
comp=Z,633nm,1.8s
PPLA Purkeypile 80.23 27 P **P** 23 05 13.0 -0.2
baz=265
HOM Homer 80.25 31 P **P** 23 05 12.2 -1.0
HOM pP **pP** 23 05 29.8 -0.2
HOM IAmb IAmb 23 05 57.6
comp=Z,153nm,0.9s
HOM Homer 80.25 31 P **P** 23 05 13.3 +0.2
baz=266
CHUM Lake Minchumin 80.26 26 P **P** 23 05 13.0 -0.1
baz=265
CAST Castle Rocks 80.32 27 pP pP 23 05 30.5 +0.1
CAST Castle Rocks 80.32 27 P **P** 23 05 13.3 -0.2
baz=265,SNR=21
CNPM China Poot 80.45 31 pP **pP** 23 05 30.4 -0.7
CNPM IAmb IAmb 23 05 33.5
comp=Z,745nm,1.9s
SKT Skwentna 80.47 28 pP pP 23 05 30.6 -0.5
SKT Skwentna 80.47 28 P **P** 23 05 13.6 -0.7
baz=266,SNR=8.9
I21K Tanana 80.52 25 pP pP 23 05 31.9 +0.7
I21K Tanana 80.52 25 P **P** 23 05 14.0 -0.4
baz=265
ONI Oni 80.53 312 P **P** 23 05 15.1 0.0
ONI pP **pP** 23 05 33.3 +1.0
ONI IAmb IAmb 23 05 52.3
comp=Z,401nm,1.3s
CAPN Captain Cook N 80.57 30 P **P** 23 05 14.7 -0.1
baz=266
BRLK Bradley Lake 80.64 31 pP **pP** 23 05 31.2 -0.9
BRLK IAmb IAmb 23 05 34.2
comp=Z,165nm,1.0s
F22K John River 80.65 23 P **P** 23 05 15.0 -0.2
baz=264
BRSE Bradley Lake S 80.71 31 P **P** 23 05 15.8 +0.1
baz=267
SUA Susitna One 80.81 29 pP **pP** 23 05 33.0 0.0
SUA IAmb IAmb 23 05 36.2
comp=Z,266nm,1.0s
SUA Susitna One 80.81 29 P **P** 23 05 15.8 -0.4
baz=267
GOF Gofitskoye 80.82 314 ⇑*e*P **P** 23 05 15.8 -0.7
GOF pmax pmax
comp=Z,134nm,1.1s
KARS Kars 80.82 310 P **P** 23 05 16.9 +0.1
KARS pP **pP** 23 05 35.4 +1.4
KARS Kars 80.82 310 P **P** 23 05 16.9 +0.1
KARS *PP **pP** 23 05 35.4 +1.4
KARS pmax pmax
comp=Z,1µm,1.1s
H22K Ishtalitna Cre 80.83 24 P **P** 23 05 15.9 -0.3
baz=266,SNR=23
E22K Anaktuvuk Pass 80.85 22 P **P** 23 05 15.5 -0.8
baz=265
G22K Bettles 80.86 23 P **P** 23 05 16.0 -0.3
baz=265
BPAW Bear Paw Mtn. 80.86 26 P **P** 23 05 15.7 -0.6
BPAW pP **pP** 23 05 33.6 +0.4
BPAW IAmb IAmb 23 05 45.2
comp=Z,205nm,1.1s
BPAW Bear Paw Mtn. 80.86 26 P **P** 23 05 16.3 -0.1
baz=266,SNR=30
GEVA Gevas 80.87 308 P **P** 23 05 17.3 +0.1
GEVA pP **pP** 23 05 34.9 +0.5
GEVA IAmb IAmb 23 05 39.4
comp=Z,401nm,1.2s
KBZ Khabaz 80.93 313 P **P** 23 05 15.6 -1.5
comp=Z,48nm,1.2s,baz=104,slow=1.2,SNR=17
KBZ LR LR 23 45 44.0
comp=Z,4µm,20.2s,baz=74,slow=39
comp=Z,48nm,1.2s
KBZ Khabaz 80.93 313*c i* P **P** 23 05 17.3 +0.2
KBZ pmax pmax
comp=Z,280nm,1.6s
KBZ MLR MLR
comp=Z,7µm,20.0s
MLY Manley 81.03 25 pP pP 23 05 34.8 +0.7
MLY Manley 81.03 25 P **P** 23 05 17.4 +0.1
baz=266,SNR=38
FIS Fire Island 81.04 29 P **P** 23 05 18.1 +0.7
KIV Kislovodsk 81.08 313 ⇑P **P** 23 05 20.3 +2.3
KIV Kislovodsk 81.08 313 P **P** 23 05 18.2 +0.1
KIV IAmb IAmb 23 05 45.5
comp=Z,183nm,1.1s
KIV Kislovodsk 81.08 313 *e*P **P** 23 05 18.3 +0.3
KIV *e*S **S** 23 15 22.8 0.0
KIV *e*SSS SSS 23 24 06.9
KIV pmax pmax
comp=Z,61nm,1.0s
KIV pmax pmax
comp=Z,25nm,3.3s
KIV MLR MLR
comp=Z,4µm,19.0s
KIV Kislovodsk 81.08 313 P **P** 23 05 18.6 +0.6
KIV Kislovodsk 81.08 313 *i* P **P** 23 05 18.4 +0.3
SNR=15
CUT Chulitna 81.08 28 P **P** 23 05 18.0 +0.4
CUT Chulitna 81.08 28 P **P** 23 05 17.5 0.0
baz=267
M22K Willow 81.12 29 pP **pP** 23 05 35.3 +0.8
M22K IAmb IAmb 23 05 37.6
comp=Z,265nm,1.0s
M22K Willow 81.12 29 P **P** 23 05 17.5 -0.2
baz=267,SNR=8.7
TRF Thorofare Moun 81.13 27 pP **pP** 23 05 34.9 +0.1
TRF IAmb IAmb 23 05 38.2
comp=Z,192nm,1.0s
TRF Thorofare Moun 81.13 27 P **P** 23 05 17.7 -0.3
baz=267,SNR=11
O22K Cooper Landing 81.26 30 P **P** 23 05 19.3 +0.8
O22K IAmb IAmb 23 06 05.0

comp=Z,263nm,0.8s
O22K Cooper Landing 81.26 30 P P 23 05 17.6 -0.9
baz=268
RC01 Rabbit Creek A 81.28 29 pP pP 23 05 35.0 -0.5
RC01 Rabbit Creek A 81.28 29 P P 23 05 17.6 -1.0
baz=268,SNR=5.3
D23K Nanushuk River 81.34 21 P P 23 05 18.8 0.0
baz=266,SNR=8.8
SEW Seward 81.38 30 IAmb IAmb 23 05 50.4
comp=Z,194nm,1.1s
SEW Seward 81.38 30 P P 23 05 18.4 -0.7
baz=268,SNR=8.0
COLD Coldfoot 81.39 23 P P 23 05 19.5 +0.4
baz=266,SNR=21
C23K Itkillik River 81.43 20 P P 23 05 19.4 +0.2
baz=266
G23K Bananza Creek 81.43 24 P P 23 05 19.5 +0.1
baz=267,SNR=55
BWN Browne 81.53 26 pP pP 23 05 37.6 +0.8
BWN IAmb IAmb 23 05 43.8
comp=Z,525nm,1.5s
H23K Yukon River 81.58 24 pP pP 23 05 37.7 +0.7
H23K Yukon River 81.58 24 P P 23 05 20.5 +0.4
baz=267,SNR=23
PMR Palmer 81.58 29 pP pP 23 05 36.5 -0.6
PMR Palmer 81.58 29 P P 23 05 21.2 +1.0
baz=268
E23K Chandalar 81.67 22 P P 23 05 20.5 -0.1
baz=267,SNR=14
GURO Guroymak-BITLI 81.67 308 pP pP 23 05 39.6 +0.9
GURO IAmb IAmb 23 05 44.1
comp=Z,293nm,1.0s
VRH Novokhopyorsk 81.70 321 *e*P P 23 05 20.3 -0.7
VRH pmax pmax
comp=Z,120nm,1.3s
VRH MLR MLR
comp=Z,4µm,28.0s
TOLK Toolik Lake Re 81.72 22 pP pP 23 05 37.7 0.0
TOLK Toolik Lake Re 81.72 22 P P 23 05 21.0 +0.1
baz=267,SNR=7.5
NEA2 Nenana 81.72 26 pP pP 23 05 37.3 -0.4
NEA2 Nenana 81.72 26 P P 23 05 21.1 +0.2
baz=268,SNR=26
MCK McKinley 81.75 27 pP pP 23 05 37.6 -0.3
MCK IAmb IAmb 23 05 41.3
comp=Z,234nm,1.0s
MCK McKinley 81.75 27 P P 23 05 20.7 -0.4
baz=268,SNR=22
RND Reindeer 81.77 27 pP pP 23 05 37.4 -0.7
RND IAmb IAmb 23 05 44.3
comp=Z,155nm,1.0s
WAT1 Susitna Watana 81.89 28 P P 23 05 21.3 -0.6
baz=268
KNK Knik Glacier 81.90 29 pP pP 23 05 39.0 +0.2
KNK IAmb IAmb 23 05 45.6
comp=Z,237nm,1.2s
KNK Knik Glacier 81.90 29 P P 23 05 21.8 -0.1
baz=269
PWL Port Wells 81.95 30 pP pP 23 05 38.5 -0.6
PWL IAmb IAmb 23 05 47.4
comp=Z,222nm,0.9s
PWL Port Wells 81.95 30 P P 23 05 22.3 +0.1
baz=269,SNR=7.0
SML Sawmill 81.97 29 pP pP 23 05 39.1 -0.1
SML IAmb IAmb 23 05 39.4
comp=Z,192nm,1.1s
SML Sawmill 81.97 29 P P 23 05 22.2 -0.1
baz=269,SNR=5.8
D24K Happy Valley 82.02 21 P P 23 05 21.9 -0.4
baz=267
C24K Franklin Bluff 82.08 21 P P 23 05 22.8 +0.2
baz=267
E24K Your Creek 82.09 22 P P 23 05 23.2 +0.4
baz=268
TCOL CIGO, UAF Yank 82.25 25 P P 23 05 23.4 -0.3
baz=269
COLA College 82.25 25 P P 23 05 24.5 +0.9
COLA College 82.25 25 P P 23 05 24.5 +0.9
COLA pmax pmax
comp=Z,62nm,1.0s
COLA College 82.25 25 P P 23 05 23.0 -0.6
baz=269
COLA College 82.25 25 ⇓P P 23 05 23.8 +0.1
COLA ⇓p **pP** 23 05 36.5 -4.0
COLA ⇓p **pwP** 23 05 40.6 -3.5
M23K Glacier View 82.26 29 P P 23 05 23.7 -0.1
baz=269
H24K Noodor Dome 82.26 24 P P 23 05 24.3 +0.5
baz=269,SNR=12
WAT6 Susitna Watana 82.26 28 P P 23 05 22.8 -1.2
baz=269
F24K Squaw Lake 82.30 23 P P 23 05 24.9 +1.0
baz=268,SNR=14
P23K Montague Islan 82.41 30 P P 23 05 25.0 +0.5
baz=270
POKR Poker Plat Res 82.43 25 P P 23 05 25.3 +0.7
POKR Poker Plat Res 82.43 25 P P 23 05 25.0 +0.4
baz=269
DHY Denali Highway 82.44 27 P P 23 05 25.5 +0.6
baz=270
G24K Hadweenzic Riv 82.44 24 P P 23 05 25.5 +0.8
baz=269,SNR=9.1
SCM Sheep Creek Mo 82.45 29 IAmb IAmb 23 06 14.6
comp=Z,390nm,1.4s
SCM Sheep Creek Mo 82.45 29 P P 23 05 25.5 +0.6
baz=270
GLI Glacier Island 82.56 29 P P 23 05 25.0 -0.4
GLI IAmb IAmb 23 05 47.8
comp=Z,104nm,0.7s
GLI Glacier Island 82.56 29 P P 23 05 25.0 -0.4
baz=270
HDA Harding Lake 82.64 26 P P 23 05 25.1 -0.6
HDA Harding Lake 82.64 26 P P 23 05 26.2 +0.5
baz=270,SNR=14
IL31 82.66 26 IAmb IAmb 23 05 54.7
comp=Z,255nm,1.8s
ILAR Eielson Array 82.66 26 P P 23 05 23.3 -2.5
comp=Z,6.7nm,0.6s,baz=247,slow=4.3,SNR=42
ILAR PKPPKP **P'P'df** 23 31 56.4 +0.3
comp=Z,1.7nm,1.1s,baz=25,slow=3.0,SNR=2.9
ILAR LR LR 23 41 49.5
comp=Z,988nm,21.5s,baz=243,slow=35
comp=Z,6.7nm,0.6s
ILAR Eielson Array 82.66 26 P P 23 05 24.8 -1.0
ILAR Eielson Array 82.66 26 P P 23 05 24.8 -1.0
KOPT Kop Dagi 82.81 309 P P 23 05 27.5 0.0
KOPT IAmb IAmb 23 05 50.9
comp=Z,338nm,1.0s
HIN Hinchinbrook I 82.85 30 P P 23 05 27.2 +0.3
HIN IAmb IAmb 23 06 14.5
comp=Z,755nm,1.9s
FID Port Fidalgo 82.86 30 P P 23 05 27.0 0.0
FID *p* **pP** 23 05 42.8 -1.0
FID IAmb IAmb 23 05 47.1
comp=Z,373nm,1.6s
KLMR Klimovskoe 82.88 330 *d* *i*P P 23 05 25.4 -1.6
KLMR *e* 23 08 41.1
KLMR pmax pmax
comp=Z,753nm,1.3s
KLMR Klimovskoe 82.88 330 ⇓*i*P P 23 05 25.4 -1.6
KLMR *e*P P 23 05 25.4 -1.6
KLMR *e*P P 23 05 25.4 -1.6
KLMR AMP 23 05 49.1
comp=Z,753nm,1.3s
KLMR *e*PP PP 23 08 41.2 +3.3
D25K Kavik River 82.89 21 P P 23 05 26.9 -0.1
baz=270
Q23K Middleton Isla 82.94 31 P P 23 05 27.2 -0.1
baz=271
VOI Vohitsoka 82.98 247 P P 23 05 26.3 -2.1
VOI Vohitsoka 82.98 247 P P 23 05 27.0 -1.5
SNR=5.8
VOI Vohitsoka 82.98 247 P P 23 05 27.1 -1.3
M24K Tolsona, Glenn 82.99 28 IAmb IAmb 23 06 04.0
comp=Z,344nm,1.2s
M24K Tolsona, Glenn 82.99 28 P P 23 05 29.0 +1.3
baz=271
H25K Birch Creek 83.11 24 P P 23 05 28.7 +0.7
baz=270,SNR=12
KLU Klutina 83.12 29 IAmb IAmb 23 05 46.1
comp=Z,240nm,1.4s
KLU Klutina 83.12 29 P P 23 05 29.4 +1.1
baz=271,SNR=6.4
K24K Donnelly Dome 83.15 27 P P 23 05 29.1 +0.7
baz=271
F25K Christian Rive 83.16 23 P P 23 05 29.8 +1.4
baz=270,SNR=6.0

E25K Arctic Village 83.19 22 P P 23 05 29.3 +0.8
baz=271
EYAK Cordova Ski Ar 83.22 30 P P 23 05 29.0 +0.2
EYAK IAmb IAmb 23 05 49.4
comp=Z,352nm,1.5s
EYAK Cordova Ski Ar 83.22 30 P P 23 05 29.2 +0.5
baz=271,SNR=5.6
PRP Porcupine Dome 83.23 25 P P 23 05 29.9 +1.0
PRP Porcupine Dome 83.23 25 P P 23 05 28.7 -0.3
baz=271
SOC Sochi 83.24 313 *e*P P 23 05 28.0 -1.2
SOC *e**PP **pP** 23 05 42.7 -3.9
SOC *e**SP **sP** 23 05 50.1 -3.4
SOC *e* 23 08 48.0
SOC *e*S **S** 23 15 44.0 -0.7
SOC *e*SSS SSS 23 24 33.7
SOC pmax pmax
comp=Z,46nm,0.7s
SOC MLR MLR
comp=Z,6µm,20.0s
VORR Voronezh 83.26 321 *e*P P 23 05 29.4 +0.3
VORR pmax pmax
comp=Z,710nm,2.2s
VSR Storozhevoye 83.30 321 *e*P P 23 05 29.3 -0.1
VSR pmax pmax
comp=Z,60nm,0.6s
J25K Salcha River, 83.32 26 P P 23 05 29.2 -0.1
J25K Salcha River, 83.32 26 P P 23 05 28.8 -0.5
baz=271,SNR=15
FYU Fort Yukon 83.34 24 P P 23 05 29.7 +0.5
LPSR Galich'ya Gora 83.40 322 *e*P P 23 05 29.9 +0.1
LPSR pmax pmax
comp=Z,130nm,0.9s
C26K Camden Bay 83.40 20 P P 23 05 30.4 +0.9
baz=271
HARP HAARP 83.46 28 P P 23 05 30.0 -0.1
baz=272
RIDG Independent Ri 83.57 27 IAmb IAmb 23 05 51.1
comp=Z,228nm,1.0s
RIDG Independent Ri 83.57 27 P P 23 05 29.8 -0.8
baz=272,SNR=31
F26K Sheenjek River 83.73 23 P P 23 05 32.1 +0.7
baz=272,SNR=7.0
N25K Chitina, Valde 83.75 29 IAmb IAmb 23 05 49.6
comp=Z,326nm,1.3s
N25K Chitina, Valde 83.75 29 P P 23 05 32.2 +0.6
baz=272,SNR=11
RAGM Ragged Mountai 83.76 30 P P 23 05 33.1 +1.5
BMRM Bremner River 83.77 29 IAmb IAmb 23 05 49.4
comp=Z,440nm,1.4s
BMRM Bremner River 83.77 29 P P 23 05 31.9 +0.2
baz=272,SNR=7.7
C27K Jago River 83.83 21 P P 23 05 31.8 0.0
baz=272
G26K Porcupine Rive 83.90 23 P P 23 05 32.8 +0.7
baz=272,SNR=17
KAIM Kayak Island 83.91 30 P P 23 05 33.1 +0.8
KAIM Kayak Island 83.91 30 P P 23 05 33.4 +1.1
baz=272
DOT Dot Lake 83.92 27 P P 23 05 31.8 -0.5
DOT pP **pP** 23 05 48.8 -0.4
DOT IAmb IAmb 23 05 49.6
comp=Z,161nm,1.2s
SCRK Sand Creek 83.94 26 pP pP 23 05 49.4 -0.1
SCRK IAmb IAmb 23 05 50.0
comp=Z,321nm,1.6s
SCRK Sand Creek 83.94 26 P P 23 05 31.9 -0.7
baz=272,SNR=15
HMT Hamilton 83.97 30 P P 23 05 33.0 +0.3
HMT IAmb IAmb 23 05 50.5
comp=Z,267nm,1.2s
MOS Moscow 84.03 325 *e*P P 23 05 31.0 -2.0
MOS *e**PP **pP** 23 05 46.8 -3.2
MOS *e* 23 08 52.8
MOS pmax pmax
comp=Z,120nm,1.0s
MOS MLR MLR
comp=E,6µm,23.0s
MOS MLR MLR
comp=Z,9µm,23.0s
J26L Joseph Creek 84.10 26 pP pP 23 05 49.9 -0.3
J26L IAmb IAmb 23 05 53.3
comp=Z,173nm,1.2s
J26L Joseph Creek 84.10 26 P P 23 05 32.8 -0.5
baz=273
MENT Mentasta 84.11 27 pP pP 23 05 50.4 +0.1
MENT IAmb IAmb 23 05 58.5
comp=Z,345nm,1.6s
GLB Gilahina Butte 84.14 29 IAmb IAmb 23 05 51.3
comp=Z,301nm,1.1s
SUCK Suckling Hills 84.22 30 P P 23 05 34.4 +0.5
SUCK pP **pP** 23 05 51.6 +0.7
SUCK IAmb IAmb 23 05 52.3
comp=Z,363nm,1.2s
BERG Berg Lake 84.24 30 P P 23 05 34.5 +0.5
BERG pP **pP** 23 05 51.2 +0.3
L26K Log Cabin Wild 84.27 27 pP pP 23 05 51.4 +0.3
L26K Log Cabin Wild 84.27 27 P P 23 05 34.1 0.0
baz=273,SNR=17
M26K Nabesna, AK 84.47 28 pP pP 23 05 52.2 +0.1
M26K IAmb IAmb 23 06 01.2
comp=Z,201nm,1.2s
M26K Nabesna, AK 84.47 28 P P 23 05 35.0 -0.2
baz=274,SNR=11
MCARA McCarthy VSAT 84.52 29 pP pP 23 05 52.3 0.0
MCARA IAmb IAmb 23 05 53.4
comp=Z,273nm,1.2s
MCARA McCarthy VSAT 84.52 29 P P 23 05 35.4 0.0
baz=274
TGL Tana Glacier 84.65 30 pP pP 23 05 53.3 +0.1
TGL IAmb IAmb 23 05 54.0
comp=Z,335nm,1.2s
WAX Waxell Ridge 84.66 30 IAmb IAmb 23 05 54.3
comp=Z,362nm,1.1s
OBN Obninsk 84.67 325 ⇓P P 23 05 36.6 +0.4
OBN Obninsk 84.67 325 LR LR 23 46 06.4
comp=Z,2µm,21.0s,baz=84,slow=38
OBN Obninsk 84.67 325 P P 23 05 36.4 +0.2
OBN Obninsk 84.67 325 *d* *i*P P 23 05 35.2 -1.0
OBN pmax pmax
comp=Z,283nm,1.5s
OBN MLR MLR
comp=Z,6µm,22.0s
E27K Coleen River 84.67 22 P P 23 05 36.1 +0.1
baz=274,SNR=23
SNH Sunshine Point 84.69 30 P P 23 05 36.6 +0.3
LVZ Lovozero 84.70 338 P P 23 05 36.6 +0.4
LVZ IAmb IAmb 23 05 55.5
comp=Z,154nm,1.0s
LVZ Lovozero 84.70 338 P P 23 05 36.6 +0.4
LVZ pmax pmax
comp=Z,154nm,1.0s
G27K Doyon Strip 84.75 23 P P 23 05 36.8 +0.3
baz=274,SNR=11
K27K Chicken 84.78 26 P P 23 05 36.7 +0.1
baz=274
ANN Anapa 84.81 314 *i*P P 23 05 36.8 -0.4
ANN *i**PP **pP** 23 05 50.4 -4.2
ANN *e*S **S** 23 15 57.1 -3.3
ANN pmax pmax
comp=N,69nm,0.7s
ANN pmax pmax
comp=Z,214nm,0.7s
ANN pmax pmax
comp=E,6.0nm,0.4s
ANN MLR MLR
comp=Z,7µm,21.0s
ANN MLR MLR
comp=N,4µm,18.0s
H27K Steamboat Moun 84.84 24 P P 23 05 37.3 +0.3
baz=274,SNR=24
I27K Kandik River 84.86 25 P P 23 05 37.2 +0.2
baz=274,SNR=109
ISLE Juniper Island 84.90 30 P P 23 05 37.2 -0.3
L27K Beaver Creek, 84.96 27 IAmb IAmb 23 05 55.9
comp=Z,234nm,1.2s
L27K Beaver Creek, 84.96 27 P P 23 05 37.9 +0.3
baz=274,SNR=21
M27K Edge Creek, AK 84.99 28 IAmb IAmb 23 05 55.9
comp=Z,233nm,1.3s
M27K Edge Creek, AK 84.99 28 P P 23 05 38.0 +0.1
baz=274,SNR=11
EGAK Eagle 85.11 25 IAmb IAmb 23 05 55.8
comp=Z,173nm,1.2s
EGAK Eagle 85.11 25 P P 23 05 38.8 +0.5
baz=275,SNR=14

MESA MESA 85.13 30 P P 23 05 38.8 +0.1
baz=275,SNR=6.6
APA Apatity 85.20 337 ⇓*i*P P 23 05 38.3 -0.4
APA *i* S S 23 16 02.0 -1.4
APA pmax pmax
comp=Z,41nm,0.9s
APA MLR MLR
comp=Z,9µm,23.0s
YAH Yahtse 85.22 30 P P 23 05 39.5 +0.3
CTG Chitna Glacier 85.36 29 P P 23 05 39.7 -0.1
baz=275
BVCY Beaver Creek 85.46 28 P P 23 05 40.8 +0.6
baz=275,SNR=7.2
TABL Table Mountain 85.51 30 pP pP 23 05 57.6 -0.1
LOGN Logan Glacier 85.54 29 pP pP 23 05 58.0 +0.3
YUK3 Moose Creek 85.71 28 P P 23 05 41.9 +0.3
baz=276,SNR=7.4
ANKE Ethiopia-Afar 85.80 279 *e*P P 23 05 44.0 +0.8
ANKE *e*S **SKSac** 23 16 06.1 +1.8
O28M Mount Upton 85.94 29 P P 23 05 43.5 +0.6
baz=276,SNR=8.3
DAWY Dawson 85.95 26 pP **pP** 23 05 59.8 +0.2
DAWY IAmb IAmb 23 06 00.4
comp=Z,189nm,1.4s
DAWY Dawson 85.95 26 P P 23 05 43.1 +0.6
baz=277,SNR=9.6
PCA Pinnacle 85.98 30 P P 23 05 43.2 +0.4
PCA IAmb IAmb 23 06 06.0
comp=Z,226nm,1.1s
PINM Pinnacle 85.98 30 P P 23 05 43.6 +0.8
baz=276
PPT Papeete 86.16 108 LR LR 23 38 26.3
comp=Z,2µm,20.3s,baz=270,slow=32
PPT2 Papeete2 86.16 108 *e*P P 23 05 46.1 +1.6
comp=Z,2µm,28.8s
PPT2 Papeete2 86.16 108 *e*PP PP 23 09 05.9 0.0
comp=Z,969nm,27.8s
PPT2 *e*S S 23 16 14.6 -0.2
comp=Z,5µm,24.8s
PPT2 *e*SS SS 23 21 56.6 +1.6
comp=Z,3µm,29.8s
PPT2 Papeete2 86.16 108 *e*LR LR 23 33 07.0
comp=Z,11µm,25.8s
PPT2 *e*LR LR 23 33 07.0
comp=Z,6µm,25.2s
VNDA Vanda 86.22 173 P P 23 05 43.2 -0.2
comp=Z,33nm,0.9s,baz=316,slow=7.0,SNR=67
VNDA LR LR 23 44 53.9
comp=Z,3µm,19.1s,baz=332,slow=36
comp=Z,33nm,0.9s
I29M Ogilvie Camp, 86.25 25 IAmb IAmb 23 06 12.6
comp=Z,214nm,1.1s
I29M Ogilvie Camp, 86.25 25 P P 23 05 44.7 +0.7
baz=278,SNR=22
ASF Jabal al Asfar 86.26 302 LR LR 23 50 46.2
comp=Z,2µm,19.2s,baz=86,slow=40
BCPM Bancas Point 86.31 30 P P 23 05 45.5 +1.2
BCPM IAmb IAmb 23 06 02.7
comp=Z,258nm,1.5s
MAW Mawson 86.31 200 P P 23 05 43.0 -1.0
comp=Z,22nm,0.8s,baz=57,slow=6.0,SNR=41
MAW LR LR 23 42 45.2
comp=Z,1µm,19.8s,baz=56,slow=34
comp=Z,22nm,0.8s
MAW Mawson 86.31 200 P P 23 05 43.6 -0.4
baz=86,SNR=33
MAW Mawson 86.31 200 P P 23 05 43.6 -0.4
MAW Mawson 86.31 200 P P 23 05 43.6 -0.4
MAW pmax pmax
comp=Z,66nm,1.4s
HOPEN Hopen 86.37 347 *e*P P 23 05 41.8 -2.5
HOPEN IVmB_BB 23 06 05.3
comp=Z,3µm,2.7s
HOPEN *e*SKSac **SKSac** 23 16 06.1 +1.4
HOPEN *e*ScS **ScS** 23 16 25.0 +2.2
PNL Peninsula 86.46 30 P P 23 05 45.5 +0.4
baz=277
BNN Bunyan 86.48 309 pP pP 23 06 02.7 -0.6
M29M Somme Creek 86.56 28 P P 23 05 46.4 +0.7
baz=278
YUK4 Talbot Arm 86.62 29 P P 23 05 47.2 +1.1
baz=278
L29M L29M 86.63 27 P P 23 05 46.5 +0.6
baz=278,SNR=7.9
DIKM Dikmen 86.66 311 P P 23 05 48.5 +2.1
EPYK Eagle Plains 86.76 24 pP pP 23 06 03.3 -0.2
EPYK IAmb IAmb 23 06 06.3
comp=Z,293nm,1.5s
EPYK Eagle Plains 86.76 24 P P 23 05 46.6 +0.1
baz=279
O29M Mount Kennedy 86.79 30 P P 23 05 46.8 -0.1
baz=278
K29M Barlow Dome 86.80 26 P P 23 05 46.8 0.0
baz=278,SNR=8.6
AAE Adis Abeba 86.80 279 *e*P P 23 05 50.9 +2.8
AAE IAMs_20 IAMs_20 23 16 39.5
comp=N,34µm,47.3s
AAE IAMs_20 IAMs_20 23 18 18.7
comp=E,3µm,19.6s
AAE Adis Abeba 86.80 279 *e*P P 23 05 45.7 -2.4
AAE *e*S S 23 16 10.6 -11
AAE Adis Abeba 86.80 279 *e*P P 23 05 50.9 +2.8
AAE IAMs_20 IAMs_20 23 16 39.5
comp=N,34µm,47.3s
AAE IAMs_20 IAMs_20 23 18 18.7
comp=E,3µm,19.6s
YUK6 Outpost Mounta 86.81 29 P P 23 05 46.9 -0.2
baz=278
HWQ Hawqa 86.85 304 *e*P P 23 05 47.9 +0.2
FURI Furi 86.90 279 *e*P P 23 05 56.8 +8.3
FURI IAMs_20 IAMs_20 23 16 56.5
comp=E,3µm,17.0s
FURI IAMs_20 IAMs_20 23 18 20.2
comp=E,4µm,19.3s
FURI Furi 86.90 279 *e*P P 23 05 47.6 -0.9
FURI *e*S S 23 16 09.5 -13
FURI Furi 86.90 279 *e*P P 23 05 56.8 +8.3
FURI IAMs_20 IAMs_20 23 16 56.5
comp=E,3µm,17.0s
FURI IAMs_20 IAMs_20 23 18 20.2
comp=E,4µm,19.3s
FURI Furi 86.90 279 ⇓P P 23 05 49.5 +0.9
VALR Valaam 87.02 331 *de*P P 23 05 49.1 +1.4
VALR pmax pmax
comp=Z,215nm,1.3s
VALR MLR MLR
comp=Z,4µm,19.0s
RCY Rachaya 87.02 303 *e*P P 23 05 48.2 -0.4
SHBL Chebaa 87.11 303 *e*P P 23 05 49.8 +0.8
SBA Scott Base 87.13 172 P P 23 05 48.7 +0.8
SBA IAmb IAmb 23 06 21.1
comp=Z,222nm,1.4s
SBA Scott Base 87.13 172 P P 23 05 48.7 +0.8
SBA pmax pmax
comp=Z,222nm,1.4s
BHL Bhannes 87.13 304 *e*P P 23 05 48.0 -1.0
SIM Simferopol' 87.14 315 *e*P P 23 05 47.3 -1.4
SIM pmax pmax
comp=Z,335nm,1.4s
SIM MLR MLR
comp=Z,4µm,21.2s
QRWL Qaraoun 87.14 303 *e*P P 23 05 48.1 -1.0
KEV Kevo 87.20 340 P P 23 05 47.7 -0.8
KEV Kevo 87.20 340 P P 23 05 47.7 -0.8
KEV pmax pmax
comp=Z,73nm,1.1s
KEV Kevo 87.20 340 ⇓P P 23 05 48.0 -0.5
KEV ⇑P **PcP** 23 05 48.2 -2.3
DQRL Deir Qamar 87.22 303 *e*P P 23 05 48.6 -0.9
HYT Haines Junctio 87.24 29 P P 23 05 49.5 +0.5
HYT pP **pP** 23 06 06.0 -0.1
HYT Haines Junctio 87.24 29 P P 23 05 49.3 +0.2
baz=278
P29M Windy Craggy 87.30 30 P P 23 05 50.4 +1.2
P29M pP **pP** 23 06 06.8 +0.5
P29M Windy Craggy 87.30 30 P P 23 05 49.0 -0.2
baz=278
N30M Aishikik Lake 87.35 29 P P 23 05 49.2 -0.3
baz=279
MMAI Mount Meron Ar 87.43 303 LR LR 23 50 04.7
comp=Z,3µm,19.9s,baz=282,slow=39
GHAJ Ghor Haditha 87.47 301 pP pP 23 06 08.4 +0.4
PUL Pulkovo 87.53 330 ⇓*e*P P 23 05 51.7 +1.5
PUL pmax pmax
comp=Z,216nm,0.8s
MAYO Mayo, Yukon 87.55 26 P P 23 05 51.0 +0.7

MAYO IAmb IAmb 23 06 15.0
comp=Z,134nm,0.9s
MAYO Mayo, Yukon 87.55 26 P P 23 05 50.5 +0.2
baz=280
P30M Million Dollar 87.61 30 P P 23 05 50.1 -0.6
baz=279
INK Inuvik 87.63 22 P P 23 05 49.0 -1.5
comp=Z,8.9nm,0.8s,baz=278,slow=4.6,SNR=6.4
comp=Z,8.9nm,0.8s
INK Inuvik 87.63 22 P P 23 05 50.2 -0.3
baz=282
SPB2 Spitsbergen Ar 87.70 349 IAmb IAmb 23 06 23.7
comp=Z,172nm,1.2s
SPA0 Spitsbergen Ar 87.70 349 eP P 23 05 52.2 +1.4
SPA0 IVmBBB 23 06 12.6
comp=Z,2μm,1.7s
SPA0 eSKSac **SKSac 23 16 13.7 +0.7**
SPA0 eScS **ScS 23 16 35.3 +1.4**
SPITS Spitsbergen Ar 87.70 349 LR LR 23 49 12.3
comp=Z,9μm,22.0s,baz=42,slow=38
F31M Tsiigehtchic 87.72 22 P P 23 05 50.4 -0.6
baz=282
ARA0 ARCESS Array S 87.76 340 eP P 23 05 49.9 -1.3
ARA0 IVmB_BB 23 06 07.8
comp=Z,2μm,3.5s
ARCES ARCESS Array B 87.76 340 P P 23 05 48.8 -2.4
comp=Z,26nm,0.7s,baz=94,slow=6.2,SNR=62
ARCES LR LR 23 48 57.1
comp=Z,5μm,21.4s,baz=84,slow=38
comp=Z,26nm,0.7s
ARCES ARCESS Array B 87.76 340 P P 23 05 50.3 -0.9
ARCES IAmb IAmb 23 06 21.3
comp=Z,180nm,1.1s
ARCES ARCESS Array B 87.76 340 P P 23 05 50.3 -0.9
ARCES pmax pmax
comp=Z,180nm,1.2s
O30N Mendenhall 87.93 29 P P 23 05 52.0 -0.3
baz=280
N31M Braeburn, Yuko 87.96 28 P P 23 05 52.2 -0.1
baz=280
PLBC Pleasant Camp 88.02 30 P P 23 05 52.5 -0.1
baz=280
BR131 Keskin Array S 88.09 310 d iP P 23 05 53.3 -0.3
BRTR Keskin Array B 88.09 310 P P 23 05 51.2 -2.4
comp=Z,13nm,0.9s,baz=111,slow=3.6,SNR=34
BRTR LR LR 23 49 53.7
comp=Z,3μm,21.6s,baz=72,slow=39
comp=Z,13nm,0.9s
BRTR Keskin Array B 88.09 310 P P 23 05 52.7 -0.9
BRTR Keskin Array B 88.09 310 P P 23 05 52.7 -0.9
HAMF Hammerfest 88.11 341 eP P 23 05 51.3 -1.5
HAMF IVmBBB 23 06 08.8
comp=Z,1μm,3.2s
HAMF eSKSac **SKSac 23 16 14.1 -1.4**
EIL Elat 88.18 299 LR LR 23 51 14.3
comp=Z,3μm,19.9s,baz=170,slow=40
KBS Kingsbay 88.22 350 P P 23 05 53.3 +0.1
KBS Kingsbay 88.22 350 P P 23 05 53.3 +0.1
KBS pmax pmax
comp=Z,38nm,0.9s
KBS Kingsbay 88.22 350 i P P 23 05 51.5 -1.7
KBS Kingsbay 88.22 350 eP P 23 05 54.0 +0.8
KBS IVmBBB 23 06 15.9
comp=Z,819nm,3.2s
KBS eSKSac **SKSac 23 16 16.1 +0.2**
KBS eScS **ScS 23 16 41.7 +3.5**
HSPB Hornsund (broa 88.30 348 eP P 23 05 54.1 +0.5
HSPB epP **pP 23 06 09.2 -1.5**
HSPB eS **SKSac 23 16 09.9 -6.6**
HSPB eSS SS 23 22 44.4 +21
HSPB eL L 23 43 11.8
comp=Z,6μm,26.4s
BJO1 Bjornoya 88.37 345 eP P 23 05 50.6 -3.4
BJO1 IVmBBB 23 06 15.1
comp=Z,1μm,2.4s
BJO1 eSKSac **SKSac 23 16 15.3 -1.6**
BJO1 eScS **ScS 23 16 40.7 +1.2**
M31M Drury Creek, Y 88.48 28 P P 23 05 54.6 -0.2
baz=281
SKAG Skagway 88.54 30 P P 23 05 55.8 +0.8
SKAG Skagway 88.54 30 P P 23 05 54.7 -0.3
baz=280
WHY Whitehorse 88.54 29 P P 23 05 54.6 -0.6
baz=281
KTK1 Kautokeino 88.67 339 eP P 23 05 53.6 -1.9
KTK1 IVmBBB 23 06 11.9
comp=Z,1μm,2.6s
ANTO Ankara 88.72 310 ⇑P P 23 05 56.2 -0.3
ANTO Ankara 88.72 310 P P 23 05 57.0 +0.5
ANTO Ankara 88.72 310 P P 23 05 57.0 +0.5
ANTO pmax pmax
comp=Z,86nm,1.3s
KIBK Kibwezi 88.77 268 P P 23 05 56.5 -0.7
SNR=13
CSS Mathiatis 88.92 305 IAmb IAmb 23 06 19.5
comp=Z,101nm,0.8s
BESE Bessie Mountai 88.94 31 P P 23 05 56.1 -0.9
FARO Faro, Yukon 88.95 27 pP pP 23 06 13.3 -0.8
FARO IAmb IAmb 23 06 15.3
comp=Z,97nm,1.0s
FARO Faro, Yukon 88.95 27 P P 23 05 56.8 -0.2
baz=282
JIS Juneau Island 89.24 31 P P 23 05 58.8 +0.5
JIS IAmb IAmb 23 06 18.6
comp=Z,138nm,1.8s
FIA1 FINESS Array S 89.28 332 pP pP 23 06 16.7 +1.0
FINES FINESS Array B 89.28 332 P P 23 05 56.2 -2.3
comp=Z,18nm,0.6s,baz=88,slow=4.2,SNR=53
FINES LR LR 23 49 23.7
comp=Z,6μm,20.9s,baz=82,slow=38
comp=Z,18nm,0.6s
S32K Killisnoo 89.29 32 P P 23 05 57.9 -0.7
baz=281
P32M Atlin 89.32 30 P P 23 05 58.5 -0.3
baz=282
KMBO Kilima Mbogo 89.42 269 P P 23 05 59.7 -0.8
comp=Z,16nm,1.1s,baz=50,slow=7.2,SNR=26
comp=Z,16nm,1.1s
KMBO Kilima Mbogo 89.42 269 P P 23 06 00.2 -0.2
KMBO Kilima Mbogo 89.42 269 i P P 23 06 00.8 +0.3
KMBO pmax pmax
comp=Z,17nm,1.1s
KMBO Kilima Mbogo 89.42 269 eP P 23 06 02.8 +2.4
KMBO IAMs_20 IAMs_20 23 17 22.7
comp=Z,3μm,31.2s
KMBO IAMs_20 IAMs_20 23 18 29.3
comp=Z,3μm,18.0s
KMBO Kilima Mbogo 89.42 269 eP P 23 05 59.9 -0.5
KMBO eS **SKSac 23 16 20.9 -5.1**
KMBO Kilima Mbogo 89.42 269 eP P 23 06 02.8 +2.4
KMBO IAMs_20 IAMs_20 23 17 22.7
comp=Z,3μm,31.2s
KMBO IAMs_20 IAMs_20 23 18 29.3
comp=Z,3μm,18.0s
KMBO Kilima Mbogo 89.42 269 i P P 23 06 00.3 -0.2
SNR=20
VSU Vasula 89.58 329 eP P 23 06 01.1 +1.1
AKASG Malin Array Be 89.61 321 P P 23 05 58.7 -1.5
comp=Z,23nm,0.8s,baz=70,slow=4.4,SNR=51
AKASG LR LR 23 51 00.2
comp=Z,3μm,19.5s,baz=78,slow=39
comp=Z,23nm,0.8s
AKASG Malin Array Be 89.61 321 IAmb IAmb 23 06 26.6
comp=Z,137nm,1.1s
AKBB Malin Array Si 89.61 321 IAmb IAmb 23 06 21.9
comp=Z,163nm,1.1s
AKBB Malin Array Si 89.61 321 d iP P 23 05 58.6 -1.6
AKBB pmax pmax
comp=Z,48nm,1.1s
AKBB MLR MLR
comp=Z,6μm,22.0s
P33M Teslin, Yukon 89.63 29 P P 23 05 59.8 -0.6
P33M Teslin, Yukon 89.63 29 P P 23 05 59.7 -0.6
baz=282
MNK Minsk 89.73 325 eP P 23 06 01.0 +0.3
MNK Minsk 89.73 325 i P P 23 06 01.0 +0.3
comp=E,6.0nm,0.9s
MNK i P **P 23 06 01.0 +0.3**
MNK i P **P 23 06 01.0 +0.3**
comp=Z,93nm,0.8s,baz=259
MNK i pP **pP 23 06 18.0 +0.1**
MNK i PP **PP 23 09 33.4 0.0**
MNK i PPP PPP 23 11 30.3
MNK i S **SKSac 23 16 25.5 -0.2**
MNK i sS **ScS 23 16 55.9 +4.4**
MNK i PS **PS 23 18 01.4 +0.4**
MNK i SS **SS 23 22 53.4 +8.6**
MNK i SSS SSS 23 26 22.5
MNK i LQ LQ 23 43 02.5
MNK i LR LR 23 45 52.4
MNK i LRM MLR 23 47 45.5
comp=N,3.0nm,19.2s
MNK i LRM MLR 23 48 34.0
comp=Z,8μm,21.7s
MNK i LRM MLR 23 48 34.7
comp=E,1μm,23.6s
MMPY Sheldon Lake, 89.81 27 P P 23 06 00.5 -0.5
baz=284
MDUB Mudurnu 89.85 311 P P 23 06 00.5 -1.2
TRO Tromso 89.96 341 eP P 23 06 00.0 -1.4
TRO IVmB_BB 23 06 17.5
comp=Z,1μm,3.2s
Q32M Nakina River 90.18 31 P P 23 06 02.7 -0.3
baz=283
NACGM Naroch 90.28 325 ⇑ i P P 23 06 03.5 +0.2
baz=78
U33K Whale Pass 90.35 33 P P 23 06 02.8 -0.8
baz=282
MEF Metsahovi 90.36 331 eP P 23 06 04.6 +1.1
IIGN Ignalina 90.50 326 eP P 23 06 05.1 +0.8
BORA Eskisehir 90.50 310 pP pP 23 06 20.9 -1.5
BORA IAmb IAmb 23 06 25.2
comp=Z,132nm,1.1s
ISAL Salakas 90.51 326 eP P 23 06 05.6 +1.2
MILM Milestii Mici 90.53 317 P P 23 06 04.4 -0.2
C36M Paulatuk 90.64 20 P P 23 06 05.3 +0.7
C36M IAmb IAmb 23 06 25.2
comp=Z,114nm,1.1s
C36M Paulatuk 90.64 20 P P 23 06 04.4 -0.3
baz=290
WRAK Wrangell Islan 90.71 33 P P 23 06 04.8 -0.4
WRAK Wrangell Islan 90.71 33 P P 23 06 04.8 -0.4
baz=283
R33M Jennings River 90.73 30 P P 23 06 05.0 -0.5
baz=284
ISP Isparta 90.77 308 P P 23 06 05.4 -0.7
ISP IAmb IAmb 23 06 26.7
comp=Z,152nm,1.2s
ISP Isparta 90.77 308 P P 23 06 05.4 -0.7
ISP pmax pmax
comp=Z,152nm,1.2s
LODK Lodwar 90.78 274 P P 23 06 05.6 -1.0
LODK Lodwar 90.78 274 eP P 23 06 16.8 +10
LODK Lodwar 90.78 274 eP P 23 06 04.3 -2.3
LODK Lodwar 90.78 274 eP P 23 06 16.8 +10
TLCR 90.83 316 ⇑P P 23 06 05.5 -0.6
JURR Jurilovca 90.86 315 ⇑P P 23 06 06.7 +0.5
S34M Telegraph Cree 91.00 31 P P 23 06 06.7 +0.1
baz=284
MTSE Matsula 91.01 329 eP P 23 06 07.6 +1.0
TPGR Topolog 91.16 315 ⇓P P 23 06 08.1 +0.4
VLDR Vladesti 91.22 316 ⇑P P 23 06 07.3 -0.5
TIRR Tirgusor 91.24 315 ⇓P P 23 06 07.6 -0.4
TIRR Tirgusor 91.24 315 pP pP 23 06 24.6 -1.0
VASR Vaslui 91.27 317 ⇑P P 23 06 08.3 +0.2
CFR Carcaliu 91.30 316 ⇑P P 23 06 07.5 -0.7
SCTR Scanteiesti 91.31 316 ⇑P P 23 06 09.0 +0.8
IAS Iasi 91.32 318 P P 23 06 08.3 0.0
V35K Ketchikan 91.36 34 P P 23 06 07.9 -0.3
baz=284
ISK Istanbul-Kandi 91.36 311 P P 23 06 17.9 +9.3
VARL Varlezi 91.37 316 ⇑P P 23 06 09.6 +1.0
RAF Rauma 91.41 332 eP P 23 06 09.0 +0.6
ELL Elmali 91.42 307 P P 23 06 08.3 -0.9
ELL Elmali 91.42 307 P P 23 06 08.3 -0.9
ELL pmax pmax
comp=Z,434nm,1.2s
DLBC Dease Lake 91.44 31 P P 23 06 08.8 0.0
DLBC Dease Lake 91.44 31 P P 23 06 08.7 0.0
baz=285
TGTN Hyland Airport 91.46 28 P P 23 06 08.6 -0.1
baz=286
SLCR Slobozia Conac 91.48 316 ⇑P P 23 06 09.5 +0.5
TLBR Topalu 91.48 315 ⇑P P 23 06 09.2 +0.1
HARR Harsova 91.53 315 ⇑P P 23 06 10.0 +0.7
WTLY Watson Lake, Y 91.61 29 pP pP 23 06 26.4 -0.1
WTLY IAmb IAmb 23 06 27.2
comp=Z,104nm,1.2s
WTLY Watson Lake, Y 91.61 29 P P 23 06 09.3 -0.1
baz=286
VSVD Vaisvydziai 91.62 327 eP P 23 06 09.9 +0.4
GHRR 91.64 317 ⇑P P 23 06 10.7 +0.9
PABE Paberze 91.72 326 P P 23 06 10.0 +0.1
PABE pP **pP 23 06 26.1 -1.0**
PABE IAmb IAmb 23 06 31.0
comp=Z,60nm,1.0s
PABE Paberze 91.72 326 eP P 23 06 10.8 +0.9
ICOR Ion Corvin 91.73 315 ⇑P P 23 06 11.3 +1.0
STEI Steigen 91.81 339 eP P 23 06 09.7 -0.4
STEI IVmB_BB 23 06 26.1
comp=Z,2μm,2.7s
PANC Panciu 91.85 316 ⇓P P 23 06 11.8 +1.1
ODBI Odobesti 91.94 316 ⇑P P 23 06 12.3 +1.1
FAUS Fauske 92.00 339 eP P 23 06 10.8 -0.2
FAUS IVmB_BB 23 06 32.2
comp=Z,2μm,1.2s
FAUS eSKSac **SKSac 23 16 37.2 -1.0**
TESR Tescani 92.06 317 ⇑P P 23 06 11.9 +0.1
GRER 92.07 316 ⇑P P 23 06 12.9 +1.0
SLIT Slitere, Latvi 92.07 329 eP P 23 06 12.9 +1.4
VRI Vrincioaia 92.14 316 ⇑P P 23 06 12.1 -0.1
PGOR Pogoanele 92.15 315 ⇑P P 23 06 13.4 +1.2
RASA Rasa 92.17 315 P P 23 06 09.2 -3.1
MANT Manisa 92.19 309 P P 23 06 11.7 -1.2
PLOR Plostina 92.20 316 ⇑P P 23 06 13.4 +0.9
LOF Lofoten 92.32 340 eP P 23 06 13.1 +0.6
LOF IVmB_BB 23 06 28.2
comp=Z,2μm,2.9s
LOF eSKSac **SKSac 23 16 41.7 +1.7**
BIZ Bicaz 92.34 318 ⇑P P 23 06 12.5 -0.6
LEHL Lehliu 92.36 315 ⇑P P 23 06 13.6 +0.4
ISR Istrita 92.42 316 ⇑P P 23 06 14.8 +1.3
COVR Voineasa-Covas 92.50 317 ⇑P P 23 06 14.2 +0.3
PBUR Paburge 92.70 327 eP P 23 06 15.3 +0.8
SULR 92.71 315 ⇑P P 23 06 14.8 0.0
OZUR 92.74 317 ⇑P P 23 06 15.6 +0.7
MLR Muntele Rosu 92.75 316 ⇑P P 23 06 15.5 +0.3
MLR Muntele Rosu 92.75 316 P P 23 06 14.3 -0.9
comp=Z,13nm,0.6s,baz=23,slow=5.4,SNR=3.2
MLR LR LR 23 53 10.9
comp=Z,8μm,21.7s,baz=64,slow=39
comp=Z,13nm,0.6s
MLR Muntele Rosu 92.75 316 pP pP 23 06 32.7 -0.2
RAZG Razgrad 92.76 314 ⇑P P 23 06 15.2 +0.2
SECR 92.77 316 ⇑P P 23 06 15.9 +0.8
MOR8 Moi Rana 92.78 338 eP P 23 06 13.4 -1.3
MOR8 IVmBBB 23 06 40.9
comp=Z,1μm,2.7s
MOR8 eSKSac **SKSac 23 16 43.7 +1.0**
BURAR Bucovina Array 92.79 318 ⇑P P 23 06 15.0 -0.3
BURAR Bucovina Array 92.79 318 P P 23 06 14.3 -0.9
BUR08 Bucovina Ar. S 92.79 318 pP pP 23 06 32.8 +0.4
JMB Yambol 92.92 313 eP P 23 06 11.0 -4.8
ARG Arkhangelos 92.92 307 P P 23 06 16.0 0.0
ARG Arkhangelos 92.92 307 P P 23 06 16.0 0.0
ARG pmax pmax
comp=Z,233nm,1.2s
DOPR Dopca 93.03 317 ⇑P P 23 06 17.0 +0.7
LVV L'vov 93.05 321 eP P 23 06 18.6 +2.4
SZH Strazhica 93.23 314 eP P 23 06 16.9 -0.3
VOIR 93.38 316 ⇑P P 23 06 17.6 -0.4
MTUR Matau 93.42 316 ⇑P P 23 06 18.1 -0.1
COPA Copaceanca 93.55 315 ⇑P P 23 06 18.8 +0.2
ALN Alexandroupoli 93.63 312 P P 23 06 19.7 +0.6
ALN Alexandroupoli 93.63 312 pP pP 23 06 35.1 -1.7
ALN IAmb IAmb 23 06 39.4
comp=Z,83nm,1.2s
SMG Samos 93.66 308 P P 23 06 31.5 +12
PVL Pavlikeni 93.67 314 eP P 23 06 32.9 +14
ARR Arges 93.68 316 ⇓P P 23 06 19.4 +0.1
DIM Dimitrovgrad 93.77 313 eP P 23 06 19.7 0.0
BMR Baia Mare 93.91 319 ⇑P P 23 06 20.9 +0.7
RDO Rodhopi 93.96 312 P P 23 06 17.1 -3.5
RDO Rodhopi 93.96 312 pP pP 23 06 37.3 -1.0
RDO IAmb IAmb 23 06 40.8
comp=Z,89nm,1.2s
CJR Cluj-Napoca 94.07 318 ⇑P P 23 06 21.6 +0.5
SMTH Samothraki Isl 94.11 311 P P 23 06 33.1 +12
SIGR SIGRI 94.12 310 P P 23 06 31.1 +10
VLAD Vladila 94.15 315 P P 23 06 22.4 +0.9
BBB Bella Bella 94.17 37 LR LR 23 43 10.2
comp=Z,770nm,21.4s,baz=286,slow=32
TAOE Nuku Hiva Isla 94.25 98 eP P 23 06 23.8 +1.2
comp=Z,746nm,29.7s
TAOE Nuku Hiva Isla 94.25 98 ePP PP 23 10 09.4 -0.9
comp=Z,731nm,27.2s
TAOE eS **S 23 17 27.4 -2.2**
comp=Z,4μm,27.0s
TAOE eSS **SS 23 23 53.1 +0.8**
comp=Z,3μm,30.9s
TAOE Nuku Hiva Isla 94.25 98 eLR LR 23 36 52.5
comp=Z,16μm,26.5s
LOT Lotru 94.26 316 ⇑P P 23 06 23.0 +0.9
KOLS Kolonicke sedl 94.38 320 eP P 23 06 23.2 +0.8
KOLS e 23 06 37.9
KOLS pmax pmax
comp=Z,52nm,1.3s
KOLS Kolonicke sedl 94.38 320 eP P 23 06 23.2 +0.8
KOLS e 23 06 37.9
NSS Namsos 94.39 337 eP P 23 06 19.4 -2.7
NSS IVmBBB 23 06 43.9
comp=Z,1μm,2.2s
NSS eSKSac **SKSac 23 16 50.4 -1.1**
TRPA Tarpa 94.42 319 ⇑P P 23 06 23.4 +0.8
TRPA Tarpa 94.42 319 P P 23 06 22.8 +0.3
TRPA PP **pP 23 06 38.4 -1.4**
UZH Uzhgorod 94.45 320 d iP P 23 06 22.7 0.0
UZH i 23 06 38.4
DAG Danmarks Havn 94.46 352 i P P 23 06 21.8 -0.4
DAG IAmb IAmb 23 06 45.8
comp=Z,205nm,1.3s
LIA Limnos Island 94.49 311 P P 23 06 32.3 +9.2
BEL Belsk 94.51 323 eP P 23 06 23.5 +0.6
BEL epP **pP 23 06 37.3 -2.8**
BEL ePP **PP 23 10 12.7 +1.8**
DRGR 94.64 318 ⇑P P 23 06 23.2 -0.6
THAS Thassos island 94.68 312 P P 23 06 21.5 -2.4
DEV Deva 94.74 317 ⇑P P 23 06 23.8 -0.3
BAIL Bailesti 94.89 315 ⇑P P 23 06 24.7 -0.1
CRVS Cervenica-Dubn 94.91 320 eP P 23 06 25.5 +0.7
CRVS e 23 06 38.6
CRVS pmax pmax
comp=Z,525nm,1.4s
CRVS Cervenica-Dubn 94.91 320 eP P 23 06 25.5 +0.7
CRVS e 23 06 38.6
CRVS ePP PP 23 10 30.1 +16
GZR Gura Zlata 94.95 317 ⇑P P 23 06 25.7 +0.5
SANT Santorini 95.01 307 P P 23 06 23.6 -2.0
SANT pP **pP 23 06 42.9 -0.4**
LTVH Ltavrtes, Hu 95.03 319 PP P 23 06 41.3 +16
RES Resolute Bay 95.10 10 LR LR 23 53 30.8
comp=Z,1μm,18.9s,baz=313,slow=38
PUNG Punghina 95.12 315 ⇓P P 23 06 26.8 +0.9
NVR Nevrokopi 95.15 312 P P 23 06 23.5 -2.6
MMB Musomiste 95.19 313 eP P 23 06 24.4 -1.9
OUR Ouranopolis 95.29 311 P P 23 06 23.7 -3.0
VTS Vitosha 95.30 314 ⇑P P 23 06 27.4 +0.5
VTS Vitosha 95.30 314 pP pP 23 06 43.6 -1.1
VTS IAmb IAmb 23 06 47.9
comp=Z,89nm,1.3s
VTS Vitosha 95.30 314 eP P 23 06 28.3 +1.3
DJES Djerdap 95.31 316 ⇑P P 23 06 26.7 -0.1
HERR Herculane 95.32 316 ⇑P P 23 06 26.7 0.0
SRS Serrai 95.40 312 P P 23 06 23.8 -3.5
BLKB Belogradchik 95.45 315 ⇑P P 23 06 27.6 +0.1
HFS Hagfors 95.46 332 LR LR 23 53 01.6
comp=Z,5μm,19.8s,baz=67,slow=38
SIRR Siria 95.48 318 ⇑P P 23 06 27.8 +0.3
NIE Niedzica 95.50 321 eP P 23 06 27.8 +0.3
NIE epP **pP 23 06 42.0 -2.7**
NIE ePP **PP 23 10 22.5 +3.7**
OJC Ojcow 95.57 322 eP P 23 06 27.3 -0.5
OJC epP **pP 23 06 40.2 -4.8**
OJC ePP **PP 23 10 20.3 +1.0**
OJC Ojcow 95.57 322 P P 23 06 26.5 -1.3
OJC Ojcow 95.57 322 P P 23 06 26.5 -1.3
OJC pmax pmax
comp=Z,191nm,1.4s
KKB Krupnik 95.59 313 eP P 23 06 25.4 -2.7
PAIG Paliouri 95.61 311 P P 23 06 25.1 -3.1
TBLU Trondheim 95.63 336 eP P 23 06 26.2 -1.6
TBLU eSKSac **SKSac 23 16 58.8 +0.6**
SOH Sokhos 95.64 312 P P 23 06 29.1 +0.7
BZS Buzias 95.68 317 ⇑P P 23 06 28.6 +0.2
IDI Anoyia 95.68 306 ⇑P P 23 06 29.1 +0.4
IDI Anoyia 95.68 306 LR LR 23 56 25.9
comp=Z,1μm,20.5s,baz=68,slow=40
IDI Anoyia 95.68 306 P P 23 06 27.3 -1.5
IDI IAmb IAmb 23 06 47.0
comp=Z,122nm,1.2s
MBAR Mbarara 95.83 270 LR LR 23 49 00.1
comp=Z,1μm,21.0s,baz=68,slow=35
MBAR Mbarara 95.83 270 eP P 23 06 30.7 +0.7
MBAR Mbarara 95.83 270 eP P 23 06 30.7 +0.7
MDVR Moldovita 95.83 316 ⇑P P 23 06 29.2 0.0
KNT Kendrikon 95.90 312 P P 23 06 26.6 -2.9
NC405 NORSAR Array S 95.95 334 P P 23 06 27.7 -1.6
NC405 pP **pP 23 06 47.5 +0.9**
NC303 NORSAR Array S 96.05 334 pP pP 23 06 47.7 +0.6
NC303 IAmb IAmb 23 06 51.1
comp=Z,110nm,1.3s
BANR Banloc 96.07 317 ⇑P P 23 06 29.5 -0.7
LANS Liptovska Anna 96.09 321 eP P 23 06 31.8 +1.5
LANS e 23 06 46.2
LANS pmax pmax
comp=Z,40nm,1.6s
LANS Liptovska Anna 96.09 321 eP P 23 06 31.8 +1.5
LANS e 23 06 46.2
XOR Xorichti 96.10 311 P P 23 06 29.5 -1.0
NEEM North Greenlan 96.13 359 i P P 23 06 30.3 +0.1
NEEM IAmb IAmb 23 06 49.2
comp=Z,64nm,1.0s
GKP Gorka Klasztor 96.13 325 eP P 23 06 31.1 +0.8
GKP epP **pP 23 06 44.3 -3.2**
GKP ePP PP 23 10 37.5 +14
GKP Gorka Klasztor 96.13 325 eP P 23 06 31.1 +0.8
BOVS Bovan 96.14 315 ⇑P P 23 06 30.2 -0.3
NB201 NORSAR Array S 96.16 334 pP pP 23 06 48.6 +1.0
NB201 IAmb IAmb 23 07 04.2
comp=Z,89nm,1.1s
PSZ Piszkesteto 96.18 320 ⇓P P 23 06 30.4 -0.3
PSZ Piszkesteto 96.18 320 P P 23 06 30.2 -0.6
PSZ pP **pP 23 06 48.4 +0.4**
PSZ IAmb IAmb 23 06 57.8
comp=Z,112nm,1.6s
PSZ Piszkesteto 96.18 320 P P 23 06 31.0 +0.2
PSZ PP **pP 23 06 46.7 -1.3**
NC602 NORSAR Array S 96.19 333 eP P 23 06 29.9 -0.5
NC602 IVmBBB 23 06 46.5
comp=Z,646nm,2.6s
NB2 NORSAR Subarra 96.20 334 P P 23 06 27.6 -2.9
comp=Z,53nm,1.1s,baz=64,slow=4.6
NB2 NORSAR Subarra 96.20 334 P P 23 06 27.6 -2.9
baz=64,slow=4.6
NOA NORSAR Array B 96.20 334 P P 23 06 27.6 -2.9
comp=Z,18nm,0.8s,baz=65,slow=4.6,SNR=63
NOA LR LR 23 54 50.0
comp=Z,6μm,18.6s,baz=75,slow=38
comp=Z,18nm,0.8s
GRG Griva 96.31 312 P P 23 06 30.2 -1.2
LKR Lokris 96.42 310 P P 23 06 27.3 -4.6
NAO01 NORSAR Array S 96.43 334 pP pP 23 06 48.9 +0.2
QSPA South Pole Qui 96.43 180 LR LR 23 50 50.3
comp=Z,3μm,20.0s,baz=351,slow=36
QSPA South Pole Qui 96.43 180 P P 23 06 31.1 -0.3
QSPA pP **pwP 23 06 51.0 -0.9**
LIT Litokhoron 96.45 312 P P 23 06 28.4 -3.7
LIT Litokhoron 96.45 312 pP pP 23 06 48.1 -1.7
DOMB Dombas 96.67 335 eP P 23 06 32.9 +0.3
DOMB IVmB_BB 23 06 48.9
comp=Z,1μm,2.6s
DOMB eSKSac **SKSac 23 17 04.5 +0.7**
VYHS Vyhne 96.69 320 eP P 23 06 33.1 +0.1
VYHS e 23 06 46.0
VYHS pmax pmax
comp=Z,226nm,2.2s
VYHS Vyhne 96.69 320 eP P 23 06 33.1 +0.1
VYHS e 23 06 46.0
VYHS ePP PP 23 10 41.9 +14
OKC Ostrava-Krasne 96.70 322 eP P 23 06 34.3 +1.3
OKC e*PP **pP 23 06 49.8 -0.4**
OKC MLR MLR

comp=Z,4µm,18.7s
OKC Ostrava-Krasne 96.70 322 *e*PDIFF **P** **23 06 34.3 +1.3**
OKC *ep*P **pP** **23 06 49.8 -0.4**
OKC AMS AMS 23 54 10.0
comp=Z,4µm,18.7s
BSD Bornholm Skovb 96.76 327 *e*P **P** **23 06 34.4 +1.3**
OSL Oslo 96.90 333 *e*P **P** **23 06 32.8 -0.8**
OSL *e*SKSac **SKSac** **23 17 04.9 0.0**
FRGS Fruska Gora 97.03 317 ⇑P **P** **23 06 33.7 -0.8**
YKA Yellowknife Ar 97.03 24 P **P** **23 06 33.9 -0.3**
comp=Z,7.5nm,0.9s,baz=293,slow=4.6,SNR=6.0
YKA LR LR 23 50 00.2
comp=Z,2µm,21.8s,baz=302,slow=35
comp=Z,7.5nm,0.9s
YKA Yellowknife Ar 97.03 24 *i* P Pdif 23 06 34.2 0.0
YKA pmax pmax
comp=Z,8.0nm,0.9s
MOL Molde 97.05 336 *e*SKSac **SKSac** **23 17 07.6 +2.0**
MAUC Maruska 97.05 321 *e*PDIFF Pdif 23 06 35.3 +0.6
MAUC *ep*P pP 23 06 52.0 +0.2
MAUC AMS AMS 23 57 30.0
comp=Z,8µm,20.8s
MORC Moravsky Berou 97.09 322 ⇑P **P** **23 06 34.7 -0.1**
MORC Moravsky Berou 97.09 322 pP pP 23 06 52.1 0.0
MORC Moravsky Berou 97.09 322 *e*P **P** **23 06 34.7 -0.1**
MORC *ep*P **pP** **23 06 49.2 -2.8**
JMIC Jan Mayen 97.10 347 LR LR 23 55 16.9
comp=Z,2µm,21.2s,baz=54,slow=38
DIVS Divibare 97.20 316 pP **pP** **23 06 52.0 -0.7**
DIVS lAmb lAmb 23 06 56.2
comp=Z,65nm,1.2s
KLV Kalavryta, Ach 97.21 310 P **P** **23 06 32.6 -3.0**
SRO Srobarova 97.23 320 *e*P Pdif 23 06 36.1 +0.7
SRO *e* 23 06 49.6
SRO pmax pmax
comp=Z,260nm,2.4s
SRO Srobarova 97.23 320 *e*P Pdif 23 06 36.0 +0.6
SRO *e* 23 06 49.6
POGA Pongola 97.25 243 lAmb lAmb 23 07 18.9
comp=Z,65nm,1.3s
JAVC Velka Javorina 97.31 321 *e*P Pdif 23 06 37.0 +1.1
JAVC *ep*P pP 23 06 50.9 -2.1
CSKK Cskako 97.40 319 P Pdif 23 06 36.4 +0.2
KRLC Kraliky 97.46 322 *e*P **P** **23 06 36.0 -0.5**
KRLC MLR MLR
comp=Z,4µm,17.8s
KRLC Kraliky 97.46 322 *e*PDIFF **P** **23 06 36.0 -0.5**
KRLC AMS AMS 23 56 30.0
comp=Z,4µm,17.8s
AKN Aaknes 97.46 336 *e*P **P** **23 06 36.1 -0.1**
AKN lVmB_BB 23 06 57.1
comp=Z,1µm,2.0s
KSP Ksiaz 97.50 323 *e*PP **PP** **23 10 39.6 +5.6**
KSP Ksiaz 97.50 323 *e*P **P** **23 06 36.4 -0.1**
KSP Ksiaz 97.50 323 *ep*P pP 23 06 50.8 -3.0
MORH Mrgy, Hungar 97.50 318 ⇑P Pdif 23 06 36.8 +0.1
MORH Mrgy, Hungar 97.50 318 P **P** **23 06 36.5 -0.2**
MORH PP **pP** **23 06 52.6 -1.3**
KONO Kongsberg 97.53 333 P **P** **23 06 36.0 -0.4**
KONO pP **pP** **23 06 54.4 +0.6**
KONO lAmb lAmb 23 06 56.3
comp=Z,45nm,1.1s
KONO Kongsberg 97.53 333 *e*P **P** **23 06 33.9 -2.5**
KONO lVmBBB 23 06 52.4
comp=Z,840nm,2.6s
KONO *e*SKSac **SKSac** **23 17 10.3 +2.1**
PHP Peshkopia 97.55 313 P **P** **23 06 35.5 -1.6**
DRO Drossia 97.57 310 P **P** **23 06 36.8 -0.4**
KBN Korca 97.58 312 **pP** **23 06 52.2 -2.8**
KBN lAmb lAmb 23 07 13.4
comp=Z,52nm,1.1s
ITM Ithomi 97.59 309 P **P** **23 06 36.4 -0.9**
ITM lAmb lAmb 23 06 57.1
comp=Z,105nm,1.2s
SKAR Skarslia 97.63 334 *e*P Pdif 23 06 37.1 0.0
SKAR lVmB_BB 23 06 53.7
comp=Z,1µm,3.6s
SKAR *e*SKSac **SKSac** **23 17 10.4 +1.6**
OSTC Ostas 97.64 323 *e*PDIFF Pdif 23 06 37.5 +0.2
OSTC AMS AMS 23 53 40.0
comp=Z,6µm,19.6s
DPC Dobruska-Polom 97.65 323 *e*P Pdif 23 06 37.4 +0.1
DPC *e**PP pP 23 06 54.5 0.0
DPC MLR MLR
comp=Z,5µm,20.2s
DPC Dobruska-Polom 97.65 323 *e*PDIFF Pdif 23 06 37.4 +0.1
DPC *ep*P pP 23 06 54.5 0.0
DPC AMS AMS 23 53 50.0
comp=Z,5µm,20.2s
MODS Modra-Piesok 97.71 321 *e*P Pdif 23 06 38.6 +1.0
MODS *e* 23 06 51.4
MODS pmax pmax
comp=Z,302nm,2.2s
MODS Modra-Piesok 97.71 321 *e*P Pdif 23 06 38.6 +1.0
MODS *e* 23 06 51.4
MODS *e*PP PP 23 10 49.8 +14
CHVC Chvalec 97.73 323 *e*PDIFF **P** **23 06 37.6 0.0**
CHVC AMS AMS 23 53 40.0
comp=Z,6µm,19.6s
UPC Upice 97.78 323 *e*P Pdif 23 06 37.9 0.0
UPC MLR MLR
comp=Z,6µm,18.8s
UPC Upice 97.78 323 *e*PDIFF Pdif 23 06 37.9 0.0
UPC AMS AMS 23 53 40.0
comp=Z,6µm,18.8s
VRAC Vranov 97.83 322 ⇑P Pdif 23 06 38.2 +0.1
VRAC Vranov 97.83 322 *e*P Pdif 23 06 38.4 +0.3
VRAC *ep*P pP 23 06 52.4 -2.9
LSK Leskovik 97.84 312 P Pdif 23 06 48.0 +10
ZST Bratislava 97.88 320 *e* Pdif 23 06 53.1 +15
ZST *e*PP PP 23 10 52.5 +15
KOVH Kovagotottos 97.90 318 P Pdif 23 06 38.8 +0.3
MPLH Magyarpolny 97.93 319 P Pdif 23 06 39.0 +0.4
MPLH PP pP 23 06 54.8 -1.0
EGYH Egyhazaskeszo 97.99 320 P Pdif 23 06 39.0 +0.2
KRUC Moravsky 98.04 321 *e*P Pdif 23 06 39.2 +0.2
KRUC *ep*P pP 23 06 53.2 -3.0
TIR Tirane 98.06 313 ⇑P **P** **23 06 38.2 -1.0**
PDG Podgorica 98.19 314 ⇑P Pdif 23 06 40.0 +0.1
PDG Podgorica 98.19 314 P **P** **23 06 39.2 -0.6**
PDG lAmb lAmb 23 07 02.6
comp=Z,70nm,1.0s
EVGI Lefkada island 98.20 310 P P 23 06 32.5 -7.5
HYA Hoyanger 98.30 335 *e*SKSac **SKSac** **23 17 13.3 +1.3**
RUE Rudersdorf 98.37 325 *e*P Pdif 23 06 41.8 +1.4
TREC Trest 98.52 322 *e*P Pdif 23 06 41.6 +0.4
TREC *e**PP pP 23 06 58.4 0.0
TREC MLR MLR
comp=Z,4µm,20.5s
TREC Trest 98.52 322 *e*PDIFF Pdif 23 06 41.6 +0.4
TREC *ep*P pP 23 06 58.4 0.0
TREC AMS AMS 23 55 10.0
comp=Z,4µm,20.5s
KEK Kerkira 98.55 312 P Pdif 23 06 49.7 +8.1
KEK Kerkira 98.55 312 P **P** **23 06 40.4 -1.1**
KEK lAmb lAmb 23 07 01.3
comp=Z,86nm,1.2s
RONA Rosalia, Austr 98.56 320 *e*P **P** **23 06 41.3 -0.1**
comp=Z,15nm,1.1s
FOO Floro 98.56 336 *e*SKSac **SKSac** **23 17 16.0 +2.7**
FOO *e*SP **SP** **23 19 31.6 +2.7**
PVCC Panska Ves 98.64 323 *e*P Pdif 23 06 41.9 +0.3
PVCC MLR MLR
comp=Z,6µm,21.2s
PVCC Panska Ves 98.64 323 *e*PDIFF Pdif 23 06 41.9 +0.3
PVCC AMS AMS 23 50 30.0
comp=Z,6µm,21.2s
HOMB Homborsund 98.67 332 *e*P Pdif 23 06 43.4 +1.9
HOMB lVmB_BB 23 06 55.3
comp=Z,837nm,3.7s
HOMB *e*SKSac **SKSac** **23 17 15.1 +1.1**
GOPC GO Pecny, Ondr 98.72 323 *e*P **P** **23 06 42.0 -0.1**
GOPC *e**PP **pP** **23 06 59.1 -0.2**
GOPC MLR MLR
comp=Z,6µm,19.5s
GOPC GO Pecny, Ondr 98.72 323 *e*PDIFF **P** **23 06 42.0 -0.1**
GOPC *ep*P **pP** **23 06 59.1 -0.2**
GOPC AMS AMS 23 54 30.0
comp=Z,6µm,19.5s
ODD1 Odda 98.74 334 *e*SKSac **SKSac** **23 17 16.3 +1.8**
CONA Conrad Observa 98.75 320 *e*P Pdif 23 06 42.5 +0.2
comp=Z,26nm,1.4s
PRU Pruhonice 98.85 323 *e*P Pdif 23 06 42.6 0.0
PRU *e**PP pP 23 06 59.5 -0.3
PRU MLR MLR
comp=Z,7µm,19.0s
PRU Pruhonice 98.85 323 *e*PDIFF Pdif 23 06 42.6 0.0
PRU *ep*P pP 23 06 59.5 -0.3
PRU AMS AMS 23 54 20.0
comp=Z,7µm,19.0s
BRG Berggiesshubel 98.88 324 Amp 23 11 14.7
comp=Z,74nm,1.6s
BRG Berggiesshubel 98.88 324 *i* P **P** **23 06 42.7 0.0**
BRG *i* 23 06 59.4
BRG *i* 23 07 04.4
BRG *e* 23 10 38.7
BRG pmax pmax
comp=Z,14nm,0.8s
BRG pmax pmax
comp=Z,32nm,1.1s
BRG pmax pmax
comp=Z,112nm,1.2s
BRG pmax pmax
comp=Z,15nm,1.2s
BRG pmax pmax
comp=Z,75nm,1.7s
BRG Berggiesshubel 98.88 324 ⇓*i* Pdif **P** **23 06 42.7 0.0**
BRG Berggiesshubel 98.88 324 Amp 23 06 45.4
comp=Z,14nm,0.8s
BRG Berggiesshubel 98.88 324 *ex* x 23 06 52.0
BRG Berggiesshubel 98.88 324 *i* x x 23 06 59.5
BRG Berggiesshubel 98.88 324 Amp 23 07 00.5
comp=Z,32nm,1.1s
BRG Berggiesshubel 98.88 324 *i* x x 23 07 04.4
BRG Berggiesshubel 98.88 324 Amp 23 07 07.2
comp=Z,112nm,1.2s
BRG Berggiesshubel 98.88 324 *ex* x 23 10 38.7
BRG Berggiesshubel 98.88 324 Amp 23 10 41.4
comp=Z,15nm,1.2s
BRG Berggiesshubel 98.88 324 *ex* x 23 11 13.6
SUE Sulen 98.95 335 *e*SKSac **SKSac** **23 17 16.1 +0.8**
KOGS Kog 99.00 319 *i* Pdiff **Pdif** **23 06 44.0 +0.7**
KOGS *ep*Pdiff **pP** **23 06 57.0 -3.6**
KOGS *i* PKiKP PKiKP 23 11 01.1 -13
BLS5 Blasjo 99.05 333 *e*P **Pdif** **23 06 42.3 -1.1**
BLS5 lVmBBB 23 06 59.4
comp=Z,897nm,1.7s
BLS5 *e*SKSac **SKSac** **23 17 17.1 +1.1**
BER Bergen 99.06 335 *e*P **Pdif** **23 06 45.2 +1.9**
BER *e*SKSac **SKSac** **23 17 16.8 +1.0**
ARSA Arzberg 99.20 320 *e*P **Pdif** **23 06 44.4 +0.1**
comp=Z,45nm,2.2s
SNART Snartemo 99.24 332 *e*SKSac **SKSac** **23 17 18.4 +1.5**
CLL Collm 99.26 324 pP **pP** **23 07 01.8 +0.1**
CLL lAmb lAmb 23 07 06.7
comp=Z,61nm,1.1s
CLL Collm 99.26 324 *e*P **Pdif** **23 06 45.0 +0.6**
CLL *i* *SP **pwP** **23 07 04.9 0.0**
CLL MLR MLR
comp=Z,7µm,21.7s
CLL Collm 99.26 324 *e*Pdif **Pdif** **23 06 45.0 +0.6**
CLL *ex* x 23 06 58.0
CLL *i* pPdif **pwP** **23 07 04.2 -0.7**
comp=Z,150nm,1.6s
CLL *es*Pdif **sP** **23 07 09.0 +0.6**
CLL *i* x x 23 07 22.3
CLL *e*PP **PP** **23 10 50.0 +2.5**
CLL *ep*PP 23 11 04.0
CLL *es*PP 23 11 14.0
CLL *e*SS SS 23 25 06.0 +5.6
CLL *e*SSS SSS 23 28 54.0
CLL *ex* x 23 33 42.0
CLL Lm MLR 23 56 00.0
comp=Z,7µm,21.7s
CLL Lmax 23 56 00.0
CKRC Cesky Krumlov 99.41 322 *e*PDIFF **Pdif** **23 06 44.9 -0.3**
CKRC *ep*P **pP** **23 07 02.7 +0.3**
CKRC AMS AMS 23 50 40.0
comp=Z,4µm,19.9s
SOKA Soboth 99.71 319 *i* P **Pdif** **23 06 47.0 +0.3**
comp=Z,6.6nm,1.2s,SNR=6.3
KHC Kasperske Hory 99.75 322 *e*P **Pdif** **23 06 46.6 -0.1**
KHC *e**PP **pP** **23 07 04.3 +0.3**
KHC MLR MLR
comp=Z,6µm,21.3s
KHC Kasperske Hory 99.75 322 *e*PDIFF **Pdif** **23 06 46.6 -0.1**
KHC *ep*P **pP** **23 07 04.3 +0.3**
KHC *e*PP PP 23 11 04.7 +13
KHC AMS AMS 23 55 20.0
comp=Z,6µm,21.3s
MATP Matopo 99.77 250 LR LR 23 47 33.9
comp=Z,2µm,21.9s,baz=72,slow=33
GERES GERESS Array B 99.78 322 P **Pdif** **23 06 46.2 -0.7**
comp=Z,6.8nm,0.9s,baz=80,slow=3.0,SNR=43
GERES LR LR 23 54 10.4
comp=Z,2µm,21.9s,baz=69,slow=37
comp=Z,6.8nm,0.9s
MOA Molln 99.79 321 *i* P **Pdif** **23 06 46.6 -0.3**
comp=Z,13nm,1.1s,SNR=12
NKC Novy Kostel 100.00 323 *e*P **Pdif** **23 06 47.8 0.0**
NKC MLR MLR
comp=Z,6µm,22.4s
NKC Novy Kostel 100.00 323 *e*PDIFF **Pdif** **23 06 47.8 0.0**
NKC AMS AMS 23 54 10.0
comp=Z,6µm,22.4s
OBKA Obir 100.09 319 *e*P **Pdif** **23 06 48.6 +0.3**
comp=Z,5.1nm,0.9s
BIOA Bad Ischl, Aus 100.24 321 *e*P **Pdif** **23 06 49.5 +0.6**
comp=Z,7.0nm,0.8s
LJU Ljubljana 100.26 319 *i* Pdiff **Pdif** **23 06 48.5 -0.5**
LJU *i* pPdiff **pPdif** **23 07 03.2 -3.0**
LJU *e*PKiKP **PKiKP** **23 11 10.6 -5.5**
SUMG Summit 100.44 355 *i* P **Pdif** **23 06 55.6 +5.8**
SUMG lAmb lAmb 23 07 17.6
comp=Z,42nm,1.4s
MYKA Terra Mystica 100.63 320 *e*P **Pdif** **23 06 50.9 +0.2**
comp=Z,19nm,1.4s
KBA Koelnbreinsper 100.65 320 *e*P **Pdif** **23 06 51.1 +0.1**
comp=Z,3.2nm,0.5s
TIP Timpagrande 100.96 312 ⇓P **Pdif** **23 06 51.1 -1.3**
ABTA Abfaltersbach 101.31 320 *e*P **Pdif** **23 06 53.2 -0.5**
comp=Z,5.0nm,1.0s
WTTA Wattenberg 101.66 321 *i* P **Pdif** **23 06 54.9 -0.6**
comp=Z,6.2nm,0.7s,SNR=6.6
WATA Walderalm 101.67 321 *e*P **Pdif** **23 06 55.6 +0.1**
comp=Z,8.4nm,1.0s
SQTA Sankt Quirin 101.94 321 *i* P **Pdif** **23 06 56.2 -0.4**
comp=Z,8.4nm,1.0s,SNR=5.9
MOTA Moosalm 101.96 321 *i* P **Pdif** **23 06 57.0 +0.2**
comp=Z,9.8nm,1.0s,SNR=6.3
RETA Reutte 102.12 321 *e*P **Pdif** **23 06 57.4 +0.1**
comp=Z,7.2nm,1.3s
FETA Feichten 102.32 321 *i* P **Pdif** **23 06 58.5 +0.1**
comp=Z,8.1nm,1.0s,SNR=6.2
DAVA Damuels 102.74 321 *e*P **Pdif** **23 06 59.4 -0.8**
comp=Z,7.0nm,1.1s
BOSA Boshof 102.99 242 Pdiff **Pdif** **23 07 01.2 -0.4**
comp=Z,1.6nm,0.8s,baz=148,slow=11,SNR=3.0
BTNL Ternell 103.50 326 *d*Pdif **Pdif** **23 07 05.6 +2.3**
BTNL *dx* x 23 07 17.2
BTNL *dx* x 23 07 24.1
MEM Membach 103.56 326 *d*Pdif **Pdif** **23 07 07.0 +3.5**
MEM *dx* x 23 07 20.0
MEM *dx* x 23 07 24.7
BEBN Eben Emael 103.65 326 *dx* x 23 07 19.7
BHOU Houvegnez 103.68 325 *d*Pdif **Pdif** **23 07 07.1 +3.0**
BHOU *dx* x 23 07 21.0
BHOU *dx* x 23 07 24.9
BSTI Sart Tilman 103.81 326 *d*Pdif **Pdif** **23 07 08.9 +4.2**
BSTI *dx* x 23 07 21.6
BSTI *dx* x 23 07 26.0
BCLA Clavier 104.04 326 *d*Pdif **Pdif** **23 07 09.1 +3.4**
BCLA *dx* x 23 07 22.7
BCLA *dx* x 23 07 26.2
RCHB Rochefort 104.21 325 *d*Pdif **Pdif** **23 07 10.0 +3.6**
RCHB *dx* x 23 07 23.2
RCHB *dx* x 23 07 26.5
BMRD Maredsous 104.40 326 *d*Pdif **Pdif** **23 07 11.0 +3.8**
BMRD *dx* x 23 07 23.8
BMRD *dx* x 23 07 28.2
DOU Dourbes 104.60 326 *d*Pdif **Pdif** **23 07 11.3 +3.1**
DOU *dx* x 23 07 23.1
DOU *dx* x 23 07 29.3
NVAR Mina Array Bea 105.17 47 Pdiff **Pdif** **23 07 12.8 +1.5**
comp=Z,0.3nm,0.3s,baz=320,slow=3.9,SNR=4.0
NVAR PP **PP** **23 11 31.9 -0.7**
comp=Z,5.7nm,1.0s,baz=288,slow=3.8,SNR=4.5
NVAR PKKPbc **PKKPbc** **23 22 52.9 -0.1**
comp=Z,2.3nm,0.7s,baz=132,slow=3.4,SNR=9.9
TROLL Troll, Antarti 106.28 196 Pdiff **Pdif** **23 07 17.0 +1.7**
FURC Furnace Creek, 106.95 49 P **PKiKP** **23 11 28.2 -0.2**
baz=292
BFSC Mount Baldy Ra 107.15 51 P **PKiKP** **23 11 28.7 -0.4**
baz=291
R11A Troy Canyon, C 107.18 47 P **PKiKP** **23 11 28.6 -0.5**
baz=293
SNAA Sanae 107.87 195 Pdiff **Pdif** **23 07 23.2 +0.9**
BW06 Boulder Array 109.36 40 P **PKiKP** **23 11 32.3 -0.9**
baz=299
PDAR Pinedale Array 109.36 40 PKiKP **PKiKP** **23 11 35.5 +2.4**
comp=Z,1.0nm,0.6s,baz=241,slow=1.7,SNR=4.6
PDAR PKKPab **PKKPab** **23 22 48.9 -3.3**
comp=Z,6.2nm,0.7s,baz=116,slow=6.1,SNR=14
VNA2 Neumayer--Watz 109.48 195 Pdiff **Pdif** **23 07 27.9 -1.5**
baz=123,slow=3.0
VNA3 Neumayer Olymp 109.82 194 Pdiff **Pdif** **23 07 37.6 +6.6**
VNA1 Neumayer--Stat 109.88 195 PKKPdf PKKPdf 23 22 51.0 -3.8
VNA1 Neumayer--Stat 109.88 195 Pdiff **Pdif** **23 07 37.3 +6.2**
K22A Casper 111.35 39 P **PKiKP** **23 11 37.1 +0.2**
baz=302
K22A Casper 111.35 39 P **PKiKP** **23 11 36.5 -0.3**
baz=302
O20A White River Ci 111.51 42 P **PKiKP** **23 11 37.4 +0.1**
baz=299
214A Organ Pipe Nat 111.77 52 P **PKiKP** **23 11 38.3 +0.5**
baz=293
RSSD Black Hills 112.08 37 P **PKiKP** **23 11 38.7 +0.5**
baz=304
RSSD Black Hills 112.08 37 P **PKiKP** **23 11 38.0 -0.3**
baz=304
ISCO Idaho Springs 113.42 42 P **PKiKP** **23 11 41.2 +0.1**
baz=301
S22A 4UR Ranch, Cre 113.64 44 P **PKiKP** **23 11 41.6 +0.1**
baz=300
SDCO Great Sand Dun 114.55 43 P PKPdf 23 11 44.8 +1.5
baz=301
SDCO Great Sand Dun 114.55 43 P **PKiKP** **23 11 42.9 -0.3**
baz=301
ESDC Sonseca Array 115.22 320 PKP **PKPdf** **23 11 45.0 +0.8**
comp=Z,0.6nm,0.6s,baz=1.1,slow=2.4,SNR=4.6
ESDC PP **PP** **23 12 43.9 -0.8**
comp=Z,6.5nm,1.2s,baz=42,slow=6.2,SNR=5.5
ANMO Albuquerque 115.26 47 **PKiKP** **23 11 43.3 -1.3**
ANMO Albuquerque 115.26 47 PKiKP **PKiKP** **23 11 43.3 -1.3**
ANMO Albuquerque 115.26 47 P **PKiKP** **23 11 44.4 -0.2**
baz=299
ANMO Albuquerque 115.26 47 P **PKiKP** **23 11 43.6 -1.0**
baz=299
F33A 5 Mile Ranch, 115.37 32 P **PKPdf** **23 11 44.4 +0.2**
baz=312
121A Cookes Peak, D 115.40 49 P **PKiKP** **23 11 43.3 -1.6**
baz=297
T25A Trinidad 115.61 43 P **PKiKP** **23 11 44.3 -0.9**
baz=301
PBRG Braganca 115.73 323 *e*PP PP 23 12 58.7 +11
EYMN Ely 116.25 28 P **PKiKP** **23 11 45.6 -0.2**
baz=317
MVO Moncorvo 116.28 322 *e*PKPdf **PKiKP** **23 11 48.6 +2.4**
MVO Moncorvo 116.28 322 *e*PP PP 23 13 06.7 +15
MVO Moncorvo 116.28 322 *e*LQ LQ 23 46 23.0
MVO *e*LR LR 23 51 19.6
comp=Z,3µm,20.0s
PGAV Gavieira, Arco 116.54 324 *e*PKPdf **PKiKP** **23 11 48.1 +1.4**
PGAV Gavieira, Arco 116.54 324 *e*PP **PP** **23 12 57.4 +3.6**
PGAV Gavieira, Arco 116.54 324 *e*LQ LQ 23 45 58.8
PGAV *e*LR LR 23 50 45.9
comp=Z,3µm,22.0s
PCAB Cabril 116.55 323 *e*PKPdf **PKiKP** **23 11 47.8 +1.1**
PCAB *i* LQ LQ 23 12 04.6
PCAB Cabril 116.55 323 *e*PP PP 23 13 08.6 +15
ECSD EROS Data Cent 116.58 34 PKPdf **PKPdf** **23 11 46.0 -0.6**
ECSD EROS Data Cent 116.58 34 P **PKPdf** **23 11 46.1 -0.6**
baz=311
ECSD EROS Data Cent 116.58 34 P **PKPdf** **23 11 46.4 -0.2**
baz=311
POLO Lamas de Olo 116.62 323 *e*PKPdf **PKiKP** **23 11 48.3 +1.4**
POLO Lamas de Olo 116.62 323 *e*PP PP 23 13 09.3 +15
PVRL Vila Real 116.63 323 *e*PKPdf **PKiKP** **23 11 49.1 +2.3**
PVRL *i* LQ LQ 23 12 02.9
PVRL Vila Real 116.63 323 *e*PP PP 23 13 10.2 +16
F36A Milaca 116.77 30 P **PKPdf** **23 11 46.5 -0.4**
baz=314
MTE Manteigas 117.05 322 *e*PKPdf **PKPdf** **23 11 47.1 -0.6**
MTE Manteigas 117.05 322 *e*PP **PP** **23 12 52.5 -4.9**
MTE Manteigas 117.05 322 *e*LQ LQ 23 46 37.3
MTE *e*LR LR 23 51 19.6
comp=Z,3µm,20.0s
MTE Manteigas 117.05 322 **PKiKP** **23 11 49.1 +1.4**
PVIS Viseu 117.08 322 *e*PKPdf **PKiKP** **23 11 49.8 +2.1**
PVIS Viseu 117.08 322 *e*PP PP 23 13 12.0 +14
BGNE Belgrade 117.18 36 P **PKiKP** **23 11 47.9 0.0**
baz=308
PCBR Castelo Branco 117.35 321 *e*PKPdf **PKiKP** **23 11 50.0 +1.8**
PCBR *i* LQ LQ 23 12 06.3
PCBR Castelo Branco 117.35 321 *e*PP PP 23 13 14.4 +15
PMRV Marv??o 117.54 321 *e*PKPdf **PKiKP** **23 11 50.3 +1.7**
PMRV *i* LQ LQ 23 12 05.3
PMRV Marv??o 117.54 321 *e*PP PP 23 13 15.2 +14
PMRV Marv??o 117.54 321 *e*LR LR 23 52 31.8
comp=Z,3µm,22.0s
SPMN Marine on St. 117.58 30 P **PKPdf** **23 11 48.4 -0.1**
baz=315
COI Coimbra 117.70 322 *i* LQ LQ 23 12 07.5
COI Coimbra 117.70 322 *e*PP PP 23 13 16.1 +14
SCHQ Schefferville 117.84 9 PKP **PKPdf** **23 11 47.5 -1.2**
comp=Z,5.1nm,0.5s,baz=19,slow=4.6,SNR=12
SCHQ Schefferville 117.84 9 pPKPdf pPKPdf 23 12 05.5 -1.0
PCAS Casmilo, Conde 117.85 322 *e*PKPdf **PKiKP** **23 11 49.8 +0.6**
PCAS Casmilo, Conde 117.85 322 *e*PP **PP** **23 12 55.8 -7.0**
PESTR Estremoz 117.99 321 *e*PKPdf **PKPdf** **23 11 48.6 -0.9**
PESTR *i* LQ LQ 23 12 09.1
PESTR Estremoz 117.99 321 *e*PP PP 23 13 18.5 +15
PBAR Barrancos 118.05 320 *e*PKPdf **PKiKP** **23 11 51.8 +2.2**
PBAR Barrancos 118.05 320 *e*PP PP 23 13 19.5 +15
I37B Waseca 118.12 32 P **PKiKP** **23 11 50.3 +0.7**
baz=314
PMTG Montargil 118.27 321 *e*PKPdf **PKiKP** **23 11 51.8 +1.8**
PMTG Montargil 118.27 321 *e*PP PP 23 13 20.6 +15
PSBE So Bento 118.36 322 *e*PP PP 23 13 21.7 +15
MSTX Muleshoe 118.38 46 pPKPdf pPKPdf 23 12 10.2 +2.0
MSTX Muleshoe 118.38 46 P **PKiKP** **23 11 51.2 +0.7**
baz=301
MSTX Muleshoe 118.38 46 P **PKPdf** **23 11 50.4 -0.1**
baz=301
CLN7 Carlsbad 7 118.42 48 PKPdf **PKPdf** **23 11 50.4 -0.2**
CLN7 pPKPdf **pPKPdf** **23 12 10.0 +1.7**
R32A Long Quarter, 118.64 39 pPKPdf pPKPdf 23 12 09.8 +1.4
R32A Long Quarter, 118.64 39 P **PKiKP** **23 11 51.4 +0.5**
baz=307
PBEJ Beja 118.66 320 *e*PKPdf **PKiKP** **23 11 52.9 +2.1**
PBEJ Beja 118.66 320 *e*PP PP 23 13 27.0 +18
AMTX Amarillo 118.67 44 P **PKPdf** **23 11 50.5 -0.5**
baz=303
COWI Conover 118.71 28 **PKiKP** **23 11 51.2 +0.6**
G40A Rib Lake 118.82 29 P **PKPdf** **23 11 50.1 -0.8**
baz=317
PACT Alcochete 118.83 321 *e*PP PP 23 13 24.6 +15
PVAQ Vaqueiros 118.93 319 *e*PP PP 23 13 23.5 +13
PVAQ Vaqueiros 118.93 319 *e*LQ LQ 23 48 33.8
PVAQ *e*LR LR 23 52 53.6
comp=Z,3µm,22.0s
PMAFR Mafra 119.00 322 *e*PP PP 23 13 25.7 +15
MESJ Messejana 119.00 320 *e*PKPdf **PKPdf** **23 11 51.4 -0.1**
MESJ Messejana 119.00 320 *e*PKPdf **PKiKP** **23 11 53.5 +2.0**
MESJ *i* LQ LQ 23 12 09.6
MESJ Messejana 119.00 320 *e*PP PP 23 13 26.2 +15
PCVE Castro Verde 119.00 320 *e*PKPdf **PKiKP** **23 11 51.7 +0.2**
PCVE Castro Verde 119.00 320 *e*PP PP 23 13 24.4 +13
PNCL Nicolau / Gran 119.03 320 *e*PKPdf **PKPdf** **23 11 51.3 -0.2**
PNCL Nicolau / Gran 119.03 320 *e*PP **PP** **23 13 11.0 -0.1**
MDT Midelt 119.31 313 PKP **PKPdf** **23 11 52.2 -0.1**
comp=Z,4.1nm,0.9s,baz=155,slow=1.7,SNR=2.7
PTEO Sao Teotonio 119.49 320 *e*PKPdf **PKiKP** **23 11 53.0 +0.6**
PTEO Sao Teotonio 119.49 320 *e*PP **PP** **23 13 21.7 +7.4**
KSU1 Kansas State U 119.53 38 P **PKPdf** **23 11 52.0 -0.4**
baz=309
MORF Marmelete 119.59 320 *e*PKPdf **PKPdf** **23 11 52.3 -0.3**
MORF Marmelete 119.59 320 *e*PP PP 23 13 27.1 +12
U32A Winter Ranch, 119.65 42 P **PKiKP** **23 11 53.9 +1.0**
baz=306
PFVI Vila Bisbo 119.80 320 *e*PKPdf **PKiKP** **23 11 55.8 +2.7**

PFVI	Vila Bisbo	119.80	320	*e*PP	PP	23 13 29.2	+13	
TX31	Lajitas Ar. Si	120.01	51	P	PKPdf	23 11 52.8	-1.0	
	baz=298							
TXAR	Lajitas Array	120.01	51	PKP	PKPdf	23 11 52.8	-1.0	
	comp=Z,2.0nm,0.5s,baz=355,slow=1.7,SNR=23							
TXAR				PKKPbc	PKKPbc	23 22 02.4	-0.6	
	comp=Z,11nm,0.9s,baz=132,slow=5.9,SNR=26							
JFWS	Jewell Farm	120.52	31	P	PKPdf	23 11 54.1	-0.1	
	baz=316							
JFWS	Jewell Farm	120.52	31	P	PKPdf	23 11 53.9	-0.3	
	baz=316							
E46A	Sault Ste Mari	120.60	24	P	PKPdf	23 11 53.3	-1.0	
	baz=324							
L40A	Anamosa	120.62	32	P	PKPdf	23 11 53.7	-0.7	
	baz=315,SNR=7.4							
WMOK	Wichita Mounta	120.74	43	P	PKPdf	23 11 54.3	-0.6	
	baz=305							
OK048	Pawnee Station	120.97	40		PKiKP	23 11 55.6	+0.2	
P38A	Dawn	121.02	35	P	PKPdf	23 11 55.1	-0.2	
	baz=312							
OK033	Mehan	121.20	41	pPKPdf	pPKPdf	23 12 15.3	+2.0	
QUOK	Quay	121.27	40		PKiKP	23 11 56.5	+0.5	
ABTX	Abilene, Hawle	121.32	45	P	PKPdf	23 11 55.8	-0.3	
	baz=303							
PMSA	Palmer Station	121.39	175	*e*P	PKiKP	23 11 57.1	+1.9	
L42A	Oliver, Polo	121.47	31	P	PKPdf	23 11 55.6	-0.5	
	baz=317							
DEOK	Depew	121.61	41		PKiKP	23 11 57.4	+0.7	
GLMI	Grayling	121.71	26	P	PKPdf	23 11 56.5	0.0	
	baz=323							
TOA0	Torodi Ar. Sit	121.83	290	PKPdf	PKPdf	23 11 55.8	-1.7	
TORD	Torodi Ar. Bea	121.83	290	PKhKP	PKPpre	23 11 50.9		
	comp=Z,2.1nm,0.6s,baz=16,slow=1.8,SNR=5.3							
TORD				PKP	PKPdf	23 11 55.7	-1.8	
	comp=Z,32nm,0.7s,baz=55,slow=1.8,SNR=78							
P40A	Paris	121.93	35	P	PKPdf	23 11 56.7	-0.3	
	baz=313,SNR=5.6							
TUL1	Leonard	122.02	40	PKPdf	PKiKP	23 11 58.5	+1.0	
TUL1	Leonard	122.02	40	P	PKiKP	23 11 57.6	+0.1	
	baz=308							
TUL1	Leonard	122.02	40	P	PKPdf	23 11 57.1	-0.2	
	baz=308							
JCT	Junction City	122.35	48	P	PKPdf	23 11 57.1	-1.0	
	baz=302,SNR=12							
JCT	Junction City	122.35	48	P	PKPdf	23 11 57.4	-0.7	
	baz=302							
S39A	Bolivar	122.42	37	P	PKPdf	23 11 56.3	-1.7	
	baz=311,SNR=14							
U38A	Gravette	122.58	39	P	PKPdf	23 11 56.4	-1.9	
	baz=310,SNR=21							
R40A	Maddies Statio	122.64	36	P	PKPdf	23 11 56.6	-1.8	
	baz=312,SNR=15							
HDIL	Hopedale	122.71	32	P	PKPdf	23 11 57.6	-0.9	
	baz=316							
HHAR	Hobbs	122.95	39	P	PKPdf	23 11 57.5	-1.6	
	baz=310							
X37A	Clayton	123.10	41	P	PKPdf	23 11 58.5	-0.9	
	baz=308,SNR=11							
WHTX	Lake Whitney,	123.21	45	P	PKPdf	23 11 58.8	-0.8	
	baz=305							
P43A	Skaggs, Pawnee	123.25	33	P	PKPdf	23 11 59.5	-0.1	
	baz=316							
CCM	Cathedral Cave	123.39	35	PKPdf	PKPdf	23 11 59.6	-0.3	
CCM	Cathedral Cave	123.39	35	PKiKP	PKPdf	23 11 59.6	-0.3	
CCM	Cathedral Cave	123.39	35	P	PKPdf	23 11 58.6	-1.3	
	baz=313,SNR=12							
CCM	Cathedral Cave	123.39	35	P	PKPdf	23 11 59.2	-0.7	
	baz=313							
833A	Chaparral WMA,	123.77	50	P	PKPdf	23 12 00.6	-0.2	
	baz=301							
833A	Chaparral WMA,	123.77	50	P	PKPdf	23 12 00.5	-0.4	
	baz=301							
FVM	French Village	123.91	35	P	PKPdf	23 12 00.4	-0.5	
	baz=314							
SFIN	Lafayette	123.98	31	P	PKiKP	23 12 01.3	+0.1	
	baz=319							
SFIN	Lafayette	123.98	31	P	PKPdf	23 12 00.3	-0.6	
	baz=319							
L48A	N Adams	124.07	28	P	PKPdf	23 11 59.9	-1.2	
	baz=322							
L48A				P	PKPdf	23 11 59.9	-1.2	
	baz=322							
AAM	Ann Arbor	124.14	27	P	PKPdf	23 12 00.7	-0.5	
	baz=323							
MIAR	Mount Ida	124.28	40	P	PKPdf	23 12 01.2	-0.4	
	baz=309,SNR=35							
MIAR	Mount Ida	124.28	40	P	PKPdf	23 12 01.3	-0.4	
	baz=309							
P46A	Rosedale	124.49	31	P	PKPdf	23 12 00.8	-1.1	
	baz=318							
OLIL	Olney	124.67	33	P	PKPdf	23 12 02.2	0.0	
	baz=317							
S44A	Carbondale	124.78	34	P	PKPdf	23 12 02.5	0.0	
	baz=315							
N49A	Columbus Grove	124.99	28	P	PKPdf	23 12 02.6	-0.2	
	baz=322							
N49A				P	PKPdf	23 12 02.6	-0.2	
	baz=322							
O48B	Farmland	125.04	29	P	PKPdf	23 12 02.7	-0.3	
	baz=321							
O48B	Farmland	125.04	29	P	PKPdf	23 12 02.4	-0.6	
	baz=321							
BATG	Bathurst New B	125.27	10	pPKPdf	pPKPdf	23 12 20.4	-0.6	
NATX	Nacogdoches	125.28	43	P	PKPdf	23 12 03.4	-0.3	
	baz=307							
PQI	Presque Isle	125.46	12	pPKPdf	pPKPdf	23 12 20.9	-0.5	
BMNY	Brushton-Moira	125.46	18	P	PKPdf	23 12 03.4	-0.2	
	baz=334							
O49A	Covington	125.49	29	P	PKPdf	23 12 02.9	-0.9	
	baz=321							
O49A				P	PKPdf	23 12 02.9	-0.9	
	baz=321							
P48A	Milroy	125.51	30	P	PKPdf	23 12 03.2	-0.7	
	baz=320							
P48A				P	PKPdf	23 12 03.2	-0.7	
	baz=320							
LONY	Lake Ozonia	125.64	18	P	PKPdf	23 12 03.6	-0.4	
	baz=334							
P49A	Miami Univ. Ec	125.81	30	P	PKPdf	23 12 04.3	-0.2	
	baz=321							
P49A	Miami Univ. Ec	125.81	30	P	PKPdf	23 12 04.3	-0.2	
	baz=321							
N51A	Ashland	125.82	27	P	PKiKP	23 12 04.7	-0.1	
	baz=324							
N51A				P	PKiKP	23 12 04.7	-0.1	
	baz=324							
ERPA	Erie	125.86	24	P	PKPdf	23 12 04.1	-0.4	
	baz=327							
WCNY	West Carthage	125.86	20	P	PKPdf	23 12 03.3	-1.1	
	baz=333							
WCI	Wyandotte Cave	126.00	32	PKPdf	PKPdf	23 12 04.9	+0.1	
WCI	Wyandotte Cave	126.00	32	PKiKP	PKPdf	23 12 04.9	+0.1	
WCI	Wyandotte Cave	126.00	32	P	PKPdf	23 12 04.9	+0.1	
	baz=318							
WCI	Wyandotte Cave	126.00	32	P	PKPdf	23 12 04.6	-0.3	
	baz=318							
ACSO	Alum Creek Sta	126.09	28	P	PKPdf	23 12 04.8	-0.2	
	baz=323							
ACSO	Alum Creek Sta	126.09	28	P	PKPdf	23 12 04.8	-0.2	
	baz=323							
M53A	WI Miller and	126.14	25		PKiKP	23 12 05.5	0.0	
M53A	WI Miller and	126.14	25	P	PKPdf	23 12 04.7	-0.3	
	baz=326							
F64A	Sherman	126.16	13	P	PKPdf	23 12 04.9	0.0	
	baz=342							
F64A				P	PKPdf	23 12 04.9	0.0	
	baz=342							
PKME	Peaks-Kenny Pk	126.51	14	P	PKPdf	23 12 04.9	-0.7	
	baz=340							
K57A	Scipio Center	126.66	21	P	PKiKP	23 12 07.0	+0.5	
	baz=331							
H62A	Milan	126.68	16	P	PKPdf	23 12 06.2	+0.2	
	baz=338							
H62A				P	PKPdf	23 12 06.2	+0.2	
	baz=338							
WVT	Waverly	126.69	35	PKPdf	PKPdf	23 12 05.1	-1.1	
WVT	Waverly	126.69	35	PKiKP	PKPdf	23 12 05.1	-1.1	
WVT	Waverly	126.69	35	P	PKPdf	23 12 05.3	-0.9	
	baz=316							
WVT	Waverly	126.69	35	P	PKPdf	23 12 05.8	-0.4	
	baz=316							
KOWA	Kowa	126.70	293	PKPdf	PKPdf	23 12 06.5	-0.3	
J59A	Piesco	126.70	19	P	PKPdf	23 12 05.6	-0.5	
	baz=334							
J59A				P	PKPdf	23 12 05.6	-0.5	
	baz=334							
MCVT	Middlebury Col	126.73	18	P	PKPdf	23 12 05.9	-0.2	
	baz=336							
LBNH	Lisbon	126.78	17	P	PKPdf	23 12 06.3	+0.1	
	baz=337							
LBNH	Lisbon	126.78	17	P	PKPdf	23 12 05.7	-0.5	
	baz=337							
L56A	Greenwood	126.80	22	P	PKPdf	23 12 05.6	-0.8	
	baz=330							
L56A				P	PKPdf	23 12 05.6	-0.8	
	baz=330							
Q51A	Peebles	126.87	29	P	PKPdf	23 12 06.4	-0.1	
	baz=322							
Q51A				P	PKPdf	23 12 06.4	-0.1	
	baz=322							
O53A	New Philadelph	126.88	26	P	PKPdf	23 12 06.2	-0.3	
	baz=325							
M55A	Ridgway	126.90	24	PKPdf	PKiKP	23 12 08.1	+1.1	
M55A	Ridgway	126.90	24	P	PKPdf	23 12 06.0	-0.5	
	baz=328							
M55A				P	PKPdf	23 12 06.0	-0.5	
	baz=328							
OXF	Oxford	126.90	37	P	PKPdf	23 12 05.6	-1.1	
	baz=313							
OXF	Oxford	126.90	37	P	PKPdf	23 12 05.8	-0.9	
	baz=313							
P52A	Corning	126.96	28	P	PKPdf	23 12 06.0	-0.7	
	baz=324							
R50A	Paris	126.97	30	pPKPdf	pPKPdf	23 12 27.7	+3.1	
R50A	Paris	126.97	30	P	PKPdf	23 12 06.1	-0.6	
	baz=320							
R50A				P	PKPdf	23 12 06.1	-0.6	
	baz=320							
WVL	Waterville	127.08	14	P	PKiKP	23 12 07.6	+0.4	
	baz=340							
PMPST	Porto Santo, M	127.13	321	*i* LQ	LQ	23 12 24.1		
PMPST	Porto Santo, M	127.13	321	*e*PP	PP	23 14 20.2	+14	
PMPS	Porto Santo	127.14	321	*e*PKPdf	PKiKP	23 12 08.5	+0.8	
PMPS				*i* LQ	LQ	23 12 23.7		
PMPS	Porto Santo	127.14	321	*e*PP	PP	23 14 17.6	+12	
HNH	Hanover	127.16	17	P	PKiKP	23 12 07.3	-0.1	
	baz=336							
Y45A	Yeager Farm, C	127.25	38	P	PKiKP	23 12 07.9	0.0	
	baz=313							
BINY	Binghamton	127.32	21	P	PKiKP	23 12 07.6	-0.3	
	baz=332							
BINY	Binghamton	127.32	21	P	PKPdf	23 12 07.0	-0.3	
	baz=332							
P53A	Whipple	127.42	27	P	PKPdf	23 12 07.4	-0.2	
	baz=324							
P53A				P	PKPdf	23 12 07.4	-0.2	
	baz=324							
Q52A	Bidwell	127.44	28	P	PKPdf	23 12 07.5	0.0	
	baz=323							
Q52A				P	PKPdf	23 12 07.5	0.0	
	baz=323							
U49A	Red Boiling Sp	127.55	33	P	PKPdf	23 12 08.1	+0.2	
	baz=318							
T50A	Nancy	127.67	32	P	PKPdf	23 12 08.3	+0.2	
	baz=319							
T50A				P	PKPdf	23 12 08.3	+0.2	
	baz=319							
PMAR	Madeira	127.73	321	*e*PKPdf	PKiKP	23 12 12.0	+2.9	
PMAR				*i* LQ	LQ	23 12 26.9		
PMAR	Madeira	127.73	321	*e*PP	PP	23 14 24.9	+15	
VBMS	Vicksburg	127.74	40	P	PKPdf	23 12 07.7	-0.6	
	baz=311							
S51A	Beattyville	127.83	30	P	PKPdf	23 12 08.6	+0.3	
	baz=321							
S51A				P	PKPdf	23 12 08.6	+0.3	
	baz=321							
PMOZ	Porto Moniz, M	127.84	321	*i* LQ	LQ	23 12 25.3		
PMOZ	Porto Moniz, M	127.84	321	*e*PP	PP	23 14 18.7	+8.1	
PMOZ	Porto Moniz, M	127.84	321	*e*LR	LR	23 55 33.4		
	comp=Z,1μm,20.0s							
SSPA	Standing Stone	127.95	24	PKPdf	PKiKP	23 12 08.9	-0.2	
SSPA	Standing Stone	127.95	24	P	PKiKP	23 12 08.8	-0.3	
	baz=329							
SSPA	Standing Stone	127.95	24	P	PKPdf	23 12 08.0	-0.6	
	baz=329							
KSPA	Keystone Colle	127.96	21	P	PKPdf	23 12 08.7	+0.1	
	baz=332							
MCWV	Mont Chateau	127.96	26	P	PKPdf	23 12 08.2	-0.3	
	baz=326							
Q54A	Coxs Mills	128.08	27	P	PKPdf	23 12 09.1	+0.2	
	baz=325							
Q54A				P	PKPdf	23 12 09.1	+0.2	
	baz=325							
L61B	Northampton	128.19	18	P	PKPdf	23 12 08.9	0.0	
	baz=336							
L61B	Northampton	128.19	18	P	PKPdf	23 12 08.1	-0.8	
	baz=336							
N58A	Sunbury	128.23	22	P	PKPdf	23 12 09.2	+0.1	
	baz=330							
N58A				P	PKPdf	23 12 09.2	+0.1	
	baz=330							
X48A	Hartselle	128.34	36	P	PKPdf	23 12 08.6	-0.8	
	baz=316							
NPNY	Mohonk Preserv	128.35	20	P	PKiKP	23 12 09.6	-0.2	
	baz=334							
146A	Union	128.38	39	P	PKiKP	23 12 10.0	-0.2	
	baz=313							
HRV	Adam Dziewonsk	128.47	17	P	PKPdf	23 12 09.0	-0.5	
	baz=337							
BRNY	Black Rk. Fore	128.69	20	P	PKPdf	23 12 09.8	-0.1	
	baz=334							
TZTN	Tazewell	128.70	31	P	PKPdf	23 12 10.0	-0.1	
	baz=320							
TZTN	Tazewell	128.70	31	P	PKPdf	23 12 09.4	-0.7	
	baz=320							
V51A	Loudon	128.84	32	P	PKiKP	23 12 11.1	+0.1	
	baz=319							
P57A	Homestead Farm	128.88	24	P	PKiKP	23 12 11.2	+0.2	
	baz=328							
P57A				P	PKiKP	23 12 11.2	+0.2	
	baz=328							
PAL	Palisades	129.09	20	P	PKPdf	23 12 09.8	-0.8	
	baz=334							
Y49A	Blount Mountai	129.13	36	P	PKiKP	23 12 11.4	-0.3	
	baz=316							
V52A	Sevierville	129.21	32		PKiKP	23 12 11.8	+0.1	
V52A	Sevierville	129.21	32	P	PKiKP	23 12 11.9	+0.1	
	baz=320							
TKL	Tuckaleechee C	129.26	32	P	PKiKP	23 12 11.6	-0.3	
	baz=320							
LRAL	Lakeview Retre	129.37	37	P	PKPdf	23 12 10.3	-1.1	
	baz=315							
X51A	Calhoun	129.49	34		PKPdf	23 12 11.9	+0.3	
BLA	Blacksburg	129.71	28	P	PKPdf	23 12 12.2	+0.2	
	baz=324							
KIC	Kosan Boka	129.72	284	⇑*i*PKIKP	PKiKP	23 12 14.1	+0.7	
	comp=Z,16nm,0.4s							
V53A	Saluda	129.75	31		PKiKP	23 12 12.7	-0.2	
DBIC	Dimbokro	129.76	284	PKP	PKPdf	23 12 11.6	-1.1	
	comp=Z,24nm,0.8s,baz=104,slow=1.6,SNR=18							
TIC	Toumodi	129.92	284	⇑*i*PKIKP	PKiKP	23 12 14.5	+0.7	
	comp=Z,10nm,0.2s							
LIC	Lamto	130.03	284	⇑*i*PKIKP	PKiKP	23 12 14.7	+0.7	
	comp=Z,74nm,0.6s							
BG3	Lake Jocassee	130.21	32	PKPdf	PKiKP	23 12 13.7	-0.1	
CBN	Corbin Frederi	130.23	25	P	PKPdf	23 12 12.1	-0.8	
	baz=328							
Y52A	Lilburn	130.45	34	P	PKiKP	23 12 14.0	-0.3	
	baz=319							
Y52A				P	PKiKP	23 12 14.0	-0.3	
	baz=319							
250A	Grady	130.55	37	P	PKiKP	23 12 14.6	0.0	
	baz=315							
BRAL	Brewton	130.63	39	P	PKiKP	23 12 15.6	+0.9	
	baz=314							
BRAL	Brewton	130.63	39	P	PKPdf	23 12 13.6	-0.2	
	baz=314							
KMSC	Kings Mountain	130.92	30	P	PKiKP	23 12 15.3	+0.1	
	baz=322							
KMSC	Kings Mountain	130.92	30	P	PKPdf	23 12 14.1	-0.2	
	baz=322							
PAULI	Pauline	130.92	31	P	PKiKP	23 12 15.4	+0.2	
	baz=322							
152A	Waverly Hall	130.96	35	P	PKiKP	23 12 15.3	-0.1	
	baz=317							
GOGA	Godfrey	131.12	34	P	PKiKP	23 12 15.7	0.0	
	baz=319							
GOGA	Godfrey	131.12	34	P	PKPdf	23 12 14.8	0.0	
	baz=319							
HODGE	Hodges	131.15	32	P	PKiKP	23 12 16.7	+1.0	
	baz=321							
TIGA	Tifton	132.51	36	P	PKPdf	23 12 16.8	-0.7	
	baz=318							
NHSC	New Hope	133.11	31	P	PKPdf	23 12 18.7	+0.3	
	baz=322							
DWPF	Disney Wildern	136.23	37	P	PKPdf	23 12 24.6	+0.1	
	baz=318							
LL04	Puerto Octay	141.82	157		PKPdf	23 12 33.5	-0.8	
PLCA	Paso Flores	142.68	158	PKhKP	PKPpre	23 12 32.3		
	comp=Z,14nm,0.8s,baz=226,slow=3.8,SNR=12							
PLCA	Paso Flores	142.68	158	PKPdf	PKPdf	23 12 35.1	-0.9	
PLCA				pPKPdf	pPKPdf	23 12 56.8	+2.8	
PLCA	Paso Flores	142.68	158	*e*P	PKPdf	23 12 36.4	+0.5	
JTS	Las Juntas de	144.46	62	PKPdf	PKPbc	23 12 39.0	+0.7	
JTS	Las Juntas de	144.46	62	PKiKP	PKPbc	23 12 39.0	+0.7	
MTDJ	Mount Denham	145.79	44	pPKPdf	pPKPdf	23 12 59.4	-0.4	
STH	Stony Hill	146.39	43	*i* P	PKPab	23 12 45.7	+0.5	
GWJ	Greenwich	146.45	43	*i* P	PKPdf	23 12 43.5	+0.3	
HOJ	Hope	146.48	43	*i* P	PKiKP	23 12 50.0	+2.5	
CMJ	Castle Mountai	146.64	42	⇓*i*P	PKPab	23 12 46.7	+0.6	
TRQA	Tornquist	147.69	167		PKPbc	23 12 47.1	-0.3	
TRQA	Tornquist	147.69	167	PKP2	PKPbc	23 12 47.1	-0.3	
TRQA	Tornquist	147.69	167	*e*P	PKPbc	23 12 47.0	-0.3	
MLPR	Magueyes Islan	152.20	29		PKPbc	23 12 57.1	-1.7	
LCO	Las Campanas	152.35	146		PKPdf	23 12 52.2	-0.2	
LCO	Las Campanas	152.35	146	PKiKP	PKPdf	23 12 52.3	-0.2	
SJG	San Juan	152.49	27		PKPbc	23 12 59.6	+0.1	
SJG	San Juan	152.49	27	PKiKP	PKPbc	23 12 59.6	+0.1	
ARNL	Arenillas	153.33	85	PKPbc	PKiKP	23 13 02.1	+0.4	
CDVI	St. Croix	153.40	25	*e*P	PKiKP	23 13 02.3	+0.7	
SMRT	St. Maarten	153.79	21	*e*P	PKPdf	23 12 57.7	+3.2	
OTAV	Otavalo	154.17	76		PKPdf	23 12 59.3	+3.5	
OTAV	Otavalo	154.17	76	PKiKP	PKPdf	23 12 59.3	+3.5	
OTAV	Otavalo	154.17	76	*e*P	PKPdf	23 12 56.9	+1.1	
ANWB	Willy Bob	154.58	19	*e*P	PKPab	23 13 11.6	-7.0	
ANBD	Bethesda, Anti	155.16	19	*e*P	PKPdf	23 12 57.7	+1.3	
MLYT	Lee's Yard	155.33	20	*e*P	PKPdf	23 13 02.3	+5.6	
ABD	La Joyeuse, An	155.79	19	*e*P	PKPdf	23 13 07.0	+10	
CBE	Ff, Capester	156.13	20	*e*P	PKPab	23 13 14.8	-11	
CPSB	Cacapava Do Su	156.26	180	*e*P	PKPdf	23 13 00.3	+2.7	
RODS	Rosario do Sul	156.26	176	*e*P	PKPdf	23 13 00.9	+3.4	
ROSC	El Rosal	156.31	62	PKP	PKPdf	23 12 58.8	+0.2	
	comp=Z,6.0nm,0.3s,baz=124,slow=3.6,SNR=8.8							
TDBA	Terre de Bas,	156.33	20	*e*P	PKPdf	23 12 57.7	-0.3	
MAGL	Barre de l'ile	156.35	19	*e*P	PKPdf	23 12 48.4	-10	
DSLB	Salisbury	156.78	20	*e*P	PKPdf	23 12 57.7	-0.9	
ITQB	Itaqui	156.80	173	*e*P	PKPdf	23 13 00.6	+2.3	
MDN	Morne-Daniel	156.90	20	*e*P	PKPdf	23 13 07.0	+8.2	
SDV	Santo Domingo	157.02	48	*e*P	PKPdf	23 13 00.5	+1.3	
CNLB	Canela	157.22	186	*e*P	PKPdf	23 13 02.2	+3.3	
FDF	Fort de France	157.53	20	*e*P	PKPdf	23 12 48.4	-11	
UNIS	Unistalda (Bra	157.54	176	*e*P	PKPdf	23 13 01.8	+2.5	
ILAM	Ilet Lapin Mar	157.58	19	*e*P	PKPdf	23 12 57.7	-1.9	
BIM	Bigot	157.76	20	*e*P	PKPdf	23 12 57.7	-2.2	
ALGR	Alto Alegre (B	157.86	181	*e*P	PKPdf	23 13 02.1	+2.4	
LVC	Limon Verde	158.16	139	PKP	PKPdf	23 13 00.5	-0.1	
	comp=Z,2.3nm,0.7s,baz=335,slow=6.7,SNR=1.2							
LVC	Limon Verde	158.16	139	*e*P	PKPdf	23 13 02.0	+1.4	
SLBI	Saint Lucia, B	158.25	20	*e*P	PKPdf	23 12 57.7	-2.8	
MCLT	Moule a Chique	158.55	20	*e*P	PKPdf	23 13 02.3	+1.5	
SVB	Belmont	158.85	21	*e*P	PKPdf	23 12 57.7	-3.5	
CRSM	Crissiumal (Br	159.15	179	*e*P	PKPdf	23 13 04.5	+3.3	
ITAB	Concordia	159.38	183	*e*P	PKPdf	23 13 04.4	+2.9	
GCMP	Grenada, Carri	159.50	23	*e*P	PKPdf	23 13 02.3	+0.4	
BBGH	Otun Hill	159.53	17	*e*P	PKPdf	23 13 07.0	+5.0	
PB12	IPOC Station P	159.65	128	PKPdf	PKPdf	23 13 00.9	-1.2	
GRGR	Grenville	159.74	24	*e*P	PKPdf	23 13 02.3	+0.1	
CPUP	Villa Florida	159.98	170	PKP	PKPdf	23 13 02.5	+0.3	
	comp=Z,8.6nm,0.9s,baz=46,slow=1.5,SNR=11							
CPUP				PKPab	PKPab	23 13 43.0	+1.4	
	comp=Z,34nm,1.0s,baz=184,slow=5.7,SNR=8.3							
FRBT	Francisco Belt	160.67	181	*e*P	PKPdf	23 13 06.1	+3.0	
TIJ01	Guaruva-PR	160.84	192	*e*P	PKPdf	23 13 06.4	+3.1	
CZSB	Cruzeiro do Su	160.87	95	*e*P	PKPdf	23 13 06.3	+2.8	
CAM01	Campos-RJ	161.00	216	*e*P	PKPdf	23 13 06.6	+3.2	
DUB01	Friburgo-RJ	161.20	214	*e*P	PKPdf	23 13 06.5	+2.8	
MAN01	Angra dos Reis	161.37	208	*e*P	PKPdf	23 13 07.0	+3.2	
VAS01	Vassouras-RJ	161.61	211	*e*P	PKPdf	23 13 08.9	+4.8	
NBRF	Rio Formoso -	161.71	262	*e*P	PKPdf	23 13 07.5	+3.1	
PTGB	Pitanga	161.88	184	*e*P	PKPdf	23 13 07.4	+3.0	
VAO	Valinhos	162.48	200	*e*P	PKPdf	23 13 08.7	+3.6	
LPAZ	La Paz	162.68	125	PKP	PKPdf	23 13 05.6	-0.5	
	comp=Z,4.5nm,0.7s,baz=30,slow=1.2,SNR=7.4							
LPAZ				PKPab	PKPab	23 13 54.6	-0.1	
	comp=Z,44nm,1.1s,baz=311,slow=1.8,SNR=5.2							
LPAZ	La Paz	162.68	125	*e*P	PKPdf	23 13 07.7	+1.7	
NAN01	Guarapari, ES	162.81	228	*e*P	PKPdf	23 13 08.2	+2.9	
SJMB	Sao Joao De Ma	163.00	224	*e*P	PKPdf	23 13 08.6	+3.1	
RCLB	Rio Claro- Sao	163.21	199	*e*P	PKPdf	23 13 08.8	+3.1	
GUA01	Guaratinga, BA	163.32	232	*e*P	PKPdf	23 13 08.9	+3.0	
CMC01	Camacan, BA	163.76	236	*e*P	PKPdf	23 13 10.3	+4.0	
TRCB	Terra Rica	163.82	183	*e*P	PKPdf	23 13 09.3	+3.1	
ANTJ	Antonio Joao (	164.44	171	*e*P	PKPdf	23 13 10.0	+3.2	
GDU1	Guanu, BA	164.59	241	*e*P	PKPdf	23 13 11.5	+4.4	
BB19B	Bebedouro	164.79	198	*e*

	comp=N,45μm,1.0s								
T1241	**Roccafluvione,**	**0.20**	**30**	P	Pg	23 04 15.2	+0.7		
T1241				S	Sg	23 04 18.6	+1.2		
T1241				AML	AML				
	comp=N,20μm,1.6s								
T1241				AML	AML				
	comp=N,20μm,1.6s								
T1241				AML	AML				
	comp=E,23μm,0.4s								
MMO1	**Montemonaco**	**0.22**	**7**	P	Pg	23 04 15.6	+0.7		
MMO1				S	Sg	23 04 19.3	+1.4		
TERO	**Teramo**	**0.24**	**104**	P	Pg	23 04 15.8	+0.7		
TERO				S	Sg	23 04 19.7	+1.3		
TERO				AML	AML				
	comp=E,23μm,0.4s								
TERO				AML	AML				
	comp=N,31μm,1.1s								
TERO				AML	AML				
	comp=E,23μm,0.4s								
MC2	**Monte Cornacci**	**0.24**	**342**	S	Sg	23 04 21.0	+2.2		
T1216	**Preci, Frazion**	**0.29**	**317**	P	Pb	23 04 17.2	-0.6		
T1215	**Vallo di Nera,**	**0.33**	**292**	P	Pb	23 04 17.8	-0.8		
FDMO	**Fiordimonte**	**0.39**	**337**	P	Pg	23 04 18.5	+0.6		
FDMO				S	Sb	23 04 24.6	-0.9		
CSP1	**Cessapalombo**	**0.42**	**351**	P	Pg	23 04 19.2	+0.7		

PRU ***23*** *23:11:16.6±0.0,45°.73N×26°.19E,h96km,M5.7*
SOF ***23*** *23:11:17.3,45°.93N×26°.54E,h90km,MD6.0*
MOS ***23*** *23:11:18.4±0.9,45°.74N×26°.61E,h87km,mb5.4/17, MS4.3/14, Error ellipse: s-maj=3.9km s-min=3.1km az=121.3*
SIGU ***23*** *23:11:19.6,45°.75N×26°.60E,h98km*
BGS ***23*** *23:11:19.8±1.8,45°.71N×26°.62E,h92km±1km,mb5.9, MW5.6(NEIC)*
MCSM ***23*** *23:11:19.2±0.5,46°.N±5°×2°.7E±°,h95km±3km,ML5.7*
LDG ***23*** *23:11:19.0±0.1,45°.77N×26°.53E,h92km±1km,Ml5.0/10, ms4.1/6, Error ellipse: s-maj=4.3km s-min=2.8km az=12.0*
NEIC ***23*** *23:11:20.8±1.9,45°.73N±0°.04×26°.61E±0°.05,h92km±1km, mb5.7/724, Mwr5.7/38, Mww5.6, ML5.3/5(BUC), Error ellipse: s-maj=6.5km s-min=5.7km az=167.0*
BJI ***23*** *23:11:20.0±0.0,45°.70N×26°.60E,h80km,mb5.4/65, mB6.0/19, Ms5.5/10, Ms7 5.3/10*
GII ***23*** *23:11:20.9±0.8,45°.76N×26°.63E,h94km*
IDC ***23*** *23:11:20.0±0.2,45°.73N×26°.44E,h92km±1km,mb5.1/41, mbtmp5.4/50, MS4.7/24, Error ellipse: s-maj=7.5km s-min=4.6km az=151.0*
BUC ***23*** *23:11:20.1±0.2,45°.72N×26°.62E,h92km±2km,ml5.3/59, Error ellipse: s-maj=1.6km s-min=1.2km az=26.0*
MED_RC ***23*** *23:11:20.0±0.1,45°.79N×26°.72E,h95km±1km,MW5.7/30, Moment Tensor Solution. Body waves: s12,c12;Mantle waves: s30,c75; Duration: 2s3 Moment tensor: Scale 10¹⁷Nm; Mrr3.87±.07; Mθθ-2.36±.08; Mφφ-1.51±.07; Mrθ-1.00±.08; Mrφ2.07±.06; Mθφ0.99±.06; Best double couple: M₀4.20000×10¹⁷ NP1:φs311.00000°,δ55.00000°, λ92.00000°. NP2:φs127.00000°,δ35.00000°,λ87.00000°. Principal axes: T 4.1200, Plg80.0000°, Azm231.0000°; N 0.1700, Plg2.0000°, Azm130.0000°; P -4.2900, Plg10.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***23*** *23:11:20.2,45°.72N×26°.60E,h96km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.04; Mθθ-2.66; Mφφ-1.38; Mrθ-1.36; Mrφ1.70; Mθφ1.55; Fault plane solution: M₀4.45000×10¹⁷ NP1:φs119.11000°, δ31.77000°,λ79.96000°. NP2:φs310.87000°,δ58.77000°, λ96.16000°. Principal axes: T 4.5714, Plg75.0000°, Azm238.0000°; N -0.2544, Plg5.0000°, Azm128.0000°; P -4.3170, Plg14.0000°, Azm36.0000°;*
CFUSG ***23*** *23:11:21.3,45°.65N×26°.81E,h100km,mb5.2/4, Romania*
GCMT ***23*** *23:11:21.8±0.1,45°.79N±0°.01×26°.61E±0°.01,h84km±1km, MW5.7/149,Moment Tensor Solution. s70,c120; s149,c299; Duration: 1s7 Moment tensor: Scale 10¹⁷ Nm; Mrr4.03±.08; Mθθ-2.55±.08; Mφφ-1.47±.07; Mrθ-1.43±.07; Mrφ2.31±.06; Mθφ1.03±.05; Best double couple: M₀4.56100×10¹⁷ NP1:φs307.00000°,δ56.00000°, λ89.00000°. NP2:φs130.00000°,δ34.00000°,λ92.00000°. Principal axes: T 4.3850, Plg79.0000°, Azm213.0000°; N 0.3610, Plg1.0000°, Azm308.0000°; P -4.7360, Plg11.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***23*** *23:11:23,45°.80N×26°.63E,h90km,Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10¹⁷Nm; Mrr3.25; Mθθ-2.20; Mφφ-1.05; Mrθ-1.15; Mθφ1.64; Mrφ1.23; Fault plane solution: M₀3.71000×10¹⁷ NP1: φs120.00000°,δ32.00000°,λ81.00000°. NP2: φs311.00000°,δ58.00000°,λ96.00000°. Principal axes: T 3.6678, Plg76.0000°, Azm238.0000°; N 0.0849, Plg5.0000°, Azm128.0000°; P -3.7527, Plg13.0000°, Azm37.0000°;*
TIR ***23*** *23:11:26.4,46°.30N×27°.04E,h2km±3km,Md5.5,Ml5.7*
BEO ***23*** *23:11:29.0±0.5,45°.43N×25°.28E,h0km,ML5.6/8*

ISC 23 23:11:20.4±0.2,**45°.77N**±0°.02×**26°.56E**±0°.02,**h95**km±1km, **h95**km:**pP-P,n2521,**σ1²**46**/2782,**mb5.7**/582,**149C-157D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.10**	**36**	⇑P	**Pn**	**23 11 33.4**	**-0.5**
PLOR				⇑S	**Sn**	**23 11 42.4**	**-1.4**
PLOR	**Plostina**	**0.10**	**36**	P	**Pn**	**23 11 33.3**	**-0.5**
VRI	**Vrincioaia**	**0.15**	**49**	⇑P	**Pn**	**23 11 33.5**	**-0.4**
VRI				⇓S	**Sn**	**23 11 43.4**	**-0.5**
VRI	**Vrincioaia**	**0.15**	**49**	P	**Pn**	**23 11 33.5**	**-0.4**
COVR	**Voineasa-Covas**	**0.26**	**287**	⇑P	**Pn**	**23 11 34.1**	**-0.2**
COVR				⇓S	**Sn**	**23 11 44.0**	**-0.7**
COVR	**Voineasa-Covas**	**0.26**	**287**		**Pn**	**23 11 33.8**	**-0.5**
COVR					**Sn**	**23 11 44.0**	**-0.7**
ODBI	**Odobesti**	**0.34**	**91**	⇑P	**Pn**	**23 11 35.0**	**+0.3**
ODBI				⇑S	**Sn**	**23 11 45.4**	**+0.2**
ODBI	**Odobesti**	**0.34**	**91**		**Pn**	**23 11 35.0**	**+0.3**
ODBI					**Sn**	**23 11 45.4**	**+0.2**
PANC	**Panciu**	**0.42**	**75**	⇑P	**Pn**	**23 11 35.0**	**-0.1**
PANC	**Panciu**	**0.42**	**75**		**Pn**	**23 11 35.0**	**-0.1**
GRER		**0.48**	**143**	⇓P	**Pn**	**23 11 36.0**	**+0.4**
GRER		**0.48**	**143**		**Pn**	**23 11 36.0**	**+0.4**
MLR	**Muntele Rosu**	**0.52**	**238**	⇓P	**Pn**	**23 11 36.2**	**+0.2**
MLR				⇑S	**Sn**	**23 11 48.0**	**+0.5**
MLR	**Muntele Rosu**	**0.52**	**238**	P	**Pn**	**23 11 36.0**	**+0.1**
	47μm,0.4s,baz=79,slow=1.4						
MLR				S	**Sn**	**23 11 47.2**	**-0.4**
	655μm,0.5s,baz=47,slow=24,SNR=91						
MLR	**Muntele Rosu**	**0.52**	**238**	Pn	**Pn**	**23 11 35.2**	**-0.7**
MLR				Sn	**Sn**	**23 11 47.5**	**0.0**
MLR	**Muntele Rosu**	**0.52**	**238**	P	**Pn**	**23 11 36.0**	**+0.1**
OZUR		**0.63**	**301**	⇑P	**Pn**	**23 11 36.6**	**-0.2**
OZUR				⇑S	**Sn**	**23 11 48.5**	**-0.5**
ISR	**Istrita**	**0.65**	**181**	⇓P	**Pn**	**23 11 36.9**	**-0.1**
ISR				⇓S	**Sn**	**23 11 46.7**	**-2.7**
GHRR		**0.66**	**63**	⇑P	**Pn**	**23 11 36.9**	**-0.1**
GHRR				⇓S	**Sn**	**23 11 49.0**	**-0.3**
TESR	**Tescani**	**0.75**	**4**	⇓P	**Pn**	**23 11 37.6**	**-0.2**
TESR				⇓S	**Sn**	**23 11 49.6**	**-1.2**
TESR	**Tescani**	**0.75**	**4**	P	**Pn**	**23 11 37.6**	**-0.2**
DOPR	**Dopca**	**0.84**	**284**	⇑P	**Pn**	**23 11 39.1**	**+0.3**
DOPR				⇓S	**Sn**	**23 11 52.0**	**-0.7**
SLCR	**Slobozia Conac**	**0.86**	**101**	⇓P	**Pn**	**23 11 37.8**	**-1.1**
PGOR	**Pogoanele**	**0.91**	**161**	⇓P	**Pn**	**23 11 39.0**	**-0.5**
PGOR				⇑S	**Sn**	**23 11 53.4**	**-0.3**
PGOR	**Pogoanele**	**0.91**	**161**		**Pn**	**23 11 39.0**	**-0.5**
PGOR					**Sn**	**23 11 53.4**	**-0.3**
SCHL	**Schela**	**0.93**	**106**	⇓P	**Pn**	**23 11 38.4**	**-1.2**
SCHL				⇓S	**Sn**	**23 11 51.4**	**-2.7**
SCHL	**Schela**	**0.93**	**106**		**Pn**	**23 11 38.4**	**-1.2**
SCHL					**Sn**	**23 11 51.4**	**-2.7**
PLAR	**PLOIESTI**	**0.93**	**204**	⇑P	**Pn**	**23 11 40.1**	**+0.4**
PLAR				⇓S	**Sn**	**23 11 52.5**	**-1.7**
PLAR	**PLOIESTI**	**0.93**	**204**		**Pn**	**23 11 40.1**	**+0.4**
PLAR					**Sn**	**23 11 52.5**	**-1.7**
SCTR	**Scanteiesti**	**1.01**	**95**	⇓P	**Pn**	**23 11 40.1**	**-0.4**
SCTR	**Scanteiesti**	**1.01**	**95**		**Pn**	**23 11 40.0**	**-0.4**
TATR	**Tatarca**	**1.05**	**99**	⇓P	**Pn**	**23 11 40.6**	**-0.5**
TATR	**Tatarca**	**1.05**	**99**		**Pn**	**23 11 40.6**	**-0.5**
VLDR	**Vladesti**	**1.06**	**85**	⇓P	**Pn**	**23 11 40.7**	**-0.4**
VLDR	**Vladesti**	**1.06**	**85**		**Pn**	**23 11 40.7**	**-0.4**
SULR		**1.11**	**191**	⇓P	**Pn**	**23 11 41.6**	**-0.1**
SULR				⇓S	**Sn**	**23 11 57.3**	**-0.4**
VOIR		**1.11**	**253**	⇓P	**Pn**	**23 11 41.7**	**-0.1**
VOIR				⇑S	**Sn**	**23 11 57.6**	**-0.3**
VOIR		**1.11**	**253**	P	**Pn**	**23 11 41.7**	**-0.1**
JOSR	**Joseni**	**1.19**	**323**	⇑P	**Pn**	**23 11 42.8**	**+0.2**
JOSR				⇑S	**Sn**	**23 12 00.7**	**+1.3**
JOSR	**Joseni**	**1.19**	**323**		**Pn**	**23 11 42.8**	**+0.2**
JOSR					**Sn**	**23 12 00.7**	**+1.3**
MTUR	**Matau**	**1.19**	**243**	⇓P	**Pn**	**23 11 43.6**	**+1.0**
MTUR	**Matau**	**1.19**	**243**		**Pn**	**23 11 43.5**	**+0.8**
MTUR	**Matau**	**1.19**	**243**	P	**Pn**	**23 11 43.5**	**+0.8**
GIRR	**Girov**	**1.19**	**358**	⇑P	**Pn**	**23 11 42.9**	**+0.3**
GIRR	**Girov**	**1.19**	**358**		**Pn**	**23 11 42.9**	**+0.3**
GIUM	**Giurgiulesti**	**1.19**	**103**	⇓P	**Pn**	**23 11 42.2**	**-0.4**
GIUM				⇓S	**Sn**	**23 11 58.3**	**-1.0**
GIUM	**Giurgiulesti**	**1.19**	**103**		**Pn**	**23 11 42.2**	**-0.4**
GIUM					**Sn**	**23 11 58.3**	**-1.0**
GIUM	**Giurgiulesti**	**1.19**	**103**	P	**Pn**	**23 11 42.1**	**-0.4**
GIUM				S	**Sn**	**23 11 58.2**	**-1.0**
BIZ	**Bicaz**	**1.21**	**345**	⇑P	**Pn**	**23 11 43.8**	**+0.9**
BIZ				⇓S	**Sn**	**23 12 00.5**	**+0.6**
VASR	**Vaslui**	**1.22**	**44**	⇓P	**Pn**	**23 11 42.9**	**-0.1**
VASR	**Vaslui**	**1.22**	**44**		**Pn**	**23 11 42.9**	**-0.1**
CFR	**Carcaliu**	**1.25**	**118**	⇓P	**Pn**	**23 11 42.1**	**-1.3**
CFR				⇓S	**Sn**	**23 12 00.2**	**-0.5**
AMRR	**Amara**	**1.28**	**155**	⇓P	**Pn**	**23 11 43.0**	**-0.7**
AMRR				⇑S	**Sn**	**23 12 00.0**	**-1.2**
LEHL	**Lehliu**	**1.31**	**172**	⇓P	**Pn**	**23 11 43.4**	**-0.6**
LEHL				⇓S	**Sn**	**23 12 01.2**	**-0.5**
INCR	**INCERC-Sediu C**	**1.36**	**192**	⇑P	**Pn**	**23 11 44.1**	**-0.5**
INCR				⇑S	**Sn**	**23 12 02.6**	**-0.3**
INCR	**INCERC-Sediu C**	**1.36**	**192**		**Pn**	**23 11 44.1**	**-0.5**
INCR					**Sn**	**23 12 02.6**	**-0.3**
LEOM	**Leova**	**1.37**	**58**	⇓P	**Pn**	**23 11 44.4**	**-0.3**
LEOM				⇓S	**Sn**	**23 12 02.6**	**-0.5**
LEOM	**Leova**	**1.37**	**58**	P	**Pn**	**23 11 44.4**	**-0.3**
LEOM				S	**Sn**	**23 12 02.6**	**-0.5**
ARR	**Arges**	**1.41**	**254**	⇓P	**Pn**	**23 11 45.9**	**+0.5**
ARR				⇓S	**Sn**	**23 12 04.6**	**+0.3**
HARR	**Harsova**	**1.45**	**138**	⇑P	**Pn**	**23 11 44.6**	**-1.1**
HARR	**Harsova**	**1.45**	**138**		**Pn**	**23 11 44.5**	**-1.1**
HARR	**Harsova**	**1.45**	**138**	P	**Pn**	**23 11 44.6**	**-1.1**
STFAR	**Stefanesti-Arg**	**1.45**	**232**	⇓P	**Pn**	**23 11 46.2**	**+0.5**
STFAR				⇑S	**Sn**	**23 12 05.6**	**+0.7**
STFAR	**Stefanesti-Arg**	**1.45**	**232**		**Pn**	**23 11 46.2**	**+0.5**
STFAR					**Sn**	**23 12 05.6**	**+0.7**
BUC1	**Bucharest**	**1.47**	**195**	⇓P	**Pn**	**23 11 45.8**	**-0.2**
BUC1				⇓S	**Sn**	**23 12 04.9**	**-0.4**
BUC1	**Bucharest**	**1.47**	**195**		**Pn**	**23 11 45.8**	**-0.2**
BUC1					**Sn**	**23 12 04.9**	**-0.4**
BUC1	**Bucharest**	**1.47**	**195**	P	**Pn**	**23 11 45.8**	**-0.2**
BUC1						23 12 04.9	
MDB	**Medias**	**1.57**	**285**	⇑P	**Pn**	**23 11 48.3**	**+1.1**
MDB	**Medias**	**1.57**	**285**		**Pn**	**23 11 48.3**	**+1.1**
MDB	**Medias**	**1.57**	**285**	P	**Pn**	**23 11 48.3**	**+1.1**
IAS	**Iasi**	**1.58**	**25**	⇓P	**Pn**	**23 11 47.3**	**-0.1**
IAS				⇓S	**Sn**	**23 12 06.7**	**-1.2**
TPGR	**Topolog**	**1.59**	**124**	⇓P	**Pn**	**23 11 46.0**	**-1.6**
TPGR				⇑S	**Sn**	**23 12 05.0**	**-3.2**
TPGR	**Topolog**	**1.59**	**124**		**Pn**	**23 11 46.0**	**-1.6**
TPGR					**Sn**	**23 12 05.0**	**-3.2**
RASA	**Rasa**	**1.61**	**165**	⇓P	**Pn**	**23 11 46.5**	**-1.2**
TGMR	**Targu Mures**	**1.61**	**299**	⇓P	**Pn**	**23 11 48.8**	**+1.0**
TGMR				⇑S	**Sn**	**23 12 10.5**	**+2.0**
TGMR	**Targu Mures**	**1.61**	**299**		**Pn**	**23 11 48.8**	**+1.0**
TGMR					**Sn**	**23 12 10.5**	**+2.0**
TLBR	**Topalu**	**1.61**	**139**	⇑P	**Pn**	**23 11 46.6**	**-1.2**
TLBR				⇑S	**Sn**	**23 12 05.4**	**-3.1**
TLBR	**Topalu**	**1.61**	**139**		**Pn**	**23 11 46.6**	**-1.2**
TLBR					**Sn**	**23 12 05.4**	**-3.1**
TLCR		**1.69**	**109**	⇓P	**Pn**	**23 11 47.5**	**-1.2**
TLCR				⇓S	**Sn**	**23 12 09.1**	**-1.1**
TLCR		**1.69**	**109**		**Pn**	**23 11 47.5**	**-1.2**
TLCR					**Sn**	**23 12 09.1**	**-1.1**
RMVG	**GOVORA**	**1.77**	**246**	⇓P	**Pn**	**23 11 50.8**	**+1.1**
RMVG	**GOVORA**	**1.77**	**246**		**Pn**	**23 11 50.8**	**+1.1**
CVDA	**Cernavoda**	**1.77**	**143**	⇑P	**Pn**	**23 11 48.8**	**-1.0**
CVDA				⇓S	**Sn**	**23 12 10.0**	**-2.2**
CVDA	**Cernavoda**	**1.77**	**143**		**Pn**	**23 11 48.9**	**-1.0**
CVDA					**Sn**	**23 12 10.0**	**-2.2**
TIRR	**Tirgusor**	**1.85**	**134**	⇑P	**Pn**	**23 11 49.6**	**-1.2**
TIRR				⇑S	**Sn**	**23 12 10.8**	**-3.2**
TIRR	**Tirgusor**	**1.85**	**134**	⇑P	**Pn**	**23 11 49.6**	**-1.2**
TIRR				⇑S	**Sn**	**23 12 10.8**	**-3.2**
TIRR	**Tirgusor**	**1.85**	**134**		**Pn**	**23 11 49.0**	**-1.8**
TIRR				Sn	**Sn**	**23 12 10.4**	**-3.6**
TIRR	**Tirgusor**	**1.85**	**134**		**Pn**	**23 11 49.6**	**-1.2**
TIRR					**Sn**	**23 12 10.8**	**-3.2**
TIRR	**Tirgusor**	**1.85**	**134**	P	**Pn**	**23 11 49.0**	**-1.8**
TIRR						23 12 10.4	
ICOR	**Ion Corvin**	**1.87**	**152**	⇑P	**Pn**	**23 11 50.3**	**-0.7**
ICOR				⇑S	**Sn**	**23 12 13.2**	**-1.2**
COPA	**Copaceanca**	**1.89**	**211**	⇓P	**Pn**	**23 11 50.7**	**-0.7**
COPA				⇑S	**Sn**	**23 12 13.7**	**-1.3**
JURR	**Jurilovca**	**1.92**	**121**	⇓P	**Pn**	**23 11 50.8**	**-0.8**
MILM	**Milestii Mici**	**1.94**	**53**	*d* iP	**Pn**	**23 11 51.1**	**-0.8**
MILM				*i* S	**Sn**	**23 12 14.0**	**-1.9**
MILM				pmax	pmax		
	comp=Z,132μm,0.9s						
MILM				smax	smax		
	comp=N,515μm,0.9s						
MILM				smax	smax		
	comp=E,315μm,1.4s						
MILM	**Milestii Mici**	**1.94**	**53**	P	**Pn**	**23 11 50.9**	**-1.0**
MILM				Pm		23 11 53.0	
MILM				*i* S	**Sn**	**23 12 14.0**	**-1.9**
MILM				Sm		23 12 15.0	
LOT	**Lotru**	**1.99**	**262**	⇓P	**Pn**	**23 11 52.7**	**-0.1**
LOT				⇓S	**Sn**	**23 12 16.9**	**-0.5**
ARCR	**ARCALIA**	**2.02**	**312**	⇑P	**Pn**	**23 11 53.2**	**+0.2**
ARCR				⇓S	**Sn**	**23 12 13.3**	**+0.4**
ARCR	**ARCALIA**	**2.02**	**312**		**Pn**	**23 11 53.2**	**+0.2**
ARCR					**Sn**	**23 12 18.3**	**+0.4**
BURAR	**Bucovina Array**	**2.07**	**334**	⇑P	**Pn**	**23 11 55.4**	**+1.6**
BURAR				⇓S	**Sn**	**23 12 22.5**	**+3.4**
BURAR	**Bucovina Array**	**2.07**	**334**	Pn	**Pn**	**23 11 54.7**	**+0.9**
BUR08	**Bucovina Ar. S**	**2.10**	**334**	Pn	**Pn**	**23 11 55.2**	**+1.1**
BUR08				Sn	**Sn**	**23 12 21.9**	**+2.0**
TSCT	**Constanta Port**	**2.19**	**137**	⇓P	**Pn**	**23 11 54.1**	**-1.1**
TSCT				⇓S	**Sn**	**23 12 18.5**	**-3.3**
TSCT	**Constanta Port**	**2.19**	**137**		**Pn**	**23 11 54.1**	**-1.1**
TSCT					**Sn**	**23 12 18.6**	**-3.3**
RAZG	**Razgrad**	**2.20**	**181**	⇓P	**Pn**	**23 11 54.2**	**-1.2**
RAZG	**Razgrad**	**2.20**	**181**		**Pn**	**23 11 54.2**	**-1.2**
EFOR	**EFORIE**	**2.24**	**138**	⇓P	**Pn**	**23 11 55.0**	**-0.9**
EFOR				⇓S	**Sn**	**23 12 22.0**	**-1.0**
CJR	**Cluj-Napoca**	**2.27**	**296**	⇓P	**Pn**	**23 11 57.1**	**+0.8**
CJR	**Cluj-Napoca**	**2.27**	**296**	P	**Pn**	**23 11 56.9**	**+0.6**
ZIMR		**2.28**	**202**	⇓P	**Pn**	**23 11 55.5**	**-0.9**
ZIMR				⇓S	**Sn**	**23 12 21.8**	**-2.1**
ZIMR		**2.28**	**202**		**Pn**	**23 11 55.5**	**-0.9**
ZIMR					**Sn**	**23 12 21.8**	**-2.1**
TSSL	**Sulina**	**2.31**	**104**	⇑P	**Pn**	**23 11 55.9**	**-0.9**
TSSL				⇑S	**Sn**	**23 12 23.0**	**-1.6**
TSSL	**Sulina**	**2.31**	**104**		**Pn**	**23 11 55.9**	**-0.9**
TSSL					**Sn**	**23 12 23.0**	**-1.6**
VLAD	**Vladila**	**2.34**	**222**	⇓P	**Pn**	**23 11 56.2**	**-1.0**
PSN	**Preselentsi**	**2.38**	**150**	*i* P	**Pn**	**23 11 57.3**	**-0.5**
PURM	**Purcari**	**2.42**	**70**	⇓P	**Pn**	**23 11 57.6**	**-0.7**
PURM				⇑S	**Sn**	**23 12 25.2**	**-2.1**
PURM	**Purcari**	**2.42**	**70**		**Pn**	**23 11 57.6**	**-0.7**
PURM					**Sn**	**23 12 25.2**	**-2.1**
MANR	**Mangalia**	**2.42**	**143**	⇑P	**Pn**	**23 11 57.2**	**-1.1**
MANR				⇓S	**Sn**	**23 12 25.8**	**-1.6**
DRBR	**Darabani**	**2.44**	**1**	⇓P	**Pn**	**23 11 58.9**	**+0.4**
DRBR	**Darabani**	**2.44**	**1**		**Pn**	**23 11 58.9**	**+0.4**
TSMN	**Mangalia Port-**	**2.44**	**143**	⇓P	**Pn**	**23 11 57.6**	**-1.0**
TSMN				⇓S	**Sn**	**23 12 25.1**	**-2.7**
TSMN	**Mangalia Port-**	**2.44**	**143**		**Pn**	**23 11 57.6**	**-1.0**
TSMN					**Sn**	**23 12 25.1**	**-2.7**
DEV	**Deva**	**2.56**	**274**	⇓P	**Pn**	**23 12 01.0**	**+0.9**
DEV				⇓S	**Sn**	**23 12 31.8**	**+1.2**
DEV	**Deva**	**2.56**	**274**	P	**Pn**	**23 12 00.8**	**+0.7**
CHRU	**Chernivtsi**	**2.57**	**350**	⇓*i*P	**Pn**	**23 11 58.0**	**-2.2**
CHRU				Pm		23 12 00.1	
CHRU				*i* S	**Sn**	**23 12 27.6**	**-3.2**
CHRU				Sm		23 12 30.1	
SRE	**Strehaia**	**2.62**	**246**	⇓P	**Pn**	**23 12 00.4**	**-0.5**
SRE				⇓S	**Sn**	**23 12 31.0**	**-1.0**
PRD	**Provadia**	**2.64**	**167**	*i* P	**Pn**	**23 12 02.2**	**+1.1**
GZR	**Gura Zlata**	**2.69**	**263**	⇑P	**Pn**	**23 12 02.2**	**+0.4**
GZR				⇑S	**Sn**	**23 12 33.6**	**-0.2**
PVL	**Pavlikeni**	**2.70**	**199**	*i* P	**Pn**	**23 12 02.6**	**+0.6**
ROIA	**ROIAK**	**2.74**	**167**	*i* P	**Pn**	**23 12 02.2**	**-0.3**
KSV	**Kosov**	**2.75**	**339**	⇓*i*P	**Pn**	**23 12 02.9**	**+0.3**
KSV				Pm		23 12 06.2	
KSV				*e*S	**Sn**	**23 12 34.6**	**-0.5**
KSV				Sm		23 13 01.6	
RAKU	**Rahkiv**	**2.79**	**325**	⇑*i*P	**Pn**	**23 12 04.2**	**+1.0**
RAKU				Pm		23 12 21.9	
RAKU				*e*S	**Sn**	**23 12 36.8**	**+0.6**
RAKU				Sm		23 13 04.7	
KMPD	**K-Podol'skiy**	**2.80**	**359**	⇓*i*P	**Pn**	**23 12 01.9**	**-1.4**
KMPD				*e*S	**Sn**	**23 12 33.4**	**-2.8**
KMPD	**K-Podol'skiy**	**2.80**	**359**	P	**Pn**	**23 12 02.5**	**-0.8**
NSLU	**Nyzhne Selyshc**	**2.83**	**330**	P	Pn	23 12 09.9	+6.2
NSLU				Pm		23 12 34.5	
NSLU				*e*S	Sn	23 12 47.4	+10
NSLU				Sm		23 13 26.8	
BMR	**Baia Mare**	**2.84**	**313**	⇑P	**Pn**	**23 12 04.9**	**+1.0**
MESR	**Meseseni**	**2.85**	**300**	⇓P	**Pn**	**23 12 04.8**	**+0.8**
MESR	**Meseseni**	**2.85**	**300**		**Pn**	**23 12 04.8**	**+0.8**
DRGR		**2.86**	**292**	⇓P	**Pn**	**23 12 04.2**	**0.0**
DRGR		**2.86**	**292**	*e*Pn	**Pn**	**23 12 04.5**	**+0.3**
BAIL	**Bailesti**	**2.88**	**234**	⇓P	**Pn**	**23 12 03.7**	**-0.7**
BAIL				⇑S	**Sn**	**23 12 36.3**	**-1.9**
NDNU	**Novodnistrovsk**	**2.88**	**11**	*e*P	**Pn**	**23 12 04.1**	**-0.3**
NDNU				Pm		23 12 35.0	
NDNU				*e*S	**Sn**	**23 12 36.3**	**-1.9**
NDNU				Sm		23 12 38.2	
RMGR	**Halanga-Turnu**	**2.95**	**249**	⇓P	**Pn**	**23 12 04.6**	**-0.7**
RMGR	**Halanga-Turnu**	**2.95**	**249**		**Pn**	**23 12 04.7**	**-0.7**
PUNG	**Punghina**	**2.98**	**241**	⇓P	**Pn**	**23 12 04.4**	**-1.2**
HERR	**Herculane**	**3.06**	**255**	⇓P	**Pn**	**23 12 06.2**	**-0.5**
DJES	**Djerdap**	**3.06**	**250**	⇓P	**Pn**	**23 12 05.7**	**-1.1**
DJES	**Djerdap**	**3.06**	**250**	*e*Pn	**Pn**	**23 12 05.9**	**-1.0**
DJES				*e*Sg	**Sn**	**23 12 39.8**	**-2.9**
NE56	**Odesa**	**3.14**	**72**	*e*P	**Pn**	**23 12 06.6**	**-1.3**
NE56				*e*S	**Sn**	**23 12 41.1**	**-3.4**
NE56	**Odesa**	**3.14**	**72**	P	**Pn**	**23 12 06.4**	**-1.5**
STNU	**Starunia**	**3.26**	**335**	P	**Pn**	**23 12 10.9**	**+1.4**
STNU				*e*S	**Sn**	**23 12 48.5**	**+1.1**
STNU	**Starunia**	**3.26**	**335**	P	**Pn**	**23 12 09.3**	**-0.2**
KORU	**Korolevo**	**3.35**	**317**	⇓*i*P	**Pn**	**23 12 11.0**	**+0.3**
KORU				Pm		23 12 42.5	
KORU				*e*S	**Sn**	**23 12 50.9**	**+1.4**
KORU				Sm		23 13 34.5	
TRSU	**Trosnyk**	**3.40**	**315**	⇓*i*P	**Pn**	**23 12 12.0**	**+0.7**
MEZ	**Mezhgor'ye**	**3.45**	**324**	⇑*i*P	**Pn**	**23 12 13.1**	**+1.1**
MEZ				*e*S	**Sn**	**23 12 53.2**	**+1.3**
HORU	**Horodok**	**3.45**	**358**	⇑*i*P	**Pn**	**23 12 11.7**	**-0.3**
SIRR	**Siria**	**3.45**	**280**	⇓P	**Pn**	**23 12 12.4**	**+0.3**
SIRR	**Siria**	**3.45**	**280**	P	**Pn**	**23 12 11.8**	**-0.3**
BZS	**Buzias**	**3.47**	**269**	⇓P	**Pn**	**23 12 12.4**	**+0.1**
BZS	**Buzias**	**3.47**	**269**	*e*Pn	**Pn**	**23 12 12.8**	**+0.5**
BLKB	**Belogradchik**	**3.51**	**234**	⇓P	**Pn**	**23 12 11.3**	**-1.5**

ENEZ	Enez	5.04	184	P		Pn	23 12 32.4	-1.2
ISK	Istanbul-Kandi	5.04	158	P		Pn	23 12 31.8	-1.8
PSZ	Piszkesteto	5.06	298	Pn		Pn	23 12 33.2	-0.6
PSZ	Piszkesteto	5.06	298	P		Pn	23 12 33.2	-0.6
PSZ	Piszkesteto	5.06	298	P		Pn	23 12 33.2	-0.6
AK07	Malin Array Si	5.10	19	P		Pn	23 12 33.1	-1.2
TEKS	Tekeris	5.12	259	⇓*i*Pn		Pn	23 12 32.9	-1.8
TEKS	Tekeris	5.12	259	*e*Pn		Pn	23 12 33.3	-1.4
AK13	Malin Array Si	5.13	18	P		Pn	23 12 33.5	-1.2
SRS	Serrai	5.13	206	P		Pn	23 12 33.5	-1.3
AK06	Malin Array Si	5.13	19	P		Pn	23 12 33.5	-1.3
AK05	Malin Array Si	5.17	19	P		Pn	23 12 33.8	-1.4
SEV	Sevastopol'	5.17	101	*e*P		Pn	23 12 32.7	-2.6
SEV				Pm			23 12 34.7	
	comp=Z,1μm,0.3s							
SEV				*e*S		Sn	23 13 28.2	-5.5
SEV	Sevastopol'	5.17	101	⇓*i*P		Pn	23 12 32.7	-2.6
SEV				*e*S		Sn	23 13 28.2	-5.5
SEV	Sevastopol'	5.17	101	⇓*i*P		Pn	23 12 32.7	-2.6
SEV				*e*S		Sn	23 13 28.2	-5.5
AK09	Malin Array Si	5.18	20	P		Pn	23 12 34.1	-1.3
AK08	Malin Array Si	5.19	19	P		Pn	23 12 34.2	-1.3
AK16	Malin Array Si	5.19	18	P		Pn	23 12 34.2	-1.4
AK17	Malin Array Si	5.20	18	P		Pn	23 12 34.3	-1.3
AK02	Malin Array Si	5.20	19	P		Pn	23 12 34.2	-1.5
AK11	Malin Array Si	5.21	19	P		Pn	23 12 34.4	-1.4
AK15	Malin Array Si	5.22	18	P		Pn	23 12 34.6	-1.3
MI28	Mi28,Pidlybu	5.22	8	P		Pn	23 12 35.4	-0.5
MI28				sP			23 12 58.9	
AK19	Malin Array Si	5.22	17	P		Pn	23 12 34.6	-1.4
AK18	Malin Array Si	5.23	18	P		Pn	23 12 34.8	-1.3
AK01	Malin Array Si	5.24	19	P		Pn	23 12 34.7	-1.4
AK20	Malin Array Si	5.24	17	P		Pn	23 12 34.8	-1.4
BLJ	Bijeljina	5.24	262	*e*Pn		Pn	23 12 35.6	-0.7
AKASG	Malin Array Be	5.25	19	P		Pn	23 12 35.3	-1.0
	comp=Z,920nm,0.4s,baz=202,slow=13,SNR=1106							
AKASG				S		Sn	23 13 31.4	-4.0
	comp=Z,2μm,0.4s,baz=197,slow=21,SNR=17							
AKASG				LR		LR	23 14 44.2	
	comp=Z,14μm,22.0s,baz=180,slow=38							
AKASG	Malin Array Be	5.25	19			Pn	23 12 34.8	-1.6
AKBB	Malin Array Si	5.25	19	Pn		Pn	23 12 35.0	-1.3
AKBB	Malin Array Si	5.25	19	P		Pn	23 12 35.0	-1.3
AKBB	Malin Array Si	5.25	19	P		Pn	23 12 34.8	-1.5
AKBB				sP			23 12 59.0	
AK04	Malin Array Si	5.25	18	P		Pn	23 12 35.0	-1.4
AK03	Malin Array Si	5.27	19	P		Pn	23 12 35.2	-1.4
AK22	Malin Array Si	5.27	18	P		Pn	23 12 35.2	-1.4
AK21	Malin Array Si	5.28	17	P		Pn	23 12 35.3	-1.4
AK23	Malin Array Si	5.28	18	P		Pn	23 12 35.4	-1.4
KOKK	Kokkinochori,	5.29	202	P		Pn	23 12 35.2	-1.8
SKO	Skopje	5.30	226	*i* Pn		Pn	23 12 36.4	-0.8
VAY	Valandovo	5.31	215	*i* Pn		Pn	23 12 36.5	-0.7
KNT	Kendrikon	5.32	211	P		Pn	23 12 36.5	-0.9
THAS	Thassos island	5.33	195	P		Pn	23 12 34.4	-3.1
SJES	Sjenica	5.34	244	*e*Pn		Pn	23 12 37.4	-0.3
SMTH	Samothraki Isl	5.35	188	P		Pn	23 12 35.9	-1.9
SIM	Simferopol'	5.38	96	*e*P		Pn	23 12 35.3	-2.9
SIM				Pm			23 12 40.5	
	comp=Z,2μm,0.3s							
SIM				*e*S		Sn	23 13 33.0	-5.9
SIM				Sm			23 13 35.5	
	comp=N,19μm,0.7s							
SIM				Sm			23 13 35.5	
	comp=E,4μm,0.5s							
SIM	Simferopol'	5.38	96	*de*P		Pn	23 12 35.4	-2.8
SIM				*e*S		Sn	23 13 34.1	-4.8
SIM				*e*S		Sn	23 13 34.1	-4.8
SIM				pmax	pmax			
	comp=Z,2μm,0.8s							
SIM				smax	smax			
	comp=E,43μm,1.4s							
SIM				smax	smax			
	comp=E,73μm,1.5s							
SIM	Simferopol'	5.38	96	*e*P		Pn	23 12 35.3	-2.9
SIM				Pm			23 12 40.5	
SIM				*e*S		Sn	23 13 33.0	-5.9
SIM				Sm			23 13 35.5	
BBLS	Lazići	5.44	252	*e*Pn		Pn	23 12 38.8	-0.2
BUD	Budapest	5.47	291	P		Pn	23 12 40.2	+0.8
SOH	Sokhos	5.47	206	P		Pn	23 12 38.4	-1.1
RNPP5	Staryi Chortor	5.48	356	P		Pn	23 12 39.0	-0.5
YAL	Yalta	5.52	101	*e*P		Pn	23 12 37.2	-2.9
YAL				Pm			23 12 41.7	
	comp=E,2μm,0.5s							
YAL				*e*S		Sn	23 13 37.4	-4.8
YAL				Sm			23 13 42.0	
	comp=N,4μm,0.4s							
YAL				Sm			23 13 42.0	
	comp=E,7μm,0.5s							
YAL	Yalta	5.52	101	⇓*e*P		Pn	23 12 37.2	-2.9
YAL				*e*S		Sn	23 13 37.4	-4.8
YAL	Yalta	5.52	101	⇓*e*P		Pn	23 12 37.2	-2.9
YAL				Pm			23 12 41.7	
YAL				*e*S		Sn	23 13 37.4	-4.8
YAL				Sm			23 13 42.0	
MORH	Mrgy, Hungar	5.54	277	⇓P		Pn	23 12 40.6	+0.3
MORH	Mrgy, Hungar	5.54	277			Pn	23 12 40.6	+0.3
MORH	Mrgy, Hungar	5.54	277	P		Pn	23 12 40.5	+0.2
MORH				S		Sn	23 13 43.0	+0.4
RUDO	Rudo	5.56	250	*e*Pn		Pn	23 12 38.5	-2.2
RNPP2	Kostyukhnivka	5.58	356	P		Pn	23 12 40.8	-0.1
NIE	Niedzica	5.59	313	*e*Pn		Pn	23 12 42.8	+1.7
NIE				*e*Sn		Sn	23 13 46.0	+2.0
RNPP8	Varash	5.59	355	P		Pn	23 12 40.9	-0.1
RNPP1	Kostyukhnivka	5.61	355	P		Pn	23 12 40.8	-0.5
ALU	Alushta	5.64	98	*e*P		Pn	23 12 39.3	-2.4
ALU	Alushta	5.64	98	⇓*i*P		Pn	23 12 39.3	-2.4
ALU	Alushta	5.64	98	⇓*i*P		Pn	23 12 39.3	-2.4
GRG	Griva	5.69	214	P		Pn	23 12 40.9	-1.5
KDZE	Karadeniz Ereo	5.69	140	⇑P		Pn	23 12 41.1	-1.3
KDZE	Karadeniz Ereo	5.69	140			Pn	23 12 41.1	-1.3
OUR	Ouranopolis	5.75	200	P		Pn	23 12 39.8	-3.4
HORT	Hortiatis	5.75	207	P		Pn	23 12 42.2	-1.2
THE	Thessaloniki	5.77	208	P		Pn	23 12 42.1	-1.4
LANS	Liptovska Anna	5.88	308	*e*P		Pn	23 12 46.5	+1.5
LANS	Liptovska Anna	5.88	308	*e*P		Pn	23 12 46.5	+1.5
KOVH	Kovagotottos	5.91	276	P		Pn	23 12 46.0	+0.6
VYHS	Vyhne	5.94	300	*e*P		Pn	23 12 46.1	+0.4
VYHS				MLR	MLR			
	comp=Z,7μm,36.5s							
VYHS	Vyhne	5.94	300	*e*P		Pn	23 12 46.1	+0.4
VYHS				*e*S		Sn	23 13 38.9	-13
VYHS				*e*L		L	23 14 59.1	
EZN	Ezine	5.94	182	P		Pn	23 12 44.3	-1.5
CSKK	Cskako	5.94	289	P		Pn	23 12 47.3	+1.5
LIA	Limnos Island	5.95	190	P		Pn	23 12 43.9	-2.1
SUDU	Sudak	6.01	95	*e*P		Pn	23 12 37.2	-10
SUDU				*e*S		Pn	23 12 41.8	-4.9
	comp=Z,1μm,0.4s							
SUDU	Sudak	6.01	95	⇓*i*P		Pn	23 12 41.8	-4.9
SUDU	Sudak	6.01	95	⇓*i*P		Pn	23 12 37.2	-10
SUDU				*e*S		Sn	23 13 56.6	+2.5
SRO	Srobarova	6.02	293	*e*P		Pn	23 12 47.4	+0.5
SRO	Srobarova	6.02	293	*e*P		Pn	23 12 47.4	+0.5
PHP	Peshkopia	6.03	230	P		Pn	23 12 46.4	-0.7
UPM	Unac-Piva	6.05	248	⇓*i*Pn		Pn	23 12 47.0	-0.5
TIH	Tihany	6.11	284	P		Pn	23 12 49.3	+1.2
A252A	Venje	6.12	270	*e*Pn		Pn	23 12 48.5	+0.1
PAIG	Paliouri	6.21	201	P		Pn	23 12 47.2	-2.3
PDG	Podgorica	6.23	240	⇓P		Pn	23 12 49.0	-0.7
PDG	Podgorica	6.23	240	Pn		Pn	23 12 49.1	-0.7
FEO	Feodosiya	6.26	94	*e*P		Pn	23 12 47.2	-2.9
FEO				Pm			23 12 51.6	
	comp=E,439nm,0.2s							
FEO				*e*S		Sn	23 13 56.6	-3.6
FEO	Feodosiya	6.26	94	*e*P		Pn	23 12 47.2	-2.9
FEO				*e*S		Sn	23 13 56.6	-3.6
OHR	Ohrid	6.27	224	*i* Pn		Pn	23 12 50.4	+0.1
MDUB	Mudurnu	6.29	146	Pn		Pn	23 12 48.6	-2.0
OJC	Ojcow	6.36	317	*e*Pn		Pn	23 12 50.5	-1.0
OJC				*e*Sn		Sn	23 13 50.7	-12
OJC	Ojcow	6.36	317	Pn		Pn	23 12 50.4	-1.0
OJC	Ojcow	6.36	317	P		Pn	23 12 50.4	-1.0
MPLH	Magyarpolny	6.39	286	P		Pn	23 12 52.6	+0.7
MPLH				S		Sn	23 14 04.4	+1.0
LIT	Litokhoron	6.40	209	P		Pn	23 12 50.1	-2.1
LIT	Litokhoron	6.40	209	Pn		Pn	23 12 50.7	-1.5
LIT	Litokhoron	6.40	209	P		Pn	23 12 50.7	-1.5
DRME	Dracevica, Mon	6.42	239	⇓*i*Pn		Pn	23 12 52.3	0.0
BRY	Bratogost	6.43	246	*e*Pn		Pn	23 12 52.0	-0.6
KZN	Kozani	6.49	214	P		Pn	23 12 52.3	-1.1
PRK	Paraskevi	6.52	182	P		Pn	23 12 53.2	-0.5
BORA	Eskisehir	6.54	153	Pn		Pn	23 12 51.7	-2.4
TIR	Tirane	6.57	230	⇓P		Pn	23 12 54.4	0.0
TIR	Tirane	6.57	230	P		Pn	23 12 54.8	+0.4
TIR	Tirane	6.57	230	Pn		Pn	23 12 54.6	+0.2
TIR	Tirane	6.57	230	P		Pn	23 12 54.6	+0.2
EGYH	Egyhazaskeszo	6.57	288	P		Pn	23 12 55.4	+1.0
SIGR	SIGRI	6.57	185	P		Pn	23 12 52.6	-1.8
BZK	Bozkurt	6.59	123	⇓P		Pn	23 12 49.7	-4.9
KBN	Korca	6.65	221	P		Pn	23 12 55.3	-0.2
KBN	Korca	6.65	221			Pn	23 12 55.4	-0.2
KBN	Korca	6.65	221	P		Pn	23 12 55.4	-0.2
HCY	Herceg Novi	6.69	243	*e*Pn		Pn	23 12 57.1	+1.1
BLY	Banja Luka	6.70	265	⇓*i*Pn		Pn	23 12 56.2	+0.1
NEST	Nestorio	6.70	219	P		Pn	23 12 56.0	-0.3
JAVC	Velka Javorina	6.79	300	*e*PN		Pn	23 12 58.6	+1.2
DBRK	Dubrovnik	6.79	246	*e*Pn		Pn	23 12 56.9	-0.5
SMOL	Smolenice	6.81	297	*e*P		Pn	23 12 58.7	+1.1
SMOL				MLR	MLR			
	comp=Z,2μm,14.2s							
A051A	Mrakovica	6.84	267	⇓*i*Pn		Pn	23 12 58.6	+0.5
PENT	Pentalofos	6.84	217	P		Pn	23 12 58.2	0.0
MGRS	Mrkonjic Grad	6.84	262	*e*Pn		Pn	23 12 58.5	+0.4
MODS	Modra-Piesok	6.86	296	*e*P		Pn	23 12 59.3	+1.0
MODS				MLR	MLR			
	comp=Z,12μm,33.7s							
MODS	Modra-Piesok	6.86	296	*e*P		Pn	23 12 59.2	+1.0
MODS				*e*S		Sn	23 14 00.7	-14
MODS				*e*L		L	23 15 31.0	
XOR	Xorichti	6.86	202	P		Pn	23 12 55.9	-2.5
MOSL	Moslavina	6.87	272	*i* Pn		Pn	23 12 59.2	+0.7
NEO	Neokhori	6.91	202	P		Pn	23 12 56.5	-2.6
ZST	Bratislava	6.91	294	*e*P		Pn	23 13 00.0	+1.0
ZST				MLR	MLR			
	comp=Z,6μm,10.8s							
ZST	Bratislava	6.91	294	*e*P		Pn	23 13 00.0	+1.0
ZST				*e*L		L	23 16 32.6	
MAUC	Maruska	6.92	304	*e*PN		Pn	23 13 00.3	+1.2
KPRO	Kipourio	6.95	215	P		Pn	23 12 59.4	-0.3
OKC	Ostrava-Krasne	6.98	309	*e*P		Pn	23 13 00.3	+0.4
OKC	Ostrava-Krasne	6.98	309	*e*PN		Pn	23 13 00.3	+0.4
PRIJ	Prijedor	6.98	267	*e*Pn		Pn	23 13 01.3	+1.3
STON	Ston	6.99	249	⇓*i*Pn		Pn	23 12 58.8	-1.2
STON	Ston	6.99	249	*i* Pn		Pn	23 12 59.3	-0.7
ILGA	Ilgaz	7.02	130	Pn		Pn	23 12 58.9	-1.9
SKY	Skiros Island	7.04	193	P		Pn	23 12 58.9	-2.0
THL	Klokotos Trika	7.05	210	P		Pn	23 12 59.6	-1.3
KALN	Kalnik	7.06	277	*e*Pn		Pn	23 13 02.1	+1.1
RICI	Ricice	7.10	255	*e*Pn		Pn	23 13 02.2	+0.6
LSK	Leskovik	7.12	220	P		Pn	23 13 00.9	-1.0
SOP	Sopron	7.14	289	P		Pn	23 13 02.3	+0.2
BEL	Belsk	7.17	330	*e*Pn		Pn	23 13 03.9	+1.4
BEL				*e*Sn		Sn	23 14 21.7	-0.5
KOGS	Kog	7.20	279	*i* Pn		Pn	23 13 03.9	+0.9
A050A	Klekovaca	7.21	263	⇓*i*Pn		Pn	23 13 04.1	+0.9
MAKA	Makarska	7.26	253	*i* Pn		Pn	23 13 04.8	+1.1
MAKA				Sn		Sn	23 14 20.9	-3.5
MORC	Moravsky Berou	7.28	307	Pn		Pn	23 13 03.9	-0.1
MORC	Moravsky Berou	7.28	307	*e*PN		Pn	23 13 03.9	-0.1
MORC	Moravsky Berou	7.28	307	P		Pn	23 13 03.9	-0.1
RONA	Rosalia, Austr	7.32	289	*i* Pn		Pn	23 13 05.8	+1.3
	comp=Z,27nm,0.4s,SNR=19							
LOBO	Lobor	7.33	277	*i* Pn		Pn	23 13 05.5	+0.9
KYMI	Kymi, Euboea I	7.36	195	P		Pn	23 13 02.8	-2.4
A255A	Hotnja, Vukome	7.38	272	*e*Pn		Pn	23 13 06.6	+1.3
BLCB	Balcova	7.39	177	P		Pn	23 13 03.4	-2.1
CHOS	Chios island	7.39	183	P		Pn	23 13 03.7	-1.9
ZAG	Zagreb	7.39	274	*e*Pn		Pn	23 13 06.7	+1.2
VLO	Vlora	7.40	227	P		Pn	23 13 06.9	+1.2
VLO	Vlora	7.40	227			Pn	23 13 06.1	+0.4
VLO	Vlora	7.40	227	P		Pn	23 13 06.1	+0.4
PTJ	Puntijarka	7.40	275	*e*Pn		Pn	23 13 06.3	+0.5
JAN	Janina	7.41	217	P		Pn	23 13 04.8	-1.1
MANT	Manisa	7.42	168			Pn	23 13 04.6	-1.6
KIJV	Kijevo	7.43	260	*e*Pn		Pn	23 13 06.6	+0.5
ANTO	Ankara	7.46	140	⇑P		Pn	23 13 04.8	-1.8
ANTO	Ankara	7.46	140	Pn		Pn	23 13 04.7	-1.9
ANTO	Ankara	7.46	140	P		Pn	23 13 04.7	-1.9
ANTO	Ankara	7.46	140	P		Pn	23 13 11.3	+4.7
BR231	Keskin MP Arra	7.48	140			Pn	23 13 05.7	-1.2
MAKR	Makrakomi, Fth	7.50	207	P		Pn	23 13 06.7	-0.4
LSTV	Lastovo	7.56	250	*e*Pn		Pn	23 13 09.3	+1.5
LSTV				Sn		Sn	23 14 28.0	-3.9
AXAR	Agios Charalam	7.57	204	P		Pn	23 13 07.2	-0.8
LKR	Lokris	7.59	202	P		Pn	23 13 04.8	-3.4
SRN	Sarande	7.61	222	P		Pn	23 13 09.3	+0.8
VRAC	Vranov	7.62	301	⇑P		Pn	23 13 08.4	-0.2
VRAC	Vranov	7.62	301	P		Pn	23 13 08.3	-0.3
	comp=Z,239nm,1.1s,baz=111,slow=12,SNR=67							
VRAC				S		Sn	23 14 30.3	-3.0
	comp=Z,49nm,0.5s,baz=57,slow=17,SNR=1.1							
VRAC				LR	LR		23 17 02.6	
	comp=Z,4μm,18.7s,baz=129,slow=45							
VRAC	Vranov	7.62	301	*e*PN		Pn	23 13 08.5	-0.2
KRUC	Moravsky	7.64	299	*e*PN		Pn	23 13 09.4	+0.5
CONA	Conrad Observa	7.65	290	*i* Pn		Pn	23 13 11.1	+2.0
	comp=Z,68nm,0.7s,SNR=14							
HVAR	Hvar	7.68	254	*e*Pn		Pn	23 13 09.9	+0.4
EVR	Evrytania	7.70	209	P		Pn	23 13 08.4	-1.4
ANN	Anapa	7.73	93	*i* P		Pn	23 13 05.6	-4.5
ANN				*i* S		Sn	23 14 29.0	-6.9
ANN				pmax	pmax			
	comp=N,292nm,0.7s							
ANN				pmax	pmax			
	comp=Z,1μm,1.2s							
ANN				pmax	pmax			
	comp=E,567nm,1.3s							
ANN				MLR	MLR			
	comp=Z,7μm,10.0s							
UDBI	Udbina	7.74	265	*e*Pn		Pn	23 13 11.1	+0.8
ARSA	Arzberg	7.76	285	*i* Pn		Pn	23 13 12.4	+1.9
	comp=Z,319nm,1.2s,SNR=67							
PLIT	Plitvice	7.76	267	*e*Pn		Pn	23 13 11.3	+0.6
OZLJ	Ozalj	7.77	273	*e*Pn		Pn	23 13 11.5	-0.1
KEK	Kerkira	7.83	222	P		Pn	23 13 11.5	-0.1
KEK	Kerkira	7.83	222	Pn		Pn	23 13 10.9	-0.7
KRLC	Kraliky	7.86	307	*e*P		Pn	23 13 11.7	-0.2
KRLC	Kraliky	7.86	307	*e*PN		Pn	23 13 11.7	-0.2
DION	Dionisos Attik	7.93	195	P		Pn	23 13 10.7	-2.2
BOJS	Bojanci	7.94	272	⇓*i*Pn		Pn	23 13 14.1	+1.2
BOJS	Bojanci	7.94	272	*i* Pn		Pn	23 13 14.3	+1.4
BOJS				*i* Sn		Sn	23 14 46.1	+5.1
MORI	Morici	7.95	260	*e*Pn		Pn	23 13 14.3	+1.2
BR131	Keskin Array S	7.97	137	*d* iP		Pn	23 13 11.2	-2.4
BRTR	Keskin Array B	7.97	137	P		Pn	23 13 10.8	-2.8
	comp=Z,40nm,0.4s,baz=322,slow=12,SNR=137							
BRTR				S		Sn	23 14 44.4	+2.2
	comp=Z,128nm,0.8s,baz=294,slow=14,SNR=1.8							
BRTR				LR	LR		23 17 00.8	
	comp=Z,3μm,21.2s,baz=336,slow=43							
BRTR	Keskin Array B	7.97	137	Pn		Pn	23 13 11.2	-2.4
BRTR	Keskin Array B	7.97	137	P		Pn	23 13 11.2	-2.4
PTL	Penteli	7.97	196	P		Pn	23 13 11.3	-2.2
VILL	Villia	7.97	199	P		Pn	23 13 12.1	-1.5
SOKA	Soboth	8.05	281	*i* Pn		Pn	23 13 15.9	+1.3
	comp=Z,286nm,0.5s,SNR=138							
SMG	Samos	8.06	178	P		Pn	23 13 12.4	-2.2
ZIRJ	Zirje	8.06	259	*e*Pn		Pn	23 13 15.2	+0.6
PVO	Paravola	8.06	209	P		Pn	23 13 14.7	0.0
ATHU	Athens Univers	8.07	196	P		Pn	23 13 12.6	-2.2
ATH	Athens Observa	8.07	196	P		Pn	23 13 13.1	-1.7
SERG	Sergoula	8.08	206	P		Pn	23 13 14.7	-0.2
EFP	Efpalio	8.11	207	P		Pn	23 13 14.5	-0.8
VLY	Voula,Athens	8.18	196	P		Pn	23 13 14.3	-1.9
ALIK	Aliki, Aigiali	8.20	205	P		Pn	23 13 17.6	+1.0
TSLK	Tsoukalades, L	8.20	214	P		Pn	23 13 16.5	-0.1
LOUT	Loutraki	8.22	200	P		Pn	23 13 15.4	-1.5
SCTE	Santa Cesarea	8.22	229			Pn	23 13 16.4	-0.5
A250A	Rusevo Krmpots	8.23	269	*e*Pn		Pn	23 13 18.3	+1.4
DPC	Dobruska-Polom	8.25	307	*e*P		Pn	23 13 17.3	+0.1
DPC	Dobruska-Polom	8.25	307	*e*PN		Pn	23 13 17.3	+0.1
THAL	Thalero	8.25	202	P		Pn	23 13 16.2	-1.1
LAKA	Lakka	8.26	206	P		Pn	23 13 18.1	+0.7
TREC	Trest	8.28	299	*e*P		Pn	23 13 19.4	+1.7
TREC				MLR	MLR			
	comp=Z,6μm,15.6s							
TREC	Trest	8.28	299	*e*PN		Pn	23 13 19.4	+1.7
TREC				AMS	AMS		23 17 20.0	
	comp=Z,6μm,15.6s							
VIRC	Vir	8.29	264	*e*Pn		Pn	23 13 18.1	+0.4
NVLJ	Novalja	8.35	266	*i* Pn		Pn	23 13 19.9	+1.3
DRAG	Dragano-Lefkad	8.36	214	P		Pn	23 13 18.6	-0.1
DUGI	Dugi Otok	8.36	262	*i* Pn		Pn	23 13 19.6	+0.8
RABC	Rab	8.38	267	*e*Pn		Pn	23 13 20.3	+1.4
EVGI	Lefkada island	8.38	214	P		Pn	23 13 18.5	-0.5
OBKA	Obir	8.38	279	*e*Pn		Pn	23 13 19.8	+0.7
OBKA	Obir	8.38	279	*i* Pn		Pn	23 13 20.8	+1.7
	comp=Z,526nm,1.4s,SNR=49							
KLV	Kalavryta, Ach	8.39	205	P		Pn	23 13 17.7	-1.5
LJU	Ljubljana	8.40	276	*i* Pn		Pn	23 13 20.8	+1.5
LJU				*e*Sn		Sn	23 14 58.5	+6.2
OSTC	Ostas	8.41	308	*e*PN		Pn	23 13 19.6	+0.2
GUR	Goura	8.43	203	P		Pn	23 13 17.9	-2.0
ISP	Isparta	8.47	158	*c* iP		Pn	23 13 18.8	-1.6
CEY	Cerknica	8.49	274	⇓*i*Pn		Pn	23 13 21.8	+1.3
RIY	Rijeka	8.49	271	*i* Pn		Pn	23 13 22.3	+1.8
UPC	Upice	8.50	308	*e*P		Pn	23 13 20.8	+0.2
UPC	Upice	8.50	308	*e*PN		Pn	23 13 20.8	+0.2
CHVC	Chvalec	8.52	308	*e*PN		Pn	23 13 20.5	-0.3
KSP	Ksiaz	8.52	310	*e*Pn		Pn	23 13 20.4	-0.5
KSP				*e*Sn		Sn	23 15 05.0	+10
EPID	Epidavros	8.54	199	P		Pn	23 13 20.1	-1.2
FSK	Fiskardo	8.55	213	P		Pn	23 13 22.3	+0.9
RLS	Riolos of Patr	8.59	208	P		Pn	23 13 22.1	+0.3
DRO	Drossia	8.61	207	P		Pn	23 13 21.3	-0.8
MOA	Molln	8.69	288	*i* Pn		Pn	23 13 25.2	+2.0
	comp=Z,81nm,1.4s,SNR=13							
BODT	Bodrum	8.72	176	P		Pn	23 13 20.5	-3.1
YER	Yerkesik	8.72	171	P		Pn	23 13 21.7	-2.0
APE	Apeiranthos	8.73	185	⇓P		Pn	23 13 22.1	-1.7
APE	Apeiranthos	8.73	185	P		Pn	23 13 22.1	-1.7
APE	Apeiranthos	8.73	185			Pn	23 13 22.1	-1.7
APE	Apeiranthos	8.73	185	P		Pn	23 13 22.1	-1.7
KRND	KRANIDI	8.76	198	P		Pn	23 13 21.9	-2.3
SMRN	Sveta Marina	8.76	270	*e*PN		Pn	23 13 24.4	+0.2
KEF4	Livadi, Kephal	8.78	213	P		Pn	23 13 23.2	-1.3
MNK	Minsk	8.79	5	*i* P		Pn	23 13 21.4	-3.0
MNK				*i* S		Sn	23 14 59.0	-2.5
MNK				pmax	pmax			
	comp=E,46nm,0.8s							
MNK				pmax	pmax			
	comp=Z,1μm,0.9s							
MNK				MLR	MLR			
	comp=N,2.0nm,15.0s							
MNK				MLR	MLR			
	comp=Z,1μm,13.0s							
MNK				MLR	MLR			
	comp=E,378nm,15.0s							
MNK	Minsk	8.79	5	*i* P		Pn	23 13 21.4	-3.0
	comp=E,46nm,0.8s							
MNK				*i* P		Pn	23 13 21.4	-3.0
MNK				*i* P		Pn	23 13 21.4	-3.0

BRG MLR MLR
comp=N,2µm,10.0s
BRG MLR MLR
comp=E,5µm,12.7s
BRG MLR MLR
comp=E,4µm,22.6s
BRG MLR MLR
comp=N,4µm,24.5s
BRG MLR MLR
comp=Z,6µm,21.1s
BRG pmax pmax
comp=Z,4.0nm,0.9s
CIMO Cimolais 9.84 278 Pn **Pn** **23 13 39.3 +0.4**
KTHA Kythira Island 9.86 197 P **Pn** **23 13 37.3 -1.9**
KTHR Kythira 9.87 197 P **Pn** **23 13 37.9 -1.4**
PABE Paberze 9.89 351 *eP* **Pn** **23 13 37.2 -2.2**
VSR Storozhevoye 9.98 52 *eP* **Pn** **23 13 38.9 -1.8**
VSR *eS* **Sn** **23 15 23.3 -7.4**
VSR pmax pmax
comp=Z,5µm,0.6s
VSR pmax pmax
comp=Z,5µm,0.5s
VSR smax smax
comp=N,470nm,1.4s
CAMP Campotosto 9.99 256 **Pn** **23 13 40.8 -0.3**
ANKY Antikythira Is 10.19 195 P **Pn** **23 13 41.1 -2.6**
KARP Karpathos 10.22 177 P **Pn** **23 13 41.8 -2.3**
KARP Karpathos 10.22 177 Pn **Pn** **23 13 42.9 -1.2**
VORR Voronezh 10.23 50 *eP* **Pn** **23 13 41.5 -2.5**
VORR *eS* **Sn** **23 15 28.5 -8.1**
VORR pmax pmax
comp=Z,4µm,0.5s
VORR pmax pmax
comp=Z,4µm,0.5s
VORR smax smax
comp=N,13µm,0.7s
VSVD Vaisvydziai 10.36 352 *eP* **Pn** **23 13 43.2 -2.6**
WTTA Wattenberg 10.40 284 *i* Pn **Pn** **23 13 48.5 +1.9**
comp=N,261nm,1.2s,SNR=40
WATA Walderalm 10.45 284 *i* Pn **Pn** **23 13 48.5 +1.3**
comp=N,252nm,1.3s,SNR=50
NKC Novy Kostel 10.46 300 *eP* **Pn** **23 13 47.7 +0.4**
NKC MLR MLR
comp=Z,4µm,12.6s
NKC Novy Kostel 10.46 300 *eP*N **Pn** **23 13 47.7 +0.4**
NKC AMS AMS 23 18 40.0
comp=Z,4µm,12.6s
IMMV Iera Moni Meta 10.48 192 P **Pn** **23 13 46.1 -1.5**
HRKL Herakleio 10.50 187 P **Pn** **23 13 46.6 -1.3**
PRNS Prines Rethymn 10.51 189 P **Pn** **23 13 46.5 -1.5**
IDI Anoyia 10.55 188 P **Pn** **23 13 44.9 -3.7**
comp=Z,140nm,0.7s,baz=16,slow=12,SNR=49
IDI S **Sn** **23 15 43.0 -1.7**
comp=Z,43nm,0.9s,baz=297,slow=17,SNR=0.7
IDI Anoyia 10.55 188 P **Pn** **23 13 46.3 -2.3**
IDI Anoyia 10.55 188 Pn **Pn** **23 13 46.8 -1.8**
CLL Collm 10.56 307 Pn **Pn** **23 13 47.7 -0.8**
CLL Collm 10.56 307 *i* P **Pn** **23 13 47.8 -0.8**
CLL pmax pmax
comp=Z,67nm,1.1s
CLL Collm 10.56 307 *i* P **Pn** **23 13 47.8 -0.8**
comp=Z,67nm,1.1s
CLL *ex* x 23 13 56.0
CLL *i* sP 23 14 12.8
comp=Z,121nm,1.0s
CLL *ex* x 23 14 16.0
CLL *es*PP 23 14 20.0
CLL *ex* x 23 15 22.0
CLL *ex* x 23 17 00.0
CLL LmV 23 18 00.0
comp=Z,5µm,19.4s
CLL Lmax 23 18 00.0
LPSR Galich'ya Gora 10.59 45 *eP* **Pn** **23 13 46.2 -2.7**
LPSR *eS* **Sn** **23 15 37.4 -8.0**
LPSR pmax pmax
comp=Z,6µm,0.9s
LPSR pmax pmax
comp=Z,6µm,0.9s
LPSR smax smax
comp=N,450nm,1.4s
ZKR Zakros 10.64 182 P **Pn** **23 13 49.9 0.0**
PBUR Paburge 10.68 346 *eP* **Pn** **23 13 47.8 -2.3**
SQTA Sankt Quirin 10.69 283 *i* Pn **Pn** **23 13 52.1 +1.5**
comp=N,120nm,1.2s,SNR=30
RUE Ruedersdorf 10.73 313 *eP* **Pn** **23 13 49.8 -1.1**
MOTA Moosalm 10.77 284 *i* Pn **Pn** **23 13 52.6 +1.0**
comp=N,140nm,1.3s,SNR=26
RETA Reutte 11.01 285 *i* Pn **Pn** **23 13 55.8 +1.0**
comp=N,179nm,1.3s,SNR=22
FETA Feichten 11.01 282 *i* Pn **Pn** **23 13 56.2 +1.3**
comp=N,149nm,0.9s,SNR=26
GRFO Grafenberg 11.05 296 Pn **Pn** **23 13 56.2 +0.9**
GRFO Grafenberg 11.05 296 P **Pn** **23 13 56.2 +0.9**
GVDS Gavdos 11.07 191 P **Pn** **23 13 54.7 -1.0**
GVD Gavdhos 11.08 191 P **Pn** **23 13 54.0 -1.7**
ZCCA Zocca 11.12 268 **Pn** **23 13 56.6 +0.3**
OSSC Osservatorio P 11.14 264 Pn **Pn** **23 13 56.5 -0.1**
SALO Salr 11.22 275 **Pn** **23 13 57.7 +0.1**
OBN Obninsk 11.31 31 P **Pn** **23 13 54.4 -4.2**
comp=N,638nm,0.3s,baz=211,slow=12,SNR=564
OBN S Sn 23 15 50.7 -12
comp=N,572nm,0.4s,baz=182,slow=24,SNR=11
OBN Obninsk 11.31 31 Pn **Pn** **23 13 54.6 -4.0**
OBN Obninsk 11.31 31*d* *i*P **Pn** **23 13 54.5 -4.2**
OBN *i* S **Sn** **23 15 55.7 -7.2**
OBN pmax pmax
comp=Z,8µm,1.1s
OBN MLR MLR
comp=Z,5µm,19.0s
VRH Novokhopyorsk 11.43 56 *eP* **Pn** **23 13 56.8 -3.5**
VRH *eS* Sn 23 15 56.7 -9.1
VRH pmax pmax
comp=Z,7µm,1.3s
VRH pmax pmax
comp=Z,7µm,1.3s
VRH smax smax
comp=N,550nm,1.4s
PRMA PARMA 11.50 271 **Pn** **23 14 01.6 +0.2**
VLC Villacollemand 11.58 268 **Pn** **23 14 02.1 -0.3**
KIV Kislovodsk 11.59 93 Pn **Pn** **23 14 00.1 -2.5**
KIV Kislovodsk 11.59 93 *eP* **Pn** **23 14 00.8 -1.8**
KIV *eS* **Sn** **23 16 08.3 -1.7**
KIV pmax pmax
comp=Z,141nm,1.0s
KIV MLR MLR
comp=Z,618nm,11.0s
KIV Kislovodsk 11.59 93 P **Pn** **23 13 59.9 -2.8**
KIV Kislovodsk 11.59 93 *i* P **Pn** **23 14 00.8 -1.8**
SNR=16
DAVOX Davos/Dischmat 11.60 281 P **Pn** **23 14 03.3 +0.5**
comp=Z,33nm,0.8s,baz=74,slow=13,SNR=19
DAVOX S **Sn** **23 16 10.7 +0.4**
comp=Z,30nm,0.6s,baz=164,slow=19,SNR=1.4
DAVOX LR LR 23 19 41.4
comp=Z,5µm,18.5s,baz=85,slow=44
DAVA Damuels 11.60 284 *i* Pn **Pn** **23 14 02.1 -0.7**
comp=Z,157nm,1.2s,SNR=18
GOF Gofitskoye 11.61 88⇑ *eP* **Pn** **23 13 58.2 -4.6**
GOF *eS* Sn 23 16 01.1 -9.3
GOF pmax pmax
comp=Z,831nm,0.9s
GOF smax smax
comp=E,7µm,1.2s
CASP Castiglione de 11.64 261 Pn **Pn** **23 14 02.1 -1.2**
KOPT Kop Dagi 11.72 114 Pn **Pn** **23 14 03.2 -1.4**
KBZ Khabaz 11.79 94 P **Pn** **23 14 01.6 -3.7**
comp=E,27nm,0.9s,baz=303,slow=8.7,SNR=39
KBZ S **Sn** **23 16 14.2 -0.7**
comp=E,326nm,0.7s,baz=341,slow=7.8,SNR=4.9
KBZ LR LR 23 19 45.8
comp=E,2µm,18.7s,baz=253,slow=43
KBZ Khabaz 11.79 94*c* *i*P **Pn** **23 14 04.6 -0.7**
NEY Neytrino 11.81 97⇓ *i*P **Pn** **23 14 06.5 +0.8**
BSD Bornholm Skovb 11.93 326 *i* P **Pn** **23 14 07.0 +0.1**
BSD IAmb IAmb 23 14 07.8
comp=Z,194nm,0.8s
CSS Mathiatis 11.96 152 Pn **Pn** **23 14 06.7 -0.9**
TUE Stuetta 11.97 280 Pn **Pn** **23 14 09.3 +1.4**
MSSA Maissana 12.15 269 Pn **Pn** **23 14 10.7 +0.6**
SLIT Slitere, Latvi 12.17 349 *eP* **Pn** **23 14 06.5 -3.6**
MOS Moscow 12.18 31κ *i*P **Pn** **23 14 05.9 -4.4**
MOS pmax pmax
comp=Z,3µm,0.8s
MOS pmax pmax
comp=N,2µm,0.7s

MOS pmax pmax
comp=E,880nm,0.7s
ASSE Asse, Remlinge 12.22 307 *i* P **P** **23 14 19.5 +0.2**
CLZ Clausthal 12.27 306 *i* P **P** **23 14 19.5 -0.5**
VAE Valguarnera 12.29 232 P **Pn** **23 14 11.1 -0.9**
comp=E,55nm,0.7s,baz=336,slow=10,SNR=20
VAE LR LR 23 20 44.0
comp=E,2µm,21.6s,baz=77,slow=46
RAFF Raffo Rosso 12.50 231 Pn **Pn** **23 14 12.7 -2.1**
BLEU Blekinge 12.51 331 *i* P **Pn** **23 14 13.3 -1.5**
ONI Oni 12.53 99 Pn **Pn** **23 14 14.2 -1.0**
ONI Oni 12.53 99 P **Pn** **23 14 14.2 -1.0**
BFO Black Forest 12.70 288 Pn **Pn** **23 14 17.2 -0.1**
BFO Black Forest 12.70 288 P **Pn** **23 14 17.2 -0.1**
VSU Vasula 12.71 0*d* *i*P **Pn** **23 14 13.1 -4.3**
VSU Vasula 12.71 0 *eP* **Pn** **23 14 12.9 -4.5**
ZEI Tsey 12.78 97 *eP* **Pn** **23 14 15.5 -3.1**
ZEI pmax pmax
comp=Z,149nm,0.8s
CLTB Caltabellotta 12.89 235 Pn **Pn** **23 14 19.4 -0.7**
PGF Pioggiola 13.02 262 *eP* **Pn** **23 14 21.1 -0.6**
MTSE Matsula 13.07 354 *eP* **Pn** **23 14 18.1 -4.0**
KARS Kars 13.09 107 Pn **Pn** **23 14 22.7 0.0**
KARS Kars 13.09 107 P **Pn** **23 14 22.7 0.0**
BSEG Bad Segeberg 13.27 314 *i* P **P** **23 14 31.2 +0.2**
DEL Delary 13.33 328 *i* P **Pn** **23 14 23.1 -2.5**
COP Copenhagen 13.34 323 *i* P **Pn** **23 14 23.8 -1.9**
COP IAmb IAmb 23 14 40.9
comp=Z,993nm,0.7s
BJUU Bjuv 13.37 325 *i* P **Pn** **23 14 24.9 -1.1**
SENIN Lac Senin/Sane 13.39 279 P **P** **23 14 33.8 +1.1**
CDF Champ du Feu 13.40 288 *eP* **Pn** **23 14 26.2 -0.5**
WDD Wied Dalam 13.46 227 Pn **Pn** **23 14 25.3 -2.1**
GURO Guroymak-BITLI 13.54 117 Pn **Pn** **23 14 30.4 +1.9**
MARD Mardin 13.57 123 Pn **Pn** **23 14 29.6 +0.6**
HINF Hinteralfeld 13.66 286 *eP* **Pn** **23 14 28.7 -1.3**
HINF *eS*n Sn 23 16 50.5 -10
comp=Z,33nm,0.6s
SBF Sospel 13.71 269 *eP* **Pn** **23 14 31.4 +0.7**
SBF *eS*n Sn 23 16 51.2 -10
comp=Z,59nm,0.6s
LPG La Plagne 13.87 276 *eP* **Pn** **23 14 33.8 +0.8**
LPG *eS*n Sn 23 16 55.0 -11
comp=Z,83nm,0.9s
LPL La Plagne 13.88 276 *eP* **Pn** **23 14 33.4 +0.4**
LPL *eS*n Sn 23 16 56.0 -10
comp=Z,59nm,0.7s
GROC Groznyy 13.97 94 *eP* **Pn** **23 14 33.6 -0.4**
GROC pmax pmax
comp=Z,1µm,1.2s
GROC MLR MLR
comp=Z,136nm,2.0s
MBDF Montbardon 13.98 273 *eP* **Pn** **23 14 35.5 +1.2**
MBDF *eS*n Sn 23 16 57.9 -10
comp=Z,55nm,0.7s
BNI Bardonecchia 13.99 274 Pn **Pn** **23 14 35.0 +0.6**
BNI Bardonecchia 13.99 274 P **Pn** **23 14 35.0 +0.6**
HAU Haudompre 14.00 286 *eP* **Pn** **23 14 34.1 -0.3**
HAU *eS*n Sn 23 16 58.9 -10
comp=Z,38nm,0.7s
SKMB Sankelmark Bun 14.12 316 *i* P **P** **23 14 40.9 +0.5**
FABU Falkenberg 14.15 328 *i* P **Pn** **23 14 35.5 -0.6**
PUL Pulkovo 14.21 8*d* *i*P **Pn** **23 14 32.6 -4.3**
CABF La Chapelle 14.21 281 *eP* **Pn** **23 14 34.7 -2.5**
WLF Walferdange 14.27 293 Pn **Pn** **23 14 38.2 +0.3**
WLF Walferdange 14.27 293 P **Pn** **23 14 38.2 +0.3**
WLF Walferdange 14.27 293 *dP* **Pn** **23 14 38.1 +0.2**
comp=Z,120nm,0.9s
WLF *dx* **P** **23 14 42.9 +0.7**
HNTI Hanita 14.30 149 Pn **Pn** **23 14 38.5 +0.2**
GEVA Gevas 14.33 116 P **P** **23 14 41.6 -1.5**
NATI Neve Ativ 14.34 147 Pn **Pn** **23 14 39.8 +1.0**
GEM Giv'at Ha'Em 14.36 148 Pn **Pn** **23 14 40.1 +1.0**
GNI Garni 14.44 106 P **Pn** **23 14 41.1 +0.9**
comp=Z,33nm,1.0s,baz=324,slow=3.8,SNR=8.9
GNI S **Sn** **23 17 17.2 -2.0**
comp=Z,78nm,1.0s,baz=130,slow=23,SNR=1.1
GNI Garni 14.44 106 **Pn** **23 14 41.8 +1.6**
GNI Garni 14.44 106 P **Pn** **23 14 41.8 +1.6**
GNI Garni 14.44 106 P **Pn** **23 14 41.7 +1.6**
MMAI Mount Meron Ar 14.44 149 P **Pn** **23 14 39.5 -0.7**
baz=335,slow=13
PAGF Fort de Pagny 14.44 289 *eP* **Pn** **23 14 39.7 -0.4**
baz=89
BTNL Ternell 14.45 297 *dP* **Pn** **23 14 40.8 +0.7**
comp=Z,229nm,1.4s
BTNL *dx* **P** **23 14 46.9 +2.7**
BHOU Houvegnez 14.48 296 *bP* **Pn** **23 14 40.3 -0.3**
comp=Z,191nm,1.5s
BHOU *dx* **P** **23 14 47.2 +2.7**
LMR La Mourre 14.50 268 *eP* **Pn** **23 14 40.4 -0.5**
LMR *eS*n Sn 23 17 10.1 -10
comp=Z,1µm,2.6s
MEM Membach 14.53 297 *dP* **Pn** **23 14 41.5 +0.4**
comp=Z,274nm,1.3s
MEM *dx* **P** **23 14 47.2 +2.2**
MEF Metsahovi 14.53 356 *eP* **Pn** **23 14 36.6 -4.5**
ORIF Oris-en-Rattie 14.57 274 *eP* **Pn** **23 14 41.9 +0.1**
BLGI Bet Lehem HaGe 14.62 150 Pn **Pn** **23 14 42.8 +0.4**
OFRI `Ofer 14.65 151 Pn **Pn** **23 14 42.3 -0.6**
ONAU Onsala 14.74 327 *i* P **Pn** **23 14 45.0 +1.3**
BEBN Eben Emael 14.77 297 *dP* **Pn** **23 14 45.3 +1.1**
comp=Z,364nm,1.2s
BEBN *dx* **P** **23 14 50.3 +2.6**
BSTI Sart Tilman 14.80 297 *dP* **Pn** **23 14 45.4 +0.8**
comp=Z,66nm,1.4s
SAVF Savonnieres en 14.85 289 *eP* **Pn** **23 14 44.6 -0.6**
baz=86
SFTF Sexfontaines 14.89 287 *eP* **Pn** **23 14 45.7 0.0**
baz=96
MEZF Maizieres J'vi 14.89 288 *eP* **Pn** **23 14 46.5 +0.8**
baz=97
BCLA Clavier 14.93 296 κP **Pn** **23 14 47.1 +0.8**
comp=Z,282nm,1.3s
BCLA *dx* **P** **23 14 52.8 +3.2**
RCHB Rochefort 14.94 295 *dP* **Pn** **23 14 46.3 0.0**
comp=Z,438nm,1.1s
MMLI Mount Malkishu 14.97 150 Pn **Pn** **23 14 47.3 +0.4**
SLTI Sal'it 15.02 151 Pn **Pn** **23 14 47.7 +0.2**
HMDT Nahal Hemdat 15.17 150 Pn **Pn** **23 14 50.0 +0.5**
GIVF Givet 15.19 294 *eP* **Pn** **23 14 50.4 +0.9**
MAK Makhachkala 15.23 93*c* *i*P **Pn** **23 14 48.6 -1.5**
MAK *eS* **Sn** **23 17 37.3 -0.8**
MAK pmax pmax
comp=Z,905nm,1.0s
MAK MLR MLR
comp=Z,1µm,10.0s
MUD Monsted U'grnd 15.24 321 *i* P **P** **23 14 54.3 +1.4**
MUD IAmb IAmb 23 14 55.6
comp=Z,628nm,1.0s
BMRD Maredsous 15.25 295 κP **Pn** **23 14 51.2 +0.9**
comp=Z,544nm,1.1s
BMRD *dx* **P** **23 14 55.4 +2.3**
BELG Belogornoye 15.28 57 P **Pn** **23 14 45.9 -4.7**
comp=Z,2µm,0.8s,baz=319,slow=1.0,SNR=235
BELG S Sn 23 17 21.5 -18
comp=Z,754nm,0.9s,baz=72,slow=13,SNR=1.8
BELG LR LR 23 21 15.8
comp=Z,3µm,20.5s,baz=225,slow=39
DOU Dourbes 15.33 294 *dP* **Pn** **23 14 51.1 -0.3**
comp=Z,279nm,1.2s
DOU *dx* **P** **23 14 56.5 +2.5**
OVD Ostervraa, Den 15.35 325 *i* P **Pn** **23 14 52.6 +1.1**
OVD IAmb IAmb 23 14 56.4
comp=Z,731nm,0.8s
VIVF Saint-Julien-l 15.43 274 *eP* **Pn** **23 14 51.3 -1.3**
VIVF *eS*n **Sn** **23 17 33.3 -10**
comp=Z,44nm,0.9s
RAF Rauma 15.54 351 *eP* **Pn** **23 14 48.8 -5.0**
BAIF Baives 15.57 294 *eP* **Pn** **23 14 54.6 +0.2**
GOET G??ttrup 15.57 323 *i* P **Pn** **23 14 54.7 +0.4**
GOET IAmb IAmb 23 15 56.5
comp=Z,278nm,0.8s
AMAZ Amatzia 15.62 153 Pn **Pn** **23 14 55.5 +0.3**
LOR Lormes 15.70 284 *eP* **Pn** **23 14 54.5 -1.5**
baz=89
FINES FINESS Array B 15.71 359 P **Pn** **23 14 50.0 -5.9**
comp=Z,86nm,0.4s,baz=168,slow=14,SNR=408
FINES S Sn 23 17 30.9 -18
comp=Z,212nm,0.6s,baz=179,slow=17,SNR=2.0
FINES LR LR 23 21 42.1
comp=Z,2µm,19.8s,baz=176,slow=40
FINES FINESS Array B 15.71 359 Pn **Pn** **23 14 50.7 -5.2**
FINES FINESS Array B 15.71 359 P **Pn** **23 14 50.7 -5.2**

FIA1 FINESS Array S 15.71 359 Pn **Pn** **23 14 50.3 -5.7**
DSI Dead Sea 15.74 151 Pn **Pn** **23 14 56.9 +0.2**
SMF Signal de Mont 15.75 281 *eP* **Pn** **23 14 54.8 -1.9**
ASF Jabal al Asfar 15.76 146 P **Pn** **23 14 57.5 +0.6**
comp=Z,6nm,0.8s,baz=334,slow=7.6,SNR=16
VALR Valaam 15.82 8*d* *i*P **Pn** **23 14 51.4 -6.0**
YTIR Yattir 15.85 152 Pn **Pn** **23 14 58.1 +0.1**
SSF Saint Saulge 15.95 283 *eP* **Pn** **23 14 57.4 -1.7**
KZIT Kziot 16.05 155 Pn **Pn** **23 15 00.6 +0.2**
GHAJ Ghor Haditha 16.05 151 Pn **Pn** **23 14 59.2 -1.3**
GHAJ Ghor Haditha 16.05 151 P **Pn** **23 15 01.4 -0.6**
AVF Avril sur Loir 16.07 282 *eP* **Pn** **23 14 59.2 -1.4**
LASF Ste Croix 16.17 272 *eP* **Pn** **23 15 02.2 +0.3**
HFS Hagfors 16.30 337 P **Pn** **23 14 59.5 -3.8**
comp=Z,123nm,0.5s,baz=156,slow=11,SNR=77
HFS S **Sn** **23 17 56.4 -7.1**
comp=Z,444nm,0.7s,baz=134,slow=25,SNR=7.3
HFS LR LR 23 22 37.0
comp=Z,2µm,20.5s,baz=148,slow=42
KEST Kesra 16.42 238 P **Pn** **23 15 04.4 -0.7**
comp=Z,39nm,0.8s,baz=358,slow=6.9,SNR=44
KEST S **Sn** **23 18 05.7 -1.4**
comp=Z,9.6nm,0.7s,baz=134,slow=3.6,SNR=1.0
KEST Kesra 16.42 238 **Pn** **23 15 05.0 -0.2**
BGF Bois d'Agland 16.44 281 *eP* **Pn** **23 15 03.9 -1.3**
ZFRI Zfri 16.61 153 Pn **Pn** **23 15 07.3 -0.1**
HOMB Homborsund 16.67 325 *eP* **Pn** **23 15 06.1 -1.7**
HOMB IAmb IAmb 23 15 10.4
comp=Z,197nm,0.9s
HOMB Homborsund 16.67 325 *e* **Pn** **23 15 05.4 -2.4**
CLF Chambon-Foret 16.75 287 Pn **Pn** **23 15 08.2 -0.8**
PRNI Paran 16.75 154 Pn **Pn** **23 15 08.6 -0.5**
KRMI Paran Flat 16.88 155 Pn **Pn** **23 15 10.6 -0.2**
TCF Toulx Ste Croi 16.91 281 *eP* **Pn** **23 15 10.7 -0.3**
KLMR Klimovskoe 16.93 22 *i* P **Pn** **23 15 05.5 -5.4**
KLMR pmax pmax
comp=Z,6µm,1.1s
KLMR Klimovskoe 16.93 22 *i* Pn **Pn** **23 15 05.6 -5.4**
KLMR *i* Pn **Pn** **23 15 05.6 -5.4**
KLMR *i* Pn **Pn** **23 15 05.6 -5.4**
KLMR AMP 23 15 08.2
comp=Z,6µm,1.1s
KLMR *eS*n Sn 23 17 59.5 -19
KLMR *eS*n Sn 23 17 59.5 -19
OSL Oslo 17.04 332 *eP* **Pn** **23 15 08.3 -4.1**
OSL IAmb IAmb 23 15 14.0
comp=Z,374nm,0.9s
OSL Oslo 17.04 332 *e* **Pn** **23 15 09.2 -3.2**
HRFI Mount Harif 17.05 154 Pn **P** **23 15 13.1 -0.1**
KONO Kongsberg 17.21 330 Pn **Pn** **23 15 12.8 -1.7**
KONO Kongsberg 17.21 330 P **Pn** **23 15 12.8 -1.7**
KONO Kongsberg 17.21 330 *eP* **Pn** **23 15 12.8 -1.7**
KONO IAmb IAmb 23 15 17.5
comp=Z,246nm,1.1s
KONO Kongsberg 17.21 330 *e* **Pn** **23 15 12.3 -2.2**
CAF Calviac 17.23 276 *eP* **P** **23 15 16.3 +1.2**
CAF *eS*n **Sn** **23 18 16.1 -10**
comp=Z,81nm,1.2s
SNART Snartemo 17.24 324 *eP* **P** **23 15 15.5 +0.5**
SNART IAmb IAmb 23 15 17.9
comp=Z,326nm,1.2s
SNART Snartemo 17.24 324 *e* **P** **23 15 16.3 +1.4**
MBRI Mt Berech 17.24 155 Pn **P** **23 15 15.6 +0.3**
MAHO Mahon 17.35 258 **P** **23 15 15.9 -0.5**
EIL Elat 17.37 155 P **P** **23 15 16.6 0.0**
comp=Z,74nm,0.7s,baz=70,slow=5.4,SNR=36
EIL Elat 17.37 155 Pn **Pn** **23 15 17.0 +0.3**
NC602 NORSAR Array S 17.41 335 *eP* **P** **23 15 13.3 -3.5**
MTLF Montolieu 17.51 271 *eP* **Pn** **23 15 18.8 +0.5**
RJF Les Rejaudoux 17.54 277 *eP* **Pn** **23 15 19.2 +0.5**
CKFL Kef-Lekhel 17.61 245 P **Pn** **23 15 21.4 +1.7**
ELSH Elham, Standar 17.66 297⇑ *eP* **Pn** **23 15 21.6 +1.5**
ELSH IAmb IAmb 23 15 22.9
comp=Z,817nm,0.9s
ELSH *e* 23 15 32.4
NB201 NORSAR Array S 17.73 335 P **P** **23 15 17.8 -2.6**
NB2 NORSAR Subarra 17.75 335 P **P** **23 15 17.5 -3.1**
comp=Z,81nm,1.1s,baz=142,slow=12
NB2 NORSAR Subarra 17.75 335 P **P** **23 15 17.5 -3.1**
baz=142,slow=12
NOA NORSAR Array B 17.75 335 P **P** **23 15 17.5 -3.1**
comp=Z,19nm,0.8s,baz=140,slow=11,SNR=89
NOA S Sn 23 18 24.6 -14
comp=Z,11nm,0.5s,baz=144,slow=13,SNR=1.8
NOA LR LR 23 23 21.3
comp=Z,2µm,18.3s,baz=140,slow=41
CASM Ain Smara 17.84 245 P **Pn** **23 15 22.9 +0.5**
ELMS Elmsett, Ipswi 17.90 300 *eP* **Pn** **23 15 23.0 0.0**
DFRA Djebel Bou Aff 18.06 247 P **Pn** **23 15 26.3 +1.2**
NC204 NORSAR Array S 18.07 335 P **P** **23 15 22.0 -2.2**
HMNX Herstmonceux 18.13 296⇑ *eP* **Pn** **23 15 26.1 +0.4**
HMNX IAmb IAmb 23 15 27.3
comp=Z,2µm,0.9s
LFF La Frestale 18.15 277 *eP* **Pn** **23 15 27.4 +1.4**
BLS5 Blasjo 18.23 326 *eP* **P** **23 15 25.5 -0.4**
BLS5 IAmb IAmb 23 15 33.3
comp=Z,205nm,1.1s
BLS5 Blasjo 18.23 326 *e* **P** **23 15 26.3 +0.4**
STAV Stavanger 18.23 324 *i* P **Pn** **23 15 27.7 +0.9**
WACR West Acre 18.24 302 *eP* **Pn** **23 15 27.1 0.0**
WACR IAmb IAmb 23 15 29.2
comp=Z,220nm,0.9s
LDF La Druitiere 18.33 289 *eP* **P** **23 15 27.2 +0.2**
SKAR Skarslia 18.41 331 *eP* **P** **23 15 28.1 +0.2**
SKAR IAmb IAmb 23 15 33.8
comp=Z,1µm,1.8s
SKAR Skarslia 18.41 331 *e* **Pn** **23 15 28.5 -0.5**
ODD1 Odda 18.48 327 *eP* **P** **23 15 29.2 +0.5**
ODD1 Odda 18.48 327 *e* **Pn** **23 15 29.6 -0.3**
MFF Saint Martin d 18.49 282 *eP* **Pn** **23 15 29.6 -0.4**
FLN La Foliniere 18.56 289 *eP* **P** **23 15 29.8 +0.2**
baz=97
SET Setif 18.57 246 P **Pn** **23 15 32.0 +0.8**
GRR Gorron 18.82 288 *eP* **P** **23 15 30.7 -1.7**
KIRV Kirov 18.88 39 P **P** **23 15 30.3 -2.5**
comp=Z,1µm,0.7s,baz=246,slow=4.7,SNR=246
KIRV S S 23 18 45.3 -17
comp=Z,246nm,0.6s,baz=328,slow=17,SNR=1.9
KIRV LR LR 23 23 27.7
comp=Z,2µm,21.3s,baz=250,slow=38
KIRV Kirov 18.88 39*d* *i*P **P** **23 15 30.9 -2.0**
EPF Esparros 18.91 271 *eP* **P** **23 15 33.5 0.0**
LMK Market Rasen 18.96 304 *eP* **Pn** **23 15 35.1 -0.5**
DOMB Dombas 19.18 334 *eP* **P** **23 15 36.4 +0.2**
DOMB IAmb IAmb 23 15 51.2
comp=Z,154nm,0.9s
DOMB Dombas 19.18 334 *e* **P** **23 15 36.0 -0.3**
BER Bergen 19.28 327 *i* P **P** **23 15 38.0 +0.7**
BER Bergen 19.28 327 *eP* **Pn** **23 15 38.7 -0.5**
BER IAmb IAmb 23 15 39.7
comp=Z,812nm,1.7s
BER Bergen 19.28 327 *e* **Pn** **23 15 38.6 -0.6**
PRGR Permogore 19.37 28⇓ *i*P **P** **23 15 37.3 -0.9**
PRGR *eS* S 23 18 59.6 -12
PRGR pmax pmax
comp=Z,2µm,0.9s
ASK Askoy 19.39 327 *e* **Pn** **23 15 39.7 -0.9**
ASK Askoy 19.39 327 *eP* **P** **23 15 38.7 +0.2**
ASK IAmb IAmb 23 15 40.9
comp=Z,1µm,1.6s
GDLE Glaisdale, N Y 19.48 306 *eP* **Pn** **23 15 40.6 -1.1**
HYA Hoyanger 19.48 330 *eP* **Pn** **23 15 41.0 -0.7**
HYA IAmb IAmb 23 15 42.1
comp=Z,258nm,0.8s
HYA Hoyanger 19.48 330 *e* **Pn** **23 15 40.9 -0.7**
SWN1 Swindon 19.53 297 *eP* **Pn** **23 15 41.6 -0.7**
SWN1 IAmb IAmb 23 15 42.7
comp=Z,2µm,0.9s
ETSF Etsaut 19.58 271 *eP* **P** **23 15 41.1 +0.3**
JQE Queens East 19.58 290 *eP* **P** **23 15 40.5 -0.1**
JSA Saint Aubin 19.67 290 *eP* **P** **23 15 41.3 -0.3**
JSA IAmb IAmb 23 15 42.4
comp=Z,214nm,0.8s
JVM Valle D.L. Mar 19.69 291⇑ *eP* **P** **23 15 41.0 -0.8**
STRD Stroud 19.79 298⇑ *eP* **P** **23 15 44.0 +1.1**
STRD IAmb IAmb 23 15 45.7
comp=Z,1µm,1.2s
TBLU Trondheim 19.80 338 *eP* **P** **23 15 43.1 +0.2**
TBLU IAmb IAmb 23 16 00.1
comp=Z,319nm,1.0s
TBLU Trondheim 19.80 338 *e* **P** **23 15 43.2 +0.2**
HPK Haverah Park 19.83 305⇑ *eP* **P** **23 15 44.4 +1.1**
HPK IAmb IAmb 23 15 45.7

comp=Z,1µm,1.3s
ADJB Djebel Djouab 19.87 249 P sP 23 16 15.0 +0.4
SUE Sulen 19.93 328 *eP* **P 23 15 44.4 +0.1**
SUE IAmb IAmb 23 15 46.3
comp=Z,292nm,0.9s
SGMF Saint Gilles 19.96 288 *eP* **P 23 15 44.0 -0.8**
SJPF Ste Jean 19.98 272 *eP* **P 23 15 44.9 -0.2**
STNC Stoke 20.00 302‖ *eP* **P 23 15 46.1 +1.0**
STNC IAmb IAmb 23 15 48.0
comp=Z,612nm,1.1s
MOL Molde 20.04 334 *eP* **P 23 15 45.6 +0.1**
MOL IAmb IAmb 23 15 52.0
comp=Z,123nm,0.9s
MOL Molde 20.04 334 *e* **P 23 15 45.9 +0.4**
FOO Floro 20.18 329 *eP* **P 23 15 47.6 +0.5**
FOO IAmb IAmb 23 15 48.5
comp=Z,180nm,0.8s
MONM Monmouth 20.19 298‖ *eP* **P 23 15 47.9 +0.7**
MONM IAmb IAmb 23 15 49.0
comp=Z,3µm,1.6s
EDMD Edmundbyers 20.23 307‖ *eP* **P 23 15 48.1 +0.4**
EDMD IAmb IAmb 23 15 49.3
comp=Z,1µm,1.7s
HLM1 Long Mynd 20.31 300‖ *eP* **P 23 15 49.3 +0.7**
HLM1 IAmb IAmb 23 15 50.0
comp=Z,330nm,0.8s
MCH1 Michaelchurch 20.32 299‖ *eP* **P 23 15 49.4 +0.7**
MCH1 IAmb IAmb 23 15 50.4
comp=Z,1µm,0.9s
QUIF Quistinic 20.39 287 *eP* **P 23 15 48.6 -0.9**
ROSF Rostrenen 20.43 288 *eP* **P 23 15 47.9 -2.0**
NSS Namsos 20.47 342 *eP* **P 23 15 50.2 +0.1**
NSS IAmb IAmb 23 16 07.0
comp=Z,473nm,1.2s
NSS Namsos 20.47 342 *e* **P 23 15 50.2 +0.1**
FOEL Foel Wylfa 20.56 301‖ *eP* **P 23 15 51.4 +0.1**
SBD1 Bryn Du 20.59 301 *eP* Pn 23 15 58.2 +3.5
DYA Yadsworthy 20.81 294 *eP* **P 23 15 53.5 -0.4**
KESW Keswick, Cumbr 20.82 306‖ *eP* **P 23 15 54.6 +0.7**
LLW Llanuwchllyn 20.83 301 *eP* **P 23 15 54.9 +0.8**
ESY Stoneypath 20.88 310‖ *eP* **P 23 15 54.5 -0.2**
EKA Eskdalemuir Ar 21.02 308 P **P 23 15 55.5 -0.7**
comp=Z,89nm,0.7s,baz=100,slow=11,SNR=140
EKA PcP **PcP 23 19 58.5 -0.6**
comp=Z,22nm,0.9s,baz=82,slow=5.2,SNR=4.4
comp=Z,89nm,0.7s
ESK Eskdalemuir 21.04 308‖ *eP* **P 23 15 56.7 +0.4**
ESK IAmb IAmb 23 15 59.4
comp=Z,631nm,1.3s
ESK Eskdalemuir 21.04 308 P **P 23 15 56.5 +0.1**
ESK Eskdalemuir 21.04 308 P **P 23 15 56.5 +0.1**
EBL Broad Law 21.07 309‖ *eP* **P 23 15 57.3 +0.6**
DRUM Mains of Drumt 21.13 312 *eP* **P 23 15 57.6 +0.3**
YLL Llanberis 21.17 302 *eP* **P 23 15 58.4 +0.6**
HTL Hartland 21.18 296‖ *eP* **P 23 15 57.9 0.0**
HTL IAmb IAmb 23 15 59.5
comp=Z,478nm,0.8s
EDI Edinburgh 21.19 309‖ *eP* **P 23 15 58.5 +0.5**
EDU Dundee 21.29 311‖ *eP* **P 23 15 59.2 +0.2**
WME Myndd Eilian 21.29 302‖ *eP* **P 23 15 59.6 +0.6**
WLF1 Llynfaes 21.33 302‖ *eP* **P 23 15 59.8 +0.4**
WLF1 IAmb IAmb 23 16 01.2
comp=Z,1µm,1.2s
WPS Cemaes, Angles 21.41 302‖ *eP* **P 23 16 00.9 +0.7**
WPS IAmb IAmb 23 16 02.1
comp=Z,820nm,1.1s
AKTO Aktyubinsk 21.42 66 P **P 23 15 59.7 -0.8**
comp=Z,189nm,0.7s,baz=271,slow=10,SNR=126
AKTO S **S 23 19 47.5 -5.2**
comp=Z,75nm,0.9s,baz=62,slow=23,SNR=1.2
comp=Z,189nm,0.7s
YRC Rhoscolyn 21.43 302 *eP* **P 23 16 01.0 +0.5**
MOR8 Moi Rana 21.47 347 *eP* **P 23 16 02.0 +1.1**
MOR8 IAmb IAmb 23 16 18.1
comp=Z,249nm,0.7s
MOR8 Moi Rana 21.47 347 *e* **P 23 16 02.2 +1.4**
MOR8 Moi Rana 21.47 347 *e* 23 19 51.8
NEWG New Galloway 21.57 307‖ *eP* **P 23 16 02.4 +0.5**
NEWG IAmb IAmb 23 16 04.9
comp=Z,282nm,0.9s
IOMK Kirk Michael 21.59 304 *eP* **P 23 16 02.6 +0.5**
IOMK IAmb IAmb 23 16 04.1
comp=Z,1µm,1.2s
WIM Isle of Man 21.63 304 *eP* **P 23 16 03.3 +0.7**
MCD Coleburn Disti 21.75 314 *eP* **P 23 16 04.2 +0.3**
INVG Invergeldie, C 21.80 310‖ *eP* **P 23 16 04.4 0.0**
INVG IAmb IAmb 23 16 06.8
comp=Z,1µm,1.6s
LRW Lerwick 21.82 321 *eP* **P 23 16 04.7 +0.1**
STOK Stokkvaagen 21.86 345 *e* 23 19 57.9
STOK Stokkvaagen 21.86 345 *eP* **P 23 16 06.5 +1.6**
PGBU Glenifferbraes 21.87 309‖ *eP* **P 23 16 05.3 +0.2**
PGBU IAmb IAmb 23 16 08.0
comp=Z,879nm,1.2s
EAB Aberfoyle 21.89 310‖ *eP* **P 23 16 05.6 +0.2**
KONS Konsvik 21.99 346 *e* **P 23 16 08.3 +2.0**
KONS Konsvik 21.99 346 *eP* **P 23 16 08.3 +2.0**
KONS IAmb IAmb 23 16 12.6
comp=Z,757nm,1.1s
MLA1 Latheron 22.06 315 *eP* **P 23 16 07.3 +0.2**
APA Apatity 22.15 7‖ *iP* **P 23 16 10.4 +2.4**
APA *i* 23 16 32.4
APA *i* S **S 23 20 07.0 +1.3**
APA *i* SS **SnSn 23 20 50.0 +8.6**
APA pmax pmax
comp=Z,2.0nm,0.8s
APA MLR MLR
comp=Z,2µm,15.0s
GMM Mts of Mourne 22.38 304‖ *eP* **P 23 16 10.4 -0.2**
BIGH Upper Bighouse 22.39 316‖ *eP* **P 23 16 10.5 -0.2**
FAUS Fauske 22.47 349 *eP* **P 23 16 11.5 +0.2**
FAUS IAmb IAmb 23 16 17.9
comp=Z,599nm,1.1s
FAUS Fauske 22.47 349 *e* **P 23 16 11.6 +0.3**
LAWE Loch Awe, Argy 22.48 309‖ *eP* **P 23 16 11.1 -0.5**
LAWE IAmb IAmb 23 16 13.5
comp=Z,345nm,1.1s
ARU Arti 22.54 50 P **P 23 16 11.4 -0.8**
comp=Z,324nm,0.6s,baz=248,slow=8.5,SNR=165
ARU pP **pP 23 16 29.9 -1.1**
comp=Z,970nm,0.8s,baz=259,slow=7.4,SNR=11
ARU S **S 23 20 09.2 -3.2**
comp=Z,123nm,0.7s,baz=325,slow=22,SNR=1.5
comp=Z,324nm,0.6s
ARU Arti 22.54 50 *c iP* **P 23 16 10.5 -1.7**
ARU Arti 22.54 50 *c iP* **P 23 16 11.5 -0.8**
ARU *PP **pP 23 16 29.1 -1.9**
ARU S **S 23 20 12.7 +0.3**
ARU SS **SnSn 23 20 48.3 -2.6**
ARU pmax pmax
comp=Z,1µm,1.3s
ILTH Belurgan, Co L 22.58 303 *eP* **P 23 16 11.8 -0.8**
LVZ Lovozero 22.58 8 P **P 23 16 12.6 -0.1**
LVZ Lovozero 22.58 8 *d iP* **P 23 16 12.7 +0.1**
LVZ pmax pmax
comp=Z,6µm,1.4s
CLGH Cloghs, Cushen 22.62 306‖ *eP* **P 23 16 13.2 +0.2**
CLGH IAmb IAmb 23 16 15.4
comp=Z,790nm,0.9s
IWEX Carrickbyrne, 22.67 299 *eP* **P 23 16 13.0 -0.6**
KAC Achnashellach 22.76 313‖ *eP* **P 23 16 13.9 -0.6**
STEI Steigen 22.99 349 *eP* **P 23 16 16.8 +0.2**
STEI IAmb IAmb 23 16 23.9
comp=Z,1µm,1.3s
STEI Steigen 22.99 349 *e* **P 23 16 17.1 +0.5**
ESDC Sonseca Array 23.15 266 P **P 23 16 16.3 -2.2**
comp=Z,115nm,0.7s,baz=64,slow=8.8,SNR=608
ESDC pP **pP 23 16 37.0 -0.9**
comp=Z,58nm,1.0s,baz=67,slow=10,SNR=4.2
ESDC PcP **PcP 23 20 03.6 -0.2**
comp=Z,9.7nm,0.9s,baz=13,slow=3.1,SNR=4.1
ESDC S **S 23 20 18.9 -3.6**
comp=Z,5.1nm,1.1s,baz=66,slow=17,SNR=1.6
ESDC LR LR 23 25 32.3
comp=Z,990nm,19.4s,baz=48,slow=37
comp=Z,115nm,0.7s
KTK1 Kautokeino 23.37 357 *eP* **P 23 16 20.3 +0.2**
KTK1 IAmb IAmb 23 16 28.4
comp=Z,572nm,0.9s
KTK1 Kautokeino 23.37 357 *eSKSac* **P 23 16 20.3 +0.2**
LOF Lofoten 23.41 348 *eP* **P 23 16 20.7 +0.1**
LOF IAmb IAmb 23 16 28.5
comp=Z,417nm,1.0s
LOF Lofoten 23.41 348 *e* **P 23 16 26.7 +6.2**

PAB San Pablo 23.48 266 P **P 23 16 20.5 -1.0**
PAB San Pablo 23.48 266 P **P 23 16 20.5 -1.0**
LEWI Lewis, Hebride 23.76 314 *eP* **P 23 16 22.9 -0.9**
ARA0 ARCESS Array S 23.84 359 *eP* **P 23 16 24.6 +0.2**
ARA0 IAmb IAmb 23 16 34.4
comp=Z,797nm,1.1s
ARA0 ARCESS Array S 23.84 359 *e* **P 23 16 24.7 +0.3**
ARCES ARCESS Array B 23.84 359 P **P 23 16 24.3 -0.1**
comp=Z,66nm,0.6s,baz=178,slow=12,SNR=155
ARCES S **S 23 20 29.5 -3.6**
comp=Z,101nm,0.9s,baz=153,slow=22,SNR=3.0
ARCES LR LR 23 26 24.1
comp=Z,1µm,21.0s,baz=190,slow=38
comp=Z,66nm,0.6s
ARCES ARCESS Array B 23.84 359 P **P 23 16 24.6 +0.2**
ARCES ARCESS Array B 23.84 359 P **P 23 16 24.6 +0.2**
KEV Kevo 24.05 0 P **P 23 16 27.3 +1.0**
KEV Kevo 24.05 0 P **P 23 16 27.3 +1.0**
TRO Tromso 24.24 353 *eP* **P 23 16 28.2 +0.3**
TRO IAmb IAmb 23 16 39.4
comp=Z,717nm,1.1s
TRO Tromso 24.24 353 *eSKSac* **P 23 16 27.8 -0.1**
PBRG Braganca 24.27 273 *eP* **P 23 16 26.9 -1.7**
comp=Z,249nm,1.8s
PBRG *epP **sP 23 16 56.5 -4.6**
IGLA Glengowla, Co 24.31 301 *eP* **P 23 16 27.9 -0.9**
GEYT Alibeck 24.66 97 P **P 23 16 34.0 +1.9**
comp=Z,65nm,0.6s,baz=297,slow=9.8,SNR=85
GEYT S **S 23 20 43.4 -3.4**
comp=Z,13nm,0.6s,baz=348,slow=6.2,SNR=1.2
comp=Z,65nm,0.6s
GEYT Alibeck 24.66 97 P **P 23 16 33.9 +1.7**
GYA0B ALIBECK ARRAY 24.66 97 P **P 23 16 33.6 +1.4**
MVO Moncorvo 24.70 271 *eP* **P 23 16 31.9 -0.7**
comp=Z,288nm,1.0s
MVO *epP **pP 23 16 54.1 +0.4**
HAMF Hammerfest 24.99 358 *eP* **P 23 16 35.2 +0.5**
HAMF IAmb IAmb 23 16 47.7
comp=Z,199nm,1.0s
PVRL Vila Real 25.14 272 *eP* **P 23 16 35.6 -0.9**
comp=Z,198nm,1.3s
POLO Lamas de Olo 25.16 272 *eP* **P 23 16 35.8 -0.9**
comp=Z,77nm,1.4s
PCAB Cabril 25.20 273 *eP* **P 23 16 36.4 -0.6**
comp=Z,392nm,1.6s
PCAB *epP **pP 23 16 58.1 -0.2**
PGAV Gavieira, Arco 25.28 274 *eP* **P 23 16 37.2 -0.6**
comp=Z,351nm,1.2s
PGAV *epP **pP 23 17 02.6 +3.5**
MTE Manteigas 25.36 270 *eP* **P 23 16 37.8 -0.7**
comp=Z,286nm,1.0s
MTE *epP **pP 23 17 04.2 +4.4**
FIGM Figuig 25.41 247 P **P 23 16 40.0 +0.8**
PVIS Viseu 25.48 271 *eP* **P 23 16 38.9 -0.7**
comp=Z,344nm,1.5s
PVIS *epP **pP 23 17 00.2 -0.7**
PCBR Castelo Branco 25.54 269 *eP* **P 23 16 39.0 -1.1**
comp=Z,195nm,1.5s
PMRV Marv??o 25.65 268 *eP* **P 23 16 40.0 -1.1**
comp=Z,261nm,1.2s
PMRV *epP **pP 23 17 02.4 -0.1**
AKLM AKL 25.68 255 P **P 23 16 41.1 -0.5**
PBAR Barrancos 25.97 265 *eP* **P 23 16 42.8 -1.2**
comp=Z,261nm,0.8s
PBAR *epP **pP 23 17 09.2 +3.9**
PESTR Estremoz 26.04 267 *eP* **P 23 16 43.4 -1.2**
comp=Z,234nm,0.8s
PESTR Estremoz 26.04 267 P **P 23 16 43.3 -1.3**
PESTR Estremoz 26.04 267 P **P 23 16 43.4 -1.2**
COI Coimbra 26.04 270 *eP* **P 23 16 44.2 -0.4**
comp=Z,432nm,1.3s
COI Coimbra 26.04 270 P **P 23 16 43.5 -1.1**
COI IAmb IAmb 23 16 46.5
comp=Z,241nm,0.8s
COI Coimbra 26.04 270 P **P 23 16 43.5 -1.1**
COI pmax pmax
comp=Z,241nm,0.9s
SMIR Smir Dam 26.07 259 P **P 23 16 44.0 -0.9**
PCAS Casmilo, Conde 26.16 270 *eP* **P 23 16 45.1 -0.7**
comp=Z,276nm,1.4s
CHEFC Chefchaouen 26.35 257 P **P 23 16 47.0 -0.6**
PMTG Montargil 26.39 268 *eP* **P 23 16 46.6 -1.2**
comp=Z,172nm,1.2s
PSBE So Bento 26.60 269 *eP* **P 23 16 48.8 -0.9**
comp=Z,118nm,1.2s
PBEJ Beja 26.61 265 *eP* **P 23 16 48.6 -1.2**
comp=Z,135nm,1.4s
PVAQ Vaqueiros 26.80 264 *eP* **P 23 16 50.3 -1.2**
comp=Z,134nm,1.3s
PVAQ *epP **pP 23 17 16.4 +3.5**
PVAQ Vaqueiros 26.80 264 P **P 23 16 50.4 -1.2**
LCRM LCR 26.84 254 P **P 23 16 52.0 0.0**
PCVE Castro Verde 26.92 265 *eP* **P 23 16 51.3 -1.2**
comp=Z,165nm,1.0s
MESJ Messejana 26.95 265 *eP* **P 23 16 51.7 -1.1**
MESJ IAmb IAmb 23 16 54.8
comp=Z,43nm,0.9s
MESJ *eS **S 23 21 23.2 +0.3**
MESJ Messejana 26.95 265 *eP* **P 23 16 51.5 -1.3**
comp=Z,106nm,1.5s
MESJ Messejana 26.95 265 *eP* **P 23 16 51.7 -1.1**
MESJ *eS **S 23 21 23.2 +0.3**
PACT Alcochete 26.95 268 *eP* **P 23 16 52.1 -0.7**
comp=Z,340nm,1.9s
RAYN Ar Rayn 26.98 139 P **P 23 16 53.5 +0.2**
RAYN Ar Rayn 26.98 139 P **P 23 16 53.5 +0.2**
RAYN pmax pmax
comp=Z,172nm,1.2s
RAYN Ar Rayn 26.98 139 P **P 23 16 53.8 +0.5**
RAYN Ar Rayn 26.98 139 *i P* **P 23 16 54.9 +1.6**
SNR=6.9
PNCL Nicolau / Gran 27.04 266 *eP* **P 23 16 52.9 -0.7**
comp=Z,168nm,1.2s
PNCL *epP **pP 23 17 16.9 +2.0**
PMAFR Mafra 27.18 268 *eP* **P 23 16 53.8 -1.1**
comp=Z,130nm,1.7s
MDT Midelt 27.19 253 P **P 23 16 54.8 -0.3**
comp=Z,43nm,0.8s,baz=83,slow=11,SNR=40
MDT PcP **PcP 23 20 12.7 -0.4**
comp=Z,18nm,0.8s,baz=95,slow=2.6,SNR=4.3
comp=Z,43nm,0.8s
MDT Midelt 27.19 253 P **P 23 16 54.9 -0.3**
LIS Lisbon 27.19 268 *eP* **P 23 16 54.0 -1.0**
LIS IAmb IAmb 23 16 54.9
comp=Z,73nm,0.8s
LIS *eS **S 23 21 27.1 +0.4**
LIS Lisbon 27.19 268 *eP* **P 23 16 54.0 -1.0**
LIS *eS **S 23 21 27.1 +0.4**
PTEO Sao Teotonio 27.44 265 *eP* **P 23 16 56.2 -1.0**
comp=Z,122nm,1.7s
MORF Marmelete 27.50 265 *eP* **P 23 16 56.6 -1.2**
MORF IAmb IAmb 23 17 00.7
comp=Z,82nm,1.5s
MORF *eS **S 23 21 31.9 +0.1**
MORF Marmelete 27.50 265 *eP* **P 23 16 56.4 -1.4**
comp=Z,62nm,1.7s
MORF Marmelete 27.50 265 *eP* **P 23 16 56.6 -1.2**
MORF *eS **S 23 21 31.9 +0.1**
PFVI Vila Bisbo 27.71 265 *eP* **P 23 16 58.7 -0.9**
comp=Z,111nm,1.5s
PFVI Vila Bisbo 27.71 265 P **P 23 16 58.8 -0.8**
PFVI *eS **PcP 23 20 14.8 +0.7**
SHMA Al-Shehemyia 27.86 127 P **P 23 17 01.4 +0.4**
TAM Tamanrasset 28.60 224 P P 23 17 00.2 -7.6
TAM Tamanrasset 28.60 224 P P 23 17 00.2 -7.6
TAM pmax pmax
comp=Z,187nm,1.5s
SMRA Abu-Samra 28.66 129 P **P 23 17 08.0 -0.1**
BRVK Borovoye 28.98 59 P **P 23 17 11.9 +1.2**
BRVK Borovoye 28.98 59 P **P 23 17 11.9 +1.2**
BRVK pmax pmax
comp=Z,359nm,0.9s
BJO1 Bjornoya 29.02 356 *eP* **P 23 17 11.0 +0.2**
BVAR Borovoye Array 29.05 59 P **P 23 17 12.2 +0.8**
comp=Z,20nm,0.7s,baz=278,slow=7.3,SNR=59
BVAR pP **pP 23 17 33.5 +0.8**
comp=Z,64nm,0.9s,baz=270,slow=8.9,SNR=13
comp=Z,20nm,0.7s
HRA Herat 29.34 100 P **P 23 17 15.1 +0.7**
SLWR Sila 29.67 128 P **P 23 17 16.9 -0.1**
OUK Oukaimeden 30.36 253 P **P 23 17 24.0 +0.5**
JMIC Jan Mayen 30.40 338 LR LR 23 30 28.5
comp=Z,1µm,20.6s,baz=117,slow=38
GHWR Ruwais 30.41 127 P **P 23 17 23.8 +0.2**
SHME Shamm 30.73 120 P **P 23 17 27.2 +0.7**
SNR=15
SHME Shamm 30.73 120 *i P* **P 23 17 26.2 -0.2**
SNR=44
BRZS Berezniki 30.83 65 *eP* **P 23 17 27.6 +0.5**
BRZS pmax pmax
comp=Z,19nm,0.7s
BRZS Berezniki 30.83 65 *eP* **P 23 17 27.6 +0.5**
comp=Z,19nm,0.7s,baz=65
UMQ Umm Al-Quwin 30.83 121 P **P 23 17 28.5 +1.2**
SNR=7.1
UMQ Umm Al-Quwin 30.83 121 *i P* **P 23 17 27.8 +0.5**
SNR=12
HOPEN Hopen 30.85 359 *eP* **P 23 17 28.6 +1.6**
BANOM Banah 30.92 120 P **P 23 17 28.9 +0.8**
SNR=11
BANOM Banah 30.92 120 *i P* **P 23 17 29.0 +0.8**
SNR=32
TAS Tashkent 31.01 83 P **P 23 17 28.4 -0.4**
TAS IAmb IAmb 23 18 19.0
comp=Z,195nm,1.2s
TAS Tashkent 31.01 83 P **P 23 17 28.4 -0.4**
TAS pmax pmax
comp=Z,195nm,1.2s
MZWR Madinat Zayed 31.13 126 P **P 23 17 30.1 +0.1**
TTIG Tnine Tigouga, 31.15 253 P **P 23 17 31.0 +0.7**
AJN Ajban 31.16 123 P **P 23 17 31.7 +1.4**
SNR=9.7
AJN Ajban 31.16 123 *i P* **P 23 17 31.6 +1.4**
SNR=6.9
KK31 Karatay Array 31.20 79 P **P 23 17 32.0 +1.5**
KK31 IAmb IAmb 23 18 41.1
comp=Z,124nm,0.9s
KK31 Karatay Array 31.20 79 P **P 23 17 32.0 +1.5**
KK31 pmax pmax
comp=Z,124nm,1.0s
KKAR Karatay Array 31.20 79 pP pP 23 17 51.0 -1.0
KKAR Karatay Array 31.20 79 pP **pP 23 17 52.1 +0.2**
KKAR IAmb IAmb 23 18 41.1
comp=Z,124nm,0.9s
IUG Iuzhnay 31.21 81 *eP* **P 23 17 31.4 +0.7**
IUG Iuzhnay 31.21 81 *eP* **P 23 17 31.5 +0.7**
baz=81
NAZ Nazwa, Dubai 31.23 122 P **P 23 17 32.0 +1.1**
SNR=14
NAZ Nazwa, Dubai 31.23 122 *i P* **P 23 17 31.0 +0.2**
SNR=32
MASF Masafi 31.25 121 P **P 23 17 31.9 +0.9**
SNR=14
MSFE Esma-Masafi 31.25 121 P **P 23 17 31.3 +0.2**
ASUD Al Ashush, Dub 31.31 123 P **P 23 17 33.2 +1.7**
SNR=14
ASUD Al Ashush, Dub 31.31 123 *i P* **P 23 17 32.2 +0.7**
SNR=51
FAQ Al Faqa, Dubai 31.38 122 P **P 23 17 33.0 +0.8**
SNR=7.4
FAQ Al Faqa, Dubai 31.38 122 *i P* **P 23 17 32.1 -0.1**
SNR=32
MZR Muzera 31.50 127 P **P 23 17 35.0 +1.7**
SNR=8.7
MZR Muzera 31.50 127 *i P* **P 23 17 33.6 +0.3**
SNR=24
UOSS Minazif 31.59 121 P **P 23 17 33.6 -0.4**
UOSS Minazif 31.59 121 P **P 23 17 33.1 -0.9**
UOSS Minazif 31.59 121 *i P* **P 23 17 34.1 +0.1**
SNR=13
UOSS Minazif 31.59 121 P **P 23 17 33.7 -0.3**
HATD Hatta, Dubai 31.64 121 P **P 23 17 35.1 +0.7**
SNR=9.1
HATD Hatta, Dubai 31.64 121 *i P* **P 23 17 34.4 0.0**
SNR=33
ASHO Ashiyiah 31.70 122 P **P 23 17 36.0 +1.0**
SNR=10
ASHO Ashiyiah 31.70 122 *i P* **P 23 17 35.0 -0.1**
SNR=38
DZA Taraz 31.84 79 *eP* **P 23 17 36.9 +0.8**
DZA Taraz 31.84 79 *eP* **P 23 17 36.9 +0.8**
baz=79
JASK Jask - Hormozg 31.93 118 P **P 23 17 39.4 +2.4**
SNR=9.5
ALNE Al Ain 31.99 123 P **P 23 17 38.1 +0.5**
SNR=20
ALNE Al Ain 31.99 123 *i P* **P 23 17 37.7 +0.2**
SNR=68
CHGR Chuyangaron 32.03 87 P **P 23 17 39.2 +1.3**
CHGR pP **pP 23 17 59.6 +0.2**
BORG Borgarnes 32.17 323 LR LR 23 31 29.2
comp=Z,963nm,18.8s,baz=120,slow=38
BORG Borgarnes 32.17 323 P **P 23 17 39.7 +1.1**
BORG Borgarnes 32.17 323 P **P 23 17 39.7 +1.1**
BORG pmax pmax
comp=Z,525nm,1.5s
BORG Borgarnes 32.17 323 P **P 23 17 40.5 +1.8**
BTK Batken 32.58 84 P **P 23 17 43.6 +0.9**
BTK pP **pP 23 18 04.5 +0.2**
UMZA Um Al Zommool 32.68 125 P **P 23 17 43.6 0.0**
GAR Garm 32.69 86 P **P 23 17 45.3 +1.6**
GAR pP **pP 23 18 04.5 -0.7**
SPB2 Spitsbergen Ar 32.76 356 IAmb IAmb 23 18 38.8
comp=Z,160nm,1.0s
SPA0 Spitsbergen Ar 32.77 356 *eP* **P 23 17 45.3 +1.5**
SPITS Spitsbergen Ar 32.77 356 P **P 23 17 44.8 +1.0**
comp=Z,34nm,0.7s,baz=149,slow=12,SNR=20
comp=Z,34nm,0.7s
BTLS Baital 32.96 74 *eP* **P 23 17 46.6 +0.8**
BTLS Baital 32.96 74 *eP* **P 23 17 46.7 +0.8**
baz=74
ARQ Araqi 32.99 123 P **P 23 17 47.3 +1.0**
SNR=11
HOQ Hoqain 33.28 121 P **P 23 17 49.1 +0.3**
SNR=21
EKS2 Erkin-Say 33.60 78 P **P 23 17 53.6 +2.0**
SNR=21
KBS Kingsbay 33.73 355 P **P 23 17 53.8 +1.6**
KBS IAmb IAmb 23 17 54.9
comp=Z,105nm,0.8s
KBS Kingsbay 33.73 355 P **P 23 17 53.8 +1.6**
KBS pmax pmax
comp=Z,105nm,0.8s
KBS Kingsbay 33.73 355 *i P* **P 23 17 53.4 +1.2**
KBS Kingsbay 33.73 355 *eP* **P 23 17 53.7 +1.6**
KBS Kingsbay 33.73 355 P **P 23 17 53.5 +1.4**
KBS pP **pP 23 18 11.4 -2.5**
KBS sP **sP 23 18 23.2 -1.8**
AML Almayashu 33.74 79 P **P 23 17 55.4 +2.3**
SNR=7.5
BIDO Bidbid 33.81 120 P **P 23 17 55.0 +1.6**
SNR=19
BSY Bisya 33.85 122 P **P 23 17 54.1 +0.4**
SNR=13
USP Ospenovka 33.87 77 P **P 23 17 55.4 +1.5**
SNR=20
SGDS Sogindy 33.89 76 *eP* **P 23 17 54.5 +0.5**
SGDS *eS **S 23 23 12.8 +1.3**
SGDS Sogindy 33.89 76 *eP* **P 23 17 54.5 +0.5**
baz=76
SGDS *eS **S 23 23 12.8 +1.3**
baz=76
KBL Kabul 33.98 94 P **P 23 17 56.4 +1.4**
KBL pP **pP 23 18 18.3 +1.6**
KBL Kabul 33.98 94 P **P 23 17 56.4 +1.4**
KBL *PP **pP 23 18 18.3 +1.6**
KBL pmax pmax
comp=Z,47nm,1.1s
KBL Kabul 33.98 94 P **P 23 17 56.0 +0.9**
SCO Scoresbysund 34.06 333 *i P* **P 23 17 56.9 +1.9**
SCO IAmb IAmb 23 18 00.1
comp=Z,297nm,1.5s
AAK Ala-Archa 34.10 78 P **P 23 17 58.3 +2.3**
SNR=22
AAK Ala-Archa 34.10 78 P **P 23 17 57.7 +1.8**
comp=Z,32nm,0.7s,baz=268,slow=9.8,SNR=31
AAK pP **pP 23 18 19.1 +1.6**
comp=Z,198nm,1.0s,baz=242,slow=5.1,SNR=18
comp=Z,32nm,0.7s
AAK Ala-Archa 34.10 78 P **P 23 17 57.7 +1.8**
AAK pP **pP 23 18 18.3 +0.7**
AAK Ala-Archa 34.10 78 P **P 23 17 57.7 +1.8**
AAK Ala-Archa 34.10 78 *i P* **P 23 17 57.9 +2.0**
SNR=26
AAK Ala-Archa 34.10 78 P **P 23 17 57.8 +1.8**
AAK pP **pP 23 18 19.2 +1.6**
AAK sP **sP 23 18 31.6 +3.1**
SMDO Samad 34.11 121 P **P 23 17 57.0 +0.8**
SNR=24
CHMS Chumysh 34.14 77 P pP 23 18 20.4 +2.7
SNR=6.5

UCH Uchtor 34.27 78 P **P** **23 18 00.4 +2.6**
SNR=9.5
WSAR Wadi Sarin 34.33 120 P **P** **23 17 58.4 +0.5**
comp=Z,76nm,0.8s,baz=335,slow=8.0,SNR=52
WSAR pP **pP** **23 18 20.6 +1.0**
comp=Z,20nm,0.7s,baz=347,slow=10,SNR=2.3
comp=Z,76nm,0.8s
KURBB Kurchatov Arra 34.39 63 P **P** **23 17 58.5 +0.4**
comp=Z,20nm,0.6s,baz=287,slow=9.0,SNR=89
comp=Z,20nm,0.6s
KBK Karagaybulak 34.40 77 P **P** **23 18 00.9 +2.3**
SNR=10
KURK Kurchatov 34.42 62 P **P** **23 17 59.1 +0.7**
KURK IAmb IAmb 23 19 00.8
comp=Z,135nm,1.1s
KURK Kurchatov 34.42 62 P **P** **23 17 59.1 +0.7**
KURK pmax pmax
comp=Z,135nm,1.1s
JMDO Jabal Madar 34.67 122 P **P** **23 18 02.0 +1.2**
SNR=28
TKM2 Tokmak 2 34.74 77 P **P** **23 18 04.2 +2.6**
SNR=12
KUU Kurty 34.89 75 *e*P **P** **23 18 03.3 +0.7**
KUU pmax pmax
comp=Z,41nm,0.8s
KUU Kurty 34.89 75 *e*P **P** **23 18 03.3 +0.7**
comp=Z,41nm,0.8s,baz=75
WBK Wadi Bani Khal 35.01 120 P **P** **23 18 06.0 +2.2**
SNR=9.7
PMPST Porto Santo, M 35.07 264 *e*P **P** **23 18 04.3 +0.1**
comp=Z,272nm,0.9s
PMPS Porto Santo 35.08 264 *e*P **P** **23 18 04.2 0.0**
comp=Z,327nm,1.7s
DBG Daneborg 35.15 340 *i* P **P** **23 18 06.1 +1.8**
DBG IAmb IAmb 23 18 07.6
comp=Z,38nm,0.9s
DOK Doka 35.41 131 P **P** **23 18 09.0 +1.8**
SNR=5.7
DOK P **P** **23 18 09.0 +1.8**
SNR=5.7
SEM Semipalatinsk 35.50 63 *e*P **P** **23 18 08.6 +0.6**
SEM *e*S **S** **23 23 37.9 +1.5**
SEM pmax pmax
comp=Z,20nm,0.9s
SEM Semipalatinsk 35.50 63 *e*P **P** **23 18 08.7 +0.6**
comp=Z,20nm,0.9s,baz=63
SEM *e*S **S** **23 23 38.0 +1.5**
baz=63
AAA Alma-Ata 35.53 76 *e*P **P** **23 18 09.1 +1.0**
AAA pmax pmax
comp=Z,40nm,0.9s
AAA Alma-Ata 35.53 76 *e*P **P** **23 18 09.1 +1.0**
comp=Z,40nm,0.9s,baz=76
NRN Naryn 35.60 79 P **P** **23 18 10.8 +1.7**
NRN pP **pP** **23 18 30.1 -0.8**
TNSS Tian-Shan 35.62 76 *e*P **P** **23 18 09.7 +0.4**
TNSS Tian-Shan 35.62 76 *e*P **P** **23 18 09.8 +0.4**
baz=76
MDOK Medeo 35.64 76 *e*P **P** **23 18 10.2 +1.1**
MDOK Medeo 35.64 76 *e*P **P** **23 18 10.3 +1.1**
baz=76
MHTO MHTO 35.65 123 P **P** **23 18 11.0 +1.7**
SNR=6.5
MHTO P **P** **23 18 11.0 +1.7**
SNR=6.5
PMAR Madeira 35.67 264 *e*P **P** **23 18 10.1 +0.5**
comp=Z,558nm,2.0s
FUL Funchal 35.70 264 *e*P **P** **23 18 10.0 +0.4**
comp=Z,265nm,2.2s
WHFO Wadi Hawf 35.80 132 P **P** **23 18 12.0 +1.4**
SNR=5.6
PMOZ Porto Moniz, M 35.81 264 *e*P **P** **23 18 11.2 +0.5**
comp=Z,304nm,1.6s
PMOZ Porto Moniz, M 35.81 264 P **P** **23 18 10.3 -0.4**
PMOZ Porto Moniz, M 35.81 264 P **P** **23 18 11.5 +0.8**
TDK Taldyqorghan 35.89 72 *e*P **P** **23 18 11.9 +0.8**
TDK pmax pmax
comp=Z,15nm,0.6s
TDK Taldyqorghan 35.89 72 *e*P **P** **23 18 11.9 +0.8**
comp=Z,15nm,0.6s,baz=72
ABTO Aybut 36.02 133 P **P** **23 18 12.3 -0.2**
DAG Danmarks Havn 36.05 344 *i* P **P** **23 18 13.3 +1.2**
DAG IAmb IAmb 23 18 14.3
comp=Z,71nm,1.0s
DQM DQM 36.23 125 P **P** **23 18 15.0 +0.8**
SNR=7.3
DQM P **P** **23 18 15.0 +0.8**
SNR=7.3
RBK Rabkut 36.37 132 P **P** **23 18 17.0 +1.5**
SNR=5.4
KSH Kashi 36.40 82 P **P** **23 18 17.3 +1.7**
KSH pP pP 23 18 38.5 +1.0
KSH sP sP 23 18 51.3 +2.9
KSH S **S** **23 23 54.5 +4.4**
KSH ScS **ScS** **23 28 21.9 -0.3**
KSH pmax pmax
comp=Z,32nm,1.3s
ZHN Zhinishke 36.58 75 *e*P **P** **23 18 17.5 +0.4**
ZHN Zhinishke 36.58 75 *e*P **P** **23 18 17.5 +0.4**
baz=75
DMTO DMTO 36.58 131 P **P** **23 18 19.0 +1.8**
SNR=5.1
KPKS Kokpek 36.63 74 *e*P **P** **23 18 18.4 +0.8**
KPKS *e*S **S** **23 23 55.5 +2.0**
KPKS Kokpek 36.63 74 *e*P **P** **23 18 18.4 +0.8**
baz=74
KPKS *e*S **S** **23 23 55.6 +2.0**
baz=74
TARG Taragay, Kyrgy 36.72 77 P **P** **23 18 20.3 +1.6**
TARG IAmb IAmb 23 18 45.5
comp=Z,128nm,1.1s
TARG Taragay, Kyrgy 36.72 77 P **P** **23 18 20.3 +1.6**
TARG pmax pmax
comp=Z,128nm,1.1s
ATD Arta Tunnel 36.84 153 P **P** **23 18 20.9 +1.4**
comp=Z,30nm,1.0s,baz=354,slow=9.8,SNR=17
ATD pP **pP** **23 18 41.4 +0.1**
comp=Z,30nm,1.0s,baz=356,slow=8.4,SNR=3.4
comp=Z,30nm,1.0s
ATD Arta Tunnel 36.84 153 P **P** **23 18 20.2 +0.7**
ATD pP **pP** **23 18 41.3 +0.1**
ATD IAmb IAmb 23 18 49.8
comp=Z,140nm,1.3s
ATD Arta Tunnel 36.84 153 P **P** **23 18 21.4 +2.0**
ATD pP **pP** **23 18 41.8 +0.5**
ATD sP **sP** **23 18 52.3 +0.1**
UZB Uzynbulak 36.98 75 *e*P **P** **23 18 21.4 +0.8**
UZB Uzynbulak 36.98 75 *e*P **P** **23 18 21.4 +0.8**
baz=75
SHLS Shalkode 37.27 75 *e*P **P** **23 18 26.3 +3.3**
SHLS *e*S **S** **23 24 09.7 +6.4**
SHLS Shalkode 37.27 75 *e*P **P** **23 18 26.4 +3.3**
baz=74
SHLS *e*S **S** **23 24 09.8 +6.4**
baz=74
ZAA0 Zalesovo Array 37.46 56 pP pP 23 18 46.6 +0.4
ZALV Zalesovo Beam 37.46 56 P **P** **23 18 24.9 +0.7**
comp=Z,87nm,0.8s,baz=282,slow=8.8,SNR=118
ZALV pP **pP** **23 18 46.7 +0.5**
comp=Z,267nm,0.8s,baz=283,slow=7.6,SNR=27
ZALV PP **PP** **23 19 47.2 -4.1**
comp=Z,212nm,1.0s,baz=291,slow=12,SNR=5.5
ZALV P3KPbc 23 48 41.1
comp=Z,1.4nm,0.6s,baz=114,slow=3.2,SNR=6.4
comp=Z,87nm,0.8s
ZALV Zalesovo Beam 37.46 56 pP pP 23 18 46.2 0.0
ZALV Zalesovo Beam 37.46 56 *i* P **P** **23 18 25.0 +0.7**
ZALV pmax pmax
comp=Z,87nm,0.8s
MAKZ Makanchi 37.63 68 P **P** **23 18 26.4 +0.5**
MAKZ pP **pP** **23 18 47.4 -0.4**
MAKZ IAmb IAmb 23 18 50.3
comp=Z,158nm,1.2s
MAKZ Makanchi 37.63 68 P **P** **23 18 26.4 +0.5**
MAKZ *PP **pP** **23 18 47.4 -0.4**
MAKZ pmax pmax
comp=Z,158nm,1.3s
MAKZ Makanchi 37.63 68 P **P** **23 18 26.8 +1.0**
MAKZ pP **pP** **23 18 48.1 +0.4**
MAKZ PP **PP** **23 19 53.1 -0.2**
MK31 Makanchi Array 37.84 68 pP **pP** **23 18 50.1 +0.6**
MK31 IAmb IAmb 23 18 51.9
comp=Z,125nm,1.1s
MK31 Makanchi Array 37.84 68 *c* *i* P **P** **23 18 28.4 +0.8**
MKAR Makanchi Array 37.84 68 P **P** **23 18 28.0 +0.4**
comp=Z,26nm,0.6s,baz=286,slow=7.3,SNR=117
MKAR pP **pP** **23 18 49.5 -0.1**
comp=Z,69nm,0.7s,baz=279,slow=8.5,SNR=21
MKAR P3KPbc 23 48 42.2
comp=Z,2.7nm,0.6s,baz=92,slow=6.3,SNR=21
comp=Z,26nm,0.6s
MKAR Makanchi Array 37.84 68 pP pP 23 18 50.0 +0.4
NRIK Noril'sk 37.99 30 P **P** **23 18 30.2 +1.6**
comp=Z,24nm,0.8s,baz=252,slow=3.9,SNR=22
NRIK pP **pP** **23 18 50.6 +0.1**
comp=Z,33nm,0.9s,baz=241,slow=12,SNR=8.1
NRIK PP **PP** **23 19 55.8 -1.0**
comp=Z,90nm,1.0s,baz=257,slow=6.1,SNR=6.4
comp=Z,24nm,0.8s
NRIK Noril'sk 37.99 30 P **P** **23 18 30.6 +2.1**
NRIK IAmb IAmb 23 19 51.2
comp=Z,116nm,1.1s
MACI Morro de la Ar 38.06 258 P **P** **23 18 30.9 +1.1**
FURI Furi 38.19 160 P **P** **23 18 33.7 +2.6**
FURI pP **pP** **23 18 57.1 +3.9**
NOR Nord 38.61 351 *i* P **P** **23 18 34.6 +0.9**
NOR IAmb IAmb 23 18 36.9
comp=Z,61nm,1.0s
TOA0 Torodi Ar. Sit 38.74 221 P **P** **23 18 35.1 -0.3**
TORD Torodi Ar. Bea 38.74 221 P **P** **23 18 35.0 -0.4**
comp=Z,206nm,0.6s,baz=30,slow=8.6,SNR=1034
TORD pP **pP** **23 18 57.4 -0.1**
comp=Z,127nm,0.8s,baz=25,slow=9.4,SNR=7.4
TORD PcP **PcP** **23 20 44.5 -0.7**
comp=Z,32nm,0.6s,baz=30,slow=5.0,SNR=8.5
TORD ScP **ScP** **23 24 21.4 -3.2**
comp=Z,28nm,1.2s,baz=37,slow=5.1,SNR=7.9
TORD PKiKP **PKiKP** **23 27 56.8 -2.0**
comp=Z,1.3nm,0.7s,baz=8.9,slow=1.8,SNR=8.0
comp=Z,206nm,0.6s
TORD Torodi Ar. Bea 38.74 221 P **P** **23 18 34.9 -0.4**
TORD IAmb IAmb 23 19 05.0
comp=Z,110nm,0.8s
PGRON Lagoa das Cont 38.96 277 *e*P **P** **23 18 36.1 -1.1**
comp=Z,160nm,0.7s
JMU Jammu 39.07 92 *e*P **P** **23 18 38.7 +0.7**
CMLA Cha da Macela 39.07 277 P **P** **23 18 37.5 -0.5**
CMLA IAmb IAmb 23 18 41.0
comp=Z,130nm,1.0s
CMLA Cha da Macela 39.07 277 P **P** **23 18 37.5 -0.5**
CMLA pmax pmax
comp=Z,130nm,1.0s
PSMN Pico do Norte, 39.12 276 *e*P **P** **23 18 36.4 -2.0**
comp=Z,408nm,1.3s
PDA Ponta Delgada 39.17 277 *e*P **P** **23 18 39.3 +0.5**
comp=Z,357nm,2.1s
PSET Sete Cidades 39.18 277 *e*P **P** **23 18 39.0 +0.1**
comp=Z,466nm,1.4s
ZSN Zaisan 39.27 66 *e*P **P** **23 18 40.5 +0.9**
ZSN Zaisan 39.27 66 *e*P **P** **23 18 40.5 +0.9**
baz=66
SUMG Summit 39.64 335 P **P** **23 18 44.1 +1.3**
SUMG IAmb IAmb 23 18 45.0
comp=Z,98nm,1.1s
SUMG Summit 39.64 335 P **P** **23 18 44.1 +1.3**
SUMG pmax pmax
comp=Z,98nm,1.1s
SUMG Summit 39.64 335 *i* P **P** **23 18 44.0 +1.3**
SUMG IAmb IAmb 23 18 44.7
comp=Z,87nm,1.0s
PSCM Serra do Cume 39.73 279 *e*P **P** **23 18 42.4 -1.1**
comp=Z,286nm,0.8s
PAGU Agualva, Azore 39.74 280 *e*P **P** **23 18 42.7 -0.9**
comp=Z,223nm,2.2s
THN Thein Dam 39.80 92 *e*P **P** **23 18 46.2 +2.2**
ADH Angra Heroismo 39.83 279 *e*P **P** **23 18 43.6 -0.7**
comp=Z,276nm,1.2s
ICESG Greenland Ices 39.83 329 *i* P **P** **23 18 45.4 +1.0**
ICESG IAmb IAmb 23 18 46.2
comp=Z,186nm,1.1s
DGZ Jazzator, Alta 40.15 62 *d* *i* P **P** **23 18 48.3 +1.3**
PGRA Graciosa 40.17 280 *e*P **P** **23 18 45.8 -1.3**
comp=Z,414nm,1.8s
KOWA Kowa 40.42 229 P **P** **23 18 49.0 -0.4**
KOWA IAmb IAmb 23 18 49.8
comp=Z,100nm,0.7s
KOWA Kowa 40.42 229 P **P** **23 18 49.1 -0.2**
PMAN Manadas 40.43 280 *e*P **P** **23 18 48.0 -1.2**
comp=Z,336nm,1.6s
ROSA Rosais 40.49 280 P **P** **23 18 50.2 +0.4**
PID Ribeirinha 40.54 280 *e*P **P** **23 18 48.6 -1.6**
comp=Z,264nm,0.6s
PPNO Prainha do Nor 40.63 280 *e*P **P** **23 18 51.6 +0.7**
comp=Z,321nm,1.4s
PICO Pico 40.72 280 *e*P **P** **23 18 49.6 -2.2**
comp=Z,344nm,1.4s
SMLA Simla 41.55 92 *e*P **P** **23 18 59.4 +0.9**
SMLA IAmb IAmb 23 19 00.6
comp=Z,58nm,0.6s
WMQ Urumqi 42.49 70 *e*P **P** **23 19 07.8 +1.7**
WMQ pP pP 23 19 30.3 +1.9
WMQ pmax pmax
comp=Z,35nm,0.7s
WMQ Urumqi 42.49 70 P **P** **23 19 08.1 +2.0**
WMQ pP **pP** **23 19 30.4 +1.9**
DY2G Dye2 42.52 325 *i* P **P** **23 19 06.4 +0.2**
DY2G IAmb IAmb 23 19 30.9
comp=Z,469nm,1.4s
AJM Ajmer 42.62 100 *e*P **P** **23 19 09.2 +1.9**
NDI New Delhi 43.03 95 *e*P **P** **23 19 11.0 +0.4**
NEEM North Greenlan 43.14 342 *i* P **P** **23 19 12.3 +1.1**
NEEM IAmb IAmb 23 19 12.9
comp=Z,147nm,0.8s
NRS Narsarsuaq 43.15 318 P **P** **23 19 11.5 +0.4**
NRS IAmb IAmb 23 19 13.6
comp=Z,174nm,1.2s
NRS Narsarsuaq 43.15 318 P **P** **23 19 11.5 +0.4**
NRS pmax pmax
comp=Z,174nm,1.2s
NRS Narsarsuaq 43.15 318 *i* P **P** **23 19 11.7 +0.6**
NRS IAmb IAmb 23 19 14.0
comp=Z,173nm,1.2s
ILULI Ilulissat 43.91 330 P **P** **23 19 16.8 -0.2**
ILULI IAmb IAmb 23 19 18.6
comp=Z,190nm,1.4s
ILULI pP **pP** **23 19 40.1 +0.4**
ILULI Ilulissat 43.91 330 P **P** **23 19 16.8 -0.2**
ILULI *PP **pP** **23 19 40.1 +0.4**
ILULI pmax pmax
comp=Z,190nm,1.4s
ILULI Ilulissat 43.91 330 *i* P **P** **23 19 16.7 -0.4**
ILULI IAmb IAmb 23 19 18.0
comp=Z,197nm,1.4s
SFJD Kangerlussuaq 44.13 327 P **P** **23 19 19.1 +0.2**
SFJD pP **pP** **23 19 42.0 +0.5**
SFJD Kangerlussuaq 44.13 327 P **P** **23 19 19.1 +0.2**
SFJD *PP **pP** **23 19 42.0 +0.5**
SFJD pmax pmax
comp=Z,48nm,1.0s
SFJD Kangerlussuaq 44.13 327 *i* P **P** **23 19 18.9 0.0**
SFJD IAmb IAmb 23 19 19.8
comp=Z,44nm,1.0s
SFJD Kangerlussuaq 44.13 327 P **P** **23 19 18.8 0.0**
NUUG Nuugaatsiaq 44.23 333 *i* P **P** **23 19 20.2 +0.7**
IVI Ivigtut 44.43 318 P **P** **23 19 21.2 -0.1**
IVI pP **pP** **23 19 43.4 -0.6**
IVI sP **sP** **23 19 54.0 -0.9**
PTH Pithoragarh 44.61 92 *e*P **P** **23 19 24.3 +0.9**
LGTI Lohaghat 44.69 92 *e*P **P** **23 19 24.1 +0.3**
ALE Alert 44.79 349 P **P** **23 19 25.1 +1.2**
ALE pP **pP** **23 19 46.4 -0.4**
ALE sP **sP** **23 19 57.1 -0.3**
UPNV Upernavik 44.91 335 *i* P **P** **23 19 26.1 +1.1**
UPNV IAmb IAmb 23 19 27.1
comp=Z,107nm,1.2s
NUUK Nuuk 45.23 323 *i* P **P** **23 19 27.3 -0.3**
NUUK IAmb IAmb 23 19 51.4
comp=Z,53nm,1.0s
JHNI Jhansi 45.96 98 *e*P **P** **23 19 34.9 +1.0**
MBAR Mbarara 46.32 174 P **P** **23 19 36.7 -0.2**
MBAR IAmb IAmb 23 19 38.1
comp=Z,110nm,1.1s
MBAR Mbarara 46.32 174 P **P** **23 19 36.7 -0.2**
MBAR pmax pmax
comp=Z,110nm,1.1s
MBAR Mbarara 46.32 174 P **P** **23 19 36.8 -0.2**
MBAR pP **pP** **23 20 00.9 +1.3**
BHPL Bhopal 46.64 101 *e*P **P** **23 19 39.1 -0.2**
BHPL IAmb IAmb 23 19 40.2
comp=Z,106nm,0.8s
TULEG Thule 47.24 341 *i* P **P** **23 19 43.5 +0.3**
TULEG IAmb IAmb 23 19 44.6
comp=Z,172nm,0.9s
PYUN Piuthan 47.42 92 *e*P **P** **23 19 46.6 +1.1**
comp=Z,254nm,0.8s
POO Poona 47.46 109 *e*P **P** **23 19 46.4 +0.7**
POO IAmb IAmb 23 19 47.5
comp=Z,130nm,0.8s
MOY Mondy 47.48 54 *e*P **P** **23 19 46.9 +1.3**
MOY pmax pmax
comp=Z,53nm,2.5s
DBIC Dimbokro 47.49 225 P **P** **23 19 44.6 -1.3**
comp=Z,95nm,0.4s,baz=39,slow=8.7,SNR=300
DBIC pP **pP** **23 20 08.4 -0.3**
comp=Z,77nm,0.6s,baz=39,slow=10,SNR=5.8
DBIC PcP **PcP** **23 21 13.2 -1.5**
comp=Z,27nm,0.6s,baz=47,slow=2.9,SNR=4.2
DBIC LR LR 23 42 07.1
comp=Z,609nm,19.8s,baz=74,slow=39
comp=Z,95nm,0.4s
DBIC Dimbokro 47.49 225 P **P** **23 19 44.5 -1.3**
DBIC Dimbokro 47.49 225 P **P** **23 19 44.6 -1.3**
DBIC pP **pP** **23 20 08.8 0.0**
TIC Toumodi 47.59 225 ⇑ *i* P **P** **23 19 45.7 -1.0**
comp=Z,85nm,0.4s
KMBO Kilima Mbogo 47.64 165 P **P** **23 19 47.0 -0.3**
comp=Z,4.9nm,0.6s,baz=354,slow=10,SNR=10.0
KMBO PP **PP** **23 21 40.5 +0.6**
comp=Z,21nm,1.1s,baz=352,slow=6.0,SNR=8.6
comp=Z,4.9nm,0.6s
KMBO Kilima Mbogo 47.64 165 P **P** **23 19 47.1 -0.2**
KMBO Kilima Mbogo 47.64 165 *e*P **P** **23 19 47.6 +0.3**
KMBO IAmb IAmb 23 19 48.6
comp=Z,11nm,1.3s
KMBO Kilima Mbogo 47.64 165 *i* P **P** **23 19 48.2 +0.9**
KMBO pmax pmax
comp=Z,5.0nm,0.6s
KMBO Kilima Mbogo 47.64 165 *i* P **P** **23 19 48.7 +1.4**
SNR=12
KMBO Kilima Mbogo 47.64 165 P **P** **23 19 48.2 +0.9**
KMBO pP **pP** **23 20 11.0 +0.9**
KMBO sP **sP** **23 20 21.3 +0.5**
KMBO x x 23 21 15.8
KMBO PP **PP** **23 21 41.5 +1.7**
KIC Kosan Boka 47.70 224 ⇑ *i* P **P** **23 19 46.7 -0.8**
comp=Z,172nm,0.4s
DANN Dangsing 47.81 91 *e*P **P** **23 19 49.4 +0.8**
comp=Z,162nm,0.7s
LIC Lamto 47.96 225 ⇑ *i* P **P** **23 19 48.7 -0.8**
comp=Z,308nm,0.4s
KOLN Koldanda 48.05 92 *e*P **P** **23 19 51.8 +1.4**
AKL Akola 48.07 104 *e*P **P** **23 19 51.0 +0.7**
GKN Gorkha 48.63 91 *e*P **P** **23 19 55.4 +0.6**
comp=Z,314nm,0.7s
EUNU Eureka 49.02 348 P **P** **23 19 58.4 +1.4**
NGP Nagpur 49.15 102 *e*P **P** **23 19 59.2 +0.5**
DMN Daman 49.20 91 *e*P **P** **23 19 59.9 +0.6**
KKN Kakani 49.21 90 *e*P **P** **23 20 00.0 +0.7**
ZAK Zakamensk 49.34 55 *e*P **P** **23 20 01.6 +1.8**
ZAK pmax pmax
comp=Z,13nm,1.2s
PKIN Phulchoki 49.42 90 *e*P **P** **23 20 01.4 +0.4**
comp=Z,105nm,0.7s
PKI Pulchoki 49.44 90 *e*P **P** **23 20 01.4 +0.2**
comp=Z,96nm,0.7s
GUN Gumba 49.56 90 *e*P **P** **23 20 02.8 +0.7**
comp=Z,163nm,0.7s
JIRN Jiri 49.93 90 *e*P **P** **23 20 05.7 +0.8**
comp=Z,235nm,0.7s
BLSP Bilaspur 50.62 98 *e*P **P** **23 20 10.0 +0.2**
RAMN Ramite 50.65 90 *e*P **P** **23 20 10.6 +0.3**
comp=Z,192nm,0.7s
TIXI Tiksi 50.94 23 P **P** **23 20 12.7 +1.2**
TIXI pP **pP** **23 20 32.2 -2.3**
TIXI IAmb IAmb 23 20 36.2
comp=Z,60nm,1.0s
TIXI Tiksi 50.94 23 ⇑ *e*P **P** **23 20 13.0 +1.6**
TIXI pmax pmax
comp=Z,24nm,0.9s
TIXI Tiksi 50.94 23 P **P** **23 20 12.8 +1.4**
TIXI pP **pP** **23 20 34.7 +0.3**
GOMU GeErMu 50.97 75 *e*P **P** **23 20 14.4 +1.7**
GOMU pmax pmax
comp=Z,13nm,0.7s
TAPN Taplejung 51.18 89 *e*P **P** **23 20 14.9 +0.6**
comp=Z,158nm,1.0s
ODAN Odare 51.26 90 *e*P **P** **23 20 15.8 +1.0**
HYBB Hyderabad (bro 51.39 106 *e*P **P** **23 20 15.6 0.0**
HYB Hyderabad 51.39 106 *e*P **P** **23 20 15.4 -0.2**
BOD Bodaibo 51.68 43 *e*P **P** **23 20 17.5 +0.3**
BOD pmax pmax
comp=Z,112nm,1.7s
GTK Tadong 51.83 88 *e*P **P** **23 20 20.5 +1.6**
GTK IAmb IAmb 23 20 23.0
comp=Z,77nm,0.9s
SACV Santiago Islan 51.93 251 P **P** **23 20 20.0 +0.4**
BOK Bokaro 52.15 94 *e*P **P** **23 20 21.6 +0.5**
BOK IAmb IAmb 23 20 22.6
comp=Z,78nm,1.0s
LSA Lhasa 52.16 84 P **P** **23 20 22.7 +1.0**
LSA IAmb IAmb 23 20 24.9
comp=Z,68nm,0.7s
LSA pP **pP** **23 20 45.7 +1.0**
LSA Lhasa 52.16 84 *i* P **P** **23 20 23.4 +1.6**
SNR=22
LSA Lhasa 52.16 84 P **P** **23 20 23.6 +1.8**
LSA pP **pP** **23 20 45.8 +1.0**
LSA sP **sP** **23 20 57.5 +2.2**
SONM Songino Array 52.34 57 P **P** **23 20 23.5 +1.1**
comp=Z,17nm,0.6s,baz=293,slow=8.3,SNR=125
SONM pP **pP** **23 20 45.6 +0.1**
comp=Z,92nm,1.0s,baz=295,slow=8.1,SNR=18
comp=Z,17nm,0.6s
SONM Songino Array 52.34 57 P **P** **23 20 23.8 +1.4**
SONM pP **pP** **23 20 46.5 +1.0**
SONM IAmb IAmb 23 20 48.5
comp=Z,104nm,1.0s
GTA Gaotai 52.56 69 P **P** **23 20 25.6 +1.4**
GTA pP pP 23 20 49.1 +1.8
GTA S **S** **23 27 42.6 -1.3**
GTA sS sS 23 28 25.1 +1.2
GTA pmax pmax
comp=Z,20nm,0.7s
ULN Ulaanbaatar 52.71 57 P **P** **23 20 26.8 +1.6**
ULN pP **pP** **23 20 48.2 -0.1**
ULN Ulaanbaatar 52.71 57 P **P** **23 20 26.8 +1.6**
ULN *PP **pP** **23 20 48.2 -0.1**
ULN pmax pmax
comp=Z,52nm,1.0s
ULN Ulaanbaatar 52.71 57 P **P** **23 20 26.7 +1.6**
ULN pP **pP** **23 20 48.7 +0.4**
RAGD RAYAGADA 53.47 100 *e*P **P** **23 20 31.4 +0.5**
RES Resolute Bay 53.74 344 P **P** **23 20 33.0 +0.9**
RES IAmb IAmb 23 20 36.2
comp=Z,110nm,1.2s
RES Resolute Bay 53.74 344 P **P** **23 20 33.0 +0.9**
RES pmax pmax
comp=Z,110nm,1.3s
DRLN Deer Lake 54.06 306 IAmb IAmb 23 20 35.1
comp=Z,74nm,0.9s
MNCI Minicoy 54.61 118 P **P** **23 20 39.1 -0.1**
TEZP TEZPUR 55.20 86 *e*P **P** **23 20 43.7 +0.4**
SHL Shillong 55.21 88 P **P** **23 20 43.5 -0.2**
SHL pP **pP** **23 21 06.4 -0.6**
SHL Shillong 55.21 88 P **P** **23 20 43.5 -0.2**
SHL *PP **pP** **23 21 06.4 -0.6**
SHL pmax pmax
comp=Z,257nm,1.6s
ZIRO ZIRO 55.37 85 *e*P **P** **23 20 45.3 +0.6**
ZIRO IAmb IAmb 23 20 46.5
comp=Z,102nm,0.8s
KOD Kodaikanal 55.91 113 *e*P **P** **23 20 49.0 +0.1**
SCHQ Schefferville 56.05 316 P **P** **23 20 48.4 -0.7**
comp=Z,67nm,0.8s,baz=66,slow=6.6,SNR=61
comp=Z,67nm,0.8s
SCHQ Schefferville 56.05 316 IAmb IAmb 23 20 49.6
comp=Z,79nm,0.8s
SCHQ pP pP 23 21 12.2 -0.4
YAK Yakutsk 56.29 34 P **P** **23 20 50.7 0.0**
comp=Z,20nm,0.6s,baz=205,slow=0.3,SNR=8.7
YAK pP **pP** **23 21 13.4 -0.7**
comp=Z,26nm,0.7s,baz=307,slow=2.3,SNR=2.7
YAK LR LR 23 45 37.4
comp=Z,2µm,20.7s,baz=266,slow=36
comp=Z,20nm,0.6s
YAK Yakutsk 56.29 34 P **P** **23 20 50.8 +0.1**

YAK pP **pP** **23 21 13.3 -0.7**
YAK lAmb lAmb 23 21 15.7
comp=Z,109nm,1.1s
YAK Yakutsk 56.29 34 *e*P **P** **23 20 51.1 +0.5**
YAK *e**PP **pP** **23 21 12.8 -1.2**
YAK *e* 23 21 43.7
YAK *e*S **S** **23 28 35.2 +2.2**
YAK *e* 23 30 27.9
YAK *e*SS **SS** **23 32 23.8 +3.6**
YAK pmax pmax
comp=Z,36nm,0.7s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK smax smax
comp=E,1µm,9.7s
YAK smax smax
comp=N,855nm,10.7s
MSEY Mahe Island 56.43 145 P **P** **23 20 53.2 +0.9**
MSEY pP **pP** **23 21 17.6 +1.9**
MSEY Mahe Island 56.43 145 P **P** **23 20 53.2 +0.9**
MSEY *PP **pP** **23 21 17.6 +1.9**
MSEY pmax pmax
comp=Z,141nm,1.0s
MSEY Mahe Island 56.43 145 P **P** **23 20 52.1 -0.2**
MSEY Mahe Island 56.43 145 P **P** **23 20 52.4 +0.2**
MSEY pP **pP** **23 21 15.1 -0.5**
MSEY sP **sP** **23 21 26.5 +0.3**
MOKO MOKOCHONG 56.58 85 *e*P **P** **23 20 54.4 +1.0**
MOKO lAmb lAmb 23 20 56.8
comp=Z,124nm,0.8s
TRD Trivandrum 56.88 115 *e*P **P** **23 20 55.5 0.0**
TRD lAmb lAmb 23 20 56.5
comp=Z,67nm,0.9s
BRDH Bariadhala 56.89 91 P **P** **23 20 55.7 +0.2**
comp=Z,137nm,0.3s,baz=267,slow=17,SNR=4.7
comp=Z,137nm,0.3s
LZH Lanzhou 57.07 70 *e*P **P** **23 20 58.8 +2.0**
LZH pP pP 23 21 21.4 +1.3
LZH pmax pmax
comp=Z,95nm,1.0s
GBN Guysborough 58.44 304 P **P** **23 21 06.4 +0.4**
GBN pP **pP** **23 21 31.2 +1.6**
HIA Hailar 59.06 50 P **P** **23 21 11.8 +1.5**
HIA pP **pP** **23 21 33.2 -0.7**
HIA lAmb lAmb 23 21 37.3
comp=Z,137nm,1.8s
HHC Hu-ho-hao-te 59.23 62 *e*P **P** **23 21 13.3 +1.6**
HHC pmax pmax
comp=Z,29nm,1.3s
BATG Bathurst New B 59.92 308 P **P** **23 21 16.5 +0.3**
HAL Halifax 60.08 305 P **P** **23 21 17.6 +0.3**
HAL Halifax 60.08 305 P **P** **23 21 17.6 +0.3**
HAL pmax pmax
comp=Z,100nm,0.8s
CD2 Chengdu 60.11 75 ⇑P **P** **23 21 19.1 +1.3**
CD2 pP pP 23 21 41.3 0.0
CD2 pmax pmax
comp=Z,120nm,0.7s
XLT XiLinHaoTe 60.15 56 *e*P **P** **23 21 19.5 +1.6**
XLT pP pP 23 21 42.9 +1.4
XLT sP sP 23 21 51.8 -0.2
XLT pmax pmax
comp=Z,28nm,1.0s
ZEA Zeya 60.17 42 *e*P **P** **23 21 19.5 +1.7**
ZEA *e* 23 21 42.6
ZEA pmax pmax
comp=Z,20nm,1.7s
PALK Pallekele 60.22 112 P **P** **23 21 18.9 +0.2**
comp=Z,132nm,0.8s,baz=63,slow=8.9,SNR=54
PALK pP **pP** **23 21 42.1 -0.2**
comp=Z,34nm,0.8s,baz=84,slow=8.4,SNR=3.2
comp=Z,132nm,0.8s
PALK Pallekele 60.22 112 P **P** **23 21 18.5 -0.2**
PALK Pallekele 60.22 112 P **P** **23 21 17.5 -1.2**
PALK P **P** **23 21 17.5 -1.2**
PALK Pallekele 60.22 112 P **P** **23 21 18.9 +0.2**
PALK pP **pP** **23 21 42.4 +0.1**
KAAM Kaadhehdhoo 60.76 124 P **P** **23 21 22.5 +0.3**
LSZ Lusaka 60.77 178 P **P** **23 21 22.7 +0.3**
LSZ Lusaka 60.77 178 P **P** **23 21 22.7 +0.3**
LSZ pmax pmax
comp=Z,273nm,1.3s
LSZ Lusaka 60.77 178 P **P** **23 21 22.7 +0.3**
A36M Sachs Harbour 60.87 350 P **P** **23 21 23.9 +1.6**
baz=22,SNR=44
PQI Presque Isle 61.36 309 lAmb lAmb 23 21 27.0
comp=Z,67nm,0.9s
PQI pP pP 23 21 50.2 +0.4
PZH PanZhiHua 61.48 80 P **P** **23 21 28.1 +0.8**
PZH pP **pP** **23 21 51.5 +0.6**
PZH sP **sP** **23 22 03.6 +2.2**
PZH PcP **PcP** **23 22 09.1 +0.7**
PZH S **S** **23 29 43.0 +1.6**
PZH pmax pmax
comp=Z,60nm,0.8s
TIY Taiyuan 61.64 64 *e*P **P** **23 21 29.4 +1.3**
TIY pP **pP** **23 21 54.3 +2.5**
TIY pmax pmax
comp=Z,16nm,0.6s
D62A Allapoint, All 61.67 309 lAmb lAmb 23 21 29.4
comp=Z,89nm,0.9s
D62A pP pP 23 21 52.3 +0.4
D62A Allapoint, All 61.67 309 P **P** **23 21 28.1 +0.1**
baz=52,SNR=34
D62A P **P** **23 21 28.1 +0.1**
baz=52,SNR=34
E63A Oxbow 61.73 309 P **P** **23 21 28.4 0.0**
baz=52,SNR=17
E63A P **P** **23 21 28.4 0.0**
baz=52,SNR=17
G65A Princeton 62.00 307 lAmb lAmb 23 21 31.9
comp=Z,81nm,0.9s
G65A pP pP 23 21 54.4 +0.2
G65A Princeton 62.00 307 P **P** **23 21 30.3 0.0**
baz=52,SNR=15
G65A P **P** **23 21 30.3 0.0**
baz=52,SNR=15
F64A Sherman 62.03 308 P **P** **23 21 30.6 +0.1**
F64A lAmb lAmb 23 21 31.7
comp=Z,50nm,0.8s
F64A pP **pP** **23 21 54.6 +0.2**
F64A Sherman 62.03 308 P **P** **23 21 30.6 +0.1**
baz=52,SNR=15
F64A P **P** **23 21 30.6 +0.1**
baz=52,SNR=15
E62A Clayton Lake 62.21 309 lAmb lAmb 23 21 32.8
comp=Z,79nm,1.0s
E62A pP pP 23 21 54.8 -0.8
E62A Clayton Lake 62.21 309 P **P** **23 21 30.7 -0.9**
baz=52,SNR=28
E62A P **P** **23 21 30.7 -0.9**
baz=52,SNR=28
EMMW East Machias 62.24 307 P **P** **23 21 32.3 +0.4**
EMMW **pP** **23 21 54.3 -1.5**
EMMW lAmb lAmb 23 21 57.7
comp=Z,134nm,1.4s
EMMW East Machias 62.24 307 P **P** **23 21 31.0 -0.9**
baz=52,SNR=6.2
BJI Beijing 62.53 60 P **P** **23 21 35.3 +1.4**
BJI pP **pP** **23 21 57.9 +0.3**
BJI sP **sP** **23 22 04.1 -4.0**
BJI PcP **PcP** **23 22 12.3 +0.1**
BJI pmax pmax
comp=Z,29nm,0.8s
BJI pmax pmax
comp=Z,2µm,11.2s
BJT Baijiatuau 62.54 60 P **P** **23 21 34.5 +0.5**
BJT **pP** **23 21 59.0 +1.3**
BJT lAmb lAmb 23 22 02.0
comp=Z,166nm,1.8s
BJT Baijiatuau 62.54 60 P **P** **23 21 34.5 +0.5**
BJT *PP **pP** **23 21 59.0 +1.3**
BJT pmax pmax
comp=Z,166nm,1.8s
BJT Baijiatuau 62.54 60 P **P** **23 21 35.0 +1.0**
BJT pP **pP** **23 21 58.5 +0.7**
F63A Nahmakanta, Br 62.55 308 pP pP 23 21 58.6 +0.7
F63A Nahmakanta, Br 62.55 308 P **P** **23 21 34.3 +0.3**
baz=52,SNR=11
F63A P **P** **23 21 34.3 +0.3**
baz=52,SNR=11
BILL Bilibino 62.55 16 P **P** **23 21 34.3 +0.7**
BILL lAmb lAmb 23 21 36.0
comp=Z,66nm,1.2s
BILL pP **pP** **23 21 57.8 +0.3**
BILL Bilibino 62.55 16*d*⇑P **P** **23 21 34.5 +0.9**
BILL *i* 23 21 57.5
BILL *e* 23 23 52.1
BILL pmax pmax
comp=Z,64nm,1.3s
F62A Pittston Farm, 62.90 309 P **P** **23 21 36.1 -0.2**
F62A lAmb lAmb 23 21 38.5
comp=Z,56nm,0.8s
F62A pP **pP** **23 22 00.7 +0.4**
F62A Pittston Farm, 62.90 309 P **P** **23 21 36.3 +0.1**
baz=51,SNR=24
F62A P **P** **23 21 36.3 +0.1**
baz=51,SNR=24
PKME Peaks-Kenny Pk 62.92 308 P **P** **23 21 36.5 +0.1**
PKME pP **pP** **23 22 00.5 +0.2**
PKME lAmb lAmb 23 22 03.4
comp=Z,152nm,1.4s
PKME Peaks-Kenny Pk 62.92 308 P **P** **23 21 36.7 +0.3**
baz=51,SNR=14
PKME Peaks-Kenny Pk 62.92 308 P **P** **23 21 36.8 +0.3**
baz=51,SNR=14
KMI Kunming 63.05 81 ⇑P **P** **23 21 38.5 +0.6**
KMI pP pP 23 22 02.1 +0.5
KMI pmax pmax
comp=Z,59nm,1.0s
KMI LR LR
comp=Z,1µm,16.4s
KMI LR LR
comp=Z,1µm,12.9s
KMI LR LR
comp=Z,2µm,13.7s
KMI Kunming 63.05 81 P **P** **23 21 38.7 +0.8**
KMI pP **pP** **23 22 01.6 -0.1**
C36M Paulatuk 63.17 349 P **P** **23 21 38.2 +0.6**
C36M Paulatuk 63.17 349 P **P** **23 21 38.8 +1.1**
baz=23,SNR=23
A21K Barrow 63.20 1 P **P** **23 21 40.0 +2.2**
baz=358
HNS HongShan 63.26 63 ⇑P **P** **23 21 39.8 +1.1**
HNS pmax pmax
comp=Z,32nm,0.9s
SEY Seymchan 63.41 25*ce*P **P** **23 21 41.1 +1.8**
SEY *i* *PP **pP** **23 22 03.8 +0.6**
SEY pmax pmax
comp=Z,87nm,1.7s
LATQ La Tuque 63.47 311 lAmb lAmb 23 21 41.0
comp=Z,87nm,0.7s
LATQ pP pP 23 22 04.2 +0.2
WVL Waterville 63.56 307 P **P** **23 21 40.8 +0.1**
baz=51
LYN LuoYang 63.61 67⇑*i*P **P** **23 21 41.3 +0.2**
LYN pmax pmax
comp=Z,20nm,0.8s
G62A West of Eustis 63.63 308 pP pP 23 22 05.4 +0.3
G62A West of Eustis 63.63 308 P **P** **23 21 41.3 +0.1**
baz=51,SNR=14
G62A P **P** **23 21 41.3 +0.1**
baz=51,SNR=14
RUDU RUNDU 63.68 187 *e*P **P** **23 21 41.3 -0.4**
RUDU lAmb lAmb 23 21 42.8
comp=Z,124nm,1.0s
DGPR DIGLIPUR 64.21 98 *e*P **P** **23 21 46.2 +0.9**
DGPR lAmb lAmb 23 21 47.3
comp=Z,103nm,0.7s
ENH Enshi 64.35 72 P **P** **23 21 46.9 +0.8**
ENH pP **pP** **23 22 10.2 +0.3**
H62A Milan 64.39 308 P **P** **23 21 46.2 +0.1**
baz=50,SNR=8.2
H62A P **P** **23 21 46.2 +0.1**
baz=50,SNR=8.2
I63A Otisfield 64.40 308 pP pP 23 22 10.1 0.0
I63A Otisfield 64.40 308 P **P** **23 21 46.5 +0.3**
baz=50
I63A P **P** **23 21 46.5 +0.3**
baz=50
C26K Camden Bay 64.46 357 P **P** **23 21 48.1 +2.0**
baz=6.6
CHTO Chiang Mai 64.56 89 P **P** **23 21 47.6 +0.1**
CHTO pP **pP** **23 22 11.1 -0.4**
CHTO Chiang Mai 64.56 89 P **P** **23 21 47.6 +0.1**
CHTO *PP **pP** **23 22 11.1 -0.4**
CHTO pmax pmax
comp=Z,10.0nm,1.3s
CHTO Chiang Mai 64.56 89 P **P** **23 21 47.6 +0.1**
comp=Z,122nm,1.2s
CHTO Chiang Mai 64.56 89 P **P** **23 21 47.8 +0.3**
CHTO pP **pP** **23 22 11.0 -0.4**
CRAI Chiangrai 64.61 87 pP pP 23 22 11.8 +0.1
C23K Itkillik River 64.69 359 P **P** **23 21 50.0 +2.4**
baz=2.1,SNR=24
C27K Jago River 64.70 356 P **P** **23 21 49.6 +1.9**
baz=7.5,SNR=23
ASCN Ascension 64.79 226 P **P** **23 21 48.2 -0.8**
CMAR Chiang Mai Arr 64.79 89 P **P** **23 21 49.2 +0.2**
comp=Z,52nm,0.7s,baz=305,slow=7.5,SNR=244
CMAR pP **pP** **23 22 12.7 -0.3**
comp=Z,154nm,1.1s,baz=301,slow=7.8,SNR=14
CMAR PKP2bc 23 50 38.1
comp=Z,0.9nm,0.3s,baz=182,slow=2.8,SNR=8.6
comp=Z,52nm,0.7s
CMAR Chiang Mai Arr 64.79 89 pP pP 23 22 13.0 +0.1
GYA Guiyang 64.89 77⇑*i*P **P** **23 21 50.5 +0.7**
GYA pP pP 23 22 15.0 +1.3
GYA pmax pmax
comp=Z,43nm,0.8s
I62A Tamworth 64.93 308 P **P** **23 21 50.0 +0.4**
I62A pP **pP** **23 22 14.2 +0.5**
I62A lAmb lAmb 23 22 16.4
comp=Z,119nm,1.6s
I62A Tamworth 64.93 308 P **P** **23 21 50.3 +0.6**
baz=50,SNR=5.8
I62A P **P** **23 21 50.3 +0.6**
baz=50,SNR=5.8
FCC Fort Churchill 64.94 330 lAmb lAmb 23 21 50.5
comp=Z,68nm,0.9s
FCC pP pP 23 22 13.5 0.0
LBNH Lisbon 65.02 308 pP **pP** **23 22 14.6 +0.3**
LBNH lAmb lAmb 23 22 17.0
comp=Z,201nm,1.8s
LBNH Lisbon 65.02 308 P **P** **23 21 51.0 +0.8**
baz=50
LBNH Lisbon 65.02 308 P **P** **23 21 50.9 +0.7**
baz=50
D25K Kavik River 65.11 357 P **P** **23 21 52.0 +1.6**
baz=5.4
MNTQ Montreal, Queb 65.12 310 P **P** **23 21 51.0 +0.1**
PBA Port Blair 65.15 99 P **P** **23 21 51.3 -0.1**
PBA pP **pP** **23 22 14.7 -0.6**
PBA Port Blair 65.15 99 *e*P **P** **23 21 51.0 -0.3**
PBA lAmb lAmb 23 21 52.1
comp=Z,102nm,0.7s
TRQ Mont Tremblant 65.15 311 lAmb lAmb 23 21 52.1
comp=Z,95nm,0.8s
LR LR 23 53 43.3
TSUM Tsumeb 65.17 189 P **P** **23 21 51.2 -0.3**
TSUM lAmb lAmb 23 21 52.1
comp=Z,158nm,1.6s
TSUM pP **pP** **23 22 15.6 0.0**
TSUM Tsumeb 65.17 189⇑*i*P **P** **23 21 50.9 -0.5**
TSUM Tsumeb 65.17 189 P **P** **23 21 51.0 -0.5**
TSUM pP **pP** **23 22 15.8 +0.3**
KLR Kul'dur 65.22 44 P **P** **23 21 52.2 +0.8**
comp=Z,26nm,0.8s,baz=312,slow=7.2,SNR=69
KLR pP **pP** **23 22 14.6 -0.8**
comp=Z,63nm,0.9s,baz=316,slow=6.3,SNR=17
KLR LR LR 23 52 29.5
comp=Z,1µm,20.2s,baz=261,slow=38
comp=Z,26nm,0.8s
KLR Kul'dur 65.22 44*c i*P **P** **23 21 52.6 +1.2**
KLR *i* *PP **pP** **23 22 15.8 +0.4**
KLR pmax pmax
comp=Z,37nm,0.9s
INK Inuvik 65.27 352 P **P** **23 21 51.5 +0.1**
INK lAmb lAmb 23 21 53.0
comp=Z,88nm,1.1s
INK Inuvik 65.27 352 P **P** **23 21 51.5 +0.1**
INK pmax pmax
comp=Z,88nm,1.1s
INK Inuvik 65.27 352 P **P** **23 21 51.8 +0.5**
baz=15,SNR=33
BNX BinXian 65.32 49 ⇑P **P** **23 21 52.9 +0.8**
BNX pmax pmax
comp=Z,32nm,0.8s
D24K Happy Valley 65.35 358 P **P** **23 21 53.9 +2.0**
baz=3.5
FFD Franklin Falls 65.37 308 **pP** **23 22 16.7 +0.2**
FFD lAmb lAmb 23 22 19.4
comp=Z,101nm,1.3s
FFD Franklin Falls 65.37 308 P **P** **23 21 53.5 +1.1**
baz=50,SNR=5.4
VT1 Waterbury 65.42 309 P **P** **23 21 53.3 +0.5**
VT1 **pP** **23 22 17.4 +0.6**
VT1 lAmb lAmb 23 22 20.1
comp=Z,98nm,1.4s
VT1 Waterbury 65.42 309 P **P** **23 21 53.2 +0.5**
baz=49,SNR=8.0
TIA Tai'an 65.51 63 ⇑P **P** **23 21 54.0 +0.5**
TIA pmax pmax
comp=Z,19nm,0.6s
MA2 Magadan 65.51 28 P **P** **23 21 53.8 +0.7**
MA2 lAmb lAmb 23 22 19.2
comp=Z,86nm,1.1s
MA2 Magadan 65.51 28*ce*P **P** **23 21 54.4 +1.3**
MA2 pmax pmax
comp=Z,141nm,1.9s
MA2 Magadan 65.51 28 P **P** **23 21 54.7 +1.6**
CN2 Changchun 65.52 52 ⇓P **P** **23 21 54.1 +0.7**
CN2 *ep*P pP 23 22 18.0 +0.6
CN2 S **S** **23 30 28.5 -2.3**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,300nm,5.0s
FRNY Flat Rock 65.54 310 pP pP 23 22 17.2 -0.4
FRNY Flat Rock 65.54 310 P **P** **23 21 53.6 +0.1**
baz=49,SNR=13
HNH Hanover 65.57 308 P **P** **23 21 54.0 +0.2**
HNH lAmb lAmb 23 22 20.6
comp=Z,85nm,1.2s
HNH Hanover 65.57 308 P **P** **23 21 54.4 +0.7**
baz=49,SNR=11
D23K Nanushuk River 65.57 359 P **P** **23 21 55.6 +2.2**
baz=2.1,SNR=40
BLWY Bulawayo 65.62 178⇑*i*P **P** **23 21 54.1 -0.3**
BLWY lAmb lAmb 23 21 55.5
comp=Z,443nm,0.9s
BLWY Bulawayo 65.62 178 *i* P **P** **23 21 55.2 +0.9**
BLWY Bulawayo 65.62 178 *i* P **P** **23 21 55.2 +0.9**
PHRA Phrae 65.67 88 pP pP 23 22 18.5 -0.1
MCVT Middlebury Col 65.79 309 P **P** **23 21 56.0 +0.8**
baz=49,SNR=20
BCX Boston College 65.84 306 P **P** **23 21 55.5 +0.1**
BCX **pP** **23 22 20.5 +1.0**
BCX lAmb lAmb 23 22 22.7
comp=Z,123nm,1.3s
TOLK Toolik Lake Re 65.88 358 P **P** **23 21 56.7 +1.3**
TOLK Toolik Lake Re 65.88 358 P **P** **23 21 57.3 +1.9**
baz=2.9,SNR=14
WES Weston 65.89 306 P **P** **23 21 56.3 +0.5**
WES pP **pP** **23 22 20.3 +0.4**
WES lAmb lAmb 23 22 22.3
comp=Z,121nm,1.3s
WES Weston 65.89 306 P **P** **23 21 56.3 +0.5**
WES *PP **pP** **23 22 20.3 +0.4**
WES pmax pmax
comp=Z,121nm,1.3s
WES Weston 65.89 306 P **P** **23 21 56.0 +0.2**
baz=49,SNR=12
MATP Matopo 65.90 178⇑*i*P **P** **23 21 56.1 0.0**
MATP lAmb lAmb 23 21 57.1
comp=Z,495nm,1.1s
MATP Matopo 65.90 178 *i* P **P** **23 21 57.1 +1.0**
MATP Matopo 65.90 178 *i* P **P** **23 21 57.1 +1.0**
L64A Middleborough 65.91 306 **pP** **23 22 21.0 +1.0**
L64A lAmb lAmb 23 22 23.3
comp=Z,114nm,1.2s
L64A Middleborough 65.91 306 P **P** **23 21 56.1 +0.1**
baz=49,SNR=6.4
L64A P **P** **23 21 56.1 +0.1**
baz=49,SNR=6.4
HRV Adam Dziewonsk 65.94 307 P **P** **23 21 56.4 +0.2**
HRV **pP** **23 22 20.6 +0.4**
HRV lAmb lAmb 23 22 22.8
comp=Z,85nm,1.2s
HRV Adam Dziewonsk 65.94 307 P **P** **23 21 56.4 +0.2**
HRV *PP **pP** **23 22 20.7 +0.4**
HRV pmax pmax
comp=Z,85nm,1.3s
HRV Adam Dziewonsk 65.94 307 P **P** **23 21 56.5 +0.4**
baz=49
HRV Adam Dziewonsk 65.94 307 P **P** **23 21 56.6 +0.4**
HRV pP **pP** **23 22 20.5 +0.2**
J61A Chester 65.95 308 P **P** **23 21 57.3 +1.1**
J61A pP **pP** **23 22 20.8 +0.5**
J61A lAmb lAmb 23 22 24.0
comp=Z,108nm,1.4s
J61A Chester 65.95 308 P **P** **23 21 57.4 +1.2**
baz=49,SNR=10
J61A P **P** **23 21 57.4 +1.2**
baz=49,SNR=10
E27K Coleen River 66.02 355 P **P** **23 21 58.0 +1.7**
baz=9.0,SNR=56
BMNY Brushton-Moira 66.03 310 P **P** **23 21 56.4 -0.3**
baz=49,SNR=8.6
F31M Tsiigehtchic 66.13 352 P **P** **23 21 58.0 +1.1**
baz=15,SNR=98
LONY Lake Ozonia 66.22 310 pP **pP** **23 22 22.3 +0.2**
LONY lAmb lAmb 23 22 24.1
comp=Z,75nm,1.1s
LONY Lake Ozonia 66.22 310 P **P** **23 21 58.1 +0.2**
baz=48,SNR=15
K62A Royalston 66.22 307 P **P** **23 21 58.8 +0.9**
K62A **pP** **23 22 22.1 +0.1**
K62A lAmb lAmb 23 22 25.0
comp=Z,109nm,1.3s
K62A Royalston 66.22 307 P **P** **23 21 59.0 +1.0**
baz=49,SNR=9.2
K62A P **P** **23 21 59.0 +1.0**
baz=49,SNR=9.2
K62A S **S** **23 30 41.2 +1.9**
baz=49
K62A S **S** **23 30 41.2 +1.9**
baz=49
E25K Arctic Village 66.28 357 P **P** **23 21 59.7 +1.8**
baz=6.0,SNR=20
BRYW Bryant College 66.31 306 P **P** **23 21 59.0 +0.4**
BRYW pP **pP** **23 22 23.3 +0.6**
BRYW lAmb lAmb 23 22 25.3
comp=Z,150nm,1.3s
GRNR Gornyy 66.38 41⇑*i*P **P** **23 22 00.2 +1.4**
GRNR *e*S **S** **23 30 45.8 +4.8**
GRNR pmax pmax
comp=E,10.0nm,0.7s
GRNR pmax pmax
comp=N,7.0nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.7s
GRNR smax smax
comp=N,3.0nm,0.7s
GRNR MLR MLR
comp=E,280nm,14.0s
GRNR MLR MLR
comp=N,470nm,15.0s
GRNR MLR MLR
comp=Z,890nm,12.0s
E22K Anaktuvuk Pass 66.42 359 P **P** **23 22 00.4 +1.6**
baz=1.2
E24K Your Creek 66.42 358 P **P** **23 22 00.3 +1.4**
baz=3.7
NCB Newcomb 66.45 309 P **P** **23 21 59.5 0.0**
NCB pP **pP** **23 22 23.9 +0.3**
NCB Newcomb 66.45 309 P **P** **23 22 00.1 +0.7**
baz=48,SNR=7.0
NCB S **S** **23 30 42.2 0.0**
baz=48
E23K Chandalar 66.46 358 P **P** **23 22 01.2 +2.0**
baz=2.9,SNR=31
DL2 Dalian 66.52 58 P **P** **23 22 00.3 +0.4**
DL2 pmax pmax
comp=Z,45nm,0.7s
ACCN Adirondack Com 66.54 309 P **P** **23 22 00.3 +0.3**
ACCN pP **pP** **23 22 25.6 +1.5**
ACCN lAmb lAmb 23 22 27.6
comp=Z,187nm,1.4s
ACCN Adirondack Com 66.54 309 P **P** **23 22 00.9 +0.9**
baz=49,SNR=16
QUA2 Belchertown 66.54 307 P **P** **23 22 00.3 +0.3**

QUA2 pP **pP** **23 22 25.3 +1.2**
QUA2 lAmb lAmb 23 22 26.9
comp=Z,171nm,1.4s
L61B Northampton 66.61 307 P **P** **23 22 00.6 +0.2**
L61B **pP** **23 22 24.7 +0.2**
L61B lAmb lAmb 23 22 27.4
comp=Z,104nm,1.2s
L61B Northampton 66.61 307 P **P** **23 22 01.4 +1.0**
baz=49,SNR=9.8
L61B Northampton 66.61 307 P **P** **23 22 01.1 +0.7**
baz=49,SNR=9.8
F26K Sheenjek River 66.65 356 P **P** **23 22 02.4 +2.1**
baz=7.0,SNR=65
UCCT U. Connecticut 66.78 306 pP **pP** **23 22 26.7 +1.0**
UCCT lAmb lAmb 23 22 28.5
comp=Z,136nm,1.4s
F25K Christian Rive 66.81 357 P **P** **23 22 03.4 +2.0**
baz=5.9,SNR=37
J59A Piesco 66.94 309 pP **pP** **23 22 27.3 +0.6**
J59A lAmb lAmb 23 22 29.4
comp=Z,126nm,1.1s
J59A Piesco 66.94 309 P **P** **23 22 03.3 +0.7**
baz=48
J59A P **P** **23 22 03.3 +0.7**
baz=48
M63A Gales Ferry 66.94 306 **pP** **23 22 28.4 +1.8**
M63A lAmb lAmb 23 22 30.1
comp=Z,134nm,1.1s
M63A Gales Ferry 66.94 306 P **P** **23 22 03.5 +0.9**
baz=49,SNR=10
M63A P **P** **23 22 03.5 +0.9**
baz=49,SNR=10
F24K Squaw Lake 66.96 358 P **P** **23 22 04.5 +2.2**
baz=4.2,SNR=61
TRY Troy 66.97 308 P **P** **23 22 03.6 +0.9**
TRY lAmb lAmb 23 22 30.6
comp=Z,149nm,1.3s
F22K John River 67.05 359 P **P** **23 22 05.0 +2.2**
baz=0.9
ABPO Ambohimpanom 67.15 159 P **P** **23 22 04.2 +0.1**
ABPO lAmb lAmb 23 22 05.5
comp=Z,77nm,1.1s
ABPO Ambohimpanom 67.15 159 P **P** **23 22 04.2 +0.1**
ABPO pmax pmax
comp=Z,77nm,1.2s
ABPO Ambohimpanom 67.15 159 P **P** **23 22 03.9 -0.2**
WCNY West Carthage 67.22 310 P **P** **23 22 05.0 +0.8**
baz=48,SNR=14
MDJ Mudanjiang 67.22 49 P **P** **23 22 05.3 +1.1**
MDJ pP **pP** **23 22 28.4 +0.1**
COLD Coldfoot 67.31 359 lAmb lAmb 23 22 07.4
comp=Z,119nm,1.0s
COLD Coldfoot 67.31 359 P **P** **23 22 06.1 +1.6**
baz=2.4,SNR=65
F21K Alatna River 67.34 0 P **P** **23 22 06.8 +2.2**
baz=360,SNR=80
G26K Porcupine Rive 67.37 356 P **P** **23 22 07.2 +2.4**
baz=7.3,SNR=58
WHN Wuhan 67.39 69 ⇑P **P** **23 22 06.3 +0.8**
WHN pP **pP** **23 22 29.9 +0.4**
WHN sP **sP** **23 22 44.8 +4.9**
G27K Doyon Strip 67.39 355 P **P** **23 22 06.8 +1.7**
baz=8.9,SNR=50
HCNY Howe Caverns 67.39 308 P **P** **23 22 06.0 +0.6**
baz=48,SNR=10
J58A Remsen 67.43 309 lAmb lAmb 23 22 32.5
comp=Z,164nm,1.4s
J58A Remsen 67.43 309 P **P** **23 22 06.5 +0.9**
baz=48,SNR=13
J58A P **P** **23 22 06.5 +0.9**
baz=48,SNR=13
EPYK Eagle Plains 67.46 353 P **P** **23 22 06.3 +0.8**
baz=13,SNR=83
YLE Yale 67.50 306 P **P** **23 22 06.9 +0.8**
YLE lAmb lAmb 23 22 33.1
comp=Z,123nm,1.2s
KSCT Kent School, K 67.53 307 P **P** **23 22 06.9 +0.6**
KSCT pP **pP** **23 22 31.2 +0.7**
KSCT lAmb lAmb 23 22 33.2
comp=Z,168nm,1.4s
G22K Bettles 67.63 359 P **P** **23 22 08.1 +1.6**
baz=1.4
YKA Yellowknife Ar 67.71 342 P **P** **23 22 07.2 +0.3**
comp=Z,50nm,0.8s,baz=22,slow=6.2,SNR=44
YKA pP **pP** **23 22 31.6 +0.4**
comp=Z,40nm,0.8s,baz=25,slow=6.0,SNR=9.0
comp=Z,50nm,0.8s
YKA Yellowknife Ar 67.71 342 pP pP 23 22 30.0 -1.3
G24K Hadweenzic Riv 67.77 357 P **P** **23 22 09.6 +2.2**
baz=4.5,SNR=40
J57A Williamstown 67.78 310 lAmb lAmb 23 22 34.4
comp=Z,135nm,1.4s
J57A Williamstown 67.78 310 P **P** **23 22 08.4 +0.6**
baz=48,SNR=6.6
J57A P **P** **23 22 08.4 +0.6**
baz=48,SNR=6.6
MUSN Musina, Limpop 67.80 177 ⇑*i*P **P** **23 22 08.7 +0.7**
MUSN lAmb lAmb 23 22 09.8
comp=Z,383nm,0.6s
MUSN Musina, Limpop 67.80 177 *i* P **P** **23 22 09.7 +1.7**
MUSN Musina, Limpop 67.80 177 *i* P **P** **23 22 09.7 +1.7**
FYU Fort Yukon 67.82 356 P **P** **23 22 08.8 +1.1**
FYU pP **PcP** **23 22 33.9 +0.3**
G23K Bananza Creek 67.82 359 P **P** **23 22 09.4 +1.6**
baz=2.5,SNR=19
DELO Deloro Mine 67.89 312 pP **pP** **23 22 33.7 +1.0**
DELO lAmb lAmb 23 22 35.8
comp=Z,78nm,1.2s
H27K Steamboat Moun 67.96 355 P **P** **23 22 10.7 +2.1**
baz=8.9,SNR=119
PECO Prince Edward 67.96 311 P **P** **23 22 09.4 +0.5**
PECO **PcP** **23 22 34.3 -0.3**
PECO lAmb lAmb 23 22 35.5
comp=Z,120nm,1.2s
CNSH ChangSha 68.00 72 ⇑P **P** **23 22 10.3 +0.9**
BRNY Black Rk. Fore 68.04 307 P **P** **23 22 09.5 0.0**
baz=48
SHEL Horse Pasture 68.04 214 P **P** **23 22 09.3 -0.3**
SHEL lAmb lAmb 23 22 13.6
comp=Z,164nm,1.2s
SHEL Horse Pasture 68.04 214 P **P** **23 22 09.4 -0.3**
SHEL pmax pmax
comp=Z,164nm,1.2s
G21K Allakaket 68.05 0 P **P** **23 22 10.8 +1.7**
baz=360,SNR=45
N62A Caumsett State 68.06 306 P **P** **23 22 10.0 +0.5**
N62A pP **pP** **23 22 34.1 +0.4**
L59A Walton 68.09 308 pP pP 23 22 35.1 +1.0
L59A Walton 68.09 308 P **P** **23 22 10.7 +0.8**
baz=48,SNR=25
L59A P **P** **23 22 10.7 +0.8**
baz=48,SNR=25
H25K Birch Creek 68.14 357 P **P** **23 22 12.1 +2.4**
baz=5.7,SNR=87
PAL Palisades 68.25 307 P **P** **23 22 10.7 -0.1**
PAL lAmb lAmb 23 22 37.1
comp=Z,182nm,1.7s
PAL Palisades 68.25 307 P **P** **23 22 10.7 -0.1**
PAL pmax pmax
comp=Z,182nm,1.7s
PAL Palisades 68.25 307 P **P** **23 22 10.8 0.0**
baz=48
J56A Wolcott 68.34 310 P **P** **23 22 11.3 +0.1**
J56A lAmb lAmb 23 22 37.9
comp=Z,114nm,1.1s
J56A Wolcott 68.34 310 P **P** **23 22 11.8 +0.6**
baz=47,SNR=5.7
J56A P **P** **23 22 11.8 +0.6**
baz=47,SNR=5.7
TRNY Table Rock, Ra 68.34 307 P **P** **23 22 11.5 +0.1**
CPNY Central Park 68.43 307 P **P** **23 22 12.2 +0.3**
CPNY pP **pP** **23 22 35.8 -0.4**
CPNY lAmb lAmb 23 22 38.4
comp=Z,108nm,1.4s
BBSR BB Station 68.44 295 P **P** **23 22 12.6 +0.6**
SADO Sadowa 68.51 313 pP **pP** **23 22 35.9 -0.7**
SADO lAmb lAmb 23 22 38.7
comp=Z,157nm,1.4s
K57A Scipio Center 68.52 310 P **P** **23 22 12.1 -0.4**
K57A pP **pP** **23 22 36.5 -0.2**
K57A lAmb lAmb 23 22 39.3
comp=Z,156nm,1.2s
K57A Scipio Center 68.52 310 P **P** **23 22 13.2 +0.7**
baz=47,SNR=7.6
WIN Windhoek 68.55 189 ⇑*i*P **P** **23 22 13.1 +0.2**
WIN lAmb lAmb 23 22 14.1
comp=Z,56nm,0.8s
I29M Ogilvie Camp, 68.58 353 P **P** **23 22 13.4 +0.9**
baz=11,SNR=194
I27K Kandik River 68.59 355 P **P** **23 22 14.1 +1.5**
baz=8.8,SNR=54
ODNJ Ogdensburg 68.59 307 **pP** **23 22 38.2 +1.0**
ODNJ lAmb lAmb 23 22 40.4
comp=Z,174nm,1.6s
ODNJ Ogdensburg 68.59 307 P **P** **23 22 13.2 +0.3**
baz=47,SNR=6.3
BINY Binghamton 68.60 309 pP **pP** **23 22 38.4 +1.2**
BINY lAmb lAmb 23 22 39.8
comp=Z,223nm,1.6s
BINY Binghamton 68.60 309 P **P** **23 22 13.6 +0.6**
baz=47,SNR=8.4
BINY Binghamton 68.60 309 P **P** **23 22 13.4 +0.5**
baz=47,SNR=8.4
H24K Noodor Dome 68.65 358 P **P** **23 22 14.7 +1.8**
baz=4.1,SNR=32
H22K Ishtalitna Cre 68.66 359 P **P** **23 22 15.6 +2.6**
baz=1.5,SNR=62
H23K Yukon River 68.70 358 P **P** **23 22 15.4 +2.2**
H23K lAmb lAmb 23 22 16.9
comp=Z,115nm,1.1s
H23K Yukon River 68.70 358 P **P** **23 22 15.7 +2.5**
baz=2.9,SNR=45
USA0B Ussuriysk Arra 68.76 48 P **P** **23 22 14.8 +0.9**
USA0B pP **pP** **23 22 38.3 +0.2**
USA0B Ussuriysk Arra 68.76 48 P **P** **23 22 14.8 +0.9**
USA0B *PP **pP** **23 22 38.3 +0.2**
USA0B pmax pmax
comp=Z,62nm,1.2s
USRK Ussuriysk Ar. 68.76 48 P **P** **23 22 13.8 0.0**
comp=Z,17nm,0.7s,baz=284,slow=5.5,SNR=28
USRK pP **PcP** **23 22 36.4 -1.6**
comp=Z,14nm,0.7s,baz=300,slow=5.3,SNR=6.1
comp=Z,17nm,0.7s
USRK Ussuriysk Ar. 68.76 48 pP pP 23 22 38.9 +0.8
WRGLY Wrigley 68.77 346 P **P** **23 22 15.1 +1.5**
baz=22,SNR=53
BRNJ Basking Ridge 68.84 307 lAmb lAmb 23 22 41.4
comp=Z,162nm,1.4s
BRNJ Basking Ridge 68.84 307 P **P** **23 22 15.2 +0.8**
baz=47
J55A Hilton 68.85 311 P **P** **23 22 14.6 +0.1**
J55A lAmb lAmb 23 22 41.0
comp=Z,124nm,1.1s
J55A Hilton 68.85 311 P **P** **23 22 14.6 +0.1**
baz=46,SNR=5.8
J55A P **P** **23 22 14.6 +0.1**
baz=46,SNR=5.8
PRP Porcupine Dome 68.88 356 P **P** **23 22 15.5 +1.0**
PRP Porcupine Dome 68.88 356 P **P** **23 22 16.4 +1.9**
baz=5.9,SNR=16
H21K Melozitna Rive 68.91 360 P **P** **23 22 16.6 +2.0**
H21K lAmb lAmb 23 22 18.3
comp=Z,148nm,1.2s
H21K Melozitna Rive 68.91 360 P **P** **23 22 16.8 +2.3**
baz=0.4,SNR=66
KSPA Keystone Colle 68.91 308 P **P** **23 22 15.1 +0.1**
KSPA **pP** **23 22 39.9 +0.7**
KSPA lAmb lAmb 23 22 41.6
comp=Z,110nm,1.2s
KSPA Keystone Colle 68.91 308 P **P** **23 22 15.5 +0.6**
baz=47,SNR=6.4
MOPA Mopani 69.09 175 *e*P **P** **23 22 16.4 +0.3**
MOPA ⇑*i*P **P** **23 22 16.8 +0.8**
MOPA lAmb lAmb 23 22 17.4
comp=Z,227nm,0.9s
PANJ Princeton 69.12 307 P **P** **23 22 16.5 +0.3**
baz=47,SNR=7.8
MEDO Medina 69.26 311 P **P** **23 22 16.9 -0.1**
MEDO **pP** **23 22 41.4 0.0**
MEDO lAmb lAmb 23 22 43.5
comp=Z,160nm,1.1s
MMNY Mt. Morris Dam 69.27 310 P **P** **23 22 16.8 -0.2**
MMNY pP **pP** **23 22 41.6 +0.2**
MMNY lAmb lAmb 23 22 43.6
comp=Z,159nm,1.2s
J54A Appleton 69.28 311 **pP** **23 22 42.4 +1.0**
J54A lAmb lAmb 23 22 43.7
comp=Z,166nm,1.2s
J54A Appleton 69.28 311 P **P** **23 22 17.4 +0.2**
baz=46,SNR=5.1
J54A P **P** **23 22 17.4 +0.2**
baz=46,SNR=5.1
LEPH Lephalale, Lim 69.30 179 ⇑*i*P **P** **23 22 17.3 -0.2**
LEPH lAmb lAmb 23 22 18.0
comp=Z,100nm,0.7s
NJ2 Nanjing 69.30 65 ⇑*i*P **P** **23 22 17.9 +0.5**
NJ2 pP **PcP** **23 22 39.4 -1.1**
NJ2 sP **sP** **23 22 49.3 -2.7**
NJ2 pmax pmax
comp=Z,42nm,0.7s
NJ2 pmax pmax
comp=Z,5μm,11.3s
LUPA Lehigh Univers 69.35 307 lAmb lAmb 23 22 44.4
comp=Z,131nm,1.3s
POKR Poker Plat Res 69.36 357 P **P** **23 22 18.8 +1.5**
POKR lAmb lAmb 23 22 20.4
comp=Z,148nm,1.1s
POKR Poker Plat Res 69.36 357 P **P** **23 22 19.2 +1.9**
baz=4.5,SNR=19
EGAK Eagle 69.38 354 P **P** **23 22 18.5 +1.2**
baz=9.1,SNR=40
I21K Tanana 69.39 359 P **P** **23 22 19.1 +1.7**
I21K Tanana 69.39 359 P **P** **23 22 19.6 +2.2**
baz=1.1,SNR=7.4
J29M Klondike Camp 69.47 353 P **P** **23 22 19.8 +1.7**
J29M Klondike Camp 69.47 353 P **P** **23 22 20.0 +1.9**
baz=11
L56A Greenwood 69.49 310 PcP **PcP** **23 22 43.4 +2.2**
L56A lAmb lAmb 23 22 45.2
comp=Z,180nm,1.2s
L56A Greenwood 69.49 310 P **P** **23 22 19.1 +0.6**
baz=46,SNR=11
L56A P **P** **23 22 19.1 +0.6**
baz=46,SNR=11
MLY Manley 69.52 359 P **P** **23 22 19.8 +1.5**
MLY Manley 69.52 359 P **P** **23 22 20.2 +1.9**
baz=2.0,SNR=71
TUPA Teple Univers 69.54 307 P **P** **23 22 19.4 +0.7**
baz=47,SNR=19
MDM Murphy Dome 69.54 358 lAmb lAmb 23 22 21.3
comp=Z,171nm,1.1s
ANM Nome 69.61 5 P **P** **23 22 20.2 +1.4**
baz=351,SNR=9.2
COLA College 69.61 357 P **P** **23 22 20.5 +1.7**
COLA lAmb lAmb 23 22 21.5
comp=Z,92nm,1.0s
COLA College 69.61 357 P **P** **23 22 20.5 +1.7**
COLA pmax pmax
comp=Z,92nm,1.0s
COLA College 69.61 357 P **P** **23 22 19.9 +1.1**
baz=4.1
COLA College 69.61 357 P **P** **23 22 20.2 +1.4**
TCOL CIGO, UAF Yank 69.61 357 lAmb lAmb 23 22 21.6
comp=Z,80nm,0.9s
TCOL CIGO, UAF Yank 69.61 357 P **P** **23 22 20.0 +1.2**
baz=4.1,SNR=7.8
P61A Hammonton 69.65 306 P **P** **23 22 19.6 +0.2**
P61A **pP** **23 22 45.1 +1.4**
ILAR Eielson Array 69.68 357 P **P** **23 22 19.8 +0.5**
comp=Z,12nm,0.8s,baz=0.5,slow=4.3,SNR=70
ILAR PKP2bc 23 50 17.9
comp=Z,4.0nm,1.0s,baz=222,slow=2.4,SNR=13
comp=Z,12nm,0.8s
J25K Salcha River, 69.78 356 P **P** **23 22 21.1 +1.2**
baz=6.0,SNR=25
GCSA Galena City Sc 69.79 2 P **P** **23 22 21.9 +2.0**
baz=357
J26L Joseph Creek 69.80 355 lAmb lAmb 23 22 22.6
comp=Z,154nm,1.0s
J26L Joseph Creek 69.80 355 P **P** **23 22 21.4 +1.4**
baz=7.3,SNR=49
M57A Sunshine Farm, 69.81 309 pP 23 22 45.8 +1.0
M57A Sunshine Farm, 69.81 309 P **P** **23 22 21.1 +0.6**
baz=46,SNR=17
M57A P **P** **23 22 21.1 +0.6**
baz=46,SNR=17
VOI Vohitsoka 69.82 160 P **P** **23 22 19.8 -0.9**
VOI lAmb lAmb 23 22 21.8
comp=Z,131nm,1.2s
VOI pP **pP** **23 22 45.0 0.0**
VOI Vohitsoka 69.82 160 P **P** **23 22 21.4 +0.7**
SNR=5.5
VOI Vohitsoka 69.82 160 P **P** **23 22 20.6 0.0**
PSUB Penn St. - Bra 69.85 307 P **P** **23 22 20.5 -0.2**
baz=47
WVNY West Valley, N 69.87 310 **pP** **23 22 46.9 +1.7**
WVNY lAmb lAmb 23 22 48.1
comp=Z,206nm,1.2s
WVNY West Valley, N 69.87 310 P **P** **23 22 21.0 +0.2**
baz=46,SNR=11
WVNY S **S** **23 31 20.1 -2.7**
baz=46
N58A Sunbury 69.93 308 lAmb lAmb 23 22 47.9
comp=Z,183nm,1.4s
N58A Sunbury 69.93 308 P **P** **23 22 21.6 +0.5**
baz=46,SNR=13
N58A P **P** **23 22 21.6 +0.5**
baz=46,SNR=13
N58A S **S** **23 31 28.2 +4.7**
baz=46
N58A S **S** **23 31 28.2 +4.7**
baz=46
NEA2 Nenana 69.93 358 P **P** **23 22 21.5 +0.7**
NEA2 lAmb lAmb 23 22 22.8
comp=Z,74nm,0.9s
NEA2 Nenana 69.93 358 P **P** **23 22 22.3 +1.5**
baz=3.2,SNR=58
DAWY Dawson 69.95 353 P **P** **23 22 22.4 +1.4**
baz=10,SNR=70
E46A Sault Ste Mari 69.97 316 lAmb lAmb 23 22 22.7
comp=Z,131nm,0.8s
E46A pP pP 23 22 46.5 +0.8
E46A Sault Ste Mari 69.97 316 P **P** **23 22 21.8 +0.5**
baz=44,SNR=31
K29M Barlow Dome 70.01 353 P **P** **23 22 23.2 +1.7**
baz=12,SNR=113
WRH Wood River Hil 70.02 358 lAmb lAmb 23 22 23.8
comp=Z,101nm,1.0s
WRH pP pP 23 22 47.7 +2.0
GEDE Greenville 70.03 307 P **P** **23 22 21.6 -0.2**
baz=47
HDA Harding Lake 70.05 357 P **P** **23 22 22.4 +0.9**
baz=4.8,SNR=55
MAYO Mayo, Yukon 70.10 352 P **P** **23 22 23.5 +1.6**
baz=13,SNR=38
UGL Uglegorsk 70.13 39 *e*P **P** **23 22 24.2 +2.0**
UGL *e* 23 22 48.1
UGL *e*S **S** **23 31 28.5 +3.0**
UGL pmax pmax
comp=Z,110nm,1.2s
UGL smax smax
comp=E,860nm,9.5s
UGL smax smax
comp=N,2μm,14.0s
UGL MLR MLR
comp=E,2μm,21.0s
UGL MLR MLR
comp=N,1μm,15.0s
UGL MLR MLR
comp=Z,2μm,15.0s
K27K Chicken 70.18 355 P **P** **23 22 24.4 +2.1**
baz=8.4
MVL Millersville 70.30 307 pP **pP** **23 22 48.8 +1.0**
MVL lAmb lAmb 23 22 50.3
comp=Z,173nm,1.3s
SCRK Sand Creek 70.34 356 P **P** **23 22 24.5 +1.0**
SCRK lAmb lAmb 23 22 27.5
comp=Z,211nm,1.6s
SCRK Sand Creek 70.34 356 P **P** **23 22 25.1 +1.7**
baz=7.0,SNR=50
PAGS Pennsylvania G 70.35 308 lAmb lAmb 23 22 50.1
comp=Z,125nm,1.3s
J20K Nowinta River 70.40 0 lAmb lAmb 23 22 27.0
comp=Z,241nm,1.9s
J20K Nowinta River 70.40 0 P **P** **23 22 25.6 +1.9**
baz=359,SNR=22
INCN Inchon 70.40 56 P **P** **23 22 24.7 +0.5**
INCN pP **pP** **23 22 48.5 +0.1**
INCN Inchon 70.40 56 P **P** **23 22 24.7 +0.5**
INCN *PP **pP** **23 22 48.5 +0.1**
INCN pmax pmax
comp=Z,70nm,1.1s
INCN Inchon 70.40 56 P **P** **23 22 26.0 +1.8**
comp=Z,40nm,0.5s
LBTB Lobatse 70.45 181 pP pP 23 22 50.7 +1.9
LBTB Lobatse 70.45 181 ⇑*i*P **P** **23 22 24.7 +0.3**
LBTB lAmb lAmb 23 22 25.8
comp=Z,216nm,0.9s
LBTB Lobatse 70.45 181 P **P** **23 22 24.6 +0.2**
LBTB pP **pP** **23 22 50.0 +1.2**
BPAW Bear Paw Mtn. 70.46 359 lAmb lAmb 23 22 26.3
comp=Z,318nm,1.9s
BPAW Bear Paw Mtn. 70.46 359 P **P** **23 22 25.1 +1.0**
baz=1.8,SNR=36
MMPY Sheldon Lake, 70.52 349 P **P** **23 22 26.9 +2.5**
baz=16,SNR=104
TEY Ternei 70.52 45 ⇑*e*P **P** **23 22 25.0 +0.4**
TEY *e* 23 22 48.9
TEY pmax pmax
comp=Z,40nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.9s
K24K Donnelly Dome 70.61 356 P **P** **23 22 26.4 +1.4**
baz=5.6,SNR=26
M55A Ridgway 70.61 310 pP **pP** **23 22 50.9 +1.1**
M55A lAmb lAmb 23 22 52.0
comp=Z,161nm,1.1s
M55A Ridgway 70.61 310 P **P** **23 22 25.8 +0.4**
baz=46,SNR=28
M55A P **P** **23 22 25.8 +0.4**
baz=46,SNR=28
M55A S **S** **23 31 25.1 -6.3**
baz=46
M55A S **S** **23 31 25.1 -6.3**
baz=46
RIDG Independent Ri 70.63 356 P **P** **23 22 26.6 +1.5**
RIDG lAmb lAmb 23 22 27.9
comp=Z,125nm,0.9s
RIDG pP **pP** **23 22 51.2 +1.7**
RIDG Independent Ri 70.63 356 P **P** **23 22 26.6 +1.5**
baz=6.3,SNR=54
CHUM Lake Minchumin 70.69 359 P **P** **23 22 26.7 +1.3**
baz=0.8,SNR=15
SSPA Standing Stone 70.71 309 P **P** **23 22 26.4 +0.5**
SSPA pP **pP** **23 22 51.3 +1.0**
SSPA Standing Stone 70.71 309 P **P** **23 22 26.4 +0.5**
baz=46,SNR=13
SSPA S **S** **23 31 33.2 +0.6**
baz=46
SSPA Standing Stone 70.71 309 P **P** **23 22 26.3 +0.3**
baz=46
SSPA Standing Stone 70.71 309 P **P** **23 22 26.1 +0.2**
SSPA pP **pP** **23 22 50.6 +0.3**
SSPA sP **sP** **23 23 00.3 -0.5**
L29M L29M 70.79 353 P **P** **23 22 27.8 +1.7**
baz=11,SNR=74
MCK McKinley 70.79 358 P **P** **23 22 26.9 +0.8**
MCK lAmb lAmb 23 22 28.3
comp=Z,168nm,1.3s
MCK McKinley 70.79 358 P **P** **23 22 26.9 +0.8**
MCK pmax pmax
comp=Z,168nm,1.3s
MCK McKinley 70.79 358 P **P** **23 22 27.3 +1.2**
baz=3.3,SNR=27
ERPA Erie 70.80 311 P **P** **23 22 26.6 +0.1**
baz=45,SNR=9.6
ERPA Erie 70.80 311 P **P** **23 22 26.5 0.0**
baz=45,SNR=9.6
FFC Flin Flon 70.81 331 P **P** **23 22 26.3 0.0**
FFC pP **pP** **23 22 51.0 +0.2**
FFC Flin Flon 70.81 331 P **P** **23 22 26.3 0.0**
FFC *PP **pP** **23 22 51.0 +0.2**
FFC pmax pmax
comp=Z,35nm,0.9s
FFC Flin Flon 70.81 331 P **P** **23 22 26.1 -0.2**
FFC pP **pP** **23 22 50.5 -0.2**
PSDB Penn State Uni 70.84 310 P **P** **23 22 27.1 +0.4**
baz=46
I49A Point Hope 70.97 314 P **P** **23 22 27.4 -0.1**
I49A pP **pP** **23 22 52.4 +0.5**
I49A lAmb lAmb 23 22 53.8
comp=Z,106nm,1.0s
I49A Point Hope 70.97 314 P **P** **23 22 27.6 +0.2**
baz=44
I49A P **P** **23 22 27.6 +0.2**
baz=44
SDMD Soldier's Deli 70.98 307 pP pP 23 22 52.7 +0.7
SDMD Soldier's Deli 70.98 307 P **P** **23 22 27.5 -0.1**

baz=46,SNR=9.0
TRF Thorofare Moun 71.10 359 P **P** **23 22 29.0 +0.9**
baz=2.3,SNR=13
KS19 Wonju Array Si 71.11 56 P **P** **23 22 29.2 +0.8**
L27K Beaver Creek, 71.12 354 IAmb IAmb 23 22 31.2
comp=Z,104nm,0.9s
L27K Beaver Creek, 71.12 354 P **P** **23 22 30.0 +1.9**
baz=8.5,SNR=86
TGTN Hyland Airport 71.14 348 P **P** **23 22 30.6 +2.4**
baz=18,SNR=81
FARO Faro, Yukon 71.15 350 P **P** **23 22 30.4 +2.1**
baz=15,SNR=137
CAST Castle Rocks 71.16 359 IAmb IAmb 23 22 30.7
comp=Z,92nm,0.8s
CAST Castle Rocks 71.16 359 P **P** **23 22 29.3 +1.1**
baz=1.0,SNR=94
KSAR Wonju Array Be 71.16 56 pP pP 23 22 53.2 +0.3
KSRS Korea Array 71.17 56 P **P** **23 22 28.8 +0.1**
comp=Z,30nm,0.7s,baz=315,slow=5.0,SNR=127
KSRS pP **pP** **23 22 52.8 -0.3**
comp=Z,26nm,0.9s,baz=314,slow=3.9,SNR=7.6
KSRS PKPPKP **P'P'df** **23 50 18.1 -7.0**
comp=Z,1.0nm,0.8s,baz=126,slow=3.1,SNR=4.2
comp=Z,30nm,0.7s
SLR Silverton 71.18 178⇑*iP* **P** **23 22 29.3 +0.4**
SLR IAmb IAmb 23 22 30.3
comp=Z,121nm,0.8s
ALLY Alegheny Colle 71.22 311 pP 23 22 54.1 +0.7
ALLY Alegheny Colle 71.22 311 P **P** **23 22 29.1 +0.1**
baz=45,SNR=5.4
K20K Telida 71.22 0 IAmb IAmb 23 22 32.6
comp=Z,197nm,1.8s
K20K Telida 71.22 0 P **P** **23 22 30.3 +1.7**
baz=360,SNR=28
GLMI Grayling 71.23 316 IAmb IAmb 23 22 55.5
comp=Z,149nm,1.0s
GLMI Grayling 71.23 316 P **P** **23 22 29.7 +0.6**
baz=44
GLMI Grayling 71.23 316 P **P** **23 22 29.3 +0.3**
baz=44
E43A Lone Tree Farm 71.24 318 IAmb IAmb 23 22 30.1
comp=Z,72nm,0.8s
E43A Lone Tree Farm 71.24 318 P **P** **23 22 29.2 +0.1**
baz=43
L26K Log Cabin Wild 71.26 355 IAmb IAmb 23 22 32.0
comp=Z,95nm,1.1s
L26K Log Cabin Wild 71.26 355 P **P** **23 22 30.7 +1.8**
baz=7.4,SNR=44
KSR Koster 71.28 180⇑*iP* **P** **23 22 30.3 +0.8**
KSR IAmb IAmb 23 22 30.8
comp=Z,46nm,0.8s
M31M Drury Creek, Y 71.30 351 P **P** **23 22 31.3 +2.1**
baz=14,SNR=176
HRAO HartRAO 71.32 179⇑*iP* **P** **23 22 29.9 +0.2**
HRAO IAmb IAmb 23 22 31.1
comp=Z,141nm,0.8s
DHY Denali Highway 71.40 357 IAmb IAmb 23 22 32.3
comp=Z,116nm,0.8s
DHY Denali Highway 71.40 357 P **P** **23 22 31.3 +1.4**
baz=4.4
D41A Chassel 71.46 319 IAmb IAmb 23 22 31.8
comp=Z,101nm,0.8s
D41A Chassel 71.46 319 P **P** **23 22 30.9 +0.5**
baz=42,SNR=7.1
M29M Somme Creek 71.47 353 P **P** **23 22 32.4 +2.1**
baz=11,SNR=380
CRLN Carolina, Mapu 71.49 177⇑*iP* **P** **23 22 31.3 +0.5**
CRLN IAmb IAmb 23 22 32.3
comp=Z,76nm,1.1s
UBPT Khong Chiam 71.52 87 P **P** **23 22 30.9 -0.2**
FLDN Fort Liard 71.56 345 P **P** **23 22 32.8 +2.1**
baz=22,SNR=11
G45A Suttons Bay 71.58 316 pP **pP** **23 22 55.3 -0.2**
G45A IAmb IAmb 23 22 57.3
comp=Z,179nm,1.2s
G45A Suttons Bay 71.58 316 P **P** **23 22 31.3 +0.2**
baz=43,SNR=5.9
G45A P **P** **23 22 31.3 +0.2**
baz=43,SNR=5.9
P57A Homestead Farm 71.58 308 pP **pP** **23 22 56.4 +0.8**
P57A IAmb IAmb 23 22 58.0
comp=Z,137nm,1.2s
P57A Homestead Farm 71.58 308 P **P** **23 22 31.3 +0.1**
baz=46,SNR=9.5
P57A P **P** **23 22 31.3 +0.1**
baz=46,SNR=9.5
TJN Taejon 71.59 57 pP pP 23 22 54.6 -1.0
TJN Taejon 71.59 57*ceP* **P** **23 22 31.2 -0.1**
TJN Taejon 71.59 57 P **P** **23 22 31.5 +0.2**
comp=Z,214nm,0.9s
MMAL MMAL 71.60 176 *eP* **P** **23 22 32.0 +0.6**
MMAL IAmb IAmb 23 22 32.7
comp=Z,200nm,0.8s
TTA Tatalina 71.63 1 P **P** **23 22 32.8 +1.6**
TTA Tatalina 71.63 1 P **P** **23 22 32.8 +1.6**
TTA pmax pmax
comp=Z,65nm,1.2s
TTA Tatalina 71.63 1 P **P** **23 22 33.1 +1.9**
baz=358,SNR=22
M53A WI Miller and 71.64 311 IAmb IAmb 23 22 57.9
comp=Z,200nm,1.2s
M53A WI Miller and 71.64 311 P **P** **23 22 31.3 -0.3**
baz=45,SNR=5.4
PPLA Purkeypile 71.68 359 P **P** **23 22 32.1 +0.5**
baz=0.9,SNR=24
WAT1 Susitna Watana 71.68 358 P **P** **23 22 31.6 +0.2**
baz=3.6
RER Riviere de l'E 71.69 151 P **P** **23 22 32.1 +0.1**
RER IAmb IAmb 23 22 33.3
comp=Z,159nm,1.3s
BVCY Beaver Creek 71.70 354 P **P** **23 22 33.7 +2.2**
baz=9.2,SNR=70
K50A Casco 71.71 313 P **P** **23 22 32.2 +0.3**
K50A **pP** **23 22 57.4 +1.0**
K50A IAmb IAmb 23 22 58.4
comp=Z,162nm,1.1s
M27K Edge Creek, AK 71.83 354 P **P** **23 22 34.4 +1.9**
baz=8.4,SNR=27
WDLM Western Deep L 71.85 179 *eP* **P** **23 22 33.5 +0.5**
WDLM IAmb IAmb 23 22 34.2
comp=Z,58nm,0.8s
M26K Nabesna, AK 71.86 355 IAmb IAmb 23 22 35.5
comp=Z,105nm,0.9s
M26K Nabesna, AK 71.86 355 P **P** **23 22 34.5 +1.9**
baz=7.6,SNR=72
WAT6 Susitna Watana 71.91 357 P **P** **23 22 33.8 +0.8**
baz=4.2
M52A Chesterland 71.93 311 P **P** **23 22 33.4 +0.2**
M52A Chesterland 71.93 311 P **P** **23 22 33.5 +0.2**
baz=44,SNR=5.8
M52A P **P** **23 22 33.5 +0.2**
baz=44,SNR=5.8
UPAO U. Pittsburgh 71.97 310 P **P** **23 22 33.9 +0.3**
baz=45
HARP HAARP 71.98 356 P **P** **23 22 34.9 +1.7**
baz=6.0
QIZ Qiongzhong 72.00 81 P **P** **23 22 35.0 +1.0**
QIZ IAmb IAmb 23 23 01.6
comp=Z,189nm,1.3s
QIZ Qiongzhong 72.00 81 P **P** **23 22 34.4 +0.4**
QIZ pP **pP** **23 22 59.3 +1.0**
QIZ pmax pmax
comp=Z,43nm,0.8s
QIZ Qiongzhong 72.00 81 P **P** **23 22 35.5 +1.5**
comp=Z,134nm,1.3s
QIZ Qiongzhong 72.00 81 P **P** **23 22 35.0 +1.0**
QIZ pP **pP** **23 22 59.5 +1.2**
YSS Yuzh-Sakhalins 72.02 40 P **P** **23 22 34.5 +0.8**
YSS pP **pP** **23 22 58.5 +0.4**
YSS Yuzh-Sakhalins 72.02 40 *eP* **P** **23 22 35.0 +1.3**
YSS *e* 23 22 58.0
YSS pmax pmax
comp=Z,180nm,0.8s
YSS Yuzh-Sakhalins 72.02 40 P **P** **23 22 35.0 +1.3**
comp=Z,328nm,1.1s
YSS Yuzh-Sakhalins 72.02 40 P **P** **23 22 35.1 +1.3**
YSS pP **pP** **23 22 59.3 +1.2**
SRIT Nakonsritamara 72.06 96 pP **pP** **23 22 57.7 -1.0**
SRIT IAmb IAmb 23 23 00.5
comp=Z,182nm,1.8s
EYMN Ely 72.10 321 P **P** **23 22 34.0 -0.2**
EYMN pP **pP** **23 22 59.6 +1.0**
EYMN Ely 72.10 321 P **P** **23 22 33.6 -0.6**
baz=40,SNR=14
EYMN Ely 72.10 321 P **P** **23 22 34.2 0.0**
baz=40,SNR=14
L20K Farewell, AK 72.10 0 P **P** **23 22 35.2 +1.3**
baz=360,SNR=29
CBN Corbin Frederi 72.12 307 P **P** **23 22 34.8 +0.4**
baz=45,SNR=8.3
CBN Corbin Frederi 72.12 307 P **P** **23 22 34.4 0.0**
baz=45,SNR=8.3
CUT Chulitna 72.15 358 IAmb IAmb 23 22 35.5
comp=Z,91nm,0.6s
CUT Chulitna 72.15 358 P **P** **23 22 34.2 +0.1**
baz=2.3,SNR=7.8
N31M Braeburn, Yuko 72.15 351 P **P** **23 22 35.4 +1.1**
baz=13,SNR=89
N32M Quiet Lake 72.17 350 P **P** **23 22 35.9 +1.5**
baz=15
N53A Lisbon 72.18 310 pP pP 23 23 00.6 +1.3
N53A Lisbon 72.18 310 P **P** **23 22 35.1 +0.3**
baz=44,SNR=17
N53A P **P** **23 22 35.1 +0.3**
baz=44,SNR=17
F42A Maple Grove Fa 72.23 318 pP 23 22 59.9 +0.5
F42A Maple Grove Fa 72.23 318 P **P** **23 22 35.4 +0.4**
baz=42
YUK3 Moose Creek 72.30 354 P **P** **23 22 37.2 +1.8**
baz=9.4,SNR=62
N30M Aishikik Lake 72.31 352 P **P** **23 22 36.9 +1.6**
baz=12,SNR=53
M24K Tolsona, Glenn 72.32 356 P **P** **23 22 36.4 +1.1**
M24K IAmb IAmb 23 22 38.4
comp=Z,194nm,1.4s
M24K Tolsona, Glenn 72.32 356 P **P** **23 22 36.8 +1.5**
baz=5.3,SNR=10.0
PRYS Parys 72.35 179⇑*iP* **P** **23 22 35.6 -0.3**
PRYS IAmb IAmb 23 22 36.7
comp=Z,95nm,1.0s
O54A Avella 72.38 310 pP **pP** **23 23 01.4 +0.9**
O54A IAmb IAmb 23 23 02.7
comp=Z,148nm,1.1s
O54A Avella 72.38 310 P **P** **23 22 36.2 +0.2**
baz=44,SNR=8.0
O54A P **P** **23 22 36.2 +0.2**
baz=44,SNR=8.0
L19K White Mountain 72.40 1 IAmb IAmb 23 22 38.7
comp=Z,256nm,1.6s
L19K White Mountain 72.40 1 P **P** **23 22 37.4 +1.7**
baz=359,SNR=41
COWI Conover 72.44 319 pP **pP** **23 23 01.3 +0.6**
COWI IAmb IAmb 23 23 02.4
comp=Z,88nm,1.1s
COWI Conover 72.44 319 P **P** **23 22 35.9 -0.3**
baz=41
MCWV Mont Chateau 72.46 309 pP pP 23 23 02.4 +1.5
MCWV Mont Chateau 72.46 309 P **P** **23 22 37.0 +0.6**
baz=45,SNR=15
MCWV Mont Chateau 72.46 309 P **P** **23 22 36.9 +0.4**
baz=45,SNR=15
J47A Sunmer 72.48 314 P **P** **23 22 36.9 +0.3**
J47A IAmb IAmb 23 23 03.0
comp=Z,142nm,1.2s
T60A Surry 72.50 305 pP pP 23 23 02.6 +1.5
Q56A Snyder Ridge, 72.54 308 pP pP 23 23 02.7 +1.3
Q56A Snyder Ridge, 72.54 308 P **P** **23 22 37.2 +0.3**
baz=45,SNR=37
Q56A P **P** **23 22 37.2 +0.3**
baz=45,SNR=37
Q56A S **S** **23 31 52.6 -1.1**
baz=45
Q56A S **S** **23 31 52.6 -1.1**
baz=45
WTLY Watson Lake, Y 72.57 347 P **P** **23 22 38.3 +1.5**
WTLY Watson Lake, Y 72.57 347 P **P** **23 22 38.8 +2.0**
baz=18,SNR=26
R58B Mineral 72.57 307 pP pP 23 23 01.9 +0.3
R58B Mineral 72.57 307 P **P** **23 22 36.7 -0.4**
baz=45,SNR=10
R58B P **P** **23 22 36.7 -0.4**
baz=45,SNR=10
YUK4 Talbot Arm 72.57 353 P **P** **23 22 38.3 +1.3**
baz=11,SNR=62
AAM Ann Arbor 72.58 313 IAmb IAmb 23 23 03.3
comp=Z,122nm,1.1s
AAM Ann Arbor 72.58 313 P **P** **23 22 37.2 +0.1**
baz=43
AAM Ann Arbor 72.58 313 P **P** **23 22 36.8 -0.2**
baz=43
SKT Skwentna 72.59 359 IAmb IAmb 23 22 37.9
comp=Z,68nm,0.6s
SKT Skwentna 72.59 359 P **P** **23 22 37.2 +0.3**
baz=1.4,SNR=54
SWZ Schweizer 72.61 181 *eP* **P** **23 22 36.8 -0.7**
SWZ IAmb IAmb 23 22 38.0
comp=Z,261nm,1.5s
SCM Sheep Creek Mo 72.64 357 P **P** **23 22 38.5 +1.3**
SCM Sheep Creek Mo 72.64 357 P **P** **23 22 38.6 +1.3**
SCM pmax pmax
comp=Z,281nm,0.8s
SCM Sheep Creek Mo 72.64 357 P **P** **23 22 38.8 +1.6**
baz=4.4,SNR=58
M19K Big River Lodg 72.68 0 P **P** **23 22 39.0 +1.6**
baz=359,SNR=22
M23K Glacier View 72.69 357 P **P** **23 22 38.7 +1.2**
baz=4.2,SNR=50
AUSN Aus 72.70 190 *eP* **P** **23 22 37.6 -0.4**
AUSN IAmb IAmb 23 22 38.9
comp=Z,80nm,0.9s
SML Sawmill 72.70 357 IAmb IAmb 23 22 40.7
comp=Z,103nm,1.1s
SML Sawmill 72.70 357 P **P** **23 22 38.5 +0.9**
baz=3.7,SNR=13
M20K Styx River 72.70 360 IAmb IAmb 23 22 39.7
comp=Z,81nm,0.9s
M20K Styx River 72.70 360 P **P** **23 22 38.3 +0.7**
baz=0.2
N25K Chitina, Valde 72.74 356 IAmb IAmb 23 22 40.1
comp=Z,82nm,0.8s
N25K Chitina, Valde 72.74 356 P **P** **23 22 39.1 +1.2**
baz=6.4,SNR=28
B35A Bob, Littlefor 72.74 323 IAmb IAmb 23 22 39.1
comp=Z,116nm,1.2s
B35A Bob, Littlefor 72.74 323 P **P** **23 22 38.0 +0.1**
baz=39,SNR=14
HKPS Hong Kong Po S 72.75 76 P **P** **23 22 39.4 +1.0**
HKPS pP **pP** **23 23 03.6 +0.8**
GHO Glory Hole Cre 72.75 358 P **P** **23 22 38.8 +0.9**
GHO IAmb IAmb 23 22 40.0
comp=Z,121nm,0.9s
JSRW J. Sargeant Re 72.76 306 pP pP 23 23 04.2 +1.5
O53A New Philadelph 72.78 310 pP pP 23 23 03.4 +0.6
O53A New Philadelph 72.78 310 P **P** **23 22 38.5 +0.2**
baz=44,SNR=20
M22K Willow 72.80 358 P **P** **23 22 38.9 +0.8**
baz=2.4,SNR=9.7
WHY Whitehorse 72.86 351 IAmb IAmb 23 22 40.5
comp=Z,106nm,0.8s
WHY Whitehorse 72.86 351 P **P** **23 22 39.6 +1.0**
baz=13,SNR=48
MCARA McCarthy VSAT 72.87 355 P **P** **23 22 39.9 +1.4**
MCARA McCarthy VSAT 72.87 355 P **P** **23 22 40.0 +1.4**
baz=7.6,SNR=9.2
O30N Mendenhall 72.88 351 P **P** **23 22 39.9 +1.2**
baz=13,SNR=44
M50A Fremont 72.91 312 P **P** **23 22 39.2 +0.1**
M50A IAmb IAmb 23 23 05.1
comp=Z,115nm,1.2s
N51A Ashland 72.91 311 P **P** **23 22 38.8 -0.3**
POGA Pongola 72.92 175 P **P** **23 22 39.0 0.0**
POGA IAmb IAmb 23 22 40.6
comp=Z,76nm,0.8s
POGA pP **pP** **23 23 04.6 +1.1**
POGA Pongola 72.92 175⇑*iP* **P** **23 22 39.5 +0.5**
POGA IAmb IAmb 23 22 39.9
comp=Z,68nm,0.7s
KLU Klutina 72.92 356 P **P** **23 22 39.8 +0.9**
KLU Klutina 72.92 356 P **P** **23 22 40.4 +1.5**
baz=5.5,SNR=13
PMR Palmer 72.94 358 P **P** **23 22 39.7 +0.9**
PMR Palmer 72.94 358 P **P** **23 22 39.7 +0.9**
PMR pmax pmax
comp=Z,51nm,0.8s
PMR Palmer 72.94 358 P **P** **23 22 39.7 +0.9**
baz=3.1,SNR=7.6
MLSI Malaboh, Aceh 72.94 102 P **P** **23 22 37.1 -2.5**
YUK6 Outpost Mounta 72.94 352 P **P** **23 22 41.2 +2.0**
baz=11,SNR=39
HYT Haines Junctio 72.98 352 P **P** **23 22 39.7 +0.4**
HYT Haines Junctio 72.98 352 P **P** **23 22 41.0 +1.7**
baz=12,SNR=88
PEA0B Petropavlovsk- 73.01 28 P **P** **23 22 38.9 -0.6**
PEA0B Petropavlovsk- 73.01 28 P **P** **23 22 38.9 -0.6**
PEA0B pmax pmax
comp=Z,34nm,1.0s
PETK Petropavlovsk- 73.01 28 P **P** **23 22 39.0 -0.5**
comp=Z,7.0nm,0.7s,baz=336,slow=1.4,SNR=9.6
PETK LR LR 23 56 50.9
comp=Z,798nm,21.0s,baz=280,slow=37
comp=Z,7.0nm,0.7s
H43A Windswept, Lux 73.02 317 pP **pP** **23 23 04.6 +0.4**
H43A IAmb IAmb 23 23 06.2
comp=Z,166nm,1.1s
H43A Windswept, Lux 73.02 317 P **P** **23 22 39.8 +0.2**
baz=42,SNR=6.1
P33M Teslin, Yukon 73.04 349 P **P** **23 22 41.2 +1.6**
baz=15,SNR=65
T59A Double "B" Far 73.09 306 pP **pP** **23 23 05.7 +1.0**
T59A IAmb IAmb 23 23 06.8
comp=Z,161nm,1.3s
T59A Double "B" Far 73.09 306 P **P** **23 22 40.2 0.0**
baz=45,SNR=9.4
T59A P **P** **23 22 40.2 0.0**
baz=45,SNR=9.4
KNK Knik Glacier 73.10 358 IAmb IAmb 23 22 42.5
comp=Z,146nm,1.0s
KNK Knik Glacier 73.10 358 P **P** **23 22 41.5 +1.6**
baz=3.6,SNR=19
SUA Susitna One 73.10 359 IAmb IAmb 23 22 41.9
comp=Z,116nm,0.8s
SUA Susitna One 73.10 359 P **P** **23 22 41.3 +1.3**
baz=1.9,SNR=11
E38A The Farm, Brul 73.15 321 P **P** **23 22 40.2 -0.2**
baz=40,SNR=8.0
CTGM Chitina Glacie 73.17 354 P **P** **23 22 41.5 +1.0**
CTGM IAmb IAmb 23 22 43.1
comp=Z,64nm,0.8s
CTG Chitna Glacier 73.17 354 P **P** **23 22 41.8 +1.3**
baz=8.8
O52A Adamsville 73.21 311 pP pP 23 23 05.8 +0.4
O52A Adamsville 73.21 311 P **P** **23 22 40.9 0.0**
baz=44,SNR=18
O52A P **P** **23 22 40.9 0.0**
baz=44,SNR=18
NWCL Newcastle 73.22 177⇑*iP* **P** **23 22 41.4 +0.4**
NWCL IAmb IAmb 23 22 41.9
comp=Z,137nm,0.8s
L48A N Adams 73.23 313 pP pP 23 23 04.7 -0.8
L48A N Adams 73.23 313 P **P** **23 22 41.0 -0.1**
baz=43,SNR=12
L48A P **P** **23 22 41.0 -0.1**
baz=43,SNR=12
ROCAM Rodrigues Isla 73.27 144 P **P** **23 22 41.4 +0.1**
O28M Mount Upton 73.27 353 P **P** **23 22 42.7 +1.5**
baz=9.6,SNR=59
LOGN Logan Glacier 73.28 354 IAmb IAmb 23 22 43.4
comp=Z,87nm,0.8s
S57A Dark Hollow, R 73.32 307 pP **pP** **23 23 06.3 +0.3**
S57A IAmb IAmb 23 23 08.2
comp=Z,109nm,1.3s
S57A Dark Hollow, R 73.32 307 P **P** **23 22 41.8 +0.2**
baz=45,SNR=7.5
S57A P **P** **23 22 41.8 +0.2**
baz=45,SNR=7.5
S57A S **SKiKP** **23 32 09.6 +6.4**
baz=45
S57A S **SKiKP** **23 32 09.6 +6.4**
baz=45
V61A Roper 73.36 304 P **P** **23 22 42.4 +0.6**
V61A **pP** **23 23 07.8 +1.6**
V61A Roper 73.36 304 P **P** **23 22 42.3 +0.5**
baz=45
V61A P **P** **23 22 42.3 +0.5**
baz=45
BMRM Bremner River 73.38 356 IAmb IAmb 23 22 44.0
comp=Z,175nm,1.2s
BMRM Bremner River 73.38 356 P **P** **23 22 42.7 +1.1**
baz=6.4,SNR=18
N20K Mount Spurr 73.38 359 P **P** **23 22 41.9 +0.2**
baz=0.9,SNR=9.6
SPCR Spurr Chakacha 73.38 359 P **P** **23 22 42.0 +0.4**
baz=0.9,SNR=9.2
PET Petropavlovsk 73.40 28 P **P** **23 22 42.5 +0.8**
P53A Whipple 73.42 310 pP pP 23 23 07.7 +1.0
P53A Whipple 73.42 310 P **P** **23 22 42.4 +0.3**
baz=44,SNR=32
P53A P **P** **23 22 42.4 +0.3**
baz=44,SNR=32
RC01 Rabbit Creek A 73.46 358 P **P** **23 22 43.3 +1.3**
baz=2.7,SNR=24
Q54A Coxs Mills 73.48 309 IAmb IAmb 23 23 08.8
comp=Z,158nm,1.4s
Q54A Coxs Mills 73.48 309 P **P** **23 22 42.2 -0.3**
baz=44,SNR=6.5
Q54A P **P** **23 22 42.2 -0.3**
baz=44,SNR=6.5
TGL Tana Glacier 73.48 355 IAmb IAmb 23 22 44.2
comp=Z,74nm,0.7s
G40A Rib Lake 73.56 319 P **P** **23 22 43.0 +0.2**
G40A IAmb IAmb 23 23 09.1
comp=Z,117nm,1.2s
G40A Rib Lake 73.56 319 P **P** **23 22 42.9 +0.1**
baz=41,SNR=8.4
R33M Jennings River 73.58 348 P **P** **23 22 45.4 +2.5**
baz=16,SNR=213
GLI Glacier Island 73.58 357 P **P** **23 22 44.0 +1.3**
baz=4.6
R55A Marlinton 73.59 308 IAmb IAmb 23 23 09.8
comp=Z,101nm,1.2s
R55A Marlinton 73.59 308 P **P** **23 22 43.3 0.0**
baz=44,SNR=6.4
R55A P **P** **23 22 43.3 0.0**
baz=44,SNR=6.4
O29M Mount Kennedy 73.59 352 P **P** **23 22 44.3 +1.4**
baz=11,SNR=43
P30M Million Dollar 73.61 351 P **P** **23 22 44.8 +1.9**
baz=12
PWL Port Wells 73.65 357 IAmb IAmb 23 22 45.4
comp=Z,138nm,0.8s
PWL Port Wells 73.65 357 P **P** **23 22 44.5 +1.4**
baz=3.7,SNR=24
U59A Littleton 73.66 305 P **P** **23 22 43.8 +0.3**
baz=45,SNR=6.1
U59A P **P** **23 22 43.8 +0.3**
baz=45,SNR=6.1
AGMN Agassiz Nation 73.68 324 P **P** **23 22 43.3 -0.2**
AGMN pP **pP** **23 23 08.2 +0.1**
AGMN Agassiz Nation 73.68 324 P **P** **23 22 43.6 +0.1**
baz=38
AGMN Agassiz Nation 73.68 324 P **P** **23 22 43.0 -0.5**
baz=38
FID Port Fidalgo 73.69 356 P **P** **23 22 44.3 +0.9**
FID IAmb IAmb 23 22 46.1
comp=Z,66nm,0.8s
SNKL Senekal, Frees 73.70 179⇑*iP* **P** **23 22 44.0 +0.2**
SNKL IAmb IAmb 23 22 44.9
comp=Z,288nm,0.8s
P52A Corning 73.71 310 pP pP 23 23 08.2 -0.2
P52A Corning 73.71 310 P **P** **23 22 43.4 -0.5**
baz=44,SNR=23
ACSO Alum Creek Sta 73.73 311 IAmb IAmb 23 23 10.1
comp=Z,187nm,1.4s
ACSO Alum Creek Sta 73.73 311 P **P** **23 22 43.6 -0.3**
baz=43,SNR=5.3
ACSO Alum Creek Sta 73.73 311 P **P** **23 22 43.5 -0.4**
baz=43,SNR=5.3
P32M Atlin 73.76 350 P **P** **23 22 44.6 +0.8**
baz=14,SNR=55
N19K Bonanza Creek 73.77 1 P **P** **23 22 45.4 +1.5**
N19K IAmb IAmb 23 22 46.7
comp=Z,80nm,0.8s
N19K Bonanza Creek 73.77 1 P **P** **23 22 45.5 +1.6**
baz=359,SNR=30
WAX Waxell Ridge 73.79 355 P **P** **23 22 45.1 +1.1**
YAH Yahtse 73.80 354 IAmb IAmb 23 22 47.3
comp=Z,140nm,1.1s
N49A Columbus Grove 73.85 312 P **P** **23 22 44.4 -0.2**
baz=43,SNR=12
N49A P **P** **23 22 44.4 -0.2**
baz=43,SNR=12
EYAK Cordova Ski Ar 73.86 356 P **P** **23 22 46.0 +1.7**
EYAK IAmb IAmb 23 22 47.1
comp=Z,71nm,0.9s
EYAK Cordova Ski Ar 73.86 356 P **P** **23 22 45.9 +1.7**
baz=5.5,SNR=9.2
N18K Kilae Creek 73.89 1 P **P** **23 22 46.0 +1.5**
N18K Kilae Creek 73.89 1 P **P** **23 22 46.3 +1.8**
baz=358,SNR=11
UPI Upington 73.94 185⇑*iP* **P** **23 22 44.9 -0.2**
UPI IAmb IAmb 23 22 46.0

comp=Z,77nm,0.9s
PINM Pinnacle 73.94 353 P **P** **23 22 47.0 +2.1**
baz=9.5,SNR=38
RAGM Ragged Mountai 73.96 355 P **P** **23 22 45.7 +0.7**
RAGM IAmb IAmb 23 24 45.9
comp=Z,93nm,0.7s
MESA MESA 74.00 354 IAmb IAmb 23 22 48.2
comp=Z,121nm,0.8s
MESA MESA 74.00 354 P **P** **23 22 47.2 +1.8**
baz=8.3,SNR=12
N16K Nishlik Lake 74.03 3 P **P** **23 22 47.4 +2.1**
baz=356,SNR=22
T57A Hurt 74.03 307 IAmb IAmb 23 23 12.6
comp=Z,155nm,1.2s
T57A Hurt 74.03 307 P **P** **23 22 45.8 +0.1**
baz=44,SNR=12
T57A P **P** **23 22 45.8 +0.1**
baz=44,SNR=12
BCPM Bancas Point 74.03 353 P **P** **23 22 46.3 +0.9**
BOSA Boshof 74.04 181 P **P** **23 22 45.7 0.0**
comp=Z,61nm,0.7s,baz=2.9,slow=6.2,SNR=116
BOSA pP **pP** **23 23 09.6 -0.7**
comp=Z,60nm,0.9s,baz=8.7,slow=4.8,SNR=5.2
comp=Z,61nm,0.7s
BOSA Boshof 74.04 181 IAmb IAmb 23 22 46.8
comp=Z,156nm,1.1s
BOSA pP pP 23 23 11.5 +1.2
BOSA Boshof 74.04 181⇑ *iP* **P** **23 22 45.5 -0.2**
BOSA IAmb IAmb 23 22 46.5
comp=Z,326nm,1.5s
HIN Hinchinbrook I 74.04 356 P **P** **23 22 45.8 +0.3**
SNH Sunshine Point 74.06 355 P **P** **23 22 46.8 +1.3**
O22K Cooper Landing 74.06 358 P **P** **23 22 46.5 +1.0**
O22K IAmb IAmb 23 22 47.9
comp=Z,212nm,1.3s
O22K Cooper Landing 74.06 358 P **P** **23 22 46.5 +1.0**
baz=2.7
SKAG Skagway 74.08 350 P **P** **23 22 47.0 +1.4**
SKAG IAmb IAmb 23 22 48.2
comp=Z,122nm,0.9s
SKAG Skagway 74.08 350 P **P** **23 22 46.9 +1.4**
baz=13,SNR=16
L46A Eue Claire 74.12 314 P **P** **23 22 46.0 -0.1**
L46A **pP** **23 23 11.3 +0.6**
L46A IAmb IAmb 23 23 12.4
comp=Z,174nm,1.2s
L46A Eue Claire 74.12 314 P **P** **23 22 46.1 -0.1**
baz=42
L46A P **P** **23 22 46.1 -0.1**
baz=42
P29M Windy Craggy 74.17 352 P **P** **23 22 47.4 +1.2**
P29M Windy Craggy 74.17 352 P **P** **23 22 47.8 +1.6**
baz=11,SNR=51
Q32M Nakina River 74.18 349 P **P** **23 22 48.3 +1.8**
baz=15,SNR=39
PLBC Pleasant Camp 74.20 351 P **P** **23 22 48.1 +1.8**
baz=12,SNR=29
Q52A Bidwell 74.27 310 pP **pP** **23 23 11.9 +0.2**
Q52A IAmb IAmb 23 23 13.3
comp=Z,176nm,1.1s
Q52A Bidwell 74.27 310 P **P** **23 22 46.8 -0.3**
baz=43,SNR=15
Q52A P **P** **23 22 46.8 -0.3**
baz=43,SNR=15
KEIM Keimoes 74.29 185⇑ *iP* **P** **23 22 46.9 -0.3**
KEIM IAmb IAmb 23 22 48.1
comp=Z,142nm,1.1s
PNL Peninsula 74.29 353 P **P** **23 22 48.4 +1.5**
baz=10,SNR=12
P51A Williamsport 74.31 311 P **P** **23 22 46.6 -0.7**
baz=43,SNR=8.0
P51A P **P** **23 22 46.6 -0.7**
baz=43,SNR=8.0
DLBC Dease Lake 74.36 347 P **P** **23 22 49.1 +1.7**
DLBC IAmb IAmb 23 22 50.3
comp=Z,70nm,0.8s
DLBC Dease Lake 74.36 347 P **P** **23 22 49.8 +2.4**
baz=17,SNR=37
O19K Port Alsworth 74.39 0 P **P** **23 22 48.6 +1.3**
KAIM Kayak Island 74.41 355 P **P** **23 22 48.9 +1.4**
baz=6.5
KCSI Kotacane, Aceh 74.42 101 P **P** **23 22 46.5 -1.8**
comp=Z,2µmcomp=Z,79nm,1.0s
SEW Seward 74.44 358 P **P** **23 22 48.3 +0.7**
SEW IAmb IAmb 23 22 49.9
comp=Z,83nm,0.8s
SEW Seward 74.44 358 P **P** **23 22 48.5 +0.9**
baz=2.9,SNR=11
O49A Covington 74.47 312 pP **pP** **23 23 13.3 +0.5**
O49A IAmb IAmb 23 23 14.1
comp=Z,147nm,1.1s
O49A Covington 74.47 312 P **P** **23 22 47.7 -0.5**
baz=43,SNR=20
O49A P **P** **23 22 47.7 -0.5**
baz=43,SNR=20
P23K Montague Islan 74.48 357 P **P** **23 22 49.4 +1.5**
baz=4.3
CNNC Cliffs of the 74.50 305 P **P** **23 22 48.9 +0.5**
CNNC IAmb IAmb 23 23 15.3
comp=Z,68nm,0.8s
CNNC Cliffs of the 74.50 305 P **P** **23 22 48.1 -0.4**
baz=45
JEW Eniwo 74.50 44 P **P** **23 22 49.3 +0.9**
JEW pP **pP** **23 23 14.0 +1.2**
O20K Slope Mountain 74.51 360 P **P** **23 22 48.7 +0.6**
baz=0.6,SNR=9.7
BLA Blacksburg 74.53 308 P **P** **23 22 48.4 -0.3**
BLA pP **pP** **23 23 13.1 -0.1**
BLA Blacksburg 74.53 308 P **P** **23 22 48.4 -0.3**
BLA *PP **pP** **23 23 13.1 -0.1**
BLA pmax pmax
comp=Z,96nm,1.4s
BLA Blacksburg 74.53 308 P **P** **23 22 48.4 -0.3**
baz=44
BLA S **SKiKP** **23 32 08.8 +3.6**
baz=44
BLA Blacksburg 74.53 308 P **P** **23 22 48.3 -0.3**
baz=44,SNR=5.0
R53A Hurricane 74.56 309 pP pP 23 23 14.3 +0.9
R53A Hurricane 74.56 309 P **P** **23 22 48.7 -0.1**
baz=43,SNR=9.9
R53A P **P** **23 22 48.7 -0.1**
baz=43,SNR=9.9
S54A Dingess, Beckl 74.59 309 P **P** **23 22 48.6 -0.4**
baz=44,SNR=5.5
S54A P **P** **23 22 48.6 -0.4**
baz=44,SNR=5.5
F36A Milaca 74.59 321 IAmb IAmb 23 22 49.5
comp=Z,59nm,0.8s
F36A Milaca 74.59 321 P **P** **23 22 48.7 -0.1**
baz=39,SNR=12
ILSW Iliamna Southw 74.61 360 IAmb IAmb 23 22 51.4
comp=Z,35nm,0.9s
K43A Burlington 74.61 316 P **P** **23 22 48.3 -0.7**
baz=41
N47A Urbana 74.66 313 P **P** **23 22 47.9 -1.5**
N47A pP **pP** **23 23 13.3 -0.6**
N47A IAmb IAmb 23 23 14.9
comp=Z,112nm,1.1s
N47A Urbana 74.66 313 P **P** **23 22 47.7 -1.6**
baz=42,SNR=8.3
N47A P **P** **23 22 47.7 -1.6**
baz=42,SNR=8.3
O18K Koktuh Hills 74.73 1 IAmb IAmb 23 22 52.0
comp=Z,120nm,0.8s
O18K Koktuh Hills 74.73 1 P **P** **23 22 51.0 +1.7**
baz=359,SNR=18
SPMN Marine on St. 74.77 320 P **P** **23 22 49.8 -0.1**
baz=39,SNR=7.0
SPMN Marine on St. 74.77 320 P **P** **23 22 49.5 -0.4**
baz=39,SNR=7.0
O17K Koliganek Bris 74.78 2 P **P** **23 22 51.6 +2.0**
baz=357,SNR=23
I40A Norwalk 74.80 318 P **P** **23 22 49.9 -0.1**
baz=40
Q51A Peebles 74.80 311 IAmb IAmb 23 23 16.2
comp=Z,182nm,1.1s
Q51A Peebles 74.80 311 P **P** **23 22 49.5 -0.6**
baz=43,SNR=12
Q51A P **P** **23 22 49.5 -0.6**
baz=43,SNR=12
L44A Lake County Fo 74.80 315 P **P** **23 22 50.1 0.0**
L44A IAmb IAmb 23 23 16.1
comp=Z,119nm,1.1s
L44A Lake County Fo 74.80 315 P **P** **23 22 49.2 -0.9**
baz=41
V58A Windy Hill, Pi 74.81 306 IAmb IAmb 23 23 17.7
comp=Z,189nm,1.4s
V58A Windy Hill, Pi 74.81 306 P **P** **23 22 50.3 0.0**
baz=44,SNR=9.3
V58A P **P** **23 22 50.3 0.0**
baz=44,SNR=9.3
BRSE Bradley Lake S 74.83 359 P **P** **23 22 50.7 +0.7**
baz=1.9,SNR=16
O48B Farmland 74.84 313 P **P** **23 22 49.3 -1.1**
baz=42,SNR=10
O48B Farmland 74.84 313 P **P** **23 22 49.3 -1.1**
baz=42,SNR=10
BESE Bessie Mountai 74.89 350 P **P** **23 22 51.6 +1.3**
BESE IAmb IAmb 23 22 53.4
comp=Z,133nm,1.0s
HOM Homer 74.92 359 P **P** **23 22 51.6 +1.1**
HOM Homer 74.92 359 P **P** **23 22 51.2 +0.7**
baz=1.3,SNR=5.7
O16K Kokwok River B 74.93 2 P **P** **23 22 51.8 +1.3**
baz=357,SNR=19
P19K Oil Pt 74.94 360 P **P** **23 22 50.9 +0.3**
P19K Oil Pt 74.94 360 P **P** **23 22 50.5 -0.1**
baz=0.1
Q23K Middleton Isla 75.00 356 P **P** **23 22 52.3 +1.4**
baz=5.1
S34M Telegraph Cree 75.03 348 P **P** **23 22 53.3 +2.2**
baz=16,SNR=68
CNPM China Post 75.05 359 IAmb IAmb 23 22 52.8
comp=Z,80nm,0.8s
HQIL Hanson Quary C 75.06 315 P **P** **23 22 50.4 -1.1**
HQIL IAmb IAmb 23 23 17.6
comp=Z,154nm,1.2s
D32A Dogwood Acres, 75.08 324 P **P** **23 22 51.1 -0.5**
JIS Juneau Island 75.12 350 P **P** **23 22 53.1 +1.5**
JIS IAmb IAmb 23 22 54.6
comp=Z,110nm,0.8s
U56A King 75.12 307 **pP** 23 23 17.8 +1.1
U56A IAmb IAmb 23 23 18.9
comp=Z,182nm,1.2s
U56A King 75.12 307 P **P** **23 22 52.3 +0.2**
baz=44,SNR=7.3
U56A P **P** **23 22 52.3 +0.2**
baz=44,SNR=7.3
KULM Kulim 75.14 98 IAmb IAmb 23 23 18.7
comp=Z,102nm,1.1s
R32K Eaglecrest 75.14 350 P **P** **23 22 53.6 +1.9**
baz=14,SNR=53
P49A Miami Univ. Ec 75.15 312 IAmb IAmb 23 23 17.7
comp=Z,72nm,1.5s
P49A Miami Univ. Ec 75.15 312 P **P** **23 22 51.0 -1.2**
baz=42
P49A Miami Univ. Ec 75.15 312 P **P** **23 22 51.0 -1.2**
baz=42
R31K City Hall, Gus 75.15 350 P **P** **23 22 53.2 +1.4**
baz=13
PKA Prieska 75.16 183 *eP* **P** **23 22 54.7 +2.5**
PKA IAmb IAmb 23 22 57.7
comp=Z,9.3nm,0.6s
P17K Kvichak River 75.37 2 P **P** **23 22 54.4 +1.4**
baz=358,SNR=12
JFWS Jewell Farm 75.37 317 IAmb IAmb 23 22 53.6
comp=Z,62nm,0.7s
JFWS Jewell Farm 75.37 317 P **P** **23 22 52.7 -0.7**
baz=40,SNR=10
JFWS Jewell Farm 75.37 317 P **P** **23 22 52.7 -0.7**
baz=40,SNR=10
M44A Midewin, Midew 75.46 315 P **P** **23 22 53.3 -0.6**
M44A IAmb IAmb 23 23 20.5
comp=Z,210nm,1.4s
P16K Nushagak River 75.50 2 P **P** **23 22 55.4 +1.7**
baz=357,SNR=7.7
RCBR Riachuelo 75.53 246 P **P** **23 22 54.9 +0.3**
comp=Z,207nm,0.6s,baz=169,slow=7.4,SNR=142
comp=Z,207nm,0.6s
RCBR Riachuelo 75.53 246 P **P** **23 22 55.0 +0.3**
RCBR Riachuelo 75.53 246 P **P** **23 22 55.0 +0.3**
RCBR pmax pmax
comp=Z,203nm,0.7s
RCBR Riachuelo 75.53 246 *eP* **P** **23 22 52.5 -2.2**
MDND Maddock 75.55 326 P **P** **23 22 54.5 +0.2**
MDND Maddock 75.55 326 P **P** **23 22 53.8 -0.5**
baz=36
P48A Milroy 75.57 312 **pP** 23 23 18.4 -0.8
P48A IAmb IAmb 23 23 20.0
comp=Z,112nm,1.1s
P48A Milroy 75.57 312 P **P** **23 22 53.5 -1.0**
baz=42,SNR=12
P48A P **P** **23 22 53.5 -1.0**
baz=42,SNR=12
EDM Edmonton 75.60 336 P **P** **23 22 54.5 -0.1**
EDM IAmb IAmb 23 22 56.9
comp=Z,79nm,0.8s
EDM Edmonton 75.60 336 P **P** **23 22 54.5 -0.1**
EDM pmax pmax
comp=Z,79nm,0.8s
KOMG Komaggas 75.66 188 *eP* **P** **23 22 54.7 -0.2**
KOMG IAmb IAmb 23 23 08.9
comp=Z,23µm,4.5s
Q19K Cape Douglas, 75.67 0 IAmb IAmb 23 23 03.1
comp=Z,44nm,0.6s
Q19K Cape Douglas, 75.67 0 P **P** **23 22 55.5 +0.7**
baz=360
PSI Prapat 75.73 101 P **P** **23 22 56.0 0.0**
comp=Z,52nm,0.8s,baz=306,slow=6.4,SNR=39
PSI pP **pP** **23 23 20.3 -0.2**
comp=Z,86nm,0.9s,baz=293,slow=6.0,SNR=11
comp=Z,52nm,0.8s
PSI Prapat 75.73 101 P **P** **23 22 55.8 -0.1**
comp=Z,136nm,1.0s
SFIN Lafayette 75.74 314 IAmb IAmb 23 23 21.2
comp=Z,114nm,1.2s
SFIN Lafayette 75.74 314 P **P** **23 22 54.5 -1.0**
baz=41,SNR=5.1
SFIN Lafayette 75.74 314 P **P** **23 22 54.5 -1.0**
baz=41,SNR=5.1
W57A Gilead 75.77 306 P **P** **23 22 55.4 -0.3**
baz=44,SNR=5.5
W57A P **P** **23 22 55.4 -0.3**
baz=44,SNR=5.5
W57A S **S** **23 32 25.6 -4.3**
baz=44
W57A S **S** **23 32 25.6 -4.3**
baz=44
L42A Oliver, Polo 75.79 316 IAmb IAmb 23 23 21.6
comp=Z,105nm,1.0s
L42A Oliver, Polo 75.79 316 P **P** **23 22 55.2 -0.6**
baz=40,SNR=9.2
T35M Bob Quinn 75.80 347 P **P** **23 22 57.7 +2.1**
baz=16,SNR=24
TATO Taipei 75.80 69 P **P** **23 22 55.6 -0.4**
TATO pP **pP** **23 23 21.1 +0.5**
U54A Nelsons Funny 75.80 308 IAmb IAmb 23 23 23.0
comp=Z,164nm,1.2s
U54A Nelsons Funny 75.80 308 P **P** **23 22 55.6 -0.4**
baz=43,SNR=8.2
U54A P **P** **23 22 55.6 -0.4**
baz=43,SNR=8.2
RPSI Rantau Prapat 75.80 101 pP **pP** **23 23 20.4 -0.4**
RPSI IAmb IAmb 23 23 22.1
comp=Z,99nm,0.9s
F33A 5 Mile Ranch, 75.81 323 IAmb IAmb 23 22 56.8
comp=Z,204nm,1.7s
F33A 5 Mile Ranch, 75.81 323 P **P** **23 22 55.7 -0.1**
baz=37,SNR=9.2
X58A Rowland 75.82 305 IAmb IAmb 23 23 23.1
comp=Z,192nm,1.3s
JTM Tenmabayashi 75.86 45 IAmb IAmb 23 23 22.1
comp=Z,163nm,1.2s
R50A Paris 75.87 311 P **P** **23 22 55.9 -0.4**
R50A IAmb IAmb 23 23 22.4
comp=Z,112nm,1.2s
R50A Paris 75.87 311 P **P** **23 22 55.5 -0.8**
baz=42,SNR=6.8
R50A P **P** **23 22 55.5 -0.8**
baz=42,SNR=6.8
JHS Saijyo 75.87 54 P **P** **23 22 55.4 -1.0**
Q16K King Salmon 75.88 2 P **P** **23 22 57.3 +1.3**
baz=358,SNR=6.7
GSI Gunungsitoli 75.89 103 IAmb IAmb 23 23 23.5
comp=Z,70nm,0.9s
GSI Gunungsitoli 75.89 103 P **P** **23 22 58.0 +1.3**
comp=Z,100nm,1.1s
GSI Gunungsitoli 75.89 103 P **P** **23 22 58.0 +1.3**
comp=Z,100nm,1.1s
S32K Killisnoo 75.93 350 P **P** **23 22 58.2 +2.0**
baz=13,SNR=11
YHNB Yeheng 75.94 69 P **P** **23 22 57.5 +0.6**
S51A Beattyville 75.95 310 P **P** **23 22 56.2 -0.5**
baz=42,SNR=8.2
S51A P **P** **23 22 56.2 -0.5**
baz=42,SNR=8.2
V55A Taylorsville 75.95 307 IAmb IAmb 23 23 23.6
comp=Z,141nm,1.3s
V55A Taylorsville 75.95 307 P **P** **23 22 56.4 -0.4**
baz=43,SNR=9.2
V55A P **P** **23 22 56.4 -0.4**
baz=43,SNR=9.2
ERM Erimo 75.95 43 P **P** **23 22 57.3 +0.6**
ERM IAmb IAmb 23 23 23.4
comp=Z,110nm,1.1s
ERM Erimo 75.95 43 P **P** **23 22 57.3 +0.6**
ERM pmax pmax
comp=Z,110nm,1.1s
Y59A Loris 75.96 304 P **P** **23 22 57.2 +0.3**
baz=44
Y59A P **P** **23 22 57.2 +0.3**
baz=44
IPM Ipoh 75.97 98 IAmb IAmb 23 23 23.3
comp=Z,164nm,1.1s
IPM Ipoh 75.97 98 P **P** **23 22 57.0 -0.2**
comp=Z,150nm,1.1s
I37A Lemond, Waseca 75.98 320 IAmb IAmb 23 22 57.9
comp=Z,174nm,1.1s
I37B Waseca 75.98 320 P **P** **23 22 57.0 +0.2**
baz=39,SNR=16
Q20K Shuyak Island 75.98 359 P **P** **23 22 57.2 +0.6**
baz=0.7,SNR=12
HVD Gariep Dam 76.02 181⇑ *iP* **P** **23 22 57.1 -0.1**
HVD IAmb IAmb 23 22 58.2
comp=Z,513nm,2.3s
KSTD Kokstad 76.06 178⇑ *iP* **P** **23 22 57.9 +0.5**
KSTD IAmb IAmb 23 22 59.1
comp=Z,93nm,0.9s
SSLB Suanglung 76.27 70 P **P** **23 22 59.3 +0.5**
SSLB pP **pP** **23 23 24.4 +1.1**
R49A Shelbyville 76.31 311 P **P** **23 22 58.1 -0.6**
baz=42,SNR=8.6
R49A P **P** **23 22 58.1 -0.6**
baz=42,SNR=8.6
BLO Bloomington 76.35 313 IAmb IAmb 23 23 24.9
comp=Z,127nm,1.1s
T33K Petersburg 76.36 349 P **P** **23 23 00.5 +1.8**
baz=15
P46A Rosedale 76.37 313 IAmb IAmb 23 23 24.7
comp=Z,104nm,1.1s
TPUB Ta-pu 76.39 71 P **P** **23 22 59.8 +0.3**
TPUB IAmb IAmb 23 23 27.7
comp=Z,162nm,1.2s
BIRD Birdtown, Kers 76.40 306 IAmb IAmb 23 23 26.0
comp=Z,169nm,1.5s
BIRD Birdtown, Kers 76.40 306 P **P** **23 22 59.2 -0.1**
baz=43
ANWB Willy Bob 76.43 281 IAmb IAmb 23 23 00.6
comp=Z,121nm,0.9s
SIT Sitka 76.43 350 P **P** **23 23 01.0 +1.9**
SIT IAmb IAmb 23 23 02.3
comp=Z,115nm,0.9s
SIT Sitka 76.43 350 P **P** **23 23 01.0 +1.9**
SIT pmax pmax
comp=Z,115nm,0.9s
SIT Sitka 76.43 350 P **P** **23 23 01.3 +2.3**
baz=13,SNR=7.7
SPIA Saint Paul Isl 76.47 9 P **P** **23 23 00.5 +1.2**
baz=348
JSD Sado 76.47 49 P **P** **23 23 00.1 +0.4**
Y58A Scranton 76.48 305 P **P** **23 22 59.8 0.0**
Y58A IAmb IAmb 23 23 26.7
comp=Z,141nm,1.1s
L40A Anamosa 76.48 317 IAmb IAmb 23 23 25.4
comp=Z,86nm,1.1s
L40A Anamosa 76.48 317 P **P** **23 22 59.0 -0.8**
baz=40,SNR=11
KMSC Kings Mountain 76.53 307 IAmb IAmb 23 23 26.8
comp=Z,132nm,1.2s
KMSC Kings Mountain 76.53 307 P **P** **23 23 00.0 -0.1**
baz=43,SNR=9.5
KMSC Kings Mountain 76.53 307 P **P** **23 22 59.7 -0.4**
baz=43,SNR=9.5
O44A Mansfield 76.60 314 P **P** **23 22 59.8 -0.6**
O44A pP **pP** **23 23 25.0 -0.1**
O44A IAmb IAmb 23 23 26.4
comp=Z,138nm,1.2s
WRAK Wrangell Islan 76.65 348 P **P** **23 23 02.3 +1.9**
WRAK IAmb IAmb 23 23 03.4
comp=Z,86nm,0.8s
WRAK Wrangell Islan 76.65 348 P **P** **23 23 02.2 +1.9**
baz=15,SNR=18
HDIL Hopedale 76.71 315 IAmb IAmb 23 23 27.0
comp=Z,103nm,0.9s
HDIL Hopedale 76.71 315 P **P** **23 23 00.6 -0.4**
baz=40,SNR=5.7
HDIL Hopedale 76.71 315 P **P** **23 23 00.3 -0.7**
baz=40,SNR=5.7
TZTN Tazewell 76.73 309 pP **pP** **23 23 26.7 +0.7**
TZTN IAmb IAmb 23 23 27.8
comp=Z,111nm,1.4s
TZTN Tazewell 76.73 309 P **P** **23 23 01.1 -0.1**
baz=42,SNR=5.8
TZTN Tazewell 76.73 309 P **P** **23 23 00.7 -0.5**
baz=42,SNR=5.8
K38A Parkersburg 76.76 319 IAmb IAmb 23 23 26.7
comp=Z,160nm,1.6s
K38A Parkersburg 76.76 319 P **P** **23 23 00.4 -0.8**
baz=39
DGMT Dagmar 76.77 329 P **P** **23 23 01.2 0.0**
baz=33
DGMT Dagmar 76.77 329 P **P** **23 23 01.5 +0.3**
baz=33
Y57A Sumter 76.81 305 P **P** **23 23 01.5 -0.1**
Y57A IAmb IAmb 23 23 28.5
comp=Z,216nm,1.4s
KDAK Kodiak Island 76.81 360 P **P** **23 23 02.5 +1.3**
KDAK IAmb IAmb 23 23 03.7
comp=Z,113nm,0.8s
KDAK Kodiak Island 76.81 360 P **P** **23 23 02.5 +1.3**
KDAK pmax pmax
comp=Z,113nm,0.9s
KDAK Kodiak Island 76.81 360 P **P** **23 23 02.5 +1.3**
baz=0.6
JSU Suzuyama 76.83 58 P **P** **23 23 01.9 0.0**
R17K Ugashik Creek 76.93 2 P **P** **23 23 01.5 -0.5**
baz=358
WCI Wyandotte Cave 76.94 312 P **P** **23 23 01.7 -0.6**
WCI IAmb IAmb 23 23 28.4
comp=Z,158nm,1.1s
WCI Wyandotte Cave 76.94 312 P **P** **23 23 01.7 -0.6**
WCI pmax pmax
comp=Z,158nm,1.1s
WCI Wyandotte Cave 76.94 312 P **P** **23 23 01.8 -0.6**
baz=41,SNR=11
WCI Wyandotte Cave 76.94 312 P **P** **23 23 01.9 -0.4**
baz=41
E28A Huff 77.01 326 P **P** **23 23 02.1 -0.5**
PAULI Pauline 77.03 307 IAmb IAmb 23 23 29.7
comp=Z,146nm,1.2s
PAULI Pauline 77.03 307 P **P** **23 23 02.9 -0.1**
baz=43,SNR=14
U33K Whale Pass 77.06 348 P **P** **23 23 05.0 +2.3**
baz=14,SNR=11
T50A Nancy 77.07 310 IAmb IAmb 23 23 29.4
comp=Z,166nm,1.2s
T50A Nancy 77.07 310 P **P** **23 23 02.8 -0.3**
baz=42
T50A P **P** **23 23 02.8 -0.3**
baz=42
JSC Jenkinsville 77.11 306 IAmb IAmb 23 23 30.1
comp=Z,108nm,1.3s
JSC Jenkinsville 77.11 306 P **P** **23 23 03.4 +0.1**
baz=43,SNR=6.8
CVNA Calvinia 77.13 186⇑ *iP* **P** **23 23 03.4 0.0**
CVNA IAmb IAmb 23 23 04.3
comp=Z,97nm,1.1s
NBRF Rio Formoso - 77.22 243 *eP* **P** **23 23 03.1 -1.0**
BFON Badsfontein, M 77.25 183 IAmb IAmb 23 23 04.7
comp=Z,71nm,0.7s
BRAK Brakfontein 77.26 183⇑ *iP* **P** **23 23 04.3 +0.3**
BRAK IAmb IAmb 23 23 04.8
comp=Z,66nm,0.8s
V52A Sevierville 77.27 309 P **P** **23 23 03.9 -0.4**
baz=42,SNR=15
NHSC New Hope 77.35 305 P **P** **23 23 04.6 -0.1**
baz=43
NHSC New Hope 77.35 305 P **P** **23 23 04.8 +0.1**
baz=43,SNR=8.2
OHAK Old Harbor 77.38 360 P **P** **23 23 05.2 +0.8**

OHAK IAmb IAmb 23 23 06.3
comp=Z,61nm,0.7s
OHAK Old Harbor 77.38 360 P **P** **23 23 05.7 +1.3**
baz=0.1,SNR=11
FRAZ Fraserburg 77.47 184⇑ *i*P **P** **23 23 05.0 -0.3**
FRAZ IAmb IAmb 23 23 06.4
comp=Z,101nm,1.0s
OLIL Olney 77.49 313 IAmb IAmb 23 23 31.8
comp=Z,231nm,1.4s
OLIL Olney 77.49 313 P **P** **23 23 04.6 -0.8**
baz=40,SNR=6.7
TKL Tuckaleechee C 77.50 309 pP **pP** **23 23 30.9 +0.5**
TKL IAmb IAmb 23 23 32.0
comp=Z,127nm,1.2s
TKL Tuckaleechee C 77.50 309 P **P** **23 23 05.3 -0.2**
baz=42,SNR=11
P43A Skaggs, Pawnee 77.52 315 IAmb IAmb 23 23 31.5
comp=Z,126nm,1.1s
P43A Skaggs, Pawnee 77.52 315 P **P** **23 23 04.5 -1.0**
baz=40,SNR=7.5
BG3 Lake Jocassee 77.53 308 IAmb IAmb 23 23 32.4
comp=Z,105nm,1.3s
CASEE Lake Jocassee 77.53 308 P **P** **23 23 05.7 0.0**
baz=42,SNR=5.7
SCIA State Center 77.54 318 P **P** **23 23 05.1 -0.6**
SCIA pP **pP** **23 23 31.1 +0.7**
SCIA State Center 77.54 318 P **P** **23 23 04.7 -1.0**
baz=38
MAJO Matsushiro 77.56 50 P **P** **23 23 06.1 +0.3**
MAJO Matsushiro 77.56 50 P **P** **23 23 06.1 +0.3**
MAJO pmax pmax
comp=Z,98nm,1.4s
MAJO Matsushiro 77.56 50 P **P** **23 23 06.5 +0.7**
comp=Z,46nm,1.4s
MJAR Matsushiro Arr 77.56 50 P **P** **23 23 06.2 +0.4**
comp=Z,18nm,0.8s,baz=329,slow=3.4,SNR=47
MJAR pP **pP** **23 23 30.5 0.0**
comp=Z,36nm,1.1s,baz=313,slow=5.3,SNR=8.7
MJAR LR LR 00 00 17.7
comp=Z,404nm,20.0s,baz=320,slow=38
comp=Z,18nm,0.8s
TDBA Terre de Bas, 77.58 280 P **P** **23 23 06.3 +0.1**
V35K Ketchikan 77.60 347 P **P** **23 23 07.0 +1.3**
baz=15,SNR=7.3
ECSD EROS Data Cent 77.62 322 P **P** **23 23 06.4 +0.3**
ECSD IAmb IAmb 23 23 06.6
comp=Z,67nm,0.6s
ECSD EROS Data Cent 77.62 322 P **P** **23 23 06.0 -0.1**
baz=37,SNR=10.0
ECSD EROS Data Cent 77.62 322 P **P** **23 23 06.0 -0.1**
baz=37,SNR=10.0
CRAG Craig 77.69 348 P **P** **23 23 07.3 +1.2**
CRAG Craig 77.69 348 P **P** **23 23 07.8 +1.6**
baz=14,SNR=6.9
GRAF Camdeboo Natio 77.70 182⇑ *i*P **P** **23 23 07.2 +0.7**
GRAF IAmb IAmb 23 23 08.1
comp=Z,155nm,0.9s
V51A Loudon 77.71 309 pP **pP** **23 23 32.0 +0.5**
V51A IAmb IAmb 23 23 33.5
comp=Z,179nm,1.2s
V51A Loudon 77.71 309 P **P** **23 23 06.7 0.0**
baz=42,SNR=13
HODGE Hodges 77.71 307 pP 23 23 32.3 +0.9
HODGE Hodges 77.71 307 P **P** **23 23 06.4 -0.3**
baz=43,SNR=11
INU Inuyama 77.80 52 P **P** **23 23 06.8 -0.3**
JGF Kuroka 77.80 51 P **P** **23 23 07.2 0.0**
JGF pP **pP** **23 23 31.8 -0.1**
GRAN Grantham 77.81 184⇑ *i*P **P** **23 23 07.5 +0.4**
GRAN IAmb IAmb 23 23 08.1
comp=Z,35nm,0.8s
Q44A Meyer Farm, Va 77.83 314 IAmb IAmb 23 23 33.1
comp=Z,95nm,1.1s
Q44A Meyer Farm, Va 77.83 314 P **P** **23 23 06.7 -0.6**
baz=40
USIN University of 77.85 313 IAmb IAmb 23 23 33.0
comp=Z,115nm,1.0s
JMM Marumori 77.92 48 pP **pP** **23 23 32.3 -0.2**
JMM IAmb IAmb 23 23 33.7
comp=Z,82nm,1.0s
ROOI Rooidraai Farm 77.94 183⇑ *i*P **P** **23 23 08.4 +0.6**
ROOI IAmb IAmb 23 23 09.1
comp=Z,184nm,1.2s
U49A Red Boiling Sp 77.95 310 IAmb IAmb 23 23 34.2
comp=Z,178nm,1.2s
U49A Red Boiling Sp 77.95 310 P **P** **23 23 07.6 -0.4**
baz=41,SNR=21
SUR Sutherland 77.96 185 P **P** **23 23 08.3 +0.2**
SUR IAmb IAmb 23 23 09.4
comp=Z,80nm,0.9s
SVN Savane Anatole 77.96 279 IAmb IAmb 23 23 12.1
comp=Z,129nm,0.9s
HAW Hawthorne Fire 77.98 306 P **P** **23 23 08.1 -0.1**
baz=43,SNR=9.4
MPOM Morne Pois Mar 78.02 278 IAmb IAmb 23 23 09.8
comp=Z,86nm,1.0s
SII Sitkinak Islan 78.04 0 P **P** **23 23 09.4 +1.2**
SII IAmb IAmb 23 23 10.9
comp=Z,227nm,1.5s
SII Sitkinak Islan 78.04 0 P **P** **23 23 09.6 +1.4**
baz=359
SII Sitkinak Islan 78.04 0 P **P** **23 23 12.1 +3.9**
comp=Z,122nm,1.5s
SUSD Miller 78.05 323 P **P** **23 23 08.7 +0.3**
baz=36,SNR=6.2
SUSD Miller 78.05 323 P **P** **23 23 08.4 -0.1**
baz=36,SNR=6.2
CPCT Cooper Cave 78.07 309 pP **pP** **23 23 34.1 +0.6**
CPCT IAmb IAmb 23 23 35.5
comp=Z,171nm,1.3s
SOE Somerset East 78.12 181 P **P** **23 23 12.9 +4.2**
S14K Fog Glacier 78.19 3 P **P** **23 23 09.6 +0.5**
baz=356
MERW Merweville 78.21 184⇑ *i*P **P** **23 23 09.4 +0.1**
MERW IAmb IAmb 23 23 10.3
comp=Z,98nm,1.0s
CHGN Chignik 78.22 3 IAmb IAmb 23 23 09.8
comp=Z,56nm,0.7s
CHGN Chignik 78.22 3 P **P** **23 23 08.6 -0.4**
baz=356,SNR=7.5
T47A Sharon Grove 78.30 312 pP **pP** **23 23 34.2 -0.5**
T47A IAmb IAmb 23 23 35.7
comp=Z,121nm,1.1s
T47A Sharon Grove 78.30 312 P **P** **23 23 08.9 -1.0**
baz=41,SNR=12
RUBB Prince Rupert 78.35 346 P **P** **23 23 11.3 +1.5**
RUBB IAmb IAmb 23 23 13.1
comp=Z,258nm,1.7s
CDVI St. Croix 78.41 283 P **P** **23 23 10.7 -0.1**
CDVI IAmb IAmb 23 23 11.5
comp=Z,77nm,0.6s
N38A Joes South For 78.42 318 IAmb IAmb 23 23 36.4
comp=Z,98nm,1.1s
N38A Joes South For 78.42 318 P **P** **23 23 10.0 -0.6**
baz=38,SNR=6.2
CLTN Cedars of Leba 78.56 310 pP 23 23 37.1 +0.9
MCLT Moule a Chique 78.59 278 P **P** **23 23 09.9 -1.9**
SLM Saint Louis 78.64 315 IAmb IAmb 23 23 38.4
comp=Z,185nm,1.4s
SLM Saint Louis 78.64 315 P **P** **23 23 11.2 -0.6**
baz=40
257A Skidaway Islan 78.66 304 P **P** **23 23 12.3 +0.4**
257A pP **pP** **23 23 38.5 +1.8**
257A IAmb IAmb 23 23 39.1
comp=Z,118nm,1.1s
W50A Signal Mountai 78.68 309 P **P** **23 23 12.0 -0.1**
baz=41,SNR=25
ROSB Rosrio 78.74 254 *e*P **P** **23 23 11.6 -1.0**
GRNB Grenville Isla 78.76 346 P **P** **23 23 14.0 +1.8**
CHIR Chirikof Islan 78.77 1 P **P** **23 23 11.6 -0.5**
baz=358
CBYP Canovanas 78.79 285 IAmb IAmb 23 23 14.0
comp=Z,148nm,1.6s
JOW Kunigami 78.83 63 P **P** **23 23 12.5 -0.5**
comp=Z,53nm,0.5s,baz=313,slow=8.6,SNR=13
JOW pP **pP** **23 23 37.7 0.0**
comp=Z,78nm,0.9s,baz=332,slow=7.7,SNR=4.9
JOW LR LR 00 01 22.3
comp=Z,1µm,18.9s,baz=295,slow=38
comp=Z,53nm,0.5s
SIUC Southern Illin 78.84 313 IAmb IAmb 23 23 38.8
comp=Z,185nm,1.5s
P40A Paris 78.84 316 P **P** **23 23 12.0 -0.9**
baz=39,SNR=13
JYT Yasato 78.85 49 P **P** **23 23 12.3 -0.7**
JYT IAmb IAmb 23 23 38.4
comp=Z,274nm,1.9s

S44A Carbondale 78.87 313 IAmb IAmb 23 23 39.0
comp=Z,137nm,1.4s
S44A Carbondale 78.87 313 P **P** **23 23 12.6 -0.4**
baz=40,SNR=6.1
X51A Calhoun 78.91 308 pP pP 23 23 39.0 +0.8
X51A Calhoun 78.91 308 P **P** **23 23 13.3 0.0**
baz=42,SNR=22
X51A P **P** **23 23 13.3 0.0**
baz=42,SNR=22
L34A Svendsen Farm, 78.93 320 IAmb IAmb 23 23 14.9
comp=Z,84nm,0.6s
L34A Svendsen Farm, 78.93 320 P **P** **23 23 12.5 -0.9**
baz=37,SNR=7.0
BKNI Bangkinang 78.97 101 P **P** **23 23 13.1 -0.8**
BKNI IAmb IAmb 23 24 40.3
comp=Z,63nm,0.5s
Y52A Lilburn 78.99 308 pP pP 23 23 40.0 +1.4
Y52A Lilburn 78.99 308 P **P** **23 23 14.1 +0.3**
baz=42,SNR=39
Y52A P **P** **23 23 14.1 +0.3**
baz=42,SNR=39
GOGA Godfrey 79.00 307 pP **pP** **23 23 39.8 +1.1**
GOGA IAmb IAmb 23 23 40.8
comp=Z,128nm,1.2s
GOGA Godfrey 79.00 307 P **P** **23 23 13.6 -0.2**
baz=42,SNR=14
GOGA Godfrey 79.00 307 P **P** **23 23 13.6 -0.2**
baz=42,SNR=14
SWET Sewanee 79.01 310 pP pP 23 23 38.4 -0.4
LAO LASA Array 79.01 329 P **P** **23 23 11.8 -1.9**
baz=32,SNR=27
LAO LASA Array 79.01 329 P **P** **23 23 15.0 +1.2**
baz=32,SNR=27
CER Ceres 79.04 186⇑ *i*P **P** **23 23 13.9 +0.2**
CER IAmb IAmb 23 23 14.9
comp=Z,19nm,0.9s
T45A Paducah 79.07 312 pP **pP** **23 23 39.2 +0.2**
T45A IAmb IAmb 23 23 39.7
comp=Z,201nm,1.5s
EGMT Eagleton 79.08 332 P **P** **23 23 14.6 +0.5**
baz=29,SNR=51
SDPT Sand Point 79.08 4 IAmb IAmb 23 23 14.7
comp=Z,70nm,0.7s
SDPT Sand Point 79.08 4 P **P** **23 23 13.6 -0.2**
baz=355
V48A Smith Brothers 79.09 310 pP **pP** **23 23 39.2 +0.1**
V48A IAmb IAmb 23 23 40.2
comp=Z,119nm,1.1s
V48A Smith Brothers 79.09 310 P **P** **23 23 13.2 -1.1**
baz=41,SNR=11
SJG San Juan 79.10 285 P **P** **23 23 14.6 +0.1**
SJG San Juan 79.10 285 P **P** **23 23 14.6 +0.1**
SJG pmax pmax
comp=Z,126nm,1.8s
FVM French Village 79.24 314 P **P** **23 23 14.4 -0.7**
baz=39,SNR=7.5
WVT Waverly 79.33 311 P **P** **23 23 14.2 -1.4**
WVT pP **pP** **23 23 40.0 -0.4**
WVT Waverly 79.33 311 P **P** **23 23 14.2 -1.4**
baz=40,SNR=11
WVT Waverly 79.33 311 P **P** **23 23 13.9 -1.6**
baz=40
FPAL Fort Paine 79.34 309 pP **pP** **23 23 41.1 +0.5**
FPAL IAmb IAmb 23 23 42.3
comp=Z,155nm,1.2s
CGM3 Cape Girardeau 79.38 313 pP **pP** **23 23 40.7 0.0**
CGM3 IAmb IAmb 23 23 41.8
comp=Z,120nm,1.2s
154A Montrose 79.38 306 P **P** **23 23 15.7 -0.2**
OBIP Obispado Ponce 79.45 285 IAmb IAmb 23 23 16.8
comp=Z,209nm,1.7s
PDSI Padang 79.47 102 P **P** **23 23 16.4 -0.2**
comp=Z,19nm,1.1s
P38A Dawn 79.48 317 P **P** **23 23 15.7 -0.7**
P38A pP **pP** **23 23 41.7 +0.5**
P38A IAmb IAmb 23 23 42.4
comp=Z,168nm,1.6s
N35A Tabor 79.49 319 P **P** **23 23 15.7 -0.7**
N35A pP **pP** **23 23 41.1 -0.1**
ROSN Rosenhof 79.52 182 *e*P **P** **23 23 17.1 +0.9**
ROSN IAmb IAmb 23 23 17.3
comp=Z,13nm,0.8s
CCM Cathedral Cave 79.59 315 P **P** **23 23 16.0 -1.0**
CCM pP **pP** **23 23 41.1 -0.7**
CCM Cathedral Cave 79.59 315 P **P** **23 23 16.1 -0.8**
baz=39,SNR=16
CCM Cathedral Cave 79.59 315 P **P** **23 23 15.8 -1.2**
baz=39
CHNA Chernabura Isl 79.64 4 P **P** **23 23 17.4 +0.5**
baz=356
HICK Hickman 79.74 313 P **P** **23 23 17.2 -0.6**
DIB Dawson Inlet, 79.79 347 P **P** **23 23 18.3 +0.6**
MLPR Magueyes Islan 79.80 285 P **P** **23 23 18.4 0.0**
MYKOM Kota Tinggi 79.86 98 P **P** **23 23 18.0 -0.7**
MYKOM pP **pP** **23 23 43.4 0.0**
MYKOM IAmb IAmb 23 23 46.5
comp=Z,229nm,1.9s
PARMO Parma 79.92 313 P **P** **23 23 17.8 -1.0**
PARMO IAmb IAmb 23 23 44.8
comp=Z,142nm,0.9s
R40A Maddies Statio 79.92 316 IAmb IAmb 23 23 44.9
comp=Z,127nm,1.4s
R40A Maddies Statio 79.92 316 P **P** **23 23 18.1 -0.6**
baz=38,SNR=20
AKUT Akutan 79.92 7 P **P** **23 23 18.1 -0.3**
AKUT IAmb IAmb 23 23 18.9
comp=Z,62nm,0.7s
GLAT Glass 79.98 312 P **P** **23 23 18.2 -0.8**
GLAT pP **pP** **23 23 44.3 +0.3**
TOSP Speyside 79.99 276 IAmb IAmb 23 23 21.6
comp=Z,71nm,0.8s
Z51A Franklin 80.02 308 IAmb IAmb 23 23 46.4
comp=Z,188nm,1.2s
Z51A Franklin 80.02 308 P **P** **23 23 19.5 +0.1**
baz=41,SNR=8.8
GRTK Grand Turk 80.03 290 P **P** **23 23 19.3 -0.3**
SDSI Sungai Dareh 80.14 102 P **P** **23 23 19.1 -1.1**
comp=Z,20nm,1.9s
456A Hilliard 80.16 304 P **P** **23 23 20.8 +0.7**
BGNE Belgrade 80.17 321 P **P** **23 23 20.2 +0.1**
baz=36,SNR=10
BGNE Belgrade 80.17 321 P **P** **23 23 19.8 -0.3**
baz=36,SNR=10
PBMO Poplar Bluff 80.17 313 pP **pP** **23 23 45.2 +0.2**
PBMO IAmb IAmb 23 25 45.2
comp=Z,74nm,0.8s
X48A Hartselle 80.18 310 pP **pP** **23 23 44.9 -0.2**
X48A IAmb IAmb 23 23 46.2
comp=Z,108nm,1.2s
X48A Hartselle 80.18 310 P **P** **23 23 19.2 -1.0**
baz=40,SNR=12
GRGR Grenville 80.19 277 P **P** **23 23 20.2 -0.3**
LNXT Lenox 80.21 312 P **P** **23 23 19.4 -0.9**
baz=40,SNR=5.9
152A Waverly Hall 80.25 307 pP **pP** **23 23 46.3 +0.8**
152A IAmb IAmb 23 23 47.6
comp=Z,188nm,1.2s
152A Waverly Hall 80.25 307 P **P** **23 23 20.6 0.0**
baz=41,SNR=16
Y49A Blount Mountai 80.29 309 pP **pP** **23 23 46.5 +0.8**
Y49A IAmb IAmb 23 23 47.4
comp=Z,127nm,1.1s
Y49A Blount Mountai 80.29 309 P **P** **23 23 20.5 -0.3**
baz=41,SNR=21
PLAL Pickwick Lake 80.33 311 pP **pP** **23 23 45.4 -0.4**
PLAL IAmb IAmb 23 23 46.6
comp=Z,133nm,1.1s
RSSD Black Hills 80.36 326 P **P** **23 23 21.8 +0.5**
RSSD Black Hills 80.36 326 P **P** **23 23 21.8 +0.5**
RSSD pmax pmax
comp=Z,27nm,0.6s
RSSD Black Hills 80.36 326 P **P** **23 23 21.3 0.0**
baz=32,SNR=6.3
RSSD Black Hills 80.36 326 P **P** **23 23 21.1 -0.2**
baz=32
HG4B Hotspring 80.47 346 P **P** **23 23 21.3 -0.1**
HG4B IAmb IAmb 23 23 22.9
comp=Z,112nm,1.3s
TIGA Tifton 80.53 306 P **P** **23 23 21.8 -0.3**
baz=42,SNR=6.2
JTMT Jette 80.75 334 P **P** **23 23 23.8 +0.6**
JTMT IAmb IAmb 23 23 24.5
comp=Z,65nm,0.7s
W45A Hickory Valley 80.78 312 P **P** **23 23 22.4 -1.0**
W45A IAmb IAmb 23 23 48.8
comp=Z,108nm,1.1s

MGMO Mountain Grove 80.81 315 IAmb IAmb 23 23 50.9
comp=Z,136nm,1.4s
S39A Bolivar 80.90 316 P **P** **23 23 23.4 -0.7**
baz=38,SNR=12
JHJ Hachijo jima 2 80.98 51 LR LR 00 01 19.7
comp=Z,573nm,18.1s,baz=354,slow=37
GCMT Greycliff 80.99 331 P **P** **23 23 24.5 -0.1**
KRJI Kerinci 81.00 102 P **P** **23 23 25.7 +0.8**
comp=Z,248nm,0.9s
TMAB Tom-Au,PA,Br 81.04 257 *e*P **P** **23 23 23.9 -1.1**
LCAR Lake Charles 81.09 313 pP **pP** **23 23 49.9 0.0**
LCAR IAmb IAmb 23 23 51.5
comp=Z,125nm,1.3s
LCAR Lake Charles 81.09 313 P **P** **23 23 24.7 -0.3**
baz=39
NEW Newport 81.11 336 IAmb IAmb 23 23 27.3
comp=Z,200nm,1.9s
NEW Newport 81.11 336 P **P** **23 23 25.3 +0.3**
baz=25,SNR=17
MET Memphis--Engin 81.20 312 P **P** **23 23 25.3 -0.3**
MET pP **pP** **23 23 50.9 +0.4**
LRAL Lakeview Retre 81.23 309 pP **pP** **23 23 51.1 +0.3**
LRAL IAmb IAmb 23 23 52.3
comp=Z,174nm,1.1s
LRAL Lakeview Retre 81.23 309 P **P** **23 23 25.4 -0.4**
baz=40,SNR=35
LRAL Lakeview Retre 81.23 309 P **P** **23 23 25.1 -0.7**
baz=40,SNR=35
HBAR Harrisburg 81.24 313 P **P** **23 23 25.4 -0.4**
HBAR pP **pP** **23 23 51.7 +1.0**
SC01 Santiago de lo 81.24 289 P **P** **23 23 27.0 +0.9**
SC01 IAmb IAmb 23 24 06.0
comp=Z,297nm,1.8s
352A Blakely 81.26 306 IAmb IAmb 23 23 52.9
comp=Z,177nm,1.2s
352A Blakely 81.26 306 P **P** **23 23 25.6 -0.4**
baz=41
KSU1 Kansas State U 81.34 319 IAmb IAmb 23 23 28.0
comp=Z,72nm,0.7s
KSU1 Kansas State U 81.34 319 P **P** **23 23 26.1 -0.3**
baz=36,SNR=12
KSU1 Kansas State U 81.34 319 P **P** **23 23 25.6 -0.8**
baz=36,SNR=12
SDD Santo Domingo 81.39 287 P **P** **23 23 26.3 -0.5**
OXF Oxford 81.39 311 IAmb IAmb 23 23 52.0
comp=Z,100nm,1.2s
OXF Oxford 81.39 311 P **P** **23 23 24.6 -2.0**
baz=39
RLMT Red Lodge 81.44 330 P **P** **23 23 27.6 +0.6**
baz=30
656A Willston 81.46 303 IAmb IAmb 23 23 54.4
comp=Z,113nm,1.1s
656A Willston 81.46 303 P **P** **23 23 27.0 0.0**
baz=42
MSO Missoula 81.47 334 IAmb IAmb 23 23 28.6
comp=Z,195nm,1.9s
MSO Missoula 81.47 334 P **P** **23 23 27.2 +0.2**
baz=27,SNR=13
CBB Campbell River 81.52 342 P **P** **23 23 27.8 +0.8**
CBB IAmb IAmb 23 23 29.8
comp=Z,170nm,1.4s
250A Grady 81.63 308 P **P** **23 23 27.6 -0.3**
baz=41
Z47A Carrollton 81.69 310 P **P** **23 23 27.2 -1.0**
Z47A pP **pP** **23 23 52.8 -0.4**
FCAR Ozark Folk Cen 81.72 314 pP pP 23 23 53.8 +0.5
BANI BANI 81.73 288 P **P** **23 23 28.5 -0.2**
BOZ Bozeman (W) 81.82 332 P **P** **23 23 27.7 -1.2**
BOZ Bozeman (W) 81.82 332 P **P** **23 23 27.7 -1.2**
BOZ pmax pmax
comp=Z,16nm,0.8s
BOZ Bozeman (W) 81.82 332 P **P** **23 23 29.7 +0.7**
baz=28,SNR=6.6
C09A Chrisman Ranch 81.86 337 P **P** **23 23 29.3 +0.4**
LRM Limekiln Ridge 81.89 332 P **P** **23 23 27.6 -1.8**
SDDR Presa de Saban 81.93 289 IAmb IAmb 23 23 33.5
comp=Z,74nm,0.9s
Y45A Yeager Farm, C 81.96 311 IAmb IAmb 23 23 55.6
comp=Z,134nm,1.1s
Y45A Yeager Farm, C 81.96 311 P **P** **23 23 28.5 -1.2**
baz=39,SNR=6.9
DSRI Dabo 81.98 99 P **P** **23 23 31.0 +1.0**
B06A Marblemount 82.03 339 P **P** **23 23 30.2 +0.5**
OGNE Ogallala 82.22 323 P **P** **23 23 31.5 +0.5**
OGNE Ogallala 82.22 323 P **P** **23 23 31.1 +0.1**
baz=33
WHAR Wooly Hollow 82.28 314 IAmb IAmb 23 23 57.8
comp=Z,224nm,1.4s
MASI Maura Aman, Be 82.30 103 P **P** **23 23 32.0 +0.3**
comp=Z,106nm,1.3s
LKWY Lake 82.31 331 P **P** **23 23 32.3 +0.6**
LKWY Lake 82.31 331 P **P** **23 23 32.3 +0.6**
LKWY pmax pmax
comp=Z,33nm,0.9s
HHAR Hobbs 82.32 315 P **P** **23 23 30.6 -0.9**
baz=37
451A Vernon 82.37 306 P **P** **23 23 31.9 +0.1**
baz=41
PGC Sidney 82.39 340 IAmb IAmb 23 23 33.7
comp=Z,221nm,1.6s
U38A Gravette 82.41 316 IAmb IAmb 23 23 58.2
comp=Z,224nm,1.6s
U38A Gravette 82.41 316 P **P** **23 23 31.4 -0.6**
baz=37,SNR=19
H17A Grant Village 82.53 331 P **P** **23 23 34.0 +1.2**
H17A Grant Village 82.53 331 P **P** **23 23 34.8 +2.0**
baz=29,SNR=8.3
YFT Old Faithful 82.56 331 P **P** **23 23 33.5 +0.5**
K22A Casper 82.57 327 P **P** **23 23 32.2 -0.7**
K22A Casper 82.57 327 P **P** **23 23 32.3 -0.7**
baz=31,SNR=6.4
K22A Casper 82.57 327 P **P** **23 23 32.1 -0.7**
baz=31,SNR=6.4
146A Union 82.65 310 P **P** **23 23 32.4 -0.9**
baz=39
BRAL Brewton 82.68 308 P **P** **23 23 33.6 +0.2**
BRAL Brewton 82.68 308 P **P** **23 23 33.3 -0.2**
baz=40
UALR University of 82.71 313 pP **pP** **23 23 59.1 +0.6**
UALR IAmb IAmb 23 24 00.1
comp=Z,124nm,1.2s
YPP Pitchstone Pla 82.71 331 P **P** **23 23 34.6 +0.9**
D08A Wollman Farm, 82.71 337 P **P** **23 23 33.8 +0.4**
D08A IAmb IAmb 23 23 35.8
comp=Z,195nm,1.7s
R32A Long Quarter, 82.85 320 P **P** **23 23 34.0 -0.3**
baz=35,SNR=18
MCMT McKenzie Canyo 82.91 332 P **P** **23 23 35.1 +0.4**
KSI Kapahiang 82.91 103 P **P** **23 23 34.8 -0.1**
comp=Z,107nm,0.8s
RLO Rose Lookout 82.94 316 IAmb IAmb 23 23 35.0
comp=Z,75nm,0.7s
RLO pP 23 24 00.4 +0.6
B04A Port Angeles 82.95 340 P **P** **23 23 36.0 +1.5**
B04A IAmb IAmb 23 24 01.1
comp=Z,166nm,1.8s
CBKS Cedar Bluff 82.99 321 P **P** **23 23 34.4 -0.6**
CBKS Cedar Bluff 82.99 321 P **P** **23 23 34.4 -0.6**
CBKS pmax pmax
comp=Z,298nm,1.7s
CBKS Cedar Bluff 82.99 321 P **P** **23 23 34.5 -0.5**
baz=34
CBKS Cedar Bluff 82.99 321 P **P** **23 23 34.5 -0.5**
baz=34
T35A Sooner Cattle 83.05 317 pP **pP** **23 24 00.4 +0.1**
T35A IAmb IAmb 23 24 04.4
comp=Z,77nm,1.0s
T35B Sooner Cattle 83.05 317 P **P** **23 23 35.0 -0.3**
baz=36,SNR=12
061Z Ochoppi 83.08 300 P **P** **23 23 34.2 -1.3**
061Z IAmb IAmb 23 24 03.1
comp=Z,141nm,1.4s
CCAR Cane Creek 83.09 312 P **P** **23 23 35.0 -0.5**
CCAR Cane Creek 83.09 312 P **P** **23 23 35.4 -0.1**
baz=38
IMW Indian Meadow 83.09 331 P **P** **23 23 36.3 +0.6**
IMW IAmb IAmb 23 23 39.7
comp=Z,243nm,1.8s
LOHW Long Hollow 83.22 330 IAmb IAmb 23 23 39.0
comp=Z,192nm,1.6s
E08A Dider Farm, El 83.27 337 pP 23 24 01.4 +0.1
PHWY Pilot Hill 83.31 326 IAmb IAmb 23 23 38.3
comp=Z,66nm,0.7s
FXWY Fox Creek 83.34 330 P **P** **23 23 38.1 +1.1**
D05A Enumclaw 83.40 339 P **P** **23 23 37.9 +1.0**
SNOW Snow King Moun 83.41 330 P **P** **23 23 37.6 +0.3**

KAN06 Argonia West S 83.42 319 lAmb lAmb 23 23 37.2
comp=Z,73nm,0.8s
KAN06 pP pP 23 24 02.7 +0.5
KAN13 South Haven SW 83.43 318 P **P** **23 23 37.2 0.0**
KAN13 **pP** **23 24 03.7 +1.3**
KAN12 Harper NE Stat 83.44 319 P **P** **23 23 36.5 -0.8**
KAN12 pP **pP** **23 24 03.3 +0.9**
KAN12 lAmb lAmb 23 24 05.6
comp=Z,84nm,1.2s
KAN01 Argonia South 83.45 318 P **P** **23 23 37.0 -0.3**
TPAW Teton Pass 83.45 330 P **P** **23 23 38.3 +0.8**
HAWA Hanford 83.49 337 lAmb lAmb 23 23 40.5
comp=Z,81nm,1.0s
BLOK Blackwell 83.51 318 lAmb lAmb 23 23 38.5
comp=Z,334nm,1.8s
MIAR Mount Ida 83.51 314 lAmb lAmb 23 24 04.7
comp=Z,146nm,1.2s
MIAR Mount Ida 83.51 314 P **P** **23 23 37.7 0.0**
baz=37,SNR=38
MIAR Mount Ida 83.51 314 P **P** **23 23 37.4 -0.3**
baz=37,SNR=38
OK047 Pawnee, Statio 83.51 317 lAmb lAmb 23 23 38.4
comp=Z,77nm,0.7s
TUL1 Leonard 83.52 316 pP pP 23 24 02.8 0.0
TUL1 Leonard 83.52 316 P **P** **23 23 37.4 -0.3**
baz=36,SNR=35
TUL1 Leonard 83.52 316 P **P** **23 23 37.2 -0.5**
baz=36,SNR=35
KAN16 Harper SW Stat 83.53 319 P **P** **23 23 37.1 -0.6**
KAN16 lAmb lAmb 23 23 38.3
comp=Z,245nm,1.9s
KAN16 pP **pP** **23 24 02.7 -0.1**
KAN17 Caldwell West 83.54 318 P **P** **23 23 36.8 -1.0**
OK051 E0350 and S346 83.54 317 P **P** **23 23 36.8 -1.0**
OK051 lAmb lAmb 23 23 38.1
comp=Z,82nm,0.7s
OK051 pP **pP** **23 24 04.2 +1.3**
BW06 Boulder Array 83.59 329 P **P** **23 23 37.8 -0.5**
baz=29,SNR=5.5
PD31 Pinedale Array 83.59 329 P **P** **23 23 37.6 -0.7**
PDAR Pinedale Array 83.59 329 P **P** **23 23 37.8 -0.5**
comp=Z,20nm,0.6s,baz=66,slow=5.2,SNR=34
PDAR pP **pP** **23 24 04.1 +0.8**
comp=Z,14nm,0.9s,baz=33,slow=3.5,SNR=3.0
PDAR PKKP **PKKPdf** **23 41 42.0 -1.5**
comp=Z,0.4nm,0.6s,baz=213,slow=4.6,SNR=4.0
PDAR PKKPbc **PKKPbc** **23 41 53.5 0.0**
comp=Z,1.7nm,0.6s,baz=182,slow=2.8,SNR=13
PDAR PKPPKP **P'P'df** **23 50 01.4 -1.7**
comp=Z,0.4nm,0.6s,baz=166,slow=2.4,SNR=4.4
comp=Z,20nm,0.6s
PDAR Pinedale Array 83.59 329 P **P** **23 23 38.3 +0.1**
KAN10 Anthony SW Sta 83.63 319 P **P** **23 23 37.8 -0.5**
KAN10 lAmb lAmb 23 24 13.0
comp=Z,66nm,0.6s
OK045 Pawnee Station 83.63 317 lAmb lAmb 23 23 39.0
comp=Z,64nm,0.7s
OK046 Pawnee Station 83.66 317 pP pP 23 24 05.0 +1.4
OK048 Pawnee Station 83.66 317 lAmb lAmb 23 23 39.2
comp=Z,64nm,0.7s
OK048 pP pP 23 24 04.1 +0.5
PLID Pearl Lake 83.67 334 P **P** **23 23 37.7 -0.9**
OK050 Pawnee Station 83.70 317 lAmb lAmb 23 23 39.0
comp=Z,58nm,0.8s
KAN14 Manchester OK 83.70 318 P **P** **23 23 38.2 -0.5**
QUOK Quay 83.75 317 lAmb lAmb 23 23 39.6
comp=Z,98nm,0.7s
VBMS Vicksburg 83.75 311 P **P** **23 23 39.3 +0.4**
VBMS pP **pP** **23 24 04.6 +0.6**
LON Longmire 83.76 339 P **P** **23 23 39.6 +0.8**
LON lAmb lAmb 23 23 40.7
comp=Z,110nm,1.7s
LON Longmire 83.76 339 P **P** **23 23 39.6 +0.8**
LON pmax pmax
comp=Z,110nm,1.7s
GTBY Guantanamo Bay 83.76 292 P **P** **23 23 39.5 +0.3**
GTBY lAmb lAmb 23 24 08.1
comp=Z,136nm,1.6s
346A Big Creek Wild 83.83 309 P **P** **23 23 38.8 -0.5**
346A Big Creek Wild 83.83 309 P **P** **23 23 39.4 0.0**
baz=39
OK049 E0420 Rd and N 83.84 318 pP pP 23 24 04.9 +0.4
143A Socs Landing, 83.84 311 P **P** **23 23 39.5 +0.1**
143A pP **pP** **23 24 05.3 +0.9**
143A Socs Landing, 83.84 311 P **P** **23 23 39.2 -0.2**
baz=38
N23A Red Feather La 83.85 326 P **P** **23 23 40.0 +0.4**
N23A lAmb lAmb 23 23 41.2
comp=Z,68nm,0.7s
N23A Red Feather La 83.85 326 P **P** **23 23 39.6 -0.1**
baz=31,SNR=17
GDU01 Guandu, BA 83.87 243 *eP* **P** **23 23 39.1 -0.5**
OK034 N. Norfolk Rd. 83.88 317 lAmb lAmb 23 23 39.8
comp=Z,67nm,0.7s
DEOK Depew 83.91 317 lAmb lAmb 23 23 40.4
comp=Z,518nm,2.0s
DEOK pP pP 23 24 05.0 +0.1
OK032 Salt Plains WL 83.94 318 P **P** **23 23 39.7 -0.2**
OK032 lAmb lAmb 23 23 40.3
comp=Z,159nm,1.8s
OK032 pP **pP** **23 24 05.1 +0.2**
OK031 S. Brethren Rd 83.98 317 pP pP 23 24 06.1 +0.8
F07A Phinny Hill Vi 84.06 337 P **P** **23 23 41.7 +1.4**
CROK Carrier 84.08 318 lAmb lAmb 23 24 08.9
comp=Z,66nm,1.2s
KSCO Kaye Shedlock' 84.08 323 P **P** **23 23 40.8 +0.1**
KSCO Kaye Shedlock' 84.08 323 P **P** **23 23 40.8 +0.1**
baz=33
AHID Auburn Hatcher 84.14 330 lAmb lAmb 23 23 42.5
comp=Z,55nm,0.7s
OK035 E0210 Rd and N 84.25 319 P **P** **23 23 41.4 -0.1**
OK035 lAmb lAmb 23 24 08.0
comp=Z,66nm,0.9s
PPBI Pangkal Pinang 84.27 99 P **P** **23 23 42.3 +0.5**
G08A Pilot Rock 84.34 336 lAmb lAmb 23 23 44.3
comp=Z,134nm,1.6s
X37A Clayton 84.37 315 pP pP 23 24 07.4 +0.2
X37A Clayton 84.37 315 P **P** **23 23 41.9 -0.1**
baz=36,SNR=16
E03A Lebam 84.38 340 P **P** **23 23 43.2 +1.3**
OK029 Liberty Lake 84.40 317 lAmb lAmb 23 24 09.7
comp=Z,235nm,1.9s
NOKA Waynoka 84.41 319 P **P** **23 23 41.8 -0.5**
NOKA pP **pP** **23 24 07.4 0.0**
NOKA lAmb lAmb 23 24 08.7
comp=Z,152nm,1.8s
OK038 West end E0370 84.45 319 P **P** **23 23 41.8 -0.6**
344A Westbrook Farm 84.46 310 P **P** **23 23 42.8 +0.2**
344A Westbrook Farm 84.46 310 P **P** **23 23 42.7 +0.2**
baz=38
HLID Hailey 84.54 333 P **P** **23 23 43.3 +0.4**
baz=26
BCOK Bluff Creek, N 84.59 317 lAmb lAmb 23 23 43.8
comp=Z,41nm,0.6s
BCOK pP pP 23 24 08.7 +0.3
ISCO Idaho Springs 84.65 325 P **P** **23 23 43.3 -0.5**
baz=31,SNR=8.1
ISCO Idaho Springs 84.65 325 P **P** **23 23 43.8 0.0**
baz=31,SNR=8.1
U32A Winter Ranch, 84.65 319 lAmb lAmb 23 24 10.1
comp=Z,95nm,1.4s
U32A Winter Ranch, 84.65 319 P **P** **23 23 42.9 -0.6**
baz=35
F04D Rainier, OR 84.68 339 P **P** **23 23 44.5 +1.1**
baz=21
FNO Franklin 84.81 317 P **P** **23 23 43.5 -0.8**
FNO pP **pP** **23 24 09.8 +0.3**
LWLI Liwa 84.90 102 P **P** **23 23 44.6 -0.4**
comp=Z,11µcomp=Z,76nm,0.6s
MALB Monte Alegre 84.92 262 *eP* **P** **23 23 42.7 -2.3**
G05D Wamic, OR 85.03 338 P **P** **23 23 45.4 +0.2**
baz=22
CMC01 Camacan, BA 85.08 242 *eP* **P** **23 23 45.1 -0.6**
MFID Camas Ranch 85.12 333 lAmb lAmb 23 23 48.3
comp=Z,86nm,0.8s
Q24A Divide 85.17 324 P **P** **23 23 45.7 -0.7**
baz=32,SNR=7.3
SBUM Sibu 85.22 91 pP pP 23 24 12.4 +0.8
Z38A Mt. Pleasant 85.24 314 P **P** **23 23 46.2 -0.3**
baz=37
342B Flagon Creek P 85.37 311 P **P** **23 23 47.0 -0.1**
baz=38
O20A White River Ci 85.39 327 P **P** **23 23 46.8 -0.5**
baz=30
SMTB Santa Maria do 85.44 252 *eP* **P** **23 23 46.4 -1.2**

KKM Kota Kinabalu 85.47 86 P **P** **23 23 49.1 +1.2**
comp=Z,67nm,1.1s
RDMU Red Mountain 85.51 328 lAmb lAmb 23 23 49.9
comp=Z,48nm,0.7s
G03D McMinnville, O 85.56 339 P **P** **23 23 49.4 +1.6**
G03D McMinnville, O 85.56 339 P **P** **23 23 48.8 +1.1**
baz=21,SNR=5.7
KASI Kota Agung 85.56 102 P **P** **23 23 47.9 -0.3**
comp=Z,99nm,1.2s
HVU Hansel Valley 85.59 331 lAmb lAmb 23 23 50.9
comp=Z,82nm,0.9s
I07A Izee 85.61 336 lAmb lAmb 23 23 50.9
comp=Z,142nm,1.6s
TCUT Toone Canyon 85.70 330 lAmb lAmb 23 23 51.2
comp=Z,52nm,0.8s
LOOK Love County 85.73 316 lAmb lAmb 23 24 18.0
comp=Z,69nm,1.3s
TPI Tanjungpandan 85.75 98 P **P** **23 23 49.7 +0.6**
comp=Z,61nm,1.5s
I05D Terrebonne, OR 85.88 338 P **P** **23 23 50.3 +0.8**
baz=22,SNR=7.4
WMOK Wichita Mounta 85.89 318 P **P** **23 23 48.8 -0.9**
baz=35,SNR=8.8
WMOK Wichita Mounta 85.89 318 P **P** **23 23 48.7 -1.0**
baz=35,SNR=8.8
H04D Lebanon 86.07 339 P **P** **23 23 51.0 +0.7**
baz=21
GUA01 Guaratinga, BA 86.19 242 *eP* **P** **23 23 50.4 -0.7**
CTU Camp Tracy 86.19 330 P **P** **23 23 51.5 +0.2**
BOAV Boa Vista 86.26 270 lAmb lAmb 23 23 52.2
comp=Z,40nm,0.8s
NATX Nacogdoches 86.27 313 **pP** **23 24 17.6 +0.9**
NATX lAmb lAmb 23 24 21.0
comp=Z,181nm,1.7s
NATX Nacogdoches 86.27 313 P **P** **23 23 51.4 -0.2**
baz=37
PINE Pine Mountain 86.28 337 lAmb lAmb 23 23 54.5
comp=Z,129nm,1.4s
SDBA SAO DESIDERIO 86.28 248 *eP* **P** **23 23 50.6 -1.1**
Z35A Perchaven, San 86.31 316 pP **pP** **23 24 17.8 +0.8**
Z35A lAmb lAmb 23 24 19.1
comp=Z,197nm,2.0s
SDCO Great Sand Dun 86.35 324 P **P** **23 23 51.4 -0.8**
baz=31
SDCO Great Sand Dun 86.35 324 P **P** **23 23 51.2 -1.0**
baz=31
STKI Sintang 86.39 94 P **P** **23 23 53.6 +1.2**
comp=Z,111nm,0.9s
T25A Trinidad 86.41 323 P **P** **23 23 51.7 -0.7**
baz=32
BGU Big Grassy Mou 86.44 331 lAmb lAmb 23 23 54.4
comp=Z,113nm,1.5s
BUCK Buck Mountain 86.44 339 lAmb lAmb 23 23 54.6
comp=Z,128nm,1.2s
SOR Soroa 86.64 299 **pP** **23 24 20.0 +1.2**
SOR lAmb lAmb 23 24 20.9
comp=Z,120nm,1.6s
I04A Tendick Farm, 86.67 338 P **P** **23 23 53.2 -0.1**
baz=21,SNR=6.4
J05D Fort Rock, OR 86.83 337 P **P** **23 23 55.5 +1.2**
baz=22,SNR=11
BAUV El Baul 86.86 279 pP pP 23 24 20.6 +0.7
S22A 4UR Ranch, Cre 86.90 325 P **P** **23 23 54.4 -0.5**
baz=30,SNR=9.9
JCJ Chichijima 86.92 54 LR LR 00 04 55.9
comp=Z,472nm,19.1s,baz=64,slow=37
I03D Drain, OR 87.00 339 P **P** **23 23 55.1 +0.2**
baz=20
DUG Dugway, Tooele 87.01 330 lAmb lAmb 23 23 57.7
comp=Z,36nm,0.7s
DUG Dugway, Tooele 87.01 330 P **P** **23 23 55.4 +0.2**
baz=27,SNR=11
J04D Umppqua Nationa 87.10 338 P **P** **23 23 56.0 +0.3**
baz=21
SRU San Rafael Swe 87.14 328 lAmb lAmb 23 23 56.7
comp=Z,36nm,0.7s
K05A Summer Lake 87.25 337 P **P** **23 23 57.0 +0.7**
ELK Elko 87.34 332 lAmb lAmb 23 23 59.2
comp=Z,76nm,1.5s
NAN01 Guarapari, ES 87.35 241 *eP* **P** **23 23 56.4 -0.4**
K04D Chiloquin, OR 87.58 337 P **P** **23 23 58.1 +0.2**
baz=22
J01E Myrtle Point 87.65 339 P **P** **23 23 58.5 +0.5**
baz=20
MYLDM Lahad Datu 87.68 85 P **P** **23 23 58.8 +0.3**
ITTB Itaituba 87.73 261 *eP* **P** **23 23 58.2 -0.6**
MOD Mooc Plateau 87.84 336 lAmb lAmb 23 24 01.4
comp=Z,94nm,1.6s
JANB Januaria 87.87 246 *eP* **P** **23 23 58.8 -0.6**
K02D Willamette Mer 88.02 339 P **P** **23 23 59.6 -0.3**
baz=20
MVCO Mesa Verde 88.03 326 P **P** **23 23 59.7 -0.5**
baz=30
ABTX Abilene, Hawle 88.04 317 P **P** **23 23 58.2 -1.9**
baz=34
SKJI Sukabumi 88.04 102 P **P** **23 23 59.7 -0.5**
comp=Z,2µmcomp=Z,186nm,1.2s
L04D Klamath Falls 88.11 337 lAmb lAmb 23 24 01.8
comp=Z,134nm,1.5s
L04D Klamath Falls 88.11 337 P **P** **23 24 00.2 -0.3**
baz=21,SNR=9.5
BMN Battle Mountai 88.27 333 P **P** **23 24 01.6 +0.4**
BMN lAmb lAmb 23 24 03.4
comp=Z,94nm,1.7s
BMN Battle Mountai 88.27 333 P **P** **23 24 01.6 +0.4**
BMN pmax pmax
comp=Z,94nm,1.7s
TCRU Three Creeks R 88.29 329 P **P** **23 24 01.5 0.0**
TCRU lAmb lAmb 23 24 04.1
comp=Z,49nm,0.7s
MSTX Muleshoe 88.37 320 P **P** **23 24 00.1 -1.7**
baz=33
L02F Cave Junction 88.53 338 P **P** **23 24 01.5 -0.8**
baz=20,SNR=5.0
SPR3 Spring Creek 3 88.60 331 P **P** **23 24 04.1 +1.1**
SPR3 lAmb lAmb 23 24 06.4
comp=Z,26nm,0.8s
RIB01 Linhares ES 88.63 240 *eP* **P** **23 24 02.2 -0.6**
SJMB Sao Joao De Ma 88.65 241 *eP* **P** **23 24 02.7 -0.3**
CNJI Cibinong 88.65 102 P **P** **23 24 02.5 -0.6**
comp=Z,376nm,1.2s
SDV Santo Domingo 88.69 281 P **P** **23 24 02.9 -0.7**
SDV lAmb lAmb 23 24 04.5
comp=Z,45nm,0.9s
SDV Santo Domingo 88.69 281 *eP* **P** **23 24 02.7 -0.9**
MTPU Mount Pierson 88.70 329 P **P** **23 24 03.9 +0.3**
ANMO Albuquerque 89.14 323 PKKPbc PKKPbc 23 41 39.6 -0.7
comp=Z,1.6nm,0.8s,baz=210,slow=3.7,SNR=5.4
ANMO Albuquerque 89.14 323 *eP* **P** **23 24 04.8 -0.7**
ANMO pmax pmax
comp=Z,39nm,1.9s
ANMO Albuquerque 89.14 323 P **P** **23 24 04.9 -0.6**
baz=31
ANMO Albuquerque 89.14 323 P **P** **23 24 05.3 -0.2**
baz=31
PKCU Pink Cliffs 89.27 328 lAmb lAmb 23 24 07.5
comp=Z,34nm,0.6s
NPGB Novo Progresso 89.39 259 *eP* **P** **23 24 05.9 -0.7**
SZCU Shurtz Canyon 89.42 329 lAmb lAmb 23 24 08.7
comp=Z,100nm,1.9s
R11A Troy Canyon, C 89.62 331 lAmb lAmb 23 24 08.6
comp=Z,70nm,1.8s
R11A Troy Canyon, C 89.62 331 P **P** **23 24 08.0 +0.3**
baz=25,SNR=5.1
ALF01 Guarapari-ES 89.82 240 *eP* **P** **23 24 07.8 -0.6**
JCT Junction City 89.88 316 P **P** **23 24 07.5 -1.3**
baz=34
DIAM Diamantina, MG 89.88 243 *eP* **P** **23 24 08.3 -0.6**
Y22D IRIS PASSCAL I 90.09 323 P **P** **23 24 09.2 -0.7**
baz=30
MPK Martis Peak 90.17 335 P **P** **23 24 10.9 +0.6**
YERR Yerington 90.22 334 P **P** **23 24 10.6 +0.1**
735A Kenedy 90.22 314 P **P** **23 24 10.4 +0.1**
baz=35
MACA Manacapuru-AM 90.32 266 lAmb lAmb 23 24 11.8
comp=Z,78nm,0.8s
MACA Manacapuru-AM 90.32 266 *eP* **P** **23 24 10.4 -0.6**
W18A Petrified Fore 90.34 326 P **P** **23 24 09.6 -1.5**
baz=29
KMRM Mail Ridge 90.35 338 lAmb lAmb 23 24 13.0
comp=Z,57nm,1.3s
NV11 Mina Array Sit 90.38 333 P **P** **23 24 11.3 +0.2**
NVAR Mina Array Bea 90.43 333 P **P** **23 24 12.2 +0.7**
comp=Z,4.0nm,0.6s,baz=50,slow=3.9,SNR=7.5
NVAR PKKP **PKKPdf** **23 41 31.6 -0.3**
comp=Z,0.4nm,0.3s,baz=187,slow=5.0,SNR=3.8
NVAR PKKPbc **PKKPbc** **23 41 37.4 +0.1**
comp=Z,2.0nm,0.6s,baz=205,slow=6.7,SNR=4.8
comp=Z,4.0nm,0.6s
WUAZ Wupatki 90.62 327 P **P** **23 24 09.9 -2.5**
baz=28
LHV Little Huntoon 90.66 333 P **P** **23 24 13.5 +1.3**
LHV lAmb lAmb 23 24 14.8
comp=Z,62nm,1.3s
BDFB Brasilia 90.69 248 P **P** **23 24 13.3 +0.6**
comp=Z,52nm,0.6s,baz=63,slow=5.5,SNR=42
comp=Z,52nm,0.6s
TPNV Topopah Spring 91.11 331 P **P** **23 24 14.0 -0.6**
baz=25
GMN Gold Mountain 91.12 332 P **P** **23 24 15.7 +0.9**
CAM01 Campos-RJ 91.30 240 *eP* **P** **23 24 14.6 -0.6**
GDXM Geysers 91.42 337 P **P** **23 24 16.9 +1.0**
GDXM lAmb lAmb 23 24 18.4
comp=Z,46nm,1.4s
GRAC Grapevine Rang 91.44 332 P **P** **23 24 16.8 +0.9**
GRAC Grapevine Rang 91.44 332 P **P** **23 24 16.7 +0.7**
baz=24
833A Chaparral WMA, 91.45 314 lAmb lAmb 23 24 17.3
comp=Z,98nm,1.7s
833A pP pP 23 24 41.9 +0.4
833A Chaparral WMA, 91.45 314 P **P** **23 24 15.9 -0.2**
baz=34
833A Chaparral WMA, 91.45 314 P **P** **23 24 15.8 -0.3**
baz=34,SNR=6.3
V12A Nelson 91.72 329 pP pP 23 24 44.9 +2.1
FURC Furnace Creek, 91.75 331 P **P** **23 24 17.9 +0.7**
baz=25
PMNB Patos De Minas 91.81 245 *eP* **P** **23 24 16.8 -1.0**
DUB01 Friburgo-RJ 91.93 240 *eP* **P** **23 24 16.7 -1.5**
W13A Hualapai Mount 91.93 329 lAmb lAmb 23 24 20.7
comp=Z,65nm,1.8s
SHOC Shoshone, Teco 92.06 331 P **P** **23 24 19.1 +0.3**
baz=25
MPSI Mapaga 92.09 87 P **P** **23 24 20.6 +1.4**
comp=Z,29nm,1.3s
CWC Cottonwood Cre 92.18 332 P **P** **23 24 20.2 +0.7**
baz=24
MPMC Manual Prospec 92.33 332 P **P** **23 24 20.8 +0.5**
baz=24
TUQ Turquoise Moun 92.36 330 P **P** **23 24 20.7 +0.3**
baz=25
CLDB Colider 92.43 257 *eP* **P** **23 24 20.0 -0.7**
NEE2 Needles Airpor 92.50 329 P **P** **23 24 21.3 +0.5**
baz=26
IPMB Ipameri, GO 92.53 247 *eP* **P** **23 24 20.6 -0.5**
TX31 Lajitas Ar. Si 92.67 318 P **P** **23 24 20.9 -1.0**
baz=32
TXAR Lajitas Array 92.67 318 P **P** **23 24 21.0 -0.8**
comp=Z,8.0nm,0.8s,baz=52,slow=3.4,SNR=28
TXAR pP **pP** **23 24 44.5 -2.7**
comp=Z,8.3nm,0.9s,baz=50,slow=3.9,SNR=5.9
TXAR PKKPbc **PKKPbc** **23 41 31.3 0.0**
comp=Z,2.5nm,0.8s,baz=188,slow=4.4,SNR=15
comp=Z,8.0nm,0.8s
VOG Valley Oaks Go 92.70 333 P **P** **23 24 21.5 -0.2**
baz=23
VAS01 Vassouras-RJ 92.72 241 *eP* **P** **23 24 21.6 -0.3**
PDMCI Parker Dam,Lak 92.74 328 P **P** **23 24 22.7 +0.8**
baz=26
GSC Goldstone, Bar 92.79 331 P **P** **23 24 22.7 +0.4**
baz=25
GMRC Granite Mounta 92.86 330 P **P** **23 24 23.2 +0.6**
baz=25
LRMC Laurel Mtn Rad 92.92 331 P **P** **23 24 23.3 +0.4**
baz=24
ISA Isabella, Lake 93.02 332 P **P** **23 24 23.8 +0.5**
baz=24
VES Vestal, Richgr 93.05 333 P **P** **23 24 23.0 -0.3**
baz=23
HEC Hector,Ludlow 93.05 330 P **P** **23 24 24.0 +0.5**
baz=25
TUC Tucson 93.21 325 P **P** **23 24 24.2 -0.1**
baz=28
IRM Iron Mountain 93.23 329 P **P** **23 24 24.9 +0.6**
baz=26,SNR=5.8
RRX Edison Barstow 93.24 331 P **P** **23 24 24.7 +0.4**
baz=24
MAN01 Angra dos Reis 93.48 241 *eP* **P** **23 24 26.0 +0.6**
EDW2 Edwards Air Fo 93.57 331 P **P** **23 24 26.3 +0.5**
baz=24,SNR=5.3
PDRB Porto dos Gac 93.60 257 *eP* **P** **23 24 25.6 -0.5**
ARVC Arvin 93.62 332 P **P** **23 24 26.6 +0.6**
baz=23
BELC Belle Mtn. Jos 93.68 330 P **P** **23 24 26.5 0.0**
baz=25
BC3 Big Chuckawall 93.80 329 P **P** **23 24 27.6 +0.7**
baz=26,SNR=7.0
BFSC Mount Baldy Ra 94.04 331 P **P** **23 24 28.1 0.0**
baz=24
OSI Osito Audit: C 94.06 332 P **P** **23 24 28.1 +0.1**
baz=23
GLA Glamis 94.11 328 lAmb lAmb 23 24 29.4
comp=Z,21nm,0.7s
GLA Glamis 94.11 328 P **P** **23 24 28.6 +0.3**
baz=26,SNR=7.6
PKM Mcpherson Peak 94.16 333 P **P** **23 24 29.3 +0.6**
baz=23
PFO Pinyon Flats O 94.19 330 P **P** **23 24 30.0 +1.2**
PFO Pinyon Flats O 94.19 330 P **P** **23 24 30.0 +1.2**
PFO pmax pmax
comp=Z,110nm,1.9s
PFO Pinyon Flats O 94.19 330 P **P** **23 24 29.4 +0.6**
baz=25,SNR=6.8
TPFO Pinon Flats 94.20 330 P **P** **23 24 29.7 +0.9**
baz=25,SNR=8.6
214A Organ Pipe Nat 94.33 326 P **P** **23 24 29.0 -0.4**
baz=27
MURC Murrieta 94.46 330 P **P** **23 24 30.4 +0.5**
baz=24
SWSC Sam W. Stewart 94.56 329 P **P** **23 24 30.6 +0.3**
baz=25
MONP2 Monument Peak 94.83 329 P **P** **23 24 32.1 +0.2**
baz=25,SNR=5.1
PARB Paraibuna 94.85 241 *eP* **P** **23 24 32.4 +0.7**
IKP In-Ko-Pah, Jac 94.94 329 P **P** **23 24 32.5 +0.3**
baz=25
CIS Catalina Islan 95.06 331 P **P** **23 24 32.8 +0.2**
baz=24
CBX Cerro Bola 95.44 329 P **P** **23 24 35.0 +0.4**
KAPI Kappang 95.78 91 P **P** **23 24 36.3 +0.2**
comp=Z,5.1nm,0.3s,baz=310,slow=7.9,SNR=6.5
KAPI pP **pP** **23 25 01.2 -0.2**
comp=Z,22nm,0.9s,baz=290,slow=5.9,SNR=3.4
comp=Z,5.1nm,0.3s
KAPI Kappang 95.78 91 P **P** **23 24 36.7 +0.6**
MTO3 Montecristo 96.89 299 P **P** **23 24 40.5 -0.9**
MTO3 lAmb lAmb 23 25 11.0
comp=Z,28nm,1.2s
VILB Vilhena 96.92 259 P **P** **23 24 40.9 -0.4**
VILB lAmb lAmb 23 24 41.6
comp=Z,20nm,0.8s
PTLB Pontes e Lacer 97.96 256 P **P** **23 24 44.8 -1.0**
PTLB lAmb lAmb 23 24 46.4
comp=Z,13nm,0.8s
PTLB Pontes e Lacer 97.96 256 *eP* **P** **23 24 44.7 -1.1**
ETMB Extrema 98.88 265 lAmb lAmb 23 26 21.4
comp=Z,32nm,1.7s
ETMB Extrema 98.88 265 *eP* **P** **23 24 47.9 -2.1**
SIV San Ignacio 99.66 257 PP **PP** **23 29 00.4 +1.5**
comp=Z,3.4nm,0.8s,baz=62,slow=7.1,SNR=5.4
PTGB Pitanga 99.87 245 *eP* **Pdif** **23 24 51.2 -3.1**
SIJI Sorong 100.86 80 P **Pdif** **23 24 57.5 -1.5**
comp=Z,4.0nm,0.2s,baz=49,slow=11,SNR=6.1
SIJI pP **pPdif** **23 25 22.3 -2.0**
comp=Z,5.7nm,0.3s,baz=347,slow=4.7,SNR=3.5
LPAZ La Paz 104.72 262 PKiKP **PKiKP** **23 29 31.0 -0.8**
comp=Z,3.2nm,0.8s,baz=64,slow=2.4,SNR=6.3
LPAZ PKKPbc **PKKPbc** **23 40 59.0 +0.3**
comp=Z,1.7nm,0.9s,baz=266,slow=2.7,SNR=4.3
FITZ Fitzroy Crossi 109.00 97 PKiKP **PKiKP** **23 29 38.4 -0.6**
comp=Z,2.5nm,0.6s,baz=0.0,slow=2.0,SNR=7.8
LVC Limon Verde 109.56 257 PKiKP **PKiKP** **23 29 39.1 -1.2**
comp=Z,3.8nm,0.8s,baz=112,slow=5.5,SNR=3.2
ZON Zonda 115.24 250 **PKPdf** **23 29 50.2 -0.3**
ZON Zonda 115.24 250 PKIKP **PKPdf** **23 29 50.2 -0.3**
WRA Warramunga Arr 116.31 92 PKP **PKPdf** **23 29 51.4 -1.5**
comp=Z,5.1nm,0.8s,baz=310,slow=2.2,SNR=25
WRA pPKP pPKPdf 23 30 18.4 -0.9
comp=Z,7.9nm,1.1s,baz=318,slow=2.4,SNR=8.3
WRA PKKPbc **PKKPbc** **23 40 20.0 -0.4**
comp=Z,2.8nm,0.7s,baz=131,slow=3.4,SNR=10
WRA PKKPab **PKKPab** **23 40 26.0 -0.1**
comp=Z,3.1nm,0.7s,baz=131,slow=4.2,SNR=10
WRA PKKP **PKKPdf** **23 40 47.4 +1.2**

	comp=Z,1.1nm,0.7s,baz=129,slow=2.6,SNR=4.8							
WB2	**Warramunga Arr**	**116.31**	**92**	pPKPdf	pPKPdf	23 30 19.0	-0.3	
MAW	**Mawson**	**116.33**	**165**	PKP	**PKPdf**	**23 29 51.2**	**-0.2**	
	comp=Z,26nm,0.6s,baz=346,slow=0.8,SNR=89							
MAW				pPKP	pPKPdf	23 30 16.6	-1.3	
	comp=Z,10nm,0.9s,baz=296,slow=3.9,SNR=3.9							
MAW				PKKPbc	**PKKPbc**	**23 40 18.5**	**-3.0**	
	comp=Z,1.9nm,0.8s,baz=153,slow=2.3,SNR=4.1							
NVL	**N'lazarevskaya**	**116.71**	**185**	*e*PKIKP	**PKPdf**	**23 29 51.4**	**-0.6**	
VA03	**San Esteban**	**117.24**	**250**		**PKPdf**	**23 29 53.8**	**-0.6**	
AS31	**Alice Springs**	**118.45**	**95**	pPKPdf	pPKPdf	23 30 23.3	0.0	
ASAR	**Alice Springs**	**118.45**	**95**	PKP	**PKPdf**	**23 29 55.9**	**-1.1**	
	comp=Z,5.9nm,0.7s,baz=332,slow=1.7,SNR=35							
ASAR				pPKP	**pPKPdf**	**23 30 23.0**	**-0.3**	
	comp=Z,6.0nm,0.8s,baz=336,slow=2.0,SNR=7.1							
ASAR				PKKPbc	**PKKPbc**	**23 40 13.2**	**+0.3**	
	comp=Z,2.5nm,0.7s,baz=127,slow=4.1,SNR=8.6							
ASAR	**Alice Springs**	**118.45**	**95**	pPKPdf	pPKPdf	23 30 23.2	-0.1	
TROLL	**Troll, Antarti**	**118.69**	**188**	PKKPab	PKKPab	23 40 11.9	+0.1	
TROLL	**Troll, Antarti**	**118.69**	**188**	PKPdf	**PKPdf**	**23 29 55.5**	**-0.6**	
VNA1	**Neumayer--Stat**	**118.80**	**193**	PKKPab	PKKPab	23 40 14.0	+2.9	
VNA1	**Neumayer--Stat**	**118.80**	**193**	PKPdf	**PKPdf**	**23 29 55.4**	**-0.7**	
VNA2	**Neumayer--Watz**	**118.92**	**192**	PKKPab	PKKPab	23 40 12.6	+1.9	
VNA2	**Neumayer--Watz**	**118.92**	**192**	PKPdf	**PKPdf**	**23 29 55.4**	**-0.9**	
	baz=4.0,slow=4.0							
VNA2				x	x	23 40 12.6		
SNAA	**Sanae**	**118.98**	**190**	PKKPab	PKKPab	23 40 12.1	+1.6	
SNAA	**Sanae**	**118.98**	**190**	PKPdf	**PKPdf**	**23 29 55.5**	**-1.0**	
SNAA	**Sanae**	**118.98**	**190**	*i*P	**PKPdf**	**23 29 55.7**	**-0.8**	
VNA3	**Neumayer Olymp**	**119.55**	**193**	PKKPab	PKKPab	23 40 11.4	+3.5	
VNA3	**Neumayer Olymp**	**119.55**	**193**	PKPdf	**PKPdf**	**23 29 56.3**	**-1.2**	
GO06	**Curarrehue**	**121.93**	**244**	pPKPdf	pPKPdf	23 30 29.6	-0.3	
PLCA	**Paso Flores**	**122.01**	**243**	PKP	**PKPdf**	**23 30 03.2**	**-0.1**	
	comp=Z,28nm,0.8s,baz=82,slow=1.0,SNR=41							
PLCA				pPKP	**pPKPdf**	**23 30 29.6**	**-0.4**	
	comp=Z,9.3nm,0.9s,baz=203,slow=0.7,SNR=4.3							
PLCA	**Paso Flores**	**122.01**	**243**	pPKPdf	pPKPdf	23 30 29.7	-0.2	
PLCA	**Paso Flores**	**122.01**	**243**	*e*P	**PKPdf**	**23 30 03.3**	**0.0**	
LL04	**Puerto Octay**	**123.27**	**244**	pPKPdf	pPKPdf	23 30 31.7	-0.5	
CTA	**Charters Tower**	**124.73**	**83**	PKP	**PKPdf**	**23 30 09.0**	**0.0**	
	comp=Z,13nm,0.8s,baz=306,slow=2.7,SNR=22							
CTA				pPKP	**pPKPdf**	**23 30 36.0**	**+0.6**	
	comp=Z,41nm,1.0s,baz=284,slow=1.7,SNR=13							
COYC	**Coyhaique**	**125.61**	**239**	PKPdf	**PKPdf**	**23 30 09.3**	**-0.6**	
STKA	**Stephens Creek**	**128.85**	**98**	PKP	**PKPdf**	**23 30 16.1**	**-0.4**	
	comp=Z,9.4nm,0.6s,baz=326,slow=2.3,SNR=21							
STKA				pPKP	**pPKPdf**	**23 30 42.7**	**-0.2**	
	comp=Z,20nm,1.1s,baz=311,slow=4.1,SNR=6.8							
STKA	**Stephens Creek**	**128.85**	**98**	PKPdf	**PKPdf**	**23 30 16.3**	**-0.3**	
STKA				pPKPdf	**pPKPdf**	**23 30 43.0**	**0.0**	
STKA	**Stephens Creek**	**128.85**	**98**	PKIKP	**PKPdf**	**23 30 16.3**	**-0.3**	
STKA						23 30 43.0		
TOO	**Toolangi**	**134.64**	**102**	pPKPdf	pPKPdf	23 30 53.9	0.0	
QSPA	**South Pole Qui**	**135.61**	**180**	PKhKP	PKPpre	23 30 17.1		
	comp=Z,2.8nm,0.5s,baz=284,slow=0.5,SNR=8.9							
QSPA				PKP	**PKPdf**	**23 30 27.8**	**-0.5**	
	comp=Z,33nm,0.5s,baz=300,slow=1.1,SNR=35							
QSPA				pPKP	pPKPdf	23 30 54.0	-0.8	
	comp=Z,21nm,0.8s,baz=253,slow=1.2,SNR=3.4							
QSPA				PP	**PP**	**23 33 07.2**	**-0.5**	
	comp=Z,15nm,1.0s,baz=256,slow=3.6,SNR=7.5							
QSPA				SKPbc	**SKPbc**	**23 33 47.8**	**-3.0**	
	comp=Z,17nm,1.0s,baz=300,slow=3.6,SNR=3.7							
QSPA	**South Pole Qui**	**135.61**	**180**		PKPpre	23 30 17.7		
DZM	**Mont Dzumac**	**139.76**	**68**	PKhKP	PKPpre	23 30 30.7		
	comp=Z,2.5nm,0.5s,baz=256,slow=17,SNR=8.6							
MSVF	**Nonsavu**	**143.36**	**50**	PKPdf	**PKPdf**	**23 30 42.7**	**-1.2**	
	comp=Z,12nm,0.8s,baz=323,slow=10,SNR=12							
MSVF	**Nonsavu**	**143.36**	**50**	PKPdf	**PKPdf**	**23 30 43.2**	**-0.7**	
MSVF	**Nonsavu**	**143.36**	**50**	PKIKP	**PKPdf**	**23 30 43.2**	**-0.7**	
VNDA	**Vanda**	**143.64**	**165**	PKhKP	PKPpre	23 30 38.4		
	comp=Z,10nm,0.7s,baz=273,slow=6.4,SNR=33							
AFI	**Afiamalu**	**144.66**	**32**	PKP	PKPbc	23 30 45.4	+0.2	
	comp=Z,22nm,0.3s,baz=324,slow=5.1,SNR=5.3							
TIAR	**Tiarei**	**151.67**	**352**	*e*P	**PKPdf**	**23 30 59.2**	**+1.7**	
	comp=Z,19nm,1.1s							
PPT	**Papeete**	**151.70**	**352**	PKPbc	**PKiKP**	**23 31 05.0**	**+0.7**	
	comp=Z,14nm,0.3s,baz=97,slow=7.5,SNR=5.0							
PPT				PKPab	**PKPab**	**23 31 14.4**	**+1.5**	
	comp=Z,21nm,0.3s,baz=65,slow=9.7,SNR=5.6							
PPT2	**Papeete2**	**151.72**	**352**	*e*P	**PKPdf**	**23 30 58.0**	**+0.3**	
	comp=Z,110nm,1.5s							
PPT2	**Papeete2**	**151.72**	**352**	*e*LR	LR	00 21 39.4		
	comp=Z,757nm,30.0s							
PAE	**Paea**	**151.79**	**352**	*e*P	**PKPbc**	**23 31 01.8**	**-2.3**	
	comp=Z,18nm,1.0s							
MEH	**Mehetia**	**151.83**	**349**	*e*P	**PKPdf**	**23 30 59.0**	**+1.2**	
	comp=Z,45nm,1.0s							
TVO	**Taravao**	**151.88**	**352**	*e*P	**PKPdf**	**23 30 58.8**	**+0.9**	
	comp=Z,103nm,1.3s							
PYZ	**Puysegur Point**	**152.47**	**105**		**PKiKP**	**23 31 05.2**	**+0.2**	
FOZ	**Fox Glacier**	**153.91**	**98**	PKPbc	**PKPbc**	**23 31 08.0**	**0.0**	
RPZ	**Rata Peaks**	**154.82**	**98**	PKPbc	**PKPbc**	**23 31 09.7**	**-0.3**	
	comp=Z,14nm,0.8s,baz=59,slow=1.4,SNR=12							
RPZ				PKPab	**PKPab**	**23 31 25.6**	**0.0**	
	comp=Z,17nm,0.8s,baz=80,slow=4.1,SNR=8.7							
RPZ				pPKPbc	**PKPbc**	**23 31 35.0**	**-1.4**	
	comp=Z,42nm,1.1s,baz=126,slow=4.9,SNR=5.7							
RPZ	**Rata Peaks**	**154.82**	**98**	PKPdf	**PKPdf**	**23 31 02.6**	**+1.3**	
RPZ				PKPab	**PKPab**	**23 31 25.9**	**+0.3**	
OXZ	**Oxford**	**155.38**	**97**	PKPdf	**PKPdf**	**23 31 03.9**	**+1.8**	
TUWZ	**Tuamarina**	**156.08**	**91**	pPKPab	pPKPab	23 31 55.2	-1.3	
BKZ	**Black Stump Fm**	**156.95**	**84**	pPKPab	pPKPab	23 31 60.0	-0.4	
URZ	**Urewera**	**156.96**	**81**	PKPab	**PKPab**	**23 31 33.3**	**-1.6**	
	comp=Z,6.5nm,0.7s,baz=279,slow=2.5,SNR=4.2							
MSWZ	**Moikau Station**	**156.99**	**90**	pPKPab	pPKPab	23 32 00.0	-0.5	
PLWZ	**Palliser**	**157.05**	**91**	pPKPab	pPKPab	23 32 00.8	0.0	

*IDC **23** 23:13:10.3±6.1, 36°.65N×70°.70E, h256^{km}±41^{km}, mbtmp3.7/6, Error ellipse: s-maj=92.6km s-min=24.5km az=149.0*

ISC 23 23:13:10.4±1.1, **36°.67N**±0°.09×**70.7E**±0°.1, **h250^{km}**, **n17**, σ0^{s}**72**/18, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.65**	**25**	P	**Pn**	**23 14 48.2**	**+1.4**
	1.6nm,0.3s,baz=214,slow=7.3,SNR=4.8						
AAK				S	**S**	**23 16 03.5**	**-0.5**
	1.1nm,0.3s,baz=207,slow=14,SNR=1.8						
GEYT	**Alibeck**	**10.07**	**281**	P	**Pn**	**23 15 29.7**	**-0.2**
	4.2nm,0.9s,baz=106,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**13.32**	**37**	P	**Pn**	**23 16 09.7**	**-0.4**
	1.0nm,0.5s,baz=216,slow=11,SNR=12						
PYUN	**Piuthan**	**13.47**	**126**	*e*P	**Pn**	**23 16 12.0**	**-0.4**
DANN	**Dangsing**	**13.81**	**123**	*e*P	**P**	**23 16 16.7**	**-0.8**
	34nm,0.8s						
KOLN	**Koldanda**	**14.09**	**125**	*e*P	**P**	**23 16 20.5**	**0.0**
GKN	**Gorkha**	**14.63**	**122**	*e*P	**P**	**23 16 27.0**	**+0.6**
KURBB	**Kurchatov Arra**	**15.05**	**20**	P	**P**	**23 16 30.1**	**-0.5**
	0.5nm,0.5s,baz=209,slow=11,SNR=5.7						
KKN	**Kakani**	**15.20**	**121**	*e*P	**Pn**	**23 16 34.2**	**+0.9**
PKIN	**Phulchoki**	**15.42**	**122**	*e*P	**Pn**	**23 16 36.3**	**+0.3**
	12nm,0.4s						
PKI	**Pulchoki**	**15.43**	**122**	*e*P	**Pn**	**23 16 36.3**	**+0.1**
GUN	**Gumba**	**15.54**	**120**	*e*P	**Pn**	**23 16 38.5**	**+1.0**
JIRN	**Jiri**	**15.91**	**120**	*e*P	**Pn**	**23 16 42.6**	**+0.6**
	29nm,0.5s						
BVAR	**Borovoye Array**	**16.35**	**359**	P	**P**	**23 16 45.5**	**+0.6**
	1.7nm,0.6s,baz=162,slow=10.0,SNR=15						
RAMN	**Ramite**	**16.64**	**121**	*e*P	**Pn**	**23 16 49.8**	**-0.6**
	37nm,0.6s						
TAPN	**Taplejung**	**17.17**	**118**	*e*P	**Pn**	**23 16 56.0**	**-0.6**
	33nm,0.9s						
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**23 17 22.1**	**-0.7**
	0.6nm,0.3s,baz=222,slow=12,SNR=4.1						

*IDC **23** 23:18:03.7±2.6, 6°.56N×126°.69E, h60^{km}±21^{km}, mb3.7/5, mbtmp4.3/8, ML4.7/3, Error ellipse: s-maj=46.0km s-min=12.5km az=51.0*

*NEIC **23** 23:18:03.4±1.2, 6°.9N±0°.1×126°.7E±0°.1, h72^{km}±10^{km}, mb4.6/10, Error ellipse: s-maj=19.0km s-min=11.6km az=222.0*

*MAN **23** 23:18:03.6, 6°.59N×126°.56E, h25^{km}, mb4.3, ML3.1, MS2.9*

*DJA **23** 23:18:08.7±0.7, 6°.6N±6°×12°.7E±°, h10^{km}, M4.8/19, mB6.4/1, mb4.8/19, MLv4.8/9, Mw(mB)6.1/1*

ISC 23 23:18:04.6±0.8, **6°.56N**±0°.05×**126°.58E**±0°.06, **h62**^{km}±9^{km}, **n59**, σ1^{s}**77**/68, **mb4.4**/11, **5C-7D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.50**	**320**	*i*P	**Pn**	**23 18 14.4**	**-2.3**
MATI				*e*S	**Sn**	**23 18 23.0**	**-2.5**
DDMP	**Don Marcelino,**	**0.97**	**242**	*i*P	**Pn**	**23 18 21.3**	**-1.0**
DDMP				*e*S	**Sn**	**23 18 35.1**	**-0.4**
DAV	**Davao City (W)**	**1.11**	**297**	P	**Pn**	**23 18 23.4**	**-0.8**
	1µm,0.3s,baz=120,slow=1.4,SNR=54						
DAV				S	**Sn**	**23 18 40.3**	**+1.5**
	1µm,0.3s,baz=272,slow=23,SNR=15						
DAV	**Davao City (W)**	**1.11**	**297**		**Pn**	**23 18 23.9**	**-0.3**
CDOP	**Cateel, Davao**	**1.23**	**353**	*i*P	**Pn**	**23 18 23.8**	**-1.8**
CDOP				*i*S	**Sn**	**23 18 40.4**	**-1.0**
KCP	**Kidapawan**	**1.54**	**287**	*i*P	**Pn**	**23 18 28.3**	**-1.6**
BIPH	**Bislig**	**1.63**	**352**	*e*P	**Pn**	**23 18 29.2**	**-1.8**
BIPH				*e*S	**Sn**	**23 18 50.1**	**-0.9**
GSPH	**General Santos**	**1.69**	**254**	*e*P	**Pn**	**23 18 28.5**	**-3.4**
GSPH				*i*S	**Sn**	**23 18 49.1**	**-3.5**
SKMP	**Bagumbayan, Su**	**2.02**	**269**	*e*P	**Pn**	**23 18 35.1**	**-1.2**
SKMP				*e*S	**Sn**	**23 19 02.2**	**+1.6**
CTBH	**Cotabato--PC H**	**2.41**	**286**	*i*P	**Pn**	**23 18 40.6**	**-1.0**
CGP	**Cagayan de Oro**	**2.65**	**315**	*e*P	**Pn**	**23 18 45.6**	**+0.7**
CGP				*i*S	**Sn**	**23 19 15.0**	**-1.0**
SGSI	**Sangihe**	**3.04**	**200**	P	**Pn**	**23 18 50.9**	**+0.6**
SCPH	**Surigao**	**3.38**	**341**	*i*P	**Pn**	**23 18 58.1**	**+3.2**
GHBP	**Garcia Hernand**	**3.78**	**324**	*e*P	**Pn**	**23 19 01.1**	**+0.7**
GHBP				*i*S	**Sn**	**23 19 45.5**	**+1.7**
TNTI	**Ternate**	**5.80**	**172**	Pn	**Pn**	**23 19 30.5**	**+2.4**
TNTI	**Ternate**	**5.80**	**172**	P	**Pn**	**23 19 29.1**	**+1.0**
	0.4nm71nm,0.7s						
RCP	**Roxas**	**6.25**	**323**	*e*P	**Pn**	**23 19 35.9**	**+1.7**
KMSI	**Cibinong**	**6.48**	**204**	P	**Pn**	**23 19 38.9**	**+1.5**
	0.7nm136nm,0.7s						
GTOI	**Gorontalo**	**6.88**	**211**	P	**Pn**	**23 19 41.9**	**-0.9**
	0.4nm93nm,0.6s						
LBMI	**Labuha**	**7.21**	**173**	P	**Pn**	**23 19 48.7**	**+1.3**
	0.3nm33nm,0.6s						
MRSI	**Marisa**	**7.61**	**218**	P	**Pn**	**23 19 53.3**	**+0.5**
	0.5nm149nm,0.7s						
MYLDM	**Lahad Datu**	**8.15**	**261**	Pn	**Pn**	**23 20 01.5**	**+1.2**
SANI	**Sanana**	**8.57**	**184**	P	**Pn**	**23 20 05.1**	**-0.9**
	61nm,0.8s						
SANI	**Sanana**	**8.57**	**184**	P	**Pn**	**23 20 05.7**	**-0.3**
SWI	**Sorong**	**8.73**	**147**	P	**Pn**	**23 20 08.9**	**+0.7**
	55nm,0.7s						
SIJI	**Sorong**	**8.74**	**147**	P	**Pn**	**23 20 08.1**	**-0.2**
	8.0nm,0.3s,baz=345,slow=18,SNR=15						
SIJI				S	**Sn**	**23 21 42.6**	**-2.8**
	3.4nm,0.3s,baz=172,slow=23,SNR=1.0						
	17nm,0.3s						
APSI	**Ampana**	**8.90**	**214**	P	**Pn**	**23 20 13.1**	**+2.5**
	68nm,0.7s						
MPSI	**Mapaga**	**9.09**	**227**	P	**Pn**	**23 20 15.8**	**+2.7**
	7.6nm,0.6s						
NLAI	**Namlea**	**9.75**	**177**	P	**Pn**	**23 20 22.6**	**+0.5**
	33nm,0.6s						
FAKI	**Fak Fak**	**10.98**	**149**	Pn	**Pn**	**23 20 40.5**	**+1.4**
FAKI	**Fak Fak**	**10.98**	**149**	P	**Pn**	**23 20 41.4**	**+2.3**
	15nm,0.7s						
TTSI	**Tana Toraja**	**11.69**	**215**	P	**Pn**	**23 20 52.7**	**+4.1**
	42nm,0.9s						
BAKI	**Biak**	**12.24**	**129**	P	**Pn**	**23 20 59.1**	**+3.0**
	60nm,1.3s						
KAPI	**Kappang**	**13.36**	**211**	P	**Pn**	**23 21 11.4**	**-0.1**
	1.6nm,0.3s,baz=261,slow=22,SNR=3.2						
	6.5nm,0.3s						
KAPI	**Kappang**	**13.36**	**211**	Pn	**Pn**	**23 21 12.4**	**+0.9**
KAPI	**Kappang**	**13.36**	**211**	P	**P**	**23 21 15.5**	**-3.5**
BATI	**Baumata**	**16.91**	**190**	P	**P**	**23 21 58.3**	**-0.1**
	5.7nm,0.3s,baz=281,slow=2.8,SNR=6.5						
	26nm,0.5s						
BATI	**Baumata**	**16.91**	**190**	P	**P**	**23 21 59.8**	**+1.4**
	22nm,0.7s						
PLAI	**Plampang**	**17.62**	**210**	P	**P**	**23 22 08.8**	**+2.5**
KNRA	**Kununurra**	**22.20**	**174**	P	**P**	**23 22 56.2**	**+0.3**
KNRA				IAmb	IAmb	23 23 03.1	
	comp=Z,12nm,0.7s						
KNRA	**Kununurra**	**22.20**	**174**	P	**P**	**23 22 57.4**	**+1.5**
UBPT	**Khong Chiam**	**22.45**	**294**		**P**	**23 22 55.9**	**-2.7**
FITZ	**Fitzroy Crossi**	**24.52**	**182**	P	**P**	**23 23 17.8**	**-0.5**
	comp=Z,3.8nm,0.8s,baz=360,slow=8.8,SNR=8.9						
	comp=Z,3.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.52**	**182**	P	**P**	**23 23 18.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.52**	**182**	P	**P**	**23 23 20.0**	**+1.6**
WRA	**Warramunga Arr**	**27.42**	**164**	P	**P**	**23 23 43.1**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=340,slow=9.8,SNR=3.3						
	comp=Z,0.7nm,0.6s						
MBWA	**Marble Bar**	**28.35**	**194**	P	**P**	**23 23 51.4**	**-1.5**
MBWA				IAmb	IAmb	23 24 10.2	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**28.73**	**193**	P	**P**	**23 23 55.3**	**-0.9**
PSA00				IAmb	IAmb	23 24 03.5	
	comp=Z,10nm,0.9s						
PSA00	**Pilbara Seismi**	**28.73**	**193**	P	**P**	**23 23 59.2**	**+2.9**
ASAR	**Alice Springs**	**30.88**	**167**	P	**P**	**23 24 13.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=339,slow=7.2,SNR=12						
	comp=Z,0.3nm,0.3s						
ASAR	**Alice Springs**	**30.88**	**167**	P	**P**	**23 24 16.4**	**+1.0**
MORW	**Morawa**	**36.84**	**195**	P	**P**	**23 25 06.4**	**-0.6**
FORT	**Forrest**	**37.15**	**178**	P	**P**	**23 25 09.4**	**-0.2**
BBOO	**Buckleboo**	**40.18**	**168**	P	**P**	**23 25 34.2**	**-0.6**
BBOO				IAmb	IAmb	23 25 44.5	
	comp=Z,6.9nm,1.0s						
NWAO	**Narrogin (SRO)**	**40.26**	**192**	P	**P**	**23 25 35.4**	**-0.2**
NWAO				IAmb	IAmb	23 25 43.3	
	comp=Z,25nm,1.1s						
STKA	**Stephens Creek**	**40.82**	**160**	P	**P**	**23 25 39.4**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=343,slow=11,SNR=1.2						
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**55.17**	**324**	P	**P**	**23 27 29.9**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=111,slow=6.7,SNR=1.7						
	comp=Z,2.5nm,0.6s						
CHGN	**Chignik**	**76.26**	**34**	P	P	23 29 41.2	-5.2
CHGN				IAmb	IAmb	23 29 42.8	
	comp=Z,17nm,1.1s						
TORD	**Torodi Ar. Bea**	**121.86**	**290**	PKP	**PKiKP**	**23 36 53.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=49,slow=3.3,SNR=1.8						

*DJA **23** 23:32:49.9±1.0, 7°.N±8°×12°.7E±°, h127^{km}±7^{km}, M5.0/12, mB5.6/5, mb4.8/12, MLv5.0/7, Mw(mB)5.2/5*

*IDC **23** 23:32:54.9±2.4, 6°.82N×126°.94E, h51^{km}±20^{km}, mb3.8/6, mbtmp4.2/8, ML4.6/2, Error ellipse: s-maj=26.9km s-min=10.9km az=46.0*

*NEIC **23** 23:32:57.6±1.7, 6°.8N±0°.1×126°.8E±0°.1, h60^{km}±11^{km}, mb4.4/14, Error ellipse: s-maj=19.5km s-min=10.1km az=50.0*

*MAN **23** 23:32:57.3, 6°.62N×126°.62E, h29^{km}, mb4.5, ML3.3, MS3.2*

ISC 23 23:32:58.2±0.8, **6°.54N**±0°.05×**126°.59E**±0°.06, **h59**^{km}±8^{km}, **n50**, σ1^{s}**93**/62, **mb4.2**/11, **4C-8D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.53**	**321**	*e*P	**Pn**	**23 33 08.7**	**-1.7**
MATI				*e*S	**Sn**	**23 33 17.2**	**-2.0**
DDMP	**Don Marcelino,**	**0.98**	**244**	*e*P	**Pn**	**23 33 16.1**	**+0.2**
DDMP				*e*S	**Sn**	**23 33 30.4**	**+1.4**
DAV	**Davao City (W)**	**1.14**	**298**	P	**Pn**	**23 33 18.4**	**+0.4**
	2µm,0.3s,baz=240,slow=1.6,SNR=32						
DAV				S	**Sn**	**23 33 34.7**	**+1.9**
	688nm,0.3s,baz=273,slow=18,SNR=8.4						
DAV	**Davao City (W)**	**1.14**	**298**	Pn	**Pn**	**23 33 18.7**	**+0.6**
CDOP	**Cateel, Davao**	**1.25**	**353**	*i*P	**Pn**	**23 33 17.9**	**-1.6**
CDOP				*e*S	**Sn**	**23 33 32.7**	**-2.7**
KCP	**Kidapawan**	**1.56**	**288**	*i*P	**Pn**	**23 33 23.4**	**-0.4**
KCP				*i*S	**Sn**	**23 33 38.3**	**-4.8**
BIPH	**Bislig**	**1.65**	**352**	*e*P	**Pn**	**23 33 23.5**	**-1.5**
BIPH				*i*S	**Sn**	**23 33 42.8**	**-2.4**
GSPH	**General Santos**	**1.69**	**255**	*i*P	**Pn**	**23 33 23.8**	**-1.9**
GSPH				*i*S	**Sn**	**23 33 43.4**	**-2.9**
SKMP	**Bagumbayan, Su**	**2.04**	**270**	*e*P	**Pn**	**23 33 30.2**	**0.0**
SKMP				*e*S	**Sn**	**23 33 58.5**	**+4.0**
CTBH	**Cotabato--PC H**	**2.43**	**286**	*i*P	**Pn**	**23 33 35.2**	**-0.3**
CGP	**Cagayan de Oro**	**2.68**	**315**	*e*P	**Pn**	**23 33 40.1**	**+1.2**
CGP				*e*S	**Sn**	**23 34 05.2**	**-5.0**
SGSI	**Sangihe**	**3.02**	**201**	P	**Pn**	**23 33 45.5**	**+1.8**
GLSP	**General Luna,**	**3.26**	**352**	*e*P	**Pn**	**23 33 50.2**	**+3.3**
GLSP				*e*S	**Sn**	**23 34 29.8**	**+5.3**
SCPH	**Surigao**	**3.41**	**341**	*e*P	**Pn**	**23 33 48.8**	**-0.1**
PAGZ	**Pagadian**	**3.44**	**292**	*e*P	**Pn**	**23 33 49.6**	**+0.2**
PAGZ				*e*S	**Sn**	**23 34 30.1**	**+1.2**
GHBP	**Garcia Hernand**	**3.81**	**324**	*i*P	**Pn**	**23 33 55.2**	**+0.8**
GHBP				*i*S	**Sn**	**23 34 39.5**	**+1.5**
TNTI	**Ternate**	**5.78**	**172**	Pn	**Pn**	**23 34 25.2**	**+3.8**
TNTI	**Ternate**	**5.78**	**172**	P	**Pn**	**23 34 21.3**	**-0.1**
	0.3nm64nm,0.7s						
KMSI	**Cibinong**	**6.47**	**204**	P	**Pn**	**23 34 31.7**	**+0.8**
	2.0nm104nm,0.6s						
GTOI	**Gorontalo**	**6.87**	**212**	P	**Pn**	**23 34 36.8**	**+0.5**
	0.7nm2µm107nm,0.9s						
LBMI	**Labuha**	**7.18**	**173**	P	**Pn**	**23 34 39.7**	**-1.0**
	0.2nm31nm,0.5s						
MRSI	**Marisa**	**7.60**	**218**	P	**Pn**	**23 34 46.7**	**+0.3**
	22µm1µm,0.6s						
SANI	**Sanana**	**8.55**	**184**	P	**Pn**	**23 34 59.0**	**-0.4**
	36nm,0.6s						
SIJI	**Sorong**	**8.71**	**147**	P	**Pn**	**23 34 59.6**	**-1.9**
	2.7nm,0.3s,baz=297,slow=18,SNR=2.5						
SIJI				S	**Sn**	**23 36 35.9**	**-2.5**
	3.5nm,0.3s,baz=338,slow=23,SNR=1.0						
	11nm,0.3s						
MPSI	**Mapaga**	**9.09**	**228**	P	**Pn**	**23 35 06.1**	**-0.6**
	3µm154nm,0.7s						
NLAI	**Namlea**	**9.72**	**177**	P	**Pn**	**23 35 14.9**	**-0.5**
	3µm24nm,0.5s						
MSAI	**Masohi**	**10.09**	**167**	P	Pn	23 35 13.1	-7.4
FAKI	**Fak Fak**	**10.96**	**149**	Pn	**Pn**	**23 35 35.0**	**+2.6**
SBUM	**Sibu**	**14.89**	**255**	P	**P**	**23 36 31.9**	**+2.1**
SBUM				IAmb	IAmb	23 36 33.1	
	comp=Z,19nm,1.3s						
BATI	**Baumata**	**16.89**	**190**	P	**P**	**23 36 51.9**	**-0.1**
	comp=Z,6.0nm,0.3s,baz=11,slow=3.8,SNR=5.4						
	comp=Z,27nm,0.4s						
MTN	**Manton Dam**	**19.77**	**167**	P	**Pn**	**23 37 25.3**	**-0.3**
MTN				IAmb	IAmb	23 37 36.2	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**22.17**	**174**	P	**P**	**23 37 50.8**	**+1.3**
KNRA				IAmb	IAmb	23 37 55.2	
	comp=Z,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.50**	**182**	P	**P**	**23 38 11.2**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=360,slow=12,SNR=4.4						
	comp=Z,4.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.50**	**182**	P	**P**	**23 38 13.6**	**+1.6**
FITZ				IAmb	IAmb	23 38 20.1	
	comp=Z,7.7nm,1.1s						
WB0	**Warramunga Arr**	**27.24**	**164**	P	**P**	**23 38 36.9**	**0.0**
WB0				IAmb	IAmb	23 39 20.7	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**27.39**	**164**	P	**P**	**23 38 37.6**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=340,slow=10.0,SN

TTSI	**Tana Toraja**	**3.41 221**	P		**Pn**	**23 35 25.1 +1.3**			
SPSI	**Sidrap Palu**	**4.17 213**	P		**Pn**	**23 35 35.7 +1.4**			
BBSI	**Bau Bau**	**5.05 174**	P		**Pn**	**23 35 47.6 +1.3**			
KAPI	**Kappang**	**5.09 207**	Pn		**Pn**	**23 35 46.9 +0.1**			
	11nm,0.3s,baz=356,slow=13,SNR=19								
KAPI				Sn	**Sn**	**23 36 43.6 -2.1**			
	3.9nm,0.3s,baz=203,slow=22,SNR=8.0								
	24nm,0.3s								
KAPI	**Kappang**	**5.09 207**			**Pn**	**23 35 47.4 +0.6**			
KAPI	**Kappang**	**5.09 207**	P		**Pn**	**23 35 47.7 +0.9**			
BKSI	**Bulukumba**	**5.22 201**	P		Pn	23 35 54.2 +5.6			
MYLDM	**Lahad Datu**	**6.60 328**	Pn		Pn	23 36 15.8 +8.1			
WB0	**Warramunga Arr**	**22.71 149**	P		**P**	**23 39 33.1 +0.5**			
WB0			IAmb		IAmb	23 39 37.8			
	comp=Z,156nm,1.0s								
WRA	**Warramunga Arr**	**22.82 149**	P		**P**	**23 39 34.5 +0.7**			
	comp=Z,7.0nm,0.9s,baz=329,slow=10.0,SNR=13								
	comp=Z,7.0nm,0.9s								
WB2	**Warramunga Arr**	**22.83 149**	P		**P**	**23 39 34.8 +0.9**			
WR0	**Warramunga Arr**	**22.94 149**	P		**P**	**23 39 34.8 -0.3**			
WR0			IAmb		IAmb	23 39 40.3			
	comp=Z,12nm,0.9s								
ASAR	**Alice Springs**	**25.80 154**	P		**P**	**23 40 01.6 -0.4**			
	comp=Z,0.7nm,0.6s,baz=337,slow=8.2,SNR=2.0								
	comp=Z,0.7nm,0.6s								
MJAR	**Matsushiro Arr**	**39.74 21**	P		**P**	**23 42 01.9 -1.5**			
	comp=Z,2.5nm,0.7s,baz=197,slow=8.2,SNR=7.5								
	comp=Z,2.5nm,0.7s								
SONM	**Songino Array**	**49.97 346**	P		**P**	**23 43 25.7 +0.8**			
	comp=Z,2.0nm,0.6s,baz=165,slow=8.0,SNR=6.8								
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**58.48 329**	P		**P**	**23 44 27.4 +0.5**			
	comp=Z,1.0nm,0.5s,baz=127,slow=8.8,SNR=8.5								
	comp=Z,1.0nm,0.5s								
KBL	**Kabul**	**60.49 311**	P		**P**	**23 44 41.4 +0.2**			
KBL			IAmb		IAmb	23 44 48.4			
	comp=Z,4.2nm,0.8s								
PETK	**Petropavlovsk-**	**61.07 24**	P		**P**	**23 44 44.1 -0.4**			
	comp=Z,2.0nm,0.7s,baz=224,slow=4.0,SNR=1.9								
	comp=Z,2.0nm,0.7s								
RPZ	**Rata Peaks**	**61.27 141**	P		**P**	**23 44 46.8 +0.8**			
RPZ			IAmb		IAmb	23 44 53.3			
	comp=Z,8.2nm,0.9s								
THZ	**Tophouse**	**61.50 139**	P		**P**	**23 44 49.6 +1.9**			
ZALV	**Zalesovo Beam**	**62.31 336**	P		**P**	**23 44 52.0 -0.9**			
	comp=Z,0.7nm,0.6s,baz=133,slow=6.1,SNR=2.2								
	comp=Z,0.7nm,0.6s								
BKZ	**Black Stump Fm**	**62.83 135**	P		**P**	**23 44 57.2 +0.5**			
BKZ			IAmb		IAmb	23 44 57.4			
	comp=Z,6.2nm,1.1s								

*IDC **23** 23:43:51.9±4.2, 7°.58S×119°.48E, h267km±39km, mb3.0/3, mbtmp3.8/6, Error ellipse: s-maj=87.5km s-min=20.1km az=63.0*

ISC 23 23:43:51.1±0.8, 7°.6S±0°.1×119°.41E±0°.09, h250km, n13, σ1s31/15, mb3.5/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.05 232**		P	**Pn**	**23 44 36.3**	**+2.3**
BATI	**Baumata**	**4.95 122**		P	**Pn**	**23 45 08.0**	**+1.6**
	29nm,0.3s,baz=111,slow=2.6,SNR=7.7						
BATI				S	**S**	**23 46 06.2**	**-0.1**
	14nm,0.3s,baz=104,slow=20,SNR=1.3						
SOEI	**Soe**	**5.27 115**		P	**Pn**	**23 45 11.9**	**+1.6**
JAGI	**Jajag, Banyuwa**	**5.29 260**		P	**Pn**	**23 45 11.3**	**+0.9**
UGM	**Wanagama**	**8.81 267**		P	**Pn**	**23 45 54.2**	**-0.6**
	82nm,1.7s						
FITZ	**Fitzroy Crossi**	**12.10 151**		P	**Pn**	**23 46 36.9**	**+1.0**
	2.2nm,0.7s,baz=2.5,slow=11,SNR=6.9						
FITZ				S	**S**	**23 48 49.6**	**-1.3**
	1.6nm,0.5s,baz=183,slow=10,SNR=3.1						
MTN	**Manton Dam**	**12.67 115**		P	**Pn**	**23 46 43.8**	**+0.8**
KDU	**Kakadu**	**13.82 113**		P	**Pn**	**23 46 56.9**	**-0.3**
WRA	**Warramunga Arr**	**18.99 132**		P	**P**	**23 47 53.5**	**-1.0**
	1.8nm,0.7s,baz=304,slow=12,SNR=36						
ASAR	**Alice Springs**	**21.20 141**		P	**P**	**23 48 17.0**	**-0.8**
	1.0nm,0.3s,baz=314,slow=8.4,SNR=14						
	1.0nm,0.3s						
SSLB	**Suanglung**	**31.20 3**		P	**P**	**23 49 48.6**	**+1.3**
	26nm,0.9s						
SONM	**Songino Array**	**56.35 349**		P	**P**	**23 53 06.2**	**-0.2**
	0.3nm,0.4s,baz=167,slow=7.5,SNR=2.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**63.38 332**		P	**P**	**23 53 52.4**	**-1.6**
	0.3nm,0.6s,baz=152,slow=8.1,SNR=2.1						
	0.3nm,0.6s						

MAN 23 23:45:08.8, 9°.83N×123°.87E, h2km, mb3.8, ML2.6, MS2.1, 2C-6D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.14 183**		*i* P	Pg	23 45 11.8	+0.3
TBP				*i* S	Sg	23 45 14.3	+1.1
GHBP	**Garcia Hernand**	**0.49 114**		*e* P	Pg	23 45 18.3	+0.2
GHBP				*i* S	Sg	23 45 25.3	+0.9
LLP	**Lapu-Lapu**	**0.50 11**		*e* P	Pg	23 45 19.1	+0.8
LLP				*e* S	Sb	23 45 26.9	-1.0
LSIP	**Lazi, Siquijor**	**0.73 199**		*i* P	Pg	23 45 23.1	+0.2
LSIP				*i* S	Sg	23 45 32.9	+0.6
SNPH	**Sibulan**	**0.79 232**		*i* P	Pg	23 45 24.4	+0.5
SNPH				*i* S	Sb	23 45 36.3	-0.2
MSLP	**Maasin**	**1.02 73**		*i* P	Pb	23 45 28.8	-0.4
MSLP				*e* S	Sn	23 45 44.6	-0.5
CNOP	**Candoni, Negro**	**1.21 270**		*e* P	Pg	23 45 31.4	-0.7
CNOP				*e* S	Sb	23 45 49.1	+0.5
GUIM	**Jordan**	**1.49 302**		*i* P	Pn	23 45 36.2	-0.4
GUIM				*e* S	Sg	23 45 57.1	+0.4

*MAN **23** 23:45:34.2, 6°.63N×126°.67E, h28km, mb5.6, ML4.6, MS4.9*
MAN INTENSITY III - MATI DAVAO ORIENTAL; INTENSITY II - TAGUM CITY.
*IDC **23** 23:45:35.8±0.8, 6°.66N×126°.67E, h72km±6km, mb4.4/34, mbtmp4.7/36, MS4.3/3, Error ellipse: s-maj=11.2km s-min=6.9km az=70.0*
*BJI **23** 23:45:37.3±0.0, 6°.60N×126°.60E, h82km, mb4.8/41, mB5.4/17, Ms4.8/5, Ms7 4.6/4*
*DJA **23** 23:45:38.0±0.3, 7°N±3°×12°7E±°, h69km±3km, M5.2/89, mb5.3/89, mB5.6/42, MLv5.7/10, Mw(mB)5.1/42*
*NEIC **23** 23:45:38.6±1.4, 6°.57N±0°.06×126°.57E±0°.08, h87km±6km, mb4.9/93, Error ellipse: s-maj=11.7km s-min=8.3km az=60.0*

ISC 23 23:45:36.8±0.5, 6°.56N±0°.03×126°.61E±0°.04, h75km±3km, h74km: pP-P, n406, σ1s70/438, mb4.9/112, 8C-19D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.52 318**		*i* P	**Pn**	**23 45 46.1**	**-4.1**
MATI				*e* S	**Sn**	**23 45 54.9**	**-5.3**
DDMP	**Don Marcelino,**	**1.00 243**		*i* P	**Pn**	**23 45 53.5**	**-2.1**
DDMP				*e* S	**Sn**	**23 46 08.5**	**-1.1**
DAV	**Davao City (W)**	**1.15 296**		P	**Pn**	**23 45 55.7**	**-1.6**
	19μm,0.6s,baz=90,slow=2.0,SNR=418						
DAV				LR	LR	23 46 11.2	
	comp=Z,3μm,19.0s,baz=264,slow=30						
DAV				S	**Sn**	**23 46 12.1**	**-0.6**
	10μm,0.6s,baz=56,slow=23,SNR=17						
CDOP	**Cateel, Davao**	**1.23 352**		*e* P	**Pn**	**23 45 55.0**	**-3.4**
CDOP				*e* S	**Sn**	**23 46 10.4**	**-4.2**
KCP	**Kidapawan**	**1.58 287**		*i* P	**Pn**	**23 45 59.2**	**-3.7**
KCP				*i* S	**Sn**	**23 46 21.6**	**-1.2**
BIPH	**Bislig**	**1.63 351**		*e* P	**Pn**	**23 46 00.6**	**-3.1**
BIPH				*e* S	**Sn**	**23 46 21.5**	**-2.6**
GSPH	**General Santos**	**1.72 254**		*e* P	**Pn**	**23 46 00.8**	**-4.1**
GSPH				*i* S	**Sn**	**23 46 20.4**	**-5.8**
BUKP	**Musuan**	**2.02 311**		*i* P	**Pn**	**23 46 07.0**	**-1.8**
BUKP				*e* S	**Sn**	**23 46 32.2**	**-1.1**
SKMP	**Bagumbayan, Su**	**2.06 269**		*i* P	**Pn**	**23 46 06.9**	**-2.3**
SKMP				*e* S	**Sn**	**23 46 35.0**	**+0.9**
CTBH	**Cotabato--PC H**	**2.44 286**		*e* P	**Pn**	**23 46 12.1**	**-2.4**
BUTP	**Butuan**	**2.59 338**		*i* P	**Pn**	**23 46 17.0**	**+0.5**
BUTP				*e* S	**Sn**	**23 46 53.5**	**+6.5**
CGP	**Cagayan de Oro**	**2.68 315**		*e* P	**Pn**	**23 46 17.0**	**-0.7**
CGP				*e* S	**Sn**	**23 46 47.3**	**-1.8**
SGSI	**Sangihe**	**3.05 201**		P	**Pn**	**23 46 22.8**	**0.0**
GLSP	**General Luna,**	**3.24 352**		*i* P	**Pn**	**23 46 23.4**	**-1.9**
GLSP				*e* S	**Sn**	**23 47 05.2**	**+2.4**
SCPH	**Surigao**	**3.39 341**		*e* P	**Pn**	**23 46 27.4**	**0.0**
SCPH				*i* S	**Sn**	**23 47 07.6**	**+1.1**
PAGZ	**Pagadian**	**3.45 292**		*i* P	**Pn**	**23 46 26.6**	**-1.5**
GHBP	**Garcia Hernand**	**3.80 324**		*e* P	**Pn**	**23 46 32.2**	**-0.8**
GHBP				*e* S	**Sn**	**23 47 19.2**	**+2.6**
DCPH	**Dipolog City**	**3.81 302**		*e* P	**Pn**	**23 46 33.3**	**+0.3**
MSLP	**Maasin**	**3.95 334**		*e* P	**Pn**	**23 46 36.0**	**+1.0**
MSLP				*e* S	**Sn**	**23 47 21.0**	**+0.8**
SNPH	**Sibulan**	**4.34 310**		*i* P	**Pn**	**23 46 40.0**	**-0.4**
LLP	**Lapu-Lapu**	**4.56 325**		*e* P	**Pn**	**23 46 43.4**	**+0.1**
LLP				*e* S	**Sn**	**23 47 33.1**	**-2.0**
CNOP	**Candoni, Negro**	**5.10 310**		*i* P	**Pn**	**23 46 50.3**	**-0.4**
GUIM	**Jordan**	**5.67 316**		*e* P	**Pn**	**23 46 59.7**	**+1.2**
GUIM				*e* S	**Sn**	**23 47 56.9**	**-5.4**
TNTI	**Ternate**	**5.80 173**	Pn		**Pn**	**23 47 01.4**	**+1.1**
TNTI			Sn		Sn	**23 48 07.0**	**+1.6**
TNTI	**Ternate**	**5.80 173**	P		**Pn**	**23 47 00.8**	**+0.6**
	4.4nm9μm876nm,0.9s						
TNTI	**Ternate**	**5.80 173**	P		**Pn**	**23 47 03.1**	**+2.9**
TNTI	**Ternate**	**5.80 173**	P		**Pn**	**23 47 01.6**	**+1.4**
CNP	**Catarman**	**6.22 342**		*i* P	**Pn**	**23 47 09.5**	**+3.5**
RCP	**Roxas**	**6.27 323**		*e* P	**Pn**	**23 47 07.0**	**+0.4**
KMSI	**Cibinong**	**6.50 204**	P		**Pn**	**23 47 11.0**	**+1.2**
	4.9nm13μm2μm,0.9s						
GTOI	**Gorontalo**	**6.89 212**	P		**Pn**	**23 47 14.6**	**-0.6**
	5.0nm11μm1μm,0.9s						
LBMI	**Labuha**	**7.20 173**	P		**Pn**	**23 47 20.8**	**+1.3**
	2.8nm8μm544nm,1.0s						
MRSI	**Marisa**	**7.63 218**	P		**Pn**	**23 47 25.7**	**+0.4**
	4.3nm10μm1μm,0.9s						
MYLDM	**Lahad Datu**	**8.19 261**	Pn		**Pn**	**23 47 34.0**	**+1.1**
LUWI	**Luwuk**	**8.47 207**	Pn		**Pn**	**23 47 38.4**	**+1.7**
LUWI	**Luwuk**	**8.47 207**	P		**Pn**	**23 47 37.8**	**+1.1**
	18μm2μm,1.1s						
LUWI	**Luwuk**	**8.47 207**	P		**Pn**	**23 47 39.9**	**+3.2**
SANI	**Sanana**	**8.57 184**	P		**Pn**	**23 47 35.0**	**-3.2**
	6μm596nm,1.1s						
SANI	**Sanana**	**8.57 184**	P		**Pn**	**23 47 36.8**	**-1.4**
SWI	**Sorong**	**8.71 148**	P		**Pn**	**23 47 40.9**	**+0.8**
	187nm,0.9s						
SIJI	**Sorong**	**8.72 148**	P		**Pn**	**23 47 40.0**	**-0.2**
	50nm,0.3s,baz=330,slow=12,SNR=42						
SIJI				S	**Sn**	**23 49 12.8**	**-4.2**
	45nm,0.5s,baz=38,slow=23,SNR=10						
APSI	**Ampana**	**8.92 214**	P		**Pn**	**23 47 43.7**	**+0.8**
	7μm964nm,1.1s						
LQP	**Lukban**	**9.01 327**		*e* P	**Pn**	**23 47 47.1**	**+2.8**
MPSI	**Mapaga**	**9.11 228**	P		**Pn**	**23 47 46.1**	**+0.5**
	1μm111nm,0.9s						
TGY	**Tagaytay City**	**9.35 324**	P		**Pn**	**23 47 48.7**	**-0.1**
	68nm,0.3s						
TGY	**Tagaytay City**	**9.35 324**		*e* P	Pn	23 47 38.6	-10
NLAI	**Namlea**	**9.74 177**	P		**Pn**	**23 47 53.3**	**-0.9**
	4μm160nm,0.6s						
MSAI	**Masohi**	**10.11 167**	P		**Pn**	**23 48 01.3**	**+2.2**
	1μm18nm,0.6s						
AAI	**Ambon**	**10.30 171**	P		**Pn**	**23 48 03.4**	**+1.6**
	2μm173nm,0.8s						
KKM	**Kota Kinabalu**	**10.35 268**	Pn		**Pn**	**23 48 03.4**	**+0.9**
FAKI	**Fak Fak**	**10.97 149**	Pn		**Pn**	**23 48 12.7**	**+1.8**
FAKI	**Fak Fak**	**10.97 149**	P		**Pn**	**23 48 12.5**	**+1.6**
	82nm,1.1s						
FAKI	**Fak Fak**	**10.97 149**	P		**Pn**	**23 48 13.4**	**+2.5**
BNDI	**Bandanaira**	**11.49 163**	P		**Pn**	**23 48 19.2**	**+1.2**
	4μm149nm,1.5s						
SMKI	**Samarinda**	**11.68 234**	P		**Pn**	**23 48 21.0**	**+0.4**
	9μm149nm,0.6s						
TTSI	**Tana Toraja**	**11.70 216**	P		**Pn**	**23 48 21.2**	**+0.3**
	7μm652nm,1.0s						
BAKI	**Biak**	**12.21 129**	P		**Pn**	**23 48 31.2**	**+3.4**
	309nm,1.1s						
BKB	**Balikpapan**	**12.42 232**	Pn		**Pn**	**23 48 30.1**	**-0.7**
BKB	**Balikpapan**	**12.42 232**	P		Pn	23 48 23.8	-7.0
SPSI	**Sidrap Palu**	**12.49 213**	P		**Pn**	**23 48 32.1**	**+0.5**
	2μm98nm,1.3s						
BBSI	**Bau Bau**	**12.63 199**	P		**Pn**	**23 48 32.0**	**-1.5**
	5μm90nm,1.0s						
SRPI	**Serui, Papua**	**12.75 131**	P		**Pn**	**23 48 36.9**	**+1.8**
	216nm,0.7s						
KAPI	**Kappang**	**13.38 211**	P		**Pn**	**23 48 43.6**	**0.0**
	150nm,0.8s,baz=20,slow=11,SNR=62						
KAPI	**Kappang**	**13.38 211**	Pn		**Pn**	**23 48 43.2**	**-0.4**
KAPI	**Kappang**	**13.38 211**	P		**Pn**	**23 48 43.8**	**+0.2**
BKSI	**Bulukumba**	**13.46 209**	P		**Pn**	**23 48 44.3**	**-0.4**
	1μm91nm,1.2s						
MTKI	**Muara Teweh, K**	**13.87 238**	P		P	23 49 01.8	+5.9
BSSI	**Bau Bau, Buton**	**14.02 206**	P		**Pn**	**23 48 53.1**	**+1.1**
	886nm70nm,1.2s						
SMPI	**Sarmi**	**14.76 125**	P		**P**	**23 49 04.1**	**-1.7**
	120nm,1.3s						
SBUM	**Sibu**	**14.91 255**	Pn		**Pn**	**23 49 04.9**	**+1.2**
SAUI	**Saumlaki**	**15.18 162**	P		Pn	23 48 58.7	-8.4
BBKI	**Banjar Baru**	**15.40 230**	P		**P**	**23 49 11.7**	**-1.2**
	4μm253nm,1.1s						
MMRI	**Maumere**	**15.71 196**	Pn		**Pn**	**23 49 13.0**	**-0.8**
MMRI	**Maumere**	**15.71 196**	P		**Pn**	**23 49 14.2**	**+0.4**
	5μm204nm,0.8s						
MMRI	**Maumere**	**15.71 196**	P		**Pn**	**23 49 14.6**	**+0.8**
	203nm,0.8s						
EDFI	**Ende, Flores**	**15.98 198**	P		**Pn**	**23 49 16.5**	**-0.8**
	778nm72nm,0.8s						
SOEI	**Soe**	**16.37 188**	Pn		**Pn**	**23 49 22.9**	**+0.7**
SOEI	**Soe**	**16.37 188**	P		**P**	**23 49 25.8**	**+2.0**
STKI	**Sintang**	**16.42 247**	P		**P**	**23 49 24.9**	**+0.6**
	29nm,0.6s						
BATI	**Baumata**	**16.91 190**	P		**P**	**23 49 29.4**	**-0.3**
	296nm,0.7s,baz=16,slow=0.9,SNR=42						
BATI				S	**S**	**23 52 40.4**	**-2.1**
	30nm,0.7s,baz=71,slow=13,SNR=1.6						
BATI	**Baumata**	**16.91 190**	P		**P**	**23 49 29.5**	**-0.2**
	2μm209nm,0.7s						
PBKI	**Pangkalan Bun**	**17.53 239**	P		**P**	**23 49 41.8**	**+5.3**
PLAI	**Plampang**	**17.64 210**	P		**P**	**23 49 37.7**	**0.0**
	2μm316nm,1.0s						
PLAI	**Plampang**	**17.64 210**	P		**P**	**23 49 37.3**	**-0.4**
SSLB	**Suanglung**	**17.97 343**	P		**Pn**	**23 49 42.4**	**+0.7**
TWSI	**Taliwang, Sumb**	**18.03 213**	P		**P**	**23 49 41.0**	**-1.0**
	1μm135nm,1.2s						
SRBI	**Singaraja**	**18.46 218**	P		**Pn**	**23 49 48.2**	**+0.5**
	1μm96nm,0.8s						
KMMI	**Kalianget**	**18.49 223**	P		**P**	**23 49 47.0**	**-0.1**
	157nm,1.0s						
BWJI	**Bawean**	**18.60 229**	P		**Pn**	**23 49 53.2**	**+3.9**
ABJI	**Asem Bagus**	**18.86 221**	P		**Pn**	**23 49 52.3**	**-0.1**
	55nm,1.1s						
DNP	**Denpasar**	**18.93 217**	P		**Pn**	**23 49 56.5**	**+3.3**
IGBI	**Denpasar**	**19.08 217**	P		**P**	**23 49 54.0**	**+0.5**
	2μm179nm,1.3s						
JAGI	**Jajag, Banyuwa**	**19.42 220**	P		**P**	**23 49 56.6**	**-0.6**
JAGI	**Jajag, Banyuwa**	**19.42 220**	P		**P**	**23 49 57.4**	**+0.1**
	1μm149nm,1.2s						
JAGI	**Jajag, Banyuwa**	**19.42 220**	P		**P**	**23 49 58.1**	**+0.8**
HKPS	**Hong Kong Po S**	**19.73 324**	P		**P**	**23 50 01.1**	**+0.6**
MTN	**Manton Dam**	**19.79 167**	P		**P**	**23 50 02.1**	**+0.8**
	baz=20,SNR=23						
MTN	**Manton Dam**	**19.79 167**	P		**P**	**23 50 01.8**	**+0.5**
MTN	**Manton Dam**	**19.79 167**	P		**Pn**	**23 50 02.6**	**-0.8**
KDU	**Kakadu**	**19.99 163**	P		**P**	**23 50 04.1**	**+0.7**
	baz=20,SNR=51						
KDU	**Kakadu**	**19.99 163**	P		**P**	**23 50 04.3**	**+0.9**
JOW	**Kunigami**	**20.23 4**	P		**P**	**23 50 04.4**	**-1.5**
	11nm,0.8s,baz=239,slow=18,SNR=2.1						
	11nm,0.8s						
JOW	**Kunigami**	**20.23 4**	P		Pn	23 50 07.7	-0.7
NGJI	**Ngawi**	**20.49 228**	P		Pn	23 50 10.9	-0.7
	169nm,1.0s						
PWJI	**Pagerwojo**	**20.68 226**	P		Pn	23 50 12.5	-1.4
	49nm,0.8s						
SMRI	**Semarang**	**21.05 230**	P		**P**	**23 50 15.6**	**+0.7**
SMRI	**Semarang**	**21.05 230**	P		**P**	**23 50 16.6**	**+1.7**
SMRI	**Semarang**	**21.05 230**	P		**P**	**23 50 14.9**	**0.0**
TPI	**Tanjungpandan**	**21.07 245**	P		**P**	**23 50 16.2**	**+1.1**
	35nm,0.8s						
PCJI	**Pacitan**	**21.25 227**	P		**P**	**23 50 20.0**	**+3.0**
	93nm,1.4s						
UGM	**Wanagama**	**21.54 228**	P		**P**	**23 50 20.3**	**+0.1**
UGM	**Wanagama**	**21.54 228**	P		**P**	**23 50 24.0**	**+3.8**
	169nm,0.9s						
UGM	**Wanagama**	**21.54 228**	P		**P**	**23 50 21.7**	**+1.5**
KNRA	**Kununurra**	**22.19 175**	P		**P**	**23 50 27.6**	**+0.5**
	baz=22,SNR=100						
KNRA	**Kununurra**	**22.19 175**	P		**P**	**23 50 27.4**	**+0.3**
KNRA	**Kununurra**	**22.19 175**	P		**P**	**23 50 27.5**	**+0.5**
PPBI	**Pangkal Pinang**	**22.20 248**	P		**P**	**23 50 27.2**	**0.0**
	8μm71nm,0.8s						
MANU	**Manus Island**	**22.41 112**	P		**P**	**23 50 29.9**	**+0.4**
JCJI	**Jatiwangi**	**22.43 235**	P		**P**	**23 50 32.5**	**+2.9**
	382nm,0.8s						
UBPT	**Khong Chiam**	**22.48 294**	P		**P**	**23 50 29.9**	**-0.3**
TPRI	**Tanjung Pinang**	**22.73 257**	P		**P**	**23 50 33.8**	**+0.9**
DSRI	**Dabo**	**23.07 253**	P		**P**	**23 50 35.6**	**-0.7**
	1μm51nm,1.1s						
LEM	**Lembang**	**23.15 235**	P		**P**	**23 50 37.4**	**+0.1**
	134nm,1.0s,baz=66,slow=9.7,SNR=16						
	134nm,1.0s						
CBJI	**Citeko**	**23.56 237**	P		**P**	**23 50 42.1**	**+1.3**
	172nm,0.9s						
CNJI	**Cibinong**	**23.82 235**	P		**P**	**23 50 42.0**	**-1.2**
	2μm125nm,1.0s						
SKJI	**Sukabumi**	**24.12 236**	P		**P**	**23 50 47.1**	**+1.2**
	88nm,1.0s						
JMBI	**JAMBI**	**24.33 251**	P		**P**	**23 50 51.8**	**+4.0**
	85nm,0.4s						
BLSI	**Bandar Lampung**	**24.40 241**	P		**P**	**23 50 50.4**	**+2.0**
	166nm,0.5s						
KLI	**Kotabumi**	**24.50 243**	P		**P**	**23 50 50.2**	**+0.9**
	388nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.52 182**	P		**P**	**23 50 49.5**	**+0.1**
	59nm,0.6s,baz=0.4,slow=9.8,SNR=85						
FITZ				S	**S**	**23 55 13.3**	**+8.4**
	6.1nm,0.9s,baz=180,slow=17,SNR=5.8						
	59nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.52 182**	P		**P**	**23 50 49.4**	**0.0**
	baz=25,SNR=76						
FITZ	**Fitzroy Crossi**	**24.52 182**	P		**P**	**23 50 49.8**	**+0.4**
KASI	**Kota Agung**	**25.12 242**	P		**P**	**23 50 56.6**	**+1.6**
	78nm,0.8s						
JCJ	**Chichijima**	**25.23 34**	P		**P**	**23 50 53.4**	**-2.4**
	144nm,0.8s,baz=242,slow=8.9,SNR=9.9						
JCJ	**Chichijima**	**25.23 34**	P		**P**	**23 50 54.6**	**-1.3**
LWLI	**Liwa**	**25.28 243**	P		**P**	**23 50 59.9**	**+3.3**
	142nm,0.5s						
IPM	**Ipoh**	**25.55 267**	P		**P**	**23 50 58.0**	**-0.9**
IPM			IAmb		IAmb	23 50 59.1	
	comp=Z,24nm,0.8s						
IPM	**Ipoh**	**25.55 267**	P		**P**	**23 50 59.3**	**+0.4**
KULM	**Kulim**	**25.85 269**	P		**P**	**23 51 00.1**	**-1.6**
PMG	**Port Moresby**	**25.90 128**	P		**P**	**23 50 58.5**	**-3.5**
	comp=Z,6.5nm,0.3s,baz=8.1,slow=7.1,SNR=1.5						
PMG	**Port Moresby**	**25.90 128**	P		**P**	**23 51 00.0**	**-2.0**
MNAI	**Manna**	**25.99 246**	P		**P**	**23 51 00.7**	**-2.2**
KSI	**Kapahiang**	**26.04 248**	P		P	23 51 10.9	+7.5
MASI	**Maura Aman, Be**	**26.17 249**	P		**P**	**23 51 07.5**	**+2.9**
	comp=Z,146nm,0.8s						
COEN	**Coen**	**26.19 141**	P		**P**	**23 51 04.0**	**-0.6**
	baz=26,SNR=7.2						
COEN	**Coen**	**26.19 141**	P		**P**	**23 51 05.4**	**+0.8**
COEN	**Coen**	**26.19 141**	P		**P**	**23 51 06.7**	**+2.1**
SDSI	**Sungai Dareh**	**26.21 254**	P		**P**	**23 51 03.4**	**-1.5**
	comp=Z,24nm,1.0s						
BKNI	**Bangkinang**	**26.25 257**	P		**P**	**23 51 04.1**	**-1.2**
NJ2	**Nanjing**	**26.38 345**	*e* P		**P**	**23 51 12.1**	**+6.0**
NJ2			pmax		pmax		
	comp=Z,14nm,0.6s						
PDSI	**Padang**	**27.13 255**	P		**P**	**23 51 12.8**	**-0.4**
	comp=Z,3nm,0.7s						
WB0	**Warramunga Arr**	**27.26 164**	P		**P**	**23 51 13.3**	**-0.9**
WB0			IAmb		IAmb	23 51 50.2	
	comp=Z,38nm,0.9s						
WRAB	**Tennant Creek**	**27.40 164**	P		**P**	**23 51 15.2**	**-0.3**
WRAB			IAmb		IAmb	23 51 47.8	
	comp=Z,29nm,0.7s						
WRAB	**Tennant Creek**	**27.40 164**	P		**P**	**23 51 15.5**	**0.0**
WRA	**Warramunga Arr**	**27.41 164**	P		**P**	**23 51 14.7**	**-0.8**
	comp=Z,9.5nm,0.5s,baz=344,slow=9.8,SNR=62						
WRA			PcP		**PcP**	**23 54 32.5**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=332,slow=2.4,SNR=2.8						
WRA			S		**S**	**23 55 46.5**	**-4.2**
	comp=Z,3.4nm,0.8s,baz=343,slow

MJAR ScP **ScP** **23 58 20.5 0.0**
comp=Z,3.1nm,0.8s,baz=188,slow=3.6,SNR=6.1
comp=Z,1.1nm,0.6s
XAN Xi'an 31.87 331 P **P** **23 51 56.1 +1.1**
HNS HongShan 32.56 342 ⇓P **P** **23 52 00.8 -0.1**
HNS pmax pmax
comp=Z,30nm,0.9s
CTA Charters Tower 32.78 144 P **P** **23 52 02.7 -0.3**
comp=Z,3.6nm,0.5s,baz=326,slow=9.6,SNR=8.4
comp=Z,3.6nm,0.5s
CTA Charters Tower 32.78 144 P **P** **23 52 02.8 -0.3**
CTAO Charters Tower 32.78 144 P **P** **23 52 03.5 +0.4**
CTAO IAmb IAmb 23 52 40.8
comp=Z,11nm,0.9s
CTAO Charters Tower 32.78 144 P **P** **23 52 03.2 +0.2**
CTAO Charters Tower 32.78 144 P **P** **23 52 02.9 -0.1**
CTAO ScP **ScP** **23 58 26.0 +1.4**
JMM Marumori 33.72 20 P **P** **23 52 11.5 +0.5**
MEEK Meekatharra 33.90 193 P **P** **23 52 12.1 -0.6**
baz=34,SNR=30
MEEK Meekatharra 33.90 193 P **P** **23 52 12.3 -0.4**
BJT Baijiatuau 34.61 346 P **P** **23 52 19.8 +1.1**
BJT IAmb IAmb 23 52 24.8
comp=Z,14nm,0.8s
BJT Baijiatuau 34.61 346 P **P** **23 52 22.6 +3.9**
BJI Beijing 34.63 346 P **P** **23 52 22.9 +4.1**
BJI PP **PP** **23 53 43.5 +4.8**
BJI PcP **PcP** **23 54 52.4 +0.7**
BJI pmax pmax
comp=Z,15nm,0.7s
BJI pmax pmax
comp=Z,1μm,10.7s
OOD Oodnadatta 35.26 166 P **P** **23 52 25.0 +0.6**
LZH Lanzhou 36.04 328 *e*P **P** **23 52 33.8 +2.6**
LZH pmax pmax
comp=Z,17nm,1.0s
HHC Hu-ho-hao-te 36.70 341 *e*P **P** **23 52 41.3 +4.6**
HHC pmax pmax
comp=Z,26nm,1.1s
HHC pmax pmax
comp=Z,440nm,7.2s
INKA Innaminka 36.73 159 P **P** **23 52 37.6 +0.6**
MORW Morawa 36.85 196 P **P** **23 52 37.6 -0.4**
baz=37,SNR=20
MORW Morawa 36.85 196 P **P** **23 52 37.5 -0.4**
MORW Morawa 36.85 196 P **P** **23 52 37.9 -0.1**
QLP Quilpie 37.11 153 P **P** **23 52 39.6 -0.6**
baz=37,SNR=11
QLP Quilpie 37.11 153 P **P** **23 52 39.7 -0.6**
FORT Forrest 37.15 178 P **P** **23 52 41.0 +0.5**
baz=37,SNR=9.3
FORT Forrest 37.15 178 P **P** **23 52 40.6 +0.1**
FORT Forrest 37.15 178 P **P** **23 52 41.2 +0.7**
MULG Mulgathing 37.32 169 P **P** **23 52 43.0 +1.1**
USRK Ussuriysk Ar. 37.79 6 P **P** **23 52 43.9 -1.8**
comp=Z,3.4nm,0.7s,baz=196,slow=9.7,SNR=6.1
comp=Z,3.4nm,0.7s
RK1H Rockhampton Ha 37.82 143 P **P** **23 52 49.2 +2.9**
BLDU Ballidu 38.16 194 P **P** **23 52 48.6 -0.4**
baz=38,SNR=43
BLDU Ballidu 38.16 194 P **P** **23 52 49.1 +0.1**
XLT XiLinHaoTe 38.33 348 *e*P **P** **23 52 52.3 +1.9**
XLT pP sP 23 53 14.8 -1.2
XLT pmax pmax
comp=Z,23nm,0.8s
LCRK Leigh Creek 38.44 164 P **P** **23 52 52.7 +1.3**
KLBR Kellerberrin 38.87 192 P **P** **23 52 54.8 -0.2**
baz=39,SNR=12
KLBR Kellerberrin 38.87 192 P **P** **23 52 54.8 -0.2**
RMQ Roma 39.25 148 P **P** **23 52 59.1 +0.9**
baz=39,SNR=4.2
RMQ Roma 39.25 148 P **P** **23 52 59.7 +1.5**
MUN Mundaring 39.59 194 P **P** **23 53 01.0 +0.1**
baz=40,SNR=28
MUN Mundaring 39.59 194 P **P** **23 53 01.3 +0.4**
EIDS Eidsvold 39.67 144 P **P** **23 53 03.6 +1.8**
baz=40,SNR=8.9
EIDS Eidsvold 39.67 144 P **P** **23 53 01.3 -0.4**
EIDS IAmb IAmb 23 53 04.3
comp=Z,16nm,0.7s
EIDS Eidsvold 39.67 144 P **P** **23 53 03.5 +1.8**
BBOO Buckleboo 40.17 168 P **P** **23 53 06.3 +0.3**
baz=40,SNR=208
BBOO Buckleboo 40.17 168 P **P** **23 53 06.1 +0.3**
BBOO Buckleboo 40.17 168 P **P** **23 53 06.6 +0.8**
NWAO Narrogin (SRO) 40.27 192 P **P** **23 53 07.0 +0.4**
comp=Z,85nm,0.8s,baz=251,slow=6.2,SNR=47
NWAO LR LR 00 12 19.8
comp=Z,441nm,18.3s,baz=259,slow=40
comp=Z,85nm,0.8s
NWAO Narrogin (SRO) 40.27 192 P **P** **23 53 06.8 +0.3**
baz=40,SNR=40
NWAO P **P** **23 53 06.8 +0.3**
baz=40,SNR=40
NWAO Narrogin (SRO) 40.27 192 P **P** **23 53 06.7 +0.2**
NWAO Narrogin (SRO) 40.27 192 P **P** **23 53 07.1 +0.5**
NWAO Narrogin (SRO) 40.27 192 P **P** **23 53 06.8 +0.2**
LSA Lhasa 40.53 309 P **P** **23 53 09.9 +0.4**
GTA Gaotai 40.64 328 *e*P **P** **23 53 09.4 -0.4**
GTA PcP **PcP** **23 55 14.4 +3.9**
GTA ScP **ScP** **23 58 57.0 +3.4**
GTA pmax pmax
comp=Z,6.0nm,1.0s
WHYH Whyalla 40.73 166 P **P** **23 53 11.3 +1.0**
H11S3 WAKE ISLAND Hy 40.78 69 T T 00 37 21.4
baz=258,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 40.79 69 T T 00 37 23.1
baz=258,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 40.79 69 T T 00 37 23.1
baz=258,slow=75,SNR=16
STKA Stephens Creek 40.81 160 P **P** **23 53 11.3 +0.2**
comp=Z,33nm,0.7s,baz=336,slow=8.6,SNR=56
comp=Z,33nm,0.7s
STKA Stephens Creek 40.81 160 P **P** **23 53 11.4 +0.4**
baz=41,SNR=30
STKA Stephens Creek 40.81 160 P **P** **23 53 11.0 -0.1**
STKA IAmb IAmb 23 53 12.8
comp=Z,6.7nm,0.6s
STKA Stephens Creek 40.81 160 P **P** **23 53 11.2 +0.2**
GOMU GeErMu 41.43 320 *e*P **P** **23 53 19.5 +2.9**
GOMU pmax pmax
comp=Z,210nm,6.7s
HTT Hallett 41.45 164 P **P** **23 53 17.6 +1.2**
baz=42,SNR=50
HTT Hallett 41.45 164 P **P** **23 53 17.3 +0.9**
RKGY Rocky Gully 41.95 192 P **P** **23 53 22.0 +1.6**
baz=42,SNR=12
RKGY Rocky Gully 41.95 192 P **P** **23 53 21.9 +1.6**
CMSA Cobar Meteorol 42.04 155 P **P** **23 53 21.5 +0.3**
baz=42,SNR=16
CMSA Cobar Meteorol 42.04 155 P **P** **23 53 21.4 +0.3**
TAPN Taplejung 42.30 304 *e*P **P** **23 53 22.4 -1.4**
KLR Kul'dur 42.75 5 P **P** **23 53 25.4 -1.2**
comp=Z,2.5nm,0.6s,baz=204,slow=4.9,SNR=9.0
comp=Z,2.5nm,0.6s
RAMN Ramite 43.08 303 *e*P **P** **23 53 28.5 -1.5**
comp=Z,42nm,0.8s
JIRN Jiri 43.67 304 *e*P **P** **23 53 33.2 -1.7**
comp=Z,28nm,0.7s
ARMA Armidale 43.90 148 P **P** **23 53 36.7 +0.4**
baz=44,SNR=14
ARMA Armidale 43.90 148 P **P** **23 53 36.8 +0.4**
ARMA IAmb IAmb 23 53 39.6
comp=Z,16nm,0.8s
ARMA Armidale 43.90 148 P **P** **23 53 38.6 +2.3**
GUN Gumba 44.02 304 *e*P **P** **23 53 36.0 -1.7**
comp=Z,40nm,0.7s
PKI Pulchoki 44.29 303 *e*P **P** **23 53 37.4 -2.4**
PKIN Phulchoki 44.30 303 *e*P **P** **23 53 37.4 -2.5**
comp=Z,7.7nm,0.5s
ULN Ulaanbaatar 44.42 341 P **P** **23 53 40.6 +0.3**
ULN IAmb IAmb 23 53 44.7
comp=Z,11nm,0.9s
ULN Ulaanbaatar 44.42 341 P **P** **23 53 42.3 +2.0**
ULN pP **pP** **23 54 01.0 +2.6**
DMN Daman 44.55 303 *e*P **P** **23 53 39.7 -2.2**
SONM Songino Array 44.60 341 P **P** **23 53 41.4 -0.4**
comp=Z,3.1nm,0.9s,baz=159,slow=8.1,SNR=10
SONM PcP **PcP** **23 55 24.9 +1.4**
comp=Z,1.8nm,0.8s,baz=152,slow=6.5,SNR=2.7
comp=Z,3.1nm,0.9s
SONM Songino Array 44.60 341 P **P** **23 53 42.2 +0.5**
GKN Gorkha 45.08 303 *e*P **P** **23 53 43.5 -2.4**
comp=Z,8.7nm,0.6s
ARPS Mount Arapiles 45.40 163 P **P** **23 53 49.0 +0.9**
baz=46,SNR=27
ARPS Mount Arapiles 45.40 163 P **P** **23 53 48.9 +0.9**
KOLN Koldanda 45.87 303 *e*P **P** **23 53 50.2 -2.0**
DANN Dangsing 45.93 303 *e*P **P** **23 53 50.0 -2.8**
comp=Z,55nm,0.8s
PYUN Piuthan 46.48 303 *e*P **P** **23 53 54.7 -2.3**
comp=Z,59nm,1.0s
CAN Canberra 46.69 155 P **P** **23 53 58.8 +0.5**
CAN IAmb IAmb 23 54 02.1
comp=Z,28nm,0.8s
CAN Canberra 46.69 155 P **P** **23 54 00.5 +2.2**
CAN Canberra 46.69 155 P **P** **23 54 00.9 +2.6**
CAN pP **pwP** **23 54 20.3 +0.3**
BRAT Ballarat 46.76 161 P **P** **23 54 00.6 +1.9**
CNB Canberra Magne 46.84 154 P **P** **23 54 01.6 +2.2**
baz=47,SNR=4.3
CNB Canberra Magne 46.84 154 P **P** **23 54 01.7 +2.2**
TOO Toolangi 47.31 160 P **P** **23 54 04.6 +1.6**
baz=48,SNR=6.4
TOO Toolangi 47.31 160 P **P** **23 54 03.6 +0.6**
TOO IAmb IAmb 23 54 06.3
comp=Z,46nm,1.4s
TOO Toolangi 47.31 160 P **P** **23 54 04.7 +1.7**
WMQ Urumqi 50.37 324 *e*P **P** **23 54 28.3 +1.8**
WMQ pmax pmax
comp=Z,22nm,1.1s
PETK Petropavlovsk- 52.88 23 P **P** **23 54 43.2 -1.7**
comp=Z,4.2nm,0.7s,baz=196,slow=8.1,SNR=4.2
comp=Z,4.2nm,0.7s
PETK Petropavlovsk- 52.88 23 P **P** **23 54 43.7 -1.2**
SHLS Shalkode 55.13 319 *e*P **P** **23 54 58.4 -3.2**
baz=319
MK31 Makanchi Array 55.19 324 P **P** **23 55 00.9 -1.0**
MK31 IAmb IAmb 23 55 03.9
comp=Z,8.1nm,0.9s
MKAR Makanchi Array 55.19 324 P **P** **23 55 01.0 -0.9**
comp=Z,6.2nm,0.4s,baz=118,slow=7.4,SNR=53
MKAR PcP **PcP** **23 56 02.2 0.0**
comp=Z,18nm,1.0s,baz=114,slow=3.4,SNR=9.1
MKAR ScP **ScP** **23 59 53.8 -0.7**
comp=Z,2.3nm,1.0s,baz=116,slow=5.5,SNR=4.3
comp=Z,6.2nm,0.4s
MKAR Makanchi Array 55.19 324 P **P** **23 55 01.4 -0.6**
YAK Yakutsk 55.40 2 LR LR 00 19 34.4
comp=Z,264nm,21.6s,baz=278,slow=37
UZB Uzynbulak 55.41 319 *e*P **P** **23 55 02.7 -1.1**
baz=319
TARG Taragay, Kyrgy 55.60 317 P **P** **23 55 05.1 -0.3**
TARG IAmb IAmb 23 55 15.8
comp=Z,13nm,1.3s
KPKS Kokpek 55.77 319 *e*P **P** **23 55 04.7 -1.6**
comp=Z,9.2nm,0.9s,baz=319
KSH Kashi 55.99 314 P **P** **23 55 11.3 +3.4**
KSH pP sP 23 55 33.6 -1.0
KSH PcP **PcP** **23 56 06.9 +1.3**
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,2μm,29.2s
KSH LR LR
comp=Z,1μm,31.1s
MSVF Nonsavu 56.23 116 P **P** **23 55 09.2 -0.6**
comp=Z,3.7nm,0.4s,baz=261,slow=3.8,SNR=8.0
comp=Z,3.7nm,0.4s
MSVF Nonsavu 56.23 116 P **P** **23 55 10.9 +1.1**
MSVF Nonsavu 56.23 116 P **P** **23 55 10.7 +0.8**
TDK Taldyqorghan 56.65 321 *e*P **P** **23 55 11.3 -1.1**
comp=Z,9.1nm,1.2s,baz=321
NRN Naryn 56.71 316 P **P** **23 55 13.4 +0.2**
MDOK Medeo 56.71 318 *e*P **P** **23 55 12.2 -0.8**
baz=318
TNSS Tian-Shan 56.73 318 *e*P **P** **23 55 11.8 -1.6**
baz=318
AAA Alma-Ata 56.82 318 *e*P **P** **23 55 12.5 -1.2**
comp=Z,7.5nm,0.6s,baz=318
CHKK Chushkaly 57.05 319 *e*P **P** **23 55 13.6 -1.6**
baz=319
KUU Kurty 57.49 319 *e*P **P** **23 55 16.8 -1.5**
comp=Z,14nm,1.0s,baz=319
ZAA0 Zalesovo Array 58.04 332 P **P** **23 55 21.3 -0.6**
ZAA0 IAmb IAmb 23 55 24.5
comp=Z,8.0nm,1.1s
ZALV Zalesovo Beam 58.04 332 P **P** **23 55 19.8 -2.2**
comp=Z,3.7nm,0.6s,baz=123,slow=6.1,SNR=15
ZALV PcP **PcP** **23 56 10.5 -2.6**
comp=Z,3.4nm,0.8s,baz=99,slow=4.5,SNR=4.5
comp=Z,3.7nm,0.6s
ZALV Zalesovo Beam 58.04 332 P **P** **23 55 20.4 -1.5**
AAK Ala-Archa 58.21 317 P **P** **23 55 22.6 -1.0**
KURK Kurchatov 59.32 327 P **P** **23 55 30.0 -0.9**
KURK Kurchatov 59.32 327 P **P** **23 55 30.0 -0.9**
BTLS Baital 59.46 319 *e*P **P** **23 55 30.9 -1.1**
baz=319
KBL Kabul 59.74 306 P **P** **23 55 33.9 -0.5**
KBL IAmb IAmb 23 55 36.1
comp=Z,9.9nm,0.8s
BTK Batken 59.91 313 P **P** **23 55 34.9 -0.4**
BTK IAmb IAmb 23 55 38.2
comp=Z,9.1nm,1.1s
DZA Taraz 60.47 316 *e*P **P** **23 55 38.0 -1.0**
baz=316
CHGR Chyrangaron 60.72 311 P **P** **23 55 40.7 -0.2**
KK31 Karatay Array 61.11 316 P **P** **23 55 42.8 -0.6**
KK31 IAmb IAmb 23 55 45.2
comp=Z,6.5nm,0.9s
KKAR Karatay Array 61.11 316 P **P** **23 55 42.2 -1.1**
KKAR Karatay Array 61.11 316 P **P** **23 55 42.6 -0.7**
KKAR IAmb IAmb 23 55 45.2
comp=Z,6.5nm,0.9s
IUG Iuzhnay 61.13 315 *e*P **P** **23 55 42.8 -0.9**
baz=315
BRZS Berezniki 62.34 324 *e*P **P** **23 55 49.9 -1.5**
baz=324
DCZ Deep Cove 63.21 149 P **P** **23 55 57.5 +0.3**
DCZ IAmb IAmb 23 55 59.5
comp=Z,12nm,1.0s
WHZ Wether Hill Ro 63.91 149 P **P** **23 56 02.0 +0.2**
WHZ IAmb IAmb 23 57 34.1
comp=Z,25nm,1.5s
LBZ Lake Benmore 64.09 147 P **P** **23 56 03.8 +0.8**
LBZ IAmb IAmb 23 56 06.3
comp=Z,15nm,0.7s
ADK Adak 64.72 35 P **P** **23 56 08.3 +1.3**
ODZ Otahua Downs 64.76 147 P **P** **23 56 09.9 +2.5**
ODZ IAmb IAmb 23 56 16.6
comp=Z,34nm,1.4s
BRVK Borovoye 64.98 326 P **P** **23 56 08.1 -0.7**
BRVK IAmb IAmb 23 56 10.5
comp=Z,16nm,0.8s
BRVK Borovoye 64.98 326 P **P** **23 56 07.7 -1.1**
BRVK sP **PcP** **23 56 42.7 +1.5**
HRA Herat 65.21 305 P **P** **23 56 10.6 -0.4**
WSAR Wadi Sarin 67.22 292 P **P** **23 56 21.7 -2.0**
comp=Z,3.5nm,0.8s,baz=130,slow=7.9,SNR=2.2
comp=Z,3.5nm,0.8s
NRIK Noril'sk 67.67 346 P **P** **23 56 22.9 -2.8**
comp=Z,4.0nm,0.7s,baz=123,slow=6.1,SNR=8.1
comp=Z,4.0nm,0.7s
NRIK Noril'sk 67.67 346 P **P** **23 56 25.9 +0.2**
NRIK IAmb IAmb 23 56 33.1
comp=Z,8.0nm,0.8s
GEYT Alibeck 69.06 308 P **P** **23 56 35.0 0.0**
comp=Z,3.5nm,0.8s,baz=86,slow=20,SNR=17
comp=Z,3.5nm,0.8s
GEYT Alibeck 69.06 308 P **P** **23 56 35.3 +0.3**
GYA0B ALIBECK ARRAY 69.06 308 P **P** **23 56 35.2 +0.2**
ABKAR Akbulak array 69.91 320 P **P** **23 56 38.6 -1.3**
ABKAR IAmb IAmb 23 56 40.6
comp=Z,36nm,2.0s
ABKAR Akbulak array 69.91 320 P **P** **23 56 38.0 -1.9**
ARU Arti 72.50 327 P **P** **23 56 54.7 -0.7**
ARU IAmb IAmb 23 56 56.4
comp=Z,8.3nm,0.7s
CASY Casey 73.59 187 P **P** **23 57 02.0 +0.5**
RAYN Ar Rayn 79.28 293 P **P** **23 57 32.8 -2.0**
IMAR Indian Mountai 79.83 24 P **P** **23 57 35.8 -1.1**
CAST Castle Rocks 80.28 27 P **P** **23 57 39.3 0.0**
SKT Skwentna 80.42 28 P **P** **23 57 40.0 -0.1**
SUA Susitna One 80.76 29 P **P** **23 57 41.9 -0.1**
BPAW Bear Paw Mtn. 80.81 26 P **P** **23 57 42.6 +0.4**
BPAW IAmb IAmb 23 58 14.7
comp=Z,18nm,1.4s
KARS Kars 80.86 310 P **P** **23 57 43.5 +0.4**
KBZ Khabaz 80.97 313 P **P** **23 57 42.9 -0.5**
comp=Z,2.8nm,0.9s,baz=146,slow=3.6,SNR=2.5
comp=Z,2.8nm,0.9s
MLY Manley 80.98 25 P **P** **23 57 44.0 +0.8**
TRF Thorofare Moun 81.08 27 P **P** **23 57 43.7 -0.1**
TRF IAmb IAmb 23 58 20.9
comp=Z,11nm,1.1s
RC01 Rabbit Creek A 81.23 29 P **P** **23 57 44.5 +0.1**
RC01 IAmb IAmb 23 59 14.9
comp=Z,28nm,1.0s
H23K Yukon River 81.53 24 P **P** **23 57 47.1 +1.1**
NEA2 Nenana 81.67 26 P **P** **23 57 46.9 +0.2**
MCK McKinley 81.70 27 P **P** **23 57 46.6 -0.3**
MCK IAmb IAmb 23 58 07.9
comp=Z,14nm,1.0s
GURO Guroymak-BITLI 81.72 308 P **P** **23 57 47.4 -0.3**
GURO IAmb IAmb 23 57 50.8
comp=Z,12nm,0.7s
OPO Ambohidratompo 82.12 250 P **P** **23 57 48.0 -2.2**
comp=Z,4.8nm,0.8s,baz=89,slow=5.8,SNR=4.4
comp=Z,4.8nm,0.8s
HDA Harding Lake 82.59 26 P **P** **23 57 50.4 -1.1**
IL31 82.62 26 P **P** **23 57 50.9 -0.7**
IL31 IAmb IAmb 23 59 43.3
comp=Z,17nm,1.7s
ILAR Eielson Array 82.62 26 P **P** **23 57 49.7 -1.9**
comp=Z,1.1nm,0.6s,baz=237,slow=5.1,SNR=18
comp=Z,1.1nm,0.6s
MARD Mardin 82.76 307 P **P** **23 57 52.9 -0.3**
MARD IAmb IAmb 23 57 55.0
comp=Z,9.1nm,0.8s
KLMR Klimovskoe 82.90 330 *e*P **P** **23 57 52.2 -0.9**
KLMR AMP 23 57 56.3
comp=Z,23nm,0.8s
BMAR Burnt Mountain 83.53 23 P **P** **23 57 57.1 +0.7**
J26L Joseph Creek 84.05 26 P **P** **23 57 59.9 +0.8**
MENT Mentasta 84.06 27 P **P** **23 57 59.4 +0.2**
GLB Gilahina Butte 84.09 29 P **P** **23 57 59.5 +0.2**
GLB IAmb IAmb 23 58 39.0
comp=Z,38nm,1.6s
OBN Obninsk 84.70 325 P **P** **23 58 01.7 -0.7**
K27K Chicken 84.73 26 IAmb IAmb 23 58 05.4
comp=Z,12nm,1.0s
CTGM Chitina Glacie 85.32 29 P **P** **23 58 06.0 +0.3**
CTGM IAmb IAmb 23 58 08.8
comp=Z,20nm,1.0s
PPT Papeete 86.09 108 LR LR 00 31 54.1
comp=Z,105nm,18.9s,baz=358,slow=32
VNDA Vanda 86.23 173 P **P** **23 58 09.5 -0.1**
comp=Z,3.1nm,0.6s,baz=312,slow=6.2,SNR=30
comp=Z,3.1nm,0.6s
VNDA Vanda 86.23 173 P **P** **23 58 09.7 +0.1**
VNDA IAmb IAmb 23 58 10.9
comp=Z,14nm,1.4s
MAW Mawson 86.35 200 P **P** **23 58 09.3 -1.0**
comp=Z,6nm,0.8s,baz=68,slow=5.4,SNR=8.2
comp=Z,3.6nm,0.8s
MAW Mawson 86.35 200 P **P** **23 58 10.6 +0.3**
SBA Scott Base 87.13 172 P **P** **23 58 14.8 +0.8**
SBA IAmb IAmb 23 58 16.6
comp=Z,11nm,1.3s
SBA pP **pwP** **23 58 37.5 +0.5**
GHAJ Ghor Haditha 87.53 301 P **P** **23 58 16.6 -0.2**
ARCES ARCESS Array B 87.77 340 P **P** **23 58 15.0 -2.3**
comp=Z,8.0nm,0.9s,baz=93,slow=5.4,SNR=19
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 88.14 310 P **P** **23 58 19.0 -0.9**
comp=Z,2.3nm,0.8s,baz=79,slow=3.8,SNR=7.4
comp=Z,2.3nm,0.8s
FARO Faro, Yukon 88.91 27 P **P** **23 58 22.7 -0.1**
FARO IAmb IAmb 23 58 43.8
comp=Z,15nm,1.3s
FARO pP **pwP** **23 58 45.6 -0.8**
FIA1 FINESS Array S 89.30 332 P **P** **23 58 24.6 0.0**
FINES FINESS Array B 89.30 332 P **P** **23 58 22.9 -1.7**
comp=Z,15nm,0.9s,baz=97,slow=7.9,SNR=22
comp=Z,15nm,0.9s
FINES FINESS Array B 89.30 332 P **P** **23 58 25.0 +0.5**
AKASG Malin Array Be 89.64 321 P **P** **23 58 24.8 -1.6**
comp=Z,1.3nm,0.5s,baz=64,slow=5.1,SNR=10
comp=Z,1.3nm,0.5s
NACGM Naroch 90.31 325⇑ *e*P **P** **23 58 30.1 +0.7**
baz=78
CRVS Cervenica-Dubn 94.94 320 *e*P **P** **23 58 51.3 +0.3**
NB2 NORSAR Subarra 96.22 334 P **P** **23 58 54.9 -1.7**
comp=Z,4.6nm,0.9s,baz=66,slow=4.6
NB2 NORSAR Subarra 96.22 334 P **P** **23 58 54.9 -1.7**
baz=66,slow=4.6
NOA NORSAR Array B 96.22 334 P **P** **23 58 54.9 -1.7**
comp=Z,3.5nm,0.8s,baz=65,slow=4.5,SNR=11
comp=Z,3.5nm,0.8s
QSPA South Pole Qui 96.45 180 P **P** **23 58 57.0 -0.5**
comp=Z,5.1nm,1.0s,baz=337,slow=3.7,SNR=10.0
comp=Z,5.1nm,1.0s
QSPA South Pole Qui 96.45 180 P **P** **23 58 57.7 +0.1**
QSPA IAmb IAmb 23 58 59.5
comp=Z,7.0nm,1.1s
KRLC Kraliky 97.49 322 *e*P Pdif 23 59 04.5 +1.8
DPC Dobruska-Polom 97.68 323 *e*P **P** **23 59 03.4 0.0**
CHVC Chvalec 97.76 323 *e*P **P** **23 59 03.5 -0.3**
PRU Pruhonice 98.88 323 *e*P Pdif 23 59 10.4 +1.6
CLL Collm 99.29 324 *e*Pdif **Pdif** **23 59 10.0 -0.6**
KHC Kasperske Hory 99.78 322 *e*P **Pdif** **23 59 14.2 +1.3**
GERES GERESS Array B 99.81 322 P **Pdif** **23 59 12.3 -0.8**
comp=Z,0.7nm,0.7s,baz=67,slow=3.5,SNR=6.9
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 119.94 51 PKP **PKPdf** **00 04 19.6 0.0**
comp=Z,0.5nm,0.8s,baz=238,slow=0.9,SNR=8.8
TORD Torodi Ar. Bea 121.89 290 PKP **PKPdf** **00 04 22.5 -1.1**
comp=Z,2.9nm,0.8s,baz=60,slow=1.7,SNR=25
TORD SKP 00 07 51.5
comp=Z,0.7nm,0.8s,baz=44,slow=4.4,SNR=3.6
DBIC Dimbokro 129.82 284 SKPbc SKPab 00 07 53.5 -0.9
comp=Z,4.5nm,0.6s,baz=82,slow=7.6,SNR=12
PLCA Paso Flores 142.67 158 PKhKP PKPpre 00 04 56.6
comp=Z,2.4nm,0.8s,baz=214,slow=5.5,SNR=5.2
CPUP Villa Florida 159.98 170 PKP **PKPdf** **00 05 29.1 +1.0**
comp=Z,1.8nm,0.7s,baz=286,slow=5.0,SNR=4.3
CPUP PKPab **PKPab** **00 06 06.9 -0.8**
comp=Z,2.6nm,0.8s,baz=195,slow=3.8,SNR=5.3
LPAZ La Paz 162.63 125 PKP **PKPdf** **00 05 30.6 -1.3**
comp=Z,1.3nm,0.9s,baz=166,slow=3.8,SNR=4.5
LPAZ PKPab **PKPab** **00 06 21.8 +1.3**
comp=Z,1.4nm,0.7s,baz=137,slow=3.6,SNR=4.0

MAN ***23*** *23:51:47.5,6.57N×126.67E,h32km,mb4.6,ML3.5,MS3.4*
NEIC ***23*** *23:51:50.7±1.5,6.67N±0.08×126.55E±0.10,h67km±15km, mb4.2/7,Error ellipse: s-maj=15.4km s-min=8.4km az=122.0*
IDC ***23*** *23:51:50.1±3.0,6.76N×126.63E,h72km±24km,mb3.5/4, mbtmp4.1/6,Error ellipse: s-maj=52.7km s-min=19.2km az=54.0*
ISC 23 23:51:49.3±0.9,6.56N±0.05×126.55E±0.07,h61km±9km, n30,σ1°83/39,mb4.0/8,3C-8D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.48**	**323**⇓	*e*P	**Pn**	**23 51 59.6**	**-1.5**
MATI				*e*S	**Sn**	**23 52 08.3**	**-1.4**
DDMP	**Don Marcelino,**	**0.94**	**241**⇓	*e*P	**Pn**	**23 52 06.2**	**-0.5**
DDMP				*e*S	**Sn**	**23 52 20.3**	**+0.8**
DAV	**Davao City (W)**	**1.09**	**298**	P	**Pn**	**23 52 09.2**	**+0.7**
	549nm,0.3s,baz=90,slow=3.0,SNR=9.3						
DAV				S	**Sn**	**23 52 24.8**	**+2.1**
	695nm,0.4s,baz=257,slow=24,SNR=13						
DAV	**Davao City (W)**	**1.09**	**298**	Pn	**Pn**	**23 52 09.5**	**+1.0**
CDOP	**Cateel, Davao**	**1.22**	**355**⇑	*e*P	**Pn**	**23 52 09.3**	**-1.0**
CDOP				*i* S	**Sn**	**23 52 25.7**	**-0.2**
KCP	**Kidapawan**	**1.51**	**287**⇓	*i*P	**Pn**	**23 52 13.7**	**-0.6**
KCP				*i* S	**Sn**	**23 52 32.3**	**-0.7**
BIPH	**Bislig**	**1.62**	**354**⇓	*e*P	**Pn**	**23 52 14.7**	**-1.0**
BIPH				*e*S	**Sn**	**23 52 35.7**	**+0.1**
GSPH	**General Santos**	**1.66**	**254**⇑	*e*P	**Pn**	**23 52 14.3**	**-1.9**
GSPH				*i* S	**Sn**	**23 52 33.2**	**-3.4**
BUKP	**Musuan**	**1.97**	**312**⇓	*e*P	**Pn**	**23 52 20.6**	**+0.2**
BUKP				*e*S	**Sn**	**23 52 45.8**	**+1.6**
BUTP	**Butuan**	**2.56**	**339**⇓	*e*P	**Pn**	**23 52 32.9**	**+4.5**
BUTP				*e*S	Sn	23 53 07.7	+9.2
CGP	**Cagayan de Oro**	**2.63**	**316**⇑	*e*P	**Pn**	**23 52 31.3**	**+1.9**
CGP				*e*S	**Sn**	**23 53 01.3**	**+1.2**
PAGZ	**Pagadian**	**3.39**	**292**⇓	*i*P	**Pn**	**23 52 40.6**	**+0.9**
GHBP	**Garcia Hernand**	**3.76**	**324**⇓	*i*P	**Pn**	**23 52 45.1**	**+0.2**
GHBP				*e*S	Sn	23 53 39.4	+12
TNTI	**Ternate**	**5.81**	**172**	Pn	**Pn**	**23 53 15.5**	**+2.6**
LUWI	**Luwuk**	**8.44**	**207**	Pn	**Pn**	**23 53 52.3**	**+3.4**
SIJI	**Sorong**	**8.75**	**147**	P	**Pn**	**23 53 55.9**	**+2.6**
	9.3nm,0.2s,baz=360,slow=12,SNR=5.6						

FAKI	**Fak Fak**	**11.00**	**149**	Pn		**Pn**		**23**	**54**	**26.2**	**+2.2**
BATI	**Baumata**	**16.90**	**190**	P		**P**		**23**	**55**	**43.3**	**+0.2**
	9.8nm,0.3s,baz=51,slow=6.5,SNR=1.7										
KNRA	**Kununurra**	**22.20**	**174**	P		**P**		**23**	**56**	**41.7**	**+1.0**
KNRA				IAmb		IAmb		23	56	56.8	
	comp=Z,12nm,0.8s										
FITZ	**Fitzroy Crossi**	**24.52**	**182**	P		**P**		**23**	**57**	**04.6**	**+1.5**
	comp=Z,4.4nm,0.9s,baz=360,slow=9.2,SNR=8.5										
	comp=Z,4.4nm,0.9s										
FITZ	**Fitzroy Crossi**	**24.52**	**182**	P		**P**		**23**	**57**	**04.5**	**+1.3**
FITZ				IAmb		IAmb		23	57	08.9	
	comp=Z,4.8nm,0.8s										
WB0	**Warramunga Arr**	**27.28**	**164**	P		**P**		**23**	**57**	**30.3**	**+2.2**
WB0				IAmb		IAmb		23	57	49.0	
	comp=Z,5.4nm,0.9s										
WRA	**Warramunga Arr**	**27.43**	**164**	P		**P**		**23**	**57**	**32.5**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=346,slow=9.6,SNR=1.0										
	comp=Z,0.3nm,0.3s										
PSA00	**Pilbara Seismi**	**28.72**	**193**	P		**P**		**23**	**57**	**40.4**	**-0.5**
PSA00				IAmb		IAmb		23	57	42.7	
	comp=Z,9.7nm,0.9s										
JHJ2	**Mitsune**	**29.16**	**23**	P		**P**		**23**	**57**	**43.5**	**-1.2**
CM31	**Chiang Mai Arr**	**29.38**	**296**	P		**P**		**23**	**57**	**47.8**	**+0.9**
CM31				IAmb		IAmb		23	57	56.1	
	comp=Z,3.4nm,0.9s										
CMAR	**Chiang Mai Arr**	**29.38**	**296**	P		**P**		**23**	**57**	**46.9**	**0.0**
ASAR	**Alice Springs**	**30.89**	**167**	P		**P**		**23**	**58**	**00.7**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=338,slow=6.9,SNR=1.4										
	comp=Z,0.9nm,0.9s										
MKAR	**Makanchi Array**	**55.15**	**324**	P		**P**		**00**	**01**	**14.3**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=119,slow=8.1,SNR=1.2										
	comp=Z,0.3nm,0.4s										
QSPA	**South Pole Qui**	**96.45**	**180**	P		**P**		**00**	**05**	**09.1**	**-2.5**

*IDC **24** 00:03:04.0±1.0,34˚46N×141˚63E,h0km,mb3.9/8, mbtmp3.9/12,ML3.6/4,Error ellipse: s-maj=23.0km s-min=16.6km az=80.0*
*JMA **24** 00:03:05.0±0.5,34˚N±1˚×14˚2E±˚,h36km±2km,MV3.5/34, FAR SE OFF BOSO PEN*

ISC 24 00:03:07.3±0.8,34˚42N±0˚05×141˚68E±0˚07,h27km,n24, σ1°17/31,mb3.8/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
BSO1	**Boso 1**	**0.62**	**292**	*i* P	**Pb**	**00**	**03**	**19.0**	**-0.3**
BSO3	**Boso 3**	**1.03**	**292**	*e*P	**Pn**	**00**	**03**	**25.6**	**-0.2**
BSO4	**Boso 4**	**1.24**	**298**	*e*P	**Pn**	**00**	**03**	**29.0**	**+0.2**
KTR	**Katsuura**	**1.34**	**303**	*e*P	**Pn**	**00**	**03**	**29.7**	**-0.4**
JKUC	**kamogawauchiur**	**1.42**	**302**	P	**Pn**	**00**	**03**	**30.9**	**-0.5**
CHOJ	**Chosi**	**1.45**	**333**	P	**Pn**	**00**	**03**	**30.5**	**-1.2**
CHOJ				*e*S	**Sn**	**00**	**03**	**48.8**	**-0.9**
JMKN	**Mikurajimanish**	**1.81**	**254**	*e*P	**Pn**	**00**	**03**	**36.5**	**-0.2**
JMKN				S	**Sn**	**00**	**03**	**59.4**	**+0.7**
JIM2	**Oshima 3**	**1.88**	**280**	P	**Pn**	**00**	**03**	**36.4**	**-1.2**
JHJ2	**Mitsune**	**2.03**	**230**	*e*P	**Pn**	**00**	**03**	**40.5**	**+0.9**
JHJ2				*e*S	**Sb**	**00**	**04**	**06.3**	**-1.9**
JHJ	**Hachijo jima 2**	**2.04**	**231**	Pn	**Pn**	**00**	**03**	**40.8**	**+0.9**
	47nm,0.3s,baz=336,slow=22,SNR=19								
JHJ				Sn	**Sb**	**00**	**04**	**06.7**	**-2.0**
	187nm,0.3s,baz=70,slow=22,SNR=16								
	107nm,0.3s								
JOD2	**Odawara 2**	**2.29**	**292**	P	**Pn**	**00**	**03**	**42.5**	**-0.9**
JIZS	**Izushimoda**	**2.33**	**278**	*e*P	**Pn**	**00**	**03**	**43.1**	**-0.8**
JIZS				*e*S	**Sn**	**00**	**04**	**12.7**	**+1.1**
MJAR	**Matsushiro Arr**	**3.53**	**308**	Pn	**Pn**	**00**	**04**	**00.0**	**-0.4**
	1.5nm,0.3s,baz=156,slow=12,SNR=38								
	7.1nm,0.3s								
JCJ	**Chichijima**	**7.31**	**176**	Pn	**Pn**	**00**	**04**	**53.4**	**+1.1**
	5.7nm,0.3s,baz=181,slow=20,SNR=1.5								
JCJ				Sn	**Sn**	**00**	**06**	**10.7**	**-3.8**
	8.5nm,0.3s,baz=298,slow=20,SNR=3.0								
	55nm,0.6s								
KSRS	**Korea Array**	**11.55**	**289**	Pn	**Pn**	**00**	**05**	**50.7**	**+0.3**
	0.3nm,0.3s,baz=99,slow=15,SNR=2.6								
	0.8nm,0.5s								
SONM	**Songino Array**	**29.49**	**308**	P	**P**	**00**	**09**	**10.4**	**+1.2**
	0.9nm,0.6s,baz=111,slow=9.3,SNR=6.4								
	0.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**41.11**	**258**	P	**P**	**00**	**10**	**48.4**	**-0.8**
	1.2nm,0.6s,baz=47,slow=7.7,SNR=10								
	1.2nm,0.6s								
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	**00**	**11**	**11.1**	**0.0**
	1.5nm,0.7s,baz=73,slow=5.1,SNR=6.7								
ZALV				PcP	**PcP**	**00**	**12**	**57.4**	**+0.5**
	0.8nm,0.4s,baz=122,slow=4.2,SNR=2.9								
	1.5nm,0.7s								
MKAR	**Makanchi Array**	**45.73**	**304**	P	**P**	**00**	**11**	**26.3**	**+0.3**
	0.8nm,0.5s,baz=84,slow=9.3,SNR=9.7								
	0.8nm,0.5s								
KURBB	**Kurchatov Arra**	**47.81**	**310**	P	**P**	**00**	**11**	**42.1**	**-0.2**
	2.9nm,0.6s,baz=87,slow=7.7,SNR=24								
	2.9nm,0.6s								
ILAR	**Eielson Array**	**51.60**	**31**	P	**P**	**00**	**12**	**11.6**	**+0.7**
	0.5nm,0.8s,baz=254,slow=6.1,SNR=3.7								
	0.5nm,0.8s								
WRA	**Warramunga Arr**	**54.51**	**188**	P	**P**	**00**	**12**	**33.5**	**+0.7**
	0.6nm,0.4s,baz=2.3,slow=7.5,SNR=22								
	0.6nm,0.4s								
ASAR	**Alice Springs**	**58.24**	**188**	P	**P**	**00**	**13**	**00.6**	**+1.2**
	0.7nm,0.8s,baz=15,slow=14,SNR=8.2								
	0.7nm,0.8s								
LPAZ	**La Paz**	**147.75**	**63**	PKPbc	**PKiKP**	**00**	**22**	**52.1**	**-0.7**
	0.5nm,0.4s,baz=90,slow=4.0,SNR=2.2								

*IDC **24** 00:05:32.8±1.1,13˚59N×89˚08W,h0km,mb3.9/7, mbtmp3.9/7,Error ellipse: s-maj=36.2km s-min=22.7km az=56.0*
*INET **24** 00:05:34.6±0.4,12˚96N×89˚92W,h15km,MW4.5*
*UCR **24** 00:05:38.0±1.3,13˚24N×89˚80W,h44km±20km,MW3.9, mb4.3(NEIC)*
*GCG **24** 00:05:38.6±0.7,13˚23N×90˚06W,h67km±54km,MD4.3*
*NEIC **24** 00:05:39.0±1.9,13˚17N±0˚06×89˚80W±0˚06,h41km±12km, mb4.3/48,Md4.8(SNET),Error ellipse: s-maj=8.7km s-min=8.1km az=200.0*

ISC 24 00:05:38.2±0.9,13˚19N±0˚05×89˚81W±0˚04,h49km±8km, n200,σ1°22/213,mb4.2/19,2C-9D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
CEVE	**Cerro Verde**	**0.66**	**16**	*e*P	**Pn**	**00**	**05**	**50.4**	**-1.3**
CEVE				*e*S	**Sn**	**00**	**06**	**02.2**	**+0.8**
CEVE	**Cerro Verde**	**0.66**	**16**	*e*P	**Pn**	**00**	**05**	**50.4**	**-1.3**
CEVE				*e*S	**Sn**	**00**	**06**	**02.2**	**+0.8**
SNJE	**San Jose**	**0.71**	**17**	*e*P	**Pn**	**00**	**05**	**50.7**	**-1.5**
SNJE	**San Jose**	**0.71**	**17**	*e*P	**Pn**	**00**	**05**	**50.7**	**-1.5**
ITCA	**Escuela Especi**	**0.71**	**47**	*e*P	**Pn**	**00**	**05**	**50.6**	**-1.6**
ITCA				*e*S	**Sn**	**00**	**06**	**00.9**	**-1.4**
ITCA	**Escuela Especi**	**0.71**	**47**	*e*P	**Pn**	**00**	**05**	**50.6**	**-1.6**
ITCA				*e*S	**Sn**	**00**	**06**	**00.9**	**-1.4**
NUBE	**Las Nubes**	**0.71**	**3**	*e*P	**Pn**	**00**	**05**	**50.8**	**-1.5**
NUBE				*e*S	**Sn**	**00**	**06**	**01.8**	**-0.6**
NUBE	**Las Nubes**	**0.71**	**3**	*e*P	**Pn**	**00**	**05**	**50.8**	**-1.5**
NUBE				*e*S	**Sn**	**00**	**06**	**01.8**	**-0.6**
PMON	**Piamonte**	**0.71**	**43**	*e*P	**Pn**	**00**	**05**	**51.0**	**-1.3**
PMON				*e*S	**Sn**	**00**	**06**	**01.9**	**-0.4**
PMON	**Piamonte**	**0.71**	**43**	*e*P	**Pn**	**00**	**05**	**51.0**	**-1.3**
PMON				*e*S	**Sn**	**00**	**06**	**01.9**	**-0.4**
RTR	**El Retiro**	**0.73**	**13**	*e*P	**Pn**	**00**	**05**	**51.2**	**-1.3**
RTR	**El Retiro**	**0.73**	**13**	*e*P	**Pn**	**00**	**05**	**51.2**	**-1.3**
CEDA	**San Andres**	**0.74**	**34**	*e*P	**Pn**	**00**	**05**	**51.1**	**-1.4**
CEDA				*e*S	**Sn**	**00**	**06**	**03.0**	**+0.2**
CEDA	**San Andres**	**0.74**	**34**	*e*P	**Pn**	**00**	**05**	**51.1**	**-1.4**
CEDA				*e*S	**Sn**	**00**	**06**	**03.0**	**+0.2**
BOQS	**Boqueron**	**0.75**	**44**	*e*P	**Pn**	**00**	**05**	**51.6**	**-1.3**
BOQS	**Boqueron**	**0.75**	**44**	*e*P	**Pn**	**00**	**05**	**51.6**	**-1.3**
SNET	**Serv Nac Est T**	**0.75**	**49**		**Pn**	**00**	**05**	**51.5**	**-1.3**
SNET				Sn	**Sn**	**00**	**06**	**02.8**	**-0.5**
SNET	**Serv Nac Est T**	**0.75**	**49**	*e*P	**Pn**	**00**	**05**	**51.1**	**-1.7**
SNET				*e*S	**Sn**	**00**	**06**	**02.8**	**-0.5**
SNET	**Serv Nac Est T**	**0.75**	**49**	*e*P	**Pn**	**00**	**05**	**51.1**	**-1.7**
SNET				*e*S	**Sn**	**00**	**06**	**02.8**	**-0.5**
UEES	**Universidad Ev**	**0.77**	**47**	*e*P	**Pn**	**00**	**05**	**51.7**	**-1.3**
UEES	**Universidad Ev**	**0.77**	**47**	*e*P	**Pn**	**00**	**05**	**51.7**	**-1.3**
SEMO	**Seminario San**	**0.77**	**48**	*e*P	**Pn**	**00**	**05**	**51.4**	**-1.6**
UTEC	**Universidad Te**	**0.79**	**49**	*e*P	**Pn**	**00**	**05**	**51.4**	**-1.8**
UTEC	**Universidad Te**	**0.79**	**49**	*e*P	**Pn**	**00**	**05**	**51.4**	**-1.8**
UESS	**Universidad de**	**0.80**	**48**	*e*P	**Pn**	**00**	**05**	**52.0**	**-1.4**
UESS	**Universidad de**	**0.80**	**48**	*e*P	**Pn**	**00**	**05**	**52.0**	**-1.4**
LOAL	**Lomas de Alarc**	**0.81**	**2**	*e*P	**Pn**	**00**	**05**	**52.5**	**-1.0**
LOAL	**Lomas de Alarc**	**0.81**	**2**	*e*P	**Pn**	**00**	**05**	**52.5**	**-1.0**
IGN	**Direccin Gen**	**0.82**	**50**	*e*P	**Pn**	**00**	**05**	**52.3**	**-1.3**
IGN	**Direccin Gen**	**0.82**	**50**	*e*P	**Pn**	**00**	**05**	**52.3**	**-1.3**
UNIC	**Universidad Ca**	**0.83**	**18**	*e*P	**Pn**	**00**	**05**	**52.6**	**-1.1**
UNIC	**Universidad Ca**	**0.83**	**18**	*e*P	**Pn**	**00**	**05**	**52.6**	**-1.1**
SLOZ	**Alcaldia de Sa**	**0.83**	**2**	*e*P	**Pn**	**00**	**05**	**52.8**	**-1.0**
AEIL	**Aeropuerto Ilo**	**0.85**	**53**	*e*P	**Pn**	**00**	**05**	**53.1**	**-0.9**
AEIL	**Aeropuerto Ilo**	**0.85**	**53**	*e*P	**Pn**	**00**	**05**	**53.1**	**-0.9**
LFRS	**El Faro**	**0.85**	**59**	*e*P	**Pn**	**00**	**05**	**52.7**	**-1.4**
LFRS	**El Faro**	**0.85**	**59**	*e*P	**Pn**	**00**	**05**	**52.7**	**-1.4**
LFU	**La Fuente**	**0.88**	**51**	*e*P	**Pn**	**00**	**05**	**53.6**	**-0.8**
LFU	**La Fuente**	**0.88**	**51**	*e*P	**Pn**	**00**	**05**	**53.6**	**-0.8**
SJTE	**Alcalda de S**	**0.89**	**61**	*e*P	**Pn**	**00**	**05**	**53.4**	**-1.2**
SJTE				*e*S	**Sn**	**00**	**06**	**06.1**	**-0.5**
SJTE	**Alcalda de S**	**0.89**	**61**	*e*P	**Pn**	**00**	**05**	**53.4**	**-1.2**
SJTE				*e*S	**Sn**	**00**	**06**	**06.1**	**-0.5**
LBRS	**Las Brisas**	**0.93**	**54**	*e*P	**Pn**	**00**	**05**	**54.5**	**-0.6**
LBRS				*e*S	**Sn**	**00**	**06**	**07.1**	**-0.3**
LBRS	**Las Brisas**	**0.93**	**54**	*e*P	**Pn**	**00**	**05**	**54.5**	**-0.6**
LBRS				*e*S	**Sn**	**00**	**06**	**07.1**	**-0.3**
PAVA	**Las Pavas**	**1.00**	**58**	*e*P	**Pn**	**00**	**05**	**55.4**	**-0.6**
PAVA	**Las Pavas**	**1.00**	**58**	*e*P	**Pn**	**00**	**05**	**55.4**	**-0.6**
COEG	**Centro de Oper**	**1.01**	**65**	*e*P	**Pn**	**00**	**05**	**55.1**	**-1.0**
COEG	**Centro de Oper**	**1.01**	**65**	*e*P	**Pn**	**00**	**05**	**55.1**	**-1.0**
SNVI	**San Vicente**	**1.04**	**66**	*e*P	**Pn**	**00**	**05**	**55.8**	**-0.8**
SNVI				*e*S	**Sn**	**00**	**06**	**10.2**	**0.0**
SNVI	**San Vicente**	**1.04**	**66**	*e*P	**Pn**	**00**	**05**	**55.8**	**-0.8**
SNVI				*e*S	**Sn**	**00**	**06**	**10.2**	**0.0**
UESV	**Universidad de**	**1.09**	**66**	*e*P	**Pn**	**00**	**05**	**56.3**	**-0.9**
UESV	**Universidad de**	**1.09**	**66**	*e*P	**Pn**	**00**	**05**	**56.3**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.17**	**64**	*e*P	**Pn**	**00**	**05**	**58.0**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.17**	**64**	*e*P	**Pn**	**00**	**05**	**58.0**	**-0.4**
MTO3	**Montecristo**	**1.28**	**20**		**Pn**	**00**	**05**	**59.8**	**-0.2**
MTO3	**Montecristo**	**1.28**	**20**	*e*P	**Pn**	**00**	**05**	**59.8**	**-0.2**
MTO3	**Montecristo**	**1.28**	**20**	*e*P	**Pn**	**00**	**05**	**59.8**	**-0.2**
LLGN	**La Laguna**	**1.29**	**41**	*e*P	**Pn**	**00**	**05**	**59.5**	**-0.5**
LLGN	**La Laguna**	**1.29**	**41**	*e*P	**Pn**	**00**	**05**	**59.5**	**-0.5**
COEB	**Comit de Eme**	**1.29**	**76**	*e*P	**Pn**	**00**	**05**	**58.5**	**-1.4**
COEB	**Comit de Eme**	**1.29**	**76**	*e*P	**Pn**	**00**	**05**	**58.5**	**-1.4**
PQSS	**Presa 15 de Se**	**1.30**	**70**	*e*P	**Pn**	**00**	**05**	**59.2**	**-0.7**
PQSS	**Presa 15 de Se**	**1.30**	**70**	*e*P	**Pn**	**00**	**05**	**59.2**	**-0.7**
P5NO	**Presa 5 de nov**	**1.30**	**52**	*e*P	**Pn**	**00**	**05**	**59.7**	**-0.3**
PCG	**Pacaya**	**1.43**	**327**	*e*P	**Pn**	**00**	**06**	**01.1**	**-0.8**
ESQI	**Esquipulas**	**1.44**	**19**		**Pn**	**00**	**06**	**02.2**	**+0.2**
ESQI	**Esquipulas**	**1.44**	**19**	*e*P	**Pn**	**00**	**06**	**02.1**	**+0.1**
PACA	**Pacayal**	**1.48**	**79**	*e*P	**Pn**	**00**	**06**	**02.1**	**-0.4**
PACA	**Pacayal**	**1.48**	**79**	*e*P	**Pn**	**00**	**06**	**02.1**	**-0.4**
NBG	**Las Nubes**	**1.49**	**340**	*e*P	**Pn**	**00**	**06**	**03.4**	**+0.6**
RANC	**El Ranchito**	**1.51**	**80**	*e*P	**Pn**	**00**	**06**	**02.1**	**-0.9**
RANC	**El Ranchito**	**1.51**	**80**	*e*P	**Pn**	**00**	**06**	**02.1**	**-0.9**
VSM	**San Miguel**	**1.52**	**81**	*e*P	**Pn**	**00**	**06**	**02.7**	**-0.5**
VSM	**San Miguel**	**1.52**	**81**	*e*P	**Pn**	**00**	**06**	**02.7**	**-0.5**
FUG	**Fuego 3**	**1.60**	**322**	*e*P	**Pn**	**00**	**06**	**03.0**	**-1.3**
CNRM	**Centro Naciona**	**1.63**	**80**	*e*P	**Pn**	**00**	**06**	**03.7**	**-0.7**
CNRM	**Centro Naciona**	**1.63**	**80**	*e*P	**Pn**	**00**	**06**	**03.7**	**-0.7**
LCND	**La Caada**	**1.88**	**86**	*e*P	**Pn**	**00**	**06**	**06.9**	**-1.0**
LCND	**La Caada**	**1.88**	**86**	*e*P	**Pn**	**00**	**06**	**06.9**	**-1.0**
MRL	**Marmol**	**1.89**	**4**	*e*P	**Pn**	**00**	**06**	**09.2**	**+1.0**
CNCH	**Conchagua**	**1.93**	**87**	*e*P	**Pn**	**00**	**06**	**07.4**	**-1.4**
CNCH	**Conchagua**	**1.93**	**87**	*e*P	**Pn**	**00**	**06**	**07.4**	**-1.4**
RTAL	**Retalhuleu**	**2.26**	**306**	Pn	**Pn**	**00**	**06**	**12.6**	**-0.6**
STG3	**Santiaguito 3,**	**2.28**	**312**	*e*P	**Pn**	**00**	**06**	**12.1**	**-1.5**
STG3				*e*S	**Sn**	**00**	**06**	**38.1**	**-2.5**
TGUH	**Tegucigalpa,Un**	**2.62**	**70**	Pn	**Pn**	**00**	**06**	**17.8**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.62**	**70**	*e*P	**Pn**	**00**	**06**	**18.1**	**-0.1**
HUEH	**Huehuetenango**	**2.68**	**323**		**Pn**	**00**	**06**	**20.1**	**+1.0**
HUEH	**Huehuetenango**	**2.68**	**323**	*e*P	**Pn**	**00**	**06**	**18.2**	**-0.8**
CRIN	**San Cristobal**	**2.74**	**100**		**Pn**	**00**	**06**	**18.6**	**-1.2**
CRIN	**San Cristobal**	**2.74**	**100**	*e*P	**Pn**	**00**	**06**	**18.4**	**-1.4**
CRIN				*e*S	**Sn**	**00**	**06**	**49.8**	**-1.9**
TEL3	**Telica 3**	**2.96**	**102**	*e*P	**Pn**	**00**	**06**	**20.7**	**-2.1**
TELN	**Telica**	**2.97**	**101**	*e*P	**Pn**	**00**	**06**	**20.6**	**-2.3**
CNGN	**Cerro Negro**	**3.11**	**102**		**Pn**	**00**	**06**	**21.9**	**-3.0**
MOMN	**Momotombo**	**3.29**	**103**	*e*P	**Pn**	**00**	**06**	**24.9**	**-2.4**
COPN	**Copaltepe**	**3.30**	**107**	*e*P	**Pn**	**00**	**06**	**24.8**	**-2.6**
PETF	**Flores**	**3.71**	**359**		**Pn**	**00**	**06**	**33.8**	**+0.8**
MATN	**Matagalpa**	**3.80**	**93**		**Pn**	**00**	**06**	**32.9**	**-1.4**
MATN	**Matagalpa**	**3.80**	**93**	*i* P	**Pn**	**00**	**06**	**32.7**	**-1.6**
CCIG	**Comitan**	**3.81**	**324**		**Pn**	**00**	**06**	**35.5**	**+0.9**
BOAB	**BOACO BROADBAN**	**4.11**	**100**	Pn	**Pn**	**00**	**06**	**36.4**	**-2.2**
ACON	**Acoyapa**	**4.69**	**104**		**Pn**	**00**	**06**	**44.5**	**-2.0**
ACON	**Acoyapa**	**4.69**	**104**	*e*P	**Pn**	**00**	**06**	**45.7**	**-0.8**
HZTE	**Horizontes, Gu**	**4.80**	**120**	Pn	**Pn**	**00**	**06**	**48.4**	**+0.3**
HZTE	**Horizontes, Gu**	**4.80**	**120**	*e*P	**Pn**	**00**	**06**	**48.8**	**+0.7**
GBS3	**Finca Las Img**	**4.89**	**119**	*e*P	**Pn**	**00**	**06**	**50.5**	**+1.3**
LAPC	**Finca la Perla**	**4.92**	**119**	*e*P	**Pn**	**00**	**06**	**50.7**	**+1.1**
GB1A	**Boringuen Arri**	**4.92**	**118**	*e*P	**Pn**	**00**	**06**	**50.6**	**+0.8**
BUAI	**Buenos Aires**	**4.95**	**117**	*e*P	**Pn**	**00**	**06**	**51.5**	**+1.4**
VRLE	**La Escondida,**	**4.96**	**118**	*e*P	**Pn**	**00**	**06**	**51.8**	**+1.5**
GPS3	**Bodega del ICE**	**4.98**	**119**	*e*P	**Pn**	**00**	**06**	**52.1**	**+1.6**
GPS1	**Guardaparques**	**4.98**	**118**	*e*P	**Pn**	**00**	**06**	**52.3**	**+1.7**
GPS2	**Hotel Rincn d**	**4.99**	**119**	*e*P	**Pn**	**00**	**06**	**52.2**	**+1.5**
ORTG	**Ortega, Santa**	**5.11**	**123**		**Pn**	**00**	**06**	**52.7**	**+0.4**
GUAB	**Guayabo de Bag**	**5.12**	**118**	*i*P	**Pn**	**00**	**06**	**53.9**	**+1.5**
HORNC	**Hornillas**	**5.16**	**118**	*e*P	**Pn**	**00**	**06**	**53.0**	**0.0**
COLC	**Colonia**	**5.16**	**119**	*e*P	**Pn**	**00**	**06**	**54.0**	**+1.0**
VMAR	**Armenia, Volca**	**5.16**	**117**	*e*P	**Pn**	**00**	**06**	**53.4**	**+0.4**
CUI	**Cuipilapa**	**5.20**	**118**	*e*P	**Pn**	**00**	**06**	**53.8**	**+0.3**
DUNO	**Dulce Nombre,**	**5.24**	**126**		**Pn**	**00**	**06**	**54.1**	**0.0**
ACAL	**Aguas Claras**	**5.32**	**118**	*e*P	**Pn**	**00**	**06**	**55.5**	**+0.3**
PTEN	**Parque Tenorio**	**5.32**	**117**	*e*P	**Pn**	**00**	**06**	**56.1**	**+0.8**
ESPN	**Las Esperanzas**	**5.47**	**100**		**Pn**	**00**	**06**	**57.4**	**+0.2**
JTS	**Las Juntas de**	**5.56**	**121**	Pn	**Pn**	**00**	**06**	**59.0**	**+0.5**
JTS	**Las Juntas de**	**5.56**	**121**	*e*P	**Pn**	**00**	**06**	**58.6**	**+0.1**
CMIG	**Matias Romero**	**6.25**	**309**	Pn	**Pn**	**00**	**07**	**07.1**	**-0.8**
	2.0nm,0.3s,baz=118,slow=11,SNR=16								
CMIG				Sn	**Sn**	**00**	**08**	**16.4**	**-1.6**
	2.2nm,0.3s,baz=22,slow=21,SNR=1.5								
HDC	**Heredia**	**6.42**	**119**	Pn	**Pn**	**00**	**07**	**11.0**	**+0.6**
LCR2	**La Lucha 2**	**6.64**	**120**	*e*P	**Pn**	**00**	**07**	**14.8**	**+1.3**
RIMA	**Rio Macho**	**6.75**	**120**		**Pn**	**00**	**07**	**16.1**	**+1.1**
RIMA	**Rio Macho**	**6.75**	**120**	*e*P	**Pn**	**00**	**07**	**15.7**	**+0.7**
CDM	**Cerro de Muert**	**6.94**	**121**	*e*P	**Pn**	**00**	**07**	**19.1**	**+1.2**
PEZE	**Perez Zeledon,**	**7.11**	**122**		**Pn**	**00**	**07**	**20.6**	**+0.8**
TEIG	**Tepich**	**7.15**	**12**	Pn	**Pn**	**00**	**07**	**21.0**	**+0.7**
SRBA	**San Rafael, Bu**	**7.45**	**121**	Pn	**Pn**	**00**	**07**	**25.5**	**+0.9**
SRBA	**San Rafael, Bu**	**7.45**	**121**	*e*P	**Pn**	**00**	**07**	**25.6**	**+1.0**
DRUM	**Durika**	**7.53**	**81**		**Pn**	**00**	**07**	**27.1**	**+1.5**
CDITO	**Canoas**	**8.21**	**123**		**Pn**	**00**	**07**	**35.5**	**+0.6**
BRU2	**Volcan**	**8.24**	**121**		**Pn**	**00**	**07**	**36.2**	**+0.8**
TLJG	**Tlapa**	**9.50**	**298**	Pn	**Pn**	**00**	**07**	**54.0**	**+1.5**
SOR	**Soroa**	**11.54**	**33**	Pn	**Pn**	**00**	**08**	**22.3**	**+2.0**
061Z	**Ochoppi**	**15.14**	**32**	Pn	**Pn**	**00**	**09**	**10.4**	**+1.4**
833A	**Chaparral WMA,**	**17.51**	**331**	P	**P**	**00**	**09**	**40.9**	**+1.3**
SLOR	**San Lorenzo -**	**17.81**	**140**		**P**	**00**	**09**	**44.5**	**+1.1**
BRAL	**Brewton**	**18.08**	**8**	P	**Pn**	**00**	**09**	**44.6**	**-1.2**
BRAL				IAmb	IAmb	00	09	51.2	
	comp=Z,37nm,1.4s								
344A	**Westbrook Farm**	**18.20**	**357**	P	**Pn**	**00**	**09**	**48.5**	**+1.1**
344A				IAmb	IAmb	00	09	54.8	
	comp=Z,17nm,0.9s								
PORT	**Chimborazo Vol**	**18.22**	**142**	P	**P**	**00**	**09**	**48.3**	**+0.3**
250A	**Grady**	**18.98**	**9**	P	**Pn**	**00**	**09**	**56.9**	**+0.1**
NATX	**Nacogdoches**	**19.02**	**347**	P	**P**	**00**	**09**	**55.3**	**-0.8**
NATX				IAmb	IAmb	00	09	57.5	
	comp=Z,12nm,0.8s								
TIGA	**Tifton**	**19.05**	**16**	P	**Pn**	**00**	**09**	**58.1**	**+0.6**
SDV	**Santo Domingo**	**19.30**	**101**	P	**P**	**00**	**09**	**58.4**	**-1.2**
237A	**Washetta, Mont**	**19.52**	**345**	P	**Pn**	**00**	**10**	**03.1**	**-0.1**
237A				IAmb	IAmb	00	10	46.6	
	comp=Z,26nm,0.9s								
BOSC	**San Juan Bosco**	**19.74**	**145**	P	**P**	**00**	**10**	**05.6**	**+1.3**
BOSC				IAmb	IAmb	00	10	10.2	
	comp=Z,16nm,1.4s								
LRAL	**Lakeview Retre**	**19.93**	**7**	P	**P**	**00**	**10**	**06.4**	**+0.4**
Z47A	**Carrollton**	**19.99**	**4**	P	**Pn**	**00**	**10**	**07.7**	**-1.0**
Z47A				IAmb	IAmb	00	10	26.5	
	comp=Z,7.3nm,0.6s								
WHTX	**Lake Whitney,**	**19.99**	**341**	P	**P**	**00**	**10**	**06.8**	**+0.1**
WHTX				IAmb	IAmb	00	10	29.7	
	comp=Z,8.5nm,0.8s								
154A	**Montrose**	**20.29**	**17**	P	Pn	00	10	11.4	-0.9
154A				IAmb	IAmb	00	10	12.8	
	comp=Z,15nm,0.6s								
Z51A	**Franklin**	**20.48**	**11**	P	**P**	**00**	**10**	**11.5**	**-0.6**
Z51A				IAmb	IAmb	00	10	26.9	
	comp=Z,5.4nm,0.5s								
TXAR	**Lajitas Array**	**20.58**	**324**	P	Pn	00	10	15.3	-0.5
	comp=Z,1.2nm,0.5s,baz=144,slow=11,SNR=35								
	comp=Z,1.2nm,0.5s								
TXAR	**Lajitas Array**	**20.58**	**324**	P	Pn	00	10	15.0	-0.9
TX31	**Lajitas Ar. Si**	**20.58**	**324**	P	Pn	00	10	15.0	-0.9
TX31				IAmb	IAmb	00	10

WB2 IAmb IAmb 00 59 46.7
comp=Z,3.7nm,0.9s
WR0 Warramunga Arr 23.64 159 P P 00 59 47.0 -0.1
WR0 IAmb IAmb 01 00 30.5
comp=Z,7.2nm,1.5s
ASAR Alice Springs 26.89 163 P P 01 00 17.2 +0.6
comp=Z,0.4nm,0.5s,baz=341,slow=7.5,SNR=16
comp=Z,0.4nm,0.5s
BBOO Buckleboo 36.13 165 P P 01 01 38.0 +0.4
STKA Stephens Creek 37.07 157 P P 01 01 46.0 +0.3
comp=Z,0.8nm,0.4s,baz=340,slow=12,SNR=4.0
comp=Z,0.8nm,0.4s
STKA Stephens Creek 37.07 157 P P 01 01 45.8 +0.1
MK31 Makanchi Array 58.23 326 P P 01 04 28.4 -1.2
MK31 IAmb IAmb 01 05 00.6
comp=Z,6.3nm,1.3s
MKAR Makanchi Array 58.23 326 P P 01 04 29.2 -0.4
comp=Z,0.5nm,0.4s,baz=127,slow=7.5,SNR=9.2
comp=Z,0.5nm,0.4s
MKAR Makanchi Array 58.23 326 P P 01 04 28.9 -0.7
P18K Big Mountain, 82.65 30 P P 01 06 59.7 +1.3
SVW2 Sparrevohn 82.73 29 P P 01 06 57.7 -1.0
TTA Tatalina 82.82 27 P P 01 07 00.9 +1.7
TTA IAmb IAmb 01 07 02.1
comp=Z,2.8nm,1.0s

---

*IDC **24** 01:06:25.9±2.5, 39°.09N×49°.42E, h0km, mb3.3/4, mbtmp3.3/6, ML0.9/1, Error ellipse: s-maj=64.9km s-min=18.2km az=1.0*
ISC 24 01:06:31.8±1.7, 39°.2N±0°.3×49°.5E±0°.1, h35km, n6, σ0s68/7, mb3.3/3, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNI	**Garni**	**3.81**	**286**	Pn	**Pn**	**01 07 28.2**	**+0.1**
	0.5nm,0.3s,baz=50,slow=18,SNR=2.4						
	6.0nm,0.7s						
GEYT	**Alibeck**	**6.85**	**98**	Pn	**Pn**	**01 08 09.3**	**-0.5**
	0.7nm,0.3s,baz=280,slow=15,SNR=5.3						
GEYT				Sn	**Sn**	**01 09 27.1**	**+0.5**
	0.3nm,0.3s,baz=358,slow=24,SNR=2.0						
BVAR	**Borovoye Array**	**19.91**	**39**	P	**P**	**01 10 59.7**	**-0.5**
	0.4nm,0.7s,baz=228,slow=7.8,SNR=3.7						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**23.35**	**51**	P	**P**	**01 11 37.7**	**+0.9**
	0.5nm,0.7s,baz=254,slow=9.3,SNR=5.0						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**25.01**	**62**	P	**P**	**01 11 52.7**	**+0.4**
	0.5nm,0.6s,baz=260,slow=8.9,SNR=2.3						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**28.05**	**47**	P	**P**	**01 12 19.2**	**-0.3**
	0.5nm,0.3s,baz=268,slow=9.2,SNR=2.5						
	0.5nm,0.3s						

---

*IDC **24** 01:32:53.8±0.5, 54°.77S×30°.49W, h0km, mb4.5/11, mbtmp4.5/12, ML4.3/1, MS4.1/32, Error ellipse: s-maj=21.1km s-min=15.5km az=69.0*
*NEIC **24** 01:32:56.0±1.5, 54°.9S±0°.1×30°.70W±0°.09, h15km±3km, mb5.0/52, Error ellipse: s-maj=15.9km s-min=6.4km az=193.0*
*GCMT **24** 01:32:56.0±0.3, 54°.72S±0°.02×30°.18W±0°.06, h28km, MW5.2/74, Moment Tensor Solution. s33,c36; s74,c89; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.06±.06; $M_{\theta\theta}$0.70±.04; $M_{\phi\phi}$0.35±.04; $M_{r\theta}$0.22±.05; $M_{\theta\phi}$0.19±.03; $M_{\phi r}$-0.23±.07; Best double couple: $M_0$0.96000×10^{17} NP1:ϕ_s259.00000°, δ49.00000°, λ-74.00000°. NP2:ϕ_s55.00000°, δ43.00000°, λ-107.00000°. Principal axes: T 0.7940, Plg3.0000°, Azm338.0000°; N 0.3340, Plg12.0000°, Azm68.0000°; P -1.1270, Plg78.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **24** 01:32:58.0±0.0, 55°.00S×30°.70W, h30km, mB5.3/1, Ms4.8/2, Ms7 4.6/2*
ISC 24 01:32:55.2±0.3, 54°.87S±0°.06×30°.72W±0°.07, h10km, n303, σ0s86/267, mb5.0/34, MS4.2/34, 1C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.41**	**278**	Pn	**Pn**	**01 33 47.6**	**-0.7**
EFI	**East Falkland**	**16.62**	**270**	Pn	**Pn**	**01 36 45.8**	**-2.2**
EFI				IAmb	IAmb	01 36 56.1	
	comp=Z,172nm,1.6s						
VNA1	**Neumayer--Stat**	**18.66**	**157**	P	**Pn**	**01 37 14.9**	**+1.7**
VNA1	**Neumayer--Stat**	**18.66**	**157**	ScP	**ScP**	**01 45 17.8**	**+1.9**
VNA3	**Neumayer Olymp**	**18.80**	**159**	P	**Pn**	**01 37 15.6**	**+0.7**
VNA3	**Neumayer Olymp**	**18.80**	**159**	PcP	**PcP**	**01 41 41.1**	**+0.3**
VNA2	**Neumayer--Watz**	**19.06**	**157**	P	**P**	**01 37 17.1**	**-0.1**
	baz=317,slow=11						
VNA2	**Neumayer--Watz**	**19.06**	**157**	PcP	**PcP**	**01 41 42.0**	**+0.7**
PMSA	**Palmer Station**	**19.22**	**226**	P	**P**	**01 37 21.5**	**+2.5**
	comp=Z,0.9nm,0.3s,baz=80,slow=6.5,SNR=6.0						
PMSA				LR	LR	01 43 52.3	
	comp=Z,757nm,18.7s,baz=58,slow=34						
	comp=Z,83nm,1.0s						
PMSA	**Palmer Station**	**19.22**	**226**	P	**P**	**01 37 18.1**	**-0.8**
PMSA				IAmb	IAmb	01 37 23.1	
	comp=Z,113nm,1.1s						
SNAA	**Sanae**	**20.65**	**155**	P	**P**	**01 37 34.3**	**-0.3**
SNAA	**Sanae**	**20.65**	**155**	PcP	**PcP**	**01 41 44.9**	**+0.6**
SNAA	**Sanae**	**20.65**	**155**	ScP	**ScP**	**01 45 22.9**	**+2.4**
SNAA	**Sanae**	**20.65**	**155**	P	**P**	**01 37 34.1**	**-0.5**
	comp=Z,7.2nm,0.6s,baz=299,slow=10,SNR=43						
SNAA				PcP	**PcP**	**01 41 44.9**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=283,slow=1.8,SNR=7.4						
SNAA				LR	LR	01 43 56.1	
	comp=Z,414nm,20.1s,baz=317,slow=32						
	comp=Z,7.2nm,0.6s						
SNAA	**Sanae**	**20.65**	**155**	P	**P**	**01 37 32.6**	**-2.0**
TROLL	**Troll, Antarti**	**22.20**	**153**	P	**P**	**01 37 50.8**	**-0.6**
TROLL	**Troll, Antarti**	**22.20**	**153**	PKiKP	**PKiKP**	**01 49 30.6**	**-1.8**
TROLL	**Troll, Antarti**	**22.20**	**153**	PcP	**PcP**	**01 41 47.9**	**+0.6**
BELA	**Belgrano 2**	**23.15**	**182**	P	**P**	**01 38 00.5**	**-0.7**
BELA				IAmb	IAmb	01 38 05.6	
	comp=Z,57nm,1.4s						
GO10	**Punta Arenas**	**23.53**	**257**	P	**P**	**01 38 04.6**	**-0.6**
MG05	**Puerto Natales**	**24.92**	**260**	P	**P**	**01 38 17.3**	**-0.8**
PLCA	**Paso Flores**	**29.80**	**282**	LR	LR	01 51 41.0	
	comp=Z,170nm,18.2s,baz=126,slow=38						
PLCA	**Paso Flores**	**29.80**	**282**	*eP*	**P**	**01 39 02.1**	**+0.1**
ITQB	**Itaqui**	**31.30**	**313**	*eP*	**P**	**01 39 15.8**	**+0.5**
PTGB	**Pitanga**	**34.01**	**324**	*eP*	**P**	**01 39 40.3**	**+1.1**
VAO	**Valinhos**	**34.07**	**333**	*eP*	**P**	**01 39 41.5**	**+1.9**
CPUP	**Villa Florida**	**34.53**	**315**	P	**P**	**01 39 43.0**	**-0.5**
CPUP				LR	LR	01 52 21.6	
	comp=Z,5.2nm,0.7s,baz=158,slow=6.3,SNR=9.9						
	comp=Z,145nm,19.4s,baz=156,slow=34						
	comp=Z,5.2nm,0.7s						
CPUP	**Villa Florida**	**34.53**	**315**	P	**P**	**01 39 43.8**	**+0.2**
CPUP				IAmb	IAmb	01 39 55.5	
	comp=Z,25nm,1.2s						
CPUP	**Villa Florida**	**34.53**	**315**	*eP*	**P**	**01 39 43.6**	**+0.1**
LMEL	**Las Melosas**	**34.54**	**291**	P	**P**	**01 39 44.5**	**+0.7**
LMEL				IAmb	IAmb	01 39 49.5	
	comp=Z,25nm,1.4s						
BO04	**La Punta**	**34.66**	**290**	P	**P**	**01 39 44.6**	**0.0**
BO04				IAmb	IAmb	01 39 50.4	
	comp=Z,17nm,1.1s						
RCLB	**Rio Claro- Sao**	**34.77**	**332**	*eP*	**P**	**01 39 47.8**	**+2.1**
MT03	**Universidad Ad**	**34.98**	**291**	P	**P**	**01 39 47.7**	**+0.2**
MT03				IAmb	IAmb	01 39 51.2	
	comp=Z,29nm,1.1s						
MT09	**Talagante**	**35.02**	**290**	P	**P**	**01 39 47.6**	**-0.3**
MT09				IAmb	IAmb	01 39 48.3	
	comp=Z,34nm,1.2s						
MT01	**Popeta**	**35.10**	**290**	P	**P**	**01 39 47.9**	**-0.5**
PEL	**Peldehue**	**35.34**	**291**	P	**P**	**01 39 50.5**	**0.0**
QSPA	**South Pole Qui**	**35.38**	**180**	LR	LR	01 53 34.5	
	comp=Z,717nm,19.4s,baz=201,slow=35						
QSPA	**South Pole Qui**	**35.38**	**180**	P	**P**	**01 39 51.1**	**+0.4**
VA05	**Santo Domingo**	**35.45**	**290**	P	**P**	**01 39 51.5**	**+0.1**
MT02	**Curacav**	**35.50**	**291**	P	**P**	**01 39 51.6**	**-0.2**
ZON	**Zonda**	**35.52**	**295**	P	**P**	**01 39 51.7**	**-0.3**
VA03	**San Esteban**	**35.56**	**292**	P	**P**	**01 39 53.2**	**+0.8**
VA03				IAmb	IAmb	01 40 05.7	
	comp=Z,19nm,0.8s						
TRCB	**Terra Rica**	**35.98**	**324**	*eP*	**P**	**01 39 56.7**	**+0.6**
BB19B	**Bebedouro**	**36.33**	**331**	*eP*	**P**	**01 40 00.2**	**+1.1**
PCMB	**Pacaembu**	**36.64**	**327**	*eP*	**P**	**01 40 03.9**	**+2.3**
CO01	**Juntas del Tor**	**37.50**	**295**	P	**P**	**01 40 09.3**	**+0.1**
NAN01	**Guarapari, ES**	**37.66**	**345**	*eP*	**P**	**01 40 10.3**	**0.0**
AC05	**El Transito**	**38.50**	**296**	P	**P**	**01 40 18.1**	**+0.5**
AC05				IAmb	IAmb	01 40 19.7	
	comp=Z,41nm,1.4s						
AQDB	**Aquidauana**	**39.19**	**321**	P	**P**	**01 40 23.9**	**+0.7**
AQDB	**Aquidauana**	**39.19**	**321**	*eP*	**P**	**01 40 24.5**	**+1.3**
AC02	**Maricunga**	**39.55**	**299**	P	**P**	**01 40 27.1**	**+0.4**
C2SB	**Chapadao do Su**	**39.80**	**326**	*eP*	**P**	**01 40 29.8**	**+1.5**
JANB	**Januaria**	**41.11**	**340**	*eP*	**P**	**01 40 39.7**	**+0.5**
GO02	**Mina Guanaco**	**41.16**	**300**	P	**P**	**01 40 39.7**	**-0.2**
GO02				IAmb	IAmb	01 40 41.5	
	comp=Z,59nm,1.3s						
BDFB	**Brasilia**	**41.38**	**334**	P	**P**	**01 40 41.5**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=136,slow=6.9,SNR=5.6						
BDFB				LR	LR	01 55 30.5	
	comp=Z,279nm,18.6s,baz=138,slow=33						
	comp=Z,3.4nm,0.7s						
MAW	**Mawson**	**42.28**	**145**	P	**P**	**01 40 48.2**	**0.0**
	comp=Z,4.4nm,0.7s,baz=222,slow=4.3,SNR=11						
MAW				LR	LR	01 57 15.1	
	comp=Z,153nm,18.0s,baz=244,slow=35						
	comp=Z,4.4nm,0.7s						
MAW	**Mawson**	**42.28**	**145**	P	**P**	**01 40 47.6**	**-0.6**
SUR	**Sutherland**	**42.34**	**80**	LR	LR	01 55 04.3	
	comp=Z,107nm,22.0s,baz=189,slow=32						
LVC	**Limon Verde**	**42.97**	**303**	LR	LR	01 58 00.4	
	comp=Z,101nm,21.2s,baz=159,slow=35						
LVC	**Limon Verde**	**42.97**	**303**	P	**P**	**01 40 54.2**	**-0.5**
LVC	**Limon Verde**	**42.97**	**303**	*eP*	**P**	**01 40 56.4**	**+1.7**
SALV	**Santo Antonio**	**43.42**	**324**	*eP*	**P**	**01 40 58.6**	**+0.6**
SDBA	**SAO DESIDERIO**	**43.81**	**340**	*eP*	**P**	**01 41 02.5**	**+1.4**
PB09	**IPOC Station P**	**43.82**	**303**	IAmb	IAmb	01 41 21.3	
	comp=Z,44nm,1.4s						
PB01	**IPOC Station P**	**44.58**	**304**	IAmb	IAmb	01 41 31.4	
	comp=Z,19nm,0.9s						
PTLB	**Pontes e Lacer**	**45.07**	**320**	P	**P**	**01 41 11.4**	**+0.2**
PTLB				IAmb	IAmb	01 41 22.8	
	comp=Z,28nm,1.4s						
PTLB	**Pontes e Lacer**	**45.07**	**320**	*eP*	**P**	**01 41 11.3**	**+0.1**
PB08	**IPOC Station P**	**45.19**	**305**	IAmb	IAmb	01 41 26.0	
	comp=Z,15nm,1.0s						
GO01	**Chusmiza**	**45.62**	**305**	P	**P**	**01 41 15.9**	**-0.2**
SNDB	**Serra Nova Dou**	**45.75**	**331**	*eP*	**P**	**01 41 16.7**	**0.0**
SBA	**Scott Base**	**47.10**	**185**	P	**P**	**01 41 27.3**	**+0.8**
SBA				IAmb	IAmb	01 41 31.2	
	comp=Z,31nm,1.4s						
H10S2	**ASCENSION HYDR**	**47.55**	**22**	T	T	02 32 37.9	
	baz=195						
H10S3	**ASCENSION HYDR**	**47.55**	**22**	T	T	02 32 48.1	
	baz=25,SNR=3.3						
VNDA	**Vanda**	**47.64**	**184**	P	**P**	**01 41 32.1**	**+1.4**
	comp=Z,4.8nm,0.7s,baz=180,slow=6.2,SNR=43						
VNDA				LR	LR	02 01 24.7	
	comp=Z,110nm,18.2s,baz=176,slow=36						
	comp=Z,4.8nm,0.7s						
VNDA	**Vanda**	**47.64**	**184**	P	**P**	**01 41 31.5**	**+0.7**
BOSA	**Boshof**	**47.69**	**80**	P	**P**	**01 41 31.1**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=212,slow=7.0,SNR=7.8						
	comp=Z,3.4nm,0.9s						
VILB	**Vilhena**	**47.76**	**320**	IAmb	IAmb	01 41 43.6	
	comp=Z,13nm,1.1s						
VILB	**Vilhena**	**47.76**	**320**	*eP*	**P**	**01 41 31.9**	**-0.5**
PDRB	**Porto dos Gac**	**47.77**	**325**	*eP*	**P**	**01 41 33.0**	**+0.6**
SMTB	**Santa Maria do**	**47.82**	**337**	*eP*	**P**	**01 41 35.2**	**+2.4**
LPAZ	**La Paz**	**48.06**	**308**	P	**P**	**01 41 35.9**	**+0.5**
	comp=Z,8.2nm,0.6s,baz=163,slow=7.2,SNR=17						
LPAZ				LR	LR	02 03 26.7	
	comp=Z,64nm,19.6s,baz=128,slow=38						
	comp=Z,8.2nm,0.6s						
LPAZ	**La Paz**	**48.06**	**308**	*eP*	**P**	**01 41 35.8**	**+0.4**
CLDB	**Colider**	**48.15**	**326**	*eP*	**P**	**01 41 35.4**	**0.0**
H10N1	**ASCENSION HYDR**	**48.66**	**22**	T	T	02 34 14.4	
	baz=201,slow=74						
H10N3	**ASCENSION HYDR**	**48.66**	**22**	T	T	02 34 18.9	
	baz=201,slow=74						
H10N2	**ASCENSION HYDR**	**48.68**	**22**	T	T	02 34 05.5	
	baz=201						
RCBR	**Riachuelo**	**49.08**	**353**	LR	LR	01 57 37.3	
	comp=Z,276nm,21.7s,baz=324,slow=30						
RCBR	**Riachuelo**	**49.08**	**353**	*eP*	**P**	**01 41 44.7**	**+2.1**
LBTB	**Lobatse**	**50.66**	**77**	P	**P**	**01 41 54.1**	**-0.5**
LBTB				IAmb	IAmb	01 42 06.0	
	comp=Z,12nm,0.8s						
TSUM	**Tsumeb**	**50.94**	**65**	P	**P**	**01 41 56.5**	**-0.3**
NPGB	**Novo Progresso**	**51.62**	**328**	*eP*	**P**	**01 42 01.4**	**-0.4**
ROSB	**Rosrio**	**52.95**	**343**	*eP*	**P**	**01 42 11.8**	**+0.2**
ETMB	**Extrema**	**52.98**	**314**	IAmb	IAmb	01 42 24.3	
	comp=Z,19nm,1.5s						
ETMB	**Extrema**	**52.98**	**314**	*eP*	**P**	**01 42 11.8**	**-0.1**
TMAB	**Tom-Au,PA,Br**	**54.22**	**338**	*eP*	**P**	**01 42 21.2**	**+0.3**
ITTB	**Itaituba**	**54.27**	**329**	*eP*	**P**	**01 42 22.3**	**+1.0**
MALB	**Monte Alegre**	**56.23**	**331**	*eP*	**P**	**01 42 36.3**	**+0.9**
CZSB	**Cruzeiro do Su**	**57.67**	**308**	*eP*	**P**	**01 42 45.9**	**+0.2**
TBTG	**Tabatinga, AM**	**59.60**	**313**	*eP*	**P**	**01 42 59.9**	**+0.8**
LSZ	**Lusaka**	**59.89**	**73**	P	**P**	**01 43 00.3**	**-0.9**
LSZ				IAmb	IAmb	01 43 12.8	
	comp=Z,8.5nm,0.9s						
ATAH	**Atahualpa**	**60.86**	**303**	LR	LR	02 11 26.5	
	comp=Z,76nm,19.2s,baz=145,slow=38						
BOAV	**Boa Vista**	**62.14**	**326**	P	**P**	**01 43 15.7**	**-0.7**
BOAV				IAmb	IAmb	01 43 36.3	
	comp=Z,15nm,1.5s						
BOAV	**Boa Vista**	**62.14**	**326**	*eP*	**P**	**01 43 15.9**	**-0.5**
MDP	**Montagnes des**	**62.48**	**335**	LR	LR	02 08 16.2	
	comp=Z,259nm,21.1s,baz=172,slow=34						
MCRA	**Macar, Loja**	**64.02**	**303**	IAmb	IAmb	01 43 50.0	
	comp=Z,14nm,1.4s						
DBIC	**Dimbokro**	**65.01**	**29**	P	**P**	**01 43 34.1**	**-1.2**
	comp=Z,4.1nm,0.9s,baz=215,slow=7.9,SNR=4.1						
DBIC				LR	LR	02 05 24.0	
	comp=Z,158nm,18.1s,baz=178,slow=30						
	comp=Z,4.1nm,0.9s						
DBIC	**Dimbokro**	**65.01**	**29**	P	**P**	**01 43 36.3**	**+1.1**
OTAV	**Otavalo**	**67.33**	**307**	P	**P**	**01 43 50.6**	**-0.2**
OTAV	**Otavalo**	**67.33**	**307**	*eP*	**P**	**01 43 51.0**	**+0.2**
ROSC	**El Rosal**	**69.59**	**313**	LR	LR	02 16 26.9	
	comp=Z,106nm,19.7s,baz=36,slow=38						
BBTS	**Babate**	**70.30**	**15**	LR	LR	02 08 01.3	
	comp=Z,237nm,19.7s,baz=202,slow=30						
PCRV	**Puerto La Cruz**	**70.79**	**324**	LR	LR	02 15 26.8	
	comp=Z,204nm,20.3s,slow=36						
BAUV	**El Baul**	**70.84**	**321**	P	**P**	**01 44 11.7**	**-0.3**
SDV	**Santo Domingo**	**71.77**	**318**	LR	LR	02 15 33.1	
	comp=Z,409nm,21.5s,baz=111,slow=36						
SDV	**Santo Domingo**	**71.77**	**318**	P	**P**	**01 44 17.8**	**-0.1**
SDV				IAmb	IAmb	01 44 18.8	
	comp=Z,10.0nm,0.8s						
SDV	**Santo Domingo**	**71.77**	**318**	*eP*	**P**	**01 44 17.7**	**-0.1**
KOWA	**Kowa**	**72.72**	**27**	LR	LR	02 09 27.1	
	comp=Z,262nm,21.6s,baz=188,slow=30						
TOA0	**Torodi Ar. Sit**	**73.09**	**33**	P	**P**	**01 44 24.7**	**-0.7**
TOA0				IAmb	IAmb	01 44 37.9	
	comp=Z,15nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.09**	**33**	P	**P**	**01 44 24.6**	**-0.8**
	comp=Z,7.1nm,0.9s,baz=198,slow=6.2,SNR=29						
TORD				LR	LR	02 09 52.5	
	comp=Z,239nm,20.2s,baz=206,slow=30						
	comp=Z,7.1nm,0.9s						
MBAR	**Mbarara**	**73.46**	**66**	LR	LR	02 14 47.7	
	comp=Z,71nm,18.4s,baz=162,slow=34						
MBAR	**Mbarara**	**73.46**	**66**	P	**P**	**01 44 28.3**	**+0.3**
MBAR				IAmb	IAmb	01 44 31.2	
	comp=Z,30nm,2.0s						
KMBO	**Kilima Mbogo**	**76.55**	**72**	LR	LR	02 16 17.9	
	comp=Z,168nm,18.7s,baz=208,slow=34						
STVI	**Saint Thomas**	**78.55**	**327**	P	**P**	**01 44 55.6**	**-0.9**
STVI				IAmb	IAmb	01 44 58.0	
	comp=Z,24nm,1.2s						
SJG	**San Juan**	**78.71**	**326**	LR	LR	02 18 44.1	
	comp=Z,98nm,21.6s,baz=157,slow=35						
CBYP	**Canovanas**	**78.76**	**326**	P	**P**	**01 44 57.3**	**-0.5**
CBYP				IAmb	IAmb	01 44 57.5	
	comp=Z,10nm,0.8s						
WKZ	**Wanaka**	**79.27**	**194**	P	**P**	**01 45 00.2**	**-0.2**
WKZ				IAmb	IAmb	01 45 02.5	
	comp=Z,38nm,1.6s						
RPZ	**Rata Peaks**	**80.05**	**196**	P	**P**	**01 45 04.9**	**+0.2**
	comp=Z,9.4nm,0.8s,baz=38,slow=1.4,SNR=5.7						
RPZ				LR	LR	02 16 58.7	
	comp=Z,83nm,21.1s,baz=202,slow=33						
	comp=Z,9.4nm,0.8s						
LTZ	**Lake Taylor**	**80.76**	**197**	P	**P**	**01 45 06.9**	**-1.6**
TAM	**Tamanrasset**	**83.35**	**33**	P	P	01 45 14.8	-7.4
URZ	**Urewera**	**84.21**	**202**	LR	LR	02 19 15.3	
	comp=Z,73nm,19.7s,baz=276,slow=33						
TEIG	**Tepich**	**89.39**	**308**	P	**P**	**01 45 51.2**	**-0.5**
ATD	**Arta Tunnel**	**90.11**	**70**	LR	LR	02 25 06.4	
	comp=Z,80nm,18.8s,baz=180,slow=35						
MDT	**Midelt**	**90.18**	**22**	LR	LR	02 19 50.5	
	comp=Z,318nm,21.7s,baz=198,slow=31						
PPT2	**Papeete2**	**91.20**	**237**	*e*LR	LR	02 15 08.8	
	comp=Z,116nm,30.2s						
PPT2				*e*LR	LR	02 15 09.7	
	comp=Z,100nm,26.5s						
RAO	**Raoul Island**	**91.59**	**208**	LR	LR	02 20 13.2	
	comp=Z,60nm,18.4s,baz=62,slow=31						
STKA	**Stephens Creek**	**93.35**	**173**	LR	LR	02 25 24.8	
	comp=Z,338nm,21.9s,baz=196,slow=34						
KEST	**Kesra**	**96.58**	**32**	LR	LR	02 25 21.5	
	comp=Z,260nm,19.7s,baz=235,slow=33						
ESDC	**Sonseca Array**	**96.93**	**20**	P	**P**	**01 46 26.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=197,slow=5.2,SNR=5.0						
ESDC				LR	LR	02 24 50.9	
	comp=Z,259nm,20.8s,baz=177,slow=32						
	comp=Z,0.4nm,0.6s						
352A	**Blakely**	**97.77**	**316**	P	**P**	**01 46 29.0**	**-1.1**
DZM	**Mont Dzumac**	**101.97**	**196**	*e*LR	LR	02 20 08.4	
	comp=Z,500nm,28.4s						
BW06	**Boulder Array**	**118.01**	**305**	P	**PKiKP**	**01 51 42.5**	**+0.9**
	baz=140						
HLID	**Hailey**	**120.94**	**303**	P	**PKiKP**	**01 51 47.9**	**+0.7**
	baz=138						
BOZ	**Bozeman (W)**	**121.13**	**306**	P	**PKiKP**	**01 51 47.8**	**+0.3**
	baz=138						
EGMT	**Eagleton**	**122.07**	**309**	P	**PKiKP**	**01 51 50.0**	**+0.8**
	baz=138						
MSO	**Missoula**	**123.12**	**306**		**PKPdf**	**01 51 50.7**	**-0.4**
MSO	**Missoula**	**123.12**	**306**	P	**PKiKP**	**01 51 51.6**	**+0.3**
	baz=137						
J05D	**Fort Rock, OR**	**124.14**	**298**	P	**PKiKP**	**01 51 54.3**	**+0.8**
	baz=136						
FINES	**FINESS Array B**	**124.30**	**29**	PKP	**PKPdf**	**01 51 51.9**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=139,slow=1.9,SNR=20						
G08A	**Pilot Rock**	**124.44**	**301**		**PKPdf**	**01 51 53.8**	**+0.1**
L02F	**Cave Junction**	**124.52**	**296**	P	**PKiKP**	**01 51 55.1**	**+1.0**
	baz=136						
J04D	**Umpqua Nationa**	**124.56**	**297**	P	**PKiKP**	**01 51 54.9**	**+0.4**
	baz=136						
K02D	**Willamette Mer**	**124.98**	**296**	P	**PKiKP**	**01 51 55.9**	**+0.8**
	baz=135						
I03D	**Drain, OR**	**125.52**	**297**	P	**PKiKP**	**01 51 56.7**	**+0.7**
	baz=135						
G05D	**Wamic, OR**	**125.58**	**300**	P	**PKiKP**	**01 51 57.5**	**+1.3**
	baz=135						
G03D	**McMinnville, O**	**126.54**	**298**	P	**PKiKP**	**01 51 59.2**	**+1.2**
	baz=134						
GAR	**Garm**	**126.70**	**73**		**PKiKP**	**01 51 58.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**127.37**	**113**	PKP	**PKPdf**	**01 51 59.6**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=208,slow=3.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**127.37**	**113**	PKPdf	**PKiKP**	**01 52 00.6**	**+0.1**
ABKAR	**Akbulak array**	**128.38**	**57**		**PKPdf**	**01 51 60.0**	**-0.3**
KKAR	**Karatay Array**	**129.65**	**69**	PKPdf	**PKPdf**	**01 52 03.2**	**-0.4**
KSH	**Kashi**	**130.21**	**76**	PKP	**PKPdf**	**01 52 05.0**	**+0.1**
ARCES	**ARCESS Array B**	**130.61**	**23**	PKP	**PKPdf**	**01 52 04.0**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=207,slow=4.1,SNR=9.1						
ARCES	**ARCESS Array B**	**130.61**	**23**	PKPdf	**PKPdf**	**01 52 04.6**	**+0.1**
AAK	**Ala-Archa**	**131.50**	**72**	PKPdf	**PKiKP**	**01 52 07.8**	**-0.5**
ARU	**Arti**	**132.42**	**49**	PKPdf	**PKPdf**	**01 52 06.7**	**-1.6**
YKA	**Yellowknife Ar**	**133.96**	**320**	PKP	**PKPdf**	**01 52 11.6**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=122,slow=2.2,SNR=5.2						
PZH	**PanZhiHua**	**135.39**	**110**	PKP	**PKPdf**	**01 52 12.3**	**-2.8**
BRVK	**Borovoye**	**135.83**	**58**	PKPdf	**PKPdf**	**01 52 14.6**	**-0.3**
KURK	**Kurchatov**	**138.73**	**65**	PKPdf	**PKPdf**	**01 52 18.1**	**-2.2**
WMQ	**Urumqi**	**139.65**	**80**	*e*PKP	**PKPdf**	**01 52 21.3**	**-1.0**
C36M	**Paulatuk**	**140.80**	**326**	P	**PKiKP**	**01 52 26.6**	**+0.6**
	baz=114						
N31M	**Braeburn, Yuko**	**142.00**	**311**	P	**PKiKP**	**01 52 29.7**	**+0.9**
	baz=115						
P29M	**Windy Craggy**	**142.07**	**308**	P	**PKiKP**	**01 52 29.6**	**+0.6**
	baz=116						
HYT	**Haines Junctio**	**142.48**	**310**	P	**PKiKP**	**01 52 29.7**	**-0.3**
	baz=115						
N30M	**Aishikik Lake**	**142.56**	**311**	P	**PKiKP**	**01 52 30.7

baz=107
H25K **Birch Creek** 147.72 317 P PKPbc 01 52 38.5 +0.1
baz=102
SEW **Seward** 147.72 305 P PKPbc 01 52 38.6 0.0
baz=108
HDA **Harding Lake** 147.78 313 P PKPbc 01 52 37.5 -1.2
baz=104
ILAR **Eielson Array** 147.84 314 PKPbc PKPbc 01 52 38.5 -0.4
comp=Z,14nm,0.7s,baz=114,slow=1.6,SNR=133
ILAR **Eielson Array** 147.84 314 PKPbc PKPbc 01 52 38.1 -0.8
F25K **Christian Rive** 147.89 319 P PKPbc 01 52 38.7 -0.3
baz=100,SNR=8.2
E25K **Arctic Village** 147.95 320 P PKPbc 01 52 39.2 +0.1
baz=99,SNR=13
WAT1 **Susitna Watana** 148.09 310 P PKPbc 01 52 39.0 -0.6
baz=105
POKR **Poker Plat Res** 148.14 314 P PKPbc 01 52 39.2 -0.5
baz=102
RC01 **Rabbit Creek A** 148.15 306 P PKPbc 01 52 39.6 -0.1
baz=107
BRSE **Bradley Lake S** 148.22 304 P PKPbc 01 52 39.6 -0.4
baz=108
COLA **College** 148.26 314 PKPbc PKPbc 01 52 39.6 -0.3
COLA **College** 148.26 314 P PKPbc 01 52 39.0 -0.9
baz=102
TCOL **CIGO, UAF Yank** 148.26 314 P PKPbc 01 52 38.9 -1.0
baz=102
D25K **Kavik River** 148.40 322 P PKPbc 01 52 39.6 -0.7
baz=96
G24K **Hadweenzic Riv** 148.45 317 P PKPbc 01 52 40.3 -0.2
baz=100,SNR=12
H24K **Noodor Dome** 148.46 316 P PKPbc 01 52 40.0 -0.5
baz=101,SNR=8.6
MCK **McKinley** 148.47 311 P PKPbc 01 52 40.7 +0.2
baz=103
KDAK **Kodiak Island** 148.49 299 PKPbc PKPbc 01 52 41.2 +0.5
comp=Z,8.4nm,0.6s,baz=175,slow=1.9,SNR=16
KDAK **Kodiak Island** 148.49 299 P PKPbc 01 52 40.2 -0.6
baz=110
M22K **Willow** 148.51 307 P PKPbc 01 52 40.6 -0.1
baz=106
HOM **Homer** 148.63 303 P PKPbc 01 52 41.1 +0.1
baz=108
OHAK **Old Harbor** 148.65 298 P PKPbc 01 52 41.0 -0.2
baz=111
Q20K **Shuyak Island** 148.67 301 P PKPbc 01 52 41.6 +0.4
baz=109
NEA2 **Nenana** 148.72 313 P PKPbc 01 52 40.4 -0.7
baz=102,SNR=19
CAPN **Captain Cook N** 148.72 305 P PKPbc 01 52 41.6 +0.4
baz=106
SUA **Susitna One** 148.72 307 P PKPbc 01 52 41.4 -0.1
baz=106
F24K **Squaw Lake** 148.73 319 P PKPbc 01 52 41.5 +0.3
baz=98,SNR=6.8
CUT **Chulitna** 148.75 309 P PKPbc 01 52 41.3 0.0
baz=104
TRF **Thorofare Moun** 149.00 311 P PKPbc 01 52 41.8 -0.3
baz=103
E24K **Your Creek** 149.03 320 P PKPbc 01 52 42.0 +0.1
baz=96
H23K **Yukon River** 149.13 315 P PKPbc 01 52 41.9 -0.3
baz=99
SKT **Skwentna** 149.22 308 PKPbc PKPbc 01 52 42.7 +0.2
SKT **Skwentna** 149.22 308 P PKPbc 01 52 42.5 0.0
baz=104,SNR=8.5
C24K **Franklin Bluff** 149.25 323 P PKPbc 01 52 42.6 +0.3
baz=94
D24K **Happy Valley** 149.25 322 P PKPbc 01 52 42.4 0.0
baz=94
N20K **Mount Spurr** 149.34 306 P PKPbc 01 52 42.6 -0.3
baz=105
SPCR **Spurr Chakacha** 149.34 306 P PKPbc 01 52 42.6 -0.3
baz=105
CHIR **Chirikof Islan** 149.35 295 P PKPbc 01 52 43.4 +0.5
baz=112
Q19K **Cape Douglas,** 149.39 301 P PKPbc 01 52 42.9 -0.1
baz=108
BPAW **Bear Paw Mtn.** 149.44 312 P PKPbc 01 52 42.9 -0.1
baz=101,SNR=33
E23K **Chandalar** 149.45 320 P PKPbc 01 52 43.0 0.0
baz=96,SNR=5.4
G23K **Bananza Creek** 149.46 317 P PKPbc 01 52 43.7 +0.7
baz=98,SNR=24
TOLK **Toolik Lake Re** 149.48 321 PKPbc 01 52 42.5 -0.5
TOLK **Toolik Lake Re** 149.48 321 P PKPbc 01 52 43.3 +0.3
baz=95
MLY **Manley** 149.50 314 P PKPbc 01 52 42.4 -0.8
baz=100,SNR=10
COLD **Coldfoot** 149.59 318 P PKiKP 01 52 44.0 -0.3
baz=96,SNR=15
PPLA **Purkeypile** 149.72 309 P PKPbc 01 52 43.9 0.0
baz=102,SNR=10
CAST **Castle Rocks** 149.78 310 P PKPbc 01 52 43.5 -0.4
baz=101,SNR=9.9
H22K **Ishtalitna Cre** 149.89 315 P PKPbc 01 52 44.2 +0.2
baz=98,SNR=17
D23K **Nanushuk River** 149.91 321 P PKPbc 01 52 44.3 +0.3
baz=93
C23K **Itkillik River** 149.92 323 P PKPbc 01 52 44.1 +0.2
baz=92
M20K **Styx River** 149.93 307 P PKPbc 01 52 44.1 -0.3
baz=103
CHUM **Lake Minchumin** 149.97 311 P PKPbc 01 52 44.2 0.0
baz=100,SNR=6.3
I21K **Tanana** 150.04 314 P PKPbc 01 52 44.3 -0.1
baz=98
G22K **Bettles** 150.06 317 P PKPbc 01 52 44.9 +0.5
baz=96
E22K **Anaktuvuk Pass** 150.28 320 P PKPbc 01 52 45.1 +0.1
baz=94
P18K **Big Mountain,** 150.30 302 P PKPbc 01 52 44.8 -0.5
baz=106
N19K **Bonanza Creek** 150.31 305 P PKPbc 01 52 44.7 -0.6
baz=104,SNR=6.9
R17K **Ugashik Creek** 150.37 298 P PKPbc 01 52 45.6 +0.2
baz=108
F22K **John River** 150.37 318 P PKPbc 01 52 45.6 +0.4
baz=94
L20K **Farewell, AK** 150.40 308 P PKPbc 01 52 44.9 -0.4
baz=102
O18K **Koktuh Hills** 150.42 303 P PKPbc 01 52 45.0 -0.5
baz=105,SNR=6.1
H21K **Melozitna Rive** 150.45 315 P PKPbc 01 52 45.4 0.0
baz=97,SNR=22
M19K **Big River Lodg** 150.52 307 P PKPbc 01 52 45.4 -0.2
baz=102
K20K **Telida** 150.65 310 P PKPbc 01 52 46.0 0.0
baz=100,SNR=8.7
HNS **HongShan** 150.76 112 ⇓PKPbc PKPbc 01 52 46.8 -0.2
L19K **White Mountain** 150.79 307 P PKPbc 01 52 45.8 -0.5
baz=102
Q16K **King Salmon** 150.81 300 P PKPbc 01 52 46.0 -0.4
baz=106
J20K **Nowinta River** 150.81 311 P PKPbc 01 52 46.1 -0.2
baz=98,SNR=6.3
G21K **Allakaket** 150.82 316 P PKPbc 01 52 46.3 0.0
baz=95,SNR=15
P17K **Kvichak River** 150.85 301 P PKPbc 01 52 46.1 -0.3
baz=106
F21K **Alatna River** 150.86 318 P PKPbc 01 52 46.5 +0.2
baz=94,SNR=17
N18K **Kilae Creek** 150.95 304 P PKPbc 01 52 46.5 -0.3
baz=104
R16K **Pilot Point** 150.95 297 P PKPbc 01 52 47.1 +0.3
baz=108
CHNA **Chernabura Isl** 151.10 291 P PKPbc 01 52 46.7 -0.4
baz=112
TIA **Tai'an** 151.13 117 *e*PKPbc PKPbc 01 52 47.9 0.0
O17K **Koliganek Bris** 151.32 302 P PKPbc 01 52 47.1 -0.4
baz=104
TTA **Tatalina** 151.45 309 P PKPbc 01 52 48.2 +0.3
baz=99,SNR=9.2
SONM **Songino Array** 152.67 87 PKPbc PKPbc 01 52 50.4 -0.8
comp=Z,3.0nm,0.5s,baz=214,slow=3.5,SNR=17
SONM PKPab **pPKPab** 01 53 02.3 -1.0
comp=Z,2.2nm,0.6s,baz=233,slow=2.8,SNR=6.2
SONM **Songino Array** 152.67 87 PKPbc 01 52 50.0 -1.2
KSRS **Korea Array** 157.30 131 PKPbc PKPdf 01 53 00.3 +10
comp=Z,0.5nm,0.3s,baz=211,slow=1.5,SNR=4.9
KSRS PKPab **PKPab** 01 53 21.8 0.0
comp=Z,2.1nm,0.8s,baz=212,slow=4.3,SNR=4.2

*NOU **24** 01:39:56.8, 17.°66S×174.°99W, h305km, MLv4.3/7, Tonga Islands*
*IDC **24** 01:40:01.1±1.5, 17.°11S×174.°38W, h354km±21km, mb3.4/5, mbtmp4.1/6, Error ellipse: s-maj=41.6km s-min=22.1km az=146.0*

ISC 24 01:40:01.1±1.0, 17.°2S±0.°3×174.°4W±0.°3, h350km, n7, σ0=67/8, mb3.5/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.11**	**39**	P	**Pn**	**01 41 12.0**	**+0.6**
	20nm,0.3s,baz=30,slow=19,SNR=3.8						
AFI				S	**S**	**01 42 07.5**	**-0.6**
	33nm,0.3s,baz=117,slow=14,SNR=10						
AFI	**Afiamalu**	**4.11**	**39**	P	**Pn**	**01 41 12.4**	**+1.0**
URZ	**Urewera**	**22.30**	**198**	P	**P**	**01 44 30.1**	**+0.2**
	4.3nm,0.4s,baz=117,slow=14,SNR=2.4						
	4.3nm,0.4s						
STKA	**Stephens Creek**	**42.32**	**241**	P	**P**	**01 47 21.9**	**-0.1**
	0.9nm,0.3s,baz=94,slow=8.9,SNR=3.4						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**48.50**	**258**	P	**P**	**01 48 10.0**	**-0.1**
	1.0nm,0.6s,baz=97,slow=6.9,SNR=23						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**48.64**	**253**	P	**P**	**01 48 11.3**	**+0.1**
	5.6nm,0.6s,baz=88,slow=8.4,SNR=100						
	5.6nm,0.6s						
TXAR	**Lajitas Array**	**82.40**	**56**	P	**P**	**01 51 44.6**	**-0.7**
	0.4nm,1.0s,baz=194,slow=1.9,SNR=3.8						
	0.4nm,1.0s						

MAN 24 01:41:26.0, 6.°52N×126.°70E, h28km, mb4.5, ML3.3, MS3.1, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**1.67**	**287**	⇓*i* P	Pn	01 41 52.6	-0.9
KCP				*i* S	Sn	01 42 07.8	-6.2
BIPH	**Bislig**	**1.68**	**349**	⇓*e* P	Pn	01 41 54.0	+0.4
BIPH				*e* S	Sn	01 42 14.4	+0.1
GSPH	**General Santos**	**1.79**	**256**	⇑*i* P	Pn	01 41 52.8	-2.5
GSPH				*i* S	Sn	01 42 13.1	-4.0
BUKP	**Musuan**	**2.11**	**310**	⇑*e* P	Pn	01 41 59.7	+0.2
BUKP				*e* S	Sn	01 42 25.2	+0.4
CGP	**Cagayan de Oro**	**2.76**	**314**	⇑*e* P	Pn	01 42 09.8	+1.3
CGP				*e* S	Sn	01 42 40.1	-0.8

*KRSC **24** 01:49:05.3±0.8, 55.°88N×162.°97E, h24km±1.3km, ML4.9*
*MOS **24** 01:49:06.1±1.1, 56.°01N×162.°90E, h23km, mb4.7/29, Error ellipse: s-maj=6.5km s-min=3.9km az=75.9*
*IDC **24** 01:49:10.7±3.0, 56.°03N×162.°57E, h44km±29km, mb4.0/24, mbtmp4.2/26, ML3.5/2, MS3.8/7, Error ellipse: s-maj=16.8km s-min=10.8km az=152.0*
*NEIC **24** 01:49:11.2±1.1, 56.°1N±0.°1×162.°4E±0.°2, h51km±8km, mb4.5/63, Error ellipse: s-maj=18.8km s-min=12.3km az=149.0*

ISC 24 01:49:08.0±0.5, 55.°96N±0.°03×162.°81E±0.°03, h27km±3km, n322, σ1°25/335, mb4.6/107, MS3.9/8, 11C-29D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.25**	**1**	P	**Pb**	**01 49 13.7**	**-0.9**
KBTR	**Krutoberegovo**	**0.25**	**1**	P	**Pb**	**01 49 13.7**	**-0.9**
KBG	**Krutoberegovo**	**0.30**	**349**	PN	**Pb**	**01 49 14.6**	**-0.7**
KBG				S	**Sb**	**01 49 21.0**	**+0.8**
KBG	**Krutoberegovo**	**0.30**	**349**	P	**Pb**	**01 49 14.6**	**-0.7**
KBG				S	**Sb**	**01 49 21.0**	**+0.8**
SMKR	**Semkarok**	**0.97**	**310**	PN	**Pn**	**01 49 25.4**	**-0.6**
SMKR	**Semkarok**	**0.97**	**310**	P	**Pn**	**01 49 25.4**	**-0.6**
BDR	**Baidarnaya**	**1.08**	**305**	PN	**Pn**	**01 49 27.4**	**-0.1**
BDR	**Baidarnaya**	**1.08**	**305**	P	**Pn**	**01 49 27.4**	**-0.1**
ZLN	**Zelenaya**	**1.13**	**274**	PN	**Pn**	**01 49 28.0**	**-0.1**
ZLN	**Zelenaya**	**1.13**	**274**	P	**Pn**	**01 49 28.0**	**-0.1**
SRKR	**Sorokina**	**1.15**	**308**	PN	**Pn**	**01 49 28.4**	**0.0**
SRKR	**Sorokina**	**1.15**	**308**	P	**Pn**	**01 49 28.4**	**0.0**
CIRR	**Tsirk**	**1.17**	**279**	PN	**Pn**	**01 49 28.7**	**0.0**
CIRR	**Tsirk**	**1.17**	**279**	P	**Pn**	**01 49 28.7**	**0.0**
BZGR	**Bezymyannyi-Gr**	**1.19**	**270**	PN	**Pn**	**01 49 28.7**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.19**	**270**	P	**Pn**	**01 49 28.7**	**-0.3**
KLY	**Klyuchi**	**1.26**	**287**	PN	**Pn**	**01 49 27.9**	**-1.9**
KLY				S	**Sn**	**01 49 44.2**	**-1.6**
KLY	**Klyuchi**	**1.26**	**287**	P	**Pn**	**01 49 27.9**	**-1.9**
KLY				S	**Sn**	**01 49 44.2**	**-1.6**
KRSR	**Krestovskiy**	**1.28**	**283**	PN	**Pn**	**01 49 29.8**	**-0.5**
KRSR	**Krestovskiy**	**1.28**	**283**	P	**Pn**	**01 49 29.8**	**-0.5**
BZWR	**Bezymyannyi-We**	**1.30**	**271**	P	**Pn**	**01 49 30.3**	**-0.3**
BZMR	**Bezymyannaya**	**1.31**	**270**	PN	**Pn**	**01 49 30.5**	**-0.1**
BZMR				S	**Sb**	**01 49 49.6**	**+1.2**
BZMR	**Bezymyannaya**	**1.31**	**270**	P	**Pn**	**01 49 30.5**	**-0.1**
BZMR				S	**Sb**	**01 49 49.6**	**+1.2**
KIRR	**Kirishev**	**1.39**	**271**	PN	**Pn**	**01 49 31.8**	**+0.1**
KIRR				S	**Sb**	**01 49 52.4**	**+1.7**
KIRR	**Kirishev**	**1.39**	**271**	P	**Pn**	**01 49 31.8**	**+0.1**
KIRR				S	**Sb**	**01 49 52.4**	**+1.7**
KPT	**Kopyto**	**1.46**	**271**	PN	**Pn**	**01 49 32.6**	**0.0**
KPT	**Kopyto**	**1.46**	**271**	P	**Pn**	**01 49 32.6**	**0.0**
KMNR	**Kamenistaya**	**1.47**	**263**	PN	**Pn**	**01 49 33.0**	**+0.2**
KMNR				S	**Sb**	**01 49 54.0**	**+1.1**
KMNR	**Kamenistaya**	**1.47**	**263**	P	**Pn**	**01 49 33.0**	**+0.2**
KMNR				S	**Sb**	**01 49 54.0**	**+1.1**
MKZ	**Mys Kozlova**	**1.54**	**204**	PN	**Pn**	**01 49 32.8**	**-0.8**
MKZ				S	**Sn**	**01 49 52.0**	**-0.6**
MKZ	**Mys Kozlova**	**1.54**	**204**	P	**Pn**	**01 49 32.8**	**-0.8**
MKZ				S	**Sn**	**01 49 52.0**	**-0.6**
KOZ	**Kozyrevsk**	**1.65**	**275**	PN	**Pn**	**01 49 36.2**	**+0.9**
KOZ				S	**Sb**	**01 49 58.1**	**-0.1**
KOZ	**Kozyrevsk**	**1.65**	**275**	P	**Pn**	**01 49 36.2**	**+0.9**
KOZ				S	**Sb**	**01 49 58.1**	**-0.1**
TUMR	**Tumrok**	**1.66**	**247**	PN	**Pn**	**01 49 36.1**	**+0.7**
TUMR				S	**Sb**	**01 49 57.9**	**-0.5**
TUMR	**Tumrok**	**1.66**	**247**	P	**Pn**	**01 49 36.1**	**+0.7**
TUMR				S	**Sb**	**01 49 57.9**	**-0.5**
SRDR	**Sredinnyy**	**1.77**	**283**	PN	**Pn**	**01 49 37.8**	**+0.9**
SRDR				S	**Sb**	**01 50 01.6**	**0.0**
SRDR	**Sredinnyy**	**1.77**	**283**	P	**Pn**	**01 49 37.8**	**+0.9**
SRDR				S	**Sb**	**01 50 01.6**	**0.0**
BKI	**Bering**	**1.95**	**112**	PN	**Pn**	**01 49 38.6**	**-0.7**
BKI				S	**Sn**	**01 50 02.0**	**-0.8**
BKI	**Bering**	**1.95**	**112**	P	**Pn**	**01 49 38.6**	**-0.7**
BKI				S	**Sn**	**01 50 02.0**	**-0.8**
ESO	**Esso**	**2.31**	**271**	PN	**Pn**	**01 49 45.3**	**+1.0**
ESO				S	**Sn**	**01 50 14.0**	**+2.1**
ESO	**Esso**	**2.31**	**271**	P	**Pn**	**01 49 45.3**	**+1.0**
ESO				S	**Sn**	**01 50 14.0**	**+2.1**
KII	**Karymskiy**	**2.73**	**227**	PN	**Pn**	**01 49 51.2**	**+1.1**
KII	**Karymskiy**	**2.73**	**227**	P	**Pn**	**01 49 51.2**	**+1.1**
SPN	**Mys Shipunski**	**3.29**	**211**	PN	**Pn**	**01 49 57.4**	**-0.4**
SPN	**Mys Shipunski**	**3.29**	**211**	P	**Pn**	**01 49 57.4**	**-0.4**
SPN				S	**Sn**	**01 50 36.3**	**+0.3**
OSSR	**Ossora**	**3.30**	**2**	PN	**Pn**	**01 49 58.9**	**+1.0**
OSSR	**Ossora**	**3.30**	**2**	P	**Pn**	**01 49 58.9**	**+1.0**
NLC	**Nalytchevo**	**3.45**	**217**	PN	**Pn**	**01 50 00.0**	**+0.2**
NLC	**Nalytchevo**	**3.45**	**217**	P	**Pn**	**01 50 00.0**	**+0.2**
NLC				S	**Sn**	**01 50 39.7**	**0.0**
PALN	**Palana**	**3.49**	**335**	PN	**Pn**	**01 50 03.1**	**+2.6**
PALN	**Palana**	**3.49**	**335**	P	**Pn**	**01 50 03.1**	**+2.6**
SDLR	**Sedlovina**	**3.52**	**222**	PN	**Pn**	**01 50 02.2**	**+1.1**
SDLR	**Sedlovina**	**3.52**	**222**	P	**Pn**	**01 50 02.2**	**+1.1**
KRER	**Koryakskii**	**3.56**	**223**	PN	**Pn**	**01 50 03.2**	**+1.6**
KRER	**Koryakskii**	**3.56**	**223**	P	**Pn**	**01 50 03.2**	**+1.6**
SMAR	**Somma**	**3.57**	**222**	PN	**Pn**	**01 50 03.2**	**+1.4**
SMAR	**Somma**	**3.57**	**222**	P	**Pn**	**01 50 03.2**	**+1.4**
AVH	**Avacha**	**3.59**	**223**	PN	**Pn**	**01 50 03.2**	**+1.3**
AVH	**Avacha**	**3.59**	**223**	P	**Pn**	**01 50 03.2**	**+1.3**
UGLR	**Uglovaya**	**3.60**	**222**	PN	**Pn**	**01 50 03.4**	**+1.3**
UGLR	**Uglovaya**	**3.60**	**222**	P	**Pn**	**01 50 03.4**	**+1.3**
GNL	**Ganaly**	**3.62**	**233**	PN	**Pn**	**01 50 04.2**	**+1.9**
GNL	**Ganaly**	**3.62**	**233**	P	**Pn**	**01 50 04.2**	**+1.9**
DALK	**Dalny**	**3.77**	**221**	PN	**Pn**	**01 50 05.1**	**+0.8**
DALK				S	**Sn**	**01 50 49.5**	**+1.8**
DALK	**Dalny**	**3.77**	**221**	P	**Pn**	**01 50 05.1**	**+0.8**
DALK				S	**Sn**	**01 50 49.5**	**+1.8**
PET	**Petropavlovsk**	**3.81**	**221**		**Pn**	**01 50 06.1**	**+1.2**
PET	**Petropavlovsk**	**3.81**	**221**	PN	**Pn**	**01 50 06.5**	**+1.6**
PET				S	**Sn**	**01 50 50.5**	**+1.8**
PET	**Petropavlovsk**	**3.81**	**221**	P	**Pn**	**01 50 06.5**	**+1.6**
PET				S	**Sn**	**01 50 50.5**	**+1.8**
PEA0B	**Petropavlovsk-**	**4.13**	**228**	Pn	**Pn**	**01 50 10.9**	**+1.7**
PEA0B	**Petropavlovsk-**	**4.13**	**228**	*e* iPN	**Pn**	**01 50 11.2**	**+2.0**
PETK	**Petropavlovsk-**	**4.13**	**228**	P	**Pn**	**01 50 10.5**	**+1.2**
	8.3nm,0.3s,baz=69,slow=14,SNR=21						
PETK				LR	LR	01 52 01.5	
	comp=Z,933nm,19.5s,baz=36,slow=42						
	20nm,0.6s						
PETK	**Petropavlovsk-**	**4.13**	**228**	Pn	**Pn**	**01 50 09.9**	**+0.7**
KRMR	**Karymshinskiy**	**4.16**	**223**	PN	**Pn**	**01 50 11.0**	**+1.3**
KRMR				S	**Sn**	**01 51 00.0**	**+2.7**
KRMR	**Karymshinskiy**	**4.16**	**223**	P	**Pn**	**01 50 11.0**	**+1.3**
KRMR				S	**Sn**	**01 51 00.0**	**+2.7**
RUS	**Russkaya**	**4.34**	**217**	PN	**Pn**	**01 50 12.8**	**+0.7**
RUS	**Russkaya**	**4.34**	**217**	P	**Pn**	**01 50 12.8**	**+0.7**
RUS				S	**Sn**	**01 51 03.1**	**+1.3**
GRL	**Gorelyy**	**4.40**	**221**	PN	**Pn**	**01 50 15.5**	**+2.4**
GRL	**Gorelyy**	**4.40**	**221**	P	**Pn**	**01 50 15.5**	**+2.4**
MTVR	**Mutnovka**	**4.42**	**220**	PN	**Pn**	**01 50 15.0**	**+1.7**
MTVR	**Mutnovka**	**4.42**	**220**	P	**Pn**	**01 50 15.0**	**+1.7**
APC	**Apacha**	**4.49**	**230**	PN	**Pn**	**01 50 15.9**	**+1.8**
APC	**Apacha**	**4.49**	**230**	P	**Pn**	**01 50 15.9**	**+1.8**
ASAK	**Asacha**	**4.60**	**221**	PN	**Pn**	**01 50 17.7**	**+1.9**
ASAK	**Asacha**	**4.60**	**221**	P	**Pn**	**01 50 17.7**	**+1.9**
TILK	**Tilichiki**	**4.83**	**20**	PN	**Pn**	**01 50 21.1**	**+2.2**
TILK	**Tilichiki**	**4.83**	**20**	P	**Pn**	**01 50 21.1**	**+2.2**
KDTR	**Khodutka, Kamc**	**5.01**	**216**	PN	**Pn**	**01 50 22.5**	**+1.1**
KDTR	**Khodutka, Kamc**	**5.01**	**216**	P	**Pn**	**01 50 22.5**	**+1.1**
KDTR				S	**Sn**	**01 51 19.1**	**+0.8**
PAU	**Pauzhetka**	**5.74**	**221**	PN	**Pn**	**01 50 34.4**	**+3.1**
PAU	**Pauzhetka**	**5.74**	**221**	P	**Pn**	**01 50 34.4**	**+3.1**
SKR	**Severo-Kuril's**	**6.63**	**220**	*e*PN	**Pn**	**01 50 47.7**	**+4.1**
SKR				pmax	pmax		
	comp=Z,49nm,0.7s						
SKR				MLR	MLR		
	comp=Z,100nm,14.0s						
KMSK	**Kamenskaya**	**6.76**	**14**	PN	**Pn**	**01 50 47.4**	**+2.2**
KMSK	**Kamenskaya**	**6.76**	**14**	P	**Pn**	**01 50 47.4**	**+2.2**
MA2	**Magadan**	**7.39**	**304**	LR	LR	01 54 06.4	
	comp=Z,268nm,19.8s,baz=116,slow=41						
YSS	**Yuzh-Sakhalins**	**15.36**	**242**	*e*P	**Pn**	**01 52 42.2**	**-0.5**
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
ERM	**Erimo**	**18.90**	**231**		**Pn**	**01 53 27.4**	**+0.4**
ERM				IAmb	IAmb	01 53 36.1	
	comp=Z,44nm,1.2s						
ERM	**Erimo**	**18.90**	**231**	P	**Pn**	**01 53 27.4**	**+0.4**
ERM				pmax	pmax		
	comp=Z,45nm,1.3s						
KLR	**Kul'dur**	**19.91**	**263**	P	**P**	**01 53 37.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=64,slow=11,SNR=6.4						
	comp=Z,2.7nm,0.7s						
KLR	**Kul'dur**	**19.91**	**263**	⇑*e* P	**Pn**	**01 53 40.2**	**+1.2**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KLR				MLR	MLR		
	comp=Z,184nm,13.0s						
TIXI	**Tiksi**	**21.24**	**331**	P	**P**	**01 53 52.4**	**+1.0**
TIXI	**Tiksi**	**21.24**	**331**	⇑*e* P	**P**	**01 53 52.5**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,11nm,1.2s						
TIXI				MLR	MLR		
	comp=Z,178nm,16.0s						
KDAK	**Kodiak Island**	**24.12**	**67**	P	**P**	**01 54 21.9**	**+0.8**
	comp=Z,5.0nm,0.8s,baz=281,slow=5.2,SNR=2.0						
	comp=Z,5.0nm,0.8s						
H23K	**Yukon River**	**24.56**	**47**	P	**P**	**01 54 26.8**	**+1.6**
H23K				IAmb	IAmb	01 54 29.1	
	comp=Z,16nm,1.2s						
MJB9	**Matsu-Tunnel**	**25.58**	**231**	P	**P**	**01 54 34.6**	**0.0**
MJB9				IAmb	IAmb	01 54 39.7	
	comp=Z,10nm,0.5s						
MAJO	**Matsushiro**	**25.58**	**231**	P	**P**	**01 54 34.9**	**+0.2**
MAJO				IAmb	IAmb	01 54 39.7	
	comp=Z,10nm,0.6s						
MAJO	**Matsushiro**	**25.58**	**231**	P	**P**	**01 54 34.9**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MJAR	**Matsushiro Arr**	**25.58**	**231**	P	**P**	**01 54 34.4**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=44,slow=7.4,SNR=11						
	comp=Z,2.1nm,0.5s						
ILAR	**Eielson Array**	**25.70**	**49**	P	**P**	**01 54 35.7**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=262,slow=8.5,SNR=11						
	comp=Z,2.3nm,0.8s						
BMAR	**Burnt Mountain**	**26.54**	**43**	P	**P**	**01 54 44.3**	**+1.2**
EGAK	**Eagle**	**28.14**	**49**	P	**P**	**01 54 57.3**	**-0.1**
EGAK				IAmb	IAmb	01 54 57.7	
	comp=Z,10nm,1.1s						
KSRS	**Korea Array**	**29.79**	**246**	P	**P**	**01 55 13.7**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=39,slow=8.9,SNR=4.8						
	comp=Z,1.1nm,0.4s						
INK	**Inuvik**	**30.64**	**41**	P	**P**	**01 55 20.8**	**+1.4**
	comp=Z,2.2nm,0.2s,baz=279,slow=7.0,SNR=4.9						
	comp=Z,2.2nm,0.2s						
NRIK	**Noril'sk**	**34.53**	**323**	⇓*i* P	**P**	**01 55 53.4**	**0.0**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**34.85**	**281**	P	**P**	**01 55 55.6**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=70,slow=7.3,SNR=4.8						
SONM				PcP	**PcP**	**01 58 28.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=26,slow=3.8,SNR=3.7						
	comp=Z,1.0nm,0.5s						
DLBC	**Dease Lake**	**35.11**	**57**	LR	LR	02 10 01.3	
	comp=Z,144nm,21.9s,baz=270,slow=36						
H11N2	**WAKE ISLAND Hy**	**36.30**	**173**	T	T	02 34 42.7	
	baz=356,slow=76,SNR=6017						
H11N3	**WAKE ISLAND Hy**	**36.32**	**173**	T	T	02 34 45.6	
	baz=356,slow=76,SNR=5575						
H11N1	**WAKE ISLAND Hy**	**36.32**	**174**	T	T	02 34 40.9	
	baz=356,slow=76,SNR=202						
NJ2	**Nanjing**	**38.70**	**251**	*e*P	**P**	**01 56 25.8**	**-3.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
YKA	**Yellowknife Ar**	**40.00**	**46**	P	**P**	**01 56 41.1**	**+1.2**
	comp=Z,5.6nm,0.5s,baz=298,slow=8.3,SNR=11						
	comp=Z,5.6nm,0.5s						
ZALV	**Zalesovo Beam**	**42.60**	**301**	PcP	**PcP**	**01 58 51.9**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=59,slow=5.6,SNR=4.4						
DGZ	**Jazzator, Alta**	**43.86**	**295**	⇓*e* P	**P**	**01 57 11.3**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GTA	**Gaotai**	**43.89**	**275**	⇓P	**P**	**01 57 12.4**	**+0.3**
GTA				pP	pP	01 57 20.8	+0.8
GTA				sP	sP	01 57 24.6	+1.4
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,54nm,4.7s						
GTA				LR	LR		
	comp=N,98nm,16.4s						
GTA				LR	LR		
	comp=E,110nm,15.3s						
GTA				LR	LR		
	comp=Z,150nm,16.4s						
SPA0	**Spitsbergen Ar**	**44.56**	**351**	*e*P	**P**	**01 57 17.1**	**+0.3**
SPA0				IAmb	IAmb	01 57 18.3	
	comp=Z,37nm,1.0s						
SPITS	**Spitsbergen Ar**	**44.56**	**351**	P	**P**	**01 57 16.7

	SUMG	**Summit**	**50.91**	**8**	P		**P**		**01 58 06.5**	**0.0**
	SUMG	**Summit**	**50.91**	**8**	P		**P**		**01 58 06.5**	**0.0**
	SUMG				pmax		pmax			
		comp=Z,21nm,1.2s								
	SUMG	**Summit**	**50.91**	**8**	*i* P		**P**		**01 58 06.0**	**-0.5**
	ARA0	**ARCESS Array S**	**51.05 342**		*e*P		**P**		**01 58 07.0**	**-0.2**
	ARA0				IAmb		IAmb		01 58 07.2	
		comp=Z,5.0nm,0.8s								
	ARCES	**ARCESS Array B**	**51.05 342**		P		**P**		**01 58 06.8**	**-0.3**
		comp=Z,2.5nm,0.4s,baz=33,slow=8.6,SNR=25								
		comp=Z,2.5nm,0.4s								
	ARCES	**ARCESS Array B**	**51.05 342**		P		**P**		**01 58 05.2**	**-1.9**
	ARCES				IAmb		IAmb		01 58 07.4	
		comp=Z,4.9nm,0.8s								
	JETT	**Jettan, Norway**	**51.86 344**		*e*P		**P**		**01 58 13.5**	**+0.3**
	JETT				IAmb		IAmb		01 58 14.0	
		comp=Z,25nm,0.6s								
	KTK1	**Kautokeino**	**51.89 343**		*e*P		**P**		**01 58 13.5**	**0.0**
	KTK1				IAmb		IAmb		01 58 14.0	
		comp=Z,13nm,0.8s								
	TRO	**Tromso**	**52.01 345**		*e*P		**P**		**01 58 14.5**	**+0.2**
	TRO				IAmb		IAmb		01 58 15.2	
		comp=Z,9.5nm,0.8s								
	PZH	**PanZhiHua**	**52.35 262**		P		**P**		**01 58 18.3**	**+0.7**
	PZH				pmax		pmax			
		comp=Z,10.0nm,0.7s								
	PZH				pmax		pmax			
		comp=Z,80nm,3.5s								
	ARU	**Arti**	**52.36 317**		LR		LR		02 22 41.6	
		comp=Z,104nm,19.2s,baz=99,slow=38								
	ARU	**Arti**	**52.36 317**		P		**P**		**01 58 15.7**	**-1.4**
	ARU				IAmb		IAmb		01 58 23.9	
		comp=Z,3.1nm,0.7s								
	ARU	**Arti**	**52.36 317**	*c i*	P		**P**		**01 58 15.8**	**-1.3**
	ARU				*PP		**sP**		**01 58 29.6**	**+1.0**
	ARU				S		**S**		**02 05 39.4**	**-1.2**
	ARU				pmax		pmax			
		comp=Z,3.0nm,0.6s								
	YHH	**Holmes Hill**	**52.69 63**		P		**P**		**01 58 21.1**	**+1.0**
	YHH				IAmb		IAmb		01 58 23.3	
		comp=Z,5.8nm,1.5s								
	PRGR	**Permogore**	**52.86 328**		*e*P		**P**		**01 58 19.8**	**-0.8**
	PRGR				pmax		pmax			
		comp=Z,7.0nm,0.8s								
	KMI	**Kunming**	**52.88 260**	⇓	P		P		01 58 16.5	-5.1
	KMI				pmax		pmax			
		comp=Z,11nm,0.7s								
	RLMT	**Red Lodge**	**53.24 62**		P		**P**		**01 58 25.7**	**+1.6**
	RLMT				IAmb		IAmb		01 58 26.9	
		comp=Z,8.0nm,1.1s								
	NVAR	**Mina Array Bea**	**53.35 74**		P		**P**		**01 58 26.9**	**+2.0**
		comp=Z,1.1nm,0.6s,baz=307,slow=7.4,SNR=11								
		comp=Z,1.1nm,0.6s								
	NV11	**Mina Array Sit**	**53.42 74**		P		**P**		**01 58 28.3**	**+2.9**
	KIRV	**Kirov**	**54.02 324**	⇑	*e*P		**P**		**01 58 30.0**	**+0.7**
	STEI	**Steigen**	**54.11 346**		*e*P		**P**		**01 58 29.8**	**0.0**
	STEI				IAmb		IAmb		01 58 33.9	
		comp=Z,11nm,1.0s								
	LOF	**Lofoten**	**54.16 346**		*e*P		**P**		**01 58 30.2**	**+0.1**
	LOF				IAmb		IAmb		01 58 30.6	
		comp=Z,20nm,0.8s								
	FAUS	**Fauske**	**54.62 345**		*e*P		**P**		**01 58 33.5**	**0.0**
	FAUS				IAmb		IAmb		01 58 33.7	
		comp=Z,9.7nm,0.5s								
	PD31	**Pinedale Array**	**54.79 64**		P		**P**		**01 58 36.2**	**+0.8**
	PDAR	**Pinedale Array**	**54.79 64**		P		**P**		**01 58 37.0**	**+1.5**
		comp=Z,1.5nm,0.6s,baz=334,slow=3.0,SNR=16								
		comp=Z,1.5nm,0.6s								
	SPR3	**Spring Creek 3**	**55.06 71**		IAmb		IAmb		01 58 41.3	
		comp=Z,3.1nm,0.7s								
	AAK	**Ala-Archa**	**55.23 296**		P		**P**		**01 58 37.1**	**-1.4**
	AAK				IAmb		IAmb		01 58 38.7	
		comp=Z,6.5nm,0.9s								
	AAK	**Ala-Archa**	**55.23 296**	*d i*	P		**P**		**01 58 37.5**	**-1.0**
	AAK				pmax		pmax			
		comp=Z,7.0nm,0.9s								
	KLMR	**Klimovskoe**	**55.26 330**		*e*P		**P**		**01 58 37.0**	**-1.2**
	KLMR				pmax		pmax			
		comp=Z,16nm,1.5s								
	KLMR	**Klimovskoe**	**55.26 330**		*e*P		**P**		**01 58 37.0**	**-1.2**
	KLMR				AMP				01 58 39.2	
		comp=Z,16nm,1.5s								
	PRN	**Pahroc Range**	**55.84 72**		IAmb		IAmb		01 58 46.1	
		comp=Z,4.5nm,0.6s								
	MOR8	**Moi Rana**	**55.87 345**		*e*P		**P**		**01 58 41.1**	**-1.5**
	MOR8				IAmb		IAmb		01 58 41.4	
		comp=Z,9.7nm,0.7s								
	TMUT	**Trail Mountain**	**56.48 68**		IAmb		IAmb		01 58 50.9	
		comp=Z,3.5nm,0.8s								
	P18A	**Preston Nutter**	**56.74 67**		IAmb		IAmb		01 59 04.8	
		comp=Z,3.4nm,0.9s								
	KSH	**Kashi**	**56.77 293**		P		**P**		**01 58 52.4**	**+2.9**
	KSH				pmax		pmax			
		comp=Z,4.0nm,1.1s								
	KK31	**Karatay Array**	**56.87 299**		P		**P**		**01 58 48.6**	**-1.4**
	KK31	**Karatay Array**	**56.87 299**		P		**P**		**01 58 48.6**	**-1.4**
	KK31				pmax		pmax			
		comp=Z,8.0nm,0.8s								
	KKAR	**Karatay Array**	**56.87 299**		P		**P**		**01 58 48.3**	**-1.7**
	KKAR	**Karatay Array**	**56.87 299**		P		**P**		**01 58 48.3**	**-1.7**
	KKAR				pmax		pmax			
		comp=Z,8.0nm,0.8s								
	SRU	**San Rafael Swe**	**56.98 68**		IAmb		IAmb		01 58 54.2	
		comp=Z,5.3nm,0.8s								
	ABKAR	**Akbulak array**	**57.14 310**		P		**P**		**01 58 50.4**	**-1.4**
	NSS	**Namsos**	**57.78 346**		*e*P		**P**		**01 58 56.1**	**+0.1**
	FINES	**FINESS Array B**	**58.10 337**		P		**P**		**01 58 58.4**	**0.0**
		comp=Z,8.9nm,0.7s,baz=44,slow=7.9,SNR=68								
		comp=Z,8.9nm,0.7s								
	FINES	**FINESS Array B**	**58.10 337**		P		**P**		**01 58 57.7**	**-0.7**
	PV11	**David Mesa, Pa**	**58.44 67**		IAmb		IAmb		01 59 10.6	
		comp=Z,6.1nm,0.9s								
	SMCO	**Snowmass**	**58.76 65**		IAmb		IAmb		01 59 06.7	
		comp=Z,3.5nm,0.9s								
	ISCO	**Idaho Springs**	**58.98 64**		P		**P**		**01 59 07.2**	**+1.9**
	ISCO				IAmb		IAmb		01 59 08.7	
		comp=Z,3.7nm,0.8s								
	ISCO	**Idaho Springs**	**58.98 64**		P		**P**		**01 59 07.2**	**+1.9**
	ISCO				pmax		pmax			
		comp=Z,4.0nm,0.8s								
	BELG	**Belogornoye**	**59.55 320**	*ce*	P		**P**		**01 59 07.3**	**-1.2**
	BELG				pmax		pmax			
		comp=Z,2.0nm,0.9s								
	S22A	**4UR Ranch, Cre**	**59.92 66**		IAmb		IAmb		01 59 14.8	
		comp=Z,2.8nm,0.8s								
	CMAR	**Chiang Mai Arr**	**60.31 259**		P		**P**		**01 59 15.8**	**+1.6**
		comp=Z,1.4nm,0.3s,baz=18,slow=6.2,SNR=4.5								
		comp=Z,1.4nm,0.3s								
	CMAR	**Chiang Mai Arr**	**60.31 259**	*i*	P		**P**		**01 59 16.3**	**+2.1**
	CMAR				pmax		pmax			
		comp=Z,1.0nm,0.3s								
	CHGR	**Chuyangaron**	**60.90 297**		P		**P**		**01 59 17.2**	**-0.9**
	CHGR	**Chuyangaron**	**60.90 297**		P		**P**		**01 59 17.2**	**-0.9**
	CHGR				pmax		pmax			
		comp=Z,16nm,1.1s								
	NC303	**NORSAR Array S**	**61.01 345**		*e*P		**P**		**01 59 18.6**	**+0.2**
	NC303				IAmb		IAmb		01 59 18.7	
		comp=Z,5.2nm,0.7s								
	NB2	**NORSAR Subarra**	**61.21 345**		P		**P**		**01 59 19.9**	**+0.1**
		comp=Z,3.7nm,0.5s,baz=18,slow=6.9								
	NB2	**NORSAR Subarra**	**61.21 345**		P		**P**		**01 59 19.9**	**+0.1**
		baz=18,slow=6.9								
	NOA	**NORSAR Array B**	**61.21 345**		P		**P**		**01 59 19.8**	**-0.1**
		comp=Z,6.0nm,0.6s,baz=18,slow=6.9,SNR=29								
		comp=Z,6.0nm,0.6s								
	NC602	**NORSAR Array S**	**61.45 344**		*e*P		**P**		**01 59 21.6**	**+0.2**
	NC602				IAmb		IAmb		01 59 25.7	
		comp=Z,9.1nm,1.2s								
	SKAR	**Skarslia**	**61.97 346**		*e*P		**P**		**01 59 25.4**	**+0.4**
	SKAR				IAmb		IAmb		01 59 26.5	
		comp=Z,28nm,1.5s								
	LPSR	**Galich'ya Gora**	**62.35 325**		*e*P		**P**		**01 59 25.9**	**-1.7**
	LPSR				pmax		pmax			
		comp=Z,8.0nm,1.0s								
	SCHQ	**Schefferville**	**62.37 30**		P		**P**		**01 59 27.7**	**0.0**
		comp=Z,2.8nm,0.6s,baz=3.1,slow=5.4,SNR=6.3								
		comp=Z,2.8nm,0.6s								
	VRH	**Novokhopyorsk**	**62.61 323**		*e*P		**P**		**01 59 26.7**	**-2.6**
	VRH				pmax		pmax			
		comp=Z,5.0nm,0.9s								
	KONO	**Kongsberg**	**62.78 345**		*e*P		**P**		**01 59 30.7**	**+0.3**
	VORR	**Voronezh**	**63.05 324**		*e*P		**P**		**01 59 33.5**	**+1.3**
	VORR				pmax		pmax			
		comp=Z,10.0nm,0.4s								
	VSR	**Storozhevoye**	**63.45 324**		*e*P		**P**		**01 59 32.9**	**-2.0**
	VSR				pmax		pmax			
		comp=Z,6.0nm,1.0s								
	NACGM	**Naroch**	**63.81 333**	⇓	*e*P		**P**		**01 59 39.0**	**+1.8**
		baz=26								
	R40A	**Maddies Statio**	**66.65 56**		P		**P**		**01 59 56.4**	**+0.5**
	R40A				IAmb		IAmb		01 59 57.2	
		comp=Z,10.0nm,1.1s								
	GEYT	**Alibeck**	**66.84 304**		P		**P**		**01 59 56.3**	**-0.9**
		comp=Z,1.5nm,0.6s,baz=290,slow=4.3,SNR=4.2								
		comp=Z,1.5nm,0.6s								
	GEYT	**Alibeck**	**66.84 304**		P		**P**		**01 59 56.5**	**-0.6**
	AKASG	**Malin Array Be**	**66.95 330**		P		**P**		**01 59 56.8**	**-0.8**
		comp=Z,3.5nm,0.6s,baz=28,slow=6.2,SNR=10								
		comp=Z,3.5nm,0.6s								
	AKASG	**Malin Array Be**	**66.95 330**	*i*	P		**P**		**01 59 57.0**	**-0.6**
	AKASG				pmax		pmax			
		comp=Z,4.0nm,0.6s								
	AKBB	**Malin Array Si**	**66.95 330**		P		**P**		**01 59 56.7**	**-0.9**
	AKBB				IAmb		IAmb		01 59 57.8	
		comp=Z,5.8nm,0.9s								
	AKBB	**Malin Array Si**	**66.95 330**	*d*	P		**P**		**01 59 57.1**	**-0.5**
	AKBB				pmax		pmax			
		comp=Z,7.0nm,0.9s								
	AK05	**Malin Array Si**	**67.03 330**		P		**P**		**01 59 57.2**	**-0.9**
	AK05				IAmb		IAmb		01 59 59.0	
		comp=Z,6.2nm,0.7s								
	TX31	**Lajitas Ar. Si**	**68.11 70**		P		**P**		**02 00 06.9**	**+1.5**
	TX32	**Lajitas Array**	**68.11 70**		IAmb		IAmb		02 00 18.5	
		comp=Z,3.0nm,0.7s								
	TXAR	**Lajitas Array**	**68.11 70**		P		**P**		**02 00 07.0**	**+1.6**
		comp=Z,1.8nm,0.6s,baz=299,slow=4.6,SNR=39								
		comp=Z,1.8nm,0.6s								
	TXAR	**Lajitas Array**	**68.11 70**		P		**P**		**02 00 07.0**	**+1.6**
	OJC	**Ojcow**	**69.81 336**		*e*P		**P**		**02 00 14.5**	**-1.0**
	OJC	**Ojcow**	**69.81 336**		P		**P**		**02 00 15.5**	**0.0**
	OJC	**Ojcow**	**69.81 336**		P		**P**		**02 00 15.5**	**0.0**
	OJC				pmax		pmax			
		comp=Z,17nm,1.5s								
	KSP	**Ksiaz**	**70.00 338**		*e*P		**P**		**02 00 17.7**	**+1.0**
	CLL	**Collm**	**70.21 340**		IAmb		IAmb		02 00 19.7	
		comp=Z,9.3nm,1.4s								
	CLL	**Collm**	**70.21 340**	*i*	P		**P**		**02 00 18.2**	**+0.3**
	CLL				*PP		**sP**		**02 00 28.8**	**-1.0**
	CLL				pmax		pmax			
		comp=Z,7.0nm,1.2s								
	CLL	**Collm**	**70.21 340**	*i*	P		**P**		**02 00 18.2**	**+0.3**
		comp=Z,7.0nm,1.2s								
	CLL				*i* (pP)		**sP**		**02 00 28.8**	**-1.0**
	CLL				Lm		MLR		02 33 00.0	
		comp=N,100nm,21.3s								
	CLL				Lm		MLR		02 33 00.0	
		comp=E,100nm,21.7s								
	CLL				Lm		MLR		02 33 00.0	
		comp=Z,100nm,19.9s								
	CHVC	**Chvalec**	**70.29 338**		*e*P		**P**		**02 00 19.9**	**+1.4**
	KOLS	**Kolonicke sedl**	**70.41 334**		*e*P		**P**		**02 00 20.0**	**+0.8**
	KOLS	**Kolonicke sedl**	**70.41 334**		*e*P		**P**		**02 00 20.0**	**+0.8**
	DPC	**Dobruska-Polom**	**70.45 338**		*e*P		**P**		**02 00 20.3**	**+0.8**
	DPC	**Dobruska-Polom**	**70.45 338**		*e*P		**P**		**02 00 20.3**	**+0.8**
	KRLC	**Kraliky**	**70.62 338**		*e*P		**P**		**02 00 21.1**	**+0.6**
	KRLC	**Kraliky**	**70.62 338**		*e*P		**P**		**02 00 21.1**	**+0.6**
	MORC	**Moravsky Berou**	**70.73 337**	⇓	P		**P**		**02 00 20.0**	**-1.3**
	MORC	**Moravsky Berou**	**70.73 337**		IAmb		IAmb		02 00 23.2	
		comp=Z,4.5nm,0.9s								
	MORC	**Moravsky Berou**	**70.73 337**		*e*P		**P**		**02 00 21.9**	**+0.7**
	BURAR	**Bucovina Array**	**70.86 331**	⇓	P		**P**		**02 00 22.1**	**0.0**
	BURAR	**Bucovina Array**	**70.86 331**		P		**P**		**02 00 21.6**	**-0.5**
	LANS	**Liptovska Anna**	**70.89 335**		*e*P		**P**		**02 00 23.9**	**+1.7**
	LANS				pmax		pmax			
		comp=Z,4.0nm,0.7s								
	LANS	**Liptovska Anna**	**70.89 335**		*e*P		**P**		**02 00 23.9**	**+1.7**
	MAUC	**Maruska**	**71.06 337**		*e*P		**P**		**02 00 23.7**	**+0.5**
	TRPA	**Tarpa**	**71.08 333**	⇓	P		**P**		**02 00 23.5**	**+0.3**
	PRU	**Pruhonice**	**71.17 339**		*e*P		**P**		**02 00 24.9**	**+1.1**
	PRU	**Pruhonice**	**71.17 339**		*e*P		**P**		**02 00 24.9**	**+1.1**
	PLAL	**Pickwick Lake**	**71.29 55**		P		**P**		**02 00 25.7**	**+0.9**
	PLAL				IAmb		IAmb		02 00 26.2	
		comp=Z,5.0nm,0.8s								
	VRAC	**Vranov**	**71.38 337**	⇓	P		**P**		**02 00 25.5**	**+0.4**
	VRAC	**Vranov**	**71.38 337**		LR		LR		02 35 43.9	
		comp=Z,53nm,18.1s,baz=218,slow=39								
	VRAC	**Vranov**	**71.38 337**		*e*P		**P**		**02 00 26.0**	**+0.9**
	TESR	**Tescani**	**71.47 330**	⇑	P		**P**		**02 00 25.4**	**-0.3**
	JAVC	**Velka Javorina**	**71.57 337**		*e*P		**P**		**02 00 27.6**	**+1.3**
	KRUC	**Moravsky**	**71.66 337**		*e*P		**P**		**02 00 28.1**	**+1.3**
	MEM	**Membach**	**72.06 345**		*d*P		**P**		**02 00 29.4**	**+0.2**
	BTNL	**Ternell**	**72.07 345**		*d*P		**P**		**02 00 29.4**	**+0.2**
	BTNL				*dp*P		**sP**		**02 00 40.8**	**-0.3**
	KHC	**Kasperske Hory**	**72.18 339**		*e*P		**P**		**02 00 29.2**	**-0.7**
	KHC	**Kasperske Hory**	**72.18 339**		*e*P		**P**		**02 00 29.2**	**-0.7**
	COVR	**Voineasa-Covas**	**72.20 330**	⇓	P		**P**		**02 00 31.0**	**+0.9**
	CFR	**Carcaliu**	**72.25 328**	⇑	P		**P**		**02 00 30.7**	**+0.3**
	DRGR		**72.28 332**	⇑	P		**P**		**02 00 30.8**	**+0.2**
	BHOU	**Houvegnez**	**72.31 345**		*d*P		**P**		**02 00 29.7**	**-0.9**
	BHOU				*dx*		**sP**		**02 00 41.1**	**-1.5**
	BCLA	**Clavier**	**72.35 345**		*d*P		**P**		**02 00 33.1**	**+2.3**
	BGES	**Gesves**	**72.42 345**		*d*P		**P**		**02 00 32.0**	**+0.8**
	GERES	**GERESS Array B**	**72.42 339**		P		**P**		**02 00 31.7**	**+0.2**
		comp=Z,0.8nm,0.6s,baz=29,slow=4.9,SNR=8.4								
		comp=Z,0.8nm,0.6s								
	GERES	**GERESS Array B**	**72.42 339**		P		**P**		**02 00 31.2**	**-0.3**
	MLR	**Muntele Rosu**	**72.60 330**	⇓	P		**P**		**02 00 33.7**	**+1.0**
	MLR	**Muntele Rosu**	**72.60 330**		LR		LR		02 33 46.3	
		comp=Z,84nm,21.2s,baz=230,slow=37								
	MLR	**Muntele Rosu**	**72.60 330**		P		**P**		**02 00 32.1**	**-0.5**
	MLR				IAmb		IAmb		02 00 34.6	
		comp=Z,4.1nm,0.7s								
	MLR	**Muntele Rosu**	**72.60 330**		P		**P**		**02 00 32.1**	**-0.5**
	MLR				pmax		pmax			
		comp=Z,4.0nm,0.7s								
	Z47A	**Carrollton**	**72.77 56**		IAmb		IAmb		02 00 35.1	
		comp=Z,9.6nm,0.9s								
	VOIR		**72.90 330**	⇓	P		**P**		**02 00 35.3**	**+1.0**
	WLF	**Walferdange**	**72.96 344**		*d*P		**P**		**02 00 32.8**	**-1.7**
	RONA	**Rosalia, Austr**	**72.97 337**		*e*P		**P**		**02 00 36.5**	**+1.8**
		comp=Z,2.4nm,0.9s								
	SIRR	**Siria**	**73.04 333**	⇑	P		**P**		**02 00 34.2**	**-0.9**
	ARR	**Arges**	**73.08 331**	⇓	P		**P**		**02 00 36.4**	**+1.0**
	MOA	**Molln**	**73.26 338**		*e*P		**P**		**02 00 38.0**	**+1.7**
		comp=Z,3.4nm,1.1s								
	GZR	**Gura Zlata**	**73.56 332**	⇓	P		**P**		**02 00 37.8**	**-0.4**
	ARSA	**Arzberg**	**73.56 337**		*e*P		**P**		**02 00 40.4**	**+2.2**
		comp=Z,3.5nm,1.2s								
	BZS	**Buzias**	**73.65 333**	⇓	P		**P**		**02 00 38.5**	**-0.1**
	HERR	**Herculane**	**74.13 332**	⇓	P		**P**		**02 00 41.0**	**-0.5**
	KBA	**Koelnbreinsper**	**74.18 339**		*e*P		**P**		**02 00 44.4**	**+2.5**
		comp=Z,5.6nm,1.1s								
	SOKA	**Soboth**	**74.21 338**		*e*P		**P**		**02 00 42.9**	**+0.8**
		comp=Z,1.4nm,0.7s								
	WATA	**Walderalm**	**74.28 340**	*i*	P		**P**		**02 00 44.1**	**+1.5**
		comp=Z,6.7nm,1.3s								
	RETA	**Reutte**	**74.29 341**		*e*P		**P**		**02 00 44.8**	**+2.3**
		comp=Z,4.3nm,1.1s								
	WTTA	**Wattenberg**	**74.34 340**		*e*P		**P**		**02 00 44.3**	**+1.4**
		comp=Z,4.1nm,1.1s								
	MOTA	**Moosalm**	**74.36 340**	*i*	P		**P**		**02 00 44.3**	**+1.3**
		comp=Z,5.9nm,1.7s								
	SQTA	**Samkt Quirin**	**74.47 340**		*e*P		**P**		**02 00 45.2**	**+1.7**
		comp=Z,5.7nm,1.3s								
	OBKA	**Obir**	**74.47 338**		*e*P		**P**		**02 00 45.8**	**+2.2**
		comp=Z,6.2nm,0.8s								
	MSVF	**Nonsavu**	**74.53 165**		LR		LR		02 27 45.0	
		comp=Z,95nm,21.5s,baz=11,slow=31								
	ABTA	**Abfaltersbach**	**74.67 339**	*i*	P		**P**		**02 00 46.3**	**+1.6**
		comp=Z,5.7nm,1.3s								
	FETA	**Feichten**	**74.75 341**		*e*P		**P**		**02 00 46.9**	**+1.6**
		comp=Z,4.6nm,1.1s								
	BRTR	**Keskin Array B**	**75.38 322**		P		**P**		**02 00 48.4**	**-0.6**
		comp=Z,1.7nm,0.7s,baz=53,slow=3.7,SNR=7.2								
		comp=Z,1.7nm,0.7s								
	BRTR	**Keskin Array B**	**75.38 322**	*i*	P		**P**		**02 00 48.9**	**-0.1**
	BRTR				pmax		pmax			
		comp=Z,2.0nm,0.7s								
	VTS	**Vitosha**	**76.00 330**	⇓	P		**P**		**02 00 52.3**	**-0.2**
	VTS	**Vitosha**	**76.00 330**		P		**P**		**02 00 50.9**	**-1.6**
	VTS	**Vitosha**	**76.00 330**		P		**P**		**02 00 50.9**	**-1.6**
	VTS				pmax		pmax			
		comp=Z,2.0nm,0.8s								
	FDMO	**Fiordimonte**	**78.10 338**		IAmb		IAmb		02 01 18.1	
		comp=Z,5.9nm,0.9s								
	WRA	**Warramunga Arr**	**79.36 207**		P		**P**		**02 01 10.8**	**-0.3**
		comp=Z,0.9nm,0.6s,baz=13,slow=5.7,SNR=15								
		comp=Z,0.9nm,0.6s								
	PGAV	**Gavieira, Arco**	**82.15 353**	*e*	LR		LR		02 22 49.7	
		comp=Z,133nm,20.0s								
	PBRG	**Braganca**	**82.20 352**		*e*P		**P**		**02 01 27.4**	**+1.1**
	POLO	**Lamas de Olo**	**82.71 353**		*e*P		**P**		**02 01 30.2**	**+1.2**
	PVRL	**Vila Real**	**82.80 353**		*e*P		**P**		**02 01 30.5**	**+1.1**
	MVO	**Moncorvo**	**82.86 352**		*e*P		**P**		**02 01 30.6**	**+0.8**
		comp=Z,20nm,1.2s								
	MVO	**Moncorvo**	**82.86 352**		*e*LR		LR		02 24 07.8	
		comp=Z,178nm,20.0s								
	ASAR	**Alice Springs**	**83.03 207**		P		**P**		**02 01 30.6**	**0.0**
		comp=Z,1.1nm,0.5s,baz=16,slow=5.2,SNR=12								
		comp=Z,1.1nm,0.5s								
	ASAR	**Alice Springs**	**83.03 207**		P		**P**		**02 01 30.4**	**-0.2**
	PVIS	**Viseu**	**83.37 353**		*e*P		**P**		**02 01 33.3**	**+0.9**
	MTE	**Manteigas**	**83.66 353**		*e*LR		LR		02 22 02.6	
		comp=Z,152nm,18.0s								
	ESDC	**Sonseca Array**	**84.07 350**		P		**P**		**02 01 36.7**	**+0.7**
		comp=Z,1.8nm,0.7s,baz=2.9,slow=5.3,SNR=20								
		comp=Z,1.8nm,0.7s								
	PCAS	**Casmilo, Conde**	**84.07 353**		*e*P		**P**		**02 01 37.0**	**+1.1**
		comp=Z,96nm,1.4s								
	PCBR	**Castelo Branco**	**84.21 352**		*e*P		**P**		**02 01 37.5**	**+0.9**
	PMRV	**Marv??o**	**84.61 352**		*e*P		**P**		**02 01 39.2**	**+0.5**
		comp=Z,8.1nm,2.0s								
	PSBE	**So Bento**	**84.63 353**		*e*P		**P**		**02 01 39.7**	**+0.9**
		comp=Z,19nm,2.0s								
	RAYN	**Ar Rayn**	**84.76 305**		P		**P**		**02 01 37.8**	**-1.9**
	RAYN	**Ar Rayn**	**84.76 305**		P		**P**		**02 01 37.8**	**-1.9**
	RAYN				pmax		pmax			
		comp=Z,8.0nm,0.9s								
	PMTG	**Montargil**	**85.03 353**		*e*P		**P**		**02 01 41.2**	**+0.4**
	PESTR	**Estremoz**	**85.19 352**		*e*P		**P**		**02 01 42.1**	**+0.5**
	PBAR	**Barrancos**	**85.83 352**		*e*P		**P**		**02 01 45.8**	**+1.0**
	KEST	**Kesra**	**85.91 339**		P		**P**		**02 01 45.6**	**+0.3**
		comp=Z,1.5nm,0.7s,baz=354,slow=2.5,SNR=5.7								
		comp=Z,1.5nm,0.7s								
	VNDA	**Vanda**	**133.22 180**		PKP		**PKPdf**		**02 08 19.5**	**+0.2**
		comp=Z,0.6nm,0.8s,baz=2.3,slow=2.7,SNR=3.8								
	BOSA	**Boshof**	**139.36 294**		PKP		**PKPdf**		**02 08 33.0**	**+0.6**
		comp=Z,3.3nm,1.1s,baz=40,slow=3.9,SNR=3.6								
	TROLL	**Troll, Antarti**	**161.89 200**		PKPab		**PKPab**		**02 09 51.0**	**-0.2**
	SNAA	**Sanae**	**163.09 196**		PKPab		**PKPab**		**02 09 55.3**	**-1.1**
	VNA3	**Neumayer Olymp**	**164.32 189**		PKPab		**PKPab**		**02 10 01.5**	**-0.2**
	VNA2	**Neumayer--Watz**	**164.39 192**		PKPab		**PKPab**		**02 10 01.4**	**-0.6**
		baz=176,slow=2.2								
	VNA1	**Neumayer--Stat**	**164.75 191**		PKPab		**PKPab**		**02 10 03.0**	**-0.5**

**WEL 24 02:03:10.9±0.4, 42°S±3°×17°3E±°, h31km±6km, M3.0/13, ML3.2/13, MLv3

WRA	**Warramunga Arr**	**44.74**	**259**	P		**P**	02 43 23.7	**-0.2**	
	2.8nm,0.5s,baz=94,slow=7.3,SNR=122								
	2.8nm,0.5s								
ASAR	**Alice Springs**	**44.92**	**254**	P		**P**	02 43 25.5	**+0.2**	
	13nm,0.6s,baz=86,slow=9.1,SNR=188								
	13nm,0.6s								
SIJI	**Sorong**	**52.24**	**283**	P		**P**	02 44 21.8	**+2.3**	
	7.8nm,0.4s,baz=68,slow=6.8,SNR=4.9								
	7.8nm,0.4s								
TXAR	**Lajitas Array**	**85.81**	**58**	P		**P**	02 47 39.9	**+0.1**	
	0.4nm,0.7s,baz=225,slow=6.5,SNR=7.0								
	0.4nm,0.7s								
BRTR	**Keskin Array B**	**144.66**	**315**	PKP		**PKPab**	02 54 33.3	**0.0**	
	0.6nm,0.4s,baz=120,slow=4.2,SNR=6.5								
MMAI	**Mount Meron Ar**	**146.06**	**303**	PKPbc		**PKiKP**	02 54 38.2	**-0.8**	
	1.8nm,0.5s,baz=68,slow=9.1,SNR=5.9								
GERES	**GERESS Array B**	**147.40**	**345**	PKPbc		**PKiKP**	02 54 40.4	**-0.9**	
	0.4nm,0.4s,baz=60,slow=3.2,SNR=5.2								
TORD	**Torodi Ar. Bea**	**175.51**	**180**	PKPab		**PKPab**	02 56 47.8	**+1.2**	
	0.3nm,0.6s,baz=194,slow=6.2,SNR=4.1								

*IDC **24** 02:48:26.6±2.9, 19°.40N×122°.41E, h0km, mb3.5/3, mbtmp3.5/3, MS3.1/1, Error ellipse: s-maj=338.8km s-min=29.5km az=67.0*
*MAN **24** 02:48:31.0, 19°.59N×121°.55E, h18km, mb4.3, ML3.2, MS2.9*
ISC 24 02:48:30.4±1.9, 19°.50N±0°.10×121°.9E±0°.1, h10km, n11, σ1s66/6, mb3.4/3, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.43**	**238**	⇑*i*P	**Pb**	**02 48 38.7**	**-1.5**
CICP				*i* S	**Sb**	**02 48 48.8**	**+2.1**
PACPP	**Pamplona Cagay**	**1.14**	**205**	⇓*i*P	**Pb**	**02 48 51.1**	**-1.2**
PACPP				*i* S	**Sb**	**02 49 07.3**	**+0.1**
APYP	**Conner**	**1.73**	**200**	⇓*i*P	Pg	02 49 10.2	+6.5
APYP				*i* S	Sg	02 49 37.9	+12
BALP	**Baler**	**3.75**	**184**	⇑*e*P	**Pb**	**02 49 36.7**	**-0.1**
BALP				*e*S	Sn	02 49 59.3	-13
WRA	**Warramunga Arr**	**41.06**	**162**	P	P	02 56 09.6	-4.8
	0.4nm,0.6s,baz=343,slow=9.0,SNR=6.2						
	0.4nm,0.6s						
PALK	**Pallekele**	**41.73**	**259**	LR	LR	03 14 55.5	
	comp=Z,20nm,18.2s,baz=3.7,slow=38						
H11S3	**WAKE ISLAND Hy**	**42.30**	**84**	T	T	03 41 34.8	
	baz=280						
H11S1	**WAKE ISLAND Hy**	**42.31**	**84**	T	T	03 41 42.5	
	baz=280						
H11S2	**WAKE ISLAND Hy**	**42.32**	**84**	T	T	03 41 41.3	
	baz=280						
ASAR	**Alice Springs**	**44.48**	**164**	P	P	02 56 38.3	-3.8
	0.2nm,0.3s,baz=348,slow=6.5,SNR=6.0						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**44.55**	**329**	P	**P**	**02 56 42.7**	**+0.4**
	0.5nm,0.4s,baz=99,slow=9.1,SNR=1.7						
	0.5nm,0.4s						

*IDC **24** 02:54:57.8±1.1, 37°.59N×20°.68E, h0km, mb3.6/9, mbtmp3.6/14, ML3.1/5, MS3.2/4, Error ellipse: s-maj=20.8km s-min=16.8km az=172.0*
*ATH **24** 02:54:58.7, 37°.42N×20°.55E, h9km±4km, ML3.6/12, Error ellipse: s-maj=4.5km s-min=1.2km az=35.0*
*THE **24** 02:54:59.5, 37°.45N×20°.56E, h0km±1km, ML3.5/5, Error ellipse: s-maj=2.1km s-min=0.4km az=234.0*
ISC 24 02:54:59.8±1.2, 37°.46N±0°.03×20°.56E±0°.03, h14km±7km, n109, σ1s39/124, mb3.7/9, 3C-8D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.33**	**41**	P	**Pg**	**02 55 06.2**	**-0.4**
LTHK				S	**Sg**	**02 55 11.3**	**+0.2**
	16μm,0.4s						
LTHK	**Lithakia**	**0.33**	**41**	P	**Pg**	**02 55 06.1**	**-0.5**
LTHK				S	**Sg**	**02 55 11.0**	**-0.1**
LTHK				AML	AML	02 55 12.9	
	comp=N,36210μm,0.4s						
LTHK				AML	AML	02 55 13.1	
	comp=E,24724μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.65**	**2**	P	**Pg**	**02 55 12.1**	**-0.4**
PSDA				S	**Sb**	**02 55 22.4**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.65**	**2**	P	**Pg**	**02 55 11.7**	**-0.9**
PSDA				S	**Sb**	**02 55 21.9**	**0.0**
VLS	**Valsamata**	**0.71**	**2**	P	**Pg**	**02 55 13.1**	**-0.6**
VLS				S	**Sb**	**02 55 24.3**	**+0.5**
VLS	**Valsamata**	**0.71**	**2**	P	**Pg**	**02 55 12.8**	**-0.9**
VLS				S	**Sb**	**02 55 23.9**	**+0.1**
VLS				AML	AML	02 55 24.5	
	comp=N,21333μm,0.4s						
VLS				AML	AML	02 55 27.1	
	comp=E,13881μm,0.3s						
KEF3	**Kipouria, Keph**	**0.76**	**347**	P	**Pg**	**02 55 14.1**	**-0.5**
KEF3	**Kipouria, Keph**	**0.76**	**347**	P	**Pg**	**02 55 13.8**	**-0.7**
KEF3				S	**Sb**	**02 55 25.9**	**+0.8**
DMLN	**Damoulianata-K**	**0.79**	**349**	P	**Pg**	**02 55 14.4**	**-0.7**
KEF4	**Livadi, Kephal**	**0.80**	**352**	P	**Pg**	**02 55 14.7**	**-0.7**
KEF4	**Livadi, Kephal**	**0.80**	**352**	P	**Pg**	**02 55 14.6**	**-0.8**
KEF4				S	**Sb**	**02 55 26.9**	**+0.6**
RLS	**Riolos of Patr**	**0.93**	**50**	P	**Pg**	**02 55 16.8**	**-1.0**
RLS				S	**Sb**	**02 55 30.7**	**+0.7**
	comp=E,3μm,0.6s						
RLS	**Riolos of Patr**	**0.93**	**50**	P	**Pg**	**02 55 16.5**	**-1.3**
RLS				S	**Sb**	**02 55 30.4**	**+0.4**
RLS				AML	AML	02 55 32.3	
	comp=N,5722μm,0.6s						
RLS				AML	AML	02 55 37.0	
	comp=E,4513μm,0.7s						
FSK	**Fiskardo**	**1.00**	**0**	P	**Pb**	**02 55 18.9**	**0.0**
FSK				S	**Sb**	**02 55 33.9**	**+2.0**
	comp=E,8μm,0.7s						
FSK	**Fiskardo**	**1.00**	**0**	P	**Pb**	**02 55 18.7**	**-0.2**
FSK				AML	AML	02 55 38.1	
	comp=N,17576μm,0.7s						
FSK				AML	AML	02 55 38.9	
	comp=E,15198μm,0.8s						
DRO	**Drossia**	**1.03**	**61**	P	**Pb**	**02 55 19.2**	**-0.3**
DRO	**Drossia**	**1.03**	**61**	P	**Pg**	**02 55 18.6**	**-1.2**
DRO				AML	AML	02 55 38.2	
	comp=E,6887μm,0.5s						
DRO				AML	AML	02 55 44.1	
	comp=N,7096μm,0.8s						
PYL	**PYLOS**	**1.10**	**121**	P	**Pg**	**02 55 19.9**	**-1.1**
PYL				S	**Sn**	**02 55 36.4**	**+0.6**
	comp=N,1μm,0.5s						
PYL	**PYLOS**	**1.10**	**121**	P	**Pg**	**02 55 19.8**	**-1.1**
PYL				AML	AML	02 55 41.5	
	comp=N,2520μm,0.5s						
PYL				AML	AML	02 55 42.4	
	comp=E,2682μm,0.6s						
ITM	**Ithomi**	**1.12**	**104**	P	**Pg**	**02 55 20.5**	**-1.0**
ITM				S	**Sb**	**02 55 36.7**	**+1.1**
	comp=E,2μm,0.7s						
ITM	**Ithomi**	**1.12**	**104**	P	**Pg**	**02 55 20.2**	**-1.3**
ITM				AML	AML	02 55 43.7	
	comp=N,3046μm,0.8s						
ITM				AML	AML	02 55 44.3	
	comp=E,3031μm,0.6s						
EVGI	**Lefkada island**	**1.16**	**4**	P	**Pg**	**02 55 21.4**	**-0.8**
EVGI				S	**Sn**	**02 55 38.6**	**+1.2**
EVGI	**Lefkada island**	**1.16**	**4**	P	**Pg**	**02 55 20.6**	**-1.5**
DRAG	**Dragano-Lefkad**	**1.22**	**0**	P	**Pb**	**02 55 22.7**	**0.0**
DRAG				S	**Sn**	**02 55 40.8**	**+1.9**
TSLK	**Tsoukalades, L**	**1.36**	**3**	P	**Pb**	**02 55 25.4**	**+0.3**
LAKA	**Lakka**	**1.36**	**55**	P	**Pb**	**02 55 25.4**	**+0.2**
LAKA	**Lakka**	**1.36**	**55**	P	**Pg**	**02 55 25.0**	**-1.1**
LAKA				AML	AML	02 55 55.4	
	comp=N,2633μm,1.1s						
LAKA				AML	AML	02 55 57.5	
	comp=E,3496μm,1.4s						
PVO	**Paravola**	**1.38**	**33**	P	**Pn**	**02 55 25.1**	**+0.4**
PVO	**Paravola**	**1.38**	**33**	P	**Pn**	**02 55 24.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.39**	**65**	P	**Pb**	**02 55 25.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.39**	**65**	P	**Pg**	**02 55 24.9**	**-1.6**
KLV				AML	AML	02 55 56.4	
	comp=E,1744μm,0.6s						
KLV				AML	AML	02 56 04.2	
	comp=N,2372μm,0.8s						
EFP	**Efpalio**	**1.44**	**47**	P	**Pg**	**02 55 26.3**	**-1.1**
EFP	**Efpalio**	**1.44**	**47**	P	**Pn**	**02 55 25.4**	**-0.1**
EFP				AML	AML	02 55 53.4	
	comp=N,3047μm,0.8s						
EFP				AML	AML	02 55 54.5	
	comp=E,3418μm,0.7s						
SERG	**Sergoula**	**1.52**	**51**	P	**Pn**	**02 55 26.9**	**+0.3**
EVR	**Evrytania**	**1.75**	**34**	P	**Pn**	**02 55 31.1**	**+1.2**
EVR	**Evrytania**	**1.75**	**34**	P	**Pb**	**02 55 31.5**	**-0.4**
EVR				AML	AML	02 56 04.8	
	comp=E,2397μm,0.8s						
EVR				AML	AML	02 56 14.8	
	comp=N,2210μm,0.8s						
THAL	**Thalero**	**1.76**	**70**	P	**Pn**	**02 55 30.6**	**+0.7**
THAL	**Thalero**	**1.76**	**70**	P	**Pb**	**02 55 31.9**	**0.0**
MAKR	**Makrakomi, Fth**	**1.98**	**38**	P	**Pb**	**02 55 35.9**	**+0.2**
LOUT	**Loutraki**	**1.98**	**74**	P	**Pn**	**02 55 33.6**	**+0.6**
AXAR	**Agios Charalam**	**2.11**	**51**	P	**Pn**	**02 55 36.6**	**+1.9**
AXAR				AML	AML	02 56 18.0	
	comp=E,2467μm,0.5s						
AXAR				AML	AML	02 56 25.5	
	comp=N,4342μm,0.9s						
LKR	**Lokris**	**2.26**	**58**	P	**Pn**	**02 55 37.2**	**+0.4**
THL	**Klokotos Trika**	**2.39**	**28**	P	**Pn**	**02 55 40.0**	**+1.4**
TIP	**Timpagrande**	**3.45**	**301**	⇑P	**Pn**	**02 55 52.4**	**-0.8**
OHR	**Ohrid**	**3.65**	**3**	*i* Pn	**Pn**	**02 55 57.0**	**+1.0**
TIR	**Tirane**	**3.92**	**352**	⇓P	**Pn**	**02 56 00.3**	**+0.7**
IDI	**Anoyia**	**4.11**	**121**	Pn	**Pn**	**02 56 03.0**	**+0.7**
	comp=N,0.4nm,0.3s,baz=300,slow=8.1,SNR=1.7						
IDI				Sn	**Sn**	**02 56 50.3**	**0.0**
	comp=N,2.5nm,0.3s,baz=324,slow=19,SNR=6.2						
	comp=N,17nm,1.1s						
VAY	**Valandovo**	**4.16**	**21**	*i* Pn	**Pn**	**02 56 04.5**	**+1.7**
MMB	**Musomiste**	**4.79**	**30**	*i* P	**Pn**	**02 56 12.1**	**+0.4**
KKB	**Krupnik**	**4.81**	**23**	*i* P	**Pn**	**02 56 12.8**	**+0.9**
DRME	**Dracevica, Mon**	**4.84**	**348**	*e*Pn	**Pn**	**02 56 12.5**	**+0.3**
VAE	**Valguarnera**	**4.89**	**272**	Pn	**Pn**	**02 56 15.5**	**+2.4**
	comp=N,0.5nm,0.3s,baz=230,slow=21,SNR=3.5						
VAE				Sn	**Sn**	**02 57 09.4**	**-0.1**
	comp=N,0.5nm,0.3s,baz=230,slow=14,SNR=1.5						
	comp=N,4.3nm,0.4s						
HCY	**Herceg Novi**	**5.23**	**343**	*e*Pn	**Pn**	**02 56 20.5**	**+2.9**
DBRK	**Dubrovnik**	**5.52**	**341**	*e*Pn	**Pn**	**02 56 18.3**	**-3.3**
VTS	**Vitosha**	**5.54**	**21**	⇓P	**Pn**	**02 56 23.4**	**+1.3**
VTS	**Vitosha**	**5.54**	**21**	*i* P	**Pn**	**02 56 23.2**	**+1.1**
BRY	**Bratogost**	**5.65**	**345**	*e*Pn	Pn	02 56 17.4	-6.1
STON	**Ston**	**5.83**	**339**	*e*Pn	**Pn**	**02 56 23.4**	**-2.4**
STON	**Ston**	**5.83**	**339**	*e*Pn	**Pn**	**02 56 23.1**	**-2.7**
UPM	**Unac-Piva**	**5.87**	**348**	*e*Pn	**Pn**	**02 56 26.1**	**-0.5**
LSTV	**Lastovo**	**6.00**	**333**	*e*Pn	**Pn**	**02 56 26.7**	**-1.4**
RUDO	**Rudo**	**6.22**	**352**	*e*Pn	**Pn**	**02 56 30.4**	**-0.8**
BOVS	**Bovan**	**6.23**	**8**	⇓P	**Pn**	**02 56 29.6**	**-1.7**
BLKB	**Belogradchik**	**6.36**	**14**	⇓P	**Pn**	**02 56 34.2**	**+1.0**
MAKA	**Makarska**	**6.42**	**336**	*e*Pn	**Pn**	**02 56 34.1**	**+0.3**
MAKA				Sn	Sn	02 57 39.0	-8.0
HVAR	**Hvar**	**6.52**	**332**	*e*Pn	**Pn**	**02 56 34.5**	**-0.7**
RICI	**Ricice**	**6.57**	**338**	*e*Pn	**Pn**	**02 56 33.9**	**-2.1**
DIVS	**Divibare**	**6.64**	**356**	*e*Pn	**Pn**	**02 56 36.1**	**-1.0**
ZIRJ	**Zirje**	**7.23**	**330**	*e*Pn	**Pn**	**02 56 42.8**	**-2.2**
KIJV	**Kijevo**	**7.26**	**336**	*e*Pn	**Pn**	**02 56 44.7**	**-0.8**
DJES	**Djerdap**	**7.35**	**11**	⇑P	Pn	02 56 53.7	+7.0
A050A	**Klekovaca**	**7.65**	**338**	*e*Pn	**Pn**	**02 56 49.8**	**-1.1**
FRGS	**Fruska Gora**	**7.71**	**356**	*e*Pn	**Pn**	**02 56 51.8**	**+0.1**
BLY	**Banja Luka**	**7.71**	**342**	*e*Pn	**Pn**	**02 56 55.5**	**+3.8**
DUGI	**Dugi Otok**	**7.75**	**329**	*e*Pn	**Pn**	**02 56 51.1**	**-1.1**
VIRC	**Vir**	**8.00**	**330**	*e*Pn	**Pn**	**02 56 55.2**	**-0.4**
VIRC				Sn	Sn	02 58 17.9	-7.9
A051A	**Mrakovica**	**8.03**	**341**	*e*Pn	**Pn**	**02 56 54.1**	**-2.0**
NVLJ	**Novalja**	**8.29**	**331**	*e*Pn	**Pn**	**02 56 58.9**	**-0.8**
RABC	**Rab**	**8.49**	**331**	*e*Pn	**Pn**	**02 57 02.6**	**+0.3**
VOIR		**8.65**	**21**	⇓P	**Pn**	**02 57 05.0**	**+0.4**
BOJS	**Bojanci**	**8.97**	**335**	*e*Pn	**Pn**	**02 57 07.4**	**-1.5**
MLR	**Muntele Rosu**	**8.98**	**25**	⇓P	**Pn**	**02 57 13.7**	**+4.5**
MLR	**Muntele Rosu**	**8.98**	**25**	LR	LR	03 01 35.9	
	comp=N,130nm,19.0s,baz=216,slow=45						
KEST	**Kesra**	**9.18**	**263**	Pn	**Pn**	**02 57 12.2**	**+0.3**
	comp=N,0.1nm,0.3s,baz=97,slow=17,SNR=2.3						
	comp=N,1.7nm,0.8s						
DOPR	**Dopca**	**9.23**	**21**	⇓P	**Pn**	**02 57 14.3**	**+1.7**
CEY	**Cerknica**	**9.46**	**333**	*e*Pn	**Pn**	**02 57 15.5**	**-0.1**
PLOR	**Plostina**	**9.54**	**27**	⇑P	**Pn**	**02 57 17.1**	**+0.3**
VRI	**Vrincioaia**	**9.58**	**27**	⇓P	**Pn**	**02 57 13.9**	**-3.4**
SOKA	**Soboth**	**10.08**	**338**	*e*Pn	**Pn**	**02 57 24.2**	**0.0**
	comp=N,1.5nm,0.4s						
SOKA				*i* Sn	Sn	02 59 08.8	-8.4
	comp=N,1.4nm,0.6s						
OBKA	**Obir**	**10.08**	**336**	*e*Pn	**Pn**	**02 57 26.8**	**+2.5**
OBKA	**Obir**	**10.08**	**336**	*i* Pn	**Pn**	**02 57 25.9**	**+1.6**
	comp=N,2.0nm,0.6s						
OBKA				*e*Sn	**Sn**	**02 59 14.8**	**-2.5**
	comp=N,7.0nm,0.8s						
KBA	**Koelnbreinsper**	**10.99**	**333**	*e*Pn	**Pn**	**02 57 36.7**	**0.0**
	comp=N,0.8nm,0.4s						
KBA				*e*Sn	**Sn**	**02 59 40.4**	**+0.8**
	comp=N,1.2nm,0.6s						
ABTA	**Abfaltersbach**	**11.03**	**330**	*e*Pn	**Pn**	**02 57 38.8**	**+1.6**
	comp=N,2.1nm,0.7s						
ABTA				*i* Sn	**Sn**	**02 59 35.9**	**-4.6**
	comp=N,2.1nm,0.6s						
MOA	**Molln**	**11.36**	**338**	*e*Pn	**Pn**	**02 57 43.2**	**+1.5**
	comp=N,1.2nm,0.4s						
GERES	**GERESS Array B**	**12.42**	**338**	Pn	**Pn**	**02 57 54.4**	**-1.9**
	comp=N,0.1nm,0.3s,baz=154,slow=16,SNR=1.3						
	comp=N,0.3nm,0.5s						
AKASG	**Malin Array Be**	**14.61**	**22**	Pn	**Pn**	**02 58 27.9**	**+1.9**
	comp=N,0.7nm,0.3s,baz=209,slow=9.0,SNR=7.1						
AKASG				LR	LR	03 05 05.4	
	comp=N,61nm,20.2s,baz=52,slow=42						
ESDC	**Sonseca Array**	**19.29**	**284**	P	**P**	**02 59 25.4**	**+1.1**
	baz=81,slow=10,SNR=5.2						
	comp=N,0.9nm,1.0s						
MDT	**Midelt**	**21.07**	**265**	P	**P**	**02 59 46.1**	**+2.3**
	comp=N,2.2nm,0.9s,baz=54,slow=10,SNR=5.0						
	comp=N,2.2nm,0.9s						
HFS	**Hagfors**	**23.11**	**351**	P	**P**	**03 00 04.2**	**-1.0**
	comp=N,2.5nm,0.7s,baz=165,slow=11,SNR=3.2						
	comp=N,2.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.03**	**326**	P	**P**	**03 00 14.4**	**+0.2**
	comp=N,1.5nm,0.6s,baz=129,slow=6.5,SNR=4.2						
	comp=N,1.1nm,0.6s						
FINES	**FINESS Array B**	**24.25**	**6**	P	**P**	**03 00 14.9**	**-1.3**
	comp=N,2.0nm,0.6s,baz=165,slow=11,SNR=11						
	comp=N,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**24.33**	**349**	P	**P**	**03 00 16.0**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=150,slow=10						
NOA	**NORSAR Array B**	**24.33**	**349**	P	**P**	**03 00 16.2**	**-0.7**
	comp=N,1.1nm,0.8s,baz=162,slow=8.8,SNR=3.7						
	comp=Z,1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.50**	**220**	P	**P**	**03 01 03.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=24,slow=9.9,SNR=3.2						
	comp=Z,0.4nm,0.6s						
ARU	**Arti**	**31.58**	**41**	LR	LR	03 15 01.1	
	comp=Z,36nm,21.1s,baz=100,slow=38						
KOWA	**Kowa**	**31.62**	**230**	LR	LR	03 14 55.1	
	comp=Z,57nm,18.3s,baz=138,slow=38						
BVAR	**Borovoye Array**	**37.56**	**49**	P	**P**	**03 02 13.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=287,slow=6.9,SNR=2.3						
	comp=Z,0.2nm,0.5s						
MKAR	**Makanchi Array**	**45.65**	**58**	P	**P**	**03 03 18.4**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=274,slow=7.8,SNR=5.6						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**46.15**	**48**	P	**P**	**03 03 21.8**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=280,slow=9.8,SNR=2.3						
	comp=Z,0.8nm,0.5s						

*NEIC **24** 02:56:14.3±1.4, 29°.84S±0°.03×71°.69W±0°.10, h30km±12km, mb3.7/4, ML4.3(GUC), Error ellipse: s-maj=13.1km s-min=3.1km az=107.0*
*GUC **24** 02:56:15.5±0.7, 29°.99S×71°.36W, h46km±3km, ML4.3*
*IDC **24** 02:56:15.5±0.9, 29°.98S×71°.50W, h41km±7km, mb3.2/4, mbtmp3.5/8, ML3.7/4, MS3.4/2, Error ellipse: s-maj=27.1km s-min=20.5km az=143.0*
ISC 24 02:56:15.8±0.7, 29°.87S±0°.03×71°.55W±0°.06, h41km±6km, n60, σ1s05/71, mb3.5/4, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.27**	**101**		**Pn**	**02 56 23.1**	**-0.8**
CO05	**La Serena**	**0.27**	**101**	⇑*e*P	**Pn**	**02 56 23.2**	**-0.6**
CO05				*i* S	**Sn**	**02 56 29.1**	**-0.4**
CO05				IAML		02 56 29.9	
	comp=E,43μm,0.4s						
GO04	**Tololo Observa**	**0.72**	**115**	*e*P	**Pn**	**02 56 28.6**	**-1.1**
GO04				*i* S	**Sn**	**02 56 37.9**	**-1.8**
GO04				IAML		02 56 41.0	
	comp=N,51μm,0.4s						
CO06	**Fray Jorge**	**0.81**	**185**	Pn	**Pn**	**02 56 30.4**	**-0.4**
CO06	**Fray Jorge**	**0.81**	**185**	⇑*e*P	**Pn**	**02 56 30.4**	**-0.4**
CO06				*e*S	**Sn**	**02 56 41.4**	**-0.2**
LCO	**Las Campanas**	**1.13**	**41**		**Pn**	**02 56 34.5**	**-0.8**
LCO				*e*S	**Sn**	**02 56 48.3**	**-1.4**
CO01	**Juntas del Tor**	**1.27**	**95**	*e*P	**Pn**	**02 56 36.9**	**-0.3**
CO01				*e*S	**Sn**	**02 56 52.4**	**-0.8**
CO02	**Combarbal**	**1.41**	**161**		**Pn**	**02 56 38.9**	**-0.3**
CO02	**Combarbal**	**1.41**	**161**	⇑*e*P	**Pn**	**02 56 38.3**	**-0.8**
CO02				*e*S	**Sn**	**02 56 56.0**	**-0.6**
CO02				IAML		02 57 00.2	
	comp=E,11μm,0.2s						
AC05	**El Transito**	**1.51**	**48**	Pn	**Pn**	**02 56 39.9**	**-0.6**
AC05	**El Transito**	**1.51**	**48**	*e*P	**Pn**	**02 56 40.3**	**-0.2**
AC05				*e*S	**Sn**	**02 56 58.9**	**-0.2**
AC04	**Llanos de Chal**	**1.71**	**14**	Pn	**Pn**	**02 56 42.5**	**-0.5**
AC04	**Llanos de Chal**	**1.71**	**14**	⇑*e*P	**Pn**	**02 56 42.2**	**-0.9**
AC04				*e*S	**Sn**	**02 57 05.1**	**+1.5**
VA06	**Catapilco**	**2.69**	**176**	Pn	**Pn**	**02 56 55.7**	**-0.9**
AC06	**Mina Casimiro**	**2.71**	**23**	Pn	**Pn**	**02 56 56.3**	**-0.6**
AC06	**Mina Casimiro**	**2.71**	**23**	⇑*e*P	**Pn**	**02 56 56.8**	**0.0**
AC06				*e*S	**Sn**	**02 57 29.7**	**+1.3**
AC06				IAML		02 57 43.5	
	comp=E,812nm,0.5s						
ZON	**Zonda**	**2.98**	**125**	Pn	**Pn**	**02 57 01.8**	**+1.2**
VA03	**San Esteban**	**3.01**	**164**		**Pn**	**02 57 02.0**	**+1.0**
ROCH	**El Roble**	**3.13**	**172**	*e*P	**Pn**	**02 57 03.0**	**+0.1**
ROCH				*e*P		02 57 03.0	
ROCH				*i* S	**Sn**	**02 57 39.2**	**+0.1**
ROCH				*i* S		02 57 39.7	
ROCH				IAML		02 57 55.0	
	comp=N,1μm,0.3s						
ROCH				IAML		02 57 55.1	
	comp=N,827nm,0.4s						
ROC1	**El Roble**	**3.13**	**172**		**Pn**	**02 57 02.3**	**-0.6**
PEL	**Peldehue**	**3.35**	**168**		**Pn**	**02 57 05.2**	**-0.4**
MT02	**Curacav**	**3.40**	**174**		**Pn**	**02 57 05.3**	**-1.0**
MT02	**Curacav**	**3.40**	**174**	⇑*e*P	**Pn**	**02 57 05.8**	**-0.6**
MT02				*e*S	**Sn**	**02 57 45.8**	**+0.4**
MT02				IAML		02 58 00.5	
	comp=E,495nm,0.5s						
MT05	**Renca**	**3.58**	**169**	Pn	**Pn**	**02 57 09.0**	**+0.1**
MT05	**Renca**	**3.58**	**169**	*e*P	**Pn**	**02 57 09.3**	**+0.4**
AC02	**Maricunga**	**3.69**	**36**	Pn	**Pn**	**02 57 11.4**	**+0.6**
MT03	**Universidad Ad**	**3.72**	**167**		**Pn**	**02 57 11.3**	**+0.5**
MT03	**Universidad Ad**	**3.72**	**167**	*e*P	**Pn**	**02 57 11.3**	**+0.5**
VA05	**Santo Domingo**	**3.78**	**181**		**Pn**	**02 57 10.0**	**-1.5**
AC01	**Pan de Azucar**	**3.80**	**13**		**Pn**	**02 57 09.0**	**-2.8**
MT09	**Talagante**	**3.93**	**173**		**Pn**	**02 57 13.3**	**-0.3**
MT09	**Talagante**	**3.93**	**173**	*e*P	**Pn**	**02 57 13.9**	**+0.2**
MT01	**Popeta**	**3.99**	**176**		**Pn**	**02 57 13.6**	**-0.9**
BO04	**La Punta**	**4.19**	**169**		**Pn**	**02 57 17.0**	**-0.1**
BO02	**Sierra Bellavi**	**4.96**	**173**	Pn	**Pn**	**02 57 27.1**	**-0.6**
PB14	**IPOC Station P**	**5.32**	**11**	Pn	**Pn**	**02 57 34.3**	**+1.4**
H03N1	**Juan Fernandez**	**7.22**	**239**	P	**Pn**	**02 57 57.0**	**-1.5**
	baz=114,slow=18,SNR=52						
H03N1				T	T	03 05 37.1	
	baz=65,slow=72,SNR=3915						
H03N2	**Juan Fernandez**	**7.24**	**239**	P	**Pn**	**02 57 57.2**	**-1.5**
	baz=114,slow=18,SNR=50						
H03N2				T	T	03 05 39.2	
	baz=65,slow=72,SNR=2672						
H03N3	**Juan Fernandez**	**7.24**	**238**	P	**Pn**	**02 57 56.8**	**-1.9**
	baz=114,slow=18,SNR=84						
H03N3				T	T	03 05 35.9	
	baz=65,slow=72,SNR=2189						
H03S3	**Juan Fernandez**	**7.40**	**236**	P	**Pn**	**02 57 58.9**	**-2.2**
H03S3				T	T	03 04 57.4	
	SNR=14						
H03S1	**Juan Fernandez**	**7.41**	**236**	P	**Pn**	**02 57 58.5**	**-2.6**
	SNR=22						
H03S1				T	T	03 04 56.9	
	SNR=16						
H03S2	**Juan Fernandez**	**7.42**	**236**	P	**Pn**	**02 57 59.0**	**-2.2**
	SNR=24						
H03S2				T	T	03 04 56.8	
	SNR=14						
LVC	**Limon Verde**	**7.60**	**19**	P	**Pn**	**02 58 04.9**	**+0.5**
	comp=E,0.6nm,0.3s,baz=190,slow=11,SNR=2.0						
	comp=E,1.0nm,0.3s						
PLCA	**Paso Flores**	**10.87**	**176**	P	**Pn**	**02 58 48.3**	**-0.6**
	comp=E,0.2nm,0.3s,baz=347,slow=11,SNR=3.3						
	comp=E,0.6nm,0.4s						
CPUP	**Villa Florida**

CGP				*e*S		**Sn**	03 17 56.8	-0.2
SGSI	**Sangihe**	**3.03 199**		P		**Pn**	03 17 33.7	+1.4
GHBP	**Garcia Hernand**	**3.73 325**	⫛	*e*P		**Pn**	03 17 42.1	+0.3
GHBP				*e*S		**Sn**	03 18 25.0	+0.3
TBP	**Tagbilaran**	**4.06 320**		*e*P		**Pn**	03 17 46.1	-0.2
TBP				*i* S		**Sn**	03 18 30.2	-2.5
TABP	**Talibon, Bohol**	**4.11 328**	⫛	*e*P		**Pn**	03 17 46.4	-0.5
TABP				*e*S		**Sn**	03 18 31.2	-2.6
TNTI	**Ternate**	**5.83 172**				Pn	03 18 04.4	-6.0
TNTI	**Ternate**	**5.83 172**		P		**Pn**	03 18 11.9	+1.5
	0.3nm79nm,0.8s							
KMSI	**Cibinong**	**6.47 203**		P		**Pn**	03 18 21.0	+1.8
GTOI	**Gorontalo**	**6.86 211**		P		**Pn**	03 18 24.1	-0.4
	0.3nm998nm90nm,0.7s							
LBMI	**Labuha**	**7.23 172**		P		**Pn**	03 18 30.4	+0.8
MRSI	**Marisa**	**7.58 217**		P		**Pn**	03 18 35.2	+0.8
	1μm90nm,0.9s							
SANI	**Sanana**	**8.58 184**		P		**Pn**	03 18 47.7	-0.4
	2μm37nm,0.9s							
SWI	**Sorong**	**8.77 147**		P		**Pn**	03 18 52.9	+2.2
	17nm,0.5s							
APSI	**Ampana**	**8.88 213**		P		**Pn**	03 18 56.4	+4.2
	483nm47nm,0.9s							
FAKI	**Fak Fak**	**11.03 149**		Pn		**Pn**	03 19 23.1	+1.6
SOEI	**Soe**	**16.37 188**		Pn		**Pn**	03 20 25.4	-6.6
BATI	**Baumata**	**16.91 190**		P		**P**	03 20 41.0	+1.6
	18nm,0.4s,baz=261,slow=2.5,SNR=2.0							
MTN	**Manton Dam**	**19.83 167**		Pn		**P**	03 21 12.7	+1.3
MTN				IAmb	IAmb		03 21 24.0	
	comp=Z,15nm,1.4s							
KNRA	**Kununurra**	**22.22 174**		P		**P**	03 21 36.4	-0.7
KNRA				IAmb	IAmb		03 21 41.2	
	comp=Z,11nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.53 182**		P		**P**	03 21 59.2	0.0
	comp=Z,2.5nm,0.5s,baz=358,slow=8.6,SNR=14							
	comp=Z,2.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**24.53 182**		P		**P**	03 22 00.0	+0.7
FITZ				IAmb	IAmb		03 22 00.2	
	comp=Z,4.9nm,1.0s							
WRAB	**Tennant Creek**	**27.45 164**		P		**P**	03 22 26.2	+0.6
WRAB				IAmb	IAmb		03 22 27.3	
	comp=Z,5.8nm,0.7s							
WRA	**Warramunga Arr**	**27.45 164**		P		**P**	03 22 25.1	-0.6
	comp=Z,0.6nm,0.6s,baz=344,slow=10,SNR=5.9							
	comp=Z,0.6nm,0.6s							
WRA	**Warramunga Arr**	**27.45 164**		P		**P**	03 22 26.7	+1.0
WB2	**Warramunga Arr**	**27.45 164**		P		**P**	03 22 25.7	-0.1
WB2				IAmb	IAmb		03 22 38.7	
	comp=Z,2.1nm,0.8s							
PSA00	**Pilbara Seismi**	**28.73 193**		P		**P**	03 22 37.4	+0.3
PSA00				IAmb	IAmb		03 22 49.2	
	comp=Z,15nm,1.5s							
AS31	**Alice Springs**	**30.91 167**		P		**P**	03 22 56.8	+0.4
ASAR	**Alice Springs**	**30.91 167**		P		**P**	03 22 55.9	-0.5
	comp=Z,0.7nm,0.4s,baz=344,slow=7.3,SNR=20							
	comp=Z,0.7nm,0.4s							
BBOO	**Buckleboo**	**40.20 168**		P		**P**	03 24 15.5	-0.4
STKA	**Stephens Creek**	**40.85 160**		P		**P**	03 24 20.9	-0.3
	comp=Z,1.9nm,0.7s,baz=337,slow=12,SNR=2.5							
	comp=Z,1.9nm,0.7s							
MKAR	**Makanchi Array**	**55.12 324**		P		**P**	03 26 12.0	+0.7
	comp=Z,0.6nm,0.4s,baz=112,slow=6.6,SNR=6.8							
	comp=Z,0.6nm,0.4s							
ZAA0	**Zalesovo Array**	**57.98 332**		P		P	03 26 38.9	+7.5
ZAA0				IAmb	IAmb		03 26 48.5	
	comp=Z,3.5nm,1.2s							
ZALV	**Zalesovo Beam**	**57.98 332**		P		P	03 26 38.3	+7.0
KURBB	**Kurchatov Arra**	**59.25 327**		P		**P**	03 26 40.7	+0.5
	comp=Z,0.5nm,0.2s,baz=124,slow=6.0,SNR=5.5							
	comp=Z,0.5nm,0.2s							
TORD	**Torodi Ar. Bea**	**121.80 290**		PKP		**PKiKP**	03 35 33.6	+0.3
	comp=Z,0.6nm,1.0s,baz=89,slow=3.0,SNR=2.8							

JMA ***24*** *03:19:27.9±0.2,39°.1N±0°.3×142°.9E±0°.7,h23km±1km, MD4.3/40,MV4.0/40,FAR E OFF SANRIKU*

NIED ***24*** *03:19:27.9,39°.13N×142°.93E,h23km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.79; Mθθ0.27; Mφφ-1.06; Mrθ0.80; Mθφ-0.29; Mφr1.22; Fault plane solution: M₀1.76000×10¹⁵ NP1: φs166.00000°,δ21.00000°,λ47.00000°. NP2:φs31.00000°, δ75.00000°,λ105.00000°.*

IDC ***24*** *03:19:28.1±1.0,39°.48N×142°.63E,h0km,mb4.1/11, mbtmp4.1/12,ML3.1/1,MS3.4/13 Error ellipse: s-maj=25.4km s-min=17.8km az=96.0*

NEIC ***24*** *03:19:32.1±1.5,39°.22N±0°.04×142°.6E±0°.1,h35km±2km, mb4.4/19,Error ellipse: s-maj=13.2km s-min=7.3km az=277.0*

ISC 24 03:19:30.5±1.8,39°.19N±0°.05×142°.74E±0°.07,h29km±11km, n85,σ1ᵉ28/71,mb4.3/21,MS3.5/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.81**	**299**	P		**Pb**	**03 19 45.5**	**-0.7**
MIYJ				S		**Sn**	**03 19 58.4**	**+1.3**
OFUJ	**Ofunato**	**0.84**	**263**	P		**Pn**	**03 19 45.9**	**-0.5**
JTH	**Tanohata**	**1.01**	**318**	*i* P		**Pb**	**03 19 48.6**	**-0.9**
JTH				*e*S		**Sb**	**03 20 03.6**	**+1.2**
JKMT	**Kesennumamotoy**	**1.06**	**249**	*i* P		**Pn**	**03 19 48.9**	**-0.5**
JKMT				*e*S		**Sn**	**03 20 03.2**	**0.0**
JOM	**Ohasama**	**1.16**	**285**	*i* P		**Pb**	**03 19 51.1**	**-0.8**
JOM				*e*S		**Sb**	**03 20 08.3**	**+1.7**
JOM	**Ohasama**	**1.16**	**285**	A		A	03 19 51.1	
	comp=E,5.0nm,0.6s,comp=E,3.0nm,1.8s							
JMK	**Ichinoseki**	**1.21**	**259**	*i* P		**Pn**	**03 19 51.6**	**+0.1**
JMK				*e*S		**Sb**	**03 20 08.7**	**+0.7**
JIO	**Ouri**	**1.31**	**236**	*i* P		**Pn**	**03 19 52.2**	**-0.7**
JIO				*e*S		**Sn**	**03 20 09.8**	**+0.3**
JSZI	**Iwateshizukuis**	**1.49**	**292**	A		A	03 19 56.0	
	comp=E,7.0nm,1.7s,comp=E,8.0nm,1.5s							
JANG	**Nango**	**1.51**	**322**	P		**Pn**	**03 19 55.6**	**0.0**
JOFO	**Osakifurukawao**	**1.55**	**248**	A		A	03 19 56.2	
	comp=E,15nm,2.6s,comp=E,13nm,2.4s							
JRG	**Rokugo**	**1.65**	**278**	*i* P		**Pb**	**03 19 58.7**	**-1.6**
JRG	**Rokugo**	**1.65**	**278**	A		A	03 19 58.7	
	comp=E,4.0nm,1.3s,comp=E,4.0nm,1.9s							
JOU	**Okura**	**1.82**	**244**	*i* P		**Pn**	**03 20 00.7**	**+0.8**
JOU				S		**Sb**	**03 20 24.9**	**-0.8**
JOU	**Okura**	**1.82**	**244**	A		A	03 20 00.7	
	comp=E,3.0nm,1.7s,comp=E,4.0nm,0.9s							
JYK	**Kaneyama**	**1.88**	**262**	P		**Pn**	**03 20 02.1**	**+1.4**
JAH	**Hinai**	**1.91**	**302**	*i* P		**Pb**	**03 20 02.4**	**-2.3**
JAH				S		**Sb**	**03 20 30.2**	**+2.2**
JYW	**Yuwa**	**2.00**	**281**	A		A	03 20 03.4	
	comp=E,5.0nm,3.2s,comp=E,5.0nm,1.6s							
JMM	**Marumori**	**2.02**	**230**			**Pn**	**03 20 03.0**	**+0.3**
JMM	**Marumori**	**2.02**	**230**	P		**Pn**	**03 20 02.4**	**-0.3**
JTM	**Tenmabayashi**	**2.05**	**322**	Pn		**Pn**	**03 20 03.7**	**+0.7**
JNTW	**Noshirotokiwa**	**2.27**	**299**	A		A	03 20 07.2	
	comp=E,7.0nm,2.2s,comp=E,9.0nm,2.9s							
JAHD	**Aomorihigashid**	**2.33**	**333**	A		A	03 20 07.8	
	comp=E,5.0nm,4.1s,comp=E,5.0nm,2.8s							
ERM	**Erimo**	**2.84**	**6**	Pn		**Pn**	**03 20 14.5**	**+0.6**
JYT	**Yasato**	**3.58**	**215**	Pn		**Pn**	**03 20 25.2**	**+1.1**
JSD	**Sado**	**3.70**	**253**	Pn		**Pn**	**03 20 26.0**	**+0.3**
JEW	**Eniwo**	**3.77**	**345**			**Pn**	**03 20 27.4**	**+0.6**
MJAR	**Matsushiro Arr**	**4.46**	**235**	Pn		**Pn**	**03 20 38.2**	**+2.0**
	0.9nm,0.3s,baz=35,slow=13,SNR=61							
MJAR				LR		LR	03 22 30.1	
	comp=Z,234nm,21.3s,baz=82,slow=40							
	19nm,0.6s							
MAJO	**Matsushiro**	**4.46**	**235**	Pn		**Pn**	**03 20 37.0**	**+0.9**
MJB9	**Matsu-Tunnel**	**4.46**	**235**			**Pn**	**03 20 37.8**	**+1.6**
INU	**Inuyama**	**5.96**	**232**			**Pn**	**03 20 57.2**	**+0.3**
USA0B	**Ussuriysk Arra**	**9.47**	**305**	Pn		**Pn**	**03 21 45.8**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.47**	**305**	Pn		Pn	03 21 50.5	+5.5
	0.4nm,0.3s,baz=117,slow=12,SNR=13							
USRK				LR		LR	03 25 18.9	
	comp=Z,330nm,19.4s,baz=92,slow=38							
USRK	**Ussuriysk Ar.**	**9.47**	**305**	Pn		**Pn**	**03 21 44.7**	**-0.2**
MDJ	**Mudanjiang**	**11.20**	**303**	Pn		**Pn**	**03 22 08.0**	**-0.5**
KSRS	**Korea Array**	**11.77**	**266**	Pn		**Pn**	**03 22 20.9**	**+4.5**
	0.4nm,0.3s,baz=80,slow=13,SNR=7.2							
KSRS				LR		LR	03 26 27.0	
	comp=Z,117nm,19.6s,baz=85,slow=36							
KLR	**Kul'dur**	**12.75**	**325**	LR		LR	03 27 34.6	
	comp=Z,128nm,19.1s,baz=127,slow=39							
PET	**Petropavlovsk**	**17.64**	**33**	Pn		**Pn**	**03 23 33.2**	**-0.7**
PET				IAmb		IAmb	03 23 50.0	
	comp=Z,28nm,1.4s							
MA2	**Magadan**	**21.03**	**11**	P		**P**	**03 24 11.2**	**-0.5**
	comp=Z,13nm,0.7s,baz=185,slow=12,SNR=4.3							
MA2				LR		LR	03 32 45.0	
	comp=Z,59nm,18.2s,baz=134,slow=38							
	comp=Z,13nm,0.7s							
SEY	**Seymchan**	**24.48**	**11**	P		**P**	**03 24 47.1**	**+0.3**
	comp=Z,2.4nm,0.2s,baz=28,slow=22,SNR=6.9							
	comp=Z,2.4nm,0.2s							
GUMO	**Guam**	**25.57**	**175**	LR		LR	03 34 05.8	
	comp=Z,32nm,21.5s,baz=46,slow=34							
ULN	**Ulaanbaatar**	**27.09**	**300**	P		**P**	**03 25 09.5**	**-1.3**
SONM	**Songino Array**	**27.53**	**300**	P		**P**	**03 25 15.0**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=66,slow=9.6,SNR=4.9							
	comp=Z,1.3nm,0.6s							
SONM	**Songino Array**	**27.53**	**300**	P		**P**	**03 25 13.4**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**28.46**	**126**	T		T	03 56 03.7	
	baz=320,slow=74							
H11N1	**WAKE ISLAND Hy**	**28.47**	**126**	T		T	03 56 10.3	
	baz=320,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.48**	**126**	T		T	03 56 00.9	
	baz=320							
H11S1	**WAKE ISLAND Hy**	**29.25**	**128**	T		T	03 57 00.4	
	baz=327,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.25**	**128**	T		T	03 57 01.7	
	baz=327							
H11S2	**WAKE ISLAND Hy**	**29.27**	**128**	T		T	03 56 58.2	
	baz=327,slow=74							
DAV	**Davao City (W)**	**35.52**	**210**	LR		LR	03 40 38.7	
	comp=Z,20nm,21.6s,baz=346,slow=36							
CRAI	**Chiangrai**	**40.93**	**255**	P		**P**	**03 27 10.7**	**+0.1**
CRAI				IAmb		IAmb	03 27 25.7	
	comp=Z,3.5nm,0.8s							
ZAA0	**Zalesovo Array**	**41.27**	**311**	P		**P**	**03 27 12.3**	**-0.7**
ZALV	**Zalesovo Beam**	**41.27**	**311**	P		**P**	**03 27 12.4**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=101,slow=7.7,SNR=5.5							
ZALV				LR		LR	03 45 08.3	
	comp=Z,111nm,18.5s,baz=155,slow=38							
	comp=Z,1.4nm,0.4s							
ZALV	**Zalesovo Beam**	**41.27**	**311**	P		**P**	**03 27 11.8**	**-1.2**
NRIK	**Noril'sk**	**41.77**	**334**	LR		LR	03 45 46.2	
	comp=Z,105nm,19.1s,baz=51,slow=38							
MK31	**Makanchi Array**	**43.90**	**300**	P		**P**	**03 27 33.6**	**-0.9**
MK31				IAmb		IAmb	03 27 35.3	
	comp=Z,6.8nm,1.1s							
MKAR	**Makanchi Array**	**43.90**	**300**	P		**P**	**03 27 34.4**	**0.0**
	comp=Z,3.5nm,0.8s,baz=81,slow=9.6,SNR=11							
	comp=Z,3.5nm,0.8s							
MKAR	**Makanchi Array**	**43.90**	**300**	P		**P**	**03 27 33.8**	**-0.6**
KURK	**Kurchatov**	**45.46**	**307**	P		**P**	**03 27 46.0**	**-0.7**
KURBB	**Kurchatov Arra**	**45.53**	**307**	P		**P**	**03 27 47.0**	**-0.3**
	comp=Z,7.5nm,0.6s,baz=81,slow=8.3,SNR=39							
	comp=Z,7.5nm,0.6s							
ILAR	**Eielson Array**	**47.12**	**33**	P		**P**	**03 27 59.1**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=266,slow=6.7,SNR=8.8							
	comp=Z,0.6nm,0.8s							
BMAR	**Burnt Mountain**	**47.94**	**30**	P		**P**	**03 28 07.5**	**+1.4**
TARG	**Taragay, Kyrgy**	**48.41**	**295**	P		**P**	**03 28 10.6**	**+0.1**
TARG				IAmb		IAmb	03 28 22.3	
	comp=Z,4.6nm,0.8s							
BVAR	**Borovoye Array**	**49.92**	**311**	P		**P**	**03 28 21.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=78,slow=9.2,SNR=9.0							
BVAR				LR		LR	03 49 52.7	
	comp=Z,31nm,18.9s,baz=51,slow=37							
	comp=Z,1.8nm,0.8s							
BRVK	**Borovoye**	**49.97**	**311**	P		**P**	**03 28 21.3**	**-0.4**
BRVK				IAmb		IAmb	03 28 33.1	
	comp=Z,4.1nm,0.9s							
AAK	**Ala-Archa**	**50.41**	**297**	LR		LR	03 50 52.5	
	comp=Z,46nm,18.6s,baz=69,slow=38							
KK31	**Karatay Array**	**52.97**	**299**	P		**P**	**03 28 43.2**	**-1.2**
KK31				IAmb		IAmb	03 28 55.5	
	comp=Z,4.3nm,1.2s							
KKAR	**Karatay Array**	**52.97**	**299**	P		**P**	**03 28 43.5**	**-0.9**
KKAR				IAmb		IAmb	03 28 55.5	
	comp=Z,4.3nm,1.2s							
GAR	**Garm**	**54.74**	**295**	P		**P**	**03 28 57.2**	**-0.3**
ARU	**Arti**	**55.45**	**318**	LR		LR	03 55 11.9	
	comp=Z,67nm,18.2s,baz=59,slow=39							
ARU	**Arti**	**55.45**	**318**	P		**P**	**03 29 01.6**	**-0.6**
ABKAR	**Akbulak array**	**57.37**	**309**	P		**P**	**03 29 14.7**	**-1.2**
WB0	**Warramunga Arr**	**59.17**	**189**	P		**P**	**03 29 28.1**	**-0.6**
WB0				IAmb		IAmb	03 30 00.3	
	comp=Z,7.7nm,1.4s							
FITZ	**Fitzroy Crossi**	**59.19**	**199**	P		**P**	**03 29 28.8**	**-0.1**
FITZ				IAmb		IAmb	03 30 09.5	
	comp=Z,4.3nm,1.3s							
WR0	**Warramunga Arr**	**59.34**	**189**	P		**P**	**03 29 30.6**	**+0.8**
WR0				IAmb		IAmb	03 29 35.4	
	comp=Z,3.3nm,1.1s							
WRA	**Warramunga Arr**	**59.35**	**189**	P		**P**	**03 29 34.1**	**+4.2**
	comp=Z,1.0nm,0.5s,baz=7.4,slow=7.1,SNR=11							
	comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**59.35**	**189**	P		**P**	**03 29 28.8**	**-1.2**
BELG	**Belogornoye**	**62.95**	**317**	LR		LR	03 58 40.0	
	comp=Z,36nm,18.1s,baz=149,slow=38							
ASAR	**Alice Springs**	**63.07**	**189**	P		**P**	**03 29 58.9**	**+3.8**
	comp=Z,0.2nm,0.6s,baz=17,slow=6.8,SNR=5.7							
	comp=Z,0.2nm,0.6s							
ASAR	**Alice Springs**	**63.07**	**189**	P		**P**	**03 29 56.5**	**+1.3**
GEYT	**Alibeck**	**63.72**	**299**	P		**P**	**03 29 59.8**	**+0.3**
NB2	**NORSAR Subarra**	**72.60**	**338**	P		**P**	**03 30 53.4**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**72.60**	**338**	P		**P**	**03 30 54.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=28,slow=6.6,SNR=3.3							
	comp=Z,0.9nm,0.8s							
ISA	**Isabella, Lake**	**74.41**	**57**	P		**P**	**03 31 07.1**	**+1.1**
ISA				IAmb		IAmb	03 31 46.1	
	comp=Z,7.7nm,1.4s							

TAP ***24*** *03:20:22.6,24°.95N×122°.69E,h146km±1km,ML3.8,D*

JMA ***24*** *03:20:23.1±0.2,25°.N±2°.×122°.6E±0°.5,h143km±2km, MV2.9/14,NW OFF ISHIGAKIJIMA IS*

ISC 24 03:20:23.7±1.5,24°.92N±0°.05×122°.63E±0°.03,h141km±8km, n105,σ0ᵉ73/189,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.55**	**148**	P		**Pn**	**03 20 44.1**	**-0.2**
JYNG				S		**Sn**	**03 21 00.2**	**+0.4**
YOJ	**Yonaguni jima**	**0.58**	**143**	P		**Pn**	**03 20 43.9**	**-0.5**
	baz=149							
YOJ				*e*S		**Sn**	**03 21 00.7**	**+0.6**
	baz=149							
YOJ	**Yonaguni jima**	**0.58**	**143**	P		**Pn**	**03 20 44.1**	**-0.4**
YOJ				S		**Sn**	**03 21 00.2**	**+0.1**
TWB1	**Santiao Chiao**	**0.59**	**278**	P		**Pn**	**03 20 44.5**	**+0.1**
	baz=275							
TWB1				*i* S		**Sn**	**03 21 00.2**	**0.0**
	baz=275							
SXI1	**Grass Mountain**	**0.70**	**284**	P		**Pn**	**03 20 45.0**	**-0.3**
	baz=280							
SXI1				S		**Sn**	**03 21 01.9**	**+0.1**
	baz=280							
NTC	**Toucheng**	**0.73**	**265**	*e*P		**Pn**	**03 20 45.5**	**+0.1**
	baz=263							
NTC				*e*S		**Sn**	**03 21 01.8**	**-0.1**
	baz=263							
TIPB	**Shuangxi**	**0.73**	**274**	*i* P		**Pn**	**03 20 45.3**	**-0.2**
	baz=271							
TIPB				*i* S		**Sn**	**03 21 00.3**	**-1.7**
	baz=271							
TWC	**Suao**	**0.77**	**246**	*i* P		**Pn**	**03 20 45.7**	**-0.1**
	baz=245							
TWC				S		**Sn**	**03 21 02.6**	**+0.2**
	baz=245							
NWF	**Wu-fen Shan**	**0.78**	**281**	*i* P		**Pn**	**03 20 45.8**	**-0.1**
	baz=278							
NWF				*i* S		**Sn**	**03 21 04.3**	**+1.5**
	baz=278							
WFSB	**Wu-fen Shan**	**0.78**	**281**	P		**Pn**	**03 20 45.6**	**-0.2**
	baz=278							
WFSB				S		**Sn**	**03 21 03.0**	**+0.4**
	baz=278							
TNOU	**National Taiwa**	**0.81**	**286**	P		**Pn**	**03 20 45.8**	**-0.1**
	baz=283							
TNOU				*e*S		**Sn**	**03 21 02.8**	**-0.1**
	baz=283							
PCYT	**Pengchaiyu**	**0.87**	**325**	*i* P		**Pn**	**03 20 46.2**	**-0.3**
	baz=320							
NDS	**Dongshan**	**0.88**	**251**	*e*S		**Sn**	**03 21 04.0**	**+0.1**
	baz=250							
TWE	**Neicheng**	**0.90**	**257**	*i* P		**Pn**	**03 20 46.8**	**+0.1**
	baz=255							
TWE				*i* S		**Sn**	**03 21 04.1**	**0.0**
	baz=255							
EWUT	**Wuta**	**0.91**	**239**	P		**Pn**	**03 20 46.4**	**-0.4**
	baz=238							
EWUT				S		**Sn**	**03 21 03.6**	**-0.7**
	baz=238							
ENA	**Nanau**	**0.94**	**239**	*i* P		**Pn**	**03 20 47.3**	**+0.1**
	baz=238							
ENA				*i* S		**Sn**	**03 21 05.4**	**+0.5**
	baz=238							
TWA	**Mucha**	**0.95**	**274**	*i* P		**Pn**	**03 20 47.3**	**+0.1**
	baz=271							
TWA				*i* S		**Sn**	**03 21 04.9**	**-0.1**
	baz=271							
FUSB	**Fushanzhiwuyua**	**0.96**	**260**	P		**Pn**	**03 20 47.4**	**+0.1**
	baz=259							
FUSB				S		**Sn**	**03 21 04.4**	**-0.9**
	baz=259							
YM01	**YM01**	**0.98**	**283**	P		**Pn**	**03 20 47.4**	**-0.1**
	baz=280							
YM01				S		**Sn**	**03 21 06.3**	**+0.7**
	baz=280							
NHDH	**Xindian Distri**	**1.00**	**273**	*i* P		**Pn**	**03 20 47.5**	**-0.1**
	baz=270							
NHDH				S		**Sn**	**03 21 07.4**	**+1.6**
	baz=270							
ENTT	**Nioudou**	**1.00**	**254**	*i* P		**Pn**	**03 20 46.7**	**-1.0**
	baz=252							
ENTT				*i* S		**Sn**	**03 21 06.1**	**+0.2**
	baz=252							
NDT	**Datong Townshi**	**1.06**	**253**	P		**Pn**	**03 20 47.8**	**-0.4**
	baz=252							
NDT				S		**Sn**	**03 21 07.4**	**+0.6**
	baz=252							
LATG	**Datong**	**1.07**	**249**	P		**Pn**	**03 20 48.7**	**+0.3**
	baz=248							
LATG				S		**Sn**	**03 21 08.2**	**+1.1**
	baz=248							
TWS1	**Kuangyinshan**	**1.11**	**279**	P		**Pn**	**03 20 48.0**	**-0.6**
	baz=277							
TWS1				S		**Sn**	**03 21 07.7**	**+0.2**
	baz=277							
IRIF	**Iriomote-Funau**	**1.16**	**120**	P		**Pn**	**03 20 48.8**	**-0.3**
IRIF				S		**Sn**	**03 21 08.5**	**+0.1**
YHNB	**Yeheng**	**1.17**	**258**	⇓	P	**Pn**	**03 20 49.4**	**+0.1**
	baz=256							
YHNB				S		**Sn**	**03 21 08.3**	**-0.3**
	baz=256							
NSK	**Sanguang**	**1.18**	**258**	*i* P		**Pn**	**03 20 48.6**	**-0.8**
	baz=257							
NSK				*i* S		**Sn**	**03 21 07.7**	**-1.2**
	baz=257							
ETL	**Fush Village**	**1.19**	**230**	P		**Pn**	**03 20 49.2**	**-0.2**
	baz=231							
ETL				S		**Sn**	**03 21 08.8**	**-0.2**
	baz=231							
NACB	**Ninganchiao**	**1.20**	**232**	P		**Pn**	**03 20 49.2**	**-0.3**
	baz=232							
NACB				S		**Sn**	**03 21 08.6**	**-0.5**
	baz=232							
NNSB	**Datong**	**1.23**	**247**	P		**Pn**	**03 20 50.3**	**+0.3**
	baz=246							
NNSB				S		**Sn**	**03 21 10.1**	**+0.2**
	baz=246							
NNS	**Nan Shan**	**1.24**	**247**	*i* P		**Pn**	**03 20 49.4**	**-0.6**
	baz=246							
NNS				*i* S		**Sn**	**03 21 09.2**	**-0.8**
	baz=246							
TWD	**Chiawan**	**1.26**	**228**	*i* P		**Pn**	**03 20 49.8**	**-0.2**
	baz=228							
TWD				*i* S		**Sn**	**03 21 10.0**	**-0.2**
	baz=228							
ETLH	**Xiulin Townshi**	**1.26**	**236**	P		**Pn**	**03 20 50.3**	**+0.1**
	baz=236							
ETLH				S		**Sn**	**03 21 10.3**	**-0.1**
	baz=236							
NCU	**National Centr**	**1.31**	**272**	*i* P		**Pn**	**03 20 51.4**	**+0.8**
	baz=270							
NCU				*i* S		**Sn**	**03 21 12.4**	**+1.4**
	baz=270							
HWA	**Hwalien**	**1.32**	**225**	*i* P		**Pn**	**03 20 50.8**	**0.0**
	baz=225							
HWA				*i* S		**Sn**	**03 21 13.0**	**+1.7**
	baz=225							
HATJ	**Hateruma jima**	**1.38**	**129**	P		**Pn**	**03 20 51.7**	**+0.4**
HATJ				*e*S		**Sn**	**03 21 12.7**	**+0.5**
NFF	**Wufeng Townshi**	**1.40**	**258**	P		**Pn**	**03 20 50.6**	**-1.0**
	baz=257							
NFF				S		**Sn**	**03 21 11.8**	**-1.1**
	baz=257							
FUSS	**Fushou**	**1.43**	**242**	*i* P		**Pn**	**03 20 52.6**	**+0.6**
	baz=242							
FUSS				*i* S		**Sn**	**03 21 14.3**	**+0.6**
	baz=242							
JKRS	**Kuro-shima**	**1.43**	**118**	P		**Pn**	**03 20 51.8**	**0.0**
JKRS				S		**Sn**	**03 21 13.0**	**-0.2**
WHF	**Hehuan Shan**	**1.46**	**238**	*i* P		**Pn

baz=218
EHY Hungye 1.85 220 P Pn 03 20 55.7 -0.8
baz=220
EHY S Sn 03 21 20.3 -1.3
baz=220
SMLT Sun Moon Lake 1.89 237 *i* P Pn 03 20 58.4 +1.4
baz=236
WDJ Dajia District 1.90 253 P Pn 03 20 57.5 +0.4
baz=252
WDJ S Sn 03 21 21.7 -0.9
baz=252
SSLB Suanglung 1.90 234 P Pn 03 20 58.4 +1.3
baz=233
SSLB S Sn 03 21 24.4 +1.6
baz=233
JTJ Tarama 1.91 98 P Pn 03 20 57.0 -0.1
JTJ S Sn 03 21 22.8 0.0
TYC Yuchr 1.91 238 *i* P Pn 03 20 58.0 +0.9
baz=237
TYC *i* S Sn 03 21 24.4 +1.6
baz=237
TCU Taichung 1.94 247 *e*P Pn 03 20 58.2 +0.6
baz=246
TCU *e*S Sn 03 21 22.9 -0.5
baz=246
YULB Yu-li 1.95 219 P Pn 03 20 57.0 -0.7
baz=219
YULB *e*S Sn 03 21 22.8 -0.9
baz=219
EYUL Yuli 1.97 218 *e*P Pn 03 20 59.5 +1.5
baz=218
EYUL *e*S Sn 03 21 24.1 -0.1
baz=218
WJS Zhushan 2.05 238 P Pn 03 20 59.8 +1.0
baz=237
WNT Mingjian 2.06 240 S Sn 03 21 27.5 +1.5
baz=239
WCHH Zhanghua 2.06 246 *e*P Pn 03 20 58.2 -0.9
baz=245
WCHH *e*S Sn 03 21 26.5 +0.4
baz=245
YUS Yu-Shan 2.09 227 P Pn 03 21 00.3 +0.4
baz=227
YUS *e*S Sn 03 21 27.4 -0.2
baz=227
FULB Fuli 2.10 216 P Pn 03 20 59.6 0.0
baz=216
FULB S Sn 03 21 27.7 +0.6
baz=216
ALS Alishan 2.18 230 *i* P Pn 03 21 01.6 +0.9
baz=230
WDLH Douliu 2.27 238 *e*P Pn 03 21 02.1 +0.6
baz=237
WDLH *e*S Sn 03 21 31.9 +1.4
baz=237
ELDTW Lidau 2.27 221 P Pn 03 21 01.8 +0.1
baz=220
ELDTW S Sn 03 21 32.1 +1.4
baz=220
EDH Donghe 2.29 212 P Pn 03 21 01.8 0.0
baz=212
EDH S Sn 03 21 31.1 0.0
baz=212
WRL Guolierlin Hig 2.29 244 *e*P Pn 03 21 01.0 -0.7
baz=243
WRL *e*S Sn 03 21 30.4 -0.7
baz=243
JIRB Irabujima 2.31 92 P Pn 03 21 02.2 +0.1
JIRB *e*S Sn 03 21 31.2 -0.3
WCKO Fanlu 2.37 232 *e*P Pn 03 21 02.8 +0.1
baz=231
JIKM Ikemajima 2.38 89 P Pn 03 21 03.1 +0.3
JIKM S Sn 03 21 33.4 +0.5
CHN4 Tsaushan 2.43 230 *i* P Pn 03 21 03.3 -0.2
baz=230
CHN4 S Sn 03 21 36.0 +1.8
baz=230
LONT Longtian 2.43 215 *e*P Pn 03 21 03.3 -0.2
baz=215
TPUB Ta-pu 2.44 229 P Pn 03 21 04.0 +0.4
baz=228
JMJ2 Miyako jima3 2.46 94 P Pn 03 21 04.0 +0.2
JMJ2 S Sn 03 21 34.8 0.0
LDUT Ludao 2.48 206 P Pn 03 21 03.5 -0.6
baz=206
LDUT *e*S Sn 03 21 34.1 -1.2
baz=206
WTP Ta-pu 2.48 228 P Pn 03 21 04.6 +0.4
baz=228
WTP *e*S Sn 03 21 36.7 +1.3
baz=228
JOGS Gusukube 2.53 93 P Pn 03 21 05.1 +0.4
JOGS S Sn 03 21 36.8 +0.5
TWGBT Beinan 2.53 214 *e*P Pn 03 21 04.3 -0.5
baz=214
TWGBT *e*S Sn 03 21 37.3 +0.9
baz=214
TWG Pinlang 2.53 215 *e*P Pn 03 21 04.6 -0.2
baz=214
TWG *e*S Sn 03 21 36.6 +0.1
baz=214
TWK Hsinying 2.56 230 P Pn 03 21 05.5 +0.3
baz=230
CHN1 Nanshi 2.58 228 P Pn 03 21 06.1 +0.6
baz=228
WSL Shuilin Townsh 2.60 238 *e*P Pn 03 21 04.5 -1.1
baz=237
SGST Jiashian 2.62 226 P Pn 03 21 06.1 +0.2
baz=225
SGST *e*S Sn 03 21 38.7 +0.4
baz=225
ICHU Yijhu 2.65 235 *e*P Pn 03 21 06.1 -0.2
baz=234
TSMG Majia 2.86 220 *e*P Pn 03 21 10.0 +1.1
baz=220
MASBT Mashibuluo 2.94 219 *e*P Pn 03 21 10.5 +0.6
baz=219
EAST Anshuo 3.01 213 *e*P Pn 03 21 12.9 +2.0
baz=213
TAWH Dawu Township 3.03 212 *e*P Pn 03 21 12.8 +1.7
baz=212
LYUB Lan-yu 3.06 198 *e*P Pn 03 21 10.6 -0.9
baz=199
LYUB *e*S Sn 03 21 46.4 -2.1
baz=199
PNG Penghu 3.11 245 *e*P Pn 03 21 11.0 -1.2
baz=244
PHUB P'eng-hu 3.12 244 *e*P Pn 03 21 11.0 -1.3
baz=243
PHUB *e*S Sn 03 21 47.4 -2.5
baz=243
SCZT Fangliau 3.14 216 *e*P Pn 03 21 13.0 +0.5
baz=216
WDGT Dungji 3.18 239 *e*P Pn 03 21 12.2 -0.8
baz=238
VCHM Qimei 3.38 240 *e*P Pn 03 21 14.9 -0.8
baz=239

MAN 24 03:23:19.3,6°64'N×126°72'E,h29km,mb4.2,ML3.0,MS2.6, 3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.58**	**347**↑	*e*P	Pn	03 23 45.6	+0.2
BIPH				*e*S	Sn	03 24 04.5	-0.4
KCP	**Kidapawan**	**1.67**	**283**↑	*i*P	Pn	03 23 46.1	-0.5
KCP				*i* S	Sn	03 24 05.4	-1.6
GSPH	**General Santos**	**1.85**	**253**↑	*i*P	Pn	03 23 47.0	-2.2
GSPH				*i* S	Sn	03 24 06.0	-5.6
BUKP	**Musuan**	**2.06**	**307**↓	*e*P	Pn	03 23 52.5	+0.4
BUKP				*e*S	Sn	03 24 17.2	+0.4
BUTP	**Butuan**	**2.56**	**335**↓	*e*P	Pb	03 24 09.6	+5.0
BUTP				*e*S	Sb	03 24 39.4	+3.6
GHBP	**Garcia Hernand**	**3.81**	**322**↓	*i*P	Pn	03 24 17.7	+1.7
GHBP				*i* S	Sn	03 25 01.8	+1.9

*HVO **24** 03:29:37.3±1.6,19°.41N±0°.01×155°.312W±0°.009, h5km±3km,ML2.6/27,ML1.8/35(NEIC),Error ellipse: s-maj=2.1km s-min=0.5km az=142.0*
NEIC 24 03:29:37.5±0.8,19°.404N±0°.008×155°.329W±0°.009, h10km±1km,Error ellipse: s-maj=1.3km s-min=1.1km az=223.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.03**	**86**		Pg	03 29 39.5	0.0
SDHHI	**Sand Hill**	**0.04**	**114**		Pg	03 29 39.8	+0.2
UWE	**Uwekahuna**	**0.04**	**64**		Pg	03 29 39.8	+0.2
OBL	**Observatory Le**	**0.04**	**73**		Pg	03 29 39.9	+0.3
NPH	**North Pit**	**0.05**	**80**	IAML		03 29 38.8	
	comp=E,832nm,0.3s						
NPH	**North Pit**	**0.05**	**80**		Pg	03 29 39.6	0.0
RIM	**Rim**	**0.05**	**100**		Pg	03 29 40.0	+0.4
UWB	**Uwekahuna B**	**0.05**	**67**	IAML		03 29 39.1	
	comp=E,648nm,0.1s						
UWB	**Uwekahuna B**	**0.05**	**67**		Pg	03 29 39.8	+0.2
KKO	**Keanakako`i**	**0.06**	**96**	IAML		03 29 38.5	
	comp=N,1μm,1.1s						
KKO				IAML		03 29 39.1	
	comp=E,812nm,1.2s						
KKO	**Keanakako`i**	**0.06**	**96**		Pg	03 29 40.5	+0.8
SBLHI	**Steaming Bluff**	**0.06**	**69**	IAML		03 29 39.5	
	comp=E,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.06**	**69**		Pg	03 29 40.0	+0.3
BYL	**Byron's Ledge**	**0.07**	**83**		Pg	03 29 39.1	-0.7
BYL	**Byron's Ledge**	**0.07**	**83**	IAML		03 29 39.9	
	comp=N,510nm,0.4s						
BYL				IAML		03 29 40.2	
	comp=E,902nm,0.3s						
HATHI	**Halema'uma'u T**	**0.07**	**74**	IAML		03 29 39.9	
	comp=E,804nm,0.2s						
HATHI	**Halema'uma'u T**	**0.07**	**74**		Pg	03 29 40.4	+0.5
RSD	**Rainshed**	**0.07**	**39**		Pg	03 29 40.7	+0.8
MLH	**Mauna Loa**	**0.10**	**329**		Pg	03 29 40.4	0.0
MLH					Sg	03 29 42.8	+0.3
MLH	**Mauna Loa**	**0.10**	**329**	IAML		03 29 42.9	
	comp=N,4μm,0.5s						
MLH				IAML		03 29 43.0	
	comp=E,2μm,0.2s						
HLP	**Hilina Pali**	**0.11**	**170**		Pg	03 29 40.3	0.0
HLP	**Hilina Pali**	**0.11**	**170**	IAML		03 29 42.8	
	comp=N,1μm,0.2s						
HLP				IAML		03 29 42.9	
	comp=E,1μm,0.5s						
PUH	**Pauahi**	**0.11**	**106**		Sg	03 29 41.7	-0.7
PUH	**Pauahi**	**0.11**	**106**	Pg	Pg	03 29 39.9	-0.4
PUH	**Pauahi**	**0.11**	**106**	IAML		03 29 42.0	
	comp=E,971nm,0.6s						
PUH				IAML		03 29 42.2	
	comp=N,1μm,0.9s						
AIN	**Ainahou**	**0.13**	**255**		Pg	03 29 40.9	+0.3
AIN					Sg	03 29 43.7	+0.9
AIN	**Ainahou**	**0.13**	**255**	IAML		03 29 44.1	
	comp=N,4μm,0.5s						
AIN				IAML		03 29 44.2	
	comp=E,4μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.15**	**99**		Pg	03 29 40.5	-0.4
HTC	**Hot Caves**	**0.18**	**201**		Pg	03 29 41.4	+0.1
NPOC	**North of Pu'u**	**0.21**	**93**	IAML		03 29 46.4	
	comp=E,446nm,0.6s						
NPOC				IAML		03 29 46.6	
	comp=N,531nm,0.9s						
JCUZ	**Jacuzzi**	**0.21**	**95**		Pg	03 29 41.6	-0.4
JCUZ	**Jacuzzi**	**0.21**	**95**	IAML		03 29 42.9	
	comp=E,302nm,1.0s						
JCUZ				IAML		03 29 46.1	
	comp=N,558nm,1.2s						
HMH	**Humu'ula Sheep**	**0.24**	**324**		Pg	03 29 42.8	+0.1
HMH					Sg	03 29 46.8	+0.7
HMH	**Humu'ula Sheep**	**0.24**	**324**	IAML		03 29 47.0	
	comp=N,2μm,0.2s						
HMH				IAML		03 29 50.6	
	comp=E,796nm,0.3s						
MWH	**Moku'aweowe**	**0.27**	**288**		Pg	03 29 43.1	0.0
MLOA	**Mauna Loa Obse**	**0.27**	**299**	Pg	Pg	03 29 42.8	-0.3
JOKA	**Jonika Flow**	**0.31**	**85**		Pg	03 29 42.8	-0.9
KHU	**Kahuku**	**0.31**	**240**		Pg	03 29 43.7	-0.2
KHU					Sg	03 29 48.6	+0.5
ALEP	**Alea Permanent**	**0.33**	**295**		Pg	03 29 44.0	-0.2
ALEP					Sg	03 29 49.0	+0.4
HPO	**Honuapo**	**0.38**	**214**		Pb	03 29 46.0	-0.3
POHA	**Pohakuloa**	**0.40**	**331**		Pg	03 29 45.4	-0.1
POHA	**Pohakuloa**	**0.40**	**331**		Sg	03 29 51.9	+1.1
HUH	**Hualalai**	**0.55**	**300**		Pg	03 29 48.8	+0.4
KHLU	**Kahalu`u**	**0.56**	**289**		Pg	03 29 47.4	-1.1

*ECX **24** 03:42:58.4±0.6,28°.83N×113°.07W,h15km±10km,MD3.4, ML3.6*
*MEX **24** 03:42:59.2±0.4,29°.03N×113°.12W,h10km,MD3.9*
ISC 24 03:42:57.2±1.2,28°.93N±0°.04×113°.04W±0°.05,h9km±12km, n14,σ1s67/22,3C-3D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHB	**Baha de los**	**0.46**	**272**	*e*P	Pg	03 43 06.8	+0.6
BAHB				*e*S	Sg	03 43 12.6	+0.3
BAHB	**Baha de los**	**0.46**	**272**	*e*P	Pg	03 43 06.4	+0.1
BAHB				*e*S	Sg	03 43 12.9	+0.7
BAHB				IAML		03 43 15.0	
	comp=E,14μm,0.3s						
BAHB			⇑	*e*		03 43 15.0	
BAHB			⇓	*e*		03 43 15.1	
BAHB				IAML		03 43 15.1	
	comp=N,24μm,0.3s						
SFQB	**San Francisqui**	**0.55**	**163**↓	*i*P	Pg	03 43 07.1	-0.7
SFQB				*e*S	Sg	03 43 13.2	-1.8
SFQB				IAML		03 43 13.8	
	comp=N,4μm,0.3s						
SFQB			⇑	*e*		03 43 15.3	
SFQB				IAML		03 43 15.3	
	comp=E,4μm,0.8s						
PLIB	**Puerto Liberta**	**1.03**	**17**	*e*P	Pb	03 43 18.4	+1.2
SLGB	**San Luis Gonza**	**1.49**	**307**	*e*P	Pn	03 43 23.4	-0.8
LAPR	**La Primavera**	**1.69**	**22**	*e*P	Pn	03 43 23.8	-3.0
LAPR				*i* S	Sn	03 43 44.4	-4.2
LAPR	**La Primavera**	**1.69**	**22**	*e*P	Pn	03 43 28.1	+1.3
SRIG	**Santa Rosalia**	**1.75**	**156**	*e*P	Pn	03 43 27.4	-0.4
SRIG				*e*S	Sn	03 43 50.4	+0.3
SRIG	**Santa Rosalia**	**1.75**	**156**	*e*P	Pn	03 43 27.2	-0.6
SRIG				*e*S	Sn	03 43 48.9	-1.3
SRIG				IAML		03 43 52.6	
	comp=E,364nm,0.8s						
SRIG			⇓	*e*		03 43 52.6	
HSIG		**1.83**	**87**	*e*P	Pn	03 43 28.6	-0.4
HSIG		**1.83**	**87**	*e*P	Pn	03 43 28.5	-0.4
GUYB	**Guaymas**	**2.17**	**118**	*e*P	Pn	03 43 33.9	+0.4
GUYB				*e*S	Sn	03 44 03.1	+2.7
GUYB	**Guaymas**	**2.17**	**118**	*e*P	Pn	03 43 32.8	-0.6
GUYB			⇑	*e*		03 44 14.4	
GUYB				IAML		03 44 14.4	
	comp=N,156nm,0.8s						
CGIG		**4.63**	**71**	*e*P	Pn	03 44 07.7	+0.2
CGIG				*e*S	Sn	03 45 03.7	+2.1

*IDC **24** 03:45:21.8±4.5,20°.30S×168°.99E,h0km,mb3.3/2, mbtmp3.4/3,ML3.5/1,Error ellipse: s-maj=144.2km s-min=42.1km az=137.0*
*NOU **24** 03:45:23.0,20°.725×169°.18E,h0km,MLv4.2/14,Vanuatu Islands*
ISC 24 03:45:25.5±1.8,20°.74S±0°.09×169°.2E±0°.2,h31km,n14, σ0s90/15,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.31**	**235**	P	Pn	03 45 47.5	-0.2
LIFNC	**LIFOU**	**1.83**	**268**	P	Pn	03 45 54.0	-0.8
PINNC	**Pines Island,**	**2.48**	**221**	P	Pn	03 46 03.9	+0.2
YATNC	**Mamie plateau,**	**2.52**	**238**	P	Pn	03 46 05.2	+0.9
DZM	**Mont Dzumac**	**2.88**	**242**	Pn	Pn	03 46 09.6	+0.2
	6.5nm,0.3s,baz=81,slow=19,SNR=95						
DZM				Sn	Sn	03 46 42.8	-0.4
	27nm,0.3s,baz=313,slow=23,SNR=10						
	24nm,0.4s						
DZM	**Mont Dzumac**	**2.88**	**242**	P	Pn	03 46 09.9	+0.5
ONTNC	**Ouen Toro**	**2.99**	**238**	P	Pn	03 46 12.3	+1.5
NOUC	**Port Laguerre**	**3.02**	**243**	P	Pn	03 46 12.3	+1.2
RTV	**Rentapao**	**3.02**	**346**	P	Pn	03 46 12.0	+0.8
DVP	**Devils Point**	**3.14**	**342**	P	Pn	03 46 13.0	+0.1
KOUNC	**Koumac, New Ca**	**4.60**	**271**	P	Pn	03 46 34.3	+1.4
WRA	**Warramunga Arr**	**32.65**	**265**	P	P	03 51 54.0	-1.0
	0.1nm,0.4s,baz=93,slow=8.3,SNR=6.8						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**32.75**	**258**	P	P	03 51 56.4	+0.5
	0.2nm,0.4s,baz=87,slow=8.7,SNR=7.4						
	0.2nm,0.4s						
GERES	**GERESS Array B**	**145.78**	**331**	PKPbc	**PKPdf**	**04 05 00.5**	**-0.6**
	0.8nm,0.5s,baz=64,slow=3.4,SNR=7.9						

*IDC **24** 04:01:37.7±1.4,30°.62N×141°.82E,h0km,mb3.6/6, mbtmp3.7/9,ML3.1/3,Error ellipse: s-maj=38.2km s-min=23.2km az=53.0*
ISC 24 04:01:41.0±0.8,30°.51N±0°.08×141°.7E±0°.2,h28km,n9, σ1s56/12,mb3.7/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.07**	**329**	Pn	Pn	**04 02 27.4**	**-0.2**
	6.3nm,0.3s,baz=229,slow=23,SNR=1.3						
JHJ				Sn	Sn	04 03 02.8	-0.7
	13nm,0.3s,baz=190,slow=18,SNR=1.7						
	37nm,0.5s						
JCJ	**Chichijima**	**3.43**	**173**	Pn	Pn	04 02 33.0	+0.3
	8.3nm,0.3s,baz=342,slow=20,SNR=1.4						
JCJ				Sn	Sn	04 03 10.0	-2.3
	11nm,0.3s,baz=282,slow=22,SNR=1.9						
	30nm,0.4s						
MJAR	**Matsushiro Arr**	**6.68**	**335**	Pn	Pn	04 03 14.2	-3.1
	0.1nm,0.3s,baz=93,slow=18,SNR=4.3						
MJAR				Sn	Sn	04 04 32.4	-0.1
	baz=194,slow=23,SNR=0.7						
	2.1nm,0.5s						
SONM	**Songino Array**	**32.02**	**313**	P	P	04 08 06.9	+1.8
	0.5nm,0.6s,baz=120,slow=8.5,SNR=2.5						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**48.02**	**307**	P	P	04 10 18.9	+1.3
	0.7nm,0.6s,baz=85,slow=9.5,SNR=4.6						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**50.39**	**312**	P	P	04 10 36.6	+0.9
	0.6nm,0.6s,baz=89,slow=8.0,SNR=2.0						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**54.95**	**30**	P	P	04 11 09.8	+0.6
	0.4nm,0.9s,baz=266,slow=6.5,SNR=2.3						
	0.4nm,0.9s						
FINES	**FINESS Array B**	**74.71**	**333**	P	P	04 13 18.4	+0.5
	1.2nm,0.7s,baz=72,slow=6.2,SNR=7.2						
	1.2nm,0.7s						
NVAR	**Mina Array Bea**	**78.76**	**52**	P	P	04 13 41.4	-0.1
	0.2nm,0.6s,baz=305,slow=6.4,SNR=2.5						
	0.2nm,0.6s						

*BJI **24** 04:02:12.2±0.0,32°.74S×177°.77W,h11km,mb5.3/32, mB5.7/47,Ms5.4/54,Ms7 5.2/51*
*WEL **24** 04:02:14.6±0.9,32°.5±5°×17°8W±1°.6,h33km,M5.5/15, mB5.8/13,ML6.1/15,MLv5.8/15,Mw(mB)5.3/13,Error ellipse: s-maj=0.0km s-min=0.0km az=106.1*
*IDC **24** 04:02:14.8±0.3,32°.28S×178°.10W,h0km,mb5.0/23, mbtmp5.0/27,ML5.5/3,MS5.4/39,Error ellipse: s-maj=13.8km s-min=12.8km az=26.0*
*NOU **24** 04:02:14.0,32°.77S×177°.24W,h26km,ML5.5/69,South of Kermadec Islands*
*MOS **24** 04:02:15.4±1.3,32°.28S×178°.23W,h10km,mb5.6/20, MS5.5/17,Error ellipse: s-maj=11.1km s-min=8.9km az=116.3*
*NEIC **24** 04:02:15.6±1.8,32°.61S±0°.07×178°.0W±0°.1,h10km±1km, mb5.4/184,Ms_20 5.6/369,Mww5.6,Error ellipse: s-maj=16.3km s-min=11.0km az=100.0*
*GCMT **24** 04:02:20.6±0.1,32°.42S±0°.01×177°.70W±0°.01,h21km, MW5.5/144,Moment Tensor Solution. s122,c193; s144,c261; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr1.61±.04; Mθθ-0.18±.02; Mϕϕ-1.44±.03; Mrθ0.39±.05; Mrϕ-0.39±.02; Mθϕ1.84±.06; Best double couple: Mo2.44800×10¹⁷ NP1:ϕ12.00000°,δ70.00000°, λ87.00000°. NP2:ϕ200.00000°,δ20.00000°,λ97.00000°. Principal axes: T 2.4820, Plg65.0000°, Azm277.0000°; N -0.0760, Plg3.0000°, Azm13.0000°; P -2.4140, Plg25.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 04:02:21,32°.55S×177°.56W,h14km,Moment Tensor Solution. Duration: 16s0 Moment tensor: Scale 10¹⁷Nm; Mrr1.93; Mθθ-0.29; Mϕϕ-1.64; Mrθ1.40; Mrϕ-0.92; Mθϕ2.40; Fault plane solution: Mo3.44000×10¹⁷ NP1: ϕs203.00000°,δ18.00000°,λ84.00000°. NP2:ϕs30.00000°, δ72.00000°,λ92.00000°. Principal axes: T 3.3524, Plg63.0000°, Azm303.0000°; N 0.1680, Plg2.0000°, Azm209.0000°; P -3.5204, Plg27.0000°, Azm118.0000°;*
ISC 24 04:02:16.7±0.5,32°.46S±0°.04×177°.94W±0°.04,h17km±2km, h17km:pP-P,n885,σ2s08/706,mb5.3/139,MS5.6/253, 44C-31D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.19**	**0**	P	Pn	04 03 02.6	-3.5
GLKZ				S	Sn	04 03 39.5	-4.3
RAO	**Raoul Island**	**3.20**	**0**	Pn	Pn	04 03 02.0	-4.3
	354nm,0.3s,baz=187,slow=7.4,SNR=14						
RAO				Sn	Sn	04 03 39.5	-4.5
	558nm,0.3s,baz=162,slow=22,SNR=8.3						
	1μm,0.4s						
RAO	**Raoul Island**	**3.20**	**0**		Pn	04 03 02.4	-3.9
RAO	**Raoul Island**	**3.20**	**0**	P	Pn	04 03 02.4	-3.9
RAO	**Raoul Island**	**3.20**	**0**	P	Pn	04 03 04.9	-1.4
RIZ	**Raoul Island**	**3.21**	**0**	P	Pn	04 03 03.1	-3.3
RIZ				S	Sn	04 03 39.0	-5.2
MXZ	**Matakaoa Point**	**5.95**	**210**		Pn	04 03 41.7	-2.3
MXZ	**Matakaoa Point**	**5.95**	**210**	P	Pn	04 03 40.4	-3.6
MXZ				S	Sn	04 04 50.3	-1.5
WMGZ	**Waiomatatini S**	**6.12**	**208**	P	Pn	04 03 45.1	-1.3
WMGZ				S	Sn	04 04 57.2	+1.2
PKGZ	**Pakihiroa**	**6.32**	**210**	P	Pn	04 03 46.4	-2.8
PKGZ				S	Sn	04 04 58.8	-2.2
HAZ	**Te Kaha**	**6.34**	**212**	P	Pn	04 03 46.9	-2.5
HAZ				S	Sn	04 05 02.3	+1.0
PUZ	**Puketiti**	**6.40**	**208**	P	Pn	04 03 47.2	-3.1
PUZ				S	Sn	04 05 00.9	-2.1
RUGZ	**Raukumara Rang**	**6.56**	**212**	P	Pn	04 03 50.1	-2.4
RUGZ				S	Sn	04 05 05.5	-1.5
TWGZ	**Tauwhareparae**	**6.61**	**209**	P	Pn	04 03 52.1	-1.0
TWGZ				S	Sn	04 05 06.4	-1.7
GRZ	**Great Barrier**	**6.64**	**233**	P	Pn	04 03 55.6	+2.1
KUZ	**Kuaotunu**	**6.75**	**229**	P	Pn	04 03 55.4	+0.3
CNGZ	**Carnagh Statio**	**6.78**	**207**	P	Pn	04 03 52.9	-2.6
CNGZ				S	Sn	04 05 10.3	-2.0
TKGZ	**Te Karaka**	**6.88**	**209**	P	Pn	04 03 55.7	-1.1
TKGZ				S	Sn	04 05 11.3	-3.4
MWZ	**Matawai**	**6.93**	**211**	P	Pn	04 03 54.8	-2.7
MWZ				S	Sn	04 05 14.0	-2.1
OPRZ	**Ohinepanea**	**7.01**	**218**	P	Pn	04 03 58.6	0.0
OPRZ				S	Sn	04 05 16.7	-1.2
URZ	**Urewera**	**7.06**	**214**	Pn	Pn	04 03 57.4	-1.8
	15nm,0.3s,baz=127,slow=4.7,SNR=33						
URZ				Sn	Sn	04 05 15.0	-4.0
	68nm,0.3s,baz=318,slow=4.9,SNR=13						
URZ	**Urewera**	**7.06**	**214**	P	Pn	04 03 56.9	-2.3
URZ				S	Sn	04 05 16.2	-2.8
RAGZ	**Rawiri**	**7.11**	**211**	P	Pn	04 03 58.2	-1.9
RAGZ				S	Sn	04 05 18.0	-2.6
RIGZ	**Rimuhau**	**7.15**	**208**	P	Pn	04 03 57.9	-2.6
RIGZ				S	Sn	04 05 18.8	-2.6
PRGZ	**Paritu Road**	**7.29**	**207**	P	Pn	04 03 59.7	-2.8
PRGZ				S	Sn	04 05 21.9	-2.9
OUZ	**Omahuta**	**7.56**	**246**	P	Pn	04 04 09.4	+3.3
BKZ	**Black Stump Fm**	**8.07**	**212**	P	Pn	04 04 11.2	-2.1
BFZ	**Birch Farm**	**9.44**	**208**	Pn	Pn	04 04 29.9	-2.0
BFZ	**Birch Farm**	**9.44**	**208**	P	Pn	04 04 27.2	-4.8
QRZ	**Quartz Range**	**11.32**	**220**	P	Pn	04 04 56.9	-0.8
KHZ	**Kahutara**	**12.02**	**212**	P	Pn	04 05 03.7	-3.5
LTZ	**Lake Taylor**	**12.89**	**214**	Pn	Pn	04 05 15.8	-3.3
RPZ	**Rata Peaks**	**14.17**	**214**	Pn	Pn	04 05 30.2	-6.5
	2.9nm,0.3s,baz=76,slow=0.6,SNR=12						
RPZ				Sn	Sn	04 07 58.0	-15
	4.4nm,0.3s,baz=319,slow=23,SNR=11						
FOZ	**Fox Glacier**	**14.65**	**218**	Pn	Pn	04 05 41.0	-2.2
MSVF	**Nonsavu**	**15.10**	**345**	Pn	Pn	04 05 47.2	-2.3
	1.2nm,0.3s,baz=149,slow=13,SNR=20						
MSVF				Sn	Sn	04 08 30.6	-5.9
	0.6nm,0.3s,baz=143,slow=15,SNR=1.3						
MSVF				LR	LR	04 10 39.5	
	comp=Z,13μm,18.3s,baz=173,slow=34						
	28nm,0.7s						
MSVF	**Nonsavu**	**15.10**	**345**	Pn	Pn	04 05 46.0	-3.5
MSVF				IAmb	IAmb	04 06 08.9	
	comp=Z,126nm,1.0s						
MSVF	**Nonsavu**	**15.10**	**345**	*ce*P	Pn	04 05 47.7	-1.8

MSVF Nonsavu 15.10 345 P Pn 04 05 49.1 -0.4
DGTI Dogotuki 16.23 352 P Pn 04 06 05.8 +1.8
PINNC Pines Island, 16.24 304 Pn Pn 04 06 03.9 -0.2
PINNC Pines Island, 16.24 304 P P 04 06 10.8 +3.7
MARNC Mare, Loyalty 16.59 308 Pn Pn 04 06 08.3 -0.4
MARNC Mare, Loyalty 16.59 308 P P 04 06 14.6 +3.5
YATNC Mamie plateau, 16.99 304 P P 04 06 17.9 +2.4
ONTNC Ouen Toro 17.14 302 Pn Pn 04 06 13.9 -1.6
ONTNC Ouen Toro 17.14 302 P P 04 06 19.8 +2.7
DZM Mont Dzumac 17.29 303 *e*Pn P 04 06 19.3 +0.3
comp=Z,928nm,1.4s
DZM *e*LR LR 04 10 22.8
comp=Z,19µm,22.4s
DZM Mont Dzumac 17.29 303 P Pn 04 06 18.1 +0.5
comp=Z,44nm,0.7s,baz=112,slow=13,SNR=21
DZM S Sn 04 09 23.6 -6.2
comp=Z,4.7nm,0.9s,baz=45,slow=9.1,SNR=0.9
DZM LR LR 04 11 52.5
comp=Z,29µm,18.6s,baz=129,slow=34
DZM Mont Dzumac 17.29 303 P P 04 06 19.8 +0.9
DZM IAmb IAmb 04 06 37.0
comp=Z,451nm,1.3s
DZM Mont Dzumac 17.29 303 P P 04 06 21.3 +2.3
NOUC Port Laguerre 17.38 303 P P 04 06 22.3 +2.5
LIFNC LIFOU 17.61 308 P P 04 06 23.5 +1.2
LIFNC LIFOU 17.61 308 P Pn 04 06 25.7 +3.4
RTV Rentapao 19.09 317 P Pn 04 06 43.2 +3.7
AFI Afiamalu 19.31 18 P P 04 06 38.7 -2.4
comp=Z,10nm,0.3s,baz=240,slow=4.4,SNR=12
AFI S Sn 04 09 56.4 -22
comp=Z,6.0nm,0.3s,baz=192,slow=22,SNR=1.8
comp=Z,41nm,0.5s
AFI Afiamalu 19.31 18 P P 04 06 40.1 -1.0
LHI Lord Howe Isla 19.52 267 P P 04 06 41.9 -1.4
baz=19
LHI Lord Howe Isla 19.52 267 P P 04 06 42.5 -0.8
RAR Rarotonga 19.68 60 P P 04 06 44.4 -0.6
comp=Z,52nm,0.8s,baz=211,slow=7.1,SNR=11
RAR S S 04 10 07.1 -19
comp=Z,63nm,1.1s,baz=270,slow=20,SNR=3.1
RAR LR LR 04 14 59.6
comp=Z,9µm,18.4s,baz=221,slow=39
KOUNC Koumac, New Ca 19.81 302 P Pn 04 06 48.3 +0.2
KOUNC Koumac, New Ca 19.81 302 P Pn 04 06 48.9 +0.8
FUNA Funafuti 23.96 353 IAMs_20 IAMs_20 04 15 37.7
comp=Z,15µm,19.0s
MGCD Mangrove Creek 25.97 260 P P 04 07 50.0 +1.4
baz=26,SNR=18
MGCD Mangrove Creek 25.97 260 P P 04 07 50.5 +1.9
ARMA Armidale 26.00 266 P P 04 07 51.2 +2.2
baz=26,SNR=18
ARMA Armidale 26.00 266 P P 04 07 49.4 +0.4
ARMA IAmb IAmb 04 07 56.5
comp=Z,116nm,1.3s
ARMA Armidale 26.00 266 P P 04 07 52.0 +3.0
CNB Canberra Magne 27.22 255 P P 04 08 01.5 +1.6
baz=27,SNR=22
CNB Canberra Magne 27.22 255 P P 04 08 01.8 +1.9
CAN Canberra 27.52 255 P P 04 08 01.4 -1.2
CAN IAmb IAmb 04 08 06.1
comp=Z,164nm,1.9s
CAN IAMs_20 IAMs_20 04 18 06.9
comp=Z,17µm,19.0s
CAN Canberra 27.52 255 P P 04 08 01.4 -1.2
CAN pmax pmax
comp=Z,164nm,1.9s
CAN MLR MLR
comp=Z,17µm,19.0s
CAN Canberra 27.52 255 P P 04 08 04.2 +1.6
EIDS Eidsvold 27.95 277 P P 04 08 06.8 +0.3
baz=28,SNR=13
EIDS Eidsvold 27.95 277 P P 04 08 06.7 +0.2
EIDS IAmb IAmb 04 08 22.2
comp=Z,43nm,0.8s
EIDS Eidsvold 27.95 277 P P 04 08 07.0 +0.5
TAU Tasmania Unive 29.22 239 P P 04 08 16.4 -1.1
TAU Tasmania Unive 29.22 239 IAMs_20 IAMs_20 04 20 35.9
comp=Z,12µm,18.0s
TAU Tasmania Unive 29.22 239 P P 04 08 16.4 -1.1
TAU pmax pmax
comp=Z,36nm,1.0s
TAU MLR MLR
comp=Z,12µm,18.0s
RK1H Rockhampton Ha 29.23 280 P P 04 08 19.6 +1.8
MOO Moorlands 29.24 240 P P 04 08 17.5 -0.2
baz=29,SNR=4.8
PAE Paea 29.50 67 *e*T T 04 38 55.7
comp=Z,4.1nm,0.3s
RMQ Roma 29.52 273 P P 04 08 21.7 +1.3
baz=29,SNR=36
RMQ Roma 29.52 273 P P 04 08 22.8 +2.4
PPT2 Papeete2 29.54 67 *e*P P 04 08 18.0 -2.7
comp=Z,324nm,23.5s
PPT2 *e*S S 04 13 09.7 -5.3
comp=Z,756nm,24.8s
PPT2 *e*LR LR 04 15 47.3
comp=Z,4µm,21.0s
PPT2 *e*LR LR 04 15 47.4
comp=Z,4µm,20.5s
PPT2 Papeete2 29.54 67 *e*T T 04 38 59.0
comp=Z,4.0nm,0.3s
PPT Papeete 29.56 67 P P 04 08 21.9 +1.1
comp=Z,20nm,0.9s,baz=171,slow=15,SNR=2.2
PPT LR LR 04 19 45.4
comp=Z,8µm,18.2s,baz=242,slow=36
comp=Z,20nm,0.9s
TIAR Tiarei 29.74 67 *e*P P 04 08 21.7 -0.7
comp=Z,14nm,0.8s
TOO Toolangi 30.25 250 P P 04 08 28.2 +1.4
baz=30,SNR=5.2
TOO Toolangi 30.25 250 P P 04 08 25.9 -0.9
TOO Toolangi 30.25 250 P P 04 08 25.9 -0.9
TOO pmax pmax
comp=Z,31nm,1.1s
TOO Toolangi 30.25 250 P P 04 08 27.9 +1.1
HNR Honiara 30.71 313 LR LR 04 19 46.5
comp=Z,81µm,18.8s,baz=165,slow=34
CMSA Cobar Meteorol 30.76 262 P P 04 08 32.2 +0.9
baz=31,SNR=166
CMSA Cobar Meteorol 30.76 262 P P 04 08 32.6 +1.3
BRAT Ballarat 31.49 250 P P 04 08 39.6 +1.9
VAH Vaihoa 32.44 65 *e*T T 04 42 37.8
comp=Z,14nm,0.3s
ARPS Mount Arapiles 33.21 251 P P 04 08 52.9 +0.2
baz=33,SNR=22
ARPS Mount Arapiles 33.21 251 P P 04 08 54.0 +1.2
QLP Quilpie 33.31 270 P P 04 08 55.1 +1.3
baz=33,SNR=10
QLP Quilpie 33.31 270 P P 04 08 55.0 +1.3
STKA Stephens Creek 34.11 260 P P 04 09 01.0 +0.3
comp=Z,23nm,1.1s,baz=100,slow=12,SNR=22
STKA LR LR 04 22 44.6
comp=Z,13µm,18.1s,baz=96,slow=36
comp=Z,23nm,1.1s
STKA Stephens Creek 34.11 260 P P 04 09 01.0 +0.3
baz=34,SNR=13
STKA Stephens Creek 34.11 260 P P 04 08 59.3 -1.4
STKA Stephens Creek 34.11 260 P P 04 09 02.0 +1.3
CTA Charters Tower 34.23 282 P P 04 09 01.9 +0.2
comp=Z,34nm,0.6s,baz=110,slow=9.9,SNR=49
CTA S S 04 14 26.1 -2.0
comp=Z,7.2nm,1.1s,baz=119,slow=19,SNR=3.1
CTA LR LR 04 21 56.1
comp=Z,7µm,18.5s,baz=128,slow=35
comp=Z,34nm,0.6s
CTA Charters Tower 34.23 282 P P 04 09 02.6 +0.8
CTAO Charters Tower 34.23 282 P P 04 09 02.0 +0.2
CTAO Charters Tower 34.23 282 P P 04 09 02.0 +0.2
CTAO pmax pmax
comp=Z,317nm,1.7s
CTAO MLR MLR
comp=Z,7µm,18.0s
CTAO Charters Tower 34.23 282 P P 04 09 02.6 +0.8
TARA Tarawa 34.73 344 IAMs_20 IAMs_20 04 21 23.7
comp=Z,8µm,18.0s
INKA Innaminka 35.89 266 P P 04 09 17.3 +1.3
HTT Hallett 36.02 256 P P 04 09 16.5 -0.7
baz=36,SNR=16
HTT Hallett 36.02 256 P P 04 09 17.8 +0.6
MTSU Mount Surprise 36.78 284 P P 04 09 24.0 +0.3
baz=37,SNR=102
MTSU Mount Surprise 36.78 284 P P 04 09 24.6 +0.8
WHYH Whyalla 37.21 257 P P 04 09 27.3 +0.1
LCRK Leigh Creek 37.26 261 P P 04 09 27.5 -0.2
BBOO Buckleboo 38.50 257 P P 04 09 36.3 -1.9
baz=38,SNR=7.7
BBOO Buckleboo 38.50 257 P P 04 09 36.0 -2.2
BBOO Buckleboo 38.50 257 P P 04 09 37.6 -0.6
QIS Mount Isa 39.56 277 P P 04 09 46.8 -0.4
baz=39,SNR=24
QIS Mount Isa 39.56 277 P P 04 09 47.1 -0.1
PMG Port Moresby 39.57 298 P P 04 09 46.8 -0.4
comp=Z,7.9nm,0.4s,baz=140,slow=4.3,SNR=7.1
PMG LR LR 04 24 21.3
comp=Z,3µm,19.6s,baz=129,slow=34
comp=Z,7.9nm,0.4s
PMG Port Moresby 39.57 298 P P 04 09 47.1 -0.1
PMG IAmb IAmb 04 10 04.7
comp=Z,130nm,1.8s
PMG Port Moresby 39.57 298 P P 04 09 47.1 -0.1
PMG pmax pmax
comp=Z,130nm,1.8s
PMG MLR MLR
comp=Z,4µm,18.0s
PMG Port Moresby 39.57 298 P P 04 09 49.6 +2.4
comp=Z,43nm,1.3s
KRVT Keravat (AS076 39.67 309 P P 04 09 48.3 +0.2
comp=Z,400nm,0.6s,baz=141,slow=0.8,SNR=19
KRVT S S 04 15 44.1 -6.9
comp=Z,41nm,0.6s,baz=161,slow=18,SNR=1.2
COEN Coen 39.92 288 P P 04 09 50.8 +0.6
baz=40,SNR=28
COEN Coen 39.92 288 P P 04 09 49.2 -1.0
COEN Coen 39.92 288 P P 04 09 51.4 +1.2
OOD Oodnadatta 40.13 264 P P 04 09 52.0 +0.1
MULG Mulgathing 40.77 260 P P 04 09 56.5 -0.6
TAOE Nuku Hiva Isla 42.11 65 *e*P P 04 10 04.9 -3.4
comp=Z,215nm,25.8s
TAOE *e*S S 04 16 23.0 -4.5
comp=Z,972nm,24.2s
TAOE *e*LR LR 04 21 36.3
comp=Z,3µm,22.3s
AS31 Alice Springs 43.09 269 P P 04 10 14.8 -1.4
ASAR Alice Springs 43.09 269 P P 04 10 14.8 -1.4
comp=Z,34nm,0.7s,baz=111,slow=7.5,SNR=198
ASAR ScP ScP 04 15 56.8 +0.3
comp=Z,3.1nm,1.1s,baz=96,slow=4.9,SNR=3.0
ASAR S S 04 16 37.6 -4.1
comp=Z,5.8nm,1.0s,baz=108,slow=15,SNR=7.7
ASAR LR LR 04 28 24.4
comp=Z,6µm,18.2s,baz=115,slow=36
comp=Z,34nm,0.7s
WB2 Warramunga Arr 44.25 274 P P 04 10 24.4 -1.1
baz=44
WRAB Tennant Creek 44.26 274 P P 04 10 24.3 -1.3
WRAB Tennant Creek 44.26 274 IAMs_20 IAMs_20 04 28 23.4
comp=Z,7µm,18.0s
WRAB Tennant Creek 44.26 274 P P 04 10 24.3 -1.3
WRAB pmax pmax
comp=Z,121nm,0.9s
WRAB MLR MLR
comp=Z,7µm,18.0s
WRAB Tennant Creek 44.26 274 P P 04 10 24.1 -1.5
WRA Warramunga Arr 44.26 274 P P 04 10 24.0 -1.7
comp=Z,52nm,0.5s,baz=115,slow=7.5,SNR=294
WRA ScP ScP 04 16 02.2 +0.9
comp=Z,6.2nm,1.1s,baz=118,slow=4.4,SNR=5.4
WRA S S 04 16 53.0 -5.9
comp=Z,3.1nm,1.0s,baz=117,slow=14,SNR=4.7
WRA LR LR 04 28 25.5
comp=Z,7µm,18.0s,baz=112,slow=36
comp=Z,52nm,0.5s
WRA Warramunga Arr 44.26 274 P P 04 10 24.0 -1.7
WRA Warramunga Arr 44.26 274 P P 04 10 24.0 -1.7
WRA pmax pmax
comp=Z,23nm,1.1s
PATS Pohnpei 45.15 326 IAMs_20 IAMs_20 04 26 23.4
comp=Z,6µm,19.0s
FORT Forrest 45.60 257 P P 04 10 34.5 -1.7
baz=45,SNR=104
FORT Forrest 45.60 257 P P 04 10 34.8 -1.4
FORT Forrest 45.60 257 P P 04 10 34.8 -1.4
SBA Scott Base 45.99 184 P P 04 10 33.2 -5.4
SBA Scott Base 45.99 184 P P 04 10 33.2 -5.4
SBA pmax pmax
comp=Z,254nm,2.0s
VNDA Vanda 46.06 186 S S 04 17 24.9 +1.4
comp=Z,1.3nm,1.1s,baz=312,slow=18,SNR=1.5
VNDA LR LR 04 26 37.5
comp=Z,3µm,20.2s,baz=14,slow=32
VNDA Vanda 46.06 186 P P 04 10 32.8 -6.3
VNDA IAmb IAmb 04 11 00.5
comp=Z,55nm,1.8s
VNDA Vanda 46.06 186 P P 04 10 32.8 -6.3
VNDA pmax pmax
comp=Z,55nm,1.8s
WRKA Warakurna 47.30 265 P P 04 10 47.4 -2.3
baz=47,SNR=59
WRKA Warakurna 47.30 265 P P 04 10 48.1 -1.6
GENI Genyem 49.26 298 P P 04 11 02.9 -1.8
comp=Z,106nm,1.3s
GENI Genyem 49.26 298 P P 04 11 05.5 +0.8
comp=Z,76nm,0.9s
KDU Kakadu 49.35 282 P P 04 11 03.7 -1.8
baz=49,SNR=26
KDU Kakadu 49.35 282 P P 04 11 04.3 -1.2
MTN Manton Dam 50.38 281 P P 04 11 11.8 -1.5
baz=50,SNR=17
MTN Manton Dam 50.38 281 P P 04 11 11.5 -1.8
MTN Manton Dam 50.38 281 P P 04 11 12.4 -0.9
KNRA Kununurra 50.94 276 P P 04 11 17.1 -0.4
baz=51,SNR=19
KNRA Kununurra 50.94 276 P P 04 11 16.7 -0.8
KNRA Kununurra 50.94 276 P P 04 11 17.1 -0.4
FITZ Fitzroy Crossi 52.43 271 S S 04 18 51.4 -3.0
comp=Z,1.6nm,0.9s,baz=90,slow=20,SNR=1.6
FITZ LR LR 04 33 52.9
comp=Z,10µm,18.2s,baz=182,slow=36
FITZ Fitzroy Crossi 52.43 271 P P 04 11 27.2 -1.5
baz=52,SNR=44
FITZ Fitzroy Crossi 52.43 271 P P 04 11 27.3 -1.4
FITZ Fitzroy Crossi 52.43 271 P P 04 11 28.0 -0.7
SAUI Saumlaki 52.89 286 IAMs_20 IAMs_20 04 33 03.4
comp=Z,7µm,20.0s
CASY Casey 53.35 209 P P 04 11 29.7 -5.1
CASY IAmb IAmb 04 11 54.5
comp=Z,62nm,1.0s
CASY Casey 53.35 209 IAMs_20 IAMs_20 04 34 16.6
comp=Z,5µm,18.0s
NWAO Narrogin (SRO) 53.74 251 LR LR 04 33 28.9
comp=Z,2µm,18.7s,baz=307,slow=35
NWAO Narrogin (SRO) 53.74 251 IAMs_20 IAMs_20 04 35 51.9
comp=Z,6µm,18.0s
KLBR Kellerberrin 53.75 252 P P 04 11 35.8 -2.5
baz=54,SNR=33
KLBR Kellerberrin 53.75 252 P P 04 11 36.7 -1.6
MEEK Meekatharra 54.80 258 P P 04 11 43.4 -2.6
baz=55,SNR=11
MEEK Meekatharra 54.80 258 P P 04 11 43.9 -2.1
MUN Mundaring 54.87 251 P P 04 11 44.8 -1.6
baz=55,SNR=6.4
BLDU Ballidu 54.92 253 P P 04 11 45.1 -1.8
baz=55,SNR=10
FAKI Fak Fak 55.12 292 P P 04 11 46.0 -2.4
FAKI IAmb IAmb 04 12 03.7
comp=Z,46nm,0.9s
FAKI Fak Fak 55.12 292 P P 04 11 46.5 -1.9
comp=Z,2µmcomp=Z,931nmcomp=Z,56nm,0.8s
FAKI Fak Fak 55.12 292 P P 04 11 50.0 +1.6
PSA00 Pilbara Seismi 55.80 265 IAmb IAmb 04 12 07.9
comp=Z,44nm,1.5s
PSA00 Pilbara Seismi 55.80 265 P P 04 11 51.5 -1.7
MORW Morawa 56.01 255 P P 04 11 53.3 -1.4
baz=56,SNR=5.3
MORW Morawa 56.01 255 IAmb IAmb 04 11 54.9
comp=Z,111nm,1.9s
MBWA Marble Bar 56.07 265 P P 04 11 53.8 -1.4
MBWA IAmb IAmb 04 12 02.3
comp=Z,56nm,1.2s
MBWA Marble Bar 56.07 265 IAMs_20 IAMs_20 04 36 10.8
comp=Z,5µm,18.0s
MBWA Marble Bar 56.07 265 P P 04 11 54.4 -0.8
QSPA South Pole Qui 57.66 180 P P 04 12 08.4 +2.5
comp=Z,16nm,0.8s,baz=50,slow=1.9,SNR=40
QSPA LR LR 04 34 15.9
comp=Z,4µm,19.2s,baz=41,slow=33
comp=Z,16nm,0.8s
QSPA South Pole Qui 57.66 180 P P 04 12 06.6 +0.6
QSPA South Pole Qui 57.66 180 IAMs_20 IAMs_20 04 35 08.7
comp=Z,4µm,18.0s
SOEI Soe 57.72 279 P P 04 12 06.6 -0.5
SOEI Soe 57.72 279 P P 04 12 07.9 +0.8
BATI Baumata 57.98 279 LR LR 04 37 27.0
comp=Z,6µm,18.9s,baz=150,slow=36
BATI Baumata 57.98 279 P P 04 12 07.6 -1.2
comp=Z,767nmcomp=Z,53nm,1.0s
GUMO Guam 57.98 316 LR LR 04 36 01.2
comp=Z,1µm,18.5s,baz=88,slow=35
RPN Rapa Nui 58.86 104 LR LR 04 33 39.6
comp=Z,3µm,18.1s,baz=260,slow=32
MMRI Maumere 60.01 279 P P 04 12 20.2 -2.6
MMRI Maumere 60.01 279 P P 04 12 21.6 -1.2
comp=Z,3µmcomp=Z,131nm,1.0s
MMRI Maumere 60.01 279 P P 04 12 23.3 +0.5
comp=Z,132nm,1.1s
GIRL Giralia 60.05 261 P P 04 12 21.7 -1.4
baz=60,SNR=4.1
MIDW Midway 60.34 1 IAMs_20 IAMs_20 04 36 21.3
comp=Z,4µm,20.0s
EDFI Ende, Flores 60.40 279 P P 04 12 23.4 -2.3
comp=Z,385nmcomp=Z,24nm,0.8s
SANI Sanana 60.62 288 P P 04 12 27.2 +0.2
comp=Z,1µmcomp=Z,52nm,1.7s
BKSI Bulukumba 63.56 281 P P 04 12 44.9 -1.9
comp=Z,614nmcomp=Z,16nm,1.4s
PLAI Plampang 63.64 276 P P 04 12 47.5 +0.2
comp=Z,1µmcomp=Z,71nm,0.9s
PLAI Plampang 63.64 276 P P 04 12 46.1 -1.2
KAPI Kappang 64.04 281 P P 04 12 47.8 -2.2
comp=Z,5.6nm,0.4s,baz=156,slow=3.0,SNR=4.2
KAPI LR LR 04 41 16.4
comp=Z,4µm,18.4s,baz=118,slow=37
comp=Z,5.6nm,0.4s
KAPI Kappang 64.04 281 P P 04 12 48.6 -1.3
KAPI IAmb IAmb 04 12 56.1
comp=Z,26nm,1.2s
KAPI Kappang 64.04 281 IAMs_20 IAMs_20 04 41 05.4
comp=Z,4µm,18.0s
KAPI Kappang 64.04 281 P P 04 12 48.6 -1.3
KAPI pmax pmax
comp=Z,26nm,1.2s
KAPI MLR MLR
comp=Z,4µm,18.0s
TWSI Taliwang, Sumb 64.44 276 P P 04 12 52.8 +0.2
comp=Z,622nmcomp=Z,53nm,0.9s
SPSI Sidrap Palu 64.60 282 P P 04 12 52.0 -1.6
comp=Z,560nmcomp=Z,21nm,1.2s
TTSI Tana Toraja 65.08 283 P P 04 13 11.3 +15
TOLI2 Tolitoli 66.68 287 P P 04 13 06.5 -0.5
TOLI2 IAmb IAmb 04 13 28.8
comp=Z,18nm,0.8s
BELA Belgrano 2 67.74 172 P P 04 13 11.8 -1.0
BBKI Banjar Baru 68.97 280 P P 04 13 19.9 -1.6
comp=Z,43nm,0.8s
PCJI Pacitan 69.53 273 P P 04 13 24.1 -0.9
comp=Z,80nm,0.8s
UGM Wanagama 70.23 273 IAMs_20 IAMs_20 04 44 25.7
comp=Z,4µm,20.0s
JCJ Chichijima 70.34 323 LR LR 04 39 47.7
comp=Z,766nm,20.6s,baz=121,slow=32
PMSA Palmer Station 70.37 155 LR LR 04 43 52.8
comp=Z,2µm,18.3s,baz=238,slow=35
MAW Mawson 70.40 201 P P 04 13 30.5 +1.0
comp=Z,15nm,1.1s,baz=120,slow=8.3,SNR=19
MAW S S 04 22 39.9 -1.1
comp=Z,0.2nm,0.2s,baz=42,slow=18,SNR=1.2
MAW LR LR 04 42 33.5
comp=Z,4µm,20.6s,baz=116,slow=34
comp=Z,15nm,1.1s
MAW Mawson 70.40 201 P P 04 13 31.6 +2.2
baz=70,SNR=17
MAW Mawson 70.40 201 P P 04 13 28.8 -0.6
SMRI Semarang 70.75 274 IAMs_20 IAMs_20 04 44 47.6
comp=Z,3µm,20.0s
LEM Lembang 73.25 273 LR LR 04 47 51.3
comp=Z,2µm,18.2s,baz=130,slow=37
KKM Kota Kinabalu 73.25 289 P P 04 13 45.9 -1.7
SBUM Sibu 74.43 283 P P 04 13 53.9 -0.5
SBUM IAmb IAmb 04 14 12.7
comp=Z,42nm,1.5s
TROLL Troll, Antarti 75.82 180 P P 04 14 03.5 +1.8
SNAA Sanae 76.10 178 P P 04 14 04.8 +1.7
SNAA Sanae 76.10 178 P P 04 14 02.8 -0.4
SNAA IAMs_20 IAMs_20 04 47 23.5
comp=Z,2µm,19.0s
SNAA Sanae 76.10 178 *de*P P 04 14 04.1 +0.9
SNAA pmax pmax
comp=Z,122nm,1.4s
VNA3 Neumayer Olymp 76.25 176 P P 04 14 05.4 +1.4
VNA3 Neumayer Olymp 76.25 176 PcP PcP 04 14 15.2 -0.7
JHJ Hachijo jima 2 76.44 324 LR LR 04 43 05.7
comp=Z,592nm,19.7s,baz=96,slow=32
VNA2 Neumayer--Watz 76.69 177 P P 04 14 07.8 +1.4
baz=171,slow=5.5
NVL N'lazarevskaya 76.83 183 *e*P P 04 14 10.4 +3.2
NVL *e*S S 04 23 50.4 -3.1
NVL pmax pmax
comp=Z,30nm,1.1s
NVL MLR MLR
comp=Z,2µm,18.0s
VNA1 Neumayer--Stat 76.92 176 P P 04 14 09.6 +2.0
VNA1 Neumayer--Stat 76.92 176 PcP PcP 04 14 20.7 +2.0
COYC Coyhaique 77.41 136 P P 04 14 08.7 -2.2
COYC IAmb IAmb 04 14 28.4
comp=Z,36nm,0.9s
PMBI Palembang 77.71 274 IAMs_20 IAMs_20 04 51 02.0
comp=Z,4µm,19.0s
LL02 Futaleuf 78.88 134 IAmb IAmb 04 14 25.1
comp=Z,37nm,1.1s
H03S2 Juan Fernandez 79.29 123 T T 05 41 40.7
baz=235
H03S1 Juan Fernandez 79.30 123 T T 05 41 41.3
baz=235
H03S3 Juan Fernandez 79.31 123 T T 05 41 40.5
baz=235
H03N3 Juan Fernandez 79.50 123 T T 05 41 51.8
baz=240,slow=72,SNR=7.1
H03N2 Juan Fernandez 79.50 123 T T 05 41 55.5
baz=240,slow=72,SNR=5.4
H03N1 Juan Fernandez 79.51 123 T T 05 41 51.7
baz=240,slow=72,SNR=16
COCO West Island 79.58 262 IAMs_20 IAMs_20 04 54 11.3
comp=Z,4µm,19.0s
MJAR Matsushiro Arr 79.96 325 P P 04 14 22.7 -2.1
comp=Z,3.5nm,0.9s,baz=164,slow=5.4,SNR=4.4
MJAR LR LR 04 44 02.4
comp=Z,707nm,21.4s,baz=138,slow=31
comp=Z,3.5nm,0.9s
MAJO Matsushiro 79.96 325 P P 04 14 23.4 -1.5
MAJO Matsushiro 79.96 325⇑ *e*P P 04 14 24.2 -0.7
MAJO pmax pmax
comp=Z,15nm,1.1s
MJB9 Matsu-Tunnel 79.97 325 P P 04 14 25.7 +0.8
MYKOM Kota Tinggi 81.02 278 IAMs_20 IAMs_20 04 54 06.3
comp=Z,3µm,18.0s
PLCA Paso Flores 81.07 133 P P 04 14 32.7 +1.6
comp=Z,10nm,1.0s,baz=247,slow=5.2,SNR=18
PLCA LR LR 04 45 18.5
comp=Z,2µm,18.0s,baz=232,slow=32
comp=Z,10nm,1.0s
PLCA Paso Flores 81.07 133 P P 04 14 29.1 -2.0
JHS Saijyo 81.32 321 P P 04 14 32.4 +0.2
JHS IAmb IAmb 04 14 42.7
comp=Z,31nm,1.0s
JTM Tenmabayashi 82.13 330 P P 04 14 35.4 -0.9
ERM Erimo 82.30 332 IAMs_20 IAMs_20 04 48 17.3
comp=Z,3µm,20.0s
BKNI Bangkinang 82.59 275 IAMs_20 IAMs_20 04 54 37.6
comp=Z,2µm,18.0s
QZH Quanzhou 83.18 305⇑ *i*P P 04 14 43.0 +0.9
QZH SKS S 04 24 59.3 -2.3
QZH S SKSac 04 25 05.4 +1.8
QZH LR LR
comp=Z,250nm,18.0s
QZH LR LR
comp=Z,290nm,13.7s
QZH LR LR
comp=Z,490nm,15.2s
KUR Kuril'sk 83.33 336 *e*P P 04 14 41.1 -1.3
KUR *e* 04 17 55.5
KUR *e*PPP PPP 04 19 45.1
KUR *e*S S 04 25 03.9 +1.6
KUR *e*SS SS 04 30 35.1 +6.7
KUR MLR MLR
comp=Z,2µm,14.0s
ADK Adak 83.99 1 IAMs_20 IAMs_20 04 45 00.1
comp=Z,2µm,20.0s
BO02 Sierra Bellavi 84.37 128 P P 04 14 45.8 -2.6
IPM Ipoh 84.84 279 IAMs_20 IAMs_20 04 58 34.5

comp=Z,2µm,19.0s
SHEM Shemya Is, Ala 85.11 355 S **SKSac 04 25 07.9 -6.8**
comp=Z,29nm,0.9s,baz=253,slow=19,SNR=1.0
SHEM LR LR 04 49 44.7
comp=Z,2µm,18.8s,baz=140,slow=34
MT05 Renca 85.22 127 P **P 04 14 50.9 -1.8**
TJN Taejon 85.48 319*c iP* **P 04 14 53.2 -0.3**
SSE Sheshan 85.50 311 P **P 04 14 52.5 -1.3**
SSE S **S 04 25 25.9 +1.3**
SSE pmax pmax
comp=Z,25nm,0.6s
SSE pmax pmax
comp=Z,250nm,9.1s
SSE LR LR
comp=Z,200nm,18.4s
SSE LR LR
comp=Z,200nm,18.6s
LPIG La Paz 85.58 58 LR LR 04 48 04.1
comp=Z,3µm,18.1s,baz=226,slow=32
KULM Kulin 85.59 279 IAMs_20 IAMs_20 04 56 56.6
comp=Z,2µm,18.0s
RPSI Rantau Prapat 85.64 276 P **P 04 14 52.8 -2.1**
RPSI IAmb IAmb 04 15 12.3
comp=Z,34nm,1.7s
PSI Prapat 85.70 276 LR LR 04 54 51.1
comp=Z,2µm,18.8s,baz=126,slow=37
PSI Prapat 85.70 276 P **P 04 14 52.8 -2.6**
PSI pmax pmax
comp=Z,34nm,1.7s
SKR Severo-Kuril's 85.90 344 *eP* **P 04 14 53.9 -1.3**
SKR *eS* **SKSac 04 25 19.1 -0.7**
SKR pmax pmax
comp=Z,200nm,13.2s
SKR MLR MLR
comp=Z,300nm,16.0s
QIZ Qiongzhong 85.92 295 P **P 04 14 54.8 -1.3**
QIZ PP **PP 04 18 17.0 +0.7**
QIZ S **S 04 25 26.3 -3.0**
QIZ pmax pmax
comp=Z,540nm,9.6s
QIZ LR LR
comp=Z,400nm,14.3s
QIZ LR LR
comp=Z,440nm,14.3s
QIZ LR LR
comp=Z,470nm,26.3s
KSRS Korea Array 85.95 320 P **P 04 14 55.9 0.0**
comp=Z,5.1nm,0.8s,baz=141,slow=5.8,SNR=21
KSRS S **SKSac 04 25 16.9 -3.8**
comp=Z,0.5nm,0.3s,baz=113,slow=13,SNR=1.2
KSRS LR LR 04 50 34.1
comp=Z,883nm,19.9s,baz=130,slow=34
comp=Z,5.1nm,0.8s
KSAR Wonju Array Be 85.96 320 P **P 04 14 55.9 0.0**
KSAR Wonju Array Be 85.96 320 P **P 04 14 55.9 0.0**
KS19 Wonju Array Si 86.01 320 P **P 04 14 55.6 -0.5**
GSI Gunungsitoli 86.03 274 P **P 04 14 56.0 -0.9**
GSI IAMs_20 IAMs_20 04 54 47.7
comp=Z,3µm,19.0s
GSI Gunungsitoli 86.03 274 P **P 04 14 53.2 -3.7**
PKM Mcpherson Peak 86.40 44 P **P 04 15 01.7 +3.3**
baz=226
SMMC Simmler 86.59 44 P **P 04 15 02.3 +3.1**
baz=225
YSS Yuzh-Sakhalins 86.62 334 P **P 04 14 59.0 +0.1**
YSS IAMs_20 IAMs_20 04 50 12.8
comp=Z,2µm,20.0s
YSS Yuzh-Sakhalins 86.62 334 *eP* **P 04 14 59.6 +0.7**
YSS *eS* **S 04 25 31.1 -3.7**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,700nm,6.6s
YSS smax smax
comp=N,600nm,9.7s
YSS smax smax
comp=E,300nm,9.3s
YSS MLR MLR
comp=Z,2µm,18.0s
YSS MLR MLR
comp=N,900nm,19.0s
YSS MLR MLR
comp=E,1µm,17.0s
109C Camp Elliot, M 86.68 47 IAMs_20 IAMs_20 04 56 06.9
comp=Z,3µm,18.0s
SAO San Andreas Ge 86.77 42 IAMs_20 IAMs_20 04 56 26.3
comp=Z,3µm,18.0s
OSI Osito Audit: C 86.86 45 P **P 04 15 03.4 +2.9**
baz=226
MCCM Marconi Confer 86.95 40 IAMs_20 IAMs_20 04 48 01.2
comp=Z,3µm,19.0s
ELS Elsinore Mount 86.99 47 IAmb IAmb 04 15 19.4
comp=Z,27nm,1.1s
MURC Murrieta 87.10 47 P **P 04 15 04.9 +3.2**
baz=227
MONP2 Monument Peak 87.11 48 P **P 04 15 04.7 +2.8**
baz=228
IKP In-Ko-Pah, Jac 87.14 48 P **P 04 15 04.3 +2.4**
baz=228
ARVC Arvin 87.15 45 P **P 04 15 04.4 +2.6**
baz=226
BFSC Mount Baldy Ra 87.25 46 P **P 04 15 05.0 +2.5**
baz=227,SNR=8.2
YUH Yuha Desert 87.26 48 P **P 04 15 04.5 +2.1**
YUH IAmb IAmb 04 15 08.7
comp=Z,19nm,1.2s
HOPE Hope Point 87.42 159 P **P 04 15 02.6 -0.3**
HOPE Hope Point 87.42 159 P **P 04 15 02.6 -0.3**
HOPE pmax pmax
comp=Z,114nm,1.4s
HOPS Hopland Field 87.46 40 IAmb IAmb 04 15 08.5
comp=Z,31nm,1.1s
GDXM Geysers 87.47 40 IAmb IAmb 04 15 25.9
comp=Z,48nm,1.4s
EDW2 Edwards Air Fo 87.48 45 P **P 04 15 06.2 +2.7**
baz=227,SNR=10.0
VES Vestal, Richgr 87.49 44 P **P 04 15 06.0 +2.6**
baz=226,SNR=12
TEY Ternei 87.49 330 *eP* **P 04 15 02.9 -0.3**
TEY *e* 04 25 26.1
SWSC Sam W. Stewart 87.53 48 P **P 04 15 06.4 +2.7**
baz=228
PET Petropavlovsk 87.54 346 *eP* **P 04 15 02.1 -1.1**
PET *eS* **SKSac 04 25 32.3 +2.5**
PET pmax pmax
comp=Z,400nm,7.3s
PET pmax pmax
comp=Z,300nm,13.6s
PET MLR MLR
comp=Z,2µm,19.0s
PET MLR MLR
comp=Z,2µm,18.0s
TPFO Pinon Flats 87.56 47 P **P 04 15 06.9 +2.9**
baz=228
PFO Pinyon Flats O 87.56 47 P **P 04 15 05.4 +1.4**
PFO IAmb IAmb 04 15 22.4
comp=Z,28nm,1.2s
PFO Pinyon Flats O 87.56 47 IAMs_20 IAMs_20 04 48 59.4
comp=Z,3µm,20.0s
PFO Pinyon Flats O 87.56 47 P **P 04 15 05.4 +1.4**
PFO pmax pmax
comp=Z,28nm,1.2s
PFO Pinyon Flats O 87.56 47 P **P 04 15 07.1 +3.0**
baz=228,SNR=5.7
NJ2 Nanjing 87.62 311⇑ *iP* **P 04 15 02.6 -1.5**
NJ2 pP **pP 04 15 07.0 -0.7**
NJ2 PP **PP 04 18 29.6 -0.2**
NJ2 SKS **SKSac 04 25 32.0 +0.6**
NJ2 S **SKKSac 04 25 43.4 +2.5**
NJ2 pmax pmax
comp=Z,12nm,0.8s
NJ2 pmax pmax
comp=Z,540nm,8.8s
NJ2 LR LR
comp=Z,530nm,18.0s
NJ2 LR LR
comp=Z,540nm,20.8s
NJ2 LR LR
comp=Z,1µm,19.6s
PMD Palm Desert 87.64 47 IAmb IAmb 04 15 23.2
comp=Z,25nm,1.3s
VOG Valley Oaks Go 87.64 44 P **P 04 15 07.8 +3.7**
baz=226
CCAC Calif City Air 87.65 45 IAmb IAmb 04 15 10.9
comp=Z,32nm,1.2s
KCPM Cahto Peak 87.69 39 IAmb IAmb 04 15 36.8
comp=Z,27nm,1.2s
BBRC Big Bear Solar 87.71 46 P **P 04 15 07.9 +3.1**
baz=227
ISA Isabella, Lake 87.73 45 P **P 04 15 07.5 +2.8**
baz=226,SNR=20
PEA0B Petropavlovsk- 87.81 346 P **P 04 15 04.7 +0.1**
PEA0B Petropavlovsk- 87.81 346*c iP* **P 04 15 04.8 +0.2**
PETK Petropavlovsk- 87.81 346 P **P 04 15 04.4 -0.2**
comp=Z,16nm,0.9s,baz=160,slow=9.1,SNR=10
PETK LR LR 04 51 51.0
comp=Z,1µm,19.0s,baz=158,slow=34
comp=Z,16nm,0.9s
PETK Petropavlovsk- 87.81 346 P **P 04 15 04.8 +0.2**
PETK Petropavlovsk- 87.81 346 P **P 04 15 04.8 +0.2**
LRMC Laurel Mtn Rad 88.07 45 P **P 04 15 09.2 +2.8**
baz=227,SNR=24
RRX Edison Barstow 88.08 46 P **P 04 15 09.1 +2.8**
baz=227
BELC Belle Mtn. Jos 88.11 47 P **P 04 15 10.4 +3.8**
baz=228,SNR=10
PIX Pinacate 88.13 50 P **P 04 15 07.0 +0.5**
PIX IAmb IAmb 04 15 24.7
comp=Z,16nm,1.1s
GLA Glamis 88.22 49 P **P 04 15 10.7 +3.6**
baz=229
BC3 Big Chuckawall 88.22 48 P **P 04 15 10.5 +3.3**
baz=228,SNR=13
CMB Columbia Colle 88.26 42 IAmb IAmb 04 15 11.6
comp=Z,34nm,1.4s
CMB IAMs_20 IAMs_20 04 56 31.8
comp=Z,3µm,18.0s
HEC Hector,Ludlow 88.45 46 P **P 04 15 11.0 +2.8**
baz=228,SNR=7.8
KHMM Horse Mountain 88.47 38 IAmb IAmb 04 15 16.1
comp=Z,22nm,1.1s
GSC Goldstone, Bar 88.48 46 IAmb IAmb 04 15 13.3
comp=Z,40nm,1.2s
GSC Goldstone, Bar 88.48 46 P **P 04 15 11.3 +3.0**
baz=227,SNR=15
CWC Cottonwood Cre 88.49 44 P **P 04 15 11.1 +2.7**
baz=227
MPMC Manual Prospec 88.58 45 P **P 04 15 11.8 +2.9**
baz=227,SNR=18
113A Mohawk Valley, 88.71 49 P **P 04 15 09.3 0.0**
113A IAmb IAmb 04 15 29.6
comp=Z,56nm,1.7s
ORV Oroville 88.71 40 IAmb IAmb 04 15 26.8
comp=Z,22nm,1.4s
ORV IAMs_20 IAMs_20 04 49 25.8
comp=Z,2µm,20.0s
MDPB Devils Postpil 88.72 43 IAmb IAmb 04 15 28.3
comp=Z,29nm,1.4s
IRM Iron Mountain 88.74 48 P **P 04 15 12.8 +3.3**
baz=228,SNR=23
OMMB Old Mammoth Mi 88.75 43 IAmb IAmb 04 15 17.1
comp=Z,33nm,1.5s
214A Organ Pipe Nat 88.80 50 IAmb IAmb 04 15 28.4
comp=Z,29nm,1.4s
214A Organ Pipe Nat 88.80 50 P **P 04 15 12.8 +2.9**
baz=230
GMRC Granite Mounta 88.84 47 P **P 04 15 12.9 +2.8**
baz=228,SNR=9.5
KRMB Red Mountain 88.85 37 IAmb IAmb 04 15 15.0
comp=Z,26nm,1.2s
MLAC Mammoth, Mammo 88.86 43 P **P 04 15 12.7 +2.5**
baz=226,SNR=6.8
QSM Queen of Sheba 88.89 45 IAmb IAmb 04 15 14.9
comp=Z,31nm,1.2s
USA0B Ussuriysk Arra 88.90 327 IAmb IAmb 04 15 33.9
comp=Z,27nm,1.1s
USRK Ussuriysk Ar. 88.90 327 P **P 04 15 10.5 +0.6**
comp=Z,23nm,1.2s,baz=129,slow=2.8,SNR=11
USRK S **SKSac 04 25 38.3 -0.2**
comp=Z,1.6nm,0.6s,baz=136,slow=0.1,SNR=0.8
USRK LR LR 04 50 22.5
comp=Z,999nm,20.4s,baz=135,slow=33
comp=Z,23nm,1.2s
USRK Ussuriysk Ar. 88.90 327 P **P 04 15 10.0 +0.1**
EMB Emerald Bay 89.07 41 IAmb IAmb 04 15 19.2
comp=Z,59nm,1.7s
KSXB Camp Six Broad 89.09 37 IAmb IAmb 04 15 31.0
comp=Z,26nm,1.3s
TUQ Turquoise Moun 89.11 46 P **P 04 15 14.2 +2.9**
baz=228,SNR=12
GWY Grenwater Val 89.16 45 IAmb IAmb 04 15 26.3
comp=Z,50nm,1.6s
DSP Deep Springs 89.19 44 IAmb IAmb 04 15 27.2
comp=Z,24nm,1.3s
SHOC Shoshone, Teco 89.20 46 P **P 04 15 14.2 +2.6**
baz=228,SNR=14
FURC Furnace Creek, 89.23 45 P **P 04 15 14.4 +2.8**
baz=227,SNR=5.4
LCH Last Change Ra 89.28 44 IAmb IAmb 04 15 30.7
comp=Z,25nm,1.3s
GRAC Grapevine Rang 89.29 44 IAmb IAmb 04 15 16.4
comp=Z,34nm,1.1s
GRAC Grapevine Rang 89.29 44 P **P 04 15 14.7 +2.7**
baz=227,SNR=19
L02F Cave Junction 89.46 37 P **P 04 15 16.0 +3.3**
baz=223
PDMCI Parker Dam,Lak 89.47 48 P **P 04 15 16.2 +3.4**
baz=229,SNR=9.1
LHV Little Huntoon 89.48 43 IAmb IAmb 04 15 17.6
comp=Z,25nm,1.2s
SPIA Saint Paul Isl 89.53 4 P **P 04 15 16.4 +3.9**
baz=186
VCNR Virginia City 89.55 41 IAmb IAmb 04 15 31.0
comp=Z,51nm,1.7s
BEKR Beckworth 89.56 41 IAmb IAmb 04 15 35.0
comp=Z,28nm,1.5s
YERR Yerington 89.56 42 IAmb IAmb 04 15 17.1
comp=Z,26nm,1.2s
YBH Yreka Blue Hor 89.62 38 IAMs_20 IAMs_20 04 50 50.9
comp=Z,2µm,19.0s
WHN Wuhan 89.62 307⇑ P **P 04 15 13.1 -0.5**
WHN SKS **SKSac 04 25 45.0 +1.6**
WHN pmax pmax
comp=Z,1µm,12.8s
WHN LR LR
comp=Z,2µm,23.3s
WHN LR LR
comp=Z,1µm,17.8s
WHN LR LR
comp=Z,2µm,18.0s
NVAR Mina Array Bea 89.72 43 P **P 04 15 16.0 +1.8**
comp=Z,12nm,1.1s,baz=219,slow=7.1,SNR=43
NVAR S **SKSac 04 25 41.8 -2.3**
comp=Z,0.1nm,0.3s,baz=260,slow=20,SNR=1.6
comp=Z,12nm,1.1s
NVAR Mina Array Bea 89.72 43 P **P 04 15 14.2 0.0**
RYN Ryan 89.73 42 IAmb IAmb 04 15 32.1
comp=Z,23nm,1.2s
NV11 Mina Array Sit 89.80 43 IAmb IAmb 04 15 36.1
comp=Z,36nm,1.6s
K02D Willamette Mer 89.83 37 P **P 04 15 17.1 +2.7**
baz=223
TPNV Topopah Spring 89.92 45 IAmb IAmb 04 15 47.5
comp=Z,20nm,1.1s
TPNV Topopah Spring 89.92 45 P **P 04 15 18.0 +2.9**
baz=228,SNR=5.9
V12A Nelson 89.95 47 IAmb IAmb 04 15 21.9
comp=Z,23nm,1.3s
TYV Tymovskoe 89.96 336 *eP* **P 04 15 15.4 +0.7**
TYV *eS* **S 04 26 11.4 +5.1**
TYV pmax pmax
comp=Z,500nm,2.9s
TYV pmax pmax
comp=Z,42nm,1.7s
TYV smax smax
comp=N,3µm,10.4s
TYV smax smax
comp=E,1µm,10.4s
CHGN Chignik 89.96 11 P P 04 15 19.4 +4.9
baz=196
PAHR Pah Rah Range 89.98 41 IAmb IAmb 04 15 19.6
comp=Z,20nm,1.2s
J01E Myrtle Point 90.03 36 P **P 04 15 19.4 +4.1**
baz=223
HUMO Hull Mountain 90.12 37 P **P 04 15 17.9 +2.1**
HUMO IAmb IAmb 04 15 31.7
comp=Z,51nm,1.4s
HUMO IAMs_20 IAMs_20 04 50 56.2
comp=Z,2µm,19.0s
W13A Hualapai Mount 90.14 48 IAmb IAmb 04 15 21.4
comp=Z,26nm,1.3s
WTNK Soaring Height 90.16 46 IAmb IAmb 04 15 20.5
comp=Z,9.2nm,1.3s
L04D Klamath Falls 90.18 38 IAMs_20 IAMs_20 04 50 40.7
comp=Z,3µm,20.0s
L04D Klamath Falls 90.18 38 P **P 04 15 19.8 +3.6**
baz=224,SNR=5.7
KVN Kaiserville 90.25 42 IAmb IAmb 04 15 20.9
comp=Z,20nm,1.2s
MDJ Mudanjiang 90.35 326 P **P 04 15 16.8 +0.1**
MDJ IAmb IAmb 04 15 40.6
comp=Z,27nm,1.1s
TUC Tucson 90.36 51 P **P 04 15 18.6 +1.4**
TUC IAmb IAmb 04 15 22.1
comp=Z,22nm,1.2s
TUC Tucson 90.36 51 P **P 04 15 18.6 +1.4**
TUC pmax pmax
comp=Z,22nm,1.2s
TUC Tucson 90.36 51 P **P 04 15 20.7 +3.5**
baz=231
HPIG 90.63 58 P **P 04 15 18.7 0.0**
S11A Rachel 90.68 45 IAmb IAmb 04 15 47.0
comp=Z,28nm,1.2s
I03D Drain, OR 90.71 36 P **P 04 15 21.5 +3.1**
baz=223
K04D Chiloquin, OR 90.76 38 P **P 04 15 22.1 +3.3**
baz=224
I02E Swisshome, OR 90.77 36 P **P 04 15 21.5 +2.9**
baz=223
319A Douglas 90.78 53 IAmb IAmb 04 15 40.9
comp=Z,14nm,1.0s
PRN Pahroc Range 90.94 45 IAmb IAmb 04 15 24.5
comp=Z,26nm,1.2s
SII Sitkinak Islan 90.94 13 IAMs_20 IAMs_20 04 53 00.8
comp=Z,3µm,20.0s
MOD Modoc Plateau 91.01 39 IAmb IAmb 04 15 24.3
comp=Z,24nm,1.3s
J04D Umpqua Nationa 91.01 37 IAMs_20 IAMs_20 04 52 02.7
comp=Z,3µm,20.0s
J04D Umpqua Nationa 91.01 37 P **P 04 15 22.6 +2.5**
baz=224,SNR=5.8
UNM Universidad Na 91.16 68 IAMs_20 IAMs_20 04 48 56.3
comp=Z,2µm,19.0s
R11A Troy Canyon, C 91.24 44 P **P 04 15 23.5 +2.2**
baz=228
I04A Tendick Farm, 91.25 37 P **P 04 15 23.8 +2.8**
baz=224
TIA Tai'an 91.41 313⇓ *iP* **P 04 15 23.1 +1.3**
TIA SKS **SKSac 04 25 56.3 +2.8**
TIA S **ScS 04 26 26.3 +3.0**
TIA pmax pmax
comp=Z,11nm,0.8s
TIA pmax pmax
comp=Z,400nm,8.6s
TIA LR LR
comp=Z,400nm,22.1s
TIA LR LR
comp=Z,380nm,22.1s
TIA LR LR
comp=Z,730nm,22.9s
SNY Shenyang 91.41 320⇑ P **P 04 15 21.3 -0.4**
SNY SKS **SKSac 04 25 53.4 +0.3**
SNY S **ScS 04 26 27.3 +4.4**
SNY pmax pmax
comp=Z,370nm,8.8s
SNY LR LR
comp=Z,670nm,18.0s
SNY LR LR
comp=Z,610nm,19.1s
SNY LR LR
comp=Z,1µm,19.3s
J05D Fort Rock, OR 91.49 38 P **P 04 15 24.7 +2.4**
baz=225,SNR=7.9
H04D Lebanon 91.61 36 P **P 04 15 25.6 +3.0**
baz=224
BMN Battle Mountai 91.69 42 IAmb IAmb 04 15 27.6
comp=Z,20nm,1.2s
CN2 Changchun 91.81 323 P **P 04 15 23.5 0.0**
CN2 sP pwP 04 15 30.6 -4.4
CN2 SKS **SKSac 04 25 53.4 -2.0**
CN2 S **S 04 26 22.3 -1.3**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,900nm,17.0s
G03D McMinnville, O 91.85 35 IAMs_20 IAMs_20 04 49 42.6
comp=Z,3µm,20.0s
G03D McMinnville, O 91.85 35 P **P 04 15 27.7 +4.1**
baz=223
WUAZ Wupatki 91.99 48 P **P 04 15 25.8 +1.1**
WUAZ IAmb IAmb 04 15 29.3
comp=Z,15nm,1.1s
WUAZ IAMs_20 IAMs_20 04 59 06.5
comp=Z,3µm,18.0s
WUAZ Wupatki 91.99 48 P **P 04 15 27.0 +2.2**
baz=230
KNB Kanab 92.04 47 IAmb IAmb 04 15 43.6
comp=Z,18nm,1.1s
GRNR Gornyy 92.14 333⇑ *iP* **P 04 15 25.9 +1.0**
GRNR pmax pmax
comp=Z,6.0nm,1.2s
GRNR MLR MLR
comp=E,510nm,18.0s
GRNR MLR MLR
comp=N,610nm,20.0s
GRNR MLR MLR
comp=Z,810nm,19.0s
I05D Terrebonne, OR 92.19 37 P **P 04 15 27.1 +1.8**
baz=224
BNX BinXian 92.22 325⇑ P **P 04 15 24.5 -0.9**
BNX pP **pP 04 15 28.0 -1.0**
BNX PP **PP 04 19 08.8 +2.5**
BNX S **S 04 26 33.3 +6.0**
BNX sS **sS 04 26 38.3 +4.8**
BNX pmax pmax
comp=Z,10.0nm,1.0s
BNX pmax pmax
comp=Z,250nm,8.6s
BNX LR LR
comp=Z,480nm,15.7s
BNX LR LR
comp=Z,870nm,19.5s
BNX LR LR
comp=Z,1µm,20.6s
WVOR Wild Horse Val 92.27 40 IAmb IAmb 04 15 31.7
comp=Z,16nm,1.2s
KDAK Kodiak Island 92.40 13 S S 04 26 13.1 -15
comp=Z,4.0nm,1.0s,baz=148,slow=8.8,SNR=1.2
KDAK Kodiak Island 92.40 13 IAMs_20 IAMs_20 04 54 27.3
comp=Z,2µm,20.0s
SPR3 Spring Creek 3 92.41 44 IAmb IAmb 04 15 30.9
comp=Z,9.8nm,1.3s
121A Cookes Peak, D 92.49 53 IAmb IAmb 04 15 46.6
comp=Z,17nm,1.5s
GYA Guiyang 92.61 300⇑ *iP* **P 04 15 27.0 -0.8**
GYA PP **PP 04 19 10.3 +0.4**
GYA SKS **SKSac 04 26 01.4 +0.4**
GYA S **S 04 26 33.5 +1.6**
GYA SS **SS 04 32 45.3 +0.5**
GYA pmax pmax
comp=Z,250nm,4.2s
GYA LR LR
comp=Z,320nm,18.0s
GYA LR LR
comp=Z,420nm,22.9s
GYA LR LR
comp=Z,550nm,17.9s
PKCU Pink Cliffs 92.62 47 IAmb IAmb 04 15 35.0
comp=Z,32nm,1.3s
NNA Nana 92.81 106 LR LR 04 50 34.4
comp=Z,2µm,18.2s,baz=239,slow=31
NNA Nana 92.81 106 IAMs_20 IAMs_20 04 53 17.6
comp=Z,3µm,18.0s
KLR Kul'dur 92.83 330 P **P 04 15 28.2 +0.1**
comp=Z,5.5nm,0.8s,baz=140,slow=1.5,SNR=11
KLR S **SKSac 04 25 59.3 -1.5**
baz=100,slow=19
KLR LR LR 04 56 27.7
comp=Z,1µm,18.4s,baz=146,slow=35
comp=Z,5.5nm,0.8s
LVC Limon Verde 92.90 119 P **P 04 15 31.6 +1.9**
comp=Z,6.7nm,1.1s,baz=266,slow=4.8,SNR=2.0
LVC LR LR 04 51 27.5
comp=Z,2µm,18.0s,baz=234,slow=32
comp=Z,6.7nm,1.1s
EPT El Paso 92.90 54 IAMs_20 IAMs_20 04 54 55.6

I07A Izee 92.95 38 IAmb IAmb 04 15 32.7
comp=Z,17nm,1.2s
J08A Circle Bar Ran 92.99 39 P **P** **04 15 28.9 -0.2**
J08A IAmb IAmb 04 15 32.8
comp=Z,20nm,1.2s
MTPU Mount Pierson 93.08 46 IAmb IAmb 04 15 52.8
comp=Z,14nm,1.2s
NLWA Neilton Lookou 93.15 33 IAMs_20 IAMs_20 04 50 55.9
comp=Z,3μm,20.0s
Q19K Cape Douglas, 93.27 12 IAMs_20 IAMs_20 04 54 39.4
comp=Z,2μm,21.0s
TCRU Three Creeks R 93.28 46 IAmb IAmb 04 15 42.0
comp=Z,18nm,1.4s
LYN LuoYang 93.34 309⇓*iP* **P** **04 15 31.3 +0.5**
LYN PP **PP** **04 19 12.3 -3.0**
LYN SKS **SKSac** **04 26 02.8 -1.5**
LYN S **S** **04 26 37.4 -0.3**
LYN SS **SS** **04 33 02.3 +7.6**
LYN pmax pmax
comp=Z,320nm,10.8s
LYN LR LR
comp=Z,570nm,17.6s
LYN LR LR
comp=Z,260nm,17.2s
LYN LR LR
comp=Z,550nm,19.1s
CMIG Matias Romero 93.34 72 LR LR 04 50 35.3
comp=Z,2μm,18.4s,baz=256,slow=31
TX32 Lajitas Array 93.46 57 IAmb IAmb 04 15 37.7
comp=Z,27nm,1.7s
TXAR Lajitas Array 93.46 57 P **P** **04 15 33.7 +2.1**
comp=Z,2.9nm,1.1s,baz=205,slow=5.5,SNR=16
TXAR PKKPbc **PKKPbc** **04 32 40.3 +2.3**
comp=Z,0.4nm,0.7s,baz=72,slow=8.0,SNR=2.8
TXAR LR LR 04 52 52.0
comp=Z,2μm,18.0s,baz=239,slow=32
comp=Z,2.9nm,1.1s
HNS HongShan 93.66 313⇑P **P** **04 15 32.3 +0.1**
HNS SKS **SKSac** **04 26 06.4 +0.5**
HNS S **ScS** **04 26 43.6 +1.7**
HNS pmax pmax
comp=Z,260nm,10.4s
HNS LR LR
comp=Z,460nm,17.1s
HNS LR LR
comp=Z,630nm,17.3s
HNS LR LR
comp=Z,790nm,16.9s
O18K Koktuh Hills 93.88 11 P **P** **04 15 36.1 +3.5**
baz=199
N16K Nishlik Lake 93.93 9 P **P** **04 15 36.6 +3.7**
baz=196
P19K Oil Pt 94.03 12 IAMs_20 IAMs_20 04 55 12.4
comp=Z,2μm,20.0s
G08A Pilot Rock 94.06 37 IAmb IAmb 04 15 37.6
comp=Z,20nm,1.2s
CMAR Chiang Mai Arr 94.12 289 P **P** **04 15 36.5 +1.7**
comp=Z,0.8nm,0.3s,baz=46,slow=2.6,SNR=1.3
CMAR PP **PP** **04 19 22.3 +0.7**
comp=Z,1.5nm,0.3s,baz=146,slow=6.6,SNR=5.5
CMAR LR LR 05 00 02.0
comp=Z,442nm,19.6s,baz=125,slow=37
comp=Z,0.8nm,0.3s
CMAR Chiang Mai Arr 94.12 289 P **P** **04 15 33.7 -1.1**
ATAH Atahualpa 94.20 101 LR LR 04 52 38.9
comp=Z,1μm,18.0s,baz=261,slow=32
CNPM China Poot 94.28 13 IAMs_20 IAMs_20 04 55 27.1
comp=Z,3μm,20.0s
HOM Homer 94.33 13 IAMs_20 IAMs_20 04 55 41.2
comp=Z,2μm,20.0s
BJT Baijiatuau 94.41 315 P **P** **04 15 35.5 -0.1**
BJT Baijiatuau 94.41 315 P **P** **04 15 35.5 -0.1**
BJT pmax pmax
comp=Z,12nm,1.2s
MFID Camas Ranch 94.46 40 IAMs_20 IAMs_20 04 57 39.8
comp=Z,2μm,18.0s
HAWA Hanford 94.53 36 IAmb IAmb 04 15 40.3
comp=Z,15nm,1.2s
BRLK Bradley Lake 94.57 13 IAMs_20 IAMs_20 04 55 45.3
comp=Z,3μm,20.0s
KMI Kunming 94.79 297⇑P **P** **04 15 36.4 -1.6**
KMI PP **PP** **04 19 25.3 -1.7**
KMI SKS **SKSac** **04 26 13.8 +0.6**
KMI S **S** **04 26 52.9 +1.6**
KMI SS **SS** **04 33 18.0 +1.8**
KMI pmax pmax
comp=Z,3.0nm,0.5s
KMI pmax pmax
comp=Z,210nm,11.5s
KMI LR LR
comp=Z,480nm,18.8s
KMI LR LR
comp=Z,470nm,19.1s
KMI LR LR
comp=Z,850nm,18.9s
ANMO Albuquerque 94.82 51 P **P** **04 15 38.1 +0.2**
ANMO Albuquerque 94.82 51⇓*eP* **P** **04 15 38.9 +1.0**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 94.82 51 P **P** **04 15 40.0 +2.1**
baz=233
P17A Butcher Ranch, 94.86 46 IAmb IAmb 04 16 09.0
comp=Z,17nm,1.6s
N19K Bonanza Creek 94.90 11 IAMs_20 IAMs_20 04 55 08.6
comp=Z,2μm,20.0s
HVU Hansel Valley 95.11 43 IAmb IAmb 04 15 43.2
comp=Z,15nm,1.3s
TIY Taiyuan 95.28 312 *eP* **P** **04 15 41.6 +1.9**
TIY PP **PP** **04 19 29.8 -0.6**
TIY SKS **SKSac** **04 26 15.0 +0.1**
TIY pmax pmax
comp=Z,220nm,6.1s
TIY LR LR
comp=Z,210nm,18.5s
TIY LR LR
comp=Z,320nm,17.9s
TIY LR LR
comp=Z,490nm,20.6s
MA2 Magadan 95.29 345 S **SKSac** **04 26 06.9 -6.8**
comp=Z,5.5nm,0.9s,baz=151,slow=19,SNR=1.4
E09A Wood Farm, Sta 95.31 37 IAmb IAmb 04 15 54.2
comp=Z,14nm,1.1s
HLID Hailey 95.33 41 P **P** **04 15 42.1 +2.2**
baz=229
XAN Xi'an 95.39 307 P **P** **04 15 40.3 0.0**
XAN SKS **SKSac** **04 26 12.4 -3.2**
XAN pmax pmax
comp=Z,7.0nm,1.5s
XAN pmax pmax
comp=Z,250nm,7.5s
XAN LR LR
comp=Z,420nm,13.7s
XAN LR LR
comp=Z,510nm,17.2s
XAN LR LR
comp=Z,570nm,17.9s
F10A Beach Ranch, E 95.42 38 P **P** **04 15 40.9 +0.7**
F10A IAmb IAmb 04 15 45.0
comp=Z,13nm,1.1s
O22K Cooper Landing 95.46 14 IAMs_20 IAMs_20 05 04 06.3
comp=Z,2μm,18.0s
PLID Pearl Lake 95.47 39 P **P** **04 15 41.1 +0.5**
PLID IAmb IAmb 04 15 57.4
comp=Z,13nm,1.1s
COHC Cochancay 96.01 97 P **P** **04 15 42.8 -0.8**
PWL Port Wells 96.09 14 IAMs_20 IAMs_20 04 57 04.9
comp=Z,2μm,20.0s
SUA Susitna One 96.17 13 IAMs_20 IAMs_20 04 56 41.0
comp=Z,3μm,20.0s
S22A 4UR Ranch, Cre 96.24 49 IAmb IAmb 04 15 58.2
comp=Z,14nm,1.6s
S22A 4UR Ranch, Cre 96.24 49 P **P** **04 15 45.3 +0.9**
baz=233
PZH PanZhiHua 96.30 297 P **P** **04 15 43.6 -1.1**
PZH PP **PP** **04 19 39.4 +0.8**
PZH SKS **SKSac** **04 26 20.6 -0.3**
PZH S **S** **04 27 05.0 +0.9**
PZH sS **sS** **04 27 10.3 +0.2**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,150nm,9.4s
PZH LR LR
comp=Z,750nm,18.6s
PZH LR LR
comp=Z,410nm,18.0s
PZH LR LR
comp=Z,1μm,19.1s
GLI Glacier Island 96.36 15 IAMs_20 IAMs_20 04 56 52.2
comp=Z,2μm,19.0s
FID Port Fidalgo 96.38 15 IAMs_20 IAMs_20 04 56 40.4
comp=Z,2μm,19.0s
KNK Knik Glacier 96.57 14 IAMs_20 IAMs_20 05 04 38.5
comp=Z,2μm,19.0s
KVTX Kingsville 96.66 62 IAMs_20 IAMs_20 04 54 44.0
comp=Z,2μm,18.0s
AHID Auburn Hatcher 96.69 43 IAMs_20 IAMs_20 04 52 40.0
comp=Z,2μm,20.0s
XLT XiLinHaoTe 96.91 318 *eP* **P** **04 15 49.6 +2.6**
XLT pP pwP 04 15 54.4 -4.1
XLT sP sP 04 15 56.6 +4.7
XLT S S 04 27 00.5 -8.1
XLT sS sS 04 27 14.0 -0.6
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,180nm,8.7s
XLT LR LR
comp=Z,520nm,20.3s
XLT LR LR
comp=Z,810nm,19.2s
MESA MESA 96.94 17 IAMs_20 IAMs_20 04 55 39.3
comp=Z,2μm,20.0s
SMCO Snowmass 97.00 48 P **P** **04 15 46.7 -1.2**
SMCO IAmb IAmb 04 15 52.0
comp=Z,14nm,1.8s
SMCO IAMs_20 IAMs_20 04 54 33.1
comp=Z,3μm,20.0s
SDCO Great Sand Dun 97.09 50 IAMs_20 IAMs_20 05 02 10.5
comp=Z,2μm,18.0s
CUT Chulitna 97.13 13 IAMs_20 IAMs_20 04 57 02.4
comp=Z,3μm,20.0s
YAH Yahtse 97.15 17 IAMs_20 IAMs_20 04 56 26.7
comp=Z,2μm,19.0s
KLU Klutina 97.17 15 IAMs_20 IAMs_20 04 57 35.5
comp=Z,2μm,19.0s
SCM Sheep Creek Mo 97.18 14 IAMs_20 IAMs_20 05 04 45.7
comp=Z,2μm,20.0s
REDW Red Top Meadow 97.21 43 IAmb IAmb 04 15 59.5
comp=Z,16nm,1.6s
REDW IAMs_20 IAMs_20 04 53 15.6
comp=Z,2μm,20.0s
ISLE Juniper Island 97.21 17 IAMs_20 IAMs_20 04 56 20.5
comp=Z,2μm,20.0s
CD2 Chengdu 97.22 302 P **P** **04 15 47.4 -1.3**
CD2 PP **PP** **04 19 49.1 +3.5**
CD2 SKS **SKSac** **04 26 23.8 -1.5**
CD2 S **S** **04 27 09.6 -2.2**
CD2 pmax pmax
comp=Z,230nm,11.4s
CD2 LR LR
comp=Z,690nm,17.6s
CD2 LR LR
comp=Z,750nm,18.6s
CD2 LR LR
comp=Z,880nm,18.6s
TGL Tana Glacier 97.22 17 IAMs_20 IAMs_20 05 04 05.9
comp=Z,2μm,19.0s
TPAW Teton Pass 97.23 42 IAmb IAmb 04 15 59.0
comp=Z,9.9nm,1.4s
TPAW IAMs_20 IAMs_20 05 02 30.1
comp=Z,2μm,18.0s
LPAZ La Paz 97.25 114 P Pdif 04 15 51.7 +1.6
comp=Z,1.0nm,0.9s,baz=243,slow=3.2,SNR=5.8
LPAZ S **SKSac** **04 26 23.5 -4.0**
comp=Z,0.4nm,0.7s,baz=300,slow=15,SNR=0.9
LPAZ LR LR 04 55 08.3
comp=Z,646nm,18.1s,baz=250,slow=33
comp=Z,1.0nm,0.9s
FXWY Fox Creek 97.28 42 IAMs_20 IAMs_20 05 02 22.5
comp=Z,2μm,18.0s
SNOW Snow King Moun 97.32 43 IAMs_20 IAMs_20 05 02 41.7
comp=Z,2μm,18.0s
TABL Table Mountain 97.37 17 IAMs_20 IAMs_20 04 56 34.6
comp=Z,2μm,19.0s
JIS Juneau Island 97.46 22 IAMs_20 IAMs_20 04 54 04.0
comp=Z,2μm,20.0s
IMW Indian Meadow 97.49 42 IAMs_20 IAMs_20 04 54 49.9
comp=Z,2μm,20.0s
LOHW Long Hollow 97.50 43 P Pdif 04 15 50.6 +0.6
LOHW IAMs_20 IAMs_20 05 02 29.5
comp=Z,2μm,18.0s
MOOW Moose Ponds 97.51 42 IAMs_20 IAMs_20 05 02 20.6
comp=Z,2μm,18.0s
N25K Chitina, Valde 97.56 15 IAMs_20 IAMs_20 04 56 56.8
comp=Z,2μm,20.0s
PDAR Pinedale Array 97.59 44 P **P** **04 15 50.8 +0.5**
comp=Z,1.8nm,1.1s,baz=249,slow=4.1,SNR=7.0
PDAR PP **PP** **04 19 49.5 +1.0**
comp=Z,0.1nm,0.4s,baz=295,slow=4.8,SNR=1.5
PDAR PKKP **PKKPbc** **04 32 27.4 -0.2**
comp=Z,0.6nm,0.8s,baz=86,slow=6.1,SNR=5.0
comp=Z,1.8nm,1.1s
PDAR Pinedale Array 97.59 44 P **P** **04 15 48.8 -1.5**
GLB Gilahina Butte 97.60 16 IAMs_20 IAMs_20 04 57 15.7
comp=Z,2μm,19.0s
M24K Tolsona, Glenn 97.67 14 IAMs_20 IAMs_20 04 57 41.6
comp=Z,2μm,20.0s
LOGN Logan Glacier 97.73 17 IAMs_20 IAMs_20 04 56 26.3
comp=Z,2μm,20.0s
CAST Nastle Rocks 97.75 11 IAMs_20 IAMs_20 04 56 48.8
comp=Z,2μm,20.0s
CTGM Chitina Glacie 97.77 17 IAMs_20 IAMs_20 04 56 17.0
comp=Z,2μm,19.0s
YHL Hebgen Lake 97.94 41 IAmb IAmb 04 16 10.9
comp=Z,13nm,1.4s
TGUH Tegucigalpa,Un 97.96 78 IAMs_20 IAMs_20 04 51 14.0
comp=Z,1μm,18.0s
SEY Seymchan 97.99 347 P **P** **04 15 50.6 -0.6**
comp=Z,2.6nm,0.2s,baz=242,slow=16,SNR=1.8
comp=Z,2.6nm,0.2s
SEY Seymchan 97.99 347⇓*eP* **P** **04 15 51.3 0.0**
SEY pmax pmax
comp=Z,11nm,1.3s
AMTX Amarillo 97.99 54 IAMs_20 IAMs_20 04 58 29.4
comp=Z,2μm,18.0s
KTH Kantishna Hill 98.07 12 IAMs_20 IAMs_20 04 54 40.3
comp=Z,2μm,21.0s
TRF Thorofare Moun 98.09 12 IAMs_20 IAMs_20 04 57 53.7
comp=Z,2μm,20.0s
YHH Holmes Hill 98.09 41 IAmb IAmb 04 16 11.4
comp=Z,9.6nm,1.4s
BOZ Bozeman (W) 98.16 41 IAmb IAmb 04 15 56.4
comp=Z,11nm,1.5s
BOZ IAMs_20 IAMs_20 04 59 41.8
comp=Z,2μm,18.0s
ISCO Idaho Springs 98.21 48 IAMs_20 IAMs_20 04 55 35.3
comp=Z,2μm,19.0s
RND Reindeer 98.31 13 IAMs_20 IAMs_20 04 58 17.5
comp=Z,2μm,20.0s
RWWY Rawlins 98.34 46 IAMs_20 IAMs_20 04 56 29.5
comp=Z,2μm,19.0s
BPAW Bear Paw Mtn. 98.56 12 IAMs_20 IAMs_20 04 59 14.4
comp=Z,2μm,20.0s
MCK McKinley 98.59 13 IAMs_20 IAMs_20 04 58 17.0
comp=Z,3μm,20.0s
M26K Nabesna, AK 98.62 16 IAMs_20 IAMs_20 05 05 06.9
comp=Z,2μm,18.0s
435B Jarrell 98.64 59 IAMs_20 IAMs_20 04 54 50.3
comp=Z,2μm,20.0s
CPUP Villa Florida 98.67 129 LR LR 04 54 16.8
comp=Z,837nm,19.5s,baz=232,slow=32
L26K Log Cabin Wild 99.09 15 IAMs_20 IAMs_20 04 58 18.3
comp=Z,2μm,19.0s
PHWY Pilot Hill 99.18 47 IAMs_20 IAMs_20 04 56 23.8
comp=Z,2μm,18.0s
RLMT Red Lodge 99.18 42 IAMs_20 IAMs_20 05 09 14.9
comp=Z,2μm,18.0s
NEA2 Nenana 99.35 12 IAMs_20 IAMs_20 04 58 32.2
comp=Z,2μm,20.0s
RIDG Independent Ri 99.40 14 IAMs_20 IAMs_20 04 58 30.5
comp=Z,2μm,20.0s
WRH Wood River Hil 99.42 13 IAMs_20 IAMs_20 04 58 53.0
comp=Z,2μm,20.0s
L27K Beaver Creek, 99.47 16 IAMs_20 IAMs_20 05 05 51.2
comp=Z,2μm,19.0s
MLY Manley 99.47 11 IAMs_20 IAMs_20 05 04 25.2
comp=Z,1μm,19.0s
P33M Teslin, Yukon 99.50 21 IAMs_20 IAMs_20 04 57 40.9
comp=Z,2μm,20.0s
CCB Clear Creek Bu 99.63 13 IAMs_20 IAMs_20 04 58 49.6
comp=Z,2μm,20.0s
N31M Braeburn, Yuko 99.67 19 IAMs_20 IAMs_20 04 57 44.5
comp=Z,2μm,20.0s
H21K Melozitna Rive 99.72 10 IAMs_20 IAMs_20 05 08 03.0
comp=Z,1μm,19.0s
SCRK Sand Creek 99.79 14 IAMs_20 IAMs_20 04 58 31.7
comp=Z,2μm,20.0s
TCOL CIGO, UAF Yank 99.83 13 IAMs_20 IAMs_20 04 58 55.7
comp=Z,3μm,20.0s
COLA College 99.83 13 IAMs_20 IAMs_20 04 58 55.8
comp=Z,3μm,20.0s
MDM Murphy Dome 99.84 12 IAMs_20 IAMs_20 04 58 56.0
comp=Z,2μm,20.0s
WMOK Wichita Mounta 99.91 55 IAMs_20 IAMs_20 04 58 57.1
comp=Z,2μm,18.0s
ILAR Eielson Array 99.92 13 P **Pdif** **04 15 59.1 -0.8**
comp=Z,0.9nm,1.1s,baz=209,slow=5.5,SNR=3.0
ILAR PP PP 04 19 56.9 -8.6
comp=Z,1.2nm,1.1s,baz=209,slow=7.6,SNR=4.7
ILAR PKKPbc **PKKPbc** **04 32 20.6 -0.8**
comp=Z,0.2nm,0.6s,baz=0.0,slow=6.3,SNR=2.7
comp=Z,0.9nm,1.1s
LZH Lanzhou 99.98 306 *eP* **Pdif** **04 15 58.8 -2.3**
LZH sP sP 04 16 08.1 +2.0
LZH PP **PP** **04 20 03.9 -2.9**
LZH SKS **SKSac** **04 26 40.1 +0.8**
LZH S **ScS** **04 27 28.5 -6.7**
LZH sS sS 04 27 42.3 +1.1
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,150nm,5.0s
LZH LR LR
comp=Z,620nm,15.8s
LZH LR LR
comp=Z,350nm,15.1s
LZH LR LR
comp=Z,920nm,17.5s
J25K Salcha River, 100.07 14 IAMs_20 IAMs_20 05 06 39.2
comp=Z,1μm,19.0s
POKR Poker Plat Res 100.13 13 IAMs_20 IAMs_20 04 58 54.7
comp=Z,2μm,20.0s
K27K Chicken 100.25 15 IAMs_20 IAMs_20 04 58 44.4
comp=Z,2μm,20.0s
TEIG Tepich 100.31 73 IAMs_20 IAMs_20 04 55 02.5
comp=Z,2μm,18.0s
J26L Joseph Creek 100.34 14 IAMs_20 IAMs_20 04 58 50.3
comp=Z,2μm,20.0s
H23K Yukon River 100.40 11 IAMs_20 IAMs_20 05 01 58.9
comp=Z,2μm,19.0s
H24K Noodor Dome 100.70 12 IAMs_20 IAMs_20 05 07 10.8
comp=Z,2μm,20.0s
RDOG Red Dog Mine 100.84 6 IAMs_20 IAMs_20 05 07 51.6
comp=Z,2μm,20.0s
OK038 West end E0370 100.87 54 IAMs_20 IAMs_20 05 00 37.5
comp=Z,2μm,18.0s
BILL Bilibino 100.89 354 IAMs_20 IAMs_20 04 58 33.2
comp=Z,2μm,22.0s
OK035 E0210 Rd and N 101.01 54 IAMs_20 IAMs_20 05 00 23.3
comp=Z,2μm,19.0s
EGAK Eagle 101.10 15 IAMs_20 IAMs_20 05 05 06.4
comp=Z,2μm,18.0s
OK025 Westminster Rd 101.36 55 IAMs_20 IAMs_20 04 59 54.4
comp=Z,2μm,18.0s
OK029 Liberty Lake 101.39 55 IAMs_20 IAMs_20 04 59 58.3
comp=Z,2μm,19.0s
OK032 Salt Plains WL 101.40 54 IAMs_20 IAMs_20 05 00 27.6
comp=Z,2μm,19.0s
CBKS Cedar Bluff 101.44 51 IAMs_20 IAMs_20 05 04 43.8
comp=Z,2μm,18.0s
J29M Klondike Camp 101.50 16 IAMs_20 IAMs_20 04 59 19.0
comp=Z,2μm,20.0s
BCIP Isla Barro Col 101.67 87 IAMs_20 IAMs_20 04 54 32.5
comp=Z,2μm,19.0s
OK049 E0420 Rd and N 101.81 54 IAMs_20 IAMs_20 04 59 45.5
comp=Z,2μm,18.0s
LAO LASA Array 101.82 42 IAMs_20 IAMs_20 05 05 06.8
comp=Z,2μm,19.0s
FYU Fort Yukon 101.83 13 IAMs_20 IAMs_20 04 59 56.8
comp=Z,2μm,20.0s
OK033 Mehan 101.88 55 IAMs_20 IAMs_20 04 58 20.2
comp=Z,2μm,19.0s
OK031 S. Brethren Rd 101.90 55 IAMs_20 IAMs_20 04 57 59.7
comp=Z,2μm,19.0s
OK034 N. Norfolk Rd. 102.01 55 IAMs_20 IAMs_20 04 58 20.8
comp=Z,1μm,19.0s
OK050 Pawnee Station 102.03 55 IAMs_20 IAMs_20 04 58 17.2
comp=Z,2μm,19.0s
OK048 Pawnee Station 102.06 55 IAMs_20 IAMs_20 04 58 24.2
comp=Z,2μm,19.0s
OK046 Pawnee Station 102.08 55 IAMs_20 IAMs_20 04 58 25.6
comp=Z,2μm,18.0s
OK045 Pawnee Station 102.09 55 IAMs_20 IAMs_20 04 58 27.0
comp=Z,2μm,18.0s
OK051 E0350 and S346 102.19 55 IAMs_20 IAMs_20 05 01 33.4
comp=Z,2μm,20.0s
OK047 Pawnee, Statio 102.24 55 IAMs_20 IAMs_20 04 58 41.9
comp=Z,2μm,19.0s
SIV San Ignacio 102.78 118 PP **PP** **04 20 27.9 +0.6**
comp=Z,0.6nm,0.8s,baz=268,slow=1.5,SNR=2.2
YAK Yakutsk 103.17 337 IAMs_20 IAMs_20 05 03 47.3
comp=Z,1μm,19.0s
PALK Pallekele 103.43 270 IAMs_20 IAMs_20 05 04 39.5
comp=Z,2μm,19.0s
MIAR Mount Ida 103.47 58 IAMs_20 IAMs_20 05 08 52.4
comp=Z,2μm,19.0s
KSU1 Kansas State U 103.67 52 IAMs_20 IAMs_20 04 59 12.8
comp=Z,2μm,19.0s
DGMT Dagmar 103.96 41 IAMs_20 IAMs_20 05 03 08.3
comp=Z,2μm,18.0s
SONM Songino Array 104.69 318 Pdiff **Pdif** **04 16 22.3 +0.6**
comp=Z,0.6nm,0.5s,baz=114,slow=9.6,SNR=2.0
SONM PKKP **PKKPab** **04 32 23.7 +1.8**
comp=Z,1.4nm,1.0s,baz=319,slow=4.2,SNR=3.9
OXF Oxford 106.46 59 IAMs_20 IAMs_20 05 00 16.5
comp=Z,2μm,19.0s
CCM Cathedral Cave 106.83 55 IAMs_20 IAMs_20 05 03 58.2
comp=Z,2μm,18.0s
SCIA State Center 107.30 51 IAMs_20 IAMs_20 05 01 07.9
comp=Z,2μm,19.0s
LRAL Lakeview Retre 107.55 62 IAMs_20 IAMs_20 05 07 33.3
comp=Z,2μm,19.0s
MTDJ Mount Denham 108.13 80 IAMs_20 IAMs_20 05 01 47.4
comp=Z,2μm,18.0s
FFC Flin Flon 108.43 36 IAMs_20 IAMs_20 05 01 19.5
comp=Z,2μm,20.0s
C36M Paulatuk 108.82 18 IAMs_20 IAMs_20 05 06 36.4
comp=Z,2μm,19.0s
SDV Santo Domingo 109.30 92 IAMs_20 IAMs_20 05 00 30.3
comp=Z,2μm,19.0s
HDIL Hopedale 109.31 54 IAMs_20 IAMs_20 05 11 21.1
comp=Z,1μm,18.0s
HMDM Hanimaadhoo 109.52 266 IAMs_20 IAMs_20 05 13 49.3
comp=Z,2μm,18.0s
TIXI Tiksi 110.26 344 IAMs_20 IAMs_20 05 05 54.3
comp=Z,1μm,20.0s
A36M Sachs Harbour 110.38 15 IAMs_20 IAMs_20 05 04 51.6
comp=Z,1μm,19.0s
HQIL Hanson Quary C 110.83 53 IAMs_20 IAMs_20 05 04 03.3
comp=Z,2μm,22.0s
L44A Lake County Fo 110.96 53 IAMs_20 IAMs_20 05 10 39.5
comp=Z,2μm,18.0s
VOI Vohitsoa 111.07 224 IAMs_20 IAMs_20 05 05 15.0
comp=Z,2μm,18.0s
ABPO Ambohimpanom 113.01 227 IAMs_20 IAMs_20 05 03 30.6
comp=Z,2μm,18.0s
AAM Ann Arbor 113.89 54 IAMs_20 IAMs_20 05 02 14.3
comp=Z,1μm,20.0s
GLMI Grayling 114.22 51 IAMs_20 IAMs_20 05 05 45.8
comp=Z,2μm,19.0s
WMQ Urumqi 114.53 308 *eP* PKP PKPdf 04 20 54.0 -1.8
WMQ LR LR
comp=Z,430nm,21.3s
WMQ LR LR
comp=Z,380nm,20.3s
WMQ LR LR
comp=Z,280nm,20.5s
PCRV Puerto La Cruz 115.03 94 PKP **PKPdf** **04 20 57.1 -0.4**
comp=Z,2.7nm,0.5s,baz=143,slow=5.1,SNR=1.5
CNNC Cliffs of the 115.32 63 IAMs_20 IAMs_20 05 09 35.9
comp=Z,2μm,19.0s
BOSA Boshof 115.39 203 PKP **PKiKP** **04 20 58.7 +0.6**
comp=Z,2.8nm,1.0s,baz=180,slow=6.2,SNR=2.0
DGZ Jazzator, Alta 116.78 314⇓*i*PKIKP **PKPdf** **04 21 00.0 0.0**
MSEY Mahe Island 117.32 244 IAMs_20 IAMs_20 05 12 58.2
comp=Z,1μm,18.0s
MK31 Makanchi Array 119.12 309⇓*i*PKIKP **PKPdf** **04 21 03.8 -0.7**
MKAR Makanchi Array 119.12 309 PKP **PKPdf** **04 21 03.8 -0.7**
comp=Z,5.5nm,0.9s,baz=81,slow=1.7,SNR=13
MKAR Makanchi Array 119.12 309 PKPdf **PKPdf** **04 21 03.7 -0.8**
ZAA0 Zalesovo Array 119.59 318 **PKPdf** **04 21 05.4 +0.4**

ZALV Zalesovo Beam 119.59 318 PKP **PKPdf** 04 21 04.8 -0.2
comp=Z,2.1nm,0.6s,baz=194,slow=0.6,SNR=6.8
PAL Palisades 120.28 58 IAMs_20 IAMs_20 05 10 14.4
comp=Z,2μm,18.0s
GDHS Morne Mazeau, 120.46 89 IAMs_20 IAMs_20 05 12 24.3
comp=Z,1μm,18.0s
CBE Ff, Capester 120.50 90 IAMs_20 IAMs_20 05 06 46.1
comp=Z,1μm,20.0s
ILAM Ilet Lapin Mar 120.50 91 IAMs_20 IAMs_20 05 08 10.0
comp=Z,1μm,20.0s
LONY Lake Ozonia 120.89 54 IAMs_20 IAMs_20 05 12 32.4
comp=Z,2μm,18.0s
NRIK Noril'sk 121.53 335 PKP **PKiKP** 04 21 09.6 +1.1
comp=Z,3.0nm,0.4s,baz=128,slow=1.5,SNR=1.9
NRIK Noril'sk 121.53 335 PKPdf **PKiKP** 04 21 09.7 +1.2
NRIK Noril'sk 121.53 335 PKIKP **PKiKP** 04 21 09.7 +1.2
KURK Kurchatov 122.50 313 PKPdf **PKPdf** 04 21 10.5 -0.3
KURK Kurchatov 122.50 313 PKIKP **PKPdf** 04 21 10.5 -0.3
KURK Kurchatov 122.50 313 P **PKPdf** 04 21 10.9 +0.1
KURBB Kurchatov Arra 122.53 313 PKP **PKPdf** 04 21 10.1 -0.7
comp=Z,9.9nm,0.9s,baz=108,slow=1.9,SNR=55
E62A Clayton Lake 124.83 53 **PKPdf** 04 21 14.9 -0.5
LSZ Lusaka 126.34 212 IAMs_20 IAMs_20 05 11 27.0
comp=Z,2μm,20.0s
SCHQ Schefferville 127.72 43 PKP **PKPdf** 04 21 21.4 +0.8
comp=Z,8.6nm,1.1s,baz=330,slow=10,SNR=3.7
SCHQ Schefferville 127.72 43 **PKPdf** 04 21 20.5 -0.2
BVAR Borovoye Array 127.90 315 PKP **PKPdf** 04 21 21.4 +0.3
comp=Z,3.9nm,0.6s,baz=106,slow=3.2,SNR=31
BRVK Borovoye 127.96 315 PKPdf **PKPdf** 04 21 21.2 0.0
BRVK Borovoye 127.96 315 PKIKP **PKPdf** 04 21 21.2 0.0
BRVK MLR MLR
comp=Z,700nm,18.0s
BRVK Borovoye 127.96 315 P **PKPdf** 04 21 22.0 +0.8
BRVK P **PKPdf** 04 21 22.0 +0.8
KMBO Kilima Mbogo 132.87 232 PKP **PKiKP** 04 21 33.8 +0.6
comp=Z,2.1nm,0.8s,baz=212,slow=2.4,SNR=5.0
KMBO SKPbc **SKPbc** 04 25 00.8 +1.9
comp=Z,9.4nm,1.0s,baz=105,slow=3.4,SNR=15
KMBO Kilima Mbogo 132.87 232 PKPdf **PKPdf** 04 21 32.3 +0.2
KMBO Kilima Mbogo 132.87 232 IAMs_20 IAMs_20 05 11 52.5
comp=Z,941nm,20.0s
SPA0 Spitsbergen Ar 133.76 356 *e*PKPdf **PKPdf** 04 21 31.6 +0.1
SPITS Spitsbergen Ar 133.76 356 PKP **PKPdf** 04 21 32.3 +0.7
comp=Z,2.6nm,0.6s,baz=347,slow=5.9,SNR=2.4
SFJD Kangerlussuaq 133.84 26 PKP **PKPdf** 04 21 30.7 -1.1
comp=Z,7.6nm,0.9s,baz=253,slow=4.6,SNR=2.5
GEYT Alibeck 134.44 293 PKP **PKPdf** 04 21 35.0 +1.0
comp=Z,2.7nm,0.4s,baz=197,slow=9.3,SNR=4.1
GEYT SKPbc **SKPbc** 04 25 03.8 +0.7
comp=Z,5.1nm,0.9s,baz=12,slow=7.6,SNR=5.0
GYA0B ALIBECK ARRAY 134.44 293 PKPdf 04 21 33.6 -0.4
HOPEN Hopen 134.59 353 *e*PKPdf **PKPdf** 04 21 33.7 +0.6
ARU Arti 134.69 319 PKP **PKPdf** 04 21 33.3 -0.5
comp=Z,4.2nm,0.4s,baz=344,slow=1.5,SNR=9.9
ARU SKPbc **SKPbc** 04 25 04.9 +1.8
comp=Z,6.3nm,0.5s,baz=105,slow=20,SNR=13
ARU Arti 134.69 319 PKPdf **PKPdf** 04 21 33.4 -0.4
ARU IAMs_20 IAMs_20 05 32 22.3
comp=Z,950nm,20.0s
ARU Arti 134.69 319 *i* PKIKP **PKPdf** 04 21 34.0 +0.2
ARU 04 24 05.4
ARU SSS SSS 04 46 58.9
AKTO Aktyubinsk 135.50 311 PKP **PKPdf** 04 21 34.9 -0.6
comp=Z,7.2nm,0.8s,baz=94,slow=3.1,SNR=12
AKTO SKPbc **SKPbc** 04 25 06.6 +0.7
comp=Z,3.7nm,0.6s,baz=51,slow=5.8,SNR=4.8
MBAR Mbarara 137.40 225 SKPbc **SKPbc** 04 25 15.5 +2.3
comp=Z,2.4nm,0.2s,baz=96,slow=5.5,SNR=5.6
MBAR Mbarara 137.40 225 IAMs_20 IAMs_20 05 27 27.7
comp=Z,1μm,19.0s
KIRV Kirov 139.02 324 PKP **PKPdf** 04 21 42.9 +1.2
comp=Z,5.3nm,0.5s,baz=92,slow=3.4,SNR=5.2
PRGR Permogore 139.62 329 *e*PKIKP **PKPdf** 04 21 38.7 -4.0
LVZ Lovozero 139.81 342 IAMs_20 IAMs_20 05 26 14.7
comp=Z,1μm,20.0s
HAMF Hammerfest 139.96 349 *e*PKPdf **PKPdf** 04 21 43.2 +0.1
APA Apatity 140.38 342 ⇓ *i* PKIKP **PKPdf** 04 21 42.5 -1.5
APA pmax pmax
comp=Z,6.0nm,0.8s
ARA0 ARCESS Array S 140.61 347 *e*PKPdf **PKPdf** 04 21 44.7 +0.4
ARCES ARCESS Array B 140.61 347 PKhKP PKPpre 04 21 38.4
comp=Z,1.5nm,0.5s,baz=356,slow=4.1,SNR=7.2
ARCES PKP **PKPdf** 04 21 44.5 +0.1
comp=Z,9.4nm,0.8s,baz=48,slow=1.8,SNR=13
ARCES ARCESS Array B 140.61 347 PKPdf **PKPdf** 04 21 41.4 -2.9
JETT Jettan, Norway 141.45 350 *e* **PKPdf** 04 21 42.9 -3.1
JETT *e*PKPdf **pPKPdf** 04 21 46.3 -3.4
KTK1 Kautokeino 141.47 348 *e* **PKPdf** 04 21 41.2 -4.7
TRO Tromso 141.59 351 *e*PKPdf **PKPdf** 04 21 45.0 -1.1
BELG Belogornoye 141.70 315 PKP **PKPdf** 04 21 47.0 +0.3
comp=Z,72nm,1.2s,baz=84,slow=1.6,SNR=5.7
BELG SKPbc **SKiKP** 04 25 26.9 +1.9
comp=Z,55nm,1.1s,baz=350,slow=11,SNR=4.4
KLMR Klimovskoe 142.59 331 *e*PKHKP **PKPdf** 04 21 42.7 -5.3
KLMR pmax pmax
comp=Z,40nm,1.2s
KLMR Klimovskoe 142.59 331 AMP 04 21 53.1
comp=Z,40nm,1.2s
KLMR Klimovskoe 142.59 331 *e*PKPdf **PKPdf** 04 21 42.8 -5.3
MAK Makhachkala 142.95 300 *e*P **Pdif** 04 19 05.3 -6.5
MAK *e* 04 21 43.1
MAK *e* 04 28 56.4
MAK pmax pmax
comp=Z,178nm,1.0s
STEI Steigen 143.67 352 *e*PKPdf **PKPdf** 04 21 49.4 -0.4
STEI IAmb IAmb 04 21 56.5
LOF Lofoten 143.67 353 *e*PKPdf **PKPdf** 04 21 50.0 +0.2
FAUS Fauske 144.18 351 *e*PKPdf PKPbc 04 21 50.3 +1.4
FAUS IAmb IAmb 04 21 55.7
comp=Z,88nm,1.6s
GROC Groznyy 144.19 300 *e*PKIKP **PKPdf** 04 21 51.4 -0.1
GROC *e* 04 25 09.2
GROC pmax pmax
comp=Z,79nm,1.5s
GNI Garni 145.03 295 PKP **PKPab** 04 21 53.3 +0.6
comp=Z,27nm,1.0s,baz=52,slow=1.6,SNR=3.3
KONS Konsvik 145.29 352 *e*PKPbc **PKPbc** 04 21 52.5 0.0
KONS IAmb IAmb 04 21 54.6
comp=Z,76nm,1.1s
MOR8 Moi Rana 145.44 351 *e*PKPbc **PKPbc** 04 21 52.5 -0.5
MOR8 IAmb IAmb 04 22 01.2
comp=Z,138nm,1.5s
STOK Stokkvaagen 145.46 352 *e*PKPbc **PKPdf** 04 21 53.0 +0.1
STOK *e*P **PKPab** 04 21 54.7 +1.5
VRH Novokhopyorsk 145.55 315 *e*PKP2 **PKPdf** 04 21 52.1 -1.5
VRH pmax pmax
comp=Z,150nm,1.6s
VALR Valaam 145.58 336 *d* PKIKP **PKPdf** 04 21 53.4 +0.1
ZEI Tsey 145.60 300 *i* PKIKP **PKPdf** 04 21 53.9 -0.3
ZEI pmax pmax
comp=Z,122nm,1.4s
GOF Gofitskoye 146.01 304 ⇑ *e*PKIKP **PKPdf** 04 21 52.9 -1.7
GOF pmax pmax
comp=Z,207nm,1.1s
MOS Moscow 146.04 324 *e*PKIKP **PKPdf** 04 21 52.7 -1.5
MOS pmax pmax
comp=Z,356nm,1.1s
MOS pmax pmax
comp=N,153nm,1.1s
MOS pmax pmax
comp=E,96nm,1.1s
KBZ Khabaz 146.26 301 PKPbc **PKPbc** 04 21 56.6 +0.4
comp=E,24nm,1.0s,baz=155,slow=5.9,SNR=17
KIV Kislovodsk 146.39 302 ⇑P **PKPdf** 04 21 55.3 -0.1
KIV Kislovodsk 146.39 302 IAMs_20 IAMs_20 05 36 37.8
comp=Z,744nm,19.0s
KIV Kislovodsk 146.39 302 ⇑PKP2 **PKPdf** 04 21 55.3 -0.1
NEY Neytrino 146.43 301 *c* *i* PKP2 **PKiKP** 04 21 59.7 -0.2
LPSR Galich'ya Gora 146.70 318 *e*PKHKP **PKPdf** 04 21 52.3 -3.2
LPSR pmax pmax
comp=Z,180nm,0.9s
OBN Obninsk 146.87 323 ⇑P **PKPdf** 04 21 57.1 +1.4
OBN Obninsk 146.87 323 PKPbc **PKPbc** 04 21 57.3 -0.3
comp=Z,9.9nm,0.5s,baz=50,slow=2.3,SNR=16
OBN Obninsk 146.87 323 PKPbc **PKPdf** 04 21 57.1 +1.4
OBN IAMs_20 IAMs_20 05 30 26.1
comp=Z,747nm,19.0s
OBN Obninsk 146.87 323 *c* *i* PKP2 **PKPdf** 04 21 57.1 +1.4
OBN *i* SSS SSS 04 49 45.5
OBN pmax pmax
comp=Z,103nm,1.3s
OBN pmax pmax
comp=Z,227nm,1.6s
PUL Pulkovo 146.87 334 ⇑ *i* PKP2 **PKPdf** 04 21 56.5 +1.0

VORR Voronezh 146.88 317 *e*PKP2 **PKPbc** 04 21 58.3 +0.6
VORR pmax pmax
comp=Z,400nm,1.2s
VSR Storozhevoye 147.07 316 *e*PKP2 **PKPdf** 04 21 57.4 +1.3
VSR pmax pmax
comp=Z,230nm,1.4s
FINES FINESS Array B 147.09 339 PKPbc **PKPdf** 04 21 57.1 +1.3
comp=Z,49nm,0.7s,baz=50,slow=3.9,SNR=99
NSS Namsos 147.32 352 *e*PKPbc **PKPbc** 04 21 58.7 +0.2
NSS IAmb IAmb 04 22 04.1
comp=Z,60nm,1.0s
KOPT Kop Dagi 148.28 295 PKPbc **PKPbc** 04 22 02.8 +0.5
MEF Metsahovi 148.56 339 *e*P **PKPbc** 04 22 02.7 +0.8
SOC Sochi 148.57 302 *i* PKIKP **PKPdf** 04 21 58.7 -0.2
SOC *e* 04 25 29.1
SOC *e*PPP PPP 04 28 51.6
SOC *e*SS SS 04 44 44.9 +3.6
SOC *e*SSS SSS 04 50 17.5
RAF Rauma 148.66 342 *e*P **PKPbc** 04 22 01.4 -0.8
TBLU Trondheim 148.75 353 *e*pPKPdf **PKPbc** 04 22 01.3 -1.1
KTUT Trabzon 148.79 297 ⇓P **PKPbc** 04 22 03.8 +0.6
VSU Vasula 149.11 335 *i* PKP2 **PKPbc** 04 22 02.7 -0.7
VSU Vasula 149.11 335 *e*P **PKPbc** 04 22 03.8 +0.4
MOL Molde 149.67 355 *e*pPKPdf **PKPbc** 04 22 03.2 -1.5
MTSE Matsula 149.93 337 *e*P **PKPbc** 04 22 05.6 +0.2
ANN Anapa 149.98 305 *e*PKIKP **PKPdf** 04 21 59.9 -1.2
ANN *i* 04 22 05.9
ANN pmax pmax
comp=Z,205nm,1.5s
DOMB Dombas 150.06 353 *e*PKPbc **PKPbc** 04 22 06.1 +0.3
DOMB IAmb IAmb 04 22 20.0
comp=Z,24nm,0.8s
AKN Aaknes 150.10 355 *e*PKPbc **PKPbc** 04 22 06.5 +0.7
AKN IAmb IAmb 04 22 12.0
comp=Z,52nm,1.0s
ASF Jabal al Asfar 150.63 279 PKPbc **PKPbc** 04 22 08.2 +0.1
comp=Z,27nm,0.9s,baz=186,slow=2.2,SNR=25
FOO Floro 150.79 357 *e*PKPbc **PKPbc** 04 22 07.6 +0.2
NB2 NORSAR Subarra 150.79 351 PKP **PKPbc** 04 22 07.8 +0.3
comp=Z,102nm,2.0s,baz=17,slow=2.6
NB2 NORSAR Subarra 150.79 351 PKP **PKPbc** 04 22 07.8 +0.3
baz=17,slow=2.6
NOA NORSAR Array B 150.79 351 PKP **PKPdf** 04 22 03.1 +1.2
comp=Z,1.8nm,0.8s,baz=2.1,slow=2.5,SNR=3.2
NOA PKPbc **PKPbc** 04 22 07.7 +0.1
comp=Z,5.2nm,0.6s,baz=14,slow=4.1,SNR=30
NC602 NORSAR Array S 151.04 350 *e*PKPbc **PKPbc** 04 22 08.0 -0.1
NC602 IAmb IAmb 04 22 13.4
comp=Z,29nm,0.8s
HYA Hoyanger 151.16 356 *e*PKPbc **PKPbc** 04 22 08.6 +0.4
HFS Hagfors 151.27 348 PKPbc **PKPbc** 04 22 08.7 +0.1
comp=Z,16nm,0.5s,baz=72,slow=4.8,SNR=46
SUE Sulen 151.34 357 *e*PKPbc **PKPbc** 04 22 09.1 +0.4
MNK Minsk 151.37 328 *i* PKIKP **PKPdf** 04 22 00.5 -2.4
MNK *i* 04 22 07.9
MNK *i* 04 25 47.2
MNK *i* 04 29 08.2
MNK *i* PPP PPP 04 29 11.5
MNK *i* SS SS 04 45 14.0 +3.0
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK Minsk 151.37 328 *i* LRM MLR 05 37 56.3
comp=E,77nm,19.4s
MNK Minsk 151.37 328 *i* PKP **PKPdf** 04 22 00.6 -2.4
comp=E,1.0nm,0.9s
MNK Minsk 151.37 328 *i* PKP **PKPdf** 04 22 00.6 -2.4
MNK Minsk 151.37 328 *i* PKP **PKPdf** 04 22 00.6 -2.4
comp=Z,5.0nm,0.9s,baz=51
MNK Minsk 151.37 328 *i* PKiKP **PKPbc** 04 22 08.0 -1.0
MNK Minsk 151.37 328 *i* PP PP 04 25 47.3 -0.7
MNK Minsk 151.37 328 *i* SKS **SKSdf** 04 29 08.2 -1.3
MNK Minsk 151.37 328 *i* PPP PPP 04 29 11.5
MNK Minsk 151.37 328 *i* SKKS 04 31 53.5
MNK Minsk 151.37 328 *i* SS SS 04 45 14.1 +3.1
MNK Minsk 151.37 328 *i* SSS SSS 04 50 45.3
MNK Minsk 151.37 328 *i* LR LR 05 29 36.5
MNK Minsk 151.37 328 *i* LRM MLR 05 37 07.0
MNK Minsk 151.37 328 *i* LRM MLR 05 37 52.5
comp=Z,974nm,19.4s
ISAL Salakas 151.41 331 *e*P **PKiKP** 04 22 10.4 +0.9
SKAR Skarslia 151.47 354 *e*PKPbc **PKPbc** 04 22 09.6 +0.5
SKAR IAmb IAmb 04 22 15.3
comp=Z,48nm,0.9s
IIGN Ignalina 151.52 331 *e*P **PKiKP** 04 22 11.2 +1.4
GHAJ Ghor Haditha 151.59 277 IAMs_20 IAMs_20 05 25 51.7
comp=Z,1μm,20.0s
NACGM Naroch 151.59 329 ⇑ *e*PKP **PKiKP** 04 22 10.8 +0.8
baz=48
HWQ Hawqa 151.71 283 *e*P **PKPbc** 04 22 10.9 +0.2
EIL Elat 151.75 273 PKPbc **PKPbc** 04 22 10.8 +0.1
comp=Z,93nm,1.0s,baz=70,slow=0.9,SNR=39
SHBL Cheba 151.77 281 *e*P **PKPbc** 04 22 11.3 +0.5
ASK Askoy 151.89 357 *e*pPKPbc **pPKPbc** 04 22 13.1 -0.6
ASK IAmb IAmb 04 22 15.3
comp=Z,159nm,1.3s
BHL Bhannes 151.91 282 *e*P **PKPbc** 04 22 10.8 -0.3
OSL Oslo 151.92 351 *e*PKPbc **PKPbc** 04 22 10.6 +0.6
BNN Bunyan 151.92 293 **PKPbc** 04 22 08.9 -2.1
VSVD Vaisvydziai 151.98 334 *e*P **PKiKP** 04 22 12.8 +2.1
BER Bergen 151.99 357 *e*PKPdf **PKPdf** 04 22 03.2 -0.5
BER IAmb IAmb 04 22 13.1
comp=Z,101nm,1.3s
MMAI Mount Meron Ar 152.01 280 PKPbc **PKiKP** 04 22 12.1 +0.5
comp=Z,38nm,0.6s,baz=81,slow=5.3,SNR=55
DIKM Dikmen 152.10 299 ⇓P **PKPbc** 04 22 11.4 +0.3
SIM Simferopol' 152.24 306 *e*PKIKP **PKPbc** 04 22 11.5 +0.2
SIM pmax pmax
comp=Z,57nm,1.3s
PABE Paberze 152.31 333 **PKPbc** 04 22 10.3 -0.8
PABE Paberze 152.31 333 *e*P **PKiKP** 04 22 13.0 +1.7
KONO Kongsberg 152.34 352 ⇑PKIKP **PKPbc** 04 22 11.4 +0.4
KONO Kongsberg 152.34 352 *e*PKPbc **PKPbc** 04 22 11.7 +0.6
ODD1 Odda 152.37 355 *e*PKPbc **PKPbc** 04 22 11.3 +0.1
PBUR Paburge 152.67 335 *e*P **PKiKP** 04 22 13.0 +0.9
AKASG Malin Array Be 152.94 320 PKPbc **PKPbc** 04 22 12.0 -0.7
comp=Z,16nm,0.9s,baz=52,slow=2.6,SNR=4.6
AKASG Malin Array Be 152.94 320 PKIKP **PKPbc** 04 22 12.0 -0.7
AKBB Malin Array Si 152.94 320 *c* PKIKP **PKPbc** 04 22 11.3 -1.4
LIC Lamto 153.07 164 ⇓ *i* PKP1 **PKiKP** 04 22 16.3 +2.0
comp=Z,32nm,0.6s
KIC Kosan Boka 153.27 165 ⇑ *i* PKP1 **PKiKP** 04 22 16.9 +2.2
comp=Z,14nm,0.5s
TIC Toumodi 153.48 164 ⇑ *e*PKP1 **PKiKP** 04 22 17.4 +2.3
comp=Z,8.8nm,0.4s
DBIC Dimbokro 153.54 164 PKPbc **PKiKP** 04 22 17.2 +1.9
comp=Z,10nm,0.7s,baz=183,slow=0.9,SNR=8.9
DBIC PKPab **PKPab** 04 22 26.9 -0.5
comp=Z,6.4nm,0.6s,baz=198,slow=1.8,SNR=7.4
BR131 Keskin Array S 153.57 295 *d* *i* PKIKP **PKPbc** 04 22 14.6 0.0
BRTR Keskin Array B 153.57 295 PKP **PKPdf** 04 22 07.5 +0.6
comp=Z,1.0nm,0.8s,baz=113,slow=2.8,SNR=3.9
BRTR PKPbc **PKPbc** 04 22 14.6 0.0
comp=Z,11nm,0.8s,baz=125,slow=2.6,SNR=28
BRTR Keskin Array B 153.57 295 **PKPbc** 04 22 13.3 -1.3
HOMB Homborsund 153.82 352 IAmb IAmb 04 22 22.1
comp=Z,76nm,1.4s
SNART Snartemo 153.88 354 *e*PKPbc **PKPbc** 04 22 15.0 +0.5
CSS Mathiatis 153.92 284 IAMs_20 IAMs_20 05 35 38.8
comp=Z,1μm,19.0s
ANTO Ankara 154.20 295 ⇑P **PKPdf** 04 22 05.6 -2.1
ANTO Ankara 154.20 295 **PKPbc** 04 22 15.0 -0.9
ANTO Ankara 154.20 295 ⇑PKIKP **PKPdf** 04 22 05.6 -2.1
MILM Milestii Mici 155.01 313 ⇑P PKPdf 04 22 18.1 +10
MILM Milestii Mici 155.01 313 *e*PKIKP **PKPdf** 04 22 05.0 -3.4
BBTS Babate 155.49 132 PKP **PKPdf** 04 22 11.9 +1.9
comp=Z,6.8nm,0.7s,baz=296,slow=16,SNR=0.9
CFR Carcaliu 156.16 310 ⇑P PKPdf 04 22 21.2 +11
CFR Carcaliu 156.16 310 ⇑PKIKP PKPdf 04 22 21.2 +11
LVV L'vov 156.17 323 *e*PKP2 **PKPab** 04 22 37.4 -0.3
HARR Harsova 156.48 309 ⇑P PKPdf 04 22 22.5 +12
HARR Harsova 156.48 309 ⇑PKIKP PKPdf 04 22 22.5 +12
GKP Gorka Klasztor 156.51 337 *e*PKPab **PKPab** 04 22 36.3 -2.7
RGN Rugen 156.52 343 IAMs_20 IAMs_20 05 47 01.2
comp=Z,968nm,20.0s
TESR Tescani 156.52 314 ⇑P **PKPab** 04 22 40.9 +1.5
BIZ Bicaz 156.64 315 ⇑P PKPdf 04 22 22.2 +12
VRI Vrincioaia 156.77 312 ⇓P **PKPab** 04 22 38.8 -1.7
VRI Vrincioaia 156.77 312 ⇓PKP2 **PKPab** 04 22 38.8 -1.7
BURAR Bucovina Array 156.81 317 ⇓P **PKPdf** 04 22 18.3 +7.3
BURAR Bucovina Array 156.81 317 ⇓PKIKP **PKPdf** 04 22 18.3 +7.3
PLOR Plostina 156.82 312 ⇓P **PKPab** 04 22 41.6 +0.9
PLOR Plostina 156.82 312 ⇓PKP2 **PKPab** 04 22 41.6 +0.9

EKA Eskdalemuir Ar 156.84 8 PKPab **PKPab** 04 22 39.7 -0.7
comp=Z,3.3nm,0.8s,baz=314,slow=2.5,SNR=4.5
OZUR 157.24 314 ⇓P PKPab 04 22 30.9 -12
MLR Muntele Rosu 157.43 312 ⇓P PKPab 04 22 29.2 -14
MLR Muntele Rosu 157.43 312 PKP **PKPdf** 04 22 12.8 +0.9
comp=Z,0.8nm,0.5s,baz=2.3,slow=16,SNR=1.7
MLR PKPab **PKPab** 04 22 42.0 -1.5
comp=Z,8.9nm,1.0s,baz=133,slow=1.5,SNR=7.4
DOPR Dopca 157.55 314 ⇓P **PKPab** 04 22 43.1 -0.7
UZH Uzhgorod 157.81 323 *e*PKIKP **PKPdf** 04 22 18.9 +6.9
UZH *e* 04 22 26.5
UZH *e* 04 22 38.3
OJC Ojcow 157.91 329 PKPdf **PKPdf** 04 22 11.5 -0.7
OJC PKPab **PKPab** 04 22 42.3 -2.9
OJC Ojcow 157.91 329 PKIKP **PKPdf** 04 22 11.5 -0.7
OJC 04 22 42.3
TRPA Tarpa 157.99 321 ⇓P PKPab 04 22 30.3 -15
VOIR 158.01 313 ⇓P PKPdf 04 22 28.7 +16
CRVS Cervenica-Dubn 158.05 324 *e*PKP2 **PKPab** 04 22 46.2 +0.3
CRVS Cervenica-Dubn 158.05 324 *e*PKP **PKPab** 04 22 46.2 +0.3
CJR Cluj-Napoca 158.23 317 ⇓P **PKPab** 04 22 41.1 -5.7
CJR Cluj-Napoca 158.23 317 ⇓PKP2 **PKPab** 04 22 41.1 -5.7
ARR Arges 158.30 313 ⇓P **PKPab** 04 22 47.5 +0.4
DRGR 158.69 318 ⇓P **PKPab** 04 22 47.6 -1.2
DRGR 158.69 318 ⇓PKP2 **PKPab** 04 22 47.6 -1.2
LOT Lotru 158.79 314 ⇑P **PKPab** 04 22 49.9 +0.6
LANS Liptovska Anna 158.83 327 *e*PKP2 **PKPab** 04 22 50.7 +1.4
KSP Ksiaz 158.84 334 *e*PKPab **PKPab** 04 22 49.1 0.0
OKC Ostrava-Krasne 158.91 330 AMS AMS 05 43 40.0
comp=Z,900nm,19.4s
OSTC Ostas 159.11 334 ⇑ *e*PKP PKPdf 04 22 29.0 +15
OSTC *e*PKPAB **PKPab** 04 22 50.7 +0.3
OSTC AMS AMS 05 35 40.0
comp=Z,1μm,20.7s
CHVC Chvalec 159.14 334 *e*PKPAB **PKPab** 04 22 50.4 -0.1
CHVC AMS AMS 05 35 20.0
comp=Z,1μm,19.4s
MORC Moravsky Berou 159.21 331 ⇑P **PKPab** 04 22 50.0 -0.8
MORC Moravsky Berou 159.21 331 *e* **PKPab** 04 22 50.1 -0.8
MORC Moravsky Berou 159.21 331 ⇑PKP2 **PKPab** 04 22 50.0 -0.8
MORC Moravsky Berou 159.21 331 *e*PKP **PKPdf** 04 22 12.6 -1.2
UPC Upice 159.22 334 *e*PKP2 **PKPab** 04 22 51.3 +0.5
UPC MLR MLR
comp=Z,1μm,21.0s
UPC Upice 159.22 334 *e*PKPAB **PKPab** 04 22 51.3 +0.5
UPC AMS AMS 05 35 50.0
comp=Z,1μm,21.0s
DPC Dobruska-Polom 159.23 334 AMS AMS 05 47 20.0
comp=Z,1μm,17.7s
KRLC Kraliky 159.28 332 *e*PKIKP PKPdf 04 22 24.5 +11
KRLC *e* 04 22 50.8
KRLC MLR MLR
comp=Z,700nm,16.7s
KRLC Kraliky 159.28 332 ⇑ *e*PKP PKPdf 04 22 24.5 +11
KRLC *e*PKPAB **PKPab** 04 22 50.8 -0.4
KRLC AMS AMS 05 44 30.0
comp=Z,700nm,16.7s
MAUC Maruska 159.40 330 AMS AMS 05 44 00.0
comp=Z,1μm,16.5s
CLL Collm 159.52 340 *e*PKIKP **PKPdf** 04 22 16.0 +2.0
CLL *i* 04 22 50.6
CLL pmax pmax
comp=Z,22nm,1.1s
CLL MLR MLR
comp=Z,1μm,19.5s
SIRR Siria 159.59 318 ⇑P PKPdf 04 22 23.8 +9.5
VYHS Vyhne 159.59 327 *e*PKP2 **PKPab** 04 22 52.8 +0.2
BRG Berggiesshubel 159.62 338 *i* PKP2 **PKPab** 04 22 52.6 +0.1
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=Z,16nm,1.3s
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG pmax pmax
comp=Z,11nm,1.0s
PVCC Panska Ves 159.71 337 AMS AMS 05 42 50.0
comp=Z,1μm,19.0s
JAVC Velka Javorina 159.85 329 *e* **PKPab** 04 22 53.9 +0.2
JAVC Velka Javorina 159.85 329 *e*PKP **PKPdf** 04 22 14.8 +0.2
HERR Herculane 159.91 314 ⇑P **PKPab** 04 22 49.4 -4.6
VRAC Vranov 159.96 331 ⇑P **PKPab** 04 22 54.0 -0.1
VRAC Vranov 159.96 331 PKP **PKPdf** 04 22 15.6 +1.0
comp=Z,0.7nm,0.4s,baz=323,slow=10,SNR=1.2
VRAC PKPab **PKPab** 04 22 52.9 -1.2
comp=Z,11nm,1.1s,baz=65,slow=3.0,SNR=7.9
VRAC Vranov 159.96 331 *e* **PKPab** 04 22 53.7 -0.4
VRAC Vranov 159.96 331 *e*PKP **PKPdf** 04 22 14.8 +0.2
GOPC GO Pecny, Ondr 160.16 335 AMS AMS 05 39 40.0
comp=Z,1μm,19.1s
PRU Pruhonice 160.18 336 *e*PKP2 **PKPab** 04 22 55.3 +0.3
PRU MLR MLR
comp=Z,1μm,19.9s
PRU Pruhonice 160.18 336 *e*PKPAB **PKPab** 04 22 55.3 +0.3
PRU AMS AMS 05 42 00.0
comp=Z,1μm,19.9s
SMOL Smolenice 160.22 329 *e*PKP2 **PKPab** 04 22 55.7 +0.4
KRUC Moravsky 160.23 331 *e*PKP **PKPdf** 04 22 15.8 +0.9
KRUC *e* 04 22 54.6
MDVR Moldovita 160.38 314 ⇑P **PKPab** 04 22 55.7 -0.5
MODS Modra-Piesok 160.39 329 *e*PKP2 **PKPab** 04 22 56.7 +0.7
TREC Trest 160.41 333 AMS AMS 05 40 10.0
comp=Z,1μm,22.9s
ZST Bratislava 160.60 328 *e*PKP2 **PKPab** 04 22 56.8 -0.1
NKC Novy Kostel 160.64 340 AMS AMS 05 46 30.0
comp=Z,1μm,17.4s
TORD Torodi Ar. Bea 160.77 179 PKP **PKPdf** 04 22 17.4 +0.9
comp=Z,4.4nm,1.1s,baz=154,slow=0.2,SNR=11
TORD PKPab **PKPab** 04 22 58.7 +0.4
comp=Z,19nm,1.0s,baz=190,slow=2.9,SNR=18
KHC Kasperske Hory 161.24 336 *e*PKIKP **PKPdf** 04 22 13.5 -2.6
KHC *e* 04 22 59.9
KHC MLR MLR
comp=Z,2μm,19.2s
KHC Kasperske Hory 161.24 336 *e*PKPDF **PKPdf** 04 22 13.5 -2.6
KHC ⇑ *e*PKP sPKPdf 04 22 37.0 +16
KHC *e*PKPAB **PKPab** 04 22 59.9 +0.2
KHC AMS AMS 05 43 00.0
comp=Z,2μm,19.2s
CKRC Cesky Krumlov 161.24 334 *e*PKPAB **PKPab** 04 22 59.4 -0.3
CKRC AMS AMS 05 45 00.0
comp=Z,1μm,17.5s
MORH Mrgy, Hungar 161.26 322 ⇓P PKPdf 04 22 07.9 -8.2
KOWA Kowa 161.28 161 PKP **PKPdf** 04 22 18.0 +1.0
comp=Z,6.1nm,1.1s,baz=220,slow=2.0,SNR=4.5
KOWA PKPab **PKPab** 04 23 02.1 +1.5
comp=Z,9.4nm,1.0s,baz=226,slow=2.0,SNR=7.5
FRGS Fruska Gora 161.29 318 ⇓P **PKPab** 04 22 59.8 -0.3
RONA Rosalia, Austr 161.33 329 *i* P **PKPab** 04 23 00.4 +0.2
comp=Z,16nm,1.0s,SNR=4.9
CONA Conrad Observa 161.34 330 *e*P **PKPab** 04 23 00.5 +0.3
comp=Z,16nm,1.0s,SNR=5.5
GERES GERESS Array B 161.44 335 PKP **PKPdf** 04 22 17.0 +0.6
comp=Z,0.3nm,0.5s,baz=297,slow=4.4,SNR=4.4
GERES PKPab **PKPab** 04 22 59.9 -0.8
comp=Z,2.5nm,0.7s,baz=48,slow=2.0,SNR=14
GERES GERESS Array B 161.44 335 PKPdf **PKPdf** 04 22 16.8 +0.5
GERES PKPab **PKPab** 04 23 00.1 -0.6
GERES GERESS Array B 161.44 335 PKP2 **PKPab** 04 23 00.1 -0.6
GERES 05 22 16.8
ARSA Arzberg 162.01 329 *e*P **PKPab** 04 23 02.8 -0.3
comp=Z,9.7nm,1.2s
MOA Molln 162.06 332 *e*P **PKPab** 04 23 03.6 +0.3
comp=Z,16nm,1.1s
BIOA Bad Ischl, Aus 162.43 333 *e*P **PKPab** 04 23 05.1 +0.1
comp=Z,17nm,1.0s
SOKA Soboth 162.67 329 *e*P **PKPab** 04 23 04.8 -1.3
comp=Z,20nm,1.3s
OBKA Obir 163.01 329 *e*P **PKPab** 04 23 07.6 0.0
comp=Z,5.9nm,0.9s
MYKA Terra Mystica 163.29 331 *e*P **PKPab** 04 23 07.6 -1.2
comp=Z,16nm,1.1s
BFO Black Forest 163.45 345 PKPdf **PKPdf** 04 22 18.8 +0.5
BFO PKPab **PKPab** 04 23 09.1 -0.3
BFO Black Forest 163.45 345 PKIKP **PKPdf** 04 22 18.8 +0.5
BFO 04 23 09.1
WATA Walderalm 163.47 337 *e*P **PKPab** 04 23 09.9 +0.3
comp=Z,17nm,1.4s
WTTA Wattenberg 163.51 336 *e*P **PKPab** 04 23 10.5 +0.6
comp=Z,13nm,1.0s
RETA Reutte 163.59 339 *e*P **PKPab** 04 23 10.2 +0.1
comp=Z

MOTA	**Moosalm**	**163.61**	**338**	*i* P		**PKPab**	**04 23 10.3**	**-0.1**
	comp=Z,35nm,1.3s,SNR=6.7							
ABTA	**Abfaltersbach**	**163.64**	**334**	*e*P		**PKPab**	**04 23 10.1**	**-0.3**
	comp=Z,10nm,0.9s							
SQTA	**Sankt Quirin**	**163.69**	**337**	*e*P		**PKPab**	**04 23 10.2**	**-0.4**
	comp=Z,16nm,1.1s							
FETA	**Feichten**	**164.02**	**338**	*i* P		**PKPab**	**04 23 10.5**	**-1.6**
	comp=Z,16nm,1.0s,SNR=7.1							
DAVA	**Damuels**	**164.03**	**340**	*e*P		**PKPab**	**04 23 12.2**	**0.0**
	comp=Z,19nm,1.2s							
DAVOX	**Davos/Dischmat**	**164.49**	**340**	PKP		**PKPdf**	**04 22 20.6**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=18,slow=2.3,SNR=1.7							
DAVOX				PKPab		**PKPab**	**04 23 14.1**	**-0.1**
	comp=Z,15nm,0.9s,baz=358,slow=4.2,SNR=12							
MVO	**Moncorvo**	**168.67**	**37**	*e*PKPdf		**PKPdf**	**04 22 26.1**	**+3.4**
PCBR	**Castelo Branco**	**169.34**	**44**	*e*PKPdf		**PKPdf**	**04 22 25.3**	**+2.2**
PNCL	**Nicolau / Gran**	**169.68**	**54**	*e*PKPdf		**PKPdf**	**04 22 27.0**	**+3.7**
TAM	**Tamanrasset**	**169.89**	**199**			**PKPdf**	**04 22 18.9**	**-5.3**
TAM				PKPab		**PKPab**	**04 23 33.6**	**-4.9**
TAM	**Tamanrasset**	**169.89**	**199**	PKIKP		**PKPdf**	**04 22 18.9**	**-5.3**
PFVI	**Vila Bisbo**	**169.91**	**59**	*e*PKPdf		**PKPdf**	**04 22 21.3**	**-2.2**
MORF	**Marmelete**	**169.97**	**58**	*e*PKPdf		**PKPdf**	**04 22 21.4**	**-2.2**
MORF	**Marmelete**	**169.97**	**58**	*e*PKPdf		**PKPdf**	**04 22 26.4**	**+2.8**
MESJ	**Messejana**	**170.02**	**55**	*e*PKPdf		**PKPdf**	**04 22 21.5**	**-2.1**
PBEJ	**Beja**	**170.17**	**53**	*e*PKPdf		**PKPdf**	**04 22 27.6**	**+4.0**
PBAR	**Barrancos**	**170.63**	**50**	*e*PKPdf		**PKPdf**	**04 22 27.8**	**+3.9**
ESDC	**Sonseca Array**	**171.31**	**32**	PKP		**PKPdf**	**04 22 26.0**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=332,slow=2.9,SNR=5.3							
ESDC				PKPab		**PKPab**	**04 23 43.3**	**-1.2**
	comp=Z,2.5nm,1.1s,baz=310,slow=5.0,SNR=5.0							
ESDC				PP		**PP**	**04 27 36.3**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=325,slow=2.0,SNR=4.1							
KEST	**Kesra**	**173.13**	**300**	PKP		**PKPdf**	**04 22 27.0**	**+1.8**
	comp=Z,3.9nm,1.2s,baz=359,slow=8.8,SNR=1.6							
MDT	**Midelt**	**174.37**	**85**	PKP		**PKPdf**	**04 22 27.6**	**+1.8**
	comp=Z,7.0nm,1.1s,baz=350,slow=1.0,SNR=7.0							

*JMA **24** 04:09:35.3±0.7,35°N×14°2E±°,h13km,MV2.7/19,FAR SE OFF BOSO PEN*

*IDC **24** 04:09:36.9±0.9,33°97N×140°36E,h0km,mb3.7/8, mbtmp3.8/9,ML1.8/1,MS3.1/1,Error ellipse: s-maj=29.4km s-min=17.7km az=85.0*

ISC 24 04:09:33.1±1.5,34°6N±0°1×141°8E±0°2,h10km,n22, σ1s28/13,mb3.7/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.65**	**276**	P			**Pg**	**04 09 45.8**	**+0.3**
BSO3	**Boso 3**	**1.05**	**282**	*e*P			**Pg**	**04 09 53.2**	**-0.1**
BSO4	**Boso 4**	**1.24**	**289**	*e*P			**Pb**	**04 09 56.9**	**+0.4**
JKUC	**kamogawauchiur**	**1.41**	**294**	P			**Pn**	**04 09 59.1**	**+0.4**
JIM2	**Oshima 3**	**1.93**	**275**	*e*P			**Pn**	**04 10 06.8**	**+0.9**
MJAR	**Matsushiro Arr**	**3.49**	**305**	Pn			**Pn**	**04 10 28.3**	**+0.8**
	0.1nm,0.3s,baz=113,slow=10.0,SNR=5.3								
MJAR				Sn			**Sn**	**04 11 05.6**	**-3.2**
	0.2nm,0.3s,baz=113,slow=12,SNR=6.5								
JCJ	**Chichijima**	**7.48**	**177**	Pn			**Pn**	**04 11 21.9**	**-0.3**
	46nm,0.8s,baz=298,slow=19,SNR=1.1								
KSRS	**Korea Array**	**11.57**	**288**	LR			LR	04 15 31.6	
	comp=Z,116nm,21.9s,baz=180,slow=33								
H11N2	**WAKE ISLAND Hy**	**26.72**	**117**	T			T	04 43 07.0	
	baz=309,slow=75,SNR=32								
H11N1	**WAKE ISLAND Hy**	**26.72**	**117**	T			T	04 43 06.6	
	baz=309,slow=75,SNR=33								
H11N3	**WAKE ISLAND Hy**	**26.73**	**117**	T			T	04 43 24.7	
	baz=309,slow=75,SNR=6.6								
H11S1	**WAKE ISLAND Hy**	**27.35**	**119**	T			T	04 44 25.2	
	baz=312,slow=76,SNR=8.0								
H11S3	**WAKE ISLAND Hy**	**27.35**	**119**	T			T	04 44 20.9	
	baz=312,slow=76,SNR=6.0								
H11S2	**WAKE ISLAND Hy**	**27.37**	**119**	T			T	04 44 11.5	
	baz=312,slow=76,SNR=5.0								
MKAR	**Makanchi Array**	**45.69**	**304**	P			**P**	**04 17 54.2**	**+0.2**
	0.5nm,0.7s,baz=76,slow=9.8,SNR=2.6								
	0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**47.76**	**310**	P			**P**	**04 18 11.4**	**+1.3**
	0.3nm,0.5s,baz=81,slow=7.0,SNR=2.2								
	0.3nm,0.5s								
ILAR	**Eielson Array**	**51.42**	**31**	P			P	04 18 50.7	+13
	0.8nm,0.7s,baz=264,slow=6.1,SNR=5.9								
	0.8nm,0.7s								
FITZ	**Fitzroy Crossi**	**54.59**	**199**	P			**P**	**04 19 01.6**	**-0.1**
	5.1nm,1.1s,baz=4.9,slow=8.0,SNR=3.1								
	5.1nm,1.1s								
WRA	**Warramunga Arr**	**54.68**	**189**	P			**P**	**04 19 00.9**	**-1.5**
	0.9nm,0.8s,baz=2.8,slow=7.4,SNR=6.2								
	0.9nm,0.8s								
INK	**Inuvik**	**56.44**	**26**	P			P	04 19 27.5	+13
	1.0nm,0.6s,baz=274,slow=7.3,SNR=4.7								
	1.0nm,0.6s								
ASAR	**Alice Springs**	**58.41**	**188**	P			**P**	**04 19 28.7**	**-0.2**
	0.3nm,0.4s,baz=16,slow=12,SNR=2.2								
	0.3nm,0.4s								
NVAR	**Mina Array Bea**	**76.23**	**53**	P			P	04 21 36.1	+14
	0.3nm,0.7s,baz=305,slow=6.4,SNR=2.5								
	0.3nm,0.7s								

*NEIC **24** 04:11:51.5±0.7,16°9S±0°2×177°19W±0°07,h401km±10km, mb4.2/15,Error ellipse: s-maj=21.9km s-min=9.0km az=175.0*

*NOU **24** 04:11:52.5,16°53S×177°20W,h423km,mb4.3/12,Fiji Islands Region*

*IDC **24** 04:11:54.1±1.3,16°84S×177°48W,h419km±12km, mb3.6/14,mbtmp4.4/16,Error ellipse: s-maj=19.0km s-min=13.0km az=156.0*

ISC 24 04:11:51.6±0.5,16°8S±0°1×177°25W±0°07,h400km,n49, σ1s26/54,mb3.9/22,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**258**	P			**Pn**	**04 13 10.2**	**+0.7**
	99nm,0.8s,baz=95,slow=15,SNR=67								
MSVF				S			**S**	**04 14 14.5**	**+1.8**
	105nm,1.1s,baz=143,slow=22,SNR=24								
AFI	**Afiamalu**	**6.01**	**62**	P			**Pn**	**04 13 23.6**	**-0.9**
	24nm,0.5s,baz=272,slow=20,SNR=4.3								
AFI				S			**S**	**04 14 39.7**	**-0.5**
	16nm,0.6s,baz=246,slow=18,SNR=1.9								
AFI	**Afiamalu**	**6.01**	**62**				**Pn**	**04 13 23.5**	**-1.1**
NIUE	**Niue**	**7.33**	**109**	Pn			**Pn**	**04 13 37.8**	**-1.2**
YATNC	**Mamie plateau,**	**15.84**	**248**	P			**P**	**04 15 15.5**	**+2.2**
DZM	**Mont Dzumac**	**16.24**	**249**	P			**P**	**04 15 16.6**	**-1.1**
	11nm,0.7s,baz=67,slow=20,SNR=15								
DZM	**Mont Dzumac**	**16.24**	**249**	P			**P**	**04 15 18.8**	**+1.1**
NOUC	**Port Laguerre**	**16.38**	**249**	P			**P**	**04 15 20.8**	**+1.8**
OUZ	**Omahuta**	**20.09**	**202**	P			**P**	**04 15 59.1**	**+2.3**
URZ	**Urewera**	**21.95**	**192**	P			**P**	**04 16 12.4**	**-1.3**
	13nm,0.8s,baz=62,slow=7.1,SNR=4.1								
	13nm,0.8s								
BKZ	**Black Stump Fm**	**22.95**	**193**	P			**P**	**04 16 22.2**	**-0.7**
BFZ	**Birch Farm**	**24.46**	**192**	P			**P**	**04 16 38.0**	**+1.7**
QRZ	**Quartz Range**	**25.52**	**198**	P			**P**	**04 16 47.8**	**+2.0**
KHZ	**Kahutara**	**26.73**	**195**	P			**P**	**04 16 57.8**	**+1.4**
RPZ	**Rata Peaks**	**28.61**	**198**	P			**P**	**04 17 14.3**	**+1.3**
	3.4nm,0.6s,baz=297,slow=6.5,SNR=3.4								
	3.4nm,0.6s								
FOZ	**Fox Glacier**	**28.83**	**200**	P			**P**	**04 17 14.3**	**-0.6**
FOZ					IAmb		IAmb	04 17 16.8	
	comp=Z,15nm,0.8s								
EIDS	**Eidsvold**	**30.69**	**249**	P			**P**	**04 17 30.2**	**-1.3**
EIDS					IAmb		IAmb	04 17 31.4	
	comp=Z,2.7nm,0.7s								
ARMA	**Armidale**	**31.45**	**239**	P			**P**	**04 17 37.6**	**-0.6**
ARMA					IAmb		IAmb	04 17 38.5	
	comp=Z,4.0nm,0.7s								
RMQ	**Roma**	**32.94**	**247**	P			**P**	**04 17 52.3**	**+1.3**
CTA	**Charters Tower**	**34.73**	**259**	P			**P**	**04 18 05.0**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=61,slow=12,SNR=3.6								
	comp=Z,1.7nm,0.6s								
CNB	**Canberra Magne**	**34.98**	**232**	P			**P**	**04 18 08.6**	**+0.4**
PMG	**Port Moresby**	**35.39**	**277**	P			**P**	**04 18 11.8**	**-0.1**
	comp=Z,12nm,0.6s,baz=101,slow=9.7,SNR=5.9								
	comp=Z,12nm,0.6s								
PMG	**Port Moresby**	**35.39**	**277**	P			**P**	**04 18 11.4**	**-0.4**
PMG					IAmb		IAmb	04 18 14.0	
	comp=Z,16nm,0.8s								
CMSA	**Cobar Meteorol**	**36.66**	**240**	P			**P**	**04 18 22.0**	**-0.3**
TOO	**Toolangi**	**38.73**	**230**	P			**P**	**04 18 38.9**	**-0.5**
TOO					IAmb		IAmb	04 18 41.0	
	comp=Z,14nm,0.8s								
TOO	**Toolangi**	**38.73**	**230**	P			**P**	**04 18 40.5**	**+1.2**
STKA	**Stephens Creek**	**40.13**	**240**	P			**P**	**04 18 50.4**	**-0.5**
	comp=Z,5.1nm,0.6s,baz=100,slow=11,SNR=13								
	comp=Z,5.1nm,0.6s								
STKA	**Stephens Creek**	**40.13**	**240**	P			**P**	**04 18 50.0**	**-0.8**
STKA	**Stephens Creek**	**40.13**	**240**	P			**P**	**04 18 51.2**	**+0.4**
BBOO	**Buckleboo**	**44.91**	**240**	P			**P**	**04 19 26.8**	**-1.9**
WB2	**Warramunga Arr**	**45.92**	**258**	P			**P**	**04 19 35.8**	**-0.9**
WB2					IAmb		IAmb	04 19 37.0	
	comp=Z,5.6nm,1.0s								
WRA	**Warramunga Arr**	**45.93**	**258**	P			**P**	**04 19 34.9**	**-1.9**
	comp=Z,1.7nm,0.7s,baz=98,slow=7.0,SNR=12								
WRA				PcP			**PcP**	**04 21 06.6**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=87,slow=3.2,SNR=3.5								
	comp=Z,1.7nm,0.7s								
WRA	**Warramunga Arr**	**45.93**	**258**	P			**P**	**04 19 36.2**	**-0.7**
AS31	**Alice Springs**	**46.16**	**253**	P			**P**	**04 19 37.7**	**-0.9**
AS31					IAmb		IAmb	04 19 38.9	
	comp=Z,5.4nm,0.5s								
ASAR	**Alice Springs**	**46.16**	**253**	P			**P**	**04 19 37.6**	**-1.0**
	comp=Z,13nm,0.5s,baz=88,slow=8.1,SNR=42								
ASAR				PcP			**PcP**	**04 21 08.2**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=105,slow=3.9,SNR=1.9								
ASAR				S			**S**	**04 25 51.5**	**-2.7**
	comp=Z,1.1nm,1.0s,baz=77,slow=16,SNR=6.1								
	comp=Z,13nm,0.5s								
ASAR	**Alice Springs**	**46.16**	**253**	P			**P**	**04 19 37.2**	**-1.4**
MTN	**Manton Dam**	**49.94**	**267**	P			**P**	**04 20 06.5**	**-0.8**
MTN					IAmb		IAmb	04 20 08.6	
	comp=Z,12nm,0.8s								
FORT	**Forrest**	**51.48**	**244**	P			**P**	**04 20 17.6**	**-0.7**
KNRA	**Kununurra**	**51.71**	**263**	P			**P**	**04 20 19.9**	**-0.2**
KNRA					IAmb		IAmb	04 20 21.3	
	comp=Z,12nm,0.8s								
SIJI	**Sorong**	**53.07**	**282**	P			**P**	**04 20 29.5**	**-0.6**
	comp=Z,23nm,0.8s,baz=152,slow=13,SNR=4.1								
	comp=Z,23nm,0.8s								
FITZ	**Fitzroy Crossi**	**54.31**	**260**	P			**P**	**04 20 37.2**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=184,slow=6.1,SNR=5.0								
	comp=Z,2.4nm,0.7s								
FITZ	**Fitzroy Crossi**	**54.31**	**260**	P			**P**	**04 20 39.2**	**+0.3**
VNDA	**Vanda**	**61.64**	**185**	P			**P**	**04 21 29.7**	**+1.5**
	comp=Z,1.4nm,1.0s,baz=28,slow=4.1,SNR=4.3								
	comp=Z,1.4nm,1.0s								
VNDA	**Vanda**	**61.64**	**185**	P			**P**	**04 21 27.8**	**-0.3**
NVAR	**Mina Array Bea**	**77.86**	**43**	P			**P**	**04 23 08.8**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=224,slow=9.7,SNR=7.2								
	comp=Z,1.2nm,0.8s								
NVAR	**Mina Array Bea**	**77.86**	**43**	P			**P**	**04 23 07.0**	**+0.2**
TXAR	**Lajitas Array**	**84.47**	**57**	P			**P**	**04 23 42.8**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=222,slow=7.0,SNR=11								
	comp=Z,0.8nm,0.8s								
ILAR	**Eielson Array**	**84.56**	**13**	P			**P**	**04 23 40.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=225,slow=5.3,SNR=9.2								
	comp=Z,1.7nm,0.8s								
SNAA	**Sanae**	**91.67**	**178**	P			**P**	**04 24 13.3**	**-1.1**
	comp=Z,1.0nm,1.0s,baz=192,slow=13,SNR=2.5								
	comp=Z,1.0nm,1.0s								

IDC 24 04:14:47.2±3.6,57°01N×33°45W,h0km,mb3.5/2, mbtmp3.8/4,ML2.7/2,MS3.6/1,Error ellipse: s-maj=121.6km s-min=30.8km az=162.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.74**	**32**	Pn			Pn	04 17 08.9	+0.6
	0.6nm,0.3s,baz=224,slow=7.3,SNR=1.8								
	19nm,1.2s								
FRB	**Frobisher Bay**	**18.41**	**306**	LR			LR	04 25 15.3	
	comp=Z,161nm,18.8s,baz=95,slow=34								
SCHQ	**Schefferville**	**18.73**	**277**	P			P	04 19 05.9	-1.2
	0.1nm,0.3s,baz=56,slow=11,SNR=2.1								
	2.0nm,0.7s								
PDAR	**Pinedale Array**	**48.47**	**287**	P			P	04 23 31.7	+0.3
	0.2nm,0.6s,baz=45,slow=9.0,SNR=1.7								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**59.01**	**44**	P			P	04 24 47.1	-1.1
	0.6nm,0.7s,baz=326,slow=7.0,SNR=2.2								
	0.6nm,0.7s								
H10N2	**ASCENSION HYDR**	**66.46**	**159**	T			T	05 37 39.6	
	baz=350								
H10N3	**ASCENSION HYDR**	**66.47**	**159**	T			T	05 37 39.0	
	baz=350								
H10N1	**ASCENSION HYDR**	**66.48**	**159**	T			T	05 37 39.7	
	baz=350								
ASAR	**Alice Springs**	**145.44**	**21**	PKPbc			PKPdf	04 34 26.9	0.0
	0.4nm,0.8s,baz=336,slow=2.0,SNR=4.7								

*IDC **24** 04:15:25.3±1.1,57°36N×33°40W,h0km,mb3.6/10, mbtmp3.7/12,ML3.0/2,MS3.5/1,Error ellipse: s-maj=34.2km s-min=19.3km az=171.0*

ISC 24 04:15:27.8±0.9,57°3N±0°2×33°4W±0°1,h16km,n18, σ1s07/16,mb3.9/11,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.46**	**33**	Pn			**Pn**	**04 17 43.6**	**+0.4**
	0.3nm,0.3s,baz=194,slow=4.2,SNR=0.6								
BORG				LR			LR	04 20 31.6	
	comp=Z,274nm,20.4s,baz=261,slow=32								
	27nm,1.1s								
SCHQ	**Schefferville**	**18.70**	**277**	P			**P**	**04 19 44.0**	**-1.2**
	0.4nm,0.3s,baz=71,slow=9.7,SNR=8.4								
	4.1nm,0.6s								
ESDC	**Sonseca Array**	**26.02**	**120**	P			**P**	**04 21 00.5**	**+0.6**
	0.5nm,0.8s,baz=248,slow=11,SNR=2.6								
	0.5nm,0.8s								
ILAR	**Eielson Array**	**48.20**	**328**	P			**P**	**04 24 07.6**	**+0.7**
	0.6nm,1.0s,baz=43,slow=4.1,SNR=2.7								
	0.6nm,1.0s								
PDAR	**Pinedale Array**	**48.38**	**287**	P			**P**	**04 24 07.0**	**-1.9**
	0.4nm,0.7s,baz=69,slow=8.1,SNR=3.7								
PDAR				PP			**PP**	**04 26 01.6**	**+0.4**
	0.1nm,0.3s,baz=49,slow=9.7,SNR=2.2								
	0.4nm,0.7s								
BVAR	**Borovoye Array**	**53.75**	**47**	P			**P**	**04 24 47.9**	**-0.9**
	1.2nm,0.7s,baz=283,slow=7.2,SNR=1.4								
	1.2nm,0.7s								
TXAR	**Lajitas Array**	**55.27**	**271**	P			**P**	**04 25 01.6**	**+1.4**
	0.3nm,0.8s,baz=80,slow=3.8,SNR=3.5								
	0.3nm,0.8s								
NVAR	**Mina Array Bea**	**56.08**	**289**	P			**P**	**04 25 07.3**	**+1.2**
	0.2nm,0.6s,baz=39,slow=5.8,SNR=1.8								
	0.2nm,0.6s								
KURBB	**Kurchatov Arra**	**58.77**	**44**	P			**P**	**04 25 24.6**	**0.0**
	0.9nm,0.6s,baz=326,slow=6.5,SNR=3.3								
	0.9nm,0.6s								
YAK	**Yakutsk**	**60.25**	**9**	P			**P**	**04 25 35.2**	**+0.6**
	28nm,0.4s,baz=33,slow=3.4,SNR=4.8								
MKAR	**Makanchi Array**	**63.34**	**44**	P			**P**	**04 25 54.8**	**-0.9**
	0.5nm,0.5s,baz=304,slow=4.4,SNR=1.9								
	0.5nm,0.5s								
H10N2	**ASCENSION HYDR**	**66.76**	**160**	T			T	05 38 12.0	
	baz=347,slow=75								
H10N3	**ASCENSION HYDR**	**66.77**	**160**	T			T	05 38 13.9	
	baz=347,slow=75								
H10N1	**ASCENSION HYDR**	**66.78**	**160**	T			T	05 38 13.9	
	baz=347,slow=75								
SONM	**Songino Array**	**70.03**	**28**	P			**P**	**04 26 39.0**	**+0.5**
	0.8nm,0.6s,baz=317,slow=7.9,SNR=2.6								
	0.8nm,0.6s								
KSRS	**Korea Array**	**84.28**	**15**	P			**P**	**04 27 57.2**	**-1.2**
	0.9nm,0.7s,baz=349,slow=5.1,SNR=4.3								
	0.9nm,0.7s								
MAW	**Mawson**	**143.02**	**141**	PKP			**PKPdf**	**04 34 59.0**	**0.0**
	6.3nm,0.7s,baz=229,slow=11,SNR=19								
ASAR	**Alice Springs**	**145.14**	**21**	PKPbc			**PKPbc**	**04 35 02.5**	**-1.3**
	1.7nm,0.9s,baz=346,slow=2.5,SNR=12								

*IDC **24** 04:16:29.1±0.7,26°79N×66°26E,h0km,mb4.0/26, mbtmp4.0/29,ML4.1/3,Error ellipse: s-maj=17.4km s-min=14.4km az=166.0*

*MOS **24** 04:16:33.6±1.3,27°38N×65°81E,h12km,mb4.7/6,Error ellipse: s-maj=12.3km s-min=6.6km az=78.9*

*NEIC **24** 04:16:34.1±2.3,27°36N±0°09×65°50E±0°02,h10km±1km, mb4.1/17,Error ellipse: s-maj=14.8km s-min=3.3km az=179.0*

*DSN **24** 04:18:02.2±2.4,25°94N×59°07E,h10km,ML3.0/7,Error ellipse: s-maj=35.1km s-min=12.6km az=24.0*

ISC 24 04:16:32.0±0.5,26°97N±0°07×66°11E±0°05,h10km,n115, σ2s22/103,mb4.2/31,1C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JASK	**Jask - Hormozg**	**7.47**	**263**	P			**Pn**	**04 18 25.1**	**+4.0**
AJM	**Ajmer**	**7.65**	**92**	*e*S			Sb	04 20 03.5	-12

WSAR	**Wadi Sarin**	**7.73**	**243**	Pn			**Pn**	**04 18 23.4**	**-1.2**
	3.5nm,0.3s,baz=82,slow=12,SNR=9.7								
WSAR				Sn			Sn	04 19 44.8	-7.5
	baz=12,slow=19								
	9.3nm,0.3s								
JLN	**Jalan Bani Buh**	**7.76**	**233**	P			**Pn**	**04 18 24.1**	**-0.9**
	SNR=12								
WBK	**Wadi Bani Khal**	**7.81**	**238**	P			**Pn**	**04 18 25.6**	**-0.1**
	SNR=5.7								
KBL	**Kabul**	**7.95**	**18**	Pn			**Pn**	**04 18 27.3**	**-0.6**
KBL	**Kabul**	**7.95**	**18**	P			**Pn**	**04 18 27.3**	**-0.6**
HRA	**Herat**	**8.10**	**337**	Pn			Pn	04 18 23.0	-6.9
SMDO	**Samad**	**8.28**	**244**	P			**Pn**	**04 18 34.0**	**+1.7**
	SNR=10								
CEP	**Cherat**	**8.46**	**35**	P			**Pn**	**04 18 34.2**	**-0.6**
JMDO	**Jabal Madar**	**8.60**	**240**	P			**Pn**	**04 18 38.1**	**+1.5**
HOQ	**Hoqain**	**8.65**	**249**	P			**Pn**	**04 18 39.7**	**+2.4**
	SNR=7.2								
BANOM	**Banah**	**8.85**	**265**	P			**Pn**	**04 18 42.7**	**+2.6**
BANOM	**Banah**	**8.85**	**265**	P			**Pn**	**04 18 42.1**	**+2.0**
BANOM	**Banah**	**8.85**	**265**	S			Pg	04 19 13.9	-7.6
SHME	**Shamm**	**8.98**	**266**	P			**Pn**	**04 18 45.2**	**+3.5**
	SNR=12								
SHME	**Shamm**	**8.98**	**266**	P			**Pn**	**04 18 44.9**	**+3.2**
SHME	**Shamm**	**8.98**	**266**	S			Pg	04 19 18.0	-5.9
MASF	**Masafi**	**9.08**	**262**	P			**Pn**	**04 18 46.7**	**+3.5**
MSFE	**Esma-Masafi**	**9.08**	**262**	P			**Pn**	**04 18 46.8**	**+3.6**
CHCP	**Chirah Chowk**	**9.09**	**41**	P			**Pn**	**04 18 41.8**	**-1.5**
SOHO	**SOHO**	**9.10**	**254**	P			**Pn**	**04 18 44.5**	**+1.1**
UOSS	**Minazif**	**9.14**	**259**	Pn			Pn	04 18 39.5	-4.5
UOSS	**Minazif**	**9.14**	**259**	P			**Pn**	**04 18 44.6**	**+0.5**
UOSS	**Minazif**	**9.14**	**259**	P			**Pn**	**04 18 44.3**	**+0.3**
HATD	**Hatta, Dubai**	**9.23**	**259**	P			**Pn**	**04 18 48.0**	**+2.7**
HATD	**Hatta, Dubai**	**9.23**	**259**	P			**Pn**	**04 18 48.0**	**+2.7**
ASHO	**Ashiyiah**	**9.34**	**258**	P			**Pn**	**04 18 50.8**	**+4.1**
	SNR=16								
ASHO	**Ashiyiah**	**9.34**	**258**	P			**Pn**	**04 18 50.5**	**+3.7**
ARQ	**Araqi**	**9.41**	**249**	P			**Pn**	**04 18 51.3**	**+3.6**
MHTO	**MHTO**	**9.53**	**233**	P			**Pn**	**04 18 48.5**	**-0.9**
FAQ	**Al Faqa, Dubai**	**9.73**	**259**	P			**Pn**	**04 18 56.4**	**+4.3**
FAQ	**Al Faqa, Dubai**	**9.73**	**259**	P			**Pn**	**04 18 55.3**	**+3.3**
THN	**Thein Dam**	**9.97**	**55**	*e*P			**Pn**	**04 18 52.7**	**-2.6**
THN				*e*S			Sn	04 20 28.8	-18
ASUD	**Al Ashush, Dub**	**9.99**	**259**	P			**Pn**	**04 18 59.8**	**+4.1**
ASUD	**Al Ashush, Dub**	**9.99**	**259**	P			**Pn**	**04 18 58.8**	**+3.1**
SMLA	**Simla**	**10.52**	**64**	*e*P			**Pn**	**04 19 00.1**	**-2.8**
SMLA				*e*S			Sn	04 20 49.1	-12
SMLA				IAML				04 21 24.8	
	comp=N,157nm,0.7s								
CHGR	**Chuyangaron**	**11.93**	**12**	Pn			**Pn**	**04 19 21.4**	**-0.8**
CHGR	**Chuyangaron**	**11.93**	**12**	P			**Pn**	**04 19 21.4**	**-0.8**
GAR	**Garm**	**12.50**	**15**				**Pn**	**04 19 27.9**	**-2.1**
LGTI	**Lohaghat**	**12.71**	**76**	*e*P			**Pn**	**04 19 35.7**	**+2.9**
LGTI				*e*S			Sn	04 21 42.8	-12
LGTI				*e*S				04 21 55.3	
GEYT	**Alibeck**	**12.83**	**330**	Pn			**Pn**	**04 19 34.8**	**+0.3**
	comp=N,0.4nm,0.3s,baz=104,slow=12,SNR=1.5								
	comp=N,0.6nm,0.3s								
GEYT	**Alibeck**	**12.83**	**330**	Pn			Pn	04 19 28.3	-6.2
GYA0B	**ALIBECK ARRAY**	**12.83**	**330**	Pn			Pn	04 19 27.1	-7.5
BTK	**Batken**	**13.62**	**16**				**Pn**	**04 19 44.6**	**-0.7**
BTK	**Batken**	**13.62**	**16**	P			**Pn**	**04 19 44.7**	**-0.7**
DOK	**Doka**	**13.82**	**235**	P			**Pn**	**04 19 48.0**	**-0.1**
ALBI	**Allahabad**	**14.20**	**93**	*e*S			**Sn**	**04 22 36.8**	**+5.9**
KK31	**

comp=Z,0.5nm,0.9s,baz=68,slow=7.2,SNR=2.1
comp=Z,0.5nm,0.9s

TOA0	**Torodi Ar. Sit**	**61.48**	**271**	P	**P**		**04 26 48.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**61.48**	**271**	P	**P**		**04 26 49.1**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=58,slow=6.4,SNR=8.3							
	comp=Z,5.0nm,0.9s							
SEY	**Seymchan**	**64.68**	**30**	P	**P**		**04 27 09.4**	**-0.4**
	comp=Z,2.7nm,0.2s,baz=238,slow=9.5,SNR=1.3							
	comp=Z,2.7nm,0.2s							
KOWA	**Kowa**	**66.04**	**275**	P	**P**		**04 27 19.1**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=70,slow=4.3,SNR=2.7							
	comp=Z,2.5nm,0.7s							
BOSA	**Boshof**	**67.76**	**218**	P	**P**		**04 27 28.7**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=334,slow=14,SNR=1.4							
	comp=Z,1.3nm,0.6s							
DBIC	**Dimbokro**	**70.05**	**267**	P	**P**		**04 27 44.0**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=154,slow=14,SNR=1.6							
	comp=Z,2.5nm,0.8s							
DBIC	**Dimbokro**	**70.05**	**267**	P	**P**		**04 27 44.0**	**-0.7**
WRA	**Warramunga Arr**	**80.89**	**118**	P	**P**		**04 28 44.6**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=320,slow=4.4,SNR=5.8							
	comp=Z,0.9nm,0.8s							
WRA	**Warramunga Arr**	**80.89**	**118**	P	P		04 28 52.3	+5.5
WRA	**Warramunga Arr**	**80.89**	**118**	P	P		04 28 52.3	+5.5
WB2	**Warramunga Arr**	**80.89**	**118**	P	P		**04 28 51.5**	**+4.7**
COLD	**Coldfoot**	**82.21**	**13**	P	**P**		**04 28 53.9**	**+0.9**
IMAR	**Indian Mountai**	**82.46**	**15**	P	**P**		**04 28 54.6**	**+0.2**
ASAR	**Alice Springs**	**82.58**	**121**	P	**P**		**04 28 53.3**	**-2.3**
	comp=Z,0.9nm,0.9s,baz=320,slow=5.9,SNR=6.1							
	comp=Z,0.9nm,0.9s							
ASAR	**Alice Springs**	**82.58**	**121**	P	**P**		**04 28 59.8**	**+4.2**
ASAR	**Alice Springs**	**82.58**	**121**	P	**P**		**04 28 59.8**	**+4.2**
BMAR	**Burnt Mountain**	**83.11**	**11**	P	**P**		**04 28 59.1**	**+1.3**
J20K	**Nowinta River**	**83.84**	**17**	P	**P**		**04 29 01.7**	**+0.2**
J20K				IAmb	IAmb		04 29 03.3	
	comp=Z,1.3nm,0.8s							
INK	**Inuvik**	**83.90**	**7**	P	**P**		**04 29 02.4**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=68,slow=4.0,SNR=5.3							
	comp=Z,1.0nm,0.6s							
K20K	**Telida**	**84.53**	**17**	P	**P**		**04 29 06.4**	**+1.4**
K20K				IAmb	IAmb		04 29 08.9	
	comp=Z,2.7nm,1.0s							
CAST	**Castle Rocks**	**84.99**	**16**	P	**P**		**04 29 08.2**	**+0.8**
ILAR	**Eielson Array**	**85.02**	**14**	P	**P**		**04 29 05.7**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=325,slow=5.3,SNR=3.1							
	comp=Z,0.2nm,0.5s							
J26L	**Joseph Creek**	**85.92**	**12**	P	**P**		**04 29 12.4**	**+0.3**
J26L				IAmb	IAmb		04 29 15.4	
	comp=Z,1.9nm,0.7s							
N19K	**Bonanza Creek**	**86.50**	**19**	P	**P**		**04 29 15.6**	**+0.6**
ANMO	**Albuquerque**	**118.02**	**353**	*e*PKIKP	PKiKP		04 35 30.6	+11
ANMO				pmax	pmax			
	comp=Z,6.0nm,1.3s							

*IDC **24** 04:16:54.7±0.5,26°.73N×66°.20E, h0km, mb4.3/35, mbtmp4.3/38, ML4.0/3, Error ellipse: s-maj=13.4km s-min=11.9km az=35.0*
*NEIC **24** 04:16:57.6±2.1,26°.80N±0°.04×66°.14E±0°.08, h10km±1km, mb4.6/41, Error ellipse: s-maj=12.5km s-min=7.3km az=78.0*

ISC 24 04:16:56.6±0.4,**26°.79N**±0°.06×**66°.18E**±0°.05,**h10**km,**n104,**
σ1§**71**/102,**mb4.5**/54,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.71**	**244**	Pn	**Pn**	**04 18 49.6**	**+0.7**
	3.5nm,0.3s,baz=85,slow=11,SNR=3.1						
WSAR				Sn	**Sn**	**04 20 10.9**	**-5.4**
	baz=38,slow=19						
	13nm,0.4s						
KBL	**Kabul**	**8.11**	**17**	Pn	**Pn**	**04 18 54.2**	**-0.3**
HRA	**Herat**	**8.29**	**337**	Pn	**Pn**	**04 18 57.1**	**0.0**
UOSS	**Minazif**	**9.17**	**261**	Pn	**Pn**	**04 19 07.2**	**-1.9**
BHPL	**Bhopal**	**10.79**	**107**	*e*S	**Sn**	**04 21 27.2**	**-4.9**
BHPL	**Bhopal**	**10.79**	**107**	*e*P	**Pn**	**04 19 28.6**	**-2.6**
BHPL	**Bhopal**	**10.79**	**107**	IAmb	IAmb	04 19 34.3	
	comp=Z,36nm,0.4s						
AKL	**Akola**	**11.62**	**119**	*e*P	**Pn**	**04 19 45.5**	**+2.9**
CHGR	**Chuyangaron**	**12.09**	**11**		**Pn**	**04 19 49.3**	**+0.2**
GAR	**Garm**	**12.66**	**15**		**Pn**	**04 19 57.0**	**+0.2**
GEYT	**Alibeck**	**13.02**	**331**	Pn	**Pn**	**04 20 01.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=170,slow=10,SNR=2.0						
	comp=Z,1.0nm,0.5s						
GEYT	**Alibeck**	**13.02**	**331**	Pn	**Pn**	**04 20 01.7**	**0.0**
BTK	**Batken**	**13.78**	**15**	Pn	**Pn**	**04 20 12.1**	**0.0**
KK31	**Karatay Array**	**16.65**	**11**	Pn	**Pn**	**04 20 49.8**	**-0.3**
KK31	**Karatay Array**	**16.65**	**11**	PKHKP	**Pn**	**04 20 49.8**	**-0.3**
KK31	**Karatay Array**	**16.65**	**11**	pmax	pmax		
	comp=Z,11nm,0.8s						
KKAR	**Karatay Array**	**16.65**	**11**		**Pn**	**04 20 51.6**	**+1.6**
KKAR	**Karatay Array**	**16.65**	**11**	Pn	**Pn**	**04 20 50.6**	**+0.5**
KKAR				IAmb	IAmb	04 21 29.0	
	comp=Z,11nm,0.8s						
KKAR	**Karatay Array**	**16.65**	**11**	PKHKP	**Pn**	**04 20 51.6**	**+1.6**
NRN	**Naryn**	**16.70**	**27**	Pn	**Pn**	**04 20 49.9**	**-1.1**
AAK	**Ala-Archa**	**17.21**	**21**	P	**Pn**	**04 20 55.6**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=172,slow=7.1,SNR=4.7						
AAK				S	**Sn**	**04 23 59.6**	**-9.0**
	comp=Z,1.2nm,0.3s,baz=190,slow=18,SNR=1.3						
	comp=Z,4.2nm,0.4s						
AAK	**Ala-Archa**	**17.21**	**21**	Pn	**Pn**	**04 20 55.7**	**-1.4**
TARG	**Taragay, Kyrgy**	**17.70**	**30**		**P**	**04 21 06.2**	**+1.8**
TARG	**Taragay, Kyrgy**	**17.70**	**30**	PKIKP	**P**	**04 21 06.3**	**+1.8**
TARG	**Taragay, Kyrgy**	**17.70**	**30**	pmax	pmax		
	comp=Z,16nm,0.9s						
RAYN	**Ar Rayn**	**19.00**	**265**	P	**P**	**04 21 16.5**	**-2.1**
LSA	**Lhasa**	**22.18**	**77**	P	**P**	**04 21 52.6**	**-0.8**
LSA				IAmb	IAmb	04 22 09.0	
	comp=Z,29nm,1.1s						
GNI	**Garni**	**22.23**	**312**	P	**P**	**04 21 54.3**	**+0.7**
GNI	**Garni**	**22.23**	**312**	PKIKP	**P**	**04 21 54.3**	**+0.7**
GNI	**Garni**	**22.23**	**312**	pmax	pmax		
	comp=Z,159nm,1.3s						
GEVA	**Gevas**	**22.56**	**306**	P	**P**	**04 21 57.2**	**+0.1**
ABKAR	**Akbulak array**	**22.94**	**349**	P	**P**	**04 22 01.7**	**+0.9**
ABKAR				IAmb	IAmb	04 22 24.3	
	comp=Z,14nm,1.1s						
MK31	**Makanchi Array**	**23.68**	**28**	P	**P**	**04 22 08.5**	**+0.1**
MKAR	**Makanchi Array**	**23.68**	**28**	P	**P**	**04 22 09.5**	**+1.1**
	comp=Z,8.3nm,0.7s,baz=211,slow=9.6,SNR=9.5						
	comp=Z,8.3nm,0.7s						
MKAR	**Makanchi Array**	**23.68**	**28**	P	**P**	**04 22 10.6**	**+2.3**
ONI	**Oni**	**24.34**	**316**	P	**P**	**04 22 14.2**	**-0.4**
KURBB	**Kurchatov Arra**	**25.60**	**18**	P	**P**	**04 22 27.9**	**+2.0**
	comp=Z,3.7nm,0.6s,baz=216,slow=9.7,SNR=5.5						
	comp=Z,3.7nm,0.6s						
KURK	**Kurchatov**	**25.71**	**18**	P	**P**	**04 22 27.4**	**+0.6**
KURK				IAmb	IAmb	04 22 43.5	
	comp=Z,9.2nm,0.9s						
BVAR	**Borovoye Array**	**26.39**	**6**	P	**P**	**04 22 34.3**	**+1.3**
	comp=Z,7.7nm,0.8s,baz=175,slow=12,SNR=6.1						
	comp=Z,7.7nm,0.8s						
BRVK	**Borovoye**	**26.41**	**6**	P	**P**	**04 22 35.3**	**+2.1**
BRVK				IAmb	IAmb	04 22 38.9	
	comp=Z,14nm,0.8s						
BRTR	**Keskin Array B**	**29.94**	**304**	PcP	**PcP**	**04 26 08.0**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=96,slow=2.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**30.43**	**22**	P	**P**	**04 23 09.5**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=228,slow=10,SNR=6.5						
	comp=Z,3.2nm,0.5s						
CHTO	**Chiang Mai**	**31.16**	**98**	P	**P**	**04 23 16.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**31.29**	**98**	P	**P**	**04 23 16.5**	**-0.5**
	comp=Z,2.8nm,0.4s,baz=293,slow=7.7,SNR=4.1						
CMAR				PcP	**PcP**	**04 26 12.2**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=290,slow=4.8,SNR=1.9						
	comp=Z,2.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.29**	**98**	P	**P**	**04 23 17.4**	**+0.4**
CRAI	**Chiangrai**	**31.96**	**94**	P	**P**	**04 23 23.0**	**+0.1**
CRAI				IAmb	IAmb	04 23 30.0	
	comp=Z,3.4nm,0.6s						
AKASG	**Malin Array Be**	**36.85**	**320**	P	**P**	**04 24 05.1**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=94,slow=16,SNR=2.3						
AKASG				PcP	**PcP**	**04 26 25.5**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=90,slow=2.4,SNR=3.4						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**37.70**	**45**	P	**P**	**04 24 11.8**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=305,slow=5.2,SNR=3.5						
	comp=Z,1.4nm,0.7s						
ENH	**Enshi**	**38.04**	**74**	P	**P**	**04 24 17.2**	**+1.9**
ENH				IAmb	IAmb	04 24 48.1	
	comp=Z,15nm,1.4s						
PSI	**Prapat**	**39.40**	**122**	P	**P**	**04 24 25.7**	**-1.3**
	comp=Z,14nm,0.7s,baz=297,slow=9.0,SNR=6.8						
	comp=Z,14nm,0.7s						
RPSI	**Rantau Prapat**	**39.47**	**122**	P	**P**	**04 24 28.3**	**+1.0**
RPSI				IAmb	IAmb	04 24 30.1	
	comp=Z,14nm,0.8s						
CUC	**Castrocucco**	**43.53**	**301**	P	**P**	**04 25 01.2**	**+0.7**
CUC				IAmb	IAmb	04 25 09.4	
	comp=Z,14nm,0.8s						
MORC	**Moravsky Berou**	**43.59**	**315**	P	**P**	**04 25 02.9**	**+2.1**
MORC				IAmb	IAmb	04 25 06.5	
	comp=Z,7.9nm,1.2s						
MBAR	**Mbarara**	**43.66**	**237**	P	**P**	**04 25 03.0**	**+1.1**
MBAR				IAmb	IAmb	04 25 19.1	
	comp=Z,18nm,1.2s						
FINES	**FINESS Array B**	**43.80**	**333**	P	**P**	**04 25 03.5**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=160,slow=4.4,SNR=1.3						
	comp=Z,2.3nm,0.7s						
NRIK	**Noril'sk**	**44.39**	**11**	P	**P**	**04 25 06.7**	**-0.2**
	comp=Z,3.4nm,0.4s,baz=166,slow=4.2,SNR=2.4						
	comp=Z,3.4nm,0.4s						
NRIK	**Noril'sk**	**44.39**	**11**	P	**P**	**04 25 08.2**	**+1.3**
NRIK				IAmb	IAmb	04 25 12.3	
	comp=Z,5.5nm,0.7s						
GERES	**GERESS Array B**	**45.88**	**313**	P	**P**	**04 25 19.1**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=16,slow=15,SNR=2.2						
	comp=Z,0.8nm,0.3s						
GERES	**GERESS Array B**	**45.88**	**313**	P	**P**	**04 25 19.8**	**+0.6**
CLL	**Collm**	**46.74**	**316**	*e*P	**P**	**04 25 28.0**	**+2.2**
GRFO	**Grafenberg**	**47.61**	**314**	P	**P**	**04 25 34.4**	**+1.8**
DAVOX	**Davos/Dischmat**	**48.20**	**310**	P	**P**	**04 25 37.5**	**0.0**
	comp=Z,1.4nm,0.5s,baz=64,slow=6.5,SNR=2.6						
	comp=Z,1.4nm,0.5s						
KEV	**Kevo**	**48.59**	**343**	P	**P**	**04 25 42.8**	**+3.0**
KEV				IAmb	IAmb	04 25 46.0	
	comp=Z,9.1nm,0.9s						
HFS	**Hagfors**	**48.66**	**328**	P	**P**	**04 25 39.9**	**-0.7**
	comp=Z,3.4nm,0.7s,baz=79,slow=7.7,SNR=1.9						
	comp=Z,3.4nm,0.7s						
OPO	**Ambohidratompo**	**48.72**	**204**	P	**P**	**04 25 40.5**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=50,slow=7.9,SNR=2.2						
	comp=Z,1.7nm,0.5s						
KEST	**Kesra**	**48.81**	**295**	P	**P**	**04 25 42.8**	**+0.6**
	comp=Z,8.9nm,1.2s,baz=45,slow=10.0,SNR=3.9						
	comp=Z,8.9nm,1.2s						
ARCES	**ARCESS Array B**	**48.84**	**342**	P	**P**	**04 25 42.1**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=134,slow=3.5,SNR=2.2						
	comp=Z,3.1nm,0.7s						
NB2	**NORSAR Subarra**	**50.10**	**329**	P	**P**	**04 25 51.1**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=104,slow=7.9						
NOA	**NORSAR Array B**	**50.10**	**329**	P	**P**	**04 25 49.8**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=111,slow=7.3,SNR=2.1						
	comp=Z,0.9nm,0.7s						
KLR	**Kul'dur**	**54.48**	**47**	P	**P**	**04 26 22.9**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=304,slow=7.3						
	comp=Z,3.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**56.76**	**320**	P	**P**	**04 26 39.7**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=103,slow=7.8,SNR=4.6						
	comp=Z,2.5nm,0.6s						
ESDC	**Sonseca Array**	**58.71**	**302**	P	**P**	**04 26 53.7**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=70,slow=7.2,SNR=1.9						
	comp=Z,1.0nm,0.8s						
MDT	**Midelt**	**60.69**	**294**	P	**P**	**04 27 08.4**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=144,slow=14,SNR=1.4						
	comp=Z,1.1nm,0.9s						
TOA0	**Torodi Ar. Sit**	**61.55**	**271**	P	**P**	**04 27 13.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**61.55**	**271**	P	**P**	**04 27 13.8**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=52,slow=7.3,SNR=7.2						
	comp=Z,6.3nm,0.9s						
SEY	**Seymchan**	**64.80**	**30**	P	**P**	**04 27 35.5**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=254,slow=7.4,SNR=6.9						
	comp=Z,2.3nm,0.5s						
KOWA	**Kowa**	**66.12**	**275**	P	**P**	**04 27 43.0**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=62,slow=10.0,SNR=2.1						
	comp=Z,2.6nm,0.8s						
BOSA	**Boshof**	**67.65**	**219**	P	**P**	**04 27 54.1**	**0.0**
	comp=Z,1.8nm,0.8s,baz=347,slow=13,SNR=1.9						
	comp=Z,1.8nm,0.8s						
DBIC	**Dimbokro**	**70.11**	**267**	P	**P**	**04 28 11.3**	**+1.7**
	comp=Z,4.7nm,0.9s,baz=80,slow=10.0,SNR=2.9						
	comp=Z,4.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**72.93**	**121**	P	**P**	**04 28 25.7**	**-0.7**
	comp=Z,3.9nm,0.9s,baz=212,slow=1.1,SNR=5.9						
	comp=Z,3.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**72.93**	**121**	P	**P**	**04 28 28.1**	**+1.7**
FITZ				IAmb	IAmb	04 28 29.2	
	comp=Z,3.8nm,0.9s						
WRA	**Warramunga Arr**	**80.74**	**118**	P	**P**	**04 29 10.1**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=312,slow=4.7,SNR=15						
	comp=Z,3.3nm,0.8s						
WRA	**Warramunga Arr**	**80.74**	**118**	P	**P**	**04 29 11.9**	**+1.3**
WB2	**Warramunga Arr**	**80.75**	**118**	P	**P**	**04 29 10.9**	**+0.3**
WB2				IAmb	IAmb	04 29 12.9	
	comp=Z,5.4nm,0.8s						
TOLK	**Toolik Lake Re**	**81.29**	**13**	P	**P**	**04 29 15.2**	**+2.4**
COLD	**Coldfoot**	**82.37**	**13**	P	**P**	**04 29 20.8**	**+2.4**
ASAR	**Alice Springs**	**82.43**	**121**	P	**P**	**04 29 18.0**	**-1.4**
	comp=Z,3.7nm,0.7s,baz=308,slow=5.4,SNR=22						
	comp=Z,3.7nm,0.7s						
ASAR	**Alice Springs**	**82.43**	**121**	P	**P**	**04 29 19.4**	**0.0**
AS31	**Alice Springs**	**82.43**	**121**	P	**P**	**04 29 21.1**	**+1.6**
IMAR	**Indian Mountai**	**82.61**	**15**	P	**P**	**04 29 21.3**	**+1.6**
H21K	**Melozitna Rive**	**83.11**	**15**	P	**P**	**04 29 22.8**	**+0.6**
H21K				IAmb	IAmb	04 29 25.5	
	comp=Z,5.6nm,0.9s						
BMAR	**Burnt Mountain**	**83.28**	**11**	P	**P**	**04 29 25.6**	**+2.4**
I21K	**Tanana**	**83.70**	**15**	IAmb	IAmb	04 29 29.1	
	comp=Z,5.7nm,0.9s						
J20K	**Nowinta River**	**84.00**	**17**	P	**P**	**04 29 27.7**	**+0.9**
J20K				IAmb	IAmb	04 29 30.6	
	comp=Z,3.9nm,0.9s						
INK	**Inuvik**	**84.07**	**7**	P	**P**	**04 29 26.9**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=359,slow=7.4,SNR=6.7						
	comp=Z,3.2nm,0.8s						
MLY	**Manley**	**84.11**	**15**	IAmb	IAmb	04 29 30.6	
	comp=Z,3.6nm,0.8s						
K20K	**Telida**	**84.69**	**17**	P	**P**	**04 29 32.0**	**+1.6**
K20K				IAmb	IAmb	04 29 34.6	
	comp=Z,5.2nm,0.8s						
IL31		**85.18**	**14**	P	**P**	**04 29 34.7**	**+1.9**
IL31				IAmb	IAmb	04 29 39.0	
	comp=Z,8.5nm,1.5s						
ILAR	**Eielson Array**	**85.18**	**14**	P	**P**	**04 29 31.4**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=319,slow=4.1,SNR=7.1						
	comp=Z,0.5nm,0.5s						
J26L	**Joseph Creek**	**86.09**	**12**	P	**P**	**04 29 38.7**	**+1.2**
J26L				IAmb	IAmb	04 29 40.5	
	comp=Z,4.7nm,0.7s						
KDAK	**Kodiak Island**	**89.70**	**20**	P	**P**	**04 29 55.4**	**+0.7**
	comp=Z,7.8nm,0.8s,baz=23,slow=3.2,SNR=4.3						
	comp=Z,7.8nm,0.8s						
CTA	**Charters Tower**	**90.47**	**112**	P	**P**	**04 29 59.9**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=284,slow=3.4,SNR=2.7						
	comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	**92.53**	**124**	P	**P**	**04 30 08.7**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=255,slow=6.0,SNR=3.0						
	comp=Z,1.3nm,0.6s						
MAW	**Mawson**	**94.14**	**181**	P	**P**	**04 30 15.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=348,slow=5.8,SNR=2.8						
	comp=Z,1.2nm,0.8s						

*IDC **24** 04:17:28.4±2.7,27°.93N×142°.07E, h0km, mb3.8/4, mbtmp3.8/5, ML2.8/1, Error ellipse: s-maj=132.6km s-min=15.6km az=76.0,* **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.84**	**173**	Pn	Pb	04 17 46.2	+0.4
	2.5nm,0.3s,baz=311,slow=20,SNR=1.3						
JCJ				Sn	Sn	04 18 01.4	+1.0
	29nm,0.3s,baz=86,slow=22,SNR=8.4						
MJAR	**Matsushiro Arr**	**9.19**	**340**	Pn	Pn	04 19 40.9	-1.4
	0.1nm,0.3s,baz=152,slow=15,SNR=2.7						
	0.6nm,0.2s						
H11N2	**WAKE ISLAND Hy**	**24.10**	**104**	T	T	04 47 19.2	
	baz=296						
H11N1	**WAKE ISLAND Hy**	**24.10**	**104**	T	T	04 47 30.5	
	baz=296						
H11N3	**WAKE ISLAND Hy**	**24.11**	**104**	T	T	04 47 26.7	
	baz=296						
H11S3	**WAKE ISLAND Hy**	**24.45**	**107**	T	T	04 48 01.5	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**24.46**	**107**	T	T	04 47 55.7	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**24.47**	**107**	T	T	04 48 03.9	
	baz=304						
WRA	**Warramunga Arr**	**48.18**	**190**	P	P	04 26 11.6	+0.9
	1.4nm,0.6s,baz=12,slow=8.4,SNR=8.9						
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**52.39**	**314**	P	P	04 26 41.6	-0.7
	0.5nm,0.5s,baz=92,slow=7.2,SNR=4.6						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**57.36**	**317**	P	P	04 27 17.1	-1.2
	0.5nm,0.5s,baz=67,slow=8.0,SNR=1.9						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**77.16**	**334**	P	P	04 29 25.3	+1.7
	1.1nm,0.8s,baz=72,slow=6.2,SNR=1.3						
	1.1nm,0.8s						

*IDC **24** 04:18:33.7±1.5,24°.32S×179°.89E, h527km±15km, mb3.3/10, mbtmp4.2/13, Error ellipse: s-maj=19.5km s-min=15.2km az=136.0*
ISC 24 04:18:32.4±0.8,**24°.44S**±0°.08×**180°.0E**±0°.1,**h517**km,**n17,**
σ1§**41**/21,**mb3.7**/9,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.91**	**345**	P	**P**	**04 20 18.7**	**+0.2**
	10nm,0.4s,baz=146,slow=7.3,SNR=26						
MSVF				S	**S**	**04 21 45.1**	**-0.2**
	1.2nm,0.2s,baz=187,slow=23,SNR=1.4						
DZM	**Mont Dzumac**	**12.67**	**278**	P	**P**	**04 21 20.1**	**+2.0**
	4.6nm,0.9s,baz=114,slow=20,SNR=6.1						
URZ	**Urewera**	**13.99**	**189**	P	**P**	**04 21 33.7**	**+2.1**
	3.1nm,0.3s,baz=16,slow=19,SNR=2.0						
URZ				S	**S**	**04 23 56.3**	**-3.1**
	6.7nm,0.8s,baz=18,slow=19,SNR=6.9						
RPZ	**Rata Peaks**	**20.57**	**199**	P	**P**	**04 22 36.7**	**+1.5**
	2.7nm,0.6s,baz=66,slow=16,SNR=1.8						
	2.7nm,0.6s						
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**04 25 38.1**	**+0.3**
	1.0nm,0.5s,baz=95,slow=7.4,SNR=15						
ASAR				S	**S**	**04 31 17.6**	**-1.2**
	0.4nm,0.9s,baz=97,slow=16,SNR=3.7						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**42.36**	**267**	P	**P**	**04 25 40.7**	**-0.4**
	3.3nm,0.5s,baz=104,slow=8.0,SNR=51						
WRA				ScP	**ScP**	**04 30 25.0**	**+0.9**
	0.3nm,0.7s,baz=116,slow=3.3,SNR=2.5						
	3.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.77**	**266**	P	**P**	**04 26 45.1**	**+0.2**
	3.0nm,0.6s,baz=176,slow=6.1,SNR=9.0						
	3.0nm,0.6s						
SIJI	**Sorong**	**52.59**	**289**	P	**P**	**04 26 57.5**	**-0.6**
	15nm,0.7s,baz=192,slow=19,SNR=2.4						
	15nm,0.7s						
MJAR	**Matsushiro Arr**	**72.33**	**326**	P	**P**	**04 29 04.4**	**-1.1**
	1.4nm,0.6s,baz=48,slow=5.5,SNR=2.9						
	1.4nm,0.6s						
KSRS	**Korea Array**	**78.65**	**320**	P	**P**	**04 29 40.5**	**-0.1**
	0.9nm,0.7s,baz=86,slow=4.1,SNR=2.7						
	0.9nm,0.7s						
PETK	**Petropavlovsk-**	**79.62**	**347**	P	**P**	**04 29 44.3**	**-1.1**
	1.1nm,0.6s,baz=143,slow=18,SNR=2.6						
	1.1nm,0.6s						
SNAA	**Sanae**	**84.13**	**179**	P	**P**	**04 30 08.5**	**+0.1**
	1.2nm,1.0s,baz=204,slow=1.4,SNR=3.1						
	1.2nm,1.0s						
TXAR	**Lajitas Array**	**90.73**	**58**	P	**P**	**04 30 41.4**	**+1.1**
	0.7nm,0.8s,baz=212,slow=6.3,SNR=12						
	0.7nm,0.8s						
FINES	**FINESS Array B**	**138.95**	**341**	PKP	**PKPdf**	**04 36 59.5**	**+0.3**
	1.0nm,0.7s,baz=48,slow=2.8,SNR=4.1						
HFS	**Hagfors**	**143.07**	**349**	PKP	**PKPdf**	**04 37 03.8**	**-2.9**
	1.8nm,0.4s,baz=80,slow=3.3,SNR=16						
AKASG	**Malin Array Be**	**145.41**	**327**	PKPbc	**PKPdf**	**04 37 10.8**	**-0.2**
	0.6nm,0.4s,baz=45,slow=4.7,SNR=5.1						
BRTR	**Keskin Array B**	**147.89**	**306**	PKPbc	**PKiKP**	**04 37 21.3**	**+0.4**
	1.4nm,0.6s,baz=61,slow=4.0,SNR=2.1						

ROM 24 04:19:59.0±0.1,**42°.887N**±0°.003×

FRB Frobisher Bay 18.29 306 P **Pn** 04 30 30.4 +0.3
comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=5.7
FRB LR LR 04 36 26.8
comp=Z,766nm,21.9s,baz=80,slow=33
comp=Z,25nm,1.1s
SCHQ Schefferville 18.69 277 P **P** 04 30 34.1 -0.7
comp=Z,1.5nm,0.3s,baz=79,slow=10,SNR=7.3
SCHQ LR LR 04 36 30.6
comp=Z,1µm,19.4s,baz=68,slow=33
comp=Z,10nm,0.6s
SCHQ Schefferville 18.69 277 **P** 04 30 35.5 +0.7
HYA Hoyanger 20.48 62 *eP* Pn 04 30 55.4 -0.9
HYA IAmb IAmb 04 30 57.1
comp=Z,113nm,1.4s
AKN Aaknes 20.77 59 *eP* Pn 04 30 59.0 -0.7
AKN IAmb IAmb 04 31 05.2
comp=Z,64nm,1.2s
ODD1 Odda 20.88 66 *eP* Pn 04 31 00.6 -0.5
BLS5 Blasjo 20.88 67 *eP* **P** 04 30 58.9 +0.3
BLS5 IAmb IAmb 04 31 03.9
comp=Z,67nm,1.1s
GBN Guysborough 20.95 248 **P** 04 30 58.7 -0.7
GBN IAmb IAmb 04 31 04.9
comp=Z,117nm,1.3s
MOL Molde 20.99 58 *eP* **P** 04 30 59.5 -0.2
MOL IAmb IAmb 04 31 02.4
comp=Z,132nm,1.8s
NEEM North Greenlan 21.25 349 *i* P **P** 04 31 08.2 +5.5
NEEM IAmb IAmb 04 31 10.7
comp=Z,108nm,1.5s
SKAR Skarslia 21.57 63 *eP* **P** 04 31 06.8 +0.8
SKAR IAmb IAmb 04 31 16.4
comp=Z,68nm,1.4s
DOMB Dombas 21.75 59 *eP* **P** 04 31 11.3 +3.5
DOMB IAmb IAmb 04 31 12.8
comp=Z,28nm,1.1s
BATG Bathurst New B 22.07 257 **P** 04 31 12.4 +0.9
BATG IAmb IAmb 04 31 20.1
comp=Z,98nm,1.5s
PGAV Gavieira, Arco 22.16 123 *eP* **P** 04 31 14.9 +2.4
comp=Z,100nm,1.5s
PGAV eLR LR 04 36 37.3
comp=Z,1µm,20.0s
HOMB Homborsund 22.19 69 *eP* **P** 04 31 14.0 +1.5
HOMB IAmb IAmb 04 31 15.2
comp=Z,48nm,1.1s
KONO Kongsberg 22.40 66 P **P** 04 31 14.4 -0.5
KONO IAmb IAmb 04 31 28.8
comp=Z,69nm,1.6s
KONO Kongsberg 22.40 66 *eP* **P** 04 31 15.1 +0.2
PCAB Cabril 22.47 123 *eP* **P** 04 31 20.2 +4.4
comp=Z,66nm,1.6s
PTO Porto 22.66 124 *eP* **P** 04 31 18.9 +1.1
comp=Z,65nm,1.6s
NBO00 NORSAR Array S 22.70 62 P **P** 04 31 18.4 +0.3
NAO01 NORSAR Array S 22.79 62 P **P** 04 31 17.2 -1.8
NAO01 IAmb IAmb 04 31 29.9
comp=Z,66nm,1.4s
POLO Lamas de Olo 22.84 123 *eP* **P** 04 31 21.2 +1.4
comp=Z,31nm,1.3s
NB2 NORSAR Subarra 22.91 62 P **P** 04 31 19.7 -0.6
comp=Z,79nm,2.0s,baz=279,slow=10
NB2 NORSAR Subarra 22.91 62 P **P** 04 31 19.7 -0.6
baz=279,slow=10
NOA NORSAR Array B 22.91 62 P **P** 04 31 18.6 -1.8
comp=Z,14nm,1.2s,baz=281,slow=9.6,SNR=4.9
NOA LR LR 04 38 49.4
comp=Z,302nm,21.7s,baz=275,slow=33
comp=Z,14nm,1.2s
NB201 NORSAR Array S 22.95 62 P **P** 04 31 19.4 -1.3
NB201 IAmb IAmb 04 31 24.5
comp=Z,78nm,1.2s
PVRL Vila Real 22.95 123 *eP* **P** 04 31 22.3 +1.4
comp=Z,54nm,1.6s
PBRG Braganca 22.99 121 *eP* **P** 04 31 23.6 +2.3
comp=Z,31nm,1.2s
NC602 NORSAR Array S 23.13 62 *eP* **P** 04 31 20.8 -1.7
TULEG Thule 23.15 340 *i* P P 04 31 31.1 +8.5
TULEG IAmb IAmb 04 31 32.1
comp=Z,73nm,1.2s
CLF Chambon-Foret 23.31 98 P **P** 04 31 24.1 -0.4
PVIS Viseu 23.32 124 *eP* **P** 04 31 25.7 +1.0
comp=Z,48nm,1.5s
MVO Moncorvo 23.36 122 *eP* **P** 04 31 26.6 +1.5
comp=Z,69nm,1.1s
MVO eLR LR 04 37 15.7
comp=Z,1µm,20.0s
BMRD Maredsous 23.39 91 *dP* **P** 04 31 26.5 +1.2
comp=Z,18nm,0.9s
DOU Dourbes 23.41 91 *dP* **P** 04 31 24.5 -0.9
comp=Z,14nm,1.0s
BGES Gesves 23.52 90 *dP* **P** 04 31 25.1 -1.4
comp=Z,13nm,1.0s
PCAS Casmilo, Conde 23.59 126 *eP* **P** 04 31 27.9 +0.6
comp=Z,62nm,1.1s
BCLA Clavier 23.62 90 *dP* **P** 04 31 25.5 -2.0
comp=Z,7.8nm,0.9s
BSTI Sart Tilman 23.68 89 *dP* **P** 04 31 28.7 +0.6
RCHB Rochefort 23.72 91 *dP* **P** 04 31 28.2 -0.3
MTE Manteigas 23.73 124 *eP* **P** 04 31 30.2 +1.4
comp=Z,43nm,1.4s
MTE eLR LR 04 37 23.7
comp=Z,807nm,18.0s
MTE Manteigas 23.73 124 P **P** 04 31 29.1 +0.3
MTE IAmb IAmb 04 31 34.8
comp=Z,37nm,1.3s
D62A Allapoint, All 23.79 260 P **P** 04 31 30.1 +0.9
PSBE So Bento 23.90 127 *eP* **P** 04 31 32.2 +1.9
comp=Z,69nm,1.2s
MEM Membach 23.91 89 *dP* **P** 04 31 30.4 +0.1
comp=Z,13nm,0.9s
BTNL Ternell 23.99 89 *dP* **P** 04 31 31.9 +0.9
BHOU Houvegnez 24.04 90 *dP* **P** 04 31 32.4 +0.8
PMAFR Mafra 24.16 129 *eP* **P** 04 31 32.9 +0.2
comp=Z,160nm,1.1s
F64A Sherman 24.19 257 IAmb IAmb 04 31 37.4
comp=Z,50nm,1.3s
PCBR Castelo Branco 24.22 125 *eP* **P** 04 31 34.3 +1.1
comp=Z,56nm,1.5s
HFS Hagfors 24.30 63 P **P** 04 31 34.7 +0.8
comp=Z,14nm,1.1s,baz=260,slow=7.4,SNR=7.4
HFS LR LR 04 40 00.4
comp=Z,278nm,18.2s,baz=284,slow=34
comp=Z,14nm,1.1s
PMST Lisbon--Monsan 24.38 129 *eP* **P** 04 31 36.4 +1.6
comp=Z,118nm,1.4s
WLF Walferdange 24.49 91 *dP* **P** 04 31 36.6 +0.9
PMTG Montargil 24.52 127 *eP* **P** 04 31 36.3 +0.3
comp=Z,44nm,1.3s
PMRV Marv??o 24.59 125 *eP* **P** 04 31 38.5 +1.8
comp=Z,34nm,2.6s
PMRV eLR LR 04 37 43.0
comp=Z,744nm,18.0s
PESTR Estremoz 24.96 126 *eP* **P** 04 31 40.8 +0.8
comp=Z,61nm,1.2s
PESTR Estremoz 24.96 126 P **P** 04 31 39.9 -0.1
PESTR IAmb IAmb 04 31 43.6
comp=Z,38nm,1.2s
NOR Nord 25.00 6 *i* P **P** 04 31 43.5 +3.5
NOR IAmb IAmb 04 31 44.0
comp=Z,38nm,1.4s
F62A Pittston Farm, 25.03 259 P **P** 04 31 41.9 +1.3
PKME Peaks-Kenny Pk 25.08 257 P **P** 04 31 43.0 +1.9
PKME IAmb IAmb 04 31 50.4
comp=Z,52nm,1.2s
PKME Peaks-Kenny Pk 25.08 257 P **P** 04 31 41.8 +0.8
baz=49
PNCL Nicolau / Gran 25.18 129 *eP* **P** 04 31 43.1 +1.1
comp=Z,62nm,1.3s
PBEJ Beja 25.54 128 *eP* **P** 04 31 45.8 +0.5
comp=Z,67nm,1.3s
MESJ Messejana 25.55 128 *eP* **P** 04 31 46.9 +1.6
MESJ IAmb IAmb 04 31 49.8
comp=Z,45nm,1.0s
MESJ Messejana 25.55 128 *eP* **P** 04 31 45.6 +0.3
comp=Z,62nm,1.2s
PTEO Sao Teotonio 25.58 130 *eP* **P** 04 31 47.3 +1.7
comp=Z,114nm,1.3s
G62A West of Eustis 25.77 258 IAmb IAmb 04 31 54.9
comp=Z,41nm,1.1s
PBAR Barrancos 25.78 126 *eP* **P** 04 31 48.0 +0.6
comp=Z,29nm,1.4s
PCVE Castro Verde 25.80 128 *eP* **P** 04 31 50.6 +3.0
comp=Z,70nm,1.4s
MORF Marmelete 25.81 130 *eP* **P** 04 31 49.2 +1.4
MORF IAmb IAmb 04 31 50.4
comp=Z,31nm,0.9s

MORF Marmelete 25.81 130 *eP* **P** 04 31 48.3 +0.5
comp=Z,62nm,1.1s
ECH Echery 25.86 93 P **P** 04 31 46.8 -1.3
PAB San Pablo 25.89 120 P **P** 04 31 48.6 +0.1
PFVI Vila Bisbo 25.89 130 *eP* **P** 04 31 48.7 +0.3
comp=Z,95nm,1.2s
PFVI Vila Bisbo 25.89 130 P **P** 04 31 48.5 +0.1
ESBB Sonseca Array 25.97 120 P **P** 04 31 49.9 +0.7
ESDC Sonseca Array 25.97 120 P **P** 04 31 48.4 -0.8
comp=Z,16nm,1.2s,baz=315,slow=7.7,SNR=15
ESDC LR LR 04 40 08.8
comp=Z,809nm,18.8s,baz=332,slow=32
comp=Z,16nm,1.2s
PVAQ Vaqueiros 26.13 128 *eP* **P** 04 31 54.7 +4.1
comp=Z,26nm,1.4s
PVAQ *e*LR LR 04 38 35.9
comp=Z,1µm,20.0s
BFO Black Forest 26.43 92 P **P** 04 31 54.2 +1.0
PMOZ Porto Moniz, M 26.80 148 *e*LR LR 04 38 53.9
comp=Z,432nm,20.0s
TRQ Mont Tremblant 27.30 264 IAmb IAmb 04 32 09.3
comp=Z,29nm,1.2s
CLL Collm 27.34 82 IAmb IAmb 04 32 04.0
comp=Z,27nm,1.5s
CLL Collm 27.34 82 *i* P **P** 04 32 01.5 +0.1
comp=Z,14nm,1.0s
CLL *i* sP **sP** 04 32 05.7 +1.1
CLL *ex* x 04 32 17.0
CLL Lm MLR 04 42 00.0
comp=Z,700nm,19.0s
CLL Lmax 04 43 00.0
BNI Bardonecchia 27.55 99 P **P** 04 32 02.6 -0.9
NKC Novy Kostel 27.61 85 *eP* **P** 04 32 04.7 +0.9
NKC AMS AMS 04 40 30.0
comp=Z,800nm,16.7s
DAVA Damuels 27.89 92 *eP* **P** 04 32 06.0 -0.5
comp=Z,4.1nm,1.0s
ARCES ARCESS Array B 27.89 40 P **P** 04 32 07.1 +0.9
comp=Z,3.0nm,0.9s,baz=262,slow=8.2,SNR=9.3
ARCES LR LR 04 40 58.5
comp=Z,271nm,21.4s,baz=293,slow=32
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 28.08 82 *eP* **P** 04 32 10.4 +2.4
BRG Amp 04 32 14.5
comp=Z,3.6nm,0.8s
BRG PP **PnPn** 04 32 55.9 +0.8
BRG Amp 04 32 57.4
comp=Z,12nm,1.4s
DAVOX Davos/Dischmat 28.19 93 LR LR 04 43 02.7
comp=Z,1µm,18.7s,baz=306,slow=36
RETA Reutte 28.25 91 *eP* **P** 04 32 10.3 +0.7
comp=Z,7.0nm,1.2s
FETA Feichten 28.51 92 *eP* **P** 04 32 15.2 +3.2
comp=Z,7.8nm,1.2s
MOTA Moosalm 28.52 91 *eP* **P** 04 32 14.7 +2.5
comp=Z,9.6nm,1.3s
PVCC Panska Ves 28.60 83 AMS AMS 04 43 50.0
comp=Z,700nm,14.7s
RES Resolute Bay 28.62 331 LR LR 04 43 15.8
comp=Z,362nm,18.3s,baz=102,slow=36
GKP Gorka Klasztor 28.64 76 *eP* **P** 04 32 14.6 +1.7
SQTA Sankt Quirin 28.65 91 *eP* **P** 04 32 16.0 +2.7
comp=Z,7.7nm,1.3s
KHC Kasperske Hory 28.83 86 P **P** 04 32 16.0 +1.2
KHC Kasperske Hory 28.83 86 *eP* **P** 04 32 16.6 +1.9
KHC AMS AMS 04 42 40.0
comp=Z,500nm,16.0s
PRU Pruhonice 28.87 84 *eP* **P** 04 32 17.7 +2.6
PRU AMS AMS 04 42 40.0
comp=Z,600nm,18.8s
GOPC GO Pecny, Ondr 29.05 84 AMS AMS 04 42 50.0
comp=Z,700nm,21.2s
GERES GERESS Array B 29.05 86 P **P** 04 32 16.6 -0.2
comp=Z,0.8nm,0.6s,baz=288,slow=8.1,SNR=1.2
GERES LR LR 04 43 04.8
comp=Z,439nm,19.0s,baz=308,slow=35
comp=Z,0.8nm,0.6s
GERES GERESS Array B 29.05 86 P **P** 04 32 17.5 +0.6
CHVC Chvalec 29.36 81 *eP* **P** 04 32 20.2 +0.7
CHVC AMS AMS 04 44 30.0
comp=Z,800nm,15.3s
UPC Upice 29.39 82 *eP* **P** 04 32 20.2 +0.6
UPC AMS AMS 04 44 30.0
comp=Z,700nm,13.9s
CKRC Cesky Krumlov 29.40 86 *eP* **P** 04 32 22.4 +2.6
CKRC AMS AMS 04 41 50.0
comp=Z,600nm,18.2s
OSTC Ostas 29.47 81 *eP* **P** 04 32 20.5 +0.1
OSTC AMS AMS 04 44 40.0
comp=Z,900nm,16.9s
DPC Dobruska-Polom 29.64 82 *eP* **P** 04 32 22.6 +0.7
DPC AMS AMS 04 44 40.0
comp=Z,700nm,12.5s
ABTA Abfaltersbach 29.65 91 *eP* **P** 04 32 20.4 -1.6
comp=Z,6.1nm,1.0s
FINES FINESS Array B 29.76 57 P **P** 04 32 21.5 -1.3
comp=Z,3.1nm,0.8s,baz=300,slow=4.2,SNR=6.5
comp=Z,3.1nm,0.8s
CIMO Cimolais 29.88 91 IAmb IAmb 04 32 30.9
comp=Z,7.8nm,1.1s
KBA Koelnbreinsper 29.90 89 *eP* **P** 04 32 27.1 +2.6
comp=Z,6.9nm,1.5s
CLUD Cludinico 30.03 91 IAmb IAmb 04 32 33.5
comp=Z,14nm,0.9s
KRLC Kraliky 30.04 82 *eP* **P** 04 32 26.5 +1.1
KRLC AMS AMS 04 44 20.0
comp=Z,600nm,17.8s
VRAC Vranov 30.36 83 P **P** 04 32 27.9 -0.4
comp=Z,6.5nm,1.0s,baz=301,slow=6.3,SNR=6.4
VRAC LR LR 04 43 38.0
comp=Z,557nm,20.4s,baz=318,slow=34
comp=Z,6.5nm,1.0s
VRAC Vranov 30.36 83 *eP* **P** 04 32 28.3 0.0
KRUC Moravsky 30.39 84 *eP* **P** 04 32 29.5 +0.9
PRED Cave del Predi 30.41 90 P **P** 04 32 26.6 -2.2
MORC Moravsky Berou 30.61 82 ⇑P **P** 04 32 31.5 +1.0
MORC Moravsky Berou 30.61 82 IAmb IAmb 04 32 40.6
comp=Z,18nm,1.4s
MORC Moravsky Berou 30.61 82 *eP* **P** 04 32 30.4 -0.1
SADO Sadowa 30.71 266 LR LR 04 43 34.5
comp=Z,865nm,18.7s,baz=12,slow=34
BINY Binghamton 30.73 259 P **P** 04 32 32.2 +0.6
baz=46
CONA Conrad Observa 30.76 86 *eP* **P** 04 32 31.0 -1.0
comp=Z,6.0nm,1.2s
OBKA Obir 30.90 89 *eP* **P** 04 32 33.7 +0.5
comp=Z,12nm,1.1s
OKC Ostrava-Krasne 30.90 81 AMS AMS 04 44 50.0
comp=Z,800nm,17.7s
ARSA Arzberg 30.98 87 *eP* **P** 04 32 36.8 +3.0
comp=Z,5.8nm,0.8s
MAUC Maruska 31.00 82 *eP* **P** 04 32 35.1 +1.2
SOKA Soboth 31.06 89 *eP* **P** 04 32 34.8 +0.3
comp=Z,7.1nm,1.3s
PABE Paberze 31.08 68 P **P** 04 32 35.0 +0.5
PABE IAmb IAmb 04 32 40.9
comp=Z,22nm,1.0s
PABE Paberze 31.08 68 *eP* **P** 04 32 35.3 +0.8
RONA Rosalia, Austr 31.13 86 *eP* **P** 04 32 38.4 +3.2
comp=Z,5.4nm,1.2s
VSU Vasula 31.16 62 *eP* **P** 04 32 35.7 +0.5
JAVC Velka Javorina 31.20 83 *eP* **P** 04 32 36.6 +0.9
FCC Fort Churchill 31.22 299 **P** 04 32 35.6 -0.1
FCC IAmb IAmb 04 32 41.7
comp=Z,30nm,1.1s
MODS Modra-Piesok 31.27 84 *eP* **P** 04 32 36.9 +0.6
MDT Midelt 31.36 129 LR LR 04 42 53.0
comp=Z,381nm,20.7s,baz=26,slow=32
OJC Ojcow 31.58 80 *eP* **P** 04 32 38.7 -0.3
OJC Ojcow 31.58 80 P **P** 04 32 37.9 -1.1
OJC IAmb IAmb 04 32 43.4
comp=Z,13nm,1.1s
MURB Monte Urbino 31.89 96 IAmb IAmb 04 32 53.2
comp=Z,19nm,1.2s
LANS Liptovska Anna 32.00 81 *eP* **P** 04 32 44.2 +1.4
VYHS Vyhne 32.04 83 *eP* **P** 04 32 42.7 -0.4
MPLH Magyarpolny 32.12 86 P **P** 04 32 45.8 +2.0
ISAL Salakas 32.13 67 *eP* **P** 04 32 44.5 +0.7
SRO Srobarova 32.16 84 *eP* **P** 04 32 46.5 +2.4
IIGN Ignalina 32.29 67 *eP* **P** 04 32 46.0 +0.9
FDMO Fiordimonte 32.35 96 IAmb IAmb 04 32 56.3
comp=Z,12nm,1.0s
M55A Ridgway 32.73 261 IAmb IAmb 04 32 59.0
comp=Z,29nm,1.3s
SSPA Standing Stone 32.84 259 P **P** 04 32 50.8 +0.7
baz=44

PSZ Piszkesteto 32.95 83 ⇑P **P** 04 32 52.2 +1.0
PSZ Piszkesteto 32.95 83 P **P** 04 32 50.9 -0.2
PSZ IAmb IAmb 04 32 57.7
comp=Z,15nm,0.9s
PSZ Piszkesteto 32.95 83 P **P** 04 32 51.7 +0.6
KOVH Kovagotottos 33.09 87 P **P** 04 32 51.8 -0.5
CRVS Cervenica-Dubn 33.22 80 *eP* **P** 04 32 53.9 +0.5
MORH Mrgy, Hungar 33.31 86 ⇑P **P** 04 32 54.2 0.0
MORH Mrgy, Hungar 33.31 86 P **P** 04 32 54.0 -0.2
MNK Minsk 33.54 68 *i* P **P** 04 32 54.4 -1.7
comp=E,4.0nm,1.0s
MNK *i* P **P** 04 32 54.4 -1.7
MNK *i* P **P** 04 32 54.4 -1.7
comp=Z,25nm,1.0s,baz=300
MNK *i* PP **PnPn** 04 34 06.3 -0.9
MNK *i* PPP PPP 04 34 15.3
MNK *i* S **S** 04 38 16.3 -1.5
MNK *i* SS **SnSn** 04 40 18.7 -1.1
MNK *i* SSS SSS 04 40 28.5
MNK *i* LQ LQ 04 43 56.5
MNK *i* LR LR 04 44 45.8
MNK *i* LRM MLR 04 46 07.5
comp=E,39nm,15.1s
MNK *i* LRM MLR 04 46 09.9
comp=Z,223nm,15.1s
MNK *i* LRM MLR 04 46 17.0
KOLS Kolonicke sedl 33.63 80 *eP* **P** 04 32 58.8 +1.8
GLMI Grayling 33.65 271 P **P** 04 32 59.5 +2.2
GLMI Grayling 33.65 271 P **P** 04 32 57.7 +0.4
baz=50
P57A Homestead Farm 33.74 258 IAmb IAmb 04 33 07.3
comp=Z,17nm,1.1s
M53A WI Miller and 33.78 263 P **P** 04 32 58.0 -0.3
baz=46
TRPA Tarpa 34.25 81 ⇑P **P** 04 33 03.9 +1.6
TRPA Tarpa 34.25 81 P **P** 04 33 02.4 +0.1
O54A Avella 34.50 261 IAmb IAmb 04 33 14.0
comp=Z,19nm,1.0s
MCWV Mont Chateau 34.59 260 P **P** 04 33 06.3 +0.9
baz=44
FRGS Fruska Gora 34.61 87 ⇑P **P** 04 33 06.9 +1.3
AAM Ann Arbor 34.80 267 P **P** 04 33 07.4 +0.3
baz=47
O53A New Philadelph 34.90 262 P **P** 04 33 08.2 +0.1
baz=45
SIRR Siria 34.91 84 ⇓P **P** 04 33 09.8 +1.7
DRGR 35.16 83 ⇓P **P** 04 33 11.8 +1.5
BZS Buzias 35.30 85 ⇑P **P** 04 33 12.4 +1.0
O52A Adamsville 35.33 262 IAmb IAmb 04 33 20.8
comp=Z,32nm,1.1s
DIVS Divibare 35.40 88 P **P** 04 33 12.7 +0.3
EYMN Ely 35.43 280 **P** 04 33 12.9 +0.3
EYMN Ely 35.43 280 P **P** 04 33 12.2 -0.3
baz=53,SNR=5.8
KEST Kesra 35.65 108 P **P** 04 33 14.2 -0.5
comp=Z,19nm,1.1s,baz=325,slow=7.3,SNR=11
comp=Z,19nm,1.1s
KEST Kesra 35.65 108 IAmb IAmb 04 33 18.0
comp=Z,31nm,1.1s
P52A Corning 35.84 262 IAmb IAmb 04 33 22.4
comp=Z,34nm,1.4s
P52A Corning 35.84 262 P **P** 04 33 15.9 -0.3
baz=44
ACSO Alum Creek Sta 35.87 263 IAmb IAmb 04 33 22.6
comp=Z,18nm,0.9s
ACSO Alum Creek Sta 35.87 263 P **P** 04 33 16.1 -0.3
baz=45
MDVR Moldovita 35.89 86 ⇓P **P** 04 33 17.3 +0.7
KLMR Klimovskoe 35.97 53 ⇓*i* P **P** 04 33 16.7 -0.3
KLMR ⇓*i* P **P** 04 33 16.7 -0.3
KLMR ⇓*i* P **P** 04 33 16.7 -0.3
KLMR AMP 04 33 18.2
comp=Z,56nm,1.5s
BUR08 Bucovina Ar. S 35.97 80 P **P** 04 33 17.3 0.0
BUR08 IAmb IAmb 04 33 24.2
comp=Z,15nm,1.2s
BURAR Bucovina Array 36.00 80 ⇑P **P** 04 33 18.3 +0.8
GZR Gura Zlata 36.07 84 ⇑P **P** 04 33 19.0 +0.9
HERR Herculane 36.21 85 ⇓P **P** 04 33 20.3 +1.1
AKASG Malin Array Be 36.28 73 P **P** 04 33 19.1 -0.7
comp=Z,14nm,0.9s,baz=307,slow=8.3,SNR=29
AKASG PcP **PcP** 04 35 42.4 -2.0
comp=Z,0.3nm,0.3s,baz=294,slow=3.5,SNR=1.1
AKASG LR LR 04 47 53.6
comp=Z,291nm,20.0s,baz=282,slow=36
comp=Z,14nm,0.9s
AKBB Malin Array Si 36.28 73 IAmb IAmb 04 33 25.2
comp=Z,23nm,0.9s
CLTB Caltabellotta 36.29 102 P **P** 04 33 19.0 -1.1
G40A Rib Lake 36.40 276 IAmb IAmb 04 33 26.8
comp=Z,16nm,1.2s
O49A Covington 36.63 265 IAmb IAmb 04 33 32.0
comp=Z,23nm,1.0s
BOVS Bovan 36.63 87 ⇑P **P** 04 33 23.7 +0.8
R53A Hurricane 36.68 260 IAmb IAmb 04 33 29.8
comp=Z,14nm,0.8s
BLA Blacksburg 36.69 257 P **P** 04 33 23.2 -0.2
baz=42
BIZ Bicaz 36.89 80 ⇓P **P** 04 33 27.0 +1.9
Q51A Peebles 36.93 262 IAmb IAmb 04 33 34.7
comp=Z,44nm,1.4s
FFC Flin Flon 36.97 296 **P** 04 33 26.6 +1.1
FFC IAmb IAmb 04 33 31.5
comp=Z,17nm,0.8s
O48B Farmland 37.03 265 P **P** 04 33 26.5 +0.2
baz=45
ARR Arges 37.09 83 ⇑P **P** 04 33 28.6 +1.7
DOPR Dopca 37.12 82 ⇑P **P** 04 33 27.6 +0.6
RAFF Raffo Rosso 37.16 102 IAmb IAmb 04 33 32.8
comp=Z,44nm,1.2s
BLKB Belogradchik 37.17 87 ⇑P **P** 04 33 28.4 +0.9
L44A Lake County Fo 37.20 270 P **P** 04 33 27.7 0.0
baz=47
VOIR 37.27 83 ⇓P **P** 04 33 29.3 +0.9
P49A Miami Univ. Ec 37.30 264 IAmb IAmb 04 33 34.6
comp=Z,48nm,1.6s
P49A Miami Univ. Ec 37.30 264 P **P** 04 33 29.2 +0.6
baz=44
U56A King 37.32 257 IAmb IAmb 04 33 35.5
comp=Z,30nm,1.6s
OBN Obninsk 37.51 62 P **P** 04 33 29.4 -0.7
comp=Z,3.5nm,0.4s,baz=283,slow=21,SNR=7.0
OBN LR LR 04 47 33.3
comp=Z,72nm,20.7s,baz=310,slow=34
comp=Z,3.5nm,0.4s
OBN Obninsk 37.51 62 P **P** 04 33 29.4 -0.7
AGMN Agassiz Nation 37.54 284 IAmb IAmb 04 33 35.8
comp=Z,21nm,1.1s
AGMN Agassiz Nation 37.54 284 P **P** 04 33 30.7 +0.1
baz=52
MLR Muntele Rosu 37.72 82 P **P** 04 33 31.1 -1.2
comp=Z,1.6nm,0.8s,baz=45,slow=13,SNR=2.1
comp=Z,1.6nm,0.8s
F36A Milaca 37.81 279 IAmb IAmb 04 33 38.9
comp=Z,24nm,1.2s
SPMN Marine on St. 37.84 278 P **P** 04 33 33.0 -0.1
baz=50,SNR=6.0
JFWS Jewell Farm 37.97 273 P **P** 04 33 33.9 -0.4
baz=48
R50A Paris 38.00 262 IAmb IAmb 04 33 40.7
comp=Z,39nm,1.6s
SFIN Lafayette 38.00 267 P **P** 04 33 35.0 +0.5
baz=45
S51A Beattyville 38.07 261 IAmb IAmb 04 33 41.3
comp=Z,17nm,0.8s
VTS Vitosha 38.15 87 ⇓P **P** 04 33 36.5 +0.6
KBN Korca 38.19 92 P **P** 04 33 36.8 +0.6
L42A Oliver, Polo 38.27 271 IAmb IAmb 04 33 42.4
comp=Z,28nm,1.1s
YKA Yellowknife Ar 38.56 313 P **P** 04 33 38.5 -0.5
comp=Z,2.8nm,0.7s,baz=60,slow=8.7,SNR=3.5
comp=Z,2.8nm,0.7s
P46A Rosedale 38.60 267 IAmb IAmb 04 33 46.3
comp=Z,17nm,0.8s
KMSC Kings Mountain 38.73 256 P **P** 04 33 41.2 +0.5
baz=40
TZTN Tazewell 38.86 260 P **P** 04 33 42.0 +0.3
baz=42
HDIL Hopedale 39.07 269 P **P** 04 33 43.5 0.0
baz=46
L40A Anamosa 39.08 273 IAmb IAmb 04 33 49.8
comp=Z,63nm,1.8s
WCI Wyandotte Cave 39.10 264 **P** 04 33 44.7 +0.9
WCI Wyandotte Cave 39.10 264 P **P** 04 33 44.2 +0.5
baz=43
CFR Carcaliu 39.10 81 ⇓P **P** 04 33 42.9 -0.8

F33A **5 Mile Ranch,** 39.31 281 P P 04 33 45.5 +0.1
F33A IAmb IAmb 04 33 51.4
comp=Z,36nm,1.4s
NHSC **New Hope** 39.70 253 P P 04 33 49.8 +1.1
baz=38
MDND **Maddock** 39.79 286 P P 04 33 49.8 +0.4
baz=51
P43A **Skaggs, Pawnee** 39.84 269 IAmb IAmb 04 33 55.6
comp=Z,19nm,0.9s
V51A **Loudon** 39.84 260 IAmb IAmb 04 33 56.3
comp=Z,57nm,1.8s
Q44A **Meyer Farm, Va** 40.09 267 IAmb IAmb 04 33 58.0
comp=Z,22nm,0.8s
RDO **Rodhopi** 40.41 87 IAmb IAmb 04 34 00.7
comp=Z,26nm,1.0s
T47A **Sharon Grove** 40.44 264 IAmb IAmb 04 34 04.3
comp=Z,31nm,1.3s
ALN **Alexandroupoli** 40.86 87 P P 04 33 59.0 +0.7
ALN IAmb IAmb 04 34 06.1
comp=Z,32nm,1.0s
ECSD **EROS Data Cent** 40.87 279 P P 04 33 59.2 +0.8
baz=48,SNR=17
SIUC **Southern Illin** 41.06 266 IAmb IAmb 04 34 06.1
comp=Z,26nm,0.8s
S44A **Carbondale** 41.09 266 IAmb IAmb 04 34 06.3
comp=Z,27nm,0.7s
SWET **Sewanee** 41.13 261 IAmb IAmb 04 34 06.9
comp=Z,56nm,1.9s
GOGA **Godfrey** 41.19 257 P P 04 34 02.1 +1.0
baz=39
V48A **Smith Brothers** 41.22 262 IAmb IAmb 04 34 07.0
comp=Z,22nm,1.3s
P40A **Paris** 41.29 271 IAmb IAmb 04 34 07.9
comp=Z,49nm,1.6s
KIRV **Kirov** 41.43 52 P P 04 34 00.8 -1.9
comp=Z,13nm,0.6s,baz=296,slow=4.6,SNR=5.6
comp=Z,13nm,0.6s
WVT **Waverly** 41.47 263 P 04 34 03.4 0.0
WVT IAmb IAmb 04 34 12.2
comp=Z,27nm,1.4s
WVT **Waverly** 41.47 263 P P 04 34 04.0 +0.6
baz=42
DGMT **Dagmar** 41.78 289 P P 04 34 05.9 0.0
baz=50,SNR=22
CCM **Cathedral Cave** 41.91 268 P P 04 34 07.7 +0.7
CCM IAmb IAmb 04 34 15.8
comp=Z,29nm,1.5s
CCM **Cathedral Cave** 41.91 268 P P 04 34 07.5 +0.5
baz=43
INK **Inuvik** 41.98 327 P P 04 34 07.7 +0.5
comp=Z,6.9nm,1.1s,baz=54,slow=12,SNR=3.3
comp=Z,6.9nm,1.1s
INK **Inuvik** 41.98 327 P 04 34 07.5 +0.3
INK **Inuvik** 41.98 327 P P 04 34 06.7 -0.5
baz=53
X48A **Hartselle** 42.30 261 IAmb IAmb 04 34 16.4
comp=Z,33nm,1.8s
F31M **Tsiigehtchic** 42.57 326 P P 04 34 12.0 0.0
baz=52,SNR=7.8
TIGA **Tifton** 42.79 255 P P 04 34 14.6 +0.4
baz=38
W45A **Hickory Valley** 42.93 264 IAmb IAmb 04 34 20.5
comp=Z,32nm,0.8s
MGMO **Mountain Grove** 43.12 268 IAmb IAmb 04 34 23.1
comp=Z,73nm,1.9s
BGNE **Belgrade** 43.29 277 P P 04 34 18.6 +0.5
baz=46
EDM **Edmonton** 43.30 300 P P 04 34 19.0 +0.8
EDM IAmb IAmb 04 34 24.1
comp=Z,35nm,0.9s
LRAL **Lakeview Retre** 43.36 260 P P 04 34 19.7 +0.9
baz=40
352A **Blakely** 43.46 256 IAmb IAmb 04 34 27.3
comp=Z,23nm,1.4s
OXF **Oxford** 43.53 263 P P 04 34 21.0 +0.8
baz=41
Z47A **Carrollton** 43.81 261 IAmb IAmb 04 34 27.2
comp=Z,19nm,0.8s
LAO **LASA Array** 43.98 289 P P 04 34 24.0 +0.3
baz=48,SNR=15
KSU1 **Kansas State U** 44.08 274 IAmb IAmb 04 34 30.8
comp=Z,18nm,1.1s
EPYK **Eagle Plains** 44.16 326 IAmb IAmb 04 34 31.4
comp=Z,26nm,1.2s
EPYK **Eagle Plains** 44.16 326 P P 04 34 24.4 -0.5
baz=49,SNR=8.1
DWPF **Disney Wildern** 44.33 250 P P 04 34 27.5 +0.8
baz=35
E27K **Coleen River** 44.38 329 P P 04 34 26.1 -0.6
baz=48
BELG **Belogornoye** 44.41 60 P P 04 34 26.3 -0.6
comp=Z,28nm,0.8s,baz=304,slow=1.0,SNR=5.2
comp=Z,28nm,0.8s
TGTN **Hyland Airport** 44.41 317 P P 04 34 26.6 -0.3
baz=51
WHAR **Wooly Hollow** 44.51 267 IAmb IAmb 04 34 36.7
comp=Z,46nm,1.7s
RSSD **Black Hills** 44.56 285 P 04 34 30.8 +2.2
RSSD **Black Hills** 44.56 285 P P 04 34 28.5 -0.2
baz=47
MMPY **Sheldon Lake,** 44.79 319 P P 04 34 29.7 -0.4
baz=50
BRAL **Brewton** 44.83 258 P P 04 34 31.6 +0.9
baz=38
EGMT **Eagleton** 44.89 292 P P 04 34 31.0 0.0
baz=48,SNR=6.1
I29M **Ogilvie Camp,** 45.32 325 IAmb IAmb 04 34 40.1
comp=Z,18nm,1.1s
I29M **Ogilvie Camp,** 45.32 325 P P 04 34 34.0 -0.2
baz=48
G27K **Doyon Strip** 45.34 328 P P 04 34 33.6 -0.7
baz=46
RLO **Rose Lookout** 45.35 270 IAmb IAmb 04 34 43.0
comp=Z,19nm,1.1s
F26K **Sheenjek River** 45.42 330 P P 04 34 34.3 -0.6
baz=46
E25K **Arctic Village** 45.50 331 P P 04 34 35.0 -0.6
baz=45
WTLY **Watson Lake, Y** 45.51 316 IAmb IAmb 04 34 42.8
comp=Z,27nm,1.2s
WTLY **Watson Lake, Y** 45.51 316 P P 04 34 35.8 0.0
baz=49
D24K **Happy Valley** 45.59 333 P P 04 34 36.1 -0.1
baz=43
H27K **Steamboat Moun** 45.70 327 P P 04 34 36.5 -0.7
baz=46
BMAR **Burnt Mountain** 45.73 330 P P 04 34 38.7 +1.4
MAYO **Mayo, Yukon** 45.74 322 P P 04 34 37.0 -0.5
baz=48
MIAR **Mount Ida** 45.77 267 IAmb IAmb 04 34 50.0
comp=Z,23nm,1.2s
MIAR **Mount Ida** 45.77 267 P P 04 34 38.0 -0.1
baz=41
FARO **Faro, Yukon** 45.78 320 IAmb IAmb 04 34 45.0
comp=Z,23nm,1.3s
FARO **Faro, Yukon** 45.78 320 P P 04 34 37.6 -0.3
baz=48
BR131 **Keskin Array S** 45.80 82 P P 04 34 38.6 +0.2
BR131 IAmb IAmb 04 34 43.2
comp=Z,22nm,1.0s
BRTR **Keskin Array B** 45.80 82 P P 04 34 37.8 -0.6
comp=Z,16nm,1.1s,baz=308,slow=6.0,SNR=20
comp=Z,16nm,1.1s
BRTR **Keskin Array B** 45.80 82 P P 04 34 38.9 +0.5
G26K **Porcupine Rive** 45.84 329 P P 04 34 37.6 -0.6
baz=45
VBMS **Vicksburg** 45.88 262 P P 04 34 39.4 +0.5
baz=39
F25K **Christian Rive** 45.90 330 P P 04 34 37.9 -0.9
baz=44
TUL1 **Leonard** 45.96 270 P P 04 34 39.6 +0.1
baz=42
K29M **Barlow Dome** 46.10 323 P P 04 34 40.1 -0.4
baz=47,SNR=6.4
TOLK **Toolik Lake Re** 46.15 333 P P 04 34 39.8 -0.9
baz=42
I27K **Kandik River** 46.16 327 P P 04 34 40.2 -0.6
baz=46
WLAR **White Oak Lake** 46.16 266 IAmb IAmb 04 34 46.2
comp=Z,15nm,0.8s
M31M **Drury Creek, Y** 46.16 320 IAmb IAmb 04 34 49.9
comp=Z,13nm,1.3s
M31M **Drury Creek, Y** 46.16 320 P P 04 34 40.0 -0.8
baz=48
D23K **Nanushuk River** 46.18 334 P P 04 34 40.4 -0.5
baz=42
E24K **Your Creek** 46.30 332 P P 04 34 41.3 -0.6
baz=43
DEOK **Depew** 46.39 271 IAmb IAmb 04 34 51.1
comp=Z,21nm,1.1s
N32M **Quiet Lake** 46.41 319 P P 04 34 42.4 -0.4
baz=48
F24K **Squaw Lake** 46.55 331 P P 04 34 43.4 -0.4
baz=43
DAWY **Dawson** 46.55 324 P P 04 34 43.2 -0.7
baz=46,SNR=9.1
E23K **Chandalar** 46.59 332 P P 04 34 43.6 -0.6
baz=42
EGAK **Eagle** 46.60 326 IAmb IAmb 04 34 50.2
comp=Z,15nm,1.1s
EGAK **Eagle** 46.60 326 P P 04 34 43.1 -1.1
baz=45,SNR=6.9
RLMT **Red Lodge** 46.60 289 P P 04 34 44.4 -0.4
baz=46,SNR=18
ARU **Arti** 46.63 50 P P 04 34 44.3 -0.3
comp=Z,7.9nm,0.6s,baz=307,slow=6.2,SNR=12
comp=Z,7.9nm,0.6s
ARU **Arti** 46.63 50 P P 04 34 45.1 +0.5
NRIK **Noril'sk** 46.80 25 P P 04 34 47.0 +1.3
comp=Z,3.4nm,0.5s,baz=342,slow=2.4,SNR=2.2
comp=Z,3.4nm,0.5s
NRIK **Noril'sk** 46.80 25 P P 04 34 47.1 +1.3
NRIK IAmb IAmb 04 34 51.9
comp=Z,22nm,1.4s
L29M **L29M** 46.81 323 P P 04 34 45.1 -0.8
baz=46,SNR=5.1
R33M **Jennings River** 46.81 316 P P 04 34 45.5 -0.6
baz=48
K22A **Casper** 46.89 285 P P 04 34 47.0 0.0
baz=45,SNR=7.6
H25K **Birch Creek** 46.90 329 P P 04 34 46.1 -0.4
baz=44
P33M **Teslin, Yukon** 46.95 318 P P 04 34 46.8 -0.3
baz=47
G24K **Hadweenzic Riv** 47.04 330 P P 04 34 46.7 -1.0
baz=43
OK025 **Westminster Rd** 47.04 271 IAmb IAmb 04 34 52.7
comp=Z,13nm,0.9s
DLBC **Dease Lake** 47.10 314 P P 04 34 51.4 +3.1
comp=Z,8.7nm,1.0s,baz=43,slow=8.9,SNR=8.3
DLBC **Dease Lake** 47.10 314 P P 04 34 47.7 -0.6
baz=47
N31M **Braeburn, Yuko** 47.14 320 P P 04 34 48.3 -0.2
baz=46
PHWY **Pilot Hill** 47.28 283 IAmb IAmb 04 34 56.0
comp=Z,12nm,1.4s
JTMT **Jette** 47.34 295 IAmb IAmb 04 34 55.6
comp=Z,13nm,0.9s
COLD **Coldfoot** 47.37 332 P P 04 34 50.1 -0.1
baz=41
PRP **Porcupine Dome** 47.37 328 P P 04 34 50.4 0.0
baz=43
M29M **Somme Creek** 47.38 322 P P 04 34 50.2 -0.3
baz=46,SNR=6.9
K27K **Chicken** 47.42 325 IAmb IAmb 04 34 57.4
comp=Z,16nm,1.2s
K27K **Chicken** 47.42 325 P P 04 34 50.5 -0.1
baz=44
BOZ **Bozeman (W)** 47.48 291 P P 04 34 51.7 +0.1
baz=46,SNR=34
J26L **Joseph Creek** 47.53 327 P P 04 34 51.1 -0.5
baz=44
KIV **Kislovodsk** 47.61 72 P P 04 34 52.9 +0.4
F22K **John River** 47.65 333 P P 04 34 51.8 -0.7
baz=40
P32M **Atlin** 47.71 317 P P 04 34 52.5 -0.5
baz=46
G23K **Bananza Creek** 47.71 331 P P 04 34 52.3 -0.6
baz=41
O30N **Mendenhall** 47.74 320 P P 04 34 52.7 -0.6
baz=46
YHL **Hebgen Lake** 47.77 290 IAmb IAmb 04 35 01.9
comp=Z,11nm,1.0s
H17A **Grant Village** 47.78 289 IAmb IAmb 04 35 02.2
comp=Z,20nm,1.4s
H17A **Grant Village** 47.78 289 P P 04 34 53.7 -0.3
baz=46
H24K **Noodor Dome** 47.79 330 P P 04 34 52.8 -0.8
baz=42
MSO **Missoula** 47.80 294 P P 04 34 53.5 -0.4
MSO IAmb IAmb 04 34 59.0
comp=Z,6.7nm,0.8s
MSO **Missoula** 47.80 294 P P 04 34 53.7 -0.2
baz=46
N23A **Red Feather La** 47.83 283 P P 04 34 54.5 +0.1
baz=44,SNR=6.7
YFT **Old Faithful** 47.87 290 IAmb IAmb 04 35 02.3
comp=Z,15nm,0.9s
KBZ **Khabaz** 47.88 72 P P 04 34 54.9 +0.5
comp=Z,13nm,1.1s,baz=284,slow=8.5,SNR=5.5
comp=Z,13nm,1.1s
S34M **Telegraph Cree** 47.89 315 P P 04 34 54.1 -0.2
baz=46
RWWY **Rawlins** 47.93 284 IAmb IAmb 04 35 02.5
comp=Z,21nm,1.2s
G22K **Bettles** 47.93 332 P P 04 34 54.1 -0.5
baz=40
J25K **Salcha River,** 47.98 327 P P 04 34 54.5 -0.6
baz=43,SNR=5.5
L27K **Beaver Creek,** 48.03 324 IAmb IAmb 04 35 02.5
comp=Z,20nm,1.3s
L27K **Beaver Creek,** 48.03 324 P P 04 34 54.7 -0.7
baz=44,SNR=5.1
SCRK **Sand Creek** 48.04 326 IAmb IAmb 04 35 02.4
comp=Z,19nm,1.1s
SCRK **Sand Creek** 48.04 326 P P 04 34 55.2 -0.4
baz=43,SNR=9.5
KOWA **Kowa** 48.10 140 P P 04 34 56.2 -0.2
KOWA IAmb IAmb 04 34 59.6
comp=Z,20nm,1.2s
LOOK **Love County** 48.15 270 IAmb IAmb 04 35 05.4
comp=Z,30nm,1.3s
T35M **Bob Quinn** 48.18 313 P P 04 34 56.7 0.0
baz=46
BVCY **Beaver Creek** 48.19 323 P P 04 34 56.7 0.0
baz=44
F21K **Alatna River** 48.20 333 P P 04 34 56.4 -0.2
baz=39
HYT **Haines Junctio** 48.20 320 IAmb IAmb 04 35 04.0
comp=Z,21nm,1.3s
HYT **Haines Junctio** 48.20 320 P P 04 34 56.7 -0.2
baz=45
POKR **Poker Plat Res** 48.20 329 P P 04 34 56.5 -0.2
baz=42
YUK4 **Talbot Arm** 48.22 321 P P 04 34 56.1 -1.1
baz=45
H23K **Yukon River** 48.25 330 P 04 34 57.8 +0.7
H23K IAmb IAmb 04 35 03.3
comp=Z,28nm,1.6s
H23K **Yukon River** 48.25 330 P P 04 34 56.7 -0.4
baz=41
DOT **Dot Lake** 48.30 326 IAmb IAmb 04 35 04.3
comp=Z,14nm,1.2s
IL31 **** 48.31 328 IAmb IAmb 04 35 03.9
comp=Z,16nm,1.2s
ILAR **Eielson Array** 48.31 328 P P 04 34 57.0 -0.5
comp=Z,1.2nm,0.8s,baz=35,slow=6.8,SNR=9.2
ILAR PcP PcP 04 36 22.8 -1.2
comp=Z,3.1nm,1.1s,baz=4.0,slow=2.8,SNR=6.6
comp=Z,1.2nm,0.8s
LOHW **Long Hollow** 48.34 289 IAmb IAmb 04 35 04.4
comp=Z,19nm,1.5s
NEW **Newport** 48.37 297 IAmb IAmb 04 35 08.3
comp=Z,14nm,1.2s
NEW **Newport** 48.37 297 P P 04 34 58.4 +0.1
baz=46
SKAG **Skagway** 48.39 318 P P 04 34 58.3 +0.1
baz=45
BW06 **Boulder Array** 48.40 287 IAmb IAmb 04 35 03.9
comp=Z,18nm,1.4s
BW06 **Boulder Array** 48.40 287 P P 04 34 58.2 -0.6
baz=45,SNR=6.7
PD31 **Pinedale Array** 48.40 287 IAmb IAmb 04 35 03.9
comp=Z,16nm,1.4s
PDAR **Pinedale Array** 48.40 287 P P 04 34 57.7 -1.0
comp=Z,5.1nm,0.9s,baz=64,slow=6.8,SNR=14
PDAR PP PP 04 36 50.3 -0.7
comp=Z,0.5nm,0.9s,baz=48,slow=2.8,SNR=6.0
comp=Z,5.1nm,0.9s
ISCO **Idaho Springs** 48.43 281 P P 04 34 59.3 +0.1
baz=44,SNR=7.3
WMOK **Wichita Mounta** 48.46 272 IAmb IAmb 04 35 08.0
comp=Z,17nm,1.1s
WMOK **Wichita Mounta** 48.46 272 P P 04 34 59.9 +0.8
baz=41
RIDG **Independent Ri** 48.47 326 P P 04 34 58.3 -0.5
baz=42
NATX **Nacogdoches** 48.48 265 P P 04 35 00.5 +1.3
baz=39
YUK3 **Moose Creek** 48.52 323 P P 04 34 58.4 -1.0
baz=44
SNOW **Snow King Moun** 48.53 289 IAmb IAmb 04 35 06.0
comp=Z,27nm,1.4s
L26K **Log Cabin Wild** 48.54 325 P P 04 34 58.8 -0.5
baz=43
FXWY **Fox Creek** 48.54 289 IAmb IAmb 04 35 05.9
comp=Z,14nm,1.2s
MDM **Murphy Dome** 48.55 329 P P 04 35 01.1 +1.7
MDM IAmb IAmb 04 35 05.7
comp=Z,16nm,1.2s
HDA **Harding Lake** 48.59 328 IAmb IAmb 04 35 20.9
comp=Z,22nm,1.6s
HDA **Harding Lake** 48.59 328 P P 04 34 59.7 0.0
baz=42
TPAW **Teton Pass** 48.61 289 IAmb IAmb 04 35 06.3
comp=Z,17nm,1.2s
H22K **Ishtalitna Cre** 48.69 331 P P 04 35 00.5 0.0
baz=40
K24K **Donnelly Dome** 48.70 327 P P 04 35 00.1 -0.5
baz=42
MENT **Mentasta** 48.72 325 P P 04 35 02.0 +1.3
MENT IAmb IAmb 04 35 17.7
comp=Z,17nm,1.4s
WRH **Wood River Hil** 48.88 328 IAmb IAmb 04 35 07.4
comp=Z,21nm,1.6s
M26K **Nabesna, AK** 48.89 324 P P 04 35 01.4 -0.6
baz=43
NEA2 **Nenana** 49.06 329 P P 04 35 02.7 -0.6
baz=40
MLY **Manley** 49.19 330 P P 04 35 04.8 +0.5
MLY IAmb IAmb 04 35 09.9
comp=Z,17nm,1.6s
MLY **Manley** 49.19 330 P P 04 35 03.8 -0.5
baz=40
AHID **Auburn Hatcher** 49.20 288 IAmb IAmb 04 35 18.6
comp=Z,18nm,1.2s
C09A **Chrisman Ranch** 49.25 298 IAmb IAmb 04 35 09.8
comp=Z,15nm,0.8s
H21K **Melozitna Rive** 49.25 332 P P 04 35 03.8 -0.9
baz=39
B08A **Colville Reser** 49.37 299 IAmb IAmb 04 35 11.4
comp=Z,17nm,0.9s
I21K **Tanana** 49.40 331 IAmb IAmb 04 35 28.1
comp=Z,12nm,1.2s
I21K **Tanana** 49.40 331 P P 04 35 05.2 -0.6
baz=39
S32K **Killisnoo** 49.52 316 P P 04 35 06.8 -0.1
baz=44
HARP **HAARP** 49.57 325 P P 04 35 07.1 0.0
baz=42
O20A **White River Ci** 49.59 284 IAmb IAmb 04 35 14.3
comp=Z,38nm,1.7s
O20A **White River Ci** 49.59 284 P P 04 35 08.3 +0.4
baz=44
MCK **McKinley** 49.68 328 IAmb IAmb 04 35 14.3
comp=Z,17nm,1.2s
MCK **McKinley** 49.68 328 P P 04 35 08.1 0.0
baz=40
DHY **Denali Highway** 49.73 327 P P 04 35 08.2 -0.3
baz=41
T25A **Trinidad** 49.73 278 P 04 35 10.8 +1.8
T25A **Trinidad** 49.73 278 P P 04 35 09.2 +0.2
baz=42
WHTX **Lake Whitney,** 49.82 268 P P 04 35 10.2 +0.7
WHTX IAmb IAmb 04 35 17.7
comp=Z,12nm,0.9s
WHTX **Lake Whitney,** 49.82 268 P P 04 35 10.1 +0.6
baz=40
SDCO **Great Sand Dun** 49.87 280 P P 04 35 10.5 +0.3
baz=42
V35K **Ketchikan** 49.89 312 P P 04 35 09.6 0.0
baz=45
RND **Reindeer** 49.91 328 IAmb IAmb 04 35 16.3
comp=Z,16nm,1.2s
AMTX **Amarillo** 49.93 274 P P 04 35 11.0 +0.7
baz=41
BPAW **Bear Paw Mtn.** 49.98 329 P P 04 35 10.0 -0.3
baz=39
N25K **Chitina, Valde** 49.99 324 P P 04 35 10.0 -0.5
baz=41
F10A **Beach Ranch, E** 50.02 295 IAmb IAmb 04 35 15.7
comp=Z,15nm,0.9s
M24K **Tolsona, Glenn** 50.10 326 P P 04 35 10.5 -0.8
baz=41
MESA **MESA** 50.19 322 P P 04 35 11.5 -0.7
baz=42
WAT6 **Susitna Watana** 50.21 327 P P 04 35 11.7 -0.6
baz=40
WAT1 **Susitna Watana** 50.26 327 P P 04 35 12.0 -0.6
baz=40
HWUT **Hardware Ranch** 50.27 287 IAmb IAmb 04 35 17.9
comp=Z,23nm,1.2s
TRF **Thorofare Moun** 50.28 329 P P 04 35 12.3 -0.5
baz=39
HLID **Hailey** 50.33 291 IAmb IAmb 04 35 23.0
comp=Z,12nm,1.1s
HLID **Hailey** 50.33 291 P P 04 35 13.4 0.0
baz=44,SNR=19
BMRM **Bremner River** 50.47 324 P P 04 35 12.8 -1.3
baz=41
KLU **Klutina** 50.49 325 P P 04 35 13.0 -1.3
baz=41
HKT **Hockley** 50.51 265 P P 04 35 14.6 0.0
CHUM **Lake Minchumin** 50.51 330 P P 04 35 12.6 -1.7
baz=38
ABTX **Abilene, Hawle** 50.52 270 P P 04 35 14.7 -0.2
baz=40
AKTO **Aktyubinsk** 50.53 56 P P 04 35 14.2 -0.4
comp=Z,14nm,0.8s,baz=316,slow=7.5,SNR=36
comp=Z,14nm,0.8s
S22A **4UR Ranch, Cre** 50.58 281 P P 04 35 14.5 -1.1
baz=42
SCM **Sheep Creek Mo** 50.66 326 P P 04 35 13.7 -1.8
baz=40
HVU **Hansel Valley** 50.77 288 IAmb IAmb 04 35 22.4
comp=Z,25nm,1.6s
J20K **Nowita River** 50.77 331 P P 04 35 14.7 -1.6
baz=37
LTY **Liberty** 50.78 299 IAmb IAmb 04 35 20.9
comp=Z,16nm,1.1s
CAST **Castle Rocks** 50.81 329 IAmb IAmb 04 35 25.4
comp=Z,17nm,1.4s
CAST **Castle Rocks** 50.81 329 P P 04 35 15.5 -1.1
baz=38
M23K **Glacier View** 50.81 326 P P 04 35 15.8 -0.9
baz=40
BMO **Blue Mountains** 50.86 294 IAmb IAmb 04 35 27.2
comp=Z,14nm,1.1s
JLU **Jordanelle** 50.94 286 IAmb IAmb 04 35 23.9
comp=Z,18nm,1.3s
SML **Sawmill** 50.99 326 P P 04 35 17.4 -0.6
baz=39
P18A **Preston Nutter** 51.02 285 IAmb IAmb 04 35 24.8
comp=Z,15nm,1.3s
GURO **Guroymak-BITLI** 51.14 77 P P 04 35 21.2 +1.6
GURO IAmb IAmb 04 35 24.3
comp=Z,5.3nm,0.4s
EYAK **Cordova Ski Ar** 51.15 324 P P 04 35 18.7 -0.4
baz=40
MSTX **Muleshoe** 51.21 274 IAmb IAmb 04 35 27.6
comp=Z,14nm,1.1s
MSTX **Muleshoe** 51.21 274 P P 04 35 20.8 +0.8
baz=41
PPLA **Purkeypile** 51.26 329 P P 04 35 19.9 -0.3
baz=38
PV11 **David Mesa, Pa** 51.26 283 IAmb IAmb 04 35 27.0
comp=Z,35nm,1.5s
GLI **Glacier Island** 51.33 325 P P 04 35 20.3 -0.2
baz=40
KNK **Knik Glacier** 51.33 326 P P 04 35 20.1 -0.4
baz=39
PV13 **Radium Mtn., P** 51.34 282 IAmb IAmb 04 35 29.8
comp=Z,16nm,1.0s
MARD **Mardin** 51.39 79 IAmb IAmb 04 35 25.1
comp=Z,21nm,1.0s
GNI **Garni** 51.40 74 P P 04 35 21.8 +0.3
comp=Z,35nm,1.1s,baz=320,slow=19,SNR=3.4
comp=Z,35nm,1.1s
K20K **Telida** 51.41 330 P P 04 35 21.3 +0.2
baz=37
TOA0 **Torodi Ar. Sit** 51.46 134 P P 04 35 20.6 -1.4
TOA0 IAmb IAmb 04 35 26.7
comp=Z,20nm,1.4s
TORD **Torodi Ar. Bea** 51.46 134 P P 04 35 19.8 -2.2

comp=Z,8.6nm,1.2s,baz=334,slow=5.8,SNR=14
comp=Z,8.6nm,1.2s
M22K Willow 51.56 327 P **P** **04 35 22.3 +0.1**
baz=38
MMAI Mount Meron Ar 51.71 87 P **P** **04 35 23.1 -0.7**
comp=Z,8.1nm,0.9s,baz=305,slow=10,SNR=5.9
MMAI LR LR 04 58 41.9
comp=Z,292nm,18.1s,baz=170,slow=38
comp=Z,8.1nm,0.9s
PWL Port Wells 51.73 326 P **P** **04 35 23.1 -0.4**
baz=39
NLU North Lily Min 51.73 286 IAmb IAmb 04 35 30.3
comp=Z,36nm,1.4s
SKT Skwentna 51.80 328 P **P** **04 35 23.5 -0.6**
baz=38
MVCO Mesa Verde 51.87 281 IAmb IAmb 04 35 41.2
comp=Z,24nm,1.4s
MVCO Mesa Verde 51.87 281 P **P** **04 35 25.1 -0.1**
baz=42
DUG Dugway, Tooele 51.94 287 P **P** **04 35 25.9 +0.3**
baz=43
RC01 Rabbit Creek A 51.97 326 P **P** **04 35 25.3 -0.1**
baz=38
L20K Farewell, AK 52.06 329 P **P** **04 35 25.3 -0.7**
baz=36
P23K Montague Islan 52.11 324 P **P** **04 35 26.3 0.0**
baz=39
ABKAR Akbulak array 52.24 56 P **P** **04 35 27.7 +0.2**
JCT Junction City 52.26 269 IAmb IAmb 04 35 32.6
comp=Z,18nm,0.9s
JCT Junction City 52.26 269 P **P** **04 35 28.4 +0.5**
baz=39
TTA Tatalina 52.27 331 IAmb IAmb 04 35 33.4
comp=Z,21nm,1.5s
TTA Tatalina 52.27 331 P **P** **04 35 27.4 -0.2**
baz=35
ANMO Albuquerque 52.47 278 P **P** **04 35 30.1 +0.5**
J08A Circle Bar Ran 52.52 294 IAmb IAmb 04 35 35.1
comp=Z,19nm,0.9s
G05D Wamic, OR 52.54 297 P **P** **04 35 29.6 -0.2**
baz=43
N20K Mount Spurr 52.62 328 P **P** **04 35 29.4 -0.8**
baz=37
ELK Elko 52.80 289 IAmb IAmb 04 35 39.0
comp=Z,18nm,1.3s
WVOR Wild Horse Val 53.28 293 IAmb IAmb 04 35 40.8
comp=Z,17nm,1.0s
PINE Pine Mountain 53.42 296 IAmb IAmb 04 35 42.8
comp=Z,18nm,0.9s
SPR3 Spring Creek 3 53.62 287 IAmb IAmb 04 35 45.5
comp=Z,21nm,1.4s
833A Chaparral WMA, 53.72 267 IAmb IAmb 04 35 43.4
comp=Z,12nm,0.8s
833A Chaparral WMA, 53.72 267 P **P** **04 35 39.0 +0.5**
baz=38
PSUT Pine Spring 53.72 286 IAmb IAmb 04 35 51.0
comp=Z,15nm,1.1s
PKCU Pink Cliffs 53.72 284 IAmb IAmb 04 35 46.0
comp=Z,15nm,1.0s
BRVK Borovoye 53.80 47 P **P** **04 35 39.2 +0.2**
BRVK IAmb IAmb 04 35 50.8
comp=Z,14nm,1.4s
BVAR Borovoye Array 53.87 47 P **P** **04 35 39.0 -0.4**
comp=Z,2.4nm,0.7s,baz=331,slow=11,SNR=12
BVAR PcP **PcP** **04 36 44.7 -0.2**
comp=Z,0.2nm,0.4s,baz=341,slow=3.1,SNR=2.2
comp=Z,2.4nm,0.7s
J05D Fort Rock, OR 53.94 295 P **P** **04 35 40.2 -0.1**
baz=42,SNR=12
EIL Elat 54.04 90 P **P** **04 35 40.0 -0.9**
comp=Z,11nm,1.0s,baz=0.0,slow=3.0,SNR=3.8
comp=Z,11nm,1.0s
BMN Battle Mountai 54.04 290 IAmb IAmb 04 35 52.1
comp=Z,9.4nm,1.1s
N18K Kilae Creek 54.09 329 P **P** **04 35 40.7 -0.3**
baz=34
W18A Petrified Fore 54.10 281 P **P** **04 35 42.1 +0.5**
baz=41
P19K Oil Pt 54.17 327 P **P** **04 35 41.4 -0.1**
baz=36
KNB Kanab 54.31 284 IAmb IAmb 04 35 49.4
comp=Z,16nm,1.2s
J04D Umpqua Nationa 54.40 296 P **P** **04 35 43.7 0.0**
baz=42
LCMT Little Creek M 54.53 285 IAmb IAmb 04 35 53.4
comp=Z,13nm,1.3s
WUAZ Wupatki 54.67 282 P **P** **04 35 46.2 +0.5**
WUAZ IAmb IAmb 04 35 55.1
comp=Z,21nm,1.4s
WUAZ Wupatki 54.67 282 P **P** **04 35 46.6 +0.9**
baz=41
R11A Troy Canyon, C 54.75 288 IAmb IAmb 04 35 52.3
comp=Z,14nm,1.5s
R11A Troy Canyon, C 54.75 288 P **P** **04 35 46.7 +0.4**
baz=41,SNR=5.6
121A Cookes Peak, D 55.02 277 P **P** **04 35 48.8 +0.5**
baz=40
N16K Nishlik Lake 55.05 330 P **P** **04 35 46.9 -1.0**
baz=33
BAUV El Baul 55.07 223 **P** **04 35 48.6 0.0**
TIC Toumodi 55.12 145⇓ *i*PKP1 **P** **04 35 49.8 +0.9**
comp=Z,7.3nm,0.5s
DBIC Dimbokro 55.14 145 P **P** **04 35 48.1 -0.9**
comp=Z,7.0nm,0.8s,baz=353,slow=8.0,SNR=6.7
comp=Z,7.0nm,0.8s
DBIC Dimbokro 55.14 145 P **P** **04 35 46.6 -2.5**
PRN Pahroc Range 55.18 286 IAmb IAmb 04 35 56.0
comp=Z,23nm,1.6s
TXAR Lajitas Array 55.25 271 P **P** **04 35 49.6 -0.3**
comp=Z,1.3nm,0.9s,baz=54,slow=6.4,SNR=8.7
comp=Z,1.3nm,0.9s
TXAR Lajitas Array 55.25 271 P **P** **04 35 49.4 -0.5**
L04D Klamath Falls 55.26 295 P **P** **04 35 49.9 0.0**
baz=41
KIC Kosan Boka 55.47 145⇑ *i*PKP1 **P** **04 35 50.6 -0.8**
comp=Z,4.1nm,0.6s
LIC Lamto 55.51 145⇑ *e*PKP1 **P** **04 35 49.7 -2.0**
comp=Z,21nm,0.6s
K02D Willamette Mer 55.57 297 P **P** **04 35 52.0 0.0**
baz=41
O16K Kokwok River B 55.61 330 P **P** **04 35 51.7 -0.2**
baz=33
SHPR Sheep Range 55.92 286 P **P** **04 35 55.5 +0.8**
L02F Cave Junction 55.95 296 P **P** **04 35 54.9 +0.2**
baz=41
NV11 Mina Array Sit 56.02 289 IAmb IAmb 04 36 06.4
comp=Z,17nm,1.4s
BEKR Beckworth 56.06 292 IAmb IAmb 04 36 07.7
comp=Z,14nm,1.3s
RYN Ryan 56.06 290 IAmb IAmb 04 36 07.3
comp=Z,11nm,1.1s
NVAR Mina Array Bea 56.10 290 P **P** **04 35 55.7 -0.3**
comp=Z,1.1nm,0.6s,baz=51,slow=6.4,SNR=12
NVAR PP **PP** **04 37 55.4 -5.3**
comp=Z,0.6nm,0.8s,baz=74,slow=3.9,SNR=2.7
comp=Z,1.1nm,0.6s
NVAR Mina Array Bea 56.10 290 P **P** **04 35 56.2 +0.2**
SDV Santo Domingo 56.11 226 LR LR 05 00 50.2
comp=Z,2μm,18.6s,baz=249,slow=37
VCNR Virginia City 56.13 291 IAmb IAmb 04 36 09.1
comp=Z,13nm,1.3s
TPNV Topopah Spring 56.16 287 P **P** **04 35 56.2 -0.1**
baz=40
YERR Yerington 56.16 291 IAmb IAmb 04 36 20.6
comp=Z,12nm,1.2s
LHV Little Huntoon 56.33 290 IAmb IAmb 04 36 26.3
comp=Z,13nm,1.2s
LCH Last Change Ra 56.66 288 IAmb IAmb 04 36 06.1
comp=Z,12nm,1.4s
GRAC Grapevine Rang 56.70 288 P **P** **04 36 00.9 +0.8**
baz=40
DSP Deep Springs 56.73 288 IAmb IAmb 04 36 09.4
comp=Z,10nm,1.2s
FURC Furnace Creek, 56.84 287 P **P** **04 36 01.7 +0.7**
baz=40
MLAC Mammoth, Mammo 56.98 289 P **P** **04 36 02.7 +0.4**
baz=40
BRZS Berezniki 57.13 48 *e*P **P** **04 36 02.5 -0.5**
baz=48
TUQ Turquoise Moun 57.14 285 P **P** **04 36 03.8 +0.5**
baz=40
QSM Queen of Sheba 57.23 287 IAmb IAmb 04 36 13.3
comp=Z,21nm,1.3s
MPMC Manual Prospec 57.48 287 P **P** **04 36 06.3 +0.5**
baz=40
CWC Cottonwood Cre 57.49 288 P **P** **04 36 06.4 +0.5**
baz=40
GMRC Granite Mounta 57.50 285 P **P** **04 36 06.4 +0.5**
baz=40
BLYC Blythe 57.69 283 IAmb IAmb 04 36 13.8
comp=Z,25nm,1.7s
GSC Goldstone, Bar 57.70 286 P **P** **04 36 07.7 +0.4**
baz=40
LRMC Laurel Mtn Rad 58.02 287 P **P** **04 36 10.3 +0.7**
baz=40
214A Orogrp Pipe Nat 58.16 280 P **P** **04 36 10.9 +0.4**
baz=39
BC3 Big Chuckawall 58.26 284 P **P** **04 36 11.8 +0.6**
baz=39
BELC Belle Mtn. Jos 58.28 284 P **P** **04 36 12.0 +0.6**
baz=39
ISA Isabella, Lake 58.29 288 IAmb IAmb 04 36 24.2
comp=Z,23nm,1.6s
ISA Isabella, Lake 58.29 288 P **P** **04 36 12.6 +1.2**
baz=39
GLA Glamis 58.39 283 P **P** **04 36 12.5 +0.5**
baz=39
ZAA0 Zalesovo Array 58.40 38 P **P** **04 36 11.3 -0.4**
ZALV Zalesovo Beam 58.40 38 P **P** **04 36 11.2 -0.6**
comp=Z,0.5nm,0.2s,baz=335,slow=9.9,SNR=1.8
ZALV PcP **PcP** **04 37 00.4 -2.0**
comp=Z,2.2nm,0.7s,baz=324,slow=4.0,SNR=5.8
comp=Z,0.5nm,0.2s
ZALV Zalesovo Beam 58.40 38 P **P** **04 36 11.8 0.0**
VES Vestal, Richgr 58.47 288 P **P** **04 36 12.7 +0.2**
baz=39
CHGN Chignik 58.49 328 P **P** **04 36 12.3 -0.1**
baz=31
EDW2 Edwards Air Fo 58.65 287 P **P** **04 36 14.1 +0.2**
baz=39
BOAV Boa Vista 58.71 212 **P** **04 36 13.9 -0.4**
BOAV IAmb IAmb 04 36 16.3
comp=Z,3.9nm,0.8s
BOAV Boa Vista 58.71 212 *e*P **P** **04 36 13.1 -1.2**
PFO Pinyon Flats O 58.82 285 P **P** **04 36 16.5 +1.3**
PFO IAmb IAmb 04 36 26.2
comp=Z,19nm,1.2s
PFO Pinyon Flats O 58.82 285 P **P** **04 36 15.1 0.0**
baz=39
TPFO Pinon Flats 58.82 285 P **P** **04 36 15.6 +0.4**
baz=39
KURK Kurchatov 58.85 43 P **P** **04 36 15.0 0.0**
KURK IAmb IAmb 04 36 25.6
comp=Z,9.0nm,1.1s
KURBB Kurchatov Arra 58.90 44 P **P** **04 36 14.5 -0.8**
comp=Z,2.7nm,0.7s,baz=325,slow=7.0,SNR=21
KURBB PcP **PcP** **04 37 04.1 -0.3**
comp=Z,0.2nm,0.5s,baz=326,slow=4.5,SNR=1.0
comp=Z,2.7nm,0.7s
SWSC Sam W. Stewart 58.99 284 P **P** **04 36 16.8 +0.7**
baz=39
MURC Murrieta 59.22 285 P **P** **04 36 17.8 0.0**
baz=39
MONP2 Monument Peak 59.36 284 P **P** **04 36 19.2 +0.2**
baz=39
ZAIG Zacatecas 59.86 266 P **P** **04 36 23.1 +0.5**
ZAIG IAmb IAmb 04 36 32.8
comp=Z,15nm,1.4s
GEYT Alibeck 59.91 66 P **P** **04 36 22.7 +0.2**
comp=Z,3.7nm,0.9s,baz=316,slow=6.2,SNR=6.4
comp=Z,3.7nm,0.9s
GEYT Alibeck 59.91 66 P **P** **04 36 22.4 -0.1**
GEYT IAmb IAmb 04 36 26.2
comp=Z,10nm,1.2s
SCZ2 Santa Cruz Isl 60.19 287 P **P** **04 36 24.7 +0.3**
baz=39
SCI2 San Clemente I 60.41 286 P **P** **04 36 26.3 +0.4**
baz=38
ROSB Rosrio 60.51 192 *e*P **P** **04 36 24.9 -1.7**
TMAB Tom-Au,PA,Br 60.53 197 *e*P **P** **04 36 27.2 +0.4**
MALB Monte Alegre 61.19 204 *e*P **P** **04 36 31.3 -0.1**
ROSC El Rosal 61.26 228 P **P** **04 36 32.1 -0.3**
comp=Z,11nm,0.6s,baz=4.6,slow=9.7,SNR=6.4
comp=Z,11nm,0.6s
BTLS Baital 61.62 50 *e*P **P** **04 36 33.4 -0.6**
baz=50
KK31 Karatay Array 61.66 54 P **P** **04 36 35.2 +0.9**
KK31 IAmb IAmb 04 36 46.1
comp=Z,14nm,1.8s
KKAR Karatay Array 61.66 54 P **P** **04 36 35.2 +0.8**
DZA Taraz 62.19 53 *e*P **P** **04 36 38.1 +0.2**
baz=54
IUG Iuzhnay 62.22 55 *e*P **P** **04 36 38.1 -0.1**
baz=55
SGDS Sogindy 63.16 51 *e*P **P** **04 36 43.9 -0.5**
comp=Z,12nm,1.8s,baz=51
TDK Taldyqorghan 63.44 47 *e*P **P** **04 36 46.0 -0.2**
baz=48
MKAR Makanchi Array 63.46 44 P **P** **04 36 45.4 -0.9**
comp=Z,1.4nm,0.6s,baz=347,slow=5.1,SNR=10.0
comp=Z,1.4nm,0.6s
MKAR Makanchi Array 63.46 44 P **P** **04 36 46.1 -0.2**
AAK Ala-Archa 63.76 51 P **P** **04 36 48.7 +0.2**
AAK IAmb IAmb 04 36 51.0
comp=Z,14nm,1.6s
ITTB Itaituba 63.96 205 *e*P **P** **04 36 49.7 -0.1**
BTK Batken 64.25 56 IAmb IAmb 04 37 01.8
comp=Z,12nm,1.1s
MDOK Medeo 64.41 49 *e*P **P** **04 36 52.1 -0.6**
baz=50
RAYN Ar Rayn 64.64 86 P **P** **04 36 53.9 -0.5**
KPKS Kokpek 64.82 48 *e*P **P** **04 36 55.2 -0.2**
comp=Z,10nm,1.6s,baz=48
SHLS Shalkode 65.40 48 *e*P **P** **04 37 00.6 +1.4**
baz=48
TARG Taragay, Kyrgy 65.91 50 IAmb IAmb 04 37 15.6
comp=Z,10nm,1.2s
H10N2 ASCENSION HYDR 66.63 159 T T 05 49 03.5
baz=349,slow=75,SNR=102
H10N3 ASCENSION HYDR 66.64 159 T T 05 49 04.3
baz=349,slow=75,SNR=68
H10N1 ASCENSION HYDR 66.65 159 T T 05 49 04.9
baz=349,slow=75,SNR=109
SMTB Santa Maria do 66.83 195 *e*P **P** **04 37 08.3 -0.1**
KSH Kashi 66.97 52 P **P** **04 37 11.3 +2.0**
KSH pmax pmax
comp=Z,8.0nm,1.5s
OTAV Otavalo 67.13 230 P **P** **04 37 11.4 +0.4**
OTAV IAmb IAmb 04 37 25.6
comp=Z,20nm,1.6s
OTAV Otavalo 67.13 230 *e*P **P** **04 37 12.7 +1.8**
H10S3 ASCENSION HYDR 67.70 160 T T 05 50 23.3
baz=351,slow=74,SNR=17
H10S2 ASCENSION HYDR 67.71 160 T T 05 50 23.8
baz=229,slow=74,SNR=6.7
KBL Kabul 67.92 60 P **P** **04 37 15.2 -0.3**
KBL IAmb IAmb 04 37 17.1
comp=Z,15nm,1.5s
WMQ Urumqi 67.99 42 *e*P **P** **04 37 16.5 +0.9**
WMQ LR LR
comp=N,690nm,17.3s
WMQ LR LR
comp=E,320nm,22.3s
WMQ LR LR
comp=Z,340nm,23.9s
PORT Chimborazo Vol 68.80 230 IAmb IAmb 04 37 27.1
comp=Z,7.9nm,0.8s
UOSS Minazif 69.24 76 P **P** **04 37 22.6 -0.9**
UOSS IAmb IAmb 04 37 29.0
comp=Z,9.8nm,1.0s
SONM Songino Array 70.17 27 P **P** **04 37 28.9 -0.2**
comp=Z,2.9nm,0.8s,baz=326,slow=5.9,SNR=12
comp=Z,2.9nm,0.8s
SONM Songino Array 70.17 27 P **P** **04 37 28.9 -0.2**
CLDB Colider 70.27 203 *e*P **P** **04 37 28.7 -1.2**
ULN Ulaanbaatar 70.30 27 P **P** **04 37 29.9 -0.1**
ULN IAmb IAmb 04 37 36.1
comp=Z,13nm,1.1s
SNDB Serra Nova Dou 70.47 199 *e*P **P** **04 37 32.5 +1.4**
PDRB Porto dos Gac 71.19 204 *e*P **P** **04 37 35.3 -0.2**
WSAR Wadi Sarin 71.90 75 LR LR 05 13 58.7
comp=Z,863nm,20.0s,baz=128,slow=40
ETMB Extrema 71.98 214 IAmb IAmb 04 37 44.2
comp=Z,5.6nm,1.0s
ETMB Extrema 71.98 214 *e*P **P** **04 37 40.1 -0.1**
CZSB Cruzeiro do Su 72.19 221 IAmb IAmb 04 37 42.4
comp=Z,8.7nm,0.8s
JANB Januaria 72.54 191 *e*P **P** **04 37 44.2 +0.6**
KLR Kul'dur 73.25 10 P **P** **04 37 46.6 -0.9**
comp=Z,0.7nm,0.4s,baz=344,slow=18,SNR=2.1
comp=Z,0.7nm,0.4s
VILB Vilhena 73.30 207 IAmb IAmb 04 37 54.5
comp=Z,39nm,1.9s
VILB Vilhena 73.30 207 *e*P **P** **04 37 50.3 +2.2**
BDFB Brasilia 73.56 195 P **P** **04 37 48.6 -1.1**
comp=Z,4.6nm,0.8s,baz=45,slow=7.2,SNR=6.9
comp=Z,4.6nm,0.8s
BDFB Brasilia 73.56 195 P **P** **04 37 50.1 +0.5**
BDFB IAmb IAmb 04 37 52.0
comp=Z,8.5nm,1.0s
BDFB Brasilia 73.56 195 *e*P **P** **04 37 50.0 +0.3**
GUA01 Guaratinga, BA 73.68 186 *e*P **P** **04 37 50.1 -0.1**
NAN01 Guarapari, ES 74.95 187 *e*P **P** **04 37 58.2 +0.6**
SALV Santo Antonio 75.13 202 *e*P **P** **04 37 59.2 +0.5**
PTLB Pontes e Lacer 75.45 206 P **P** **04 38 00.7 +0.2**
PTLB IAmb IAmb 04 38 05.3
comp=Z,30nm,2.0s
PTLB Pontes e Lacer 75.45 206 *e*P **P** **04 38 02.3 +1.8**
DIAM Diamantina, MG 75.68 190 *e*P **P** **04 38 01.3 -0.7**
SJMB Sao Joao De Ma 75.87 188 *e*P **P** **04 38 03.6 +0.7**
IPMB Ipameri, GO 75.89 194 *e*P **P** **04 38 03.6 +0.5**
GTA Gaotai 76.05 36 ⇑P **P** **04 38 04.1 0.0**
GTA pP sP 04 38 10.6 +3.1
GTA sP PcP 04 38 14.5 -1.8
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,140nm,6.9s
GTA LR LR
comp=N,280nm,18.2s
GTA LR LR
comp=E,480nm,17.8s
GTA LR LR
comp=Z,410nm,17.5s
BNX BinXian 76.20 14 ⇑P **P** **04 38 04.4 -0.3**
BNX pmax pmax
comp=Z,5.0nm,1.4s
BNX pmax pmax
comp=Z,120nm,4.3s
PMNB Patos De Minas 76.21 193 *e*P **P** **04 38 04.9 -0.1**
GOMU GeErMu 77.28 41⇑ *e*P **P** **04 38 12.0 +0.6**
GOMU pP sP 04 38 15.3 +0.6
GOMU sP pwP 04 38 16.3 -0.4
GOMU S **SKiKP** **04 47 35.1 +9.4**
GOMU sS S 04 47 48.8 -13
ALF01 Guarapari-ES 77.74 187 *e*P **P** **04 38 14.3 +0.9**
PANT Pantanal (Braz 78.32 202 *e*P **P** **04 38 17.2 +0.5**
BSCB Bom Sucesso 78.46 191 *e*P **P** **04 38 18.1 +0.7**
LPAZ La Paz 78.67 214 P **P** **04 38 19.4 -0.1**
comp=Z,2.0nm,0.9s,baz=41,slow=13,SNR=5.3
comp=Z,2.0nm,0.9s
CAM01 Campos-RJ 79.00 188 *e*P **P** **04 38 21.6 +1.2**
DUB01 Friburgo-RJ 79.31 188 *e*P **P** **04 38 23.0 +0.9**
AQDB Aquidauana 79.58 201 P **P** **04 38 23.0 -0.6**
AQDB IAmb IAmb 04 38 29.0
comp=Z,9.6nm,0.9s
AQDB Aquidauana 79.58 201 *e*P **P** **04 38 24.0 +0.4**
BJI Beijing 79.82 23 P **P** **04 38 24.1 -0.7**
BJI pmax pmax
comp=Z,8.0nm,1.6s
BJT Baijiatuau 79.84 23 P **P** **04 38 24.8 -0.2**
BJT IAmb IAmb 04 38 34.3
comp=Z,14nm,1.3s
PCMB Pacaembu 79.90 197 *e*P **P** **04 38 26.9 +1.6**
RCLB Rio Claro- Sao 80.17 193 *e*P **P** **04 38 27.9 +1.1**
LZH Lanzhou 80.35 34 *e*P **P** **04 38 28.4 +0.4**
LZH pP pwP 04 38 33.0 -0.3
LZH sP PcP 04 38 36.5 +1.4
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=N,280nm,18.2s
LZH LR LR
comp=E,480nm,17.8s
LZH LR LR
comp=Z,410nm,17.5s
PARB Paraibuna 80.86 191 *e*P **P** **04 38 31.6 +1.1**
PB16 IPOC Station P 81.02 214 IAmb IAmb 04 38 37.3
comp=Z,11nm,1.0s
HNS HongShan 82.02 25 ⇑P **P** **04 38 37.6 +1.0**
HNS pmax pmax
comp=Z,10.0nm,1.1s
GO01 Chusmiza 82.18 214 IAmb IAmb 04 38 40.4
comp=Z,10nm,0.9s
KSRS Korea Array 84.42 15 P **P** **04 38 48.0 -0.9**
comp=Z,2.9nm,0.7s,baz=348,slow=5.1,SNR=12
comp=Z,2.9nm,0.7s
KSAR Wonju Array Be 84.43 15 P **P** **04 38 48.1 -0.9**
LVC Limon Verde 84.87 213 *e*P **P** **04 38 51.5 -0.2**
CD2 Chengdu 85.12 36 P **P** **04 38 50.8 -1.9**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CPUP Villa Florida 85.59 201 P **P** **04 38 53.4 -1.3**
comp=Z,4.4nm,0.8s,baz=6.1,slow=3.5,SNR=3.3
comp=Z,4.4nm,0.8s
ENH Enshi 87.44 31 P **P** **04 39 03.6 -0.6**
NJ2 Nanjing 88.08 23 *e*P **P** **04 39 06.8 -0.3**
NJ2 pmax pmax
comp=Z,13nm,0.5s
PZH PanZhiHua 88.51 39 P **P** **04 39 08.8 -0.6**
PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,80nm,4.0s
KMI Kunming 90.13 39 ⇑P **P** **04 39 16.9 -0.2**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI LR LR
comp=N,800nm,16.6s
KMI LR LR
comp=E,230nm,15.1s
KMI LR LR
comp=Z,810nm,17.1s
CMAR Chiang Mai Arr 94.86 45 P **P** **04 39 38.4 -0.4**
comp=Z,0.9nm,0.3s,baz=324,slow=5.8,SNR=7.3
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 94.86 45 P **P** **04 39 38.2 -0.6**
WRA Warramunga Arr 141.73 19 PKP **PKPdf** **04 45 46.4 -1.7**
comp=Z,0.8nm,0.7s,baz=340,slow=2.6,SNR=5.0
MAW Mawson 142.92 141 PKP **PKPdf** **04 45 46.8 -1.8**
comp=Z,1.3nm,0.7s,baz=307,slow=9.9,SNR=2.7
AS31 Alice Springs 145.28 21 PKPbc **PKPbc** **04 45 53.6 -0.4**
ASAR Alice Springs 145.28 21 PKPbc **PKPbc** **04 45 53.1 -0.9**
comp=Z,4.6nm,0.7s,baz=345,slow=2.6,SNR=36
QSPA South Pole Qui 147.08 180 PKPbc **PKPdf** **04 45 56.3 +0.3**
comp=Z,22nm,1.1s,baz=203,slow=1.6,SNR=14
QSPA South Pole Qui 147.08 180 PKPbc **PKPdf** **04 45 57.4 +1.3**
NWAO Narrogin (SRO) 148.56 52 PKPbc **PKiKP** **04 46 04.4 -0.3**
comp=Z,17nm,0.9s,baz=333,slow=15,SNR=4.8
URZ Urewera 152.40 300 PKPbc **PKiKP** **04 46 13.2 +0.9**
comp=Z,6.6nm,0.7s,baz=113,slow=4.7,SNR=2.3
VNDA Vanda 158.89 189 PKPab **PKPab** **04 46 49.2 +0.1**
comp=Z,1.8nm,0.9s,baz=164,slow=4.9,SNR=5.7

DDA ***24*** *04:34:38.6±0.0,38°19N×27°04E, h8km×2km, ML3.5*
THE ***24*** *04:34:38.9,38°20N×27°04E, h2km×2km, ML3.8/3, Error ellipse: s-maj=2.2km s-min=0.8km az=338.0*
ISK ***24*** *04:34:38.2,38°18N×27°00E, h10km, ML3.6/31*
ATH ***24*** *04:34:40.1,38°12N×26°92E, h35km±6km, ML3.7/5, Error ellipse: s-maj=7.1km s-min=1.4km az=234.0*

ISC 24 04:34:38.9±0.9,38°19N±0'02×27°04E±0'02,h10km±7km, n83,σ0°60/118,1C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGB	**zmir**	**0.18**	**221**	P	**Pg**	**04 34 43.2**	**+0.4**
DGB				*i* AML	AML	04 34 46.0	
	comp=E,2μm,0.3s						
DGB				S	**Sg**	**04 34 46.1**	**+0.7**
DGB				*i* AML	AML	04 34 47.0	
	comp=N,1μm,0.2s						
BLCB	**Balcova**	**0.19**	**2**	P	**Pg**	**04 34 42.6**	**-0.3**
BLCB				S	**Sg**	**04 34 45.1**	**-0.6**
BLCB	**Balcova**	**0.19**	**2**	PG	**Pg**	**04 34 42.7**	**-0.2**
URLA	**Izmir**	**0.39**	**296**	PG	**Pg**	**04 34 45.8**	**-0.7**
URLA				SG	**Sg**	**04 34 51.8**	**+0.2**
URLA	**Izmir**	**0.39**	**296**	P	**Pg**	**04 34 45.8**	**-0.7**
URLA				S	**Sg**	**04 34 51.9**	**+0.4**
URLA				*i* AML	AML	04 34 52.0	
	comp=N,5μm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**0.42**	**277**	P	**Pg**	**04 34 47.3**	**+0.1**
ZEYE				S	**Sg**	**04 34 53.8**	**+1.1**
SMG	**Samos**	**0.51**	**198**	P	**Pg**	**04 34 48.9**	**+0.2**
SMG				S	**Sb**	**04 34 57.1**	**-0.3**
	15μm,0.3s						
SMG	**Samos**	**0.51**	**198**	P	**Pg**	**04 34 48.9**	**+0.2**
SMG				S	**Sb**	**04 34 56.5**	**-0.9**
SMG				AML	AML	04 35 00.9	

comp=E,34472µm,0.3s
SMG AML AML 04 35 01.5
comp=N,25080µm,0.3s
GCAM G?zlcami? 0.52 162 PG **Pg 04 34 49.0 +0.1**
GCAM G?zlcami? 0.52 162 P **Pg 04 34 48.9 +0.1**
GCAM S **Sg 04 34 56.4 +0.8**
KRBN Karaburun 0.55 317 PG **Pg 04 34 49.7 +0.1**
KRBN SG **Sg 04 34 57.2 +0.4**
FOCM Foa 0.57 335 PG **Pg 04 34 49.7 -0.3**
FOCM SG **Sg 04 34 57.9 +0.4**
AYDB Zeytinkoy-Aydi 0.72 110 PG **Pg 04 34 52.6 -0.1**
DDIM Aydin, Didim 0.75 167 P **Pg 04 34 53.4 +0.1**
DDIM S **Sb 04 35 04.3 -0.1**
ZEDA zmir-Bergama 0.77 2 P **Pg 04 34 53.6 -0.2**
ZEDA S **Sg 04 35 04.0 +0.1**
CHOS Chios island 0.80 284 P **Pg 04 34 54.4 +0.2**
CHOS S **Sg 04 35 04.7 +0.1**
CHOS AML AML 04 35 09.3
comp=E,17025µm,0.4s
CHOS AML AML 04 35 09.3
comp=N,12260µm,0.4s
GOMA Golmarmara-Man 0.86 53 PG **Pb 04 34 55.9 -0.1**
DKL Dikili 0.88 353 PG **Pg 04 34 55.6 -0.3**
DKL SG **Sb 04 35 08.6 +0.4**
AKHS Akhisar 0.92 41 P **Pb 04 34 56.8 -0.1**
AKHS S **Sg 04 35 08.5 0.0**
AKHS *i* AML AML 04 35 11.0
comp=N,2µm,0.3s
AKS Akhisar 0.92 41 PG **Pb 04 34 56.8 -0.1**
AYVA Ayvalik 1.15 347 P **Pb 04 35 00.2 -0.6**
AYVA S **Sn 04 35 17.0 +0.2**
BODT Bodrum 1.15 169 P **Pb 04 34 59.6 -1.2**
BODT Bodrum 1.15 169 PN **Pb 04 34 59.4 -1.4**
PSRA Psara 1.21 287 P **Pn 04 35 01.4 -0.4**
PSRA AML AML 04 35 20.6
comp=E,3829µm,0.3s
PSRA AML AML 04 35 20.7
comp=N,5985µm,0.3s
PRK Paraskevi 1.21 331 P **Pg 04 35 02.6 +0.5**
PRK S **Sn 04 35 18.8 +0.4**
comp=N,5µm,0.7s
PRK Paraskevi 1.21 331 P **Pg 04 35 02.7 +0.5**
PRK AML AML 04 35 21.7
comp=N,8278µm,0.7s
PRK AML AML 04 35 24.5
comp=E,9877µm,0.7s
MANT Manisa 1.23 76 P **Pn 04 35 02.1 -0.4**
MANT S **Sb 04 35 16.6 -1.9**
STEP BALIKESIR_Sava 1.30 24 P **Pn 04 35 02.8 -0.3**
STEP S **Sb 04 35 20.0 -0.1**
STEP *i* AML AML 04 35 21.0
comp=E,2µm,0.6s
STEP *i* AML AML 04 35 21.0
comp=E,2µm,0.6s
STEP *i* AML AML 04 35 24.0
comp=E,1µm,0.4s
BUHA Balikesir, Bur 1.31 1 P **Pb 04 35 03.7 +0.2**
BUHA S **Sg 04 35 21.9 +0.9**
BUHA *i* AML AML 04 35 24.0
comp=E,972nm,0.4s
BUHA *i* AML AML 04 35 24.0
comp=E,827nm,0.5s
SIGR SIGRI 1.37 318 P **Pn 04 35 04.2 +0.1**
SIGR SIGRI 1.37 318 PN **Pn 04 35 03.9 -0.2**
SIGR SN **Sn 04 35 22.4 0.0**
SIGR SIGRI 1.37 318 P **Pn 04 35 04.0 -0.1**
SIGR S **Sg 04 35 23.1 0.0**
SIGR AML AML 04 35 25.5
comp=E,2207µm,0.3s
SIGR AML AML 04 35 26.2
comp=N,3411µm,0.5s
MULA Mugla, Merkez- 1.38 132 P **Pg 04 35 05.6 +0.2**
MULA S **Sg 04 35 23.8 +0.4**
GPNR Gulpinar-Canak 1.45 331 PN **Pn 04 35 05.1 0.0**
YER Yerkesik 1.45 136 P **Pn 04 35 04.9 -0.2**
YER S **Sg 04 35 25.7 +0.3**
YER Yerkesik 1.45 136 PN **Pn 04 35 05.0 -0.2**
KOCA Canakkale, Ayv 1.48 332 P **Pg 04 35 07.2 -0.1**
KOCA S **Sb 04 35 25.4 0.0**
DEMI Demirci 1.57 57 P **Pb 04 35 07.9 -0.1**
DEMI S **Sb 04 35 27.6 -0.4**
DEMI *i* AML AML 04 35 32.0
comp=N,599nm,0.4s
NIS1 Nisyros Isl. 1.59 176 PN **Pn 04 35 07.0 -0.1**
NIS1 Nisyros Isl. 1.59 176 P **Pb 04 35 08.1 -0.3**
BAYC CANAKKALE_Bayr 1.59 346 P **Pn 04 35 06.5 -0.7**
BAYC S **Sn 04 35 27.1 -0.8**
BALY Balya 1.61 16 P **Pn 04 35 05.7 -1.8**
BALY S **Sn 04 35 28.4 0.0**
BALY *i* AML AML 04 35 32.0
comp=N,925nm,0.4s
APE Apeiranthos 1.64 227 PN **Pn 04 35 06.7 -1.1**
APE Apeiranthos 1.64 227 P **Pn 04 35 06.9 -0.9**
USAK Uak-Merkez 1.64 71 P **Pb 04 35 09.1 -0.1**
USAK S **Sb 04 35 30.6 +0.5**
TAVA DENIZLI_Tavas 1.65 115 P **Pn 04 35 07.9 -0.2**
TAVA S **Sg 04 35 33.2 +1.1**
TURN Turunc 1.71 145 PN **Pn 04 35 08.2 -0.6**
TURN Turunc 1.71 145 P **Pn 04 35 08.2 -0.6**
EZN Ezine 1.72 341 P **Pn 04 35 08.5 -0.4**
EZN Ezine 1.72 341 PN **Pn 04 35 08.8 -0.1**
SMAA Simav-Kutahya 1.77 59 PN **Pb 04 35 10.6 -0.9**
DURS Dursunbey 1.80 38 P **Pn 04 35 09.5 -0.6**
DURS S **Sn 04 35 33.2 +0.2**
DURS *i* AML AML 04 35 39.0
comp=N,424nm,0.4s
DURS *i* AML AML 04 35 40.0
comp=N,425nm,0.4s
BOZC Bozcaada 1.82 335 PN **Pn 04 35 09.9 -0.3**
BOZC Bozcaada 1.82 335 P **Pn 04 35 09.9 -0.3**
BOZC S **Sb 04 35 35.0 -0.1**
BOZC *i* AML AML 04 35 40.0
comp=N,393nm,0.3s
BOZC *i* AML AML 04 35 48.0
comp=N,380nm,1.0s
DST Dursunbey 1.88 41 PN **Pn 04 35 11.6 +0.5**
DALY Dalyan (Mula) 1.88 136 PN **Pn 04 35 11.3 +0.2**
GONE Gonen-Balikesi 1.92 15 PN **Pn 04 35 11.5 -0.1**
APMY Acipayam-Deniz 1.93 111 PN **Pn 04 35 12.5 +0.6**
PASA Karahalli, USA 1.94 85 P **Pg 04 35 15.8 -0.2**
PASA S **Sg 04 35 41.4 +0.3**
KHL Karahalli 1.96 85 PN **Pb 04 35 13.5 -1.3**
ECEA Canakkale, Ece 1.97 340 P **Pn 04 35 12.7 +0.4**
ECEA S **Sg 04 35 41.6 -0.4**
ECEA *i* AML AML 04 35 44.0
comp=N,441nm,0.4s
ECEA *i* AML AML 04 35 58.0
comp=N,292nm,0.5s
GEDZ Gediz 2.05 65 PN **Pn 04 35 14.7 +1.2**
ARG Arkhangelos 2.16 156 PN **Pn 04 35 15.9 +1.0**
GADA Gvkgeada 2.18 336 PN **Pn 04 35 15.3 +0.1**
CAME Cameli-Denizli 2.19 124 PN **Pn 04 35 16.9 +1.4**
SANT Santorini 2.21 215 PN **Pn 04 35 16.2 +0.5**
LIA Limnos Island 2.23 320 P **Pn 04 35 16.3 +0.4**
GELI Tayfur-Gelibol 2.25 349 PN **Pn 04 35 16.2 +0.1**
EDC Edincik 2.25 16 PN **Pn 04 35 16.6 +0.5**
TVSB Tavsanli 2.27 56 PN **Pn 04 35 17.6 +1.0**
ORLT Orhaneli 2.35 37 PN **Pn 04 35 18.7 +1.1**
BASM Basmaki-Afyon 2.40 96 PN **Pn 04 35 18.9 +0.6**
RKY Sarkoy-Tekirda 2.50 2 PN **Pn 04 35 20.4 +0.8**
SMTH Samothraki Isl 2.56 333 P **Pn 04 35 20.5 +0.1**
MDNY Mudanya-Bursa 2.60 33 PN **Pn 04 35 21.2 +0.2**
ENEZ Enez 2.63 345 P **Pn 04 35 21.8 +0.4**
ENEZ Enez 2.63 345 PN **Pn 04 35 21.6 +0.2**
ALN Alexandroupoli 2.81 344 P **Pn 04 35 23.8 0.0**
ALN Alexandroupoli 2.81 344 PN **Pn 04 35 23.8 0.0**
VTS Vitosha 5.29 328 ⇑P **Pn 04 35 59.3 +1.2**
BLKB Belogradchik 6.35 330 ⇓P **Pn 04 36 13.5 +1.0**
BOVS Bovan 6.77 325 ⇓P **Pn 04 36 19.2 +0.9**

*IDC **24** 04:35:55.8±1.4, 32.˚78S×178.˚08W, h0km, mb4.2/4, mbtmp4.2/7, ML4.0/3, Error ellipse: s-maj=36.6km s-min=24.4km az=121.0*
*WEL **24** 04:35:59.2±0.7, 32.˚S±12.˚×17.˚9W±3.˚2, h33km, M4.3/13, mB4.7/9, ML4.8/15, MLv4.7/13, Mw(mB)4.0/9, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2*
*NEIC **24** 04:36:01.8±0.6, 31.˚65S±0.˚08×178.˚5W±0.˚2, h12km±6km, mb4.4/9, Error ellipse: s-maj=26.9km s-min=8.0km az=108.0*

ISC 24 04:35:56.1±1.0, 32.˚46S±0.˚07×178.˚0W±0.˚2, h10km, n52, σ1§59/61, mb4.4/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.19**	**1**	P		**Pn**	**04 36 45.7**	**-0.6**
GLKZ				S		**Sn**	**04 37 20.3**	**-4.0**
RAO	**Raoul Island**	**3.20**	**1**	Pn		**Pb**	**04 36 53.4**	**+0.5**
	41nm,0.3s,baz=258,slow=23,SNR=1.5							
RAO				Sn		**Sn**	**04 37 22.9**	**-1.6**
	70nm,0.3s,baz=217,slow=20,SNR=1.8							
	204nm,0.5s							
RAO	**Raoul Island**	**3.20**	**1**			Pn	04 36 41.1	-5.2
RIZ	**Raoul Island**	**3.20**	**1**	P		Pn	04 36 42.1	-4.4
MXZ	**Matakaoa Point**	**5.94**	**210**	P		**Pn**	**04 37 23.8**	**-0.2**
MXZ				S		**Sn**	**04 38 29.0**	**-3.1**
WMGZ	**Waiomatatini S**	**6.11**	**208**	P		**Pn**	**04 37 29.3**	**+2.9**
WMGZ				S		**Sn**	**04 38 36.3**	**-0.1**
PKGZ	**Pakihiroa**	**6.31**	**210**	P		**Pn**	**04 37 28.6**	**-0.6**
PKGZ				S		**Sn**	**04 38 40.1**	**-1.2**
HAZ	**Te Kaha**	**6.33**	**212**	P		**Pn**	**04 37 30.3**	**+0.9**
HAZ				S		**Sn**	**04 38 42.6**	**+1.0**
PUZ	**Puketiti**	**6.39**	**208**	P		**Pn**	**04 37 30.0**	**-0.4**
PUZ				S		**Sn**	**04 38 42.6**	**-0.8**
RUGZ	**Raukumara Rang**	**6.55**	**212**	P		**Pn**	**04 37 32.9**	**+0.4**
RUGZ				S		**Sn**	**04 38 47.1**	**-0.2**
TWGZ	**Tauwhareparae**	**6.59**	**209**	P		**Pn**	**04 37 34.0**	**+0.8**
TWGZ				S		**Sn**	**04 38 47.9**	**-0.5**
CNGZ	**Carnagh Statio**	**6.77**	**206**	P		**Pn**	**04 37 34.8**	**-0.7**
CNGZ				S		**Sn**	**04 38 51.8**	**-0.9**
TKGZ	**Te Karaka**	**6.87**	**209**	P		**Pn**	**04 37 38.1**	**+1.2**
TKGZ				S		**Sn**	**04 38 52.4**	**-2.7**
MWZ	**Matawai**	**6.92**	**211**	P		**Pn**	**04 37 37.4**	**-0.4**
MWZ				S		**Sn**	**04 38 54.7**	**-1.6**
URZ	**Urewera**	**7.04**	**213**	Pn		**Pn**	**04 37 37.7**	**-1.5**
	1.5nm,0.3s,baz=103,slow=8.2,SNR=2.7							
URZ				Sn		**Sn**	**04 38 56.1**	**-3.2**
	9.9nm,0.3s,baz=302,slow=17,SNR=19							
	10nm,0.6s							
URZ	**Urewera**	**7.04**	**213**	P		**Pn**	**04 37 38.5**	**-0.7**
URZ				S		**Sn**	**04 38 57.7**	**-1.6**
RAGZ	**Rawiri**	**7.10**	**211**	P		**Pn**	**04 37 41.7**	**+1.6**
RAGZ				S		**Sn**	**04 38 58.0**	**-2.9**
RIGZ	**Rimuhau**	**7.14**	**208**	P		**Pn**	**04 37 41.9**	**+1.4**
RIGZ				S		**Sn**	**04 38 59.7**	**-2.0**
RAHZ	**Arahi**	**7.59**	**211**	P		**Pn**	**04 37 48.1**	**+1.3**
RAHZ				S		**Sn**	**04 39 11.2**	**-1.8**
MTHZ	**Maungataniwha**	**7.65**	**212**	P		**Pn**	**04 37 48.6**	**+1.1**
MTHZ				S		**Sn**	**04 39 12.8**	**-1.5**
BKZ	**Black Stump Fm**	**8.06**	**212**	P		**Pn**	**04 37 55.2**	**+2.0**
BKZ				S		**Sn**	**04 39 21.0**	**-3.4**
KWHZ	**Kaweka Forest**	**8.30**	**212**	P		**Pn**	**04 37 57.0**	**+0.4**
BFZ	**Birch Farm**	**9.43**	**208**	P		**Pn**	**04 38 10.4**	**-1.6**
TUWZ	**Tuamarina**	**11.04**	**214**			Pn	04 38 45.3	+11
GVZ	**Greta Valley S**	**12.67**	**212**	P		**Pn**	**04 38 54.9**	**-1.4**
OKCZ	**Okains Bay**	**13.27**	**209**	P		**Pn**	**04 39 03.5**	**-1.0**
AKCZ	**Akaroa Harbour**	**13.45**	**210**	P		**Pn**	**04 39 05.1**	**-1.9**
RPZ	**Rata Peaks**	**14.16**	**214**	Pn		Pn	04 39 12.3	-4.3
	0.5nm,0.3s,baz=332,slow=21,SNR=1.7							
RPZ				Sn		Sn	04 41 32.0	-22
	0.5nm,0.3s,baz=39,slow=12,SNR=1.3							
	1.4nm,0.4s							
MSVF	**Nonsavu**	**15.09**	**345**	Pn		Pn	04 39 22.0	-7.6
NIUE	**Niue**	**15.16**	**30**	Pn		**Pn**	**04 39 29.4**	**-0.9**
EIDS	**Eidsvold**	**27.93**	**277**	P		**P**	**04 41 46.9**	**+0.3**
EIDS				lAmb		lAmb	04 41 49.6	
	comp=Z,3.4nm,0.9s							
CTA	**Charters Tower**	**34.20**	**282**	P		**P**	**04 42 43.6**	**+1.7**
	comp=Z,1.6nm,0.5s,baz=96,slow=11,SNR=5.6							
	comp=Z,1.6nm,0.5s							
CTAO	**Charters Tower**	**34.20**	**282**	P		**P**	**04 42 41.4**	**-0.5**
CTAO				lAmb		lAmb	04 43 00.7	
	comp=Z,4.6nm,1.1s							
AS31	**Alice Springs**	**43.06**	**269**	P		**P**	**04 43 57.5**	**+1.2**
ASAR	**Alice Springs**	**43.06**	**269**	P		**P**	**04 43 57.0**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=109,slow=7.6,SNR=29							
	comp=Z,2.3nm,0.6s							
WR0	**Warramunga Arr**	**44.06**	**274**	P		**P**	**04 44 05.0**	**+0.6**
WR0				lAmb		lAmb	04 44 07.7	
	comp=Z,9.2nm,1.3s							
WB2	**Warramunga Arr**	**44.22**	**274**	P		**P**	**04 44 06.5**	**+0.8**
WB2				lAmb		lAmb	04 44 08.4	
	comp=Z,10nm,1.1s							
WRA	**Warramunga Arr**	**44.23**	**274**	P		**P**	**04 44 06.1**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=113,slow=8.0,SNR=65							
	comp=Z,2.4nm,0.4s							
WRA	**Warramunga Arr**	**44.23**	**274**	P		**P**	**04 44 05.9**	**0.0**
FORT	**Forrest**	**45.57**	**257**	P		**P**	**04 44 18.1**	**+1.8**
FITZ	**Fitzroy Crossi**	**52.41**	**271**	P		**P**	**04 45 08.3**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=178,slow=7.7,SNR=5.5							
	comp=Z,1.3nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.41**	**271**	P		**P**	**04 45 09.4**	**+0.6**
SNAA	**Sanae**	**76.10**	**178**	P		P	04 47 56.7	+13
SNAA	**Sanae**	**76.10**	**178**	P		P	04 47 53.6	+10
SNAA				lAmb		lAmb	04 47 57.5	
	comp=Z,5.3nm,1.4s							
VNA3	**Neumayer Olymp**	**76.26**	**176**	P		P	04 47 58.1	+14
VNA2	**Neumayer--Watz**	**76.69**	**177**	P		P	04 48 00.6	+14
	baz=174,slow=4.8							
VNA1	**Neumayer--Stat**	**76.92**	**176**	P		P	04 48 02.1	+14
MAJO	**Matsushiro**	**79.94**	**326**	P		**P**	**04 48 06.3**	**+1.1**
FINES	**FINESS Array B**	**147.07**	**339**	PKPbc		**PKPbc**	**04 55 39.6**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=51,slow=4.3,SNR=16							
HFS	**Hagfors**	**151.26**	**348**	PKPbc		**PKPbc**	**04 55 51.0**	**+1.9**
	comp=Z,1.1nm,0.7s,baz=115,slow=2.1,SNR=5.8							
BRTR	**Keskin Array B**	**153.54**	**295**	PKPbc		**PKiKP**	**04 55 57.7**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=60,slow=3.8,SNR=2.6							
TORD	**Torodi Ar. Bea**	**160.78**	**179**	PKPab		**PKPab**	**04 56 37.3**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=183,slow=3.8,SNR=1.9							

*IDC **24** 04:42:38.2±0.5, 57.˚16N×33.˚43W, h0km, mb4.1/32, mbtmp4.2/36, ML3.4/4, MS4.5/43, Error ellipse: s-maj=13.9km s-min=10.4km az=178.0*
*GCMT **24** 04:42:40.1±0.2, 57.˚28N±0.˚02×33.˚40W±0.˚02, h12km, MW5.0/114, Moment Tensor Solution. s24,c28; s114,c191; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=3.75±.10; Mθθ=0.73±.12; Mϕϕ=3.03±.07; Mrθ=1.84±.38; Mθϕ=1.82±.07; Mϕr=0.17±.34; Best double couple: Mo=4.30800×10^16^ NP1=ϕs228.00000°, δs56.00000°, λ=-66.00000°. NP2=ϕs10.00000°, δ41.00000°, λ=-121.00000°. Principal axes: T 4.1780, Plg8.0000°, Azm302.0000°; N 0.2660, Plg19.0000°, Azm34.0000°; P =-4.4380, Plg69.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 04:42:41.1±1.5, 57.˚22N±0.˚09×33.˚4W±0.˚1, h10km±1km, mb4.6/189 Error ellipse: s-maj=14.9km s-min=13.2km az=168.0*
*DNK **24** 04:42:49.9±3.5, 57.˚79N×33.˚95W, h35km±468km, mb4.8, ML3.9*

ISC 24 04:42:40.7±1.0, 57.˚20N±0.˚06×33.˚42W±0.˚04, h13km±6km, n309, σ1§37/223, mb4.6/158, MS4.5/57, 22C-12D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.33**	**308**	Pn		**Pn**	**04 44 28.0**	**+0.8**
ANGG	**Ammassalik, Gr**	**8.68**	**348**	Pn		**Pn**	**04 44 45.6**	**-0.1**
BORG	**Borgarnes**	**9.56**	**33**	Pn		**Pn**	**04 44 58.6**	**+0.8**
	0.9nm,0.3s,baz=212,slow=17,SNR=2.2							
BORG				Sn		**Sn**	**04 46 46.2**	**+1.2**
	0.3nm,0.3s,baz=302,slow=15,SNR=1.5							
BORG				LR		LR	04 47 45.6	
	comp=Z,3µm,18.3s,baz=204,slow=32							
	12nm,0.8s							
DY2G	**Dye2**	**11.08**	**332**	*i* P		**Pn**	**04 45 16.6**	**-2.1**
DY2G				lAmb		lAmb	04 45 22.8	
	comp=Z,74nm,1.5s							
DY2G				lAML			04 47 55.1	
	comp=Z,30nm,4.4s							
NUUK	**Nuuk**	**11.34**	**316**	*i* P		**Pn**	**04 45 21.3**	**-0.8**
SFJD	**Kangerlussuaq**	**12.64**	**328**	LR		LR	04 49 46.4	
	comp=Z,3µm,18.7s,baz=136,slow=34							
SFJD	**Kangerlussuaq**	**12.64**	**328**	Pn		**Pn**	**04 45 41.3**	**+1.4**
ILULI	**Ilulissat**	**14.36**	**334**	Pn		**Pn**	**04 46 01.9**	**-1.4**
ILULI	**Ilulissat**	**14.36**	**334**	*i* P		**Pn**	**04 46 00.5**	**-2.8**
SUMG	**Summit**	**15.57**	**354**			**Pn**	**04 46 18.2**	**-1.7**
SUMG	**Summit**	**15.57**	**354**	*i* P		**Pn**	**04 46 20.0**	**+0.1**
DRLN	**Deer Lake**	**16.40**	**251**			**Pn**	**04 46 28.7**	**-1.5**
DRLN				lAmb		lAmb	04 46 37.9	
	comp=Z,56nm,1.3s							
EKA	**Eskdalemuir Ar**	**16.85**	**84**	Pn		**Pn**	**04 46 36.5**	**+0.6**
	baz=233,slow=19							
EKA				LR		LR	04 51 40.0	
	comp=Z,1µm,20.8s,baz=271,slow=32							
	comp=Z,7.6nm,1.1s							
JMIC	**Jan Mayen**	**17.38**	**28**	LR		LR	04 50 58.7	
	comp=Z,212nm,18.2s,baz=227,slow=29							
H07N1	**FLORES T-PHASE**	**17.59**	**174**	T		T	05 04 29.0	
FRB	**Frobisher Bay**	**18.31**	**305**	P		**Pn**	**04 46 53.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=137,slow=6.1,SNR=5.1							
FRB				LR		LR	04 52 50.1	
	comp=Z,1µm,21.1s,baz=82,slow=33							
	comp=Z,20nm,1.0s							
SCHQ	**Schefferville**	**18.72**	**277**	P		**P**	**04 46 58.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=82,slow=8.0,SNR=11							
SCHQ				LR		LR	04 52 54.6	
	comp=Z,2µm,19.7s,baz=64,slow=33							
	comp=Z,11nm,0.7s							
SCHQ	**Schefferville**	**18.72**	**277**	P		**P**	**04 46 58.3**	**-0.3**
NEEM	**North Greenlan**	**21.24**	**349**	*i* P		**P**	**04 47 26.6**	**+0.3**
NEEM				lAmb		lAmb	04 47 33.1	
	comp=Z,155nm,2.0s							
BATG	**Bathurst New B**	**22.11**	**257**	P		**P**	**04 47 37.2**	**+1.7**
BATG				lAmb		lAmb	04 47 42.2	
	comp=Z,29nm,1.0s							
PGAV	**Gavieira, Arco**	**22.14**	**123**	*e*P		**P**	**04 47 39.0**	**+3.1**
PGAV				*e*LR		LR	04 52 50.6	
	comp=Z,2µm,18.0s							
PCAB	**Cabril**	**22.45**	**123**	*e*P		**P**	**04 47 41.0**	**+1.8**
PTO	**Porto**	**22.64**	**125**	*e*P		**P**	**04 47 44.2**	**+3.0**
	comp=Z,29nm,2.1s							
POLO	**Lamas de Olo**	**22.82**	**123**	*e*P		**P**	**04 47 46.0**	**+2.8**
	comp=Z,14nm,1.3s							
NB2	**NORSAR Subarra**	**22.88**	**62**	P		**P**	**04 47 43.0**	**-0.5**
	comp=Z,146nm,3.3s,baz=283,slow=10							
NOA	**NORSAR Array B**	**22.88**	**62**	P		**P**	**04 47 43.2**	**-0.3**
	comp=Z,7.4nm,1.2s,baz=281,slow=9.1,SNR=3.9							
NOA				LR		LR	04 55 13.2	
	comp=Z,389nm,21.1s,baz=285,slow=33							
	comp=Z,7.4nm,1.2s							
PVRL	**Vila Real**	**22.94**	**123**	*e*P		**P**	**04 47 43.5**	**-0.8**
	comp=Z,20nm,1.3s							
PBRG	**Braganca**	**22.97**	**121**	*e*P		**P**	**04 47 47.2**	**+2.5**
	comp=Z,22nm,1.8s							
CLF	**Chambon-Foret**	**23.28**	**98**	P		**P**	**04 47 47.6**	**-0.1**
PVIS	**Viseu**	**23.30**	**124**	*e*P		**P**	**04 47 49.4**	**+1.3**
	comp=Z,32nm,1.7s							
MVO	**Moncorvo**	**23.34**	**122**	*e*P		**P**	**04 47 49.9**	**+1.4**
	comp=Z,44nm,1.2s							
MVO				*e*LR		LR	04 53 37.7	
	comp=Z,2µm,18.0s							
BMRD	**Maredsous**	**23.36**	**91**	*d*P		**P**	**04 47 49.1**	**+0.6**
	comp=Z,8.5nm,1.0s							
BGES	**Gesves**	**23.49**	**90**	*d*P		**P**	**04 47 51.8**	**+2.0**
BGES				*d*PP		**PnPn**	**04 48 16.4**	**+0.2**
PCAS	**Casmilo, Conde**	**23.57**	**126**	*e*P		**P**	**04 47 51.8**	**+1.1**
	comp=Z,47nm,1.3s							
RCHB	**Rochefort**	**23.69**	**91**	*d*P		**P**	**04 47 51.7**	**-0.1**
MTE	**Manteigas**	**23.71**	**124**	*e*P		**P**	**04 47 54.1**	**+1.9**
	comp=Z,41nm,1.6s							
MTE				*e*LR		LR	04 53 45.4	
	comp=Z,1µm,20.0s							
MTE	**Manteigas**	**23.71**	**124**	P		**P**	**04 47 53.2**	**+1.0**
MTE				lAmb		lAmb	04 47 60.0	
	comp=Z,28nm,1.3s							
D62A	**Allapoint, All**	**23.83**	**260**	P		**P**	**04 47 53.8**	**+0.7**
D62A				lAmb		lAmb	04 47 59.4	
	comp=Z,25nm,1.2s							
MEM	**Membach**	**23.87**	**89**	*d*P		**P**	**04 47 53.8**	**+0.2**
	comp=Z,9.1nm,1.0s							
MEM				*d*PP		**PnPn**	**04 48 21.8**	**+0.3**
PSBE	**So Bento**	**23.89**	**127**	*e*P		**P**	**04 47 55.0**	**+1.2**
	comp=Z,49nm,1.4s							
BTNL	**Ternell**	**23.95**	**89**	*d*P		**P**	**04 47 55.0**	**+0.7**
	comp=Z,6.6nm,1.1s							
BHOU	**Houvegnez**	**24.01**	**90**	*d*P		**P**	**04 47 55.1**	**+0.3**
PMAFR	**Mafra**	**24.14**	**129**	*e*P		**P**	**04 47 57.1**	**+1.0**
	comp=Z,93nm,1.1s							
PCBR	**Castelo Branco**	**24.20**	**125**	*e*P		**P**	**04 47 57.9**	**+1.3**
	comp=Z,35nm,1.3s							
HFS	**Hagfors**	**24.26**	**63**	P		**P**	**04 47 57.7**	**+0.7**
	comp=Z,9.5nm,1.0s,baz=257,slow=14,SNR=6.9							
HFS				LR		LR	04 56 15.2	
	comp=Z,429nm,19.1s,baz=290,slow=34							
	comp=Z,9.5nm,1.0s							
E62A	**Clayton Lake**	**24.37**	**260**	P		**P**	**04 47 59.9**	**+1.7**
E62A				lAmb		lAmb	04 48 15.5	
	comp=Z,16nm,1.2s							
PACT	**Alcochete**	**24.49**	**128**	*e*P		**P**	**04 48 00.5**	**+1.2**
	comp=Z,147nm,1.9s							
PMTG	**Montargil**	**24.50**	**127**	*e*P		**P**	**04 48 00.1**	**+0.7**
	comp=Z,36nm,1.2s							
PMRV	**Marv??o**	**24.57**	**125**	*e*P		**P**	**04 48 01.9**	**+1.8**
	comp=Z,23nm,1.9s							
PMRV				*e*LR		LR	04 54 01.3	
	comp=Z,928nm,20.0s							
PESTR	**Estremoz**	**24.95**	**126**	*e*P		**P**	**04 48 04.3**	**+0.8**
	comp=Z,37nm,1.2s							
PESTR	**Estremoz**	**24.95**	**126**	P		**P**	**04 48 03.6**	**+0.2**
PESTR				lAmb		lAmb	04 48 07.0	
	comp=Z,18nm,1.2s							
NOR	**Nord**	**24.98**	**6**	*i* P		**P**	**04 48 03.8**	**+0.4**
NOR				lAmb		lAmb	04 48 12.9	
	comp=Z,22nm,1.2s							
F62A	**Pittston Farm,**	**25.07**	**259**	P		**P**	**04 48 05.3**	**+0.8**
F62A				lAmb		lAmb	04 48 10.7	
	comp=Z,22nm,1.1s							
PNCL	**Nicolau / Gran**	**25.17**	**129**	*e*P		**P**	**04 48 06.5**	**+1.1**
	comp=Z,34nm,1.3s							
PBEJ	**Beja**	**25.52**	**128**	*e*P		**P**	**04 48 10.0**	**+1.3**
	comp=Z,37nm,1.4s							
MESJ	**Messejana**	**25.53**	**129**	*e*P		**P**	**04 48 10.0**	**+1.2**
MESJ				lAmb		lAmb	04 48 13.3	
	comp=Z,21nm,1.0s							
MESJ	**Messejana**	**25.53**	**129**	*e*P		**P**	**04 48 09.9**	**+1.2**
	comp=Z,33nm,1.4s							
PTEO	**Sao Teotonio**	**25.57**	**130**	*e*P		**P**	**04 48 10.1**	**+1.1**
	comp=Z,65nm,1.3s							
PBAR	**Barrancos**	**25.76**	**126**	*e*P		**P**	**04 48 11.7**	**+0.9**
	comp=Z,23nm,1.5s							
PCVE	**Castro Verde**	**25.78**	**129**	*e*P		**P**	**04 48 13.8**	**+2.

KHC **Kasperske Hory** 28.79 86 *e*P P 04 48 35.0 -3.0
KHC AMS AMS 04 59 30.0
comp=Z,600nm,17.2s
PRU **Pruhonice** 28.84 84 AMS AMS 04 59 10.0
comp=Z,700nm,16.5s
GOPC **GO Pecny, Ondr** 29.01 84 AMS AMS 04 59 20.0
comp=Z,800nm,17.7s
GERES **GERESS Array B** 29.02 86 P P 04 48 40.0 -0.1
comp=Z,0.4nm,0.7s,baz=353,slow=6.9,SNR=2.1
GERES LR LR 04 59 30.0
comp=Z,522nm,20.9s,baz=304,slow=35
comp=Z,0.4nm,0.7s
GERES **GERESS Array B** 29.02 86 P P 04 48 41.7 +1.6
KSP **Ksiaz** 29.32 81 *e*P P 04 48 42.1 -0.5
CHVC **Chvalec** 29.33 82 *e*P P 04 48 42.8 +0.1
CHVC AMS AMS 05 00 50.0
comp=Z,1μm,14.1s
UPC **Upice** 29.35 82 AMS AMS 05 00 40.0
comp=Z,1μm,15.4s
CKRC **Cesky Krumlov** 29.36 86 AMS AMS 05 01 20.0
comp=Z,700nm,15.1s
OSTC **Ostas** 29.43 82 *e*P P 04 48 44.6 +0.9
OSTC AMS AMS 05 00 50.0
comp=Z,1μm,17.1s
DPC **Dobruska-Polom** 29.60 82 *e*P P 04 48 45.8 +0.6
DPC AMS AMS 05 00 50.0
comp=Z,900nm,14.3s
FINES **FINESS Array B** 29.72 57 P P 04 48 45.5 -0.5
comp=Z,1.2nm,0.7s,baz=282,slow=9.5,SNR=5.2
FINES LR LR 04 59 14.4
comp=Z,331nm,19.2s,baz=306,slow=34
comp=Z,1.2nm,0.7s
CIMO **Cimolais** 29.84 91 IAmb IAmb 04 48 51.2
comp=Z,6.1nm,1.3s
CLUD **Cludinico** 29.99 91 IAmb IAmb 04 48 55.9
comp=Z,8.9nm,1.1s
KRLC **Kraliky** 30.00 82 *e*P P 04 48 49.6 +0.9
KRLC AMS AMS 05 01 00.0
comp=Z,800nm,15.7s
VRAC **Vranov** 30.32 83 LR LR 05 00 52.7
comp=Z,802nm,18.8s,baz=312,slow=36
VRAC **Vranov** 30.32 83 *e*P P 04 48 52.1 +0.6
MORC **Moravsky Berou** 30.57 82 P P 04 48 54.6 +0.8
MORC **Moravsky Berou** 30.57 82 *e*P P 04 48 54.0 +0.2
SADO **Sadowa** 30.74 266 LR LR 04 59 58.2
comp=Z,1μm,19.2s,baz=354,slow=34
OKC **Ostrava-Krasne** 30.87 81 AMS AMS 05 01 40.0
comp=Z,1μm,18.1s
MAUC **Maruska** 30.96 82 *e*P P 04 48 59.1 +1.9
MAUC AMS AMS 05 00 30.0
comp=Z,1μm,15.6s
JAVC **Velka Javorina** 31.16 83 *e*P P 04 49 00.2 +1.2
MODS **Modra-Piesok** 31.23 84 *e*P P 04 49 00.0 +0.4
MDT **Midelt** 31.35 129 LR LR 04 59 49.4
comp=Z,333nm,19.0s,baz=9.5,slow=33
OJC **Ojcow** 31.54 80 *e*P P 04 49 01.3 -0.9
LANS **Liptovska Anna** 31.96 82 *e*P P 04 49 08.2 +2.2
VYHS **Vyhne** 32.01 83 *e*P P 04 49 07.1 +0.8
PSZ **Piszkesteto** 32.92 83 ⇑P P 04 49 13.5 -0.9
PSZ **Piszkesteto** 32.92 83 P P 04 49 14.9 +0.5
MORH **Mrgy, Hungar** 33.28 86 ⇑P P 04 49 18.1 +0.7
MORH **Mrgy, Hungar** 33.28 86 P P 04 49 18.0 +0.6
MNK **Minsk** 33.50 68 *i* P P 04 49 17.9 -1.4
comp=E,1.0nm,1.0s
MNK *i* P P 04 49 17.9 -1.4
MNK *i* P P 04 49 17.9 -1.4
comp=Z,13nm,1.0s,baz=300
MNK *i* PP PnPn 04 50 20.7 -10
MNK *i* PPP PPP 04 50 46.4
MNK *i* S S 04 54 40.2 -0.3
MNK *i* SS SnSn 04 56 43.1 +0.7
MNK *i* LQ LQ 04 59 41.9
MNK *i* LR LR 04 59 47.3
MNK *i* LRM MLR 05 01 36.4
comp=Z,319nm,15.1s
MNK *i* LRM MLR 05 02 02.9
comp=E,7.0nm,15.1s
MNK *i* LRM MLR 05 02 24.6
TRPA **Tarpa** 34.22 81 P P 04 49 25.4 -0.2
FRGS **Fruska Gora** 34.58 87 ⇑P P 04 49 28.7 -0.2
SIRR **Siria** 34.88 84 ⇓P P 04 49 33.0 +1.6
DRGR 35.12 83 ⇑P P 04 49 35.0 +1.4
BZS **Buzias** 35.27 85 ⇑P P 04 49 36.2 +1.5
COWI **Conover** 35.33 276 IAmb IAmb 04 49 40.2
comp=Z,16nm,1.1s
EYMN **Ely** 35.46 280 P P 04 49 38.3 +1.9
P53A **Whipple** 35.58 261 IAmb IAmb 04 49 46.5
comp=Z,12nm,1.0s
KEST **Kesra** 35.63 108 P P 04 49 38.3 +0.3
comp=Z,8.2nm,1.0s,baz=255,slow=15,SNR=5.6
KEST LR LR 05 02 40.5
comp=Z,442nm,20.5s,baz=250,slow=34
comp=Z,8.2nm,1.0s
DEV **Deva** 35.79 84 ⇑P P 04 49 41.6 +2.3
BUR08 **Bucovina Ar. S** 35.94 80 P P 04 49 41.8 +1.2
BUR08 IAmb IAmb 04 49 47.6
comp=Z,9.5nm,1.2s
BURAR **Bucovina Array** 35.96 80 ⇑P P 04 49 41.7 +0.9
BURAR **Bucovina Array** 35.96 80 P P 04 49 41.5 +0.7
BURAR IAmb IAmb 04 49 48.8
comp=Z,8.6nm,1.1s
GZR **Gura Zlata** 36.04 84 ⇑P P 04 49 42.7 +1.3
HERR **Herculane** 36.17 85 ⇓P P 04 49 43.4 +1.0
AKASG **Malin Array Be** 36.25 73 P P 04 49 42.3 -0.8
comp=Z,5.8nm,0.9s,baz=306,slow=8.4,SNR=24
AKASG PcP PcP 04 52 06.0 -1.8
comp=Z,0.2nm,0.4s,baz=312,slow=3.2,SNR=1.5
AKASG LR LR 05 04 24.8
comp=Z,327nm,18.2s,baz=258,slow=36
comp=Z,5.8nm,0.9s
AKBB **Malin Array Si** 36.25 73 P P 04 49 43.2 +0.2
AKBB IAmb IAmb 04 49 48.6
comp=Z,14nm,1.0s
B35A **Bob, Littlefor** 36.40 282 IAmb IAmb 04 49 49.0
comp=Z,14nm,1.1s
BOVS **Bovan** 36.60 88 ⇑P P 04 49 46.7 +0.5
R53A **Hurricane** 36.72 260 IAmb IAmb 04 49 54.5
comp=Z,11nm,0.9s
BIZ **Bicaz** 36.85 80 ⇑P P 04 49 48.3 0.0
VAE **Valguarnera** 36.97 101 LR LR 05 03 22.0
comp=Z,506nm,20.2s,baz=6.0,slow=34
FFC **Flin Flon** 36.99 296 P P 04 49 50.2 +0.9
FFC IAmb IAmb 04 50 02.0
comp=Z,13nm,1.2s
ARR **Arges** 37.06 83 ⇑P P 04 49 56.1 +5.9
DOPR **Dopca** 37.08 82 ⇑P P 04 49 51.3 +1.1
BLKB **Belogradchik** 37.14 87 ⇑P P 04 49 49.6 -1.2
VOIR 37.24 83 ⇑P P 04 49 52.6 +0.9
OBN **Obninsk** 37.47 63 LR LR 05 04 27.5
comp=Z,134nm,20.0s,baz=302,slow=35
OBN **Obninsk** 37.47 63 P P 04 49 53.9 +0.5
AGMN **Agassiz Nation** 37.57 284 P P 04 49 54.8 +0.4
MLR **Muntele Rosu** 37.69 82 ⇓P P 04 50 04.1 +8.5
MLR **Muntele Rosu** 37.69 82 LR LR 05 06 37.5
comp=Z,765nm,18.4s,baz=318,slow=38
P48A **Milroy** 37.78 265 IAmb IAmb 04 50 01.1
comp=Z,8.6nm,0.8s
F36A **Milaca** 37.85 279 IAmb IAmb 04 50 06.8
comp=Z,11nm,1.1s
SPMN **Marine on St.** 37.87 278 IAmb IAmb 04 50 02.1
comp=Z,13nm,1.0s
VRI **Vrincioaia** 37.87 81 ⇑P P 04 49 57.8 +0.9
S51A **Beattyville** 38.10 261 IAmb IAmb 04 50 04.8
comp=Z,10nm,0.7s
VTS **Vitosha** 38.11 88 ⇑P P 04 49 59.7 +0.5
VTS **Vitosha** 38.11 88 P P 04 49 59.7 +0.5
YKA **Yellowknife Ar** 38.58 313 P P 04 50 03.0 +0.3
comp=Z,2.5nm,0.8s,baz=112,slow=8.9,SNR=2.3
YKA LR LR 05 04 34.3
comp=Z,2μm,19.6s,baz=159,slow=34
comp=Z,2.5nm,0.8s
TZTN **Tazewell** 38.89 260 IAmb IAmb 04 50 11.4
comp=Z,11nm,0.9s
CFR **Carcaliu** 39.07 81 ⇑P P 04 50 05.6 -1.3
TKL **Tuckaleechee C** 39.67 259 LR LR 05 06 05.9
comp=Z,3μm,18.0s,baz=302,slow=36
BG3 **Lake Jocassee** 39.73 258 P P 04 50 13.4 +0.8
P43A **Skaggs, Pawnee** 39.87 269 IAmb IAmb 04 50 19.1
comp=Z,14nm,1.0s
Q44A **Meyer Farm, Va** 40.12 267 IAmb IAmb 04 50 23.1
comp=Z,12nm,0.8s
RDO **Rodhopi** 40.37 87 P P 04 50 18.3 +0.4
RDO IAmb IAmb 04 50 25.1
comp=Z,22nm,1.1s
ALN **Alexandroupoli** 40.82 87 P P 04 50 22.8 +1.3
ALN IAmb IAmb 04 50 25.4
comp=Z,20nm,1.0s
ECSD **EROS Data Cent** 40.90 279 P P 04 50 23.1 +0.8
X51A **Calhoun** 41.08 259 IAmb IAmb 04 50 30.9
comp=Z,13nm,1.2s
S44A **Carbondale** 41.13 266 IAmb IAmb 04 50 31.5
comp=Z,16nm,0.8s
E28A **Huff** 41.20 285 IAmb IAmb 04 50 36.7
comp=Z,19nm,1.1s
WVT **Waverly** 41.50 263 P P 04 50 27.4 +0.1
DGMT **Dagmar** 41.80 289 IAmb IAmb 04 50 35.5
comp=Z,20nm,1.1s
CCM **Cathedral Cave** 41.95 268 P P 04 50 31.8 +1.0
INK **Inuvik** 41.99 327 P P 04 50 31.3 +0.5
comp=Z,1.5nm,0.9s,baz=357,slow=4.3,SNR=3.9
INK LR LR 05 07 26.0
comp=Z,2μm,18.5s,baz=166,slow=35
comp=Z,1.5nm,0.9s
MGMO **Mountain Grove** 43.16 268 IAmb IAmb 04 51 03.3
comp=Z,19nm,1.4s
LRAL **Lakeview Retre** 43.40 260 P P 04 50 44.5 +1.9
HBAR **Harrisburg** 43.46 265 P P 04 50 44.4 +1.2
BBTS **Babate** 44.35 156 LR LR 05 06 37.9
comp=Z,203nm,18.2s,baz=234,slow=32
WHAR **Wooly Hollow** 44.55 267 IAmb IAmb 04 50 58.4
comp=Z,16nm,1.3s
HHAR **Hobbs** 44.71 269 IAmb IAmb 04 50 59.0
comp=Z,12nm,1.2s
EGMT **Eagleton** 44.92 293 IAmb IAmb 04 51 01.0
comp=Z,13nm,1.0s
I29M **Ogilvie Camp,** 45.33 325 IAmb IAmb 04 51 09.5
comp=Z,10nm,1.2s
RLO **Rose Lookout** 45.38 270 IAmb IAmb 04 51 05.2
comp=Z,11nm,0.8s
BR131 **Keskin Array S** 45.76 82 P P 04 51 01.9 +0.3
BRTR **Keskin Array B** 45.76 82 P P 04 51 02.9 +1.3
comp=Z,8.1nm,1.0s,baz=310,slow=4.8,SNR=14
BRTR LR LR 05 11 24.5
comp=Z,200nm,19.8s,baz=326,slow=38
comp=Z,8.1nm,1.0s
FARO **Faro, Yukon** 45.79 320 IAmb IAmb 04 51 11.7
comp=Z,8.1nm,1.0s
MIAR **Mount Ida** 45.80 267 IAmb IAmb 04 51 08.6
comp=Z,15nm,1.2s
WALA **Waterton Lakes** 46.29 296 P P 04 51 06.5 +0.8
DAWY **Dawson** 46.56 324 P P 04 51 09.2 +1.7
ARU **Aru** 46.60 50 P P 04 51 09.0 +1.1
EGAK **Eagle** 46.61 326 P P 04 51 09.3 +1.5
EGAK IAmb IAmb 04 51 36.4
comp=Z,11nm,1.2s
NRIK **Noril'sk** 46.77 25 P P 04 51 09.9 +0.9
comp=Z,1.2nm,0.3s,baz=303,slow=4.9,SNR=1.4
comp=Z,1.2nm,0.3s
NRIK **Noril'sk** 46.77 25 P P 04 51 10.5 +1.4
NRIK IAmb IAmb 04 51 17.8
comp=Z,6.5nm,1.1s
K22A **Casper** 46.92 285 IAmb IAmb 04 51 23.5
comp=Z,8.5nm,1.1s
DLBC **Dead Lake** 47.11 315 LR LR 05 10 35.4
comp=Z,2μm,18.8s,baz=86,slow=36
JTMT **Jette** 47.36 295 IAmb IAmb 04 51 18.6
comp=Z,7.6nm,1.0s
YHL **Hebgen Lake** 47.80 290 IAmb IAmb 04 51 26.8
comp=Z,6.2nm,1.0s
MSO **Missoula** 47.82 294 P P 04 51 19.2 +1.6
MSO IAmb IAmb 04 51 25.2
comp=Z,4.3nm,0.9s
KBZ **Khabaz** 47.84 72 P P 04 51 19.2 +1.5
comp=Z,4.3nm,0.9s,baz=329,slow=15,SNR=4.3
comp=Z,4.3nm,0.9s
YPP **Pitchstone Pla** 48.01 289 IAmb IAmb 04 51 33.4
comp=Z,12nm,1.3s
SCRK **Sand Creek** 48.04 326 IAmb IAmb 04 51 29.1
comp=Z,7.3nm,1.0s
KOWA **Kowa** 48.09 140 P P 04 51 20.1 +0.1
IL31 48.31 328 P P 04 51 22.6 +1.6
ILAR **Eielson Array** 48.31 328 P P 04 51 21.4 +0.3
comp=Z,1.1nm,0.7s,baz=38,slow=6.5,SNR=13
ILAR PcP PcP 04 52 47.2 -0.4
comp=Z,0.5nm,0.8s,baz=22,slow=2.6,SNR=1.0
comp=Z,1.1nm,0.7s
NEW **Newport** 48.39 297 P P 04 51 22.5 +0.5
NEW IAmb IAmb 04 51 28.0
comp=Z,7.7nm,1.1s
PDAR **Pinedale Array** 48.42 287 P P 04 51 21.3 -1.2
comp=Z,2.1nm,0.9s,baz=64,slow=6.8,SNR=11
PDAR PP PP 04 53 12.6 -2.2
comp=Z,2.3nm,1.1s,baz=72,slow=9.5,SNR=5.4
PDAR LR LR 05 10 16.4
comp=Z,1μm,18.0s,baz=316,slow=34
comp=Z,2.1nm,0.9s
BW06 **Boulder Array** 48.42 287 IAmb IAmb 04 51 31.8
comp=Z,4.7nm,1.0s
ISCO **Idaho Springs** 48.46 282 P P 04 51 24.1 +1.2
ISCO IAmb IAmb 04 51 29.8
comp=Z,8.4nm,1.1s
MDM **Murphy Dome** 48.55 329 IAmb IAmb 04 51 32.5
comp=Z,7.5nm,1.1s
FXWY **Fox Creek** 48.57 289 IAmb IAmb 04 51 28.9
comp=Z,5.3nm,1.1s
TPAW **Teton Pass** 48.63 289 IAmb IAmb 04 51 29.3
comp=Z,4.6nm,0.9s
REDW **Red Top Meadow** 48.67 289 IAmb IAmb 04 51 31.3
comp=Z,13nm,1.4s
MLY **Manley** 49.19 330 P P 04 51 28.5 +0.7
MLY IAmb IAmb 04 51 36.5
comp=Z,8.0nm,1.2s
AHID **Auburn Hatcher** 49.23 288 IAmb IAmb 04 51 49.1
comp=Z,6.8nm,1.1s
B08A **Colville Reser** 49.39 299 IAmb IAmb 04 51 31.5
comp=Z,5.6nm,0.8s
O20A **White River Ci** 49.62 284 IAmb IAmb 04 51 47.7
comp=Z,12nm,1.3s
T25A **Trinidad** 49.76 278 IAmb IAmb 04 51 39.4
comp=Z,9.6nm,1.1s
F10A **Beach Ranch, E** 50.05 295 IAmb IAmb 04 51 39.3
comp=Z,6.7nm,0.8s
PLID **Pearl Lake** 50.06 294 IAmb IAmb 04 51 45.1
comp=Z,12nm,1.2s
HWUT **Hardware Ranch** 50.30 287 IAmb IAmb 04 51 44.4
comp=Z,7.1nm,0.9s
HLID **Hailey** 50.35 291 IAmb IAmb 04 51 49.7
comp=Z,9.0nm,1.2s
TCUT **Tone Canyon** 50.57 287 IAmb IAmb 04 51 50.3
comp=Z,12nm,1.1s
HVU **Hansel Valley** 50.80 288 P P 04 51 40.1 -0.4
HVU IAmb IAmb 04 51 51.8
comp=Z,8.9nm,1.3s
BMO **Blue Mountains** 50.88 294 IAmb IAmb 04 51 49.2
comp=Z,6.6nm,0.9s
GURO **Guroymak-BITLI** 51.11 77 P P 04 51 43.4 +0.5
PV11 **David Mesa, Pa** 51.29 283 IAmb IAmb 04 51 51.6
comp=Z,9.2nm,0.9s
MARD **Mardin** 51.35 79 P P 04 51 45.8 +1.1
K20K **Telida** 51.41 330 IAmb IAmb 04 51 59.3
comp=Z,12nm,1.3s
P17A **Butcher Ranch,** 51.42 285 IAmb IAmb 04 51 56.7
comp=Z,8.7nm,1.4s
TOA0 **Torodi Ar. Sit** 51.44 134 P P 04 51 45.2 -0.2
TOA0 IAmb IAmb 04 51 52.4
comp=Z,6.4nm,1.0s
TORD **Torodi Ar. Bea** 51.44 134 P P 04 51 43.8 -1.6
comp=Z,2.8nm,0.8s,baz=335,slow=7.7,SNR=14
comp=Z,2.8nm,0.8s
MPU **Maple Canyon** 51.49 286 IAmb IAmb 04 51 52.6
comp=Z,11nm,1.1s
NLU **North Lily Min** 51.76 286 IAmb IAmb 04 51 54.9
comp=Z,9.3nm,1.0s
MVCO **Mesa Verde** 51.90 281 P P 04 51 50.0 +1.0
MVCO IAmb IAmb 04 51 56.1
comp=Z,16nm,1.4s
ABKAR **Akbulak array** 52.20 56 P P 04 51 50.5 -0.3
JCT **Junction City** 52.29 269 IAmb IAmb 04 51 58.5
comp=Z,13nm,1.0s
J08A **Circle Bar Ran** 52.54 294 IAmb IAmb 04 52 02.3
comp=Z,14nm,1.1s
ELK **Elko** 52.82 289 LR LR 05 12 47.1
comp=Z,1μm,18.0s,baz=51,slow=34
WVOR **Wild Horse Val** 53.30 293 IAmb IAmb 04 52 06.1
comp=Z,8.8nm,1.0s
SPR3 **Spring Creek 3** 53.64 287 IAmb IAmb 04 52 11.9
comp=Z,8.2nm,1.2s
BRVK **Borovoye** 53.77 47 P P 04 52 02.3 +0.1
BRVK IAmb IAmb 04 52 13.7
comp=Z,6.8nm,1.1s
BVAR **Borovoye Array** 53.84 47 P P 04 52 02.5 -0.3
comp=Z,1.1nm,0.4s,baz=297,slow=6.5,SNR=9.7
BVAR PcP PcP 04 53 08.1 -0.2
comp=Z,0.3nm,0.4s,baz=242,slow=3.1,SNR=1.4
comp=Z,1.1nm,0.4s
BMN **Battle Mountai** 54.07 290 IAmb IAmb 04 52 15.6
comp=Z,6.1nm,1.2s
KNB **Kanab** 54.34 284 IAmb IAmb 04 52 22.2
comp=Z,9.0nm,1.1s
MOD **Modoc Plateau** 54.53 294 IAmb IAmb 04 52 13.2
comp=Z,7.1nm,1.0s
DBIC **Dimbokro** 55.14 145 P P 04 52 10.3 -2.3
comp=Z,4.7nm,1.0s,baz=328,slow=3.2,SNR=2.7
DBIC LR LR 05 13 04.2
comp=Z,579nm,19.1s,baz=207,slow=33
comp=Z,4.7nm,1.0s
DBIC **Dimbokro** 55.14 145 P P 04 52 12.6 0.0
PRN **Pahroc Range** 55.21 286 IAmb IAmb 04 52 26.8
comp=Z,7.1nm,1.1s
TX31 **Lajitas Ar. Si** 55.28 271 IAmb IAmb 04 52 27.8
comp=Z,11nm,1.2s
TXAR **Lajitas Array** 55.28 271 P P 04 52 14.4 +0.7
comp=Z,0.5nm,0.6s,baz=58,slow=7.0,SNR=9.2
comp=Z,0.5nm,0.6s
KVN **Kaiserville** 55.55 290 IAmb IAmb 04 52 25.2
comp=Z,9.5nm,1.0s
YBH **Yreka Blue Hor** 55.85 295 LR LR 05 14 44.1
comp=Z,611nm,20.8s,baz=44,slow=34
NV11 **Mina Array Sit** 56.05 289 IAmb IAmb 04 52 25.2
comp=Z,5.7nm,1.1s
NVAR **Mina Array Bea** 56.12 290 P P 04 52 19.3 -0.4
comp=Z,0.6nm,0.7s,baz=49,slow=5.8,SNR=10
NVAR PP PP 04 54 20.3 -4.1
comp=Z,0.1nm,0.4s,baz=43,slow=9.9,SNR=1.3
NVAR LR LR 05 15 24.0
comp=Z,984nm,18.1s,baz=31,slow=35
comp=Z,0.6nm,0.7s
NVAR **Mina Array Bea** 56.12 290 P P 04 52 20.5 +0.8
WCT **Wildcat Mounta** 56.50 287 IAmb IAmb 04 52 29.2
comp=Z,5.2nm,1.0s
LCH **Last Change Ra** 56.69 288 IAmb IAmb 04 52 29.9
comp=Z,5.9nm,1.1s
ZALV **Zalesovo Beam** 58.37 38 P P 04 52 34.4 -0.6
comp=Z,0.4nm,0.3s,baz=295,slow=9.6,SNR=1.8
ZALV PcP PcP 04 53 25.1 -0.7
comp=Z,1.8nm,0.6s,baz=335,slow=4.5,SNR=6.4
comp=Z,0.4nm,0.3s
ZALV **Zalesovo Beam** 58.37 38 P P 04 52 35.7 +0.6
ZALV PcP PcP 04 53 26.7 +0.9
KURK **Kurchatov** 58.82 44 P P 04 52 38.8 +0.6
KURK IAmb IAmb 04 52 49.1
comp=Z,7.9nm,1.2s
PFO **Pinyon Flats O** 58.85 285 LR LR 05 16 05.8
comp=Z,701nm,18.9s,baz=22,slow=34
KURBB **Kurchatov Arra** 58.86 44 P P 04 52 37.9 -0.6
comp=Z,1.6nm,0.5s,baz=326,slow=6.9,SNR=16
KURBB PcP PcP 04 53 27.5 -0.3
comp=Z,0.2nm,0.4s,baz=333,slow=4.3,SNR=1.2
comp=Z,1.6nm,0.5s
GEYT **Alibeck** 59.87 66 P P 04 52 46.0 +0.3
comp=Z,1.1nm,0.4s,baz=297,slow=16,SNR=3.8
comp=Z,1.1nm,0.4s
GEYT **Alibeck** 59.87 66 P P 04 52 46.2 +0.4
GEYT IAmb IAmb 04 52 48.1
comp=Z,5.7nm,1.1s
GYA0B **ALIBECK ARRAY** 59.87 66 P P 04 52 47.0 +1.2
GYA0B IAmb IAmb 04 52 48.0
comp=Z,4.1nm,0.9s
ZAIG **Zacatecas** 59.89 266 P P 04 52 46.9 +0.5
ZAIG IAmb IAmb 04 52 53.9
comp=Z,8.1nm,1.2s
CMIG **Matias Romero** 60.42 255 LR LR 05 18 36.6
comp=Z,192nm,18.4s,baz=5.0,slow=36
ROSC **El Rosal** 61.30 228 P P 04 52 56.0 -0.2
comp=Z,3.5nm,0.3s,baz=79,slow=9.4,SNR=4.2
comp=Z,3.5nm,0.3s
KKAR **Karatay Array** 61.63 54 P P 04 52 58.7 +1.0
LPIG **La Paz** 63.03 273 LR LR 05 21 39.9
comp=Z,206nm,19.2s,baz=349,slow=37
MKAR **Makanchi Array** 63.43 44 P P 04 53 08.4 -1.2
comp=Z,1.0nm,0.5s,baz=340,slow=4.9,SNR=19
comp=Z,1.0nm,0.5s
MKAR **Makanchi Array** 63.43 44 P P 04 53 09.9 +0.3
AAK **Ala-Archa** 63.73 52 P P 04 53 13.5 +1.6
AAK IAmb IAmb 04 53 24.1
comp=Z,2.9nm,0.8s
TARG **Taragay, Kyrgy** 65.87 50 P P 04 53 28.5 +2.4
TARG IAmb IAmb 04 53 42.1
comp=Z,5.0nm,1.0s
H10N2 **ASCENSION HYDR** 66.64 160 T T 06 05 26.6
baz=350,slow=75,SNR=35
H10N3 **ASCENSION HYDR** 66.65 160 T T 06 05 27.4
baz=350,slow=75,SNR=34
H10N1 **ASCENSION HYDR** 66.66 159 T T 06 05 28.0
baz=350,slow=75,SNR=36
KSH **Kashi** 66.93 52 P P 04 53 35.8 +3.2
KSH pmax pmax
comp=Z,8.0nm,1.2s
KSH LR LR
comp=N,530nm,18.2s
KSH LR LR
comp=E,360nm,16.8s
KSH LR LR
comp=Z,500nm,19.2s
H10S3 **ASCENSION HYDR** 67.70 160 T T 06 06 46.4
baz=351,slow=74,SNR=15
H10S2 **ASCENSION HYDR** 67.71 160 T T 06 06 46.6
baz=229,slow=74,SNR=4.6
KBL **Kabul** 67.88 60 P P 04 53 38.9 +0.1
WMQ **Urumqi** 67.96 42 *e*P P 04 53 40.0 +1.0
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ LR LR
comp=Z,380nm,21.1s
SONM **Songino Array** 70.14 28 P P 04 53 52.7 +0.2
comp=Z,3.3nm,0.8s,baz=327,slow=5.1,SNR=16
comp=Z,3.3nm,0.8s
SONM **Songino Array** 70.14 28 P P 04 53 52.7 +0.2
SONM IAmb IAmb 04 53 55.7
comp=Z,5.1nm,1.1s
BOSC **San Juan Bosco** 70.25 229 P P 04 53 54.7 +1.1
ULN **Ulaanbaatar** 70.27 27 P P 04 53 54.3 +0.9
ETMB **Extrema** 72.01 214 P P 04 54 03.5 -0.5
ETMB IAmb IAmb 04 54 05.0
comp=Z,3.6nm,1.1s
KLR **Kul'dur** 73.22 10 P P 04 54 10.2 -0.7
comp=Z,1.0nm,0.7s,baz=312,slow=8.9,SNR=2.2
comp=Z,1.0nm,0.7s
BDFB **Brasilia** 73.58 195 P P 04 54 12.3 -1.0
comp=Z,1.3nm,0.5s,baz=76,slow=12,SNR=3.3
comp=Z,1.3nm,0.5s
ATAH **Atahualpa** 73.83 227 LR LR 05 27 04.6
comp=Z,125nm,19.7s,baz=358,slow=36
GTA **Gaotai** 76.02 36 ⇑P P 04 54 28.1 +0.7
GTA pP pwP 04 54 34.8 +1.1
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,96nm,4.7s
GTA LR LR
comp=N,560nm,19.3s
GTA LR LR
comp=E,420nm,18.2s
GTA LR LR
comp=Z,750nm,19.3s
BNX **BinXian** 76.18 14 ⇑P P 04 54 28.1 0.0
BNX pmax pmax
comp=Z,7.0nm,0.8s
SIV **San Ignacio** 76.47 207 LR LR 05 25 06.5
comp=Z,419nm,18.6s,baz=94,slow=33
MBAR **Mbarara** 76.79 112 LR LR 05 27 47.6
comp=Z,1μm,18.6s,baz=125,slow=35
GOMU **GeErMu** 77.24 41 ⇓*e*P P 04 54 36.1 +1.4
GOMU pP sP 04 54 39.3 -0.3
GOMU sP pwP 04 54 40.5 -0.5
GOMU S S 05 04 13.5 -11
GOMU pmax pmax
comp=Z,73nm,3.7s
GOMU LR LR
comp=N,370nm,16.2s
GOMU LR LR
comp=E,180nm,17.0s
GOMU LR LR
comp=Z,110nm,16.5s
LPAZ **La Paz** 78.71 214 LR LR 05 25 54.8
comp=Z,118nm,20.8s,baz=106,slow=33
BJI **Beijing** 79.79 23 P P 04 54 46.3 -1.9
BJI pmax pmax
comp=Z,8.0nm,2.2s
LZH **Lanzhou** 80.32 34 *e*P P 04 54 52.0 +0.6

LZH					sP	pwP	04 54 57.9	+0.2		
LZH					pmax	pmax				
	comp=Z,18nm,1.1s									
HNS	**HongShan**	**81.99**	**25**	⇑P	**P**		**04 55 01.4**	**+1.4**		
HNS				pmax	pmax					
	comp=Z,13nm,1.2s									
KSRS	**Korea Array**	**84.40**	**15**	P	**P**		**04 55 11.6**	**-0.7**		
	comp=Z,2.4nm,0.7s,baz=347,slow=5.1,SNR=11									
KSRS				LR	LR		05 35 23.9			
	comp=Z,51nm,18.2s,baz=355,slow=38									
	comp=Z,2.4nm,0.7s									
KSAR	**Wonju Array Be**	**84.40**	**15**	P	**P**		**04 55 11.7**	**-0.8**		
LVC	**Limon Verde**	**84.91**	**213**	LR	LR		05 32 11.1			
	comp=Z,133nm,18.6s,baz=282,slow=35									
CPUP	**Villa Florida**	**85.62**	**201**	P	**P**		**04 55 18.2**	**-0.2**		
	comp=Z,1.7nm,0.7s,baz=29,slow=5.4,SNR=4.3									
CPUP				LR	LR		05 29 54.7			
	comp=Z,229nm,20.4s,baz=142,slow=33									
	comp=Z,1.7nm,0.7s									
ENH	**Enshi**	**87.41**	**31**	P	**P**		**04 55 27.8**	**+0.3**		
NJ2	**Nanjing**	**88.05**	**23**	*e*P	**P**		**04 55 30.6**	**+0.1**		
NJ2				pmax	pmax					
	comp=Z,15nm,0.5s									
PZH	**PanZhiHua**	**88.48**	**39**	P	**P**		**04 55 32.8**	**0.0**		
PZH				pmax	pmax					
	comp=Z,20nm,1.3s									
KMI	**Kunming**	**90.09**	**39**	⇑P	**P**		**04 55 40.3**	**-0.2**		
KMI				pmax	pmax					
	comp=Z,10.0nm,1.6s									
KMI				LR	LR					
	comp=N,800nm,16.6s									
KMI				LR	LR					
	comp=E,230nm,15.1s									
KMI				LR	LR					
	comp=Z,810nm,17.1s									
GYA	**Guiyang**	**90.14**	**35**	⇑*i*P	**P**		**04 55 41.3**	**+0.7**		
GYA				pmax	pmax					
	comp=Z,16nm,0.9s									
CMAR	**Chiang Mai Arr**	**94.82**	**45**	P	**P**		**04 56 00.3**	**-1.9**		
	comp=Z,0.5nm,0.3s,baz=320,slow=5.2,SNR=5.0									
	comp=Z,0.5nm,0.3s									
LBTB	**Lobatse**	**95.66**	**129**	LR	LR		05 38 34.6			
	comp=Z,308nm,18.1s,baz=21,slow=35									
WRA	**Warramunga Arr**	**141.70**	**19**	PKP	**PKPdf**		**05 02 09.1**	**-2.5**		
	comp=Z,0.5nm,0.7s,baz=348,slow=2.9,SNR=5.3									
MAW	**Mawson**	**142.91**	**141**	PKP	**PKPdf**		**05 02 11.8**	**-0.4**		
	comp=Z,2.2nm,0.8s,baz=204,slow=4.0,SNR=2.6									
AS31	**Alice Springs**	**145.25**	**21**	PKPbc	**PKPbc**		**05 02 15.9**	**-1.6**		
ASAR	**Alice Springs**	**145.26**	**21**	PKPbc	**PKPbc**		**05 02 16.1**	**-1.4**		
	comp=Z,5.1nm,0.9s,baz=357,slow=3.0,SNR=35									
ASAR	**Alice Springs**	**145.26**	**21**	PKPbc	**PKPbc**		**05 02 17.0**	**-0.5**		
QSPA	**South Pole Qui**	**147.10**	**180**	PKPbc	**PKPbc**		**05 02 21.3**	**-0.5**		
VNDA	**Vanda**	**158.91**	**189**	PKPab	**PKPab**		**05 03 11.0**	**-1.7**		
	comp=Z,1.1nm,0.9s,baz=201,slow=6.9,SNR=3.1									

*IDC **24** 04:48:14.5±0.9,57°.32N×33°.23W,h0km,mb3.7/14, mbtmp3.8/16,ML2.7/2,Error ellipse: s-maj=27.5km s-min=16.8km az=12.0*

ISC 24 04:48:16.8±0.8,57°.3N±0°.1×33°.3W±0°.1,h16km,n22, σ0s75/17,mb3.8/14,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**9.46**	**33**	Pn	**Pn**	**04 50 32.8**	**+0.6**
	0.3nm,0.3s,baz=289,slow=11,SNR=1.8						
	22nm,1.0s						
SCHQ	**Schefferville**	**18.79**	**277**	P	**P**	**04 52 34.8**	**-0.4**
	0.1nm,0.3s,baz=33,slow=4.1,SNR=4.0						
	4.0nm,0.8s						
ESDC	**Sonseca Array**	**25.91**	**120**	P	**P**	**04 53 48.4**	**+0.4**
	0.7nm,0.8s,baz=321,slow=7.3,SNR=3.4						
	0.7nm,0.8s						
KEST	**Kesra**	**35.57**	**109**	P	**P**	**04 55 14.3**	**+1.0**
	1.7nm,0.8s,baz=301,slow=6.3,SNR=2.1						
	1.7nm,0.8s						
AKASG	**Malin Array Be**	**36.15**	**73**	P	**P**	**04 55 17.0**	**-0.9**
	1.2nm,0.7s,baz=304,slow=8.9,SNR=7.3						
	1.2nm,0.7s						
BRTR	**Keskin Array B**	**45.67**	**83**	P	**P**	**04 56 37.4**	**+0.7**
	2.1nm,0.9s,baz=333,slow=6.1,SNR=5.7						
	2.1nm,0.9s						
ILAR	**Eielson Array**	**48.29**	**328**	P	**P**	**04 56 56.8**	**+0.2**
	0.1nm,0.3s,baz=54,slow=4.6,SNR=1.8						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**48.48**	**287**	P	**P**	**04 56 58.7**	**+0.1**
	0.8nm,0.8s,baz=60,slow=7.0,SNR=6.0						
	0.8nm,0.8s						
AKTO	**Aktyubinsk**	**50.38**	**56**	P	**P**	**04 57 12.7**	**-0.1**
	2.5nm,0.7s,baz=314,slow=6.2,SNR=7.3						
	2.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.44**	**134**	P	**P**	**04 57 20.3**	**-0.7**
	0.7nm,0.9s,baz=350,slow=7.7,SNR=3.1						
	0.7nm,0.9s						
BVAR	**Borovoye Array**	**53.73**	**47**	P	**P**	**04 57 37.9**	**+0.2**
	0.3nm,0.4s,baz=325,slow=7.4,SNR=2.5						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**56.18**	**290**	P	**P**	**04 57 56.8**	**+1.0**
	0.2nm,0.6s,baz=58,slow=8.6,SNR=2.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**58.75**	**44**	P	**P**	**04 58 13.0**	**-0.5**
	0.6nm,0.6s,baz=326,slow=6.7,SNR=6.2						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**63.32**	**44**	P	**P**	**04 58 43.6**	**-1.0**
	0.7nm,0.8s,baz=354,slow=4.9,SNR=2.4						
	0.7nm,0.8s						
H10N2	**ASCENSION HYDR**	**66.67**	**160**	T	T	06 10 59.9	
	baz=350,slow=75,SNR=10						
H10N3	**ASCENSION HYDR**	**66.68**	**160**	T	T	06 11 02.4	
	baz=350,slow=75,SNR=9.2						
H10N1	**ASCENSION HYDR**	**66.69**	**160**	T	T	06 11 01.3	
	baz=350,slow=75,SNR=9.8						
H10S3	**ASCENSION HYDR**	**67.74**	**160**	T	T	06 12 26.7	
	baz=232						
H10S2	**ASCENSION HYDR**	**67.75**	**160**	T	T	06 12 26.1	
	baz=348						
SONM	**Songino Array**	**70.04**	**28**	P	**P**	**04 59 26.6**	**-1.0**
	0.5nm,0.7s,baz=335,slow=5.1,SNR=2.6						
	0.5nm,0.7s						
KSRS	**Korea Array**	**84.31**	**15**	P	**P**	**05 00 48.3**	**+0.7**
	0.3nm,0.3s,baz=46,slow=5.2,SNR=1.2						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**145.16**	**21**	PKPbc	**PKPbc**	**05 07 52.4**	**-0.4**
	1.0nm,0.9s,baz=3.2,slow=2.4,SNR=6.8						

*IDC **24** 04:52:08.4±1.1,57°.11N×33°.48W,h0km,mb3.5/9, mbtmp3.6/11,ML2.8/2,Error ellipse: s-maj=30.9km s-min=21.4km az=12.0*

ISC 24 04:52:10.5±0.9,57°.1N±0°.2×33°.5W±0°.1,h14km,n15, σ0s58/12,mb3.6/9,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**9.67**	**33**	Pn	**Pn**	**04 54 29.2**	**+0.3**
	0.4nm,0.3s,baz=183,slow=23,SNR=1.2						
	9.7nm,0.9s						
SCHQ	**Schefferville**	**18.69**	**277**	P	**Pn**	**04 56 28.8**	**+0.5**
	0.1nm,0.3s,baz=39,slow=8.7,SNR=3.8						
	2.2nm,0.6s						
ESDC	**Sonseca Array**	**25.94**	**120**	P	**P**	**04 57 41.5**	**-0.6**
	0.5nm,0.8s,baz=305,slow=8.9,SNR=1.9						
	0.5nm,0.8s						
AKASG	**Malin Array Be**	**36.32**	**73**	P	**P**	**04 59 13.0**	**-0.3**
	0.5nm,0.6s,baz=306,slow=8.8,SNR=4.1						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**48.37**	**328**	P	**P**	**05 00 51.0**	**-0.1**
	0.1nm,0.4s,baz=51,slow=7.1,SNR=1.7						
	0.1nm,0.4s						
PDAR	**Pinedale Array**	**48.41**	**287**	P	**P**	**05 00 52.0**	**-0.1**
	0.2nm,0.4s,baz=44,slow=5.3,SNR=2.0						
	0.2nm,0.4s						
AKTO	**Aktyubinsk**	**50.58**	**56**	P	**P**	**05 01 08.9**	**+0.7**
	1.4nm,0.5s,baz=309,slow=9.3,SNR=5.4						
	1.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**51.41**	**134**	P	**P**	**05 01 15.4**	**+0.6**
	0.3nm,0.7s,baz=348,slow=8.4,SNR=2.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**58.96**	**44**	P	**P**	**05 02 09.0**	**+0.1**
	0.6nm,0.6s,baz=326,slow=6.9,SNR=5.5						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**63.53**	**44**	P	**P**	**05 02 40.0**	**+0.1**
	0.5nm,0.7s,baz=356,slow=6.9,SNR=2.0						
	0.5nm,0.7s						
H10N2	**ASCENSION HYDR**	**66.56**	**159**	T	T	06 14 55.9	
	baz=350						
H10N3	**ASCENSION HYDR**	**66.57**	**159**	T	T	06 14 55.6	
	baz=350						
H10N1	**ASCENSION HYDR**	**66.58**	**159**	T	T	06 14 57.5	
	baz=350						
SONM	**Songino Array**	**70.24**	**27**	P	**P**	**05 03 22.5**	**-0.3**
	0.3nm,0.3s,baz=65,slow=5.3,SNR=1.2						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**145.36**	**21**	PKPbc	**PKPbc**	**05 11 46.3**	**-1.1**
	0.1nm,0.3s,baz=346,slow=3.3,SNR=3.4						

*IDC **24** 05:05:07.5±1.0,57°.22N×33°.41W,h0km,mb3.7/11, mbtmp3.7/12,ML2.5/1,Error ellipse: s-maj=32.5km s-min=18.8km az=8.0*

ISC 24 05:05:09.4±0.9,57°.2N±0°.2×33°.5W±0°.1,h14km,n16, σ0s80/13,mb3.7/11,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.70**	**277**	P	**P**	**05 09 26.5**	**-0.6**
	0.2nm,0.3s,baz=65,slow=17,SNR=4.5						
	2.6nm,0.6s						
ESDC	**Sonseca Array**	**25.96**	**120**	P	**P**	**05 10 42.0**	**+0.7**
	0.8nm,0.8s,baz=320,slow=10,SNR=5.3						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**36.26**	**73**	P	**P**	**05 12 10.7**	**-1.1**
	1.9nm,0.8s,baz=306,slow=8.7,SNR=8.5						
	1.9nm,0.8s						
BRTR	**Keskin Array B**	**45.78**	**82**	P	**P**	**05 13 31.6**	**+1.3**
	1.6nm,0.8s,baz=329,slow=5.1,SNR=5.6						
	1.6nm,0.8s						
PDAR	**Pinedale Array**	**48.41**	**287**	P	**P**	**05 13 51.7**	**+0.7**
	0.6nm,0.8s,baz=45,slow=5.4,SNR=3.3						
	0.6nm,0.8s						
AKTO	**Aktyubinsk**	**50.50**	**56**	P	**P**	**05 14 07.2**	**+0.6**
	1.9nm,0.7s,baz=314,slow=7.6,SNR=7.5						
	1.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**51.45**	**134**	P	**P**	**05 14 13.3**	**-0.7**
	0.9nm,1.0s,baz=327,slow=5.9,SNR=3.6						
	0.9nm,1.0s						
BVAR	**Borovoye Array**	**53.85**	**47**	P	**P**	**05 14 30.9**	**-0.5**
	0.4nm,0.6s,baz=335,slow=6.4,SNR=4.2						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**56.11**	**290**	P	**P**	**05 14 48.7**	**+0.5**
	0.3nm,0.6s,baz=42,slow=6.1,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**63.44**	**44**	P	**P**	**05 15 37.7**	**-0.5**
	0.2nm,0.4s,baz=350,slow=7.3,SNR=2.0						
	0.2nm,0.4s						
H10N2	**ASCENSION HYDR**	**66.64**	**159**	T	T	06 27 54.6	
	baz=350,slow=75,SNR=10						
H10N3	**ASCENSION HYDR**	**66.65**	**159**	T	T	06 27 55.1	
	baz=350,slow=75,SNR=8.4						
H10N1	**ASCENSION HYDR**	**66.66**	**159**	T	T	06 27 55.8	
	baz=350,slow=75,SNR=11						
SONM	**Songino Array**	**70.14**	**28**	P	**P**	**05 16 21.7**	**+0.6**
	0.7nm,0.8s,baz=330,slow=8.3,SNR=2.9						
	0.7nm,0.8s						
KSRS	**Korea Array**	**84.40**	**15**	P	**P**	**05 17 40.6**	**-0.4**
	0.5nm,0.3s,baz=334,slow=4.1,SNR=1.9						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**145.26**	**21**	PKPbc	**PKPdf**	**05 24 46.1**	**-0.2**
	1.9nm,0.9s,baz=342,slow=3.0,SNR=7.5						

*NOU **24** 05:18:02.9,17°.60S×178°.39W,h532km,mb4.7/46,Fiji Islands Region*
*NEIC **24** 05:18:03.7±1.8,17°.46S±0°.08×178°.4W±0°.1,h544km±7km, mb4.3/46,Error ellipse: s-maj=15.1km s-min=10.9km az=75.0*
*IDC **24** 05:18:03.2±0.8,17°.34S×178°.58W,h544km±9km,mb3.6/15, mbtmp4.5/17,Error ellipse: s-maj=14.4km s-min=9.0km az=158.0*

ISC 24 05:18:02.9±0.4,17°.36S±0°.06×178°.42W±0°.06,h547km, n185,σ1s54/191,mb4.3/47,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.95**	**204**	P	**P**	**05 19 08.0**	**-0.7**
TAVE	**Taveuni**	**1.57**	**294**	P	**P**	**05 19 10.6**	**0.0**
FUTU	**Fugatoga**	**3.05**	**5**	P	**P**	**05 19 18.2**	**+0.1**
MSVF	**Nonsavu**	**3.39**	**263**	P	**P**	**05 19 20.9**	**+0.6**
	100nm,0.8s,baz=78,slow=7.9,SNR=70						
MSVF				S	**S**	**05 20 20.9**	**-2.4**
	23nm,0.7s,baz=43,slow=16,SNR=0.9						
MSVF	**Nonsavu**	**3.39**	**263**	P	**P**	**05 19 19.7**	**-0.6**
MSVF	**Nonsavu**	**3.39**	**263**	P	**P**	**05 19 20.9**	**+0.6**
AFI	**Afiamalu**	**7.26**	**63**	P	**P**	**05 19 52.4**	**-1.0**
	221nm,0.6s,baz=276,slow=19,SNR=6.5						
AFI				S	**S**	**05 21 17.5**	**-6.3**
	36nm,0.6s,baz=270,slow=20,SNR=1.5						
NIUE	**Niue**	**8.24**	**103**	P	**P**	**05 20 01.8**	**-1.1**
	baz=8.2,SNR=10						
NIUE	**Niue**	**8.24**	**103**	P	**P**	**05 20 01.5**	**-1.5**
NIUE	**Niue**	**8.24**	**103**	P	**P**	**05 20 01.7**	**-1.3**
FUNA	**Funafuti**	**9.09**	**345**	P	**P**	**05 20 11.5**	**-0.1**
RAO	**Raoul Island**	**11.85**	**178**	P	**P**	**05 20 39.6**	**0.0**
	393nm,0.2s,baz=85,slow=11,SNR=6.6						
RAO				S	**S**	**05 22 48.2**	**-0.5**
	357nm,0.3s,baz=259,slow=22,SNR=5.7						
RAO	**Raoul Island**	**11.85**	**178**	P	**P**	**05 20 37.7**	**-2.0**
DVP	**Devils Point**	**12.79**	**266**	P	**P**	**05 20 49.6**	**0.0**
MARNC	**Mare, Loyalty**	**13.43**	**250**	P	**P**	**05 20 54.0**	**-2.2**
MARNC	**Mare, Loyalty**	**13.43**	**250**	P	**P**	**05 20 54.4**	**-1.8**
LIFNC	**LIFOU**	**13.98**	**254**	P	**P**	**05 20 58.9**	**-3.0**
LIFNC	**LIFOU**	**13.98**	**254**	P	**P**	**05 20 59.9**	**-2.0**
PINNC	**Pines Island,**	**14.28**	**246**	P	**P**	**05 21 02.5**	**-2.5**
PINNC	**Pines Island,**	**14.28**	**246**	P	**P**	**05 21 04.1**	**-0.8**
YATNC	**Mamie plateau,**	**14.60**	**249**	P	**P**	**05 21 07.6**	**-0.7**
YATNC	**Mamie plateau,**	**14.60**	**249**	P	**P**	**05 21 06.8**	**-1.5**
DZM	**Mont Dzumac**	**15.00**	**249**	*e*P	**P**	**05 21 09.3**	**-3.3**
	79nm,1.2s						
DZM	**Mont Dzumac**	**15.00**	**249**	P	**P**	**05 21 10.6**	**-2.0**
	17nm,0.5s,baz=74,slow=19,SNR=16						
DZM	**Mont Dzumac**	**15.00**	**249**	P	**P**	**05 21 10.2**	**-2.3**
DZM	**Mont Dzumac**	**15.00**	**249**	P	**P**	**05 21 11.1**	**-1.5**
DZM	**Mont Dzumac**	**15.00**	**249**	P	**P**	**05 21 10.8**	**-1.8**
ONTNC	**Ouen Toro**	**15.06**	**248**	P	**P**	**05 21 11.1**	**-1.9**
NOUC	**Port Laguerre**	**15.14**	**249**	P	**P**	**05 21 12.0**	**-1.8**
NOUC	**Port Laguerre**	**15.14**	**249**	P	**P**	**05 21 13.6**	**-1.2**
KOUNC	**Koumac, New Ca**	**16.67**	**256**	P	**P**	**05 21 28.6**	**-0.2**
KOUNC	**Koumac, New Ca**	**16.67**	**256**	P	**P**	**05 21 28.2**	**-0.6**
NFK	**Norfolk Island**	**17.09**	**225**	P	**P**	**05 21 33.9**	**+1.4**
	baz=17						
NFK	**Norfolk Island**	**17.09**	**225**	P	**P**	**05 21 32.2**	**-0.3**
RAR	**Rarotonga**	**18.01**	**105**	P	**P**	**05 21 41.6**	**+0.6**
	35nm,0.8s,baz=287,slow=17,SNR=7.3						
OUZ	**Omahuta**	**19.16**	**200**	P	**P**	**05 21 52.9**	**+1.6**
KUZ	**Kuaotunu**	**19.99**	**194**	P	**P**	**05 22 00.3**	**+1.5**
MBAZ	**Motutapu North**	**20.22**	**196**	P	**P**	**05 22 02.8**	**+1.9**
MXZ	**Matakaoa Point**	**20.33**	**188**	P	**P**	**05 21 59.1**	**-2.8**
MXZ	**Matakaoa Point**	**20.33**	**188**	P	**P**	**05 21 59.6**	**-2.3**
ETAZ	**East Tamaki Re**	**20.38**	**195**	P	**P**	**05 22 03.5**	**+1.1**
MKAZ	**Momakaki**	**20.47**	**195**	P	**P**	**05 22 03.8**	**+0.7**
AWAZ	**Awhitu Peninsu**	**20.56**	**196**	P	**P**	**05 22 05.2**	**+1.2**
WMGZ	**Waiomatatini S**	**20.57**	**187**	P	**P**	**05 22 03.3**	**-0.8**
HAZ	**Te Kaha**	**20.59**	**189**	P	**P**	**05 22 01.9**	**-2.4**
PKGZ	**Pakihiroa**	**20.68**	**188**	P	**P**	**05 22 04.1**	**-1.1**
RUGZ	**Raukumara Rang**	**20.81**	**189**	P	**P**	**05 22 05.0**	**-1.4**
PUZ	**Puketiti**	**20.84**	**187**	P	**P**	**05 22 05.7**	**-0.9**
TWGZ	**Tauwhareparae**	**20.98**	**188**	P	**P**	**05 22 07.2**	**-0.6**
URZ	**Urewera**	**21.19**	**190**	P	**P**	**05 22 06.5**	**-3.1**
	20nm,0.5s,baz=4.5,slow=1.0,SNR=22						
URZ	**Urewera**	**21.19**	**190**	P	**P**	**05 22 06.2**	**-3.4**
URZ	**Urewera**	**21.19**	**190**	P	**P**	**05 22 06.6**	**-3.1**
URZ	**Urewera**	**21.19**	**190**	P	**P**	**05 22 07.7**	**-1.9**
MWZ	**Matawai**	**21.20**	**189**	P	**P**	**05 22 07.3**	**-2.5**
CNGZ	**Carnagh Statio**	**21.25**	**187**	P	**P**	**05 22 09.3**	**-1.0**
RAGZ	**Rawiri**	**21.37**	**189**	P	**P**	**05 22 10.0**	**-1.4**
MUGZ	**Murupara**	**21.46**	**190**	P	**P**	**05 22 10.1**	**-2.0**
HRRZ	**Handcock Road**	**21.46**	**191**	P	**P**	**05 22 06.6**	**-3.6**
RIGZ	**Rimuhau**	**21.53**	**188**	P	**P**	**05 22 11.1**	**-1.7**
TLZ	**Tolley Road**	**21.55**	**193**	P	**P**	**05 22 14.3**	**+1.3**
MTHZ	**Maungataniwha**	**21.81**	**190**	P	**P**	**05 22 14.1**	**-1.2**
NMHZ	**Naumai**	**22.05**	**190**	P	**P**	**05 22 15.8**	**-1.7**
BKZ	**Black Stump Fm**	**22.18**	**191**	P	**P**	**05 22 15.7**	**-2.9**
BKZ				IAmb	IAmb	05 22 28.1	
	comp=Z,11nm,0.6s						
BKZ	**Black Stump Fm**	**22.18**	**191**	P	**P**	**05 22 15.5**	**-3.1**
BKZ	**Black Stump Fm**	**22.18**	**191**	P	**P**	**05 22 17.4**	**-1.2**
OTVZ	**Oturere**	**22.33**	**192**	P	**P**	**05 22 18.1**	**-2.0**
KWHZ	**Kaweka Forest**	**22.44**	**191**	P	**P**	**05 22 19.1**	**-1.9**
MOVZ	**Moawhango**	**22.55**	**192**	P	**P**	**05 22 20.1**	**-1.8**
BHHZ	**Black Hill Sta**	**22.57**	**191**	P	**P**	**05 22 19.2**	**-2.9**
PXZ	**Pawanui**	**22.96**	**189**	P	P	05 22 17.7	-7.8
BFZ	**Birch Farm**	**23.69**	**190**	P	**P**	**05 22 30.2**	**-1.8**
	comp=Z,15nm,0.6s						
SNZO	**South Karori**	**24.59**	**193**	P	**P**	**05 22 38.0**	**-1.9**
	comp=Z,62nm,1.0s						
QRZ	**Quartz Range**	**24.66**	**197**	P	**P**	**05 22 39.4**	**-1.2**
TUWZ	**Tuamarina**	**24.87**	**194**	P	**P**	**05 22 39.9**	**-2.5**
THZ	**Tophouse**	**25.43**	**195**	P	**P**	**05 22 45.8**	**-1.7**
THZ				IAmb	IAmb	05 22 50.0	
	comp=Z,19nm,0.9s						
KHZ	**Kahutara**	**25.90**	**194**	P	**P**	**05 22 48.8**	**-2.7**
KHZ				IAmb	IAmb	05 22 50.8	
	comp=Z,13nm,0.6s						
KHZ	**Kahutara**	**25.90**	**194**	P	**P**	**05 22 50.4**	**-1.1**
PPT2	**Papeete2**	**27.50**	**95**	*e*P	**P**	**05 23 03.3**	**-2.7**
	comp=Z,46nm,1.3s						
PPT	**Papeete**	**27.50**	**95**	P	**P**	**05 23 06.8**	**+0.9**
	comp=Z,25nm,0.6s,baz=210,slow=8.1,SNR=7.1						
	comp=Z,25nm,0.6s						
PPTF	**Pamatai, Papee**	**27.51**	**95**	P	**P**	**05 23 06.5**	**+0.4**
	comp=Z,39nm,1.5s						
RPZ	**Rata Peaks**	**27.74**	**197**	P	**P**	**05 23 05.3**	**-2.4**
	comp=Z,8.2nm,0.6s,baz=34,slow=3.6,SNR=8.4						
RPZ	**Rata Peaks**	**27.74**	**197**	P	**P**	**05 23 06.3**	**-1.4**
	comp=Z,74nm,1.4s						
ODZ	**Otahua Downs**	**29.09**	**196**	P	**P**	**05 23 17.2**	**-2.2**
	comp=Z,9.3nm,0.9s						
EIDS	**Eidsvold**	**29.45**	**249**	P	**P**	**05 23 22.6**	**-0.3**
	baz=29,SNR=6.6						
EIDS	**Eidsvold**	**29.45**	**249**	P	**P**	**05 23 22.5**	**-0.3**
EIDS				IAmb	IAmb	05 23 23.7	
	comp=Z,18nm,0.8s						
MLZ	**Mavora Lakes**	**30.11**	**199**	P	**P**	**05 23 27.4**	**-0.9**
ARMA	**Armidale**	**30.21**	**239**	P	**P**	**05 23 30.1**	**+0.7**
	baz=30,SNR=37						
ARMA	**Armidale**	**30.21**	**239**	P	**P**	**05 23 29.9**	**+0.4**
ARMA	**Armidale**	**30.21**	**239**	P	**P**	**05 23 30.4**	**+0.9**
MGCD	**Mangrove Creek**	**31.60**	**234**	P	**P**	**05 23 41.8**	**+0.6**
	baz=32,SNR=10.0						
MGCD	**Mangrove Creek**	**31.60**	**234**	P	**P**	**05 23 42.1**	**+0.9**
RMQ	**Roma**	**31.70**	**248**	P	**P**	**05 23 42.9**	**+0.7**
	baz=32,SNR=16						
RMQ	**Roma**	**31.70**	**248**	P	**P**	**05 23 43.0**	**+0.8**
CTA	**Charters Tower**	**33.53**	**260**	P	**P**	**05 23 56.5**	**-1.3**
	comp=Z,4.4nm,0.6s,baz=88,slow=12,SNR=4.3						
	comp=Z,4.4nm,0.6s						
CTAO	**Charters Tower**	**33.53**	**260**	P	**P**	**05 23 57.2**	**-0.5**
CTAO				IAmb	IAmb	05 24 01.3	
	comp=Z,5.6nm,0.8s						
CNB	**Canberra Magne**	**33.76**	**232**	P	**P**	**05 24 00.1**	**+0.6**
	baz=34,SNR=69						
CNB	**Canberra Magne**	**33.76**	**232**	P	**P**	**05 24 00.4**	**+0.9**
CAN	**Canberra**	**34.03**	**232**	P	**P**	**05 24 01.5**	**-0.3**
CAN	**Canberra**	**34.03**	**232**	P	**P**	**05 24 01.7**	**-0.1**
MILA	**Mila**	**34.63**	**229**	P	**P**	**05 24 07.3**	**+0.5**
	baz=34,SNR=4.4						
CMSA	**Cobar Meteorol**	**35.42**	**240**	P	**P**	**05 24 13.5**	**+0.1**
	baz=35,SNR=48						
CMSA	**Cobar Meteorol**	**35.42**	**240**	P	**P**	**05 24 13.2**	**-0.1**
MTSU	**Mount Surprise**	**35.47**	**263**	P	**P**	**05 24 14.1**	**+0.1**
	baz=35,SNR=5.5						
QLP	**Quilpie**	**35.73**	**249**	P	**P**	**05 24 15.9**	**0.0**
	baz=36,SNR=3.2						
QLP	**Quilpie**	**35.73**	**249**	P	**P**	**05 24 16.9**	**+0.9**
TOO	**Toolangi**	**37.51**	**230**	P	**P**	**05 24 30.9**	**+0.4**
	baz=37,SNR=30						
TOO	**Toolangi**	**37.51**	**230**	P	**P**	**05 24 31.0**	**+0.4**
TOO	**Toolangi**	**37.51**	**230**	P	**P**	**05 24 31.5**	**+0.9**
MOO	**Moorlands**	**38.49**	**222**	P	**P**	**05 24 38.8**	**+0.5**
	baz=38,SNR=5.2						
MOO	**Moorlands**	**38.49**	**222**	P	**P**	**05 24 38.2**	**-0.2**
TAU	**Tasmania Unive**	**38.64**	**221**	P	**P**	**05 24 39.6**	**+0.1**
TAU	**Tasmania Unive**	**38.64**	**221**	P	**P**	**05 24 40.0**	**+0.4**
	comp=Z,41nm,0.9s	

MDPB					IAmb	IAmb	05 29 08.4		
	comp=Z,4.0nm,0.8s								
BEKR	**Beckworth**	**78.49**	**42**	P	**P**		**05 29 08.9**	**+1.0**	
PNTR	**Pine Nut**	**78.55**	**43**	P	**P**		**05 29 09.7**	**+1.5**	
PNTR				IAmb	IAmb		05 29 10.9		
	comp=Z,8.6nm,0.8s								
DSP	**Deep Springs**	**78.69**	**45**	P	**P**		**05 29 11.0**	**+2.2**	
DSP				IAmb	IAmb		05 29 11.7		
	comp=Z,5.6nm,1.0s								
LCH	**Last Change Ra**	**78.84**	**45**	P	**P**		**05 29 11.2**	**+1.4**	
GRAC	**Grapevine Rang**	**78.91**	**46**	P	**P**		**05 29 11.8**	**+1.8**	
GRAC				IAmb	IAmb		05 29 14.6		
	comp=Z,11nm,1.5s								
NVAR	**Mina Array Bea**	**79.04**	**44**	P	**P**		**05 29 12.4**	**+1.5**	
	comp=Z,2.7nm,0.8s,baz=223,slow=8.4,SNR=27								
	comp=Z,2.7nm,0.8s								
NV11	**Mina Array Sit**	**79.14**	**44**	P	**P**		**05 29 12.9**	**+1.6**	
O18K	**Koktuh Hills**	**79.22**	**12**	P	**P**		**05 29 11.7**	**+0.6**	
O18K				IAmb	IAmb		05 29 12.5		
	comp=Z,18nm,0.9s								
KVN	**Kaiserville**	**79.50**	**43**	P	**P**		**05 29 14.9**	**+1.6**	
CCUT	**Cedar City**	**81.94**	**47**	P	**P**		**05 29 28.0**	**+2.0**	
PSUT	**Pine Spring**	**82.08**	**46**	P	**P**		**05 29 28.2**	**+1.5**	
SEY	**Seymchan**	**83.24**	**347**	P	**P**		**05 29 32.0**	**+0.4**	
	comp=Z,4.4nm,0.7s,baz=160,slow=12,SNR=8.8								
	comp=Z,4.4nm,0.7s								
MFID	**Camas Ranch**	**83.26**	**41**		**P**		**05 29 33.7**	**+1.3**	
MFID				IAmb	IAmb		05 29 34.8		
	comp=Z,3.4nm,0.9s								
J20K	**Nowinta River**	**83.41**	**10**	P	**P**		**05 29 33.1**	**+0.6**	
J20K				IAmb	IAmb		05 29 33.8		
	comp=Z,4.9nm,0.8s								
MAW	**Mawson**	**84.37**	**200**	P	**P**		**05 29 37.6**	**+0.3**	
	comp=Z,2.7nm,0.7s,baz=130,slow=9.1,SNR=9.2								
	comp=Z,2.7nm,0.7s								
MAW	**Mawson**	**84.37**	**200**	P	**P**		**05 29 38.4**	**+1.2**	
ILAR	**Eielson Array**	**85.36**	**13**	P	**P**		**05 29 42.1**	**+0.1**	
	comp=Z,2.0nm,0.8s,baz=225,slow=5.2,SNR=15								
	comp=Z,2.0nm,0.8s								
TXAR	**Lajitas Array**	**85.71**	**58**	P	**P**		**05 29 46.3**	**+1.6**	
	comp=Z,0.5nm,0.8s,baz=213,slow=6.7,SNR=6.5								
	comp=Z,0.5nm,0.8s								
PDAR	**Pinedale Array**	**86.96**	**43**	P	**P**		**05 29 51.6**	**+1.2**	
	comp=Z,0.9nm,0.7s,baz=230,slow=3.6,SNR=7.4								
	comp=Z,0.9nm,0.7s								
PZH	**PanZhiHua**	**88.89**	**298**	P	**P**		**05 30 00.5**	**+0.8**	
PZH				pmax	pmax				
	comp=Z,20nm,1.0s								
TROLL	**Troll, Antarti**	**90.85**	**180**	P	**P**		**05 30 08.0**	**0.0**	
SNAA	**Sanae**	**91.14**	**179**	P	**P**		**05 30 08.8**	**-0.4**	
SNAA	**Sanae**	**91.14**	**179**	P	**P**		**05 30 08.7**	**-0.4**	
SNAA				IAmb	IAmb		05 30 10.5		
	comp=Z,9.1nm,1.4s								
VNA3	**Neumayer Olymp**	**91.28**	**176**	P	**P**		**05 30 09.9**	**+0.2**	
VNA2	**Neumayer--Watz**	**91.72**	**177**	P	**P**		**05 30 12.4**	**+0.6**	
	baz=182,slow=4.1								
VNA1	**Neumayer--Stat**	**91.95**	**177**	P	**P**		**05 30 13.8**	**+1.0**	
CLL	**Collm**	**144.93**	**348**	*i* PKPbc	**PKPab**		**05 36 39.3**	**+0.1**	
	comp=Z,8.0nm,1.3s								
VYHS	**Vyhne**	**145.91**	**339**	*e*PKP	**PKiKP**		**05 36 44.7**	**+0.7**	
GERES	**GERESS Array B**	**147.08**	**345**	PKPbc	**PKPbc**		**05 36 44.7**	**+0.1**	
	comp=Z,0.5nm,0.6s,baz=20,slow=3.1,SNR=4.9								
DAVOX	**Davos/Dischmat**	**149.87**	**349**	PKPbc	**PKiKP**		**05 36 52.8**	**+0.3**	
	comp=Z,1.8nm,0.3s,baz=13,slow=15,SNR=8.2								

*IDC **24** 05:21:03.1±0.8,57.°14N×33.°56W, h0km, mb3.9/17, mbtmp4.0/20, ML3.1/3, Error ellipse: s-maj=23.4km s-min=14.1km az=15.0*
*NEIC **24** 05:21:06.8±1.5,57.°9N±0.°1×33.°6W±0.°1, h10km±1km, mb4.5/31, Error ellipse: s-maj=17.0km s-min=11.5km az=183.0*

ISC 24 05:21:05.0±0.5,57.°3N±0.°1×33.°46W±0.°06, h10km, n62, σ1s39/53, mb4.3/34, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
BORG	**Borgarnes**	**9.48**	**33**	Pn		**Pn**	**05**	**23**	**25.2 +3.8**
	0.6nm,0.3s,baz=223,slow=6.5,SNR=2.8								
	23nm,1.1s								
BORG	**Borgarnes**	**9.48**	**33**	Pn		**Pn**	**05**	**23**	**17.2 -4.2**
SFJD	**Kangerlussuaq**	**12.54**	**328**			Pn	05	23	55.7 -7.4
SCO	**Scoresbysund**	**14.11**	**16**	Pn		Pn	05	24	16.0 -8.6
ILULI	**Ilulissat**	**14.25**	**334**	Pn		Pn	05	24	17.4 -9.0
SUMG	**Summit**	**15.46**	**354**	Pn		Pn	05	24	34.5 -8.7
SUMG	**Summit**	**15.46**	**354**	*i* P		**Pn**	**05**	**24**	**43.0 -0.1**
DRLN	**Deer Lake**	**16.42**	**251**	Pn		**P**	**05**	**24**	**58.0 0.0**
ESK	**Eskdalemuir**	**16.83**	**84**	Pn		**P**	**05**	**25**	**01.9 -0.7**
ESK				IAmb		IAmb	05	25	13.0
	comp=Z,45nm,1.2s								
EKA	**Eskdalemuir Ar**	**16.85**	**84**	Pn		**Pn**	**05**	**25**	**00.8 +0.1**
	baz=287,slow=13								
	comp=Z,1.2nm,0.7s								
SCHQ	**Schefferville**	**18.69**	**277**	P		**Pn**	**05**	**25**	**22.2 -1.2**
	comp=Z,0.1nm,0.3s,baz=69,slow=11,SNR=4.6								
	comp=Z,4.7nm,0.8s								
SCHQ	**Schefferville**	**18.69**	**277**	P		**Pn**	**05**	**25**	**22.3 -1.2**
CMLA	**Cha da Macela**	**20.25**	**162**	P		Pn	05	25	49.9 +7.7
BATG	**Bathurst New B**	**22.11**	**257**	P		**P**	**05**	**26**	**02.4 +2.2**
BATG				IAmb		IAmb	05	26	38.8
	comp=Z,32nm,1.4s								
NOA	**NORSAR Array B**	**22.84**	**62**	P		**P**	**05**	**26**	**07.2 -0.7**
	comp=Z,0.9nm,0.9s,baz=275,slow=12,SNR=2.5								
	comp=Z,0.9nm,0.9s								
NC303	**NORSAR Array S**	**22.88**	**61**	P		**P**	**05**	**26**	**07.6 -0.7**
NC303				IAmb		IAmb	05	26	26.7
	comp=Z,18nm,1.4s								
CLF	**Chambon-Foret**	**23.32**	**98**	P		**P**	**05**	**26**	**16.3 +3.5**
CLF				IAmb		IAmb	05	26	17.3
	comp=Z,18nm,1.1s								
HFS	**Hagfors**	**24.23**	**63**	P		**P**	**05**	**26**	**22.0 +0.5**
	comp=Z,4.2nm,1.0s,baz=283,slow=21,SNR=3.2								
	comp=Z,4.2nm,1.0s								
ECH	**Echery**	**25.85**	**93**	P		**P**	**05**	**26**	**39.0 +2.6**
PAB	**San Pablo**	**25.94**	**121**	P		P	05	26	43.0 +5.7
ESDC	**Sonseca Array**	**26.02**	**120**	P		**P**	**05**	**26**	**37.8 -0.2**
	comp=Z,1.1nm,0.8s,baz=320,slow=8.4,SNR=7.9								
	comp=Z,1.1nm,0.8s								
GRFO	**Grafenberg**	**27.21**	**87**	P		**P**	**05**	**26**	**45.2 -3.4**
GERES	**GERESS Array B**	**29.03**	**86**	P		**P**	**05**	**27**	**05.2 +0.2**
	comp=Z,0.5nm,0.8s,baz=283,slow=8.7,SNR=2.4								
	comp=Z,0.5nm,0.8s								
FINES	**FINESS Array B**	**29.67**	**57**	P		**P**	**05**	**27**	**11.4 +1.0**
	comp=Z,2.2nm,0.9s,baz=255,slow=7.3,SNR=4.5								
	comp=Z,2.2nm,0.9s								
MDT	**Midelt**	**31.43**	**129**	P		**P**	**05**	**27**	**25.9 -0.5**
	comp=Z,2.5nm,0.9s,baz=334,slow=5.6,SNR=4.8								
	comp=Z,2.5nm,0.9s								
KEST	**Kesra**	**35.68**	**109**	P		**P**	**05**	**28**	**03.4 +0.1**
	comp=Z,3.2nm,0.8s,baz=344,slow=6.8,SNR=3.8								
	comp=Z,3.2nm,0.8s								
AKASG	**Malin Array Be**	**36.23**	**73**	P		**P**	**05**	**28**	**08.0 +0.3**
	comp=Z,3.8nm,0.8s,baz=305,slow=8.5,SNR=21								
	comp=Z,3.8nm,0.8s								
AKBB	**Malin Array Si**	**36.23**	**73**	P		**P**	**05**	**28**	**07.2 -0.5**
AKBB				IAmb		IAmb	05	28	08.4
	comp=Z,6.3nm,0.8s								
KIS	**Kishinev**	**38.26**	**78**	*e*L		L	05	28	36.0
KIS				LRM		MLR	06	39	45.0
	comp=Z,300nm,20.0s								
SIUC	**Southern Illin**	**41.08**	**266**	P		**P**	**05**	**28**	**49.2 +0.7**
SIUC				IAmb		IAmb	05	28	51.3
	comp=Z,13nm,1.1s								
S44A	**Carbondale**	**41.12**	**266**	P		**P**	**05**	**28**	**49.9 +1.1**
S44A				IAmb		IAmb	05	28	51.6
	comp=Z,13nm,1.2s								
LAO	**LASA Array**	**43.95**	**289**	P		**P**	**05**	**29**	**11.5 -0.3**
BR131	**Keskin Array S**	**45.77**	**83**	P		**P**	**05**	**29**	**27.8 +1.2**
BRTR	**Keskin Array B**	**45.77**	**83**	P		**P**	**05**	**29**	**28.2 +1.7**
	comp=Z,3.3nm,0.8s,baz=323,slow=6.3,SNR=11								
	comp=Z,3.3nm,0.8s								
RLMT	**Red Lodge**	**46.58**	**289**	P		**P**	**05**	**29**	**32.2 -0.7**
SCRK	**Sand Creek**	**47.94**	**326**	P		**P**	**05**	**29**	**41.4 -1.8**
ILAR	**Eielson Array**	**48.20**	**328**	P		**P**	**05**	**29**	**45.8 +0.8**
	comp=Z,0.6nm,0.8s,baz=36,slow=7.8,SNR=5.1								
ILAR				PcP		**PcP**	**05**	**31**	**12.3 +0.3**
	comp=Z,0.5nm,0.7s,baz=28,slow=4.1,SNR=3.1								
	comp=Z,0.6nm,0.8s								
NEW	**Newport**	**48.32**	**297**	P		**P**	**05**	**29**	**45.4 -0.9**
NEW				IAmb		IAmb	05	29	48.8
	comp=Z,2.2nm,0.8s								
PDAR	**Pinedale Array**	**48.37**	**287**	P		**P**	**05**	**29**	**46.4 -0.5**
	comp=Z,1.8nm,0.9s,baz=57,slow=6.9,SNR=12								
	comp=Z,1.8nm,0.9s								
SNOW	**Snow King Moun**	**48.50**	**288**	P		**P**	**05**	**29**	**48.0 +0.1**
SNOW				IAmb		IAmb	05	29	50.4
	comp=Z,4.4nm,1.0s								
B08A	**Colville Reser**	**49.31**	**299**	P		**P**	**05**	**29**	**54.1 +0.2**
PLID	**Pearl Lake**	**50.00**	**294**	P		**P**	**05**	**29**	**59.1 -0.2**
PLID				IAmb		IAmb	05	30	18.7
	comp=Z,7.0nm,1.4s								
HWUT	**Hardware Ranch**	**50.24**	**287**	P		**P**	**05**	**30**	**01.4 +0.2**
HWUT				IAmb		IAmb	05	30	03.5
	comp=Z,3.2nm,0.8s								
BMO	**Blue Mountains**	**50.82**	**294**	P		**P**	**05**	**30**	**04.7 -0.7**
TORD	**Torodi Ar. Bea**	**51.54**	**134**	P		**P**	**05**	**30**	**08.5 -2.4**
	comp=Z,1.1nm,0.9s,baz=342,slow=7.6,SNR=4.9								
	comp=Z,1.1nm,0.9s								
NLU	**North Lily Min**	**51.71**	**286**	P		**P**	**05**	**30**	**12.8 +0.6**
NLU				IAmb		IAmb	05	30	15.4
	comp=Z,6.3nm,1.2s								
ABKAR	**Akbulak array**	**52.16**	**56**	P		**P**	**05**	**30**	**15.7 +0.5**
ABKAR				IAmb		IAmb	05	30	17.1
	comp=Z,4.9nm,0.9s								
KVN	**Kaiserville**	**55.49**	**290**	P		**P**	**05**	**30**	**40.3 +0.3**
KVN				IAmb		IAmb	05	30	43.1
	comp=Z,6.7nm,1.3s								
PAHR	**Pah Rah Range**	**55.65**	**291**	P		**P**	**05**	**30**	**40.7 -0.4**
PAHR				IAmb		IAmb	05	30	44.7
	comp=Z,4.2nm,1.0s								
NVAR	**Mina Array Bea**	**56.07**	**289**	P		**P**	**05**	**30**	**43.9 -0.2**
	comp=Z,0.5nm,0.8s,baz=52,slow=5.9,SNR=3.9								
	comp=Z,0.5nm,0.8s								
ZALV	**Zalesovo Beam**	**58.29**	**38**	PcP		**PcP**	**05**	**31**	**50.7 +0.4**
	comp=Z,0.7nm,0.4s,baz=345,slow=4.5,SNR=3.7								
KURK	**Kurchatov**	**58.75**	**44**	P		**P**	**05**	**31**	**01.8 -0.8**
KURK				IAmb		IAmb	05	31	03.0
	comp=Z,3.1nm,0.7s								
MKAR	**Makanchi Array**	**63.36**	**44**	P		**P**	**05**	**31**	**34.6 +0.6**
	comp=Z,1.3nm,0.8s,baz=338,slow=5.9,SNR=7.4								
	comp=Z,1.3nm,0.8s								
H10N2	**ASCENSION HYDR**	**66.75**	**159**	T		T	06	44	01.9
	baz=350,slow=75,SNR=6.7								
H10N3	**ASCENSION HYDR**	**66.76**	**159**	T		T	06	44	05.0
	baz=350,slow=75,SNR=7.5								
H10N1	**ASCENSION HYDR**	**66.77**	**159**	T		T	06	44	00.9
	baz=350,slow=75,SNR=9.4								
WMQ	**Urumqi**	**67.89**	**42**	*e*P		**P**	**05**	**32**	**04.6 +1.3**
WMQ				pmax		pmax			
	comp=Z,29nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,21nm,0.7s								
SONM	**Songino Array**	**70.05**	**28**	P		**P**	**05**	**32**	**17.2 +0.4**
	comp=Z,1.6nm,0.8s,baz=334,slow=7.9,SNR=8.6								
	comp=Z,1.6nm,0.8s								
KSRS	**Korea Array**	**84.29**	**15**	P		**P**	**05**	**33**	**37.1 +0.4**
	comp=Z,0.5nm,0.3s,baz=347,slow=4.4,SNR=4.3								
	comp=Z,0.5nm,0.3s								
PZH	**PanZhiHua**	**88.41**	**39**	P		**P**	**05**	**33**	**56.0 -1.3**
PZH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**94.76**	**45**	P		**P**	**05**	**34**	**27.2 +0.6**
	comp=Z,0.6nm,0.3s,baz=324,slow=6.1,SNR=4.6								
	comp=Z,0.6nm,0.3s								
ASAR	**Alice Springs**	**145.16**	**21**	PKPbc		**PKPdf**	**05**	**40**	**41.7 -0.8**
	comp=Z,1.4nm,0.7s,baz=348,slow=2.8,SNR=15								

*IDC **24** 05:23:00.3±1.0,57.°24N×33.°52W, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=35.1km s-min=19.5km az=20.0*

ISC 24 05:23:02.4±1.0,57.°2N±0.°2×33.°5W±0.°2, h14km, n14, σ0s60/11, mb3.8/10, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
ESDC	**Sonseca Array**	**26.00**	**120**	P		**P**	**05**	**28**	**35.5 +0.9**
	1.0nm,0.9s,baz=316,slow=7.2,SNR=4.2								
	1.0nm,0.9s								
AKASG	**Malin Array Be**	**36.30**	**73**	P		**P**	**05**	**30**	**04.5 -0.5**
	1.2nm,0.7s,baz=305,slow=8.5,SNR=6.6								
	1.2nm,0.7s								
BRTR	**Keskin Array B**	**45.82**	**82**	P		**P**	**05**	**31**	**24.6 +0.9**
	2.0nm,0.9s,baz=337,slow=6.9,SNR=3.2								
	2.0nm,0.9s								
ILAR	**Eielson Array**	**48.27**	**328**	P		**P**	**05**	**31**	**42.8 +0.5**
	0.8nm,0.9s,baz=46,slow=6.4,SNR=4.3								
	0.8nm,0.9s								
PDAR	**Pinedale Array**	**48.37**	**287**	P		**P**	**05**	**31**	**43.4 -0.2**
	1.1nm,0.8s,baz=61,slow=7.3,SNR=6.9								
	1.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**51.49**	**134**	P		**P**	**05**	**32**	**06.7 -0.6**
	0.8nm,1.0s,baz=1.5,slow=5.7,SNR=3.7								
	0.8nm,1.0s								
NVAR	**Mina Array Bea**	**56.06**	**289**	P		**P**	**05**	**32**	**41.1 +0.2**
	0.3nm,0.7s,baz=36,slow=7.8,SNR=2.4								
	0.3nm,0.7s								
MKAR	**Makanchi Array**	**63.46**	**44**	P		**P**	**05**	**33**	**31.0 -0.4**
	0.6nm,0.8s,baz=347,slow=5.8,SNR=2.2								
	0.6nm,0.8s								
H10N2	**ASCENSION HYDR**	**66.67**	**159**	T		T	06	45	51.3
	baz=350								
H10N3	**ASCENSION HYDR**	**66.68**	**159**	T		T	06	45	47.9
	baz=350								
H10N1	**ASCENSION HYDR**	**66.69**	**159**	T		T	06	45	53.3
	baz=350								
SONM	**Songino Array**	**70.15**	**27**	P		**P**	**05**	**34**	**14.1 0.0**
	1.4nm,0.8s,baz=350,slow=7.3,SNR=5.9								
	1.4nm,0.8s								
KSRS	**Korea Array**	**84.40**	**15**	P		**P**	**05**	**35**	**33.9 -0.1**
	1.1nm,0.6s,baz=335,slow=3.5,SNR=5.1								
	1.1nm,0.6s								
ASAR	**Alice Springs**	**145.27**	**20**	PKPbc		**PKPbc**	**05**	**42**	**38.5 -0.5**
	2.1nm,0.9s,baz=355,slow=2.9,SNR=9.7								

IDC 24 05:33:12.7±6.1,12.°90N×85.°00W, h0km, mb3.1/3, mbtmp3.2/3, MS3.4/1, Error ellipse: s-maj=222.8km s-min=100.2km az=56.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
CMIG	**Matias Romero**	**10.42**	**295**	LR		LR	05	39	47.3
	comp=Z,248nm,21.6s,baz=285,slow=38								
TXAR	**Lajitas Array**	**23.83**	**316**	P		P	05	38	28.1 +0.3
	0.6nm,0.6s,baz=137,slow=10,SNR=12								
	0.6nm,0.6s								
PDAR	**Pinedale Array**	**36.57**	**329**	P		P	05	40	20.1 -0.6
	0.1nm,0.3s,baz=149,slow=11,SNR=2.5								
	0.1nm,0.3s								
NVAR	**Mina Array Bea**	**38.98**	**317**	P		P	05	40	41.2 0.0
	0.1nm,0.5s,baz=122,slow=9.6,SNR=2.1								
	0.1nm,0.5s								
WRA	**Warramunga Arr**	**141.69**	**254**	PKP		PKPdf	05	52	46.8 -0.3
	0.3nm,0.7s,baz=77,slow=1.1,SNR=2.1								

*IDC **24** 05:34:31.1±1.7,21.°03S×177.°80W, h388km±22km, mb2.9/3, mbtmp4.1/7, Error ellipse: s-maj=25.8km s-min=20.9km az=59.0*

ISC 24 05:34:31.4±0.9,20.°94S±0.°10×177.°7W±0.°1, h400km, n11, σ1s33/13, mb3.2/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
MSVF	**Nonsavu**	**5.09**	**308**	P		**Pn**	**05**	**35**	**54.5 0.0**
	16nm,0.5s,baz=136,slow=16,SNR=19								
MSVF				S		**S**	**05**	**37**	**02.1 0.0**
	4.8nm,0.8s,baz=175,slow=23,SNR=0.6								
AFI	**Afiamalu**	**9.01**	**40**	P		**P**	**05**	**36**	**37.5 -0.7**
	18nm,0.4s,baz=264,slow=11,SNR=4.4								
AFI				S		S	05	38	12.4 -10
	15nm,0.4s,baz=245,slow=23,SNR=2.9								
DZM	**Mont Dzumac**	**14.76**	**263**	P		**P**	**05**	**37**	**42.3 +0.8**
	9.6nm,0.9s,baz=124,slow=16,SNR=7.4								
URZ	**Urewera**	**17.83**	**193**	P		**P**	**05**	**38**	**11.2 -2.7**
	5.8nm,0.3s,baz=29,slow=2.9,SNR=7.7								
URZ				S		**S**	**05**	**41**	**17.4 -0.8**
	4.2nm,0.5s,baz=284,slow=23,SNR=10								
ASAR	**Alice Springs**	**44.66**	**257**	P		**P**	**05**	**42**	**06.1 -0.6**
	0.6nm,0.5s,baz=100,slow=8.0,SNR=8.3								
	0.6nm,0.5s								
WRA	**Warramunga Arr**	**44.78**	**262**	P		**P**	**05**	**42**	**06.8 -0.9**
	0.2nm,0.3s,baz=97,slow=7.6,SNR=4.8								
	0.2nm,0.3s								
VNDA	**Vanda**	**57.50**	**185**	P		**P**	**05**	**43**	**41.7 +1.7**
	0.9nm,0.7s,baz=10.0,slow=8.0,SNR=6.5								
	0.9nm,0.7s								
SNAA	**Sanae**	**87.57**	**178**	P		**P**	**05**	**46**	**35.6 +0.6**
VNA3	**Neumayer Olymp**	**87.69**	**176**	P		**P**	**05**	**46**	**36.5 +1.0**
VNA2	**Neumayer--Watz**	**88.14**	**177**	P		**P**	**05**	**46**	**38.8 +1.2**
	baz=257,slow=2.8								
VNA1	**Neumayer--Stat**	**88.36**	**177**	P		**P**	**05**	**46**	**39.9 +1.3**

*IDC **24** 05:37:01.9±7.1,2.°52N×72.°88W, h67km±49km, mb2.6/2, mbtmp3.0/3, ML2.0/1, Error ellipse: s-maj=168.4km s-min=49.1km az=63.0*
*RSNC **24** 05:37:08.1±1.3,6.°81N×73.°14W, h143km±6km, ML2.8*

ISC 24 05:37:07.4±1.2,6.°82N±0.°04×73.°13W±0.°04, h140km±8km, n24, σ1s21/45, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
BARC	**Barichara**	**0.23**	**192**	*e*P		**Pn**	**05**	**37**	**27.4 +0.5**
BARC				*e*S		**Sn**	**05**	**37**	**42.2 +0.6**
BARC				IAML			05	37	43.2
	comp=Z,159nm,0.3s								
BRRC	**Barranca, Sant**	**0.64**	**296**	*e*P		**Pn**	**05**	**37**	**29.3 +0.8**
BRRC				*e*S		**Sn**	**05**	**37**	**46.5 +2.1**
BRRC				IAML			05	37	53.6
	comp=Z,87nm,0.5s								
PAMC	**Pamplona, Colo**	**0.67**	**40**	*e*P		**Pn**	**05**	**37**	**30.4 +1.2**
PAMC				*e*S		**Sn**	**05**	**37**	**47.3 +1.5**
PAMC				IAML			05	37	49.7
	comp=Z,124nm,0.4s								
RUSC	**La Rusia**	**0.92**	**177**	*e*P		**Pn**	**05**	**37**	**31.4 +0.3**
RUSC				*e*S		**Sn**	**05**	**37**	**49.8 +0.6**
RUSC				IAML			05	37	50.6
	comp=Z,65nm,0.5s								
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	*e*P		**Pn**	**05**	**37**	**34.1 -0.5**
PTBC				*e*S		**Sn**	**05**	**37**	**55.2 -0.1**
PTBC				IAML			05	38	13.9
	comp=Z,29nm,0.2s								
TAMC	**Tame, Arauca**	**1.39**	**106**	*e*P		**Pn**	**05**	**37**	**35.8 +0.8**
TAMC				*e*S		**Sn**	**05**	**37**	**57.4 +1.2**
TAMC				IAML			05	37	57.9
	comp=Z,63nm,0.2s								
OCAC	**Ocana**	**1.42**	**353**	*e*P		**Pn**	**05**	**37**	**35.7 +0.1**
OCAC				*e*S		**Sn**	**05**	**37**	**57.3 +0.2**
OCAC				IAML			05	38	03.6
	comp=Z,154nm,0.3s								
SPBC	**San Pablo de B**	**1.49**	**219**	*e*P		**Pn**	**05**	**37**	**36.5 +0.2**
SPBC				*e*S		**Sn**	**05**	**37**	**57.7 -0.6**
SPBC				IAML			05	38	01.0
	comp=Z,149nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P		**Pn**	**05**	**37**	**40.4 +0.3**
ZARC				*e*S		**Sn**	**05**	**38**	**06.4 +1.3**
ZARC				IAML			05	38	11.3
	comp=Z,117nm,0.3s								
NORC	**Norcasia**	**2.13**	**234**	*e*P		**Pn**	**05**	**37**	**43.7 +0.1**
NORC				*e*S		**Sn**	**05**	**38**	**10.9 -0.4**
NORC				IAML			05	38	15.4
	comp=Z,57nm,0.4s								
CHIC	**Chingaza**	**2.26**	**195**	*e*P		**Pn**	**05**	**37**	**45.8 +0.3**
CHIC				*e*S		**Sn**	**05**	**38**	**15.1 +0.4**
CHIC				IAML			05	38	22.6
	comp=Z,17nm,0.3s								
ROSC	**El Rosal**	**2.29**	**211**	P		**Pn**	**05**	**37**	**44.5 -1.4**
	comp=Z,5.6nm,0.3s,baz=131,slow=20,SNR=16								
ROSC				S		**Sn**	**05**	**38**	**16.0 +0.5**
	comp=Z,42nm,0.5s,baz=139,slow=20,SNR=6.6								
	comp=Z,5.1nm,0.3s								
ROSC	**El Rosal**	**2.29**	**211**	*e*P		**Pn**	**05**	**37**	**47.9 +1.9**
ROSC				*e*S		**Sn**	**05**	**38**	**16.8 +1.3**
ROSC				IAML			05	38	25.1
	comp=Z,56nm,0.3s								
HELC	**Santa Helena**	**2.46**	**255**	*e*P		**Pn**	**05**	**37**	**48.9 +0.9**
HELC				*e*S		**Sn**	**05**	**38**	**19.4 +0.4**
HELC				IAML			05	38	26.6
	comp=Z,32nm,0.3s								
UREC	**San J

comp=Z,0.3nm,0.3s,baz=67,slow=14,SNR=7.2
SCHQ LR LR 05 49 39.3
comp=Z,921nm,18.7s,baz=70,slow=33
comp=Z,14nm,1.1s
SCHQ Schefferville 18.68 277 P 05 43 33.9 -1.0
ROSA Rosais 18.86 167 P 05 43 36.8 -0.1
CMLA Cha da Macela 20.19 161 P 05 43 51.5 -0.1
GBN Guysborough 20.97 248 P 05 44 00.3 +0.4
NEEM North Greenlan 21.19 349 *i* P 05 44 03.0 +0.6
NEEM IAmb IAmb 05 44 09.0
comp=Z,219nm,2.3s
BATG Bathurst New B 22.08 257 P 05 44 11.7 -0.2
BATG IAmb IAmb 05 44 18.9
comp=Z,56nm,1.2s
PCAB Cabril 22.50 123 *e*P 05 44 17.8 +1.3
HAL Halifax 22.56 249 P 05 44 16.5 -0.5
HAL IAmb IAmb 05 44 22.3
comp=Z,23nm,0.9s
NAO01 NORSAR Array S 22.77 62 P 05 44 17.7 -1.4
NAO01 IAmb IAmb 05 44 59.2
comp=Z,22nm,1.1s
POLO Lamas de Olo 22.88 123 *e*P 05 44 21.6 +1.1
comp=Z,17nm,2.1s
NB2 NORSAR Subarra 22.89 62 P 05 44 19.3 -1.1
comp=Z,111nm,2.5s,baz=282,slow=11
NOA NORSAR Array B 22.89 62 P 05 44 19.9 -0.5
comp=Z,1.4nm,0.8s,baz=282,slow=9.5,SNR=3.9
NOA LR LR 05 52 11.7
comp=Z,280nm,18.4s,baz=270,slow=34
comp=Z,1.4nm,0.8s
NC303 NORSAR Array S 22.93 61 P 05 44 19.8 -0.9
NC303 IAmb IAmb 05 44 31.8
comp=Z,25nm,1.4s
PVRL Vila Real 22.99 123 *e*P 05 44 24.1 +2.5
comp=Z,35nm,1.4s
PBRG Braganca 23.03 121 *e*P 05 44 22.3 +0.3
comp=Z,17nm,1.4s
PVIS Viseu 23.36 124 *e*P 05 44 25.8 +0.5
comp=Z,33nm,1.8s
MVO Moncorvo 23.39 122 *e*P 05 44 26.1 +0.4
comp=Z,30nm,1.4s
BMRD Maredsous 23.40 91 *d*P 05 44 27.3 +1.7
BMRD *dx* x 05 44 35.8
DOU Dourbes 23.42 91 *d*P 05 44 27.1 +1.3
DOU *dx* x 05 44 38.2
DOU *d*PP **PnPn 05 44 51.7 -0.2**
PQI Presque Isle 23.50 258 P P 05 44 26.9 +0.2
PQI IAmb IAmb 05 44 30.1
comp=Z,35nm,1.3s
PCAS Casmilo, Conde 23.63 126 *e*P 05 44 27.6 -0.4
comp=Z,38nm,1.5s
RCHB Rochefort 23.73 91 *d*P 05 44 28.1 -0.7
MTE Manteigas 23.77 124 *e*P 05 44 29.4 0.0
comp=Z,39nm,1.7s
D62A Allapoint, All 23.80 260 P 05 44 30.1 +0.6
D62A IAmb IAmb 05 44 33.3
comp=Z,14nm,0.9s
PSBE So Bento 23.94 127 *e*P 05 44 31.1 +0.1
comp=Z,57nm,1.5s
BTNL Ternell 23.99 89 *d*P 05 44 31.4 0.0
BTNL *dx* x 05 44 39.2
PMAFR Mafra 24.20 129 *e*P 05 44 33.9 +0.5
comp=Z,90nm,1.4s
PCBR Castelo Branco 24.25 125 *e*P 05 44 34.1 +0.3
comp=Z,54nm,1.7s
HFS Hagfors 24.28 63 P 05 44 34.3 +0.3
comp=Z,7.7nm,0.9s,baz=277,slow=11,SNR=7.5
comp=Z,7.7nm,0.9s
PMRV Marv??o 24.63 125 *e*P 05 44 38.1 +0.8
comp=Z,32nm,1.6s
NOR Nord 24.94 6 *i* P 05 44 40.1 +0.3
NOR IAmb IAmb 05 44 42.0
comp=Z,90nm,2.0s
PESTR Estremoz 25.00 126 *e*P 05 44 41.7 +1.0
comp=Z,44nm,1.7s
PESTR Estremoz 25.00 126 P P 05 44 40.6 -0.1
PESTR IAmb IAmb 05 44 43.9
comp=Z,13nm,1.1s
F62A Pittston Farm, 25.04 259 P P 05 44 40.4 -0.5
PKME Peaks-Kenny Pk 25.09 257 P P 05 44 41.8 +0.4
baz=48
PNCL Nicolau / Gran 25.23 129 *e*P 05 44 43.1 +0.5
comp=Z,30nm,1.8s
PBEJ Beja 25.58 128 *e*P 05 44 46.3 +0.4
comp=Z,28nm,1.4s
MESJ Messejana 25.59 128 *e*P P 05 44 46.5 +0.6
MESJ IAmb IAmb 05 44 49.7
comp=Z,22nm,1.1s
MESJ Messejana 25.59 128 *e*P P 05 44 46.9 +1.0
comp=Z,30nm,1.2s
PTEO Sao Teotonio 25.62 130 *e*P P 05 44 45.9 -0.3
comp=Z,62nm,1.5s
PBAR Barrancos 25.82 126 *e*P P 05 44 49.6 +1.6
comp=Z,26nm,1.5s
PCVE Castro Verde 25.84 128 *e*P P 05 44 50.0 +1.8
comp=Z,23nm,1.4s
MORF Marmelete 25.86 130 *e*P P 05 44 49.0 +0.5
MORF IAmb IAmb 05 44 51.2
comp=Z,32nm,1.3s
MORF Marmelete 25.86 130 *e*P P 05 44 48.9 +0.5
comp=Z,32nm,1.6s
ECH Echery 25.86 93 P P 05 44 48.5 +0.1
PFVI Vila Bisbo 25.93 130 *e*P P 05 44 49.7 +0.7
PFVI Vila Bisbo 25.93 130 P P 05 44 49.7 +0.7
ESDC Sonseca Array 26.00 120 P P 05 44 49.5 -0.3
comp=Z,3.8nm,1.0s,baz=312,slow=8.3,SNR=16
ESDC LR LR 05 52 01.9
comp=Z,777nm,18.3s,baz=25,slow=30
comp=Z,3.8nm,1.0s
ESDC Sonseca Array 26.00 120 P P 05 44 49.9 +0.1
KBS Kingsbay 26.20 18 P P 05 44 52.4 +1.2
KBS IAmb IAmb 05 44 53.8
comp=Z,40nm,1.4s
LBNH Lisbon 27.17 258 P P 05 45 00.4 +0.2
baz=48
GRFO Grafenberg 27.24 87 P P 05 45 00.9 +0.1
GRFO IAmb IAmb 05 45 16.7
comp=Z,11nm,0.8s
CLL Collm 27.34 82 *i* P P 05 45 01.0 -0.7
comp=Z,6.0nm,1.1s
CLL *i* x x 05 45 10.5
CLL *e*x x 05 45 15.0
comp=Z,18nm,1.7s
CLL Lm MLR 05 52 00.0
comp=Z,1μm,19.5s
CLL Lm MLR 08 51 00.0
comp=Z,100nm,18.2s
BNI Bardonecchia 27.57 99 P P 05 45 04.6 +0.7
BRG Berggiesshubel 28.07 83 *e*P P 05 45 07.2 -1.0
BRG Amp 05 45 10.4
comp=Z,9.9nm,1.5s
BRG *e*x x 05 45 22.6
BRG Amp 05 45 23.4
comp=Z,11nm,1.4s
BRG PP **PnPn 05 45 55.4 -0.1**
BRG Amp 05 45 58.6
comp=Z,2.1nm,0.7s
BRG Amp 05 56 50.0
comp=Z,1.0nm,15.8s
BRG Amp 05 56 55.0
comp=E,0.8nm,14.9s
BRG Amp 05 56 57.0
comp=N,0.4nm,18.9s
DAVOX Davos/Dischmat 28.20 93 LR LR 05 54 36.3
comp=N,2μm,18.9s,baz=246,slow=33
RES Resolute Bay 28.56 331 LR LR 05 54 57.1
baz=48,SNR=23,22.0s,baz=100,slow=33
GEC2 GERESS Array S 29.06 86 P P 05 45 18.1 +1.0
GERES GERESS Array B 29.06 86 P P 05 45 17.6 +0.5
comp=N,0.8nm,0.8s,baz=297,slow=6.5,SNR=7.2
GERES LR LR 05 57 22.3
comp=N,723nm,18.5s,baz=270,slow=37
comp=N,0.8nm,0.8s
FINES FINESS Array B 29.73 57 P P 05 45 22.5 -0.3
comp=N,2.0nm,0.8s,baz=256,slow=0.6,SNR=5.6
FINES LR LR 05 57 38.8
comp=N,654nm,18.4s,baz=224,slow=37
comp=N,2.0nm,0.8s
CLUD Cludinico 30.03 91 P P 05 45 26.0 +0.3
VRAC Vranov 30.36 83 LR LR 05 56 37.4
comp=N,1μm,19.1s,baz=265,slow=34
SADO Sadowa 30.71 266 LR LR 05 56 34.2
comp=N,549nm,18.7s,baz=32,slow=34
VYHS Vyhne 32.04 83 *e*P P 05 45 45.0 +1.7
PSZ Piszkesteto 32.95 83 ⇑P P 05 45 52.1 +0.7
MORH Mrgy, Hungar 33.31 87 ⇓P P 05 45 55.0 +0.6

MNK Minsk 33.52 68 *i* P P 05 45 54.1 -2.1
comp=E,3.0nm,0.9s
MNK *i* P P 05 45 54.1 -2.1
MNK *i* P P 05 45 54.1 -2.1
comp=Z,23nm,0.9s,baz=300
MNK *i* PP PnPn 05 47 05.2 -2.2
MNK *i* PPP PPP 05 47 16.0
MNK *i* S S 05 51 16.6 -0.8
MNK *i* SS SnSn 05 53 19.7 +0.1
MNK *i* LQ LQ 05 56 58.1
MNK *i* LR LR 05 58 29.7
MNK *i* LRM MLR 06 01 10.2
comp=Z,467nm,15.0s
MNK *i* LRM MLR 06 01 15.3
MNK *i* LRM MLR 06 01 16.3
comp=E,77nm,15.1s
GLMI Grayling 33.65 271 P P 05 45 57.9 +0.5
GLMI Grayling 33.65 271 P P 05 45 57.8 +0.4
baz=50
M53A WI Miller and 33.78 263 P P 05 45 58.7 +0.1
baz=46
TRPA Tarpa 34.25 81 ⇓P P 05 46 04.9 +2.3
MCWV Mont Chateau 34.59 260 P P 05 46 06.2 +0.5
baz=44
FRGS Fruska Gora 34.62 87 ⇑P P 05 46 07.5 +1.7
O53A New Philadelph 34.91 262 P P 05 46 08.7 +0.3
baz=44
DRGR 35.16 83 ⇓P P 05 46 13.4 +2.9
BZS Buzias 35.30 85 ⇓P P 05 46 13.0 +1.3
EYMN Ely 35.41 280 P P 05 46 13.3 +0.6
EYMN Ely 35.41 280 P P 05 46 13.1 +0.4
baz=53
KEST Kesra 35.68 108 P P 05 46 15.3 +0.2
comp=E,6.9nm,1.0s,baz=319,slow=20,SNR=8.4
comp=E,6.9nm,1.0s
KEST Kesra 35.68 108 P P 05 46 15.5 +0.3
P52A Corning 35.84 262 P P 05 46 17.2 +0.8
baz=44
ACSO Alum Creek Sta 35.87 263 P P 05 46 17.0 +0.3
ACSO IAmb IAmb 05 46 18.3
comp=Z,12nm,0.9s
ACSO Alum Creek Sta 35.87 263 P P 05 46 16.9 +0.3
baz=45
BUR08 Bucovina Ar. S 35.97 80 P P 05 46 17.7 +0.2
BURAR Bucovina Array 35.99 80 ⇑P P 05 46 19.5 +1.7
BURAR Bucovina Array 35.99 80 P P 05 46 17.8 0.0
N49A Columbus Grove 36.03 265 P P 05 46 18.7 +0.7
GZR Gura Zlata 36.07 84 ⇑P P 05 46 19.3 +0.9
E38A The Farm, Brul 36.27 279 P P 05 46 20.8 +0.8
AKASG Malin Array Be 36.27 73 P P 05 46 19.4 -0.5
comp=Z,8.7nm,0.8s,baz=306,slow=8.6,SNR=41
AKASG PcP **PcP 05 48 43.4 -1.2**
comp=Z,0.1nm,0.2s,baz=289,slow=3.6,SNR=4.2
AKASG LR LR 06 00 42.0
comp=Z,595nm,19.0s,baz=232,slow=35
comp=Z,8.7nm,0.8s
AKBB Malin Array Si 36.27 73 P P 05 46 19.4 -0.5
AKBB IAmb IAmb 05 46 21.7
comp=Z,16nm,0.9s
BLA Blacksburg 36.70 257 P P 05 46 23.4 -0.4
baz=41
O48B Farmland 37.03 265 P P 05 46 25.9 -0.7
baz=45
DOPR Dopca 37.12 82 ⇓P P 05 46 28.3 +1.1
BLKB Belogradchik 37.17 87 ⇑P P 05 46 27.1 -0.6
VOIR 37.27 83 ⇑P P 05 46 29.1 +0.5
P49A Miami Univ. Ec 37.30 264 P P 05 46 28.1 -0.8
baz=44
OBN Obninsk 37.49 63 LR LR 06 00 10.9
comp=Z,102nm,18.2s,baz=264,slow=34
AGMN Agassiz Nation 37.52 284 P P 05 46 30.3 -0.3
AGMN IAmb IAmb 05 46 33.0
comp=Z,10nm,1.1s
AGMN Agassiz Nation 37.52 284 P P 05 46 30.4 -0.3
baz=52
JFWS Jewell Farm 37.96 273 P P 05 46 33.8 -0.6
baz=48
SFIN Lafayette 38.00 267 P P 05 46 34.8 +0.1
baz=45
S51A Beattyville 38.07 261 P P 05 46 35.9 +0.5
S51A IAmb IAmb 05 46 38.2
comp=Z,12nm,0.9s
VTS Vitosha 38.15 88 ⇑P P 05 46 36.6 +0.4
VTS Vitosha 38.15 88 P P 05 46 36.4 +0.2
KBN Korca 38.19 92 P P 05 46 38.2 +1.7
KBN IAmb IAmb 05 46 40.0
comp=Z,22nm,1.1s
YKA Yellowknife Ar 38.52 313 P P 05 46 38.6 -0.3
comp=Z,4.1nm,0.8s,baz=61,slow=8.9,SNR=4.9
YKA LR LR 06 01 53.1
comp=Z,1μm,18.2s,baz=86,slow=35
comp=Z,4.1nm,0.8s
KMSC Kings Mountain 38.74 256 P P 05 46 42.7 +1.7
baz=40
TZTN Tazewell 38.86 260 P P 05 46 42.8 +0.8
baz=41
HDIL Hopedale 39.07 269 P P 05 46 43.9 +0.3
baz=45
WCI Wyandotte Cave 39.10 264 P P 05 46 44.1 +0.2
baz=43
TKL Tuckaleechee C 39.64 259 LR LR 06 02 13.5
comp=Z,478nm,18.7s,baz=44,slow=35
NHSC New Hope 39.71 253 P P 05 46 49.0 -0.1
baz=38
MDND Maddock 39.77 286 P P 05 46 49.4 -0.1
baz=51
RDO Rodhopi 40.41 87 P P 05 46 55.3 +0.5
RDO IAmb IAmb 05 46 57.1
comp=Z,13nm,1.0s
ECSD EROS Data Cent 40.85 279 P P 05 46 59.0 +0.5
baz=48,SNR=6.8
ALN Alexandroupoli 40.86 87 P P 05 46 57.8 -0.8
ALN IAmb IAmb 05 47 01.2
comp=Z,19nm,1.1s
SIUC Southern Illin 41.05 266 P P 05 47 00.1 -0.1
SIUC IAmb IAmb 05 47 03.1
comp=Z,16nm,0.9s
S44A Carbondale 41.09 266 P P 05 47 00.9 +0.4
S44A IAmb IAmb 05 47 03.6
comp=Z,16nm,0.8s
GOGA Godfrey 41.20 257 P P 05 47 02.0 +0.6
baz=39,SNR=6.9
KIRV Kirov 41.40 52 P P 05 47 02.9 +0.2
comp=Z,14nm,0.7s,baz=346,slow=12,SNR=5.9
comp=Z,14nm,0.7s
WVT Waverly 41.47 263 P P 05 47 03.8 +0.2
baz=42
DGMT Dagmar 41.75 289 P P 05 47 06.8 +0.9
baz=50
CCM Cathedral Cave 41.91 268 P P 05 47 07.1 -0.1
baz=43
INK Inuvik 41.93 327 P P 05 47 07.0 0.0
comp=Z,3.9nm,1.1s,baz=53,slow=15,SNR=4.4
INK LR LR 06 04 11.7
comp=Z,398nm,19.6s,baz=59,slow=36
comp=Z,3.9nm,1.1s
INK Inuvik 41.93 327 P P 05 47 07.3 +0.3
INK Inuvik 41.93 327 P P 05 47 07.4 +0.4
baz=53
F31M Tsiigehtchic 42.52 326 P P 05 47 12.0 +0.1
baz=52
LRAL Lakeview Retre 43.36 260 P P 05 47 19.9 +0.8
baz=39
OXF Oxford 43.53 263 P P 05 47 20.4 0.0
baz=41
LAO LASA Array 43.95 289 P P 05 47 24.9 +1.1
baz=48,SNR=23
KSU1 Kansas State U 44.07 274 P P 05 47 24.8 +0.1
baz=44
EPYK Eagle Plains 44.11 326 P P 05 47 24.7 -0.1
baz=50
IDI Anoyia 44.29 94 LR LR 06 07 20.1
comp=Z,353nm,18.4s,baz=289,slow=38
E27K Coleen River 44.33 329 P P 05 47 26.6 +0.1
baz=48
DWPF Disney Wildern 44.35 250 P P 05 47 29.5 +2.4
baz=35
TGTN Hyland Airport 44.36 317 P P 05 47 27.6 +0.8
baz=51
RSSD Black Hills 44.54 285 P P 05 47 29.8 +1.1
baz=47
MMPY Sheldon Lake, 44.74 319 P P 05 47 31.1 +1.2
baz=50
EGMT Eagleton 44.87 292 P P 05 47 31.2 +0.1
baz=48,SNR=7.6
C24K Franklin Bluff 45.09 334 P P 05 47 32.7 +0.2
baz=44

I29M Ogilvie Camp, 45.27 325 P P 05 47 34.2 +0.2
baz=48
G27K Doyon Strip 45.28 328 P P 05 47 34.0 -0.1
baz=47
E25K Arctic Village 45.45 331 P P 05 47 34.9 -0.5
baz=45
WTLY Watson Lake, Y 45.47 316 P P 05 47 35.7 0.0
baz=49
D24K Happy Valley 45.54 333 P P 05 47 35.6 -0.4
baz=44
H27K Steamboat Moun 45.65 327 P P 05 47 37.0 0.0
baz=46,SNR=6.4
A21K Barrow 45.66 338 P P 05 47 36.7 -0.3
baz=40
BMAR Burnt Mountain 45.67 330 P P 05 47 37.3 +0.2
FARO Faro, Yukon 45.73 320 P P 05 47 37.6 -0.1
baz=48
MIAR Mount Ida 45.77 267 P P 05 47 38.6 +0.3
baz=41,SNR=6.3
G26K Porcupine Rive 45.79 329 P P 05 47 37.9 -0.2
baz=45
BRTR Keskin Array B 45.80 82 P P 05 47 39.9 +1.3
comp=Z,6.3nm,0.8s,baz=322,slow=5.1,SNR=20
comp=Z,6.3nm,0.8s
F25K Christian Rive 45.84 330 P P 05 47 38.6 +0.1
baz=45
VBMS Vicksburg 45.88 262 P P 05 47 39.3 +0.2
baz=39
TUL1 Leonard 45.95 270 P P 05 47 40.0 +0.2
baz=42
K29M Barlow Dome 46.05 323 P P 05 47 40.0 -0.3
baz=47
TOLK Toolik Lake Re 46.10 333 P P 05 47 39.5 -1.1
baz=43
I27K Kandik River 46.11 327 P P 05 47 40.6 -0.1
baz=46
M31M Drury Creek, Y 46.12 320 P P 05 47 41.2 +0.5
baz=48
D23K Nanushuk River 46.13 334 P P 05 47 41.1 +0.3
baz=42
E24K Your Creek 46.24 332 P P 05 47 42.0 +0.3
baz=43
N32M Quiet Lake 46.36 319 P P 05 47 43.4 +0.7
baz=48
F24K Squaw Lake 46.49 331 P P 05 47 44.4 +0.7
baz=43
DAWY Dawson 46.50 324 P P 05 47 44.4 +0.6
baz=46
E23K Chandalar 46.54 332 P P 05 47 44.4 +0.3
baz=42
EGAK Eagle 46.55 326 P P 05 47 44.4 +0.4
baz=46
RLMT Red Lodge 46.58 289 P P 05 47 45.3 +0.4
baz=46
NRIK Noril'sk 46.75 25 P P 05 47 46.4 +0.8
comp=Z,2.2nm,0.4s,baz=326,slow=8.8,SNR=3.6
comp=Z,2.2nm,0.4s
L29M L29M 46.76 323 P P 05 47 44.3 -1.5
baz=46
R33M Jennings River 46.77 316 P P 05 47 46.3 +0.3
baz=48
HRY Holter Researc 46.79 292 P P 05 47 47.3 +0.9
H25K Birch Creek 46.85 329 P P 05 47 47.4 +1.1
baz=44
K22A Casper 46.87 285 P P 05 47 47.0 -0.1
baz=45
G24K Hadweenzic Riv 46.99 330 P P 05 47 47.7 +0.2
baz=43
DLBC Dease Lake 47.05 314 P P 05 47 49.4 +1.2
comp=Z,3.4nm,0.9s,baz=63,slow=6.8,SNR=4.8
DLBC LR LR 06 07 11.0
comp=Z,1μm,18.7s,baz=80,slow=36
comp=Z,3.4nm,0.9s
DLBC Dease Lake 47.05 314 P P 05 47 49.2 +1.0
baz=48
N31M Braeburn, Yuko 47.09 320 P P 05 47 48.7 +0.3
baz=46
YMP Mirror Lake Pl 47.30 289 P P 05 47 51.1 +0.6
COLD Coldfoot 47.31 332 P P 05 47 50.7 +0.7
baz=41
M29M Somme Creek 47.33 322 P P 05 47 51.7 +1.4
baz=46,SNR=7.9
WHY Whitehorse 47.34 319 P P 05 47 50.6 +0.1
baz=46
K27K Chicken 47.37 325 P P 05 47 50.0 -0.4
baz=44
KSCO Kaye Shedlock' 47.39 278 P P 05 47 51.2 +0.1
baz=44
BOZ Bozeman (W) 47.46 291 P P 05 47 52.0 +0.4
baz=46,SNR=17
J26L Joseph Creek 47.48 327 P P 05 47 50.5 -0.9
baz=44
Q32M Nakina River 47.55 316 P P 05 47 52.4 +0.1
baz=47
F22K John River 47.60 333 P P 05 47 52.5 +0.3
baz=40
YHH Holmes Hill 47.62 290 P P 05 47 53.5 +0.4
G23K Bananza Creek 47.66 331 P P 05 47 52.9 +0.2
baz=41
P32M Atlin 47.66 317 P P 05 47 52.8 0.0
baz=46
O30N Mendenhall 47.69 320 P P 05 47 53.6 +0.5
baz=46
LRM Limekiln Ridge 47.72 292 P P 05 47 53.8 +0.1
H24K Noodor Dome 47.74 330 P P 05 47 53.6 +0.3
baz=42
H17A Grant Village 47.76 289 P P 05 47 54.1 0.0
baz=46
MSO Missoula 47.77 294 P P 05 47 54.1 +0.1
baz=46
N23A Red Feather La 47.81 283 P P 05 47 54.4 -0.1
baz=44
S34M Telegraph Cree 47.84 314 P P 05 47 53.9 -0.3
baz=47
KBZ Khabaz 47.87 72 P P 05 47 55.9 +1.4
comp=Z,6.3nm,0.9s,baz=304,slow=11,SNR=7.9
KBZ LR LR 06 06 53.3
comp=Z,229nm,19.5s,baz=292,slow=35
comp=Z,6.3nm,0.9s
G22K Bettles 47.88 332 P P 05 47 54.1 -0.2
baz=40
J25K Salcha River, 47.93 327 P P 05 47 54.8 -0.1
baz=43
L27K Beaver Creek, 47.98 324 P P 05 47 55.9 +0.6
baz=44
SCRK Sand Creek 47.99 326 P P 05 47 56.2 +0.8
baz=43,SNR=7.7
T35M Bob Quinn 48.14 313 P P 05 47 55.4 -1.1
baz=46
F21K Alatna River 48.14 333 P P 05 47 56.6 +0.2
baz=39
HYT Haines Junctio 48.15 320 P P 05 47 57.6 +0.9
baz=45
KOWA Kowa 48.15 140 P P 05 47 57.1 0.0
KOWA IAmb IAmb 05 48 07.6
comp=Z,12nm,1.2s
YUK4 Talbot Arm 48.17 321 P P 05 47 56.3 -0.7
baz=45
H23K Yukon River 48.20 330 P P 05 47 57.5 +0.6
baz=41
ILAR Eielson Array 48.25 328 P P 05 47 58.1 +0.8
comp=Z,2.7nm,0.9s,baz=35,slow=6.3,SNR=11
ILAR PcP **PcP 05 49 24.1 0.0**
comp=Z,1.0nm,0.7s,baz=14,slow=3.2,SNR=5.7
ILAR LR LR 06 07 32.0
comp=Z,209nm,19.1s,baz=42,slow=35
comp=Z,2.7nm,0.9s
ILAR Eielson Array 48.25 328 P P 05 47 57.5 +0.2
NEW Newport 48.34 297 LR LR 06 07 21.5
comp=Z,593nm,18.3s,baz=36,slow=35
NEW Newport 48.34 297 P P 05 47 58.9 +0.6
baz=46
SKAG Skagway 48.34 318 P P 05 47 57.5 -0.5
baz=45
BW06 Boulder Array 48.37 287 P P 05 47 58.3 -0.5
baz=45,SNR=6.4
PDAR Pinedale Array 48.37 287 P P 05 47 58.2 -0.7
comp=Z,3.1nm,0.8s,baz=66,slow=7.2,SNR=24
PDAR LR LR 06 07 20.3
comp=Z,380nm,18.4s,baz=39,slow=35
comp=Z,3.1nm,0.8s
ISCO Idaho Springs 48.42 281 P P 05 48 00.1 +0.8
baz=44
RIDG Independent Ri 48.42 326 P P 05 47 59.4 +0.7
baz=43
WMOK Wichita Mounta 48.45 271 P P 05 47 59.8 +0.5
baz=41
YUK3 Moose Creek 48.47 323 P P 05 47 59.8 +0.5

baz=44
NATX Nacogdoches 48.47 265 P P 05 47 59.9 +0.5
baz=39
L26K Log Cabin Wild 48.49 325 P P 05 47 59.1 0.0
baz=43
M27K Edge Creek, AK 48.51 324 P P 05 47 59.4 -0.1
baz=44
HDA Harding Lake 48.54 328 P P 05 48 00.2 +0.7
baz=42
H22K Ishtalitna Cre 48.63 331 P P 05 47 58.3 -2.0
baz=40
K24K Donnelly Dome 48.65 327 P P 05 48 01.5 +1.1
baz=42
M26K Nabesna, AK 48.84 324 P P 05 48 01.7 -0.2
baz=43
R32K Eaglecrest 48.88 316 P P 05 48 02.1 -0.1
baz=45
O29M Mount Kennedy 48.89 320 P P 05 48 02.8 +0.3
baz=44
NEA2 Nenana 49.01 329 P P 05 48 02.1 -1.0
NEA2 IAmb IAmb 05 48 14.4
comp=Z,8.7nm,1.1s
NEA2 Nenana 49.01 329 P P 05 48 03.4 +0.3
baz=40
MLY Manley 49.13 330 P P 05 48 04.2 0.0
baz=40
IMAR Indian Mountai 49.18 332 P P 05 48 03.5 -0.9
PAX Paxson 49.18 326 P P 05 48 03.9 -0.6
baz=42
H21K Melozitna Rive 49.19 331 P P 05 48 01.6 -2.9
baz=39
C09A Chrisman Ranch 49.21 298 P P 05 48 04.8 -0.1
I21K Tanana 49.35 331 P P 05 48 06.3 +0.6
baz=39
O20A White River Ci 49.57 284 P P 05 48 08.8 +0.8
baz=43
MCK McKinley 49.63 328 P P 05 48 08.1 +0.2
baz=40
PNL Peninsula 49.64 320 P P 05 48 08.2 +0.1
baz=43
DHY Denali Highway 49.67 327 P P 05 48 08.4 0.0
baz=41
T25A Trinidad 49.71 278 P P 05 48 08.4 -0.7
T25A IAmb IAmb 05 48 13.7
comp=Z,9.5nm,1.1s
T25A Trinidad 49.71 278 P P 05 48 09.7 +0.6
baz=42
V35K Ketchikan 49.84 312 P P 05 48 09.9 +0.3
baz=45
SDCO Great Sand Dun 49.85 279 P P 05 48 10.7 +0.5
baz=42
AMTX Amarillo 49.91 274 P P 05 48 11.2 +0.6
baz=41
BPAW Bear Paw Mtn. 49.92 329 P P 05 48 10.9 +0.7
baz=39
N25K Chitina, Valde 49.93 324 P P 05 48 10.4 +0.1
baz=42
RDMU Red Mountain 49.95 285 P P 05 48 10.3 -0.6
RDMU IAmb IAmb 05 48 21.8
comp=Z,16nm,1.2s
PLID Pearl Lake 50.01 294 P P 05 48 10.9 -0.4
PLID IAmb IAmb 05 48 22.7
comp=Z,9.8nm,0.9s
MESA MESA 50.14 322 P P 05 48 11.7 -0.4
baz=42
WAT6 Susitna Watana 50.16 327 P P 05 48 12.1 0.0
baz=40
WAT1 Susitna Watana 50.21 327 P P 05 48 12.8 +0.5
baz=40
TRF Thorofare Moun 50.23 329 P P 05 48 12.3 -0.4
baz=39
HLID Hailey 50.30 291 P P 05 48 14.2 +0.7
baz=44,SNR=8.9
KLU Klutina 50.44 325 P P 05 48 14.1 0.0
baz=41
CHUM Lake Minchumin 50.46 330 P P 05 48 14.2 +0.1
baz=38
BBB Bella Bella 50.62 307 LR LR 06 07 33.6
comp=Z,262nm,18.6s,baz=53,slow=34
J20K Nowinta River 50.72 331 P P 05 48 16.6 +0.5
J20K Nowinta River 50.72 331 P P 05 48 16.3 +0.2
baz=37
CAST Castle Rocks 50.76 329 P P 05 48 16.5 0.0
baz=38
M23K Glacier View 50.76 326 P P 05 48 17.7 +1.2
baz=40
JLU Jordanelle 50.91 286 P P 05 48 18.0 -0.2
EYAK Cordova Ski Ar 51.10 324 P P 05 48 19.4 +0.3
baz=40
MSTX Muleshoe 51.20 274 P P 05 48 20.9 +0.6
baz=40
KNK Knik Glacier 51.28 326 P P 05 48 20.7 +0.3
baz=39
K20K Telida 51.35 330 P P 05 48 21.5 +0.6
baz=37
P17A Butcher Ranch, 51.37 285 P P 05 48 22.3 +0.8
P17A IAmb IAmb 05 48 30.8
comp=Z,11nm,1.3s
MARD Mardin 51.38 79 P P 05 48 22.4 +0.8
MPU Maple Canyon 51.44 286 P P 05 48 22.1 0.0
MPU IAmb IAmb 05 48 31.5
comp=Z,15nm,1.2s
TORD Torodi Ar. Bea 51.50 134 P P 05 48 21.4 -1.1
comp=Z,3.0nm,0.9s,baz=331,slow=6.3,SNR=11
comp=Z,3.0nm,0.9s
SKT Skwentna 51.74 328 P P 05 48 23.8 -0.1
baz=38
MVCO Mesa Verde 51.85 281 P P 05 48 26.5 +1.3
baz=42
RC01 Rabbit Creek A 51.92 326 P P 05 48 23.3 -1.9
baz=38
DUG Dugway, Tooele 51.92 287 P P 05 48 25.3 -0.3
baz=43
Q16A Castle Valley 52.00 285 P P 05 48 25.3 -1.0
Q16A IAmb IAmb 05 48 35.0
comp=Z,10nm,1.3s
L20K Farewell, AK 52.01 329 P P 05 48 23.9 -1.9
baz=36
ABKAR Akbulak array 52.21 56 P P 05 48 28.0 +0.5
ABKAR IAmb IAmb 05 48 29.2
comp=Z,12nm,0.9s
ABKAR Akbulak array 52.21 56 P P 05 48 27.4 -0.1
TTA Tatalina 52.22 331 P P 05 48 27.3 -0.1
baz=35
JCT Junction City 52.25 269 P P 05 48 28.0 0.0
baz=39
ANMO Albuquerque 52.45 278 LR LR 06 09 55.3
comp=Z,598nm,18.4s,baz=42,slow=35
ANMO Albuquerque 52.45 278 P P 05 48 30.4 +0.8
baz=41
J08A Circle Bar Ran 52.49 294 P P 05 48 29.4 -0.4
J08A IAmb IAmb 05 48 40.9
comp=Z,14nm,1.0s
L19K White Mountain 52.52 330 P P 05 48 28.9 -0.7
baz=36
N20K Mount Spurr 52.56 328 P P 05 48 29.9 -0.1
baz=37
SPCR Spurr Chakacha 52.56 328 P P 05 48 29.0 -1.0
baz=37
M19K Big River Lodg 52.62 329 P P 05 48 30.6 +0.3
baz=36
ELK Elko 52.77 289 LR LR 06 10 03.6
comp=Z,606nm,18.1s,baz=62,slow=35
ELK Elko 52.77 289 P P 05 48 32.9 +0.8
ELK IAmb IAmb 05 48 41.8
comp=Z,12nm,1.4s
HTMS Hat Mesa 52.80 274 P P 05 48 31.6 -0.6
MSU Marysvale 52.83 285 P P 05 48 32.6 +0.1
I05D Terrebonne, OR 53.18 296 P P 05 48 34.5 -0.4
baz=43
HOM Homer 53.64 326 P P 05 48 37.7 -0.1
baz=36
833A Chaparral WMA, 53.71 267 P P 05 48 41.0 +2.2
baz=38
J05D Fort Rock, OR 53.91 295 P P 05 48 41.1 +0.8
baz=42,SNR=6.6
J04D Umpqua Nationa 54.37 296 P P 05 48 43.7 0.0
baz=42
U15A North Rim 54.45 283 P P 05 48 44.1 -0.3
MOD Modoc Plateau 54.48 294 P P 05 48 44.1 -0.3
MOD IAmb IAmb 05 48 50.1
comp=Z,12nm,1.1s
WUAZ Wupatki 54.65 282 P P 05 48 46.2 +0.4
baz=40
R11A Troy Canyon, C 54.73 287 P P 05 48 46.9 +0.6
baz=41
Q19K Cape Douglas, 54.83 327 P P 05 48 44.2 -2.3
baz=35
DBIC Dimbokro 55.20 145 P P 05 48 49.0 -0.7
comp=Z,7.2nm,0.9s,baz=346,slow=10,SNR=3.5
DBIC LR LR 06 09 52.3
comp=Z,402nm,18.2s,baz=8.0,slow=33
comp=Z,7.2nm,0.9s
L04D Klamath Falls 55.23 295 P P 05 48 50.7 +0.8
TXAR Lajitas Array 55.24 271 P P 05 48 50.2 +0.2
comp=Z,0.6nm,0.8s,baz=56,slow=6.1,SNR=8.3
TXAR LR LR 06 11 57.9
comp=Z,167nm,18.8s,baz=22,slow=36
comp=Z,0.6nm,0.8s
K02D Willamette Mer 55.54 297 P P 05 48 51.9 -0.1
baz=41
YBH Yreka Blue Hor 55.79 295 LR LR 06 12 01.8
comp=Z,295nm,18.3s,baz=30,slow=35
Q16K King Salmon 55.92 328 P P 05 48 51.5 -2.8
baz=33
L02F Cave Junction 55.92 296 P P 05 48 53.0 -1.7
baz=41
P16K Nushagak River 56.00 329 P P 05 48 53.7 -1.2
baz=33
NVAR Mina Array Bea 56.07 289 P P 05 48 55.8 -0.2
comp=Z,1.1nm,0.8s,baz=59,slow=5.4,SNR=10
NVAR LR LR 06 11 57.7
comp=Z,398nm,18.8s,baz=56,slow=35
comp=Z,1.1nm,0.8s
TPNV Topopah Spring 56.13 287 P P 05 48 55.8 -0.6
baz=40
GMN Gold Mountain 56.39 288 P P 05 48 57.9 -0.5
GMN IAmb IAmb 05 49 09.7
comp=Z,8.6nm,1.0s
GRAC Grapevine Rang 56.68 288 P P 05 49 00.3 +0.1
baz=40
TUC Tucson 56.79 279 P P 05 49 01.7 +0.6
baz=39
FURC Furnace Creek, 56.82 287 P P 05 49 01.7 +0.6
baz=40
SHOC Shoshone, Teco 56.95 286 P P 05 49 03.5 +1.5
baz=40
MPMC Manual Prospec 57.46 287 P P 05 49 06.5 +0.6
baz=40
CWC Cottonwood Cre 57.47 288 P P 05 49 06.6 +0.6
baz=40
GMRC Granite Mounta 57.48 285 P P 05 49 06.7 +0.7
baz=40
GSC Goldstone, Bar 57.68 286 P P 05 49 07.8 +0.5
baz=40
HEC Hector,Ludlow 57.80 285 P P 05 49 08.9 +0.8
baz=39
LRMC Laurel Mtn Rad 58.00 287 P P 05 49 10.1 +0.5
baz=40
BC3 Big Chuckawall 58.24 284 P P 05 49 12.1 +0.8
baz=39
BELC Belle Mtn. Jos 58.26 284 P P 05 49 11.9 +0.4
baz=39
ISA Isabella, Lake 58.27 287 P P 05 49 12.2 +0.8
baz=39
ZALV Zalesovo Beam 58.36 38 P P 05 49 11.7 0.0
comp=Z,0.8nm,0.4s,baz=334,slow=9.6,SNR=3.7
ZALV PcP **PcP 05 50 02.3 -0.1**
comp=Z,2.3nm,0.6s,baz=319,slow=5.7,SNR=8.8
ZALV LR LR 06 17 15.3
comp=Z,337nm,18.4s,baz=292,slow=39
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 58.36 38 P P 05 49 11.5 -0.1
GLA Glamis 58.37 283 P P 05 49 12.6 +0.4
GLA Glamis 58.37 283 P P 05 49 13.4 +1.2
baz=39
CHGN Chignik 58.44 328 P P 05 49 13.1 +1.0
baz=32
VES Vestal, Richgr 58.45 288 P P 05 49 13.5 +0.9
baz=39
BBRC Big Bear Solar 58.54 285 P P 05 49 14.8 +1.2
baz=39
EDW2 Edwards Air Fo 58.62 287 P P 05 49 14.1 +0.2
baz=39
PFO Pinyon Flats O 58.80 284 LR LR 06 13 31.0
comp=Z,305nm,20.7s,baz=45,slow=35
PFO Pinyon Flats O 58.80 284 P P 05 49 16.0 +0.8
baz=39
TPFO Pinon Flats 58.80 284 P P 05 49 15.8 +0.6
baz=39
KURK Kurchatov 58.82 44 P P 05 49 14.0 -0.9
KURK IAmb IAmb 05 49 15.4
comp=Z,4.8nm,0.8s
BFSC Mount Baldy Ra 58.94 286 P P 05 49 17.0 +0.8
baz=39
GEYT Alibeck 59.89 66 P P 05 49 23.1 +0.5
comp=Z,3.3nm,0.9s,baz=284,slow=5.8,SNR=4.7
comp=Z,3.3nm,0.9s
CMIG Matias Romero 60.39 255 LR LR 06 15 43.6
comp=Z,152nm,18.8s,baz=35,slow=36
ROSC El Rosal 61.30 228 P P 05 49 32.8 -0.1
comp=Z,3.4nm,0.3s,baz=69,slow=8.3,SNR=8.9
comp=Z,3.4nm,0.3s
ROSC El Rosal 61.30 228 P P 05 49 33.0 +0.1
LPIG La Paz 62.99 273 LR LR 06 15 40.2
comp=Z,98nm,18.2s,baz=44,slow=35
MK31 Makanchi Array 63.42 44 P P 05 49 45.9 -0.4
MKAR Makanchi Array 63.42 44 P P 05 49 46.3 0.0
comp=Z,2.8nm,0.7s,baz=337,slow=6.0,SNR=15
comp=Z,2.8nm,0.7s
MKAR Makanchi Array 63.42 44 P P 05 49 46.4 +0.1
TARG Taragay, Kyrgy 65.87 50 P P 05 50 04.3 +1.4
TARG IAmb IAmb 05 50 06.4
comp=Z,5.4nm,0.8s
H10N2 ASCENSION HYDR 66.69 159 T T 07 02 03.4
baz=350,slow=75,SNR=14
H10N3 ASCENSION HYDR 66.70 159 T T 07 02 12.0
baz=350,slow=75,SNR=15
H10N1 ASCENSION HYDR 66.71 159 T T 07 02 04.8
baz=350,slow=75,SNR=16
KSH Kashi 66.93 52 P P 05 50 11.8 +2.5
KSH pP pwP 05 50 17.6 +2.2
KSH pmax pmax
comp=Z,9.0nm,1.4s
WMQ Urumqi 67.95 42 eP P 05 50 17.9 +2.3
WMQ LR LR
comp=Z,240nm,19.7s
SHEM Shemya Is, Ala 68.08 342 LR LR 06 23 15.3
comp=Z,62nm,18.0s,baz=343,slow=39
SONM Songino Array 70.12 27 P P 05 50 29.4 +0.3
comp=Z,4.7nm,0.9s,baz=325,slow=6.7,SNR=21
comp=Z,4.7nm,0.9s
SONM Songino Array 70.12 27 P P 05 50 28.7 -0.4
SONM IAmb IAmb 05 50 30.4
comp=Z,6.7nm,1.0s
BOSC San Juan Bosco 70.25 229 P P 05 50 30.1 -0.1
ULN Ulaanbaatar 70.25 27 P P 05 50 30.5 +0.6
ULN IAmb IAmb 05 50 31.8
comp=Z,9.9nm,1.0s
KLR Kul'dur 73.19 10 P P 05 50 47.3 0.0
comp=Z,1.3nm,0.7s,baz=337,slow=11,SNR=3.4
comp=Z,1.3nm,0.7s
BDFB Brasilia 73.61 195 P P 05 50 48.9 -1.3
comp=Z,3.2nm,0.8s,baz=36,slow=11,SNR=6.0
comp=Z,3.2nm,0.8s
PTLB Pontes e Lacer 75.50 206 P P 05 51 01.0 0.0
PTLB IAmb IAmb 05 51 06.2
comp=Z,4.4nm,1.1s
GTA Gaotai 76.00 36 ⇑P P 05 51 04.3 +0.3
GTA pP pP 05 51 08.8 +0.7
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,59nm,4.2s
GTA LR LR
comp=N,200nm,20.4s
GTA LR LR
comp=E,180nm,18.5s
GTA LR LR
comp=Z,230nm,19.6s
MBAR Mbarara 76.85 112 LR LR 06 25 40.1
comp=Z,226nm,18.2s,baz=329,slow=36
GOMU GeErMu 77.24 41 ⇓eP P 05 51 12.4 +1.1
GOMU pmax pmax
comp=Z,26nm,3.6s
LPAZ La Paz 78.72 214 P P 05 51 19.5 -0.4
comp=Z,1.4nm,1.0s,baz=37,slow=8.9,SNR=4.3
comp=Z,1.4nm,1.0s
LZH Lanzhou 80.31 34 eP P 05 51 25.1 -2.9
LZH sP sP 05 51 33.3 -0.2
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=N,160nm,15.4s
LZH LR LR
comp=E,180nm,14.5s
LZH LR LR
comp=Z,230nm,16.6s
HNS HongShan 81.97 25 ⇑P P 05 51 37.9 +1.4
HNS pmax pmax
comp=Z,13nm,1.2s
XAN Xi'an 83.69 31 P P 05 51 45.1 -0.5
XAN pP pwP 05 51 53.5 +1.5
XAN sP sP 05 51 58.4 +7.2
XAN pmax pmax
comp=Z,9.0nm,1.1s
KSRS Korea Array 84.36 15 P P 05 51 48.7 -0.2
comp=Z,4.3nm,0.8s,baz=352,slow=5.3,SNR=14
comp=Z,4.3nm,0.8s
KSAR Wonju Array Be 84.37 15 P P 05 51 48.5 -0.5
CPUP Villa Florida 85.64 201 P P 05 51 54.0 -1.1
comp=Z,3.0nm,0.8s,baz=26,slow=7.3,SNR=7.0
comp=Z,3.0nm,0.8s
NJ2 Nanjing 88.03 23 eP P 05 52 04.5 -2.6
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
PZH PanZhiHua 88.47 39 P P 05 52 09.5 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,4.7s
KMI Kunming 90.08 39 ⇓P P 05 52 17.0 -0.1
KMI pmax pmax
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 94.82 45 P P 05 52 39.1 +0.3
comp=Z,1.6nm,0.5s,baz=317,slow=6.1,SNR=9.3
comp=Z,1.6nm,0.5s
VNA1 Neumayer--Stat 128.86 169 PKPdf PKiKP 05 58 23.1 -0.2
VNA2 Neumayer--Watz 129.21 169 PKPdf PKPdf 05 58 23.3 -0.1
baz=342,slow=4.0
VNA3 Neumayer Olymp 129.30 170 PKPdf PKPdf 05 58 23.4 -0.2
SNAA Sanae 130.41 168 PKPdf PKPdf 05 58 26.0 +0.3
TROLL Troll, Antarti 131.39 166 PKPdf PKPdf 05 58 27.3 -0.5
WRA Warramunga Arr 141.68 19 PKP PKPdf 05 58 46.1 -2.1
comp=Z,1.1nm,1.0s,baz=346,slow=3.3,SNR=4.9
ASAR Alice Springs 145.23 21 PKPbc PKPbc 05 58 53.8 -0.3
comp=Z,7.0nm,0.9s,baz=351,slow=2.6,SNR=46
NWAO Narrogin (SRO) 148.53 52 PKPbc PKPbc 05 59 02.6 -0.6
comp=Z,12nm,0.9s,baz=351,slow=1.5,SNR=2.6
VNDA Vanda 158.95 189 PKPab PKPab 05 59 49.4 -0.1
comp=Z,0.8nm,0.9s,baz=167,slow=6.4,SNR=5.1

ROM 24 05:44:47.7±0.1, 42°.780N±0°.003×13°.132E±0°.004, h8km, ML1.9/26, 5C-7D, Error ellipse: s-maj=0.3km s-min=0.2km az=238.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.06**	**346**	P	Pg	05 44 49.6	0.0
NRCA				S	Sg	05 44 50.8	-0.1
NRCA				AML	AML		
	comp=E,18550μm,0.1s						
NRCA				AML	AML		
	comp=E,18600μm,0.1s						
NRCA				AML	AML		
	comp=N,9020μm,0.4s						
NRCA				AML	AML		
	comp=E,20150μm,0.1s						
NRCA				AML	AML		
	comp=N,10150μm,0.5s						
T1242	**Castelluccio d**	**0.07**	**47**	⇑P	Pg	05 44 50.0	+0.2
T1242				S	Sg	05 44 51.2	-0.1
T1242				AML	AML		
	comp=N,6780μm,0.6s						
T1242				AML	AML		
	comp=N,6785μm,0.6s						
T1242				AML	AML		
	comp=N,6685μm,0.6s						
T1242				AML	AML		
	comp=E,3855μm,0.4s						
T1242				AML	AML		
	comp=E,3875μm,0.4s						
T1202	**Accumoli, Fraz**	**0.10**	**138**	⇓P	Pg	05 44 50.8	+0.6
T1202				S	Sg	05 44 52.8	+0.9
T1202				AML	AML		
	comp=E,3455μm,0.5s						
T1202				AML	AML		
	comp=N,5940μm,0.8s						
T1202				AML	AML		
	comp=E,3450μm,0.5s						
T1202				AML	AML		
	comp=N,5945μm,0.8s						
T1216	**Preci, Frazion**	**0.14**	**323**	P	Pg	05 44 51.2	+0.5
T1216				S	Sg	05 44 54.4	+1.6
T1216				AML	AML		
	comp=N,1950μm,0.4s						
T1216				AML	AML		
	comp=E,1464μm,0.7s						
T1216				AML	AML		
	comp=N,1820μm,0.4s						
T1216				AML	AML		
	comp=E,1485μm,1.6s						
T1216				AML	AML		
	comp=E,1490μm,1.6s						
T1216				AML	AML		
	comp=N,1945μm,0.4s						
MC2	**Monte Cornacci**	**0.14**	**18**	P	Pg	05 44 51.3	+0.5
MC2				S	Sg	05 44 54.4	+1.4
T1217	**Poggiodomo (PG**	**0.16**	**245**	P	Pg	05 44 51.9	+0.7
T1217				S	Sg	05 44 54.9	+1.4
T1204	**Amatrice, Fraz**	**0.17**	**127**	⇓P	Pg	05 44 52.2	+0.8
T1204				S	Sg	05 44 55.4	+1.6
MMO1	**Montemonaco**	**0.19**	**50**	⇑P	Pg	05 44 52.1	+0.5
MMO1				S	Sg	05 44 55.4	+1.2
LNSS	**Leonessa**	**0.19**	**201**	⇓P	Pg	05 44 52.2	+0.6
LNSS				S	Sg	05 44 55.7	+1.4
LNSS				AML	AML		
	comp=N,836μm,0.5s						
LNSS				AML	AML		
	comp=E,750μm,1.5s						
T1215	**Vallo di Nera,**	**0.20**	**276**	⇓P	Pg	05 44 52.4	+0.7
T1215				S	Sg	05 44 56.0	+1.6
SMA1	**SAN MARTINO**	**0.21**	**135**	P	Pg	05 44 52.8	+0.8
SMA1				S	Sg	05 44 56.6	+1.6
SMA1				AML	AML		
	comp=E,804μm,0.6s						
SMA1				AML	AML		
	comp=N,627μm,0.6s						
SMA1				AML	AML		
	comp=E,805μm,0.6s						
T1241	**Roccafluvione,**	**0.23**	**71**	P	Pg	05 44 53.1	+0.7
T1241				S	Sg	05 44 57.2	+1.6
T1241				AML	AML		
	comp=E,444μm,0.7s						
T1241				AML	AML		
	comp=N,378μm,0.8s						
T1241				AML	AML		
	comp=N,302μm,0.8s						
T1241				AML	AML		
	comp=E,450μm,0.7s						
T1243	**Rocca Santa Ma**	**0.25**	**110**	P	Pg	05 44 53.3	+0.6
T1243				S	Sg	05 44 57.3	+1.3
AM05	**Amandola Campo**	**0.26**	**39**	⇑P	Pg	05 44 53.5	+0.7
AM05				S	Sb	05 44 57.8	-1.5
AM05				AML	AML		
	comp=E,258μm,0.4s						
AM05				AML	AML		
	comp=N,223μm,1.5s						
AM05				AML	AML		
	comp=E,911μm,0.1s						
AM05				AML	AML		
	comp=N,816μm,0.4s						
AM05				AML	AML		
	comp=E,258μm,0.4s						
AM05				AML	AML		
	comp=E,910μm,0.1s						
AM05				AML	AML		
	comp=N,817μm,0.4s						
FDMO	**Fiordimonte**	**0.26**	**353**	P	Pg	05 44 53.4	+0.5
FDMO				S	Sg	05 44 57.8	+1.4
FDMO				AML	AML		
	comp=N,352μm,0.3s						
FDMO				AML	AML		
	comp=E,428μm,0.2s						
RM33	**Pellescritta (**	**0.28**	**167**	P	Pg	05 44 53.8	+0.5
RM33				S	Sg	05 44 58.4	+1.4
RM33				AML	AML		
	comp=N,368μm,0.2s						
RM33				AML	AML		

comp=E,441μm,0.3s
CESI CESI - Serrava 0.28 323 P Pg 05 44 53.9 +0.5
CESI S Sb 05 44 58.6 -1.5
CESI AML AML
comp=E,636μm,0.3s
CESI AML AML
comp=N,910μm,0.3s
CESI AML AML
comp=N,911μm,0.3s
CSP1 Cessapalombo 0.32 10 P Pg 05 44 54.6 +0.6
CSP1 S Sb 05 44 59.7 -1.4
CSP1 AML AML
comp=E,456μm,0.3s
CSP1 AML AML
comp=N,401μm,0.2s
CSP1 AML AML
comp=E,455μm,0.3s
CSP1 AML AML
comp=N,402μm,0.2s
CAMP Campotosto 0.32 140 P Pg 05 44 54.5 +0.5
CAMP S Sb 05 44 59.8 -1.3
CAMP AML AML
comp=E,142μm,0.9s
CAMP AML AML
comp=E,142μm,0.9s
CAMP AML AML
comp=N,142μm,0.6s
ARRO Arrone 0.34 234 P Pg 05 44 55.0 +0.7
ARRO AML AML
comp=N,144μm,1.0s
ARRO AML AML
comp=E,174μm,0.2s
TERO Teramo 0.38 114 P Pg 05 44 55.5 +0.3
TERO S Sb 05 45 01.8 -1.2
TERO AML AML
comp=E,198μm,0.3s
TERO AML AML
comp=N,216μm,0.3s
OFFI Offida 0.43 69 P Pb 05 44 57.6 -0.1
OFFI AML AML
comp=E,272μm,0.4s
OFFI AML AML
comp=N,375μm,0.5s
ASSB Assisi San Ben 0.44 307 P Pg 05 44 56.5 +0.3
ASSB S Sb 05 45 03.5 -1.1
ASSB AML AML
comp=E,180μm,0.2s
ASSB AML AML
comp=N,168μm,0.3s
GIGS Gran Sasso 0.46 136 P Pg 05 44 57.1 +0.4
GIGS S Sg 05 45 03.8 +1.1
GIGS AML AML
comp=E,39μm,0.2s
GIGS AML AML
comp=N,35μm,0.2s
GIGS AML AML
comp=E,39μm,0.2s
GIGS AML AML
comp=N,35μm,0.2s
SNTG Esanatoglia 0.49 344 ⇓P Pg 05 44 57.9 +0.5
SNTG S Sb 05 45 05.7 -0.5
SNTG AML AML
comp=E,86μm,1.5s
SNTG AML AML
comp=N,96μm,0.6s
FIAM Fiamignano 0.51 181 P Pg 05 44 58.0 +0.4
FIAM S Sb 05 45 05.8 -0.9
FIAM AML AML
comp=E,63μm,1.0s
FIAM AML AML
comp=N,75μm,1.5s
ATCC AVT- Casa Cast 0.54 318 P Pg 05 44 58.5 +0.3
ATCC S Sb 05 45 07.3 -0.3
ATCC AML AML
comp=E,165μm,1.4s
ATCC AML AML
comp=N,149μm,0.4s
ATCC AML AML
comp=N,150μm,0.4s
EL6 Elcito 0.55 358 ⇓P Pg 05 44 58.8 +0.4
EL6 S Sb 05 45 08.0 +0.2
FOSV Fossato di Vic 0.58 332 ⇑P Pg 05 44 59.3 +0.3
CING Cingoli 0.60 4 P Pg 05 44 59.6 +0.3
CING S Sb 05 45 09.3 +0.1
CING AML AML
comp=E,88μm,1.0s
CING AML AML
comp=N,93μm,0.2s
CING AML AML
comp=N,93μm,0.2s
VCEL Villa Celiera 0.65 126 P Pb 05 45 01.0 -0.4
VCEL S Sb 05 45 11.4 +0.7
VCEL AML AML
comp=E,146μm,0.7s
VCEL AML AML
comp=E,147μm,0.7s
VCEL AML AML
comp=N,174μm,0.9s
PP3 Marolino 0.69 30 ⇓P Pb 05 45 02.9 +0.8
SSFR Montelago di S 0.70 339 ⇑P Pg 05 45 01.7 +0.4
SSFR S Sb 05 45 12.4 +0.2
SSFR AML AML
comp=E,164μm,1.3s
SSFR AML AML
comp=N,142μm,1.3s
ATFO Monte Foce - G 0.72 325 P Pg 05 45 01.4 -0.2
ATFO AML AML
comp=N,58μm,1.1s
ATFO AML AML
comp=E,61μm,1.0s
ATFO AML AML
comp=N,58μm,1.1s
T0110 Collepietro 0.73 139 P Pg 05 45 02.0 +0.2
T0110 S Sb 05 45 13.6 +0.6
T0110 AML AML
comp=E,89μm,0.3s
T0110 AML AML
comp=E,89μm,0.3s
T0110 AML AML
comp=N,112μm,0.4s
FSSB Fossombrone 0.95 344 P Pg 05 45 06.2 +0.2
FSSB AML AML
comp=E,89μm,1.5s
FSSB AML AML
comp=N,126μm,0.5s

*IDC **24** 05:49:37.4±0.9,57.°17N×33.°49W,h0km,mb3.7/8, mbtmp3.7/9,ML3.8/1,MS3.9/5,Error ellipse: s-maj=32.6km s-min=19.4km az=16.0*
*NEIC **24** 05:49:41.5±1.0,57.°4N±0.°1×33.°1W±0.°2,h10km±2km, mb4.4/11,Error ellipse: s-maj=25.0km s-min=14.9km az=187.0*
ISC 24 05:49:40.7±0.6,57.°3N±0.°1×33.°22W±0.°07,h15km,n36, σ1ş58/28,mb4.0/14,MS3.8/3,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**7.37**	**307**	Pn	**Pn**	**05 51 28.8**	**+1.1**
IVI	**Ivigtut**	**8.61**	**303**	Pn	**Pn**	**05 51 46.0**	**+1.3**
ANGG	**Ammassalik, Gr**	**8.63**	**348**	Pn	**Pn**	**05 51 44.6**	**-0.3**
BORG	**Borgarnes**	**9.45**	**33**	Pn	**Pn**	**05 51 58.3**	**+2.3**
	1.0nm,0.3s,baz=229,slow=9.3,SNR=2.4 19nm,0.9s						
SFJD	**Kangerlussuaq**	**12.64**	**328**	Pn	**Pn**	**05 52 40.1**	**+0.4**
SCO	**Scoresbysund**	**14.12**	**16**	Pn	**Pn**	**05 52 58.5**	**-1.3**
ILULI	**Ilulissat**	**14.35**	**334**	Pn	**Pn**	**05 53 03.0**	**+0.1**
SUMG	**Summit**	**15.52**	**354**	Pn	**Pn**	**05 53 18.1**	**-0.9**
SUMG	**Summit**	**15.52**	**354**	*i* P	**Pn**	**05 53 15.0**	**-4.0**
EKA	**Eskdalemuir Ar**	**16.73**	**84**	LR	LR	05 58 19.8	
	comp=Z,649nm,19.3s,baz=184,slow=31						
SCHQ	**Schefferville**	**18.82**	**277**	LR	LR	05 59 55.7	
	comp=Z,157nm,19.9s,baz=72,slow=33						
SCHQ	**Schefferville**	**18.82**	**277**	P	**Pn**	**05 54 00.4**	**+0.2**
BATG	**Bathurst New B**	**22.23**	**257**	P	**P**	**05 54 39.0**	**+2.5**
BATG				IAmb	IAmb	05 54 57.1	
	comp=Z,10nm,1.2s						
NOA	**NORSAR Array B**	**22.75**	**62**	LR	LR	06 01 47.7	
	comp=Z,194nm,19.3s,baz=225,slow=32						
NC405	**NORSAR Array S**	**22.97**	**61**	P	**P**	**05 54 43.9**	**-0.4**
NC405				IAmb	IAmb	05 54 44.5	
	comp=Z,12nm,1.1s						
CLF	**Chambon-Foret**	**23.18**	**98**	P	**P**	**05 54 47.3**	**+0.8**
ESDC	**Sonseca Array**	**25.89**	**120**	P	**P**	**05 55 11.9**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=321,slow=10.0,SNR=2.9						
	comp=Z,0.8nm,0.9s						
DAVOX	**Davos/Dischmat**	**28.05**	**93**	LR	LR	06 05 58.2	
	comp=Z,366nm,18.1s,baz=252,slow=35						
L61B	**Northampton**	**28.95**	**256**	P	**P**	**05 55 39.4**	**+0.2**
FIA1	**FINESS Array S**	**29.59**	**57**	P	**P**	**05 55 45.3**	**+0.6**
FIA1				IAmb	IAmb	05 55 47.0	
	comp=Z,7.9nm,1.1s						
FINES	**FINESS Array B**	**29.59**	**57**	P	**P**	**05 55 45.7**	**+1.1**
VRAC	**Vranov**	**30.21**	**84**	LR	LR	06 07 32.3	
	comp=Z,213nm,18.6s,baz=260,slow=35						
AKASG	**Malin Array Be**	**36.12**	**73**	P	**P**	**05 56 41.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=312,slow=7.9,SNR=7.2 comp=Z,1.0nm,0.6s						
KSU1	**Kansas State U**	**44.22**	**274**	P	**P**	**05 57 50.8**	**+1.8**
KSU1				IAmb	IAmb	05 58 03.9	
	comp=Z,4.8nm,0.8s						
I29M	**Ogilvie Camp,**	**45.33**	**325**	P	**P**	**05 58 00.6**	**+3.0**
I29M				IAmb	IAmb	05 58 04.2	
	comp=Z,4.5nm,1.1s						
BRTR	**Keskin Array B**	**45.65**	**83**	P	**P**	**05 58 00.4**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=323,slow=4.5,SNR=2.3 comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**48.31**	**328**	P	**P**	**05 58 20.0**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=41,slow=6.0,SNR=6.5 comp=Z,1.1nm,0.9s						
PDAR	**Pinedale Array**	**48.51**	**287**	P	**P**	**05 58 20.2**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=58,slow=6.7,SNR=6.2 comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**51.41**	**134**	P	**P**	**05 58 44.3**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=334,slow=9.3,SNR=4.5 comp=Z,1.3nm,1.0s						
TXAR	**Lajitas Array**	**55.39**	**271**	P	**P**	**05 59 12.9**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=54,slow=4.8,SNR=4.0 comp=Z,0.4nm,0.9s						
KVN	**Kaiserville**	**55.63**	**290**	P	**P**	**05 59 14.5**	**-1.4**
KVN				IAmb	IAmb	05 59 19.5	
	comp=Z,4.4nm,1.0s						
H10N2	**ASCENSION HYDR** baz=350	**66.66**	**160**	T	T	07 12 34.4	
H10N3	**ASCENSION HYDR** baz=350	**66.67**	**160**	T	T	07 12 41.7	
H10N1	**ASCENSION HYDR** baz=350	**66.68**	**160**	T	T	07 12 38.4	
KSRS	**Korea Array**	**84.30**	**15**	P	**P**	**06 02 11.3**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=0.2,slow=6.3,SNR=1.6 comp=Z,0.5nm,0.4s						
ASAR	**Alice Springs**	**145.15**	**21**	PKPbc	**PKPbc**	**06 09 15.6**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=358,slow=2.4,SNR=9.0						

*NEIC **24** 05:51:06.3±1.4,36.°93S±0.°07×71.°6W±0.°1,h109km±15km, mb4.3/2,ML4.0(GUC),Error ellipse: s-maj=16.9km s-min=8.8km az=104.0*
*GUC **24** 05:51:07.7±0.6,37.°01S×71.°53W,h99km±12km,ML4.0*
ISC 24 05:51:06.3±1.0,36.°94S±0.°04×71.°66W±0.°08, h123km±12km,n43,σ1ş22/54,5D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.16**	**274**	*e*P	**Pn**	**05 51 31.1**	**+0.8**
CCSP				*i* S	**Sn**	**05 51 48.2**	**-0.1**
CCSP				IAML		05 51 54.6	
	comp=N,2μm,0.4s						
ML02	**Panimavida**	**1.19**	**10**		**Pn**	**05 51 30.7**	**+0.1**
ML02	**Panimavida**	**1.19**	**10**	⇓*i* P	**Pn**	**05 51 30.7**	**+0.1**
ML02				*i* S	**Sn**	**05 51 47.9**	**-1.0**
ML02				IAML		05 51 50.2	
	comp=N,3μm,0.6s						
BI05	**Punta Hualpn**	**1.24**	**278**		**Pn**	**05 51 31.8**	**+0.7**
BI05	**Punta Hualpn**	**1.24**	**278**	*e*P	**Pn**	**05 51 32.0**	**+1.0**
BI05				*e*S	**Sn**	**05 51 50.2**	**+0.4**
BO02	**Sierra Bellavi**	**2.26**	**19**		**Pn**	**05 51 43.3**	**0.0**
BO02	**Sierra Bellavi**	**2.26**	**19**	⇓*i* P	**Pn**	**05 51 43.8**	**+0.6**
BO02				*i* S	**Sn**	**05 52 11.6**	**+0.1**
BO02				IAML		05 52 15.3	
	comp=E,719nm,0.2s						
BO03	**Pichilemu**	**2.45**	**354**	⇓*i* P	**Pn**	**05 51 45.8**	**+0.2**
BO03				*e*S	**Sn**	**05 52 13.5**	**-2.2**
GO06	**Curarrehue**	**2.65**	**177**	Pn	**Pn**	**05 51 47.8**	**-0.4**
GO06	**Curarrehue**	**2.65**	**177**	⇓*e*P	**Pn**	**05 51 48.3**	**+0.1**
LR03	**Panguipulli**	**2.74**	**191**		**Pn**	**05 51 48.3**	**-1.1**
LR03	**Panguipulli**	**2.74**	**191**	*e*P	**Pn**	**05 51 48.7**	**-0.6**
LR03				IAML		05 52 25.2	
	comp=N,355nm,0.7s						
BO04	**La Punta**	**3.07**	**17**		**Pn**	**05 51 53.2**	**-0.4**
MT01	**Popeta**	**3.09**	**6**		**Pn**	**05 51 53.5**	**-0.3**
MT01	**Popeta**	**3.09**	**6**	*i* P	**Pn**	**05 51 53.5**	**-0.3**
MT01				*e*S	**Sn**	**05 52 28.1**	**-2.4**
MT01				IAML		05 52 31.5	
	comp=N,490nm,0.3s						
MT09	**Talagante**	**3.20**	**10**		**Pn**	**05 51 54.8**	**-0.7**
MT09	**Talagante**	**3.20**	**10**	⇓*i* P	**Pn**	**05 51 55.1**	**-0.5**
MT09				*e*S	**Sn**	**05 52 31.1**	**-2.4**
MT09				IAML		05 52 37.1	
	comp=N,496nm,0.3s						
LR04	**Corral**	**3.25**	**205**	Pn	**Pn**	**05 51 54.6**	**-1.3**
LR04	**Corral**	**3.25**	**205**	*i* P	**Pn**	**05 51 54.5**	**-1.4**
LR04				*i* S	**Sn**	**05 52 30.8**	**-3.4**
LR04				IAML		05 52 38.2	
	comp=N,493nm,0.3s						
VA05	**Santo Domingo**	**3.27**	**1**		**Pn**	**05 51 55.4**	**-0.9**
VA05	**Santo Domingo**	**3.27**	**1**	*e*P	**Pn**	**05 51 55.4**	**-0.9**
VA05				*e*S	**Sn**	**05 52 32.1**	**-2.8**
LMEL	**Las Melosas**	**3.31**	**22**		**Pn**	**05 51 56.8**	**-0.1**
LMEL	**Las Melosas**	**3.31**	**22**	*e*P	**Pn**	**05 51 57.3**	**+0.4**
LMEL				*e*S	**Sn**	**05 52 37.5**	**+1.5**
LMEL				IAML		05 52 46.0	
	comp=N,122nm,0.4s						
MT03	**Universidad Ad**	**3.56**	**16**		**Pn**	**05 51 59.6**	**-0.7**
MT05	**Renca**	**3.62**	**12**	Pn	**Pn**	**05 52 00.2**	**-0.7**
MT05	**Renca**	**3.62**	**12**	*e*P	**Pn**	**05 52 00.5**	**-0.5**
MT02	**Curacav**	**3.70**	**7**		**Pn**	**05 52 00.9**	**-1.0**
MT02	**Curacav**	**3.70**	**7**	*e*P	**Pn**	**05 52 01.4**	**-0.6**
FCH	**Farellones**	**3.77**	**18**	*e*P	**Pn**	**05 52 02.4**	**-0.8**
FCH				*e*S	**Sn**	**05 52 46.4**	**-0.9**
PEL	**Peldehue**	**3.87**	**12**		**Pn**	**05 52 03.4**	**-0.8**
PLCA	**Paso Flores**	**3.89**	**167**	Pn	**Pn**	**05 52 04.8**	**+0.4**
PLCA	**Paso Flores**	**3.89**	**167**	*e*P	**Pn**	**05 52 04.4**	**0.0**
ROC1	**El Roble**	**3.99**	**8**		**Pn**	**05 52 05.4**	**-0.7**
LL04	**Puerto Octay**	**4.01**	**188**		**Pn**	**05 52 05.4**	**-0.5**
LL04	**Puerto Octay**	**4.01**	**188**	*e*P	**Pn**	**05 52 05.4**	**-0.5**
VA03	**San Esteban**	**4.26**	**13**		**Pn**	**05 52 08.5**	**-1.1**
VA06	**Catapilco**	**4.38**	**4**	Pn	**Pn**	**05 52 09.5**	**-1.5**
CO02	**Combarbal**	**5.75**	**6**		**Pn**	**05 52 28.5**	**-1.0**
ZON	**Zonda**	**5.92**	**26**		**Pn**	**05 52 30.0**	**-1.8**
CO06	**Fray Jorge**	**6.25**	**0**		**Pn**	**05 52 34.9**	**-1.2**
AC02	**Maricunga**	**10.30**	**13**	Pn	**Pn**	**05 53 29.5**	**-1.8**
TRCB	**Terra Rica**	**21.64**	**55**	P	**P**	**05 55 48.4**	**+1.5**
TRCB				IAmb	IAmb	05 55 49.1	
	comp=Z,14nm,0.6s						
SNAA	**Sanae**	**48.76**	**157**	P	**P**	**05 59 40.2**	**+2.1**
SNAA				IAmb	IAmb	06 00 00.9	
	comp=Z,4.0nm,1.4s						

IDC 24 05:53:13.6±5.3,1.°69S×140.°41E,h0km,mb3.4/3, mbtmp3.4/4,ML3.5/1,Error ellipse: s-maj=107.6km s-min=63.5km az=151.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.09**	**198**	P	P	05 57 37.8	-0.2
	0.2nm,0.3s,baz=21,slow=12,SNR=9.8 0.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.82**	**221**	P	P	05 58 07.7	+0.1
	1.2nm,0.8s,baz=18,slow=3.2,SNR=2.4 1.2nm,0.8s						
ASAR	**Alice Springs**	**22.74**	**196**	P	P	05 58 17.3	-0.2
	0.7nm,0.7s,baz=24,slow=12,SNR=12 0.7nm,0.7s						
VNDA	**Vanda**	**76.64**	**175**	P	P	06 05 06.1	+0.2
	0.4nm,0.6s,baz=332,slow=5.5,SNR=4.1 0.4nm,0.6s						

IDC 24 05:54:55.6±1.1,8.°25N×94.°75E,h0km,mb4.0/12, mbtmp4.0/12,MS3.5/4,Error ellipse: s-maj=67.0km s-min=21.0km az=50.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.83**	**142**	LR	LR	05 59 46.6	
	comp=Z,203nm,19.1s,baz=266,slow=42						
CMAR	**Chiang Mai Arr**	**10.93**	**21**	LR	LR	06 01 59.2	
	comp=Z,122nm,18.3s,baz=215,slow=39						
H08S3	**Diego Garcia H**	**27.23**	**235**	T	T	06 27 28.9	
	baz=53,slow=74						
H08S2	**Diego Garcia H**	**27.23**	**235**	T	T	06 27 25.6	
	baz=53,slow=74						
H08S1	**Diego Carcia H**	**27.25**	**235**	T	T	06 27 35.5	
	baz=53						
BATI	**Baumata**	**34.13**	**122**	LR	LR	06 15 42.8	
	comp=Z,149nm,21.1s,baz=360,slow=36						
MKAR	**Makanchi Array**	**39.86**	**347**	P	P	06 02 31.8	+0.8
	1.0nm,0.7s,baz=159,slow=8.2,SNR=6.1 1.0nm,0.7s						
GEYT	**Alibeck**	**44.32**	**318**	P	P	06 03 07.4	-0.2
	2.6nm,0.6s,baz=109,slow=8.5,SNR=3.6 2.6nm,0.6s						
ZALV	**Zalesovo Beam**	**46.27**	**352**	P	P	06 03 22.0	-0.7
	2.3nm,0.6s,baz=168,slow=9.9,SNR=5.6 2.3nm,0.6s						
WRA	**Warramunga Arr**	**47.99**	**126**	P	P	06 03 36.9	+0.1
	0.4nm,0.8s,baz=304,slow=8.8,SNR=3.6 0.4nm,0.8s						
ASAR	**Alice Springs**	**49.70**	**131**	P	P	06 03 49.6	-0.2
	0.6nm,0.8s,baz=300,slow=7.4,SNR=5.1 0.6nm,0.8s						
ASF	**Jabal al Asfar**	**58.52**	**303**	LR	LR	06 32 58.3	
	comp=Z,119nm,20.4s,baz=282,slow=39						
FINES	**FINESS Array B**	**72.66**	**332**	P	P	06 06 25.2	+0.1
	2.1nm,0.8s,baz=83,slow=5.7,SNR=2.9 2.1nm,0.8s						
GERES	**GERESS Array B**	**77.95**	**318**	P	P	06 06 56.1	+0.2
	0.5nm,0.5s,baz=77,slow=5.2,SNR=6.3 0.5nm,0.5s						
HFS	**Hagfors**	**78.43**	**330**	P	P	06 06 58.2	0.0
	4.3nm,1.1s,baz=101,slow=6.0,SNR=5.6 4.3nm,1.1s						
SPITS	**Spitsbergen Ar**	**79.59**	**348**	P	P	06 07 03.7	-0.6
	10.0nm,1.0s,baz=106,slow=5.1,SNR=1.4 10.0nm,1.0s						
NOA	**NORSAR Array B**	**79.70**	**331**	P	P	06 07 05.3	+0.1
	0.6nm,0.7s,baz=95,slow=5.1,SNR=3.4 0.6nm,0.7s						
DAVOX	**Davos/Dischmat**	**80.53**	**316**	P	P	06 07 10.4	+0.2
	1.4nm,0.6s,baz=72,slow=3.2,SNR=3.8 1.4nm,0.6s						
ESDC	**Sonseca Array**	**91.43**	**310**	P	P	06 08 03.9	-0.3
	0.7nm,0.9s,baz=69,slow=4.2,SNR=4.8 0.7nm,0.9s						

IDC 24 05:56:35.6±3.2,32.°49S×178.°12W,h0km,mb3.8/2, mbtmp3.8/3,ML3.5/1,Error ellipse: s-maj=72.7km s-min=37.4km az=116.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.95**	**213**	Pn	Pn	05 58 18.9	+0.2
	0.8nm,0.3s,baz=51,slow=5.7,SNR=1.8						
URZ				Sn	Sn	05 59 38.7	+0.3
	3.4nm,0.3s,baz=54,slow=22,SNR=9.6 2.8nm,0.4s						
ASAR	**Alice Springs**	**42.93**	**269**	P	P	06 04 36.6	+0.2
	0.6nm,0.6s,baz=107,slow=7.2,SNR=12 0.6nm,0.6s						
WRA	**Warramunga Arr**	**44.11**	**274**	P	P	06 04 45.5	-0.4
	1.0nm,0.5s,baz=116,slow=7.5,SNR=29 1.0nm,0.5s						
FINES	**FINESS Array B**	**147.06**	**339**	PKPbc	PKPbc	06 16 18.9	-0.7
	1.0nm,0.6s,baz=24,slow=1.7,SNR=4.7						

*ECX **24** 06:03:26.7±0.7,26.°67N×110.°59W,h20km±30km,MD3.3, ML3.4*
*MEX **24** 06:03:28.0±0.4,26.°60N×110.°55W,h16km±9km,MD4.0*
ISC 24 06:03:23.7±1.5,26.°60N±0.°04×110.°57W±0.°04, h13km±12km,n12,σ1ş23/19,2C-2D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NE80	**Navojoa**	**1.24**	**75**	⇑*e*P	**Pg**	**06 03 47.8**	**+0.3**
NE80				*e*S	**Sg**	**06 04 03.9**	**+0.3**
GUYB	**Guaymas**	**1.32**	**348**	*i* P	**Pg**	**06 03 48.4**	**-0.7**
GUYB				*i* S	**Sn**	**06 04 04.0**	**-1.3**
GUYB	**Guaymas**	**1.32**	**348**	⇓*i* P	**Pg**	**06 03 48.5**	**-0.7**
GUYB				*e*S	**Sn**	**06 04 04.0**	**-1.3**
SRIG	**Santa Rosalia**	**1.66**	**296**	*e*P	**Pb**	**06 03 53.2**	**-0.8**
SRIG				*e*S	**Sn**	**06 04 13.0**	**-0.6**
SRIG	**Santa Rosalia**	**1.66**	**296**	*e*P	**Pn**	**06 03 52.8**	**+0.3**
SRIG				*e*S	**Sb**	**06 04 15.0**	**+0.1**
SRIG				IAML		06 04 17.2	
	comp=E,409nm,0.6s						
SRIG				⇓*e*		06 04 17.2	
SRIG				IAML		06 04 18.3	
	comp=N,471nm,0.6s						
SRIG				⇑*e*		06 04 18.3	
CSIG	**Choix**	**1.98**	**83**	*e*P	**Pn**	**06 03 57.3**	**+0.4**
HSIG		**2.44**	**352**	*e*P	**Pn**	**06 04 03.3**	**+0.2**
HSIG				*i* S	**Sn**	**06 04 32.8**	**0.0**
NOVRB	**El Novillo Son**	**2.47**	**19**	*e*P	**Pb**	**06 04 08.0**	**0.0**
LPIG	**La Paz**	**2.50**	**175**	*e*P	**Pn**	**06 04 05.2**	**+1.2**
LPIG				*e*S	**Sn**	**06 04 34.0**	**-0.3**
SLBS	**Sierra La Lagu**	**2.96**	**169**	*e*P	**Pn**	**06 04 09.8**	**-0.6**
BAHB	**Baha de los**	**3.53**	**312**	*e*	**Pn**	**06 04 21.2**	**+3.0**
BAHB				*e*		06 04 46.0	
BAHB	**Baha de los**	**3.53**	**312**	*e*P	**Pn**	**06 04 20.7**	**+2.5**
BAHB				*e*S	Sn	06 04 46.0	-14

*IDC **24** 06:10:04.5±0.7,36.°82N×140.°71E,h0km,mb3.7/11, mbtmp3.7/13,ML3.3/2,MS3.2/2,Error ellipse: s-maj=20.9km s-min=17.9km az=118.0*
*NIED **24** 06:10:06.4,36.°78N×140.°61E,h4km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.13; $M_{\theta\theta}$=1.10; $M_{\phi\phi}$=3.03; $M_{r\theta}$=1.79; $M_{\theta\phi}$=-0.81; $M_{\phi r}$=2.91; Fault plane solution: M_0=4.90000×10^{14} NP1: ϕ_s=331.00000°,δ=30.00000°,λ=-124.00000°. NP2: ϕ_s=189.00000°,δ=66.00000°,λ=-72.00000°.*
*JMA **24** 06:10:06.4±0.0,36.°8N±0.°1×140.°6E±0.°2,h4km,MV3.8/20, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .
ISC 24 06:10:06.3±0.6,36.°78N±0.°03×140.°61E±0.°05,h10km,n30, σ1ş21/26,mb3.7/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.17**	**191**	*i* P	**Pg**	**06 10 09.9**	**-0.2**
JHO				*e*S	**Sg**	**06 10 12.5**	**-0.2**
JFFD	**Fukushimafurud**	**0.31**	**353**	*i* P	**Pg**	**06 10 12.6**	**-0.1**
JFFD				*e*S	**Sg**	**06 10 16.8**	**0.0**
JSB	**Shiboa**	**0.59**	**289**	*i* P	**Pb**	**06 10 18.4**	**-0.3**
JFK	**Kawauchi**	**0.62**	**20**	*i* P	**Pg**	**06 10 18.1**	**-0.3**
JYT	**Yasato**	**0.65**	**212**	*i* P	**Pg**	**06 10 18.7**	**-0.1**
JFY	**Yanaizu**	**0.96**	**311**	S	**Sg**	**06 10 37.2**	**0.0**
JAG	**Ashikaga**	**1.00**	**249**	*i* P	**Pg**	**06 10 24.6**	**-0.9**
MJAR	**Matsushiro Arr**	**1.95**	**264**	Pn	**Pn**	**06 10 40.0**	**+0.6**
	8.6nm,0.3s,baz=89,slow=14,SNR=228						
MJAR				Sn	**Sb**	**06 11 05.2**	**-1.1**
	5.9nm,0.3s,baz=78,slow=14,SNR=5.7						
MJAR				LR	LR	06 11 40.6	
	comp=Z,212nm,19.5s,baz=62,slow=47 100nm,0.5s						
JHJ	**Hachijo jima 2**	**3.72**	**191**	Pn	**Pn**	**06 11 04.7**	**+0.9**
	6.5nm,0.3s,baz=11,slow=16,SNR=1.2						
JHJ				Sn	**Sn**	**06 11 45.8**	**-1.8**
	7.3nm,0.3s,baz=32,slow=22,SNR=1.8 36nm,0.5s						
KSRS	**Korea Array**	**10.16**	**278**	Pn	**Pn**	**06 12 36.5**	**+4.3**
	baz=92,slow=16						
H11N2	**WAKE ISLAND Hy**	**28.58**	**119**	T	T	06 45 46.7	
	baz=312,slow=75,SNR=232						
H11N1	**WAKE ISLAND Hy**	**28.59**	**119**	T	T	06 45 47.3	
	baz=312,slow=75,SNR=212						
H11N3	**WAKE ISLAND Hy**	**28.59**	**119**	T	T	06 45 48.1	
	baz=312,slow=75,SNR=210						
H11S1	**WAKE ISLAND Hy**	**29.27**	**121**	T	T	06 46 40.3	
	baz=314,slow=76,SNR=253						
H11S3	**WAKE ISLAND Hy**	**29.27**	**121**	T	T	06 46 38.6	
	baz=314,slow=76,SNR=195						
H11S2	**WAKE ISLAND Hy**	**29.29**	**121**	T	T	06 46 41.3	
	baz=314,slow=76,SNR=228						
ZALV	**Zalesovo Beam**	**41.61**	**313**	P	**P**	**06 17 53.6**	**-0.7**
	0.8nm,0.3s,baz=95,slow=4.8,SNR=1.9 0.8nm,0.3s						
MKAR	**Makanchi Array**	**43.71**	**302**	P	**P**	**06 18 11.5**	**0.0**
	0.4nm,0.6s,baz=91,slow=10,SNR=4.5 0.4nm,0.6s						
ILAR	**Eielson Array**	**50.05**	**32**	P	**P**	**06 19 00.2**	**-0.6**

0.5nm,0.7s,baz=270,slow=6.4,SNR=6.2
0.5nm,0.7s
WRA **Warramunga Arr 56.73 187** P **P** **06 19 49.6 -0.7**
0.4nm,0.5s,baz=1.5,slow=7.5,SNR=9.9
WRA PcP **PcP** **06 20 46.9 +0.7**
0.3nm,0.6s,baz=359,slow=4.6,SNR=1.7
WRA LR LR 06 42 33.9
comp=Z,48nm,18.9s,baz=302,slow=34
0.4nm,0.5s
ASAR **Alice Springs 60.45 187** P **P** **06 20 16.4 +0.1**
0.6nm,0.7s,baz=12,slow=6.8,SNR=3.0
0.6nm,0.7s
ARCES **ARCESS Array B 64.01 339** P **P** **06 20 39.9 +0.3**
1.1nm,0.7s,baz=61,slow=7.4,SNR=4.8
1.1nm,0.7s
FINES **FINESS Array B 68.74 332** P **P** **06 21 09.1 -0.8**
2.6nm,0.9s,baz=30,slow=12,SNR=4.1
2.6nm,0.9s
NOA **NORSAR Array B 74.17 337** P **P** **06 21 42.8 0.0**
0.4nm,0.7s,baz=41,slow=5.9,SNR=1.8
0.4nm,0.7s
NVAR **Mina Array Bea 75.65 53** P **P** **06 21 51.0 -1.0**
0.2nm,0.5s,baz=295,slow=5.6,SNR=4.4
0.2nm,0.5s
PDAR **Pinedale Array 78.30 45** P **P** **06 22 04.8 -2.1**
0.3nm,0.8s,baz=277,slow=1.2,SNR=3.8
0.3nm,0.8s
TXAR **Lajitas Array 90.78 52** P **P** **06 23 11.1 +0.9**
0.4nm,0.7s,baz=332,slow=4.5,SNR=2.9
0.4nm,0.7s
H03N2 **Juan Fernandez 147.64 96** T T 09 14 41.1
baz=291,slow=76,SNR=8.5
H03N3 **Juan Fernandez 147.65 96** T T 09 14 42.6
baz=291,slow=76,SNR=7.9
H03N1 **Juan Fernandez 147.65 96** T T 09 14 37.4
baz=291,slow=76,SNR=7.9

IDC 24 06:11:07.3±1.6, 3°02.S×130°29.2E, h0km, mb3.8/2, mbtmp3.6/5, ML3.2/3, Error ellipse: s-maj=68.3km s-min=20.5km az=89.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.17**	**9**	Pn		Pn	Pn	06 11 45.1	+0.4
	1.7nm,0.3s,baz=244,slow=23,SNR=1.0								
SIJI				Sn		Sn	Sn	06 12 11.5	-0.8
	5.5nm,0.3s,baz=136,slow=6.6,SNR=4.1								
	6.1nm,0.3s								
FITZ	**Fitzroy Crossi**	**15.85**	**199**	Pn		Pn	Pn	06 14 53.0	+1.0
	0.1nm,0.3s,baz=9.5,slow=6.1,SNR=1.4								
	0.6nm,0.5s								
WRA	**Warramunga Arr**	**17.14**	**169**	Pn		Pn	Pn	06 15 08.6	+0.1
	0.1nm,0.3s,baz=348,slow=11,SNR=6.4								
	0.3nm,0.4s								
ASAR	**Alice Springs**	**20.72**	**172**	P		P	P	06 15 49.0	-0.6
	3.3nm,0.5s,baz=350,slow=10,SNR=20								
	3.3nm,0.5s								
MKAR	**Makanchi Array**	**65.46**	**325**	P		P	P	06 21 52.5	+0.2
	0.7nm,0.9s,baz=120,slow=5.2,SNR=3.5								
	0.7nm,0.9s								

---

*BJI **24** 06:21:47.6±0.0, 6°23N×126°47E, h71km, mb4.5/22, mB4.9/12, Ms4.1/6, Ms7 4.2/5*
*MAN **24** 06:21:50.0, 6°63N×126°61E, h33km, mb5.2, ML4.2, MS4.3*
*IDC **24** 06:21:51.1±1.2, 6°58N×126°56E, h79km±10km, mb4.0/24, mbtmp4.4/26, MS3.4/11, Error ellipse: s-maj=19.6km s-min=8.2km az=75.0*
*NEIC **24** 06:21:51.9±1.4, 6°59N±0°08×126°48E±0°09, h74km±7km, mb4.6/41, Error ellipse: s-maj=15.7km s-min=6.8km az=48.0*
*DJA **24** 06:21:56.1±0.9, 6°N±8°×12°7E±°, h92km±7km, M4.8/25, mB5.2/15, mb4.9/25, MLv5.3/9, Mw(mB)4.5/15*

ISC 24 06:21:51.1±0.8, 6°53N±0°04×126°54E±0°06, h75km±7km, n164, σ1§59/175, mb4.5/44, 10C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.10**	**300**	P		P	**Pn**	**06 22 10.8**	**-0.2**
	7μm,0.3s,baz=101,slow=2.6,SNR=202								
DAV				S		S	**Sn**	**06 22 26.2**	**+0.2**
	2μm,0.3s,baz=106,slow=20,SNR=12								
DAV	**Davao City (W)**	**1.10**	**300**	P			**Pn**	**06 22 11.0**	**-0.1**
KCP	**Kidapawan**	**1.52**	**289**	↓*i*P			**Pn**	**06 22 15.5**	**-1.0**
KCP				*i* S			**Sn**	**06 22 34.5**	**-1.3**
GSPH	**General Santos**	**1.64**	**255**	↑*i*P			**Pn**	**06 22 15.8**	**-2.4**
GSPH				*i* S			**Sn**	**06 22 31.9**	**-6.8**
BIPH	**Bislig**	**1.66**	**354**	↑*e*P			**Pn**	**06 22 15.2**	**-3.1**
BIPH				*e*S			**Sn**	**06 22 36.0**	**-3.0**
BUKP	**Musuan**	**1.99**	**313**	↓*i*P			**Pn**	**06 22 22.0**	**-0.8**
BUKP				*i* S			**Sn**	**06 22 47.0**	**+0.1**
CTBH	**Cotabato--PC H**	**2.38**	**287**	↑*i*P			**Pn**	**06 22 27.2**	**-0.8**
CTBH				*i* S			**Sn**	**06 22 57.4**	**+1.1**
BUTP	**Butuan**	**2.59**	**340**	↑*e*P			**Pn**	**06 22 33.3**	**+2.4**
BUTP				*e*S			**Sn**	**06 23 07.3**	**+5.9**
CGP	**Cagayan de Oro**	**2.65**	**316**	↓*e*P			**Pn**	**06 22 31.6**	**0.0**
CGP				*e*S			**Sn**	**06 23 02.3**	**-0.4**
SGSI	**Sangihe**	**3.00**	**200**	P			**Pn**	**06 22 38.1**	**+1.8**
SCPH	**Surigao**	**3.40**	**342**	*e*P			**Pn**	**06 22 42.5**	**+0.7**
SCPH				*e*S			**Sn**	**06 23 19.0**	**-2.0**
DCPH	**Dipolog City**	**3.76**	**303**	↓*e*P			**Pn**	**06 22 49.3**	**+2.5**
GHBP	**Garcia Hernand**	**3.79**	**325**	↑*i*P			**Pn**	**06 22 47.1**	**0.0**
GHBP				*i* S			**Sn**	**06 23 30.4**	**-0.1**
LSIP	**Lazi, Siquijor**	**3.87**	**312**	↑*i*P			**Pn**	**06 22 48.9**	**+0.6**
LSIP				*i* S			**Sn**	**06 23 32.5**	**-0.1**
TABP	**Talibon, Bohol**	**4.16**	**328**	↑*e*P			**Pn**	**06 22 51.5**	**-0.7**
TABP				*i* S			**Sn**	**06 23 37.3**	**-2.3**
LLP	**Lapu-Lapu**	**4.55**	**326**	↑*e*P			**Pn**	**06 22 57.9**	**+0.4**
LLP				*i* S			**Sn**	**06 23 48.8**	**-0.3**
TNTI	**Ternate**	**5.78**	**172**	Pn			**Pn**	**06 23 16.2**	**+1.9**
TNTI	**Ternate**	**5.78**	**172**	P			**Pn**	**06 23 16.8**	**+2.5**
	0.9nm3μm212nm,0.8s								
RCP	**Roxas**	**6.25**	**323**	↑*e*P			**Pn**	**06 23 21.3**	**+0.6**
KMSI	**Cibinong**	**6.44**	**203**	P			**Pn**	**06 23 25.9**	**+2.6**
	1.5nm380nm,0.7s								
GTOI	**Gorontalo**	**6.83**	**211**	P			**Pn**	**06 23 29.7**	**+1.0**
	1.7nm3μm517nm,0.8s								
LBMI	**Labuha**	**7.18**	**172**	P			**Pn**	**06 23 35.9**	**+2.4**
	0.8nm1μm71nm,0.5s								
MRSI	**Marisa**	**7.56**	**218**	P			**Pn**	**06 23 40.7**	**+2.0**
	2.0nm5μm581nm,0.7s								
TOLI2	**Tolitoli**	**7.87**	**227**	Pn			**Pn**	**06 23 41.3**	**-1.6**
TOLI2	**Tolitoli**	**7.87**	**227**	P			**Pn**	**06 23 42.9**	**0.0**
MYLDM	**Lahad Datu**	**8.11**	**261**	Pn			**Pn**	**06 23 48.0**	**+1.8**
LUWI	**Luwuk**	**8.41**	**207**	Pn			**Pn**	**06 23 53.8**	**+3.5**
LUWI	**Luwuk**	**8.41**	**207**	P			**Pn**	**06 23 53.6**	**+3.4**
	538nm,1.2s								
SANI	**Sanana**	**8.54**	**184**	P			**Pn**	**06 23 52.3**	**+0.3**
	2μm181nm,1.0s								
SANI	**Sanana**	**8.54**	**184**	P			**Pn**	**06 23 50.3**	**-1.7**
SIJI	**Sorong**	**8.73**	**147**	P			**Pn**	**06 23 55.4**	**+0.7**
	27nm,0.4s,baz=349,slow=16,SNR=10.0								
SIJI				S			**Sn**	**06 25 25.5**	**-6.1**
	12nm,0.4s,baz=343,slow=19,SNR=2.1								
SIJI				LR		LR	LR	06 27 25.8	
	comp=Z,62nm,18.9s,baz=78,slow=38								
APSI	**Ampana**	**8.85**	**214**	P			**Pn**	**06 23 59.6**	**+3.2**
	2μm283nm,1.1s								
MPSI	**Mapaga**	**9.04**	**227**	P			**Pn**	**06 24 02.3**	**+3.4**
	33nm,0.8s								
NLAI	**Namlea**	**9.72**	**177**	P			**Pn**	**06 24 08.4**	**+0.3**
	64nm,0.7s								
MSAI	**Masohi**	**10.09**	**166**	P			**Pn**	**06 24 15.7**	**+2.4**
	802nm6.3nm,0.7s								
FAKI	**Fak Fak**	**10.98**	**149**	Pn			**Pn**	**06 24 26.7**	**+1.3**
FAKI	**Fak Fak**	**10.98**	**149**	P			**Pn**	**06 24 27.1**	**+1.7**
	17nm,0.9s								
TTSI	**Tana Toraja**	**11.64**	**215**	P			**Pn**	**06 24 37.4**	**+3.1**
	2μm147nm,1.1s								
BKB	**Balikpapan**	**12.35**	**232**	Pn			**Pn**	**06 24 43.4**	**-0.7**
SPSI	**Sidrap Palu**	**12.42**	**213**	P			**Pn**	**06 24 47.4**	**+2.4**
	743nm36nm,0.9s								
KAPI	**Kappang**	**13.32**	**211**	P			**Pn**	**06 24 58.5**	**+1.5**
	31nm,0.6s,baz=18,slow=12,SNR=32								
KAPI				LR		LR	LR	06 30 37.5	
	comp=Z,62nm,18.7s,baz=44,slow=39								
KAPI	**Kappang**	**13.32**	**211**	Pn			**Pn**	**06 24 58.1**	**+1.0**
KAPI	**Kappang**	**13.32**	**211**	P			**Pn**	**06 24 58.4**	**+1.3**
BKSI	**Bulukumba**	**13.40**	**209**	P			**Pn**	**06 24 58.7**	**+0.5**
	22nm,0.8s								
SBUM	**Sibu**	**14.84**	**255**	Pn			**Pn**	**06 25 17.8**	**+0.8**
BBKI	**Banjar Baru**	**15.32**	**230**	P			**P**	**06 25 26.8**	**+0.4**
	51nm,1.0s								
MMRI	**Maumere**	**15.66**	**196**	Pn			**Pn**	**06 25 28.6**	**+1.1**
MMRI						IAmb	IAmb	06 25 43.2	
	comp=Z,61nm,0.8s								
EDFI	**Ende, Flores**	**15.93**	**198**	P			**Pn**	**06 25 31.1**	**+0.2**
	comp=Z,241nmcomp=Z,22nm,0.8s								
SOEI	**Soe**	**16.33**	**188**	P			**P**	**06 25 37.6**	**-0.1**
SOEI						IAmb	IAmb	06 26 19.3	
	comp=Z,67nm,0.9s								
BATI	**Baumata**	**16.87**	**190**	P			**P**	**06 25 44.4**	**+0.9**
	comp=Z,94nm,0.6s,baz=135,slow=0.9,SNR=7.2								
BATI	**Baumata**	**16.87**	**190**	P			**Pn**	**06 25 42.9**	**+0.3**
	comp=Z,730nmcomp=Z,88nm,1.0s								
PLAI	**Plampang**	**17.58**	**210**	P			**P**	**06 25 51.9**	**+0.6**
	comp=Z,854nmcomp=Z,104nm,0.9s								
PLAI	**Plampang**	**17.58**	**210**	P			**P**	**06 25 52.1**	**+0.8**
TWSI	**Taliwang, Sumb**	**17.96**	**213**	P			**Pn**	**06 25 56.8**	**+0.9**
	comp=Z,39nm,1.0s								
SSLB	**Suanglung**	**17.98**	**343**	P			**Pn**	**06 25 56.6**	**+0.4**
JAGI	**Jajag, Banyuwa**	**19.35**	**220**	P			**Pn**	**06 26 11.9**	**-0.7**
JAGI						IAmb	IAmb	06 26 16.1	
	comp=Z,40nm,0.9s								
MTN	**Manton Dam**	**19.78**	**167**	P			**P**	**06 26 16.3**	**+0.9**
MTN						IAmb	IAmb	06 26 18.5	
	comp=Z,40nm,1.1s								
KDU	**Kakadu**	**19.98**	**163**	P			**Pn**	**06 26 19.1**	**-0.8**
JOW	**Kunigami**	**20.26**	**4**	P			**P**	**06 26 20.2**	**-0.4**
	comp=Z,6.3nm,0.5s,baz=180,slow=3.0,SNR=1.6								
	comp=Z,6.3nm,0.5s								
JOW	**Kunigami**	**20.26**	**4**	P			**P**	**06 26 20.8**	**+0.2**
JOW						IAmb	IAmb	06 26 35.2	
	comp=Z,33nm,1.1s								
SMRI	**Semarang**	**20.97**	**230**	P			**P**	**06 26 26.8**	**-1.6**
KNRA	**Kununurra**	**22.17**	**174**	P			**P**	**06 26 41.9**	**+0.8**
KNRA	**Kununurra**	**22.17**	**174**	P			**P**	**06 26 42.7**	**+1.6**
LEM	**Lembang**	**23.07**	**235**	P			**P**	**06 26 52.2**	**+1.4**
	comp=Z,17nm,0.5s,baz=25,slow=18,SNR=1.0								
	comp=Z,17nm,0.5s								
FITZ	**Fitzroy Crossi**	**24.48**	**182**	P			**P**	**06 27 04.5**	**+1.2**
	comp=Z,18nm,0.8s,baz=355,slow=9.2,SNR=38								
	comp=Z,18nm,0.8s								
FITZ	**Fitzroy Crossi**	**24.48**	**182**	P			**P**	**06 27 04.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.48**	**182**	P			**P**	**06 27 04.8**	**+1.4**
IPM	**Ipoh**	**25.48**	**267**	P			**P**	**06 27 12.3**	**-0.2**
IPM						IAmb	IAmb	06 27 16.3	
	comp=Z,14nm,0.9s								
COEN	**Coen**	**26.21**	**141**	P			**P**	**06 27 20.2**	**+1.1**
NJ2	**Nanjing**	**26.39**	**345**	*e*P			**P**	**06 27 22.3**	**+1.8**
NJ2						pmax	pmax		
	comp=Z,8.0nm,0.7s								
SRIT	**Nakonsritamara**	**26.78**	**276**	P			**P**	**06 27 24.2**	**-0.1**
WB0	**Warramunga Arr**	**27.25**	**164**	P			**P**	**06 27 28.8**	**+0.4**
WB0						IAmb	IAmb	06 28 00.2	
	comp=Z,12nm,0.9s								
WRAB	**Tennant Creek**	**27.39**	**164**	P			**P**	**06 27 30.5**	**+0.8**
WRAB						IAmb	IAmb	06 28 02.7	
	comp=Z,11nm,0.8s								
WRAB	**Tennant Creek**	**27.39**	**164**	P			**P**	**06 27 30.7**	**+1.0**
WRA	**Warramunga Arr**	**27.40**	**164**	P			**P**	**06 27 29.9**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=343,slow=10,SNR=30								
WRA				PcP		PcP	**PcP**	**06 30 47.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=335,slow=1.9,SNR=1.9								
WRA				S		S	**S**	**06 32 02.5**	**-2.2**
	comp=Z,2.9nm,1.2s,baz=335,slow=16,SNR=6.5								
WRA				ScP		ScP	**ScP**	**06 34 21.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=350,slow=3.1,SNR=9.6								
	comp=Z,3.6nm,0.7s								
WRA	**Warramunga Arr**	**27.40**	**164**	P			**P**	**06 27 30.8**	**+1.0**
WB2	**Warramunga Arr**	**27.40**	**164**	P			**P**	**06 27 30.3**	**+0.5**
WB2						IAmb	IAmb	06 28 06.0	
	comp=Z,12nm,0.8s								
WR0	**Warramunga Arr**	**27.47**	**164**	P			**P**	**06 27 30.9**	**+0.5**
MBWA	**Marble Bar**	**28.31**	**193**	P			**P**	**06 27 38.4**	**+0.6**
MBWA						IAmb	IAmb	06 27 45.3	
	comp=Z,23nm,0.9s								
MBWA	**Marble Bar**	**28.31**	**193**	P			**P**	**06 27 38.5**	**+0.6**
PSA00	**Pilbara Seismi**	**28.69**	**193**	P			**P**	**06 27 41.5**	**+0.3**
PSA00	**Pilbara Seismi**	**28.69**	**193**	P			**P**	**06 27 42.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**29.38**	**296**	P			**P**	**06 27 47.4**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=108,slow=5.9,SNR=1.1								
CMAR				LR		LR	LR	06 39 14.2	
	comp=Z,46nm,21.4s,baz=110,slow=36								
	comp=Z,1.1nm,0.3s								
QIS	**Mount Isa**	**29.82**	**155**	P			**P**	**06 27 52.6**	**+1.3**
KSRS	**Korea Array**	**30.81**	**2**	LR		LR	LR	06 42 52.7	
	comp=Z,32nm,18.2s,baz=315,slow=41								
AS31	**Alice Springs**	**30.86**	**167**	P			**P**	**06 28 01.0**	**+0.6**
ASAR	**Alice Springs**	**30.86**	**167**	P			**P**	**06 28 01.3**	**+0.9**
	comp=Z,2.5nm,0.4s,baz=343,slow=7.0,SNR=57								
ASAR				PcP		PcP	**PcP**	**06 30 56.4**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=352,slow=2.7,SNR=4.0								
ASAR				S		S	**S**	**06 32 58.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=353,slow=19,SNR=4.3								
	comp=Z,2.5nm,0.4s								
PZH	**PanZhiHua**	**30.86**	**313**	P			**P**	**06 28 01.9**	**+1.3**
PZH						pmax	pmax		
	comp=Z,10.0nm,0.7s								
PZH						pmax	pmax		
	comp=Z,80nm,6.7s								
GIRL	**Giralia**	**31.39**	**202**	P			**P**	**06 28 06.9**	**+1.9**
MAJO	**Matsushiro**	**31.73**	**18**	P			**P**	**06 28 09.6**	**+1.7**
MAJO						IAmb	IAmb	06 28 17.0	
	comp=Z,9.6nm,1.3s								
MJAR	**Matsushiro Arr**	**31.73**	**18**	LR		LR	LR	06 39 33.1	
	comp=Z,124nm,21.2s,baz=317,slow=34								
XAN	**Xi'an**	**31.87**	**332**	P			**P**	**06 28 08.8**	**-0.4**
XAN						pmax	pmax		
	comp=Z,23nm,0.7s								
HNS	**HongShan**	**32.57**	**342**	⇑P			**P**	**06 28 16.8**	**+1.6**
HNS						pmax	pmax		
	comp=Z,14nm,0.8s								
MEEK	**Meekatharra**	**33.85**	**193**	P			**P**	**06 28 27.3**	**+0.7**
OOD	**Oodnadatta**	**35.25**	**166**	P			**P**	**06 28 39.9**	**+1.3**
LZH	**Lanzhou**	**36.03**	**328**	*e*P			P	06 28 52.8	+7.4
LZH						pP	pP	06 29 00.8	-2.6
LZH						sP	sP	06 29 04.8	-7.3
LZH						pmax	pmax		
	comp=Z,16nm,1.1s								
MORW	**Morawa**	**36.80**	**195**	P			**P**	**06 28 52.1**	**+0.3**
MORW	**Morawa**	**36.80**	**195**	P			**P**	**06 28 52.8**	**+0.9**
FORT	**Forrest**	**37.12**	**178**	P			**P**	**06 28 55.3**	**+0.8**
FORT	**Forrest**	**37.12**	**178**	P			**P**	**06 28 56.1**	**+1.6**
MULG	**Mulgathing**	**37.30**	**169**	P			**P**	**06 28 56.5**	**+0.4**
BLDU	**Ballidu**	**38.11**	**194**	P			**P**	**06 29 04.0**	**+1.1**
LCRK	**Leigh Creek**	**38.43**	**164**	P			**P**	**06 29 06.3**	**+0.7**
MUN	**Mundaring**	**39.54**	**194**	P			**P**	**06 29 16.2**	**+1.4**
EIDS	**Eidsvold**	**39.68**	**144**	P			**P**	**06 29 16.6**	**+0.5**
EIDS						IAmb	IAmb	06 29 48.2	
	comp=Z,7.0nm,1.1s								
BBOO	**Buckleboo**	**40.15**	**168**	P			**P**	**06 29 21.2**	**+1.3**
BBOO	**Buckleboo**	**40.15**	**168**	P			**P**	**06 29 21.4**	**+1.5**
NWAO	**Narrogin (SRO)**	**40.22**	**192**	P			**P**	**06 29 21.3**	**+0.9**
NWAO	**Narrogin (SRO)**	**40.22**	**192**	P			**P**	**06 29 22.5**	**+2.0**
GTA	**Gaotai**	**40.63**	**328**	*e*P			**P**	**06 29 24.5**	**+0.5**
GTA						pmax	pmax		
	comp=Z,4.0nm,0.9s								
GTA						pmax	pmax		
	comp=Z,98nm,5.6s								
GTA						LR	LR		
	comp=Z,88nm,18.9s								
GTA						LR	LR		
	comp=Z,170nm,17.1s								
GTA						LR	LR		
	comp=Z,180nm,19.3s								
STKA	**Stephens Creek**	**40.80**	**160**	P			**P**	**06 29 25.6**	**+0.3**
	comp=Z,9.2nm,0.7s,baz=345,slow=8.4,SNR=12								
	comp=Z,9.2nm,0.7s								
STKA	**Stephens Creek**	**40.80**	**160**	P			**P**	**06 29 26.0**	**+0.7**
STKA	**Stephens Creek**	**40.80**	**160**	P			**P**	**06 29 26.7**	**+1.4**
H11S3	**WAKE ISLAND Hy**	**40.86**	**69**	T		T	T	07 13 21.9	
	baz=257,slow=75,SNR=9.0								
H11S1	**WAKE ISLAND Hy**	**40.87**	**69**	T		T	T	07 13 30.6	
	baz=257,slow=75,SNR=6.1								
H11S2	**WAKE ISLAND Hy**	**40.87**	**69**	T		T	T	07 13 36.1	
	baz=257,slow=75,SNR=8.0								
HTT	**Hallett**	**41.44**	**164**	P			**P**	**06 29 33.0**	**+2.5**
	comp=Z,13nm,1.8s								
CMSA	**Cobar Meteorol**	**42.04**	**155**	P			**P**	**06 29 36.6**	**+1.2**
KLR	**Kul'dur**	**42.78**	**5**	P			**P**	**06 29 39.4**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=156,slow=10.0,SNR=4.6								
	comp=Z,1.1nm,0.5s								
ARMA	**Armidale**	**43.91**	**148**	P			**P**	**06 29 52.5**	**+1.8**
ARMA						IAmb	IAmb	06 30 22.8	
	comp=Z,7.0nm,0.8s								
ULN	**Ulaanbaatar**	**44.42**	**341**	P			**P**	**06 29 54.8**	**+0.2**
SONM	**Songino Array**	**44.61**	**341**	P			**P**	**06 29 55.9**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=160,slow=9.0,SNR=5.9								
	comp=Z,0.8nm,0.5s								
SONM	**Songino Array**	**44.61**	**341**	P			**P**	**06 29 57.0**	**+0.9**
ARPS	**Mount Arapiles**	**45.39**	**163**	P			**P**	**06 30 04.4**	**+2.2**
WMQ	**Urumqi**	**50.35**	**324**	*e*P			**P**	**06 30 42.3**	**+1.7**
WMQ						LR	LR		
	comp=Z,240nm,18.9s								
WMQ						LR	LR		
	comp=Z,280nm,27.9s								
PETK	**Petropavlovsk-**	**52.94**	**23**	P			**P**	**06 30 58.8**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=180,slow=3.0,SNR=4.0								
	comp=Z,1.7nm,0.8s								
MK31	**Makanchi Array**	**55.18**	**324**	P			**P**	**06 31 15.6**	**-0.5**
MK31						IAmb	IAmb	06 31 17.3	
	comp=Z,4.1nm,0.8s								
MKAR	**Makanchi Array**	**55.18**	**324**	P			**P**	**06 31 15.6**	**-0.6**
	comp=Z,4.1nm,0.5s,baz=126,slow=8.0,SNR=22								
MKAR				PcP		PcP	**PcP**	**06 32 16.6**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=116,slow=3.0,SNR=2.4								
	comp=Z,4.1nm,0.5s								
MKAR	**Makanchi Array**	**55.18**	**324**	P			**P**	**06 31 15.3**	**-0.8**
MAKZ	**Makanchi**	**55.37**	**324**	P			**P**	**06 31 17.0**	**-0.5**
MAKZ						IAmb	IAmb	06 31 18.7	
	comp=Z,6.1nm,0.9s								
YAK	**Yakutsk**	**55.44**	**2**	LR		LR	LR	06 56 47.0	
	comp=Z,48nm,18.2s,baz=100,slow=38								
MA2	**Magadan**	**56.06**	**15**	P			**P**	**06 31 21.6**	**-0.6**
	comp=Z,8.5nm,0.9s,baz=248,slow=18,SNR=2.4								
	comp=Z,8.5nm,0.9s								
ZAA0	**Zalesovo Array**	**58.03**	**332**	P			**P**	**06 31 35.6**	**-0.6**
ZAA0						IAmb	IAmb	06 31 36.9	
	comp=Z,6.6nm,1.1s								
ZALV	**Zalesovo Beam**	**58.03**	**332**	P			**P**	**06 31 35.0**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=114,slow=6.6,SNR=9.4								
ZALV				PcP		PcP	**PcP**	**06 32 25.9**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=158,slow=4.2,SNR=1.8								
	comp=Z,2.7nm,0.7s								
ZALV	**Zalesovo Beam**	**58.03**	**332**	P			**P**	**06 31 34.8**	**-1.4**
AAK	**Ala-Archa**	**58.19**	**317**	LR		LR	LR	06 58 39.7	
	comp=Z,45nm,19.4s,baz=88,slow=38								
KURK	**Kurchatov**	**59.30**	**327**	P			**P**	**06 31 44.3**	**-0.8**
KK31	**Karatay Array**	**61.09**	**316**	P			**P**	**06 31 56.0**	**-1.4**
KKAR	**Karatay Array**	**61.09**	**316**	P			**P**	**06 31 55.5**	**-2.0**
BKZ	**Black Stump Fm**	**64.79**	**139**	P			**P**	**06 32 23.8**	**+1.7**
BKZ						IAmb	IAmb	06 32 28.3	
	comp=Z,17nm,1.5s								
KHZ	**Kahutara**	**64.79**	**143**	P			**P**	**06 32 23.6**	**+1.8**
BVAR	**Borovoye Array**	**64.89**	**326**	LR		LR	LR	07 05 11.0	
	comp=Z,35nm,18.9s,baz=126,slow=40								
BRVK	**Borovoye**	**64.97**	**326**	P			**P**	**06 32 22.4**	**-0.5**
BRVK						IAmb	IAmb	06 32 24.1	
	comp=Z,7.3nm,0.8s								
NRIK	**Noril'sk**	**67.69**	**346**	P			**P**	**06 32 40.6**	**+0.6**
	comp=Z,5.8nm,0.7s,baz=130,slow=7.0,SNR=6.3								
	comp=Z,5.8nm,0.7s								
NRIK	**Noril'sk**	**67.69**	**346**	P			**P**	**06 32 40.2**	**+0.2**
NRIK						IAmb	IAmb	06 32 41.5	
	comp=Z,6.0nm,0.7s								
GEYT	**Alibeck**	**69.02**	**308**	P			**P**	**06 32 50.3**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=98,slow=2.9,SNR=1.4								
	comp=Z,1.5nm,0.5s								
ABKAR	**Akbulak array**	**69.89**	**320**	P			**P**	**06 32 52.9**	**-1.2**
ABKAR	**Akbulak array**	**69.89**	**320**	P			**P**	**06 32 53.4**	**-0.6**
ABKAR						IAmb	IAmb	06 32 55.1	
	comp=Z,2.0nm,0.9s								
AKTO	**Aktyubinsk**	**71.37**	**321**	LR		LR	LR	07 04 39.5	
	comp=Z,44nm,21.6s,baz=99,slow=36								
ARU	**Arti**	**72.49**	**327**	P			**P**	**06 33 08.5**	**-1.1**
ARU						IAmb	IAmb

SIJI	**Sorong**	**8.79**	**147**	P		**Pn**	**06 57 24.2**	**+0.7**
	9.5nm,0.4s,baz=346,slow=19,SNR=2.5							
KAPI	**Kappang**	**13.30**	**210**	P		**Pn**	**06 58 25.8**	**+1.1**
	11nm,0.6s,baz=33,slow=14,SNR=7.8							
KAPI	**Kappang**	**13.30**	**210**			**Pn**	**06 58 25.3**	**+0.5**
KAPI	**Kappang**	**13.30**	**210**	P		**Pn**	**06 58 26.2**	**+1.5**
SBUM	**Sibu**	**14.77**	**255**	P		**P**	**06 58 49.9**	**+2.0**
SOEI	**Soe**	**16.35**	**188**	P		**Pn**	**06 59 03.6**	**-0.4**
SOEI				IAmb	IAmb		06 59 33.7	
	comp=Z,20nm,0.8s							
BATI	**Baumata**	**16.88**	**190**	P		**P**	**06 59 11.6**	**+0.3**
	comp=Z,30nm,0.4s,baz=45,slow=2.9,SNR=2.5							
PLAI	**Plampang**	**17.56**	**210**	P		**Pn**	**06 59 19.7**	**+0.9**
MTN	**Manton Dam**	**19.82**	**166**	P		**P**	**06 59 42.7**	**-0.8**
KDU	**Kakadu**	**20.02**	**163**	P		**P**	**06 59 46.3**	**+0.6**
KNRA	**Kununurra**	**22.20**	**174**	P		**P**	**07 00 08.4**	**-0.7**
KNRA				IAmb	IAmb		07 00 16.4	
	comp=Z,19nm,0.8s							
KNRA	**Kununurra**	**22.20**	**174**	P		**P**	**07 00 09.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.51**	**182**	P		**P**	**07 00 31.1**	**0.0**
	comp=Z,4.5nm,0.5s,baz=0.1,slow=9.3,SNR=13							
	comp=Z,4.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**24.51**	**182**	P		**P**	**07 00 31.3**	**+0.2**
FITZ				IAmb	IAmb		07 00 32.9	
	comp=Z,5.3nm,0.8s							
FITZ	**Fitzroy Crossi**	**24.51**	**182**	P		**P**	**07 00 31.9**	**+0.8**
WB0	**Warramunga Arr**	**27.29**	**164**			**P**	**07 00 55.1**	**-1.3**
WB0				IAmb	IAmb		07 01 26.7	
	comp=Z,4.4nm,0.9s							
WRA	**Warramunga Arr**	**27.45**	**164**	P		**P**	**07 00 57.0**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=344,slow=11,SNR=12							
WRA				ScP		**ScP**	**07 07 48.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=348,slow=3.0,SNR=5.3							
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**27.45**	**164**	P		**P**	**07 00 57.3**	**-0.4**
MBWA	**Marble Bar**	**28.32**	**193**	P		**P**	**07 01 05.0**	**-0.5**
PSA00	**Pilbara Seismi**	**28.69**	**193**	P		**P**	**07 01 08.7**	**-0.1**
PSA00				IAmb	IAmb		07 01 12.2	
	comp=Z,6.6nm,1.2s							
KSRS	**Korea Array**	**30.79**	**2**	LR	LR		07 15 01.0	
	comp=Z,11nm,19.9s,baz=170,slow=39							
AS31	**Alice Springs**	**30.90**	**167**			**P**	**07 01 28.6**	**+0.2**
ASAR	**Alice Springs**	**30.90**	**167**	P		**P**	**07 01 27.6**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=343,slow=7.3,SNR=15							
ASAR				PcP		**PcP**	**07 04 22.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=351,slow=2.3,SNR=1.7							
ASAR				ScP		**ScP**	**07 07 58.7**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=341,slow=3.1,SNR=3.0							
	comp=Z,1.4nm,0.5s							
ASAR	**Alice Springs**	**30.90**	**167**	P		**P**	**07 01 28.3**	**-0.1**
MORW	**Morawa**	**36.81**	**195**	P		**P**	**07 02 19.5**	**0.0**
STKA	**Stephens Creek**	**40.85**	**160**	P		**P**	**07 02 52.9**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=332,slow=11,SNR=5.7							
	comp=Z,2.3nm,0.4s							
STKA	**Stephens Creek**	**40.85**	**160**	P		**P**	**07 02 53.6**	**+0.4**
SONM	**Songino Array**	**44.56**	**341**	P		**P**	**07 03 23.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=154,slow=8.0,SNR=1.9							
	comp=Z,0.3nm,0.6s							
MK31	**Makanchi Array**	**55.11**	**324**	P		**P**	**07 04 42.8**	**-0.3**
MK31				IAmb	IAmb		07 04 44.1	
	comp=Z,1.2nm,0.7s							
MKAR	**Makanchi Array**	**55.11**	**324**	P		**P**	**07 04 41.8**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=123,slow=8.1,SNR=13							
	comp=Z,1.4nm,0.6s							
MKAR	**Makanchi Array**	**55.11**	**324**	P		**P**	**07 04 42.4**	**-0.8**
ZALV	**Zalesovo Beam**	**57.97**	**332**	P		**P**	**07 05 01.2**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=126,slow=7.4,SNR=2.1							
	comp=Z,0.5nm,0.3s							
ABKAR	**Akbulak array**	**69.82**	**320**	P		**P**	**07 06 19.8**	**-1.3**
CASY	**Casey**	**73.57**	**187**	P		**P**	**07 06 43.9**	**+0.7**
CASY				IAmb	IAmb		07 06 58.5	
	comp=Z,3.8nm,1.2s							
VNDA	**Vanda**	**86.24**	**173**	P		**P**	**07 07 51.7**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=307,slow=8.6,SNR=1.2							
	comp=Z,0.1nm,0.4s							
NOA	**NORSAR Array B**	**96.16**	**334**	LR	LR		07 54 52.9	
	comp=Z,15nm,18.0s,baz=230,slow=37							
TORD	**Torodi Ar. Bea**	**121.76**	**290**	PKP		**PKiKP**	**07 14 05.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=35,slow=3.5,SNR=1.6							

IDC 24 07:08:32.4±3.0, 32°.53S×177°.95W, h0km, mb3.9/2, mbtmp3.9/3, ML3.5/1, MS3.5/1, Error ellipse: s-maj=72.3km s-min=36.7km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.00**	**214**	Pn		Pn	07 10 16.7	+0.6
	0.9nm,0.3s,baz=191,slow=14,SNR=2.1							
URZ				Sn		Sn	07 11 35.9	-0.5
	4.2nm,0.3s,baz=308,slow=21,SNR=12							
	7.1nm,0.7s							
ASAR	**Alice Springs**	**43.08**	**269**	P		P	07 16 34.4	-0.1
	0.6nm,0.5s,baz=107,slow=7.3,SNR=8.0							
	0.6nm,0.5s							
WRA	**Warramunga Arr**	**44.26**	**274**	P		P	07 16 43.8	-0.1
	1.1nm,0.4s,baz=116,slow=7.7,SNR=15							
	1.1nm,0.4s							
VNDA	**Vanda**	**45.99**	**186**	LR		LR	07 32 12.7	
	comp=Z,61nm,21.0s,baz=124,slow=31							
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc		PKPbc	07 28 15.8	-0.9
	4.3nm,1.1s,baz=22,slow=4.5,SNR=7.8							

IDC 24 07:11:12.5±2.1, 0.72N×126°.24E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=165.5km s-min=27.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.01**	**159**	P		P	07 16 07.5	-1.1
	4.7nm,0.9s,baz=338,slow=11,SNR=13							
	4.7nm,0.9s							
ASAR	**Alice Springs**	**25.36**	**163**	P		P	07 16 42.2	+0.8
	1.1nm,0.4s,baz=346,slow=12,SNR=15							
	1.1nm,0.4s							
MKAR	**Makanchi Array**	**59.76**	**326**	P		P	07 21 19.2	-0.1
	0.1nm,0.3s,baz=120,slow=7.4,SNR=2.1							
	0.1nm,0.3s							

*NNC **24** 07:24:30.3±0.7, 49°.98N×78°.65E, h0km, mb2.5, mpv2.3, Error ellipse: s-maj=16.3km s-min=2.9km az=77.0, Suspected Mining explosion.*

IDC 24 07:24:31.4±1.0, 50°.04N×78°.70E, h0km, mbtmp2.4/2, ML1.9/2, 15C-9D, Error ellipse: s-maj=12.3km s-min=6.3km az=66.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.56**	**348**	↑P		Pg	07 24 42.3	+0.2
KUR07				↑S		Sb	07 24 51.3	-1.3
KUR06	**Kurchatov Arra**	**0.58**	**349**	↑P		Pg	07 24 42.6	+0.1
KUR06				↑S		Sg	07 24 51.5	+1.5
KUR14	**Kurchatov Arra**	**0.58**	**353**	↓P		Pg	07 24 42.5	-0.1
KUR14				↓S		Sg	07 24 51.5	+1.4
KUR15	**Kurchatov Arra**	**0.59**	**351**	↑P		Pg	07 24 42.7	0.0
KUR15				↑S		Sb	07 24 52.0	-1.5
KURBB	**Kurchatov Arra**	**0.60**	**350**	Pg		Pg	07 24 42.7	-0.1
	0.8nm,0.3s,baz=167,slow=19,SNR=25							
KURBB				Lg		Lg	07 24 52.1	
	0.9nm,0.3s,baz=171,slow=34,SNR=9.6							
KURBB	**Kurchatov Arra**	**0.60**	**350**	↓P		Pg	07 24 42.9	+0.1
	6.8nm,0.4s							
KURBB				↑S		Sb	07 24 52.1	-1.5
	45nm,0.6s							
KUR16	**Kurchatov Arra**	**0.60**	**348**	↑P		Pg	07 24 43.2	+0.2
KUR16				↑S		Sb	07 24 52.7	-1.2
KUR17	**Kurchatov Arra**	**0.61**	**346**	↓P		Pg	07 24 43.3	+0.1
KUR17				↓S		Sb	07 24 52.8	-1.4
KUR05	**Kurchatov Arra**	**0.61**	**350**	↑P		Pg	07 24 43.2	0.0
KUR05				↑S		Sg	07 24 52.2	+1.0
KUR04	**Kurchatov Arra**	**0.63**	**351**	↑P		Pg	07 24 43.5	0.0
KUR04				↓S		Sg	07 24 52.7	+1.0
KURK	**Kurchatov**	**0.68**	**356**	↓P		Pg	07 24 44.1	-0.4
KURK				↑S		Sb	07 24 56.6	+0.5
MAKZ	**Makanchi**	**3.90**	**145**	↓Lg		Lg	07 26 31.4	
	6.3nm,0.8s							
MK31	**Makanchi Array**	**4.03**	**142**	↓Pn		Pn	07 25 35.0	+0.6
	0.1nm,0.2s,baz=322,slow=10,SNR=9.1							
MK31				↑Pg		Pb	07 25 43.0	-0.2
	0.1nm,0.2s,baz=325,slow=14,SNR=10							
MK31				↑Lg		Lg	07 26 38.3	
	0.7nm,0.3s,baz=326,slow=29,SNR=17							
MKAR	**Makanchi Array**	**4.03**	**142**	Pn		Pn	07 25 34.5	+0.1
	0.1nm,0.3s,baz=320,slow=11,SNR=19							
MKAR				Pg		Pb	07 25 42.8	-0.5
	0.3nm,0.3s,baz=324,slow=13,SNR=8.0							
MKAR				Sn		Sn	07 26 22.5	+0.2
	0.1nm,0.3s,baz=321,slow=24,SNR=2.5							
MKAR				Lg		Lg	07 26 36.8	
	0.6nm,0.3s,baz=322,slow=33,SNR=17							
	0.1nm,0.3s							
I46RU	**ZALESOVO INFRA**	**5.44**	**42**	*i*			07 57 50.0	
	baz=224,slow=328,SNR=4.8							
ZALV	**Zalesovo Beam**	**5.44**	**42**	Pn		Pn	07 25 54.0	+0.3
	0.2nm,0.3s,baz=226,slow=9.8,SNR=1.7							
ZALV				Lg		Lg	07 27 23.2	
	0.2nm,0.3s,baz=222,slow=23,SNR=1.7							
	0.4nm,0.3s							

*SOF **24** 07:26:26.8, 40°.15N×25°.24E, h2km, MD3.7*
*IDC **24** 07:26:29.4±1.1, 40°.21N×25°.17E, h0km, mb3.5/7, mbtmp3.6/12, ML3.4/5, Error ellipse: s-maj=18.9km s-min=13.4km az=94.0*
*ISK **24** 07:26:30.2, 40°.26N×25°.18E, h15km, ML3.6/27*
*ATH **24** 07:26:30.9, 40°.26N×25°.15E, h12km±2km, ML3.4/11, Error ellipse: s-maj=2.3km s-min=0.8km az=62.0*
*THE **24** 07:26:30.8, 40°.25N×25°.17E, h9km±1km, ML3.3/4, Error ellipse: s-maj=1.7km s-min=0.7km az=36.0*
*DDA **24** 07:26:31.2±0.0, 40°.27N×25°.13E, h15km±2km, MW3.8*

ISC 24 07:26:31.0±0.9, 40°.25N±0°.02×25°.17E±0°.02, h13km±6km, n134, σ1°19/179, mb3.6/7, 27C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.35**	**178**	P		P	**Pg**	**07 26 38.0**	**0.0**
LIA				S		S	**Sg**	**07 26 43.0**	**+0.4**
	9μm,0.4s								
LIA	**Limnos Island**	**0.35**	**178**	P		P	**Pg**	**07 26 38.0**	**0.0**
LIA				S		S	**Sg**	**07 26 42.7**	**+0.1**
LIA				AML		AML		07 26 43.5	
	comp=E,15198μm,0.5s								
LIA				AML		AML		07 26 43.5	
	comp=N,21968μm,0.5s								
SMTH	**Samothraki Isl**	**0.36**	**51**	P		P	**Pg**	**07 26 38.0**	**-0.1**
SMTH				S		S	**Sg**	**07 26 42.9**	**0.0**
	comp=N,4μm,0.1s								
SMTH	**Samothraki Isl**	**0.36**	**51**	P		P	**Pg**	**07 26 38.1**	**-0.1**
SMTH				S		S	**Sg**	**07 26 43.0**	**0.0**
SMTH				AML		AML		07 26 47.6	
	comp=E,8088μm,0.2s								
SMTH				AML		AML		07 26 49.4	
	comp=N,6415μm,0.2s								
THAS	**Thassos island**	**0.50**	**316**	P		P	**Pg**	**07 26 39.6**	**-1.2**
THAS				S		S	**Sg**	**07 26 46.7**	**-0.7**
	comp=N,6μm,0.3s								
THAS	**Thassos island**	**0.50**	**316**	P		P	**Pg**	**07 26 39.6**	**-1.2**
THAS				S		S	**Sg**	**07 26 46.6**	**-0.7**
THAS				AML		AML		07 26 50.5	
	comp=E,9357μm,0.3s								
THAS				AML		AML		07 26 50.5	
	comp=N,12732μm,0.3s								
GADA	**Gvkgeada**	**0.56**	**95**	PG		**Pg**		**07 26 42.1**	**+0.2**
GADA				SG		**Sb**		**07 26 50.0**	**-0.2**
GOKA	**anakkale-Gk**	**0.57**	**95**	P		**Pg**		**07 26 42.1**	**+0.1**
EFSA	**Agios Efstrati**	**0.72**	**191**	P		**Pg**		**07 26 45.1**	**+0.2**
EFSA				S		**Sg**		**07 26 54.8**	**+0.5**
EFSA				AML		AML		07 26 55.9	
	comp=N,7538μm,0.4s								
EFSA				AML		AML		07 26 57.7	
	comp=E,11869μm,0.8s								
BOZC	**Bozcaada**	**0.79**	**120**	PG		**Pg**		**07 26 46.1**	**-0.1**
BOZC				SG		**Sb**		**07 26 57.4**	**+0.3**
BOZC	**Bozcaada**	**0.79**	**120**	P		**Pg**		**07 26 46.1**	**-0.1**
BOZC				S		**Sg**		**07 26 56.5**	**-0.1**
ECEA	**Canakkale, Ece**	**0.80**	**104**	P		**Pb**		**07 26 46.5**	**-0.2**
ECEA				S		**Sb**		**07 26 57.6**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**0.88**	**59**	P		**Pg**		**07 26 47.3**	**-0.7**
CAVK				S		**Sn**		**07 27 01.1**	**-0.6**
KAVA	**Kavala**	**0.90**	**327**	P		**Pb**		**07 26 48.6**	**+0.1**
KAVA				S		**Sb**		**07 27 00.9**	**+0.5**
KAVA	**Kavala**	**0.90**	**327**	P		**Pb**		**07 26 48.5**	**+0.1**
KAVA				S		**Sb**		**07 27 00.2**	**-0.2**
KVLA	**Kavala**	**0.91**	**319**	P		**Pb**		**07 26 48.5**	**-0.2**
KVLA				S		**Sg**		**07 27 00.2**	**-0.4**
KVLA				AML		AML		07 27 02.4	
	comp=N,9626μm,0.5s								
KVLA				AML		AML		07 27 02.5	
	comp=E,4957μm,0.4s								
OUR	**Ouranopolis**	**0.91**	**276**	P		**Pg**		**07 26 48.1**	**-0.5**
OUR	**Ouranopolis**	**0.91**	**276**	P		**Pg**		**07 26 48.1**	**-0.5**
OUR				S		**Sb**		**07 27 00.7**	**0.0**
OUR				AML		AML		07 27 01.6	
	comp=N,6469μm,0.6s								
OUR				AML		AML		07 27 03.6	
	comp=E,5062μm,0.6s								
ALN	**Alexandroupoli**	**0.93**	**45**	P		**Pg**		**07 26 48.4**	**-0.5**
ALN				S		**Sb**		**07 27 01.7**	**+0.4**
	comp=E,2μm,0.4s								
ALN	**Alexandroupoli**	**0.93**	**45**	PG		**Pg**		**07 26 48.5**	**-0.5**
ALN				SG		**Sb**		**07 27 01.5**	**+0.2**
ALN	**Alexandroupoli**	**0.93**	**45**	P		**Pg**		**07 26 48.4**	**-0.5**
ALN				S		**Sb**		**07 27 01.2**	**-0.1**
ALN				AML		AML		07 27 04.2	
	comp=E,2995μm,0.4s								
ALN				AML		AML		07 27 04.6	
	comp=N,3375μm,0.5s								
RDO	**Rodhopi**	**0.94**	**17**	P		**Pg**		**07 26 48.4**	**-0.8**
RDO	**Rodhopi**	**0.94**	**17**	PG		**Pg**		**07 26 48.4**	**-0.8**
RDO				SG		**Sb**		**07 27 01.6**	**+0.1**
RDO	**Rodhopi**	**0.94**	**17**	P		**Pg**		**07 26 48.4**	**-0.8**
RDO				S		**Sb**		**07 27 01.7**	**+0.1**
EZN	**Ezine**	**0.98**	**115**	P		**Pg**		**07 26 49.3**	**-0.6**
EZN				S		**Sb**		**07 27 02.8**	**+0.2**
EZN	**Ezine**	**0.98**	**115**	PG		**Pg**		**07 26 49.4**	**-0.5**
EZN				SG		**Sb**		**07 27 03.3**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.01**	**81**	PG		**Pb**		**07 26 49.5**	**-0.8**
GELI				SG		**Sb**		**07 27 03.8**	**+0.3**
KOCA	**Canakkale, Ayv**	**1.05**	**135**	P		**Pb**		**07 26 50.8**	**-0.2**
KOCA				S		**Sb**		**07 27 04.2**	**-0.6**
KOKK	**Kokkinochori,**	**1.06**	**303**	P		**Pb**		**07 26 50.7**	**-0.4**
KOKK	**Kokkinochori,**	**1.06**	**303**	P		**Pb**		**07 26 50.8**	**-0.4**
KOKK				S		**Sb**		**07 27 04.1**	**-0.9**
KOKK				AML		AML		07 27 06.7	
	comp=N,3285μm,0.5s								
KOKK				AML		AML		07 27 06.8	
	comp=E,3009μm,0.7s								
GPNR	**Gulpinar-Canak**	**1.08**	**136**	PN		**Pb**		**07 26 51.6**	**+0.1**
GPNR				SN		**Sg**		**07 27 06.3**	**+0.4**
SIGR	**SIGRI**	**1.16**	**153**	P		**Pb**		**07 26 52.5**	**-0.4**
SIGR				S		**Sb**		**07 27 08.3**	**+0.5**
SIGR	**SIGRI**	**1.16**	**153**	PN		**Pb**		**07 26 52.5**	**-0.4**
SIGR				SN		**Sb**		**07 27 08.3**	**+0.5**
SIGR	**SIGRI**	**1.16**	**153**	P		**Pb**		**07 26 52.4**	**-0.4**
SIGR				S		**Sb**		**07 27 08.0**	**+0.2**
SIGR				AML		AML		07 27 09.2	
	comp=N,8074μm,0.7s								
SIGR				AML		AML		07 27 12.7	
	comp=E,3693μm,0.6s								
BAYC	**CANAKKALE_Bayr**	**1.17**	**115**	P		**Pb**		**07 26 52.7**	**-0.4**
BAYC				S		**Sb**		**07 27 07.7**	**-0.5**
PAIG	**Paliouri**	**1.19**	**255**	P		**Pn**		**07 26 52.0**	**-1.3**
KESN	**Edirne-Kesan**	**1.29**	**63**	P		**Pn**		**07 26 53.3**	**-1.8**
KESN				S		**Sb**		**07 27 10.1**	**-1.8**
PRK	**Paraskevi**	**1.31**	**139**	P		**Pb**		**07 26 55.5**	**+0.1**
PRK	**Paraskevi**	**1.31**	**139**	P		**Pg**		**07 26 55.9**	**-0.2**
PRK				S		**Sg**		**07 27 13.1**	**0.0**
PRK				AML		AML		07 27 25.0	
	comp=E,5495μm,0.8s								
PRK				AML		AML		07 27 28.3	
	comp=N,4274μm,0.7s								
KDZ	**Kurdzhali**	**1.42**	**7**	PN		**Pn**		**07 26 55.7**	**-0.8**
KDZ	**Kurdzhali**	**1.42**	**7**	*i* P		**Pn**		**07 26 55.5**	**-1.0**
UKOP	**Uzunkopru-Edir**	**1.42**	**51**	PN		**Pn**		**07 26 56.1**	**-0.4**
RZN	**Rozhen**	**1.48**	**347**	*i* P		**Pn**		**07 26 57.6**	**+0.1**
SRS	**Serrai**	**1.48**	**306**	P		**Pn**		**07 26 56.8**	**-0.6**
SRS	**Serrai**	**1.48**	**306**	P		**Pn**		**07 26 57.0**	**-0.4**
NVR	**Nevrokopi**	**1.48**	**318**	P		**Pn**		**07 26 57.2**	**-0.2**
NVR	**Nevrokopi**	**1.48**	**318**	P		**Pn**		**07 26 57.3**	**-0.2**
NVR				S		**Sn**		**07 27 15.6**	**-1.1**
NVR				AML		AML		07 27 16.1	
	comp=N,1077μm,0.6s								
NVR				AML		AML		07 27 16.1	
	comp=E,1524μm,0.7s								
AYVA	**Ayvalik**	**1.50**	**128**	P		**Pn**		**07 26 57.4**	**-0.2**
SOH	**Sokhos**	**1.50**	**293**	P		**Pn**		**07 26 57.2**	**-0.4**
SOH	**Sokhos**	**1.50**	**293**	P		**Pn**		**07 26 57.2**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.59**	**73**	PN		**Pn**		**07 26 58.2**	**-0.7**
HORT	**Hortiatis**	**1.62**	**283**	P		**Pn**		**07 26 58.7**	**-0.6**
HORT	**Hortiatis**	**1.62**	**283**	PN		**Pn**		**07 26 58.6**	**-0.7**
HORT	**Hortiatis**	**1.62**	**283**	P		**Pn**		**07 26 58.8**	**-0.6**
BUHA	**Balikesir, Bur**	**1.65**	**116**	P		**Pn**		**07 26 59.6**	**+0.1**
BUHA				S		**Sn**		**07 27 20.0**	**-0.6**
MMB	**Musomiste**	**1.73**	**321**	*i* P		**Pn**		**07 27 00.4**	**-0.4**
XOR	**Xorichti**	**1.76**	**241**	P		**Pn**		**07 26 59.5**	**-1.7**
DKL	**Dikili**	**1.78**	**131**	PN		**Pn**		**07 27 01.6**	**+0.2**
KNL	**Balıkesir**	**1.80**	**88**	P		**Pn**		**07 27 02.1**	**+0.4**
KNL				S		**Sn**		**07 27 23.6**	**-0.9**
PLD	**Plovdiv**	**1.89**	**349**	PN		**Pn**		**07 27 02.3**	**-0.7**
GONE	**Gonen-Balikesi**	**1.94**	**95**	PN		**Pn**		**07 27 03.5**	**-0.1**
BALY	**Balya**	**1.95**	**104**	P		**Pn**		**07 27 02.8**	**-1.0**
ZEDA	**zmir-Bergama**	**1.95**	**130**	P		**Pn**		**07 27 04.1**	**+0.3**
KNT	**Kendrikon**	**1.96**	**299**	P		**Pn**		**07 27 04.0**	**+0.1**
KNT	**Kendrikon**	**1.96**	**299**	PN		**Pn**		**07 27 03.9**	**+0.1**
KNT	**Kendrikon**	**1.96**	**299**	P		**Pn**		**07 27 04.0**	**+0.1**
EDRB	**Edirne**	**1.99**	**36**	P		**Pn**		**07 27 03.6**	**-0.8**
EDRB	**Edirne**	**1.99**	**36**	PN		**Pn**		**07 27 03.7**	**-0.7**
EDC	**Edincik**	**2.06**	**86**	PN		**Pn**		**07 27 04.8**	**-0.5**
KIRK	**Kırklareli**	**2.12**	**43**	P		**Pn**		**07 27 05.5**	**-0.6**
STEP	**BALIKESIR_Sava**	**2.15**	**113**	P		**Pn**		**07 27 05.7**	**-0.8**
URLA	**Izmir**	**2.18**	**149**	PN		**Pn**		**07 27 06.2**	**-0.8**
URLA	**Izmir**	**2.18**	**149**	P		**Pn**		**07 27 06.3**	**-0.7**
GRG	**Griva**	**2.23**	**290**	P		**Pn**		**07 27 07.4**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**2.25**	**152**	P		**Pn**		**07 27 07.5**	**-0.4**
PHSR	**Pinarhisar**	**2.26**	**51**	PN		**Pn**		**07 27 07.7**	**-0.3**
KKB	**Krupnik**	**2.26**	**316**	*i* P		**Pn**		**07 27 07.9**	**-0.2**
BLCB	**Balcova**	**2.36**	**141**	PN		**Pn**		**07 27 10.2**	**+0.8**
VIZE	**Kirklareli, Vi**	**2.42**	**56**	P		**Pn**		**07 27 09.4**	**-0.9**
PGB	**Panagyurishte**	**2.42**	**342**	*i* P		**Pn**		**07 27 10.5**	**+0.1**
AKHS	**Akhisar**	**2.46**	**123**	P		**Pn**		**07 27 10.9**	**+0.2**
SLVT	**Silivri**	**2.51**	**66**	PN		**Pn**		**07 27 11.1**	**-0.4**
DURS	**Dursunbey**	**2.62**	**103**	P		**Pn**		**07 27 13.7**	**+0.6**
CTYL	**Yalikoy Yolu**	**2.67**	**62**	PN		**Pn**		**07 27 13.0**	**-0.6**
CTKS	**Kestanelik-??a**	**2.72**	**68**	PN		**Pn**		**07 27 14.1**	**-0.3**
VTS	**Vitosha**	**2.78**	**329**	↓P		**Pn**		**07 27 15.1**	**-0.2**
VTS				↑S		**Sg**		**07 28 01.7**	**+1.4**
ARMT	**Armutlu**	**2.84**	**82**	PN		**Pn**		**07 27 15.5**	**-0.5**
BGKT	**Bogazkoy**	**2.89**	**70**	PN		**Pn**		**07 27 16.5**	**-0.2**
ISK	**Istanbul-Kandi**	**3.07**	**73**	PN		**Pn**		**07 27 19.0**	**-0.2**
KAVV	**Kandilli-Istan**	**3.07**	**73**	PN		**Pn**		**07 27 18.0**	**-1.2**
SZH	**Strazhica**	**3.07**	**10**	*i* P		**Pn**		**07 27 19.5**	**+0.3**
KLYT	**Kilyos**	**3.11**	**70**	PN		**Pn**		**07 27 19.8**	**+0.1**
PRD	**Provadia**	**3.39**	**29**	*i* P		**Pn**		**07 27 22.9**	**-0.7**
RAZG	**Razgrad**	**3.46**	**16**	↓P		**Pn**		**07 27 25.0**	**+0.4**
VLAD	**Vladila**	**3.79**	**352**	↑P		**Pn**		**07 27 30.2**	**+1.0**
VLAD				↑S		**Sg**		**07 28 36.1**	**+3.4**
BLKB	**Belogradchik**	**3.85**	**332**	↓P		**Pn**		**07 27 30.0**	**0.0**
BLKB				↓S		**Sg**		**07 28 34.6**	**-0.1**
BOVS	**Bovan**	**4.26**	**324**	↓P		**Pn**		**07 27 34.3**	**-1.3**
ICOR	**Ion Corvin**	**4.33**	**26**	↓P		**Pn**		**07 27 37.0**	**+0.5**
SULR		**4.50**	**10**	↓P		**Pn**		**07 27 39.9**	**+1.1**
DJES	**Djerdap**	**4.83**	**337**	↑P		**Pn**		**07 27 43.0**	**-0.4**
DJES				↑S		**Sg**		**07 29 03.8**	**-2.3**
TIRR	**Tirgusor**	**4.85**	**29**	↑P		**Pn**	

comp=Z,37nm,19.1s,baz=24,slow=35
1.2nm,0.6s
FITZ Fitzroy Crossi 30.82 245 LR LR 08 07 23.4
comp=Z,52nm,18.6s,baz=251,slow=36
TORD Torodi Ar. Bea 152.68 287 PKPbc **PKPbc 08 08 49.8 +0.1**
0.7nm,0.9s,baz=56,slow=2.8,SNR=3.8
TORD PKPab **pPKPdf 08 08 59.3 0.0**
0.3nm,0.7s,baz=72,slow=3.5,SNR=2.3

---

*IDC **24** 07:50:19.6±0.5,54˚.76S×30˚.67W,h0km,mb4.5/13, mbtmp4.6/14,ML4.3/1,MS3.8/30,Error ellipse: s-maj=18.8km s-min=14.3km az=60.0*
*NEIC **24** 07:50:22.0±1.4,54˚.82S±0˚.08×30˚.6W±0˚.1,h10km±1km, mb5.0/49,Error ellipse: s-maj=18.2km s-min=7.0km az=44.0*
*BJI **24** 07:50:23.0±0.0,54˚.80S×30˚.60W,h20km,mB5.4/3, Ms4.8/1*
*GCMT **24** 07:50:25.0±0.3,54˚.69S±0˚.03×30˚.90W±0˚.07,h28km, MW5.0/80,Moment Tensor Solution. s20,c20; s80,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.57±.28; Mθθ3.37±.18; Mφφ1.20±.16; Mrθ1.72±.26; Mφφ-1.10±.14; Mθr1.04±.29; Best double couple: M₀4.59100×10^16 NP1:φs125.00000°,δ38.00000°,λ-66.00000°. NP2: φs276.00000°,δ55.00000°,λ-108.00000°. Principal axes: T 4.0110, Plg9.0000°, Azm18.0000°; N 1.1610, Plg14.0000°, Azm286.0000°; P -5.1720, Plg73.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 07:50:21.6±0.3,54˚.82S±0˚.07×30˚.61W±0˚.07,h10km,n277, s0s77/248,mb4.9/34,MS3.9/30,1C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.46**	**277**	Pn	**Pn**	**07 51 13.6**	**-1.9**
EFI	**East Falkland**	**16.68**	**270**	Pn	**Pn**	**07 54 15.7**	**+0.5**
VNA1	**Neumayer--Stat**	**18.68**	**157**	P	**P**	**07 54 40.2**	**+0.7**
VNA3	**Neumayer Olymp**	**18.82**	**159**	P	**P**	**07 54 41.5**	**+0.5**
VNA3	**Neumayer Olymp**	**18.82**	**159**	PcP	**PcP**	**07 59 07.9**	**+0.6**
VNA2	**Neumayer--Watz**	**19.08**	**157**	P	**P**	**07 54 43.0**	**-0.9**
	baz=313,slow=11						
VNA2	**Neumayer--Watz**	**19.08**	**157**	PcP	**PcP**	**07 59 08.0**	**+0.3**
PMSA	**Palmer Station**	**19.30**	**226**	P	**P**	**07 54 47.1**	**+0.8**
	1.0nm,0.3s,baz=90,slow=6.1,SNR=3.8						
PMSA				LR	LR	08 02 03.3	
	comp=Z,202nm,19.3s,baz=54,slow=36						
	46nm,0.9s						
SNAA	**Sanae**	**20.67**	**155**	P	**P**	**07 55 00.8**	**-0.5**
SNAA	**Sanae**	**20.67**	**155**	PcP	**PcP**	**07 59 11.5**	**+0.8**
SNAA	**Sanae**	**20.67**	**155**	P	**P**	**07 55 00.7**	**-0.5**
	26nm,0.7s,baz=307,slow=9.8,SNR=156						
SNAA				PcP	**PcP**	**07 59 10.9**	**+0.2**
	1.4nm,0.5s,baz=260,slow=5.6,SNR=6.9						
SNAA				LR	LR	08 01 22.9	
	comp=Z,200nm,20.9s,baz=308,slow=32						
	26nm,0.7s						
SNAA	**Sanae**	**20.67**	**155**		**P**	**07 55 00.4**	**-0.8**
TROLL	**Troll, Antarti**	**22.22**	**153**	P	**P**	**07 55 17.6**	**-0.3**
TROLL	**Troll, Antarti**	**22.22**	**153**	PcP	**PcP**	**07 59 13.8**	**0.0**
MG02	**Cerro Sombrero**	**22.70**	**259**	P	**P**	**07 55 21.9**	**-1.2**
BELA	**Belgrano 2**	**23.20**	**182**	P	**P**	**07 55 29.1**	**+1.0**
BELA				IAmb	IAmb	07 55 31.8	
	comp=Z,67nm,1.2s						
GO10	**Punta Arenas**	**23.61**	**257**	P	**P**	**07 55 31.7**	**-0.7**
MG05	**Puerto Natales**	**24.99**	**260**	P	**P**	**07 55 43.9**	**-1.2**
MG05				IAmb	IAmb	07 56 05.1	
	comp=Z,31nm,1.1s						
GO09	**Cerro Castillo**	**25.06**	**261**	P	**P**	**07 55 45.1**	**-0.7**
TRQA	**Tornquist**	**27.04**	**295**	P	**P**	**07 56 04.9**	**+1.1**
PLTB	**Pedras Altas**	**28.23**	**315**	P	**P**	**07 56 14.3**	**-0.2**
PLTB				IAmb	IAmb	07 56 36.2	
	comp=Z,78nm,1.9s						
CPSB	**Cacapava Do Su**	**29.37**	**317**	*eP*	**P**	**07 56 27.0**	**+2.4**
PLCA	**Paso Flores**	**29.85**	**281**	P	**P**	**07 56 26.9**	**-2.1**
	comp=Z,1.7nm,0.9s,baz=133,slow=4.3,SNR=3.6						
PLCA				PcP	**PcP**	**07 59 32.5**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=286,slow=7.8,SNR=1.7						
PLCA				LR	LR	08 09 24.6	
	comp=Z,110nm,18.9s,baz=134,slow=38						
	comp=Z,1.7nm,0.9s						
PLCA	**Paso Flores**	**29.85**	**281**	P	**P**	**07 56 28.5**	**-0.4**
RODS	**Rosario do Sul**	**30.13**	**314**	*eP*	**P**	**07 56 33.3**	**+1.9**
ALGR	**Alto Alegre (B**	**30.64**	**319**	*eP*	**P**	**07 56 36.6**	**+0.6**
UNIS	**Unistalda (Bra**	**31.20**	**316**	*eP*	**P**	**07 56 41.0**	**+0.1**
ITQB	**Itaqui**	**31.32**	**313**	P	**P**	**07 56 43.0**	**+1.2**
ITQB				IAmb	IAmb	07 56 43.8	
	comp=Z,28nm,1.0s						
ITQB	**Itaqui**	**31.32**	**313**	*eP*	**P**	**07 56 43.1**	**+1.2**
ITAB	**Concordia**	**31.72**	**322**	*eP*	**P**	**07 56 47.6**	**+2.1**
TIJ01	**Guaruva-PR**	**32.45**	**328**	*eP*	**P**	**07 56 54.2**	**+2.3**
FRBT	**Francisco Belt**	**33.21**	**321**	*eP*	**P**	**07 56 58.9**	**+0.3**
ML02	**Panimavida**	**33.82**	**287**	P	**P**	**07 57 04.0**	**+0.2**
ML02				IAmb	IAmb	07 57 42.8	
	comp=Z,38nm,1.4s						
PTGB	**Pitanga**	**34.01**	**324**	*eP*	**P**	**07 57 07.2**	**+1.6**
VAO	**Valinhos**	**34.05**	**332**	*eP*	**P**	**07 57 07.6**	**+1.7**
CPUP	**Villa Florida**	**34.55**	**315**	P	**P**	**07 57 08.4**	**-1.6**
	comp=Z,19nm,1.0s,baz=145,slow=8.2,SNR=15						
CPUP				LR	LR	08 09 37.0	
	comp=Z,115nm,19.3s,baz=162,slow=34						
	comp=Z,19nm,1.0s						
CPUP	**Villa Florida**	**34.55**	**315**	P	**P**	**07 57 09.2**	**-0.8**
CPUP				IAmb	IAmb	07 57 11.8	
	comp=Z,28nm,1.1s						
CPUP	**Villa Florida**	**34.55**	**315**	*eP*	**P**	**07 57 09.2**	**-0.8**
RCLB	**Rio Claro- Sao**	**34.76**	**332**	*eP*	**P**	**07 57 13.7**	**+1.7**
ALF01	**Guarapari-ES**	**35.00**	**343**	*eP*	**P**	**07 57 14.9**	**+0.9**
MT03	**Universidad Ad**	**35.02**	**291**	P	**P**	**07 57 14.0**	**-0.3**
MT03				IAmb	IAmb	07 57 28.0	
	comp=Z,18nm,0.9s						
MT09	**Talagante**	**35.06**	**290**	P	**P**	**07 57 14.6**	**-0.1**
MT09				IAmb	IAmb	07 57 19.0	
	comp=Z,47nm,1.5s						
MT01	**Popeta**	**35.14**	**290**	P	**P**	**07 57 14.9**	**-0.2**
MT01				IAmb	IAmb	07 57 27.5	
	comp=Z,16nm,0.8s						
QSPA	**South Pole Qui**	**35.43**	**180**	LR	LR	08 11 00.7	
	comp=Z,353nm,19.1s,baz=175,slow=35						
QSPA	**South Pole Qui**	**35.43**	**180**	P	**P**	**07 57 18.4**	**+0.8**
VA05	**Santo Domingo**	**35.49**	**290**	P	**P**	**07 57 18.9**	**+0.7**
MT02	**Curacav**	**35.54**	**290**	P	**P**	**07 57 18.9**	**+0.2**
MT02				IAmb	IAmb	07 57 24.7	
	comp=Z,54nm,1.7s						
VA03	**San Esteban**	**35.60**	**292**	P	**P**	**07 57 21.2**	**+2.0**
VA03				IAmb	IAmb	07 57 31.4	
	comp=Z,20nm,1.0s						
TRCB	**Terra Rica**	**35.98**	**324**	*eP*	**P**	**07 57 22.8**	**+0.3**
VA06	**Catapilco**	**36.16**	**291**	P	**P**	**07 57 24.2**	**+0.3**
BB19B	**Bebedouro**	**36.32**	**331**	*eP*	**P**	**07 57 27.1**	**+1.6**
CO01	**Juntas del Tor**	**37.53**	**295**	P	**P**	**07 57 37.8**	**+1.9**
CO01				IAmb	IAmb	07 57 40.7	
	comp=Z,38nm,1.6s						
NAN01	**Guarapari, ES**	**37.62**	**345**	*eP*	**P**	**07 57 36.2**	**-0.2**
DIAM	**Diamantina, MG**	**37.81**	**339**	*eP*	**P**	**07 57 39.4**	**+1.2**
PMNB	**Patos De Minas**	**38.19**	**335**	*eP*	**P**	**07 57 41.8**	**+0.4**
RPRD	**Ribas do Rio P**	**38.48**	**324**	*eP*	**P**	**07 57 45.0**	**+1.2**
AC05	**El Transito**	**38.54**	**296**	P	**P**	**07 57 44.3**	**0.0**
IPMB	**Ipameri, GO**	**39.17**	**333**	*eP*	**P**	**07 57 49.5**	**-0.1**
C2SB	**Chapadao do Su**	**39.79**	**326**	*eP*	**P**	**07 57 55.7**	**+1.1**
PANT	**Pantania (Braz**	**40.89**	**321**	*eP*	**P**	**07 58 05.8**	**+2.0**
JANB	**Januaria**	**41.09**	**340**	*eP*	**P**	**07 58 06.7**	**+1.2**
GO02	**Mina Guanaco**	**41.19**	**300**	P	**P**	**07 58 07.4**	**+0.9**
GO02				IAmb	IAmb	07 58 09.3	
	comp=Z,35nm,0.8s						
BDFB	**Brasilia**	**41.36**	**334**	P	**P**	**07 58 07.3**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=145,slow=5.9,SNR=4.5						
BDFB				LR	LR	08 13 56.0	
	comp=Z,144nm,20.2s,baz=164,slow=34						
	comp=Z,2.6nm,0.6s						
BDFB	**Brasilia**	**41.36**	**334**	P	**P**	**07 58 08.2**	**+0.4**
BDFB	**Brasilia**	**41.36**	**334**	*eP*	**P**	**07 58 08.1**	**+0.4**
SUR	**Sutherland**	**42.27**	**80**	LR	LR	08 12 58.1	
	comp=Z,60nm,19.8s,baz=207,slow=32						
SUR	**Sutherland**	**42.27**	**80**	P	**P**	**07 58 14.9**	**-0.3**
MAW	**Mawson**	**42.28**	**145**	P	**P**	**07 58 14.9**	**+0.2**
	comp=Z,9.6nm,0.8s,baz=236,slow=7.5,SNR=25						
MAW				LR	LR	08 13 00.5	
	comp=Z,160nm,21.6s,baz=247,slow=32						
	comp=Z,9.6nm,0.8s						
MAW	**Mawson**	**42.28**	**145**	P	**P**	**07 58 14.5**	**-0.2**
LVC	**Limon Verde**	**42.99**	**303**	LR	LR	08 15 03.1	
	comp=Z,81nm,22.0s,baz=166,slow=35						
LVC	**Limon Verde**	**42.99**	**303**	P	**P**	**07 58 21.9**	**+0.5**
LVC	**Limon Verde**	**42.99**	**303**	*eP*	**P**	**07 58 22.6**	**+1.2**
SALV	**Santo Antonio**	**43.41**	**324**	*eP*	**P**	**07 58 23.5**	**-0.8**
SDBA	**SAO DESIDERIO**	**43.78**	**340**	*eP*	**P**	**07 58 28.3**	**+0.9**
PB01	**IPOC Station P**	**44.60**	**303**	P	**P**	**07 58 34.3**	**+0.3**
PB01				IAmb	IAmb	07 58 36.3	
	comp=Z,29nm,1.2s						
PTLB	**Pontes e Lacer**	**45.07**	**319**	P	**P**	**07 58 37.5**	**-0.1**
PTLB				IAmb	IAmb	07 59 01.3	
	comp=Z,18nm,1.1s						
PTLB	**Pontes e Lacer**	**45.07**	**319**	*eP*	**P**	**07 58 36.5**	**-1.1**
SIV	**San Ignacio**	**45.33**	**317**	LR	LR	08 15 34.8	
	comp=Z,82nm,21.2s,baz=101,slow=34						
GO01	**Chusmiza**	**45.64**	**305**	P	**P**	**07 58 42.3**	**-0.4**
GO01				IAmb	IAmb	07 59 15.8	
	comp=Z,25nm,1.1s						
SNDB	**Serra Nova Dou**	**45.74**	**331**	*eP*	**P**	**07 58 43.2**	**+0.2**
SBA	**Scott Base**	**47.15**	**185**	P	**P**	**07 58 53.9**	**+0.5**
SBA				IAmb	IAmb	07 58 56.8	
	comp=Z,11nm,0.9s						
BOSA	**Boshof**	**47.62**	**80**	P	**P**	**07 58 57.4**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=223,slow=8.2,SNR=10						
	comp=Z,2.7nm,0.5s						
BOSA	**Boshof**	**47.62**	**80**	P	**P**	**07 58 57.3**	**-0.5**
VNDA	**Vanda**	**47.70**	**184**	P	**P**	**07 58 57.8**	**+0.2**
	comp=Z,8.5nm,0.8s,baz=181,slow=6.5,SNR=79						
VNDA				LR	LR	08 18 01.7	
	comp=Z,45nm,19.0s,baz=166,slow=35						
	comp=Z,8.5nm,0.8s						
VNDA	**Vanda**	**47.70**	**184**	P	**P**	**07 58 58.2**	**+0.6**
VNDA				IAmb	IAmb	07 59 01.0	
	comp=Z,9.6nm,0.7s						
VILB	**Vilhena**	**47.76**	**319**	*eP*	**P**	**07 58 59.4**	**+0.6**
PDRB	**Porto dos Gac**	**47.76**	**324**	*eP*	**P**	**07 58 57.7**	**-1.1**
SMTB	**Santa Maria do**	**47.80**	**337**	*eP*	**P**	**07 58 58.9**	**-0.1**
LPAZ	**La Paz**	**48.08**	**308**	P	**P**	**07 59 01.4**	**-0.6**
	comp=Z,6.8nm,0.7s,baz=131,slow=5.0,SNR=28						
LPAZ				LR	LR	08 21 42.0	
	comp=Z,38nm,18.9s,baz=127,slow=39						
	comp=Z,6.8nm,0.7s						
LPAZ	**La Paz**	**48.08**	**308**	P	**P**	**07 59 01.4**	**-0.6**
LPAZ				IAmb	IAmb	07 59 23.9	
	comp=Z,12nm,0.8s						
LPAZ	**La Paz**	**48.08**	**308**	*eP*	**P**	**07 59 01.5**	**-0.4**
CLDB	**Colider**	**48.14**	**326**	*eP*	**P**	**07 59 00.6**	**-1.1**
H10N1	**ASCENSION HYDR**	**48.59**	**22**	T	T	08 51 36.0	
	baz=191,slow=75,SNR=3.7						
H10N3	**ASCENSION HYDR**	**48.59**	**22**	T	T	08 51 27.7	
	baz=191,slow=75,SNR=6.4						
H10N2	**ASCENSION HYDR**	**48.61**	**22**	T	T	08 51 36.7	
	baz=191,slow=75,SNR=7.5						
RCBR	**Riachuelo**	**49.04**	**353**	LR	LR	08 15 03.8	
	comp=Z,154nm,21.9s,baz=320,slow=30						
LBTB	**Lobatse**	**50.58**	**77**	LR	LR	08 17 42.7	
	comp=Z,36nm,18.0s,baz=200,slow=32						
LBTB	**Lobatse**	**50.58**	**77**	P	**P**	**07 59 20.1**	**-0.3**
NPGB	**Novo Progresso**	**51.61**	**328**	*eP*	**P**	**07 59 29.3**	**+1.2**
ROSB	**Rosario**	**52.92**	**343**	*eP*	**P**	**07 59 38.2**	**+0.4**
ETMB	**Extrema**	**52.99**	**314**	P	**P**	**07 59 38.3**	**-0.1**
ETMB				IAmb	IAmb	07 59 39.6	
	comp=Z,16nm,1.6s						
ETMB	**Extrema**	**52.99**	**314**	*eP*	**P**	**07 59 39.7**	**+1.3**
ITTB	**Itaituba**	**54.26**	**329**	*eP*	**P**	**07 59 48.8**	**+1.2**
CASY	**Casey**	**55.70**	**162**	P	**P**	**07 59 58.3**	**+0.8**
MACA	**Manacapuru-AM**	**56.99**	**323**	*eP*	**P**	**08 00 08.2**	**+1.0**
CZSB	**Cruzeiro do Su**	**57.69**	**308**	*eP*	**P**	**08 00 13.7**	**+1.5**
TBTG	**Tabatinga, AM**	**59.62**	**313**	*eP*	**P**	**08 00 26.9**	**+1.2**
ATAH	**Atahualpa**	**60.89**	**303**	LR	LR	08 28 41.8	
	comp=Z,64nm,18.9s,baz=138,slow=38						
RPN	**Rapa Nui**	**61.92**	**262**	LR	LR	08 23 16.1	
	comp=Z,43nm,18.7s,baz=170,slow=32						
MDP	**Montagnes des**	**62.46**	**335**	LR	LR	08 25 31.9	
	comp=Z,144nm,20.9s,baz=134,slow=34						
DBIC	**Dimbokro**	**64.94**	**28**	P	**P**	**08 01 00.2**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=263,slow=16,SNR=1.8						
DBIC				LR	LR	08 22 50.9	
	comp=Z,66nm,18.2s,baz=166,slow=30						
	comp=Z,2.4nm,0.8s						
DBIC	**Dimbokro**	**64.94**	**28**	P	**P**	**08 01 00.9**	**-0.3**
DBIC				IAmb	IAmb	08 01 23.9	
	comp=Z,15nm,1.1s						
OTAV	**Otavalo**	**67.35**	**307**	P	**P**	**08 01 17.3**	**0.0**
OTAV				IAmb	IAmb	08 01 22.5	
	comp=Z,10nm,1.2s						
ROSC	**El Rosal**	**69.60**	**313**	P	**P**	**08 01 30.8**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=76,slow=20,SNR=4.1						
ROSC				LR	LR	08 33 32.5	
	comp=Z,74nm,19.9s,baz=230,slow=37						
	comp=Z,2.3nm,0.3s						
ROSC	**El Rosal**	**69.60**	**313**	P	**P**	**08 01 32.0**	**+0.7**
BBTS	**Babate**	**70.23**	**14**	LR	LR	08 26 06.2	
	comp=Z,144nm,21.1s,baz=208,slow=31						
PCRV	**Puerto La Cruz**	**70.79**	**324**	LR	LR	08 35 36.5	
	comp=Z,102nm,18.0s,slow=38						
BIRV	**Birongo**	**71.63**	**323**	P	**P**	**08 01 44.0**	**+0.8**
BIRV				IAmb	IAmb	08 03 30.1	
	comp=Z,25nm,1.3s						
SDV	**Santo Domingo**	**71.77**	**318**	LR	LR	08 32 59.3	
	comp=Z,247nm,21.2s,baz=94,slow=36						
SDV	**Santo Domingo**	**71.77**	**318**	P	**P**	**08 01 43.7**	**-0.6**
SDV				IAmb	IAmb	08 01 46.3	
	comp=Z,21nm,1.3s						
KOWA	**Kowa**	**72.64**	**27**	LR	LR	08 26 43.0	
	comp=Z,124nm,22.0s,baz=198,slow=30						
TOA0	**Torodi Ar. Sit**	**73.01**	**33**	P	**P**	**08 01 51.0**	**-0.4**
TOA0				IAmb	IAmb	08 02 04.3	
	comp=Z,15nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.01**	**33**	P	**P**	**08 01 51.3**	**-0.1**
	comp=Z,6.2nm,0.7s,baz=197,slow=6.3,SNR=34						
TORD				LR	LR	08 26 37.3	
	comp=Z,105nm,21.2s,baz=204,slow=30						
	comp=Z,6.2nm,0.7s						
WHZ	**Wether Hill Ro**	**78.43**	**193**	P	**P**	**08 02 22.2**	**0.0**
SJG	**San Juan**	**78.70**	**326**	LR	LR	08 36 10.9	
	comp=Z,58nm,21.6s,baz=155,slow=35						
CBYP	**Canovanas**	**78.76**	**326**	P	**P**	**08 02 23.4**	**-0.8**
MLZ	**Mavora Lakes**	**78.93**	**193**	P	**P**	**08 02 24.8**	**-0.1**
MLZ				IAmb	IAmb	08 03 20.1	
	comp=Z,18nm,1.3s						
RPZ	**Rata Peaks**	**80.12**	**196**	P	**P**	**08 02 30.9**	**-0.5**
	comp=Z,11nm,0.9s,baz=353,slow=14,SNR=7.8						
	comp=Z,11nm,0.9s						
RPZ	**Rata Peaks**	**80.12**	**196**	P	**P**	**08 02 30.2**	**-1.2**
LTZ	**Lake Taylor**	**80.83**	**197**	P	**P**	**08 02 35.1**	**-0.2**
CMIG	**Matias Romero**	**89.88**	**301**	LR	LR	08 42 07.8	
	comp=Z,21nm,18.9s,baz=156,slow=35						
ATD	**Arta Tunnel**	**90.03**	**70**	LR	LR	08 42 35.3	
	comp=Z,52nm,18.6s,baz=184,slow=35						
MDT	**Midelt**	**90.11**	**22**	LR	LR	08 37 17.0	
	comp=Z,178nm,21.3s,baz=192,slow=31						
RAO	**Raoul Island**	**91.67**	**208**	P	**P**	**08 03 28.1**	**-0.8**
	comp=Z,185nm,0.4s,baz=127,slow=23,SNR=2.5						
STKA	**Stephens Creek**	**93.39**	**173**	LR	LR	08 42 51.1	
	comp=Z,146nm,21.9s,baz=202,slow=34						
ESDC	**Sonseca Array**	**96.86**	**20**	P	**P**	**08 03 52.6**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=188,slow=5.4,SNR=4.6						
ESDC				LR	LR	08 42 17.0	
	comp=Z,132nm,20.6s,baz=177,slow=32						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**100.71**	**166**	P	**Pdif**	**08 04 11.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=180,slow=3.3,SNR=4.5						
WRA	**Warramunga Arr**	**104.43**	**165**	PKKPbc	PKKPbc	08 20 10.3	-0.1
	comp=Z,0.3nm,0.8s,baz=345,slow=3.2,SNR=2.2						
TXAR	**Lajitas Array**	**104.49**	**300**	PKKPbc	PKKPbc	08 20 10.9	+0.1
	comp=Z,0.1nm,0.6s,baz=302,slow=2.4,SNR=3.5						
NOA	**NORSAR Array B**	**120.17**	**22**	PKP	**PKPdf**	**08 09 10.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=214,slow=4.7,SNR=2.0						
FINES	**FINESS Array B**	**124.23**	**29**	PKP	**PKPdf**	**08 09 17.5**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=238,slow=3.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**127.33**	**113**	PKP	**PKPdf**	**08 09 25.5**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=254,slow=3.4,SNR=5.1						
KSH	**Kashi**	**130.14**	**76**	PKP	**PKPdf**	**08 09 30.9**	**-0.3**
ARCES	**ARCESS Array B**	**130.54**	**23**	PKP	**PKPdf**	**08 09 30.3**	**-0.5**
	comp=Z,6.7nm,1.0s,baz=174,slow=2.2,SNR=11						
YKA	**Yellowknife Ar**	**133.96**	**320**	PKP	**PKPdf**	**08 09 36.0**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=134,slow=2.0,SNR=4.5						
PZH	**PanZhiHua**	**135.34**	**110**	PKP	**PKPdf**	**08 09 40.6**	**-0.8**
MKAR	**Makanchi Array**	**138.36**	**72**	PKhKP	PKPpre	08 09 41.2	
	comp=Z,0.5nm,0.8s,baz=221,slow=2.3,SNR=3.1						
WMQ	**Urumqi**	**139.58**	**79**	*e*PKP	**PKPdf**	**08 09 50.1**	**+1.5**
ZALV	**Zalesovo Beam**	**143.58**	**64**	PKP	PKPab	08 09 52.5	+0.7
	comp=Z,1.7nm,0.5s,baz=242,slow=4.7,SNR=6.7						
INK	**Inuvik**	**143.62**	**322**	PKP	PKPab	08 09 51.6	0.0
	comp=Z,1.8nm,0.7s,baz=200,slow=1.2,SNR=7.1						
K29M	**Barlow Dome**	**143.67**	**314**	P	PKPbc	08 09 53.9	+1.0
	baz=111						
O28M	**Mount Upton**	**143.68**	**309**	P	PKPbc	08 09 54.3	+1.0
	baz=113						
GTA	**Gaotai**	**143.75**	**94**	*e*PKP	PKPbc	08 09 54.4	+0.5
GTA				pPKP	PKiKP	08 10 05.5	+5.8
GTA				sPKP		08 10 09.6	
GTA				LR	LR		
	comp=Z,58nm,17.5s						
GTA				LR	LR		
	comp=Z,76nm,18.9s						
YUK3	**Moose Creek**	**144.18**	**310**	P	PKPbc	08 09 55.1	+0.5
	baz=112						
EPYK	**Eagle Plains**	**144.20**	**319**	P	PKPbc	08 09 54.6	+0.3
	baz=108						
MESA	**MESA**	**144.25**	**307**	P	**PKPab**	**08 09 54.9**	**+0.4**
	baz=113						
I29M	**Ogilvie Camp,**	**144.50**	**317**	P	**PKPab**	**08 09 53.8**	**-1.3**
	baz=108						
DAWY	**Dawson**	**144.53**	**314**	P	**PKPab**	**08 09 54.4**	**-0.9**
	baz=109						
BVCY	**Beaver Creek**	**144.59**	**311**	P	**PKPab**	**08 09 54.6**	**-1.0**
	baz=110						
BGLC	**Bering Glacier**	**144.85**	**307**	P	**PKPab**	**08 09 55.7**	**-0.7**
	baz=112						
M27K	**Edge Creek, AK**	**145.01**	**311**	P	PKPbc	08 09 56.4	-0.8
	baz=110						
XAN	**Xi'an**	**145.09**	**110**	PKPbc	**PKPbc**	**08 09 58.3**	**+0.1**
XAN				pPKP	PKiKP	08 10 09.4	+6.9
WHN	**Wuhan**	**145.20**	**120**	⇑PKPbc	**PKPbc**	**08 09 58.4**	**-0.2**
L27K	**Beaver Creek,**	**145.23**	**312**	P	**PKPbc**	**08 09 57.1**	**-0.7**
	baz=109						
EGAK	**Eagle**	**145.48**	**315**	P	**PKPdf**	**08 09 58.4**	**+0.1**
	baz=107						
M26K	**Nabesna, AK**	**145.52**	**310**	P	**PKPdf**	**08 09 58.2**	**-0.3**
	baz=109						
K27K	**Chicken**	**145.64**	**313**	P	**PKPdf**	**08 09 58.5**	**-0.1**
	baz=108						
BMRM	**Bremner River**	**145.76**	**308**	P	**PKPdf**	**08 09 59.4**	**+0.4**
	baz=110						
L26K	**Log Cabin Wild**	**145.87**	**311**	P	**PKPdf**	**08 09 59.3**	**+0.2**
	baz=108						
I27K	**Kandik River**	**145.90**	**316**	P	**PKPdf**	**08 09 59.3**	**+0.2**
	baz=106,SNR=10						
H27K	**Steamboat Moun**	**146.02**	**317**	P	**PKPdf**	**08 09 59.4**	**+0.1**
	baz=105,SNR=8.0						
G27K	**Doyon Strip**	**146.22**	**318**	P	**PKPbc**	**08 10 00.5**	**-0.2**
	baz=104						
J26L	**Joseph Creek**	**146.39**	**314**	PKPdf	**PKPbc**	**08 10 01.4**	**0.0**
J26L	**Joseph Creek**	**146.39**	**314**	P	**PKPdf**	**08 10 00.4**	**+0.4**
	baz=106,SNR=9.4						
SCRK	**Sand Creek**	**146.43**	**313**	P	**PKPdf**	**08 10 00.5**	**+0.4**
	baz=106						
E27K	**Coleen River**	**146.50**	**321**	P	**PKPbc**	**08 10 01.3**	**-0.2**
	baz=102						
KLU	**Klutina**	**146.54**	**308**	P	**PKPdf**	**08 10 01.3**	**+1.0**
	baz=108						
RIDG	**Independent Ri**	**146.73**	**312**		**PKPbc**	**08 10 02.5**	**+0.2**
RIDG	**Independent Ri**	**146.73**	**312**	P	**PKPbc**	**08 10 02.4**	**+0.1**
	baz=106,SNR=9.4						
PAX	**Paxson**	**146.78**	**311**	P	**PKPbc**	**08 10 02.6**	**+0.1**
	baz=107						
M24K	**Tolsona, Glenn**	**146.84**	**309**	P	**PKPbc**	**08 10 03.0**	**+0.3**
	baz=107						
G26K	**Porcupine Rive**	**147.07**	**318**	P	**PKPbc**	**08 10 02.7**	**-0.3**
	baz=102						
J25K	**Salcha River,**	**147.18**	**314**	P	**PKPbc**	**08 10 03.0**	**-0.6**
	baz=104						
SCM	**Sheep Creek Mo**	**147.28**	**308**	P	**PKPbc**	**08 10 03.5**	**-0.4**
	baz=107						
F26K	**Sheenjek River**	**147.35**	**320**	P	**PKPbc**	**08 10 04.2**	**+0.3**
	baz=100

baz=100,SNR=8.1
COLD **Coldfoot** 149.59 318 P PKPbc 08 10 09.4 -0.3
baz=96,SNR=9.5
PPLA **Purkeypile** 149.74 309 P PKPbc 08 10 09.7 -0.6
baz=102
CAST **Castle Rocks** 149.80 310 P PKPbc 08 10 09.5 -0.8
baz=101
H22K **Ishtalitna Cre** 149.90 315 P PKPbc 08 10 10.2 -0.3
baz=98,SNR=7.9
D23K **Nanushuk River** 149.91 321 P PKPbc 08 10 10.2 -0.2
baz=93
C23K **Itkillik River** 149.91 323 P PKPbc 08 10 10.6 +0.2
baz=91
M20K **Styx River** 149.95 307 P PKPbc 08 10 10.2 -0.7
baz=103
CHUM **Lake Minchumin** 149.99 311 P PKPbc 08 10 10.1 -0.6
baz=100,SNR=8.4
I21K **Tanana** 150.05 314 P PKPbc 08 10 10.0 -0.8
baz=98
G22K **Bettles** 150.07 317 P PKPbc 08 10 10.8 0.0
baz=96
O19K **Port Alsworth** 150.10 304 P PKPbc 08 10 10.1 -1.0
baz=105
E22K **Anaktuvuk Pass** 150.28 320 P PKPbc 08 10 11.1 -0.2
baz=93
P18K **Big Mountain,** 150.33 302 P PKPbc 08 10 10.6 -1.1
baz=106
N19K **Bonanza Creek** 150.34 305 P PKPbc 08 10 10.8 -1.0
baz=104
F22K **John River** 150.38 318 P PKPbc 08 10 11.5 -0.1
baz=94,SNR=14
R17K **Ugashik Creek** 150.40 298 P PKPbc 08 10 11.6 -0.2
baz=108
L20K **Farewell, AK** 150.42 308 P PKPbc 08 10 11.2 -0.6
baz=101
O18K **Koktuh Hills** 150.44 303 P PKPbc 08 10 11.4 -0.6
baz=105
H21K **Melozitna Rive** 150.46 315 P PKPbc 08 10 11.4 -0.4
baz=97,SNR=16
M19K **Big River Lodg** 150.54 307 P PKPbc 08 10 11.5 -0.6
baz=102
K20K **Telida** 150.67 310 P PKPbc 08 10 11.7 -0.7
baz=100
L19K **White Mountain** 150.81 307 P PKPbc 08 10 12.0 -0.7
baz=101
G21K **Allakaket** 150.82 316 P PKPbc 08 10 12.0 -0.7
baz=95
J20K **Nowinta River** 150.83 311 P PKPbc 08 10 12.7 -0.1
baz=98
Q16K **King Salmon** 150.84 300 P PKPbc 08 10 12.3 -0.5
baz=106
F21K **Alatna River** 150.86 318 P PKPbc 08 10 12.6 -0.2
baz=93
P17K **Kvichak River** 150.88 301 P PKPbc 08 10 12.7 -0.2
baz=105
N18K **Kilae Creek** 150.98 304 P PKPbc 08 10 13.3 +0.1
baz=103
R16K **Pilot Point** 150.99 297 P PKPbc 08 10 13.0 -0.2
baz=108
CHGN **Chignik** 151.02 295 P PKPbc 08 10 12.7 -0.7
baz=109
CHNA **Chernabura Isl** 151.14 291 P PKPbc 08 10 13.3 -0.4
baz=111
O17K **Koliganek Bris** 151.35 302 P PKPbc 08 10 13.9 -0.1
baz=104
TTA **Tatalina** 151.47 309 P PKPbc 08 10 14.5 +0.2
baz=99
P16K **Nushagak River** 151.61 300 P PKPbc 08 10 15.1 +0.4
baz=105
S14K **Fog Glacier** 151.62 294 P PKiKP 08 10 15.6 +0.3
baz=109
O16K **Kokwok River B** 151.80 301 P PKiKP 08 10 15.8 +0.4
baz=104
GCSA **Galena City Sc** 152.07 312 P PKiKP 08 10 16.9 +1.1
baz=95
N16K **Nishlik Lake** 152.32 303 P PKiKP 08 10 17.7 +1.2
baz=102
SONM **Songino Array** 152.60 87 PKPbc PKPbc 08 10 15.9 -1.6
comp=Z,4.0nm,0.6s,baz=226,slow=3.6,SNR=19
SONM PKPab PKPab 08 10 28.1 0.0
comp=Z,3.4nm,0.7s,baz=228,slow=3.8,SNR=8.3
RDOG **Red Dog Mine** 154.44 320 P PKPbc 08 10 20.6 0.0
baz=83
UNV **Unalaska Valle** 154.58 286 P PKiKP 08 10 21.7 +0.4
baz=110
KSRS **Korea Array** 157.29 131 PKPab PKPab 08 10 48.1 -0.1
comp=Z,1.6nm,0.8s,baz=219,slow=3.7,SNR=5.6

*IDC **24** 07:55:36.9±2.1, 22°.83N×144°.40E, h0km, mb3.9/8, mbtmp3.9/10, ML3.4/2, MS3.1/2, Error ellipse: s-maj=91.9km s-min=18.8km az=78.0*
ISC 24 07:55:42.3±1.7, 22°.9N±0°.2×144°.3E±0°.5, h35km, n14, σ1§19/11, mb4.0/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.60**	**336**	Pn	**Pn**		**07 56 49.1**	**-0.2**
	4.4nm,0.3s,baz=250,slow=23,SNR=8.3							
JCJ				Sn	**Sn**		**07 57 40.0**	**-1.5**
	13nm,0.3s,baz=331,slow=14,SNR=1.4							
MJAR	**Matsushiro Arr**	**14.59**	**340**	Pn	**Pn**		**07 59 05.2**	**-0.9**
	0.1nm,0.3s,baz=159,slow=10,SNR=4.6							
	0.6nm,0.4s							
KSRS	**Korea Array**	**20.22**	**320**	P	**P**		**08 00 15.1**	**+0.9**
	0.9nm,0.5s,baz=147,slow=9.2,SNR=1.8							
KSRS				LR	LR		08 07 10.7	
	comp=Z,26nm,20.6s,baz=40,slow=34							
	0.9nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**21.30**	**94**	T	T		08 22 40.8	
	baz=283,slow=74,SNR=8.8							
H11N2	**WAKE ISLAND Hy**	**21.30**	**94**	T	T		08 22 40.8	
	baz=283,slow=74,SNR=12							
H11N3	**WAKE ISLAND Hy**	**21.32**	**94**	T	T		08 22 42.5	
	baz=283,slow=74,SNR=8.3							
KLR	**Kul'dur**	**28.09**	**342**	P	**P**		**08 01 32.2**	**+1.7**
	2.8nm,0.7s,baz=147,slow=8.9,SNR=7.9							
	2.8nm,0.7s							
SONM	**Songino Array**	**39.09**	**319**	P	**P**		**08 03 06.0**	**-0.1**
	0.3nm,0.5s,baz=127,slow=10,SNR=1.3							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**43.66**	**194**	P	**P**		**08 03 44.3**	**+0.5**
	0.4nm,0.4s,baz=17,slow=9.1,SNR=12							
	0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**53.92**	**321**	P	**P**		**08 05 02.1**	**-0.1**
	0.7nm,0.4s,baz=90,slow=8.6,SNR=2.0							
	0.7nm,0.4s							
STKA	**Stephens Creek**	**54.51**	**183**	P	**P**		**08 05 04.8**	**-1.8**
	1.5nm,0.7s,baz=1.5,slow=9.8,SNR=3.1							
	1.5nm,0.7s							
MKAR	**Makanchi Array**	**54.65**	**312**	P	**P**		**08 05 08.5**	**+0.9**
	0.7nm,0.6s,baz=91,slow=8.5,SNR=7.9							
	0.7nm,0.6s							
FINES	**FINESS Array B**	**82.55**	**335**	P	**P**		**08 08 01.6**	**+0.4**
	3.3nm,1.0s,baz=62,slow=4.5,SNR=7.1							
	3.3nm,1.0s							
BORG	**Borgarnes**	**91.94**	**354**	LR	LR		08 48 21.9	
	comp=Z,23nm,21.7s,baz=337,slow=34							

*DJA **24** 08:34:23.2±0.5, 3°S±5°×12°.7E±°, h23km±6km, M3.9/9, MLv3.9/9*
*IDC **24** 08:34:28.4±2.3, 3°.02S×127°.54E, h75km±25km, mb3.6/3, mbtmp4.0/7, MS2.6/1, Error ellipse: s-maj=22.6km s-min=16.9km az=128.0*
ISC 24 08:34:23.3±1.1, 2°.98S±0°.05×127°.24E±0°.04, h25km±9km, n14, σ2§01/20, mb3.9/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.29**	**209**	P	**Pb**		**08 34 29.6**	**-0.6**
NLAI				S	**Sb**		**08 34 34.6**	**-0.3**
AAI	**Ambon**	**1.18**	**126**	P	**Pb**		**08 34 46.0**	**+0.9**
AAI				S	**Sb**		**08 35 01.8**	**+1.8**
SANI	**Sanana**	**1.56**	**307**	P	**Pn**		**08 34 49.2**	**-0.2**
SANI				S	**Sn**		**08 35 08.4**	**-0.4**
MSAI	**Masohi**	**1.72**	**102**	P	**Pb**		**08 34 54.3**	**0.0**
LBMI	**Labuha**	**2.34**	**6**	P	**Pn**		**08 35 02.8**	**+2.5**
LBMI				S	**Sb**		**08 35 33.3**	**-0.1**
BNDI	**Bandanaira**	**3.07**	**120**	P	**Pn**		**08 35 11.1**	**+0.9**
SWI	**Sorong**	**4.54**	**62**	P	**Pn**		**08 35 30.6**	**+0.2**
SIJI	**Sorong**	**4.54**	**63**	P	**Pn**		**08 35 31.6**	**+1.1**
	18nm,0.3s,baz=197,slow=23,SNR=19							
SIJI				S	**Sn**		**08 36 20.8**	**-1.7**
	18nm,0.3s,baz=359,slow=23,SNR=12							
KAPI	**Kappang**	**7.74**	**255**	P	Pn		08 36 22.0	+7.6
	5.8nm,0.4s,baz=112,slow=10.0,SNR=4.9							
KAPI				S	**Sn**		**08 37 47.5**	**+6.1**
	4.3nm,0.8s,baz=90,slow=19,SNR=1.4							
KAPI				LR	LR		08 39 13.3	
	comp=Z,41nm,21.7s,baz=82,slow=36							
FITZ	**Fitzroy Crossi**	**15.10**	**186**	P	**P**		**08 37 58.8**	**-1.3**
	1.7nm,0.6s,baz=0.0,slow=14,SNR=3.8							
WRA	**Warramunga Arr**	**18.23**	**158**	P	**Pn**		**08 38 34.2**	**-0.5**
	2.0nm,0.4s,baz=341,slow=12,SNR=66							
ASAR	**Alice Springs**	**21.55**	**163**	P	**P**		**08 39 10.8**	**-0.1**
	2.3nm,0.5s,baz=347,slow=12,SNR=30							
ASAR				PcP	**PcP**		**08 43 11.0**	**-2.1**
	0.2nm,0.5s,baz=358,slow=1.5,SNR=2.2							
	2.3nm,0.5s							
STKA	**Stephens Creek**	**31.76**	**156**	P	**P**		**08 40 43.8**	**-1.8**
	0.8nm,0.4s,baz=335,slow=14,SNR=1.5							
	0.8nm,0.4s							
MKAR	**Makanchi Array**	**63.38**	**327**	P	**P**		**08 44 51.2**	**+0.5**
	0.6nm,0.7s,baz=120,slow=7.3,SNR=5.3							
	0.6nm,0.7s							

IDC 24 08:36:50.9±1.9, 59°.45S×158°.99E, h0km, mb3.8/2, mbtmp3.9/4, ML3.3/2, MS3.5/5, Error ellipse: s-maj=63.4km s-min=31.5km az=81.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**17.40**	**30**	P	Pn		08 40 54.8	-0.1
	0.2nm,0.3s,baz=260,slow=13,SNR=2.3							
RPZ				LR	LR		08 47 05.5	
	comp=Z,209nm,18.3s,baz=192,slow=35							
	3.3nm,0.8s							
VNDA	**Vanda**	**18.18**	**178**	P	P		08 41 05.4	+0.8
	0.1nm,0.3s,baz=349,slow=11,SNR=6.5							
	3.7nm,1.1s							
URZ	**Urewera**	**24.17**	**37**	LR	LR		08 50 13.4	
	comp=Z,119nm,21.3s,baz=286,slow=33							
RAO	**Raoul Island**	**34.05**	**38**	LR	LR		08 55 36.8	
	comp=Z,44nm,20.0s,baz=126,slow=33							
H01W1	**Cape Leeuwin H**	**38.06**	**290**	T	T		09 24 56.1	
	baz=144,slow=76,SNR=7.8							
H01W2	**Cape Leeuwin H**	**38.07**	**290**	T	T		09 24 53.7	
	baz=144,slow=76,SNR=8.5							
H01W3	**Cape Leeuwin H**	**38.08**	**290**	T	T		09 24 55.9	
	baz=144,slow=76,SNR=8.8							
MAW	**Mawson**	**39.36**	**217**	LR	LR		09 00 08.2	
	comp=Z,86nm,19.4s,baz=132,slow=36							
ASAR	**Alice Springs**	**39.88**	**323**	P	P		08 44 26.9	+0.6
	1.9nm,1.0s,baz=161,slow=8.5,SNR=11							
	1.9nm,1.0s							
WRA	**Warramunga Arr**	**43.26**	**325**	P	P		08 44 53.6	-0.3
	1.3nm,1.0s,baz=161,slow=7.1,SNR=6.5							
	1.3nm,1.0s							
KAPI	**Kappang**	**62.04**	**314**	LR	LR		09 12 20.9	
	comp=Z,23nm,20.2s,baz=159,slow=34							
H08S2	**Diego Garcia H**	**81.69**	**269**	T	T		10 19 30.7	
	baz=148,slow=76,SNR=18							
H08S1	**Diego Garcia H**	**81.70**	**269**	T	T		10 19 33.5	
	baz=148,slow=76,SNR=14							
H08S3	**Diego Garcia H**	**81.71**	**269**	T	T		10 19 32.4	
	baz=148,slow=76,SNR=22							
AKASG	**Malin Array Be**	**150.60**	**275**	PKPbc	PKPbc		08 56 41.8	-1.6
	0.4nm,0.3s,baz=118,slow=1.4,SNR=2.0							

*DJA **24** 08:48:59.2±1.2, 7°N±10°×12°.7E±°, h10km, M5.1/10, mB5.5/9, mb5.3/10, MLv5.3/7, Mw(mB)4.9/9*
*MAN **24** 08:49:03.9, 6°.62N×126°.67E, h37km, mb5.2, ML4.1, MS4.3*
*IDC **24** 08:49:05.5±2.2, 6°.77N×126°.69E, h78km±19km, mb3.9/9, mbtmp4.4/12, MS2.8/4, Error ellipse: s-maj=34.2km s-min=12.5km az=64.0*
*NEIC **24** 08:49:07.7±0.8, 6°.60N±0°.09×126°.40E±0°.08, h80km±7km, mb4.4/17, Error ellipse: s-maj=15.0km s-min=10.0km az=218.0*
ISC 24 08:49:06.1±0.9, 6°.57N±0°.04×126°.54E±0°.06, h75km±9km, n75, σ2§04/84, mb4.2/16, 6C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.08**	**297**	P	**Pn**		**08 49 25.8**	**+0.1**
	8μm,0.3s,baz=203,slow=2.2,SNR=107							
DAV				LR	LR		08 49 31.4	
	comp=Z,149nm,20.4s,baz=346,slow=23							
DAV				S	**Sn**		**08 49 41.8**	**+1.3**
	3μm,0.5s,baz=252,slow=23,SNR=20							
DAV	**Davao City (W)**	**1.08**	**297**	P	**Pn**		**08 49 25.9**	**+0.1**
KCP	**Kidapawan**	**1.51**	**287**	i/P	**Pn**		**08 49 30.5**	**-0.8**
KCP				*i* S	**Sn**		**08 49 49.8**	**-0.7**
BIPH	**Bislig**	**1.61**	**354**	i/P	**Pn**		**08 49 30.6**	**-2.1**
BIPH				*i* S	**Sn**		**08 49 50.1**	**-2.7**
GSPH	**General Santos**	**1.66**	**253**	e/P	**Pn**		**08 49 30.8**	**-2.5**
GSPH				*i* S	**Sn**		**08 49 50.5**	**-3.5**
BUKP	**Musuan**	**1.96**	**312**	i/P	**Pn**		**08 49 36.9**	**-0.5**
BUKP				*i* S	**Sn**		**08 49 54.2**	**-7.0**
CTBH	**Cotabato--PC H**	**2.37**	**286**	e/P	**Pn**		**08 49 42.0**	**-0.8**
CTBH				*i* S	**Sn**		**08 50 12.4**	**+1.4**
BUTP	**Butuan**	**2.55**	**339**	e/P	**Pn**		**08 49 48.2**	**+3.0**
BUTP				e S	**Sn**		**08 50 21.9**	**+6.5**
CGP	**Cagayan de Oro**	**2.62**	**316**	i/P	**Pn**		**08 49 45.7**	**-0.5**
CGP				*i* S	**Sn**		**08 50 17.2**	**+0.2**
SGSI	**Sangihe**	**3.04**	**199**	P	**Pn**		**08 49 52.8**	**+0.9**
SCPH	**Surigao**	**3.35**	**342**	e/P	Pn		08 50 02.6	+6.4
SCPH				e S	**Sn**		**08 50 36.6**	**+1.7**
DCPH	**Dipolog City**	**3.74**	**302**	e/P	**Pn**		**08 50 03.8**	**+2.4**
GHBP	**Garcia Hernand**	**3.75**	**324**	i/P	**Pn**		**08 50 02.4**	**+0.8**
GHBP				*i* S	**Sn**		**08 50 46.4**	**+1.8**
LSIP	**Lazi, Siquijor**	**3.84**	**312**	i/P	**Pn**		**08 50 03.3**	**+0.5**
LSIP				*i* S	**Sn**		**08 50 47.8**	**+0.9**
TBP	**Tagbilaran**	**4.08**	**320**	e/P	**Pn**		**08 50 08.5**	**-0.5**
TBP				*i* S	**Sn**		**08 50 53.3**	**+0.7**
TABP	**Talibon, Bohol**	**4.12**	**328**	i/P	**Pn**		**08 50 06.4**	**-0.2**
TABP				*i* S	**Sn**		**08 50 52.5**	**-1.2**
SNPH	**Sibulan**	**4.28**	**310**	i/P	**Pn**		**08 50 10.0**	**+1.2**
SNPH				*i* S	**Sn**		**08 51 01.1**	**+3.6**
TNTI	**Ternate**	**5.82**	**172**	Pn	**Pn**		**08 50 32.2**	**+2.4**
TNTI	**Ternate**	**5.82**	**172**	P	**Pn**		**08 50 32.3**	**+2.4**
	0.5nm2μm103nm,0.7s							
TNTI	**Ternate**	**5.82**	**172**	P	**Pn**		**08 50 33.2**	**+3.3**
RCP	**Roxas**	**6.21**	**323**	e/P	**Pn**		**08 50 36.2**	**+0.9**
KMSI	**Cibinong**	**6.48**	**203**	P	**Pn**		**08 50 41.1**	**+2.2**
	1.5nm190nm,0.7s							
GTOI	**Gorontalo**	**6.87**	**211**	P	**Pn**		**08 50 43.9**	**-0.3**
	1.0nm3nm183nm,0.7s							
LBMI	**Labuha**	**7.23**	**172**	P	**Pn**		**08 50 51.3**	**+2.2**
	0.4nm720nm46nm,0.6s							
MRSI	**Marisa**	**7.60**	**217**	P	**Pn**		**08 50 55.5**	**+1.3**
	1.4nm4μm337nm,0.8s							
TOLI2	**Tolitoli**	**7.90**	**227**	Pn	**Pn**		**08 50 56.7**	**-1.6**
LUWI	**Luwuk**	**8.45**	**207**	Pn	**Pn**		**08 51 09.9**	**+4.1**
LUWI	**Luwuk**	**8.45**	**207**	P	**Pn**		**08 51 09.6**	**+3.8**
	4μm296nm,0.7s							
LUWI	**Luwuk**	**8.45**	**207**	P	**Pn**		**08 51 10.4**	**+4.6**
SANI	**Sanana**	**8.58**	**184**	P	**Pn**		**08 51 07.0**	**-0.6**
	2μm87nm,0.7s							
SIJI	**Sorong**	**8.77**	**147**	P	**Pn**		**08 51 10.5**	**+0.4**
	40nm,0.5s,baz=2.1,slow=4.4,SNR=11							
SIJI				S	**Sn**		**08 52 43.7**	**-3.8**
	9.2nm,0.4s,baz=17,slow=19,SNR=5.7							
APSI	**Ampana**	**8.89**	**213**	P	**Pn**		**08 51 14.3**	**+2.4**
	1μm167nm,0.8s							
LQP	**Lukban**	**8.96**	**327**	e/P	Pn		08 51 18.6	+5.6
FAKI	**Fak Fak**	**11.02**	**149**	Pn	**Pn**		**08 51 42.3**	**+1.5**
FAKI	**Fak Fak**	**11.02**	**149**	P	**Pn**		**08 51 42.5**	**+1.6**
KAPI	**Kappang**	**13.36**	**211**	P	**Pn**		**08 52 13.9**	**+1.3**
	18nm,0.5s,baz=37,slow=3.1,SNR=12							
KAPI	**Kappang**	**13.36**	**211**	Pn	**Pn**		**08 52 13.0**	**+0.4**
KAPI	**Kappang**	**13.36**	**211**	P	**Pn**		**08 52 14.4**	**+1.8**
SBUM	**Sibu**	**14.85**	**255**		**Pn**		**08 52 31.2**	**-1.0**
SAUI	**Saumlaki**	**15.22**	**162**	Pn	**P**		**08 52 38.9**	**-1.2**
BATI	**Baumata**	**16.91**	**190**	P	**P**		**08 53 00.1**	**+1.2**
	50nm,0.5s,baz=341,slow=11,SNR=3.6							
PLAI	**Plampang**	**17.62**	**210**	P	**Pn**		**08 53 08.3**	**+1.6**
MTN	**Manton Dam**	**19.82**	**167**	P	**P**		**08 53 32.1**	**+1.3**
MTN				IAmb	IAmb		08 53 47.9	
	comp=Z,24nm,1.2s							
JOW	**Kunigami**	**20.22**	**4**	LR	LR		08 59 11.2	
	comp=Z,18nm,21.6s,baz=140,slow=30							
KNRA	**Kununurra**	**22.21**	**174**	P	**P**		**08 53 57.7**	**+1.1**
KNRA				IAmb	IAmb		08 54 04.9	
	comp=Z,24nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.53**	**182**	P	**P**		**08 54 19.7**	**+0.9**
	comp=Z,5.0nm,0.4s,baz=0.6,slow=8.3,SNR=22							
	comp=Z,5.0nm,0.4s							
FITZ	**Fitzroy Crossi**	**24.53**	**182**	P	**P**		**08 54 19.5**	**+0.7**
FITZ				IAmb	IAmb		08 54 27.0	
	comp=Z,8.5nm,0.7s							
COEN	**Coen**	**26.24**	**141**	P	**P**		**08 54 34.8**	**+0.4**
COEN				IAmb	IAmb		08 54 42.6	
	comp=Z,5.4nm,0.8s							
WB0	**Warramunga Arr**	**27.29**	**164**	P	**P**		**08 54 44.7**	**+0.9**
WB0				IAmb	IAmb		08 55 16.6	
	comp=Z,5.5nm,0.8s							
WRA	**Warramunga Arr**	**27.44**	**164**	P	**P**		**08 54 45.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=343,slow=10.0,SNR=29							
	comp=Z,1.1nm,0.6s							
WRA	**Warramunga Arr**	**27.44**	**164**	P	**P**		**08 54 46.2**	**+1.0**
WR0	**Warramunga Arr**	**27.52**	**164**	P	**P**		**08 54 47.0**	**+1.2**
MBWA	**Marble Bar**	**28.36**	**193**	P	**P**		**08 54 53.3**	**0.0**
MBWA				IAmb	IAmb		08 55 25.5	
	comp=Z,19nm,1.2s							
PSA00	**Pilbara Seismi**	**28.73**	**193**	P	**P**		**08 54 56.6**	**0.0**
PSA00				IAmb	IAmb		08 55 02.4	
	comp=Z,29nm,1.2s							
CMAR	**Chiang Mai Arr**	**29.37**	**296**	LR	LR		09 06 59.7	
	comp=Z,13nm,18.4s,baz=270,slow=36							
KSRS	**Korea Array**	**30.77**	**2**	LR	LR		09 07 47.2	
	comp=Z,11nm,21.2s,baz=220,slow=37							
AS31	**Alice Springs**	**30.90**	**167**	P	**P**		**08 55 16.3**	**+0.5**
AS31				IAmb	IAmb		08 55 35.6	
	comp=Z,1.6nm,0.3s							
ASAR	**Alice Springs**	**30.90**	**167**	P	**P**		**08 55 16.4**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=345,slow=7.2,SNR=39							
	comp=Z,1.5nm,0.4s							
ASAR	**Alice Springs**	**30.90**	**167**	P	**P**		**08 55 16.6**	**+0.8**
FORT	**Forrest**	**37.17**	**178**	P	**P**		**08 56 10.5**	**+0.6**
BBOO	**Buckleboo**	**40.20**	**168**	P	**P**		**08 56 36.0**	**+0.7**
NWAO	**Narrogin (SRO)**	**40.27**	**192**	P	**P**		**08 56 36.9**	**+1.1**
	comp=Z,7.0nm,0.5s,baz=315,slow=2.9,SNR=9.5							
	comp=Z,7.0nm,0.5s							
NWAO	**Narrogin (SRO)**	**40.27**	**192**	P	**P**		**08 56 36.9**	**+1.1**
STKA	**Stephens Creek**	**40.84**	**160**	P	**P**		**08 56 41.5**	**+0.9**
	comp=Z,4.6nm,0.7s,baz=337,slow=9.4,SNR=8.7							
	comp=Z,4.6nm,0.7s							
STKA	**Stephens Creek**	**40.84**	**160**	P	**P**		**08 56 41.9**	**+1.2**
MK31	**Makanchi Array**	**55.14**	**324**	P	**P**		**08 58 31.1**	**+0.3**
MKAR	**Makanchi Array**	**55.14**	**324**	P	**P**		**08 58 30.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=108,slow=8.0,SNR=6.6							
	comp=Z,0.8nm,0.5s							
MKAR	**Makanchi Array**	**55.14**	**324**	P	**P**		**08 58 29.8**	**-1.0**
ABKAR	**Akbulak array**	**69.85**	**320**	P	**P**		**09 00 08.7**	**-0.1**
AKTO	**Aktyubinsk**	**71.34**	**321**	LR	LR		09 34 19.5	
	comp=Z,20nm,19.3s,baz=55,slow=38							
KDAK	**Kodiak Island**	**79.61**	**33**	P	**P**		**09 01 06.3**	**+1.2**
KDAK				IAmb	IAmb		09 01 45.5	
	comp=Z,11nm,1.2s							
ILAR	**Eielson Array**	**82.63**	**26**	P	**P**		**09 01 18.7**	**-2.3**
	comp=Z,0.2nm,0.5s,baz=266,slow=4.8,SNR=2.1							
	comp=Z,0.2nm,0.5s							
ARCES	**ARCESS Array B**	**87.73**	**340**	P	**P**		**09 01 44.4**	**-2.0**
	comp=Z,1.1nm,0.8s,baz=96,slow=6.5,SNR=1.5							
	comp=Z,1.1nm,0.8s							
FINES	**FINESS Array B**	**89.25**	**332**	P	**P**		**09 01 51.9**	**-1.8**
	comp=Z,2.2nm,1.0s,baz=64,slow=6.7,SNR=2.0							
	comp=Z,2.2nm,1.0s							
TORD	**Torodi Ar. Bea**	**121.82**	**290**	PKP	**PKPdf**		**09 07 49.6**	**-3.1**
	comp=Z,0.4nm,0.6s,baz=53,slow=1.9,SNR=1.5							

*NEIC **24** 08:52:16.4±2.0, 37°.78S±0°.04×72°.2W±0°.1, h87km±16km, mb4.2/1, ML4.2(GUC), Error ellipse: s-maj=13.3km s-min=6.4km az=83.0*
*GUC **24** 08:52:16.0±0.6, 37°.81S×72°.18W, h104km±9km, ML4.2*
ISC 24 08:52:16.3±1.1, 37°.79S±0°.04×72°.18W±0°.07, h100km, n34, σ1§02/41, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.20**	**322**	e/P	**Pn**		**08 52 39.0**	**+0.1**
CCSP				e S	**Sn**		**08 52 55.9**	**-0.1**
CCSP				IAML			08 53 01.9	
	comp=E,4μm,0.5s							
BI05	**Punta Hualpn**	**1.32**	**322**		**Pn**		**08 52 39.9**	**-0.4**
BI05	**Punta Hualpn**	**1.32**	**322**	e/P	**Pn**		**08 52 40.1**	**-0.2**
BI05				e S	**Sn**		**08 52 58.3**	**-0.2**
BI05				IAML			08 53 04.4	
	comp=E,2μm,0.1s							
LR03	**Panguipulli**	**1.84**	**184**	e/P	**Pn**		**08 52 46.3**	**-0.5**
LR03				e S	**Sn**		**08 53 09.2**	**-0.9**
LR03				IAML			08 53 19.6	
	comp=N,2μm,0.4s							
GO06	**Curarrehue**	**1.87**	**163**		**Pn**		**08 52 46.0**	**-1.3**
GO06	**Curarrehue**	**1.87**	**163**	*i* P	**Pn**		**08 52 46.5**	**-0.8**
ML02	**Panimavida**	**2.12**	**17**		**Pn**		**08 52 50.0**	**-0.3**
ML02	**Panimavida**	**2.12**	**17**	e/P	**Pn**		**08 52 50.1**	**-0.3**
ML02				e S	**Sn**		**08 53 16.2**	**-0.2**
ML02				IAML			08 53 22.8	
	comp=N,700nm,0.4s							
LR02	**Universidad Au**	**2.17**	**202**	e/P	**Pn**		**08 52 50.9**	**-0.2**
LR02				IAML			08 53 26.1	
	comp=N,4μm,0.5s							
LR04	**Corral**	**2.30**	**205**		**Pn**		**08 52 51.8**	**-0.9**
LR04	**Corral**	**2.30**	**205**	e/P	**Pn**		**08 52 51.9**	**-0.8**
LR04				IAML			08 53 29.5	
	comp=E,3μm,0.2s							
LL04	**Puerto Octay**	**3.12**	**183**		**Pn**		**08 53 04.3**	**+0.7**
LL04	**Puerto Octay**	**3.12**	**183**	e/P	**Pn**		**08 53 03.0**	**-0.6**
LL04				IAML			08 53 52.6	
	comp=E,406nm,0.3s							
PLCA	**Paso Flores**	**3.20**	**157**		**Pn**		**08 53 04.8**	**+0.1**
BO02	**Sierra Bellavi**	**3.20**	**21**		**Pn**		**08 53 05.0**	**+0.2**
BO02	**Sierra Bellavi**	**3.20**	**21**	e/P	**Pn**		**08 53 04.5**	**+0.1**
BO02				e S	**Sn**		**08 53 42.4**	**+0.2**
BO02				IAML			08 53 51.8	
	comp=N,660nm,0.3s							
BO03	**Pichilemu**	**3.30**	**3**	e/P	**Pn**		**08 53 04.6**	**-1.4**

MMRI	Maumere	5.41	252			Pn	08 54 54.7	+0.7
MMRI	Maumere	5.41	252	P		Pn	08 54 53.7	-0.4
	0.5nm4μm65nm,0.4s							
MMRI	Maumere	5.41	252	P		Pn	08 54 54.5	+0.4
EDFI	Ende, Flores	5.96	252	P		Pn	08 55 00.3	-0.3
	0.2nm2μm25nm,0.4s							
FAKI	Fak Fak	6.26	50			Pn	08 55 04.5	+0.4
FAKI	Fak Fak	6.26	50	P		Pn	08 55 05.3	+1.2
FAKI	Fak Fak	6.26	50	P		Pn	08 55 05.3	+1.2
LBMI	Labuha	6.29	1	P		Pn	08 55 07.5	+3.0
	0.7nm2μm179nm,0.8s							
MTN	Manton Dam	6.88	148	Pn		Pn	08 55 12.4	+0.9
MTN	Manton Dam	6.88	148	P		Pn	08 55 13.2	+1.7
BSSI	Bau Bau, Buton	6.95	276	P		Pn	08 55 13.6	+1.3
	0.1nm20nm,0.7s							
SIJI	Sorong	7.16	32	P		Pn	08 55 15.0	+0.1
	8.4nm,0.3s,baz=204,slow=21,SNR=8.4							
SIJI				S		S	08 56 34.8	-4.1
	25nm,0.3s,baz=253,slow=23,SNR=22							
LUWI	Luwuk	7.50	322	Pn		Pn	08 55 21.1	+2.1
KDU	Kakadu	7.54	139	P		Pn	08 55 20.7	+1.3
GTOI	Gorontalo	8.75	330	P		P	08 55 39.6	+1.2
	434nm34nm,0.5s							
KNRA	Kununurra	8.75	172			Pn	08 55 35.0	+0.9
KNRA	Kununurra	8.75	172	P		Pn	08 55 35.0	+0.9
PLAI	Plampang	9.74	258	P		Pn	08 55 46.5	+0.3
	849nm33nm,0.8s							
PLAI	Plampang	9.74	258	P		Pn	08 55 46.5	+0.3
TWSI	Taliwang, Sumb	10.60	260	P		Pn	08 55 57.2	+0.6
	10.0nm,1.6s							
FITZ	Fitzroy Crossi	11.20	189	P		Pn	08 56 03.6	-0.3
	17nm,0.3s,baz=359,slow=6.5,SNR=66							
FITZ	Fitzroy Crossi	11.20	189			Pn	08 56 03.8	0.0
FITZ	Fitzroy Crossi	11.20	189	P		Pn	08 56 04.0	+0.2
MTKI	Muara Teweh, K	13.86	295	P		P	08 56 28.7	-6.4
WB0	Warramunga Arr	14.40	153	P		P	08 56 41.2	+0.2
WRAB	Tennant Creek	14.53	153	P		P	08 56 43.4	+1.0
WRA	Warramunga Arr	14.53	153	P		P	08 56 43.1	+0.7
	46nm,0.6s,baz=327,slow=12,SNR=76							
WRA				S		S	08 59 19.2	-2.2
	7.2nm,0.8s,baz=331,slow=21,SNR=6.4							
WRA	Warramunga Arr	14.53	153	P		P	08 56 42.5	0.0
WR0	Warramunga Arr	14.64	153	P		P	08 56 44.0	+0.3
MBWA	Marble Bar	15.95	207	P		P	08 56 57.9	-0.1
MBWA				IAmb		IAmb	08 56 58.8	
	comp=Z,15nm,0.6s							
MBWA	Marble Bar	15.95	207	P		P	08 56 58.3	+0.3
PSA00	Pilbara Seismi	16.27	206	P		P	08 57 01.5	+0.2
PSA00	Pilbara Seismi	16.27	206	P		P	08 57 01.6	+0.2
COEN	Coen	16.96	115	P		P	08 57 09.9	+0.9
COEN				IAmb		IAmb	08 57 18.1	
	comp=Z,8.3nm,0.8s							
COEN	Coen	16.96	115	P		P	08 57 10.6	+1.6
AS31	Alice Springs	17.73	160	P		P	08 57 18.0	+0.8
ASAR	Alice Springs	17.73	160	P		P	08 57 18.4	+1.2
	comp=Z,60nm,0.7s,baz=342,slow=12,SNR=120							
ASAR				S		S	09 00 22.9	-1.8
	comp=Z,3.2nm,0.9s,baz=345,slow=20,SNR=7.0							
ASAR				ScP		ScP	09 04 40.6	-3.1
	comp=Z,0.4nm,0.6s,baz=359,slow=2.3,SNR=2.0							
ASAR	Alice Springs	17.73	160	P		P	08 57 18.2	+1.0
QIS	Mount Isa	17.93	140	P		P	08 57 20.6	+1.2
WRKA	Warakurna	17.99	177	P		P	08 57 21.0	+1.0
PMG	Port Moresby	19.67	98	P		P	08 57 40.1	+2.0
	comp=Z,9.3nm,0.6s,baz=278,slow=6.1,SNR=4.3							
MEEK	Meekatharra	21.29	202	P		P	08 57 52.9	-0.8
OOD	Oodnadatta	22.14	160	P		P	08 58 02.4	+1.0
FORT	Forrest	23.69	179	P		P	08 58 15.2	-0.3
FORT	Forrest	23.69	179	P		P	08 58 15.5	+0.1
MULG	Mulgathing	24.01	166	P		P	08 58 19.4	+1.1
INKA	Innaminka	24.21	150	P		P	08 58 21.1	+1.0
LCRK	Leigh Creek	25.46	158	P		P	08 58 32.6	+1.3
	comp=Z,17nm,2.2s							
BBOO	Buckleboo	26.93	164	P		P	08 58 44.6	+0.1
BBOO				IAmb		IAmb	08 59 12.0	
	comp=Z,17nm,1.1s							
BBOO	Buckleboo	26.93	164	P		P	08 58 45.0	+0.6
STKA	Stephens Creek	28.09	154	P		P	08 58 55.1	+0.5
	comp=Z,5.8nm,0.6s,baz=332,slow=8.9,SNR=8.0							
	comp=Z,5.8nm,0.6s							
STKA	Stephens Creek	28.09	154	P		P	08 58 55.2	+0.5
STKA	Stephens Creek	28.09	154	P		P	08 58 55.3	+0.7
HTT	Hallett	28.40	160	P		P	08 58 58.2	+0.7
	comp=Z,9.9nm,2.1s							
ARPS	Mount Arapiles	32.45	158	P		P	08 59 33.2	+0.5
CMAR	Chiang Mai Arr	37.79	312	P		P	09 00 17.8	-0.5
	comp=Z,0.8nm,0.3s,baz=127,slow=6.9,SNR=1.7							
	comp=Z,0.8nm,0.3s							
JHS	Saijyo	42.09	7	P		P	09 00 53.1	0.0
JHS				IAmb		IAmb	09 01 23.2	
	comp=Z,28nm,1.3s							
KSRS	Korea Array	44.19	1	P		P	09 01 09.6	-0.2
	comp=Z,1.3nm,0.6s,baz=177,slow=9.8,SNR=8.5							
	comp=Z,1.3nm,0.6s							
MJAR	Matsushiro Arr	44.45	12	P		P	09 01 10.6	-1.2
	comp=Z,2.6nm,0.8s,baz=190,slow=9.5,SNR=6.9							
	comp=Z,2.6nm,0.8s							
JMM	Marumori	46.31	15	P		P	09 01 26.4	+0.1
JMM				IAmb		IAmb	09 01 29.2	
	comp=Z,19nm,1.0s							
USA0B	Ussuriysk Arra	51.10	4	P		P	09 02 02.3	0.0
USRK	Ussuriysk Ar.	51.10	4	P		P	09 02 02.5	+0.2
	comp=Z,2.0nm,0.5s,baz=181,slow=5.9,SNR=8.2							
	comp=Z,2.0nm,0.5s							
USRK	Ussuriysk Ar.	51.10	4	P		P	09 02 02.8	+0.4
SONM	Songino Array	57.64	343	P		P	09 02 49.8	+0.6
	comp=Z,1.2nm,0.5s,baz=164,slow=8.0,SNR=7.4							
	comp=Z,1.2nm,0.5s							
SONM	Songino Array	57.64	343	P		P	09 02 50.7	+1.4
PETK	Petropavlovsk-	65.12	20	P		P	09 03 38.6	-0.1
	comp=Z,2.8nm,0.7s,baz=191,slow=6.8,SNR=3.1							
	comp=Z,2.8nm,0.7s							
PETK	Petropavlovsk-	65.12	20	P		P	09 03 38.8	0.0
MK31	Makanchi Array	66.83	328	P		P	09 03 49.6	-0.1
MKAR	Makanchi Array	66.83	328	P		P	09 03 49.6	-0.1
	comp=Z,1.4nm,0.6s,baz=118,slow=7.9,SNR=15							
	comp=Z,1.4nm,0.6s							
MKAR	Makanchi Array	66.83	328	P		P	09 03 49.4	-0.3
ZAA0	Zalesovo Array	70.45	335	P		P	09 04 10.9	-0.8
ZAA0				IAmb		IAmb	09 04 11.6	
	comp=Z,5.0nm,0.8s							
ZALV	Zalesovo Beam	70.45	335	P		P	09 04 10.7	-1.0
	comp=Z,4.6nm,0.5s,baz=128,slow=5.4,SNR=17							
	comp=Z,4.6nm,0.5s							
ZALV	Zalesovo Beam	70.45	335	P		P	09 04 10.9	-0.8
KURK	Kurchatov	71.18	330	P		P	09 04 16.0	-0.2
KURK				IAmb		IAmb	09 04 16.8	
	comp=Z,5.7nm,0.8s							
ABKAR	Akbulak array	80.91	322	P		P	09 05 09.7	-1.1
K20K	Telida	91.05	26	P		P	09 06 00.5	+0.5
K20K				IAmb		IAmb	09 06 02.2	
	comp=Z,6.2nm,1.4s							
M20K	Styx River	91.14	28	P		P	09 05 59.8	-0.7
M20K				IAmb		IAmb	09 06 14.4	
	comp=Z,7.4nm,1.2s							
SML	Sawmill	93.37	28	P		P	09 06 09.7	-1.0
BMAR	Burnt Mountain	95.61	23	P		P	09 06 20.1	-0.7
TORD	Torodi Ar. Bea	126.30	281	PKP		PKPdf	09 11 56.7	-1.0
	comp=Z,0.6nm,0.6s,baz=90,slow=2.5,SNR=4.0							
TXAR	Lajitas Array	127.09	58	PKP		PKPdf	09 11 58.8	-0.2
	comp=Z,0.1nm,0.6s,baz=242,slow=1.9,SNR=2.1							
CPUP	Villa Florida	146.58	172	PKPbc		PKPdf	09 12 35.7	+1.1
	comp=Z,2.6nm,1.0s,baz=201,slow=3.3,SNR=3.2							
LPAZ	La Paz	152.23	146	PKPbc		PKPbc	09 12 49.9	-1.6
	comp=Z,0.6nm,0.4s,baz=199,slow=8.2,SNR=6.6							

KNET ***24*** *08:54:25.5±0.4, 43.˚24N×75.˚01E, h18km±1km, ml2.4, Error ellipse: s-maj=3.1km s-min=1.6km az=10.0*
NNC ***24*** *08:54:25.1±0.2, 43.˚31N×75.˚02E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=1.6km s-min=0.9km az=156.0*
KRNET ***24*** *08:54:25.2±0.1, 43.˚30N×75.˚00E, h19km, mb3.7*
SOME ***24*** *08:54:26.0, 43.˚28N×75.˚03E, h10km*

ISC 24 08:54:25.6±0.9, 43.˚30N±0.˚02×74.˚99E±0.˚01, h13km±8km, n85, σ1.908/149, 35C-20D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGDS	Sogindy	0.30	300	eP	Pg	08 54 31.5	-0.2
	478nm,0.1s						
SGDS				eS	Sg	08 54 35.8	-0.2
	888nm,0.1s						
SGDS	Sogindy	0.30	300	P	Pg	08 54 31.5	-0.2
	478nm,0.1s						
SGDS				S	Sg	08 54 35.8	-0.2
	2μm,0.1s						
CHMS	Chumysh	0.35	209	⇑P	Pg	08 54 32.6	0.0
	26nm,0.1s,SNR=79						
CHMS				⇑S	Sg	08 54 37.7	+0.2
	541nm,0.1s						
CHMS	Chumysh	0.35	209	⇑P	Pg	08 54 32.6	0.0
	8.1nm,0.2s						
CHMS				⇑S	Sg	08 54 37.6	+0.2
	122nm,0.2s						
CHMS	Chumysh	0.35	209	⇑*i*P	Pg	08 54 32.3	-0.3
	baz=12						
CHMS				⇑*i*S	Sg	08 54 37.2	-0.2
	baz=12						
USP	Ospenovka	0.36	264	⇑P	Pg	08 54 32.6	-0.2
	183nm,0.3s,SNR=129						
USP				⇑S	Sg	08 54 37.6	0.0
	525nm,0.1s						
USP	Ospenovka	0.36	264	⇑*i*P	Pg	08 54 32.6	-0.2
	baz=66						
USP				⇑*i*S	Sg	08 54 38.0	+0.4
	baz=66						
FRU1	Bishkek	0.56	208	⇑*i*P	Pg	08 54 35.8	-0.7
	baz=10.0						
FRU1				⇑*e*S	Sg	08 54 43.4	-0.5
	baz=10.0						
DGS	Degeres	0.58	96	*e*P	Pg	08 54 36.5	-0.4
	57nm,0.0s						
DGS				*e*S	Sg	08 54 44.2	-0.3
	362nm,0.1s						
DGS	Degeres	0.58	96	P	Pg	08 54 36.5	-0.4
	57nm,0.2s						
DGS				S	Sg	08 54 44.2	-0.3
	365nm,0.2s						
DGS	Degeres	0.58	96	*e*P	Pg	08 54 36.5	-0.4
	baz=95						
DGS				*e*S	Sg	08 54 44.3	-0.3
	baz=95						
TKM2	Tokmak 2	0.59	130	⇓P	Pg	08 54 36.3	-0.8
	25nm,0.2s,SNR=16						
TKM2				⇑S	Sg	08 54 44.4	-0.5
	204nm,0.1s						
TKM2	Tokmak 2	0.59	130	⇓P	Pg	08 54 36.3	-0.8
	8.0nm,0.3s						
TKM2				⇓S	Sg	08 54 44.3	-0.7
	99nm,0.4s						
TKM2	Tokmak 2	0.59	130	⇓*i*P	Pg	08 54 36.3	-0.8
	baz=31						
TKM2				⇓*i*S	Sg	08 54 44.3	-0.7
	baz=31						
KRBS	Karabastau	0.64	52	*e*P	Pg	08 54 37.6	-0.4
	26nm,0.0s						
KRBS				*e*S	Sg	08 54 45.9	-0.6
	66nm,0.1s						
KRBS	Karabastau	0.64	52	P	Pg	08 54 37.6	-0.4
	21nm,0.1s						
KRBS				S	Sg	08 54 45.8	-0.6
	66nm,0.2s						
KRBS	Karabastau	0.64	52	*e*P	Pg	08 54 37.6	-0.4
	baz=50						
KRBS				*e*S	Sg	08 54 45.8	-0.6
	baz=50						
KBK	Karagaybulak	0.65	182	⇓P	Pg	08 54 38.3	+0.1
	163nm,0.1s,SNR=77						
KBK				⇓S	Sb	08 54 47.6	-0.2
	469nm,0.2s						
KBK	Karagaybulak	0.65	182	⇓*i*P	Pg	08 54 37.9	-0.3
	baz=84						
KBK				⇓*i*S	Sg	08 54 46.4	-0.4
	baz=84						
AAK	Ala-Archa	0.76	209	⇓P	Pg	08 54 40.1	-0.2
	26nm,0.1s,SNR=32						
AAK				⇑S	Sg	08 54 50.1	-0.1
	154nm,0.2s						
AAK	Ala-Archa	0.76	209	⇑*i*P	Pg	08 54 39.5	-0.8
	baz=10.0						
AAK				⇑*i*S	Sg	08 54 50.0	-0.2
	baz=10.0						
KST	Kastek	0.76	110	*e*P	Pg	08 54 40.0	-0.4
	16nm,0.2s						
KST				*e*S	Sg	08 54 49.9	-0.5
	117nm,0.1s						
KST	Kastek	0.76	110	P	Pg	08 54 39.9	-0.4
	15nm,0.1s						
KST				S	Sg	08 54 49.9	-0.5
	118nm,0.2s						
KST	Kastek	0.76	110	*e*P	Pg	08 54 40.0	-0.4
	baz=9.0						
KST				*e*S	Sg	08 54 49.9	-0.5
	baz=9.0						
MTBS	Maitube	1.07	99	*e*P	Pg	08 54 45.1	-1.1
	19nm,0.3s						
MTBS				*e*S	Sg	08 54 58.6	-1.5
	62nm,0.0s						
MTBS	Maitube	1.07	99	P	Pg	08 54 45.1	-1.1
	19nm,0.3s						
MTBS				S	Sg	08 54 58.6	-1.5
	62nm,0.3s						
MTBS	Maitube	1.07	99	*e*P	Pg	08 54 45.1	-1.1
	baz=99						
MTBS				*e*S	Sg	08 54 58.6	-1.5
	baz=99						
EKS2	Erkin-Say	1.09	235	⇑P	Pg	08 54 46.0	-0.7
	12nm,0.1s,SNR=11						
EKS2				⇑S	Sg	08 55 01.2	+0.3
	47nm,0.1s						
EKS2	Erkin-Say	1.09	235	⇑*i*P	Pg	08 54 45.8	-0.9
	baz=35						
EKS2				⇑*i*S	Sg	08 55 00.5	-0.4
	baz=35						
UCH	Uchtor	1.13	198	⇓P	Pg	08 54 46.7	-0.6
	14nm,0.1s,SNR=105						
UCH				⇑S	Sg	08 55 01.8	-0.3
	41nm,0.2s						
UCH	Uchtor	1.13	198	⇑*i*P	Pg	08 54 46.4	-1.0
	baz=99						
UCH				⇑*i*S	Sg	08 55 01.4	-0.7
	baz=99						
KTBS	Karatobe	1.30	71	*e*P	Pn	08 54 49.1	-0.4
	36nm,0.2s						
KTBS				*e*S	Sb	08 55 05.5	-1.0
	168nm,0.4s						
KTBS	Karatobe	1.30	71	P	Pn	08 54 49.1	-0.4
	36nm,0.2s						
KTBS				S	Sb	08 55 05.5	-1.0
	168nm,0.4s						
KTBS	Karatobe	1.30	71	*e*P	Pn	08 54 49.1	-0.4
	baz=71						
KTBS				*e*S	Sb	08 55 05.5	-1.0
	baz=71						
ULHL	Ulahol	1.41	138	⇑P	Pn	08 54 50.9	-0.2
	7.8nm,0.1s,SNR=22						
ULHL				⇓S	Sb	08 55 09.8	+0.1
	48nm,0.2s						
ULHL	Ulahol	1.41	138	⇓*i*P	Pn	08 54 50.8	-0.2
	baz=39						
ULHL				⇓*i*S	Sb	08 55 09.1	-0.6
	baz=39						
MRKS	Merke	1.41	247	*e*P	Pn	08 54 51.1	+0.1
	16nm,0.3s						
MRKS				*e*S	Sb	08 55 09.2	-0.4
	65nm,0.2s						
MRKS	Merke	1.41	247	P	Pn	08 54 51.1	+0.1
	16nm,0.3s						
MRKS				S	Sb	08 55 08.9	-0.7
	63nm,0.2s						
AAA	Alma-Ata	1.41	93	*e*P	Pb	08 54 51.8	0.0
	81nm,0.0s						
AAA				*e*S	Sg	08 55 10.5	-0.6
	95nm,0.0s						
AAA	Alma-Ata	1.41	93	P	Pb	08 54 51.8	0.0
	81nm,0.2s						
AAA				S	Sg	08 55 10.5	-0.6
	95nm,0.2s						
TNSS	Tian-Shan	1.46	100	*e*P	Pn	08 54 52.1	+0.1
	46nm,0.1s						
TNSS				*e*S	Sb	08 55 10.6	-0.8
	60nm,0.2s						
TNSS	Tian-Shan	1.46	100	P	Pn	08 54 52.1	+0.1
	47nm,0.3s						
TNSS				S	Sb	08 55 10.6	-0.8
	60nm,0.2s						
TNSS	Tian-Shan	1.46	100	*e*P	Pn	08 54 52.1	+0.1
	baz=99						
TNSS				*e*S	Sb	08 55 10.6	-0.8
	baz=99						
AML	Almayashu	1.51	220	⇑P	Pb	08 54 53.6	0.0
	18nm,0.4s,SNR=6.3						
AML				⇓S	Sb	08 55 13.6	+0.8
	23nm,0.2s						
MDOK	Medeo	1.51	95	*e*P	Pb	08 54 53.5	-0.1
	25nm,0.1s						
MDOK				*e*S	Sb	08 55 12.9	+0.1
	54nm,0.1s						
MDOK	Medeo	1.51	95	⇑P	Pb	08 54 53.2	-0.4
	11nm,0.4s						
MDOK				Pg	Pb	08 54 53.5	-0.1
	25nm,0.4s						
MDOK				⇓S	Sb	08 55 12.9	+0.1
	27nm,0.5s						
MDOK				Lg	Lg	08 55 12.9	
	70nm,0.5s						
ARLS	Aral	1.52	199	⇑*i*P	Pn	08 54 53.2	+0.6
	baz=99						
ARLS				⇑*i*S	Sn	08 55 13.3	+0.9
	baz=99						
KOTS	Kotyrbulak	1.56	92	*e*P	Pb	08 54 54.5	+0.2
	8.4nm,0.1s						
KOTS				*e*S	Sg	08 55 14.8	-0.8
	83nm,0.2s						
KOTS	Kotyrbulak	1.56	92	P	Pb	08 54 54.5	+0.2
	8.0nm,0.1s						
KOTS				S	Sg	08 55 14.8	-0.8
	83nm,0.2s						
CHKK	Chushkaly	1.56	69	*e*P	Pn	08 54 53.6	+0.6
	17nm,0.0s						
CHKK				*e*S	Sb	08 55 13.9	+0.1
	152nm,0.1s						
CHKK	Chushkaly	1.56	69	P	Pn	08 54 53.6	+0.6
	16nm,0.2s						
CHKK				S	Sb	08 55 13.9	+0.1
	152nm,0.2s						
CHKK	Chushkaly	1.56	69	*e*P	Pn	08 54 53.6	+0.6
	baz=68						
CHKK				*e*S	Sb	08 55 14.0	+0.1
	baz=68						
BTLS	Baital	1.86	339	*e*P	Pb	08 54 58.9	-0.6
	29nm,0.2s						
BTLS				*e*S	Sb	08 55 22.6	-0.1
	36nm,0.1s						
BTLS	Baital	1.86	339	P	Pb	08 54 58.9	-0.6
	29nm,0.2s						
BTLS				S	Sb	08 55 22.6	-0.1
	36nm,0.2s						
ARXS	Arharly	2.25	65	*e*P	Pb	08 55 05.9	-0.2
	13nm,0.1s						
ARXS				*e*S	Sb	08 55 34.6	+0.7
	62nm,0.4s						
ARXS	Arharly	2.25	65	Pg	Pb	08 55 05.9	-0.2
	11nm,0.2s						
ARXS				Lg	Lg	08 55 34.6	
	62nm,0.4s						
KURS	Kuram	2.33	84	*e*P	Pb	08 55 06.2	-1.2
	9.1nm,0.1s						
KURS				*e*S	Sb	08 55 34.9	-1.3
	28nm,0.7s						
KURS	Kuram	2.33	84	Pg	Pb	08 55 06.2	-1.2
	9.1nm,0.4s						
KURS				Lg	Lg	08 55 34.8	
	28nm,0.7s						
SATY	Saty	2.51	94	*e*P	Pb	08 55 11.4	+0.8
	5.5nm,0.0s						
SATY				*e*S	Sg	08 55 43.8	-2.6
	40nm,0.1s						
SATY	Saty	2.51	94	Pg	Pb	08 55 11.4	+0.8
	5.6nm,0.2s						
SATY				Lg	Lg	08 55 43.8	
	40nm,0.1s						
ZHN	Zhinishke	2.52	92	*e*P	Pb	08 55 12.0	+1.2
	20nm,0.1s						
ZHN				*e*S	Sg	08 55 44.2	-2.5
	55nm,0.3s						
ZHN	Zhinishke	2.52	92	Pg	Pb	08 55 12.0	+1.2
	19nm,0.1s						
ZHN				Lg	Lg	08 55 44.2	
	55nm,0.3s						
BLB	Baldybastay	2.65	71	*e*P	Pb	08 55 12.6	-0.5
	10nm,0.3s						
BLB				*e*S	Sb	08 55 46.0	+0.4
	51nm,0.2s						
BLB	Baldybastay	2.65	71	Pg	Pb	08 55 12.6	-0.5
	9.1nm,0.2s						
BLB				Lg	Lg	08 55 46.0	
	51nm,0.2s						
KPKS	Kokpek	2.70	85	*e*P	Pb	08 55 13.8	0.0
	15nm,0.5s						
KPKS				*e*S	Sb	08 55 47.9	+1.0
	53nm,0.2s						
KPKS	Kokpek	2.70	85	Pg	Pb	08 55 13.8	0.0
	15nm,0.5s						
KPKS				Lg	Lg	08 55 47.9	
	49nm,0.4s						
UZB	Uzynbulak	2.96	92	*e*P	Pb	08 55 18.5	+0.4
	2.0nm,0.0s						
UZB				*e*S	Sb	08 55 56.0	+1.7
	22nm,0.3s						
UZB	Uzynbulak	2.96	92	Pg	Pb	08 55 18.5	+0.4
	1.8nm,0.1s						
UZB				Lg	Lg	08 55 56.0	
	22nm,0.3s						
TDK	Taldyqorghan	2.99	54	*e*P	Pb	08 55 19.1	+0.4
	26nm,0.3s						
TDK				*e*S	Sb	08 55 56.8	+1.6
	32nm,0.2s						
TDK	Taldyqorghan	2.99	54	Pg	Pb	08 55 19.0	+0.4
	55nm,0.4s						
TDK				Lg	Lg	08 55 56.8	
	32nm,0.3s						
SHLS	Shalkode	3.27	91	*e*P	Pg	08 55 30.5	+2.2
	2.9nm,0.0s						
SHLS				*e*S	Sg	08 56 16.4	+5.7
	14nm,0.4s						
SHLS	Shalkode	3.27	91	Pg	Pg	08 55 30.5	+2.2
	2.9nm,0.1s						
SHLS				Lg	Lg	08 56 16.4	
	14nm,0.4s						
KK31	Karatay Array	3.28	268	⇑Pg	Pg	08 55 26.9	-1.5
	0.4nm,0.2s,baz=86,slow=16,SNR=8.2						
KK31				⇓Lg	Lg	08 56 08.3	
	6.2nm,0.5s,baz=79,slow=30,SNR=20						
PDGK	Podgornoye	3.29	88	⇓Pg	Pb	08 55 24.6	+0.8
	2.6nm,0.3s						
PDGK				⇑Lg	Lg	08 56 08.7	
	11nm,0.6s						
DJR	Jarkent	3.63	72	*e*P	Pb	08 55 31.7	+2.1
	5.4nm,0.2s						
DJR				*e*S	Sg	08 56 18.7	-3.3
	7.7nm,0.5s						
DJR	Jarkent	3.63	72	Pg	Pb	08 55 31.7	+2.1
	5.4nm,0.2s						
DJR				Lg	Lg	08 56 18.7	
	7.7nm,0.5s						
IUG	Iuzhnay	3.83	254	*e*P	Pg	08 55 37.1	-1.7
	1.9nm,0.2s						
IUG				*e*S	Sg	08 56 27.2	-1.3
	17nm,0.5s						
IUG	Iuzhnay	3.83	254	Pg	Pg	08 55 37.1	-1.7
	81nm,0.3s						
IUG				Lg	Lg	08 56 27.2	
	17nm,0.5s						
KTMS	Ketmen	3.92	86	*e*P	Pb	08 55 36.7	+2.2
	2.9nm,0.2s						
KTMS				*

Error ellipse: s-maj=4.9km s-min=3.4km az=179.0

ISC 24 09:00:35.9±2.4,**40°39'N**±0'1×**77°25E**±0'04,**h13**km±12km, **n34,σ1°30/55,9C-7D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.49**	**321**	⇑*i*P	**Pg**	**09 01 05.4**	**+0.8**
	baz=9.0						
NRN				⇑*i*S	**Sb**	**09 01 23.3**	**+0.7**
	baz=9.0						
TARG	**Taragay, Kyrgy**	**1.50**	**16**	⇑*i*P	**Pn**	**09 01 02.5**	**-0.5**
	baz=16						
TARG				⇑*i*S	**Sn**	**09 01 18.9**	**-3.7**
	baz=16						
ULHL	**Ulahol**	**2.10**	**339**	⇑*i*P	**Pb**	**09 01 14.4**	**+0.4**
	baz=33						
ULHL				⇑*i*S	**Sb**	**09 01 39.5**	**-0.6**
	baz=33						
ARLS	**Aral**	**2.72**	**306**	⇓*i*P	**Pb**	**09 01 25.2**	**+0.7**
	baz=0.0						
ARLS				⇓*i*S	**Sb**	**09 01 57.6**	**-0.1**
	baz=0.0						
TNSS	**Tian-Shan**	**2.76**	**355**	*e*P	**Pb**	**09 01 26.1**	**+0.7**
	25nm,0.4s						
TNSS				*e*S	**Sb**	**09 01 58.3**	**-0.9**
	12nm,0.1s						
TNSS	**Tian-Shan**	**2.76**	**355**	Pg	**Pb**	**09 01 26.1**	**+0.7**
	25nm,0.4s						
TNSS				Lg	Lg	09 01 58.3	
	12nm,0.4s						
UCH	**Uchtor**	**2.83**	**314**	⇓*i*P	**Pb**	**09 01 26.4**	**-0.2**
	baz=8.0						
UCH				⇓*i*S	**Sb**	**09 02 00.2**	**-1.2**
	baz=8.0						
MDOK	**Medeo**	**2.88**	**357**	*e*P	**Pb**	**09 01 28.0**	**+0.7**
	8.5nm,0.2s						
MDOK				*e*S	**Sb**	**09 02 02.3**	**-0.1**
	27nm,0.4s						
MDOK	**Medeo**	**2.88**	**357**	Pg	**Pb**	**09 01 27.9**	**+0.6**
	7.3nm,0.5s						
MDOK				Pg	**Pb**	**09 01 28.0**	**+0.7**
	8.5nm,0.2s						
MDOK				Lg	Lg	09 02 02.6	
	9.6nm,0.5s						
MDOK				Lg	Lg	09 02 02.7	
	27nm,0.4s						
SATY	**Saty**	**2.90**	**17**	*e*P	**Pb**	**09 01 27.7**	**+0.1**
	3.6nm,0.2s						
SATY				*e*S	**Sb**	**09 02 01.4**	**-1.7**
	17nm,0.3s						
SATY	**Saty**	**2.90**	**17**	Pg	**Pb**	**09 01 27.7**	**+0.1**
	3.6nm,0.2s						
SATY				Lg	Lg	09 02 01.5	
	17nm,0.3s						
MTBS	**Maitube**	**2.91**	**348**	*e*P	**Pb**	**09 01 28.8**	**+1.1**
	5.4nm,0.0s						
MTBS				*e*S	**Sb**	**09 02 03.9**	**+0.6**
	20nm,0.1s						
MTBS	**Maitube**	**2.91**	**348**	Pg	**Pb**	**09 01 28.8**	**+1.1**
	5.2nm,0.3s						
MTBS				Lg	Lg	09 02 03.9	
	20nm,0.3s						
TKM2	**Tokmak 2**	**2.91**	**335**	⇑Pg	**Pb**	**09 01 29.7**	**+1.9**
	7.0nm,0.7s						
TKM2				⇑Lg	Lg	09 02 06.0	
	10nm,0.8s						
TKM2	**Tokmak 2**	**2.91**	**335**	⇓*i*P	**Pb**	**09 01 25.9**	**-1.9**
	baz=31						
TKM2				⇓*i*S	**Sn**	**09 01 59.0**	**+1.9**
	baz=31						
KST	**Kastek**	**2.92**	**341**	*e*P	**Pb**	**09 01 29.5**	**+1.6**
	3.9nm,0.0s						
KST				*e*S	**Sb**	**09 02 04.9**	**+1.3**
	14nm,0.3s						
KST	**Kastek**	**2.92**	**341**	Pg	**Pb**	**09 01 29.5**	**+1.6**
	3.9nm,0.3s						
KST				Lg	Lg	09 02 04.9	
	14nm,0.6s						
ZHN	**Zhinishke**	**3.02**	**17**	*e*P	**Pb**	**09 01 30.7**	**+1.2**
	10nm,0.1s						
ZHN				*e*S	**Sb**	**09 02 06.6**	**+0.3**
	34nm,0.1s						
ZHN	**Zhinishke**	**3.02**	**17**	Pg	**Pb**	**09 01 30.7**	**+1.2**
	10nm,0.1s						
ZHN				Lg	Lg	09 02 06.6	
	33nm,0.3s						
UZB	**Uzynbulak**	**3.15**	**24**	*e*P	**Pb**	**09 01 32.7**	**+0.8**
	1.4nm,0.2s						
UZB				*e*S	**Sb**	**09 02 10.0**	**-0.3**
	16nm,0.0s						
UZB	**Uzynbulak**	**3.15**	**24**	Pg	**Pb**	**09 01 32.7**	**+0.8**
	1.4nm,0.2s						
UZB				Lg	Lg	09 02 10.0	
	16nm,0.7s						
KURS	**Kuram**	**3.27**	**12**	*e*P	**Pb**	**09 01 34.8**	**+0.9**
	10nm,0.6s						
KURS				*e*S	**Sb**	**09 02 13.6**	**-0.1**
	7.9nm,0.7s						
KURS	**Kuram**	**3.27**	**12**	Pg	**Pb**	**09 01 34.8**	**+0.9**
	10nm,0.6s						
KURS				Lg	Lg	09 02 13.6	
	7.9nm,0.7s						
SHLS	**Shalkode**	**3.31**	**29**	*e*P	**Pg**	**09 01 39.3**	**-0.1**
	2.7nm,0.0s						
SHLS				*e*S	**Sg**	**09 02 21.3**	**-1.1**
	16nm,0.1s						
SHLS	**Shalkode**	**3.31**	**29**	Pg	**Pg**	**09 01 39.3**	**-0.1**
	3.0nm,0.2s						
SHLS				Lg	Lg	09 02 21.3	
	15nm,0.6s						
KPKS	**Kokpek**	**3.35**	**18**	*e*P	**Pb**	**09 01 36.2**	**+0.9**
	5.9nm,0.1s						
KPKS				*e*S	**Sb**	**09 02 16.1**	**+0.1**
	20nm,0.7s						
KPKS	**Kokpek**	**3.35**	**18**	Pg	**Pb**	**09 01 36.2**	**+0.9**
	5.9nm,0.3s						
KPKS				Lg	Lg	09 02 16.1	
	20nm,0.7s						
PDGK	**Podgornoye**	**3.47**	**28**	⇓Pg	**Pb**	**09 01 37.8**	**+0.4**
	2.7nm,0.5s						
PDGK				⇑Lg	Lg	09 02 20.0	
	11nm,0.8s						
MRKS	**Merke**	**3.90**	**310**	*e*P	**Pg**	**09 01 49.7**	**-0.8**
	1.9nm,0.1s						
MRKS				*e*S	**Sg**	**09 02 39.7**	**-1.3**
	2.2nm,0.1s						
KTMS	**Ketmen**	**3.92**	**35**	*e*P	**Pb**	**09 01 46.3**	**+1.4**
	0.5nm,0.1s						
KTMS				*e*S	**Sb**	**09 02 33.5**	**+1.2**
	4.8nm,0.2s						
KTMS	**Ketmen**	**3.92**	**35**	Pg	**Pb**	**09 01 46.3**	**+1.4**
	0.5nm,0.4s						
KTMS				Lg	Lg	09 02 33.5	
	4.8nm,0.2s						
DJR	**Jarkent**	**4.46**	**24**	*e*P	**Pb**	**09 01 55.9**	**+1.7**
	0.7nm,0.5s						
DJR				*e*S	**Sb**	**09 02 49.9**	**+2.0**
	5.2nm,0.1s						
DJR	**Jarkent**	**4.46**	**24**	Pg	**Pb**	**09 01 55.9**	**+1.7**
	0.7nm,0.1s						
DJR				Lg	Lg	09 02 49.9	
	5.2nm,0.4s						
BTLS	**Baital**	**5.31**	**335**	*e*P	**Pb**	**09 02 10.7**	**+2.2**
	3.6nm,1.4s						
BTLS				*e*S	**Sb**	**09 03 15.3**	**+3.2**
	5.0nm,0.2s						

*IDC **24** 09:11:11.4±3.4,33°.77N×116°.61W,h0km,mbtmp2.6/3, ML3.3/3,Error ellipse: s-maj=55.9km s-min=14.7km az=52.0*

*NEIC **24** 09:11:13.9±0.6,33°.99N±0°.01×116°.40W±0°.01,h18km±1km, Error ellipse: s-maj=1.7km s-min=1.6km az=128.0*

*ANF **24** 09:11:13.5±0.1,33°.98N×116°.39W,h16km±1km,ML3.4/32, ML3.4/32,Error ellipse: s-maj=0.9km s-min=0.8km az=23.0*

*PAS **24** 09:11:14.5±1.0,33°.991N±0°.008×116°.39W±0°.01, h9km±4km,ML3.4/326,ML3.2/68(NEIC),Error ellipse: s-maj=1.3km s-min=1.2km az=117.0*

ISC 24 09:11:14.1±0.9,**33°.99N**±0°.01×**116°.40W**±0°.01,**h18**km±3km, **n138,σ0°68/203,Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EW2	**E Wide Canyon**	**0.05**	**194**		**Pg**	**09 11 18.0**	**+0.6**
BLAC	**Blackrock camp**	**0.08**	**3**		**Pg**	**09 11 18.6**	**+0.7**
DEVC	**Devers**	**0.16**	**252**		**Pg**	**09 11 18.3**	**-0.2**
DEVC					**Sg**	**09 11 21.2**	**-0.3**
GTM	**Goat Mountain**	**0.31**	**6**		**Pg**	**09 11 20.2**	**-0.7**
GTM					**Sg**	**09 11 24.5**	**-1.0**
TPC	**Twentynine Pal**	**0.31**	**67**		**Pg**	**09 11 20.3**	**-0.6**
BELC	**Belle Mtn. Jos**	**0.33**	**87**		**Pg**	**09 11 20.8**	**-0.4**
BELC					**Sg**	**09 11 25.5**	**-0.7**
BELC	**Belle Mtn. Jos**	**0.33**	**87**	P	**Pg**	**09 11 20.8**	**-0.4**
	baz=268,SNR=1000						
BELC				S	**Sg**	**09 11 25.4**	**-0.7**
	baz=268						
PMD	**Palm Desert**	**0.34**	**178**	Pg	**Pg**	**09 11 20.8**	**-0.5**
PMD				Sg	**Sg**	**09 11 25.5**	**-0.7**
PMD				IAML		09 11 26.0	
	comp=N,2μm,0.3s						
PMD				IAML		09 11 26.0	
	comp=E,2μm,0.3s						
PFO	**Pinyon Flats O**	**0.38**	**188**		**Pg**	**09 11 21.7**	**-0.4**
PFO				Sg	**Sg**	**09 11 26.9**	**-0.6**
PFO	**Pinyon Flats O**	**0.38**	**188**		**Pg**	**09 11 21.7**	**-0.4**
PFO					**Sg**	**09 11 26.9**	**-0.6**
PFO	**Pinyon Flats O**	**0.38**	**188**	P	**Pg**	**09 11 21.7**	**-0.4**
	baz=8.7,SNR=623						
PFO				S	**Sg**	**09 11 26.8**	**-0.6**
	baz=8.7						
XPFO	**Pion Flat**	**0.38**	**188**		**Pg**	**09 11 21.6**	**-0.4**
XPFO					**Sg**	**09 11 26.6**	**-0.8**
GVDA	**Garner Valley**	**0.39**	**216**		**Pg**	**09 11 21.9**	**-0.4**
DNR	**Dunn Ranch,Anz**	**0.46**	**205**		**Pg**	**09 11 23.4**	**-0.2**
DNR					**Sg**	**09 11 29.9**	**0.0**
SNDA	**J Saunders Pla**	**0.47**	**203**		**Pg**	**09 11 23.5**	**-0.2**
SNDA					**Sg**	**09 11 30.0**	**-0.1**
CTCC	**Cactus City**	**0.47**	**134**		**Pg**	**09 11 23.4**	**-0.2**
CTCC					**Sb**	**09 11 30.4**	**-0.1**
BBSC	**Beaumont Base**	**0.49**	**263**		**Pg**	**09 11 24.0**	**0.0**
BBSC					**Sg**	**09 11 30.9**	**+0.1**
CRY	**Cary Ranch**	**0.51**	**214**		**Pg**	**09 11 24.1**	**-0.2**
CRY					**Sg**	**09 11 30.8**	**-0.5**
SIL	**Silver Peak**	**0.51**	**315**		**Pg**	**09 11 24.1**	**-0.3**
SIL					**Sg**	**09 11 31.2**	**-0.1**
BBRC	**Big Bear Solar**	**0.52**	**302**		**Pg**	**09 11 24.2**	**-0.4**
BBRC					**Sg**	**09 11 31.6**	**0.0**
BBRC	**Big Bear Solar**	**0.52**	**302**	P	**Pg**	**09 11 24.2**	**-0.4**
	baz=122,SNR=162						
BBRC				S	**Sg**	**09 11 31.6**	**0.0**
	baz=122						
FRD	**Ford Ranch, An**	**0.52**	**200**		**Pg**	**09 11 24.4**	**-0.2**
FRD					**Sg**	**09 11 31.2**	**-0.4**
FRD	**Ford Ranch, An**	**0.52**	**200**		**Pg**	**09 11 24.3**	**-0.2**
FRD					**Sg**	**09 11 31.2**	**-0.4**
POB	**Polly Butte**	**0.53**	**236**		**Pg**	**09 11 24.6**	**-0.2**
POB					**Sg**	**09 11 31.8**	**-0.2**
CTW	**Cottonwood Mou**	**0.53**	**125**		**Pg**	**09 11 24.6**	**-0.2**
CTW					**Sg**	**09 11 31.9**	**-0.1**
BZNA	**Buzz No.'s Pla**	**0.54**	**205**		**Pg**	**09 11 24.8**	**-0.2**
BZNA					**Sg**	**09 11 32.0**	**-0.3**
HMTC	**Hemet**	**0.58**	**242**		**Pg**	**09 11 25.3**	**-0.3**
HMTC					**Sg**	**09 11 33.0**	**-0.4**
SVD	**Seven Oaks Dam**	**0.60**	**282**		**Pg**	**09 11 25.6**	**-0.4**
SVD					**Sg**	**09 11 33.9**	**-0.1**
CFT	**Crafton Hills**	**0.60**	**275**		**Pg**	**09 11 25.8**	**-0.2**
DGR	**Domenigoni Val**	**0.61**	**237**		**Pg**	**09 11 26.0**	**-0.3**
DGR					**Sg**	**09 11 34.0**	**-0.5**
PEC	**Perris**	**0.64**	**262**		**Pg**	**09 11 26.5**	**-0.4**
PEC					**Sg**	**09 11 34.9**	**-0.6**
HAY	**Hayfield**	**0.65**	**115**		**Pb**	**09 11 27.4**	**+0.5**
HAY					**Sb**	**09 11 36.3**	**+0.7**
BACC	**Bachelor Mtn.**	**0.65**	**235**		**Pg**	**09 11 26.7**	**-0.4**
BACC					**Sg**	**09 11 35.3**	**-0.4**
HLNC	**Highland**	**0.70**	**281**		**Pg**	**09 11 27.5**	**-0.4**
BORC	**Borrego Spring**	**0.72**	**182**		**Pg**	**09 11 27.8**	**-0.3**
BORC					**Sg**	**09 11 37.1**	**-0.6**
PLM	**Palomar**	**0.74**	**212**		**Pg**	**09 11 28.4**	**-0.2**
PLM					**Sg**	**09 11 38.2**	**-0.4**
CFSC	**Central Fire S**	**0.75**	**279**		**Pg**	**09 11 28.4**	**-0.3**
CFSC					**Sn**	**09 11 39.7**	**-0.8**
MURC	**Murrieta**	**0.77**	**240**		**Pb**	**09 11 28.6**	**-0.3**
MURC					**Sg**	**09 11 38.8**	**-0.6**
MURC	**Murrieta**	**0.77**	**240**	P	**Pb**	**09 11 28.6**	**-0.3**
	baz=60,SNR=113						
MURC				S	**Sg**	**09 11 38.8**	**-0.6**
	baz=60						
CLTC	**Calectric**	**0.77**	**278**		**Pg**	**09 11 29.1**	**-0.2**
SALN	**Salton City**	**0.78**	**154**		**Pg**	**09 11 29.5**	**+0.1**
SALN					**Sg**	**09 11 40.4**	**+0.7**
SLH	**Sleepy Hollow**	**0.80**	**172**		**Pg**	**09 11 29.5**	**-0.2**
SLH					**Sg**	**09 11 40.1**	**-0.2**
MATG	**Mataguay Scout**	**0.81**	**195**		**Pb**	**09 11 29.7**	**0.0**
MATG					**Sb**	**09 11 40.4**	**+0.1**
RVR	**Riverside**	**0.81**	**271**		**Pb**	**09 11 29.3**	**-0.4**
SME	**Santa Rosa Min**	**0.81**	**259**		**Pb**	**09 11 29.3**	**-0.4**
HEC	**Hector,Ludlow**	**0.84**	**3**		**Pb**	**09 11 29.9**	**-0.4**
HEC	**Hector,Ludlow**	**0.84**	**3**	P	**Pb**	**09 11 29.9**	**-0.4**
	baz=183,SNR=51						
HEC				S	**Sg**	**09 11 41.5**	**-0.3**
	baz=183						
BC3	**Big Chuckawall**	**0.85**	**113**		**Pg**	**09 11 30.5**	**-0.2**
BC3					**Sg**	**09 11 41.9**	**-0.1**
BC3	**Big Chuckawall**	**0.85**	**113**	P	**Pg**	**09 11 30.5**	**-0.2**
	baz=294,SNR=431						
BC3				S	**Sg**	**09 11 41.7**	**-0.3**
	baz=294						
CSP	**Cedar Springs**	**0.86**	**292**		**Pb**	**09 11 30.3**	**-0.2**
FON	**Fontana**	**0.87**	**278**		**Pb**	**09 11 30.4**	**-0.3**
FON					**Sb**	**09 11 42.3**	**+0.2**
JUEM	**Julian Eagle M**	**0.92**	**191**		**Pb**	**09 11 31.5**	**0.0**
JUEM					**Sb**	**09 11 43.5**	**+0.1**
ELS	**Elsinore Mount**	**0.92**	**249**	Pg	**Pb**	**09 11 31.2**	**-0.3**
ELS				Sg	**Sb**	**09 11 43.2**	**-0.3**
ELS				IAML		09 11 43.5	
	comp=E,1μm,0.3s						
ELS				IAML		09 11 43.9	
	comp=N,898nm,0.3s						
SS2	**San Sevaine**	**0.94**	**284**		**Pb**	**09 11 32.0**	**+0.1**
VTV	**Victorville**	**0.96**	**307**		**Pb**	**09 11 32.2**	**-0.1**
VTV					**Sb**	**09 11 44.7**	**+0.1**
CRNC	**Corona**	**0.98**	**264**		**Pb**	**09 11 32.1**	**-0.3**
ERRC	**Elmore Ranch**	**0.99**	**151**		**Pb**	**09 11 32.1**	**-0.5**
GMRC	**Granite Mounta**	**1.00**	**37**		**Pb**	**09 11 32.7**	**-0.3**
GMRC	**Granite Mounta**	**1.00**	**37**	P	**Pb**	**09 11 32.7**	**-0.3**
	baz=217,SNR=255						
GMRC				S	**Sb**	**09 11 45.8**	**-0.1**
	baz=217						
RRX	**Edison Barstow**	**1.02**	**331**		**Pn**	**09 11 33.5**	**0.0**
RRX	**Edison Barstow**	**1.02**	**331**	P	**Pb**	**09 11 33.2**	**0.0**
	baz=150,SNR=7.2						
RRX				S	**Sg**	**09 11 46.8**	**-0.4**
	baz=150						
ADO	**Adelanto Recei**	**1.03**	**304**		**Pn**	**09 11 33.7**	**0.0**
IRM	**Iron Mountain**	**1.05**	**80**		**Pb**	**09 11 33.3**	**-0.4**
IRM	**Iron Mountain**	**1.05**	**80**	P	**Pb**	**09 11 33.3**	**-0.4**
	baz=261,SNR=773						
IRM				S	**Sb**	**09 11 47.5**	**+0.3**
	baz=261						
DANC	**Danby, Needles**	**1.06**	**52**		**Pb**	**09 11 33.9**	**0.0**
CHNC	**Chino**	**1.07**	**271**		**Pb**	**09 11 34.0**	**0.0**
BFSC	**Mount Baldy Ra**	**1.08**	**284**		**Pb**	**09 11 34.0**	**-0.2**
BFSC	**Mount Baldy Ra**	**1.08**	**284**	P	**Pb**	**09 11 34.1**	**-0.2**
	baz=103,SNR=193						
BFSC				S	**Sg**	**09 11 48.8**	**-0.5**
	baz=103						
GORC	**Green Oak Ranc**	**1.08**	**220**		**Pb**	**09 11 33.8**	**-0.4**
GORC					**Sb**	**09 11 47.8**	**-0.2**
DPP	**Dos Picos Cty**	**1.08**	**205**		**Pb**	**09 11 34.0**	**-0.3**
DPP					**Sb**	**09 11 48.3**	**+0.2**
MONP2	**Monument Peak**	**1.09**	**181**		**Pb**	**09 11 34.4**	**-0.1**
MONP2	**Monument Peak**	**1.09**	**181**	P	**Pb**	**09 11 34.4**	**-0.1**
	baz=1.4,SNR=73						
MONP2				S	**Sb**	**09 11 48.5**	**0.0**
	baz=1.4						
SSK	**Sunset Peak**	**1.10**	**282**		**Pb**	**09 11 34.6**	**-0.1**
SWSC	**Sam W. Stewart**	**1.15**	**154**		**Pn**	**09 11 34.1**	**-1.1**
SWSC	**Sam W. Stewart**	**1.15**	**154**	P	**Pn**	**09 11 34.1**	**-1.1**
	baz=335,SNR=30						
SWSC				S	**Sn**	**09 11 50.6**	**+0.1**
	baz=335						
CRR	**Carrizo Plain**	**1.15**	**162**		**Pn**	**09 11 34.4**	**-0.8**
PSRC	**Puddingstone R**	**1.18**	**276**		**Pn**	**09 11 35.7**	**+0.1**
109C	**Camp Elliot, M**	**1.25**	**209**		**Pn**	**09 11 36.6**	**+0.1**
109C				Sn	**Sb**	**09 11 52.6**	**-0.1**
109C	**Camp Elliot, M**	**1.25**	**209**	P	**Pn**	**09 11 36.6**	**+0.1**
	baz=28,SNR=50						
109C				S	**Sb**	**09 11 52.5**	**-0.1**
	baz=28						
BAR	**Barrett**	**1.32**	**190**		**Pn**	**09 11 37.6**	**0.0**
BAR				IAML		09 11 57.1	
	comp=E,560nm,0.1s						
IKP	**In-Ko-Pah, Jac**	**1.35**	**170**	P	**Pn**	**09 11 37.6**	**-0.5**
	baz=350,SNR=39						
IKP				Sb	**Sg**	**09 11 56.9**	**-1.0**
	baz=350						
GSC	**Goldstone, Bar**	**1.36**	**346**		**Pg**	**09 11 39.7**	**-0.6**
GSC				IAML		09 11 59.1	
	comp=N,415nm,0.2s						
GSC	**Goldstone, Bar**	**1.36**	**346**	P	**Pn**	**09 11 38.4**	**+0.2**
	baz=165,SNR=103						
GSC				Sb	**Sg**	**09 11 57.6**	**-0.4**
	baz=165						
YUH	**Yuha Desert**	**1.39**	**163**		**Pg**	**09 11 40.1**	**-0.8**
RMX	**La Rumorosa**	**1.41**	**169**		**Pg**	**09 11 41.3**	**+0.1**
RMX				IAML		09 12 01.3	
	comp=N,389nm,0.3s						
TKX	**Tecate**	**1.42**	**187**		**Pb**	**09 11 39.8**	**-0.3**
TKX				IAML		09 11 59.4	
	comp=N,523nm,0.1s						
PASC	**Pasadena Art C**	**1.50**	**278**		**Pb**	**09 11 40.9**	**-0.4**
PASC				IAML		09 12 03.0	
	comp=N,501nm,0.7s						
PASC				IAML		09 12 03.7	
	comp=E,282nm,0.4s						
TUQ	**Turquoise Moun**	**1.50**	**15**	P	**Pn**	**09 11 40.1**	**0.0**
	baz=195,SNR=136						
TUQ				Sb	**Sg**	**09 12 01.4**	**-1.1**
	baz=195						
TJX	**Tijuana**	**1.57**	**201**		**Pn**	**09 11 41.8**	**+0.7**
BLYC	**Blythe**	**1.57**	**98**	Pn	**Pb**	**09 11 42.9**	**+0.2**
BLYC				IAML		09 12 08.5	
	comp=N,349nm,0.4s						
BLYC				IAML		09 12 11.4	
	comp=E,315nm,0.7s						
EDW2	**Edwards Air Fo**	**1.59**	**305**	P	**Pn**	**09 11 41.6**	**+0.2**
	baz=124,SNR=209						
EDW2				Sb	**Sb**	**09 12 04.0**	**+1.1**
	baz=124						
FMP	**Fort Macarthur**	**1.60**	**261**	Pb	**Pb**	**09 11 42.7**	**-0.4**
	baz=80						
FMP				Sb	**Sb**	**09 12 03.7**	**+0.7**
	baz=80						
GLA	**Glamis**	**1.61**	**125**		**Pn**	**09 11 41.1**	**-0.5**
GLA				IAML		09 12 09.1	
	comp=N,392nm,0.6s						
GLA	**Glamis**	**1.61**	**125**	P	**Pn**	**09 11 41.1**	**-0.5**
	baz=306,SNR=33						
GLA				S	**Sn**	**09 12 01.7**	**-0.2**
	baz=306						
DECC	**Green Verdugo**	**1.63**	**280**	Sb	**Sb**	**09 12 05.1**	**+1.2**
	baz=99						
NEE2	**Needles Airpor**	**1.66**	**62**	P	**Pn**	**09 11 41.7**	**-0.6**
	baz=242						
NEE2				Sb	**Sb**	**09 12 05.8**	**+1.0**
	baz=242						
CBX	**Cerro Bola**	**1.68**	**188**		**Pn**	**09 11 43.1**	**+0.4**
CBX				IAML		09 12 09.6	
	comp=E,207nm,0.4s						
CBX				IAML		09 12 09.7	
	comp=N,165nm,0.5s						
CCAC	**Calif City Air**	**1.77**	**311**		**Pn**	**09 11 44.6**	**+0.7**
CCAC				IAML		09 12 13.2	
	comp=E,420nm,0.6s						
CIS	**Catalina Islan**	**1.78**	**251**	Pb	**Pb**	**09 11 45.7**	**-0.5**
	baz=70						
CIS				Sb	**Sb**	**09 12 08.8**	**+0.6**
	baz=70						
LRMC	**Laurel Mtn Rad**	**1.83**	**325**	P	**Pn**	**09 11 44.7**	**0.0**
	baz=144						
LRMC				Sb	**Sg**	**09 12 11.7**	**-1.4**
	baz=144						
PDMCI	**Parker Dam,Lak**	**1.90**	**80**	P	**Pn**	**09 11 45.1**	**-0.4**
	baz=261						
PDMCI				Sb	**Sb**	**09 12 12.9**	**+1.5**
	baz=261						
SHOC	**Shoshone, Teco**	**1.91**	**3**	P	**Pn**	**09 11 46.1**	**+0.4**
	baz=183,SNR=36						
SHOC				Sb	**Sg**	**09 12 14.2**	**-1.6**
	baz=183						
ESJX	**Sierra Juarez**	**2.01**	**169**		**Pn**	**09 11 47.5**	**+0.2**
ESJX				IAML		09 12 18.6	
	comp=N,118nm,0.2s						
QSM	**Queen of Sheba**	**2.01**	**349**		**Pn**	**09 11 47.8**	**+0.6**
QSM				IAML		09 12 20.5	
	comp=N,236nm,0.4s						
OSI	**Osito Audit: C**	**2.03**	**289**	P	**Pn**	**09 11 47.4**	**+0.1**
	baz=107						
OSI				Sb	**Sb**	**09 12 15.9**	**+0.6**
	baz=107						
CCX	**Cicese**	**2.12**	**186**		**Pn**	**09 11 50.0**	**+1.4**
CCX				IAML		09 12 22.2	
	comp=E,127nm,0.4s						
CCX				IAML		09 12 24.3	
	comp=N,109nm,0.3s						
V12A	**Nelson**	**2.15**	**36**	Pn	**Pn**	**09 11 49.5**	**+0.4**
V12A				IAML		09 12 23.9	
	comp=N,160nm,0.3s						
V12A				IAML		09 12 25.8	
	comp=E,122nm,0.7s						
GWY	**Greenwater Val**	**2.21**	**354**		**Pn**	**09 11 50.4**	**+0.4**
MPMC	**Manual Prospec**	**2.25**	**337**	P	**Pn**	**09 11 50.9**	**+0.3**
	baz=156,SNR=21						
ARVC	**Arvin**	**2.31**	**300**	P	**Pn**	**09 11 51.6**	**+0.4**
	baz=119,SNR=18						
W13A	**Hualapai Mount**	**2.35**	**61**		**Pn**	**09 11 51.9**	**-0.1**
W13A				IAML		09 12 33.2	
	comp=E,120nm,0.4s						
W13A				IAML		09 12 33.5	
	comp=N,151nm,0.4s						
ISA	**Isabella, Lake**	**2.39**	**315**	Pn	**Pn**	**09 11 52.8**	**+0.4**
ISA	**Isabella, Lake**	**2.39**	**315**	P	**Pn**	**09 11 52.8**	**+0.4**
	baz=134,SNR=67						
113A	**Mohawk Valley,**	**2.51**	**118**	Pn	**Pn**	**09 11 52.9**	**-1.1**
BCW	**Bitter Crk WRg**	**2.67**	**292**		**Pn**	**09 11 56.7**	**+0.5**
BCW				IAML		09 12 56.5	
	comp=N,97nm,1.1s						
BCW				IAML		09 12 57.3	
	comp=E,105nm,0.9s						
SHPR	**Sheep Range**	**2.71**	**22**		**Pn**	**09 11 57.7**	**+0.9**
WCT	**Wildcat Mounta**	**2.81**	**356**		**Pn**	**09 11 59.2**	**+1.0**
Y14A	**Wickenburg**	**2.82**	**90**		**Pn**	**09 11 58.4**	**+0.2**
Y14A				IAML		09 12 44.4	
	comp=N,122nm,0.4s						
Y14A				IAML		09 12 49.3	
	comp=E,83nm,0.5s						
TPNV	**Topopah Spring**	**2.96**	**2

*IDC **24** 09:30:09.5±2.5,46.56N×153.30E,h0km,mb3.4/2,*
mbtmp3.4/3,ML2.8/1,MS2.7/2,Error ellipse: s-maj=70.9km
s-min=40.2km az=174.0
*SKHL **24** 09:30:18.2±0.7,45.70N×153.60E,h48km±9km,mb4.9/2*
ISC 24 09:30:13.8±1.6,46.6N±0.2×153.5E±0.2,h24km,n14,
σ2≥54/11,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.14**	**253**	*eP*		**Pn**		**09 31 18.6**	**+3.2**
KUR				AMB		AMB		09 31 25.2	
	60nm,0.3s								
KUR				*eS*		**Sn**		**09 32 04.5**	**+1.5**
KUR				A		A		09 32 19.0	
	200nm,0.5s								
KUR				A		A		09 32 19.0	
	300nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.94**	**247**	*eP*		**Pn**		**09 31 42.7**	**+2.5**
YUK				AMB		AMB		09 31 45.8	
	60nm,0.4s								
YUK				*eS*		**Sn**		**09 32 45.8**	**-1.6**
YUK				A		A		09 32 50.3	
	100nm,0.5s								
YUK				A		A		09 32 50.3	
	130nm,0.5s								
NMR	**Nemuro--Hokkai**	**6.36**	**242**	*eP*		**Pn**		**09 31 47.9**	**+1.9**
NMR				*eS*		**Sn**		**09 32 54.8**	**-3.0**
PETK	**Petropavlovsk-**	**7.08**	**21**	Pn		**Pn**		**09 31 55.2**	**-0.6**
	0.8nm,0.3s,baz=190,slow=12,SNR=9.5								
PETK				LR		LR		09 34 26.5	
	comp=Z,57nm,21.4s,baz=334,slow=36								
	1.6nm,0.4s								
AKK	**Akkeshi**	**7.10**	**243**	*eP*		**Pn**		**09 31 57.7**	**+1.6**
AKK				*eS*		**Sn**		**09 33 12.4**	**-3.5**
MA2	**Magadan**	**13.12**	**354**	LR		LR		09 38 31.5	
	comp=Z,35nm,19.3s,baz=108,slow=38								
H11N2	**WAKE ISLAND Hy**	**28.96**	**153**	T		T		10 07 49.3	
	baz=341,slow=76,SNR=106								
H11N1	**WAKE ISLAND Hy**	**28.97**	**153**	T		T		10 07 48.8	
	baz=341,slow=76,SNR=64								
H11N3	**WAKE ISLAND Hy**	**28.97**	**153**	T		T		10 07 48.3	
	baz=341,slow=76,SNR=82								
H11S1	**WAKE ISLAND Hy**	**30.05**	**154**	T		T		10 09 19.9	
	baz=342,slow=76,SNR=74								
H11S3	**WAKE ISLAND Hy**	**30.06**	**154**	T		T		10 09 21.3	
	baz=342,slow=76,SNR=72								
H11S2	**WAKE ISLAND Hy**	**30.07**	**154**	T		T		10 09 15.3	
	baz=342,slow=76,SNR=74								
MKAR	**Makanchi Array**	**47.24**	**298**	P		**P**		**09 38 43.2**	**-1.5**
	0.1nm,0.4s,baz=51,slow=9.1,SNR=1.7								
	0.1nm,0.4s								
TXAR	**Lajitas Array**	**77.36**	**61**	P		**P**		**09 42 07.1**	**+0.3**
	0.4nm,0.5s,baz=297,slow=4.3,SNR=8.3								
	0.4nm,0.5s								

IDC 24 09:36:27.7±4.1,2.03S×141.22E,h0km,mb3.3/3,
mbtmp3.3/4,ML3.2/1,Error ellipse: s-maj=126.7km
s-min=31.4km az=92.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.04**	**200**	P		P		09 40 50.6	-1.0
	0.1nm,0.3s,baz=23,slow=12,SNR=7.3								
	0.5nm,0.9s								
FITZ	**Fitzroy Crossi**	**22.11**	**223**	P		P		09 41 24.9	0.0
	0.7nm,0.5s,baz=37,slow=5.1,SNR=1.9								
	0.7nm,0.5s								
ASAR	**Alice Springs**	**22.65**	**198**	P		P		09 41 31.6	+0.9
	0.5nm,0.6s,baz=27,slow=12,SNR=8.7								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**70.80**	**321**	P		P		09 47 46.1	-0.1
	0.2nm,0.5s,baz=106,slow=7.7,SNR=2.3								
	0.2nm,0.5s								

*JMA **24** 09:36:47.7±0.1,24.0N±0.4×121.5E±0.6,h18km,MV3.3/10,*
TAIWAN REGION
*ASIES **24** 09:36:48.8,24.11N×121.51E,h24km,MW3.7*
*TAP **24** 09:36:49.5,24.11N×121.52E,h19km,ML4.2,B*
*IDC **24** 09:36:51.7±4.1,24.07N×121.76E,h54km±41km,mb3.5/8,*
mbtmp3.8/9,ML3.8/1,Error ellipse: s-maj=26.3km
s-min=16.8km az=62.0
ISC 24 09:36:49.1±0.7,24.08N±0.01×121.56E±0.02,h24km±3km,
n137,σ0≥95/239,mb3.8/9,13C-30D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.03**	**94**	⇓*iP*		**Pb**		**09 36 53.3**	**+0.1**
TWD	baz=106				*i*	S	**Sb**	**09 36 56.0**	**+0.1**
	baz=106								
ETL	**Fush Village**	**0.09**	**36**	⇓*iP*		**Pb**		**09 36 53.4**	**-0.2**
ETL	baz=62					S	**Sb**	**09 36 56.5**	**-0.1**
	baz=62								
NACB	**Ninganchiao**	**0.10**	**18**	*iP*		**Pb**		**09 36 53.3**	**-0.3**
NACB	baz=47				*i*	S	**Sb**	**09 36 56.3**	**-0.3**
	baz=47								
HWA	**Hwalien**	**0.11**	**160**	⇓*iP*		**Pb**		**09 36 54.1**	**+0.4**
HWA	baz=145				*i*	S	**Sb**	**09 36 57.7**	**+0.9**
	baz=145								
ETM	**Tongmen**	**0.13**	**209**	⇓*iP*		**Pb**		**09 36 53.8**	**-0.1**
ETM	baz=188				*i*	S	**Sb**	**09 36 56.9**	**-0.2**
	baz=188								
ETLH	**Xiulin Townshi**	**0.14**	**329**	⇑*iP*		**Pb**		**09 36 53.7**	**-0.4**
ETLH	baz=343				*i*	S	**Sb**	**09 36 56.7**	**-0.9**
	baz=343								
TEYL	**Yanliau Villag**	**0.22**	**171**	⇓*iP*		**Pb**		**09 36 54.9**	**0.0**
TEYL	baz=158					S	**Sb**	**09 36 59.2**	**+0.5**
	baz=158								
EHP	**Heping Village**	**0.28**	**36**	*eP*		**Pb**		**09 36 55.7**	**0.0**
EHP	baz=47					*eS*	**Sb**	**09 37 00.7**	**+0.4**
	baz=47								
WHF	**Hehuan Shan**	**0.28**	**283**	⇑*iP*		**Pb**		**09 36 55.6**	**-0.5**
WHF	baz=280				*i*	S	**Sb**	**09 37 00.0**	**-0.8**
	baz=280								
ESL	**Shilin**	**0.29**	**204**	⇓*iP*		**Pb**		**09 36 55.5**	**-0.4**
ESL	baz=193					S	**Sb**	**09 37 00.3**	**-0.2**
	baz=193								
FUSS	**Fushou**	**0.33**	**300**	⇓*iP*		**Pb**		**09 36 56.5**	**-0.3**
FUSS	baz=300				*i*	S	**Sb**	**09 37 01.4**	**-0.6**
	baz=300								
CHGB	**Renai**	**0.36**	**267**	⇑*iP*		**Pb**		**09 36 56.9**	**-0.1**
CHGB	baz=262					*eS*	**Sb**	**09 37 02.2**	**-0.3**
	baz=262								
TEGC	**Jichi Village**	**0.37**	**183**	*eP*		**Pb**		**09 36 57.7**	**+0.5**
TEGC	baz=176					*eS*	**Sb**	**09 37 04.4**	**+1.8**
	baz=176								
OWD	**Renai**	**0.38**	**250**	⇑*iP*		**Pb**		**09 36 57.1**	**-0.2**
OWD	baz=244					S	**Sb**	**09 37 02.2**	**-0.7**
	baz=244								
ENA	**Nanau**	**0.38**	**25**	⇑*iP*		**Pb**		**09 36 57.2**	**-0.2**
ENA	baz=34					*eS*	**Sb**	**09 37 02.7**	**-0.2**
	baz=34								
NNSB	**Datong**	**0.38**	**335**	⇓*iP*		**Pb**		**09 36 57.1**	**-0.3**
NNSB	baz=339					S	**Sb**	**09 37 02.4**	**-0.6**
	baz=339								
NNSH	**Datong**	**0.38**	**335**	⇓*iP*		**Pb**		**09 36 57.0**	**-0.4**
NNSH	baz=339					*eS*	**Sb**	**09 37 02.2**	**-0.9**
	baz=339								
TWT	**Tachien**	**0.39**	**296**	⇓*iP*		**Pb**		**09 36 57.7**	**+0.1**
TWT	baz=294					S	**Sb**	**09 37 03.1**	**-0.3**
	baz=294								
NNS	**Nan Shan**	**0.40**	**334**	⇓*eP*		**Pb**		**09 36 56.3**	**-1.4**
NNS	baz=340					*eS*	**Sb**	**09 37 02.1**	**-1.4**
	baz=340								
TDCB	**Techi**	**0.41**	**295**	⇓*iP*		**Pb**		**09 36 57.7**	**-0.1**
TDCB	baz=294					S	**Sb**	**09 37 03.1**	**-0.7**
EWUT	**Wuta**	**0.41**	**29**	⇑*eP*		**Pb**		**09 36 56.6**	**-1.2**
EWUT	baz=35					*eS*	**Sb**	**09 37 02.1**	**-1.6**
	baz=35								
WUSB	**Renai**	**0.42**	**258**	⇑*iP*		**Pb**		**09 36 57.9**	**-0.1**
WUSB	baz=253					S	**Sb**	**09 37 03.4**	**-0.6**
	baz=253								
EGFH	**Guangfu**	**0.43**	**197**	⇓*iP*		**Pb**		**09 36 57.2**	**-0.9**
EGFH	baz=190					S	**Sb**	**09 37 03.8**	**-0.4**
	baz=190								
LATG	**Datong**	**0.45**	**356**	⇓*iP*		**Pb**		**09 36 58.2**	**-0.4**
LATG	baz=1.0				*i*	S	**Sb**	**09 37 04.3**	**-0.7**
	baz=1.0								
VWDT	**VWDT**	**0.51**	**230**	⇑*iP*		**Pb**		**09 36 59.5**	**+0.1**
VWDT	baz=224					*eS*	**Sb**	**09 37 06.4**	**+0.1**
	baz=224								
NDT	**Datong Townshi**	**0.52**	**355**	⇓*eP*		**Pb**		**09 36 59.3**	**-0.3**
NDT	baz=360					*eS*	**Sb**	**09 37 06.2**	**-0.6**
	baz=360								
ENTT	**Nioudou**	**0.56**	**0**	⇓*iP*		**Pb**		**09 36 59.1**	**-1.2**
ENTT	baz=6.0					*eS*	**Sb**	**09 37 07.1**	**-0.7**
	baz=6.0								
WPL	**Puli Township**	**0.56**	**263**	P		**Pb**		**09 37 00.1**	**-0.2**
WPL	baz=260					*eS*	**Sb**	**09 37 07.2**	**-0.6**
	baz=260								
DPDB	**Guoxing**	**0.58**	**265**	⇓*iP*		**Pb**		**09 37 00.7**	**-0.1**
DPDB	baz=262					*eS*	**Sb**	**09 37 08.3**	**-0.3**
	baz=262								
TWC	**Suao**	**0.59**	**26**	⇑*iP*		**Pb**		**09 37 00.5**	**-0.3**
TWC	baz=32					*eS*	**Sb**	**09 37 08.6**	**0.0**
	baz=32								
WCS	**Beigang Elemen**	**0.59**	**268**	⇓*iP*		**Pb**		**09 36 59.7**	**-1.2**
WCS	baz=265					*eS*	**Sb**	**09 37 07.5**	**-1.4**
	baz=265								
WHP	**Taichung City**	**0.60**	**289**	⇓P		**Pb**		**09 37 00.8**	**-0.1**
WHP	baz=288					*eS*	**Sb**	**09 37 08.7**	**-0.3**
	baz=288								
HGSD	**Ruisui**	**0.60**	**192**	*eP*		**Pb**		**09 37 00.3**	**-0.7**
HGSD	baz=188					*eS*	**Sb**	**09 37 10.9**	**+1.8**
	baz=188								
YHNB	**Yeheng**	**0.61**	**344**	⇓*iP*		**Pb**		**09 37 00.8**	**-0.4**
YHNB	baz=347					*eS*	**Sb**	**09 37 09.1**	**-0.3**
	baz=347								
EHY	**Hungye**	**0.61**	**201**	⇓*eP*		**Pb**		**09 36 59.7**	**-1.5**
EHY	baz=196					*eS*	**Sb**	**09 37 08.8**	**-0.6**
	baz=196								
NSK	**Sanguang**	**0.62**	**343**	⇓*iP*		**Pb**		**09 36 59.9**	**-1.5**
NSK	baz=347					*eS*	**Sb**	**09 37 08.1**	**-1.6**
	baz=347								
SSLB	**Suanglung**	**0.63**	**242**	⇑P		**Pb**		**09 37 01.2**	**-0.3**
SSLB	baz=238					*eS*	**Sb**	**09 37 09.0**	**-0.9**
	baz=238								
SMLT	**Sun Moon Lake**	**0.64**	**252**	P		**Pb**		**09 37 01.6**	**-0.1**
SMLT	baz=248					*eS*	**Sb**	**09 37 09.9**	**-0.4**
	baz=248								
TWE	**Neicheng**	**0.64**	**9**	*eP*		**Pb**		**09 37 01.4**	**-0.3**
TWE	baz=14					*eS*	**Sb**	**09 37 10.5**	**+0.2**
	baz=14								
TYC	**Yuchr**	**0.67**	**255**	P		**Pb**		**09 37 01.9**	**-0.2**
TYC	baz=251					*eS*	**Sb**	**09 37 10.1**	**-0.9**
	baz=251								
FUSB	**Fushanzhiwuyua**	**0.68**	**2**	⇑P		**Pb**		**09 37 02.1**	**-0.2**
FUSB	baz=6.0					*eS*	**Sb**	**09 37 10.8**	**-0.5**
	baz=6.0								
NFF	**Wufeng Townshi**	**0.68**	**324**	⇓*eP*		**Pb**		**09 37 01.0**	**-1.4**
NFF	baz=325					*eS*	**Sb**	**09 37 09.5**	**-2.0**
	baz=325								
ILA	**Ilan**	**0.70**	**14**	*eP*		**Pb**		**09 37 03.0**	**+0.3**
ILA	baz=19					*eS*	**Sn**	**09 37 13.1**	**-0.5**
	baz=19								
YULB	**Yu-li**	**0.73**	**200**	⇓*eP*		**Pb**		**09 37 01.2**	**-1.9**
YULB	baz=196					*eS*	**Sb**	**09 37 12.3**	**-0.4**
	baz=196								
NSTT	**Nanjuang**	**0.75**	**317**	⇓P		**Pb**		**09 37 03.6**	**+0.2**
NSTT	baz=319					*eS*	**Sb**	**09 37 12.8**	**-0.5**
	baz=319								
LIOB	**Emei**	**0.75**	**318**	⇓P		**Pn**		**09 37 03.8**	**-0.4**
LIOB	baz=320					*eS*	**Sb**	**09 37 13.5**	**+0.1**
	baz=320								
EYUL	**Yuli**	**0.77**	**197**	*eP*		**Pb**		**09 37 02.0**	**-1.8**
EYUL	baz=193					*eS*	**Sb**	**09 37 14.2**	**+0.5**
	baz=193								
TWF1	**Yuli**	**0.77**	**199**	*eP*		**Pb**		**09 37 01.8**	**-2.0**
TWF1	baz=194					*eS*	**Sb**	**09 37 13.9**	**+0.1**
	baz=194								
TWQ1	**Liyutan**	**0.77**	**290**	⇓*eP*		**Pn**		**09 37 04.4**	**0.0**
TWQ1	baz=290					*eS*	**Sn**	**09 37 14.3**	**-1.0**
	baz=290								
ECBN	**Changbin**	**0.77**	**188**	*eP*		**Pb**		**09 37 02.5**	**-1.3**
ECBN	baz=184					*eS*	**Sb**	**09 37 13.6**	**-0.2**
	baz=184								
NJD	**Zhudong**	**0.78**	**326**	*eP*		**Pn**		**09 37 05.0**	**+0.3**
	baz=328								
WWF	**Wufeng**	**0.79**	**267**	*eP*		**Pb**		**09 37 04.3**	**+0.1**
WWF	baz=265					*eS*	**Sn**	**09 37 15.7**	**-0.2**
	baz=265								
NSY	**Sanyi**	**0.80**	**295**	⇓*eP*		**Pn**		**09 37 05.5**	**+0.5**
NSY	baz=294					*eS*	**Sn**	**09 37 16.1**	**-0.1**
	baz=294								
WJS	**Zhushan**	**0.81**	**251**	*eP*		**Pn**		**09 37 05.2**	**+0.2**
WJS	baz=249					*eS*	**Sn**	**09 37 16.5**	**+0.3**
	baz=249								
NTC	**Toucheng**	**0.81**	**18**	*eP*		**Pb**		**09 37 04.3**	**-0.1**
NTC	baz=21					*eS*	**Sb**	**09 37 14.5**	**-0.5**
	baz=21								
TCU	**Taichung**	**0.81**	**275**	*eP*		**Pn**		**09 37 05.5**	**+0.4**
TCU	baz=273					*eS*	**Sn**	**09 37 17.2**	**+0.8**
	baz=273								
YUS	**Yu-Shan**	**0.81**	**224**	⇓P		**Pb**		**09 37 04.7**	**-0.2**
YUS	baz=220					*eS*	**Sb**	**09 37 16.1**	**+0.5**
	baz=220								
WNT1	**Nantou City**	**0.83**	**258**	*eP*		**Pn**		**09 37 05.9**	**+0.7**
WNT1	baz=255					*eS*	**Sn**	**09 37 17.4**	**+0.7**
	baz=255								
WNT	**Mingjian**	**0.83**	**256**	*eP*		**Pn**		**09 37 05.7**	**+0.4**
WNT	baz=253					*eS*	**Sn**	**09 37 17.6**	**+0.8**
	baz=253								
EGS		**0.83**	**24**	*eP*		**Pb**		**09 37 05.1**	**+0.2**
	baz=28								
NMLH	**Miaoli**	**0.84**	**303**	⇓*eP*		**Pn**		**09 37 06.1**	**+0.6**
NMLH	baz=303					*eS*	**Sn**	**09 37 17.4**	**+0.4**
	baz=303								
HSN1	**Hsinchu**	**0.85**	**325**	*eP*		**Pn**		**09 37 06.3**	**+0.7**
	baz=326								
NHDH	**Xindian Distri**	**0.88**	**358**	*eP*		**Pn**		**09 37 06.1**	**+0.1**
NHDH	baz=1.0					*eS*	**Sn**	**09 37 17.5**	**-0.5**
	baz=1.0								
SBCB	**Hsinchu**	**0.88**	**323**	*eP*		**Pn**		**09 37 06.7**	**+0.7**
	baz=325								
WDJ	**Dajia District**	**0.88**	**288**	*eP*		**Pn**		**09 37 07.1**	**+1.1**
	baz=287								
TATO	**Taipei**	**0.89**	**356**	⇑*eP*		**Pn**		**09 37 06.3**	**+0.1**
	baz=359								
TWA	**Mucha**	**0.89**	**1**	*eP*		**Pn**		**09 37 06.4**	**+0.2**
	baz=5.0								
TWA						*eS*	**Sn**	**09 37 18.4**	**0.0**
	baz=5.0								
ALS	**Alishan**	**0.90**	**231**	*eP*		**Pb**		**09 37 06.5**	**+0.3**
	baz=227								
ALS						*eS*	**Sn**	**09 37 18.7**	**-0.2**
	baz=227								
HSN	**Hsinchu**	**0.90**	**323**	*eP*		**Pn**		**09 37 07.2**	**+0.9**
	baz=328								
WYL	**Yuanlin Townsh**	**0.91**	**263**	*eP*		**Pn**		**09 37 07.4**	**+1.1**
	baz=260								
FULB	**Fuli**	**0.91**	**196**	*eP*		**Pb**		**09 37 05.1**	**-1.2**
	baz=193								
FULB						*eS*	**Sn**	**09 37 20.5**	**+1.6**
	baz=193								
TIPB	**Shuangxi**	**0.92**	**15**	*eP*		**Pb**		**09 37 05.9**	**-0.5**
	baz=18								
TIPB						*eS*	**Sb**	**09 37 18.1**	**-0.1**
	baz=18								
WCHH	**Zhanghua**	**0.92**	**270**	*eP*		**Pn**		**09 37 06.5**	**0.0**
	baz=268								
NCU	**National Centr**	**0.95**	**339**	*eP*		**Pn**		**09 37 08.1**	**+1.2**
	baz=341								
NCU						*eS*	**Sn**	**09 37 21.8**	**+2.1**
	baz=341								
TAP	**Taipei**	**0.95**	**357**	*eP*		**Pn**		**09 37 07.2**	**+0.2**
	baz=360								
CHKT	**Chengkung**	**0.99**	**191**	*eP*		**Pn**		**09 37 05.8**	**-1.8**
	baz=187								
CHKT						*eS*	**Sb**	**09 37 19.6**	**-0.8**
	baz=187								
WGK	**Gukeng**	**1.00**	**247**	*eP*		**Pb**		**09 37 08.9**	**+1.2**
	baz=244								
WGK						*eS*	**Sn**	**09 37 22.7**	**+1.8**
	baz=244								
TWB1	**Santiao Chiao**	**1.00**	**23**	*eP*		**Pn**		**09 37 07.7**	**+0.1**
	baz=26								
TWB1						*eS*	**Sb**	**09 37 20.5**	**0.0**
	baz=26								
NWF	**Wu-fen Shan**	**1.00**	**11**	*eP*		**Pn**		**09 37 07.6**	**-0.2**
	baz=14								
NWF						*eS*	**Sn**	**09 37 21.4**	**+0.1**
	baz=14								
WFSB	**Wu-fen Shan**	**1.00**	**11**	*eP*		**Pn**		**09 37 07.7**	**0.0**
	baz=14								
WFSB						*eS*	**Sn**	**09 37 21.4**	**+0.2**
	baz=14								
WDLH	**Douliu**	**1.02**	**248**	*eP*		**Pb**		**09 37 09.0**	**+0.9**
	baz=245								
WDLH						*eS*	**Sn**	**09 37 22.6**	**+1.3**
	baz=245								
ELDTW	**Lidau**	**1.02**	**209**	*eP*		**Pn**		**09 37 07.9**	**-0.1**
	baz=206								
TWS1	**Kuangyinshan**	**1.02**	**353**	*eP*		**Pb**		**09 37 08.8**	**+0.6**
	baz=355								
TWS1						*eS*	**Sn**	**09 37 23.6**	**+2.0**
	baz=355								
NHW	**Xinwu Township**	**1.03**	**333**	*eP*		**Pb**		**09 37 08.9**	**+0.6**
	baz=335								
NHW						*eS*	**Sn**	**09 37 24.3**	**+2.5**
	baz=335								
SXI1	**Grass Mountain**	**1.05**	**16**	*eP*		**Pb**		**09 37 08.7**	**+0.1**
	baz=18								
SXI1						*eS*	**Sn**	**09 37 22.9**	**+0.6**
	baz=18								
YM01	**YM01**	**1.06**	**0**	*eP*		**Pb**		**09 37 09.1**	**+0.3**
	baz=3.0								
YM01						*eS*	**Sn**	**09 37 23.4**	**+0.9**
	baz=3.0								
TNOU	**National Taiwa**	**1.08**	**10**	*eP*		**Pb**		**09 37 09.7**	**+0.6**
	baz=13								
NTST	**Danshui**	**1.08**	**355**	*eP*		**Pb**		**09 37 09.8**	**+0.6**
	baz=357								
NTST						*eS*	**Sn**	**09 37 24.7**	**+1.7**
	baz=357								
WCKO	**Fanlu**	**1.09**	**234**	*eP*		**Pb**		**09 37 09.4**	**+0.2**
	baz=231								
WCKO						*eS*	**Sn**	**09 37 23.9**	**+0.7**
	baz=231								
WRL	**Guolierlin Hig**	**1.10**	**261**	*eP*		**Pn**		**09 37 08.8**	**-0.2**
	baz=259								
WRL						*eS*	**Sn**	**09 37 23.7**	**+0.2**
	baz=259								
ANP	**Anpu**	**1.10**	**358**	*eP*		**Pb**		**09 37 09.7**	**+0.1**
	baz=1.0								
ANP						*eS*	**Sn**	**09 37 24.5**	**+0.9**
	baz=1.0								
YM08	**YM08**	**1.10**	**1**	*eP*		**Pb**		**09 37 09.7**	**+0.2**
	baz=4.0								
YM08						*eS*	**Sn**	**09 37 23.8**	**+0.2**
	baz=4.0								
EDH	**Donghe**	**1.13**	**192**	*eP*		**Pn**		**09 37 07.8**	**-1.7**
	baz=190								
EDH						*eS*	**Sn**	**09 37 24.0**	**-0.2**
	baz=190								
CHN2	**Minshiung**	**1.14**	**241**	*eP*		**Pb**		**09 37 11.4**	**+1.3**
	baz=239								
CHN4	**Tsaushan**	**1.15**	**231**	*eP*		**Pn**		**09 37 09.7**	**0.0**
	baz=228								
CHN4						*eS*	**Sb**	**09 37 26.1**	**+1.3**
	baz=228								
TPUB	**Ta-pu**	**1.16**	**228**	*eP*		**Pn**		**09 37 09.6**	**-0.2**
	baz=225								
TPUB						*eS*	**Sb**	**09 37 27.2**	**+2.2**
	baz=225								
STYH	**Taoyuan**	**1.16**	**219**	*eP*		**Pn**		**09 37 07.9**	**-1.9**
	baz=216								
STYH						*eS*	**Sn**	**09 37 23.9**	**-1.0**
	baz=216								
TWY	**Chenhua**	**1.19**	**2**	*eP*		**Pb**		**09 37 11.0**	**+0.1**
	baz=4.0								
CHY	**Chiayi**	**1.19**	**241**	*eP*		**Pb**		**09 37 11.8**	**+0.7**
	baz=239								
CHY						*eS*	**Sb**	**09 37 27.4**	**+1.3**
	baz=239								
WTP	**Ta-pu**	**1.20**	**226**	*eP*		**Pb**		**09 37 12.2**	**+0.9**
	baz=224								
WTP						*eS*	**Sb**	**09 37 28.2**	**+1.8**
	baz=224								
LONT	**Longtian**	**1.24**	**199**	*eP*		**Pn**		**09 37 10.1**	**-0.8**
	baz=196								
TWK	**Hsinying**	**1.28**	**231**	*eP*		**Pb**		**09 37 13.3**	**+0.8**
	baz=228								
TWK						*eS*	**Sb**	**09 37 31.0**	**+2.5**
	baz=228								
SNST	**Tainan City**	**1.30**	**229**	*eP*		**Pn**		**09 37 12.6**	**+0.8**
	baz=227								
CHN1	**Nanshi**	**1.30**	**227**	*eP*		**Pn**		**09 37 12.7**	**+0.9**
	baz=225								
WSF	**Szhu**	**1.30**	**250**	*eP*		**Pb**		**09 37 13.1**	**+0.1**
	baz=248								
WSF						*eS*	**Sb**	**09 37 30.9**	**+1.7**
	baz=248								
JYNG	**Yonagunijimaku**	**1.31**	**73**	P		**Pn**		**09 37 12.4**	**+0.5**
JYNG						*eS*	**Sn**	**09 37 29.2**	**+0.4**
TWG	**Pinlang**	**1.33**	**200**	*eP*		**Pn**		**09 37 09.9**	**-2.3**
	baz=197								
SGST	**Jiashian**	**1.34**	**222**	*eP*		**Pn**		**09 37 13.1**	**+0.7**
	baz=220								
WSL	**Shuilin Townsh**	**1.34**	**246**	*eP*		**Pn**		**09 37 12.9**	**+0.5**
	baz=244								
WSL						*eS*	**Sb**	**09 37 31.6**	**+1.2**
	baz=244								
YOJ	**Yonaguni jima**	**1.38**	**74**	⇑*eP*		**Pn**		**09 37 13.1**	**+0.3**
	baz=75								
YOJ						*eS*	**Sn**	**09 37 30.9**	**+0.7**
	baz=75								
YOJ	**Yonaguni jima**	**1.38**	**74**	*eP*		**Pn**		**09 37 13.1**	**+0.3**
YOJ						*eS*	**Sn**	**09 37 30.7**	**+0.5**
ICHU	**Yijhu**	**1.38**	**239**	*eP*		**Pb**		**09 37 14.6**	**+0.4**
	baz=237								
ICHU						*eS*	**Sb**	**09 37 32.9**	**+1.5**
	baz=237								
LDUT	**Ludao**	**1.41**	**184**	*eP*		**Pn**		**09 37 11.5**	**-1.8**
	baz=182								
LDUT						*eS*	**Sn**

PNG	**Penghu**	**1.91**	**255**	*e*P		**Pn**	**09 37 18.7**	**-1.4**
	baz=253							
WDGT	**Dungji**	**1.93**	**245**	*e*P		**Pn**	**09 37 21.7**	**+1.3**
	baz=243							
WDGT				*e*S		**Sn**	**09 37 45.2**	**+1.4**
	baz=243							
IRIF	**Iriomote-Funau**	**2.00**	**82**	P		**Pn**	**09 37 21.7**	**+0.3**
IRIF				S		**Sn**	**09 37 46.9**	**+1.4**
HATJ	**Hateruma jima**	**2.05**	**90**	P		**Pn**	**09 37 22.8**	**+0.7**
HATJ				S		**Sn**	**09 37 47.7**	**+0.8**
VWUC	**VWUC**	**2.13**	**296**	*e*P		**Pn**	**09 37 22.7**	**-0.4**
	baz=295							
VWUC				*e*S		**Sn**	**09 37 47.2**	**-1.6**
	baz=295							
VCHM	**Qimei**	**2.14**	**246**	*e*P		**Pn**	**09 37 24.3**	**+0.9**
	baz=245							
JKRS	**Kuro-shima**	**2.24**	**86**	P		**Pn**	**09 37 25.8**	**+1.0**
JKRS				*e*S		**Sn**	**09 37 53.3**	**+1.7**
JIJ	**Ishigaki jima**	**2.37**	**83**	P		**Pn**	**09 37 26.8**	**+0.3**
JIJ				*e*S		**Sn**	**09 37 55.2**	**+0.3**
PTMZ	**Houxiangcun**	**2.42**	**294**	*e*P		**Pn**	**09 37 26.8**	**-0.4**
	baz=293							
PTMZ				*e*S		**Sn**	**09 37 54.4**	**-1.6**
	baz=293							
JTJ	**Tarama**	**2.92**	**78**	P		**Pn**	**09 37 35.5**	**+1.5**
JTJ				S		**Sn**	**09 38 10.8**	**+2.5**
JOW	**Kunigami**	**6.66**	**64**	P		**Pn**	**09 38 24.9**	**-0.5**
	4.4nm,0.3s,baz=177,slow=11,SNR=22							
	10nm,0.3s							
KSRS	**Korea Array**	**14.40**	**21**	P		**P**	**09 40 18.6**	**+0.5**
	2.9nm,0.7s,baz=198,slow=11,SNR=16							
CMAR	**Chiang Mai Arr**	**21.80**	**259**	P		**P**	**09 41 42.0**	**+2.4**
	1.2nm,0.3s,baz=65,slow=8.3,SNR=7.5							
	1.2nm,0.3s							
GTA	**Gaotai**	**23.90**	**315**	*e*P		**P**	**09 42 01.1**	**-0.1**
GTA				pP		sP	09 42 12.5	+0.3
GTA				sP		pP	09 42 19.8	+11
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**26.60**	**337**	P		**P**	**09 42 25.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=150,slow=6.8,SNR=4.0							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**38.65**	**316**	P		**P**	**09 44 11.2**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=107,slow=10,SNR=22							
	comp=Z,2.1nm,0.7s							
ZALV	**Zalesovo Beam**	**40.52**	**327**	P		**P**	**09 44 24.5**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=118,slow=8.5,SNR=2.3							
	comp=Z,0.7nm,0.3s							
WRA	**Warramunga Arr**	**45.49**	**163**	P		**P**	**09 45 04.2**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=345,slow=8.8,SNR=9.7							
	comp=Z,0.5nm,0.6s							
ASAR	**Alice Springs**	**48.95**	**165**	P		**P**	**09 45 32.8**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=337,slow=7.0,SNR=5.7							
	comp=Z,0.3nm,0.6s							
STKA	**Stephens Creek**	**58.85**	**160**	P		**P**	**09 46 44.5**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=31,slow=4.5,SNR=3.5							
	comp=Z,1.2nm,0.7s							
ILAR	**Eielson Array**	**69.14**	**27**	P		**P**	**09 47 52.4**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=281,slow=4.7,SNR=5.0							
	comp=Z,0.3nm,0.7s							
BSD	**Bornholm Skovb**	**79.53**	**326**	*i* P		**P**	**09 48 56.0**	**+2.2**

BJI **24** *09:41:54.1±0.0,2.˙02S×140.˙83E, h5km, mb4.7/58, mB5.2/55, Ms4.8/62, Ms7 4.6/60*
IDC **24** *09:41:55.4±0.5, 1.˙94S×140.˙74E, h0km, mb4.4/18, mbtmp4.4/23, ML4.3/3, MS3.4/6/52, Error ellipse: s-maj=20.4km s-min=11.3km az=81.0*
MOS **24** *09:41:56.3±0.8, 2.˙01S×140.˙45E, h15km, mb5.0/31, MS4.4/5, Error ellipse: s-maj=11.8km s-min=5.7km az=113.7*
NEIC **24** *09:41:57.7±1.2, 1.˙95S±0.˙04×140.˙53E±0.˙07, h10km±1km, mb5.2/90, Error ellipse: s-maj=11.9km s-min=6.3km az=270.0*
GCMT **24** *09:41:59.7±0.1, 1.˙88S±0.˙01×140.˙54E±0.˙01, h12km, MW5.2/148, Moment Tension Solution. s94,c124; s148,c264; Duration: 19 0 Moment tensor: Scale 10^16 Nm; Mrr-6.66±.09; Mθθ6.42±.07; Mϕϕ0.24±.09; Mrθ3.42±.22; Mθϕ0.21±.07; Mϕr1.00±.28; Best double couple: M07.44800×10^16 NP1:ϕ2=261.00000°, δ59.00000°, λ-97.00000°. NP2:ϕ2=94.00000°, δ31.00000°, λ-79.00000°. Principal axes: T 7.2880, Plg14.0000°, Azm356.0000°; N 0.3240, Plg6.0000°, Azm265.0000°; P -7.6090, Plg75.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA **24** *09:42:02.0±0.8, 2˙S±4˙×14˙1E±˚, h21km±6km, M4.8/37, mb4.8/37, mB5.4/27, MLv4.8/4, Mw(mB)4.8/27, MwMwp4.7/5, Mwp5.1/5*
ISC 24 09:41:58.3±0.5, 2.˙00S±0.˙03×140.˙58E±0.˙04, h16km±2km, h16km:pP-P, n383, σ1s80/357, mb5.1/104, MS4.6/74, 19C-9D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.72**	**215**	P	**Pb**	**09 42 13.6**	**+1.2**
GENI	**Genyem**	**0.72**	**215**	P	**Pb**	**09 42 13.7**	**+1.3**
SMPI	**Sarmi**	**1.86**	**270**	P	**Pb**	**09 42 31.6**	**-0.4**
SMPI				S	**Sb**	**09 42 56.0**	**+0.9**
WAMI	**Wamena**	**2.64**	**225**	P	**Pn**	**09 42 43.3**	**+3.0**
MANU	**Manus Island**	**6.79**	**90**		**Pn**	**09 43 37.7**	**+0.4**
FAKI	**Fak Fak**	**8.37**	**264**	Pn	**Pn**	**09 43 57.9**	**-1.1**
FAKI	**Fak Fak**	**8.37**	**264**	P	**Pn**	**09 44 03.3**	**+4.2**
	2µm639nm38nm,0.8s						
SIJI	**Sorong**	**9.37**	**277**	Pn	**Pn**	**09 44 15.6**	**+2.7**
	0.7nm,0.3s,baz=99,slow=22,SNR=2.6						
SIJI				LR	LR	09 47 41.5	
	comp=Z,2µm,21.6s,baz=90,slow=36						
	4.7nm,0.6s						
PMG	**Port Moresby**	**9.85**	**139**	Pn	**Pn**	**09 44 15.7**	**-3.6**
	5.8nm,0.6s,baz=344,slow=18,SNR=2.5						
PMG				LR	LR	09 48 38.6	
	comp=Z,4µm,20.8s,baz=312,slow=41						
PMG	**Port Moresby**	**9.85**	**139**	Pn	**Pn**	**09 44 20.0**	**+0.7**
PMG	**Port Moresby**	**9.85**	**139**⇑	*e*P	**Pn**	**09 44 22.0**	**+2.6**
SAUI	**Saumlaki**	**10.98**	**237**	Pn	**Pn**	**09 44 34.2**	**-0.7**
KRVT	**Keravat (AS076**	**11.66**	**102**	Pn	**Pn**	**09 44 47.6**	**+3.5**
	3.7nm,0.3s,baz=252,slow=10,SNR=6.5						
KRVT				LR	LR	09 48 47.3	
	comp=Z,2µm,19.7s,baz=53,slow=36						
RABL	**Rabaul**	**11.77**	**101**	Pn	**Pn**	**09 44 45.4**	**-0.3**
COEN	**Coen**	**12.15**	**168**	P	**Pn**	**09 44 54.5**	**+3.5**
AAI	**Ambon**	**12.48**	**262**	P	Pn	09 45 00.7	+5.3
	64nm,1.3s						
LBMI	**Labuha**	**13.14**	**276**	P	Pn	09 45 09.3	+4.8
	1µm69nm,0.9s						
KDU	**Kakadu**	**13.31**	**217**	P	**Pn**	**09 45 04.6**	**-2.1**
	baz=13,SNR=80						
KDU	**Kakadu**	**13.31**	**217**	P	**Pn**	**09 45 04.6**	**-2.1**
TNTI	**Ternate**	**13.49**	**282**	Pn	**Pn**	**09 45 08.4**	**-0.8**
TNTI	**Ternate**	**13.49**	**282**	P	**Pn**	**09 45 13.8**	**+4.6**
	2µm59nm,1.5s						
NLAI	**Namlea**	**13.52**	**264**	P	**Pn**	**09 45 13.8**	**+4.2**
	4µm32nm,1.3s						
MTN	**Manton Dam**	**14.27**	**220**	P	**Pn**	**09 45 16.1**	**-3.7**
	baz=14,SNR=34						
MTN	**Manton Dam**	**14.27**	**220**	Pn	**Pn**	**09 45 19.4**	**-0.4**
MTN	**Manton Dam**	**14.27**	**220**	P	**Pn**	**09 45 17.6**	**-2.2**
SANI	**Sanana**	**14.58**	**270**	P	**Pn**	**09 45 26.4**	**+2.3**
	682nm17nm,0.8s						
SANI				S	**P**	**09 45 30.2**	**-0.3**
	682nm17nm,0.8s						
GUMO	**Guam**	**16.06**	**15**	LR	LR	09 51 22.2	
	comp=Z,2µm,19.4s,baz=214,slow=36						
MTSU	**Mount Surprise**	**16.45**	**167**	P	**Pn**	**09 45 46.6**	**-2.0**
	baz=16,SNR=4.3						
KMSI	**Cibinong**	**16.79**	**279**	P	**P**	**09 45 57.6**	**+2.5**
	172nm,0.5s						
DAV	**Davao City (W)**	**17.47**	**301**	LR	LR	09 51 16.1	
	comp=Z,1µm,21.1s,baz=130,slow=32						
GTOI	**Gorontalo**	**17.76**	**278**	P	**P**	**09 46 10.1**	**+4.3**
	711nm30nm,1.0s						
LUWI	**Luwuk**	**17.82**	**273**		**Pn**	**09 46 05.5**	**-0.4**
LUWI	**Luwuk**	**17.82**	**273**	P	**P**	**09 46 09.9**	**+3.4**
	3µm128nm,1.3s						
KNRA	**Kununurra**	**17.90**	**220**	P	**Pn**	**09 46 04.2**	**-2.6**
	baz=17,SNR=29						
KNRA	**Kununurra**	**17.90**	**220**	P	**Pn**	**09 46 04.7**	**-2.0**
KNRA	**Kununurra**	**17.90**	**220**	P	**Pn**	**09 46 05.4**	**-1.3**
QIS	**Mount Isa**	**18.47**	**183**	P	**P**	**09 46 10.4**	**-3.2**
	baz=18,SNR=5.5						
QIS	**Mount Isa**	**18.47**	**183**	P	**Pn**	**09 46 16.3**	**+2.5**
WB0	**Warramunga Arr**	**18.66**	**198**		**P**	**09 46 15.4**	**-0.4**
BATI	**Baumata**	**18.68**	**243**	P	**Pn**	**09 46 17.4**	**+1.0**
	73nm,0.5s,baz=41,slow=3.1,SNR=5.9						
BATI	**Baumata**	**18.68**	**243**	P	**Pn**	**09 46 19.7**	**+3.3**
	1µm64nm,0.8s						
MRSI	**Marisa**	**18.79**	**277**	P	**Pn**	**09 46 19.1**	**+1.3**
	1µm76nm,1.2s						
WR0	**Warramunga Arr**	**18.80**	**198**	P	**P**	**09 46 16.8**	**-0.5**
CTA	**Charters Tower**	**18.81**	**163**	P	**Pn**	**09 46 18.1**	**+0.2**
	0.3nm,0.3s,baz=342,slow=11,SNR=5.3						
CTA				LR	LR	09 54 11.3	
	comp=Z,3µm,18.1s,baz=347,slow=39						
	8.4nm,1.1s						
CTAO	**Charters Tower**	**18.81**	**163**		**P**	**09 46 17.7**	**+0.3**
CTAO	**Charters Tower**	**18.81**	**163**	P	**P**	**09 46 17.7**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,20nm,1.3s						
WRAB	**Tennant Creek**	**18.83**	**198**	P	**P**	**09 46 17.1**	**-0.5**
WRAB	**Tennant Creek**	**18.83**	**198**	*ce*P	**P**	**09 46 17.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,24nm,1.3s						
WRAB	**Tennant Creek**	**18.83**	**198**	P	**P**	**09 46 16.9**	**-0.7**
WB2	**Warramunga Arr**	**18.84**	**198**	P	**P**	**09 46 17.7**	**-0.1**
WRA	**Warramunga Arr**	**18.85**	**198**	P	**P**	**09 46 17.2**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=25,slow=12,SNR=64						
WRA				S	**Sn**	**09 49 39.9**	**-9.2**
	comp=Z,4.4nm,0.9s,baz=18,slow=23,SNR=5.9						
WRA				LR	LR	09 54 34.3	
	comp=Z,7µm,18.3s,baz=14,slow=40						
	comp=Z,5.8nm,0.4s						
WRA	**Warramunga Arr**	**18.85**	**198**	P	**P**	**09 46 16.5**	**-1.2**
APSI	**Ampana**	**18.95**	**273**	P	**Pn**	**09 46 22.2**	**+2.5**
	comp=Z,2µmcomp=Z,77nm,1.4s						
MMRI	**Maumere**	**19.40**	**249**	P	**P**	**09 46 23.3**	**-0.6**
EDFI	**Ende, Flores**	**19.95**	**250**	P	**P**	**09 46 30.4**	**+0.3**
	comp=Z,372nmcomp=Z,15nm,1.1s						
TOLI2	**Tolitoli**	**20.03**	**279**	P	**P**	**09 46 30.4**	**-0.4**
BSSI	**Bau Bau, Buton**	**20.45**	**258**	P	Pn	09 46 38.5	+1.0
	comp=Z,1µmcomp=Z,56nm,1.0s						
HNR	**Honiara**	**20.63**	**112**	P	Pn	09 46 38.3	-1.3
HNR	**Honiara**	**20.63**	**112**	P	Pn	09 46 38.3	-1.3
HNR				pmax	pmax		
	comp=Z,539nm,1.5s						
BKSI	**Bulukumba**	**20.67**	**260**	P	Pn	09 46 40.5	+0.4
	comp=Z,1µmcomp=Z,822nmcomp=Z,25nm,0.9s						
TTSI	**Tana Toraja**	**20.76**	**267**	P	Pn	09 46 41.7	+0.5
	comp=Z,3µmcomp=Z,2µmcomp=Z,123nm,2.1s						
MPSI	**Mapaga**	**20.80**	**276**	P	Pn	09 46 42.9	+1.2
	comp=Z,46nm,1.2s						
SPSI	**Sidrap Palu**	**20.87**	**264**	P	Pn	09 46 43.2	+0.8
KAPI	**Kappang**	**21.00**	**261**	LR	LR	09 56 28.9	
	comp=Z,280nm,18.6s,baz=82,slow=41						
KAPI	**Kappang**	**21.00**	**261**⇑	*e*P	**P**	**09 46 39.0**	**-2.3**
KAPI				pmax	pmax		
	comp=Z,28nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**09 46 48.1**	**-0.6**
	comp=Z,7.0nm,0.6s,baz=1.4,slow=5.9,SNR=22						
FITZ				LR	LR	09 56 23.4	
	comp=Z,2µm,19.0s,baz=32,slow=40						
	comp=Z,7.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**09 46 48.3**	**-0.5**
	baz=21,SNR=25						
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**09 46 48.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.70**	**222**	P	**P**	**09 46 48.5**	**-0.3**
AS31	**Alice Springs**	**22.48**	**196**	P	**P**	**09 46 57.0**	**-0.3**
ASAR	**Alice Springs**	**22.49**	**196**	P	**P**	**09 46 56.9**	**-0.4**
	comp=Z,14nm,0.5s,baz=28,slow=10.0,SNR=81						
ASAR				S	**S**	**09 51 00.2**	**-3.4**
	comp=Z,2.8nm,1.1s,baz=16,slow=20,SNR=2.3						
ASAR				LR	LR	09 56 39.3	
	comp=Z,7µm,18.3s,baz=24,slow=39						
	comp=Z,14nm,0.5s						
ASAR	**Alice Springs**	**22.49**	**196**	P	**P**	**09 46 56.4**	**-0.8**
ASAR	**Alice Springs**	**22.49**	**196**	P	**P**	**09 46 56.4**	**-0.8**
SGKI	**Sangatta, Kali**	**23.01**	**273**	P	**P**	**09 47 09.0**	**+6.1**
	comp=Z,5µmcomp=Z,311nm,1.7s						
MYLDM	**Lahad Datu**	**23.18**	**288**	P	**P**	**09 47 03.3**	**-1.3**
SMKI	**Samarinda**	**23.41**	**273**	P	**P**	**09 47 10.4**	**+3.5**
	comp=Z,8µmcomp=Z,119nm,1.2s						
BKB	**Balikpapan**	**23.68**	**271**	P	**P**	**09 47 07.8**	**-1.8**
BKB	**Balikpapan**	**23.68**	**271**	P	**P**	**09 47 13.4**	**+3.9**
	comp=Z,4µmcomp=Z,181nm,1.6s						
QLP	**Quilpie**	**24.69**	**172**	P	**P**	**09 47 19.5**	**+0.7**
	baz=24,SNR=4.4						
QLP	**Quilpie**	**24.69**	**172**	P	**P**	**09 47 19.7**	**+0.9**
EIDS	**Eidsvold**	**25.34**	**157**	P	**P**	**09 47 25.2**	**+0.5**
	baz=25,SNR=14						
EIDS	**Eidsvold**	**25.34**	**157**	P	**P**	**09 47 26.0**	**+1.3**
EIDS	**Eidsvold**	**25.34**	**157**	P	**P**	**09 47 26.8**	**+2.1**
RMQ	**Roma**	**25.58**	**163**	P	**P**	**09 47 29.0**	**+2.1**
	baz=25,SNR=10						
KKM	**Kota Kinabalu**	**25.61**	**288**	P	**P**	**09 47 25.9**	**-1.4**
KKM				IAmb	IAmb	09 47 37.2	
	comp=Z,6nm,1.3s						
MTKI	**Muara Teweh, K**	**25.69**	**272**	P	**P**	**09 47 32.2**	**+4.2**
BBKI	**Banjar Baru**	**25.75**	**266**	P	**P**	**09 47 31.2**	**+2.7**
	comp=Z,33nm,1.3s						
WRKA	**Warakurna**	**25.79**	**206**	P	**P**	**09 47 28.3**	**-0.5**
	baz=25,SNR=68						
WRKA	**Warakurna**	**25.79**	**206**	P	**P**	**09 47 28.3**	**-0.5**
SRBI	**Singaraja**	**25.97**	**256**	P	**P**	**09 47 34.7**	**+4.2**
	comp=Z,57nm,1.1s						
OOD	**Oodnadatta**	**26.07**	**190**	P	**P**	**09 47 31.4**	**+0.1**
MBWA	**Marble Bar**	**27.84**	**225**	P	**P**	**09 47 46.5**	**-0.8**
PSA00	**Pilbara Seismi**	**28.03**	**225**	P	**P**	**09 47 48.7**	**-0.3**
SBUM	**Sibu**	**28.69**	**279**	P	**P**	**09 47 54.0**	**-0.9**
SBUM				IAmb	IAmb	09 48 04.7	
	comp=Z,42nm,1.3s						
MULG	**Mulgathing**	**28.80**	**192**	P	**P**	**09 47 56.5**	**+0.8**
JCJ	**Chichijima**	**28.97**	**3**	LR	LR	09 57 01.2	
	comp=Z,609nm,19.8s,baz=122,slow=31						
STKA	**Stephens Creek**	**29.73**	**178**	P	**P**	**09 48 03.6**	**-0.4**
	comp=Z,3.4nm,0.5s,baz=354,slow=9.3,SNR=14						
STKA				LR	LR	10 01 32.4	
	comp=Z,2µm,18.9s,baz=0.7,slow=40						
	comp=Z,3.4nm,0.5s						
STKA	**Stephens Creek**	**29.73**	**178**	P	**P**	**09 48 04.0**	**0.0**
	baz=29,SNR=6.5						
STKA	**Stephens Creek**	**29.73**	**178**	P	**P**	**09 48 04.2**	**+0.2**
STKA	**Stephens Creek**	**29.73**	**178**	P	**P**	**09 48 04.2**	**+0.2**
STKA				pmax	pmax		
	comp=Z,13nm,1.8s						
STKA	**Stephens Creek**	**29.73**	**178**	P	**P**	**09 48 04.3**	**+0.3**
CMSA	**Cobar Meteorol**	**29.77**	**171**	P	**P**	**09 48 04.9**	**+0.5**
	baz=29,SNR=6.9						
PCJI	**Pacitan**	**29.91**	**257**	P	**P**	**09 48 09.2**	**+3.5**
ARMA	**Armidale**	**30.14**	**161**	P	**P**	**09 48 08.6**	**+0.9**
	baz=30,SNR=4.5						
ARMA	**Armidale**	**30.14**	**161**	P	**P**	**09 48 07.3**	**-0.4**
ARMA				IAmb	IAmb	09 48 11.5	
	comp=Z,46nm,1.5s						
BBOO	**Buckleboo**	**30.94**	**187**	P	**P**	**09 48 14.7**	**0.0**
	baz=30,SNR=5.5						
BBOO	**Buckleboo**	**30.94**	**187**	P	**P**	**09 48 14.4**	**-0.2**
BBOO				IAmb	IAmb	09 48 53.5	
	comp=Z,78nm,1.6s						
BBOO	**Buckleboo**	**30.94**	**187**	P	**P**	**09 48 14.5**	**-0.2**
FORT	**Forrest**	**30.98**	**201**	P	**P**	**09 48 15.3**	**+0.3**
	baz=30,SNR=7.8						
FORT	**Forrest**	**30.98**	**201**	P	**P**	**09 48 15.2**	**+0.1**
FORT				IAmb	IAmb	09 48 23.1	
	comp=Z,25nm,0.8s						
FORT	**Forrest**	**30.98**	**201**	P	**P**	**09 48 15.1**	**+0.1**
JOW	**Kunigami**	**31.02**	**338**	LR	LR	09 57 55.9	
	comp=Z,2µm,20.8s,baz=156,slow=31						
LIFNC	**LIFOU**	**32.01**	**128**	P	**P**	**09 48 23.5**	**-0.7**
DZM	**Mont Dzumac**	**32.10**	**130**	*e*P	**P**	**09 48 28.5**	**+3.4**
	comp=Z,58nm,25.4s						
DZM				*e*S	**S**	**09 53 39.7**	**+2.5**
	comp=Z,297nm,27.5s						
DZM				*e*LR	LR	09 56 51.8	
	comp=Z,2µm,23.4s						
DZM	**Mont Dzumac**	**32.10**	**130**	P	**P**	**09 48 22.6**	**-2.6**
	comp=Z,11nm,0.9s,baz=80,slow=14,SNR=4.6						
	comp=Z,11nm,0.9s						
DZM	**Mont Dzumac**	**32.10**	**130**	P	**P**	**09 48 25.2**	**+0.1**
MEEK	**Meekatharra**	**32.32**	**219**	P	**P**	**09 48 26.5**	**-0.4**
	baz=32,SNR=9.3						
MARNC	**Mare, Loyalty**	**33.01**	**128**	P	**P**	**09 48 33.1**	**+0.1**
H11N1	**WAKE ISLAND Hy**	**33.66**	**49**	T	T	10 24 02.9	
	baz=229,slow=76,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**33.67**	**49**	T	T	10 24 03.5	
	baz=229,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**33.68**	**49**	T	T	10 24 02.9	
	baz=229,slow=76,SNR=8.1						
JHJ	**Hachijo jima 2**	**34.94**	**359**	LR	LR	09 59 49.1	
	comp=Z,2µm,20.6s,baz=202,slow=31						
MORW	**Morawa**	**35.64**	**219**	P	**P**	**09 48 55.6**	**-0.1**
	baz=35,SNR=3.3						
MORW	**Morawa**	**35.64**	**219**	P	**P**	**09 48 55.5**	**-0.2**
MORW				IAmb	IAmb	09 49 03.9	
	comp=Z,44nm,1.3s						
TOO	**Toolangi**	**35.69**	**173**	P	**P**	**09 48 56.5**	**+0.5**
TOO				IAmb	IAmb	09 50 02.7	
	comp=Z,73nm,2.0s						
TOO	**Toolangi**	**35.69**	**173**	P	**P**	**09 48 56.5**	**+0.5**
TOO				pmax	pmax		
	comp=Z,73nm,2.0s						
BLDU	**Ballidu**	**36.34**	**216**	P	**P**	**09 49 01.5**	**-0.3**
	baz=36,SNR=13						
KLBR	**Kellerberrin**	**36.47**	**214**	P	**P**	**09 49 02.1**	**-0.7**
	baz=36,SNR=4.7						
QIZ	**Qiongzhong**	**36.73**	**306**	P	**P**	**09 49 06.9**	**+1.7**
QIZ				sP	**sP**	**09 49 10.5**	**-0.2**
QIZ				PP	**PP**	**09 50 29.8**	**+0.8**
QIZ				S	**S**	**09 54 48.5**	**-0.1**
QIZ				LR	LR		
	comp=Z,730nm,13.5s						
QIZ				LR	LR		
	comp=Z,450nm,26.3s						
QIZ				LR	LR		
	comp=Z,810nm,24.7s						
SSE	**Sheshan**	**37.73**	**332**	P	P	09 49 18.4	+4.9
SSE				S	**S**	**09 55 10.0**	**+6.6**
SSE				pmax	pmax		
	comp=Z,12nm,0.9s						
SSE				pmax	pmax		
	comp=Z,55nm,3.4s						
SSE				LR	LR		
	comp=Z,310nm,19.2s						
SSE				LR	LR		
	comp=Z,190nm,19.6s						
NWAO	**Narrogin (SRO)**	**37.77**	**213**	LR	LR	10 06 47.8	
	comp=Z,2µm,18.0s,baz=268,slow=39						
MJAR	**Matsushiro Arr**	**38.41**	**357**	P	**P**	**09 49 17.0**	**-2.1**
	comp=Z,2.8nm,0.8s,baz=179,slow=9.2,SNR=9.1						
MJAR				LR	LR	10 03 59.9	
	comp=Z,666nm,19.2s,baz=155,slow=34						
	comp=Z,2.8nm,0.8s						
MAJO	**Matsushiro**	**38.41**	**357**⇑	*e*P	**P**	**09 49 18.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.6s						
JMM	**Marumori**	**39.67**	**0**	P	**P**	**09 49 28.1**	**-1.5**
JMM				IAmb	IAmb	09 49 37.1	
	comp=Z,112nm,1.7s						
JSD	**Sado**	**39.90**	**357**	P	**P**	**09 49 31.2**	**-0.3**
JSD				IAmb	IAmb	09 49 38.5	
	comp=Z,66nm,1.1s						
MSVF	**Nonsavu**	**39.97**	**115**	LR	LR	10 05 26.8	
	comp=Z,561nm,20.6s,baz=289,slow=35						
TJN	**Taejon**	**40.12**	**343**	*de*P	**P**	**09 49 34.9**	**+1.5**
WHN	**Wuhan**	**40.89**	**324**	⇓P	P	09 49 48.0	+8.1
KSAR	**Wonju Array Be**	**40.97**	**345**	P	**P**	**09 49 38.6**	**-1.8**
KSAR	**Wonju Array Be**	**40.97**	**345**	P	**P**	**09 49 38.6**	**-1.8**
KSRS	**Korea Array**	**40.97**	**345**	P	**P**	**09 49 40.0**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=156,slow=8.0,SNR=11						
KSRS				PcP	**PcP**	**09 51 39.4**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=159,slow=4.7,SNR=3.7						
KSRS				LR	LR	10 04 39.9	
	comp=Z,869nm,19.7s,baz=165,slow=33						
	comp=Z,2.4nm,0.8s						
INCN	**Inchon**	**41.36**	**343**	P	**P**	**09 49 43.4**	**-0.3**
INCN				IAmb	IAmb	09 49 52.3	
	comp=Z,52nm,1.4s						
INCN	**Inchon**	**41.36**	**343**	P	**P**	**09 49 43.4**	**-0.3**
INCN				pmax	pmax		
	comp=Z,52nm,1.4s						
PSI	**Prapat**	**41.91**	**276**	LR	LR	10 08 20.4	
	comp=Z,190nm,19.9s,baz=112,slow=38						
HJU	**Haeju**	**42.15**	**342**	P	**P**	**09 49 51.7**	**+1.7**
HJU				pP	**pwP**	**09 49 57.1**	**-1.1**
HJU				S	**S**	**09 56 12.4**	**+3.0**
HJU				AmB			
	comp=Z,150nm,1.5s						
HJU				AMS	AMS		
	comp=N,90nm,3.8s						
HJU				AMS	AMS		
	comp=E,22nm,0.9s						
HJU				AMS	AMS		
	comp=Z,40nm,1.7s						
GYA	**Guiyang**	**43.27**	**313**⇑	*i*P	**P**	**09 50 02.3**	**+2.7**
GYA				S	**S**	**09 56 28.9**	**+2.4**
GYA				pmax	pmax		
	comp=Z,21nm,1.3s						
GYA				pmax	pmax		
	comp=Z,260nm,3.8s						
GYA				LR	LR		
	comp=Z,250nm,9.0s						
GYA				LR	LR		
	comp=Z,260nm,10.7s						
GYA				LR	LR		
	comp=Z,340nm,

HNS comp=Z,690nm,20.1s LR LR
comp=Z,830nm,19.6s
SNY Shenyang 46.27 342 ⇑P **P** **09 50 24.6 +1.6**
SNY S **S** **09 57 11.9 +2.6**
SNY pmax pmax
comp=Z,330nm,4.1s
SNY LR LR
comp=Z,540nm,21.8s
SNY LR LR
comp=Z,470nm,17.3s
SNY LR LR
comp=Z,1μm,20.8s
XAN Xi'an 46.60 323 ⇑*i*P **P** **09 50 25.9 0.0**
XAN pP pwP 09 50 32.6 -1.4
XAN sP sP 09 50 36.3 +4.9
XAN S **S** **09 57 14.5 +0.1**
XAN SS **SS** **10 00 38.4 -2.4**
XAN pmax pmax
comp=Z,18nm,1.5s
XAN pmax pmax
comp=Z,380nm,4.1s
XAN LR LR
comp=Z,460nm,19.2s
XAN LR LR
comp=Z,430nm,16.7s
XAN LR LR
comp=Z,370nm,13.4s
USRK Ussuriysk Ar. 46.63 352 P **P** **09 50 25.4 -0.5**
comp=Z,2.6nm,0.7s,baz=167,slow=9.6,SNR=6.2
USRK LR LR 10 06 43.0
comp=Z,1μm,21.0s,baz=142,slow=32
comp=Z,2.6nm,0.7s
USRK Ussuriysk Ar. 46.63 352 P **P** **09 50 24.9 -1.0**
USRK Ussuriysk Ar. 46.63 352 P **P** **09 50 24.9 -1.0**
PZH PanZhiHua 46.98 310 P **P** **09 50 30.8 +1.7**
PZH S **S** **09 57 21.6 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,5.6s
PZH LR LR
comp=Z,1μm,25.0s
PZH LR LR
comp=Z,1μm,23.0s
PZH LR LR
comp=Z,2μm,24.5s
TIY Taiyuan 47.33 329 *e*P **P** **09 50 33.3 +1.7**
TIY S **S** **09 57 26.8 +2.0**
TIY pmax pmax
comp=Z,150nm,4.2s
TIY LR LR
comp=Z,610nm,20.6s
TIY LR LR
comp=Z,550nm,19.9s
TIY LR LR
comp=Z,860nm,20.6s
BJI Beijing 47.43 334 P **P** **09 50 31.0 -1.2**
BJI sP **sP** **09 50 38.3 +0.6**
BJI PP **PP** **09 52 23.3 -0.3**
BJI S **S** **09 57 19.3 -6.6**
BJI ScS **ScS** **10 00 27.3 +1.6**
BJI pmax pmax
comp=Z,11nm,1.5s
BJI pmax pmax
comp=Z,210nm,5.0s
BJI LR LR
comp=Z,160nm,20.1s
BJI LR LR
comp=Z,410nm,22.3s
BJI LR LR
comp=Z,1μm,22.6s
KUR Kuril'sk 47.47 7 P P 09 50 37.0 +4.6
KUR S **S** **09 57 28.3 +1.9**
KUR MLR MLR
comp=Z,215nm,20.0s
CN2 Changchun 47.57 345 P **P** **09 50 33.1 -0.1**
CN2 S **S** **09 57 23.0 -4.9**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,800nm,19.0s
RAO Raoul Island 47.86 129 LR LR 10 10 35.9
comp=Z,190nm,18.5s,baz=309,slow=36
CD2 Chengdu 47.94 316 P **P** **09 50 37.3 +0.9**
CD2 sP pwP 09 50 43.3 -1.3
CD2 S **S** **09 57 35.5 +1.9**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,160nm,4.7s
CD2 LR LR
comp=Z,400nm,17.2s
CD2 LR LR
comp=Z,430nm,14.7s
CD2 LR LR
comp=Z,630nm,18.2s
AFI Afiamalu 48.54 107 LR LR 10 09 51.7
comp=Z,338nm,20.7s,baz=267,slow=35
YSS Yuzh-Sakhalins 48.79 2 *e*P **P** **09 50 43.3 +0.8**
YSS *e* 09 52 35.2
YSS *e*S **S** **09 57 43.9 -1.0**
YSS *e*SS **SS** **10 01 16.4 +0.7**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,200nm,3.8s
YSS MLR MLR
comp=Z,400nm,13.0s
BNX BinXian 48.95 348 ⇑P **P** **09 50 43.6 -0.2**
BNX pP **pP** **09 50 46.9 -0.9**
BNX sP **sP** **09 50 48.0 -1.4**
BNX PP **PP** **09 52 37.6 +0.2**
BNX S **S** **09 57 48.4 +1.1**
BNX sS **sS** **09 57 55.3 +1.4**
BNX pmax pmax
comp=Z,16nm,1.1s
BNX pmax pmax
comp=Z,280nm,5.6s
BNX LR LR
comp=Z,560nm,21.7s
BNX LR LR
comp=Z,330nm,19.9s
BNX LR LR
comp=Z,640nm,20.6s
URZ Urewera 49.19 142 LR LR 10 11 58.4
comp=Z,657nm,18.6s,baz=32,slow=37
RPZ Rata Peaks 49.58 151 LR LR 10 12 19.0
comp=Z,705nm,18.4s,baz=312,slow=37
RPZ Rata Peaks 49.58 151 P **P** **09 50 48.6 -0.2**
RPZ lAmb lAmb 09 51 07.9
comp=Z,31nm,1.1s
XLT XiLinHaoTe 50.69 337 *e*P P 09 51 03.3 +6.0
XLT pP pwP 09 51 07.3 +1.9
XLT sP sP 09 51 10.8 +7.9
XLT S **S** **09 58 19.5 +7.5**
XLT XiLinHaoTe 50.69 337 SS **SS** **10 01 49.6 +3.0**
XLT pmax pmax
comp=Z,13nm,1.0s
XLT LR LR
comp=N,48nm,21.4s
XLT LR LR
comp=E,540nm,20.4s
XLT LR LR
comp=Z,700nm,23.3s
LZH Lanzhou 51.06 321 ⇑P **P** **09 51 01.8 +1.5**
LZH sP pwP 09 51 08.1 -0.4
LZH S **S** **09 58 19.8 +2.3**
LZH sS sS 09 58 26.3 +2.2
LZH SS **SS** **10 01 53.3 +0.4**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,330nm,4.3s
LZH LR LR
comp=Z,340nm,15.6s
LZH LR LR
comp=Z,580nm,14.9s
LZH LR LR
comp=Z,860nm,20.1s

KLR Kul'dur 51.60 353 P **P** **09 51 03.5 -0.3**
comp=Z,5.9nm,1.0s,baz=202,slow=3.9,SNR=7.9
KLR LR LR 10 10 18.2
comp=Z,628nm,19.5s,baz=156,slow=33
comp=Z,5.9nm,1.0s
KLR Kul'dur 51.60 353 *de*P **P** **09 51 03.3 -0.5**
KLR pmax pmax
comp=Z,20nm,1.7s
TYV Tymovskoe 52.69 2 *e*P P 09 51 06.9 -5.0
TYV pmax pmax
comp=Z,4.0nm,1.2s
TYV pmax pmax
comp=Z,200nm,2.9s
BRDH Bariadhala 53.62 300 LR LR 10 17 19.6
comp=Z,106nm,18.1s,baz=99,slow=40
HIA Hailar 54.15 343 ⇓*i*P **P** **09 51 23.1 +0.4**
HIA pmax pmax
comp=Z,4.0nm,1.0s
GTA Gaotai 55.63 322 ⇑P **P** **09 51 34.6 +0.8**
GTA pP pwP 09 51 41.3 -0.8
GTA sP sP 09 51 45.4 +6.0
GTA S **S** **09 59 21.4 +1.9**
GTA sS sS 09 59 27.8 +1.7
GTA pmax pmax
comp=Z,9.0nm,1.6s
GTA pmax pmax
comp=Z,200nm,4.4s
GTA LR LR
comp=Z,250nm,21.4s
GTA LR LR
comp=Z,230nm,19.6s
GTA LR LR
comp=Z,370nm,22.5s
ZEA Zeya 56.65 351 *e*P **P** **09 51 44.5 +3.9**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
PETK Petropavlovsk- 56.76 12 LR LR 10 12 39.7
comp=Z,436nm,21.7s,baz=217,slow=32
PET Petropavlovsk 56.89 13 *e*P **P** **09 51 38.2 -4.1**
PET *e*S **S** **09 59 29.3 -6.0**
PET *e*SS **SS** **10 03 19.0 -4.9**
PET pmax pmax
comp=Z,100nm,4.6s
PET MLR MLR
comp=Z,200nm,17.0s
GOMU GeErMu 57.07 316 *e*P **P** **09 51 44.8 +0.4**
GOMU S **S** **09 59 41.0 +1.8**
GOMU pmax pmax
comp=Z,110nm,3.8s
GOMU LR LR
comp=Z,170nm,18.8s
GOMU LR LR
comp=Z,200nm,17.7s
GOMU LR LR
comp=Z,170nm,17.7s
ULN Ulaanbaatar 57.63 334 ⇑*e*P **P** **09 51 48.5 +0.6**
ULN pmax pmax
comp=Z,14nm,2.5s
SONM Songino Array 57.90 333 P **P** **09 51 49.6 -0.2**
comp=Z,1.2nm,0.8s,baz=139,slow=8.4,SNR=4.9
SONM LR LR 10 15 39.1
comp=Z,726nm,20.3s,baz=112,slow=35
comp=Z,1.2nm,0.8s
RAR Rarotonga 61.08 113 LR LR 10 16 29.7
comp=Z,137nm,21.3s,baz=276,slow=34
ZAK Zakamensk 61.16 334 *e*P **P** **09 52 10.6 -1.6**
ZAK pmax pmax
comp=Z,17nm,1.7s
SHEM Shemya Is, Ala 61.37 22 LR LR 10 13 57.1
comp=Z,631nm,21.2s,baz=236,slow=31
BOD Bodaibo 63.32 344 *e*P **P** **09 52 26.1 -0.2**
BOD pmax pmax
comp=Z,21nm,1.7s
YAK Yakutsk 64.40 354 ⇓*e*P **P** **09 52 33.8 +0.5**
YAK pmax pmax
comp=Z,74nm,1.7s
SEY Seymchan 65.38 6 LR LR 10 15 34.5
comp=Z,491nm,21.9s,baz=163,slow=31
WMQ Urumqi 65.63 321 *e*P **P** **09 52 44.3 +2.4**
WMQ pP sP 09 52 48.3 +0.8
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,280nm,4.3s
WMQ LR LR
comp=Z,380nm,20.9s
WMQ LR LR
comp=Z,340nm,19.5s
WMQ LR LR
comp=Z,220nm,22.3s
CASY Casey 67.56 193 P **P** **09 52 53.5 -0.2**
DGZ Jazzator, Alta 68.72 326 ⇓*e*P **P** **09 53 01.5 0.0**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
ZSN Zaisan 69.10 323 *e*P **P** **09 53 04.3 +0.6**
ZSN Zaisan 69.10 323 *e*P **P** **09 53 04.3 +0.6**
baz=323
PPT Papeete 70.19 108 LR LR 10 20 08.6
comp=Z,199nm,21.5s,baz=270,slow=33
PPT2 Papeete2 70.19 108 *e*LR LR 10 14 31.0
comp=Z,310nm,22.2s
MK31 Makanchi Array 70.38 322 P **P** **09 53 11.7 0.0**
MK31 lAmb lAmb 09 53 20.3
comp=Z,17nm,1.2s
MK31 Makanchi Array 70.38 322 *i*P **P** **09 53 11.8 +0.2**
MKAR Makanchi Array 70.38 322 P **P** **09 53 11.8 +0.2**
comp=Z,1.3nm,0.4s,baz=110,slow=7.0,SNR=24
MKAR LR LR 10 26 40.1
comp=Z,172nm,18.0s,baz=100,slow=38
comp=Z,1.3nm,0.4s
MKAR Makanchi Array 70.38 322 P **P** **09 53 11.7 0.0**
MAKZ Makanchi 70.58 322 P **P** **09 53 12.7 -0.1**
MAKZ lAmb lAmb 09 53 21.4
comp=Z,24nm,1.2s
MAKZ Makanchi 70.58 322 P **P** **09 53 12.7 -0.1**
MAKZ pmax pmax
comp=Z,24nm,1.2s
SHLS Shalkode 70.75 317 *e*P **P** **09 53 11.7 -2.4**
SHLS Shalkode 70.75 317 *e*P **P** **09 53 11.8 -2.4**
baz=317
PDGK Podgornoye 70.80 317 P **P** **09 53 12.4 -2.0**
UZB Uzynbulak 71.05 317 *e*P **P** **09 53 16.1 +0.2**
UZB Uzynbulak 71.05 317 *e*P **P** **09 53 16.1 +0.2**
baz=317
TARG Taragay, Kyrgy 71.38 315 P **P** **09 53 16.8 -1.5**
TARG lAmb lAmb 09 53 36.7
comp=Z,23nm,1.3s
TARG Taragay, Kyrgy 71.38 315 P **P** **09 53 16.8 -1.5**
TARG pmax pmax
comp=Z,23nm,1.3s
KPKS Kokpek 71.39 317 *e*P **P** **09 53 17.9 0.0**
KPKS Kokpek 71.39 317 *e*P **P** **09 53 18.0 0.0**
baz=317
SATY Saty 71.44 317 *e*P **P** **09 53 18.7 +0.4**
SATY pmax pmax
comp=Z,7.0nm,0.9s
SATY Saty 71.44 317 *e*P **P** **09 53 18.7 +0.4**
comp=Z,7.4nm,0.9s,baz=317
KSH Kashi 71.97 313 P **P** **09 53 23.8 +2.3**
KSH pP pwP 09 53 31.0 +1.1
KSH pmax pmax
comp=Z,6.0nm,1.6s
KSH LR LR
comp=Z,960nm,15.5s
KSH LR LR
comp=Z,700nm,15.8s
KSH LR LR
comp=Z,410nm,19.9s
TDK Taldyqorghan 72.15 319 *e*P **P** **09 53 22.8 +0.5**
TDK Taldyqorghan 72.15 319 *e*P **P** **09 53 22.9 +0.5**
baz=319
ZAA0 Zalesovo Array 72.28 329 P **P** **09 53 22.2 -0.7**
ZALV Zalesovo Beam 72.28 329 P **P** **09 53 21.7 -1.2**
comp=Z,1.0nm,0.5s,baz=57,slow=5.5,SNR=5.2
ZALV LR LR 10 25 49.4
comp=Z,523nm,19.1s,baz=98,slow=36
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 72.28 329 P **P** **09 53 22.0 -0.9**
ZALV Zalesovo Beam 72.28 329 P **P** **09 53 22.0 -0.9**
MDOK Medeo 72.40 317 *e*P **P** **09 53 24.1 0.0**
MDOK Medeo 72.40 317 *e*P **P** **09 53 24.1 0.0**
baz=317
TNSS Tian-Shan 72.43 316 *e*P **P** **09 53 24.7 +0.2**
TNSS Tian-Shan 72.43 316 *e*P **P** **09 53 24.8 +0.2**
baz=316
AAA Alma-Ata 72.51 317 *e*P **P** **09 53 25.1 +0.5**

AAA Alma-Ata 72.51 317 *e*P **P** **09 53 25.2 +0.5**
baz=317
CHKK Chushkaly 72.68 317 *e*P **P** **09 53 25.4 -0.2**
CHKK Chushkaly 72.68 317 *e*P **P** **09 53 25.4 -0.2**
baz=317
TKM2 Tokmak 2 73.32 316 *i*P **P** **09 53 29.8 +0.1**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 73.91 356 *de*P **P** **09 53 34.2 +2.0**
TIXI pmax pmax
comp=Z,20nm,1.8s
AAK Ala-Archa 74.00 315 P **P** **09 53 33.3 -0.3**
AAK Ala-Archa 74.00 315 ⇑*e*P **P** **09 53 34.3 +0.7**
AAK pmax pmax
comp=Z,18nm,2.5s
SGDS Sogindy 74.16 316 *e*P **P** **09 53 33.2 -1.2**
SGDS Sogindy 74.16 316 *e*P **P** **09 53 33.2 -1.2**
baz=316
KURK Kurchatov 74.22 324 P **P** **09 53 34.2 -0.2**
KURK lAmb lAmb 09 53 44.2
comp=Z,33nm,1.4s
KURK Kurchatov 74.22 324 P **P** **09 53 34.2 -0.2**
KURK pmax pmax
comp=Z,33nm,1.4s
KURBB Kurchatov Arra 74.23 324 P **P** **09 53 34.2 -0.3**
BTLS Baital 75.06 318 *e*P **P** **09 53 39.4 -0.1**
BTLS pmax pmax
comp=Z,11nm,1.4s
BTLS Baital 75.06 318 *e*P **P** **09 53 39.5 -0.1**
comp=Z,10nm,1.4s,baz=318
KBL Kabul 76.01 306 P **P** **09 53 44.4 -1.0**
KBL Kabul 76.01 306 P **P** **09 53 44.4 -1.0**
KBL pmax pmax
comp=Z,9.0nm,1.1s
GAR Garm 76.04 311 P **P** **09 53 44.4 -1.0**
DZA Taraz 76.30 315 *e*P **P** **09 53 45.6 -1.0**
DZA Taraz 76.30 315 *e*P **P** **09 53 45.7 -1.0**
baz=315
VNDA Vanda 76.32 175 P **P** **09 53 46.5 +0.4**
comp=Z,3.6nm,0.9s,baz=318,slow=6.2,SNR=27
VNDA LR LR 10 27 17.4
comp=Z,639nm,20.4s,baz=348,slow=36
comp=Z,3.6nm,0.9s
VNDA Vanda 76.32 175 P **P** **09 53 46.7 +0.6**
VNDA lAmb lAmb 09 53 55.7
comp=Z,23nm,1.6s
VNDA Vanda 76.32 175 P **P** **09 53 46.7 +0.6**
VNDA pmax pmax
comp=Z,23nm,1.6s
CHGR Chuyangaron 76.83 310 P **P** **09 53 49.8 -0.1**
CHGR Chuyangaron 76.83 310 P **P** **09 53 49.8 -0.1**
CHGR pmax pmax
comp=Z,87nm,1.4s
KK31 Karatay Array 76.94 315 P **P** **09 53 50.4 +0.1**
KK31 lAmb lAmb 09 54 00.5
comp=Z,38nm,1.6s
KK31 Karatay Array 76.94 315 P **P** **09 53 50.4 +0.1**
KK31 pmax pmax
comp=Z,38nm,1.7s
KKAR Karatay Array 76.94 315 P **P** **09 53 50.0 -0.3**
KKAR Karatay Array 76.94 315 lAmb lAmb 09 54 00.5
comp=Z,38nm,1.6s
KKAR Karatay Array 76.94 315 P **P** **09 53 50.0 -0.3**
IUG Iuzhnay 77.03 314 *e*P **P** **09 53 51.1 +0.2**
IUG Iuzhnay 77.03 314 *e*P **P** **09 53 51.2 +0.2**
baz=314
SBA Scott Base 77.06 174 P **P** **09 53 51.0 +0.7**
SBA Scott Base 77.06 174 P **P** **09 53 51.0 +0.7**
SBA pmax pmax
comp=Z,74nm,2.0s
OTUK Ortayu 77.18 320 P **P** **09 53 51.3 -0.2**
BRZS Berezniki 77.51 322 *e*P **P** **09 53 52.4 -0.9**
BRZS Berezniki 77.51 322 *e*P **P** **09 53 52.5 -0.9**
baz=322
Q16K King Salmon 77.92 28 P **P** **09 53 55.3 0.0**
baz=245
O17K Koliganek Bris 78.18 27 P **P** **09 53 57.4 +0.6**
baz=245
TAOE Nuku Hiva Isla 79.10 99 *e*LR LR 10 18 37.8
comp=Z,188nm,22.6s
SVW2 Sparrevohn 79.41 26 P **P** **09 54 03.3 -0.3**
SVW2 lAmb lAmb 09 54 13.0
comp=Z,48nm,1.7s
KDAK Kodiak Island 79.56 30 LR LR 10 24 28.2
comp=Z,666nm,21.3s,baz=269,slow=32
NRIK Noril'sk 79.58 343 P **P** **09 54 03.4 -0.9**
comp=Z,3.9nm,0.5s,baz=149,slow=3.5,SNR=6.8
NRIK LR LR 10 29 04.1
comp=Z,687nm,20.4s,baz=113,slow=36
comp=Z,3.9nm,0.5s
NRIK Noril'sk 79.58 343 P **P** **09 54 03.4 -0.9**
NRIK Noril'sk 79.58 343 *ce*P **P** **09 54 04.3 +0.1**
NRIK pmax pmax
comp=Z,27nm,1.7s
N19K Bonanza Creek 79.79 27 lAmb lAmb 09 54 14.8
comp=Z,55nm,1.6s
BRVK Borovoye 79.88 325 P **P** **09 54 06.1 -0.1**
BRVK lAmb lAmb 09 54 15.3
comp=Z,43nm,1.6s
BRVK Borovoye 79.88 325 P **P** **09 54 06.1 -0.1**
BRVK pmax pmax
comp=Z,43nm,1.6s
TTA Tatalina 79.99 25 P **P** **09 54 06.4 -0.4**
TTA lAmb lAmb 09 54 15.7
comp=Z,36nm,1.6s
TTA Tatalina 79.99 25 P **P** **09 54 06.4 -0.4**
TTA pmax pmax
comp=Z,36nm,1.6s
TTA Tatalina 79.99 25 P **P** **09 54 07.1 +0.4**
baz=245
L19K White Mountain 80.17 25 lAmb lAmb 09 54 16.2
comp=Z,26nm,1.3s
L19K White Mountain 80.17 25 P **P** **09 54 08.4 +0.7**
baz=246
M19K Big River Lodg 80.26 26 P **P** **09 54 08.7 +0.6**
baz=247
GCSA Galena City Sc 80.42 23 P **P** **09 54 09.0 +0.1**
baz=244
L20K Farewell, AK 80.71 25 P **P** **09 54 11.2 +0.7**
baz=247
M20K Styx River 80.80 26 lAmb lAmb 09 54 33.2
comp=Z,34nm,1.6s
K20K Telida 80.97 25 lAmb lAmb 09 54 21.3
comp=Z,45nm,1.6s
K20K Telida 80.97 25 P **P** **09 54 12.4 +0.5**
baz=247
J20K Nowinta River 81.26 24 lAmb lAmb 09 54 22.9
comp=Z,52nm,1.5s
J20K Nowinta River 81.26 24 P **P** **09 54 14.3 +0.9**
baz=247
SKT Skwentna 81.54 26 P **P** **09 54 14.6 -0.5**
baz=249
CAST Castle Rocks 81.82 25 lAmb lAmb 09 54 24.7
comp=Z,22nm,1.3s
CAST Castle Rocks 81.82 25 P **P** **09 54 16.1 -0.4**
baz=249
CHUM Lake Minchumin 81.90 24 P **P** **09 54 17.2 +0.4**
baz=248
M22K Willow 82.09 27 lAmb lAmb 09 54 24.8
comp=Z,20nm,1.1s
KTH Kantishna Hill 82.36 25 lAmb lAmb 09 54 26.4
comp=Z,19nm,1.3s
H21K Melozitna Rive 82.37 23 lAmb lAmb 09 54 28.3
comp=Z,24nm,1.6s
PMR Palmer 82.49 27 P **P** **09 54 19.2 -0.7**
baz=252
SML Sawmill 82.92 27 P **P** **09 54 22.2 0.0**
baz=252
MLY Manley 82.95 23 lAmb lAmb 09 54 31.2
comp=Z,20nm,1.4s
MLY Manley 82.95 23 P **P** **09 54 22.2 -0.1**
baz=250
WAT1 Susitna Watana 83.14 26 P **P** **09 54 22.8 -0.6**
baz=252
RND Reindeer 83.19 25 lAmb lAmb 09 54 30.6
comp=Z,28nm,1.3s
MCK McKinley 83.25 25 P **P** **09 54 23.1 -0.8**
baz=252
WSAR Wadi Sarin 83.38 294 LR LR 10 32 29.0
comp=Z,46nm,21.8s,baz=103,slow=36
MAW Mawson 83.48 202 P **P** **09 54 25.7 +0.7**
comp=Z,3.8nm,0.9s,baz=51,slow=7.9,SNR=7.6
MAW LR LR 10 30 09.4
comp=Z,650nm,18.4s,baz=70,slow=35
comp=Z,3.8nm,0.9s
MAW Mawson 83.48 202 P **P** **09 54 26.2 +1.2**
baz=83,SNR=5.6

MAW	**Mawson**	**83.48**	**202**		P		**P**	**09 54 25.5**	**+0.6**
MAW	**Mawson**	**83.48**	**202**		P		**P**	**09 54 25.5**	**+0.6**
MAW					pmax		pmax		
	comp=Z,4.0nm,1.3s								
DHY	**Denali Highway**	**83.72**	**26**		IAmb		IAmb	09 54 35.7	
	comp=Z,23nm,1.2s								
DHY	**Denali Highway**	**83.72**	**26**		P		**P**	**09 54 26.2**	**-0.3**
	baz=253								
G23K	**Bananza Creek**	**83.80**	**22**		P		**P**	**09 54 27.4**	**+0.7**
	baz=250								
WRH	**Wood River Hil**	**83.84**	**24**		IAmb		IAmb	09 54 34.4	
	comp=Z,19nm,1.2s								
COLD	**Coldfoot**	**83.91**	**21**		P		**P**	**09 54 28.7**	**+1.5**
	baz=250								
COLA	**College**	**84.06**	**24**⇑	*e*	P		**P**	**09 54 28.8**	**+0.9**
COLA					pmax		pmax		
	comp=Z,3.0nm,1.0s								
H24K	**Noodor Dome**	**84.34**	**23**		IAmb		IAmb	09 54 39.1	
	comp=Z,16nm,1.4s								
ILAR	**Eielson Array**	**84.42**	**24**		P		**P**	**09 54 28.0**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=256,slow=4.6,SNR=11								
ILAR					LR		LR	10 26 35.8	
	comp=Z,206nm,21.9s,baz=254,slow=32								
	comp=Z,2.3nm,0.8s								
RIDG	**Independent Ri**	**85.00**	**25**		IAmb		IAmb	09 54 40.4	
	comp=Z,12nm,1.1s								
RIDG	**Independent Ri**	**85.00**	**25**		P		**P**	**09 54 32.7**	**-0.1**
	baz=255								
J25K	**Salcha River,**	**85.00**	**25**		IAmb		IAmb	09 54 40.7	
	comp=Z,15nm,1.2s								
J25K	**Salcha River,**	**85.00**	**25**		P		**P**	**09 54 31.9**	**-0.9**
	baz=255								
D24K	**Happy Valley**	**85.04**	**20**		P		**P**	**09 54 33.9**	**+1.1**
	baz=251								
GEYT	**Alibeck**	**85.27**	**308**		P		**P**	**09 54 35.2**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=304,slow=0.5,SNR=9.3								
GEYT					LR		LR	10 34 19.0	
	comp=Z,223nm,21.1s,baz=82,slow=37								
	comp=Z,4.4nm,0.7s								
GYA0B	**ALIBECK ARRAY**	**85.27**	**308**		P		**P**	**09 54 34.5**	**-0.2**
H25K	**Birch Creek**	**85.27**	**23**		P		**P**	**09 54 35.4**	**+1.4**
	baz=254								
DOT	**Dot Lake**	**85.31**	**26**		P		**P**	**09 54 33.7**	**-0.7**
DOT					IAmb		IAmb	09 54 42.7	
	comp=Z,23nm,1.3s								
AB31	**Akbulak array**	**85.39**	**320**	*i*	P		**P**	**09 54 34.4**	**-0.6**
ABKAR	**Akbulak array**	**85.39**	**320**		P		**P**	**09 54 34.4**	**-0.6**
ABKAR	**Akbulak array**	**85.39**	**320**		IAmb		IAmb	09 54 43.8	
	comp=Z,13nm,1.1s								
L26K	**Log Cabin Wild**	**85.48**	**26**		P		**P**	**09 54 35.4**	**+0.2**
	baz=257								
FYU	**Fort Yukon**	**85.58**	**23**		IAmb		IAmb	09 54 44.9	
	comp=Z,28nm,1.2s								
J26L	**Joseph Creek**	**85.73**	**25**		IAmb		IAmb	09 54 45.2	
	comp=Z,21nm,1.5s								
J26L	**Joseph Creek**	**85.73**	**25**		P		**P**	**09 54 36.5**	**0.0**
	baz=256								
M27K	**Edge Creek, AK**	**86.00**	**27**		IAmb		IAmb	09 54 46.2	
	comp=Z,18nm,1.2s								
M27K	**Edge Creek, AK**	**86.00**	**27**		P		**P**	**09 54 38.5**	**+0.5**
	baz=258								
G26K	**Porcupine Rive**	**86.23**	**22**		P		**P**	**09 54 40.1**	**+1.3**
	baz=256								
K27K	**Chicken**	**86.26**	**26**		IAmb		IAmb	09 54 48.5	
	comp=Z,36nm,1.6s								
K27K	**Chicken**	**86.26**	**26**		P		**P**	**09 54 40.2**	**+1.2**
	baz=258								
YUK3	**Moose Creek**	**86.53**	**28**		P		**P**	**09 54 41.1**	**+0.4**
	baz=259								
AKTO	**Aktyubinsk**	**86.78**	**321**		P		**P**	**09 54 40.2**	**-1.7**
I27K	**Kandik River**	**86.78**	**24**		P		**P**	**09 54 42.4**	**+0.8**
	baz=258								
ARU	**Arti**	**87.23**	**327**	*d*	*i*P		**P**	**09 54 41.8**	**-2.1**
ARU								09 58 04.3	
ARU					S		**SKSac**	**10 05 08.8**	**-2.0**
ARU					SS		**SS**	**10 11 04.9**	**-2.3**
ARU					pmax		pmax		
	comp=Z,8.0nm,1.3s								
ARU					MLR		MLR		
	comp=Z,325nm,18.0s								
DAWY	**Dawson**	**87.42**	**26**		P		**P**	**09 54 44.8**	**0.0**
DAWY	**Dawson**	**87.42**	**26**		P		**P**	**09 54 45.3**	**+0.5**
	baz=260								
M29M	**Somme Creek**	**87.58**	**27**		P		**P**	**09 54 46.5**	**+0.9**
	baz=261								
HYT	**Haines Junctio**	**87.79**	**29**		IAmb		IAmb	09 54 55.7	
	comp=Z,21nm,1.3s								
L29M	**L29M**	**87.83**	**27**		P		**P**	**09 54 47.4**	**+0.6**
	baz=261								
QSPA	**South Pole Qui**	**87.94**	**180**		LR		LR	10 33 07.2	
	comp=Z,668nm,21.7s,baz=7.5,slow=35								
QSPA	**South Pole Qui**	**87.94**	**180**		P		**P**	**09 54 47.3**	**0.0**
I29M	**Ogilvie Camp,**	**88.10**	**24**		P		**P**	**09 54 48.2**	**+0.3**
I29M	**Ogilvie Camp,**	**88.10**	**24**		P		**P**	**09 54 48.6**	**+0.7**
	baz=261								
K29M	**Barlow Dome**	**88.21**	**26**		P		**P**	**09 54 49.4**	**+0.8**
	baz=262								
FARO	**Faro, Yukon**	**89.92**	**28**		IAmb		IAmb	09 55 05.2	
	comp=Z,18nm,1.3s								
FARO	**Faro, Yukon**	**89.92**	**28**		P		**P**	**09 54 57.0**	**+0.4**
	baz=266								
INK	**Inuvik**	**90.32**	**22**		LR		LR	10 30 45.5	
	comp=Z,228nm,20.8s,baz=260,slow=32								
INK	**Inuvik**	**90.32**	**22**		P		**P**	**09 54 57.6**	**-0.7**
INK	**Inuvik**	**90.32**	**22**		P		**P**	**09 54 57.6**	**-0.7**
INK					pmax		pmax		
	comp=Z,10.0nm,1.2s								
DLBC	**Dease Lake**	**91.37**	**32**		LR		LR	10 31 50.1	
	comp=Z,254nm,20.0s,baz=290,slow=33								
BBB	**Bella Bella**	**92.37**	**38**		LR		LR	10 29 33.4	
	comp=Z,287nm,20.2s,baz=268,slow=31								
BELG	**Belogornoye**	**93.38**	**322**		LR		LR	10 38 58.1	
	comp=Z,266nm,20.5s,baz=83,slow=37								
YBH	**Yreka Blue Hor**	**96.34**	**48**		LR		LR	10 30 07.6	
	comp=Z,515nm,22.0s,baz=286,slow=30								
YKA	**Yellowknife Ar**	**98.59**	**27**		LR		LR	10 35 45.3	
	comp=Z,454nm,21.8s,baz=292,slow=33								
SPITS	**Spitsbergen Ar**	**98.61**	**350**		LR		LR	10 39 38.2	
	comp=Z,548nm,20.4s,baz=6.5,slow=35								
NEW	**Newport**	**99.68**	**41**		LR		LR	10 39 27.0	
	comp=Z,164nm,18.0s,baz=304,slow=35								
NVAR	**Mina Array Bea**	**99.95**	**51**		P		**Pdif**	**09 55 42.0**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=255,slow=6.5,SNR=4.3								
NVAR					LR		LR	10 33 13.5	
	comp=Z,205nm,20.6s,baz=286,slow=31								
	comp=Z,0.5nm,0.7s								
PFO	**Pinyon Flats O**	**101.90**	**56**⇑	*e*	P		**Pdif**	**09 55 53.7**	**+1.8**
PFO					pmax		pmax		
	comp=Z,12nm,1.8s								
FINES	**FINESS Array B**	**103.27**	**333**		Pdiff		**Pdif**	**09 55 55.8**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=84,slow=5.9,SNR=4.0								
MNK	**Minsk**	**104.66**	**326**	*i*	P		Pdif	09 55 46.4	-17
MNK				*i*				10 00 21.0	
MNK				*i*	PPP		PPP	10 02 33.3	
MNK				*i*				10 07 33.3	
MNK				*i*	PS		PS	10 10 29.3	+53
MNK				*i*	SS		SS	10 15 14.4	+0.5
MNK					pmax		pmax		
	comp=Z,10.0nm,0.9s								
MNK					pmax		pmax		
	comp=E,3.0nm,0.8s								
MNK					MLR		MLR		
	comp=E,30nm,20.0s								
MNK					MLR		MLR		
	comp=Z,184nm,20.0s								
AKASG	**Malin Array De**	**104.96**	**322**		Pdiff		**Pdif**	**09 56 02.3**	**-2.6**
	comp=Z,0.6nm,0.4s,baz=61,slow=1.7,SNR=3.0								
VYHS	**Vyhne**	**112.06**	**322**	*e*	P		**Pdif**	**09 56 37.4**	**+0.8**
VYHS	**Vyhne**	**112.06**	**322**	*e*	PDIFF		**Pdif**	**09 56 37.4**	**+0.8**
CLL	**Collm**	**114.17**	**327**	*e*	PS		PS	10 11 10.0	+0.3
CLL				*e*	SS		SS	10 17 30.0	+8.3
TORD	**Torodi Ar. Bea**	**137.84**	**287**		PKP		**PKPdf**	**10 01 23.4**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=60,slow=3.2,SNR=2.8								
GO01	**Chusmiza**	**143.70**	**128**				**PKPdf**	**10 01 33.1**	**-1.1**
PB16	**IPOC Station P**	**144.15**	**126**				**PKPdf**	**10 01 34.5**	**-0.7**
SDDR	**Presa de Saban**	**144.53**	**59**				PKPbc	10 01 33.8	+0.1
DBIC	**Dimbokro**	**145.23**	**279**		PKPbc		**PKPbc**	**10 01 36.1**	**0.0**
	comp=Z,3.2nm,0.7s,baz=105,slow=8.0,SNR=4.4								
LPAZ	**La Paz**	**146.32**	**124**		PKPbc		**PKPab**	**10 01 40.6**	**-0.3**
	comp=Z,9.7nm,1.1s,baz=264,slow=5.5,SNR=18								
CPUP	**Villa Florida**	**146.95**	**150**		PKPbc		**PKPab**	**10 01 41.6**	**-0.7**
	comp=Z,8.3nm,0.9s,baz=227,slow=2.6,SNR=12								
SDV	**Santo Domingo**	**148.21**	**76**				**PKPbc**	**10 01 44.6**	**-0.3**
TBTG	**Tabatinga, AM**	**148.92**	**101**				**PKPdf**	**10 01 41.5**	**-1.2**
TBTG					PKPbc		**PKPbc**	**10 01 46.7**	**0.0**
TBTG					PKPab		**pPKPab**	**10 01 53.8**	**-1.3**
OBIP	**Obispado Ponce**	**148.93**	**57**				**PKPab**	**10 01 52.7**	**+2.3**
CELP	**Cerrillos**	**148.94**	**57**		PKPab		**PKiKP**	**10 01 47.1**	**-0.7**

*IDC **24** 09:56:18.9±1.1, 1.°82S×140.°43E, h0km, mb3.8/6, mbtmp3.8/8, ML3.9/2, Error ellipse: s-maj=43.0km s-min=21.9km az=94.0*

ISC 24 09:56:20.7±1.1, 1.°8S±0.°1×140.°4E±0.°3, h10km, n9, σ0.°77/8, mb3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.98**	**198**	P	**P**	**10 00 41.9**	**-0.6**
	0.5nm,0.3s,baz=24,slow=12,SNR=30						
	1.8nm,0.6s						
CTA	**Charters Tower**	**19.06**	**163**	P	**P**	**10 00 43.4**	**0.0**
	0.1nm,0.3s,baz=0.0,slow=10,SNR=2.0						
	1.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.73**	**221**	P	**P**	**10 01 12.4**	**+0.1**
	1.8nm,0.6s,baz=353,slow=7.2,SNR=10						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**22.63**	**196**	P	**P**	**10 01 21.4**	**-0.6**
	1.6nm,0.5s,baz=26,slow=12,SNR=33						
	1.6nm,0.5s						
STKA	**Stephens Creek**	**29.94**	**178**	P	P	10 02 26.9	-2.3
	0.9nm,0.4s,baz=356,slow=15,SNR=1.8						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**70.11**	**322**	P	**P**	**10 07 33.5**	**+0.1**
	0.5nm,0.7s,baz=105,slow=7.6,SNR=5.0						
	0.5nm,0.7s						
VNDA	**Vanda**	**76.54**	**175**	P	**P**	**10 08 11.0**	**+0.3**
	1.0nm,0.6s,baz=328,slow=6.9,SNR=11						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**84.32**	**24**	P	**P**	**10 08 52.0**	**-0.7**
	0.2nm,0.5s,baz=250,slow=5.0,SNR=2.3						
	0.2nm,0.5s						
LPAZ	**La Paz**	**146.58**	**124**	PKPbc	**PKPdf**	**10 16 04.2**	**+1.3**
	1.1nm,0.7s,baz=286,slow=8.1,SNR=3.6						

IDC 24 09:59:54.1±6.0, 2.°06S×140.°51E, h0km, mb3.5/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=113.1km s-min=65.5km az=158.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.77**	**198**	P	P	10 04 14.4	-0.6
	0.2nm,0.3s,baz=24,slow=12,SNR=5.1						
	1.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.61**	**222**	P	P	10 04 45.8	-0.2
	1.2nm,0.8s,baz=26,slow=1.9,SNR=1.9						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**22.41**	**196**	P	P	10 04 54.1	-0.5
	0.5nm,0.5s,baz=26,slow=11,SNR=4.9						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**29.68**	**178**	P	P	10 06 03.6	+1.9
	1.3nm,0.7s,baz=349,slow=10,SNR=1.5						
	1.3nm,0.7s						
VNDA	**Vanda**	**76.27**	**175**	P	P	10 11 43.5	-0.7
	0.4nm,0.7s,baz=340,slow=7.4,SNR=2.3						
	0.4nm,0.7s						

*IDC **24** 10:00:09.3±0.9, 1.°94S×140.°81E, h0km, mb3.8/8, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=36.5km s-min=19.6km az=87.0*

ISC 24 10:00:12.0±0.9, 2.°0S±0.°1×140.°9E±0.°2, h20km, n11, σ0.°96/11, mb3.8/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.99**	**199**	P	**P**	**10 04 30.8**	**-1.7**
	0.3nm,0.3s,baz=24,slow=12,SNR=8.4						
	3.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.96**	**222**	P	**P**	**10 05 04.3**	**-0.3**
	2.0nm,0.6s,baz=0.0,slow=12,SNR=4.1						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**22.62**	**197**	P	**P**	**10 05 11.8**	**0.0**
	1.4nm,0.5s,baz=26,slow=11,SNR=8.8						
	1.4nm,0.5s						
KSRS	**Korea Array**	**41.03**	**344**	P	**P**	**10 07 54.2**	**+0.2**
	0.6nm,0.7s,baz=150,slow=8.4,SNR=1.1						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**46.02**	**298**	P	**P**	**10 08 35.4**	**+0.9**
	0.5nm,0.3s,baz=115,slow=6.5,SNR=1.7						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**70.57**	**322**	P	**P**	**10 11 25.9**	**+0.1**
	0.9nm,0.8s,baz=108,slow=6.5,SNR=4.9						
	0.9nm,0.8s						
VNDA	**Vanda**	**76.33**	**175**	P	**P**	**10 12 00.0**	**+0.9**
	1.3nm,0.7s,baz=323,slow=6.7,SNR=10						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**84.25**	**24**	P	**P**	**10 12 41.1**	**-0.8**
	0.4nm,0.7s,baz=270,slow=4.7,SNR=2.9						
	0.4nm,0.7s						
GEYT	**Alibeck**	**85.52**	**308**	P	**P**	**10 12 47.9**	**-1.1**
	1.3nm,0.6s,baz=42,slow=6.6,SNR=1.4						
	1.3nm,0.6s						
LPAZ	**La Paz**	**146.05**	**123**	PKPbc	**PKPab**	**10 19 53.7**	**+0.8**
	4.0nm,1.1s,baz=222,slow=1.3,SNR=5.8						
CPUP	**Villa Florida**	**146.80**	**149**	PKPbc	**PKPab**	**10 19 54.9**	**+0.2**
	1.9nm,0.8s,baz=252,slow=3.8,SNR=2.9						

*DJA **24** 10:02:55.6±0.4, 7.°S±3.°×12.°9E±.°, h245km±9km, M4.6/13, mb4.6/11, mB5.1/4, MLv4.6/13, Mw(mB)4.4/4*
*NEIC **24** 10:02:55.7±1.8, 6.°98S±0.°05×128.°62E±0.°09, h199km±9km, mb4.4/19, Error ellipse: s-maj=13.3km s-min=7.1km az=94.0*
*IDC **24** 10:02:55.8±1.4, 6.°92S×128.°46E, h198km±14km, mb3.7/10, mbtmp4.5/14, Error ellipse: s-maj=16.4km s-min=10.9km az=88.0*

ISC 24 10:02:55.3±0.4, 6.°99S±0.°04×128.°56E±0.°05, h200km, n77, σ1.°78/86, mb4.2/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.79**	**29**	P	**Pn**	**10 03 46.1**	**+3.6**
SAUI	**Saumlaki**	**2.89**	**110**	Pn	**Pn**	**10 03 42.2**	**-1.4**
SAUI				Sn	**Sn**	**10 04 21.1**	**-0.3**
SAUI	**Saumlaki**	**2.89**	**110**	P	**Pn**	**10 03 46.6**	**+2.9**
SAUI				S	**Sn**	**10 04 24.3**	**+2.9**
MSAI	**Masohi**	**3.64**	**6**	P	**Pn**	**10 03 56.5**	**+3.9**
NLAI	**Namlea**	**4.00**	**339**	P	**Pn**	**10 03 59.9**	**+2.8**
FAKI	**Fak Fak**	**5.46**	**42**	Pn	**Pn**	**10 04 15.2**	**-0.5**
FAKI	**Fak Fak**	**5.46**	**42**	P	**Pn**	**10 04 15.5**	**-0.2**
	1.3nm54nm,0.4s						
FAKI				S	**Sn**	**10 05 14.0**	**-5.1**
	1.3nm54nm,0.4s						
FAKI	**Fak Fak**	**5.46**	**42**	P	**Pn**	**10 04 15.5**	**-0.2**
SANI	**Sanana**	**5.54**	**332**	P	**Pn**	**10 04 19.0**	**+2.4**
	0.5nm1μm173nm,0.7s						
SANI	**Sanana**	**5.54**	**332**	P	**Pn**	**10 04 19.0**	**+2.4**
BATI	**Baumata**	**5.80**	**236**	P	**Pn**	**10 04 20.9**	**+0.8**
	378nm,0.5s,baz=124,slow=2.3,SNR=26						
BATI				S	**Sn**	**10 05 25.8**	**-1.3**
	316nm,0.4s,baz=104,slow=21,SNR=22						
BATI	**Baumata**	**5.80**	**236**	P	**Pn**	**10 04 21.1**	**+1.0**
	1.2nm3μm287nm,0.7s						
BBSI	**Bau Bau**	**6.14**	**284**	P	**Pn**	**10 04 27.2**	**+2.8**
	0.4nm124nm,1.0s						
MTN	**Manton Dam**	**6.35**	**157**	Pn	**Pn**	**10 04 27.6**	**+0.5**
MTN	**Manton Dam**	**6.35**	**157**	P	**Pn**	**10 04 28.2**	**+1.1**
MMRI	**Maumere**	**6.48**	**255**	Pn	**Pn**	**10 04 29.8**	**+1.1**
MMRI	**Maumere**	**6.48**	**255**	P	**Pn**	**10 04 30.6**	**+1.8**
	0.3nm57nm,0.8s						
SIJI	**Sorong**	**6.65**	**24**	P	**Pn**	**10 04 31.1**	**+0.1**
	163nm,0.3s,baz=219,slow=12,SNR=91						
SIJI				S	**Sn**	**10 05 43.5**	**-3.5**
	33nm,0.3s,baz=78,slow=22,SNR=8.2						
KDU	**Kakadu**	**6.85**	**146**	P	**Pn**	**10 04 34.6**	**+1.0**
EDFI	**Ende, Flores**	**7.03**	**255**	P	**Pn**	**10 04 37.5**	**+1.5**
	0.1nm9.2nm,0.8s						
BKSI	**Bulukumba**	**8.55**	**281**	P	**Pn**	**10 04 56.0**	**+0.2**
	19nm,0.9s						
KNRA	**Kununurra**	**8.64**	**179**	Pn	**Pn**	**10 04 57.1**	**+0.2**
KNRA	**Kununurra**	**8.64**	**179**	P	**Pn**	**10 04 57.4**	**+0.5**
TTSI	**Tana Toraja**	**9.55**	**294**	P	Pn	10 05 03.3	-5.4
PLAI	**Plampang**	**10.84**	**260**	P	**Pn**	**10 05 25.3**	**-0.1**
	26nm,1.3s						
PLAI	**Plampang**	**10.84**	**260**	P	**Pn**	**10 05 25.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.40**	**194**	P	**Pn**	**10 05 31.8**	**-0.9**
	30nm,0.6s,baz=359,slow=10,SNR=40						
FITZ				S	**Sn**	**10 07 34.6**	**-5.2**
	17nm,0.5s,baz=0.3,slow=8.3,SNR=5.5						
FITZ	**Fitzroy Crossi**	**11.40**	**194**	Pn	**Pn**	**10 05 32.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.40**	**194**	P	**Pn**	**10 05 33.3**	**+0.7**
WB0	**Warramunga Arr**	**13.91**	**157**	Pn	**Pn**	**10 06 02.8**	**-1.4**
WRAB	**Tennant Creek**	**14.04**	**157**		**Pn**	**10 06 04.5**	**-1.3**
WRA	**Warramunga Arr**	**14.05**	**157**	P	**Pn**	**10 06 04.1**	**-1.8**
	11nm,0.5s,baz=331,slow=13,SNR=19						
WRA				S	**S**	**10 08 35.2**	**-7.1**
	7.8nm,0.5s,baz=324,slow=24,SNR=10.0						
WRA	**Warramunga Arr**	**14.05**	**157**		**Pn**	**10 06 05.0**	**-0.9**
WB2	**Warramunga Arr**	**14.05**	**157**	Pn	**Pn**	**10 06 05.1**	**-0.9**
WR0	**Warramunga Arr**	**14.14**	**156**		**Pn**	**10 06 06.2**	**-0.8**
COEN	**Coen**	**15.95**	**117**		**Pn**	**10 06 29.0**	**-0.1**
COEN				IAmb	IAmb	10 06 31.7	
	comp=Z,22nm,0.8s						
COEN	**Coen**	**15.95**	**117**	P	**Pn**	**10 06 31.0**	**+1.9**
MBWA	**Marble Bar**	**16.48**	**210**	P	**Pn**	**10 06 37.2**	**+1.8**
PSA00	**Pilbara Seismi**	**16.77**	**209**	P	**Pn**	**10 06 40.5**	**+1.6**
QIS	**Mount Isa**	**17.22**	**143**	P	**Pn**	**10 06 45.1**	**+0.8**
AS31	**Alice Springs**	**17.36**	**163**	P	**Pn**	**10 06 46.1**	**+0.2**
AS31				IAmb	IAmb	10 06 47.4	
	comp=Z,8.1nm,0.6s						
ASAR	**Alice Springs**	**17.36**	**163**	P	**Pn**	**10 06 46.5**	**+0.6**
	comp=Z,24nm,0.7s,baz=338,slow=9.9,SNR=72						
ASAR				S	**S**	**10 09 53.2**	**-1.3**
	comp=Z,4.5nm,0.8s,baz=347,slow=22,SNR=8.7						
ASAR				ScP	**ScP**	**10 14 30.1**	**-1.9**
	comp=Z,2.2nm,0.6s,baz=342,slow=1.3,SNR=4.8						
KKM	**Kota Kinabalu**	**17.87**	**316**	P	**P**	**10 06 49.9**	**-0.1**
KKM				IAmb	IAmb	10 07 00.3	
	comp=Z,18nm,0.8s						
SBUM	**Sibu**	**18.81**	**299**	P	**P**	**10 07 00.8**	**+0.8**
CTA	**Charters Tower**	**21.54**	**129**	P	**P**	**10 07 31.6**	**+2.5**
	comp=Z,1.1nm,0.5s,baz=297,slow=11,SNR=1.4						
	comp=Z,1.1nm,0.5s						
CTAO	**Charters Tower**	**21.54**	**129**	P	**P**	**10 07 31.4**	**+2.3**
CTAO				IAmb	IAmb	10 07 41.7	
	comp=Z,9.5nm,1.2s						
BBOO	**Buckleboo**	**26.62**	**166**	P	**P**	**10 08 16.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**38.64**	**311**	P	**P**	**10 10 00.4**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=130,slow=8.4,SNR=6.5						
	comp=Z,0.7nm,0.4s						
JMN	**Monobe**	**40.80**	**7**	P	**P**	**10 10 17.4**	**+0.2**
JMN				IAmb	IAmb	10 10 33.0	
	comp=Z,20nm,1.0s						
KSRS	**Korea Array**	**44.21**	**359**	P	**P**	**10 10 45.2**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=176,slow=9.1,SNR=14						
	comp=Z,2.3nm,0.6s						
MJAR	**Matsushiro Arr**	**44.23**	**11**	P	**P**	**10 10 43.5**	**-1.4**
	comp=Z,8.5nm,0.9s,baz=186,slow=9.5,SNR=21						
	comp=Z,8.5nm,0.9s						
MAJO	**Matsushiro**	**44.24**	**11**	P	**P**	**10 10 44.0**	**-0.9**
MAJO				IAmb	IAmb	10 10 44.8	
	comp=Z,9.1nm,0.8s						
MJB9	**Matsu-Tunnel**	**44.24**	**11**	P	**P**	**10 10 43.7**	**-1.2**
MJB9				IAmb	IAmb	10 10 44.7	
	comp=Z,9.1nm,0.8s						
JYT	**Yasato**	**44.35**	**13**	P	**P**	**10 10 44.9**	**-0.8**
JYT				IAmb	IAmb	10 10 46.2	
	comp=Z,32nm,1.3s						
JSD	**Sado**	**45.70**	**11**	P	**P**	**10 10 55.7**	**-0.5**
JSD				IAmb	IAmb	10 10 56.9	
	comp=Z,8.4nm,0.6s						
JMM	**Marumori**	**46.06**	**13**	P	**P**	**10 10 59.3**	**+0.2**
JMM				IAmb	IAmb	10 10 59.6	
	comp=Z,34nm,1.2s						
JTM	**Tenmabayashi**	**48.91**	**13**	P	**P**	**10 11 21.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**51.04**	**3**	P	**P**	**10 11 37.1**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=187,slow=7.4,SNR=5.8						
	comp=Z,2.2nm,0.7s						
RPZ	**Rata Peaks**	**52.12**	**142**	P	**P**	**10 11 46.4**	**+1.2**
	comp=Z,3.4nm,0.6s,baz=7.0,slow=7.0,SNR=2.4						
	comp=Z,3.4nm,0.6s						
SONM	**Songino Array**	**57.99**	**343**	P	**P**	**10 12 27.2**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=161,slow=7.3,SNR=15						
	comp=Z,3.2nm,0.7s						
SONM	**Songino Array**	**57.99**	**343**	P	**P**	**10 12 27.5**	**+0.4**
SONM				IAmb	IAmb	10 12 29.2	
	comp=Z,3.7nm,0.8s						
PEA0B	**Petropavlovsk-**	**64.77**	**19**	P	**P**	**10 13 11.6**	**-0.6**
PETK	**Petropavlovsk-**	**64.77**	**19**	P	**P**	**10 13 12.8**	**+0.6**
	comp=Z,5.4nm,0.6s,baz=183,slow=3.2,SNR=

n21, σ2²98/32, **mb3.5**/4, **5C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.11 296**		P	**Pn**	**10 13 12.4**	**+0.7**
	2μm,0.3s,baz=176,slow=3.0,SNR=27						
DAV				S	**Sn**	**10 13 29.5**	**+3.2**
	438nm,0.3s,baz=248,slow=23,SNR=12						
KCP	**Kidapawan**	**1.54 286**	⇓	*i*P	**Pn**	**10 13 16.6**	**-0.9**
KCP				*i* S	**Sn**	**10 13 36.2**	**-0.5**
BIPH	**Bislig**	**1.61 352**	⇑	*e*P	**Pn**	**10 13 16.6**	**-1.8**
BIPH				*e*S	**Sn**	**10 13 36.6**	**-1.6**
GSPH	**General Santos**	**1.69 253**	⇑	*i*P	**Pn**	**10 13 17.3**	**-2.4**
GSPH				*i* S	**Sn**	**10 13 35.7**	**-4.7**
BUKP	**Musuan**	**1.99 311**	⇓	*e*P	**Pn**	**10 13 23.1**	**-0.4**
BUKP				*e*S	**Sn**	**10 13 41.5**	**-5.9**
CTBH	**Cotabato--PC H**	**2.41 286**	⇑	*i*P	**Pn**	**10 13 29.8**	**+0.6**
BUTP	**Butuan**	**2.56 338**	⇓	*e*P	**Pn**	**10 13 34.5**	**+3.2**
BUTP				*e*S	**Sn**	**10 14 08.7**	**+7.3**
CGP	**Cagayan de Oro**	**2.64 315**	⇓	*e*P	**Pn**	**10 13 34.8**	**+2.4**
CGP				*e*S	**Sn**	**10 14 06.0**	**+2.6**
SGSI	**Sangihe**	**3.06 200**		P	**Pn**	**10 13 39.4**	**+1.3**
SGSI				S	**Sn**	**10 14 17.1**	**+3.6**
GHBP	**Garcia Hernand**	**3.77 324**	⇑	*i*P	**Pn**	**10 13 50.6**	**+2.7**
GHBP				*i* S	**Sn**	**10 14 32.4**	**+1.4**
TABP	**Talibon, Bohol**	**4.14 328**	⇑	*e*P	**Pn**	**10 13 53.6**	**+0.8**
TABP				*e*S	**Sn**	**10 14 38.7**	**-1.4**
GTOI	**Gorontalo**	**6.89 211**		P	**Pn**	**10 14 30.6**	**0.0**
	0.2nm574nm44nm,0.7s						
MRSI	**Marisa**	**7.63 218**		P	**Pn**	**10 14 42.2**	**+1.6**
	1μm69nm,0.7s						
LUWI	**Luwuk**	**8.47 207**		P	**Pn**	**10 14 56.3**	**+4.1**
	80nm,1.0s						
SANI	**Sanana**	**8.59 184**		P	**Pn**	**10 14 50.5**	**-3.3**
	938nm21nm,1.0s						
SIJI	**Sorong**	**8.75 148**		P	**Pn**	**10 14 58.4**	**+2.3**
	3.0nm,0.3s,baz=317,slow=13,SNR=4.2						
SIJI				S	**Sn**	**10 16 30.3**	**-3.0**
	3.5nm,0.5s,baz=212,slow=23,SNR=1.4						
APSI	**Ampana**	**8.92 214**		P	**Pn**	**10 15 02.5**	**+4.1**
FITZ	**Fitzroy Crossi**	**24.54 182**		P	**P**	**10 18 05.8**	**-0.1**
	1.6nm,0.6s,baz=0.1,slow=8.4,SNR=8.4						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**27.44 164**		P	**P**	**10 18 33.9**	**+1.6**
	0.5nm,0.5s,baz=340,slow=9.8,SNR=8.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**30.90 167**		P	**P**	**10 19 02.6**	**-0.3**
	0.5nm,0.6s,baz=343,slow=7.2,SNR=13						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**55.16 324**		P	**P**	**10 22 17.1**	**-1.1**
	0.2nm,0.4s,baz=133,slow=6.6,SNR=3.0						
	0.2nm,0.4s						

*IDC **24** 10:15:37.5±1.1, 1.°92S×140.°63E, h0km, mb3.7/6, mbtmp3.8/7, ML3.7/1, MS3.5/1, Error ellipse: s-maj=46.8km s-min=23.1km az=99.0*

ISC 24 10:15:42.8±1.0, 2.°0S±0.°1×140.°6E±0.°2, h35km, n10, σ0²95/10, mb3.6/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.74 212**		P	**Pn**	**10 15 56.3**	**-0.5**
WRA	**Warramunga Arr**	**18.88 198**		P	**P**	**10 19 59.4**	**-0.8**
	0.3nm,0.3s,baz=18,slow=11,SNR=11						
WRA				LR	LR	10 28 18.1	
	comp=Z,140nm,18.2s,baz=342,slow=40						
	2.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.72 221**		P	**P**	**10 20 30.5**	**-0.5**
	1.5nm,0.7s,baz=0.0,slow=13,SNR=2.8						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**22.52 196**		P	**P**	**10 20 39.3**	**-0.4**
	1.1nm,0.5s,baz=27,slow=11,SNR=14						
	1.1nm,0.5s						
STKA	**Stephens Creek**	**29.77 178**		P	**P**	**10 21 47.1**	**+0.9**
	2.2nm,0.7s,baz=356,slow=13,SNR=3.6						
	2.2nm,0.7s						
MKAR	**Makanchi Array**	**70.34 322**		P	**P**	**10 26 54.1**	**+1.1**
	0.3nm,0.5s,baz=134,slow=6.2,SNR=3.8						
	0.3nm,0.5s						
VNDA	**Vanda**	**76.36 175**		P	**P**	**10 27 28.5**	**+0.6**
	1.0nm,0.7s,baz=331,slow=6.5,SNR=10						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**84.39 24**		P	**P**	**10 28 09.7**	**-1.5**
	0.5nm,1.0s,baz=245,slow=5.8,SNR=3.1						
	0.5nm,1.0s						
LPAZ	**La Paz**	**146.35 124**		PKPbc	**PKPab**	**10 35 22.3**	**-0.2**
	1.2nm,0.7s,baz=258,slow=1.8,SNR=5.6						
CPUP	**Villa Florida**	**146.99 150**		PKPbc	**PKPdf**	**10 35 21.1**	**+0.6**
	1.5nm,0.7s,baz=45,slow=1.4,SNR=3.1						

IDC 24 10:16:54.3±2.1, 2.°55S×140.°90E, h0km, mb3.5/4, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=69.1km s-min=31.9km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.44 200**		P	P	10 21 11.8	+0.3
	0.2nm,0.3s,baz=25,slow=12,SNR=4.9						
	1.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.51 223**		P	P	10 21 43.8	-1.2
	1.0nm,0.5s,baz=13,slow=14,SNR=1.8						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**22.06 197**		P	P	10 21 52.0	+1.0
	0.6nm,0.4s,baz=26,slow=11,SNR=4.9						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**71.01 322**		P	P	10 28 14.3	+0.2
	0.3nm,0.5s,baz=97,slow=5.9,SNR=3.0						
	0.3nm,0.5s						
VNDA	**Vanda**	**75.76 175**		P	P	10 28 41.2	-0.3
	0.7nm,0.7s,baz=332,slow=6.0,SNR=4.5						
	0.7nm,0.7s						

*BJI **24** 10:20:41.8±0.0, 34.°30N×141.°71E, h6km, mb4.7/65, mB4.9/53, Ms5.1/75, Ms7 5.0/69*

*NIED **24** 10:20:43.4, 34.°43N×141.°80E, h15km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr-0.04; Mθθ-1.53; Mϕϕ 1.58; Mrθ 0.29; Mθϕ-0.36; Mϕr 0.40; Fault plane solution: M₀ 1.67000×10¹⁶ NP1: ϕs308.00000°, δ73.00000°, λ-180.00000°. NP2: ϕs218.00000°, δ90.00000°, λ-17.00000°.*

*JMA **24** 10:20:43.4±0.4, 34.°4N±1.°1×141.°2E±.°, h15km±1km, MD5.2/39, MW5.0/39, FAR SE OFF BOSO PEN*

*MOS **24** 10:20:44.0±0.9, 34.°38N×141.°63E, h12km, mb5.1/28, MS4.8/16, Error ellipse: s-maj=8.8km s-min=4.6km az=122.8*

*IDC **24** 10:20:44.6±0.4, 34.°36N×141.°52E, h0km, mb4.5/32, mbtmp4.5/36, ML3.8/2, MS4.5/40, Error ellipse: s-maj=12.7km s-min=8.8km az=90.0*

*NEIC **24** 10:20:45.0±1.7, 34.°49N±0.°05×141.°82E±0.°09, h10km±1km, mb4.9/99, Error ellipse: s-maj=12.6km s-min=8.8km az=98.0*

*GCMT **24** 10:20:49.0±0.3, 34.°37N±0.°02×141.°67E±0.°03, h12km, MW4.8/80, Moment Tensor Solution. s9,c10; s80,c110; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 0.64±.08; Mθθ-1.66±.05; Mϕϕ 1.03±.06; Mrθ 1.79±.17; Mθϕ 0.26±.05; Mϕr-0.46±.21; Best double couple: M₀2.21100×10¹⁶ NP1: ϕs112.00000°, δ76.00000°, λ107.00000°. NP2: ϕs240.00000°, δ22.00000°, λ41.00000°. Principal axes: T 1.7300, Plg56.0000°, Azm43.0000°; N 0.9700, Plg17.0000°, Azm287.0000°; P -2.6930, Plg29.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 10:20:45.9±0.3, 34.°45N±0.°03×141.°69E±0.°04, h10km, n602, σ1²76/482, mb4.8/125, MS4.8/71, 15C-18D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.62 289**		P	**Pg**	**10 20 57.0**	**-0.9**
BSO1				X		10 20 59.6	
BSO3	**Boso 3**	**1.04 290**		P	**Pb**	**10 21 04.6**	**-1.2**
BSO4	**Boso 4**	**1.24 296**		P	**Pn**	**10 21 08.1**	**-1.1**
BSO4				*e*S	**Sb**	**10 21 24.9**	**-0.5**
KTR	**Katsuura**	**1.33 302**		*e*P	**Pn**	**10 21 10.0**	**-0.5**
JKUC	**kamogawauchiur**	**1.42 300**		P	**Pn**	**10 21 10.0**	**-1.8**
JKUC				*e*S	**Sn**	**10 21 29.5**	**-1.1**
JKUC	**kamogawauchiur**	**1.42 300**		A	A	10 21 10.0	
	comp=E,67nm,4.3s,comp=E,62nm,4.7s						
I30JP	**ISUMI INFRASON**	**1.42 308**		Pn	**Pn**	**10 21 11.1**	**-0.7**
	baz=150,slow=65						
CHOJ	**Chosi**	**1.43 332**		P	**Pn**	**10 21 09.8**	**-2.1**
CHOJ	**Chosi**	**1.43 332**		A	A	10 21 09.8	
	comp=E,49nm,12.2s,comp=E,36nm,5.9s						
JCN	**Nagara**	**1.56 309**		A	A	10 21 12.3	
	comp=E,209nm,5.3s,comp=E,181nm,9.4s						
JSMT	**Sammumatsuo**	**1.57 320**		P	**Pn**	**10 21 12.7**	**-1.2**
JSMT	**Sammumatsuo**	**1.57 320**		A	A	10 21 12.7	
	comp=E,142nm,6.0s,comp=E,243nm,6.2s						
JIHU	**Itakohorinouch**	**1.79 328**		A	A	10 21 15.4	
	comp=E,87nm,4.7s,comp=E,94nm,4.3s						
JMKN	**Mikurajimanish**	**1.83 253**		P	**Pn**	**10 21 15.4**	**-2.0**
JMKN	**Mikurajimanish**	**1.83 253**		A	A	10 21 15.4	
	comp=E,41nm,7.6s,comp=E,30nm,6.9s						
JYO	**Yokosk**	**1.84 296**		A	A	10 21 16.5	
	comp=E,87nm,5.3s,comp=E,59nm,5.7s						
JIM2	**Oshima 3**	**1.89 279**		P	Pn	10 21 15.4	-2.8
JIM2	**Oshima 3**	**1.89 279**		A	A	10 21 15.4	
	comp=E,32nm,6.3s,comp=E,39nm,6.6s						
JTHY	**Toshimahigashi**	**1.99 273**		P	**Pn**	**10 21 18.5**	**-1.1**
JTHY				*e*S	**Sn**	**10 21 43.0**	**-1.6**
JTHY	**Toshimahigashi**	**1.99 273**		A	A	10 21 18.5	
	comp=E,45nm,4.3s,comp=E,42nm,4.7s						
JNIO	**Niijimaoohara**	**2.00 268**		A	A	10 21 18.8	
	comp=E,40nm,7.3s,comp=E,35nm,4.6s						
TOK	**Tokyo**	**2.01 308**		A	A	10 21 18.9	
	comp=E,152nm,5.3s,comp=E,99nm,5.0s						
JHJ2	**Mitsune**	**2.05 230**		Pn	**Pn**	**10 21 20.0**	**-0.4**
JHJ2	**Mitsune**	**2.05 230**		P	**Pn**	**10 21 19.9**	**-0.6**
JHJ2	**Mitsune**	**2.05 230**		A	A	10 21 19.9	
	comp=E,31nm,5.9s,comp=E,25nm,7.2s						
JSKK	**Shikinejimakit**	**2.06 268**		A	A	10 21 19.5	
	comp=E,29nm,1.6s,comp=E,28nm,3.4s						
JHJ	**Hachijo jima 2**	**2.07 231**		Pn	**Pn**	**10 21 19.1**	**-1.6**
	59nm,0.3s,baz=85,slow=23,SNR=69						
JHJ				Sn	**Sn**	**10 21 44.5**	**-2.0**
	250nm,0.3s,baz=238,slow=23,SNR=14						
JHCJ	**Hachijojimakas**	**2.09 230**		A	A	10 21 19.6	
	comp=E,25nm,5.1s,comp=E,21nm,6.0s						
JHYU	**Hitachinakayam**	**2.09 335**		A	A	10 21 19.6	
	comp=E,24nm,13.6s,comp=E,16nm,8.4s						
JYT	**Yasato**	**2.16 326**		Pn	**Pn**	**10 21 20.9**	**-1.0**
JYT	**Yasato**	**2.16 326**		A	A	10 21 20.8	
	comp=E,15nm,4.6s,comp=E,14nm,8.8s						
JHTM	**Izuhatsuma**	**2.27 284**		A	A	10 21 22.7	
	comp=E,25nm,5.7s,comp=E,33nm,5.0s						
JOD2	**Odawara 2**	**2.29 292**		A	A	10 21 23.0	
	comp=E,16nm,2.4s,comp=E,20nm,13.1s						
JIZS	**Izushimoda**	**2.34 277**		A	A	10 21 23.7	
	comp=E,11nm,7.1s,comp=E,14nm,11.6s						
JSGW	**Sagamiharawaka**	**2.34 300**		A	A	10 21 23.6	
	comp=E,14nm,6.1s,comp=E,19nm,8.4s						
JHO	**Hitachi**	**2.35 337**		A	A	10 21 23.3	
	comp=E,18nm,4.5s,comp=E,15nm,5.3s						
JHU	**Hanno**	**2.42 306**		A	A	10 21 24.8	
	comp=E,15nm,6.3s,comp=E,15nm,9.0s						
JAOM	**Aogashimamukai**	**2.55 220**		A	A	10 21 26.0	
	comp=E,31nm,7.7s,comp=E,20nm,6.3s						
JFNN	**Fujinakano**	**2.58 288**		A	A	10 21 27.2	
	comp=E,30nm,6.8s,comp=E,31nm,9.4s						
JAG	**Ashikaga**	**2.69 318**		A	A	10 21 28.5	
	comp=E,10.0nm,4.2s,comp=E,11nm,10.6s						
JRY	**Ryogami san**	**2.77 305**		A	A	10 21 29.8	
	comp=E,10.0nm,5.6s,comp=E,12nm,6.7s						
JYN	**Shimob**	**2.79 293**		A	A	10 21 30.1	
	comp=E,15nm,9.0s,comp=E,15nm,12.6s						
JFFD	**Fukushimafurud**	**2.79 341**		A	A	10 21 29.6	
	comp=E,10.0nm,18.1s,comp=E,10.0nm,7.8s						
JSB	**Shiboa**	**2.90 331**		A	A	10 21 31.3	
	comp=E,20nm,8.0s,comp=E,35nm,4.2s						
JSG	**Sagara**	**2.90 275**		A	A	10 21 31.8	
	comp=E,19nm,7.1s,comp=E,24nm,4.1s						
SHZ3	**Shizuoka 3**	**2.93 283**		A	A	10 21 32.2	
	comp=E,11nm,7.2s,comp=E,9.0nm,6.3s						
JFK	**Kawauchi**	**2.99 347**		A	A	10 21 32.2	
	comp=E,14nm,7.5s,comp=E,7.0nm,14.8s						
JKT	**Katashina**	**3.05 320**		A	A	10 21 33.7	
	comp=E,10.0nm,4.3s,comp=E,8.0nm,6.2s						
JKKS	**Kakegawashinom**	**3.07 277**		A	A	10 21 34.1	
	comp=E,18nm,4.7s,comp=E,13nm,12.5s						
JNT	**Takato**	**3.24 297**		A	A	10 21 36.6	
	comp=E,7.0nm,5.8s,comp=E,8.0nm,12.0s						
JGK	**Kuni**	**3.26 311**		A	A	10 21 36.8	
	comp=E,12nm,5.7s,comp=E,12nm,9.8s						
JNY	**Yasuok**	**3.28 287**		A	A	10 21 37.1	
	comp=E,6.0nm,7.6s,comp=E,11nm,18.3s						
HMMJ	**Hamamatsu 2**	**3.30 278**		A	A	10 21 37.4	
	comp=E,6.0nm,10.2s,comp=E,4.0nm,8.1s						
JMST	**Minamisoumatoc**	**3.33 349**		A	A	10 21 37.1	
	comp=E,9.0nm,7.2s,comp=E,6.0nm,5.6s						
JFY	**Yanaizu**	**3.37 332**		A	A	10 21 37.9	
	comp=E,9.0nm,14.4s,comp=E,7.0nm,4.9s						
JSSY	**Shinshiroyabe**	**3.48 279**		A	A	10 21 39.9	
	comp=E,9.0nm,10.6s,comp=E,6.0nm,13.3s						
JMM	**Marumori**	**3.49 348**		Pn	**Pn**	**10 21 38.3**	**-1.9**
JMM	**Marumori**	**3.49 348**		A	A	10 21 39.3	
	comp=E,8.0nm,9.0s,comp=E,5.0nm,1.8s						
JUON	**Uonuma**	**3.49 323**		A	A	10 21 39.8	
	comp=E,9.0nm,7.4s,comp=E,8.0nm,9.4s						
JNG	**Nsakai**	**3.52 305**		A	A	10 21 40.5	
	comp=E,9.0nm,6.3s,comp=E,12nm,5.4s						
MJAR	**Matsushiro Arr**	**3.53 307**		Pn	**Pn**	**10 21 39.8**	**-1.0**
MJAR	7.7nm,0.3s,baz=134,slow=9.7,SNR=190			Sn	**Sn**	**10 22 22.2**	**-0.4**
	7.9nm,0.3s,baz=144,slow=18,SNR=3.9						
	38nm,0.4s						
MAJO	**Matsushiro**	**3.53 307**		Pn	**Pn**	**10 21 40.2**	**-0.6**
MAJO	**Matsushiro**	**3.53 307**	*d*	iP	**Pn**	**10 21 40.8**	**0.0**
MJB9	**Matsu-Tunnel**	**3.53 307**			**Pn**	**10 21 40.8**	**-0.1**
JYAR	**Yonezawaarcadi**	**3.68 341**		A	A	10 21 42.1	
	comp=E,13nm,6.6s,comp=E,11nm,5.4s						
JAO	**Obara**	**3.74 284**		A	A	10 21 43.6	
	comp=E,5.0nm,9.5s,comp=E,8.0nm,7.8s						
JGF	**Kuroka**	**3.74 289**		A	**Pn**	**10 21 45.0**	**+1.3**
JGF	**Kuroka**	**3.74 289**		A	A	10 21 43.6	
	comp=E,5.0nm,3.4s,comp=E,5.0nm,19.9s						
JAA	**Atsumi**	**3.76 274**		A	A	10 21 43.9	
	comp=E,3.0nm,7.2s,comp=E,7.0nm,8.7s						
JNS	**Sasagawa**	**3.88 331**		A	A	10 21 45.1	
	comp=E,11nm,5.7s,comp=E,8.0nm,8.1s						
JJN	**Nakama**	**3.91 314**		A	A	10 21 45.8	
	comp=E,15nm,4.0s,comp=E,12nm,11.2s						
JIZZ	**Izumozaki**	**3.92 323**		A	A	10 21 45.8	
	comp=E,22nm,3.2s,comp=E,28nm,7.1s						
INU	**Inuyama**	**3.95 285**		Pn	**Pn**	**10 21 46.6**	**+0.1**
JYS	**Shirataka**	**3.99 341**		A	A	10 21 46.6	
	comp=E,12nm,6.2s,comp=E,9.0nm,4.6s						
JOU	**Okura**	**4.00 348**		A	A	10 21 46.5	
	comp=E,11nm,7.2s,comp=E,8.0nm,4.4s						
JICN	**Ichinomiyachia**	**4.08 283**		A	A	10 21 48.4	
	comp=E,6.0nm,4.0s,comp=E,12nm,6.2s						
JIE	**Ise**	**4.12 271**		A	A	10 21 49.0	
	comp=E,4.0nm,15.6s,comp=E,4.0nm,9.6s						
JTT	**Ttatey**	**4.16 302**		A	A	10 21 49.5	
	comp=E,11nm,4.4s,comp=E,12nm,3.8s						
JOFO	**Osakifurukawao**	**4.20 352**		A	A	10 21 49.2	
	comp=E,30nm,2.1s,comp=E,27nm,5.4s						
JYTA	**Yamagatataniai**	**4.23 287**		A	A	10 21 50.5	
	comp=E,3.0nm,17.3s,comp=E,4.0nm,9.7s						
JYA	**Atsumi**	**4.43 340**		A	A	10 21 52.9	
	comp=E,8.0nm,7.7s,comp=E,5.0nm,2.9s						
JAW	**Awa shima**	**4.46 334**		A	A	10 21 53.3	
	comp=E,8.0nm,16.1s,comp=E,8.0nm,3.4s						
JMK	**Ichinoseki**	**4.51 355**		A	A	10 21 53.6	
	comp=E,5.0nm,6.4s,comp=E,3.0nm,4.8s						
JSD	**Sado**	**4.53 323**		Pn	**Pn**	**10 21 52.6**	**-1.9**
JSD	**Sado**	**4.53 323**		A	A	10 21 54.5	
	comp=E,6.0nm,5.7s,comp=E,3.0nm,6.9s						
JYK	**Kaneyama**	**4.59 347**		A	A	10 21 54.9	
	comp=E,9.0nm,11.5s,comp=E,5.0nm,11.4s						
JSZ	**Suzu**	**4.62 312**		A	A	10 21 55.8	
	comp=E,4.0nm,6.6s,comp=E,5.0nm,7.9s						
OFUJ	**Ofunato**	**4.62 360**		A	A	10 21 55.1	
	comp=E,5.0nm,7.9s,comp=E,3.0nm,13.1s						
JJH	**Hakui**	**4.70 303**		A	A	10 21 57.1	
	comp=E,4.0nm,12.1s,comp=E,7.0nm,5.2s						
JKG	**Kaga**	**4.75 294**		A	A	10 21 57.8	
	comp=E,4.0nm,26.6s,comp=E,6.0nm,8.2s						
JYYZ	**Yamagatayuza**	**4.78 343**		A	A	10 21 57.5	
	comp=E,16nm,8.5s,comp=E,32nm,6.7s						
JFM	**Mihama**	**4.81 285**		A	A	10 21 58.7	
	comp=E,3.0nm,9.3s,comp=E,5.0nm,7.6s						
JHE	**Heguri**	**4.96 274**		A	A	10 22 00.8	
	comp=E,4.0nm,7.9s,comp=E,4.0nm,18.1s						
JRG	**Rokugo**	**5.01 351**		A	A	10 22 00.7	
	comp=E,12nm,6.6s,comp=E,6.0nm,5.1s						
JOM	**Ohasama**	**5.03 356**		A	A	10 22 00.8	
	comp=E,6.0nm,11.3s,comp=E,4.0nm,64.4s						
JTB	**Tobi-shima**	**5.04 341**		A	A	10 22 01.3	
	comp=E,8.0nm,26.5s,comp=E,6.0nm,5.3s						
JHG	**Hegura jima**	**5.14 313**		A	A	10 22 03.2	
	comp=E,4.0nm,6.3s,comp=E,5.0nm,13.3s						
JYW	**Yuwa**	**5.22 347**		A	A	10 22 03.7	
	comp=E,12nm,6.1s,comp=E,11nm,7.4s						
JSZI	**Iwateshizukuis**	**5.32 354**		A	A	10 22 04.9	
	comp=E,9.0nm,4.2s,comp=E,8.0nm,3.6s						
JMIK	**Miki**	**5.49 276**		A	A	10 22 08.2	
	comp=E,5.0nm,9.8s,comp=E,5.0nm,13.7s						
JKY	**Yasaka**	**5.53 284**		A	A	10 22 08.8	
	comp=E,2.0nm,5.4s,comp=E,4.0nm,12.5s						
JAWN	**Awajishima-nag**	**5.61 272**		A	A	10 22 09.9	
	comp=E,3.0nm,8.8s,comp=E,4.0nm,12.4s						
JKEN	**Kujiedanarisaw**	**5.75 0**		A	A	10 22 10.8	
	comp=E,6.0nm,39.5s,comp=E,5.0nm,7.1s						
JAH	**Hinai**	**5.79 352**		A	A	10 22 11.6	
	comp=E,6.0nm,5.8s,comp=E,4.0nm,4.6s						
JOG3	**Oga3**	**5.85 340**		A	A	10 22 10.0	
	comp=E,9.0nm,7.9s,comp=E,8.0nm,5.4s						
JKSM	**Kasumi**	**5.88 283**		A	A	10 22 13.7	
	comp=E,4.0nm,11.1s,comp=E,4.0nm,38.8s						
JANG	**Nango**	**5.92 359**		A	A	10 22 13.2	
	comp=E,3.0nm,6.2s,comp=E,4.0nm,19.0s						
JNTW	**Noshirotokiwa**	**5.94 349**		A	A	10 22 13.7	
	comp=E,15nm,3.3s,comp=E,12nm,3.5s						
JIW	**Iwasaki**	**6.28 348**		A	A	10 22 18.5	
	comp=E,5.0nm,17.5s,comp=E,3.0nm,6.4s						
JHHS	**Hirosakihyakuz**	**6.28 351**		A	A	10 22 18.5	
	comp=E,10.0nm,4.9s,comp=E,13nm,4.7s						
JTM	**Tenmabayashi**	**6.35 356**		Pn	**Pn**	**10 22 18.0**	**-1.5**
JTM	**Tenmabayashi**	**6.35 356**		A	A	10 22 19.3	
	comp=E,4.0nm,17.6s,comp=E,4.0nm,11.2s						
JMN	**Monobe**	**6.52 266**		Pn	**Pn**	**10 22 23.4**	**+1.5**
JSI2	**Shiura 2**	**6.68 352**		A	A	10 22 24.0	
	comp=E,3.0nm,13.2s,comp=E,3.0nm,11.0s						
JAHD	**Aomorihigashid**	**6.81 358**		A	A	10 22 25.7	
	comp=E,5.0nm,5.3s,comp=E,5.0nm,7.3s						
JOT	**Ohata**	**6.94 356**		A	A	10 22 27.6	
	comp=E,4.0nm,18.1s,comp=E,3.0nm,14.1s						
JHS	**Saijyo**	**7.08 277**		Pn	**Pn**	**10 22 30.6**	**+0.9**
JCJ	**Chichijima**	**7.34 177**		Pn	**Pn**	**10 22 31.7**	**-1.5**
	84nm,0.4s,baz=92,slow=23,SNR=13						
JCJ				Sn	**Sn**	**10 23 57.2**	**+0.7**
	19nm,0.3s,baz=308,slow=23,SNR=2.7						
JCJ				LR	LR	10 25 41.6	
	comp=Z,5μm,18.8s,baz=354,slow=41						
JCJ	**Chichijima**	**7.34 177**		Pn	**Pn**	**10 22 32.3**	**-0.9**
ERM	**Erimo**	**7.64 8**		Pn	Pn	10 22 33.8	-3.4
ERM	**Erimo**	**7.64 8**		P	Pn	10 22 33.8	-3.5
JEW	**Eniwo**	**8.38 359**		Pn	Pn	10 22 45.1	-2.3
JAR	**Ashorobuto**	**8.98 10**		A	A	10 22 55.6	
	comp=E,2.0nm,3.4s,comp=E,3.0nm,12.6s						
JKHN	**Kushirohamanak**	**9.04 16**		A	A	10 22 56.2	
	comp=E,4.0nm,9.3s,comp=E,4.0nm,13.0s						
NMR	**Nemuro--Hokkai**	**9.45 18**	*e*	P	Pn	10 22 57.4	-4.6
RUSJ	**Misakicho**	**10.03 15**		P	Pn	10 23 05.9	-4.1
YUK	**Yuzh-Kuril'sk**	**10.10 17**	*e*	P	Pn	10 23 06.8	-4.2
TEY	**Ternei**	**11.27 341**		*e*P	Pn	10 23 20.8	-6.2
TEY				MLR	MLR		
	comp=N,100nm,13.0s						
TEY				MLR	MLR		
	comp=E,100nm,13.0s						
TEY				MLR	MLR		
	comp=Z,200nm,13.0s						
KSRS	**Korea Array**	**11.56 289**		Pn	**Pn**	**10 23 32.8**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=104,slow=14,SNR=44						
KSRS				LR	LR	10 28 39.5	
	comp=Z,4μm,18.5s,baz=90,slow=41						
KSAR	**Wonju Array Be**	**11.58 289**		Pn	**Pn**	**10 23 31.9**	**+0.7**
KSAR	**Wonju Array Be**	**11.58 289**		P	**Pn**	**10 23 32.0**	**+0.7**
KS19	**Wonju Array Si**	**11.61 289**			**Pn**	**10 23 33.0**	**+1.3**
KUR	**Kuril'sk**	**11.77 22**		P	**Pn**	**10 23 33.9**	**+0.2**
KUR				pmax	pmax		
	comp=Z,38nm,0.8s						
KUR				MLR	MLR		
	comp=Z,2μm,15.0s						
TJN	**Taejon**	**11.85 283**		Pn	**Pn**	**10 23 35.8**	**+

KLR pmax pmax
comp=Z,4.0nm,1.0s
DL2 Dalian 16.69 291 P **Pn** **10 24 42.6 +2.7**
DL2 S **Sn** **10 27 52.0 +6.7**
DL2 pmax pmax
comp=Z,42nm,0.7s
DL2 pmax pmax
comp=Z,820nm,10.2s
DL2 LR LR
comp=Z,3μm,13.5s
DL2 LR LR
comp=Z,4μm,15.2s
DL2 LR LR
comp=Z,5μm,16.3s
GRNR Gornyy 16.76 348⇓*i*P **Pn** **10 24 40.6 0.0**
GRNR pmax pmax
comp=Z,2.0nm,0.8s
GRNR MLR MLR
comp=E,1μm,15.0s
GRNR MLR MLR
comp=N,2μm,14.0s
GRNR MLR MLR
comp=Z,2μm,18.0s
SSE Sheshan 17.56 265 P **Pn** **10 24 51.3 +0.5**
SSE S **Sn** **10 28 08.9 +2.4**
SSE pmax pmax
comp=Z,9.0nm,0.9s
SSE pmax pmax
comp=Z,490nm,8.3s
SSE LR LR
comp=Z,3μm,15.5s
SSE LR LR
comp=Z,2μm,16.5s
NJ2 Nanjing 19.25 269 *e*P **P** **10 25 09.8 -0.6**
NJ2 PP **pwP** **10 25 23.8 +4.2**
NJ2 S **Sn** **10 28 48.6 +1.5**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 pmax pmax
comp=Z,820nm,11.4s
NJ2 LR LR
comp=Z,4μm,14.1s
NJ2 LR LR
comp=Z,3μm,16.6s
NJ2 LR LR
comp=Z,4μm,18.2s
SKR Severo-Kuril's 19.34 29 *e*P **P** **10 25 07.8 -3.4**
SKR *e*S **S** **10 28 54.5 +4.6**
SKR pmax pmax
comp=Z,200nm,5.8s
SKR MLR MLR
comp=Z,800nm,15.0s
SSLB Suanglung 20.96 245 P **P** **10 25 28.2 -1.0**
SSLB IAmb IAmb 10 25 32.1
comp=Z,59nm,1.5s
GUMO Guam 20.96 171 P Pn 10 25 34.3 +2.6
comp=Z,326nm,1.2s,baz=310,slow=4.0,SNR=6.8
GUMO LR LR 10 33 18.8
comp=Z,1μm,20.1s,baz=2.5,slow=36
BJI Beijing 21.03 293 P **P** **10 25 31.4 +1.6**
BJI PP **PnPn** **10 25 54.5 +5.9**
BJI S **S** **10 29 25.5 +1.6**
BJI SS **SnSn** **10 29 52.1 +7.2**
BJI pmax pmax
comp=Z,10.0nm,1.3s
BJI pmax pmax
comp=Z,160nm,8.6s
BJI LR LR
comp=Z,450nm,13.3s
BJI LR LR
comp=Z,2μm,14.4s
BJI LR LR
comp=Z,2μm,16.0s
TPUB Ta-pu 21.49 244 P **P** **10 25 34.8 -0.1**
TPUB IAmb IAmb 10 25 45.5
comp=Z,79nm,1.5s
ZEA Zeya 21.82 337 *e*P **P** **10 25 39.3 +1.2**
ZEA *e*S **S** **10 29 33.2 -6.0**
ZEA pmax pmax
comp=E,100nm,3.1s
ZEA pmax pmax
comp=N,100nm,3.4s
ZEA pmax pmax
comp=Z,200nm,3.7s
ZEA pmax pmax
comp=E,30nm,1.2s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,80nm,1.1s
ZEA smax smax
comp=N,400nm,12.1s
ZEA smax smax
comp=E,700nm,9.7s
ZEA MLR MLR
comp=E,2μm,12.0s
ZEA MLR MLR
comp=Z,1μm,14.0s
PETK Petropavlovsk- 21.85 27 P **P** **10 25 40.8 +2.3**
comp=Z,2.3nm,0.8s,baz=190,slow=7.3,SNR=2.7
comp=Z,2.3nm,0.8s
XLT XiLinHaoTe 21.91 303 *e*P **P** **10 25 41.3 +2.0**
XLT pP sP 10 25 45.3 +4.4
XLT S **S** **10 29 43.6 +2.3**
XLT sS pS 10 29 49.9 +5.4
XLT pmax pmax
comp=Z,19nm,1.1s
XLT LR LR
comp=Z,400nm,16.5s
XLT LR LR
comp=Z,3μm,15.3s
XLT LR LR
comp=Z,2μm,17.6s
HIA Hailar 21.95 319*de*P **P** **10 25 36.3 -3.3**
HIA pmax pmax
comp=Z,6.0nm,1.4s
HNS HongShan 22.02 286 ⇓P **P** **10 25 37.1 -3.4**
HNS PP **PnPn** **10 26 10.3 +8.1**
HNS S **S** **10 29 47.6 +4.2**
HNS pmax pmax
comp=Z,11nm,0.9s
HNS pmax pmax
comp=Z,300nm,11.4s
HNS LR LR
comp=Z,4μm,15.7s
HNS LR LR
comp=Z,2μm,17.7s
HNS LR LR
comp=Z,2μm,17.2s
PET Petropavlovsk 22.15 28 *e*P **P** **10 25 43.5 +1.9**
PET *e*S **S** **10 29 39.7 -5.8**
PET pmax pmax
comp=Z,500nm,10.8s
PET pmax pmax
comp=Z,500nm,15.2s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,15.0s
WHN Wuhan 23.36 268 ⇓P **P** **10 25 53.4 -1.1**
WHN S **S** **10 30 02.8 -4.6**
WHN pmax pmax
comp=Z,100nm,1.2s
WHN LR LR
comp=Z,11μm,13.8s
WHN LR LR
comp=Z,8μm,15.1s
WHN LR LR
comp=Z,8μm,12.4s
LYN LuoYang 24.05 279⇑*i*P **P** **10 26 05.8 +4.5**
LYN S **S** **10 30 27.3 +8.8**
LYN LR LR
comp=E,5μm,15.7s
LYN LR LR
comp=Z,6μm,16.2s
HHC Hu-ho-hao-te 24.62 294 *e*P **P** **10 26 06.3 -0.3**
HHC S **S** **10 30 23.0 -4.8**
HHC pmax pmax
comp=Z,57nm,1.0s
HHC pmax pmax
comp=Z,540nm,6.8s
HHC LR LR
comp=Z,2μm,13.3s
HHC LR LR
comp=Z,4μm,14.0s
HHC LR LR
comp=Z,4μm,12.7s

BTO Baotou 25.77 293 *e*P **P** **10 26 17.4 +0.4**
MA2 Magadan 25.84 11 P **P** **10 26 18.6 +1.3**
comp=Z,14nm,0.9s,baz=213,slow=9.4,SNR=5.1
MA2 LR LR 10 38 32.5
comp=Z,1μm,18.2s,baz=210,slow=41
comp=Z,14nm,0.9s
H11N2 WAKE ISLAND Hy 26.70 117 T T 10 54 36.7
baz=309,slow=75,SNR=64
H11N1 WAKE ISLAND Hy 26.71 117 T T 10 54 37.2
baz=309,slow=75,SNR=26
H11N3 WAKE ISLAND Hy 26.72 117 T T 10 54 35.2
baz=309,slow=75,SNR=31
XAN Xi'an 27.03 279 P **P** **10 26 25.8 -2.6**
XAN pP pP 10 26 29.3 -0.2
XAN sP sP 10 26 31.4 +1.4
XAN S **S** **10 31 05.3 -0.8**
XAN pmax pmax
comp=Z,12nm,1.1s
XAN pmax pmax
comp=Z,240nm,8.6s
XAN LR LR
comp=Z,4μm,12.4s
XAN LR LR
comp=Z,2μm,17.0s
XAN LR LR
comp=Z,5μm,16.5s
H11S1 WAKE ISLAND Hy 27.33 119 T T 10 55 30.2
baz=312,slow=75,SNR=28
H11S3 WAKE ISLAND Hy 27.33 119 T T 10 55 20.7
baz=312,slow=75,SNR=24
H11S2 WAKE ISLAND Hy 27.35 119 T T 10 55 24.5
baz=312,slow=75,SNR=23
ENH Enshi 27.46 270 P **P** **10 26 30.2 -2.0**
ENH IAmb IAmb 10 26 31.7
comp=Z,21nm,0.9s
YAK Yakutsk 28.64 348 LR LR 10 38 44.4
comp=Z,3μm,18.7s,baz=111,slow=38
YAK Yakutsk 28.64 348 P **P** **10 26 40.2 -2.1**
YAK Yakutsk 28.64 348 *e*P **P** **10 26 43.5 +1.2**
YAK *e**PP **sP** **10 26 48.4 +4.7**
YAK *e* 10 27 33.6
YAK *e*S **S** **10 31 33.1 +2.4**
YAK *e*SS **SnSn** **10 32 51.7 +1.2**
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,175nm,3.1s
YAK pmax pmax
comp=N,149nm,2.7s
YAK pmax pmax
comp=E,103nm,3.0s
YAK smax smax
comp=E,190nm,2.7s
YAK smax smax
comp=N,140nm,2.2s
YAK MLR MLR
comp=Z,3μm,18.0s
YAK MLR MLR
comp=N,2μm,18.0s
YAK MLR MLR
comp=E,1μm,15.0s
ULN Ulaanbaatar 29.06 308 P **P** **10 26 45.6 -0.9**
ULN IAmb IAmb 10 26 55.4
comp=Z,23nm,1.2s
ULN Ulaanbaatar 29.06 308*de*P **P** **10 26 47.0 +0.5**
ULN pmax pmax
comp=Z,16nm,1.3s
SEY Seymchan 29.29 10 P **P** **10 26 49.1 +1.0**
comp=Z,4.3nm,1.0s,baz=102,slow=21,SNR=3.7
comp=Z,4.3nm,1.0s
SHEM Shemya Is, Ala 29.39 42 LR LR 10 38 03.9
comp=Z,364nm,18.6s,baz=255,slow=35
SONM Songino Array 29.48 308 P **P** **10 26 50.8 +0.6**
comp=Z,12nm,0.9s,baz=110,slow=8.7,SNR=30
SONM LR LR 10 39 39.0
comp=Z,2μm,18.0s,baz=105,slow=39
comp=Z,12nm,0.9s
SONM Songino Array 29.48 308 P **P** **10 26 49.2 -1.0**
LZH Lanzhou 30.82 284 *e*P **P** **10 27 01.3 -0.9**
LZH pP pP 10 27 05.8 +2.4
LZH PcP **PcP** **10 29 55.4 -3.8**
LZH S **S** **10 32 04.9 -1.0**
LZH sS sS 10 32 16.9 +9.3
LZH pmax pmax
comp=Z,15nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.5s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,2μm,13.2s
LZH LR LR
comp=Z,2μm,13.9s
DAV Davao City (W) 31.04 212 LR LR 10 40 27.0
comp=Z,825nm,18.6s,baz=30,slow=38
GYA Guiyang 31.11 265 ⇑P **P** **10 27 02.8 -2.0**
GYA S **S** **10 32 13.6 +3.1**
GYA pmax pmax
comp=Z,14nm,0.5s
GYA LR LR
comp=Z,2μm,14.4s
GYA LR LR
comp=Z,3μm,16.1s
GYA LR LR
comp=Z,4μm,16.3s
CD2 Chengdu 32.00 274 P **P** **10 27 10.3 -2.2**
CD2 S **S** **10 32 22.3 -1.9**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,5μm,17.6s
CD2 LR LR
comp=Z,3μm,16.5s
CD2 LR LR
comp=Z,4μm,15.2s
ZAK Zakamensk 32.10 312 *e*P **P** **10 27 13.3 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.2s
QIZ Qiongzhong 32.16 250 P **P** **10 27 14.6 +0.7**
QIZ S **S** **10 32 27.4 +0.7**
QIZ pmax pmax
comp=Z,210nm,10.4s
QIZ LR LR
comp=Z,1μm,12.7s
QIZ LR LR
comp=Z,1μm,15.9s
QIZ LR LR
comp=Z,1μm,13.5s
GTA Gaotai 33.62 291 ⇑P **P** **10 27 26.0 -0.7**
GTA pP sP 10 27 31.1 +2.7
GTA sP pP 10 27 34.3 +6.4
GTA S **S** **10 32 47.8 -1.6**
GTA sS sS 10 32 58.3 +7.2
GTA SS **SnSn** **10 34 55.3 +3.0**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,100nm,4.4s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,2μm,17.8s
MOY Mondy 33.83 313 *e*P **P** **10 27 28.9 +0.6**
KMI Kunming 34.88 265 ⇑P **P** **10 27 37.0 -0.9**
KMI pP pP 10 27 38.3 -0.8
KMI S **S** **10 33 15.3 +6.0**
KMI pmax pmax
comp=Z,13nm,0.7s
KMI LR LR
comp=Z,1μm,17.6s
KMI LR LR
comp=Z,3μm,16.0s
KMI LR LR
comp=Z,3μm,16.2s
PZH PanZhiHua 35.15 268 P P 10 27 37.0 -3.1
PZH S **S** **10 33 09.6 -3.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,80nm,9.0s

PZH LR LR
comp=Z,2μm,15.5s
PZH LR LR
comp=Z,1μm,16.8s
PZH LR LR
comp=Z,2μm,16.9s
SIJI Sorong 36.47 198 LR LR 10 40 39.7
comp=Z,880nm,18.8s,baz=6.0,slow=33
UBPT Khong Chiam 37.73 249 P **P** **10 28 00.7 -1.4**
UBPT IAmb IAmb 10 28 01.7
comp=Z,23nm,1.2s
TIXI Tiksi 37.88 353 LR LR 10 45 18.3
comp=Z,1μm,18.1s,baz=180,slow=39
GOMU GeErMu 38.00 286 *e*P **P** **10 28 04.1 -0.5**
GOMU pP pP 10 28 07.5 +1.7
GOMU sP sP 10 28 08.8 +2.5
GOMU S **S** **10 33 58.0 +0.9**
GOMU pmax pmax
comp=Z,12nm,0.8s
GOMU LR LR
comp=Z,730nm,15.9s
GOMU LR LR
comp=Z,970nm,14.9s
GOMU LR LR
comp=Z,770nm,14.9s
FAKI Fak Fak 38.22 195 P **P** **10 28 04.9 -1.2**
CRAI Chiangrai 39.07 260 P **P** **10 28 12.1 -1.2**
PHRA Phrae 40.07 257 P **P** **10 28 20.2 -1.4**
CHTO Chiang Mai 40.95 259 P **P** **10 28 26.8 -2.0**
CHTO Chiang Mai 40.95 259 P **P** **10 28 26.8 -2.0**
CMAR Chiang Mai Arr 41.13 258 P **P** **10 28 28.9 -1.5**
comp=Z,4.1nm,0.7s,baz=48,slow=7.7,SNR=28
CMAR ScP **ScP** **10 34 20.2 +0.5**
comp=Z,0.4nm,0.3s,baz=24,slow=4.9,SNR=5.4
CMAR LR LR 10 47 10.8
comp=Z,438nm,18.0s,baz=50,slow=39
comp=Z,4.1nm,0.7s
CMAR Chiang Mai Arr 41.13 258 P **P** **10 28 29.3 -1.1**
SBUM Sibu 42.03 227 P **P** **10 28 35.7 -2.1**
DGZ Jazzator, Alta 42.13 308*d*iP **P** **10 28 38.9 +0.5**
DGZ pmax pmax
comp=Z,39nm,0.9s
WMQ Urumqi 42.26 299 *e*P **P** **10 28 40.3 +0.9**
WMQ sP pwP 10 28 47.9 -0.9
WMQ S **S** **10 35 00.8 +0.8**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ pmax pmax
comp=Z,380nm,5.1s
WMQ LR LR
comp=Z,2μm,16.3s
WMQ LR LR
comp=Z,540nm,17.5s
WMQ LR LR
comp=Z,500nm,18.7s
ZAA0 Zalesovo Array 43.85 314 P **P** **10 28 51.0 -1.1**
ZALV Zalesovo Beam 43.85 314 P **P** **10 28 51.4 -0.7**
comp=Z,3.6nm,0.6s,baz=91,slow=7.5,SNR=14
ZALV PcP **PcP** **10 30 38.7 +0.4**
comp=Z,3.3nm,0.6s,baz=72,slow=2.2,SNR=2.7
ZALV LR LR 10 46 47.2
comp=Z,255nm,18.8s,baz=92,slow=36
comp=Z,3.6nm,0.6s
ZALV Zalesovo Beam 43.85 314 *i*P **P** **10 28 51.9 -0.2**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZSN Zaisan 43.91 305 *e*P **P** **10 28 52.6 -0.1**
ZSN pmax pmax
comp=Z,15nm,1.1s
ZSN Zaisan 43.91 305 *e*P **P** **10 28 52.7 -0.1**
comp=Z,15nm,1.1s,baz=305
ZSN *i*S **S** **10 35 25.1 +1.1**
baz=305
KAPI Kappang 44.38 212 LR LR 10 47 57.9
comp=Z,313nm,18.9s,baz=28,slow=37
BRDH Bariadhala 45.09 269 LR LR 10 51 30.3
comp=Z,3μm,18.1s,baz=81,slow=41
NRIK Noril'sk 45.72 336 P **P** **10 29 06.2 -0.5**
comp=Z,3.9nm,0.5s,baz=120,slow=7.0,SNR=8.2
NRIK LR LR 10 50 18.5
comp=Z,1μm,18.2s,baz=110,slow=39
comp=Z,3.9nm,0.5s
NRIK Noril'sk 45.72 336 P **P** **10 29 06.0 -0.8**
NRIK Noril'sk 45.72 336*de*P **P** **10 29 08.5 +1.8**
NRIK pmax pmax
comp=Z,22nm,1.4s
MK31 Makanchi Array 45.72 304 P **P** **10 29 06.9 -0.2**
MK31 IAmb IAmb 10 29 11.6
comp=Z,28nm,1.2s
MK31 Makanchi Array 45.72 304*c*iP **P** **10 29 07.0 -0.2**
MKAR Makanchi Array 45.72 304 P **P** **10 29 07.3 +0.1**
comp=Z,12nm,0.7s,baz=87,slow=9.8,SNR=32
MKAR S **S** **10 35 50.6 +0.3**
comp=Z,0.6nm,0.9s,baz=94,slow=16,SNR=3.6
MKAR LR LR 10 49 24.9
comp=Z,859nm,19.0s,baz=100,slow=38
comp=Z,12nm,0.7s
MKAR Makanchi Array 45.72 304 P **P** **10 29 07.0 -0.1**
N16K Nishlik Lake 45.84 37 P **P** **10 29 09.9 +2.0**
baz=263
MAKZ Makanchi 45.94 304 P **P** **10 29 08.2 -0.7**
MAKZ IAmb IAmb 10 29 12.8
comp=Z,13nm,0.8s
MAKZ Makanchi 45.94 304 P **P** **10 29 08.3 -0.5**
R16K Pilot Point 46.21 41 P **P** **10 29 11.0 +0.2**
baz=267
ODAN Odare 46.86 276 *e*P **P** **10 29 14.7 -1.9**
comp=Z,7.8nm,1.6s
HNR Honiara 46.95 155 LR LR 10 46 50.5
comp=Z,8μm,21.5s,baz=332,slow=33
N18K Kilae Creek 47.28 36 IAmb IAmb 10 29 38.3
comp=Z,25nm,1.4s
N18K Kilae Creek 47.28 36 P **P** **10 29 20.2 +1.0**
baz=266
RAMN Ramite 47.47 277 *e*P **P** **10 29 20.1 -1.3**
comp=Z,115nm,1.1s
P18K Big Mountain, 47.53 38 P **P** **10 29 21.0 -0.2**
baz=267
JIRN Jiri 47.53 278 *e*P **P** **10 29 21.0 -1.0**
comp=Z,159nm,1.2s
BATI Baumata 47.59 204 LR LR 10 48 10.0
comp=Z,293nm,20.7s,baz=35,slow=35
GUN Gumba 47.69 278 *e*P **P** **10 29 22.2 -1.0**
comp=Z,81nm,1.0s
KURK Kurchatov 47.73 310 P **P** **10 29 21.9 -1.0**
KURK Kurchatov 47.73 310*d*iP **P** **10 29 22.0 -0.8**
KURK pmax pmax
comp=Z,74nm,1.7s
KURBB Kurchatov Arra 47.80 310 S **S** **10 36 20.0 +0.1**
comp=Z,0.9nm,0.2s,baz=81,slow=12,SNR=6.9
KURBB Kurchatov Arra 47.80 310 P **P** **10 29 22.5 -0.8**
L19K White Mountain 47.89 34 P **P** **10 29 25.9 +2.0**
baz=265
SII Sitkinak Islan 48.04 42 P **P** **10 29 26.0 +0.8**
baz=271
M19K Big River Lodg 48.09 35 P **P** **10 29 26.7 +1.3**
baz=266
COEN Coen 48.16 178 P **P** **10 29 25.9 -0.4**
COEN IAmb IAmb 10 29 29.4
comp=Z,20nm,1.2s
PKI Pulchoki 48.21 278 *e*P **P** **10 29 25.7 -1.5**
comp=Z,77nm,1.1s
PKIN Phulchoki 48.21 278 *e*P **P** **10 29 25.5 -1.7**
comp=Z,51nm,1.1s
PDGK Podgornoye 48.22 300 P **P** **10 29 26.6 -0.3**
KKN Kakani 48.23 278 *e*P **P** **10 29 25.8 -1.4**
comp=Z,9.9nm,1.1s
SHLS Shalkode 48.28 300 *e*P P 10 29 24.4 -2.9
SHLS Shalkode 48.28 300 *e*P P 10 29 24.5 -2.9
baz=300
K20K Telida 48.35 33 IAmb IAmb 10 29 53.0
comp=Z,15nm,1.2s
K20K Telida 48.35 33 P **P** **10 29 28.1 +0.6**
baz=265
L20K Farewell, AK 48.37 34 P **P** **10 29 29.2 +1.6**
baz=266
J20K Nowinta River 48.40 32 IAmb IAmb 10 29 56.4
comp=Z,12nm,1.1s
J20K Nowinta River 48.40 32 P **P** **10 29 29.1 +1.4**
baz=264
DMN Daman 48.44 278 *e*P **P** **10 29 27.7 -1.2**
comp=Z,63nm,1.1s
UZB Uzynbulak 48.60 300 *e*P **P** **10 29 28.7 -1.1**
UZB Uzynbulak 48.60 300 *e*P **P** **10 29 28.8 -1.1**
baz=300
GKN Gorkha 48.67 279 *e*P **P** **10 29 29.5 -1.1**
TDK Taldyqorghan 48.67 302 *e*P **P** **10 29 29.6 -0.6**

TDK **Taldyqorghan** 48.67 302 *e*P P 10 29 29.6 -0.6
baz=302
M20K **Styx River** 48.68 35 P P 10 29 32.0 +1.9
baz=267
KPKS **Kokpek** 48.77 300 *e*P P 10 29 30.2 -0.8
KPKS **Kokpek** 48.77 300 *e*P P 10 29 30.3 -0.8
baz=300
IMAR **Indian Mountai** 48.77 29 P P 10 29 30.4 -0.2
KDAK **Kodiak Island** 48.89 40 P P 10 29 32.2 +0.6
comp=Z,12nm,1.0s,baz=269,slow=4.3,SNR=5.5
KDAK LR LR 10 47 35.0
comp=Z,247nm,21.3s,baz=274,slow=33
comp=Z,12nm,1.0s
KDAK **Kodiak Island** 48.89 40 P P 10 29 32.5 +0.9
baz=271
G21K **Allakaket** 48.94 29 P P 10 29 33.3 +1.4
baz=262
F21K **Alatna River** 49.04 28 P P 10 29 34.6 +1.8
baz=262
SATY **Saty** 49.05 300 *e*P P 10 29 32.8 -0.5
SATY **Saty** 49.05 300 *e*P P 10 29 32.9 -0.5
baz=300
H21K **Melozitna Rive** 49.12 30 P P 10 29 32.4 -0.9
H21K IAmb IAmb 10 30 02.4
comp=Z,15nm,1.1s
H21K **Melozitna Rive** 49.12 30 P P 10 29 34.5 +1.1
baz=264,SNR=7.8
PPLA **Purkeypile** 49.17 34 P P 10 29 35.4 +1.5
baz=267
CHUM **Lake Minchumin** 49.18 32 P P 10 29 35.7 +1.9
baz=266
CAST **Castle Rocks** 49.25 33 P P 10 29 36.7 +2.3
baz=267
DANN **Dangsing** 49.25 280 *e*P P 10 29 34.5 -0.7
comp=Z,38nm,0.5s
I21K **Tanana** 49.42 31 IAmb IAmb 10 29 55.9
comp=Z,26nm,1.6s
I21K **Tanana** 49.42 31 P P 10 29 37.3 +1.7
baz=265
SKT **Skwentna** 49.44 35 P P 10 29 37.4 +1.6
baz=268
F22K **John River** 49.58 28 P P 10 29 38.2 +1.4
baz=263
KOLN **Koldanda** 49.61 279 *e*P P 10 29 36.0 -1.8
comp=Z,14nm,1.5s
H22K **Ishtalitna Cre** 49.73 30 P P 10 29 39.7 +1.7
baz=265,SNR=6.1
G22K **Bettles** 49.77 28 P P 10 29 39.7 +1.4
baz=264
BPAW **Bear Paw Mtn.** 49.77 32 P P 10 29 40.2 +1.9
baz=267
TARG **Taragay, Kyrgy** 49.79 298 IAmb IAmb 10 29 50.1
comp=Z,18nm,1.0s
E22K **Anaktuvuk Pass** 49.80 27 P P 10 29 39.4 +0.9
baz=263
SUA **Susitna One** 49.81 36 P P 10 29 39.7 +1.0
baz=270
CHKK **Chushkaly** 49.90 301 *e*P P 10 29 39.0 -0.6
CHKK **Chushkaly** 49.90 301 *e*P P 10 29 39.0 -0.6
baz=301
MLY **Manley** 49.93 31 IAmb IAmb 10 30 08.7
comp=Z,11nm,1.1s
MLY **Manley** 49.93 31 P P 10 29 41.0 +1.4
baz=266,SNR=8.2
PYUN **Piuthan** 49.98 280 *e*P P 10 29 39.6 -1.0
comp=Z,242nm,1.2s
MDOK **Medeo** 50.00 300 P P 10 29 40.8 +0.2
MDOK **Medeo** 50.00 300 *e*P P 10 29 40.2 -0.4
baz=300
AAA **Alma-Ata** 50.09 300 *e*P P 10 29 41.1 0.0
AAA pmax pmax
comp=Z,10.0nm,0.4s
AAA **Alma-Ata** 50.09 300 *e*P P 10 29 41.1 0.0
comp=Z,9.5nm,0.4s,baz=300
TNSS **Tian-Shan** 50.10 300 *e*P P 10 29 40.9 -0.7
TNSS **Tian-Shan** 50.10 300 *e*P P 10 29 40.9 -0.7
baz=300
D23K **Nanushuk River** 50.31 26 P P 10 29 43.7 +1.4
baz=263
G23K **Bananza Creek** 50.34 29 P P 10 29 44.3 +1.7
baz=266,SNR=6.6
C23K **Itkillik River** 50.44 25 P P 10 29 45.1 +1.8
baz=262
H23K **Yukon River** 50.48 30 P P 10 29 45.2 +1.6
baz=267,SNR=7.9
PMR **Palmer** 50.58 35 IAmb IAmb 10 30 09.7
comp=Z,15nm,1.1s
PMR **Palmer** 50.58 35 P P 10 29 45.4 +0.9
baz=271
E23K **Chandalar** 50.61 27 P P 10 29 46.8 +2.1
baz=265,SNR=9.8
NEA2 **Nenana** 50.63 31 IAmb IAmb 10 29 54.5
comp=Z,16nm,1.1s
NEA2 **Nenana** 50.63 31 P P 10 29 46.6 +1.8
baz=268,SNR=11
MCK **McKinley** 50.67 33 P P 10 29 46.4 +1.2
baz=269
TOLK **Toolik Lake Re** 50.67 26 P P 10 29 46.5 +1.4
baz=264
GHO **Glory Hole Cre** 50.68 35 IAmb IAmb 10 30 04.4
comp=Z,21nm,1.0s
RND **Reindeer** 50.70 33 IAmb IAmb 10 30 27.9
comp=Z,17nm,1.2s
KNK **Knik Glacier** 50.91 36 P P 10 29 48.6 +1.7
baz=272
SML **Sawmill** 50.96 35 P P 10 29 48.5 +1.2
baz=271
PWL **Port Wells** 50.98 36 P P 10 29 48.7 +1.2
baz=272
D24K **Happy Valley** 50.99 26 P P 10 29 48.9 +1.4
baz=265
MDM **Murphy Dome** 51.00 31 IAmb IAmb 10 30 13.3
comp=Z,16nm,1.0s
E24K **Your Creek** 51.03 27 P P 10 29 49.8 +2.0
baz=266
TKM2 **Tokmak 2** 51.09 300 P P 10 29 49.3 +0.4
COLA **College** 51.16 31⇑ *e*P P 10 29 48.6 -0.1
COLA pmax pmax
comp=Z,4.0nm,1.0s
H24K **Noodor Dome** 51.16 30 P P 10 29 50.6 +1.7
baz=268,SNR=5.1
F24K **Squaw Lake** 51.23 28 P P 10 29 50.3 +1.0
baz=267
M23K **Glacier View** 51.24 35 P P 10 29 50.0 +0.5
baz=272
POKR **Poker Plat Res** 51.34 31 P P 10 29 51.4 +1.3
baz=269
G24K **Hadweenzic Riv** 51.35 29 P P 10 29 51.2 +1.0
baz=268
DHY **Denali Highway** 51.37 33 P P 10 29 50.6 0.0
baz=271
SCM **Sheep Creek Mo** 51.43 35 P P 10 29 51.4 +0.4
baz=272
HDA **Harding Lake** 51.55 32 IAmb IAmb 10 29 53.2
comp=Z,12nm,1.1s
HDA **Harding Lake** 51.55 32 P P 10 29 51.9 +0.3
baz=270,SNR=5.3
ILAR **Eielson Array** 51.57 31 P P 10 29 52.3 +0.5
comp=Z,5.4nm,0.9s,baz=269,slow=5.8,SNR=28
ILAR LR LR 10 54 35.5
comp=Z,260nm,20.0s,baz=276,slow=39
comp=Z,5.4nm,0.9s
BRZS **Berezniki** 51.60 310 *e*P P 10 29 51.4 -0.9
BRZS **Berezniki** 51.60 310 *e*P P 10 29 51.4 -0.9
baz=310
SGDS **Sogindy** 51.65 301 *e*P P 10 29 52.3 -0.6
SGDS **Sogindy** 51.65 301 *e*P P 10 29 52.3 -0.6
baz=301
BTLS **Baital** 51.69 303 *e*P P 10 29 52.5 -0.5
BTLS **Baital** 51.69 303 *e*P P 10 29 52.6 -0.5
baz=303
KSH **Kashi** 51.70 296 P P 10 29 57.3 +3.9
D25K **Kavik River** 51.88 25 P P 10 29 55.5 +1.3
baz=267
AAK **Ala-Archa** 51.95 300 P P 10 29 54.2 -1.1
AAK IAmb IAmb 10 30 02.8
comp=Z,14nm,1.1s
AAK **Ala-Archa** 51.95 300 *ce*P P 10 29 55.5 +0.3
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK **Ala-Archa** 51.95 300 P P 10 29 55.6 +0.3
H25K **Birch Creek** 52.01 29 P P 10 29 56.1 +1.0
baz=270
K24K **Donnelly Dome** 52.07 32 P P 10 29 56.5 +0.9
baz=272
F25K **Christian Rive** 52.09 28 P P 10 29 57.3 +1.5
baz=269,SNR=5.4
KLU **Klutina** 52.12 35 P P 10 29 56.2 +0.1
baz=274
E25K **Arctic Village** 52.13 27 P P 10 29 57.3 +1.3
baz=269,SNR=5.1
PRP **Porcupine Dome** 52.14 30 P P 10 29 57.0 +0.8
baz=271
OTUK **Ortayu** 52.15 308 P P 10 29 56.3 -0.2
LEM **Lembang** 52.17 225 LR LR 10 54 18.9
comp=Z,233nm,18.2s,baz=300,slow=39
PAX **Paxson** 52.25 34 P P 10 29 57.7 +0.7
baz=273
HARP **HAARP** 52.42 34 P P 10 29 59.5 +1.2
baz=274
RIDG **Independent Ri** 52.49 33 P P 10 29 60.0 +1.2
baz=273
BVAR **Borovoye Array** 52.50 314 LR LR 10 51 48.6
comp=Z,314nm,19.3s,baz=76,slow=36
BRVK **Borovoye** 52.56 314 P P 10 29 58.8 -0.6
BRVK IAmb IAmb 10 30 10.2
comp=Z,16nm,1.1s
BRVK **Borovoye** 52.56 314 *de*P P 10 29 59.2 -0.2
BRVK pmax pmax
comp=Z,28nm,2.5s
F26K **Sheenjek River** 52.66 28 P P 10 30 02.4 +2.4
baz=270,SNR=7.5
G26K **Porcupine Rive** 52.81 28 P P 10 30 03.1 +2.1
baz=271
C27K **Jago River** 52.82 25 P P 10 30 01.8 +0.7
baz=269
SCRK **Sand Creek** 52.85 32 P P 10 30 02.6 +1.0
baz=273,SNR=6.2
J26L **Joseph Creek** 53.01 32 P P 10 30 02.1 -0.5
J26L **Joseph Creek** 53.01 32 P P 10 30 01.7 -0.9
baz=273
MENT **Mentasta** 53.05 33 IAmb IAmb 10 30 46.0
comp=Z,18nm,1.3s
L26K **Log Cabin Wild** 53.21 33 IAmb IAmb 10 30 19.3
comp=Z,9.9nm,0.8s
L26K **Log Cabin Wild** 53.21 33 P P 10 30 06.0 +1.9
baz=275,SNR=7.3
M26K **Nabesna, AK** 53.43 34 P P 10 30 05.8 +0.1
baz=275
MCARA **McCarthy VSAT** 53.52 35 P P 10 30 07.2 +0.8
baz=276
E27K **Coleen River** 53.61 27 P P 10 30 08.3 +1.3
baz=272
G27K **Doyon Strip** 53.66 29 P P 10 30 08.9 +1.6
baz=273
K27K **Chicken** 53.69 32 IAmb IAmb 10 30 30.3
comp=Z,18nm,1.4s
K27K **Chicken** 53.69 32 P P 10 30 08.8 +1.3
baz=275
H27K **Steamboat Moun** 53.75 29 P P 10 30 10.1 +2.0
baz=274
I27K **Kandik River** 53.76 30 P P 10 30 09.3 +1.2
baz=274
L27K **Beaver Creek,** 53.90 33 IAmb IAmb 10 30 14.5
comp=Z,13nm,1.2s
L27K **Beaver Creek,** 53.90 33 P P 10 30 10.9 +1.8
baz=276,SNR=6.6
M27K **Edge Creek, AK** 53.95 34 P P 10 30 09.6 0.0
baz=276
EGAK **Eagle** 54.02 31 P P 10 30 10.2 +0.3
baz=275
DZA **Taraz** 54.13 301 *e*P P 10 30 10.9 -0.2
DZA **Taraz** 54.13 301 *e*P P 10 30 10.9 -0.2
baz=301
CTA **Charters Tower** 54.41 175 P P 10 30 13.1 -0.1
comp=Z,5.2nm,1.1s,baz=25,slow=8.4,SNR=3.3
comp=Z,5.2nm,1.1s
FITZ **Fitzroy Crossi** 54.44 199 P P 10 30 13.4 0.0
comp=Z,6.8nm,0.7s,baz=0.8,slow=7.1,SNR=13
comp=Z,6.8nm,0.7s
FITZ **Fitzroy Crossi** 54.44 199 P P 10 30 13.4 0.0
WRAB **Tennant Creek** 54.53 188 P P 10 30 12.6 -1.5
WRAB IAmb IAmb 10 31 11.5
comp=Z,18nm,0.9s
WRAB **Tennant Creek** 54.53 188 P P 10 30 12.6 -1.5
WRAB pmax pmax
comp=Z,18nm,1.0s
WR0 **Warramunga Arr** 54.53 188 IAmb IAmb 10 30 19.8
comp=Z,23nm,1.2s
WB2 **Warramunga Arr** 54.54 188 P P 10 30 13.2 -0.9
WRA **Warramunga Arr** 54.54 189 P P 10 30 13.7 -0.5
comp=Z,13nm,1.1s,baz=5.9,slow=7.4,SNR=42
WRA S S 10 37 53.0 -0.5
comp=Z,0.5nm,1.1s,baz=6.6,slow=14,SNR=2.3
comp=Z,13nm,1.1s
WRA **Warramunga Arr** 54.54 189 P P 10 30 12.4 -1.8
KK31 **Karatay Array** 54.65 302 P P 10 30 14.3 -0.5
KK31 **Karatay Array** 54.65 302 P P 10 30 14.4 -0.5
KK31 pmax pmax
comp=Z,23nm,1.0s
KKAR **Karatay Array** 54.65 302 P P 10 30 14.7 -0.2
KKAR **Karatay Array** 54.65 302 P P 10 30 14.7 -0.2
KKAR pmax pmax
comp=Z,23nm,1.0s
DAWY **Dawson** 54.86 32 P P 10 30 17.0 +0.8
baz=277
O28M **Mount Upton** 54.96 36 P P 10 30 17.7 +0.5
baz=279
I29M **Ogilvie Camp,** 55.16 30 P P 10 30 19.2 +1.0
baz=277,SNR=5.2
IUG **luzhnay** 55.26 301 *e*P P 10 30 19.5 0.0
IUG **luzhnay** 55.26 301 *e*P P 10 30 19.5 0.0
baz=301
M29M **Somme Creek** 55.51 34 P P 10 30 22.3 +1.4
baz=279
L29M **L29M** 55.56 33 P P 10 30 22.9 +1.7
baz=279,SNR=6.6
EPYK **Eagle Plains** 55.67 29 P P 10 30 23.0 +1.1
baz=278,SNR=6.9
K29M **Barlow Dome** 55.71 32 P P 10 30 22.4 0.0
baz=279
YUK6 **Outpost Mounta** 55.82 36 P P 10 30 24.2 +0.9
baz=280
O29M **Mount Kennedy** 55.83 36 P P 10 30 24.5 +1.2
baz=281
GAR **Garm** 56.04 297 P P 10 30 24.3 -0.8
GAR IAmb IAmb 10 31 08.0
comp=Z,20nm,1.0s
HYT **Haines Junctio** 56.25 36 P P 10 30 27.6 +1.3
baz=281
N30M **Aishikik Lake** 56.33 35 P P 10 30 27.5 +0.7
baz=281
P29M **Windy Craggy** 56.38 37 P P 10 30 26.8 -0.3
baz=282
INK **Inuvik** 56.59 26 P P 10 30 29.1 +0.7
comp=Z,5.0nm,0.7s,baz=270,slow=9.4,SNR=12
INK LR LR 10 58 37.7
comp=Z,339nm,18.9s,baz=284,slow=40
comp=Z,5.0nm,0.7s
INK **Inuvik** 56.59 26 P P 10 30 26.5 -1.8
INK IAmb IAmb 10 30 44.3
comp=Z,10nm,0.8s
INK **Inuvik** 56.59 26 P P 10 30 29.0 +0.7
baz=280
F31M **Tsiigehtchic** 56.66 27 P P 10 30 29.8 +1.0
baz=280
P30M **Million Dollar** 56.66 36 P P 10 30 29.8 +0.7
baz=282
N31M **Braeburn, Yuko** 56.94 35 P P 10 30 32.1 +1.1
baz=282
O30N **Mendenhall** 56.94 35 P P 10 30 33.2 +2.1
baz=282
PLBC **Pleasant Camp** 57.09 37 P P 10 30 33.6 +1.5
baz=283
M31M **Drury Creek, Y** 57.42 34 P P 10 30 36.0 +1.5
baz=283,SNR=5.5
FARO **Faro, Yukon** 57.89 33 IAmb IAmb 10 30 54.3
comp=Z,8.5nm,1.0s
FARO **Faro, Yukon** 57.89 33 P P 10 30 38.9 +1.1
baz=284
ASAR **Alice Springs** 58.27 188 P P 10 30 39.9 -0.9
comp=Z,3.6nm,0.9s,baz=6.3,slow=5.6,SNR=20
ASAR S S 10 38 42.4 -0.5
comp=Z,0.4nm,0.9s,baz=25,slow=15,SNR=1.6
comp=Z,3.6nm,0.9s
HYBB **Hyderabad (bro** 58.40 270 *e*P P 10 30 41.7 -0.3
ARU **Arti** 58.46 320 P P 10 30 40.8 -1.0
comp=Z,8.7nm,0.5s,baz=74,slow=5.7
ARU LR LR 10 57 47.6
comp=Z,421nm,18.6s,baz=76,slow=38
comp=Z,8.7nm,0.5s
ARU **Arti** 58.46 320 P P 10 30 40.8 -1.0
ARU **Arti** 58.46 320 *d* iP P 10 30 40.8 -1.0
ARU 10 31 31.7
ARU 10 32 47.2
ARU S S 10 38 45.1 +0.3
ARU SS SS 10 42 32.3 -4.3
ARU pmax pmax
comp=Z,29nm,1.4s
ARU MLR MLR
comp=Z,897nm,15.0s
KBL **Kabul** 58.58 293 P P 10 30 41.9 -1.4
KBL IAmb IAmb 10 30 54.7
comp=Z,14nm,1.0s
KBL **Kabul** 58.58 293 P P 10 30 41.9 -1.4
KBL pmax pmax
comp=Z,14nm,1.0s
P33M **Teslin, Yukon** 58.65 36 IAmb IAmb 10 31 00.1
comp=Z,13nm,1.0s
P33M **Teslin, Yukon** 58.65 36 P P 10 30 44.9 +1.7
baz=285
MMPY **Sheldon Lake,** 58.74 33 P P 10 30 44.4 +0.7
baz=285
C36M **Paulatuk** 59.68 24 P P 10 30 50.0 0.0
baz=287
AB31 **Akbulak array** 59.80 311 *i* P P 10 30 49.8 -1.3
ABKAR **Akbulak array** 59.80 311 IAmb IAmb 10 30 55.3
comp=Z,18nm,1.3s
S34M **Telegraph Cree** 60.14 38 P P 10 30 54.8 +1.4
baz=288
TGTN **Hyland Airport** 60.40 33 P P 10 30 56.4 +1.2
baz=288
DLBC **Dease Lake** 60.53 37 P P 10 30 57.1 +1.0
baz=288
AKTO **Aktyubinsk** 60.59 313 LR LR 10 59 10.3
comp=Z,297nm,19.7s,baz=60,slow=38
T35M **Bob Quinn** 60.89 39 P P 10 30 59.9 +1.4
baz=289
DZM **Mont Dzumac** 60.94 154 *e*S S 10 39 17.2 -0.3
comp=Z,124nm,22.9s
DZM *e*LR LR 10 48 59.2
comp=Z,508nm,22.7s
PALK **Pallekele** 62.07 259 LR LR 11 01 47.6
comp=Z,295nm,18.1s,baz=132,slow=40
KIRV **Kirov** 62.45 324 P P 10 31 09.3 +0.4
comp=Z,10nm,0.5s,baz=63,slow=10.0,SNR=6.7
KIRV LR LR 11 00 13.9
comp=Z,563nm,18.1s,baz=62,slow=38
comp=Z,10nm,0.5s
PRGR **Permogore** 63.06 328 *e*P P 10 31 10.4 -2.6
PRGR pmax pmax
comp=Z,17nm,0.9s
SPITS **Spitsbergen Ar** 63.10 349 LR LR 11 00 13.2
comp=Z,492nm,21.0s,baz=4.5,slow=38
BBB **Bella Bella** 63.77 43 LR LR 11 00 34.5
comp=Z,90nm,18.1s,baz=306,slow=37
LVZ **Lovozero** 64.56 336⇑ *e*P P 10 31 22.4 -0.5
LVZ pmax pmax
comp=Z,14nm,1.4s
RES **Resolute Bay** 65.05 14 LR LR 11 03 02.8
comp=Z,285nm,18.0s,baz=282,slow=39
GEYT **Alibeck** 65.31 300 P P 10 31 28.7 +0.5
comp=Z,6.7nm,0.8s,baz=46,slow=4.3,SNR=11
comp=Z,6.7nm,0.8s
GEYT **Alibeck** 65.31 300 IAmb IAmb 10 31 29.3
comp=Z,9.9nm,0.9s
GYA0B **ALIBECK ARRAY** 65.31 300 IAmb IAmb 10 31 29.3
comp=Z,8.3nm,0.8s
BELG **Belogornoye** 65.86 318 LR LR 11 00 16.2
comp=Z,220nm,20.0s,baz=27,slow=36
STKA **Stephens Creek** 65.97 180 P P 10 31 31.6 -0.6
comp=Z,2.7nm,0.9s,baz=319,slow=9.3,SNR=2.8
comp=Z,2.7nm,0.9s
ARCES **ARCESS Array B** 66.50 340 P P 10 31 35.4 +0.1
comp=Z,3.1nm,0.9s,baz=64,slow=8.2,SNR=8.3
ARCES LR LR 11 04 25.2
comp=Z,465nm,18.2s,baz=56,slow=39
comp=Z,3.1nm,0.9s
MORW **Morawa** 67.67 204 P P 10 31 42.1 -1.1
MOS **Moscow** 69.47 324 *e*P P 10 31 55.3 +1.1
MOS *e* 10 32 24.0
MOS MLR MLR
comp=Z,800nm,18.0s
VRH **Novokhopyorsk** 69.66 319 *e*P P 10 31 54.2 -1.2
VRH pmax pmax
comp=Z,20nm,1.6s
I02E **Swisshome, OR** 69.86 50 P P 10 31 55.8 -1.1
baz=299
MAK **Makhachkala** 70.24 309 *e*P P 10 31 51.7 -7.5
MAK *e*S S 10 41 00.2 -11
MAK *e*SS SS 10 45 33.9 -6.5
MAK *e*SSS SSS 10 48 52.7
MAK pmax pmax
comp=Z,243nm,1.4s
MAK MLR MLR
comp=Z,1µm,16.0s
OBN **Obninsk** 70.31 324⇑ *e*P P 10 32 03.2 +3.9
OBN 10 32 26.0
OBN S S 10 41 16.0 +4.8
OBN pmax pmax
comp=Z,13nm,0.9s
OBN MLR MLR
comp=Z,1µm,16.0s
I03D **Drain, OR** 70.38 50 P P 10 32 01.5 +1.5
baz=299
B08A **Colville Reser** 70.52 44 IAmb IAmb 10 32 31.5
comp=Z,12nm,1.1s
K02D **Willamette Mer** 70.66 51 P P 10 32 02.8 +0.9
baz=299
I04A **Tendick Farm,** 70.92 50 P P 10 32 04.8 +1.4
baz=300
VSR **Storozhevoye** 71.03 320 *e*P P 10 32 02.8 -1.0
VSR pmax pmax
comp=Z,10.0nm,0.7s
FINES **FINESS Array B** 71.21 333 P P 10 32 04.8 +0.1
comp=Z,3.9nm,0.7s,baz=84,slow=4.6,SNR=16
FINES LR LR 11 05 13.1
comp=Z,427nm,19.4s,baz=42,slow=38
comp=Z,3.9nm,0.7s
I05D **Terrebonne, OR** 71.32 49 P P 10 32 06.0 +0.2
baz=300
J04D **Umpqua Nationa** 71.39 50 P P 10 32 06.8 +0.4
baz=300
L04D **Klamath Falls** 71.78 51 P P 10 32 09.8 +1.1
baz=300
WSAR **Wadi Sarin** 71.78 286 LR LR 11 08 28.3
comp=Z,240nm,18.7s,baz=62,slow=40
NEW **Newport** 71.83 44 IAmb IAmb 10 32 22.1
comp=Z,12nm,1.1s
NEW **Newport** 71.83 44 P P 10 32 09.7 +0.9
baz=302
J05D **Fort Rock, OR** 71.92 50 P P 10 32 10.3 +0.8
baz=300
BANOM **Banah** 72.27 290 P P 10 32 12.5 +0.7
SHME **Shamm** 72.33 290 P P 10 32 12.8 +0.7
ZEI **Tsey** 72.62 310 *e*P P 10 32 13.1 -0.8
ZEI pmax pmax
comp=Z,13nm,1.4s
MSFE **Esma-Masafi** 72.66 289 P P 10 32 12.2 -1.9
KBZ **Khabaz** 72.77 311 P P 10 32 15.5 +1.1
comp=Z,8.4nm,0.9s,baz=44,slow=14,SNR=5.0
KBZ LR LR 11 04 50.4
comp=Z,486nm,18.6s,baz=50,slow=36
comp=Z,8.4nm,0.9s
KIV **Kislovodsk** 72.78 312 *e*P P 10 32 16.2 +1.6
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,411nm,18.0s
UOSS **Minazif** 72.83 289 P P 10 32 12.8 -2.3
UOSS IAmb IAmb 10 32 45.9
comp=Z,9.5nm,0.9s
UOSS **Minazif** 72.83 289 P P 10 32 15.5 +0.3
HATD **Hatta, Dubai** 72.95 289 P P 10 32 16.7 +0.8
SOHO **SOHO** 72.98 288 P P 10 32 16.1 +0.1
ASHO **Ashiyiah** 73.08 289 P P 10 32 17.0 +0.4
MOD **Modoc Plateau** 73.22 51 IAmb IAmb 10 32 56.4
comp=Z,9.0nm,1.2s
ASUD **Al Ashush, Dub** 73.68 289 P P 10 32 20.7 +0.6
WVOR **Wild Horse Val** 73.99 49 P P 10 32 20.6 -1.2
WVOR **Wild Horse Val** 73.99 49 P P 10 32 20.6 -1.2
WVOR pmax pmax
comp=Z,33nm,1.6s
MNK **Minsk** 74.77 326 *i* P P 10 32 23.2 -2.7
MNK *i* 10 32 37.0
MNK *i* 10 35 10.0
MNK *i* PPP PPP 10 36 55.6
MNK *i* S S 10 42 00.3 -1.9
MNK *i* SS SS 10 46 48.9 0.0
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,3.0nm,1.0s

MNK					MLR	MLR			
	comp=E,79nm,19.0s								
MNK					MLR	MLR			
	comp=Z,626nm,19.0s								
MNK	**Minsk**	**74.77**	**326**	*i* P	P		10 32 23.2	-2.7	
	comp=E,1.0nm,1.0s								
MNK				*i* P	P		10 32 23.2	-2.7	
MNK				*i* P	P		10 32 23.2	-2.7	
	comp=Z,3.0nm,1.0s,baz=52								
MNK				*i* PcP	pwP		10 32 37.0	+1.1	
MNK				*i* PP	**PP**		**10 35 10.1**	**-2.4**	
MNK				*i* PPP	PPP		10 36 55.7		
MNK				*i* S	**S**		**10 42 00.4**	**-1.9**	
MNK				*i* SS	**SS**		**10 46 48.9**	**0.0**	
MNK				*i* LQ	LQ		11 00 18.0		
MNK				*i* LR	LR		11 05 38.2		
MNK				*i* LRM	MLR		11 07 35.9		
MNK				*i* LRM	MLR		11 08 37.2		
	comp=E,79nm,19.0s								
MNK				*i* LRM	MLR		11 09 11.6		
	comp=Z,626nm,19.1s								
NACGM	**Naroch**	**75.01**	**327**⇑	*e*P	P		10 32 21.6	-5.7	
	baz=51								
MFID	**Camas Ranch**	**75.20**	**47**	IAmb	IAmb		10 33 00.1		
	comp=Z,21nm,1.6s								
ANN	**Anapa**	**75.49**	**315**	*e*P	P		10 32 39.8	+10	
ANN				MLR	MLR				
	comp=Z,373nm,15.0s								
ANN				MLR	MLR				
	comp=N,644nm,17.0s								
FFC	**Flin Flon**	**75.76**	**32**	P	**P**		**10 32 30.5**	**-1.1**	
FFC				IAmb	IAmb		10 32 36.8		
	comp=Z,6.6nm,0.8s								
FFC	**Flin Flon**	**75.76**	**32**	P	**P**		**10 32 30.5**	**-1.1**	
FFC				pmax	pmax				
	comp=Z,7.0nm,0.9s								
LRM	**Limekiln Ridge**	**75.84**	**44**	P	**P**		**10 32 31.0**	**-1.6**	
MZR	**Muzera**	**75.97**	**288**	P	**P**		**10 32 32.9**	**-0.5**	
HLID	**Hailey**	**75.97**	**47**	P	**P**		**10 32 34.4**	**+1.1**	
	baz=304								
EGMT	**Eagleton**	**76.06**	**41**	IAmb	IAmb		10 32 49.9		
	comp=Z,14nm,1.1s								
EGMT	**Eagleton**	**76.06**	**41**	P	**P**		**10 32 33.5**	**-0.2**	
	baz=306								
NVAR	**Mina Array Bea**	**76.36**	**53**	P	**P**		**10 32 37.7**	**+2.0**	
	comp=Z,2.2nm,0.7s,baz=286,slow=5.6,SNR=19								
	comp=Z,2.2nm,0.7s								
BOZ	**Bozeman (W)**	**76.44**	**44**	P	**P**		**10 32 37.1**	**+1.1**	
	baz=306								
AKASG	**Malin Array Be**	**76.48**	**323**	P	**P**		**10 32 35.8**	**-0.1**	
	comp=Z,2.8nm,0.5s,baz=47,slow=6.2,SNR=9.4								
	comp=Z,2.8nm,0.5s								
AKBB	**Malin Array Si**	**76.48**	**323**⇑	*e*P	**P**		**10 32 35.6**	**-0.2**	
HFS	**Hagfors**	**76.54**	**336**	P	**P**		**10 32 36.6**	**+0.6**	
	comp=Z,1.6nm,0.5s,baz=153,slow=0.7,SNR=17								
HFS				LR	LR		11 10 10.6		
	comp=Z,599nm,18.9s,baz=30,slow=39								
	comp=Z,1.6nm,0.5s								
NC204	**NORSAR Array S**	**76.62**	**338**	P	**P**		**10 32 36.0**	**-0.5**	
NB2	**NORSAR Subarra**	**76.66**	**338**	P	**P**		**10 32 36.5**	**-0.2**	
	comp=Z,14nm,1.2s,baz=40,slow=5.9								
NOA	**NORSAR Array B**	**76.66**	**338**	P	**P**		**10 32 37.0**	**+0.3**	
	comp=Z,2.0nm,0.7s,baz=40,slow=5.7,SNR=11								
NOA				PKPPKP	**P'P'df**		**10 59 53.9**	**-2.6**	
	comp=Z,0.6nm,0.8s,baz=296,slow=1.9,SNR=3.3								
NOA				LR	LR		11 09 30.7		
	comp=Z,757nm,20.2s,baz=40,slow=38								
	comp=Z,2.0nm,0.7s								
RLMT	**Red Lodge**	**78.07**	**43**	P	**P**		**10 32 45.9**	**+0.7**	
	baz=307								
R11A	**Troy Canyon, C**	**78.18**	**52**	IAmb	IAmb		10 32 59.5		
	comp=Z,13nm,1.4s								
R11A	**Troy Canyon, C**	**78.18**	**52**	P	**P**		**10 32 46.9**	**+1.0**	
	baz=305								
SNCC	**San Nicolas Is**	**78.38**	**58**	P	**P**		**10 32 47.6**	**+0.8**	
	baz=304								
FURC	**Furnace Creek,**	**78.40**	**54**	P	**P**		**10 32 47.8**	**+1.0**	
	baz=304								
LRMC	**Laurel Mtn Rad**	**78.41**	**55**	P	**P**		**10 32 47.8**	**+0.7**	
	baz=304								
EDW2	**Edwards Air Fo**	**78.53**	**56**	P	**P**		**10 32 48.3**	**+0.6**	
	baz=304								
TPNV	**Topopah Spring**	**78.54**	**53**	P	**P**		**10 32 48.6**	**+0.8**	
	baz=304								
DUG	**Dugway, Tooele**	**78.88**	**49**	P	**P**		**10 32 50.8**	**+1.2**	
	baz=306								
BW06	**Boulder Array**	**79.32**	**45**	P	**P**		**10 32 52.1**	**0.0**	
	baz=307								
PDAR	**Pinedale Array**	**79.32**	**45**	P	**P**		**10 32 53.6**	**+1.5**	
	comp=Z,1.5nm,0.7s,baz=280,slow=2.8,SNR=10.0								
	comp=Z,1.5nm,0.7s								
LVV	**L'vov**	**79.60**	**324**	*e*P	**P**		**10 32 56.5**	**+3.3**	
TUQ	**Turquoise Moun**	**79.61**	**54**	P	**P**		**10 32 54.3**	**+0.6**	
	baz=305								
TPFO	**Pinon Flats**	**80.30**	**56**	P	**P**		**10 32 58.0**	**+0.5**	
	baz=305								
BURAR	**Bucovina Array**	**80.48**	**322**	P	P		10 32 55.6	-2.5	
TJX	**Tijuana**	**80.51**	**57**	P	P		10 32 55.7	-2.7	
BR131	**Keskin Array S**	**80.74**	**312**	IAmb	IAmb		10 33 14.4		
	comp=Z,15nm,1.2s								
BRTR	**Keskin Array B**	**80.74**	**312**	P	**P**		**10 33 00.1**	**+0.4**	
	comp=Z,2.1nm,0.7s,baz=87,slow=5.1,SNR=8.1								
	comp=Z,2.1nm,0.7s								
BRTR	**Keskin Array B**	**80.74**	**312**	P	P		10 32 56.8	-2.9	
SRU	**San Rafael Swe**	**80.94**	**49**	IAmb	IAmb		10 33 08.4		
	comp=Z,9.1nm,0.7s								
OJC	**Ojcow**	**81.31**	**327**	*e*P	**P**		**10 33 01.9**	**-0.5**	
MLR	**Muntele Rosu**	**81.51**	**320**	⇓P	**P**		**10 33 04.5**	**+0.9**	
MLR	**Muntele Rosu**	**81.51**	**320**	P	**P**		**10 33 04.2**	**+0.6**	
	comp=Z,2.3nm,0.9s,baz=77,slow=14,SNR=1.9								
MLR				LR	LR		11 12 21.1		
	comp=Z,811nm,19.3s,baz=49,slow=38								
	comp=Z,2.3nm,0.9s								
O20A	**White River Ci**	**81.71**	**47**	P	**P**		**10 33 05.7**	**+0.7**	
	baz=308								
RAYN	**Ar Rayn**	**81.86**	**293**	P	**P**		**10 33 04.9**	**-0.9**	
RAYN	**Ar Rayn**	**81.86**	**293**	P	**P**		**10 33 04.9**	**-0.9**	
RAYN				pmax	pmax				
	comp=Z,37nm,1.6s								
RAYN	**Ar Rayn**	**81.86**	**293**	P	**P**		**10 33 05.7**	**-0.1**	
ARR	**Arges**	**82.28**	**321**	⇓P	**P**		**10 33 09.4**	**+1.7**	
OKC	**Ostrava-Krasne**	**82.33**	**327**	AMS	AMS		11 17 10.0		
	comp=Z,700nm,13.9s								
WUAZ	**Wupatki**	**82.57**	**52**	P	**P**		**10 33 10.6**	**+1.1**	
	baz=307								
N23A	**Red Feather La**	**82.60**	**45**	P	**P**		**10 33 11.3**	**+1.7**	
	baz=310								
MORC	**Moravsky Berou**	**82.65**	**327**	*e*P	**P**		**10 33 07.4**	**-2.1**	
OSTC	**Ostas**	**82.66**	**328**	AMS	AMS		11 19 10.0		
	comp=Z,800nm,13.5s								
DPC	**Dobruska-Polom**	**82.77**	**328**	*e*P	**P**		**10 33 12.9**	**+2.8**	
DPC				MLR	MLR				
	comp=Z,800nm,14.5s								
DPC	**Dobruska-Polom**	**82.77**	**328**	*e*P	**P**		**10 33 12.9**	**+2.8**	
DPC				AMS	AMS		11 15 40.0		
	comp=Z,800nm,14.5s								
UPC	**Upice**	**82.79**	**328**	AMS	AMS		11 15 50.0		
	comp=Z,800nm,13.9s								
AGMN	**Agassiz Nation**	**82.93**	**35**	P	**P**		**10 33 11.8**	**+0.9**	
	baz=315								
VYHS	**Vyhne**	**82.98**	**326**	*e*P	**P**		**10 33 11.4**	**+0.2**	
VYHS	**Vyhne**	**82.98**	**326**	*e*P	**P**		**10 33 11.4**	**+0.2**	
JAVC	**Velka Javorina**	**83.26**	**327**	*e*P	P		10 33 10.0	-2.7	
PPT2	**Papeete2**	**83.29**	**116**	*e*LR	LR		10 59 19.0		
	comp=Z,227nm,22.8s								
MVCO	**Mesa Verde**	**83.37**	**49**	P	**P**		**10 33 14.8**	**+1.1**	
	baz=309								
VRAC	**Vranov**	**83.41**	**327**	⇓P	**P**		**10 33 17.1**	**+3.6**	
VRAC	**Vranov**	**83.41**	**327**	P	**P**		**10 33 15.2**	**+1.8**	
	comp=Z,1.2nm,0.3s,baz=45,slow=8.2,SNR=5.3								
	comp=Z,1.2nm,0.3s								
VRAC	**Vranov**	**83.41**	**327**	*e*P	**P**		**10 33 11.8**	**-1.6**	
CLL	**Collm**	**83.45**	**330**	*e*P	**P**		**10 33 13.0**	**-0.5**	
CLL				pmax	pmax				
	comp=Z,12nm,1.4s								
CLL	**Collm**	**83.45**	**330**	*e*P	**P**		**10 33 13.0**	**-0.5**	
	comp=Z,12nm,1.4s								
CLL				*ex*	x		10 33 24.0		
CLL				*e*PP	**PP**		**10 36 23.0**	**-1.8**	
ISCO	**Idaho Springs**	**83.49**	**46**	P	**P**		**10 33 15.2**	**+0.8**	
	baz=310								
KRUC	**Moravsky**	**83.68**	**327**	*e*P	**P**		**10 33 12.8**	**-2.0**	
214A	**Organ Pipe Nat**	**83.75**	**55**	P	**P**		**10 33 16.8**	**+1.3**	
	baz=307								
GOPC	**GO Pecny, Ondr**	**83.76**	**329**	AMS	AMS		11 19 00.0		
	comp=Z,900nm,13.7s								
PRU	**Pruhonice**	**83.81**	**329**	AMS	AMS		11 17 30.0		
	comp=Z,800nm,15.1s								
S22A	**4UR Ranch, Cre**	**84.07**	**48**	P	**P**		**10 33 18.5**	**+1.2**	
	baz=309								
MDVR	**Moldovita**	**84.19**	**322**	⇓P	**P**		**10 33 17.4**	**-0.1**	
Q24A	**Divide**	**84.30**	**46**	P	**P**		**10 33 19.1**	**+0.6**	
	baz=310								
BLKB	**Belogradchik**	**84.49**	**320**	⇑P	**P**		**10 33 19.3**	**+0.2**	
MORH	**Mrgy, Hungar**	**84.71**	**324**	⇓P	**P**		**10 33 21.8**	**+1.7**	
RONA	**Rosalia, Austr**	**84.73**	**326**	*e*P	**P**		**10 33 22.2**	**+2.0**	
	comp=Z,13nm,1.2s								
CONA	**Conrad Observa**	**84.76**	**327**	*e*P	**P**		**10 33 21.5**	**+1.1**	
	comp=Z,9.0nm,1.1s								
CKRC	**Cesky Krumlov**	**84.78**	**328**	*e*P	**P**		**10 33 20.5**	**+0.1**	
CKRC				AMS	AMS		11 19 10.0		
	comp=Z,600nm,14.5s								
OGNE	**Ogallala**	**84.81**	**43**	P	**P**		**10 33 22.0**	**+1.2**	
	baz=312								
KHC	**Kasperske Hory**	**84.86**	**329**	P	P		10 33 17.4	-3.4	
KHC				IAmb	IAmb		10 34 00.4		
	comp=Z,5.7nm,1.0s								
KHC	**Kasperske Hory**	**84.86**	**329**	*e*P	**P**		**10 33 20.8**	**0.0**	
KHC				MLR	MLR				
	comp=Z,800nm,15.1s								
KHC	**Kasperske Hory**	**84.86**	**329**	*e*P	**P**		**10 33 20.8**	**0.0**	
KHC				AMS	AMS		11 18 10.0		
	comp=Z,800nm,15.1s								
SDCO	**Great Sand Dun**	**84.88**	**47**	P	**P**		**10 33 21.7**	**+0.2**	
	baz=310								
VTS	**Vitosha**	**84.88**	**319**	⇓P	**P**		**10 33 22.8**	**+1.6**	
VTS	**Vitosha**	**84.88**	**319**	P	**P**		**10 33 19.8**	**-1.4**	
VTS				IAmb	IAmb		10 33 35.3		
	comp=Z,9.0nm,0.8s								
VTS	**Vitosha**	**84.88**	**319**	P	**P**		**10 33 19.8**	**-1.4**	
VTS				pmax	pmax				
	comp=Z,9.0nm,0.8s								
GERES	**GERESS Array B**	**85.03**	**328**	P	**P**		**10 33 21.1**	**-0.7**	
	comp=Z,0.7nm,0.7s,baz=18,slow=4.8,SNR=5.4								
	comp=Z,0.7nm,0.7s								
TAOE	**Nuku Hiva Isla**	**85.33**	**104**	*e*LR	LR		11 00 15.0		
	comp=Z,236nm,22.4s								
ARSA	**Arzberg**	**85.42**	**327**	*e*P	**P**		**10 33 24.3**	**+0.7**	
	comp=Z,2.0nm,0.8s								
ECSD	**EROS Data Cent**	**85.81**	**38**	P	**P**		**10 33 25.6**	**0.0**	
ECSD				IAmb	IAmb		10 33 41.0		
	comp=Z,20nm,1.7s								
ECSD	**EROS Data Cent**	**85.81**	**38**	P	**P**		**10 33 26.2**	**+0.6**	
	baz=315								
BIOA	**Bad Ischl, Aus**	**85.93**	**328**	*e*P	**P**		**10 33 27.6**	**+1.4**	
	comp=Z,12nm,1.6s								
T25A	**Trinidad**	**85.93**	**47**	P	**P**		**10 33 27.3**	**+0.7**	
	baz=311								
SOKA	**Soboth**	**86.07**	**326**	*e*P	**P**		**10 33 28.1**	**+1.2**	
	comp=Z,9.4nm,1.5s								
KBA	**Koelnbreinsper**	**86.53**	**328**	*e*P	**P**		**10 33 33.2**	**+3.9**	
	comp=Z,3.9nm,1.3s								
MYKA	**Terra Mystica**	**86.73**	**327**	*e*P	**P**		**10 33 33.4**	**+3.2**	
	comp=Z,4.3nm,0.9s								
ABTA	**Abfaltersbach**	**87.15**	**328**	*e*P	**P**		**10 33 35.5**	**+3.3**	
	comp=Z,3.9nm,1.1s								
I37A	**Lemond, Waseca**	**87.21**	**36**	P	**P**		**10 33 31.6**	**-0.9**	
RETA	**Reutte**	**87.33**	**329**	*e*P	**P**		**10 33 37.4**	**+4.3**	
	comp=Z,7.5nm,1.6s								
FETA	**Feichten**	**87.71**	**329**	*e*P	**P**		**10 33 37.3**	**+2.3**	
	comp=Z,6.2nm,1.7s								
DAVA	**Damuels**	**87.86**	**329**	*i* P	**P**		**10 33 38.5**	**+2.7**	
	comp=Z,7.0nm,1.4s								
TXAR	**Lajitas Array**	**91.51**	**53**	P	**P**		**10 33 54.5**	**+1.4**	
	comp=Z,0.7nm,0.7s,baz=316,slow=3.5,SNR=8.9								
	comp=Z,0.7nm,0.7s								
TORD	**Torodi Ar. Bea**	**119.30**	**314**	PKP	**PKPdf**		**10 39 35.7**	**-0.4**	
	comp=Z,0.2nm,0.4s,baz=10,slow=1.8,SNR=2.8								
TORD				PP	**PP**		**10 40 52.9**	**-3.1**	
	comp=Z,1.0nm,1.3s,baz=26,slow=5.4,SNR=4.2								
MACA	**Manacapuru-AM**	**142.55**	**39**	*e*P	**PKPdf**		**10 40 20.8**	**+1.0**	
ETMB	**Extrema**	**144.60**	**53**	*e*P	**PKPab**		**10 40 24.1**	**+2.2**	
ITTB	**Itaituba**	**145.98**	**32**	*e*P	**PKPdf**		**10 40 26.2**	**+0.4**	
LPAZ	**La Paz**	**147.72**	**63**	PKPbc	**PKPbc**		**10 40 33.4**	**+1.3**	
	comp=Z,9.7nm,1.1s,baz=299,slow=3.5,SNR=12								
LPAZ	**La Paz**	**147.72**	**63**	*e*P	**PKPdf**		**10 40 30.0**	**+0.6**	
NPGB	**Novo Progresso**	**148.52**	**34**	*e*P	**PKPdf**		**10 40 31.1**	**+1.0**	
VILB	**Vilhena**	**150.81**	**48**	*e*P	**PKPdf**		**10 40 35.1**	**+1.5**	
CLDB	**Colider**	**151.62**	**38**	*e*P	**PKPdf**		**10 40 36.8**	**+1.9**	
PDRB	**Porto dos Gac**	**151.74**	**41**	*e*P	**PKPdf**		**10 40 36.2**	**+1.2**	
SMTB	**Santa Maria do**	**153.15**	**21**	*e*P	**PKPdf**		**10 40 38.9**	**+1.8**	
PTLB	**Pontes e Lacer**	**153.37**	**50**	*e*P	**PKPdf**		**10 40 39.0**	**+1.7**	
BB19B	**Bebedouro**	**163.91**	**37**	*e*P	**PKPdf**		**10 40 52.2**	**+2.4**	

*IDC **24** 10:30:24.3±1.3,34.°45N×141.°69E,h0km,mb3.5/5, mbtmp3.4/7,ML2.9/2,Error ellipse: s-maj=27.2km s-min=20.4km az=91.0*
*JMA **24** 10:30:25.2±0.4,34.°4N±1.°×14.°2E±.°,h16km±1km,MV3.0/28, FAR SE OFF BOSO PEN*

ISC 24 10:30:25.5±2.2,34.°46N±0.°06×141.°63E±0.°09,h9km±12km, n20,σ0°88/20,mb3.5/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.58**	**290**	P	**Pg**	**10 30 36.9**	**+0.4**
BSO3	**Boso 3**	**0.99**	**291**	*e*P	**Pg**	**10 30 44.5**	**0.0**
BSO4	**Boso 4**	**1.19**	**297**	*e*P	**Pg**	**10 30 48.4**	**0.0**
BSO4				*e*S	**Sb**	**10 31 03.5**	**-0.2**
JKUC	**kamogawauchiur**	**1.37**	**301**	P	**Pn**	**10 30 50.3**	**-0.5**
JKUC				*e*S	**Sb**	**10 31 08.2**	**-0.7**
CHOJ	**Chosi**	**1.40**	**333**	P	**Pn**	**10 30 50.3**	**-0.8**
CHOJ				S	**Sb**	**10 31 08.2**	**-1.5**
JSMT	**Sammumatsuo**	**1.53**	**321**	P	**Pn**	**10 30 53.2**	**+0.2**
JMKN	**Mikurajimanish**	**1.79**	**252**	P	**Pn**	**10 30 55.6**	**-0.9**
JMKN				*e*S	**Sn**	**10 31 18.1**	**-1.2**
JHJ	**Hachijo jima 2**	**2.04**	**230**	Pn	**Pn**	**10 30 60.0**	**0.0**
	13nm,0.3s,baz=75,slow=20,SNR=12						
JHJ				Sn	**Sn**	**10 31 25.9**	**+0.4**
	42nm,0.3s,baz=58,slow=23,SNR=8.6						
	31nm,0.3s						
MJAR	**Matsushiro Arr**	**3.48**	**308**	Pn	**Pn**	**10 31 19.9**	**+0.1**
	0.7nm,0.3s,baz=121,slow=19,SNR=48						
MJAR				Sn	**Sn**	**10 32 02.9**	**+1.6**
	0.4nm,0.3s,baz=125,slow=18,SNR=3.8						
	1.7nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.75**	**117**	T	T	11 04 15.9	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**26.76**	**117**	T	T	11 04 10.6	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**26.77**	**117**	T	T	11 04 16.9	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	11 05 04.0	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	11 05 10.6	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.40**	**119**	T	T	11 05 00.5	
	baz=312						
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**	**10 38 47.7**	**+1.2**
	0.9nm,0.9s,baz=92,slow=9.3,SNR=3.5						
	0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**47.76**	**310**	P	**P**	**10 39 03.0**	**+0.4**
	0.7nm,0.6s,baz=85,slow=7.6,SNR=5.3						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**51.59**	**31**	P	**P**	**10 39 31.2**	**-0.5**
	0.3nm,0.7s,baz=270,slow=5.4,SNR=2.4						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**54.54**	**188**	P	**P**	**10 39 54.9**	**+1.0**
	0.2nm,0.4s,baz=2.6,slow=7.7,SNR=8.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**58.27**	**188**	P	**P**	**10 40 19.6**	**-0.8**
	0.3nm,0.7s,baz=13,slow=8.6,SNR=2.2						
	0.3nm,0.7s						

ATH 24 10:30:36.8,40.°61N×21.°16E,h8km±5km,ML2.0/1,Error ellipse: s-maj=5.8km s-min=1.3km az=204.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.21**	**203**	P	Pg	10 30 40.9	-0.3
NEST				S	Sg	10 30 44.5	+0.3
NEST				AML	AML	10 30 44.8	
	comp=N,1206μm,0.2s						
NEST				AML	AML	10 30 44.8	
	comp=E,1181μm,0.2s						
KZN	**Kozani**	**0.56**	**123**	P	Pg	10 30 47.4	-0.2
KZN				S	Sg	10 30 55.4	+0.4
GRG	**Griva**	**1.01**	**70**	P	Pg	10 30 56.3	+0.2
LIT	**Litokhoron**	**1.14**	**116**	P	Pg	10 30 58.0	-0.7
LIT				S	Sb	10 31 13.9	+0.2

*NEIC **24** 10:31:45.7±1.9,34.°51N±0.°06×141.°9E±0.°1,h10km±1km, mb4.4/7,Error ellipse: s-maj=14.7km s-min=9.8km az=95.0*
*IDC **24** 10:31:46.1±0.7,34.°48N×141.°57E,h0km,mb3.9/18, mbtmp3.9/22,ML2.7/3,MS3.3/1,Error ellipse: s-maj=16.2km s-min=14.5km az=81.0*
*NIED **24** 10:31:47.0,34.°39N×141.°67E,h32km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.67; Mθθ-1.43; Mφφ0.76; Mrθ 1.21; Mθφ 1.69; Mφr-0.17; Fault plane solution: M₀2.31000×10¹⁵ NP1: φs345.00000°,δ58.00000°,λ175.00000°. NP2: φs77.00000°,δ86.00000°,λ32.00000°.*
*JMA **24** 10:31:47.0±0.7,34.°4N±2.°×14.°2E±.°,h32km,MV3.5/20,FAR SE OFF BOSO PEN*

ISC 24 10:31:49.6±0.6,34.°53N±0.°05×141.°61E±0.°06,h27km,n61, σ1°18/57,mb4.1/23,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.53**	**284**	*e*P	**Pb**	**10 31 59.2**	**-0.9**
BSO4	**Boso 4**	**1.14**	**294**	*e*P	**Pb**	**10 32 09.4**	**-1.2**
KTR	**Katsuura**	**1.23**	**301**	*e*S	**Sb**	**10 32 27.2**	**-0.3**
JKUC	**kamogawauchiur**	**1.32**	**299**	P	**Pn**	**10 32 11.7**	**-0.5**
JKUC				*e*S	**Sn**	**10 32 28.6**	**-0.3**
JSMT	**Sammumatsuo**	**1.46**	**320**	*e*P	**Pb**	**10 32 14.4**	**-1.7**
JMKN	**Mikurajimanish**	**1.79**	**250**	P	**Pn**	**10 32 17.1**	**-1.6**
JIM2	**Oshima 3**	**1.81**	**277**	*e*P	**Pn**	**10 32 18.1**	**-0.8**
JYT	**Yasato**	**2.05**	**326**	Pn	**Pn**	**10 32 22.2**	**-0.1**
JHJ2	**Mitsune**	**2.05**	**227**	Pn	**Pn**	**10 32 21.1**	**-1.3**
JHJ	**Hachijo jima 2**	**2.07**	**228**	Pn	**Pn**	**10 32 22.4**	**-0.2**
	16nm,0.3s,baz=29,slow=17,SNR=1.4						
JHJ				Sn	**Sn**	**10 32 47.7**	**+0.2**
	91nm,0.3s,baz=233,slow=22,SNR=5.0						
JMM	**Marumori**	**3.40**	**349**	Pn	**Pn**	**10 32 38.6**	**-2.1**
MJAR	**Matsushiro Arr**	**3.42**	**307**	Pn	**Pn**	**10 32 42.1**	**+0.9**
	1.1nm,0.3s,baz=130,slow=13,SNR=13						
MJAR				Sn	**Sn**	**10 33 21.7**	**+0.9**
	0.5nm,0.3s,baz=124,slow=15,SNR=3.2						
	5.6nm,0.4s						
MAJO	**Matsushiro**	**3.42**	**307**	Pn	**Pn**	**10 32 41.3**	**+0.1**
MJB9	**Matsu-Tunnel**	**3.43**	**307**	Pn	**Pn**	**10 32 41.2**	**0.0**
JGF	**Kuroka**	**3.65**	**288**	Pn	**Pn**	**10 32 45.2**	**+0.9**
INU	**Inuyama**	**3.86**	**284**		**Pn**	**10 32 48.3**	**+1.2**
JSD	**Sado**	**4.42**	**323**	Pn	**Pn**	**10 32 54.3**	**-0.6**
JTM	**Tenmabayashi**	**6.26**	**356**	Pn	**Pn**	**10 33 16.9**	**-3.2**
JMN	**Monobe**	**6.46**	**265**	Pn	**Pn**	**10 33 22.4**	**-0.6**
JHS	**Saijyo**	**7.00**	**276**	Pn	**Pn**	**10 33 30.9**	**+0.5**
JCJ	**Chichijima**	**7.43**	**176**	Pn	**Pn**	**10 33 33.9**	**-2.3**
	38nm,0.4s,baz=323,slow=18,SNR=1.7						
JCJ				Sn	**Sn**	**10 34 58.9**	**-0.7**
	6.6nm,0.3s,baz=288,slow=24,SNR=1.8						
JCJ	**Chichijima**	**7.43**	**176**	Pn	**Pn**	**10 33 34.2**	**-2.0**
ERM	**Erimo**	**7.57**	**9**	Pn	**Pn**	**10 33 35.2**	**-2.9**
KSRS	**Korea Array**	**11.46**	**289**	Pn	**Pn**	**10 34 33.2**	**+1.8**
	0.2nm,0.3s,baz=104,slow=14,SNR=9.1						
KSRS				LR	LR	10 38 49.5	
	comp=Z,174nm,21.1s,baz=80,slow=37						
	3.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**12.18**	**325**	Pn	**Pn**	**10 34 41.3**	**0.0**
	0.1nm,0.3s,baz=146,slow=10,SNR=4.0						
	1.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**26.80**	**117**	T	T	11 05 35.8	
	baz=309,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**26.81**	**117**	T	T	11 05 32.0	
	baz=309,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**26.82**	**117**	T	T	11 05 40.0	
	baz=309,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**27.43**	**119**	T	T	11 06 32.8	
	baz=313,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.44**	**119**	T	T	11 06 22.0	
	baz=313,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	11 06 36.7	
	baz=313,slow=75,SNR=8.1						
ULN	**Ulaanbaatar**	**28.95**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**194**	P	**Pn**	**10 48 39.2**	**-1.0**
	40nm,0.5s,baz=7.8,slow=9.8,SNR=17						
PMG				S	**Sn**	**10 49 20.6**	**-1.8**
	76nm,0.3s,baz=45,slow=20,SNR=11						
PMG				LR	LR	10 49 39.3	
	comp=Z,199nm,20.6s,baz=326,slow=32						
PMG	**Port Moresby**	**3.65**	**194**		**Pn**	**10 48 39.2**	**-1.0**
PMG				Sn	**Sn**	**10 49 16.5**	**-5.9**
PMG	**Port Moresby**	**3.65**	**194**	P	**Pn**	**10 48 41.7**	**+1.4**
KRVT	**Keravat (AS076**	**4.26**	**69**	P	**Pn**	**10 48 48.9**	**+0.4**
	320nm,0.7s,baz=238,slow=1.1,SNR=32						
KRVT				S	**Sn**	**10 49 30.6**	**-6.7**
	108nm,0.7s,baz=308,slow=18,SNR=1.3						
KRVT				LR	LR	10 50 27.8	
	comp=Z,281nm,20.3s,baz=74,slow=37						
RABL	**Rabaul**	**4.43**	**69**	Pn	**Pn**	**10 48 51.4**	**+0.6**
COEN	**Coen**	**9.38**	**210**	Pn	**Pn**	**10 49 57.0**	**-1.0**
MTSU	**Mount Surprise**	**12.75**	**196**	P	**Pn**	**10 50 43.7**	**+0.3**
CTA	**Charters Tower**	**14.28**	**187**	P	**Pn**	**10 51 02.9**	**-0.4**
	3.0nm,0.9s,baz=0.0,slow=11,SNR=2.7						
CTAO	**Charters Tower**	**14.28**	**187**	Pn	**Pn**	**10 51 02.8**	**-0.4**
QIS	**Mount Isa**	**16.77**	**208**	P	**P**	**10 51 34.4**	**-0.7**
KDU	**Kakadu**	**16.78**	**245**	P	**P**	**10 51 34.6**	**-0.7**
SIJI	**Sorong**	**17.43**	**286**	P	**Pn**	**10 51 42.7**	**-0.1**
	5.2nm,0.5s,baz=140,slow=23,SNR=2.0						
MTN	**Manton Dam**	**18.06**	**246**		**Pn**	**10 51 48.5**	**-1.7**
MTN				IAmb	IAmb	10 51 51.8	
	comp=Z,12nm,0.5s						
MTN	**Manton Dam**	**18.06**	**246**	P	**Pn**	**10 51 50.5**	**+0.3**
WB0	**Warramunga Arr**	**19.17**	**223**	P	**Pn**	**10 52 01.5**	**-2.0**
WB0				IAmb	IAmb	10 52 03.0	
	comp=Z,20nm,1.0s						
WR0	**Warramunga Arr**	**19.21**	**222**	P	**Pn**	**10 52 02.1**	**-1.9**
WRAB	**Tennant Creek**	**19.32**	**222**	P	**Pn**	**10 52 03.0**	**-2.2**
WRAB	**Tennant Creek**	**19.32**	**222**	P	**Pn**	**10 52 04.1**	**-1.1**
WB2	**Warramunga Arr**	**19.32**	**222**	P	**Pn**	**10 52 03.2**	**-2.1**
WRA	**Warramunga Arr**	**19.33**	**222**	P	**Pn**	**10 52 03.0**	**-2.3**
	comp=Z,28nm,0.5s,baz=49,slow=11,SNR=437						
WRA				S	**S**	**10 55 35.5**	**-1.4**
	comp=Z,5.6nm,1.1s,baz=42,slow=20,SNR=9.8						
WRA	**Warramunga Arr**	**19.33**	**222**	P	**Pn**	**10 52 02.4**	**-2.9**
EIDS	**Eidsvold**	**19.65**	**172**	P	**Pn**	**10 52 07.8**	**-1.2**
EIDS	**Eidsvold**	**19.65**	**172**	P	**Pn**	**10 52 08.1**	**-0.9**
RMQ	**Roma**	**20.55**	**178**	P	Pn	10 52 20.0	+0.5
QLP	**Quilpie**	**20.95**	**190**	P	Pn	10 52 22.1	-2.1
KNRA	**Kununurra**	**21.28**	**241**	P	**P**	**10 52 24.0**	**-0.3**
KNRA				IAmb	IAmb	10 52 27.8	
	comp=Z,22nm,0.8s						
KNRA	**Kununurra**	**21.28**	**241**	P	**P**	**10 52 24.3**	**0.0**
TNTI	**Ternate**	**21.64**	**287**	P	**P**	**10 52 26.0**	**-2.2**
TNTI				IAmb	IAmb	10 52 27.6	
	comp=Z,19nm,1.0s						
AS31	**Alice Springs**	**22.34**	**216**	P	**P**	**10 52 36.0**	**+0.4**
AS31				IAmb	IAmb	10 52 36.7	
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**22.34**	**216**	P	**P**	**10 52 36.0**	**+0.5**
	comp=Z,27nm,0.7s,baz=53,slow=9.1,SNR=610						
ASAR				PcP	**PcP**	**10 56 28.6**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=28,slow=3.0,SNR=5.4						
ASAR				S	**S**	**10 56 35.8**	**+1.2**
	comp=Z,5.3nm,0.9s,baz=30,slow=22,SNR=16						
	comp=Z,27nm,0.7s						
ASAR	**Alice Springs**	**22.34**	**216**	P	**P**	**10 52 36.2**	**+0.7**
INKA	**Innaminka**	**22.86**	**197**	P	**P**	**10 52 42.2**	**+1.5**
DZM	**Mont Dzumac**	**24.04**	**134**	P	**P**	**10 52 52.9**	**+1.2**
DZM				IAmb	IAmb	10 52 55.8	
	comp=Z,7.7nm,1.0s						
ARMA	**Armidale**	**24.69**	**173**	P	**P**	**10 52 58.4**	**+0.8**
ARMA				IAmb	IAmb	10 53 18.2	
	comp=Z,18nm,1.5s						
OOD	**Oodnadatta**	**24.79**	**207**	P	**P**	**10 52 59.4**	**+1.0**
MARNC	**Mare, Loyalty**	**24.85**	**131**	P	**P**	**10 53 00.8**	**+1.9**
FITZ	**Fitzroy Crossi**	**25.02**	**239**	P	**P**	**10 53 01.4**	**+0.7**
	comp=Z,35nm,0.5s,baz=0.5,slow=5.5,SNR=236						
	comp=Z,35nm,0.5s						
FITZ	**Fitzroy Crossi**	**25.02**	**239**	P	**P**	**10 53 01.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**25.02**	**239**	P	**P**	**10 53 01.7**	**+1.1**
EDFI	**Ende, Flores**	**26.28**	**262**	P	**P**	**10 53 11.0**	**-1.2**
STKA	**Stephens Creek**	**26.60**	**192**	P	**P**	**10 53 15.6**	**+0.9**
	comp=Z,4.5nm,0.6s,baz=356,slow=12,SNR=6.6						
	comp=Z,4.5nm,0.6s						
STKA	**Stephens Creek**	**26.60**	**192**	P	**P**	**10 53 15.3**	**+0.5**
STKA	**Stephens Creek**	**26.60**	**192**	P	**P**	**10 53 17.7**	**+3.0**
WRKA	**Warakurna**	**26.88**	**223**	P	**P**	**10 53 17.8**	**+0.5**
CAN	**Canberra**	**29.36**	**178**	P	**P**	**10 53 40.8**	**+1.4**
CAN				IAmb	IAmb	10 54 06.0	
	comp=Z,23nm,1.4s						
FORT	**Forrest**	**31.11**	**215**	P	**P**	**10 53 55.4**	**+0.6**
FORT				IAmb	IAmb	10 53 56.2	
	comp=Z,14nm,0.8s						
MBWA	**Marble Bar**	**31.36**	**238**	P	**P**	**10 53 57.7**	**+0.6**
MBWA				IAmb	IAmb	10 53 58.3	
	comp=Z,15nm,0.9s						
PSA00	**Pilbara Seismi**	**31.44**	**237**	P	**P**	**10 53 58.1**	**+0.3**
PSA00				IAmb	IAmb	10 53 59.1	
	comp=Z,4.0nm,0.8s						
TOO	**Toolangi**	**31.68**	**184**	P	**P**	**10 54 00.8**	**+1.1**
TOO				IAmb	IAmb	10 54 02.7	
	comp=Z,13nm,1.2s						
GIRL	**Giralia**	**36.63**	**239**	P	P	10 54 45.3	+2.6
UGM	**Wanagama**	**37.28**	**265**	P	**P**	**10 54 48.4**	**0.0**
JOW	**Kunigami**	**37.69**	**330**	P	P	10 54 53.5	+2.0
	comp=Z,5.7nm,0.5s,baz=159,slow=8.6,SNR=1.4						
	comp=Z,5.7nm,0.5s						
MORW	**Morawa**	**38.05**	**229**	P	**P**	**10 54 55.6**	**+1.0**
YULB	**Yu-li**	**39.05**	**319**	P	**P**	**10 55 03.6**	**+0.6**
YULB				IAmb	IAmb	10 55 29.6	
	comp=Z,20nm,1.2s						
NWAO	**Narrogin (SRO)**	**39.34**	**223**	P	**P**	**10 55 06.0**	**+0.6**
TPUB	**Ta-pu**	**39.43**	**318**	P	**P**	**10 55 06.2**	**0.0**
WHZ	**Wether Hill Ro**	**43.49**	**160**	P	**P**	**10 55 40.9**	**+1.8**
WHZ				IAmb	IAmb	10 55 51.4	
	comp=Z,17nm,1.3s						
KSRS	**Korea Array**	**46.97**	**338**	P	P	10 56 08.4	+1.8
	comp=Z,1.6nm,0.7s,baz=161,slow=8.6,SNR=5.3						
	comp=Z,1.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.86**	**345**	P	**P**	**10 56 43.4**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=166,slow=8.6,SNR=1.3						
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.07**	**298**	P	**P**	**10 57 01.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=120,slow=5.9,SNR=4.2						
	comp=Z,0.5nm,0.3s						
BJI	**Beijing**	**54.26**	**330**	P	**P**	**10 57 01.1**	**-0.3**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH	**PanZhiHua**	**55.16**	**308**	P	P	10 57 11.5	+3.2
PZH				pmax	pmax		
	comp=Z,30nm,0.9s						
KLR	**Kul'dur**	**56.64**	**347**	P	P	10 57 20.3	+2.0
	comp=Z,2.7nm,0.7s,baz=154,slow=8.6,SNR=2.2						
	comp=Z,2.7nm,0.7s						
PETK	**Petropavlovsk-**	**59.29**	**7**	P	P	10 57 39.0	+2.2
	comp=Z,5.9nm,0.9s,baz=132,slow=4.2,SNR=7.2						
	comp=Z,5.9nm,0.9s						
CASY	**Casey**	**65.69**	**196**	P	**P**	**10 58 19.9**	**+0.7**
VNDA	**Vanda**	**72.02**	**177**	P	**P**	**10 58 59.5**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=336,slow=6.8,SNR=25						
	comp=Z,2.2nm,0.6s						
VNDA	**Vanda**	**72.02**	**177**	P	**P**	**10 58 59.7**	**+1.4**
VNDA				IAmb	IAmb	10 58 59.8	
	comp=Z,3.2nm,0.8s						
SBA	**Scott Base**	**72.65**	**176**	P	P	10 59 04.3	+2.3
WMQ	**Urumqi**	**73.33**	**319**	*e*P	P	10 59 09.4	+2.7
WMQ				LR	LR		
	comp=N,2μm,16.9s						
WMQ				LR	LR		
	comp=E,460nm,15.9s						
WMQ				LR	LR		
	comp=Z,2μm,20.1s						
MK31	**Makanchi Array**	**78.02**	**320**	P	**P**	**10 59 33.8**	**+0.4**
MKAR	**Makanchi Array**	**78.02**	**320**	P	**P**	**10 59 33.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=98,slow=8.6,SNR=10						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**78.02**	**320**	P	**P**	**10 59 33.8**	**+0.4**
MAKZ	**Makanchi**	**78.22**	**320**	P	**P**	**10 59 34.9**	**+0.5**
ZALV	**Zalesovo Beam**	**79.41**	**328**	P	**P**	**10 59 40.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=128,slow=3.8,SNR=6.9						
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**79.41**	**328**	P	**P**	**10 59 40.4**	**-0.4**
MAW	**Mawson**	**82.79**	**203**	P	**P**	**10 59 59.4**	**+0.9**
MLY	**Manley**	**83.58**	**22**	P	**P**	**11 00 03.8**	**+1.2**
ILAR	**Eielson Array**	**84.93**	**23**	P	**P**	**11 00 07.8**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=250,slow=5.0,SNR=11						

NRIK	**Noril'sk**	**85.43**	**342**	P	P	11 00 13.2	+1.5
	comp=Z,4.6nm,0.5s,baz=128,slow=8.6,SNR=4.1						
	comp=Z,4.6nm,0.5s						
J25K	**Salcha River,**	**85.46**	**23**	P	**P**	**11 00 12.5**	**+0.5**
J25K				IAmb	IAmb	11 00 32.9	
	comp=Z,2.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**146.03**	**285**	PKPbc	**PKiKP**	**11 07 15.3**	**-3.0**
	comp=Z,1.2nm,0.4s,baz=65,slow=3.7,SNR=24						

*BJI **24** 10:52:03.1±0.0,34˚.76N×141˚.76E,h5km,mb4.6/52, mB5.0/28,Ms5.1/43,Ms7 4.8/40*
*JMA **24** 10:52:04.3±0.4,34˚.N±1˚×14˚.2E±˚, h20km±1km,MD5.1/37, MW5.0/37,FAR SE OFF BOSO PEN*
*NIED **24** 10:52:04.3,34˚.40N×141˚.78E,h20km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.93; $M_{\theta\theta}$-2.50; $M_{\phi\phi}$1.57; $M_{r\theta}$0.65; $M_{\theta\phi}$0.88; $M_{r\phi}$0.67; Fault plane solution: M_o2.50000×10^{16} NP1: ϕ_s323.00000°,δ62.00000°,λ162.00000°. NP2: ϕ_s62.00000°,δ74.00000°,λ30.00000°.*
*MOS **24** 10:52:05.8±1.1,34˚.48N×141˚.53E,h16km,mb5.0/42, MS4.7/15 Error ellipse: s-maj=8.2km s-min=4.5km az=120.0*
*IDC **24** 10:52:05.3±0.4,34˚.46N×141˚.50E,h0km,mb4.5/33, mbtmp4.5/37,ML3.4/3,MS4.5/9, Error ellipse: s-maj=13.8km s-min=9.7km az=102.0*
*NEIC **24** 10:52:07.2±1.4,34˚.54N±0˚.04×141˚.58E±0˚.08,h10km±1km, mb4.9/165,Error ellipse: s-maj=11.8km s-min=7.6km az=77.0*

ISC 24 10:52:08.5±0.4,**34˚.45N**±0˚.03×**141˚.64E**±0˚.04,**h21**km,3km, **n573,σ1i38**/459,**mb4.8**/144,**MS4.8**/24,**15C-10D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.58**	**291**	P	**Pb**	**10 52 17.9**	**-1.8**
BSO1				*e*X		10 52 20.9	
BSO3	**Boso 3**	**0.99**	**291**	P	**Pb**	**10 52 25.1**	**-1.7**
BSO3				S	**Sb**	**10 52 39.4**	**0.0**
BSO4	**Boso 4**	**1.20**	**297**	P	**Pn**	**10 52 28.7**	**-1.2**
KTR	**Katsuura**	**1.29**	**303**	P	**Pn**	**10 52 30.1**	**-1.2**
KTR				*e*S	**Sn**	**10 52 47.9**	**0.0**
JKUC	**kamogawauchiur**	**1.38**	**301**	P	**Pn**	**10 52 31.0**	**-1.5**
JKUC				*e*S	**Sn**	**10 52 50.3**	**+0.2**
JKUC	**kamogawauchiur**	**1.38**	**301**	A	A	10 52 31.0	
	comp=E,68nm,4.8s,comp=E,76nm,6.6s						
I30JP	**ISUMI INFRASON**	**1.38**	**309**	Pn	**Pn**	**10 52 30.9**	**-1.7**
	baz=147,slow=68						
CHOJ	**Chosi**	**1.40**	**333**	⇓P	**Pn**	**10 52 30.8**	**-2.1**
CHOJ				⇓S	**Sn**	**10 52 48.8**	**-1.8**
CHOJ	**Chosi**	**1.40**	**333**	A	A	10 52 30.8	
	comp=E,48nm,4.2s,comp=E,43nm,7.0s						
JCN	**Nagara**	**1.52**	**310**	A	A	10 52 32.9	
	comp=E,284nm,5.9s,comp=E,209nm,7.4s						
JSMT	**Sammumatsuo**	**1.54**	**321**	P	**Pn**	**10 52 33.4**	**-1.3**
JSMT	**Sammumatsuo**	**1.54**	**321**	A	A	10 52 33.4	
	comp=E,273nm,6.2s,comp=E,278nm,5.0s						
JIHU	**Itakohorinouch**	**1.76**	**329**	A	A	10 52 36.0	
	comp=E,89nm,8.3s,comp=E,86nm,8.8s						
JMKN	**Mikurajimanish**	**1.78**	**252**	P	**Pn**	**10 52 36.5**	**-1.6**
JMKN				*e*S	**Sn**	**10 52 59.8**	**-0.3**
JMKN	**Mikurajimanish**	**1.78**	**252**	A	A	10 52 36.5	
	comp=E,42nm,7.4s,comp=E,44nm,8.9s						
JYO	**Yokosk**	**1.79**	**296**	A	A	10 52 36.9	
	comp=E,98nm,6.0s,comp=E,78nm,9.6s						
JIM2	**Oshima 3**	**1.84**	**279**	*e*P	**Pn**	**10 52 35.9**	**-3.0**
JIM2	**Oshima 3**	**1.84**	**279**	A	A	10 52 35.9	
	comp=E,38nm,5.1s,comp=E,46nm,4.3s						
JTHY	**Toshimahigashi**	**1.94**	**273**	P	**Pn**	**10 52 39.0**	**-1.2**
JTHY				*e*S	**Sn**	**10 53 03.9**	**-0.1**
JTHY	**Toshimahigashi**	**1.94**	**273**	A	A	10 52 39.0	
	comp=E,43nm,6.7s,comp=E,44nm,5.3s						
JNIO	**Niijimaoohara**	**1.96**	**268**	A	A	10 52 39.0	
	comp=E,48nm,2.7s,comp=E,45nm,4.8s						
TOK	**Tokyo**	**1.97**	**309**	A	A	10 52 39.4	
	comp=E,192nm,6.5s,comp=E,133nm,8.0s						
JSKK	**Shikinejimakit**	**2.01**	**267**	A	A	10 52 39.8	
	comp=E,39nm,4.3s,comp=E,24nm,4.8s						
JHJ2	**Mitsune**	**2.02**	**229**		**Pn**	**10 52 41.3**	**0.0**
JHJ2	**Mitsune**	**2.02**	**229**	A	A	10 52 39.0	
	comp=E,47nm,5.3s,comp=E,36nm,5.1s						
JHJ	**Hachijo jima 2**	**2.04**	**230**	Pn	**Pn**	**10 52 40.9**	**-0.6**
	40nm,0.3s,baz=293,slow=17,SNR=33						
JHJ				Sn	**Sn**	**10 53 06.7**	**+0.3**
	219nm,0.3s,baz=74,slow=23,SNR=14						
JHCJ	**Hachijojimakas**	**2.06**	**229**	A	A	10 52 39.5	
	comp=E,32nm,9.7s,comp=E,24nm,5.5s						
JHYU	**Hitachinakayam**	**2.07**	**336**	A	A	10 52 40.4	
	comp=E,20nm,4.8s,comp=E,21nm,5.1s						
JYT	**Yasato**	**2.13**	**327**		**Pn**	**10 52 41.2**	**-1.7**
JYT	**Yato**	**2.13**	**327**	A	A	10 52 41.4	
	comp=E,14nm,6.7s,comp=E,17nm,6.0s						
JHTM	**Izuhatsuma**	**2.22**	**284**	A	A	10 52 43.0	
	comp=E,28nm,6.6s,comp=E,35nm,4.3s						
JOD2	**Odawara 2**	**2.25**	**292**	P	**Pn**	**10 52 42.8**	**-1.7**
JOD2	**Odawara 2**	**2.25**	**292**	A	A	10 52 42.8	
	comp=E,23nm,6.6s,comp=E,30nm,9.2s						
JIZS	**Izushimoda**	**2.29**	**277**	P	**Pn**	**10 52 43.2**	**-1.9**
JIZS	**Izushimoda**	**2.29**	**277**	A	A	10 52 43.2	
	comp=E,12nm,8.7s,comp=E,14nm,7.6s						
JSGW	**Sagamiharawaka**	**2.30**	**301**	A	A	10 52 44.1	
	comp=E,14nm,4.4s,comp=E,20nm,6.3s						
JHO	**Hitachi**	**2.33**	**338**	A	A	10 52 44.0	
	comp=E,14nm,4.4s,comp=E,11nm,6.1s						
JHU	**Hanno**	**2.38**	**307**	A	A	10 52 45.4	
	comp=E,16nm,4.5s,comp=E,17nm,7.5s						
JAOM	**Aogashimamukai**	**2.52**	**219**	A	A	10 52 45.9	
	comp=E,47nm,7.4s,comp=E,37nm,8.9s						
JFNN	**Fujinakano**	**2.54**	**288**	A	A	10 52 47.5	
	comp=E,32nm,5.9s,comp=E,31nm,7.3s						
JAG	**Ashikaga**	**2.66**	**318**	A	A	10 52 49.1	
	comp=E,12nm,3.9s,comp=E,15nm,5.0s						
JRY	**Ryogami san**	**2.73**	**306**	A	A	10 52 50.4	
	comp=E,10.0nm,5.5s,comp=E,12nm,7.3s						
JYN	**Shimob**	**2.75**	**293**	A	A	10 52 50.5	
	comp=E,20nm,7.5s,comp=E,15nm,4.8s						
JFFD	**Fukushimafurud**	**2.78**	**342**	A	A	10 52 50.4	
	comp=E,11nm,6.8s,comp=E,8.0nm,6.8s						
JSG	**Sagara**	**2.86**	**275**	A	A	10 52 52.0	
	comp=E,19nm,8.4s,comp=E,31nm,5.9s						
JSB	**Shiboa**	**2.87**	**331**	A	A	10 52 52.0	
	comp=E,28nm,3.8s,comp=E,40nm,4.2s						
SHZ3	**Shizuoka 3**	**2.89**	**283**	A	A	10 52 52.5	
	comp=E,8.0nm,4.8s,comp=E,13nm,7.6s						
JFK	**Kawauchi**	**2.98**	**348**	A	A	10 52 53.0	
	comp=E,18nm,5.5s,comp=E,7.0nm,4.5s						
JKT	**Katashina**	**3.02**	**321**	A	A	10 52 54.4	
	comp=E,9.0nm,11.5s,comp=E,9.0nm,3.9s						
JKKS	**Kasgawashinom**	**3.03**	**277**	A	A	10 52 54.4	
	comp=E,17nm,6.5s,comp=E,28nm,7.0s						
JNT	**Takato**	**3.20**	**297**	A	A	10 52 57.0	
	comp=E,7.0nm,5.8s,comp=E,10.0nm,7.2s						
JGK	**Kuni**	**3.23**	**312**	A	A	10 52 57.4	
	comp=E,12nm,10.0s,comp=E,14nm,4.5s						
JNY	**Yasuok**	**3.23**	**287**	A	A	10 52 57.4	
	comp=E,9.0nm,5.0s,comp=E,9.0nm,8.9s						
HMMJ	**Hamamatsu 2**	**3.25**	**278**	A	A	10 52 57.8	
	comp=E,6.0nm,8.4s,comp=E,7.0nm,8.3s						
JMST	**Minamisoumatoc**	**3.32**	**350**	A	A	10 52 57.9	
	comp=E,9.0nm,7.7s,comp=E,6.0nm,3.3s						
JFY	**Yanaizu**	**3.34**	**333**	A	A	10 52 58.6	
	comp=E,11nm,4.7s,comp=E,10.0nm,5.4s						
JSSY	**Shinshiroyabe**	**3.43**	**279**	A	A	10 53 00.2	
	comp=E,7.0nm,9.5s,comp=E,6.0nm,8.6s						
JUON	**Uonuma**	**3.46**	**323**	A	A	10 53 00.4	
	comp=E,7.0nm,5.7s,comp=E,7.0nm,8.1s						
JMM	**Marumori**	**3.48**	**349**	Pn	**Pn**	**10 52 58.4**	**-2.9**
JMM	**Marumori**	**3.48**	**349**	A	A	10 53 00.1	
	comp=E,10.0nm,6.9s,comp=E,8.0nm,8.4s						
JNG	**Nsakai**	**3.48**	**305**	A	A	10 53 01.1	
	comp=E,10.0nm,5.4s,comp=E,8.0nm,5.3s						
MJAR	**Matsushiro Arr**	**3.49**	**308**	Pn	**Pn**	**10 53 00.3**	**-1.3**
	5.5nm,0.3s,baz=105,slow=8.9,SNR=159						
MJAR				Sn	**Sn**	**10 53 44.4**	**+2.2**
	2.7nm,0.3s,baz=122,slow=12,SNR=10						
	24nm,0.4s						
MAJO	**Matsushiro**	**3.49**	**308**	Pn	**Pn**	**10 53 00.5**	**-1.1**
MAJO	**Matsushiro**	**3.49**	**308**	P	**Pn**	**10 53 00.5**	**-1.1**
MJB9	**Matsu-Tunnel**	**3.49**	**308**		**Pn**	**10 53 00.5**	**-1.1**
JYAR	**Yonezawaarcadi**	**3.66**	**341**	A	A	10 53 02.9	
	comp=E,11nm,5.3s,comp=E,11nm,11.3s						
JAO	**Obara**	**3.69**	**284**	A	A	10 53 03.9	
	comp=E,6.0nm,9.5s,comp=E,8.0nm,10.3s						
JGF	**Kuroka**	**3.69**	**289**		**Pn**	**10 53 04.6**	**+0.2**
JGF	**Kuroka**	**3.69**	**289**	A	A	10 53 04.0	
	comp=E,5.0nm,8.8s,comp=E,6.0nm,4.9s						
JAA	**Atsumi**	**3.71**	**274**	A	A	10 53 04.1	
	comp=E,3.0nm,13.7s,comp=E,4.0nm,9.4s						
JNS	**Sasagawa**	**3.85**	**331**	A	A	10 53 05.8	
	comp=E,11nm,5.9s,comp=E,9.0nm,4.1s						
JJN	**Nakama**	**3.87**	**314**	A	A	10 53 06.4	
	comp=E,13nm,5.4s,comp=E,12nm,4.0s						
JIZZ	**Izumozaki**	**3.88**	**323**	A	A	10 53 06.4	
	comp=E,29nm,5.4s,comp=E,27nm,5.3s						
INU	**Inuyama**	**3.90**	**285**	Pn	**Pn**	**10 53 06.7**	**-0.5**
JGN	**Niukaw**	**3.95**	**298**	A	A	10 53 07.6	
	comp=E,5.0nm,5.0s,comp=E,5.0nm,9.0s						
JYS	**Shirataka**	**3.97**	**342**	A	A	10 53 07.3	
	comp=E,13nm,5.1s,comp=E,8.0nm,8.4s						
JOU	**Okura**	**3.98**	**349**	A	A	10 53 07.3	
	comp=E,13nm,6.5s,comp=E,9.0nm,9.6s						
JICN	**Ichinomiyachia**	**4.03**	**284**	A	A	10 53 08.8	
	comp=E,7.0nm,7.2s,comp=E,10.0nm,8.5s						
JIE	**Ise**	**4.08**	**271**	A	A	10 53 09.2	
	comp=E,3.0nm,36.4s,comp=E,4.0nm,13.4s						
JTT	**Ttatey**	**4.12**	**303**	A	A	10 53 09.9	
	comp=E,12nm,4.5s,comp=E,12nm,3.9s						
JOFO	**Osakifurukawao**	**4.18**	**352**	A	A	10 53 10.0	
	comp=E,67nm,4.1s,comp=E,50nm,4.3s						
JYA	**Atsumi**	**4.42**	**340**	A	A	10 53 13.7	
	comp=E,9.0nm,6.3s,comp=E,8.0nm,5.3s						
JAW	**Awa shima**	**4.44**	**335**	A	A	10 53 14.0	
	comp=E,10.0nm,6.1s,comp=E,11nm,6.5s						
JSD	**Sado**	**4.50**	**324**	Pn	**Pn**	**10 53 13.2**	**-2.3**
JSD	**Sado**	**4.50**	**324**	A	A	10 53 15.2	
	comp=E,3.0nm,7.1s,comp=E,4.0nm,8.3s						
JYK	**Kaneyama**	**4.58**	**347**	A	A	10 53 15.8	
	comp=E,8.0nm,3.7s,comp=E,5.0nm,6.7s						
JJH	**Hakui**	**4.66**	**303**	A	A	10 53 17.5	
	comp=E,4.0nm,13.9s,comp=E,6.0nm,7.9s						
JKG	**Kaga**	**4.70**	**294**	A	A	10 53 18.2	
	comp=E,5.0nm,6.0s,comp=E,6.0nm,4.5s						
JYYZ	**Yamagatayuza**	**4.76**	**344**	A	A	10 53 18.4	
	comp=E,26nm,3.8s,comp=E,47nm,5.6s						
JFM	**Mihama**	**4.76**	**285**	A	A	10 53 19.0	
	comp=E,5.0nm,8.6s,comp=E,7.0nm,10.8s						
JHE	**Heguri**	**4.92**	**274**	A	A	10 53 21.0	
	comp=E,3.0nm,4.9s,comp=E,4.0nm,7.2s						
JRG	**Rokugo**	**5.00**	**351**	A	A	10 53 21.5	
	comp=E,19nm,5.7s,comp=E,8.0nm,17.9s						
JYW	**Yuwa**	**5.21**	**348**	A	A	10 53 24.5	
	comp=E,14nm,4.3s,comp=E,12nm,6.6s						
JSZI	**Iwateshizukuis**	**5.31**	**354**	A	A	10 53 25.8	
	comp=E,10.0nm,3.4s,comp=E,11nm,4.7s						
JMIK	**Miki**	**5.44**	**276**	A	A	10 53 28.4	
	comp=E,3.0nm,8.4s,comp=E,4.0nm,5.9s						
JKY	**Yasaka**	**5.49**	**284**	A	A	10 53 29.1	
	comp=E,3.0nm,9.3s,comp=E,4.0nm,8.3s						
JOG3	**Oga3**	**5.83**	**340**	A	A	10 53 30.8	
	comp=E,8.0nm,7.2s,comp=E,12nm,4.9s						
JNTW	**Noshirotokiwa**	**5.93**	**349**	A	A	10 53 34.5	
	comp=E,29nm,4.7s,comp=E,20nm,3.1s						
JHHS	**Hirosakihyakuz**	**6.27**	**351**	A	A	10 53 39.4	
	comp=E,15nm,5.2s,comp=E,13nm,4.3s						
JTM	**Tenmabayashi**	**6.34**	**356**		**Pn**	**10 53 37.8**	**-2.9**
JMN	**Monobe**	**6.48**	**266**		**Pn**	**10 53 43.0**	**+0.4**
JHS	**

GRNR pmax pmax
comp=Z,3.0nm,0.8s
GRNR MLR MLR
comp=E,1μm,15.0s
GRNR MLR MLR
comp=N,1μm,14.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
NJ2 Nanjing 19.20 269 *e*P **P 10 56 31.3 +0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,4μm,14.7s
NJ2 LR LR
comp=Z,2μm,15.6s
NJ2 LR LR
comp=Z,2μm,17.0s
GUMO Guam 20.98 171 P **P 10 56 50.8 +0.5**
GUMO Guam 20.98 171 P **P 10 56 50.8 +0.5**
GUMO pmax pmax
comp=Z,343nm,1.3s
BJI Beijing 20.99 293 P **P 10 56 44.8 -5.6**
BJI pmax pmax
comp=Z,250nm,11.3s
BJI LR LR
comp=Z,200nm,13.5s
BJI LR LR
comp=Z,2μm,13.5s
BJI LR LR
comp=Z,2μm,14.3s
ZEA Zeya 21.80 337 *e*P **P 10 56 56.0 -2.9**
ZEA *e*S S 11 00 46.0 -13
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,40nm,0.9s
ZEA pmax pmax
comp=Z,70nm,1.0s
ZEA pmax pmax
comp=N,100nm,2.1s
ZEA pmax pmax
comp=Z,200nm,3.2s
ZEA smax smax
comp=N,500nm,8.4s
ZEA smax smax
comp=E,500nm,7.7s
ZEA MLR MLR
comp=E,800nm,11.0s
ZEA MLR MLR
comp=N,1μm,14.0s
ZEA MLR MLR
comp=Z,1μm,14.0s
PETK Petropavlovsk- 21.87 27 P **P 10 57 00.4 +0.7**
comp=Z,6.3nm,1.1s,baz=204,slow=3.2,SNR=4.3
PETK LR LR 11 06 20.2
comp=Z,382nm,20.8s,baz=213,slow=39
comp=Z,6.3nm,1.1s
XLT XiLinHaoTe 21.87 303 *e*P **P 10 56 57.3 -2.6**
XLT pP pP 10 57 01.8 -2.6
XLT sP sP 10 57 04.4 -2.0
XLT S **S 11 01 00.3 -0.3**
XLT SS **SnSn 11 01 25.9 -0.2**
XLT pmax pmax
comp=Z,15nm,1.1s
XLT LR LR
comp=Z,2μm,15.5s
XLT LR LR
comp=Z,3μm,14.7s
HIA Hailar 21.91 319⇑ *e*P **P 10 57 01.3 +1.1**
HIA pmax pmax
comp=Z,38nm,1.9s
WHN Wuhan 23.31 268 ⇑P **P 10 57 14.3 -0.8**
WHN S **S 11 01 24.3 -2.2**
WHN LR LR
comp=Z,9μm,13.5s
WHN LR LR
comp=Z,6μm,15.9s
WHN LR LR
comp=Z,5μm,12.2s
HHC Hu-ho-hao-te 24.58 294 *e*P **P 10 57 29.4 +2.3**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,300nm,5.7s
BTO Baotou 25.73 293 *e*P **P 10 57 37.9 +0.4**
MA2 Magadan 25.85 11 P **P 10 57 38.4 +0.1**
comp=Z,9.3nm,0.7s,baz=183,slow=9.5,SNR=5.7
MA2 LR LR 11 09 43.3
comp=Z,1μm,18.3s,baz=206,slow=41
comp=Z,9.3nm,0.7s
MA2 Magadan 25.85 11 P **P 10 57 37.5 -0.7**
MA2 IAmb IAmb 10 58 02.2
comp=Z,40nm,1.1s
H11N2 WAKE ISLAND Hy 26.75 117 T T 11 25 55.1
baz=309,slow=75,SNR=60
H11N1 WAKE ISLAND Hy 26.75 117 T T 11 25 55.5
baz=309,slow=75,SNR=55
H11N3 WAKE ISLAND Hy 26.77 117 T T 11 25 57.4
baz=309,slow=75,SNR=53
XAN Xi'an 26.98 278 P **P 10 57 47.8 -1.1**
XAN pP pP 10 57 51.3 -2.1
XAN sP sP 10 57 54.1 -0.8
XAN pmax pmax
comp=Z,10.0nm,1.3s
H11S3 WAKE ISLAND Hy 27.38 119 T T 11 26 43.0
baz=312,slow=75,SNR=35
H11S1 WAKE ISLAND Hy 27.38 119 T T 11 26 46.3
baz=312,slow=75,SNR=37
H11S2 WAKE ISLAND Hy 27.39 119 T T 11 26 40.1
baz=312,slow=75,SNR=25
YAK Yakutsk 28.63 348 P **P 10 58 02.2 -0.9**
comp=Z,5.6nm,0.4s,baz=323,slow=1.3,SNR=4.9
YAK LR LR 11 10 02.6
comp=Z,2μm,18.9s,baz=116,slow=38
comp=Z,5.6nm,0.4s
YAK Yakutsk 28.63 348 P **P 10 58 02.1 -1.1**
YAK IAmb IAmb 10 58 24.1
comp=Z,25nm,0.8s
YAK Yakutsk 28.63 348 *e*P **P 10 58 01.7 -1.4**
YAK *e**PP **sP 10 58 11.4 +1.1**
YAK *e* 10 58 51.4
YAK *e*S **S 11 02 47.7 -2.6**
YAK *e*SS **SnSn 11 04 08.8 -2.0**
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,123nm,2.7s
YAK pmax pmax
comp=N,171nm,2.5s
YAK pmax pmax
comp=E,75nm,3.5s
YAK smax smax
comp=E,168nm,4.8s
YAK smax smax
comp=N,298nm,4.0s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK MLR MLR
comp=E,800nm,15.0s
ULN Ulaanbaatar 29.02 308*d i* P **P 10 58 07.0 0.0**
ULN pmax pmax
comp=Z,18nm,1.7s
SEY Seymchan 29.29 10 P **P 10 58 10.4 +1.3**
comp=Z,1.7nm,0.3s,baz=186,slow=17,SNR=4.2
comp=Z,1.7nm,0.3s
SHEM Shemya Is, Ala 29.42 42 LR LR 11 09 15.5
comp=Z,488nm,18.7s,baz=245,slow=35
SONM Songino Array 29.44 308 P **P 10 58 11.1 +0.4**
comp=Z,3.8nm,0.6s,baz=106,slow=9.3,SNR=20
comp=Z,3.8nm,0.6s
SONM Songino Array 29.44 308 P **P 10 58 06.9 -3.8**
LZH Lanzhou 30.77 284 *e*P **P 10 58 22.1 -0.6**
LZH sP sP 10 58 30.1 +0.8
LZH pmax pmax
comp=Z,13nm,0.9s
LZH LR LR
comp=Z,3μm,17.7s
LZH LR LR
comp=Z,890nm,16.8s
LZH LR LR
comp=Z,1μm,18.6s
comp=Z,21nm,1.4s
L19K White Mountain 47.92 34 P **P 11 00 45.4 +0.4**
baz=265
PKI Pulchoki 48.16 278 *e*P **P 11 00 45.8 -1.9**
PKIN Phulchoki 48.17 278 *e*P **P 11 00 45.8 -1.9**
KKN Kakani 48.18 278 *e*P **P 11 00 46.6 -1.1**
PDGK Podgornoye 48.18 300 P **P 11 00 46.6 -0.8**
SHLS Shalkode 48.24 300 *e*P **P 11 00 45.0 -2.8**
SHLS Shalkode 48.24 300 *e*P **P 11 00 45.0 -2.8**
baz=300
K20K Telida 48.38 33 IAmb IAmb 11 00 53.5
comp=Z,13nm,1.1s
K20K Telida 48.38 33 P **P 11 00 49.3 +0.8**
baz=265
L20K Farewell, AK 48.39 34 P **P 11 00 49.7 +1.1**
baz=266
J20K Nowinta River 48.42 32 IAmb IAmb 11 00 53.8
comp=Z,11nm,1.1s
J20K Nowinta River 48.42 32 P **P 11 00 50.0 +1.2**
baz=264,SNR=7.1
OHAK Old Harbor 48.55 41 P **P 11 00 51.2 +1.3**
baz=271
UZB Uzynbulak 48.55 300 *e*P **P 11 00 49.1 -1.2**
UZB Uzynbulak 48.55 300 *e*P **P 11 00 49.1 -1.2**
baz=300
GKN Gorkha 48.62 279 *e*P **P 11 00 49.5 -1.6**
TDK Taldyqorghan 48.63 302 *e*P **P 11 00 50.2 -0.5**
TDK Taldyqorghan 48.63 302 *e*P **P 11 00 50.3 -0.5**
baz=302
M20K Styx River 48.71 35 P **P 11 00 51.1 0.0**
baz=267
KPKS Kokpek 48.73 300 *e*P **P 11 00 50.6 -1.0**
KPKS Kokpek 48.73 300 *e*P **P 11 00 50.7 -0.9**
baz=300
KDAK Kodiak Island 48.92 40 P **P 11 00 52.4 -0.3**
comp=Z,12nm,0.9s,baz=308,slow=1.8,SNR=6.8
comp=Z,12nm,0.9s
KDAK Kodiak Island 48.92 40 P **P 11 00 53.0 +0.3**
baz=271
G21K Allakaket 48.96 29 P **P 11 00 53.9 +1.0**
baz=263
Q20K Shuyak Island 49.01 39 P **P 11 00 53.9 +0.5**
baz=271
SATY Saty 49.01 300 *e*P **P 11 00 52.7 -1.1**
SATY pmax pmax
comp=Z,19nm,2.0s
SATY Saty 49.01 300 *e*P **P 11 00 52.7 -1.1**
comp=Z,19nm,2.0s,baz=300
F21K Alatna River 49.06 28 P **P 11 00 54.1 +0.4**
baz=262
N20K Mount Spurr 49.12 36 P **P 11 00 53.8 -0.5**
baz=268
SPCR Spurr Chakacha 49.12 36 P **P 11 00 53.9 -0.4**
baz=268
H21K Melozitna Rive 49.14 30 IAmb IAmb 11 00 57.3
comp=Z,22nm,1.4s
H21K Melozitna Rive 49.14 30 P **P 11 00 54.6 +0.2**
baz=264,SNR=10
PPLA Purkeypile 49.20 34 P **P 11 00 54.9 -0.1**
baz=267
CHUM Lake Minchumin 49.20 32 P **P 11 00 55.0 +0.3**
baz=266
DANN Dangsing 49.21 280 *e*P **P 11 00 54.6 -1.1**
comp=Z,132nm,1.2s
CAST Castle Rocks 49.27 33 P **P 11 00 56.0 +0.6**
CAST IAmb IAmb 11 00 57.9
comp=Z,12nm,1.3s
CAST Castle Rocks 49.27 33 P **P 11 00 55.9 +0.5**
baz=267
I21K Tanana 49.44 31 IAmb IAmb 11 01 06.5
comp=Z,17nm,1.4s
I21K Tanana 49.44 31 P **P 11 00 56.8 +0.2**
baz=265
SKT Skwentna 49.47 35 P **P 11 00 56.8 -0.1**
baz=268
KOLN Koldanda 49.56 279 *e*P **P 11 00 57.1 -1.2**
F22K John River 49.60 28 P **P 11 00 58.1 +0.3**
baz=263,SNR=6.6
TARG Taragay, Kyrgy 49.74 298 IAmb IAmb 11 01 18.6
comp=Z,12nm,0.8s
H22K Ishtalitna Cre 49.75 30 P **P 11 01 00.0 +1.0**
baz=265,SNR=8.2
G22K Bettles 49.79 28 P **P 11 00 59.9 +0.6**
baz=264
BPAW Bear Paw Mtn. 49.80 32 P **P 11 01 00.3 +0.9**
baz=267
E22K Anaktuvuk Pass 49.81 27 P **P 11 01 00.5 +1.0**
baz=263
SUA Susitna One 49.83 36 P **P 11 01 00.5 +0.8**
baz=270
CHKK Chushkaly 49.85 301 *e*P **P 11 00 58.8 -1.3**
CHKK Chushkaly 49.85 301 *e*P **P 11 00 58.9 -1.3**
baz=301
PYUN Piuthan 49.93 280 *e*P **P 11 00 59.4 -1.7**
comp=Z,69nm,1.2s
MLY Manley 49.95 31 P **P 11 01 01.6 +1.0**
baz=266,SNR=8.3
MDOK Medeo 49.96 300 P **P 11 01 00.3 -0.8**
MDOK Medeo 49.96 300 *e*P **P 11 01 00.4 -0.8**
baz=300
TNSS Tian-Shan 50.06 300 *e*P **P 11 01 01.2 -0.9**
TNSS Tian-Shan 50.06 300 *e*P **P 11 01 01.3 -0.9**
baz=300
TRF Thorofare Moun 50.08 33 P **P 11 01 02.3 +0.6**
baz=268
D23K Nanushuk River 50.33 26 P **P 11 01 04.1 +0.8**
baz=263
COLD Coldfoot 50.33 28 P **P 11 01 03.8 +0.4**
baz=265
G23K Bananza Creek 50.36 29 P **P 11 01 04.4 +0.8**
baz=266,SNR=6.5
C23K Itkillik River 50.46 25 P **P 11 01 04.9 +0.7**
baz=263
H23K Yukon River 50.50 30 IAmb IAmb 11 01 08.1
comp=Z,25nm,1.4s
H23K Yukon River 50.50 30 P **P 11 01 06.0 +1.4**
baz=267,SNR=5.9
PMR Palmer 50.60 35 P **P 11 01 05.3 -0.2**
PMR IAmb IAmb 11 01 27.8
comp=Z,23nm,1.3s
PMR Palmer 50.60 35 P **P 11 01 05.3 -0.2**
PMR pmax pmax
comp=Z,23nm,1.3s
PMR Palmer 50.60 35 P **P 11 01 05.4 -0.1**
baz=271
E23K Chandalar 50.62 27 P **P 11 01 06.8 +1.1**
baz=265
NEA2 Nenana 50.65 31 IAmb IAmb 11 01 10.5
comp=Z,18nm,1.0s
NEA2 Nenana 50.65 31 P **P 11 01 06.6 +0.8**
baz=268,SNR=14
MCK McKinley 50.69 33 P **P 11 01 07.1 +0.9**
baz=269
TOLK Toolik Lake Re 50.69 26 IAmb IAmb 11 01 11.0
comp=Z,20nm,1.1s
TOLK Toolik Lake Re 50.69 26 P **P 11 01 06.9 +0.8**
baz=265
RND Reindeer 50.73 33 IAmb IAmb 11 01 11.4
comp=Z,17nm,1.4s
KNK Knik Glacier 50.93 36 IAmb IAmb 11 01 11.3
comp=Z,25nm,1.2s
KNK Knik Glacier 50.93 36 P **P 11 01 08.1 +0.1**
baz=272
SML Sawmill 50.98 35 P **P 11 01 08.4 0.0**
baz=271
D24K Happy Valley 51.01 26 P **P 11 01 08.8 +0.3**
baz=265
MDM Murphy Dome 51.02 31 IAmb IAmb 11 01 13.3
comp=Z,20nm,1.0s
E24K Your Creek 51.05 27 P **P 11 01 09.6 +0.7**
baz=266
TKM2 Tokmak 2 51.05 300 *i* P **P 11 01 09.4 0.0**
TKM2 pmax pmax
comp=Z,24nm,1.4s
C24K Franklin Bluff 51.10 25 P **P 11 01 09.7 +0.6**
baz=265
TCOL CIGO, UAF Yank 51.17 31 P **P 11 01 10.1 +0.4**
baz=269
COLA College 51.18 31⇑ *e*P **P 11 01 08.4 -1.3**
COLA pmax pmax
comp=Z,10.0nm,1.4s
COLA College 51.18 31 P **P 11 01 10.1 +0.4**
baz=269
H24K Noodor Dome 51.19 30 IAmb IAmb 11 01 34.0
comp=Z,16nm,1.2s
H24K Noodor Dome 51.19 30 P **P 11 01 10.7 +0.9**
baz=268,SNR=6.5

CD2 Chengdu 31.95 274 P **P 10 58 35.8 +2.8**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 LR LR
comp=Z,4μm,13.7s
CD2 LR LR
comp=Z,3μm,12.7s
CD2 LR LR
comp=Z,4μm,12.3s
ZAK Zakamensk 32.06 312 *e*P **P 10 58 33.0 -0.8**
ZAK pmax pmax
comp=Z,12nm,1.8s
QIZ Qiongzhong 32.12 250 P **P 10 58 33.6 -0.8**
QIZ S **S 11 03 46.8 +1.0**
QIZ LR LR
comp=Z,380nm,18.6s
QIZ LR LR
comp=Z,440nm,11.4s
QIZ LR LR
comp=Z,220nm,9.3s
GTA Gaotai 33.58 291 ⇑P **P 10 58 46.3 -0.9**
GTA pP pP 10 58 52.0 +0.3
GTA sP sP 10 58 54.9 +1.3
GTA pmax pmax
comp=Z,7.0nm,2.0s
GTA LR LR
comp=Z,2μm,16.0s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,2μm,18.9s
PZH PanZhiHua 35.10 268 P **P 10 59 02.4 +1.8**
PZH S **S 11 04 32.6 +0.3**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,150nm,9.6s
PZH LR LR
comp=Z,2μm,13.9s
PZH LR LR
comp=Z,2μm,14.7s
PZH LR LR
comp=Z,2μm,14.3s
BILL Bilibino 36.46 15⇓ *e*P **P 10 59 10.9 -0.6**
BILL *e* 10 59 19.8
BILL 11 00 36.0
BILL SSS SSS 11 07 53.0
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,984nm,16.0s
GOMU GeErMu 37.95 286 *e*P **P 10 59 24.1 -1.0**
GOMU pP pP 10 59 27.5 -2.1
GOMU S **S 11 05 17.8 +1.6**
GOMU sS ScP 11 05 26.4 -0.7
GOMU pmax pmax
comp=Z,7.0nm,1.2s
GOMU LR LR
comp=Z,620nm,16.3s
GOMU LR LR
comp=Z,770nm,15.9s
GOMU LR LR
comp=Z,860nm,14.3s
PHRA Phrae 40.02 257 P **P 10 59 43.8 +1.7**
CMAR Chiang Mai Arr 41.09 258 P **P 10 59 49.1 -1.8**
comp=Z,1.9nm,0.7s,baz=45,slow=7.8,SNR=9.7
comp=Z,1.9nm,0.7s
CMAR Chiang Mai Arr 41.09 258*ce* P **P 10 59 52.5 +1.6**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
DGZ Jazzator, Alta 42.09 308*d i* P **P 10 59 58.9 -0.1**
DGZ pmax pmax
comp=Z,29nm,0.9s
WMQ Urumqi 42.22 299 *e*P **P 11 00 00.8 +0.8**
WMQ pmax pmax
comp=Z,32nm,1.1s
WMQ LR LR
comp=Z,1μm,15.3s
WMQ LR LR
comp=Z,2μm,16.7s
WMQ LR LR
comp=Z,390nm,20.5s
ZAA0 Zalesovo Array 43.82 314 P **P 11 00 11.6 -1.1**
ZAA0 IAmb IAmb 11 00 31.8
comp=Z,20nm,1.4s
ZALV Zalesovo Beam 43.82 314 P **P 11 00 11.7 -1.0**
comp=Z,3.7nm,0.6s,baz=94,slow=7.0,SNR=11
ZALV PcP **PcP 11 01 58.4 -0.5**
comp=Z,2.7nm,0.5s,baz=108,slow=2.3,SNR=3.6
comp=Z,3.7nm,0.6s
ZALV Zalesovo Beam 43.82 314 P **P 11 00 11.5 -1.2**
ZSN Zaisan 43.87 305 *e*P **P 11 00 12.7 -0.6**
ZSN pmax pmax
comp=Z,24nm,1.6s
ZSN Zaisan 43.87 305 *e*P **P 11 00 12.7 -0.6**
comp=Z,24nm,1.6s,baz=305
PMG Port Moresby 43.93 172 P **P 11 00 13.8 -0.2**
comp=Z,2.8nm,0.5s,baz=22,slow=6.7,SNR=3.4
comp=Z,2.8nm,0.5s
KAPI Kappang 44.35 212 P **P 11 00 16.6 -0.8**
comp=Z,24nm,0.9s,baz=42,slow=8.5,SNR=3.6
comp=Z,24nm,0.9s
MK31 Makanchi Array 45.68 304 P **P 11 00 27.0 -0.7**
MK31 IAmb IAmb 11 00 40.9
comp=Z,11nm,0.9s
MK31 Makanchi Array 45.68 304 P **P 11 00 27.0 -0.7**
MK31 pmax pmax
comp=Z,11nm,1.0s
MKAR Makanchi Array 45.68 304 P **P 11 00 27.1 -0.6**
comp=Z,5.3nm,0.6s,baz=84,slow=9.9,SNR=18
MKAR PcP **PcP 11 02 04.3 -1.3**
comp=Z,1.8nm,0.8s,baz=74,slow=5.2,SNR=1.6
MKAR ScP **ScP 11 05 59.0 +1.8**
comp=Z,0.2nm,0.6s,baz=72,slow=4.7,SNR=2.1
comp=Z,5.3nm,0.6s
MKAR Makanchi Array 45.68 304 P **P 11 00 27.0 -0.7**
NRIK Noril'sk 45.69 336 P **P 11 00 27.0 -0.5**
comp=Z,16nm,1.1s,baz=106,slow=8.0,SNR=8.4
comp=Z,16nm,1.1s
NRIK Noril'sk 45.69 336 P **P 11 00 27.0 -0.5**
NRIK IAmb IAmb 11 00 28.3
comp=Z,21nm,1.1s
NRIK Noril'sk 45.69 336*ce* P **P 11 00 27.1 -0.3**
NRIK pmax pmax
comp=Z,17nm,1.0s
N16K Nishlik Lake 45.87 37 P **P 11 00 29.3 +0.3**
baz=263
MAKZ Makanchi 45.89 304 P **P 11 00 28.9 -0.4**
MAKZ IAmb IAmb 11 00 32.8
comp=Z,29nm,1.4s
MAKZ Makanchi 45.89 304 P **P 11 00 29.0 -0.4**
MAKZ pmax pmax
comp=Z,29nm,1.5s
O16K Kokwok River B 46.11 38 P **P 11 00 31.0 +0.1**
baz=265
P17K Kvichak River 46.92 38 P **P 11 00 37.8 +0.5**
baz=267
CHIR Chirikof Islan 47.28 43 P **P 11 00 41.0 +0.9**
baz=270
N18K Kilae Creek 47.30 36 P **P 11 00 40.9 +0.7**
baz=266
GCSA Galena City Sc 47.32 31 P **P 11 00 41.3 +1.0**
baz=261
RAMN Ramite 47.42 277 *e*P **P 11 00 40.5 -1.4**
comp=Z,27nm,1.0s
TTA Tatalina 47.46 33 P **P 11 00 42.0 +0.6**
TTA Tatalina 47.46 33 P **P 11 00 42.0 +0.6**
TTA pmax pmax
comp=Z,8.0nm,1.2s
TTA Tatalina 47.46 33 P **P 11 00 41.8 +0.4**
baz=264
JIRN Jiri 47.48 278 *e*P **P 11 00 41.5 -1.0**
comp=Z,26nm,0.8s
P18K Big Mountain, 47.55 38 P **P 11 00 42.9 +0.7**
baz=267
BATI Baumata 47.57 204 P **P 11 00 43.0 +0.2**
comp=Z,51nm,0.9s,baz=222,slow=14,SNR=3.8
comp=Z,51nm,0.9s
O18K Koktuh Hills 47.59 38 P **P 11 00 43.3 +0.9**
baz=267
GUN Gumba 47.64 278 *e*P **P 11 00 42.8 -0.9**
KURK Kurchatov 47.70 310 P **P 11 00 42.2 -1.2**
KURK Kurchatov 47.70 310 P **P 11 00 42.2 -1.2**
KURK pmax pmax
comp=Z,33nm,0.9s
KURBB Kurchatov Arra 47.76 310 P **P 11 00 42.8 -1.1**
L19K White Mountain 47.92 34 IAmb IAmb 11 01 08.8

F24K	Squaw Lake	51.24	28	P	P	11 01 11.2	+0.9			
	baz=267									
M23K	Glacier View	51.27	35	P	P	11 01 10.8	+0.3			
	baz=272									
KNRA	Kununurra	51.33	196	P	P	11 01 11.8	+0.4			
KNRA				IAmb	IAmb	11 01 39.0				
	comp=Z,25nm,1.0s									
POKR	Poker Plat Res	51.36	31	P	P	11 01 12.3	+1.1			
	baz=270									
G24K	Hadweenzic Riv	51.37	29	P	P	11 01 11.9	+0.7			
	baz=268,SNR=8.1									
DHY	Denali Highway	51.40	33	P	P	11 01 11.7	+0.1			
	baz=271									
SCM	Sheep Creek Mo	51.46	35	P	P	11 01 12.8	+0.8			
	baz=272									
HDA	Harding Lake	51.57	32	P	P	11 01 12.6	-0.1			
	baz=270									
BRZS	Berezniki	51.57	310	eP	P	11 01 11.0	-1.9			
BRZS	Berezniki	51.57	310	eP	P	11 01 11.1	-1.9			
	baz=310									
IL31		51.59	31	IAmb	IAmb	11 01 16.4				
	comp=Z,12nm,1.0s									
ILAR	Eielson Array	51.59	31	P	P	11 01 12.8	0.0			
	comp=Z,7.2nm,0.9s,baz=270,slow=6.5,SNR=25									
	comp=Z,7.2nm,0.9s									
SGDS	Sogindy	51.61	301	eP	P	11 01 12.3	-1.1			
SGDS	Sogindy	51.61	301	eP	P	11 01 12.4	-1.1			
	baz=301									
BTLS	Baital	51.65	303	eP	P	11 01 12.5	-1.1			
BTLS				pmax	pmax					
	comp=Z,21nm,2.3s									
BTLS	Baital	51.65	303	eP	P	11 01 12.5	-1.1			
	comp=Z,21nm,2.3s,baz=303									
KSH	Kashi	51.66	296	P	P	11 01 17.0	+3.1			
KSH				pmax	pmax					
	comp=Z,7.0nm,1.1s									
D25K	Kavik River	51.89	25	P	P	11 01 16.1	+1.0			
	baz=267									
AAK	Ala-Archa	51.91	300	P	P	11 01 15.2	-0.6			
AAK	Ala-Archa	51.91	300⇑	eP	P	11 01 15.6	-0.2			
AAK				pmax	pmax					
	comp=Z,13nm,1.7s									
FID	Port Fidalgo	51.92	36	P	P	11 01 13.5	-1.9			
M24K	Tolsona, Glenn	51.99	35	P	P	11 01 17.0	+1.0			
	baz=273									
H25K	Birch Creek	52.03	29	P	P	11 01 17.9	+1.8			
	baz=270									
F25K	Christian Rive	52.11	28	P	P	11 01 17.6	+0.9			
	baz=269,SNR=5.6									
OTUK	Ortayu	52.11	308	P	P	11 01 16.3	-0.8			
KLU	Klutina	52.14	35	P	P	11 01 18.1	+1.0			
	baz=274									
E25K	Arctic Village	52.15	27	P	P	11 01 18.7	+1.8			
	baz=269									
PRP	Porcupine Dome	52.16	30	P	P	11 01 18.2	+1.0			
	baz=271									
PAX	Paxson	52.27	34	P	P	11 01 19.0	+1.0			
	baz=273									
HARP	HAARP	52.45	34	P	P	11 01 19.8	+0.5			
	baz=274									
RIDG	Independent Ri	52.51	33	P	P	11 01 20.6	+0.8			
	baz=273									
BRVK	Borovoye	52.52	314	P	P	11 01 19.1	-0.8			
BRVK				IAmb	IAmb	11 01 20.4				
	comp=Z,8.6nm,0.8s									
BRVK	Borovoye	52.52	314	ceP	P	11 01 19.6	-0.4			
BRVK				pmax	pmax					
	comp=Z,7.0nm,0.9s									
F26K	Sheenjek River	52.68	28	P	P	11 01 22.0	+1.0			
	baz=270,SNR=12									
BMRM	Bremner River	52.82	36	P	P	11 01 22.9	+0.8			
	baz=275									
G26K	Porcupine Rive	52.83	28	P	P	11 01 23.6	+1.5			
	baz=271,SNR=6.9									
C27K	Jago River	52.84	25	P	P	11 01 23.3	+1.2			
	baz=269									
SCRK	Sand Creek	52.88	32	IAmb	IAmb	11 01 33.3				
	comp=Z,17nm,1.3s									
SCRK	Sand Creek	52.88	32	P	P	11 01 23.0	+0.4			
	baz=274,SNR=6.8									
J26L	Joseph Creek	53.03	32	P	P	11 01 24.2	+0.5			
	baz=273									
L26K	Log Cabin Wild	53.23	33	IAmb	IAmb	11 01 29.9				
	comp=Z,11nm,0.9s									
L26K	Log Cabin Wild	53.23	33	P	P	11 01 26.0	+0.9			
	baz=275,SNR=7.1									
M26K	Nabesna, AK	53.45	34	P	P	11 01 27.6	+0.8			
	baz=276									
MCARA	McCarthy VSAT	53.54	35	IAmb	IAmb	11 01 37.9				
	comp=Z,20nm,1.0s									
MCARA	McCarthy VSAT	53.54	35	P	P	11 01 27.8	+0.5			
	baz=276									
E27K	Coleen River	53.63	27	P	P	11 01 28.6	+0.7			
	baz=272									
G27K	Doyon Strip	53.68	29	P	P	11 01 29.4	+1.1			
	baz=273									
K27K	Chicken	53.71	32	IAmb	IAmb	11 01 32.8				
	comp=Z,14nm,1.1s									
K27K	Chicken	53.71	32	P	P	11 01 29.3	+0.7			
	baz=275									
H27K	Steamboat Moun	53.77	29	P	P	11 01 29.6	+0.6			
	baz=274,SNR=7.6									
I27K	Kandik River	53.78	30	P	P	11 01 29.8	+0.7			
	baz=274									
L27K	Beaver Creek,	53.92	33	IAmb	IAmb	11 01 34.4				
	comp=Z,11nm,1.1s									
L27K	Beaver Creek,	53.92	33	P	P	11 01 30.8	+0.6			
	baz=276									
M27K	Edge Creek, AK	53.97	34	IAmb	IAmb	11 01 41.7				
	comp=Z,11nm,1.1s									
M27K	Edge Creek, AK	53.97	34	P	P	11 01 30.6	-0.1			
	baz=276									
EGAK	Eagle	54.04	31	P	P	11 01 30.1	-0.8			
	baz=275									
DZA	Taraz	54.09	301	eP	P	11 01 30.8	-0.9			
DZA	Taraz	54.09	301	eP	P	11 01 30.9	-0.9			
	baz=301									
WB0	Warramunga Arr	54.35	188	IAmb	IAmb	11 01 41.2				
	comp=Z,18nm,1.1s									
FITZ	Fitzroy Crossi	54.43	199	P	P	11 01 34.3	+0.1			
	comp=Z,3.8nm,0.5s,baz=1.0,slow=7.7,SNR=17									
	comp=Z,3.8nm,0.5s									
WRAB	Tennant Creek	54.52	188	P	P	11 01 34.7	-0.2			
WRAB	Tennant Creek	54.52	188	ceP	P	11 01 34.8	-0.2			
WRAB				pmax	pmax					
	comp=Z,19nm,1.7s									
WR0	Warramunga Arr	54.53	188	P	P	11 01 34.3	-0.6			
WB2	Warramunga Arr	54.53	188	P	P	11 01 34.5	-0.5			
WRA	Warramunga Arr	54.53	188	P	P	11 01 34.4	-0.6			
	comp=Z,2.7nm,0.5s,baz=4.0,slow=7.7,SNR=40									
	comp=Z,2.7nm,0.5s									
KK31	Karatay Array	54.60	302	i P	P	11 01 34.6	-0.8			
KKAR	Karatay Array	54.60	302	P	P	11 01 35.0	-0.4			
KKAR	Karatay Array	54.60	302	P	P	11 01 35.1	-0.3			
KKAR	Karatay Array	54.60	302	P	P	11 01 35.0	-0.4			
KKAR				pmax	pmax					
	comp=Z,36nm,1.3s									
YUK3	Moose Creek	54.71	35	P	P	11 01 36.7	+0.6			
	baz=278									
DRK	Karamyk	54.76	297	P	P	11 01 36.5	-0.4			
DRK				IAmb	IAmb	11 01 53.9				
	comp=Z,11nm,0.6s									
DAWY	Dawson	54.88	32	P	P	11 01 37.0	-0.2			
O28M	Mount Upton	54.99	36	P	P	11 01 39.2	+0.9			
	baz=279									
I29M	Ogilvie Camp,	55.18	30	IAmb	IAmb	11 01 41.2				
	comp=Z,12nm,1.1s									
I29M	Ogilvie Camp,	55.18	30	P	P	11 01 39.9	+0.6			
	baz=277,SNR=8.5									
IUG	Iuzhnay	55.22	301	eP	P	11 01 39.5	-0.5			
IUG	Iuzhnay	55.22	301	eP	P	11 01 39.5	-0.5			
	baz=301									
M29M	Somme Creek	55.54	34	P	P	11 01 43.5	+1.5			
	baz=279									
L29M	L29M	55.58	33	P	P	11 01 43.3	+1.1			
	baz=279,SNR=6.3									
EPYK	Eagle Plains	55.69	29	P	P	11 01 44.0	+1.1			
	baz=278,SNR=12									
K29M	Barlow Dome	55.73	32	P	P	11 01 44.3	+0.9			
	baz=279									
YUK6	Outpost Mounta	55.84	36	P	P	11 01 44.9	+0.6			
	baz=280									
O29M	Mount Kennedy	55.86	36	P	P	11 01 45.5	+1.2			
	baz=281									
HYT	Haines Junctio	56.28	36	P	P	11 01 48.5	+1.2			
	baz=281									
N30M	Aishikik Lake	56.35	35	P	P	11 01 48.9	+1.2			
	baz=281									
P29M	Windy Craggy	56.40	37	P	P	11 01 49.5	+1.4			
	baz=282									
MAYO	Mayo, Yukon	56.49	32	P	P	11 01 49.7	+1.1			
	baz=281									
INK	Inuvik	56.61	26	P	P	11 01 50.0	+0.7			
	comp=Z,7.7nm,0.9s,baz=299,slow=6.7,SNR=13									
	comp=Z,7.7nm,0.9s									
INK	Inuvik	56.61	26	P	P	11 01 49.7	+0.3			
INK				IAmb	IAmb	11 01 53.0				
	comp=Z,9.5nm,1.0s									
INK	Inuvik	56.61	26	P	P	11 01 50.0	+0.7			
INK	Inuvik	56.61	26	P	P	11 01 49.6	+0.3			
	baz=280,SNR=7.7									
F31M	Tsiigehtchic	56.67	27	P	P	11 01 50.4	+0.5			
	baz=280									
P30M	Million Dollar	56.68	36	P	P	11 01 50.1	0.0			
	baz=282									
N31M	Braeburn, Yuko	56.96	35	P	P	11 01 52.7	+0.6			
	baz=282									
O30N	Mendenhall	56.97	35	P	P	11 01 52.7	+0.6			
	baz=282									
CHGR	Chuyangaron	56.97	297	P	P	11 01 51.7	-0.8			
CHGR	Chuyangaron	56.97	297	P	P	11 01 51.7	-0.8			
CHGR				pmax	pmax					
	comp=Z,32nm,0.5s									
PLBC	Pleasant Camp	57.12	37	P	P	11 01 54.2	+1.1			
	baz=283									
M31M	Drury Creek, Y	57.45	34	IAmb	IAmb	11 02 07.8				
	comp=Z,13nm,1.1s									
M31M	Drury Creek, Y	57.45	34	P	P	11 01 55.9	+0.4			
	baz=283									
WHY	Whitehorse	57.57	35	P	P	11 01 56.6	+0.1			
	baz=283									
SKAG	Skagway	57.63	37	P	P	11 01 57.7	+1.0			
	baz=284									
FARO	Faro, Yukon	57.92	33	P	P	11 01 59.8	+1.0			
	baz=284									
AS31	Alice Springs	58.26	188	P	P	11 02 01.4	-0.2			
ASAR	Alice Springs	58.26	188	P	P	11 02 01.2	-0.3			
	comp=Z,2.5nm,0.7s,baz=12,slow=7.8,SNR=27									
	comp=Z,2.5nm,0.7s									
ASAR	Alice Springs	58.26	188	P	P	11 02 00.9	-0.6			
HYBB	Hyderabad (bro	58.35	270	eP	P	11 02 01.6	-0.9			
ARU	Arti	58.43	320	P	P	11 02 01.8	-0.6			
	comp=Z,11nm,0.5s,baz=73,slow=3.4,SNR=7.4									
	comp=Z,11nm,0.5s									
ARU	Arti	58.43	320	P	P	11 02 01.0	-1.4			
ARU	Arti	58.43	320	d iP	P	11 02 01.4	-1.0			
ARU						11 02 46.4				
ARU				S	S	11 10 06.2	+2.1			
ARU				SS	SS	11 13 57.7	+1.8			
ARU				pmax	pmax					
	comp=Z,30nm,1.2s									
ARU				MLR	MLR					
	comp=Z,860nm,18.0s									
KBL	Kabul	58.54	293	P	P	11 02 02.5	-1.2			
KBL				IAmb	IAmb	11 02 20.8				
	comp=Z,14nm,1.1s									
KBL	Kabul	58.54	293	P	P	11 02 02.6	-1.2			
KBL				pmax	pmax					
	comp=Z,14nm,1.2s									
P33M	Teslin, Yukon	58.67	36	IAmb	IAmb	11 02 16.7				
	comp=Z,20nm,1.2s									
P33M	Teslin, Yukon	58.67	36	P	P	11 02 05.5	+1.3			
	baz=285									
MMPY	Sheldon Lake,	58.76	33	P	P	11 02 05.7	+1.0			
	baz=285									
C36M	Paulatuk	59.70	24	P	P	11 02 11.2	+0.3			
	baz=287									
AB31	Akbulak array	59.76	311	eP	P	11 02 10.5	-1.2			
ABKAR	Akbulak array	59.76	311	P	P	11 02 09.8	-1.9			
ABKAR	Akbulak array	59.76	311	IAmb	IAmb	11 02 11.6				
	comp=Z,9.7nm,0.6s									
R33M	Jennings River	59.80	36	P	P	11 02 13.7	+1.7			
	baz=287									
S34M	Telegraph Cree	60.17	38	P	P	11 02 16.0	+1.6			
	baz=288									
TGTN	Hyland Airport	60.42	33	P	P	11 02 17.8	+1.6			
	baz=288									
DLBC	Dease Lake	60.56	37	P	P	11 02 18.0	+0.9			
DLBC				IAmb	IAmb	11 02 31.0				
	comp=Z,18nm,1.4s									
DLBC	Dease Lake	60.56	37	P	P	11 02 18.5	+1.3			
	baz=288									
T35M	Bob Quinn	60.92	39	P	P	11 02 20.7	+1.2			
	baz=289									
KIRV	Kirby	62.42	324	deP	P	11 02 29.1	-0.5			
PRGR	Permogore	63.03	328	eP	P	11 02 30.5	-3.1			
PRGR				pmax	pmax					
	comp=Z,15nm,0.6s									
GEYT	Alibeck	65.26	300	P	P	11 02 48.8	0.0			
	comp=Z,3.5nm,0.7s,baz=356,slow=5.9,SNR=5.6									
	comp=Z,3.5nm,0.7s									
GEYT	Alibeck	65.26	300	P	P	11 02 48.1	-0.6			
GEYT				IAmb	IAmb	11 02 58.8				
	comp=Z,12nm,1.2s									
YKA	Yellowknife Ar	65.95	30	P	P	11 02 54.0	+1.3			
	comp=Z,3.3nm,0.9s,baz=285,slow=14,SNR=3.3									
	comp=Z,3.3nm,0.9s									
YKA	Yellowknife Ar	65.95	30	P	P	11 02 54.0	+1.3			
STKA	Stephens Creek	65.97	180	P	P	11 02 53.7	+0.6			
	comp=Z,1.3nm,0.8s,baz=330,slow=8.1,SNR=1.3									
	comp=Z,1.3nm,0.8s									
KLMR	Klimovskoe	66.04	328	eP	P	11 02 50.7	-2.5			
KLMR				e		11 05 23.8				
KLMR				pmax	pmax					
	comp=Z,27nm,1.9s									
KLMR	Klimovskoe	66.04	328	eP	P	11 02 50.8	-2.5			
KLMR				AMP		11 02 56.3				
	comp=Z,27nm,1.9s									
KLMR				ePP	PP	11 05 23.9	+5.6			
ARCES	ARCESS Array B	66.48	340	P	P	11 02 55.4	-0.6			
	comp=Z,1.6nm,0.7s,baz=66,slow=6.8,SNR=2.7									
	comp=Z,1.6nm,0.7s									
MOS	Moscow	69.44	324	eP	P	11 03 11.9	-2.9			
MOS				MLR	MLR					
	comp=Z,1µm,16.0s									
MOS				MLR	MLR					
	comp=E,900nm,15.0s									
MAK	Makhachkala	70.20	309	eP	P	11 03 07.5	-12			
MAK				MLR	MLR					
	comp=Z,931nm,12.0s									
OBN	Obninsk	70.28	324	⇓eP	P	11 03 19.7	-0.2			
OBN				e		11 03 29.6				
OBN						11 03 40.0				
OBN				pmax	pmax					
	comp=Z,9.0nm,0.6s									
OBN				MLR	MLR					
	comp=Z,909nm,15.0s									
I03D	Drain, OR	70.41	50	P	P	11 03 18.9	-2.1			
	baz=299									
B08A	Colville Reser	70.55	44	IAmb	IAmb	11 03 48.7				
	comp=Z,13nm,1.2s									
I04A	Tendick Farm,	70.96	50	P	P	11 03 24.0	-0.4			
	baz=300									
FINES	FINESS Array B	71.18	333	P	P	11 03 25.2	-0.2			
	comp=Z,6.4nm,0.8s,baz=117,slow=6.6,SNR=15									
	comp=Z,6.4nm,0.8s									
EDM	Edmonton	71.26	38	P	P	11 03 26.4	+0.3			
EDM				IAmb	IAmb	11 03 30.4				
	comp=Z,18nm,1.2s									
EDM	Edmonton	71.26	38	P	P	11 03 26.4	+0.3			
EDM				pmax	pmax					
	comp=Z,18nm,1.2s									
J04D	Umpqua Nationa	71.42	50	P	P	11 03 27.3	-0.2			
	baz=300									
C09A	Chrisman Ranch	71.44	44	IAmb	IAmb	11 03 29.7				
	comp=Z,20nm,1.5s									
L04D	Klamath Falls	71.81	51	P	P	11 03 29.4	-0.3			
	baz=300									
NEW	Newport	71.86	44	P	P	11 03 30.2	+0.4			
NEW				IAmb	IAmb	11 03 35.3				
	comp=Z,10nm,1.1s									
NEW	Newport	71.86	44	P	P	11 03 30.2	+0.4			
NEW				pmax	pmax					
	comp=Z,10.0nm,1.2s									
NEW	Newport	71.86	44	P	P	11 03 29.4	-0.4			
	baz=302									
PINE	Pine Mountain	71.88	49	P	P	11 03 30.9	+0.7			
PINE				IAmb	IAmb	11 03 36.7				
	comp=Z,18nm,1.1s									
J05D	Fort Rock, OR	71.95	50	P	P	11 03 31.5	+0.9			
	baz=300									
K04D	Chiloquin, OR	71.96	50	P	P	11 03 30.7	+0.1			
	baz=300									
K05A	Summer Lake	72.45	50	P	P	11 03 34.5	+0.8			
	baz=281									
KBZ	Khabaz	72.73	311	P	P	11 03 35.2	+0.2			
	comp=Z,10nm,1.1s,baz=28,slow=6.6,SNR=6.6									
	comp=Z,10nm,1.1s									
KIV	Kislovodsk	72.74	312	eP	P	11 03 36.1	+0.9			
KIV				pmax	pmax					
	comp=Z,23nm,1.1s									
KIV				MLR	MLR					
	comp=Z,370nm,18.0s									
SUMG	Summit	73.26	0	P	P	11 03 37.8	-0.4			
SUMG	Summit	73.26	0	P	P	11 03 37.8	-0.4			
SUMG				pmax	pmax					
	comp=Z,29nm,1.4s									
J08A	Circle Bar Ran	73.64	48	IAmb	IAmb	11 04 03.5				
	comp=Z,15nm,1.5s									
ORV	Oroville	73.69	53	IAmb	IAmb	11 03 45.4				
	comp=Z,13nm,1.4s									
JTMT	Jette	73.75	43	IAmb	IAmb	11 03 45.7				
	comp=Z,7.6nm,1.0s									
MSO	Missoula	74.45	44	P	P	11 03 46.1	+0.9			
	baz=304									
MNK	Minsk	74.74	326	i P	P	11 03 43.8	-2.7			
MNK				i		11 03 54.9				
MNK				i		11 06 30.5				
MNK				i PPP	PPP	11 08 16.1				
MNK				i S	S	11 13 20.7	-0.8			
MNK				i SS	SS	11 18 09.0	+0.8			
MNK				pmax	pmax					
	comp=Z,10.0nm,1.0s									
MNK				pmax	pmax					
	comp=E,2.0nm,1.0s									
MNK				MLR	MLR					
	comp=Z,771nm,20.0s									
MNK				MLR	MLR					
	comp=E,99nm,20.0s									
MNK	Minsk	74.74	326	i P	P	11 03 43.9	-2.7			
	comp=E,2.0nm,1.0s									
MNK				i P	P	11 03 43.9	-2.7			
MNK				i P	P	11 03 43.9	-2.7			
	comp=Z,10.0nm,1.0s,baz=51									
MNK				i PcP	sP	11 03 54.9	+1.6			
MNK				i PP	PP	11 06 30.6	-2.6			
MNK				i PPP	PPP	11 08 16.1				
MNK				i S	S	11 13 20.7	-0.8			
MNK				i SS	SS	11 18 09.0	+0.8			
MNK				i LQ	LQ	11 31 37.1				
MNK				i LR	LR	11 36 31.4				
MNK				i LRM	MLR	11 40 48.2				
MNK				i LRM	MLR	11 41 07.0				
	comp=Z,771nm,19.6s									
MNK				i LRM	MLR	11 41 09.9				
	comp=E,99nm,19.7s									
NACGM	Naroch	74.98	327⇑	eP	P	11 03 46.1	-1.9			
	baz=50									
ANN	Anapa	75.46	315	eP	P	11 04 00.1	+9.2			
ANN				MLR	MLR					
	comp=Z,720nm,15.0s									
FFC	Flin Flon	75.78	32	P	P	11 03 53.2	+0.6			
FFC				IAmb	IAmb	11 04 02.7				
	comp=Z,11nm,0.9s									
FFC	Flin Flon	75.78	32	P	P	11 03 53.2	+0.6			
FFC				pmax	pmax					
	comp=Z,11nm,1.0s									
LRM	Limekiln Ridge	75.87	44	P	P	11 03 54.1	+0.5			
HLID	Hailey	76.00	47	P	P	11 03 55.4	+1.1			
	baz=304									
GURO	Guroymak-BITLI	76.03	307	P	P	11 03 53.9	-0.6			
EGMT	Eagleton	76.09	41	IAmb	IAmb	11 04 22.4				
	comp=Z,22nm,1.4s									
EGMT	Eagleton	76.09	41	P	P	11 03 54.8	+0.2			
	baz=306									
LHV	Little Huntoon	76.36	53	IAmb	IAmb	11 04 20.4				
	comp=Z,14nm,1.3s									
NVAR	Mina Array Bea	76.40	53	P	P	11 03 58.2	+1.5			
	comp=Z,2.9nm,0.8s,baz=285,slow=5.6,SNR=16									
	comp=Z,2.9nm,0.8s									
NC405	NORSAR Array S	76.42	337	P	P	11 03 56.0	-0.1			
AKASG	Malin Array Be	76.45	323	P	P	11 03 55.5	-1.0			
	comp=Z,4.1nm,0.5s,baz=45,slow=6.7,SNR=21									
	comp=Z,4.1nm,0.5s									
AKBB	Malin Array Si	76.45	323⇑	eP	P	11 03 57.0	+0.6			
BOZ	Bozeman (W)	76.47	44	IAmb	IAmb	11 04 24.2				
	comp=Z,12nm,1.4s									
BOZ	Bozeman (W)	76.47	44	P	P	11 03 57.8	+0.9			
	baz=306									
NB2	NORSAR Subarra	76.64	338	P	P	11 03 56.5	-0.9			
	comp=Z,14nm,1.0s,baz=41,slow=5.9									
NOA	NORSAR Array B	76.64	338	P	P	11 03 56.8	-0.6			
	comp=Z,4.3nm,0.8s,baz=40,slow=5.8,SNR=14									
	comp=Z,4.3nm,0.8s									
CWC	Cottonwood Cre	77.64	54	P	P	11 04 05.0	+1.4			
	baz=304									
IMW	Indian Meadow	77.87	45	IAmb	IAmb	11 04 10.5				
	comp=Z,7.9nm,1.1s									
FXWY	Fox Creek	77.97	45	IAmb	IAmb	11 04 15.4				
	comp=Z,13nm,1.4s									
HVU	Hansel Valley	78.01	47	IAmb	IAmb	11 04 10.2				
	comp=Z,9.8nm,1.2s									
TPAW	Teton Pass	78.10	45	IAmb	IAmb	11 04 16.1				
	comp=Z,18nm,1.4s									
R11A	Troy Canyon, C	78.22	52	P	P	11 04 07.6	+0.7			
	baz=305									
SNOW	Snow King Moun	78.23	45	IAmb	IAmb	11 04 32.1				
	comp=Z,10.0nm,1.2s									
MPMC	Manual Prospec	78.25	54	P	P	11 04 07.4	+0.3			
	baz=304									
FURC	Furnace Creek,	78.44	54	P	P	11 04 09.0	+1.2			
	baz=304									
LRMC	Laurel Mtn Rad	78.44	55	P	P	11 04 08.9	+0.8			
	baz=304									
TPNV	Topopah Spring	78.58	53	P	P	11 04 09.6	+0.8			
	baz=305									
HWUT	Hardware Ranch	78.85	47	IAmb	IAmb	11 04 13.4				
	comp=Z,25nm,1.4s									
DUG	Dugway, Tooele	78.91	49	IAmb	IAmb	11 04 22.6				
	comp=Z,16nm,1.2s									
DUG	Dugway, Tooele	78.91	49	P	P	11 04 11.7	+1.1			
	baz=306									
PRN	Pahroc Range	79.10	52

LANS	**Liptovska Anna**	**82.19**	**326**	*eP*		**P**	**11 04 28.5**	**+0.6**
LANS	**Liptovska Anna**	**82.19**	**326**	*eP*		**P**	**11 04 28.5**	**+0.6**
PV23	**Carpenter Ridg**	**82.32**	**48**	P		**P**	**11 04 29.8**	**+0.8**
KSP	**Ksiaz**	**82.39**	**329**	*eP*		**P**	**11 04 27.3**	**-1.5**
WUAZ	**Wupatki**	**82.61**	**52**	IAmb	IAmb		11 04 35.9	
	comp=Z,11nm,1.1s							
WUAZ	**Wupatki**	**82.61**	**52**	P		**P**	**11 04 32.0**	**+1.5**
	baz=307							
MORC	**Moravsky Berou**	**82.62**	**327**	*eP*		**P**	**11 04 29.9**	**-0.2**
N23A	**Red Feather La**	**82.63**	**45**	P		**P**	**11 04 32.2**	**+1.6**
	baz=310							
OSTC	**Ostas**	**82.64**	**328**	*eP*		P	11 04 18.2	-12
PV15	**Paradox Valley**	**82.71**	**48**	IAmb	IAmb		11 04 47.4	
	comp=Z,9.8nm,1.0s							
DPC	**Dobruska-Polom**	**82.74**	**328**	*eP*		**P**	**11 04 31.1**	**+0.4**
DPC	**Dobruska-Polom**	**82.74**	**328**	*eP*		**P**	**11 04 31.1**	**+0.4**
VYHS	**Vyhne**	**82.95**	**326**	*eP*		**P**	**11 04 32.1**	**+0.3**
VYHS				pmax	pmax			
	comp=Z,26nm,1.9s							
VYHS	**Vyhne**	**82.95**	**326**	*eP*		**P**	**11 04 32.1**	**+0.3**
JAVC	**Velka Javorina**	**83.23**	**327**	*eP*		**P**	**11 04 34.0**	**+0.7**
BRG	**Berggiesshubel**	**83.37**	**330**	*eP*		**P**	**11 04 35.5**	**+1.6**
BRG				Amp			11 04 39.0	
	comp=Z,4.4nm,1.1s							
BRG				*ex*	x		11 04 43.3	
BRG				Amp			11 04 44.5	
	comp=Z,9.9nm,1.5s							
BRG				Amp			11 15 10.0	
	comp=E,0.7nm,14.7s							
BRG				Amp			11 15 20.0	
	comp=Z,0.9nm,14.1s							
BRG				Amp			11 15 23.0	
	comp=N,0.5nm,11.4s							
BRG	**Berggiesshubel**	**83.37**	**330**	*eP*		**P**	**11 04 35.4**	**+1.6**
BRG				*e*			11 04 43.2	
BRG				pmax	pmax			
	comp=Z,4.0nm,1.1s							
BRG				pmax	pmax			
	comp=Z,10.0nm,1.5s							
VRAC	**Vranov**	**83.39**	**327**	*eP*		**P**	**11 04 34.1**	**+0.1**
MVCO	**Mesa Verde**	**83.40**	**49**	P		**P**	**11 04 35.4**	**+0.7**
	baz=309							
CLL	**Collm**	**83.42**	**330**	*i* P		**P**	**11 04 30.1**	**-4.1**
CLL				pmax	pmax			
	comp=Z,8.0nm,1.2s							
CLL	**Collm**	**83.42**	**330**	*i* P		**P**	**11 04 33.2**	**-1.0**
	comp=Z,8.0nm,1.2s							
CLL				*i* x		x	11 04 42.9	
CLL				*i* x		x	11 05 05.6	
CLL				Lm	MLR		11 49 00.0	
	comp=N,700nm,18.3s							
CLL				Lm	MLR		11 49 00.0	
	comp=E,200nm,19.5s							
ISCO	**Idaho Springs**	**83.52**	**46**	IAmb	IAmb		11 04 45.0	
	comp=Z,12nm,1.4s							
ISCO	**Idaho Springs**	**83.52**	**46**	P		**P**	**11 04 35.5**	**+0.1**
	baz=310							
KRUC	**Moravsky**	**83.66**	**327**	*eP*		**P**	**11 04 35.4**	**0.0**
MODS	**Modra-Piesok**	**83.76**	**326**	*eP*		**P**	**11 04 37.1**	**+1.1**
MODS	**Modra-Piesok**	**83.76**	**326**	*eP*		**P**	**11 04 37.1**	**+1.1**
214A	**Organ Pipe Nat**	**83.79**	**55**	P		**P**	**11 04 37.0**	**+0.5**
	baz=307							
W18A	**Petrified Fore**	**83.91**	**51**	P		**P**	**11 04 37.0**	**-0.2**
	baz=308							
S22A	**4UR Ranch, Cre**	**84.10**	**48**	P		**P**	**11 04 39.2**	**+0.9**
	baz=310							
X18A	**Snowflake**	**84.13**	**52**	IAmb	IAmb		11 04 43.0	
	comp=Z,8.3nm,1.3s							
Q24A	**Divide**	**84.33**	**46**	P		**P**	**11 04 39.8**	**+0.3**
	baz=310							
F33A	**5 Mile Ranch,**	**84.50**	**37**	IAmb	IAmb		11 04 50.3	
	comp=Z,11nm,1.1s							
CKRC	**Cesky Krumlov**	**84.76**	**328**	*eP*		**P**	**11 04 40.8**	**-0.2**
KHC	**Kasperske Hory**	**84.84**	**329**	P		**P**	**11 04 41.1**	**-0.4**
KHC				IAmb	IAmb		11 04 42.1	
	comp=Z,5.7nm,1.1s							
KHC	**Kasperske Hory**	**84.84**	**329**	*eP*		**P**	**11 04 41.3**	**-0.2**
KHC				*e*			11 04 50.1	
KHC	**Kasperske Hory**	**84.84**	**329**	*eP*		**P**	**11 04 41.3**	**-0.2**
KHC				*ex*	x		11 04 50.1	
VTS	**Vitosha**	**84.85**	**319**	P		**P**	**11 04 41.4**	**-0.4**
VTS				IAmb	IAmb		11 04 43.0	
	comp=Z,7.6nm,0.9s							
VTS	**Vitosha**	**84.85**	**319**	P		**P**	**11 04 41.4**	**-0.4**
VTS				pmax	pmax			
	comp=Z,8.0nm,0.9s							
SDCO	**Great Sand Dun**	**84.91**	**47**	IAmb	IAmb		11 04 54.9	
	comp=Z,9.3nm,1.2s							
SDCO	**Great Sand Dun**	**84.91**	**47**	P		**P**	**11 04 43.2**	**+0.8**
	baz=310							
TUC	**Tucson**	**84.94**	**54**	P		**P**	**11 04 43.1**	**+0.7**
	baz=308							
GERES	**GERESS Array B**	**85.00**	**328**	P		**P**	**11 04 41.8**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=54,slow=6.9,SNR=8.6							
	comp=Z,1.2nm,0.7s							
DIVS	**Divibare**	**85.52**	**322**	P		**P**	**11 04 44.3**	**-0.8**
DIVS				IAmb	IAmb		11 05 06.7	
	comp=Z,15nm,1.4s							
KSCO	**Kaye Shedlock'**	**85.79**	**45**	P		**P**	**11 04 46.7**	**+0.2**
	baz=312							
ECSD	**EROS Data Cent**	**85.83**	**38**	P		**P**	**11 04 46.4**	**-0.1**
	baz=315							
T25A	**Trinidad**	**85.96**	**47**	IAmb	IAmb		11 05 13.6	
	comp=Z,7.6nm,1.1s							
T25A	**Trinidad**	**85.96**	**47**	P		**P**	**11 04 48.2**	**+0.7**
	baz=311							
ANMO	**Albuquerque**	**86.11**	**50**	P		**P**	**11 04 49.4**	**+1.1**
ANMO	**Albuquerque**	**86.11**	**50**	P		**P**	**11 04 49.4**	**+1.1**
ANMO				pmax	pmax			
	comp=Z,7.0nm,1.5s							
ANMO	**Albuquerque**	**86.11**	**50**	P		**P**	**11 04 49.0**	**+0.7**
	baz=310							
SCHQ	**Schefferville**	**87.77**	**16**	P		**P**	**11 04 56.2**	**+0.5**
	comp=Z,5.2nm,0.9s,baz=20,slow=5.8,SNR=4.3							
	comp=Z,5.2nm,0.9s							
P40A	**Paris**	**91.23**	**39**	IAmb	IAmb		11 05 14.0	
	comp=Z,11nm,1.2s							
TX31	**Lajitas Ar. Si**	**91.55**	**53**	IAmb	IAmb		11 05 21.2	
	comp=Z,12nm,1.3s							
TXAR	**Lajitas Array**	**91.55**	**53**	P		**P**	**11 05 14.9**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=293,slow=2.7,SNR=9.6							
	comp=Z,1.5nm,1.0s							
CCM	**Cathedral Cave**	**92.75**	**39**	P		**P**	**11 05 19.3**	**0.0**
	baz=319							
TORD	**Torodi Ar. Bea**	**119.27**	**314**	PKP		**PKPdf**	**11 10 55.6**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=347,slow=1.5,SNR=6.1							
LPAZ	**La Paz**	**147.77**	**63**	PKPbc		**PKPbc**	**11 11 53.9**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=345,slow=3.3,SNR=13							

JMA ***24*** *10:56:21.8±0.3,36°N±1°×12°9'E±°, h28km, MV2.6/4, S KOREAN PENINSULA REG*

KMA 24 10:56:21.6±0.0, 35°79'N×129°20'E, h19km, Error ellipse: s-maj=0.7km s-min=0.7km az=283.0, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSDAG	**Daegu**	**0.24**	**266**	P	Pg		10 56 27.3	0.0
	SNR=524							
YOCB	**Yeongcheon**	**0.28**	**314**	P	Pg		10 56 27.9	0.0
	SNR=55							
KSPHA	**Pohang**	**0.43**	**19**	P	Pg		10 56 30.6	+0.1
	SNR=87							
MIYA	**Miryang-si**	**0.47**	**232**	P	Pb		10 56 31.3	0.0
	SNR=16							
KSDAU	**Deagu-acc**	**0.48**	**282**	P	Pb		10 56 31.5	0.0
	SNR=61							
KSBUS	**Busan**	**0.54**	**187**	P	Pb		10 56 32.4	0.0
	SNR=61							
KSADO	**Andong**	**0.66**	**342**	P	Pb		10 56 34.4	-0.1
	SNR=146							
EUSB	**Uiseong**	**0.70**	**324**	P	Pb		10 56 35.3	0.0
	SNR=43							
JTU	**Tsushima**	**1.27**	**172**	*eP*	Pb		10 56 44.7	-0.2
JTU				*eS*	Sn		10 57 01.7	+0.8
JTSM	**Tsushimamitsus**	**1.45**	**174**	*eP*	Pn		10 56 47.4	+0.5
JTSM				*eS*	Sn		10 57 05.6	+0.2
JHGM	**Hagimishima**	**1.88**	**122**	*eS*	Sb		10 57 19.8	+1.3

BJI ***24*** *11:04:24.4±0.0,2°01S×140°99E, h5km, mb5.3/83, mB5.9/68, Ms5.7/90, Ms7 5.6/85*

IDC ***24*** *11:04:27.3±0.3,1°95S×140°57E, h0km, mb5.1/37, mbtmp5.1/44, ML4.7/5, MS5.5/33, Error ellipse: s-maj=12.2km s-min=8.9km az=69.0*

MOS ***24*** *11:04:27.7±0.9,1°95S×140°58E, h14km, mb5.6/71, MS5.5/21, Error ellipse: s-maj=8.2km s-min=4.2km az=109.6*

NEIC ***24*** *11:04:29.6±2.1,1°95S±0°08×140°60E±0°07, h8km±1km, mb5.6/154, Ms_20 5.7/399, Mwb5.9/59, Mww5.9, Error ellipse: s-maj=13.1km s-min=10.9km az=195.0*

NEIC ***24*** *11:04:29.9,1°95S×140°60E, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=2.43; Mθθ=2.66; Mφφ=-0.23; Mrθ=7.77; Mrφ=-0.18; Mθφ=0.80; Fault plane solution: M₀=8.21000×10¹⁷ NP1:φs=104.10000°, δ9.45000°, λ-70.69000°. NP2:φs=264.55000°, δ81.08000°, λ-93.15000°. Principal axes: T 8.2985, Plg36.0000°, Azm357.0000°; N -0.1707, Plg3.0000°, Azm265.0000°; P -8.1278, Plg54.0000°, Azm171.0000°;*

DJA ***24*** *11:04:32.4±0.6,2°S±2°×14°1E±°, h21km±4km, M5.7/97, mb5.5/97, mB6.1/84, MLv5.7/7, Mw5.8/72, Mw(mB)5.8/84, MwMwp5.6/54, Mwp5.7/54*

GCMT ***24*** *11:04:32.5±0.1, 1°88S×140°58E, h12km, MW5.9/175, Moment Tensor Solution. s155,c338; s175,c595; Duration: 2s2 Moment tensor: Scale 10¹⁸Nm; Mrr=0.74±.00; Mθθ=0.78±.00; Mφφ=-0.04±.00; Mrθ=0.41±.01; Mrφ=0.02±.00; Mθφ=0.02±.01; Best double couple: M₀=0.86400×10¹⁸ NP1:φs=268.00000°, δ59.00000°, λ-90.00000°. NP2:φs=89.00000°, δ31.00000°, λ-89.00000°. Principal axes: T 0.8860, Plg14.0000°, Azm358.0000°; N -0.0440, Plg0.0000°, Azm268.0000°; P -0.8410, Plg76.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***24*** *11:04:32, 1°74S×140°52E, h16km, Moment Tensor Solution. Duration: 6s0 Moment tensor: Scale 10¹⁷Nm; Mrr=6.20; Mθθ=7.13; Mφφ=-0.93; Mrθ=4.66; Mθφ=0.96; Mrφ=0.70; Fault plane solution: M₀=8.26000×10¹⁷ NP1:φs=85.00000°, δ27.00000°, λ-87.00000°. NP2:φs=262.00000°, δ62.00000°, λ-91.00000°. Principal axes: T 8.7263, Plg18.0000°, Azm353.0000°; N -1.0412, Plg1.0000°, Azm263.0000°; P -7.6852, Plg72.0000°, Azm169.0000°;*

KLM ***24*** *11:04:36, 1°83S×140°81E, h68km, mb5.7*

ISC 24 11:04:29.9±0.3, 1°93S±0°03×140°54E±0°03, h13km±1km, h14km:pP-P, n1250, σ1ᵍ64/1170, mb5.5/226, MS5.7/295, 47C-57D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GENI	**Genyem**	**0.76**	**210**	P	**Pg**		**11 04 44.3**	**-0.3**
GENI				S	**Sn**		**11 04 57.0**	**-0.6**
GENI	**Genyem**	**0.76**	**210**	P	**Pn**		**11 04 46.5**	**+0.2**
SMPI	**Sarmi**	**1.83**	**268**	P	**Pn**		**11 05 01.0**	**0.0**
SMPI				S	**Sg**		**11 05 32.3**	**+3.4**
WAMI	**Wamena**	**2.67**	**223**	P	**Pb**		**11 05 17.1**	**-0.4**
SRPI	**Serui, Papua**	**4.30**	**271**	P	**Pb**		**11 05 41.6**	**-3.8**
BAKI	**Biak**	**4.49**	**279**	P	**Pn**		**11 05 41.4**	**+3.7**
MANU	**Manus Island**	**6.82**	**91**		**Pn**		**11 06 08.1**	**-1.6**
FAKI	**Fak Fak**	**8.34**	**263**	Pn	**Pn**		**11 06 31.5**	**+0.9**
FAKI	**Fak Fak**	**8.34**	**263**	P	**Pn**		**11 06 34.4**	**+3.8**
	1.4nm20µm6µm304nm,1.7s							
FAKI	**Fak Fak**	**8.34**	**263**	P	**Pn**		**11 06 33.7**	**+3.1**
SIJI	**Sorong**	**9.33**	**276**	Pn	**Pn**		**11 06 45.1**	**+1.0**
	1.0nm,0.3s,baz=217,slow=23,SNR=1.9							
	12nm,0.6s							
PMG	**Port Moresby**	**9.93**	**139**	Pn	**Pn**		**11 06 51.9**	**-0.4**
	8.7nm,0.5s,baz=310,slow=14,SNR=14							
PMG				LR	LR		11 11 11.7	
	comp=Z,39µm,21.1s,baz=310,slow=41							
PMG	**Port Moresby**	**9.93**	**139**	Pn	**Pn**		**11 06 50.9**	**-1.4**
PMG	**Port Moresby**	**9.93**	**139**	*eP*	**Pn**		**11 06 52.4**	**+0.1**
PMG				pmax	pmax			
	comp=Z,62nm,0.8s							
PMG	**Port Moresby**	**9.93**	**139**	P	**Pn**		**11 06 54.1**	**+1.8**
BNDI	**Bandanaira**	**10.93**	**256**	P	**Pn**		**11 07 08.4**	**+2.4**
	comp=Z,15µmcomp=Z,603nm,1.6s							
BNDI	**Bandanaira**	**10.93**	**256**	P	**Pn**		**11 07 07.8**	**+1.8**
MSAI	**Masohi**	**11.69**	**263**	P	**Pn**		**11 07 19.5**	**+3.1**
	comp=Z,20nm,0.8s							
KRVT	**Keravat (AS076**	**11.71**	**102**	Pn	**Pn**		**11 07 16.9**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=262,slow=11,SNR=10							
KRVT				LR	LR		11 10 58.4	
	comp=Z,22µm,20.0s,baz=56,slow=34							
	comp=Z,31nm,0.9s							
RABL	**Rabaul**	**11.82**	**101**	Pn	**Pn**		**11 07 21.3**	**+3.0**
RABL	**Rabaul**	**11.82**	**101**	P	**Pn**		**11 07 20.8**	**+2.5**
RABL	**Rabaul**	**11.82**	**101**	⇓P	**Pn**		**11 07 18.1**	**-0.3**
COEN	**Coen**	**12.23**	**168**	Pn	**Pn**		**11 07 23.2**	**-0.7**
COEN	**Coen**	**12.23**	**168**	P	**Pn**		**11 07 24.9**	**+1.0**
COEN	**Coen**	**12.23**	**168**	⇑P	**Pn**		**11 07 24.0**	**0.0**
AAI	**Ambon**	**12.46**	**262**	P	Pn		11 07 32.1	+5.1
	comp=Z,19µmcomp=Z,5µmcomp=Z,266nm,1.7s							
KDU	**Kakadu**	**13.35**	**216**	P	**Pn**		**11 07 36.6**	**-2.5**
KDU	**Kakadu**	**13.35**	**216**	⇑P	**Pn**		**11 07 35.7**	**-3.4**
TNTI	**Ternate**	**13.44**	**281**	Pn	**P**		**11 07 46.7**	**-3.2**
TNTI	**Ternate**	**13.44**	**281**	P	**P**		**11 07 45.6**	**-4.2**
	comp=Z,12µmcomp=Z,10µmcomp=Z,226nm,1.4s							
NLAI	**Namlea**	**13.49**	**264**	P	**Pn**		**11 07 42.8**	**+1.7**
	comp=Z,138nm,1.2s							
MTN	**Manton Dam**	**14.30**	**220**	Pn	**Pn**		**11 07 49.7**	**-2.4**
MTN	**Manton Dam**	**14.30**	**220**	P	**Pn**		**11 07 49.8**	**-2.4**
MTN	**Manton Dam**	**14.30**	**220**	⇓P	**Pn**		**11 07 49.0**	**-3.1**
SANI	**Sanana**	**14.55**	**269**	P	**Pn**		**11 07 55.2**	**-0.4**
	comp=Z,9µmcomp=Z,5µmcomp=Z,135nm,2.5s							
SANI	**Sanana**	**14.55**	**269**	P	**Pn**		**11 07 57.2**	**+1.6**
GUMO	**Guam**	**16.00**	**15**	Pn	**Pn**		**11 08 14.8**	**0.0**
	comp=Z,2.7nm,0.3s,baz=179,slow=8.5,SNR=8.6							
GUMO				LR	LR		11 13 55.6	
	comp=Z,21µm,19.7s,baz=217,slow=36							
	comp=Z,155nm,1.0s							
GUMO	**Guam**	**16.00**	**15**	P	**Pn**		**11 08 15.9**	**+1.1**
GUMO	**Guam**	**16.00**	**15**	⇓P	**P**		**11 08 18.0**	**-0.2**
SGSI	**Sangihe**	**16.01**	**290**	P	**P**		**11 08 21.0**	**+2.6**
	comp=Z,147nm,1.2s							
MTSU	**Mount Surprise**	**16.53**	**167**	P	**Pn**		**11 08 21.8**	**+0.3**
KMSI	**Cibinong**	**16.74**	**278**	P	**P**		**11 08 29.6**	**+3.1**
	comp=Z,487nmcomp=Z,5µmcomp=Z,500nm,1.0s							
BIPH	**Bislig**	**17.35**	**306**	*eP*	**Pn**		**11 08 27.8**	**-4.1**
DAV	**Davao City (W)**	**17.40**	**301**	LR	LR		11 15 42.6	
	comp=Z,9µm,18.2s,baz=128,slow=39							
GTOI	**Gorontalo**	**17.71**	**278**	P	**P**		**11 08 42.9**	**+5.6**
	comp=Z,5µmcomp=Z,4µmcomp=Z,152nm,1.1s							
LUWI	**Luwuk**	**17.79**	**273**	P	**P**		**11 08 39.9**	**+1.8**
	comp=Z,11µmcomp=Z,17µmcomp=Z,818nm,1.5s							
LUWI	**Luwuk**	**17.79**	**273**	P	**P**		**11 08 42.3**	**+4.2**
KNRA	**Kununurra**	**17.93**	**220**		**Pn**		**11 08 36.8**	**-2.3**
KNRA	**Kununurra**	**17.93**	**220**	P	**Pn**		**11 08 38.5**	**-0.6**
BBSI	**Bau Bau**	**18.28**	**258**	P	**P**		**11 08 46.8**	**+3.3**
	comp=Z,14µmcomp=Z,446nm,1.5s							
QIS	**Mount Isa**	**18.54**	**183**	P	**P**		**11 08 46.1**	**-0.2**
CTBH	**Cotabato--PC H**	**18.63**	**299**	⇑*eP*	Pn		11 09 02.0	+14
BATI	**Baumata**	**18.68**	**243**	P	**P**		**11 08 48.1**	**+0.2**
	comp=Z,423nm,0.7s,baz=40,slow=1.3,SNR=23							
BATI	**Baumata**	**18.68**	**243**	P	**Pn**		**11 08 50.4**	**+2.1**
	comp=Z,9µmcomp=Z,10µmcomp=Z,452nm,0.9s							
WB0	**Warramunga Arr**	**18.72**	**198**	P	**P**		**11 08 46.8**	**-1.5**
MRSI	**Marisa**	**18.75**	**277**	P	**Pn**		**11 08 50.5**	**+1.3**
	comp=Z,11µmcomp=Z,9µmcomp=Z,224nm,0.7s							
WR0	**Warramunga Arr**	**18.86**	**198**	P	**P**		**11 08 48.3**	**-1.6**
WRAB	**Tennant Creek**	**18.89**	**198**	P	**P**		**11 08 48.8**	**-1.4**
WRAB	**Tennant Creek**	**18.89**	**198**	*c*	**P**		**11 08 48.9**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,132nm,0.8s							
WRAB	**Tennant Creek**	**18.89**	**198**	P	**P**		**11 08 48.9**	**-1.3**
WRAB	**Tennant Creek**	**18.89**	**198**	⇑P	**P**		**11 08 48.2**	**-2.0**
CTA	**Charters Tower**	**18.89**	**163**	P	**P**		**11 08 49.7**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=338,slow=10,SNR=30							
CTA				LR	LR		11 16 44.5	
	comp=Z,30µm,18.2s,baz=346,slow=39							
	comp=Z,36nm,0.8s							
CTA	**Charters Tower**	**18.89**	**163**	P	**Pn**		**11 08 50.8**	**0.0**
CTAO	**Charters Tower**	**18.89**	**163**		**P**		**11 08 50.1**	**-0.1**
CTAO	**Charters Tower**	**18.89**	**163**	P	**P**		**11 08 50.1**	**-0.1**
CTAO				pmax	pmax			
	comp=Z,111nm,1.2s							
CTAO	**Charters Tower**	**18.89**	**163**	P	**Pn**		**11 08 50.8**	**0.0**
CTAO	**Charters Tower**	**18.89**	**163**	⇑P	**P**		**11 08 50.4**	**+0.2**
WB2	**Warramunga Arr**	**18.90**	**198**	P	**P**		**11 08 48.9**	**-1.4**
WRA	**Warramunga Arr**	**18.90**	**198**	P	**P**		**11 08 48.2**	**-2.1**
	comp=Z,9.0nm,0.3s,baz=25,slow=12,SNR=201							
WRA				LR	LR		11 17 07.3	
	comp=Z,65µm,18.3s,baz=14,slow=40							
	comp=Z,123nm,0.9s							
WRA	**Warramunga Arr**	**18.90**	**198**	P	**P**		**11 08 47.1**	**-3.2**
WRA	**Warramunga Arr**	**18.90**	**198**	*i* P	**P**		**11 08 48.2**	**-2.1**
WRA				pmax	pmax			
	comp=Z,119nm,0.9s							
APSI	**Ampana**	**18.91**	**273**	P	**Pn**		**11 08 54.6**	**+3.5**
	comp=Z,7µmcomp=Z,9µmcomp=Z,529nm,1.6s							
MMRI	**Maumere**	**19.40**	**249**	P	**Pn**		**11 08 57.8**	**+0.8**
MMRI	**Maumere**	**19.40**	**249**	P	**Pn**		**11 09 00.1**	**+3.1**
	comp=Z,11µmcomp=Z,8µmcomp=Z,218nm,1.1s							
MMRI	**Maumere**	**19.40**	**249**	P	**Pn**		**11 09 01.3**	**+4.3**
PATS	**Pohnpei**	**19.76**	**64**	P	**P**		**11 08 59.9**	**+0.2**
PATS				IAmb	IAmb		11 09 01.9	
	comp=Z,555nm,1.3s							
PATS	**Pohnpei**	**19.76**	**64**	P	**Pn**		**11 09 01.1**	**-0.2**
GHBP	**Garcia Hernand**	**19.82**	**306**	⇓*eP*	**Pn**		**11 09 03.1**	**+1.0**
GHBP				*eS*	**Sn**		**11 12 48.7**	**+3.9**
EDFI	**Ende, Flores**	**19.95**	**249**	P	**Pn**		**11 09 03.2**	**-0.4**
	comp=Z,6µmcomp=Z,3µmcomp=Z,92nm,1.4s							
TOLI2	**Tolitoli**	**19.99**	**279**	P	**Pn**		**11 09 03.7**	**-0.3**
TOLI2	**Tolitoli**	**19.99**	**279**	P	**Pn**		**11 09 04.6**	**+0.6**
TABP	**Talibon, Bohol**	**20.08**	**307**	⇓*eP*	**P**		**11 09 03.2**	**0.0**
TABP				*eS*	Sn		11 13 00.9	+10
LSIP	**Lazi, Siquijor**	**20.12**	**303**	⇓*eP*	Pn		11 09 05.5	0.0
LSIP				*eS*	Sn		11 12 53.2	+1.3
TBP	**Tagbilaran**	**20.23**	**305**	⇑*eP*	**P**		**11 09 05.1**	**+0.2**
BSSI	**Bau Bau, Buton**	**20.43**	**258**	P	Pn		11 09 10.8	+1.6
	comp=Z,8µmcomp=Z,8µmcomp=Z,236nm,1.7s							
SNPH	**Sibulan**	**20.56**	**303**	⇓*eP*	Pn		11 09 10.7	-0.1
BKSI	**Bulukumba**	**20.65**	**260**	P	Pn		11 09 11.4	-0.4
	comp=Z,11µmcomp=Z,5µmcomp=Z,214nm,1.0s							
HNR	**Honiara**	**20.69**	**112**	P	**P**		**11 09 07.7**	**-2.2**
	comp=Z,3µm,0.7s,baz=129,slow=10,SNR=5.6							
HNR	**Honiara**	**20.69**	**112**	P	**P**		**11 09 08.0**	**-1.9**
HNR	**Honiara**	**20.69**	**112**	P	**P**		**11 09 08.0**	**-1.9**
HNR				pmax	pmax			
	comp=Z,740nm,1.2s							
HNR				MLR	MLR			
	comp=Z,11µm,19.0s							
TTSI	**Tana Toraja**	**20.73**	**267**	P	Pn		11 09 14.5	+1.7
	comp=Z,15µmcomp=Z,12µmcomp=Z,577nm,1.1s							
MPSI	**Mapaga**	**20.76**	**276**	P	Pn		11 09 15.1	+2.0
	comp=Z,12µmcomp=Z,10µmcomp=Z,333nm,1.2s							
SPSI	**Sidrap Palu**	**20.84**	**264**	P	Pn		11 09 15.8	+1.8
	comp=Z,14µmcomp=Z,12µmcomp=Z,376nm,1.5s							
KAPI	**Kappang**	**20.98**	**261**	P	**P**		**11 09 12.2**	**-0.8**
	comp=Z,8.1nm,0.3s,baz=25,slow=24,SNR=0.9							
	comp=Z,8.1nm,0.3s							
KAPI	**Kappang**	**20.98**	**261**	*de*P	**P**		**11 09 14.0**	**+1.0**
KAPI				pmax	pmax			
	comp=Z,29nm,1.0s							
KAPI	**Kappang**	**20.98**	**261**	P	Pn		11 09 17.6	+2.0
FITZ	**Fitzroy Crossi**	**21.73**	**221**	P	**P**		**11 09 19.9**	**-1.1**
	comp=Z,74nm,0.8s,baz=360,slow=9.6,SNR=39							
FITZ				S			**11 13 18.8**	**-2.6**
	comp=Z,15nm,0.6s,baz=180,slow=22,SNR=3.6							
FITZ				LR	LR		11 18 47.2	
	comp=Z,23µm,19.5s,baz=0.0,slow=40							
	comp=Z,74nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.73**	**221**	P	**P**		**11 09 19.9**	**-1.1**
FITZ				IAmb	IAmb		11 09 32.8	
	comp=Z,263nm,1.2s							
FITZ	**Fitzroy Crossi**	**21.73**	**221**	P	**P**		**11 09 20.2**	**-0.8**
RCP	**Roxas**	**22.19**	**308**	⇓*eP*	**P**		**11 09 28.6**	**+2.5**
AS31	**Alice Springs**	**22.55**	**196**	P	**P**		**11 09 27.8**	**-2.0**
ASAR	**Alice Springs**	**22.55**	**196**	P	**P**		**11 09 27.9**	**-2.0**
	comp=Z,36nm,0.6s,baz=30,slow=9.7,SNR=240							
ASAR				S		**S**	**11 13 35.1**	**-1.8**
	comp=Z,45nm,1.2s,baz=17,slow=24,SNR=4.9							
ASAR				LR	LR		11 19 12.2	
	comp=Z,63µm,18.3s,baz=23,slow=39							
	comp=Z,36nm,0.6s							
ASAR	**Alice Springs**	**22.55**	**196**	P	**P**		**11 09 27.3**	**-2.5**
SGKI	**Sangatta, Kali**	**22.97**	**273**	P	**P**		**11 09 40.3**	**+5.9**
	comp=Z,14µmcomp=Z,17µmcomp=Z,761nm,1.1s				

HTT **Hallett** 31.38 183 P **P** **11 10 51.8 +1.3**
HTT **Hallett** 31.38 183 ⇑P **P** **11 10 50.3 -0.2**
NACB **Ninganchiao** 31.82 326 P **P** **11 10 53.7 -0.7**
NACB IAMs_20 IAMs_20 11 20 34.3
comp=Z,13µm,22.0s
SSLB **Suanglung** 31.88 324 IAMs_20 IAMs_20 11 21 55.1
comp=Z,11µm,20.0s
LIFNC **LIFOU** 32.08 128 P **P** **11 10 55.6 -1.2**
LIFNC **LIFOU** 32.08 128 P **P** **11 10 59.8 +3.0**
NOUC **Port Laguerre** 32.09 131 P **P** **11 10 59.4 +2.6**
DZM **Mont Dzumac** 32.17 130 *e*P **P** **11 10 54.7 -3.0**
comp=Z,190nm,1.2s
DZM *e*LR LR 11 19 21.5
comp=Z,17µm,23.6s
DZM **Mont Dzumac** 32.17 130 *e*P **P** **11 10 59.7 +2.0**
comp=Z,725nm,25.3s
DZM *e*LR LR 11 19 22.4
comp=Z,17µm,23.6s
DZM **Mont Dzumac** 32.17 130 P **P** **11 10 56.8 -1.0**
comp=Z,62nm,1.1s,baz=249,slow=11,SNR=44
comp=Z,62nm,1.1s
DZM **Mont Dzumac** 32.17 130 P **P** **11 10 56.6 -1.1**
DZM IAmb IAmb 11 11 14.0
comp=Z,84nm,1.1s
DZM **Mont Dzumac** 32.17 130 P **P** **11 10 57.5 -0.2**
DZM **Mont Dzumac** 32.17 130 ⇑P **P** **11 10 56.8 -1.0**
ONTNC **Ouen Toro** 32.32 131 P **P** **11 10 56.4 -2.5**
ONTNC IAmb IAmb 11 11 07.7
comp=Z,63nm,0.9s
ONTNC **Ouen Toro** 32.32 131 P **P** **11 11 00.2 +1.3**
YHNB **Yeheng** 32.33 326 IAMs_20 IAMs_20 11 21 01.9
comp=Z,12µm,22.0s
YHNB **Yeheng** 32.33 326 P P 11 11 05.6 +6.6
MEEK **Meekatharra** 32.35 219 P **P** **11 10 58.0 -1.2**
TATO **Taipei** 32.51 327 IAMs_20 IAMs_20 11 21 09.4
comp=Z,12µm,21.0s
YATNC **Mamie plateau,** 32.51 130 P **P** **11 11 01.5 +0.9**
H11S3 **WAKE ISLAND Hy** 32.77 51 T T 11 46 43.3
baz=232,slow=75,SNR=53
H11S2 **WAKE ISLAND Hy** 32.78 51 T T 11 46 35.1
baz=232,slow=75,SNR=46
H11S1 **WAKE ISLAND Hy** 32.78 51 T T 11 46 44.5
baz=232,slow=75,SNR=49
GIRL **Giralia** 32.81 229 P **P** **11 11 03.6 +0.4**
TPI **Tanjungpandan** 32.87 268 P **P** **11 11 06.6 +2.7**
comp=Z,2µmcomp=Z,100nm,1.1s
SYDH **Sydney Hard Ro** 33.08 164 P **P** **11 11 07.8 +2.4**
comp=Z,51nm,0.9s
MARNC **Mare, Loyalty** 33.08 128 P **P** **11 11 06.5 +1.0**
MARNC **Mare, Loyalty** 33.08 128 ⇓P **P** **11 11 04.1 -1.5**
LEM **Lembang** 33.18 261 P **P** **11 11 05.5 -1.2**
comp=Z,11nm,0.4s,baz=296,slow=22,SNR=1.5
comp=Z,11nm,0.4s
PINNC **Pines Island,** 33.24 130 P **P** **11 11 05.4 -1.6**
PINNC IAmb IAmb 11 11 16.9
comp=Z,120nm,1.2s
PINNC **Pines Island,** 33.24 130 P P 11 11 12.2 +5.2
H11N1 **WAKE ISLAND Hy** 33.64 49 T T 11 47 51.4
baz=230,slow=74,SNR=28
H11N2 **WAKE ISLAND Hy** 33.65 49 T T 11 47 48.1
baz=230,slow=74,SNR=9.1
H11N3 **WAKE ISLAND Hy** 33.66 49 T T 11 47 12.1
baz=230,SNR=16
CAN **Canberra** 34.14 168 P **P** **11 11 14.2 -0.5**
CAN **Canberra** 34.14 168 P **P** **11 11 14.2 -0.5**
CAN pmax pmax
comp=Z,139nm,1.1s
CAN MLR MLR
comp=Z,19µm,19.0s
CAN **Canberra** 34.14 168 P **P** **11 11 15.7 +1.0**
CAN **Canberra** 34.14 168 ⇑P **P** **11 11 14.8 +0.1**
QZH **Quanzhou** 34.16 323 P **P** **11 11 15.4 +0.5**
QZH S **S** **11 16 41.4 +0.4**
QZH LR LR
comp=Z,5µm,20.8s
QZH LR LR
comp=Z,4µm,23.2s
QZH LR LR
comp=Z,7µm,27.0s
CNB **Canberra Magne** 34.22 167 P **P** **11 11 16.1 +0.7**
PPBI **Pangkal Pinang** 34.38 269 P **P** **11 11 19.2 +2.1**
comp=Z,17µmcomp=Z,207nm,1.2s
ARPS **Mount Arapiles** 34.69 178 P **P** **11 11 20.9 +1.5**
JHJ **Hachijo jima 2** 34.87 359 LR LR 11 22 22.2
comp=Z,20µm,20.6s,baz=186,slow=31
BRAT **Ballarat** 35.59 175 P **P** **11 11 28.7 +1.7**
comp=Z,54nm,1.0s
MORW **Morawa** 35.68 218 P **P** **11 11 27.5 -0.6**
MORW IAmb IAmb 11 11 38.6
comp=Z,130nm,1.1s
MORW **Morawa** 35.68 218 P **P** **11 11 27.4 -0.6**
MORW **Morawa** 35.68 218 ⇓P **P** **11 11 27.2 -0.8**
TOO **Toolangi** 35.76 173 P **P** **11 11 29.3 +0.6**
TOO IAmb IAmb 11 11 32.6
comp=Z,146nm,1.2s
TOO **Toolangi** 35.76 173 P **P** **11 11 29.3 +0.6**
TOO pmax pmax
comp=Z,146nm,1.3s
TOO **Toolangi** 35.76 173 P **P** **11 11 30.2 +1.6**
TOO **Toolangi** 35.76 173 ⇑P **P** **11 11 30.3 +1.6**
MILA **Mila** 35.85 168 ⇓P **P** **11 11 29.9 +0.4**
MLBS **Spotswood, Mel** 35.95 174 P **P** **11 11 32.7 +2.5**
comp=Z,119nm,1.0s
DSRI **Dabo** 35.98 272 P **P** **11 11 32.2 +1.4**
comp=Z,2µmcomp=Z,2µmcomp=Z,32nm,1.1s
JMN **Monobe** 36.02 351 P **P** **11 11 30.8 -0.1**
JMN IAmb IAmb 11 11 32.0
comp=Z,102nm,1.0s
JMN **Monobe** 36.02 351 ⇓P **P** **11 11 30.8 -0.1**
TPRI **Tanjung Pinang** 36.12 274 P **P** **11 11 34.2 +2.2**
comp=Z,2µmcomp=Z,4µmcomp=Z,43nm,1.2s
KASI **Kota Agung** 36.14 263 P **P** **11 11 33.2 +1.0**
comp=Z,104nm,1.0s
GEXS **Deakin Univers** 36.26 175 P **P** **11 11 35.4 +2.6**
comp=Z,183nm,1.1s
GZH **Guangzhou** 36.34 315 P **P** **11 11 35.5 +1.8**
GZH S **S** **11 17 15.8 +1.2**
GZH LR LR
comp=Z,3µm,17.8s
GZH LR LR
comp=Z,4µm,11.7s
BLDU **Ballidu** 36.38 216 P **P** **11 11 33.6 -0.4**
KLBR **Kellerberrin** 36.51 214 P **P** **11 11 35.3 +0.2**
LWLI **Liwa** 36.54 264 P **P** **11 11 35.9 +0.2**
comp=Z,126nm,1.0s
QIZ **Qiongzhong** 36.66 306 P **P** **11 11 35.7 -0.8**
QIZ IAmb IAmb 11 11 46.2
comp=Z,119nm,1.1s
QIZ **Qiongzhong** 36.66 306 P **P** **11 11 36.8 +0.2**
QIZ sP **pwP** **11 11 43.5 -0.4**
QIZ PP **PP** **11 13 00.4 +0.2**
QIZ S **S** **11 17 18.4 -1.3**
QIZ pmax pmax
comp=Z,80nm,1.5s
QIZ LR LR
comp=Z,7µm,15.9s
QIZ LR LR
comp=Z,4µm,20.7s
QIZ LR LR
comp=Z,7µm,31.9s
QIZ **Qiongzhong** 36.66 306 P **P** **11 11 36.8 +0.2**
MYKOM **Kota Tinggi** 36.87 276 ⇓P **P** **11 11 38.5 0.0**
JMBI **JAMBI** 36.88 270 P **P** **11 11 43.1 +4.6**
comp=Z,4µmcomp=Z,221nm,1.2s
INU **Inuyama** 37.23 355 P **P** **11 11 41.0 -0.1**
INU IAMs_20 IAMs_20 11 25 57.7
comp=Z,10µm,20.0s
INU **Inuyama** 37.23 355 P **P** **11 11 41.8 +0.7**
JHS **Saijyo** 37.39 350 P **P** **11 11 42.0 -0.5**
JHS **Saijyo** 37.39 350 ⇑P **P** **11 11 42.5 -0.1**
SSE **Sheshan** 37.65 332 P **P** **11 11 44.9 +0.1**
SSE S **S** **11 17 36.1 +1.7**
SSE pmax pmax
comp=Z,20nm,1.0s
SSE pmax pmax
comp=Z,590nm,5.0s
SSE LR LR
comp=Z,2µm,19.6s
SSE LR LR
comp=Z,2µm,18.9s
NWAO **Narrogin (SRO)** 37.81 213 LR LR 11 29 01.4
comp=Z,29µm,18.1s,baz=255,slow=39
NWAO **Narrogin (SRO)** 37.81 213 P **P** **11 11 45.5 -0.6**
NWAO **Narrogin (SRO)** 37.81 213 P **P** **11 11 45.5 -0.6**
NWAO pmax pmax
comp=Z,101nm,1.5s
NWAO MLR MLR
comp=Z,34µm,18.0s
NWAO **Narrogin (SRO)** 37.81 213 P **P** **11 11 45.9 -0.2**
KSI **Kapahiang** 37.94 267 P **P** **11 11 51.3 +3.7**
MASI **Maura Aman, Be** 38.28 267 P **P** **11 11 52.3 +1.9**
comp=Z,3µmcomp=Z,5µmcomp=Z,273nm,1.2s
MJAR **Matsushiro Arr** 38.34 357 P **P** **11 11 48.3 -2.2**
comp=Z,16nm,0.7s,baz=181,slow=9.3,SNR=24
MJAR LR LR 11 26 32.9
comp=Z,6µm,19.8s,baz=154,slow=35
comp=Z,16nm,0.7s
MAJO **Matsushiro** 38.34 357 P **P** **11 11 49.5 -1.0**
MAJO **Matsushiro** 38.34 357 P **P** **11 11 49.5 -1.0**
MAJO pmax pmax
comp=Z,27nm,0.8s
MAJO **Matsushiro** 38.34 357 P **P** **11 11 49.9 -0.6**
MAJO **Matsushiro** 38.34 357 ⇑P **P** **11 11 49.8 -0.7**
UBPT **Khong Chiam** 38.68 297 P **P** **11 11 54.5 +0.9**
FUNA **Funafuti** 39.02 101 P **P** **11 11 56.6 0.0**
FUNA IAmb IAmb 11 12 01.3
comp=Z,196nm,1.1s
FUNA **Funafuti** 39.02 101 P **P** **11 11 59.4 +2.8**
SDSI **Sungai Dareh** 39.11 271 P **P** **11 11 57.9 +0.5**
comp=Z,3µmcomp=Z,105nm,1.7s
BKNI **Bangkinang** 39.56 273 P **P** **11 12 03.5 +2.4**
comp=Z,4µmcomp=Z,185nm,1.4s
BKNI **Bangkinang** 39.56 273 P **P** **11 12 03.5 +2.4**
comp=Z,186nm,1.4s
NJ2 **Nanjing** 39.56 330 ⇑P **P** **11 12 02.1 +1.3**
NJ2 pP **sP** **11 12 06.1 +0.9**
NJ2 sP **pwP** **11 12 09.4 +1.1**
NJ2 S **S** **11 18 06.3 +3.1**
NJ2 pmax pmax
comp=Z,28nm,0.9s
NJ2 pmax pmax
comp=Z,1µm,5.1s
NJ2 LR LR
comp=Z,5µm,18.5s
NJ2 LR LR
comp=Z,3µm,18.5s
NJ2 LR LR
comp=Z,6µm,22.7s
JMM **Marumori** 39.59 0 P **P** **11 12 00.2 -0.8**
JMM **Marumori** 39.59 0 ⇓P **P** **11 12 00.2 -0.8**
CORO **Coronation Par** 39.80 172 P **P** **11 12 06.5 +3.9**
comp=Z,57nm,0.9s
JSD **Sado** 39.82 357 P **P** **11 12 01.4 -1.5**
JSD IAmb IAmb 11 12 03.3
comp=Z,205nm,1.1s
JSD **Sado** 39.82 357 ⇑P **P** **11 12 01.8 -1.1**
GULI **GuiLin** 39.83 315 ⇓P **P** **11 12 02.3 -0.9**
GULI S **S** **11 18 03.5 -4.0**
GULI LR LR
comp=Z,6µm,20.3s
GULI LR LR
comp=Z,6µm,19.5s
GULI LR LR
comp=Z,5µm,22.8s
IPM **Ipoh** 39.99 279 P **P** **11 12 04.9 +0.1**
IPM **Ipoh** 39.99 279 P P 11 12 11.1 +6.3
IPM **Ipoh** 39.99 279 ⇑P **P** **11 12 04.8 +0.1**
MSVF **Nonsavu** 40.03 116 P **P** **11 12 03.8 -1.2**
comp=Z,6.8nm,0.8s,baz=294,slow=8.1,SNR=8.3
comp=Z,6.8nm,0.8s
MSVF **Nonsavu** 40.03 116 P **P** **11 12 05.1 +0.1**
MSVF **Nonsavu** 40.03 116 P **P** **11 12 05.1 +0.1**
MSVF pmax pmax
comp=Z,60nm,1.3s
MSVF MLR MLR
comp=Z,5µm,20.0s
MSVF **Nonsavu** 40.03 116 P **P** **11 12 05.1 +0.1**
MSVF **Nonsavu** 40.03 116 ⇓P **P** **11 12 05.5 +0.4**
TJN **Taejon** 40.04 343 P **P** **11 12 04.1 -0.6**
TJN IAmb IAmb 11 12 05.6
comp=Z,161nm,1.0s
TJN **Taejon** 40.04 343 *ce*P **P** **11 12 04.7 0.0**
TJN **Taejon** 40.04 343 P **P** **11 12 04.9 +0.2**
PDSI **Padang** 40.08 271 P **P** **11 12 05.6 +0.1**
comp=Z,2µmcomp=Z,77nm,1.7s
KULM **Kulim** 40.49 280 P **P** **11 12 08.6 -0.3**
KULM IAmb IAmb 11 12 18.7
comp=Z,144nm,1.1s
KULM **Kulim** 40.49 280 ⇓P **P** **11 12 09.0 +0.2**
MOO **Moorlands** 40.77 172 P **P** **11 12 12.4 +1.7**
WHN **Wuhan** 40.82 324 ⇓P **P** **11 12 12.8 +1.6**
WHN sP **pwP** **11 12 18.6 -0.2**
WHN S **S** **11 18 25.4 +3.4**
WHN pmax pmax
comp=Z,100nm,1.0s
WHN pmax pmax
comp=Z,4µm,5.6s
WHN LR LR
comp=Z,6µm,11.7s
WHN LR LR
comp=Z,3µm,13.0s
WHN LR LR
comp=Z,18µm,29.7s
KSAR **Wonju Array Be** 40.89 345 P **P** **11 12 11.1 -0.7**
KSAR **Wonju Array Be** 40.89 345 P **P** **11 12 11.1 -0.7**
KSRS **Korea Array** 40.90 345 P **P** **11 12 11.0 -0.8**
comp=Z,10nm,0.8s,baz=152,slow=7.7,SNR=40
KSRS PcP **PcP** **11 14 13.2 +0.8**
comp=Z,4.5nm,1.0s,baz=166,slow=2.6,SNR=5.7
KSRS LR LR 11 26 22.7
comp=Z,8µm,21.6s,baz=165,slow=32
comp=Z,10nm,0.8s
KS19 **Wonju Array Si** 40.95 345 P **P** **11 12 11.6 -0.7**
TAU **Tasmania Unive** 41.25 172 P **P** **11 12 15.6 +1.0**
TAU IAmb IAmb 11 12 18.8
comp=Z,119nm,1.2s
TAU **Tasmania Unive** 41.25 172 P **P** **11 12 15.6 +1.0**
TAU pmax pmax
comp=Z,119nm,1.2s
TAU MLR MLR
comp=Z,27µm,22.0s
TAU **Tasmania Unive** 41.25 172 P **P** **11 12 15.6 +1.0**
TAU **Tasmania Unive** 41.25 172 ⇑P **P** **11 12 16.1 +1.4**
INCN **Inchon** 41.28 343 P **P** **11 12 14.9 -0.1**
INCN IAmb IAmb 11 12 24.7
comp=Z,179nm,1.5s
INCN **Inchon** 41.28 343 P **P** **11 12 14.9 -0.1**
INCN pmax pmax
comp=Z,179nm,1.5s
INCN **Inchon** 41.28 343 P **P** **11 12 15.6 +0.6**
comp=Z,88nm,1.6s
SISI **Saibi** 41.44 270 P **P** **11 12 17.2 +0.5**
comp=Z,2µmcomp=Z,174nm,1.0s
PSI **Prapat** 41.87 276 LR LR 11 30 54.6
comp=Z,2µm,19.5s,baz=126,slow=38
HJU **Haeju** 42.07 342 P **P** **11 12 21.7 +0.3**
HJU pP **pwP** **11 12 29.4 +0.5**
HJU S **S** **11 18 41.8 +1.5**
HJU AmB
comp=Z,2µm,3.8s
HJU AMS AMS
comp=N,251nm,7.5s
HJU AMS AMS
comp=E,180nm,5.4s
HJU AMS AMS
comp=Z,54nm,1.6s
SRIT **Nakonsritamara** 42.13 285 P **P** **11 12 23.2 +1.0**
SRIT IAmb IAmb 11 12 32.5
comp=Z,100nm,1.1s
TSI **Tuntungan** 42.30 277 P **P** **11 12 26.2 +2.5**
comp=Z,7µmcomp=Z,111nm,0.6s
JTM **Tenmabayashi** 42.51 1 P **P** **11 12 23.9 -1.1**
JTM IAmb IAmb 11 12 35.4
comp=Z,98nm,1.1s
JTM **Tenmabayashi** 42.51 1 ⇓P **P** **11 12 24.6 -0.4**
FUTU **Fugatoga** 42.64 109 P **P** **11 12 29.1 +2.7**
comp=Z,127nm,1.1s
LKBA **Tubou, Lakemba** 43.02 115 P **P** **11 12 32.3 +2.8**
comp=Z,0.8nm,1.5s
GSI **Gunungsitoli** 43.08 274 P **P** **11 12 29.9 -0.2**
comp=Z,4µmcomp=Z,6µmcomp=Z,213nm,0.6s
GSI **Gunungsitoli** 43.08 274 P **P** **11 12 32.0 +1.9**
KCSI **Kotacane, Aceh** 43.09 277 P **P** **11 12 29.8 -0.4**
comp=Z,3µmcomp=Z,134nm,1.2s
GYA **Guiyang** 43.20 313 ⇑P **P** **11 12 32.1 +1.2**
GYA sP pwP 11 12 38.6 +0.1
GYA S **S** **11 18 56.1 -1.6**
GYA pmax pmax
comp=Z,35nm,1.5s
GYA LR LR
comp=Z,2µm,16.2s
GYA LR LR
comp=Z,2µm,11.0s
GYA LR LR
comp=Z,3µm,18.1s
HHU **Hamhung** 43.33 345 P **P** **11 12 31.8 +0.2**
HHU pP **pwP** **11 12 40.5 +1.4**
HHU S **S** **11 19 01.8 +2.9**
HHU AmB
comp=Z,494nm,2.2s
HHU AMS AMS
comp=N,3µm,12.2s
HHU AMS AMS
comp=E,569nm,2.6s
HHU AMS AMS
comp=Z,2µm,7.9s
ENH **Enshi** 43.62 320 P **P** **11 12 33.5 -0.6**
ENH IAmb IAmb 11 12 44.4
comp=Z,71nm,1.0s
ENH IAMs_20 IAMs_20 11 27 55.8
comp=Z,8µm,20.0s
TIA **Tai'an** 43.78 332 ⇑P **P** **11 12 35.0 -0.3**
TIA S **S** **11 19 06.3 +0.7**
TIA pmax pmax
comp=Z,48nm,1.2s
TIA pmax pmax
comp=Z,770nm,4.2s
TIA LR LR
comp=Z,5µm,22.4s
TIA LR LR
comp=Z,4µm,16.5s
TIA LR LR
comp=Z,8µm,24.5s
ERM **Erimo** 43.80 3 ⇓*e*P **P** **11 12 35.9 +0.5**
ERM pmax pmax
comp=Z,43nm,1.3s
ERM **Erimo** 43.80 3 P **P** **11 12 36.6 +1.2**
LHMI **Lhok Sumawe** 44.12 279 P P 11 12 45.3 +6.8
comp=Z,6µmcomp=Z,407nm,1.0s
LHMI **Lhok Sumawe** 44.12 279 P P 11 12 43.6 +5.1
DL2 **Dalian** 44.21 339 *e*P **P** **11 12 37.6 -1.1**
DL2 S **S** **11 19 12.5 +0.7**
DL2 SS **SS** **11 22 27.3 -2.8**
DL2 pmax pmax
comp=Z,43nm,1.5s
DL2 pmax pmax
comp=Z,980nm,8.7s
DL2 LR LR
comp=Z,3µm,19.9s
DL2 LR LR
comp=Z,4µm,19.1s
DL2 LR LR
comp=Z,7µm,29.1s
SUJ **Sinuiju** 44.34 342 P **P** **11 12 40.5 +0.8**
SUJ pP **pwP** **11 12 48.3 +1.1**
SUJ S **S** **11 19 16.4 +2.8**
SUJ AmB
comp=Z,762nm,1.7s
SUJ AMS AMS
comp=N,4µm,9.3s
SUJ AMS AMS
comp=E,5µm,10.2s
SUJ AMS AMS
comp=Z,7µm,15.7s
MLSI **Meulaboh, Aceh** 44.53 278 P **P** **11 12 41.8 0.0**
comp=Z,161nm,1.1s
JEW **Eniwo** 44.57 1 P **P** **11 12 41.3 -0.3**
LYN **LuoYang** 44.85 327 ⇓*i*P **P** **11 12 43.5 -0.4**
LYN S **S** **11 19 20.8 -0.4**
LYN SS **SS** **11 22 42.5 -0.2**
LYN pmax pmax
comp=Z,50nm,1.2s
LYN pmax pmax
comp=Z,1µm,4.9s
LYN LR LR
comp=Z,3µm,23.0s
LYN LR LR
comp=Z,4µm,20.4s
LYN LR LR
comp=Z,7µm,23.5s
CRAI **Chiangrai** 45.11 301 P **P** **11 12 46.5 +0.3**
KMI **Kunming** 45.43 309 ⇓P **P** **11 12 50.8 +1.8**
KMI sP pwP 11 12 57.1 +0.5
KMI S **S** **11 19 36.1 +5.6**
KMI SS **SS** **11 22 50.8 -3.3**
KMI pmax pmax
comp=Z,42nm,1.7s
KMI pmax pmax
comp=Z,850nm,5.3s
KMI LR LR
comp=Z,3µm,14.5s
KMI LR LR
comp=Z,2µm,17.3s
KMI LR LR
comp=Z,7µm,26.2s
CM31 **Chiang Mai Arr** 45.66 298 P **P** **11 12 50.9 +0.2**
CM31 IAmb IAmb 11 13 23.4
comp=Z,89nm,1.4s
CMAR **Chiang Mai Arr** 45.66 298 P **P** **11 12 51.5 +0.8**
comp=Z,11nm,1.0s,baz=115,slow=5.4,SNR=50
CMAR LR LR 11 33 24.8
comp=Z,1µm,18.6s,baz=115,slow=38
comp=Z,11nm,1.0s
CMAR **Chiang Mai Arr** 45.66 298 P **P** **11 12 50.7 0.0**
CHTO **Chiang Mai** 45.79 299 P **P** **11 12 52.2 +0.5**
CHTO **Chiang Mai** 45.79 299 P **P** **11 12 52.2 +0.5**
CHTO pmax pmax
comp=Z,2.0nm,1.2s
CHTO **Chiang Mai** 45.79 299 P **P** **11 12 54.0 +2.3**
CHTO **Chiang Mai** 45.79 299 ⇓P **P** **11 12 52.2 +0.5**
HNS **HongShan** 45.88 331 ⇑P **P** **11 12 52.1 +0.1**
HNS S **S** **11 19 34.4 -1.6**
HNS SS **SS** **11 22 58.0 -2.9**
HNS pmax pmax
comp=Z,91nm,1.3s
HNS LR LR
comp=Z,4µm,19.9s
HNS LR LR
comp=Z,6µm,21.0s
HNS LR LR
comp=Z,7µm,19.9s
SNY **Shenyang** 46.19 342 ⇓P **P** **11 12 54.5 +0.1**
SNY S **S** **11 19 40.9 +0.5**
SNY pmax pmax
comp=Z,42nm,1.1s
SNY pmax pmax
comp=Z,2µm,5.3s
SNY LR LR
comp=Z,4µm,15.6s
SNY LR LR
comp=Z,6µm,21.0s
SNY LR LR
comp=Z,9µm,22.8s
XAN **Xi'an** 46.52 323 ⇓*i*P **P** **11 12 57.8 +0.6**
XAN pP sP 11 13 01.1 -0.6
XAN sP pwP 11 13 03.6 -1.2
XAN S **S** **11 19 44.8 -0.7**
XAN sS sS 11 19 53.3 +2.4
XAN SS **SS** **11 23 08.3 -3.5**
XAN pmax pmax
comp=Z,110nm,1.4s
XAN LR LR
comp=Z,4µm,20.6s
XAN LR LR
comp=Z,4µm,17.9s
XAN LR LR
comp=Z,8µm,23.4s
USA0B **Ussuriysk Arra** 46.56 352 P **P** **11 12 57.1 -0.2**
USA0B IAmb IAmb 11 13 08.4
comp=Z,58nm,1.1s
USA0B **Ussuriysk Arra** 46.56 352 P **P** **11 12 57.1 -0.2**
USA0B pmax pmax
comp=Z,58nm,1.2s
USRK **Ussuriysk Ar.** 46.56 352 P **P** **11 12 57.1 -0.1**
comp=Z,22nm,0.9s,baz=163,slow=7.7,SNR=30
USRK LR LR 11 29 16.1
comp=Z,13µm,21.2s,baz=171,slow=32
comp=Z,22nm,0.9s
USRK **Ussuriysk Ar.** 46.56 352 P **P** **11 12 57.8 +0.5**
USRK **Ussuriysk Ar.** 46.56 352 P **P** **11 12 57.8 +0.5**
TEY **Ternei** 46.89 356 *e*P **P** **11 12 59.0 -0.8**
PZH **PanZhiHua** 46.91 310 P **P** **11 13 02.3 +1.8**
PZH sP **pwP** **11 13 09.1 +1.0**
PZH PP **PP** **11 14 54.4 +3.4**
PZH S **S** **11 19 49.1 -2.4**
PZH ScS **ScS** **11 22 51.0 -4.5**
PZH SS **SS** **11 23 10.9 -7.5**

PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,810nm,6.6s
PZH LR LR
comp=Z,3µm,20.6s
PZH LR LR
comp=Z,4µm,22.4s
PZH LR LR
comp=Z,5µm,24.9s
TIY Taiyuan 47.25 329 *e*P **P 11 13 04.5 +1.6**
TIY pP **pwP 11 13 11.8 +1.3**
TIY S **S 11 19 56.1 +0.2**
TIY SS **SS 11 23 15.1 -8.4**
TIY pmax pmax
comp=Z,16nm,0.6s
TIY LR LR
comp=Z,4µm,23.4s
TIY LR LR
comp=Z,5µm,24.0s
TIY LR LR
comp=Z,7µm,22.0s
BJT Baijiatuau 47.33 334 P **P 11 13 03.2 -0.2**
BJT Baijiatuau 47.33 334 IAMs_20 IAMs_20 11 29 51.7
comp=Z,8µm,22.0s
BJT Baijiatuau 47.33 334 P **P 11 13 03.2 -0.2**
BJT pmax pmax
comp=Z,121nm,1.4s
BJI Beijing 47.35 334 P **P 11 13 03.3 -0.2**
BJI S **S 11 19 55.9 -1.1**
BJI pmax pmax
comp=Z,41nm,1.3s
BJI pmax pmax
comp=Z,1µm,7.7s
BJI LR LR
comp=Z,2µm,21.8s
BJI LR LR
comp=Z,3µm,20.0s
BJI LR LR
comp=Z,9µm,22.8s
MDJ Mudanjiang 47.36 349 IAMs_20 IAMs_20 11 29 03.0
comp=Z,9µm,22.0s
MDJ Mudanjiang 47.36 349 P **P 11 13 03.7 +0.2**
comp=Z,51nm,0.9s
KUR Kuril'sk 47.41 7 *e*P **P 11 13 03.1 -0.7**
KUR pmax pmax
comp=Z,3µm,5.5s
KUR pmax pmax
comp=Z,229nm,1.2s
KUR MLR MLR
comp=Z,1µm,21.0s
CN2 Changchun 47.50 345 *e*P **P 11 13 04.5 -0.1**
CN2 pP pwP 11 13 14.3 +2.2
CN2 S **S 11 19 56.9 -2.1**
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 LR LR
comp=Z,6µm,19.0s
CN2 LR LR
comp=Z,4µm,19.0s
CN2 LR LR
comp=Z,7µm,21.0s
CD2 Chengdu 47.86 316 P **P 11 13 08.3 +0.5**
CD2 S **S 11 20 07.1 +2.3**
CD2 SS **SS 11 23 36.4 +2.8**
CD2 pmax pmax
comp=Z,110nm,1.1s
CD2 pmax pmax
comp=Z,2µm,5.7s
CD2 LR LR
comp=Z,5µm,19.6s
CD2 LR LR
comp=Z,5µm,12.7s
CD2 LR LR
comp=Z,5µm,16.9s
QRZ Quartz Range 48.31 147 IAMs_20 IAMs_20 11 32 03.1
comp=Z,6µm,22.0s
AFI Afiamalu 48.59 107 P **P 11 13 13.4 -0.3**
comp=Z,28nm,1.0s,baz=15,slow=16,SNR=6.6
comp=Z,28nm,1.0s
AFI Afiamalu 48.59 107 P **P 11 13 12.6 -1.1**
AFI IAmb IAmb 11 13 26.1
comp=Z,70nm,1.1s
AFI Afiamalu 48.59 107 P P 11 13 18.6 +4.9
YSS Yuzh-Sakhalins 48.72 2 P **P 11 13 13.4 -0.6**
YSS IAmb IAmb 11 13 24.2
comp=Z,52nm,0.7s
YSS Yuzh-Sakhalins 48.72 2 *e*P **P 11 13 13.2 -0.8**
YSS *e**SP **pwP 11 13 22.4 +0.9**
YSS *e* 11 14 38.9
YSS *e* 11 15 07.3
YSS *e*S **S 11 20 14.7 -1.5**
YSS *e*SS **SS 11 23 45.8 -1.0**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS pmax pmax
comp=Z,1µm,6.3s
YSS MLR MLR
comp=Z,3µm,14.0s
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=E,2µm,17.0s
YSS Yuzh-Sakhalins 48.72 2 P **P 11 13 14.1 +0.1**
YSS Yuzh-Sakhalins 48.72 2 ⇓P **P 11 13 13.4 -0.6**
BNX BinXian 48.87 348 ⇑P **P 11 13 14.8 -0.4**
BNX pP **pP 11 13 18.0 -0.4**
BNX sP **sP 11 13 19.3 -0.4**
BNX PP **PP 11 15 05.9 -2.8**
BNX S **S 11 20 18.3 -0.1**
BNX sS **sS 11 20 26.5 +2.8**
BNX pmax pmax
comp=E,110nm,1.0s
BNX pmax pmax
comp=E,2µm,5.0s
BNX LR LR
comp=E,5µm,19.0s
BNX LR LR
comp=E,3µm,17.3s
BNX LR LR
comp=E,6µm,20.1s
FOZ Fox Glacier 48.93 152 P **P 11 13 15.7 0.0**
FOZ IAmb IAmb 11 13 31.3
comp=Z,127nm,1.6s
FOZ IAMs_20 IAMs_20 11 35 45.5
comp=Z,6µm,19.0s
NNZ Nelson 49.05 147 IAMs_20 IAMs_20 11 32 25.5
comp=Z,7µm,22.0s
THZ Tophouse 49.17 148 P **P 11 13 17.6 -0.1**
THZ IAmb IAmb 11 13 31.2
comp=Z,144nm,1.7s
MUGZ Murupara 49.19 142 P P 11 13 24.5 +6.7
URZ Urewera 49.27 142 P **P 11 13 18.8 +0.4**
URZ IAmb IAmb 11 13 34.4
comp=Z,91nm,1.4s
URZ IAMs_20 IAMs_20 11 34 20.4
comp=Z,7µm,20.0s
URZ Urewera 49.27 142 P **P 11 13 18.8 +0.4**
URZ Urewera 49.27 142 P **P 11 13 21.7 +3.3**
URZ Urewera 49.27 142 ⇑P **P 11 13 18.8 +0.4**
HAZ Te Kaha 49.38 141 P P 11 13 09.9 -9.3
RTZ Ruatahuna 49.41 142 P **P 11 13 22.3 +2.7**
RUGZ Raukumara Rang 49.44 141 P P 11 13 12.9 -7.0
BKZ Black Stump Fm 49.46 143 P **P 11 13 19.8 -0.1**
BKZ IAmb IAmb 11 13 39.0
comp=Z,56nm,0.9s
BKZ IAMs_20 IAMs_20 11 34 25.4
comp=Z,6µm,20.0s
BKZ Black Stump Fm 49.46 143 P **P 11 13 22.4 +2.5**
TUWZ Tuamarina 49.50 147 P **P 11 13 19.2 -0.9**
WKZ Wanaka 49.56 154 P **P 11 13 21.2 +0.6**
WKZ IAmb IAmb 11 13 34.0
comp=Z,98nm,1.3s
WKZ IAMs_20 IAMs_20 11 36 27.2
comp=Z,6µm,18.0s
MWZ Matawai 49.57 142 P **P 11 13 16.7 -4.1**
LTZ Lake Taylor 49.58 149 P **P 11 13 20.9 +0.1**
LTZ IAmb IAmb 11 13 30.6
comp=Z,45nm,0.9s
LTZ IAMs_20 IAMs_20 11 35 23.6
comp=Z,7µm,18.0s
MLZ Mavora Lakes 49.59 155 P **P 11 13 21.4 +0.5**
MLZ IAMs_20 IAMs_20 11 34 53.1
comp=Z,6µm,20.0s
PKGZ Pakihiroa 49.65 141 P P 11 13 07.9 -14
RPZ Rata Peaks 49.66 151 LR LR 11 34 51.5
comp=Z,6µm,18.0s,baz=312,slow=37
RPZ Rata Peaks 49.66 151 P **P 11 13 20.8 -0.6**
RPZ IAMs_20 IAMs_20 11 35 06.7
comp=Z,6µm,20.0s
BSWZ Blackbirch Sta 49.66 147 P **P 11 13 20.9 -0.4**
LBZ Lake Benmore 49.75 152 P **P 11 13 21.2 -0.9**
TWGZ Tauwhareparae 49.76 141 P P 11 13 11.8 -10
ARHZ Aropaoanui 49.82 143 P P 11 13 28.8 +6.2
TKGZ Te Karaka 49.84 141 P P 11 13 15.0 -7.7
PUZ Puketiti 49.87 141 P P 11 13 08.4 -15
WHZ Wether Hill Ro 49.94 155 P **P 11 13 24.1 +0.7**
WHZ IAmb IAmb 11 13 37.8
comp=Z,104nm,1.6s
RIGZ Rimuhau 49.95 142 P P 11 13 18.5 -5.1
KHZ Kahutara 49.97 148 IAMs_20 IAMs_20 11 35 06.0
comp=Z,7µm,20.0s
KHZ Kahutara 49.97 148 ⇑P **P 11 13 22.5 -1.2**
KNZ Kokohu 50.09 142 P **P 11 13 21.6 -3.0**
CNGZ Carnagh Statio 50.09 141 P P 11 13 14.1 -11
HHC Hu-ho-hao-te 50.10 331 *e*P **P 11 13 25.1 +0.3**
HHC S **S 11 20 35.3 -0.7**
HHC ScS **ScS 11 23 15.8 -0.4**
HHC SS **SS 11 24 07.3 -2.2**
HHC pmax pmax
comp=Z,64nm,1.2s
HHC pmax pmax
comp=Z,2µm,6.9s
HHC LR LR
comp=Z,8µm,22.2s
HHC LR LR
comp=Z,5µm,21.6s
HHC LR LR
comp=Z,15µm,22.8s
BFZ Birch Farm 50.29 145 IAMs_20 IAMs_20 11 35 02.4
comp=Z,5µm,18.0s
BFZ Birch Farm 50.29 145 P **P 11 13 26.6 +0.4**
comp=Z,65nm,1.6s
MIDW Midway 50.30 50 IAMs_20 IAMs_20 11 30 06.3
comp=Z,6µm,19.0s
MQZ McQueen's Vall 50.44 150 P **P 11 13 26.7 -0.5**
MQZ IAmb IAmb 11 13 28.8
comp=Z,150nm,1.6s
XLT XiLinHaoTe 50.62 337 *e*P **P 11 13 29.0 +0.4**
XLT sP pwP 11 13 36.1 -0.1
XLT S **S 11 20 46.4 +3.3**
XLT sS sS 11 20 54.0 +5.6
XLT SS **SS 11 24 19.5 +1.9**
XLT pmax pmax
comp=Z,34nm,1.6s
XLT pmax pmax
comp=Z,1µm,7.7s
XLT LR LR
comp=Z,420nm,21.2s
XLT LR LR
comp=Z,4µm,18.8s
XLT LR LR
comp=Z,7µm,22.2s
UGL Uglegorsk 50.82 1 *e*P **P 11 13 30.3 +0.4**
UGL *e*S **S 11 20 45.5 0.0**
UGL *e* 11 24 13.6
UGL pmax pmax
comp=Z,80nm,0.9s
UGL pmax pmax
comp=Z,3µm,9.5s
UGL smax smax
comp=E,2µm,17.0s
UGL smax smax
comp=N,6µm,19.0s
LZH Lanzhou 50.99 321 *e*P **P 11 13 32.8 +1.1**
LZH sP pwP 11 13 40.1 +0.8
LZH S **S 11 20 50.8 +2.1**
LZH sS sS 11 21 02.9 +8.8
LZH SS **SS 11 24 27.8 +3.9**
LZH pmax pmax
comp=N,160nm,1.1s
LZH pmax pmax
comp=N,2µm,5.0s
LZH LR LR
comp=N,3µm,16.1s
LZH LR LR
comp=N,5µm,18.2s
LZH LR LR
comp=N,7µm,19.8s
KLR Kul'dur 51.52 353 P **P 11 13 35.4 +0.2**
comp=N,18nm,1.0s,baz=194,slow=3.5,SNR=29
KLR LR LR 11 32 51.2
comp=N,6µm,19.7s,baz=162,slow=33
comp=N,18nm,1.0s
LKP Lekhapani 51.92 307 *e*P **P 11 13 37.7 -1.0**
MOKO MOKOCHONG 52.55 306 *e*P **P 11 13 43.0 -0.6**
MOKO *e*P **pP 11 13 44.1 -2.7**
GRNR Gornyy 52.61 357 *i*P **P 11 13 42.8 -0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.3s
TYV Tymovskoe 52.62 2 *e*P **P 11 13 44.3 +0.9**
TYV *e*S **S 11 21 14.1 +3.8**
TYV pmax pmax
comp=Z,1µm,4.1s
TYV pmax pmax
comp=Z,38nm,1.8s
TYV smax smax
comp=N,3µm,8.0s
TYV smax smax
comp=E,700nm,8.0s
KOHI KOHIMA 52.63 305 *e*P **P 11 13 42.0 -2.2**
KOHI *e*P **pP 11 13 43.8 -3.6**
KOHI IAmb IAmb 11 13 57.5
comp=Z,43nm,0.7s
JORH JORHAT 52.94 306 *e*P **P 11 13 46.1 -0.1**
ITAN ITANAGAR 53.54 306 *e*P **P 11 13 50.4 -0.3**
ITAN *e*P **pP 11 13 52.1 -1.8**
ITAN IAmb IAmb 11 14 07.7
comp=Z,108nm,0.8s
BRDH Bariadhala 53.56 300 LR LR 11 38 32.9
comp=Z,868nm,19.9s,baz=120,slow=38
ZIRO ZIRO 53.60 307 *e*P **P 11 13 51.2 -0.1**
HIA Hailar 54.07 343 P **P 11 13 54.5 +0.3**
HIA IAmb IAmb 11 13 55.6
comp=Z,84nm,1.6s
HIA Hailar 54.07 343 IAMs_20 IAMs_20 11 35 02.8
comp=Z,7µm,20.0s
HIA Hailar 54.07 343 P **P 11 13 54.5 +0.3**
HIA pmax pmax
comp=Z,84nm,1.6s
TEZP TEZPUR 54.07 305 *e*P **P 11 13 52.5 -2.0**
TEZP *e*P **pP 11 13 54.8 -3.0**
TEZP IAmb IAmb 11 14 04.2
comp=Z,44nm,1.1s
SKR Severo-Kuril's 54.08 12 *e*P **P 11 13 54.1 0.0**
SKR *e* 11 14 55.7
SKR *e*S **S 11 21 30.5 +0.4**
SKR pmax pmax
comp=Z,54nm,1.1s
SKR pmax pmax
comp=Z,900nm,12.7s
SKR MLR MLR
comp=Z,2µm,19.0s
GUWA GUWAHATI 54.81 304 *e*P **P 11 14 00.8 +0.8**
GUWA *e*P **pP 11 14 01.1 -2.1**
GUWA IAmb IAmb 11 14 09.6
comp=Z,67nm,1.2s
GTA Gaotai 55.55 322 ⇑P **P 11 14 06.1 +0.9**
GTA pP pwP 11 14 15.3 +2.5
GTA sP sP 11 14 19.6 +10
GTA S **S 11 21 53.0 +2.3**
GTA sS sS 11 21 59.5 +3.4
GTA SS **SS 11 25 34.8 -1.1**
GTA pmax pmax
comp=Z,57nm,1.8s
GTA pmax pmax
comp=Z,2µm,5.1s
GTA LR LR
comp=Z,2µm,21.1s
GTA LR LR
comp=Z,2µm,22.5s
GTA LR LR
comp=Z,3µm,22.9s
DHUB DHUBRI 56.16 303 *e*P **P 11 14 09.9 +0.3**
DHUB *e*P **pP 11 14 10.6 -2.2**
DHUB IAmb IAmb 11 14 19.5
comp=Z,87nm,1.4s
ZEA Zeya 56.57 351 *e*P **P 11 14 11.7 -0.3**
ZEA *e*S **S 11 21 57.0 -6.3**
ZEA *e* 11 25 43.2
ZEA pmax pmax
comp=E,200nm,6.7s
ZEA pmax pmax
comp=N,700nm,5.5s
ZEA pmax pmax
comp=Z,700nm,6.5s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,40nm,0.9s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA smax smax
comp=E,400nm,9.1s
ZEA smax smax
comp=N,1µm,16.3s
LSA Lhasa 56.67 308 P **P 11 14 15.6 +1.8**
LSA Lhasa 56.67 308 P **P 11 14 15.6 +1.8**
LSA pmax pmax
comp=Z,34nm,1.1s
LSA Lhasa 56.67 308 P **P 11 14 14.6 +0.8**
PEA0B Petropavlovsk- 56.70 12 ⇑*i*P **P 11 14 12.2 -0.8**
PETK Petropavlovsk- 56.70 12 P **P 11 14 12.0 -0.9**
comp=Z,29nm,1.0s,baz=202,slow=6.4,SNR=15
PETK LR LR 11 35 12.9
comp=Z,4µm,21.7s,baz=202,slow=32
comp=Z,29nm,1.0s
PETK Petropavlovsk- 56.70 12 P **P 11 14 12.5 -0.5**
PETK Petropavlovsk- 56.70 12 P **P 11 14 12.5 -0.5**
PET Petropavlovsk 56.83 13 *e*P **P 11 14 13.2 -0.6**
PET *e*S **S 11 22 03.7 -3.0**
PET pmax pmax
comp=Z,42nm,1.2s
PET pmax pmax
comp=Z,2µm,8.8s
PET pmax pmax
comp=Z,2µm,13.1s
PET MLR MLR
comp=Z,3µm,17.0s
PET MLR MLR
comp=Z,2µm,15.0s
GOMU GeErMu 57.00 316 *e*P **P 11 14 17.8 +1.9**
GOMU pP sP 11 14 20.9 +0.5
GOMU sP pwP 11 14 22.4 -1.1
GOMU S **S 11 22 11.9 +1.5**
GOMU sS sS 11 22 17.9 +2.0
GOMU pmax pmax
comp=Z,12nm,1.0s
GOMU pmax pmax
comp=Z,800nm,4.7s
GOMU LR LR
comp=Z,2µm,20.0s
GOMU LR LR
comp=Z,1µm,19.6s
GOMU LR LR
comp=Z,990nm,18.1s
ULN Ulaanbaatar 57.55 334 IAMs_20 IAMs_20 11 37 30.3
comp=Z,7µm,21.0s
ULN Ulaanbaatar 57.55 334 *ce*P **P 11 14 19.6 +0.3**
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 57.55 334 ⇓P **P 11 14 20.1 +0.8**
GTK Tadong 57.80 304 *e*P **P 11 14 22.4 +1.0**
GTK *e*P **pP 11 14 22.8 -1.9**
GTK IAmb IAmb 11 14 31.7
comp=Z,48nm,1.2s
SONM Songino Array 57.82 333 P **P 11 14 21.7 +0.5**
comp=Z,5.8nm,0.7s,baz=153,slow=9.0,SNR=24
SONM LR LR 11 37 30.8
comp=Z,7µm,21.4s,baz=142,slow=34
comp=Z,5.8nm,0.7s
SONM Songino Array 57.82 333 P **P 11 14 21.6 +0.5**
CIT Chita 58.40 341 *e*P **P 11 14 24.9 -0.1**
CIT *e* 11 16 36.3
CIT pmax pmax
comp=Z,306nm,3.6s
TAPN Taplejung 58.55 304 *e*P **P 11 14 27.7 +0.8**
comp=Z,74nm,1.1s
ODAN Odare 58.64 303 *e*P **P 11 14 28.2 +0.8**
comp=Z,49nm,2.2s
BOK Bokaro 58.92 299 *e*P **P 11 14 29.2 0.0**
BOK *e*P **pP 11 14 29.6 -2.9**
RAMN Ramite 59.33 303 *e*P **P 11 14 33.1 +0.8**
comp=Z,201nm,1.4s
JIRN Jiri 59.92 304 *e*P **P 11 14 37.3 +0.8**
comp=Z,104nm,1.2s
GUN Gumba 60.26 304 *e*P **P 11 14 40.0 +1.2**
comp=Z,59nm,0.9s
PALK Pallekele 60.40 279 ⇓*e*P **P 11 14 38.6 -1.0**
PALK pmax pmax
comp=Z,26nm,1.2s
PKI Pulchoki 60.54 303 *e*P **P 11 14 41.1 +0.4**
comp=Z,129nm,1.5s
PKIN Phulchoki 60.55 303 *e*P **P 11 14 41.2 +0.5**
KKN Kakani 60.72 303 *e*P **P 11 14 42.7 +0.9**
DMN Daman 60.81 303 *e*P **P 11 14 43.3 +0.9**
ZAK Zakamensk 61.08 334 *e*P **P 11 14 43.2 -0.4**
ZAK pmax pmax
comp=Z,63nm,1.4s
SHEM Shemya Is, Ala 61.32 23 LR LR 11 36 30.7
comp=Z,6µm,21.6s,baz=214,slow=31
GKN Gorkha 61.33 303 *e*P **P 11 14 46.6 +0.8**
MDRS Chennai 61.63 286 *e*P **P 11 14 48.4 +0.5**
MDRS *e*P **pP 11 14 49.2 -2.0**
MA2 Magadan 61.85 6 P **P 11 14 48.5 0.0**
comp=Z,12nm,0.8s,baz=206,slow=1.6,SNR=5.8
comp=Z,12nm,0.8s
MA2 Magadan 61.85 6 *ce*P **P 11 14 48.9 +0.4**
MA2 pmax pmax
comp=Z,32nm,1.1s
IRK Irkutsk 62.02 336 *e*P **P 11 14 50.6 +0.8**
IRK pmax pmax
comp=Z,188nm,3.6s
KOLN Koldanda 62.12 303 *e*P **P 11 14 50.7 -0.5**
comp=Z,38nm,1.7s
DANN Dangsing 62.17 304 *e*P **P 11 14 52.4 +0.7**
comp=Z,132nm,0.9s
PYUN Piuthan 62.74 303 *e*P **P 11 14 55.2 -0.1**
comp=Z,254nm,1.0s
MOY Mondy 63.01 334 *e*P **P 11 14 57.5 +0.9**
MOY pmax pmax
comp=Z,127nm,2.7s
HYB Hyderabad 64.01 290 *e*P **P 11 15 02.6 -1.1**
HYB *e*P **pP 11 15 05.1 -2.0**
HYBB Hyderabad (bro 64.01 290 *e*P **P 11 15 03.4 -0.4**
HYBB *e*S **S 11 23 42.0 +1.8**
TRD Trivandrum 64.22 280 *e*P **P 11 15 06.1 +1.0**
TRD *e*P **pP 11 15 06.4 -2.1**
YAK Yakutsk 64.32 354 LR LR 11 40 25.5
comp=Z,3µm,21.9s,baz=165,slow=34
YAK Yakutsk 64.32 354 P **P 11 15 04.7 -0.1**
YAK Yakutsk 64.32 354 *e*P **P 11 15 04.9 +0.1**
YAK *e**PP **pwP 11 15 14.1 +1.7**
YAK *e* 11 17 24.0
YAK *e*PPP PPP 11 18 57.5
YAK *e*S **S 11 23 41.3 -1.1**
YAK *e**SS sS 11 24 00.0 +12
YAK *e*SSS SSS 11 30 47.3
YAK pmax pmax
comp=Z,116nm,0.9s
YAK pmax pmax
comp=N,66nm,1.3s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,243nm,4.0s
YAK pmax pmax
comp=N,233nm,3.5s
YAK pmax pmax
comp=E,133nm,2.9s
YAK smax smax
comp=N,919nm,5.3s
YAK smax smax
comp=E,375nm,5.8s
YAK MLR MLR
comp=Z,3µm,23.0s
YAK MLR MLR
comp=N,2µm,28.0s
YAK MLR MLR
comp=E,486nm,19.0s
YAK Yakutsk 64.32 354 ⇓P **P 11 15 05.0 +0.1**
ADK Adak 64.63 28 IAMs_20 IAMs_20 11 37 34.8
comp=Z,5µm,21.0s
SEY Seymchan 65.31 6 P **P 11 15 11.8 +0.6**
comp=Z,13nm,0.9s,baz=183,slow=4.6,SNR=18
SEY LR LR 11 40 52.4
comp=Z,3µm,21.9s,baz=176,slow=33

	comp=Z,13nm,0.9s								
WMQ	**Urumqi**	**65.55**	**321**	⇓	*i* P	**P**	**11 15 14.4**	**+1.0**
WMQ					pP	pP	11 15 17.0	+0.3
WMQ					sP	pwP	11 15 23.0	+2.0
WMQ					PcP	**PcP**	**11 15 47.9**	**+2.9**
WMQ					S	**S**	**11 24 00.1**	**+1.7**
WMQ					SKS	**ScS**	**11 25 10.8**	**+1.9**
WMQ					pmax	pmax		
	comp=Z,64nm,1.5s								
WMQ					pmax	pmax			
	comp=Z,1μm,5.1s								
WMQ					LR	LR			
	comp=Z,3μm,21.9s								
WMQ					LR	LR			
	comp=Z,2μm,19.3s								
WMQ					LR	LR			
	comp=Z,2μm,23.3s								
BHPL	**Bhopal**	**66.26**	**296**		*e*P	**P**	**11 15 16.6**	**-1.7**
BHPL					*e*P	**pP**	**11 15 17.1**	**-4.5**
BHPL					IAmb	IAmb	11 15 26.6	
	comp=Z,69nm,1.3s								
BHPL					IAmb	IAmb	11 15 26.7		
	comp=Z,44nm,1.1s								
DDI	**Dehra Dun**	**67.52**	**304**		*e*P	**P**	**11 15 27.3**	**+1.1**
DDI					*e*P	**pP**	**11 15 27.5**	**-2.0**
DDI					IAML		11 15 36.5		
	comp=Z,214nm,1.2s								
DDI					IAmb	IAmb	11 15 36.5		
	comp=Z,240nm,1.3s								
CASY	**Casey**	**67.62**	**193**		P	**P**	**11 15 26.7**	**+0.7**
CASY	**Casey**	**67.62**	**193**		IAMs_20	IAMs_20	11 45 32.1		
	comp=Z,4μm,18.0s								
CASY	**Casey**	**67.62**	**193**	⇓	P	**P**	**11 15 26.6**	**+0.5**
MNCY	**Minicoy**	**68.06**	**280**		*e*P	**P**	**11 15 28.7**	**-1.1**
SMLA	**Simla**	**68.47**	**305**		*e*P	**P**	**11 15 32.3**	**+0.2**
SMLA					*e*P	**pP**	**11 15 32.6**	**-2.8**
SMLA					IAmb	IAmb	11 15 40.1		
	comp=Z,185nm,1.6s								
SMLA					IAmb	IAmb	11 15 40.2		
	comp=Z,78nm,1.1s								
POO	**Poona**	**68.61**	**291**		*e*P	**P**	**11 15 34.1**	**+0.8**
POO					*e*P	**pP**	**11 15 34.2**	**-2.3**
POO					IAmb	IAmb	11 15 42.3		
	comp=Z,75nm,1.1s								
POO					IAmb	IAmb	11 15 42.4		
	comp=Z,68nm,1.1s								
DGZ	**Jazzator, Alta**	**68.65**	**326**	*d*	*i* P	**P**	**11 15 33.5**	**+0.5**
DGZ					pmax	pmax			
	comp=Z,18nm,0.9s								
ZSN	**Zaisan**	**69.03**	**323**		*e*P	**P**	**11 15 35.2**	**0.0**
ZSN					*e*S	**S**	**11 24 40.9**	**+0.9**
ZSN					pmax	pmax			
	comp=Z,36nm,1.8s								
ZSN	**Zaisan**	**69.03**	**323**		*e*P	**P**	**11 15 35.2**	**0.0**
	comp=Z,36nm,1.8s,baz=323								
ZSN					*e*S	**S**	**11 24 40.9**	**+0.9**
	baz=323								
PPT	**Papeete**	**70.25**	**108**		P	**P**	**11 15 44.2**	**+0.9**
	comp=Z,26nm,1.0s,baz=270,slow=16,SNR=3.9								
	comp=Z,26nm,1.0s								
PPT2	**Papeete2**	**70.25**	**108**		*e*P	**P**	**11 15 44.5**	**+1.1**
	comp=Z,52nm,1.4s								
PPT2					*e*S	**S**	**11 24 55.4**	**-0.1**
	comp=Z,504nm,23.8s								
PPT2	**Papeete2**	**70.25**	**108**		*e*LR	LR	11 37 01.8		
	comp=Z,4μm,22.5s								
PPT2	**Papeete2**	**70.25**	**108**		*e*P	**P**	**11 15 44.9**	**+1.5**
	comp=Z,176nm,22.5s								
PPT2					*e*S	**S**	**11 24 55.5**	**-0.1**
	comp=Z,504nm,23.8s								
PPT2	**Papeete2**	**70.25**	**108**		*e*LR	LR	11 37 01.4		
	comp=Z,4μm,22.5s								
MK31	**Makanchi Array**	**70.30**	**322**		P	**P**	**11 15 43.5**	**+0.3**
MK31					IAmb	IAmb	11 15 47.1		
	comp=Z,54nm,1.1s								
MK31	**Makanchi Array**	**70.30**	**322**		P	**P**	**11 15 43.5**	**+0.3**
MK31					pmax	pmax			
	comp=Z,55nm,1.2s								
MKAR	**Makanchi Array**	**70.30**	**322**		P	**P**	**11 15 43.5**	**+0.4**
	comp=Z,23nm,0.8s,baz=114,slow=8.1,SNR=105								
MKAR					PKPPKP	**P'P'df**	**11 43 47.9**	**+2.8**
	comp=Z,1.4nm,1.0s,baz=317,slow=8.8,SNR=3.6								
	comp=Z,23nm,0.8s								
MKAR	**Makanchi Array**	**70.30**	**322**		P	**P**	**11 15 43.0**	**-0.2**
TIAR	**Tiarei**	**70.47**	**108**		*e*P	**P**	**11 15 44.9**	**+0.2**
	comp=Z,16nm,1.2s								
MAKZ	**Makanchi**	**70.50**	**322**		P	**P**	**11 15 44.4**	**0.0**
MAKZ					IAmb	IAmb	11 15 48.2		
	comp=Z,62nm,1.1s								
MAKZ	**Makanchi**	**70.50**	**322**		P	**P**	**11 15 44.4**	**0.0**
MAKZ					pmax	pmax			
	comp=Z,62nm,1.1s								
MAKZ	**Makanchi**	**70.50**	**322**	⇓	P	**P**	**11 15 44.1**	**-0.2**
TVO	**Taravao**	**70.57**	**108**		*e*P	**P**	**11 15 45.9**	**+0.5**
	comp=Z,32nm,1.4s								
SHLS	**Shalkode**	**70.68**	**317**		*e*P	**P**	**11 15 43.5**	**-2.1**
SHLS					pmax	pmax			
	comp=Z,36nm,1.2s								
SHLS	**Shalkode**	**70.68**	**317**		*e*P	**P**	**11 15 43.6**	**-2.1**
	comp=Z,36nm,1.2s,baz=317								
PDGK	**Podgornoye**	**70.72**	**317**		P	**P**	**11 15 46.2**	**+0.3**
UZB	**Uzynbulak**	**70.97**	**317**		*e*P	**P**	**11 15 46.6**	**-0.8**
UZB					*e*S	**S**	**11 25 04.0**	**+0.8**
UZB					pmax	pmax			
	comp=Z,25nm,1.5s								
UZB	**Uzynbulak**	**70.97**	**317**		*e*P	**P**	**11 15 46.7**	**-0.8**
	comp=Z,25nm,1.5s,baz=317								
UZB					*e*S	**S**	**11 25 04.1**	**+0.8**
	baz=317								
TARG	**Taragay, Kyrgy**	**71.31**	**315**		P	**P**	**11 15 50.2**	**+0.3**
TARG					IAmb	IAmb	11 16 10.7		
	comp=Z,44nm,1.0s								
TARG	**Taragay, Kyrgy**	**71.31**	**315**		P	**P**	**11 15 50.2**	**+0.3**
TARG					pmax	pmax			
	comp=Z,44nm,1.0s								
KPKS	**Kokpek**	**71.32**	**317**		*e*P	**P**	**11 15 48.9**	**-0.6**
KPKS					*e*S	**S**	**11 25 07.4**	**+0.3**
KPKS					pmax	pmax			
	comp=Z,58nm,1.4s								
KPKS	**Kokpek**	**71.32**	**317**		*e*P	**P**	**11 15 48.9**	**-0.6**
	comp=Z,58nm,1.4s,baz=317								
KPKS					*e*S	**S**	**11 25 07.5**	**+0.3**
	baz=317								
SATY	**Saty**	**71.36**	**317**		*e*P	**P**	**11 15 49.1**	**-0.7**
SATY					pmax	pmax			
	comp=Z,62nm,1.3s								
SATY	**Saty**	**71.36**	**317**		*e*P	**P**	**11 15 49.1**	**-0.7**
	comp=Z,62nm,1.3s,baz=317								
ZHN	**Zhinishke**	**71.38**	**317**		*e*P	**P**	**11 15 49.7**	**-0.2**
ZHN	**Zhinishke**	**71.38**	**317**		*e*P	**P**	**11 15 49.8**	**-0.2**
	baz=317								
KSH	**Kashi**	**71.89**	**313**		P	**P**	**11 15 55.6**	**+2.5**
KSH					sP	pwP	11 16 04.3	+3.5
KSH					S	**S**	**11 25 18.8**	**+4.8**
KSH					pmax	pmax			
	comp=Z,51nm,1.6s								
KSH					pmax	pmax			
	comp=Z,890nm,5.4s								
KSH					LR	LR			
	comp=Z,2μm,16.1s								
KSH					LR	LR			
	comp=Z,3μm,17.5s								
KSH					LR	LR			
	comp=Z,3μm,20.6s								
TDK	**Taldyqorghan**	**72.07**	**319**		*e*P	**P**	**11 15 53.8**	**-0.1**
TDK					pmax	pmax			
	comp=Z,80nm,1.4s								
TDK	**Taldyqorghan**	**72.07**	**319**		*e*P	**P**	**11 15 53.9**	**-0.1**
	comp=Z,80nm,1.4s,baz=319								
TDK					LR	LR	11 43 41.5		
	comp=Z,2μm,24.4s,baz=319								
BILL	**Bilibino**	**72.08**	**10**	⇑	*e*P	**P**	**11 15 53.7**	**+0.3**
BILL					*e**PP	**pP**	**11 15 57.3**	**+0.5**
BILL					*e**SP	**pwP**	**11 16 01.6**	**+0.6**
BILL					*e*		11 18 34.9		
BILL					pmax	pmax			
	comp=Z,16nm,1.7s								
BILL					MLR	MLR			
	comp=Z,960nm,19.0s								
ZAA0	**Zalesovo Array**	**72.20**	**329**		P	**P**	**11 15 54.0**	**-0.4**
ZALV	**Zalesovo Beam**	**72.20**	**329**		P	**P**	**11 15 53.5**	**-0.9**
	comp=Z,16nm,0.8s,baz=105,slow=5.2,SNR=31								
	comp=Z,16nm,0.8s								
ZALV	**Zalesovo Beam**	**72.20**	**329**		P	**P**	**11 15 54.0**	**-0.4**
ZALV	**Zalesovo Beam**	**72.20**	**329**		P	**P**	**11 15 54.0**	**-0.4**
MDOK	**Medeo**	**72.33**	**317**		*e*P	**P**	**11 15 55.2**	**-0.4**
MDOK					*e*S	**S**	**11 25 19.7**	**+0.8**
MDOK	**Medeo**	**72.33**	**317**		*e*P	**P**	**11 15 55.2**	**-0.4**
	baz=317								
MDOK					*e*S	**S**	**11 25 19.7**	**+0.8**
	baz=317								
MDOK					LR	LR	11 44 49.5		
	comp=Z,1μm,20.5s,baz=317								
TNSS	**Tian-Shan**	**72.35**	**316**		*e*P	**P**	**11 15 56.0**	**-0.1**
TNSS	**Tian-Shan**	**72.35**	**316**		*e*P	**P**	**11 15 56.0**	**-0.1**
	baz=316								
AAA	**Alma-Ata**	**72.43**	**317**		*e*P	**P**	**11 15 56.3**	**+0.1**
AAA					pmax	pmax			
	comp=Z,66nm,0.9s								
AAA	**Alma-Ata**	**72.43**	**317**		*e*P	**P**	**11 15 56.3**	**+0.1**
	comp=Z,66nm,0.9s,baz=317								
NRN	**Naryn**	**72.48**	**315**		P	**P**	**11 15 57.1**	**+0.3**
NRN	**Naryn**	**72.48**	**315**		P	**P**	**11 15 57.1**	**+0.3**
NRN					pmax	pmax			
	comp=Z,31nm,1.1s								
CHKK	**Chushkaly**	**72.61**	**317**		*e*P	**P**	**11 15 57.0**	**-0.1**
CHKK	**Chushkaly**	**72.61**	**317**		*e*P	**P**	**11 15 57.0**	**-0.1**
	baz=317								
TKM2	**Tokmak 2**	**73.25**	**316**		P	**P**	**11 16 02.3**	**+1.1**
	SNR=20								
TKM2	**Tokmak 2**	**73.25**	**316**		*i* P	**P**	**11 16 01.3**	**+0.1**
TKM2					pmax	pmax			
	comp=Z,49nm,1.2s								
UCH	**Uchtor**	**73.79**	**315**		P	**P**	**11 16 06.4**	**+1.7**
	SNR=59								
TIXI	**Tiksi**	**73.84**	**356**		P	**P**	**11 16 03.5**	**-0.3**
TIXI					IAMs_20	IAMs_20	11 46 55.5		
	comp=Z,4μm,22.0s								
TIXI	**Tiksi**	**73.84**	**356**		P	**P**	**11 16 03.5**	**-0.3**
TIXI					pmax	pmax			
	comp=Z,25nm,1.0s								
CHMS	**Chumysh**	**73.86**	**316**		P	**P**	**11 16 05.4**	**+0.8**
	SNR=18								
CHMS	**Chumysh**	**73.86**	**316**		*i* P	**P**	**11 16 04.6**	**0.0**
CHMS					pmax	pmax			
	comp=Z,50nm,1.0s								
AAK	**Ala-Archa**	**73.93**	**315**		P	**P**	**11 16 06.4**	**+1.2**
	SNR=12								
AAK	**Ala-Archa**	**73.93**	**315**		P	**P**	**11 16 06.2**	**+1.1**
AAK					IAmb	IAmb	11 16 16.1		
	comp=Z,62nm,1.2s								
AAK	**Ala-Archa**	**73.93**	**315**		P	**P**	**11 16 06.2**	**+1.1**
AAK					pmax	pmax			
	comp=Z,62nm,1.3s								
AAK					MLR	MLR			
	comp=Z,2μm,21.0s								
AAK	**Ala-Archa**	**73.93**	**315**		*i* P	**P**	**11 16 05.8**	**+0.7**
	SNR=13								
AAK	**Ala-Archa**	**73.93**	**315**	⇓	P	**P**	**11 16 06.2**	**+1.1**
SGDS	**Sogindy**	**74.09**	**316**		*e*P	**P**	**11 16 05.9**	**0.0**
SGDS					pmax	pmax			
	comp=Z,34nm,1.5s								
SGDS	**Sogindy**	**74.09**	**316**		*e*P	**P**	**11 16 06.0**	**0.0**
	comp=Z,34nm,1.5s,baz=316								
USP	**Ospenovka**	**74.12**	**316**		P	**P**	**11 16 06.5**	**+0.4**
	SNR=37								
KURK	**Kurchatov**	**74.14**	**324**		P	**P**	**11 16 05.2**	**-0.7**
KURK	**Kurchatov**	**74.14**	**324**		P	**P**	**11 16 06.3**	**+0.3**
KURK	**Kurchatov**	**74.14**	**324**	⇓	P	**P**	**11 16 06.2**	**+0.3**
KURBB	**Kurchatov Arra**	**74.16**	**324**		P	**P**	**11 16 06.3**	**+0.2**
	comp=Z,13nm,0.9s,baz=124,slow=5.0,SNR=67								
KURBB					PKPPKP	**P'P'df**	**11 43 42.6**	**+4.5**
	comp=Z,0.5nm,0.3s,baz=275,slow=3.3,SNR=5.9								
KURBB					LR	LR	11 49 04.6		
	comp=Z,2μm,20.5s,baz=68,slow=36								
	comp=Z,13nm,0.9s								
KURBB	**Kurchatov Arra**	**74.16**	**324**		P	**P**	**11 16 06.0**	**-0.1**
AML	**Almayashu**	**74.34**	**315**		P	**P**	**11 16 09.4**	**+1.6**
	SNR=26								
EKS2	**Erkin-Say**	**74.44**	**315**		P	**P**	**11 16 08.5**	**+0.4**
	SNR=20								
SDPT	**Sand Point**	**74.53**	**31**		P	**P**	**11 16 07.5**	**-0.6**
	baz=243								
CNBA	**Chernabura Isl**	**74.75**	**31**		IAMs_20	IAMs_20	11 45 03.8		
	comp=Z,4μm,22.0s								
CHNA	**Chernabura Isl**	**74.75**	**31**		P	**P**	**11 16 09.0**	**-0.4**
	baz=243								
DRK	**Karamyk**	**74.97**	**312**		P	**P**	**11 16 12.2**	**+0.7**
DRK					IAmb	IAmb	11 16 26.1		
	comp=Z,125nm,1.6s								
S14K	**Fog Glacier**	**75.42**	**30**		P	**P**	**11 16 13.3**	**-0.1**
	baz=243								
KBL	**Kabul**	**75.94**	**306**		P	**P**	**11 16 17.1**	**+0.1**
KBL					IAmb	IAmb	11 16 25.9		
	comp=Z,85nm,1.4s								
KBL	**Kabul**	**75.94**	**306**		P	**P**	**11 16 17.1**	**+0.1**
KBL					pmax	pmax			
	comp=Z,85nm,1.4s								
GAR	**Garm**	**75.96**	**311**		P	**P**	**11 16 16.6**	**-0.3**
CHGN	**Chignik**	**76.00**	**30**		P	**P**	**11 16 16.1**	**-0.4**
	baz=244								
DZA	**Taraz**	**76.23**	**315**		*e*P	**P**	**11 16 17.9**	**-0.3**
DZA					pmax	pmax			
	comp=Z,48nm,1.4s								
DZA	**Taraz**	**76.23**	**315**		*e*P	**P**	**11 16 17.9**	**-0.3**
	comp=Z,48nm,1.4s,baz=315								
VNDA	**Vanda**	**76.40**	**175**		P	**P**	**11 16 17.8**	**-0.7**
	comp=Z,35nm,0.8s,baz=327,slow=6.5,SNR=137								
	comp=Z,35nm,0.8s								
VNDA	**Vanda**	**76.40**	**175**		P	**P**	**11 16 17.8**	**-0.7**
VNDA					IAmb	IAmb	11 16 21.8		
	comp=Z,45nm,0.9s								
VNDA	**Vanda**	**76.40**	**175**		P	**P**	**11 16 17.8**	**-0.7**
VNDA					pmax	pmax			
	comp=Z,45nm,0.9s								
CHGR	**Chuyangaron**	**76.76**	**310**		P	**P**	**11 16 21.8**	**+0.4**
CHGR	**Chuyangaron**	**76.76**	**310**		P	**P**	**11 16 21.8**	**+0.4**
CHGR					pmax	pmax			
	comp=Z,333nm,1.4s								
KK31	**Karatay Array**	**76.86**	**315**		P	**P**	**11 16 22.1**	**+0.3**
KK31					IAmb	IAmb	11 16 32.3		
	comp=Z,81nm,1.4s								
KK31	**Karatay Array**	**76.86**	**315**		P	**P**	**11 16 22.2**	**+0.3**
KK31					pmax	pmax			
	comp=Z,81nm,1.4s								
KKAR	**Karatay Array**	**76.86**	**315**		P	**P**	**11 16 22.0**	**+0.1**
KKAR	**Karatay Array**	**76.86**	**315**		P	**P**	**11 16 21.9**	**+0.1**
KKAR					IAmb	IAmb	11 16 32.3		
	comp=Z,81nm,1.4s								
KKAR	**Karatay Array**	**76.86**	**315**		P	**P**	**11 16 21.9**	**+0.1**
KKAR					pmax	pmax			
	comp=Z,81nm,1.4s								
IUG	**Iuzhnay**	**76.96**	**314**		*e*P	**P**	**11 16 22.1**	**-0.4**
IUG					*i*		11 16 32.5		
IUG	**Iuzhnay**	**76.96**	**314**		*e*P	**P**	**11 16 22.2**	**-0.4**
	baz=314								
IUG					*i* PcP	**PcP**	**11 16 32.6**	**-1.0**
	baz=314								
OTUK	**Ortayu**	**77.10**	**320**		P	**P**	**11 16 23.5**	**+0.4**
ANM	**Nome**	**77.11**	**21**		IAMs_20	IAMs_20	11 44 20.0		
	comp=Z,5μm,22.0s								
ANM	**Nome**	**77.11**	**21**		P	**P**	**11 16 23.0**	**+0.2**
	baz=236								
SBA	**Scott Base**	**77.14**	**174**		P	**P**	**11 16 23.7**	**+1.1**
SBA					IAmb	IAmb	11 16 27.2		
	comp=Z,57nm,1.1s								
SBA	**Scott Base**	**77.14**	**174**		IAMs_20	IAMs_20	11 52 27.7		
	comp=Z,3μm,20.0s								
SBA	**Scott Base**	**77.14**	**174**		P	**P**	**11 16 23.7**	**+1.1**
SBA					pmax	pmax			
	comp=Z,57nm,1.1s								
SBA					MLR	MLR			
	comp=Z,3μm,20.0s								
CHIR	**Chirikof Islan**	**77.22**	**31**		IAMs_20	IAMs_20	11 49 32.3		
	comp=Z,3μm,19.0s								
P16K	**Nushagak River**	**77.39**	**28**		P	**P**	**11 16 24.3**	**-0.1**
	baz=244								
BRZS	**Berezniki**	**77.43**	**322**		*e*P	**P**	**11 16 24.6**	**-0.2**
BRZS					*e*		11 16 34.9		
BRZS					pmax	pmax			
	comp=Z,38nm,1.6s								
BRZS	**Berezniki**	**77.43**	**322**		*e*P	**P**	**11 16 24.7**	**-0.2**
	comp=Z,38nm,1.6s,baz=322								
BRZS					*e*PcP	**PcP**	**11 16 34.9**	**-0.4**
	baz=322								
R17K	**Ugashik Creek**	**77.57**	**29**		P	**P**	**11 16 24.9**	**-0.6**
	baz=246,SNR=5.1								
O16K	**Kokwok River B**	**77.59**	**27**		P	**P**	**11 16 25.7**	**+0.2**
	baz=244,SNR=6.8								
N16K	**Nishlik Lake**	**77.68**	**26**		P	**P**	**11 16 26.6**	**+0.5**
	baz=243								
Q16K	**King Salmon**	**77.87**	**28**		P	**P**	**11 16 27.4**	**+0.4**
	baz=245								
O17K	**Koliganek Bris**	**78.13**	**27**		P	**P**	**11 16 28.6**	**+0.1**
	baz=245,SNR=18								
P17K	**Kvichak River**	**78.19**	**28**		P	**P**	**11 16 27.9**	**-0.9**
	baz=245								
SII	**Sitkinak Islan**	**78.25**	**31**		IAMs_20	IAMs_20	11 48 40.4		
	comp=Z,3μm,20.0s								
SII	**Sitkinak Islan**	**78.25**	**31**		P	**P**	**11 16 29.4**	**+0.1**
	baz=248								
P18K	**Big Mountain,**	**78.83**	**28**		P	**P**	**11 16 31.7**	**-0.8**
	baz=246								
OHAK	**Old Harbor**	**78.95**	**30**		P	**P**	**11 16 32.5**	**-0.5**
OHAK	**Old Harbor**	**78.95**	**30**		P	**P**	**11 16 33.1**	**0.0**
	baz=249,SNR=10.0								
O18K	**Koktuh Hills**	**79.03**	**28**		P	**P**	**11 16 32.9**	**-0.6**
O18K					IAmb	IAmb	11 16 34.2		
	comp=Z,81nm,1.9s								
O18K					IAMs_20	IAMs_20	11 45 23.9		
	comp=Z,5μm,22.0s								
O18K	**Koktuh Hills**	**79.03**	**28**		P	**P**	**11 16 33.3**	**-0.2**
	baz=246								
N18K	**Kilae Creek**	**79.06**	**27**		P	**P**	**11 16 34.0**	**+0.4**
N18K					IAMs_20	IAMs_20	11 45 47.6		
	comp=Z,4μm,22.0s								
N18K	**Kilae Creek**	**79.06**	**27**		P	**P**	**11 16 34.2**	**+0.6**
	baz=246,SNR=6.9								
TAOE	**Nuku Hiva Isla**	**79.14**	**99**		*e*P	**P**	**11 16 36.2**	**+1.0**
	comp=Z,240nm,22.3s								
TAOE					*e*S	**S**	**11 26 33.9**	**-1.3**
	comp=Z,386nm,24.2s								
TAOE					*e*SS	**SS**	**11 31 41.1**	**-0.5**
	comp=Z,604nm,29.1s								
TAOE					*e*LR	LR	11 41 08.2		
	comp=Z,2μm,22.4s								
TAOE	**Nuku Hiva Isla**	**79.14**	**99**		*e*P	**P**	**11 16 36.5**	**+1.3**
	comp=Z,240nm,22.3s								
TAOE					*e*S	**S**	**11 26 34.5**	**-0.7**
	comp=Z,386nm,24.2s								
TAOE					*e*SS	**SS**	**11 31 40.3**	**-1.3**
	comp=Z,630nm,29.5s								
TAOE					*e*LR	LR	11 41 08.1		
	comp=Z,2μm,22.4s								
SVW2	**Sparrevohn**	**79.36**	**26**		P	**P**	**11 16 35.8**	**+0.5**
Q19K	**Cape Douglas,**	**79.41**	**29**		IAMs_20	IAMs_20	11 45 34.0		
	comp=Z,5μm,22.0s								
Q19K	**Cape Douglas,**	**79.41**	**29**		P	**P**	**11 16 34.8**	**-0.8**
	baz=248								
NRIK	**Noril'sk**	**79.50**	**343**		P	**P**	**11 16 36.0**	**+0.2**
	comp=Z,35nm,0.9s,baz=139,slow=6.1,SNR=33								
	comp=Z,35nm,0.9s								
NRIK	**Noril'sk**	**79.50**	**343**		P	**P**	**11 16 35.6**	**-0.3**
NRIK					IAmb	IAmb	11 16 37.2		
	comp=Z,87nm,1.1s								
NRIK	**Noril'sk**	**79.50**	**343**		P	**P**	**11 16 36.0**	**+0.2**
KDAK	**Kodiak Island**	**79.51**	**30**		P	**P**	**11 16 35.6**	**-0.5**
	comp=Z,28nm,0.9s,baz=255,slow=4.6,SNR=15								
	comp=Z,28nm,0.9s								
KDAK	**Kodiak Island**	**79.51**	**30**		P	**P**	**11 16 36.0**	**-0.1**
KDAK					IAmb	IAmb	11 16 37.3		
	comp=Z,142nm,1.6s								
KDAK	**Kodiak Island**	**79.51**	**30**		P	**P**	**11 16 36.0**	**-0.1**
KDAK					pmax	pmax			
	comp=Z,142nm,1.6s								
KDAK	**Kodiak Island**	**79.51**	**30**		P	**P**	**11 16 36.0**	**-0.1**
	baz=249								
KDAK	**Kodiak Island**	**79.51**	**30**	⇓	P	**P**	**11 16 36.1**	**0.0**
O19K	**Port Alsworth**	**79.57**	**27**		IAMs_20	IAMs_20	11 46 04.0		
	comp=Z,4μm,22.0s								
O19K	**Port Alsworth**	**79.57**	**27**		P	**P**	**11 16 36.1**	**-0.3**
	baz=247								
BVAR	**Borovoye Array**	**79.73**	**325**		P	**P**	**11 16 37.8**	**+0.4**
	comp=Z,21nm,0.8s,baz=113,slow=5.6,SNR=84								
	comp=Z,21nm,0.8s								
N19K	**Bonanza Creek**	**79.74**	**27**		P	**P**	**11 16 37.4**	**-0.1**
N19K					IAmb	IAmb	11 16 39.0		
	comp=Z,70nm,1.1s								
N19K					IAMs_20	IAMs_20	11 46 52.7		
	comp=Z,3μm,22.0s								
N19K	**Bonanza Creek**	**79.74**	**27**		P	**P**	**11 16 37.7**	**+0.2**
	baz=247,SNR=18								
BRVK	**Borovoye**	**79.80**	**325**		P	**P**	**11 16 38.1**	**+0.3**
BRVK					IAmb	IAmb	11 16 42.0		
	comp=Z,98nm,1.2s								
BRVK	**Borovoye**	**79.80**	**325**		P	**P**	**11 16 38.1**	**+0.3**
BRVK					pmax	pmax			
	comp=Z,98nm,1.3s								
BRVK					MLR	MLR			
	comp=Z,2μm,22.0s								
BRVK	**Borovoye**	**79.80**	**325**	⇑	P	**P**	**11 16 38.0**	**+0.2**
RDOG	**Red Dog Mine**	**79.86**	**19**		IAMs_20	IAMs_20	11 58 25.6		
	comp=Z,3μm,21.0s								
P19K	**Oil Pt**	**79.88**	**28**		P	**P**	**11 16 37.3**	**-0.8**
	baz=248								
Q20K	**Shuyak Island**	**79.90**	**29**		P	**P**	**11 16 37.7**	**-0.5**
	baz=249								
TTA	**Tatalina**	**79.94**	**25**		P	**P**	**11 16 38.4**	**-0.1**
TTA	**Tatalina**	**79.94**	**25**		P	**P**	**11 16 38.4**	**-0.1**
TTA					pmax	pmax			
	comp=Z,23nm,0.8s								
TTA	**Tatalina**	**79.94**	**25**		P	**P**	**11 16 38.6**	**+0.1**
	baz=245,SNR=25								
TTA	**Tatalina**	**79.94**	**25**	⇓	P	**P**	**11 16 38.6**	**+0.1**
L19K	**White Mountain**	**80.12**	**25**		P	**P**	**11 16 39.3**	**-0.1**
L19K					IAmb	IAmb	11 16 40.9		
	comp=Z,54nm,0.9s								
L19K					IAMs_20

CHUM	**Lake Minchumin** baz=248,SNR=74	81.84	24	P		P	11 16 48.8	+0.3
RC01	**Rabbit Creek A** baz=251,SNR=8.3	82.00	27	P		P	11 16 48.5	-0.9
M22K	**Willow**	82.05	27	P		P	11 16 48.4	-1.2
M22K	comp=Z,52nm,0.8s			IAmb		IAmb	11 16 49.5	
M22K	**Willow** baz=251,SNR=14	82.05	27	P		P	11 16 48.3	-1.3
IMAR	**Indian Mountai**	82.08	22	P		P	11 16 49.3	-0.4
CUT	**Chulitna**	82.20	26	P		P	11 16 49.5	-0.8
CUT	comp=Z,41nm,0.8s			IAmb		IAmb	11 17 18.6	
CUT	comp=Z,4µm,20.0s			IAMs_20		IAMs_20	11 49 27.7	
CUT	**Chulitna** baz=250	82.20	26	P		P	11 16 49.1	-1.3
KTH	**Kantishna Hill**	82.31	25	P		P	11 16 50.1	-1.0
KTH	comp=Z,54nm,0.9s			IAmb		IAmb	11 16 51.2	
KTH	comp=Z,3µm,21.0s			IAMs_20		IAMs_20	11 47 31.5	
H21K	**Melozitna Rive** comp=Z,4µm,21.0s	82.31	23	IAMs_20		IAMs_20	11 50 07.5	
H21K	**Melozitna Rive** baz=248,SNR=14	82.31	23	P		P	11 16 51.0	+0.1
G21K	**Allakaket** baz=247	82.38	22	P		P	11 16 51.4	+0.1
PMR	**Palmer** baz=252,SNR=11	82.44	27	P		P	11 16 50.8	-0.8
I21K	**Tanana** comp=Z,3µm,22.0s	82.45	23	IAMs_20		IAMs_20	11 46 15.4	
I21K	**Tanana** baz=248,SNR=15	82.45	23	P		P	11 16 52.1	+0.4
BPAW	**Bear Paw Mtn.**	82.47	24	P		P	11 16 50.9	-0.9
BPAW	comp=Z,78nm,1.8s			IAmb		IAmb	11 16 53.6	
BPAW	comp=Z,4µm,22.0s			IAMs_20		IAMs_20	11 47 25.8	
BPAW	**Bear Paw Mtn.** baz=250,SNR=12	82.47	24	P		P	11 16 51.2	-0.7
TRF	**Thorofare Moun** baz=250,SNR=12	82.54	25	P		P	11 16 51.1	-1.3
PWL	**Port Wells** baz=252,SNR=6.1	82.58	28	P		P	11 16 51.9	-0.6
GHO	**Glory Hole Cre**	82.59	27	P		P	11 16 51.2	-1.4
GHO	comp=Z,64nm,1.2s			IAmb		IAmb	11 17 02.8	
GHO	comp=Z,4µm,21.0s			IAMs_20		IAMs_20	11 48 48.0	
F21K	**Alatna River** baz=247	82.67	21	P		P	11 16 52.5	-0.3
KNK	**Knik Glacier**	82.69	27	P		P	11 16 52.7	-0.4
KNK	**Knik Glacier** baz=252,SNR=12	82.69	27	P		P	11 16 52.8	-0.3
SML	**Sawmill** baz=252,SNR=20	82.87	27	P		P	11 16 53.6	-0.4
MLY	**Manley** baz=250,SNR=20	82.89	23	P		P	11 16 53.8	-0.2
H22K	**Ishtalitna Cre** baz=249,SNR=11	82.95	23	P		P	11 16 54.6	+0.3
WAT1	**Susitna Watana** baz=252	83.08	26	P		P	11 16 54.2	-0.9
BWN	**Browne**	83.12	24	P		P	11 16 54.7	-0.5
BWN	comp=Z,3µm,22.0s			IAMs_20		IAMs_20	11 47 36.9	
M23K	**Glacier View** baz=253,SNR=9.5	83.14	27	P		P	11 16 54.8	-0.6
GLI	**Glacier Island** baz=254	83.17	28	P		P	11 16 54.9	-0.6
MCK	**McKinley** comp=Z,4µm,22.0s	83.20	25	IAMs_20		IAMs_20	11 47 48.2	
MCK	**McKinley** baz=252,SNR=15	83.20	25	P		P	11 16 54.7	-0.9
F22K	**John River** baz=248,SNR=15	83.24	21	P		P	11 16 56.1	+0.4
G22K	**Bettles** baz=249	83.27	22	P		P	11 16 55.7	-0.1
WSAR	**Wadi Sarin** comp=Z,6.5nm,0.9s,baz=122,slow=4.6,SNR=7.8	83.33	294	P		P	11 16 57.5	+0.3
WSAR	comp=Z,275nm,18.9s,baz=112,slow=38			LR		LR	11 57 22.3	
SCM	comp=Z,6.5nm,0.9s **Sheep Creek Mo** comp=Z,4µm,21.0s	83.33	27	IAMs_20		IAMs_20	11 51 21.6	
SCM	**Sheep Creek Mo** baz=253,SNR=13	83.33	27	P		P	11 16 56.0	-0.4
WAT6	**Susitna Watana** baz=253	83.37	26	P		P	11 16 55.9	-0.8
NEA2	**Nenana** baz=251,SNR=18	83.42	24	P		P	11 16 56.3	-0.4
MAW	**Mawson** comp=Z,32nm,1.0s,baz=67,slow=6.7,SNR=40	83.53	202	P		P	11 16 57.2	0.0
MAW	comp=Z,6µm,18.5s,baz=74,slow=34			LR		LR	11 52 33.0	
MAW	comp=Z,32nm,1.0s **Mawson**	83.53	202	⇓P		P	11 16 57.6	+0.4
E22K	**Anaktuvuk Pass** baz=248	83.60	20	P		P	11 16 57.5	-0.1
H23K	**Yukon River**	83.63	23	P		P	11 16 57.4	-0.4
H23K	comp=Z,2µm,19.0s			IAMs_20		IAMs_20	11 52 25.4	
H23K	**Yukon River** baz=251,SNR=12	83.63	23	P		P	11 16 57.5	-0.3
DHY	**Denali Highway**	83.67	26	P		P	11 16 57.3	-1.0
DHY	comp=Z,4µm,22.0s			IAMs_20		IAMs_20	11 50 11.6	
DHY	**Denali Highway** baz=253	83.67	26	P		P	11 16 57.8	-0.5
EYAK	**Cordova Ski Ar** baz=255	83.71	29	P		P	11 16 58.0	-0.3
G23K	**Bananza Creek** baz=250,SNR=13	83.75	22	P		P	11 16 58.5	0.0
WRH	**Wood River Hil**	83.79	24	P		P	11 16 57.3	-1.2
COLD	**Coldfoot** baz=250,SNR=14	83.86	21	P		P	11 16 59.2	+0.3
MDM	**Murphy Dome** comp=Z,4µm,22.0s	83.88	24	IAMs_20		IAMs_20	11 48 20.0	
KLU	**Klutina** baz=254,SNR=12	83.88	28	P		P	11 16 58.8	-0.5
M24K	**Tolsona, Glenn** comp=Z,3µm,22.0s	83.93	27	IAMs_20		IAMs_20	11 49 16.5	
M24K	**Tolsona, Glenn** baz=254,SNR=9.0	83.93	27	P		P	11 16 58.8	-0.7
TCOL	**CIGO, UAF Yank**	84.00	24	P		P	11 16 58.4	-1.3
TCOL	comp=Z,30nm,1.1s			IAmb		IAmb	11 17 09.2	
TCOL	comp=Z,3µm,22.0s			IAMs_20		IAMs_20	11 48 35.3	
TCOL	**CIGO, UAF Yank** baz=252	84.00	24	P		P	11 16 58.4	-1.3
COLA	**College** comp=Z,3µm,22.0s	84.01	24	IAMs_20		IAMs_20	11 48 35.3	
COLA	**College**	84.01	24	*ce*P		P	11 16 58.6	-1.1
COLA	comp=Z,26nm,1.1s			pmax		pmax		
COLA	**College** baz=252	84.01	24	P		P	11 16 58.2	-1.4
COLA	**College**	84.01	24	⇑P		P	11 16 58.6	-1.1
RAGM	**Ragged Mountai** comp=Z,3µm,20.0s	84.19	29	IAMs_20		IAMs_20	11 49 00.3	
KAIM	**Kayak Island** comp=Z,4µm,19.0s	84.20	29	IAMs_20		IAMs_20	11 52 19.6	
KAIM	**Kayak Island** baz=256	84.20	29	P		P	11 16 59.7	-1.1
HDA	**Harding Lake**	84.24	25	P		P	11 16 59.3	-1.7
HDA	comp=Z,27nm,0.9s			IAmb		IAmb	11 17 01.2	
HDA	**Harding Lake** baz=253,SNR=19	84.24	25	P		P	11 16 59.5	-1.5
POKR	**Poker Plat Res** comp=Z,2µm,22.0s	84.25	24	IAMs_20		IAMs_20	11 48 53.8	
POKR	**Poker Plat Res** baz=253	84.25	24	P		P	11 17 00.3	-0.7
H24K	**Noodor Dome**	84.29	23	P		P	11 17 00.9	-0.3
H24K	comp=Z,34nm,1.1s			IAmb		IAmb	11 17 11.9	
H24K	comp=Z,3µm,22.0s			IAMs_20		IAMs_20	11 49 09.8	
H24K	**Noodor Dome** baz=252,SNR=14	84.29	23	P		P	11 17 01.2	0.0
D23K	**Nanushuk River** baz=249,SNR=8.0	84.29	20	P		P	11 17 02.0	+0.9
E23K	**Chandalar** baz=250,SNR=8.4	84.35	21	P		P	11 17 01.9	+0.4
BMRM	**Bremner River** baz=256,SNR=5.7	84.36	28	P		P	11 17 01.6	-0.1
IL31		84.37	24	P		P	11 16 59.2	-2.3
IL31	comp=Z,24nm,0.8s			IAmb		IAmb	11 17 00.8	
ILAR	**Eielson Array** comp=Z,18nm,0.8s,baz=256,slow=4.9,SNR=150	84.37	24	P		P	11 16 59.6	-1.9
HMT	**Hamilton** comp=Z,18nm,0.8s	84.38	29	IAMs_20		IAMs_20	11 48 42.2	
RER	**Riviere de l'E**	84.46	249	⇓P		P	11 17 05.9	+2.8
HARP	**HAARP** baz=255	84.47	27	P		P	11 17 02.0	-0.1
PAX	**Paxson**	84.48	26	P		P	11 17 01.9	-0.4
PAX	**Paxson**	84.48	26	P		P	11 17 01.9	-0.4
PAX	comp=Z,112nm,1.9s			pmax		pmax		
PAX	**Paxson** baz=255	84.48	26	P		P	11 17 01.8	-0.5
N25K	**Chitina, Valde** baz=256,SNR=5.6	84.52	28	P		P	11 17 02.2	-0.3
SUCK	**Suckling Hills** comp=Z,3µm,20.0s	84.55	29	IAMs_20		IAMs_20	11 50 08.8	
TOLK	**Toolik Lake Re**	84.56	20	P		P	11 17 03.4	+0.9
TOLK	**Toolik Lake Re** comp=Z,4µm,22.0s	84.56	20	IAMs_20		IAMs_20	11 48 58.8	
TOLK	**Toolik Lake Re** baz=250	84.56	20	P		P	11 17 02.7	+0.2
K24K	**Donnelly Dome** baz=254	84.57	25	P		P	11 17 02.1	-0.6
C23K	**Itkillik River** baz=249,SNR=8.8	84.62	19	P		P	11 17 03.0	+0.3
G24K	**Hadweenzic Riv** baz=253,SNR=16	84.70	22	P		P	11 17 03.4	+0.2
E24K	**Your Creek** baz=252	84.75	21	P		P	11 17 03.6	+0.1
F24K	**Squaw Lake** baz=252,SNR=16	84.80	21	P		P	11 17 04.0	+0.3
BGLC	**Bering Glacier** baz=257	84.80	29	P		P	11 17 03.5	-0.3
GLB	**Gilahina Butte**	84.85	28	P		P	11 17 03.4	-0.8
GLB	comp=Z,39nm,0.9s			IAmb		IAmb	11 17 05.0	
MSEY	**Mahe Island**	84.93	266	P		P	11 17 05.5	0.0
RIDG	**Independent Ri** comp=Z,4µm,20.0s	84.95	26	IAMs_20		IAMs_20	11 53 20.3	
RIDG	**Independent Ri** baz=255,SNR=24	84.95	26	P		P	11 17 03.7	-0.9
J25K	**Salcha River,**	84.95	25	P		P	11 17 03.4	-1.1
J25K	comp=Z,35nm,1.1s			IAmb		IAmb	11 17 07.8	
J25K	comp=Z,3µm,21.0s			IAMs_20		IAMs_20	11 53 08.4	
J25K	**Salcha River,** baz=255,SNR=19	84.95	25	P		P	11 17 03.5	-1.1
D24K	**Happy Valley** baz=251	84.98	20	P		P	11 17 05.2	+0.7
SNH	**Sunshine Point** comp=Z,4µm,22.0s	85.03	29	IAMs_20		IAMs_20	11 49 16.6	
WAX	**Waxell Ridge** comp=Z,4µm,21.0s	85.08	29	IAMs_20		IAMs_20	11 52 49.9	
PRP	**Porcupine Dome** comp=Z,2µm,22.0s	85.13	24	IAMs_20		IAMs_20	11 52 59.1	
PRP	**Porcupine Dome** baz=254	85.13	24	P		P	11 17 04.9	-0.6
GEYT	**Alibeck** comp=Z,69nm,1.2s,baz=0.0,slow=0.3,SNR=59	85.20	308	P		P	11 17 05.9	-0.5
GEYT	**Alibeck**	85.20	308	P		P	11 17 08.0	+1.6
GYA0	**ALIBECK ARRAY**	85.20	308	P		P	11 17 07.6	+1.2
GYA0B	**ALIBECK ARRAY**	85.20	308	P		P	11 17 07.6	+1.2
MCARA	**McCarthy VSAT** baz=257	85.21	28	P		P	11 17 05.2	-0.7
C24K	**Franklin Bluff** baz=251	85.21	19	P		P	11 17 05.9	+0.2
H25K	**Birch Creek** baz=254,SNR=7.8	85.22	23	P		P	11 17 05.6	-0.1
MENT	**Mentasta**	85.25	26	P		P	11 17 05.8	-0.3
MENT	comp=Z,26nm,0.9s			IAmb		IAmb	11 17 14.8	
SOHO	**SOHO** SNR=11	85.31	294	*i* P		P	11 17 05.7	-1.4
AB31	**Akbulak array**	85.31	320	*i* P		P	11 17 06.0	-0.6
ABKAR	**Akbulak array**	85.31	320	P		P	11 17 05.2	-1.5
ABKAR	**Akbulak array**	85.31	320	P		P	11 17 06.3	-0.4
ABKAR	comp=Z,38nm,1.0s			IAmb		IAmb	11 17 17.2	
ISLE	**Juniper Island** comp=Z,4µm,22.0s	85.36	29	IAMs_20		IAMs_20	11 52 47.3	
SCRK	**Sand Creek** comp=Z,3µm,20.0s	85.38	25	IAMs_20		IAMs_20	11 53 31.6	
SCRK	**Sand Creek** baz=256,SNR=10	85.38	25	P		P	11 17 06.3	-0.5
L26K	**Log Cabin Wild**	85.43	26	P		P	11 17 06.9	-0.1
L26K	comp=Z,36nm,1.1s			IAmb		IAmb	11 17 11.1	
L26K	comp=Z,4µm,21.0s			IAMs_20		IAMs_20	11 52 20.1	
L26K	**Log Cabin Wild** baz=257,SNR=17	85.43	26	P		P	11 17 06.7	-0.3
M26K	**Nabesna, AK** baz=257	85.45	27	P		P	11 17 06.9	-0.2
MESA	**MESA**	85.46	29	IAMs_20		IAMs_20	11 49 29.0	
MESA	**MESA** baz=258	85.46	29	P		P	11 17 07.2	-0.2
FYU	**Fort Yukon** comp=Z,3µm,20.0s	85.53	23	IAMs_20		IAMs_20	11 55 18.5	
F25K	**Christian Rive** baz=254,SNR=9.3	85.64	22	P		P	11 17 08.7	+0.7
BANOM	**Banah** SNR=20	85.66	296	*i* P		P	11 17 09.0	+0.1
UOSS	**Minazif** SNR=8.4	85.67	295	*i* P		P	11 17 08.3	-0.7
UOSS	**Minazif**	85.67	295	⇓P		P	11 17 08.6	-0.4
J26L	**Joseph Creek**	85.68	25	P		P	11 17 07.9	-0.4
J26L	comp=Z,34nm,1.1s			IAmb		IAmb	11 17 12.3	
J26L	comp=Z,3µm,22.0s			IAMs_20		IAMs_20	11 49 37.7	
J26L	**Joseph Creek** baz=256,SNR=18	85.68	25	P		P	11 17 08.0	-0.3
HATD	**Hatta, Dubai** SNR=7.4	85.73	295	*i* P		P	11 17 09.3	0.0
MSFE	**Esma-Masafi** SNR=13	85.74	295	*i* P		P	11 17 09.6	+0.2
ASHO	**Ashiyiah** SNR=9.6	85.78	295	*i* P		P	11 17 09.4	-0.2
SHME	**Shamm** SNR=9.2	85.81	296	*i* P		P	11 17 09.6	0.0
E25K	**Arctic Village** baz=254,SNR=7.9	85.82	21	P		P	11 17 09.4	+0.6
D25K	**Kavik River** baz=253,SNR=7.5	85.87	20	P		P	11 17 09.1	0.0
CTG	**Chitna Glacier** baz=259	85.92	29	P		P	11 17 09.5	-0.1
CTGM	**Chitina Glacie**	85.92	29	P		P	11 17 09.8	+0.2
M27K	**Edge Creek, AK** baz=255,SNR=24	85.95	27	P		P	11 17 09.6	-0.1
BMAR	**Burnt Mountain**	86.00	22	P		P	11 17 10.4	+0.7
ALNE	**Al Ain** SNR=11	86.02	294	*i* P		P	11 17 10.2	-0.5
LOGN	**Logan Glacier** comp=Z,3µm,21.0s	86.05	29	IAMs_20		IAMs_20	11 53 41.5	
L27K	**Beaver Creek,** comp=Z,4µm,20.0s	86.11	26	IAMs_20		IAMs_20	11 54 10.2	
L27K	**Beaver Creek,** baz=258,SNR=20	86.11	26	P		P	11 17 10.6	+0.2
NAZ	**Nazwa, Dubai**	86.16	295	P		P	11 17 11.3	-0.1
G26K	**Porcupine Rive** baz=256,SNR=19	86.18	22	P		P	11 17 11.3	+0.7
K27K	**Chicken**	86.21	26	P		P	11 17 10.5	-0.3
K27K	comp=Z,38nm,0.9s			IAmb		IAmb	11 17 12.6	
K27K	**Chicken** baz=258	86.21	26	P		P	11 17 11.5	+0.7
FAQ	**Al Faqa, Dubai** SNR=6.5	86.21	295	*i* P		P	11 17 11.6	-0.1
F26K	**Sheenjek River** baz=256,SNR=13	86.22	22	P		P	11 17 11.9	+1.0
PINM	**Pinnacle** baz=260	86.28	30	P		P	11 17 11.4	+0.1
BVCY	**Beaver Creek** baz=259,SNR=5.9	86.42	27	P		P	11 17 12.1	+0.2
O28M	**Mount Upton** baz=260,SNR=9.4	86.43	29	P		P	11 17 12.2	-0.1
ASUD	**Al Ashush, Dub**	86.44	295	P		P	11 17 11.8	-1.0
YUK3	**Moose Creek** baz=259,SNR=26	86.49	28	P		P	11 17 12.4	-0.1
C26K	**Camden Bay**	86.52	19	P		P	11 17 12.9	+0.7
BCPM	**Bancas Point** comp=Z,3µm,22.0s	86.56	30	IAMs_20		IAMs_20	11 49 28.1	
AKTO	**Aktyubinsk** comp=Z,18nm,1.0s,baz=100,slow=5.6,SNR=18	86.71	321	P		P	11 17 13.3	-0.2
I27K	**Kandik River** comp=Z,18nm,1.0s baz=258,SNR=14	86.73	24	P		P	11 17 13.7	+0.2
EGAK	**Eagle**	86.75	25	P		P	11 17 12.8	-0.6
EGAK	**Eagle** baz=258,SNR=8.2	86.75	25	P		P	11 17 13.4	0.0
C27K	**Jago River** baz=256	86.85	20	P		P	11 17 14.4	+0.5
H27K	**Steamboat Moun** baz=258,SNR=21	86.90	23	P		P	11 17 14.5	+0.3
G27K	**Doyon Strip** baz=258,SNR=8.2	86.97	23	P		P	11 17 14.7	+0.2
O29M	**Mount Kennedy** baz=261,SNR=7.4	87.14	29	P		P	11 17 15.7	+0.1
ARU	**Arti** comp=Z,5.9nm,0.7s,baz=101,slow=2.8,SNR=14	87.15	327	P		P	11 17 14.3	-1.3
ARU	comp=Z,5.9nm,0.7s **Arti**	87.15	327	P		P	11 17 14.5	-1.1
ARU	comp=Z,3µm,20.0s			IAMs_20		IAMs_20	11 57 56.4	
ARU	**Arti**	87.15	327	*d i* P		P	11 17 14.1	-1.4
ARU							11 20 39.3	
ARU				S		**SKSac**	11 27 41.3	-1.3
ARU				SS		**SS**	11 33 32.0	-6.3
ARU	comp=Z,19nm,1.2s			pmax		pmax		
ARU	comp=Z,3µm,20.0s			MLR		MLR		
ARU	**Arti**	87.15	327	⇑P		P	11 17 14.5	-1.1
ARU	**Arti**	87.15	327	⇑P		P	11 17 14.7	-0.8
YUK4	**Talbot Arm** baz=261	87.27	28	P		P	11 17 16.4	+0.1
E27K	**Coleen River** baz=258,SNR=20	87.28	21	P		P	11 17 16.4	+0.4
YUK6	**Outpost Mounta** baz=261	87.34	29	P		P	11 17 16.5	-0.1
DAWY	**Dawson**	87.38	26	P		P	11 17 15.9	-0.7
DAWY	comp=Z,57nm,1.2s			IAmb		IAmb	11 17 18.0	
DAWY	**Dawson** baz=260,SNR=28	87.38	26	P		P	11 17 16.5	0.0
P29M	**Windy Craggy** comp=Z,3µm,22.0s	87.46	30	IAMs_20		IAMs_20	11 51 11.8	
P29M	**Windy Craggy** baz=262,SNR=5.1	87.46	30	P		P	11 17 17.2	+0.2
M29M	**Somme Creek** baz=261,SNR=26	87.53	27	P		P	11 17 17.4	0.0
HYT	**Haines Junctio**	87.74	29	P		P	11 17 18.2	-0.3
HYT	comp=Z,42nm,1.0s			IAmb		IAmb	11 17 19.9	
HYT	**Haines Junctio** baz=262,SNR=19	87.74	29	P		P	11 17 18.4	0.0
L29M	**L29M** baz=261,SNR=19	87.78	27	P		P	11 17 18.8	+0.3
P30M	**Million Dollar** baz=262	87.91	30	P		P	11 17 19.5	+0.2
QSPA	**South Pole Qui**	88.01	180	P		P	11 17 19.2	-0.5
N30M	**Aishikik Lake** baz=262,SNR=10	88.03	28	P		P	11 17 19.7	0.0
I29M	**Ogilvie Camp,**	88.05	24	P		P	11 17 19.2	-0.5
I29M	**Ogilvie Camp,** baz=261,SNR=28	88.05	24	P		P	11 17 19.3	-0.5
PLBC	**Pleasant Camp** baz=263,SNR=9.1	88.13	30	P		P	11 17 19.7	-0.5
K29M	**Barlow Dome** baz=262,SNR=37	88.16	26	P		P	11 17 20.6	+0.2
O30N	**Mendenhall** baz=263,SNR=7.2	88.42	29	P		P	11 17 21.5	-0.2
N31M	**Braeburn, Yuko** comp=Z,4µm,22.0s	88.65	28	IAMs_20		IAMs_20	11 51 47.4	
N31M	**Braeburn, Yuko** baz=264,SNR=8.6	88.65	28	P		P	11 17 22.4	-0.3
SKAG	**Skagway**	88.66	31	P		P	11 17 23.2	+0.6
SKAG	comp=Z,39nm,1.1s			IAmb		IAmb	11 17 24.1	
SKAG	**Skagway** baz=264	88.66	31	P		P	11 17 22.8	+0.2
EPYK	**Eagle Plains**	88.83	24	P		P	11 17 23.1	-0.3
EPYK	comp=Z,3µm,21.0s			IAMs_20		IAMs_20	11 51 37.0	
EPYK	**Eagle Plains** baz=262,SNR=11	88.83	24	P		P	11 17 23.3	-0.1
MAYO	**Mayo, Yukon** baz=263,SNR=7.4	88.84	26	P		P	11 17 23.6	+0.1
S32K	**Killisnoo** baz=265	88.85	33	P		P	11 17 23.4	-0.1
R32K	**Eaglecrest** baz=265	88.96	32	P		P	11 17 24.0	-0.1
WHY	**Whitehorse** baz=264,SNR=9.2	89.00	29	P		P	11 17 24.5	+0.1
JIS	**Juneau Island** comp=Z,3µm,21.0s	89.03	32	IAMs_20		IAMs_20	11 52 50.4	
M31M	**Drury Creek, Y** comp=Z,2µm,19.0s	89.38	28	IAMs_20		IAMs_20	11 52 09.6	
M31M	**Drury Creek, Y** baz=265,SNR=6.9	89.38	28	P		P	11 17 25.4	-0.7
P32M	**Atlin** baz=265	89.49	30	P		P	11 17 26.0	-0.7
U33K	**Whale Pass** baz=266	89.54	34	P		P	11 17 26.8	0.0
FARO	**Faro, Yukon**	89.87	28	P		P	11 17 28.1	-0.3
FARO	comp=Z,34nm,1.1s			IAmb		IAmb	11 17 29.3	
FARO	**Faro, Yukon** baz=266,SNR=16	89.87	28	P		P	11 17 28.1	-0.3
N32M	**Quiet Lake** baz=266	89.92	29	P		P	11 17 28.5	-0.1
P33M	**Teslin, Yukon** baz=266,SNR=6.5	89.98	30	P		P	11 17 28.6	-0.3
WRAK	**Wrangell Islan** comp=Z,3µm,20.0s	89.99	34	IAMs_20		IAMs_20	11 53 29.8	
WRAK	**Wrangell Islan** baz=266	89.99	34	P		P	11 17 28.3	-0.7
F31M	**Tsiigehtchic** baz=265	90.12	23	P		P	11 17 28.3	-1.0
Q32M	**Nakina River** baz=266	90.18	31	P		P	11 17 29.3	-0.8
INK	**Inuvik** comp=Z,14nm,1.0s,baz=255,slow=4.9,SNR=18	90.27	22	P		P	11 17 29.2	-0.8
INK	**Inuvik** comp=Z,14nm,1.0s	90.27	22	P		P	11 17 28.6	-1.3
INK	comp=Z,28nm,1.1s			IAmb		IAmb	11 17 30.4	
INK	**Inuvik** baz=265,SNR=15	90.27	22	P		P	11 17 29.3	-0.7
V35K	**Ketchikan** baz=267	90.34	35	P		P	11 17 30.5	-0.1
S34M	**Telegraph Cree** baz=268	90.73	32	P		P	11 17 32.2	-0.2
MMPY	**Sheldon Lake,** baz=267,SNR=14	90.86	28	P		P	11 17 32.6	-0.5
R33M	**Jennings River** baz=268,SNR=8.8	90.87	31	P		P	11 17 33.2	0.0
T35M	**Bob Quinn** baz=268	91.17	33	P		P	11 17 34.5	0.0
DLBC	**Dease Lake** comp=Z,7.0nm,0.9s,baz=292,slow=4.6,SNR=11	91.33	32	P		P	11 17 34.4	-0.9
DLBC	comp=Z,7.0nm,0.9s			LR		LR	11 54 33.7	
DLBC	comp=Z,2µm,20.2s,baz=287,slow=33 **Dease Lake** baz=268,SNR=6.2	91.33	32	P		P	11 17 35.1	-0.2
WTLY	**Watson Lake, Y** baz=270,SNR=7.1	91.99	30	P		P	11 17 38.3	0.0
KIRV	**Kirov**	92.22	328	⇓*e*P		P	11 17 38.6	-0.7
TGTN	**Hyland Airport** baz=270,SNR=8.5	92.25	29	P		P	11 17 39.2	-0.3
BBB	**Bella Bella** comp=Z,2µm,20.3s,baz=266,slow=31	92.34	38	LR		LR	11 52 06.6	
BELG	**Belogornoye**	93.30	322	*d* P		P	11 17 43.0	-1.4
BELG	comp=Z,10.0nm,1.0s			pmax		pmax		
BELG	comp=Z,408nm,21.0s			MLR		MLR		
MAK	**Makhachkala**	93.53	313	*e*P		P	11 17 39.9	-5.8
MAK				*e*			11 21 24.8	
MAK				*e*			11 28 10.9	
MAK				*e*SSS		SSS	11 38 46.0	
MAK	comp=Z,215nm,1.1s			pmax		pmax		
PRGR	**Permogore**	94.03	332	*e*P		P	11 17 43.7	-3.8
PRGR				*e*			11 21 31.3	

PRGR					pmax	pmax				
	comp=Z,9.0nm,0.7s									
WRGLY	**Wrigley**	**94.42**	**27**		P	**P**	**11 17 49.2**	**-0.2**		
	baz=274									
NLWA	**Neilton Lookou**	**95.20**	**43**		IAMs_20	IAMs_20	11 53 55.2			
	comp=Z,2µm,22.0s									
J01E	**Myrtle Point**	**95.35**	**47**		IAMs_20	IAMs_20	11 51 56.3			
	comp=Z,3µm,22.0s									
J01E	**Myrtle Point**	**95.35**	**47**		P	**P**	**11 17 53.6**	**-0.4**		
	baz=272									
JCC	**Jacoby Creek,**	**95.37**	**49**		IAMs_20	IAMs_20	11 54 42.9			
	comp=Z,3µm,20.0s									
I02E	**Swisshome, OR**	**95.37**	**46**		IAMs_20	IAMs_20	11 54 21.8			
	comp=Z,2µm,19.0s									
RAYN	**Ar Rayn**	**95.38**	**293**		P	**P**	**11 17 54.0**	**-0.7**		
RAYN	**Ar Rayn**	**95.38**	**293**		P	**P**	**11 17 54.0**	**-0.7**		
RAYN					pmax	pmax				
	comp=Z,9.0nm,1.1s									
RAYN	**Ar Rayn**	**95.38**	**293**		P	**P**	**11 17 53.5**	**-1.2**		
K02D	**Willamette Mer**	**95.56**	**47**		P	**P**	**11 17 54.9**	**-0.2**		
	baz=272									
GNI	**Garni**	**95.67**	**310**		LR	LR	12 04 46.3			
	comp=Z,548nm,21.9s,baz=84,slow=38									
I03D	**Drain, OR**	**95.75**	**46**		P	**P**	**11 17 55.6**	**-0.3**		
	baz=273									
HUMO	**Hull Mountain**	**96.09**	**48**		IAMs_20	IAMs_20	11 55 24.7			
	comp=Z,2µm,21.0s									
HUMO	**Hull Mountain**	**96.09**	**48**	⇑	P	**P**	**11 17 57.9**	**+0.4**		
H04D	**Lebanon**	**96.14**	**46**		IAMs_20	IAMs_20	11 58 41.3			
	comp=Z,2µm,20.0s									
HOPS	**Hopland Field**	**96.17**	**51**		IAMs_20	IAMs_20	11 52 31.4			
	comp=Z,3µm,21.0s									
ZEI	**Tsey**	**96.18**	**313**		*e*P	**P**	**11 17 56.2**	**-1.9**		
ZEI					pmax	pmax				
	comp=Z,20nm,1.3s									
YBH	**Yreka Blue Hor**	**96.32**	**48**		P	**P**	**11 17 58.3**	**-0.3**		
	comp=Z,6.6nm,1.1s,baz=242,slow=2.2,SNR=9.1									
	comp=Z,6.6nm,1.1s									
L04D	**Klamath Falls**	**96.59**	**48**		IAMs_20	IAMs_20	11 52 39.3			
	comp=Z,3µm,22.0s									
L04D	**Klamath Falls**	**96.59**	**48**		P	**P**	**11 17 59.1**	**-0.8**		
	baz=273									
J04D	**Umpqua Nationa**	**96.67**	**47**		IAMs_20	IAMs_20	11 52 49.4			
	comp=Z,3µm,22.0s									
J04D	**Umpqua Nationa**	**96.67**	**47**		P	**P**	**11 17 59.8**	**-0.5**		
	baz=274									
KBZ	**Khabaz**	**96.86**	**314**	⇑	*e*P	**P**	**11 17 59.6**	**-1.3**		
KBZ					pmax	pmax				
	comp=Z,2µm,24.0s									
KIV	**Kislovodsk**	**96.99**	**314**		*e*P	**P**	**11 18 00.3**	**-1.3**		
KIV					*e*		11 21 56.4			
KIV					*e*		11 28 36.9			
KIV					*e*SS	SS	11 36 01.6	+1.0		
KIV					pmax	pmax				
	comp=Z,10.0nm,0.9s									
KIV					pmax	pmax				
	comp=Z,112nm,4.8s									
KIV	**Kislovodsk**	**96.99**	**314**		P	**P**	**11 17 59.7**	**-1.9**		
VRH	**Novokhopyorsk**	**97.03**	**321**		*e*P	**P**	**11 17 58.5**	**-3.0**		
VRH					pmax	pmax				
	comp=Z,30nm,1.1s									
VRH					MLR	MLR				
	comp=Z,3µm,19.0s									
KLMR	**Klimovskoe**	**97.05**	**331**		*e*P	P	11 17 56.5	-4.8		
KLMR					*e*		11 21 56.9			
KLMR					S	**SKSac**	**11 28 32.4**	**-5.6**		
KLMR					pmax	pmax				
	comp=Z,18nm,1.8s									
KLMR					MLR	MLR				
	comp=Z,4µm,19.0s									
KLMR	**Klimovskoe**	**97.05**	**331**		*e*P	P	11 17 56.5	-4.8		
KLMR					*e*P	P	11 17 56.5	-4.8		
KLMR					*e*P	P	11 17 56.5	-4.8		
KLMR					AMP		11 18 10.6			
	comp=Z,18nm,1.8s									
KLMR					*e*PP	**PP**	**11 21 56.9**	**-0.1**		
KLMR					S	**SKSac**	**11 28 32.5**	**-5.6**		
KLMR					S	**SKSac**	**11 28 32.5**	**-5.6**		
KLMR					LQ	LQ	11 50 18.4			
KLMR					LQ	LQ	11 50 18.4			
KLMR					LR	LR	11 51 45.5			
KLMR					AMP		12 03 20.7			
	comp=Z,4µm,19.1s									
J05D	**Fort Rock, OR**	**97.31**	**47**		P	**P**	**11 18 02.6**	**-0.6**		
	baz=274									
SAO	**San Andreas Ge**	**97.57**	**53**		IAMs_20	IAMs_20	11 56 47.5			
	comp=Z,2µm,21.0s									
MOD	**Modoc Plateau**	**98.10**	**48**		IAMs_20	IAMs_20	11 53 16.3			
	comp=Z,3µm,22.0s									
VORR	**Voronezh**	**98.54**	**322**		*e*P	**P**	**11 18 08.1**	**-0.2**		
VORR					pmax	pmax				
	comp=Z,28nm,1.5s									
YKA	**Yellowknife Ar**	**98.54**	**27**		P	**P**	**11 18 06.4**	**-1.6**		
	comp=Z,6.9nm,1.0s,baz=283,slow=4.4,SNR=7.6									
	comp=Z,6.9nm,1.0s									
YKA	**Yellowknife Ar**	**98.54**	**27**	*i*	P	**P**	**11 18 07.4**	**-0.6**		
YKA					pmax	pmax				
	comp=Z,7.0nm,1.0s									
LPSR	**Galich'ya Gora**	**98.58**	**323**		*e*P	**P**	**11 18 05.5**	**-2.9**		
LPSR					pmax	pmax				
	comp=Z,20nm,1.2s									
LPSR					MLR	MLR				
	comp=Z,1µm,18.0s									
VSR	**Storozhevoye**	**98.62**	**321**		*e*P	**P**	**11 18 05.3**	**-3.4**		
VSR					pmax	pmax				
	comp=Z,30nm,1.7s									
VSR					MLR	MLR				
	comp=Z,2µm,17.0s									
KBS	**Kingsbay**	**98.82**	**351**		IAMs_20	IAMs_20	12 03 01.2			
	comp=Z,2µm,20.0s									
MOS	**Moscow**	**98.85**	**326**		*e*P	**P**	**11 18 05.9**	**-3.7**		
MOS					*e*		11 22 07.9			
MOS					MLR	MLR				
	comp=E,2µm,23.0s									
MOS					MLR	MLR				
	comp=Z,3µm,23.0s									
SOC	**Sochi**	**99.17**	**314**		*e*P	**Pdif**	**11 18 07.5**	**-3.8**		
SOC					*e*		11 22 10.2			
SOC					*e*PPP	PPP	11 24 17.7			
SOC					*e*S	**SKSac**	**11 28 45.5**	**-4.1**		
SOC					*e*SS	**SS**	**11 36 28.1**	**-2.8**		
SOC					MLR	MLR				
	comp=Z,2µm,22.0s									
WVOR	**Wild Horse Val**	**99.29**	**47**		IAMs_20	IAMs_20	11 54 17.6			
	comp=Z,2µm,22.0s									
WVOR	**Wild Horse Val**	**99.29**	**47**	⇑	P	**Pdif**	**11 18 12.4**	**+0.4**		
OBN	**Obninsk**	**99.56**	**326**		IAMs_20	IAMs_20	12 07 45.5			
	comp=Z,2µm,19.0s									
OBN	**Obninsk**	**99.56**	**326**	⇑	*e*P	**Pdif**	**11 18 11.4**	**-1.3**		
OBN					*e**PP	**pP**	**11 18 14.3**	**-1.8**		
OBN					*SP	**pwP**	**11 18 19.0**	**-1.5**		
OBN							11 22 17.0			
OBN					*e*S	**SKSac**	**11 28 54.3**	**+3.4**		
OBN					pmax	pmax				
	comp=Z,42nm,1.3s									
OBN					MLR	MLR				
	comp=Z,2µm,21.0s									
NEW	**Newport**	**99.64**	**41**		LR	LR	12 01 51.9			
	comp=Z,1µm,18.1s,baz=292,slow=35									
NEW	**Newport**	**99.64**	**41**		IAMs_20	IAMs_20	12 03 01.6			
	comp=Z,2µm,20.0s									
NEW	**Newport**	**99.64**	**41**		P	**Pdif**	**11 18 13.7**	**+0.3**		
	baz=278									
NVAR	**Mina Array Bea**	**99.94**	**51**		P	**Pdif**	**11 18 13.9**	**-1.2**		
	comp=Z,3.3nm,0.8s,baz=256,slow=6.6,SNR=29									
NVAR					PP	**PP**	**11 22 25.6**	**+5.5**		
	comp=Z,2.1nm,1.1s,baz=268,slow=9.8,SNR=4.5									
	comp=Z,3.3nm,0.8s									
CWC	**Cottonwood Cre**	**100.30**	**53**		P	**Pdif**	**11 18 16.1**	**-0.6**		
	baz=275									
FMP	**Fort Macarthur**	**100.36**	**56**		P	**Pdif**	**11 18 16.4**	**-0.4**		
	baz=275									
ARCES	**ARCESS Array B**	**100.37**	**341**		P	**Pdif**	**11 18 14.0**	**-2.1**		
	comp=Z,4.5nm,0.2s,baz=153,slow=16,SNR=62									
ARCES	**ARCESS Array B**	**100.37**	**341**		P	**Pdif**	**11 18 14.0**	**-2.1**		
EDW2	**Edwards Air Fo**	**100.51**	**55**		P	**Pdif**	**11 18 17.0**	**-0.5**		
	baz=275									
ANN	**Anapa**	**100.65**	**315**	*i*	P	**Pdif**	**11 18 11.9**	**-5.9**		
ANN					*e*		11 22 30.9			
ANN					*e*		11 28 56.1			
ANN					*e*SS	SS	11 36 55.6	+4.1		
ANN					pmax	pmax				
	comp=Z,79nm,1.5s									
ANN					MLR	MLR				
	comp=Z,1µm,20.0s									
ANN					MLR	MLR				
	comp=N,912nm,17.0s									
LRMC	**Laurel Mtn Rad**	**100.71**	**54**		P	**Pdif**	**11 18 17.8**	**-0.7**		
	baz=275									
MPMC	**Manual Prospec**	**100.81**	**54**		P	**Pdif**	**11 18 18.0**	**-1.0**		
	baz=276									
GRAC	**Grapevine Rang**	**100.81**	**53**		P	**Pdif**	**11 18 17.9**	**-0.9**		
	baz=276									
FURC	**Furnace Creek,**	**101.27**	**53**		P	**Pdif**	**11 18 20.2**	**-0.6**		
	baz=276									
MURC	**Murrieta**	**101.28**	**56**		P	**Pdif**	**11 18 19.7**	**-1.3**		
	baz=275									
109C	**Camp Elliot, M**	**101.42**	**57**		IAMs_20	IAMs_20	11 54 45.6			
	comp=Z,2µm,20.0s									
TROLL	**Troll, Antarti**	**101.48**	**192**		Pdiff	**Pdif**	**11 18 18.6**	**-2.6**		
TPNV	**Topopah Spring**	**101.71**	**53**		P	**Pdif**	**11 18 22.3**	**-0.7**		
	baz=276									
SHOC	**Shoshone, Teco**	**101.80**	**54**		P	**Pdif**	**11 18 22.7**	**-0.6**		
	baz=276									
PFO	**Pinyon Flats O**	**101.89**	**56**		IAMs_20	IAMs_20	11 53 54.1			
	comp=Z,3µm,21.0s									
MSO	**Missoula**	**102.00**	**43**		P	**Pdif**	**11 18 23.2**	**-0.8**		
	baz=280									
ELK	**Elko**	**102.02**	**49**		IAMs_20	IAMs_20	11 59 17.0			
	comp=Z,2µm,20.0s									
R11A	**Troy Canyon, C**	**102.07**	**51**		P	**Pdif**	**11 18 24.1**	**-0.5**		
	baz=277									
HLID	**Hailey**	**102.21**	**46**		IAMs_20	IAMs_20	11 57 11.9			
	comp=Z,2µm,22.0s									
HLID	**Hailey**	**102.21**	**46**		P	**Pdif**	**11 18 25.1**	**0.0**		
	baz=279									
BELC	**Belle Mtn. Jos**	**102.23**	**56**		P	**Pdif**	**11 18 24.2**	**-1.1**		
	baz=276									
GMRC	**Granite Mounta**	**102.43**	**55**		P	**Pdif**	**11 18 25.6**	**-0.6**		
	baz=276									
SWSC	**Sam W. Stewart**	**102.50**	**57**		P	**Pdif**	**11 18 26.4**	**0.0**		
	baz=276									
SNAA	**Sanae**	**102.83**	**191**		Pdiff	**Pdif**	**11 18 29.0**	**+1.9**		
FINES	**FINESS Array B**	**103.19**	**333**		Pdiff	**Pdif**	**11 18 26.9**	**-1.9**		
	comp=Z,3.0nm,0.7s,baz=97,slow=6.0,SNR=9.0									
FINES					PP	**PP**	**11 22 50.3**	**+6.8**		
	comp=Z,5.2nm,1.2s,baz=46,slow=8.2,SNR=4.8									
BOZ	**Bozeman (W)**	**103.81**	**43**		P	**Pdif**	**11 18 32.3**	**+0.2**		
	baz=282									
DUG	**Dugway, Tooele**	**103.93**	**49**		IAMs_20	IAMs_20	12 02 19.6			
	comp=Z,2µm,20.0s									
DUG	**Dugway, Tooele**	**103.93**	**49**		P	**Pdif**	**11 18 32.4**	**-0.4**		
	baz=279									
BRTR	**Keskin Array B**	**104.20**	**310**		PP	**PP**	**11 22 58.5**	**+6.4**		
	comp=Z,1.2nm,0.8s,baz=64,slow=5.6,SNR=3.6									
VNA2	**Neumayer--Watz**	**104.29**	**190**		PP	**PP**	**11 22 49.5**	**-1.9**		
EGMT	**Eagleton**	**104.53**	**41**		IAMs_20	IAMs_20	12 06 15.0			
	comp=Z,2µm,19.0s									
MNK	**Minsk**	**104.58**	**326**	*i*	P	**Pdif**	**11 18 32.0**	**-3.0**		
MNK					*i*		11 22 51.5			
MNK				*i*	PPP	PPP	11 25 03.8			
MNK					*i*		11 30 13.7			
MNK				*i*	SS	SS	11 37 44.6	-0.4		
MNK					pmax	pmax				
	comp=E,2.0nm,0.9s									
MNK					pmax	pmax				
	comp=Z,9.0nm,0.9s									
MNK					MLR	MLR				
	comp=E,297nm,20.0s									
MNK					MLR	MLR				
	comp=Z,2µm,20.0s									
MNK	**Minsk**	**104.58**	**326**	*i*	P	**Pdif**	**11 18 32.1**	**-3.0**		
	comp=E,2.0nm,0.9s									
MNK					P	**Pdif**	**11 18 32.1**	**-3.0**		
MNK					P	**Pdif**	**11 18 32.1**	**-3.0**		
	comp=Z,9.0nm,0.9s,baz=72									
MNK					PP	**PP**	**11 22 51.6**	**-2.5**		
MNK					PPP	PPP	11 25 03.8			
MNK					SKS		11 29 03.6			
MNK					SKKS	SKKSac	11 30 13.8	+15		
MNK					PS	PKKPbc	11 33 53.5	-29		
MNK					SS	**SS**	**11 37 44.6**	**-0.4**		
MNK					SSS	SSS	11 40 56.8			
MNK					LQ	LQ	11 57 30.0			
MNK					LR	LR	12 01 28.7			
MNK					LRM	MLR	12 06 08.6			
	comp=E,297nm,19.9s									
MNK					LRM	MLR	12 06 12.3			
MNK					LRM	MLR	12 06 12.3			
	comp=Z,2µm,19.9s									
FXWY	**Fox Creek**	**104.62**	**45**		IAMs_20	IAMs_20	12 00 09.5			
	comp=Z,2µm,20.0s									
IMW	**Indian Meadow**	**104.63**	**45**		IAMs_20	IAMs_20	12 01 29.6			
	comp=Z,2µm,21.0s									
AHID	**Auburn Hatcher**	**104.74**	**46**		IAMs_20	IAMs_20	12 00 15.8			
	comp=Z,2µm,20.0s									
MOOW	**Moose Ponds**	**104.80**	**45**		IAMs_20	IAMs_20	12 01 24.2			
	comp=Z,2µm,20.0s									
REDW	**Red Top Meadow**	**104.80**	**46**		IAMs_20	IAMs_20	12 04 03.3			
	comp=Z,1µm,19.0s									
SNOW	**Snow King Moun**	**104.85**	**46**		IAMs_20	IAMs_20	12 07 18.6			
	comp=Z,2µm,19.0s									
AKASG	**Malin Array Be**	**104.88**	**322**		Pdiff	**Pdif**	**11 18 36.2**	**-0.3**		
	comp=Z,0.7nm,0.6s,baz=53,slow=4.1,SNR=9.7									
AKASG					PP	**PP**	**11 22 54.6**	**-1.9**		
	comp=Z,0.2nm,0.3s,baz=54,slow=4.1,SNR=5.7									
AKASG					PKKPbc	**PKKPbc**	**11 34 20.8**	**-0.5**		
	comp=Z,0.1nm,0.3s,baz=274,slow=3.5,SNR=7.9									
LOHW	**Long Hollow**	**104.92**	**45**		IAMs_20	IAMs_20	12 00 28.5			
	comp=Z,2µm,21.0s									
NACGM	**Naroch**	**105.06**	**327**	⇑	*e*P	**Pdif**	**11 18 39.9**	**+2.6**		
	comp=Z,8.0nm,0.7s									
RLMT	**Red Lodge**	**105.53**	**44**		IAMs_20	IAMs_20	12 00 11.6			
	comp=Z,2µm,22.0s									
WUAZ	**Wuatki**	**105.81**	**54**		IAMs_20	IAMs_20	12 00 51.6			
	comp=Z,3µm,20.0s									
BW06	**Boulder Array**	**105.85**	**46**		IAMs_20	IAMs_20	12 02 09.1			
	comp=Z,2µm,20.0s									
PDAR	**Pinedale Array**	**105.85**	**46**		Pdiff	**Pdif**	**11 18 42.8**	**+1.4**		
	comp=Z,0.8nm,0.8s,baz=236,slow=1.6,SNR=7.4									
PDAR					PKiKP	**PKiKP**	**11 22 54.6**	**+0.6**		
	comp=Z,0.6nm,0.9s,baz=318,slow=2.0,SNR=3.6									
PDAR					PKKPbc	**PKKPbc**	**11 34 23.3**	**+4.9**		
	comp=Z,0.2nm,0.8s,baz=73,slow=5.1,SNR=4.0									
MILM	**Milestii Mici**	**106.14**	**318**		*e*P	**Pdif**	**11 18 46.0**	**+3.8**		
MILM					MLR	MLR				
	comp=Z,2µm,19.0s									
TUC	**Tucson**	**106.78**	**57**		IAMs_20	IAMs_20	12 02 11.6			
	comp=Z,2µm,18.0s									
LAO	**LASA Array**	**107.20**	**41**		IAMs_20	IAMs_20	11 59 01.5			
	comp=Z,2µm,22.0s									
MVCO	**Mesa Verde**	**107.79**	**52**		IAMs_20	IAMs_20	12 02 17.1			
	comp=Z,2µm,20.0s									
RWWY	**Rawlins**	**107.79**	**47**		IAMs_20	IAMs_20	12 00 03.6			
	comp=Z,2µm,20.0s									
DGMT	**Dagmar**	**107.99**	**39**		IAMs_20	IAMs_20	12 00 32.2			
	comp=Z,3µm,22.0s									
MLR	**Muntele Rosu**	**108.44**	**318**		IAMs_20	IAMs_20	12 12 07.3			
	comp=Z,3µm,22.0s									
SMCO	**Snowmass**	**108.55**	**49**		IAMs_20	IAMs_20	12 05 56.8			
	comp=Z,2µm,20.0s									
PHWY	**Pilot Hill**	**109.16**	**47**		IAMs_20	IAMs_20	11 58 45.9			
	comp=Z,2µm,22.0s									
ISCO	**Idaho Springs**	**109.42**	**48**		IAMs_20	IAMs_20	12 06 11.9			
	comp=Z,2µm,19.0s									
UZH	**Uzhgorod**	**109.81**	**322**		*e*P	**Pdif**	**11 19 03.9**	**+5.4**		
ANMO	**Albuquerque**	**109.87**	**54**		IAMs_20	IAMs_20	12 03 32.1			
	comp=Z,3µm,20.0s									
EPT	**El Paso**	**110.45**	**57**		IAMs_20	IAMs_20	12 04 29.8			
	comp=Z,2µm,20.0s									
LSZ	**Lusaka**	**110.98**	**253**		IAMs_20	IAMs_20	12 06 06.8			
	comp=Z,1µm,20.0s									
PSZ	**Piszkesteto**	**111.56**	**322**		IAMs_20	IAMs_20	12 14 26.3			
	comp=Z,2µm,22.0s									
OGNE	**Ogallala**	**111.75**	**46**		IAMs_20	IAMs_20	12 07 05.3			
	comp=Z,2µm,20.0s									
OKC	**Ostrava-Krasne**	**111.85**	**324**		AMS	AMS	12 14 00.0			
	comp=Z,2µm,22.6s									
MAUC	**Maruska**	**112.23**	**324**		*e*SP	SP	11 33 21.0	-0.6		
MAUC					AMS	AMS	12 13 50.0			
	comp=Z,4µm,22.7s									
ILULI	**Ilulissat**	**112.38**	**4**		IAMs_20	IAMs_20	12 10 34.2			
	comp=Z,2µm,21.0s									
KRLC	**Kraliky**	**112.55**	**325**		*e*SP	SP	11 33 23.4	-1.0		
KRLC					AMS	AMS	12 14 30.0			
	comp=Z,2µm,19.4s									
OSTC	**Ostas**	**112.66**	**325**		AMS	AMS	12 14 10.0			
	comp=Z,2µm,18.7s									
DPC	**Dobruska-Polom**	**112.69**	**325**		AMS	AMS	12 16 40.0			
	comp=Z,2µm,19.0s									
CHVC	**Chvalec**	**112.73**	**325**		AMS	AMS	12 14 10.0			
	comp=Z,2µm,18.6s									
UPC	**Upice**	**112.80**	**325**		AMS	AMS	12 14 20.0			
	comp=Z,2µm,18.0s									
TXAR	**Lajitas Array**	**113.33**	**59**		Pdiff	**Pdif**	**11 19 16.0**	**+1.3**		
	comp=Z,0.2nm,0.7s,baz=290,slow=2.7,SNR=2.8									
TXAR					PKiKP	**PKiKP**	**11 23 08.0**	**-0.3**		
	comp=Z,0.4nm,0.8s,baz=243,slow=0.8,SNR=5.5									
TXAR					PP	**PP**	**11 24 06.1**	**+7.4**		
	comp=Z,0.4nm,0.7s,baz=262,slow=3.2,SNR=3.8									
TXAR					PKKPbc	**PKKPab**	**11 34 02.5**	**+1.6**		
	comp=Z,1.4nm,1.0s,baz=117,slow=5.3,SNR=8.2									
TXAR	**Lajitas Array**	**113.33**	**59**	*i*	PKIKP	**PKiKP**	**11 23 08.0**	**-0.3**		
PVCC	**Panska Ves**	**113.61**	**326**		AMS	AMS	12 13 20.0			
	comp=Z,4µm,20.3s									
TREC	**Trest**	**113.64**	**324**	*e*	SP	SP	11 33 34.7	+0.2		
TREC					AMS	AMS	12 13 10.0			
	comp=Z,3µm,20.4s									
AMTX	**Amarillo**	**113.70**	**53**		IAMs_20	IAMs_20	12 02 29.4			
	comp=Z,2µm,21.0s									
GOPC	**GO Pecny, Ondr**	**113.77**	**325**		AMS	AMS	12 17 20.0			
	comp=Z,3µm,18.9s									
RONA	**Rosalia, Austr**	**113.86**	**322**		*e*P	**PP**	**11 24 01.0**	**-0.7**		
	comp=Z,6.9nm,1.3s									
PRU	**Pruhonice**	**113.87**	**325**		*e*SP	SP	11 33 34.6	-1.9		
PRU					AMS	AMS	12 11 40.0			
	comp=Z,3µm,24.2s									
TIR	**Tirane**	**113.95**	**315**		IAMs_20	IAMs_20	12 17 34.4			
	comp=Z,2µm,22.0s									
PDG	**Podgorica**	**114.00**	**316**		IAMs_20	IAMs_20	12 15 45.4			
	comp=Z,3µm,21.0s									
CONA	**Conrad Observa**	**114.03**	**323**		*e*P	**PKiKP**	**11 23 09.1**	**0.0**		
	comp=Z,1.5nm,0.7s									
CONA					*e*P	**PP**	**11 24 02.9**	**0.0**		
	comp=Z,11nm,1.7s									
CBKS	**Cedar Bluff**	**114.08**	**48**		IAMs_20	IAMs_20	12 02 48.9			
	comp=Z,3µm,22.0s									
CLL	**Collm**	**114.09**	**327**		*e*P	**Pdif**	**11 19 16.0**	**-1.5**		
CLL					*e*		11 23 07.0			
CLL					*e*		11 29 58.0			
CLL					pmax	pmax				
	comp=Z,4.0nm,0.8s									
CLL					MLR	MLR				
	comp=Z,4µm,19.5s									
CLL	**Collm**	**114.09**	**327**		*e*Pdif	**Pdif**	**11 19 16.0**	**-1.5**		
CLL					*e*PKiKP	PKPdf	11 23 07.0	-1.9		
	comp=Z,4.0nm,0.8s									
CLL					*e*PP	**PP**	**11 24 03.0**	**-0.1**		
CLL					*e*x	x	11 24 15.0			
CLL					*e*PPP	PPP	11 26 27.0			
CLL					*e*PPPP		11 28 19.0			
CLL					*e*SKSac	**SKSac**	**11 29 58.0**	**+2.9**		
CLL					*e*PS	**PS**	**11 33 42.0**	**+1.0**		
CLL					*e*PKKPab	**PKKPab**	**11 33 58.0**	**+1.0**		
CLL					*e*SS	**SS**	**11 39 54.0**	**+1.1**		
CLL					*e*SSS	SSS	11 43 54.0			
CLL					*e*x	x	11 45 18.0			
CLL					LmV		12 17 00.0			
	comp=N,2µm,19.4s									
CLL					LmV		12 17 00.0			
	comp=E,2µm,20.1s									
CLL					LmV		12 17 00.0			
	comp=Z,4µm,19.5s									
CLL					Lmax		12 18 00.0			
CKRC	**Cesky Krumlov**	**114.55**	**324**		AMS	AMS	12 17 30.0			
	comp=Z,2µm,19.4s									
ECSD	**EROS Data Cent**	**114.58**	**42**		IAMs_20	IAMs_20	12 09 29.8			
	comp=Z,2µm,20.0s									
SFJD	**Kangerlussuaq**	**114.59**	**5**		IAMs_20	IAMs_20	12 01 25.3			
	comp=Z,2µm,18.0s									
KHC	**Kasperske Hory**	**114.83**	**325**	*e*	PKIKP	**PKiKP**	**11 23 10.0**	**-0.5**		
KHC					*e*		11 24 18.0			
KHC					*e*SP	SP	11 33 43.2	-2.2		
KHC					MLR	MLR				
	comp=Z,3µm,21.4s									
KHC	**Kasperske Hory**	**114.83**	**325**	*e*	PKP	**PKiKP**	**11 23 10.0**	**-0.5**		
KHC					*e*x	x	11 23 18.0			
KHC					*e*SP	SP	11 33 43.2	-2.2		
KHC					AMS	AMS	12 14 40.0			
	comp=Z,3µm,21.4s									
GERES	**GERESS Array B**	**114.89**	**324**		PKP	**PKiKP**	**11 23 09.6**	**-1.1**		
	comp=Z,1.0nm,0.7s,baz=66,slow=3.3,SNR=8.6									
GERES					PKKPbc	**PKKPab**	**11 33 57.0**	**+3.4**		
	comp=Z,0.6nm,0.8s,baz=156,slow=6.7,SNR=4.2									
NKC	**Novy Kostel**	**114.94**	**326**		AMS	AMS	12 14 10.0			
	comp=Z,5µm,21.5s									

CCM	**Cathedral Cave**	**120.57**	**46**	PKIKP	**PKPdf**	**11 23 20.4**	**-1.4**
CCM				MLR	MLR			
	comp=Z,1μm,20.0s							
NRS	**Narsarsuaq**	**120.74**	**3**	IAMs_20	IAMs_20	12 10 16.0		
	comp=Z,2μm,22.0s							
HDIL	**Hopedale**	**120.85**	**43**	IAMs_20	IAMs_20	12 16 34.7		
	comp=Z,1μm,20.0s							
L44A	**Lake County Fo**	**121.00**	**40**	IAMs_20	IAMs_20	12 08 12.6		
	comp=Z,2μm,22.0s							
LCAR	**Lake Charles**	**121.43**	**48**		**PKPdf**	**11 23 22.0**	**-1.5**
CGM3	**Cape Girardeau**	**122.03**	**46**		**PKPdf**	**11 23 23.2**	**-1.5**
SSB	**Saint Sauveur**	**122.09**	**325**	IAMs_20	IAMs_20	12 17 33.6		
	comp=Z,2μm,22.0s							
SCHQ	**Schefferville**	**122.73**	**18**	PKP	**PKPdf**	**11 23 24.8**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=350,slow=5.2,SNR=4.9							
L48A	**N Adams**	**123.35**	**39**	PKPdf	**PKPdf**	**11 23 25.9**	**-1.1**
KEST	**Kesra**	**123.71**	**313**	PKP	**PKiKP**	**11 23 28.4**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=330,slow=7.6,SNR=4.3							
WVT	**Waverly**	**123.86**	**47**	PKPdf	**PKPdf**	**11 23 26.9**	**-1.3**
WVT	**Waverly**	**123.86**	**47**	IAMs_20	IAMs_20	12 18 46.8		
	comp=Z,2μm,21.0s							
WVT	**Waverly**	**123.86**	**47**	PKIKP	**PKPdf**	**11 23 26.9**	**-1.3**
WVT				MLR	MLR			
	comp=Z,2μm,21.0s							
P48A	**Milroy**	**123.98**	**42**		**PKPdf**	**11 23 26.3**	**-2.1**
WCI	**Wyandotte Cave**	**123.99**	**44**	IAMs_20	IAMs_20	12 16 25.1		
	comp=Z,1μm,20.0s							
P49A	**Miami Univ. Ec**	**124.42**	**42**	IAMs_20	IAMs_20	12 10 24.2		
	comp=Z,2μm,22.0s							
T50A	**Nancy**	**125.58**	**44**		**PKPdf**	**11 23 30.0**	**-1.5**
Q51A	**Peebles**	**125.59**	**42**	PKPdf	**PKPdf**	**11 23 30.7**	**-0.8**
LRAL	**Lakeview Retre**	**125.80**	**50**	IAMs_20	IAMs_20	12 11 13.4		
	comp=Z,2μm,22.0s							
P52A	**Corning**	**126.06**	**40**		**PKPdf**	**11 23 31.1**	**-1.2**
P52A				IAMs_20	IAMs_20	12 10 32.6		
	comp=Z,2μm,22.0s							
W50A	**Signal Mountai**	**126.10**	**47**		**PKPdf**	**11 23 31.6**	**-1.0**
S51A	**Beattyville**	**126.14**	**43**		**PKPdf**	**11 23 31.7**	**-0.8**
FPAL	**Fort Paine**	**126.19**	**48**		**PKPdf**	**11 23 31.4**	**-1.4**
CPCT	**Cooper Cave**	**126.56**	**46**		**PKPdf**	**11 23 32.5**	**-0.9**
P53A	**Whipple**	**126.62**	**40**	PKPdf	**PKPdf**	**11 23 32.8**	**-0.6**
TZTN	**Tazewell**	**126.72**	**44**	IAMs_20	IAMs_20	12 16 20.4		
	comp=Z,2μm,21.0s							
Z51A	**Franklin**	**127.06**	**49**		**PKPdf**	**11 23 34.1**	**-0.3**
MCWV	**Mont Chateau**	**127.51**	**39**	IAMs_20	IAMs_20	12 16 21.8		
	comp=Z,2μm,22.0s							
S54A	**Dingess, Beckl**	**127.60**	**42**		**PKPdf**	**11 23 34.9**	**-0.5**
152A	**Waverly Hall**	**127.68**	**49**		**PKPdf**	**11 23 35.1**	**-0.6**
GOGA	**Godfrey**	**128.28**	**48**	IAMs_20	IAMs_20	12 18 16.2		
	comp=Z,2μm,20.0s							
BLA	**Blacksburg**	**128.51**	**42**	PKPdf	**PKPdf**	**11 23 36.2**	**-0.9**
BLA				IAMs_20	IAMs_20	12 21 13.6		
	comp=Z,2μm,20.0s							
BLA	**Blacksburg**	**128.51**	**42**	PKIKP	**PKPdf**	**11 23 36.2**	**-0.9**
BLA				MLR	MLR			
	comp=Z,2μm,20.0s							
HODGE	**Hodges**	**128.78**	**46**		**PKiKP**	**11 23 38.3**	**0.0**
PAULI	**Pauline**	**128.80**	**45**		**PKiKP**	**11 23 38.3**	**0.0**
PLCA	**Paso Flores**	**128.95**	**150**	PKP	**PKiKP**	**11 23 39.0**	**+0.4**
	comp=Z,18nm,1.2s,baz=251,slow=1.7,SNR=14							
PLCA	**Paso Flores**	**128.95**	**150**	PKIKP	**PKiKP**	**11 23 39.0**	**+0.4**
PLCA	**Paso Flores**	**128.95**	**150**	*e*P	**PKiKP**	**11 23 38.3**	**-0.3**
PQI	**Presque Isle**	**128.96**	**25**	IAMs_20	IAMs_20	12 12 48.8		
	comp=Z,2μm,21.0s							
KMSC	**Kings Mountain**	**128.98**	**45**		**PKPdf**	**11 23 37.5**	**-0.5**
T57A	**Hurt**	**129.41**	**42**		**PKPdf**	**11 23 38.4**	**-0.4**
W57A	**Gilead**	**129.91**	**44**	PKPdf	**PKPdf**	**11 23 39.5**	**-0.2**
CBN	**Corbin Frederi**	**129.92**	**39**	IAMs_20	IAMs_20	12 22 05.7		
	comp=Z,2μm,20.0s							
V58A	**Windy Hill, Pi**	**130.17**	**43**		**PKPdf**	**11 23 39.8**	**-0.4**
ESDC	**Sonseca Array**	**130.49**	**324**	PKP	**PKiKP**	**11 23 41.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=32,slow=6.0,SNR=5.4							
ESDC				PP	**PP**	**11 26 01.3**	**+6.8**
	comp=Z,3.6nm,1.3s,baz=48,slow=6.5,SNR=4.9							
T59A	**Double "B" Far**	**130.54**	**41**		**PKPdf**	**11 23 41.0**	**+0.1**
NHSC	**New Hope**	**130.84**	**46**	IAMs_20	IAMs_20	12 17 22.5		
	comp=Z,2μm,20.0s							
MVO	**Moncorvo**	**131.21**	**327**	*e*PKP	**PKiKP**	**11 23 44.1**	**+1.0**
MVO	**Moncorvo**	**131.21**	**327**	*e*LR	LR	12 07 55.3		
	comp=Z,3μm,20.0s							
PGAV	**Gavieira, Arco**	**131.29**	**329**	*e*LR	LR	12 07 59.3		
	comp=Z,2μm,18.0s							
POLO	**Lamas de Olo**	**131.47**	**328**	*e*PKP	**PKiKP**	**11 23 43.3**	**-0.4**
PVIS	**Viseu**	**131.99**	**328**	*e*PKP	**PKPdf**	**11 23 42.6**	**-1.1**
MTE	**Manteigas**	**132.03**	**327**	*e*PKP	**PKiKP**	**11 23 46.1**	**+1.3**
MTE	**Manteigas**	**132.03**	**327**	*e*LR	LR	12 08 29.8		
	comp=Z,3μm,22.0s							
DWPF	**Disney Wildern**	**132.22**	**53**	IAMs_20	IAMs_20	12 14 46.0		
	comp=Z,1μm,22.0s							
PCBR	**Castelo Branco**	**132.38**	**326**	*e*PKP	**PKiKP**	**11 23 46.2**	**+0.8**
PMRV	**Marv??o**	**132.62**	**326**	*e*PKP	**PKiKP**	**11 23 45.4**	**-0.5**
PMRV	**Marv??o**	**132.62**	**326**	*e*LR	LR	12 09 07.8		
	comp=Z,2μm,20.0s							
BOAB	**BOACO BROADBAND**	**133.06**	**75**	IAMs_20	IAMs_20	12 15 21.8		
	comp=Z,2μm,21.0s							
PBAR	**Barrancos**	**133.28**	**325**	*e*PKP	**PKiKP**	**11 23 47.1**	**-0.2**
PMTG	**Montargil**	**133.33**	**326**	*e*PKP	**PKPdf**	**11 23 45.7**	**-0.4**
PBEJ	**Beja**	**133.85**	**325**	*e*PKP	**PKiKP**	**11 23 48.6**	**+0.1**
PVAQ	**Vaqueiros**	**134.19**	**324**	*e*LR	LR	12 10 04.6		
	comp=Z,2μm,20.0s							
PCVE	**Castro Verde**	**134.22**	**325**	*e*PKP	**PKiKP**	**11 23 49.1**	**-0.1**
MORF	**Marmelete**	**134.80**	**325**	*e*PKP	**PKiKP**	**11 23 50.5**	**0.0**
TRQA	**Tornquist**	**135.09**	**155**	*e*P	**PKPdf**	**11 23 50.0**	**+0.5**
TOA0	**Torodi Ar. Sit**	**137.78**	**287**	PKPdf	**PKPdf**	**11 23 54.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**137.78**	**287**	PKhKP	PKPpre	11 23 48.9		
	comp=Z,1.8nm,1.1s,baz=98,slow=0.5,SNR=6.1							
TORD				PKP	**PKPdf**	**11 23 53.7**	**-1.4**
	comp=Z,7.3nm,1.1s,baz=78,slow=1.7,SNR=14							
TORD				PP	**PP**	**11 26 46.8**	**+4.6**
	comp=Z,3.7nm,1.1s,baz=45,slow=3.4,SNR=4.5							
BCIP	**Isla Barro Col**	**139.20**	**78**	IAMs_20	IAMs_20	12 19 39.7		
	comp=Z,1μm,18.0s							
GTBY	**Guantanamo Bay**	**140.84**	**60**	IAMs_20	IAMs_20	12 26 57.9		
	comp=Z,1μm,22.0s							
LVC	**Limon Verde**	**142.32**	**132**	PKPdf	**PKPdf**	**11 24 01.2**	**-2.4**
LVC	**Limon Verde**	**142.32**	**132**	PKIKP	**PKPdf**	**11 24 01.2**	**-2.4**
LVC	**Limon Verde**	**142.32**	**132**	*e*P	**PKPdf**	**11 24 02.5**	**-1.1**
TA02	**Huaiquique**	**142.70**	**128**		**PKPdf**	**11 24 01.0**	**-2.8**
PMAR	**Madeira**	**142.76**	**328**	*e*PKP	**PKPdf**	**11 24 01.8**	**-2.1**
PMOZ	**Porto Moniz, M**	**142.83**	**328**	*e*LR	LR	12 13 44.0		
	comp=Z,2μm,22.0s							
KOWA	**Kowa**	**142.84**	**292**	PKPdf	**PKPdf**	**11 24 01.5**	**-2.7**
KOWA				IAMs_20	IAMs_20	12 37 20.2		
	comp=Z,1μm,20.0s							
GRTK	**Grand Turk**	**143.53**	**55**	IAMs_20	IAMs_20	12 19 38.8		
	comp=Z,1μm,21.0s							
PB08	**IPOC Station P**	**143.54**	**128**	PKPdf	PKPbc	11 24 03.6	+0.5	
PLTB	**Pedras Altas**	**143.90**	**159**	*e*P	**PKPdf**	**11 24 05.2**	**-0.6**
SDDR	**Presa de Saban**	**144.52**	**59**	PKPdf	**PKPab**	**11 24 04.5**	**-1.0**
SDDR				IAMs_20	IAMs_20	12 23 04.3		
	comp=Z,1μm,21.0s							
ITQB	**Itaqui**	**144.55**	**154**	PKPdf	PKPbc	11 24 06.1	+0.6	
ITQB	**Itaqui**	**144.55**	**154**	*e*P	PKPbc	11 24 06.1	+0.7	
RODS	**Rosario do Sul**	**144.56**	**156**	*e*P	**PKPdf**	**11 24 06.5**	**-0.4**
SC01	**Santiago de lo**	**144.81**	**58**		PKPbc	11 24 07.0	+0.4	
ROSC	**El Rosal**	**145.08**	**84**	PKPbc	**PKPbc**	**11 24 07.2**	**-1.0**
	comp=Z,13nm,0.5s,baz=29,slow=2.7,SNR=32							
KIC	**Kosan Boka**	**145.10**	**278**⇑	*e*PKIKP	**PKPdf**	**11 24 08.1**	**-0.2**
	comp=Z,14nm,0.5s							
DBIC	**Dimbokro**	**145.19**	**279**	PKPbc	**PKPbc**	**11 24 07.0**	**-1.0**
	comp=Z,33nm,0.8s,baz=101,slow=4.3,SNR=23							
CPSB	**Cacapava Do Su**	**145.19**	**159**	*e*P	**PKPbc**	**11 24 06.6**	**-0.9**
TIC	**Toumodi**	**145.35**	**279**⇓	*i*PKIKP	**PKPbc**	**11 24 08.5**	**0.0**
	comp=Z,14nm,0.3s							
LIC	**Lamto**	**145.40**	**278**⇓	*i*PKIKP	**PKPbc**	**11 24 08.6**	**-0.1**
	comp=Z,101nm,0.8s							
CZSB	**Cruzeiro do Su**	**145.48**	**107**	*e*P	**PKPdf**	**11 24 07.8**	**-1.1**
BANI	**BANI**	**145.57**	**60**		**PKPdf**	**11 24 06.9**	**-2.1**
UNIS	**Unistalda (Bra**	**145.74**	**155**	*e*P	**PKPbc**	**11 24 09.2**	**-0.1**
DR12	**Loma Pena Alta**	**146.24**	**58**		**PKPdf**	**11 24 09.1**	**-1.0**
LPAZ	**La Paz**	**146.39**	**124**	PKPbc	**PKPbc**	**11 24 11.8**	**-0.6**
	comp=Z,48nm,0.9s,baz=283,slow=1.5,SNR=63							
LPAZ	**La Paz**	**146.39**	**124**		**PKPbc**	**11 24 12.7**	**+0.3**
LPAZ	**La Paz**	**146.39**	**124**	PKP2	**PKPbc**	**11 24 12.7**	**+0.3**
LPAZ	**La Paz**	**146.39**	**124**	*e*P	**PKPdf**	**11 24 10.8**	**-0.3**
ALGR	**Alto Alegre (B**	**146.79**	**158**	*e*P	**PKPdf**	**11 24 11.6**	**+0.8**
CPUP	**Villa Florida**	**147.03**	**150**	PKPbc	**PKPbc**	**11 24 12.2**	**-0.9**
	comp=Z,58nm,1.1s,baz=236,slow=2.6,SNR=38							
CPUP	**Villa Florida**	**147.03**	**150**		**PKPbc**	**11 24 12.6**	**-0.6**
CPUP	**Villa Florida**	**147.03**	**150**	PKP2	**PKPbc**	**11 24 12.6**	**-0.6**
CPUP	**Villa Florida**	**147.03**	**150**	*e*P	**PKPdf**	**11 24 11.7**	**+0.5**
CNLB	**Canela**	**147.07**	**161**	*e*P	**PKPdf**	**11 24 11.9**	**+0.6**
CRSM	**Crissiumal (Br**	**147.55**	**155**	*e*P	**PKPdf**	**11 24 13.0**	**+1.0**
SDV	**Santo Domingo**	**148.22**	**76**		**PKPbc**	**11 24 16.4**	**-0.7**
SDV	**Santo Domingo**	**148.22**	**76**	IAMs_20	IAMs_20	12 25 13.5		
	comp=Z,1μm,21.0s							
SDV	**Santo Domingo**	**148.22**	**76**	*e*P	**PKPdf**	**11 24 13.5**	**-0.3**
TER01	**Tubaro-SC**	**148.32**	**164**	*e*P	**PKPdf**	**11 24 13.9**	**+0.6**
CRPR	**Cabo Rojo, PR**	**148.51**	**58**		**PKPbc**	**11 24 16.6**	**-0.7**
ITAB	**Concordia**	**148.54**	**158**	PKPab	**PKiKP**	**11 24 18.1**	**-0.7**
ITAB	**Concordia**	**148.54**	**158**	*e*P	**PKPdf**	**11 24 14.3**	**+0.7**
MLPR	**Magueyes Islan**	**148.58**	**58**		**PKPbc**	**11 24 15.8**	**-1.8**
OBIP	**Obispado Ponce**	**148.92**	**57**		**PKPdf**	**11 24 16.4**	**+2.0**
CELP	**Cerrillos**	**148.93**	**57**		**PKPbc**	**11 24 17.2**	**-1.2**
TBTG	**Tabatinga, AM**	**148.97**	**101**	*e*P	**PKPdf**	**11 24 14.5**	**-0.3**
HATO	**Hato, Curacao**	**149.04**	**69**	IAMs_20	IAMs_20	12 36 31.9		
	comp=Z,889nm,19.0s							
ICMP	**Isla Caja de M**	**149.06**	**57**		**PKPbc**	**11 24 18.4**	**-0.4**
SJG	**San Juan**	**149.27**	**57**	IAMs_20	IAMs_20	12 35 53.9		
	comp=Z,1000nm,20.0s							
SJG	**San Juan**	**149.27**	**57**	*e*P	**PKiKP**	**11 24 20.5**	**-0.1**
FRBT	**Francisco Belt**	**149.30**	**156**	*e*P	**PKPdf**	**11 24 15.7**	**+0.6**
MCR1	**Marechal Candi**	**150.19**	**153**	*e*P	**PKPdf**	**11 24 16.4**	**0.0**
CDVI	**St. Croix**	**150.59**	**56**		**PKPbc**	**11 24 21.7**	**-0.9**
CDVI				PKPab	**PKPab**	**11 24 29.0**	**-0.2**
CDVI	**St. Croix**	**150.59**	**56**	*e*P	PKPdf	11 24 06.5	-11	
BAUV	**El Baul**	**150.72**	**75**	*e*P	**PKPdf**	**11 24 11.2**	**-6.3**
PTGB	**Pitanga**	**150.82**	**156**	*e*P	**PKPdf**	**11 24 18.2**	**+0.7**
ETMB	**Extrema**	**150.91**	**114**	*e*P	**PKPdf**	**11 24 17.2**	**-0.6**
ANTJ	**Antonio Joao (**	**151.24**	**147**	*e*P	**PKPdf**	**11 24 18.9**	**+0.7**
TJU01	**Guaruva-PR**	**151.37**	**162**	*e*P	**PKPdf**	**11 24 19.1**	**+0.7**
SMRT	**St. Maarten**	**151.83**	**54**		**PKPbc**	**11 24 24.4**	**-1.1**
SMRT				IAMs_20	IAMs_20	12 32 03.1		
	comp=Z,1μm,21.0s							
SMRT	**St. Maarten**	**151.83**	**54**	*e*P	**PKiKP**	**11 24 29.8**	**+3.9**
BIRV	**Birongo**	**152.05**	**71**	PKPdf	**PKPdf**	**11 24 18.3**	**-1.2**
BIRV					**PKPbc**	**11 24 25.6**	**-0.4**
BIRV				PKPab	**PKPab**	**11 24 35.5**	**0.0**
TRCB	**Terra Rica**	**152.27**	**153**	*e*P	**PKPdf**	**11 24 20.4**	**+0.7**
AQDB	**Aquidauana**	**152.63**	**145**	*e*P	**PKPdf**	**11 24 20.6**	**+0.4**
PET01	**Itanhaem-SP**	**152.85**	**164**	*e*P	**PKPdf**	**11 24 20.1**	**-0.4**
ANWB	**Willy Bob**	**153.06**	**53**	IAMs_20	IAMs_20	12 38 40.9		
	comp=Z,1μm,21.0s							
ANWB	**Willy Bob**	**153.06**	**53**	*e*P	**PKPbc**	**11 24 28.1**	**-0.1**
PANT	**Pantanal (Braz**	**153.23**	**142**	*e*P	**PKPdf**	**11 24 22.1**	**+1.0**
ANBD	**Bethesda, Anti**	**153.41**	**54**	*e*P	**PKPbc**	**11 24 25.7**	**-3.3**
RPRD	**Ribas do Rio P**	**153.72**	**149**	*e*P	**PKPdf**	**11 24 22.8**	**+1.0**
GDHS	**Morne Mazeau,**	**153.81**	**56**	IAMs_20	IAMs_20	12 39 31.3		
	comp=Z,1μm,22.0s							
PCMB	**Pacaembu**	**153.92**	**154**	*e*P	**PKPdf**	**11 24 22.2**	**+0.2**
ABD	**La Joyeuse, An**	**153.94**	**55**	IAMs_20	IAMs_20	12 29 32.2		
	comp=Z,2μm,22.0s							
ABD	**La Joyeuse, An**	**153.94**	**55**	*e*P	**PKPdf**	**11 24 20.5**	**-1.7**
PTLB	**Pontes e Lacer**	**153.98**	**132**	*e*P	**PKPdf**	**11 24 22.0**	**-0.2**
CBE	**Ff, Capester**	**154.05**	**56**	PKPdf	**PKPdf**	**11 24 21.8**	**-0.6**
CBE					**PKPab**	**11 24 43.6**	**-0.2**
CBE				IAMs_20	IAMs_20	12 28 41.2		
	comp=Z,2μm,22.0s							
TDBA	**Terre de Bas,**	**154.14**	**56**	IAMs_20	IAMs_20	12 28 33.5		
	comp=Z,1μm,22.0s							
TDBA	**Terre de Bas,**	**154.14**	**56**	*e*P	**PKPdf**	**11 24 15.8**	**-6.6**
VAO	**Valinhos**	**154.16**	**164**	*e*P	**PKPdf**	**11 24 23.3**	**+0.9**
PARB	**Paraibuna**	**154.18**	**167**	*e*P	**PKPdf**	**11 24 23.3**	**+0.8**
MAGL	**Barre de l'ile**	**154.38**	**56**	IAMs_20	IAMs_20	12 39 50.0		
	comp=Z,992nm,19.0s							
MAGL	**Barre de l'ile**	**154.38**	**56**	*e*P	**PKPdf**	**11 24 15.8**	**-7.0**
DSLB	**Salisbury**	**154.52**	**57**	*e*P	**PKPdf**	**11 24 15.8**	**-7.2**
MDN	**Morne-Daniel**	**154.60**	**57**	*e*P	PKPdf	11 24 11.2	-12	
VILB	**Vilhena**	**154.65**	**126**	*e*P	**PKPdf**	**11 24 23.7**	**+0.5**
DLPL	**La Plaine**	**154.72**	**57**	*e*P	**PKiKP**	**11 24 34.4**	**+2.6**
MAN01	**Angra dos Reis**	**154.97**	**170**	*e*P	**PKPdf**	**11 24 23.5**	**0.0**
SVN	**Savane Anatole**	**155.02**	**58**	IAMs_20	IAMs_20	12 28 53.5		
	comp=Z,1μm,22.0s							
FDF	**Fort de France**	**155.09**	**58**	IAMs_20	IAMs_20	12 28 00.3		
	comp=Z,1μm,22.0s							
FDF	**Fort de France**	**155.09**	**58**	*e*P	PKPdf	11 24 15.8	-8.0	
BIM	**Bigot**	**155.26**	**58**	IAMs_20	IAMs_20	12 28 05.8		
	comp=Z,1μm,22.0s							
BIM	**Bigot**	**155.26**	**58**	*e*P	**PKPdf**	**11 24 22.2**	**-1.9**
ILAM	**Ilet Lapin Mar**	**155.30**	**58**	IAMs_20	IAMs_20	12 30 35.9		
	comp=Z,1μm,22.0s							
MPOM	**Morne Pois Mar**	**155.47**	**58**	IAMs_20	IAMs_20	12 28 34.3		
	comp=Z,1μm,21.0s							
MPOM	**Morne Pois Mar**	**155.47**	**58**	*e*P	**PKPdf**	**11 24 20.5**	**-3.8**
BB19B	**Bebedouro**	**155.48**	**159**	*e*P	**PKPdf**	**11 24 24.8**	**+0.5**
SLBI	**Saint Lucia, B**	**155.57**	**59**	*e*P	PKPdf	11 24 15.8	-8.6	
VAS01	**Vassouras-RJ**	**155.63**	**171**	*e*P	**PKPdf**	**11 24 25.8**	**+1.4**
SVB	**Belmont**	**155.67**	**61**	*e*P	**PKPdf**	**11 24 20.5**	**-4.1**
MCLT	**Moule a Chique**	**155.74**	**60**	*e*P	**PKPdf**	**11 24 29.8**	**+5.1**
GRGR	**Grenville**	**155.78**	**64**	IAMs_20	IAMs_20	12 32 24.0		
	comp=Z,1μm,21.0s							
GCMP	**Grenada, Carri**	**155.84**	**63**	*e*P	PKPdf	11 24 15.8	-9.0	
DUB01	**Friburgo-RJ**	**155.97**	**173**	*e*P	**PKPdf**	**11 24 26.4**	**+1.4**
SALV	**Santo Antonio**	**156.10**	**135**	*e*P	**PKPdf**	**11 24 26.2**	**+1.1**
CAM01	**Campos-RJ**	**156.29**	**175**	*e*P	**PKPdf**	**11 24 26.2**	**+1.0**
BBGH	**Gurupari-ES**	**157.20**	**60**	*e*P	**PKPdf**	**11 24 30.6**	**+4.0**
BBSP	**Saint Philip**	**157.30**	**60**	*e*P	**PKPdf**	**11 24 28.7**	**+2.0**
ALF01	**Guarapari-ES**	**157.56**	**177**	*e*P	**PKPdf**	**11 24 28.8**	**+1.9**
IPMB	**Ipameri, GO**	**158.42**	**157**	*e*P	**PKPdf**	**11 24 29.0**	**+0.9**
PMNB	**Patos De Minas**	**158.53**	**162**	*e*P	**PKPdf**	**11 24 29.3**	**+1.0**
RIB01	**Linhares ES**	**158.87**	**178**	*e*P	**PKPdf**	**11 24 30.4**	**+1.9**
BOAV	**Boa Vista**	**158.95**	**88**	*e*P	**PKPdf**	**11 24 28.2**	**-0.6**
CLDB	**Colider**	**159.36**	**128**	*e*P	**PKPdf**	**11 24 29.2**	**-0.1**
SJMB	**Sao Joao De Ma**	**159.43**	**175**	*e*P	**PKPdf**	**11 24 28.9**	**-0.3**
DIAM	**Diamantina, MG**	**159.48**	**169**	*e*P	**PKPdf**	**11 24 29.3**	**-0.1**
NAN01	**Guarapari, ES**	**160.34**	**178**	*e*P	**PKPdf**	**11 24 31.0**	**+0.7**
BDFB	**Brasilia**	**160.60**	**154**	PKP	**PKPdf**	**11 24 30.7**	**0.0**
	comp=Z,10nm,1.0s,baz=104,slow=3.2,SNR=6.6							
BDFB				PKPab	**PKPab**	**11 25 11.0**	**-1.0**
	comp=Z,13nm,1.0s,baz=196,slow=5.0,SNR=6.3							
BDFB	**Brasilia**	**160.60**	**154**	*e*P	**PKPdf**	**11 24 31.5**	**+0.8**
GUA01	**Guaratinga, BA**	**161.60**	**179**	*e*P	**PKPdf**	**11 24 32.6**	**+1.0**
NPGB	**Novo Progresso**	**161.80**	**119**	*e*P	**PKPdf**	**11 24 31.7**	**-0.2**
SNDB	**Serra Nova Dou**	**161.86**	**140**	*e*P	**PKPdf**	**11 24 32.2**	**+0.2**
JANB	**Januaria**	**162.45**	**164**	*e*P	**PKPdf**	**11 24 32.9**	**+0.3**
ITTB	**Itaituba**	**162.57**	**111**	*e*P	**PKPdf**	**11 24 32.3**	**-0.5**
CMC01	**Camacan, BA**	**162.82**	**180**	*e*P	**PKPdf**	**11 24 34.4**	**+1.5**
GDU01	**Guandu, BA**	**164.45**	**180**	*e*P	**PKPdf**	**11 24 35.5**	**+1.0**
MALB	**Monte Alegre**	**164.73**	**104**	*e*P	**PKPdf**	**11 24 36.9**	**+2.1**
SDBA	**SAO DESIDERIO**	**164.76**	**159**	*e*P	**PKPdf**	**11 24 35.2**	**+0.4**
SMTB	**Santa Maria do**	**166.56**	**143**	*e*P	**PKPdf**	**11 24 36.8**	**+0.5**
NBRF	**Rio Formoso -**	**168.61**	**202**	*e*P	**PKPdf**	**11 24 40.0**	**+2.3**
TMAB	**Tom-Au,PA,Br**	**170.37**	**116**	*e*P	**PKPdf**	**11 24 40.9**	**+2.2**
RCBR	**Riachuelo**	**171.52**	**205**	*e*P	**PKPdf**	**11 24 41.9**	**+2.5**
ROSB	**Rosrio**	**173.31**	**136**	*e*P	**PKPdf**	**11 24 42.5**	**+2.3**

BJI ***24*** *11:09:38.3±0.0,1.97°S×140.97°E,h10km,mb5.5/79, mB5.6/50,Ms5.6/49,Ms7 5.4/47*
IDC ***24*** *11:09:40.8±0.3,1.86°S×140.59°E,h0km,mb5.2/41, mbtmp5.2/48,ML4.7/5,Error ellipse: s-maj=12.0km s-min=8.8km az=73.0*
MOS ***24*** *11:09:40.9±0.7,1.82°S×140.62°E,h12km,mb5.7/55,Error ellipse: s-maj=10.0km s-min=4.8km az=111.0*
NEIC ***24*** *11:09:43.9±1.8,1.85°S±0.08×140.56°E±0.06,h14km±3km, mb5.6/116,Mwc5.7(GCMT),Error ellipse: s-maj=10.9km s-min=9.3km az=186.0*
DJA ***24*** *11:09:44.9±0.8,2°S±2°×14°1E±°,h17km±5km,M5.8/76, mb5.4/76,mB6.1/23,MLv5.6/6,Mw(mB)5.7/23, MwMwp6.2/14,Mwp6.2/14*
GCMT ***24*** *11:09:44.8±0.2,1.83S±0.01×140.56E±0.02,h17km, MW5.6/128,Moment Tensor Solution. s57,c84; s128,c241; Duration: 1ᵗ⁶ Moment tensor: Scale 10¹⁷ Nm; Mrr-2.73±.12; Mθθ3.34±.08; Mϕϕ-0.60±.07; Mrθ1.44±.17; Mθϕ-0.10±.04; Mϕr-0.51±.23; Best double couple: M☉3.41000×10¹⁷ NP1:ϕ₁281.00000°,δ59.00000°, λ-78.00000°. NP2:ϕ₂80.00000°,δ33.00000°, λ-108.00000°. Principal axes: T 3.6750, Plg13.0000°, Azm3.0000°; N -0.5280, Plg10.0000°, Azm95.0000°; P -3.1450, Plg74.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***24*** *11:09:45,1.82S×140.59E,h16km,Moment Tensor Solution. Duration:* ***3ᵗ⁰*** *Moment tensor: Scale 10¹⁷Nm; Mrr-2.80; Mθθ3.56; Mϕϕ-0.76; Mrθ1.82; Mθϕ-0.08; Mϕr-0.79; Fault plane solution: M☉3.81000×10¹⁷ NP1:ϕ₁74.00000°, δ32.00000°,λ-117.00000°. NP2:ϕ₂285.00000°, δ62.00000°,λ-74.00000°. Principal axes: T 4.0612, Plg15.0000°, Azm3.0000°; N -0.5771, Plg14.0000°, Azm97.0000°; P -3.4840, Plg69.0000°, Azm228.0000°;*

ISC 24 11:09:43.2±0.4,1.91S±0.03×140.58E±0.03,h15km±2km, h15km:pP-P,n926,σ1ᵗ²3/968,mb5.5/177,17C-29D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.79**	**211**	P	**Pg**	**11 09 59.0**	**+0.4**
GENI				S	**Sn**	**11 10 14.1**	**+2.7**
SMPI	**Sarmi**	**1.87**	**268**	P	**Pn**	**11 10 15.7**	**+1.0**
SMPI				S	**Sg**	**11 10 42.2**	**-1.3**
WAMI	**Wamena**	**2.70**	**224**	P	**Pb**	**11 10 30.1**	**-1.3**
SRPI	**Serui, Papua**	**4.34**	**271**	P	Pn	11 10 53.9	+5.2	
BAKI	**Biak**	**4.53**	**279**	P	**Pn**	**11 10 50.6**	**-0.7**
MANU	**Manus Island**	**6.79**	**91**	Pn	**Pn**	**11 11 22.4**	**0.0**
FAKI	**Fak Fak**	**8.38**	**263**	Pn	**Pn**	**11 11 44.9**	**+0.6**
FAKI	**Fak Fak**	**8.38**	**263**	P	**Pn**	**

KAPI **Kappang** 21.01 261 P **P** 11 14 29.7 +3.2
FITZ **Fitzroy Crossi** 21.76 221 P **P** 11 14 34.5 0.0
comp=Z,89nm,1.0s,baz=1.0,slow=3.9,SNR=15
FITZ S **S** 11 18 28.1 -6.9
comp=Z,50nm,1.1s,baz=179,slow=1.0,SNR=3.5
comp=Z,89nm,1.0s
FITZ **Fitzroy Crossi** 21.76 221 P **P** 11 14 33.6 -0.9
baz=22,SNR=3.4
FITZ **Fitzroy Crossi** 21.76 221 P **P** 11 14 35.1 +0.6
FITZ IAmb IAmb 11 14 45.7
comp=Z,307nm,1.5s
FITZ **Fitzroy Crossi** 21.76 221 P **P** 11 14 34.3 -0.2
AS31 **Alice Springs** 22.57 196 P **P** 11 14 43.6 +0.4
ASAR **Alice Springs** 22.57 196 P **P** 11 14 42.6 -0.6
comp=Z,32nm,0.6s,baz=25,slow=11,SNR=19
ASAR S **S** 11 18 47.5 -2.8
comp=Z,34nm,1.2s,baz=17,slow=24,SNR=4.1
comp=Z,32nm,0.6s
ASAR **Alice Springs** 22.57 196 P **P** 11 14 43.1 0.0
ASAR **Alice Springs** 22.57 196 P **P** 11 14 43.2 0.0
SGKI **Sangatta, Kali** 23.01 273 P **P** 11 14 51.4 +3.5
comp=Z,570nm,1.2s
MYLDM **Lahad Datu** 23.15 288 P **P** 11 14 52.3 +2.9
SMKI **Samarinda** 23.41 273 P **P** 11 14 55.8 +3.8
comp=Z,537nm,1.3s
BKB **Balikpapan** 23.68 271 P **P** 11 14 57.9 +3.3
comp=Z,789nm,1.2s
BKB **Balikpapan** 23.68 271 P **P** 11 14 57.2 +2.6
TWSI **Taliwang, Sumb** 24.54 253 P **P** 11 15 04.6 +2.0
comp=Z,36nm,0.9s
QLP **Quilpie** 24.78 172 P **P** 11 15 04.9 +0.3
baz=25,SNR=12
QLP **Quilpie** 24.78 172 P **P** 11 15 05.0 +0.3
EIDS **Eidsvold** 25.42 157 P **P** 11 15 11.4 +1.0
baz=26,SNR=59
EIDS **Eidsvold** 25.42 157 P **P** 11 15 11.2 +0.7
EIDS **Eidsvold** 25.42 157 P **P** 11 15 12.1 +1.6
KKM **Kota Kinabalu** 25.58 288 P **P** 11 15 12.6 +0.4
KKM IAmb IAmb 11 15 15.2
comp=Z,132nm,1.0s
KKM **Kota Kinabalu** 25.58 288 P **P** 11 15 13.0 +0.8
RMQ **Roma** 25.66 163 P **P** 11 15 14.6 +1.9
baz=26,SNR=18
RMQ **Roma** 25.66 163 P **P** 11 15 14.8 +2.1
INKA **Innaminka** 25.68 180 P **P** 11 15 13.0 +0.2
MTKI **Muara Teweh, K** 25.69 272 P **P** 11 15 15.7 +2.6
comp=Z,5µmcomp=Z,61nm,1.1s
BBKI **Banjar Baru** 25.75 266 P **P** 11 15 16.6 +2.9
comp=Z,129nm,1.3s
WRKA **Warakurna** 25.86 206 P **P** 11 15 14.2 -0.3
baz=26,SNR=5.2
WRKA **Warakurna** 25.86 206 P **P** 11 15 14.2 -0.3
OOD **Oodnadatta** 26.16 190 P **P** 11 15 17.4 +0.3
KMMI **Kalianget** 27.01 258 P **P** 11 15 25.2 +0.2
comp=Z,184nm,0.9s
MBWA **Marble Bar** 27.91 225 P **P** 11 15 32.2 -0.8
MBWA **Marble Bar** 27.91 225 P **P** 11 15 32.3 -0.7
PSA00 **Pilbara Seismi** 28.09 224 P **P** 11 15 34.6 -0.1
PSA00 IAmb IAmb 11 16 31.8
comp=Z,142nm,1.6s
PSA00 **Pilbara Seismi** 28.09 224 P **P** 11 15 34.6 -0.1
PSA00 **Pilbara Seismi** 28.09 224 P **P** 11 15 34.3 -0.3
LCRK **Leigh Creek** 28.47 184 P **P** 11 15 38.5 +0.7
SBUM **Sibu** 28.68 279 P **P** 11 15 41.2 +1.2
SBUM IAmb IAmb 11 15 51.2
comp=Z,162nm,1.4s
MULG **Mulgathing** 28.88 192 P **P** 11 15 42.0 +0.5
STKI **Sintang** 29.16 274 P **P** 11 15 45.9 +1.6
comp=Z,56nm,1.1s
PWJI **Pagerwojo** 29.29 257 P P 11 15 52.2 +6.9
comp=Z,52nm,0.9s
KOUNC **Koumac, New Ca** 29.64 130 P **P** 11 15 49.4 +1.0
KOUNC IAmb IAmb 11 15 50.7
comp=Z,102nm,1.5s
KOUNC **Koumac, New Ca** 29.64 130 P **P** 11 15 48.3 -0.1
STKA **Stephens Creek** 29.82 178 P **P** 11 15 49.4 -0.4
comp=Z,24nm,0.8s,baz=354,slow=8.6,SNR=20
comp=Z,24nm,0.8s
STKA **Stephens Creek** 29.82 178 P **P** 11 15 49.6 -0.3
baz=30,SNR=19
STKA **Stephens Creek** 29.82 178 P **P** 11 15 49.5 -0.4
STKA **Stephens Creek** 29.82 178 P **P** 11 15 49.5 -0.3
STKA pmax pmax
comp=Z,8.0nm,1.0s
STKA **Stephens Creek** 29.82 178 P **P** 11 15 49.8 0.0
CMSA **Cobar Meteorol** 29.86 171 P **P** 11 15 51.4 +1.2
baz=30,SNR=8.0
CMSA **Cobar Meteorol** 29.86 171 P **P** 11 15 51.2 +1.0
ARMA **Armidale** 30.22 161 P **P** 11 15 54.7 +1.2
baz=30,SNR=6.8
ARMA **Armidale** 30.22 161 P **P** 11 15 54.7 +1.2
ARMA **Armidale** 30.22 161 P **P** 11 15 54.8 +1.2
JOW **Kunigami** 30.95 338 P **P** 11 15 59.8 -0.1
comp=Z,28nm,0.7s,baz=133,slow=7.2,SNR=6.7
comp=Z,28nm,0.7s
BBOO **Buckleboo** 31.03 187 P **P** 11 15 60.0 -0.5
baz=31,SNR=11
BBOO **Buckleboo** 31.03 187 P **P** 11 16 00.2 -0.3
BBOO IAmb IAmb 11 16 01.3
comp=Z,48nm,0.8s
BBOO **Buckleboo** 31.03 187 P **P** 11 16 00.0 -0.5
FORT **Forrest** 31.06 201 P **P** 11 16 00.6 -0.2
baz=31,SNR=8.9
FORT **Forrest** 31.06 201 P **P** 11 16 00.9 +0.1
FORT IAmb IAmb 11 16 17.8
comp=Z,75nm,0.8s
WHYH **Whyalla** 31.08 185 P **P** 11 16 00.8 -0.2
HTT **Hallett** 31.39 183 P **P** 11 16 03.9 +0.1
baz=32,SNR=8.3
HTT **Hallett** 31.39 183 ⇓S **P** 11 16 03.9 +0.1
NACB **Ninganchiao** 31.82 326 P **P** 11 16 06.8 -0.8
NACB IAmb IAmb 11 16 26.4
comp=Z,83nm,1.1s
LIFNC **LIFOU** 32.06 128 P **P** 11 16 10.1 +0.3
LIFNC **LIFOU** 32.06 128 P **P** 11 16 10.0 +0.3
NOUC **Port Laguerre** 32.07 131 P **P** 11 16 09.8 0.0
DZM **Mont Dzumac** 32.16 131 P **P** 11 16 10.3 -0.4
comp=Z,29nm,0.7s,baz=269,slow=7.8,SNR=56
comp=Z,29nm,0.7s
DZM **Mont Dzumac** 32.16 131 P **P** 11 16 10.7 0.0
DZM **Mont Dzumac** 32.16 131 P **P** 11 16 10.9 +0.3
DZM **Mont Dzumac** 32.16 131 ⇓S **P** 11 16 10.2 -0.5
DZM **Mont Dzumac** 32.16 131 *e*S **P** 11 16 11.2 +0.5
comp=Z,4µm,28.3s
DZM **Mont Dzumac** 32.16 131 *e*S **P** 11 16 11.0 +0.3
comp=Z,4µm,28.3s
ONTNC **Ouen Toro** 32.30 131 P **P** 11 16 11.6 -0.2
ONTNC **Ouen Toro** 32.30 131 P **P** 11 16 11.9 +0.1
YHNB **Yeheng** 32.34 326 P **P** 11 16 12.1 -0.1
MEEK **Meekatharra** 32.39 219 P **P** 11 16 12.0 -0.6
baz=32,SNR=6.1
MEEK **Meekatharra** 32.39 219 P **P** 11 16 12.2 -0.4
YATNC **Mamie plateau,** 32.49 130 P **P** 11 16 14.0 +0.5
H11S3 **WAKE ISLAND Hy** 32.73 51 T T 11 51 00.5
baz=230
H11S2 **WAKE ISLAND Hy** 32.74 51 T T 11 51 00.5
baz=230
H11S1 **WAKE ISLAND Hy** 32.75 51 T T 11 51 00.5
baz=230,SNR=23
MARNC **Mare, Loyalty** 33.06 128 P **P** 11 16 18.6 +0.1
MARNC **Mare, Loyalty** 33.06 128 P **P** 11 16 19.0 +0.5
MARNC **Mare, Loyalty** 33.06 128 ⇑S **P** 11 16 18.6 +0.1
SYDH **Sydney Hard Ro** 33.08 164 P **P** 11 16 19.4 +0.9
H11N1 **WAKE ISLAND Hy** 33.60 49 T T 11 52 04.5
baz=230
H11N2 **WAKE ISLAND Hy** 33.62 49 T T 11 52 04.5
baz=230
H11N3 **WAKE ISLAND Hy** 33.62 49 T T 11 52 04.5
baz=230
CNJI **Cibinong** 33.76 260 P **P** 11 16 27.1 +2.4
comp=Z,102nm,1.1s
TNG **Tangerang** 34.10 262 P **pwP** 11 16 35.1 -0.4
comp=Z,12µmcomp=Z,1µm,0.5s
TNG P **P** 11 16 30.7 +3.0
comp=Z,19µmcomp=Z,2µm,0.5s
CAN **Canberra** 34.15 168 P **P** 11 16 29.1 +1.3
CAN IAmb IAmb 11 16 30.7
comp=Z,57nm,1.0s
CAN **Canberra** 34.15 168 P **P** 11 16 29.1 +1.3
CAN pmax pmax
comp=Z,57nm,1.0s
CAN **Canberra** 34.15 168 P **P** 11 16 29.2 +1.3
CAN **Canberra** 34.15 168 ⇑S **P** 11 16 28.9 +1.1
QZH **Quanzhou** 34.17 323 ⇓*i*P **P** 11 16 27.8 -0.3
QZH pmax pmax
comp=Z,63nm,0.7s
CNB **Canberra Magne** 34.22 167 P **P** 11 16 29.5 +1.0
baz=34,SNR=6.4
CNB **Canberra Magne** 34.22 167 P **P** 11 16 29.5 +1.0
PPBI **Pangkal Pinang** 34.42 269 P **P** 11 16 31.4 +0.9
comp=Z,95µmcomp=Z,136nm,1.1s
JSU **Suzuyama** 34.60 345 P **P** 11 16 31.6 -0.2
JSU IAmb IAmb 11 16 32.7
comp=Z,86nm,1.1s
ARPS **Mount Arapiles** 34.70 178 P **P** 11 16 33.2 +0.6
baz=35,SNR=15
ARPS **Mount Arapiles** 34.70 178 P **P** 11 16 33.4 +0.8
BRAT **Ballarat** 35.60 175 P **P** 11 16 42.0 +1.8
MORW **Morawa** 35.71 219 P **P** 11 16 40.5 -0.9
baz=36,SNR=7.0
MORW **Morawa** 35.71 219 P **P** 11 16 40.5 -0.9
MORW IAmb IAmb 11 16 51.6
comp=Z,84nm,1.2s
MORW **Morawa** 35.71 219 P **P** 11 16 40.7 -0.7
TOO **Toolangi** 35.77 173 P **P** 11 16 43.3 +1.5
baz=36,SNR=4.2
TOO **Toolangi** 35.77 173 P **P** 11 16 41.7 -0.1
TOO **Toolangi** 35.77 173 P **P** 11 16 41.7 -0.1
TOO pmax pmax
comp=Z,46nm,1.3s
TOO **Toolangi** 35.77 173 P **P** 11 16 43.4 +1.6
MILA **Mila** 35.85 168 P **P** 11 16 44.0 +1.5
baz=36,SNR=6.4
JMN **Monobe** 36.01 350 P **P** 11 16 43.7 -0.2
JMN IAmb IAmb 11 16 44.8
comp=Z,121nm,1.0s
DSRI **Dabo** 36.02 272 P **P** 11 16 44.9 +0.6
comp=Z,4µmcomp=Z,1µmcomp=Z,46nm,1.3s
TPRI **Tanjung Pinang** 36.16 274 P **P** 11 16 46.0 +0.6
comp=Z,6µmcomp=Z,85nm,1.2s
KASI **Kota Agung** 36.18 263 P P 11 16 53.8 +8.2
comp=Z,78nm,1.1s
GEXS **Deakin Univers** 36.27 175 P **P** 11 16 48.0 +2.0
GZH **Guangzhou** 36.35 315 P **P** 11 16 48.5 +1.6
BLDU **Ballidu** 36.41 216 P **P** 11 16 47.0 -0.4
baz=37,SNR=7.1
QIZ **Qiongzhong** 36.68 306 P **P** 11 16 49.1 -0.8
QIZ IAmb IAmb 11 16 50.6
comp=Z,106nm,1.1s
QIZ **Qiongzhong** 36.68 306 P **P** 11 16 48.9 -1.0
QIZ sP **pwP** 11 16 56.8 -1.0
QIZ S **S** 11 22 37.9 +4.9
QIZ pmax pmax
comp=Z,97nm,1.0s
QIZ LR LR
comp=Z,3µm,15.9s
QIZ LR LR
comp=Z,3µm,15.9s
QIZ LR LR
comp=Z,5µm,18.3s
QIZ **Qiongzhong** 36.68 306 P **P** 11 16 49.5 -0.4
JMBI **JAMBI** 36.92 270 P **P** 11 16 56.4 +4.4
comp=Z,4µmcomp=Z,108nm,0.4s
INU **Inuyama** 37.22 355 P **P** 11 16 53.0 -1.2
INU **Inuyama** 37.22 355 P **P** 11 16 53.4 -0.7
JHS **Saijyo** 37.38 350 P **P** 11 16 54.6 -0.9
MUN **Mundaring** 37.70 215 P **P** 11 16 57.9 -0.4
baz=38,SNR=4.4
KSI **Kapahiang** 37.98 267 P P 11 17 08.7 +7.7
MASI **Maura Aman, Be** 38.32 267 P **P** 11 17 04.5 +0.6
comp=Z,202nm,1.5s
MJAR **Matsushiro Arr** 38.32 357 P **P** 11 17 01.5 -2.0
comp=Z,23nm,0.7s,baz=180,slow=9.1,SNR=41
MJAR PcP **PcP** 11 19 16.9 -0.5
comp=Z,7.2nm,0.9s,baz=184,slow=2.9,SNR=8.2
comp=Z,23nm,0.7s
MAJO **Matsushiro** 38.32 357 P **P** 11 17 01.8 -1.7
MAJO **Matsushiro** 38.32 357 P **P** 11 17 01.8 -1.7
MAJO pmax pmax
comp=Z,36nm,0.7s
MAJO **Matsushiro** 38.32 357 P **P** 11 17 01.9 -1.6
MJB9 **Matsu-Tunnel** 38.33 357 P **P** 11 17 02.4 -1.1
FUNA **Funafuti** 38.99 101 P **P** 11 17 08.9 -0.5
FUNA **Funafuti** 38.99 101 P **P** 11 17 09.9 +0.5
SDSI **Sungai Dareh** 39.15 271 P **P** 11 17 11.3 +0.5
comp=Z,8µmcomp=Z,80nm,1.6s
NJ2 **Nanjing** 39.57 330 ⇓*i*P **P** 11 17 14.4 +0.5
NJ2 pP **sP** 11 17 18.8 -0.3
NJ2 sP **pwP** 11 17 23.3 +1.4
NJ2 PP **PnPn** 11 18 48.8 +0.8
NJ2 S **S** 11 23 21.8 +5.6
NJ2 pmax pmax
comp=Z,45nm,0.7s
NJ2 pmax pmax
comp=Z,460nm,4.1s
NJ2 LR LR
comp=Z,2µm,13.7s
NJ2 LR LR
comp=Z,2µm,11.6s
NJ2 LR LR
comp=Z,3µm,13.2s
JMM **Marumori** 39.58 0 P **P** 11 17 13.1 -0.8
JMM IAmb IAmb 11 17 14.1
comp=Z,114nm,0.9s
BKNI **Bangkinang** 39.59 273 P **P** 11 17 16.4 +1.9
comp=Z,205nm,1.4s
BKNI **Bangkinang** 39.59 273 P **P** 11 17 16.3 +1.8
comp=Z,209nm,1.5s
JSD **Sado** 39.81 357 P **P** 11 17 15.0 -0.9
GULI **GuiLin** 39.85 315 ⇓P **P** 11 17 14.8 -1.6
MSVF **Nonsavu** 40.00 116 P **P** 11 17 18.4 +0.5
comp=Z,7.9nm,0.8s,baz=274,slow=11,SNR=9.3
comp=Z,7.9nm,0.8s
MSVF **Nonsavu** 40.00 116 P **P** 11 17 18.6 +0.7
MSVF **Nonsavu** 40.00 116 P **P** 11 17 18.6 +0.7
MSVF pmax pmax
comp=Z,19nm,1.0s
MSVF **Nonsavu** 40.00 116 P **P** 11 17 19.0 +1.1
CNSH **ChangSha** 40.01 320 ⇓P **P** 11 17 18.8 +1.1
CNSH pmax pmax
comp=Z,71nm,0.9s
IPM **Ipoh** 40.03 279 P **P** 11 17 18.1 -0.1
IPM IAmb IAmb 11 17 19.2
comp=Z,203nm,1.5s
IPM **Ipoh** 40.03 279 P **P** 11 17 18.0 -0.1
TJN **Taejon** 40.04 343 *d*iP **P** 11 17 17.0 -0.8
TJN **Taejon** 40.04 343 P **P** 11 17 17.4 -0.4
PDSI **Padang** 40.12 271 P **P** 11 17 17.8 -1.1
comp=Z,68nm,1.2s
MOO **Moorlands** 40.78 173 P **P** 11 17 25.7 +1.8
WHN **Wuhan** 40.83 324 ⇓P **P** 11 17 25.8 +1.4
WHN sP **pwP** 11 17 34.4 +2.0
WHN pmax pmax
comp=Z,140nm,1.0s
WHN LR LR
comp=Z,11µm,16.7s
KSAR **Wonju Array Be** 40.89 345 P **P** 11 17 24.7 -0.2
KSAR **Wonju Array Be** 40.89 345 P **P** 11 17 24.7 -0.2
KSRS **Korea Array** 40.89 345 P **P** 11 17 24.7 -0.1
comp=Z,18nm,0.8s,baz=158,slow=8.8,SNR=60
KSRS PcP **PcP** 11 19 25.9 +0.5
comp=Z,8.2nm,0.9s,baz=169,slow=4.3,SNR=9.5
comp=Z,18nm,0.8s
KS19 **Wonju Array Si** 40.95 345 P **P** 11 17 24.8 -0.6
DGTI **Dogotuki** 41.11 113 P **P** 11 17 27.5 +0.5
TAU **Tasmania Unive** 41.26 172 P **P** 11 17 28.9 +1.1
TAU IAmb IAmb 11 18 31.7
comp=Z,240nm,1.9s
TAU **Tasmania Unive** 41.26 172 P **P** 11 17 28.9 +1.1
TAU pmax pmax
comp=Z,240nm,2.0s
INCN **Inchon** 41.28 343 P **P** 11 17 28.3 +0.2
SISI **Saibi** 41.48 270 P **P** 11 17 29.5 -0.6
comp=Z,2µmcomp=Z,175nm,0.9s
JTM **Tenmabayashi** 42.50 1 P **P** 11 17 37.5 -0.5
JTM IAmb IAmb 11 17 38.5
comp=Z,136nm,1.1s
FUTU **Fugatoga** 42.61 109 P **P** 11 17 40.5 +1.2
GSI **Gunungsitoli** 43.12 274 P **P** 11 17 42.2 -1.3
GSI **Gunungsitoli** 43.12 274 P **P** 11 17 42.7 -0.8
comp=Z,319nm,1.0s
GSI **Gunungsitoli** 43.12 274 P **P** 11 17 42.3 -1.2
KCSI **Kotacane, Aceh** 43.13 277 P **P** 11 17 42.2 -1.4
comp=Z,2µmcomp=Z,132nm,0.9s
GYA **Guiyang** 43.21 313 ⇑P **P** 11 17 45.6 +1.4
GYA sP pwP 11 17 53.8 +1.6
GYA pmax pmax
comp=Z,47nm,1.6s
ENH **Enshi** 43.63 320 P **P** 11 17 47.5 +0.1
TIA **Tai'an** 43.78 332 ⇓P **P** 11 17 48.3 -0.2
TIA pmax pmax
comp=Z,76nm,1.1s
ERM **Erimo** 43.79 3 ⇑*e*P **P** 11 17 50.8 +2.4
ERM pmax pmax
comp=Z,51nm,1.3s
JEW **Eniwo** 44.56 1 P **P** 11 17 54.0 -0.5
MLSI **Meulaboh, Aceh** 44.57 278 P **P** 11 17 54.2 -0.9
comp=Z,138nm,1.2s
PHRA **Phrae** 44.57 299 P **P** 11 17 55.2 +0.2
LYN **LuoYang** 44.85 327 ⇓*i*P **P** 11 17 56.3 -0.8
LYN pmax pmax
comp=Z,70nm,0.9s
CRAI **Chiangrai** 45.14 301 P **P** 11 17 59.7 +0.1
KMI **Kunming** 45.45 309 ⇓P **P** 11 18 03.3 +1.0
KMI sP pwP 11 18 11.8 +1.5
KMI PcP **PcP** 11 19 42.3 +0.9
KMI pmax pmax
comp=Z,53nm,1.3s
KMI pmax pmax
comp=Z,580nm,7.7s
KMI LR LR
comp=Z,1µm,18.0s
KMI LR LR
comp=Z,2µm,14.5s
KMI LR LR
comp=Z,2µm,16.4s
CMAR **Chiang Mai Arr** 45.69 298 P **P** 11 18 04.1 +0.1
comp=Z,11nm,0.7s,baz=118,slow=6.0,SNR=33
CMAR PcP **PcP** 11 19 43.2 +1.2
comp=Z,8.8nm,0.9s,baz=145,slow=2.0,SNR=6.1
comp=Z,11nm,0.7s
CHTO **Chiang Mai** 45.82 299 P **P** 11 18 04.9 -0.1
CHTO P **P** 11 18 04.9 -0.1
CHTO **Chiang Mai** 45.82 299 P **P** 11 18 05.0 -0.1
HNS **HongShan** 45.88 331 ⇓P **P** 11 18 05.3 +0.1
HNS S **S** 11 24 56.1 +7.0
HNS pmax pmax
comp=Z,110nm,0.9s
HNS LR LR
comp=Z,4µm,16.7s
HNS LR LR
comp=Z,2µm,19.6s
HNS LR LR
comp=Z,6µm,17.7s
SNY **Shenyang** 46.19 342 ⇓P **P** 11 18 07.3 -0.2
SNY S **S** 11 25 01.1 +7.8
SNY pmax pmax
comp=Z,54nm,1.0s
SNY pmax pmax
comp=Z,470nm,4.7s
SNY LR LR
comp=Z,1µm,15.9s
SNY LR LR
comp=Z,2µm,14.7s
SNY LR LR
comp=Z,3µm,20.3s
XAN **Xi'an** 46.53 323 ⇓*i*P **P** 11 18 10.4 0.0
XAN pP sP 11 18 14.8 -0.8
XAN sP pwP 11 18 20.1 +1.7
XAN pmax pmax
comp=Z,150nm,1.4s
XAN pmax pmax
comp=Z,1µm,5.8s
USRK **Ussuriysk Ar.** 46.55 351 P **P** 11 18 10.3 0.0
comp=Z,50nm,1.0s,baz=176,slow=8.6,SNR=33
comp=Z,50nm,1.0s
USRK **Ussuriysk Ar.** 46.55 351 P **P** 11 18 09.7 -0.6
PZH **PanZhiHua** 46.93 310 P **P** 11 18 14.3 +0.5
PZH pmax pmax
comp=Z,40nm,1.0s
BJT **Baijiatuao** 47.34 334 P **P** 11 18 16.8 +0.2
BJT IAmb IAmb 11 18 17.7
comp=Z,119nm,1.4s
BJT **Baijiatuao** 47.34 334 P **P** 11 18 16.8 +0.2
BJT pmax pmax
comp=Z,119nm,1.4s
BJI **Beijing** 47.35 334 P **P** 11 18 16.4 -0.2
BJI sP **pwP** 11 18 24.8 +0.2
BJI PcS **PcS** 11 23 42.1 -0.4
BJI S **S** 11 25 14.3 +4.3
BJI pmax pmax
comp=Z,51nm,1.2s
MDJ **Mudanjiang** 47.35 349 P **P** 11 18 16.2 -0.4
MDJ IAmb IAmb 11 18 17.5
comp=Z,53nm,0.9s
MDJ **Mudanjiang** 47.35 349 P **P** 11 18 16.8 +0.2
KUR **Kuril'sk** 47.39 7 *d*iP **P** 11 18 16.4 -0.4
KUR pmax pmax
comp=Z,263nm,1.1s
CN2 **Changchun** 47.49 345 P **P** 11 18 17.0 -0.7
CN2 pmax pmax
comp=Z,80nm,0.9s
CD2 **Chengdu** 47.88 316 P **P** 11 18 21.6 +0.6
CD2 pmax pmax
comp=Z,190nm,0.9s
HIZ **Hauiti** 48.05 144 P **P** 11 18 23.8 +1.6
AFI **Afiamalu** 48.56 107 P **P** 11 18 27.0 +0.5
comp=Z,49nm,1.1s,baz=41,slow=2.5,SNR=6.0
comp=Z,49nm,1.1s
YSS **Yuzh-Sakhalins** 48.70 2 *e*P **P** 11 18 26.0 -1.0
YSS pmax pmax
comp=Z,70nm,0.8s
YSS **Yuzh-Sakhalins** 48.70 2 P **P** 11 18 26.5 -0.4
YSS **Yuzh-Sakhalins** 48.70 2 ⇑S **P** 11 18 26.6 -0.4
BNX **BinXian** 48.87 348 ⇓P **P** 11 18 28.0 -0.3
BNX pmax pmax
comp=Z,170nm,1.0s
BNX pmax pmax
comp=Z,730nm,4.8s
OTVZ **Oturere** 48.95 144 P P 11 18 35.7 +6.4
HAZ **Te Kaha** 49.37 141 P **P** 11 18 33.0 +0.7
RTZ **Ruatahuna** 49.40 142 P **P** 11 18 32.7 +0.1
RUGZ **Raukumara Rang** 49.43 141 P **P** 11 18 33.2 +0.3
BKZ **Black Stump Fm** 49.45 143 P **P** 11 18 33.2 +0.2
BKZ **Black Stump Fm** 49.45 143 P **P** 11 18 33.0 +0.1
MTHZ **Maungataniwha** 49.46 143 P **P** 11 18 33.1 +0.1
TUWZ **Tuamarina** 49.49 147 P **P** 11 18 32.8 -0.3
LTZ **Lake Taylor** 49.57 149 P **P** 11 18 34.5 +0.7
LTZ IAmb IAmb 11 18 56.9
comp=Z,81nm,1.7s
MLZ **Mavora Lakes** 49.59 155 P **P** 11 18 34.4 +0.5
MLZ IAmb IAmb 11 18 51.1
comp=Z,54nm,1.1s
NMHZ **Naumai** 49.59 143 P **P** 11 18 35.1 +1.0
RPZ **Rata Peaks** 49.65 151 P **P** 11 18 34.8 +0.4
RPZ IAmb IAmb 11 18 48.1
comp=Z,58nm,1.0s
LBZ **Lake Benmore** 49.75 152 P **P** 11 18 35.2 +0.1
LBZ IAmb IAmb 11 18 58.3
comp=Z,53nm,1.2s
TWGZ **Tauwhareparae** 49.75 141 P **P** 11 18 35.9 +0.6
RIGZ **Rimuhau** 49.93 142 P **P** 11 18 37.2 +0.5
CNGZ **Carnagh Statio** 50.08 141 P **P** 11 18 38.0 +0.4
HHC **Hu-ho-hao-te** 50.10 331 *e*P **P** 11 18 38.0 0.0
HHC pmax pmax
comp=Z,69nm,1.2s
HHC pmax pmax
comp=Z,1µm,6.3s
BFZ **Birch Farm** 50.28 145 P **P** 11 18 38.9 -0.3
XLT **XiLinHaoTe** 50.62 337 ⇑*i*P **P** 11 18 41.1 -0.7
XLT pP pP 11 18 45.3 -0.3
XLT sP sP 11 18 48.1 +1.1
XLT S **S** 11 26 01.0 +5.0
XLT SS **SS** 11 29 29.0 -1.6
XLT pmax pmax
comp=Z,27nm,0.8s
XLT pmax pmax
comp=Z,710nm,9.1s
XLT LR LR
comp=Z,4µm,18.4s
XLT LR LR
comp=Z,5µm,18.8s
BTO **Baotou** 50.67 330 *e*P **P** 11 18 42.8 +0.5
UGL **Uglegorsk** 50.80 1 *e*P **P** 11 18 40.8 -2.1
UGL pmax pmax
comp=Z,60nm,1.0s
LZH **Lanzhou** 51.00 321 ⇓P **P** 11 18 46.1 +1.2
LZH pP sP 11 18 49.8 -0.3
LZH sP pwP 11 18 52.8 -0.1
LZH pmax pmax
comp=Z,260nm,1.1s
LZH pmax pmax
comp=Z,1µm,4.5s
KLR **Kul'dur** 51.51 353 P **P** 11 18 48.1 -0.2
comp=Z,27nm,0.8s,baz=175,slow=4.4,SNR=38

comp=Z,27nm,0.8s
GRNR Gornyy 52.60 357 ⇓*i* P **P 11 18 56.1 -0.3**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR MLR MLR
comp=E,460nm,13.0s
GRNR MLR MLR
comp=Z,1μm,13.0s
GRNR MLR MLR
comp=N,1μm,14.0s
SKR Severo-Kuril's 54.06 12 ⇑*e* P **P 11 19 06.3 -0.7**
HIA Hailar 54.07 343 P **P 11 19 07.6 +0.3**
HIA IAmb IAmb 11 19 08.4
comp=Z,59nm,1.2s
HIA Hailar 54.07 343 P **P 11 19 07.6 +0.3**
HIA pmax pmax
comp=Z,59nm,1.2s
GTA Gaotai 55.57 322 ⇓P **P 11 19 19.3 +0.9**
GTA pP pwP 11 19 27.0 +0.5
GTA sP sP 11 19 31.1 +7.4
GTA PcP **PcP 11 20 19.0 +0.8**
GTA pmax pmax
comp=Z,81nm,1.3s
GTA pmax pmax
comp=Z,310nm,5.5s
GTA LR LR
comp=Z,1μm,21.4s
GTA LR LR
comp=Z,2μm,22.5s
GTA LR LR
comp=Z,3μm,20.7s
ZEA Zeya 56.56 351 *e*P **P 11 19 24.6 -0.5**
ZEA pmax pmax
comp=N,20nm,0.5s
ZEA pmax pmax
comp=Z,30nm,0.8s
PEA0B Petropavlovsk- 56.68 12 P **P 11 19 26.4 +0.5**
PEA0B IAmb IAmb 11 19 27.2
comp=Z,71nm,1.1s
PEA0B Petropavlovsk- 56.68 12 P **P 11 19 26.4 +0.5**
PEA0B pmax pmax
comp=Z,71nm,1.1s
PETK Petropavlovsk- 56.68 12 P **P 11 19 25.8 -0.2**
comp=Z,37nm,1.0s,baz=193,slow=6.1,SNR=18
PETK PcP **PcP 11 20 21.1 -0.9**
comp=Z,7.1nm,0.7s,baz=133,slow=2.8,SNR=4.8
comp=Z,37nm,1.0s
PETK Petropavlovsk- 56.68 12 P **P 11 19 25.9 0.0**
LSA Lhasa 56.69 308 P **P 11 19 27.2 +0.2**
LSA IAmb IAmb 11 19 42.7
comp=Z,47nm,1.2s
LSA Lhasa 56.69 308 P **P 11 19 27.1 +0.1**
LSA pmax pmax
comp=Z,39nm,1.2s
LSA Lhasa 56.69 308 P **P 11 19 27.2 +0.2**
LSA pmax pmax
comp=Z,47nm,1.2s
PET Petropavlovsk 56.80 13 *e*P **P 11 19 26.5 -0.3**
PET pmax pmax
comp=Z,21nm,0.9s
GOMU GeErMu 57.01 316 *e*P **P 11 19 30.3 +1.2**
GOMU pP pP 11 19 33.3 +0.4
GOMU sP sP 11 19 34.6 +0.2
GOMU S **S 11 27 29.3 +5.7**
GOMU pmax pmax
comp=Z,29nm,0.8s
GOMU pmax pmax
comp=Z,930nm,11.7s
GOMU LR LR
comp=Z,400nm,12.6s
GOMU LR LR
comp=Z,940nm,13.9s
GOMU LR LR
comp=Z,690nm,14.5s
ULN Ulaanbaatar 57.55 334 *d i* P **P 11 19 33.0 +0.6**
ULN pmax pmax
comp=Z,32nm,0.9s
ULN Ulaanbaatar 57.55 334 P **P 11 19 33.0 +0.6**
ULN P **P 11 19 33.0 +0.6**
SONM Songino Array 57.82 333 P **P 11 19 34.5 +0.2**
comp=Z,5.8nm,0.5s,baz=154,slow=7.8,SNR=19
SONM PcP **PcP 11 20 27.1 +0.3**
comp=Z,6.1nm,0.7s,baz=150,slow=3.7,SNR=5.3
SONM PKPPKP P'P'df 11 49 29.3 +11
comp=Z,0.7nm,0.7s,baz=241,slow=1.5,SNR=5.4
comp=Z,5.8nm,0.5s
SONM Songino Array 57.82 333 P **P 11 19 34.5 +0.2**
SONM Songino Array 57.82 333 P **P 11 19 34.5 +0.2**
SONM pmax pmax
comp=Z,42nm,1.6s
CIT Chita 58.40 341 *e*P **P 11 19 38.4 +0.3**
CIT *e* 11 19 45.6
CIT *e* 11 20 26.6
CIT pmax pmax
comp=Z,240nm,2.0s
TAPN Taplejung 58.57 304 *e*P **P 11 19 40.4 +0.3**
comp=Z,134nm,1.3s
ODAN Odare 58.66 303 *e*P **P 11 19 39.0 -1.7**
comp=Z,30nm,2.0s
RAMN Ramite 59.36 303 *e*P **P 11 19 44.9 -0.6**
comp=Z,53nm,0.9s
JIRN Jiri 59.94 304 *e*P **P 11 19 50.0 +0.3**
comp=Z,67nm,1.0s
GUN Gumba 60.29 304 *e*P **P 11 19 52.4 +0.4**
comp=Z,164nm,1.3s
PALK Pallekele 60.43 279 P **P 11 19 52.3 -0.6**
comp=Z,24nm,0.8s,baz=207,slow=8.1,SNR=7.5
comp=Z,24nm,0.8s
PALK Pallekele 60.43 279 P **P 11 19 53.0 +0.1**
PALK Pallekele 60.43 279 *ce* P **P 11 19 53.2 +0.3**
PALK pmax pmax
comp=Z,41nm,1.0s
PALK Pallekele 60.43 279 P **P 11 19 52.7 -0.3**
PALK P **P 11 19 52.7 -0.3**
PKI Pulchoki 60.56 303 *e*P **P 11 19 54.0 +0.1**
comp=Z,26nm,0.8s
PKIN Phulchoki 60.58 303 *e*P **P 11 19 53.7 -0.2**
KKN Kakani 60.74 303 *e*P **P 11 19 55.2 +0.2**
DMN Daman 60.83 303 *e*P **P 11 19 56.0 +0.3**
comp=Z,120nm,1.0s
ZAK Zakamensk 61.09 334 *e*P **P 11 19 56.2 -0.6**
ZAK pmax pmax
comp=Z,64nm,1.8s
SHEM Shemya Is, Ala 61.29 23 P **P 11 19 57.8 -0.1**
comp=Z,145nm,1.1s,baz=308,slow=8.0,SNR=5.2
comp=Z,145nm,1.1s
GKN Gorkha 61.35 303 *e*P **P 11 19 59.3 +0.2**
MA2 Magadan 61.83 6 P **P 11 20 01.1 -0.3**
comp=Z,14nm,0.7s,baz=161,slow=7.8,SNR=7.3
comp=Z,14nm,0.7s
IRK Irkutsk 62.03 336 *e*P **P 11 20 02.4 -0.6**
IRK pmax pmax
comp=Z,99nm,2.3s
KOLN Koldanda 62.15 303 *e*P **P 11 20 03.8 -0.7**
comp=Z,52nm,1.8s
DANN Dangsing 62.20 303 *e*P **P 11 20 05.0 +0.1**
comp=Z,76nm,0.7s
PYUN Piuthan 62.76 303 *e*P **P 11 20 08.9 +0.3**
comp=Z,638nm,1.4s
MOY Mondy 63.02 334 *e*P **P 11 20 10.3 +0.6**
MOY pmax pmax
comp=Z,127nm,2.0s
HYBB Hyderabad (bro 64.04 290 *e*P **P 11 20 16.4 -0.7**
KIP Kipapa 64.30 65 ⇓*e*P **P 11 20 18.3 -0.3**
KIP pmax pmax
comp=Z,160nm,1.5s
YAK Yakutsk 64.31 354 P **P 11 20 17.6 -0.2**
comp=Z,85nm,0.9s,baz=144,slow=1.4,SNR=30
comp=Z,85nm,0.9s
YAK Yakutsk 64.31 354 P **P 11 20 17.3 -0.6**
YAK Yakutsk 64.31 354 *d i* P **P 11 20 17.7 -0.2**
YAK *e* 11 22 39.2
YAK *e*S **S 11 28 52.3 -2.9**
YAK *e**SS sS 11 29 16.7 +15
YAK *e* 11 30 05.9
YAK *e*SS **SS 11 33 04.0 -1.1**
YAK pmax pmax
comp=Z,204nm,0.9s
YAK pmax pmax
comp=N,105nm,1.4s
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=Z,209nm,2.7s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,89nm,2.8s
YAK smax smax
comp=N,260nm,3.2s
YAK smax smax
comp=E,97nm,3.2s
ADK Adak 64.60 28 P **P 11 20 19.8 -0.1**
ADK IAmb IAmb 11 20 20.1
comp=Z,61nm,0.9s
ADK Adak 64.60 28 P **P 11 20 19.8 -0.1**
ADK pmax pmax
comp=Z,61nm,1.0s
SEY Seymchan 65.29 6 P **P 11 20 24.2 0.0**
comp=Z,16nm,0.8s,baz=172,slow=4.3,SNR=27
comp=Z,16nm,0.8s
WMQ Urumqi 65.57 321 *e*P **P 11 20 27.3 +0.8**
WMQ sP pwP 11 20 39.0 +4.4
WMQ pmax pmax
comp=Z,140nm,0.9s
WMQ pmax pmax
comp=Z,720nm,10.7s
WMQ LR LR
comp=Z,3μm,18.1s
WMQ LR LR
comp=Z,2μm,20.5s
WMQ LR LR
comp=Z,2μm,19.7s
DGZ Jazzator, Alta 68.66 326 *d i* P **P 11 20 46.4 +0.2**
DGZ pmax pmax
comp=Z,29nm,0.9s
ZSN Zaisan 69.04 323 *e*P **P 11 20 47.6 -0.8**
ZSN pmax pmax
comp=Z,57nm,2.0s
ZSN Zaisan 69.04 323 *e*P **P 11 20 47.6 -0.8**
comp=Z,57nm,2.0s,baz=323
NIKH Nikolski High 69.05 30 P **P 11 20 47.2 -1.1**
baz=236
MK31 Makanchi Array 70.31 322 P **P 11 20 56.7 +0.4**
MK31 IAmb IAmb 11 20 58.0
comp=Z,64nm,1.1s
MK31 Makanchi Array 70.31 322 P **P 11 20 56.7 +0.4**
MK31 pmax pmax
comp=Z,64nm,1.1s
MKAR Makanchi Array 70.31 322 P **P 11 20 56.8 +0.4**
comp=Z,37nm,0.8s,baz=107,slow=8.4,SNR=84
MKAR PKPPKP **P'P'df 11 49 00.1 +2.0**
comp=Z,0.6nm,0.9s,baz=305,slow=5.1,SNR=3.8
comp=Z,37nm,0.8s
MKAR Makanchi Array 70.31 322 P **P 11 20 55.8 -0.5**
MAKZ Makanchi 70.52 322 P **P 11 20 57.7 +0.2**
MAKZ Makanchi 70.52 322 P **P 11 20 57.8 +0.2**
SHLS Shalkode 70.69 317 *e*P **P 11 20 56.4 -2.4**
SHLS pmax pmax
comp=Z,24nm,0.7s
SHLS Shalkode 70.69 317 *e*P **P 11 20 56.4 -2.4**
comp=Z,24nm,0.7s,baz=317
UNV Unalaska Valle 70.71 30 P **P 11 20 57.8 -0.7**
baz=238
PDGK Podgornoye 70.74 317 P **P 11 20 59.2 +0.1**
SPIA Saint Paul Isl 70.85 26 P **P 11 20 59.1 -0.2**
baz=233
UZB Uzynbulak 70.99 317 *e*P **P 11 21 00.0 -0.6**
UZB pmax pmax
comp=Z,31nm,1.4s
UZB Uzynbulak 70.99 317 *e*P **P 11 21 00.1 -0.6**
comp=Z,31nm,1.4s,baz=317
TARG Taragay, Kyrgy 71.32 315 P **P 11 21 02.9 -0.1**
TARG IAmb IAmb 11 21 13.8
comp=Z,102nm,1.4s
TARG Taragay, Kyrgy 71.32 315 P **P 11 21 02.9 -0.1**
TARG pmax pmax
comp=Z,102nm,1.4s
KPKS Kokpek 71.33 317 *e*P **P 11 21 01.7 -1.0**
KPKS pmax pmax
comp=Z,87nm,1.6s
KPKS Kokpek 71.33 317 *e*P **P 11 21 01.8 -1.0**
comp=Z,87nm,1.6s,baz=317
SATY Saty 71.38 317 *e*P **P 11 21 02.6 -0.4**
SATY pmax pmax
comp=Z,81nm,1.2s
SATY Saty 71.38 317 *e*P **P 11 21 02.6 -0.4**
comp=Z,81nm,1.2s,baz=317
ZHN Zhinishke 71.39 317 *e*P **P 11 21 02.7 -0.4**
ZHN Zhinishke 71.39 317 *e*P **P 11 21 02.8 -0.4**
baz=317
KSH Kashi 71.91 313 P **P 11 21 08.3 +2.0**
KSH sP pwP 11 21 16.9 +2.5
KSH pmax pmax
comp=Z,70nm,1.2s
KSH LR LR
comp=Z,1μm,17.5s
KSH LR LR
comp=Z,2μm,18.9s
KSH LR LR
comp=Z,2μm,16.8s
BILL Bilibino 72.06 10 ⇑*e*P **P 11 21 06.0 -0.4**
BILL *i* 11 21 22.8
BILL *e*PPP PPP 11 25 23.0
BILL SSS SSS 11 38 06.0
BILL pmax pmax
comp=Z,14nm,1.2s
TDK Taldyqorghan 72.08 319 *e*P **P 11 21 06.6 -0.5**
TDK pmax pmax
comp=Z,83nm,1.1s
TDK Taldyqorghan 72.08 319 *e*P **P 11 21 06.6 -0.5**
comp=Z,83nm,1.1s,baz=319
ZAA0 Zalesovo Array 72.20 329 P **P 11 21 06.7 -0.9**
ZALV Zalesovo Beam 72.20 329 P **P 11 21 06.7 -0.9**
comp=Z,14nm,0.7s,baz=104,slow=6.3,SNR=23
ZALV PKPPKP **P'P'df 11 48 57.9 +3.6**
comp=Z,0.3nm,0.3s,baz=40,slow=2.5,SNR=3.6
comp=Z,14nm,0.7s
MDOK Medeo 72.34 317 *e*P **P 11 21 07.8 -1.0**
MDOK *e*S **S 11 30 31.8 -0.2**
MDOK Medeo 72.34 317 *e*P **P 11 21 07.8 -1.0**
baz=317
MDOK *e*S **S 11 30 31.9 -0.2**
baz=317
TNSS Tian-Shan 72.37 316 *e*P **P 11 21 08.9 -0.4**
TNSS Tian-Shan 72.37 316 *e*P **P 11 21 08.9 -0.4**
baz=316
AAA Alma-Ata 72.45 317 *e*P **P 11 21 09.1 -0.2**
AAA pmax pmax
comp=Z,91nm,1.0s
AAA Alma-Ata 72.45 317 *e*P **P 11 21 09.2 -0.2**
comp=Z,91nm,1.0s,baz=317
NRN Naryn 72.50 315 P **P 11 21 10.0 0.0**
NRN Naryn 72.50 315 P **P 11 21 10.0 0.0**
NRN pmax pmax
comp=Z,34nm,1.0s
CHKK Chushkaly 72.62 317 *e*P **P 11 21 09.6 -0.7**
CHKK Chushkaly 72.62 317 *e*P **P 11 21 09.6 -0.7**
baz=317
TKM2 Tokmak 2 73.26 316 P **P 11 21 15.0 +0.6**
SNR=30
TKM2 Tokmak 2 73.26 316 P **P 11 21 14.8 +0.4**
KBK Karagaybulak 73.63 316 P **P 11 21 17.3 +0.8**
SNR=7.2
UCH Uchtor 73.80 315 P **P 11 21 19.1 +1.2**
SNR=46
TIXI Tiksi 73.83 356 P **P 11 21 17.1 +0.3**
comp=Z,13nm,0.6s,baz=89,slow=22,SNR=8.3
comp=Z,13nm,0.6s
CHMS Chumysh 73.88 316 P **P 11 21 18.1 +0.3**
SNR=18
AAK Ala-Archa 73.94 315 P **P 11 21 19.1 +0.7**
SNR=15
AAK Ala-Archa 73.94 315 P **P 11 21 18.0 -0.3**
AAK IAmb IAmb 11 21 20.4
comp=Z,145nm,1.7s
AAK Ala-Archa 73.94 315 *d i* P **P 11 21 18.9 +0.6**
AAK pmax pmax
comp=Z,38nm,1.2s
AAK Ala-Archa 73.94 315 P **P 11 21 19.2 +0.9**
AAK Ala-Archa 73.94 315 *i* P **P 11 21 19.1 +0.7**
SNR=5.6
SGDS Sogindy 74.10 316 *e*P **P 11 21 18.5 -0.6**
SGDS pmax pmax
comp=Z,27nm,1.2s
SGDS Sogindy 74.10 316 *e*P **P 11 21 18.6 -0.6**
comp=Z,27nm,1.2s,baz=316
USP Ospenovka 74.14 316 P **P 11 21 19.9 +0.6**
SNR=45
KURK Kurchatov 74.15 324 P **P 11 21 19.1 0.0**
KURK Kurchatov 74.15 324 P **P 11 21 19.1 0.0**
KURK pmax pmax
comp=Z,287nm,1.9s
KURBB Kurchatov Arra 74.17 324 P **P 11 21 19.1 -0.1**
comp=Z,19nm,0.8s,baz=113,slow=5.5,SNR=40
comp=Z,19nm,0.8s
KURBB Kurchatov Arra 74.17 324 P **P 11 21 18.4 -0.8**
AML Almayashu 74.35 315 P **P 11 21 22.1 +1.0**
SNR=40
EKS2 Erkin-Say 74.45 315 P **P 11 21 22.3 +1.1**
SNR=23
SDPT Sand Point 74.50 31 P **P 11 21 20.3 -0.7**
SDPT Sand Point 74.50 31 P **P 11 21 20.2 -0.8**
baz=243
CHNA Chernabura Isl 74.72 31 P **P 11 21 21.2 -1.1**
baz=244
BTLS Baital 75.00 318 *e*P **P 11 21 23.9 -0.3**
BTLS pmax pmax
comp=Z,61nm,1.5s
BTLS Baital 75.00 318 *e*P **P 11 21 23.9 -0.3**
comp=Z,61nm,1.5s,baz=318
S14K Fog Glacier 75.39 30 P **P 11 21 26.1 -0.2**
baz=243
KBL Kabul 75.96 306 P **P 11 21 30.0 -0.2**
KBL IAmb IAmb 11 21 30.9
comp=Z,52nm,0.9s
KBL Kabul 75.96 306 P **P 11 21 30.0 -0.2**
KBL pmax pmax
comp=Z,51nm,1.0s
KBL Kabul 75.96 306 P **P 11 21 30.0 -0.2**
SNR=12
KBL P **P 11 21 30.0 -0.2**
SNR=12
CHGN Chignik 75.97 30 P **P 11 21 28.7 -0.7**
baz=244
GAR Garm 75.98 311 P **P 11 21 30.1 -0.1**
DZA Taraz 76.25 315 *e*P **P 11 21 31.2 -0.2**
DZA pmax pmax
comp=Z,57nm,1.6s
DZA Taraz 76.25 315 *e*P **P 11 21 31.2 -0.2**
comp=Z,57nm,1.6s,baz=315
VNDA Vanda 76.41 175 P **P 11 21 32.0 +0.3**
comp=Z,9.5nm,0.6s,baz=327,slow=6.7,SNR=48
comp=Z,9.5nm,0.6s
VNDA Vanda 76.41 175 P **P 11 21 32.0 +0.3**
VNDA Vanda 76.41 175 P **P 11 21 32.0 +0.3**
VNDA pmax pmax
comp=Z,31nm,1.1s
CHGR Chuyangaron 76.78 310 P **P 11 21 34.1 -0.5**
CHGR Chuyangaron 76.78 310 P **P 11 21 34.2 -0.5**
CHGR pmax pmax
comp=Z,251nm,1.1s
KK31 Karatay Array 76.88 315 P **P 11 21 34.9 -0.1**
KK31 Karatay Array 76.88 315 P **P 11 21 34.9 -0.1**
KK31 pmax pmax
comp=Z,164nm,1.7s
KKAR Karatay Array 76.88 315 P **P 11 21 35.2 +0.2**
KKAR Karatay Array 76.88 315 P **P 11 21 34.9 -0.1**
KKAR IAmb IAmb 11 21 36.6
comp=Z,164nm,1.6s
KKAR Karatay Array 76.88 315 P **P 11 21 35.2 +0.2**
R16K Pilot Point 76.93 29 P **P 11 21 34.4 -0.5**
baz=245
IUG Iuzhnay 76.98 314 *e*P **P 11 21 35.4 -0.3**
IUG Iuzhnay 76.98 314 *e*P **P 11 21 35.4 -0.3**
baz=314
ANM Nome 77.09 21 P **P 11 21 35.8 +0.1**
baz=236
OTUK Ortayu 77.12 320 P **P 11 21 36.3 +0.1**
SBA Scott Base 77.15 174 P **P 11 21 37.2 +1.4**
SBA IAmb IAmb 11 22 04.2
comp=Z,76nm,1.8s
SBA Scott Base 77.15 174 P **P 11 21 37.2 +1.4**
SBA pmax pmax
comp=Z,76nm,1.8s
CHIR Chirikof Islan 77.19 31 P **P 11 21 35.4 -1.0**
baz=247
P16K Nushagak River 77.36 28 P **P 11 21 37.0 -0.3**
baz=244
BRZS Berezniki 77.44 322 *e*P **P 11 21 37.6 -0.4**
BRZS pmax pmax
comp=Z,59nm,1.8s
BRZS Berezniki 77.44 322 *e*P **P 11 21 37.7 -0.4**
comp=Z,59nm,1.8s,baz=322
R17K Ugashik Creek 77.54 29 P **P 11 21 37.7 -0.7**
baz=246,SNR=5.6
O16K Kokwok River B 77.56 27 P **P 11 21 38.2 -0.3**
baz=244,SNR=7.9
N16K Nishlik Lake 77.66 26 P **P 11 21 39.5 +0.5**
baz=243
Q16K King Salmon 77.84 28 P **P 11 21 38.4 -1.5**
baz=245
O17K Koliganek Bris 78.10 27 P **P 11 21 41.6 +0.3**
baz=245,SNR=22
P17K Kvichak River 78.16 28 P **P 11 21 40.4 -1.3**
baz=246
SII Sitkinak Islan 78.22 31 P **P 11 21 42.5 +0.3**
baz=248
P18K Big Mountain, 78.81 28 P **P 11 21 44.3 -1.1**
baz=246
OHAK Old Harbor 78.92 30 P **P 11 21 46.1 +0.1**
OHAK IAmb IAmb 11 21 46.6
comp=Z,59nm,0.8s
OHAK Old Harbor 78.92 30 P **P 11 21 45.9 -0.1**
baz=249,SNR=14
O18K Koktuh Hills 79.00 28 P **P 11 21 46.1 -0.4**
baz=246
N18K Kilae Creek 79.03 27 P **P 11 21 47.0 +0.4**
baz=246,SNR=9.4
Q19K Cape Douglas, 79.38 29 P **P 11 21 47.4 -1.1**
baz=248
KDAK Kodiak Island 79.48 30 P **P 11 21 49.0 0.0**
comp=Z,60nm,1.1s,baz=269,slow=3.6,SNR=26
comp=Z,60nm,1.1s
KDAK Kodiak Island 79.48 30 P **P 11 21 49.0 0.0**
KDAK Kodiak Island 79.48 30 P **P 11 21 49.0 0.0**
KDAK pmax pmax
comp=Z,180nm,1.5s
KDAK Kodiak Island 79.48 30 P **P 11 21 48.9 -0.1**
baz=249
NRIK Noril'sk 79.49 343 P **P 11 21 48.6 -0.3**
comp=Z,50nm,0.9s,baz=125,slow=5.5,SNR=27
comp=Z,50nm,0.9s
NRIK Noril'sk 79.49 343 P **P 11 21 48.8 -0.1**
NRIK IAmb IAmb 11 21 50.0
comp=Z,120nm,1.1s
NRIK Noril'sk 79.49 343 P **P 11 21 48.8 -0.1**
NRIK pmax pmax
comp=Z,120nm,1.2s
O19K Port Alsworth 79.55 27 P **P 11 21 48.5 -0.9**
baz=247
N19K Bonanza Creek 79.71 27 P **P 11 21 50.6 +0.3**
baz=247,SNR=24
BVAR Borovoye Array 79.74 325 P **P 11 21 50.6 0.0**
comp=Z,32nm,0.9s,baz=112,slow=6.6,SNR=54
comp=Z,32nm,0.9s
BRVK Borovoye 79.81 325 P **P 11 21 51.0 +0.1**
BRVK IAmb IAmb 11 21 52.4
comp=Z,97nm,1.1s
BRVK Borovoye 79.81 325 P **P 11 21 51.0 +0.1**
BRVK pmax pmax
comp=Z,97nm,1.2s
BRVK Borovoye 79.81 325 P **P 11 21 51.2 +0.2**
BRVK P **P 11 21 51.2 +0.2**
P19K Oil Pt 79.85 28 P **P 11 21 50.3 -0.8**
baz=248
Q20K Shuyak Island 79.87 29 P **P 11 21 50.4 -0.7**
baz=249
TTA Tatalina 79.91 25 P **P 11 21 50.9 -0.5**
TTA IAmb IAmb 11 21 52.1
comp=Z,33nm,0.7s
TTA Tatalina 79.91 25 P **P 11 21 50.9 -0.5**
TTA pmax pmax
comp=Z,33nm,0.7s
TTA Tatalina 79.91 25 P **P 11 21 51.6 +0.1**
baz=245,SNR=22
L19K White Mountain 80.09 25 P **P 11 21 52.1 -0.2**
L19K IAmb IAmb 11 21 53.8
comp=Z,64nm,0.9s
L19K White Mountain 80.09 25 P **P 11 21 52.8 +0.4**
baz=246,SNR=33
M19K Big River Lodg 80.18 26 P **P 11 21 53.0 +0.2**
baz=247,SNR=13
O20K Slope Mountain 80.29 28 P **P 11 21 52.2 -1.3**
baz=249
GCSA Galena City Sc 80.34 23 P **P 11 21 53.6 +0.1**
baz=244,SNR=29
HOM Homer 80.60 28 P **P 11 21 54.4 -0.6**
baz=250

L20K	**Farewell, AK**	80.63	25	P		P		11 21 55.5	+0.3
	baz=247,SNR=20								
M20K	**Styx River**	80.72	26	P		P		11 21 56.1	+0.3
	baz=248,SNR=31								
N20K	**Mount Spurr**	80.89	27	P		P		11 21 55.2	-1.5
	baz=249								
SPCR	**Spurr Chakacha**	80.89	27	P		P		11 21 55.4	-1.3
	baz=249								
K20K	**Telida**	80.89	25	P		P		11 21 57.1	+0.5
	baz=247,SNR=39								
BRSE	**Bradley Lake S**	81.06	29	P		P		11 21 56.9	-0.7
	baz=250								
J20K	**Nowinta River**	81.18	24	P		P		11 21 58.7	+0.6
	baz=247,SNR=38								
NGCH	**Negor - Chabah**	81.28	296	P		P		11 22 00.1	+0.6
HRA	**Herat**	81.46	305	P		P		11 21 59.4	-1.2
SKT	**Skwentna**	81.47	26	P		P		11 21 58.3	-1.4
	baz=250,SNR=9.1								
PPLA	**Purkeypile**	81.51	25	P		P		11 21 59.3	-0.8
	baz=249,SNR=9.2								
SUA	**Susitna One**	81.64	27	P		P		11 21 59.2	-1.6
	baz=250,SNR=7.4								
CAST	**Castle Rocks**	81.74	25	P		P		11 22 00.4	-0.7
CAST				IAmb		IAmb		11 22 01.7	
	comp=Z,44nm,0.8s								
CAST	**Castle Rocks**	81.74	25	P		P		11 22 00.5	-0.7
	baz=249,SNR=31								
O22K	**Cooper Landing**	81.78	28	P		P		11 22 00.1	-1.2
	baz=251								
SEW	**Seward**	81.79	28	P		P		11 22 00.8	-0.6
	baz=252,SNR=5.1								
CHUM	**Lake Minchumin**	81.82	24	P		P		11 22 01.7	+0.3
	baz=248,SNR=73								
RC01	**Rabbit Creek A**	81.97	27	P		P		11 22 01.5	-0.9
	baz=251,SNR=12								
M22K	**Willow**	82.02	27	P		P		11 22 01.4	-1.1
	baz=251,SNR=21								
IMAR	**Indian Mountai**	82.05	22	P		P		11 22 02.3	-0.4
CUT	**Chulitna**	82.17	26	P		P		11 22 01.9	-1.4
	baz=251								
H21K	**Melozitna Rive**	82.29	23	P		P		11 22 03.9	0.0
	baz=248,SNR=16								
G21K	**Allakaket**	82.35	22	P		P		11 22 04.2	-0.1
	baz=247								
PMR	**Palmer**	82.41	27	P		P		11 22 03.7	-0.9
	baz=252,SNR=15								
I21K	**Tanana**	82.43	23	P		P		11 22 04.9	+0.3
	baz=249,SNR=18								
BPAW	**Bear Paw Mtn.**	82.44	24	P		P		11 22 03.8	-1.0
	baz=250,SNR=11								
TRF	**Thorofare Moun**	82.51	25	P		P		11 22 04.1	-1.2
	baz=250,SNR=14								
PWL	**Port Wells**	82.55	28	P		P		11 22 04.7	-0.7
	baz=252,SNR=6.2								
GHO	**Glory Hole Cre**	82.56	27	P		P		11 22 04.1	-1.5
GHO				IAmb		IAmb		11 22 05.3	
	comp=Z,33nm,0.8s								
F21K	**Alatna River**	82.64	21	P		P		11 22 05.3	-0.5
	baz=247								
KNK	**Knik Glacier**	82.66	27	P		P		11 22 05.5	-0.5
	baz=252,SNR=11								
P23K	**Montague Islan**	82.74	29	P		P		11 22 05.9	-0.5
	baz=253								
SML	**Sawmill**	82.84	27	P		P		11 22 06.5	-0.4
	baz=252,SNR=21								
MLY	**Manley**	82.87	23	P		P		11 22 06.5	-0.6
	baz=250,SNR=32								
H22K	**Ishtalitna Cre**	82.92	23	P		P		11 22 07.4	+0.2
	baz=249,SNR=13								
WAT1	**Susitna Watana**	83.06	26	P		P		11 22 07.0	-1.0
	baz=252								
Q23K	**Middleton Isla**	83.09	30	P		P		11 22 08.3	+0.1
	baz=254								
M23K	**Glacier View**	83.11	27	P		P		11 22 07.4	-0.9
	baz=253,SNR=10.0								
GLI	**Glacier Island**	83.14	28	P		P		11 22 07.7	-0.7
	baz=254								
MCK	**McKinley**	83.17	25	P		P		11 22 07.4	-1.2
	baz=252,SNR=22								
F22K	**John River**	83.22	21	P		P		11 22 09.0	+0.2
	baz=248,SNR=14								
G22K	**Bettles**	83.24	22	P		P		11 22 08.5	-0.3
	baz=249								
SCM	**Sheep Creek Mo**	83.30	27	P		P		11 22 08.9	-0.5
	baz=253,SNR=16								
WAT6	**Susitna Watana**	83.34	26	P		P		11 22 09.0	-0.7
	baz=253								
A21K	**Barrow**	83.35	17	P		P		11 22 09.4	+0.1
	baz=244								
WSAR	**Wadi Sarin**	83.35	294	P		P		11 22 10.4	+0.1
	comp=Z,8.4nm,0.7s,baz=156,slow=4.4,SNR=8.5								
	comp=Z,8.4nm,0.7s								
NEA2	**Nenana**	83.39	24	P		P		11 22 08.4	-1.3
	baz=251,SNR=15								
MAW	**Mawson**	83.56	202	P		P		11 22 11.0	+0.6
	comp=Z,11nm,1.0s,baz=77,slow=6.8,SNR=12								
	comp=Z,11nm,1.0s								
MAW	**Mawson**	83.56	202	P		P		11 22 11.1	+0.6
	baz=84,SNR=14								
MAW	**Mawson**	83.56	202	P		P		11 22 10.8	+0.4
E22K	**Anaktuvuk Pass**	83.58	20	P		P		11 22 10.6	-0.1
	baz=248								
H23K	**Yukon River**	83.61	23	P		P		11 22 10.8	0.0
	baz=251,SNR=12								
DHY	**Denali Highway**	83.64	26	P		P		11 22 10.1	-1.1
DHY	**Denali Highway**	83.64	26	P		P		11 22 10.8	-0.4
	baz=253								
EYAK	**Cordova Ski Ar**	83.68	28	P		P		11 22 10.6	-0.6
	baz=255								
G23K	**Bananza Creek**	83.72	22	P		P		11 22 11.6	+0.2
	baz=250,SNR=17								
JMDO	**Jabal Madar**	83.77	293	P		P		11 22 12.5	0.0
	SNR=6.0								
MHTO	**MHTO**	83.78	291	P		P		11 22 12.2	-0.3
	SNR=10								
COLD	**Coldfoot**	83.83	21	P		P		11 22 12.3	+0.4
	baz=250,SNR=11								
BIDO	**Bidbid**	83.84	294	P		P		11 22 13.3	+0.5
	SNR=15								
KLU	**Klutina**	83.85	28	P		P		11 22 11.6	-0.6
	baz=255,SNR=13								
SMDO	**Samad**	83.87	293	P		P		11 22 13.2	0.0
	SNR=6.3								
M24K	**Tolsona, Glenn**	83.90	27	P		P		11 22 12.3	-0.1
	baz=254,SNR=11								
TCOL	**CIGO, UAF Yank**	83.97	24	P		P		11 22 11.1	-1.5
TCOL				IAmb		IAmb		11 22 12.4	
	comp=Z,41nm,1.2s								
TCOL	**CIGO, UAF Yank**	83.97	24	P		P		11 22 11.1	-1.5
	baz=252								
COLA	**College**	83.98	24	P		P		11 22 11.1	-1.5
COLA				IAmb		IAmb		11 22 12.4	
	comp=Z,41nm,1.2s								
COLA	**College**	83.98	24	P		P		11 22 11.1	-1.5
COLA				pmax		pmax			
	comp=Z,41nm,1.3s								
COLA	**College**	83.98	24	P		P		11 22 11.2	-1.4
	baz=252								
KAIM	**Kayak Island**	84.17	29	P		P		11 22 13.6	-0.2
	baz=256								
HDA	**Harding Lake**	84.21	25	P		P		11 22 12.1	-1.8
HDA				IAmb		IAmb		11 22 14.1	
	comp=Z,31nm,0.9s								
HDA	**Harding Lake**	84.21	25	P		P		11 22 12.0	-1.9
	baz=253,SNR=23								
POKR	**Poker Plat Res**	84.22	24	P		P		11 22 12.7	-1.2
POKR	**Poker Plat Res**	84.22	24	P		P		11 22 11.8	-2.1
	baz=253,SNR=6.6								
H24K	**Noodor Dome**	84.26	23	P		P		11 22 13.7	-0.5
	baz=252,SNR=20								
D23K	**Nanushuk River**	84.27	20	P		P		11 22 14.9	+0.8
	baz=249,SNR=12								
JASK	**Jask - Hormozg**	84.27	296	P		P		11 22 16.4	+1.4
E23K	**Chandalar**	84.32	21	P		P		11 22 15.0	+0.5
	baz=250,SNR=8.5								
BMRM	**Bremner River**	84.33	28	P		P		11 22 13.9	-0.7
	baz=256,SNR=8.3								
IL31		84.34	24	P		P		11 22 12.4	-2.1
IL31				IAmb		IAmb		11 22 13.6	
	comp=Z,30nm,0.8s								
ILAR	**Eielson Array**	84.34	24	P		P		11 22 12.4	-2.1
	comp=Z,21nm,0.8s,baz=256,slow=4.8,SNR=121								
	comp=Z,21nm,0.8s								
HARP	**HAARP**	84.44	27	P		P		11 22 14.8	-0.3
	baz=255								
PAX	**Paxson**	84.45	26	P		P		11 22 14.6	-0.6
PAX				IAmb		IAmb		11 22 15.2	
	comp=Z,45nm,1.3s								
PAX	**Paxson**	84.45	26	P		P		11 22 14.6	-0.6
PAX				pmax		pmax			
	comp=Z,45nm,1.3s								
PAX	**Paxson**	84.45	26	P		P		11 22 14.5	-0.7
	baz=255								
N25K	**Chitina, Valde**	84.50	28	P		P		11 22 15.4	-0.1
	baz=256,SNR=7.3								
TOLK	**Toolik Lake Re**	84.53	20	P		P		11 22 15.7	+0.3
	baz=250								
K24K	**Donnelly Dome**	84.54	25	P		P		11 22 14.7	-0.9
	baz=254								
HOQ	**Hoqain**	84.59	294	P		P		11 22 17.3	+0.7
	SNR=16								
C23K	**Itkillik River**	84.60	19	P		P		11 22 15.9	+0.3
	baz=249,SNR=6.7								
BSY	**Bisya**	84.63	293	P		P		11 22 18.0	+1.1
	SNR=6.3								
BSY				P		P		11 22 18.0	+1.1
	SNR=6.3								
G24K	**Hadweenzic Riv**	84.68	22	P		P		11 22 16.1	-0.1
	baz=253,SNR=16								
E24K	**Your Creek**	84.73	21	P		P		11 22 16.5	0.0
	baz=252								
BGLC	**Bering Glacier**	84.77	29	P		P		11 22 16.8	+0.1
	baz=257								
F24K	**Squaw Lake**	84.77	21	P		P		11 22 16.8	+0.1
	baz=252,SNR=12								
RIDG	**Independent Ri**	84.92	26	P		P		11 22 16.5	-1.0
	baz=255,SNR=22								
J25K	**Salcha River,**	84.93	25	P		P		11 22 16.0	-1.6
	baz=255,SNR=28								
D24K	**Happy Valley**	84.96	20	P		P		11 22 18.1	+0.6
	baz=251								
PRP	**Porcupine Dome**	85.10	24	P		P		11 22 18.2	-0.3
	baz=255								
MCARA	**McCarthy VSAT**	85.18	28	P		P		11 22 18.3	-0.5
	baz=252,SNR=5.3								
C24K	**Franklin Bluff**	85.18	19	P		P		11 22 18.9	+0.2
	baz=251								
H25K	**Birch Creek**	85.19	23	P		P		11 22 18.6	-0.2
	baz=254,SNR=9.4								
GEYT	**Alibeck**	85.22	308	P		P		11 22 19.8	+0.2
	comp=Z,82nm,1.0s,baz=180,slow=0.3,SNR=61								
	comp=Z,82nm,1.0s								
GEYT	**Alibeck**	85.22	308	P		P		11 22 19.6	0.0
GYA0B	**ALIBECK ARRAY**	85.22	308	P		P		11 22 19.8	+0.2
ARQ	**Araqi**	85.29	293	P		P		11 22 20.4	+0.1
	SNR=10								
AB31	**Akbulak array**	85.33	320	*i* P		P		11 22 19.0	-0.8
ABKAR	**Akbulak array**	85.33	320	P		P		11 22 19.1	-0.7
ABKAR	**Akbulak array**	85.33	320	P		P		11 22 18.7	-1.1
ABKAR				IAmb		IAmb		11 22 20.8	
	comp=Z,55nm,0.8s								
SOHO	**SOHO**	85.34	294	*i* P		P		11 22 20.0	-0.4
	SNR=17								
SCRK	**Sand Creek**	85.35	25	P		P		11 22 18.8	-1.0
	baz=256,SNR=13								
L26K	**Log Cabin Wild**	85.40	26	P		P		11 22 19.7	-0.2
L26K				IAmb		IAmb		11 22 20.8	
	comp=Z,32nm,0.9s								
L26K	**Log Cabin Wild**	85.40	26	P		P		11 22 19.8	-0.2
	baz=257,SNR=20								
M26K	**Nabesna, AK**	85.42	27	P		P		11 22 19.8	-0.3
	baz=257								
MESA	**MESA**	85.43	29	P		P		11 22 20.9	+0.5
	baz=258								
F25K	**Christian Rive**	85.62	22	P		P		11 22 21.7	+0.7
	baz=254,SNR=12								
J26L	**Joseph Creek**	85.65	25	P		P		11 22 20.9	-0.4
	baz=256,SNR=23								
BANOM	**Banah**	85.68	296	P		P		11 22 22.4	+0.3
	SNR=11								
BANOM	**Banah**	85.68	296	*i* P		P		11 22 22.4	+0.3
	SNR=24								
UOSS	**Minazif**	85.70	295	*i* P		P		11 22 21.6	-0.6
	SNR=13								
HATD	**Hatta, Dubai**	85.75	295	*i* P		P		11 22 22.3	-0.2
	SNR=14								
MSFE	**Esma-Masafi**	85.77	295	*i* P		P		11 22 22.7	+0.1
	SNR=23								
MASF	**Masafi**	85.77	295	P		P		11 22 23.0	+0.4
	SNR=14								
SHAO	**Shalim**	85.79	288	P		P		11 22 22.7	0.0
E25K	**Arctic Village**	85.79	21	P		P		11 22 22.6	+0.8
	baz=254,SNR=9.8								
ASHO	**Ashiyiah**	85.81	295	P		P		11 22 24.0	+1.1
	SNR=7.7								
ASHO	**Ashiyiah**	85.81	295	*i* P		P		11 22 22.6	-0.2
	SNR=12								
SHME	**Shamm**	85.83	296	P		P		11 22 23.2	+0.4
	SNR=9.2								
SHME	**Shamm**	85.83	296	*i* P		P		11 22 23.0	+0.1
	SNR=17								
D25K	**Kavik River**	85.84	20	P		P		11 22 22.1	+0.1
	baz=254,SNR=7.9								
CTGM	**Chitina Glacie**	85.89	29	P		P		11 22 22.6	+0.1
M27K	**Edge Creek, AK**	85.92	27	P		P		11 22 22.5	-0.2
	baz=258,SNR=28								
BMAR	**Burnt Mountain**	85.97	22	P		P		11 22 23.6	+0.9
LOGN	**Logan Glacier**	86.02	29	P		P		11 22 22.9	-0.3
LOGN				IAmb		IAmb		11 22 24.4	
	comp=Z,42nm,1.0s								
ALNE	**Al Ain**	86.05	294	P		P		11 22 24.5	+0.6
	SNR=11								
ALNE	**Al Ain**	86.05	294	*i* P		P		11 22 23.8	-0.1
	SNR=12								
L27K	**Beaver Creek,**	86.09	26	P		P		11 22 23.3	-0.1
L27K				IAmb		IAmb		11 22 24.6	
	comp=Z,40nm,1.1s								
L27K	**Beaver Creek,**	86.09	26	P		P		11 22 23.4	+0.1
	baz=258,SNR=22								
G26K	**Porcupine Rive**	86.15	22	P		P		11 22 23.8	+0.3
	baz=256,SNR=15								
K27K	**Chicken**	86.18	26	P		P		11 22 24.3	+0.6
K27K				IAmb		IAmb		11 22 25.5	
	comp=Z,49nm,1.0s								
K27K	**Chicken**	86.18	26	P		P		11 22 24.0	+0.3
	baz=258								
F26K	**Sheenjek River**	86.20	22	P		P		11 22 24.7	+0.9
	baz=256,SNR=14								
FAQ	**Al Faqa, Dubai**	86.24	295	*i* P		P		11 22 24.4	-0.5
	SNR=9.7								
PINM	**Pinnacle**	86.25	30	P		P		11 22 24.2	0.0
	baz=260								
BVCY	**Beaver Creek**	86.39	27	P		P		11 22 25.1	+0.2
	baz=259,SNR=22								
O28M	**Mount Upton**	86.40	29	P		P		11 22 25.0	-0.2
	baz=260,SNR=15								
YUK3	**Moose Creek**	86.46	28	P		P		11 22 24.7	-0.8
	baz=259,SNR=24								
ASUD	**Al Ashush, Dub**	86.47	295	P		P		11 22 26.4	+0.4
	SNR=5.6								
ASUD	**Al Ashush, Dub**	86.47	295	*i* P		P		11 22 26.0	0.0
	SNR=14								
C26K	**Camden Bay**	86.50	19	P		P		11 22 25.1	0.0
	baz=255								
PNL	**Peninsula**	86.60	30	P		P		11 22 25.9	0.0
	baz=260								
I27K	**Kandik River**	86.70	24	P		P		11 22 26.0	-0.3
	baz=258,SNR=16								
AKTO	**Aktyubinsk**	86.72	321	P		P		11 22 25.6	-1.0
	comp=Z,14nm,0.9s,baz=102,slow=6.1,SNR=17								
	comp=Z,14nm,0.9s								
EGAK	**Eagle**	86.72	25	P		P		11 22 26.1	-0.3
EGAK	**Eagle**	86.72	25	P		P		11 22 25.5	-0.9
	baz=259,SNR=8.3								
C27K	**Jago River**	86.83	20	P		P		11 22 27.1	+0.3
	baz=256,SNR=5.4								
H27K	**Steamboat Moun**	86.87	23	P		P		11 22 27.7	+0.6
	baz=258,SNR=22								
G27K	**Doyon Strip**	86.94	23	P		P		11 22 27.3	-0.1
	baz=258,SNR=8.8								
O29M	**Mount Kennedy**	87.11	29	P		P		11 22 28.8	+0.3
	baz=261,SNR=6.1								
ARU	**Arti**	87.16	327	P		P		11 22 27.5	-1.2
	comp=Z,6.7nm,0.4s,baz=124,slow=1.5,SNR=12								
	comp=Z,6.7nm,0.4s								
ARU	**Arti**	87.16	327	P		P		11 22 27.3	-1.4
ARU				IAmb		IAmb		11 22 28.3	
	comp=Z,42nm,1.2s								
ARU	**Arti**	87.16	327	*c i* P		P		11 22 26.9	-1.8
ARU								11 25 47.7	
ARU				S		SKSac		11 32 53.9	-1.6
ARU				SS		SS		11 38 48.7	-2.6
ARU				pmax		pmax			
	comp=Z,43nm,1.2s								
DOK	**Doka**	87.24	289	P		P		11 22 29.2	-0.6
DOK				P		P		11 22 29.2	-0.6
YUK4	**Talbot Arm**	87.24	28	P		P		11 22 29.6	+0.3
	baz=261								
E27K	**Coleen River**	87.25	21	P		P		11 22 29.1	+0.2
	baz=258,SNR=20								
YUK6	**Outpost Mounta**	87.31	29	P		P		11 22 28.8	-0.8
	baz=261								
DAWY	**Dawson**	87.35	26	P		P		11 22 29.5	0.0
DAWY	**Dawson**	87.35	26	P		P		11 22 29.3	-0.2
	baz=260,SNR=30								
P29M	**Windy Craggy**	87.43	30	P		P		11 22 30.1	+0.2
	baz=262,SNR=8.3								
M29M	**Somme Creek**	87.50	27	P		P		11 22 30.3	0.0
	baz=261,SNR=41								
HYT	**Haines Junctio**	87.71	29	P		P		11 22 31.6	+0.1
HYT				IAmb		IAmb		11 22 32.7	
	comp=Z,52nm,1.0s								
HYT	**Haines Junctio**	87.71	29	P		P		11 22 31.4	-0.1
	baz=262,SNR=28								
L29M	**L29M**	87.75	27	P		P		11 22 31.7	+0.2
	baz=261,SNR=30								
P30M	**Million Dollar**	87.88	30	P		P		11 22 32.8	+0.6
	baz=263								
J29M	**Klondike Camp**	87.92	25	P		P		11 22 32.7	+0.5
	baz=261								
N30M	**Aishikik Lake**	88.00	28	P		P		11 22 32.8	+0.1
	baz=262,SNR=14								
I29M	**Ogilvie Camp,**	88.02	24	P		P		11 22 32.5	-0.1
	baz=261,SNR=37								
QSPA	**South Pole Qui**	88.03	180	P		P		11 22 32.2	-0.6
MZR	**Muzera**	88.07	293	*i* P		P		11 22 33.5	-0.3
	SNR=5.5								
PLBC	**Pleasant Camp**	88.10	30	P		P		11 22 33.2	0.0
	baz=263,SNR=11								
K29M	**Barlow Dome**	88.13	26	P		P		11 22 33.7	+0.4
	baz=262,SNR=33								
SIT	**Sitka**	88.37	33	P		P		11 22 34.3	-0.1
	baz=264								
O30N	**Mendenhall**	88.39	29	P		P		11 22 34.5	0.0
	baz=263,SNR=11								
N31M	**Braeburn, Yuko**	88.62	28	P		P		11 22 35.7	+0.1
	baz=264,SNR=13								
SKAG	**Skagway**	88.62	31	P		P		11 22 35.9	+0.3
	baz=264,SNR=9.4								
EPYK	**Eagle Plains**	88.81	24	P		P		11 22 36.0	-0.3
	baz=263,SNR=11								
MAYO	**Mayo, Yukon**	88.81	26	P		P		11 22 37.0	+0.5
	baz=263,SNR=9.9								
S32K	**Killisnoo**	88.82	33	P		P		11 22 36.4	-0.1
	baz=265								
R32K	**Eaglecrest**	88.93	32	P		P		11 22 36.9	-0.1
	baz=265								
WHY	**Whitehorse**	88.97	29	P		P		11 22 37.3	-0.1
	baz=264,SNR=10								
M31M	**Drury Creek, Y**	89.35	28	P		P		11 22 38.6	-0.4
	baz=265,SNR=9.7								
P32M	**Atlin**	89.46	30	P		P		11 22 39.4	-0.2
	baz=265,SNR=5.8								
CRAG	**Craig**	89.46	35	P		P		11 22 39.1	-0.5
	baz=266								
U33K	**Whale Pass**	89.50	34	P		P		11 22 39.8	0.0
	baz=266								
T33K	**Petersburg**	89.65	33	P		P		11 22 40.5	0.0
	baz=266								
FARO	**Faro, Yukon**	89.84	28	P		P		11 22 40.9	-0.4
	baz=266,SNR=23								
N32M	**Quiet Lake**	89.89	29	P		P		11 22 41.3	-0.3
	baz=266								
P33M	**Teslin, Yukon**	89.95	30	P		P		11 22 41.5	-0.4
	baz=266,SNR=6.5								
WRAK	**Wrangell Islan**	89.96	34	P		P		11 22 41.7	-0.2
	baz=267								
F31M	**Tsiigehtchic**	90.09	23	P		P		11 22 41.3	-1.0
	baz=265,SNR=6.5								
Q32M	**Nakina River**	90.15	31	P		P		11 22 42.7	-0.4
	baz=267								
INK	**Inuvik**	90.24	22	P		P		11 22 41.8	-1.1
	comp=Z,16nm,0.9s,baz=303,slow=6.7,SNR=5.6								
	comp=Z,16nm,0.9s								
INK	**Inuvik**	90.24	22	P		P		11 22 42.0	-1.0
	baz=266,SNR=11								
V35K	**Ketchikan**	90.31	35	P		P		11 22 43.3	-0.3
	baz=267								
S34M	**Telegraph Cree**	90.70	32	P		P		11 22 45.2	-0.1
	baz=268,SNR=5.7								
MMPY	**Sheldon Lake,**	90.83	28	P		P		11 22 46.0	0.0
	baz=268,SNR=10								
R33M	**Jennings River**	90.84	31	P		P		11 22 46.1	-0.1
	baz=268,SNR=7.0								
T35M	**Bob Quinn**	91.14	33	P		P		11 22 47.6	+0.1
	baz=268								
DLBC	**Dease Lake**	91.30	32	P		P		11 22 48.0	-0.2
	comp=Z,8.7nm,1.0s,baz=298,slow=2.8,SNR=9.5								
	comp=Z,8.7nm,1.0s								
DLBC	**Dease Lake**	91.30	32	P		P		11 22 48.2	0.0
	baz=268								
WTLY	**Watson Lake, Y**	91.96	30	P		P		11 22 51.5	+0.3
WTLY				IAmb		IAmb		11 22 52.3	
	comp=Z,35nm,1.1s								
WTLY	**Watson Lake, Y**	91.96	30	P		P		11 22 51.3	0.0
	baz=270,SNR=9.4								
TGTN	**Hyland Airport**	92.22	29	P		P		11 22 52.5	+0.1
	baz=270,SNR=9.4								
KIRV	**Kirov**	92.23	328⇑	*e*P		P		11 22 50.6	-1.8
BBB	**Bella Bella**	92.30	38	P		P		11 22 51.7	-1.2
	comp=Z,14nm,1.0s,baz=122,slow=8.4,SNR=3.3								
	comp=Z,14nm,1.0s								
BELG	**Belogornoye**	93.31	322	*d i* P		P		11 22 56.0	-1.5
BELG				pmax		pmax			
	comp=Z,13nm,0.9s								
MAK	**Makhachkala**	93.55	313	*e*P		P		11 22 52.1	-6.7
MAK				pmax		pmax			
	comp=Z,356nm,1.5s								
MAK				MLR		MLR			
	comp=Z,1μm,16.0s								
C36M	**Paulatuk**	93.67	21	P		P		11 22 58.2	-0.7
	baz=274								
PRGR	**Permogore**	94.03	332

	comp=Z,70nm,0.4s								
MOS	**Moscow**	**98.86**	**326**		*e*P	**P**	**11 23 19.0**	**-3.7**
MOS					*e*		11 27 19.6	
SOC	**Sochi**	**99.19**	**314**		*e*P	**Pdif**	**11 23 23.3**	**-1.2**
SOC					*e*		11 27 22.0	
SOC					*e*PPP	PPP	11 29 29.5	
SOC					*e*S	**SKSac**	**11 34 01.8**	**-0.8**
SOC					*e*SS	**SS**	**11 41 45.9**	**+1.8**
SOC					*e*SSS	SSS	11 45 34.2	
SOC					pmax	pmax		
	comp=Z,30nm,0.9s								
SOC					MLR	MLR			
	comp=Z,2µm,21.0s								
VES	**Vestal, Richgr**	**99.50**	**54**		P	**Pdif**	**11 23 25.1**	**-0.9**
	baz=275								
OBN	**Obninsk**	**99.56**	**326**	⇑	*e*P	**Pdif**	**11 23 24.3**	**-1.5**
OBN					*i*		11 27 28.9	
OBN					PPP	PPP	11 29 44.0	
OBN					pmax	pmax		
	comp=Z,13nm,0.9s								
OBN					MLR	MLR			
	comp=Z,2µm,19.0s								
NEW	**Newport**	**99.61**	**41**		P	**Pdif**	**11 23 25.8**	**-0.5**
	baz=278								
ARVC	**Arvin**	**99.76**	**55**		P	**Pdif**	**11 23 27.1**	**-0.2**
	baz=275								
NVAR	**Mina Array Bea**	**99.90**	**51**		P	**Pdif**	**11 23 27.9**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=257,slow=6.6,SNR=18								
NVAR					PP	**PP**	**11 27 39.0**	**+6.1**
	comp=Z,1.4nm,1.0s,baz=268,slow=9.1,SNR=4.1								
	comp=Z,4.7nm,0.8s								
ISA	**Isabella, Lake**	**100.01**	**54**		P	**Pdif**	**11 23 27.6**	**-0.8**
	baz=275								
CWC	**Cottonwood Cre**	**100.26**	**53**		P	**Pdif**	**11 23 29.1**	**-0.5**
	baz=275								
ARCES	**ARCESS Array B**	**100.37**	**341**		P	**Pdif**	**11 23 27.4**	**-1.8**
	comp=Z,7.7nm,0.8s,baz=86,slow=6.6,SNR=12								
ARCES					PKiKP	**PKiKP**	**11 27 56.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=77,slow=1.9,SNR=6.0								
EDW2	**Edwards Air Fo**	**100.47**	**55**		P	**Pdif**	**11 23 30.3**	**-0.1**
	baz=275								
LRMC	**Laurel Mtn Rad**	**100.67**	**54**		P	**Pdif**	**11 23 31.5**	**+0.1**
	baz=275								
MPMC	**Manual Prospec**	**100.77**	**54**		P	**Pdif**	**11 23 31.4**	**-0.6**
	baz=276								
GRAC	**Grapevine Rang**	**100.78**	**53**		P	**Pdif**	**11 23 32.0**	**+0.2**
	baz=276								
BFSC	**Mount Baldy Ra**	**100.80**	**56**		P	**Pdif**	**11 23 31.4**	**-0.6**
	baz=275								
FURC	**Furnace Creek,**	**101.23**	**53**		P	**Pdif**	**11 23 33.3**	**-0.4**
	baz=276								
MURC	**Murrieta**	**101.24**	**56**		P	**Pdif**	**11 23 33.4**	**-0.5**
	baz=275								
GSC	**Goldstone, Bar**	**101.40**	**55**		P	**Pdif**	**11 23 34.6**	**0.0**
	baz=276								
TPNV	**Topopah Spring**	**101.67**	**53**		P	**Pdif**	**11 23 35.7**	**-0.3**
	baz=276								
PFO	**Pinyon Flats O**	**101.85**	**56**		P	**Pdif**	**11 23 36.4**	**-0.4**
	baz=276								
TPFO	**Pinon Flats**	**101.86**	**56**		P	**Pdif**	**11 23 36.1**	**-0.7**
	baz=276								
MONP2	**Monument Peak**	**101.95**	**57**		P	**Pdif**	**11 23 37.1**	**-0.2**
	baz=276								
R11A	**Troy Canyon, C**	**102.03**	**51**		P	**Pdif**	**11 23 37.5**	**0.0**
	baz=277								
HLID	**Hailey**	**102.18**	**46**		P	**Pdif**	**11 23 38.4**	**+0.3**
	baz=279								
BELC	**Belle Mtn. Jos**	**102.19**	**56**		P	**Pdif**	**11 23 37.6**	**-0.7**
	baz=276								
GMRC	**Granite Mounta**	**102.39**	**55**		P	**Pdif**	**11 23 39.3**	**+0.1**
	baz=276								
BC3	**Big Chuckawall**	**102.68**	**56**		P	**Pdif**	**11 23 39.9**	**-0.5**
	baz=276								
IRM	**Iron Mountain**	**102.88**	**56**		P	**Pdif**	**11 23 41.2**	**0.0**
	baz=277								
FINES	**FINESS Array B**	**103.19**	**333**		Pdiff	**Pdif**	**11 23 39.7**	**-2.1**
	comp=Z,6.3nm,0.8s,baz=79,slow=4.3,SNR=18								
FINES					PKiKP	**PKiKP**	**11 28 01.3**	**0.0**
	comp=Z,3.9nm,1.1s,baz=116,slow=3.2,SNR=6.1								
BOZ	**Bozeman (W)**	**103.77**	**43**		P	**Pdif**	**11 23 44.7**	**-0.3**
	baz=282								
DUG	**Dugway, Tooele**	**103.89**	**49**		P	**Pdif**	**11 23 45.3**	**-0.4**
	baz=280								
BRTR	**Keskin Array B**	**104.22**	**310**		Pdiff	**Pdif**	**11 23 44.4**	**-2.8**
	comp=Z,2.8nm,0.8s,baz=105,slow=4.9,SNR=6.1								
BRTR					PP	PP	11 28 13.4	+8.1
	comp=Z,0.5nm,0.6s,baz=117,slow=4.3,SNR=3.6								
AKASG	**Malin Array Be**	**104.89**	**322**		PP	**PP**	**11 28 05.8**	**-3.8**
	comp=Z,1.6nm,0.8s,baz=64,slow=7.2,SNR=4.7								
AKASG					PKKPbc	**PKKPbc**	**11 39 32.5**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=290,slow=2.8,SNR=5.8								
NACGM	**Naroch**	**105.07**	**327**	⇑	*e*P	**Pdif**	**11 23 48.2**	**-2.1**
	baz=71								
PDAR	**Pinedale Array**	**105.81**	**46**		Pdiff	**Pdif**	**11 23 54.0**	**-0.4**
	comp=Z,2.0nm,1.1s,baz=246,slow=2.9,SNR=4.4								
PDAR					PKiKP	**PKiKP**	**11 28 05.7**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=174,slow=1.5,SNR=3.8								
PDAR					PP	**PP**	**11 28 22.1**	**+5.0**
	comp=Z,0.9nm,1.0s,baz=258,slow=7.4,SNR=4.4								
NOA	**NORSAR Array B**	**109.72**	**336**		Pdiff	**Pdif**	**11 24 10.0**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=33,slow=7.3,SNR=3.9								
CRVS	**Cervenica-Dubn**	**110.23**	**322**		*e*P	**Pdif**	**11 24 13.6**	**+0.1**
CRVS	**Cervenica-Dubn**	**110.23**	**322**		*e*PDIFF	**Pdif**	**11 24 13.6**	**+0.1**
TXAR	**Lajitas Array**	**113.29**	**59**		PKiKP	**PKiKP**	**11 28 20.8**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=194,slow=3.1,SNR=7.0								
TXAR					PKKPbc	**PKKPbc**	**11 39 07.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=114,slow=5.9,SNR=7.2								
BRG	**Berggiesshubel**	**113.80**	**326**		Amp		12 14 12.0		
	comp=N,1.8nm,21.8s								
BRG	**Berggiesshubel**	**113.80**	**326**		*e*PKP	**PP**	**11 29 16.6**	**+2.5**
BRG	**Berggiesshubel**	**113.80**	**326**		Amp		11 29 19.3		
	comp=Z,12nm,1.6s								
BRG	**Berggiesshubel**	**113.80**	**326**		*e*x	x	11 29 44.5		
BRG	**Berggiesshubel**	**113.80**	**326**		Amp		11 29 46.1		
	comp=Z,6.9nm,1.3s								
BRG	**Berggiesshubel**	**113.80**	**326**		Amp		12 13 55.0		
	comp=Z,4.2nm,21.8s								
BRG	**Berggiesshubel**	**113.80**	**326**		Amp		12 14 00.0		
	comp=E,2.4nm,21.3s								
CLL	**Collm**	**114.10**	**327**	*i*	PKiKP	PKPdf	11 28 21.5	-0.5	
CLL					pmax	pmax			
	comp=Z,6.0nm,0.9s								
CLL	**Collm**	**114.10**	**327**	*i*	PKiKP	PKPdf	11 28 21.5	-0.5	
	comp=Z,6.0nm,0.9s								
CLL					*e*PP	**PP**	**11 29 21.0**	**+4.8**	
CLL					*e*SKSac	**SKSac**	**11 35 15.0**	**+6.9**	
CLL					*e*Sdif	**Sdif**	**11 36 59.0**	**-0.8**	
CLL					*e*SS	**SS**	**11 45 06.0**	**0.0**	
KHC	**Kasperske Hory**	**114.84**	**325**		*e*PKiKP	**PKiKP**	**11 28 21.0**	**-2.6**	
KHC	**Kasperske Hory**	**114.84**	**325**		*e*PKP	**PKiKP**	**11 28 21.0**	**-2.6**	
GERES	**GERESS Array B**	**114.91**	**324**		PKP	**PKiKP**	**11 28 23.5**	**-0.3**	
	comp=Z,1.8nm,0.5s,baz=100,slow=1.9,SNR=15								
MYKA	**Terra Mystica**	**115.97**	**322**	*i*	P	**PKiKP**	**11 28 25.0**	**-0.9**	
	comp=Z,0.9nm,0.4s								
ABTA	**Abfaltersbach**	**116.61**	**323**	*i*	P	**PKPdf**	**11 28 26.3**	**-0.9**	
	comp=Z,5.1nm,0.8s								
STAL	**STALIGIAL**	**116.72**	**322**			**PKPdf**	**11 28 25.9**	**-1.4**	
WTTA	**Wattenberg**	**116.88**	**324**	*i*	P	**PKPdf**	**11 28 27.5**	**-0.3**	
	comp=Z,6.9nm,0.6s								
WATA	**Walderalm**	**116.88**	**324**	*e*	P	**PKPdf**	**11 28 27.1**	**-0.6**	
	comp=Z,3.6nm,0.7s								
OK044	**Pawnee Station**	**117.03**	**50**			**PKPdf**	**11 28 27.1**	**-1.0**	
OK047	**Pawnee, Statio**	**117.06**	**50**			**PKPdf**	**11 28 27.6**	**-0.6**	
MOTA	**Moosalm**	**117.16**	**324**	*i*	P	**PKPdf**	**11 28 27.8**	**-0.5**	
	comp=Z,6.5nm,0.6s								
SQTA	**Sankt Quirin**	**117.16**	**324**	*i*	P	**PKPdf**	**11 28 27.8**	**-0.4**	
	comp=Z,10nm,1.0s								
RETA	**Reutte**	**117.29**	**324**	*i*	P	**PKPdf**	**11 28 27.9**	**-0.5**	
	comp=Z,3.9nm,1.0s								
FETA	**Feichten**	**117.54**	**324**	*i*	P	**PKPdf**	**11 28 28.8**	**-0.2**	
	comp=Z,7.5nm,1.0s								
DAVA	**Damuels**	**117.90**	**324**	*i*	P	**PKPdf**	**11 28 29.5**	**-0.2**	
	comp=Z,8.9nm,0.6s								
P38A	**Dawn**	**118.27**	**45**			**PKPdf**	**11 28 28.7**	**-1.8**	
U38A	**Gravette**	**118.84**	**49**			**PKPdf**	**11 28 30.4**	**-1.2**	
BMRD	**Maredsous**	**119.01**	**329**	*d*	PKPdf	**PKPdf**	**11 28 31.6**	**0.0**	
S39A	**Bolivar**	**119.17**	**47**			**PKPdf**	**11 28 30.6**	**-1.6**	
R40A	**Maddies Statio**	**119.70**	**46**		PKPdf	**PKPdf**	**11 28 31.6**	**-1.6**	
CCM	**Cathedral Cave**	**120.53**	**46**		PKPdf	**PKPdf**	**11 28 32.8**	**-2.0**	
CCM	**Cathedral Cave**	**120.53**	**46**		PKiKP	**PKPdf**	**11 28 32.8**	**-2.0**	
FCAR	**Ozark Folk Cen**	**120.74**	**49**			**PKPdf**	**11 28 33.6**	**-1.7**	
WLAR	**White Oak Lake**	**120.78**	**51**			**PKPdf**	**11 28 35.2**	**-0.2**	
P43A	**Skaggs, Pawnee**	**121.07**	**44**			**PKPdf**	**11 28 34.9**	**-0.9**	
LCAR	**Lake Charles**	**121.39**	**48**			**PKPdf**	**11 28 34.7**	**-1.9**	
CGM3	**Cape Girardeau**	**121.99**	**46**			**PKPdf**	**11 28 36.5**	**-1.2**	
OLIL	**Olney**	**122.47**	**44**		PKPdf	**PKPdf**	**11 28 37.4**	**-1.1**	
P46A	**Rosedale**	**122.67**	**43**			**PKPdf**	**11 28 37.5**	**-1.3**	
SCHQ	**Schefferville**	**122.71**	**18**		PKP	**PKPdf**	**11 28 38.0**	**-0.6**	
	comp=Z,5.6nm,0.7s,baz=306,slow=0.9,SNR=7.9								
KEST	**Kesra**	**123.73**	**313**		PKP	**PKPdf**	**11 28 40.7**	**-0.5**	
	comp=Z,7.9nm,0.9s,baz=360,slow=3.6,SNR=5.7								
KEST					PP	**PP**	**11 30 23.7**	**+0.3**	
	comp=Z,2.5nm,0.8s,baz=56,slow=5.2,SNR=3.5								
KEST					PKPPKP	**P'P'df**	**11 47 16.5**	**-2.9**	
	comp=Z,4.4nm,0.6s,baz=171,slow=2.3,SNR=6.4								
WVT	**Waverly**	**123.82**	**47**		PKPdf	**PKPdf**	**11 28 39.3**	**-1.9**	
WVT	**Waverly**	**123.82**	**47**		PKiKP	**PKPdf**	**11 28 39.3**	**-1.9**	
P48A	**Milroy**	**123.95**	**42**			**PKPdf**	**11 28 40.2**	**-1.2**	
WCI	**Wyandotte Cave**	**123.95**	**44**		PKPdf	**PKPdf**	**11 28 40.2**	**-1.2**	
WCI	**Wyandotte Cave**	**123.95**	**44**		PKiKP	**PKPdf**	**11 28 40.2**	**-1.2**	
T47A	**Sharon Grove**	**123.96**	**46**			**PKPdf**	**11 28 40.5**	**-1.0**	
P49A	**Miami Univ. Ec**	**124.39**	**42**		PKPdf	**PKPdf**	**11 28 41.3**	**-0.9**	
T50A	**Nancy**	**125.55**	**44**			**PKPdf**	**11 28 43.1**	**-1.4**	
SWET	**Sewanee**	**125.61**	**47**			**PKPdf**	**11 28 42.5**	**-2.2**	
P52A	**Corning**	**126.03**	**40**			**PKPdf**	**11 28 43.3**	**-2.0**	
W50A	**Signal Mountai**	**126.07**	**47**			**PKPdf**	**11 28 44.1**	**-1.5**	
O53A	**New Philadelph**	**126.28**	**39**			**PKPdf**	**11 28 44.7**	**-1.1**	
Q52A	**Bidwell**	**126.30**	**41**			**PKPdf**	**11 28 44.5**	**-1.4**	
TKL	**Tuckaleechee C**	**126.96**	**45**			**PKPdf**	**11 28 46.6**	**-0.6**	
TKL	**Tuckaleechee C**	**126.96**	**45**		PKiKP	**PKPdf**	**11 28 46.6**	**-0.6**	
V52A	**Sevierville**	**127.00**	**45**			**PKPdf**	**11 28 47.1**	**-0.2**	
Z51A	**Franklin**	**127.02**	**49**			**PKPdf**	**11 28 46.2**	**-1.2**	
W52A	**Murphy**	**127.12**	**46**			**PKPdf**	**11 28 46.3**	**-1.3**	
Y52A	**Lilburn**	**127.60**	**48**			**PKPdf**	**11 28 47.4**	**-1.1**	
R55A	**Marlinton**	**128.08**	**41**			**PKPdf**	**11 28 48.3**	**-1.1**	
BLA	**Blacksburg**	**128.48**	**42**		PKPdf	**PKPdf**	**11 28 48.9**	**-1.3**	
BLA	**Blacksburg**	**128.48**	**42**		PKiKP	**PKPdf**	**11 28 48.9**	**-1.3**	
HODGE	**Hodges**	**128.74**	**46**			**PKPdf**	**11 28 49.4**	**-1.3**	
KMSC	**Kings Mountain**	**128.94**	**45**			**PKPdf**	**11 28 50.4**	**-0.7**	
PLCA	**Paso Flores**	**128.94**	**150**		PKP	**PKPdf**	**11 28 52.0**	**+1.0**	
	comp=Z,5.8nm,0.8s,baz=228,slow=2.7,SNR=15								
PLCA	**Paso Flores**	**128.94**	**150**		PKPdf	**PKPdf**	**11 28 51.0**	**0.0**	
PLCA	**Paso Flores**	**128.94**	**150**		PKiKP	**PKPdf**	**11 28 52.0**	**+1.0**	
PLCA	**Paso Flores**	**128.94**	**150**		*e*P	**PKPdf**	**11 28 50.3**	**-0.7**	
ESDC	**Sonseca Array**	**130.50**	**324**		PKP	**PKPdf**	**11 28 54.4**	**+0.5**	
	comp=Z,1.1nm,0.9s,baz=9.8,slow=5.0,SNR=5.3								
ESDC					PP	**PP**	**11 31 08.1**	**+0.5**	
	comp=Z,1.3nm,1.0s,baz=35,slow=5.9,SNR=5.4								
MVO	**Moncorvo**	**131.22**	**327**		*e*PKP	**PKPdf**	**11 28 56.3**	**+1.0**	
MVO	**Moncorvo**	**131.22**	**327**		*e*LR	LR	12 08 23.0		
PGAV	**Gavieira, Arco**	**131.30**	**329**		*e*LR	LR	12 07 54.8		
POLO	**Lamas de Olo**	**131.48**	**328**		*e*PKP	**PKPdf**	**11 28 56.3**	**+0.5**	
PVRL	**Vila Real**	**131.51**	**328**		*e*PKP	**PKiKP**	**11 28 57.5**	**+0.7**	
PVIS	**Viseu**	**132.00**	**328**		*e*PKP	**PKiKP**	**11 28 58.2**	**+0.4**	
MTE	**Manteigas**	**132.03**	**327**		*e*PKP	**PKPdf**	**11 28 56.9**	**+0.1**	
MTE	**Manteigas**	**132.03**	**327**		*e*LR	LR	12 08 37.2		
PCBR	**Castelo Branco**	**132.39**	**327**		*e*PKP	**PKPdf**	**11 28 58.0**	**+0.6**	
PMRV	**Marv??o**	**132.63**	**326**		*e*PKP	**PKPdf**	**11 28 58.7**	**+0.8**	
PMRV	**Marv??o**	**132.63**	**326**		*e*LR	LR	12 09 20.1		
BOAO	**BOAO3 BROADB**	**133.02**	**75**			**PKPdf**	**11 28 59.7**	**+0.4**	
PBAR	**Barrancos**	**133.28**	**325**		*e*PKP	**PKPdf**	**11 29 00.1**	**+0.9**	
PMTG	**Montargil**	**133.34**	**326**		*e*PKP	**PKPdf**	**11 28 59.5**	**+0.3**	
ORTG	**Ortega, Santa**	**133.52**	**78**			**PKPdf**	**11 29 00.7**	**+0.4**	
PBEJ	**Beja**	**133.86**	**325**		*e*PKP	**PKPdf**	**11 29 01.0**	**+0.7**	
PNCL	**Nicolau / Gran**	**134.18**	**326**		*e*PKP	**PKPdf**	**11 29 01.3**	**+0.5**	
MESJ	**Messejana**	**134.19**	**325**		*e*PKP	**PKPdf**	**11 29 00.8**	**-0.1**	
PVAQ	**Vaqueiros**	**134.20**	**324**		*e*LR	LR	12 10 10.8		
PCVE	**Castro Verde**	**134.23**	**325**		*e*PKP	**PKiKP**	**11 29 02.4**	**+0.1**	
MORF	**Marmelete**	**134.81**	**325**		*e*PKP	**PKPdf**	**11 29 02.3**	**+0.2**	
TRQA	**Tornquist**	**135.09**	**155**		*e*P	**PKPdf**	**11 29 01.9**	**-0.7**	
CO01	**Juntas del Tor**	**136.83**	**140**			**PKPdf**	**11 29 06.8**	**+0.4**	
TORD	**Torodi Ar. Bea**	**137.81**	**287**		PKP	**PKPdf**	**11 29 08.0**	**-0.2**	
	comp=Z,7.3nm,1.0s,baz=45,slow=2.1,SNR=9.5								
TORD					SKPbc	**SKPbc**	**11 32 43.4**	**+1.6**	
	comp=Z,0.7nm,1.1s,baz=101,slow=2.9,SNR=0.6								
LVC	**Limon Verde**	**142.30**	**132**		*e*P	**PKPdf**	**11 29 15.9**	**-0.8**	
PMAR	**Madeira**	**142.76**	**328**		*e*PKP	**PKPdf**	**11 29 14.2**	**-2.8**	
PMOZ	**Porto Moniz, M**	**142.84**	**328**		*e*LR	LR	12 12 24.5		
KOWA	**Kowa**	**142.87**	**292**		PKPdf	**PKPdf**	**11 29 14.1**	**-3.3**	
PLTB	**Pedras Altas**	**143.90**	**159**		*e*P	PKPbc	11 29 17.8	+1.3	
PB16	**IPOC Station P**	**144.20**	**126**		PKPdf	**PKPab**	**11 29 18.7**	**+0.6**	
SDDR	**Presa de Saban**	**144.48**	**59**		PKPdf	**PKPab**	**11 29 17.6**	**-0.9**	
ITQB	**Itaqui**	**144.54**	**154**		*e*P	**PKPab**	**11 29 17.0**	**-1.3**	
SC01	**Santiago de lo**	**144.77**	**58**			**PKPab**	**11 29 19.1**	**-0.3**	
ROSC	**El Rosal**	**145.05**	**84**		PKPbc	**PKPbc**	**11 29 20.7**	**-0.4**	
	comp=Z,24nm,0.6s,baz=8.4,slow=1.7,SNR=16								
KIC	**Kosan Boka**	**145.14**	**278**	⇓	*i*PKIKP	**PKPbc**	**11 29 20.5**	**-0.4**	
	comp=Z,25nm,0.6s								
DBIC	**Dimbokro**	**145.22**	**279**		PKPbc	**PKPbc**	**11 29 20.7**	**-0.4**	
	comp=Z,56nm,0.9s,baz=102,slow=3.8,SNR=34								
TIC	**Toumodi**	**145.39**	**279**	⇓	*i*PKIKP	**PKPbc**	**11 29 21.3**	**-0.4**	
	comp=Z,17nm,0.3s								
LIC	**Lamto**	**145.44**	**278**	⇑	*e*PKIKP	**PKPbc**	**11 29 20.8**	**-1.1**	
	comp=Z,130nm,0.7s								
CZSB	**Cruzeiro do Su**	**145.44**	**106**			**PKPdf**	**11 29 20.8**	**-1.2**	
CZSB	**Cruzeiro do Su**	**145.44**	**106**		*e*P	**PKPdf**	**11 29 20.2**	**-1.8**	
BANI	**BANI**	**145.53**	**60**			**PKPdf**	**11 29 19.8**	**-2.2**	
UNIS	**Unistalda (Bra**	**145.74**	**155**		*e*P	**PKPbc**	**11 29 23.2**	**+0.9**	
DR12	**Loma Pena Alta**	**146.20**	**58**			**PKPdf**	**11 29 22.1**	**-1.0**	
LPAZ	**La Paz**	**146.37**	**124**		PKPbc	**PKPdf**	**11 29 24.9**	**+0.7**	
	comp=Z,76nm,1.1s,baz=274,slow=1.7,SNR=44								
LPAZ	**La Paz**	**146.37**	**124**		*e*P	**PKPdf**	**11 29 22.9**	**-1.3**	
ALGR	**Alto Alegre (B**	**146.79**	**158**		*e*P	**PKPdf**	**11 29 24.0**	**+0.1**	
CPUP	**Villa Florida**	**147.02**	**150**		PKPbc	**PKPdf**	**11 29 25.0**	**+0.7**	
	comp=Z,52nm,0.9s,baz=237,slow=2.8,SNR=38								
CPUP	**Villa Florida**	**147.02**	**150**		*e*P	**PKPdf**	**11 29 24.6**	**+0.4**	
CNLB	**Canela**	**147.07**	**161**		*e*P	**PKPdf**	**11 29 24.7**	**+0.3**	
CRSM	**Crissiumal (Br**	**147.55**	**155**		*e*P	**PKPdf**	**11 29 25.2**	**0.0**	
SDV	**Santo Domingo**	**148.19**	**76**		PKPdf	**PKPdf**	**11 29 25.6**	**-1.2**	
SDV					PKPbc	**PKPbc**	**11 29 29.4**	**-0.6**	
SDV	**Santo Domingo**	**148.19**	**76**		*e*P	**PKPdf**	**11 29 25.6**	**-1.2**	
TER01	**Tubaro-SC**	**148.33**	**164**		*e*P	**PKPdf**	**11 29 25.6**	**-0.8**	
CRPR	**Cabo Rojo, PR**	**148.47**	**58**			**PKPdf**	**11 29 29.1**	**+2.2**	
CRPR					PKPab	**PKiKP**	**11 29 30.3**	**+1.3**	
MLPR	**Magueyes Islan**	**148.54**	**58**			**PKPdf**	**11 29 29.1**	**+2.2**	
MLPR					PKPab	**PKiKP**	**11 29 33.4**	**+1.3**	
OBIP	**Obispado Ponce**	**148.88**	**57**			**PKPdf**	**11 29 29.4**	**+1.9**	
TBTG	**Tabatinga, AM**	**148.94**	**101**		*e*P	**PKPdf**	**11 29 27.0**	**-0.8**	
ICMP	**Isla Caja de M**	**149.02**	**57**			**PKPdf**	**11 29 30.3**	**+2.5**	
FRBT	**Francisco Belt**	**149.29**	**155**		*e*P	**PKPdf**	**11 29 27.4**	**-0.7**	
MCR1	**Marechal Candi**	**150.19**	**152**		*e*P	**PKPdf**	**11 29 29.3**	**-0.2**	
CDVI	**St. Croix**	**150.56**	**56**		PKPdf	**PKPdf**	**11 29 28.8**	**-1.4**	
CDVI					PKPbc	**pPKPdf**	**11 29 34.8**	**+0.5**	
CDVI					PKPab	**sPKPbc**	**11 29 42.0**	**+1.1**	
BAUV	**El Baul**	**150.68**	**75**		PKPdf	**PKPdf**	**11 29 29.3**	**-1.2**	
BAUV					PKPbc	**pPKPdf**	**11 29 35.6**	**+1.0**	
BAUV						**PKPab**	**11 29 43.7**	**+0.8**	
PTGB	**Pitanga**	**150.82**	**156**		*e*P	**PKPdf**	**11 29 30.3**	**-0.3**	
ETMB	**Extrema**	**150.88**	**114**		PKPdf	**PKPdf**	**11 29 30.4**	**-0.5**	
ETMB					PKPbc	**pPKPdf**	**11 29 34.9**	**0.0**	
ETMB					PKPab	**sPKPbc**	**11 29 43.2**	**+1.3**	
ETMB	**Extrema**	**150.88**	**114**		*e*P	**PKPdf**	**11 29 30.3**	**-0.5**	
ANTJ	**Antonio Joao (**	**151.24**	**147**		*e*P	**PKPdf**	**11 29 31.7**	**+0.5**	
TIJ01	**Guaruva-PR**	**151.38**	**162**		*e*P	**PKPdf**	**11 29 34.0**	**+2.5**	
AQDB	**Aquidauana**	**152.62**	**145**		*e*P	**PKPdf**	**11 29 34.2**	**+0.9**	
PET01	**Itanhaem-SP**	**152.86**	**164**		*e*P	**PKPdf**	**11 29 35.3**	**+1.8**	
PANT	**Pantanal (Braz**	**153.22**	**142**		*e*P	**PKPdf**	**11 29 34.9**	**+0.7**	
RPRD	**Ribas do Rio P**	**153.71**	**149**		*e*P	**PKPdf**	**11 29 35.8**	**+0.9**	
PCMB	**Pacaembu**	**153.91**	**154**		*e*P	**PKPdf**	**11 29 35.7**	**+0.6**	
PTLB	**Pontes e Lacer**	**153.96**	**132**		PKPdf	**PKPdf**	**11 29 34.7**	**-0.6**	
PTLB						**PKPbc**	**11 29 43.3**	**0.0**	
PTLB	**Pontes e Lacer**	**153.96**	**132**		*e*P	**PKPdf**	**11 29 35.5**	**+0.3**	
VAO	**Valinhos**	**154.17**	**164**		*e*P	**PKPdf**	**11 29 36.2**	**+0.7**	
GDSD	**La Dsirade Is**	**154.33**	**55**		PKPdf	**PKPdf**	**11 29 33.7**	**-2.1**	
GDSD					PKPab	**PKPab**	**11 29 57.6**	**-0.4**	
VILB	**Vilhena**	**154.63**	**126**		*e*P	**PKPdf**	**11 29 36.7**	**+0.4**	
MAN01	**Angra dos Reis**	**154.98**	**170**		*e*P	**PKPdf**	**11 29 35.8**	**-0.9**	
C2SB	**Chapadao do Su**	**155.57**	**148**		*e*P	**PKPdf**	**11 29 38.3**	**+0.8**	
VAS01	**Vassouras-RJ**	**155.63**	**171**		*e*P	**PKPdf**	**11 29 38.5**	**+1.0**	
DUB01	**Friburgo-RJ**	**155.98**	**173**		*e*P	**PKPdf**	**11 29 38.0**	**+0.5**	
SALV	**Santo Antonio**	**156.08**	**138**		*e*P	**PKPdf**	**11 29 38.7**	**+0.5**	
CAM01	**Campos-RJ**	**156.30**	**175**		*e*P	**PKPdf**	**11 29 39.2**	**+0.8**	
MACA	**Manacapuru-AM**	**158.16**	**103**		*e*P	**PKPdf**	**11 29 41.2**	**+0.3**	
PDRB	**Porto dos Gac**	**158.17**	**128**		*e*P	**PKPdf**	**11 29 41.0**	**+0.1**	
IPMB	**Ipameri, GO**	**158.41**	**157**		*e*P	**PKPdf**	**11 29 42.4**	**+1.2**	
PMNB	**Patos De Minas**	**158.54**	**162**		*e*P	**PKPdf**	**11 29 42.4**	**+1.0**	
RIB01	**Linhares ES**	**158.88**	**177**		*e*P	**PKPdf**	**11 29 41.2**	**-0.4**	
BOAV	**Boa Vista**	**158.91**	**88**			**PKPdf**	**11 29 39.6**	**-2.3**	
BOAV					PKPab	**PKPab**	**11 30 15.6**	**-2.4**	
BOAV	**Boa Vista**	**158.91**	**88**		*e*P	**PKPdf**	**11 29 41.5**	**-0.4**	
CLDB	**Colider**	**159.34**	**128**		*e*P	**PKPdf**	**11 29 42.4**	**0.0**	
SJMB	**Sao Joao De Ma**	**159.44**	**175**		*e*P	**PKPdf**	**11 29 42.1**	**-0.2**	
DIAM	**Diamantina, MG**	**159.49**	**168**		*e*P	**PKPdf**	**11 29 43.5**	**+1.0**	
NAN01	**Guarapari, ES**	**160.35**	**178**		*e*P	**PKPdf**	**11 29 44.2**	**+0.8**	
BDFB	**Brasilia**	**160.60**	**154**		PKP	**PKPdf**	**11 29 43.7**	**-0.1**

comp=E,3.0nm,0.1s
PACT **Alcochete** **4.89 319** *e*Pn **Pn** **11 25 27.3 +2.1**
PACT *e*Sn **Sn** **11 26 20.0 -0.5**
EPLA **Plasencia** **5.03 348** Pn **Pn** **11 25 28.3 +1.2**
EPLA ⇑*i*Vmb_V 11 25 31.6
comp=E,93nm,SNR=1.3
EPLA Sn **Sn** **11 26 21.4 -2.5**
PCBR **Castelo Branco** **5.18 336** *e*Sn **Sn** **11 26 24.6 -2.8**
PCBR A A 11 26 25.1
comp=E,2.6nm,0.3s
PSBE **So Bento** **5.44 324** *e*Pn **Pn** **11 25 34.8 +2.1**
PCAS **Casmilo, Conde** **5.75 330** *e*Pn **Pn** **11 25 38.9 +2.0**
PCAS *e*Sn **Sn** **11 26 38.2 -3.2**
PCAS A A 11 26 43.8
comp=E,2.8nm,0.7s
MVO **Moncorvo** **6.28 344** *e*Pn **Pn** **11 25 46.5 +2.3**
MVO *e*Sn **Sn** **11 26 51.8 -2.7**
MVO A A 11 27 04.8
comp=E,2.0nm,0.7s
POLO **Lamas de Olo** **6.67 340** *e*Pn **Pn** **11 25 51.7 +2.1**
POLO *e*Sn **Sn** **11 27 01.1 -3.1**
POLO A A 11 27 04.8
comp=E,1.0nm,0.7s
PBRG **Braganca** **6.84 347** *e*Pn **Pn** **11 25 54.6 +2.8**
PBRG *e*Sn **Sn** **11 27 06.1 -2.0**
PBRG A A 11 27 06.6
comp=E,1.0nm,0.1s

IDC 24 11:25:25.2±6.0, 1˚98S×140˚81E, h0km, mb3.3/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=144.4km s-min=75.8km az=133.0, Irian Jaya region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.94 199**	P	P	11 29 47.1	-0.9
	0.1nm,0.3s,baz=21,slow=12,SNR=5.8					
	0.6nm,0.8s					
ASAR	**Alice Springs**	**22.57 197**	P	P	11 30 27.3	0.0
	0.4nm,0.6s,baz=29,slow=11,SNR=7.0					
	0.4nm,0.6s					
VNDA	**Vanda**	**76.32 175**	P	P	11 37 16.1	+0.5
	0.4nm,0.8s,baz=348,slow=6.0,SNR=2.3					
	0.4nm,0.8s					

*KLM **24** 11:27:42, 6˚74S×129˚27E, h232km, mb5.7*
*MOS **24** 11:27:42.2±0.8, 6˚59S×128˚89E, h237km, mb5.0/36, Error ellipse: s-maj=9.3km s-min=4.8km az=112.0*
*BJI **24** 11:27:42.3±0.0, 6˚78S×129˚12E, h257km, mb4.8/64, mB5.3/18*
*NEIC **24** 11:27:44.5±1.9, 6˚64S±0˚07×128˚92E±0˚07, h236km±5km, mb5.0/82, Error ellipse: s-maj=10.6km s-min=9.8km az=64.0*
*IDC **24** 11:27:45.3±0.7, 6˚62S×128˚92E, h252km±6km, mb4.7/34, mbtmp5.3/40, Error ellipse: s-maj=8.2km s-min=5.9km az=75.0*
*DJA **24** 11:27:45.4±0.1, 7˚S±2˚×12˚9E±˚, h250km±2km, M5.2/79, mB5.6/48, mb5.4/79, MLv5.8/16, Mw(mB)5.1/48, MwMwp5.8/1, Mwp5.9/1*
*GCMT **24** 11:27:46.5±0.3, 6˚67S±0˚02×129˚03E±0˚02, h249km±2km, MW5.3/91, Moment Tensor Solution. s20,c27; s91,c138; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.29±.04; Mθθ -0.27±.03; Mφφ -0.01±.04; Mrθ -0.46±.03; Mθφ 0.43±.03; Mφr 0.89±.03; Best double couple: M0 1.11500×10^17 NP1:φs 333.00000°, δ81.00000°, λ108.00000°. NP2:φs 89.00000°, δ21.00000°, λ27.00000°. Principal axes: T 1.0420, Plg51.0000°, Azm264.0000°; N 0.1470, Plg18.0000°, Azm150.0000°; P -1.1880, Plg33.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 11:27:44.7±0.3, 6˚66S±0˚03×128˚94E±0˚04, h251km±2km, h251km:pP-P,n941,σ1s27/1004, mb5.0/122, 16C-14D, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.33 24**	P	Pn	11 28 31.9	+1.5
BNDI			S	**S**	11 29 09.6	+3.1
BNDI	**Bandanaira**	**2.33 24**	P	Pn	11 28 31.9	+1.5
SAUI	**Saumlaki**	**2.69 119**		Pn	11 28 34.7	+0.8
SAUI	**Saumlaki**	**2.69 119**	P	Pn	11 28 33.8	-0.1
SAUI			S	**S**	11 29 11.7	-1.1
SAUI	**Saumlaki**	**2.69 119**	P	Pn	11 28 34.7	+0.8
AAI	**Ambon**	**3.05 346**	P	Pn	11 28 39.7	+1.9
MSAI	**Masohi**	**3.30 360**	P	Pn	11 28 42.2	+1.7
NLAI	**Namlea**	**3.86 332**	P	Pn	11 28 50.1	+3.1
FAKI	**Fak Fak**	**4.97 42**	Pn	Pn	11 28 59.1	-1.1
FAKI	**Fak Fak**	**4.97 42**	P	Pn	11 28 59.5	-0.7
	34nm84µm2µm,0.7s					
FAKI	**Fak Fak**	**4.97 42**	P	Pn	11 28 59.8	-0.4
SANI	**Sanana**	**5.45 327**	P	Pn	11 29 07.7	+1.7
	4.4nm12µm1µm,1.0s					
SANI	**Sanana**	**5.45 327**	P	Pn	11 29 08.2	+2.2
LBMI	**Labuha**	**6.16 346**	P	Pn	11 29 16.5	+1.6
	6.3nm11µm1µm,0.9s					
SIJI	**Sorong**	**6.21 22**	P	Pn	11 29 14.4	-1.1
	479nm,0.2s,baz=49,slow=24,SNR=438					
SIJI			S	**S**	11 30 21.6	-6.7
	3µm,0.4s,baz=54,slow=23,SNR=40					
BATI	**Baumata**	**6.29 236**	P	Pn	11 29 16.4	-0.1
	13µm,0.7s,baz=108,slow=2.0,SNR=1357					
BATI			S	**S**	11 30 24.9	-5.2
	2µm,0.3s,baz=127,slow=22,SNR=15					
BATI	**Baumata**	**6.29 236**	P	Pn	11 29 16.7	+0.1
	28nm70µm8µm,0.7s					
BBSI	**Bau Bau**	**6.44 280**	P	Pn	11 29 21.3	+2.9
	5.0nm13µm2µm,0.9s					
MTN	**Manton Dam**	**6.51 161**	P	Pn	11 29 18.8	-0.5
	baz=6.6,SNR=1000					
MTN	**Manton Dam**	**6.51 161**	Pn	Pn	11 29 18.9	-0.3
MTN	**Manton Dam**	**6.51 161**	P	Pn	11 29 19.2	-0.1
MMRI	**Maumere**	**6.92 253**	Pn	Pn	11 29 24.1	-0.4
MMRI	**Maumere**	**6.92 253**	P	Pn	11 29 24.7	+0.2
	5.0nm16µm1µm,0.5s					
MMRI	**Maumere**	**6.92 253**	P	Pn	11 29 25.4	+0.9
KDU	**Kakadu**	**6.92 150**	P	Pn	11 29 23.7	-0.8
	baz=7.0,SNR=1000					
KDU			S	**S**	11 30 39.6	-4.9
	baz=7.0					
KDU	**Kakadu**	**6.92 150**	P	Pn	11 29 24.4	-0.1
EDFI	**Ende, Flores**	**7.47 253**	P	Pn	11 29 32.3	+0.8
	2.3nm7µm573nm,0.7s					
TNTI	**Ternate**	**7.55 348**	Pn	Pn	11 29 33.4	+0.9
TNTI	**Ternate**	**7.55 348**	P	Pn	11 29 33.7	+1.3
	1.3nm5µm482nm,1.1s					
TNTI	**Ternate**	**7.55 348**	P	Pn	11 29 34.0	+1.6
LUWI	**Luwuk**	**8.31 312**	Pn	Pn	11 29 44.0	+2.0
LUWI	**Luwuk**	**8.31 312**	P	Pn	11 29 44.2	+2.2
	10µm818nm,1.0s					
LUWI	**Luwuk**	**8.31 312**	P	Pn	11 29 44.6	+2.6
	820nm,1.1s					
BSSI	**Bau Bau, Buton**	**8.41 273**	P	Pn	11 29 44.9	+1.6
	2µm282nm,0.9s					
SRPI	**Serui, Papua**	**8.70 57**	P	Pn	11 29 48.5	+1.5
	706nm,0.9s					
KMSI	**Cibinong**	**8.73 325**	P	Pn	11 29 50.5	+3.2
	6µm574nm,0.7s					
BKSI	**Bulukumba**	**8.87 278**	P	Pn	11 29 50.5	+1.4
	2µm261nm,0.9s					
KNRA	**Kununurra**	**8.96 181**	P	Pn	11 29 49.2	-1.0
	baz=9.0,SNR=1000					
KNRA			S	**S**	11 31 26.7	-4.9
	baz=9.0					
KNRA	**Kununurra**	**8.96 181**	Pn	Pn	11 29 49.3	-1.0
KNRA	**Kununurra**	**8.96 181**	P	Pn	11 29 49.6	-0.6
APSI	**Ampana**	**9.25 308**	P	Pn	11 29 56.5	+2.6
	4µm420nm,1.0s					
KAPI	**Kappang**	**9.28 280**	P	Pn	11 29 55.1	+0.8
	115nm,0.7s,baz=145,slow=12,SNR=30					
KAPI	**Kappang**	**9.28 280**	Pn	Pn	11 29 55.5	+1.2
KAPI	**Kappang**	**9.28 280**	P	Pn	11 29 55.5	+1.2
KAPI	**Kappang**	**9.28 280**	P	Pn	11 29 56.7	+2.4
GTOI	**Gorontalo**	**9.36 321**	P	P	11 30 00.0	-2.0
	3µm335nm,1.0s					
SPSI	**Sidrap Palu**	**9.51 286**	P	Pn	11 29 58.9	+1.7
	3µm215nm,1.0s					
TTSI	**Tana Toraja**	**9.77 291**	P	Pn	11 30 03.2	+2.7
	4µm494nm,1.1s					
MRSI	**Marisa**	**9.95 315**	P	Pn	11 30 05.0	+2.2
	11µm1µm,1.1s					
SMPI	**Sarmi**	**10.79 65**	P	Pn	11 30 14.4	+1.1
	294nm,0.5s					
SGSI	**Sangihe**	**10.83 342**	P	Pn	11 30 15.3	+1.5
	14µm1µm,0.5s					
TOLI2	**Tolitoli**	**11.22 313**	P	P	11 30 21.2	-1.5
PLAI	**Plampang**	**11.27 258**	P	Pn	11 30 17.5	-1.8
MPSI	**Mapaga**	**11.39 307**	P	P	11 30 24.4	-0.2
	5µm334nm,1.1s					
FITZ	**Fitzroy Crossi**	**11.81 196**	P	Pn	11 30 25.0	-1.0
	112nm,0.3s,baz=360,slow=10,SNR=172					
FITZ			S	**S**	11 32 33.8	-4.1
	129nm,0.3s,baz=360,slow=3.7,SNR=5.5					
GENI	**Genyem**	**11.90 71**	P	Pn	11 30 25.1	-2.1
	1µm,1.0s					
GENI	**Genyem**	**11.90 71**	P	P	11 30 29.1	-1.2
TWSI	**Taliwang, Sumb**	**12.12 259**	P	Pn	11 30 28.9	-1.0
	2µm79nm,0.6s					
BKB	**Balikpapan**	**13.15 294**	P	P	11 30 46.5	+2.3
BKB	**Balikpapan**	**13.15 294**	P	P	11 30 47.3	+3.1
	11µm923nm,1.2s					
SMKI	**Samarinda**	**13.23 297**	P	P	11 30 47.6	+2.5
	1µm,0.9s					
GSPH	**General Santos**	**13.28 342**	⇓*e*P	Pn	11 30 43.4	-0.9
SRBI	**Singaraja**	**13.68 263**	P	Pn	11 30 49.4	+0.3
	348nm,1.1s					
WB0	**Warramunga Arr**	**14.06 158**		Pn	11 30 52.3	-1.4
WRAB	**Tennant Creek**	**14.20 159**	P	Pn	11 30 54.0	-1.3
WRAB	**Tennant Creek**	**14.20 159**	P	Pn	11 30 54.0	-1.3
WRAB	**Tennant Creek**	**14.20 159**	P	Pn	11 30 55.1	-0.2
WRA	**Warramunga Arr**	**14.20 159**	P	Pn	11 30 54.5	-0.9
	34nm,0.5s,baz=335,slow=12,SNR=140					
WRA			S	**S**	11 33 29.9	-2.8
	254nm,0.9s,baz=335,slow=21,SNR=9.5					
WRA			ScP	**ScP**	11 39 03.3	-1.0
	24nm,0.6s,baz=311,slow=2.3,SNR=4.7					
WRA	**Warramunga Arr**	**14.20 159**	P	Pn	11 30 55.1	-0.3
WRA	**Warramunga Arr**	**14.20 159**	P	Pn	11 30 55.1	-0.3
WB2	**Warramunga Arr**	**14.21 159**		Pn	11 30 54.4	-1.0
WR0	**Warramunga Arr**	**14.29 158**	P	Pn	11 30 55.3	-1.2
BBKI	**Banjar Baru**	**14.29 382**	P	P	11 31 01.0	+3.0
	14µm715nm,1.3s					
CTBH	**Cotabato--PC H**	**14.56 341**	⇑*i*P	P	11 31 01.2	+1.4
ABJI	**Asem Bagus**	**14.63 265**	P	Pn	11 31 01.3	+0.7
	4µm304nm,1.3s					
JAGI	**Jajag, Banyuwa**	**14.77 262**		P	11 30 59.6	-2.5
JAGI	**Jajag, Banyuwa**	**14.77 262**	P	P	11 31 01.6	-0.5
	168nm,0.5s					
JAGI	**Jajag, Banyuwa**	**14.77 262**	P	Pn	11 31 02.3	+0.1
KMMI	**Kalianget**	**14.87 268**	P	Pn	11 31 05.1	+1.6
	8µm669nm,1.0s					
BUKP	**Musuan**	**14.96 345**	⇑*e*P	Pn	11 31 05.6	+1.0
MTKI	**Muara Teweh, K**	**15.11 292**	P	Pn	11 31 07.5	+1.1
	642nm,1.1s					
BLJI	**Banyuglugur**	**15.26 265**	P	Pn	11 31 09.1	+1.0
	315nm,1.0s					
CGP	**Cagayan de Oro**	**15.60 344**	⇓*e*P	Pn	11 31 14.5	+2.3
MYLDM	**Lahad Datu**	**15.71 318**		Pn	11 31 16.6	+3.0
COEN	**Coen**	**15.76 118**	P	Pn	11 31 14.1	0.0
	baz=16,SNR=1000					
COEN	**Coen**	**15.76 118**		Pn	11 31 14.1	0.0
COEN	**Coen**	**15.76 118**	P	Pn	11 31 14.1	0.0
BWJI	**Bawean**	**16.20 272**	P	Pn	11 31 21.0	+1.7
	10µm806nm,1.4s					
SNPH	**Sibulan**	**16.89 340**	*e*P	Pn	11 31 27.5	+0.2
MBWA	**Marble Bar**	**16.94 211**	P	P	11 31 26.6	+0.7
MBWA	**Marble Bar**	**16.94 211**	P	P	11 31 26.6	+0.7
MBWA	**Marble Bar**	**16.94 211**	P	P	11 31 26.7	+0.8
TBJI	**Tambak Boyo**	**16.97 268**	P	Pn	11 31 27.7	-0.7
	6µm631nm,1.1s					
PWJI	**Pagerwojo**	**17.05 264**	P	P	11 31 26.1	-1.0
	2µm167nm,1.1s					
PSA00	**Pilbara Seismi**	**17.23 210**	P	P	11 31 29.9	+0.9
PSA00	**Pilbara Seismi**	**17.23 210**	P	P	11 31 29.4	+0.3
PSA00	**Pilbara Seismi**	**17.23 210**	P	P	11 31 29.8	+0.8
QIS	**Mount Isa**	**17.25 144**	P	P	11 31 30.4	+1.0
	baz=17,SNR=133					
QIS	**Mount Isa**	**17.25 144**	P	Pn	11 31 30.7	-0.9
AS31	**Alice Springs**	**17.57 165**	P	P	11 31 33.8	+1.1
ASAR	**Alice Springs**	**17.57 165**	P	P	11 31 33.8	+1.1
	171nm,0.4s,baz=346,slow=12,SNR=2337					
ASAR			S	**S**	11 34 40.6	-1.5
	78nm,0.9s,baz=346,slow=22,SNR=9.8					
ASAR			ScP	**ScP**	11 39 09.4	-1.3
	38nm,0.6s,baz=352,slow=2.0,SNR=10					
ASAR			P3KPbc		12 06 15.6	
	0.6nm,0.8s,baz=151,slow=5.9,SNR=7.4					
ASAR	**Alice Springs**	**17.57 165**	P	P	11 31 33.2	+0.5
PBKI	**Pangkalan Bun**	**17.65 282**	P	Pn	11 31 36.2	-0.1
	9µm1µm,1.1s					
PCJI	**Pacitan**	**17.68 264**	P	P	11 31 32.7	-1.2
	3µm201nm,0.6s					
KKM	**Kota Kinabalu**	**17.90 315**	P	P	11 31 37.6	+1.1
KKM	**Kota Kinabalu**	**17.90 315**	P	Pn	11 31 38.1	-1.3
PMG	**Port Moresby**	**18.25 100**	P	P	11 31 40.3	+0.2
	77nm,0.5s,baz=155,slow=4.6,SNR=31					
PMG			ScP	**ScP**	11 39 12.4	+0.1
	40nm,0.9s,baz=262,slow=2.2,SNR=6.8					
PMG	**Port Moresby**	**18.25 100**	P	P	11 31 39.8	-0.3
PMG	**Port Moresby**	**18.25 100**	P	P	11 31 41.1	+0.9
PMG	**Port Moresby**	**18.25 100**	P	P	11 31 41.0	+0.9
WRKA	**Warakurna**	**18.28 182**	P	P	11 31 41.4	+1.0
	baz=18,SNR=360					
WRKA	**Warakurna**	**18.28 182**	P	P	11 31 41.3	+0.9
STKI	**Sintang**	**18.66 290**	P	P	11 31 45.2	+0.6
	133nm,1.2s					
MTSU	**Mount Surprise**	**18.84 129**	P	P	11 31 47.4	+0.9
	baz=19,SNR=326					
MTSU	**Mount Surprise**	**18.84 129**	P	P	11 31 47.5	+1.0
SBUM	**Sibu**	**18.99 298**	P	P	11 31 48.8	+0.7
SBUM	**Sibu**	**18.99 298**	P	P	11 31 49.0	+0.9
RCP	**Roxas**	**19.12 341**	⇑*e*P	Pn	11 31 52.1	-1.5
JCJI	**Jatiwangi**	**20.53 269**	P	P	11 32 05.8	+1.2
	186nm,0.8s					
LEM	**Lembang**	**21.17 268**	P	P	11 32 11.0	-0.3
	126nm,0.6s,baz=46,slow=7.1,SNR=19					
	126nm,0.6s					
GIRL	**Giralia**	**21.29 220**	P	P	11 32 13.0	+0.9
	baz=21,SNR=19					
GIRL	**Giralia**	**21.29 220**	P	P	11 32 12.7	+0.5
GIRL	**Giralia**	**21.29 220**	P	P	11 32 13.1	+0.9
CTA	**Charters Tower**	**21.46 130**	P	P	11 32 15.0	+1.2
	18nm,0.5s,baz=300,slow=10,SNR=74					
	18nm,0.5s					
CTA	**Charters Tower**	**21.46 130**	P	P	11 32 14.9	+1.2
CTAO	**Charters Tower**	**21.46 130**	P	P	11 32 15.1	+1.2
CTAO	**Charters Tower**	**21.46 130**	P	P	11 32 15.1	+1.2
CTAO	**Charters Tower**	**21.46 130**	P	P	11 32 15.2	+1.4
TPI	**Tanjungpandan**	**21.56 279**	P	P	11 32 16.3	+1.5
	2µm108nm,1.2s					
CNJI	**Cibinong**	**21.66 267**	P	P	11 32 13.8	-1.9
	10µm1µm,0.9s					
OOD	**Oodnadatta**	**21.97 164**	P	P	11 32 18.8	+0.4
MEEK	**Meekatharra**	**22.16 205**	P	P	11 32 19.9	-0.4
	baz=22,SNR=112					
MEEK	**Meekatharra**	**22.16 205**	P	P	11 32 20.2	-0.1
SKJI	**Sukabumi**	**22.22 268**	P	P	11 32 19.7	-1.2
	3µm256nm,0.5s					
KRVT	**Keravat (AS076**	**23.10 85**	P	P	11 32 29.7	+0.8
	197nm,0.8s,baz=198,slow=2.5,SNR=32					
	197nm,0.8s					
PPBI	**Pangkal Pinang**	**23.16 280**	P	P	11 32 30.7	+1.2
	112nm,0.8s					
RABL	**Rabaul**	**23.25 85**	P	P	11 32 31.2	+0.9
RABL	**Rabaul**	**23.25 85**	P	P	11 32 31.4	+1.1
XMI	**Christmas Isla**	**23.29 259**	P	P	11 32 33.0	+2.4
XMIS	**Christmas Isla**	**23.33 259**	P	P	11 32 31.7	+0.7
XMIS	**Christmas Isla**	**23.33 259**	P	P	11 32 32.8	+1.8
INKA	**Innaminka**	**23.77 153**	P	P	11 32 36.0	+1.2
MULG	**Mulgathing**	**23.98 169**	P	P	11 32 37.4	+0.7
FORT	**Forrest**	**24.00 182**	P	P	11 32 37.1	+0.2
	baz=24,SNR=146					
FORT	**Forrest**	**24.00 182**	P	P	11 32 37.5	+0.6
FORT	**Forrest**	**24.00 182**	P	P	11 32 37.3	+0.4
KASI	**Kota Agung**	**24.33 271**	P	P	11 32 39.0	-1.1
	113nm,1.1s					
PMBI	**Palembang**	**24.36 278**	P	P	11 32 43.5	+3.2
PMBI	**Palembang**	**24.36 278**	P	P	11 32 45.2	+4.8
QLP	**Quilpie**	**24.59 145**	P	P	11 32 43.4	+1.2
	baz=25,SNR=5.7					
QLP	**Quilpie**	**24.59 145**	P	P	11 32 44.3	+2.0
DSRI	**Dabo**	**25.07 283**	P	P	11 32 49.4	+2.7
	2µm19nm,0.5s					
LCRK	**Leigh Creek**	**25.21 161**	P	P	11 32 48.2	+0.4
MORW	**Morawa**	**25.39 207**	P	P	11 32 49.3	-0.2
	baz=26,SNR=69					
MORW	**Morawa**	**25.39 207**	P	P	11 32 50.2	+0.7
MORW			IAmb	IAmb	11 33 33.0	
	comp=Z,53nm,1.1s					
MORW	**Morawa**	**25.39 207**	P	P	11 32 49.3	-0.2
TPRI	**Tanjung Pinang**	**25.50 286**	P	P	11 32 52.7	+2.1
GUMO	**Guam**	**25.60 38**	P	P	11 32 50.6	-0.8
	comp=Z,181nm,0.7s,baz=189,slow=5.8,SNR=15					
	comp=Z,181nm,0.7s					
GUMO	**Guam**	**25.60 38**	P	P	11 32 51.5	+0.1
GUMO	**Guam**	**25.60 38**	P	P	11 32 51.5	+0.1
GUMO			pmax	pmax		
	comp=Z,270nm,1.0s					
GUMO	**Guam**	**25.60 38**	P	P	11 32 52.7	+1.3
MYKOM	**Kota Tinggi**	**26.41 288**	P	P	11 33 00.0	+1.2
BLDU	**Ballidu**	**26.45 204**	P	P	11 32 58.8	-0.1
	baz=26,SNR=93					
BLDU	**Ballidu**	**26.45 204**	P	P	11 32 59.0	+0.1
BBOO	**Buckleboo**	**26.85 167**	P	P	11 33 02.6	+0.2
	baz=27,SNR=104					
BBOO	**Buckleboo**	**26.85 167**	P	P	11 33 02.5	+0.1
BBOO	**Buckleboo**	**26.85 167**	P	P	11 33 02.7	+0.3
KLBR	**Kellerberrin**	**26.91 201**	P	P	11 33 03.2	+0.2
	baz=27,SNR=143					
KLBR	**Kellerberrin**	**26.91 201**	P	P	11 33 03.5	+0.5
RMQ	**Roma**	**27.30 138**	P	P	11 33 07.3	+0.8
	baz=27,SNR=5.5					
RMQ	**Roma**	**27.30 138**	P	P	11 33 08.3	+1.8
	comp=Z,9.4nm,0.7s					
WHYH	**Whyalla**	**27.44 164**	P	P	11 33 08.1	+0.5
STKA	**Stephens Creek**	**27.73 156**	P	P	11 33 10.6	+0.3
	comp=Z,8.8nm,0.5s,baz=331,slow=8.9,SNR=49					
STKA			ScP	**ScP**	11 39 36.0	-1.1
	comp=Z,31nm,0.7s,baz=344,slow=4.8,SNR=6.0					
	comp=Z,8.8nm,0.5s					
STKA	**Stephens Creek**	**27.73 156**	P	P	11 33 10.7	+0.4
	baz=28,SNR=40					
STKA	**Stephens Creek**	**27.73 156**	P	P	11 33 10.8	+0.4
STKA	**Stephens Creek**	**27.73 156**	P	P	11 33 10.7	+0.4
MUN	**Mundaring**	**27.85 204**	P	P	11 33 11.4	+0.1
	baz=28,SNR=22					
MUN	**Mundaring**	**27.85 204**	P	P	11 33 11.4	+0.1
SDSI	**Sungai Dareh**	**28.02 281**	P	P	11 33 14.5	+1.4
	comp=Z,73nm,1.6s					
EIDS	**Eidsvold**	**28.18 134**	P	P	11 33 13.6	-0.7
HTT	**Hallett**	**28.20 162**	P	P	11 33 15.1	+0.6
	baz=28,SNR=21					
NWAO	**Narrogin (SRO)**	**28.31 201**	P	P	11 33 15.7	+0.3
	comp=Z,42nm,0.4s,baz=265,slow=7.0,SNR=90					
	comp=Z,42nm,0.4s					
NWAO	**Narrogin (SRO)**	**28.31 201**	P	P	11 33 15.6	+0.2
	baz=28,SNR=69					
NWAO			P	P	11 33 15.6	+0.2
	baz=28,SNR=69					
NWAO	**Narrogin (SRO)**	**28.31 201**	P	P	11 33 15.2	-0.1
NWAO	**Narrogin (SRO)**	**28.31 201**	P	P	11 33 16.0	+0.6
JRMM	**Jerantut**	**28.42 291**	P	P	11 33 17.0	+0.4
BKNI	**Bangkinang**	**28.69 283**	P	P	11 33 20.2	+1.2
	comp=Z,2µmcomp=Z,133nm,0.9s					
BKNI	**Bangkinang**	**28.69 283**	P	P	11 33 21.2	+2.2
	comp=Z,133nm,0.9s					
PDSI	**Padang**	**28.97 280**	P	P	11 33 21.9	+0.4
	comp=Z,41nm,0.6s					
CMSA	**Cobar Meteorol**	**29.29 150**	P	P	11 33 24.9	+0.9
	baz=29,SNR=29					
CMSA	**Cobar Meteorol**	**29.29 150**	P	P	11 33 25.0	+0.9
RKGY	**Rocky Gully**	**29.92 200**	P	P	11 33 31.2	+1.7
	baz=30,SNR=20					
RKGY	**Rocky Gully**	**29.92 200**	P	P	11 33 31.4	+1.8
IPM	**Ipoh**	**29.98 291**	P	P	11 33 29.9	-0.5
IPM			IAmb	IAmb	11 33 33.3	
	comp=Z,49nm,0.7s					
IPM	**Ipoh**	**29.98 291**	P	P	11 33 30.0	-0.5
IPM	**Ipoh**	**29.98 291**	P	P	11 33 32.2	+1.8
KULM	**Kulim**	**30.63 292**	P	P	11 33 33.2	-2.9
KULM	**Kulim**	**30.63 292**	P	P	11 33 36.0	-0.1
HNR	**Honiara**	**30.82 97**	P	P	11 33 36.8	-1.0
	comp=Z,980nm,0.6s,baz=125,slow=9.6,SNR=1.7					
PSI	**Prapat**	**31.40 286**	P	P	11 33 41.8	-1.2
	comp=Z,75nm,1.0s,baz=164,slow=3.7,SNR=18					
PSI			ScP	**ScP**	11 39 47.3	-2.1
	comp=Z,14nm,0.9s,baz=151,slow=3.5,SNR=7.1					
	comp=Z,75nm,1.0s					
QIZ	**Qiongzhong**	**31.72 324**	P	P	11 33 45.3	-0.2
QIZ			pmax	pmax		
	comp=Z,19nm,0.6s					
QIZ	**Qiongzhong**	**31.72 324**	P	P	11 33 45.4	-0.2
ARMA	**Armidale**	**31.82 141**	P	P	11 33 48.8	+2.4
	baz=32,SNR=4.7					
UBPT	**Khong Chiam**	**31.88 313**	P	P	11 33 47.3	+0.4
UBPT			IAmb	IAmb	11 33 47.7	
	comp=Z,42nm,0.8s					
ARPS	**Mount Arapiles**	**32.20 160**	P	P	11 33 50.8	+1.2
	baz=32,SNR=32					
ARPS	**Mount Arapiles**	**32.20 160**	P	P	11 33 50.7	+1.2
GSI	**Gunungsitoli**	**32.29 283**	P	P	11 33 50.7	+0.1
	comp=Z,4µmcomp=Z,161nm,1.5s					
GSI	**Gunungsitoli**	**32.29 283**	P	P	11 33 52.7	+2.1
KCSI	**Kotacane, Aceh**	**32.72 287**	P	P	11 33 56.4	+2.1
JOW	**Kunigami**	**33.30 359**	ScP	**ScP**	11 39 54.1	-1.4
	comp=Z,23nm,0.7s,baz=83,slow=2.4,SNR=4.0					
JOW	**Kunigami**	**33.30 359**	P	P	11 34 00.4	+1.3
BRAT	**Ballarat**	**33.64 158**	P	P	11 34 03.8	+1.9
CAN	**Canberra**	**33.97 150**	P	P	11 34 07.2	+2.3
CAN	**Canberra**	**33.97 150**	P	P	11 34 06.6	+1.8
CAN			pP	**pP**	11 34 52.9	-1.8
CAN			ScP	**ScP**	11 39 56.7	-1.1
CNB	**Canberra Magne**	**34.14 149**	P	P	11 34 08.1	+1.7
	baz=34,SNR=71					

KMI	**Kunming**	**40.60**	**322**	⇑P		**P**		**11 35 01.6**	**+0.9**
KMI				pmax		pmax			
	comp=Z,29nm,1.5s								
ENH	**Enshi**	**41.19**	**334**	P		**P**		**11 35 04.7**	**-0.6**
ENH				ScP		**ScP**		**11 40 24.6**	**-0.6**
JHS	**Saijyo**	**41.62**	**5**	P		**P**		**11 35 09.2**	**+0.6**
JHS				IAmb		IAmb		11 35 10.4	
	comp=Z,77nm,1.1s								
PZH	**PanZhiHua**	**42.22**	**322**	P		**P**		**11 35 16.4**	**+2.7**
PZH				pmax		pmax			
	comp=Z,30nm,0.8s								
INU	**Inuyama**	**42.48**	**10**	P		**P**		**11 35 16.6**	**+1.1**
INU	**Inuyama**	**42.48**	**10**	P		**P**		**11 35 15.5**	**0.0**
INU				ScP		**ScP**		**11 40 29.4**	**-0.7**
TJN	**Taejon**	**42.84**	**358***d*	*i*P		**P**		**11 35 18.6**	**+0.3**
TJN	**Taejon**	**42.84**	**358**	P		**P**		**11 35 19.4**	**+1.1**
LYN	**LuoYang**	**43.85**	**340**	⇓*i*P		**P**		**11 35 30.3**	**+3.9**
MJAR	**Matsushiro Arr**	**43.85**	**11**	P		**P**		**11 35 25.2**	**-1.2**
	comp=Z,55nm,1.1s,baz=186,slow=9.2,SNR=89								
MJAR				ScP		**ScP**		**11 40 34.3**	**-1.4**
	comp=Z,5.6nm,0.7s,baz=196,slow=5.0,SNR=12								
	comp=Z,55nm,1.1s								
MAJO	**Matsushiro**	**43.85**	**11**	P		**P**		**11 35 25.4**	**-1.0**
MAJO				IAmb		IAmb		11 35 26.5	
	comp=Z,68nm,0.9s								
MAJO	**Matsushiro**	**43.85**	**11**	P		**P**		**11 35 25.4**	**-1.0**
MAJO				pmax		pmax			
	comp=Z,68nm,1.0s								
MAJO	**Matsushiro**	**43.85**	**11**	P		**P**		**11 35 25.6**	**-0.8**
MAJO	**Matsushiro**	**43.85**	**11**	P		**P**		**11 35 25.4**	**-1.0**
MAJO				pP		**pP**		**11 36 12.9**	**-4.6**
MAJO				ScP		**ScP**		**11 40 35.3**	**-0.4**
MJB9	**Matsu-Tunnel**	**43.85**	**11**	P		**P**		**11 35 25.5**	**-1.0**
MJB9				IAmb		IAmb		11 35 26.5	
	comp=Z,67nm,0.9s								
KSAR	**Wonju Array Be**	**43.89**	**359**	P		**P**		**11 35 27.6**	**+0.9**
KSAR	**Wonju Array Be**	**43.89**	**359**	P		**P**		**11 35 27.6**	**+0.9**
KSRS	**Korea Array**	**43.90**	**359**	P		**P**		**11 35 27.6**	**+0.9**
	comp=Z,22nm,0.7s,baz=176,slow=9.9,SNR=114								
KSRS				PcP		**PcP**		**11 37 08.9**	**+0.8**
	comp=Z,6.8nm,0.6s,baz=183,slow=3.1,SNR=14								
KSRS				ScP		**ScP**		**11 40 34.8**	**-1.0**
	comp=Z,7.5nm,0.9s,baz=181,slow=3.7,SNR=17								
KSRS				S		**S**		**11 41 38.5**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=177,slow=9.6,SNR=1.5								
	comp=Z,22nm,0.7s								
KS19	**Wonju Array Si**	**43.95**	**359**	P		**P**		**11 35 27.7**	**+0.5**
INCN	**Inchon**	**43.97**	**357**	P		**P**		**11 35 28.6**	**+1.2**
TIA	**Tai'an**	**44.07**	**346**	P		**P**		**11 35 27.3**	**-0.9**
TIA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
CD2	**Chengdu**	**44.46**	**329**	P		**P**		**11 35 30.9**	**-0.5**
CD2				pmax		pmax			
	comp=Z,30nm,0.6s								
XAN	**Xi'an**	**44.70**	**336**	P		**P**		**11 35 32.1**	**-1.1**
XAN				pmax		pmax			
	comp=Z,18nm,0.7s								
XAN	**Xi'an**	**44.70**	**336**	P		**P**		**11 35 32.3**	**-0.9**
XAN				ScP		**ScP**		**11 40 39.1**	**-0.2**
JMM	**Marumori**	**45.66**	**13**	P		**P**		**11 35 40.7**	**+0.1**
JMM				IAmb		IAmb		11 35 41.8	
	comp=Z,86nm,1.1s								
BJT	**Baijiatuan**	**47.92**	**347**	P		**P**		**11 35 57.9**	**-0.1**
BJT	**Baijiatuan**	**47.92**	**347**	P		**P**		**11 35 57.9**	**-0.1**
BJT				pmax		pmax			
	comp=Z,23nm,0.6s								
BJT	**Baijiatuan**	**47.92**	**347**	P		**P**		**11 35 58.0**	**0.0**
BJT				x		x		11 37 22.9	
BJT				ScP		**ScP**		**11 40 52.5**	**0.0**
BJI	**Beijing**	**47.94**	**347**	P		**P**		**11 35 57.8**	**-0.4**
BJI				pP		**pwP**		**11 36 56.9**	**+1.4**
BJI				sP		**PcP**		**11 37 22.8**	**+0.5**
BJI				ScP		**ScP**		**11 40 52.6**	**0.0**
BJI				PcS		**PcS**		**11 41 20.6**	**+2.3**
BJI				ScS		**ScS**		**11 45 24.6**	**+0.1**
BJI				pmax		pmax			
	comp=Z,32nm,0.7s								
LZH	**Lanzhou**	**48.62**	**333**	*e*P		**P**		**11 36 04.3**	**+0.6**
LZH				pP		pP		11 36 57.8	+1.4
LZH				sP		PcP		11 37 26.3	+1.2
LZH				ScP		**ScP**		**11 40 56.5**	**+0.7**
LZH				S		**S**		**11 42 44.3**	**-2.0**
LZH				pmax		pmax			
	comp=Z,24nm,1.0s								
LZH				pmax		pmax			
	comp=Z,350nm,4.3s								
MSVF	**Nonsavu**	**49.11**	**108**	ScP		**ScP**		**11 40 58.1**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=254,slow=7.1,SNR=5.3								
MSVF	**Nonsavu**	**49.11**	**108**	P		**P**		**11 36 09.4**	**+1.7**
MSVF	**Nonsavu**	**49.11**	**108**	P		**P**		**11 36 09.4**	**+1.7**
MSVF				pmax		pmax			
	comp=Z,17nm,0.8s								
MSVF	**Nonsavu**	**49.11**	**108**	P		**P**		**11 36 09.7**	**+2.1**
MSVF	**Nonsavu**	**49.11**	**108**	P		**P**		**11 36 09.3**	**+1.7**
MSVF				ScP		**ScP**		**11 40 60.0**	**+1.7**
HHC	**Hu-ho-hao-te**	**49.91**	**343**	*e*P		**P**		**11 36 17.8**	**+4.6**
HHC				pmax		pmax			
	comp=Z,24nm,0.9s								
HHC				pmax		pmax			
	comp=Z,4μm,6.1s								
PALK	**Pallekele**	**50.07**	**285**	P		**P**		**11 36 13.9**	**-0.9**
PALK				ScP		**ScP**		**11 41 01.7**	**-0.7**
USA0B	**Ussuriysk Arra**	**50.70**	**3**	P		**P**		**11 36 19.2**	**+0.3**
USA0B	**Ussuriysk Arra**	**50.70**	**3**	P		**P**		**11 36 19.2**	**+0.3**
USA0B				pmax		pmax			
	comp=Z,30nm,0.8s								
USRK	**Ussuriysk Ar.**	**50.70**	**3**	P		**P**		**11 36 19.4**	**+0.5**
	comp=Z,25nm,0.7s,baz=186,slow=7.1,SNR=44								
USRK				ScP		**ScP**		**11 41 01.2**	**-3.1**
	comp=Z,3.7nm,0.7s,baz=153,slow=2.1,SNR=10								
USRK				S		**S**		**11 43 13.9**	**-0.5**
	comp=Z,4.0nm,1.1s,baz=195,slow=14,SNR=5.9								
	comp=Z,25nm,0.7s								
MDJ	**Mudanjiang**	**51.05**	**1**	P		**P**		**11 36 23.0**	**+1.5**
MDJ	**Mudanjiang**	**51.05**	**1**	P		**P**		**11 36 22.1**	**+0.6**
LSA	**Lhasa**	**51.23**	**317**	P		**P**		**11 36 24.8**	**+1.0**
LSA	**Lhasa**	**51.23**	**317**	P		**P**		**11 36 24.7**	**+1.0**
FOZ	**Fox Glacier**	**51.29**	**142**	P		**P**		**11 36 24.3**	**+1.0**
WHZ	**Wether Hill Ro**	**51.57**	**146**	P		**P**		**11 36 26.1**	**+0.7**
QRZ	**Quartz Range**	**51.61**	**138**	P		**P**		**11 36 28.1**	**+2.3**
XLT	**XiLinHaoTe**	**51.66**	**348**	⇑*i*P		**P**		**11 36 26.3**	**+0.2**
XLT				pP		pwP		11 37 22.8	-2.5
XLT				pmax		pmax			
	comp=Z,27nm,1.0s								
TEY	**Ternei**	**51.92**	**7**	*e*P		**P**		**11 36 28.2**	**+0.3**
RPZ	**Rata Peaks**	**52.15**	**142**	P		**P**		**11 36 30.1**	**+0.3**
	comp=Z,22nm,0.6s,baz=313,slow=4.2,SNR=27								
	comp=Z,22nm,0.6s								
BNX	**BinXian**	**52.19**	**359**	⇓P		**P**		**11 36 29.3**	**-0.6**
BNX				pmax		pmax			
	comp=Z,14nm,0.8s								
ODAN	**Odare**	**52.24**	**311**	*e*P		**P**		**11 36 31.0**	**0.0**
	comp=Z,28nm,0.7s								
TAPN	**Taplejung**	**52.28**	**312**	*e*P		**P**		**11 36 31.5**	**+0.2**
	comp=Z,98nm,0.5s								
NNZ	**Nelson**	**52.36**	**138**	P		**P**		**11 36 31.9**	**+0.5**
TUWZ	**Tuamarina**	**52.83**	**138**	P		**P**		**11 36 35.3**	**+0.5**
RAMN	**Ramite**	**52.88**	**311**	*e*P		**P**		**11 36 36.2**	**+0.5**
	comp=Z,389nm,0.5s								
TCW	**Tory Channel**	**52.95**	**138**	P		**P**		**11 36 36.1**	**+0.5**
KHZ	**Kahutara**	**53.04**	**139**	P		**P**		**11 36 37.7**	**+1.4**
KHZ	**Kahutara**	**53.04**	**139**	P		**P**		**11 36 37.4**	**+1.1**
GTA	**Gaotai**	**53.18**	**332**	⇑P		**P**		**11 36 37.8**	**+0.4**
GTA				pP		pwP		11 37 38.1	+3.7
GTA				sP		sP		11 38 01.1	+2.3
GTA				PP		**PP**		**11 38 42.8**	**+2.4**
GTA				ScP		**ScP**		**11 41 15.8**	**+0.4**
GTA				PcS		**PcS**		**11 41 38.3**	**-3.0**
GTA				S		**S**		**11 43 45.8**	**-2.7**
GTA				ScS		**ScS**		**11 45 58.5**	**-2.4**
GTA				pmax		pmax			
	comp=Z,19nm,0.8s								
GOMU	**GeErMu**	**53.32**	**326**	*e*P		**P**		**11 36 39.8**	**+1.0**
BHHZ	**Black Hill Sta**	**53.41**	**135**	P		**P**		**11 36 40.0**	**+0.8**
MCQ	**Macquarie Isla**	**53.46**	**159**	P		**P**		**11 36 41.0**	**+1.9**
	baz=54,SNR=3.1								
JIRN	**Jiri**	**53.57**	**312**	*e*P		**P**		**11 36 41.0**	**+0.2**
	comp=Z,125nm,0.5s								
BKZ	**Black Stump Fm**	**53.58**	**135**	P		**P**		**11 36 41.6**	**+1.2**
BKZ	**Black Stump Fm**	**53.58**	**135**	P		**P**		**11 36 41.0**	**+0.6**
MRZ	**Mangatainoka R**	**53.58**	**137**	P		P		11 36 33.4	-6.8
KWHZ	**Kaweka Forest**	**53.64**	**135**	P		**P**		**11 36 41.8**	**+1.0**
HOWZ	**Holdsworth Sta**	**53.65**	**137**	P		**P**		**11 36 40.7**	**-0.1**
KRHZ	**Kereru**	**53.70**	**135**	P		**P**		**11 36 41.7**	**+0.6**

MTHZ	**Maungataniwha**	**53.70**	**134**	P		**P**		**11 36 42.1**	**+0.9**
PRWZ	**Pori Road**	**53.81**	**136**	P		**P**		**11 36 37.6**	**-4.3**
MCHZ	**McNeill Hill**	**53.84**	**135**	P		**P**		**11 36 43.6**	**+1.5**
GUN	**Gumba**	**53.94**	**312**	*e*P		**P**		**11 36 43.7**	**+0.3**
	comp=Z,315nm,0.6s								
BFZ	**Birch Farm**	**54.05**	**136**	P		P		11 36 35.8	-7.8
PKI	**Pulchoki**	**54.11**	**311**	*e*P		**P**		**11 36 44.5**	**-0.1**
	comp=Z,103nm,0.6s								
ANWZ	**Angora Road**	**54.11**	**136**	P		**P**		**11 36 43.9**	**-0.2**
PKIN	**Phulchoki**	**54.12**	**311**	*e*P		**P**		**11 36 44.4**	**-0.3**
	comp=Z,128nm,0.6s								
KKN	**Kakani**	**54.32**	**311**	*e*P		**P**		**11 36 46.1**	**+0.1**
	comp=Z,32nm,1.2s								
DMN	**Daman**	**54.36**	**311**	*e*P		**P**		**11 36 46.5**	**+0.2**
	comp=Z,101nm,0.6s								
YSS	**Yuzh-Sakhalins**	**54.77**	**12**	P		**P**		**11 36 48.9**	**+0.3**
YSS						IAmb	IAmb	11 36 50.4	
	comp=Z,37nm,0.6s								
YSS	**Yuzh-Sakhalins**	**54.77**	**12**	*e*P		**P**		**11 36 48.9**	**+0.3**
YSS				*e*				11 37 44.9	
YSS				pmax		pmax			
	comp=Z,50nm,0.7s								
YSS	**Yuzh-Sakhalins**	**54.77**	**12**	P		**P**		**11 36 48.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**54.77**	**12**	P		**P**		**11 36 48.9**	**+0.3**
GKN	**Gorkha**	**54.92**	**311**	*e*P		**P**		**11 36 50.3**	**+0.1**
	comp=Z,178nm,0.6s								
HYBB	**Hyderabad (bro**	**55.22**	**296**	*e*P		**P**		**11 36 51.3**	**-1.1**
HYBB						IVmB_BB		11 36 52.0	
	comp=Z,407nm,1.4s								
KOLN	**Koldanda**	**55.58**	**310**	*e*P		**P**		**11 36 55.2**	**+0.2**
KLR	**Kul'dur**	**55.71**	**2**	P		**P**		**11 36 55.7**	**+0.5**
	comp=Z,16nm,0.9s,baz=192,slow=4.3,SNR=45								
KLR				ScP		**ScP**		**11 41 24.7**	**-1.4**
	comp=Z,8.4nm,1.0s,baz=166,slow=2.5,SNR=6.5								
	comp=Z,16nm,0.9s								
DANN	**Dangsing**	**55.76**	**311**	*e*P		**P**		**11 36 56.3**	**-0.1**
	comp=Z,196nm,0.8s								
PYUN	**Piuthan**	**56.21**	**310**	*e*P		**P**		**11 36 59.7**	**+0.2**
	comp=Z,255nm,0.6s								
HIA	**Hailar**	**56.27**	**353**	⇑*i*P		**P**		**11 36 59.4**	**+0.1**
HIA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
UGL	**Uglegorsk**	**56.69**	**10**	*e*P		**P**		**11 37 02.2**	**+0.1**
UGL				pmax		pmax			
	comp=Z,90nm,0.9s								
ULN	**Ulaanbaatar**	**57.63**	**343**	*ce*P		**P**		**11 37 09.6**	**+0.7**
ULN				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ULN	**Ulaanbaatar**	**57.63**	**343**	P		**P**		**11 37 09.6**	**+0.7**
ULN				pP		**PcP**		**11 37 59.6**	**+0.5**
ULN				ScP		**ScP**		**11 41 34.9**	**+0.1**
SONM	**Songino Array**	**57.80**	**342**	P		**P**		**11 37 10.6**	**+0.5**
	comp=Z,7.5nm,0.6s,baz=160,slow=6.3,SNR=34								
SONM				PcP		**PcP**		**11 38 00.1**	**+0.3**
	comp=Z,5.1nm,0.6s,baz=163,slow=3.3,SNR=5.2								
SONM				ScP		**ScP**		**11 41 34.4**	**-1.1**
	comp=Z,5.9nm,1.0s,baz=162,slow=4.3,SNR=10.0								
	comp=Z,7.5nm,0.6s								
SONM	**Songino Array**	**57.80**	**342**	P		**P**		**11 37 11.0**	**+0.9**
SONM	**Songino Array**	**57.80**	**342**	P		**P**		**11 37 11.0**	**+0.9**
SONM				pmax		pmax			
	comp=Z,10.0nm,1.1s								
ZEA	**Zeya**	**60.19**	**359**	*e*P		**P**		**11 37 26.6**	**+0.4**
ZEA				pmax		pmax			
	comp=N,20nm,0.9s								
ZEA				pmax		pmax			
	comp=E,10.0nm,0.9s								
ZEA				pmax		pmax			
	comp=Z,40nm,0.7s								
DRV	**Dumont d'Urvil**	**60.39**	**175**	P		**P**		**11 37 27.6**	**+0.3**
DRV				x		x		11 38 09.7	
DRV				pP		**pP**		**11 38 21.5**	**-1.5**
DRV				sP		**sP**		**11 38 44.8**	**-5.0**
DRV				ScP		**ScP**		**11 41 45.2**	**-1.3**
CASY	**Casey**	**60.87**	**188**	P		**P**		**11 37 30.8**	**+0.2**
CASY				IAmb		IAmb		11 39 30.3	
	comp=Z,53nm,1.4s								
CASY	**Casey**	**60.87**	**188**	P		**P**		**11 37 30.8**	**+0.2**
ZAK	**Zakamensk**	**61.01**	**342**	*e*P		**P**		**11 37 30.7**	**-1.2**
ZAK				pmax		pmax			
	comp=Z,8.0nm,1.1s								
WMQ	**Urumqi**	**62.54**	**327**	⇓*i*P		**P**		**11 37 43.3**	**+1.1**
WMQ				pmax		pmax			
	comp=Z,25nm,0.7s								
MOY	**Mondy**	**62.85**	**341**	*e*P		**P**		**11 37 45.3**	**+1.2**
MOY				pmax		pmax			
	comp=Z,22nm,1.0s								
PEA0B	**Petropavlovsk-**	**64.34**	**19**	P		**P**		**11 37 54.9**	**+1.2**
PEA0B	**Petropavlovsk-**	**64.34**	**19**	P		**P**		**11 37 54.9**	**+1.2**
PEA0B				pmax		pmax			
	comp=Z,110nm,0.9s								
PETK	**Petropavlovsk-**	**64.34**	**19**	P		**P**		**11 37 54.0**	**+0.4**
	comp=Z,77nm,0.8s,baz=201,slow=7.9,SNR=67								
PETK				PcP		**PcP**		**11 38 25.8**	**-0.2**
	comp=Z,8.2nm,0.7s,baz=157,slow=4.1,SNR=2.2								
PETK				S		**S**		**11 46 11.8**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=215,slow=8.5,SNR=6.5								
	comp=Z,77nm,0.8s								
PETK	**Petropavlovsk-**	**64.34**	**19**	P		**P**		**11 37 54.1**	**+0.5**
PET	**Petropavlovsk**	**64.58**	**19**	P		**P**		**11 37 56.0**	**+0.9**
PET	**Petropavlovsk**	**64.58**	**19***d*	*i*P		**P**		**11 37 55.8**	**+0.6**
PET				pmax		pmax			
	comp=Z,74nm,1.1s								
PET	**Petropavlovsk**	**64.58**	**19**	P		**P**		**11 37 56.1**	**+0.9**
PET	**Petropavlovsk**	**64.58**	**19**	P		**P**		**11 37 56.0**	**+0.9**
ZSN	**Zaisan**	**66.44**	**329**	*e*P		**P**		**11 38 06.6**	**-0.6**
ZSN	**Zaisan**	**66.44**	**329**	*e*P		**P**		**11 38 06.6**	**-0.6**
	baz=329								
DGZ	**Jazzator, Alta**	**66.71**	**332**	*c i*P		**P**		**11 38 09.4**	**+0.3**
DGZ				pmax		pmax			
	comp=Z,12nm,0.7s								
SHLS	**Shalkode**	**66.81**	**323**	*e*P		**P**		**11 38 08.3**	**-1.5**
SHLS	**Shalkode**	**66.81**	**323**	*e*P		**P**		**11 38 08.4**	**-1.5**
	baz=323								
PDGK	**Podgornoye**	**66.89**	**323**	P		**P**		**11 38 10.6**	**+0.3**
TARG	**Taragay, Kyrgy**	**67.04**	**321**	P		**P**		**11 38 11.8**	**+0.2**
TARG				IAmb		IAmb		11 38 28.5	
	comp=Z,13nm,0.5s								
TARG	**Taragay, Kyrgy**	**67.04**	**321**	P		**P**		**11 38 11.8**	**+0.2**
TARG				pmax		pmax			
	comp=Z,13nm,0.5s								
KSH	**Kashi**	**67.06**	**318**	P		**P**		**11 38 12.5**	**+1.0**
KSH				pmax		pmax			
	comp=Z,14nm,0.8s								
UZB	**Uzunbulak**	**67.07**	**323**	*e*P		**P**		**11 38 11.2**	**-0.2**
UZB	**Uzunbulak**	**67.07**	**323**	*e*P		**P**		**11 38 11.3**	**-0.2**
	baz=323								
MK31	**Makanchi Array**	**67.37**	**327**	P		**P**		**11 38 13.5**	**+0.4**
MK31						IAmb	IAmb	11 38 14.5	
	comp=Z,16nm,0.7s								
MK31	**Makanchi Array**	**67.37**	**327**	P		**P**		**11 38 13.5**	**+0.4**
MK31				pmax		pmax			
	comp=Z,16nm,0.7s								
MKAR	**Makanchi Array**	**67.37**	**327**	P		**P**		**11 38 13.6**	**+0.5**
	comp=Z,23nm,0.6s,baz=125,slow=7.4,SNR=269								
MKAR				PcP		**PcP**		**11 38 38.9**	**+0.2**
	comp=Z,10nm,0.6s,baz=113,slow=5.4,SNR=4.4								
MKAR				S		**S**		**11 46 45.9**	**-2.2**
	comp=Z,1.4nm,0.8s,baz=126,slow=12,SNR=5.3								
	comp=Z,23nm,0.6s								
MKAR	**Makanchi Array**	**67.37**	**327**	*i* P		**P**		**11 38 13.6**	**+0.5**
MKAR				pmax		pmax			
	comp=Z,24nm,0.6s								
SATY	**Saty**	**67.40**	**322**	*e*P		**P**		**11 38 13.6**	**+0.1**
SATY	**Saty**	**67.40**	**322**	*e*P		**P**		**11 38 13.7**	**+0.1**
	baz=322								
KPKS	**Kokpek**	**67.45**	**323**	*e*P		**P**		**11 38 13.5**	**-0.3**
KPKS	**Kokpek**	**67.45**	**323**	*e*P		**P**		**11 38 13.6**	**-0.3**
	baz=323								
MAKZ	**Makanchi**	**67.55**	**327**	P		**P**		**11 38 14.5**	**+0.3**
MAKZ				IAmb		IAmb		11 38 30.2	
	comp=Z,22nm,0.5s								
MAKZ	**Makanchi**	**67.55**	**327**	P		**P**		**11 38 14.5**	**+0.3**
MAKZ				pmax		pmax			
	comp=Z,22nm,0.5s								
MAKZ	**Makanchi**	**67.55**	**327**	P		**P**		**11 38 14.5**	**+0.3**
TNSS	**Tian-Shan**	**68.28**	**322**	*e*P		**P**		**11 38 19.7**	**+0.4**
TNSS	**Tian-Shan**	**68.28**	**322**	*e*P		**P**		**11 38 19.7**	**+0.4**
	baz=322								
MA2	**Magadan**	**68.28**	**12**	P		**P**		**11 38 19.5**	**+1.0**
	comp=Z,36nm,0.9s,baz=171,slow=5.6,SNR=13								
	comp=Z,36nm,0.9s								
MA2	**Magadan**	**68.28**	**12**	P		**P**		**11 38 19.3**	**+0.9**
MA2	**Magadan**	**68.28**	**12**	P		**P**		**11 38 19.7**	**+1.2**
MA2	**Magadan**	**68.28**	**12**	P		**P**		**11 38 19.4**	**+1.0**

MDOK	**Medeo**	**68.28**	**322**	P		**P**		**11 38 19.3**	**+0.3**
MDOK	**Medeo**	**68.28**	**322**	*e*P		**P**		**11 38 19.2**	**+0.1**
	baz=322								
AAA	**Alma-Ata**	**68.39**	**322**	*e*P		**P**		**11 38 19.7**	**+0.1**
AAA	**Alma-Ata**	**68.39**	**322**	*e*P		**P**		**11 38 19.8**	**+0.1**
	baz=322								
CCD	**Concordia, Ant**	**68.47**	**182**	P		**P**		**11 38 20.9**	**+1.0**
CCD				x		x		11 38 44.4	
CCD				pP		**pP**		**11 39 15.8**	**-0.8**
TDK	**Taldyqorghan**	**68.49**	**324**	*e*P		**P**		**11 38 19.9**	**-0.2**
TDK				pmax		pmax			
	comp=Z,12nm,0.7s								
TDK	**Taldyqorghan**	**68.49**	**324**	*e*P		**P**		**11 38 20.0**	**-0.2**
	comp=Z,12nm,0.7s,baz=324								
YAK	**Yakutsk**	**68.49**	**0**	P		**P**		**11 38 20.0**	**+0.3**
	comp=Z,93nm,0.7s,baz=256,slow=0.1,SNR=35								
YAK				S		**S**		**11 47 00.1**	**-0.6**
	comp=Z,3.0nm,0.3s,baz=151,slow=23,SNR=25								
	comp=Z,93nm,0.7s								
YAK	**Yakutsk**	**68.49**	**0**	P		**P**		**11 38 20.2**	**+0.5**
YAK	**Yakutsk**	**68.49**	**0***d*	*i*P		**P**		**11 38 20.0**	**+0.3**
YAK				*e*S		**S**		**11 47 00.6**	**-0.1**
YAK				pmax		pmax			
	comp=Z,153nm,0.9s								
YAK				pmax		pmax			
	comp=N,21nm,0.8s								
YAK				pmax		pmax			
	comp=E,14nm,1.0s								
YAK				smax		smax			
	comp=N,329nm,1.6s								
YAK				smax		smax			
	comp=E,42nm,1.4s								
YAK	**Yakutsk**	**68.49**	**0**	P		**P**		**11 38 19.8**	**+0.2**
CHKK	**Chushkaly**	**68.69**	**322**	*e*P		**P**		**11 38 20.9**	**-0.5**
CHKK	**Chushkaly**	**68.69**	**322**	*e*P		**P**		**11 38 21.0**	**-0.5**
	baz=322								
TKM2	**Tokmak 2**	**69.06**	**321**	P		**P**		**11 38 24.6**	**+0.8**
	SNR=9.3								
TKM2	**Tokmak 2**	**69.06**	**321**	*i* P		**P**		**11 38 24.0**	**+0.1**
TKM2				pmax		pmax			
	comp=Z,12nm,0.7s								
UCH	**Uchtor**	**69.39**	**320**	P		**P**		**11 38 27.2**	**+0.9**
	SNR=6.6								
AAK	**Ala-Archa**	**69.61**	**320**	P		**P**		**11 38 28.2**	**+1.1**
	SNR=6.7								
AAK	**Ala-Archa**	**69.61**	**320**	P		**P**		**11 38 28.3**	**+1.1**
AAK	**Ala-Archa**	**69.61**	**320**	P		**P**		**11 38 28.3**	**+1.1**
AAK				pmax		pmax			
	comp=Z,11nm,0.8s								
AAK	**Ala-Archa**	**69.61**	**320**	P		**P**		**11 38 28.4**	**+1.1**
AAK	**Ala-Archa**	**69.61**	**320**	*i* P		**P**		**11 38 28.3**	**+1.1**
	SNR=7.2								
AAK	**Ala-Archa**	**69.61**	**320**	P		**P**		**11 38 28.4**	**+1.1**
KBL	**Kabul**	**69.74**	**310**	P		**P**		**11 38 28.7**	**+0.5**
KBL				IAmb		IAmb		11 38 31.3	
	comp=Z,72nm,1.5s								
KBL	**Kabul**	**69.74**	**310**	P		**P**		**11 38 28.7**	**+0.5**
KBL				pmax		pmax			
	comp=Z,72nm,1.5s								
KBL	**Kabul**	**69.74**	**310**	P		**P**		**11 38 29.2**	**+0.9**
	SNR=8.0								
AML	**Almayashu**	**69.87**	**319**	P		**P**		**11 38 30.1**	**+1.1**
	SNR=7.2								
USP	**Ospenovka**	**69.92**	**321**	P		**P**		**11 38 29.4**	**+0.5**
	SNR=14								
SGDS	**Sogindy**	**69.94**	**321**	*e*P		**P**		**11 38 28.7**	**-0.3**
SGDS	**Sogindy**	**69.94**	**321**	*e*P		**P**		**11 38 28.7**	**-0.3**
	baz=321								
EKS2	**Erkin-Say**	**70.08**	**320**	P		**P**	

BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 77.29 328 P P 11 39 11.6 +0.1
UOSS Minazif 77.33 297 P P 11 39 12.3 0.0
UOSS IAmb IAmb 11 39 13.5
comp=Z,75nm,1.6s
UOSS Minazif 77.33 297 P P 11 39 12.6 +0.2
UOSS Minazif 77.33 297 *i* P P 11 39 12.5 +0.2
SNR=6.9
HATD Hatta, Dubai 77.37 297 *i* P P 11 39 13.0 +0.4
SNR=10
ASHO Ashiyiah 77.40 297 P P 11 39 13.2 +0.4
SNR=5.6
ASHO Ashiyiah 77.40 297 *i* P P 11 39 13.1 +0.4
SNR=7.6
MSFE Esma-Masafi 77.47 298 *i* P P 11 39 13.4 +0.3
SNR=10
MASF Masafi 77.47 298 P P 11 39 14.1 +1.0
SNR=6.4
BANOM Banah 77.48 298 *i* P P 11 39 14.0 +0.8
SNR=15
ALNE Al Ain 77.53 296 P P 11 39 14.7 +1.3
SNR=7.1
SHME Shamm 77.65 298 P P 11 39 14.8 +0.8
SNR=5.8
SHME Shamm 77.65 298 *i* P P 11 39 14.6 +0.6
SNR=17
NAZ Nazwa, Dubai 77.82 297 P P 11 39 15.2 +0.3
FAQ Al Faqa, Dubai 77.83 297 *i* P P 11 39 15.3 +0.3
SNR=16
ASUD Al Ashush, Dub 78.03 297 *i* P P 11 39 16.9 +0.7
SNR=9.0
TIXI Tiksi 78.15 360 P P 11 39 15.6 -0.2
comp=Z,30nm,0.6s,baz=266,slow=23,SNR=26
TIXI S S 11 48 40.4 -8.2
comp=Z,8.2nm,1.0s,baz=90,slow=23,SNR=3.2
comp=Z,30nm,0.6s
TIXI Tiksi 78.15 360 P P 11 39 15.6 -0.2
TIXI IAmb IAmb 11 39 16.7
comp=Z,32nm,0.7s
TIXI Tiksi 78.15 360 *d i* P P 11 39 15.8 0.0
TIXI pmax pmax
comp=Z,28nm,0.9s
BILL Bilibino 79.03 13 *e* P P 11 39 21.7 +1.0
BILL 11 39 31.0
BILL *PP **pP** **11 40 15.0 -3.5**
BILL S S **11 48 56.0 -2.1**
BILL pmax pmax
comp=Z,14nm,1.3s
NIKH Nikolski High 79.15 33 P P 11 39 21.5 -0.1
baz=243
GEYT Alibeck 79.19 311 P P 11 39 22.8 +0.5
comp=Z,7.9nm,0.8s,baz=186,slow=3.0,SNR=11
comp=Z,7.9nm,0.8s
GEYT Alibeck 79.19 311 P P 11 39 22.5 +0.3
GYA0B ALIBECK ARRAY 79.19 311 P P 11 39 22.6 +0.3
GYA0B IAmb IAmb 11 39 25.6
comp=Z,30nm,1.3s
MZR Muzera 79.34 295 *i* P P 11 39 23.7 +0.4
SNR=9.9
ABPO Ambohimpanom 80.05 252 P P 11 39 27.6 +0.3
ABPO IAmb IAmb 11 39 28.9
comp=Z,46nm,1.7s
ABPO Ambohimpanom 80.05 252 P P 11 39 27.7 +0.3
ABPO pmax pmax
comp=Z,46nm,1.7s
SPIA Saint Paul Isl 80.38 29 P P 11 39 28.7 +0.6
baz=242
UNV Unalaska Valle 80.79 33 P P 11 39 31.2 +0.8
UNV Unalaska Valle 80.79 33 P P 11 39 30.2 -0.1
baz=245
NRIK Noril'sk 80.98 346 P P 11 39 31.6 +0.5
comp=Z,15nm,0.5s,baz=142,slow=5.5,SNR=9.9
comp=Z,15nm,0.5s
NRIK Noril'sk 80.98 346 P P 11 39 31.5 +0.5
NRIK IAmb IAmb 11 39 32.4
comp=Z,41nm,1.2s
AKUT Akutan 81.31 33 P P 11 39 34.0 +0.9
AB31 Akbulak array 81.59 322 *i* P P 11 39 34.3 -0.4
ABKAR Akbulak array 81.59 322 P P 11 39 34.0 -0.6
ABKAR IAmb IAmb 11 39 35.3
comp=Z,21nm,0.6s
SMRA Abu-Samra 82.06 296 P P 11 39 37.8 +0.2
SHMA Al-Shehemyia 82.16 297 P P 11 39 38.3 +0.2
AKTO Aktyubinsk 83.17 323 P P 11 39 42.5 -0.3
QSPA South Pole Qui 83.31 180 P P 11 39 42.6 -0.8
QSPA IAmb IAmb 11 39 43.9
comp=Z,20nm,0.8s
SDPT Sand Point 84.61 33 P P 11 39 50.0 +0.1
baz=250
ARU Arti 84.87 328 P P 11 39 50.3 -0.9
ARU IAmb IAmb 11 39 51.8
comp=Z,24nm,0.7s
ARU Arti 84.87 328 *c i* P P 11 39 50.7 -0.5
ARU *PP **pP** **11 40 51.4 +1.8**
ARU 11 43 09.2
ARU S S **11 49 49.8 -8.1**
ARU SS SS **11 55 44.4 +7.7**
ARU pmax pmax
comp=Z,25nm,0.7s
CHNA Chernabura Isl 84.92 33 P P 11 39 51.6 +0.2
baz=251
S14K Fog Glacier 85.41 32 P P 11 39 54.0 0.0
baz=251
CHGN Chignik 86.02 32 P P 11 39 56.5 -0.3
baz=252
RAYN Ar Rayn 86.65 294 P P 11 40 00.8 +0.1
RAYN IAmb IAmb 11 40 03.7
comp=Z,22nm,0.9s
RAYN Ar Rayn 86.65 294 P P 11 40 00.8 +0.1
RAYN pmax pmax
comp=Z,22nm,0.9s
RAYN Ar Rayn 86.65 294 *i* P P 11 40 00.9 +0.1
SNR=23
P16K Nushagak River 87.08 30 P P 11 40 02.4 +0.5
baz=252,SNR=6.2
N16K Nishlik Lake 87.16 28 P P 11 40 03.4 +1.0
baz=251,SNR=17
O16K Kokwok River B 87.21 29 P P 11 40 03.0 +0.5
baz=252,SNR=7.1
R17K Ugashik Creek 87.48 31 P P 11 40 03.7 -0.1
baz=254
O17K Koliganek Bris 87.74 29 P P 11 40 06.0 +0.9
baz=253,SNR=11
SII Sitkinak Islan 88.35 33 P P 11 40 08.6 +0.6
baz=255
P18K Big Mountain, 88.55 30 P P 11 40 09.4 +0.5
baz=254
N18K Kilae Creek 88.58 28 P P 11 40 10.1 +1.1
baz=254
O18K Kokuh Hills 88.68 29 P P 11 40 10.2 +0.7
baz=254
SVW2 Sparrevohn 88.84 28 P P 11 40 11.7 +1.4
OHAK Old Harbor 88.99 32 P P 11 40 11.6 +0.7
OHAK IAmb IAmb 11 40 12.4
comp=Z,38nm,1.1s
OHAK Old Harbor 88.99 32 P P 11 40 11.4 +0.5
baz=256,SNR=5.1
TTA Tatalina 89.16 26 P P 11 40 12.0 +0.3
TTA IAmb IAmb 11 40 14.2
comp=Z,15nm,1.0s
TTA Tatalina 89.16 26 P P 11 40 12.0 +0.3
TTA pmax pmax
comp=Z,15nm,1.0s
TTA Tatalina 89.16 26 P P 11 40 11.7 0.0
baz=254,SNR=12
N19K Bonanza Creek 89.28 28 P P 11 40 13.3 +0.9
N19K IAmb IAmb 11 40 15.0
comp=Z,18nm,0.8s
N19K Bonanza Creek 89.28 28 P P 11 40 12.5 +0.1
baz=255,SNR=8.2
GCSA Galena City Sc 89.31 24 P P 11 40 12.4 +0.2
baz=253,SNR=13
L19K White Mountain 89.47 27 P P 11 40 14.0 +0.9
L19K IAmb IAmb 11 40 14.7
comp=Z,17nm,0.9s
L19K White Mountain 89.47 27 P P 11 40 13.8 +0.7
baz=255,SNR=14
KDAK Kodiak Island 89.49 32 P P 11 40 13.0 -0.2
comp=Z,9.6nm,0.8s,baz=269,slow=1.8,SNR=14
comp=Z,9.6nm,0.8s
KDAK Kodiak Island 89.49 32 P P 11 40 13.5 +0.2
baz=257
M19K Big River Lodg 89.61 27 P P 11 40 14.5 +0.7
baz=255
L20K Farewell, AK 89.98 27 P P 11 40 16.1 +0.6
baz=256,SNR=13
K20K Telida 90.12 26 P P 11 40 16.6 +0.5
baz=255,SNR=9.0
M20K Styx River 90.18 28 P P 11 40 17.3 +0.7
baz=256,SNR=9.2
KIRV Kirov 90.20 329 *e* P P 11 40 14.8 -1.7
J20K Nowinta River 90.30 25 P P 11 40 17.1 +0.2
baz=255,SNR=12
N20K Mount Spurr 90.45 28 P P 11 40 17.1 -0.7
baz=257
PPLA Purkeypile 90.84 27 P P 11 40 19.2 -0.4
baz=257
IMAR Indian Mountai 90.91 24 P P 11 40 19.5 -0.3
SKT Skwentna 90.94 28 P P 11 40 18.9 -1.0
baz=258,SNR=6.8
CAST Castle Rocks 91.00 26 P P 11 40 19.7 -0.6
CAST Castle Rocks 91.00 26 P P 11 40 19.6 -0.6
baz=257,SNR=6.0
CHUM Lake Minchumin 91.01 26 P P 11 40 20.7 +0.5
baz=257,SNR=16
G21K Allakaket 91.14 23 P P 11 40 20.7 0.0
baz=256
SUA Susitna One 91.20 28 P P 11 40 20.9 -0.4
baz=258,SNR=5.9
H21K Melozitna Rive 91.21 24 P P 11 40 20.4 -0.7
baz=257,SNR=5.2
F21K Alatna River 91.32 22 P P 11 40 20.7 -0.9
baz=256
I21K Tanana 91.44 24 P P 11 40 21.6 -0.5
baz=257
O22K Cooper Landing 91.49 29 P P 11 40 21.5 -1.0
baz=259
M22K Willow 91.55 28 P P 11 40 21.5 -1.2
baz=259,SNR=8.1
SEW Seward 91.56 30 P P 11 40 22.3 -0.5
baz=259
CUT Chulitna 91.61 27 P P 11 40 22.4 -0.6
baz=259
BPAW Bear Paw Mtn. 91.63 26 P P 11 40 22.9 -0.2
baz=258,SNR=5.0
KBZ Khabaz 91.70 314 P P 11 40 23.3 -0.5
comp=Z,3.6nm,0.7s,baz=109,slow=5.9,SNR=5.1
comp=Z,3.6nm,0.7s
TRF Thorofare Moun 91.80 26 P P 11 40 23.7 -0.4
baz=259
H22K Ishtalitna Cre 91.84 24 P P 11 40 24.1 0.0
baz=258,SNR=5.7
F22K John River 91.88 22 P P 11 40 24.0 -0.2
baz=257
MLY Manley 91.92 25 P P 11 40 23.9 -0.6
baz=258,SNR=17
PMR Palmer 91.98 28 P P 11 40 23.7 -1.0
baz=260
G22K Bettles 92.00 23 P P 11 40 24.3 -0.4
baz=258
E22K Anaktuvuk Pass 92.15 22 P P 11 40 25.2 -0.3
baz=258
PWL Port Wells 92.23 29 P P 11 40 26.0 0.0
baz=260
KNK Knik Glacier 92.27 29 P P 11 40 25.9 -0.2
baz=260,SNR=5.8
NVL N'lazarevskaya 92.36 197 *i* P P 11 40 27.1 +0.7
NVL *eS* **SKSac 11 50 34.6 -0.5**
NVL pmax pmax
comp=Z,7.0nm,0.6s
SML Sawmill 92.39 28 P P 11 40 26.2 -0.5
baz=260,SNR=6.7
MCK McKinley 92.45 26 P P 11 40 26.2 -0.7
baz=260,SNR=8.4
WAT1 Susitna Watana 92.46 27 P P 11 40 26.4 -0.6
baz=260
G23K Bananza Creek 92.54 23 P P 11 40 27.1 -0.2
baz=259,SNR=16
NEA2 Nenana 92.54 25 P P 11 40 27.3 0.0
baz=260,SNR=7.2
H23K Yukon River 92.56 24 P P 11 40 27.4 0.0
H23K IAmb IAmb 11 40 28.6
comp=Z,13nm,0.8s
H23K Yukon River 92.56 24 P P 11 40 27.2 -0.2
baz=260,SNR=14
COLD Coldfoot 92.57 23 P P 11 40 27.6 +0.3
COLD IAmb IAmb 11 40 28.6
comp=Z,16nm,1.0s
COLD Coldfoot 92.57 23 P P 11 40 27.6 +0.3
baz=259,SNR=10
PRGR Permogore 92.64 332 *e* P P 11 40 26.0 -1.7
PRGR *e**PP **pP** **11 41 28.8 +1.9**
PRGR pmax pmax
comp=Z,12nm,0.6s
M23K Glacier View 92.67 28 P P 11 40 27.5 -0.5
baz=261,SNR=5.0
D23K Nanushuk River 92.73 21 P P 11 40 28.5 +0.4
baz=259
WAT6 Susitna Watana 92.79 27 P P 11 40 28.3 -0.4
baz=261
SCM Sheep Creek Mo 92.87 28 P P 11 40 28.4 -0.6
baz=261
C23K Itkillik River 92.92 20 P P 11 40 29.1 +0.2
baz=259
E23K Chandalar 92.94 22 P P 11 40 29.2 0.0
baz=260,SNR=6.4
DHY Denali Highway 93.03 27 P P 11 40 29.4 -0.4
DHY Denali Highway 93.03 27 P P 11 40 29.5 -0.3
baz=261
TOLK Toolik Lake Re 93.06 21 P P 11 40 29.8 +0.1
baz=260
TCOL CIGO, UAF Yank 93.10 25 P P 11 40 29.9 +0.1
baz=261
COLA College 93.10 25 *e* P P 11 40 29.9 +0.1
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 93.10 25 P P 11 40 29.4 -0.4
baz=261
H24K Noodor Dome 93.24 24 P P 11 40 30.6 +0.1
H24K IAmb IAmb 11 40 31.6
comp=Z,24nm,0.9s
H24K Noodor Dome 93.24 24 P P 11 40 30.2 -0.3
baz=261,SNR=20
HDA Harding Lake 93.42 26 P P 11 40 30.0 -1.3
baz=262,SNR=15
D24K Happy Valley 93.42 21 P P 11 40 31.6 +0.4
baz=260
M24K Tolsona, Glenn 93.45 28 P P 11 40 31.5 -0.1
baz=262,SNR=6.3
KLU Klutina 93.48 29 P P 11 40 31.7 -0.1
baz=263
ILAR Eielson Array 93.50 25 P P 11 40 30.2 -1.5
comp=Z,6.2nm,0.8s,baz=268,slow=4.3,SNR=42
ILAR PP PP 11 44 21.1 +1.4
comp=Z,1.2nm,0.9s,baz=235,slow=7.3,SNR=4.6
comp=Z,6.2nm,0.8s
F24K Squaw Lake 93.50 22 P P 11 40 31.7 +0.1
baz=261,SNR=7.8
G24K Hadweenzic Riv 93.53 23 P P 11 40 32.1 +0.3
baz=262,SNR=14
C24K Franklin Bluff 93.56 20 P P 11 40 32.2 +0.4
baz=261
PAX Paxson 93.88 27 P P 11 40 33.5 -0.1
baz=263,SNR=9.5
HARP HAARP 93.96 28 P P 11 40 33.9 +0.1
baz=263
BMRM Bremner River 94.05 29 P P 11 40 33.8 -0.6
J25K Salcha River, 94.12 26 P P 11 40 33.4 -1.2
J25K IAmb IAmb 11 40 36.2
comp=Z,6.9nm,0.8s
J25K Salcha River, 94.12 26 P P 11 40 33.5 -1.1
baz=263,SNR=7.5
N25K Chitina, Valde 94.13 29 P P 11 40 34.0 -0.8
baz=264
H25K Birch Creek 94.13 24 P P 11 40 35.0 +0.5
baz=263,SNR=13
TROLL Troll, Antarti 94.22 195 P P 11 40 36.0 +0.9
TROLL SKS **SKSac 11 50 44.1 -1.5**
RIDG Independent Ri 94.25 26 P P 11 40 34.9 -0.3
baz=264,SNR=13
F25K Christian Rive 94.36 23 P P 11 40 36.2 +0.5
baz=263,SNR=5.6
E25K Arctic Village 94.45 22 P P 11 40 36.5 +0.5
baz=263
SCRK Sand Creek 94.65 26 P P 11 40 37.2 +0.1
baz=264,SNR=5.9
L26K Log Cabin Wild 94.85 27 P P 11 40 38.1 +0.1
baz=265,SNR=7.3
MCARA McCarthy VSAT 94.86 29 P P 11 40 38.4 +0.4
baz=265
J26L Joseph Creek 94.89 26 P P 11 40 38.0 -0.2
baz=265,SNR=22
F26K Sheenjek River 94.94 22 P P 11 40 38.7 +0.5
baz=265
M26K Nabesna, AK 94.96 28 P P 11 40 38.9 +0.4
baz=265
G26K Porcupine Rive 95.01 23 P P 11 40 39.3 +0.7
baz=265,SNR=11
BELA Belgrano 2 95.09 183 P P 11 40 38.3 -0.5
BELA IAmb IAmb 11 40 39.2
comp=Z,13nm,0.7s
C27K Jago River 95.27 21 P P 11 40 39.9 +0.2
baz=265
M27K Edge Creek, AK 95.47 28 P P 11 40 41.2 +0.3
baz=266
K27K Chicken 95.50 26 P P 11 40 41.5 +0.6
K27K Chicken 95.50 26 P P 11 40 41.5 +0.6
baz=266
L27K Beaver Creek, 95.54 27 P P 11 40 41.8 +0.6
baz=266,SNR=14
CTG Chitna Glacier 95.64 29 P P 11 40 43.2 +1.5
baz=266
SNAA Sanae 95.74 194 P P 11 40 42.4 +0.4
SNAA SKS **SKSac 11 50 51.3 -2.2**
SNAA Sanae 95.74 194 P P 11 40 42.4 +0.4
SNAA Sanae 95.74 194 P P 11 40 42.4 +0.4
SNAA pmax pmax
comp=Z,36nm,1.9s
I27K Kandik River 95.79 25 P P 11 40 42.4 +0.2
baz=267,SNR=14
G27K Doyon Strip 95.84 23 P P 11 40 42.8 +0.4
baz=267,SNR=5.8
H27K Steamboat Moun 95.86 24 P P 11 40 42.9 +0.4
baz=267,SNR=8.6
EGAK Eagle 95.94 26 P P 11 40 42.6 -0.2
EGAK IAmb IAmb 11 40 43.7
comp=Z,9.4nm,0.9s
EGAK Eagle 95.94 26 P P 11 40 42.7 -0.1
baz=267,SNR=5.7
E27K Coleen River 95.94 22 P P 11 40 43.0 +0.2
baz=267
BVCY Beaver Creek 95.95 28 P P 11 40 43.5 +0.5
baz=267
YUK3 Moose Creek 96.11 29 P P 11 40 43.9 -0.1
baz=267
DAWY Dawson 96.68 26 P P 11 40 46.4 +0.1
DAWY IAmb IAmb 11 40 47.5
comp=Z,14nm,0.9s
DAWY Dawson 96.68 26 P P 11 40 46.5 +0.3
baz=269,SNR=9.7
OBN Obninsk 96.77 325 *e* P P 11 40 48.3 +1.6
OBN pmax pmax
comp=Z,6.0nm,0.5s
M29M Somme Creek 97.07 28 P Pdif 11 40 48.2 +0.1
baz=269
I29M Ogilvie Camp, 97.16 25 P Pdif 11 40 48.8 +0.4
baz=270
L29M L29M 97.23 27 P Pdif 11 40 48.8 +0.1
baz=270,SNR=8.3
VNA2 Neumayer--Watz 97.32 193 P Pdif 11 40 49.5 +0.5
baz=133,slow=5.7
VNA2 SKS **SKSac 11 50 59.3 -2.2**
P29M Windy Craggy 97.39 31 P Pdif 11 40 49.8 +0.2
baz=270
K29M Barlow Dome 97.50 26 P Pdif 11 40 50.2 +0.1
baz=270,SNR=6.5
HYT Haines Junctio 97.51 30 P Pdif 11 40 50.3 +0.1
baz=270
VNA3 Neumayer Olymp 97.58 192 P Pdif 11 40 50.3 +0.1
VNA3 SKS **SKSac 11 51 01.4 -1.5**
N30M Aishikik Lake 97.71 29 P Pdif 11 40 51.3 +0.3
baz=270
VNA1 Neumayer--Stat 97.72 193 P Pdif 11 40 51.2 +0.4
EPYK Eagle Plains 97.81 24 P P 11 40 51.0 -0.2
baz=271
PLBC Pleasant Camp 98.09 31 P Pdif 11 40 52.6 0.0
baz=271
MAYO Mayo, Yukon 98.23 27 P Pdif 11 40 53.7 +0.5
baz=272
BRTR Keskin Array B 98.29 309 P P 11 40 53.1 -1.0
comp=Z,1.6nm,1.0s,baz=128,slow=4.1,SNR=3.1
comp=Z,1.6nm,1.0s
N31M Braeburn, Yuko 98.34 29 P Pdif 11 40 54.3 +0.6
baz=272
BOSA Boshof 98.72 240 P Pdif 11 40 56.1 -0.3
comp=Z,2.5nm,0.7s,baz=160,slow=3.4,SNR=4.9
comp=Z,2.5nm,0.7s
WHY Whitehorse 98.80 30 P Pdif 11 40 55.4 -0.5
baz=272
F31M Tsiigehtchic 98.93 23 P Pdif 11 40 56.1 0.0
baz=274
INK Inuvik 98.94 22 P Pdif 11 40 55.6 -0.5
comp=Z,7.3nm,1.1s,baz=258,slow=8.5,SNR=6.9
comp=Z,7.3nm,1.1s
INK Inuvik 98.94 22 P P 11 40 56.6 +0.4
baz=275
M31M Drury Creek, Y 98.97 28 P P 11 40 57.1 +0.5
baz=273
FARO Faro, Yukon 99.46 28 P Pdif 11 40 58.6 -0.1
baz=274
N32M Quiet Lake 99.66 29 P Pdif 11 40 59.3 -0.3
baz=274
WRAK Wrangell Islan 100.34 34 P Pdif 11 41 02.7 0.0
baz=274
MMPY Sheldon Lake, 100.39 28 P Pdif 11 41 03.3 +0.4
baz=276
R33M Jennings River 100.84 31 P Pdif 11 41 05.4 +0.3
baz=275
S34M Telegraph Cree 100.89 32 P Pdif 11 41 05.6 +0.5
baz=275
ARA0 ARCESS Array S 100.90 340 *e* P Pdif 11 41 03.7 -1.3
ARA0 IAmb IAmb 11 41 04.8
comp=Z,7.8nm,0.8s
ARCES ARCESS Array B 100.90 340 P Pdif 11 41 03.8 -1.1
comp=Z,5.8nm,0.6s,baz=89,slow=6.5,SNR=23
ARCES PKiKP **PKiKP 11 45 29.2 +0.2**
comp=Z,0.8nm,0.4s,baz=132,slow=1.3,SNR=2.3
SPA0 Spitsbergen Ar 101.03 349 *e* P Pdif 11 41 05.5 +0.1
SPA0 IAmb IAmb 11 41 10.3
comp=Z,79nm,2.0s
AKASG Malin Array Be 101.28 320 P Pdif 11 41 05.3 -1.7
comp=Z,1.2nm,0.5s,baz=68,slow=4.4,SNR=5.7
HAMF Hammerfest 101.29 341 *e* P Pdif 11 41 05.6 -1.0
HAMF IAmb IAmb 11 41 10.9
comp=Z,38nm,1.4s
DLBC Dease Lake 101.42 32 P Pdif 11 41 08.4 +0.8
baz=276
KIS Kishinev 101.74 317 *e* Pdif 11 41 22.0 +13
KIS *eL* L 12 05 40.0
KIS LRM MLR 12 10 07.0
comp=Z,600nm,20.0s
KTK1 Kautokeino 101.79 339 *e* P Pdif 11 41 07.7 -1.2
KTK1 IAmb IAmb 11 41 08.4
comp=Z,4.6nm,0.7s
FINES FINESS Array B 101.97 331 P Pdif 11 41 08.1 -1.7
comp=Z,2.5nm,0.8s,baz=50,slow=6.7,SNR=11
FINES PKiKP **PKiKP 11 45 30.7 -0.4**
comp=Z,2.3nm,0.6s,baz=102,slow=3.1,SNR=13
C36M Paulatuk 102.17 20 P Pdif 11 41 11.3 +0.8
baz=284
JETT Jettan, Norway 102.64 340 *e* P Pdif 11 41 11.9 -0.8
JETT IAmb IAmb 11 41 12.3
comp=Z,23nm,0.6s
YKA Yellowknife Ar 107.91 26 PKKPbc PKKPbc 11 56 54.9 -3.4
comp=Z,3.3nm,0.6s,baz=112,slow=3.6,SNR=8.7
I04A Tendick Farm, 108.03 46 P PKiKP 11 45 42.5 -0.4
baz=278
VYHS Vyhne 108.25 319 *e* P Pdif 11 41 41.3 +3.2
VYHS Vyhne 108.25 319 *e* PDIFF Pdif 11 41 41.3 +3.2
J04D Umpqua Nationa 108.33 47 P PKiKP 11 45 43.8 +0.1
baz=278
L04D Klamath Falls 108.33 48 P PKiKP 11 45 44.2 +0.5
baz=278
J05D Fort Rock, OR 108.95 47 P PKiKP 11 45 45.3 +0.4
baz=279
NB2 NORSAR Subarra 109.00 333 P Pdif 11 41 40.1 -1.1
comp=Z,0.7nm,0.7s,baz=64,slow=4.6
NB2 NORSAR Subarra 109.00 333 PKPdf PKiKP 11 45 43.4 -0.8
comp=Z,2.2nm,1.0s,baz=68,slow=1.9
NB2 NORSAR Subarra 109.00 333 P Pdif 11 41 40.1 -1.1
baz=64,slow=4.6
NOA NORSAR Array B 109.00 333 Pdiff Pdif 11 41 40.2 -1.0
comp=Z,0.3nm,0.7s,baz=64,slow=4.6,SNR=4.0
NOA PKiKP **PKiKP 11 45 44.1 -0.1**
comp=Z,1.9nm,0.7s,baz=157,slow=1.0,SNR=6.6
DPC Dobruska-Polom 109.47 321 *e* PKP PKiKP 11 45 45.9 +0.5
OSTC Ostas 109.48 321 *e* PKP PKiKP 11 45 46.3 +0.9
NEW Newport 110.80 41 P PKiKP 11 45 49.1 +1.1
baz=284
CKRC Cesky Krumlov 111.11 320 *e* PKP PKiKP 11 45 48.8 +0.3

CLL	Collm	111.25	323	*e*PKIKP	PKiKP	11 45 49.0	+0.3		
CLL				pmax	pmax				
	comp=Z,5.0nm,0.9s								
CLL	Collm	111.25	323	*e*PKiKP	PKiKP	11 45 49.0	+0.3		
	comp=Z,5.0nm,0.9s								
KHC	Kasperske Hory	111.49	320	*e*PKIKP	PKiKP	11 45 49.4	+0.1		
KHC	Kasperske Hory	111.49	320	*e*PKP	PKiKP	11 45 49.4	+0.1		
NVAR	Mina Array Bea	111.91	51	PKiKP	PKiKP	11 45 51.0	+0.3		
	comp=Z,0.8nm,0.8s,baz=173,slow=0.6,SNR=5.9								
NVAR				PKKPbc	PKKPbc	11 56 45.3	+0.4		
	comp=Z,1.4nm,0.6s,baz=118,slow=4.1,SNR=18								
ARVC	Arvin	111.97	55	P	PKiKP	11 45 51.1	+0.5		
	baz=278								
KBA	Koelnbreinsper	112.17	318	*i* P	PKiKP	11 45 50.2	-0.6		
	comp=Z,4.3nm,0.7s								
CWC	Cottonwood Cre	112.39	53	P	PKiKP	11 45 51.8	+0.2		
	baz=279								
EDW2	Edwards Air Fo	112.68	55	P	PKiKP	11 45 52.1	+0.1		
	baz=278								
ABTA	Abfaltersbach	112.81	318	*i* P	PKiKP	11 45 51.2	-0.7		
	comp=Z,4.6nm,0.7s								
LRMC	Laurel Mtn Rad	112.85	54	P	PKiKP	11 45 53.1	+0.7		
	baz=278								
MPMC	Manual Prospec	112.92	54	P	PKiKP	11 45 53.4	+0.7		
	baz=279								
BFSC	Mount Baldy Ra	113.05	56	P	PKiKP	11 45 53.5	+0.7		
	baz=278								
WTTA	Wattenberg	113.25	319	*i* P	PKiKP	11 45 52.8	-0.1		
	comp=Z,25nm,0.6s,SNR=13								
MSO	Missoula	113.25	42	P	PKiKP	11 45 53.3	+0.5		
	baz=286								
WATA	Walderalm	113.27	319	*i* P	PKiKP	11 45 52.4	-0.5		
	comp=Z,5.2nm,0.5s								
FURC	Furnace Creek,	113.36	53	P	PKiKP	11 45 54.2	+1.1		
	baz=279								
SQTA	Sankt Quirin	113.54	319	*i* P	PKiKP	11 45 53.2	-0.2		
	comp=Z,2.6nm,0.6s								
MOTA	Moosalm	113.57	319	*i* P	PKiKP	11 45 52.9	-0.6		
	comp=Z,4.7nm,0.5s,SNR=5.7								
GSC	Goldstone, Bar	113.59	54	P	PKiKP	11 45 54.7	+1.0		
	baz=279								
TPNV	Topopah Spring	113.76	53	P	PKiKP	11 45 54.8	+0.7		
	baz=280								
HLID	Hailey	113.77	45	P	PKiKP	11 45 54.5	+0.5		
	baz=284								
FETA	Feichten	113.91	319	*i* P	PKiKP	11 45 54.0	-0.1		
	comp=Z,3.5nm,0.6s								
PFO	Pinyon Flats O	114.12	56	P	PKPdf	11 45 54.8	0.0		
	baz=278								
TPFO	Pinon Flats	114.12	56	P	PKPdf	11 45 54.6	-0.3		
	baz=278								
MONP2	Monument Peak	114.25	57	P	PKPdf	11 45 55.2	-0.1		
	baz=278								
DAVA	Damuels	114.39	319	*i* P	PKPdf	11 45 55.0	0.0		
	comp=Z,8.0nm,0.5s								
BELC	Belle Mtn. Jos	114.44	56	P	PKiKP	11 45 56.7	+1.2		
	baz=279								
IKP	In-Ko-Pah, Jac	114.55	57	P	PKiKP	11 45 55.9	+0.2		
	baz=278								
GMRC	Granite Mounta	114.59	55	P	PKiKP	11 45 56.5	+0.7		
	baz=279								
SWSC	Sam W. Stewart	114.76	57	P	PKiKP	11 45 56.2	+0.2		
	baz=278								
BC3	Big Chuckawall	114.94	56	P	PKPdf	11 45 58.0	+1.6		
	baz=279								
IRM	Iron Mountain	115.12	55	P	PKPdf	11 45 57.6	+0.9		
	baz=279								
BOZ	Bozeman (W)	115.14	42	P	PKPdf	11 45 57.8	+1.3		
	baz=287								
EGMT	Eagleton	115.59	39	P	PKiKP	11 45 58.4	+1.2		
	baz=290								
DUG	Dugway, Tooele	115.74	49	P	PKiKP	11 45 58.4	+0.5		
	baz=284								
PDMCI	Parker Dam,Lak	115.91	55	P	PKiKP	11 45 58.5	+0.4		
	baz=280								
FXWY	Fox Creek	116.12	44		PKiKP	11 45 59.7	+1.1		
TPAW	Teton Pass	116.22	45		PKiKP	11 46 00.1	+1.2		
REDW	Red Top Meadow	116.32	45		PKiKP	11 46 00.1	+1.1		
SENIN	Lac Senin/Sane	116.36	319		PKPdf	11 45 58.7	-0.2		
SNOW	Snow King Moun	116.36	45		PKiKP	11 46 00.4	+1.3		
LOHW	Long Hollow	116.42	44		PKiKP	11 46 00.2	+1.0		
MSU	Marysvale	116.61	50	PKPdf	PKiKP	11 46 01.5	+1.8		
MSU	Marysvale	116.61	50	PKiKP	PKiKP	11 46 01.5	+1.8		
U15A	North Rim	116.98	52		PKiKP	11 46 02.0	+1.4		
BNI	Bardonecchia	117.20	318		PKiKP	11 46 00.6	+0.1		
BNI	Bardonecchia	117.20	318	PKIKP	PKiKP	11 46 00.6	+0.1		
BW06	Boulder Array	117.40	45	P	PKiKP	11 46 01.7	+0.6		
	baz=288								
PDAR	Pinedale Array	117.40	45	PKP	PKPdf	11 46 00.8	-0.3		
	comp=Z,2.2nm,0.8s,baz=217,slow=0.8,SNR=23								
PDAR				PKKPbc	PKKPbc	11 56 24.5	-1.8		
	comp=Z,3.1nm,0.6s,baz=97,slow=7.6,SNR=19								
PDAR	Pinedale Array	117.40	45	PKPdf	PKPdf	11 46 00.1	-1.0		
214A	Organ Pipe Nat	117.41	58	P	PKiKP	11 46 02.4	+1.2		
	baz=280								
KEST	Kesra	117.78	307	PKP	PKiKP	11 46 02.4	+0.6		
	comp=Z,6.3nm,0.6s,baz=123,slow=1.8,SNR=7.4								
WUAZ	Wupatki	117.91	53	P	PKiKP	11 46 03.4	+1.2		
	baz=282,SNR=5.8								
LAO	LASA Array	118.31	40	P	PKiKP	11 46 03.8	+1.3		
	baz=292								
DGMT	Dagmar	118.86	37	P	PKiKP	11 46 04.5	+1.0		
	baz=295								
TUC	Tucson	119.04	57	P	PKiKP	11 46 05.7	+1.3		
	baz=281								
O20A	White River Ci	119.13	48	PKPdf	PKiKP	11 46 05.4	+0.9		
O20A	White River Ci	119.13	48	P	PKiKP	11 46 05.8	+1.3		
	baz=287								
W18A	Petrified Fore	119.30	53	P	PKiKP	11 46 06.2	+1.2		
	baz=283,SNR=5.8								
K22A	Casper	119.56	44	P	PKPdf	11 46 05.2	0.0		
	baz=290								
K22A	Casper	119.56	44	P	PKiKP	11 46 05.8	+0.5		
	baz=290								
MVCO	Mesa Verde	119.75	51	P	PKiKP	11 46 07.0	+1.2		
	baz=285,SNR=8.3								
N23A	Red Feather La	120.56	46	P	PKiKP	11 46 07.9	+0.5		
	baz=289								
RSSD	Black Hills	120.72	42	P	PKPdf	11 46 07.3	-0.1		
	baz=293								
RSSD	Black Hills	120.72	42	P	PKiKP	11 46 07.6	+0.1		
	baz=293								
S22A	4UR Ranch, Cre	120.88	50	P	PKiKP	11 46 09.6	+1.5		
	baz=287,SNR=8.3								
ISCO	Idaho Springs	121.15	47	P	PKiKP	11 46 09.3	+0.6		
	baz=289								
ISCO	Idaho Springs	121.15	47	P	PKiKP	11 46 09.5	+0.9		
	baz=289								
121A	Cookes Peak, D	121.47	56	P	PKPdf	11 46 08.9	-0.3		
	baz=283								
121A	Cookes Peak, D	121.47	56	P	PKiKP	11 46 10.7	+1.4		
	baz=283								
Y22A	Socorro	121.81	54	P	PKiKP	11 46 10.6	+0.7		
	baz=285								
MDND	Maddock	121.88	36	P	PKiKP	11 46 09.7	+0.3		
	baz=299								
SDCO	Great Sand Dun	121.89	49	P	PKiKP	11 46 10.9	+0.8		
	baz=288								
SDCO	Great Sand Dun	121.89	49	P	PKiKP	11 46 11.0	+0.8		
	baz=288,SNR=8.5								
ANMO	Albuquerque	121.95	53	*c i* PKiKP	PKiKP	11 46 11.0	+0.8		
ANMO	Albuquerque	121.95	53	P	PKiKP	11 46 10.6	+0.4		
	baz=286								
ANMO	Albuquerque	121.95	53	P	PKiKP	11 46 10.8	+0.6		
	baz=286								
CRNM	Carthage	121.99	54		PKiKP	11 46 11.1	+0.8		
T25A	Trinidad	122.90	50	P	PKiKP	11 46 13.1	+1.1		
	baz=288,SNR=5.7								
OGNE	Ogallala	123.31	45	P	PKiKP	11 46 13.1	+0.6		
	baz=293								
KSCO	Kaye Shedlock'	123.60	47	P	PKiKP	11 46 13.6	+0.3		
	baz=291								
F33A	5 Mile Ranch,	124.85	37	P	PKiKP	11 46 15.3	-0.1		
	baz=301								
B35A	Bob, Littlefor	124.96	33	P	PKPdf	11 46 14.6	-0.5		
	baz=305								
MSTX	Muleshoe	125.14	53	P	PKPdf	11 46 16.2	+0.1		
	baz=288								
MSTX	Muleshoe	125.14	53	P	PKiKP	11 46 16.8	+0.3		
	baz=288								
TX31	Lajitas Ar. Si	125.66	59	P	PKiKP	11 46 18.0	+0.4		
	baz=284								
TXAR	Lajitas Array	125.66	59	PKP	PKiKP	11 46 17.8	+0.2		
	comp=Z,1.9nm,0.8s,baz=207,slow=1.0,SNR=22								
TXAR				PKKPbc	PKKPbc	11 55 54.4	-0.4		
	comp=Z,0.5nm,0.5s,baz=113,slow=6.8,SNR=14								
TXAR				SKKPbc	SKKPbc	11 59 19.9	-1.5		
	comp=Z,0.2nm,0.8s,baz=92,slow=4.7,SNR=4.3								
ECSD	EROS Data Cent	125.71	40	P	PKPdf	11 46 16.4	-0.3		
	baz=299								
ECSD	EROS Data Cent	125.71	40	P	PKiKP	11 46 17.0	-0.1		
	baz=299,SNR=6.0								
AMTX	Amarillo	125.72	52	P	PKiKP	11 46 17.7	+0.2		
	baz=289								
CBKS	Cedar Bluff	125.76	46	P	PKiKP	11 46 17.9	+0.5		
	baz=293								
CBKS	Cedar Bluff	125.76	46	P	PKiKP	11 46 17.5	0.0		
	baz=293								
EYMN	Ely	126.42	33	P	PKiKP	11 46 18.3	-0.1		
	baz=307								
F36A	Milaca	126.48	36	P	PKPdf	11 46 18.0	-0.1		
	baz=304								
ESDC	Sonseca Array	126.53	315	PKP	PKiKP	11 46 18.9	0.0		
	comp=Z,0.7nm,0.9s,baz=18,slow=3.7,SNR=7.8								
ESDC				PP	PP	11 48 17.7	+0.2		
	comp=Z,1.6nm,0.8s,baz=61,slow=6.9,SNR=9.9								
I37B	Waseca	127.56	38	P	PKiKP	11 46 20.9	+0.1		
	baz=303								
TOA0	Torodi Ar. Sit	127.71	281	PKPdf	PKPdf	11 46 21.3	0.0		
TORD	Torodi Ar. Bea	127.71	281	PKhKP	PKPpre	11 46 11.1			
	comp=Z,0.3nm,0.5s,baz=81,slow=2.9,SNR=5.2								
TORD				PKP	PKPdf	11 46 20.9	-0.3		
	comp=Z,11nm,0.6s,baz=75,slow=1.8,SNR=62								
TORD				SKPbc	SKPbc	11 49 14.1			
	comp=Z,10.0nm,0.7s,baz=79,slow=3.9,SNR=22								
KSU1	Kansas State U	127.86	45	P	PKiKP	11 46 21.6	+0.1		
	baz=296								
MVO	Moncorvo	127.94	318	*e*PKP	PKiKP	11 46 22.5	+0.8		
MVO				*i* LQ	LQ	11 49 17.0			
WMOK	Wichita Mounta	128.01	51	P	PKiKP	11 46 21.7	-0.3		
	baz=291								
WMOK	Wichita Mounta	128.01	51	P	PKiKP	11 46 22.2	+0.2		
	baz=291								
PVRL	Viseu	128.33	319	*e*PKP	PKiKP	11 46 23.2	+0.7		
POLO	Lamas de Olo	128.34	319	*e*PKP	PKiKP	11 46 22.7	+0.1		
POLO				*i* LQ	LQ	11 49 18.1			
PGAV	Gavieira, Arco	128.35	320	*e*PKP	PKiKP	11 46 23.4	+0.8		
JCT	Junction City	128.59	56	P	PKiKP	11 46 23.3	0.0		
	baz=287								
JCT	Junction City	128.59	56	P	PKiKP	11 46 23.4	0.0		
	baz=287,SNR=15								
MTE	Manteigas	128.65	318	*e*PKP	PKPdf	11 46 21.2	-1.3		
MTE				*i* LQ	LQ	11 49 19.4			
PVIS	Viseu	128.73	318	*i* LQ	LQ	11 49 19.5			
T35B	Sooner Cattle	128.86	47	P	PKiKP	11 46 24.6	+0.9		
	baz=295								
PCBR	Castelo Branco	128.87	317	*e*PKP	PKiKP	11 46 24.0	+0.5		
PCBR				*i* LQ	LQ	11 49 19.8			
PMRV	Marv??o	129.01	317	*e*PKP	PKiKP	11 46 24.4	+0.5		
PMRV				*i* LQ	LQ	11 49 20.3			
PBAR	Barrancos	129.34	315	*e*PKP	PKiKP	11 46 24.5	0.0		
PBAR				*i* LQ	LQ	11 49 21.5			
PESTR	Estremoz	129.41	316	*e*PKP	PKiKP	11 46 25.5	+0.8		
PESTR				*i* LQ	LQ	11 49 21.3			
PCAS	Casmilo, Conde	129.45	318	*e*PKP	PKiKP	11 46 24.6	-0.1		
PCAS				*i* LQ	LQ	11 49 21.9			
833A	Chaparral WMA,	129.54	59	P	PKiKP	11 46 25.6	+0.3		
	baz=286								
PLCA	Paso Flores	129.54	161	PKP	PKPdf	11 46 23.4	-0.8		
	comp=Z,4.6nm,0.6s,baz=310,slow=1.4,SNR=21								
PLCA				SKPbc	SKPab	11 49 21.9	-0.2		
	comp=Z,8.7nm,0.8s,baz=212,slow=3.4,SNR=16								
PMTG	Montargil	129.75	316	*e*PKP	PKPdf	11 46 23.9	-0.6		
PMTG				*i* LQ	LQ	11 49 22.3			
TUL1	Leonard	129.81	48	P	PKiKP	11 46 26.3	+0.7		
	baz=295								
TUL1	Leonard	129.81	48	P	PKiKP	11 46 25.7	+0.1		
	baz=295								
EVO	Evora	129.85	316	*i* LQ	LQ	11 49 23.2			
PSBE	So Bento	129.92	317	*i* LQ	LQ	11 49 24.1			
L40A	Anamosa	129.96	39	P	PKPdf	11 46 25.1	+0.2		
	baz=303								
PBEJ	Beja	129.99	315	*i* LQ	LQ	11 49 23.9			
JFWS	Jewell Farm	130.08	37	P	PKPdf	11 46 25.0	0.0		
	baz=305								
PVAQ	Vaqueiros	130.16	314	*e*PKP	PKiKP	11 46 26.4	+0.2		
PVAQ				*i* LQ	LQ	11 49 24.6			
PCVE	Castro Verde	130.29	315	*e*PKP	PKiKP	11 46 27.1	+0.6		
PCVE				*i* LQ	LQ	11 49 24.6			
MESJ	Messejana	130.32	315	*e*PKPdf	PKPdf	11 46 25.6	0.0		
MESJ	Messejana	130.32	315	*e*PKP	PKiKP	11 46 26.9	+0.4		
MESJ				*i* LQ	LQ	11 49 25.1			
SCHQ	Schefferville	130.32	12	SKPbc	SKPbc	11 49 23.8	-0.8		
	comp=Z,22nm,0.6s,baz=352,slow=4.0,SNR=32								
PNCL	Nicolau / Gran	130.41	316	*e*PKP	PKiKP	11 46 26.7	0.0		
PNCL				*i* LQ	LQ	11 49 25.4			
PMAFR	Mafra	130.52	317	*i* LQ	LQ	11 49 25.7			
U38A	Gravette	130.61	47	P	PKPdf	11 46 26.0	-0.3		
	baz=296								
S39A	Bolivar	130.80	45	P	PKPdf	11 46 26.1	-0.4		
	baz=298								
PTEO	Sao Teotonio	130.81	315	*i* LQ	LQ	11 49 27.4			
MORF	Marmelete	130.87	315	*e*PKPdf	PKPdf	11 46 26.7	-0.1		
MORF	Marmelete	130.87	315	*e*PKP	PKiKP	11 46 28.5	+0.8		
MORF				*i* LQ	LQ	11 49 27.5			
HHAR	Hobbs	131.00	47	P	PKPdf	11 46 26.3	-0.7		
	baz=296								
PFVI	Vila Bisbo	131.07	315	*e*PKP	PKiKP	11 46 29.0	+0.9		
PFVI				*i* LQ	LQ	11 49 28.2			
R40A	Maddies Statio	131.24	44	P	PKPdf	11 46 26.8	-0.6		
	baz=300								
HDIL	Hopedale	132.00	39	P	PKiKP	11 46 29.4	-0.4		
	baz=304								
MIAR	Mount Ida	132.03	49	P	PKiKP	11 46 30.1	0.0		
	baz=296								
CCM	Cathedral Cave	132.06	43	P	PKPdf	11 46 28.9	0.0		
	baz=300								
CCM	Cathedral Cave	132.06	43	P	PKPdf	11 46 29.4	+0.5		
	baz=300								
GLMI	Grayling	132.07	32	P	PKiKP	11 46 29.5	-0.3		
	baz=312								
KOWA	Kowa	133.18	284		PKiKP	11 46 32.8	-0.1		
SFIN	Lafayette	133.47	38	P	PKiKP	11 46 32.4	-0.4		
	baz=306								
KIC	Kosan Boka	133.99	272↑	*e*P	PKPdf	11 46 33.6	+0.4		
	comp=Z,15nm,0.5s								
L48A	N Adams	134.08	35		PKPdf	11 46 32.8	+0.2		
L48A	N Adams	134.08	35	P	PKPdf	11 46 32.6	0.0		
	baz=311								
L48A				P	PKPdf	11 46 32.6	0.0		
	baz=311								
DBIC	Dimbokro	134.12	273	PKhKP	PKPpre	11 46 22.0			
	comp=Z,1.1nm,0.3s,baz=104,slow=1.9,SNR=4.1								
DBIC				PKP	PKPdf	11 46 33.0	-0.5		
	comp=Z,3.8nm,0.6s,baz=154,slow=1.7,SNR=4.1								
DBIC				SKPbc	SKPbc	11 49 37.7	-1.4		
	comp=Z,36nm,1.0s,baz=97,slow=4.5,SNR=18								
DBIC	Dimbokro	134.12	273	PKPdf	PKPdf	11 46 33.6	+0.2		
DBIC	Dimbokro	134.12	273	PKiKP	PKPdf	11 46 33.0	-0.5		
LIC	Lamto	134.27	272↓	*i* P	PKiKP	11 46 35.0	-0.2		
	comp=Z,48nm,0.5s								
TIC	Toumodi	134.28	273↑	*e*P	PKiKP	11 46 34.9	-0.3		
	comp=Z,17nm,0.3s								
TRQA	Tornquist	134.36	168	*e*P	PKiKP	11 46 34.1	-0.7		
O48B	Farmland	134.73	37	P	PKiKP	11 46 35.0	-0.3		
	baz=308								
BO02	Sierra Bellavi	134.76	157		PKPdf	11 46 34.3	0.0		
OXF	Oxford	135.10	47	P	PKiKP	11 46 35.7	-0.6		
	baz=299								
WCI	Wyandotte Cave	135.24	40	P	PKiKP	11 46 35.9	-0.6		
	baz=306								
WVT	Waverly	135.39	44	P	PKiKP	11 46 36.2	-0.6		
	baz=302								
P49A	Miami Univ. Ec	135.44	38	P	PKiKP	11 46 36.2	-0.6		
	baz=308								
CMIG	Matias Romero	135.98	72	SKPbc	SKPbc	11 49 44.5	-0.4		
	comp=Z,2.4nm,0.7s,baz=220,slow=1.0,SNR=6.1								
ACSO	Alum Creek Sta	136.03	36	P	PKiKP	11 46 37.6	-0.4		
	baz=311								
M53A	WI Miller and	136.50	33	P	PKiKP	11 46 38.5	-0.4		
	baz=315								
U49A	Red Boiling Sp	136.56	42	P	PKPdf	11 46 37.3	-0.1		
	baz=305								
P52A	Corning	136.91	36	P	PKiKP	11 46 39.6	-0.2		
	baz=312								
LRAL	Lakeview Retre	137.57	47	P	PKPdf	11 46 39.0	-0.4		
	baz=300								
TZTN	Tazewell	138.00	40	P	PKiKP	11 46 41.8	-0.3		
	baz=307								
BINY	Binghamton	138.29	28	P	PKiKP	11 46 42.3	-0.3		
	baz=321								
LBNH	Lisbon	138.36	23	P	PKiKP	11 46 42.5	-0.1		
	baz=328								
TKL	Tuckaleechee C	138.38	41		PKPdf	11 46 41.4	+0.6		
TKL	Tuckaleechee C	138.38	41	PKIKP	PKPdf	11 46 41.4	+0.6		
TKL	Tuckaleechee C	138.38	41	P	PKPdf	11 46 41.0	+0.2		
	baz=306								
V52A	Sevierville	138.39	41	P	PKPdf	11 46 41.4	+0.6		
	baz=307								
FUL	Funchal	139.05	314	*i* LQ	LQ	11 49 03.1			
BLA	Blacksburg	139.52	37	P	PKiKP	11 46 45.1	-0.1		
	baz=312								
TIGA	Tifton	140.87	47	P	PKiKP	11 46 48.6	+0.5		
	baz=302								
PLTB	Pedras Altas	141.71	177	*e*P	PKPdf	11 46 47.7	+0.7		
NHSC	New Hope	142.28	42	P	PKiKP	11 46 51.0	0.0		
	baz=308								
GO02	Mina Guanaco	143.59	151	PKPdf	PKPbc	11 46 49.5	+0.6		
PB14	IPOC Station P	143.63	149	PKPdf	PKPbc	11 46 49.6	+0.5		
CRIN	San Cristobal	144.05	78		PKPdf	11 46 51.0	-0.6		
DWPF	Disney Wildern	144.20	50	P	PKPab	11 46 49.8	-0.1		
	baz=301								
CNGN	Cerro Negro	144.41	78		PKPab	11 46 51.0	-0.1		
TER01	Tubaro-SC	144.96	183	*e*P	PKPbc	11 46 50.4	-2.2		
CRSM	Crissiumal (Br	145.92	175	*e*P	PKPbc	11 46 55.7	+0.2		
LVC	Limon Verde	146.06	150	PKPbc	PKPab	11 46 57.2	-0.3		
	comp=Z,17nm,0.7s,baz=252,slow=7.5,SNR=13								
LVC				SKPbc	SKPbc	11 50 10.9	-0.5		
	comp=Z,9.8nm,0.5s,baz=241,slow=2.1,SNR=9.8								
LVC	Limon Verde	146.06	150	*e*P	PKPbc	11 46 56.4	-0.1		
PB07	IPOC Station P	146.28	147		PKPbc	11 46 56.8	-0.2		
ITAB	Concordia	146.29	178	*e*P	PKPbc	11 46 57.1	+0.5		
PB09	IPOC Station P	146.57	148		PKPbc	11 46 57.8	0.0		
CPUP	Villa Florida	146.64	170	PKPbc	PKPbc	11 46 57.9	+0.3		
	comp=Z,26nm,0.7s,baz=194,slow=2.0,SNR=48								
CPUP				SKPbc	SKPbc	11 50 12.2	0.0		
	comp=Z,4.8nm,0.7s,baz=115,slow=2.2,SNR=4.4								
CPUP	Villa Florida	146.64	170		PKPbc	11 46 57.2	-0.4		
CPUP	Villa Florida	146.64	170	*e*P	PKPbc	11 46 56.8	-0.8		
PB01	IPOC Station P	147.05	147		PKPbc	11 46 57.9	-1.2		
FRBT	Francisco Belt	147.50	177	*e*P	PKPbc	11 46 59.1	-1.0		
PB08	IPOC Station P	147.97	147	PKPdf	PKPdf	11 46 59.8	+1.3		
PB08				PKPbc	PKiKP	11 47 02.8	-0.8		
NNA	Nana	148.37	126	PKPbc	PKPbc	11 47 02.5	-0.1		
	comp=Z,30nm,0.8s,baz=254,slow=8.2,SNR=12								
MCR1	Marechal Candi	148.93	175	*e*P	PKPdf	11 47 01.0	+1.5		
ATAH	Atahualpa	149.48	116	PKP	PKPdf	11 47 02.1	+0.9		
	comp=Z,29nm,1.0s,baz=358,slow=3.1,SNR=4.7								
ATAH				PKPbc	PKiKP	11 47 08.1	+1.2		
	comp=Z,24nm,0.9s,baz=326,slow=2.7,SNR=11								
PARB	Paraibuna	149.71	190	*e*P	PKPdf	11 47 02.0	+1.1		
DUB01	Friburgo-RJ	150.19	196	*e*P	PKPdf	11 47 02.4	+0.8		
CAM01	Campos-RJ	150.22	198	*e*P	PKPdf	11 47 02.6	+1.1		
VAO	Valinhos	150.25	188	*e*P	PKPdf	11 47 03.5	+1.8		
VAS01	Vassouras-RJ	150.28	194	*e*P	PKPdf	11 47 03.0	+1.3		
TRCB	Terra Rica	150.68	177	*e*P	PKPdf	11 47 03.3	+0.9		
RCLB	Rio Claro- Sao	150.89	187	*e*P	PKPdf	11 47 03.0	+0.3		
ALF01	Guarapari-ES	151.05	200	*e*P	PKPdf	11 47 03.7	+0.8		
ANTJ	Antonio Joao (	151.10	170	*e*P	PKPdf	11 47 04.5	+1.5		
BCIP	Isla Barro Col	151.40	83	PKPdf	PKPdf	11 47 02.6	-1.0		
BCIP					PKPbc	11 47 09.6	-0.2		
BCIP	Isla Barro Col	151.40	83	PKiKP	PKPdf	11 47 02.6	-1.0		
LPAZ	La Paz	151.62	144	PKP	PKPdf	11 47 06.0	+1.4		
	comp=Z,4.4nm,0.8s,baz=135,slow=0.8,SNR=14								
LPAZ				PKPbc	PKiKP	11 47 11.8	+0.3		
	comp=Z,6.1nm,0.5s,baz=188,slow=2.9,SNR=16								
LPAZ				PKPab	PKPab	11 47 21.9	+1.3		
	comp=Z,16nm,0.7s,baz=185,slow=2.5,SNR=18								
LP

	comp=Z,419nm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.46**	**330**⇑	*i*P		Pn	11 45 23.3	-0.9
PTBC				*e*S		Sn	11 45 45.2	-1.5
GUY2C	**Guyana, Caldas**	**1.65**	**268**	*e*P		Pn	11 45 26.5	-0.2
GUY2C				*e*S		Sn	11 45 52.3	+1.4
GUY2C				IAML			11 45 58.4	
	comp=Z,72nm,0.5s							
BRRC	**Barranca, Sant**	**1.82**	**360**⇑	*i*P		Pn	11 45 28.3	+0.1
BRRC				*e*S		Sn	11 45 52.8	-0.9
BRRC				IAML			11 45 56.1	
	comp=Z,254nm,0.2s							
ANIL	**Santa Ana**	**1.86**	**245**	*e*P		Pn	11 45 28.6	-0.2
ANIL				*e*S		Sn	11 45 54.2	-0.5
ANIL				IAML			11 46 00.6	
	comp=Z,188nm,0.2s							
PTGC	**Puerto Gaitan,**	**1.90**	**124**⇓	*i*P		Pn	11 45 28.9	0.0
PTGC				*e*S		Sn	11 45 54.0	-1.0
PTGC				IAML			11 45 58.7	
	comp=Z,343nm,0.5s							
HELC	**Santa Helena**	**2.03**	**297**⇑	*e*P		Pn	11 45 30.6	-0.2
HELC				*e*S		Sn	11 45 57.4	-1.0
HELC				IAML			11 46 05.4	
	comp=Z,103nm,0.4s							
TAMC	**Tame, Arauca**	**2.23**	**59**⇓	*e*P		Pn	11 45 33.5	+0.6
TAMC				*e*S		Sn	11 46 01.0	-1.1
TAMC				IAML			11 46 02.3	
	comp=Z,118nm,0.5s							
PAMC	**Pamplona, Colo**	**2.29**	**26**	*e*P		Pn	11 45 35.0	+1.0
PAMC				*e*S		Sn	11 46 05.1	+1.0
PAMC				IAML			11 46 06.8	
	comp=Z,119nm,0.3s							
CBOC	**Ciudad Bolivar**	**2.37**	**285**⇑	*e*P		Pn	11 45 34.7	0.0
CBOC				*e*S		Sn	11 46 05.1	-0.1
CBOC				IAML			11 46 09.2	
	comp=Z,43nm,0.6s							
ZARC	**Zaragoza, Cauc**	**2.49**	**333**⇑	*i*P		Pn	11 45 34.2	-1.8
ZARC				*e*S		Sn	11 46 05.5	-2.1
ZARC				IAML			11 46 12.8	
	comp=Z,180nm,0.2s							
GUVC	**San Jose del G**	**2.91**	**158**	*e*P		Pn	11 45 40.7	-0.6
GUVC				*e*S		Sn	11 46 15.9	-1.3
GUVC				IAML			11 46 22.6	
	comp=Z,109nm,0.3s							
YOTC	**Yotoco, Valle**	**2.92**	**244**	*e*P		Pn	11 45 40.9	-0.6
YOTC				*e*S		Sn	11 46 17.1	-0.3
OCAC	**Ocana**	**2.98**	**7**⇑	*e*P		Pn	11 45 42.1	-0.2
OCAC				*e*S		Sn	11 46 18.4	-0.4
OCAC				IAML			11 46 26.9	
	comp=Z,317nm,0.5s							
DBBC	**Dabeiba**	**3.03**	**305**	*e*P		Pn	11 45 43.0	+0.1
DBBC				*e*S		Sn	11 46 19.5	-0.4
UREC	**San Jos de Ur**	**3.06**	**324**	*e*P		Pn	11 45 41.0	-2.2
UREC				*e*S		Sn	11 46 17.1	-3.3
UREC				IAML			11 46 18.5	
	comp=Z,138nm,0.3s							
MACC	**Macarena, Meta**	**3.11**	**183**⇑	*e*P		Pn	11 45 42.5	-1.4
MACC				*e*S		Sn	11 46 18.6	-3.0
MACC				IAML			11 46 20.8	
	comp=Z,51nm,0.3s							
GARC	**Garzon, Huila**	**3.54**	**210**	*e*P		Pn	11 45 48.6	-1.0
GARC				*e*S		Sn	11 46 30.9	-1.0
GARC				IAML			11 46 34.6	
	comp=Z,44nm,0.3s							
FLOC	**Florencia**	**4.14**	**208**⇑	*e*P		Pn	11 45 56.9	-0.3
FLOC				*e*S		Sn	11 46 39.5	-6.2
LCBC	**Los crdobas,**	**4.43**	**324**	*e*P		Pn	11 45 59.2	-1.7
LCBC				*e*S		Sn	11 46 50.3	-2.1
LCBC				IAML			11 46 55.0	
	comp=Z,47nm,0.2s							
ARGC	**Ariguani, Magd**	**4.59**	**353**	*e*P		Pn	11 46 03.1	+0.1
ARGC				*e*S		Sn	11 46 54.6	-1.5
ARGC				IAML			11 47 09.6	
	comp=Z,15nm,0.3s							
SJCC	**San Jacinto, C**	**4.82**	**342**⇑	*i*P		Pn	11 46 03.3	-2.9
SJCC				*e*S		Sn	11 46 56.2	-5.4
SJCC				IAML			11 47 01.8	
	comp=Z,42nm,0.3s							
CRJC	**Cerrejon, Guaj**	**5.77**	**8**	*e*P		Pn	11 46 17.0	-1.8
CRJC				*e*S		Sn	11 47 18.0	-6.3
CRJC				IAML			11 47 22.4	
	comp=Z,36nm,0.2s							
SMRC	**Santa Marta, M**	**5.88**	**355**	*e*P		Pn	11 46 19.0	-1.1
SMRC				*e*S		Sn	11 47 21.0	-5.7
SMRC				IAML			11 47 27.6	
	comp=Z,12nm,0.2s							

TEH 24 11:50:02.9,31.22N×57.12E,h9km,ML3.6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHGB	**Koh Gabri**	**1.01**	**214**	*e*Pg	Pb	11 50 22.5	-0.2
KHGB				*e*Sg	Sb	11 50 36.7	+0.6
KHGB				*e*		11 50 37.8	
	comp=Z,7μm,0.6s						
TVBK	**TV Kerman**	**1.27**	**194**	*e*Pg	Pg	11 50 27.8	+0.5
KRBR	**Kerman**	**1.27**	**194**	*e*Pn	Pg	11 50 28.4	+1.1
IBAF	**Bafgh**	**1.38**	**286**	*e*Pn	Pn	11 50 28.7	+0.2
IBAF				*e*		11 50 51.8	
	comp=Z,5μm,0.2s						
CHMN	**Cheshme madani**	**1.40**	**165**	*e*Pn	Pb	11 50 29.6	+0.1
NGRK	**Negar Kerman**	**1.61**	**192**	*e*Pn	Pg	11 50 33.5	-0.2
NGRK				*e*		11 50 34.9	
	comp=Z,18μm,0.2s						
TPRV	**Parvadeh(Tabas**	**1.84**	**349**	*e*Pn	Pb	11 50 36.4	-0.4
TPRV				*e*		11 51 06.4	
	comp=Z,11μm,0.4s						
IKOO	**Kooshah**	**2.00**	**53**	*e*Pn	Pb	11 50 39.1	-0.6
IKOO				*e*		11 51 11.8	
	comp=Z,7μm,0.2s						
IMEH	**Mehriz**	**2.15**	**275**	*e*Pn	Pb	11 50 41.1	-1.1
IMEH				*e*		11 51 13.2	
	comp=Z,2μm,0.2s						
ITEG	**Tejag**	**2.17**	**39**	*e*Pn	Pn	11 50 40.9	+1.5
ITEG				*e*		11 51 20.8	
	comp=Z,2μm,0.2s						
KBAM	**BAM**	**2.38**	**151**	*e*Pn	Pn	11 50 43.3	+1.2
KBAM				*e*		11 51 22.1	
	comp=Z,2μm,0.3s						
TKDS	**Koohdasht(Taba**	**2.39**	**0**	*e*Pn	Pn	11 50 44.0	+1.7
TKDS				*e*		11 51 34.6	
	comp=Z,3μm,0.4s						
TABS	**Tabas**	**2.42**	**360**	*e*Pn	Pn	11 50 44.7	+1.9
YZKH	**Yazd**	**2.45**	**299**	*e*Pn	Pb	11 50 45.3	-1.9
NHDN	**Nehbandan**	**2.51**	**85**	*e*Pn	Pn	11 50 45.8	+1.7
NHDN				*e*		11 51 24.8	
	comp=Z,5μm,0.5s						
ICHK	**Chekchek**	**2.53**	**295**	*e*Pn	Pb	11 50 46.9	-1.7
ICHK				*e*		11 51 26.3	
	comp=Z,3μm,0.6s						
AFRZ	**Afriz**	**2.72**	**36**	*e*Pn	Pn	11 50 48.8	+1.8
TNSJ	**Nastanj**	**2.77**	**351**	*e*Pn	Pn	11 50 49.0	+1.4
TNSJ				*e*		11 51 39.6	
	comp=Z,5μm,0.3s						
IDAH	**Dahanechah**	**2.78**	**56**	*e*Pn	Pn	11 50 50.2	+2.3
IDAH				*e*		11 50 59.3	
	comp=Z,710nm,0.2s						
IMON	**Monand**	**2.92**	**47**	*e*Pn	Pb	11 50 52.8	-2.5
IMON				*e*		11 51 50.6	
	comp=E,4μm,0.6s						
ISAD	**Sadrabad**	**3.01**	**284**	*e*Pn	Pn	11 50 53.7	+2.6
ISAD				*e*		11 51 43.5	
	comp=Z,686nm,0.4s						
ANAR	**Anarak**	**3.48**	**305**	*e*Pn	Pn	11 50 59.8	+2.4
ZHSF	**Zahedan**	**3.54**	**116**	*e*Pn	Pn	11 51 00.4	+2.2
SHRT	**Shahrakht**	**3.61**	**47**	*e*Pn	Pn	11 51 00.8	+1.7
NASN	**Na'in**	**3.99**	**294**	*e*Pn	Pn	11 51 07.0	+2.5
IZEF	**Zefreh**	**4.40**	**294**	*e*Pn	Pn	11 51 12.3	+2.2
IZEF				*e*		11 52 29.9	
	comp=Z,138nm,0.4s						
SHRO	**Shahrood**	**4.85**	**349**	*e*Pn	Pn	11 51 18.1	+1.9
TBJM	**Torbat-e-JAM**	**4.85**	**33**	*e*Pn	Pn	11 51 18.7	+2.4
KRSH	**Karshahi**	**5.02**	**304**	*e*Pn	Pn	11 51 22.4	+3.8
SBZV	**Sabzevar**	**5.17**	**4**	*e*Pn	Pn	11 51 23.2	+2.5

*IDC **24** 11:51:12.0±1.0,13.98N×145.94E,h0km,mb3.7/7, mbtmp3.7/7,Error ellipse: s-maj=23.5km s-min=19.4km az=132.0*

ISC 24 11:51:17.1±0.9,14.0N±0.1×145.9E±0.1,h35km,n8, σ1§65/9,mb3.6/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.09**	**251**	Pn	**Pn**	**11 51 33.2**	**-2.7**
	76nm,0.3s,baz=103,slow=3.5,SNR=33						
GUMO				Sn	**Sn**	**11 51 50.9**	**+1.0**
	146nm,0.3s,baz=85,slow=20,SNR=14						
WRA	**Warramunga Arr**	**35.56**	**199**	P	**P**	**11 58 11.3**	**0.0**
	0.3nm,0.7s,baz=25,slow=9.9,SNR=5.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**39.19**	**198**	P	**P**	**11 58 43.0**	**+0.9**
	0.3nm,0.8s,baz=19,slow=9.1,SNR=5.2						
	0.3nm,0.8s						
DZM	**Mont Dzumac**	**41.06**	**150**	P	**P**	**11 58 58.0**	**+0.3**
	3.8nm,0.8s,baz=335,slow=8.9,SNR=3.1						
	3.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.25**	**282**	P	**P**	**11 59 33.1**	**+1.6**
	0.3nm,0.4s,baz=96,slow=6.4,SNR=1.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**61.95**	**316**	P	**P**	**12 01 35.0**	**+1.5**
	0.9nm,0.6s,baz=88,slow=9.1,SNR=10.0						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**67.80**	**25**	P	**P**	**12 02 09.8**	**-1.4**
	0.3nm,0.5s,baz=251,slow=5.7,SNR=4.6						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**91.27**	**335**	P	**P**	**12 04 18.2**	**-0.5**
	1.0nm,0.6s,baz=120,slow=8.2,SNR=5.2						
	1.0nm,0.6s						

MAN 24 11:54:15.0,10.18N×123.37E,h26km,mb4.4,ML3.2, MS3.0,2C-5D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.60**	**77**⇑	*i*P	Pn	11 54 27.9	-0.1
LLP				*i* S	Sn	11 54 37.5	+0.6
TBP	**Tagbilaran**	**0.69**	**135**⇓	*e*P	Pn	11 54 28.8	-0.3
TBP				*i* S	Sn	11 54 39.4	+0.3
SNPH	**Sibulan**	**0.84**	**189**⇓	*i*P	Pb	11 54 30.8	-0.3
SNPH				*i* S	Sn	11 54 42.5	-0.4
TABP	**Talibon, Bohol**	**0.95**	**95**⇓	*i*P	Pb	11 54 33.8	+0.8
TABP				*i* S	Sn	11 54 47.2	+1.7
LSIP	**Lazi, Siquijor**	**1.08**	**166**⇓	*i*P	Pb	11 54 35.4	+0.4
LSIP				*i* S	Sb	11 54 54.5	+5.8
GHBP	**Garcia Hernand**	**1.09**	**120**⇑	*i*P	Pb	11 54 36.4	+1.2
GHBP				*i* S	Sb	11 54 51.6	+2.5
RCP	**Roxas**	**1.50**	**336**⇓	*e*P	Pb	11 54 42.8	+0.6
RCP				*e*S	Sb	11 55 06.0	+5.1

IDC 24 12:00:36.4±4.7,30.09S×178.86W,h0km,mb3.8/2, mbtmp3.8/2,Error ellipse: s-maj=212.8km s-min=74.4km az=166.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.38**	**267**	P	P	12 08 32.1	-0.7
	0.5nm,0.6s,baz=106,slow=7.6,SNR=16						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**43.35**	**272**	P	P	12 08 41.1	+0.5
	0.6nm,0.3s,baz=112,slow=7.9,SNR=46						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**144.60**	**340**	PKP	PKPbc	12 20 13.5	+0.5
	1.2nm,0.8s,baz=40,slow=2.4,SNR=4.2						

*IDC **24** 12:03:28.4±2.7,39.20N×142.77E,h0km,mb3.5/3, mbtmp3.5/4,ML2.7/1,Error ellipse: s-maj=67.9km s-min=36.5km az=58.0*

*JMA **24** 12:03:42.2±0.1,38.9N±0.2×141.6E±0.3,h70km,MV3.4/40, NORTHERN MIYAGI PREF*

JMA Felt I J1 at NORTHERN MIYAGI PREF .

ISC 24 12:03:41.3±1.1,38.92N±0.04×141.70E±0.08,h72km±6km, n23,σ0§77/30,mb3.6/3,12D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.16**	**351**	*i* P	**Pn**	**12 03 52.6**	**+0.7**
OFUJ				S	**Sn**	**12 04 00.1**	**+0.4**
JKMT	**Kesennumamotoy**	**0.21**	**238**	*i* P	**Pn**	**12 03 52.8**	**+0.6**
JKMT				S	**Sn**	**12 04 00.2**	**+0.2**
JMK	**Ichinoseki**	**0.38**	**275**	*i* P	**Pn**	**12 03 53.2**	**0.0**
JMK				S	**Sn**	**12 04 01.2**	**-0.7**
JIO	**Ouri**	**0.54**	**211**⇓	*i*P	**Pn**	**12 03 55.1**	**+0.4**
JIO				⇓S	**Sn**	**12 04 04.3**	**-0.2**
JOM	**Ohasama**	**0.63**	**330**	*i* P	**Pn**	**12 03 55.9**	**+0.3**
JOM				S	**Sn**	**12 04 06.0**	**-0.2**
JRG	**Rokugo**	**0.95**	**300**	*i* P	**Pn**	**12 03 59.3**	**0.0**
JRG				S	**Sn**	**12 04 12.1**	**-0.6**
JOU	**Okura**	**0.98**	**236**⇓	*i*P	**Pn**	**12 04 00.0**	**+0.3**
JOU				⇓*e*S	**Sn**	**12 04 13.3**	**-0.1**
JYK	**Kaneyama**	**1.05**	**270**⇓	*i*P	**Pn**	**12 04 00.5**	**+0.1**
JYK				⇓*e*S	**Sn**	**12 04 14.7**	**-0.1**
JMM	**Marumori**	**1.27**	**214**⇓	*i*P	**Pn**	**12 04 03.5**	**+0.1**
JMM				⇓S	**Sn**	**12 04 19.4**	**-0.5**
JANG	**Nango**	**1.46**	**354**	*i* P	**Pn**	**12 04 06.1**	**+0.3**
JANG				S	**Sn**	**12 04 24.0**	**-0.2**
JYS	**Shirataka**	**1.46**	**242**⇓	*i*P	**Pn**	**12 04 06.4**	**+0.6**
JYS				⇓S	**Sn**	**12 04 24.4**	**+0.1**
JAH	**Hinai**	**1.51**	**327**	*i* P	**Pn**	**12 04 07.2**	**+0.8**
JAH				*e*S	**Sn**	**12 04 26.3**	**+0.9**
JYA	**Atsumi**	**1.59**	**259**	⇓P	**Pn**	**12 04 07.7**	**+0.2**
JYA				⇓*e*S	**Sn**	**12 04 27.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.65**	**230**	Pn	**Pn**	**12 04 37.8**	**+2.4**
	0.4nm,0.3s,baz=44,slow=12,SNR=25						
	4.5nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	12 40 06.6	
	baz=317,slow=75,SNR=128						
H11N1	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	12 40 06.5	
	baz=317,slow=75,SNR=134						
H11N3	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	12 40 08.0	
	baz=317,slow=75,SNR=76						
H11S1	**WAKE ISLAND Hy**	**29.74**	**126**	T	T	12 40 59.4	
	baz=319,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.74**	**126**	T	T	12 41 11.7	
	baz=319,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**29.76**	**126**	T	T	12 41 03.9	
	baz=319,slow=76,SNR=17						
MKAR	**Makanchi Array**	**43.33**	**300**	P	**P**	**12 11 36.5**	**+0.3**
	0.2nm,0.5s,baz=84,slow=12,SNR=2.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**58.96**	**188**	P	**P**	**12 13 31.1**	**-2.2**
	0.7nm,0.5s,baz=5.7,slow=7.3,SNR=26						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**62.69**	**188**	P	**P**	**12 13 58.9**	**+0.3**
	0.4nm,0.7s,baz=358,slow=5.6,SNR=7.7						
	0.4nm,0.7s						

IDC 24 12:17:25.3±5.0,1.81S×140.11E,h0km,mb3.2/2, mbtmp3.3/3,ML3.2/1,MS3.7/1,Error ellipse: s-maj=192.5km s-min=31.5km az=87.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.89**	**197**	P	Pn	12 21 48.0	+0.1
	0.1nm,0.3s,baz=16,slow=12,SNR=8.1						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**22.55**	**195**	P	P	12 22 27.3	+0.1
	0.5nm,0.7s,baz=29,slow=11,SNR=8.9						
	0.5nm,0.7s						
JCJ	**Chichijima**	**28.81**	**4**	LR	LR	12 32 58.4	
	comp=Z,172nm,21.4s,baz=118,slow=32						
MKAR	**Makanchi Array**	**69.94**	**322**	P	P	12 28 38.2	-0.4
	0.1nm,0.4s,baz=98,slow=8.9,SNR=1.4						
	0.1nm,0.4s						

*IDC **24** 12:24:26.3±2.5,34.52N×141.59E,h0km,mb3.4/2, mbtmp3.3/4,ML2.5/2,MS3.9/1,Error ellipse: s-maj=43.1km s-min=35.5km az=60.0*

*JMA **24** 12:24:27.9±1.0,35.N±2.×14.2E±.,h30km,MV2.4/28,FAR SE OFF BOSO PEN*

ISC 24 12:24:29.0±1.7,34.53N±0.08×141.5E±0.1,h27km,n11, σ1§12/12,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.48**	**285**	P	**Pb**	**12 24 38.2**	**-0.4**
BSO3	**Boso 3**	**0.89**	**288**	*e*P	**Pn**	**12 24 44.9**	**-0.6**
BSO4	**Boso 4**	**1.09**	**295**	*e*P	**Pn**	**12 24 48.2**	**-0.2**
JKUC	**kamogawauchiur**	**1.27**	**300**	P	**Pn**	**12 24 50.1**	**-0.8**
CHOJ	**Chosi**	**1.29**	**335**	*e*P	**Pn**	**12 24 50.3**	**-1.0**
JMKN	**Mikurajimanish**	**1.74**	**249**	*e*P	**Pn**	**12 24 58.0**	**+0.6**
JMKN				*e*S	**Sn**	**12 25 19.6**	**+1.0**
JHJ	**Hachijo jima 2**	**2.03**	**227**	Pn	**Pb**	**12 25 03.2**	**-2.0**
	9.7nm,0.3s,baz=267,slow=23,SNR=1.8						
JHJ				Sn	**Sb**	**12 25 29.7**	**-0.4**
	14nm,0.3s,baz=47,slow=19,SNR=2.2						
	157nm,0.9s						
MJAR	**Matsushiro Arr**	**3.38**	**307**	Pn	**Pn**	**12 25 21.0**	**+1.1**
	0.2nm,0.3s,baz=122,slow=9.1,SNR=6.7						
	1.3nm,0.5s						
SONM	**Songino Array**	**29.33**	**308**	LR	LR	12 42 57.0	
	comp=Z,197nm,18.3s,baz=305,slow=38						
WRA	**Warramunga Arr**	**54.60**	**188**	P	**P**	**12 33 55.9**	**+0.7**
	0.4nm,0.7s,baz=1.0,slow=7.6,SNR=9.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**58.33**	**188**	P	**P**	**12 34 23.0**	**+1.3**
	0.2nm,0.6s,baz=8.0,slow=14,SNR=1.9						
	0.2nm,0.6s						

*JMA **24** 12:27:23.5±0.4,34.N±1.×14.2E±.,h23km±1km,MV3.1/27, FAR SE OFF BOSO PEN*

*IDC **24** 12:27:25.3±6.4,34.15N×141.27E,h0km,mb3.4/3, mbtmp3.3/4,ML2.4/1,Error ellipse: s-maj=227.7km s-min=24.2km az=62.0*

ISC 24 12:27:27.3±1.5,34.42N±0.07×141.6E±0.1,h27km,n9, σ1§31/13,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.57**	**295**	*e*P	**Pb**	**12 27 36.6**	**-1.7**
JKUC	**kamogawauchiur**	**1.37**	**303**	*e*P	**Pn**	**12 27 49.7**	**-0.9**
JKUC				*e*S	**Sb**	**12 28 08.8**	**-0.6**
CHOJ	**Chosi**	**1.42**	**335**	*e*P	**Pn**	**12 27 49.8**	**-1.5**
CHOJ				*e*S	**Sn**	**12 28 09.3**	**+0.1**
JSMT	**Sammumatsuo**	**1.55**	**323**	*e*P	**Pn**	**12 27 53.1**	**0.0**
JMKN	**Mikurajimanish**	**1.75**	**253**	*e*P	**Pn**	**12 27 54.9**	**-0.8**
JMKN				*e*S	**Sn**	**12 28 18.0**	**+0.8**
MJAR	**Matsushiro Arr**	**3.49**	**308**	Pn	**Pn**	**12 28 20.2**	**+0.5**
	0.3nm,0.3s,baz=148,slow=12,SNR=8.7						
MJAR				Sn	**Sn**	**12 29 02.8**	**+2.6**
	0.5nm,0.3s,baz=94,slow=26,SNR=6.3						
	1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**47.76**	**310**	P	**P**	**12 36 03.3**	**+1.4**
	0.5nm,0.5s,baz=84,slow=8.1,SNR=1.9						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**54.49**	**188**	P	**P**	**12 36 52.5**	**-0.2**
	0.2nm,0.6s,baz=7.0,slow=8.6,SNR=6.2						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**58.22**	**188**	P	**P**	**12 37 19.6**	**+0.5**
	0.3nm,1.0s,baz=7.8,slow=7.5,SNR=2.1						
	0.3nm,1.0s						

IDC 24 12:28:18.1±6.4,2.09S×140.88E,h0km,mb3.2/2, mbtmp3.3/3,ML3.3/1,Error ellipse: s-maj=162.7km s-min=76.1km az=132.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**199**	P	P	12 32 39.6	-0.4
	0.1nm,0.3s,baz=20,slow=12,SNR=8.4						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**22.49**	**197**	P	P	12 33 18.9	-0.5
	0.4nm,0.5s,baz=29,slow=11,SNR=6.4						
	0.4nm,0.5s						
VNDA	**Vanda**	**76.21**	**175**	P	P	12 40 08.4	+0.5
	0.4nm,0.8s,baz=344,slow=4.1,SNR=1.9						
	0.4nm,0.8s						

*IDC **24** 12:28:22.4±1.8,8.40S×105.23E,h0km,mb3.5/5, mbtmp3.6/6,ML3.8/1,MS4.0/1,Error ellipse: s-maj=40.2km s-min=24.1km az=45.0*

ISC 24 12:28:23.5±1.4,8.5S±0.2×105.2E±0.1,h10km,n7,σ0§93/7, mb3.6/5,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.91**	**56**	Pn	**Pn**	**12 29 09.7**	**-0.4**
	14nm,0.3s,baz=270,slow=9.1,SNR=13						
LEM				Sn	**Sn**	**12 29 46.0**	**+0.6**
	11nm,0.3s,baz=345,slow=20,SNR=2.5						
	79nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.44**	**347**	P	**P**	**12 34 09.4**	**-0.4**
	0.5nm,0.3s,baz=186,slow=8.0,SNR=5.5						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**30.43**	**115**	P	**P**	**12 34 35.4**	**-1.1**
	0.2nm,0.8s,baz=296,slow=10.0,SNR=1.9						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**31.38**	**122**	P	**P**	**12 34 45.9**	**+1.0**
	0.3nm,0.9s,baz=306,slow=7.9,SNR=1.9						
	0.3nm,0.9s						
WSAR	**Wadi Sarin**	**55.35**	**306**	LR	LR	12 59 38.8	
	comp=Z,131nm,20.0s,baz=267,slow=34						
SONM	**Songino Array**	**56.06**	**1**	P	**P**	**12 38 02.6**	**-0.1**
	0.2nm,0.3s,baz=184,slow=9.1,SNR=2.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.67**	**342**	P	**P**	**12 38 21.6**	**+0.5**
	0.5nm,0.5s,baz=141,slow=7.8,SNR=4.3						
	0.5nm,0.5s						

*NNC **24** 12:28:47.6±3.8,36.81N×70.27E,h0km,mb4.6,mpv4.7, Error ellipse: s-maj=30.7km s-min=23.2km az=2.0*

*IDC **24** 12:28:48.2±3.3,36.33N×70.69E,h161km±31km,mb3.4/10, mbtmp3.9/15,Error ellipse: s-maj=20.8km s-min=14.7km az=24.0*

*MOS **24** 12:28:50.5±0.8,36.51N×70.74E,h194km,mb4.0/3,Error ellipse: s-maj=14.6km s-min=6.3km az=81.2*

*NEIC **24** 12:28:51.8±1.1,36.6N±0.1×70.7E±0.1,h203km±12km, mb4.0/3,Error ellipse: s-maj=15.8km s-min=11.2km az=154.0*

ISC 24 12:28:51.5±0.5,36.41N±0.05×70.70E±0.06,h204km,n99, σ2§54/112,mb3.6/11,10C-10D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.30**	**217**	Pn	**Pn**	**12 29 34.0**	**+0.3**
KBL	**Kabul**	**2.30**	**217**	PN	**Pn**	**12 29 34.0**	**+0.3**
CHGR	**Chuyangaron**	**2.56**	**332**	Pn	**Pn**	**12 29 34.8**	**-1.5**
CHGR	**Chuyangaron**	**2.56**	**332**	PN

CHMS	**Chumysh**	**7.29**	**24**	P		**Pn**	**12 30 33.7**	**-1.7**
	SNR=16							
CHMS	**Chumysh**	**7.29**	**24**	⇓P		**Pn**	**12 30 33.3**	**-2.0**
	comp=E,36nm,0.8s							
CHMS				⇑S		**S**	**12 31 53.4**	**-4.5**
	comp=E,20nm,0.8s							
USP	**Ospenovka**	**7.45**	**22**	P		**Pn**	**12 30 35.4**	**-2.1**
	SNR=44							
TKM2	**Tokmak 2**	**7.52**	**29**	P		**Pn**	**12 30 37.2**	**-1.4**
	SNR=94							
TKM2	**Tokmak 2**	**7.52**	**29**	⇑P		**Pn**	**12 30 36.9**	**-1.7**
	comp=E,55nm,0.5s							
TKM2				⇓S		**S**	**12 32 00.1**	**-3.6**
	comp=E,12nm,0.8s							
SMLA	**Simla**	**7.53**	**133**	*e*P		**Pn**	**12 30 37.8**	**-0.7**
SMLA				*e*S		**S**	**12 31 59.0**	**-4.7**
SMLA				IAML			12 32 02.7	
	comp=E,160nm,0.5s							
SMLA				IAML			12 32 02.8	
	comp=N,144nm,0.5s							
TARG	**Taragay, Kyrgy**	**7.66**	**44**	Pn		**Pn**	**12 30 38.0**	**-2.6**
TARG	**Taragay, Kyrgy**	**7.66**	**44**	PN		**Pn**	**12 30 38.0**	**-2.6**
MDOK	**Medeo**	**8.33**	**34**	P		**Pn**	**12 30 48.0**	**-1.0**
	comp=N,20nm,0.6s							
BHAR	**Bharisain**	**9.54**	**129**	*e*P		**Pn**	**12 31 03.2**	**-1.8**
BHAR				*e*P		**Pn**	**12 31 03.4**	**-1.5**
PDGK	**Podgornoye**	**9.66**	**42**	⇑P		**Pn**	**12 31 04.5**	**-1.7**
	comp=N,2.8nm,0.6s							
PDGK				⇓S		**S**	**12 32 58.5**	**+3.9**
	comp=N,14nm,1.1s							
SONA	**Sohna**	**9.76**	**145**	*e*S		**S**	**12 32 48.6**	**-8.2**
GEYT	**Alibeck**	**10.16**	**282**	P		**Pn**	**12 31 10.5**	**-2.2**
	comp=N,6.4nm,0.7s,baz=112,slow=11,SNR=13							
GEYT	**Alibeck**	**10.16**	**282**	Pn		**Pn**	**12 31 10.6**	**-2.1**
GYA0B	**ALIBECK ARRAY**	**10.16**	**282**			**Pn**	**12 31 10.0**	**-2.7**
OTUK	**Ortayu**	**11.89**	**5**	⇑P		**Pn**	**12 31 32.3**	**-2.4**
	comp=N,4.6nm,1.0s							
OTUK				⇑S		**S**	**12 33 43.2**	**-3.6**
	comp=N,6.7nm,0.8s							
PYUN	**Piuthan**	**13.28**	**125**	*e*P		**Pn**	**12 31 51.3**	**-1.3**
	comp=N,17nm,0.3s							
MAKZ	**Makanchi**	**13.37**	**35**			**Pn**	**12 31 52.6**	**-0.7**
MAKZ	**Makanchi**	**13.37**	**35**	P		**Pn**	**12 31 52.6**	**-0.7**
MK31	**Makanchi Array**	**13.51**	**36**	P		**Pn**	**12 31 54.0**	**-1.0**
MK31	**Makanchi Array**	**13.51**	**36**	*ce*P		**Pn**	**12 31 54.9**	**-0.1**
MKAR	**Makanchi Array**	**13.51**	**36**	P		**Pn**	**12 31 54.3**	**-0.7**
	comp=N,3.5nm,0.7s,baz=215,slow=9.0,SNR=16							
MKAR	**Makanchi Array**	**13.51**	**36**	P		**Pn**	**12 31 55.2**	**+0.2**
MKAR	**Makanchi Array**	**13.51**	**36**	P		**Pn**	**12 31 55.2**	**+0.2**
DANN	**Dangsing**	**13.64**	**122**	*e*P		**Pn**	**12 31 56.4**	**-0.7**
	comp=N,19nm,0.3s							
KOLN	**Koldanda**	**13.90**	**125**	*e*P		**Pn**	**12 31 59.7**	**-0.6**
BHPL	**Bhopal**	**14.35**	**154**	*e*S		**S**	**12 34 36.4**	**-8.6**
GKN	**Gorkha**	**14.46**	**121**	*e*P		**Pn**	**12 32 06.9**	**-0.1**
	comp=N,67nm,0.4s							
KKN	**Kakani**	**15.03**	**121**	*e*P		**Pn**	**12 32 14.0**	**-0.1**
	comp=N,8.9nm,0.7s							
AB31	**Akbulak array**	**15.05**	**332**	P		**Pn**	**12 32 13.1**	**-0.9**
	comp=N,1.4nm,0.5s,baz=145,slow=11,SNR=29							
AB31				⇓S		**S**	**12 34 57.0**	**-3.7**
	comp=N,4.6nm,0.6s,baz=156,slow=22,SNR=9.0							
ABKAR	**Akbulak array**	**15.05**	**332**	P		**Pn**	**12 32 13.2**	**-0.7**
ABKAR	**Akbulak array**	**15.05**	**332**			**Pn**	**12 32 13.6**	**-0.4**
PKIN	**Phulchoki**	**15.25**	**121**	*e*P		**P**	**12 32 17.2**	**+0.1**
	comp=N,133nm,0.7s							
PKI	**Pulchoki**	**15.26**	**121**	*e*P		**P**	**12 32 17.6**	**+0.3**
	comp=N,144nm,0.7s							
KURBB	**Kurchatov Arra**	**15.29**	**19**	P		**Pn**	**12 32 14.7**	**-2.1**
	comp=N,1.7nm,0.8s,baz=208,slow=11,SNR=9.1							
GUN	**Gumba**	**15.38**	**119**	*e*P		**P**	**12 32 19.6**	**+0.9**
	comp=N,23nm,0.3s							
KURK	**Kurchatov**	**15.40**	**19**	P		**Pn**	**12 32 16.7**	**-1.4**
KURK				IAmb		IAmb	12 32 17.3	
	comp=Z,3.7nm,1.1s							
KURK	**Kurchatov**	**15.40**	**19**	P		**Pn**	**12 32 16.7**	**-1.4**
KURK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
JIRN	**Jiri**	**15.75**	**119**	*e*P		**Pn**	**12 32 23.9**	**+0.9**
	comp=Z,85nm,0.8s							
RAMN	**Ramite**	**16.47**	**120**	*e*P		**Pn**	**12 32 31.7**	**+0.2**
	comp=Z,45nm,0.6s							
BVAR	**Borovoye Array**	**16.62**	**359**	P		**P**	**12 32 31.1**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=162,slow=20,SNR=11							
BRVK	**Borovoye**	**16.65**	**359**	P		**Pn**	**12 32 33.0**	**-0.2**
BRVK				IAmb		IAmb	12 32 33.9	
	comp=Z,4.0nm,0.7s							
BRVK	**Borovoye**	**16.65**	**359**	*de*P		**Pn**	**12 32 33.1**	**-0.1**
BRVK				pmax		pmax		
	comp=Z,6.0nm,1.3s							
AKTO	**Aktyubinsk**	**16.75**	**331**	P		**P**	**12 32 32.1**	**-1.0**
	comp=Z,4.2nm,0.5s,baz=143,slow=12,SNR=14							
AKTO				S		**S**	**12 35 31.6**	**-5.8**
	comp=Z,1.5nm,0.5s,baz=185,slow=16,SNR=3.2							
AKTO	**Aktyubinsk**	**16.75**	**331**	⇑P		**Pn**	**12 32 34.8**	**+0.6**
	comp=Z,5.6nm,0.8s							
AKTO				⇓S		**S**	**12 35 38.3**	**+0.9**
	comp=Z,7.0nm,1.0s							
TAPN	**Taplejung**	**17.01**	**117**	*e*P		**Pn**	**12 32 39.0**	**+1.0**
	comp=Z,23nm,0.5s							
ODAN	**Odare**	**17.08**	**119**	*e*P		**Pn**	**12 32 39.5**	**+0.8**
	comp=Z,5.3nm,0.7s							
DGZ	**Jazzator, Alta**	**18.00**	**37**	⇑*e*P		**P**	**12 32 47.9**	**+0.9**
DGZ				pmax		pmax		
	comp=Z,9.0nm,1.3s							
ZAA0	**Zalesovo Array**	**20.10**	**25**	P		**P**	**12 33 08.8**	**-0.5**
ZAA0				IAmb		IAmb	12 33 10.9	
	comp=Z,8.7nm,0.8s							
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**12 33 09.1**	**-0.3**
	comp=Z,5.1nm,0.3s,baz=221,slow=11,SNR=34							
	comp=Z,5.1nm,0.3s							
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**12 33 09.9**	**+0.5**
ZALV	**Zalesovo Beam**	**20.10**	**25**	*i* P		**P**	**12 33 10.0**	**+0.7**
ZALV				pmax		pmax		
	comp=Z,5.0nm,0.3s							
ARU	**Arti**	**21.64**	**342**	*d i*P		**P**	**12 33 28.2**	**+2.7**
ARU				S		**S**	**12 37 20.7**	**+10**
ARU				pmax		pmax		
	comp=Z,7.0nm,2.4s							
KIRV	**Kirov**	**26.22**	**335**	⇑*e*P		**P**	**12 34 08.8**	**+1.6**
KIRV				*i* *PP		**pP**	**12 34 44.9**	**-3.6**
SONM	**Songino Array**	**28.59**	**55**	P		**P**	**12 34 30.0**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=262,slow=9.2,SNR=6.2							
	comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**28.59**	**55**	P		**P**	**12 34 30.0**	**+1.4**
ULN	**Ulaanbaatar**	**29.03**	**55**	⇓*e*P		**P**	**12 34 34.5**	**+2.0**
ULN				pmax		pmax		
	comp=Z,6.0nm,2.5s							
CMAR	**Chiang Mai Arr**	**30.62**	**118**	P		**P**	**12 34 48.6**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=301,slow=8.2,SNR=10							
	comp=Z,1.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.62**	**118**	*ce*P		**P**	**12 34 49.5**	**+2.9**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**37.43**	**326**	P		**P**	**12 35 46.9**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=125,slow=10,SNR=6.9							
	comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**37.43**	**326**	P		**P**	**12 35 46.6**	**+2.0**
ARCES	**ARCESS Array B**	**41.14**	**338**	P		**P**	**12 36 16.9**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=137,slow=9.4,SNR=1.9							
	comp=Z,0.3nm,0.3s							
ARCES	**ARCESS Array B**	**41.14**	**338**	P		**P**	**12 36 17.0**	**+1.7**
NOA	**NORSAR Array B**	**44.31**	**323**	P		**P**	**12 36 42.4**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=90,slow=8.0,SNR=3.9							
	comp=Z,0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**65.48**	**268**	P		**P**	**12 39 13.8**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=48,slow=6.2,SNR=6.2							
	comp=Z,0.3nm,0.4s							
INK	**Inuvik**	**74.04**	**9**	P		**P**	**12 40 06.8**	**+2.5**
	comp=Z,1.5nm,0.9s,baz=2.3,slow=6.0,SNR=4.8							
	comp=Z,1.5nm,0.9s							
WRA	**Warramunga Arr**	**82.14**	**122**	P		**P**	**12 40 49.9**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=329,slow=5.0,SNR=8.9							
	comp=Z,1.1nm,0.8s							
ASAR	**Alice Springs**	**84.40**	**125**	P		**P**	**12 41 01.5**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=311,slow=4.9,SNR=5.4							
	comp=Z,1.0nm,0.9s							
NNA	**Nana**	**142.00**	**301**	⇓*i*PKIKP		**PKiKP**	**12 48 07.9**	**+5.3**

*IDC **24** 12:33:56.0±0.9,2°.00S×140°.70E, h0km, mb3.9/8, mbtmp4.0/11, ML4.0/3, MS3.8/5, Error ellipse: s-maj=30.5km s-min=17.1km az=87.0*
*DJA **24** 12:33:57.8±0.7,2°.5±6°×14°.1E±°, h10km, M4.0/4, mb4.3/4, MLv3.8/2*
*NEIC **24** 12:33:58.7±1.3, 1°.8S±0°.2×140°.3E±0°.2, h15km±9km, mb4.1/14, Error ellipse: s-maj=38.6km s-min=29.4km az=138.0*

ISC 24 12:33:58.4±0.8, 1°.98S±0°.08×140°.68E±0°.09, h10km, n34, σ1s15/31, mb4.0/10, MS3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.79**	**220**	P	**Pg**	**12 34 14.9**	**+1.2**
GENI				S	**Sn**	**12 34 28.3**	**+0.7**
SMPI	**Sarmi**	**1.97**	**270**	P	**Pn**	**12 34 31.3**	**-0.6**
SMPI				S	**Sn**	**12 34 57.3**	**+0.7**
MTN	**Manton Dam**	**14.35**	**221**	Pn	Pn	12 37 18.2	-3.5
KNRA	**Kununurra**	**17.98**	**220**	P	**Pn**	**12 38 08.4**	**-0.2**
KNRA				IAmb	IAmb	12 38 17.1	
	comp=Z,13nm,1.0s						
WB0	**Warramunga Arr**	**18.71**	**199**	P	**P**	**12 38 16.7**	**-0.6**
BATI	**Baumata**	**18.78**	**244**	P	**P**	**12 38 18.3**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=12,slow=3.1,SNR=5.8						
	comp=Z,34nm,0.8s						
CTA	**Charters Tower**	**18.80**	**164**	P	**P**	**12 38 17.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=13,slow=6.6,SNR=4.0						
	comp=Z,5.9nm,1.0s						
CTAO	**Charters Tower**	**18.80**	**164**	P	**P**	**12 38 20.1**	**+1.8**
CTAO				IAmb	IAmb	12 38 21.7	
	comp=Z,7.9nm,1.0s						
WR0	**Warramunga Arr**	**18.85**	**198**	P	**P**	**12 38 17.6**	**-1.1**
WR0				IAmb	IAmb	12 38 27.0	
	comp=Z,6.0nm,0.8s						
WRAB	**Tennant Creek**	**18.88**	**199**	P	**P**	**12 38 18.2**	**-0.9**
WRAB				IAmb	IAmb	12 38 26.9	
	comp=Z,6.8nm,0.8s						
WB2	**Warramunga Arr**	**18.89**	**199**	P	**P**	**12 38 18.6**	**-0.7**
WB2				IAmb	IAmb	12 38 27.0	
	comp=Z,9.5nm,0.9s						
WRA	**Warramunga Arr**	**18.89**	**199**	P	**P**	**12 38 17.8**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=18,slow=11,SNR=21						
WRA				LR	LR	12 46 13.4	
	comp=Z,270nm,18.6s,baz=322,slow=39						
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**18.89**	**199**	P	**P**	**12 38 18.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.78**	**222**	P	**P**	**12 38 48.7**	**-1.9**
	comp=Z,5.5nm,0.9s,baz=2.0,slow=3.0,SNR=7.9						
	comp=Z,5.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.78**	**222**	P	**P**	**12 38 50.2**	**-0.4**
FITZ				IAmb	IAmb	12 38 52.7	
	comp=Z,8.4nm,1.1s						
AS31	**Alice Springs**	**22.53**	**196**	P	**P**	**12 38 58.4**	**-0.3**
ASAR	**Alice Springs**	**22.53**	**196**	P	**P**	**12 38 57.9**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=28,slow=10,SNR=24						
	comp=Z,2.5nm,0.8s						
ASAR	**Alice Springs**	**22.53**	**196**	P	**P**	**12 38 57.7**	**-1.0**
EIDS	**Eidsvold**	**25.32**	**158**	P	**P**	**12 39 27.4**	**+1.9**
STKA	**Stephens Creek**	**29.75**	**178**	P	**P**	**12 40 03.8**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=350,slow=6.1,SNR=3.4						
	comp=Z,1.5nm,0.5s						
ARMA	**Armidale**	**30.12**	**161**	P	**P**	**12 40 10.4**	**+1.8**
ARMA				IAmb	IAmb	12 40 28.9	
	comp=Z,12nm,1.2s						
BBOO	**Buckleboo**	**30.97**	**188**	P	**P**	**12 40 14.8**	**-1.2**
JHJ	**Hachijo jima 2**	**34.92**	**359**	LR	LR	12 51 37.0	
	comp=Z,169nm,21.5s,baz=340,slow=30						
NWAO	**Narrogin (SRO)**	**37.84**	**213**	LR	LR	12 56 14.5	
	comp=Z,166nm,19.3s,baz=102,slow=35						
KSRS	**Korea Array**	**40.98**	**344**	P	**P**	**12 41 41.5**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=155,slow=9.2,SNR=4.2						
KSRS				LR	LR	12 57 36.6	
	comp=Z,43nm,20.7s,baz=325,slow=35						
	comp=Z,0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.81**	**298**	P	**P**	**12 42 19.3**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=93,slow=5.4,SNR=5.1						
	comp=Z,0.3nm,0.3s						
GTA	**Gaotai**	**55.68**	**322**	*e*P	**P**	**12 43 37.0**	**+1.8**
GTA				pP	sP	12 43 43.3	+5.1
GTA				sP	pwP	12 43 46.3	+4.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR	**Makanchi Array**	**70.43**	**322**	P	**P**	**12 45 13.3**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=101,slow=11,SNR=5.3						
	comp=Z,1.1nm,0.9s						
VNDA	**Vanda**	**76.33**	**175**	P	**P**	**12 45 46.0**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=330,slow=7.2,SNR=13						
	comp=Z,1.7nm,0.8s						
VNDA	**Vanda**	**76.33**	**175**	P	**P**	**12 45 47.5**	**+0.3**
VNDA				IAmb	IAmb	12 45 50.5	
	comp=Z,2.7nm,0.9s						
ILAR	**Eielson Array**	**84.36**	**24**	P	P	12 46 28.1	-2.6
	comp=Z,0.8nm,0.8s,baz=250,slow=4.9,SNR=5.9						
	comp=Z,0.8nm,0.8s						
ARU	**Arti**	**87.28**	**327**	LR	LR	13 27 33.0	
	comp=Z,91nm,21.8s,baz=270,slow=37						
QSPA	**South Pole Qui**	**87.96**	**180**	P	**P**	**12 46 47.9**	**-0.7**
LPAZ	**La Paz**	**146.24**	**124**	PKPbc	**PKPdf**	**12 53 41.2**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=31,slow=1.6,SNR=6.0						

IDC 24 12:39:50.2±2.1, 2°.00S×140°.58E, h0km, mb3.5/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=86.4km s-min=31.5km az=83.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.84**	**198**	P	P	12 44 11.2	-0.7
	0.1nm,0.3s,baz=19,slow=12,SNR=5.9						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**22.49**	**196**	P	P	12 44 51.8	+0.3
	1.3nm,0.8s,baz=28,slow=11,SNR=7.4						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**70.38**	**322**	P	P	12 51 06.5	+0.3
	0.2nm,0.8s,baz=120,slow=7.6,SNR=1.8						
	0.2nm,0.8s						
VNDA	**Vanda**	**76.32**	**175**	P	P	12 51 40.5	-0.1
	0.6nm,0.7s,baz=316,slow=6.3,SNR=6.6						
	0.6nm,0.7s						

IDC 24 12:40:18.4±2.1, 2°.07S×140°.77E, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=82.0km s-min=31.5km az=83.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.85**	**199**	P	P	12 44 40.2	0.0
	0.1nm,0.3s,baz=19,slow=12,SNR=5.3						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**22.48**	**197**	P	P	12 45 19.1	-0.5
	2.0nm,0.7s,baz=28,slow=10,SNR=9.2						
	2.0nm,0.7s						
MKAR	**Makanchi Array**	**70.55**	**322**	P	P	12 51 35.7	+0.3
	0.3nm,0.8s,baz=104,slow=11,SNR=1.7						
	0.3nm,0.8s						
VNDA	**Vanda**	**76.24**	**175**	P	P	12 52 08.5	+0.1
	1.0nm,0.7s,baz=334,slow=5.8,SNR=8.6						
	1.0nm,0.7s						

*STR **24** 12:47:08.3±0.4, 46°.N±2°.×±°, h0km, MLv1.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=121.1, preliminary*
*LDG **24** 12:47:08.0±0.1, 46°.19N×6°.93E, h2km, Md1.8/3, Ml1.8/8, Error ellipse: s-maj=1.4km s-min=1.2km az=87.0*

ZUR 24 12:47:08.0, 46°.20N×6°.91E, h2km±1km, MLh1.3/9, 8C-3D, Error ellipse: s-maj=3.2km s-min=0.9km az=136.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALAN	**Lac Salanfe**	**0.07**	**144**	⇑Pg	Pg	12 47 09.8	+0.3
SALAN				Sg	Sg	12 47 10.9	+0.4
SEMOS	**Emosson Stauma**	**0.14**	**173**	⇑Pg	Pg	12 47 10.8	+0.1
SEMOS				Sg	Sg	12 47 12.7	+0.2
AIGLE	**Aigle**	**0.14**	**11**	⇑Pg	Pg	12 47 11.0	+0.2
AIGLE	**Aigle**	**0.14**	**11**	⇑Pg	Pg	12 47 11.0	+0.2
AIGLE				Sg	Sg	12 47 13.1	+0.4
GRYON	**Gryon**	**0.15**	**70**	⇓Pg	Pg	12 47 11.1	+0.2
GRYON				Sg	Sg	12 47 13.2	+0.4
OGSI	**Sixt**	**0.17**	**219**	⇑Pg	Pg	12 47 11.5	+0.1
OGSI	**Sixt**	**0.17**	**219**	⇑Pg	Pg	12 47 11.4	+0.1
OGSI				Sg	Sg	12 47 14.0	+0.3
SENIN	**Lac Senin/Sane**	**0.31**	**59**	Sg	Sg	12 47 18.6	+0.5
DIX	**Grande Dixence**	**0.37**	**109**	⇓Pg	Pg	12 47 15.3	+0.2
DIX	**Grande Dixence**	**0.37**	**109**	Sg	Sg	12 47 20.0	+0.2
DIX	**Grande Dixence**	**0.37**	**109**	⇓Pg	Pg	12 47 15.3	+0.2
REMY	**Saint-Rhmy-en**	**0.40**	**155**	⇑Pg	Pg	12 47 16.0	+0.2
REMY				Sg	Sg	12 47 21.4	+0.4
RSL	**Roselend**	**0.55**	**201**	Pg	Pg	12 47 18.1	-0.4
GIMEL	**St. Georges /**	**0.56**	**307**	⇑Pg	Pg	12 47 19.2	+0.5
LPL	**La Plagne**	**0.70**	**190**	*e*Pg	Pg	12 47 21.1	-0.3
LPL				*e*Sg	Sg	12 47 30.6	+0.2
	1.7nm,0.3s						
CABF	**La Chapelle**	**0.70**	**306**	*e*Pg	Pg	12 47 21.8	+0.3
CABF				*e*Sg	Sg	12 47 30.5	-0.1
	2.0nm,0.3s						
LPG	**La Plagne**	**0.71**	**189**	*e*Pg	Pg	12 47 21.4	-0.3
LPG				*e*Sg	Sg	12 47 30.6	-0.3
	2.2nm,0.2s						
RIVEL	**MONT RIVEL**	**0.88**	**310**	Pg	Pg	12 47 25.2	+0.3
RIVEL				Sg	Sn	12 47 31.3	-0.6
OG35	**Corcelles**	**0.95**	**261**	Pg	Pg	12 47 26.6	+0.5
OGSM	**Saint Maurice**	**1.03**	**236**	Pg	Pb	12 47 28.4	-0.2
OGSM				Sg	Sg	12 47 41.5	+0.3
CHMF	**Charmoille**	**1.06**	**350**	Pg	Pg	12 47 28.4	0.0
CHMF				Sg	Sb	12 47 43.6	+0.1
BOUC	**Bouclans**	**1.14**	**337**	Pg	Pg	12 47 29.7	-0.1
BOUC				Sg	Sb	12 47 45.6	-0.1
BOURR	**Bourrignon**	**1.21**	**10**	Pg	Pg	12 47 30.9	-0.3
BALST	**Balsthal**	**1.25**	**25**	Pg	Pg	12 47 32.2	+0.1
BALST	**Balsthal**	**1.25**	**25**	Sg	Sb	12 47 48.9	-0.2
ORIF	**Oris-en-Rattie**	**1.47**	**210**	*e*Pg	Pn	12 47 35.6	-0.1
ORIF				*e*Sg	Sg	12 47 54.8	-0.5
	4.5nm,0.4s						
MBDF	**Montbardon**	**1.48**	**184**	*e*Pg	Pn	12 47 35.7	-0.1
MBDF				*e*Sg	Sg	12 47 54.8	-0.7
	1.3nm,0.5s						
RONF	**Ronchamp**	**1.52**	**353**	Pn	Pn	12 47 36.4	+0.2
SULZ	**Cheisacher**	**1.56**	**31**	Sn	Sg	12 47 59.1	+1.0
SULZ	**Cheisacher**	**1.56**	**31**	Pn	Pb	12 47 37.6	0.0
HINF	**Hinteralfeld**	**1.62**	**359**	*e*Pg	Pb	12 47 38.2	-0.4
HINF				*e*Sg	Sn	12 47 59.1	+0.1
	1.7nm,0.3s						
MOF	**Molkenrain**	**1.66**	**5**	Pn	Pb	12 47 39.1	-0.2
KIZ	**Kirchzarten**	**1.89**	**21**	Sn	Sb	12 48 07.2	+0.1
KIZ	**Kirchzarten**	**1.89**	**21**	Pn	Pb	12 47 43.0	-0.2
SLE	**Schleitheim**	**1.90**	**34**	Pn	Pb	12 47 43.8	+0.4
SLE	**Schleitheim**	**1.90**	**34**	Sn	Sg	12 48 08.5	-0.6
VIVF	**Saint-Julien-l**	**2.07**	**230**	*e*Pg	Pb	12 47 46.6	+0.3
VIVF				*e*Sn	Sn	12 48 06.9	-3.3
VIVF				*e*Sg	Sb	12 48 13.2	+0.7
	2.0nm,0.2s						
SMF	**Signal de Mont**	**2.17**	**283**	*e*Pg	Pb	12 47 48.2	+0.2
SMF				*e*Sg	Sb	12 48 16.2	+0.9
	1.7nm,0.3s						
LOR	**Lormes**	**2.35**	**298**	*e*Pg	Pb	12 47 51.8	+0.6
	baz=115						
LOR				*e*Sg	Sb	12 48 22.1	+1.4
	0.8nm,0.3s						

IDC 24 12:47:08.4±2.3, 1°.95S×140°.94E, h0km, mb3.5/3, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=84.2km s-min=30.4km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.01**	**199**	P	Pn	12 51 32.3	-0.3
	0.1nm,0.3s,baz=20,slow=11,SNR=10						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**22.64**	**197**	P	P	12 52 10.5	-0.8
	0.6nm,0.5s,baz=30,slow=11,SNR=20						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**70.57**	**322**	P	P	12 58 25.8	+0.2
	0.6nm,0.8s,baz=119,slow=10,SNR=3.6						
	0.6nm,0.8s						
VNDA	**Vanda**	**76.34**	**175**	P	P	12 58 59.2	+0.3
	0.3nm,0.7s,baz=314,slow=4.0,SNR=2.2						
	0.3nm,0.7s						

*IDC **24** 12:47:40.8±1.5, 6°.01N×125°.92E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=122.1km s-min=15.8km az=74.0*
*MAN **24** 12:47:42.7, 6°.61N×126°.51E, h44km, mb4.2, ML3.0, MS2.7*

ISC 24 12:47:43.7±1.9, 6°.7N±0°.1×126°.7E±0°.1, h70km±28km, n9, σ2s24/13, mb3.3/4, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.13**	**289**	Pn	**Pn**	**12 48 03.0**	**-0.8**
	152nm,0.3s,baz=173,slow=3.0,SNR=6.8

THR6					S	Sn	12 51 36.0	-3.8
ZKR	**Zakros**	**0.82**	**183**		P	**Pn**	**12 51 24.0**	**+0.6**
ZKR	**Zakros**	**0.82**	**183**		P	**Pn**	**12 51 24.4**	**+1.0**
ZKR					S	**Sn**	**12 51 41.8**	**+1.9**
ZKR					AML	AML	12 51 42.7	
	comp=E,2156µm,0.4s							
ZKR					AML	AML	12 51 42.7	
	comp=N,1357µm,0.2s							
KARP	**Karpathos**	**0.83**	**118**		P	**Pn**	**12 51 25.4**	**+1.9**
KARP					S	**Sn**	**12 51 40.7**	**+0.7**
	comp=N,4µm,0.2s							
KARP	**Karpathos**	**0.83**	**118**		PG	**Pn**	**12 51 25.3**	**+1.8**
KARP					SG	**Sn**	**12 51 41.3**	**+1.3**
KARP	**Karpathos**	**0.83**	**118**		P	**Pn**	**12 51 25.2**	**+1.8**
KARP					AML	AML	12 51 42.9	
	comp=N,7070µm,0.2s							
KARP					AML	AML	12 51 43.3	
	comp=E,8856µm,0.4s							
THR5	**Thira Island,**	**0.88**	**303**		P	**Pn**	**12 51 23.4**	**-0.5**
NIS1	**Nisyros Isl.**	**0.99**	**48**		PG	**Pn**	**12 51 25.9**	**+1.1**
NIS1	**Nisyros Isl.**	**0.99**	**48**		P	**Pn**	**12 51 26.0**	**+1.1**
KOSK	**Kos Island**	**1.00**	**35**		P	**Pn**	**12 51 25.7**	**+0.8**
HRKL	**Herakleio**	**1.13**	**237**		P	**Pn**	**12 51 25.9**	**-0.3**
IACM	**Heraklion**	**1.16**	**237**		P	**Pn**	**12 51 26.9**	**+0.5**
IACM					S	**Sn**	**12 51 43.8**	**-1.4**
APE	**Apeiranthos**	**1.28**	**333**		P	**Pn**	**12 51 27.5**	**-0.2**
APE	**Apeiranthos**	**1.28**	**333**		PN	**Pn**	**12 51 27.4**	**-0.2**
IDI	**Anoyia**	**1.29**	**240**		P	**Pn**	**12 51 27.9**	**0.0**
	comp=E,45nm,0.4s,baz=42,slow=8.9,SNR=222							
IDI					S	**Sn**	**12 51 45.2**	**-2.6**
	comp=E,346nm,0.3s,baz=262,slow=11,SNR=49							
IDI	**Anoyia**	**1.29**	**240**		P	**Pn**	**12 51 27.9**	**0.0**
IDI					S	**Sn**	**12 51 45.1**	**-2.7**
	comp=E,865nm,0.2s							
IDI	**Anoyia**	**1.29**	**240**		PN	**Pn**	**12 51 27.9**	**0.0**
IDI	**Anoyia**	**1.29**	**240**		P	**Pn**	**12 51 27.5**	**-0.4**
IDI					S	**Sn**	**12 51 45.6**	**-2.2**
IDI					AML	AML	12 51 47.2	
	comp=E,1917µm,0.2s							
IDI					AML	AML	12 51 48.4	
	comp=N,1664µm,0.4s							
BODT	**Bodrum**	**1.40**	**37**		P	**Pn**	**12 51 29.1**	**+0.1**
BODT					S	**Sn**	**12 51 48.9**	**-1.0**
BODT	**Bodrum**	**1.40**	**37**		PN	**Pn**	**12 51 29.2**	**+0.2**
ARG	**Arkhangelos**	**1.53**	**79**		P	**Pn**	**12 51 32.7**	**+2.3**
ARG					S	**Sn**	**12 51 53.9**	**+1.6**
	comp=N,2µm,0.3s							
ARG	**Arkhangelos**	**1.53**	**79**		PN	**Pn**	**12 51 32.7**	**+2.3**
ARG	**Arkhangelos**	**1.53**	**79**		P	**Pn**	**12 51 33.8**	**+3.4**
ARG					AML	AML	12 51 54.3	
	comp=N,2776µm,0.3s							
ARG					AML	AML	12 51 54.8	
	comp=E,4088µm,0.3s							
MHLO	**Agia Marina, M**	**1.68**	**297**		P	**Pn**	**12 51 32.0**	**-0.1**
TURN	**Turunc**	**1.80**	**62**		PN	**Pn**	**12 51 35.4**	**+1.9**
TURN	**Turunc**	**1.80**	**62**		P	**Pn**	**12 51 34.8**	**+1.3**
TURN					S	**Sn**	**12 51 56.5**	**-1.3**
TURN				*i*	AML	AML	12 51 59.0	
	comp=E,358nm,0.3s							
TURN				*i*	AML	AML	12 51 59.0	
	comp=E,389nm,0.9s							
SMG	**Samos**	**1.83**	**14**		P	**Pn**	**12 51 34.4**	**+0.6**
IMMV	**Iera Moni Meta**	**1.92**	**256**		P	**Pn**	**12 51 35.0**	**+0.1**
IMMV					S	**Sn**	**12 51 57.9**	**-2.4**
IMMV	**Iera Moni Meta**	**1.92**	**256**		PN	**Pn**	**12 51 35.2**	**+0.3**
IMMV	**Iera Moni Meta**	**1.92**	**256**		P	**Pn**	**12 51 34.9**	**+0.1**
IMMV					S	**Sn**	**12 51 59.4**	**-0.9**
IMMV					AML	AML	12 52 02.5	
	comp=N,2262µm,0.7s							
IMMV					AML	AML	12 52 02.6	
	comp=E,2416µm,0.5s							
GCAM	**G?zelcaml?**	**1.93**	**24**		PN	**Pn**	**12 51 35.9**	**+1.0**
GCAM	**G?zelcaml?**	**1.93**	**24**		P	**Pn**	**12 51 35.1**	**+0.2**
YER	**Yerkesik**	**2.02**	**53**		P	**Pn**	**12 51 38.3**	**+2.2**
YER	**Yerkesik**	**2.02**	**53**		PN	**Pn**	**12 51 38.4**	**+2.3**
RODP	**Rodopos**	**2.07**	**260**		P	**Pn**	**12 51 36.7**	**-0.1**
GVDS	**Gavdos**	**2.08**	**239**		P	**Pn**	**12 51 38.0**	**+1.1**
GVD	**Gavdhos**	**2.09**	**239**		P	**Pn**	**12 51 37.8**	**+0.9**
GVD	**Gavdhos**	**2.09**	**239**		PN	**Pn**	**12 51 37.8**	**+0.9**
MULA	**Mugla, Merkez-**	**2.12**	**51**		P	**Pn**	**12 51 38.5**	**+1.2**
MULA					S	**Sn**	**12 52 04.9**	**+0.2**
MULA				*i*	AML	AML	12 52 06.0	
	comp=E,174nm,0.6s							
DALY	**Dalyan (Mula)**	**2.12**	**65**		PN	**Pn**	**12 51 39.9**	**+2.6**
DGB	**zmir**	**2.17**	**13**		P	**Pn**	**12 51 36.8**	**-1.1**
KNDR	**Palaiochora Ch**	**2.22**	**252**		P	**Pn**	**12 51 40.1**	**+1.6**
KNDR					S	**Sn**	**12 52 07.0**	**+0.3**
	comp=E,228nm,0.5s							
AYDB	**Zeytinkoy-Aydi**	**2.39**	**33**		PN	**Pn**	**12 51 42.1**	**+1.3**
ANKY	**Antikythira Is**	**2.41**	**269**		P	**Pn**	**12 51 40.5**	**-0.3**
URLA	**Izmir**	**2.43**	**6**		PN	**Pn**	**12 51 40.6**	**-0.6**
BLCB	**Balcova**	**2.52**	**14**		PN	**Pn**	**12 51 43.1**	**+0.8**
KTHA	**Kythira Island**	**2.61**	**278**		P	**Pn**	**12 51 43.1**	**-0.4**
KTHA	**Kythira Island**	**2.61**	**278**		PN	**Pn**	**12 51 43.1**	**-0.4**
TAVA	**DENIZLI_Tavas**	**2.62**	**54**		P	**Pn**	**12 51 45.4**	**+1.7**
CAME	**Cameli-Denizli**	**2.65**	**67**		PN	**Pn**	**12 51 46.2**	**+2.2**
KTHR	**Kythira**	**2.66**	**278**		P	**Pn**	**12 51 43.9**	**-0.2**
KSL	**Kastellorizon**	**2.70**	**84**		P	**Pn**	**12 51 47.0**	**+2.5**
AKAS	**Kas**	**2.72**	**83**		PN	**Pn**	**12 51 46.3**	**+1.3**
AKAS	**Kas**	**2.72**	**83**		P	**Pn**	**12 51 45.9**	**+0.9**
AKAS					S	**Sn**	**12 52 16.2**	**-2.1**
AKAS				*i*	AML	AML	12 52 22.0	
	comp=E,286nm,0.3s							
AKAS				*i*	AML	AML	12 52 25.0	
	comp=E,333nm,0.4s							
VLY	**Voula,Athens**	**2.75**	**315**		P	**Pn**	**12 51 45.3**	**+0.1**
VLI	**Veliai**	**2.80**	**287**		P	**Pn**	**12 51 45.1**	**-0.7**
APMY	**Acipayam-Deniz**	**2.88**	**57**		PN	**Pn**	**12 51 49.2**	**+2.2**
KRND	**KRANIDI**	**2.89**	**301**		P	**Pn**	**12 51 47.0**	**0.0**
GOLH	**Golhisar**	**2.95**	**63**		P	**Pn**	**12 51 50.4**	**+2.5**
GOLH					S	**Sn**	**12 52 24.3**	**+0.8**
GOLH				*i*	AML	AML	12 52 34.0	
	comp=E,113nm,0.5s							
GOLH				*i*	AML	AML	12 52 37.0	
	comp=E,55nm,0.8s							
EPID	**Epidavros**	**3.03**	**304**		P	**Pn**	**12 51 49.0**	**+0.2**
ELL	**Elmali**	**3.05**	**74**		PN	**Pn**	**12 51 51.9**	**+2.7**
VILL	**Villia**	**3.24**	**314**		P	**Pn**	**12 51 51.7**	**+0.1**
PASA	**Karahalli, USA**	**3.52**	**46**		P	**Pn**	**12 51 56.9**	**+1.6**
ITM	**Ithomi**	**3.71**	**291**		P	**Pn**	**12 51 57.6**	**0.0**
ITM	**Ithomi**	**3.71**	**291**		PN	**Pn**	**12 51 57.6**	**0.0**
BUCA	**Burdur, Bucak-**	**3.72**	**67**		P	**Pn**	**12 52 00.5**	**+2.6**
BUCA				*i*	AML	AML	12 52 46.0	
	comp=E,58nm,0.7s							
LKR	**Lokris**	**3.76**	**317**		P	**Pn**	**12 51 57.5**	**-0.8**
PYL	**PYLOS**	**3.77**	**286**		P	**Pn**	**12 51 57.2**	**-1.3**
KLV	**Kalavryta, Ach**	**3.91**	**304**		P	**Pn**	**12 51 59.6**	**-0.7**
KEPZ	**Antalya-Kepez**	**4.41**	**76**		P	**Pn**	**12 52 09.5**	**+2.5**
KEPZ					S	**Sn**	**12 52 59.1**	**+1.3**
KEPZ				*i*	AML	AML	12 53 03.0	
	comp=E,32nm,0.8s							
KEPZ				*i*	AML	AML	12 53 05.0	
	comp=E,54nm,0.7s							
SEDI	**Konya, Seydise**	**4.66**	**69**		P	**Pn**	**12 52 13.2**	**+2.8**
SEDI					S	**Sn**	**12 53 03.1**	**-0.8**
SEDI				*i*	AML	AML	12 53 08.0	
	comp=E,32nm,0.5s							
SEDI				*i*	AML	AML	12 53 10.0	
	comp=E,28nm,0.6s							
BRTR	**Keskin Array B**	**6.95**	**55**		P	**Pn**	**12 52 42.8**	**+1.7**
	comp=E,1.0nm,0.7s,baz=233,slow=12,SNR=4.6							
MMAI	**Mount Meron Ar**	**8.09**	**108**		P	**Pn**	**12 52 56.0**	**-0.4**
	comp=E,1.6nm,0.3s,baz=302,slow=13							
GEM	**Giv'at Ha'Em**	**8.21**	**107**		Pn	**Pn**	**12 52 58.4**	**+0.4**
GEM					Sn	**Sn**	**12 54 30.2**	**+1.0**
NATI	**Neve Ativ**	**8.25**	**106**		Pn	**Pn**	**12 52 59.8**	**+1.3**
NATI					Sn	**Sn**	**12 54 29.9**	**-0.2**
AMAZ	**Amatzia**	**8.44**	**119**		Pn	**Pn**	**12 53 01.5**	**+0.5**
AMAZ					Sn	**Sn**	**12 54 33.2**	**-1.5**
KZIT	**Kziot**	**8.45**	**124**		Pn	**Pn**	**12 53 01.8**	**+0.7**
KZIT					Sn	**Sn**	**12 54 31.9**	**-3.0**
HMDT	**Nahal Hemdat**	**8.51**	**113**		Pn	**Pn**	**12 53 03.4**	**+1.4**
YTIR	**Yattir**	**8.67**	**119**		Pn	**Pn**	**12 53 04.8**	**+0.5**
YTIR					Sn	**Sn**	**12 54 39.2**	**-1.3**
DSI	**Dead Sea**	**8.75**	**117**		Pn	**Pn**	**12 53 06.3**	**+1.1**
KRMI	**Paran Flat**	**9.17**	**127**		Pn	**Pn**	**12 53 11.2**	**+0.3**
KRMI					Sn	**Sn**	**12 54 49.2**	**-3.2**
ZFRI	**Zfri**	**9.19**	**123**		Pn	**Pn**	**12 53 11.5**	**+0.4**
ZFRI					Sn	**Sn**	**12 54 49.7**	**-3.1**
PRNI	**Paran**	**9.20**	**125**		Pn	**Pn**	**12 53 12.2**	**+0.9**
PRNI					Sn	**Sn**	**12 54 50.7**	**-2.5**
HRFI	**Mount Harif**	**9.43**	**126**		Pn	**Pn**	**12 53 15.3**	**+1.0**
HRFI					Sn	**Sn**	**12 54 56.7**	**-1.9**
MBRI	**Mt Berech**	**9.51**	**128**		Pn	**Pn**	**12 53 15.8**	**+0.4**
MBRI					Sn	**Sn**	**12 54 58.7**	**-1.9**
ASF	**Jabal al Asfar**	**9.59**	**110**		P	**Pn**	**12 53 17.6**	**+1.2**
	comp=E,1.8nm,0.3s,baz=214,slow=5.9,SNR=2.1							
EIL	**Elat**	**9.61**	**128**		P	**Pn**	**12 53 16.5**	**-0.3**
	comp=E,10.0nm,0.4s,baz=17,slow=2.3,SNR=32							
EIL					S	**Sn**	**12 54 59.8**	**-3.3**
	comp=E,11nm,0.4s,baz=103,slow=20,SNR=8.8							
EIL	**Elat**	**9.61**	**128**		Pn	**Pn**	**12 53 17.8**	**+1.0**
EIL					Sn	**Sn**	**12 54 59.2**	**-3.9**
GERES	**GERESS Array B**	**15.86**	**328**		P	**P**	**12 54 37.4**	**-1.1**
	comp=E,0.3nm,0.3s,baz=124,slow=13,SNR=4.3							
ESDC	**Sonseca Array**	**24.12**	**288**		P	**P**	**12 56 05.7**	**+0.6**
	comp=E,0.4nm,0.8s,baz=75,slow=12,SNR=3.7							
	comp=E,0.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**31.68**	**230**		P	P	12 57 14.7	+2.2
	comp=E,1.0nm,0.4s,baz=34,slow=8.6,SNR=18							
	comp=E,1.0nm,0.4s							

IDC 24 13:03:03.6±6.6, 1°.66S×140°.42E, h0km, mb3.3/2, mbtmp3.4/3, Error ellipse: s-maj=185.1km s-min=77.5km az=129.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.12**	**198**	P	P	13 07 27.9	-0.4
	1.0nm,1.1s,baz=19,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**22.77**	**196**	P	P	13 08 07.7	-0.1
	0.2nm,0.3s,baz=28,slow=11,SNR=5.9						
	0.2nm,0.3s						
VNDA	**Vanda**	**76.68**	**175**	P	P	13 14 56.3	+0.3
	0.5nm,0.8s,baz=317,slow=7.9,SNR=3.7						
	0.5nm,0.8s						

WEL 24 13:17:06.2±1.0, 37°S±4°×17°9E±°, h15km±4km, M3.3/20, ML3.6/27, MLv3.3/20, Error ellipse: s-maj=0.0km s-min=0.0km az=95.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.58**	**243**	P	Pg	13 17 17.6	0.0
MXZ				S	Sg	13 17 25.1	-0.3
WMGZ	**Waiomatatini S**	**0.67**	**220**	P	Pn	13 17 20.8	-0.5
WMGZ				S	Sn	13 17 30.8	-0.7
PKGZ	**Pakihiroa**	**0.91**	**230**	P	Pg	13 17 24.0	+0.1
PKGZ				S	Sg	13 17 36.7	+0.8
PUZ	**Puketiti**	**0.95**	**216**	P	Pg	13 17 24.6	+0.1
PUZ				S	Sn	13 17 37.8	-0.5
HAZ	**Te Kaha**	**1.04**	**244**	P	Pb	13 17 24.9	-1.0
HAZ				S	Sg	13 17 40.0	+0.2
TWGZ	**Tauwhareparae**	**1.17**	**221**	P	Pn	13 17 27.5	-0.5
TWGZ				S	Sn	13 17 43.9	+0.1
RUGZ	**Raukumara Rang**	**1.21**	**237**	P	Pb	13 17 29.0	+0.1
RUGZ				S	Sn	13 17 45.1	+0.1
CNGZ	**Carnagh Statio**	**1.32**	**207**	P	Pb	13 17 30.4	-0.3
CNGZ				S	Sg	13 17 49.0	+0.3
TKGZ	**Te Karaka**	**1.43**	**217**	P	Pn	13 17 31.1	-0.6
TKGZ				S	Sn	13 17 49.7	-0.5
MWZ	**Matawai**	**1.53**	**227**	P	Pn	13 17 32.6	-0.4
MWZ				S	Sn	13 17 52.7	-0.1
RIGZ	**Rimuhau**	**1.69**	**214**	P	Pn	13 17 34.5	-0.8
URZ	**Urewera**	**1.75**	**236**	P	Pn	13 17 36.3	+0.3
URZ				S	Sn	13 17 58.4	+0.4
PRGZ	**Paritu Road**	**1.82**	**207**	P	Pn	13 17 36.5	-0.6
EDRZ	**Edgecumbe**	**1.93**	**245**	P	Pn	13 17 39.2	+0.6
OPRZ	**Ohinepanea**	**1.98**	**254**	P	Pn	13 17 39.0	-0.3
KNZ	**Kokohu**	**1.99**	**210**	P	Pn	13 17 38.0	-1.4
MHGZ	**Mahia Peninsul**	**2.02**	**204**	P	Pn	13 17 38.6	-1.2
RTZ	**Ruatahuna**	**2.04**	**229**	P	Pn	13 17 40.2	+0.1
MUGZ	**Murupara**	**2.09**	**235**	P	Pn	13 17 40.5	-0.2
RAHZ	**Arahi**	**2.18**	**222**	P	Pn	13 17 42.0	0.0
TGRZ	**Tauranga**	**2.19**	**258**	P	Pn	13 17 42.2	+0.2
RRRZ	**Republican Roa**	**2.19**	**241**	P	Pn	13 17 39.7	-2.4
WHHZ	**Waihua**	**2.23**	**217**	P	Pn	13 17 41.8	-0.8
MTHZ	**Maungataniwha**	**2.28**	**227**	P	Pn	13 17 43.3	0.0
PRRZ	**Plateau Road**	**2.35**	**239**	P	Pn	13 17 44.3	0.0
ALRZ	**Allen Road**	**2.42**	**238**	P	Pn	13 17 45.1	-0.2
NMHZ	**Naumai**	**2.46**	**223**	P	Pn	13 17 46.0	0.0
ARHZ	**Aropaoanui**	**2.49**	**218**	P	Pn	13 17 44.6	-1.7
MRHZ	**Matea Rd**	**2.52**	**232**	P	Pn	13 17 46.6	-0.1
KUZ	**Kuaotunu**	**2.65**	**281**	P	Pn	13 17 47.4	-1.0
BKZ	**Black Stump Fm**	**2.69**	**226**	P	Pn	13 17 48.4	-0.6
MCHZ	**McNeill Hill**	**2.78**	**219**	P	Pn	13 17 49.2	-1.0
TOZ	**Tahuroa Road**	**2.78**	**260**	P	Pn	13 17 50.2	0.0
TLZ	**Tolley Road**	**2.90**	**248**	P	Pn	13 17 52.1	+0.3
KWHZ	**Kaweka Forest**	**2.91**	**223**	P	Pn	13 17 50.7	-1.3
KAHZ	**Kahuranaki**	**2.97**	**213**	P	Pn	13 17 51.1	-1.8
GRZ	**Great Barrier**	**3.00**	**289**	P	Pn	13 17 54.1	+0.8
MKAZ	**Moumakai**	**3.04**	**273**	P	Pn	13 17 52.7	-1.1
KRHZ	**Kereru**	**3.10**	**220**	P	Pn	13 17 53.0	-1.5
TMVZ	**Te Maari**	**3.14**	**234**	P	Pn	13 17 54.9	-0.4
ETVZ	**East Tongariro**	**3.14**	**233**	P	Pn	13 17 55.1	-0.2
NTVZ	**North Tongariro**	**3.15**	**234**	P	Pn	13 17 55.1	-0.2
BHHZ	**Black Hill Sta**	**3.15**	**225**	P	Pn	13 17 54.5	-0.8
PXZ	**Pawanui**	**3.18**	**210**	P	Pn	13 17 53.3	-2.4
NGZ	**Ngauruhoe**	**3.24**	**234**	P	Pn	13 17 56.3	-0.3
ETAZ	**East Tamaki Re**	**3.24**	**275**	P	Pn	13 17 56.4	-0.1
MOVZ	**Moawhango**	**3.28**	**229**	P	Pn	13 17 56.5	-0.6
WNVZ	**Wahianoa**	**3.33**	**232**	P	Pn	13 17 57.5	-0.4
PNHZ	**Pukenui**	**3.38**	**219**	P	Pn	13 17 56.9	-1.6
MTVZ	**Mangateitei**	**3.44**	**232**	P	Pn	13 17 58.8	-0.5
AWAZ	**Awhitu Peninsu**	**3.46**	**273**	P	Pn	13 18 00.4	+1.0
HIZ	**Hauiti**	**3.46**	**248**	P	Pn	13 18 00.5	+0.9
PRHZ	**Porangahau**	**3.47**	**211**	P	Pn	13 17 57.0	-2.7
RVAZ	**Riverhead Bore**	**3.54**	**277**	P	Pn	13 18 00.4	-0.3
ANWZ	**Angora Road**	**3.70**	**211**	P	Pn	13 18 00.0	-2.8
DVHZ	**Dannevirke**	**3.70**	**215**	P	Pn	13 18 00.4	-2.5
WCZ	**Waipu Caves**	**3.95**	**289**	P	Pn	13 18 06.8	+0.4
WAZ	**Wanganui**	**3.96**	**231**	P	Pn	13 18 06.4	0.0
POWZ	**Post Office Ro**	**3.96**	**218**	P	Pn	13 18 09.4	+2.9
BFZ	**Birch Farm**	**3.98**	**211**	P	Pn	13 18 03.4	-3.3
PRWZ	**Pori Road**	**4.00**	**215**	P	Pn	13 18 05.4	-1.5
OGWZ	**Otaki Gorge**	**4.58**	**219**	P	Pn	13 18 14.3	-0.6
OUZ	**Omahuta**	**4.81**	**294**	P	Pn	13 18 19.7	+1.7
MSWZ	**Moikau Station**	**5.01**	**214**	P	Pn	13 18 18.8	-2.1
TUWZ	**Tuamarina**	**5.66**	**222**	P	Pn	13 18 26.7	-3.1
CTZ	**Chatham Island**	**7.25**	**154**	P	Pn	13 18 51.3	-0.3
LTZ	**Lake Taylor**	**7.50**	**221**	P	Pn	13 18 52.1	-3.0

*JMA **24** 13:19:33.2±0.1, 24°N±1°×122°.4E±0°.3, h47km±2km, MV2.6/14, TAIWAN REGION*
*TAP **24** 13:19:33.9, 24°.20N×122°.31E, h47km, ML3.4, D*
ISC 24 13:19:32.9±1.0, 24°.13N±0°.02×122°.36E±0°.02, h30km±10km, n110, σ1§24/215, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.62**	**301**	*e*P	**Pb**	**13 19 45.0**	**-0.4**
	baz=302						
EWUT				*e*S	**Sb**	**13 19 53.6**	**-0.2**
	baz=302						
JYNG	**Yonagunijimaku**	**0.62**	**59**	P	**Pb**	**13 19 45.9**	**+0.5**
JYNG				*e*S	**Sb**	**13 19 54.8**	**+1.0**
ENA	**Nanau**	**0.64**	**298**	P	**Pb**	**13 19 46.0**	**+0.3**
	baz=296						
ENA				*e*S	**Sb**	**13 19 55.2**	**+0.8**
	baz=296						
TWC	**Suao**	**0.67**	**316**	P	**Pb**	**13 19 46.1**	**-0.1**
	baz=314						
TWC				S	**Sb**	**13 19 54.8**	**-0.4**
	baz=314						
ETL	**Fush Village**	**0.68**	**273**	*e*P	**Pb**	**13 19 46.6**	**+0.3**
	baz=257						
ETL				*e*S	**Sb**	**13 19 56.4**	**+0.9**
	baz=257						
YOJ	**Yonaguni jima**	**0.68**	**61**	P	**Pb**	**13 19 46.6**	**+0.3**
YOJ				S	**Sb**	**13 19 55.9**	**+0.5**
TWD	**Chiawan**	**0.70**	**266**	*e*P	**Pb**	**13 19 46.7**	**0.0**
	baz=250						
TWD				*e*S	**Sb**	**13 19 56.5**	**+0.3**
	baz=250						
NACB	**Ninganchiao**	**0.70**	**274**	P	**Pb**	**13 19 46.7**	**0.0**
	baz=258						
NACB				*e*S	**Sb**	**13 19 54.7**	**-1.5**
	baz=258						
HWA	**Hwalien**	**0.71**	**258**	*e*P	**Pb**	**13 19 47.3**	**+0.4**
	baz=251						
HWA				*e*S	**Sb**	**13 19 57.7**	**+1.4**
	baz=251						
TEYL	**Yanliau Villag**	**0.75**	**250**	*i* P	**Pb**	**13 19 48.0**	**+0.6**
	baz=237						
ETLH	**Xiulin Townshi**	**0.81**	**276**	P	**Pb**	**13 19 48.3**	**-0.2**
	baz=262						
ETLH				S	**Sb**	**13 19 58.7**	**-0.5**
	baz=262						
ETM	**Tongmen**	**0.81**	**259**	*i* P	**Pb**	**13 19 48.3**	**-0.3**
	baz=253						
EGS		**0.81**	**331**	*e*P	**Pb**	**13 19 48.5**	**-0.1**
	baz=332						
EGS				*e*S	**Sb**	**13 19 59.0**	**-0.3**
	baz=332						
LATG	**Datong**	**0.86**	**298**	*e*P	**Pb**	**13 19 49.2**	**-0.3**
	baz=295						
LATG				*e*S	**Sb**	**13 20 00.9**	**+0.1**
	baz=295						
TWE	**Neicheng**	**0.87**	**313**	*e*P	**Pb**	**13 19 49.3**	**-0.1**
	baz=317						
TWE				*e*S	**Sb**	**13 20 00.4**	**-0.3**
	baz=317						
NTC	**Toucheng**	**0.87**	**326**	*e*P	**Pb**	**13 19 48.6**	**-0.9**
	baz=335						
NTC				*e*S	**Sb**	**13 20 00.1**	**-0.8**
	baz=335						
ENTT	**Nioudou**	**0.89**	**305**	*e*P	**Pb**	**13 19 48.7**	**-1.1**
	baz=303						
ENTT				*e*S	**Sb**	**13 19 59.6**	**-1.8**
	baz=303						
ESL	**Shilin**	**0.91**	**250**	*e*P	**Pb**	**13 19 49.4**	**-0.8**
	baz=244						
ESL				*e*S	**Sb**	**13 20 01.2**	**-0.7**
	baz=244						
NDT	**Datong Townshi**	**0.91**	**302**	*e*P	**Pb**	**13 19 49.3**	**-0.9**
	baz=299						
NDT				*e*S	**Sb**	**13 20 01.7**	**-0.3**
	baz=299						
TWB1	**Santiao Chiao**	**0.94**	**339**	P	**Pb**	**13 19 49.7**	**-1.0**
	baz=340						
TWB1				*e*S	**Sb**	**13 20 00.9**	**-2.0**
	baz=340						
NNSB	**Datong**	**0.94**	**289**	*e*P	**Pb**	**13 19 50.4**	**-0.4**
	baz=285						
NNSB				*e*S	**Sb**	**13 20 02.7**	**-0.4**
	baz=285						
FUSB	**Fushanzhiwuyua**	**0.95**	**312**	*e*P	**Pb**	**13 19 50.9**	**0.0**
	baz=310						
FUSB				*e*S	**Sb**	**13 20 03.0**	**-0.1**
	baz=310						
NNS	**Nan Shan**	**0.96**	**289**	*e*P	**Pb**	**13 19 49.6**	**-1.5**
	baz=286						
NNS				*e*S	**Sb**	**13 20 02.2**	**-1.2**
	baz=286						
EGFH	**Guangfu**	**0.97**	**242**	*e*P	**Pn**	**13 19 50.5**	**0.0**
	baz=230						
EGFH				*e*S	**Sb**	**13 20 03.0**	**-0.7**
	baz=230						
TIPB	**Shuangxi**	**0.97**	**330**	*e*P	**Pn**	**13 19 50.4**	**-0.1**
	baz=342						
TIPB				*e*S	**Sb**	**13 20 02.5**	**-1.3**
	baz=342						
WHF	**Hehuan Shan**	**1.00**	**271**	P	**Pn**	**13 19 51.3**	**-0.1**
	baz=257						
WHF				*e*S	**Sb**	**13 20 04.5**	**-0.6**
	baz=257						
FUSS	**Fushou**	**1.03**	**277**	P	**Pn**	**13 19 52.0**	**+0.4**
	baz=265						
FUSS				*e*S	**Sb**	**13 20 05.1**	**-0.6**
	baz=265						
YHNB	**Yeheng**	**1.05**	**301**	P	**Pn**	**13 19 52.2**	**+0.5**
	baz=289						
YHNB				*e*S	**Sb**	**13 20 05.0**	**-1.0**
	baz=289						
SXI1	**Grass Mountain**	**1.06**	**335**	P	**Pn**	**13 19 51.5**	**-0.3**
	baz=335						
SXI1				S	**Sb**	**13 20 04.2**	**-2.1**
	baz=335						
NSK	**Sanguang**	**1.07**	**301**	*e*P	**Pn**	**13 19 51.3**	**-0.6**
	baz=289						
NSK				*e*S	**Sb**	**13 20 04.4**	**-2.2**
	baz=289						
HGSD	**Ruisui**	**1.07**	**234**	*e*P	**Pn**	**13 19 51.8**	**0.0**
	baz=221

TWY eS Sn 13 20 11.4 -0.9
baz=339
NSTT Nanjuang 1.34 292 eP Pn 13 19 56.8 +1.3
baz=290
NSTT eS Sn 13 20 13.2 +0.9
baz=290
FULB Fuli 1.35 227 eP Pn 13 19 55.7 0.0
baz=215
FULB eS Sn 13 20 12.0 -0.6
baz=215
SMLT Sun Moon Lake 1.36 260 eP Pn 13 19 56.7 +0.7
baz=250
SMLT eS Sn 13 20 13.1 0.0
baz=250
YUS Yu-Shan 1.44 244 eP Pn 13 19 58.2 +0.8
baz=240
YUS eS Sn 13 20 15.2 -0.3
baz=240
TWQ1 Liyutan 1.47 279 eP Pn 13 19 58.7 +1.4
baz=276
TWQ1 eS Sn 13 20 17.3 +1.8
baz=276
NSY Sanyi 1.49 281 eP Pn 13 19 59.1 +1.5
baz=279
NSY eS Sn 13 20 17.2 +1.1
baz=279
NMLH Miaoli 1.49 286 eP Pn 13 19 59.0 +1.4
baz=284
NMLH eS Sn 13 20 16.5 +0.4
baz=284
EDH Donghe 1.51 220 eP Pn 13 19 57.5 -0.4
baz=217
EDH eS Sn 13 20 15.0 -1.4
baz=217
JKRS Kuro-shima 1.51 86 P Pn 13 19 59.0 +1.1
JKRS S Sn 13 20 17.1 +0.7
PCYT Pengchaiyu 1.52 350 eP Pn 13 19 57.4 -0.7
baz=340
PCYT eS Sn 13 20 15.9 -0.9
baz=340
WJS Zhushan 1.53 259 eP Pn 13 20 00.3 +2.2
baz=256
WJS eS Sb 13 20 19.9 +0.3
baz=256
TCU Taichung 1.54 271 eP Pn 13 20 00.2 +1.9
baz=281
TCU eS Sn 13 20 19.8 +2.4
baz=281
ELDTW Lidau 1.55 233 eP Pn 13 19 58.7 +0.1
baz=230
ELDTW eS Sn 13 20 15.6 -2.1
baz=230
ALS Alishan 1.55 247 eP Pn 13 20 00.2 +1.4
baz=234
ALS eS Sn 13 20 18.8 +0.7
baz=234
WNT Mingjian 1.56 261 eP Pn 13 20 00.6 +2.0
baz=250
WNT eS Sb 13 20 20.7 +0.3
baz=250
JIJ Ishigaki jima 1.64 81 P Pn 13 19 59.8 +0.1
JIJ S Sn 13 20 19.1 -0.7
WCHH Zhanghua 1.65 269 eP Pn 13 20 01.0 +1.2
baz=277
WCHH eS Sn 13 20 22.2 +2.2
baz=277
LONT Longtian 1.66 223 eP Pn 13 19 59.6 -0.4
baz=230
LONT eS Sn 13 20 18.9 -1.5
baz=230
LDUT Ludao 1.67 210 eP Pn 13 19 59.5 -0.5
baz=207
LDUT eS Sn 13 20 18.6 -1.8
baz=207
WDLH Douliu 1.73 256 eP Pn 13 20 03.0 +2.1
baz=242
WDLH eS Sn 13 20 24.9 +3.0
baz=242
STYH Taoyuan 1.74 237 eP Pn 13 20 01.8 +0.7
baz=234
STYH eS Sn 13 20 22.0 -0.2
baz=234
WCKO Fanlu 1.75 247 eP Pn 13 20 02.4 +1.1
baz=244
WCKO eS Sn 13 20 24.2 +1.7
baz=244
TWGBT Beinan 1.76 222 eP Pn 13 20 01.1 -0.2
baz=228
TWGBT eS Sn 13 20 20.6 -2.1
baz=228
TWG Pinlang 1.76 223 eP Pn 13 20 01.1 -0.3
baz=228
TWG eS Sn 13 20 21.5 -1.2
baz=228
TPUB Ta-pu 1.79 243 eP Pn 13 20 04.0 +2.2
baz=240
TPUB eS Sn 13 20 26.1 +2.6
baz=240
CHN4 Tsaushan 1.80 245 eP Pn 13 20 03.0 +1.2
baz=234
CHN4 eS Sn 13 20 25.2 +1.5
baz=234
WTP Ta-pu 1.83 242 eP Pn 13 20 04.3 +1.9
baz=239
WTP eS Sn 13 20 27.2 +2.7
baz=239
WRL Guolierlin Hig 1.83 263 eP Pn 13 20 02.6 +0.3
baz=261
WRL eS Sn 13 20 25.1 +0.7
baz=261
CHY Chiayi 1.88 251 eP Pn 13 20 04.2 +1.2
baz=248
CHY eS Sn 13 20 28.4 +2.6
baz=248
TWK Hsinying 1.92 244 eP Pn 13 20 05.4 +1.8
baz=241
TWK eS Sn 13 20 28.6 +1.8
baz=241
CHN1 Nanshi 1.93 241 eP Pn 13 20 05.6 +1.9
baz=238
CHN1 eS Sn 13 20 29.4 +2.5
baz=238
SNST Tainan City 1.94 243 eP Pn 13 20 04.3 +0.6
baz=240
SNST eS Sn 13 20 29.7 +2.6
baz=240
SGST Jiashian 1.94 238 eP Pn 13 20 04.9 +1.1
baz=235
SGST eS Sn 13 20 29.4 +2.3
baz=235
ECL Taimali 2.00 221 eP Pn 13 20 04.5 -0.1
baz=225
ECL eS Sn 13 20 26.5 -2.2
baz=225
WSL Shuilin Townsh 2.05 253 eP Pn 13 20 06.1 +0.8
baz=251
WSL eS Sn 13 20 31.2 +1.4
baz=251
ICHU Yijhu 2.06 249 eP Pn 13 20 07.2 +1.8
baz=246
ICHU eS Sn 13 20 32.1 +2.0
baz=246
SSD Sandimen 2.10 229 eP Pn 13 20 08.5 +2.4
baz=220
SSD eS Sn 13 20 33.6 +2.4
baz=220
SCST Cishan 2.12 235 eP Pb 13 20 09.4 -1.2
baz=232
SCST eS Sb 13 20 36.2 -0.3
baz=232
TSMG Majia 2.12 228 eP Pn 13 20 08.5 +2.1
baz=219
TSMG eS Sn 13 20 33.7 +2.0
baz=219
JTJ Tarama 2.19 76 P Pn 13 20 08.0 +0.7
JTJ eS Sn 13 20 32.5 -0.9
MASBT Mashibuluo 2.19 227 eP Pn 13 20 08.9 +1.6
baz=219
MASBT eS Sn 13 20 33.7 +0.3
baz=219
TWM1 Shoushan 2.21 234 eP Pn 13 20 09.7 +2.2
baz=232
TWM1 eS Sn 13 20 36.7 +3.0
baz=232
EAST Anshuo 2.23 219 eP Pn 13 20 08.4 +0.6
baz=208
EAST eS Sn 13 20 33.4 -0.9
baz=208

LYUB Lan-yu 2.23 199 eP Pn 13 20 07.4 -0.5
baz=197
LYUB eS Sn 13 20 30.8 -3.6
baz=197
TAWH Dawu Township 2.24 218 eP Pn 13 20 08.1 +0.2
baz=216
TAWH eS Sn 13 20 32.5 -2.0
baz=216
TSCK Chigu Township 2.31 245 eP Pn 13 20 09.7 +0.8
baz=243
TSCK eS Sn 13 20 36.6 +0.4
baz=243
SCZT Fangliau 2.37 223 eP Pn 13 20 12.6 +2.8
baz=212
SCZT eS Sn 13 20 40.7 +2.8
baz=212
SLIU Shizi 2.39 217 eP Pn 13 20 10.2 +0.2
baz=215
SLIU eS Sn 13 20 37.3 -0.9
baz=215
TWKBT Hengchun 2.60 214 eP Pn 13 20 12.5 -0.5
baz=212
TWKBT eS Sn 13 20 43.6 0.0
baz=212
WDGT Dungji 2.62 251 eP Pn 13 20 14.3 +1.1
baz=249
WDGT eS Sn 13 20 43.3 -0.8
baz=249
PHUB P'eng-hu 2.63 257 eP Pn 13 20 13.7 +0.4
baz=267
PHUB eS Sn 13 20 44.2 0.0
baz=267
PNG Penghu 2.63 258 eP Pn 13 20 13.9 +0.6
baz=256
PNG eS Sn 13 20 44.6 +0.4
baz=256
JIRB Irabujima 2.65 74 P Pn 13 20 14.2 +0.6
JIRB S Sn 13 20 45.1 +0.4
JIKM Ikemajima 2.74 73 eP Pn 13 20 15.5 +0.6
JMJ2 Miyako jima3 2.77 77 P Pn 13 20 16.4 +1.2
JMJ2 S Sn 13 20 48.5 +0.8
JOGS Gusukube 2.84 77 S Sn 13 20 50.8 +1.3

*IDC **24** 13:32:40.6±2.7,34°.23N×141°.88E,h0km,mb3.2/2, mbtmp3.1/4,ML2.5/2,Error ellipse: s-maj=44.5km s-min=33.6km az=44.0*
*JMA **24** 13:32:41.9±0.6,34°.N±1°.×14°.2E±°,h22km±2km,MV2.7/19, FAR SE OFF BOSO PEN*
ISC 24 13:32:43.4±1.7,34°.43N±0°.06×141°.7E±0°.1,h27km,n8, σ1s74/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.66**	**290**	P		**Pb**	**13 32 54.4**	**-1.6**
JKUC	**kamogawauchiur**	**1.46**	**301**	*e*S		**Sn**	**13 33 24.4**	**-1.8**
CHOJ	**Chosi**	**1.46**	**331**	*e*P		**Pn**	**13 33 07.3**	**-0.6**
CHOJ				*e*S		**Sn**	**13 33 26.6**	**+0.4**
JMKN	**Mikurajimanish**	**1.85**	**254**	*e*P		**Pn**	**13 33 12.8**	**-0.6**
JHJ	**Hachijo jima 2**	**2.08**	**232**	Pn		**Pn**	**13 33 17.4**	**+0.8**
	7.6nm,0.3s,baz=60,slow=19,SNR=0.9							
JHJ				Sn		**Sn**	**13 33 42.5**	**+0.9**
	11nm,0.3s,baz=242,slow=23,SNR=1.1 40nm,0.4s							
MJAR	**Matsushiro Arr**	**3.56**	**307**	Pn		**Pn**	**13 33 39.4**	**+2.5**
	0.2nm,0.3s,baz=152,slow=12,SNR=9.5							
MJAR				Sn		**Sn**	**13 34 21.1**	**+2.9**
	0.2nm,0.3s,baz=56,slow=40,SNR=1.6 0.7nm,0.3s							
WRA	**Warramunga Arr**	**54.52**	**189**	P		**P**	**13 42 08.1**	**-0.9**
	0.4nm,1.0s,baz=5.4,slow=7.5,SNR=2.5 0.4nm,1.0s							
ASAR	**Alice Springs**	**58.25**	**188**	P		**P**	**13 42 36.4**	**+0.9**
	0.2nm,0.9s,baz=1.6,slow=6.5,SNR=1.7 0.2nm,0.9s							

*CNRM **24** 13:39:24.5,32°.25N×7°.94W,h18km,ml2.8*
*INMG **24** 13:39:25.9±1.0,32°.37N×7°.66W,h10km,ML2.4,Error ellipse: s-maj=9.1km s-min=3.3km az=120.0*
*MDD **24** 13:39:25.4±1.3,32°.44N×7°.79W,h0km,Mb3.9/7, M_mb3.2/6,Error ellipse: s-maj=10.0km s-min=9.2km az=172.0*
*IGIL **24** 13:39:28.5,32°.44N×7°.76W,h11km*
ISC 24 13:39:23.0±1.2,32°.5N±0°.05×7°.67W±0°.08,h10km,n23, σ2s07/33,7C,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRHM	**Skhour des Reh**	**0.23**	**302**	P		**Pg**	**13 39 28.0**	**+0.2**
OUK	**Oukaimeden**	**1.15**	**189**	P		**Pg**	**13 39 44.2**	**-1.0**
TTIG	**Tnine Tigouga,**	**1.91**	**200**	P		**Pn**	**13 39 54.0**	**-1.8**
MDT	**Midelt**	**2.62**	**79**	P		**Pn**	**13 40 09.3**	**+3.8**
EMIJ	**Mijas**	**4.84**	**29**	⇑*i*Vmb_V			13 40 38.5	
	40nm,SNR=1.1							
EMIJ				Sn		**Sn**	**13 41 30.2**	**-1.8**
PFVI	**Vila Bisbo**	**4.87**	**349**	*e*Pn		**Pn**	**13 40 37.9**	**+1.6**
MORF	**Marmelete**	**5.01**	**351**	*e*P		**Pn**	**13 40 40.3**	**+2.0**
MORF	**Marmelete**	**5.01**	**351**	*e*Pn		**Pn**	**13 40 40.4**	**+2.1**
PVAQ	**Vaqueiros**	**5.04**	**360**	*e*Pn		**Pn**	**13 40 40.8**	**+2.1**
PVAQ				*e*Sn		**Sn**	**13 41 36.4**	**-0.7**
PVAQ				A		A	13 41 38.1	
	5.2nm,0.6s							
PVAQ	**Vaqueiros**	**5.04**	**360**	P		**Pn**	**13 40 40.9**	**+2.1**
EGRO	**El Granado**	**5.18**	**2**	Pn		**Pn**	**13 40 41.8**	**+1.2**
EGRO				⇑*i*Vmb_V			13 40 43.9	
	82nm,SNR=1.4							
EGRO				Sn		**Sn**	**13 41 37.2**	**-3.1**
PCVE	**Castro Verde**	**5.28**	**357**	*e*Pn		**Pn**	**13 40 44.2**	**+2.2**
PCVE				*e*Sn		**Sn**	**13 41 42.1**	**-0.8**
PCVE				A		A	13 41 56.8	
	3.4nm,0.4s							
MESJ	**Messejana**	**5.50**	**355**	*e*Sn		**Sn**	**13 41 47.5**	**-0.7**
MESJ				A		A	13 41 55.5	
	2.7nm,0.6s							
PBEJ	**Beja**	**5.67**	**358**	*e*Sn		**Sn**	**13 41 51.4**	**-1.0**
PNCL	**Nicolau / Gran**	**5.79**	**353**	*e*Pn		**Pn**	**13 41 51.0**	**+2.0**
PNCL				*e*Sn		**Sn**	**13 41 55.4**	**-0.1**
PNCL				A		A	13 41 59.0	
	1.7nm,0.3s							
PBAR	**Barrancos**	**5.84**	**5**	*e*Pn		**Pn**	**13 40 51.8**	**+2.2**
PBAR				*e*Sn		**Sn**	**13 41 56.0**	**-0.6**
PBAR				A		A	13 42 03.0	
	3.1nm,0.6s							
ECAB	**El Cabril**	**6.00**	**17**	Pn		**Pn**	**13 40 53.1**	**+1.2**
ECAB				⇑*i*Vmb_V			13 40 54.7	
	65nm,SNR=1.4							
ECAB				Sn		**Sn**	**13 41 57.9**	**-2.9**
EADA	**Adamuz**	**6.33**	**23**	Pn		**Pn**	**13 40 58.0**	**+1.6**
EADA				⇑*i*Vmb_V			13 41 00.2	
	66nm,SNR=1.2							
EADA				Sn		**Sn**	**13 42 06.5**	**-2.3**
EBAD	**Badajoz**	**6.42**	**5**	Pn		**Pn**	**13 40 59.8**	**+2.2**
EBAD				⇑*i*Vmb_V			13 41 01.2	
	74nm,SNR=1.4							
EBAD				Sn		**Sn**	**13 42 06.8**	**-4.1**
PMTG	**Montargil**	**6.72**	**356**	*e*Pn		**Pn**	**13 41 04.0**	**+2.2**
PMTG				*e*Sn		**Sn**	**13 42 17.2**	**-1.2**
PMTG				A		A	13 42 33.9	
	1.7nm,0.6s							
PMRV	**Marv??o**	**7.07**	**2**	*e*Pn		**Pn**	**13 41 08.6**	**+2.1**
PMRV				*e*Sn		**Sn**	**13 42 24.1**	**-2.9**
PMRV				A		A	13 42 41.5	
	2.1nm,0.5s							
PAB	**San Pablo**	**7.67**	**20**	Pn		**Pn**	**13 41 15.8**	**+1.0**
PAB				⇑*i*Vmb_V			13 41 18.9	
	31nm,SNR=0.7							
PAB				Sn		Sn	13 42 36.5	-5.3
EPLA	**Plasencia**	**7.81**	**9**	Pn		**Pn**	**13 41 16.4**	**-0.2**
EPLA				⇑*i*Vmb_V			13 41 19.4	
	66nm,SNR=1.0							
EPLA				Sn		Sn	13 42 40.7	-4.4

IDC 24 13:42:07.7±2.3,11°.14S×127°.23E,h0km,mb3.0/2, mbtmp3.0/3,ML2.7/1,Error ellipse: s-maj=186.6km s-min=29.5km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.94**	**160**	P		P	13 46 40.1	-1.4
	baz=338,slow=11,SNR=2.0 0.3nm,0.8s							
ASAR	**Alice Springs**	**23.31**	**164**	P		P	13 47 18.4	+0.9
	0.2nm,0.8s,baz=344,slow=10,SNR=4.4 0.2nm,0.8s							
MKAR	**Makanchi Array**	**61.85**	**327**	P		P	13 52 28.7	-0.1
	0.1nm,0.3s,baz=126,slow=8.6,SNR=2.1 0.1nm,0.3s							

IDC 24 14:15:48.1±1.3,2°.00S×140°.90E,h0km,mb3.6/4, mbtmp3.6/5,ML3.3/1,MS3.6/1,Error ellipse: s-maj=66.8km s-min=25.0km az=95.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.95**	**199**	P		P	14 20 09.6	-1.4
	0.1nm,0.3s,baz=29,slow=12,SNR=9.3 0.9nm,0.8s							
ASAR	**Alice Springs**	**22.58**	**197**	P		P	14 20 50.8	+0.4
	0.6nm,0.4s,baz=27,slow=12,SNR=11 0.6nm,0.4s							
URZ	**Urewera**	**49.00**	**142**	LR		LR	14 45 18.6	
	comp=Z,55nm,18.9s,baz=84,slow=36							
MKAR	**Makanchi Array**	**70.58**	**322**	P		P	14 27 05.1	-0.1
	1.0nm,0.9s,baz=111,slow=6.6,SNR=5.9 1.0nm,0.9s							
VNDA	**Vanda**	**76.30**	**175**	P		P	14 27 39.2	+0.8
	0.4nm,0.7s,baz=330,slow=8.1,SNR=3.5 0.4nm,0.7s							
ILAR	**Eielson Array**	**84.29**	**24**	P		P	14 28 21.4	-0.2
	0.4nm,0.7s,baz=250,slow=4.6,SNR=4.1 0.4nm,0.7s							

IDC 24 14:22:45.2±6.0,32°.68S×178°.17W,h0km,mb3.6/2, mbtmp3.6/2,Error ellipse: s-maj=260.7km s-min=60.7km az=160.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.90**	**269**	P		P	14 30 45.8	+0.1
	0.3nm,0.6s,baz=112,slow=7.8,SNR=5.5 0.3nm,0.6s							
WRA	**Warramunga Arr**	**44.09**	**275**	P		P	14 30 55.0	-0.3
	1.1nm,0.6s,baz=116,slow=7.6,SNR=12 1.1nm,0.6s							
FINES	**FINESS Array B**	**147.22**	**339**	PKPbc		PKPbc	14 42 28.9	-0.8
	1.4nm,0.8s,baz=62,slow=3.3,SNR=4.1							

*IDC **24** 14:25:28.1±2.5,8°.41S×112°.52E,h0km,mb3.4/4, mbtmp3.5/5,ML3.6/1,MS3.3/2,Error ellipse: s-maj=143.1km s-min=27.0km az=50.0*
*DJA **24** 14:25:37.9±0.3,9°.S±6°.×11°.2E±°,h49km±11km,M3.9/10, mb3.9/5,mB4.8/1,MLv3.9/10,Mw(mB)4.0/1*
ISC 24 14:25:37.6±1.2,8°.8S±0°.1×112°.48E±0°.05,h60km±21km, n23,σ0s98/25,mb3.2/4,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.04**	**319**	P		**Pn**	**14 25 56.1**	**-0.1**
PWJI				S		**Sn**	**14 26 09.6**	**-0.3**
GMJI	**Gumukmas**	**1.09**	**60**	P		**Pn**	**14 25 56.4**	**-0.5**
PCJI	**Pacitan**	**1.43**	**295**	P		**Pn**	**14 26 02.4**	**+1.0**
PCJI				S		**Sn**	**14 26 19.2**	**-0.1**
BLJI	**Banyuglugur**	**1.53**	**46**	P		**Pn**	**14 26 03.8**	**+1.1**
BLJI				S		**Sn**	**14 26 22.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**1.68**	**78**	P		**Pn**	**14 26 05.0**	**+0.2**
JAGI				S		**Sn**	**14 26 24.6**	**-0.8**
ABJI	**Asem Bagus**	**2.01**	**60**	P		**Pn**	**14 26 10.7**	**+1.5**
UGM	**Wanagama**	**2.14**	**295**	P		**Pn**	**14 26 10.9**	**-0.1**
UGM				S		**Sn**	**14 26 36.1**	**-0.4**
KMMI	**Kalianget**	**2.29**	**40**	P		**Pn**	**14 26 13.3**	**+0.3**
IGBI	**Denpasar**	**2.63**	**90**	P		**Pn**	**14 26 17.6**	**-0.1**
SMRI	**Semarang**	**2.68**	**311**	P		**Pn**	**14 26 17.7**	**-0.7**
DNP	**Denpasar**	**2.70**	**87**	P		**Pn**	**14 26 19.8**	**+1.2**
SRBI	**Singaraja**	**2.79**	**75**	P		**Pn**	**14 26 20.6**	**+0.6**
TWSI	**Taliwang, Sumb**	**4.35**	**89**	P		**Pn**	**14 26 42.4**	**+1.2**
PLAI	**Plampang**	**5.23**	**91**	P		**Pn**	**14 26 55.7**	**+2.4**
	0.1nm33nm,1.0s							
PLAI				S		**Sn**	**14 27 50.7**	**-1.7**
	0.1nm33nm,1.0s							
KAPI	**Kappang**	**8.14**	**63**	LR		LR	14 31 29.9	
	comp=Z,125nm,20.4s,baz=35,slow=46							
EDFI	**Ende, Flores**	**9.10**	**90**	P		**Pn**	**14 27 47.0**	**+0.6**
	2.6nm,1.2s							
FITZ	**Fitzroy Crossi**	**15.76**	**127**	Pn		**Pn**	**14 29 15.3**	**-0.6**
	0.2nm,0.3s,baz=288,slow=9.6,SNR=6.8							
FITZ				Sn		Sn	14 31 57.1	-13
	0.1nm,0.3s,baz=357,slow=17,SNR=1.4 0.7nm,0.4s							
MSAI	**Masohi**	**17.23**	**73**	pP		pP	14 29 46.1	-1.7
	417nm6.9nm,0.5s							
WRA	**Warramunga Arr**	**23.85**	**120**	P		**P**	**14 30 44.6**	**-1.0**
	0.4nm,0.8s,baz=294,slow=11,SNR=6.6 0.4nm,0.8s							
ASAR	**Alice Springs**	**25.26**	**128**	P		**P**	**14 30 58.3**	**-0.1**
	0.3nm,0.6s,baz=303,slow=9.3,SNR=6.3 0.3nm,0.6s							
STKA	**Stephens Creek**	**35.45**	**134**	P		**P**	**14 32 28.6**	**+0.4**
	2.7nm,0.8s,baz=310,slow=9.9,SNR=3.9 2.7nm,0.8s							
MKAR	**Makanchi Array**	**61.56**	**337**	P		P	14 35 44.7	-3.9
	0.3nm,0.8s,baz=141,slow=9.3,SNR=1.9 0.3nm,0.8s							
GEYT	**Alibeck**	**68.77**	**316**	LR		LR	15 09 58.1	
	comp=Z,30nm,18.6s,baz=216,slow=39							

MAN 24 14:26:25.4,10°.12N×123°.26E,h23km,mb4.1,ML2.9, MS2.6,3C-6D,Cebu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**0.67**	**245**	⇓*e*P		Pn	14 26 39.1	-0.4
CNOP				*e*S		Sn	14 26 50.0	+0.7
LLP	**Lapu-Lapu**	**0.72**	**74**	⇓*i*P		Pb	14 26 37.5	-1.9
LLP				*i* S		Sb	14 26 46.9	-2.0
TBP	**Tagbilaran**	**0.73**	**125**	*i* P		Pb	14 26 38.8	-0.7
SNPH	**Sibulan**	**0.77**	**182**	⇑*i*P		Pb	14 26 40.5	+0.3
SNPH				*i* S		Sn	14 26 51.8	0.0
GUIM	**Jordan**	**0.83**	**308**	⇑*e*P		Pb	14 26 41.0	-0.2
GUIM				*e*S		Sn	14 26 53.8	+0.5
LSIP	**Lazi, Siquijor**	**1.05**	**159**	⇓*i*P		Pb	14 26 44.9	+0.1
LSIP				*i* S		Sn	14 26 59.5	+0.9
TABP	**Talibon, Bohol**	**1.06**	**91**	⇑*i*P		Pn	14 26 43.3	-1.5
TABP				*i* S		Sb	14 26 57.1	-1.4
GHBP	**Garcia Hernand**	**1.15**	**115**	⇓*i*P		Pn	14 26 45.5	-0.6
GHBP				*i* S		Sb	14 27 01.5	+0.3
RCP	**Roxas**	**1.52**	**341**	⇓*e*P		Pb	14 26 53.5	+0.6
RCP				*e*S		Sb	14 27 15.2	+3.4
MSLP	**Maasin**	**1.58**	**89**	⇓*e*P		Pn	14 26 52.7	+0.7
MSLP				*e*S		Sb	14 27 14.7	+1.3

*IDC **24** 14:55:52.9±1.1,34°.35N×141°.69E,h0km,mb3.5/6, mbtmp3.5/7,ML2.8/1,MS2.9/1,Error ellipse: s-maj=23.4km s-min=20.2km az=98.0*
*JMA **24** 14:55:53.1±0.6,34°.N±2°.×14°.2E±°,h34km±3km,MV3.1/22, FAR SE OFF BOSO PEN*
ISC 24 14:55:56.7±1.0,34°.37N±0°.06×141°.67E±0°.08,h27km,n18, σ0s83/21,mb3.5/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.64**	**296**	P		**Pb**	**14 56 08.2**	**-0.7**
BSO1				X			14 56 19.7	
BSO3	**Boso 3**	**1.05**	**294**	P		**Pn**	**14 56 15.2**	**-0.2**
BSO4	**Boso 4**	**1.26**	**300**	P		**Pn**	**14 56 18.5**	**+0.1**
KTR	**Katsuura**	**1.36**	**305**	*e*P		**Pn**	**14 56 19.2**	**-0.6**
JKUC	**kamogawauchiur**	**1.44**	**303**	P		**Pn**	**14 56 20.4**	**-0.7**
JKUC				S		**Sb**	**14 56 40.4**	**-0.5**
CHOJ	**Chosi**	**1.48**	**334**	P		**Pn**	**14 56 20.2**	**-1.4**
JMKN	**Mikurajimanish**	**1.79**	**255**	P		**Pn**	**14 56 25.0**	**-0.9**
JMKN				*e*S		**Sn**	**14 56 47.7**	**0.0**
JIM2	**Oshima 3**	**1.88**	**281**	*e*P		**Pn**	**14 56 26.4**	**-0.6**
JHJ	**Hachijo jima 2**	**2.01**	**232**	Pn		**Pn**	**14 56 28.6**	**-0.3**
	33nm,0.3s,baz=332,slow=17,SNR=24							
JHJ				Sn		**Sn**	**14 56 54.0**	**+1.0**
	52nm,0.3s,baz=248,slow=24,SNR=15							
MJAR	**Matsushiro Arr**	**3.56**	**308**	Pn		**Pn**	**14 56 50.9**	**+0.8**
	0.7nm,0.3s,baz=125,slow=13,SNR=9.8							
MJAR				Sn		**Sn**	**14 57 33.1**	**+1.7**
	0.5nm,0.3s,baz=326,slow=15,SNR=5.2 6.0nm,0.5s							
KLR	**Kul'dur**	**16.56**	**337**	LR		LR	15 06 26.6	
	comp=Z,38nm,18.8s,baz=31,slow=38							

SONM	**Songino Array**	**29.51**	**308**	P	**P**	**15 01 59.9**	**+1.1**
	0.4nm,0.5s,baz=105,slow=8.4,SNR=3.8						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.10**	**258**	P	**P**	**15 03 37.8**	**-0.6**
	0.4nm,0.4s,baz=50,slow=7.4,SNR=2.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.75**	**304**	P	**P**	**15 04 15.2**	**-0.5**
	0.5nm,0.8s,baz=83,slow=9.9,SNR=4.7						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**51.64**	**31**	P	**P**	**15 05 00.5**	**-0.1**
	0.7nm,1.1s,baz=254,slow=5.7,SNR=5.1						
	0.7nm,1.1s						
WRA	**Warramunga Arr**	**54.46**	**188**	P	**P**	**15 05 21.6**	**-0.2**
	0.2nm,0.4s,baz=3.0,slow=7.5,SNR=7.3						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**58.19**	**188**	P	**P**	**15 05 48.9**	**+0.5**
	0.3nm,0.8s,baz=16,slow=14,SNR=5.2						
	0.3nm,0.8s						
LPAZ	**La Paz**	**147.77**	**64**	PKPbc	**PKPbc**	**15 15 41.2**	**+0.9**
	0.7nm,0.5s,baz=357,slow=3.4,SNR=3.8						

IDC 24 14:56:10.1±6.1, 31.04S×178.95W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=245.3km s-min=57.1km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.26**	**268**	P	P	15 04 05.0	-0.5
	0.2nm,0.3s,baz=108,slow=7.9,SNR=6.5						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.31**	**273**	P	P	15 04 14.2	+0.2
	0.6nm,0.5s,baz=114,slow=7.9,SNR=14						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**145.45**	**339**	PKPbc	PKPbc	15 15 48.4	-1.0
	3.2nm,1.0s,baz=59,slow=4.9,SNR=6.7						

IDC 24 14:58:07.6±2.0, 1.12S×127.50E, h0km, mb3.4/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=154.7km s-min=25.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.87**	**161**	P	P	15 02 40.5	0.0
	0.1nm,0.3s,baz=340,slow=11,SNR=7.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**23.26**	**165**	P	P	15 03 16.9	0.0
	0.4nm,0.6s,baz=345,slow=11,SNR=11						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**61.98**	**326**	P	P	15 08 29.5	0.0
	0.3nm,0.3s,baz=117,slow=8.2,SNR=7.1						
	0.3nm,0.3s						

ROM 24 15:18:45.8±0.0, 42.769N±0.002×13.161E±0.003, h12km, Md1.5/2, ML2.2/11, 16C-8D, Error ellipse: s-maj=0.2km s-min=0.1km az=261.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.07**	**28**	P	Pg	15 18 48.7	+0.3
T1242				S	Sg	15 18 50.5	+0.2
T1242				AML	AML		
	comp=E,7075μm,0.5s						
T1242				AML	AML		
	comp=N,11050μm,0.3s						
T1242				END			
NRCA	**Norcia**	**0.07**	**332**	⇓P	Pg	15 18 48.6	+0.3
NRCA				S	Sg	15 18 50.5	+0.2
NRCA				AML	AML		
	comp=N,10800μm,0.1s						
NRCA				AML	AML		
	comp=N,12200μm,0.1s						
NRCA				AML	AML		
	comp=E,11800μm,0.2s						
NRCA				AML	AML		
	comp=N,10850μm,0.1s						
NRCA				AML	AML		
	comp=E,12650μm,0.2s						
NRCA				AML	AML		
	comp=N,10830μm,0.1s						
T1202	**Accumoli, Fraz**	**0.08**	**144**	P	Pg	15 18 48.8	+0.4
T1202				S	Sg	15 18 51.0	+0.5
T1202				AML	AML		
	comp=E,6915μm,0.2s						
T1202				AML	AML		
	comp=N,22450μm,0.3s						
T1202				AML	AML		
	comp=N,25300μm,0.2s						
T1202				AML	AML		
	comp=E,23000μm,0.2s						
T1202				END			
MC2	**Monte Cornacci**	**0.14**	**9**	⇓P	Pg	15 18 49.8	+0.4
MC2				S	Sg	15 18 52.6	+0.6
T1204	**Amatrice, Fraz**	**0.15**	**129**	⇓P	Pg	15 18 49.7	+0.4
T1204				S	Sg	15 18 52.5	+0.6
T1204				AML	AML		
	comp=E,2030μm,1.5s						
T1204				AML	AML		
	comp=N,1690μm,0.3s						
T1204				AML	AML		
	comp=E,35900μm,0.8s						
T1204				AML	AML		
	comp=E,35850μm,0.8s						
T1204				AML	AML		
	comp=N,22350μm,0.1s						
T1216	**Preci, Frazion**	**0.16**	**319**	⇓P	Pg	15 18 49.9	+0.4
T1216				S	Sg	15 18 52.9	+0.8
T1216				AML	AML		
	comp=E,1470μm,0.4s						
T1216				AML	AML		
	comp=N,1525μm,0.7s						
T1216				AML	AML		
	comp=E,1365μm,0.4s						
T1216				AML	AML		
	comp=N,1620μm,0.7s						
T1216				AML	AML		
	comp=E,1655μm,0.4s						
T1216				AML	AML		
	comp=N,1755μm,0.7s						
T1216				AML	AML		
	comp=E,1524μm,0.4s						
T1216				AML	AML		
	comp=N,1849μm,0.6s						
T1216				AML	AML		
	comp=N,1206μm,0.7s						
T1217	**Poggiodomo (PG**	**0.18**	**251**	⇓P	Pg	15 18 50.1	+0.3
T1217				AML	AML		
	comp=E,1410μm,0.3s						
T1217				AML	AML		
	comp=E,1322μm,0.3s						
T1217				AML	AML		
	comp=N,2175μm,0.2s						
T1217				AML	AML		
	comp=E,1326μm,0.3s						
T1217				AML	AML		
	comp=E,1412μm,0.3s						
T1217				AML	AML		
	comp=N,2180μm,0.2s						
T1217				AML	AML		
	comp=N,2116μm,0.2s						
MMO1	**Montemonaco**	**0.18**	**43**	⇑P	Pg	15 18 50.2	+0.4
MMO1				S	Sg	15 18 53.4	+0.7
LNSS	**Leonessa**	**0.19**	**208**	⇑P	Pg	15 18 50.4	+0.4
LNSS				S	Sg	15 18 53.8	+0.9
LNSS				AML	AML		
	comp=E,5905μm,0.7s						
LNSS				AML	AML		
	comp=N,3720μm,0.8s						
T1215	**Vallo di Nera,**	**0.22**	**279**	⇑P	Pg	15 18 50.8	+0.4
T1241	**Roccafluvione,**	**0.22**	**66**	⇑P	Pg	15 18 50.8	+0.3
T1241				AML	AML		
	comp=E,1615μm,0.3s						
T1241				AML	AML		
	comp=N,948μm,0.3s						
T1241				AML	AML		
	comp=E,2175μm,0.4s						
T1241				AML	AML		
	comp=N,1555μm,0.6s						
T1243	**Rocca Santa Ma**	**0.22**	**109**	P	Pg	15 18 50.7	+0.1
AM05	**Amandola Campo**	**0.25**	**34**	⇑P	Pg	15 18 51.5	+0.5
AM05				AML	AML		
	comp=N,1700μm,1.0s						
AM05				AML	AML		
	comp=E,2010μm,0.1s						
AM05				AML	AML		
	comp=N,426μm,1.0s						
AM05				AML	AML		
	comp=E,500μm,0.1s						
AM05				AML	AML		
	comp=E,2015μm,0.1s						
RM33	**Pellescritta (**	**0.26**	**171**	⇑P	Pg	15 18 51.5	+0.2
RM33				AML	AML		
	comp=E,547μm,0.9s						
RM33				AML	AML		
	comp=N,436μm,0.5s						
RM33				AML	AML		
	comp=E,508μm,0.4s						
RM33				AML	AML		
	comp=N,400μm,0.7s						
RM33				AML	AML		
	comp=E,6335μm,0.6s						
RM33				AML	AML		
	comp=E,6340μm,0.6s						
RM33				AML	AML		
	comp=N,6620μm,1.0s						
RM33				AML	AML		
	comp=E,6300μm,0.6s						
RM33				AML	AML		
	comp=N,6645μm,1.0s						
RM33				AML	AML		
	comp=N,6640μm,1.0s						
RM33				AML	AML		
	comp=N,6615μm,1.0s						
RM33				AML	AML		
	comp=E,6295μm,0.6s						
FDMO	**Fiordimonte**	**0.27**	**349**	⇑P	Pg	15 18 51.7	+0.3
FDMO				AML	AML		
	comp=E,313μm,1.0s						
FDMO				AML	AML		
	comp=N,338μm,0.2s						
FDMO				AML	AML		
	comp=E,592μm,0.4s						
FDMO				AML	AML		
	comp=N,1205μm,0.2s						
CAMP	**Campotosto**	**0.30**	**142**	⇑P	Pg	15 18 52.0	+0.1
CAMP				AML	AML		
	comp=E,1820μm,1.4s						
CAMP				AML	AML		
	comp=N,2115μm,0.3s						
CESI	**CESI - Serrava**	**0.30**	**321**	⇓P	Pg	15 18 52.4	+0.4
CESI				AML	AML		
	comp=E,687μm,1.1s						
CESI				AML	AML		
	comp=N,1435μm,0.3s						
CESI				AML	AML		
	comp=N,414μm,0.5s						
CESI				AML	AML		
	comp=E,290μm,0.3s						
GUMA	**Gualdo di Mace**	**0.32**	**24**	⇑P	Pb	15 18 52.9	-0.6
GUMA				AML	AML		
	comp=N,2105μm,0.3s						
GUMA				AML	AML		
	comp=E,3795μm,0.5s						
GUMA				AML	AML		
	comp=N,2520μm,0.4s						
GUMA				AML	AML		
	comp=E,2112μm,0.3s						
CSP1	**Cessapalombo**	**0.32**	**6**	⇑P	Pg	15 18 52.7	+0.3
CSP1				AML	AML		
	comp=E,1250μm,0.2s						
CSP1				AML	AML		
	comp=N,1386μm,0.2s						
TERO	**Teramo**	**0.36**	**114**	⇑P	Pg	15 18 53.0	0.0
TERO				AML	AML		
	comp=E,3735μm,0.1s						
TERO				AML	AML		
	comp=N,5075μm,0.9s						
TERO				AML	AML		
	comp=N,5740μm,0.9s						
TERO				AML	AML		
	comp=N,5070μm,0.9s						
TERO				AML	AML		
	comp=E,4050μm,0.1s						
GIGS	**Gran Sasso**	**0.44**	**136**	⇓P	Pg	15 18 54.4	-0.1
GIGS				AML	AML		
	comp=E,420μm,1.0s						
GIGS				AML	AML		
	comp=N,488μm,0.4s						
GIGS				AML	AML		
	comp=E,420μm,1.0s						
GIGS				AML	AML		
	comp=N,488μm,0.4s						
CESX	**Cesi**	**0.46**	**250**	⇑P	Pg	15 18 54.8	0.0
CESX				AML	AML		
	comp=E,364μm,0.6s						
CESX				AML	AML		
	comp=N,523μm,0.4s						
CESX				AML	AML		
	comp=N,494μm,0.5s						
CESX				AML	AML		
	comp=E,314μm,0.5s						
ASSB	**Assisi San Ben**	**0.46**	**307**	⇓P	Pg	15 18 54.9	+0.1
ASSB				AML	AML		
	comp=E,234μm,0.3s						
ASSB				AML	AML		
	comp=E,423μm,0.3s						
ASSB				AML	AML		
	comp=N,524μm,0.8s						
ASSB				AML	AML		
	comp=N,168μm,1.1s						
FIAM	**Fiamignano**	**0.50**	**184**	⇑P	Pg	15 18 55.5	-0.1
FIAM				AML	AML		
	comp=E,730μm,0.6s						
FIAM				AML	AML		
	comp=N,614μm,0.4s						
FIAM				AML	AML		
	comp=E,730μm,0.6s						
SNTG	**Esanatoglia**	**0.51**	**342**	P	Pg	15 18 55.9	+0.1
SNTG				AML	AML		
	comp=E,79μm,0.1s						
SNTG				AML	AML		
	comp=N,95μm,0.2s						
SNTG				AML	AML		
	comp=E,292μm,0.9s						
SNTG				AML	AML		
	comp=N,250μm,1.4s						
EL6	**Elcito**	**0.56**	**356**	⇑P	Pg	15 18 57.0	+0.3
EL6				AML	AML		
	comp=N,179μm,0.2s						
EL6				AML	AML		
	comp=E,198μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.56**	**318**	⇑P	Pg	15 18 57.1	+0.3
ATCC				AML	AML		
	comp=N,129μm,0.3s						
ATCC				AML	AML		
	comp=E,413μm,1.6s						
ATCC				AML	AML		
	comp=N,418μm,0.5s						
ATCC				AML	AML		
	comp=E,114μm,0.4s						
CING	**Cingoli**	**0.61**	**2**	AML	AML		
	comp=N,488μm,0.8s						
CING				AML	AML		
	comp=E,524μm,0.9s						
VCEL	**Villa Celiera**	**0.63**	**126**	P	Pg	15 18 58.3	+0.3
VCEL				AML	AML		
	comp=E,1385μm,0.5s						
VCEL				AML	AML		
	comp=N,1580μm,0.3s						
VCEL				AML	AML		
	comp=N,1585μm,0.3s						
VCEL				AML	AML		
	comp=E,1380μm,0.5s						
T0110	**Collepietro**	**0.71**	**140**	P	Pg	15 18 59.3	-0.2
T0110				AML	AML		
	comp=E,1055μm,0.4s						
T0110				AML	AML		
	comp=N,1027μm,0.5s						
T0110				AML	AML		
	comp=N,1026μm,0.5s						
T0110				AML	AML		
	comp=N,1026μm,0.5s						
T0110				AML	AML		
	comp=E,1060μm,0.4s						
SSFR	**Montelago di S**	**0.72**	**338**	AML	AML		
	comp=E,628μm,0.3s						
SSFR				AML	AML		
	comp=N,707μm,0.3s						
SSFR				AML	AML		
	comp=E,611μm,0.2s						
SSFR				AML	AML		
	comp=N,622μm,0.2s						
MGAB	**Montegabbione**	**0.78**	**281**	AML	AML		
	comp=E,438μm,1.2s						
MGAB				AML	AML		
	comp=N,434μm,0.3s						
MGAB				AML	AML		
	comp=E,470μm,0.6s						
MGAB				AML	AML		
	comp=N,421μm,0.3s						
PIEI	**Pieia**	**0.89**	**329**	⇑P	Pb	15 19 03.6	+0.4
PIEI				AML	AML		
	comp=N,35μm,0.9s						
PIEI				AML	AML		
	comp=E,148μm,0.3s						
PIEI				AML	AML		
	comp=N,125μm,0.2s						
PIEI				AML	AML		
	comp=E,63μm,0.5s						

ROM 24 15:19:27.6±0.1, 42.630N±0.003×13.286E±0.004, h9km, ML2.6/24, 12C-15D, Error ellipse: s-maj=0.3km s-min=0.2km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.04**	**89**	⇓P	Pg	15 19 29.9	+0.3
SMA1				S	Sg	15 19 31.0	+0.1
SMA1				AML	AML		
SMA1				AML	AML		
T1204	**Amatrice, Fraz**	**0.05**	**26**	⇓P	Pg	15 19 30.0	+0.3
T1204				S	Sg	15 19 31.3	0.0
T1204				AML	AML		
	comp=E,35900μm,0.8s						
T1204				AML	AML		
	comp=E,35850μm,0.8s						
T1204				AML	AML		
	comp=N,22350μm,0.1s						
T1202	**Accumoli, Fraz**	**0.09**	**329**	P	Pg	15 19 30.7	+0.6
T1202				S	Sg	15 19 32.7	+0.8
T1202				AML	AML		
	comp=N,25250μm,0.2s						
T1202				AML	AML		
	comp=E,23000μm,0.2s						
T1202				AML	AML		
	comp=N,25300μm,0.2s						
CAMP	**Campotosto**	**0.13**	**136**	P	Pg	15 19 31.2	+0.5
CAMP				S	Sg	15 19 33.5	+0.7
CAMP				AML	AML		
	comp=N,2115μm,0.3s						
CAMP				AML	AML		
	comp=E,1820μm,1.4s						
RM33	**Pellescritta (**	**0.13**	**204**	⇑P	Pg	15 19 31.2	+0.6
RM33				S	Sg	15 19 33.5	+0.7
RM33				AML	AML		
	comp=E,6340μm,0.6s						
RM33				AML	AML		
	comp=N,6620μm,1.0s						
RM33				AML	AML		
	comp=N,6620μm,1.0s						
RM33				AML	AML		
	comp=E,6300μm,0.6s						
RM33				AML	AML		
	comp=N,6645μm,1.0s						
RM33				AML	AML		
	comp=E,6295μm,0.6s						
RM33				AML	AML		
	comp=N,6615μm,1.0s						
RM33				AML	AML		
	comp=N,6640μm,1.0s						
RM33				AML	AML		
	comp=E,6335μm,0.6s						
T1243	**Rocca Santa Ma**	**0.14**	**61**	⇑P	Pg	15 19 31.2	+0.5
T1243				S	Sg	15 19 33.7	+0.7
LNSS	**Leonessa**	**0.18**	**262**	⇑P	Pg	15 19 32.1	+0.6
LNSS				S	Sg	15 19 35.3	+1.1
LNSS				AML	AML		
	comp=E,5905μm,0.7s						
LNSS				AML	AML		
	comp=N,3720μm,0.8s						
T1247	**Pizzolo (AQ)**	**0.19**	**177**	⇓P	Pg	15 19 32.3	+0.7
T1247				S	Sg	15 19 35.5	+1.2
T1247				AML	AML		
	comp=E,4095μm,0.3s						
T1247				AML	AML		
	comp=N,4885μm,0.4s						
T1247				AML	AML		
	comp=N,4890μm,0.4s						
T1242	**Castelluccio d**	**0.21**	**343**	⇓P	Pg	15 19 32.7	+0.7
T1242				S	Sg	15 19 36.2	+1.2
T1242				AML	AML		
	comp=N,3815μm,0.6s						
T1242				AML	AML		
	comp=E,2790μm,0.5s						
TERO	**Teramo**	**0.23**	**92**	⇓P	Pg	15 19 33.0	+0.6
TERO				S	Sg	15 19 36.8	+1.1
TERO				AML	AML		
	comp=E,3735μm,0.1s						
TERO				AML	AML		
	comp=N,5070μm,0.9s						
TERO				AML	AML		
	comp=N,5075μm,0.9s						
TERO				AML	AML		
	comp=E,4050μm,0.1s						
TERO				AML	AML		
	comp=N,5740μm,0.9s						
NRCA	**Norcia**	**0.24**	**328**	P	Pg	15 19 33.1	+0.6
NRCA				S	Sg	15 19 37.0	+1.2
NRCA				AML	AML		
	comp=E,4515μm,0.2s						
NRCA				AML	AML		
	comp=E,4770μm,0.2s						
NRCA				AML	AML		
	comp=E,4520μm,0.2s						
NRCA				AML	AML		
	comp=E,4775μm,0.2s						
NRCA				AML	AML		
	comp=N,4485μm,0.2s						
NRCA				AML	AML		
	comp=N,4895μm,0.2s						
T1241	**Roccafluvione,**	**0.25**	**25**	⇑P	Pg	15 19 33.3	+0.6
T1241				S	Sg	15 19 37.4	+1.2
T1241				AML	AML		
	comp=N,1760μm,0.6s						
T1241				AML	AML		
	comp=N,1555μm,0.6s						
T1241				AML	AML		
	comp=N,1755μm,0.6s						
T1241				AML	AML		
	comp=E,2175μm,0.4s						
T1241				AML	AML		
	comp=N,1755μm,0.6s						
T1241				AML	AML		
	comp=E,2200μm,0.5s						
MMO1	**Montemonaco**	**0.27**	**6**	⇓P	Pg	15 19 33.8	+0.7
MMO1				S	Sb	15 19 38.3	-1.2
T1217	**Poggiodomo (PG**	**0.27**	**288**	P	Pg	15 19 33.6	+0.5
T1217				S	Sg	15 19 38.0	+1.1
T1217				AML	AML		
	comp=E,1410μm,0.3s						
T1217				AML	AML		
	comp=N,2180μm,0.2s						
T1217				AML	AML		
	comp=N,2115μm,0.2s						
T1217				AML	AML		
	comp=E,1326μm,0.3s						
T1217				AML	AML		
	comp=N,2112μm,0.2s						
T1217				AML	AML		
	comp=E,1412μm,0.3s						
T1217				AML	AML		
	comp=E,1322μm,0.3s						
T1217				AML	AML		
	comp=N,2175μm,0.2s						
GIGS	**Gran Sasso**	**0.28**	**131**	⇑P	Pg	15 19 33.5	+0.4
GIGS				S	Sg	15 19 37.9	+1.0
GIGS				AML	AML		
	comp=E,420μm,1.0s						
GIGS				AML	AML		
	comp=E,420μm,1.0s						
GIGS				AML	AML		
	comp=N,488μm,0.4s						
GIGS				AML	AML		
	comp=N,488μm,0.4s						
AQU	**L'Aquila**	**0.29**	**163**	P	Pg	15 19 34.1	+0.7
AQU				S	Sb	15 19 39.2	-0.7
AQU				AML	AML		
	comp=E,1185μm,0.8s						
AQU				AML	AML		

comp=N,1215μm,0.6s
AQU AML AML
comp=E,1240μm,0.8s
AQU AML AML
comp=N,1216μm,0.8s
AQU AML AML
comp=E,1180μm,0.8s
MC2 Monte Cornacci 0.29 346 P Pg 15 19 34.1 +0.6
T1216 Preci, Frazion 0.33 323 ⇑P Pg 15 19 34.7 +0.6
T1216 S Sb 15 19 40.0 -1.0
T1216 AML AML
comp=E,1655μm,0.4s
T1216 AML AML
comp=E,1525μm,0.4s
T1216 AML AML
comp=N,1850μm,0.6s
T1216 AML AML
comp=E,1655μm,0.4s
T1216 AML AML
comp=N,1755μm,0.7s
AM05 Amandola Campo 0.35 8 P Pb 15 19 35.4 -0.7
AM05 AML AML
comp=E,457μm,0.9s
AM05 AML AML
comp=N,418μm,0.4s
AM05 AML AML
comp=N,1615μm,0.1s
AM05 AML AML
comp=N,418μm,0.4s
AM05 AML AML
comp=E,1895μm,1.0s
AM05 AML AML
comp=N,1620μm,0.1s
T1215 Vallo di Nera, 0.35 299 P Pg 15 19 35.0 +0.4
T1215 S Sg 15 19 40.5 +1.2
T1215 AML AML
comp=E,600μm,0.7s
T1215 AML AML
comp=N,616μm,0.6s
FIAM Fiamignano 0.38 199 ⇑P Pg 15 19 35.4 +0.3
FIAM AML AML
comp=E,730μm,0.6s
FIAM AML AML
comp=E,730μm,0.6s
FIAM AML AML
comp=N,614μm,0.4s
ARRO Arrone 0.39 263 ⇑P Pg 15 19 35.6 +0.4
ARRO AML AML
comp=E,950μm,0.2s
ARRO AML AML
comp=N,690μm,0.2s
ARRO AML AML
comp=N,690μm,0.2s
ARRO AML AML
comp=E,948μm,0.2s
OFFI Offida 0.42 44 ⇓P Pb 15 19 37.4 +0.2
OFFI AML AML
comp=N,2820μm,1.1s
OFFI AML AML
comp=E,2990μm,0.7s
FAGN Fagnano 0.42 149 ⇓P Pb 15 19 37.2 -0.1
FAGN AML AML
comp=N,1800μm,0.8s
FAGN AML AML
comp=E,2370μm,1.6s
FDMO Fiordimonte 0.43 340 P Pg 15 19 36.5 +0.4
FDMO AML AML
comp=N,1205μm,0.2s
FDMO AML AML
comp=E,592μm,0.4s
GUMA Gualdo di Mace 0.43 5 ⇓P Pb 15 19 37.1 -0.3
GUMA AML AML
comp=E,3300μm,0.7s
GUMA AML AML
comp=N,2855μm,0.3s
GUMA AML AML
comp=E,3795μm,0.5s
GUMA AML AML
comp=N,2520μm,0.4s
GUMA AML AML
comp=E,3300μm,0.7s
GUMA AML AML
comp=N,2855μm,0.3s
CSP1 Cessapalombo 0.47 353 ⇓P Pg 15 19 37.2 +0.5
CSP1 AML AML
comp=E,1248μm,0.2s
CSP1 AML AML
comp=N,1384μm,0.2s
CSP1 AML AML
comp=E,1250μm,0.2s
CSP1 AML AML
comp=N,1386μm,0.2s
CSP1 AML AML
comp=E,1251μm,0.2s
CSP1 AML AML
comp=N,1385μm,0.2s
CESI CESI - Serrava 0.47 323 ⇓P Pg 15 19 37.2 +0.5
CESI AML AML
comp=E,686μm,1.1s
CESI AML AML
comp=E,687μm,1.1s
CESI AML AML
comp=N,1435μm,0.3s
VCEL Villa Celiera 0.47 120 P Pb 15 19 37.7 -0.4
VCEL AML AML
comp=N,1580μm,0.3s
VCEL AML AML
comp=E,1385μm,0.5s
VCEL AML AML
comp=N,1585μm,0.3s
VCEL AML AML
comp=E,1380μm,0.5s
TRTR Tortoreto Alta 0.50 69 ⇑P Pb 15 19 39.0 +0.5
TRTR AML AML
comp=N,1600μm,0.5s
TRTR AML AML
comp=E,1840μm,0.3s
TRTR AML AML
comp=N,1595μm,0.5s
CESX Cesi 0.52 268 P Pg 15 19 37.8 0.0
CESX AML AML
comp=N,523μm,0.4s
CESX AML AML
comp=E,364μm,0.6s
CESX AML AML
comp=N,522μm,0.4s
T0110 Collepietro 0.54 138 ⇓P Pg 15 19 38.6 +0.4
T0110 AML AML
comp=N,1027μm,0.5s
T0110 AML AML
comp=E,1055μm,0.4s
T0110 AML AML
comp=N,1026μm,0.5s
T0110 AML AML
comp=E,1060μm,0.4s
T0110 AML AML
comp=N,1026μm,0.5s
PTQR Pietraquaria 0.61 172 P Pg 15 19 39.1 -0.4
PTQR AML AML
comp=E,139μm,0.4s
PTQR AML AML
comp=N,109μm,0.6s
PTQR AML AML
comp=E,140μm,0.4s
PTQR AML AML
comp=N,109μm,0.6s
ASSB Assisi San Ben 0.62 312 ⇑P Pg 15 19 39.8 +0.2
ASSB AML AML
comp=E,423μm,0.3s
ASSB AML AML
comp=N,524μm,0.8s
SNTG Esanatoglia 0.67 338 P Pg 15 19 40.7 +0.1
SNTG AML AML
comp=E,338μm,0.9s
SNTG AML AML
comp=N,314μm,1.2s
SNTG AML AML
comp=E,292μm,0.9s
SNTG AML AML
comp=N,250μm,1.4s
SNTG AML AML
comp=E,338μm,0.9s
SRES S.Oreste - Sor 0.69 236 ⇑P Pb 15 19 41.7 -0.2
SRES AML AML
comp=E,154μm,0.3s
SRES AML AML
comp=N,200μm,0.5s

EL6 Elcito 0.71 349 P Pg 15 19 41.5 +0.1
EL6 AML AML
comp=E,675μm,0.2s
EL6 AML AML
comp=N,760μm,1.5s
EL6 AML AML
comp=E,674μm,0.2s
EL6 AML AML
comp=N,755μm,1.5s
CERT Cerreto 0.72 198 P Pb 15 19 42.2 -0.1
CERT AML AML
comp=N,308μm,0.4s
CERT AML AML
comp=E,560μm,0.4s
ATCC AVT- Casa Cast 0.73 320 P Pb 15 19 42.1 -0.4
ATCC AML AML
comp=N,418μm,0.5s
ATCC AML AML
comp=E,413μm,1.6s
ATCC AML AML
comp=E,412μm,1.6s
CING Cingoli 0.75 355 ⇓P Pb 15 19 42.5 -0.4
CING AML AML
comp=N,488μm,0.8s
CING AML AML
comp=E,524μm,0.9s
FOSV Fossato di Vic 0.77 330 P Pg 15 19 42.5 +0.1
FOSV AML AML
comp=E,237μm,0.6s
FOSV AML AML
comp=N,274μm,0.3s
INTR Introdacqua 0.77 143 ⇑P Pg 15 19 42.1 -0.3
INTR AML AML
comp=E,186μm,0.5s
INTR AML AML
comp=N,332μm,0.9s
LPEL Lama dei Pelig 0.88 131 P Pg 15 19 44.4 -0.3
MGAB Montegabbione 0.91 289 ⇓P Pb 15 19 45.5 -0.1
MGAB AML AML
comp=N,434μm,0.3s
MGAB AML AML
comp=N,421μm,0.3s
MGAB AML AML
comp=E,438μm,1.2s
MGAB AML AML
comp=N,434μm,0.3s
MGAB AML AML
comp=E,470μm,0.6s
COR1 Corinaldo 1.02 348 ⇓P Pn 15 19 49.1 +1.0
SACS San Casciano d 1.04 283 P Pb 15 19 47.7 0.0

*UCR **24** 15:42:22.7±1.7, 7.˚97N×84.˚53W, h34km±86km, MW3.7*
*INET **24** 15:42:24.8±0.3, 8.˚17N×84.˚57W, h6km±2km, ML3.4, MW3.2*
ISC 24 15:42:23.4±3.5, **8.˚0N**±0.˚2×**84.˚58W**±0.˚07, **h35**km, **n33,**
σ0§**82**/40, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PEZE	**Perez Zeledon,**	**1.64**	**33**	*eP*		**Pn**	**15 42 49.0**	**-0.8**
PEZE				*eS*		**Sn**	**15 43 10.6**	**+0.8**
SRBA	**San Rafael, Bu**	**1.72**	**44**	*eP*		**Pn**	**15 42 50.4**	**-0.6**
SRBA				*eS*		**Sn**	**15 43 13.4**	**+1.6**
CDM	**Cerro de Muert**	**1.75**	**27**	*eP*		**Pn**	**15 42 51.0**	**-0.6**
CDM				*eS*		**Sn**	**15 43 12.9**	**+0.1**
LCR2	**La Lucha 2**	**1.83**	**18**	*eP*		**Pn**	**15 42 51.4**	**-1.1**
LCR2				*eS*		**Sn**	**15 43 13.5**	**-1.1**
LAFE	**Finca La Fe, P**	**1.83**	**350**	*eP*		**Pn**	**15 42 50.4**	**-2.0**
RIMA	**Rio Macho**	**1.90**	**22**	*eP*		**Pn**	**15 42 52.7**	**-0.8**
INDI	**Punta indio, G**	**2.08**	**334**	*eP*		**Pn**	**15 42 54.9**	**-0.8**
JTS	**Las Juntas de**	**2.31**	**351**	*eP*		**Pn**	**15 42 59.7**	**+0.7**
SAJU	**San Juanillo,**	**2.35**	**332**	*eP*		**Pn**	**15 42 57.5**	**-2.0**
ACAL	**Aguas Claras**	**2.66**	**350**	*eP*		**Pn**	**15 43 04.2**	**+0.3**
CUI	**Cuipilapa**	**2.71**	**348**	*eP*		**Pn**	**15 43 04.8**	**+0.3**
COVE	**Coope Vega, Sa**	**2.72**	**4**	*eP*		**Pn**	**15 43 05.3**	**+0.8**
COVE				*eS*		**Sn**	**15 43 36.0**	**-0.2**
COLC	**Colonia**	**2.73**	**347**	*eP*		**Pn**	**15 43 04.9**	**+0.2**
PTEN	**Parque Tenorio**	**2.74**	**352**	*eP*		**Pn**	**15 43 05.9**	**+1.0**
HORNC	**Hornillas**	**2.77**	**348**	*eP*		**Pn**	**15 43 05.3**	**0.0**
GUAB	**Guayabo de Bag**	**2.77**	**347**	*eP*		**Pn**	**15 43 05.9**	**+0.5**
GPS2	**Hotel Rincn d**	**2.85**	**344**	*eP*		**Pn**	**15 43 07.0**	**+0.6**
VERA	**Finca Concepci**	**2.86**	**354**	*eP*		**Pn**	**15 43 06.3**	**-0.2**
GPS1	**Guardaparques**	**2.87**	**345**	*eP*		**Pn**	**15 43 07.2**	**+0.5**
HZTE	**Horizontes, Gu**	**2.88**	**340**	*eP*		**Pn**	**15 43 07.2**	**+0.4**
LAPC	**Finca la Perla**	**2.88**	**343**	*eP*		**Pn**	**15 43 06.2**	**-0.7**
GBS3	**Finca Las Img**	**2.91**	**343**	*eP*		**Pn**	**15 43 06.2**	**-0.9**
BUEV	**Buena Vista**	**2.91**	**344**	*eP*		**Pn**	**15 43 07.5**	**+0.3**
GB1A	**Borinquen Arri**	**2.92**	**344**	*eP*		**Pn**	**15 43 07.6**	**+0.1**
BUAI	**Buenos Aires**	**2.96**	**345**	*eP*		**Pn**	**15 43 08.8**	**+0.9**
ACON	**Acoyapa**	**4.00**	**352**	*eP*		**Pn**	**15 43 22.6**	**+0.4**
ACON				*eS*		**Sn**	**15 44 07.6**	**-0.1**
ACON				IAML			15 44 22.1	
	comp=Z,26nm,0.9s							
ESPN	**Las Esperanzas**	**4.19**	**4**	*eP*		**Pn**	**15 43 25.2**	**+0.4**
ESPN				*eS*		**Sn**	**15 44 11.9**	**-0.5**
ESPN				IAML			15 44 20.9	
	comp=Z,32nm,1.0s							
BOAB	**BOACO BROADBAN**	**4.56**	**346**	*eP*		**Pn**	**15 43 29.9**	**0.0**
COPN	**Copaltepe**	**4.61**	**335**	*eP*		**Pn**	**15 43 31.2**	**+0.6**
COPN				IAML			15 44 25.9	
	comp=Z,56nm,1.3s							
MOMN	**Momotombo**	**4.79**	**336**	*eP*		**Pn**	**15 43 33.9**	**+0.7**
MATN	**Matagalpa**	**5.08**	**345**	*eP*		**Pn**	**15 43 37.6**	**+0.5**
TELN	**Telica**	**5.09**	**334**	*eP*		**Pn**	**15 43 38.3**	**+1.0**
CRIN	**San Cristobal**	**5.27**	**333**	*eP*		**Pn**	**15 43 40.6**	**+0.8**
CRIN				IAML			15 44 54.7	
	comp=Z,41nm,0.7s							

*IDC **24** 15:42:32.1±0.5, 1.˚96S×140.˚75E, h0km, mb4.4/17, mbtmp4.4/22, ML4.8/2, MS3.9/57, Error ellipse: s-maj=18.8km s-min=11.5km az=81.0*
*DJA **24** 15:42:35.1±0.4, 2.˚5S±3.˚3×14.˚1E±.˚1, h15km±2km, M4.7/38, mB5.2/17, mb4.7/38, MLv4.9/4, Mw(mB)4.6/17*
*NEIC **24** 15:42:35.4±1.6, 2.˚00S±0.˚09×140.˚68E±0.˚08, h22km±5km, mb4.8/39, Error ellipse: s-maj=13.5km s-min=10.8km az=195.0*
*GCMT **24** 15:42:36.3±0.3, 1.˚88S±0.˚02×140.˚58E±0.˚04, h12km, MW4.8/88, Moment Tensor Solution. s14,c14; s88,c123; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.51±.07; Mθθ 1.58±.05; Mϕϕ-0.06±.07; Mrθ 0.99±.23; Mrϕ 0.16±.05; Mθϕ 0.54±.29; Best double couple: M0 1.91900×10^16^ NP1: ϑs 251.00000°, δ63.00000°, λ-103.00000°. NP2: ϕs 98.00000°, δ29.00000°, λ-67.00000°. Principal axes: T 1.9170, Plg17.0000°, Azm351.0000°; N 0.0070, Plg11.0000°, Azm257.0000°; P -1.9220, Plg69.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 15:42:34.4±0.3, **2.˚01S**±0.˚04×**140.˚67E**±0.˚05, **h10**km, **n223,**
σ1§**87**/197, **mb4.8**/55, **MS3.9**/61, **5C-2D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.76**	**221**	P		**Pg**	**15 42 50.5**	**+1.4**
GENI				S		**Sn**	**15 43 04.5**	**+1.7**
GENI	**Genyem**	**0.76**	**221**	P		**Pb**	**15 42 51.4**	**+1.6**
SMPI	**Sarmi**	**1.96**	**271**	P		**Pn**	**15 43 07.2**	**-0.5**
SMPI				S		**Sn**	**15 43 32.5**	**+0.1**
WAMI	**Wamena**	**2.70**	**226**	P		**Pn**	**15 43 20.7**	**+2.8**
MANU	**Manus Island**	**6.69**	**90**	Pn		**Pn**	**15 44 10.0**	**-2.8**
FAKI	**Fak Fak**	**8.46**	**264**	Pn		**Pn**	**15 44 37.0**	**-0.1**
FAKI	**Fak Fak**	**8.46**	**264**	P		**Pn**	**15 44 38.4**	**+1.3**
	30nm,1.0s							
FAKI	**Fak Fak**	**8.46**	**264**	P		**Pn**	**15 44 38.2**	**+1.1**
SIJI	**Sorong**	**9.47**	**277**	Pn		**Pn**	**15 44 52.9**	**+1.9**
	6.4nm,0.7s,baz=80,slow=8.3,SNR=7.2							
SIJI				LR		LR	15 48 41.0	
	comp=Z,518nm,19.1s,baz=78,slow=39							
PMG	**Port Moresby**	**9.78**	**139**	Pn		**Pn**	**15 44 55.4**	**+0.2**
	4.4nm,0.4s,baz=42,slow=7.3,SNR=5.5							
PMG				LR		LR	15 49 00.4	
	comp=Z,978nm,20.2s,baz=306,slow=40							
PMG	**Port Moresby**	**9.78**	**139**			**Pn**	**15 44 54.2**	**-0.9**
PMG	**Port Moresby**	**9.78**	**139**	P		**Pn**	**15 44 57.4**	**+2.3**
PMG	**Port Moresby**	**9.78**	**139**	P		**Pn**	**15 44 57.3**	**+2.2**
KRVT	**Keravat (AS076**	**11.56**	**102**	Pn		**Pn**	**15 45 23.1**	**+3.5**
	0.3nm,0.3s,baz=319,slow=17,SNR=5.1							
KRVT				LR		LR	15 49 07.4	
	comp=Z,682nm,20.8s,baz=58,slow=34							

COEN Coen 12.12 168 P **Pn** **15 45 29.6 +2.3**
baz=12,SNR=5.4
COEN Coen 12.12 168 Pn **Pn** **15 45 26.0 -1.3**
COEN Coen 12.12 168 P **Pn** **15 45 29.5 +2.2**
LBMI Labuha 13.24 276 P **Pn** **15 45 46.1 +3.5**
650nm38nm,2.0s
KDU Kakadu 13.36 217 P **Pn** **15 45 41.8 -2.3**
baz=13,SNR=53
KDU Kakadu 13.36 217 P **Pn** **15 45 42.7 -1.5**
TNTI Ternate 13.59 282 P **Pn** **15 45 50.0 +2.7**
622nm41nm,1.3s
NLAI Namlea 13.61 265 P **Pn** **15 45 48.0 +0.3**
6μm32nm,1.4s
MTN Manton Dam 14.32 221 P **Pn** **15 45 55.2 -2.1**
baz=14,SNR=8.7
MTN Manton Dam 14.32 221 Pn Pn 15 45 53.4 -4.0
SANI Sanana 14.67 270 P **Pn** **15 45 59.7 -2.5**
16nm,1.3s
SANI Sanana 14.67 270 P **Pn** **15 46 02.8 +0.6**
GUMO Guam 16.05 15 LR LR 15 51 56.8
comp=Z,393nm,18.5s,baz=214,slow=35
MTSU Mount Surprise 16.41 168 P **Pn** **15 46 27.8 +2.8**
baz=16,SNR=5.7
MTSU Mount Surprise 16.41 168 P **Pn** **15 46 26.9 +1.8**
KMSI Cibinong 16.88 279 P **Pn** **15 46 32.9 +1.9**
57nm,0.7s
DAV Davao City (W) 17.56 301 LR LR 15 53 46.1
comp=Z,229nm,18.4s,baz=125,slow=38
LUWI Luwuk 17.92 273 **Pn** **15 46 44.7 +0.8**
LUWI IAmb IAmb 15 47 07.1
comp=Z,89nm,1.0s
LUWI Luwuk 17.92 273 P **Pn** **15 46 41.8 -2.1**
comp=Z,3μmcomp=Z,96nm,1.1s
KNRA Kununurra 17.95 220 P **Pn** **15 46 44.0 -0.2**
baz=18,SNR=12
KNRA Kununurra 17.95 220 P **Pn** **15 46 42.5 -1.7**
KNRA Kununurra 17.95 220 P **Pn** **15 46 45.0 +0.8**
BBSI Bau Bau 18.39 259 P **P** **15 46 51.4 +1.7**
comp=Z,6μmcomp=Z,51nm,1.2s
QIS Mount Isa 18.46 183 P **P** **15 46 49.6 -0.8**
baz=18,SNR=11
QIS Mount Isa 18.46 183 P **P** **15 46 51.0 +0.5**
WB0 Warramunga Arr 18.68 199 P **P** **15 46 50.5 -2.4**
BATI Baumata 18.75 244 P **P** **15 46 54.0 +0.3**
comp=Z,105nm,0.8s,baz=78,slow=0.4,SNR=24
BATI Baumata 18.75 244 P **P** **15 46 53.1 -0.7**
comp=Z,1μmcomp=Z,93nm,0.9s
CTA Charters Tower 18.77 163 P **P** **15 46 54.1 +0.2**
comp=Z,2.0nm,0.3s,baz=345,slow=11,SNR=37
CTA LR LR 15 54 44.9
comp=Z,693nm,18.3s,baz=348,slow=39
comp=Z,11nm,0.7s
CTA Charters Tower 18.77 163 P **Pn** **15 46 56.7 +2.4**
CTAO Charters Tower 18.77 163 P **P** **15 46 53.4 -0.5**
CTAO Charters Tower 18.77 163 P **Pn** **15 46 57.1 +2.8**
WR0 Warramunga Arr 18.82 198 P **P** **15 46 52.7 -1.6**
WRAB Tennant Creek 18.85 199 P **P** **15 46 52.3 -2.5**
WRAB IAmb IAmb 15 46 57.4
comp=Z,58nm,1.3s
WRAB Tennant Creek 18.85 199 P **P** **15 46 55.0 +0.2**
WB2 Warramunga Arr 18.86 199 P **P** **15 46 52.9 -2.0**
WRA Warramunga Arr 18.86 199 P **P** **15 46 54.3 -0.6**
comp=Z,3.0nm,0.3s,baz=24,slow=12,SNR=220
WRA S **Sn** **15 50 23.7 -3.1**
comp=Z,3.1nm,1.0s,baz=3.8,slow=23,SNR=4.8
WRA LR LR 15 55 01.4
comp=Z,2μm,18.4s,baz=18,slow=40
comp=Z,20nm,0.7s
MRSI Marisa 18.89 277 P **P** **15 46 56.7 +1.5**
comp=Z,37nm,0.9s
APSI Ampana 19.05 273 P **P** **15 46 58.9 +2.0**
comp=Z,894nmcomp=Z,69nm,1.3s
EDFI Ende, Flores 20.04 250 P **P** **15 47 06.2 -1.7**
comp=Z,179nmcomp=Z,16nm,1.4s
HNR Honiara 20.54 112 P **P** **15 47 12.7 -0.5**
comp=Z,740nm,0.6s,baz=205,slow=7.7,SNR=5.3
HNR LR LR 15 55 49.8
comp=Z,3μm,19.2s,baz=298,slow=39
HNR Honiara 20.54 112 P **P** **15 47 10.8 -2.4**
BSSI Bau Bau, Buton 20.54 258 P **P** **15 47 13.7 +0.4**
comp=Z,330nmcomp=Z,39nm,1.5s
TTSI Tana Toraja 20.86 267 P **P** **15 47 18.2 +1.5**
comp=Z,908nmcomp=Z,56nm,1.0s
MPSI Mapaga 20.90 276 P **P** **15 47 18.1 +0.9**
comp=Z,624nmcomp=Z,43nm,1.3s
SPSI Sidrap Palu 20.96 264 P **P** **15 47 20.1 +2.3**
comp=Z,884nmcomp=Z,36nm,1.6s
KAPI Kappang 21.09 261 P **P** **15 47 20.4 +1.2**
comp=Z,7.2nm,0.4s,baz=60,slow=11,SNR=4.0
KAPI LR LR 15 56 58.6
comp=Z,86nm,19.3s,baz=83,slow=41
comp=Z,7.2nm,0.4s
FITZ Fitzroy Crossi 21.75 222 P **P** **15 47 25.2 -1.1**
comp=Z,18nm,0.8s,baz=0.3,slow=7.4,SNR=26
FITZ S **S** **15 51 22.2 -4.9**
comp=Z,14nm,1.0s,baz=180,slow=12,SNR=7.7
FITZ LR LR 15 57 11.0
comp=Z,430nm,20.0s,baz=314,slow=40
comp=Z,18nm,0.8s
FITZ Fitzroy Crossi 21.75 222 P **P** **15 47 25.5 -0.8**
baz=22,SNR=22
FITZ Fitzroy Crossi 21.75 222 P **P** **15 47 23.8 -2.4**
FITZ IAmb IAmb 15 47 28.3
comp=Z,31nm,1.0s
FITZ Fitzroy Crossi 21.75 222 P **P** **15 47 26.3 +0.1**
AS31 Alice Springs 22.50 196 P **P** **15 47 32.6 -1.7**
ASAR Alice Springs 22.50 196 P **P** **15 47 33.4 -1.0**
comp=Z,18nm,0.7s,baz=26,slow=11,SNR=276
ASAR PcP **PcP** **15 51 27.5 -1.0**
comp=Z,1.4nm,0.8s,baz=37,slow=1.2,SNR=4.5
ASAR S **S** **15 51 44.8 +3.4**
comp=Z,2.3nm,1.0s,baz=13,slow=18,SNR=6.2
ASAR LR LR 15 56 43.3
comp=Z,828nm,21.7s,baz=22,slow=38
comp=Z,18nm,0.7s
ASAR Alice Springs 22.50 196 P **P** **15 47 32.5 -1.9**
RK1H Rockhampton Ha 23.28 157 P **P** **15 47 44.5 +2.1**
comp=Z,75nm,1.1s
BKB Balikpapan 23.78 271 P **P** **15 47 49.3 +1.9**
comp=Z,2μmcomp=Z,126nm,1.2s
QLP Quilpie 24.67 172 P **P** **15 47 56.1 +0.6**
baz=24,SNR=20
QLP Quilpie 24.67 172 P **P** **15 47 57.3 +1.8**
EIDS Eidsvold 25.30 158 P **P** **15 48 02.3 +1.1**
baz=25,SNR=36
EIDS Eidsvold 25.30 158 P **P** **15 47 59.5 -1.8**
EIDS Eidsvold 25.30 158 P **P** **15 48 03.5 +2.3**
RMQ Roma 25.54 163 P **P** **15 48 05.1 +1.6**
baz=25,SNR=23
RMQ Roma 25.54 163 P **P** **15 48 06.2 +2.7**
INKA Innaminka 25.58 180 P **P** **15 48 04.7 +0.9**
WRKA Warakurna 25.82 207 P **P** **15 48 04.9 -1.1**
baz=26,SNR=82
WRKA Warakurna 25.82 207 P **P** **15 48 05.5 -0.5**
BBKI Banjar Baru 25.84 266 P **P** **15 48 06.8 +0.5**
OOD Oodnadatta 26.08 190 P **P** **15 48 08.8 +0.5**
MBWA Marble Bar 27.90 225 P **P** **15 48 21.6 -3.2**
MBWA IAmb IAmb 15 48 24.9
comp=Z,15nm,1.0s
LCRK Leigh Creek 28.38 184 P **P** **15 48 30.1 +1.2**
MULG Mulgathing 28.81 192 P **P** **15 48 33.1 +0.4**
JCJ Chichijima 28.98 3 LR LR 15 57 37.0
comp=Z,121nm,20.8s,baz=107,slow=31
STKA Stephens Creek 29.72 178 P **P** **15 48 39.6 -1.2**
comp=Z,6.7nm,0.5s,baz=5.4,slow=8.0,SNR=29
STKA LR LR 16 01 07.5
comp=Z,354nm,20.3s,baz=13,slow=38
comp=Z,6.7nm,0.5s
STKA Stephens Creek 29.72 178 P **P** **15 48 40.3 -0.5**
baz=30,SNR=23
STKA Stephens Creek 29.72 178 P **P** **15 48 37.7 -3.1**
STKA Stephens Creek 29.72 178 P **P** **15 48 40.8 0.0**
CMSA Cobar Meteorol 29.75 171 P **P** **15 48 42.0 +0.9**
baz=30,SNR=13
CMSA Cobar Meteorol 29.75 171 P **P** **15 48 42.5 +1.4**
ARMA Armidale 30.10 161 P **P** **15 48 45.3 +0.9**
baz=30,SNR=10
ARMA Armidale 30.10 161 P **P** **15 48 41.9 -2.5**
ARMA Armidale 30.10 161 P **P** **15 48 46.2 +1.8**
SMRI Semarang 30.54 260 P **P** **15 48 49.9 +1.6**
comp=Z,46nm,1.2s
BBOO Buckleboo 30.94 188 P **P** **15 48 51.0 -0.6**
baz=31,SNR=8.7
BBOO Buckleboo 30.94 188 P **P** **15 48 50.5 -1.1**
BBOO IAmb IAmb 15 48 53.6
comp=Z,28nm,1.1s

BBOO	**Buckleboo**	**30.94**	**188**	P	**P**	**15 48 50.6**	**-1.1**		
	comp=Z,32nm,1.2s								
FORT	**Forest**	**31.00**	**201**	P	**P**	**15 48 51.7**	**-0.5**		
	baz=31,SNR=18								
FORT	**Forest**	**31.00**	**201**	P	**P**	**15 48 51.3**	**-1.0**		
FORT				IAmb	IAmb	15 48 56.4			
	comp=Z,27nm,0.8s								
FORT	**Forest**	**31.00**	**201**	P	**P**	**15 48 51.2**	**-1.0**		
	comp=Z,48nm,1.1s								
JOW	**Kunigami**	**31.07**	**338**	LR	LR	15 58 33.4			
	comp=Z,300nm,21.4s,baz=150,slow=31								
HTT	**Hallett**	**31.30**	**183**	P	**P**	**15 48 54.4**	**-0.4**		
	baz=31,SNR=4.8								
HTT	**Hallett**	**31.30**	**183**	P	**P**	**15 48 55.6**	**+0.8**		
LIFNC	**LIFOU**	**31.93**	**128**	P	**P**	**15 49 00.2**	**-0.3**		
LIFNC	**LIFOU**	**31.93**	**128**	P	**P**	**15 49 01.3**	**+0.8**		
DZM	**Mont Dzumac**	**32.02**	**130**	LR	LR	16 01 01.0			
	comp=Z,295nm,21.4s,baz=19,slow=35								
DZM	**Mont Dzumac**	**32.02**	**130**	P	**P**	**15 48 59.6**	**-1.9**		
DZM				IAmb	IAmb	15 49 02.0			
	comp=Z,22nm,0.9s								
MEEK	**Meekatharra**	**32.37**	**219**	P	**P**	**15 49 04.0**	**-0.3**		
	baz=32,SNR=5.9								
MEEK	**Meekatharra**	**32.37**	**219**	P	**P**	**15 49 03.4**	**-1.0**		
	comp=Z,18nm,1.5s								
H11S3	**WAKE ISLAND Hy**	**32.72**	**50**	T	T	16 24 37.2			
	baz=232,slow=75,SNR=8.0								
H11S2	**WAKE ISLAND Hy**	**32.73**	**50**	T	T	16 24 41.7			
	baz=232,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hy**	**32.74**	**50**	T	T	16 24 41.3			
	baz=232,slow=75,SNR=51								
H11N1	**WAKE ISLAND Hy**	**33.60**	**49**	T	T	16 24 33.8			
	baz=226,SNR=7.2								
H11N2	**WAKE ISLAND Hy**	**33.61**	**49**	T	T	16 24 36.8			
	baz=226,SNR=9.4								
H11N3	**WAKE ISLAND Hy**	**33.61**	**49**	T	T	16 24 35.2			
	baz=226,SNR=5.2								
CAN	**Canberra**	**34.03**	**168**	P	**P**	**15 49 18.3**	**-0.4**		
CAN	**Canberra**	**34.03**	**168**	P	**P**	**15 49 20.3**	**+1.5**		
CNB	**Canberra Magne**	**34.10**	**167**	P	**P**	**15 49 20.3**	**+0.9**		
	baz=34,SNR=5.0								
CNB	**Canberra Magne**	**34.10**	**167**	P	**P**	**15 49 21.0**	**+1.6**		
SKJI	**Sukabumi**	**34.36**	**261**	P	**P**	**15 49 19.8**	**-2.0**		
ARPS	**Mount Arapiles**	**34.60**	**178**	P	**P**	**15 49 24.3**	**+0.6**		
	baz=34,SNR=9.6								
ARPS	**Mount Arapiles**	**34.60**	**178**	P	**P**	**15 49 24.2**	**+0.6**		
JHJ	**Hachijo jima 2**	**34.95**	**359**	LR	LR	16 00 34.6			
	comp=Z,388nm,19.4s,baz=238,slow=31								
MORW	**Morawa**	**35.69**	**219**	P	**P**	**15 49 32.5**	**-0.7**		
	baz=35,SNR=6.9								
MORW	**Morawa**	**35.69**	**219**	P	**P**	**15 49 32.0**	**-1.2**		
MORW	**Morawa**	**35.69**	**219**	P	**P**	**15 49 32.8**	**-0.4**		
MILA	**Mila**	**35.74**	**168**	P	**P**	**15 49 34.5**	**+1.0**		
	baz=36,SNR=3.9								
BLDU	**Ballidu**	**36.39**	**216**	P	**P**	**15 49 38.7**	**-0.4**		
	baz=36,SNR=10.0								
BLDU	**Ballidu**	**36.39**	**216**	P	**P**	**15 49 38.9**	**-0.2**		
QIZ	**Qiongzhong**	**36.82**	**306**	P	**P**	**15 49 42.1**	**-0.8**		
QIZ				S	**S**	**15 55 25.0**	**-2.4**		
QIZ				LR	LR				
	comp=N,160nm,19.3s								
QIZ				LR	LR				
	comp=E,160nm,21.0s								
QIZ				LR	LR				
	comp=Z,200nm,27.1s								
NWAO	**Narrogin (SRO)**	**37.81**	**213**	LR	LR	16 06 57.4			
	comp=Z,586nm,19.0s,baz=280,slow=39								
MJAR	**Matsushiro Arr**	**38.43**	**357**	P	**P**	**15 49 54.3**	**-1.9**		
	comp=Z,1.5nm,0.8s,baz=189,slow=9.2,SNR=5.6								
MJAR				LR	LR	16 04 35.0			
	comp=Z,142nm,19.3s,baz=160,slow=34								
	comp=Z,1.5nm,0.8s								
SDSI	**Sungai Dareh**	**39.24**	**271**	P	**P**	**15 50 03.5**	**0.0**		
	comp=Z,946nmcomp=Z,14nm,1.1s								
MSVF	**Nonsavu**	**39.87**	**116**	LR	LR	16 05 59.7			
	comp=Z,145nm,19.6s,baz=291,slow=35								
WHN	**Wuhan**	**40.96**	**324**	⇑P	**P**	**15 50 21.4**	**+4.0**		
WHN				S	**S**	**15 56 33.4**	**+3.8**		
WHN				LR	LR				
	comp=Z,360nm,20.5s								
KSRS	**Korea Array**	**41.01**	**344**	P	**P**	**15 50 16.7**	**-1.0**		
	comp=Z,1.9nm,0.9s,baz=158,slow=8.7,SNR=7.0								
KSRS				LR	LR	16 05 25.9			
	comp=Z,148nm,19.8s,baz=160,slow=34								
	comp=Z,1.9nm,0.9s								
PSI	**Prapat**	**42.01**	**276**	LR	LR	16 09 08.0			
	comp=Z,124nm,18.3s,baz=118,slow=38								
GYA	**Guiyang**	**43.35**	**313**	⇑P	**P**	**15 50 38.3**	**+1.1**		
GYA				S	**S**	**15 57 06.3**	**+1.0**		
GYA				pmax	pmax				
	comp=Z,15nm,0.6s								
GYA				LR	LR				
	comp=Z,96nm,13.2s								
ERM	**Erimo**	**43.88**	**3**	P	**P**	**15 50 39.8**	**-1.2**		
ERM				IAmb	IAmb	15 50 56.2			
	comp=Z,33nm,1.1s								
LYN	**LuoYang**	**44.99**	**327**	⇓P	**P**	**15 50 51.0**	**+0.9**		
LYN				S	**S**	**15 57 25.8**	**-2.9**		
LYN	**LuoYang**	**44.99**	**327**	SS	SS	16 00 53.0	+2.4		
LYN				pmax	pmax				
	comp=Z,10.0nm,1.5s								
LYN				pmax	pmax				
	comp=Z,80nm,4.1s								
LYN				LR	LR				
	comp=N,130nm,16.8s								
LYN				LR	LR				
	comp=E,100nm,14.5s								
LYN				LR	LR				
	comp=Z,180nm,20.6s								
OUZ	**Omahuta**	**45.02**	**141**	P	**P**	**15 50 49.9**	**-0.4**		
OUZ				IAmb	IAmb	15 51 03.4			
	comp=Z,25nm,1.3s								
KMI	**Kunming**	**45.59**	**309**	⇑P	**P**	**15 50 59.1**	**+3.8**		
KMI				pmax	pmax				
	comp=Z,14nm,0.7s								
CMAR	**Chiang Mai Arr**	**45.81**	**298**	P	**P**	**15 50 56.9**	**0.0**		
	comp=Z,0.5nm,0.3s,baz=119,slow=6.2,SNR=10								
CMAR				LR	LR	16 08 25.4			
	comp=Z,24nm,21.8s,baz=105,slow=34								
	comp=Z,0.5nm,0.3s								
HNS	**HongShan**	**46.02**	**331**	⇑P	**P**	**15 50 58.8**	**+0.7**		
HNS				S	**S**	**15 57 46.0**	**+2.6**		
HNS				pmax	pmax				
	comp=Z,16nm,1.7s								
HNS				LR	LR				
	comp=N,140nm,17.7s								
HNS				LR	LR				
	comp=E,130nm,19.1s								
HNS				LR	LR				
	comp=Z,180nm,19.1s								
USRK	**Ussuriysk Ar.**	**46.66**	**351**	P	**P**	**15 51 01.3**	**-1.8**		
	comp=Z,8.5nm,1.1s,baz=178,slow=8.2,SNR=4.9								
USRK				LR	LR	16 07 19.0			
	comp=Z,280nm,21.0s,baz=175,slow=32								
	comp=Z,8.5nm,1.1s								
XAN	**Xi'an**	**46.67**	**323**	⇓*i*P	**P**	**15 51 05.4**	**+2.0**		
XAN				pP	pwP	15 51 11.5	+1.6		
XAN				sP	sP	15 51 15.5	+9.2		
XAN				pmax	pmax				
	comp=Z,16nm,1.4s								
PZH	**PanZhiHua**	**47.06**	**310**	P	P	15 51 03.3	-3.4		
PZH				S	**S**	**15 57 57.1**	**-2.0**		
PZH				pmax	pmax				
	comp=Z,20nm,1.0s								
PZH				pmax	pmax				
	comp=Z,120nm,4.2s								
PZH				LR	LR				
	comp=N,440nm,22.6s								
PZH				LR	LR				
	comp=E,510nm,24.0s								
PZH				LR	LR				
	comp=Z,510nm,25.0s								
BJI	**Beijing**	**47.48**	**334**	P	**P**	**15 51 11.8**	**+2.2**		
BJI				pP	**pwP**	**15 51 20.8**	**+4.7**		
BJI				ScP	**ScP**	**15 56 29.6**	**-4.7**		
BJI				S	**S**	**15 58 03.3**	**-1.0**		
BJI				pmax	pmax				
	comp=Z,8.0nm,1.3s								
BJI				LR	LR				
	comp=N,44nm,21.0s								
BJI				LR	LR				
	comp=E,91nm,22.3s								
BJI				LR	LR				
	comp=Z,230nm,22.3s								
CN2	**Changchun**	**47.61**	**345**	*e*P	**P**	**15 51 10.8**	**+0.3**		
CN2				S	**S**	**15 57 59.8**	**-6.2**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				LR	LR				
	comp=N,100nm,18.0s								
CN2				LR	LR				
	comp=E,100nm,18.0s								
CN2				LR	LR				
	comp=Z,200nm,22.0s								
RAO	**Raoul Island**	**47.78**	**129**	LR	LR	16 09 35.3			
	comp=Z,39nm,19.1s,baz=318,slow=34								
CD2	**Chengdu**	**48.01**	**316**	P	**P**	**15 51 16.9**	**+2.9**		
CD2				pmax	pmax				
	comp=Z,20nm,1.4s								
AFI	**Afiamalu**	**48.45**	**107**	LR	LR	16 10 25.5			
	comp=Z,90nm,20.7s,baz=295,slow=35								
BNX	**BinXian**	**48.98**	**348**	P	**P**	**15 51 20.4**	**-0.7**		
BNX				pP	**pwP**	**15 51 33.4**	**+5.8**		
BNX				sP	sP	15 51 36.6	+13		
BNX				S	**S**	**15 58 21.4**	**-3.9**		
BNX				sS	sS	15 58 43.3	+14		
BNX				pmax	pmax				
	comp=Z,11nm,1.1s								
BNX				pmax	pmax				
	comp=Z,140nm,5.5s								
BNX				LR	LR				
	comp=N,120nm,18.4s								
BNX				LR	LR				
	comp=E,75nm,16.8s								
BNX				LR	LR				
	comp=Z,150nm,20.7s								
URZ	**Urewera**	**49.12**	**142**	LR	LR	16 10 44.6			
	comp=Z,158nm,21.8s,baz=34,slow=34								
BKZ	**Black Stump Fm**	**49.31**	**143**	P	**P**	**15 51 22.9**	**-1.0**		
BKZ				IAmb	IAmb	15 51 31.6			
	comp=Z,24nm,1.3s								
TUWZ	**Tuamarina**	**49.36**	**147**	P	**P**	**15 51 22.7**	**-1.4**		
LTZ	**Lake Taylor**	**49.44**	**149**	P	**P**	**15 51 22.7**	**-2.0**		
LTZ				IAmb	IAmb	15 51 26.1			
	comp=Z,17nm,1.1s								
MLZ	**Mavora Lakes**	**49.46**	**155**	P	**P**	**15 51 24.1**	**-0.7**		
RPZ	**Rata Peaks**	**49.52**	**151**	LR	LR	16 13 01.9			
	comp=Z,159nm,18.2s,baz=288,slow=37								
HHC	**Hu-ho-hao-te**	**50.23**	**331**	*e*P	**P**	**15 51 34.3**	**+3.4**		
HHC				pmax	pmax				
	comp=Z,33nm,0.8s								
LZH	**Lanzhou**	**51.13**	**321**	*e*P	**P**	**15 51 38.5**	**+0.7**		
LZH				pP	pwP	15 51 44.8	+0.4		
LZH				sP	sP	15 51 49.3	+8.5		
LZH				S	**S**	**15 58 58.9**	**+2.8**		
LZH				sS	sS	15 59 10.0	+10		
LZH				pmax	pmax				
	comp=Z,16nm,1.2s								
LZH				pmax	pmax				
	comp=Z,17nm,1.0s								
LZH				pmax	pmax				
	comp=Z,100nm,4.5s								
KLR	**Kul'dur**	**51.62**	**353**	P	**P**	**15 51 40.2**	**-0.8**		
	comp=Z,3.6nm,0.9s,baz=169,slow=11,SNR=8.3								
KLR				LR	LR	16 10 54.5			
	comp=Z,140nm,20.3s,baz=192,slow=33								
	comp=Z,3.6nm,0.9s								
BRDH	**Bariadhala**	**53.71**	**300**	LR	LR	16 17 28.1			
	comp=Z,45nm,18.1s,baz=92,slow=39								
GTA	**Gaotai**	**55.70**	**322**	P	**P**	**15 52 12.5**	**+1.2**		
GTA				pP	pwP	15 52 18.4	+0.5		
GTA				sP	sP	15 52 21.4	+7.1		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.5s								
GTA				pmax	pmax				
	comp=Z,140nm,5.1s								
GTA				LR	LR				
	comp=N,71nm,18.5s								
GTA				LR	LR				
	comp=E,65nm,20.4s								
GTA				LR	LR				
	comp=Z,77nm,22.5s								
PETK	**Petropavlovsk-**	**56.75**	**12**	LR	LR	16 13 14.8			
	comp=Z,90nm,21.9s,baz=191,slow=32								
GOMU	**GeErMu**	**57.15**	**316**	⇑*e*P	**P**	**15 52 24.3**	**+2.3**		
GOMU				pP	sP	15 52 27.5	+2.5		
GOMU				sP	pwP	15 52 28.8	+0.3		
GOMU				pmax	pmax				
	comp=Z,4.0nm,0.9s								
GOMU				pmax	pmax				
	comp=Z,44nm,4.7s								
SONM	**Songino Array**	**57.95**	**333**	P	**P**	**15 52 26.2**	**-1.0**		
	comp=Z,0.4nm,0.5s,baz=166,slow=6.7,SNR=3.4								
	comp=Z,0.4nm,0.5s								
RAR	**Rarotonga**	**60.98**	**113**	LR	LR	16 17 13.9			
	comp=Z,27nm,21.7s,baz=266,slow=34								
SHEM	**Shemya Is, Ala**	**61.34**	**22**	LR	LR	16 14 09.4			
	comp=Z,117nm,21.6s,baz=250,slow=31								
MA2	**Magadan**	**61.92**	**6**	LR	LR	16 16 56.6			
	comp=Z,64nm,21.8s,baz=136,slow=33								
YAK	**Yakutsk**	**64.42**	**354**	LR	LR	16 19 37.5			
	comp=Z,44nm,19.8s,baz=267,slow=35								
WMQ	**Urumqi**	**65.70**	**321**	*e*P	**P**	**15 53 21.9**	**+2.5**		
WMQ				pmax	pmax				
	comp=Z,22nm,1.1s								
PPT	**Papeete**	**70.10**	**108**	LR	LR	16 20 30.6			
	comp=Z,52nm,20.3s,baz=298,slow=32								
MK31	**Makanchi Array**	**70.45**	**322**	P	**P**	**15 53 47.6**	**-1.5**		
MK31				IAmb	IAmb	15 54 10.0			
	comp=Z,6.7nm,1.1s								
MKAR	**Makanchi Array**	**70.45**	**322**	P	**P**	**15 53 49.3**	**+0.2**		
	comp=Z,4.4nm,1.0s,baz=106,slow=7.7,SNR=18								
MKAR				LR	LR	16 27 26.2			
	comp=Z,36nm,18.0s,baz=93,slow=38								
	comp=Z,4.4nm,1.0s								
MKAR	**Makanchi Array**	**70.45**	**322**	P	**P**	**15 53 48.5**	**-0.7**		
MAKZ	**Makanchi**	**70.65**	**322**	P	**P**	**15 53 49.9**	**-0.4**		
MAKZ				IAmb	IAmb	15 53 57.2			
	comp=Z,9.7nm,1.2s								
KSH	**Kashi**	**72.04**	**313**	P	**P**	**15 54 00.8**	**+1.8**		
KSH				PcP	**PcP**	**15 54 21.4**	**+3.9**		
KSH				pmax	pmax				
	comp=Z,6.0nm,1.1s								
ZALV	**Zalesovo Beam**	**72.33**	**329**	P	**P**	**15 53 59.3**	**-1.0**		
	comp=Z,0.6nm,0.5s,baz=96,slow=6.0,SNR=4.7								
ZALV				LR	LR	16 26 25.7			
	comp=Z,108nm,19.2s,baz=142,slow=36								
	comp=Z,0.6nm,0.5s								
TIXI	**Tiksi**	**73.93**	**356**	LR	LR	16 25 21.3			
	comp=Z,69nm,20.5s,baz=180,slow=35								
KURK	**Kurchatov**	**74.29**	**324**	P	**P**	**15 54 11.0**	**-0.9**		
KURK				IAmb	IAmb	15 54 18.3			
	comp=Z,12nm,1.4s								
VNDA	**Vanda**	**76.30**	**175**	P	**P**	**15 54 23.1**	**0.0**		
	comp=Z,7.5nm,0.8s,baz=328,slow=6.8,SNR=68								
VNDA				LR	LR	16 26 45.7			
	comp=Z,73nm,21.6s,baz=338,slow=35								
	comp=Z,7.5nm,0.8s								
VNDA	**Vanda**	**76.30**	**175**	P	**P**	**15 54 22.2**	**-0.8**		
VNDA				IAmb	IAmb	15 54 24.3			
	comp=Z,8.0nm,0.8s								
SBA	**Scott Base**	**77.04**	**175**	P	**P**	**15 54 26.5**	**-0.7**		
SBA				IAmb	IAmb	15 54 29.1			
	comp=Z,8.2nm,0.9s								
KDAK	**Kodiak Island**	**79.52**	**30**	LR	LR	16 25 02.5			
	comp=Z,100nm,20.3s,baz=251,slow=32								
NRIK	**Noril'sk**	**79.61**	**343**	P	**P**	**15 54 41.0**	**-0.6**		
	comp=Z,6.3nm,1.0s,baz=133,slow=5.8,SNR=5.4								
NRIK				LR	LR	16 29 40.2			
	comp=Z,113nm,20.6s,baz=136,slow=36								
	comp=Z,6.3nm,1.0s								
BVAR	**Borovoye Array**	**79.87**	**325**	LR	LR	16 29 25.8			
	comp=Z,27nm,20.9s,baz=77,slow=35								
TTA	**Tatalina**	**79.96**	**25**	P	**P**	**15 54 42.6**	**-1.0**		
L19K	**White Mountain**	**80.14**	**25**	P	**P**	**15 54 43.7**	**-0.8**		
L19K				IAmb	IAmb	15 54 47.4			
	comp=Z,8.5nm,1.2s								
J20K	**Nowinta River**	**81.24**	**24**	P	**P**	**15 54 49.4**	**-1.0**		
J20K				IAmb	IAmb	15 55 04.5			
	comp=Z,7.3nm,1.1s								
PPLA	**Purkeypile**	**81.56**	**25**	P	**P**	**15 54 50.8**	**-1.5**		
PPLA				IAmb	IAmb	15 55 14.1			
	comp=Z,11nm,1.2s								
CAST	**Castle Rocks**	**81.79**	**25**	P	**P**	**15 54 52.1**	**-1.2**		
CAST				IAmb	IAmb	15 54 55.4			
	comp=Z,12nm,1.3s								
KTH	**Kantishna Hill**	**82.33**	**25**	P	**P**	**15 54 54.6**	**-1.7**		
KTH				IAmb	IAmb	15 55 19.8			
	comp=Z,7.6nm,1.2s								
MLY	**Manley**	**82.92**	**23**	P	**P**	**15 54 58.2**	**-1.1**		
MAW	**Mawson**	**83.50**	**202**	P	**P**	**15 55 01.4**	**-0.7**		
	comp=Z,9.8nm,1.1s,baz=54,slow=5.5,SNR=11								
MAW				LR	LR	16 30 35.7			
	comp=Z,147nm,18.1s,baz=60,slow=34								
	comp=Z,9.8nm,1.1s								
MAW	**Mawson**	**83.50**	**202**	P	**P**	**15 55 02.9**	**+0.8**		
	baz=83,SNR=5.8								
ILAR	**Eielson Array**	**84.39**	**24**	P	**P**	**15 55 04.5**	**-2.3**		
	comp=Z,2.1nm,1.0s,baz=250,slow=5.5,SNR=11								
ILAR				LR	LR	16 26 47.4			
	comp=Z,54nm,20.4s,baz=232,slow=32								
	comp=Z,2.1nm,1.0s								
GEYT	**Alibeck**	**85.35**	**308**	P	**P**	**15 55 11.4**	**-0.8**		
	comp=Z,4.8nm,1.0s,baz=112,slow=0.8,SNR=11								
	comp=Z,4.8nm,1.0s								
GEYT	**Alibeck**	**85.35**	**308**	P	**P**	**15 55 11.8**	**-0.5**		
ABKAR	**Akbulak array**	**85.46**	**320**	P	**P**	**15 55 10.4**	**-2.0**		
AKTO	**Aktyubinsk**	**86.85**	**321**	LR	LR	16 34 21.2			
	comp=Z,42nm,21.4s,baz=84,slow=36								
ARU	**Arti**	**87.29**	**327**	LR	LR	16 36 02.5			
	comp=Z,56nm,20.0s,baz=92,slow=37								
QSPA	**South Pole Qui**	**87.93**	**180**	LR	LR	16 33 30.2			
	comp=Z,150nm,21.4s,baz=356,slow=35								
QSPA	**South Pole Qui**	**87.93**	**180**	P	**P**	**15 55 23.4**	**-1.0**		
INK	**Inuvik**	**90.30**	**22**	LR	LR	16 29 35.4			
	comp=Z,52nm,21.9s,baz=280,slow=31								
DLBC	**Dease Lake**	**91.33**	**32**	LR	LR	16 35 07.4			
	comp=Z,39nm,19.2s,baz=261,slow=35								
BBB	**Bella Bella**	**92.32**	**38**	LR	LR	16 30 37.4			
	comp=Z,52nm,19.8s,baz=258,slow=31								
KIRV	**Kirov**	**92.36**	**328**	LR	LR	16 37 55.3			
	comp=Z,100nm,20.8s,baz=88,slow=36								
BELG	**Belogornoye**	**93.45**	**322**	LR	LR	16 39 14.4			
	comp=Z,47nm,20.4s,baz=19,slow=36								
YBH	**Yreka Blue Hor**	**96.28**	**48**	LR	LR	16 30 18.6			
	comp=Z,85nm,22.0s,baz=304,slow=30								
KBZ	**Khabaz**	**97.01**	**314**	LR	LR	16 41 20.6			
	comp=Z,21nm,21.9s,baz=68,slow=36								
YKA	**Yellowknife Ar**	**98.56**	**27**	LR	LR	16 34 47.6			
	comp=Z,112nm,21.8s,baz=292,slow=32								
SPITS	**Spitsbergen Ar**	**98.64**	**350**	LR	LR	16 40 24.4			
	comp=Z,99nm,20.4s,baz=18,slow=35								
NEW	**Newport**	**99.62**	**41**	LR	LR	16 36 29.3			
	comp=Z,28nm,18.9s,baz=281,slow=32								
CLL	**Collm**	**114.24**	**327**	*e*SS	SS	16 17 54.0	-6.2		
CLL				LmH		16 49 00.0			
	comp=N,100nm,19.6s								
CLL				LmH		16 49 00.0			
	comp=E,100nm,21.8s								
CLL				LmV		16 52 00.0			
	comp=Z,100nm,21.0s								
CLL				Lm	MLR	18 22 00.0			
	comp=Z,100nm,21.1s								
TORD	**Torodi Ar. Bea**	**137.93**	**287**	PKP	**PKPdf**	**16 01 58.6**	**-1.9**		
	comp=Z,1.5nm,1.0s,baz=46,slow=1.1,SNR=5.7								
PB16	**IPOC Station P**	**144.07**	**126**	PKPdf	**PKPab**	**16 02 11.0**	**+1.4**		
DBIC	**Dimbokro**	**145.33**	**279**	PKPbc	**PKPbc**	**16 02 13.0**	**-0.5**		
	comp=Z,5.3nm,0.9s,baz=238,slow=3.5,SNR=3.1								
LPAZ	**La Paz**	**146.24**	**124**	PKPbc	**PKPdf**	**16 02 16.7**	**+0.7**		
	comp=Z,11nm,1.0s,baz=306,slow=1.6,SNR=23								
CPUP	**Villa Florida**	**146.89**	**149**	PKPbc	**PKPdf**	**16 02 16.8**	**+0.8**		
	comp=Z,8.2nm,0.9s,baz=215,slow=3.8,SNR=12								

ISU ***24*** *16:17:18, 39.74N×70.41E, h2km*
KRNET ***24*** *16:17:20.4±0.1, 39.75N×70.36E, h19km, mb3.8*
SOME ***24*** *16:17:22.7, 40.03N×70.33E, h0km*
NNC ***24*** *16:17:23.8±1.1, 39.96N×70.34E, h0km, mb4.1, mpv3.8,*
Error ellipse: s-maj=9.0km s-min=5.3km az=10.0

ISC 24 16:17:20.3±1.6, 39.85N±0.06×70.54E±0.03, h10km±10km, n40, σ2.9 13/68, 14C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.30**	**47**	P	**Pb**	**16 17 28.9**	**+1.1**
BTK				S	**Sb**	**16 17 36.2**	**+3.4**
CHMI	**Chimion**	**0.86**	**61**	P	**Sn**	**16 17 54.4**	**+3.1**
DRK	**Karamyk**	**1.04**	**111**	⇑*e*P	**Pn**	**16 17 41.6**	**+0.3**
	baz=3.0						
DRK				⇑*i*S	**Sn**	**16 17 57.0**	**+0.9**
	baz=3.0						
FRG	**Fergana**	**1.09**	**61**	P	**Pn**	**16 17 44.0**	**+2.3**
FRG				S	**Sn**	**16 18 02.3**	**+5.5**
KUMR	**Kumaryk**	**1.64**	**325**	P	**Sg**	**16 18 16.3**	**+3.2**
KUMR				S	**Sb**	**16 18 11.7**	**+0.3**
TRKS	**Terek-Say**	**1.74**	**15**	⇑*i*P	**Pg**	**16 17 53.6**	**0.0**
	baz=20						
TRKS				⇑*i*S	**Sg**	**16 18 17.6**	**+1.5**
	baz=20						
CHMG	**Chimgan**	**1.74**	**347**	P	**Pg**	**16 17 54.2**	**+0.5**
CHMG				S	**Sg**	**16 18 19.5**	**+3.2**
TAS	**Tashkent**	**1.75**	**328**	⇓*e*P	**Pb**	**16 17 52.7**	**+0.3**
	baz=33						
TAS				⇓*i*S	**Sg**	**16 18 16.2**	**-0.3**
	baz=33						
TAS	**Tashkent**	**1.75**	**328**	P	**Pg**	**16 17 54.2**	**+0.4**
TAS				S	**Sg**	**16 18 19.1**	**+2.6**
CHRV	**Charvak**	**1.84**	**346**	P	**Pg**	**16 17 56.1**	**+0.5**
CHRV				S	**Sg**	**16 18 22.5**	**+3.1**
OHH	**Osh**	**1.85**	**68**	⇑*e*P	**Pg**	**16 17 55.9**	**+0.2**
	baz=67						
OHH				⇑*i*S	**Sg**	**16 18 22.1**	**+2.4**
	baz=67						
DZI	**Dzhizak**	**2.10**	**278**	P	**Pn**	**16 17 55.4**	**-0.2**
DZI				S	**Sb**	**16 18 23.3**	**-1.4**
IUG	**luzhnay**	**2.32**	**351**	*e*P	**Pg**	**16 18 03.5**	**-1.3**
	888nm,0.3s						
IUG				*e*S	**Sg**	**16 18 33.1**	**-1.9**
	119nm,0.1s						
IUG	**luzhnay**	**2.32**	**351**	Pg	**Pg**	**16 18 03.5**	**-1.3**
	888nm,0.3s						
IUG				Lg	Lg	16 18 33.1	
	118nm,0.3s						
KK31	**Karatay Array**	**3.25**	**360**	⇑Pn	**Pb**	**16 18 15.5**	**-2.5**
	2.9nm,0.3s,baz=192,slow=16,SNR=137						
KK31			

14nm,0.0s
DGS Degeres 5.19 48 Pg **Pg 16 19 00.5 +0.9**
7.6nm,0.3s
DGS Lg Lg 16 20 10.3
12nm,0.5s
KRBS Karabastau 5.43 43 *e*P **Pg 16 19 03.3 -1.0**
3.7nm,0.3s
KRBS *e*S **Sg 16 20 15.4 +0.8**
4.8nm,0.2s
KRBS Karabastau 5.43 43 Pg **Pg 16 19 03.3 -1.0**
3.7nm,0.3s
KRBS Lg Lg 16 20 15.4
4.8nm,0.5s
MTBS Maitube 5.50 52 *e*P **Pg 16 19 04.7 -1.0**
2.0nm,0.1s
MTBS *e*S **Sg 16 20 17.6 +0.7**
9.2nm,0.2s
MTBS Maitube 5.50 52 Pg **Pg 16 19 04.7 -1.0**
2.0nm,0.1s
MTBS Lg Lg 16 20 17.6
9.4nm,0.6s
TNSS Tian-Shan 5.77 54 *e*P **Pg 16 19 10.4 -0.4**
2.5nm,0.4s
TNSS *e*S **Sg 16 20 28.7 +3.1**
3.1nm,0.1s
TNSS Tian-Shan 5.77 54 Pg **Pg 16 19 10.4 -0.4**
2.5nm,0.4s
TNSS Lg Lg 16 20 28.7
2.9nm,0.4s
BTLS Baital 5.80 25 *e*P **Pg 16 19 10.7 -0.6**
2.7nm,0.0s
BTLS *e*S **Sg 16 20 27.9 +1.6**
6.1nm,0.4s
MDOK Medeo 5.90 54 *e*P **Pg 16 19 11.8 -1.5**
2.0nm,0.2s
MDOK *e*S **Sg 16 20 30.1 +0.4**
5.5nm,0.0s
MDOK Medeo 5.90 54 Pg **Pg 16 19 11.8 -1.5**
1.7nm,0.2s
MDOK Pg **Pg 16 19 13.2 -0.1**
5.3nm,0.7s
MDOK Lg Lg 16 20 30.1
5.3nm,0.5s
MDOK Lg Lg 16 20 33.0
12nm,0.9s
KTBS Karatobe 6.00 48 *e*P **Pg 16 19 14.4 -0.7**
2.6nm,0.4s
KTBS *e*S **Sg 16 20 33.9 +1.1**
14nm,0.2s
KTBS Karatobe 6.00 48 Pg **Pg 16 19 14.4 -0.7**
2.6nm,0.4s
KTBS Lg Lg 16 20 33.9
13nm,0.3s
AB31 Akbulak array 12.05 325 ⇑Pn **Pn 16 20 11.5 -0.4**
0.3nm,0.5s,baz=131,slow=14,SNR=9.5
AB31 ⇓Sn **Sn 16 22 26.5 +0.3**
0.5nm,0.5s,baz=149,slow=22,SNR=3.5

*IDC **24** 16:33:50.0±2.0, 6.°46N×126.°00E, h0km, mb3.8/4, mbtmp3.8/4, MS2.9/2, Error ellipse: s-maj=162.5km s-min=25.4km az=65.0*
*MAN **24** 16:33:57.6, 6.°56N×126.°55E, h37km, mb4.7, ML3.6, MS3.5*
*DJA **24** 16:34:01.7±0.6, 6.°N±5.°×12.°6E±.°, h27km±6km, M4.5/13, mB5.0/8, mb4.8/13, MLv4.6/7, Mw(mB)4.3/8*
ISC 24 16:33:59.7±1.1, 6.°49N±0.°05×126.°47E±0.°08, h67km±14km, n46, σ2s17/53, mb3.8/5, 4C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.05 303**		LR	LR	16 34 23.8	
	comp=Z,44nm,20.0s,baz=234,slow=46						
DAV	**Davao City (W)**	**1.05 303**		P	**Pn**	**16 34 18.6**	**-0.1**
GSPH	**General Santos**	**1.56 255**		⇓*i*P	**Pn**	**16 34 22.6**	**-2.8**
GSPH				*i* S	**Sn**	**16 34 42.2**	**-2.7**
BIPH	**Bislig**	**1.69 357**		⇑*e*P	**Pn**	**16 34 23.8**	**-3.3**
BIPH				*e*S	**Sn**	**16 34 45.0**	**-2.8**
BUKP	**Musuan**	**1.96 315**		⇑*e*P	**Pn**	**16 34 29.6**	**-1.2**
BUKP				*e*S	**Sn**	**16 34 54.2**	**-0.3**
CTBH	**Cotabato--PC H**	**2.32 288**		⇑*i*P	**Pn**	**16 34 34.2**	**-1.4**
CTBH				*i* S	**Sn**	**16 35 05.4**	**+2.2**
BUTP	**Butuan**	**2.60 341**		⇓*e*P	**Pn**	**16 34 40.6**	**+1.1**
BUTP				*e*S	**Sn**	**16 35 17.8**	**+7.8**
CGP	**Cagayan de Oro**	**2.63 318**		⇓*i*P	**Pn**	**16 34 39.0**	**-0.8**
CGP				*i*S	**Sn**	**16 35 09.7**	**-0.9**
SGSI	**Sangihe**	**2.94 199**		P	**Pn**	**16 34 45.4**	**+1.3**
GHBP	**Garcia Hernand**	**3.77 326**		⇓*i*P	**Pn**	**16 34 55.5**	**+0.1**
GHBP				*i* S	**Sn**	**16 35 35.1**	**-3.6**
TABP	**Talibon, Bohol**	**4.15 330**		⇑*i*P	**Pn**	**16 34 59.7**	**-1.0**
TABP				*i* S	**Sn**	**16 35 46.6**	**-1.4**
TNTI	**Ternate**	**5.75 171**		P	**Pn**	**16 35 24.7**	**+2.2**
	0.2nm1µm53nm,0.8s						
GTOI	**Gorontalo**	**6.76 211**		P	**Pn**	**16 35 36.6**	**+0.3**
	0.4nm1µm111nm,0.6s						
GTOI				S	**Sn**	**16 36 47.7**	**-4.2**
	0.4nm1µm111nm,0.6s						
LBMI	**Labuha**	**7.16 172**		P	**Pn**	**16 35 43.6**	**+1.8**
	0.1nm479nm28nm,0.7s						
MRSI	**Marisa**	**7.49 217**		P	**Pn**	**16 35 47.3**	**+1.0**
	0.3nm801nm73nm,0.7s						
MRSI				S	**Sn**	**16 37 09.5**	**-0.3**
	0.3nm801nm73nm,0.7s						
LUWI	**Luwuk**	**8.34 206**		P	**Pn**	**16 36 00.4**	**+2.4**
	2µm128nm,1.0s						
SANI	**Sanana**	**8.50 183**		P	**Pn**	**16 35 58.5**	**-1.6**
	704nm54nm,0.9s						
SANI	**Sanana**	**8.50 183**		P	**Pn**	**16 35 59.7**	**-0.4**
APSI	**Ampana**	**8.78 213**		P	**Pn**	**16 36 08.5**	**+4.5**
	602nm52nm,0.6s						
NLAI	**Namlea**	**9.69 176**		P	**Pn**	**16 36 16.2**	**-0.1**
	25nm,0.7s						
TTSI	**Tana Toraja**	**11.56 215**		P	**Pn**	**16 36 44.1**	**+2.1**
	49nm,1.1s						
BBKI	**Banjar Baru**	**15.24 230**		P	**P**	**16 37 35.0**	**+0.3**
PLAI	**Plampang**	**17.51 210**		P	**P**	**16 38 02.9**	**+3.2**
MTN	**Manton Dam**	**19.76 166**		P	**Pn**	**16 38 25.5**	**-0.9**
KNRA	**Kununurra**	**22.14 174**		P	**P**	**16 38 50.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.45 182**		P	**P**	**16 39 12.3**	**0.0**
WRAB	**Tennant Creek**	**27.38 164**		P	**P**	**16 39 42.0**	**+3.1**
WRA	**Warramunga Arr**	**27.39 164**		P	**P**	**16 39 37.6**	**-1.3**
	0.7nm,0.6s,baz=344,slow=10.0,SNR=11						
	0.7nm,0.6s						
PSA00	**Pilbara Seismi**	**28.63 193**		P	**P**	**16 39 53.3**	**+3.2**
	14nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.33 296**		LR	LR	16 52 08.3	
	comp=Z,5.4nm,18.9s,baz=180,slow=38						
QIS	**Mount Isa**	**29.82 155**		P	**P**	**16 40 00.3**	**-0.3**
ASAR	**Alice Springs**	**30.84 167**		P	**P**	**16 40 09.2**	**-0.4**
	0.8nm,0.6s,baz=340,slow=7.3,SNR=30						
	0.8nm,0.6s						
WRKA	**Warakurna**	**31.39 177**		P	**P**	**16 40 15.2**	**+0.8**
MEEK	**Meekatharra**	**33.80 193**		P	**P**	**16 40 36.3**	**+0.8**
OOD	**Oodnadatta**	**35.23 166**		P	**P**	**16 40 47.8**	**0.0**
MORW	**Morawa**	**36.75 195**		P	**P**	**16 41 00.5**	**-0.3**
FORT	**Forrest**	**37.09 178**		P	**P**	**16 41 03.5**	**-0.1**
LCRK	**Leigh Creek**	**38.42 164**		P	**P**	**16 41 16.2**	**+1.4**
KLBR	**Kellerberrin**	**38.77 192**		P	**P**	**16 41 17.2**	**-0.6**
MUN	**Mundaring**	**39.48 194**		P	**P**	**16 41 23.2**	**-0.6**
BBOO	**Buckleboo**	**40.13 167**		P	**P**	**16 41 29.1**	**0.0**
NWAO	**Narrogin (SRO)**	**40.17 192**		P	**P**	**16 41 30.2**	**+0.8**
STKA	**Stephens Creek**	**40.79 160**		P	**P**	**16 41 34.5**	**-0.1**
	2.7nm,0.7s,baz=332,slow=11,SNR=3.5						
	2.7nm,0.7s						
HTT	**Hallett**	**41.42 164**		P	**P**	**16 41 41.3**	**+1.5**
MKAR	**Makanchi Array**	**55.16 324**		P	**P**	**16 43 22.6**	**-2.9**
	0.6nm,0.7s,baz=122,slow=7.2,SNR=5.3						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**59.30 327**		LR	LR	17 09 41.8	
	comp=Z,39nm,20.6s,baz=259,slow=36						

*JMA **24** 16:40:27.6±0.7, 34.°N±2.°×14.°2E±.°, h22km, MV2.5/15, FAR SE OFF BOSO PEN*
*IDC **24** 16:40:28.3±5.2, 33.°91N×141.°17E, h0km, mb3.1/2, mbtmp3.0/3, ML2.1/1, Error ellipse: s-maj=174.1km s-min=27.7km az=63.0*
ISC 24 16:40:30.1±1.8, 34.°12N±0.°09×141.°5E±0.°2, h24km, n7, σ0s83/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.68 323**		*e*P	**Pb**	**16 40 42.1**	**-0.7**
BSO3	**Boso 3**	**1.05 311**		*e*P	**Pn**	**16 40 48.8**	**-0.2**
BSO4	**Boso 4**	**1.28 313**		*e*P	**Pb**	**16 40 52.6**	**-0.8**
JMKN	**Mikurajimanish**	**1.58 262**		*e*P	**Pb**	**16 40 58.0**	**-0.6**
MJAR	**Matsushiro Arr**	**3.60 313**		Pn	**Pn**	**16 41 24.9**	**+0.5**
	0.2nm,0.3s,baz=135,slow=12,SNR=16						
MJAR				Sn	**Sn**	**16 42 07.4**	**+1.2**
	0.1nm,0.3s,baz=164,slow=24,SNR=4.2						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**54.19 188**		P	**P**	**16 49 53.7**	**+0.1**
	0.1nm,0.3s,baz=6.0,slow=7.8,SNR=1.4						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**57.91 188**		P	**P**	**16 50 20.5**	**+0.3**
	0.2nm,0.8s,baz=6.6,slow=6.3,SNR=2.1						
	0.2nm,0.8s						

*MEX **24** 16:42:35.6±0.3, 31.°64N×115.°89W, h39km±28km, MD2.6*
ECX 24 16:42:34.5±0.6, 31.°62N×115.°99W, h6km±51km, MD2.4, ML2.6, 7C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJX	**San Joaquin**	**0.14**	**11**	⇓*i*P	Pg	16 42 41.4	+3.9
SJX				*e*S	Sg	16 42 46.8	+7.4
SJX				⇑*e*		16 42 47.6	
SJX				IAML		16 42 47.6	
	comp=E,704nm,0.1s						
SJX				IAML		16 42 48.2	
	comp=N,412nm,0.0s						
SJX				⇓*e*		16 42 48.2	
VTX	**Valle De La Tr**	**0.29**	**143**	⇓*i*P	Pg	16 42 39.8	-0.5
VTX				*i* S	Sg	16 42 43.9	-0.2
VTX				IAML		16 42 44.1	
	comp=N,3µm,0.1s						
SVX	**San Vicente**	**0.37**	**217**	⇑*i*P	Pg	16 42 41.4	-0.2
SVX				*e*S	Sg	16 42 46.5	0.0
SVX				IAML		16 42 46.7	
	comp=E,376nm,0.1s						
SVX				⇑*e*		16 42 46.7	
SPIG	**San Pedro Mart**	**0.73**	**142**	⇑*e*P	Pg	16 42 47.6	-1.0
	baz=329,slow=14						
SPIG				*e*S	Sg	16 42 57.0	-1.1
SPIG	**San Pedro Mart**	**0.73**	**142**	*e*P	Pg	16 42 47.5	-1.0
SPIG				*e*S	Sg	16 42 57.7	-0.4
ECBX	**El Chinero**	**0.82**	**100**	⇑*i*P	Pg	16 42 49.4	-0.8
ECBX				*e*S	Sg	16 42 59.9	-0.8
CBX	**Cerro Bola**	**0.90**	**320**	*e*P	Pg	16 42 50.3	-1.4
CBX				*e*S	Sg	16 43 02.4	-0.9
RMX	**La Rumorosa**	**0.98**	**356**	*e*P	Pg	16 42 51.0	-2.3
RMX				*e*S	Sg	16 43 03.3	-2.7
TJIG	**Tijuana**	**0.99**	**324**	*e*P	Pg	16 42 51.9	-1.7
TJIG				*e*S	Sg	16 43 04.6	-1.9
TJIG	**Tijuana**	**0.99**	**324**	*e*P	Pg	16 42 51.8	-1.8
TJIG				*e*S	Sg	16 43 04.8	-1.7
YUH2	**Yuha Desert**	**1.02**	**3**	*e*P	Pg	16 42 52.6	-1.6
YUH2				*e*S	Sg	16 43 06.0	-1.4
IKP	**In-Ko-Pah, Jac**	**1.03**	**354**	⇓*e*P	Pg	16 42 53.0	-1.3
IKP				*e*S	Sg	16 43 05.9	-1.7
SQX	**San Quintin**	**1.05**	**175**	*e*P	Pg	16 42 52.6	-2.0
SQX				*e*S	Sg	16 43 06.4	-1.8
SQX				⇑*e*		16 43 11.7	
SQX				IAML		16 43 11.7	
	comp=E,79nm,0.3s						
SFX	**San Felipe**	**1.14**	**121**	*e*P	Pg	16 42 55.0	-1.3
SFX				*e*S	Sg	16 43 10.4	-0.7
BAR	**Barrett**	**1.20**	**331**	*e*P	Pg	16 42 55.3	-2.2
BAR				IAML		16 43 11.6	
	comp=E,97nm,0.1s						
BAR				⇓*e*		16 43 11.6	
BAR				IAML		16 43 11.8	
	comp=N,130nm,0.1s						
BAR				⇑*e*		16 43 11.8	
MONP2	**Monument Peak**	**1.32**	**344**	*e*P	Pn	16 42 57.9	-1.8
MONP2				*e*S	Sg	16 43 14.7	-2.2

*BUL **24** 17:02:26.9±1.4, 23.°60S×30.°27E, h0km±17km, MD3.1*
*EAF **24** 17:02:29.1±2.8, 23.°57S×30.°09E, h0km±41km, MD3.0*
PRE 24 17:01:55.8±1.9, 21.°30S×33.°38E, h10km, ML2.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**2.87**	**219**	*e*P	Pn	17 02 43.7	+2.0
MOPA				*e*S	Sn	17 03 15.6	-0.8
MOPA				IAML		17 03 21.6	
	comp=Z,22nm,0.3s						
MOPA	**Mopani**	**2.87**	**219**	*i* P	Pg	17 02 49.2	-1.7
MOPA				*i* S	Sn	17 03 08.0	-8.4
MOPA	**Mopani**	**2.87**	**219**	*i* P	Pg	17 02 49.2	-1.7
MOPA				*i* S	Sn	17 03 08.0	-8.4
MUSN	**Musina, Limpop**	**3.42**	**253**	*e*P	Pn	17 02 51.2	+1.9
MUSN				*e*S	Sn	17 03 29.9	0.0
MUSN				IAML		17 03 43.9	
	comp=Z,13nm,0.4s						
MUSN	**Musina, Limpop**	**3.42**	**253**	*i* P	Pn	17 02 51.4	+2.2
MUSN				*i* S	Sn	17 03 09.1	-21
MUSN	**Musina, Limpop**	**3.42**	**253**	*i* P	Pn	17 02 51.4	+2.2
MUSN				*i* S	Sn	17 03 09.1	-21
BLWY	**Bulawayo**	**4.61**	**284**	*e*P	Pn	17 03 06.9	+1.2
BLWY				*e*S	Sn	17 04 01.4	+1.9
BLWY				IAML		17 04 23.1	
	comp=Z,40nm,0.4s						
MATP	**Matopo**	**4.65**	**280**	*i* P	Pg	17 03 23.8	-1.0
MATP				*i* S	Sn	17 04 03.8	+3.5
MATP	**Matopo**	**4.65**	**280**	*i* P	Pg	17 03 23.8	-1.0
MATP				*i* S	Sn	17 04 03.8	+3.5
MMAL	**MMAL**	**5.13**	**202**	*e*P	Pn	17 03 14.8	+1.9
MMAL				*e*S	Sn	17 04 11.3	-1.0
MMAL				IAML		17 04 43.6	
	comp=Z,4.8nm,0.5s						
LEPH	**Lephalale, Lim**	**5.76**	**243**	*e*P	Pn	17 03 22.9	+1.5
LEPH				*e*S	Sn	17 04 26.8	-0.8
LEPH				IAML		17 05 00.8	
	comp=Z,8.2nm,0.5s						
LBTB	**Lobatse**	**8.06**	**241**	*e*P	Pn	17 03 55.1	+2.0
LBTB				*e*S	Sn	17 05 21.1	-3.4
LBTB				IAML		17 06 08.4	
	comp=Z,3.0nm,0.6s						

*IDC **24** 17:13:39.8±0.8, 54.°74S×30.°49W, h0km, mb4.0/7, mbtmp4.0/7, MS3.3/5, Error ellipse: s-maj=36.9km s-min=18.4km az=70.0*
*NEIC **24** 17:13:41.2±2.5, 54.°8S±0.°1×30.°9W±0.°2, h15km±5km, mb4.9/13, Error ellipse: s-maj=20.6km s-min=13.4km az=206.0*
ISC 24 17:13:41.5±0.7, 54.°7S±0.°1×31.°00W±0.°10, h10km, n31, σ2s39/28, mb4.5/10, MS3.3/5, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.23**	**275**		**Pn**	**17 14 33.1**	**+1.0**
HOPE					Sn	**Sn**	**17 15 08.6**	**-2.0**
VNA1	**Neumayer--Stat**	**18.89**	**157**	P	**Pn**	**17 18 08.1**	**+5.8**
VNA3	**Neumayer Olymp**	**19.03**	**159**	P	**Pn**	**17 18 09.3**	**+5.3**
VNA2	**Neumayer--Watz**	**19.29**	**157**	P	**Pn**	**17 18 10.6**	**+3.5**
	baz=314,slow=9.9						
SNAA	**Sanae**	**20.88**	**155**	P	**P**	**17 18 21.1**	**-2.4**
SNAA	**Sanae**	**20.88**	**155**	P	**P**	**17 18 20.4**	**-3.0**
	1.4nm,0.5s,baz=300,slow=9.6,SNR=19						
SNAA				LR	LR	17 24 45.0	
	comp=Z,59nm,18.7s,baz=226,slow=32						
	1.4nm,0.5s						
SNAA	**Sanae**	**20.88**	**155**	P	**P**	**17 18 20.6**	**-2.8**
TROLL	**Troll, Antarti**	**22.44**	**153**	P	**P**	**17 18 37.4**	**-2.8**
MG05	**Puerto Natales**	**24.79**	**260**	P	**P**	**17 19 01.7**	**-1.6**
CPUP	**Villa Florida**	**34.29**	**315**	P	**P**	**17 20 28.7**	**+0.9**
	2.0nm,0.6s,baz=144,slow=6.7,SNR=3.2						
CPUP				LR	LR	17 34 49.9	
	comp=Z,16nm,19.5s,baz=171,slow=37						
	2.0nm,0.6s						
MT02	**Curacav**	**35.28**	**291**	P	**P**	**17 20 35.5**	**-0.8**
MT02				IAmb	IAmb	17 21 11.6	
	comp=Z,42nm,1.6s						
QSPA	**South Pole Qui**	**35.56**	**180**	P	**P**	**17 20 38.0**	**-0.7**
	comp=Z,3.4nm,0.5s,baz=206,slow=2.7,SNR=30						
	comp=Z,3.4nm,0.5s						
QSPA	**South Pole Qui**	**35.56**	**180**	P	**P**	**17 20 38.7**	**0.0**
QSPA				IAmb	IAmb	17 20 42.5	
	comp=Z,17nm,1.5s						
VA06	**Catapilco**	**35.90**	**291**	P	**P**	**17 20 41.9**	**+0.3**
CO02	**Combarbal**	**36.79**	**293**	P	**P**	**17 20 50.9**	**+1.5**
CO02				IAmb	IAmb	17 21 17.9	
	comp=Z,64nm,1.9s						
GO02	**Mina Guanaco**	**40.93**	**300**	P	**P**	**17 21 25.1**	**+0.7**
GO02				IAmb	IAmb	17 22 43.1	
	comp=Z,42nm,1.6s						
MAW	**Mawson**	**42.52**	**146**	P	**P**	**17 21 34.7**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=257,slow=23,SNR=3.6						
	comp=Z,1.2nm,0.8s						
MAW	**Mawson**	**42.52**	**146**	P	**P**	**17 21 34.3**	**-2.2**
LVC	**Limon Verde**	**42.73**	**303**	LR	LR	17 42 27.4	
	comp=Z,37nm,18.1s,baz=240,slow=40						
LVC	**Limon Verde**	**42.73**	**303**	P	P	17 21 37.0	-2.1
LVC				IAmb	IAmb	17 21 53.5	
	comp=Z,47nm,2.0s						
GO01	**Chusmiza**	**45.38**	**305**	P	P	17 21 59.0	-1.6
VNDA	**Vanda**	**47.81**	**184**	P	**P**	**17 22 18.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=189,slow=7.0,SNR=8.3						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**47.81**	**184**	P	**P**	**17 22 17.9**	**-0.5**
VNDA				IAmb	IAmb	17 22 34.8	
	comp=Z,12nm,2.0s						
LPAZ	**La Paz**	**47.82**	**309**	P	**P**	**17 22 21.9**	**+2.1**
	comp=Z,1.3nm,0.6s,baz=179,slow=5.4,SNR=7.0						
	comp=Z,1.3nm,0.6s						
LPAZ	**La Paz**	**47.82**	**309**	P	**P**	**17 22 19.5**	**-0.4**
LPAZ				IAmb	IAmb	17 22 54.2	
	comp=Z,16nm,1.9s						
SDV	**Santo Domingo**	**71.52**	**318**	LR	LR	17 58 49.3	
	comp=Z,48nm,18.4s,baz=202,slow=38						
TOA0	**Torodi Ar. Sit**	**73.03**	**33**	P	**P**	**17 25 10.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**73.03**	**33**	P	**P**	**17 25 10.7**	**-0.7**
	comp=Z,2.3nm,1.1s,baz=206,slow=6.2,SNR=6.5						
TORD				LR	LR	17 49 34.2	
	comp=Z,20nm,21.1s,baz=210,slow=30						
	comp=Z,2.3nm,1.1s						
FINES	**FINESS Array B**	**124.22**	**29**	PKP	**PKPdf**	**17 32 38.0**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=160,slow=6.1,SNR=4.9						
ILAR	**Eielson Array**	**147.59**	**314**	PKPbc	**PKPdf**	**17 33 24.8**	**+3.0**
	comp=Z,3.4nm,0.9s,baz=124,slow=1.8,SNR=24						
SONM	**Songino Array**	**152.82**	**87**	PKPbc	**PKPbc**	**17 33 37.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=222,slow=3.6,SNR=6.3						

*IDC **24** 17:15:05.5±0.5, 1.°95S×140.°77E, h0km, mb4.3/16, mbtmp4.4/21, ML4.3/3, MS3.9/49, Error ellipse: s-maj=20.3km s-min=11.7km az=80.0*
*GCMT **24** 17:15:08.6±0.3, 1.°86S±0.°02×140.°59E±0.°04, h16km±1km, MW4.8/82, Moment Tensor Solution. s17,c21; s82,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.70±.14; Mθθ=1.68±.09; Mϕϕ=0.02±.09; Mrθ=1.44±.28; Mϕθ=0.04±.06; Mϕr=0.73±.37; Best double couple: M0=2.33200×10^16 NP1:ϕs=252.00000°, δ67.00000°, λ-103.00000°. NP2: ϕs=102.00000°, δ26.00000°, λ-62.00000°. Principal axes: T 2.2480, Plg21.0000°, Azm352.0000°; N 0.1700, Plg12.0000°, Azm257.0000°; P -2.4160, Plg65.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 17:15:10.6±1.3, 2.°01S±0.°08×140.°66E±0.°02, h33km±5km, mb4.8/39 Error ellipse: s-maj=11.7km s-min=2.2km az=169.0*
*DJA **24** 17:15:15.0±0.4, 2.°5S±4.°×14.°0E±.°, h44km±3km, M4.5/42, mB5.1/16, mb4.6/42, MLv4.4/6, Mw(mB)4.5/16*
ISC 24 17:15:10.9±0.3, 2.°05S±0.°04×140.°67E±0.°05, h35km, n215, σ1s57/183, mb4.7/49, MS3.9/51, 1C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.74**	**223**	P	**Pn**	**17 15 23.9**	**-1.0**
GENI				S	**Sn**	**17 15 33.4**	**-1.5**
GENI	**Genyem**	**0.74**	**223**	P	**Pn**	**17 15 24.5**	**-0.4**
SMPI	**Sarmi**	**1.96**	**272**	P	**Pn**	**17 15 40.9**	**-0.9**
SMPI				S	**Sn**	**17 16 06.3**	**+1.1**
WAMI	**Wamena**	**2.67**	**227**	P	**Pn**	**17 15 54.8**	**+3.3**
SRPI	**Serui, Papua**	**4.43**	**272**	P	**Pn**	**17 16 18.2**	**+2.4**
BAKI	**Biak**	**4.64**	**281**	P	**Pn**	**17 16 18.0**	**-0.7**
MANU	**Manus Island**	**6.69**	**90**		**Pn**	**17 16 45.4**	**-1.4**
FAKI	**Fak Fak**	**8.46**	**264**	Pn	**Pn**	**17 17 10.8**	**-0.3**
FAKI	**Fak Fak**	**8.46**	**264**	P	**Pn**	**17 17 13.7**	**+2.6**
	0.1nm29nm,1.0s						
FAKI	**Fak Fak**	**8.46**	**264**	P	**Pn**	**17 17 12.3**	**+1.2**
SIJI	**Sorong**	**9.48**	**277**	Pn	**Pn**	**17 17 24.7**	**-0.4**
	0.3nm,0.3s,baz=129,slow=22,SNR=2.0						
SIJI				LR	LR	17 21 15.8	
	comp=Z,610nm,18.6s,baz=60,slow=39						
	2.1nm,0.5s						
PMG	**Port Moresby**	**9.74**	**139**	Pn	**Pn**	**17 17 26.8**	**-1.9**
	5.2nm,0.7s,baz=134,slow=1.4,SNR=2.4						
PMG				LR	LR	17 21 34.3	
	comp=Z,840nm,19.6s,baz=305,slow=40						
PMG	**Port Moresby**	**9.74**	**139**		**Pn**	**17 17 28.8**	**+0.1**
KRVT	**Keravat (AS076**	**11.55**	**101**	LR	LR	17 21 42.0	
	comp=Z,628nm,21.2s,baz=55,slow=34						
COEN	**Coen**	**12.08**	**168**	P	**Pn**	**17 18 01.8**	**+1.1**
	baz=12,SNR=4.6						
COEN	**Coen**	**12.08**	**168**		**Pn**	**17 17 57.8**	**-2.9**
COEN	**Coen**	**12.08**	**168**	P	**Pn**	**17 18 02.8**	**+2.0**
LBMI	**Labuha**	**13.24**	**276**	P	**Pn**	**17 18 17.1**	**+0.4**
	509nm20nm,1.4s						
KDU	**Kakadu**	**13.32**	**217**	P	**Pn**	**17 18 15.6**	**-2.1**
	baz=13,SNR=32						
KDU	**Kakadu**	**13.32**	**217**	P	**Pn**	**17 18 15.8**	**-1.9**
MTN	**Manton Dam**	**14.29**	**221**	P	**Pn**	**17 18 28.3**	**-2.6**
	baz=14,SNR=22						
MTN	**Manton Dam**	**14.29**	**221**	Pn	**Pn**	**17 18 27.7**	**-3.2**
MTN	**Manton Dam**	**14.29**	**221**	P	**Pn**	**17 18 29.4**	**-1.5**
SANI	**Sanana**	**14.68**	**270**	P	**Pn**	**17 18 33.4**	**-2.8**
	15nm,1.0s						
GUMO	**Guam**	**16.09**	**15**	LR	LR	17 24 21.6	
	comp=Z,376nm,19.1s,baz=218,slow=35						
MTSU	**Mount Surprise**	**16.38**	**168**	P	**P**	**17 18 59.5**	**-1.3**
	baz=16,SNR=4.4						
KMSI	**Cibinong**	**16.89**	**279**	P	**P**	**17 19 07.2**	**+0.6**
	61nm,1.1s						
DAV	**Davao City (W)**	**17.58**	**301**	LR	LR	17 26 12.4	
	comp=Z,250nm,19.9s,baz=131,slow=38						
GTOI	**Gorontalo**	**17.86**	**278**	P	**P**	**17 19 20.0**	**+2.7**
	345nm31nm,1.2s						
KNRA	**Kununurra**	**17.92**	**220**	P	**Pn**	**17 19 16.9**	**-0.6**
	baz=18,SNR=19						
KNRA	**Kununurra**	**17.92**	**220**		**Pn**	**17 19 16.0**	**-1.5**
KNRA	**Kununurra**	**17.92**	**220**	P	**Pn**	**17 19 16.8**	**-0.7**
LUWI	**Luw

comp=Z,382nmcomp=Z,24nm,1.2s
BKSI Bulukumba 20.76 260 P **P** 17 19 49.5 +0.5
comp=Z,352nmcomp=Z,25nm,1.0s
TTSI Tana Toraja 20.86 267 P **P** 17 19 50.7 +0.6
comp=Z,1μmcomp=Z,43nm,1.0s
MPSI Mapaga 20.91 276 P Pn 17 19 52.2 -1.1
comp=Z,435nmcomp=Z,33nm,1.3s
SPSI Sidrap Palu 20.96 264 P Pn 17 19 52.5 -1.4
comp=Z,783nmcomp=Z,39nm,1.5s
FITZ Fitzroy Crossi 21.72 222 P **P** 17 19 59.1 -0.2
comp=Z,18nm,0.9s,baz=360,slow=8.2,SNR=23
FITZ LR LR 17 29 34.7
comp=Z,614nm,18.4s,baz=78,slow=40
comp=Z,18nm,0.9s
FITZ Fitzroy Crossi 21.72 222 P **P** 17 19 58.8 -0.5
baz=22,SNR=19
FITZ Fitzroy Crossi 21.72 222 P **P** 17 19 58.5 -0.8
FITZ IAmb IAmb 17 20 01.8
comp=Z,22nm,0.9s
FITZ **S** **17 23 54.0 -3.9**
FITZ Fitzroy Crossi 21.72 222 P **P** 17 19 59.1 -0.2
AS31 Alice Springs 22.46 196 P **P** 17 20 06.8 -0.4
ASAR Alice Springs 22.46 196 P **P** 17 20 06.8 -0.5
comp=Z,15nm,0.8s,baz=29,slow=11,SNR=158
ASAR LR LR 17 29 17.0
comp=Z,801nm,21.1s,baz=22,slow=38
comp=Z,15nm,0.8s
ASAR Alice Springs 22.46 196 P **P** 17 20 07.1 -0.2
SGKI Sangatta, Kali 23.11 273 P **P** 17 20 17.2 +3.1
comp=Z,2μmcomp=Z,143nm,0.9s
RK1H Rockhampton Ha 23.25 157 P **P** 17 20 17.0 +1.7
MYLDM Lahad Datu 23.29 288 P **P** 17 20 15.6 -0.3
MYLDM IAmb IAmb 17 20 33.8
comp=Z,37nm,1.2s
SMKI Samarinda 23.51 274 P **P** 17 20 20.7 +2.6
comp=Z,73nm,0.7s
QLP Quilpie 24.63 172 P **P** 17 20 29.4 +1.2
baz=25,SNR=15
QLP Quilpie 24.63 172 P **P** 17 20 29.7 +1.5
EIDS Eidsvold 25.26 157 P **P** 17 20 36.3 +2.3
baz=25,SNR=26
EIDS Eidsvold 25.26 157 P **P** 17 20 34.3 +0.3
EIDS Eidsvold 25.26 157 P **P** 17 20 36.6 +2.6
RMQ Roma 25.50 163 P **P** 17 20 38.3 +2.1
baz=26,SNR=21
RMQ Roma 25.50 163 P **P** 17 20 38.0 +1.8
INKA Innaminka 25.54 180 P **P** 17 20 37.5 +1.0
WRKA Warakurna 25.78 207 P **P** 17 20 38.7 -0.1
baz=26,SNR=58
WRKA Warakurna 25.78 207 P **P** 17 20 39.0 +0.2
BBKI Banjar Baru 25.84 266 P **P** 17 20 42.9 +3.5
comp=Z,2μmcomp=Z,15nm,1.0s
OOD Oodnadatta 26.04 190 P **P** 17 20 41.9 +0.9
LCRK Leigh Creek 28.34 184 P **P** 17 21 02.3 +0.7
MULG Mulgathing 28.77 192 P **P** 17 21 05.9 +0.4
SBUM Sibu 28.80 279 P **P** 17 21 04.8 -1.2
KOUNC Koumac, New Ca 29.48 130 P **P** 17 21 11.2 -0.6
KOUNC IAmb IAmb 17 21 13.5
comp=Z,22nm,1.1s
STKA Stephens Creek 29.68 178 P **P** 17 21 13.0 -0.6
comp=Z,9.1nm,0.8s,baz=348,slow=9.7,SNR=11
STKA LR LR 17 33 40.8
comp=Z,489nm,19.6s,baz=7.7,slow=37
comp=Z,9.1nm,0.8s
STKA Stephens Creek 29.68 178 P **P** 17 21 13.9 +0.4
baz=30,SNR=4.8
STKA Stephens Creek 29.68 178 P **P** 17 21 12.8 -0.7
CMSA Cobar Meteorol 29.71 171 P **P** 17 21 15.0 +1.2
baz=30,SNR=9.2
CMSA Cobar Meteorol 29.71 171 P **P** 17 21 16.5 +2.7
ARMA Armidale 30.06 161 P **P** 17 21 18.8 +1.7
baz=30,SNR=4.5
ARMA Armidale 30.06 161 P **P** 17 21 16.9 -0.2
BBOO Buckleboo 30.90 188 P **P** 17 21 24.5 +0.1
baz=31,SNR=8.4
BBOO Buckleboo 30.90 188 P **P** 17 21 24.5 +0.1
FORT Forrest 30.97 201 P **P** 17 21 25.4 +0.4
baz=31,SNR=6.8
FORT Forrest 30.97 201 P **P** 17 21 23.5 -1.5
FORT Forrest 30.97 201 P **P** 17 21 25.1 +0.2
comp=Z,50nm,1.3s
JOW Kunigami 31.11 338 LR LR 17 31 07.7
comp=Z,243nm,21.2s,baz=148,slow=31
HTT Hallett 31.26 183 P **P** 17 21 28.1 +0.6
baz=31,SNR=5.1
HTT Hallett 31.26 183 P **P** 17 21 28.3 +0.8
DZM Mont Dzumac 31.99 130 *e*S **S** 17 26 45.6 +1.8
comp=Z,45nm,27.8s
DZM *e*LR LR 17 30 02.8
comp=Z,377nm,23.1s
DZM Mont Dzumac 31.99 130 LR LR 17 33 56.9
comp=Z,265nm,21.1s,baz=8.5,slow=35
DZM Mont Dzumac 31.99 130 P **P** 17 21 33.7 -0.6
DZM IAmb IAmb 17 21 35.3
comp=Z,17nm,1.1s
DZM Mont Dzumac 31.99 130 P **P** 17 21 34.3 +0.1
MEEK Meekatharra 32.34 219 P **P** 17 21 36.3 -0.9
baz=32,SNR=3.9
MEEK Meekatharra 32.34 219 P **P** 17 21 37.6 +0.4
H11S3 WAKE ISLAND Hy 32.75 50 T T 17 57 10.4
baz=232,slow=75,SNR=45
H11S2 WAKE ISLAND Hy 32.76 50 T T 17 57 12.7
baz=232,slow=75,SNR=5.2
H11S1 WAKE ISLAND Hy 32.76 50 T T 17 57 13.2
baz=232,slow=75,SNR=6.7
TPI Tanjungpandan 33.00 268 P **P** 17 21 44.8 +1.8
comp=Z,17nm,1.2s
H11N1 WAKE ISLAND Hy 33.62 49 T T 17 58 20.9
baz=236,slow=74,SNR=7.6
H11N2 WAKE ISLAND Hy 33.64 49 T T 17 58 20.9
baz=236,slow=74,SNR=9.4
H11N3 WAKE ISLAND Hy 33.64 49 T T 17 58 20.9
baz=236,SNR=6.0
CAN Canberra 33.99 168 P **P** 17 21 52.7 +1.2
CAN Canberra 33.99 168 P **P** 17 21 53.5 +2.0
CAN sP **sP** 17 22 08.4 +3.6
CNB Canberra Magne 34.06 167 P **P** 17 21 53.6 +1.5
baz=34,SNR=4.4
ARPS Mount Arapiles 34.56 178 P **P** 17 21 57.5 +1.2
baz=34,SNR=8.3
ARPS Mount Arapiles 34.56 178 P **P** 17 21 57.9 +1.6
JHJ Hachijo jima 2 34.99 359 LR LR 17 33 09.4
comp=Z,335nm,20.1s,baz=237,slow=31
MORW Morawa 35.66 219 P **P** 17 22 05.8 -0.1
baz=36,SNR=3.6
MORW Morawa 35.66 219 P **P** 17 22 04.9 -1.0
MORW Morawa 35.66 219 P **P** 17 22 05.9 -0.1
TPRI Tanjung Pinang 36.26 274 P **P** 17 22 11.1 -0.2
comp=Z,10nm,1.3s
BLDU Ballidu 36.36 216 P **P** 17 22 11.7 -0.2
baz=36,SNR=5.5
BLDU Ballidu 36.36 216 P **P** 17 22 11.7 -0.2
QIZ Qiongzhong 36.84 306 P **P** 17 22 16.8 +0.7
QIZ S **S** **17 27 58.1 -0.4**
QIZ SS **SS** **17 30 40.5 -0.2**
QIZ LR LR
comp=N,240nm,11.1s
QIZ LR LR
comp=E,110nm,15.9s
QIZ LR LR
comp=Z,170nm,21.5s
NWAO Narrogin (SRO) 37.78 213 LR LR 17 39 30.7
comp=Z,640nm,19.5s,baz=247,slow=39
MJAR Matsushiro Arr 38.47 357 P **P** 17 22 27.0 -2.6
comp=Z,2.3nm,0.9s,baz=180,slow=8.8,SNR=7.1
comp=Z,2.3nm,0.9s
SDSI Sungai Dareh 39.25 271 P **P** 17 22 35.7 -0.8
comp=Z,426nmcomp=Z,11nm,1.5s
NJ2 Nanjing 39.73 330 *e*P P 17 22 47.3 +7.0
NJ2 pmax pmax
comp=Z,11nm,0.5s
JSD Sado 39.95 357 P **P** 17 22 39.4 -2.7
JSD IAmb IAmb 17 22 43.1
comp=Z,25nm,1.0s
KSAR Wonju Array Be 41.05 344 P **P** 17 22 49.9 -1.2
KSRS Korea Array 41.05 344 P **P** 17 22 48.9 -2.2
comp=Z,1.6nm,0.8s,baz=168,slow=9.4,SNR=8.6
KSRS LR LR 17 37 00.7
comp=Z,141nm,21.7s,baz=155,slow=32
comp=Z,1.6nm,0.8s
SISI Saibi 41.57 270 P **P** 17 22 54.5 -1.3
comp=Z,47nm,0.9s
PSI Prapat 42.01 276 LR LR 17 41 43.6
comp=Z,113nm,18.8s,baz=128,slow=38
CMAR Chiang Mai Arr 45.84 298 P **P** 17 23 30.4 +0.4
comp=Z,0.9nm,0.9s,baz=126,slow=6.1,SNR=8.5
CMAR LR LR 17 43 52.8
comp=Z,24nm,19.8s,baz=95,slow=38
comp=Z,0.9nm,0.9s
CMAR Chiang Mai Arr 45.84 298 P **P** 17 23 28.3 -1.7
HNS HongShan 46.05 331 ⇑P **P** 17 23 34.3 +2.9
HNS S **S** 17 30 19.8 +5.3
HNS LR LR
comp=N,140nm,18.6s
HNS LR LR
comp=E,130nm,20.6s
HNS LR LR
comp=Z,170nm,16.7s
XAN Xi'an 46.70 323 P **P** 17 23 38.3 +1.7
XAN pP pP 17 23 42.3 -3.8
XAN sP sP 17 23 44.8 -5.0
XAN pmax pmax
comp=Z,8.0nm,1.1s
USRK Ussuriysk Ar. 46.70 351 P **P** 17 23 34.9 -1.5
comp=Z,6.0nm,0.9s,baz=159,slow=7.4,SNR=6.6
USRK LR LR 17 39 43.2
comp=Z,206nm,22.0s,baz=168,slow=32
comp=Z,6.0nm,0.9s
USRK Ussuriysk Ar. 46.70 351 P **P** 17 23 35.5 -0.8
PZH PanZhiHua 47.09 310 P **P** 17 23 39.9 0.0
PZH S **S** 17 30 28.8 -1.3
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,4.3s
PZH LR LR
comp=N,380nm,24.0s
PZH LR LR
comp=E,440nm,24.0s
PZH LR LR
comp=Z,530nm,25.0s
BJI Beijing 47.52 334 P **P** 17 23 42.8 0.0
BJI sP **pwP** 17 23 56.5 0.0
BJI S **S** 17 30 33.3 -2.1
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI LR LR
comp=N,27nm,23.7s
BJI LR LR
comp=E,120nm,23.9s
BJI LR LR
comp=Z,210nm,22.3s
RAO Raoul Island 47.75 129 LR LR 17 41 35.1
comp=Z,90nm,20.4s,baz=274,slow=33
AFI Afiamalu 48.43 107 LR LR 17 42 47.9
comp=Z,125nm,19.3s,baz=344,slow=34
BNX BinXian 49.02 348 ⇓P **P** 17 23 53.6 -0.7
BNX pmax pmax
comp=Z,14nm,1.3s
BNX pmax pmax
comp=Z,66nm,5.6s
URZ Urewera 49.09 142 LR LR 17 43 18.6
comp=Z,126nm,21.7s,baz=32,slow=34
DCZ Deep Cove 49.09 155 P **P** 17 23 55.0 +0.1
DCZ IAmb IAmb 17 24 02.6
comp=Z,16nm,1.0s
LTZ Lake Taylor 49.40 149 P **P** 17 23 57.0 -0.4
RPZ Rata Peaks 49.48 151 LR LR 17 43 52.3
comp=Z,137nm,20.0s,baz=296,slow=35
RPZ Rata Peaks 49.48 151 P **P** 17 23 57.5 -0.5
HHC Hu-ho-hao-te 50.27 331 *e*P **P** 17 24 07.5 +3.4
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,160nm,5.5s
HHC LR LR
comp=N,220nm,14.0s
HHC LR LR
comp=E,190nm,13.3s
HHC LR LR
comp=Z,240nm,14.0s
LZH Lanzhou 51.17 321 *e*P **P** 17 24 14.4 +3.4
LZH pP pP 17 24 18.3 -2.2
LZH S **S** 17 31 30.6 +3.5
LZH sS sS 17 31 47.1 +4.2
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=N,130nm,16.5s
LZH LR LR
comp=E,140nm,18.2s
LZH LR LR
comp=Z,210nm,18.2s
KLR Kul'dur 51.66 353 LR LR 17 43 39.3
comp=Z,106nm,20.2s,baz=172,slow=33
BRDH Bariadhala 53.73 300 LR LR 17 49 59.5
comp=Z,38nm,18.5s,baz=93,slow=39
GTA Gaotai 55.73 322 *e*P **P** 17 24 46.4 +2.0
GTA pP pP 17 24 53.8 -0.2
GTA sP sP 17 24 57.0 -0.7
GTA S **S** 17 32 33.1 +4.2
GTA sS pS 17 32 41.4 +1.1
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,46nm,4.9s
GTA LR LR
comp=N,58nm,18.5s
GTA LR LR
comp=E,68nm,17.8s
GTA LR LR
comp=Z,65nm,18.2s
PETK Petropavlovsk- 56.79 12 LR LR 17 46 00.6
comp=Z,70nm,21.8s,baz=194,slow=33
SONM Songino Array 57.99 333 P **P** 17 25 00.3 0.0
comp=Z,0.4nm,0.5s,baz=144,slow=8.8,SNR=3.1
SONM LR LR 17 48 10.0
comp=Z,101nm,21.8s,baz=134,slow=34
comp=Z,0.4nm,0.5s
RAR Rarotonga 60.97 113 LR LR 17 49 13.6
comp=Z,38nm,20.5s,baz=274,slow=34
SHEM Shemya Is, Ala 61.38 22 LR LR 17 47 05.9
comp=Z,69nm,21.0s,baz=228,slow=31
MA2 Magadan 61.96 6 LR LR 17 49 30.9
comp=Z,52nm,21.9s,baz=140,slow=33
YAK Yakutsk 64.46 354 LR LR 17 52 10.3
comp=Z,28nm,19.0s,baz=268,slow=35
YAK Yakutsk 64.46 354 P **P** 17 25 42.0 -1.6
YAK IAmb IAmb 17 25 47.8
comp=Z,15nm,1.1s
DRV Dumont d'Urvil 64.49 180 P **P** 17 25 44.5 +0.8
WMQ Urumqi 65.73 321 *e*P **P** 17 25 54.4 +2.0
CASY Casey 67.53 193 P **P** 17 26 02.5 -0.8
CASY Casey 67.53 193 P P 17 26 08.1 +4.8
PPT2 Papeete2 70.08 108 *e*LR LR 17 47 40.3
comp=Z,66nm,23.0s
MK31 Makanchi Array 70.48 322 P **P** 17 26 20.5 -1.6
MK31 IAmb IAmb 17 26 25.3
comp=Z,4.5nm,1.1s
MKAR Makanchi Array 70.48 322 P **P** 17 26 22.4 +0.3
comp=Z,3.4nm,1.0s,baz=111,slow=8.2,SNR=18
MKAR LR LR 18 00 09.5
comp=Z,27nm,18.1s,baz=121,slow=38
comp=Z,3.4nm,1.0s
MKAR Makanchi Array 70.48 322 P **P** 17 26 21.0 -1.1
MAKZ Makanchi 70.68 322 P **P** 17 26 21.8 -1.5
MAKZ IAmb IAmb 17 26 25.7
comp=Z,7.3nm,1.1s
MAKZ Makanchi 70.68 322 P **P** 17 26 23.2 -0.1
KSH Kashi 72.07 313 P **P** 17 26 34.0 +2.0
KSH pmax pmax
comp=Z,6.0nm,1.1s
ZALV Zalesovo Beam 72.37 329 P **P** 17 26 32.6 -0.7
comp=Z,1.3nm,0.8s,baz=111,slow=3.3,SNR=6.0
ZALV LR LR 17 59 09.9
comp=Z,65nm,19.2s,baz=158,slow=37
comp=Z,1.3nm,0.8s
ZALV Zalesovo Beam 72.37 329 P **P** 17 26 32.4 -0.9
TIXI Tiksi 73.97 356 LR LR 17 57 56.5
comp=Z,67nm,20.6s,baz=180,slow=35
KURK Kurchatov 74.32 324 P **P** 17 26 44.8 0.0
KURK IAmb IAmb 17 26 51.9
comp=Z,11nm,1.5s
GAR Garm 76.15 311 P **P** 17 26 55.5 -0.3
GAR IAmb IAmb 17 27 06.4
comp=Z,16nm,1.1s
VNDA Vanda 76.26 175 P **P** 17 26 56.6 +1.1
comp=Z,5.1nm,0.7s,baz=323,slow=6.7,SNR=48
VNDA LR LR 17 59 19.0
comp=Z,67nm,21.9s,baz=340,slow=35
comp=Z,5.1nm,0.7s
VNDA Vanda 76.26 175 P **P** 17 26 56.1 +0.6
VNDA IAmb IAmb 17 26 57.1
comp=Z,7.2nm,0.8s
CHGR Chuyangaron 76.94 310 P **P** 17 26 59.7 -0.6
SBA Scott Base 77.00 175 P **P** 17 27 00.6 +0.9
SBA IAmb IAmb 17 27 02.5
comp=Z,8.0nm,1.1s
KK31 Karatay Array 77.05 315 P **P** 17 27 00.1 -0.6
KKAR Karatay Array 77.05 315 P **P** 17 26 59.9 -0.7
KKAR Karatay Array 77.05 315 P **P** 17 27 00.3 -0.4
NRIK Noril'sk 79.66 343 P **P** 17 27 14.9 +0.5
comp=Z,6.5nm,1.0s,baz=103,slow=6.1,SNR=4.6
NRIK LR LR 18 02 25.1
comp=Z,80nm,20.1s,baz=144,slow=36
comp=Z,6.5nm,1.0s
BVAR Borovoye Array 79.91 325 P **P** 17 27 16.7 +0.5
comp=Z,2.4nm,0.7s
comp=Z,2.4nm,0.7s
BRVK Borovoye 79.98 325 P **P** 17 27 16.4 -0.2
J20K Nowinta River 81.27 24 P **P** 17 27 23.5 +0.2
J20K IAmb IAmb 17 27 27.8
comp=Z,25nm,1.9s
MAW Mawson 83.47 202 P **P** 17 27 35.2 +0.6
comp=Z,9.6nm,1.2s,baz=64,slow=4.3,SNR=10
MAW LR LR 18 03 27.9
comp=Z,143nm,18.1s,baz=52,slow=35
comp=Z,9.6nm,1.2s
MAW Mawson 83.47 202 P **P** 17 27 36.1 +1.4
baz=83,SNR=4.3
MAW Mawson 83.47 202 P **P** 17 27 34.8 +0.1
CCB Clear Creek Bu 84.02 24 P **P** 17 27 37.1 -0.5
CCB IAmb IAmb 17 28 05.2
comp=Z,19nm,1.8s
ILAR Eielson Array 84.43 24 P **P** 17 27 38.0 -1.6
comp=Z,2.1nm,0.9s,baz=256,slow=4.9,SNR=16
ILAR LR LR 18 01 24.9
comp=Z,28nm,20.5s,baz=214,slow=33
comp=Z,2.1nm,0.9s
GEYT Alibeck 85.38 308 P **P** 17 27 45.1 0.0
comp=Z,3.0nm,0.8s,baz=325,slow=2.3,SNR=8.2
comp=Z,3.0nm,0.8s
GEYT Alibeck 85.38 308 P **P** 17 27 43.2 -1.8
GEYT IAmb IAmb 17 27 47.0
comp=Z,10nm,1.1s
GYA0B ALIBECK ARRAY 85.38 308 P **P** 17 27 43.2 -1.8
GYA0B IAmb IAmb 17 27 51.9
comp=Z,8.1nm,1.0s
ABKAR Akbulak array 85.49 320 P **P** 17 27 41.8 -3.5
K27K Chicken 86.27 25 P **P** 17 27 48.6 -0.2
K27K IAmb IAmb 17 27 52.5
comp=Z,5.8nm,1.1s
ARU Arti 87.33 327 LR LR 18 08 46.9
comp=Z,34nm,19.6s,baz=98,slow=37
DAWY Dawson 87.43 26 P **P** 17 27 53.9 -0.7
DAWY IAmb IAmb 17 27 57.9
comp=Z,6.5nm,1.1s
QSPA South Pole Qui 87.89 180 LR LR 18 07 42.6
comp=Z,132nm,18.8s,baz=360,slow=36
QSPA South Pole Qui 87.89 180 P **P** 17 27 57.0 +0.2
INK Inuvik 90.33 22 LR LR 18 02 58.7
comp=Z,55nm,21.4s,baz=286,slow=32
DLBC Dease Lake 91.37 32 LR LR 18 09 18.1
comp=Z,37nm,18.7s,baz=247,slow=36
BBB Bella Bella 92.36 38 LR LR 18 02 21.1
comp=Z,59nm,20.6s,baz=249,slow=31
KIRV Kirov 92.40 328 LR LR 18 10 50.9
comp=Z,69nm,20.6s,baz=74,slow=36
BELG Belogornoye 93.48 322 LR LR 18 11 58.8
comp=Z,41nm,20.1s,baz=184,slow=36
GNI Garni 95.86 310 LR LR 18 18 09.4
comp=Z,11nm,18.1s,baz=77,slow=40
YBH Yreka Blue Hor 96.30 48 LR LR 18 03 04.4
comp=Z,84nm,21.9s,baz=302,slow=30
YKA Yellowknife Ar 98.59 27 LR LR 18 08 32.4
comp=Z,86nm,21.3s,baz=291,slow=33
SPITS Spitsbergen Ar 98.68 350 LR LR 18 12 58.9
comp=Z,82nm,20.1s,baz=16,slow=35
NEW Newport 99.65 41 LR LR 18 10 20.6
comp=Z,28nm,18.4s,baz=310,slow=33
TORD Torodi Ar. Bea 137.95 287 PKP **PKPdf** **17 34 32.4 -0.6**
comp=Z,0.8nm,0.8s,baz=50,slow=2.6,SNR=4.2
DBIC Dimbokro 145.34 279 PKPbc **PKPab** **17 34 46.5 +0.2**
comp=Z,4.6nm,0.8s,baz=321,slow=2.7,SNR=4.0
LPAZ La Paz 146.21 124 PKPbc **PKPab** **17 34 50.1 -0.1**
comp=Z,7.2nm,1.0s,baz=303,slow=1.4,SNR=17
CPUP Villa Florida 146.85 150 PKPbc **PKPab** **17 34 51.1 -0.5**
comp=Z,6.2nm,0.9s,baz=281,slow=1.6,SNR=8.2

IDC 24 17:18:45.5±6.1, 2°11.5S×141°08.8E, h0km, mb3.4/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=144.6km s-min=77.7km az=135.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.91**	**200**	P	P	P	17 23 07.1	-0.8
	0.2nm,0.3s,baz=24,slow=12,SNR=2.4							
	1.0nm,0.7s							
ASAR	**Alice Springs**	**22.53**	**197**	P	P	P	17 23 47.0	-0.2
	1.7nm,1.1s,baz=26,slow=11,SNR=2.8							
	1.7nm,1.1s							
VNDA	**Vanda**	**76.18**	**175**	P	P	P	17 30 35.5	+0.5
	0.2nm,0.6s,baz=334,slow=5.3,SNR=1.4							
	0.2nm,0.6s							

IDC 24 17:18:50.7±5.1, 2°01.5S×140°34.8E, h0km, mb3.7/3, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=103.7km s-min=60.2km az=153.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.93**	**199**	P	P	P	17 23 12.9	-0.4
	0.5nm,0.3s,baz=23,slow=12,SNR=7.9							
	2.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.87**	**222**	P	P	P	17 23 45.0	-0.2
	1.5nm,0.6s,baz=0.1,slow=18,SNR=1.8							
	1.5nm,0.6s							
ASAR	**Alice Springs**	**22.56**	**197**	P	P	P	17 23 52.3	-0.4
	2.2nm,0.6s,baz=25,slow=11,SNR=8.5							
	2.2nm,0.6s							
VNDA	**Vanda**	**76.30**	**175**	P	P	P	17 30 41.5	+0.5
	0.6nm,0.6s,baz=331,slow=7.2,SNR=5.2							
	0.6nm,0.6s							

---

*IDC **24** 17:29:17.8±1.1, 1°95S×140°75E, h0km, mb3.9/6, mbtmp4.0/9, ML4.2/3, MS3.2/4, Error ellipse: s-maj=35.1km s-min=22.0km az=100.0*
*NEIC **24** 17:29:19.5±1.4, 1°87S±0°07×140°3E±0°1, h10km±2km, mb4.2/16, Error ellipse: s-maj=25.8km s-min=5.0km az=297.0*

ISC 24 17:29:20.1±0.9, 2°0S±0°1×140°5E±0°1, h10km, n41, σ1s18/38, mb4.1/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**11.72**	**102**	LR	LR		17 35 51.7	
	comp=Z,226nm,18.4s,baz=41,slow=34							
COEN	**Coen**	**12.17**	**168**	Pn	**Pn**		**17 32 15.2**	**+1.5**
KDU	**Kakadu**	**13.28**	**216**	P	**Pn**		**17 32 28.0**	**-0.8**
MTN	**Manton Dam**	**14.23**	**220**		**Pn**		**17 32 41.2**	**-0.7**
MTN	**Manton Dam**	**14.23**	**220**	P	**Pn**		**17 32 41.5**	**-0.3**
GUMO	**Guam**	**16.08**	**15**	LR	LR		17 37 59.2	
	comp=Z,26nm,19.4s,baz=195,slow=33							
KNRA	**Kununurra**	**17.86**	**220**	Pn	**Pn**		**17 33 25.8**	**-3.1**
KNRA					IAmb	IAmb	17 33 37.7	
	comp=Z,15nm,1.2s							
KNRA	**Kununurra**	**17.86**	**220**	P	**Pn**		**17 33 29.1**	**+0.2**
BATI	**Baumata**	**18.63**	**243**	P	**P**		**17 33 40.6**	**+2.6**
	comp=Z,2.0nm,0.3s,baz=351,slow=3.2,SNR=5.8							
	comp=Z,22nm,0.8s							
WB0	**Warramunga Arr**	**18.65**	**198**	P	**P**		**17 33 37.5**	**-0.7**
WR0	**Warramunga Arr**	**18.78**	**198**	P	**P**		**17 33 39.1**	**-0.6**
WR0					IAmb	IAmb	17 34 14.9	
	comp=Z,10nm,1.2s							
WB2	**Warramunga Arr**	**18.83**	**198**	P	**P**		**17 33 39.8**	**-0.4**
WB2					IAmb	IAmb	17 33 40.5	
	comp=Z,7.1nm,0.5s							
WRA	**Warramunga Arr**	**18.83**	**198**	P	**P**		**17 33 40.0**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=24,slow=12,SNR=49							
WRA					LR	LR	17 42 01.6	
	comp=Z,87nm,19.9s,baz=102,slow=40							
	comp=Z,3.4nm,0.6s							
CTA	**Charters Tower**	**18.83**	**163**	P	**P**		**17 33 40.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=4.4,slow=11,SNR=6.4							
	comp=Z,2.7nm,0.7s							

CTA	**Charters Tower**	**18.83**	**163**	P	**P**	17 33 42.8	**+2.6**
CTAO	**Charters Tower**	**18.83**	**163**	P	**P**	17 33 42.0	**+1.8**
CTAO	**Charters Tower**	**18.83**	**163**	P	**P**	17 33 42.8	**+2.6**
FITZ	**Fitzroy Crossi**	**21.66**	**221**	P	**P**	17 34 11.2	**+0.3**
	comp=Z,2.7nm,0.7s,baz=358,slow=8.3,SNR=12						
	comp=Z,2.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.66**	**221**	P	**P**	17 34 10.6	**-0.4**
FITZ	**Fitzroy Crossi**	**21.66**	**221**	P	**P**	17 34 11.4	**+0.4**
AS31	**Alice Springs**	**22.47**	**196**	P	**P**	17 34 19.2	**-0.5**
AS31				IAmb	IAmb	17 34 20.8	
	comp=Z,2.2nm,0.5s						
ASAR	**Alice Springs**	**22.47**	**196**	P	**P**	17 34 19.3	**-0.4**
	comp=Z,4.1nm,0.6s,baz=28,slow=11,SNR=56						
ASAR				LR	LR	17 43 52.1	
	comp=Z,86nm,21.1s,baz=54,slow=39						
	comp=Z,4.1nm,0.6s						
ASAR	**Alice Springs**	**22.47**	**196**	P	**P**	17 34 18.7	**-1.0**
EIDS	**Eidsvold**	**25.37**	**157**	P	**P**	17 34 47.6	**0.0**
EIDS				IAmb	IAmb	17 34 50.0	
	comp=Z,14nm,0.8s						
INKA	**Innaminka**	**25.60**	**180**	P	**P**	17 34 50.1	**+0.5**
WRKA	**Warakurna**	**25.76**	**206**	P	**P**	17 34 51.0	**-0.2**
OOD	**Oodnadatta**	**26.06**	**190**	P	**P**	17 34 53.0	**-0.9**
STKA	**Stephens Creek**	**29.74**	**178**	P	**P**	17 35 25.8	**-1.0**
	comp=Z,1.6nm,0.7s,baz=354,slow=13,SNR=3.4						
	comp=Z,1.6nm,0.7s						
STKA	**Stephens Creek**	**29.74**	**178**	P	**P**	17 35 25.7	**-1.0**
BBOO	**Buckleboo**	**30.94**	**187**	P	**P**	17 35 36.0	**-1.3**
FORT	**Forrest**	**30.96**	**201**	P	**P**	17 35 37.5	**-0.1**
LIFNC	**LIFOU**	**32.06**	**128**	P	**P**	17 35 46.1	**-1.2**
MORW	**Morawa**	**35.61**	**219**	P	**P**	17 36 17.4	**-0.7**
KHZ	**Kahutara**	**49.92**	**148**	P	**P**	17 38 14.7	**+0.6**
KHZ				IAmb	IAmb	17 38 31.6	
	comp=Z,8.9nm,1.1s						
MKAR	**Makanchi Array**	**70.34**	**322**	P	**P**	17 40 35.5	**+1.3**
	comp=Z,0.4nm,0.7s,baz=101,slow=7.5,SNR=3.1						
	comp=Z,0.4nm,0.7s						
VNDA	**Vanda**	**76.33**	**175**	P	**P**	17 41 08.9	**0.0**
	comp=Z,2.0nm,0.6s,baz=327,slow=7.0,SNR=24						
	comp=Z,2.0nm,0.6s						
VNDA	**Vanda**	**76.33**	**175**	P	**P**	17 41 08.7	**-0.2**
VNDA				IAmb	IAmb	17 41 09.5	
	comp=Z,2.1nm,0.7s						
SBA	**Scott Base**	**77.07**	**174**	P	**P**	17 41 12.8	**-0.3**
SBA				IAmb	IAmb	17 41 31.7	
	comp=Z,1.9nm,1.1s						
J20K	**Nowinta River**	**81.28**	**24**	P	**P**	17 41 35.5	**-0.8**
J20K				IAmb	IAmb	17 42 02.0	
	comp=Z,6.2nm,1.4s						
ILAR	**Eielson Array**	**84.44**	**24**	P	P	17 41 49.5	-3.2
	comp=Z,0.5nm,0.8s,baz=223,slow=3.0,SNR=4.1						
	comp=Z,0.5nm,0.8s						
LPAZ	**La Paz**	**146.37**	**124**	PKPbc	**PKPdf**	**17 49 02.0**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=183,slow=5.4,SNR=4.3						

*JMA **24** 17:44:10.5±0.2,37°.3N±0°.4×142°.2E±0°.8, h25km±3km, MV3.7/38, E OFF FUKUSHIMA PREF*
*NIED **24** 17:44:10.5, 37°.33N×142°.23E, h25km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm: Mrr0.18; Mθθ-0.08; Mφφ-0.10; Mrθ1.71; Mθφ-0.31; Mφr1.51; Fault plane solution: M0 2.30000×10^{14} NP1: φs210.00000°, δ4.00000°, λ71.00000°. NP2:φs49.00000°, δ86.00000°, λ91.00000°.*
*IDC **24** 17:44:12.5±1.6, 37°.84N×141°.92E, h0km, mb3.6/6, mbtmp3.5/7, ML2.2/1 Error ellipse: s-maj=38.4km s-min=24.0km az=73.0*

ISC 24 17:44:09.9±2.4, 37°.36N±0°.06×142°.17E±0°.08, h7km±12km, n26, σ0s78/29, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.03**	**271**	*i* P	**Pg**	**17 44 30.0**	**+0.2**
JFK				S	**Sg**	**17 44 43.4**	**+0.1**
JMST	**Minamisoumatoc**	**1.08**	**290**	*i* P	**Pb**	**17 44 30.7**	**-0.4**
JMST				S	**Sb**	**17 44 45.1**	**-0.2**
JIKH	**Ishinomakibobu**	**1.10**	**330**	*i* P	**Pb**	**17 44 30.9**	**-0.4**
JIKH				S	**Sb**	**17 44 45.1**	**-0.7**
JMM	**Marumori**	**1.21**	**295**	*i* P	**Pn**	**17 44 32.6**	**-0.6**
JMM				S	**Sb**	**17 44 48.6**	**-0.3**
JIO	**Ouri**	**1.27**	**329**	*i* P	**Pn**	**17 44 33.5**	**-0.6**
JIO				S	**Sb**	**17 44 49.8**	**-1.0**
JOU	**Okura**	**1.56**	**310**	*i* P	**Pn**	**17 44 38.6**	**+0.5**
JOU				S	**Sn**	**17 44 58.8**	**+0.2**
JMK	**Ichinoseki**	**1.76**	**335**	P	**Pn**	**17 44 41.0**	**+0.2**
JMK				S	**Sn**	**17 45 03.0**	**-0.4**
JYS	**Shirataka**	**1.88**	**298**	P	**Pn**	**17 44 43.8**	**+1.3**
JYS				S	**Sb**	**17 45 08.3**	**+0.1**
JFY	**Yanaizu**	**1.97**	**272**	P	**Pn**	**17 44 44.4**	**+0.7**
JFY				S	**Sb**	**17 45 10.2**	**-0.6**
JYK	**Kaneyama**	**2.11**	**318**	P	**Pn**	**17 44 46.3**	**+0.6**
JOM	**Ohasama**	**2.22**	**342**	P	**Pn**	**17 44 47.7**	**+0.6**
JYA	**Atsumi**	**2.30**	**303**	P	**Pn**	**17 44 49.3**	**+1.0**
JYA				S	**Sn**	**17 45 17.3**	**+0.5**
JAG	**Ashikaga**	**2.37**	**248**	P	**Pn**	**17 44 49.1**	**-0.2**
MJAR	**Matsushiro Arr**	**3.28**	**257**	Pn	**Pn**	**17 45 02.8**	**+1.0**
	0.3nm,0.3s,baz=79,slow=16,SNR=18						
MJAR				Sn	**Sb**	**17 45 46.1**	**-2.5**
	0.2nm,0.3s,baz=80,slow=16,SNR=5.0						
	1.1nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.80**	**122**	T	T	18 19 07.6	
	baz=315,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**27.81**	**122**	T	T	18 19 09.8	
	baz=315,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**27.82**	**122**	T	T	18 19 09.2	
	baz=315,slow=75,SNR=24						
SONM	**Songino Array**	**28.11**	**303**	P	**P**	**17 50 02.9**	**+0.5**
	0.7nm,0.8s,baz=99,slow=8.9,SNR=2.5						
	0.7nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**28.54**	**124**	T	T	18 20 04.8	
	baz=317,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.54**	**124**	T	T	18 20 04.7	
	baz=317,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**28.55**	**124**	T	T	18 20 03.9	
	baz=317,slow=76,SNR=19						
ZALV	**Zalesovo Beam**	**42.14**	**312**	P	**P**	**17 52 02.8**	**+0.1**
	0.9nm,0.5s,baz=90,slow=7.4,SNR=3.8						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**44.46**	**302**	P	**P**	**17 52 21.6**	**0.0**
	0.4nm,0.6s,baz=87,slow=7.9,SNR=3.8						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**57.47**	**189**	P	P	17 54 06.5	+6.8
	0.3nm,0.6s,baz=4.3,slow=7.3,SNR=6.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**61.20**	**189**	P	P	17 54 32.3	+6.9
	0.2nm,0.7s,baz=12,slow=9.7,SNR=1.7						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**68.81**	**332**	P	**P**	**17 55 14.4**	**0.0**
	3.1nm,1.0s,baz=35,slow=5.1,SNR=3.4						
	3.1nm,1.0s						

*NOU **24** 17:48:20.3, 36°.55S×178°.71W, h0km, MLv4.6/5, East of North Island, N.Z.*
*WEL **24** 17:48:45.9±1.0, 37°.5S±6°×177°.9E±°, h18km±7km, M3.2/21, ML3.4/31, MLv3.2/21, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7*

ISC 24 17:48:44.0±2.9, 37°.17S±0°.09×179°.3E±0°.1, h16km±14km, n46, σ0s82/57, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**244**	P	**Pb**	**17 49 00.8**	**-0.3**
MXZ				S	**Sb**	**17 49 10.5**	**-2.3**
WMGZ	**Waiomatatini S**	**0.96**	**228**	P	**Pn**	**17 49 04.0**	**+1.2**
PKGZ	**Pakihiroa**	**1.22**	**234**	P	**Pb**	**17 49 07.2**	**+0.6**
PKGZ				S	**Sb**	**17 49 22.2**	**+0.1**
PUZ	**Puketiti**	**1.23**	**223**	P	**Pg**	**17 49 07.6**	**-0.1**
PUZ				S	**Sn**	**17 49 23.3**	**+0.5**
HAZ	**Te Kaha**	**1.35**	**244**	P	**Pn**	**17 49 07.8**	**-0.4**
HAZ				S	**Sn**	**17 49 25.8**	**+0.1**
TWGZ	**Tauwhareparae**	**1.46**	**226**	P	**Pb**	**17 49 11.0**	**+0.2**
TWGZ				S	**Sb**	**17 49 29.7**	**+0.6**
RUGZ	**Raukumara Rang**	**1.52**	**238**	P	**Pb**	**17 49 11.9**	**-0.1**
CNGZ	**Carnagh Statio**	**1.58**	**214**	P	**Pb**	**17 49 13.4**	**+0.7**
MWZ	**Matawai**	**1.83**	**230**	P	**Pn**	**17 49 15.8**	**+1.0**
MWZ				S	**Sn**	**17 49 37.0**	**-0.7**
RIGZ	**Rimuhau**	**1.96**	**218**	P	**Pn**	**17 49 17.7**	**+1.1**
RIGZ				S	**Sn**	**17 49 41.5**	**+0.6**
URZ	**Urewera**	**2.06**	**238**	P	**Pn**	**17 49 18.8**	**+1.0**
URZ				S	**Sn**	**17 49 43.3**	**+0.1**
URZ	**Urewera**	**2.06**	**238**	P	**Pn**	**17 49 18.9**	**+1.0**
PRGZ	**Paritu Road**	**2.08**	**213**	P	**Pn**	**17 49 19.1**	**+0.8**
KNZ	**Kokohu**	**2.25**	**215**	P	**Pn**	**17 49 20.8**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.27**	**209**	P	**Pn**	**17 49 22.0**	**+1.2**
RTZ	**Ruatahuna**	**2.34**	**231**	P	**Pn**	**17 49 22.8**	**+0.9**
MUGZ	**Murupara**	**2.40**	**236**	P	**Pn**	**17 49 22.3**	**-0.4**
RAHZ	**Arahi**	**2.48**	**225**	P	**Pn**	**17 49 24.4**	**+0.7**
RAHZ				S	**Sn**	**17 49 54.2**	**+0.6**
NMHZ	**Naumai**	**2.76**	**225**	P	**Pn**	**17 49 28.3**	**+0.7**
ARHZ	**Aropaoanui**	**2.77**	**221**	P	**Pn**	**17 49 28.3**	**+0.6**
ARHZ				S	**Sn**	**17 50 00.3**	**-0.6**
MRHZ	**Matea Rd**	**2.83**	**233**	P	**Pn**	**17 49 29.1**	**+0.6**
KUZ	**Kuaotunu**	**2.91**	**277**	P	**Pn**	**17 49 29.5**	**-0.2**
BKZ	**Black Stump Fm**	**2.99**	**227**	P	**Pn**	**17 49 31.2**	**+0.6**
BKZ	**Black Stump Fm**	**2.99**	**227**	P	**Pn**	**17 49 31.3**	**+0.6**
MCHZ	**McNeill Hill**	**3.06**	**222**	P	**Pn**	**17 49 32.0**	**+0.3**
MCHZ				S	**Sn**	**17 50 08.0**	**-0.1**
KWHZ	**Kaweka Forest**	**3.20**	**225**	P	**Pn**	**17 49 33.7**	**0.0**
MKAZ	**Moumakai**	**3.32**	**270**	P	**Pn**	**17 49 34.8**	**-0.4**
KRHZ	**Kereru**	**3.38**	**222**	P	**Pn**	**17 49 35.8**	**-0.3**
TMVZ	**Te Maari**	**3.45**	**235**	P	**Pn**	**17 49 37.2**	**+0.1**
BHHZ	**Black Hill Sta**	**3.45**	**227**	P	**Pn**	**17 49 37.4**	**+0.3**
ETVZ	**East Tongariro**	**3.45**	**234**	P	**Pn**	**17 49 37.3**	**+0.1**
NTVZ	**North Tongariro**	**3.46**	**235**	P	**Pn**	**17 49 37.4**	**+0.2**
OTVZ	**Oturere**	**3.50**	**234**	P	**Pn**	**17 49 38.2**	**+0.4**
ETAZ	**East Tamaki Re**	**3.52**	**272**	P	**Pn**	**17 49 38.8**	**+0.8**
MOVZ	**Moawhango**	**3.58**	**230**	P	**Pn**	**17 49 39.3**	**+0.3**
WNVZ	**Wahianoa**	**3.63**	**233**	P	**Pn**	**17 49 39.9**	**+0.2**
PNHZ	**Pukenui**	**3.67**	**221**	P	**Pn**	**17 49 39.4**	**-0.7**
PRHZ	**Porangahau**	**3.73**	**213**	P	**Pn**	**17 49 39.4**	**-1.5**
MTVZ	**Mangateitei**	**3.75**	**233**	P	**Pn**	**17 49 41.3**	**+0.1**
HIZ	**Hauiti**	**3.78**	**248**	P	**Pn**	**17 49 43.0**	**+1.5**
HIZ	**Hauiti**	**3.78**	**248**	P	**Pn**	**17 49 43.2**	**+1.7**
RVAZ	**Riverhead Bore**	**3.82**	**275**	P	**Pn**	**17 49 42.6**	**+0.5**
BFZ	**Birch Farm**	**4.24**	**213**	P	**Pn**	**17 49 45.9**	**-2.0**
WAZ	**Wanganui**	**4.27**	**232**	P	**Pn**	**17 49 49.1**	**+0.8**
TIWZ	**Tintock**	**4.48**	**216**	P	**Pn**	**17 49 50.4**	**-0.8**
KHZ	**Kahutara**	**6.87**	**219**	P	**Pn**	**17 50 23.1**	**-0.9**

*IDC **24** 17:59:34.9±0.8, 1°.10S×120°.53E, h0km, mb3.7/9, mbtmp3.7/10, ML3.8/1, MS3.0/6, Error ellipse: s-maj=47.1km s-min=15.2km az=66.0*
*DJA **24** 17:59:36.8±1.2, 1°.5S±2°×12°.0E±°, h10km±10km, M4.0/15, mb4.2/7, mB5.1/1, MLv4.0/15, Mw(mB)4.4/1*
*NEIC **24** 17:59:39.4±2.8, 1°.04S±0°.05×120°.39E±0°.08, h31km±9km, mb4.1/3, Error ellipse: s-maj=13.4km s-min=3.8km az=58.0*

ISC 24 17:59:40.4±0.7, 1°.01S±0°.04×120°.37E±0°.05, h35km, n39, σ1s65/41, mb3.9/12, MS2.8/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.28**	**86**	P	**Pn**	**18 00 00.7**	**-1.1**
APSI				S	**Sn**	**18 00 20.9**	**+3.1**
MPSI	**Mapaga**	**1.42**	**340**	P	Pn	17 59 59.4	-4.3
MPSI				S	**Sn**	**18 00 19.1**	**-2.1**
TTSI	**Tana Toraja**	**2.10**	**195**	P	**Pn**	**18 00 12.4**	**-0.7**
TTSI				S	**Sn**	**18 00 39.7**	**+1.7**
MRSI	**Marisa**	**2.15**	**47**	P	**Pn**	**18 00 13.7**	**-0.2**
LUWI	**Luwuk**	**2.40**	**91**		**Pn**	**18 00 16.0**	**-1.3**
LUWI					**Sn**	**18 00 47.2**	**+1.8**
LUWI	**Luwuk**	**2.40**	**91**	P	**Pn**	**18 00 15.9**	**-1.3**
SPSI	**Sidrap Palu**	**3.00**	**192**	P	**Pn**	**18 00 25.0**	**-0.5**
GTOI	**Gorontalo**	**3.10**	**58**	P	**Pn**	**18 00 27.1**	**+0.2**
BKB	**Balikpapan**	**3.48**	**266**		**Pn**	**18 00 30.6**	**-1.6**
BKB	**Balikpapan**	**3.48**	**266**	P	**Pn**	**18 00 31.2**	**-1.0**
KAPI	**Kappang**	**4.03**	**189**	Pn	**Pn**	**18 00 37.9**	**-1.8**
	5.8nm,0.3s,baz=332,slow=7.5,SNR=27						
KAPI				Sn	**Sn**	**18 01 27.0**	**+1.3**
	1.0nm,0.3s,baz=276,slow=23,SNR=6.2						
KAPI				LR	LR	18 02 18.6	
	comp=Z,318nm,19.0s,baz=360,slow=41						
	21nm,0.5s						
KAPI	**Kappang**	**4.03**	**189**		**Pn**	**18 00 38.5**	**-1.2**
BKSI	**Bulukumba**	**4.29**	**183**	P	**Pn**	**18 00 43.4**	**+0.1**
BBSI	**Bau Bau**	**4.96**	**154**	P	**Pn**	**18 00 52.8**	**+0.3**
	0.2nm21nm,0.8s						
BSSI	**Bau Bau, Buton**	**5.10**	**179**	P	**Pn**	**18 00 53.8**	**-0.6**
	0.1nm21nm,0.8s						
SANI	**Sanana**	**5.71**	**101**	P	**Pn**	**18 01 00.9**	**-1.9**
	0.1nm12nm,0.7s						
BBKI	**Banjar Baru**	**6.04**	**246**	P	**Pn**	**18 01 06.8**	**-0.5**
	0.2nm1μm11nm,0.7s						
MYLDM	**Lahad Datu**	**6.42**	**343**		**Pn**	**18 01 11.5**	**-1.2**
MYLDM				Sn	**Sn**	**18 02 25.6**	**+0.8**
NLAI	**Namlea**	**7.08**	**108**	P	**Pn**	**18 01 18.5**	**-3.1**
	0.1nm6.2nm,0.8s						
LBMI	**Labuha**	**7.14**	**87**	P	**Pn**	**18 01 20.6**	**-1.8**
KKM	**Kota Kinabalu**	**8.14**	**329**	Pn	**Pn**	**18 01 36.7**	**+0.4**
DAV	**Davao City (W)**	**9.56**	**33**	LR	LR	18 05 47.4	
	comp=Z,95nm,19.2s,baz=164,slow=39						
BATI	**Baunata**	**9.71**	**160**	LR	LR	18 05 40.7	
	comp=Z,105nm,19.6s,baz=34,slow=38						
WB0	**Warramunga Arr**	**23.15**	**145**	P	**P**	**18 04 40.5**	**-3.5**
WB0				IAmb	IAmb	18 04 43.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**23.26**	**145**	P	**P**	**18 04 42.2**	**-2.8**
	comp=Z,2.1nm,1.0s,baz=330,slow=9.3,SNR=11						
	comp=Z,2.1nm,1.0s						
WR0	**Warramunga Arr**	**23.39**	**145**	P	**P**	**18 04 44.0**	**-2.3**
WR0				IAmb	IAmb	18 05 13.1	
	comp=Z,8.7nm,1.4s						
ASAR	**Alice Springs**	**26.07**	**151**	P	**P**	**18 05 08.5**	**-2.4**
	comp=Z,0.7nm,0.6s,baz=341,slow=13,SNR=17						
ASAR				PcP	**PcP**	**18 08 38.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=343,slow=2.4,SNR=13						
	comp=Z,0.7nm,0.6s						
ASAR	**Alice Springs**	**26.07**	**151**	P	**P**	**18 05 08.3**	**-2.6**
CMAR	**Chiang Mai Arr**	**28.61**	**314**	P	**P**	**18 05 34.9**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=138,slow=6.9,SNR=5.6						
CMAR				LR	LR	18 18 56.1	
	comp=Z,15nm,18.1s,baz=240,slow=40						
	comp=Z,0.4nm,0.5s						
KSRS	**Korea Array**	**38.90**	**10**	LR	LR	18 22 12.7	
	comp=Z,16nm,21.6s,baz=20,slow=35						
SONM	**Songino Array**	**50.15**	**348**	P	**P**	**18 08 33.9**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=163,slow=7.7,SNR=4.7						
	comp=Z,0.7nm,0.6s						
MK31	**Makanchi Array**	**58.13**	**330**	P	**P**	**18 09 31.5**	**+0.9**
MK31				IAmb	IAmb	18 09 33.2	
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**58.13**	**330**	P	**P**	**18 09 32.1**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=134,slow=8.0,SNR=9.2						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**58.13**	**330**	P	**P**	**18 09 31.2**	**+0.6**
ZALV	**Zalesovo Beam**	**62.18**	**337**	P	**P**	**18 09 59.9**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=132,slow=8.3,SNR=1.9						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.55**	**331**	P	**P**	**18 10 01.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=141,slow=6.1,SNR=5.8						
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**68.01**	**330**	P	**P**	**18 10 35.5**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=116,slow=13,SNR=3.8						
	comp=Z,0.2nm,0.6s						
GEYT	**Alibeck**	**69.06**	**311**	P	**P**	**18 10 42.9**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=176,slow=8.6,SNR=4.0						
	comp=Z,1.6nm,0.7s						
SHEM	**Shemya Is, Ala**	**69.77**	**32**	LR	LR	18 39 45.6	
	comp=Z,11nm,19.2s,baz=306,slow=35						

*NDI **24** 18:00:05.7±2.2, 25°.80N×94°.89E, h90km, ML3.6*
*IDC **24** 18:00:17.0±4.0, 24°.93N×95°.25E, h131km±38km, mb3.0/3, mbtmp3.3/4, Error ellipse: s-maj=102.6km s-min=24.4km az=60.0*

ISC 24 18:00:06.2±1.2, 25°.84N±0°.09×94°.83E±0°.07, h91km±10km, n25, σ1s06/29, mb3.6/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOKO	**MOKOCHONG**	**0.56**	**329**	*e*P	**Pn**	**18 00 20.6**	**-1.0**
MOKO				*e*S	**Sn**	**18 00 32.0**	**-1.2**
MOKO				IAML		18 00 36.5	
	comp=E,3μm,0.4s						
MOKO				IAML		18 00 36.6	
	comp=N,2μm,0.3s						
KOHI	**KOHIMA**	**0.66**	**260**	*e*P	**Pn**	**18 00 22.0**	**-0.6**
KOHI				*e*S	**Sn**	**18 00 36.0**	**+1.1**
JORH	**JORHAT**	**1.04**	**330**	*e*S	**Sn**	**18 00 44.3**	**+2.8**
JORH				IAML		18 00 46.7	
	comp=E,1μm,0.1s						
ITAN	**ITANAGAR**	**1.63**	**323**	*e*P	**Pn**	**18 00 33.7**	**-0.1**
ITAN				*e*S	**Sn**	**18 00 54.0**	**-0.6**
ITAN				IAML		18 00 58.4	
	comp=N,249nm,0.2s						
LKP	**Lekhapani**	**1.74**	**31**	*e*P	**Pn**	**18 00 35.8**	**+0.7**
LKP				*e*S	**Sn**	**18 00 55.8**	**-1.2**
ZIRO	**ZIRO**	**1.89**	**333**	*e*P	**Pn**	**18 00 36.7**	**-0.6**
TEZP	**TEZPUR**	**1.98**	**293**	*e*P	**Pn**	**18 00 38.0**	**-0.2**
TEZP				*e*S	**Sn**	**18 01 01.8**	**-0.8**
TEZP				IAML		18 01 04.1	
	comp=N,484nm,0.2s						
TEZP				IAML		18 01 04.5	
	comp=E,262nm,0.1s						
GUWA	**GUWAHATI**	**2.85**	**278**	*e*P	**Pn**	**18 00 49.8**	**+0.1**
GUWA				IAML		18 01 23.7	
	comp=E,977nm,0.2s						
GUWA				IAML		18 01 24.0	
	comp=N,1μm,0.2s						
DHUB	**DHUBRI**	**4.36**	**273**	*e*P	**Pn**	**18 01 10.1**	**0.0**
DHUB				*e*S	**Sn**	**18 01 57.5**	**-2.2**
DHUB				IAML		18 02 00.9	
	comp=E,59nm,0.1s						
DHUB				IAML		18 02 02.7	
	comp=N,55nm,0.1s						
TAPN	**Taplejung**	**6.55**	**285**	*e*P	**Pn**	**18 01 41.1**	**+0.9**
	comp=N,20nm,0.3s						
ODAN	**Odare**	**6.75**	**280**	*e*P	**Pn**	**18 01 44.5**	**+1.6**
RAMN	**Ramite**	**7.46**	**280**	*e*P	**Pn**	**18 01 54.5**	**+1.9**
	comp=N,12nm,0.2s						
JIRN	**Jiri**	**7.93**	**285**	*e*P	**Pn**	**18 01 59.7**	**+0.5**
	comp=N,6.4nm,0.3s						
GUN	**Gumba**	**8.25**	**286**	*e*P	**Pn**	**18 02 03.8**	**+0.3**
	comp=N,7.2nm,0.2s						
CMAR	**Chiang Mai Arr**	**8.28**	**152**	P	Pn	18 02 01.1	-2.5
	comp=N,0.5nm,0.6s,baz=328,slow=13,SNR=5.8						
PKI	**Pulchoki**	**8.60**	**284**	*e*P	**Pn**	**18 02 08.3**	**+0.1**
	comp=N,5.0nm,0.3s						
PKIN	**Phulchoki**	**8.61**	**284**	*e*P	**Pn**	**18 02 08.8**	**+0.5**
	comp=N,10.0nm,0.3s						
KKN	**Kakani**	**8.75**	**285**	*e*P	**Pn**	**18 02 10.6**	**+0.4**
	comp=N,0.9nm,0.2s						
DMN	**Daman**	**8.87**	**284**	*e*P	**Pn**	**18 02 12.2**	**+0.4**
	comp=N,6.0nm,0.3s						
GKN	**Gorkha**	**9.35**	**286**	*e*P	**Pn**	**18 02 18.5**	**+0.2**
	comp=N,16nm,0.4s						
KOLN	**Koldanda**	**10.21**	**283**	*e*P	**Pn**	**18 02 30.0**	**-0.1**
PYUN	**Piuthan**	**10.80**	**285**	*e*P	**Pn**	**18 02 37.2**	**-0.9**
	comp=N,3.6nm,0.4s						
MKAR	**Makanchi Array**	**23.17**	**338**	P	P	18 05 20.8	+16
	comp=N,0.5nm,0.9s,baz=150,slow=12,SNR=3.2						
	comp=N,0.5nm,0.9s						
WRA	**Warramunga Arr**	**59.53**	**136**	P	**P**	**18 10 00.3**	**0.0**
	comp=N,0.2nm,0.4s,baz=321,slow=7.5,SNR=9.8						
	comp=N,0.2nm,0.4s						
ASAR	**Alice Springs**	**62.07**	**139**	P	**P**	**18 10 17.8**	**+0.2**
	comp=N,0.3nm,0.4s,baz=322,slow=6.5,SNR=9.5						
	comp=N,0.3nm,0.4s						

*JMA **24** 18:56:46.3±0.4, 34°.N±1°×142°.2E±°, h13km±2km, MV3.8/24, FAR SE OFF BOSO PEN*
*IDC **24** 18:56:48.7±0.9, 34°.07N×141°.69E, h0km, mb3.7/7, mbtmp3.7/10, ML3.4/3, MS3.3/5, Error ellipse: s-maj=20.3km s-min=17.0km az=88.0*

ISC 24 18:56:49.9±2.1, 34°.09N±0°.05×141°.63E±0°.08, h7km±13km, n25, σ1s16/24, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.79**	**316**	*e*P	**Pg**	**18 57 04.7**	**-0.3**
BSO1				S	**Sb**	**18 57 18.1**	**+1.9**
BSO3	**Boso 3**	**1.17**	**308**	*e*P	**Pn**	**18 57 11.7**	**-0.8**
KTR	**Katsuura**	**1.52**	**315**	*e*S	**Sb**	**18 57 39.3**	**+1.4**
JKUC	**kamogawauchiur**	**1.60**	**313**	*e*P	**Pn**	**18 57 17.7**	**-0.9**
JKUC				*e*S	**Sn**	**18 57 39.7**	**+0.2**
JMKN	**Mikurajimanish**	**1.71**	**264**	*e*P	**Pn**	**18 57 19.1**	**-1.0**
JMKN				*e*S	**Sn**	**18 57 39.9**	**-2.4**
CHOJ	**Chosi**	**1.73**	**339**	*e*P	**Pn**	**18 57 19.3**	**-1.2**
CHOJ

σ1§36/41, mb4.8/17, MS3.7/25, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.39**	**275**	Pn	**Pn**	**19 20 03.0**	**-1.0**
EFI	**East Falkland**	**16.61**	**269**	Pn	**Pn**	**19 23 03.9**	**0.0**
VNA1	**Neumayer--Stat**	**18.79**	**157**	P	**Pn**	**19 23 35.2**	**+4.5**
VNA3	**Neumayer Olymp**	**18.93**	**159**	P	**Pn**	**19 23 35.4**	**+3.0**
VNA2	**Neumayer--Watz** baz=320,slow=12	**19.19**	**157**	P	**Pn**	**19 23 39.4**	**+3.9**
SNAA	**Sanae**	**20.77**	**155**	P	**P**	**19 23 50.3**	**-1.7**
SNAA	**Sanae** 6.9nm,0.8s,baz=307,slow=9.9,SNR=45	**20.77**	**155**	P	**P**	**19 23 49.3**	**-2.6**
	6.9nm,0.8s						
SNAA	**Sanae**	**20.77**	**155**	P	**P**	**19 23 50.2**	**-1.7**
TROLL	**Troll, Antarti**	**22.33**	**153**	P	**P**	**19 24 07.0**	**-1.7**
BELA	**Belgrano 2**	**23.28**	**182**	P	**P**	**19 24 17.6**	**-0.9**
BELA	comp=Z,22nm,1.2s			IAmb	IAmb	19 24 20.5	
PLCA	**Paso Flores** comp=Z,58nm,18.6s,baz=137,slow=34	**29.77**	**281**	LR	LR	19 36 13.2	
CPUP	**Villa Florida** comp=Z,1.4nm,0.4s,baz=120,slow=11,SNR=3.0	**34.44**	**315**	P	**P**	**19 25 59.3**	**+0.6**
CPUP				LR	LR	19 38 26.4	
	comp=Z,83nm,20.4s,baz=210,slow=33 comp=Z,1.4nm,0.4s						
MT09	**Talagante**	**34.97**	**290**	P	**P**	**19 26 03.8**	**+0.3**
MT09	comp=Z,13nm,1.1s			IAmb	IAmb	19 26 28.3	
MT02	**Curacav**	**35.44**	**291**	P	**P**	**19 26 07.1**	**-0.2**
MT02	comp=Z,21nm,1.4s			IAmb	IAmb	19 26 39.0	
QSPA	**South Pole Qui** comp=Z,16nm,0.7s,baz=205,slow=3.1,SNR=83	**35.52**	**180**	P	**P**	**19 26 08.2**	**+0.3**
QSPA				LR	LR	19 40 00.5	
	comp=Z,182nm,18.4s,baz=152,slow=35 comp=Z,16nm,0.7s						
QSPA	**South Pole Qui**	**35.52**	**180**	P	**P**	**19 26 08.2**	**+0.3**
VA06	**Catapilco**	**36.06**	**291**	P	**P**	**19 26 12.6**	**0.0**
CO02	**Combarbal**	**36.95**	**293**	P	**P**	**19 26 20.2**	**-0.2**
CO02	comp=Z,33nm,1.5s			IAmb	IAmb	19 27 04.8	
GO02	**Mina Guanaco**	**41.09**	**300**	P	**P**	**19 26 55.4**	**+0.1**
GO02	comp=Z,39nm,1.4s			IAmb	IAmb	19 26 57.6	
BDFB	**Brasilia** comp=Z,108nm,20.6s,baz=349,slow=33	**41.26**	**334**	LR	LR	19 41 36.8	
SUR	**Sutherland**	**42.32**	**80**	P	**P**	**19 27 05.1**	**-0.1**
MAW	**Mawson** comp=Z,2.8nm,0.8s,baz=244,slow=9.5,SNR=8.4	**42.40**	**145**	P	**P**	**19 27 04.1**	**-1.0**
MAW				LR	LR	19 42 22.9	
	comp=Z,86nm,19.8s,baz=232,slow=33 comp=Z,2.8nm,0.8s						
MAW	**Mawson**	**42.40**	**145**	P	**P**	**19 27 04.5**	**-0.6**
LVC	**Limon Verde** comp=Z,26nm,18.0s,baz=182,slow=40	**42.89**	**303**	LR	LR	19 48 06.7	
PTLB	**Pontes e Lacer**	**44.96**	**320**	P	**P**	**19 27 26.6**	**+0.3**
PTLB	comp=Z,7.0nm,1.1s			IAmb	IAmb	19 27 49.1	
SIV	**San Ignacio** comp=Z,48nm,21.7s,baz=158,slow=33	**45.22**	**317**	LR	LR	19 44 11.2	
GO01	**Chusmiza**	**45.53**	**305**	P	**P**	**19 27 32.1**	**+0.7**
GO01	comp=Z,20nm,1.4s			IAmb	IAmb	19 27 53.8	
SBA	**Scott Base**	**47.23**	**185**	P	**P**	**19 27 43.2**	**-0.3**
SBA	comp=Z,12nm,1.3s			IAmb	IAmb	19 27 45.5	
BOSA	**Boshof** comp=Z,48nm,18.1s,baz=200,slow=34	**47.67**	**80**	LR	LR	19 45 37.7	
VNDA	**Vanda** comp=Z,2.9nm,0.7s,baz=192,slow=5.3,SNR=12	**47.77**	**184**	P	**P**	**19 27 47.8**	**+0.1**
VNDA				LR	LR	19 46 26.6	
	comp=Z,34nm,18.5s,baz=176,slow=34 comp=Z,2.9nm,0.7s						
VNDA	**Vanda**	**47.77**	**184**	P	**P**	**19 27 47.9**	**+0.1**
VNDA	comp=Z,5.4nm,0.9s			IAmb	IAmb	19 27 49.4	
LPAZ	**La Paz** comp=Z,2.4nm,0.8s,baz=127,slow=6.1,SNR=9.2	**47.97**	**308**	P	**P**	**19 27 52.0**	**+1.3**
LPAZ				LR	LR	19 51 06.3	
	comp=Z,27nm,18.2s,baz=112,slow=40 comp=Z,2.4nm,0.8s						
LPAZ	**La Paz**	**47.97**	**308**	P	**P**	**19 27 51.3**	**+0.6**
LPAZ	comp=Z,11nm,1.3s			IAmb	IAmb	19 27 53.4	
H10N1	**ASCENSION HYDR** baz=191,slow=76,SNR=4.6	**48.54**	**22**	T	T	20 20 15.4	
H10N3	**ASCENSION HYDR** baz=191,slow=76,SNR=6.9	**48.54**	**22**	T	T	20 20 15.9	
H10N2	**ASCENSION HYDR** baz=191,slow=76,SNR=6.9	**48.56**	**22**	T	T	20 20 17.3	
RCBR	**Riachuelo** comp=Z,62nm,18.3s,baz=320,slow=34	**48.94**	**353**	LR	LR	19 46 37.0	
LBTB	**Lobatse**	**50.63**	**78**	P	**P**	**19 28 09.7**	**-0.7**
LBTB	comp=Z,11nm,1.1s			IAmb	IAmb	19 28 10.8	
ETMB	**Extrema**	**52.89**	**314**	P	**P**	**19 28 27.9**	**+0.7**
ETMB	comp=Z,7.1nm,1.4s			IAmb	IAmb	19 28 47.0	
CZSB	**Cruzeiro do Su**	**57.58**	**308**	P	**P**	**19 29 01.3**	**+0.2**
CZSB	comp=Z,14nm,0.4s			IAmb	IAmb	19 29 38.3	
LSZ	**Lusaka** comp=Z,71nm,18.4s,baz=190,slow=33	**59.85**	**73**	LR	LR	19 52 18.6	
LSZ	**Lusaka**	**59.85**	**73**	P	**P**	**19 29 16.7**	**-0.3**
LSZ	comp=Z,9.4nm,1.2s			IAmb	IAmb	19 29 18.3	
MDP	**Montagnes des** comp=Z,117nm,20.5s,baz=92,slow=34	**62.36**	**335**	LR	LR	19 54 31.0	
ARNL	**Arenillas**	**64.71**	**303**	P	**P**	**19 29 50.0**	**+0.6**
ROSC	**El Rosal** comp=Z,48nm,19.7s,baz=262,slow=37	**69.50**	**313**	LR	LR	20 02 18.2	
PCRV	**Puerto La Cruz** comp=Z,78nm,21.5s,slow=35	**70.68**	**324**	LR	LR	20 00 50.6	
SDV	**Santo Domingo** comp=Z,158nm,21.7s,baz=146,slow=36	**71.66**	**318**	LR	LR	20 01 37.2	
KOWA	**Kowa** comp=Z,114nm,20.5s,baz=117,slow=30	**72.60**	**27**	LR	LR	19 56 02.9	
TOA0	**Torodi Ar. Sit**	**72.98**	**33**	P	**P**	**19 30 41.1**	**+0.4**
TOA0	comp=Z,12nm,1.1s			IAmb	IAmb	19 30 41.9	
TORD	**Torodi Ar. Bea** comp=Z,7.1nm,1.0s,baz=194,slow=6.4,SNR=24	**72.98**	**33**	P	**P**	**19 30 40.5**	**-0.2**
TORD				LR	LR	19 56 26.7	
	comp=Z,114nm,19.3s,baz=213,slow=31 comp=Z,7.1nm,1.0s						
WHZ	**Wether Hill Ro**	**78.50**	**193**	P	**P**	**19 31 11.1**	**-1.1**
WHZ	comp=Z,12nm,1.1s			IAmb	IAmb	19 31 24.1	
SJG	**San Juan** comp=Z,31nm,21.4s,baz=148,slow=35	**78.59**	**326**	LR	LR	20 04 58.5	
RPZ	**Rata Peaks** comp=Z,34nm,18.1s,baz=170,slow=34	**80.18**	**196**	LR	LR	20 04 21.6	
NWAO	**Narrogin (SRO)** comp=Z,30nm,20.8s,baz=240,slow=32	**88.44**	**153**	LR	LR	20 06 39.4	
MDT	**Midelt** comp=Z,113nm,20.5s,baz=160,slow=32	**90.05**	**22**	LR	LR	20 06 58.7	
ATD	**Arta Tunnel** comp=Z,50nm,18.4s,baz=58,slow=35	**90.06**	**70**	LR	LR	20 11 24.3	
STKA	**Stephens Creek** comp=Z,105nm,21.4s,baz=205,slow=34	**93.49**	**173**	LR	LR	20 11 40.2	
ESDC	**Sonseca Array** comp=Z,109nm,20.9s,baz=177,slow=32	**96.80**	**20**	LR	LR	20 11 16.5	
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.3s,baz=232,slow=4.3,SNR=5.7	**127.43**	**113**	PKP	**PKPdf**	**19 38 15.8**	**-0.2**
ARCES	**ARCESS Array B** comp=Z,5.0nm,1.0s,baz=26,slow=2.3,SNR=6.3	**130.49**	**23**	PKP	**PKPdf**	**19 38 20.6**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,1.4nm,0.6s,baz=125,slow=2.8,SNR=8.0	**133.85**	**320**	PKP	**PKPdf**	**19 38 27.4**	**+0.6**
ZALV	**Zalesovo Beam** comp=Z,1.4nm,0.7s,baz=242,slow=3.2,SNR=4.0	**143.61**	**64**	PKP	PKPbc	19 38 41.9	-0.6
ILAR	**Eielson Array** comp=Z,6.8nm,0.7s,baz=124,slow=1.4,SNR=45	**147.74**	**314**	PKPbc	**PKPbc**	**19 38 54.9**	**+0.3**
SONM	**Songino Array** comp=Z,1.6nm,0.6s,baz=226,slow=2.4,SNR=8.8	**152.67**	**87**	PKPbc	**PKPbc**	**19 39 06.3**	**-0.9**

IDC 24 19:37:24.1±5.5, 6.75S×148.69E, h0km, mb3.2/1, mbtmp3.2/2, ML3.4/1, MS3.2/1, Error ellipse: s-maj=247.4km s-min=49.3km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=40,slow=11,SNR=6.4	**19.14**	**225**	P	P	19 41 47.8	-1.3
WRA				LR	LR	19 49 09.4	
	comp=Z,75nm,18.6s,baz=186,slow=37 0.3nm,0.4s						
ASAR	**Alice Springs** 0.5nm,0.5s,baz=56,slow=9.0,SNR=17	**22.02**	**219**	P	P	19 42 21.2	+0.8
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=59,slow=3.8,SNR=5.3	**146.90**	**284**	PKPbc	PKPbc	19 57 08.8	-0.8

IDC 24 19:50:21.3±1.8, 2.76N×128.90E, h0km, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=98.2km s-min=22.1km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 2.5nm,1.0s,baz=90,slow=20,SNR=2.3	**20.97**	**189**	P	Pn	19 55 07.8	-0.9
	2.5nm,1.0s						
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=345,slow=11,SNR=17	**23.18**	**167**	P	P	19 55 29.9	+0.1
	0.9nm,0.4s						
ASAR	**Alice Springs** 0.7nm,0.6s,baz=353,slow=7.9,SNR=22	**26.71**	**170**	P	P	19 56 02.0	-0.5
	0.7nm,0.6s						
STKA	**Stephens Creek** 0.8nm,0.2s,baz=338,slow=11,SNR=3.0	**36.49**	**162**	P	P	19 57 27.6	-0.8
	0.8nm,0.2s						
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=113,slow=8.1,SNR=10	**59.59**	**325**	P	P	20 00 27.1	+0.1
	0.6nm,0.5s						

*ISU **24** 19:52:38, 40.05N×70.84E, h13km*
*SOME **24** 19:52:40.6, 40.13N×71.25E, h5km*
*KRNET **24** 19:52:40.1±0.1, 40.09N×70.90E, h20km, mb2.6*
*NNC **24** 19:52:43.6±4.5, 40.30N×70.97E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=35.2km s-min=17.6km az=8.0*
ISC 24 19:52:40.4±0.8, 40.07N±0.03×70.84E±0.02, h10km±5km, n26, σ1§50/44, 12C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken** baz=45	**0.02**	**238**	⇓*i*P	**Pg**	**19 52 42.1**	**-0.3**
BTK	baz=45			⇓*i*S	**Sg**	**19 52 43.7**	**0.0**
BTK	**Batken**	**0.02**	**238**	P	**Pg**	**19 52 41.7**	**-0.7**
BTK				S	**Sg**	**19 52 43.7**	**0.0**
CHMI	**Chimion**	**0.56**	**69**	P	**Pg**	**19 52 49.4**	**-1.9**
CHMI				S	**Sg**	**19 52 58.1**	**-0.7**
FRG	**Fergana**	**0.79**	**67**	P	**Pg**	**19 52 53.2**	**-2.4**
FRG				S	**Sg**	**19 53 04.5**	**-1.4**
DRK	**Karamyk** baz=31	**0.95**	**128**	⇑*i*P	**Pg**	**19 52 57.8**	**-0.8**
DRK	baz=31			⇑*i*S	**Sg**	**19 53 10.3**	**-0.7**
GAR	**Garm** baz=3.0	**1.14**	**201**	⇑*i*P	**Pn**	**19 53 02.3**	**-0.2**
GAR	baz=3.0			⇑*i*S	**Sn**	**19 53 18.4**	**+0.2**
ANR	**Andizhan**	**1.35**	**59**	P	**Sg**	**19 53 23.5**	**-0.4**
TRKS	**Terek-Say** baz=8.0	**1.48**	**9**	⇑*i*P	**Pn**	**19 53 05.8**	**-1.4**
TRKS	baz=8.0			⇑*i*S	**Sn**	**19 53 25.0**	**-1.7**
OHH	**Osh** baz=73	**1.56**	**72**	⇑*i*P	**Pn**	**19 53 08.1**	**-0.1**
OHH	baz=73			⇑*i*S	**Sn**	**19 53 28.3**	**-0.2**
CHMG	**Chimgan**	**1.61**	**337**	P	**Pn**	**19 53 08.9**	**-0.1**
CHMG				S	**Sb**	**19 53 31.0**	**+0.3**
TAS	**Tashkent** baz=16	**1.72**	**317**	⇓*i*P	**Pb**	**19 53 12.4**	**+0.4**
TAS	baz=16			⇓*i*S	**Sg**	**19 53 35.4**	**-0.3**
NZBK	**Nazarbek**	**1.75**	**312**	P	**Pg**	**19 53 12.9**	**-0.9**
NZBK				S	**Sg**	**19 53 36.7**	**+0.2**
CHGR	**Chuyangaron** baz=24	**1.92**	**223**	⇓*i*P	**Pg**	**19 53 15.9**	**-1.3**
CHGR	baz=24			⇓*i*S	**Sg**	**19 53 41.7**	**-0.3**
ARK	**Arkit** baz=25	**1.93**	**26**	⇑*i*P	**Pb**	**19 53 14.9**	**-0.8**
ARK	baz=25			⇑*i*S	**Sb**	**19 53 40.0**	**+0.2**
IUG	**Iuzhnay** 4.7nm,0.1s	**2.17**	**344**	*e*P	**Pg**	**19 53 22.1**	**+0.2**
IUG	40nm,0.0s			*e*S	**Sg**	**19 53 51.9**	**+1.9**
IUG	**Iuzhnay** 110nm,0.2s	**2.17**	**344**	Pg	**Pb**	**19 53 18.5**	**-1.2**
IUG	58nm,0.3s			Lg	Lg	19 53 47.4	
KK31	**Karatay Array** 0.3nm,0.3s,baz=180,slow=17,SNR=8.8	**3.04**	**356**	⇓Pn	**Pb**	**19 53 32.8**	**-1.9**
KK31	2.4nm,0.3s,baz=179,slow=30,SNR=4.2			⇓Lg	Lg	19 54 12.6	
MRKS	**Merke** 2.6nm,0.1s	**3.22**	**33**	*e*P	**Pb**	**19 53 37.1**	**-0.6**
MRKS	20nm,0.2s			*e*S	**Sb**	**19 54 18.4**	**+1.3**
MRKS	**Merke** 2.5nm,0.2s	**3.22**	**33**	Pg	**Pb**	**19 53 37.1**	**-0.6**
MRKS	20nm,0.2s			Lg	Lg	19 54 18.4	
TKM2	**Tokmak 2** 3.7nm,1.1s	**4.57**	**50**	⇑Pg	**Pb**	**19 54 02.4**	**+1.6**
TKM2	4.3nm,0.8s			⇑Lg	Lg	19 54 59.7	
DGS	**Degeres** 1.1nm,0.3s	**4.87**	**48**	*e*P	**Pb**	**19 54 05.8**	**0.0**
DGS	2.9nm,0.3s			*e*S	**Sb**	**19 55 06.5**	**+2.1**
DGS	**Degeres** 1.0nm,0.1s	**4.87**	**48**	Pg	**Pb**	**19 54 07.4**	**+1.6**
DGS	2.6nm,0.4s			Lg	Lg	19 55 10.4	
KRBS	**Karabastau** 0.4nm,0.1s	**5.12**	**43**	*e*P	**Pb**	**19 54 10.7**	**+0.7**
KRBS	1.6nm,0.3s			*e*S	**Sb**	**19 55 16.4**	**+4.8**
KRBS	**Karabastau** 0.4nm,0.1s	**5.12**	**43**	Pg	**Pb**	**19 54 10.7**	**+0.7**
KRBS	1.6nm,0.3s			Lg	Lg	19 55 16.3	
KTBS	**Karatobe** 0.6nm,0.1s	**5.68**	**48**	*e*P	**Pb**	**19 54 20.9**	**+1.3**
KTBS	4.6nm,0.4s			*e*S	**Sb**	**19 55 32.2**	**+4.4**
KTBS	**Karatobe** 0.6nm,0.1s	**5.68**	**48**	Pg	**Pb**	**19 54 20.9**	**+1.3**
KTBS	4.6nm,0.4s			Lg	Lg	19 55 32.2	

*SJA **24** 20:07:15.6±0.7, 32.59S×71.78W, h7km±4km, ML4.1, MW3.8*
*IDC **24** 20:07:18.5±0.9, 32.65S×71.90W, h20km±4km, mb3.8/4, mbtmp3.8/9, ML3.8/5, MS3.2/2, Error ellipse: s-maj=30.8km s-min=27.6km az=104.0*
*NEIC **24** 20:07:18.4±1.6, 32.64S±0.04×71.66W±0.06, h18km±5km, mb4.4/11, Mwr3.9/18, ML4.0(GUC), Error ellipse: s-maj=7.1km s-min=5.1km az=83.0*
*NEIC **24** 20:07:18.3, 32.64S×71.66W, h29km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr2.60; Mθθ0.17; Mϕϕ-2.77; Mrθ-0.50; Mrϕ-4.38; Mθϕ7.65; Fault plane solution: Mϕ9.23000×10^14^ NP1:ϕs0.27000°, δ80.46000°, λ61.54000°. NP2:ϕs253.26000°, δ29.89000°, λ160.57000°. Principal axes: T 9.0730, Plg47.0000°, Azm241.0000°; N 0.3156, Plg28.0000°, Azm5.0000°; P -9.3887, Plg30.0000°, Azm113.0000°;*
*GUC **24** 20:07:19.1±0.7, 32.61S×71.57W, h32km±3km, ML4.0*
ISC 24 20:07:18.5±0.7, 32.61S±0.02×71.68W±0.03, h20km±3km, n108, σ1§37/141, mb4.2/9, 1C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.33**	**81**		**Pg**	**20 07 25.4**	**-0.3**
VA06				Sg	**Sg**	**20 07 30.1**	**-0.5**
VA06	**Catapilco**	**0.33**	**81**	*e*P	**Pg**	**20 07 25.6**	**-0.1**
VA06				*i* S	**Sg**	**20 07 30.1**	**-0.5**
ROC1	**El Roble**	**0.67**	**123**		**Pb**	**20 07 30.7**	**-0.9**
ROC1				Sg	**Sb**	**20 07 39.4**	**-1.2**
ROC1	**El Roble**	**0.67**	**123**	*e*P	**Pb**	**20 07 30.8**	**-0.9**
ROCH	**El Roble**	**0.67**	**123**	⇓*i*P	**Pb**	**20 07 31.0**	**-0.7**
ROCH				*i* S	**Sb**	**20 07 39.4**	**-1.2**
ROCH	comp=N,29μm,0.5s			IAML		20 07 40.0	
MT02	**Curacav**	**0.79**	**145**		**Pb**	**20 07 33.0**	**-0.6**
MT02				Sg	**Sb**	**20 07 42.8**	**-1.2**
MT02	**Curacav**	**0.79**	**145**	⇓*i*P	**Pb**	**20 07 33.0**	**-0.6**
MT02				*i* S	**Sb**	**20 07 42.7**	**-1.2**
MT02	**Curacav**	**0.79**	**145**	*e*P	**Pb**	**20 07 32.8**	**-0.8**
MT02	comp=Z,3μm,0.3s			IAML		20 07 47.2	
VA03	**San Esteban**	**0.97**	**99**		**Pb**	**20 07 35.2**	**-1.4**
VA03				Sg	**Sb**	**20 07 47.4**	**-1.7**
VA03	**San Esteban**	**0.97**	**99**	⇓*i*P	**Pb**	**20 07 35.3**	**-1.4**
VA03				*i* S	**Sb**	**20 07 47.2**	**-1.8**
VA03	comp=E,17μm,0.3s			IAML		20 07 48.3	
VA03	**San Esteban**	**0.97**	**99**	*e*P	Pb	20 07 29.6	-7.1
VA03				*e*P	**Pb**	**20 07 35.3**	**-1.4**
VA03				*e*S	**Sb**	**20 07 47.8**	**-1.3**
VA03	comp=Z,5μm,0.2s			IAML		20 07 48.8	
PEL	**Peldehue**	**0.99**	**123**		**Pb**	**20 07 36.2**	**-0.9**
PEL				Sg	**Sb**	**20 07 48.9**	**-0.9**
VA05	**Santo Domingo**	**1.04**	**177**		**Pb**	**20 07 37.4**	**-0.5**
VA05	**Santo Domingo**	**1.04**	**177**	*e*P	**Pb**	**20 07 37.5**	**-0.4**
VA05				*i* S	**Sb**	**20 07 50.7**	**-0.5**
VA05	comp=E,9μm,0.6s			IAML		20 07 55.7	
MT05	**Renca**	**1.11**	**135**	Pn	**Pn**	**20 07 38.1**	**-0.9**
MT05	**Renca**	**1.11**	**135**	⇓*i*P	**Pn**	**20 07 38.1**	**-0.9**
MT05				*i* S	**Sb**	**20 07 51.4**	**-1.8**
MT05	comp=E,11μm,0.3s			IAML		20 07 53.1	
MT05	**Renca**	**1.11**	**135**	*e*P	**Pn**	**20 07 38.1**	**-0.9**
MT05				*e*S	**Sb**	**20 07 52.9**	**-0.3**
MT05	comp=Z,3μm,0.6s			IAML		20 07 54.2	
MT09	**Talagante**	**1.30**	**154**		**Pn**	**20 07 41.4**	**-0.3**
MT09	**Talagante**	**1.30**	**154**	⇓*i*P	**Pn**	**20 07 41.4**	**-0.3**
MT09				*i* S	**Sn**	**20 07 57.2**	**-1.4**
MT09	comp=N,4μm,0.3s			IAML		20 08 01.7	
MT01	**Popeta**	**1.30**	**164**		**Pn**	**20 07 41.3**	**-0.2**
MT01	**Popeta**	**1.30**	**164**	*e*P	**Pn**	**20 07 41.4**	**-0.2**
MT01				*i* S	**Sn**	**20 07 57.5**	**-1.0**
MT01	comp=E,4μm,0.4s			IAML		20 08 00.5	
MT01	**Popeta**	**1.30**	**164**	*e*P	Pn	20 07 36.1	-5.5
MT01				*e*P	**Pb**	**20 07 41.0**	**-1.3**
MT01				*e*P		20 07 41.4	
MT01				*e*S	**Sb**	**20 07 59.1**	**+0.5**
MT01	comp=Z,2μm,0.6s			IAML		20 08 01.6	
MT03	**Universidad Ad**	**1.32**	**132**		**Pn**	**20 07 41.3**	**-0.7**
MT03	**Universidad Ad**	**1.32**	**132**	⇓*i*P	**Pn**	**20 07 41.2**	**-0.7**
MT03				*i* S	**Sn**	**20 07 58.1**	**-0.9**
MT03	comp=E,6μm,0.2s			IAML		20 08 01.1	
MT03	**Universidad Ad**	**1.32**	**132**	*e*P	**Pn**	**20 07 41.0**	**-0.9**
MT03				*e*P	**Pb**	**20 07 41.4**	**-1.3**
MT03				*e*S	**Sb**	**20 07 59.1**	**-0.2**
MT03	comp=Z,5μm,0.7s			IAML		20 08 01.3	
FCH	**Farellones**	**1.37**	**122**	⇓*i*P	**Pn**	**20 07 42.0**	**-0.9**
FCH				*i* S	**Sn**	**20 07 59.2**	**-1.4**
FCH	comp=N,2μm,0.3s			IAML		20 07 59.7	
CO02	**Combarbal**	**1.52**	**23**		**Pn**	**20 07 44.8**	**+0.1**
CO02	**Combarbal**	**1.52**	**23**	*e*P	**Pn**	**20 07 44.7**	**+0.1**
CO02				*i* S	**Sn**	**20 08 03.9**	**0.0**
CO02	**Combarbal**	**1.52**	**23**	*e*P	**Pn**	**20 07 44.7**	**+0.1**
CO02				*e*S	**Sn**	**20 08 04.3**	**+0.3**
CO02	comp=Z,5μm,0.8s			IAML		20 08 07.7	
BO04	**La Punta**	**1.64**	**147**		**Pn**	**20 07 46.6**	**+0.3**
BO04	**La Punta**	**1.64**	**147**	⇓*i*P	**Pn**	**20 07 46.6**	**+0.3**
BO04				*i* S	**Sn**	**20 08 07.0**	**+0.1**
BO04	comp=E,3μm,0.7s			IAML		20 08 09.8	
LMEL	**Las Melosas**	**1.75**	**135**		**Pn**	**20 07 47.8**	**0.0**
LMEL	**Las Melosas**	**1.75**	**135**	*e*P	**Pn**	**20 07 47.9**	**0.0**
LMEL				*i* S	**Sn**	**20 08 10.2**	**+0.5**
LMEL	comp=E,3μm,0.5s			IAML		20 08 15.0	
CO06	**Fray Jorge**	**1.93**	**1**		**Pn**	**20 07 50.3**	**+0.1**
CO06	**Fray Jorge**	**1.93**	**1**	*e*P	**Pn**	**20 07 50.3**	**+0.1**
CO06	comp=E,1μm,0.5s			IAML		20 08 25.3	
RTLS	**Leoncito**	**2.18**	**69**	*e*P	**Pb**	**20 07 56.2**	**-1.2**
RTLS				*e*S	**Sb**	**20 08 23.1**	**-1.1**
RTLS	comp=Z,1μm,0.9s			IAML		20 08 30.4	
BO02	**Sierra Bellavi**	**2.30**	**161**		**Pn**	**20 07 56.6**	**+1.3**
BO02	**Sierra Bellavi**	**2.30**	**161**	*e*P	**Pn**	**20 07 56.7**	**+1.3**
BO02				*i* S	**Sb**	**20 08 25.9**	**-1.6**
BO02	comp=N,2μm,0.2s			IAML		20 08 32.3	
BO02	**Sierra Bellavi**	**2.30**	**161**	*e*P	**Pn**	**20 07 57.1**	**+1.7**
BO02				*e*S	**Sb**	**20 08 28.8**	**+1.3**
BO02	comp=Z,2μm,0.5s			IAML		20 08 29.6	
ARCO	**CERRO ARCO**	**2.33**	**96**	*e*P	**Pb**	**20 07 59.0**	**-0.9**
ARCO				*e*S	**Sb**	**20 08 30.6**	**+2.2**
ARCO	comp=Z,939nm,0.6s			IAML		20 08 40.9	
ASAL	**Salagasta**	**2.41**	**90**	*e*P	**Pb**	**20 08 00.0**	**-1.1**
ASAL				*e*S	**Sb**	**20 08 29.6**	**-0.9**
AAGR	**Agrelo**	**2.45**	**102**	*e*P	**Pb**	**20 08 00.0**	**-1.9**
AAGR				*e*S	**Sg**	**20 08 42.0**	**+4.6**
AAGR	comp=Z,871nm,1.2s			IAML		20 08 43.7	
GO04	**Tololo Observa**	**2.55**	**18**		**Pn**	**20 07 59.9**	**+1.1**
GO04	**Tololo Observa**	**2.55**	**18**	*e*P	**Pn**	**20 08 00.1**	**+1.2**
GO04				*i* S	**Sn**	**20 08 31.2**	**+1.7**
GO04	**Tololo Observa**	**2.55**	**18**	*e*P	**Pn**	**20 08 00.0**	**+1.1**
GO04				*e*P	**Pn**	**20 08 00.2**	**+1.2**
GO04				*e*S	**Sb**	**20 08 33.2**	**-1.5**
CO05	**La Serena**	**2.71**	**8**		**Pn**	**20 08 01.2**	**+0.3**
ZON	**Zonda**	**2.76**	**68**		**Pn**	**20 08 03.8**	**+2.1**
ZON	**Zonda**	**2.76**	**68**	*e*P	**Pn**	**20 07 59.1**	**-2.7**
ZON				*e*P	**Pb**	**20 08 04.0**	**-3.2**
ZON				*e*S	**Sn**	**20 08 36.1**	**+1.5**
ZON	comp=Z,593nm,0.7s			IAML		20 08 47.6	
CO01	**Juntas del Tor**	**2.96**	**28**		**Pn**	**20 08 06.4**	**+1.8**
CO01	**Juntas del Tor**	**2.96**	**28**	*e*P	**Pn**	**20 08 06.8**	**+2.2**
CO01				*e*S	**Sb**	**20 08 45.1**	**-1.4**
CO01	comp=Z,891nm,0.5s			IAML		20 08 51.4	
ACCO	**Cerro Coronel**	**3.01**	**49**	*e*P	**Pn**	**20 08 08.0**	**+2.6**
ACCO				*e*S	**Sb**	**20 08 51.0**	**+2.9**
AROD	**Rodeo**	**3.08**	**38**	*e*P	**Pb**	**20 08 10.0**	**-2.9**
AROD				*e*S	**Sb**	**20 08 51.8**	**+1.6**
AROD				*e*S	**Sg**	**20 08 52.9**	**-4.8**
ML02	**Panimavida**	**3.15**	**176**		**Pn**	**20 08 05.6**	**-1.4**
LCO	**Las Campanas**	**3.69**	**14**		**Pn**	**20 08 15.6**	**+1.0**
LCO	**Las Campanas**	**3.69**	**14**	*e*P	**Pn**	**20 08 15.0**	**+0.4**
AC05	**El Transito**	**3.95**	**18**	Pn	**Pn**	**20 08 19.5**	**+1.3**
AC05	**El Transito**	**3.95

H03S2	**Juan Fernandez**	**6.19**	**257**	T		T		20 15 11.7	
	baz=85,SNR=107								
GO06	**Curarrehue**	**6.96**	**179**	Pn		**Pn**		**20 08 59.5**	**+0.1**
LR04	**Corral**	**7.39**	**190**	Pn		**Pn**		**20 09 04.1**	**-1.1**
PLCA	**Paso Flores**	**8.16**	**174**	Pn		**Pn**		**20 09 16.9**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=337,slow=11,SNR=21								
	comp=Z,1.2nm,0.4s								
PLCA	**Paso Flores**	**8.16**	**174**	Pn		**Pn**		**20 09 16.6**	**+0.8**
TRQA	**Tornquist**	**9.61**	**127**	Pn		**Pn**		**20 09 35.8**	**+0.2**
LVC	**Limon Verde**	**10.26**	**15**	Pn		**Pn**		**20 09 46.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=196,slow=7.4,SNR=1.5								
	comp=Z,1.3nm,0.5s								
LVC	**Limon Verde**	**10.26**	**15**	Pn		**Pn**		**20 09 43.9**	**-1.1**
ITQB	**Itaqui**	**13.23**	**81**	Pn		**Pn**		**20 10 23.9**	**-1.3**
CPUP	**Villa Florida**	**13.98**	**67**	Pn		**Pn**		**20 10 38.1**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=236,slow=11,SNR=2.8								
CPUP				LR		LR		20 15 59.0	
	comp=Z,90nm,21.6s,baz=226,slow=37								
	comp=Z,2.0nm,0.7s								
CPUP	**Villa Florida**	**13.98**	**67**			**Pn**		**20 10 36.5**	**+1.0**
PB16	**IPOC Station P**	**14.35**	**8**	Pn		**Pn**		**20 10 41.7**	**+0.5**
PLTB	**Pedras Altas**	**15.34**	**92**	Pn		**Pn**		**20 10 52.5**	**-1.3**
PLTB				IAmb		IAmb		20 11 00.2	
	comp=Z,35nm,1.5s								
LPAZ	**La Paz**	**16.57**	**12**	Pn		**Pn**		**20 11 11.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=176,slow=4.6,SNR=4.2								
	comp=Z,0.7nm,0.4s								
LPAZ	**La Paz**	**16.57**	**12**	Pn		**Pn**		**20 11 10.7**	**+0.3**
ITAB	**Concordia**	**17.77**	**78**			**P**		**20 11 26.0**	**+0.6**
ITAB				IAmb		IAmb		20 11 32.2	
	comp=Z,31nm,1.4s								
SIV	**San Ignacio**	**19.14**	**33**	P		**Pn**		**20 11 42.2**	**+0.7**
	baz=217,slow=8.7,SNR=3.8								
SIV				LR		LR		20 19 40.2	
	comp=Z,111nm,21.7s,baz=278,slow=38								
	comp=Z,1.0nm,0.6s								
EFI	**East Falkland**	**21.50**	**156**	P		**P**		**20 12 04.8**	**-1.0**
ETMB	**Extrema**	**23.24**	**14**	P		**P**		**20 12 24.5**	**-0.1**
ETMB				IAmb		IAmb		20 12 27.0	
	comp=Z,4.2nm,0.9s								
BDFB	**Brasilia**	**27.32**	**57**	P		**P**		**20 13 05.5**	**+3.3**
	comp=Z,3.2nm,0.8s,baz=247,slow=5.8,SNR=4.6								
	comp=Z,3.2nm,0.8s								
BOAV	**Boa Vista**	**36.39**	**19**	P		**P**		**20 14 22.2**	**+0.6**
BOAV				IAmb		IAmb		20 14 43.4	
	comp=Z,3.0nm,1.2s								
SNAA	**Sanae**	**52.76**	**158**	P		**P**		**20 16 31.9**	**+0.2**
SNAA				IAmb		IAmb		20 16 49.0	
	comp=Z,3.1nm,1.1s								
QSPA	**South Pole Qui**	**57.62**	**180**	P		**P**		**20 17 07.5**	**+0.5**
QSPA				IAmb		IAmb		20 17 08.9	
	comp=Z,6.2nm,1.1s								
W50A	**Signal Mountai**	**68.66**	**348**	P		**P**		**20 18 20.1**	**-0.2**
W50A				IAmb		IAmb		20 18 20.8	
	comp=Z,4.3nm,0.8s								
TXAR	**Lajitas Array**	**68.67**	**330**	P		**P**		**20 18 21.4**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=150,slow=8.6,SNR=4.7								
	comp=Z,0.5nm,0.5s								
TXAR	**Lajitas Array**	**68.67**	**330**	P		**P**		**20 18 21.1**	**+0.5**
WVT	**Waverly**	**70.03**	**346**	P		**P**		**20 18 28.3**	**-0.5**
NVAR	**Mina Array Bea**	**82.92**	**325**	P		**P**		**20 19 40.0**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=147,slow=5.8,SNR=4.1								
	comp=Z,0.4nm,0.6s								
TOA0	**Torodi Ar. Sit**	**83.46**	**70**	P		**P**		**20 19 43.2**	**-1.8**
TOA0				IAmb		IAmb		20 19 52.1	
	comp=Z,4.4nm,0.9s								
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P		**P**		**20 19 44.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=258,slow=4.1,SNR=5.8								
TORD				pP		**pP**		**20 19 51.3**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=253,slow=5.2,SNR=12								
	comp=Z,0.9nm,0.8s								
H11S2	**WAKE ISLAND Hyl**	**26.08**	**270**	T		T		22 45 17.0	
	baz=117,slow=75,SNR=160								
H11S1	**WAKE ISLAND Hyl**	**26.09**	**270**	T		T		22 45 14.3	
	baz=117,slow=75,SNR=72								
H11S3	**WAKE ISLAND Hyl**	**26.10**	**270**	T		T		22 45 15.1	
	baz=117,slow=75,SNR=149								
H11N3	**WAKE ISLAND Hyl**	**26.46**	**271**	T		T		22 45 38.7	
	baz=117,slow=75,SNR=24								
H11N1	**WAKE ISLAND Hyl**	**26.47**	**271**	T		T		22 45 42.7	
	baz=117,slow=75,SNR=10.0								
H11N2	**WAKE ISLAND Hyl**	**26.47**	**271**	T		T		22 45 45.4	
	baz=117,slow=75,SNR=55								
BVAR	**Borovoye Array**	**146.06**	**42**	PKPbc		**PKPab**		**20 26 57.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=289,slow=3.1,SNR=4.7								
KURBB	**Kurchatov Arra**	**151.65**	**42**	PKPbc		**PKPbc**		**20 27 10.9**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=300,slow=3.1,SNR=12								
KURBB				pPKPbc		**sPKPbc**		**20 27 18.8**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=302,slow=2.9,SNR=12								
ZALV	**Zalesovo Beam**	**152.89**	**31**	PKPbc		**PKPbc**		**20 27 13.5**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=297,slow=2.8,SNR=9.3								
ZALV				pPKPbc		**pPKPbc**		**20 27 20.8**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=293,slow=3.0,SNR=10								
MKAR	**Makanchi Array**	**155.62**	**47**	PKPab		**PKPab**		**20 27 36.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=300,slow=2.8,SNR=2.4								
MKAR				pPKPab		**pPKPab**		**20 27 43.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=298,slow=2.5,SNR=3.3								

*UCR **24** 20:14:10.8±1.5,9.°49N×84.°84W, h20km±3km, MW4.3*
*INET **24** 20:14:10.4±1.8,9.°50N×84.°79W, h9km±7km, ML3.3*

ISC 24 20:14:10.3±1.2, 9.°49N±0.°05×84.°82W±0.°03, h17km±9km, n43, σ0↑57/53, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAFE	**Finca La Fe, P**	**0.32**	**344**	*eP*	**Pg**	**20 14 17.4**	**+0.3**
LAFE				*eS*	**Sb**	**20 14 22.9**	**+0.3**
LAFE	**Finca La Fe, P**	**0.32**	**344**	*eP*	**Pg**	**20 14 17.4**	**+0.3**
LAFE				*eS*	**Sb**	**20 14 22.7**	**+0.1**
INDI	**Punta indio, G**	**0.77**	**299**	*eP*	**Pg**	**20 14 24.8**	**-0.5**
JTS	**Las Juntas de**	**0.80**	**351**	*eP*	**Pg**	**20 14 25.0**	**-1.0**
JTS	**Las Juntas de**	**0.80**	**351**	*eP*	**Pg**	**20 14 24.8**	**-1.1**
LCR2	**La Lucha 2**	**0.84**	**73**	*eP*	**Pg**	**20 14 25.8**	**-0.9**
HDC	**Heredia**	**0.86**	**54**	*eP*	**Pg**	**20 14 26.7**	**-0.3**
HDC3	**Heredia 3**	**0.86**	**54**	*eP*	**Pg**	**20 14 26.8**	**-0.3**
HDC3	**Heredia 3**	**0.86**	**54**	*eP*	**Pg**	**20 14 26.6**	**-0.4**
HDC3				*eS*	**Sn**	**20 14 39.8**	**-0.3**
DUNO	**Dulce Nombre,**	**0.88**	**311**	*eP*	**Pb**	**20 14 26.8**	**-0.3**
DUNO				*eS*	**Sn**	**20 14 41.5**	**+1.1**
GRZA	**Playa Garza**	**0.91**	**298**	*eP*	**Pb**	**20 14 26.9**	**-0.6**
CRPO	**Crater poas**	**0.91**	**40**	*eP*	**Pg**	**20 14 27.5**	**-0.5**
OCM	**Ochomogo**	**0.94**	**65**	*eP*	**Pb**	**20 14 27.7**	**-0.5**
EDDO	**Dominical**	**0.97**	**104**	*eP*	**Pb**	**20 14 28.8**	**+0.1**
EDDO				*eS*	**Sg**	**20 14 42.5**	**+0.5**
RIMA	**Rio Macho**	**0.98**	**74**	*eP*	**Pb**	**20 14 28.5**	**-0.5**
RIMA	**Rio Macho**	**0.98**	**74**	*eP*	**Pb**	**20 14 28.4**	**-0.6**
RIMA				*eS*	**Sn**	**20 14 43.2**	**0.0**
RIMA				IAML		20 14 48.8	
	comp=E,934nm,0.3s						
CDM	**Cerro de Muert**	**1.04**	**87**	*eP*	**Pb**	**20 14 30.3**	**+0.1**
CDM	**Cerro de Muert**	**1.04**	**87**	*eP*	**Pb**	**20 14 30.1**	**-0.1**
CDM				*eS*	**Sn**	**20 14 45.5**	**+0.5**
SAJU	**San Juanillo,**	**1.05**	**303**	*eP*	**Pb**	**20 14 29.8**	**-0.2**
ORTG	**Ortega, Santa**	**1.07**	**324**	*eP*	**Pb**	**20 14 29.7**	**-0.7**
ORTG	**Ortega, Santa**	**1.07**	**324**	*eP*	**Pb**	**20 14 29.6**	**-0.7**
ORTG				*eS*	**Sb**	**20 14 43.9**	**-0.2**
RAFA	**San Farael, Vo**	**1.10**	**65**	*eP*	**Pb**	**20 14 31.1**	**+0.1**
PEZE	**Perez Zeledon,**	**1.13**	**96**	*eP*	**Pb**	**20 14 30.8**	**-0.7**
PEZE	**Perez Zeledon,**	**1.13**	**96**	*eP*	**Pb**	**20 14 31.3**	**-0.2**
CVTR	**Volcan Turrial**	**1.17**	**63**	*eP*	**Pb**	**20 14 32.5**	**+0.2**
VTCV	**VTCV, Calle Va**	**1.18**	**66**	*eP*	**Pn**	**20 14 32.4**	**+0.1**
CUI	**Cuipilapa**	**1.21**	**344**	*eP*	**Pn**	**20 14 31.9**	**-0.5**
HORNC	**Hornillas**	**1.26**	**344**	*eP*	**Pn**	**20 14 32.7**	**-0.5**
COVE	**Coope Vega, Sa**	**1.28**	**19**	*eP*	**Pn**	**20 14 33.2**	**-0.3**
VMAR	**Armenia, Volca**	**1.34**	**347**	*eP*	**Pn**	**20 14 34.4**	**0.0**
VERA	**Finca Concepci**	**1.35**	**358**	*eP*	**Pn**	**20 14 34.5**	**+0.1**
VRLE	**La Escondida,**	**1.39**	**337**	*eP*	**Pn**	**20 14 34.9**	**-0.2**
MRVA	**Moravia de Chi**	**1.40**	**76**	*eP*	**Pn**	**20 14 35.1**	**-0.1**
HZTE	**Horizontes, Gu**	**1.43**	**328**	*eP*	**Pn**	**20 14 36.0**	**+0.4**
HZTE	**Horizontes, Gu**	**1.43**	**328**	*eP*	**Pn**	**20 14 36.0**	**+0.4**
HZTE				*eS*	**Sb**	**20 14 55.1**	**+0.5**
EDPN	**Palmar Norte**	**1.45**	**111**	*eP*	**Pn**	**20 14 35.4**	**-0.3**
EDPN				*eS*	**Sn**	**20 14 54.6**	**+0.3**
SRBA	**San Rafael, Bu**	**1.46**	**100**	*eP*	**Pn**	**20 14 35.9**	**-0.1**
EDBA	**Buenos Aires**	**1.56**	**102**	*eP*	**Pn**	**20 14 36.9**	**-0.4**
DRK0	**Durika**	**1.57**	**98**	*eP*	**Pn**	**20 14 38.6**	**+1.0**
DRK0	**Durika**	**1.57**	**98**	*eP*	**Pn**	**20 14 38.6**	**+1.0**
POTG	**Potrero Grande**	**1.74**	**105**	*eP*	**Pn**	**20 14 39.7**	**0.0**
ACON	**Acoyapa**	**2.48**	**352**	*eP*	**Pn**	**20 14 50.9**	**+0.9**
ESPN	**Las Esperanzas**	**2.73**	**11**	*eP*	**Pn**	**20 14 54.9**	**+1.5**

IDC 24 20:17:05.7±6.3, 30.°57S×178.°89W, h0km, mb3.7/2,
mbtmp3.7/2, Error ellipse: s-maj=251.7km
s-min=57.4km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.33**	**268**	P	P	20 25 01.1	-0.6
	0.4nm,0.5s,baz=110,slow=7.5,SNR=4.3						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.34**	**273**	P	P	20 25 10.1	+0.2
	0.5nm,0.3s,baz=113,slow=7.9,SNR=17						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**145.03**	**339**	PKPbc	PKPbc	20 36 42.7	-0.9
	1.6nm,1.0s,baz=64,slow=3.2,SNR=7.0						

*NEIC **24** 20:23:53.6±0.8, 32.°36S±0.°1×178.°1W±0.°2, h10km±1km, mb4.5/10, Error ellipse: s-maj=24.4km s-min=9.3km az=298.0*
*IDC **24** 20:23:57.0±4.9, 30.°64S×178.°87W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=187.1km s-min=48.3km az=152.0*

ISC 24 20:23:53.4±1.1, 32.°4S±0.°1×178.°1W±0.°2, h10km, n19, σ1↑15/19, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.12**	**3**	Pn	**Pn**	**20 24 41.5**	**-1.1**
URZ	**Urewera**	**7.05**	**212**		**Pn**	**20 25 35.3**	**-1.4**
BKZ	**Black Stump Fm**	**8.07**	**211**		**Pn**	**20 25 49.0**	**-1.7**
EIDS	**Eidsvold**	**27.80**	**277**	P	**P**	**20 29 42.6**	**-0.2**
EIDS				IAmb	IAmb	20 29 54.7	
	comp=Z,9.3nm,1.3s						
STKA	**Stephens Creek**	**33.99**	**260**	P	**P**	**20 30 39.6**	**+2.3**
	comp=Z,4.2nm,0.9s,baz=121,slow=13,SNR=4.4						
	comp=Z,4.2nm,0.9s						
STKA	**Stephens Creek**	**33.99**	**260**	P	**P**	**20 30 39.3**	**+2.0**
CTAO	**Charters Tower**	**34.07**	**282**	P	**P**	**20 30 39.3**	**+1.1**
CTAO				IAmb	IAmb	20 31 04.0	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**38.38**	**257**	P	**P**	**20 31 14.4**	**-0.5**
AS31	**Alice Springs**	**42.94**	**269**	P	**P**	**20 31 52.6**	**-0.2**
ASAR	**Alice Springs**	**42.95**	**269**	P	**P**	**20 31 52.5**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=106,slow=7.4,SNR=20						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**42.95**	**269**	P	**P**	**20 31 52.0**	**-0.8**
WR0	**Warramunga Arr**	**43.93**	**274**	P	**P**	**20 32 00.0**	**-0.7**
WR0				IAmb	IAmb	20 32 16.6	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**44.11**	**274**	P	**P**	**20 32 01.6**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=113,slow=7.9,SNR=77						
	comp=Z,2.3nm,0.4s						
FORT	**Forrest**	**45.48**	**257**	P	**P**	**20 32 12.3**	**-0.7**
MTN	**Manton Dam**	**50.22**	**281**	P	**P**	**20 32 49.0**	**-0.9**
MTN				IAmb	IAmb	20 32 55.6	
	comp=Z,8.8nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.29**	**271**	P	**P**	**20 33 04.6**	**-0.7**
QSPA	**South Pole Qui**	**57.74**	**180**	P	**P**	**20 33 44.9**	**+0.6**
QSPA				IAmb	IAmb	20 33 57.6	
	comp=Z,4.0nm,1.0s						
SNAA	**Sanae**	**76.19**	**178**	P	**P**	**20 35 42.1**	**+0.7**
SNAA				IAmb	IAmb	20 36 06.3	
	comp=Z,4.5nm,1.3s						
FINES	**FINESS Array B**	**146.95**	**339**	PKPbc	**PKPdf**	**20 43 34.2**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=54,slow=4.1,SNR=22						

*SJA **24** 20:27:17.4±0.7, 21.°58S×68.°57W, h138km±4km, ML5.1, MW4.9*
*BJI **24** 20:27:17.6±0.0, 21.°60S×68.°30W, h90km, mB5.0/8*
*VAO **24** 20:27:17.9±0.2, 21.°46S×68.°30W, h95km, mb5.5*
*NEIC **24** 20:27:17.7, 21.°54S×68.°30W, h120km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=3.72; $M_{\theta\theta}$=0.01; $M_{\phi\phi}$=3.71; $M_{r\theta}$=-2.05; $M_{\theta\phi}$=0.61; $M_{\phi r}$=-3.19; Fault plane solution: M_0=5.34000×10^{16} NP1:ϕ_s=174.76000°, δ=25.08000°, λ=-118.02000°. NP2:ϕ_s=25.20000°, δ=68.02000°, λ=-77.60000°. Principal axes: T 5.2272, Plg22.0000°, Azm106.0000°; N 0.2210, Plg11.0000°, Azm200.0000°; P -5.4483, Plg65.0000°, Azm316.0000°;*
*NEIC **24** 20:27:18.8±2.4, 21.°54S±0.°04×68.°35W±0.°06, h104km±3km, mb5.5/190, Mwr5.1/54, Mww5.1, Mwr5.1(GUC) Error ellipse: s-maj=8.2km s-min=5.6km az=83.0*
*IDC **24** 20:27:19.6±0.4, 21.°62S×68.°41W, h111km±4km, mb5.0/17, mbtmp5.3/22, MS3.9/9, Error ellipse: s-maj=11.5km s-min=8.1km az=103.0*
*GUC **24** 20:27:19.7±0.7, 21.°59S×68.°53W, h117km±4km, ML5.0*
*MOS **24** 20:27:20.0±1.1, 21.°28S×68.°17W, h117km, mb5.5/4, Error ellipse: s-maj=10.9km s-min=6.1km az=108.7*
*NEIC **24** 20:27:23, 21.°54S×68.°40W, h100km, Moment Tension Solution. Duration: 12s0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.69; $M_{\theta\theta}$=0.10; $M_{\phi\phi}$=5.60; $M_{r\theta}$=-1.19; $M_{\theta\phi}$=1.40; $M_{\phi r}$=-2.05; Fault plane solution: M_0=6.28000×10^{16} NP1: ϕ_s=187.00000°, δ=35.00000°, λ=-100.00000°. NP2: ϕ_s=20.00000°, δ=56.00000°, λ=-82.00000°. Principal axes: T 6.3622, Plg11.0000°, Azm105.0000°; N -0.1657, Plg6.0000°, Azm196.0000°; P -6.1965, Plg78.0000°, Azm315.0000°;*
*GCMT **24** 20:27:23.8±0.2, 21.°55S±0.°02×68.°40W±0.°02, h126km±1km, MW5.2/100, Moment Tensor Solution. s76,c90; s100,c146; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.61±.01; $M_{\theta\theta}$=0.17±.02; $M_{\phi\phi}$=0.78±.02; $M_{r\theta}$=0.17±.01; $M_{\theta\phi}$=0.10±.02; $M_{\phi r}$=0.13±.02; Best double couple: M_0=0.74100×10^{17} NP1:ϕ_s=23.00000°, δ=54.00000°, λ=-68.00000°. NP2:ϕ_s=168.00000°, δ=42.00000°, λ=-117.00000°. Principal axes: T 0.8080, Plg6.0000°, Azm97.0000°; N -0.1340, Plg18.0000°, Azm189.0000°; P -0.6740, Plg71.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 20:27:18.4±0.3, 21.°56S±0.°02×68.°44W±0.°04, h105km±2km, h105km:pP-P, n1178, σ1↑17/1289, mb5.5/161, 28C-26D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.79**	**252**		**Pn**	**20 27 38.1**	**+0.9**
PB09				Sn	**Sn**	**20 27 53.0**	**+1.5**
PB09	**IPOC Station P**	**0.79**	**252**	↑*iP*	**Pn**	**20 27 38.7**	**+1.4**
PB09				*eS*	**Sn**	**20 27 53.1**	**+1.7**
PB01	**IPOC Station P**	**1.10**	**297**		**Pn**	**20 27 41.0**	**+0.6**
PB01				Sn	**Sn**	**20 27 57.8**	**+0.7**
PB01	**IPOC Station P**	**1.10**	**297**	↑*iP*	**Pn**	**20 27 41.2**	**+0.7**
PB01				*i* S	**Sn**	**20 27 58.0**	**+0.9**
PB01				IAML		20 27 59.9	
	comp=N,26μm,0.5s						
PB01	**IPOC Station P**	**1.10**	**297**	*eP*	**Pn**	**20 27 41.3**	**+0.9**
PB01				*eS*	**Sn**	**20 27 59.9**	**+2.8**
LVC	**Limon Verde**	**1.14**	**203**	P	**Pn**	**20 27 42.4**	**+1.3**
	comp=N,8μm,0.5s,baz=32,slow=8.8,SNR=5527						
LVC				S	**Sn**	**20 27 59.0**	**+0.9**
	comp=N,6μm,0.5s,baz=270,slow=22,SNR=54						
LVC	**Limon Verde**	**1.14**	**203**		**Pn**	**20 27 42.3**	**+1.3**
LVC				Sn	**Sn**	**20 27 59.7**	**+1.6**
LVC	**Limon Verde**	**1.14**	**203**	*eP*	**Pn**	**20 27 42.5**	**+1.3**
LVC				*eS*	**Sn**	**20 28 00.9**	**+2.8**
LVC	**Limon Verde**	**1.14**	**203**	*eP*	**Pn**	**20 27 42.5**	**+1.4**
PB07	**IPOC Station P**	**1.36**	**263**	Pn	**Pn**	**20 27 43.7**	**+0.3**
PB07				Sn	**Sn**	**20 28 02.7**	**+0.3**
PB07	**IPOC Station P**	**1.36**	**263**	↑*iP*	**Pn**	**20 27 43.9**	**+0.5**
PB07				*i* S	**Sn**	**20 28 02.9**	**+0.5**
PB07				IAML		20 28 04.8	
	comp=N,19μm,0.6s						
PB07	**IPOC Station P**	**1.36**	**263**	*eP*	**Pn**	**20 27 44.2**	**+0.8**
PB07				*eS*	**Sn**	**20 28 03.6**	**+1.2**
PB07				IAML		20 28 04.8	
	comp=Z,14μm,0.5s						
PB02	**IPOC Station P**	**1.38**	**280**	Pn	**Pn**	**20 27 43.9**	**+0.3**
PB02				Sn	**Sn**	**20 28 03.0**	**+0.3**
PB02	**IPOC Station P**	**1.38**	**280**	↑*iP*	**Pn**	**20 27 43.9**	**+0.3**
PB02				*eS*	**Sn**	**20 28 03.0**	**+0.3**
PB02				IAML		20 28 05.1	
	comp=N,16μm,0.4s						
AF01	**San Pedro de A**	**1.41**	**170**		**Pn**	**20 27 46.6**	**+2.4**
AF01	**San Pedro de A**	**1.41**	**170**	↓*iP*	**Pn**	**20 27 46.9**	**+2.7**
PB06	**IPOC Station P**	**1.55**	**222**		**Pn**	**20 27 46.3**	**+0.6**
PB06				Sn	**Sn**	**20 28 07.3**	**+0.8**
PB06	**IPOC Station P**	**1.55**	**222**	↑*iP*	**Pn**	**20 27 46.5**	**+0.7**
PB06				*eS*	**Sn**	**20 28 06.9**	**+0.4**
PB06				IAML		20 28 08.9	
	comp=E,19μm,0.4s						
PB06	**IPOC Station P**	**1.55**	**222**	*eP*	**Pn**	**20 27 45.4**	**-0.4**
PB06				*eS*	**Sn**	**20 28 08.4**	**+1.9**
PB06				IAML		20 28 13.3	
	comp=E,7μm,0.5s						
PB08	**IPOC Station P**	**1.56**	**334**		**Pn**	**20 27 47.7**	**+1.6**
PB08				Sn	**Sn**	**20 28 09.1**	**+2.1**
PB08	**IPOC Station P**	**1.56**	**334**	↑*iP*	**Pn**	**20 27 48.0**	**+1.9**
PB08				*eS*	**Sn**	**20 28 09.4**	**+2.4**
PB08				IAML		20 28 12.2	
	comp=E,19μm,0.5s						
PB08	**IPOC Station P**	**1.56**	**334**	*eP*	**Pn**	**20 27 48.0**	**+1.9**
PB08				*eS*	**Sn**	**20 28 10.1**	**+3.1**
PB08				IAML		20 28 13.5	
	comp=Z,10μm,0.8s						
PATCX	**Punta Patache**	**1.76**	**294**		**Pn**	**20 27 48.6**	**+0.3**
PATCX	**Punta Patache**	**1.76**	**294**	↑*iP*	**Pn**	**20 27 48.8**	**+0.5**
PATCX				*eS*	**Sn**	**20 28 10.9**	**-0.1**
PATCX				IAML		20 28 15.7	
	comp=E,15μm,0.4s						
PATCX	**Punta Patache**	**1.76**	**294**	*eP*	**Pn**	**20 27 48.9**	**+0.5**
PATCX				*eP*		20 27 48.9	
PATCX				*eP*		20 27 49.1	
PATCX				*eS*	**Sn**	**20 28 12.4**	**+1.4**
PATCX				IAML		20 28 16.3	
	comp=Z,11μm,1.5s						
PB04	**IPOC Station P**	**1.77**	**244**	Pn	**Pn**	**20 27 48.4**	**0.0**
HMBC	**Humberstone**	**1.86**	**313**	↑*iP*	**Pn**	**20 27 50.0**	**+0.4**
HMBC				*eS*	**Sn**	**20 28 13.5**	**+0.2**
HMBC				IAML		20 28 17.1	
	comp=N,29μm,0.5s						
PB15	**IPOC Station P**	**1.90**	**210**		**Pn**	**20 27 51.1**	**+0.9**
PB15	**IPOC Station P**	**1.90**	**210**	↑*iP*	**Pn**	**20 27 51.1**	**+0.9**
PB15				*eS*	**Sn**	**20 28 15.7**	**+1.3**
PB15	**IPOC Station P**	**1.90**	**210**	*eP*	**Pn**	**20 27 51.0**	**+0.9**
PB15				*eS*	**Sn**	**20 28 16.4**	**+2.0**
PB15				IAML		20 28 19.9	
	comp=Z,21μm,0.3s						
TA01	**Diego Aracena**	**1.91**	**301**	Pn	**Pn**	**20 27 50.1**	**+0.2**
TA01	**Diego Aracena**	**1.91**	**301**	↑*iP*	**Pn**	**20 27 50.5**	**+0.5**
TA01				*eS*	**Sn**	**20 28 13.8**	**-0.2**
TA01				IAML		20 28 16.1	
	comp=E,17μm,0.8s						
TA01	**Diego Aracena**	**1.91**	**301**	*eP*	**Pn**	**20 27 50.4**	**+0.4**
TA01				*eS*	**Sn**	**20 28 15.6**	**+1.6**
TA01				IAML		20 28 18.4	
	comp=Z,5μm,0.6s						
GO01	**Chusmiza**	**2.01**	**339**		**Pn**	**20 27 53.3**	**+1.5**
GO01	**Chusmiza**	**2.01**	**339**	↑*iP*	**Pn**	**20 27 53.5**	**+1.7**
GO01				*eS*	**Sn**	**20 28 19.4**	**+2.2**
GO01				IAML		20 28 25.1	
	comp=N,11μm,0.5s						
GO01	**Chusmiza**	**2.01**	**339**	*eP*	**Pn**	**20 27 53.0**	**+1.2**
GO01				*eS*	**Sn**	**20 28 20.1**	**+2.9**
TA02	**Huaiquique**	**2.04**	**309**		**Pn**	**20 27 51.7**	**0.0**
TA02	**Huaiquique**	**2.04**	**309**	*eP*	**Pn**	**20 27 52.0**	**+0.4**
TA02				*eS*	**Sn**	**20 28 16.7**	**-0.4**
TA02				IAML		20 28 23.1	
	comp=N,10μm,0.6s						
TA02	**Huaiquique**	**2.04**	**309**	*eP*	**Pn**	**20 27 52.1**	**+0.4**
TA02				*eS*	**Sn**	**20 28 19.0**	**+1.9**
TA02				*eS*		20 28 20.1	
TA02				IAML		20 28 22.1	
	comp=Z,6μm,0.3s						
PB10	**IPOC Station P**	**2.76**	**225**	Pn	**Pn**	**20 28 01.7**	**+0.5**
PB10	**IPOC Station P**	**2.76**	**225**	*eP*	**Pn**	**20 28 00.

SAML Samuel 13.52 23 P Pn 20 30 22.7 -3.3
RPRD Ribas do Rio P 13.80 88 eP Pn 20 30 28.6 -1.2
UNIS Unistalda (Bra 14.21 124 eP Pn 20 30 34.5 -0.4
CRSM Crissiumal (Br 14.37 117 eP Pn 20 30 36.8 -0.1
ML02 Panimavida 14.39 190 Pn 20 30 35.6 -1.6
TRCB Terra Rica 14.69 98 Pn 20 30 39.4 -1.8
TRCB Terra Rica 14.69 98 eP Pn 20 30 39.7 -1.5
FRBT Francisco Belt 14.74 110 eP Pn 20 30 41.9 +0.1
RODS Rosario do Sul 14.77 129 eP Pn 20 30 41.8 -0.2
C2SB Chapadao do Su 14.91 82 eP Pn 20 30 42.4 -1.5
PDRB Porto dos Gac 14.95 50 eP Pn 20 30 41.9 -2.5
H03N1 Juan Fernandez 15.04 216 T T 20 44 56.0
baz=37,SNR=18
H03N2 Juan Fernandez 15.05 216 T T 20 45 02.0
baz=37,slow=74,SNR=16
H03N3 Juan Fernandez 15.05 216 T T 20 44 56.0
baz=37,slow=74,SNR=15
PTGB Pitanga 15.38 105 eP Pn 20 30 49.2 -0.7
ALGR Alto Alegre (B 15.69 120 eP Pn 20 30 52.8 -1.0
ITAB Concordia 15.89 114 Pn 20 30 55.1 -1.0
ITAB Concordia 15.89 114 eP Pn 20 30 55.4 -0.7
PCMB Pacaembu 15.98 93 eP Pn 20 30 56.5 -0.8
CPSB Cacapava Do Su 16.09 126 eP Pn 20 30 57.4 -1.3
CLDB Colider 16.12 51 eP Pn 20 30 57.8 -1.3
PLTB Pedras Altas 16.69 131 Pn 20 31 04.0 -2.1
PLTB Pedras Altas 16.69 131 eP Pn 20 31 03.9 -2.1
ATAH Atahualpa 17.27 325 P Pn 20 31 14.5 +1.0
comp=Z,22nm,0.8s,baz=166,slow=6.0,SNR=13
TBTG Tabatinga, AM 17.33 355 P P 20 31 12.9 -0.7
TBTG Tabatinga, AM 17.33 355 eP P 20 31 13.1 -0.6
TRQA Tornquist 17.36 163 P P 20 31 12.2 -1.7
TRQA Tornquist 17.36 163 P P 20 31 12.2 -1.7
CNLB Canela 17.65 120 eP P 20 31 16.0 -1.2
GO06 Curarrehue 18.16 188 P P 20 31 22.6 -0.1
TIJ01 Guaruva-PR 18.22 106 eP P 20 31 23.4 -0.2
BB19B Bebedouro 18.56 92 eP P 20 31 26.9 -0.4
LR04 Corral 18.75 192 P P 20 31 28.2 -0.9
TER01 Tubaro-SC 18.81 116 eP P 20 31 28.4 -1.5
SNDB Serra Nova Dou 18.96 63 eP P 20 31 30.7 -0.9
NPGB Novo Progresso 19.18 43 eP P 20 31 32.0 -2.0
PLCA Paso Flores 19.20 185 P P 20 31 33.5 -0.6
comp=Z,9.6nm,0.6s,baz=8.4,slow=13,SNR=52
PLCA PcP PcP 20 35 54.5 +1.2
comp=Z,6.3nm,0.8s,baz=330,slow=4.1,SNR=4.7
PLCA Paso Flores 19.20 185 P P 20 31 34.0 -0.1
PLCA Paso Flores 19.20 185 eP P 20 31 34.5 +0.4
IPMB Ipameri, GO 19.36 83 eP P 20 31 34.9 -1.1
RCLB Rio Claro- Sao 19.41 96 eP P 20 31 35.5 -1.0
LL04 Puerto Octay 19.58 189 P P 20 31 38.2 +0.1
PET01 Itanhaem-SP 19.68 102 eP P 20 31 38.2 -1.2
MACA Manacapuru-AM 19.78 23 P P 20 31 38.5 -1.9
MACA Manacapuru-AM 19.78 23 eP P 20 31 38.6 -1.9
LL03 Petrohue 19.81 189 P P 20 31 40.5 -0.1
VAO Valinhos 19.92 98 eP P 20 31 40.6 -1.5
BDFB Brasilia 20.22 77 P P 20 31 44.5 -1.0
comp=Z,64nm,0.9s,baz=256,slow=12,SNR=57
BDFB LR LR 20 41 28.2
comp=Z,631nm,18.2s,baz=301,slow=42
comp=Z,64nm,0.9s
BDFB Brasilia 20.22 77 P P 20 31 43.2 -2.2
BDFB Brasilia 20.22 77 eP P 20 31 44.4 -1.0
LL05 Los Muermos 20.24 191 P P 20 31 44.8 -0.5
MCRA Macar, Loja 20.42 325 P P 20 31 47.5 0.0
BOSC San Juan Bosco 20.75 331 P P 20 31 50.8 -0.3
PMNB Patos De Minas 20.88 86 eP P 20 31 50.8 -1.7
LL01 San Ignacio de 21.03 188 P P 20 31 52.8 -0.8
ITTB Itaituba 21.07 38 eP P 20 31 53.0 -1.4
PARB Paraibuna 21.16 99 eP P 20 31 53.7 -1.7
ARNL Arenillas 21.17 326 P P 20 31 56.1 +0.6
LL02 Futaleuf 21.76 187 P P 20 32 00.8 -0.7
PORT Chimborazo Vol 22.37 332 P P 20 32 09.5 +0.7
CHSH Refugio Sur-Vo 22.38 332 P P 20 32 09.3 +0.4
MAN01 Angra dos Reis 22.69 98 eP P 20 32 09.5 -1.9
SLOR San Lorenzo - 22.91 333 P P 20 32 15.0 +0.9
AY01 Puyuhuapi 23.07 188 P P 20 32 13.5 -1.3
VAS01 Vassouras-RJ 23.19 96 eP P 20 32 14.9 -1.4
DIAM Diamantina, MG 23.50 86 eP P 20 32 17.2 -2.1
IMBA Imbabura, San 23.70 335 P P 20 32 22.7 +1.3
SMTB Santa Maria do 23.71 61 eP P 20 32 20.0 -1.1
OTAV Otavalo 23.77 334 P P 20 32 22.4 +0.4
OTAV Otavalo 23.77 334 P P 20 32 22.4 +0.4
OTAV Otavalo 23.77 334 eP P 20 32 23.3 +1.3
JANB Januaria 23.78 78 eP P 20 32 19.6 -2.1
TULM Tulcn-Chalpat 23.95 336 P P 20 32 24.3 +0.6
MALB Monte Alegre 23.96 37 eP P 20 32 21.6 -1.6
COYC Coyhaique 24.14 186 P P 20 32 24.1 -0.5
DUB01 Friburgo-RJ 24.19 96 eP P 20 32 23.9 -1.5
SDBA SAO DESIDERIO 24.25 72 eP P 20 32 23.7 -2.2
CAM01 Campos-RJ 24.88 96 eP P 20 32 30.1 -1.4
BOAV Boa Vista 25.03 19 P P 20 32 32.3 -0.7
BOAV Boa Vista 25.03 19 eP P 20 32 32.6 -0.4
SJMB Sao Joao De Ma 25.73 89 eP P 20 32 37.2 -2.1
ALF01 Guarapari-ES 25.86 93 eP P 20 32 39.5 -1.0
RIB01 Linhares ES 26.36 90 eP P 20 32 43.9 -1.1
ROSC El Rosal 26.86 347 P P 20 32 50.5 +0.7
comp=Z,22nm,0.5s,baz=179,slow=10,SNR=9.0
comp=Z,22nm,0.5s
ROSC El Rosal 26.86 347 P P 20 32 50.0 +0.1
NAN01 Guarapari, ES 26.89 87 eP P 20 32 47.6 -2.1
GUA01 Guaratinga, BA 27.49 85 eP P 20 32 54.3 -0.8
TMAB Tom-A,Ba,Br 27.49 49 eP P 20 32 54.5 -0.6
CMC01 Camacan, BA 28.09 82 eP P 20 32 59.7 -0.8
GDU01 Guandu, BA 28.55 79 eP P 20 33 02.1 -2.5
PAYG Puerto Ayora 29.75 311 P P 20 33 17.0 +1.8
GO09 Cerro Castillo 29.81 185 P P 20 33 16.0 +0.6
ROSB Rosrio 30.05 55 eP P 20 33 16.4 -1.4
MG05 Puerto Natales 30.23 185 P P 20 33 19.1 +0.1
BAUV El Baul 30.31 1 P P 20 33 18.9 -1.3
BAUV El Baul 30.31 1 eP P 20 33 18.8 -1.3
SDV Santo Domingo 30.33 356 LR LR 20 48 47.0
comp=Z,306nm,19.6s,baz=174,slow=42
SDV Santo Domingo 30.33 356 P P 20 33 18.9 -1.6
SDV IAmb IAmb 20 33 20.2
comp=Z,80nm,1.1s
SDV Santo Domingo 30.33 356 eP P 20 33 19.1 -1.4
SDV Santo Domingo 30.33 356 P P 20 33 19.1 -1.4
MDP Montagnes des 30.69 32 LR LR 20 45 32.8
comp=Z,229nm,21.3s,baz=232,slow=36
EFI East Falkland 31.13 167 P P 20 33 26.1 -0.8
EFI IAmb IAmb 20 34 20.2
comp=Z,261nm,2.0s
EFI East Falkland 31.13 167 P P 20 33 26.1 -0.8
EFI pmax pmax
comp=Z,261nm,2.0s
MG02 Cerro Sombrero 31.17 181 P P 20 33 27.9 +0.6
MG02 IAmb IAmb 20 33 29.2
comp=Z,86nm,0.8s
GO10 Punta Arenas 31.61 183 P P 20 33 30.6 -0.5
BIRV Birongo 31.91 4 P P 20 33 33.3 -0.8
BIRV IAmb IAmb 20 33 34.6
comp=Z,56nm,0.7s
BCIP Isla Barro Col 32.52 339 P P 20 33 40.0 +0.5
BCIP Isla Barro Col 32.52 339 P P 20 33 40.0 +0.5
BCIP pmax pmax
comp=Z,33nm,0.8s
TRN Trinidad (W) 32.74 13 eP P 20 33 41.3 -0.1
TOSP Speyside 33.56 14 P P 20 33 48.6 0.0
TOSP Speyside 33.56 14 eP P 20 33 47.0 -1.6
GRFF Grenada Fort F 34.04 12 eP P 20 33 56.4 +3.7
GRGR Grenville 34.14 12 P P 20 33 52.6 -1.0
GRGR Grenville 34.14 12 eP P 20 33 52.5 -1.0
GCMP Grenada, Carri 34.52 12 eP P 20 33 55.3 -1.5
RCBR Riachuelo 35.15 68 LR LR 20 50 26.4
comp=Z,352nm,18.8s,baz=22,slow=40
RCBR Riachuelo 35.15 68 P P 20 34 01.1 -1.3
RCBR Riachuelo 35.15 68 P P 20 34 01.2 -1.3
RCBR pmax pmax
comp=Z,20nm,0.8s
RCBR Riachuelo 35.15 68 eP P 20 34 01.6 -0.8
RCBR Riachuelo 35.15 68 P P 20 34 01.9 -0.5
RCBR sP pP 20 34 36.4 +9.1
SVB Belmont 35.32 12 P P 20 34 02.1 -1.6
SVB Belmont 35.32 12 eP P 20 34 01.8 -2.0
SSV Crater Summit 35.39 12 eP P 20 34 05.1 +0.7
SFAN Fancy Village 35.45 12 eP P 20 34 13.5 +8.7
MCLT Moule a Chique 35.81 13 P P 20 34 06.3 -1.6
MCLT IAmb IAmb 20 34 08.1
comp=Z,76nm,0.5s
MCLT Moule a Chique 35.81 13 eP P 20 34 06.4 -1.5
SLB Belfond 35.91 12 eP P 20 34 09.1 +0.3
SLBI Saint Lucia, B 36.11 12 eP P 20 34 09.4 -1.0
MPOM Morne Pois Mar 36.54 12 P P 20 34 12.4 -1.7
MPOM IAmb IAmb 20 34 13.7
comp=Z,101nm,0.7s
MPOM Morne Pois Mar 36.54 12 eP P 20 34 12.2 -1.9
BIM Bigot 36.57 12 P P 20 34 12.8 -1.7
BIM Bigot 36.57 12 eP P 20 34 12.5 -1.9
FDF Fort de France 36.77 12 P P 20 34 14.3 -1.8
FDF Fort de France 36.77 12 P P 20 34 14.3 -1.8
FDF pmax pmax
comp=Z,148nm,0.6s
FDF Fort de France 36.77 12 eP P 20 34 14.2 -1.8
FDF Fort de France 36.77 12 P P 20 34 13.9 -2.2
FDF sP pP 20 34 48.5 +7.4
ILAM Ilet Lapin Mar 36.86 12 eP P 20 34 14.8 -2.0
SVN Savane Anatole 36.87 12 P P 20 34 15.2 -1.7
DSLB Salisbury 37.41 11 eP P 20 34 17.1 -4.3
RPN Rapa Nui 37.55 253 LR LR 20 46 45.5
comp=Z,82nm,21.2s,baz=118,slow=31
CBE Ff, Capester 37.99 11 eP P 20 34 23.3 -3.1
GDHS Morne Mazeau, 38.16 10 P P 20 34 24.9 -2.9
GDHS IAmb IAmb 20 34 25.6
comp=Z,46nm,0.7s
ABD La Joyeuse, An 38.41 11 eP P 20 34 25.9 -3.9
ANBD Bethesda, Anti 38.92 10 eP P 20 34 28.9 -5.3
CDVI St. Croix 39.23 6 P P 20 34 34.5 -2.2
CDVI IAmb IAmb 20 34 40.5
comp=Z,63nm,0.8s
ICMP Isla Caja de M 39.24 3 P P 20 34 35.0 -1.8
MLPR Magueyes Islan 39.31 2 P P 20 34 35.2 -2.2
MLPR IAmb IAmb 20 34 36.4
comp=Z,139nm,0.8s
CRPR Cabo Rojo, PR 39.34 2 P P 20 34 35.2 -2.4
OBIP Obispado Ponce 39.40 3 P P 20 34 34.9 -3.1
CELP Cerrillos 39.43 3 P P 20 34 35.8 -2.6
SJG San Juan 39.49 3 LR LR 20 51 36.9
comp=Z,52nm,20.5s,baz=236,slow=37
SJG San Juan 39.49 3 P P 20 34 36.3 -2.5
SJG San Juan 39.49 3 P P 20 34 36.3 -2.5
SJG pmax pmax
comp=Z,190nm,0.7s
SJG San Juan 39.49 3 P P 20 34 36.5 -2.4
ANWB Willy Bob 39.52 10 P P 20 34 35.0 -4.2
ANWB IAmb IAmb 20 34 36.5
comp=Z,115nm,0.8s
ANWB Willy Bob 39.52 10 eP P 20 34 34.6 -4.5
CBYP Canovanas 39.66 4 P P 20 34 37.7 -2.7
CBYP IAmb IAmb 20 34 39.4
comp=Z,146nm,1.1s
SMRT St. Maarten 39.71 8 P P 20 34 37.3 -3.5
SMRT IAmb IAmb 20 34 38.0
comp=Z,82nm,0.7s
CUPR Culebra, Puert 39.74 5 P P 20 34 37.9 -3.0
BANI BANI 39.75 357 P P 20 34 37.9 -3.3
PCDR Punta Cana, DR 39.83 0 P P 20 34 40.2 -1.4
SDDR Presa de Saban 40.39 356 P P 20 34 43.5 -2.9
HOPE Hope Point 40.62 152 P P 20 34 48.3 +0.5
HOPE IAmb IAmb 20 34 51.5
comp=Z,60nm,0.9s
HOPE Hope Point 40.62 152 P P 20 34 48.3 +0.5
HOPE pmax pmax
comp=Z,60nm,1.0s
HOPE Hope Point 40.62 152 P P 20 34 49.1 +1.3
HOPE pP pP 20 35 11.7 -1.6
HOPE sP sP 20 35 23.0 -2.8
SC01 Santiago de lo 40.80 357 P P 20 34 48.1 -1.6
SC01 IAmb IAmb 20 34 49.4
comp=Z,123nm,1.1s
MTO3 Montecristo 41.21 328 P P 20 34 53.4 0.0
ESQI Esquipulas 41.34 328 P P 20 34 55.1 +0.8
ESQI IAmb IAmb 20 34 56.9
comp=Z,195nm,1.8s
ORCD Orcadas 42.53 163 P P 20 35 02.5 -0.8
GRTK Grand Turk 42.89 356 P P 20 35 05.1 -1.5
GRTK IAmb IAmb 20 35 06.2
comp=Z,106nm,0.9s
PMSA Palmer Station 43.30 177 eP P 20 35 10.6 +1.1
CCIG Comitan 44.21 326 P P 20 35 16.9 -0.6
TEIG Tepich 45.83 334 P P 20 35 29.3 -0.9
TEIG Tepich 45.83 334 P P 20 35 29.7 -0.4
TLIG Tlapa 48.81 320 P P 20 35 54.0 +0.5
TLIG IAmb IAmb 20 35 56.3
comp=Z,71nm,0.9s
DWPF Disney Wildern 50.95 345 P P 20 36 09.3 0.0
DWPF Disney Wildern 50.95 345 P P 20 36 09.6 +0.3
baz=164,SNR=23
DWPF Disney Wildern 50.95 345 P P 20 36 09.7 +0.4
baz=164
DWPF Disney Wildern 50.95 345 P P 20 36 09.6 +0.4
MOIG Morelia 52.02 320 P P 20 36 18.6 +0.9
656A Willston 52.42 344 P P 20 36 20.0 -0.2
656A Willston 52.42 344 P P 20 36 20.7 +0.5
baz=163,SNR=51
456A Hilliard 53.60 345 P P 20 36 29.5 +0.7
baz=164,SNR=14
BBSR BB Station 53.74 4 P P 20 36 28.7 -1.1
451A Vernon 54.48 342 P P 20 36 35.2 0.0
baz=160,SNR=6.8
257A Skidaway Islan 54.58 347 P P 20 36 36.1 +0.2
baz=166,SNR=8.1
TIGA Tifton 54.66 344 P P 20 36 36.4 -0.1
baz=163,SNR=14
TIGA Tifton 54.66 344 P P 20 36 36.5 -0.1
baz=163,SNR=14
255A Hazlehurst 54.85 345 P P 20 36 37.9 0.0
baz=164,SNR=15
352A Blakely 55.05 343 P P 20 36 39.2 -0.2
baz=161,SNR=24
ZAIG Zacatecas 55.20 321 P P 20 36 42.6 +1.6
CSU Charleston Sou 55.36 348 P P 20 36 42.0 +0.4
BRAL Brewton 55.38 341 P P 20 36 41.7 -0.1
BRAL Brewton 55.38 341 P P 20 36 41.9 +0.1
baz=159,SNR=12
BRAL Brewton 55.38 341 P P 20 36 41.8 +0.1
baz=159,SNR=12
NHSC New Hope 55.50 348 P P 20 36 43.0 +0.5
NHSC New Hope 55.50 348 P P 20 36 43.3 +0.8
baz=167,SNR=56
154A Montrose 55.66 345 P P 20 36 43.6 -0.1
baz=163,SNR=22
250A Grady 55.90 342 P P 20 36 44.8 -0.6
baz=160,SNR=5.9
Y60A Bolivia 56.03 350 P P 20 36 46.2 -0.1
baz=169,SNR=18
Y60A P P 20 36 46.2 -0.1
baz=169,SNR=18
HAW Hawthorne Fire 56.04 347 P P 20 36 46.5 +0.1
baz=165,SNR=103
152A Waverly Hall 56.12 343 P P 20 36 46.3 -0.8
baz=162,SNR=37
Y59A Loris 56.13 350 P P 20 36 47.0 0.0
baz=168,SNR=5.9
Y59A P P 20 36 47.0 0.0
baz=168,SNR=5.9
Y58A Scranton 56.18 349 P P 20 36 47.8 +0.4
baz=167,SNR=26
Y58A P P 20 36 47.8 +0.4
baz=167,SNR=26
346A Big Creek Wild 56.38 338 P P 20 36 48.6 -0.2
baz=156,SNR=5.7
Y57A Sumter 56.43 348 P P 20 36 49.2 +0.1
baz=167,SNR=12
Y57A P P 20 36 49.2 +0.1
baz=167,SNR=12
GOGA Godfrey 56.51 345 P P 20 36 49.2 -0.6
GOGA IAmb IAmb 20 36 50.2
comp=Z,60nm,1.1s
GOGA Godfrey 56.51 345 P P 20 36 49.2 -0.6
GOGA pmax pmax
comp=Z,60nm,1.1s
GOGA Godfrey 56.51 345 P P 20 36 49.1 -0.6
baz=163,SNR=31
GOGA Godfrey 56.51 345 P P 20 36 49.2 -0.6
baz=163,SNR=31
X58A Rowland 56.76 349 P P 20 36 51.5 0.0
baz=168,SNR=23
X58A P P 20 36 51.5 0.0
baz=168,SNR=23
JSC Jenkinsville 56.85 347 P P 20 36 52.4 +0.3
baz=166,SNR=52
Z51A Franklin 56.86 343 P P 20 36 51.4 -0.8
baz=161,SNR=11
HODGE Hodges 57.02 346 P P 20 36 53.4 0.0
baz=165,SNR=29
BIRD Birdtown, Kers 57.05 348 P P 20 36 54.0 +0.4
baz=167,SNR=55
Y52A Lilburn 57.09 345 P P 20 36 53.4 -0.5
baz=163,SNR=31
Y52A P P 20 36 53.4 -0.5
baz=163,SNR=31
LRAL Lakeview Retre 57.11 341 P P 20 36 53.1 -0.8
LRAL IAmb IAmb 20 36 54.4
comp=Z,76nm,1.0s
LRAL Lakeview Retre 57.11 341 P P 20 36 53.4 -0.6
baz=159,SNR=60
LRAL Lakeview Retre 57.11 341 P P 20 36 53.3 -0.6
baz=159,SNR=60
441A DeRidder 57.19 335 P P 20 36 55.8 +1.2
baz=152,SNR=5.5
CNNC Cliffs of the 57.19 351 P P 20 36 54.2 -0.4
baz=170
146A Union 57.38 339 P P 20 36 55.4 -0.5
baz=157,SNR=10
342B Flagon Creek P 57.40 336 P P 20 36 56.9 +0.8
baz=153,SNR=18
W57A Gilead 57.46 349 P P 20 36 56.5 +0.1
baz=167,SNR=57
W57A P P 20 36 56.5 +0.1
baz=167,SNR=57
PAULI Pauline 57.49 347 P P 20 36 57.0 +0.3
baz=165,SNR=41
VBMS Vicksburg 57.50 338 P P 20 36 56.3 -0.4
VBMS Vicksburg 57.50 338 P P 20 36 56.5 -0.3
baz=156
V61A Roper 57.55 352 P P 20 36 56.5 -0.6
baz=171,SNR=7.4
V61A P P 20 36 56.5 -0.6
baz=171,SNR=7.4
Z47A Carrollton 57.59 341 P P 20 36 56.8 -0.5
baz=158,SNR=18
HKT Hockley 57.60 332 P P 20 36 57.5 +0.1
HKT IAmb IAmb 20 36 59.3
comp=Z,56nm,1.1s
HKT Hockley 57.60 332*d* iP P 20 36 57.7 +0.3
HKT pmax pmax
comp=Z,39nm,1.0s
HKT Hockley 57.60 332 P P 20 36 58.0 +0.6
baz=150
HKT Hockley 57.60 332 P P 20 36 57.8 +0.3
KMSC Kings Mountain 57.70 348 P P 20 36 58.3 +0.2
baz=166,SNR=52
KMSC Kings Mountain 57.70 348 P P 20 36 58.3 +0.2
baz=166,SNR=52
Y49A Blount Mountai 57.71 342 P P 20 36 57.5 -0.7
baz=160,SNR=40
CASEE Lake Jocassee 57.90 346 P P 20 36 59.8 +0.2
baz=164,SNR=33
833A Chaparral WMA, 57.90 328 P P 20 37 00.2 +0.6
baz=146,SNR=42
833A Chaparral WMA, 57.90 328 P P 20 37 00.2 +0.6
baz=146,SNR=42
V58A Windy Hill, Pi 57.93 350 P P 20 36 59.5 -0.1
baz=168,SNR=43
V58A P P 20 36 59.5 -0.1
baz=168,SNR=43
X51A Calhoun 57.96 344 P P 20 36 59.6 -0.3
baz=162,SNR=42
X51A P P 20 36 59.6 -0.3
baz=162,SNR=42
FPAL Fort Paine 58.13 343 P P 20 37 00.4 -0.8
FPAL IAmb IAmb 20 37 01.4
comp=Z,98nm,1.2s
W52A Murphy 58.23 345 P P 20 37 01.6 -0.3
baz=163,SNR=16
U59A Littleton 58.27 351 P P 20 37 01.9 -0.2
baz=170,SNR=7.7
U59A P P 20 37 01.9 -0.2
baz=170,SNR=7.7
V55A Taylorsville 58.37 348 P P 20 37 03.2 +0.5
baz=166,SNR=129
V55A P P 20 37 03.2 +0.5
baz=166,SNR=129
X48A Hartselle 58.45 342 P P 20 37 02.9 -0.4
baz=160,SNR=78
V53A Saluda 58.52 346 P P 20 37 03.9 0.0
baz=164,SNR=78
V53A P P 20 37 03.9 0.0
baz=164,SNR=78
BELA Belgrano 2 58.63 172 P P 20 37 04.8 +0.7
BELA IAmb IAmb 20 37 06.2
comp=Z,34nm,1.1s
NATX Nacogdoches 58.67 334 P P 20 37 05.8 +0.9
NATX Nacogdoches 58.67 334 P P 20 37 06.0 +1.1
baz=151,SNR=19
NATX Nacogdoches 58.67 334 P P 20 37 06.0 +1.1
baz=151,SNR=19
Y45A Yeager Farm, C 58.67 339 P P 20 37 04.7 -0.2
baz=157,SNR=18
W50A Signal Mountai 58.67 344 P P 20 37 04.4 -0.6
baz=162,SNR=112
CPCT Cooper Cave 58.71 345 P P 20 37 04.6 -0.5
TKL Tuckaleechee C 58.73 345 P P 20 37 04.6 -0.7
TKL Tuckaleechee C 58.73 345 P P 20 37 04.6 -0.7
TKL pmax pmax
comp=Z,135nm,0.8s
TKL Tuckaleechee C 58.73 345 P P 20 37 04.7 -0.6
baz=163,SNR=109
T59A Double "B" Far 58.85 351 P P 20 37 05.8 -0.2
baz=170,SNR=32
T59A P P 20 37 05.8 -0.2
baz=170,SNR=32
V52A Sevierville 58.87 346 P P 20 37 05.9 -0.3
baz=163,SNR=142
V51A Loudon 59.01 345 P P 20 37 06.8 -0.4
baz=163,SNR=57
435B Jarrell 59.09 331 P P 20 37 08.0 +0.1
baz=148,SNR=7.6
435B Jarrell 59.09 331 P P 20 37 08.3 +0.4
baz=148
T57A Hurt 59.13 350 P P 20 37 08.2 +0.2
baz=168,SNR=36
T57A P P 20 37 08.2 +0.2
baz=168,SNR=36
U54A Nelsons Funny 59.13 347 P P 20 37 08.2 +0.1
baz=165,SNR=111
U54A P P 20 37 08.2 +0.1
baz=165,SNR=111
OXF Oxford 59.22 340 P P 20 37 07.6 -1.1
OXF Oxford 59.22 340 P P 20 37 07.6 -1.1
OXF pmax pmax
comp=Z,263nm,1.0s
OXF Oxford 59.22 340 P P 20 37 07.4 -1.2
baz=157,SNR=61
OXF Oxford 59.22 340 P P 20 37 07.4 -1.2
baz=157,SNR=61
SHEL Horse Pasture 59.29 96 P P 20 37 10.4 +0.8
SHEL IAmb IAmb 20 38 07.2
comp=Z,67nm,0.9s
SHEL Horse Pasture 59.29 96 P P 20 37 10.5 +0.8
SHEL pmax pmax
comp=Z,67nm,0.9s
237A Washetta, Mont 59.36 333 P P 20 37 10.5 +0.9
baz=150,SNR=10
CCAR Cane Creek 59.48 338 P P 20 37 10.7 +0.2
baz=155
TZTN Tazewell 59.53 346 P P 20 37 10.4 -0.4
TZTN IAmb IAmb 20 37 11.4
comp=Z,81nm,0.8s
TZTN Tazewell 59.53 346 P P 20 37 10.2 -0.6
baz=164,SNR=40
TZTN Tazewell 59.53 346 P P 20 37 10.3 -0.4
baz=164,SNR=40
BLA Blacksburg 59.54 349 P P 20 37 11.3 +0.5
BLA Blacksburg 59.54 349 P P 20 37 11.3 +0.5
BLA pmax pmax
comp=Z,550nm,1.7s
BLA Blacksburg 59.54 349 P P 20 37 11.4 +0.5
baz=167,SNR=41
BLA Blacksburg 59.54 349 P P 20 37 11.5 +0.6
baz=167,SNR=41
V48A Smith Brothers 59.59 343 P P 20 37 10.8 -0.4
baz=160,SNR=89
JSRW J. Sargeant Re 59.60 351 P P 20 37 11.6 +0.4
W45A Hickory Valley 59.74 340 P P 20 37 11.2 -1.1
baz=158,SNR=16
CLTN Cedars of Leba 59.78 343 P P 20 37 12.0 -0.6
S57A Dark Hollow, R 59.83 350 P P 20 37 13.0 +0.2
baz=169,SNR=24
S57A P P 20 37 13.0 +0.2
baz=169,SNR=24
R58B Mineral 59.87 351 P P 20 37 13.2 +0.2
baz=170,SNR=22
R58B P P 20 37 13.2 +0.2
baz=170,SNR=22

JCT	Junction City	59.88	329	P	P	20 37 13.4	0.0
	baz=146,SNR=54						
JCT	Junction City	59.88	329	P	P	20 37 13.5	+0.2
	baz=146,SNR=54						
VNA3	Neumayer Olymp	59.88	161	P	P	20 37 13.5	+0.6
CBN	Corbin Frederi	60.03	352	P	P	20 37 14.0	-0.2
CBN	Corbin Frederi	60.03	352	P	P	20 37 14.0	-0.2
	baz=170						
CBN	Corbin Frederi	60.03	352	P	P	20 37 14.1	-0.1
	baz=170						
U49A	Red Boiling Sp	60.04	344	P	P	20 37 13.7	-0.6
	baz=161,SNR=79						
WHTX	Lake Whitney,	60.06	332	P	P	20 37 14.8	+0.3
	baz=149,SNR=20						
VNA1	Neumayer--Stat	60.08	161	P	P	20 37 15.3	+1.1
Z38A	Mt. Pleasant	60.11	334	P	P	20 37 15.4	+0.6
	baz=151,SNR=16						
HPIG		60.19	322	P	P	20 37 16.4	+0.6
HPIG				IAmb	IAmb	20 37 17.7	
	comp=Z,126nm,1.3s						
WVT	Waverly	60.24	342	P	P	20 37 14.7	-0.9
WVT	Waverly	60.24	342	P	P	20 37 14.7	-0.9
WVT				pmax	pmax		
	comp=Z,194nm,0.8s						
WVT	Waverly	60.24	342	P	P	20 37 14.7	-0.9
	baz=159,SNR=220						
WVT	Waverly	60.24	342	P	P	20 37 14.8	-0.9
	baz=159						
WVT	Waverly	60.24	342	P	P	20 37 14.6	-0.9
S54A	Dingess, Beckl	60.27	348	P	P	20 37 16.0	+0.2
	baz=166,SNR=54						
S54A				P	P	20 37 16.0	+0.2
	baz=166,SNR=54						
T50A	Nancy	60.28	345	P	P	20 37 15.4	-0.5
	baz=162						
T50A				P	P	20 37 15.4	-0.5
	baz=162						
VNA2	Neumayer--Watz	60.45	161	P	P	20 37 17.4	+0.7
	baz=279,slow=8.1						
SLBS	Sierra La Lagu	60.45	316	P	P	20 37 19.0	+1.5
SLBS				IAmb	IAmb	20 37 20.4	
	comp=Z,95nm,1.2s						
SLBS	Sierra La Lagu	60.45	316	P	P	20 37 19.4	+2.0
SLBS				sP	sP	20 37 56.0	-0.6
R55A	Marlinton	60.53	349	P	P	20 37 18.6	+1.0
	baz=168,SNR=76						
R55A				P	P	20 37 18.6	+1.0
	baz=168,SNR=76						
S51A	Beattyville	60.59	346	P	P	20 37 17.4	-0.6
	baz=164,SNR=42						
S51A				P	P	20 37 17.4	-0.6
	baz=164,SNR=42						
MIAR	Mount Ida	60.70	336	P	P	20 37 18.6	-0.1
MIAR	Mount Ida	60.70	336	P	P	20 37 18.7	-0.1
MIAR				pmax	pmax		
	comp=Z,125nm,0.7s						
MIAR	Mount Ida	60.70	336	P	P	20 37 18.8	0.0
	baz=153,SNR=120						
MIAR	Mount Ida	60.70	336	P	P	20 37 18.9	0.0
	baz=153,SNR=120						
LNXT	Lenox	60.71	341	P	P	20 37 18.4	-0.4
	baz=157						
GNAR	Gosnell	60.75	340	P	P	20 37 18.7	-0.4
T47A	Sharon Grove	60.84	343	P	P	20 37 19.1	-0.6
	baz=160,SNR=132						
R53A	Hurricane	60.91	348	P	P	20 37 20.1	0.0
	baz=166,SNR=43						
R53A				P	P	20 37 20.1	0.0
	baz=166,SNR=43						
TXAR	Lajitas Array	60.93	325	P	P	20 37 20.9	+0.2
	comp=Z,16nm,0.7s,baz=151,slow=8.8,SNR=242						
TXAR				PKPPKP	P'P'df	21 06 44.4	+8.0
	comp=Z,0.6nm,0.8s,baz=224,slow=3.5,SNR=5.9						
	comp=Z,16nm,0.7s						
TX31	Lajitas Ar. Si	60.93	325	P	P	20 37 20.8	+0.2
TX31				IAmb	IAmb	20 37 21.5	
	comp=Z,55nm,0.8s						
TX31	Lajitas Ar. Si	60.93	325	P	P	20 37 20.8	+0.2
	baz=142,SNR=64						
Q56A	Snyder Ridge,	61.12	350	P	P	20 37 22.5	+0.9
	baz=168,SNR=54						
Q56A				P	P	20 37 22.5	+0.9
	baz=168,SNR=54						
Z35A	Perchaven, San	61.12	333	P	P	20 37 22.2	+0.5
	baz=149,SNR=17						
SDMD	Soldier's Deli	61.16	353	P	P	20 37 21.4	-0.4
SDMD	Soldier's Deli	61.16	353	P	P	20 37 21.6	-0.2
	baz=171,SNR=6.0						
LCAR	Lake Charles	61.21	339	P	P	20 37 21.4	-0.8
	baz=156						
T45B	Paducah	61.30	342	P	P	20 37 22.2	-0.6
	baz=158,SNR=33						
Q54A	Coxs Mills	61.33	349	P	P	20 37 23.1	+0.1
	baz=167,SNR=88						
Q54A				P	P	20 37 23.1	+0.1
	baz=167,SNR=88						
R50A	Paris	61.37	346	P	P	20 37 22.8	-0.5
	baz=163,SNR=39						
R50A				P	P	20 37 22.8	-0.5
	baz=163,SNR=39						
P57A	Homestead Farm	61.38	352	P	P	20 37 23.9	+0.6
	baz=170,SNR=27						
P57A				P	P	20 37 23.9	+0.6
	baz=170,SNR=27						
GEDE	Greenville	61.42	354	P	P	20 37 23.2	-0.3
	baz=172,SNR=7.5						
R49A	Shelbyville	61.57	345	P	P	20 37 23.4	-1.2
	baz=162,SNR=28						
R49A				P	P	20 37 23.4	-1.2
	baz=162,SNR=28						
Q52A	Bidwell	61.58	348	P	P	20 37 24.2	-0.4
	baz=165,SNR=38						
Q52A				P	P	20 37 24.2	-0.4
	baz=165,SNR=38						
ABTX	Abilene, Hawle	61.58	330	P	P	20 37 24.8	-0.1
	baz=147,SNR=36						
ABTX	Abilene, Hawle	61.58	330	P	P	20 37 25.0	+0.1
	baz=147,SNR=36						
TUPA	Temple Univers	61.73	354	P	P	20 37 25.2	-0.4
	baz=173,SNR=9.0						
WCI	Wyandotte Cave	61.79	344	P	P	20 37 25.1	-0.9
WCI	Wyandotte Cave	61.79	344	P	P	20 37 25.1	-0.9
WCI				pmax	pmax		
	comp=Z,148nm,0.7s						
WCI	Wyandotte Cave	61.79	344	P	P	20 37 25.3	-0.8
	baz=161,SNR=77						
WCI	Wyandotte Cave	61.79	344	P	P	20 37 25.2	-0.9
	baz=161						
WCI	Wyandotte Cave	61.79	344	P	P	20 37 25.2	-0.9
MCWV	Mont Chateau	61.82	350	P	P	20 37 26.9	+0.6
MCWV	Mont Chateau	61.82	350	P	P	20 37 27.0	+0.6
	baz=168,SNR=30						
MCWV	Mont Chateau	61.82	350	P	P	20 37 26.9	+0.6
	baz=168,SNR=30						
Q51A	Peebles	61.86	347	P	P	20 37 26.1	-0.5
	baz=164,SNR=36						
Q51A				P	P	20 37 26.1	-0.5
	baz=164,SNR=36						
PANJ	Princeton	61.89	355	P	P	20 37 26.6	-0.1
	baz=173						
P53A	Whipple	61.92	349	P	P	20 37 27.1	+0.1
	baz=166,SNR=101						
P53A				P	P	20 37 27.1	+0.1
	baz=166,SNR=101						
PAGS	Pennsylvania G	61.95	353	P	P	20 37 27.0	-0.1
PAGS				IAmb	IAmb	20 37 28.1	
	comp=Z,73nm,1.2s						
SNAA	Sanae	62.08	161	P	P	20 37 28.3	+0.6
SNAA	Sanae	62.08	161	P	P	20 37 28.0	+0.2
SNAA				IAmb	IAmb	20 37 29.3	
	comp=Z,38nm,0.7s						
SNAA	Sanae	62.08	161 *d*	iP	P	20 37 28.2	+0.4
SNAA				pmax	pmax		
	comp=Z,35nm,0.9s						
S44A	Carbondale	62.11	341	P	P	20 37 27.6	-0.6
	baz=158,SNR=37						
BRNJ	Basking Ridge	62.18	355	P	P	20 37 28.6	0.0
	baz=174						
P52A	Corning	62.20	348	P	P	20 37 28.5	-0.3
P52A	Corning	62.20	348	P	P	20 37 28.4	-0.4
	baz=166,SNR=46						
P51A	Williamsport	62.24	347	P	P	20 37 28.3	-0.8
	baz=165,SNR=21						
P51A				P	P	20 37 28.3	-0.8
	baz=165,SNR=21						
BBTS	Babate	62.35	59	LR	LR	21 04 43.7	
	comp=Z,110nm,18.4s,baz=238,slow=36						

O54A	Avella	62.42	350	P	P	20 37 30.2	0.0
	baz=167,SNR=39						
O54A				P	P	20 37 30.2	0.0
	baz=167,SNR=39						
X34A	Smith Ranch, M	62.45	333		P	20 37 31.0	+0.4
SSPA	Standing Stone	62.49	352	P	P	20 37 30.7	0.0
SSPA				IAmb	IAmb	20 37 32.1	
	comp=Z,46nm,1.0s						
SSPA	Standing Stone	62.49	352	P	P	20 37 31.1	+0.3
	baz=170,SNR=17						
SSPA	Standing Stone	62.49	352	P	P	20 37 30.9	+0.2
	baz=170						
SSPA	Standing Stone	62.49	352	P	P	20 37 30.9	+0.2
SSPA				pP	pP	20 37 54.6	-3.4
SSPA				sP	PcP	20 38 05.4	-3.6
N58A	Sunbury	62.55	353	P	P	20 37 31.4	+0.3
	baz=171,SNR=14						
N58A				P	P	20 37 31.4	+0.3
	baz=171,SNR=14						
ODNJ	Ogdensburg	62.58	355	P	P	20 37 31.1	-0.2
	baz=174,SNR=5.4						
O52A	Adamsville	62.61	348	P	P	20 37 31.4	-0.2
	baz=166,SNR=41						
O52A				P	P	20 37 31.4	-0.2
	baz=166,SNR=41						
O53A	New Philadelph	62.63	349	P	P	20 37 31.6	-0.1
	baz=167,SNR=44						
P49A	Miami Univ. Ec	62.65	346	P	P	20 37 30.9	-0.9
	baz=163,SNR=43						
UPAO	U. Pittsburgh	62.66	350	P	P	20 37 32.1	+0.3
	baz=168						
U38A	Gravette	62.68	337	P	P	20 37 31.8	-0.3
	baz=153,SNR=28						
FVM	French Village	62.73	341	P	P	20 37 32.1	-0.3
	baz=157,SNR=56						
OLIL	Olney	62.74	343	P	P	20 37 31.3	-1.1
	baz=159,SNR=15						
P48A	Milroy	62.74	345	P	P	20 37 31.2	-1.2
	baz=162,SNR=22						
P48A				P	P	20 37 31.2	-1.2
	baz=162,SNR=22						
TUL1	Leonard	62.75	335		P	20 37 32.3	-0.2
TUL1				IAmb	IAmb	20 37 33.5	
	comp=Z,122nm,1.1s						
TUL1	Leonard	62.75	335	P	P	20 37 32.4	-0.1
	baz=151,SNR=26						
TUL1	Leonard	62.75	335	P	P	20 37 32.5	0.0
	baz=151,SNR=26						
ACSO	Alum Creek Sta	62.95	348	P	P	20 37 33.3	-0.5
ACSO	Alum Creek Sta	62.95	348	P	P	20 37 33.2	-0.5
	baz=165,SNR=22						
ACSO	Alum Creek Sta	62.95	348	P	P	20 37 33.4	-0.5
	baz=165,SNR=22						
WMOK	Wichita Mounta	62.97	332	P	P	20 37 33.1	-1.0
WMOK	Wichita Mounta	62.97	332	P	P	20 37 33.1	-1.0
WMOK				pmax	pmax		
	comp=Z,15nm,0.7s						
WMOK	Wichita Mounta	62.97	332	P	P	20 37 33.5	-0.6
	baz=148,SNR=15						
CCM	Cathedral Cave	63.05	340	P	P	20 37 34.0	-0.5
CCM	Cathedral Cave	63.05	340	P	P	20 37 34.0	-0.5
CCM				pmax	pmax		
	comp=Z,162nm,0.9s						
CCM	Cathedral Cave	63.05	340	P	P	20 37 34.0	-0.5
	baz=156,SNR=87						
CCM	Cathedral Cave	63.05	340	P	P	20 37 34.0	-0.5
	baz=156						
CCM	Cathedral Cave	63.05	340	P	P	20 37 34.0	-0.5
CCM				pP	pP	20 37 59.1	-2.7
CCM				sP	PcP	20 38 11.5	+0.1
M57A	Sunshine Farm,	63.09	353	P	P	20 37 35.1	+0.4
	baz=171,SNR=19						
M57A				P	P	20 37 35.1	+0.4
	baz=171,SNR=19						
N53A	Lisbon	63.11	349	P	P	20 37 34.7	-0.1
	baz=167,SNR=13						
N53A				P	P	20 37 34.7	-0.1
	baz=167,SNR=13						
KSPA	Keystone Colle	63.16	354	P	P	20 37 35.2	+0.1
	baz=172,SNR=10						
Q44A	Meyer Farm, Va	63.16	342	P	P	20 37 34.0	-1.2
	baz=158,SNR=24						
O49A	Covington	63.19	346	P	P	20 37 34.6	-0.7
	baz=163,SNR=31						
O49A				P	P	20 37 34.6	-0.7
	baz=163,SNR=31						
NPNY	Mohonk Preserv	63.21	355	P	P	20 37 35.6	+0.2
	baz=174,SNR=5.7						
BRYW	Bryant College	63.22	357	P	P	20 37 35.4	-0.1
BRYW				IAmb	IAmb	20 37 36.6	
	comp=Z,66nm,1.1s						
SLM	Saint Louis	63.27	341	P	P	20 37 35.0	-0.9
	baz=157,SNR=5.6						
P46A	Rosedale	63.34	344	P	P	20 37 35.0	-1.3
	baz=160						
S39A	Bolivar	63.42	338	P	P	20 37 36.6	-0.4
	baz=154,SNR=96						
M55A	Ridgway	63.43	351	P	P	20 37 36.9	0.0
	baz=169,SNR=32						
M55A				P	P	20 37 36.9	0.0
	baz=169,SNR=32						
O48B	Farmland	63.44	346	P	P	20 37 36.0	-1.1
	baz=163,SNR=48						
O48B	Farmland	63.44	346	P	P	20 37 36.1	-0.9
	baz=163,SNR=48						
N51A	Ashland	63.49	348	P	P	20 37 36.1	-1.2
	baz=165,SNR=13						
N51A				P	P	20 37 36.1	-1.2
	baz=165,SNR=13						
R40A	Maddies Statio	63.60	339	P	P	20 37 37.4	-0.7
	baz=155,SNR=72						
M53A	WI Miller and	63.70	350	P	P	20 37 38.7	0.0
	baz=167,SNR=26						
L59A	Walton	63.72	355	P	P	20 37 39.1	+0.2
	baz=173,SNR=17						
L59A				P	P	20 37 39.1	+0.2
	baz=173,SNR=17						
TROLL	Troll, Antarti	63.80	161	P	P	20 37 40.4	+1.2
L61B	Northampton	63.81	357	P	P	20 37 39.2	-0.1
	baz=176						
HRV	Adam Dziewonsk	63.81	357	P	P	20 37 39.1	-0.2
HRV	Adam Dziewonsk	63.81	357	P	P	20 37 39.1	-0.2
HRV				pmax	pmax		
	comp=Z,21nm,0.9s						
HRV	Adam Dziewonsk	63.81	357	P	P	20 37 39.4	+0.1
	baz=177						
HRV	Adam Dziewonsk	63.81	357	P	P	20 37 39.3	-0.1
ALLY	Alegheny Colle	63.81	350	P	P	20 37 39.3	-0.1
	baz=168,SNR=34						
BINY	Binghamton	63.82	354	P	P	20 37 39.8	+0.3
BINY				IAmb	IAmb	20 37 40.9	
	comp=Z,91nm,1.0s						
BINY	Binghamton	63.82	354	P	P	20 37 39.8	+0.3
	baz=172,SNR=24						
BINY	Binghamton	63.82	354	P	P	20 37 39.9	+0.3
	baz=172,SNR=24						
N49A	Columbus Grove	63.86	347	P	P	20 37 39.2	-0.6
	baz=164,SNR=37						
N49A				P	P	20 37 39.2	-0.6
	baz=164,SNR=37						
T35B	Sooner Cattle	63.91	335	P	P	20 37 40.2	0.0
	baz=151,SNR=28						
M52A	Chesterland	63.91	349	P	P	20 37 39.8	-0.3
	baz=167,SNR=12						
M52A				P	P	20 37 39.8	-0.3
	baz=167,SNR=12						
L56A	Greenwood	63.93	352	P	P	20 37 40.2	-0.1
	baz=170,SNR=20						
L56A				P	P	20 37 40.2	-0.1
	baz=170,SNR=20						
P43A	Skaggs, Pawnee	63.99	342	P	P	20 37 39.6	-1.0
	baz=158,SNR=21						
SFIN	Lafayette	64.02	344	P	P	20 37 39.3	-1.5
	baz=161,SNR=18						
SFIN	Lafayette	64.02	344	P	P	20 37 39.4	-1.5
	baz=161,SNR=18						
M50A	Fremont	64.09	348	P	P	20 37 40.8	-0.4
	baz=165,SNR=5.8						
M50A				P	P	20 37 40.8	-0.4
	baz=165,SNR=5.8						
N47A	Urbana	64.16	346	P	P	20 37 40.4	-1.3
	baz=162,SNR=22						
N47A				P	P	20 37 40.4	-1.3
	baz=162,SNR=22						
HCNY	Howe Caverns	64.17	355	P	P	20 37 41.9	+0.1
	baz=174,SNR=7.9						
O44A	Mansfield	64.17	343	P	P	20 37 40.0	-1.8

	baz=159						
MSTX	Muleshoe	64.17	329	P	P	20 37 42.0	-0.2
MSTX	Muleshoe	64.17	329	P	P	20 37 41.8	-0.3
	baz=144,SNR=101						
MSTX	Muleshoe	64.17	329	P	P	20 37 41.9	-0.2
	baz=144,SNR=101						
ERPA	Erie	64.25	350	P	P	20 37 41.7	-0.6
ERPA	Erie	64.25	350	P	P	20 37 42.2	0.0
	baz=168,SNR=19						
ERPA	Erie	64.25	350	P	P	20 37 42.4	+0.1
	baz=168,SNR=19						
WVNY	West Valley, N	64.33	352	P	P	20 37 43.0	+0.1
	baz=169,SNR=30						
KIDD	KIDD Seismic O	64.36	324	P	P	20 37 43.7	+0.3
	baz=140,SNR=8.0						
K57A	Scipio Center	64.40	353	P	P	20 37 43.0	-0.3
	baz=172,SNR=10						
AMTX	Amarillo	64.40	330	P	P	20 37 43.4	-0.2
	baz=146,SNR=17						
AMTX	Amarillo	64.40	330	P	P	20 37 43.2	-0.3
	baz=146						
SRIG	Santa Rosalia	64.47	317	P	P	20 37 45.1	+1.1
SRIG				IAmb	IAmb	20 37 46.5	
	comp=Z,36nm,0.8s						
P40A	Paris	64.65	340	P	P	20 37 44.5	-0.5
	baz=156,SNR=50						
HDIL	Hopedale	64.77	343	P	P	20 37 44.5	-1.2
HDIL				IAmb	IAmb	20 37 45.4	
	comp=Z,81nm,0.8s						
HDIL	Hopedale	64.77	343	P	P	20 37 44.4	-1.2
	baz=158,SNR=12						
HDIL	Hopedale	64.77	343	P	P	20 37 44.5	-1.2
	baz=158,SNR=12						
HSIG		64.87	319	P	P	20 37 47.2	+0.6
HSIG				IAmb	IAmb	20 37 49.0	
	comp=Z,109nm,1.5s						
L48A	N Adams	64.89	347	P	P	20 37 45.5	-1.0
	baz=164,SNR=18						
L48A				P	P	20 37 45.5	-1.0
	baz=164,SNR=18						
J58A	Remsen	64.90	354	P	P	20 37 46.4	-0.1
	baz=173,SNR=7.5						
J58A				P	P	20 37 46.4	-0.1
	baz=173,SNR=7.5						
J59A	Piesco	64.94	355	P	P	20 37 47.0	+0.3
	baz=174						
J59A				P	P	20 37 47.0	+0.3
	baz=174						
J56A	Wolcott	64.97	353	P	P	20 37 46.5	-0.5
	baz=171,SNR=12						
J56A				P	P	20 37 46.5	-0.5
	baz=171,SNR=12						
J57A	Williamstown	65.02	354	P	P	20 37 47.1	-0.1
	baz=172,SNR=13						
J57A				P	P	20 37 47.1	-0.1
	baz=172,SNR=13						
HNH	Hanover	65.04	357	P	P	20 37 48.5	+1.1
	baz=176						
J55A	Hilton	65.08	352	P	P	20 37 47.2	-0.4
	baz=170,SNR=6.8						
J55A				P	P	20 37 47.2	-0.4
	baz=170,SNR=6.8						
AAM	Ann Arbor	65.08	348	P	P	20 37 47.1	-0.6
	baz=164						
AAM	Ann Arbor	65.08	348	P	P	20 37 46.9	-0.8
	baz=164						
P38A	Dawn	65.23	339	P	P	20 37 48.3	-0.4
	baz=154,SNR=26						
K50A	Casco	65.33	349	P	P	20 37 48.6	-0.7
	baz=165						
K50A				P	P	20 37 48.6	-0.7
	baz=165						
N41A	Harden Midland	65.36	341	P	P	20 37 48.3	-1.2
	baz=157,SNR=7.0						
L46A	Eue Claire	65.37	345	P	P	20 37 48.6	-1.0
	baz=162						
L46A				P	P	20 37 48.6	-1.0
	baz=162						
NCB	Newcomb	65.42	355	P	P	20 37 49.3	-0.5
	baz=174						
WCNY	West Carthage	65.55	354	P	P	20 37 50.7	0.0
	baz=173,SNR=15						
121A	Cookes Peak, D	65.63	324	P	P	20 37 52.8	+1.1
121A				IAmb	IAmb	20 37 54.3	
	comp=Z,77nm,0.9s						
121A	Cookes Peak, D	65.63	324	P	P	20 37 53.2	+1.5
	baz=140,SNR=55						
121A	Cookes Peak, D	65.63	324	P	P	20 37 53.3	+1.6
	baz=140,SNR=55						
PECO	Prince Edward	65.64	353	P	P	20 37 51.0	-0.2
PECO				IAmb	IAmb	20 37 52.2	
	comp=Z,84nm,1.2s						
KSU1	Kansas State U	65.86	336	P	P	20 37 52.1	-0.6
	baz=151,SNR=6.3						
KSU1	Kansas State U	65.86	336	P	P	20 37 52.3	-0.5
	baz=151,SNR=6.3						
L44A	Lake County Fo	65.92	344	P	P	20 37 52.1	-1.0
	baz=160,SNR=5.2						
L44A	Lake County Fo	65.92	344	P	P	20 37 51.7	-1.4
	baz=160,SNR=5.2						
R32A	Long Quarter,	66.08	334	P	P	20 37 54.4	+0.1
	baz=149,SNR=40						
LONY	Lake Ozonia	66.09	355	P	P	20 37 54.2	0.0
LONY				IAmb	IAmb	20 37 55.5	
	comp=Z,68nm,1.4s						
LONY	Lake Ozonia	66.09	355	P	P	20 37 54.4	+0.2
	baz=174,SNR=12						
N38A	Joes South For	66.18	340	P	P	20 37 53.8	-1.0
	baz=155,SNR=7.2						
J47A	Sunmer	66.22	347	P	P	20 37 54.1	-0.8
	baz=163,SNR=12						
J47A				P	P	20 37 54.1	-0.8
	baz=163,SNR=12						
L42A	Oliver, Polo	66.22	343	P	P	20 37 54.1	-0.9
	baz=158,SNR=9.3						
FRNY	Flat Rock	66.24	356	P	P	20 37 55.4	+0.3
	baz=175,SNR=8.3						
Y22A	Socorro	66.27	326	P	P	20 37 57.0	+1.2
	baz=141,SNR=30						
BMNY	Brushton-Moira	66.31	355	P	P	20 37 55.5	0.0
	baz=174,SNR=12						
Y22D	IRIS PASSCAL I	66.35	326	P	P	20 37 57.7	+1.5
	baz=141						
G65A	Princeton	66.44	1	P	P	20 37 56.6	+0.3
	baz=181						
G65A				P	P	20 37 56.6	+0.3
	baz=181						
G62A	West of Eustis	66.48	358	P	P	20 37 57.1	+0.5
	baz=178,SNR=9.2						
G62A				P	P	20 37 57.1	+0.5
	baz=178,SNR=9.2						
I49A	Point Hope	66.50	349	P	P	20 37 55.3	-1.4
	baz=165,SNR=9.0						
I49A				P	P	20 37 55.3	-1.4
	baz=165,SNR=9.0						
PKME	Peaks-Kenny Pk	66.50	359	P	P	20 37 56.8	+0.1
	baz=179						
PKME	Peaks-Kenny Pk	66.50	359	P	P	20 37 56.8	+0.1
	baz=179						
K43A	Burlington	66.52	344	P	P	20 37 56.0	-0.9
	baz=160,SNR=14						
NVL	N'lazarevskaya	66.62	159 *e*	P	P	20 37 58.1	+0.8
NVL				pmax	pmax		
	comp=Z,40nm,0.8s						
L40A	Anamosa	66.72	342	P	P	20 37 57.4	-0.8
	baz=157,SNR=26						
SADO	Sadowa	66.72	352	P	P	20 37 57.6	-0.5
SADO				IAmb	IAmb	20 37 58.8	
	comp=Z,48nm,1.0s						
ANMO	Albuquerque	66.79	327	P	P	20 37 59.8	+0.8
ANMO				IAmb	IAmb	20 38 01.2	
	comp=Z,52nm,0.8s						
ANMO	Albuquerque	66.79	327	P	P	20 37 59.8	+0.8
ANMO				pmax	pmax		
	comp=Z,52nm,0.9s						
ANMO	Albuquerque	66.79	327	P	P	20 37 59.9	+0.9
	baz=141,SNR=84						
ANMO	Albuquerque	66.79	327	P	P	20 38 00.1	+1.1
	baz=141						
ANMO	Albuquerque	66.79	327	P	P	20 37 60.0	+0.9
CBKS	Cedar Bluff	66.84	334	P	P	20 37 59.5	+0.5
CBKS	Cedar Bluff	66.84	334	P	P	20 37 59.5	+0.5
CBKS				pmax	pmax		
	comp=Z,192nm,0.8s						
CBKS	Cedar Bluff	66.84	334	P	P	20 37 59.7	+0.6
	baz=148,SNR=47						
CBKS	Cedar Bluff	66.84	334	P	P	20 37 59.6	+0.5
	baz=148,SNR=47						

F63A Nahmakanta, Br 66.94 359 P **P** 20 38 00.3 +0.7
baz=179
F63A P **P** 20 38 00.3 +0.7
baz=179
N35A Tabor 67.05 338 P **P** 20 37 59.9 -0.4
baz=152,SNR=8.2
F64A Sherman 67.10 0 P **P** 20 38 00.6 +0.2
baz=180,SNR=6.2
F64A P **P** 20 38 00.6 +0.2
baz=180,SNR=6.2
F62A Pittston Farm, 67.15 359 P **P** 20 38 01.1 +0.3
baz=178
F62A P **P** 20 38 01.1 +0.3
baz=178
TUC Tucson 67.15 322 P **P**
TUC lAmb lAmb 20 38 03.8
comp=Z,113nm,1.6s
TUC Tucson 67.15 322 P **P** 20 38 02.5 +1.2
TUC pmax pmax
comp=Z,113nm,1.6s
TUC Tucson 67.15 322 P **P** 20 38 02.6 +1.4
baz=137
TUC Tucson 67.15 322 P **P** 20 38 02.4 +1.2
TUC pP **PcP** 20 38 28.9 +0.3
SCIA State Center 67.18 340 P **P** 20 38 00.6 -0.6
baz=155,SNR=8.2
SCIA State Center 67.18 340 P **P** 20 38 00.7 -0.4
baz=155,SNR=8.2
JFWS Jewell Farm 67.23 343 P **P** 20 38 00.9 -0.5
JFWS lAmb lAmb 20 38 01.8
comp=Z,102nm,0.8s
JFWS Jewell Farm 67.23 343 P **P** 20 38 00.9 -0.5
JFWS pmax pmax
comp=Z,102nm,0.8s
JFWS Jewell Farm 67.23 343 P **P** 20 38 00.9 -0.5
baz=158,SNR=27
T25A Trinidad 67.52 329 P **P** 20 38 04.0 +0.4
T25A lAmb lAmb 20 38 05.8
comp=Z,47nm,1.0s
T25A Trinidad 67.52 329 P **P** 20 38 04.6 +1.0
baz=144,SNR=36
N33B J Bar K, Exete 67.60 337 P **P** 20 38 03.6 -0.2
baz=151,SNR=8.4
E63A Oxbow 67.66 0 P **P** 20 38 04.5 +0.5
baz=180
E63A P **P** 20 38 04.5 +0.5
baz=180
GLMI Grayling 67.69 348 P **P** 20 38 03.4 -0.9
baz=164
K38A Parkersburg 67.72 341 P **P** 20 38 03.7 -0.8
baz=156,SNR=5.2
I42A Draeger Farm, 67.78 344 P **P** 20 38 04.4 -0.5
baz=159,SNR=20
E62A Clayton Lake 67.86 359 P **P** 20 38 05.3 0.0
baz=179,SNR=8.1
E62A P **P** 20 38 05.3 0.0
baz=179,SNR=8.1
LIC Lamto 67.98 74⇑*i*P **P** 20 38 06.5 -0.3
comp=Z,82nm,0.5s
H43A Windswept, Lux 68.05 345 P **P** 20 38 05.7 -0.8
baz=161,SNR=6.9
214A Organ Pipe Nat 68.09 320 P **P** 20 38 08.6 +1.5
214A lAmb lAmb 20 38 10.0
comp=Z,82nm,1.1s
214A Organ Pipe Nat 68.09 320 P **P** 20 38 08.9 +1.8
baz=136,SNR=45
G45A Suttons Bay 68.11 347 P **P** 20 38 05.9 -1.0
baz=163,SNR=6.7
G45A P **P** 20 38 05.9 -1.0
baz=163,SNR=6.7
TIC Toumodi 68.17 73⇑*i*P **P** 20 38 07.8 -0.2
comp=Z,58nm,0.6s
KSCO Kaye Shedlock' 68.23 332 P **P** 20 38 08.8 +0.8
baz=146,SNR=15
KSCO Kaye Shedlock' 68.23 332 P **P** 20 38 08.8 +0.8
baz=146,SNR=15
I40A Norwalk 68.23 343 P **P** 20 38 06.8 -1.0
baz=158,SNR=7.6
L34A Svendsen Farm, 68.29 338 P **P** 20 38 07.5 -0.6
baz=152,SNR=18
KIC Kosan Boka 68.30 74⇑*i*P **P** 20 38 08.6 -0.2
comp=Z,49nm,0.4s
D62A Allapoint, All 68.32 360 P **P** 20 38 08.2 +0.1
baz=179,SNR=13
D62A P **P** 20 38 08.2 +0.1
baz=179,SNR=13
DBIC Dimbokro 68.33 73 P **P** 20 38 08.6 -0.4
comp=Z,111nm,0.8s,baz=246,slow=6.1,SNR=97
comp=Z,111nm,0.8s
DBIC Dimbokro 68.33 73 P **P** 20 38 08.5 -0.4
DBIC lAmb lAmb 20 38 10.3
comp=Z,118nm,0.8s
DBIC Dimbokro 68.33 73 P **P** 20 38 08.6 -0.4
BGNE Belgrade 68.44 336 P **P** 20 38 09.4 +0.2
BGNE Belgrade 68.44 336 P **P** 20 38 09.4 +0.2
baz=150,SNR=40
BGNE Belgrade 68.44 336 P **P** 20 38 09.3 +0.2
baz=150,SNR=40
SDCO Great Sand Dun 68.52 329 P **P** 20 38 11.1 +1.1
SDCO lAmb lAmb 20 38 12.2
comp=Z,70nm,0.8s
SDCO Great Sand Dun 68.52 329 P **P** 20 38 10.9 +0.9
baz=143,SNR=127
SDCO Great Sand Dun 68.52 329 P **P** 20 38 11.1 +1.1
baz=143,SNR=127
QSPA South Pole Qui 68.63 180 P **P** 20 38 11.4 +1.2
QSPA lAmb lAmb 20 38 12.3
comp=Z,74nm,1.1s
QSPA South Pole Qui 68.63 180 P **P** 20 38 11.4 +1.2
W18A Petrified Fore 68.65 324 P **P** 20 38 12.1 +1.4
baz=139,SNR=25
E46A Sault Ste Mari 69.11 348 P **P** 20 38 12.4 -0.7
baz=164,SNR=24
I37B Waseca 69.15 341 P **P** 20 38 13.1 -0.3
baz=155,SNR=14
S22A 4UR Ranch, Cre 69.17 328 P **P** 20 38 15.0 +1.0
baz=142,SNR=34
Q24A Divide 69.33 330 P **P** 20 38 16.1 +1.1
baz=144,SNR=22
G40A Rib Lake 69.40 344 P **P** 20 38 14.3 -0.6
baz=158,SNR=13
OGNE Ogallala 69.58 333 P **P** 20 38 16.9 +0.6
baz=147,SNR=5.8
MVCO Mesa Verde 69.58 327 P **P** 20 38 17.4 +0.8
MVCO lAmb lAmb 20 38 18.8
comp=Z,82nm,0.7s
MVCO Mesa Verde 69.58 327 P **P** 20 38 17.8 +1.3
baz=140,SNR=56
E43A Lone Tree Farm 69.67 346 P **P** 20 38 15.7 -0.8
baz=162,SNR=12
K31A O'Neill 69.72 337 P **P** 20 38 17.5 +0.5
baz=150
WUAZ Wupatki 69.84 324 P **P** 20 38 19.5 +1.5
WUAZ lAmb lAmb 20 38 21.0
comp=Z,123nm,0.9s
WUAZ Wupatki 69.84 324 P **P** 20 38 19.9 +1.9
baz=138,SNR=97
COWI Conover 69.91 345 P **P** 20 38 17.6 -0.4
COWI Conover 69.91 345 P **P** 20 38 17.6 -0.4
baz=160
ECSD EROS Data Cent 69.93 339 P **P** 20 38 18.0 -0.3
ECSD lAmb lAmb 20 38 19.0
comp=Z,77nm,1.4s
ECSD EROS Data Cent 69.93 339 P **P** 20 38 17.9 -0.4
baz=152,SNR=42
GLA Glamis 70.07 320 P **P** 20 38 21.0 +1.7
baz=134,SNR=8.8
SPMN Marine on St. 70.07 342 P **P** 20 38 18.4 -0.7
baz=156,SNR=15
SPMN Marine on St. 70.07 342 P **P** 20 38 18.3 -0.7
baz=156,SNR=15
ISCO Idaho Springs 70.22 330 P **P** 20 38 21.1 +0.7
ISCO Idaho Springs 70.22 330 P **P** 20 38 21.1 +0.7
ISCO pmax pmax
comp=Z,34nm,0.8s
ISCO Idaho Springs 70.22 330 P **P** 20 38 21.4 +1.0
baz=143,SNR=55
ISCO Idaho Springs 70.22 330 P **P** 20 38 21.4 +1.0
baz=143,SNR=55
SMCO Snowmass 70.36 329 P **P** 20 38 22.7 +1.3
SMCO lAmb lAmb 20 38 23.8
comp=Z,45nm,0.7s
PV13 Radium Mtn., P 70.48 327 P **P** 20 38 22.9 +0.9
PV13 lAmb lAmb 20 38 24.2
comp=Z,53nm,0.9s
PDMCI Parker Dam,Lak 70.54 321 P **P** 20 38 23.6 +1.6
baz=135,SNR=6.9

IKP In-Ko-Pah, Jac 70.57 319 P **P** 20 38 24.3 +1.8
baz=133,SNR=13
SWSC Sam W. Stewart 70.58 319 P **P** 20 38 24.2 +1.8
baz=134,SNR=8.9
D41A Chassel 70.67 346 P **P** 20 38 22.5 -0.2
baz=160,SNR=9.6
BC3 Big Chuckawall 70.86 320 P **P** 20 38 26.0 +1.7
baz=134,SNR=44
F36A Milaca 70.86 342 P **P** 20 38 23.2 -0.6
baz=155,SNR=63
MONP2 Monument Peak 70.93 319 P **P** 20 38 26.5 +1.7
baz=133,SNR=18
E38A The Farm, Brul 71.00 343 P **P** 20 38 23.9 -0.7
baz=157,SNR=16
IRM Iron Mountain 71.03 320 P **P** 20 38 26.9 +1.8
baz=134,SNR=58
NEE2 Needles Airpor 71.14 321 P **P** 20 38 27.3 +1.6
baz=135
DRLN Deer Lake 71.16 8 P **P** 20 38 25.1 -0.5
N23A Red Feather La 71.24 331 P **P** 20 38 27.6 +1.0
baz=143,SNR=35
109C Camp Elliot, M 71.35 318 P **P** 20 38 28.6 +1.6
baz=132
SUSD Miller 71.37 337 P **P** 20 38 26.4 -0.4
SUSD lAmb lAmb 20 38 27.6
comp=Z,45nm,0.8s
SUSD Miller 71.37 337 P **P** 20 38 26.7 -0.2
baz=150
SUSD Miller 71.37 337 P **P** 20 38 26.5 -0.4
baz=150
BELC Belle Mtn. Jos 71.43 320 P **P** 20 38 29.3 +1.6
baz=134,SNR=23
TPFO Pinon Flats 71.43 319 P **P** 20 38 29.4 +1.7
baz=133,SNR=21
PFO Pinyon Flats O 71.44 319 P **P** 20 38 28.7 +0.9
comp=Z,23nm,0.8s,baz=116,slow=4.8,SNR=24
comp=Z,23nm,0.8s
PFO Pinyon Flats O 71.44 319 P **P** 20 38 29.1 +1.4
PFO lAmb lAmb 20 38 30.6
comp=Z,80nm,1.4s
PFO Pinyon Flats O 71.44 319*d*i P **P** 20 38 29.2 +1.4
PFO pmax pmax
comp=Z,90nm,1.3s
PFO Pinyon Flats O 71.44 319 P **P** 20 38 29.5 +1.7
baz=133,SNR=20
PFO Pinyon Flats O 71.44 319 P **P** 20 38 29.4 +1.7
PFO x x 20 38 48.2
PFO pP **pP** 20 38 56.5 +1.0
F33A 5 Mile Ranch, 71.69 340 P **P** 20 38 28.1 -0.7
baz=153,SNR=6.9
O20A White River Ci 71.72 329 P **P** 20 38 30.6 +1.3
baz=141,SNR=76
KNB Kanab 71.73 324 P **P** 20 38 31.2 +1.7
KNB Kanab 71.73 324 P **P** 20 38 31.2 +1.7
KNB pmax pmax
comp=Z,200nm,1.0s
GMRC Granite Mounta 71.77 320 P **P** 20 38 31.5 +1.9
baz=134,SNR=84
MURC Murrieta 71.88 319 P **P** 20 38 31.9 +1.6
baz=133,SNR=10
V12A Nelson 71.95 322 P **P** 20 38 31.9 +1.2
V12A lAmb lAmb 20 38 33.4
comp=Z,66nm,1.0s
BBRC Big Bear Solar 72.16 319 P **P** 20 38 34.2 +2.0
baz=133
HEC Hector,Ludlow 72.20 320 P **P** 20 38 34.3 +2.1
baz=134,SNR=37
EYMN Ely 72.22 344 P **P** 20 38 31.4 -0.6
EYMN lAmb lAmb 20 38 32.2
comp=Z,57nm,0.8s
EYMN Ely 72.22 344 P **P** 20 38 31.2 -0.7
baz=158,SNR=14
EYMN Ely 72.22 344 P **P** 20 38 31.2 -0.7
baz=158,SNR=14
SCI2 San Clemente I 72.31 317 P **P** 20 38 34.3 +1.5
baz=132
TUQ Turquoise Moun 72.37 321 P **P** 20 38 34.9 +1.6
baz=134,SNR=8.2
MVU Marysvale 72.49 325 P **P** 20 38 35.6 +1.6
CIS Catalina Islan 72.51 318 P **P** 20 38 35.3 +1.3
baz=132
BFSC Mount Baldy Ra 72.60 319 P **P** 20 38 36.1 +1.5
baz=132
RRX Edison Barstow 72.63 320 P **P** 20 38 36.7 +2.0
baz=133
FMP Fort Macarthur 72.64 318 P **P** 20 38 36.5 +1.8
baz=132
KOWA Kowa 72.64 66 P **P** 20 38 34.4 -0.7
KOWA lAmb lAmb 20 38 35.5
comp=Z,58nm,0.7s
KOWA Kowa 72.64 66 P **P** 20 38 35.0 -0.1
GSC Goldstone, Bar 72.80 320 P **P** 20 38 37.6 +1.8
baz=133,SNR=34
SHOC Shoshone, Teco 72.90 321 P **P** 20 38 38.0 +1.7
baz=134
K22A Casper 72.91 332 P **P** 20 38 37.1 +0.8
baz=143,SNR=29
K22A Casper 72.91 332 P **P** 20 38 37.3 +1.0
baz=143,SNR=29
PMOZ Porto Moniz, M 72.92 43 P **P** 20 38 36.3 -0.3
DECC Green Verdugo 73.02 319 P **P** 20 38 38.9 +1.8
baz=132,SNR=6.4
RSSD Black Hills 73.04 334 P **P** 20 38 37.8 +0.7
RSSD Black Hills 73.04 334 P **P** 20 38 37.8 +0.7
RSSD pmax pmax
comp=Z,36nm,0.8s
RSSD Black Hills 73.04 334 P **P** 20 38 37.9 +0.8
baz=146,SNR=36
RSSD Black Hills 73.04 334 P **P** 20 38 37.9 +0.8
baz=146
D32B Dogwood Acres, 73.07 340 P **P** 20 38 37.0 0.0
baz=152
B35A Bob, Littlefor 73.19 343 P **P** 20 38 37.2 -0.4
baz=155,SNR=33
EDW2 Edwards Air Fo 73.23 319 P **P** 20 38 39.6 +1.3
baz=132,SNR=23
LRMC Laurel Mtn Rad 73.45 320 P **P** 20 38 41.1 +1.5
baz=133,SNR=24
OSI Osito Audit: C 73.50 319 P **P** 20 38 41.3 +1.5
baz=132
TPNV Topopah Spring 73.61 322 P **P** 20 38 42.4 +1.8
TPNV lAmb lAmb 20 38 43.8
comp=Z,75nm,1.0s
TPNV Topopah Spring 73.61 322 P **P** 20 38 42.4 +1.8
TPNV pmax pmax
comp=Z,75nm,1.0s
TPNV Topopah Spring 73.61 322 P **P** 20 38 42.7 +2.1
baz=134,SNR=55
FURC Furnace Creek, 73.64 321 P **P** 20 38 42.4 +1.9
baz=134,SNR=40
SCZ2 Santa Cruz Isl 73.66 318 P **P** 20 38 42.2 +1.4
baz=131
MPMC Manual Prospec 73.72 320 P **P** 20 38 42.7 +1.4
baz=133,SNR=37
AGMN Agassiz Nation 73.75 341 P **P** 20 38 40.5 -0.4
AGMN Agassiz Nation 73.75 341 P **P** 20 38 40.5 -0.4
baz=154,SNR=17
AGMN Agassiz Nation 73.75 341 P **P** 20 38 40.6 -0.3
baz=154,SNR=17
ARVC Arvin 73.91 319 P **P** 20 38 43.9 +1.7
baz=132
SBC Santa Barbara 74.00 318 P **P** 20 38 44.4 +1.6
baz=131
ISA Isabella, Lake 74.05 320 P **P** 20 38 44.9 +1.8
baz=132,SNR=49
DUG Dugway, Tooele 74.05 326 P **P** 20 38 44.6 +1.5
DUG lAmb lAmb 20 38 45.7
comp=Z,50nm,0.9s
DUG Dugway, Tooele 74.05 326 P **P** 20 38 44.6 +1.5
DUG pmax pmax
comp=Z,50nm,0.9s
DUG Dugway, Tooele 74.05 326 P **P** 20 38 44.6 +1.5
baz=137,SNR=70
R11A Troy Canyon, C 74.21 323 P **P** 20 38 46.0 +1.9
baz=135,SNR=75
GRAC Grapevine Rang 74.29 321 P **P** 20 38 46.4 +1.9
baz=133,SNR=9.3
CWC Cottonwood Cre 74.33 320 P **P** 20 38 46.5 +1.6
baz=133
PKM Mcpherson Peak 74.36 318 P **P** 20 38 46.7 +1.6
baz=131,SNR=21
PD31 Pinedale Array 74.38 330 P **P** 20 38 45.7 +0.6
PDAR Pinedale Array 74.38 330 P **P** 20 38 45.5 +0.4
comp=Z,11nm,0.7s,baz=129,slow=7.6,SNR=84
comp=Z,11nm,0.7s
BW06 Boulder Array 74.38 330 P **P** 20 38 45.4 +0.3
baz=140

HWUT Hardware Ranch 74.47 328 P **P** 20 38 46.6 +1.1
HWUT lAmb lAmb 20 38 49.1
comp=Z,68nm,0.8s
VES Vestal, Richgr 74.54 319 P **P** 20 38 47.4 +1.6
baz=132,SNR=10
MDND Maddock 74.54 339 P **P** 20 38 46.2 +0.6
baz=150,SNR=13
SMMC Simmler 74.75 318 P **P** 20 38 49.1 +2.0
baz=131,SNR=7.0
TIN Tinemaha, Big 74.84 321 P **P** 20 38 49.4 +1.8
baz=133
VOG Valley Oaks Go 75.03 320 P **P** 20 38 49.2 +0.5
baz=132
AHID Auburn Hatcher 75.11 329 P **P** 20 38 50.1 +0.9
AHID lAmb lAmb 20 38 51.1
comp=Z,122nm,0.9s
MLAC Mammoth, Mammo 75.58 321 P **P** 20 38 53.6 +1.5
baz=132,SNR=9.9
ELK Elko 75.72 325 P **P** 20 38 54.0 +1.2
ELK Elko 75.72 325 P **P** 20 38 54.0 +1.2
ELK pmax pmax
comp=Z,34nm,0.9s
MDPB Devils Postpil 75.73 321 P **P** 20 38 54.4 +1.4
NV11 Mina Array Sit 75.73 322 P **P** 20 38 54.3 +1.5
NVAR Mina Array Bea 75.81 322 P **P** 20 38 54.8 +1.4
comp=Z,26nm,0.9s,baz=153,slow=6.8,SNR=114
comp=Z,26nm,0.9s
SBA Scott Base 75.85 190 P **P** 20 38 54.7 +2.0
SBA Scott Base 75.85 190 P **P** 20 38 54.7 +2.0
SBA pmax pmax
comp=Z,27nm,1.3s
LAO LASA Array 76.03 334 P **P** 20 38 54.4 +0.2
baz=144
LAO LASA Array 76.03 334 P **P** 20 38 54.9 +0.7
baz=144
RLMT Red Lodge 76.07 332 P **P** 20 38 55.9 +1.2
RLMT lAmb lAmb 20 38 56.9
comp=Z,51nm,0.8s
RLMT Red Lodge 76.07 332 P **P** 20 38 55.8 +1.2
baz=141,SNR=30
SCHQ Schefferville 76.09 1 P **P** 20 38 54.1 -0.2
comp=Z,50nm,0.7s,baz=201,slow=4.8,SNR=53
comp=Z,50nm,0.7s
SCHQ Schefferville 76.09 1 P **P** 20 38 54.1 -0.2
SCHQ lAmb lAmb 20 38 55.0
comp=Z,59nm,0.8s
H17A Grant Village 76.11 330 P **P** 20 38 57.1 +2.2
baz=140,SNR=6.5
YMP Mirror Lake Pl 76.18 331 P **P** 20 38 56.5 +1.1
YMP lAmb lAmb 20 39 15.7
comp=Z,55nm,1.0s
SAO San Andreas Ge 76.58 319 P **P** 20 38 58.2 +0.7
SAO San Andreas Ge 76.58 319 P **P** 20 38 58.2 +0.7
SAO pmax pmax
comp=Z,16nm,0.9s
DGMT Dagmar 76.70 336 P **P** 20 38 59.0 +1.1
baz=146,SNR=16
VNDA Vanda 76.87 190 P **P** 20 39 00.5 +2.0
comp=Z,6.4nm,0.8s,baz=133,slow=5.0,SNR=48
comp=Z,6.4nm,0.8s
VNDA Vanda 76.87 190 P **P** 20 38 59.9 +1.4
TOA0 Torodi Ar. Sit 76.96 70 P **P** 20 38 59.4 -0.7
TOA0 lAmb lAmb 20 39 00.8
comp=Z,117nm,0.9s
TORD Torodi Ar. Bea 76.96 70 P **P** 20 38 59.5 -0.6
comp=Z,103nm,0.8s,baz=255,slow=5.3,SNR=437
TORD pP **pP** 20 39 29.3 +0.9
comp=Z,24nm,0.9s,baz=247,slow=5.1,SNR=2.5
TORD S **S** 20 48 36.8 -3.4
comp=Z,5.5nm,1.1s,baz=248,slow=12,SNR=8.7
TORD PKKPbc **PKKPbc** 20 58 09.4 +1.9
comp=Z,0.4nm,0.7s,baz=61,slow=2.8,SNR=4.1
comp=Z,103nm,0.8s
TORD Torodi Ar. Bea 76.96 70 P **P** 20 38 59.4 -0.7
TORD lAmb lAmb 20 39 00.8
comp=Z,92nm,0.9s
HLID Hailey 77.33 328 P **P** 20 39 03.5 +1.8
baz=137,SNR=188
BOZ Bozeman (W) 77.50 331 P **P** 20 39 03.4 +0.8
BOZ Bozeman (W) 77.50 331 P **P** 20 39 03.4 +0.8
BOZ pmax pmax
comp=Z,38nm,1.3s
BOZ Bozeman (W) 77.50 331 P **P** 20 39 03.6 +1.0
baz=139,SNR=26
SUR Sutherland 78.17 120 P **P** 20 39 07.8 +1.0
EGMT Eagleton 78.55 333 P **P** 20 39 08.7 +0.5
baz=141
HOPS Hopland Field 78.99 320 P **P** 20 39 11.7 +0.9
MSO Missoula 79.49 330 P **P** 20 39 14.6 +1.2
MSO Missoula 79.49 330 P **P** 20 39 14.7 +1.2
baz=138,SNR=22
TSUM Tsumeb 79.60 107 P **P** 20 39 15.2 +0.3
TSUM lAmb lAmb 20 39 16.8
comp=Z,53nm,0.8s
BMO Blue Mountains 79.70 327 P **P** 20 39 15.9 +1.2
BMO lAmb lAmb 20 39 16.9
comp=Z,73nm,0.8s
BMO Blue Mountains 79.70 327 P **P** 20 39 15.9 +1.2
BMO pmax pmax
comp=Z,73nm,0.9s
JTMT Jette 80.33 331 P **P** 20 39 19.2 +1.2
ZHG ZHG 80.36 48 P **P** 20 39 19.0 +0.6
F10A Beach Ranch, E 80.45 328 P **P** 20 39 19.8 +1.2
F10A lAmb lAmb 20 39 26.1
comp=Z,40nm,0.7s
YBH Yreka Blue Hor 80.53 322 P **P** 20 39 19.0 -0.2
comp=Z,24nm,0.7s,baz=86,slow=1.8,SNR=61
comp=Z,24nm,0.7s
YBH Yreka Blue Hor 80.53 322 P **P** 20 39 19.0 -0.2
K04D Chiloquin, OR 80.56 323 P **P** 20 39 20.3 +0.9
baz=131
L04D Klamath Falls 80.61 323 P **P** 20 39 20.2 +0.6
baz=130,SNR=18
J05D Fort Rock, OR 80.71 324 P **P** 20 39 21.5 +1.4
baz=131,SNR=50
PINE Pine Mountain 80.89 324 P **P** 20 39 22.7 +1.6
PINE lAmb lAmb 20 39 23.9
comp=Z,106nm,0.8s
PFVI Vila Bisbo 80.98 44 *e*P **P** 20 39 23.1 +1.6
WALA Waterton Lakes 81.13 332 P **P** 20 39 22.8 +0.6
WALA lAmb lAmb 20 39 23.9
comp=Z,53nm,0.8s
J04D Umpqua Nationa 81.16 323 P **P** 20 39 23.8 +1.2
baz=131,SNR=16
MORF Marmelete 81.19 44 *e*P **P** 20 39 23.0 +0.3
MORF lAmb lAmb 20 39 24.7
comp=Z,22nm,1.0s
MORF Marmelete 81.19 44 *e*P **P** 20 39 24.1 +1.4
comp=Z,40nm,1.3s
MORF Marmelete 81.19 44 *e*P **P** 20 39 23.0 +0.3
FFC Flin Flon 81.23 341 P **P** 20 39 22.7 +0.3
FFC lAmb lAmb 20 39 23.4
comp=Z,65nm,1.2s
FFC Flin Flon 81.23 341 P **P** 20 39 22.7 +0.3
FFC pmax pmax
comp=Z,65nm,1.3s
L02F Cave Junction 81.27 322 P **P** 20 39 24.2 +1.2
baz=129,SNR=12
PTEO Sao Teotonio 81.29 44 *e*P **P** 20 39 24.8 +1.7
comp=Z,51nm,1.1s
MDT Midelt 81.45 50 P **P** 20 39 25.1 +0.8
I05D Terrebonne, OR 81.46 325 P **P** 20 39 25.7 +1.7
baz=131,SNR=10
K02D Willamette Mer 81.69 322 P **P** 20 39 26.6 +1.4
baz=129,SNR=20
PMST Lisbon--Monsan 81.69 43 *e*P **P** 20 39 27.0 +1.8
I04A Tendick Farm, 81.69 324 P **P** 20 39 25.6 +0.4
baz=130,SNR=21
PNCL Nicolau / Gran 81.74 44 *e*P **P** 20 39 26.3 +0.8
comp=Z,29nm,1.6s
PMAFR Mafra 81.75 43 *e*P **P** 20 39 26.5 +0.9
PCVE Castro Verde 81.78 44 *e*P **P** 20 39 26.6 +0.8
comp=Z,31nm,0.8s
MESJ Messejana 81.78 44 *e*P **P** 20 39 26.0 +0.2
MESJ lAmb lAmb 20 39 28.1
comp=Z,23nm,0.7s
MESJ *e*S **S** 20 49 31.3 +0.9
MESJ Messejana 81.78 44 *e*P **P** 20 39 26.7 +0.9
comp=Z,38nm,1.0s
MESJ Messejana 81.78 44 *e*P **P** 20 39 26.0 +0.2
MESJ *e*S **S** 20 49 31.3 +0.9
SOE Somerset East 81.85 122 P **P** 20 39 27.0 +0.5
SOE lAmb lAmb 20 39 28.2
comp=Z,84nm,1.1s
PVAQ Vaqueiros 81.86 45 *e*P **P** 20 39 27.1 +1.0
comp=Z,21nm,1.7s

PVAQ **Vaqueiros** 81.86 45 P P 20 39 26.7 +0.6
PVAQ **Vaqueiros** 81.86 45 P P 20 39 27.2 +1.0
HAWA **Hanford** 81.90 327 P P 20 39 27.4 +1.3
HAWA IAmb IAmb 20 39 28.4
comp=Z,68nm,0.8s
PACT **Alcochete** 81.93 43 *e*P P 20 39 27.7 +1.2
NEW **Newport** 82.02 330 P P 20 39 26.8 0.0
NEW **Newport** 82.02 330 P P 20 39 26.8 0.0
NEW pmax pmax
comp=Z,40nm,1.5s
NEW **Newport** 82.02 330 P P 20 39 26.9 0.0
baz=135,SNR=12
G05D **Wamic, OR** 82.05 325 P P 20 39 28.7 +1.7
baz=132,SNR=13
PBEJ **Beja** 82.12 44 *e*P P 20 39 28.3 +0.8
comp=Z,21nm,0.9s
J01E **Myrtle Point** 82.13 323 P P 20 39 28.9 +1.4
baz=129,SNR=9.4
I03D **Drain, OR** 82.15 323 P P 20 39 28.6 +1.1
baz=130,SNR=9.3
CHEFC **Chefchaouen** 82.17 48 P P 20 39 30.0 +2.0
H04D **Lebanon** 82.34 324 P P 20 39 29.0 +0.5
baz=130,SNR=5.7
PSBE **So Bento** 82.39 42 *e*P P 20 39 29.7 +0.8
SMIR **Smir Dam** 82.46 47 P P 20 39 31.0 +1.6
PMTG **Montargil** 82.49 43 *e*P P 20 39 30.0 +0.6
comp=Z,49nm,1.0s
I02E **Swisshome, OR** 82.69 323 P P 20 39 31.8 +1.5
baz=129,SNR=6.0
COR **Corvallis** 82.69 324 P P 20 39 31.8 +1.5
COR IAmb IAmb 20 39 32.8
comp=Z,99nm,1.1s
COR **Corvallis** 82.69 324 P P 20 39 31.8 +1.5
COR pmax pmax
comp=Z,99nm,1.1s
PBAR **Barrancos** 82.74 44 *e*P P 20 39 31.1 +0.4
comp=Z,22nm,1.2s
PESTR **Estremoz** 82.78 43 *e*P P 20 39 31.6 +0.6
comp=Z,25nm,1.1s
PESTR **Estremoz** 82.78 43 P P 20 39 31.5 +0.6
PESTR **Estremoz** 82.78 43 P P 20 39 31.6 +0.6
FCC **Fort Churchill** 82.79 347 P P 20 39 30.6 +0.2
FCC IAmb IAmb 20 39 31.6
comp=Z,74nm,0.8s
FCC **Fort Churchill** 82.79 347 P P 20 39 30.6 +0.2
FCC pmax pmax
comp=Z,74nm,0.8s
PCAS **Casmilo, Conde** 82.89 42 *e*P P 20 39 32.0 +0.5
comp=Z,38nm,1.6s
BOSA **Boshof** 83.03 118 P P 20 39 32.7 -0.1
comp=Z,34nm,0.8s,baz=262,slow=3.7,SNR=42
comp=Z,34nm,0.8s
BOSA **Boshof** 83.03 118 P P 20 39 32.6 -0.2
BOSA IAmb IAmb 20 39 34.2
comp=Z,39nm,0.9s
COI **Coimbra** 83.03 42 *e*P P 20 39 34.0 +1.8
G03D **McMinnville, O** 83.07 324 P P 20 39 33.6 +1.3
baz=130
PMRV **Marv??o** 83.23 43 *e*P P 20 39 33.3 0.0
PCBR **Castelo Branco** 83.41 43 *e*P P 20 39 34.3 +0.2
F04D **Rainier, OR** 83.50 325 P P 20 39 35.7 +1.2
baz=130
FIGM **Figuig** 83.51 52 P P 20 39 36.0 +0.9
PVIS **Viseu** 83.65 42 *e*P P 20 39 36.4 +1.0
MTE **Manteigas** 83.69 42 *e*P P 20 39 36.3 +0.7
comp=Z,41nm,1.1s
MTE **Manteigas** 83.69 42 P P 20 39 35.7 +0.1
IVI **Ivigtut** 84.08 10 P P 20 39 37.3 +0.3
PVRL **Vila Real** 84.08 41 *e*P P 20 39 38.1 +0.5
comp=Z,45nm,1.4s
POLO **Lamas de Olo** 84.09 41 *e*P P 20 39 38.0 +0.3
PCAB **Cabril** 84.14 41 *e*P P 20 39 38.4 +0.5
comp=Z,65nm,1.0s
PGAV **Gavieira, Arco** 84.15 41 *e*P P 20 39 38.2 +0.2
MAW **Mawson** 84.15 163 P P 20 39 38.7 +1.3
comp=Z,24nm,0.7s,baz=211,slow=5.8,SNR=83
comp=Z,24nm,0.7s
MAW **Mawson** 84.15 163 P P 20 39 38.8 +1.3
MAW **Mawson** 84.15 163 P P 20 39 38.8 +1.3
MAW pmax pmax
comp=Z,5.0nm,0.8s
MVO **Moncorvo** 84.44 42 *e*P P 20 39 40.0 +0.5
comp=Z,60nm,1.3s
NRS **Narsarsuaq** 84.50 11 *i*P P 20 39 38.8 -0.3
NRS IAmb IAmb 20 39 39.8
comp=Z,23nm,1.1s
LBTB **Lobatse** 84.59 115 P P 20 39 40.9 +0.1
LBTB IAmb IAmb 20 39 42.4
comp=Z,54nm,0.9s
LBTB **Lobatse** 84.59 115 P P 20 39 40.9 +0.1
LBTB pmax pmax
comp=Z,54nm,1.0s
NLWA **Neilton Lookou** 84.79 326 P P 20 39 41.8 +0.8
NLWA IAmb IAmb 20 39 43.0
comp=Z,80nm,1.4s
PBRG **Braganca** 84.99 41 *e*P P 20 39 41.9 -0.3
comp=Z,51nm,2.0s
PAB **San Pablo** 85.25 44 P P 20 39 43.7 +0.2
PAB IAmb IAmb 20 39 45.0
comp=Z,41nm,0.8s
PAB **San Pablo** 85.25 44 P P 20 39 43.7 +0.2
PAB pmax pmax
comp=Z,41nm,0.8s
PAB **San Pablo** 85.25 44 P P 20 39 44.1 +0.6
ESDC **Sonseca Array** 85.57 44 P P 20 39 45.4 +0.3
comp=Z,19nm,0.9s,baz=247,slow=4.8,SNR=90
ESDC pP pP 20 40 15.8 +2.2
comp=Z,7.9nm,1.2s,baz=236,slow=5.5,SNR=2.9
comp=Z,19nm,0.9s
ESDC **Sonseca Array** 85.57 44 P P 20 39 45.5 +0.4
ESBB **Sonseca Array** 85.57 44 P P 20 39 45.7 +0.6
LLLB **Lillooet** 85.89 329 P P 20 39 46.4 0.0
LLLB IAmb IAmb 20 39 47.5
comp=Z,52nm,0.9s
NUUK **Nuuk** 86.44 7 *i*P P 20 39 48.6 -0.2
NUUK IAmb IAmb 20 39 49.8
comp=Z,46nm,0.9s
CBB **Campbell River** 87.23 327 P P 20 39 53.2 +0.3
CBB IAmb IAmb 20 39 54.6
comp=Z,49nm,1.1s
DY2G **Dye2** 89.34 9 *i*P P 20 40 02.8 0.0
DY2G IAmb IAmb 20 40 03.9
comp=Z,83nm,1.0s
BBB **Bella Bella** 89.91 328 P P 20 40 05.5 +0.1
comp=Z,36nm,1.1s,baz=16,slow=2.0,SNR=4.6
comp=Z,36nm,1.1s
ANGG **Ammassalik, Gr** 90.02 12 P P 20 40 05.5 -0.2
ANGG IAmb IAmb 20 42 00.5
comp=Z,107nm,1.4s
ANGG **Ammassalik, Gr** 90.02 12 *e*P P 20 40 03.5 -2.2
ANGG IAmb IAmb 20 40 06.2
comp=Z,24nm,0.7s
ILULI **Ilulissat** 91.38 6 *i*P P 20 40 11.2 -0.7
ILULI IAmb IAmb 20 40 12.9
comp=Z,32nm,1.2s
YKA **Yellowknife Ar** 91.39 340 P P 20 40 12.4 +0.3
comp=Z,106nm,0.7s,baz=134,slow=4.5,SNR=284
YKA pP pP 20 40 43.2 +2.2
comp=Z,11nm,0.9s,baz=136,slow=4.6,SNR=1.9
GRNB **Grenville Isla** 91.79 329 P P 20 40 14.8 +0.6
GRNB IAmb IAmb 20 40 15.8
comp=Z,42nm,1.1s
CASY **Casey** 92.43 180 P P 20 40 18.5 +1.3
CASY IAmb IAmb 20 40 20.2
comp=Z,36nm,1.1s
ICESG **Greenland Ices** 92.75 10 *i*P P 20 40 18.2 -0.6
ICESG IAmb IAmb 20 40 20.0
comp=Z,54nm,1.0s
KEST **Kesra** 92.99 53 P P 20 40 21.0 +0.7
comp=Z,7.2nm,0.9s,baz=352,slow=2.3,SNR=7.5
comp=Z,7.2nm,0.9s
KEST **Kesra** 92.99 53 P P 20 40 19.8 -0.5
KEST IAmb IAmb 20 40 29.8
comp=Z,33nm,1.4s
BORG **Borgarnes** 93.34 18 P P 20 40 22.1 +1.0
BORG **Borgarnes** 93.34 18 P P 20 40 22.1 +1.0
BORG pmax pmax
comp=Z,336nm,1.7s
V35K **Ketchikan** 93.43 329 P P 20 40 21.9 +0.2
baz=124
NUUG **Nuugaatsiaq** 93.45 5 *i*P P 20 40 18.6 -2.8
NUUG IAmb IAmb 20 40 19.7
comp=Z,10nm,0.5s
T35M **Bob Quinn** 93.72 331 P P 20 40 23.7 +0.6
baz=125
SSB **Saint Sauveur** 93.80 43 P P 20 40 23.8 0.0
SSB IAmb IAmb 20 44 04.3
comp=Z,32nm,1.9s
SSB **Saint Sauveur** 93.80 43 P P 20 40 23.8 0.0
SSB pmax pmax
comp=Z,33nm,1.9s
WRAK **Wrangell Islan** 94.37 330 P P 20 40 26.4 +0.5
baz=123
DLBC **Dease Lake** 94.46 332 P P 20 40 27.4 +0.9
comp=Z,14nm,0.8s,baz=108,slow=4.0,SNR=17
comp=Z,14nm,0.8s
DLBC **Dease Lake** 94.46 332 P P 20 40 27.4 +0.9
DLBC IAmb IAmb 20 40 28.2
comp=Z,19nm,0.9s
DLBC **Dease Lake** 94.46 332 P P 20 40 27.0 +0.5
baz=125,SNR=7.4
KHZ **Kahutara** 94.50 221 P P 20 40 28.6 +1.6
KHZ IAmb IAmb 20 40 30.4
comp=Z,26nm,1.1s
U33K **Whale Pass** 94.57 329 P P 20 40 27.6 +0.7
baz=122
S34M **Telegraph Cree** 94.64 332 P P 20 40 28.1 +0.8
baz=124
WRGLY **Wrigley** 94.82 338 P P 20 40 28.6 +0.7
baz=130
WTLY **Watson Lake, Y** 94.91 334 P P 20 40 29.5 +1.0
baz=126
R33M **Jennings River** 95.40 333 P P 20 40 31.5 +0.7
baz=124
TGTN **Hyland Airport** 95.54 335 P P 20 40 31.8 +0.5
baz=126
Q32M **Nakina River** 95.72 332 P P 20 40 33.4 +1.0
baz=123
S32K **Killisnoo** 95.97 330 P P 20 40 33.6 +0.4
baz=121
DOU **Dourbes** 96.00 38 *d*P P 20 40 32.7 -0.9
comp=Z,6.1nm,0.9s
SUMG **Summit** 96.05 9 P P 20 40 33.2 -0.7
SUMG IAmb IAmb 20 40 36.8
comp=Z,15nm,1.0s
SUMG **Summit** 96.05 9 P P 20 40 33.2 -0.7
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG **Summit** 96.05 9 *e*P P 20 40 33.4 -0.5
SUMG IAmb IAmb 20 40 36.4
comp=Z,19nm,1.1s
SIT **Sitka** 96.10 330 P P 20 40 33.5 -0.3
baz=120
BMRD **Maredsous** 96.19 38 *d*P P 20 40 33.9 -0.6
comp=Z,10nm,0.9s
R32K **Eaglecrest** 96.36 331 P P 20 40 35.6 +0.6
baz=121
RCHB **Rochefort** 96.39 38 *d*P P 20 40 34.0 -1.4
comp=Z,5.2nm,1.0s
BCLA **Clavier** 96.55 38 *d*P P 20 40 35.1 -0.9
P33M **Teslin, Yukon** 96.63 333 P P 20 40 36.7 +0.3
P33M **Teslin, Yukon** 96.63 333 P P 20 40 36.7 +0.3
baz=122
P32M **Atlin** 96.69 332 P P 20 40 37.5 +0.9
baz=122
WLF **Walferdange** 96.72 39 *d*P P 20 40 36.5 -0.4
comp=Z,6.5nm,1.0s
WLF *d*pP pP 20 41 01.8 -4.0
WLF *d*sP sP 20 41 10.1 -7.3
WLF *dx* x 20 41 33.0
BSTI **Sart Tilman** 96.77 38 *d*P P 20 40 36.5 -0.5
BHOU **Houvegnez** 96.92 38 *d*P P 20 40 37.9 0.0
comp=Z,7.7nm,1.0s
MEM **Membach** 97.04 38 *d*P P 20 40 37.9 -0.4
comp=Z,7.1nm,0.8s
BTNL **Ternell** 97.10 38 *d*P P 20 40 37.9 -0.7
comp=Z,8.2nm,1.0s
BTNL *dx* x 20 41 27.2
VLC **Villacollemand** 97.11 45 P P 20 40 38.1 -0.8
MMPY **Sheldon Lake,** 97.32 336 P Pdif 20 40 40.2 +0.7
baz=123
ZCCA **Zocca** 97.57 45 P P 20 40 40.9 0.0
ZCCA IAmb IAmb 20 40 42.0
comp=Z,16nm,0.7s
PLBC **Pleasant Camp** 97.78 331 P Pdif 20 40 42.9 +1.5
baz=119
FARO **Faro, Yukon** 97.92 335 P Pdif 20 40 42.9 +0.8
baz=122
DAVA **Damuels** 98.00 42 *i*P P 20 40 43.0 +0.1
comp=Z,3.7nm,1.0s
O30N **Mendenhall** 98.31 333 P Pdif 20 40 44.3 +0.4
baz=120
M31M **Drury Creek, Y** 98.33 334 P Pdif 20 40 44.7 +0.8
baz=121
P30M **Million Dollar** 98.37 332 P Pdif 20 40 45.2 +1.0
baz=119
TEOL **Teolo** 98.41 45 P P 20 40 43.9 -0.7
TEOL IAmb IAmb 20 40 46.1
comp=Z,27nm,0.8s
FETA **Feichten** 98.44 43 *e*P P 20 40 44.8 -0.1
comp=Z,6.4nm,1.0s,SNR=5.5
P29M **Windy Craggy** 98.48 331 P Pdif 20 40 45.8 +1.2
baz=118
N31M **Braeburn, Yuko** 98.54 333 P Pdif 20 40 45.6 +0.8
baz=120
RETA **Reutte** 98.64 42 *i*P P 20 40 45.6 -0.1
comp=Z,4.4nm,0.9s
CTI **Castel Tesino** 98.66 44 P P 20 40 45.2 -0.6
CTI **Castel Tesino** 98.66 44 P P 20 40 45.3 -0.6
MOTA **Moosalm** 98.80 43 *e*P P 20 40 46.4 -0.1
comp=Z,10nm,1.2s,SNR=6.4
SQTA **Sankt Quirin** 98.81 43 *i*P P 20 40 46.7 +0.1
comp=Z,16nm,0.7s
C36M **Paulatuk** 98.92 343 P P 20 40 45.8 -0.5
baz=129
HYT **Haines Junctio** 98.95 332 P Pdif 20 40 47.7 +0.9
baz=118
N30M **Aishikik Lake** 99.07 333 P Pdif 20 40 48.1 +0.8
baz=118
WATA **Walderalm** 99.09 43 *i*P Pdif 20 40 47.8 -0.1
comp=Z,6.7nm,0.9s,SNR=6.1
WTTA **Wattenberg** 99.10 43 *i*P Pdif 20 40 48.1 +0.2
comp=Z,18nm,0.9s,SNR=19
O29M **Mount Kennedy** 99.17 332 P Pdif 20 40 48.6 +0.8
baz=118
CIMO **Cimolais** 99.26 44 P Pdif 20 40 48.1 -0.4
CIMO IAmb IAmb 20 40 48.9
comp=Z,3.2nm,0.8s
NEEM **North Greenlan** 99.33 4 *e*P Pdif 20 40 47.8 -0.6
NEEM IAmb IAmb 20 40 59.4
comp=Z,9.8nm,0.7s
STAL **STALIGIAL** 99.42 44 Pdif 20 40 48.7 -0.5
ABTA **Abfaltersbach** 99.47 44 *e*P Pdif 20 40 49.6 +0.1
comp=Z,5.8nm,0.8s,SNR=9.7
PINM **Pinnacle** 99.82 331 P Pdif 20 40 50.8 +0.1
baz=116
M29M **Somme Creek** 100.11 334 P Pdif 20 40 52.3 +0.4
baz=117
KBA **Koelnbreinsper** 100.12 43 *i*P Pdif 20 40 52.2 -0.3
comp=Z,3.4nm,0.6s,SNR=5.9
MYKA **Terra Mystica** 100.15 44 *e*P Pdif 20 40 52.8 +0.3
comp=Z,7.5nm,0.7s,SNR=4.0
L29M **L29M** 100.28 334 P Pdif 20 40 53.2 +0.6
baz=117,SNR=6.7
K29M **Barlow Dome** 100.38 335 P Pdif 20 40 53.4 +0.2
baz=118
BIOA **Bad Ischl, Aus** 100.52 43 *i*P Pdif 20 40 53.8 -0.3
comp=Z,2.9nm,0.7s
YUK3 **Moose Creek** 100.65 333 P Pdif 20 40 54.1 -0.4
baz=116
CTG **Chitna Glacier** 100.68 332 P Pdif 20 40 55.1 +0.5
baz=115
OBKA **Obir** 100.70 44 *i*P Pdif 20 40 55.3 +0.4
comp=Z,7.8nm,0.8s
F31M **Tsiigehtchic** 100.78 339 P Pdif 20 40 55.1 +0.5
baz=120
A36M **Sachs Harbour** 100.87 345 P Pdif 20 40 55.8 +0.9
baz=127
GERES **GERESS Array B** 100.96 42 P Pdif 20 40 55.8 -0.2
comp=Z,1.8nm,0.9s,baz=208,slow=2.6,SNR=13
GERES PKKPbc PKKPbc 20 57 07.2 -2.1
comp=Z,0.4nm,0.7s,baz=126,slow=1.8,SNR=5.7
GERES **GERESS Array B** 100.96 42 Pdif Pdif 20 40 55.5 -0.5
MOA **Molln** 100.97 43 *e*P Pdif 20 40 55.9 -0.1
comp=Z,4.4nm,0.9s
SOKA **Soboth** 101.07 44 *i*P Pdif 20 40 56.4 -0.1
comp=Z,2.4nm,0.8s
INK **Inuvik** 101.15 340 P Pdif 20 40 56.5 +0.3
comp=Z,8.9nm,0.8s,baz=81,slow=6.9,SNR=14
INK **Inuvik** 101.15 340 Pdif Pdif 20 40 56.1 -0.1
INK **Inuvik** 101.15 340 P Pdif 20 40 56.7 +0.5
baz=121
BGLC **Bering Glacier** 101.21 330 P Pdif 20 40 57.3 +0.7
baz=114
DAWY **Dawson** 101.22 335 P Pdif 20 40 56.6 -0.1
baz=116
EPYK **Eagle Plains** 101.27 338 P Pdif 20 40 56.2 -0.7
baz=118
I29M **Ogilvie Camp,** 101.38 336 P Pdif 20 40 57.5 +0.1
baz=117,SNR=5.7
CLL **Collm** 101.39 39 *e*P Pdif 20 40 58.0 +0.3
ARSA **Arzberg** 101.58 44 *i*P Pdif 20 40 58.7 0.0
comp=Z,2.3nm,0.7s
MCARA **McCarthy VSAT** 101.60 332 P Pdif 20 40 59.0 +0.5
baz=114
BCAR **Beaver Creek A** 101.76 334 Pdif Pdif 20 40 59.1 -0.1
L27K **Beaver Creek,** 101.77 334 P Pdif 20 40 59.5 +0.3
baz=114
CONA **Conrad Observa** 102.01 43 *i*P Pdif 20 41 00.9 +0.1
comp=Z,2.6nm,1.2s
RONA **Rosalia, Austr** 102.22 43 *i*P Pdif 20 41 01.7 +0.1
comp=Z,2.7nm,0.8s
K27K **Chicken** 102.27 334 P Pdif 20 41 01.9 +0.5
baz=114
L26K **Log Cabin Wild** 102.39 333 P Pdif 20 41 01.4 -0.5
baz=113
I27K **Kandik River** 102.73 336 P Pdif 20 41 03.6 +0.1
baz=114
KLU **Klutina** 102.93 331 Pdif Pdif 20 41 04.3 -0.2
KLU **Klutina** 102.93 331 P Pdif 20 41 04.2 -0.2
baz=111
H27K **Steamboat Moun** 102.96 337 P Pdif 20 41 04.1 -0.3
baz=114
SCRK **Sand Creek** 103.03 334 P Pdif 20 41 04.4 -0.4
baz=112
J26L **Joseph Creek** 103.06 335 P Pdif 20 41 05.2 +0.2
baz=112
I26K **Coal Creek Min** 103.20 335 P Pdif 20 41 04.8 -0.7
baz=113
G27K **Doyon Strip** 103.24 337 P Pdif 20 41 05.4 -0.3
baz=114
PAX **Paxson** 103.27 333 P Pdif 20 41 05.7 -0.3
baz=111
MORC **Moravsky Berou** 103.64 42 Pdif Pdif 20 41 07.3 -0.6
MORC **Moravsky Berou** 103.64 42 P Pdif 20 41 07.3 -0.6
NOA **NORSAR Array B** 103.75 30 PP PP 20 45 24.9 -1.4
comp=Z,2.9nm,1.0s,baz=250,slow=7.4,SNR=3.5
E27K **Coleen River** 103.77 338 P Pdif 20 41 07.9 -0.1
baz=113
J25K **Salcha River,** 103.82 334 P Pdif 20 41 08.2 -0.2
baz=111
VYHS **Vyhne** 104.08 43 *e*P Pdif 20 41 09.0 -0.8
VYHS *e* 20 45 27.2
VYHS **Vyhne** 104.08 43 *e*PDIFF Pdif 20 41 09.0 -0.8
VYHS *e*PP PP 20 45 27.2 -1.9
WAT6 **Susitna Watana** 104.11 332 P Pdif 20 41 09.5 -0.3
baz=109
SML **Sawmill** 104.12 331 Pdif Pdif 20 41 08.9 -0.8
SML **Sawmill** 104.12 331 P Pdif 20 41 09.5 -0.2
baz=109
PRP **Porcupine Dome** 104.20 335 P Pdif 20 41 09.6 -0.5
baz=110
F26K **Sheenjek River** 104.47 338 P Pdif 20 41 11.7 +0.5
baz=111
ILAR **Eielson Array** 104.49 334 Pdiff Pdif 20 41 09.8 -1.4
comp=Z,0.6nm,0.7s,baz=132,slow=1.7,SNR=5.6
ILAR PP PP 20 45 28.9 -2.7
comp=Z,1.0nm,0.8s,baz=104,slow=8.1,SNR=5.1
RC01 **Rabbit Creek A** 104.53 330 P Pdif 20 41 11.5 +0.1
baz=108
BMAR **Burnt Mountain** 104.53 337 Pdif Pdif 20 41 11.9 +0.4
H25K **Birch Creek** 104.58 336 P Pdif 20 41 12.8 +1.2
baz=110
MDM **Murphy Dome** 105.09 334 Pdif Pdif 20 41 13.7 -0.2
H23K **Yukon River** 105.88 335 P PKiKP 20 45 30.0 +0.7
baz=107
M20K **Styx River** 106.32 331 P PKiKP 20 45 30.8 +0.5
baz=105
IMAR **Indian Mountai** 107.59 335 Pdif 20 41 24.5 -0.4
CHNA **Chernabura Isl** 107.99 323 P PKiKP 20 45 33.3 -0.2
baz=102
FINES **FINESS Array B** 110.83 31 PKKPbc PKKPbc 20 56 36.3 -2.7
comp=Z,1.0nm,0.7s,baz=96,slow=5.7,SNR=6.1
MNK **Minsk** 110.89 38 *i*P Pdif 20 41 40.5 +0.7
MNK *i* 20 46 16.5
MNK *i*PPP PPP 20 48 37.0
MNK *i* 20 52 41.9
MNK *i*SS SS 21 01 41.1 -0.2
MNK *i*SSS SSS 21 05 49.9
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,4.0nm,1.0s
MNK MLR MLR
comp=E,34nm,17.0s
MNK MLR MLR
comp=Z,782nm,17.0s
MNK **Minsk** 110.89 38 *i*P Pdif 20 41 40.6 +0.7
comp=E,1.0nm,1.0s
MNK *i*P Pdif 20 41 40.6 +0.7
MNK *i*P Pdif 20 41 40.6 +0.7
comp=Z,4.0nm,1.0s,baz=262
MNK *i*PP PP 20 46 16.5 -2.0
MNK *i*PPP PPP 20 48 37.1
MNK *i*SKS SKSdf 20 52 42.0 +0.7
MNK *i*SKKS 20 54 19.8
MNK *i*PS PS 20 56 13.0 +22
MNK *i*SS SS 21 01 41.2 -0.1
MNK *i*SSS SSS 21 05 50.0
MNK *i*LQ LQ 21 19 51.7
MNK *i*LR LR 21 25 36.4
MNK *i*LRM MLR 21 30 51.6
comp=E,34nm,17.0s
MNK *i*LRM MLR 21 31 20.1
MNK *i*LRM MLR 21 31 24.9
comp=Z,782nm,17.3s
AKASG **Malin Array Be** 111.15 43 PKiKP PKiKP 20 45 38.8 -0.8
comp=Z,1.5nm,0.5s,baz=272,slow=2.2,SNR=10
AKASG PKKPbc PKKPbc 20 56 36.4 -1.2
comp=Z,0.1nm,0.2s,baz=73,slow=3.9,SNR=4.6
AKBB **Malin Array Si** 111.15 43 ⇑*i*PKiKP PKiKP 20 45 38.9 -0.7
ARCES **ARCESS Array B** 111.38 22 PKKPbc PKKPbc 20 56 33.9 -3.6
comp=Z,1.3nm,0.8s,baz=111,slow=6.8,SNR=4.8
BRTR **Keskin Array B** 112.50 55 PKiKP PKiKP 20 45 42.6 -0.1
comp=Z,1.6nm,0.8s,baz=167,slow=1.4,SNR=8.6
BRTR PP PP 20 46 30.2 -0.5
comp=Z,1.7nm,0.9s,baz=254,slow=6.7,SNR=5.4
BRTR PKKPbc PKKPab 20 56 39.8 +0.2
comp=Z,0.8nm,0.9s,baz=131,slow=2.7,SNR=3.9
SPIA **Saint Paul Isl** 114.21 324 P PKiKP 20 45 47.0 +1.8
baz=92
OBN **Obninsk** 115.94 38 ⇑*i*PKiKP PKiKP 20 45 48.8 +0.2
OBN *SP 20 46 24.0
OBN *e* 20 46 54.0
OBN 20 52 51.0
OBN pmax pmax
comp=Z,10.0nm,0.5s
LPSR **Galich'ya Gora** 117.32 41 *e*PKiKP PKPdf 20 45 50.2 -1.1
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KLMR **Klimovskoe** 117.32 32 *e*PKiKP PKPdf 20 45 48.7 -2.4
KLMR pmax pmax
comp=Z,11nm,0.8s
KLMR **Klimovskoe** 117.32 32 *e*PKPdf PKPdf 20 45 48.7 -2.4
KLMR AMP 20 45 52.0
comp=Z,11nm,0.8s
KLMR *e*PKKPbc PKKPbc 20 56 14.3 -2.5
VSR **Storozhevoye** 117.46 42 *e*PKiKP PKPdf 20 45 50.1 -1.5
VSR pmax pmax
comp=Z,9.0nm,0.8s
VORR **Voronezh** 117.49 42 *e*PKiKP PKiKP 20 45 52.2 +0.5
VORR pmax pmax
comp=Z,10.0nm,0.4s
GURO **Guroymak-BITLI** 118.81 57 PKPdf PKiKP 20 45 54.8 -0.1
VRH **Novokhopyorsk** 119.06 43 *e*PKiKP PKPdf 20 45 53.8 -0.9
VRH pmax pmax
comp=Z,10.0nm,0.8s
STKA **Stephens Creek** 119.58 209 PKP PKiKP 20 45 56.5 -0.1
comp=Z,2.0nm,0.7s,baz=213,slow=1.7,SNR=6.9
STKA **Stephens Creek** 119.58 209 PKPdf PKiKP 20 45 56.7 +0.1
STKA **Stephens Creek** 119.58 209 PKiKP PKiKP 20 45 56.7 +0.1
KIV **Kislovodsk** 119.67 51 *e*PKiKP PKiKP 20 45 56.6 +0.3
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ **Khabaz** 119.81 51 PKP PKiKP 20 45 56.8 +0.3
comp=Z,8.7nm,0.8s,baz=150,slow=2.7,SNR=10.0
KBZ **Khabaz** 119.81 51 *c*PKiKP PKiKP 20 45 56.9 +0.5
PRGR **Permogore** 120.15 30 *e*PKiKP PKPdf 20 45 54.8 -1.7
PRGR pmax pmax

	comp=Z,14nm,0.6s								
GNI	**Garni**	**121.03**	**55**	*c*	PKIKP	**PKiKP**	**20 45 59.8**	**+0.6**	
GNI					pmax	pmax			
	comp=Z,21nm,1.7s								
KIRV	**Kirov**	**122.61**	**33**		PKP	**PKiKP**	**20 46 01.6**	**+0.1**	
	comp=Z,12nm,0.6s,baz=359,slow=1.3,SNR=5.9								
BELG	**Belogornoye**	**122.64**	**41**		PKP	**PKPdf**	**20 46 01.3**	**-0.2**	
	comp=Z,22nm,0.8s,baz=254,slow=3.0,SNR=8.9								
BILL	**Bilibino**	**122.74**	**339**	⇓	*i* PKIKP	**PKiKP**	**20 46 02.1**	**+0.6**	
BILL							20 47 39.0		
BILL					*i*		20 53 03.8		
BILL					PS	**PS**	**20 57 32.0**	**-5.3**	
BILL					pmax	pmax			
	comp=Z,18nm,1.2s								
BILL					MLR	MLR			
	comp=Z,2μm,19.0s								
CTAO	**Charters Tower**	**126.49**	**222**			**PKiKP**	**20 46 10.2**	**-0.3**	
CTAO	**Charters Tower**	**126.49**	**222**		PKiKP	**PKiKP**	**20 46 10.2**	**-0.3**	
ARU	**Arti**	**127.95**	**34**		PKP	**PKiKP**	**20 46 12.2**	**0.0**	
	comp=Z,12nm,0.5s,baz=284,slow=2.1,SNR=41								
ARU	**Arti**	**127.95**	**34**	*i*	PKIKP	**PKiKP**	**20 46 12.2**	**0.0**	
ARU							20 48 11.9		
ARU							20 53 14.7		
H11S2	**WAKE ISLAND Hyl**	**128.32**	**277**		T	T	23 05 59.5		
	baz=102,slow=74,SNR=29								
H11S1	**WAKE ISLAND Hyl**	**128.33**	**277**		T	T	23 05 59.1		
	baz=102,slow=74,SNR=19								
H11S3	**WAKE ISLAND Hyl**	**128.34**	**277**		T	T	23 06 02.4		
	baz=102,slow=74,SNR=27								
H11N3	**WAKE ISLAND Hyl**	**128.40**	**279**		T	T	23 06 39.7		
	baz=102,slow=74,SNR=12								
H11N2	**WAKE ISLAND Hyl**	**128.42**	**279**		T	T	23 06 39.8		
	baz=102,slow=74,SNR=15								
H11N1	**WAKE ISLAND Hyl**	**128.42**	**279**		T	T	23 06 39.8		
	baz=102,slow=74,SNR=11								
TIXI	**Tiksi**	**128.90**	**353**		PKP	**PKiKP**	**20 46 13.5**	**-0.2**	
	comp=Z,6.9nm,0.8s,baz=272,slow=23,SNR=4.9								
AKTO	**Aktyubinsk**	**129.39**	**42**		PKP	**PKiKP**	**20 46 15.2**	**-0.1**	
	comp=Z,8.2nm,0.8s,baz=294,slow=2.0,SNR=26								
NRIK	**Noril'sk**	**130.04**	**11**	⇑	*i* PKIKP	**PKiKP**	**20 46 15.8**	**-0.2**	
ASAR	**Alice Springs**	**130.06**	**207**		PKiKP	PKPpre	20 46 02.2		
	comp=Z,0.6nm,0.6s,baz=128,slow=1.9,SNR=10								
ASAR					PKP	**PKPdf**	**20 46 16.4**	**-0.5**	
	comp=Z,18nm,0.8s,baz=139,slow=1.5,SNR=5.0								
ASAR					SKKPbc	SKKPbc	20 59 17.1	+7.9	
	comp=Z,0.3nm,0.9s,baz=340,slow=4.9,SNR=4.1								
ASAR	**Alice Springs**	**130.06**	**207**		PKPdf	**PKPdf**	**20 46 16.6**	**-0.1**	
ASAR	**Alice Springs**	**130.06**	**207**		PKIKP	**PKPdf**	**20 46 16.7**	**-0.1**	
AS31	**Alice Springs**	**130.06**	**207**		PKPdf	**PKPdf**	**20 46 16.8**	**-0.1**	
SEY	**Seymchan**	**130.32**	**337**		PKP	**PKiKP**	**20 46 16.3**	**-0.4**	
	comp=Z,28nm,0.9s,baz=60,slow=2.0,SNR=25								
SEY	**Seymchan**	**130.32**	**337**	⇑	*i* PKIKP	**PKiKP**	**20 46 17.2**	**+0.4**	
SEY					pmax	pmax			
	comp=Z,41nm,1.3s								
ABKAR	**Akbulak array**	**130.89**	**43**		PKPdf	**PKiKP**	**20 46 18.2**	**-0.2**	
ABKAR	**Akbulak array**	**130.89**	**43**		PKPdf	**PKiKP**	**20 46 18.4**	**0.0**	
GEYT	**Alibeck**	**131.46**	**58**		PKP	**PKPdf**	**20 46 19.1**	**+0.2**	
	comp=Z,5.0nm,0.8s,baz=261,slow=5.7,SNR=7.3								
RABL	**Rabaul**	**132.72**	**242**		PKPdf	**PKPdf**	**20 46 20.9**	**-1.1**	
PETK	**Petropavlovsk-**	**132.87**	**324**		PKhKP	PKPpre	20 46 08.4		
	comp=Z,2.3nm,0.6s,baz=111,slow=8.3,SNR=3.7								
PETK					PKP	**PKPdf**	**20 46 21.2**	**+0.2**	
	comp=Z,22nm,1.0s,baz=131,slow=4.5,SNR=9.3								
PETK	**Petropavlovsk-**	**132.87**	**324**		PKPdf	**PKPdf**	**20 46 21.1**	**0.0**	
WRA	**Warramunga Arr**	**133.12**	**210**		PKhKP	PKPpre	20 46 09.9		
	comp=Z,0.6nm,0.6s,baz=149,slow=2.6,SNR=15								
WRA					PKP	**PKiKP**	**20 46 23.0**	**-0.8**	
	comp=Z,15nm,0.6s,baz=149,slow=1.7,SNR=70								
WRAB	**Tennant Creek**	**133.13**	**210**			**PKPdf**	**20 46 22.6**	**-0.1**	
WRAB	**Tennant Creek**	**133.13**	**210**	*d*	PKIKP	**PKPdf**	**20 46 22.7**	**+0.1**	
WRAB					pmax	pmax			
	comp=Z,20nm,0.7s								
HRA	**Herat**	**135.01**	**63**		PKPdf	**PKPdf**	**20 46 25.1**	**-0.9**	
BRVK	**Borovoye**	**135.52**	**35**			**PKPdf**	**20 46 26.5**	**+0.5**	
BRVK	**Borovoye**	**135.52**	**35**	*d*	PKIKP	**PKiKP**	**20 46 26.9**	**-0.7**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.6s								
BVAR	**Borovoye Array**	**135.59**	**35**		PKP	**PKiKP**	**20 46 27.2**	**-0.6**	
	comp=Z,5.7nm,0.8s,baz=279,slow=2.9,SNR=25								
PSA00	**Pilbara Seismi**	**136.38**	**191**		PKPdf	**PKPdf**	**20 46 28.7**	**0.0**	
PSA00	**Pilbara Seismi**	**136.38**	**191**		PKPdf	**PKPdf**	**20 46 28.1**	**-0.6**	
YAK	**Yakutsk**	**137.67**	**347**		PKhKP	PKPpre	20 46 17.3		
	comp=Z,15nm,0.7s,baz=139,slow=0.6,SNR=18								
YAK					PKP	**PKPdf**	**20 46 29.9**	**+0.2**	
	comp=Z,7.0nm,0.7s,baz=266,slow=1.3,SNR=7.6								
YAK	**Yakutsk**	**137.67**	**347**		*e*PKHKP	PKPpre	20 46 20.3		
YAK					*e*		20 46 29.7		
YAK					pmax	pmax			
	comp=Z,30nm,0.9s								
YAK					pmax	pmax			
	comp=N,3.0nm,1.0s								
YAK					pmax	pmax			
	comp=E,2.0nm,1.0s								
YAK					pmax	pmax			
	comp=Z,81nm,4.0s								
YAK					pmax	pmax			
	comp=N,136nm,3.2s								
YAK					pmax	pmax			
	comp=E,120nm,4.0s								
FITZ	**Fitzroy Crossi**	**138.25**	**200**		PKPdf	**PKPdf**	**20 46 30.8**	**-1.3**	
BRZS	**Berezniki**	**138.31**	**38**		*e*PKIKP	**PKPdf**	**20 46 31.4**	**+0.1**	
BRZS	**Berezniki**	**138.31**	**38**		*e*PKP	**PKPdf**	**20 46 31.5**	**+0.1**	
	baz=38								
IUG	**luzhnay**	**139.68**	**50**		*e*PKIKP	**PKPdf**	**20 46 34.3**	**+0.1**	
IUG	**luzhnay**	**139.68**	**50**		*e*PKP	**PKPdf**	**20 46 34.4**	**+0.1**	
	baz=50								
KK31	**Karatay Array**	**139.72**	**48**			**PKPdf**	**20 46 34.4**	**+0.3**	
KK31	**Karatay Array**	**139.72**	**48**		PKIKP	**PKPdf**	**20 46 34.4**	**+0.3**	
KKAR	**Karatay Array**	**139.72**	**48**			**PKPdf**	**20 46 34.4**	**+0.3**	
KKAR	**Karatay Array**	**139.72**	**48**		PKIKP	**PKPdf**	**20 46 34.4**	**+0.3**	
CHGR	**Chuyangaron**	**139.94**	**55**			**PKPdf**	**20 46 34.6**	**-0.2**	
CHGR	**Chuyangaron**	**139.94**	**55**		PKIKP	**PKPdf**	**20 46 34.6**	**-0.2**	
DZA	**Taraz**	**140.36**	**48**		*e*PKIKP	**PKPdf**	**20 46 35.5**	**+0.2**	
DZA	**Taraz**	**140.36**	**48**		*e*PKP	**PKPdf**	**20 46 35.5**	**+0.2**	
	baz=48								
KURK	**Kurchatov**	**141.13**	**33**		PKIKP	**PKPdf**	**20 46 37.2**	**+0.8**	
KURBB	**Kurchatov Arra**	**141.14**	**34**		PKhKP	PKPpre	20 46 31.3		
	comp=E,4.0nm,0.7s,baz=299,slow=2.9,SNR=13								
KURBB					PKP	**PKPdf**	**20 46 37.2**	**+0.8**	
	comp=E,7.0nm,0.7s,baz=308,slow=2.6,SNR=8.5								
ZAA0	**Zalesovo Array**	**141.82**	**25**		PKPdf	**PKPdf**	**20 46 36.8**	**-0.7**	
ZALV	**Zalesovo Beam**	**141.82**	**25**		PKhKP	PKPpre	20 46 31.6		
	comp=E,9.2nm,0.7s,baz=305,slow=5.2,SNR=29								
ZALV					PKP	**PKPdf**	**20 46 37.7**	**+0.2**	
	comp=E,27nm,0.7s,baz=305,slow=2.5,SNR=20								
SGDS	**Sogindy**	**142.40**	**46**		*e*PKIKP	**PKPdf**	**20 46 38.6**	**-0.4**	
SGDS	**Sogindy**	**142.40**	**46**		*e*PKP	**PKPdf**	**20 46 38.6**	**-0.4**	
	baz=46								
AAK	**Ala-Archa**	**142.62**	**47**		PKPdf	**PKPdf**	**20 46 37.6**	**-1.9**	
AAK	**Ala-Archa**	**142.62**	**47**		PKIKP	**PKPdf**	**20 46 37.6**	**-1.9**	
BOD	**Bodaibo**	**143.74**	**358**		*e*PKIKP	PKPab	20 46 38.0	+0.2	
BOD					pmax	pmax			
	comp=Z,50nm,1.2s								
TNSS	**Tian-Shan**	**144.11**	**45**		*e*PKIKP	**PKPdf**	**20 46 41.9**	**-0.5**	
TNSS	**Tian-Shan**	**144.11**	**45**		*e*PKP	**PKPdf**	**20 46 42.0**	**-0.5**	
	baz=45								
NRN	**Naryn**	**144.12**	**48**		PKPdf	PKPbc	20 46 41.5	+0.7	
NRN	**Naryn**	**144.12**	**48**		PKIKP	PKPbc	20 46 41.5	+0.7	
MDOK	**Medeo**	**144.12**	**45**		*e*PKIKP	**PKPdf**	**20 46 41.6**	**-0.5**	
MDOK	**Medeo**	**144.12**	**45**		*e*PKP	**PKPdf**	**20 46 41.7**	**-0.5**	
	baz=45								
TDK	**Taldyqorghan**	**144.13**	**41**		*e*PKIKP	PKPbc	20 46 40.8	+0.5	
TDK	**Taldyqorghan**	**144.13**	**41**		*e*PKP	PKPbc	20 46 40.9	+0.6	
	baz=42								
YSS	**Yuzh-Sakhalins**	**144.26**	**323**		PKPdf	PKPbc	20 46 40.6	+0.1	
KSH	**Kashi**	**144.79**	**51**		PKP	**PKPdf**	**20 46 43.1**	**-0.3**	
KSH					sPKP		20 47 18.9		
GRNR	**Gornyy**	**144.94**	**332**	⇓	*i* PKIKP	**PKPdf**	**20 46 44.0**	**+0.9**	
GRNR					pmax	pmax			
	comp=E,30nm,0.7s								
GRNR					pmax	pmax			
	comp=N,10.0nm,0.8s								
GRNR					pmax	pmax			
	comp=Z,120nm,1.0s								
GRNR					MLR	MLR			
	comp=E,2μm,19.0s								
ZHN	**Zhinishke**	**145.02**	**44**		*e*PKIKP	**PKPbc**	**20 46 42.9**	**-0.4**	
ZHN	**Zhinishke**	**145.02**	**44**		*e*PKP	**PKPbc**	**20 46 42.9**	**-0.4**	
	baz=44								
KPKS	**Kokpek**	**145.05**	**44**		*e*PKIKP	**PKPdf**	**20 46 43.7**	**+0.1**	
KPKS	**Kokpek**	**145.05**	**44**		*e*PKP	**PKPdf**	**20 46 43.8**	**+0.1**	
	baz=44								
SATY	**Saty**	**145.06**	**44**		*e*PKIKP	**PKPbc**	**20 46 43.4**	**0.0**	
SATY	**Saty**	**145.06**	**44**		*e*PKP	**PKPbc**	**20 46 43.5**	**0.0**	
	baz=44								
UZB	**Uzynbulak**	**145.41**	**44**		*e*PKIKP	**PKPdf**	**20 46 44.1**	**-0.3**	
UZB	**Uzynbulak**	**145.41**	**44**		*e*PKP	**PKPdf**	**20 46 44.2**	**-0.3**	
	baz=44								
MK31	**Makanchi Array**	**145.42**	**36**	*d*	PKIKP	**PKPab**	**20 46 44.6**	**0.0**	
MKAR	**Makanchi Array**	**145.42**	**36**		PKPbc	**PKPab**	**20 46 44.8**	**+0.2**	
	comp=E,49nm,0.7s,baz=318,slow=3.7,SNR=316								
MKAR					pPKPbc	pPKPab	20 47 15.6	+1.7	
	comp=E,34nm,1.0s,baz=343,slow=2.5,SNR=5.5								
MKAR					PP	**PP**	**20 50 12.5**	**+7.7**	
	comp=E,2.0nm,0.9s,baz=262,slow=4.1,SNR=4.2								
SHLS	**Shalkode**	**145.69**	**44**		*e*PKP2	**PKPbc**	**20 46 45.2**	**-0.2**	
SHLS	**Shalkode**	**145.69**	**44**		*e*PKP	**PKPbc**	**20 46 45.2**	**-0.2**	
	baz=43								
ZEA	**Zeya**	**145.72**	**343**		*e*PKP2	**PKPab**	**20 46 45.4**	**0.0**	
ZEA					pmax	pmax			
	comp=Z,80nm,1.0s								
DGZ	**Jazzator, Alta**	**146.04**	**28**	*d*	PKP2	**PKPab**	**20 46 47.1**	**+0.1**	
ZSN	**Zaisan**	**146.38**	**33**		*e*PKIKP	**PKPdf**	**20 46 45.3**	**-0.4**	
ZSN	**Zaisan**	**146.38**	**33**		*e*PKP	**PKPdf**	**20 46 45.4**	**-0.4**	
	baz=34								
ERM	**Erimo**	**146.56**	**315**	*c*	*i* PKP2	**PKPab**	**20 46 48.7**	**-0.3**	
ERM					pmax	pmax			
	comp=Z,208nm,1.0s								
KLR	**Kul'dur**	**148.06**	**335**		PKP	**PKPdf**	**20 46 49.1**	**+0.6**	
	comp=Z,26nm,0.6s,baz=63,slow=3.1,SNR=55								
KLR					PKPbc	**PKPbc**	**20 46 51.9**	**+0.2**	
	comp=Z,26nm,0.6s,baz=58,slow=2.3,SNR=47								
MMRI	**Maumere**	**148.22**	**200**			**PKPdf**	**20 46 49.9**	**+0.1**	
EDFI	**Ende, Flores**	**148.28**	**199**		PKP	**PKPdf**	**20 46 51.0**	**+1.0**	
JTM	**Tenmabayashi**	**148.53**	**314**		PKPbc	**PKPbc**	**20 46 52.9**	**-0.2**	
HYBB	**Hyderabad (bro**	**148.64**	**92**		*e*PKIKP	**PKPbc**	**20 46 54.6**	**+0.4**	
TEY	**Ternei**	**148.83**	**325**	⇓	*e*PKP2	**PKPbc**	**20 46 53.9**	**+0.1**	
TEY					pmax	pmax			
	comp=N,10.0nm,1.6s								
TEY					pmax	pmax			
	comp=Z,50nm,0.7s								
MOY	**Mondy**	**148.84**	**13**		*e*PKP2	**PKiKP**	**20 46 54.9**	**-0.2**	
MOY					pmax	pmax			
	comp=Z,83nm,1.6s								
IRK	**Irkutsk**	**148.85**	**9**		*e*PKIKP	**PKPdf**	**20 46 50.5**	**+0.9**	
IRK					pmax	pmax			
	comp=Z,97nm,1.7s								
TWSI	**Taliwang, Sumb**	**149.44**	**190**		PKP	**PKPdf**	**20 46 53.4**	**+1.7**	
CIT	**Chita**	**149.55**	**358**		*e*PKHKP	**PKPdf**	**20 46 51.8**	**+1.0**	
CIT					*e*		20 50 25.9		
CIT					pmax	pmax			
	comp=Z,198nm,1.8s								
AAI	**Ambon**	**150.09**	**215**		PKP	**PKPdf**	**20 46 52.6**	**-0.2**	
WMQ	**Urumqi**	**150.25**	**36**		*e*PKPbc	**PKPdf**	**20 46 52.4**	**+0.2**	
ZAK	**Zakamensk**	**150.50**	**11**		*e*PKIKP	**PKPdf**	**20 46 53.3**	**+0.9**	
ZAK					pmax	pmax			
	comp=Z,21nm,1.3s								
BSSI	**Bau Bau, Buton**	**151.11**	**199**		PKP	**PKPdf**	**20 46 54.9**	**+0.5**	
JYT	**Yasato**	**151.12**	**307**			**PKiKP**	**20 46 59.5**	**-0.6**	
HIA	**Hailar**	**151.59**	**349**			**PKPbc**	**20 47 00.1**	**-0.2**	
HIA					PKPab	PKPab	**20 47 09.6**	**+0.4**	
USRK	**Ussuriysk Ar.**	**151.79**	**328**		PKP	**PKPdf**	**20 46 55.0**	**+0.6**	
	comp=Z,5.4nm,0.9s,baz=250,slow=1.4,SNR=6.2								
USRK					PKPbc	**PKiKP**	**20 47 01.3**	**0.0**	
	comp=Z,48nm,0.8s,baz=352,slow=0.7,SNR=53								
MJAR	**Matsushiro Arr**	**152.45**	**309**		PKP	**PKPdf**	**20 46 56.8**	**+1.1**	
	comp=Z,1.7nm,0.8s,baz=65,slow=1.0,SNR=8.9								
MJAR					PKPbc	**PKiKP**	**20 47 02.8**	**-0.1**	
	comp=Z,16nm,0.6s,baz=82,slow=1.7,SNR=61								
BNX	**BinXian**	**152.61**	**335**	⇑	PKPbc	**PKPdf**	**20 46 55.5**	**-0.1**	
LBMI	**Labuha**	**153.00**	**217**		PKP	**PKPdf**	**20 46 58.1**	**+0.9**	
PYUN	**Piuthan**	**153.30**	**70**	*e*	P	**PKPdf**	**20 46 57.7**	**+0.2**	
SONM	**Songino Array**	**153.46**	**8**		PKP	**PKPdf**	**20 46 58.3**	**+1.3**	
	comp=Z,7.6nm,0.8s,baz=236,slow=5.8,SNR=24								
SONM					PKPbc	**PKiKP**	**20 47 04.7**	**-0.1**	
	comp=Z,14nm,0.8s,baz=296,slow=1.2,SNR=26								
SONM					PKPab	**PKPab**	**20 47 17.9**	**+0.7**	
	comp=Z,8.9nm,0.8s,baz=324,slow=4.3,SNR=10								
SONM	**Songino Array**	**153.46**	**8**		PKPdf	**PKPdf**	**20 46 57.7**	**+0.7**	
SONM						**PKiKP**	**20 47 05.2**	**+0.4**	
SONM					PKPab	**PKPab**	**20 47 17.9**	**+0.7**	
DANN	**Dangsing**	**153.94**	**69**	*e*	P	**PKPdf**	**20 46 59.1**	**+0.6**	
	comp=Z,52nm,0.8s								
GKN	**Gorkha**	**154.76**	**70**	*e*	P	**PKPdf**	**20 46 59.4**	**-0.1**	
CN2	**Changchun**	**155.00**	**336**		PKP	**PKPdf**	**20 46 58.6**	**-0.5**	
PKI	**Pulchoki**	**155.50**	**71**	*e*	P	**PKPdf**	**20 47 00.2**	**-0.5**	
RAMN	**Ramite**	**156.63**	**72**	*e*	P	**PKPdf**	**20 47 01.5**	**-0.6**	
	comp=Z,26nm,0.8s								
XLT	**XiLinHaoTe**	**157.41**	**351**	*e*	PKP	**PKPdf**	**20 47 03.4**	**+1.0**	
XLT					PKPab	**pPKPdf**	**20 47 34.8**	**+2.2**	
PSI	**Prapat**	**157.67**	**145**		PKPab	**PKPab**	**20 47 36.0**	**-0.2**	
	comp=Z,16nm,0.9s,baz=76,slow=4.1,SNR=7.6								
PSI	**Prapat**	**157.67**	**145**		PKP2	**PKPab**	**20 47 36.0**	**-0.2**	
KSRS	**Korea Array**	**158.75**	**322**		PKP	**PKPdf**	**20 47 05.2**	**+1.2**	
	comp=Z,10nm,0.8s,baz=62,slow=1.0,SNR=58								
KSRS					PKPab	**PKPab**	**20 47 41.0**	**+0.9**	
	comp=Z,7.9nm,0.6s,baz=54,slow=4.4,SNR=20								
KSRS					PP	**PP**	**20 51 24.2**	**+3.7**	
	comp=Z,0.7nm,0.8s,baz=12,slow=6.4,SNR=4.1								
GOMU	**GeErMu**	**159.36**	**41**	⇓	*e*PKP	**PKPdf**	**20 47 06.8**	**+1.5**	
GOMU					AMB	AMB			
	comp=Z,48nm,4.4s								
GTA	**Gaotai**	**159.56**	**27**	⇓	PKP	**PKPdf**	**20 47 05.8**	**+0.6**	
GTA					sPKP		20 47 38.5		
GTA					PKPab	**PKPab**	**20 47 43.6**	**+0.1**	
GTA					PP	**PP**	**20 51 29.3**	**+4.5**	
HHC	**Hu-ho-hao-te**	**160.77**	**360**		*e*PKP	**PKPdf**	**20 47 08.1**	**+1.7**	
BTO	**Baotou**	**160.97**	**4**		*e*PKP	**PKPdf**	**20 47 07.6**	**+1.0**	
BJI	**Beijing**	**161.16**	**349**		PKP	**PKPdf**	**20 47 07.3**	**+0.6**	
HNS	**HongShan**	**163.98**	**351**	⇑	PKP	**PKPdf**	**20 47 11.3**	**+1.8**	
LZH	**Lanzhou**	**164.03**	**23**		PKP	**PKPdf**	**20 47 03.8**	**-6.1**	
TIA	**Tai'an**	**164.61**	**343**		PKP	**PKPdf**	**20 47 11.3**	**+1.1**	
XAN	**Xi'an**	**167.35**	**10**		PKP	**PKPdf**	**20 47 13.6**	**+1.1**	
NJ2	**Nanjing**	**167.69**	**330**		*e*PKP	**PKPdf**	**20 47 12.0**	**-0.7**	
CMAR	**Chiang Mai Arr**	**167.74**	**102**		PKP	**PKPdf**	**20 47 13.4**	**+0.3**	
	comp=Z,3.8nm,1.0s,baz=267,slow=2.2,SNR=26								
CMAR					PKPab	**PKPab**	**20 48 20.1**	**-0.2**	
	comp=Z,3.4nm,0.8s,baz=259,slow=5.4,SNR=13								
CMAR					PP	**PP**	**20 52 11.1**	**+1.7**	
	comp=Z,1.1nm,1.0s,baz=259,slow=6.6,SNR=5.4								
PZH	**PanZhiHua**	**169.76**	**59**		PKP	**PKPdf**	**20 47 13.0**	**-1.4**	
WHN	**Wuhan**	**170.71**	**345**	⇑	PKP	**PKPdf**	**20 47 15.6**	**+1.0**	
WHN					PKPab	**PKPab**	**20 48 32.3**	**-0.4**	
KMI	**Kunming**	**171.15**	**65**	⇑	PKP	**PKPdf**	**20 47 16.3**	**+1.0**	
GYA	**Guiyang**	**173.38**	**42**	⇑	PKP	**PKPdf**	**20 47 16.9**	**+0.8**	
GYA					PKPab	**PKPab**	**20 48 44.6**	**-0.4**	

*INET **24** 20:31:53.8±0.8, 9.˚56N×84.˚80W, h15km±6km, ML2.9*
*UCR **24** 20:31:53.6±1.4, 9.˚50N×84.˚83W, h16km±8km, MW3.6*
ISC 24 20:31:53.4±1.3, 9.˚53N±0.˚06×84.˚82W±0.˚04, h18km±8km,
n35, σ0˚57/46, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
LAFE	**Finca La Fe, P**	**0.29**	**341**	*eP*	**Pg**	**20 32 00.1**	**+0.3**
LAFE				*eS*	**Sb**	**20 32 05.4**	**+0.7**
LAFE	**Finca La Fe, P**	**0.29**	**341**	*eP*	**Pg**	**20 32 00.0**	**+0.3**
INDI	**Punta indio, G**	**0.76**	**296**	*eP*	**Pg**	**20 32 07.8**	**-0.5**
JTS	**Las Juntas de**	**0.77**	**350**	*eP*	**Pg**	**20 32 07.6**	**-0.9**
JTS				*eS*	**Sg**	**20 32 18.6**	**-0.1**
JTS	**Las Juntas de**	**0.77**	**350**	*eP*	**Pg**	**20 32 07.6**	**-0.9**
LCR2	**La Lucha 2**	**0.83**	**75**	*eP*	**Pg**	**20 32 09.0**	**-0.6**
HDC	**Heredia**	**0.83**	**56**	*eP*	**Pb**	**20 32 09.5**	**0.0**
HDC3	**Heredia 3**	**0.84**	**56**	*eP*	**Pb**	**20 32 09.2**	**-0.3**
DUNO	**Dulce Nombre,**	**0.86**	**309**	*eP*	**Pb**	**20 32 09.4**	**-0.5**
FORC	**Fortuna**	**0.94**	**9**	*eP*	**Pb**	**20 32 11.4**	**+0.1**
RIMA	**Rio Macho**	**0.97**	**76**	*eP*	**Pb**	**20 32 11.6**	**-0.2**
RIMA	**Rio Macho**	**0.97**	**76**	*eP*	**Pb**	**20 32 11.3**	**-0.6**
RIMA				*eS*	**Sg**	**20 32 25.6**	**+0.6**
RIMA				IAML		20 32 30.0	
	comp=E,333nm,0.2s						
SAJU	**San Juanillo,**	**1.03**	**301**	*eP*	**Pb**	**20 32 13.1**	**+0.3**
CDM	**Cerro de Muert**	**1.04**	**89**	*eP*	**Pb**	**20 32 13.4**	**+0.2**
CDM	**Cerro de Muert**	**1.04**	**89**	*eP*	**Pb**	**20 32 12.8**	**-0.3**
ORTG	**Ortega, Santa**	**1.04**	**323**	*eP*	**Pb**	**20 32 12.2**	**-0.9**
ACAL	**Aguas Claras**	**1.12**	**349**	*eP*	**Pb**	**20 32 13.9**	**-0.5**
ACAL				*eS*	**Sg**	**20 32 30.5**	**+0.7**
PEZE	**Perez Zeledon,**	**1.13**	**97**	*eP*	**Pb**	**20 32 14.0**	**-0.6**
CUI	**Cuipilapa**	**1.17**	**343**	*eP*	**Pn**	**20 32 14.5**	**-0.6**
CUI				*eS*	**Sg**	**20 32 31.7**	**+0.2**
PTEN	**Parque Tenorio**	**1.19**	**352**	*eP*	**Pn**	**20 32 15.2**	**-0.1**
PTEN				*eS*	**Sg**	**20 32 33.0**	**+0.9**
COLC	**Colonia**	**1.19**	**341**	*eP*	**Pn**	**20 32 14.8**	**-0.5**
HORNC	**Hornillas**	**1.23**	**343**	*eP*	**Pn**	**20 32 15.7**	**-0.2**
HORNC				*eS*	**Sn**	**20 32 32.8**	**+0.7**
GUAB	**Guayabo de Bag**	**1.24**	**341**	*eP*	**Pn**	**20 32 15.7**	**-0.3**
COVE	**Coope Vega, Sa**	**1.25**	**19**	*eP*	**Pn**	**20 32 16.0**	**-0.1**
VMAR	**Armenia, Volca**	**1.31**	**347**	*eP*	**Pn**	**20 32 17.0**	**+0.1**
VERA	**Finca Concepci**	**1.32**	**358**	*eP*	**Pn**	**20 32 15.6**	**-1.4**
VERA				*eS*	**Sb**	**20 32 35.5**	**+1.2**
GPS2	**Hotel Rincn d**	**1.32**	**337**	*eP*	**Pn**	**20 32 17.1**	**-0.1**
GPS1	**Guardaparques**	**1.34**	**337**	*eP*	**Pn**	**20 32 17.1**	**-0.3**
LAPC	**Finca la Perla**	**1.37**	**334**	*eP*	**Pn**	**20 32 17.5**	**-0.3**
LAPC				*eS*	**Sg**	**20 32 37.5**	**-0.4**
GBS3	**Finca Las Img**	**1.40**	**333**	*eP*	**Pn**	**20 32 18.3**	**+0.2**
GBS3				*eS*	**Sg**	**20 32 39.2**	**+0.7**
GB1A	**Borinquen Arri**	**1.40**	**336**	*eP*	**Pn**	**20 32 18.5**	**+0.2**
GB1A				*eS*	**Sg**	**20 32 38.8**	**-0.1**
HZTE	**Horizontes, Gu**	**1.41**	**327**	*eP*	**Pn**	**20 32 19.0**	**+0.8**
HZTE	**Horizontes, Gu**	**1.41**	**327**	*eP*	**Pn**	**20 32 18.3**	**0.0**
SRBA	**San Rafael, Bu**	**1.47**	**102**	*eP*	**Pn**	**20 32 18.8**	**-0.3**
DRK0	**Durika**	**1.57**	**100**	*eP*	**Pn**	**20 32 21.4**	**+0.7**

*EAF **24** 20:58:26.4±3.7, 24.˚80S×28.˚98E, h10km, MD3.3*
*BUL **24** 20:58:26.3±1.2, 21.˚70S×33.˚15E, h10km, MD3.3*
PRE 24 20:58:14.9±1.8, 21.˚16S×33.˚72E, h10km**, ML2.7,**
Mozambique

| Code | Station Name | Δ° | A

2.1nm,0.6s
SONM Songino Array 28.65 301 P **P** **21 09 27.6 +1.7**
0.9nm,0.8s,baz=98,slow=10,SNR=5.5
0.9nm,0.8s
ZALV Zalesovo Beam 42.31 311 P **P** **21 11 23.6 +0.8**
0.8nm,0.5s,baz=96,slow=9.5,SNR=4.0
0.8nm,0.5s
ZALV Zalesovo Beam 42.31 311 P **P** **21 11 23.0 +0.3**
IMAR Indian Mountai 43.90 31 **P** **21 11 36.6 +1.2**
H21K Melozitna Rive 44.26 32 P **P** **21 11 39.5 +1.2**
H21K IAmb IAmb 21 11 55.1
comp=Z,6.0nm,1.4s
MK31 Makanchi Array 45.01 301 P **P** **21 11 45.0 +0.4**
MK31 IAmb IAmb 21 12 07.3
comp=Z,3.4nm,1.4s
MKAR Makanchi Array 45.01 301 P **P** **21 11 45.0 +0.4**
comp=Z,0.6nm,0.7s,baz=83,slow=9.9,SNR=4.9
comp=Z,0.6nm,0.7s
MKAR Makanchi Array 45.01 301 P **P** **21 11 45.0 +0.4**
KURBB Kurchatov Arra 46.61 307 P **P** **21 11 57.6 +0.6**
comp=Z,1.5nm,0.3s,baz=80,slow=8.1,SNR=4.9
comp=Z,1.5nm,0.3s
ILAR Eielson Array 46.72 33 P **P** **21 11 57.8 0.0**
comp=Z,0.6nm,0.8s,baz=268,slow=6.8,SNR=4.8
comp=Z,0.6nm,0.8s
BVAR Borovoye Array 50.95 312 P **P** **21 12 31.3 +0.9**
comp=Z,0.4nm,0.6s,baz=55,slow=7.8,SNR=4.8
comp=Z,0.4nm,0.6s
ARU Arti 56.42 318 P **P** **21 13 11.3 +0.9**
comp=Z,3.3nm,0.8s,baz=20,slow=9.4,SNR=6.5
comp=Z,3.3nm,0.8s
ABKAR Akbulak array 58.41 310 P **P** **21 13 25.2 +0.7**
ABKAR Akbulak array 58.41 310 P **P** **21 13 25.1 +0.5**
ABKAR IAmb IAmb 21 13 26.1
comp=Z,1.4nm,0.7s
WRA Warramunga Arr 59.28 191 P **P** **21 13 30.2 -0.6**
comp=Z,0.5nm,0.6s,baz=11,slow=7.2,SNR=5.0
comp=Z,0.5nm,0.6s
ASAR Alice Springs 63.00 191 P **P** **21 13 55.5 -0.5**
comp=Z,0.2nm,0.8s,baz=279,slow=38,SNR=3.0
comp=Z,0.2nm,0.8s
NB2 NORSAR Subarra 73.28 338 P **P** **21 15 00.9 +0.7**
comp=Z,0.6nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 73.28 338 P **P** **21 15 00.7 +0.6**
comp=Z,1.3nm,0.8s,baz=18,slow=0.5,SNR=3.7
comp=Z,1.3nm,0.8s
AKASG Malin Array Be 74.14 323 P **P** **21 15 05.7 +0.5**
comp=Z,1.2nm,0.5s,baz=43,slow=6.7,SNR=6.5
comp=Z,1.2nm,0.5s

---

*MOS **24** 21:07:10.6±0.8, 18.06S×175.09W, h168km, mb5.8/19, MS5.6/5, Error ellipse: s-maj=6.7km s-min=6.1km az=76.9*
*BJI **24** 21:07:11.0±0.0, 18.05S×175.00W, h180km, mb5.7/78, mB6.1/71*
*IDC **24** 21:07:12.1±1.2, 18.06S×175.05W, h170km±10km, mb5.4/44, mbtmp5.9/48, MS5.6/3, Error ellipse: s-maj=7.9km s-min=7.6km az=155.0*
*NEIC **24** 21:07:15.8±1.8, 18.17S±0.08×174.98W±0.07, h202km±1km, mb5.9/315, Mwb6.4/87, Mww6.4, Error ellipse: s-maj=13.1km s-min=11.9km az=198.0*
*NOU **24** 21:07:15.0, 18.20S×174.73W, h215km, ML6.3/134, Tonga Islands*
*NEIC **24** 21:07:15.2, 18.14S×174.98W, h205km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}=2.73; $M_{\theta\theta}$=0.76; $M_{\phi\phi}$=1.96; $M_{r\theta}$=1.61; $M_{r\phi}$=2.52; $M_{\theta r}$=4.16; Fault plane solution: M_o5.68000×10^{18} NP1:ϕ_s=0.00000°, δ73.78000°, λ=-121.07000°. NP2:ϕ_s=245.13000°, δ34.67000°, λ=-29.42000°. Principal axes: T 4.9343, Plg23.0000°, Azm113.0000°; N 1.2712, Plg30.0000°, Azm10.0000°; P -6.2055, Plg51.0000°, Azm234.0000°;*
*GCMT **24** 21:07:21.8±0.1, 18.17S±0.01×174.72W, h207km, MW6.4/173, Moment Tensor Solution. s171,c436; s173,c641; Duration: 39 Moment tensor: Scale 10^{18} Nm; M_{rr}=1.57±.02; $M_{\theta\theta}$=0.71±.03; $M_{\phi\phi}$=0.86±.03; $M_{r\theta}$=0.73±.03; $M_{r\phi}$=2.36±.03; $M_{\theta r}$=4.35±.02; Best double couple: M_o5.13800×10^{18} NP1:ϕ_s=2.00000°, δ81.00000°, λ=-119.00000°. NP2:ϕ_s=256.00000°, δ30.00000°, λ=-19.00000°. Principal axes: T 4.7370, Plg30.0000°, Azm115.0000°; N 0.8080, Plg28.0000°, Azm7.0000°; P -5.5400, Plg47.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 21:07:22, 18.09S×174.79W, h210km, Moment Tensor Solution. Duration: 180 Moment tensor: Scale 10^{18}Nm; M_{rr}=1.94; $M_{\theta\theta}$=0.93; $M_{\phi\phi}$=1.01; $M_{r\theta}$=0.61; $M_{r\phi}$=2.50; $M_{\theta r}$=4.20; Fault plane solution: M_o5.21000×10^{18} NP1: ϕ_s=256.00000°, δ32.00000°, λ=-23.00000°. NP2:ϕ_s=5.00000°, δ78.00000°, λ=-120.00000°. Principal axes: T 4.8040, Plg27.0000°, Azm119.0000°; N 0.7289, Plg30.0000°, Azm13.0000°; P -5.5329, Plg48.0000°, Azm243.0000°;*
ISC 24 21:07:13.8±0.2, 18°23S±0°03×175°10W±0°03, h190km±1km, h190km:pP-P,n2200,σ1s62/2716, mb5.9/344, 152C-172D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.53**	**269**	P	Pn	21 08 16.7	+7.3
TAVE	**Taveuni**	**4.83**	**287**	P	Pn	21 08 32.3	+6.5
FUTU	**Fugatoga**	**4.86**	**323**	P	**Pn**	**21 08 30.8**	**+4.6**
NIUE	**Niue**	**4.97**	**101**	P	**Pn**	**21 08 26.2**	**-1.5**
	baz=4.9,SNR=1000						
NIUE				S	**Sn**	**21 09 23.2**	**-2.6**
	baz=4.9						
NIUE	**Niue**	**4.97**	**101**		**Pn**	**21 08 26.1**	**-1.5**
NIUE	**Niue**	**4.97**	**101**	P	**Pn**	**21 08 27.2**	**-0.4**
NIUE	**Niue**	**4.97**	**101**	⇓P	**Pn**	**21 08 26.2**	**-1.5**
AFI	**Afiamalu**	**5.35**	**37**	P	Pn	21 08 27.1	-5.5
	5μm,0.5s,baz=349,slow=0.6,SNR=289						
AFI				S	Sn	21 09 23.0	-12
	10μm,0.3s,baz=47,slow=22,SNR=11						
AFI	**Afiamalu**	**5.35**	**37**	P	Pn	21 08 27.2	-5.4
AFI	**Afiamalu**	**5.35**	**37**	P	**Pn**	**21 08 29.6**	**-3.0**
AFI	**Afiamalu**	**5.35**	**37**	⇓P	Pn	21 08 27.2	-5.4
MSVF	**Nonsavu**	**6.54**	**273**	P	Pn	21 08 54.6	+6.6
	2μm,0.7s,baz=116,slow=15,SNR=904						
MSVF				LR	LR	21 10 28.8	
	comp=Z,55μm,18.9s,baz=89,slow=30						
MSVF	**Nonsavu**	**6.54**	**273**		Pn	21 08 54.4	+6.4
MSVF	**Nonsavu**	**6.54**	**273**	P	Pn	21 08 54.4	+6.4
MSVF	**Nonsavu**	**6.54**	**273**	P	Pn	21 08 55.4	+7.4
MSVF	**Nonsavu**	**6.54**	**273**	⇓P	Pn	21 08 54.5	+6.5
FUNA	**Funafuti**	**11.12**	**329**		**Pn**	**21 09 49.9**	**+2.1**
FUNA	**Funafuti**	**11.12**	**329**	P	**P**	**21 09 52.2**	**-2.1**
	3μm,1.6s						
FUNA	**Funafuti**	**11.12**	**329**	⇑P	**Pn**	**21 09 50.3**	**+2.5**
RAO	**Raoul Island**	**11.27**	**193**	P	**Pn**	**21 09 50.4**	**+0.8**
	589nm,0.2s,baz=75,slow=9.5,SNR=17						
RAO				S	**Sn**	**21 11 49.1**	**-6.0**
	4μm,0.7s,baz=80,slow=23,SNR=10						
RAO	**Raoul Island**	**11.27**	**193**	Pn	**Pn**	**21 09 49.7**	**+0.1**
RAO	**Raoul Island**	**11.27**	**193**	P	**Pn**	**21 09 51.7**	**+2.1**
RAO	**Raoul Island**	**11.27**	**193**	⇓P	**Pn**	**21 09 49.7**	**+0.1**
RAO				⇑S	**Sn**	**21 11 54.9**	**-0.2**
GLKZ	**Green Lake**	**11.28**	**193**	P	**Pn**	**21 09 48.3**	**-1.4**
GLKZ				S	**Sn**	**21 11 49.6**	**-5.8**
RAR	**Rarotonga**	**14.73**	**104**	P	**Pn**	**21 10 32.4**	**-0.8**
	4μm,1.2s,baz=254,slow=7.3,SNR=110						
RAR				S	**Sn**	**21 13 14.6**	**-3.2**
	56nm,0.5s,baz=6.5,slow=20,SNR=0.9						
RAR	**Rarotonga**	**14.73**	**104**	Pn	**Pn**	**21 10 32.2**	**-1.0**
RAR	**Rarotonga**	**14.73**	**104**	⇑P	**Pn**	**21 10 31.8**	**-1.4**
RTV	**Rentapao**	**15.68**	**269**	P	**P**	**21 10 50.4**	**+5.5**
DVP	**Devils Point**	**15.91**	**269**	P	**Pn**	**21 10 51.7**	**+4.1**
MARNC	**Mare, Loyalty**	**16.20**	**256**	P	**Pn**	**21 10 52.1**	**+1.1**
MARNC	**Mare, Loyalty**	**16.20**	**256**	P	**Pn**	**21 10 53.6**	**+2.6**
MARNC	**Mare, Loyalty**	**16.20**	**256**	⇓P	**Pn**	**21 10 52.7**	**+1.7**
LIFNC	**LIFOU**	**16.84**	**258**	P	**Pn**	**21 10 59.2**	**+0.5**
LIFNC	**LIFOU**	**16.84**	**258**	P	**Pn**	**21 11 00.2**	**+1.4**
PINNC	**Pines Island,**	**16.93**	**252**	P	**Pn**	**21 11 00.8**	**+1.0**
PINNC	**Pines Island,**	**16.93**	**252**	P	**Pn**	**21 11 02.7**	**+2.9**
	6μm,1.6s						
YATNC	**Mamie plateau,**	**17.33**	**254**	P	**Pn**	**21 11 06.0**	**+1.4**
DZM	**Mont Dzumac**	**17.75**	**254**	*eP*	**Pn**	**21 11 09.0**	**-0.5**
	6μm,1.5s						
DZM				*eLR*	LR	21 15 30.0	
	comp=Z,42μm,27.0s						
DZM	**Mont Dzumac**	**17.75**	**254**	P	**Pn**	**21 11 09.2**	**-0.3**
	1μm,0.9s,baz=84,slow=15,SNR=195						
DZM				LR	LR	21 17 23.6	
	comp=Z,22μm,18.3s,baz=83,slow=34						
DZM	**Mont Dzumac**	**17.75**	**254**	P	**Pn**	**21 11 09.4**	**-0.1**
DZM	**Mont Dzumac**	**17.75**	**254**	P	**Pn**	**21 11 10.7**	**+1.2**
DZM	**Mont Dzumac**	**17.75**	**254**	⇑P	**Pn**	**21 11 09.4**	**-0.1**
ONTNC	**Ouen Toro**	**17.77**	**254**	P	**Pn**	**21 11 09.2**	**-0.5**
ONTNC	**Ouen Toro**	**17.77**	**254**	P	**Pn**	**21 11 11.2**	**+1.4**
ONTNC	**Ouen Toro**	**17.77**	**254**	⇓P	**Pn**	**21 11 09.8**	**0.0**
NOUC	**Port Laguerre**	**17.88**	**254**	P	**Pn**	**21 11 12.1**	**+1.1**
NFK	**Norfolk Island**	**18.88**	**232**	P	**Pn**	**21 11 22.7**	**0.0**
	baz=19,SNR=24						
NFK	**Norfolk Island**	**18.88**	**232**	⇓P	**Pn**	**21 11 23.5**	**+0.8**
KOUNC	**Koumac, New Ca**	**19.58**	**260**	P	**P**	**21 11 28.6**	**+1.2**
KOUNC	**Koumac, New Ca**	**19.58**	**260**	P	**P**	**21 11 29.2**	**+1.7**
KOUNC	**Koumac, New Ca**	**19.58**	**260**	⇓P	**P**	**21 11 28.5**	**+1.1**
OUZ	**Omahuta**	**19.68**	**208**		**Pn**	**21 11 30.6**	**-1.6**
OUZ	**Omahuta**	**19.68**	**208**	P	**Pn**	**21 11 31.1**	**-1.0**
OUZ	**Omahuta**	**19.68**	**208**	⇑P	**Pn**	**21 11 30.3**	**-1.8**
MXZ	**Matakaoa Point**	**20.11**	**195**		**P**	**21 11 33.2**	**+0.2**
MXZ	**Matakaoa Point**	**20.11**	**195**	P	**P**	**21 11 34.1**	**+1.1**
MXZ				S	**S**	**21 15 02.4**	**-6.0**
WMGZ	**Waiomatatini S**	**20.33**	**195**	P	**P**	**21 11 37.3**	**+2.0**
WMGZ				S	**S**	**21 15 09.1**	**-3.5**
WIZ	**White Island**	**20.38**	**198**	P	Pn	21 11 38.9	-1.8
HAZ	**Te Kaha**	**20.43**	**196**	P	**P**	**21 11 37.9**	**+1.5**
HAZ				S	**S**	**21 15 07.9**	**-6.6**
MYRZ	**Mayor Island**	**20.45**	**200**	P	Pn	21 11 41.2	-0.4
PKGZ	**Pakihiroa**	**20.48**	**196**	P	**P**	**21 11 38.4**	**+1.4**
PKGZ				S	**S**	**21 15 11.1**	**-4.6**
PUZ	**Puketiti**	**20.61**	**195**	P	**P**	**21 11 39.0**	**+0.7**
PUZ				S	**S**	**21 15 12.5**	**-5.5**
RUGZ	**Raukumara Rang**	**20.66**	**196**	P	**P**	**21 11 39.6**	**+0.7**
RUGZ				S	**S**	**21 15 14.1**	**-5.1**
WHRZ	**Whale Island**	**20.75**	**198**	P	Pn	21 11 43.7	-1.6
TWGZ	**Tauwhareparae**	**20.78**	**196**	P	**P**	**21 11 41.6**	**+1.5**
TWGZ				S	**S**	**21 15 15.2**	**-6.1**
OPRZ	**Ohinepanea**	**20.87**	**199**	P	Pn	21 11 44.2	-2.6
URZ	**Urewera**	**21.09**	**197**	P	**P**	**21 11 45.1**	**+1.8**
	449nm,0.3s,baz=103,slow=1.9,SNR=126						
URZ				S	**S**	**21 15 25.4**	**-1.3**
	140nm,0.6s,baz=174,slow=20,SNR=6.7						
	449nm,0.3s						
URZ	**Urewera**	**21.09**	**197**	P	**P**	**21 11 43.0**	**-0.4**
URZ	**Urewera**	**21.09**	**197**	P	**P**	**21 11 42.3**	**-1.0**
URZ				S	**S**	**21 15 22.9**	**-3.8**
URZ	**Urewera**	**21.09**	**197**	P	**P**	**21 11 43.6**	**+0.3**
URZ	**Urewera**	**21.09**	**197**	⇓P	**P**	**21 11 40.9**	**-2.4**
HIZ	**Hauiti**	**22.03**	**201**	P	**P**	**21 11 56.1**	**+3.1**
BKZ	**Black Stump Fm**	**22.11**	**198**	P	**P**	**21 11 53.3**	**-0.5**
BKZ	**Black Stump Fm**	**22.11**	**198**	P	**P**	**21 11 53.8**	**0.0**
TARA	**Tarawa**	**22.75**	**328**	P	**P**	**21 11 58.9**	**-1.0**
TARA	**Tarawa**	**22.75**	**328**	⇑P	**P**	**21 11 59.1**	**-0.7**
BFZ	**Birch Farm**	**23.59**	**197**	P	**P**	**21 12 07.8**	**+0.6**
BFZ	**Birch Farm**	**23.59**	**197**	P	**P**	**21 12 07.0**	**-0.2**
PAE	**Paea**	**24.28**	**93**	*eP*	**P**	**21 12 13.0**	**-0.8**
	935nm,1.4s						
PAE	**Paea**	**24.28**	**93**	*eT*	T	21 37 00.3	
	70nm,0.3s						
PPT2	**Papeete2**	**24.29**	**92**	*eP*	**P**	**21 12 13.8**	**-0.2**
	4μm,1.4s						
PPT2				*eLR*	LR	21 18 25.7	
	comp=Z,17μm,24.5s						
PPT2				*eLR*	LR	21 18 26.4	
	comp=Z,11μm,40.8s						
PPT2	**Papeete2**	**24.29**	**92**	*eT*	T	21 37 03.2	
	52nm,0.3s						
PPT	**Papeete**	**24.29**	**92**	P	**P**	**21 12 13.7**	**-0.2**
	875nm,1.0s,baz=20,slow=0.8,SNR=41						
PPT				LR	LR	21 19 55.1	
	comp=Z,8μm,20.2s,baz=255,slow=32						
	875nm,1.0s						
PPTF	**Pamatai, Papee**	**24.30**	**92**	P	**P**	**21 12 13.4**	**-0.7**
PPTF	**Pamatai, Papee**	**24.30**	**92**	⇑P	**P**	**21 12 13.6**	**-0.5**
TIAR	**Tiarei**	**24.51**	**92**	*eP*	**P**	**21 12 15.6**	**-0.3**
	617nm,1.2s						
TVO	**Taravao**	**24.58**	**93**	*eP*	**P**	**21 12 16.0**	**-0.6**
	2μm,1.4s						
SNZO	**South Karori**	**24.61**	**199**	P	**P**	**21 12 16.4**	**-0.1**
SNZO	**South Karori**	**24.61**	**199**	P	**P**	**21 12 16.4**	**-0.1**
SNZO	**South Karori**	**24.61**	**199**	⇓P	**P**	**21 12 16.0**	**-0.5**
QRZ	**Quartz Range**	**24.91**	**203**	P	**P**	**21 12 21.5**	**+2.3**
MEH	**Mehetia**	**25.70**	**93**	*eP*	**P**	**21 12 25.9**	**-0.7**
	443nm,1.3s						
MEH	**Mehetia**	**25.70**	**93**	*eT*	T	21 38 59.0	
	168nm,0.2s						
HNR	**Honiara**	**25.73**	**287**	P	**P**	**21 12 28.5**	**+1.5**
	6μm,0.9s,baz=236,slow=7.0,SNR=15						
HNR	**Honiara**	**25.73**	**287**	P	**P**	**21 12 27.7**	**+0.7**
HNR	**Honiara**	**25.73**	**287**	P	**P**	**21 12 28.2**	**+1.3**
HNR	**Honiara**	**25.73**	**287**	⇓P	**P**	**21 12 26.1**	**-0.8**
KHZ	**Kahutara**	**25.98**	**199**	P	**P**	**21 12 28.2**	**-0.6**
KHZ	**Kahutara**	**25.98**	**199**	P	**P**	**21 12 29.5**	**+0.7**
KHZ	**Kahutara**	**25.98**	**199**	⇑P	**P**	**21 12 29.0**	**+0.1**
VAH	**Vaihoa**	**26.47**	**88**	*eP*	**P**	**21 12 30.9**	**-2.6**
	1μm,1.3s						
LHI	**Lord Howe Isla**	**26.84**	**236**	P	**P**	**21 12 38.0**	**+1.4**
	baz=27,SNR=65						
LHI	**Lord Howe Isla**	**26.84**	**236**	P	**P**	**21 12 37.6**	**+1.0**
LHI	**Lord Howe Isla**	**26.84**	**236**	P	**P**	**21 12 38.5**	**+1.8**
LHI	**Lord Howe Isla**	**26.84**	**236**	⇓P	**P**	**21 12 38.0**	**+1.4**
RPZ	**Rata Peaks**	**27.96**	**202**	P	**P**	**21 12 48.3**	**+1.7**
	474nm,0.9s,baz=319,slow=2.0,SNR=70						
	474nm,0.9s						
RPZ	**Rata Peaks**	**27.96**	**202**	P	**P**	**21 12 46.8**	**+0.2**
RPZ	**Rata Peaks**	**27.96**	**202**	P	**P**	**21 12 48.3**	**+1.7**
ODZ	**Otahua Downs**	**29.27**	**201**	P	**P**	**21 12 59.1**	**+1.0**
ODZ	**Otahua Downs**	**29.27**	**201**	⇑P	**P**	**21 12 58.6**	**+0.5**
EIDS	**Eidsvold**	**32.13**	**251**	P	**P**	**21 13 23.8**	**+0.3**
	baz=32,SNR=124						
EIDS	**Eidsvold**	**32.13**	**251**	P	**P**	**21 13 23.7**	**+0.3**
EIDS	**Eidsvold**	**32.13**	**251**	P	**P**	**21 13 24.1**	**+0.6**
EIDS	**Eidsvold**	**32.13**	**251**	⇓P	**P**	**21 13 23.8**	**+0.3**
RK1H	**Rockhampton Ha**	**32.52**	**255**	P	**P**	**21 13 27.5**	**+0.6**
ARMA	**Armidale**	**32.54**	**242**	P	**P**	**21 13 28.1**	**+1.1**
	baz=33,SNR=512						
ARMA	**Armidale**	**32.54**	**242**	P	**P**	**21 13 28.2**	**+1.1**
ARMA				IAmb	IAmb	21 13 31.7	
	comp=Z,660nm,1.4s						
ARMA	**Armidale**	**32.54**	**242**	P	**P**	**21 13 28.5**	**+1.4**
ARMA	**Armidale**	**32.54**	**242**	⇓P	**P**	**21 13 28.3**	**+1.2**
NTLH	**Newcastle Hard**	**33.16**	**237**	P	**P**	**21 13 35.7**	**+3.4**
RIV	**Riverview**	**33.88**	**236**	P	**P**	**21 13 39.8**	**+1.3**
	baz=34,SNR=22						
RIV	**Riverview**	**33.88**	**236**	⇓P	**P**	**21 13 39.4**	**+0.8**
SYDH	**Sydney Hard Ro**	**34.19**	**236**	P	**P**	**21 13 42.3**	**+1.1**
	comp=Z,701nm,1.0s						
RMQ	**Roma**	**34.33**	**250**	P	**P**	**21 13 43.9**	**+1.3**
	baz=34,SNR=309						
RMQ	**Roma**	**34.33**	**250**	P	**P**	**21 13 44.2**	**+1.6**
RABL	**Rabaul**	**34.92**	**290**	P	**P**	**21 13 45.8**	**-1.9**
RABL				IAmb	IAmb	21 13 49.5	
	comp=Z,454nm,1.3s						
RABL	**Rabaul**	**34.92**	**290**	P	**P**	**21 13 50.0**	**+2.3**
RABL	**Rabaul**	**34.92**	**290**	⇑P	**P**	**21 13 45.2**	**-2.6**
KRVT	**Keravat (AS076**	**34.99**	**289**	P	**P**	**21 13 47.6**	**-0.7**
	comp=Z,403nm,0.9s,baz=59,slow=0.6,SNR=29						
	comp=Z,403nm,0.9s						
TAOE	**Nuku Hiva Isla**	**35.17**	**79**	*eP*	**P**	**21 13 48.2**	**-1.8**
	comp=Z,681nm,1.1s						
TAOE				*eS*	**S**	**21 19 08.7**	**-0.5**
	comp=Z,4μm,36.3s						
TAOE				*eLR*	LR	21 23 27.2	
	comp=Z,6μm,23.7s						
TAOE	**Nuku Hiva Isla**	**35.17**	**79**	*eT*	T	21 50 32.4	
	comp=Z,178nm,0.2s						
TAOE	**Nuku Hiva Isla**	**35.17**	**79**	P	**P**	**21 13 48.8**	**-1.2**
TAOE				IAmb	IAmb	21 13 55.5	
	comp=Z,337nm,1.0s						
TAOE	**Nuku Hiva Isla**	**35.17**	**79**	⇓P	**P**	**21 13 49.8**	**-0.1**
TAOE	**Nuku Hiva Isla**	**35.17**	**79**	P	**P**	**21 13 49.4**	**-0.6**
TAOE				pP	**pP**	**21 14 36.3**	**+7.1**
CNB	**Canberra Magne**	**35.77**	**234**	P	**P**	**21 13 55.6**	**+0.8**
	baz=36,SNR=204						
CNB	**Canberra Magne**	**35.77**	**234**	P	**P**	**21 13 55.4**	**+0.6**
CAN	**Canberra**	**36.05**	**235**	P	**P**	**21 13 57.7**	**+0.5**
CAN	**Canberra**	**36.05**	**235**	P	**P**	**21 13 57.7**	**+0.5**
CAN				pmax	pmax		
	comp=Z,733nm,1.1s						
CAN	**Canberra**	**36.05**	**235**	P	**P**	**21 13 57.7**	**+0.5**
CAN	**Canberra**	**36.05**	**235**	⇓P	**P**	**21 13 57.5**	**+0.3**
CAN	**Canberra**	**36.05**	**235**	P	**P**	**21 13 57.7**	**+0.5**
PATS	**Pohnpei**	**36.18**	**311**	P	**P**	**21 13 58.2**	**-0.1**
PATS				IAmb	IAmb	21 14 05.9	
	comp=Z,547nm,1.3s						
CTA	**Charters Tower**	**36.50**	**261**	P	**P**	**21 14 01.5**	**+0.3**
	comp=Z,214nm,0.5s,baz=89,slow=9.6,SNR=178						
	comp=Z,214nm,0.5s						
CTA	**Charters Tower**	**36.50**	**261**	P	**P**	**21 14 01.5**	**+0.3**
CTAO	**Charters Tower**	**36.50**	**261**	P	**P**	**21 14 01.2**	**0.0**
CTAO				IAmb	IAmb	21 14 08.8	
	comp=Z,419nm,0.9s						
CTAO	**Charters Tower**	**36.50**	**261**	P	**P**	**21 14 01.2**	**0.0**
CTAO				pmax	pmax		
	comp=Z,419nm,1.0s						
CTAO	**Charters Tower**	**36.50**	**261**	P	**P**	**21 14 01.4**	**+0.3**
CTAO	**Charters Tower**	**36.50**	**261**	⇓P	**P**	**21 14 01.1**	**-0.1**
CTAO	**Charters Tower**	**36.50**	**261**	P	**P**	**21 14 01.1**	**0.0**
CTAO				pP	**pwP**	**21 14 45.7**	**+2.0**
MILA	**Mila**	**36.52**	**232**	P	**P**	**21 14 01.5**	**+0.3**
	baz=37,SNR=30						
MILA	**Mila**	**36.52**	**232**	⇑P	**P**	**21 14 01.5**	**+0.3**
PMG	**Port Moresby**	**37.62**	**278**	P	**P**	**21 14 11.3**	**+0.7**
	comp=Z,352nm,0.9s,baz=90,slow=5.4,SNR=90						
	comp=Z,352nm,0.9s						
PMG	**Port Moresby**	**37.62**	**278**	P	**P**	**21 14 10.9**	**+0.4**
PMG				IAmb	IAmb	21 14 14.6	
	comp=Z,480nm,1.0s						
PMG	**Port Moresby**	**37.62**	**278**	P	**P**	**21 14 12.3**	**+1.7**
PMG	**Port Moresby**	**37.62**	**278**	P	**P**	**21 14 12.5**	**+1.9**
PMG	**Port Moresby**	**37.62**	**278**	P	**P**	**21 14 11.3**	**+0.7**
PMG				pP	**pwP**	**21 14 58.9**	**+5.8**
PMG				pwP	**sP**	**21 15 06.9**	**-4.4**
CMSA	**Cobar Meteorol**	**37.76**	**242**	P	**P**	**21 14 12.0**	**+0.5**
	baz=38,SNR=365						
CMSA	**Cobar Meteorol**	**37.76**	**242**	P	**P**	**21 14 12.5**	**+1.0**
QLP	**Quilpie**	**38.38**	**250**	P	**P**	**21 14 17.4**	**+0.6**
	baz=38,SNR=134						
QLP	**Quilpie**	**38.38**	**250**	P	**P**	**21 14 17.6**	**+0.8**
QLP	**Quilpie**	**38.38**	**250**	⇓P	**P**	**21 14 17.2**	**+0.5**
MTSU	**Mount Surprise**	**38.50**	**264**	P	**P**	**21 14 17.7**	**-0.3**
	baz=38,SNR=316						
MTSU	**Mount Surprise**	**38.50**	**264**	P	**P**	**21 14 18.5**	**+0.5**
TOO	**Toolangi**	**39.45**	**233**	P	**P**	**21 14 26.0**	**+0.4**
	baz=40,SNR=139						
TOO	**Toolangi**	**39.45**	**233**	P	**P**	**21 14 26.0**	**+0.4**
TOO				IAmb	IAmb	21 14 28.7	
	comp=Z,512nm,0.9s						
TOO	**Toolangi**	**39.45**	**233**	P	**P**	**21 14 26.0**	**+0.4**
TOO				pmax	pmax		
	comp=Z,512nm,0.9s						
TOO	**Toolangi**	**39.45**	**233**	P	**P**	**21 14 26.1**	**+0.5**
TOO	**Toolangi**	**39.45**	**233**	⇓P	**P**	**21 14 25.9**	**+0.3**
MOO	**Moorlands**	**40.04**	**225**	P	**P**	**21 14 30.8**	**+0.5**
	baz=40,SNR=8.0						
MOO	**Moorlands**	**40.04**	**225**	P	**P**	**21 14 30.8**	**+0.5**
TAU	**Tasmania Unive**	**40.16**	**224**	P	**P**	**21 14 30.8**	**-0.5**
TAU				IAmb	IAmb	21 14 34.3	
	comp=Z,584nm,1.6s						
TAU	**Tasmania Unive**	**40.16**	**224**	P	**P**	**21 14 30.8**	**-0.5**
TAU				pmax	pmax		
	comp=Z,585nm,1.6s						
TAU	**Tasmania Unive**	**40.16**	**224**	P	**P**	**21 14 31.6**	**+0.3**
TAU	**Tasmania Unive**	**40.16**	**224**	⇑P	**P**	**21 14 31.8**	**+0.6**
TAU	**Tasmania Unive**	**40.16**	**224**	P	**P**	**21 14 31.5**	**+0.2**
MANU	**Manus Island**	**40.16**	**289**	P	**P**	**21 14 31.8**	**+0.1**
MANU				IAmb	IAmb	21 15 23.4	
	comp=Z,429nm,1.4s						
COEN	**Coen**	**40.25**	**270**	P	**P**	**21 14 32.7**	**+0.2**
	baz=40,SNR=118						
COEN	**Coen**	**40.25**	**270**	P	**P**	**21 14 32.6**	**+0.2**
COEN				IAmb	IAmb	21 14 35.1	
	comp=Z,279nm,0.9s						
COEN	**Coen**	**40.25**	**270**	P	**P**	**21 14 33.1**	**+0.6**
COEN	**Coen**	**40.25**	**270**	⇓P	**P**	**21 14 32.6**	**+0.1**
BRAT	**Ballarat**	**40.62**	**233**	P	**P**	**21 14 36.4**	**+1.3**
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**21 14 41.3**	**+0.8**
	comp=Z,1μm,1.2s,baz=92,slow=10,SNR=234						
	comp=Z,1μm,1.2s						
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**21 14 41.2**	**+0.8**
	baz=41,SNR=400						
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**21 14 41.0**	**+0.6**
STKA				IAmb	IAmb	21 14 44.8	
	comp=Z,484nm,1.4

GUMO Guam 50.58 306 P P 21 15 54.4 +1.0
comp=Z,344nm,0.9s,baz=163,slow=7.2,SNR=18
comp=Z,344nm,0.9s
GUMO Guam 50.58 306 P P 21 15 53.9 +0.5
GUMO Guam 50.58 306 P P 21 15 54.9 +1.5
GUMO Guam 50.58 306 ⇑P P 21 15 54.2 +0.8
GUMO Guam 50.58 306 P P 21 15 53.7 +0.3
KDU Kakadu 50.70 268 P P 21 15 54.0 -0.3
baz=51,SNR=189
KDU Kakadu 50.70 268 P P 21 15 54.4 0.0
KDU Kakadu 50.70 268 ⇓P P 21 15 52.5 -1.9
BAKI Biak 50.77 284 P P 21 15 55.6 +0.6
comp=Z,7μmcomp=Z,216nm,1.4s
MTN Manton Dam 51.94 268 P P 21 16 03.0 -0.7
baz=52,SNR=255
MTN Manton Dam 51.94 268 P P 21 16 02.9 -0.7
MTN Manton Dam 51.94 268 P P 21 16 03.5 -0.1
MTN Manton Dam 51.94 268 ⇓P P 21 16 02.9 -0.7
FORT Forrest 52.72 245 P P 21 16 08.9 -0.3
baz=53,SNR=304
FORT Forrest 52.72 245 P P 21 16 08.9 -0.3
FORT Forrest 52.72 245 P P 21 16 09.1 -0.1
FORT Forrest 52.72 245 ⇓P P 21 16 08.8 -0.4
WRKA Warakurna 52.74 252 P P 21 16 09.7 +0.2
baz=53,SNR=1000
WRKA Warakurna 52.74 252 P P 21 16 09.8 +0.2
WRKA Warakurna 52.74 252 ⇓P P 21 16 09.7 +0.2
SAUI Saumlaki 53.02 274 P P 21 16 11.9 +0.3
SAUI Saumlaki 53.02 274 P P 21 16 12.1 +0.5
comp=Z,36μmcomp=Z,20μmcomp=Z,1μm,1.2s
SAUI Saumlaki 53.02 274 P P 21 16 12.6 +1.0
KNRA Kununurra 53.59 264 P P 21 16 15.5 -0.1
baz=54,SNR=545
KNRA Kununurra 53.59 264 P P 21 16 15.6 -0.1
KNRA Kununurra 53.59 264 P P 21 16 15.9 +0.2
FAKI Fak Fak 53.73 280 P P 21 16 16.2 -0.6
FAKI lAmb lAmb 21 16 22.7
comp=Z,640nm,1.4s
FAKI Fak Fak 53.73 280 P P 21 16 16.1 -0.7
comp=Z,32μmcomp=Z,7μmcomp=Z,338nm,1.5s
FAKI Fak Fak 53.73 280 P P 21 16 17.2 +0.4
SIJI Sorong 55.38 282 P P 21 16 28.7 0.0
comp=Z,291nm,0.7s,baz=121,slow=5.3,SNR=166
comp=Z,291nm,0.7s
BNDI Bandanaira 55.40 277 P P 21 16 28.7 -0.1
comp=Z,33μmcomp=Z,21μmcomp=Z,2μm,1.3s
BNDI Bandanaira 55.40 277 P P 21 16 29.8 +1.0
FITZ Fitzroy Crossi 56.08 260 P P 21 16 33.9 +0.4
comp=Z,285nm,0.6s,baz=180,slow=1.2,SNR=1012
comp=Z,285nm,0.6s
FITZ Fitzroy Crossi 56.08 260 P P 21 16 33.9 +0.4
baz=56,SNR=1000
FITZ Fitzroy Crossi 56.08 260 P P 21 16 34.0 +0.4
FITZ Fitzroy Crossi 56.08 260 P P 21 16 34.3 +0.8
FITZ Fitzroy Crossi 56.08 260 ⇓P P 21 16 33.9 +0.4
DRV Dumont d'Urvil 56.40 200 P P 21 16 36.5 +1.5
MSAI Masohi 56.70 278 P P 21 16 38.4 +0.4
comp=Z,639nmcomp=Z,68nm,0.9s
AAI Ambon 57.28 277 P P 21 16 41.8 -0.3
comp=Z,9μmcomp=Z,612nm,1.2s
NLAI Namlea 58.46 278 P P 21 16 50.4 +0.1
comp=Z,7μmcomp=Z,598nm,1.4s
LBMI Labuha 58.97 281 P P 21 16 54.3 +0.5
comp=Z,4μmcomp=Z,267nm,1.2s
TNTI Ternate 59.60 282 P P 21 16 57.9 -0.3
TNTI Ternate 59.60 282 P P 21 16 58.5 +0.4
comp=Z,15μmcomp=Z,8μmcomp=Z,476nm,1.2s
BATI Baumata 59.67 269 P P 21 17 00.1 +1.4
comp=Z,15μmcomp=Z,7μmcomp=Z,587nm,0.8s
SANI Sanana 59.90 278 P P 21 16 59.6 -0.6
comp=Z,25μmcomp=Z,8μmcomp=Z,679nm,1.3s
SANI Sanana 59.90 278 P P 21 17 00.3 +0.1
SBA Scott Base 60.32 184 P P 21 17 05.0 +3.0
SBA lAmb lAmb 21 17 08.2
comp=Z,383nm,1.1s
SBA Scott Base 60.32 184 P P 21 17 05.0 +3.0
SBA pmax pmax
comp=Z,383nm,1.1s
SBA Scott Base 60.32 184 P P 21 17 05.5 +3.5
VNDA Vanda 60.42 186 P P 21 17 05.4 +2.7
comp=Z,140nm,0.9s,baz=9.0,slow=7.0,SNR=46
comp=Z,140nm,0.9s
VNDA Vanda 60.42 186 P P 21 17 05.1 +2.5
VNDA lAmb lAmb 21 17 08.0
comp=Z,305nm,1.1s
VNDA Vanda 60.42 186 P P 21 17 05.3 +2.7
VNDA pP pwP 21 17 56.7 +8.3
RPN Rapa Nui 60.74 111 P P 21 17 06.9 +1.2
comp=Z,100nm,0.9s,baz=312,slow=5.4,SNR=1.6
comp=Z,100nm,0.9s
RPN Rapa Nui 60.74 111 P P 21 17 05.4 -0.3
PSA00 Pilbara Seismi 60.87 255 P P 21 17 06.3 -0.4
PSA00 Pilbara Seismi 60.87 255 P P 21 17 06.5 -0.1
PSA00 lAmb lAmb 21 17 09.4
comp=Z,856nm,0.9s
PSA00 Pilbara Seismi 60.87 255 P P 21 17 06.6 -0.1
MBWA Marble Bar 61.05 255 P P 21 17 07.7 -0.1
MBWA Marble Bar 61.05 255 P P 21 17 07.8 -0.1
MBWA P P 21 17 07.8 -0.1
MBWA Marble Bar 61.05 255 P P 21 17 07.8 -0.1
MBWA Marble Bar 61.05 255 ⇓P P 21 17 07.7 -0.1
MBWA Marble Bar 61.05 255 ⇓P P 21 17 07.7 -0.1
JCJ Chichijima 61.20 316 P P 21 17 07.5 -1.2
comp=Z,132nm,0.8s,baz=282,slow=22,SNR=8.6
comp=Z,132nm,0.8s
JCJ Chichijima 61.20 316 P P 21 17 08.0 -0.7
JCJ lAmb lAmb 21 17 19.3
comp=Z,199nm,0.8s
JCJ Chichijima 61.20 316 P P 21 17 08.5 -0.2
MEEK Meekatharra 61.27 249 P P 21 17 08.8 -0.5
baz=61,SNR=124
MEEK Meekatharra 61.27 249 P P 21 17 08.9 -0.4
MMRI Maumere 61.45 270 P P 21 17 10.3 -0.4
MMRI Maumere 61.45 270 P P 21 17 10.3 -0.4
comp=Z,26μmcomp=Z,13μmcomp=Z,1μm,1.1s
MMRI Maumere 61.45 270 P P 21 17 10.7 +0.1
KLBR Kellerberrin 61.51 243 P P 21 17 10.6 -0.2
baz=62,SNR=336
KLBR Kellerberrin 61.51 243 P P 21 17 11.2 +0.4
NWAO Narrogin (SRO) 61.84 242 P P 21 17 13.2 +0.2
comp=Z,304nm,0.9s,baz=327,slow=6.5,SNR=65
comp=Z,304nm,0.9s
NWAO Narrogin (SRO) 61.84 242 P P 21 17 13.1 +0.2
baz=62,SNR=51
NWAO P P 21 17 13.1 +0.2
baz=62,SNR=51
NWAO Narrogin (SRO) 61.84 242 P P 21 17 13.2 +0.2
NWAO Narrogin (SRO) 61.84 242 P P 21 17 13.2 +0.2
NWAO pmax pmax
comp=Z,559nm,1.1s
NWAO Narrogin (SRO) 61.84 242 P P 21 17 13.2 +0.2
NWAO P P 21 17 13.2 +0.2
NWAO Narrogin (SRO) 61.84 242 P P 21 17 13.3 +0.2
NWAO Narrogin (SRO) 61.84 242 P P 21 17 13.1 +0.2
EDFI Ende, Flores 61.94 270 P P 21 17 13.5 -0.5
comp=Z,14μmcomp=Z,7μmcomp=Z,742nm,1.0s
RKGY Rocky Gully 61.94 240 P P 21 17 14.3 +0.7
baz=62,SNR=40
RKGY Rocky Gully 61.94 240 P P 21 17 14.3 +0.7
BBSI Bau Bau 62.04 273 P P 21 17 15.3 +0.7
comp=Z,8μmcomp=Z,473nm,1.3s
SGSI Sangihe 62.40 284 P P 21 17 16.5 -0.4
comp=Z,3μmcomp=Z,239nm,0.5s
BLDU Ballidu 62.49 244 P P 21 17 17.0 -0.3
baz=62,SNR=309
BLDU Ballidu 62.49 244 P P 21 17 17.2 -0.1
KMSI Cibinong 62.69 280 P P 21 17 19.3 +0.4
comp=Z,5μmcomp=Z,384nm,0.8s
MUN Mundaring 62.78 243 P P 21 17 19.4 +0.1
baz=63,SNR=155
MUN Mundaring 62.78 243 P P 21 17 19.8 +0.5
MTKN Mount Kenneth 63.16 243 P P 21 17 24.3 +2.6
MORW Morawa 63.23 246 P P 21 17 22.1 -0.2
baz=63,SNR=53
MORW Morawa 63.23 246 P P 21 17 22.0 -0.3
MORW Morawa 63.23 246 P P 21 17 22.3 0.0
MORW Morawa 63.23 246 ⇓P P 21 17 22.1 -0.2
LUWI Luwuk 63.27 278 P P 21 17 23.2 +0.5
LUWI Luwuk 63.27 278 P P 21 17 23.3 +0.6
comp=Z,26μmcomp=Z,13μmcomp=Z,949nm,1.4s
DAV Davao City (W) 63.69 288 P P 21 17 25.5 +0.1
DAV lAmb lAmb 21 17 31.1
comp=Z,161nm,0.6s
BSSI Bau Bau, Buton 63.82 272 P P 21 17 26.1 -0.2
comp=Z,13μmcomp=Z,6μmcomp=Z,448nm,1.6s

H01W1 Cape Leeuwin H 64.24 240 P P 21 17 30.8 +2.4
baz=102,slow=8.1,SNR=37
H01W3 Cape Leeuwin H 64.25 240 P P 21 17 31.0 +2.4
baz=102,slow=8.1,SNR=18
H01W2 Cape Leeuwin H 64.25 240 P P 21 17 30.9 +2.4
baz=102,slow=8.1,SNR=17
APSI Ampana 64.37 278 P P 21 17 30.9 +1.0
comp=Z,14μmcomp=Z,13μmcomp=Z,1μm,1.3s
BKSI Bulukumba 64.41 273 P P 21 17 29.5 -0.7
comp=Z,18μmcomp=Z,5μmcomp=Z,345nm,0.8s
MRSI Marisa 64.56 280 P P 21 17 31.0 -0.2
comp=Z,22μmcomp=Z,4μmcomp=Z,221nm,1.2s
KAPI Kappang 64.86 273 P P 21 17 32.7 -0.3
KAPI Kappang 64.86 273 *d* iP P 21 17 32.9 -0.2
KAPI pmax pmax
comp=Z,300nm,1.0s
KAPI Kappang 64.86 273 P P 21 17 33.2 +0.1
KAPI P P 21 17 33.2 +0.1
KAPI Kappang 64.86 273 P P 21 17 33.4 +0.4
KAPI Kappang 64.86 273 ⇓P P 21 17 32.8 -0.2
KAPI Kappang 64.86 273 ⇓P P 21 17 33.3 +0.3
SPSI Sidrap Palu 65.16 274 P P 21 17 34.2 -0.8
comp=Z,17μmcomp=Z,4μmcomp=Z,373nm,0.9s
CCD Concordia, Ant 65.34 194 P P 21 17 37.4 +1.7
CCD pP pwP 21 18 29.2 +7.1
TTSI Tana Toraja 65.40 275 P P 21 17 36.7 +0.1
comp=Z,19μmcomp=Z,4μmcomp=Z,406nm,1.1s
PLAI Plampang 65.64 268 P P 21 17 37.6 -0.5
comp=Z,21μmcomp=Z,22μmcomp=Z,2μm,1.1s
PLAI Plampang 65.64 268 P P 21 17 37.9 -0.2
GIRL Giralia 65.81 253 P P 21 17 40.4 +1.3
baz=66,SNR=44
GIRL Giralia 65.81 253 P P 21 17 40.2 +1.1
GIRL Giralia 65.81 253 P P 21 17 40.4 +1.3
GIRL Giralia 65.81 253 ⇓P P 21 17 40.4 +1.3
MPSI Mapaga 66.43 279 P P 21 17 43.0 -0.2
comp=Z,19μmcomp=Z,5μmcomp=Z,376nm,1.0s
TWSI Taliwang, Sumb 66.51 268 P P 21 17 43.2 -0.4
comp=Z,12μmcomp=Z,12μmcomp=Z,1μm,1.1s
JHJ2 Mitsune 66.78 320 P P 21 17 44.3 -0.6
JHJ2 Mitsune 66.78 320 P P 21 17 45.4 +0.5
JHJ2 Mitsune 66.78 320 P P 21 17 45.1 +0.2
JHJ2 Mitsune 66.78 320 ⇓P P 21 17 45.1 +0.2
JHJ Hachijo jima 2 66.81 320 P P 21 17 45.2 +0.1
comp=Z,714nm,0.7s,baz=159,slow=5.4,SNR=26
comp=Z,714nm,0.7s
CASY Casey 67.17 205 P P 21 17 47.9 +0.9
CASY lAmb lAmb 21 17 50.8
comp=Z,283nm,1.1s
CASY Casey 67.17 205 P P 21 17 48.0 +1.1
DNP Denpasar 68.11 268 P P 21 17 54.1 +0.4
comp=Z,21μmcomp=Z,24μmcomp=Z,2μm,0.5s
IGBI Denpasar 68.14 268 P P 21 17 53.9 +0.1
comp=Z,11μmcomp=Z,19μmcomp=Z,1μm,1.3s
SRBI Singaraja 68.28 268 P P 21 17 54.5 -0.2
comp=Z,18μmcomp=Z,14μmcomp=Z,1μm,1.2s
JOD2 Odawara 2 68.69 321 P P 21 17 56.4 -0.5
JYT Yasato 68.70 322 P P 21 17 56.9 0.0
JYT lAmb lAmb 21 18 00.2
comp=Z,345nm,0.9s
JYT Yasato 68.70 322 P P 21 17 57.1 +0.3
JYT Yasato 68.70 322 ⇓P P 21 17 57.1 +0.3
SMKI Samarinda 68.71 277 P P 21 17 59.2 +1.8
comp=Z,29μmcomp=Z,12μmcomp=Z,366nm,1.3s
BKB Balikpapan 68.73 276 P P 21 17 59.1 +1.5
BKB lAmb lAmb 21 18 05.9
comp=Z,281nm,0.9s
BKB Balikpapan 68.73 276 P P 21 18 00.0 +2.4
comp=Z,32μmcomp=Z,8μmcomp=Z,360nm,1.6s
BKB Balikpapan 68.73 276 P P 21 17 58.4 +0.8
JSG Sagara 68.84 320 P P 21 17 58.6 +0.9
JAGI Jajag, Banyuwa 69.18 268 P P 21 17 59.4 -0.9
JAGI Jajag, Banyuwa 69.18 268 P P 21 17 59.0 -1.3
comp=Z,19μmcomp=Z,14μmcomp=Z,1μm,0.8s
JAGI Jajag, Banyuwa 69.18 268 P P 21 17 59.5 -0.8
JRY Ryogami san 69.31 321 P P 21 18 00.9 +0.2
MYLDM Lahad Datu 69.45 283 P P 21 18 03.0 +1.0
MYLDM lAmb lAmb 21 18 18.1
comp=Z,440nm,1.3s
AMKA Amchitka 69.48 356 P P 21 18 00.7 -0.5
JMM Marumori 69.51 324 P P 21 18 01.4 -0.3
JMM lAmb lAmb 21 18 08.4
comp=Z,286nm,1.1s
JMM Marumori 69.51 324 P P 21 18 01.8 0.0
JMM Marumori 69.51 324 ⇓P P 21 18 01.7 0.0
KMMI Kalianget 69.75 269 P P 21 18 03.5 -0.3
comp=Z,19μmcomp=Z,12μmcomp=Z,728nm,0.9s
KIWB Kanaga Island 69.80 359 P P 21 18 02.0 -1.2
ADK Adak 69.82 359 P P 21 18 02.4 -0.9
ADK lAmb lAmb 21 18 09.3
comp=Z,133nm,0.8s
ADK Adak 69.82 359 P P 21 18 02.4 -0.9
ADK pmax pmax
comp=Z,133nm,0.8s
ADK Adak 69.82 359 P P 21 18 02.5 -0.9
ADK Adak 69.82 359 ⇑P P 21 18 02.8 -0.6
ADK Adak 69.82 359 P P 21 18 02.5 -0.9
ADK pP pwP 21 18 53.3 +2.7
JGF Kuroka 69.96 320 P P 21 18 04.3 -0.4
JGF Kuroka 69.96 320 P P 21 18 04.6 -0.1
JGF Kuroka 69.96 320 ⇓P P 21 18 04.6 -0.1
BBKI Banjar Baru 69.99 273 P P 21 18 06.1 +0.8
comp=Z,17μmcomp=Z,9μmcomp=Z,801nm,1.3s
INU Inuyama 70.00 320 P P 21 18 04.5 -0.4
INU lAmb lAmb 21 18 11.5
comp=Z,312nm,1.5s
INU Inuyama 70.00 320 P P 21 18 04.8 0.0
INU Inuyama 70.00 320 ⇓P P 21 18 04.8 0.0
INU Inuyama 70.00 320 ⇓P P 21 18 04.9 0.0
MJAR Matsushiro Arr 70.08 321 P P 21 18 05.0 -0.3
comp=Z,117nm,0.8s,baz=155,slow=6.4,SNR=393
comp=Z,117nm,0.8s
MAJO Matsushiro 70.08 321 P P 21 18 05.1 -0.2
MAJO lAmb lAmb 21 18 11.8
comp=Z,182nm,0.7s
MAJO Matsushiro 70.08 321 *d* iP P 21 18 05.2 -0.2
MAJO pmax pmax
comp=Z,148nm,0.9s
MAJO Matsushiro 70.08 321 P P 21 18 05.3 -0.1
MAJO Matsushiro 70.08 321 ⇓P P 21 18 05.2 -0.1
MAJO Matsushiro 70.08 321 P P 21 18 05.3 -0.1
MAT Matsushiro 70.08 321 P P 21 18 05.2 -0.1
MJB9 Matsu-Tunnel 70.08 321 P P 21 18 06.1 +0.7
MJB9 lAmb lAmb 21 18 12.8
comp=Z,181nm,0.7s
JOM Ohasama 70.38 325 P P 21 18 07.0 0.0
JGN Niukaw 70.40 321 P P 21 18 07.4 +0.1
JYA Atsumi 70.62 324 P P 21 18 09.2 +0.6
MTKI Muara Teweh, K 70.73 276 P P 21 18 09.0 -0.8
JAM Amami Oshima 70.76 310 P P 21 18 10.9 +1.3
JOW Kunigami 70.88 308 P P 21 18 11.5 +1.1
comp=Z,123nm,0.9s,baz=145,slow=5.7,SNR=16
comp=Z,123nm,0.9s
JOW Kunigami 70.88 308 P P 21 18 10.7 +0.3
JOW lAmb lAmb 21 18 12.2
comp=Z,119nm,0.8s
JOW Kunigami 70.88 308 P P 21 18 11.7 +1.4
JOW Kunigami 70.88 308 ⇓P P 21 18 11.4 +1.1
JMN Monobe 70.95 317 P P 21 18 11.2 +0.5
JMN lAmb lAmb 21 18 18.3
comp=Z,479nm,1.3s
JMN Monobe 70.95 317 P P 21 18 11.7 +1.0
JMN Monobe 70.95 317 ⇓P P 21 18 11.7 +1.0
JSD Sado 71.06 323 P P 21 18 11.4 +0.2
JSD lAmb lAmb 21 18 18.7
comp=Z,223nm,0.9s
JSD Sado 71.06 323 P P 21 18 11.4 +0.2
JSD Sado 71.06 323 ⇓P P 21 18 11.4 +0.2
NIKH Nikolski High 71.11 4 P P 21 18 11.5 +0.4
baz=186
NIKH S S 21 27 08.0 -3.9
baz=186
SPMM Sapulut 71.17 282 P P 21 18 13.0 +0.6
ERM Erimo 71.27 328 P P 21 18 12.0 -0.3
ERM Erimo 71.27 328 *de* P P 21 18 13.0 +0.7
ERM pmax pmax
comp=Z,254nm,2.0s
ERM Erimo 71.27 328 P P 21 18 13.3 +1.0
ERM Erimo 71.27 328 ⇓P P 21 18 12.9 +0.7
ERM Erimo 71.27 328 P P 21 18 13.1 +0.7
SHEM Shemya Is, Ala 71.28 353 P P 21 18 11.8 -0.3
comp=Z,144nm,0.9s,baz=206,slow=1.5,SNR=6.2
comp=Z,144nm,0.9s
BWJI Bawean 71.35 270 P P 21 18 16.0 +2.5
comp=Z,10μmcomp=Z,5μmcomp=Z,399nm,1.2s
JTM Tenmabayashi 71.44 326 P P 21 18 13.5 +0.1
JTM lAmb lAmb 21 18 20.9
comp=Z,269nm,1.0s
JTM Tenmabayashi 71.44 326 ⇓P P 21 18 13.2 -0.1
JAD Aida 71.52 318 P P 21 18 14.9 +0.9
PWJI Pagerwojo 71.53 267 P P 21 18 14.4 -0.2
comp=Z,12μmcomp=Z,899nm,0.6s
KUR Kuril'sk 71.57 333 *d* iP P 21 18 14.1 0.0
KUR *i* S S 21 27 21.0 +3.5
KUR pmax pmax
comp=Z,577nm,1.7s
KUR pmax pmax
comp=Z,2μm,4.8s
KUR MLR MLR
comp=Z,5μm,20.0s
QSPA South Pole Qui 71.83 180 P P 21 18 17.4 +1.8
comp=Z,428nm,0.9s,baz=32,slow=1.0,SNR=190
comp=Z,428nm,0.9s
QSPA South Pole Qui 71.83 180 P P 21 18 17.2 +1.6
QSPA South Pole Qui 71.83 180 ⇓P P 21 18 17.4 +1.8
QSPA South Pole Qui 71.83 180 P P 21 18 17.4 +1.8
QSPA pP pP 21 19 09.2 +8.8
TBJI Tambak Boyo 71.83 269 P P 21 18 17.2 +0.8
comp=Z,11μmcomp=Z,16μmcomp=Z,961nm,1.3s
KKM Kota Kinabalu 71.88 283 P P 21 18 16.5 -0.2
KKM Kota Kinabalu 71.88 283 P P 21 18 16.9 +0.2
JSU Suzuyama 71.92 313 P P 21 18 16.8 +0.3
JSU lAmb lAmb 21 18 17.7
comp=Z,153nm,0.8s
JSU Suzuyama 71.92 313 P P 21 18 17.1 +0.5
JSU Suzuyama 71.92 313 ⇓P P 21 18 17.1 +0.5
PCJI Pacitan 72.08 267 P P 21 18 18.1 +0.3
comp=Z,19μmcomp=Z,46μmcomp=Z,4μm,0.6s
JMJ Miyako jima 2 72.11 305 P P 21 18 18.1 +0.4
UNV Unalaska Valle 72.16 5 P P 21 18 16.0 -1.3
UNV lAmb lAmb 21 18 22.6
comp=Z,89nm,0.6s
UNV Unalaska Valle 72.16 5 P P 21 18 17.3 0.0
baz=188
UNV S S 21 27 26.0 +2.3
baz=188
JHS Saijyo 72.23 317 P P 21 18 19.1 +0.8
JHS lAmb lAmb 21 18 22.3
comp=Z,282nm,0.8s
JHS Saijyo 72.23 317 P P 21 18 19.2 +0.8
JHS Saijyo 72.23 317 ⇓P P 21 18 19.1 +0.8
JNU Nakatsue 72.57 315 P P 21 18 20.5 +0.1
JMP Maruseppu 72.66 330 P P 21 18 21.3 +0.7
JEW Eniwo 72.73 328 P P 21 18 21.7 +0.7
JEW Eniwo 72.73 328 P P 21 18 21.9 +0.9
JEW Eniwo 72.73 328 ⇓P P 21 18 21.9 +0.9
UGM Wanagama 72.78 267 P P 21 18 22.1 +0.1
UGM Wanagama 72.78 267 P P 21 18 22.2 +0.1
comp=Z,20μmcomp=Z,24μmcomp=Z,2μm,0.6s
UGM Wanagama 72.78 267 P P 21 18 22.4 +0.4
YOGI Yogyakarta 73.02 267 P P 21 18 23.9 +0.5
comp=Z,19μmcomp=Z,2μm,1.1s
ASAJ Asahikawa 73.10 330 P P 21 18 24.4 +1.2
SMRI Semarang 73.11 268 P P 21 18 24.4 +0.5
SMRI Semarang 73.11 268 P P 21 18 24.6 +0.7
comp=Z,20μmcomp=Z,15μmcomp=Z,2μm,1.1s
SMRI Semarang 73.11 268 P P 21 18 25.0 +1.1
SKR Severo-Kuril's 73.14 341 *eP* P 21 18 22.2 -1.0
SKR *eS* SKiKP 21 27 37.7 +2.1
SKR pmax pmax
comp=Z,110nm,1.1s
SKR pmax pmax
comp=Z,500nm,8.1s
SKR MLR MLR
comp=Z,3μm,17.0s
PBKI Pangkalan Bun 73.23 273 P P 21 18 25.8 +1.1
comp=Z,15μmcomp=Z,2μm,1.1s
JSH Shimam 73.30 327 P P 21 18 25.2 +0.8
SNCC San Nicolas Is 73.70 46 P P 21 18 26.9 -0.1
baz=235
SNCC S S 21 27 40.9 -1.3
baz=235
YOJ Yonaguni jima 73.74 303 P P 21 18 27.4 +0.1
YOJ Yonaguni jima 73.74 303 P P 21 18 27.4 +0.1
YOJ pmax pmax
comp=Z,1μm,1.6s
YOJ Yonaguni jima 73.74 303 P P 21 18 28.0 +0.7
YOJ Yonaguni jima 73.74 303 ⇓P P 21 18 27.8 +0.5
CHNA Chernabura Isl 73.96 9 P P 21 18 29.0 +1.1
baz=195
CHNA S S 21 27 44.7 +0.7
baz=195
SCZ2 Santa Cruz Isl 74.06 45 P P 21 18 28.7 -0.4
baz=234,SNR=6.0
SCZ2 S S 21 27 46.0 -0.2
baz=234
SCI2 San Clemente I 74.22 47 P P 21 18 30.1 +0.1
baz=235
SCI2 S S 21 27 49.5 +1.5
baz=235
SBC Santa Barbara 74.27 45 P P 21 18 29.4 -0.8
baz=234
STKI Sintang 74.29 275 P P 21 18 31.8 +1.0
comp=Z,7μmcomp=Z,467nm,1.2s
SDPT Sand Point 74.33 9 P P 21 18 28.6 -1.4
SDPT lAmb lAmb 21 19 24.7
comp=Z,482nm,1.3s
SDPT Sand Point 74.33 9 P P 21 18 29.6 -0.4
baz=194
SDPT S S 21 27 48.2 0.0
baz=194
SBUM Sibu 74.37 278 P P 21 18 31.8 +0.6
SBUM lAmb lAmb 21 18 35.3
comp=Z,670nm,1.8s
SBUM Sibu 74.37 278 P P 21 18 33.0 +1.8
SBUM Sibu 74.37 278 ⇓P P 21 18 32.2 +1.0
JTU Tsushima 74.39 315 P P 21 18 30.4 -0.5
JTU Tsushima 74.39 315 ⇓P P 21 18 30.9 0.0
PKM Mcpherson Peak 74.46 45 P P 21 18 31.4 -0.1
baz=234,SNR=10
PKM S S 21 27 52.9 +1.9
baz=234
PET Petropavlovsk 74.50 344 P P 21 18 30.1 -1.0
PET Petropavlovsk 74.50 344 *d* iP P 21 18 28.2 -2.9
PET *e**PP pP 21 19 12.7 -3.2
PET *i* S S 21 27 47.0 -3.2
PET pmax pmax
comp=Z,75μm,0.9s
PET pmax pmax
comp=Z,1μm,11.7s
PET pmax pmax
comp=Z,1μm,12.6s
SAO San Andreas Ge 74.51 42 P P 21 18 31.5 -0.1
SAO San Andreas Ge 74.51 42 P P 21 18 31.5 -0.1
SAO pmax pmax
comp=Z,182nm,1.4s
SAO San Andreas Ge 74.51 42 ⇑P P 21 18 31.8 +0.3
SAO ⇓p pwP 21 19 22.6 +3.1
TWG Pinlang 74.52 301 P P 21 18 30.7 -1.2
TWG lAmb lAmb 21 18 36.3
comp=Z,203nm,0.8s
CIS Catalina Islan 74.55 46 P P 21 18 31.3 -0.6
baz=235
CIS S S 21 27 52.7 +1.0
baz=235
SMMC Simmler 74.59 44 P P 21 18 31.4 -0.7
baz=234
SMMC S S 21 27 53.0 +0.9
baz=234
PMPB Monarch Peak 74.59 43 P P 21 18 31.8 -0.3
PMPB lAmb lAmb 21 19 28.1
comp=Z,568nm,1.5s
YULB Yu-li 74.60 301 P P 21 18 31.7 -0.7
YULB lAmb lAmb 21 18 42.4
comp=Z,221nm,1.1s
BBGB Big Mountain B 74.66 43 P P 21 18 33.2 +0.6
BBGB lAmb lAmb 21 19 28.9
comp=Z,547nm,1.4s
NACB Ninganchiao 74.73 302 P P 21 18 32.2 -0.8
BCW Bitter Crk WRg 74.75 45 P P 21 18 33.0 -0.1
BCW lAmb lAmb 21 19 26.5
comp=Z,307nm,1.4s
FMP Fort Macarthur 74.81 46 P P 21 18 32.7 -0.7
baz=235
FMP S S 21 27 55.2 +0.7
baz=235
PEA0B Petropavlovsk- 74.83 343 P P 21 18 32.8 -0.2
PEA0B lAmb lAmb 21 18 39.6
comp=Z,215nm,1.1s

PEA0B	**Petropavlovsk-**	**74.83**	**343**		P	**P**	**21 18 32.8**	**-0.2**
PEA0B					pmax	pmax		
	comp=Z,215nm,1.1s							
PETK	**Petropavlovsk-**	**74.83**	**343**		P	**P**	**21 18 32.0**	**-1.0**
	comp=Z,67nm,0.8s,baz=154,slow=8.1,SNR=75							
	comp=Z,67nm,0.8s							
PETK	**Petropavlovsk-**	**74.83**	**343**		P	**P**	**21 18 32.0**	**-1.0**
PETK	**Petropavlovsk-**	**74.83**	**343**		P	**P**	**21 18 32.0**	**-1.0**
HOPS	**Hopland Field**	**74.88**	**40**		P	**P**	**21 18 33.3**	**-0.3**
HOPS					IAmb	IAmb	21 19 29.7	
	comp=Z,424nm,1.6s							
OSI	**Osito Audit: C**	**75.03**	**45**		P	**P**	**21 18 34.3**	**-0.4**
	baz=235							
OSI					S	**S**	**21 27 58.1**	**+1.1**
	baz=235							
SSLB	**Suanglung**	**75.07**	**302**		P	**P**	**21 18 34.1**	**-0.9**
SSLB					IAmb	IAmb	21 18 41.5	
	comp=Z,463nm,1.2s							
SSLB	**Suanglung**	**75.07**	**302**		P	**P**	**21 18 34.6**	**-0.5**
DECC	**Green Verdugo**	**75.09**	**46**		P	**P**	**21 18 34.1**	**-0.9**
	baz=235							
DECC					S	**S**	**21 27 58.8**	**+1.1**
	baz=235							
TPUB	**Ta-pu**	**75.10**	**301**		P	**P**	**21 18 34.7**	**-0.6**
TPUB	**Ta-pu**	**75.10**	**301**		P	**P**	**21 18 34.9**	**-0.4**
YHNB	**Yeheng**	**75.14**	**303**		P	**P**	**21 18 35.7**	**+0.2**
YHNB	**Yeheng**	**75.14**	**303**		P	**P**	**21 18 35.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**75.15**	**332**		P	**P**	**21 18 35.3**	**+0.3**
YSS					IAmb	IAmb	21 18 42.3	
	comp=Z,278nm,1.1s							
YSS	**Yuzh-Sakhalins**	**75.15**	**332**		*e*P	**P**	**21 18 35.8**	**+0.9**
YSS					*e*'PP	**pP**	**21 19 17.2**	**-2.6**
YSS					*e*'SP	**sP**	**21 19 36.2**	**-3.6**
YSS					*e*		21 21 24.6	
YSS					*e*S	**S**	**21 27 59.3**	**+1.6**
YSS					*e*		21 28 29.9	
YSS					*e*PS	**PnS**	**21 29 00.5**	**-0.6**
YSS					pmax	pmax		
	comp=Z,190nm,1.0s							
YSS					pmax	pmax		
	comp=Z,2μm,3.5s							
YSS	**Yuzh-Sakhalins**	**75.15**	**332**	⇑	P	**P**	**21 18 35.6**	**+0.7**
KMPM	**Mount Pierce**	**75.16**	**38**		P	**P**	**21 18 35.5**	**+0.2**
KMPM					IAmb	IAmb	21 19 29.0	
	comp=Z,378nm,1.4s							
CBX	**Cerro Bola**	**75.17**	**48**		P	**P**	**21 18 35.5**	**-0.1**
109C	**Camp Elliot, M**	**75.18**	**48**		P	**P**	**21 18 35.0**	**-0.4**
	baz=236							
109C					S	**S**	**21 27 58.6**	**0.0**
	baz=236							
TATO	**Taipei**	**75.20**	**303**		P	**P**	**21 18 35.6**	**-0.1**
TATO	**Taipei**	**75.20**	**303**		P	**P**	**21 18 35.8**	**+0.1**
SPIA	**Saint Paul Isl**	**75.22**	**3**		P	**P**	**21 18 35.8**	**+0.7**
	baz=185							
ARVC	**Arvin**	**75.25**	**45**		P	**P**	**21 18 34.6**	**-1.3**
	baz=235,SNR=10							
ARVC					S	**S**	**21 28 03.4**	**+4.0**
	baz=235							
JCJI	**Jatiwangi**	**75.33**	**268**		P	**P**	**21 18 36.8**	**0.0**
	comp=Z,21μmcomp=Z,2μm,1.1s							
S14K	**Fog Glacier**	**75.37**	**9**		P	**P**	**21 18 37.0**	**+0.9**
	baz=195							
S14K					S	**S**	**21 28 02.7**	**+2.8**
	baz=195							
VES	**Vestal, Richgr**	**75.50**	**44**		P	**P**	**21 18 36.8**	**-0.4**
	baz=234,SNR=15							
VES					S	**S**	**21 28 03.1**	**+1.2**
	baz=234							
MURC	**Murrieta**	**75.51**	**47**		P	**P**	**21 18 37.2**	**-0.1**
	baz=236,SNR=8.8							
MURC					S	**S**	**21 28 06.4**	**+4.1**
	baz=236							
BFSC	**Mount Baldy Ra**	**75.54**	**46**		P	**P**	**21 18 37.0**	**-0.7**
	baz=236,SNR=14							
BFSC					S	**S**	**21 28 06.0**	**+3.1**
	baz=236							
CHGN	**Chignik**	**75.56**	**10**		P	**P**	**21 18 35.8**	**-1.2**
CHGN					IAmb	IAmb	21 19 33.8	
	comp=Z,276nm,1.3s							
CHGN	**Chignik**	**75.56**	**10**		P	**P**	**21 18 36.2**	**-0.8**
	baz=196							
CHIR	**Chirikof Islan**	**75.58**	**11**		S	**S**	**21 28 04.2**	**+2.2**
	baz=199							
VOG	**Valley Oaks Go**	**75.58**	**44**		P	**P**	**21 18 37.1**	**-0.5**
	baz=234							
VOG					S	**S**	**21 28 04.9**	**+2.1**
	baz=234							
MONP2	**Monument Peak**	**75.66**	**48**		P	**P**	**21 18 37.9**	**-0.5**
	baz=237,SNR=14							
MONP2					S	**S**	**21 28 05.9**	**+1.6**
	baz=237							
EDW2	**Edwards Air Fo**	**75.68**	**45**		P	**P**	**21 18 38.3**	**0.0**
	baz=235,SNR=57							
EDW2					S	**S**	**21 28 05.4**	**+1.3**
	baz=235							
RMX	**La Rumorosa**	**75.75**	**48**		P	**P**	**21 18 38.5**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**75.75**	**48**		P	**P**	**21 18 38.9**	**+0.1**
	baz=237,SNR=9.9							
IKP					S	**S**	**21 28 07.8**	**+2.7**
	baz=237							
ISA	**Isabella, Lake**	**75.80**	**45**		P	**P**	**21 18 39.2**	**+0.2**
	baz=235,SNR=44							
ISA					S	**S**	**21 28 07.8**	**+2.3**
	baz=235							
SRIG	**Santa Rosalia**	**75.89**	**55**		P	**P**	**21 18 38.6**	**-1.0**
SRIG					IAmb	IAmb	21 19 34.5	
	comp=Z,250nm,1.5s							
CMB	**Columbia Colle**	**75.95**	**42**		P	**P**	**21 18 39.5**	**-0.3**
CMB	**Columbia Colle**	**75.95**	**42**		P	**P**	**21 18 39.5**	**-0.3**
CMB					pmax	pmax		
	comp=Z,164nm,1.7s							
SLBS	**Sierra La Lagu**	**76.00**	**59**		P	**P**	**21 18 40.3**	**-0.2**
SLBS					IAmb	IAmb	21 19 36.1	
	comp=Z,218nm,1.5s							
SLBS	**Sierra La Lagu**	**76.00**	**59**	⇑	P	**P**	**21 18 41.3**	**+0.9**
PFO	**Pinyon Flats O**	**76.03**	**47**		P	**P**	**21 18 39.8**	**-0.6**
PFO	**Pinyon Flats O**	**76.03**	**47**		P	**P**	**21 18 39.8**	**-0.6**
PFO					pmax	pmax		
	comp=Z,78nm,1.4s							
PFO	**Pinyon Flats O**	**76.03**	**47**		P	**P**	**21 18 40.3**	**-0.1**
	baz=237,SNR=11							
PFO					S	**S**	**21 28 10.7**	**+2.5**
	baz=237							
TPFO	**Pinon Flats**	**76.03**	**47**		P	**P**	**21 18 40.3**	**-0.1**
	baz=237,SNR=13							
TPFO					S	**S**	**21 28 10.7**	**+2.5**
	baz=237							
BBRC	**Big Bear Solar**	**76.06**	**46**		P	**P**	**21 18 40.3**	**-0.5**
	baz=236							
BBRC					S	**S**	**21 28 10.6**	**+1.8**
	baz=236							
SWSC	**Sam W. Stewart**	**76.13**	**48**		P	**P**	**21 18 40.9**	**+0.1**
	baz=237,SNR=9.6							
SWSC					S	**S**	**21 28 13.5**	**+4.5**
	baz=237							
CNJI	**Cibinong**	**76.17**	**267**		P	**P**	**21 18 41.0**	**-0.5**
	comp=Z,16μmcomp=Z,13μmcomp=Z,1μm,0.9s							
KSXB	**Camp Six Broad**	**76.21**	**37**		P	**P**	**21 18 41.2**	**-0.1**
LRMC	**Laurel Mtn Rad**	**76.22**	**45**		P	**P**	**21 18 41.7**	**+0.1**
	baz=235,SNR=17							
LRMC					S	**S**	**21 28 13.5**	**+3.2**
	baz=235							
RRX	**Edison Barstow**	**76.35**	**46**		P	**P**	**21 18 41.7**	**-0.4**
	baz=236							
RRX					S	**S**	**21 28 11.2**	**-0.2**
	baz=236							
CWC	**Cottonwood Cre**	**76.50**	**44**		P	**P**	**21 18 43.3**	**+0.1**
	baz=235							
CWC					S	**S**	**21 28 15.1**	**+1.7**
	baz=235							
SII	**Sitkinak Islan**	**76.55**	**12**		P	**P**	**21 18 43.6**	**+0.9**
	baz=200							
SII	**Sitkinak Islan**	**76.55**	**12**		P	**P**	**21 18 42.7**	**0.0**
BELC	**Belle Mtn. Jos**	**76.56**	**47**		P	**P**	**21 18 43.3**	**-0.1**
	baz=237,SNR=23							
BELC					S	**S**	**21 28 15.6**	**+1.6**
	baz=237							
L02F	**Cave Junction**	**76.58**	**37**		P	**P**	**21 18 43.3**	**+0.1**
	baz=230,SNR=13							
L02F					S	**S**	**21 28 13.9**	**+0.4**
	baz=230							
OMMB	**Old Mammoth Mi**	**76.58**	**43**		P	**P**	**21 18 43.1**	**-0.6**
KEBM	**Edson Butte**	**76.63**	**36**		P	**P**	**21 18 43.8**	**+0.3**
KEBM					IAmb	IAmb	21 19 38.1	
	comp=Z,474nm,1.2s							
XMI	**Christmas Isla**	**76.64**	**263**	⇑	P	**P**	**21 18 45.3**	**+1.1**
XMIS	**Christmas Isla**	**76.67**	**263**		P	**P**	**21 18 44.3**	**-0.1**
XMIS					IAmb	IAmb	21 18 47.7	
	comp=Z,310nm,0.8s							
XMIS	**Christmas Isla**	**76.67**	**263**		P	**P**	**21 18 45.0**	**+0.6**
MPMC	**Manual Prospec**	**76.68**	**45**		P	**P**	**21 18 44.3**	**+0.2**
	baz=235,SNR=79							
MPMC					S	**S**	**21 28 17.4**	**+2.0**
	baz=235							
MLAC	**Mammoth, Mammo**	**76.70**	**43**		P	**P**	**21 18 44.4**	**+0.1**
	baz=234,SNR=11							
MLAC					S	**S**	**21 28 18.1**	**+2.6**
	baz=234							
GSC	**Goldstone, Bar**	**76.72**	**46**		P	**P**	**21 18 43.9**	**-0.4**
GSC	**Goldstone, Bar**	**76.72**	**46**		P	**P**	**21 18 43.9**	**-0.4**
GSC					pmax	pmax		
	comp=Z,111nm,1.3s							
GSC	**Goldstone, Bar**	**76.72**	**46**		P	**P**	**21 18 44.2**	**0.0**
	baz=236,SNR=30							
GSC					S	**S**	**21 28 16.9**	**+1.3**
	baz=236							
BC3	**Big Chuckawall**	**76.75**	**48**		P	**P**	**21 18 44.7**	**+0.2**
	baz=237,SNR=13							
BC3					S	**S**	**21 28 18.0**	**+2.0**
	baz=237							
TEY	**Ternei**	**76.76**	**327**	⇓	*e*P	**P**	**21 18 44.7**	**+0.6**
TEY					pmax	pmax		
	comp=E,10.0nm,1.6s							
TEY					pmax	pmax		
	comp=Z,20nm,1.7s							
TEY					pmax	pmax		
	comp=Z,100nm,10.3s							
TIN	**Tinemaha, Big**	**76.76**	**43**		P	**P**	**21 18 44.5**	**+0.1**
	baz=235							
TIN					S	**S**	**21 28 18.8**	**+2.8**
	baz=235							
HEC	**Hector,Ludlow**	**76.78**	**46**		P	**P**	**21 18 44.5**	**0.0**
	baz=236,SNR=14							
HEC					S	**S**	**21 28 17.2**	**+1.0**
	baz=236							
SKJI	**Sukabumi**	**76.81**	**267**		P	**P**	**21 18 44.8**	**-0.3**
	comp=Z,13μmcomp=Z,2μm,0.6s							
TJN	**Taejon**	**76.81**	**316**		P	**P**	**21 18 44.7**	**+0.1**
TJN	**Taejon**	**76.81**	**316**	*d*	iP	**P**	**21 18 44.9**	**+0.3**
TJN	**Taejon**	**76.81**	**316**		P	**P**	**21 18 45.3**	**+0.7**
GLA	**Glamis**	**76.88**	**48**		P	**P**	**21 18 45.2**	**+0.1**
GLA	**Glamis**	**76.88**	**48**		P	**P**	**21 18 45.2**	**+0.1**
GLA					pmax	pmax		
	comp=Z,168nm,1.4s							
GLA	**Glamis**	**76.88**	**48**		P	**P**	**21 18 45.5**	**+0.4**
	baz=238,SNR=7.2							
GLA					S	**S**	**21 28 17.4**	**+0.1**
	baz=238							
K02D	**Willamette Mer**	**76.89**	**36**		P	**P**	**21 18 45.4**	**+0.4**
	baz=230							
K02D					S	**S**	**21 28 19.0**	**+1.9**
	baz=230							
R16K	**Pilot Point**	**76.91**	**10**		P	**P**	**21 18 45.1**	**+0.6**
	baz=197							
MPK	**Martis Peak**	**76.93**	**41**		P	**P**	**21 18 45.4**	**-0.1**
MPK					IAmb	IAmb	21 19 42.4	
	comp=Z,395nm,1.4s							
TNG	**Tangerang**	**76.96**	**268**		P	**P**	**21 18 49.9**	**+3.9**
	comp=Z,9μmcomp=Z,17μmcomp=Z,1μm,1.5s							
TPI	**Tanjungpandan**	**77.03**	**271**		P	**P**	**21 18 46.8**	**+0.4**
	comp=Z,216nm,0.8s							
J01E	**Myrtle Point**	**77.05**	**36**		P	**P**	**21 18 45.7**	**0.0**
	baz=229							
J01E					S	**S**	**21 28 20.5**	**+2.0**
	baz=229							
UGL	**Uglegorsk**	**77.05**	**333**		*e*P	**P**	**21 18 45.7**	**+0.1**
UGL					*e*		21 19 43.1	
UGL					*e*S	**S**	**21 28 17.3**	**-1.0**
UGL					pmax	pmax		
	comp=Z,140nm,1.0s							
UGL					pmax	pmax		
	comp=Z,1μm,3.5s							
UGL					smax	smax		
	comp=E,3μm,10.0s							
UGL					smax	smax		
	comp=N,2μm,7.5s							
KSRS	**Korea Array**	**77.06**	**317**		P	**P**	**21 18 47.4**	**+1.5**
	comp=N,171nm,1.0s,baz=134,slow=6.5,SNR=402							
	comp=N,171nm,1.0s							
KSAR	**Wonju Array Be**	**77.08**	**317**		P	**P**	**21 18 47.0**	**+0.9**
KSAR	**Wonju Array Be**	**77.08**	**317**		P	**P**	**21 18 47.0**	**+0.9**
PIX	**Pinacate**	**77.08**	**50**		P	**P**	**21 18 45.4**	**-0.8**
KS19	**Wonju Array Si**	**77.12**	**317**		P	**P**	**21 18 47.3**	**+1.0**
KS19					IAmb	IAmb	21 18 50.6	
	comp=Z,299nm,1.1s							
VCNR	**Virginia City**	**77.16**	**41**		P	**P**	**21 18 46.4**	**-0.4**
R17K	**Ugashik Creek**	**77.17**	**10**		P	**P**	**21 18 45.7**	**-0.4**
	baz=198							
R17K					S	**S**	**21 28 16.4**	**-2.9**
	baz=198							
GMRC	**Granite Mounta**	**77.22**	**47**		P	**P**	**21 18 47.0**	**-0.1**
	baz=237,SNR=19							
GMRC					S	**S**	**21 28 20.6**	**-0.4**
	baz=237							
HUMO	**Hull Mountain**	**77.24**	**37**	⇑	P	**P**	**21 18 46.4**	**-0.5**
IRM	**Iron Mountain**	**77.24**	**47**		P	**P**	**21 18 47.3**	**+0.2**
	baz=237,SNR=33							
IRM					S	**S**	**21 28 21.7**	**+0.6**
	baz=237							
GRAC	**Grapevine Rang**	**77.29**	**44**		P	**P**	**21 18 47.8**	**+0.5**
	baz=235,SNR=50							
GRAC					S	**S**	**21 28 22.7**	**+1.1**
	baz=235							
FURC	**Furnace Creek,**	**77.33**	**45**		P	**P**	**21 18 47.5**	**0.0**
	baz=236,SNR=17							
FURC					S	**S**	**21 28 21.9**	**+0.1**
	baz=236							
OHAK	**Old Harbor**	**77.34**	**12**		P	**P**	**21 18 46.5**	**-0.5**
OHAK					pwP	**pwP**	**21 19 38.1**	**+2.9**
OHAK					IAmb	IAmb	21 19 41.4	
	comp=Z,242nm,1.5s							
OHAK	**Old Harbor**	**77.34**	**12**		P	**P**	**21 18 47.1**	**0.0**
	baz=201							
OHAK					S	**S**	**21 28 23.6**	**+2.5**
	baz=201							
L04D	**Klamath Falls**	**77.36**	**37**		P	**P**	**21 18 47.4**	**-0.4**
	baz=231,SNR=15							
L04D					S	**S**	**21 28 22.9**	**+0.6**
	baz=231							
TUQ	**Turquoise Moun**	**77.39**	**46**		P	**P**	**21 18 48.0**	**-0.1**
	baz=237							
TUQ					S	**S**	**21 28 23.6**	**+0.7**
	baz=237							
DBO	**Dodson Butte**	**77.40**	**36**		P	**P**	**21 18 47.5**	**-0.4**
SHOC	**Shoshone, Teco**	**77.41**	**45**		P	**P**	**21 18 47.6**	**-0.4**
	baz=236,SNR=10.0							
SHOC					S	**S**	**21 28 24.3**	**+1.5**
	baz=236							
KNMB	**Chin-men Tao**	**77.46**	**301**		P	**P**	**21 18 48.9**	**+0.4**
KNMB					IAmb	IAmb	21 18 56.6	
	comp=Z,298nm,1.1s							
SBJI	**Serang**	**77.47**	**268**		P	**P**	**21 18 48.8**	**0.0**
	comp=Z,14μmcomp=Z,1μm,1.0s							
113A	**Mohawk Valley,**	**77.48**	**49**		P	**P**	**21 18 47.9**	**-0.6**
113A						**pP**	**21 19 38.4**	**+4.5**
NVAR	**Mina Array Bea**	**77.50**	**42**		P	**P**	**21 18 48.7**	**0.0**
	comp=Z,49nm,1.0s,baz=226,slow=8.2,SNR=116							
NVAR					PKKPbc	**PKKPbc**	**21 37 52.7**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=198,slow=0.5,SNR=3.8							
	comp=Z,49nm,1.0s							
NVAR	**Mina Array Bea**	**77.50**	**42**		P	**P**	**21 18 48.3**	**-0.4**
QZH	**Quanzhou**	**77.51**	**302**	⇓	iP	**P**	**21 18 49.8**	**+1.1**
QZH					S	**S**	**21 28 22.0**	**-2.2**
QZH					pmax	pmax		
	comp=Z,230nm,1.2s							
NV11	**Mina Array Sit**	**77.60**	**42**		P	**P**	**21 18 49.0**	**-0.2**
NV11					IAmb	IAmb	21 19 46.0	
	comp=Z,243nm,1.4s							
HSIG		**77.71**	**54**		P	**P**	**21 18 49.0**	**-0.8**
HSIG					pP	**pP**	**21 19 39.3**	**+4.0**
HSIG		**77.71**	**54**	⇑	P	**P**	**21 18 49.5**	**-0.2**
HSIG				⇑	P	**P**	**21 18 49.8**	**+0.1**
I02E	**Swisshome, OR**	**77.71**	**35**		P	**P**	**21 18 50.7**	**+1.3**
	baz=229							
I02E					S	**S**	**21 28 27.5**	**+1.9**
	baz=229							
I03D	**Drain, OR**	**77.72**	**36**		P	**P**	**21 18 49.5**	**+0.1**
	baz=230,SNR=8.6							
I03D					S	**S**	**21 28 26.9**	**+1.2**
	baz=230							
214A	**Organ Pipe Nat**	**77.76**	**50**		P	**P**	**21 18 49.7**	**-0.4**
	baz=239							
214A					S	**S**	**21 28 27.5**	**+0.7**
	baz=239							
INCN	**Inchon**	**77.92**	**316**		P	**P**	**21 18 51.4**	**+0.6**
INCN	**Inchon**	**77.92**	**316**		P	**P**	**21 18 51.4**	**+0.6**
INCN					pmax	pmax		
	comp=Z,667nm,1.6s							
INCN	**Inchon**	**77.92**	**316**		P	**P**	**21 18 52.1**	**+1.4**
INCN	**Inchon**	**77.92**	**316**	⇓	P	**P**	**21 18 52.1**	**+1.4**
NEE2	**Needles Airpor**	**77.93**	**47**		P	**P**	**21 18 51.0**	**+0.1**
	baz=238							
NEE2					S	**S**	**21 28 29.2**	**+0.7**
	baz=238							
K04D	**Chiloquin, OR**	**77.94**	**37**		P	**P**	**21 18 50.5**	**-0.3**
	baz=231							
K04D					S	**S**	**21 28 30.0**	**+1.6**
	baz=231							
TPH	**Tonopah**	**78.00**	**43**		P	**P**	**21 18 51.1**	**-0.3**
TPH	**Tonopah**	**78.00**	**43**		P	**P**	**21 18 51.1**	**-0.3**
TPH					pmax	pmax		
	comp=Z,885nm,1.3s							
KDAK	**Kodiak Island**	**78.00**	**12**		P	**P**	**21 18 50.3**	**-0.4**
	comp=Z,28nm,0.7s,baz=225,slow=4.9,SNR=29							
	comp=Z,28nm,0.7s							
KDAK	**Kodiak Island**	**78.00**	**12**		P	**P**	**21 18 50.5**	**-0.2**
KDAK					pwP	**pwP**	**21 19 42.5**	**+3.6**
KDAK					IAmb	IAmb	21 19 46.1	
	comp=Z,539nm,1.6s							
KDAK	**Kodiak Island**	**78.00**	**12**		P	**P**	**21 18 50.5**	**-0.2**
KDAK					pmax	pmax		
	comp=Z,539nm,1.6s							
KDAK	**Kodiak Island**	**78.00**	**12**		P	**P**	**21 18 51.3**	**+0.6**
	baz=202							
KDAK					S	**S**	**21 28 29.2**	**+1.0**
	baz=202							
TPNV	**Topopah Spring**	**78.01**	**44**		P	**P**	**21 18 51.0**	**-0.5**
TPNV						**pwP**	**21 19 41.8**	**+2.4**
TPNV	**Topopah Spring**	**78.01**	**44**		P	**P**	**21 18 51.0**	**-0.5**
TPNV					pmax	pmax		
	comp=Z,215nm,1.6s							
TPNV	**Topopah Spring**	**78.01**	**44**		P	**P**	**21 18 51.5**	**0.0**
	baz=236,SNR=54							
TPNV					S	**S**	**21 28 30.6**	**+1.1**
	baz=236							
TPNV	**Topopah Spring**	**78.01**	**44**	⇑	P	**P**	**21 18 51.5**	**0.0**
TPNV				⇑	p	**pwP**	**21 19 43.5**	**+4.1**
PDMCI	**Parker Dam,Lak**	**78.02**	**48**		P	**P**	**21 18 51.4**	**+0.1**
	baz=238,SNR=9.3							
PDMCI					S	**S**	**21 28 30.3**	**+0.9**
	baz=238							
Q16K	**King Salmon**	**78.12**	**10**		P	**P**	**21 18 50.9**	**-0.3**
	baz=198,SNR=6.2							
Q16K					S	**S**	**21 28 27.2**	**-2.1**
	baz=198							
J04D	**Umpqua Nationa**	**78.12**	**37**		P	**P**	**21 18 51.9**	**-0.1**
	baz=231,SNR=15							
J04D					S	**S**	**21 28 29.4**	**-1.1**
	baz=231							
TYV	**Tymovskoe**	**78.15**	**334**		*e*P	**P**	**21 18 51.7**	**+0.1**
TYV					*e*S	**S**	**21 28 27.0**	**-3.0**
TYV					pmax	pmax		
	comp=Z,600nm,2.7s							
TYV					pmax	pmax		
	comp=Z,108nm,1.3s							
TYV					smax	smax		
	comp=N,2μm,9.3s							
TYV					smax	smax		
	comp=E,1μm,9.3s							
P16K	**Nushagak River**	**78.25**	**9**		P	**P**	**21 18 51.9**	**-0.1**
	baz=196							
P16K					S	**S**	**21 28 29.6**	**-1.2**
	baz=196							
I04A	**Tendick Farm,**	**78.30**	**36**		P	**P**	**21 18 51.9**	**-0.8**
	baz=230,SNR=13							
I04A					S	**S**	**21 28 29.8**	**-2.3**
	baz=230							
COR	**Corvallis**	**78.31**	**35**		P	**P**	**21 18 52.2**	**-0.5**
COR					IAmb	IAmb	21 19 46.7	
	comp=Z,196nm,1.2s							
COR	**Corvallis**	**78.31**	**35**		P	**P**	**21 18 52.2**	**-0.5**
COR					pmax	pmax		
	comp=Z,196nm,1.2s							
SSE	**Sheshan**	**78.39**	**308**		P	**P**	**21 18 53.6**	**+0.2**
SSE					S	**S**	**21 28 34.4**	**+1.0**
SSE					pmax	pmax		
	comp=Z,36nm,0.9s							
SSE					pmax	pmax		
	comp=Z,930nm,11.0s							
SSE					LR	LR		
	comp=Z,2μm,19.2s							
SSE					LR	LR		
	comp=Z,3μm,20.3s							
K05A	**Summer Lake**	**78.49**	**38**		P	**P**	**21 18 54.1**	**0.0**
K05A					IAmb	IAmb	21 19 51.6	
	comp=Z,383nm,1.3s							
BLSI	**Bandar Lampung**	**78.53**	**268**		P	**P**	**21 18 53.9**	**-0.8**
	comp=Z,14μmcomp=Z,10μmcomp=Z,824nm,0.7s							
H04D	**Lebanon**	**78.58**	**35**		P	**P**	**21 18 54.2**	**0.0**
H04D					IAmb	IAmb	21 19 48.1	
	comp=Z,347nm,1.4s							
H04D	**Lebanon**	**78.58**	**35**		P	**P**	**21 18 54.0**	**-0.3**
	baz=230,SNR=17							
H04D					S	**S**	**21 28 34.9**	**0.0**
	baz=230							
J05D	**Fort Rock, OR**	**78.64**	**37**		P	**P**	**21 18 54.2**	**-0.6**
	baz=231,SNR=59							
J05D					S	**S**	**21 28 35.2**	**-0.8**
	baz=231							
P17K	**Kvichak River**	**78.64**	**10**		P	**P**	**21 18 53.1**	**-1.0**
	baz=198,SNR=22							
P17K					S	**S**	**21 28 32.4**	**-2.6**
	baz=198							
PPBI	**Pangkal Pinang**	**78.66**	**271**		P	**P**	**21 18 56.2**	**+0.9**
	comp=Z,17μmcomp=Z,7μmcomp=Z,472nm,0.8s							
USA0B	**Ussuriysk Arra**	**78.68**	**324**		P	**P**	**21 18 55.1**	**+0.4**
USA0B					IAmb	IAmb	21 19 02.3	
	comp=Z,240nm,1.2s							
USA0B	**Ussuriysk Arra**	**78.68**	**324**		P	**P**	**21 18 55.1**	**+0.4**
USA0B					pmax	pmax		
	comp=Z,240nm,1.3s							
USRK	**Ussuriysk Ar.**	**78.68**	**324**		P	**P**	**21 18 55.4**	**+0.7**
	comp=Z,91nm,1.0s,baz=118,slow=4.3,SNR=47							
	comp=Z,91nm,1.0s							
HHU	**Hamhung**	**78.74**	**319**		P	**P**	**21 18 56.4**	**+1.3**
HHU					sP	**sP**	**21 19 54.9**	**-5.4**
HHU					S	**S**	**21 28 41.0**	**+4.2**
HHU					AmB			
	comp=Z,2μm,3.0s							
HHU					AMS	AMS		
	comp=N,6μm,6.9s							
HHU					AMS	AMS		
	comp=E,12μm,13.5s							
HHU					AMS	AMS		
	comp=Z,7μm,7.3s							
G03D	**McMinnville, O**	**78.74**	**35**		P	**P**	**21 18 55.1**	**+0.1**

O17K	**Koliganek Bris**	79.09	9	P		**P**	21 18 54.8	-1.8		
	baz=197,SNR=29									
O17K				S		**S**	21 28 36.5	-3.2		
	baz=197									
KASI	**Kota Agung**	79.20	268	P		**P**	21 18 57.6	-0.7		
	comp=Z,15µmcomp=Z,11µmcomp=Z,1µm,0.9s									
R11A	**Troy Canyon, C**	79.22	44	P		**P**	21 18 57.5	-0.6		
R11A	**Troy Canyon, C**	79.22	44	P		**P**	21 18 57.8	-0.3		
	baz=236,SNR=36									
R11A				S		**S**	21 28 41.9	-0.5		
	baz=236									
I05D	**Terrebonne, OR**	79.24	36	P		**P**	21 18 57.8	-0.1		
	baz=231									
I05D				S		**S**	21 28 41.1	-1.0		
	baz=231									
PYAG	**Pyongyang**	79.37	317	P		**P**	21 19 00.3	+1.7		
TUC	**Tucson**	79.43	51	P		**P**	21 18 59.0	-0.2		
TUC	**Tucson**	79.43	51	P		**P**	21 18 59.0	-0.2		
TUC				pmax		pmax				
	comp=Z,174nm,1.4s									
TUC	**Tucson**	79.43	51	P		**P**	21 18 59.5	+0.3		
	baz=240									
TUC				S		**S**	21 28 45.5	+0.9		
	baz=240									
TUC	**Tucson**	79.43	51	⇑P		**P**	21 18 59.7	+0.5		
F04D	**Rainier, OR**	79.44	34	P		**P**	21 18 58.3	-0.5		
	baz=230									
F04D				S		**S**	21 28 43.2	-0.7		
	baz=230									
O18K	**Koktuh Hills**	79.47	10	P		**P**	21 18 57.4	-1.3		
	baz=199,SNR=36									
O18K				S		**S**	21 28 42.1	-1.7		
	baz=199									
N16K	**Nishlik Lake**	79.53	8	P		**P**	21 18 58.4	-0.6		
	baz=196,SNR=19									
N16K				S		**S**	21 28 42.8	-1.6		
	baz=196									
P19K	**Oil Pt**	79.63	11	P		**P**	21 18 58.9	-0.7		
	baz=201,SNR=7.5									
P19K				S		**S**	21 28 43.9	-1.5		
	baz=201									
WVOR	**Wild Horse Val**	79.64	39	P		**P**	21 18 59.6	-0.6		
WVOR	**Wild Horse Val**	79.64	39	P		**P**	21 18 59.6	-0.6		
WVOR				pmax		pmax				
	comp=Z,162nm,1.3s									
WVOR	**Wild Horse Val**	79.64	39	⇑P		**P**	21 19 00.1	-0.1		
PMBI	**Palembang**	79.72	270	P		**P**	21 19 01.8	+0.7		
PMBI	**Palembang**	79.72	270	P		**P**	21 19 02.4	+1.3		
	comp=Z,16µmcomp=Z,13µmcomp=Z,859nm,1.0s									
LWLI	**Liwa**	79.76	268	P		**P**	21 19 01.0	-0.5		
	comp=Z,9µmcomp=Z,11µmcomp=Z,947nm,0.7s									
G05D	**Wamic, OR**	79.82	35	P		**P**	21 19 00.5	-0.5		
	baz=231,SNR=13									
G05D				S		**S**	21 28 47.4	-0.6		
	baz=231									
NLWA	**Neilton Lookou**	79.85	33	P		**P**	21 19 01.2	+0.2		
NLWA				IAmb		IAmb	21 19 55.2			
	comp=Z,177nm,1.2s									
NLWA	**Neilton Lookou**	79.85	33	⇓P		**P**	21 19 01.6	+0.6		
CNPM	**China Poot**	79.89	12	P		**P**	21 19 00.7	-0.3		
CNPM				IAmb		IAmb	21 19 56.5			
	comp=Z,496nm,1.6s									
HG4B	**Hotspring**	79.91	26	P		**P**	21 19 01.1	-0.1		
HOM	**Homer**	79.93	12	P		**P**	21 19 00.0	-1.1		
	baz=202									
HOM				S		**S**	21 28 45.8	-2.7		
	baz=202									
O19K	**Port Alsworth**	79.94	10	P		**P**	21 19 00.3	-0.8		
O19K	**Port Alsworth**	79.94	10	P		**P**	21 19 00.7	-0.5		
	baz=200,SNR=8.2									
O19K				S		**S**	21 28 45.9	-2.6		
	baz=200									
ILSW	**Iliamna Southw**	79.95	11	P		**P**	21 19 00.2	-1.2		
ILSW				IAmb		IAmb	21 19 56.4			
	comp=Z,674nm,1.4s									
HKPS	**Hong Kong Po S**	80.04	297	P		**P**	21 19 03.4	+0.7		
HKPS				IAmb		IAmb	21 19 10.8			
	comp=Z,420nm,1.1s									
DIB	**Dawson Inlet,**	80.07	24	P		**P**	21 19 02.6	+0.5		
DIB				IAmb		IAmb	21 19 58.5			
	comp=Z,289nm,1.4s									
OZB	**Mount Ozzard**	80.09	31	P		**P**	21 19 03.4	+1.1		
319A	**Douglas**	80.10	52	P		**P**	21 19 03.1	+0.2		
319A				IAmb		IAmb	21 19 59.1			
	comp=Z,194nm,1.2s									
O20K	**Slope Mountain**	80.14	11	P		**P**	21 19 01.8	-0.6		
	baz=202									
O20K				S		**S**	21 28 50.1	-0.7		
	baz=202									
N18K	**Kilae Creek**	80.15	9	P		**P**	21 19 01.7	-0.6		
N18K	**Kilae Creek**	80.15	9	P		**P**	21 19 01.7	-0.6		
	baz=198,SNR=19									
N18K				S		**S**	21 28 48.2	-2.6		
	baz=198									
BRSE	**Bradley Lake S**	80.19	12	P		**P**	21 19 02.0	-0.6		
	baz=203,SNR=14									
BRSE				S		**S**	21 28 49.7	-1.5		
	baz=203									
MDJ	**Mudanjiang**	80.29	323	P		**P**	21 19 04.3	+0.9		
MDJ				IAmb		IAmb	21 19 11.1			
	comp=Z,349nm,1.3s									
RSO	**Redoubt South**	80.47	11	P		**P**	21 19 02.9	-1.4		
N19K	**Bonanza Creek**	80.50	10	P		**P**	21 19 03.2	-1.1		
N19K				IAmb		IAmb	21 19 59.5			
	comp=Z,388nm,1.5s									
N19K	**Bonanza Creek**	80.50	10	P		**P**	21 19 02.7	-1.6		
	baz=200,SNR=25									
N19K				S		**S**	21 28 48.7	-5.9		
	baz=200									
NJ2	**Nanjing**	80.59	308	⇓*i*P		**P**	21 19 06.4	+1.1		
NJ2				sP		**sP**	21 20 10.3	-0.4		
NJ2				S		**S**	21 28 59.3	+2.7		
NJ2				pmax		pmax				
	comp=Z,140nm,1.2s									
NJ2				pmax		pmax				
	comp=Z,2µm,5.7s									
NJ2				LR		LR				
	comp=Z,7µm,18.6s									
NJ2				LR		LR				
	comp=Z,8µm,14.5s									
NJ2				LR		LR				
	comp=Z,10µm,14.1s									
SVW2	**Sparrevohn**	80.59	9	P		**P**	21 19 03.8	-0.9		
WUAZ	**Wupatki**	80.59	48	P		**P**	21 19 04.8	-0.7		
WUAZ	**Wupatki**	80.59	48	P		**P**	21 19 05.8	+0.3		
	baz=240,SNR=25									
WUAZ				S		**S**	21 28 57.4	+0.5		
	baz=240									
WUAZ	**Wupatki**	80.59	48	⇑P		**P**	21 19 06.0	+0.5		
DSRI	**Dabo**	80.66	273	P		**P**	21 19 07.0	+0.9		
	comp=Z,10µmcomp=Z,6µmcomp=Z,221nm,1.4s									
ELK	**Elko**	80.77	42	P		**P**	21 19 05.8	-0.6		
ELK	**Elko**	80.77	42	P		**P**	21 19 05.8	-0.6		
ELK				pmax		pmax				
	comp=Z,114nm,1.2s									
SEW	**Seward**	80.78	13	P		**P**	21 19 05.0	-0.6		
SEW				IAmb		IAmb	21 20 03.4			
	comp=Z,360nm,1.5s									
SEW	**Seward**	80.78	13	P		**P**	21 19 05.8	+0.1		
	baz=204									
SEW				S		**S**	21 28 52.2	-5.1		
	baz=204									
GRNR	**Gornyy**	80.80	331	⇓*i*P		**P**	21 19 06.5	+0.5		
GRNR				pmax		pmax				
	comp=E,10.0nm,1.0s									
GRNR				pmax		pmax				
	comp=N,20nm,1.2s									
GRNR				pmax		pmax				
	comp=Z,60nm,1.3s									
GRNR				MLR		MLR				
	comp=E,2µm,17.0s									
GRNR				MLR		MLR				
	comp=N,1µm,19.0s									
GRNR				MLR		MLR				
	comp=Z,3µm,20.0s									
CBB	**Campbell River**	80.88	30	P		**P**	21 19 06.2	-0.2		
CBB				IAmb		IAmb	21 20 01.3			
	comp=Z,348nm,1.2s									
PGC	**Sidney**	80.89	32	P		**P**	21 19 06.6	+0.2		
PGC				IAmb		IAmb	21 20 00.4			
	comp=Z,219nm,1.1s									
HPIG		80.91	58	P		**P**	21 19 07.0	-0.5		
MNAI	**Manna**	81.01	268	P		**P**	21 19 07.7	-0.3		
MNAI	**Manna**	81.01	268	P		**P**	21 19 08.7	+0.7		
	comp=Z,16µmcomp=Z,21µmcomp=Z,2µm,1.0s									
MNAI	**Manna**	81.01	268	P		**P**	21 19 08.7	+0.7		

GZH	**Guangzhou**	81.04	298	P		**P**	21 19 08.0	+0.1		
GZH				sP		**sP**	21 20 11.6	-1.6		
GZH				PP		**PP**	21 22 12.8	-3.0		
GZH				S		**S**	21 29 00.3	-1.3		
GZH				pmax		pmax				
	comp=Z,4µm,3.6s									
CAPN	**Captain Cook N**	81.05	12	P		**P**	21 19 06.4	-0.6		
	baz=203									
O22K	**Cooper Landing**	81.07	12	P		**P**	21 19 06.7	-0.5		
	baz=204									
O22K				S		**S**	21 28 56.4	-3.9		
	baz=204									
BBB	**Bella Bella**	81.13	27	P		**P**	21 19 06.9	-0.7		
BBB				IAmb		IAmb	21 20 01.7			
	comp=Z,238nm,1.3s									
P23K	**Montague Islan**	81.13	14	P		**P**	21 19 07.1	-0.4		
	baz=206									
TPRI	**Tanjung Pinang**	81.14	274	P		**P**	21 19 09.7	+1.0		
	comp=Z,10µmcomp=Z,4µmcomp=Z,259nm,1.5s									
JAMBI	**JAMBI**	81.19	271	P		**P**	21 19 11.2	+2.3		
	comp=Z,10µmcomp=Z,899nm,1.5s									
N20K	**Mount Spurr**	81.26	11	P		**P**	21 19 07.7	-0.6		
	baz=202,SNR=9.2									
N20K				S		**S**	21 28 56.7	-5.7		
	baz=202									
SPCR	**Spurr Chakacha**	81.26	11	P		**P**	21 19 07.8	-0.5		
	baz=202,SNR=9.1									
SPCR				S		**S**	21 29 00.1	-2.3		
	baz=202									
BELA	**Belgrano 2**	81.44	172	P		**P**	21 19 09.8	+0.7		
BELA				IAmb		IAmb	21 19 12.4			
	comp=Z,188nm,0.9s									
HAWA	**Hanford**	81.51	35	P		**P**	21 19 09.7	-0.2		
HAWA				IAmb		IAmb	21 20 03.9			
	comp=Z,253nm,1.2s									
HAWA	**Hanford**	81.51	35	⇑P		**P**	21 19 09.9	0.0		
M19K	**Big River Lodg**	81.54	10	P		**P**	21 19 09.5	-0.2		
	baz=200,SNR=15									
M19K				S		**S**	21 28 59.6	-5.6		
	baz=200									
CRAG	**Craig**	81.56	23	P		**P**	21 19 09.6	-0.3		
	baz=220									
CRAG				S		**S**	21 29 02.8	-2.6		
	baz=220									
W18A	**Petrified Fore**	81.56	49	P		**P**	21 19 10.6	-0.1		
	baz=241									
W18A				S		**S**	21 29 05.8	-1.1		
	baz=241									
KSI	**Kapahiang**	81.57	269	P		**P**	21 19 10.5	-0.5		
	comp=Z,548nm,1.2s									
RC01	**Rabbit Creek A**	81.63	12	P		**P**	21 19 09.5	-0.6		
RC01				IAmb		IAmb	21 20 05.8			
	comp=Z,504nm,1.6s									
RC01	**Rabbit Creek A**	81.63	12	P		**P**	21 19 09.1	-1.0		
	baz=204									
RC01				S		**S**	21 29 00.6	-5.4		
	baz=204									
PWL	**Port Wells**	81.70	13	P		**P**	21 19 09.8	-0.8		
PWL				IAmb		IAmb	21 20 05.9			
	comp=Z,571nm,1.6s									
PWL	**Port Wells**	81.70	13	P		**P**	21 19 09.2	-1.4		
	baz=206,SNR=9.0									
PWL				S		**S**	21 29 01.0	-5.9		
	baz=206									
MOIG	**Morelia**	81.71	66	P		**P**	21 19 11.2	-0.6		
M20K	**Styx River**	81.73	10	P		**P**	21 19 09.0	-1.7		
	baz=201									
M20K				S		**S**	21 29 02.6	-4.7		
	baz=201									
L19K	**White Mountain**	81.73	9	P		**P**	21 19 09.5	-1.2		
	baz=199,SNR=13									
L19K				S		**S**	21 29 01.2	-5.9		
	baz=199									
ZAIG	**Zacatecas**	81.74	63	P		**P**	21 19 12.4	+0.4		
121A	**Cookes Peak, D**	81.76	52	P		**P**	21 19 11.7	0.0		
121A	**Cookes Peak, D**	81.76	52	P		**P**	21 19 12.8	+1.0		
	baz=242,SNR=18									
121A	**Cookes Peak, D**	81.76	52	P		**P**	21 19 11.9	+0.1		
	baz=242,SNR=18									
121A				S		**S**	21 29 08.2	-0.9		
	baz=242									
SUA	**Susitna One**	81.77	12	P		**P**	21 19 10.3	-0.7		
SUA				IAmb		IAmb	21 20 10.3			
	comp=Z,421nm,1.8s									
SUA	**Susitna One**	81.77	12	P		**P**	21 19 09.4	-1.6		
	baz=203,SNR=27									
SUA				S		**S**	21 29 04.8	-3.0		
	baz=203									
BMO	**Blue Mountains**	81.85	37	P		**P**	21 19 11.2	-0.6		
BMO	**Blue Mountains**	81.85	37	P		**P**	21 19 11.2	-0.6		
BMO				pmax		pmax				
	comp=Z,168nm,1.4s									
MFID	**Camas Ranch**	81.89	39	P		**P**	21 19 11.6	-0.5		
MFID				IAmb		IAmb	21 20 08.6			
	comp=Z,236nm,1.4s									
GLI	**Glacier Island**	81.99	13	P		**P**	21 19 10.8	-1.2		
	baz=207,SNR=11									
GLI				S		**S**	21 29 03.9	-5.9		
	baz=207									
EYAK	**Cordova Ski Ar**	82.00	14	P		**P**	21 19 11.5	-0.6		
EYAK				IAmb		IAmb	21 20 06.7			
	comp=Z,225nm,1.6s									
EYAK	**Cordova Ski Ar**	82.00	14	P		**P**	21 19 11.6	-0.4		
	baz=208									
EYAK				S		**S**	21 29 06.6	-3.2		
	baz=208									
DL2	**Dalian**	82.01	315	P		**P**	21 19 12.0	-0.6		
DL2				sP		**sP**	21 20 12.0	-6.0		
DL2				PP		**PP**	21 22 24.8	+1.4		
DL2				S		**S**	21 29 11.6	+0.8		
DL2				pmax		pmax				
	comp=Z,180nm,1.3s									
DL2				pmax		pmax				
	comp=Z,2µm,4.2s									
V35K	**Ketchikan**	82.01	23	S		**S**	21 29 09.2	-0.9		
	baz=221									
FID	**Port Fidalgo**	82.01	14	P		**P**	21 19 11.2	-0.9		
FID				IAmb		IAmb	21 20 07.3			
	comp=Z,375nm,1.6s									
KLR	**Kul'dur**	82.02	328	P		**P**	21 19 13.0	+0.6		
	comp=Z,34nm,1.0s,baz=109,slow=4.0,SNR=45									
KLR				PKKPbc		**PKKPbc**	21 37 42.4	-1.0		
	comp=Z,1.2nm,0.5s,baz=324,slow=5.7,SNR=5.2									
	comp=Z,34nm,1.0s									
SIT	**Sitka**	82.03	21	P		**P**	21 19 12.3	+0.1		
	baz=218									
SIT				S		**S**	21 29 06.6	-3.5		
	baz=218									
DUG	**Dugway, Tooele**	82.03	43	P		**P**	21 19 12.3	-0.6		
	baz=238									
DUG				S		**S**	21 29 11.0	-0.3		
	baz=238									
U33K	**Whale Pass**	82.06	22	P		**P**	21 19 11.7	-0.7		
	baz=220									
U33K				S		**S**	21 29 06.1	-4.4		
	baz=220									
MASI	**Maura Aman, Be**	82.06	269	P		**P**	21 19 13.4	-0.2		
	comp=Z,8µmcomp=Z,14µmcomp=Z,996nm,1.5s									
MYKOM	**Kota Tinggi**	82.06	275	P		**P**	21 19 14.3	+0.9		
MYKOM	**Kota Tinggi**	82.06	275	P		**P**	21 19 15.0	+1.5		
SKT	**Skwentna**	82.10	11	P		**P**	21 19 11.7	-0.9		
SKT				IAmb		IAmb	21 20 11.0			
	comp=Z,336nm,1.7s									
SKT	**Skwentna**	82.10	11	P		**P**	21 19 11.3	-1.3		
	baz=202,SNR=15									
SKT				S		**S**	21 29 03.8	-7.1		
	baz=202									
M22K	**Willow**	82.16	12	P		**P**	21 19 11.9	-0.9		
	baz=204,SNR=9.7									
L20K	**Farewell, AK**	82.17	10	P		**P**	21 19 12.0	-1.0		
	baz=200,SNR=20									
L20K				S		**S**	21 29 06.8	-4.8		
	baz=200									
KNK	**Knik Glacier**	82.18	13	P		**P**	21 19 12.1	-0.9		
	baz=205,SNR=16									
KNK				S		**S**	21 29 06.2	-5.6		
	baz=205									
BNX	**BinXian**	82.20	323	⇓P		**P**	21 19 13.8	+0.4		
BNX				sP		**sP**	21 20 11.8	-7.0		
BNX				S		**S**	21 29 14.8	+2.3		
BNX				pmax		pmax				
	comp=Z,170nm,1.0s									
BNX				pmax		pmax				
	comp=Z,2µm,5.9s									
PMR	**Palmer**	82.21	12	P		**P**	21 19 12.1	-1.0		
PMR				IAmb		IAmb	21 20 08.7			
	comp=Z,454nm,1.5s									

PMR	**Palmer**	82.21	12	P		**P**	21 19 12.1	-1.0		
PMR				pmax		pmax				
	comp=Z,454nm,1.5s									
PMR	**Palmer**	82.21	12	P		**P**	21 19 12.8	-0.3		
	baz=205,SNR=13									
PMR				S		**S**	21 29 07.0	-4.9		
	baz=205									
CN2	**Changchun**	82.22	321	⇓*i*P		**P**	21 19 14.3	+0.7		
CN2				S		**S**	21 29 11.3	-1.5		
CN2				sS		sS	21 30 31.8	-0.6		
CN2				pmax		pmax				
	comp=Z,140nm,0.8s									
BGLC	**Bering Glacier**	82.22	15	P		**P**	21 19 12.6	-0.6		
	baz=210									
TTA	**Tatalina**	82.27	9	P		**P**	21 19 13.6	+0.1		
TTA				IAmb		IAmb	21 20 12.9			
	comp=Z,283nm,1.5s									
TTA	**Tatalina**	82.27	9	P		**P**	21 19 13.6	+0.1		
TTA	**Tatalina**	82.27	9	P		**P**	21 19 13.8	+0.2		
	baz=198,SNR=37									
TTA				S		**S**	21 29 12.1	-0.6		
	baz=198									
TTA	**Tatalina**	82.27	9	⇓P		**P**	21 19 13.6	+0.1		
TTA				⇑P		**P**	21 19 13.6	+0.1		
SNY	**Shenyang**	82.28	319	⇓P		**P**	21 19 15.0	+1.1		
SNY				SKS		**S**	21 29 17.8	+4.3		
SNY				pmax		pmax				
	comp=Z,190nm,1.6s									
SNY				pmax		pmax				
	comp=Z,2µm,4.7s									
SNY				LR		LR				
	comp=Z,12µm,20.6s									
SNY				LR		LR				
	comp=Z,11µm,21.4s									
SNY				LR		LR				
	comp=Z,10µm,23.1s									
MA2	**Magadan**	82.37	343	P		**P**	21 19 13.2	-0.8		
	comp=Z,59nm,1.0s,baz=160,slow=10,SNR=6.7									
	comp=Z,59nm,1.0s									
MA2	**Magadan**	82.37	343	P		**P**	21 19 13.6	-0.4		
MA2				IAmb		IAmb	21 19 20.0			
	comp=Z,199nm,1.3s									
MA2	**Magadan**	82.37	343	⇑*e*P		**P**	21 19 13.7	-0.3		
MA2				pmax		pmax				
	comp=Z,253nm,1.7s									
MA2	**Magadan**	82.37	343	P		**P**	21 19 11.7	-2.3		
KIDD	**Kidd Seismic O**	82.38	53	P		**P**	21 19 16.2	+1.3		
	baz=243									
SNH	**Sunshine Point**	82.39	16	P		**P**	21 19 14.5	+0.4		
SNH				IAmb		IAmb	21 20 09.7			
	comp=Z,422nm,1.5s									
GHO	**Glory Hole Cre**	82.41	12	P		**P**	21 19 13.7	-0.6		
GHO				IAmb		IAmb	21 20 09.9			
	comp=Z,390nm,1.5s									
QIZ	**Qiongzhong**	82.47	293	P		**P**	21 19 16.3	+0.8		
QIZ				IAmb		IAmb	21 19 19.9			
	comp=Z,443nm,1.6s									
QIZ	**Qiongzhong**	82.47	293	⇓*i*P		**P**	21 19 16.6	+1.1		
QIZ				pP		**pP**	21 20 01.3	+0.1		
QIZ				sP		**sP**	21 20 21.9	+0.9		
QIZ				S		**S**	21 29 14.6	-1.8		
QIZ				sS		**sS**	21 30 30.3	-5.6		
QIZ				pmax		pmax				
	comp=Z,140nm,1.9s									
QIZ				pmax		pmax				
	comp=Z,3µm,11.8s									
QIZ	**Qiongzhong**	82.47	293	P		**P**	21 19 17.9	+2.4		
	comp=Z,137nm,1.6s									
DIV	**Divide**	82.51	14	P		**P**	21 19 14.6	-0.2		
DIV				IAmb		IAmb	21 20 10.2			
	comp=Z,352nm,1.4s									
F10A	**Beach Ranch, E**	82.55	37	⇑P		**P**	21 19 14.7	-0.7		
F10A				⇑P		**P**	21 19 14.8	-0.5		
F10A				⇑P		**PcP**	21 19 18.4	-1.5		
SML	**Sawmill**	82.56	12	P		**P**	21 19 14.5	-0.6		
	baz=205									
SML				S		**S**	21 29 12.2	-3.5		
	baz=205									
WRAK	**Wrangell Islan**	82.57	22	P		**P**	21 19 16.3	+1.3		
WRAK	**Wrangell Islan**	82.57	22	P		**P**	21 19 14.9	-0.1		
	baz=220									
WRAK				S		**S**	21 29 14.8	-0.9		
	baz=220									
MESA	**MESA**	82.62	16	P		**P**	21 19 15.4	-0.2		
MESA				IAmb		IAmb	21 20 10.9			
	comp=Z,524nm,1.7s									
MESA	**MESA**	82.62	16	P		**P**	21 19 15.7	+0.2		
	baz=212									
MESA				S		**S**	21 29 17.2	+0.5		
	baz=212									
BMRM	**Bremner River**	82.64	14	P		**P**	21 19 15.4	0.0		
	baz=209,SNR=20									
BMRM				S		**S**	21 29 14.6	-1.9		
	baz=209									
M23K	**Glacier View**	82.68	13	P		**P**	21 19 15.1	-0.5		
	baz=206,SNR=7.4									
M23K				S		**S**	21 29 13.5	-3.3		
	baz=206									
CUT	**Chulitna**	82.73	11	P		**P**	21 19 14.7	-1.1		
	baz=204,SNR=8.2									
CUT				S		**S**	21 29 13.8	-3.4		
	baz=204									
SCM	**Sheep Creek Mo**	82.80	13	P		**P**	21 19 15.4	-0.8		
	baz=206,SNR=18									
SCM				S		**S**	21 29 15.4	-2.7		
	baz=206									
KLU	**Klutina**	82.80	14	P		**P**	21 19 15.8	-0.6		
KLU	**Klutina**	82.80	14	P		**P**	21 19 15.2	-1.1		
	baz=208,SNR=8.5									
KLU				S		**S**	21 29 15.4	-2.7		
	baz=208									
HLID	**Hailey**	82.83	40	P		**P**	21 19 17.1	0.0		
HLID				IAmb		IAmb	21 20 11.6			
	comp=Z,221nm,1.3s	

P29M S **S** **21 29 21.4 -2.1**
baz=215
CAST **Castle Rocks** **83.34 10** P **P** **21 19 16.2 -2.8**
baz=202,SNR=41
CAST S **S** **21 29 17.6 -5.9**
baz=202
WHN **Wuhan** **83.35 305** ⇓*i*P **P** **21 19 21.0 +1.3**
WHN sP **sP** **21 20 20.6 -4.7**
WHN S **S** **21 29 28.4 +3.6**
WHN pmax pmax
comp=Z,460nm,1.3s
WHN pmax pmax
comp=Z,5μm,4.8s
MCARA **McCarthy VSAT** **83.38 15** P **P** **21 19 19.3 +0.1**
baz=210,SNR=9.8
MCARA S **S** **21 29 21.1 -2.8**
baz=210
WAT6 **Susitna Watana** **83.38 12** P **P** **21 19 18.3 -1.1**
baz=206
WAT6 S **S** **21 29 19.1 -5.1**
baz=206
MG05 **Puerto Natales** **83.44 142** P **P** **21 19 21.4 +1.5**
MVCO **Mesa Verde** **83.44 48** P **P** **21 19 19.7 -0.7**
MVCO **Mesa Verde** **83.44 48** P **P** **21 19 19.0 -1.4**
baz=241,SNR=9.9
MVCO S **S** **21 29 25.0 -1.1**
baz=241
WAT1 **Susitna Watana** **83.45 12** P **P** **21 19 18.8 -0.8**
baz=205
WAT1 S **S** **21 29 20.1 -4.4**
baz=205
CTG **Chitna Glacier** **83.45 16** P **P** **21 19 19.7 -0.1**
baz=212
CTG S **S** **21 29 22.1 -2.8**
baz=212
CTGM **Chitina Glacie** **83.45 16** P **P** **21 19 19.5 -0.2**
CTGM IAmb IAmb 21 20 15.6
comp=Z,778nm,2.5s
CNSH **ChangSha** **83.47 302** ⇓P **P** **21 19 21.8 +1.4**
CNSH S **S** **21 29 25.8 -0.4**
CNSH pmax pmax
comp=Z,2μm,6.1s
CNSH LR LR
comp=Z,6μm,17.7s
CNSH LR LR
comp=Z,9μm,24.2s
SDSI **Sungai Dareh** **83.51 271** P **P** **21 19 20.3 -0.7**
comp=Z,8μmcomp=Z,2μmcomp=Z,185nm,1.4s
TX31 **Lajitas Ar. Si** **83.53 56** P **P** **21 19 20.8 0.0**
TX31 IAmb IAmb 21 20 22.4
comp=Z,523nm,1.4s
TX31 **Lajitas Ar. Si** **83.53 56** P **P** **21 19 21.5 +0.7**
baz=245,SNR=43
TXAR **Lajitas Array** **83.53 56** P **P** **21 19 21.6 +0.8**
comp=Z,22nm,0.9s,baz=218,slow=5.9,SNR=115
TXAR PKKPbc **PKKPbc** **21 37 38.0 -0.7**
comp=Z,0.4nm,0.4s,baz=97,slow=3.9,SNR=5.7
comp=Z,22nm,0.9s
TXAR **Lajitas Array** **83.53 56** P **P** **21 19 21.4 +0.5**
HWUT **Hardware Ranch** **83.57 42** P **P** **21 19 20.1 -0.8**
O28M **Mount Upton** **83.59 16** P **P** **21 19 19.9 -0.8**
baz=213,SNR=9.5
O28M S **S** **21 29 25.4 -1.1**
baz=213
PLBC **Pleasant Camp** **83.61 19** P **P** **21 19 21.2 +0.8**
baz=217,SNR=14
PLBC S **S** **21 29 24.8 -1.3**
baz=217
O29M **Mount Kennedy** **83.64 17** P **P** **21 19 20.7 0.0**
baz=215,SNR=10
O29M S **S** **21 29 24.4 -2.4**
baz=215
GO09 **Cerro Castillo** **83.68 142** P **P** **21 19 22.5 +1.3**
TRF **Thorofare Moun** **83.69 11** P **P** **21 19 19.8 -1.1**
baz=204,SNR=57
TRF S **S** **21 29 21.3 -5.9**
baz=204
J20K **Nowinta River** **83.73 9** P **P** **21 19 20.0 -0.8**
baz=200,SNR=91
J20K S **S** **21 29 24.9 -2.3**
baz=200
GO10 **Punta Arenas** **83.73 144** P **P** **21 19 22.9 +1.5**
GO10 IAmb IAmb 21 20 18.2
comp=Z,142nm,1.0s
CHUM **Lake Minchumin** **83.74 10** P **P** **21 19 19.8 -1.2**
baz=202,SNR=37
CHUM S **S** **21 29 22.2 -5.0**
baz=202
T35M **Bob Quinn** **83.76 23** P **P** **21 19 22.1 +0.8**
baz=222,SNR=6.3
T35M S **S** **21 29 26.9 -0.9**
baz=222
HARP **HAARP** **83.77 14** P **P** **21 19 21.4 +0.2**
baz=208,SNR=10.0
HARP S **S** **21 29 28.4 +0.7**
baz=208
TIA **Tai'an** **83.81 311** ⇓P **P** **21 19 22.6 +0.6**
TIA S **S** **21 29 28.3 -0.9**
TIA SS **SS** **21 35 03.4 +1.8**
TIA pmax pmax
comp=Z,140nm,0.9s
TIA pmax pmax
comp=Z,2μm,3.5s
TIA LR LR
comp=Z,3μm,11.8s
TIA LR LR
comp=Z,6μm,13.1s
TIA LR LR
comp=Z,7μm,18.2s
ANMO **Albuquerque** **83.85 50** P **P** **21 19 22.6 +0.1**
ANMO IAmb IAmb 21 20 19.1
comp=Z,222nm,1.6s
ANMO **Albuquerque** **83.85 50***c i*P **P** **21 19 22.7 +0.2**
ANMO pmax pmax
comp=Z,95nm,1.5s
ANMO **Albuquerque** **83.85 50** P **P** **21 19 23.0 +0.6**
baz=243,SNR=55
ANMO **Albuquerque** **83.85 50** P **P** **21 19 22.3 -0.2**
baz=243
ANMO S **S** **21 29 26.3 -3.8**
baz=243
ANMO **Albuquerque** **83.85 50** ⇑P **P** **21 19 22.9 +0.4**
ANMO ⇑P **P** **21 19 23.0 +0.6**
DHY **Denali Highway** **83.90 12** P **P** **21 19 20.6 -1.4**
baz=206,SNR=23
DHY S **S** **21 29 25.1 -4.3**
baz=206
RND **Reindeer** **83.91 12** P **P** **21 19 21.2 -0.7**
RND IAmb IAmb 21 19 28.2
comp=Z,146nm,0.8s
RND **Reindeer** **83.91 12** P **P** **21 19 21.2 -0.7**
RND pmax pmax
comp=Z,146nm,0.8s
SKAG **Skagway** **83.93 19** P **P** **21 19 23.4 +1.5**
baz=218,SNR=20
SKAG S **S** **21 29 27.8 -1.5**
baz=218
SKAG **Skagway** **83.93 19** ⇓P **P** **21 19 23.5 +1.5**
SKAG ⇓P **PcP** **21 19 24.3 -1.2**
PV07 **Paradox Valley** **83.93 46** P **P** **21 19 22.7 -0.1**
PV07 IAmb IAmb 21 20 19.5
comp=Z,195nm,1.4s
NEW **Newport** **83.95 35** P **P** **21 19 21.1 -1.3**
NEW **Newport** **83.95 35** P **P** **21 19 21.1 -1.3**
NEW pmax pmax
comp=Z,102nm,1.3s
NEW **Newport** **83.95 35** P **P** **21 19 21.6 -0.8**
baz=234,SNR=16
NEW S **S** **21 29 28.4 -1.8**
baz=234
P30M **Million Dollar** **83.96 18** P **P** **21 19 21.9 -0.3**
baz=216
P30M S **S** **21 29 26.6 -3.2**
baz=216
S34M **Telegraph Cree** **84.13 22** P **P** **21 19 24.0 +0.9**
baz=221
BPAW **Bear Paw Mtn.** **84.16 10** P **P** **21 19 21.6 -1.6**
baz=203,SNR=14
BPAW S **SKSac** **21 29 23.7 -4.3**
baz=203
MCK **McKinley** **84.19 11** P **P** **21 19 22.2 -1.1**
baz=205,SNR=46
MCK S **S** **21 29 25.2 -6.7**
baz=205
PAX **Paxson** **84.21 13** P **P** **21 19 23.2 -0.3**
baz=208,SNR=24
PAX S **SKSac** **21 29 26.6 -1.9**
baz=208
YUK6 **Outpost Mounta** **84.23 17** P **P** **21 19 24.0 +0.2**
baz=215,SNR=13
YUK6 S **SKSac** **21 29 27.3 -1.7**
baz=215
BKNI **Bangkinang** **84.27 272** P **P** **21 19 24.8 0.0**
BKNI **Bangkinang** **84.27 272** P **P** **21 19 25.7 +0.9**
comp=Z,16μmcomp=Z,15μmcomp=Z,1μm,1.4s
M26K **Nabesna, AK** **84.27 14** P **P** **21 19 24.0 +0.2**
baz=210,SNR=51
M26K S **S** **21 29 29.6 -3.2**
baz=210
YUK3 **Moose Creek** **84.36 16** P **P** **21 19 24.4 -0.1**
baz=213,SNR=30
YUK3 S **S** **21 29 30.7 -3.4**
baz=213
HYT **Haines Junctio** **84.38 17** P **P** **21 19 24.4 0.0**
HYT IAmb IAmb 21 20 22.2
comp=Z,312nm,1.7s
HYT **Haines Junctio** **84.38 17** P **P** **21 19 24.2 -0.2**
baz=216,SNR=14
HYT S **S** **21 29 30.1 -4.0**
baz=216
GULI **GuiLin** **84.41 299** ⇓P **P** **21 19 24.1 -1.2**
GULI S **S** **21 29 36.3 +0.6**
GULI pmax pmax
comp=Z,130nm,1.6s
GULI LR LR
comp=Z,1μm,22.8s
GULI LR LR
comp=Z,2μm,20.6s
GULI LR LR
comp=Z,1μm,16.7s
PDSI **Padang** **84.43 271** P **P** **21 19 25.2 -0.5**
comp=Z,7μmcomp=Z,3μmcomp=Z,281nm,1.5s
COCO **West Island** **84.46 259** P **P** **21 19 26.2 +0.5**
COCO **West Island** **84.46 259** P **P** **21 19 26.2 +0.5**
COCO pmax pmax
comp=Z,1μm,1.4s
AHID **Auburn Hatcher** **84.46 42** P **P** **21 19 24.8 -0.6**
AHID IAmb IAmb 21 20 20.4
comp=Z,317nm,1.3s
MCMT **McKenzie Canyo** **84.46 39** P **P** **21 19 25.3 -0.1**
YUK4 **Talbot Arm** **84.48 17** P **P** **21 19 24.2 -0.9**
baz=214
USHA **Ushuaia** **84.50 146** P **P** **21 19 25.6 +0.5**
comp=Z,20nm,0.8s,baz=13,slow=1.9,SNR=4.0
comp=Z,20nm,0.8s
M27K **Edge Creek, AK** **84.50 15** P **P** **21 19 24.2 -0.8**
baz=211,SNR=44
M27K S **S** **21 29 32.0 -3.2**
baz=211
Q32M **Nakina River** **84.53 21** P **P** **21 19 25.3 0.0**
baz=220,SNR=14
Q32M S **SKSac** **21 29 31.5 +0.5**
baz=220
P32M **Atlin** **84.54 20** P **P** **21 19 25.4 +0.3**
baz=219,SNR=8.3
P32M S **SKSac** **21 29 30.2 -0.5**
baz=219
MENT **Mentasta** **84.57 14** P **P** **21 19 24.8 -0.4**
MAW **Mawson** **84.61 199** P **P** **21 19 27.0 +1.5**
comp=Z,149nm,0.8s,baz=130,slow=6.4,SNR=114
comp=Z,149nm,0.8s
MAW **Mawson** **84.61 199** P **P** **21 19 27.0 +1.5**
baz=85,SNR=103
MAW **Mawson** **84.61 199** P **P** **21 19 26.6 +1.2**
MAW **Mawson** **84.61 199** P **P** **21 19 27.0 +1.5**
CLN7 **Carlsbad 7** **84.72 54** P **P** **21 19 26.5 -0.3**
L26K **Log Cabin Wild** **84.73 14** P **P** **21 19 25.3 -0.7**
baz=210,SNR=33
L26K S **SKSac** **21 29 32.5 +0.9**
baz=210
O30N **Mendenhall** **84.74 18** P **P** **21 19 25.7 -0.4**
baz=217,SNR=23
O30N S **S** **21 29 34.6 -3.0**
baz=217
BVCY **Beaver Creek** **84.80 15** P **P** **21 19 26.9 +0.6**
baz=212,SNR=9.9
SEY **Seymchan** **84.83 346** P **P** **21 19 26.2 -0.2**
comp=Z,65nm,0.9s,baz=144,slow=5.9,SNR=66
comp=Z,65nm,0.9s
PAYG **Puerto Ayora** **84.86 89** ⇓P P 21 19 34.1 +6.3
S22A **4UR Ranch, Cre** **84.87 48** P **P** **21 19 25.7 -1.9**
baz=242,SNR=28
K24K **Donnelly Dome** **84.88 13** P **P** **21 19 26.4 -0.4**
baz=208,SNR=26
K24K S **SKSac** **21 29 32.6 0.0**
baz=208
MG02 **Cerro Sombrero** **84.89 144** P **P** **21 19 28.1 +1.0**
MG02 IAmb IAmb 21 19 32.4
comp=Z,160nm,0.8s
MSO **Missoula** **84.91 37** P **P** **21 19 26.2 -1.2**
baz=237,SNR=34
MSO S **SKSac** **21 29 33.1 -0.6**
baz=237
DLBC **Dease Lake** **84.91 22** P **P** **21 19 27.9 +0.8**
DLBC **Dease Lake** **84.91 22** P **P** **21 19 26.3 -0.8**
baz=222,SNR=12
DLBC S **SKSac** **21 29 34.0 +0.9**
baz=222
NEA2 **Nenana** **84.95 11** P **P** **21 19 25.8 -1.2**
baz=205,SNR=42
NEA2 S **SKSac** **21 29 31.6 -1.3**
baz=205
H03S2 **Juan Fernandez** **85.00 124** T T 22 52 52.9
baz=250
I21K **Tanana** **85.00 10** P **P** **21 19 25.9 -1.3**
baz=202,SNR=42
I21K S **SKSac** **21 29 31.9 -1.3**
baz=202
H03S1 **Juan Fernandez** **85.01 124** T T 22 52 48.5
baz=250
H03S3 **Juan Fernandez** **85.01 124** T T 22 52 51.4
baz=250
N30M **Aishikik Lake** **85.01 17** P **P** **21 19 27.3 -0.2**
baz=216
N30M S **SKSac** **21 29 33.2 -0.4**
baz=216
WHY **Whitehorse** **85.02 19** P **P** **21 19 27.8 +0.2**
WHY **Whitehorse** **85.02 19** P **P** **21 19 27.3 -0.3**
baz=218,SNR=10
WHY S **SKSac** **21 29 34.6 +0.8**
baz=218
UBPT **Khong Chiam** **85.02 288** P **P** **21 19 28.8 +0.4**
O20A **White River Ci** **85.02 45** P **P** **21 19 27.1 -1.1**
baz=241,SNR=21
O20A S **SKSac** **21 29 36.3 +1.3**
baz=241
RIDG **Independent Ri** **85.02 13** P **P** **21 19 26.3 -1.2**
baz=209,SNR=32
RIDG S **SKSac** **21 29 31.3 -2.3**
baz=209
SNOW **Snow King Moun** **85.03 41** P **P** **21 19 28.0 -0.3**
SNOW IAmb IAmb 21 20 23.5
comp=Z,323nm,1.1s
MLY **Manley** **85.06 10** P **P** **21 19 25.9 -1.7**
baz=203,SNR=83
MLY S **SKSac** **21 29 32.2 -1.6**
baz=203
L27K **Beaver Creek,** **85.11 15** P **P** **21 19 27.1 -0.9**
baz=211,SNR=35
L27K S **SKSac** **21 29 34.4 +0.3**
baz=211
BCAR **Beaver Creek A** **85.13 15** P **P** **21 19 27.4 -0.6**
HDA **Harding Lake** **85.19 12** P **P** **21 19 27.6 -0.6**
baz=207,SNR=130
HDA S **SKSac** **21 29 31.4 -3.0**
baz=207
HDA S **SKSac** **21 29 31.4 -3.0**
baz=207
LRM **Limekiln Ridge** **85.23 39** P **P** **21 19 28.7 -0.5**
R33M **Jennings River** **85.30 21** P **P** **21 19 29.6 +0.6**
baz=222,SNR=33
R33M S **SKSac** **21 29 35.9 +0.3**
baz=222
P33M **Teslin, Yukon** **85.31 20** P **P** **21 19 30.1 +1.1**
baz=220,SNR=14
P33M S **SKSac** **21 29 34.7 -0.9**
baz=220
H21K **Melozitna Rive** **85.32 9** P **P** **21 19 28.0 -0.9**
baz=201,SNR=80
H21K S **SKSac** **21 29 36.8 +1.6**
baz=201
N31M **Braeburn, Yuko** **85.41 18** P **P** **21 19 29.2 -0.2**
N31M IAmb IAmb 21 20 27.1
comp=Z,196nm,1.3s
N31M **Braeburn, Yuko** **85.41 18** P **P** **21 19 29.1 -0.3**
baz=217,SNR=13
N31M S **SKSac** **21 29 39.2 +3.2**
baz=217
SCRK **Sand Creek** **85.41 13** P **P** **21 19 29.2 -0.3**
baz=209,SNR=57
SCRK S **SKSac** **21 29 39.3 +3.1**
baz=209
YPP **Pitchstone Pla** **85.42 40** P **P** **21 19 30.0 -0.2**
YPP IAmb IAmb 21 20 29.5
comp=Z,284nm,1.7s
TCOL **CIGO, UAF Yank** **85.43 11** P **P** **21 19 28.0 -1.3**
baz=206,SNR=31
TCOL S **SKSac** **21 29 38.0 +2.1**
baz=206
COLA **College** **85.43 11** P **P** **21 19 28.6 -0.7**
COLA IAmb IAmb 21 19 33.0
comp=Z,203nm,0.7s
COLA **College** **85.43 11** P **P** **21 19 28.7 -0.7**
COLA pmax pmax
comp=Z,203nm,0.7s
COLA **College** **85.43 11** P **P** **21 19 28.3 -1.0**
baz=206
COLA S **SKSac** **21 29 38.7 +2.8**
baz=206
COLA **College** **85.43 11** ⇓P **P** **21 19 28.5 -0.9**
COLA ⇑P **PcP** **21 19 32.5 +0.5**
SMCO **Snowmass** **85.43 46** ⇓P **P** **21 19 30.8 +0.2**
SMCO ⇓P **PcP** **21 19 34.1 +0.8**
M29M **Somme Creek** **85.44 16** P **P** **21 19 29.3 -0.4**
baz=215,SNR=24
M29M S **SKSac** **21 29 39.4 +3.0**
baz=215
BW06 **Boulder Array** **85.44 42** P **P** **21 19 29.2 -1.1**
BW06 IAmb IAmb 21 20 24.2
comp=Z,231nm,1.4s
BW06 **Boulder Array** **85.44 42** P **P** **21 19 29.1 -1.1**
baz=240
BW06 S **SKSac** **21 29 38.4 +0.8**
baz=240
PDAR **Pinedale Array** **85.44 42** P **P** **21 19 29.6 -0.7**
comp=Z,16nm,0.8s,baz=205,slow=3.1,SNR=55
PDAR PKKPbc **PKKPbc** **21 37 33.8 -1.4**
comp=Z,4.0nm,0.9s,baz=97,slow=3.7,SNR=15
comp=Z,16nm,0.8s
IMAR **Indian Mountai** **85.49 9** P **P** **21 19 29.2 -0.4**
IL31 **85.52 12** P **P** **21 19 28.7 -1.1**
IL31 IAmb IAmb 21 19 35.1
comp=Z,300nm,1.5s
ILAR **Eielson Array** **85.52 12** P **P** **21 19 28.9 -1.0**
comp=Z,22nm,0.6s,baz=220,slow=5.1,SNR=142
ILAR PKKPbc **PKKPbc** **21 37 33.7 -2.1**
comp=Z,0.8nm,0.9s,baz=304,slow=0.7,SNR=4.2
comp=Z,22nm,0.6s
ILAR **Eielson Array** **85.52 12** P **P** **21 19 28.8 -1.1**
IPM **Ipoh** **85.58 276** P **P** **21 19 32.3 +0.9**
IPM **Ipoh** **85.58 276** P **P** **21 19 33.0 +1.6**
IPM **Ipoh** **85.58 276** P **P** **21 19 32.7 +1.3**
BOZ **Bozeman (W)** **85.60 39** P **P** **21 19 30.7 -0.2**
BOZ IAmb IAmb 21 20 25.5
comp=Z,348nm,1.3s
BOZ **Bozeman (W)** **85.60 39** P **P** **21 19 30.7 -0.2**
BOZ pmax pmax
comp=Z,348nm,1.3s
BOZ **Bozeman (W)** **85.60 39** P **P** **21 19 30.7 -0.2**
baz=238,SNR=39
BOZ S **SKSac** **21 29 41.2 +3.0**
baz=238
SISI **Saibi** **85.61 270** P **P** **21 19 32.8 +1.3**
comp=Z,5μmcomp=Z,191nm,0.9s
H17A **Grant Village** **85.62 40** P **P** **21 19 31.7 +0.6**
baz=239
H17A S **S** **21 29 44.0 -3.3**
baz=239
J25K **Salcha River,** **85.68 12** P **P** **21 19 29.7 -1.0**
baz=208,SNR=95
J25K S **SKSac** **21 29 37.2 -0.5**
baz=208
POKR **Poker Plat Res** **85.73 11** P **P** **21 19 30.1 -0.8**
POKR IAmb IAmb 21 20 27.8
comp=Z,512nm,1.6s
POKR **Poker Plat Res** **85.73 11** P **P** **21 19 29.6 -1.3**
baz=206,SNR=21
H22K **Ishtalitna Cre** **85.76 10** P **P** **21 19 30.4 -0.6**
baz=202,SNR=96
SDCO **Great Sand Dun** **85.81 48** P **P** **21 19 31.5 -0.8**
SDCO **Great Sand Dun** **85.81 48** P **P** **21 19 32.0 -0.2**
baz=243,SNR=29
SDCO **Great Sand Dun** **85.81 48** P **P** **21 19 31.9 -0.4**
baz=243,SNR=29
SDCO S **SKSac** **21 29 42.1 +1.9**
baz=243
K27K **Chicken** **85.89 14** P **P** **21 19 31.3 -0.3**
baz=211
COYC **Coyhaique** **85.93 137** P **P** **21 19 33.5 +1.0**
COYC IAmb IAmb 21 19 38.0
comp=Z,98nm,0.8s
COYC **Coyhaique** **85.93 137** ⇑P **P** **21 19 34.4 +1.8**
COYC ⇑P **PcP** **21 19 37.5 +2.6**
N32M **Quiet Lake** **85.95 19** P **P** **21 19 31.7 -0.4**
baz=220
J26L **Joseph Creek** **85.96 13** P **P** **21 19 32.0 -0.1**
baz=210,SNR=121
AY01 **Puyuhuapi** **85.98 135** P **P** **21 19 33.4 +0.6**
H23K **Yukon River** **86.00 10** P **P** **21 19 31.1 -1.1**
baz=204,SNR=20
G21K **Allakaket** **86.02 9** P **P** **21 19 31.4 -0.9**
baz=200,SNR=75
HNS **HongShan** **86.08 311** ⇓P **P** **21 19 34.5 +1.3**
HNS S **SKSac** **21 29 42.4 +1.3**
HNS SS **SS** **21 35 33.8 -1.0**
HNS pmax pmax
comp=Z,340nm,1.4s
L29M **L29M** **86.08 16** P **P** **21 19 32.4 -0.3**
baz=215,SNR=73
WALA **Waterton Lakes** **86.15 35** P **P** **21 19 32.8 -0.7**
WALA IAmb IAmb 21 20 27.7
comp=Z,399nm,1.4s
MSTX **Muleshoe** **86.16 53** P **P** **21 19 33.3 -0.6**
MSTX IAmb IAmb 21 20 29.5
comp=Z,477nm,1.8s
MSTX **Muleshoe** **86.16 53** P **P** **21 19 34.2 +0.3**
baz=245
MSTX **Muleshoe** **86.16 53** P **P** **21 19 33.6 -0.3**
baz=245
KULM **Kulim** **86.20 277** P **P** **21 19 35.1 +0.8**
KULM **Kulim** **86.20 277** P **P** **21 19 36.0 +1.6**
BJT **Baijiatuau** **86.24 314** P **P** **21 19 34.3 +0.4**
BJT IAmb IAmb 21 19 37.5
comp=Z,296nm,1.4s
BJT **Baijiatuau** **86.24 314** P **P** **21 19 34.3 +0.4**
BJT pmax pmax
comp=Z,296nm,1.4s
BJI **Beijing** **86.24 314** P **P** **21 19 34.4 +0.5**
BJI sP **sP** **21 20 40.0 +0.2**
BJI PP **PP** **21 22 56.3 -1.5**
BJI SKS **SKSac** **21 29 43.4 +1.4**
BJI S **ScS** **21 29 57.8 -2.9**
BJI pmax pmax
comp=Z,160nm,1.9s
BJI pmax pmax
comp=Z,2μm,6.7s
H24K **Noodor Dome** **86.30 11** P **P** **21 19 32.7 -1.0**
baz=206,SNR=13
T25A **Trinidad** **86.31 49** P **P** **21 19 34.0 -0.7**
T25A **Trinidad** **86.31 49** P **P** **21 19 33.6 -1.1**
baz=244
M31M **Drury Creek, Y** **86.38 18** P **P** **21 19 33.0 -1.1**
baz=218,SNR=18
PRP **Porcupine Dome** **86.45 12** P **P** **21 19 33.3 -1.3**
baz=208,SNR=39
LYN **LuoYang** **86.49 308** ⇓*i*P **P** **21 19 35.6 +0.3**
LYN PP **PP** **21 23 01.4 +1.4**
LYN SKS **SKSac** **21 29 40.9 -3.0**
LYN S **ScS** **21 29 59.8 -3.2**
LYN SS **SS** **21 35 43.0 +2.0**
LYN pmax pmax
comp=Z,150nm,1.6s
LYN pmax pmax
comp=Z,2μm,6.3s
833A **Chaparral WMA,** **86.55 59** P **P** **21 19 36.0 +0.2**
baz=247,SNR=17
833A **Chaparral WMA,** **86.55 59** P **P** **21 19 35.1 -0.7**
baz=247
DAWY **Dawson** **86.55 15** P **P** **21 19 35.0 0.0**
DAWY IAmb IAmb 21 19 40.9

comp=Z,346nm,1.8s
DAWY Dawson 86.55 15 P P 21 19 34.4 -0.6
baz=214,SNR=60
WTLY Watson Lake, Y 86.58 21 P P 21 19 36.0 +0.9
WTLY IAmb IAmb 21 20 32.9
comp=Z,231nm,1.4s
WTLY Watson Lake, Y 86.58 21 P P 21 19 35.8 +0.7
baz=223
Q24A Divide 86.60 47 P P 21 19 35.5 -0.7
baz=243
ISCO Idaho Springs 86.65 46 P P 21 19 35.7 -0.7
ISCO Idaho Springs 86.65 46 P P 21 19 35.7 -0.7
ISCO pmax pmax
comp=Z,101nm,1.7s
ISCO Idaho Springs 86.65 46 P P 21 19 36.3 -0.1
baz=243,SNR=7.9
ISCO Idaho Springs 86.65 46 P P 21 19 36.7 +0.3
baz=243,SNR=7.9
F21K Alatna River 86.69 8 P P 21 19 34.6 -0.9
baz=200,SNR=21
G22K Bettles 86.69 9 P P 21 19 35.3 -0.2
baz=202
FARO Faro, Yukon 86.71 18 P P 21 19 35.1 -0.7
baz=219
G23K Bananza Creek 86.73 10 P P 21 19 35.5 -0.3
baz=204,SNR=40
EGAK Eagle 86.73 14 P P 21 19 35.5 -0.3
EGAK IAmb IAmb 21 19 41.6
comp=Z,199nm,1.6s
EGAK Eagle 86.73 14 P P 21 19 34.9 -0.8
baz=212,SNR=36
I26K Coal Creek Min 86.75 13 P P 21 19 35.0 -0.8
baz=210
PBSI Pulau Batu 86.77 271 P P 21 19 37.9 +0.7
comp=Z,17µmcomp=Z,15µmcomp=Z,818nm,1.5s
RLMT Red Lodge 86.79 40 P P 21 19 35.0 -1.8
baz=240,SNR=6.1
K29M Barlow Dome 86.84 16 P P 21 19 36.4 -0.1
baz=215,SNR=58
N23A Red Feather La 86.92 45 P P 21 19 37.1 -0.6
baz=243,SNR=12
LL02 Futaleuf 86.98 135 P P 21 19 38.4 +0.7
ZEA Zeya 87.02 330 *e*P **P 21 19 37.8 +0.4**
ZEA *e**SP **pwP 21 20 33.6 +7.0**
ZEA *e* 21 29 48.4
ZEA *e*S **S 21 30 02.2 +2.4**
ZEA *e* 21 30 58.6
ZEA *e*SS **SS 21 35 43.5 -4.4**
ZEA pmax pmax
comp=E,300nm,2.1s
ZEA pmax pmax
comp=N,400nm,1.6s
ZEA pmax pmax
comp=Z,800nm,1.9s
ZEA pmax pmax
comp=N,170nm,1.3s
ZEA pmax pmax
comp=Z,190nm,1.3s
ZEA smax smax
comp=E,1µm,9.1s
PSI Prapat 87.05 274 P P 21 19 38.8 +0.1
comp=E,646nm,1.0s,baz=146,slow=3.9,SNR=178
comp=E,646nm,1.0s
JCT Junction City 87.06 57 P P 21 19 38.3 +0.1
baz=247,SNR=20
JCT Junction City 87.06 57 P P 21 19 37.9 -0.4
baz=247
JCT Junction City 87.06 57 ⇑P **P 21 19 38.0 -0.2**
JCT ⇓P **PcP 21 19 38.6 -1.5**
H25K Birch Creek 87.06 11 P P 21 19 36.2 -1.1
baz=208
MAYO Mayo, Yukon 87.06 16 P P 21 19 37.6 +0.2
MAYO IAmb IAmb 21 19 43.8
comp=Z,420nm,1.6s
MAYO Mayo, Yukon 87.06 16 P P 21 19 39.0 +1.6
baz=217,SNR=6.4
ENH Enshi 87.07 303 P P 21 19 39.5 +1.2
BILL Bilibino 87.09 353 P P 21 19 36.8 -0.6
BILL IAmb IAmb 21 20 33.9
comp=Z,204nm,1.3s
BILL Bilibino 87.09 353 *c* *i*P **P 21 19 37.0 -0.4**
BILL *e**SP **sP 21 20 41.6 -1.6**
BILL *i* PPP PPP 21 25 01.2
BILL *i* S **S 21 29 56.9 -3.0**
BILL *e* 21 31 06.9
BILL *i* 21 31 34.3
BILL SSS SSS 21 39 24.0
BILL pmax pmax
comp=Z,159nm,1.3s
F22K John River 87.14 9 P P 21 19 36.3 -1.4
baz=202
G24K Hadweenzic Riv 87.15 11 P P 21 19 36.5 -1.3
baz=206
J29M Klondike Camp 87.16 15 P P 21 19 38.4 +0.4
baz=215
COLD Coldfoot 87.18 9 P P 21 19 37.7 -0.1
COLD IAmb IAmb 21 20 37.6
comp=Z,190nm,1.4s
COLD Coldfoot 87.18 9 P P 21 19 37.9 0.0
baz=204,SNR=26
I27K Kandik River 87.34 13 P P 21 19 38.0 -0.8
baz=212,SNR=26
I27K S **S 21 30 02.0 -0.5**
baz=212
K22A Casper 87.35 43 P P 21 19 40.0 +0.6
baz=242
K22A Casper 87.35 43 P P 21 19 38.8 -0.7
baz=242
AMTX Amarillo 87.36 52 P P 21 19 38.7 -0.9
AMTX Amarillo 87.36 52 P P 21 19 39.4 -0.2
baz=246,SNR=5.2
AMTX Amarillo 87.36 52 P P 21 19 39.2 -0.4
baz=246
AMTX S **S 21 30 03.0 -1.1**
baz=246
LL03 Petrohue 87.36 132 P P 21 19 39.7 +0.2
LL03 IAmb IAmb 21 20 35.9
comp=Z,182nm,1.2s
LL04 Puerto Octay 87.45 132 P P 21 19 39.4 -0.5
TSI Tuntungan 87.61 274 P P 21 19 42.0 +0.9
comp=Z,15µmcomp=Z,3µmcomp=Z,1µm,1.0s
MMPY Sheldon Lake, 87.63 19 P P 21 19 40.0 -0.2
baz=221,SNR=21
MMPY S **S 21 30 05.3 -0.1**
baz=221
E22K Anaktuvuk Pass 87.78 9 P P 21 19 39.6 -1.1
baz=202
E22K S **S 21 30 04.8 -1.8**
baz=202
TGTN Hyland Airport 87.78 20 P P 21 19 41.3 +0.4
baz=224,SNR=18
F24K Squaw Lake 87.82 10 P P 21 19 40.4 -0.5
baz=206,SNR=24
F24K S **S 21 30 06.3 -0.7**
baz=206
TIY Taiyuan 87.84 311 ⇓P **P 21 19 43.3 +1.5**
TIY SKS **SKSac 21 29 54.8 +2.7**
TIY S **S 21 30 07.1 -1.4**
TIY sS **sS 21 31 23.9 -5.2**
TIY pmax pmax
comp=Z,160nm,1.7s
TIY pmax pmax
comp=Z,2µm,7.1s
GSI Gunungsitoli 87.86 272 P P 21 19 44.1 +1.7
GSI Gunungsitoli 87.86 272 P P 21 19 44.2 +1.8
comp=Z,16µmcomp=Z,19µmcomp=Z,2µm,1.2s
GSI Gunungsitoli 87.86 272 P P 21 19 44.5 +2.1
I29M Ogilvie Camp, 87.89 15 P P 21 19 40.8 -0.5
baz=215,SNR=29
I29M S **S 21 30 06.6 -1.1**
baz=215
H27K Steamboat Moun 87.89 13 P P 21 19 41.5 +0.2
baz=212,SNR=37
H27K S **S 21 30 06.6 -1.1**
baz=212
GYA Guiyang 87.94 299 ⇓*i*P **P 21 19 44.0 +1.4**
GYA PP **PP 21 23 12.4 +0.5**
GYA SKS **SKSac 21 29 53.3 0.0**
GYA S **S 21 30 12.0 +2.0**
GYA sS sS 21 31 29.5 -1.2
GYA pmax pmax
comp=Z,96nm,1.7s
GYA pmax pmax
comp=Z,1µm,3.5s
GYA LR LR
comp=Z,4µm,17.4s
GYA LR LR
comp=Z,7µm,19.9s
GYA LR LR
comp=Z,4µm,18.9s
EGMT Eagleton 87.95 38 P P 21 19 42.0 -0.1
baz=240
LR03 Panguipulli 87.97 131 P P 21 19 42.5 0.0
LR03 IAmb IAmb 21 20 39.3
comp=Z,196nm,1.1s
ABTX Abilene, Hawle 88.02 55 P P 21 19 42.9 +0.2
baz=247
ABTX Abilene, Hawle 88.02 55 P P 21 19 42.6 -0.1
baz=247
ABTX S **S 21 30 08.8 -1.6**
baz=247
E23K Chandalar 88.03 9 P P 21 19 41.3 -0.7
baz=204,SNR=25
E23K S **S 21 30 09.3 +0.3**
baz=204
735A Kenedy 88.04 59 P P 21 19 44.3 +1.4
baz=248
G26K Porcupine Rive 88.05 12 P P 21 19 41.3 -0.6
baz=210,SNR=40
G26K S **S 21 30 08.7 -0.3**
baz=210
XLT XiLinHaoTe 88.08 318 ⇑*i*P **P 21 19 43.3 +0.5**
XLT sP sP 21 20 44.5 -4.2
XLT S **S 21 30 13.9 +3.3**
XLT sS sS 21 31 24.8 -6.4
XLT SS **SS 21 36 06.3 +2.2**
XLT pmax pmax
comp=Z,110nm,1.4s
XLT pmax pmax
comp=Z,2µm,3.6s
E24K Your Creek 88.22 10 S S 21 30 09.5 -1.3
baz=205
SRIT Nakonsritamara 88.23 280 P P 21 19 45.4 +1.3
F25K Christian Rive 88.27 11 P P 21 19 43.0 -0.1
baz=208,SNR=7.0
F25K S **S 21 30 11.1 -0.2**
baz=208
BMAR Burnt Mountain 88.32 11 P P 21 19 43.3 0.0
G27K Doyon Strip 88.36 13 P P 21 19 42.5 -1.1
baz=212,SNR=17
G27K S **S 21 30 12.2 +0.1**
baz=212
KCSI Kotacane, Aceh 88.36 274 P P 21 19 45.2 +0.4
comp=Z,8µmcomp=Z,462nm,1.6s
KSCO Kaye Shedlock' 88.39 48 P P 21 19 43.6 -0.8
KSCO IAmb IAmb 21 20 41.5
comp=Z,138nm,1.2s
KSCO Kaye Shedlock' 88.39 48 P P 21 19 44.6 +0.1
baz=245
KSCO Kaye Shedlock' 88.39 48 P P 21 19 43.3 -1.1
baz=245
HIA Hailar 88.47 324 P P 21 19 44.5 +0.1
HIA IAmb IAmb 21 19 48.1
comp=Z,228nm,1.3s
HIA Hailar 88.47 324 P P 21 19 44.5 +0.1
HIA pmax pmax
comp=Z,228nm,1.3s
CCIG Comitan 88.55 72 P P 21 19 46.0 +0.2
TOLK Toolik Lake Re 88.57 9 P P 21 19 43.8 -0.7
baz=204,SNR=13
TOLK S **S 21 30 13.2 -0.9**
baz=204
GO06 Curarrehue 88.61 131 P P 21 19 46.2 +0.6
F26K Sheenjek River 88.64 11 P P 21 19 44.2 -0.6
baz=209,SNR=15
F26K S **S 21 30 16.2 +1.5**
baz=209
D23K Nanushuk River 88.71 9 P P 21 19 45.3 +0.3
baz=203,SNR=22
D23K S **S 21 30 15.9 +0.6**
baz=203
EDM Edmonton 88.73 32 P P 21 19 45.5 -0.1
EDM Edmonton 88.73 32 P P 21 19 45.5 -0.1
EDM pmax pmax
comp=Z,652nm,1.3s
E25K Arctic Village 88.75 11 P P 21 19 44.9 -0.4
baz=208,SNR=14
E25K S **S 21 30 15.4 -0.4**
baz=208
HUEH Huehuetenango 88.81 74 P P 21 19 47.0 0.0
PLCA Paso Flores 88.82 133 P P 21 19 47.6 +1.1
comp=Z,6.5nm,0.8s,baz=258,slow=5.9,SNR=17
PLCA PKKPbc **PKKPbc 21 37 25.9 0.0**
comp=Z,5.8nm,0.9s,baz=356,slow=1.7,SNR=8.2
comp=Z,6.5nm,0.8s
PLCA Paso Flores 88.82 133 P P 21 19 47.3 +0.8
PLCA Paso Flores 88.82 133 *e*P **P 21 19 49.0 +2.5**
435B Jarrell 88.94 57 P P 21 19 48.6 +1.6
baz=248
435B S **S 21 30 19.6 +0.7**
baz=248
435B Jarrell 88.94 57 P P 21 19 47.7 +0.6
baz=248
435B S **S 21 30 19.8 +0.8**
baz=248
XAN Xi'an 88.97 306 ⇓*i*P **P 21 19 48.3 +1.1**
XAN pP pP 21 20 30.4 -3.1
XAN sS sS 21 31 40.1 0.0
XAN pmax pmax
comp=Z,230nm,1.8s
XAN pmax pmax
comp=Z,1µm,3.7s
EPYK Eagle Plains 89.09 14 P P 21 19 46.9 -0.1
EPYK IAmb IAmb 21 20 46.1
comp=Z,354nm,1.7s
EPYK Eagle Plains 89.09 14 P P 21 19 47.3 +0.3
baz=216,SNR=18
EPYK S **S 21 30 16.2 -2.7**
baz=216
D24K Happy Valley 89.15 9 P P 21 19 46.7 -0.5
baz=205
D24K S **S 21 30 18.6 -0.7**
baz=205
LAO LASA Array 89.41 40 P P 21 19 49.4 +0.4
LAO IAmb IAmb 21 20 44.3
comp=Z,192nm,1.1s
LAO LASA Array 89.41 40 P P 21 19 50.1 +1.1
baz=242
LAO LASA Array 89.41 40 P P 21 19 49.3 +0.3
baz=242
WHTX Lake Whitney, 89.49 56 P P 21 19 49.0 -0.6
WHTX Lake Whitney, 89.49 56 S S 21 30 24.3 +0.3
baz=248
WHTX Lake Whitney, 89.49 56 P P 21 19 49.1 -0.4
baz=248
WHTX S **S 21 30 23.7 -0.3**
baz=248
WMOK Wichita Mounta 89.50 53 P P 21 19 48.8 -0.8
WMOK Wichita Mounta 89.50 53 P P 21 19 48.8 -0.8
WMOK pmax pmax
comp=Z,92nm,1.9s
WMOK Wichita Mounta 89.50 53 P P 21 19 49.7 +0.1
baz=247
WMOK Wichita Mounta 89.50 53 P P 21 19 48.7 -0.8
baz=247
WMOK S **S 21 30 23.1 -1.0**
baz=247
WMOK Wichita Mounta 89.50 53 ⇑P **P 21 19 50.9 +1.3**
WMOK ⇑P **PcP 21 19 53.1 +2.3**
C23K Itkillik River 89.52 8 P P 21 19 48.1 -0.8
baz=203,SNR=16
C23K S **S 21 30 21.0 -1.7**
baz=203
E27K Coleen River 89.55 12 P P 21 19 48.9 -0.1
baz=212,SNR=15
E27K S **S 21 30 22.4 -0.7**
baz=212
OGNE Ogallala 89.61 46 P P 21 19 48.4 -1.7
baz=245
OGNE S **S 21 30 25.7 +0.7**
baz=245
RSSD Black Hills 89.63 43 P P 21 19 48.9 -1.3
RSSD Black Hills 89.63 43 P P 21 19 48.9 -1.3
RSSD pmax pmax
comp=Z,68nm,1.1s
RSSD Black Hills 89.63 43 P P 21 19 49.5 -0.7
baz=244,SNR=16
RSSD Black Hills 89.63 43 P P 21 19 49.2 -1.1
baz=244
RSSD S **S 21 30 23.8 -1.5**
baz=244
RSSD Black Hills 89.63 43 ⇓P **P 21 19 49.8 -0.4**
RSSD ⇓P **P 21 19 49.9 -0.4**
LHMI Lhok Sumawe 89.68 276 P P 21 19 51.3 +0.5
LHMI Lhok Sumawe 89.68 276 P P 21 19 51.5 +0.6
comp=Z,14µmcomp=Z,11µmcomp=Z,685nm,1.5s
LHMI Lhok Sumawe 89.68 276 P P 21 19 52.8 +1.9
C24K Franklin Bluff 89.69 9 P P 21 19 48.8 -0.8
baz=205
C24K S **S 21 30 24.4 +0.2**
baz=205
D25K Kavik River 89.69 10 P P 21 19 49.3 -0.4
baz=207,SNR=5.6
D25K S **S 21 30 22.4 -2.0**
baz=207
HHC Hu-ho-hao-te 89.76 313 *e*P **P 21 19 52.3 +1.5**
HHC sP sP 21 20 59.9 +3.2
HHC SKS **SKSac 21 30 04.4 +1.0**
HHC S **S 21 30 27.9 +1.5**
HHC SS **SS 21 36 27.4 -1.1**
HHC pmax pmax
comp=Z,290nm,1.2s
HHC pmax pmax
comp=Z,3µm,6.3s
MLSI Meulaboh, Aceh 89.89 274 P P 21 19 52.7 +0.8
comp=Z,7µmcomp=Z,661nm,0.8s
TROLL Troll, Antarti 89.98 179 P P 21 19 52.3 +0.9
TROLL Troll, Antarti 89.98 179 PKKP 21 37 22.2
TROLL S **S 21 30 26.5 -1.1**
HKT Hockley 90.05 59 P P 21 19 52.5 +0.4
HKT Hockley 90.05 59 P P 21 19 52.5 +0.4
HKT pmax pmax
comp=Z,494nm,1.9s
HKT Hockley 90.05 59 P P 21 19 52.9 +0.8
baz=249
HKT S **S 21 30 28.5 -0.5**
baz=249
ML02 Panimavida 90.11 128 P P 21 19 52.2 -0.3
Z35A Perchaven, San 90.14 55 P P 21 19 52.8 +0.2
baz=248
Z35A S **S 21 30 30.8 +0.8**
baz=248
SNAA Sanae 90.17 178 P P 21 19 52.9 +0.7
SNAA Sanae 90.17 178 PKKP 21 37 15.7
SNAA S **S 21 30 28.6 -0.7**
SNAA Sanae 90.17 178 P P 21 19 52.7 +0.5
comp=Z,64nm,0.9s,baz=174,slow=3.2,SNR=8.3
comp=Z,64nm,0.9s
VNA3 Neumayer Olymp 90.20 175 P P 21 19 53.1 +0.8
VNA3 Neumayer Olymp 90.20 175 PKKP 21 37 21.6
VNA3 S **S 21 30 29.8 +0.5**
CBKS Cedar Bluff 90.37 49 P P 21 19 53.0 -0.5
CBKS Cedar Bluff 90.37 49 P P 21 19 53.1 -0.5
CBKS pmax pmax
comp=Z,117nm,1.5s
CBKS Cedar Bluff 90.37 49 P P 21 19 52.5 -1.1
baz=247
CBKS S **S 21 30 31.2 -0.7**
baz=247
C27K Jago River 90.40 11 P P 21 19 53.2 +0.3
baz=210,SNR=6.0
C27K S **S 21 30 30.4 -0.4**
baz=210
C26K Camden Bay 90.46 10 P P 21 19 53.6 +0.4
baz=208
C26K S **S 21 30 30.7 -0.6**
baz=208
MTO3 Montecristo 90.48 75 P P 21 19 54.5 -0.4
ESQI Esquipulas 90.55 75 P P 21 19 54.5 -0.4
ESQI IAmb IAmb 21 20 57.4
comp=Z,229nm,1.7s
WRGLY Wrigley 90.58 21 P P 21 19 54.5 +0.7
baz=228,SNR=7.1
WRGLY S **S 21 30 29.8 -2.8**
baz=228
F31M Tsiigehtchic 90.66 15 P P 21 19 53.3 -0.9
baz=219,SNR=31
F31M S **S 21 30 29.5 -3.6**
baz=219
VNA2 Neumayer--Watz 90.67 176 P P 21 19 55.7 +1.3
baz=182,slow=4.2
VNA2 Neumayer--Watz 90.67 176 PKKP 21 37 15.3
VNA2 S **S 21 30 34.3 +0.7**
BTO Baotou 90.73 313 *e*P **P 21 19 57.1 +1.8**
BTO S **S 21 30 36.9 +1.6**
BTO LR LR
comp=Z,34µm,5.7s
BTO LR LR
comp=Z,64µm,6.1s
KMI Kunming 90.79 296 ⇓P **P 21 19 58.0 +1.9**
KMI S **S 21 30 40.9 +4.2**
KMI SS **SS 21 36 46.4 +2.2**
KMI pmax pmax
comp=Z,83nm,1.6s
KMI pmax pmax
comp=Z,830nm,3.8s
KMI LR LR
comp=Z,7µm,26.8s
KMI LR LR
comp=Z,9µm,23.3s
KMI LR LR
comp=Z,12µm,32.1s
237A Washetta, Mont 90.80 57 P P 21 19 57.3 +1.6
baz=249
237A S **S 21 30 37.6 +1.6**
baz=249
PHRA Phrae 90.82 289 P P 21 19 56.4 +0.3
VNA1 Neumayer--Stat 90.88 176 P P 21 19 56.6 +1.3
R32A Long Quarter, 90.96 50 P P 21 19 56.0 -0.3
baz=247
R32A S **S 21 30 36.3 -0.9**
baz=247
BO02 Sierra Bellavi 90.97 127 P P 21 19 57.0 +0.3
MT01 Popeta 90.97 126 P P 21 19 56.5 -0.1
MT01 IAmb IAmb 21 20 54.6
comp=Z,148nm,1.1s
YAK Yakutsk 91.06 337 P P 21 19 55.0 -1.2
comp=Z,29nm,0.8s,baz=320,slow=0.8,SNR=30
comp=Z,29nm,0.8s
YAK Yakutsk 91.06 337 P P 21 19 54.9 -1.2
YAK Yakutsk 91.06 337 P P 21 19 55.0 -1.2
NVL N'lazarevskaya 91.11 182 ⇓*i*P **P 21 19 57.1 +0.7**
NVL *e*S **S 21 30 31.7 -5.8**
NVL pmax pmax
comp=Z,186nm,1.0s
MT09 Talagante 91.20 126 P P 21 19 57.9 +0.1
CRAI Chiangrai 91.25 291 P P 21 19 59.0 +0.9
CRAI IAmb IAmb 21 20 05.8
comp=Z,198nm,1.3s
INK Inuvik 91.39 14 P P 21 19 56.5 -1.0
comp=Z,35nm,0.9s,baz=217,slow=4.7,SNR=28
comp=Z,35nm,0.9s
INK Inuvik 91.39 14 P P 21 19 56.8 -0.7
baz=219,SNR=30
INK S **S 21 30 38.3 -1.4**
baz=219
DGMT Dagmar 91.44 39 P P 21 19 57.7 -0.6
DGMT Dagmar 91.44 39 P P 21 19 58.4 +0.1
baz=244,SNR=21
DGMT Dagmar 91.44 39 P P 21 19 58.0 -0.3
baz=244
DGMT S **S 21 30 40.3 -0.9**
baz=244
EFI East Falkland 91.47 146 P P 21 19 59.4 +0.9
EFI East Falkland 91.47 146 P P 21 19 59.4 +0.9
EFI pmax pmax
comp=Z,609nm,2.5s
NATX Nacogdoches 91.62 57 P P 21 19 59.5 0.0
NATX Nacogdoches 91.62 57 P P 21 20 00.3 +0.8
baz=250,SNR=9.5
NATX S **S 21 30 45.1 +1.7**
baz=250
NATX Nacogdoches 91.62 57 P P 21 19 59.5 0.0
baz=250
NATX S **S 21 30 46.3 +2.9**
baz=250
PEL Peldehue 91.68 126 P P 21 20 00.5 +0.5
PEL IAmb IAmb 21 20 58.9
comp=Z,156nm,1.3s
PEL Peldehue 91.68 126 P P 21 20 00.5 +0.5
PEL pmax pmax
comp=Z,156nm,1.3s
CO06 Fray Jorge 91.88 123 P P 21 20 01.4 +0.5
Z38A Mt. Pleasant 91.89 56 P P 21 20 01.6 +0.9
baz=249,SNR=12
Z38A S **S 21 30 48.1 +2.3**
baz=249
CD2 Chengdu 91.90 302 ⇓P **P 21 20 02.1 +1.2**
CD2 pP pwP 21 20 49.8 -0.5

CD2 PP **PP** 21 23 46.8 +3.7
CD2 SKS **SKSac** 21 30 16.4 +0.5
CD2 S **ScS** 21 30 47.8 -0.4
CD2 SS **SS** 21 37 00.9 +1.3
CD2 pmax pmax
comp=Z,90nm,1.6s
CD2 pmax pmax
comp=Z,2µm,9.8s
VA03 San Esteban 91.93 125 P **P** 21 20 01.4 +0.2
CM31 Chiang Mai Arr 91.96 289 P **P** 21 20 02.4 +1.1
CMAR Chiang Mai Arr 91.96 289 P **P** 21 20 03.0 +1.7
comp=Z,64nm,1.0s,baz=106,slow=2.6,SNR=191
CMAR PKKPbc **PKKPbc** 21 37 17.6 0.0
comp=Z,1.1nm,0.7s,baz=284,slow=4.4,SNR=6.0
comp=Z,64nm,1.0s
CMAR Chiang Mai Arr 91.96 289 P **P** 21 20 02.6 +1.3
T35B Sooner Cattle 92.02 52 P **P** 21 20 01.2 0.0
baz=249
T35B S **S** 21 30 45.7 -1.2
baz=249
CHTO Chiang Mai 92.07 289 P **P** 21 20 03.0 +1.1
CHTO Chiang Mai 92.07 289 P **P** 21 20 03.0 +1.1
CHTO Chiang Mai 92.07 289 P **P** 21 20 03.3 +1.4
CHTO Chiang Mai 92.07 289 P **P** 21 20 03.6 +1.7
PZH PanZhiHua 92.09 297 ⇓P **P** 21 20 03.3 +1.3
PZH sP **sP** 21 21 06.8 -1.1
PZH PP **PP** 21 23 48.8 +4.0
PZH SKS **SKSac** 21 30 18.8 +1.4
PZH S **ScS** 21 30 51.4 +1.2
PZH SS **SS** 21 37 01.6 -1.1
PZH pmax pmax
comp=Z,80nm,1.0s
PZH pmax pmax
comp=Z,1µm,5.4s
PZH LR LR
comp=Z,7µm,22.0s
PZH LR LR
comp=Z,9µm,24.5s
PZH LR LR
comp=Z,6µm,25.0s
CO02 Combarbal 92.18 124 P **P** 21 20 02.6 +0.2
CO02 IAmb IAmb 21 21 00.3
comp=Z,133nm,1.1s
TUL1 Leonard 92.20 53 P **P** 21 20 01.6 -0.4
TUL1 IAmb IAmb 21 20 09.2
comp=Z,236nm,1.8s
TUL1 Leonard 92.20 53 P **P** 21 20 01.6 -0.4
baz=249
TUL1 S **S** 21 30 47.5 -0.9
baz=249
TUL1 Leonard 92.20 53 P **P** 21 20 01.7 -0.4
baz=249
TUL1 S **S** 21 30 49.0 +0.6
baz=249
TGUH Tegucigalpa,Un 92.30 76 P **P** 21 20 02.6 -0.5
441A DeRidder 92.46 59 S **S** 21 30 55.5 +4.5
baz=250
BGNE Belgrade 92.49 47 P **P** 21 20 04.4 +1.1
baz=248
BGNE Belgrade 92.49 47 P **P** 21 20 03.1 -0.2
baz=248
BGNE S **S** 21 30 51.1 +0.3
baz=248
CO05 La Serena 92.49 122 P **P** 21 20 03.7 0.0
CO05 IAmb IAmb 21 21 01.0
comp=Z,196nm,1.5s
DUNO Dulce Nombre, 92.73 80 P **P** 21 20 04.0 -0.9
DUNO IAmb IAmb 21 21 03.5
comp=Z,169nm,1.5s
N33B J Bar K, Exete 92.73 48 S **S** 21 30 52.8 -0.2
baz=248
KSU1 Kansas State U 92.73 50 P **P** 21 20 04.2 -0.2
KSU1 Kansas State U 92.73 50 P **P** 21 20 04.7 +0.3
baz=249
KSU1 S **S** 21 30 52.8 -0.3
baz=249
KSU1 Kansas State U 92.73 50 P **P** 21 20 04.3 -0.2
baz=249
KSU1 S **S** 21 30 52.9 -0.2
baz=249
GO04 Tololo Observa 92.74 123 P **P** 21 20 05.6 +0.5
GO04 IAmb IAmb 21 21 01.8
comp=Z,159nm,1.1s
E28A Huff 92.80 42 P **P** 21 20 04.7 +0.1
baz=246
ORTG Ortega, Santa 92.85 80 P **P** 21 20 05.5 -0.1
ORTG IAmb IAmb 21 21 04.2
comp=Z,212nm,1.4s
SUSD Miller 93.09 44 P **P** 21 20 04.8 -1.2
baz=247
MATN Matagalpa 93.20 78 P **P** 21 20 07.0 -0.3
CIT Chita 93.25 324 *e*P **P** 21 20 07.2 +0.6
CIT pmax pmax
comp=Z,293nm,1.9s
TEIG Tepich 93.29 70 P **P** 21 20 07.1 -0.3
BOAB BOACO BROADBAND 93.29 78 P **P** 21 20 06.8 -0.8
BOAB IAmb IAmb 21 21 13.0
comp=Z,86nm,1.2s
JTS Las Juntas de 93.30 80 P **P** 21 20 07.7 0.0
JTS Las Juntas de 93.30 80 *de*P **P** 21 20 09.1 +1.4
JTS pmax pmax
comp=Z,64nm,1.1s
YKA Yellowknife Ar 93.33 24 P **P** 21 20 06.5 -0.1
comp=Z,14nm,0.8s,baz=237,slow=4.2,SNR=17
YKA PKKPbc **PKKPbc** 21 37 15.9 -0.1
comp=Z,2.3nm,0.8s,baz=28,slow=2.1,SNR=5.6
comp=Z,14nm,0.8s
342B Flagon Creek P 93.37 58 P **P** 21 20 08.5 +1.0
baz=251
342B S **S** 21 31 03.5 +4.5
baz=251
MIAR Mount Ida 93.43 55 P **P** 21 20 07.3 -0.5
MIAR IAmb IAmb 21 21 04.1
comp=Z,172nm,1.6s
MIAR Mount Ida 93.43 55 P **P** 21 20 07.3 -0.5
MIAR pmax pmax
comp=Z,172nm,1.6s
MIAR Mount Ida 93.43 55 P **P** 21 20 08.2 +0.4
baz=250,SNR=26
MIAR S **S** 21 31 00.7 +1.3
baz=250
MIAR Mount Ida 93.43 55 P **P** 21 20 07.3 -0.5
baz=250
MIAR S **S** 21 30 58.7 -0.6
baz=250
U38A Gravette 93.45 53 P **P** 21 20 07.8 0.0
baz=250,SNR=18
U38A S **S** 21 30 59.1 -0.4
baz=250
WLAR White Oak Lake 93.51 56 P **P** 21 20 08.4 +0.3
MCRA Macar, Loja 93.52 96 P **P** 21 20 08.8 0.0
LZH Lanzhou 93.59 307 ⇓P **P** 21 20 10.0 +1.3
LZH pP pP 21 20 49.0 -6.2
LZH PP **PP** 21 23 54.3 -2.1
LZH SKS **SKSac** 21 30 24.6 -0.7
LZH S **ScS** 21 30 55.6 -5.5
LZH SS **SS** 21 37 20.8 -3.0
LZH pmax pmax
comp=Z,84nm,1.2s
LZH pmax pmax
comp=Z,1µm,5.0s
ACON Acoyapa 93.60 79 P **P** 21 20 07.9 -1.1
AC05 El Transito 93.68 122 P **P** 21 20 09.8 +0.5
AC05 IAmb IAmb 21 21 06.7
comp=Z,94nm,1.1s
HHAR Hobbs 93.73 53 P **P** 21 20 09.2 0.0
baz=250
ZON Zonda 93.87 125 P **P** 21 20 10.5 +0.4
ZON IAmb IAmb 21 21 09.9
comp=Z,92nm,1.2s
ZON Zonda 93.87 125 P **P** 21 20 10.5 +0.4
ZON pmax pmax
comp=Z,93nm,1.2s
MDND Maddock 93.98 41 P **P** 21 20 10.0 0.0
baz=247
MDND Maddock 93.98 41 P **P** 21 20 08.9 -1.1
baz=247
MDND S **S** 21 31 01.3 -2.3
baz=247
N35A Tabor 94.05 48 P **P** 21 20 10.8 +0.3
baz=249
ATAH Atahualpa 94.11 99 P **P** 21 20 13.9 +1.9
comp=Z,5.3nm,0.8s,baz=254,slow=3.0,SNR=7.1
ATAH PP **PP** 21 24 00.4 -0.6
comp=Z,3.9nm,0.7s,baz=244,slow=8.5,SNR=3.7
comp=Z,5.3nm,0.8s

AC06 Mina Casimiro 94.19 120 P **P** 21 20 11.0 -0.5
ECSD EROS Data Cent 94.39 45 P **P** 21 20 11.0 -1.0
ECSD IAmb IAmb 21 21 07.0
comp=Z,181nm,1.4s
ECSD EROS Data Cent 94.39 45 P **P** 21 20 11.8 -0.3
baz=249
ECSD S **S** 21 31 04.5 -2.9
baz=249
ECSD EROS Data Cent 94.39 45 P **P** 21 20 10.5 -1.5
baz=249
ECSD S **S** 21 31 05.2 -2.2
baz=249
UALR University of 94.47 55 P **P** 21 20 12.3 -0.2
UALR IAmb IAmb 21 21 09.0
comp=Z,85nm,1.2s
C36M Paulatuk 94.51 16 P **P** 21 20 10.4 -1.4
C36M IAmb IAmb 21 21 10.6
comp=Z,192nm,1.9s
C36M Paulatuk 94.51 16 P **P** 21 20 10.2 -1.6
baz=228
C36M S **S** 21 31 03.2 -3.9
baz=228
S39A Bolivar 94.67 52 P **P** 21 20 12.6 -0.8
baz=251
S39A S **S** 21 31 09.1 -0.9
baz=251
VBMS Vicksburg 95.10 58 S **S** 21 31 17.8 +3.9
baz=252
VBMS Vicksburg 95.10 58 P **P** 21 20 12.9 -2.6
baz=252
VBMS S **S** 21 31 18.4 +4.4
baz=252
P38A Dawn 95.15 50 P **P** 21 20 15.5 0.0
baz=251
F33A 5 Mile Ranch, 95.35 44 P **P** 21 20 15.7 -0.7
baz=249,SNR=10
AC02 Maricunga 95.40 120 P **P** 21 20 18.7 +1.0
ULN Ulaanbaatar 95.46 319 *d*⇓P **P** 21 20 16.9 0.0
ULN pmax pmax
comp=Z,28nm,0.9s
ULN Ulaanbaatar 95.46 319 P **P** 21 20 17.2 +0.2
BOD Bodaibo 95.52 329 ⇑P **P** 21 20 15.2 -1.5
BOD pmax pmax
comp=Z,49nm,1.4s
PBA Port Blair 95.59 280 P **P** 21 20 17.3 -0.8
PBA Port Blair 95.59 280 P **P** 21 20 18.4 +0.3
PBA Port Blair 95.59 280 *e*P **P** 21 20 17.2 -0.8
PBA IAmb IAmb 21 20 30.5
comp=Z,112nm,0.8s
R40A Maddies Statio 95.65 52 P **P** 21 20 17.5 -0.3
baz=251,SNR=20
R40A S **S** 21 31 17.3 -1.2
baz=251
346A Big Creek Wild 95.69 59 S **S** 21 31 21.2 +2.1
baz=252
N38A Joes South For 95.75 49 P **P** 21 20 18.3 0.0
baz=251
SONM Songino Array 95.86 318 P **P** 21 20 18.3 -0.4
comp=Z,5.4nm,0.9s,baz=102,slow=3.2,SNR=28
SONM PP **PP** 21 24 10.3 -3.3
comp=Z,8.0nm,1.1s,baz=120,slow=8.8,SNR=4.7
comp=Z,5.4nm,0.9s
SONM Songino Array 95.86 318 P **P** 21 20 17.7 -1.1
DGPR DIGLIPUR 95.87 282 *e*P **P** 21 20 19.0 -0.4
DGPR IAmb IAmb 21 20 28.6
comp=Z,161nm,0.8s
A36M Sachs Harbour 96.02 14 P **P** 21 20 18.8 +0.2
A36M IAmb IAmb 21 20 24.7
comp=Z,66nm,0.7s
A36M Sachs Harbour 96.02 14 P **P** 21 20 17.8 -0.9
baz=227
A36M S **S** 21 31 16.8 -3.4
baz=227
SCIA State Center 96.12 48 P **P** 21 20 19.1 -0.8
SCIA State Center 96.12 48 P **P** 21 20 18.6 -1.3
baz=251
P40A Paris 96.21 51 P **P** 21 20 19.9 -0.5
baz=252
P40A S **S** 21 31 22.6 -0.6
baz=252
CCM Cathedral Cave 96.34 52 P **P** 21 20 20.2 -0.8
CCM IAmb IAmb 21 21 14.7
comp=Z,69nm,1.5s
CCM Cathedral Cave 96.34 52 P **P** 21 20 20.2 -0.8
CCM pmax pmax
comp=Z,69nm,1.5s
CCM Cathedral Cave 96.34 52 P **P** 21 20 20.5 -0.5
baz=252
CCM S **S** 21 31 23.5 -1.0
baz=252
CCM Cathedral Cave 96.34 52 P **P** 21 20 19.8 -1.2
baz=252
CCM S **S** 21 31 24.0 -0.5
baz=252
OTAV Otavalo 96.39 92 *e*P **P** 21 20 23.9 +1.5
146A Union 96.40 58 S **S** 21 31 29.9 +4.7
baz=252
AGMN Agassiz Nation 96.48 41 P **P** 21 20 20.2 -1.2
AGMN Agassiz Nation 96.48 41 P **P** 21 20 20.7 -0.6
baz=250
AGMN Agassiz Nation 96.48 41 P **P** 21 20 19.5 -1.9
baz=250
AGMN S **S** 21 31 22.7 -2.5
baz=250
PB15 IPOC Station P 96.53 117 P **P** 21 20 21.9 -0.6
PB15 IAmb IAmb 21 21 20.1
comp=Z,70nm,1.3s
PB06 IPOC Station P 96.64 116 P **P** 21 20 21.7 -1.2
PB06 IAmb IAmb 21 21 20.4
comp=Z,39nm,1.1s
K38A Parkersburg 96.67 47 S **S** 21 31 28.5 +1.4
baz=251
I37B Waseca 96.68 46 P **P** 21 20 22.4 +0.1
baz=251,SNR=6.5
OXF Oxford 96.68 56 P **P** 21 20 22.2 -0.4
OXF IAmb IAmb 21 21 22.3
comp=Z,108nm,1.4s
OXF Oxford 96.68 56 P **P** 21 20 22.2 -0.4
OXF pmax pmax
comp=Z,108nm,1.4s
OXF Oxford 96.68 56 P **P** 21 20 22.6 0.0
baz=252
OXF Oxford 96.68 56 P **P** 21 20 20.5 -2.1
baz=252
OXF S **S** 21 31 29.5 +2.0
baz=252
PB02 IPOC Station P 96.89 115 P **P** 21 20 24.0 -0.1
PB02 IAmb IAmb 21 21 23.5
comp=Z,78nm,1.3s
FVM French Village 96.94 52 S **S** 21 31 28.9 -0.7
baz=252
ULM Lac du Bonnet 97.14 39 P **P** 21 20 23.0 -1.2
comp=Z,4.3nm,0.6s,baz=245,slow=3.9,SNR=4.6
comp=Z,4.3nm,0.6s
F36A Milaca 97.19 44 P **P** 21 20 24.4 -0.2
baz=251,SNR=18
LVC Limon Verde 97.24 117 P Pdif 21 20 26.8 +0.8
comp=Z,6.1nm,1.1s,baz=212,slow=3.3,SNR=6.6
LVC PKKPbc **PKKPbc** 21 37 04.1 +0.1
comp=Z,6.6nm,0.7s,baz=186,slow=3.4,SNR=5.4
comp=Z,6.1nm,1.1s
LVC Limon Verde 97.24 117 P Pdif 21 20 27.1 +1.1
LVC IAmb IAmb 21 21 24.1
comp=Z,47nm,1.3s
LVC Limon Verde 97.24 117 P Pdif 21 20 27.1 +1.1
LVC pmax pmax
comp=Z,47nm,1.3s
TIXI Tiksi 97.28 345 P **P** 21 20 23.4 -1.0
comp=Z,2.1nm,0.9s,baz=90,slow=23,SNR=9.5
comp=Z,2.1nm,0.9s
TIXI Tiksi 97.28 345 P **P** 21 20 23.2 -1.2
TIXI Tiksi 97.28 345 *d*⇓P **P** 21 20 23.4 -1.0
TIXI *i* *PP **pP** 21 21 06.9 -4.1
TIXI pmax pmax
comp=Z,36nm,1.1s
PB01 IPOC Station P 97.35 115 P **P** 21 20 25.4 -0.7
PB01 IAmb IAmb 21 21 25.5
comp=Z,59nm,1.2s
LKP Lekhapani 97.36 296 *e*P Pdif 21 20 28.0 +2.1
SPMN Marine on St. 97.46 45 P Pdif 21 20 25.9 0.0
baz=252,SNR=5.7
SPMN Marine on St. 97.46 45 P **P** 21 20 24.2 -1.7
baz=252
L40A Anamosa 97.59 48 P Pdif 21 20 26.9 +0.4
baz=252,SNR=7.9
GTA Gaotai 97.67 309 ⇓P Pdif 21 20 27.5 +0.3
GTA pP pwP 21 21 17.3 +0.4

GTA sP sP 21 21 36.3 +3.1
GTA PP **PP** 21 24 31.5 +3.7
GTA SKS **SKSac** 21 30 49.0 +2.4
GTA S **S** 21 31 34.0 -2.1
GTA SS **SS** 21 38 18.0 -3.3
GTA pmax pmax
comp=Z,27nm,1.6s
GTA pmax pmax
comp=Z,570nm,10.2s
GTA LR LR
comp=Z,2µm,22.9s
GTA LR LR
comp=Z,8µm,23.3s
GTA LR LR
comp=Z,9µm,23.6s
PB08 IPOC Station P 97.98 114 P **P** 21 20 29.0 -0.3
PB08 IAmb IAmb 21 21 31.7
comp=Z,47nm,1.3s
LRAL Lakeview Retre 98.18 58 S **S** 21 31 42.6 +2.3
baz=254
LRAL Lakeview Retre 98.18 58 P **P** 21 20 28.3 -1.0
baz=254
LRAL S **S** 21 31 41.5 +1.3
baz=254
MOKO MOKOCHONG 98.21 295 *e*P Pdif 21 20 30.1 +0.2
MOKO IAmb IAmb 21 20 43.5
comp=Z,37nm,0.7s
PB16 IPOC Station P 98.36 112 P **P** 21 20 30.7 -0.6
PB16 IAmb IAmb 21 21 33.8
comp=Z,40nm,1.3s
WVT Waverly 98.39 55 P **P** 21 20 29.6 -0.6
WVT Waverly 98.39 55 P **P** 21 20 29.6 -0.6
WVT pmax pmax
comp=Z,19nm,1.2s
WVT Waverly 98.39 55 S **S** 21 31 41.8 -0.1
baz=254
WVT Waverly 98.39 55 P **P** 21 20 28.8 -1.4
baz=254
WVT S **S** 21 31 43.2 +1.2
baz=254
KOHI KOHIMA 98.40 294 *e*P **P** 21 20 30.1 -0.7
KOHI IAmb IAmb 21 20 59.6
comp=Z,112nm,1.5s
250A Grady 98.47 59 S **S** 21 31 44.2 +1.4
baz=254
JFWS Jewell Farm 98.53 48 P **P** 21 20 30.1 -0.6
JFWS IAmb IAmb 21 21 24.9
comp=Z,85nm,1.4s
JFWS Jewell Farm 98.53 48 P **P** 21 20 30.1 -0.6
JFWS pmax pmax
comp=Z,85nm,1.4s
JFWS Jewell Farm 98.53 48 P **P** 21 20 28.7 -2.0
baz=253
JFWS S **S** 21 31 42.0 -0.8
baz=253
451A Vernon 98.53 61 S **S** 21 31 48.2 +4.9
baz=254
HDIL Hopedale 98.53 50 P **P** 21 20 29.2 -1.6
baz=253
HDIL S **S** 21 31 44.0 +1.0
baz=253
X48A Hartselle 98.53 57 P **P** 21 20 30.3 -0.6
baz=254
X48A S **S** 21 31 44.9 +1.6
baz=254
I40A Norwalk 98.55 47 P Pdif 21 20 30.9 +0.1
baz=253
JORH JORHAT 98.56 295 *e*P Pdif 21 20 33.4 +2.2
IRK Irkutsk 98.63 322 *e*P **P** 21 20 30.3 -0.6
IRK *e* 21 21 28.4
IRK pmax pmax
comp=Z,31nm,2.0s
ZAK Zakamensk 98.64 320 *e*P **P** 21 20 30.5 -0.6
ZAK pmax pmax
comp=Z,11nm,1.2s
ZAK pmax pmax
comp=Z,14nm,1.6s
Y49A Blount Mountai 98.88 57 P **P** 21 20 32.4 -0.1
baz=254
ZIRO ZIRO 99.11 296 *e*P **Pdif** 21 20 34.5 +0.6
ZIRO IAML 21 20 45.6
comp=Z,23nm,0.8s
ITAN ITANAGAR 99.12 296 *e*P **Pdif** 21 20 37.2 +3.5
ITAN IAmb IAmb 21 20 43.5
comp=Z,82nm,1.3s
EYMN Ely 99.15 43 P **Pdif** 21 20 32.4 -0.9
baz=253
CZSB Cruzeiro do Su 99.24 101 *e*P **Pdif** 21 20 35.2 +0.6
TEZP TEZPUR 99.77 295 *e*P **Pdif** 21 20 37.4 +0.8
TEZP IAmb IAmb 21 20 48.1
comp=Z,26nm,0.8s
152A Waverly Hall 99.92 59 P **Pdif** 21 20 37.4 +0.2
baz=255
U49A Red Boiling Sp 100.08 55 P **Pdif** 21 20 37.9 +0.1
baz=255
SFIN Lafayette 100.10 51 P **Pdif** 21 20 37.5 -0.2
baz=255
LPAZ La Paz 100.35 111 P **Pdif** 21 20 41.1 +0.9
comp=Z,2.5nm,0.7s,baz=242,slow=2.5,SNR=9.7
LPAZ PP **PP** 21 24 48.8 -0.1
comp=Z,19nm,1.3s,baz=238,slow=10,SNR=4.5
LPAZ PKKPbc **PKKPbc** 21 36 55.7 +0.2
comp=Z,2.6nm,0.7s,baz=262,slow=3.1,SNR=6.2
LPAZ La Paz 100.35 111 *e*P **Pdif** 21 20 38.7 -1.6
MOY Mondy 100.39 321 *e*P **Pdif** 21 20 40.9 +2.0
MOY pmax pmax
comp=Z,23nm,2.4s
GOMU GeErMu 100.60 305 *e*Pdif **Pdif** 21 20 40.8 +0.2
GOMU PP **PP** 21 24 49.4 -1.0
GOMU AMB AMB
comp=Z,380nm,9.0s
GOMU LR LR
comp=Z,2µm,18.0s
GOMU LR LR
comp=Z,4µm,18.4s
GOMU LR LR
comp=Z,2µm,18.2s
GUWA GUWAHATI 100.62 294 *e*P **Pdif** 21 20 43.6 +3.2
Y52A Lilburn 100.76 58 P **Pdif** 21 20 41.3 +0.4
baz=255
Y52A P **Pdif** 21 20 41.3 +0.4
baz=255
V51A Loudon 101.02 56 P **Pdif** 21 20 41.9 0.0
baz=255
GOGA Godfrey 101.13 58 P **Pdif** 21 20 41.8 -0.7
baz=255
GOGA Godfrey 101.13 58 P **Pdif** 21 20 42.1 -0.4
baz=255
O48B Farmland 101.50 51 P **Pdif** 21 20 43.4 -0.6
baz=256
P49A Miami Univ. Ec 101.65 52 P **Pdif** 21 20 43.8 -0.9
baz=256
TBTG Tabatinga, AM 103.05 99 *e*P **Pdif** 21 20 51.2 -0.3
GTK Tadong 103.58 295 IAmb IAmb 21 20 46.9
comp=Z,37nm,0.2s
ITQB Itaqui 103.96 128 *e*P **Pdif** 21 20 55.1 -0.2
TAPN Taplejung 104.35 294 *e*P **PKiKP** 21 25 15.6 +2.6
ODAN Odare 104.52 294 *e*P **PKiKP** 21 25 12.1 -1.1
CPUP Villa Florida 105.08 125 PKKPbc PKKPbc 21 36 40.3 -0.9
comp=Z,2.8nm,0.9s,baz=18,slow=6.2,SNR=3.2
CPUP Villa Florida 105.08 125 *e*P **Pdif** 21 21 01.8 +1.5
RAMN Ramite 105.23 294 *e*P **PKiKP** 21 25 13.6 -1.0
JIRN Jiri 105.74 294 *e*P **PKiKP** 21 25 16.4 +0.8
PKI Pulchoki 106.40 294 *e*P **PKiKP** 21 25 16.5 -0.3
PKIN Phulchoki 106.41 294 *e*P **PKiKP** 21 25 16.5 -0.3
KKN Kakani 106.55 294 *e*P **PKiKP** 21 25 17.5 +0.5
DMN Daman 106.67 294 *e*P **PKiKP** 21 25 16.6 -0.6
SIV San Ignacio 106.68 114 Pdiff **Pdif** 21 21 09.4 +1.7
comp=Z,1.3nm,0.8s,baz=212,slow=3.2,SNR=6.0
SIV PP **PP** 21 25 32.3 -2.8
comp=Z,3.8nm,1.0s,baz=233,slow=8.7,SNR=6.5
SIV PKKPbc **PKKPbc** 21 36 36.1 -0.1
comp=Z,5.6nm,0.8s,baz=99,slow=5.3,SNR=11
GKN Gorkha 107.16 294 *e*P **PKiKP** 21 25 18.7 +0.7
DANN Dangsing 107.98 295 *e*P **PKiKP** 21 25 19.8 +0.1
comp=Z,53nm,0.7s
KOLN Koldanda 108.01 294 *e*P **PKiKP** 21 25 17.8 -1.9
PYUN Piuthan 108.60 294 *e*P **PKiKP** 21 25 19.6 -1.2
comp=Z,99nm,1.2s
NRIK Noril'sk 109.50 338 Pdiff **Pdif** 21 21 18.9 +0.1
comp=Z,2.9nm,0.6s,baz=173,slow=4.9,SNR=2.0
NRIK PKiKP **PKiKP** 21 25 21.6 +0.7
comp=Z,6.7nm,0.9s,baz=202,slow=2.9,SNR=5.2
NRIK PP **PP** 21 25 50.6 -4.0
comp=Z,7.1nm,0.8s,baz=117,slow=7.9,SNR=4.6
ZSN Zaisan 109.92 315 *e*PKiKP **PKiKP** 21 25 21.9 -0.5

baz=315
HYBB Hyderabad (bro 110.36 282 *e*Pdif **Pdif** **21 21 25.8 +1.8**
HYBB *e*PKiKP **PKiKP** **21 25 23.5 -0.6**
HYBB *e*PP **PP** **21 26 00.9 -1.4**
ZALV Zalesovo Beam 110.43 322 Pdiff **Pdif** **21 21 23.8 +0.4**
comp=Z,0.9nm,0.6s,baz=132,slow=4.2,SNR=5.6
ZALV PKiKP **PKiKP** **21 25 22.4 -0.7**
comp=Z,10.0nm,0.7s,baz=141,slow=1.1,SNR=19
ZALV PP **PP** **21 25 59.3 -2.5**
comp=Z,5.1nm,0.9s,baz=99,slow=4.8,SNR=3.9
ZALV PKKPbc **PKKPbc** **21 36 26.6 +1.2**
comp=Z,1.8nm,0.7s,baz=274,slow=4.7,SNR=6.3
MKAR Makanchi Array 111.62 314 Pdiff **Pdif** **21 21 29.5 +0.6**
comp=Z,4.2nm,1.0s,baz=91,slow=7.6,SNR=14
MKAR PKiKP **PKiKP** **21 25 24.7 -1.0**
comp=Z,11nm,0.6s,baz=172,slow=0.6,SNR=60
MKAR PP **PP** **21 26 08.9 -1.6**
comp=Z,6.0nm,1.0s,baz=93,slow=5.8,SNR=1.1
MKAR PKKPbc **PKKPbc** **21 36 20.8 -0.6**
comp=Z,3.0nm,0.7s,baz=276,slow=4.3,SNR=15
SHLS Shalkode 113.39 310 *i* PKiKP **PKiKP** **21 25 28.1 -1.2**
SHLS Shalkode 113.39 310 *e*PKiKP **PKiKP** **21 25 28.1 -1.2**
baz=310
KPKS Kokpek 113.98 310 *i* PKiKP **PKiKP** **21 25 29.2 -1.1**
KPKS *i* 21 26 25.1
KPKS Kokpek 113.98 310 *e*PKiKP **PKiKP** **21 25 29.3 -1.1**
baz=310
KPKS *i* PP **PP** **21 26 25.2 -2.3**
baz=310
SATY Saty 114.16 310 *e*PKiKP PKPdf 21 25 29.7 -1.1
SATY *i* 21 26 26.2
SATY Saty 114.16 310 *e*PKP PKPdf 21 25 29.8 -1.0
baz=310
SATY *i* PP **PP** **21 26 26.2 -2.6**
baz=310
KURK Kurchatov 114.17 318*d* *i*PKiKP PKPdf 21 25 29.2 -1.1
KURK pmax pmax
comp=Z,57nm,1.3s
KURBB Kurchatov Arra 114.22 318 Pdiff **Pdif** **21 21 40.9 +0.6**
comp=Z,0.4nm,0.7s,baz=73,slow=3.2,SNR=4.9
KURBB PKiKP PKPdf 21 25 29.6 -0.9
comp=Z,15nm,0.7s,baz=99,slow=1.8,SNR=32
KURBB PP **PP** **21 26 26.3 -2.5**
comp=Z,14nm,1.1s,baz=91,slow=6.3,SNR=5.5
KURBB PKKPbc **PKKPbc** **21 36 12.2 -0.5**
comp=Z,2.6nm,0.7s,baz=269,slow=4.0,SNR=15
TDK Taldyqorghan 114.24 312 *e*PKiKP PKPdf 21 25 30.1 -0.6
TDK *i* 21 26 27.3
TDK Taldyqorghan 114.24 312 *e*PKP PKPdf 21 25 30.1 -0.6
baz=312
TDK *i* PP **PP** **21 26 27.3 -1.8**
baz=312
NEEM North Greenlan 114.82 12 *i* P **PKiKP** **21 25 32.3 +1.0**
MDOK Medeo 115.16 310 *e*PKiKP **PKiKP** **21 25 31.9 -0.8**
MDOK Medeo 115.16 310 *e*PKP **PKiKP** **21 25 31.9 -0.8**
baz=310
TNSS Tian-Shan 115.23 310 *e*PKiKP **PKiKP** **21 25 32.5 -0.7**
TNSS Tian-Shan 115.23 310 *e*PKP **PKiKP** **21 25 32.5 -0.7**
baz=310
KSH Kashi 115.82 306 PKP **PKiKP** **21 25 34.8 +0.7**
KSH PP **PP** **21 26 42.9 +2.3**
KSH SKKS 21 33 22.0
KSH AMB AMB
comp=Z,830nm,8.1s
KSH LR LR
comp=Z,3μm,17.9s
KSH LR LR
comp=Z,4μm,18.6s
KSH LR LR
comp=Z,4μm,17.9s
NRN Naryn 115.88 308 PKPdf **PKPdf** **21 25 33.8 -0.6**
NRN Naryn 115.88 308 PKiKP **PKPdf** **21 25 33.8 -0.6**
BOOM Boomskoye usch 115.95 309 PKPdf **PKPdf** **21 25 33.6 -0.7**
BOOM Boomskoye usch 115.95 309 PKiKP **PKPdf** **21 25 33.6 -0.7**
TKM2 Tokmak 2 116.22 309 P **PKPdf** **21 25 34.2 -0.6**
SNR=22
KBK Karagaybulak 116.69 309 P **PKPdf** **21 25 35.7 0.0**
SNR=20
CHMS Chumysh 116.84 309 P **PKPdf** **21 25 35.0 -0.8**
SNR=26
SGDS Sogindy 116.93 310 *i* PKiKP **PKPdf** **21 25 34.4 -1.6**
SGDS Sogindy 116.93 310 *i* PKP **PKPdf** **21 25 34.5 -1.6**
baz=310
UCH Uchtor 117.01 309 P **PKiKP** **21 25 37.2 +0.5**
SNR=27
USP Ospenovka 117.02 310 P **PKPdf** **21 25 35.6 -0.6**
SNR=16
AAK Ala-Archa 117.02 309 P **PKiKP** **21 25 36.3 0.0**
SNR=12
AAK Ala-Archa 117.02 309 PKPdf **PKPdf** **21 25 35.4 -1.0**
AAK Ala-Archa 117.02 309*d* *i*PKiKP **PKPdf** **21 25 35.6 -0.7**
AAK pmax pmax
comp=Z,39nm,1.7s
AAK Ala-Archa 117.02 309 *i* PKPdf **PKiKP** **21 25 36.3 0.0**
SNR=15
BTLS Baital 117.33 312 *i* PKiKP **PKPdf** **21 25 35.4 -1.2**
BTLS Baital 117.33 312 *i* PKP **PKPdf** **21 25 35.4 -1.2**
baz=312
EKS2 Erkin-Say 117.55 309 P **PKPdf** **21 25 36.8 -0.5**
SNR=15
AML Almayashu 117.61 308 P **PKPdf** **21 25 37.6 -0.2**
SNR=31
BDFB Brasilia 117.96 120 PKP **PKiKP** **21 25 39.2 +0.3**
comp=Z,2.2nm,0.6s,baz=326,slow=4.7,SNR=5.1
BDFB PKKPbc **PKKPbc** **21 35 59.3 +0.3**
comp=Z,6.0nm,0.8s,baz=80,slow=4.1,SNR=6.0
BRZS Berezniki 118.00 317 *e*PKiKP **PKPdf** **21 25 36.0 -1.7**
BRZS Berezniki 118.00 317 *e*PKP **PKPdf** **21 25 36.1 -1.7**
baz=317
ILULI Ilulissat 118.69 20 *i* P **PKiKP** **21 25 39.9 +1.4**
DRK Karamyk 119.04 305 **PKPdf** **21 25 39.8 -0.7**
BVAR Borovoye Array 119.08 321 Pdiff **Pdif** **21 22 02.5 +0.6**
comp=Z,0.1nm,0.3s,baz=64,slow=3.4,SNR=1.6
BVAR PKP **PKPdf** **21 25 39.2 -0.5**
comp=Z,19nm,0.5s,baz=112,slow=1.9,SNR=66
BVAR PKKPbc **PKKPbc** **21 35 55.5 -0.2**
comp=Z,0.8nm,0.6s,baz=242,slow=3.2,SNR=6.4
BRVK Borovoye 119.13 321 PKPdf **PKPdf** **21 25 39.1 -0.7**
BRVK Borovoye 119.13 321 PKiKP **PKPdf** **21 25 39.1 -0.7**
KBS Kingsbay 119.17 358 **PKiKP** **21 25 39.3 0.0**
KBS Kingsbay 119.17 358 PKiKP **PKiKP** **21 25 39.3 0.0**
KBS Kingsbay 119.17 358 *i* P **PKPdf** **21 25 39.1 -0.1**
KBS Kingsbay 119.17 358 *e*PKPdf **PKiKP** **21 25 39.3 0.0**
KBS IVmBBB 21 26 00.8
comp=Z,326nm,2.6s
KBS *e*SKPdf **SKiKP** **21 28 57.0 0.0**
KBS *e*SP **SP** **21 36 33.1 +3.7**
KBS *e*SS **SS** **21 43 11.2 +3.6**
KBS IVms_BB IVms_BB 21 59 57.8
comp=Z,3μm,23.8s
DZA Taraz 119.35 309 *i* PKiKP **PKPdf** **21 25 39.6 -1.0**
DZA *e* 21 27 02.9
DZA Taraz 119.35 309 *i* PKP **PKPdf** **21 25 39.7 -1.0**
baz=309
DZA *e*PP **PP** **21 27 02.1 -2.7**
baz=309
SPA0 Spitsbergen Ar 119.75 357 *e*PKPdf **PKPdf** **21 25 39.9 -0.5**
SPA0 IVmB_BB 21 25 42.6
comp=Z,609nm,1.3s
SPA0 *e*SKSac **SKSac** **21 32 21.1 +2.4**
SPA0 *e*SS **SKKSdf** **21 43 19.0 -1.3**
SPITS Spitsbergen Ar 119.75 357 PKP **PKPdf** **21 25 40.0 -0.5**
comp=Z,17nm,0.6s,baz=72,slow=2.7,SNR=17
SPITS PKKPbc **PKKPbc** **21 35 54.0 +0.2**
comp=Z,5.6nm,0.7s,baz=165,slow=6.9,SNR=5.0
SPITS Spitsbergen Ar 119.75 357 PKiKP **PKPdf** **21 25 40.1 -0.3**
SPB2 Spitsbergen Ar 119.76 357 PKPdf **PKPdf** **21 25 40.2 -0.1**
BTK Batken 119.80 306 PKPdf **PKPdf** **21 25 41.4 -0.3**
BTK Batken 119.80 306 PKiKP **PKPdf** **21 25 41.4 -0.3**
SFJD Kangerlussuaq 119.82 22 *i* P **PKPdf** **21 25 39.6 -1.1**
KK31 Karatay Array 119.94 310 PKPdf **PKPdf** **21 25 41.4 -0.3**
KK31 Karatay Array 119.94 310 PKiKP **PKPdf** **21 25 41.4 -0.3**
KKAR Karatay Array 119.94 310 PKPdf **PKPdf** **21 25 41.0 -0.7**
KKAR Karatay Array 119.94 310 PKiKP **PKPdf** **21 25 41.0 -0.7**
DIAM Diamantina, MG 120.03 125 *e*P **PKiKP** **21 25 44.2 +1.2**
GAR Garm 120.20 305 **PKPdf** **21 25 42.4 -0.1**
DAG Danmarks Havn 120.21 6 *i* P **PKPdf** **21 25 41.0 -0.2**
SUMG Summit 120.31 14 PKPdf **PKiKP** **21 25 42.1 -0.1**
SUMG Summit 120.31 14 PKiKP **PKiKP** **21 25 42.1 -0.1**
SUMG Summit 120.31 14 *i* P **PKiKP** **21 25 43.0 +0.8**
IUG luzhnay 120.34 309 *i* PKiKP **PKPdf** **21 25 42.0 -0.6**
IUG luzhnay 120.34 309 *i* PKP **PKPdf** **21 25 42.0 -0.6**
baz=309
NUUK Nuuk 120.56 25 *i* P **PKiKP** **21 25 43.5 +1.2**
HOPEN Hopen 120.78 355 *e*Pdif **Pdif** **21 22 09.2 +0.3**
HOPEN *e* 21 27 56.1
HOPEN *e*SKSac **SKSac** **21 32 24.4 +2.2**
HOPEN *e*SP **SP** **21 36 47.7 +3.9**
HOPEN *e*SS **SS** **21 43 30.7 +2.5**
ALF01 Guarapari-ES 120.92 129 *e*P **PKiKP** **21 25 45.7 +1.3**
TAS Tashkent 120.92 308 **PKPdf** **21 25 43.4 -0.3**
TAS Tashkent 120.92 308 PKiKP **PKPdf** **21 25 43.4 -0.3**
CHGR Chuyangaron 121.11 305 **PKPdf** **21 25 43.3 -0.9**
CHGR Chuyangaron 121.11 305 PKiKP **PKPdf** **21 25 43.3 -0.9**
KBL Kabul 121.17 300 PKPdf **PKPdf** **21 25 44.6 0.0**
KBL Kabul 121.17 300 PKiKP **PKPdf** **21 25 44.6 0.0**
KBL Kabul 121.17 300 P **PKiKP** **21 25 45.0 +0.2**
JANB Januaria 121.30 121 *e*P **PKiKP** **21 25 45.7 +0.3**
DY2G Dye2 121.60 22 *i* P **PKiKP** **21 25 44.8 +0.2**
SMTB Santa Maria do 121.62 113 *e*P **PKiKP** **21 25 46.3 +0.4**
RIB01 Linhares ES 121.95 128 *e*P **PKiKP** **21 25 47.2 +0.7**
SDBA SAO DESIDERIO 122.20 118 *e*P **PKiKP** **21 25 48.1 +0.9**
ICESG Greenland Ices 122.23 17 *i* P **PKPdf** **21 25 43.7 -2.0**
NAN01 Guarapari, ES 123.03 127 *e*P **PKiKP** **21 25 49.2 +0.5**
BJO1 Bjornoya 123.18 356 *e*PKPdf **PKiKP** **21 25 47.4 +0.2**
BJO1 *e* 21 28 13.8
BJO1 *i* 21 36 44.8
BJO1 *e*SS SS 21 44 02.0 +3.4
IVI Ivigtut 123.26 28 **PKPdf** **21 25 47.1 -0.4**
TMAB Tom-Au,PA,Br 123.97 106 *e*P **PKiKP** **21 25 51.1 +0.5**
GUA01 Guaratinga, BA 124.03 126 *e*P **PKiKP** **21 25 51.1 +0.5**
NRS Narsarsuaq 124.48 27 *i* P **PKiKP** **21 25 50.0 -0.1**
OPO Ambohidratompo 124.65 231 PKP **PKiKP** **21 25 52.3 +0.2**
comp=Z,35nm,1.0s,baz=81,slow=1.0,SNR=8.1
ARU Arti 124.85 327 PKP **PKPdf** **21 25 50.5 -0.2**
comp=Z,43nm,0.8s,baz=108,slow=1.4,SNR=54
ARU PKKPbc **PKKPbc** **21 35 32.8 -1.0**
comp=Z,3.2nm,0.6s,baz=260,slow=3.6,SNR=6.4
ARU Arti 124.85 327 PKPdf **PKPdf** **21 25 49.7 -1.0**
ARU Arti 124.85 327 *i* PKiKP **PKPdf** **21 25 50.2 -0.5**
ARU 21 27 37.0
ARU 21 32 36.6
ARU SP SP 21 37 23.1 +2.3
CMC01 Camacan, BA 124.96 125 *e*P **PKiKP** **21 25 52.6 +0.2**
GDU01 Guandu, BA 125.86 123 *e*P **PKiKP** **21 25 54.4 +0.1**
ABKAR Akbulak array 126.28 318 PKPdf **PKPdf** **21 25 52.3 -1.3**
ABKAR Akbulak array 126.28 318 PKPdf **PKPdf** **21 25 52.9 -0.8**
HAMF Hammerfest 126.38 352 *e*PKPdf **PKPdf** **21 25 52.6 -0.6**
HAMF IVmB_BB 21 25 54.4
comp=Z,432nm,1.5s
HAMF *e* 21 35 41.9
HAMF *e*SS SS 21 44 38.0 -0.7
KEV Kevo 126.72 351 PKPdf **PKPdf** **21 25 52.3 -1.6**
KEV Kevo 126.72 351 PKiKP **PKPdf** **21 25 52.3 -1.6**
HRA Herat 126.79 300 PKPdf **PKPdf** **21 25 54.7 -0.7**
LVZ Lovozero 126.87 346 PKPdf **PKPdf** **21 25 53.5 -0.7**
LVZ Lovozero 126.87 346 PKiKP **PKPdf** **21 25 53.6 -0.7**
AKTO Aktyubinsk 127.14 320 PKP **PKPdf** **21 25 55.5 +0.2**
comp=Z,29nm,1.0s,baz=76,slow=3.0,SNR=38
ARA0 ARCESS Array S 127.15 351 *e*PKPdf **PKPdf** **21 25 54.3 -0.4**
ARA0 IVmB_BB 21 25 56.4
comp=Z,1μm,1.5s
ARA0 *e*SKPdf **SKiKP** **21 29 14.1 +0.8**
ARA0 *e*SS **SS** **21 44 49.4 +0.9**
ARCES ARCESS Array B 127.15 351 PKhKP PKPpre 21 25 43.8
comp=Z,2.6nm,1.0s,baz=132,slow=1.8,SNR=4.6
ARCES PKP **PKPdf** **21 25 53.9 -0.9**
comp=Z,28nm,0.7s,baz=85,slow=0.7,SNR=51
ARCES PKKPbc PKKPbc 21 35 25.1
comp=Z,0.5nm,0.5s,baz=160,slow=3.9,SNR=5.9
ROSB Rosrio 127.36 108 *e*P **PKiKP** **21 25 57.7 +0.3**
APA Apatity 127.42 347 ⇓ *i*PKiKP **PKPdf** **21 25 53.5 -1.8**
APA *i* 21 26 36.0
APA pmax pmax
comp=Z,28nm,1.0s
APA MLR MLR
comp=Z,3μm,31.0s
JETT Jettan, Norway 127.80 353 *e*PKPdf **PKiKP** **21 25 56.7 +0.1**
TRO Tromso 127.88 354 *e*PKPdf **PKPdf** **21 25 55.9 -0.2**
TRO IVmB_BB 21 25 57.4
comp=Z,760nm,1.5s
TRO *e*PP **PP** **21 28 00.5 -0.1**
TRO *e*SKSac **SKSac** **21 32 46.3 +1.4**
TRO *e*SS **SS** **21 44 59.9 +2.5**
KTK1 Kautokeino 127.95 352 *e*PKPdf **PKPdf** **21 25 55.5 -0.8**
KTK1 IVmB_BB 21 25 57.5
comp=Z,613nm,1.6s
KTK1 *e*PP **PP** **21 28 02.0 +0.9**
KTK1 *e*SKPdf **SKiKP** **21 29 15.9 +1.1**
KTK1 *e* 21 30 32.5
KTK1 *e*SS **SS** **21 45 01.6 +3.2**
PRGR Permogore 128.11 337 *e*PKiKP **PKPdf** **21 25 55.0 -1.7**
PRGR *e* 21 26 52.2
PRGR pmax pmax
comp=Z,57nm,0.8s
KIRV Kirov 128.30 332 PKP **PKiKP** **21 25 57.6 -0.2**
comp=Z,71nm,1.1s,baz=35,slow=1.7,SNR=42
BOSA Boshof 129.45 203 PKP **PKiKP** **21 26 01.9 +0.6**
comp=Z,32nm,1.1s,baz=153,slow=3.6,SNR=14
BOSA PP **PP** **21 28 11.0 0.0**
comp=Z,21nm,1.1s,baz=156,slow=5.7,SNR=3.1
BOSA Boshof 129.45 203 PKPdf **PKPdf** **21 26 00.0 -0.6**
WSAR Wadi Sarin 129.73 285 PKP **PKiKP** **21 26 01.8 0.0**
comp=Z,13nm,0.9s,baz=159,slow=1.1,SNR=13
LOF Lofoten 129.81 356 *e*PKPdf **PKiKP** **21 26 01.1 +0.5**
LOF *e* 21 28 58.4
LOF *e*SS SS 21 45 22.2 +1.2
GEYT Alibeck 129.82 304 PKhKP PKPpre 21 25 48.6
comp=Z,4.0nm,0.7s,baz=343,slow=4.6,SNR=5.0
GEYT PKP **PKiKP** **21 26 01.4 -0.2**
comp=Z,24nm,0.8s,baz=341,slow=8.2,SNR=26
STEI Steigen 129.88 355 *e*PKPdf **PKPdf** **21 26 00.3 +0.4**
STEI IVmB_BB 21 26 01.5
comp=Z,803nm,1.5s
STEI *e*PP **PP** **21 28 12.8 -0.7**
STEI *e* 21 28 59.9
STEI *e*SP SP 21 38 07.0 +3.5
STEI *e*SS **SS** **21 45 24.8 +2.9**
MHTO MHTO 130.12 282 P **PKPdf** **21 26 01.6 -0.2**
SNR=19
JMDO Jabal Madar 130.14 284 P **PKPdf** **21 26 01.6 -0.2**
SNR=11
BIDO Bidbid 130.21 286 P **PKiKP** **21 26 02.7 0.0**
SNR=15
SMDO Samad 130.25 285 P **PKiKP** **21 26 02.6 -0.4**
SNR=15
DQM DQM 130.39 281 P **PKPdf** **21 26 02.5 +0.1**
SNR=11
FAUS Fauske 130.41 355 *e*PKPdf **PKPdf** **21 25 59.9 -1.1**
FAUS IVmBBB 21 26 03.3
comp=Z,463nm,1.6s
FAUS *e*PP **PP** **21 28 16.9 -0.1**
FAUS *e* 21 29 07.8
FAUS *e*SP SP 21 38 06.0 -2.1
FAUS *e*SS **SS** **21 45 33.0 +4.6**
JASK Jask - Hormozg 130.59 289 P **PKiKP** **21 26 03.9 +0.4**
SNR=11
KLMR Klimovskoe 130.84 338 *e*PKiKP **PKPdf** **21 26 00.2 -1.8**
KLMR *e* 21 28 19.3
KLMR 21 32 54.6
KLMR pmax pmax
comp=Z,223nm,1.5s
KLMR Klimovskoe 130.84 338 *e*PKPdf **PKPdf** **21 26 00.2 -1.8**
KLMR AMP 21 26 05.2
comp=Z,223nm,1.5s
KLMR *e*pPKPdf **pPKPdf** **21 26 55.0 +4.4**
KLMR *e*PP **PP** **21 28 19.4 -0.7**
KLMR *e*SKPbc **SKPbc** **21 29 05.5 -2.9**
KLMR PKS **PKSdf** **21 29 34.0 -4.1**
KLMR PKS **PKSdf** **21 29 34.0 -4.1**
KLMR SKSac **SKSdf** **21 32 54.7 -0.5**
KLMR SKSac **SKSdf** **21 32 54.7 -0.5**
KLMR PKKS 21 39 42.1
KLMR PKKS 21 39 42.1
HOQ Hoqain 130.97 286 P **PKPdf** **21 26 03.1 -0.3**
SNR=11
BSY Bisya 131.00 285 P **PKiKP** **21 26 04.2 -0.2**
SNR=14
KONS Konsvik 131.45 356 *e*PKPdf **PKiKP** **21 26 03.8 -0.2**
MOR8 Moi Rana 131.67 355 *e*PKPdf **PKPdf** **21 26 03.7 +0.3**
MOR8 *e*PP **PP** **21 28 25.4 +0.2**
MOR8 *e* 21 30 50.1
MOR8 *e*SS SS 21 45 45.8 +1.9
BANOM Banah 132.00 289 P **PKiKP** **21 26 05.9 -0.5**
BANOM Banah 132.00 289 PKPdf **PKPdf** **21 26 01.1 -4.2**
UOSS Minazif 132.05 287 PKPdf **PKPdf** **21 26 03.5 -1.9**
UOSS Minazif 132.05 287 P **PKPdf** **21 26 05.2 -0.2**
UOSS Minazif 132.05 287 *i* PKPdf **PKPdf** **21 26 04.1 -1.3**
SNR=7.9
MSFE Esma-Masafi 132.11 288 *i* PKPdf **PKPdf** **21 26 03.8 -1.7**
SNR=14
MASF Masafi 132.11 288 P **PKPdf** **21 26 05.7 +0.1**
SNR=9.6
HATD Hatta, Dubai 132.11 287 P **PKPdf** **21 26 05.9 +0.4**
SNR=16
HATD Hatta, Dubai 132.11 287 *i* PKPdf **PKPdf** **21 26 04.2 -1.3**
SNR=22
SHME Shamm 132.15 289 P **PKPdf** **21 26 05.7 +0.1**
ASHO Ashiyiah 132.17 287 P **PKiKP** **21 26 06.2 -0.5**
SNR=18
ASHO Ashiyiah 132.17 287 *i* PKPdf **PKPdf** **21 26 04.9 -0.8**
SNR=23
BELG Belogornoye 132.34 326 PKhKP PKPpre 21 25 54.7
comp=Z,13nm,0.9s,baz=149,slow=3.6,SNR=3.5
BELG PKP **PKPdf** **21 26 05.0 -0.1**
comp=Z,164nm,0.9s,baz=133,slow=1.2,SNR=23
BELG SKPbc **SKPab** **21 29 14.7 -0.6**
comp=Z,88nm,1.0s,baz=330,slow=2.8,SNR=6.7
BELG SKKPbc **SKKPbc** **21 38 40.5 -0.5**
comp=Z,3.2nm,0.5s,baz=208,slow=1.3,SNR=3.6
BELG Belogornoye 132.34 326 PKiKP **PKPdf** **21 26 05.0 -0.1**
ALNE Al Ain 132.42 286 P **PKiKP** **21 26 07.1 -0.1**
SNR=9.9
ALNE Al Ain 132.42 286 *i* PKPdf **PKPdf** **21 26 06.2 +0.1**
SNR=12
DMTO DMTO 132.52 278 P **PKiKP** **21 26 07.1 -0.5**
NAZ Nazwa, Dubai 132.55 287 P **PKPdf** **21 26 06.2 -0.1**
SNR=7.4
NAZ Nazwa, Dubai 132.55 287 *i* PKPdf **PKPdf** **21 26 06.6 +0.3**
SNR=8.0
FAQ Al Faqa, Dubai 132.60 287 P **PKPdf** **21 26 06.7 +0.3**
SNR=5.4
FAQ Al Faqa, Dubai 132.60 287 *i* PKPdf **PKPdf** **21 26 06.9 +0.5**
SNR=8.8
ASUD Al Ashush, Dub 132.83 287 P **PKPdf** **21 26 06.8 0.0**
SNR=5.1
ASUD Al Ashush, Dub 132.83 287 *i* PKPdf **PKPdf** **21 26 06.4 -0.4**
SNR=11
UMZA Um Al Zommool 132.88 284 P **PKiKP** **21 26 08.0 -0.2**
RBK Rabkut 133.18 277 P **PKiKP** **21 26 08.9 -0.1**
SNR=6.7
DOK Doka 133.41 279 P **PKPdf** **21 26 08.2 +0.1**
SNR=6.8
NSS Namsos 133.49 356 *e*PKPdf **PKPdf** **21 26 06.2 -0.7**
NSS IVmB_BB 21 26 09.7
comp=Z,839nm,2.4s
NSS *e* 21 30 56.3
ABTO Aybut 134.02 277 P **PKiKP** **21 26 10.3 -0.3**
MZWR Madinat Zayed 134.12 286 P **PKiKP** **21 26 10.7 0.0**
FIA1 FINESS Array S 134.31 346 PKPdf **PKPdf** **21 26 07.5 -1.0**
FINES FINESS Array B 134.31 346 PKhKP PKPpre 21 25 54.5
comp=Z,1.0nm,0.4s,baz=44,slow=2.4,SNR=15
FINES PKP **PKPdf** **21 26 07.1 -1.3**
comp=Z,30nm,0.8s,baz=58,slow=2.3,SNR=21
FINES SKPbc **SKPbc** **21 29 21.2 +0.9**
comp=Z,19nm,1.0s,baz=46,slow=8.2,SNR=7.3
FINES FINESS Array B 134.31 346 PKPdf **PKPdf** **21 26 07.3 -1.2**
MZR Muzera 134.44 285 P **PKPdf** **21 26 10.0 0.0**
SNR=7.8
MZR Muzera 134.44 285 *i* PKiKP **PKiKP** **21 26 11.8 +0.5**
SNR=18
TBLU Trondheim 134.86 357 *e*PKPdf **PKPdf** **21 26 09.9 +0.4**
TBLU IVmB_BB 21 26 11.2
comp=Z,715nm,2.2s
TBLU *e*SKPdf **SKPdf** **21 29 27.8 +1.2**
TBLU *e*SS **SS** **21 46 24.4 +2.2**
MOS Moscow 135.12 334 *e*PKiKP **PKPdf** **21 26 09.0 -1.2**
MOS *e* 21 28 47.8
MOS *e* 21 32 57.7
MOS pmax pmax
comp=Z,155nm,1.8s
RAF Rauma 135.60 348 *e*P **PKPdf** **21 26 06.1 -4.8**
MOL Molde 135.66 358 *e*SKPdf **SKiKP** **21 29 30.2 -0.4**
MEF Metsahovi 135.78 346 *e*P **PKPdf** **21 26 07.2 -4.0**
OBN Obninsk 135.99 334 ⇑ P **PKPdf** **21 26 12.0 +0.2**
OBN Obninsk 135.99 334 PKP **PKPdf** **21 26 10.5 -1.2**
comp=Z,7.5nm,0.7s,baz=66,slow=1.5,SNR=7.0
OBN SKPbc **SKPbc** **21 29 26.6 +0.9**
comp=Z,5.0nm,0.8s,baz=232,slow=4.5,SNR=3.3
OBN SKKPbc **SKKPbc** **21 38 29.5 +1.8**
comp=Z,2.3nm,0.4s,baz=209,slow=10,SNR=3.8
OBN Obninsk 135.99 334*c* *i*PKiKP **PKPdf** **21 26 11.9 +0.1**
OBN *i* 21 27 09.1
OBN *i* 21 28 53.9
OBN 21 33 04.0
OBN SSS SSS 21 51 49.0
OBN pmax pmax
comp=Z,48nm,1.4s
OBN pmax pmax
comp=Z,142nm,1.4s
AKN Aaknes 136.07 359 *e*PKPdf **PKPdf** **21 26 11.8 0.0**
AKN *e*SKPdf **SKPab** **21 29 31.1 -0.2**
AKN *e*SS **SS** **21 46 38.6 +1.9**
VRH Novokhopyorsk 136.08 327 *e*PKiKP **PKPdf** **21 26 11.6 -0.5**
VRH *e**PP **pPKPdf** **21 27 08.3 +7.5**
VRH pmax pmax
comp=Z,50nm,1.2s
DOMB Dombas 136.13 357 *e*PKPdf **PKPdf** **21 26 04.9 -7.0**
DOMB *e*SKPdf **SKPdf** **21 29 29.8 +0.8**
DOMB *e* 21 31 07.1
DOMB *e*SP **SP** **21 39 00.1 +3.1**
DOMB *e*SS **SS** **21 46 43.0 +5.6**
MAK Makhachkala 136.44 314 *e*P **Pdif** **21 23 13.8 -5.5**
MAK *i* 21 26 13.9
MAK *e* 21 26 53.0
MAK *e*PPP PPP 21 31 55.0
MAK *e* 21 33 09.0
MAK pmax pmax
comp=Z,207nm,1.0s
LPSR Galich'ya Gora 136.62 330 *e*PKiKP **PKiKP** **21 26 14.0 -0.8**
LPSR pmax pmax
comp=Z,60nm,1.2s
FOO Floro 136.68 360 *e*PKPdf **PKiKP** **21 26 15.5 +0.8**
FOO *e*SKPdf **SKiKP** **21 29 32.9 +0.1**
FOO *e* 21 31 06.1
FOO *e*SS **SS** **21 46 47.0 +3.3**
VSU Vasula 136.74 343 *e*P **PKPdf** **21 26 06.9 -6.2**
SHMA Al-Shehemyia 136.81 289 P **PKiKP** **21 26 15.6 -0.4**
SMRA Abu-Samra 136.93 287 P **PKPdf** **21 26 14.9 +0.4**
NB2 NORSAR Subarra 137.00 355 PKP PKPpre 21 26 05.1
comp=Z,12nm,1.1s,baz=16,slow=3.2
NOA NORSAR Array B 137.00 355 PKhKP PKPpre 21 26 04.8
comp=Z,3.9nm,0.8s,baz=17,slow=2.4,SNR=11
NOA SKPbc **SKPbc** **21 29 29.6 +0.9**
comp=Z,9.4nm,1.0s,baz=6.3,slow=4.0,SNR=6.9
NOA SKKPbc **SKKPbc** **21 38 25.4 +1.0**
comp=Z,0.6nm,0.8s,baz=296,slow=10.0,SNR=1.9
VORR Voronezh 137.07 329 *e*PKHKP PKPpre 21 26 07.3
VORR pmax pmax
comp=Z,30nm,0.4s
SUE Sulen 137.22 0 *e*PKPdf **PKPdf** **21 26 12.6 -1.3**
SUE *e*SKPdf **SKiKP** **21 29 32.8 -1.2**
SUE *e*SS **SS** **21 46 53.5 +3.3**
MTSE Matsula 137.26 346 *e*P **PKPdf** **21 26 09.5 -4.5**
NC602 NORSAR Array S 137.28 355 *e*PKPdf **PKPdf** **21 26 12.5 -1.5**
NC602 *e*PKSdf **PKSdf** **21 29 50.9 +1.0**
NC602 *e* 21 31 11.1
NC602 *e*SS SS 21 46 54.5 +3.6
VSR Storozhevoye 137.37 328 *e*PKiKP **PKPdf** **21 26 13.3 -1.2**
VSR *e**PP **pPKPdf** **21 27 12.6 +9.4**
VSR pmax pmax
comp=Z,90nm,1.2s
GROC Groznyy 137.51 315 *e*PKiKP **PKPdf** **21 26 13.0 -2.0**
GROC *e* 21 27 00.5
GROC *e* 21 29 04.6
GROC pmax pmax
comp=Z,88nm,0.8s
SKAR Skarslia 137.53 358 *e*PKPdf **PKPdf** **21 26 11.3 -3.2**
SKAR IVmBBB 21 26 14.5
comp=Z,768nm,3.5s
SKAR *e*PP **PP** **21 29 02.5 +0.4**
SKAR *e*PKSdf **PKSdf** **21 29 55.1 +4.6**
SKAR *e*SS SS 21 46 57.0 +3.0
KONO Kongsberg 138.49 356*c* *i*PKiKP **PKiKP** **21 26 17.4 -1.1**
KONO pmax pmax
comp=Z,89nm,1.7s
KONO Kongsberg 138.49 356 *e*PKPdf **PKPdf** **21 26 12.4 -3.9**
KONO IVmBBB 21 26 14.4
comp=Z,1μm,4.0s
KONO *e*PP **PP** **21 29 09.0 +0.9**
KONO *e*PKSdf **PKSdf** **21 29 52.7 +0.6**
KONO *e* 21 31 14.6

KONO eSS SS 21 47 09.6 +4.3
GOF Gofitskoye 138.51 319⇑e PKIKP **PKPdf 21 26 17.7 +0.9**
GOF pmax pmax
comp=Z,95nm,1.0s
SLIT Slitere, Latvi 138.59 346 eP **PKPdf 21 26 11.5 -5.0**
GUDG Gudauri 138.69 314 **PKPdf 21 26 16.9 -0.6**
GUDG Gudauri 138.69 314 PKIKP **PKPdf 21 26 16.9 -0.6**
BLS5 Blasjo 138.84 359 ePKPdf **PKPdf 21 26 15.5 -1.5**
BLS5 IVmB_BB 21 26 19.1
comp=Z,2μm,2.5s
BLS5 ePP **PP 21 29 11.8 +1.6**
BLS5 eSS SS 21 47 12.8 +3.4
KBZ Khabaz 139.21 317 PKhKP PKPpre 21 26 10.3
comp=Z,6.1nm,0.8s,baz=183,slow=5.0,SNR=7.6
KBZ PP **PP 21 29 13.1 -0.4**
comp=Z,22nm,1.0s,baz=73,slow=9.7,SNR=6.2
KIV Kislovodsk 139.25 317⇑P **PKiKP 21 26 23.3 +2.7**
KIV Kislovodsk 139.25 317 eP **PKPdf 21 26 17.4 -0.9**
KIV Kislovodsk 139.25 317 *i* PKIKP **PKiKP 21 26 19.5 -1.1**
KIV *e* 21 29 12.1
KIV *e* 21 33 09.8
KIV pmax pmax
comp=Z,45nm,1.1s
KIV Kislovodsk 139.25 317 *i* PKPdf **PKPdf 21 26 17.2 -1.2**
SNR=6.3
ONI Oni 139.34 315 eP **PKPdf 21 26 15.2 -3.3**
ONI Oni 139.34 315 PKPdf **PKPdf 21 26 18.2 -0.3**
ONI Oni 139.34 315 PKIKP **PKPdf 21 26 18.2 -0.3**
GNI Garni 139.38 311 PKhKP PKPpre 21 26 12.0
comp=Z,12nm,0.8s,baz=287,slow=8.8,SNR=4.3
GNI Garni 139.38 311 eP **PKPdf 21 26 16.5 -2.3**
GNI Garni 139.38 311 PKPdf **PKPdf 21 26 18.3 -0.5**
GNI Garni 139.38 311 *d* PKIKP **PKiKP 21 26 21.0 -0.1**
GNI pmax pmax
comp=Z,180nm,1.7s
GNI Garni 139.38 311 PKPdf **PKPdf 21 26 17.8 -0.9**
ISAL Salakas 139.38 342 eP **PKPdf 21 26 12.3 -5.8**
IIGN Ignalina 139.54 341 eP **PKPdf 21 26 13.5 -4.8**
LSZ Lusaka 139.57 216 **PKPdf 21 26 18.3 -1.5**
LSZ Lusaka 139.57 216 PKIKP **PKPdf 21 26 18.3 -1.5**
VSVD Vaisvydziai 139.65 344 eP **PKPdf 21 26 12.8 -5.7**
MNK Minsk 139.72 339 *i* PKIKP **PKPdf 21 26 17.5 -1.2**
MNK *i* 21 27 04.5
MNK *i* 21 33 16.4
MNK *i* SS SS 21 47 21.0 +0.9
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,80nm,0.9s
MNK Minsk 139.72 339 *i* PKP **PKPdf 21 26 17.5 -1.2**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKPdf 21 26 17.5 -1.2**
MNK *i* PKP **PKPdf 21 26 17.5 -1.2**
comp=Z,80nm,0.9s,baz=35
MNK *i* PKiKP **PKiKP 21 26 20.4 -0.8**
MNK *i* pPKP **pPKPdf 21 27 04.6 -2.8**
MNK *i* sPKP 21 27 29.4
MNK *i* PP PP 21 29 02.7 -13
MNK *i* PPP PPP 21 31 13.0
MNK *i* SKS **SKSdf 21 33 16.5 +5.6**
MNK *i* SKKS 21 37 04.9
MNK *i* SPP SPP 21 44 54.5
MNK *i* PPS PPS 21 45 42.1
MNK *i* SS **SS 21 47 21.0 +0.9**
MNK *i* SSS SSS 21 52 55.4
NACGM Naroch 139.74 341⇑ *i* PKP **PKPdf 21 26 13.1 -5.6**
comp=Z,119nm,0.8s,baz=33
HOMB Homborsund 139.93 357 ePKPdf **PKPdf 21 26 11.1 -7.8**
HOMB ePKSdf **PKSdf 21 29 55.3 +0.7**
HOMB eSS SS 21 47 26.8 +4.8
PABE Paberze 140.06 343 PKPdf **PKPdf 21 26 19.9 +0.6**
PABE Paberze 140.06 343 eP **PKPdf 21 26 14.0 -5.2**
PBUR Paburge 140.13 345 eP **PKPdf 21 26 13.3 -6.1**
CLDR Caldiran 140.33 310 eP **PKPdf 21 26 16.4 -4.2**
OVD Ostervraa, Den 140.77 355 *i* P **PKPdf 21 26 20.8 +0.3**
TSUM Tsumeb 140.77 199 PKPdf **PKPdf 21 26 21.0 -0.9**
AGRB Hanur-Agry 140.84 311 eP **PKPdf 21 26 15.6 -5.9**
SENK Senkaya-Erzuru 140.92 313 eP **PKPdf 21 26 17.9 -3.7**
CUKT Cukurca 141.19 307 eP **PKPdf 21 26 15.8 -6.3**
LAWE Loch Awe, Argy 141.24 9 eP **PKPdf 21 26 17.2 -4.2**
INVG Invergeldie, C 141.27 8 eP **PKPdf 21 26 16.6 -4.9**
AKDM Akdamar-Van 141.30 309 eP **PKPdf 21 26 16.0 -6.3**
SOC Sochi 141.32 318*c* i PKIKP **PKPdf 21 26 20.4 -1.5**
SOC *e* 21 29 22.6
SOC ePPP PPP 21 32 32.0
SOC eSS SS 21 47 40.5 +0.5
SOC eSSS SSS 21 52 58.2
SOC pmax pmax
comp=Z,25nm,0.7s
SOC pmax pmax
comp=Z,45nm,0.9s
MLAZ Malazgirt-MUS 141.32 311 eP **PKPdf 21 26 17.4 -4.9**
MUD Monsted U'grnd 141.70 356 *i* P **PKPdf 21 26 20.8 -1.4**
RAYN Ar Rayn 141.79 285 PKPdf **PKPdf 21 26 22.2 -1.3**
RAYN Ar Rayn 141.79 285 PKIKP **PKPdf 21 26 22.2 -1.3**
RAYN Ar Rayn 141.79 285 *i* PKPdf **PKPdf 21 26 20.4 -3.1**
SNR=14
GURO Guroymak-BITLI 141.91 310 eP **PKPdf 21 26 16.9 -6.5**
GURO Guroymak-BITLI 141.91 310 PKPdf **PKPdf 21 26 23.1 -0.3**
ANN Anapa 142.07 321 *i* PKHKP PKPpre 21 26 17.9
ANN *e* 21 29 35.3
ANN pmax pmax
comp=E,31nm,0.9s
ANN pmax pmax
comp=Z,91nm,0.8s
ANN pmax pmax
comp=N,29nm,0.8s
VRTB Varto-Mus 142.10 311 eP **PKPdf 21 26 20.9 -2.8**
COP Copenhagen 142.17 353 *i* P **PKPdf 21 26 21.1 -2.0**
AKASG Malin Array Be 142.25 335 PKhKP PKPpre 21 26 18.1
comp=N,18nm,0.5s,baz=42,slow=4.7,SNR=51
AKASG SKKPbc SKKPbc 21 38 00.8 -2.4
comp=N,0.1nm,0.3s,baz=222,slow=4.9,SNR=6.4
AKBB Malin Array Si 142.25 335 PKPdf **PKPdf 21 26 21.9 -1.4**
AKBB Malin Array Si 142.25 335 PKIKP **PKPdf 21 26 22.0 -1.4**
BSD Bornholm Skovb 142.39 351 eP **PKPdf 21 26 19.4 -4.0**
BSD Bornholm Skovb 142.39 351 *i* P **PKPdf 21 26 18.4 -5.1**
KOPT Kop Dagi 142.43 313 PKPdf **PKPdf 21 26 22.1 -2.3**
SVAN Silvan-Diyarba 142.67 310 eP **PKPdf 21 26 21.1 -3.5**
BNGB Bingl 142.72 311 eP **PKPdf 21 26 21.8 -3.0**
ATD Arta Tunnel 142.78 265 PKP **PKPdf 21 26 23.6 -1.8**
comp=N,28nm,0.9s,baz=295,slow=4.7,SNR=18
KMBO Kilima Mbogo 142.82 242 PKP **PKPdf 21 26 24.1 -1.8**
comp=N,3.0nm,1.0s,baz=86,slow=22,SNR=54
KMBO Kilima Mbogo 142.82 242 PKPdf **PKPdf 21 26 23.6 -2.3**
KMBO Kilima Mbogo 142.82 242 P **PKPdf 21 26 23.9 -1.9**
KMBO Kilima Mbogo 142.82 242 eP **PKPdf 21 26 22.9 -2.9**
KMBO Kilima Mbogo 142.82 242 eP **PKPdf 21 26 23.6 -2.3**
KMBO Kilima Mbogo 142.82 242 ePKPdf 21 26 13.6 -12
KMBO Kilima Mbogo 142.82 242 *i* PKPdf **PKPdf 21 26 23.1 -2.8**
SNR=44
EDMD Edmundbyers 143.09 7 eP PKPab 21 26 20.6 0.0
ERZN Erzincan 143.16 313 eP PKPbc 21 26 22.6 -0.4
ESPY Espiye-Giresun 143.25 315 eP PKPab 21 26 21.3 -0.4
MARD Mardin 143.29 309 PKPdf PKPbc 21 26 23.5 0.0
MAZI Mazidag 143.48 309 eP PKPbc 21 26 23.9 -0.1
DYBB Diyarbakir 143.52 310 eP PKPbc 21 26 24.5 +0.5
GKP Gorka Klasztor 143.73 347 ePKPdf **PKPdf 21 26 25.6 -0.3**
GKP Gorka Klasztor 143.73 347 eP PKPbc 21 26 23.9 -0.1
SIM Simferopol' 143.90 324 *i* PKIKP PKPab 21 26 23.3 -0.8
SIM pmax pmax
comp=Z,148nm,1.0s
BEL Belsk 144.19 343 ePKPdf PKPbc 21 26 25.6 +0.2
WLF1 Llynfaes 144.26 10 eP **PKPab 21 26 25.0 -0.2**
ARPR Arapgir-MALATY 144.34 313 eP **PKPdf 21 26 28.2 +0.5**
PCED Cedros 144.42 48 ePKP **PKPdf 21 26 27.1 -0.5**
RSDY Resadiye-TOKAT 144.43 315 eP **PKPdf 21 26 27.8 +0.2**
CALA Caldeira 144.44 48 ePKP PKPbc 21 26 26.8 +0.1
YLL Llanberis 144.44 9 eP **PKPdf 21 26 26.8 -0.3**
PCAN Candelaria 144.65 48 ePKP **PKPab 21 26 26.1 -1.1**
PICO Pico 144.67 48 ePKP **PKPdf 21 26 28.8 +0.7**
URFA Urfa 144.68 310 eP **PKPab 21 26 23.5 -4.0**
PGRA Graciosa 144.75 47 ePKP **PKPab 21 26 27.3 -0.3**
STNC Stoke 144.77 7 eP **PKPab 21 26 26.3 -0.8**
PPNO Prainha do Nor 144.80 48 ePKP **PKPdf 21 26 28.9 +0.6**
FOEL Foel Wylfa 144.83 9 eP PKPbc 21 26 26.2 -1.2
PMAN Manadas 144.85 48 ePKP **PKPdf 21 26 28.9 +0.6**
SVSK Karacayir 144.88 315 eP **PKPdf 21 26 29.1 +0.8**
PID Ribeirinha 144.91 48 ePKP **PKPdf 21 26 28.9 +0.4**
KVT Kavak 144.93 317 eP **PKPdf 21 26 29.4 +0.9**
LVV L'vov 144.93 338 ePKIKP PKPbc 21 26 27.5 -0.3
LVV *e* 21 48 25.7
TOKT Tokat 144.99 316 eP **PKPdf 21 26 29.1 +0.5**
RUE Ruedersdorf 145.12 350 eP **PKPbc 21 26 25.5 -2.7**
DIKM Dikmen 145.13 319 eP **PKPab 21 26 29.6 +0.7**
DIKM Dikmen 145.13 319 eP **PKPab 21 26 29.8 +0.9**
DARE Darende-Malaty 145.17 312 eP **PKPab 21 26 29.9 +0.6**
ANKE Ethiopia-Afar 145.17 260 eP **PKPab 21 26 32.2 +1.8**
CWF Charnwood Fore 145.22 7 eP **PKPdf 21 26 27.3 -1.2**
KIS Kishinev 145.22 331 *j* PKP **PKPdf 21 26 28.0 -0.7**
comp=Z,620nm,1.4s
KIS ep PKP **pPKPdf 21 27 22.0 +4.6**
KIS LRM MLR 22 30 29.0
comp=Z,1μm,19.0s
KIS Kishinev 145.22 331 ⇓P **PKPdf 21 26 28.5 -0.2**
KIS Kishinev 145.22 331*d* i PKP2 **PKPdf 21 26 28.0 -0.7**
KIS *e* 21 33 19.0
KIS pmax pmax
comp=E,850nm,1.7s
KIS MLR MLR
comp=Z,1μm,19.0s
HLM1 Long Mynd 145.24 8 eP **PKPdf 21 26 28.6 0.0**
MILM Milestii Mici 145.28 331⇑P **PKPbc 21 26 28.9 0.0**
MILM Milestii Mici 145.28 331*d* i PKP2 **PKPdf 21 26 27.0 -1.8**
MILM pmax pmax
comp=Z,2μm,1.6s
WACR West Acre 145.41 5 eP **PKPdf 21 26 27.7 -1.1**
PAGU Agualva, Azore 145.43 47 ePKP **PKPdf 21 26 26.1 -3.2**
RSBS Rosebush, Pemb 145.50 11 eP **PKPdf 21 26 28.6 -0.4**
PSCM Serra do Cume 145.50 47 ePKP **PKiKP 21 26 32.1 -1.4**
IAS Iasi 145.65 332⇑P **PKPab 21 26 30.5 -0.1**
IAS Iasi 145.65 332⇑PKP2 **PKPab 21 26 30.5 -0.1**
MCH1 Michaelchurch 145.73 9 eP **PKPdf 21 26 29.4 0.0**
BZK Bozkurt 145.74 320⇓P **PKPdf 21 26 29.7 0.0**
BZK Bozkurt 145.74 320 eP **PKPdf 21 26 29.6 -0.1**
BZK Bozkurt 145.74 320 PKPdf **PKPdf 21 26 29.2 -0.6**
LEOM Leova 145.87 331⇓P **PKPdf 21 26 30.2 +0.4**
LEOM Leova 145.87 331⇓PKP2 **PKPdf 21 26 30.2 +0.4**
AAE Adis Abeba 145.90 259 eP **PKPab 21 26 34.1 +1.1**
AAE Adis Abeba 145.90 259 eP **PKiKP 21 26 34.5 -0.9**
AAE Adis Abeba 145.90 259 eP **PKPdf 21 26 29.5 -1.7**
MONM Monmouth 145.91 9 eP **PKPdf 21 26 30.1 +0.4**
OJC Ojcow 145.92 343 ePKPbc **PKPdf 21 26 28.2 -1.6**
OJC epPKPbc pPKPab 21 27 22.7 +3.8
OJC Ojcow 145.92 343 PKPdf **PKPdf 21 26 28.7 -1.1**
OJC Ojcow 145.92 343 PKIKP **PKPdf 21 26 28.7 -1.1**
FURI Furi 145.94 259 eP **PKiKP 21 26 34.6 -0.9**
FURI Furi 145.94 259 eP **PKiKP 21 26 34.7 -0.9**
FURI Furi 145.94 259 eP **PKPdf 21 26 29.5 -1.8**
VASR Vaslui 145.96 331⇑P **PKPbc 21 26 30.8 -0.2**
SARI SarD1z-Kayseri 145.99 313 eP **PKPbc 21 26 31.6 0.0**
KMRS Kahramanmaras 146.05 311 eP **PKPdf 21 26 30.8 +0.3**
STRD Stroud 146.06 8 eP **PKPbc 21 26 30.6 -0.5**
ELMS Elmsett, Ipswi 146.06 4 eP **PKPbc 21 26 30.9 -0.2**
TSSL Sulina 146.10 328⇑P **PKPbc 21 26 31.6 +0.2**
YOZ Yozgat 146.14 315 eP **PKPdf 21 26 30.7 0.0**
BNN Bunyan 146.17 314 eP **PKPdf 21 26 29.9 -0.9**
BNN Bunyan 146.17 314 PKPdf **PKPdf 21 26 29.6 -1.2**
KSP Ksiaz 146.22 347 ePKPbc **PKPdf 21 26 30.7 +0.4**
KSP epPKPbc pPKPab 21 27 24.4 +4.4
BUR08 Bucovina Ar. S 146.29 335 PKPdf **PKPdf 21 26 30.8 +0.1**
KOLS Kolonicke sedl 146.29 339 ePKP2 **PKPbc 21 26 31.6 -0.4**
KOLS Kolonicke sedl 146.29 339 ePKP **PKPbc 21 26 31.5 -0.4**
KOLS *e* 21 26 34.1
BURAR Bucovina Array 146.30 335⇑P **PKPdf 21 26 30.8 +0.1**
BURAR Bucovina Array 146.30 335 **PKPbc 21 26 32.3 +0.1**
BURAR Bucovina Array 146.30 335⇑PKIKP **PKPdf 21 26 30.8 +0.1**
BIR Birlad 146.31 331⇑P **PKPab 21 26 33.0 -0.2**
BIR Birlad 146.31 331⇑PKP2 **PKPab 21 26 33.0 -0.2**
CORM Corum 146.32 317 eP **PKPdf 21 26 30.5 -0.5**
SWN1 Swindon 146.37 8 eP **PKPbc 21 26 32.1 +0.1**
CLL Collm 146.37 351 **PKPbc 21 26 31.4 -0.7**
CLL Collm 146.37 351 *i* PKP2 **PKPbc 21 26 31.7 -0.4**
CLL pmax pmax
comp=Z,723nm,1.3s
CLL Collm 146.37 351 *i* PKPbc **PKPbc 21 26 31.7 -0.4**
comp=Z,723nm,1.3s
CLL *i* PKiKP **PKiKP 21 26 35.8 +0.9**
comp=Z,367nm,1.1s
CLL ePKPlp 21 26 41.0
comp=Z,2μm,20.1s
CLL epPKPdf pPKPab 21 27 26.0 +5.4
CLL *ex* x 21 27 52.0
CLL eP **PP 21 29 54.0 -1.5**
CLL *ex* x 21 30 36.0
CLL *es*SKPbc 21 31 30.0
CLL *e*SKKSacr 21 41 42.0
CLL *e*SKKSdf SKKSdf 21 42 18.0 -10
CLL eSS **SS 21 48 30.0 -6.2**
VLDR Vladesti 146.41 330⇑P **PKPbc 21 26 32.3 -0.1**
ILGA Ilgaz 146.43 319 PKPdf **PKPdf 21 26 30.2 -1.1**
BIZ Bicaz 146.47 333⇑P **PKPdf 21 26 31.1 +0.2**
VARL Varlezi 146.48 330⇑P **PKPbc 21 26 32.9 +0.4**
NIE Niedzica 146.50 342 ePKPbc **PKPbc 21 26 31.8 -0.8**
NIE epPKPbc pPKPab 21 27 26.9 +5.8
OSTC Ostas 146.50 347 ePKPDF **PKPdf 21 26 31.5 +0.7**
OSTC ⇑eP **PKPab 21 26 33.3 -0.6**
CHVC Chvalec 146.51 347⇑e PKP **PKPab 21 26 33.3 -0.6**
CHVC epPKP **sPKPdf 21 27 31.0 -7.7**
TLCR 146.54 329⇓P **PKPbc 21 26 32.6 -0.2**
TLCR 146.54 329⇓PKP2 **PKPbc 21 26 32.6 -0.2**
UZH Uzhgorod 146.55 339 ePKIKP **PKPdf 21 26 30.7 -0.2**
TESR Tescani 146.57 332⇑P **PKPdf 21 26 31.8 +0.8**
GHRR 146.57 331⇑P **PKPbc 21 26 33.2 +0.4**
SCTR Scanteiesti 146.58 330⇑P **PKPdf 21 26 31.8 +0.7**
CRVS Cervenica-Dubn 146.59 340 ePKIKP **PKPdf 21 26 31.5 +0.5**
CRVS *e* 21 26 33.5
CRVS Cervenica-Dubn 146.59 340 eP **PKPdf 21 26 31.5 +0.5**
CRVS *e* 21 26 33.5
UPC Upice 146.59 347 ePKIKP **PKPdf 21 26 31.5 +0.6**
UPC *e* 21 26 33.4
UPC Upice 146.59 347 ePKPDF **PKPdf 21 26 31.5 +0.6**
UPC ⇑eP **PKPbc 21 26 33.4 +0.6**
TATR Tatarca 146.61 330⇑P **PKPdf 21 26 31.9 +0.8**
GIUM Giurgiulesti 146.62 330⇓P **PKPab 21 26 33.8 -0.7**
BRG Berggiesshubel 146.64 350 *i* PKP **PKPdf 21 26 31.8 +0.7**
BRG Amp 21 26 32.9
comp=Z,28nm,1.3s
BRG *i x* x 21 26 33.6
BRG Amp 21 26 36.3
comp=Z,396nm,1.3s
BRG *ex* x 21 26 44.9
BRG Amp 21 26 45.8
comp=Z,92nm,1.3s
BRG pPKP pPKPab 21 27 27.3 +5.7
BRG Amp 21 27 34.0
comp=Z,154nm,1.3s
BRG PP **PP 21 29 56.9 -0.3**
BRG Amp 21 29 59.7
comp=Z,34nm,1.5s
BRG *ex* x 21 31 29.9
BRG Amp 21 31 36.7
comp=Z,30nm,1.4s
BRG *ex* x 21 35 51.2
BRG Amp 21 35 52.9
comp=Z,7.7nm,1.3s
BRG *ex* x 21 37 30.2
BRG Amp 21 37 31.9
comp=Z,14nm,1.5s
BRG Berggiesshubel 146.64 350 *i* PKP2 **PKPdf 21 26 31.7 +0.7**
BRG 21 29 56.8
BRG pmax pmax
comp=Z,28nm,1.3s
BRG pmax pmax
comp=Z,396nm,1.3s
BRG pmax pmax
comp=Z,92nm,1.3s
BRG pmax pmax
comp=Z,154nm,1.3s
BRG pmax pmax
comp=Z,34nm,1.5s
BRG pmax pmax
comp=Z,30nm,1.5s
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=Z,15nm,1.5s
BRG Berggiesshubel 146.64 350 SS SS 21 48 41.0 +1.7
DPC Dobruska-Polom 146.67 347 ePKIKP **PKPdf 21 26 31.6 +0.5**
DPC *e* 21 26 33.8
DPC *e* 21 27 31.5
DPC Dobruska-Polom 146.67 347 ePKPDF **PKPdf 21 26 31.6 +0.5**
DPC ⇑eP **PKPbc 21 26 33.8 +0.7**
DPC ep PKP **sPKPdf 21 27 31.5 -7.5**
CANT Cankiri 146.74 318 eP **PKPab 21 26 34.9 -0.3**
SLCR Slobozia Conac 146.75 330⇑P **PKPbc 21 26 32.4 -0.9**
IZVR Izvoarele 146.78 330⇓P **PKPbc 21 26 34.0 +0.6**
SCHL Schela 146.79 330⇓P **PKPbc 21 26 33.6 +0.1**
JURR Jurilovca 146.81 328⇑P **PKPbc 21 26 34.2 +0.7**
KOZT Kozan 146.82 312 eP **PKPdf 21 26 32.0 +0.2**
KRLC Kraliky 146.83 346 ePKIKP **PKPdf 21 26 31.7 +0.3**
KRLC *e* 21 26 33.8
KRLC Kraliky 146.83 346 ePKPDF **PKPdf 21 26 31.7 +0.3**
KRLC ⇑eP **PKPbc 21 26 33.8 +0.3**
PANC Panciu 146.83 331⇓P **PKPbc 21 26 33.9 +0.4**
PVCC Panska Ves 146.86 349 ePKIKP **PKPdf 21 26 32.1 +0.7**
PVCC *e* 21 26 34.1
PVCC Panska Ves 146.86 349 ePKPDF **PKPdf 21 26 32.1 +0.7**
PVCC ⇑eP **PKPbc 21 26 34.1 +0.6**
CFR Carcaliu 146.88 329⇑P **PKPdf 21 26 31.7 +0.2**
CFR Carcaliu 146.88 329⇑PKIKP **PKPdf 21 26 31.7 +0.2**
PSET Sete Cidades 146.88 48 ePKP **PKPbc 21 26 33.1 -0.9**
TRPA Tarpa 146.89 338⇑P **PKPbc 21 26 33.5 -0.2**
TRPA Tarpa 146.89 338 PKP **PKPdf 21 26 31.5 +0.1**
MORC Moravsky Berou 146.92 345⇑P **PKPbc 21 26 32.8 -1.0**
MORC Moravsky Berou 146.92 345 PKPdf **PKPdf 21 26 30.7 -0.9**
MORC Moravsky Berou 146.92 345 ePKP **PKPdf 21 26 31.7 +0.1**
MORC *e* 21 27 23.6
MORC Moravsky Berou 146.92 345⇑PKP2 **PKPbc 21 26 32.8 -1.0**
BMR Baia Mare 146.92 337⇑P **PKPbc 21 26 33.3 -0.5**
BMR Baia Mare 146.92 337⇑PKP2 **PKPbc 21 26 33.3 -0.5**
ODBI Odobesti 146.95 331⇑P **PKPbc 21 26 34.4 +0.5**
TPGR Topolog 146.97 329⇓P **PKPbc 21 26 34.1 +0.1**
LANS Liptovska Anna 146.98 342 ePKP2 **PKPbc 21 26 32.9 -1.1**
LANS Liptovska Anna 146.98 342 ePKP **PKPbc 21 26 32.9 -1.1**
LANS *e* 21 26 35.4
VRI Vrincioaia 147.03 331⇑P **PKPdf 21 26 32.2 +0.4**
VRI Vrincioaia 147.03 331 eP **PKPbc 21 26 34.5 +0.3**
VRI Vrincioaia 147.03 331⇑PKIKP **PKPdf 21 26 32.2 +0.4**
TAHT Tahtakopru-Hat 147.04 310 eP **PKPab 21 26 35.5 -1.0**
PLOR Plostina 147.07 332⇑P **PKPbc 21 26 33.7 -0.6**
PLOR Plostina 147.07 332⇑PKP2 **PKPbc 21 26 33.7 -0.6**
ARCR ARCALIA 147.08 335⇓P **PKPbc 21 26 34.3 +0.1**
CEYT Ceyhan 147.09 311 eP **PKPab 21 26 35.7 -0.9**
DYA Yadsworthy 147.10 10 eP **PKPdf 21 26 32.8 +1.0**
PGRON Lagoa das Cont 147.15 47 ePKP **PKPdf 21 26 30.1 -2.2**
BR131 Keskin Array S 147.21 317 PKPdf **PKPdf 21 26 31.3 -1.2**
BR131 Keskin Array S 147.21 317 PKIKP **PKPdf 21 26 31.3 -1.2**
BRTR Keskin Array B 147.21 317 PKPbc **PKPbc 21 26 35.3 +0.3**
comp=Z,159nm,0.9s,baz=135,slow=2.6,SNR=115
BRTR Keskin Array B 147.21 317 eP **PKPdf 21 26 32.1 -0.4**
BRTR Keskin Array B 147.21 317 PKPdf **PKPdf 21 26 31.8 -0.7**
BRTR Keskin Array B 147.21 317 PKIKP **PKPdf 21 26 31.8 -0.7**
MAUC Maruska 147.23 344 ePKPDF **PKPdf 21 26 32.7 +0.6**
MAUC ⇑eP **PKPbc 21 26 35.1 +0.5**
TIRR Tirgusor 147.26 328⇑P **PKPbc 21 26 34.5 -0.3**
TIRR Tirgusor 147.26 328 eP **PKPbc 21 26 35.3 +0.5**
TIRR Tirgusor 147.26 328 PKPdf **PKPdf 21 26 31.6 -0.6**
TIRR Tirgusor 147.26 328 PKIKP **PKPdf 21 26 31.6 -0.6**
OZUR 147.27 333⇑P **PKPbc 21 26 34.9 +0.1**
KECS Kecovo 147.27 341 ePKP2 **PKPab 21 26 37.5 +0.6**
KECS Kecovo 147.27 341 ePKP **PKPab 21 26 37.5 +0.6**
COVR Voineasa-Covas 147.28 332⇑P **PKPdf 21 26 33.3 +1.0**
GRER 147.28 331⇓P **PKiKP 21 26 36.4 -0.6**
CMRD Camardi-Nigde 147.33 313 eP **PKPbc 21 26 36.1 +0.7**
HARR Harsova 147.33 329⇓P **PKPbc 21 26 35.4 +0.4**
HARR Harsova 147.33 329⇓PKP2 **PKPbc 21 26 35.4 +0.4**
KAMT Kaman 147.35 316 eP **PKPdf 21 26 33.2 +0.5**
PRU Pruhonice 147.38 348 ePKIKP **PKPdf 21 26 32.7 +0.4**
PRU *e* 21 26 35.5
PRU *e* 21 27 34.8
PRU Pruhonice 147.38 348 ePKPDF **PKPdf 21 26 32.7 +0.4**
PRU ⇑eP **PKPbc 21 26 35.5 +0.5**
PRU ep PKP **sPKPdf 21 27 34.8 -5.3**
GOPC GO Pecny, Ondr 147.41 348 ePKIKP **PKPdf 21 26 32.7 +0.4**
GOPC *e* 21 26 34.6
GOPC *e* 21 27 34.6
GOPC GO Pecny, Ondr 147.41 348 ePKPDF **PKPdf 21 26 32.7 +0.4**
GOPC ⇑eP **PKPbc 21 26 34.6 -0.5**
GOPC ep PKP **sPKPdf 21 27 34.6 -5.6**
EFOR EFORIE 147.41 327⇓P **PKiKP 21 26 36.7 -0.6**
TGMR Targu Mures 147.46 334⇑P **PKiKP 21 26 36.7 -0.6**
KARA Karaisali 147.47 312 eP **PKPbc 21 26 34.8 -0.8**
NKC Novy Kostel 147.50 351 ePKIKP **PKPdf 21 26 33.0 +0.5**
NKC *e* 21 26 34.9
NKC Novy Kostel 147.50 351 ePKPDF **PKPdf 21 26 33.0 +0.5**
NKC ⇑eP **PKPbc 21 26 34.9 -0.4**
GULA Gulagac 147.52 314 eP **PKPbc 21 26 35.4 -0.5**
DOPR Dopca 147.54 333⇑P **PKPdf 21 26 33.1 +0.4**
VRAC Vranov 147.59 346⇑P **PKPdf 21 26 32.2 -0.5**
VRAC Vranov 147.59 346 ePKP **PKPdf 21 26 32.6 -0.1**
VRAC *e* 21 27 24.5
VRAC Vranov 147.59 346⇑PKIKP **PKPdf 21 26 32.2 -0.5**
MANR Mangalia 147.62 327⇑P **PKiKP 21 26 36.9 -0.8**
PGOR Pogoanele 147.63 330⇓P **PKiKP 21 26 36.9 -0.8**
CBBR Cluj-Babes-Bol 147.65 336⇓P **PKPbc 21 26 36.2 +0.4**
MLR Muntele Rosu 147.67 332⇑P **PKPdf 21 26 33.5 +0.4**
MLR Muntele Rosu 147.67 332 PKPbc **PKPbc 21 26 36.1 0.0**
comp=Z,172nm,1.0s,baz=351,slow=2.6,SNR=9.0
MLR Muntele Rosu 147.67 332 eP **PKPdf 21 26 32.3 -0.8**
MLR Muntele Rosu 147.67 332 PKPdf **PKPdf 21 26 32.0 -1.0**
MLR Muntele Rosu 147.67 332 PKIKP **PKPdf 21 26 32.1 -1.0**
SERE Sereflikochisa 147.67 316 eP **PKPbc 21 26 36.0 +0.5**
KDZE Karadeniz Ereo 147.67 321⇑P **PKiKP 21 26 38.3 +0.4**
KDZE Karadeniz Ereo 147.67 321 eP **PKPdf 21 26 34.5 +1.5**
ANTO Ankara 147.67 318⇓P **PKPdf 21 26 33.1 -0.1**
ANTO Ankara 147.67 318 eP **PKPbc 21 26 35.1 -1.1**
ANTO Ankara 147.67 318 PKPdf **PKPdf 21 26 32.6 -0.6**
ANTO Ankara 147.67 318⇓PKIKP **PKPdf 21 26 33.1 -0.1**
ANTO Ankara 147.67 318 P **PKPdf 21 26 33.7 +0.5**
ISR Istrita 147.68 331⇑P **PKPbc 21 26 34.7 -1.3**
ISR Istrita 147.68 331⇑PKP2 **PKPbc 21 26 34.7 -1.3**
AMRR Amara 147.68 329⇓P **PKPbc 21 26 36.6 +0.7**
AMRR Amara 147.68 329⇓PKP2 **PKPbc 21 26 36.6 +0.7**
CJR Cluj-Napoca 147.68 336⇓P **PKPbc 21 26 35.3 -0.7**
CJR Cluj-Napoca 147.68 336⇓PKP2 **PKPbc 21 26 35.3 -0.7**
MEM Membach 147.68 359 *d*PKP **PKPbc 21 26 34.9 -0.9**
MEM *dp*PKP **pPKPab 21 27 28.8 +3.2**
LOD Lodumlu 147.68 318 eP **PKPdf 21 26 33.9 +0.7**
BR1321 Keskin MP Arra 147.70 318 **PKPdf 21 26 33.3 0.0**
BTNL Ternell 147.70 359 *d*PKPdf **PKPdf 21 26 33.1 +0.3**
BTNL *dp*PKP **pPKPab 21 27 29.5 +3.8**
BSTI Sart Tilman 147.71 359 *d*PKP **PKPbc 21 26 35.0 -0.8**
BSTI *dp*PKP **pPKPab 21 27 31.7 +6.0**
PSMN Pico do Norte, 147.72 48 ePKP **PKPdf 21 26 33.5 +0.3**
JAVC Velka Javorina 147.74 344 ePKP **PKPdf 21 26 33.6 +0.6**
JAVC *e* 21 27 25.6
LTVH Ltavrtes, Hu 147.75 338⇓P **PKiKP 21 26 36.9 -0.9**
LTVH Ltavrtes, Hu 147.75 338 PKP **PKPbc 21 26 36.7 +0.7**
VYHS Vyhne 147.75 343 ePKIKP **PKPdf 21 26 33.6 +0.6**
VYHS *e* 21 26 36.9
VYHS Vyhne 147.75 343 ePKP **PKPdf 21 26 33.6 +0.6**
VYHS *e* 21 26 36.9
ICOR Ion Corvin 147.81 328⇑P **PKPbc 21 26 36.3 0.0**
TREC Trest 147.85 347 ePKIKP **PKPdf 21 26 33.5 +0.4**
TREC *e* 21 26 35.6
TREC Trest 147.85 347 ePKPDF **PKPdf 21 26 33.5 +0.4**
TREC ⇑eP **PKPbc 21 26 35.6 -0.7**
KRUC Moravsky 147.86 346 ePKP **PKPdf 21 26 33.0 -0.1**
KRUC *e* 21 27 24.9
BCLA Clavier 147.88 360 *d*PKP **PKPdf 21 26 34.2 +1.2**
BCLA *dp*PKP **pPKPab 21 27 31.4 +4.9**
BCLA *ds*PKP 21 27 53.2
BGES Gesves 147.92 360 *d*PKP **PKPdf 21 26 34.7 +1.6**
BGES *dp*PKP **pPKPab 21 27 30.0 +3.5**
PSN Preselentsi 147.93 327 *i* P **PKiKP 21 26 37.6 -0.7**
BHOU Houvegnez 147.94 359 *d*PKP **PKPbc 21 26 35.5 -1.0**
BHOU *dp*PKP **pPKPab 21 27 30.3 +3.6**
PSZ Piszkesteto 147.95 341⇑P **PKPdf 21 26 34.2 +0.8**
PSZ Piszkesteto 147.95 341 PKPdf **PKPdf 21 26 32.6 -0.8**
PSZ Piszkesteto 147.95 341⇑PKIKP **PKPdf 21 26 34.2 +0.8**
PSZ Piszkesteto 147.95 341 PKP **PKPdf 21 26 34.7 +1.3**
DRGR 147.96 337⇓P **PKPdf 21 26 33.2 -0.2**
DRGR 147.96 337⇓PKIKP **PKPdf 21 26 33.2 -0.2**
SECR 147.96 331⇓P **P

RASA	Rasa	148.06 329	⇑P	PKPdf	21 26 34.5	+0.9	
PLAR	PLOIESTI	148.07 331	⇑P	PKPbc	21 26 36.2	-0.7	
YUVA	Yuva-Kibriscik	148.07 319	eP	PKPdf	21 26 34.1	+0.2	
SULT	Sultanhani-AKS	148.09 314	eP	PKPbc	21 26 37.4	+0.1	
VOIR		148.10 333	⇓P	PKPdf	21 26 33.8	+0.1	
VOIR		148.10 333	⇓PKIKP	PKPdf	21 26 33.8	+0.1	
SMOL	Smolenice	148.12 344	ePKIKP	PKPdf	21 26 34.6	+1.1	
SMOL			e		21 26 38.1		
SULR		148.14 331	⇑P	PKPbc	21 26 35.7	-1.4	
RCHB	Rochefort	148.15 360	dPKPdf	PKPdf	21 26 32.3	-1.2	
RCHB			dPKP	PKPbc	21 26 37.0	+0.1	
RCHB			dpPKP	pPKPab	21 27 31.7	+4.3	
RCHB			dsPKP		21 27 46.2		
GRA1	Grafenberg Arr	148.20 352		PKPdf	21 26 32.8	-0.9	
GRF	Grafenberg Arr	148.20 352	PKIKP	PKPdf	21 26 32.8	-0.9	
GRFO	Grafenberg	148.20 352	PKPdf	PKPdf	21 26 32.8	-0.8	
GRFO	Grafenberg	148.20 352	PKIKP	PKPdf	21 26 32.8	-0.8	
DOU	Dourbes	148.21 0	dPKP	PKPdf	21 26 33.8	+0.2	
DOU			dpPKP	pPKPab	21 27 32.2	+4.5	
MTUR	Matau	148.26 332	⇑P	PKPbc	21 26 37.7	+0.1	
MTUR	Matau	148.26 332	⇑PKP2	PKPbc	21 26 37.7	+0.1	
MODS	Modra-Piesok	148.29 344	ePKIKP	PKPdf	21 26 34.3	+0.4	
MODS			e		21 26 38.5		
MODS	Modra-Piesok	148.29 344	ePKP	PKPdf	21 26 34.2	+0.4	
MODS			e		21 26 38.5		
CHBY	Cihanbeyli	148.31 316	eP	PKPbc	21 26 38.2	+0.3	
MDUB	Mudurnu	148.32 320	eP	PKPdf	21 26 35.6	+1.3	
MDUB	Mudurnu	148.32 320	PKPdf	PKPdf	21 26 32.4	-1.9	
ARR	Arges	148.34 333	⇑P	PKPdf	21 26 34.3	+0.2	
BSZH	Besenyszg	148.38 340	⇓P	PKPbc	21 26 36.9	-0.7	
BSZH	Besenyszg	148.38 340	PKP	PKiKP	21 26 39.0	-0.2	
KHC	Kasperske Hory	148.38 349		PKPdf	21 26 33.1	-0.9	
KHC	Kasperske Hory	148.38 349	ePKIKP	PKPdf	21 26 34.1	+0.1	
KHC			e		21 26 38.1		
KHC			e		21 27 37.4		
KHC	Kasperske Hory	148.38 349	ePKPDF	PKPdf	21 26 34.1	+0.1	
KHC			⇑ePKP	PKPbc	21 26 38.1	+0.4	
KHC			epPKP	sPKPdf	21 27 37.4	-4.5	
BHL	Bhannes	148.42 306	eP	PKPdf	21 26 34.3	-0.3	
MBAR	Mbarara	148.45 236	eP	PKPbc	21 26 38.0	-1.1	
MBAR	Mbarara	148.45 236	eP	PKPbc	21 26 38.2	-0.9	
MBAR	Mbarara	148.45 236	eP	PKPbc	21 26 37.5	-1.6	
KIZK	Mersin	148.48 311	eP	PKPbc	21 26 38.8	+0.5	
ZST	Bratislava	148.50 344	ePKIKP	PKPdf	21 26 35.7	+1.6	
ZST			e		21 26 38.6		
ZST	Bratislava	148.50 344	ePKP	PKPdf	21 26 35.7	+1.6	
ZST			e		21 26 38.6		
BUC1	Bucharest	148.50 330	⇑P	PKPbc	21 26 37.4	-0.7	
BUC1	Bucharest	148.50 330	⇑PKP2	PKPbc	21 26 37.4	-0.7	
AUMIH	MIHALICIK	148.50 319	eP	PKPbc	21 26 38.8	+0.4	
SRO	Srobarova	148.52 343	ePKP2	PKiKP	21 26 38.8	-0.6	
SRO	Srobarova	148.52 343	ePKP	PKiKP	21 26 38.8	-0.6	
CKRC	Cesky Krumlov	148.54 348	ePKPDF	PKPdf	21 26 34.6	+0.4	
CKRC			⇑ePKP	PKPbc	21 26 38.7	+0.6	
JVM	Valle D.L. Mar	148.56 9	eP	PKPbc	21 26 36.7	-1.3	
SHBL	Chebaa	148.56 305	eP	PKPdf	21 26 35.1	+0.2	
JSA	Saint Aubin	148.59 9	eP	PKPdf	21 26 36.1	+1.9	
BUD	Budapest	148.61 341	PKP	PKPbc	21 26 38.4	+0.2	
WLF	Walferdange	148.62 358	PKPdf	PKPdf	21 26 34.4	+0.1	
WLF	Walferdange	148.62 358	PKIKP	PKPdf	21 26 34.4	+0.1	
WLF	Walferdange	148.62 358	dPKP	PKiKP	21 26 39.0	-0.6	
WLF			dpPKP	pPKPab	21 27 32.2	+2.8	
GEC2	GERESS Array S	148.63 349	PKPdf	PKPdf	21 26 33.5	-1.0	
GERES	GERESS Array B	148.63 349	PKPbc	PKPbc	21 26 38.4	0.0	
	comp=Z,17nm,0.7s,baz=253,slow=1.4,SNR=44						
GERES	GERESS Array B	148.63 349	PKPdf	PKPdf	21 26 33.7	-0.8	
DEV	Deva	148.64 335	⇑P	PKPbc	21 26 36.6	-1.8	
DEV	Deva	148.64 335	⇑PKIKP	PKPbc	21 26 36.6	-1.8	
LOT	Lotru	148.64 334	⇑P	PKPdf	21 26 35.1	+0.4	
LOT	Lotru	148.64 334	eP	PKPdf	21 26 36.3	+1.7	
PRD	Provadia	148.67 327	i P	PKPbc	21 26 37.8	-0.7	
SILI	Silifke-Mersin	148.69 311	eP	PKPbc	21 26 38.9	+0.1	
SAUV	Serdivan-Sakar	148.69 321	eP	PKPdf	21 26 36.3	+1.6	
AUSIV	SIVRIHISAR	148.71 318	eP	PKPdf	21 26 35.6	+0.7	
SVRH	Sivrihisar-ESK	148.72 318	eP	PKPdf	21 26 34.7	-0.2	
GULT	Gulveren	148.76 320	eP	PKPdf	21 26 36.5	+1.6	
KRMN	Karaman	148.77 313	eP	PKPbc	21 26 38.9	-0.3	
SIRR	Siria	148.79 337	⇑P	PKPdf	21 26 35.5	+0.8	
KEBE	Keben-Mersin	148.80 311	eP	PKPbc	21 26 37.6	-1.6	
KIZT	Kizilcal	148.81 317	eP	PKPbc	21 26 39.7	+0.5	
RAZG	Razgrad	148.85 329	⇓P	PKPbc	21 26 37.0	-2.0	
LADK	Ladik-KONYA	148.86 315	eP	PKPdf	21 26 35.1	-0.1	
EREN	Erenkoy	148.88 309	eP	PKiKP	21 26 40.1	-0.5	
IKL	Isikli	148.92 311	eP	PKPbc	21 26 39.7	+0.3	
CSKK	Cskako	148.94 342	PKP	PKPdf	21 26 35.3	+0.4	
MMAI	Mount Meron Ar	148.94 304	PKPbc	PKiKP	21 26 40.4	-0.5	
	comp=Z,113nm,0.6s,baz=76,slow=7.0,SNR=122						
KONT	Konya--Tatoy	149.00 315	eP	PKPdf	21 26 36.5	+1.2	
TEVE	Tevekalti-Mers	149.00 312	eP	PKPdf	21 26 37.1	+1.7	
HRT	Hereke	149.03 322	eP	PKPbc	21 26 39.8	+0.2	
COPA	Copaceanca	149.04 331	⇓P	PKPbc	21 26 39.4	0.0	
AKKU	Akkuyu-Mersin	149.05 311	eP	PKPbc	21 26 39.9	+0.2	
CONA	Conrad Observa	149.05 346	i P	PKPdf	21 26 35.1	-0.1	
	comp=Z,57nm,1.4s,SNR=104						
CONA			eP	PKiKP	21 26 40.5	-0.2	
	comp=Z,491nm,1.2s						
CONA			eP	pPKPab	21 27 34.9	+3.6	
	comp=Z,144nm,1.5s						
CIFT	Cifteler, Eski	149.06 318	eP	PKPdf	21 26 35.0	-0.5	
GZR	Gura Zlata	149.09 335	⇑P	PKPdf	21 26 35.4	+0.1	
GZR	Gura Zlata	149.09 335	⇑PKIKP	PKPdf	21 26 35.4	+0.1	
SOP	Sopron	149.11 345	PKP	PKPdf	21 26 36.2	+1.1	
KLYT	Kilyos	149.11 323	eP	PKPbc	21 26 37.6	-2.1	
MMLI	Mount Malkishu	149.13 303	eP	PKPbc	21 26 38.0	-2.1	
BORA	Eskisehir	149.13 320	eP	PKPdf	21 26 35.3	-0.3	
BORA	Eskisehir	149.13 320	PKPdf	PKPdf	21 26 33.7	-1.9	
BORA			PKPbc	PKPbc	21 26 39.9	-0.1	
EGYH	Egyhazaskeszo	149.15 343	PKP	PKPdf	21 26 36.7	+1.5	
RONA	Rosalia, Austr	149.16 345	i P	PKPdf	21 26 35.2	-0.1	
	comp=Z,47nm,1.4s,SNR=68						
RONA			eP	PKiKP	21 26 40.7	-0.1	
	comp=Z,358nm,1.2s						
BERE	Bereket-Mersin	149.20 312	eP	PKPbc	21 26 40.7	+0.4	
ISK	Istanbul-Kandi	149.22 323	eP	PKPbc	21 26 40.1	+0.1	
KAVV	Kandilli-Istan	149.22 323	eP	PKPdf	21 26 36.7	+1.2	
ADVT	Abdulvahap	149.23 321	eP	PKPbc	21 26 40.3	+0.3	
CAVI	Cavuskoy	149.31 321	eP	PKPbc	21 26 40.7	+0.4	
BGKT	Bogazkoy	149.31 323	eP	PKPdf	21 26 37.1	+1.4	
MPLH	Magyarpolny	149.32 343	PKP	PKPdf	21 26 35.9	+0.4	
STU	Stuttgart	149.33 354		PKPdf	21 26 34.9	-0.6	
STU			PKPbc	PKiKP	21 26 41.5	+0.4	
STU	Stuttgart	149.33 354	PKP2	PKiKP	21 26 41.5	+0.4	
ZIMR		149.33 330	⇑P	PKPbc	21 26 40.7	+0.5	
ZIMR		149.33 330	⇑PKP2	PKPbc	21 26 40.7	+0.5	
BZS	Buzias	149.35 337	⇑P	PKPdf	21 26 36.0	+0.4	
BZS	Buzias	149.35 337	eP	PKPdf	21 26 35.4	-0.2	
BZS	Buzias	149.35 337	⇑PKHKP	PKPdf	21 26 36.0	+0.4	
SZH	Strazhica	149.35 329	i P	PKPbc	21 26 40.4	+0.1	
TEKE	Tekeli-Mersin	149.37 311	eP	PKPdf	21 26 36.9	+1.0	
AUBOZ	BOZOYUK	149.38 320	eP	PKPbc	21 26 39.9	-0.6	
GHAJ	Ghor Haditha	149.38 301	PKPdf	PKPdf	21 26 35.9	-0.1	
GHAJ			PKPbc	PKiKP	21 26 41.6	-0.1	
CTYL	Yalikoy Yolu	149.39 324	eP	PKPbc	21 26 38.9	-1.5	
TIM	Timisoara	149.40 337	⇑P	PKPbc	21 26 39.9	-0.3	
TIM	Timisoara	149.40 337	⇑PKP2	PKPbc	21 26 39.9	-0.3	
HDMB	Hadim	149.41 313	eP	PKiKP	21 26 41.5	-0.4	
CTKS	Kestanelik-??a	149.43 324	eP	PKPdf	21 26 38.0	+2.2	
LFK	Lefkose	149.46 310	eP	PKPbc	21 26 41.2	+0.3	
TIH	Tihany	149.47 342	PKP	PKPbc	21 26 38.3	-2.1	
MOA	Molln	149.48 348	i P	PKPdf	21 26 35.8	0.0	
	comp=Z,28nm,1.3s,SNR=81						
MOA			eP	PKiKP	21 26 41.0	-0.5	
	comp=Z,160nm,1.1s						
MOA			i P	pPKPab	21 27 34.3	+1.3	
	comp=Z,68nm,1.4s						
SRE	Strehaia	149.51 334	⇑P	PKPbc	21 26 38.4	-2.2	
SRE	Strehaia	149.51 334	⇑PKHKP	PKPbc	21 26 38.4	-2.2	
VLAD	Vladila	149.52 332	⇓P	PKPbc	21 26 40.5	-0.1	
GEMT	Gemlik	149.55 322	eP	PKPdf	21 26 37.6	+1.5	
SLVT	Silivri	149.60 324	eP	PKPdf	21 26 36.7	+0.6	
JMB	Yambol	149.61 327	i P	PKPdf	21 26 36.5	+0.4	
HERR	Herculane	149.66 335	⇓P	PKPdf	21 26 36.6	+0.4	
ARMT	Armutlu	149.66 322	eP	PKPdf	21 26 36.7	+0.4	
PVL	Pavlikeni	149.68 330	i P	PKiKP	21 26 42.5	+0.5	
RMGR	Halanga-Turnu	149.72 334	⇑P	PKPbc	21 26 39.7	-1.4	
BANR	Banloc	149.73 337	⇓P	PKiKP	21 26 42.1	+0.1	
BIOA	Bad Ischl, Aus	149.75 348	i P	PKPdf	21 26 36.1	-0.1	
	comp=Z,35nm,1.4s,SNR=42						
BIOA			eP	PKPbc	21 26 40.8	-0.3	
	comp=Z,178nm,1.1s						
BIOA			i P	pPKPab	21 26 35.8	+1.7	
	comp=Z,124nm,1.3s						
ARSA	Arzberg	149.77 346	i P	PKPdf	21 26 35.9	-0.4	
	comp=Z,29nm,1.4s,SNR=36						
ARSA			eP	PKPbc	21 26 41.1	-0.1	
	comp=Z,164nm,1.4s						
MDNY	Mudanya-Bursa	149.78 322	eP	PKPbc	21 26 38.9	-2.5	
DJES	Djerdap	149.79 335	⇓P	PKPdf	21 26 33.9	-2.5	
BFO	Black Forest	149.84 355	PKPdf	PKPdf	21 26 35.9	-0.5	
BFO			PKPbc	PKPbc	21 26 41.7	+0.3	
BFO	Black Forest	149.84 355	PKHKP	PKPdf	21 26 35.9	-0.5	
BFO					21 26 41.7		
SHUT	Suhut-Afyon	149.85 317	eP	PKPdf	21 26 36.8	0.0	
MORH	Mrgy, Hungar	149.86 341	⇑P	PKPdf	21 26 36.9	+0.6	
MORH	Mrgy, Hungar	149.86 341	PKP	PKPdf	21 26 36.2	-0.2	
GAZI	Gazipasa	149.89 312	eP	PKPbc	21 26 41.4	-0.4	
CRLT	Corlu	149.93 324	eP	PKPbc	21 26 39.5	-2.2	
PUNG	Punghina	149.94 334	⇓P	PKPbc	21 26 40.8	-0.9	
BAIL	Bailesti	149.97 333	⇓P	PKPbc	21 26 39.7	-2.0	
EDRB	Edirne	149.97 326	eP	PKPdf	21 26 35.8	-0.9	
LEF	Lefka	150.00 310	eP	PKPdf	21 26 38.0	+1.0	
TVSB	Tavsanli	150.00 320	eP	PKPdf	21 26 35.8	-1.2	
MDVR	Moldovita	150.02 336	⇑P	PKPdf	21 26 37.7	+0.9	
KOVH	Kovagotottos	150.14 341	PKP	PKPdf	21 26 36.8	0.0	
GEDZ	Gediz	150.28 319	eP	PKPbc	21 26 40.7	-2.1	
ISP	Isparta	150.28 316	eP	PKPbc	21 26 42.6	-0.2	
ISP	Isparta	150.28 316		PKPbc	21 26 42.2	-0.7	
ISP	Isparta	150.28 316	PKIKP	PKPbc	21 26 42.2	-0.7	
MPEP	Malo Peshtene	150.32 332	i P	PKPdf	21 26 38.9	+1.7	
EIL	Elat	150.36 298	PKP	PKPdf	21 26 37.5	-0.1	
	comp=Z,27nm,1.1s,baz=120,slow=1.8,SNR=10.0						
EIL			PKPbc	PKiKP	21 26 43.7	-0.1	
	comp=Z,315nm,0.9s,baz=64,slow=3.4,SNR=60						
MRMT	Marmara Adasi	150.36 324	eP	PKPbc	21 26 42.9	0.0	
EDC	Edincik	150.38 323	eP	PKPdf	21 26 38.0	+0.6	
KBA	Koelnbreinsper	150.40 348	i P	PKPdf	21 26 37.0	-0.4	
	comp=Z,33nm,1.4s,SNR=25						
KBA			eP	PKPbc	21 26 43.0	+0.1	
	comp=Z,164nm,1.0s						
KBA			i P	pPKPab	21 27 38.9	+2.0	
	comp=Z,40nm,0.9s						
FRGS	Fruska Gora	150.40 338	⇓P	PKPdf	21 26 38.1	+0.8	
FRGS	Fruska Gora	150.40 338	eP	PKPdf	21 26 36.6	-0.7	
SOKA	Soboth	150.42 346	i P	PKPdf	21 26 36.8	-0.6	
	comp=Z,40nm,1.3s,SNR=32						
SOKA			eP	PKPbc	21 26 43.0	+0.2	
	comp=Z,245nm,1.3s						
SOKA			eP	pPKPab	21 27 37.6	+0.8	
	comp=Z,80nm,1.3s						
RETA	Reutte	150.42 352	i P	PKPdf	21 26 37.5	+0.1	
	comp=Z,29nm,1.4s,SNR=39						
RETA			i P	PKPbc	21 26 42.6	-0.2	
	comp=Z,194nm,1.1s						
RETA			eP	pPKPab	21 27 38.0	+1.2	
	comp=Z,98nm,1.2s						
PERS	Pernice	150.44 346	ePKPdf	PKPdf	21 26 36.5	-0.9	
BCK	Bucak	150.44 316	eP	PKPbc	21 26 42.8	-0.4	
DIM	Dimitrovgrad	150.45 328	i P	PKPbc	21 26 42.7	-0.2	
WATA	Walderalm	150.46 351	i P	PKPdf	21 26 37.5	0.0	
	comp=Z,45nm,1.4s,SNR=27						
WATA			eP	PKPbc	21 26 42.5	-0.5	
	comp=Z,297nm,1.2s						
WATA			eP	pPKPab	21 27 38.0	+0.9	
	comp=Z,79nm,1.0s						
MOTA	Moosalm	150.52 351	i P	PKPdf	21 26 37.7	+0.1	
	comp=Z,63nm,1.2s,SNR=35						
MOTA			eP	PKiKP	21 26 43.5	-0.3	
	comp=Z,345nm,1.2s						
WTTA	Wattenberg	150.52 351	i P	PKPdf	21 26 37.9	+0.2	
	comp=Z,61nm,1.3s,SNR=47						
WTTA			eP	PKPbc	21 26 42.6	-0.5	
	comp=Z,277nm,0.9s						
WTTA			eP	pPKPab	21 27 38.2	+0.8	
	comp=Z,130nm,1.1s						
UKOP	Uzunkopru-Edir	150.54 325	eP	PKiKP	21 26 43.5	-0.3	
BASM	Basmaki-Afyon	150.54 317	eP	PKPbc	21 26 43.5	+0.1	
RKY	Sarkoy-Tekirda	150.54 324	eP	PKPbc	21 26 40.7	-2.6	
KALN	Kalnik	150.57 344	i P	PKPdf	21 26 36.4	-1.2	
BLKB	Belogradchik	150.57 333	⇑P	PKPdf	21 26 37.1	-0.5	
SQTA	Sankt Quirin	150.62 351	i P	PKPdf	21 26 38.0	+0.3	
	comp=Z,48nm,1.3s,SNR=25						
SQTA			i P	PKiKP	21 26 43.8	-0.1	
	comp=Z,311nm,1.3s						
SQTA			eP	pPKPab	21 27 38.6	+0.8	
	comp=Z,86nm,1.1s						
LOBO	Lobor	150.65 344	i P	PKPdf	21 26 37.0	-0.6	
OBKA	Obir	150.69 346	eP	PKPdf	21 26 37.9	+0.1	
OBKA	Obir	150.69 346	i P	PKPdf	21 26 38.1	+0.3	
	comp=Z,20nm,1.4s,SNR=21						
OBKA			eP	PKPbc	21 26 43.3	-0.2	
	comp=Z,100nm,1.4s						
DAVA	Damuels	150.73 353	i P	PKPdf	21 26 38.1	+0.1	
	comp=Z,53nm,1.8s,SNR=28						
DAVA			eP	PKiKP	21 26 44.2	0.0	
	comp=Z,372nm,1.3s						
PGB	Panagyurishte	150.75 330	i P	PKPbc	21 26 43.8	+0.1	
MYKA	Terra Mystica	150.77 348	i P	PKPdf	21 26 37.0	-0.9	
	comp=Z,30nm,1.3s,SNR=22						
MYKA			eP	PKPbc	21 26 43.4	-0.3	
	comp=Z,135nm,0.9s						
MYKA			i P	pPKPab	21 27 37.9	-0.4	
	comp=Z,59nm,1.1s						
KDZ	Kurdzhali	150.80 327	eP	PKPdf	21 26 39.8	+1.8	
A252A	Venje	150.80 341	i P	PKPdf	21 26 36.8	-1.1	
PLD	Plovdiv	150.82 329	eP	PKPdf	21 26 38.9	+0.9	
PLD	Plovdiv	150.82 329	i P	PKPbc	21 26 43.5	-0.3	
ABTA	Abfaltersbach	150.87 349	i P	PKPdf	21 26 37.4	-0.7	
	comp=Z,78nm,1.2s,SNR=67						
ABTA			eP	PKPbc	21 26 43.9	0.0	
	comp=Z,255nm,0.9s						
ABTA			eP	pPKPab	21 27 38.5	-0.2	
	comp=Z,93nm,1.1s						
FETA	Feichten	150.88 352	i P	PKPdf	21 26 38.2	0.0	
	comp=Z,67nm,1.1s,SNR=46						
FETA			eP	PKiKP	21 26 44.7	+0.1	
	comp=Z,319nm,1.3s						
FETA			eP	pPKPab	21 27 37.9	-1.0	
	comp=Z,158nm,1.3s						
PTJ	Puntijarka	150.91 344	P	PKPdf	21 26 37.6	-0.5	
MOSL	Moslavina	150.97 343	i P	PKPdf	21 26 37.5	-0.6	
BOVS	Bovan	150.97 334	⇑P	PKPdf	21 26 37.7	-0.5	
ZAG	Zagreb	150.98 344	P	PKPdf	21 26 38.4	+0.2	
ALN	Alexandroupoli	151.01 326	eP	PKPdf	21 26 38.5	+0.2	
TEKS	Tekeris	151.03 338	eP	PKPbc	21 26 43.1	-1.2	
LEGS	Legarje	151.03 345	ePKPdf	PKPdf	21 26 38.0	-0.2	
CLUD	Cludinico	151.09 349	PKPdf	PKPdf	21 26 37.2	-1.1	
CLUD			PKPbc	PKiKP	21 26 44.9	+0.1	
RDO	Rodhopi	151.11 327	eP	PKPdf	21 26 37.9	-0.6	
RDO	Rodhopi	151.11 327		PKPdf	21 26 37.2	-1.2	
RDO			PKPbc	PKPbc	21 26 44.4	-0.1	
VTS	Vitosha	151.13 331	⇑P	PKPdf	21 26 35.7	-3.0	
VTS	Vitosha	151.13 331	eP	PKPdf	21 26 36.2	-2.5	
VTS	Vitosha	151.13 331	⇑PKIKP	PKPdf	21 26 35.7	-3.0	
VTS	Vitosha	151.13 331	i P	PKiKP	21 26 45.3	+0.1	
GELI	Tayfur-Gelibol	151.13 324	eP	PKPdf	21 26 38.5	0.0	
RZN	Rozhen	151.13 328	i P	PKPdf	21 26 38.4	-0.4	
LJU	Ljubljana	151.13 346	i PKPdf	PKPdf	21 26 38.3	-0.1	
LJU			i PKPbc	PKiKP	21 26 46.0	+1.1	
LJU			i		21 26 49.5		
LJU			i		21 27 38.6		
MANT	Manisa	151.15 319		PKPdf	21 26 38.9	-0.1	
MANT			PKPbc	PKPbc	21 26 44.5	-0.5	
CRNS	Crni Vrh	151.16 346	ePKPdf	PKPdf	21 26 37.8	-0.6	
CRNS			i		21 26 44.2		
CRNS			i PKPbc	PKiKP	21 26 45.7	+0.7	
DIVS	Divibare	151.25 337	PKPdf	PKPdf	21 26 38.1	-0.7	
DIVS	Divibare	151.25 337	eP	PKPdf	21 26 38.5	-0.2	
APMY	Acipayam-Deniz	151.28 317	eP	PKPdf	21 26 40.7	+1.7	
ELL	Elmali	151.29 315	eP	PKPdf	21 26 41.1	+2.0	
ELL	Elmali	151.29 315	PKPdf	PKPdf	21 26 38.1	-1.0	
ELL			PKPbc	PKPbc	21 26 45.1	-0.1	
ELL	Elmali	151.29 315	PKIKP	PKPdf	21 26 38.1	-1.0	
ELL					21 26 45.2		
STAL	STALIGIAL	151.31 349		PKPdf	21 26 37.8	-0.9	
CIMO	Cimolais	151.31 349	PKPdf	PKPdf	21 26 37.5	-1.2	
OZLJ	Ozalj	151.31 344	i P	PKPdf	21 26 37.9	-0.7	
SABO	M.te Sabotino	151.40 347	PKPdf	PKPdf	21 26 37.9	-0.9	
CEY	Cerknica	151.45 346	eP	PKPdf	21 26 38.3	-0.6	
BOJS	Bojanci	151.47 345	eP	PKPdf	21 26 38.7	-0.2	
A051A	Mrakovica	151.47 342	eP	PKPdf	21 26 38.1	-0.9	
CAME	Cameli-Denizli	151.58 316	eP	PKiKP	21 26 46.2	-0.1	
GADA	Gvkgeada	151.59 325	eP	PKPdf	21 26 41.5	+2.3	
EZN	Ezine	151.60 324	eP	PKPdf	21 26 41.1	+1.8	
BLY	Banja Luka	151.63 341	eP	PKPdf	21 26 39.0	-0.2	
MMB	Musomiste	151.69 329	i P	PKiKP	21 26 46.3	+0.1	
BOZC	Bozcaada	151.75 324	eP	PKPdf	21 26 39.3	-0.2	
AKAS	Kas	151.77 314	eP	PKPbc	21 26 45.2	-1.2	
AKAS	Kas	151.77 314		PKPdf	21 26 40.1	+0.3	
AKAS			PKPbc	PKPbc	21 26 45.2	-1.2	
DKL	Dikili	151.78 322	eP	PKPdf	21 26 40.2	+0.7	
KKB	Krupnik	151.78 330	i P	PKPbc	21 26 46.1	0.0	
RUDO	Rudo	151.90 337	eP	PKPbc	21 26 45.5	-0.7	
AYDB	Zeytinkoy-Aydi	151.90 319	eP	PKPdf	21 26 40.7	+0.7	
FETY	Fethiye	151.90 316	eP	PKPdf	21 26 41.1	+1.2	
A250A	Rusevo Krmpots	151.95 345	i P	PKPdf	21 26 39.8	+0.1	
PLIT	Plitvice	151.95 344	i P	PKPdf	21 26 37.4	-2.3	
MGRS	Mrkonjic Grad	151.96 341	⇑P	PKPbc	21 26 46.6	-0.1	
A253A	Karojba, Istri	152.01 347	i P	PKPdf	21 26 39.3	-0.5	
A050A	Klekovaca	152.06 342	eP	PKPdf	21 26 39.4	-0.5	
DALY	Dalyan (Mula)	152.08 316	eP	PKPdf	21 26 41.5	+1.4	
YER	Yerkesik	152.14 317	eP	PKPdf	21 26 41.9	+1.6	
BLCB	Balcova	152.14 321	eP	PKPdf	21 26 40.7	+0.6	
SMRN	Sveta Marina	152.17 346	i P	PKPdf	21 26 39.0	-1.0	
UDBI	Udbina	152.24 343	i P	PKPdf	21 26 39.2	-1.0	
SRKY	Kupres RS	152.25 341	eP	PKPbc	21 26 46.9	-0.2	
SIGR	SIGRI	152.29 323	eP	PKPdf	21 26 39.3	-1.0	
RABC	Rab	152.29 345	i P	PKPdf	21 26 40.5	+0.4	
TURN	Turunc	152.37 317	eP	PKPdf	21 26 40.2	-0.3	
BRJN	Brijuni	152.39 346	i P	PKPdf	21 26 39.1	-1.2	
KNT	Kendrikon	152.42 330	eP	PKPdf	21 26 39.8	-0.7	
URLA	Izmir	152.43 321	eP	PKPdf	21 26 41.5	+0.9	
NVLJ	Novalja	152.44 344	i P	PKPdf	21 26 39.8	-0.6	
SKO	Skopje	152.44 333	i P	PKPdf	21 26 39.4	-1.1	
VAY	Valandovo	152.45 330	i P	PKPdf	21 26 39.3	-1.2	
GCAM	G?zelcami?	152.46 319	eP	PKPdf	21 26 44.3	-3.4	
KJJV	Kijevo	152.54 342	i P	PKPdf	21 26 39.4	-1.2	
VIRC	Vir	152.65 344	i P	PKPdf	21 26 39.3	-1.4	
HORT	Hortiatis	152.75 329	eP	PKPdf	21 26 39.3	-1.8	
ARG	Arkhangelos	152.77 316	eP	PKPbc	21 26 46.4	-2.0	
ARG	Arkhangelos	152.77 316		PKiKP	21 26 48.6	0.0	
ARG	Arkhangelos	152.77 316	PKIKP	PKiKP	21 26 48.6	0.0	
RICI	Ricice	152.77 340	i P	PKPdf	21 26 39.8	-1.1	
GRG	Griva	152.81 330	eP	PKPdf	21 26 41.1	0.0	
BRY	Bratogost	152.82 338	eP	PKPdf	21 26 41.4	+0.2	
MORI	Morici	152.87 343	i P	PKPdf	21 26 39.6	-1.4	
DUGI	Dugi Otok	152.93 344	i P	PKPdf	21 26 40.3	-0.8	
PDG	Podgorica	152.96 336	⇓P	PKPdf	21 26 41.2	+0.1	
PDG	Podgorica	152.96 336	eP	PKPdf	21 26 40.9	-0.3	
PAIG	Paliouri	152.96 327	eP	PKPdf	21 26

EMAL	**Malaga-Limoner**	**159.79**	**22**	Pdif	**PKPdf**	21 26 49.3	**-1.0**
CEU	**Ceuta**	**160.19**	**25**	Pdif	**PKPdf**	21 26 50.4	**-0.3**
PVLZ	**Peæn de**	**161.24**	**24**	Pdif	**PKPdf**	21 26 48.6	**-3.2**
PALE	**Palemas**	**161.34**	**23**	P	**PKPdf**	21 26 53.5	**+1.4**
WMELI	**Melilla**	**161.60**	**21**	Pdif	**PKPdf**	21 26 52.9	**+0.7**
ZHG	**ZHG**	**161.65**	**32**	P	**PKPdf**	21 26 55.0	**+2.5**
SRHM	**Skhour des Reh**	**161.72**	**37**	P	**PKPdf**	21 26 55.0	**+2.5**
CHAS	**Isla Isabel II**	**161.90**	**20**	Pdif	**PKPdf**	21 26 50.8	**-1.8**
AKLM	**AKL**	**162.00**	**24**	P	**PKPdf**	21 26 54.0	**+1.2**
KEST	**Kesra**	**162.12**	**348**	PKP	**PKPdf**	21 26 53.0	**+0.2**
	comp=Z,16nm,1.0s,baz=287,slow=3.4,SNR=8.8						
KEST				PKPab	**PKPab**	21 27 40.0	**-0.3**
	comp=Z,16nm,1.0s,baz=293,slow=1.5,SNR=5.4						
IFR	**Ifrane**	**162.32**	**29**	Pdif	**PKPdf**	21 26 54.6	**+1.3**
JBK	**JBK**	**162.63**	**21**	P	**PKPdf**	21 26 55.0	**+1.4**
OUK	**Oukaimeden**	**162.66**	**39**	P	**PKPdf**	21 26 57.0	**+3.1**
TTIG	**Tnine Tigouga,**	**162.75**	**42**	P	**PKPdf**	21 26 57.0	**+3.2**
MDT	**Midelt**	**163.14**	**29**	P	**PKPdf**	21 26 55.5	**+1.5**
LIC	**Lamto**	**164.63**	**140**	⇑*i*PKIKP	**PKPdf**	21 26 57.1	**+1.3**
	comp=Z,61nm,0.7s						
KIC	**Kosan Boka**	**164.91**	**140**	⇑*i*PKIKP	**PKPdf**	21 26 57.3	**+1.3**
	comp=Z,13nm,0.7s						
TIC	**Toumodi**	**164.96**	**139**	⇑*i*PKIKP	**PKPdf**	21 26 57.4	**+1.3**
	comp=Z,28nm,0.5s						
FIGM	**Figuig**	**165.08**	**21**	P	**PKPdf**	21 26 58.0	**+2.2**
DBIC	**Dimbokro**	**165.09**	**139**	PKP	**PKPdf**	21 26 56.2	**0.0**
	comp=Z,14nm,0.8s,baz=196,slow=1.8,SNR=13						
DBIC	**Dimbokro**	**165.09**	**139**	PKPdf	**PKPdf**	21 26 55.6	**-0.5**
DBIC					**PKPab**	21 27 52.0	**-1.8**
DBIC	**Dimbokro**	**165.09**	**139**	PKIKP	**PKPdf**	21 26 55.6	**-0.5**
DBIC						21 27 52.0	
KOWA	**Kowa**	**170.67**	**112**		**PKPdf**	21 26 58.5	**-1.4**
KOWA				pPKPdf	**pPKPdf**	21 27 52.4	**+3.3**
KOWA				PKPab	**PKPab**	21 28 17.5	**-1.3**
KOWA				pPKPab	**pPKPab**	21 29 08.6	**+2.9**
TOA0	**Torodi Ar. Sit**	**174.08**	**148**		**PKPdf**	21 26 59.7	**-1.7**
TOA0				pPKPdf	**pPKPdf**	21 27 53.3	**+2.8**
TOA0				PKPab	**PKPab**	21 28 34.4	**+0.8**
TOA0				pPKPab	**pPKPab**	21 29 22.6	**+2.1**
TORD	**Torodi Ar. Bea**	**174.08**	**148**	PKP	**PKPdf**	21 26 60.0	**-1.5**
	comp=Z,30nm,1.1s,baz=323,slow=0.7,SNR=70						
TORD				PKPab	**PKPab**	21 28 34.0	**+0.4**
	comp=Z,15nm,0.7s,baz=225,slow=2.2,SNR=10						
TORD				PP	**PP**	21 32 29.3	**+4.5**
	comp=Z,23nm,1.1s,baz=174,slow=4.2,SNR=8.0						

NEIC 24 21:11:30.6±2.7, 64°.3S±0°.1×173°.0E±0°.4, h10km±2km, mb4.8/9, Error ellipse: s-maj=27.6km s-min=21.0km az=273.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.74**	**190**	Pn	Pn	21 14 47.3	+2.1
SBA	**Scott Base**	**13.77**	**186**	Pn	Pn	21 14 47.6	+2.1
ODZ	**Otahua Downs**	**19.32**	**355**	P	P	21 15 55.4	-0.2
MQZ	**McQueen's Vall**	**20.62**	**359**	P	P	21 16 09.5	-0.2
MQZ				IAmb	IAmb	21 16 19.4	
	comp=Z,76nm,1.4s						
RPZ	**Rata Peaks**	**20.64**	**356**	P	P	21 16 08.7	-1.2
CASY	**Casey**	**25.25**	**237**	P	P	21 16 57.0	+0.7
CASY				IAmb	IAmb	21 17 02.6	
	comp=Z,15nm,1.0s						
QSPA	**South Pole Qui**	**25.81**	**180**	P	P	21 17 01.1	-0.5
QSPA				IAmb	IAmb	21 17 09.0	
	comp=Z,26nm,1.2s						
BELA	**Belgrano 2**	**37.09**	**171**	P	P	21 18 39.8	-0.4
BELA				IAmb	IAmb	21 18 47.5	
	comp=Z,21nm,1.4s						
MAW	**Mawson**	**39.33**	**215**	P	P	21 18 58.1	-1.1
SNAA	**Sanae**	**44.28**	**182**	P	P	21 19 38.1	-1.7
AC02	**Maricunga**	**77.19**	**126**			21 23 25.7	+0.8
AC02				IAmb	IAmb	21 23 30.5	
	comp=Z,10nm,1.1s						

*BJI **24** 21:28:39.5±0.0, 19°.70S×178°.30W, h590km, mb6.2/75, mB6.6/74*

*MOS **24** 21:28:40.7±0.7, 19°.76S×178°.29W, h601km, mb6.3/23, Error ellipse: s-maj=7.0km s-min=6.5km az=87.9*

*IDC **24** 21:28:41.2±0.4, 19°.80S×178°.28W, h592km±3km, mb5.7/44, mbtmp6.6/49, Error ellipse: s-maj=6.9km s-min=6.0km az=28.0*

*NEIC **24** 21:28:41.7±1.7, 19°.78S±0°.08×178°.24W±0°.09, h596km±3km, mb6.3/341, Mwb6.9/78, Mwc6.9/92, Mww6.9, Error ellipse: s-maj=12.2km s-min=11.9km az=124.0*

*NOU **24** 21:28:41.5, 19°.84S×178°.13W, h598km, ML6.4/159, Fiji Islands Region*

*NEIC **24** 21:28:41.6, 19°.82S×178°.25W, h600km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}=0.21; $M_{\theta\theta}$=0.26; $M_{\phi\phi}$=-0.04; $M_{r\theta}$=-2.51; $M_{\theta\phi}$=-0.46; $M_{\phi r}$=1.74; Fault plane solution: $M_0$3.10000×10^{19} NP1:ϕ_s236.54000°, δ89.83000°, λ95.94000°. NP2:ϕ_s328.20000°, δ5.94000°, λ1.67000°. Principal axes: T 2.8309, Plg45.0000°, Azm152.0000°; N 0.4794, Plg6.0000°, Azm57.0000°; P -3.3103, Plg45.0000°, Azm321.0000°;*

*NEIC **24** 21:28:47, 19°.84S×177°.95W, h600km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.12; $M_{\theta\theta}$=0.33; $M_{\phi\phi}$=-0.21; $M_{r\theta}$=2.63; $M_{\theta\phi}$=0.56; $M_{\phi r}$=1.71; Fault plane solution: $M_0$3.21000×10^{19} NP1: ϕ_s334.00000°, δ9.00000°, λ5.00000°. NP2:ϕ_s239.00000°, δ89.00000°, λ99.00000°. Principal axes: T 2.9596, Plg45.0000°, Azm158.0000°; N 0.4465, Plg9.0000°, Azm59.0000°; P -3.4061, Plg43.0000°, Azm320.0000°;*

*GCMT **24** 21:28:47.7±0.1, 19°.77S±0°.01×178°.15W±0°.01, h607km, MW6.9/175, Moment Tensor Solution. s175,c467; s169,c369; Duration: 7s0 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.12±.01; $M_{\theta\theta}$=-0.03±.01; $M_{\phi\phi}$=-0.09±.01; $M_{r\theta}$=-2.39±.01; $M_{\theta\phi}$=-0.58±.01; $M_{\phi r}$=1.74±.01; Best double couple: $M_0$2.98600×10^{19} NP1:ϕ_s235.00000°, δ87.00000°, λ94.00000°. NP2:ϕ_s4.00000°, δ5.00000°, λ39.00000°. Principal axes: T 2.7470, Plg48.0000°, Azm149.0000°; N 0.4780, Plg4.0000°, Azm54.0000°; P -3.2250, Plg41.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

*NEIC **24** 21:28:59.9, 19°.76S×178°.27W, h605km, Moment Tensor Solution. Duration: 15s9 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.09; $M_{\theta\theta}$=0.06; $M_{\phi\phi}$=0.02; $M_{r\theta}$=-2.34; $M_{\theta\phi}$=-0.34; $M_{\phi r}$=1.81; Fault plane solution: $M_0$2.97000×10^{19} NP1: ϕ_s346.77000°, δ2.32000°, λ24.15000°. NP2:ϕ_s232.64000°, δ89.05000°, λ92.12000°. Principal axes: T 2.7823, Plg46.0000°, Azm145.0000°; N 0.3719, Plg2.0000°, Azm53.0000°; P -3.1541, Plg44.0000°, Azm321.0000°;*

ISC 24 21:28:41.5±0.2, 19°.85S±0°.02×178°.28W±0°.02, h602km±1km, h603km: pP-P, n2539, σ1s62/3272, mb6.3/292, 203C-160D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.69**	**342**	P	**P**	21 29 56.0	**+1.1**
TAVE	**Taveuni**	**3.49**	**333**	P	**P**	21 30 05.0	**+1.2**
MSVF	**Nonsavu**	**4.07**	**301**	P	**P**	21 30 08.6	**+0.9**
	14µm,0.8s,baz=148,slow=5.3,SNR=3403						
MSVF				S	**S**	21 31 22.1	**+4.2**
	2µm,0.9s,baz=170,slow=19,SNR=0.5						
MSVF	**Nonsavu**	**4.07**	**301**	P	**P**	21 30 08.8	**+1.1**
MSVF	**Nonsavu**	**4.07**	**301**	P	**P**	21 30 08.8	**+1.1**
MSVF	**Nonsavu**	**4.07**	**301**	P	**P**	21 30 10.1	**+2.4**
MSVF	**Nonsavu**	**4.07**	**301**	⇑P	**P**	21 30 08.8	**+1.1**
FUTU	**Fugatoga**	**5.51**	**2**	P	**P**	21 30 19.2	**+0.5**
NIUE	**Niue**	**7.91**	**86**	P	**P**	21 30 38.5	**-1.5**
	baz=7.8						
NIUE				S	**S**	21 32 14.7	**-2.5**
	baz=7.8						
NIUE	**Niue**	**7.91**	**86**	P	**P**	21 30 38.2	**-1.8**
NIUE	**Niue**	**7.91**	**86**	P	**P**	21 30 39.1	**-1.0**
NIUE	**Niue**	**7.91**	**86**	⇓P	**P**	21 30 38.4	**-1.7**
AFI	**Afiamalu**	**8.58**	**47**	P	**P**	21 30 44.6	**-1.9**
	5µm,0.4s,baz=186,slow=1.3,SNR=272						
AFI				S	**S**	21 32 24.1	**-4.9**
	22µm,0.8s,baz=25,slow=21,SNR=19						
AFI	**Afiamalu**	**8.58**	**47**	P	**P**	21 30 43.1	**-3.5**
AFI	**Afiamalu**	**8.58**	**47**	P	**P**	21 30 44.4	**-2.2**
AFI	**Afiamalu**	**8.58**	**47**	⇑P	**P**	21 30 43.1	**-3.5**
AFI				⇑S	**S**	21 32 25.5	**-3.6**
RIZ	**Raoul Island**	**9.36**	**178**	P	**P**	21 30 53.5	**-0.3**
RIZ				S	**S**	21 32 42.6	**+0.1**
RAO	**Raoul Island**	**9.37**	**178**	P	**P**	21 30 53.1	**-0.8**
	5µm,0.4s,baz=72,slow=7.2,SNR=61						
RAO				S	**S**	21 32 41.5	**-1.1**
	16µm,0.6s,baz=78,slow=21,SNR=15						
RAO	**Raoul Island**	**9.37**	**178**	P	**P**	21 30 52.3	**-1.6**
RAO	**Raoul Island**	**9.37**	**178**	P	**P**	21 30 53.0	**-0.8**
RAO	**Raoul Island**	**9.37**	**178**	⇑P	**P**	21 30 52.4	**-1.5**
RAO				⇑S	**S**	21 32 38.9	**-3.7**
GLKZ	**Green Lake**	**9.38**	**178**	P	**P**	21 30 53.5	**-0.5**
GLKZ				S	**S**	21 32 37.3	**-5.4**
FUNA	**Funafuti**	**11.52**	**347**	P	**P**	21 31 13.9	**-1.6**
FUNA	**Funafuti**	**11.52**	**347**	P	**P**	21 31 14.8	**-0.7**
FUNA	**Funafuti**	**11.52**	**347**	⇑P	**P**	21 31 14.1	**-1.5**
RTV	**Rentapao**	**12.76**	**277**	P	**P**	21 31 29.8	**+1.9**
MARNC	**Mare, Loyalty**	**12.92**	**260**	P	**P**	21 31 28.3	**-1.1**
MARNC	**Mare, Loyalty**	**12.92**	**260**	P	**P**	21 31 30.3	**+0.8**
MARNC	**Mare, Loyalty**	**12.92**	**260**	⇑P	**P**	21 31 28.7	**-0.8**
DVP	**Devils Point**	**12.99**	**277**	P	**P**	21 31 31.9	**+1.6**
PINNC	**Pines Island,**	**13.60**	**256**	P	**P**	21 31 36.1	**-0.2**
LIFNC	**LIFOU**	**13.62**	**264**	P	**P**	21 31 35.3	**-1.3**
LIFNC	**LIFOU**	**13.62**	**264**	P	**P**	21 31 36.5	**-0.1**
YATNC	**Mamie plateau,**	**14.03**	**258**	P	**P**	21 31 41.4	**+0.8**
DZM	**Mont Dzumac**	**14.45**	**259**	*e*P	**P**	21 31 43.5	**-1.1**
	2µm,1.3s						
DZM				*e*S	**S**	21 34 15.4	**+1.2**
	3µm,1.3s						
DZM	**Mont Dzumac**	**14.45**	**259**	P	**P**	21 31 44.7	**0.0**
	571nm,0.5s,baz=88,slow=14,SNR=261						
DZM				S	**S**	21 34 16.4	**+2.2**
	811nm,1.1s,baz=127,slow=22,SNR=6.7						
DZM				ScP	**ScP**	21 38 54.5	**+2.9**
	185nm,1.1s,baz=33,slow=20,SNR=6.3						
DZM	**Mont Dzumac**	**14.45**	**259**	P	**P**	21 31 44.2	**-0.4**
DZM	**Mont Dzumac**	**14.45**	**259**	P	**P**	21 31 47.2	**+2.6**
DZM	**Mont Dzumac**	**14.45**	**259**	⇓P	**P**	21 31 44.6	**0.0**
ONTNC	**Ouen Toro**	**14.46**	**258**	P	**P**	21 31 44.6	**-0.1**
ONTNC	**Ouen Toro**	**14.46**	**258**	P	**P**	21 31 45.3	**+0.6**
ONTNC	**Ouen Toro**	**14.46**	**258**	⇓P	**P**	21 31 44.8	**+0.2**
ONTNC				⇓P	P	21 31 44.9	+0.2
NOUC	**Port Laguerre**	**14.58**	**258**	P	**P**	21 31 47.1	**+1.4**
NFK	**Norfolk Island**	**15.52**	**231**	P	**P**	21 31 56.2	**+1.9**
	baz=16						
NFK	**Norfolk Island**	**15.52**	**231**	P	**P**	21 31 57.9	**+3.6**
NFK	**Norfolk Island**	**15.52**	**231**	⇑P	**P**	21 31 57.4	**+3.1**
KOUNC	**Koumac, New Ca**	**16.39**	**265**	P	**P**	21 32 04.2	**+1.9**
KOUNC	**Koumac, New Ca**	**16.39**	**265**	P	**P**	21 32 05.4	**+3.1**
KOUNC	**Koumac, New Ca**	**16.39**	**265**	⇓P	**P**	21 32 04.0	**+1.7**
OUZ	**Omahuta**	**16.91**	**203**	P	**P**	21 32 09.4	**+2.6**
OUZ	**Omahuta**	**16.91**	**203**	P	**P**	21 32 10.1	**+3.2**
OUZ	**Omahuta**	**16.91**	**203**	⇓P	**P**	21 32 09.5	**+2.6**
OUZ				⇑S	**ScP**	21 38 59.3	**+3.4**
RAR	**Rarotonga**	**17.39**	**98**	P	**P**	21 32 11.3	**-0.2**
	799nm,0.9s,baz=246,slow=7.5,SNR=58						
RAR	**Rarotonga**	**17.39**	**98**	P	**P**	21 32 11.2	**-0.2**
RAR	**Rarotonga**	**17.39**	**98**	⇑P	**P**	21 32 11.2	**-0.2**
MXZ	**Matakaoa Point**	**17.90**	**189**	P	**P**	21 32 15.1	**-0.8**
MXZ	**Matakaoa Point**	**17.90**	**189**	P	**P**	21 32 15.4	**-0.5**
WIZ	**White Island**	**18.05**	**192**	P	**P**	21 32 19.4	**+2.2**
WMGZ	**Waiomatatini S**	**18.14**	**188**	P	**P**	21 32 17.8	**-0.2**
WMGZ				S	**S**	21 35 10.7	**-3.1**
HAZ	**Te Kaha**	**18.17**	**190**	P	**P**	21 32 16.8	**-1.5**
HAZ				S	**S**	21 35 08.8	**-5.6**
PKGZ	**Pakihiroa**	**18.25**	**189**	P	**P**	21 32 18.8	**-0.3**
PKGZ				S	**S**	21 35 13.4	**-2.4**
RUGZ	**Raukumara Rang**	**18.39**	**190**	P	**P**	21 32 19.1	**-1.4**
RUGZ				S	**S**	21 35 13.7	**-4.5**
PUZ	**Puketiti**	**18.41**	**189**	P	**P**	21 32 19.5	**-1.0**
PUZ				S	**S**	21 35 15.9	**-2.4**
WHRZ	**Whale Island**	**18.41**	**192**	P	**P**	21 32 21.3	**+0.7**
TGRZ	**Tauranga**	**18.44**	**194**	P	**P**	21 32 21.9	**+1.1**
OPRZ	**Ohinepanea**	**18.48**	**193**	P	**P**	21 32 20.9	**-0.3**
TWGZ	**Tauwhareparae**	**18.55**	**189**	P	**P**	21 32 21.1	**-0.7**
TWGZ				S	**S**	21 35 20.1	**-0.5**
MARZ	**Manawahe**	**18.60**	**193**	P	**P**	21 32 22.7	**+0.4**
KMRZ	**Kaimai**	**18.62**	**194**	P	**P**	21 32 25.6	**+3.0**
LIRZ	**Lichensteins R**	**18.68**	**193**	P	**P**	21 32 23.4	**+0.5**
EDRZ	**Edgecumbe**	**18.70**	**192**	P	**P**	21 32 22.8	**-0.5**
KARZ	**Kaharoa**	**18.72**	**194**	P	**P**	21 32 23.8	**+0.4**
MWZ	**Matawai**	**18.77**	**190**	P	**P**	21 32 22.2	**-1.7**
MWZ				S	**S**	21 35 22.0	**-2.2**
OMRZ	**Omania**	**18.78**	**193**	P	**P**	21 32 24.7	**+0.7**
URZ	**Urewera**	**18.78**	**191**	P	**P**	21 32 22.6	**-1.2**
	3µm,0.7s,baz=91,slow=4.8,SNR=230						
URZ				S	**S**	21 35 19.9	**-4.2**
	211nm,0.8s,baz=302,slow=20,SNR=1.9						
URZ				ScP	**ScP**	21 39 00.8	**+0.9**
	517nm,0.8s,baz=42,slow=5.0,SNR=7.9						
URZ				ScS	**ScS**	21 42 39.4	**-2.4**
	265nm,0.8s,baz=236,slow=23,SNR=16						
URZ	**Urewera**	**18.78**	**191**	P	**P**	21 32 21.9	**-2.0**
URZ	**Urewera**	**18.78**	**191**	P	**P**	21 32 21.6	**-2.2**
URZ				S	**S**	21 35 15.4	**-8.7**
URZ	**Urewera**	**18.78**	**191**	P	**P**	21 32 22.2	**-1.6**
URZ	**Urewera**	**18.78**	**191**	⇑P	**P**	21 32 21.0	**-2.9**
MKRZ	**Makatiti**	**18.79**	**193**	P	**P**	21 32 26.1	**+2.1**
CNGZ	**Carnagh Statio**	**18.82**	**189**	P	**P**	21 32 24.2	**0.0**
CNGZ				S	**S**	21 35 26.6	**+1.9**
TKGZ	**Te Karaka**	**18.83**	**189**	P	**P**	21 32 23.3	**-1.0**
TKGZ				S	**S**	21 35 22.3	**-2.6**
TARZ	**Mount Tarawera**	**18.87**	**193**	P	**P**	21 32 24.7	**-0.1**
UTU	**Utuhina**	**18.88**	**194**	P	**P**	21 32 25.9	**+1.0**
HLRZ	**Highlands Stat**	**18.92**	**193**	P	**P**	21 32 26.3	**+1.1**
RRRZ	**Republican Roa**	**18.97**	**193**	P	**P**	21 32 25.7	**0.0**
HSRZ	**Hossack Road**	**19.00**	**193**	P	**P**	21 32 27.2	**+1.3**
MUGZ	**Murupara**	**19.05**	**192**	P	**P**	21 32 24.4	**-1.9**
GRRZ	**Galatos Road**	**19.07**	**194**	P	**P**	21 32 28.6	**+2.1**
HRRZ	**Handcook Road**	**19.07**	**193**	P	**P**	21 32 26.6	**0.0**
RIGZ	**Rimuhau**	**19.10**	**190**	P	**P**	21 32 25.7	**-1.2**
RIGZ				S	**S**	21 35 29.0	**-0.4**
RTZ	**Ruatahuna**	**19.15**	**191**	P	**P**	21 32 24.8	**-2.5**
RTZ				S	**S**	21 35 27.3	**-2.9**
PRRZ	**Plateau Road**	**19.15**	**193**	P	**P**	21 32 26.5	**-0.8**
TLZ	**Tolley Road**	**19.18**	**195**	P	**P**	21 32 28.9	**+1.3**
WPRZ	**Whakapapatarin**	**19.22**	**193**	P	**P**	21 32 28.5	**+0.6**
ALRZ	**Allen Road**	**19.22**	**193**	P	**P**	21 32 27.7	**-0.2**
SNGZ	**Shannon Statio**	**19.24**	**190**	P	**P**	21 32 27.9	**-0.3**
SNGZ				S	**S**	21 35 32.9	**+1.3**
KUTZ	**Kaahu Road**	**19.27**	**194**	P	**P**	21 32 29.2	**+0.9**
WHTZ	**Whakaora**	**19.40**	**194**	P	**P**	21 32 30.7	**+1.0**
RAHZ	**Arahi**	**19.42**	**191**	P	**P**	21 32 27.9	**-1.8**
KNZ	**Kokohu**	**19.42**	**190**	P	**P**	21 32 28.8	**-0.9**
MRHZ	**Matea Rd**	**19.47**	**193**	P	**P**	21 32 29.1	**-1.1**
WATZ	**Wairara**	**19.50**	**194**	P	**P**	21 32 31.2	**+0.8**
MHGZ	**Mahia Peninsul**	**19.52**	**189**	P	**P**	21 32 31.1	**+0.6**
HIZ	**Hauiti**	**19.53**	**196**	P	**P**	21 32 32.8	**+2.1**
HIZ	**Hauiti**	**19.53**	**196**	P	**P**	21 32 33.3	**+2.6**
WHHZ	**Waihua**	**19.55**	**190**	P	**P**	21 32 29.6	**-1.2**
HATZ	**Hinemaiaia**	**19.59**	**193**	P	**P**	21 32 30.8	**-0.5**
RATZ	**Rangitukua**	**19.64**	**194**	P	**P**	21 32 31.4	**-0.3**
NMHZ	**Naumai**	**19.64**	**191**	P	**P**	21 32 30.6	**-1.2**
KATZ	**Kakaramea**	**19.76**	**194**	P	**P**	21 32 34.1	**+1.2**
ARHZ	**Aropaoanui**	**19.77**	**191**	P	**P**	21 32 32.6	**-0.2**
BKZ	**Black Stump Fm**	**19.77**	**192**	P	**P**	21 32 30.3	**-2.6**
BKZ	**Black Stump Fm**	**19.77**	**192**	P	**P**	21 32 30.9	**-2.0**
BKZ	**Black Stump Fm**	**19.77**	**192**	P	**P**	21 32 32.0	**-0.9**
NTVZ	**North Tongarir**	**19.88**	**194**	P	**P**	21 32 33.6	**-0.5**
TMVZ	**Te Maari**	**19.89**	**194**	P	**P**	21 32 33.3	**-0.8**
ETVZ	**East Tongariro**	**19.91**	**194**	P	**P**	21 32 33.4	**-0.8**
TWVZ	**Taurewa**	**19.91**	**194**	P	**P**	21 32 33.9	**-0.3**
WTVZ	**West Tongariro**	**19.92**	**194**	P	**P**	21 32 35.0	**+0.7**
NNVZ	**North Ngauruho**	**19.93**	**194**	P	**P**	21 32 33.9	**-0.6**
NGZ	**Ngauruhoe**	**19.97**	**194**	P	**P**	21 32 35.4	**+0.5**
SNVZ	**South Ngauruho**	**19.97**	**194**	P	**P**	21 32 34.3	**-0.5**
MCHZ	**McNeill Hill**	**20.00**	**191**	P	**P**	21 32 33.5	**-1.5**
KWHZ	**Kaweka Forest**	**20.04**	**192**	P	**P**	21 32 34.2	**-1.2**
TUVZ	**Tukino**	**20.05**	**194**	P	**P**	21 32 34.6	**-0.9**
FWVZ	**Far West T-bar**	**20.06**	**194**	P	**P**	21 32 34.8	**-0.9**
DRVZ	**Dome Shelter**	**20.07**	**194**	P	**P**	21 32 37.1	**+1.1**
WHVZ	**Whangaehu Hut**	**20.08**	**194**	P	**P**	21 32 35.0	**-0.9**
TRVZ	**Turoa**	**20.10**	**194**	P	**P**	21 32 36.4	**+0.3**
WNVZ	**Wahianoa**	**20.12**	**194**	P	**P**	21 32 35.1	**-1.1**
CKHZ	**Cape Kidnapper**	**20.14**	**190**	P	**P**	21 32 35.9	**-0.3**
MOVZ	**Moawhango**	**20.16**	**194**	P	**P**	21 32 34.9	**-1.5**
BHHZ	**Black Hill Sta**	**20.17**	**193**	P	**P**	21 32 34.3	**-2.2**
MTVZ	**Mangateitei**	**20.20**	**194**	P	**P**	21 32 35.9	**-0.9**
KRHZ	**Kereru**	**20.26**	**192**	P	**P**	21 32 35.1	**-2.2**
KAHZ	**Kahuranaki**	**20.31**	**191**	P	**P**	21 32 37.5	**-0.3**
PXZ	**Pawanui**	**20.54**	**191**	P	**P**	21 32 38.9	**-0.9**
PNHZ	**Pukenui**	**20.55**	**192**	P	**P**	21 32 38.4	**-1.6**
WPHZ	**Waipukurau**	**20.65**	**192**	P	**P**	21 32 39.9	**-0.8**
TSZ	**Takapari Road**	**20.74**	**193**	P	**P**	21 32 40.7	**-0.9**
PRHZ	**Porangahau**	**20.81**	**191**	P	**P**	21 32 41.6	**-0.7**
OHWZ	**Ohakea**	**21.02**	**194**	P	**P**	21 32 44.4	**+0.3**
ANWZ	**Angora Road**	**21.03**	**191**	P	**P**	21 32 43.7	**-0.5**
POWZ	**Post Office Ro**	**21.10**	**193**	P	**P**	21 32 44.8	**0.0**
BFZ	**Birch Farm**	**21.29**	**192**	P	**P**	21 32 45.8	**-0.7**
CPWZ	**Castlepoint**	**21.52**	**191**	P	**P**	21 32 48.7	**+0.3**
SNZO	**South Karori**	**22.21**	**194**	P	**P**	21 32 54.3	**-0.4**
SNZO	**South Karori**	**22.21**	**194**	⇑P	**P**	21 32 52.5	**-2.2**
SNZO				⇓S	**ScP**	21 39 09.4	**+1.2**
QRZ	**Quartz Range**	**22.33**	**199**	P	**P**	21 32 56.5	**+0.7**
TARA	**Tarawa**	**22.77**	**337**	P	**P**	21 32 59.7	**-0.4**
TARA	**Tarawa**	**22.77**	**337**	P	**P**	21 33 01.8	**+1.7**
TARA	**Tarawa**	**22.77**	**337**	⇓P	**P**	21 32 58.7	**-1.4**
TARA				⇑S	**ScP**	21 39 12.5	**+2.3**
THZ	**Tophouse**	**23.09**	**197**	P	**P**	21 33 01.5	**-1.1**
LHI	**Lord Howe Isla**	**23.45**	**236**	P	**P**	21 33 07.9	**+2.1**
	baz=24,SNR=70						
LHI	**Lord Howe Isla**	**23.45**	**236**	P	**P**	21 33 07.7	**+1.9**
LHI	**Lord Howe Isla**	**23.45**	**236**	P	**P**	21 33 08.2	**+2.4**
LHI	**Lord Howe Isla**	**23.45**	**236**	⇑P	**P**	21 33 07.9	**+2.1**
HNR	**Honiara**	**23.45**	**293**	P	**P**	21 33 05.8	**-0.2**
	15µm,0.7s,baz=139,slow=4.9,SNR=37						
HNR				ScP	**ScP**	21 39 13.6	**+1.6**
	7µm,0.9s,baz=198,slow=6.9,SNR=5.5						
HNR	**Honiara**	**23.45**	**293**	P	**P**	21 33 05.5	**-0.6**
HNR	**Honiara**	**23.45**	**293**	P	**P**	21 33 07.3	**+1.2**
HNR	**Honiara**	**23.45**	**293**	⇓P	**P**	21 33 05.3	**-0.7**
HNR				⇑S	**ScP**	21 39 13.3	**+1.3**
KHZ	**Kahutara**	**23.54**	**195**	P	**P**	21 33 06.0	**-0.4**
KHZ	**Kahutara**	**23.54**	**195**	⇓P	**P**	21 33 04.8	**-1.7**
KHZ				⇑S	**ScP**	21 39 13.3	**+1.5**
RPZ	**Rata Peaks**	**25.42**	**198**	P	**P**	21 33 22.7	**-0.3**
	843nm,0.6s,baz=327,slow=1.2,SNR=127						
RPZ				S	**S**	21 37 07.2	**-1.5**
	163nm,0.9s,baz=106,slow=17,SNR=1.9						
RPZ				ScP	**ScP**	21 39 17.5	**+0.3**
	325nm,0.9s,baz=102,slow=1.3,SNR=6.9						
RPZ				ScS	**ScS**	21 43 05.6	**-1.5**
	61nm,0.9s,baz=125,slow=22,SNR=12						
	843nm,0.6s						
RPZ	**

PMG ScP **ScP** **21 39 51.0 +1.8**
comp=Z,209nm,0.9s,baz=358,slow=5.3,SNR=5.3
PMG ScS **ScS** **21 43 57.2 +1.9**
comp=Z,19nm,0.9s,baz=209,slow=21,SNR=5.6
PMG P3KPbc 22 05 23.0
comp=Z,21nm,0.8s,baz=307,slow=7.1,SNR=8.0
PMG PKP2ab 22 09 20.3
comp=Z,6.8nm,0.6s,baz=314,slow=5.3,SNR=4.0
comp=Z,4μm,0.9s
PMG Port Moresby 34.95 282 P **P** **21 34 45.4 +0.3**
PMG Port Moresby 34.95 282 P **P** **21 34 46.4 +1.4**
PMG Port Moresby 34.95 282 P **P** **21 34 46.0 +0.9**
PMG pP **pwP** **21 36 27.9 +0.9**
PMG ScP **ScP** **21 39 50.2 +1.0**
QLP Quilpie 35.01 252 P **P** **21 34 46.0 +0.6**
baz=35,SNR=109
QLP Quilpie 35.01 252 P **P** **21 34 47.1 +1.7**
QLP Quilpie 35.01 252 ⇓P **P** **21 34 45.9 +0.6**
PATS Pohnpei 35.13 317 P **P** **21 34 47.0 +0.5**
PATS Pohnpei 35.13 317 P **P** **21 34 47.9 +1.4**
MTSU Mount Surprise 35.37 266 P **P** **21 34 48.7 +0.2**
baz=35,SNR=1000
MTSU Mount Surprise 35.37 266 P **P** **21 34 49.6 +1.1**
TOO Toolangi 36.08 233 P **P** **21 34 54.8 +0.7**
baz=36,SNR=712
TOO Toolangi 36.08 233 P **P** **21 34 55.4 +1.3**
TOO Toolangi 36.08 233 P **P** **21 34 55.4 +1.3**
TOO pmax pmax
comp=Z,5μm,1.5s
TOO Toolangi 36.08 233 P **P** **21 34 55.6 +1.5**
TOO Toolangi 36.08 233 ⇑P **P** **21 34 54.6 +0.6**
CORO Coronation Par 36.37 226 P **P** **21 34 58.1 +1.8**
comp=Z,2μm,1.1s
MLBS Spotswood, Mel 36.61 233 P **P** **21 34 59.9 +1.6**
comp=Z,1μm,0.9s
MOO Moorlands 36.78 224 P **P** **21 35 01.4 +1.7**
baz=37,SNR=66
MOO Moorlands 36.78 224 P **P** **21 35 00.7 +1.0**
comp=Z,1μm,1.6s
TAU Tasmania Unive 36.91 224 P **P** **21 35 01.8 +1.1**
TAU IAmb IAmb 21 35 03.0
comp=Z,740nm,0.9s
TAU Tasmania Unive 36.91 224 P **P** **21 35 01.8 +1.1**
TAU pmax pmax
comp=Z,740nm,1.0s
TAU Tasmania Unive 36.91 224 P **P** **21 35 02.3 +1.6**
TAU Tasmania Unive 36.91 224 ⇑P **P** **21 35 01.8 +1.1**
TAU Tasmania Unive 36.91 224 P **P** **21 35 02.0 +1.3**
TAU pP **pwP** **21 36 43.1 -2.3**
TAU ScP **ScP** **21 39 59.1 +3.1**
GEXS Deakin Univers 37.18 232 P **P** **21 35 04.4 +1.4**
comp=Z,2μm,0.9s
BRAT Ballarat 37.24 234 P **P** **21 35 05.1 +1.6**
comp=Z,2μm,0.9s
COEN Coen 37.29 273 P **P** **21 35 04.8 +0.5**
baz=37,SNR=955
COEN Coen 37.29 273 P **P** **21 35 04.9 +0.7**
COEN Coen 37.29 273 P **P** **21 35 05.3 +1.1**
COEN Coen 37.29 273 ⇓P **P** **21 35 04.7 +0.5**
JOHN Johnston Islan 37.36 14 P **P** **21 35 04.1 -0.5**
JOHN Johnston Islan 37.36 14 P **P** **21 35 04.9 +0.2**
JOHN Johnston Islan 37.36 14 ⇓P **P** **21 35 04.5 -0.1**
JOHN Johnston Islan 37.36 14 P **P** **21 35 04.5 -0.1**
JOHN pP **pP** **21 36 42.0 -2.1**
JOHN sP **sP** **21 37 50.0 -2.6**
STKA Stephens Creek 37.84 243 P **P** **21 35 09.5 +1.0**
comp=Z,609nm,1.0s,baz=90,slow=8.7,SNR=332
STKA ScP **ScP** **21 40 01.9 +2.1**
comp=Z,162nm,0.8s,baz=84,slow=4.6,SNR=6.0
STKA S **S** **21 40 18.4 +0.3**
comp=Z,85nm,1.0s,baz=301,slow=16,SNR=4.1
STKA ScS **ScS** **21 44 13.6 +2.3**
comp=Z,14nm,0.9s,baz=205,slow=23,SNR=5.9
STKA P3KPbc 22 05 10.2
comp=Z,29nm,0.9s,baz=290,slow=3.8,SNR=13
comp=Z,609nm,1.0s
STKA Stephens Creek 37.84 243 P **P** **21 35 09.6 +1.0**
baz=38,SNR=434
STKA Stephens Creek 37.84 243 P **P** **21 35 10.1 +1.5**
STKA Stephens Creek 37.84 243 P **P** **21 35 10.0 +1.5**
MANU Manus Island 37.95 293 P **P** **21 35 10.4 +0.7**
INKA Innaminka 38.17 250 P **P** **21 35 13.1 +1.9**
TAOE Nuku Hiva Isla 38.43 79 *eP* **P** **21 35 10.8 -2.8**
comp=Z,3μm,1.2s
TAOE *eS* **S** **21 40 29.9 +2.7**
comp=Z,4μm,20.8s
TAOE *eLR* LR 21 46 29.0
comp=Z,7μm,21.5s
TAOE Nuku Hiva Isla 38.43 79 P **P** **21 35 12.9 -0.7**
TAOE IAmb IAmb 21 35 14.9
comp=Z,1μm,0.8s
TAOE Nuku Hiva Isla 38.43 79 P **P** **21 35 14.6 +1.0**
TAOE Nuku Hiva Isla 38.43 79 ⇓P **P** **21 35 12.9 -0.7**
TAOE Nuku Hiva Isla 38.43 79 P **P** **21 35 12.8 -0.7**
ARPS Mount Arapiles 38.63 236 P **P** **21 35 15.4 +0.6**
baz=39,SNR=485
ARPS Mount Arapiles 38.63 236 P **P** **21 35 16.4 +1.6**
MCQ Macquarie Isla 38.70 201 P **P** **21 35 16.5 +1.5**
baz=39,SNR=21
MCQ Macquarie Isla 38.70 201 P **P** **21 35 16.3 +1.4**
MCQ Macquarie Isla 38.70 201 P **P** **21 35 16.3 +1.4**
MCQ pmax pmax
comp=Z,3μm,1.3s
MCQ Macquarie Isla 38.70 201 P **P** **21 35 16.5 +1.5**
MCQ Macquarie Isla 38.70 201 ⇑P **P** **21 35 16.4 +1.4**
QIS Mount Isa 39.45 261 P **P** **21 35 21.4 -0.3**
baz=40,SNR=226
QIS Mount Isa 39.45 261 P **P** **21 35 21.9 +0.2**
HTT Hallett 40.30 241 P **P** **21 35 29.0 +0.6**
baz=40,SNR=490
HTT Hallett 40.30 241 P **P** **21 35 30.4 +2.1**
HTT Hallett 40.30 241 ⇓P **P** **21 35 28.9 +0.6**
LCRK Leigh Creek 40.56 246 P **P** **21 35 31.6 +1.3**
GHSS Government Hou 40.80 239 P **P** **21 35 33.8 +1.6**
comp=Z,733nm,1.1s
TWOA Tennyson Woods 40.84 239 P **P** **21 35 32.7 +0.2**
comp=Z,542nm,0.8s
H11S2 WAKE ISLAND Hy 40.85 338 P **P** **21 35 32.8 +0.3**
baz=314,slow=75,SNR=18
H11S3 WAKE ISLAND Hy 40.86 338 P **P** **21 35 32.9 +0.3**
baz=314,slow=75,SNR=19
H11S1 WAKE ISLAND Hy 40.87 338 P **P** **21 35 33.0 +0.3**
baz=314,slow=75,SNR=16
PTPS Port Pirie 41.03 242 P **P** **21 35 35.1 +1.1**
comp=Z,2μm,0.7s
WHYH Whyalla 41.37 242 P **P** **21 35 37.4 +0.8**
comp=Z,990nm,0.9s
WAKE Wake Island 41.60 338 P **P** **21 35 38.0 -0.6**
WAKE Wake Island 41.60 338 P **P** **21 35 39.1 +0.5**
WAKE Wake Island 41.60 338 ⇑P **P** **21 35 37.9 -0.7**
WAKE Wake Island 41.60 338 P **P** **21 35 37.8 -0.7**
WAKE pP **PcP** **21 37 20.0 -1.0**
WAKE ScP **ScP** **21 40 16.8 +2.2**
H11N3 WAKE ISLAND Hy 41.92 339 P **P** **21 35 40.6 -0.2**
baz=172,slow=10,SNR=86
H11N1 WAKE ISLAND Hy 41.92 339 P **P** **21 35 40.8 0.0**
baz=172,slow=10,SNR=65
H11N2 WAKE ISLAND Hy 41.94 339 P **P** **21 35 40.8 -0.1**
baz=172,slow=10,SNR=49
BBOO Buckleboo 42.61 243 P **P** **21 35 46.6 +0.2**
baz=43,SNR=955
BBOO Buckleboo 42.61 243 P **P** **21 35 46.7 +0.4**
BBOO Buckleboo 42.61 243 P **P** **21 35 47.0 +0.6**
DOD Oodnadatta 42.65 250 P **P** **21 35 48.7 +1.9**
GENI Genyem 44.04 288 P **P** **21 36 00.4 +2.7**
MULG Mulgathing 44.13 247 P **P** **21 35 58.7 +0.5**
AS31 Alice Springs 44.42 256 P **P** **21 36 00.5 0.0**
ASAR Alice Springs 44.42 256 P **P** **21 36 00.5 0.0**
comp=Z,991nm,0.8s,baz=93,slow=7.3,SNR=3257
ASAR PcP **PcP** **21 37 31.7 +0.9**
comp=Z,133nm,0.8s,baz=91,slow=5.3,SNR=5.3
ASAR ScP **ScP** **21 40 29.1 +2.7**
comp=Z,90nm,0.7s,baz=107,slow=5.1,SNR=6.1
ASAR S **S** **21 41 52.1 -0.9**
comp=Z,723nm,0.9s,baz=92,slow=16,SNR=11
ASAR P3KPbc 22 04 43.4
comp=Z,2.8nm,0.8s,baz=286,slow=4.2,SNR=4.2
ASAR PKP2ab 22 08 37.0
comp=Z,5.0nm,1.0s,baz=263,slow=2.0,SNR=4.2
ASAR P4KPbc 22 13 45.1
comp=Z,1.2nm,0.6s,baz=98,slow=4.7,SNR=9.1
comp=Z,991nm,0.8s
ASAR Alice Springs 44.42 256 P **P** **21 36 00.7 +0.2**
WB2 Warramunga Arr 44.42 261 P **P** **21 35 59.5 -1.1**
baz=44

WRAB Tennant Creek 44.43 261 P **P** **21 36 00.3 -0.3**
WRAB IAmb IAmb 21 36 02.6
comp=Z,2μm,1.1s
WRAB Tennant Creek 44.43 261 P **P** **21 36 00.4 -0.3**
WRAB pmax pmax
comp=Z,2μm,1.2s
WRAB Tennant Creek 44.43 261 P **P** **21 36 01.0 +0.4**
WRAB Tennant Creek 44.43 261 ⇓P **P** **21 35 59.9 -0.8**
WRAB Tennant Creek 44.43 261 P **P** **21 36 00.3 -0.3**
WRAB pP **pP** **21 37 46.2 +0.9**
WRAB ScP **ScP** **21 40 28.8 +2.4**
WRA Warramunga Arr 44.44 261 P **P** **21 36 00.8 +0.1**
comp=Z,364nm,0.3s,baz=97,slow=8.0,SNR=1833
WRA PcP **PcP** **21 37 32.3 +1.4**
comp=Z,132nm,0.8s,baz=93,slow=4.3,SNR=3.7
WRA ScP **ScP** **21 40 26.8 +0.3**
comp=Z,77nm,0.8s,baz=99,slow=3.9,SNR=6.2
WRA S **S** **21 41 50.9 -2.4**
comp=Z,167nm,0.7s,baz=98,slow=14,SNR=19
WRA P4KPbc 22 13 44.0
comp=Z,3.2nm,1.0s,baz=96,slow=4.2,SNR=8.4
comp=Z,364nm,0.3s
PTCN Pitcairn Islan 44.65 106 P **P** **21 36 02.6 +0.4**
PTCN IAmb IAmb 21 36 04.7
comp=Z,2μm,1.1s
KHU Kahuku 44.76 31 P **P** **21 36 02.6 -0.7**
KHU Kahuku 44.76 31 P **P** **21 36 02.6 -0.7**
KHU pmax pmax
comp=Z,6μm,2.9s
KHLU Kahalu`u 44.92 31 P **P** **21 36 03.6 -0.8**
KHLU IAmb IAmb 21 36 10.7
comp=Z,793nm,0.9s
MWH Moku'aweowe 44.97 31 P **P** **21 36 04.7 -0.6**
HUH Hualalai 45.03 31 P **P** **21 36 04.8 -0.6**
HUH IAmb IAmb 21 36 11.8
comp=Z,611nm,0.9s
BYL Byron's Ledge 45.07 31 P **P** **21 36 05.2 -0.4**
SBLHI Steaming Bluff 45.08 31 P **P** **21 36 04.9 -0.7**
SBLHI IAmb IAmb 21 36 06.6
comp=Z,878nm,1.5s
HMH Humu'ula Sheep 45.13 31 P **P** **21 36 05.5 -0.7**
JCUZ Jacuzzi 45.13 32 P **P** **21 36 05.1 -0.8**
JCUZ IAmb IAmb 21 36 12.2
comp=Z,827nm,0.8s
POHA Pohakuloa 45.23 31 P **P** **21 36 06.0 -0.9**
POHA IAmb IAmb 21 36 16.3
comp=Z,603nm,1.0s
POHA Pohakuloa 45.23 31 P **P** **21 36 07.0 +0.1**
POHA Pohakuloa 45.23 31 ⇑P **P** **21 36 06.7 -0.2**
POHA Pohakuloa 45.23 31 P **P** **21 36 06.6 -0.4**
KIP Kipapa 45.56 27 P **P** **21 36 08.8 -0.3**
KIP IAmb IAmb 21 36 11.1
comp=Z,814nm,1.1s
KIP Kipapa 45.56 27 *d iP* **P** **21 36 08.9 -0.2**
KIP pmax pmax
comp=Z,2μm,1.8s
KIP Kipapa 45.56 27 P **P** **21 36 09.4 +0.3**
KIP Kipapa 45.56 27 P **P** **21 36 09.3 +0.2**
KIP Kipapa 45.56 27 P **P** **21 36 08.8 -0.3**
KIP pP **pP** **21 37 52.9 -2.3**
KIP ScP **ScP** **21 40 33.3 +2.4**
KDU Kakadu 47.68 271 P **P** **21 36 24.7 -0.5**
baz=48,SNR=440
KDU Kakadu 47.68 271 P **P** **21 36 25.7 +0.5**
KDU Kakadu 47.68 271 ⇑P **P** **21 36 24.7 -0.5**
MIDW Midway 47.79 1 P **P** **21 36 24.9 -0.8**
MIDW IAmb IAmb 21 36 26.5
comp=Z,2μm,1.4s
MIDW Midway 47.79 1 ⇓P **P** **21 36 24.2 -1.5**
MIDW Midway 47.79 1 P **P** **21 36 25.0 -0.8**
MTN Manton Dam 48.90 270 P **P** **21 36 33.4 -0.8**
baz=49,SNR=547
MTN Manton Dam 48.90 270 P **P** **21 36 33.7 -0.6**
MTN Manton Dam 48.90 270 P **P** **21 36 34.9 +0.7**
MTN Manton Dam 48.90 270 ⇑P **P** **21 36 33.8 -0.4**
GUMO Guam 49.19 310 P **P** **21 36 36.6 +0.3**
comp=Z,3μm,0.8s
GUMO ScP **ScP** **21 40 47.8 +1.3**
comp=Z,1μm,0.9s,baz=177,slow=5.3,SNR=16
comp=Z,3μm,0.8s
GUMO Guam 49.19 310 P **P** **21 36 36.1 -0.2**
GUMO Guam 49.19 310 P **P** **21 36 36.8 +0.5**
GUMO Guam 49.19 310 ⇑P **P** **21 36 35.2 -1.1**
GUMO Guam 49.19 310 P **P** **21 36 36.3 0.0**
GUMO pP **pwP** **21 38 27.1 -0.4**
GUMO PP **PP** **21 38 38.6 -0.3**
GUMO ScP **ScP** **21 40 47.7 +1.3**
FORT Forrest 49.32 246 P **P** **21 36 36.9 -0.2**
baz=49,SNR=232
FORT Forrest 49.32 246 P **P** **21 36 36.8 -0.3**
FORT IAmb IAmb 21 36 44.5
comp=Z,1μm,0.8s
FORT Forrest 49.32 246 P **P** **21 36 38.1 +1.0**
FORT Forrest 49.32 246 ⇓P **P** **21 36 36.6 -0.5**
WRKA Warakurna 49.40 254 P **P** **21 36 37.7 -0.2**
baz=50,SNR=610
WRKA Warakurna 49.40 254 P **P** **21 36 38.1 +0.3**
WRKA Warakurna 49.40 254 ⇓P **P** **21 36 37.6 -0.2**
SAUI Saumlaki 50.17 276 P **P** **21 36 44.3 +0.8**
SAUI Saumlaki 50.17 276 P **P** **21 36 46.0 +2.4**
KNRA Kununurra 50.45 266 P **P** **21 36 45.2 -0.3**
baz=50,SNR=685
KNRA Kununurra 50.45 266 P **P** **21 36 45.2 -0.3**
KNRA IAmb IAmb 21 36 47.9
comp=Z,2μm,1.1s
KNRA Kununurra 50.45 266 P **P** **21 36 46.1 +0.6**
FAKI Fak Fak 51.10 283 P **P** **21 36 49.9 -0.4**
FAKI IAmb IAmb 21 36 52.7
comp=Z,2μm,1.2s
FAKI Fak Fak 51.10 283 P **P** **21 36 50.9 +0.6**
BNDI Bandanaira 52.66 280 P **P** **21 37 02.7 +1.2**
FITZ Fitzroy Crossi 52.86 262 S **S** **21 43 48.5 +0.6**
comp=Z,52nm,1.0s,baz=180,slow=18,SNR=17
FITZ Fitzroy Crossi 52.86 262 P **P** **21 37 02.9 +0.1**
baz=53,SNR=414
FITZ Fitzroy Crossi 52.86 262 P **P** **21 37 02.6 -0.2**
FITZ IAmb IAmb 21 37 11.1
comp=Z,3μm,2.1s
FITZ Fitzroy Crossi 52.86 262 P **P** **21 37 03.7 +0.9**
FITZ Fitzroy Crossi 52.86 262 ⇓P **P** **21 37 02.6 -0.2**
DRV Dumont d'Urvil 53.88 199 P **P** **21 37 09.7 +0.6**
DRV pP **pwP** **21 39 02.5 -1.3**
DRV ScP **ScP** **21 41 06.9 +1.1**
TNTI Ternate 57.05 284 P **P** **21 37 31.2 -0.7**
TNTI Ternate 57.05 284 P **P** **21 37 32.2 +0.2**
SANI Sanana 57.21 281 P **P** **21 37 33.4 +0.3**
PSA00 Pilbara Seismi 57.56 257 P **P** **21 37 35.1 -0.3**
PSA00 IAmb IAmb 21 37 42.9
comp=Z,1μm,0.9s
PSA00 Pilbara Seismi 57.56 257 P **P** **21 37 35.0 -0.4**
PSA00 IAmb IAmb 21 37 42.9
comp=Z,968nm,0.9s
PSA00 Pilbara Seismi 57.56 257 P **P** **21 37 35.5 +0.1**
MBWA Marble Bar 57.74 257 P **P** **21 37 36.4 -0.2**
MBWA Marble Bar 57.74 257 P **P** **21 37 36.3 -0.4**
MBWA Marble Bar 57.74 257 P **P** **21 37 36.9 +0.3**
MBWA Marble Bar 57.74 257 ⇓P **P** **21 37 36.2 -0.4**
MBWA ⇓P **P** **21 37 36.2 -0.4**
MBWA Marble Bar 57.74 257 P **P** **21 37 36.3 -0.4**
MBWA pP **pwP** **21 39 32.4 -1.9**
MBWA ScP **ScP** **21 41 26.0 +2.1**
MEEK Meekatharra 57.89 250 P **P** **21 37 36.9 -0.6**
baz=58,SNR=82
MEEK Meekatharra 57.89 250 P **P** **21 37 37.6 0.0**
KLBR Kellerberrin 58.10 245 P **P** **21 37 38.7 -0.2**
baz=58,SNR=197
KLBR Kellerberrin 58.10 245 P **P** **21 37 39.4 +0.5**
NWAO Narrogin (SRO) 58.43 243 S **S** **21 44 59.7 +0.3**
comp=Z,27nm,1.1s,baz=40,slow=21,SNR=8.5
NWAO Narrogin (SRO) 58.43 243 P **P** **21 37 41.5 +0.5**
baz=58,SNR=24
NWAO P **P** **21 37 41.5 +0.5**
baz=58,SNR=24
NWAO Narrogin (SRO) 58.43 243 P **P** **21 37 41.5 +0.5**
NWAO Narrogin (SRO) 58.43 243 P **P** **21 37 41.5 +0.5**
NWAO pmax pmax
comp=Z,530nm,1.2s
NWAO Narrogin (SRO) 58.43 243 P **P** **21 37 41.5 +0.5**
NWAO Narrogin (SRO) 58.43 243 P **P** **21 37 41.6 +0.5**
NWAO Narrogin (SRO) 58.43 243 P **P** **21 37 41.3 +0.3**
NWAO pP **pP** **21 39 35.1 +0.2**
NWAO sP **sP** **21 40 37.5 -1.1**
MMRI Maumere 58.47 272 P **P** **21 37 41.1 -0.5**
MMRI IAmb IAmb 21 37 43.7
comp=Z,3μm,1.2s
MMRI Maumere 58.47 272 P **P** **21 37 42.3 +0.7**
SBA Scott Base 58.50 184 P **P** **21 37 42.5 +1.8**
SBA IAmb IAmb 21 37 45.9
comp=Z,2μm,1.0s
SBA Scott Base 58.50 184 P **P** **21 37 42.5 +1.8**
SBA pmax pmax
comp=Z,2μm,1.0s
SBA Scott Base 58.50 184 P **P** **21 37 43.1 +2.4**
SBA pP **pP** **21 39 37.9 +2.5**
SBA sP **sP** **21 40 46.0 +6.6**
SBA ScP **ScP** **21 41 29.2 +3.1**
RKGY Rocky Gully 58.53 241 P **P** **21 37 42.9 +1.2**
baz=59,SNR=13
VNDA Vanda 58.53 185 P **P** **21 37 42.1 +1.2**
comp=Z,315nm,0.7s,baz=359,slow=7.4,SNR=791
VNDA ScP **ScP** **21 41 28.6 +2.3**
comp=Z,166nm,0.8s,baz=350,slow=3.8,SNR=9.8
VNDA PKP2bc 22 07 20.1
comp=Z,12nm,1.2s,baz=258,slow=4.4,SNR=10
comp=Z,315nm,0.7s
VNDA Vanda 58.53 185 P **P** **21 37 41.9 +1.0**
VNDA Vanda 58.53 185 P **P** **21 37 42.4 +1.5**
VNDA pP **pP** **21 39 37.2 +1.4**
VNDA ScP **ScP** **21 41 28.8 +2.5**
BLDU Ballidu 59.08 246 P **P** **21 37 45.2 -0.3**
baz=59,SNR=186
BLDU Ballidu 59.08 246 P **P** **21 37 45.8 +0.3**
MUN Mundaring 59.37 244 P **P** **21 37 47.8 +0.4**
baz=60,SNR=122
MUN Mundaring 59.37 244 P **P** **21 37 48.6 +1.2**
MTKN Mount Kenneth 59.74 244 P **P** **21 37 51.9 +2.1**
MORW Morawa 59.84 247 P **P** **21 37 50.2 -0.3**
baz=60,SNR=128
MORW Morawa 59.84 247 P **P** **21 37 50.0 -0.5**
MORW Morawa 59.84 247 P **P** **21 37 50.8 +0.3**
JCJ Chichijima 60.38 319 P **P** **21 37 53.8 -0.2**
comp=Z,1μm,0.6s,baz=245,slow=4.0,SNR=83
comp=Z,1μm,0.6s
JCJ Chichijima 60.38 319 P **P** **21 37 54.1 +0.1**
JCJ IAmb IAmb 21 37 56.0
comp=Z,2μm,0.7s
JCJ Chichijima 60.38 319 P **P** **21 37 54.2 +0.2**
LUWI Luwuk 60.56 280 P **P** **21 37 56.0 +0.5**
LUWI Luwuk 60.56 280 P **P** **21 37 56.8 +1.3**
H01W1 Cape Leeuwin H 60.83 240 P **P** **21 37 58.8 +2.1**
baz=109,slow=7.5,SNR=11
H01W2 Cape Leeuwin H 60.84 240 P **P** **21 37 59.6 +2.9**
baz=109,slow=7.5,SNR=9.1
H01W3 Cape Leeuwin H 60.84 240 P **P** **21 37 58.9 +2.2**
baz=109,slow=7.5,SNR=11
BIPH Bislig 61.19 292 ⇓*iP* **P** **21 37 58.6 -1.0**
DAV Davao City (W) 61.37 290 P **P** **21 38 01.0 +0.3**
comp=Z,3μm,0.9s,baz=76,slow=1.9,SNR=100
comp=Z,3μm,0.9s
DAV Davao City (W) 61.37 290 P **P** **21 38 00.8 0.0**
DAV Davao City (W) 61.37 290 P **P** **21 38 01.0 +0.3**
DAV Davao City (W) 61.37 290 P **P** **21 38 03.0 +2.3**
DAV Davao City (W) 61.37 290 P **P** **21 38 01.0 +0.3**
GSPH General Santos 61.49 289 *eP* **P** **21 38 01.5 -0.2**
GSPH *eS* **PcP** **21 38 35.0 -1.4**
KAPI Kappang 61.97 275 P **P** **21 38 04.7 +0.1**
comp=Z,348nm,1.0s,baz=110,slow=5.3,SNR=132
KAPI PKP2bc 22 07 10.7
comp=Z,48nm,1.2s,baz=108,slow=0.8,SNR=11
comp=Z,348nm,1.0s
KAPI Kappang 61.97 275 P **P** **21 38 04.8 +0.1**
KAPI Kappang 61.97 275 P **P** **21 38 04.8 +0.1**
KAPI pmax pmax
comp=Z,575nm,1.0s
KAPI Kappang 61.97 275 P **P** **21 38 04.8 +0.1**
KAPI Kappang 61.97 275 P **P** **21 38 05.2 +0.6**
KAPI Kappang 61.97 275 ⇓P **P** **21 38 04.8 +0.2**
KAPI Kappang 61.97 275 P **P** **21 38 04.3 -0.4**
KAPI pP **pwP** **21 40 03.2 -1.8**
KAPI PP **PP** **21 40 28.2 -3.4**
GIRL Giralia 62.48 254 P **P** **21 38 09.0 +1.2**
baz=62,SNR=77
GIRL Giralia 62.48 254 P **P** **21 38 08.7 +0.9**
GIRL IAmb IAmb 21 38 16.7
comp=Z,2μm,1.0s
GIRL Giralia 62.48 254 P **P** **21 38 09.3 +1.5**
GIRL Giralia 62.48 254 ⇑P **P** **21 38 08.9 +1.1**
PLAI Plampang 62.61 270 P **P** **21 38 09.1 +0.3**
SCPH Surigao 62.70 293 *eP* **P** **21 38 10.1 +0.8**
CGP Cagayan de Oro 62.78 291 ⇓*iP* **P** **21 38 11.2 +1.3**
VA02 Isla de Pascua 62.87 111 P **P** **21 38 10.2 -0.1**
VA02 IAmb IAmb 21 38 13.3
comp=Z,1μm,1.1s
RPN Rapa Nui 62.97 111 P **P** **21 38 12.0 +1.2**
comp=Z,796nm,1.0s,baz=302,slow=4.1,SNR=24
comp=Z,796nm,1.0s
RPN Rapa Nui 62.97 111 P **P** **21 38 11.4 +0.6**
RPN IAmb IAmb 21 38 13.9
comp=Z,2μm,1.1s
RPN Rapa Nui 62.97 111 ⇑P **P** **21 38 12.4 +1.5**
CCD Concordia, Ant 63.03 194 P **P** **21 38 11.6 +0.7**
CCD pP **pP** **21 40 08.1 0.0**
GHBP Garcia Hernand 63.64 292 ⇑*iP* **P** **21 38 16.2 +0.9**
GHBP *i* S **S** **21 46 05.2 +1.2**
TABP Talibon, Bohol 63.85 292 ⇑*eP* **P** **21 38 16.3 -0.4**
TABP *eS* **S** **21 46 05.1 -1.4**
DCPH Dipolog City 64.02 290 ⇓*eP* **P** **21 38 20.0 +2.3**
LSIP Lazi, Siquijor 64.02 291 ⇑*iP* **P** **21 38 18.3 +0.6**
LSIP *i* S **S** **21 46 10.0 +1.4**
TBP Tagbilaran 64.07 292 ⇓*iP* **P** **21 38 18.2 +0.2**
TBP Tagbilaran 64.07 292 ⇓*iP* **S** **21 46 11.8 +2.6**
LLP Lapu-Lapu 64.27 292 ⇓*eP* **P** **21 38 19.3 0.0**
CASY Casey 64.44 205 P **P** **21 38 19.9 +0.4**
CASY IAmb IAmb 21 38 22.3
comp=Z,2μm,0.9s
CASY Casey 64.44 205 P **P** **21 38 19.9 +0.4**
CASY pP **pP** **21 40 18.9 +1.7**
CASY PP **PP** **21 40 51.2 -0.4**
SNPH Sibulan 64.46 291 ⇑*eP* **P** **21 38 19.8 -0.8**
RCP Roxas 65.91 293 ⇑*eP* **P** **21 38 29.2 -0.4**
BKB Balikpapan 65.94 278 P **P** **21 38 31.3 +1.5**
BKB IAmb IAmb 21 38 34.5
comp=Z,1μm,1.2s
JAGI Jajag, Banyuwa 66.13 269 P **P** **21 38 29.6 -1.4**
JAGI IAmb IAmb 21 38 32.7
comp=Z,2μm,1.0s
JAGI Jajag, Banyuwa 66.13 269 P **P** **21 38 31.1 +0.1**
JHJ2 Mitsune 66.14 322 P **P** **21 38 30.4 -0.2**
JHJ2 Mitsune 66.14 322 P **P** **21 38 31.1 +0.5**
JHJ2 Mitsune 66.14 322 ⇑P **P** **21 38 30.4 -0.2**
JHJ Hachijo jima 2 66.17 322 P **P** **21 38 30.8 0.0**
comp=Z,7μm,0.8s,baz=140,slow=3.0,SNR=233
MYLDM **Lahad Datu 66.92 285** P **P** **21 38 37.7 +1.9**
MYLDM IAmb IAmb 21 38 58.4
comp=Z,1μm,0.9s
MYLDM **Lahad Datu 66.92 285** ⇓P **P** **21 38 38.0 +2.2**
JCNP Jose Panganiba 67.24 296 ⇑*eP* **P** **21 38 37.7 0.0**
JCNP Jose Panganiba 67.24 296 ⇓*eP* **S** **21 46 46.4 -0.2**
GQP Guinayangan 67.27 295 ⇑*eP* **P** **21 38 37.5 -0.4**
LQP Lukban 68.14 295 ⇓*eP* **P** **21 38 43.4 0.0**
JYT Yasato 68.21 325 P **P** **21 38 43.0 -0.2**
JYT Yasato 68.21 325 P **P** **21 38 43.1 -0.1**
JYT Yasato 68.21 325 ⇓P **P** **21 38 42.9 -0.2**
PGP Puerto Galera 68.36 294 ⇓*eP* **P** **21 38 43.4 -1.2**
SPMM Sapulut 68.59 284 P **P** **21 38 47.0 +1.0**
PPR Puerto Princes 68.63 289 ⇓*eP* **P** **21 38 47.1 +0.9**
TGY Tagaytay City 68.65 295 ⇓*eP* **P** **21 38 46.2 -0.1**
JRY Ryogami san 68.77 324 P **P** **21 38 46.1 -0.5**
JMM Marumori 69.11 326 P **P** **21 38 47.9 -0.6**
JMM Marumori 69.11 326 P **P** **21 38 48.2 -0.4**
JMM Marumori 69.11 326 ⇓P **P** **21 38 48.0 -0.6**
JGF Kuroka 69.34 322 P **P** **21 38 49.8 -0.3**
JGF Kuroka 69.34 322 P **P** **21 38 49.5 -0.6**
JGF Kuroka 69.34 322 ⇓P **P** **21 38 49.9 -0.1**
JGF ⇓P **P** **21 38 50.0 -0.1**
KKM Kota Kinabalu 69.34 285 P **P** **21 38 50.5 -0.1**
KKM Kota Kinabalu 69.34 285 P **P** **21 38 51.6 +1.0**
KKM Kota Kinabalu 69.34 285 ⇑P **P** **21 38 50.7 +0.1**
KKM ⇑P **P** **21 38 50.9 +0.3**
INU Inuyama 69.36 322 P **P** **21 38 49.8 -0.3**
INU IAmb IAmb 21 38 52.7
comp=Z,521nm,0.9s
INU Inuyama 69.36 322 P **P** **21 38 51.4 +1.3**
INU Inuyama 69.36 322 ⇑P **P** **21 38 50.1 0.0**
INU Inuyama 69.36 322 P **P** **21 38 49.9 -0.2**
INU pP **pP** **21 40 51.8 +1.0**
MJAR Matsushiro Arr 69.54 324 P **P** **21 38 50.9 -0.2**

comp=Z,770nm,0.8s,baz=156,slow=5.8,SNR=703
MJAR PKPPKP 22 06 43.1
comp=Z,1.8nm,0.3s,baz=44,slow=3.5,SNR=11
comp=Z,770nm,0.8s
MAJO Matsushiro 69.54 324 P **P** **21 38 50.6 -0.5**
MAJO IAmb IAmb 21 38 53.8
comp=Z,1μm,0.8s
MAJO Matsushiro 69.54 324 *d iP* **P** **21 38 50.9 -0.2**
MAJO pmax pmax
comp=Z,887nm,0.7s
MAJO Matsushiro 69.54 324 P **P** **21 38 51.6 +0.4**
MAJO Matsushiro 69.54 324 ⇓P **P** **21 38 50.4 -0.8**
MAJO Matsushiro 69.54 324 P **P** **21 38 51.0 -0.2**
MAJO pP **pP** **21 40 52.8 +0.7**
MAJO PP **PP** **21 41 29.9 -6.5**
MAT Matsushiro 69.54 324 P **P** **21 38 50.4 -0.7**
MJB9 Matsu-Tunnel 69.54 324 P **P** **21 38 51.4 +0.3**
MJB9 IAmb IAmb 21 38 54.8
comp=Z,1μm,0.8s
JOW Kunigami 69.55 310 P **P** **21 38 52.4 +0.9**
comp=Z,1μm,0.9s,baz=150,slow=5.7,SNR=131
JOW PP **PP** **21 41 36.8 +0.2**
comp=Z,150nm,1.0s,baz=112,slow=12,SNR=6.2
JOW PKP2ab 22 06 49.1
comp=Z,33nm,0.9s,baz=300,slow=5.8,SNR=4.7
comp=Z,1μm,0.9s
JOW Kunigami 69.55 310 P **P** **21 38 51.6 +0.2**
JOW Kunigami 69.55 310 P **P** **21 38 52.9 +1.5**
JOW Kunigami 69.55 310 ⇑P **P** **21 38 52.0 +0.5**
UGM Wanagama 69.72 269 P **P** **21 38 52.9 +0.1**
UGM Wanagama 69.72 269 P **P** **21 38 53.4 +0.6**
SMRI Semarang 70.06 270 P **P** **21 38 54.9 +0.1**
SMRI Semarang 70.06 270 P **P** **21 38 55.7 +0.9**
comp=Z,2μm,1.0s
JOM Ohasama 70.07 328 P **P** **21 38 53.8 -0.4**
JMN Monobe 70.13 319 P **P** **21 38 55.3 +0.6**
JMN IAmb IAmb 21 38 58.0
comp=Z,1μm,1.0s
JMN Monobe 70.13 319 ⇑P **P** **21 38 55.4 +0.6**
QSPA South Pole Qui 70.21 180 P **P** **21 38 55.8 +0.9**
comp=Z,3μm,1.0s,baz=332,slow=0.3,SNR=1821
comp=Z,3μm,1.0s
QSPA South Pole Qui 70.21 180 P **P** **21 38 55.2 +0.4**
QSPA South Pole Qui 70.21 180 ⇑P **P** **21 38 55.3 +0.4**
QSPA South Pole Qui 70.21 180 P **P** **21 38 55.4 +0.5**
QSPA pP **pP** **21 40 57.0 +1.3**
QSPA PP **PP** **21 41 43.0 +2.0**
JYA Atsumi 70.22 326 P **P** **21 38 55.2 0.0**
PACPP Pamplona Cagay 70.40 299 ⇑*e*P **P** **21 38 56.3 -0.2**
PACPP *i* S **S** **21 47 23.3 +0.6**
JSD Sado 70.59 325 P **P** **21 38 56.6 -0.7**
JSD Sado 70.59 325 ⇓P **P** **21 38 57.0 -0.3**
JSD ⇑P **P** **21 38 57.4 +0.1**
JMJ Miyako jima 2 70.60 307 P **P** **21 38 59.5 +1.8**
JAD Aida 70.77 320 P **P** **21 38 58.5 +0.1**
JSU Suzuyama 70.88 315 P **P** **21 38 59.1 -0.1**
JSU IAmb IAmb 21 39 02.0
comp=Z,1μm,0.9s
JSU Suzuyama 70.88 315 ⇑P **P** **21 38 58.2 -1.0**
AMKA Amchitka 70.95 358 P **P** **21 38 58.1 -1.0**
ERM Erimo 71.13 331 P **P** **21 39 01.1 +0.7**
ERM Erimo 71.13 331 P **P** **21 39 01.1 +0.7**
ERM pmax pmax
comp=Z,464nm,1.0s
ERM Erimo 71.13 331 P **P** **21 39 02.1 +1.7**
ERM Erimo 71.13 331 P **P** **21 39 01.4 +1.0**
ERM pP **pP** **21 41 03.8 +1.3**
JTM Tenmabayashi 71.18 328 P **P** **21 39 00.3 -0.4**
JTM IAmb IAmb 21 39 06.9
comp=Z,908nm,0.8s
JTM Tenmabayashi 71.18 328 ⇓P **P** **21 39 00.3 -0.4**
KIWB Kanaga Island 71.40 1 P **P** **21 39 01.0 -0.7**
ADK Adak 71.44 1 P **P** **21 39 00.8 -1.0**
ADK Adak 71.44 1 P **P** **21 39 00.9 -1.0**
ADK pmax pmax
comp=Z,1μm,0.7s
ADK Adak 71.44 1 P **P** **21 39 01.4 -0.5**
ADK Adak 71.44 1 ⇑P **P** **21 39 00.6 -1.3**
ADK Adak 71.44 1 P **P** **21 39 00.7 -1.2**
ADK pP **pwP** **21 41 06.5 +0.1**
ADK PP **PP** **21 41 49.2 -2.8**
ADK sP **sP** **21 42 10.1 +4.9**
JHS Saijyo 71.44 319 P **P** **21 39 02.6 +0.2**
JHS Saijyo 71.44 319 P **P** **21 39 02.4 0.0**
JHS Saijyo 71.44 319 ⇓P **P** **21 39 02.2 -0.2**
YUK Yuzh-Kuril'sk 71.56 334 *d iP* **P** **21 39 02.8 0.0**
YUK *i* *PP **pP** **21 41 06.6 +1.5**
YUK *i* 21 41 50.4
YUK *e*S **S** **21 47 35.9 +1.2**
YUK pmax pmax
comp=Z,3μm,1.4s
YUK pmax pmax
comp=Z,3μm,1.3s
YUK pmax pmax
comp=E,1μm,1.1s
YUK pmax pmax
comp=N,2μm,0.9s
SBUM Sibu 71.64 280 P **P** **21 39 04.7 +0.7**
SBUM IAmb IAmb 21 39 07.5
comp=Z,970nm,1.2s
SBUM Sibu 71.64 280 P **P** **21 39 05.0 +1.0**
JOT Ohata 71.64 329 P **P** **21 39 03.7 +0.4**
GSTR Great Sitkin T 71.66 1 P **P** **21 39 03.0 -0.2**
KUR Kuril'sk 71.73 336 *d iP* **P** **21 39 04.4 +0.6**
KUR *e* 21 42 09.5
KUR *i* 21 47 40.8
KUR SSS SSS 21 55 54.4
KUR pmax pmax
comp=Z,15μm,5.0s
KUR pmax pmax
comp=Z,3μm,1.8s
KUR MLR MLR
comp=Z,3μm,19.0s
YOJ Yonaguni jima 72.15 305 P **P** **21 39 06.1 -0.6**
YOJ Yonaguni jima 72.15 305 P **P** **21 39 06.1 -0.6**
YOJ pmax pmax
comp=Z,4μm,1.0s
YOJ Yonaguni jima 72.15 305 P **P** **21 39 07.9 +1.2**
YOJ Yonaguni jima 72.15 305 ⇑P **P** **21 39 06.4 -0.3**
JEW Eniwo 72.57 330 ⇑P **P** **21 39 09.3 +0.7**
JEW ⇑P **P** **21 39 09.4 +0.7**
SHEM Shemya Is, Ala 72.58 355 P **P** **21 39 07.9 -0.5**
comp=Z,2μm,1.1s,baz=90,slow=1.4,SNR=48
comp=Z,2μm,1.1s
TWG Pinlang 72.81 303 P **P** **21 39 08.9 -1.6**
TWG IAmb IAmb 21 39 16.8
comp=Z,891nm,0.7s
YULB Yu-li 72.93 303 P **P** **21 39 09.7 -1.5**
YULB IAmb IAmb 21 39 17.1
comp=Z,909nm,0.8s
NIKH Nikolski High 72.98 6 P **P** **21 39 09.9 -0.8**
NIKH Nikolski High 72.98 6 P **P** **21 39 09.9 -0.8**
baz=189
NIKH S **S** **21 47 47.5 -2.6**
baz=189
ASAJ Asahikawa 73.04 332 P **P** **21 39 12.2 +0.8**
NACB Ninganchiao 73.10 304 P **P** **21 39 11.4 -0.7**
SSLB Suanglung 73.40 303 P **P** **21 39 12.4 -1.5**
SSLB IAmb IAmb 21 39 15.6
comp=Z,1μm,0.7s
SSLB Suanglung 73.40 303 P **P** **21 39 14.2 +0.3**
TPUB Ta-pu 73.41 303 P **P** **21 39 12.6 -1.4**
TPUB Ta-pu 73.41 303 P **P** **21 39 13.9 0.0**
JTU Tsushima 73.47 317 P **P** **21 39 14.1 +0.1**
JTU Tsushima 73.47 317 ⇓P **P** **21 39 13.6 -0.4**
XMI Christmas Isla 73.48 265 P **P** **21 39 15.9 +1.3**
XMI Christmas Isla 73.48 265 ⇑P **P** **21 39 14.7 +0.1**
XMI ⇑P **P** **21 39 14.7 +0.1**
XMIS Christmas Isla 73.51 265 P **P** **21 39 14.5 -0.2**
XMIS IAmb IAmb 21 39 22.8
comp=Z,944nm,0.8s
XMIS Christmas Isla 73.51 265 P **P** **21 39 16.1 +1.4**
YHNB Yeheng 73.53 304 P **P** **21 39 14.3 -0.3**
YHNB Yeheng 73.53 304 P **P** **21 39 15.0 +0.3**
TATO Taipei 73.60 305 P **P** **21 39 14.3 -0.6**
TATO Taipei 73.60 305 P **P** **21 39 15.1 +0.2**
SKR Severo-Kuril's 73.77 343 *d iP* **P** **21 39 14.8 -0.5**
UNV Unalaska Valle 74.09 7 P **P** **21 39 15.6 -1.5**
UNV IAmb IAmb 21 39 18.4
comp=Z,874nm,0.8s
UNV Unalaska Valle 74.09 7 P **P** **21 39 16.2 -0.8**
baz=192
UNV S **S** **21 47 58.4 -3.7**
baz=192
JWK2 Keihoku 74.28 332 P **P** **21 39 19.2 +0.9**
AKUT Akutan 74.46 8 P **P** **21 39 17.5 -1.6**
AKUT Akutan 74.46 8 ⇑P **P** **21 39 17.5 -1.6**
AKUT ⇓P **P** **21 39 17.5 -1.6**
YSS Yuzh-Sakhalins 75.20 334 P **P** **21 39 24.1 +0.7**
YSS Yuzh-Sakhalins 75.20 334 *d iP* **P** **21 39 24.3 +0.9**
YSS pmax pmax
comp=Z,3μm,0.9s
YSS Yuzh-Sakhalins 75.20 334 P **P** **21 39 25.3 +1.9**
YSS Yuzh-Sakhalins 75.20 334 ⇓P **P** **21 39 23.8 +0.4**
YSS ⇑P **P** **21 39 24.1 +0.7**
PET Petropavlovsk 75.28 346 P **P** **21 39 23.0 -0.7**
PET IAmb IAmb 21 39 30.6
comp=Z,996nm,1.3s
PET Petropavlovsk 75.28 346 κ *iP* **P** **21 39 23.0 -0.7**
PET *e**PP **pP** **21 41 26.5 -0.9**
PET *e**SP **sP** **21 42 26.4 -2.2**
PET *e*S **S** **21 48 16.7 +1.7**
PET pmax pmax
comp=Z,9μm,14.9s
PET pmax pmax
comp=Z,824nm,1.3s
PET pmax pmax
comp=Z,9μm,13.7s
PET smax smax
comp=N,12μm,19.7s
PET smax smax
comp=N,9μm,14.2s
PET MLR MLR
comp=Z,4μm,19.0s
PET Petropavlovsk 75.28 346 P **P** **21 39 22.9 -0.8**
comp=Z,2μm,0.8s
PET Petropavlovsk 75.28 346 ⇑P **P** **21 39 22.7 -0.9**
PET ⇑P **P** **21 39 22.8 -0.9**
PEA0B Petropavlovsk- 75.58 345 P **P** **21 39 25.4 0.0**
PEA0B Petropavlovsk- 75.58 345 P **P** **21 39 25.4 0.0**
PEA0B pmax pmax
comp=Z,4μm,1.5s
PETK Petropavlovsk- 75.58 345 P **P** **21 39 25.4 0.0**
comp=Z,992nm,0.9s,baz=123,slow=5.5,SNR=356
comp=Z,992nm,0.9s
PETK Petropavlovsk- 75.58 345 P **P** **21 39 24.2 -1.2**
KNMB Chin-men Tao 75.76 303 P **P** **21 39 27.0 0.0**
KNMB IAmb IAmb 21 39 35.0
comp=Z,1μm,1.1s
QZH Quanzhou 75.84 303 ⇓*iP* **P** **21 39 28.1 +0.7**
QZH pP **pP** **21 41 29.3 -2.1**
QZH sP **PP** **21 42 26.3 -2.9**
QZH S **S** **21 48 18.0 -4.2**
QZH ScS **ScS** **21 48 44.8 -2.0**
QZH pmax pmax
comp=Z,940nm,1.0s
QZH pmax pmax
comp=Z,11μm,5.1s
TJN Taejon 75.92 317 P **P** **21 39 27.6 0.0**
TJN Taejon 75.92 317 *d iP* **P** **21 39 27.9 +0.3**
TJN Taejon 75.92 317 P **P** **21 39 28.0 +0.3**
CNBA Chernabura Isl 76.07 11 P **P** **21 39 27.1 -0.9**
CNBA IAmb IAmb 21 39 34.4
comp=Z,1μm,1.5s
CHNA Chernabura Isl 76.08 11 P **P** **21 39 27.3 -0.7**
baz=198,SNR=36
CHNA S **S** **21 48 21.5 -2.0**
baz=198
KSRS Korea Array 76.23 319 P **P** **21 39 29.7 +0.4**
comp=Z,238nm,0.8s,baz=137,slow=5.9,SNR=352
KSRS PKPPKP **P'P'df** **22 06 33.3 -5.1**
comp=Z,2.4nm,0.9s,baz=286,slow=2.8,SNR=4.3
comp=Z,238nm,0.8s
KSAR Wonju Array Be 76.25 319 P **P** **21 39 29.5 +0.1**
KSAR Wonju Array Be 76.25 319 P **P** **21 39 29.5 +0.1**
KS19 Wonju Array Si 76.30 319 P **P** **21 39 29.9 +0.2**
KS19 IAmb IAmb 21 39 38.0
comp=Z,1μm,1.6s
H06S1 SOCORRO T 76.34 64 P **P** **21 39 33.3 +3.0**
SNR=24
H06N1 SOCORRO T-PHAS 76.37 64 P **P** **21 39 32.3 +1.8**
SNR=20
H06E1 SOCORRO T-PHAS 76.38 64 P **P** **21 39 32.9 +2.3**
SNR=55
SDPT Sand Point 76.42 10 P **P** **21 39 29.0 -0.9**
baz=197,SNR=60
SDPT S **S** **21 48 22.6 -4.4**
baz=197
TEY Ternei 76.53 329 ⇓*eP* **P** **21 39 31.5 +0.7**
TEY *e* 21 41 40.5
TEY *e* 21 42 32.8
TEY pmax pmax
comp=Z,400nm,1.2s
TEY pmax pmax
comp=N,40nm,1.2s
TEY pmax pmax
comp=E,30nm,1.2s
TEY pmax pmax
comp=N,300nm,4.9s
TEY pmax pmax
comp=Z,1μm,5.2s
TEY pmax pmax
comp=E,400nm,4.8s
TEY pmax pmax
comp=N,200nm,14.7s
TEY pmax pmax
comp=E,200nm,14.7s
TEY pmax pmax
comp=Z,600nm,13.1s
PMBI Palembang 76.74 272 P **P** **21 39 32.6 -0.1**
SNCC San Nicolas Is 77.00 47 P **P** **21 39 34.5 +0.9**
SNCC San Nicolas Is 77.00 47 P **P** **21 39 35.1 +1.4**
baz=236,SNR=11
SNCC S **S** **21 48 39.2 +5.0**
baz=236
SPIA Saint Paul Isl 77.03 4 P **P** **21 39 33.0 -0.2**
SPIA IAmb IAmb 21 39 35.1
comp=Z,2μm,1.2s
SPIA Saint Paul Isl 77.03 4 P **P** **21 39 33.1 0.0**
baz=188,SNR=21
SPIA S **S** **21 48 32.6 -0.8**
baz=188
INCN Inchon 77.06 318 P **P** **21 39 34.4 +0.5**
INCN IAmb IAmb 21 39 37.2
comp=Z,916nm,0.9s
INCN Inchon 77.06 318 P **P** **21 39 34.4 +0.5**
INCN pmax pmax
comp=Z,916nm,1.0s
INCN Inchon 77.06 318 P **P** **21 39 34.8 +0.9**
INCN Inchon 77.06 318 P **P** **21 39 33.9 0.0**
INCN Inchon 77.06 318 ⇓P **P** **21 39 33.9 0.0**
INCN ⇑P **P** **21 39 34.5 +0.5**
SSE Sheshan 77.08 310 P **P** **21 39 34.3 +0.2**
SSE S **S** **21 48 37.5 +2.4**
SSE pmax pmax
comp=Z,210nm,1.1s
SSE pmax pmax
comp=Z,4μm,5.5s
UGL Uglegorsk 77.16 335 *eP* **P** **21 39 34.2 +0.1**
UGL *e* 21 41 40.4
UGL *i* 21 42 37.4
UGL *i* S **S** **21 48 36.6 +1.4**
UGL pmax pmax
comp=E,5μm,3.0s
UGL pmax pmax
comp=N,4μm,4.0s
UGL pmax pmax
comp=Z,13μm,4.0s
UGL pmax pmax
comp=Z,2μm,0.9s
UGL smax smax
comp=N,23μm,6.0s
UGL smax smax
comp=E,10μm,6.0s
SCZ2 Santa Cruz Isl 77.34 47 P **P** **21 39 36.8 +1.3**
baz=235,SNR=54
SCZ2 S **S** **21 48 41.8 +3.9**
baz=235
S14K Fog Glacier 77.47 11 P **P** **21 39 35.7 -0.1**
baz=198,SNR=53
S14K S **S** **21 48 37.0 -1.4**
baz=198
SCI2 San Clemente I 77.53 48 P **P** **21 39 37.8 +1.3**
baz=236,SNR=33
SCI2 S **S** **21 48 43.8 +4.0**
baz=236
SBC Santa Barbara 77.54 46 P **P** **21 39 38.1 +1.6**
baz=235,SNR=13
SBC S **S** **21 48 44.5 +4.7**
baz=235
MCCM Marconi Confer 77.65 42 P **P** **21 39 37.7 +0.7**
CHGN Chignik 77.69 11 P **P** **21 39 36.1 -0.6**
baz=199,SNR=100
CHGN S **S** **21 48 37.2 -3.2**
baz=199
PKM Mcpherson Peak 77.73 46 P **P** **21 39 39.4 +1.6**
baz=235,SNR=59
PKM S **S** **21 48 46.2 +4.0**
baz=235
SAO San Andreas Ge 77.74 43 P **P** **21 39 38.2 +0.6**
SAO San Andreas Ge 77.74 43 P **P** **21 39 38.2 +0.6**
SAO pmax pmax
comp=Z,493nm,1.0s
SAO San Andreas Ge 77.74 43 ⇑P **P** **21 39 38.1 +0.6**
SAO ⇓P **P** **21 39 38.9 +1.3**
CHIR Chirikof Islan 77.78 13 P **P** **21 39 36.8 -0.5**
CHIR IAmb IAmb 21 39 39.7
comp=Z,848nm,0.7s
CHIR Chirikof Islan 77.78 13 P **P** **21 39 37.2 -0.1**
baz=202,SNR=30
CHIR S **S** **21 48 41.0 -0.5**
baz=202
SMMC Simmler 77.85 45 P **P** **21 39 39.9 +1.7**
baz=235,SNR=11
SMMC S **S** **21 48 48.6 +5.4**
baz=235
CIS Catalina Islan 77.85 48 P **P** **21 39 39.1 +0.8**
baz=236,SNR=32
CIS S **S** **21 48 47.2 +3.9**
baz=236
BBGB Big Mountain B 77.89 44 P **P** **21 39 40.2 +1.7**
BBGB IAmb IAmb 21 39 46.9
comp=Z,2μm,1.7s
HJU Haeju 77.97 318 P **P** **21 39 39.2 +0.5**
HJU pP **pwP** **21 41 46.2 -0.4**
HJU S **S** **21 48 42.4 -1.8**
HJU AmB
comp=Z,4μm,2.1s
HJU AMS AMS
comp=N,1μm,5.3s
HJU AMS AMS
comp=E,5μm,17.8s
HJU AMS AMS
comp=Z,2μm,5.8s
MNAI Manna 77.98 270 P **P** **21 39 39.2 -0.2**
MNAI Manna 77.98 270 P **P** **21 39 40.7 +1.3**
HHU Hamhung 78.01 320 P **P** **21 39 40.0 +1.0**
HHU pP **pwP** **21 41 47.7 +0.9**
HHU S **S** **21 48 43.9 -0.7**
HHU AmB
comp=Z,2μm,1.2s
HHU AMS AMS
comp=N,6μm,6.9s
HHU AMS AMS
comp=E,12μm,13.5s
HHU AMS AMS
comp=Z,7μm,7.3s
BCW Bitter Crk WRg 78.03 46 P **P** **21 39 40.2 +0.9**
BCW IAmb IAmb 21 39 42.3
comp=Z,4μm,2.5s
FMP Fort Macarthur 78.11 48 P **P** **21 39 40.6 +1.0**
baz=236,SNR=8.9
FMP S **S** **21 48 49.6 +3.7**
baz=236
HKPS Hong Kong Po S 78.16 299 P **P** **21 39 40.7 +0.6**
CCX Cicese 78.26 50 P **P** **21 39 41.1 +0.7**
USA0B Ussuriysk Arra 78.28 326 P **P** **21 39 41.2 +0.9**
USA0B IAmb IAmb 21 39 44.0
comp=Z,1μm,1.0s
USA0B Ussuriysk Arra 78.28 326 P **P** **21 39 41.2 +0.9**
USA0B pmax pmax
comp=Z,1μm,1.0s
USRK Ussuriysk Ar. 78.28 326 P **P** **21 39 41.4 +1.1**
comp=Z,1μm,0.9s,baz=122,slow=3.0,SNR=376
USRK PKKPbc **PKKPbc** **21 58 31.8 -2.5**
comp=Z,3.4nm,0.9s,baz=336,slow=5.7,SNR=4.1
comp=Z,1μm,0.9s
USRK Ussuriysk Ar. 78.28 326 P **P** **21 39 41.0 +0.7**
OSI Osito Audit: C 78.31 47 P **P** **21 39 41.9 +1.2**
baz=236,SNR=15
OSI S **S** **21 48 52.3 +4.3**
baz=236
TJX Tijuana 78.33 49 P **P** **21 39 41.5 +0.7**
TJX IAmb IAmb 21 39 43.6
comp=Z,1μm,1.1s
TYV Tymovskoe 78.34 336 *eP* **P** **21 39 41.5 +1.1**
TYV *e*S **S** **21 48 43.8 -3.7**
TYV pmax pmax
comp=Z,1μm,1.1s
TYV pmax pmax
comp=Z,9μm,2.7s
TYV smax smax
comp=N,10μm,6.5s
TYV smax smax
comp=E,7μm,6.5s
DECC Green Verdugo 78.38 47 P **P** **21 39 41.9 +0.8**
baz=236,SNR=16
DECC S **S** **21 48 53.4 +4.6**
baz=236
PASC Pasadena Art C 78.44 47 P **P** **21 39 41.3 0.0**
109C Camp Elliot, M 78.49 49 P **P** **21 39 42.2 +0.5**
109C Camp Elliot, M 78.49 49 P **P** **21 39 42.8 +1.1**
baz=237,SNR=32
109C S **S** **21 48 53.9 +4.1**
baz=237
CBX Cerro Bola 78.50 49 P **P** **21 39 42.5 +0.6**
ARVC Arvin 78.53 46 P **P** **21 39 43.1 +1.3**
baz=236,SNR=29
ARVC S **S** **21 48 53.2 +3.0**
baz=236
PYAG Pyongyang 78.56 319 P **P** **21 39 43.0 +1.2**
MCO Taipa Grande 78.57 299 P **P** **21 39 44.0 +1.7**
JCC Jacoby Creek, 78.60 39 P **P** **21 39 42.7 +0.7**
TKX Tecate 78.68 49 P **P** **21 39 43.2 +0.5**
VES Vestal, Richgr 78.76 45 P **P** **21 39 43.9 +0.9**
baz=235,SNR=45
VES S **S** **21 48 56.4 +3.9**
baz=235
SII Sitkinak Islan 78.78 13 P **P** **21 39 42.4 -0.2**
SII IAmb IAmb 21 39 45.3
comp=Z,2μm,0.9s
SII Sitkinak Islan 78.78 13 P **P** **21 39 42.8 +0.2**
baz=203,SNR=110
SII S **S** **21 48 51.6 -0.2**
baz=203
SII Sitkinak Islan 78.78 13 P **P** **21 39 43.1 +0.5**
MURC Murrieta 78.81 48 P **P** **21 39 44.5 +1.1**
baz=237,SNR=114
MURC S **S** **21 48 57.6 +4.4**
baz=237
VOG Valley Oaks Go 78.83 45 P **P** **21 39 44.2 +0.8**
baz=235,SNR=8.2
VOG S **S** **21 48 56.8 +3.6**
baz=235
BFSC Mount Baldy Ra 78.84 47 P **P** **21 39 44.6 +0.9**
baz=237,SNR=81
BFSC S **S** **21 48 57.4 +3.7**
baz=237
EDW2 Edwards Air Fo 78.96 47 P **P** **21 39 45.5 +1.3**
baz=236,SNR=134
EDW2 S **S** **21 48 58.1 +3.3**
baz=236
MONP2 Monument Peak 78.98 49 P **P** **21 39 45.9 +1.4**
baz=238,SNR=229
MONP2 S **S** **21 49 00.2 +4.8**
baz=238
R16K Pilot Point 79.04 11 P **P** **21 39 43.5 -0.4**
baz=200
R16K S **S** **21 48 53.0 -1.3**
baz=200
ISA Isabella, Lake 79.07 46 P **P** **21 39 46.1 +1.3**
baz=236,SNR=157
ISA S **S** **21 49 00.4 +4.5**
baz=236
IKP In-Ko-Pah, Jac 79.08 49 P **P** **21 39 46.4 +1.5**
baz=238,SNR=143
IKP S **S** **21 49 01.7 +5.6**
baz=238
CCAC Calif City Air 79.10 46 P **P** **21 39 45.9 +1.0**
GZH Guangzhou 79.18 299 P **P** **21 39 44.0 -1.5**
GZH pP **pP** **21 41 49.1 -1.5**
GZH PP **PP** **21 42 53.4 -3.3**
GZH S **S** **21 48 55.0 -2.3**
GZH pmax pmax
comp=Z,16μm,4.9s

MYKOM **Kota Tinggi** 79.21 276 P **P** 21 39 46.4 +0.5
MYKOM IAmb IAmb 21 39 49.0
comp=Z,1µm,1.0s
NJ2 Nanjing 79.27 310 ⇓*i*P **P** 21 39 46.8 +1.1
NJ2 pP **pP** 21 41 55.1 +3.5
NJ2 sP **sP** 21 42 52.3 -0.3
NJ2 PP **PP** 21 42 57.0 -0.3
NJ2 S **S** 21 49 00.9 +3.0
NJ2 SS **SS** 21 54 25.3 +2.1
NJ2 pmax pmax
comp=Z,570nm,1.3s
NJ2 pmax pmax
comp=Z,7µm,4.8s
SRIG Santa Rosalia 79.28 56 P **P** 21 39 46.5 +0.6
SRIG IAmb IAmb 21 39 48.6
comp=Z,866nm,1.1s
LPIG La Paz 79.30 60 P **P** 21 39 47.6 +1.5
comp=Z,340nm,1.0s,baz=218,slow=1.7,SNR=42
comp=Z,340nm,1.0s
R17K Ugashik Creek 79.33 12 P **P** 21 39 45.4 0.0
baz=201,SNR=140
R17K S **S** 21 48 55.9 -1.5
baz=201
PFO Pinyon Flats O 79.34 48 P **P** 21 39 47.3 +1.0
comp=Z,133nm,1.0s,baz=252,slow=3.9,SNR=113
PFO S **S** 21 49 03.0 +4.1
comp=Z,1.8nm,0.7s,baz=349,slow=21,SNR=9.9
comp=Z,133nm,1.0s
PFO Pinyon Flats O 79.34 48 P **P** 21 39 45.5 -0.8
PFO Pinyon Flats O 79.34 48⇑*e*P **P** 21 39 47.4 +1.1
PFO pmax pmax
comp=Z,543nm,1.3s
PFO Pinyon Flats O 79.34 48 P **P** 21 39 47.6 +1.3
baz=238,SNR=99
PFO S **S** 21 49 01.7 +2.9
baz=238
TPFO Pinon Flats 79.34 48 P **P** 21 39 47.4 +1.1
baz=238,SNR=116
TPFO S **S** 21 49 03.1 +4.2
baz=238
BBRC Big Bear Solar 79.36 48 P **P** 21 39 47.9 +1.3
baz=237
BBRC S **S** 21 49 04.6 +5.2
baz=237
SLBS Sierra La Lagu 79.41 60 P **P** 21 39 47.3 +0.5
SLBS IAmb IAmb 21 39 49.7
comp=Z,970nm,1.4s
SLBS Sierra La Lagu 79.41 60 ⇑P **P** 21 39 47.5 +0.7
SLBS ⇑P **P** 21 39 47.8 +1.0
SWSC Sam W. Stewart 79.45 49 P **P** 21 39 48.1 +1.4
baz=238,SNR=132
SWSC S **S** 21 49 05.0 +5.2
baz=238
LRMC Laurel Mtn Rad 79.50 46 P **P** 21 39 48.2 +1.1
baz=236,SNR=80
LRMC S **S** 21 49 05.3 +4.8
baz=236
OHAK Old Harbor 79.58 14 P **P** 21 39 46.6 -0.1
OHAK IAmb IAmb 21 39 48.9
comp=Z,1µm,1.3s
OHAK Old Harbor 79.58 14 P **P** 21 39 47.0 +0.2
baz=204,SNR=116
OHAK S **S** 21 49 00.2 +0.2
baz=204
RRX Edison Barstow 79.64 47 P **P** 21 39 48.8 +1.1
baz=237,SNR=6.3
RRX S **S** 21 49 05.7 +4.0
baz=237
L02F Cave Junction 79.69 38 P **P** 21 39 49.6 +1.8
baz=231,SNR=56
L02F S **S** 21 49 07.4 +5.6
baz=231
CWC Cottonwood Cre 79.77 45 P **P** 21 39 49.7 +1.2
baz=236
CWC S **S** 21 49 07.4 +4.2
baz=236
OMMB Old Mammoth Mi 79.82 44 P **P** 21 39 49.5 +0.5
MDJ Mudanjiang 79.84 325 P **P** 21 39 48.8 +0.4
MDJ IAmb IAmb 21 39 52.1
comp=Z,2µm,1.0s
MDJ Mudanjiang 79.84 325 P **P** 21 39 50.5 +2.0
BELC Belle Mtn. Jos 79.87 48 P **P** 21 39 50.4 +1.3
baz=238,SNR=202
BELC S **S** 21 49 09.2 +4.9
baz=238
MLAC Mammoth, Mammo 79.94 44 P **P** 21 39 51.1 +1.7
baz=235,SNR=13
MLAC S **S** 21 49 12.0 +6.9
baz=235
YBH Yreka Blue Hor 79.95 39 S **S** 21 49 07.7 +3.0
comp=Z,9.7nm,1.2s,baz=296,slow=23,SNR=18
MPMC Manual Prospec 79.95 46 P **P** 21 39 50.7 +1.2
baz=236,SNR=161
MPMC S **S** 21 49 09.3 +4.1
baz=236
K02D Willamette Mer 79.99 38 P **P** 21 39 51.1 +1.7
baz=231,SNR=44
K02D S **S** 21 49 09.7 +4.7
baz=231
GSC Goldstone, Bar 80.01 47 P **P** 21 39 50.9 +1.2
baz=237,SNR=116
GSC S **S** 21 49 09.9 +4.4
baz=237
TIN Tinemaha, Big 80.01 45 P **P** 21 39 51.2 +1.5
baz=236,SNR=52
TIN S **S** 21 49 10.3 +4.8
baz=236
BC3 Big Chuckawall 80.07 49 P **P** 21 39 51.7 +1.6
baz=238,SNR=143
BC3 S **S** 21 49 11.6 +5.2
baz=238
HEC Hector,Ludlow 80.08 47 P **P** 21 39 51.1 +1.0
baz=237,SNR=91
HEC S **S** 21 49 09.9 +3.7
baz=237
J01E Myrtle Point 80.13 37 P **P** 21 39 50.7 +0.7
J01E Myrtle Point 80.13 37 P **P** 21 39 51.6 +1.6
baz=231,SNR=35
J01E S **S** 21 49 09.4 +3.2
baz=231
GLA Glamis 80.20 50 P **P** 21 39 52.4 +1.7
baz=239,SNR=106
GLA S **S** 21 49 11.9 +4.4
baz=239
BELA Belgrano 2 80.23 173 P **P** 21 39 50.0 -0.1
BELA IAmb IAmb 21 39 52.5
comp=Z,1µm,0.9s
KDAK Kodiak Island 80.25 14 S **S** 21 49 07.6 +0.8
comp=Z,88nm,1.2s,baz=170,slow=22,SNR=21
KDAK Kodiak Island 80.25 14 P **P** 21 39 49.9 -0.3
KDAK IAmb IAmb 21 39 57.5
comp=Z,3µm,1.7s
KDAK Kodiak Island 80.25 14*d* *i*P **P** 21 39 50.0 -0.3
KDAK pmax pmax
comp=Z,1µm,1.4s
KDAK Kodiak Island 80.25 14 P **P** 21 39 50.5 +0.3
baz=204
KDAK S **S** 21 49 06.6 -0.1
baz=204
Q16K King Salmon 80.25 11 P **P** 21 39 50.2 0.0
baz=201,SNR=157
Q16K S **S** 21 49 07.3 +0.6
baz=201
P16K Nushagak River 80.35 10 P **P** 21 39 50.7 -0.1
baz=199,SNR=146
P16K S **S** 21 49 07.2 -0.5
baz=199
QIZ Qiongzhong 80.36 294 P **P** 21 39 52.1 +0.4
QIZ Qiongzhong 80.36 294 ⇓*i*P **P** 21 39 51.6 -0.1
QIZ pP **pP** 21 41 54.1 -3.1
QIZ S **S** 21 49 11.5 +2.0
QIZ sS **sS** 21 52 53.3 -1.1
QIZ pmax pmax
comp=Z,290nm,1.0s
QIZ pmax pmax
comp=Z,5µm,11.6s
QIZ Qiongzhong 80.36 294 P **P** 21 39 52.0 +0.3
L04D Klamath Falls 80.48 39 P **P** 21 39 52.5 +0.4
L04D IAmb IAmb 21 39 54.8
comp=Z,720nm,1.1s
L04D Klamath Falls 80.48 39 P **P** 21 39 53.2 +1.1
baz=232,SNR=136
L04D S **S** 21 49 12.6 +2.4
baz=232
DBO Dodson Butte 80.50 37 P **P** 21 39 52.5 +0.4
GMRC Granite Mounta 80.52 48 P **P** 21 39 53.6 +1.1
baz=238,SNR=138

GMRC S **S** 21 49 13.9 +3.0
baz=238
GRAC Grapevine Rang 80.55 45 P **P** 21 39 54.1 +1.6
baz=236,SNR=92
GRAC S **S** 21 49 15.5 +4.5
baz=236
IRM Iron Mountain 80.55 49 P **P** 21 39 54.0 +1.5
baz=238,SNR=264
IRM S **S** 21 49 15.7 +4.7
baz=238
FURC Furnace Creek, 80.60 46 P **P** 21 39 53.8 +1.2
baz=237,SNR=59
FURC S **S** 21 49 14.3 +3.1
baz=237
TUQ Turquoise Moun 80.69 47 P **P** 21 39 54.4 +1.1
baz=238,SNR=46
TUQ S **S** 21 49 16.8 +4.3
baz=238
SHOC Shoshone, Teco 80.69 47 P **P** 21 39 54.2 +1.0
baz=237,SNR=54
SHOC S **S** 21 49 16.5 +4.2
baz=237
NVAR Mina Array Bea 80.73 44 P **P** 21 39 54.4 +0.8
comp=Z,232nm,0.9s,baz=225,slow=7.9,SNR=399
NVAR pP **pP** 21 41 57.3 -1.9
comp=Z,14nm,0.8s,baz=230,slow=8.1,SNR=1.7
NVAR PKKP **PKKPdf** 21 58 18.9 +0.4
comp=Z,1.5nm,0.7s,baz=119,slow=2.8,SNR=4.1
NVAR PKKPbc **PKKPbc** 21 58 29.9 +1.2
comp=Z,6.9nm,0.7s,baz=84,slow=2.4,SNR=13
NVAR PKPPKP **P'P'df** 22 06 28.6 -2.2
comp=Z,2.3nm,0.8s,baz=63,slow=0.7,SNR=3.6
comp=Z,232nm,0.9s
NVAR Mina Array Bea 80.73 44 P **P** 21 39 54.0 +0.5
I02E Swisshome, OR 80.77 36 P **P** 21 39 53.9 +0.6
I02E Swisshome, OR 80.77 36 P **P** 21 39 54.7 +1.4
baz=231,SNR=15
I02E S **S** 21 49 16.1 +3.4
baz=231
P17K Kvichak River 80.78 11 P **P** 21 39 52.5 -0.4
baz=201,SNR=548
P17K S **S** 21 49 12.0 0.0
baz=201
I03D Drain, OR 80.80 37 P **P** 21 39 54.5 +1.1
baz=231,SNR=75
I03D S **S** 21 49 16.2 +3.3
baz=231
GRNR Gornyy 80.81 333 ⇓*i*P **P** 21 39 54.6 +1.2
GRNR *e*S **S** 21 49 10.7 -2.1
GRNR pmax pmax
comp=E,170nm,1.1s
GRNR pmax pmax
comp=N,220nm,1.0s
GRNR pmax pmax
comp=Z,780nm,1.0s
GRNR smax smax
comp=N,5.0nm,0.8s
GRNR MLR MLR
comp=E,770nm,14.0s
113A Mohawk Valley, 80.82 50 P **P** 21 39 54.3 +0.4
113A IAmb IAmb 21 39 56.8
comp=Z,723nm,1.2s
NV11 Mina Array Sit 80.83 44 P **P** 21 39 54.5 +0.5
O16K Kokwok River B 80.86 10 P **P** 21 39 52.6 -0.7
baz=199,SNR=211
O16K S **S** 21 49 10.1 -2.8
baz=199
Q20K Shuyak Island 81.05 13 P **P** 21 39 54.4 +0.1
baz=204,SNR=131
Q20K S **S** 21 49 14.7 0.0
baz=204
K04D Chiloquin, OR 81.06 39 P **P** 21 39 56.5 +1.5
baz=233,SNR=20
K04D S **S** 21 49 19.8 +3.9
baz=233
Q19K Cape Douglas, 81.07 13 P **P** 21 39 54.5 -0.1
baz=203,SNR=151
Q19K S **S** 21 49 14.9 -0.3
baz=203
DL2 Dalian 81.08 317 P **P** 21 39 55.5 +0.5
DL2 pP **pP** 21 41 59.6 -1.2
DL2 S **S** 21 49 12.8 -3.2
DL2 pmax pmax
comp=Z,750nm,0.9s
DL2 pmax pmax
comp=Z,8µm,3.8s
HSIG 81.09 55 P **P** 21 39 55.2 -0.1
HSIG IAmb IAmb 21 39 57.9
comp=Z,778nm,1.3s
214A Organ Pipe Nat 81.11 52 P **P** 21 39 55.9 +0.5
214A IAmb IAmb 21 39 58.6
comp=Z,721nm,1.2s
214A Organ Pipe Nat 81.11 52 P **P** 21 39 57.0 +1.6
baz=240,SNR=240
214A S **S** 21 49 21.9 +5.1
baz=240
P18K Big Mountain, 81.19 12 P **P** 21 39 54.6 -0.5
baz=202
P18K S **S** 21 49 15.5 -0.8
baz=202
O17K Koliganek Bris 81.20 11 P **P** 21 39 54.8 -0.3
baz=200,SNR=187
O17K S **S** 21 49 15.9 -0.4
baz=200
COCO West Island 81.21 260 P **P** 21 39 57.1 +0.9
COCO IAmb IAmb 21 40 05.3
comp=Z,968nm,1.2s
COCO West Island 81.21 260 P **P** 21 39 57.1 +0.9
COCO pmax pmax
comp=Z,969nm,1.3s
J04D Umpqua Nationa 81.22 38 P **P** 21 39 57.0 +1.1
J04D Umpqua Nationa 81.22 38 P **P** 21 39 57.3 +1.3
baz=232,SNR=176
J04D S **S** 21 49 20.7 +3.0
baz=232
JRMM Jerantut 81.23 277 P **P** 21 39 57.0 +0.6
NEE2 Needles Airpor 81.24 48 P **P** 21 39 57.5 +1.6
baz=238,SNR=41
NEE2 S **S** 21 49 23.6 +5.8
baz=238
TPH Tonopah 81.24 44 P **P** 21 39 56.5 +0.4
TPH Tonopah 81.24 44 P **P** 21 39 56.5 +0.4
TPH pmax pmax
comp=Z,3µm,1.1s
TPNV Topopah Spring 81.28 46 P **P** 21 39 56.7 +0.4
TPNV Topopah Spring 81.28 46 P **P** 21 39 56.7 +0.4
TPNV pmax pmax
comp=Z,454nm,1.1s
TPNV Topopah Spring 81.28 46 P **P** 21 39 57.7 +1.4
baz=237,SNR=258
TPNV S **S** 21 49 23.2 +4.7
baz=237
PDMCI Parker Dam,Lak 81.34 49 P **P** 21 39 57.8 +1.3
baz=239,SNR=92
PDMCI S **S** 21 49 24.1 +5.3
baz=239
BKNI Bangkinang 81.35 273 P **P** 21 39 57.3 +0.3
BKNI IAmb IAmb 21 40 00.4
comp=Z,2µm,1.3s
COR Corvallis 81.38 36 P **P** 21 39 57.2 +0.8
COR IAmb IAmb 21 40 03.8
comp=Z,1µm,1.7s
COR Corvallis 81.38 36 P **P** 21 39 57.2 +0.8
COR pmax pmax
comp=Z,1µm,1.7s
I04A Tendick Farm, 81.39 37 P **P** 21 39 57.6 +1.0
baz=232,SNR=122
I04A S **S** 21 49 21.5 +2.5
baz=232
SNY Shenyang 81.55 320 ⇓P **P** 21 39 57.8 +0.5
SNY pP **pP** 21 42 02.4 -0.9
SNY sP **sP** 21 43 00.9 -2.8
SNY SKS **S** 21 49 18.3 -2.2
SNY S **SKSac** 21 49 22.3 +2.2
SNY pmax pmax
comp=Z,320nm,0.8s
SNY pmax pmax
comp=Z,10µm,5.4s
N16K Nishlik Lake 81.59 10 P **P** 21 39 58.2 +1.1
baz=198,SNR=432
N16K S **S** 21 49 20.5 +0.3
baz=198
O18K Koktuh Hills 81.62 12 P **P** 21 39 57.0 -0.3
O18K Koktuh Hills 81.62 12 P **P** 21 39 57.3 0.0
baz=202,SNR=772
O18K S **S** 21 49 19.7 -0.9
baz=202

CN2 Changchun 81.63 323 ⇓*i*P **P** 21 39 58.0 +0.3
CN2 PP **PP** 21 43 18.1 +1.9
CN2 SKS **S** 21 49 18.1 -3.2
CN2 S **SKSac** 21 49 22.3 +1.7
CN2 SS **SS** 21 55 03.5 +6.0
CN2 pmax pmax
comp=Z,830nm,1.0s
CN2 pmax pmax
comp=Z,10µm,4.0s
H04D Lebanon 81.66 37 P **P** 21 39 59.2 +1.3
baz=232,SNR=94
H04D S **S** 21 49 22.6 +1.0
baz=232
BNX BinXian 81.75 325 ⇓P **P** 21 39 57.8 -0.5
BNX PP **PP** 21 43 17.0 -0.1
BNX S **S** 21 49 20.8 -1.6
BNX pmax pmax
comp=Z,850nm,1.0s
BNX pmax pmax
comp=Z,10µm,5.1s
J05D Fort Rock, OR 81.76 38 P **P** 21 39 59.7 +1.1
baz=233,SNR=574
J05D S **S** 21 49 25.1 +2.1
baz=233
G03D McMinnville, O 81.79 36 P **P** 21 39 59.6 +1.1
baz=231,SNR=44
G03D S **S** 21 49 24.9 +2.1
baz=231
P19K Oil Pt 81.82 13 P **P** 21 39 57.2 -1.2
P19K IAmb IAmb 21 40 00.6
comp=Z,615nm,0.8s
P19K Oil Pt 81.82 13 P **P** 21 39 57.9 -0.4
baz=204,SNR=85
CNSH ChangSha 81.84 304 ⇑P **P** 21 39 58.8 -0.3
CNSH pP **pwP** 21 42 08.5 +0.7
CNSH S **S** 21 49 20.6 -3.4
CNSH pmax pmax
comp=Z,7µm,5.3s
KLR Kul'dur 81.84 330 P **P** 21 39 59.5 +0.9
comp=Z,382nm,0.9s,baz=101,slow=4.1,SNR=282
KLR S **S** 21 49 22.5 -0.7
comp=Z,14nm,1.1s,baz=25,slow=21,SNR=18
comp=Z,382nm,0.9s
WHN Wuhan 81.85 306 ⇓*i*P **P** 21 40 00.1 +1.0
WHN pP **pP** 21 42 08.3 +2.5
WHN PP **PP** 21 43 19.5 +1.3
WHN SKS **S** 21 49 21.3 -2.8
WHN S **SKSac** 21 49 24.8 +2.1
WHN pmax pmax
comp=Z,1µm,0.9s
WHN pmax pmax
comp=Z,19µm,4.5s
PMSA Palmer Station 81.98 157 P **P** 21 40 00.3 +1.1
comp=Z,770nm,0.8s,baz=236,slow=4.0,SNR=70
comp=Z,770nm,0.8s
PMSA Palmer Station 81.98 157 P **P** 21 39 60.0 +0.8
PMSA IAmb IAmb 21 40 02.5
comp=Z,747nm,0.8s
PMSA Palmer Station 81.98 157 *e*P **P** 21 39 59.3 +0.1
MAW Mawson 82.08 200 P **P** 21 40 00.2 +0.6
comp=Z,300nm,0.7s,baz=133,slow=6.2,SNR=582
MAW S **S** 21 49 22.6 -2.6
comp=Z,15nm,1.0s,baz=348,slow=22,SNR=9.8
MAW PKKPbc **PKKPbc** 21 58 24.2 -1.8
comp=Z,3.2nm,0.5s,baz=349,slow=1.2,SNR=11
comp=Z,300nm,0.7s
MAW Mawson 82.08 200 P **P** 21 40 00.0 +0.4
baz=82,SNR=547
MAW Mawson 82.08 200 P **P** 21 40 00.2 +0.6
MAW Mawson 82.08 200 P **P** 21 40 00.2 +0.6
MAW pmax pmax
comp=Z,109nm,1.0s
O19K Port Alsworth 82.11 12 P **P** 21 39 59.5 -0.2
baz=203
ILSW Iliamna Southw 82.14 12 P **P** 21 39 59.0 -1.1
ILSW IAmb IAmb 21 40 02.4
comp=Z,2µm,0.9s
HOM Homer 82.16 13 P **P** 21 40 00.2 +0.2
baz=205,SNR=54
N18K Kilae Creek 82.27 11 P **P** 21 40 00.4 -0.2
baz=201,SNR=153
I05D Terrebonne, OR 82.33 37 P **P** 21 40 02.4 +1.1
baz=233,SNR=19
O20K Slope Mountain 82.34 13 P **P** 21 40 00.7 -0.3
baz=204,SNR=110
BRSE Bradley Lake S 82.44 14 P **P** 21 40 01.5 0.0
baz=206,SNR=192
R11A Troy Canyon, C 82.47 45 P **P** 21 40 02.6 +0.2
R11A Troy Canyon, C 82.47 45 P **P** 21 40 03.2 +0.9
baz=237,SNR=129
R11A S **S** 21 49 33.2 +2.9
baz=237
F04D Rainier, OR 82.48 35 P **P** 21 40 03.4 +1.5
baz=231,SNR=25
BMN Battle Mountai 82.55 42 P **P** 21 40 03.0 +0.3
BMN IAmb IAmb 21 40 05.2
comp=Z,702nm,1.1s
BMN Battle Mountai 82.55 42 P **P** 21 40 03.0 +0.3
BMN pmax pmax
comp=Z,702nm,1.1s
GULI GuiLin 82.59 300 ⇓P **P** 21 40 01.6 -1.4
GULI S **S** 21 49 25.5 -6.1
GULI pmax pmax
comp=Z,740nm,0.9s
TIA Tai'an 82.65 313 ⇓P **P** 21 40 03.0 0.0
TIA S **S** 21 49 27.8 -4.0
TIA pmax pmax
comp=Z,350nm,1.0s
TIA pmax pmax
comp=Z,9µm,5.3s
N19K Bonanza Creek 82.65 12 P **P** 21 40 01.9 -0.7
baz=202,SNR=244
RSO Redoubt South 82.66 12 P **P** 21 40 01.4 -1.4
UBPT Khong Chiam 82.68 289 P **P** 21 40 04.0 +0.4
UBPT IAmb IAmb 21 40 06.9
comp=Z,664nm,0.9s
TUC Tucson 82.78 52 P **P** 21 40 04.8 +0.9
TUC IAmb IAmb 21 40 07.3
comp=Z,907nm,1.2s
TUC Tucson 82.78 52 P **P** 21 40 04.8 +0.9
TUC pmax pmax
comp=Z,907nm,1.2s
TUC Tucson 82.78 52 P **P** 21 40 05.7 +1.8
baz=241
IPM Ipoh 82.79 277 P **P** 21 40 04.4 +0.1
IPM Ipoh 82.79 277 P **P** 21 40 05.4 +1.1
WVOR Wild Horse Val 82.80 40 P **P** 21 40 04.6 +0.8
WVOR Wild Horse Val 82.80 40 P **P** 21 40 04.6 +0.8
WVOR pmax pmax
comp=Z,523nm,1.1s
DIB Dawson Inlet, 82.81 26 P **P** 21 40 03.8 +0.4
H02S1 DAWSON INLET T 82.81 26 P **P** 21 40 05.1 +1.7
SNR=120
NLWA Neilton Lookou 82.84 34 P **P** 21 40 04.5 +0.7
NLWA IAmb IAmb 21 40 11.8
comp=Z,1µm,1.6s
G05D Wamic, OR 82.89 37 P **P** 21 40 05.5 +1.4
baz=233,SNR=44
G05D S **S** 21 49 36.5 +2.6
baz=233
SEW Seward 83.05 14 P **P** 21 40 03.9 -0.6
baz=207,SNR=83
MA2 Magadan 83.09 345 P **P** 21 40 04.1 -0.5
comp=Z,536nm,0.9s,baz=149,slow=5.1,SNR=48
comp=Z,536nm,0.9s
MA2 Magadan 83.09 345 P **P** 21 40 04.2 -0.5
MA2 IAmb IAmb 21 40 11.5
comp=Z,823nm,1.1s
MA2 Magadan 83.09 345 P **P** 21 40 04.2 -0.5
MA2 pmax pmax
comp=Z,823nm,1.1s
MA2 Magadan 83.09 345 P **P** 21 40 05.1 +0.4
Q23K Middleton Isla 83.21 16 P **P** 21 40 05.4 +0.2
baz=210,SNR=6.5
CAPN Captain Cook N 83.27 13 P **P** 21 40 06.1 +0.6
CAPN Captain Cook N 83.27 13 P **P** 21 40 06.4 +0.9
baz=206,SNR=18
O22K Cooper Landing 83.33 14 P **P** 21 40 05.7 -0.1
baz=207,SNR=28
KULM Kulim 83.42 278 P **P** 21 40 08.0 +0.6
KULM IAmb IAmb 21 40 10.7
comp=Z,904nm,1.0s
P23K Montague Islan 83.44 15 P **P** 21 40 06.2 -0.2
baz=209
N20K Mount Spurr 83.45 12 P **P** 21 40 05.5 -1.0
baz=205,SNR=198

SPCR	**Spurr Chakacha**	**83.45**	**12**	P	**P**	**21 40 05.4**	**-1.1**		
	baz=205,SNR=170								
SPU	**Mount Spurr**	**83.46**	**12**	P	**P**	**21 40 05.1**	**-1.4**		
319A	**Douglas**	**83.47**	**53**	P	**P**	**21 40 08.5**	**+1.1**		
319A				IAmb	IAmb	21 40 10.9			
	comp=Z,2μm,1.2s								
M19K	**Big River Lodg**	**83.68**	**11**	P	**P**	**21 40 06.7**	**-0.8**		
M19K	**Big River Lodg**	**83.68**	**11**	P	**P**	**21 40 07.3**	**-0.3**		
	baz=202,SNR=197								
CBB	**Campbell River**	**83.80**	**31**	P	**P**	**21 40 08.8**	**+0.4**		
CBB				IAmb	IAmb	21 40 16.3			
	comp=Z,690nm,1.3s								
FIS	**Fire Island**	**83.81**	**13**	P	**P**	**21 40 08.5**	**+0.3**		
L19K	**White Mountain**	**83.85**	**11**	P	**P**	**21 40 08.6**	**+0.2**		
	baz=202,SNR=447								
RC01	**Rabbit Creek A**	**83.87**	**14**	P	**P**	**21 40 08.2**	**-0.3**		
RC01				IAmb	IAmb	21 40 10.8			
	comp=Z,1μm,1.2s								
RC01	**Rabbit Creek A**	**83.87**	**14**	P	**P**	**21 40 08.3**	**-0.2**		
	baz=207,SNR=130								
M20K	**Styx River**	**83.89**	**12**	P	**P**	**21 40 07.7**	**-1.0**		
	baz=204								
WUAZ	**Wupatki**	**83.91**	**49**	P	**P**	**21 40 09.9**	**+0.4**		
WUAZ	**Wupatki**	**83.91**	**49**	P	**P**	**21 40 10.9**	**+1.3**		
	baz=240,SNR=188								
WUAZ				S	**S**	**21 49 52.3**	**+7.8**		
	baz=240								
BBB	**Bella Bella**	**83.96**	**28**	P	**P**	**21 40 09.3**	**+0.2**		
BBB				IAmb	IAmb	21 40 16.7			
	comp=Z,982nm,1.6s								
PWL	**Port Wells**	**83.98**	**14**	P	**P**	**21 40 08.6**	**-0.5**		
	baz=208,SNR=119								
MG05	**Puerto Natales**	**83.98**	**143**	P	**P**	**21 40 10.0**	**+0.5**		
MG05				IAmb	IAmb	21 40 12.1			
	comp=Z,926nm,1.0s								
ELK	**Elko**	**83.98**	**43**	PKKPbc	PKKPbc	21 58 21.0	-0.4		
	comp=Z,5.9nm,0.9s,baz=66,slow=6.5,SNR=7.3								
ELK				PKPPKP	**P'P'df**	**22 06 19.9**	**-5.0**		
	comp=Z,0.9nm,0.6s,baz=291,slow=3.9,SNR=3.1								
ELK	**Elko**	**83.98**	**43**	P	**P**	**21 40 09.9**	**0.0**		
ELK	**Elko**	**83.98**	**43**	P	**P**	**21 40 09.9**	**0.0**		
ELK				pmax	pmax				
	comp=Z,218nm,1.2s								
SUA	**Susitna One**	**83.99**	**13**	P	**P**	**21 40 08.8**	**-0.5**		
	baz=206,SNR=306								
MG04	**Isla Riesco**	**84.01**	**144**	P	**P**	**21 40 10.2**	**+0.7**		
MG04				IAmb	IAmb	21 40 13.0			
	comp=Z,858nm,1.0s								
KAIM	**Kayak Island**	**84.14**	**16**	P	**P**	**21 40 10.4**	**+0.6**		
	baz=212,SNR=21								
GO10	**Punta Arenas**	**84.17**	**145**	P	**P**	**21 40 11.4**	**+1.0**		
GO10				IAmb	IAmb	21 40 13.9			
	comp=Z,1μm,1.1s								
PSI	**Prapat**	**84.18**	**275**	P	**P**	**21 40 10.8**	**-0.5**		
	comp=Z,681nm,0.9s,baz=157,slow=3.3,SNR=164								
PSI				PKKPbc	**PKKPbc**	**21 58 19.3**	**-0.1**		
	comp=Z,22nm,1.0s,baz=227,slow=3.0,SNR=8.0								
	comp=Z,681nm,0.9s								
CRAG	**Craig**	**84.23**	**24**	P	**P**	**21 40 11.2**	**+0.8**		
	baz=222,SNR=14								
GO09	**Cerro Castillo**	**84.25**	**143**	P	**P**	**21 40 11.6**	**+0.8**		
GO09				IAmb	IAmb	21 40 19.6			
	comp=Z,571nm,1.2s								
GLI	**Glacier Island**	**84.29**	**15**	P	**P**	**21 40 10.1**	**-0.5**		
	baz=209,SNR=151								
SKT	**Skwentna**	**84.29**	**12**	P	**P**	**21 40 09.1**	**-1.5**		
	baz=205,SNR=129								
L20K	**Farewell, AK**	**84.30**	**11**	P	**P**	**21 40 10.4**	**-0.3**		
	baz=203,SNR=282								
HPIG		**84.31**	**59**	P	**P**	**21 40 11.7**	**-0.1**		
HPIG				IAmb	IAmb	21 40 14.2			
	comp=Z,528nm,1.2s								
GRNB	**Grenville Isla**	**84.32**	**26**	P	**P**	**21 40 11.5**	**+0.6**		
EYAK	**Cordova Ski Ar**	**84.33**	**15**	P	**P**	**21 40 10.7**	**0.0**		
	baz=210,SNR=67								
TTA	**Tatalina**	**84.35**	**10**	P	**P**	**21 40 11.1**	**+0.2**		
	baz=201,SNR=448								
M22K	**Willow**	**84.38**	**13**	P	**P**	**21 40 10.6**	**-0.4**		
	baz=206,SNR=118								
SUCK	**Suckling Hills**	**84.44**	**17**	P	**P**	**21 40 11.8**	**+0.5**		
KNK	**Knik Glacier**	**84.44**	**14**	P	**P**	**21 40 11.2**	**-0.2**		
	baz=208,SNR=150								
PMR	**Palmer**	**84.45**	**14**	P	**P**	**21 40 10.8**	**-0.5**		
PMR				IAmb	IAmb	21 40 13.5			
	comp=Z,1μm,1.1s								
PMR	**Palmer**	**84.45**	**14**	P	**P**	**21 40 10.8**	**-0.5**		
PMR				pmax	pmax				
	comp=Z,1μm,1.1s								
PMR	**Palmer**	**84.45**	**14**	P	**P**	**21 40 11.1**	**-0.1**		
	baz=207,SNR=180								
HMT	**Hamilton**	**84.53**	**16**	P	**P**	**21 40 11.1**	**-0.7**		
HMT				IAmb	IAmb	21 40 13.8			
	comp=Z,868nm,1.4s								
RUBB	**Prince Rupert**	**84.54**	**26**	P	**P**	**21 40 12.0**	**+0.1**		
HAWA	**Hanford**	**84.58**	**36**	P	**P**	**21 40 12.8**	**+0.4**		
HAWA				IAmb	IAmb	21 40 20.3			
	comp=Z,688nm,1.2s								
BGLC	**Bering Glacier**	**84.61**	**17**	P	**P**	**21 40 13.1**	**+1.0**		
	baz=213								
SIT	**Sitka**	**84.62**	**22**	P	**P**	**21 40 12.9**	**+0.7**		
	baz=220,SNR=11								
V35K	**Ketchikan**	**84.71**	**25**	P	**P**	**21 40 13.5**	**+0.8**		
	baz=223,SNR=34								
U33K	**Whale Pass**	**84.71**	**24**	P	**P**	**21 40 13.6**	**+1.0**		
	baz=222,SNR=29								
ANM	**Nome**	**84.73**	**6**	P	**P**	**21 40 12.9**	**+0.3**		
	baz=192,SNR=6.9								
ANM				S	**S**	**21 49 53.8**	**+2.9**		
	baz=192								
SNH	**Sunshine Point**	**84.78**	**17**	P	**P**	**21 40 13.4**	**+0.4**		
SNH				IAmb	IAmb	21 40 16.3			
	comp=Z,1μm,1.0s								
USHA	**Ushuaia**	**84.81**	**147**	ScP		21 43 28.5			
	comp=Z,90nm,0.8s,baz=282,slow=0.9,SNR=7.6								
MVU	**Marysvale**	**84.82**	**46**	P	**P**	**21 40 14.5**	**+0.5**		
MVU				IAmb	IAmb	21 40 17.0			
	comp=Z,778nm,1.2s								
SML	**Sawmill**	**84.82**	**14**	P	**P**	**21 40 12.7**	**-0.5**		
	baz=208,SNR=86								
DIV	**Divide**	**84.83**	**15**	P	**P**	**21 40 12.9**	**-0.4**		
DIV				IAmb	IAmb	21 40 15.6			
	comp=Z,976nm,1.0s								
W18A	**Petrified Fore**	**84.89**	**50**	P	**P**	**21 40 15.7**	**+1.3**		
	baz=242,SNR=38								
W18A				S	**S**	**21 50 00.4**	**+6.3**		
	baz=242								
HNS	**HongShan**	**84.92**	**313**	⇓P	**P**	**21 40 14.4**	**+0.2**		
HNS				pP	**pP**	**21 42 21.8**	**+0.2**		
HNS				pmax	pmax				
	comp=Z,890nm,1.1s								
HNS				pmax	pmax				
	comp=Z,9μm,6.5s								
GSI	**Gunungsitoli**	**84.93**	**273**	P	**P**	**21 40 15.2**	**+0.3**		
GSI	**Gunungsitoli**	**84.93**	**273**	P	**P**	**21 40 18.3**	**+3.5**		
CUT	**Chulitna**	**84.94**	**13**	P	**P**	**21 40 12.9**	**-0.7**		
CUT	**Chulitna**	**84.94**	**13**	P	**P**	**21 40 13.3**	**-0.4**		
	baz=206,SNR=112								
M23K	**Glacier View**	**84.94**	**14**	P	**P**	**21 40 13.3**	**-0.5**		
	baz=209,SNR=133								
BMO	**Blue Mountains**	**84.97**	**39**	P	**P**	**21 40 14.7**	**+0.3**		
BMO				IAmb	IAmb	21 40 22.0			
	comp=Z,3μm,2.5s								
BMO	**Blue Mountains**	**84.97**	**39**	P	**P**	**21 40 14.7**	**+0.3**		
BMO				pmax	pmax				
	comp=Z,3μm,2.5s								
BMRM	**Bremner River**	**84.98**	**16**	P	**P**	**21 40 13.6**	**-0.4**		
BMRM				IAmb	IAmb	21 40 21.0			
	comp=Z,1μm,1.0s								
BMRM	**Bremner River**	**84.98**	**16**	P	**P**	**21 40 13.9**	**-0.1**		
	baz=212,SNR=147								
PPLA	**Purkeypile**	**85.00**	**12**	P	**P**	**21 40 12.2**	**-1.9**		
	baz=204,SNR=68								
MESA	**MESA**	**85.03**	**17**	P	**P**	**21 40 14.7**	**+0.2**		
MESA	**MESA**	**85.03**	**17**	P	**P**	**21 40 14.9**	**+0.4**		
	baz=214,SNR=52								
MESA				S	**S**	**21 49 54.4**	**+0.2**		
	baz=214								
SCM	**Sheep Creek Mo**	**85.07**	**14**	P	**P**	**21 40 14.2**	**-0.2**		
	baz=209,SNR=310								
SCM				S	**S**	**21 49 52.3**	**-2.0**		
	baz=209								
K20K	**Telida**	**85.08**	**11**	P	**P**	**21 40 14.1**	**-0.3**		
K20K				IAmb	IAmb	21 40 21.4			
	comp=Z,1μm,1.3s								
K20K	**Telida**	**85.08**	**11**	P	**P**	**21 40 14.1**	**-0.3**		
	baz=203,SNR=620								
K20K				S	**S**	**21 49 54.7**	**+0.5**		
	baz=203								
KLU	**Klutina**	**85.11**	**15**	P	**P**	**21 40 14.2**	**-0.4**		
KLU				IAmb	IAmb	21 40 17.1			
	comp=Z,502nm,1.0s								
KLU	**Klutina**	**85.11**	**15**	P	**P**	**21 40 14.5**	**-0.1**		
	baz=210,SNR=150								
KLU				S	**S**	**21 49 54.5**	**-0.2**		
	baz=210								
MOIG	**Morelia**	**85.11**	**67**	P	**P**	**21 40 15.2**	**-0.7**		
MOIG				IAmb	IAmb	21 40 17.9			
	comp=Z,791nm,1.1s								
121A	**Cookes Peak, D**	**85.13**	**53**	P	**P**	**21 40 17.2**	**+1.6**		
	baz=243								
121A				S	**S**	**21 50 04.3**	**+7.9**		
	baz=243								
121A	**Cookes Peak, D**	**85.13**	**53**	P	**P**	**21 40 17.2**	**+1.6**		
	baz=243,SNR=217								
121A				S	**S**	**21 50 04.5**	**+8.1**		
	baz=243								
LYN	**LuoYang**	**85.15**	**309**	⇓P	**P**	**21 40 15.0**	**-0.4**		
LYN				pP	pwP	21 42 25.6	-0.1		
LYN				sP	sP	21 43 24.5	+1.7		
LYN				SKS	**SKSac**	**21 49 41.4**	**-2.0**		
LYN				S	**SKKSac**	**21 49 50.4**	**-1.7**		
LYN				pmax	pmax				
	comp=Z,970nm,0.9s								
LYN				pmax	pmax				
	comp=Z,10μm,5.1s								
ZAIG	**Zacatecas**	**85.15**	**64**	P	**P**	**21 40 16.3**	**+0.3**		
MG01	**Puerto William**	**85.17**	**147**	P	**P**	**21 40 15.3**	**+0.2**		
MG01				IAmb	IAmb	21 40 22.0			
	comp=Z,555nm,1.1s								
S32K	**Killisnoo**	**85.20**	**22**	P	**P**	**21 40 15.7**	**+0.7**		
	baz=221,SNR=22								
WRAK	**Wrangell Islan**	**85.23**	**24**	P	**P**	**21 40 15.7**	**+0.5**		
WRAK				IAmb	IAmb	21 40 23.0			
	comp=Z,586nm,1.1s								
WRAK	**Wrangell Islan**	**85.23**	**24**	P	**P**	**21 40 15.9**	**+0.8**		
	baz=223,SNR=59								
WRAK				S	**S**	**21 49 55.0**	**-0.8**		
	baz=223								
BJT	**Baijiatuao**	**85.24**	**315**	P	**P**	**21 40 15.8**	**+0.1**		
BJT				IAmb	IAmb	21 40 23.3			
	comp=Z,701nm,1.1s								
BJT	**Baijiatuao**	**85.24**	**315**	P	**P**	**21 40 15.8**	**+0.1**		
BJT				pmax	pmax				
	comp=Z,701nm,1.1s								
BJI	**Beijing**	**85.25**	**315**	P	**P**	**21 40 15.5**	**-0.2**		
BJI				pP	**pP**	**21 42 23.1**	**-0.1**		
BJI				sP	**sP**	**21 43 23.3**	**0.0**		
BJI				PP	**PP**	**21 43 46.4**	**+1.1**		
BJI				SKS	**SKSac**	**21 49 40.4**	**-3.4**		
BJI				S	**ScS**	**21 50 01.0**	**-2.4**		
BJI				pmax	pmax				
	comp=Z,470nm,1.0s								
BJI				pmax	pmax				
	comp=Z,9μm,5.3s								
DUG	**Dugway, Tooele**	**85.27**	**44**	P	**P**	**21 40 15.9**	**-0.1**		
DUG	**Dugway, Tooele**	**85.27**	**44**	P	**P**	**21 40 15.9**	**-0.1**		
DUG				pmax	pmax				
	comp=Z,105nm,1.2s								
DUG	**Dugway, Tooele**	**85.27**	**44**	P	**P**	**21 40 16.4**	**+0.4**		
	baz=239								
DUG				S	**S**	**21 50 01.0**	**+3.6**		
	baz=239								
ISLE	**Juniper Island**	**85.27**	**17**	P	**P**	**21 40 15.1**	**-0.4**		
ISLE				IAmb	IAmb	21 40 22.6			
	comp=Z,806nm,1.1s								
T33K	**Petersburg**	**85.30**	**23**	P	**P**	**21 40 16.3**	**+0.9**		
	baz=222,SNR=7.9								
T33K				S	**S**	**21 49 59.0**	**+2.6**		
	baz=222								
MG02	**Cerro Sombrero**	**85.33**	**145**	P	**P**	**21 40 16.6**	**+0.7**		
PNL	**Peninsula**	**85.35**	**19**	P	**P**	**21 40 16.2**	**+0.4**		
	baz=216,SNR=28								
PNL				S	**S**	**21 49 57.3**	**+0.3**		
	baz=216								
PCA	**Pinnacle**	**85.44**	**18**	P	**P**	**21 40 16.2**	**0.0**		
PCA				IAmb	IAmb	21 40 23.5			
	comp=Z,472nm,1.1s								
PINM	**Pinnacle**	**85.44**	**18**	P	**P**	**21 40 16.4**	**+0.1**		
	baz=216,SNR=23								
PINM				S	**S**	**21 49 58.4**	**+0.4**		
	baz=216								
ENH	**Enshi**	**85.46**	**304**	P	**P**	**21 40 17.3**	**+0.2**		
TABL	**Table Mountain**	**85.47**	**17**	P	**P**	**21 40 16.5**	**-0.1**		
TABL				IAmb	IAmb	21 40 23.8			
	comp=Z,863nm,1.1s								
CAST	**Castle Rocks**	**85.50**	**11**	P	**P**	**21 40 14.9**	**-1.5**		
	baz=205,SNR=795								
CAST				S	**S**	**21 49 54.4**	**-3.9**		
	baz=205								
R31K	**City Hall, Gus**	**85.52**	**21**	P	**P**	**21 40 16.9**	**+0.4**		
	baz=220								
N25K	**Chitina, Valde**	**85.53**	**15**	P	**P**	**21 40 16.8**	**+0.1**		
	baz=212,SNR=220								
N25K				S	**S**	**21 49 58.8**	**+0.1**		
	baz=212								
SRIT	**Nakonsritamara**	**85.56**	**281**	P	**P**	**21 40 18.9**	**+1.1**		
M24K	**Tolsona, Glenn**	**85.58**	**15**	P	**P**	**21 40 17.3**	**+0.4**		
	baz=210,SNR=131								
M24K				S	**S**	**21 49 59.4**	**+0.3**		
	baz=210								
GLB	**Gilahina Butte**	**85.59**	**16**	P	**P**	**21 40 16.2**	**-0.7**		
GLB				IAmb	IAmb	21 40 23.9			
	comp=Z,518nm,1.0s								
WAT6	**Susitna Watana**	**85.63**	**14**	P	**P**	**21 40 17.0**	**-0.2**		
	baz=209								
WAT6				S	**S**	**21 49 58.3**	**-1.5**		
	baz=209								
WAT1	**Susitna Watana**	**85.68**	**13**	P	**P**	**21 40 16.8**	**-0.5**		
	baz=208								
WAT1				S	**S**	**21 49 57.9**	**-2.1**		
	baz=208								
SEY	**Seymchan**	**85.69**	**347**	P	**P**	**21 40 16.9**	**-0.3**		
	comp=Z,1μm,0.9s,baz=150,slow=5.3,SNR=314								
	comp=Z,1μm,0.9s								
SEY	**Seymchan**	**85.69**	**347**	*d* iP	**P**	**21 40 17.1**	**-0.1**		
SEY				pmax	pmax				
	comp=Z,1μm,1.0s								
MCARA	**McCarthy VSAT**	**85.75**	**16**	P	**P**	**21 40 17.8**	**+0.3**		
	baz=213,SNR=119								
MCARA				S	**S**	**21 50 00.2**	**-0.4**		
	baz=213								
KIDD	**KIDD Seismic O**	**85.76**	**54**	P	**P**	**21 40 20.3**	**+1.8**		
	baz=244								
KIDD				S	**S**	**21 50 08.3**	**+6.0**		
	baz=244								
J20K	**Nowinta River**	**85.83**	**10**	P	**P**	**21 40 17.4**	**-0.5**		
J20K	**Nowinta River**	**85.83**	**10**	P	**P**	**21 40 17.7**	**-0.2**		
	baz=203,SNR=258								
J20K				S	**S**	**21 50 01.3**	**0.0**		
	baz=203								
P29M	**Windy Craggy**	**85.83**	**19**	P	**P**	**21 40 18.8**	**+0.7**		
	baz=218,SNR=74								
P29M				S	**S**	**21 50 03.2**	**+1.7**		
	baz=218								
R32K	**Eaglecrest**	**85.83**	**21**	P	**P**	**21 40 18.4**	**+0.3**		
	baz=221,SNR=6.9								
KTH	**Kantishna Hill**	**85.84**	**12**	P	**P**	**21 40 16.8**	**-1.3**		
KTH				IAmb	IAmb	21 40 23.8			
	comp=Z,638nm,1.0s								
CTG	**Chitna Glacier**	**85.85**	**17**	P	**P**	**21 40 18.5**	**+0.2**		
	baz=214								
CTG				S	**S**	**21 50 02.3**	**+0.4**		
	baz=214								
B08A	**Colville Reser**	**85.85**	**35**	P	**P**	**21 40 18.2**	**-0.2**		
CTGM	**Chitina Glacie**	**85.85**	**17**	P	**P**	**21 40 18.2**	**-0.1**		
CTGM				IAmb	IAmb	21 40 21.1			
	comp=Z,484nm,1.0s								
TRF	**Thorofare Moun**	**85.87**	**12**	P	**P**	**21 40 17.3**	**-1.1**		
TRF				IAmb	IAmb	21 40 21.3			
	comp=Z,900nm,0.9s								
TRF	**Thorofare Moun**	**85.87**	**12**	P	**P**	**21 40 17.5**	**-0.9**		
	baz=206,SNR=453								
TRF				S	**S**	**21 49 59.8**	**-2.3**		
	baz=206								
PLID	**Pearl Lake**	**85.87**	**39**	P	**P**	**21 40 19.1**	**+0.2**		
PLID				IAmb	IAmb	21 40 26.4			
	comp=Z,2μm,1.8s								
CHUM	**Lake Minchumin**	**85.88**	**11**	P	**P**	**21 40 17.3**	**-0.8**		
	baz=204,SNR=196								
CHUM				S	**S**	**21 49 58.2**	**-3.6**		
	baz=204								
HLID	**Hailey**	**86.01**	**41**	P	**P**	**21 40 20.1**	**+0.6**		
	baz=238,SNR=390								
HLID				S	**S**	**21 50 08.2**	**+3.9**		
	baz=238								
O28M	**Mount Upton**	**86.01**	**18**	P	**P**	**21 40 19.5**	**+0.2**		
	baz=216,SNR=88								
O28M				S	**S**	**21 50 04.1**	**+0.3**		
	baz=216								
HARP	**HAARP**	**86.07**	**15**	P	**P**	**21 40 19.3**	**+0.2**		
	baz=211,SNR=83								
HARP				S	**S**	**21 50 03.4**	**-0.3**		
	baz=211								
GYA	**Guiyang**	**86.10**	**300**	⇓*i*P	**P**	**21 40 21.1**	**+0.8**		
GYA				PP	**PP**	**21 43 53.4**	**+0.9**		
GYA				SKS	**SKSac**	**21 49 50.6**	**+0.7**		
GYA				S	**ScS**	**21 50 10.0**	**-1.4**		
GYA				pmax	pmax				
	comp=Z,200nm,1.0s								
GYA				pmax	pmax				
	comp=Z,8μm,4.6s								
O29M	**Mount Kennedy**	**86.11**	**19**	P	**P**	**21 40 20.1**	**+0.6**		
	baz=217,SNR=91								
O29M				S	**S**	**21 50 06.9**	**+2.5**		
	baz=217								
RND	**Reindeer**	**86.13**	**13**	P	**P**	**21 40 18.6**	**-0.8**		
RND	**Reindeer**	**86.13**	**13**	P	**P**	**21 40 18.6**	**-0.8**		
RND				pmax	pmax				
	comp=Z,2μm,1.1s								
PLBC	**Pleasant Camp**	**86.13**	**20**	P	**P**	**21 40 20.2**	**+0.8**		
	baz=219,SNR=60								
PLBC				S	**S**	**21 50 06.3**	**+2.0**		
	baz=219								
DHY	**Denali Highway**	**86.15**	**14**	P	**P**	**21 40 19.3**	**-0.4**		
	baz=209								
DHY				S	**S**	**21 50 03.1**	**-1.6**		
	baz=209								
SBM	**South Baldy**	**86.23**	**52**	P	**P**	**21 40 21.1**	**0.0**		
BPAW	**Bear Paw Mtn.**	**86.32**	**12**	P	**P**	**21 40 18.7**	**-1.6**		
	baz=206,SNR=107								
BPAW				S	**S**	**21 50 02.6**	**-3.4**		
	baz=206								
Y22A	**Socorro**	**86.38**	**52**	P	**P**	**21 40 22.1**	**+0.6**		
	baz=243								
Y22A				S	**S**	**21 50 16.3**	**+8.1**		
	baz=243								
MCK	**McKinley**	**86.40**	**13**	P	**P**	**21 40 20.1**	**-0.5**		
	baz=208,SNR=504								
MCK				S	**S**	**21 50 05.3**	**-1.5**		
	baz=208								
T35M	**Bob Quinn**	**86.43**	**24**	P	**P**	**21 40 22.1**	**+1.1**		
	baz=224,SNR=57								
T35M				S	**S**	**21 50 11.4**	**+4.0**		
	baz=224								
P30M	**Million Dollar**	**86.46**	**19**	P	**P**	**21 40 22.1**	**+1.1**		
	baz=218								
P30M				S	**S**	**21 50 09.2**	**+1.7**		
	baz=218								
SKAG	**Skagway**	**86.47**	**20**	P	**P**	**21 40 22.0**	**+1.0**		
SKAG				IAmb	IAmb	21 40 29.3			
	comp=Z,887nm,1.2s								
SKAG	**Skagway**	**86.47**	**20**	P	**P**	**21 40 22.1**	**+1.1**		
	baz=220,SNR=79								
SKAG				S	**S**	**21 50 09.9**	**+2.5**		
	baz=220								
Y22D	**IRIS PASSCAL I**	**86.47**	**52**	P	**P**	**21 40 22.8**	**+1.0**		
Y22D				IAmb	IAmb	21 40 24.8			
	comp=Z,728nm,1.3s								
Y22D	**IRIS PASSCAL I**	**86.47**	**52**	P	**P**	**21 40 23.5**	**+1.6**		
	baz=243								
Y22D				S	S	21 50 18.6	+10		
	baz=243								
Y22D	**IRIS PASSCAL I**	**86.47**	**52**	P	**P**	**21 40 23.1**	**+1.3**		
	baz=243								
Y22D				S	S	21 50 18.6	+10		
	baz=243								
PAX	**Paxson**	**86.49**	**14**	P	**P**	**21 40 20.5**	**-0.7**		
	baz=211,SNR=151								
PAX				S	**S**	**21 50 06.4**	**-1.4**		
	baz=211								
H03S2	**Juan Fernandez**	**86.57**	**125**	P	**P**	**21 40 23.2**	**+1.3**		
	SNR=44								
H03S1	**Juan Fernandez**	**86.58**	**125**	P	**P**	**21 40 24.1**	**+2.1**		
	SNR=47								
H03S3	**Juan Fernandez**	**86.59**	**125**	P	**P**	**21 40 23.2**	**+1.2**		
	SNR=48								
TLIG	**Tlapa**	**86.61**	**70**	P	**P**	**21 40 23.2**	**+0.4**		
TLIG				IAmb	IAmb	21 40 25.7			
	comp=Z,570nm,1.2s								
M26K	**Nabesna, AK**	**86.61**	**16**	P	**P**	**21 40 21.9**	**+0.2**		
	baz=213,SNR=430								
M26K				S	**S**	**21 50 09.6**	**+0.7**		
	baz=213								
TIY	**Taiyuan**	**86.65**	**312**	⇓P	**P**	**21 40 23.6**	**+1.1**		
TIY				pP	**pwP**	**21 42 34.6**	**+0.6**		
TIY				PP	**PP**	**21 43 52.6**	**-4.0**		
TIY				SKS	**SKSac**	**21 49 53.4**	**+0.7**		
TIY				S	**ScS**	**21 50 13.4**	**-2.0**		
TIY				pmax	pmax				
	comp=Z,120nm,0.7s								
TIY				pmax	pmax				
	comp=Z,7μm,4.2s								
YUK6	**Outpost Mounta**	**86.68**	**18**	P	**P**	**21 40 22.4**	**+0.1**		
	baz=217,SNR=46								
YUK6				S	**S**	**21 50 10.9**	**+0.9**		
	baz=217								
H03N2	**Juan Fernandez**	**86.71**	**124**	P	**P**	**21 40 24.5**	**+2.0**		
	baz=180,slow=17,SNR=9.5								
H03N3	**Juan Fernandez**	**86.71**	**124**	P	**P**	**21 40 24.6**	**+1.9**		
	baz=180,slow=17,SNR=14								
VA04	**Juan Fernndez**	**86.72**	**124**	P	**P**	**21 40 23.3**	**+0.3**		
VA04				IAmb	IAmb	21 40 25.8			
	comp=Z,907nm,0.9s								
H03N1	**Juan Fernandez**	**86.73**	**124**	P	**P**	**21 40 24.4**	**+1.8**		
	baz=180,slow=17,SNR=16								
UNM	**Universidad Na**	**86.73**	**68**	P	**P**	**21 40 24.2**	**+0.7**		
UNM				IAmb	IAmb	21 40 26.2			
	comp=Z,881nm,1.1s								
UNM	**Universidad Na**	**86.73**	**68**	P	**P**	**21 40 24.2**	**+0.7**		
UNM				pmax	pmax				
	comp=Z,881nm,1.1s								
YUK3	**Moose

ZEA e*PP **pwP** **21 42 33.5 -0.7**
ZEA e*SP **sP** **21 43 34.7 +2.7**
ZEA e 21 49 53.9
ZEA eS **S** **21 50 15.8 +3.7**
ZEA pmax pmax
comp=E,50nm,0.7s
ZEA pmax pmax
comp=N,180nm,0.8s
ZEA pmax pmax
comp=Z,280nm,1.3s
ZEA pmax pmax
comp=E,900nm,4.4s
ZEA pmax pmax
comp=N,1μm,3.5s
ZEA pmax pmax
comp=Z,4μm,6.1s
ZEA smax smax
comp=E,4μm,10.9s
ZEA smax smax
comp=N,7μm,6.7s
PV13 Radium Mtn., P 86.98 48 P **P** **21 40 24.1 -0.1**
NEW Newport 87.00 36 PKKPbc PKKPbc 21 58 14.8 +0.5
comp=N,5.0nm,0.9s,baz=264,slow=6.9,SNR=3.7
NEW PKPPKP **P'P'df** **22 06 18.9 +0.4**
NEW Newport 87.00 36 P **P** **21 40 23.9 0.0**
NEW Newport 87.00 36 P **P** **21 40 23.9 0.0**
NEW pmax pmax
comp=Z,172nm,1.1s
NEW Newport 87.00 36 P **P** **21 40 23.9 0.0**
baz=236,SNR=63
NEW S **S** **21 50 13.6 +0.5**
baz=236
LL07 Hotel Espejo d 87.03 135 P **P** **21 40 24.6 +0.4**
L26K Log Cabin Wild 87.05 15 P **P** **21 40 24.0 +0.3**
baz=213,SNR=240
L26K S **S** **21 50 13.6 +0.8**
baz=213
P32M Atlin 87.10 21 P **P** **21 40 25.0 +0.9**
baz=221,SNR=43
P32M S **S** **21 50 16.5 +3.0**
baz=221
I21K Tanana 87.12 11 P **P** **21 40 23.6 -0.4**
baz=205,SNR=293
I21K S **S** **21 50 12.0 -1.4**
baz=205
Q32M Nakina River 87.13 22 P **P** **21 40 25.1 +0.7**
baz=223,SNR=83
Q32M S **S** **21 50 16.0 +1.9**
baz=223
NEA2 Nenana 87.14 12 P **P** **21 40 22.8 -1.3**
baz=207,SNR=231
NEA2 S **S** **21 50 10.7 -2.9**
baz=207
K24K Donnelly Dome 87.14 14 P **P** **21 40 24.3 +0.2**
baz=210,SNR=210
K24K S **S** **21 50 12.8 -1.0**
baz=210
BVCY Beaver Creek 87.17 16 P **P** **21 40 24.8 +0.4**
baz=215,SNR=78
BVCY S **S** **21 50 15.2 +1.2**
baz=215
ANMO Albuquerque 87.20 51 P **P** **21 40 25.5 +0.2**
ANMO IAmb IAmb 21 40 27.7
comp=Z,404nm,1.2s
ANMO Albuquerque 87.20 51 *ce*P **P** **21 40 25.9 +0.6**
ANMO pmax pmax
comp=Z,432nm,1.3s
ANMO Albuquerque 87.20 51 P **P** **21 40 26.2 +0.9**
baz=244,SNR=202
ANMO S **S** **21 50 21.6 +5.7**
baz=244
ANMO Albuquerque 87.20 51 P **P** **21 40 26.2 +0.9**
baz=244
ANMO S **S** **21 50 23.0 +7.1**
baz=244
MLY Manley 87.21 11 P **P** **21 40 23.3 -1.2**
baz=206,SNR=485
MLY S **S** **21 50 11.1 -3.3**
baz=206
O30N Mendenhall 87.24 19 P **P** **21 40 25.3 +0.6**
baz=219,SNR=117
O30N S **S** **21 50 16.2 +1.4**
baz=219
XLT XiLinHaoTe 87.28 319 ⇓*i*P **P** **21 40 25.8 +0.4**
XLT pP pwP 21 42 37.3 +0.2
XLT SKS **SKSac** **21 49 54.5 -1.7**
XLT S **S** **21 50 14.8 -1.2**
XLT pmax pmax
comp=Z,490nm,0.9s
XLT pmax pmax
comp=Z,5μm,5.3s
RIDG Independent Ri 87.30 14 P **P** **21 40 24.8 -0.2**
baz=211,SNR=255
RIDG S **S** **21 50 14.5 -0.7**
baz=211
DOT Dot Lake 87.40 15 P **P** **21 40 25.2 -0.2**
DOT IAmb IAmb 21 40 27.8
comp=Z,451nm,0.9s
HDA Harding Lake 87.41 13 P **P** **21 40 25.1 -0.2**
baz=209,SNR=605
HDA S **S** **21 50 13.7 -2.5**
baz=209
HDA S **S** **21 50 13.7 -2.5**
baz=209
H21K Melozitna Rive 87.42 10 P **P** **21 40 25.5 +0.1**
baz=204,SNR=336
H21K S **S** **21 50 16.7 +0.6**
baz=204
CCB Clear Creek Bu 87.44 13 P **P** **21 40 24.4 -1.1**
L27K Beaver Creek, 87.46 16 P **P** **21 40 25.9 +0.2**
baz=214,SNR=250
L27K S **S** **21 50 17.6 +0.9**
baz=214
N30M Aishikik Lake 87.47 18 P **P** **21 40 26.0 +0.2**
baz=218,SNR=51
N30M S **S** **21 50 17.3 +0.3**
baz=218
BCAR Beaver Creek A 87.47 16 P **P** **21 40 25.6 -0.1**
WHY Whitehorse 87.53 20 P **P** **21 40 26.3 +0.2**
WHY IAmb IAmb 21 40 33.8
comp=Z,391nm,1.0s
WHY Whitehorse 87.53 20 P **P** **21 40 26.6 +0.5**
baz=220,SNR=76
WHY S **S** **21 50 20.2 +2.6**
baz=220
XAN Xi'an 87.53 307 P **P** **21 40 27.9 +1.2**
XAN pP pP 21 42 36.6 +1.5
XAN SKS **SKSac** **21 49 57.6 -0.4**
XAN S **S** **21 50 17.6 -1.1**
XAN sS sS 21 53 57.8 -11
XAN pmax pmax
comp=Z,2μm,0.9s
XAN pmax pmax
comp=Z,8μm,5.2s
DLBC Dease Lake 87.56 23 PKPPKP 22 06 18.6
comp=Z,3.6nm,0.8s,baz=7.8,slow=3.5,SNR=3.7
DLBC Dease Lake 87.56 23 P **P** **21 40 26.3 0.0**
DLBC IAmb IAmb 21 40 34.2
comp=Z,396nm,1.1s
DLBC Dease Lake 87.56 23 P **P** **21 40 26.9 +0.7**
baz=225,SNR=79
DLBC S **S** **21 50 20.3 +2.4**
baz=225
IMAR Indian Mountai 87.56 10 P **P** **21 40 25.1 -1.0**
LL05 Los Muermos 87.62 133 P **P** **21 40 27.8 +0.8**
MCMT McKenzie Canyo 87.63 40 P **P** **21 40 27.7 +0.5**
TCOL CIGO, UAF Yank 87.63 12 P **P** **21 40 25.7 -0.7**
baz=208,SNR=42
TCOL S **S** **21 50 15.0 -3.0**
baz=208
COLA College 87.63 12 *di*P **P** **21 40 25.4 -0.9**
COLA pmax pmax
comp=Z,1μm,1.0s
COLA College 87.63 12 P **P** **21 40 25.6 -0.7**
baz=208
COLA S **S** **21 50 15.4 -2.7**
baz=208
AHID Auburn Hatcher 87.68 43 P **P** **21 40 27.8 +0.4**
AHID IAmb IAmb 21 40 29.9
comp=Z,337nm,1.1s
SCRK Sand Creek 87.70 14 P **P** **21 40 26.8 0.0**
baz=212,SNR=148
SCRK S **S** **21 50 19.4 +0.3**
baz=212
IL31 87.74 13 P **P** **21 40 25.6 -1.2**
IL31 IAmb IAmb 21 40 28.6
comp=Z,643nm,1.0s
ILAR Eielson Array 87.74 13 P **P** **21 40 25.9 -0.9**
comp=Z,616nm,1.1s,baz=214,slow=5.1,SNR=554
ILAR pP **pP** **21 42 36.6 +1.2**
comp=Z,83nm,1.1s,baz=227,slow=6.1,SNR=5.2
ILAR PKiKP **PKiKP** **21 45 25.3 +0.2**
comp=Z,8.2nm,0.9s,baz=267,slow=3.0,SNR=8.8
ILAR PKKPbc **PKKPdf** **21 58 09.9 +2.6**
comp=Z,7.3nm,0.8s,baz=340,slow=1.7,SNR=8.5
ILAR SKKPbc SKKPbc 22 00 52.7 -5.1
comp=Z,3.7nm,0.8s,baz=310,slow=2.6,SNR=4.6
ILAR PKPPKP **P'P'df** **22 06 15.1 -0.8**
comp=Z,4.2nm,0.9s,baz=330,slow=2.5,SNR=8.3
comp=Z,616nm,1.1s
ILAR Eielson Array 87.74 13 P **P** **21 40 25.6 -1.3**
M29M Somme Creek 87.86 17 P **P** **21 40 28.0 +0.4**
baz=217,SNR=360
M29M S **S** **21 50 21.4 +0.9**
baz=217
P33M Teslin, Yukon 87.87 21 P **P** **21 40 28.1 +0.5**
baz=222,SNR=63
P33M S **S** **21 50 22.4 +1.8**
baz=222
H22K Ishtalitna Cre 87.88 11 P **P** **21 40 27.5 -0.1**
baz=205,SNR=575
H22K S **S** **21 50 19.5 -0.9**
baz=205
PAYG Puerto Ayora 87.88 90 P **P** **21 40 29.8 +1.0**
PAYG IAmb IAmb 21 40 32.2
comp=Z,858nm,1.4s
N31M Braeburn, Yuko 87.89 19 P **P** **21 40 28.3 +0.6**
baz=220,SNR=83
N31M S **S** **21 50 21.5 +0.8**
baz=220
R33M Jennings River 87.91 22 P **P** **21 40 28.8 +0.8**
baz=224,SNR=126
R33M S **S** **21 50 22.6 +1.4**
baz=224
J25K Salcha River, 87.93 14 P **P** **21 40 27.5 -0.3**
baz=211,SNR=432
J25K S **S** **21 50 19.1 -2.0**
baz=211
POKR Poker Plat Res 87.93 13 P **P** **21 40 26.7 -1.0**
POKR IAmb IAmb 21 40 29.4
comp=Z,396nm,0.7s
POKR Poker Plat Res 87.93 13 P **P** **21 40 26.8 -1.0**
baz=209,SNR=124
POKR S **S** **21 50 18.1 -2.8**
baz=209
LL01 San Ignacio de 87.93 135 P **P** **21 40 28.9 +0.4**
LL02 Futaleuf 87.96 135 P **P** **21 40 29.2 +0.6**
HIA Hailar 88.02 325 P **P** **21 40 28.3 -0.3**
HIA Hailar 88.02 325 P **P** **21 40 28.3 -0.3**
HIA pmax pmax
comp=Z,232nm,0.9s
MSO Missoula 88.02 38 P **P** **21 40 29.1 +0.4**
baz=238,SNR=55
MSO S **S** **21 50 23.6 +0.9**
baz=238
G21K Allakaket 88.09 10 P **P** **21 40 28.5 0.0**
baz=203,SNR=477
G21K S **S** **21 50 22.2 -0.1**
baz=203
REDW Red Top Meadow 88.13 42 P **P** **21 40 30.1 +0.6**
REDW IAmb IAmb 21 40 32.1
comp=Z,699nm,1.1s
H23K Yukon River 88.15 11 P **P** **21 40 27.7 -1.1**
baz=207,SNR=146
H23K S **S** **21 50 19.4 -3.5**
baz=207
S22A 4UR Ranch, Cre 88.19 49 P **P** **21 40 31.0 +1.0**
baz=243,SNR=210
S22A S **S** **21 50 31.6 +6.6**
baz=243
K27K Chicken 88.20 15 P **P** **21 40 29.5 +0.5**
K27K Chicken 88.20 15 P **P** **21 40 29.8 +0.8**
baz=214
K27K S **S** **21 50 24.7 +1.3**
baz=214
J26L Joseph Creek 88.25 14 P **P** **21 40 29.8 +0.4**
baz=212,SNR=838
J26L S **S** **21 50 23.9 -0.1**
baz=212
LR04 Corral 88.28 132 P **P** **21 40 30.8 +0.6**
LR04 IAmb IAmb 21 40 32.8
comp=Z,465nm,1.1s
O20A White River Ci 88.30 46 P **P** **21 40 30.4 +0.1**
O20A IAmb IAmb 21 40 32.6
comp=Z,457nm,1.2s
O20A White River Ci 88.30 46 P **P** **21 40 31.2 +0.8**
baz=242,SNR=118
O20A S **S** **21 50 29.8 +4.0**
baz=242
JTMT Jette 88.31 37 P **P** **21 40 29.9 -0.2**
BILL Bilibino 88.37 354 P **P** **21 40 29.0 -0.7**
BILL IAmb IAmb 21 40 33.4
comp=Z,289nm,0.9s
BILL Bilibino 88.37 354 *ci*P **P** **21 40 29.4 -0.3**
BILL *i* *PP **pP** **21 42 39.2 +0.1**
BILL *i* *SP **sP** **21 43 40.6 +1.6**
BILL *i* 21 44 15.9
BILL *i* 21 50 00.7
BILL *i* S **S** **21 50 23.1 -1.7**
BILL *e*SS **SS** **21 56 31.2 -3.0**
BILL pmax pmax
comp=Z,278nm,1.0s
RDOG Red Dog Mine 88.37 6 P **P** **21 40 30.3 +0.5**
baz=194
TROLL Troll, Antarti 88.38 180 P **P** **21 40 30.4 +0.3**
TROLL Troll, Antarti 88.38 180 PKKP **PKKPbc** **21 58 09.2 -2.5**
LL03 Petrohue 88.47 133 P **P** **21 40 31.4 +0.4**
H24K Noodor Dome 88.48 12 P **P** **21 40 28.7 -1.7**
baz=208,SNR=70
H24K S **S** **21 50 23.0 -3.0**
baz=208
L29M L29M 88.48 17 P **P** **21 40 31.3 +0.9**
baz=217,SNR=830
L29M S **S** **21 50 26.0 -0.1**
baz=217
N32M Quiet Lake 88.48 20 P **P** **21 40 31.1 +0.6**
baz=222
N32M S **S** **21 50 27.6 +1.4**
baz=222
PHRA Phrae 88.53 290 P **P** **21 40 32.3 +0.7**
LL04 Puerto Octay 88.56 133 P **P** **21 40 31.4 0.0**
LL04 IAmb IAmb 21 40 33.8
comp=Z,725nm,1.2s
YHB Horse Butte 88.61 41 P **P** **21 40 32.4 +0.7**
YHB IAmb IAmb 21 40 40.7
comp=Z,728nm,1.1s
SNAA Sanae 88.66 179 P **P** **21 40 31.6 +0.2**
SNAA Sanae 88.66 179 PKKP **PKKPbc** **21 58 07.9 -3.0**
SNAA Sanae 88.66 179 P **P** **21 40 31.6 +0.2**
comp=Z,219nm,0.7s,baz=208,slow=7.0,SNR=534
SNAA pP **pP** **21 42 41.5 +1.3**
comp=Z,60nm,1.0s,baz=199,slow=9.1,SNR=2.3
SNAA PP **PP** **21 44 11.6 +1.0**
comp=Z,60nm,1.1s,baz=185,slow=5.0,SNR=4.2
SNAA S **SKSac** **21 50 02.7 -0.8**
comp=Z,42nm,0.8s,baz=357,slow=23,SNR=18
SNAA PKKPbc **PKKPbc** **21 58 08.3 -2.6**
comp=Z,5.5nm,0.5s,baz=266,slow=3.0,SNR=20
SNAA SKKPbc **SKKPbc** **22 00 49.3 -0.4**
comp=Z,12nm,1.1s,baz=41,slow=1.5,SNR=5.6
SNAA PKPPKP P'P'df 22 06 08.3 -8.3
comp=Z,5.1nm,1.1s,baz=6.4,slow=4.2,SNR=7.9
comp=Z,219nm,0.7s
SNAA Sanae 88.66 179 P **P** **21 40 30.2 -1.1**
SNAA IAmb IAmb 21 40 33.3
comp=Z,342nm,1.0s
BW06 Boulder Array 88.67 43 P **P** **21 40 32.6 +0.6**
baz=241
BW06 S **S** **21 50 30.9 +1.8**
baz=241
PD31 Pinedale Array 88.67 43 P **P** **21 40 31.9 -0.2**
PD31 IAmb IAmb 21 40 39.2
comp=Z,307nm,1.1s
PDAR Pinedale Array 88.67 43 P **P** **21 40 31.9 -0.2**
comp=Z,160nm,0.9s,baz=212,slow=2.7,SNR=391
PDAR pP **pP** **21 42 42.0 +1.1**
comp=Z,15nm,0.9s,baz=224,slow=2.5,SNR=2.7
PDAR PKKPbc **PKKPbc** **21 58 08.3 -1.9**
comp=Z,13nm,0.8s,baz=93,slow=3.5,SNR=19
PDAR SKKPbc SKKPbc 22 00 53.3 -0.8
comp=Z,3.9nm,0.8s,baz=71,slow=3.2,SNR=4.2
PDAR PKPPKP **P'P'df** **22 06 19.1 +2.8**
comp=Z,5.4nm,0.9s,baz=73,slow=2.2,SNR=8.8
comp=Z,160nm,0.9s
PDAR Pinedale Array 88.67 43 P **P** **21 40 31.7 -0.4**
PRP Porcupine Dome 88.68 13 P **P** **21 40 30.9 -0.5**
baz=211,SNR=337
PRP S **S** **21 50 25.9 -2.1**
baz=211
HHC Hu-ho-hao-te 88.72 314 *e*P **P** **21 40 32.9 +0.8**
HHC pP pwP 21 42 45.1 +0.9
HHC sP sP 21 43 40.3 -0.9
HHC SKS **SKSac** **21 50 03.5 -1.3**
HHC S **S** **21 50 25.1 -4.3**
HHC sS sS 21 54 19.9 +1.1
HHC pmax pmax
comp=Z,840nm,1.0s
HHC pmax pmax
comp=Z,8μm,4.4s
F21K Alatna River 88.75 9 P **P** **21 40 31.3 -0.2**
baz=203,SNR=216
F21K S **S** **21 50 26.9 -1.4**
baz=203
BOZ Bozeman (W) 88.76 40 P **P** **21 40 32.9 +0.6**
BOZ IAmb IAmb 21 40 40.2
comp=Z,793nm,1.3s
BOZ Bozeman (W) 88.76 40 P **P** **21 40 32.9 +0.6**
BOZ pmax pmax
comp=Z,793nm,1.3s
BOZ Bozeman (W) 88.76 40 P **P** **21 40 33.7 +1.4**
baz=240
BOZ S **S** **21 50 34.1 +4.4**
baz=240
G22K Bettles 88.79 10 P **P** **21 40 31.9 +0.2**
baz=205
G22K S **S** **21 50 28.4 -0.2**
baz=205
VNA3 Neumayer Olymp 88.80 176 P **P** **21 40 32.4 +0.5**
VNA3 Neumayer Olymp 88.80 176 PKKP **PKKPbc** **21 58 07.2 -3.3**
H17A Grant Village 88.81 42 P **P** **21 40 34.8 +2.1**
baz=240
H17A S **S** **21 50 36.0 +5.6**
baz=240
KMI Kunming 88.83 297 ⇓P **P** **21 40 34.9 +1.7**
KMI pP pP 21 42 42.8 +0.9
KMI SKS **SKSac** **21 50 06.6 +0.3**
KMI S **S** **21 50 29.6 -1.6**
KMI sS sS 21 54 19.9 -0.9
KMI pmax pmax
comp=Z,350nm,1.0s
KMI pmax pmax
comp=Z,5μm,5.3s
G23K Bananza Creek 88.86 11 P **P** **21 40 31.9 -0.2**
baz=206,SNR=226
G23K S **S** **21 50 28.7 -0.6**
baz=206
M31M Drury Creek, Y 88.86 19 P **P** **21 40 32.0 -0.2**
baz=221,SNR=133
M31M S **S** **21 50 28.7 -0.8**
baz=221
DAWY Dawson 88.91 16 P **P** **21 40 32.6 +0.2**
baz=216,SNR=287
DAWY S **S** **21 50 30.0 0.0**
baz=216
LKWY Lake 89.01 41 P **P** **21 40 35.5 +1.9**
LKWY IAmb IAmb 21 40 37.5
comp=Z,376nm,1.1s
LKWY Lake 89.01 41 P **P** **21 40 35.5 +1.9**
LKWY pmax pmax
comp=Z,376nm,1.1s
I26K Coal Creek Min 89.02 14 P **P** **21 40 33.1 +0.3**
baz=213
I26K S **S** **21 50 30.5 -0.3**
baz=213
CRAI Chiangrai 89.03 292 P **P** **21 40 34.7 +0.7**
CRAI IAmb IAmb 21 40 37.5
comp=Z,481nm,1.1s
EGAK Eagle 89.05 15 P **P** **21 40 32.8 -0.1**
EGAK Eagle 89.05 15 P **P** **21 40 33.1 +0.1**
baz=215
EGAK S **S** **21 50 30.6 -0.4**
baz=215
SDCO Great Sand Dun 89.13 49 P **P** **21 40 34.1 -0.3**
SDCO IAmb IAmb 21 40 36.4
comp=Z,384nm,1.6s
SDCO Great Sand Dun 89.13 49 P **P** **21 40 34.9 +0.5**
baz=244
SDCO S **S** **21 50 38.0 +4.4**
baz=244
SDCO Great Sand Dun 89.13 49 P **P** **21 40 35.0 +0.7**
baz=244,SNR=117
SDCO S **S** **21 50 39.3 +5.7**
baz=244
LR03 Panguipulli 89.14 132 P **P** **21 40 34.5 +0.3**
WTLY Watson Lake, Y 89.19 22 P **P** **21 40 34.0 +0.2**
WTLY IAmb IAmb 21 40 41.5
comp=Z,418nm,1.1s
WTLY Watson Lake, Y 89.19 22 P **P** **21 40 34.4 +0.6**
baz=226,SNR=46
WTLY S **S** **21 50 34.6 +1.9**
baz=226
FARO Faro, Yukon 89.20 19 P **P** **21 40 33.9 +0.1**
baz=222,SNR=69
FARO S **S** **21 50 33.0 +0.3**
baz=222
F22K John River 89.22 10 P **P** **21 40 33.8 +0.1**
baz=204
F22K S **S** **21 50 31.4 -1.1**
baz=204
K29M Barlow Dome 89.23 17 P **P** **21 40 34.6 +0.6**
baz=218,SNR=377
K29M S **S** **21 50 32.4 -0.6**
baz=218
VNA2 Neumayer--Watz 89.24 177 P **P** **21 40 34.6 +0.7**
baz=169,slow=4.0
VNA2 Neumayer--Watz 89.24 177 PKKP **PKKPbc** **21 58 05.6 -3.8**
H25K Birch Creek 89.27 13 P **P** **21 40 32.8 -1.1**
baz=210,SNR=78
H25K S **S** **21 50 33.0 0.0**
baz=210
COLD Coldfoot 89.29 11 P **P** **21 40 34.4 +0.4**
baz=206,SNR=457
COLD S **S** **21 50 33.8 +0.6**
baz=206
G24K Hadweenzic Riv 89.32 12 P **P** **21 40 33.5 -0.7**
baz=209,SNR=78
NVL N'lazarevskaya 89.35 183 ⇓*i*P **P** **21 40 34.5 +0.1**
NVL *e*S **SKSac** **21 50 14.1 +6.8**
NVL pmax pmax
comp=Z,1μm,0.7s
VNA1 Neumayer--Stat 89.47 177 P **P** **21 40 36.3 +1.3**
VNA1 Neumayer--Stat 89.47 177 PKKP **PKKPbc** **21 58 06.0 -2.8**
MAYO Mayo, Yukon 89.49 18 P **P** **21 40 35.9 +0.8**
baz=219,SNR=74
MAYO S **S** **21 50 35.0 -0.2**
baz=219
J29M Klondike Camp 89.53 16 P **P** **21 40 35.7 +0.4**
J29M Klondike Camp 89.53 16 P **P** **21 40 36.5 +1.2**
baz=217,SNR=27
J29M S **S** **21 50 35.5 -0.1**
baz=217
MSTX Muleshoe 89.54 54 P **P** **21 40 35.5 -0.7**
MSTX IAmb IAmb 21 40 38.0
comp=Z,722nm,1.2s
MSTX Muleshoe 89.54 54 P **P** **21 40 35.8 -0.3**
baz=246,SNR=160
MSTX S **S** **21 50 42.0 +4.9**
baz=246
MSTX Muleshoe 89.54 54 P **P** **21 40 36.4 +0.3**
baz=246
MSTX S **S** **21 50 43.2 +6.1**
baz=246
I27K Kandik River 89.62 14 P **P** **21 40 35.6 -0.1**
baz=214,SNR=208
I27K S **S** **21 50 35.6 -0.8**
baz=214
BTO Baotou 89.65 314 *e*P **P** **21 40 37.8 +1.3**
BTO S **S** **21 50 33.8 -4.0**
T25A Trinidad 89.65 50 P **P** **21 40 36.6 -0.1**
T25A Trinidad 89.65 50 P **P** **21 40 37.1 +0.4**
baz=245
T25A S **S** **21 50 42.0 +3.8**
baz=245
CM31 Chiang Mai Arr 89.65 290 P **P** **21 40 38.1 +1.2**
CMAR Chiang Mai Arr 89.65 290 P **P** **21 40 38.2 +1.3**
comp=Z,605nm,0.9s,baz=118,slow=2.7,SNR=604
CMAR PP **PP** **21 44 22.9 +2.5**
comp=Z,32nm,1.0s,baz=116,slow=5.8,SNR=4.6
CMAR PKKPbc **PKKPbc** **21 58 07.6 +1.0**
comp=Z,32nm,0.8s,baz=288,slow=4.7,SNR=37

CMAR SKKPbc SKKPbc 22 00 46.5 -2.6
comp=Z,4.8nm,1.0s,baz=291,slow=4.1,SNR=4.2
CMAR PKPPKP **P'P'df 22 06 14.9 -1.1**
comp=Z,9.3nm,1.0s,baz=286,slow=4.4,SNR=14
comp=Z,605nm,0.9s
BI05 Punta Hualpn 89.75 129 P **P 21 40 37.6 +0.5**
BI05 IAmb IAmb 21 40 39.1
comp=Z,336nm,1.2s
GO06 Curarrehue 89.77 132 P **P 21 40 37.6 +0.3**
GO06 IAmb IAmb 21 40 39.7
comp=Z,635nm,1.1s
CHTO Chiang Mai 89.78 290 P **P 21 40 38.2 +0.8**
CHTO Chiang Mai 89.78 290 P **P 21 40 38.2 +0.8**
CHTO pmax pmax
comp=Z,816nm,0.9s
CHTO Chiang Mai 89.78 290 P **P 21 40 38.3 +0.9**
CHTO Chiang Mai 89.78 290 P **P 21 40 39.2 +1.8**
E22K Anaktuvuk Pass 89.85 10 P **P 21 40 36.7 +0.1**
baz=205
E22K S **S 21 50 37.0 -1.3**
baz=205
PLCA Paso Flores 89.91 134 P **P 21 40 38.9 +1.1**
comp=Z,223nm,0.9s,baz=238,slow=4.7,SNR=188
PLCA pP **pwP 21 42 48.6 -1.2**
comp=Z,42nm,1.0s,baz=239,slow=8.3,SNR=4.3
PLCA PP **PP 21 44 21.9 +0.6**
comp=Z,12nm,0.9s,baz=251,slow=8.0,SNR=2.3
PLCA PKKPbc **PKKPbc 21 58 07.0 +0.2**
comp=Z,20nm,1.0s,baz=74,slow=1.9,SNR=13
PLCA SKKPbc SKKPbc 22 00 49.0 +2.5
comp=Z,9.9nm,1.0s,baz=26,slow=2.1,SNR=5.6
PLCA PKPPKP P'P'df 22 06 06.4 -9.3
comp=Z,5.0nm,0.9s,baz=11,slow=2.7,SNR=6.4
comp=Z,223nm,0.9s
PLCA Paso Flores 89.91 134 P **P 21 40 38.0 +0.2**
PLCA IAmb IAmb 21 40 40.5
comp=Z,413nm,1.1s
PLCA Paso Flores 89.91 134 *e*P **P 21 40 39.1 +1.3**
PLCA *ep*P **pwP 21 42 51.8 +2.0**
Q24A Divide 89.91 48 P **P 21 40 38.9 +0.9**
baz=244,SNR=44
Q24A S **S 21 50 45.3 +4.6**
baz=244
ISCO Idaho Springs 89.95 47 P **P 21 40 38.2 0.0**
ISCO Idaho Springs 89.95 47 P **P 21 40 38.2 0.0**
ISCO pmax pmax
comp=Z,172nm,1.4s
ISCO Idaho Springs 89.95 47 P **P 21 40 39.1 +0.9**
baz=244
ISCO S **S 21 50 43.8 +2.8**
baz=244
ISCO Idaho Springs 89.95 47 P **P 21 40 39.0 +0.9**
baz=244
ISCO S **S 21 50 45.5 +4.5**
baz=244
833A Chaparral WMA, 89.96 60 P **P 21 40 38.4 +0.4**
baz=247,SNR=128
833A S **S 21 50 42.5 +1.6**
baz=247
833A Chaparral WMA, 89.96 60 P **P 21 40 38.5 +0.4**
baz=247
833A S **S 21 50 42.6 +1.8**
baz=247
F24K Squaw Lake 89.96 11 P **P 21 40 37.5 +0.3**
baz=208,SNR=138
F24K S **S 21 50 39.2 -0.1**
baz=208
RLMT Red Lodge 89.98 41 P **P 21 40 38.9 +0.9**
RLMT IAmb IAmb 21 40 46.0
comp=Z,416nm,1.2s
RLMT Red Lodge 89.98 41 P **P 21 40 39.4 +1.4**
baz=241
RLMT S **S 21 50 45.7 +4.9**
baz=241
E23K Chandalar 90.14 10 P **P 21 40 38.1 0.0**
baz=207,SNR=173
E23K S **S 21 50 40.3 -0.6**
baz=207
MMPY Sheldon Lake, 90.15 20 P **P 21 40 38.8 +0.6**
baz=224,SNR=165
MMPY S **S 21 50 41.0 -0.2**
baz=224
H27K Steamboat Moun 90.17 14 P **P 21 40 38.3 +0.2**
baz=214,SNR=261
H27K S **S 21 50 41.4 +0.3**
baz=214
PZH PanZhiHua 90.18 298 ||P **P 21 40 40.1 +0.8**
PZH pP **pP 21 42 48.8 +0.6**
PZH PP **PP 21 44 23.4 -1.1**
PZH SKS **SKSac 21 50 12.0 -1.8**
PZH S **ScS 21 50 45.5 +0.2**
PZH SS **SS 21 57 04.3 +2.4**
PZH pmax pmax
comp=Z,630nm,1.1s
PZH pmax pmax
comp=Z,5μm,5.7s
N23A Red Feather La 90.20 46 P **P 21 40 40.1 +0.9**
baz=244,SNR=160
N23A S **S 21 50 47.7 +4.6**
baz=244
CD2 Chengdu 90.22 303 ||P **P 21 40 40.3 +1.0**
CD2 pP pP 21 42 48.8 +0.5
CD2 sP sP 21 43 48.8 +1.0
CD2 SKS **SKSac 21 50 12.4 -1.3**
CD2 S **S 21 50 42.3 -0.9**
CD2 sS sS 21 54 29.3 -4.5
CD2 SS **SS 21 57 04.3 +2.0**
CD2 pmax pmax
comp=Z,190nm,0.9s
CD2 pmax pmax
comp=Z,4μm,6.5s
I29M Ogilvie Camp, 90.23 16 P **P 21 40 38.3 -0.2**
baz=217,SNR=194
I29M S **S 21 50 40.4 -1.3**
baz=217
G26K Porcupine Rive 90.27 13 P **P 21 40 38.9 +0.3**
baz=212,SNR=393
G26K S **S 21 50 41.9 0.0**
baz=212
E24K Your Creek 90.35 11 P **P 21 40 39.2 +0.2**
baz=208
E24K S **S 21 50 43.0 +0.2**
baz=208
TGTN Hyland Airport 90.36 22 P **P 21 40 40.1 +0.9**
baz=226,SNR=74
TGTN S **S 21 50 44.0 +0.8**
baz=226
F25K Christian Rive 90.45 12 P **P 21 40 39.9 +0.4**
baz=210,SNR=112
F25K S **S 21 50 45.1 +1.4**
baz=210
JCT Junction City 90.46 58 P **P 21 40 39.9 -0.5**
JCT Junction City 90.46 58 P **P 21 40 39.9 -0.5**
JCT pmax pmax
comp=Z,161nm,0.9s
JCT Junction City 90.46 58 P **P 21 40 40.2 -0.2**
baz=247,SNR=74
JCT S **S 21 50 49.1 +3.8**
baz=247
JCT Junction City 90.46 58 P **P 21 40 40.2 -0.2**
baz=247,SNR=74
JCT S **S 21 50 49.7 +4.3**
baz=247
BMAR Burnt Mountain 90.52 12 P **P 21 40 39.8 0.0**
K22A Casper 90.60 44 P **P 21 40 41.7 +0.8**
baz=243
K22A S **S 21 50 47.5 +1.2**
baz=243
K22A Casper 90.60 44 P **P 21 40 41.5 +0.6**
baz=243,SNR=84
K22A S **S 21 50 49.8 +3.5**
baz=243
G27K Doyon Strip 90.62 14 P **P 21 40 40.3 0.0**
baz=214,SNR=145
G27K S **S 21 50 46.5 +1.4**
baz=214
TOLK Toolik Lake Re 90.67 10 P **P 21 40 40.5 0.0**
baz=207,SNR=112
TOLK S **S 21 50 45.1 -0.4**
baz=207
AMTX Amarillo 90.73 53 P **P 21 40 41.4 -0.2**
AMTX IAmb IAmb 21 40 43.3
comp=Z,313nm,1.2s
AMTX Amarillo 90.73 53 P **P 21 40 42.2 +0.6**
baz=246
AMTX S **S 21 50 49.0 +1.3**
baz=246
AMTX Amarillo 90.73 53 P **P 21 40 41.7 +0.1**
baz=246
AMTX S **S 21 50 53.0 +5.3**
baz=246
D23K Nanushuk River 90.78 10 P **P 21 40 41.4 +0.5**
baz=206,SNR=146
D23K S **S 21 50 45.9 -0.5**
baz=206
F26K Sheenjek River 90.83 12 P **P 21 40 41.8 +0.5**
baz=212,SNR=101
F26K S **S 21 50 47.5 +0.5**
baz=212
KVTX Kingsville 90.90 61 P **P 21 40 43.7 +1.3**
KVTX Kingsville 90.90 61 P **P 21 40 43.7 +1.3**
baz=248,SNR=7.6
KVTX S **S 21 50 55.4 +6.3**
baz=248
E25K Arctic Village 90.92 12 P **P 21 40 42.0 +0.4**
baz=210,SNR=90
E25K S **S 21 50 48.6 +0.8**
baz=210
EGMT Eagleton 91.08 39 P **P 21 40 43.2 +0.3**
EGMT IAmb IAmb 21 40 50.3
comp=Z,178nm,1.0s
EGMT Eagleton 91.08 39 P **P 21 40 43.7 +0.8**
baz=241,SNR=19
EGMT S **S 21 50 52.4 +2.3**
baz=241
D24K Happy Valley 91.25 10 P **P 21 40 43.5 +0.5**
baz=208
FLDN Fort Liard 91.25 24 P **P 21 40 44.9 +1.7**
baz=230,SNR=14
FLDN S **S 21 50 52.7 +1.9**
baz=230
ABTX Abilene, Hawle 91.41 56 P **P 21 40 44.6 0.0**
ABTX Abilene, Hawle 91.41 56 P **P 21 40 44.9 +0.3**
baz=247,SNR=140
ABTX S **S 21 50 58.3 +4.8**
baz=247
ABTX Abilene, Hawle 91.41 56 P **P 21 40 45.2 +0.5**
baz=247,SNR=140
ABTX S **S 21 50 58.7 +5.2**
baz=247
ORCD Orcadas 91.41 159 P **P 21 40 43.7 -0.4**
ORCD IAmb IAmb 21 40 45.8
comp=Z,252nm,0.9s
YAK Yakutsk 91.42 338 PKPPKP 22 06 08.5
comp=Z,2.7nm,0.3s,baz=143,slow=3.2,SNR=4.4
YAK Yakutsk 91.42 338 P **P 21 40 43.0 -0.9**
YAK Yakutsk 91.42 338 *d* iP **P 21 40 42.9 -1.0**
YAK *e**PP **pP 21 42 52.8 -1.0**
YAK *e*S **SKSac 21 50 17.7 -1.1**
YAK *e* 21 50 48.4
YAK *e*SS **SS 21 57 19.5 +1.7**
YAK pmax pmax
comp=Z,943nm,1.0s
YAK pmax pmax
comp=N,75nm,1.0s
YAK pmax pmax
comp=E,102nm,1.0s
YAK pmax pmax
comp=Z,1μm,3.8s
YAK pmax pmax
comp=N,302nm,1.9s
YAK pmax pmax
comp=E,720nm,2.7s
YAK smax smax
comp=E,2μm,3.3s
YAK smax smax
comp=N,1μm,2.3s
EPYK Eagle Plains 91.43 16 P **P 21 40 44.0 0.0**
baz=219,SNR=151
EPYK S **S 21 50 51.6 -0.8**
baz=219
735A Kenedy 91.45 60 P **P 21 40 46.0 +1.1**
baz=248,SNR=45
735A S **S 21 50 58.2 +4.2**
baz=248
ML02 Panimavida 91.47 129 P **P 21 40 44.4 -0.6**
ML02 IAmb IAmb 21 40 46.8
comp=Z,594nm,1.2s
C23K Itkillik River 91.58 9 P **P 21 40 44.8 +0.3**
baz=206,SNR=68
C23K S **S 21 50 53.3 -0.1**
baz=206
KSCO Kaye Shedlock' 91.71 49 P **P 21 40 46.9 +0.8**
baz=246
KSCO S **S 21 50 58.6 +2.4**
baz=246
KSCO Kaye Shedlock' 91.71 49 P **P 21 40 46.9 +0.8**
baz=246,SNR=68
KSCO S **S 21 50 59.2 +3.0**
baz=246
EDM Edmonton 91.71 33 P **P 21 40 45.3 -0.3**
EDM IAmb IAmb 21 40 52.3
comp=Z,349nm,1.1s
EDM Edmonton 91.71 33 P **P 21 40 45.3 -0.3**
EDM pmax pmax
comp=Z,349nm,1.1s
EFI East Falkland 91.77 147 P **P 21 40 46.1 +0.1**
EFI IAmb IAmb 21 40 47.9
comp=Z,464nm,0.9s
EFI East Falkland 91.77 147 *ce*P **P 21 40 46.4 +0.4**
EFI pmax pmax
comp=Z,385nm,0.8s
C24K Franklin Bluff 91.77 10 P **P 21 40 45.6 +0.2**
baz=208
E27K Coleen River 91.77 13 P **P 21 40 45.8 +0.3**
baz=214,SNR=63
E27K S **S 21 50 55.1 -0.1**
baz=214
D25K Kavik River 91.82 11 P **P 21 40 45.2 -0.5**
baz=210,SNR=32
D25K S **S 21 50 53.7 -1.9**
baz=210
CCIG Comitan 91.90 73 P **P 21 40 47.5 0.0**
CCIG IAmb IAmb 21 40 50.0
comp=Z,279nm,1.2s
A21K Barrow 92.16 7 P **P 21 40 47.3 +0.2**
baz=200
A21K S **S 21 50 55.9 -2.4**
baz=200
LZH Lanzhou 92.17 308 ||*i*P **P 21 40 49.4 +1.1**
LZH PP **PP 21 44 36.6 -3.2**
LZH SKS **SKSac 21 50 22.9 -1.7**
LZH S **ScS 21 51 06.8 +5.2**
LZH pmax pmax
comp=Z,660nm,1.0s
LZH pmax pmax
comp=Z,4μm,5.0s
VA05 Santo Domingo 92.23 127 P **P 21 40 48.2 -0.3**
VA05 IAmb IAmb 21 40 50.1
comp=Z,236nm,1.1s
435B Jarrell 92.34 58 P **P 21 40 48.8 -0.2**
435B IAmb IAmb 21 40 50.9
comp=Z,340nm,1.2s
435B Jarrell 92.34 58 P **P 21 40 49.5 +0.6**
baz=248,SNR=19
435B S **S 21 51 04.0 +2.2**
baz=248
435B Jarrell 92.34 58 P **P 21 40 49.5 +0.6**
baz=248
435B S **S 21 51 04.0 +2.2**
baz=248
BO02 Sierra Bellavi 92.36 128 P **P 21 40 48.6 -0.6**
BO02 IAmb IAmb 21 40 51.1
comp=Z,258nm,1.2s
MT01 Popeta 92.41 127 P **P 21 40 49.0 -0.3**
MT01 IAmb IAmb 21 40 51.2
comp=Z,389nm,0.9s
C27K Jago River 92.56 11 P **P 21 40 49.3 +0.3**
baz=212,SNR=61
C27K S **S 21 51 00.7 -1.3**
baz=212
LAO LASA Array 92.59 41 P **P 21 40 50.8 +1.0**
LAO IAmb IAmb 21 40 58.0
comp=Z,232nm,1.1s
LAO LASA Array 92.59 41 *i* P **P 21 40 51.6 +1.8**
baz=244,SNR=13
LAO S **S 21 51 08.5 +5.1**
baz=244
LAO LASA Array 92.59 41 P **P 21 40 51.3 +1.4**
baz=244,SNR=13
LAO S **S 21 51 08.3 +5.0**
baz=244
C26K Camden Bay 92.59 11 P **P 21 40 49.8 +0.7**
baz=211,SNR=18
C26K S **S 21 51 01.5 -0.6**
baz=211
MT09 Talagante 92.65 127 P **P 21 40 50.5 -0.2**
MT09 IAmb IAmb 21 40 52.3
comp=Z,212nm,1.1s
MT02 Curacav 92.76 127 P **P 21 40 50.5 -0.4**
CIT Chita 92.82 325 *e*P **P 21 40 50.7 0.0**
CIT pmax pmax
comp=Z,842nm,1.9s
BO04 La Punta 92.84 128 P **P 21 40 51.3 0.0**
RSSD Black Hills 92.87 44 P **P 21 40 51.2 -0.2**
RSSD IAmb IAmb 21 40 53.8
comp=Z,327nm,1.4s
RSSD Black Hills 92.87 44 P **P 21 40 51.2 -0.2**
RSSD pmax pmax
comp=Z,327nm,1.4s
RSSD Black Hills 92.87 44 P **P 21 40 51.6 +0.3**
baz=245
RSSD S **S 21 51 09.2 +3.0**
baz=245
RSSD Black Hills 92.87 44 P **P 21 40 51.6 +0.3**
baz=245
RSSD S **S 21 51 08.9 +2.7**
baz=245
WMOK Wichita Mounta 92.87 54 P **P 21 40 50.9 -0.5**
WMOK Wichita Mounta 92.87 54 P **P 21 40 50.9 -0.5**
WMOK pmax pmax
comp=Z,46nm,1.2s
WMOK Wichita Mounta 92.87 54 P **P 21 40 51.1 -0.3**
baz=248,SNR=20
WMOK S **S 21 51 09.9 +3.6**
baz=248
WMOK Wichita Mounta 92.87 54 P **P 21 40 50.9 -0.5**
baz=248,SNR=20
WMOK S **S 21 51 10.5 +4.2**
baz=248
WHTX Lake Whitney, 92.89 57 P **P 21 40 51.3 -0.2**
baz=248,SNR=13
WHTX S **S 21 51 10.4 +4.0**
baz=248
WHTX Lake Whitney, 92.89 57 P **P 21 40 51.3 -0.2**
baz=248,SNR=13
WHTX S **S 21 51 07.5 +1.0**
baz=248
OGNE Ogallala 92.91 47 P **P 21 40 51.5 0.0**
OGNE Ogallala 92.91 47 P **P 21 40 52.2 +0.7**
baz=246
OGNE S **S 21 51 08.9 +2.4**
baz=246
OGNE Ogallala 92.91 47 P **P 21 40 51.8 +0.3**
baz=246,SNR=8.6
OGNE S **S 21 51 10.1 +3.6**
baz=246
VA06 Catapilco 92.94 126 P **P 21 40 51.1 -0.7**
PBA Port Blair 92.94 281 P **P 21 40 52.1 0.0**
PBA IAmb IAmb 21 41 02.8
comp=Z,140nm,0.7s
PBA Port Blair 92.94 281 P **P 21 40 52.8 +0.8**
SNR=5.9
PBA Port Blair 92.94 281 *e*P **P 21 40 52.4 +0.3**
PBA IAmb IAmb 21 41 02.6
comp=Z,114nm,0.8s
ROC1 El Roble 92.97 127 P **P 21 40 52.4 +0.1**
MT05 Renca 93.00 127 P **P 21 40 52.4 +0.2**
MT05 IAmb IAmb 21 40 54.2
comp=Z,350nm,1.2s
F31M Tsiigehtchic 93.01 16 P **P 21 40 50.9 -0.2**
baz=221,SNR=107
F31M S **S 21 51 03.4 -2.5**
baz=221
MT03 Universidad Ad 93.13 127 P **P 21 40 52.8 +0.1**
PEL Peldehue 93.15 127 P **P 21 40 52.9 +0.1**
PEL IAmb IAmb 21 40 54.8
comp=Z,324nm,1.1s
PEL Peldehue 93.15 127 P **P 21 40 52.9 +0.1**
PEL pmax pmax
comp=Z,324nm,1.1s
WRGLY Wrigley 93.17 22 P **P 21 40 51.8 -0.1**
baz=230,SNR=8.8
WRGLY S **S 21 51 07.8 +0.3**
baz=230
DGPR DIGLIPUR 93.28 283 *e*P **P 21 40 53.5 -0.1**
DGPR IAmb IAmb 21 41 00.2
comp=Z,290nm,1.0s
VA03 San Esteban 93.42 126 P **P 21 40 54.0 -0.1**
VA03 IAmb IAmb 21 40 56.1
comp=Z,171nm,1.1s
HKT Hockley 93.45 60 P **P 21 40 54.0 0.0**
HKT IAmb IAmb 21 40 56.5
comp=Z,307nm,1.5s
HKT Hockley 93.45 60 *c i*P **P 21 40 54.2 +0.2**
HKT pmax pmax
comp=Z,258nm,1.6s
HKT Hockley 93.45 60 P **P 21 40 54.7 +0.7**
baz=249
HKT S **S 21 51 17.0 +5.8**
baz=249
CO06 Fray Jorge 93.49 124 P **P 21 40 54.2 -0.1**
Z35A Perchaven, San 93.53 56 P **P 21 40 54.3 0.0**
baz=249,SNR=17
Z35A S **S 21 51 16.0 +4.0**
baz=249
CBKS Cedar Bluff 93.70 50 P **P 21 40 55.1 +0.1**
CBKS Cedar Bluff 93.70 50 P **P 21 40 55.2 +0.1**
CBKS pmax pmax
comp=Z,477nm,1.2s
CBKS Cedar Bluff 93.70 50 P **P 21 40 55.8 +0.7**
baz=248
CBKS S **S 21 51 16.8 +3.5**
baz=248
CBKS Cedar Bluff 93.70 50 P **P 21 40 55.6 +0.5**
baz=248,SNR=24
CBKS S **S 21 51 17.0 +3.6**
baz=248
INK Inuvik 93.72 15 P **P 21 40 53.8 -0.5**
comp=Z,234nm,1.1s,baz=216,slow=5.1,SNR=85
INK S **SKSac 21 50 29.7 -1.3**
comp=Z,6.5nm,0.9s,baz=334,slow=30,SNR=10
INK PKKPbc **PKKPdf 21 57 55.8 -0.9**
comp=Z,9.4nm,0.8s,baz=49,slow=6.6,SNR=6.3
INK PKPPKP **P'P'df 22 06 04.8 +0.1**
comp=Z,4.9nm,1.0s,baz=70,slow=0.8,SNR=3.9
comp=Z,234nm,1.1s
INK Inuvik 93.72 15 P **P 21 40 53.5 -0.8**
INK Inuvik 93.72 15 P **P 21 40 53.9 -0.5**
baz=222,SNR=136
INK S **S 21 51 09.3 -2.7**
baz=222
CO02 Combarbal 93.76 125 P **P 21 40 55.7 0.0**
CO02 IAmb IAmb 21 40 59.6
comp=Z,211nm,0.8s
MTO3 Montecristo 93.79 76 P **P 21 40 55.8 -0.4**
MTO3 IAmb IAmb 21 40 58.1
comp=Z,145nm,1.2s
CO05 La Serena 94.12 124 P **P 21 40 57.0 -0.3**
CO05 IAmb IAmb 21 41 00.1
comp=Z,106nm,0.9s
PETF Flores 94.16 74 P **P 21 40 57.1 -0.4**
237A Washetta, Mont 94.20 58 P **P 21 40 57.8 +0.4**
baz=249,SNR=10.0
237A S **S 21 51 23.5 +5.8**
baz=249
R32A Long Quarter, 94.30 51 P **P 21 40 58.4 +0.7**
baz=248,SNR=117
R32A S **S 21 51 21.4 +2.9**
baz=248
DGMT Dagmar 94.60 40 P **P 21 40 59.3 +0.4**
DGMT Dagmar 94.60 40 P **P 21 41 00.0 +1.1**
baz=245,SNR=80
DGMT S **S 21 51 25.3 +4.7**
baz=245
DGMT Dagmar 94.60 40 P **P 21 40 59.9 +1.1**
baz=245
DGMT S **S 21 51 26.1 +5.6**
baz=245
ULN Ulaanbaatar 94.70 319 P **P 21 40 59.0 -0.5**
ULN IAmb IAmb 21 41 07.6
comp=Z,139nm,0.8s
ULN Ulaanbaatar 94.70 319 P **P 21 40 59.0 -0.5**
ULN pmax pmax
comp=Z,139nm,0.9s
ULN Ulaanbaatar 94.70 319 P **P 21 40 59.7 +0.2**
AC04 Llanos de Chal 94.99 122 P **P 21 41 01.5 +0.3**
CO01 Juntas del Tor 94.99 124 P **P 21 41 00.9 -0.6**
NATX Nacogdoches 95.03 58 P **P 21 41 00.9 -0.2**
NATX IAmb IAmb 21 41 04.4

NATX **Nacogdoches** 95.03 58 P **P** 21 41 02.1 +0.9
baz=250
NATX S **S** 21 51 28.9 +4.0
baz=250
NATX **Nacogdoches** 95.03 58 P **P** 21 41 01.7 +0.5
baz=250
NATX S **S** 21 51 29.8 +4.9
baz=250
SONM **Songino Array** 95.10 319 P **P** 21 41 00.7 -0.6
comp=Z,20nm,0.6s,baz=125,slow=4.1,SNR=68
SONM pP **pP** 21 43 11.9 +0.8
comp=Z,8.4nm,0.9s,baz=131,slow=9.9,SNR=2.1
SONM PP **PP** 21 44 59.9 -2.0
comp=Z,30nm,0.9s,baz=118,slow=8.0,SNR=5.1
SONM PKiKP **PKiKP** 21 45 38.8 +0.4
comp=Z,10nm,0.8s,baz=98,slow=1.6,SNR=7.4
SONM S **SKSac** 21 50 36.8 -2.8
comp=Z,14nm,1.1s,baz=104,slow=3.0,SNR=3.8
SONM PKKPbc **PKKPdf** 21 57 53.0 -0.8
comp=Z,21nm,0.9s,baz=268,slow=2.7,SNR=23
SONM PKPPKP **P'P'df** 22 06 01.5 -2.4
comp=Z,4.9nm,1.0s,baz=286,slow=2.0,SNR=8.7
comp=Z,20nm,0.6s
SONM **Songino Array** 95.10 319 P **P** 21 41 00.5 -0.8
Z38A **Mt. Pleasant** 95.28 57 P **P** 21 41 03.5 +1.2
baz=250
Z38A S **S** 21 51 32.5 +5.5
baz=250
AC05 **El Transito** 95.35 123 P **P** 21 41 03.2 +0.2
CRIN **San Cristobal** 95.36 78 P **P** 21 41 02.8 -0.3
CRIN IAmb IAmb 21 41 07.2
comp=Z,139nm,1.0s
T35B **Sooner Cattle** 95.38 53 P **P** 21 41 02.7 0.0
baz=249,SNR=22
T35B S **S** 21 51 31.1 +3.3
baz=249
ZON **Zonda** 95.38 126 P **P** 21 41 02.7 -0.3
ZON **Zonda** 95.38 126 P **P** 21 41 02.7 -0.3
ZON pmax pmax
comp=Z,75nm,1.0s
LKP **Lekhapani** 95.39 297 *e*P **P** 21 41 03.8 +0.9
LKP IAmb IAmb 21 41 10.6
comp=Z,201nm,0.9s
BOD **Bodaibo** 95.40 330 *e*P **P** 21 41 01.2 -1.0
BOD *e*S **SKSac** 21 50 37.1 -3.3
BOD pmax pmax
comp=Z,188nm,1.6s
TUL1 **Leonard** 95.58 54 **P** 21 41 03.0 -0.5
TUL1 **Leonard** 95.58 54 P **P** 21 41 03.6 0.0
baz=250,SNR=8.2
TUL1 S **S** 21 51 32.6 +3.2
baz=250
TUL1 **Leonard** 95.58 54 P **P** 21 41 03.6 0.0
baz=250,SNR=8.2
TUL1 S **S** 21 51 33.3 +3.9
baz=250
TGUH **Tegucigalpa,Un** 95.59 77 P **P** 21 41 04.1 -0.2
BGNE **Belgrade** 95.80 48 P **P** 21 41 04.8 +0.3
BGNE **Belgrade** 95.80 48 P **P** 21 41 05.1 +0.6
baz=249,SNR=34
BGNE S **S** 21 51 35.4 +4.2
baz=249
BGNE **Belgrade** 95.80 48 P **P** 21 41 05.5 +1.0
baz=249,SNR=34
BGNE S **S** 21 51 35.4 +4.2
baz=249
K31A **O'Neill** 95.82 47 P **P** 21 41 05.0 +0.5
baz=248,SNR=8.2
K31A S **S** 21 51 34.8 +3.5
baz=248
441A **DeRidder** 95.87 60 S **S** 21 51 38.7 +6.6
baz=250
AC06 **Mina Casimiro** 95.93 122 P **P** 21 41 05.7 +0.2
DUNO **Dulce Nombre,** 95.95 81 P **P** 21 41 05.7 -0.1
E28A **Huff** 96.01 43 P **P** 21 41 05.5 +0.2
baz=248,SNR=7.5
E28A S **S** 21 51 35.2 +2.4
baz=248
YKA **Yellowknife Ar** 96.03 25 P **P** 21 41 04.6 -0.3
comp=Z,22nm,0.6s,baz=235,slow=4.7,SNR=74
YKA pP **pP** 21 43 15.8 +1.0
comp=Z,2.0nm,0.8s,baz=106,slow=21,SNR=1.8
YKA PP **PP** 21 45 06.7 -1.8
comp=Z,25nm,1.1s,baz=238,slow=7.2,SNR=5.7
YKA PKiKP **PKiKP** 21 45 40.0 +0.6
comp=Z,3.8nm,0.7s,baz=255,slow=1.6,SNR=8.5
YKA ScS **S** 21 51 31.8 -0.3
comp=Z,9.1nm,1.1s,baz=234,slow=5.9,SNR=4.6
YKA PKKPbc **PKKPbc** 21 57 48.4 -3.4
comp=Z,3.7nm,0.4s,baz=42,slow=2.2,SNR=25
YKA PKPPKP **P'P'df** 22 06 00.5 -0.3
comp=Z,3.5nm,0.8s,baz=45,slow=2.1,SNR=3.7
comp=Z,22nm,0.6s
YKA **Yellowknife Ar** 96.03 25 P **P** 21 41 04.4 -0.5
N33B **J Bar K, Exete** 96.05 49 P **P** 21 41 06.2 +0.6
baz=249,SNR=16
N33B S **S** 21 51 37.4 +4.2
baz=249
HZTE **Horizontes, Gu** 96.06 81 P **P** 21 41 06.3 +0.1
HZTE IAmb IAmb 21 41 10.1
comp=Z,160nm,1.2s
ORTG **Ortega, Santa** 96.08 81 P **P** 21 41 06.2 -0.2
KSU1 **Kansas State U** 96.08 51 P **P** 21 41 05.9 +0.2
KSU1 IAmb IAmb 21 41 09.3
comp=Z,112nm,0.7s
KSU1 **Kansas State U** 96.08 51 P **P** 21 41 06.2 +0.4
baz=249,SNR=23
KSU1 S **S** 21 51 34.2 +0.6
baz=249
KSU1 **Kansas State U** 96.08 51 Pdiff **P** 21 41 06.1 +0.4
baz=249
KSU1 S **S** 21 51 37.9 +4.4
baz=249
MOKO **MOKOCHONG** 96.18 296 *e*P **P** 21 41 06.7 0.0
MOKO IAmb IAmb 21 41 13.5
comp=Z,210nm,1.0s
AC01 **Pan de Azucar** 96.25 121 P **P** 21 41 06.6 -0.4
KOHI **KOHIMA** 96.34 295 *e*P **P** 21 41 06.8 -0.6
KOHI IAmb IAmb 21 41 17.8
comp=Z,268nm,1.2s
SUSD **Miller** 96.35 45 P **P** 21 41 06.0 -0.9
SUSD **Miller** 96.35 45 P **P** 21 41 07.0 +0.1
baz=248
SUSD S **S** 21 51 37.4 +1.7
baz=248
SUSD **Miller** 96.35 45 Pdiff **P** 21 41 06.8 0.0
baz=248
SUSD S **S** 21 51 38.2 +2.6
baz=248
GTA **Gaotai** 96.36 309 ||P **P** 21 41 07.3 +0.1
GTA sP sP 21 44 18.5 +2.3
GTA PP **PP** 21 45 10.6 -1.1
GTA SKS **SKSac** 21 50 45.0 -1.6
GTA S **ScS** 21 51 38.4 +2.1
GTA pmax pmax
comp=Z,140nm,1.5s
GTA pmax pmax
comp=Z,2μm,11.3s
MATN **Matagalpa** 96.47 79 P **P** 21 41 07.3 -0.8
NNA **Nana** 96.48 105 P **P** 21 41 08.3 +0.1
comp=Z,28nm,1.1s,baz=325,slow=5.2,SNR=3.9
NNA PP **PP** 21 45 13.0 +0.4
comp=Z,7.6nm,0.6s,baz=232,slow=10,SNR=4.1
comp=Z,28nm,1.1s
JTS **Las Juntas de** 96.52 81 P **P** 21 41 08.3 0.0
JTS IAmb IAmb 21 41 11.9
comp=Z,144nm,1.1s
JTS **Las Juntas de** 96.52 81 *c*P **P** 21 41 09.1 +0.8
JTS pmax pmax
comp=Z,113nm,1.0s
JORH **JORHAT** 96.54 296 *e*P **P** 21 41 10.0 +1.9
BOAB **BOACO BROADBAN** 96.56 79 P **P** 21 41 07.6 -0.8
TEIG **Tepich** 96.66 71 P **P** 21 41 08.3 -0.5
342B **Flagon Creek P** 96.78 59 P **P** 21 41 11.0 +2.0
baz=251
342B S **S** 21 51 47.1 +7.3
baz=251
ATAH **Atahualpa** 96.81 100 P **P** 21 41 11.4 +1.3
comp=Z,29nm,0.9s,baz=253,slow=4.4,SNR=19
ATAH PP **PP** 21 45 14.2 -1.5
comp=Z,11nm,1.0s,baz=275,slow=5.5,SNR=3.8
comp=Z,29nm,0.9s
MIAR **Mount Ida** 96.82 56 P **P** 21 41 08.8 -0.4
MIAR **Mount Ida** 96.82 56 P **P** 21 41 08.8 -0.4
MIAR pmax pmax
comp=Z,50nm,1.3s
MIAR **Mount Ida** 96.82 56 P **P** 21 41 09.0 -0.2
baz=251,SNR=12
MIAR S **S** 21 51 45.1 +5.1
baz=251
MIAR **Mount Ida** 96.82 56 Pdiff **P** 21 41 09.0 -0.2
baz=251
U38A **Gravette** 96.83 54 P **P** 21 41 09.0 -0.1
baz=250,SNR=21
U38A S **S** 21 51 44.0 +4.0
baz=250
C36M **Paulatuk** 96.91 17 P **P** 21 41 08.0 -0.7
C36M IAmb IAmb 21 43 26.4
comp=Z,361nm,1.6s
C36M **Paulatuk** 96.91 17 Pdiff **P** 21 41 09.4 +0.7
baz=230
TRQA **Tornquist** 97.01 135 P Pdif 21 41 10.4 +0.3
TRQA **Tornquist** 97.01 135 P Pdif 21 41 10.4 +0.3
TRQA pmax pmax
comp=Z,67nm,1.0s
PB14 **IPOC Station P** 97.07 119 P Pdif 21 41 11.4 +0.4
PB14 IAmb IAmb 21 41 15.1
comp=Z,126nm,1.3s
ITAN **ITANAGAR** 97.12 296 *e*P **P** 21 41 11.0 +0.4
ITAN IAmb IAmb 21 41 19.6
comp=Z,146nm,1.0s
ZIRO **ZIRO** 97.13 297 *e*P **P** 21 41 11.2 +0.2
ZIRO IAmb IAmb 21 41 15.7
comp=Z,118nm,0.8s
AC02 **Maricunga** 97.14 122 P Pdif 21 41 12.0 +0.5
MDND **Maddock** 97.18 42 P Pdif 21 41 10.4 0.0
baz=248,SNR=6.4
MDND **Maddock** 97.18 42 Pdiff Pdif 21 41 10.2 -0.2
baz=248
L34A **Svendsen Farm,** 97.24 48 P Pdif 21 41 10.9 0.0
baz=250,SNR=7.1
N35A **Tabor** 97.38 49 P **P** 21 41 12.1 +0.6
baz=250,SNR=11
PEZE **Perez Zeledon,** 97.42 83 P **P** 21 41 13.2 +0.7
BRDH **Bariadhala** 97.51 291 P **P** 21 41 14.1 +1.6
comp=Z,147nm,0.3s,baz=107,slow=5.7,SNR=10
BRDH PP **PP** 21 45 18.3 -2.2
comp=Z,116nm,0.3s,baz=68,slow=9.3,SNR=4.9
comp=Z,147nm,0.3s
ECSD **EROS Data Cent** 97.68 46 P Pdif 21 41 12.6 -0.2
baz=250,SNR=29
ECSD **EROS Data Cent** 97.68 46 Pdiff Pdif 21 41 12.6 -0.2
baz=250
TEZP **TEZPUR** 97.74 295 *e*P Pdif 21 41 12.9 -0.5
TEZP IAmb IAmb 21 41 16.5
comp=Z,98nm,0.9s
ZAK **Zakamensk** 97.97 321 *e*P Pdif 21 41 13.4 -0.6
ZAK pmax pmax
comp=Z,68nm,1.3s
S39A **Bolivar** 98.04 53 P Pdif 21 41 14.2 -0.3
baz=251,SNR=13
TIXI **Tiksi** 98.06 345 P Pdif 21 41 12.9 -0.8
comp=Z,68nm,1.0s,baz=90,slow=23,SNR=25
TIXI PP **PP** 21 45 20.1 -3.4
comp=Z,94nm,1.1s,baz=90,slow=24,SNR=12
TIXI PKiKP **PKiKP** 21 45 42.1 -0.6
comp=Z,8.4nm,0.4s,baz=95,slow=6.9,SNR=6.9
TIXI PKKPbc **PKKPbc** 21 57 43.1 -3.4
comp=Z,19nm,0.8s,baz=272,slow=20,SNR=9.7
comp=Z,68nm,1.0s
TIXI **Tiksi** 98.06 345 *d*iP Pdif 21 41 12.9 -0.9
TIXI pmax pmax
comp=Z,99nm,1.1s
IRK **Irkutsk** 98.08 323 *e*P Pdif 21 41 13.3 -1.0
IRK *e* 21 43 28.7
IRK *e* 21 45 20.1
IRK *e* 21 50 52.5
IRK pmax pmax
comp=Z,101nm,1.7s
A36M **Sachs Harbour** 98.32 15 Pdiff **P** 21 41 15.5 +0.5
baz=229
P38A **Dawn** 98.50 51 P Pdif 21 41 16.4 -0.1
baz=251
VBMS **Vicksburg** 98.50 59 Pdiff **P** 21 41 17.5 +0.8
baz=252
F33A **5 Mile Ranch,** 98.60 44 P Pdif 21 41 16.5 -0.4
baz=250,SNR=12
MGMO **Mountain Grove** 98.66 54 Pdif Pdif 21 41 16.7 -0.6
MGMO IAmb IAmb 21 43 36.5
comp=Z,109nm,1.2s
R40A **Maddies Statio** 99.02 53 P **Pdif** 21 41 18.7 -0.1
baz=252,SNR=19
GOMU **GeErMu** 99.06 305 *e*P **Pdif** 21 41 20.0 +0.4
GOMU pmax pmax
comp=Z,1μm,10.4s
LVC **Limon Verde** 99.17 118 P **Pdif** 21 41 22.0 +1.6
comp=Z,25nm,1.2s,baz=220,slow=3.9,SNR=16
LVC PKKPbc **PKKPbc** 21 57 43.2 +0.7
comp=Z,20nm,0.7s,baz=290,slow=0.9,SNR=14
comp=Z,25nm,1.2s
LVC **Limon Verde** 99.17 118 P **Pdif** 21 41 22.0 +1.6
LVC **Limon Verde** 99.17 118 *e*P **Pdif** 21 41 22.1 +1.7
LVC *e*pP **pwP** 21 43 34.3 +0.6
OTAV **Otavalo** 99.32 93 *e*P **Pdif** 21 41 22.5 +1.1
SCIA **State Center** 99.45 49 Pdiff **Pdif** 21 41 20.4 -0.3
baz=252
P40A **Paris** 99.56 51 P **Pdif** 21 41 20.9 -0.4
baz=252,SNR=8.2
AGMN **Agassiz Nation** 99.69 42 P **Pdif** 21 41 21.1 -0.5
baz=251
AGMN **Agassiz Nation** 99.69 42 Pdiff **Pdif** 21 41 21.1 -0.5
baz=251
CCM **Cathedral Cave** 99.71 53 P **Pdif** 21 41 21.3 -0.6
baz=252
CCM **Cathedral Cave** 99.71 53 Pdiff **Pdif** 21 41 20.9 -1.1
baz=252
MOY **Mondy** 99.77 321 *e*P **Pdif** 21 41 20.8 -1.2
MOY pmax pmax
comp=Z,108nm,3.1s
I37B **Waseca** 99.97 47 P **Pdif** 21 41 23.1 +0.1
baz=252,SNR=18
LSA **Lhasa** 100.06 298 P **Pdif** 21 41 25.4 +1.1
LSA **Lhasa** 100.06 298 P **Pdif** 21 41 25.1 +0.8
LSA **Lhasa** 100.06 298 Pdiff **Pdif** 21 41 25.1 +0.8
OXF **Oxford** 100.08 57 Pdiff **Pdif** 21 41 23.0 -0.7
baz=253
ULM **Lac du Bonnet** 100.31 40 P **Pdif** 21 41 25.4 +1.1
comp=Z,7.2nm,0.9s,baz=235,slow=7.0,SNR=6.5
ULM PKiKP **PKiKP** 21 45 46.3 -1.0
comp=Z,8.5nm,0.7s,baz=237,slow=8.0,SNR=1.8
ULM PKKPbc **PKKPbc** 21 57 37.8 -1.8
comp=Z,5.8nm,0.6s,baz=118,slow=3.4,SNR=5.0
F36A **Milaca** 100.44 45 P **Pdif** 21 41 25.2 +0.2
baz=252,SNR=23
SPMN **Marine on St.** 100.74 46 P **Pdif** 21 41 27.4 +1.0
baz=253,SNR=11
SPMN **Marine on St.** 100.74 46 Pdiff **Pdif** 21 41 25.0 -1.3
baz=253
L40A **Anamosa** 100.91 49 P **Pdif** 21 41 27.4 +0.3
baz=253,SNR=8.0
BRAL **Brewton** 101.02 61 Pdiff **Pdif** 21 41 27.1 -0.8
baz=254
B35A **Bob, Littlefor** 101.06 43 P **Pdif** 21 41 27.5 -0.2
baz=253
GTK **Tadong** 101.52 295 *e*P **Pdif** 21 41 31.4 +1.0
GTK IAmb IAmb 21 41 39.6
comp=Z,64nm,0.9s
LRAL **Lakeview Retre** 101.58 59 Pdiff **Pdif** 21 41 27.9 -2.5
baz=254
WVT **Waverly** 101.78 56 Pdiff **Pdif** 21 41 28.5 -2.6
baz=254
JFWS **Jewell Farm** 101.84 49 P **Pdif** 21 41 32.1 +0.8
baz=254,SNR=7.9
JFWS **Jewell Farm** 101.84 49 Pdiff **Pdif** 21 41 29.7 -1.6
baz=254
I40A **Norwalk** 101.85 48 P **Pdif** 21 41 31.9 +0.5
baz=254,SNR=5.4
HDIL **Hopedale** 101.88 51 Pdiff **Pdif** 21 41 30.8 -0.8
baz=254
BWNR **Bhubaneshwar** 101.98 287 *e*P **Pdif** 21 41 33.6 +1.2
TAPN **Taplejung** 102.29 295 *e*P **Pdif** 21 41 35.5 +1.4
TAPN **Taplejung** 102.29 295 *e*P **PKiKP** 21 45 51.0 -1.1
TAPN **Taplejung** 102.29 295 *e*P **PKKPbc** 21 57 33.9 +0.3
comp=Z,92nm,1.0s
EYMN **Ely** 102.38 43 Pdiff **Pdif** 21 41 32.5 -1.1
baz=254
ODAN **Odare** 102.43 294 *e*P **Pdif** 21 41 35.7 +1.1
ODAN **Odare** 102.43 294 *e*P **PKiKP** 21 45 52.4 +0.1
ODAN **Odare** 102.43 294 *e*P **PKKPbc** 21 57 32.6 -0.5
G40A **Rib Lake** 102.51 46 P **Pdif** 21 41 35.8 +1.6
baz=254,SNR=6.3
LPAZ **La Paz** 102.55 113 P **Pdif** 21 41 37.7 +1.9
comp=Z,39nm,0.9s,baz=253,slow=2.3,SNR=58
LPAZ PKiKP **PKiKP** 21 45 52.1 -1.2
comp=Z,11nm,1.0s,baz=182,slow=4.4,SNR=3.6
LPAZ PKKPbc **PKKPbc** 21 57 33.2 0.0
comp=Z,6.5nm,0.6s,baz=60,slow=2.9,SNR=17
LPAZ **La Paz** 102.55 113 *e*P **Pdif** 21 41 35.2 -0.7
T47A **Sharon Grove** 102.57 55 P **Pdif** 21 41 35.6 +0.9
baz=255
PALK **Pallekele** 102.77 273 PKKPbc PKKPbc 21 57 32.6 +1.1
comp=Z,6.8nm,0.7s,baz=163,slow=10,SNR=1.9
BOK **Bokaro** 102.89 291 *e*P **Pdif** 21 41 37.8 +1.4
BOK IAmb IAmb 21 41 46.1
comp=Z,18nm,1.0s
RAMN **Ramite** 103.13 294 *e*P **Pdif** 21 41 39.3 +1.6
RAMN **Ramite** 103.13 294 *e*P **PKiKP** 21 45 53.4 -0.2
RAMN **Ramite** 103.13 294 *e*P **PKKPbc** 21 57 30.3 -0.7
comp=Z,98nm,0.9s
L44A **Lake County Fo** 103.31 50 Pdiff **Pdif** 21 41 35.9 -2.0
baz=255
COWI **Conover** 103.45 46 P **Pdif** 21 41 39.9 +1.5
baz=255
SFIN **Lafayette** 103.45 52 Pdiff **Pdif** 21 41 36.7 -1.8
baz=255
U49A **Red Boiling Sp** 103.47 56 P **Pdif** 21 41 39.3 +0.6
baz=255
WCI **Wyandotte Cave** 103.51 54 Pdiff **Pdif** 21 41 37.7 -1.1
baz=255
JIRN **Jiri** 103.67 295 *e*P **Pdif** 21 41 41.2 +0.9
JIRN **Jiri** 103.67 295 *e*P **PKiKP** 21 45 54.8 +0.1
comp=Z,3μm,2.1s
JIRN **Jiri** 103.67 295 *e*P **PKKPbc** 21 57 29.8 +0.2
comp=Z,136nm,1.1s
RAGD **RAYAGADA** 103.80 286 *e*P **Pdif** 21 41 40.2 -0.3
GUN **Gumba** 104.00 295 *e*P **PKKPbc** 21 57 29.3 +0.7
comp=Z,161nm,0.8s
PKI **Pulchoki** 104.32 294 *e*P **Pdif** 21 41 44.0 +0.9
comp=Z,58nm,0.7s
PKI **Pulchoki** 104.32 294 *e*P **PKiKP** 21 45 55.2 -0.6
PKI **Pulchoki** 104.32 294 *e*P **PKKPbc** 21 57 27.0 -0.7
PKIN **Phulchoki** 104.33 294 *e*P **Pdif** 21 41 43.9 +0.8
comp=Z,73nm,0.7s
PKIN **Phulchoki** 104.33 294 *e*P **PKiKP** 21 45 55.1 -0.7
comp=Z,43nm,0.6s
PKIN **Phulchoki** 104.33 294 *e*P **PKKPbc** 21 57 27.0 -0.6
KKN **Kakani** 104.49 295 *e*P **Pdif** 21 41 44.8 +1.1
KKN **Kakani** 104.49 295 *e*P **PKiKP** 21 45 55.7 -0.3
KKN **Kakani** 104.49 295 *e*P **PKKPbc** 21 57 27.1 0.0
GOGA **Godfrey** 104.54 59 Pdiff **Pdif** 21 41 42.9 -0.6
baz=256
DMN **Daman** 104.59 294 *e*P **Pdif** 21 41 45.4 +1.2
comp=Z,139nm,1.0s
DMN **Daman** 104.59 294 *e*P **PKiKP** 21 45 56.3 0.0
ROSC **El Rosal** 104.74 90 PKiKP **PKiKP** 21 45 56.9 -0.2
comp=Z,8.9nm,0.6s,baz=178,slow=20,SNR=4.5
ROSC PP **PP** 21 46 14.9 +0.3
comp=Z,5.7nm,0.3s,baz=182,slow=1.8,SNR=12
R50A **Paris** 105.03 54 P **PKiKP** 21 45 55.8 -0.6
baz=256
R50A P **PKiKP** 21 45 55.8 -0.6
baz=256
GKN **Gorkha** 105.09 295 *e*P **Pdif** 21 41 46.9 +0.6
comp=Z,58nm,0.8s
GKN **Gorkha** 105.09 295 *e*P **PKiKP** 21 45 55.8 -1.2
comp=Z,53nm,0.6s
GKN **Gorkha** 105.09 295 *e*P **PKKPbc** 21 57 25.0 -0.2
comp=Z,125nm,0.9s
S51A **Beattyville** 105.44 55 P **PKiKP** 21 45 56.9 -0.3
baz=257
S51A P **PKiKP** 21 45 56.9 -0.3
baz=257
L48A **N Adams** 105.77 51 P **PKiKP** 21 45 57.5 -0.2
baz=257
L48A P **PKiKP** 21 45 57.5 -0.2
baz=257
BLSP **Bilaspur** 105.78 288 *e*P **Pdif** 21 41 50.2 +0.9
KOLN **Koldanda** 105.92 294 *e*P **Pdif** 21 41 50.5 +0.4
KOLN **Koldanda** 105.92 294 *e*P **PKiKP** 21 45 56.0 -2.6
KOLN **Koldanda** 105.92 294 *e*P **PKKPbc** 21 57 21.6 -1.1
DANN **Dangsing** 105.93 295 *e*P **Pdif** 21 41 50.6 +0.4
comp=Z,40nm,0.8s
DANN **Dangsing** 105.93 295 *e*P **PKiKP** 21 45 58.0 -0.8
comp=Z,68nm,0.5s
HAW **Hawthorne Fire** 106.03 60 P **PKiKP** 21 45 58.4 0.0
baz=257
AAM **Ann Arbor** 106.42 50 PKiKP **PKiKP** 21 45 58.6 -0.3
baz=258
ACSO **Alum Creek Sta** 106.48 53 PKiKP **PKiKP** 21 45 58.7 -0.4
baz=258
PYUN **Piuthan** 106.53 294 *e*P **Pdif** 21 41 53.0 +0.2
comp=Z,98nm,1.0s
PYUN **Piuthan** 106.53 294 *e*P **PKiKP** 21 45 58.3 -1.5
PYUN **Piuthan** 106.53 294 *e*P **PKKPbc** 21 57 19.7 -1.2
JSC **Jenkinsville** 106.53 59 P **PKiKP** 21 45 59.3 0.0
baz=257
U54A **Nelsons Funny** 106.58 57 P **PKiKP** 21 45 59.3 -0.1
baz=257
U54A P **PKiKP** 21 45 59.3 -0.1
baz=257
CPUP **Villa Florida** 106.59 127 Pdiff **Pdif** 21 41 55.4 +2.5
comp=Z,5.2nm,0.9s,baz=257,slow=6.5,SNR=3.0
CPUP PKiKP **PKiKP** 21 45 59.1 -0.6
comp=Z,7.4nm,0.8s,baz=275,slow=2.9,SNR=5.9
CPUP PP **PP** 21 46 25.7 -0.9
comp=Z,24nm,1.1s,baz=238,slow=4.6,SNR=6.5
CPUP PKKPbc **PKKPbc** 21 57 20.7 -0.1
comp=Z,6.1nm,0.8s,baz=52,slow=1.5,SNR=5.1
CPUP SKKPbc SKKPbc 22 00 04.0 -0.6
comp=Z,6.5nm,0.9s,baz=235,slow=2.4,SNR=3.7
KMSC **Kings Mountain** 106.66 58 PKiKP **PKiKP** 21 45 58.9 -0.6
baz=257
E46A **Sault Ste Mari** 106.78 46 P **PKiKP** 21 45 58.6 -0.8
baz=259
V55A **Taylorsville** 106.91 57 P **PKiKP** 21 45 58.7 -1.3
baz=258
V55A P **PKiKP** 21 45 58.7 -1.3
baz=258
P52A **Corning** 106.99 53 PKiKP **PKiKP** 21 45 59.4 -0.6
baz=258
NHSC **New Hope** 107.14 60 PKiKP **PKiKP** 21 46 00.2 -0.3
baz=257
BIRD **Birdtown, Kers** 107.25 59 P **PKiKP** 21 46 00.6 0.0
baz=258
O52A **Adamsville** 107.31 53 P **PKiKP** 21 45 59.7 -0.9
baz=258
O52A P **PKiKP** 21 45 59.7 -0.9
baz=258
P53A **Whipple** 107.53 54 P **PKiKP** 21 46 00.8 -0.3
baz=258
P53A P **PKiKP** 21 46 00.8 -0.3
baz=258
W57A **Gilead** 107.73 58 P **PKiKP** 21 46 00.4 -1.1
baz=258
W57A P **PKiKP** 21 46 00.4 -1.1
baz=258
Y58A **Scranton** 107.73 60 P **PKiKP** 21 46 00.9 -0.6
baz=258
Y58A P **PKiKP** 21 46 00.9 -0.6
baz=258
HYBB **Hyderabad (bro** 107.77 283 *e*Pdif **Pdif** 21 41 58.9 +0.6
HYBB *e*PKiKP **PKiKP** 21 46 02.1 0.0
HYBB *e*PP **PP** 21 46 35.2 -0.9
HYBB *e*SKiKP **SKiKP** 21 48 40.5 -0.6
HYBB *e*SKSac **SKSac** 21 51 39.6 -0.9
HYBB *e*SP **SP** 21 55 05.2 +3.8
HYBB *e*PKKPab **PKKPab** 21 57 33.4 +0.4
O53A **New Philadelph** 107.81 53 PKiKP **PKiKP** 21 46 01.2 -0.4
baz=259
BLA **Blacksburg** 107.82 56 PKiKP **PKiKP** 21 46 01.1 -0.6
baz=258
Q54A **Coxs Mills** 107.85 54 P **PKiKP** 21 46 01.2 -0.4
baz=259,SNR=6.4
Q54A P **PKiKP** 21 46 01.2 -0.4
baz=259,SNR=6.4
X58A **Rowland** 108.14 59 P **PKiKP** 21 46 02.1 -0.2
baz=258
X58A P **PKiKP** 21 46 02.1 -0.2
baz=258
N53A **Lisbon** 108.19 52 P **PKiKP** 21 46 01.0 -1.3
baz=259
N53A P **PKiKP** 21 46 01.0 -1.3
baz=259
R55A **Marlinton** 108.26 55 P **PKiKP** 21 46 01.7 -0.8
baz=259,SNR=5.3
R55A P **PKiKP** 21 46 01.7 -0.8
baz=259,SNR=5.3
O54A **Avella** 108.42 53 P **PKiKP** 21 46 02.0 -0.7
baz=259,SNR=8.8
O54A P **PKiKP** 21 46 02.0 -0.7

baz=259,SNR=8.8
M53A WI Miller and 108.43 52 PKiK **PKiK** 21 46 01.7 -0.9
baz=260
V58A Windy Hill, Pi 108.57 58 P **PKiK** 21 46 02.6 -0.5
baz=259
V58A P **PKiK** 21 46 02.6 -0.5
baz=259
T57A Hurt 108.69 57 P **PKiK** 21 46 02.3 -0.9
baz=259
T57A P **PKiK** 21 46 02.3 -0.9
baz=259
MCWV Mont Chateau 108.73 54 PKiK **PKiK** 21 46 02.5 -0.8
baz=260
UPAO U. Pittsburgh 108.75 53 P **PKiK** 21 46 03.3 +0.1
baz=260
SIV San Ignacio 108.75 115 Pdiff **Pdif** 21 42 04.0 +1.3
comp=Z,2.6nm,1.0s,baz=213,slow=6.5,SNR=4.4
SIV PKiK **PKiK** 21 46 03.4 -0.7
comp=Z,11nm,0.9s,baz=261,slow=1.0,SNR=8.6
SIV S **SKSac** 21 51 44.0 -0.7
comp=Z,5.2nm,0.9s,baz=0.5,slow=20,SNR=13
SIV PKKPbc **PKKPbc** 21 57 14.2 +0.3
comp=Z,19nm,0.9s,baz=80,slow=4.4,SNR=14
ZSN Zaisan 108.92 315 *i* P **Pdif** 21 42 03.8 +1.1
ZSN *e* 21 51 43.4
ZSN Zaisan 108.92 315 *e*Pdif **Pdif** 21 42 03.8 +1.1
baz=315
ZSN *e*PKiKP **PKiK** 21 46 03.2 -0.2
baz=315
ZSN *e*SKSac **SKSac** 21 51 43.5 -0.5
baz=315
ERPA Erie 109.06 51 PKiK **PKiK** 21 46 03.1 -0.7
baz=260
Q56A Snyder Ridge, 109.12 54 P **PKiK** 21 46 03.3 -0.7
baz=260
Q56A P **PKiK** 21 46 03.3 -0.7
baz=260
LGTI Lohaghat 109.18 295 *e*P **Pdif** 21 42 05.2 +1.0
PTH Pithoragarh 109.22 295 *e*P **Pdif** 21 42 05.8 +1.1
CNNC Cliffs of the 109.44 59 PKiK **PKiK** 21 46 04.2 -0.5
baz=259
SDV Santo Domingo 109.49 87 PKiK **PKiK** 21 46 05.2 -0.5
comp=Z,37nm,0.9s,baz=236,slow=1.5,SNR=17
SDV S **SKSac** 21 51 47.4 -0.8
comp=Z,11nm,0.8s,baz=344,slow=22,SNR=19
U59A Littleton 109.72 57 P **PKiK** 21 46 04.8 -0.4
baz=260
U59A P **PKiK** 21 46 04.8 -0.4
baz=260
JHNI Jhansi 109.78 291 *e*P **Pdif** 21 42 07.5 +0.5
PSDB Penn State Uni 109.81 52 P **PKiK** 21 46 04.3 -0.9
baz=261
ZALV Zalesovo Beam 109.83 321 Pdiff **Pdif** 21 42 06.8 +0.3
comp=Z,3.7nm,0.8s,baz=108,slow=4.8,SNR=9.6
ZALV PKiKP **PKiK** 21 46 04.2 -0.6
comp=Z,30nm,0.6s,baz=29,slow=1.3,SNR=36
ZALV SKP SKPdf 21 48 44.3
comp=Z,31nm,0.9s,baz=169,slow=1.5,SNR=4.9
ZALV S **SKSac** 21 51 45.7 -1.6
comp=Z,22nm,0.9s,baz=101,slow=4.7,SNR=3.6
ZALV PKKPbc **PKKPbc** 21 57 09.9 -1.2
comp=Z,19nm,0.8s,baz=258,slow=4.2,SNR=12
ZALV SKKPbc **SKKPbc** 21 59 56.0 -3.5
comp=Z,3.1nm,0.6s,baz=285,slow=2.6,SNR=4.3
ZALV PKPPKP **P'P'df** 22 05 34.5 -0.9
comp=Z,0.9nm,0.4s,baz=280,slow=2.6,SNR=3.8
M55A Ridgway 109.85 52 P **PKiK** 21 46 04.2 -1.1
baz=261,SNR=5.6
M55A P **PKiK** 21 46 04.2 -1.1
baz=261,SNR=5.6
NRIK Noril'sk 109.87 338 Pdiff **Pdif** 21 42 07.2 +0.8
comp=Z,6.0nm,0.7s,baz=110,slow=2.5,SNR=5.1
NRIK PKiKP **PKiK** 21 46 04.1 -0.4
comp=Z,16nm,0.7s,baz=74,slow=2.1,SNR=9.7
NRIK S **SKSac** 21 51 45.8 -1.1
comp=Z,38nm,1.1s,baz=235,slow=20,SNR=14
R58B Mineral 109.94 56 P **PKiK** 21 46 04.5 -1.0
baz=260
R58B P **PKiK** 21 46 04.5 -1.0
baz=260
T59A Double "B" Far 110.02 57 P **PKiK** 21 46 04.9 -0.8
baz=260
T59A P **PKiK** 21 46 04.9 -0.8
baz=260
P57A Homestead Farm 110.09 54 P **PKiK** 21 46 05.3 -0.5
baz=260,SNR=5.6
P57A P **PKiK** 21 46 05.3 -0.5
baz=260,SNR=5.6
WVNY West Valley, N 110.12 51 P **PKiK** 21 46 05.1 -0.7
baz=261,SNR=7.9
SSPA Standing Stone 110.37 53 PKiK **PKiK** 21 46 05.5 -0.8
baz=261
CBN Corbin Frederi 110.38 56 PKiK **PKiK** 21 46 05.5 -0.9
baz=260
MK31 Makanchi Array 110.56 314*d* *i*PKiKP **PKiK** 21 46 06.1 -0.5
MKAR Makanchi Array 110.56 314 Pdiff **Pdif** 21 42 11.0 +1.0
comp=Z,12nm,0.8s,baz=93,slow=4.1,SNR=28
MKAR PKiKP **PKiK** 21 46 05.8 -0.7
comp=Z,30nm,0.6s,baz=195,slow=0.6,SNR=53
MKAR PP **PP** 21 46 52.0 -3.3
comp=Z,19nm,0.9s,baz=102,slow=10,SNR=3.7
MKAR SKP **SKPdf** 21 48 47.9 +2.2
comp=Z,14nm,0.7s,baz=227,slow=1.3,SNR=4.2
MKAR S **SKSac** 21 51 49.8 -1.0
comp=Z,16nm,0.9s,baz=114,slow=6.5,SNR=5.7
MKAR PKKPbc **PKKPbc** 21 57 08.2 -0.4
comp=Z,43nm,0.9s,baz=276,slow=3.4,SNR=23
MKAR PKPPKP **P'P'df** 22 05 33.5 -1.1
comp=Z,3.1nm,0.9s,baz=324,slow=0.8,SNR=4.7
SDMD Soldier's Deli 110.98 54 P **PKiK** 21 46 06.8 -0.7
baz=261,SNR=8.6
M57A Sunshine Farm, 111.05 52 P **PKiK** 21 46 06.6 -1.0
baz=262,SNR=8.5
M57A P **PKiK** 21 46 06.6 -1.0
baz=262,SNR=8.5
N58A Sunbury 111.28 53 P **PKiK** 21 46 07.5 -0.6
baz=262,SNR=8.1
N58A P **PKiK** 21 46 07.5 -0.6
baz=262,SNR=8.1
J56A Wolcott 111.51 50 P **PKiK** 21 46 07.5 -0.9
baz=263,SNR=5.0
J56A P **PKiK** 21 46 07.5 -0.9
baz=263,SNR=5.0
K57A Scipio Center 111.69 51 P **PKiK** 21 46 08.1 -0.7
baz=263,SNR=6.6
BAUV El Baul 111.95 88 *e*P **PKiK** 21 46 07.0 -3.1
GEDE Greenville 111.96 54 P **PKiK** 21 46 08.5 -0.8
baz=262,SNR=6.0
BINY Binghamton 112.01 52 P **PKiK** 21 46 08.7 -0.7
baz=263,SNR=7.4
BINY Binghamton 112.01 52 PKiK **PKiK** 21 46 08.8 -0.6
baz=263
KSPA Keystone Colle 112.09 52 P **PKiK** 21 46 08.7 -0.8
baz=263,SNR=10.0
SHLS Shalkode 112.11 309 *i* P **Pdif** 21 42 17.2 +0.1
SHLS *i* 21 46 08.4
SHLS *i* 21 51 55.0
SHLS Shalkode 112.11 309 *e*Pdif **Pdif** 21 42 17.3 +0.1
baz=310
SHLS *e*PKiKP **PKiK** 21 46 08.5 -1.3
baz=310
SHLS *i* SKSac **SKSac** 21 51 55.1 -2.3
baz=310
PSUB Penn St. - Bra 112.11 54 P **PKiK** 21 46 08.8 -0.9
baz=262
J57A Williamstown 112.15 50 P **PKiK** 21 46 08.3 -1.3
baz=263,SNR=6.5
J57A P **PKiK** 21 46 08.3 -1.3
baz=263,SNR=6.5
SEM Semipalatinsk 112.29 317 *e*SKSac **SKSac** 21 51 55.3 -2.6
baz=317
WCNY West Carthage 112.46 50 P **PKiK** 21 46 09.2 -1.0
baz=264
J58A Remsen 112.66 50 P **PKiK** 21 46 10.1 -0.5
baz=264,SNR=8.2
J58A P **PKiK** 21 46 10.1 -0.5
baz=264,SNR=8.2
L59A Walton 112.71 52 P **PKiK** 21 46 10.8 0.0
baz=263,SNR=6.0
L59A P **PKiK** 21 46 10.8 0.0
baz=263,SNR=6.0
KPKS Kokpek 112.71 310 *i* P **Pdif** 21 42 21.3 +1.6
KPKS *i* 21 46 10.4
KPKS *i* 21 47 08.2
KPKS *e* 21 51 58.9
KPKS Kokpek 112.71 310 *e*Pdif **Pdif** 21 42 21.4 +1.6
baz=310
KPKS *e*PKiKP **PKiK** 21 46 10.4 -0.4
baz=310
KPKS *i* PP **PP** 21 47 08.3 -2.2
baz=310
KPKS *e*SKSac **SKSac** 21 51 58.9 -0.7
baz=310
PANJ Princeton 112.74 54 P **PKiK** 21 46 10.0 -0.8
baz=263
SATY Saty 112.87 309 *i* P **Pdif** 21 42 21.8 +1.3
SATY *i* 21 46 10.8
SATY *e* 21 47 09.4
SATY *e* 21 51 59.2
SATY Saty 112.87 309 *e*Pdif **Pdif** 21 42 21.8 +1.3
baz=309
SATY *e*PKiKP **PKiK** 21 46 10.9 -0.3
baz=309
SATY *e*PP **PP** 21 47 09.4 -2.3
baz=309
SATY *e*SKSac **SKSac** 21 51 59.3 -1.1
baz=309
BRNJ Basking Ridge 112.88 53 P **PKiK** 21 46 10.8 -0.2
baz=263,SNR=6.0
ODNJ Ogdensburg 112.90 53 P **PKiK** 21 46 10.6 -0.5
baz=263,SNR=7.1
TDK Taldyqorghan 113.06 311 *i* P **Pdif** 21 42 22.1 +0.9
TDK *i* 21 46 11.0
TDK *e* 21 51 58.6
TDK Taldyqorghan 113.06 311 *e*Pdif **Pdif** 21 42 22.1 +0.9
baz=311
TDK *e*PKiKP **PKiK** 21 46 11.0 -0.3
baz=311
TDK *e*SKSac **SKSac** 21 51 58.7 -2.1
baz=311
HCNY Howe Caverns 113.24 51 P **PKiK** 21 46 11.3 -0.4
baz=264,SNR=7.5
J59A Piesco 113.24 50 P **PKiK** 21 46 10.8 -0.9
baz=264
J59A P **PKiK** 21 46 10.8 -0.9
baz=264
LONY Lake Ozonia 113.29 49 PKiK **PKiK** 21 46 11.0 -0.8
baz=265
NPNY Mohonk Preserv 113.32 52 P **PKiK** 21 46 11.6 -0.3
baz=264
KURK Kurchatov 113.34 318 *i* PKiKP **PKiK** 21 46 11.1 -0.5
BMNY Brushton-Moira 113.37 49 P **PKiK** 21 46 11.0 -0.9
baz=265,SNR=7.8
BRNY Black Rk. Fore 113.38 53 P **PKiK** 21 46 11.5 -0.6
baz=264
KURBB Kurchatov Arra 113.39 317 Pdiff **Pdif** 21 42 24.0 +1.5
comp=Z,2.7nm,0.9s,baz=97,slow=3.8,SNR=7.1
KURBB PKiKP **PKiK** 21 46 11.1 -0.7
comp=Z,51nm,0.7s,baz=96,slow=1.7,SNR=63
KURBB SKP **SKPdf** 21 48 51.2 +0.3
comp=Z,51nm,0.9s,baz=92,slow=1.9,SNR=8.3
PAL Palisades 113.42 53 P **PKiK** 21 46 12.2 +0.1
baz=264
PAL Palisades 113.42 53 PKiKP **PKiK** 21 46 11.5 -0.6
baz=264
NCB Newcomb 113.49 50 P **PKiK** 21 46 11.7 -0.5
baz=265,SNR=9.8
TULEG Thule 113.68 14 *i* P **PKiK** 21 46 11.6 0.0
TRY Troy 113.78 51 P **PKiK** 21 46 12.9 +0.2
baz=264,SNR=7.7
ACCN Adirondack Com 113.84 50 P **PKiK** 21 46 12.1 -0.8
baz=265,SNR=5.5
MDOK Medeo 113.86 309 *i* P **Pdif** 21 42 26.0 +1.0
MDOK *i* 21 46 12.4
MDOK *e* 21 47 16.5
MDOK *e* 21 52 03.2
MDOK Medeo 113.86 309 *e*Pdif **Pdif** 21 42 26.0 +1.0
baz=309
MDOK *e*PKiKP **PKiK** 21 46 12.5 -0.7
baz=309
MDOK *e*PP **PP** 21 47 16.6 -2.1
baz=309
MDOK *e*SKSac **SKSac** 21 52 03.2 -1.0
baz=309
TNSS Tian-Shan 113.93 309 *i* PKiKP **PKiK** 21 46 13.1 -0.4
TNSS Tian-Shan 113.93 309 *e*PKiKP **PKiK** 21 46 13.2 -0.4
baz=309
AAA Alma-Ata 113.97 309 *i* PKiKP **PKiK** 21 46 12.6 -0.6
AAA Alma-Ata 113.97 309 *e*PKiKP **PKiK** 21 46 12.7 -0.5
baz=309
CHKK Chushkaly 113.97 310 *i* P **Pdif** 21 42 25.3 +0.1
CHKK *i* 21 46 12.6
CHKK Chushkaly 113.97 310 *e*Pdif **Pdif** 21 42 25.4 +0.1
baz=310
CHKK *e*PKiKP **PKiK** 21 46 12.6 -0.5
baz=310
KSH Kashi 114.31 305 PKP **PKiK** 21 46 15.0 +0.9
KSH SKKS 21 53 21.8
KSH AMB AMB
comp=Z,4μm,7.2s
MCVT Middlebury Col 114.37 50 P PKPdf 21 46 13.4 -0.5
baz=266
ULHL Ulahol 114.37 308 P **PKiK** 21 46 14.5 +0.3
SNR=6.7
L61B Northampton 114.47 52 P PKPdf 21 46 13.8 -0.4
baz=265,SNR=10
L61B Northampton 114.47 52 PKiKP PKPdf 21 46 13.4 -0.7
baz=265
NRN Naryn 114.48 307 PKPdf 21 46 14.4 -0.2
NRN Naryn 114.48 307 PKiKP PKPdf 21 46 14.4 -0.2
VT1 Waterbury 114.57 49 PKPdf 21 46 13.6 -0.7
VT1 Waterbury 114.57 49 P PKPdf 21 46 13.9 -0.4
baz=266,SNR=7.0
J61A Chester 114.64 51 P PKPdf 21 46 14.3 -0.1
baz=266,SNR=13
J61A P PKPdf 21 46 14.3 -0.1
baz=266,SNR=13
QUA2 Belchertown 114.70 52 PKPdf 21 46 13.4 -1.1
LATQ La Tuque 114.74 46 PKPdf 21 46 13.3 -1.1
UCCT U. Connecticut 114.75 52 PKPdf 21 46 13.0 -1.7
K62A Royalston 114.82 51 P PKPdf 21 46 14.6 -0.1
baz=265
K62A P PKPdf 21 46 14.6 -0.1
baz=265
HNH Hanover 114.86 50 P PKPdf 21 46 14.4 -0.4
baz=266,SNR=5.7
TKM2 Tokmak 2 114.91 309 P PKPdf 21 46 14.8 -0.4
SNR=24
LBNH Lisbon 115.16 50 **PKPdf** 21 46 14.0 -1.4
LBNH Lisbon 115.16 50 PKiKP **PKPdf** 21 46 14.0 -1.4
LBNH Lisbon 115.16 50 P **PKPdf** 21 46 14.2 -1.2
baz=266,SNR=9.5
LBNH Lisbon 115.16 50 PKiKP **PKPdf** 21 46 14.9 -0.5
baz=266
CRPR Cabo Rojo, PR 115.29 79 **PKPdf** 21 46 14.8 -1.5
HRV Adam Dziewonsk 115.31 52 **PKPdf** 21 46 14.8 -0.9
HRV Adam Dziewonsk 115.31 52 PKiKP **PKPdf** 21 46 14.8 -0.9
HRV Adam Dziewonsk 115.31 52 P **PKPdf** 21 46 15.1 -0.6
baz=266
HRV Adam Dziewonsk 115.31 52 PKiKP **PKPdf** 21 46 15.3 -0.4
baz=266
KBK Karagaybulak 115.36 309 P **PKPdf** 21 46 15.9 -0.1
SNR=12
PCRV Puerto La Cruz 115.52 88 PKP **PKiK** 21 46 17.6 +0.7
comp=Z,7.6nm,0.6s,baz=1.6,slow=17,SNR=1.3
PCRV S **SKSac** 21 52 09.1 -2.4
comp=Z,7.4nm,0.8s,baz=225,slow=20,SNR=1.6
CHMS Chumysh 115.53 309 P **PKPdf** 21 46 15.1 -1.1
SNR=19
I62A Tamworth 115.56 50 P **PKiK** 21 46 16.3 +0.2
baz=267,SNR=8.2
I62A P **PKiK** 21 46 16.3 +0.2
baz=267,SNR=8.2
SGDS Sogindy 115.65 309 *e*PKiKP **PKPdf** 21 46 15.4 -1.0
SGDS *e* 21 47 28.8
SGDS *e* 21 52 09.4
SGDS Sogindy 115.65 309 *e*PKP **PKPdf** 21 46 15.4 -1.0
baz=310
SGDS *e*PP **PP** 21 47 28.9 -2.0
baz=310
SGDS *e*SKSac **SKSac** 21 52 09.4 -1.4
baz=310
UCH Uchtor 115.65 308 P **PKiK** 21 46 17.4 +0.4
SNR=18
AAK Ala-Archa 115.69 309 P **PKPdf** 21 46 15.7 -1.0
SNR=9.9
AAK Ala-Archa 115.69 309 **PKPdf** 21 46 16.2 -0.5
AAK Ala-Archa 115.69 309*d* *i* PKiKP **PKPdf** 21 46 16.7 0.0
AAK Ala-Archa 115.69 309 *i* PKPdf **PKPdf** 21 46 16.7 0.0
SNR=9.9
H62A Milan 115.73 49 P **PKiK** 21 46 16.7 +0.2
baz=267,SNR=11
H62A P **PKiK** 21 46 16.7 +0.2
baz=267,SNR=11
USP Ospenovka 115.73 309 P **PKPdf** 21 46 15.8 -0.7
SNR=21
OBIP Obispado Ponce 115.76 79 **PKPdf** 21 46 15.1 -2.1
ICMP Isla Caja de M 115.80 79 **PKPdf** 21 46 15.6 -1.7
I63A Otisfield 116.12 50 **PKPdf** 21 46 16.9 -0.3
I63A Otisfield 116.12 50 P **PKPdf** 21 46 17.2 0.0
baz=267,SNR=13
I63A P **PKPdf** 21 46 17.2 0.0
baz=267,SNR=13
BTLS Baital 116.15 311 *e*PKiKP **PKPdf** 21 46 16.2 -1.0
BTLS Baital 116.15 311 *e*PKP **PKPdf** 21 46 16.3 -1.0
baz=311
SJG San Juan 116.20 79 S **SKSac** 21 52 14.2 +0.5
comp=Z,11nm,0.2s,baz=75,slow=23,SNR=11
SJG PKKPbc PKKPbc 21 56 49.4 +0.2
comp=Z,6.0nm,0.3s,baz=319,slow=19,SNR=1.9
SJG San Juan 116.20 79 **PKPdf** 21 46 16.3 -1.8
SJG San Juan 116.20 79 PKiKP **PKPdf** 21 46 16.3 -1.8
G62A West of Eustis 116.20 49 P **PKPdf** 21 46 16.9 -0.4
baz=268,SNR=14
G62A P **PKPdf** 21 46 16.9 -0.4
baz=268,SNR=14
EKS2 Erkin-Say 116.22 309 P **PKiKP** 21 46 17.7 +0.1
SNR=18
AML Almayashu 116.25 308 P **PKiKP** 21 46 18.2 +0.1
SNR=23
CBYP Canovanas 116.51 79 **PKPdf** 21 46 16.5 -2.3
F62A Pittston Farm, 116.62 48 P **PKPdf** 21 46 18.1 -0.1
baz=268
F62A P **PKPdf** 21 46 18.1 -0.1
baz=268
WVL Waterville 116.80 49 P **PKPdf** 21 46 17.8 -0.7
baz=268,SNR=8.6
BOAV Boa Vista 116.87 98 **PKPdf** 21 46 18.9 -0.7
E62A Clayton Lake 116.95 47 P **PKPdf** 21 46 18.1 -0.7
baz=269,SNR=20
E62A P **PKPdf** 21 46 18.1 -0.7
baz=269,SNR=20
NEEM North Greenlan 117.00 11 *i* P **PKPdf** 21 46 17.5 -0.9
PKME Peaks-Kenny Pk 117.08 49 **PKPdf** 21 46 18.7 -0.3
PKME Peaks-Kenny Pk 117.08 49 P **PKPdf** 21 46 18.4 -0.6
baz=269,SNR=15
PKME Peaks-Kenny Pk 117.08 49 PKiKP **PKPdf** 21 46 18.7 -0.3
baz=269
BRZS Berezniki 117.14 317 *e*PKiKP **PKPdf** 21 46 17.8 -1.2
BRZS *e* 21 52 13.6
BRZS Berezniki 117.14 317 *e*PKP **PKPdf** 21 46 17.9 -1.2
baz=317
BRZS *e*SKSac **SKSac** 21 52 13.6 -2.2
baz=317
F63A Nahmakanta, Br 117.22 48 P **PKPdf** 21 46 18.7 -0.6
baz=269,SNR=14
F63A P **PKPdf** 21 46 18.7 -0.6
baz=269,SNR=14
D62A Allapoint, All 117.28 47 P **PKPdf** 21 46 18.4 -0.9
baz=270,SNR=14
D62A P **PKPdf** 21 46 18.4 -0.9
baz=270,SNR=14
STVI Saint Thomas 117.36 79 **PKPdf** 21 46 19.0 -1.3
DRK Karamyk 117.52 305 **PKPdf** 21 46 20.0 -0.4
E63A Oxbow 117.70 47 P **PKPdf** 21 46 19.2 -1.0
baz=270,SNR=9.1
E63A P **PKPdf** 21 46 19.2 -1.0
baz=270,SNR=9.1
NOR Nord 117.72 3 *i* P **PKPdf** 21 46 18.4 -0.9
F64A Sherman 117.75 48 P **PKPdf** 21 46 19.1 -1.2
baz=270,SNR=14
F64A P **PKPdf** 21 46 19.1 -1.2
baz=270,SNR=14
DZA Taraz 118.03 309 *e*PKiKP **PKPdf** 21 46 19.6 -1.4
DZA Taraz 118.03 309 *e*PKP **PKPdf** 21 46 19.6 -1.4
baz=309
UPNV Upernavik 118.12 17 *i* P **PKPdf** 21 46 19.8 -0.5
G65A Princeton 118.30 49 P **PKPdf** 21 46 20.3 -1.1
baz=270,SNR=17
G65A P **PKPdf** 21 46 20.3 -1.1
baz=270,SNR=17
SCHQ Schefferville 118.32 38 PKP **PKPdf** 21 46 20.8 -0.4
comp=Z,34nm,0.8s,baz=276,slow=3.3,SNR=27
SCHQ SKP **SKPdf** 21 49 01.3 +1.1
comp=Z,50nm,1.2s,baz=4.7,slow=1.2,SNR=4.6
SCHQ PKKPbc **PKKPbc** 21 56 41.5 -1.1
comp=Z,5.3nm,0.6s,baz=105,slow=0.5,SNR=8.4
SCHQ Schefferville 118.32 38 **PKPdf** 21 46 20.2 -0.9
BVAR Borovoye Array 118.42 320 PKP **PKPdf** 21 46 20.6 -0.7
comp=Z,63nm,0.5s,baz=130,slow=1.8,SNR=163
BVAR PP **PP** 21 47 46.2 -3.2
comp=Z,14nm,0.7s,baz=100,slow=8.1,SNR=4.5
BVAR SKP **SKPdf** 21 49 01.1 +0.6
comp=Z,62nm,0.8s,baz=110,slow=2.2,SNR=7.4
BVAR PKKPbc **PKKPbc** 21 56 42.0 -0.3
comp=Z,13nm,0.8s,baz=245,slow=3.1,SNR=10
BRVK Borovoye 118.48 320 **PKPdf** 21 46 20.9 -0.6
BRVK Borovoye 118.48 320*c* *i*PKiKP **PKPdf** 21 46 21.2 -0.3
GAR Garm 118.64 304 **PKPdf** 21 46 22.4 0.0
KK31 Karatay Array 118.64 309 **PKPdf** 21 46 21.6 -0.6
KK31 Karatay Array 118.64 309 PKiKP **PKPdf** 21 46 21.6 -0.6
KKAR Karatay Array 118.64 309 **PKPdf** 21 46 21.4 -0.7
KKAR Karatay Array 118.64 309 PKiKP **PKPdf** 21 46 21.5 -0.7
TRN Trinidad (W) 118.70 89 *e*P **PKPdf** 21 46 22.8 -0.2
IUG luzhnay 118.97 308 *e*PKiKP **PKPdf** 21 46 22.0 -0.9
IUG *e* 21 47 52.1
IUG *e* 21 52 21.4
IUG luzhnay 118.97 308 *e*PKP **PKPdf** 21 46 22.0 -0.9
baz=308
IUG *e*PP **PP** 21 47 52.1 -1.5
baz=308
IUG *e*SKSac **SKSac** 21 52 21.4 -1.5
baz=308
BATG Bathurst New B 119.31 46 **PKPdf** 21 46 22.5 -0.8
KBL Kabul 119.35 299 **PKPdf** 21 46 23.8 -0.3
KBL Kabul 119.35 299 PKiKP **PKPdf** 21 46 23.8 -0.3
KBL Kabul 119.35 299 P **PKPdf** 21 46 24.0 0.0
NUUG Nuugaatsiaq 119.49 17 *i* P **PKPdf** 21 46 21.9 -1.0
TAS Tashkent 119.51 307 **PKPdf** 21 46 23.7 -0.2
TAS Tashkent 119.51 307 PKiKP **PKPdf** 21 46 23.7 -0.2
CHGR Chuyangaron 119.53 304 **PKPdf** 21 46 23.5 -0.6
CHGR Chuyangaron 119.53 304 PKiKP **PKPdf** 21 46 23.5 -0.6
SVB Belmont 119.56 86 **PKPdf** 21 46 22.6 -2.1
TOSP Speyside 119.70 88 **PKPdf** 21 46 24.8 -0.2
TOSP Speyside 119.70 88 *e*P **PKiKP** 21 46 25.6 +0.5
BDFB Brasilia 119.71 122 PKP **PKPdf** 21 46 24.7 -0.5
comp=Z,71nm,0.7s,baz=302,slow=1.3,SNR=65
BDFB SKP **SKPdf** 21 49 04.7 +0.4
comp=Z,58nm,0.9s,baz=45,slow=1.2,SNR=6.9
BDFB PKKPbc **PKKPbc** 21 56 38.5 +1.0
comp=Z,61nm,0.9s,baz=32,slow=2.5,SNR=15
BDFB SKKPbc **SKKPbc** 21 59 26.8 +0.7
comp=Z,17nm,0.9s,baz=52,slow=3.8,SNR=3.9
BDFB Brasilia 119.71 122 **PKPdf** 21 46 24.1 -1.0
GDHS Morne Mazeau, 119.84 82 **PKPdf** 21 46 23.8 -1.5
FDF Fort de France 120.04 84 **PKPdf** 21 46 24.0 -1.6
FDF Fort de France 120.04 84 PKiKP **PKPdf** 21 46 24.0 -1.6
DUB01 Friburgo-RJ 120.06 132 *e*P **PKiKP** 21 46 26.1 +0.4
ANWB Willy Bob 120.14 81 **PKPdf** 21 46 24.3 -1.3
H05S1 Guadeloupe/Mar 120.25 85 PKP **PKiKP** 21 46 26.3 +0.2
SNR=20
H05N1 Guadeloupe/Mar 120.51 82 PKP **PKiKP** 21 46 27.2 +0.6
SNR=40
KBS Kingsbay 120.68 358 **PKPdf** 21 46 25.0 0.0
KBS Kingsbay 120.68 358*c* *i*PKiKP **PKiKP** 21 46 25.3 +0.1
KBS Kingsbay 120.68 358 *i* P **PKiKP** 21 46 25.4 +0.1
KBS Kingsbay 120.68 358 *i* P **PKKPbc** 21 56 33.0 -1.6
KBS Kingsbay 120.68 358 *e*PKPdf **PKiKP** 21 46 26.4 +1.2
KBS IVmB_BB 21 46 31.2
comp=Z,1μm,1.6s
KBS *e*PP **PP** 21 48 04.1 +0.4
KBS *e*SS SS 22 03 52.4 +4.1
CAM01 Campos-RJ 120.72 132 *e*P **PKPdf** 21 46 26.6 -0.1
ABPO Ambohimpanom 120.99 232 **PKPdf** 21 46 27.5 -0.1
ABPO Ambohimpanom 120.99 232 PKiKP **PKPdf** 21 46 27.5 -0.1
MALB Monte Alegre 121.02 105 *e*P **PKPdf** 21 46 27.2 -0.4
HAL Halifax 121.13 49 **PKPdf** 21 46 25.5 -1.3
HAL Halifax 121.13 49 PKiKP **PKPdf** 21 46 25.5 -1.3
SPA0 Spitsbergen Ar 121.20 357 *e*PKPdf **PKPdf** 21 46 26.0 -0.1
SPA0 IVmB_BB 21 46 31.8
comp=Z,3μm,1.7s
SPA0 *e*PP **PP** 21 48 08.5 +1.2
SPA0 *e*SKPdf **SKiKP** 21 49 07.2 +1.5
SPA0 *e*PKSdf sPKPdf 21 50 04.3 +22
SPITS Spitsbergen Ar 121.20 357 PKP **PKPdf** 21 46 25.8 -0.3
comp=Z,95nm,0.7s,baz=57,slow=6.0,SNR=7.9
SPITS PP **PP** 21 48 05.2 -2.1
comp=Z,69nm,0.9s,baz=43,slow=13,SNR=4.5
SPITS SKP **SKPdf** 21 49 06.6 +1.4

comp=Z,348nm,1.0s,baz=87,slow=5.1,SNR=11
SPITS PKKPbc **PKKPab 21 56 30.6 -1.5**
comp=Z,36nm,0.6s,baz=153,slow=5.6,SNR=19
SPB2 Spitsbergen Ar 121.21 357 PKPdf 21 46 25.3 -0.8
ILULI Ilulissat 121.22 19 PKPdf 21 46 25.4 -0.9
ILULI Ilulissat 121.22 19 PKIKP **PKPdf 21 46 25.4 -0.9**
ILULI Ilulissat 121.22 19 *i* P **PKPdf 21 46 25.8 -0.5**
OPO Ambohidratompo 121.29 232 PKP **PKiKP 21 46 28.9 +0.5**
comp=Z,56nm,0.8s,baz=129,slow=1.6,SNR=51
OPO SKP **SKPdf 21 49 08.8 +1.4**
comp=Z,39nm,0.9s,baz=188,slow=1.3,SNR=6.3
DIAM Diamantina, MG 121.51 127 *e*P **PKPdf 21 46 27.5 -1.1**
MSEY Mahe Island 121.83 251 PKPdf 21 46 28.4 -0.7
MSEY Mahe Island 121.83 251 PKIKP **PKPdf 21 46 28.5 -0.7**
MSEY Mahe Island 121.83 251 P **PKPdf 21 46 28.9 -0.3**
MSEY Mahe Island 121.83 251 PKPdf **PKPdf 21 46 28.5 -0.7**
HOPEN Hopen 122.08 354 *e*PKPdf **PKiKP 21 46 28.3 +0.3**
HOPEN IVmB_BB 21 46 33.3
comp=Z,1μm,1.8s
HOPEN *e*PP **PP 21 48 14.0 +0.9**
DAG Danmarks Havn 122.12 5 *i* P **PKPdf 21 46 26.3 -1.6**
ALF01 Guarapari-ES 122.17 132 *e*P **PKPdf 21 46 29.4 -0.2**
HSPB Hornsund (broa 122.39 356 *e*PKPdf **PKPdf 21 46 28.0 -0.4**
HSPB *e*PP PP 21 48 03.7 -11
HSPB *e*PPP PPP 21 51 12.2
HSPB *e*SS SS 22 04 07.3 -2.4
HSPB Hornsund (broa 122.39 356 *e*PKPdf **PKPdf 21 46 28.3 -0.1**
HSPB IVmB_BB 21 46 34.0
comp=Z,1μm,1.5s
SFJD Kangerlussuaq 122.44 22 SKP **SKPdf 21 49 09.0 +1.3**
comp=Z,29nm,0.6s,baz=246,slow=0.6,SNR=8.5
SFJD PKKPbc PKKPbc 21 56 26.3 -1.6
comp=Z,23nm,0.6s,baz=112,slow=2.1,SNR=14
SFJD Kangerlussuaq 122.44 22 PKPdf 21 46 27.8 -0.8
SFJD Kangerlussuaq 122.44 22 PKIKP **PKPdf 21 46 27.8 -0.8**
SFJD Kangerlussuaq 122.44 22 *i* P **PKPdf 21 46 27.5 -1.2**
SFJD Kangerlussuaq 122.44 22 IAmb IAmb 21 56 28.7
comp=Z,29nm,0.9s
SFJD *i* P **PKKPbc 21 56 26.1 -1.8**
GBN Guysborough 122.56 48 PKPdf 21 46 28.8 -0.8
SUMG Summit 122.58 13 PKPdf 21 46 28.7 -0.7
SUMG Summit 122.58 13 PKIKP **PKPdf 21 46 28.7 -0.7**
SUMG Summit 122.58 13 *i* P **PKPdf 21 46 29.3 0.0**
SUMG Summit 122.58 13 IAmb IAmb 21 56 29.1
comp=Z,106nm,1.0s
SUMG *i* P **PKKPbc 21 56 26.8 -1.1**
SUMG Summit 122.58 13 *i* P **PKKSdf 22 00 40.0 -0.8**
JANB Januaria 122.97 124 *e*P **PKPdf 21 46 31.1 -0.2**
SOE Somerset East 122.98 204 PKPdf 21 46 30.5 -0.4
SJMB Sao Joao De Ma 123.09 130 *e*P **PKPdf 21 46 30.6 -0.9**
RIB01 Linhares ES 123.26 131 *e*P **PKPdf 21 46 31.4 -0.4**
NUUK Nuuk 123.29 25 *i* P **PKPdf 21 46 30.2 -0.1**
NUUK Nuuk 123.29 25 IAmb IAmb 21 56 24.8
comp=Z,30nm,0.9s
NUUK *i* P **PKKPbc 21 56 23.5 -1.1**
SMTB Santa Maria do 123.69 116 *e*P **PKPdf 21 46 32.2 -0.5**
SDBA SAO DESIDERIO 124.02 121 *e*P **PKPdf 21 46 32.8 -0.6**
DY2G Dye2 124.20 21 *i* P **PKPdf 21 46 31.6 -0.8**
DBG Daneborg 124.22 7 *i* P **PKPdf 21 46 31.7 -0.2**
NAN01 Guarapari, ES 124.41 130 *e*P **PKPdf 21 46 33.6 -0.3**
ARU Arti 124.52 326 PKP **PKPdf 21 46 32.9 -0.1**
comp=Z,86nm,0.4s,baz=84,slow=1.5,SNR=113
ARU PP **PP 21 48 26.6 -3.2**
comp=Z,167nm,1.0s,baz=98,slow=2.8,SNR=8.2
ARU SKP **SKPdf 21 49 12.6 +0.5**
comp=Z,167nm,0.9s,baz=148,slow=4.3,SNR=5.1
ARU PKKPbc **PKKPab 21 56 18.4 +0.3**
comp=Z,41nm,0.7s,baz=316,slow=1.2,SNR=13
ARU SKKPbc **SKKPbc 21 59 10.0 -3.7**
comp=Z,13nm,0.6s,baz=278,slow=3.3,SNR=8.6
ARU Arti 124.52 326 PKPdf 21 46 32.2 -0.8
ARU Arti 124.52 326 *i* PKIKP **PKPdf 21 46 32.6 -0.4**
ARU 21 48 26.6
ARU PPP PPP 21 51 16.5
ARU 21 52 40.7
ARU SSS SSS 22 09 33.7
BJO1 Bjornoya 124.53 354 *e*PKPdf **PKiKP 21 46 33.4 +0.5**
BJO1 IVmB_BB 21 46 38.0
comp=Z,1μm,1.3s
BJO1 *e*PP **PP 21 48 30.6 +1.3**
ICESG Greenland Ices 124.66 17 *i* P **PKPdf 21 46 32.5 -0.8**
ICESG Greenland Ices 124.66 17 IAmb IAmb 21 56 19.8
comp=Z,62nm,1.1s
ICESG *i* P **PKKPbc 21 56 17.4 -2.6**
DRLN Deer Lake 124.79 43 PKPdf 21 46 32.1 -1.6
POGA Pongola 124.82 213 PKPdf 21 46 33.5 -1.1
SUR Sutherland 124.94 200 PKP **PKiKP 21 46 35.3 -0.1**
comp=Z,231nm,0.8s,baz=136,slow=2.1,SNR=76
SUR PP **PP 21 48 29.7 -2.4**
comp=Z,63nm,0.9s,baz=158,slow=8.6,SNR=3.4
SUR PKKPbc **PKKPbc 21 56 17.4 -1.5**
comp=Z,22nm,0.9s,baz=338,slow=4.8,SNR=13
SUR Sutherland 124.94 200 PKPdf 21 46 34.8 -0.1
MDP Montagnes des 125.18 98 PKP **PKPdf 21 46 35.5 0.0**
comp=Z,112nm,0.8s,baz=242,slow=3.5,SNR=53
MDP PKKPbc **PKKPab 21 56 18.2 +1.0**
comp=Z,16nm,0.8s,baz=48,slow=4.6,SNR=6.7
ABKAR Akbulak array 125.44 317 PKPdf 21 46 34.8 -0.1
ABKAR Akbulak array 125.44 317 PKPdf 21 46 34.6 -0.4
GUA01 Guaratinga, BA 125.45 129 *e*P **PKPdf 21 46 35.3 -0.7**
IVI Ivigtut 126.08 27 PKPdf 21 46 34.9 -0.9
TMAB Tom-Au,PA,Br 126.37 109 *e*P **PKPdf 21 46 38.1 +0.2**
AKTO Aktyubinsk 126.41 319 PKP **PKPdf 21 46 36.7 -0.1**
comp=Z,94nm,0.8s,baz=79,slow=2.9,SNR=73
AKTO SKP **SKPdf 21 49 17.4 +1.6**
comp=Z,67nm,0.9s,baz=107,slow=3.7,SNR=4.5
AKTO PKKPbc **PKKPbc 21 56 11.4 -0.7**
comp=Z,22nm,0.8s,baz=237,slow=3.2,SNR=8.7
CMC01 Camacan, BA 126.44 128 *e*P **PKPdf 21 46 37.2 -0.7**
BOSA Boshof 126.72 206 PKhKP PKPpre 21 46 25.3
comp=Z,3.9nm,0.7s,baz=156,slow=1.7,SNR=4.6
BOSA PKP **PKPdf 21 46 38.2 -0.1**
comp=Z,102nm,0.8s,baz=142,slow=2.2,SNR=61
BOSA SKP **SKPdf 21 49 19.0 +1.6**
comp=Z,51nm,0.9s,baz=149,slow=1.9,SNR=4.1
BOSA PKKPbc **PKKPbc 21 56 10.9 -0.7**
comp=Z,36nm,1.2s,baz=333,slow=4.7,SNR=7.4
BOSA SKKPbc **SKKPbc 21 59 04.2 +1.1**
comp=Z,9.1nm,0.8s,baz=360,slow=6.3,SNR=3.9
BOSA Boshof 126.72 206 PKPdf 21 46 38.1 -0.3
BOSA Boshof 126.72 206 *i* P **PKiKP 21 46 40.1 +1.2**
BOSA Boshof 126.72 206 *i* P **PKiKP 21 46 40.1 +1.2**
WBK Wadi Bani Khal 126.84 284 P **PKPdf 21 46 38.7 +0.2**
WSAR Wadi Sarin 127.24 285 PKP **PKiKP 21 46 40.0 +0.2**
comp=Z,44nm,1.0s,baz=208,slow=2.5,SNR=25
WSAR SKP **SKPdf 21 49 18.8 +0.6**
comp=Z,76nm,0.9s,baz=213,slow=1.7,SNR=6.8
WSAR PKKPbc PKKPbc 21 56 09.4
comp=Z,29nm,0.8s,baz=241,slow=2.1,SNR=12
NRS Narsarsuaq 127.28 27 PKPdf 21 46 37.3 -0.8
NRS Narsarsuaq 127.28 27 PKIKP **PKPdf 21 46 37.3 -0.8**
NRS Narsarsuaq 127.28 27 *i* P **PKPdf 21 46 37.7 -0.4**
SCO Scoresbysund 127.42 10 *e*P **PKPdf 21 46 37.4 -0.7**
GDU01 Guandu, BA 127.42 126 *e*P **PKPdf 21 46 39.9 +0.1**
MHTO MHTO 127.51 282 P pPKiKP 21 49 02.0 +3.4
MHTO MHTO 127.51 282 P **PKPdf 21 46 39.1 -0.7**
SNR=36
ANGG Ammassalik, Gr 127.53 19 PKPdf 21 46 37.5 -0.9
ANGG Ammassalik, Gr 127.53 19 *i* P **PKPdf 21 46 37.5 -0.9**
HAMF Hammerfest 127.54 351 *e*PKPdf **PKPdf 21 46 38.6 +0.2**
HAMF IVmBBB 21 46 44.3
comp=Z,2μm,1.2s
HAMF *e*PP **PP 21 48 50.0 +1.1**
HAMF *e*SS SS 22 05 17.3 +3.9
JMDO Jabal Madar 127.60 283 P pPKiKP 21 49 02.8 +4.0
JMDO Jabal Madar 127.60 283 P **PKPdf 21 46 38.4 -1.5**
SNR=30
LVZ Lovozero 127.69 345 PKPdf 21 46 38.0 -0.8
LVZ Lovozero 127.69 345 *d* PKIKP **PKPdf 21 46 38.9 +0.1**
DQM DQM 127.73 280 P pPKiKP 21 49 03.4 +4.3
DQM DQM 127.73 280 P **PKPdf 21 46 39.5 -0.7**
SNR=24
BIDO Bidbid 127.74 285 P **PKiKP 21 46 40.7 -0.1**
SNR=36
SMDO Samad 127.75 284 P pPKiKP 21 49 03.2 +3.9
SMDO Samad 127.75 284 P **PKPdf 21 46 40.4 +0.1**
SNR=50
KEV Kevo 127.79 349 PKPdf 21 46 38.3 -0.5
KEV Kevo 127.79 349 PKIKP **PKPdf 21 46 38.3 -0.5**
MOPA Mopani 128.08 215 *i* P **PKiKP 21 46 42.9 +1.3**
MOPA Mopani 128.08 215 *i* P **PKiKP 21 46 42.9 +1.3**
GEYT Alibeck 128.22 303 PKhKP PKPpre 21 46 27.4
comp=Z,20nm,0.8s,baz=267,slow=2.8,SNR=15
GEYT PKP **PKiKP 21 46 41.7 +0.3**
comp=Z,92nm,0.9s,baz=330,slow=8.6,SNR=35
GEYT PP **PP 21 48 53.9 -0.8**
comp=Z,69nm,1.0s,baz=5.2,slow=18,SNR=7.2
GEYT SKPbc SKPbc 21 49 06.2
comp=Z,364nm,0.9s,baz=338,slow=6.4,SNR=28
ARA0 ARCESS Array S 128.24 350 *e*PKPdf **PKPdf 21 46 39.1 -0.6**
ARA0 IVmBBB 21 46 41.3
comp=Z,2μm,0.8s
ARA0 *e*PP **PP 21 48 54.8 +1.3**
ARA0 *e*SS SS 22 05 26.6 +4.5
ARCES ARCESS Array B 128.24 350 PKhKP PKPpre 21 46 26.8
comp=Z,2.6nm,0.4s,baz=225,slow=0.9,SNR=21
ARCES PKP **PKPdf 21 46 39.1 -0.6**
comp=Z,73nm,0.5s,baz=105,slow=0.9,SNR=94
ARCES PP **PP 21 48 52.2 -1.3**
comp=Z,20nm,0.8s,baz=83,slow=2.9,SNR=5.1
ARCES SKPbc SKPbc 21 49 04.4
comp=Z,676nm,1.0s,baz=46,slow=3.5,SNR=41
ARCES PKKPbc PKKPbc 21 56 04.2
comp=Z,14nm,0.8s,baz=183,slow=2.9,SNR=14
ARCES PKKP **PKKPdf 21 56 48.7 -2.6**
comp=Z,9.9nm,0.8s,baz=194,slow=3.1,SNR=4.4
ARCES SKKPbc **SKKPbc 21 58 57.0 -4.8**
comp=Z,18nm,0.8s,baz=208,slow=3.9,SNR=8.5
ARCES ARCESS Array B 128.24 350 PKPdf 21 46 39.0 -0.7
JASK Jask - Hormozg 128.24 288 P pPKiKP 21 49 07.9 +8.0
SNR=11
APA Apatity 128.25 345 ⇓ PKIKP **PKPdf 21 46 38.6 -1.2**
APA *i* 21 48 52.0
APA pmax pmax
comp=Z,68nm,0.8s
KIRV Kirov 128.27 330 PKhKP PKPpre 21 46 27.8
comp=Z,9.0nm,0.6s,baz=355,slow=2.4,SNR=7.5
KIRV PKP **PKiKP 21 46 41.2 +0.5**
comp=Z,109nm,0.4s,baz=120,slow=1.5,SNR=74
KIRV SKPbc SKPbc 21 49 04.5
comp=Z,426nm,0.8s,baz=132,slow=1.3,SNR=15
PRGR Permogore 128.35 335 *e*PKIKP PKPpre 21 46 32.5
PRGR *e* 21 48 46.5
PRGR *e* 21 48 56.6
PRGR pmax pmax
comp=Z,100nm,0.8s
BSY Bisya 128.48 284 P **PKPdf 21 46 41.2 -0.4**
SNR=24
HOQ Hoqain 128.49 285 P SKPbc 21 49 10.0
SNR=5.8
HOQ Hoqain 128.49 285 P **PKPdf 21 46 41.4 -0.1**
SNR=44
JMIC Jan Mayen 128.50 4 PKP **PKiKP 21 46 41.4 +0.5**
comp=Z,64nm,0.4s,baz=146,slow=10,SNR=4.3
JMIC PKPPKP **P'P'df 22 04 59.2 +1.4**
comp=Z,353nm,0.3s,baz=150,slow=12,SNR=15
JMIC Jan Mayen 128.50 4 *e*PP **PP 21 48 55.2 +0.2**
JMIC *e*SS SS 22 05 28.6 +3.5
JETT Jettan, Norway 129.00 352 *e*PKPdf **PKiKP 21 46 42.4 +0.4**
JETT IVmBBB 21 46 47.3
comp=Z,1μm,0.8s
JETT *e*pPKPdf **PP 21 48 58.2 -0.1**
JETT *e*SS SS 22 05 34.9 +3.5
KTK1 Kautokeino 129.08 350 *e*PKPdf **PKPdf 21 46 40.8 -0.5**
KTK1 IVmBBB 21 46 47.4
comp=Z,1μm,0.9s
KTK1 *e*pPKPdf **PP 21 48 55.7 -3.2**
KTK1 *e* 21 50 02.5
KTK1 *e*SS SS 22 05 36.3 +4.1
TRO Tromso 129.12 352 *e*PKPdf **PKPdf 21 46 41.0 -0.4**
TRO IVmB_BB 21 46 46.7
comp=Z,2μm,1.6s
TRO *e*pPKPdf **PP 21 48 58.3 -0.7**
TRO *e*SS SS 22 05 36.1 +3.5
SHAO Shalim 129.16 277 P SKPbc 21 49 10.0 +1.0
SNR=13
SHAO Shalim 129.16 277 P **PKPdf 21 46 42.8 -0.2**
SHAO Shalim 129.16 277 *i* PKPdf **PKPdf 21 46 42.0 -1.0**
SNR=6.8
ARQ Araqi 129.18 284 P **PKPdf 21 46 40.4 -2.5**
SNR=28
ROSB Rosrio 129.63 111 *e*P **PKPdf 21 46 43.9 -0.1**
UOSS Minazif 129.65 286 P **PKPdf 21 46 42.0 -1.7**
UOSS Minazif 129.65 286 *i* PKPdf **PKPdf 21 46 42.9 -0.8**
SNR=17
BANOM Banah 129.65 288 P **PKPdf 21 46 44.0 +0.2**
SNR=6.1
BANOM Banah 129.65 288 *i* PKPdf **PKPdf 21 46 43.8 +0.1**
SNR=7.8
HATD Hatta, Dubai 129.70 286 P SKPbc 21 49 12.0 +1.1
SNR=20
HATD Hatta, Dubai 129.70 286 P **PKPdf 21 46 43.4 -0.5**
SNR=36
HATD Hatta, Dubai 129.70 286 *i* PKPdf **PKPdf 21 46 44.2 +0.4**
SNR=23
LBTB Lobatse 129.72 209 PKhKP PKPpre 21 46 33.0
comp=Z,6.0nm,0.7s,baz=157,slow=2.9,SNR=7.6
LBTB PKP **PKiKP 21 46 45.0 0.0**
comp=Z,37nm,0.8s,baz=187,slow=1.6,SNR=21
LBTB SKPbc SKPab 21 49 12.4 +1.3
comp=Z,349nm,0.9s,baz=147,slow=4.9,SNR=34
LBTB SKKPbc **SKKPbc 21 58 53.2 +0.3**
comp=Z,13nm,1.1s,baz=341,slow=4.5,SNR=4.4
LBTB Lobatse 129.72 209 PKPdf 21 46 43.3 -0.8
LBTB Lobatse 129.72 209 PKIKP **PKiKP 21 46 45.0 0.0**
MSFE Esma-Masafi 129.73 287 *i* PKiKP **PKiKP 21 46 44.5 -0.3**
SNR=20
MASF Masafi 129.73 287 P SKPbc 21 49 12.2 +1.2
SNR=38
MASF Masafi 129.73 287 P **PKPdf 21 46 42.1 -1.8**
SNR=25
DMTO DMTO 129.74 277 P SKPbc 21 49 14.0 +2.8
SNR=6.5
DMTO DMTO 129.74 277 P **PKPdf 21 46 43.8 -0.2**
ASHO Ashiyiah 129.75 286 *i* PKiKP **PKiKP 21 46 44.6 -0.3**
SNR=31
SHME Shamm 129.80 288 P SKPbc 21 49 12.6 +1.4
SNR=29
SHME Shamm 129.80 288 *i* PKPdf **PKiKP 21 46 44.5 -0.3**
SNR=7.9
ALNE Al Ain 129.96 285 P **PKPdf 21 46 44.3 -0.1**
SNR=40
ALNE Al Ain 129.96 285 *i* PKiKP **PKiKP 21 46 45.0 -0.3**
SNR=17
NAZ Nazwa, Dubai 130.14 286 P **SKPbc 21 49 13.0 +0.5**
SNR=25
NAZ Nazwa, Dubai 130.14 286 P **PKPdf 21 46 44.5 -0.2**
SNR=29
NAZ Nazwa, Dubai 130.14 286 *i* PKPdf **PKiKP 21 46 45.2 -0.4**
SNR=15
FAQ Al Faqa, Dubai 130.18 286 P **SKPbc 21 49 14.0 +1.4**
SNR=30
FAQ Al Faqa, Dubai 130.18 286 *i* PKPdf **PKPdf 21 46 45.1 +0.4**
SNR=9.3
UMQ Umm Al-Quwin 130.19 287 P **SKPbc 21 49 14.9 +2.3**
SNR=18
UMQ Umm Al-Quwin 130.19 287 *i* PKiKP **PKiKP 21 46 46.1 +0.5**
SNR=12
RBK Rabkut 130.39 276 P **SKPbc 21 49 15.0 +1.4**
SNR=19
RBK Rabkut 130.39 276 P **PKPdf 21 46 44.8 -0.6**
SNR=16
ASUD Al Ashush, Dub 130.41 286 P **PKPdf 21 46 45.6 +0.5**
SNR=15
ASUD Al Ashush, Dub 130.41 286 *i* PKPdf **PKPdf 21 46 45.5 +0.3**
SNR=16
DOK Doka 130.67 278 P **SKPbc 21 49 16.0 +1.4**
SNR=18
DOK Doka 130.67 278 P **PKPdf 21 46 45.3 -0.5**
SNR=16
AJN Ajban 130.71 286 P **PKPdf 21 46 45.9 +0.2**
SNR=13
AJN Ajban 130.71 286 *i* PKPdf **PKPdf 21 46 45.7 0.0**
SNR=11
WHFO Wadi Hawf 130.88 277 P **SKPbc 21 49 17.0 +1.6**
SNR=21
WHFO Wadi Hawf 130.88 277 P **PKPdf 21 46 45.0 -1.3**
SNR=13
LOF Lofoten 131.16 354 *e* PKPpre 21 46 32.9
LOF *e*PKPdf **PKPdf 21 46 45.1 -0.2**
LOF IVmB_BB 21 46 50.9
comp=Z,2μm,1.9s
LOF *e*PP **PP 21 49 12.9 +0.9**
LOF *e*SS SS 22 06 01.0 +3.9
STEI Steigen 131.18 353 *e* PKPpre 21 46 30.9
STEI *e*PKPdf **PKiKP 21 46 46.3 0.0**
STEI IVmB_BB 21 46 51.0
comp=Z,2μm,2.1s
STEI *e*PP **PP 21 49 13.7 +1.6**
STEI *e*SS SS 22 06 00.9 +3.5
KLMR Klimovskoe 131.18 337 *e*PKHKP PKPpre 21 46 35.0
KLMR pmax pmax
comp=Z,275nm,1.3s
KLMR Klimovskoe 131.18 337 *e*PKPdf PKPpre 21 46 35.0
KLMR AMP 21 46 53.0
comp=Z,275nm,1.3s
KLMR PP **PP 21 49 06.5 -6.0**
KLMR SKSac **SKSac 21 53 10.0 +10**
KLMR SKSac **SKSac 21 53 10.0 +10**
ABTO Aybut 131.21 276 P **PKPdf 21 46 46.7 -0.3**
SNR=9.6
MZWR Madinat Zayed 131.63 285 P **PKPdf 21 46 47.0 -0.5**
FAUS Fauske 131.70 353 *e* PKPpre 21 46 32.0
FAUS *e*PKPdf **PKiKP 21 46 47.4 0.0**
FAUS IVmB_BB 21 46 51.9
comp=Z,2μm,2.2s
FAUS *e*PP **PP 21 49 16.6 +1.2**
FAUS *e*SS SS 22 06 07.2 +3.6
MZR Muzera 131.92 283 P **SKPbc 21 49 20.9 +2.0**
SNR=22
MZR Muzera 131.92 283 P **PKPdf 21 46 48.5 +0.4**
SNR=13
MZR Muzera 131.92 283 *i* PKiKP **PKiKP 21 46 48.8 -0.4**
SNR=9.9
BELG Belogornoye 131.93 324 PKhKP PKPpre 21 46 35.4
comp=Z,14nm,0.5s,baz=254,slow=2.5,SNR=7.5
BELG PKP **PKiKP 21 46 47.9 -0.4**
comp=Z,328nm,0.7s,baz=259,slow=0.8,SNR=37
BELG SKPbc **SKPbc 21 49 18.5 +0.6**
comp=Z,3μm,0.9s,baz=237,slow=0.1,SNR=36
MATP Matopo 132.15 215 PKhKP PKPpre 21 46 35.1
comp=Z,18nm,0.8s,baz=135,slow=3.3,SNR=18
MATP PKP **PKPdf 21 46 49.1 +0.3**
comp=Z,131nm,0.9s,baz=160,slow=2.0,SNR=46
MATP SKPbc **SKPbc 21 49 20.2 +0.3**
comp=Z,403nm,0.9s,baz=68,slow=24,SNR=13
MATP Matopo 132.15 215 *i* P PKPpre 21 46 34.9
MATP Matopo 132.15 215 *i* P PKPpre 21 46 34.9
BLWY Bulawayo 132.32 215 *i* P PKPpre 21 46 37.7
BLWY Bulawayo 132.32 215 *i* P PKPpre 21 46 37.7
BORG Borgarnes 132.57 13 SKPbc **SKPab 21 49 22.4 +0.5**
comp=Z,234nm,1.2s,baz=336,slow=2.1,SNR=6.4
GHWR Ruwais 132.57 285 P **PKPdf 21 46 48.5 -0.8**
JRN Qarnain Island 132.68 286 P **SKPab 21 49 23.4 -0.3**
SNR=11
JRN Qarnain Island 132.68 286 P **PKPdf 21 46 47.0 -2.4**
KONS Konsvik 132.79 354 *e* PKPpre 21 46 34.8
KONS *e*PKPdf **PKiKP 21 46 49.5 -0.1**
KONS IVmB_BB 21 46 55.7
comp=Z,2μm,2.4s
STOK Stokkvaagen 132.96 354 *e* PKPpre 21 46 34.4
MOR8 Moi Rana 132.96 353 *e* PKPpre 21 46 32.5
MOR8 *e*PKPdf **PKiKP 21 46 49.5 -0.5**
MOR8 IVmBBB 21 46 55.0
comp=Z,2μm,2.2s
MOR8 *e*PP **PP 21 49 23.7 +0.3**
MOR8 *e*PKSdf sPKPdf 21 50 26.5 +21
MOR8 *e*SS SS 22 06 21.2 +2.3
SLWR Sila 133.66 285 P **PKPdf 21 46 50.6 -0.7**
SHMA Al-Shehemyia 134.44 287 P **PKPdf 21 46 50.6 -2.1**
SMRA Abu-Samra 134.50 286 P **PKPdf 21 46 51.1 -1.7**
NSS Namsos 134.82 354 *e* PKPpre 21 46 38.8
NSS *e*PKPdf **PKiKP 21 46 53.5 -0.3**
NSS IVmB_BB 21 46 57.7
comp=Z,3μm,3.7s
NSS *e* 21 49 27.4
NSS *e* 21 52 37.8
RCBR Riachuelo 135.05 121 PKhKP PKPpre 21 46 41.6
comp=Z,57nm,0.8s,baz=14,slow=2.8,SNR=20
RCBR PKP **PKPdf 21 46 53.6 -0.7**
comp=Z,71nm,0.9s,baz=6.7,slow=0.8,SNR=8.3
RCBR SKPbc **SKPbc 21 49 29.3 -0.1**
comp=Z,113nm,0.9s,baz=349,slow=3.6,SNR=15
RCBR SKKPbc **SKKPbc 21 58 35.6 +1.9**
comp=Z,30nm,0.9s,baz=152,slow=4.1,SNR=7.2
RCBR Riachuelo 135.05 121 PKPdf 21 46 53.0 -1.3
RCBR Riachuelo 135.05 121 *e*P **PKPdf 21 46 54.4 +0.1**
FIA1 FINESS Array S 135.08 344 PKPdf 21 46 52.8 0.0
FINES FINESS Array B 135.08 344 PKhKP PKPpre 21 46 39.2
comp=Z,9.8nm,0.4s,baz=46,slow=3.3,SNR=44
FINES PKP **PKPdf 21 46 51.6 -1.2**
comp=Z,53nm,0.5s,baz=101,slow=2.8,SNR=24
FINES SKPbc **SKPbc 21 49 28.4 +0.6**
comp=Z,338nm,0.9s,baz=58,slow=4.7,SNR=28
FINES SKKPbc **SKKPbc 21 58 32.2 -4.5**
comp=Z,22nm,1.0s,baz=151,slow=4.4,SNR=4.8
MOS Moscow 135.20 332 *e*PKIKP PKPpre 21 46 47.4
MOS *e* 21 49 33.6
MOS *e* 21 53 09.1
MOS pmax pmax
comp=Z,204nm,1.2s
MAK Makhachkala 135.33 312 *e*P **Pdif 21 43 55.0 -5.2**
MAK *i* 21 46 53.6
MAK *e* 21 49 06.8
MAK *e* 21 49 36.6
MAK *e* 21 53 10.0
MAK pmax pmax
comp=Z,558nm,1.3s
VRH Novokhopyorsk 135.73 325 *e*PKIKP **PKPdf 21 46 53.5 -0.8**
VRH pmax pmax
comp=Z,140nm,0.6s
OBN Obninsk 136.07 332 PKhKP PKPpre 21 46 44.4
comp=Z,9.7nm,0.3s,baz=52,slow=2.3,SNR=8.9
OBN PKP **PKPdf 21 46 54.7 -0.1**
comp=Z,23nm,0.6s,baz=111,slow=1.0,SNR=28
OBN SKPbc **SKPbc 21 49 31.8 +0.8**
comp=Z,170nm,1.0s,baz=68,slow=1.4,SNR=36
OBN SKKPbc **SKKPbc 21 58 29.8 -3.0**
comp=Z,10nm,0.9s,baz=62,slow=12,SNR=5.1
OBN Obninsk 136.07 332 *d* PKIKP **PKPdf 21 46 54.9 +0.1**
OBN *i* 21 49 13.1
OBN *i* 21 49 43.0
OBN *e* 21 50 07.2
OBN *i* 21 53 12.6
OBN *e* 22 00 08.8
OBN *i* SS SS 22 06 53.0 -3.2
OBN pmax pmax
comp=Z,359nm,1.4s
OBN pmax pmax
comp=Z,476nm,1.3s
TBLU Trondheim 136.24 354 *e* PKPpre 21 46 42.9
TBLU *e*PKPdf **PKPdf 21 46 55.6 +0.7**
TBLU IVmBBB 21 47 00.1
comp=Z,1μm,1.1s
TBLU *e* 21 49 30.7
TBLU *e* 21 52 44.7
TBLU *e*SS SS 22 06 59.2 +1.7
GROC Groznyy 136.45 312 *e*PKHKP PKPpre 21 46 46.1
GROC *e* 21 46 54.3
GROC *e* 21 49 10.8
GROC *e* 21 49 44.1
GROC *e* 21 53 14.5
GROC pmax pmax
comp=Z,291nm,0.8s
LPSR Galich'ya Gora 136.45 328 *e*PKIKP **PKPdf 21 46 55.1 -0.5**
LPSR pmax pmax
comp=Z,220nm,1.1s
LSZ Lusaka 136.46 219 PKhKP PKPpre 21 46 45.2
comp=Z,3.5nm,0.3s,baz=128,slow=2.9,SNR=9.1
LSZ PKP **PKPdf 21 46 57.6 +0.6**
comp=Z,102nm,0.8s,baz=56,slow=0.9,SNR=37
LSZ SKPbc **SKPbc 21 49 35.9 +2.2**
comp=Z,88nm,0.8s,baz=88,slow=3.1,SNR=8.3
LSZ SKKPbc **SKKPbc 21 58 30.4 +1.9**
comp=Z,34nm,1.2s,baz=24,slow=3.2,SNR=5.6
LSZ Lusaka 136.46 219 PKPdf 21 46 55.8 -1.2
RAF Rauma 136.51 346 *e*P PKPpre 21 46 46.1
MEF Metsahovi 136.56 344 *e*P PKPpre 21 46 50.4
MEF Metsahovi 136.56 344 *e*P **SKKPbc 21 58 23.4 -7.8**
VORR Voronezh 136.82 326 *e*PHKP PKPpre 21 46 46.3
VORR pmax pmax
comp=Z,40nm,0.4s
VSR Storozhevoye 137.09 326 *e*PKIKP **PKPdf 21 46 56.4 -0.5**
VSR pmax pmax
comp=Z,270nm,1.1s
MOL Molde 137.13 356 *e* PKPpre 21 46 47.4
MOL IVmB_BB 21 47 01.5
comp=Z,2μm,4.4s
MOL *e*SKPdf **SKPbc 21 49 34.5 +0.6**
MOL *e*SS **SS 22 07 05.9 -1.9**
VSU Vasula 137.35 341 *e*P PKPpre 21 46 47.9
VSU Vasula 137.35 341 *e*P **SKKPbc 21 58 24.1 -4.0**
DOMB Dombas 137.54 355 *e* PKPpre 21 46 46.8
DOMB *e*PKPdf **PKPdf 21 46 54.9 -2.5**

DOMB ep PKPdf pPKPdf 21 49 15.4 -1.1
DOMB eSS SS 22 07 13.3 +0.5
AKN Aaknes 137.55 356 e PKPpre 21 46 48.7
AKN eSS SS 22 07 13.5 +0.6
GOF Gofitskoye 137.66 316⇑ ePKHKP PKPpre 21 46 50.1
GOF pmax pmax
comp=Z,72nm,0.9s
MTSE Matsula 138.00 343 eP PKPpre 21 46 49.7
MTSE Matsula 138.00 343 eP **SKKPbc 21 58 19.6 -6.1**
GNI Garni 138.10 308 PKhKP PKPpre 21 46 50.8
comp=Z,8.7nm,0.7s,baz=281,slow=3.0,SNR=7.0
GNI PKP **PKPdf 21 46 59.1 -0.2**
comp=Z,58nm,0.8s,baz=309,slow=0.8,SNR=21
GNI SKPbc **SKPbc 21 49 39.2 +1.5**
comp=Z,248nm,1.0s,baz=201,slow=2.4,SNR=12
GNI SKKPbc **SKKPbc 21 58 24.4 -0.1**
comp=Z,72nm,1.2s,baz=84,slow=2.2,SNR=6.1
GNI Garni 138.10 308 PKPdf **PKPdf 21 46 58.4 -0.9**
GNI Garni 138.10 308 PKPdf **PKPdf 21 46 59.5 +0.1**
TSUM Tsumeb 138.19 203 PKhKP PKPpre 21 46 51.6
comp=Z,16nm,0.6s,baz=134,slow=4.9,SNR=16
TSUM PKP **PKPdf 21 47 00.8 +0.7**
comp=Z,94nm,0.8s,baz=133,slow=3.3,SNR=24
FOO Floro 138.23 358 e PKPpre 21 46 52.3
FOO eSKPdf **SKPdf 21 49 37.8 +0.7**
FOO eSS **SS 22 07 23.0 +2.4**
KBZ Khabaz 138.26 314 PKhKP PKPpre 21 46 52.0
comp=Z,19nm,0.9s,baz=327,slow=0.3,SNR=10
KBZ PKP **PKPdf 21 47 00.3 +1.1**
comp=Z,54nm,0.9s,baz=167,slow=1.5,SNR=14
KBZ SKPbc **SKPbc 21 49 39.0 +1.3**
comp=Z,169nm,0.9s,baz=54,slow=2.4,SNR=16
NB2 NORSAR Subarra138.31 353 PKP PKPpre 21 46 48.5
comp=Z,238nm,1.7s,baz=10,slow=3.2
NB2 NORSAR Subarra138.31 353 P **SKKPbc 21 58 19.2 -5.5**
comp=Z,54nm,1.4s,baz=220,slow=6.5
NB2 NORSAR Subarra138.31 353 P **SKKPbc 21 58 19.2 -5.5**
baz=220,slow=6.5
NOA NORSAR Array B138.31 353 PKhKP PKPpre 21 46 48.6
comp=Z,67nm,0.9s,baz=9.2,slow=2.3,SNR=53
NOA PKP **PKPdf 21 46 58.5 -0.4**
comp=Z,86nm,1.1s,baz=15,slow=4.9,SNR=9.1
NOA SKPbc **SKPbc 21 49 38.1 +0.6**
comp=Z,397nm,1.1s,baz=16,slow=4.4,SNR=17
NOA SKKPbc **SKKPbc 21 58 21.7 -3.0**
comp=Z,31nm,1.0s,baz=194,slow=4.1,SNR=8.5
KIV Kislovodsk 138.32 315 ⇓P PKPpre 21 46 50.1
KIV Kislovodsk 138.32 315 ⇑P **SKKPbc 21 58 19.6 -4.2**
KIV Kislovodsk 138.32 315 **PKPdf 21 46 59.3 -0.2**
KIV Kislovodsk 138.32 315 i PKIKP **PKiKP 21 47 01.0 -0.8**
KIV e 21 53 12.9
KIV eSS SS 22 07 25.3 +1.4
KIV pmax pmax
comp=Z,140nm,1.1s
KIV Kislovodsk 138.32 315 i PKPdf PKPpre 21 46 54.0
SNR=16
NC602 NORSAR Array S 138.57 353 e PKPpre 21 46 50.0
NC602 eSKPdf **SKPbc 21 49 38.5 +0.4**
NC602 eSS **SS 22 07 21.9 -2.8**
HYA Hoyanger 138.60 357 e PKPpre 21 46 51.3
HYA eSKPdf **SKPbc 21 49 39.2 +1.1**
HYA eSS **SS 22 07 25.4 +0.3**
SUE Sulen 138.78 358 e PKPpre 21 46 51.0
SUE epPKPdf pPKPdf 21 49 18.2 -0.5
SUE eSS SS 22 07 26.4 -0.6
HFS Hagfors 138.86 351 PKhKP PKPpre 21 46 50.1
comp=Z,89nm,0.4s,baz=52,slow=2.9,SNR=185
HFS SKPbc **SKPbc 21 49 39.5 +0.6**
comp=Z,438nm,1.0s,baz=48,slow=2.2,SNR=21
HFS SKKPbc **SKKPbc 21 58 20.1 -2.4**
comp=Z,38nm,0.9s,baz=212,slow=5.3,SNR=11
SKAR Skarslia 138.94 355 e PKPpre 21 46 51.6
SKAR eSKPdf **SKPdf 21 49 38.8 +0.2**
SKAR eSKSdf **SKSdf 21 53 13.7 -0.3**
SKAR eSS **SS 22 07 30.7 +1.5**
KARS Kars 139.18 310 **PKPdf 21 47 01.4 +0.2**
KARS Kars 139.18 310 PKIKP **PKPdf 21 47 01.4 +0.2**
RAYN Ar Rayn 139.27 283 **PKPdf 21 47 00.4 -1.4**
RAYN Ar Rayn 139.27 283 PKIKP **PKPdf 21 47 00.4 -1.4**
RAYN Ar Rayn 139.27 283 i PKPdf PKPpre 21 46 55.8
SNR=33
ASK Askoy 139.34 357 e PKPpre 21 46 52.9
ASK eSKPdf **SKPbc 21 49 39.9 -0.3**
SLIT Slitere, Latvi 139.35 343 eP PKPpre 21 46 53.5
SLIT Slitere, Latvi 139.35 343 eP **SKKPbc 21 58 16.5 -4.0**
KMBO Kilima Mbogo 139.41 243 PKhKP PKPpre 21 46 56.5
comp=Z,0.7nm,0.8s,baz=72,slow=22,SNR=9.0
KMBO SKPbc **SKiKP 21 49 44.0 -0.8**
comp=Z,4.9nm,1.0s,baz=40,slow=21,SNR=15
KMBO Kilima Mbogo 139.41 243 i PKPdf PKPpre 21 46 56.1
SNR=23
BER Bergen 139.43 357 ePKPdf PKPpre 21 46 54.4
BER epPKPdf pPKPdf 21 49 20.8 +0.9
BER eSS SS 22 07 35.4 +0.9
OSL Oslo 139.44 353 ePKPdf **PKPdf 21 46 58.4 -2.4**
OSL eSKPdf **SKPbc 21 49 40.3 -0.1**
OSL eSKSdf **SKSdf 21 53 08.6 -6.0**
OSL eSS **SS 22 07 35.8 +1.0**
ATD Arta Tunnel 139.64 264 PKhKP PKPpre 21 46 56.7
ATD SKPbc **SKiKP 21 49 46.0 +0.9**
comp=Z,142nm,0.9s,baz=322,slow=2.7,SNR=17
KONO Kongsberg 139.84 354 ⇓PKHKP PKPpre 21 46 49.5
KONO Kongsberg 139.84 354 ePKPdf PKPpre 21 46 54.1
KONO eSKPdf **SKPbc 21 49 42.2 +0.7**
KONO eSS **SS 22 07 39.9 +0.5**
GEVA Gevas 139.85 306 **PKPdf 21 47 02.3 -0.2**
ISAL Salakas 139.88 339 eP PKPpre 21 46 55.8
ISAL Salakas 139.88 339 eP **SKKPbc 21 58 15.6 -2.7**
IIGN Ignalina 140.02 338 eP PKPpre 21 46 55.6
IIGN Ignalina 140.02 338 eP **SKKPbc 21 58 14.5 -3.3**
MNK Minsk 140.08 336 i PKHKP PKPpre 21 46 56.6
MNK i 21 47 01.0
MNK i 21 49 13.2
MNK i 21 50 19.3
MNK i PPP PPP 21 53 18.6
MNK i SS SS 22 07 39.6 -3.2
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=Z,263nm,0.9s
MNK Minsk 140.08 336 i PKP PKPpre 21 46 56.6
comp=E,9.0nm,0.9s
MNK i PKP PKPpre 21 46 56.6
MNK i PKP PKPpre 21 46 56.6
comp=Z,263nm,0.9s,baz=40
MNK i PKiKP **PKPdf 21 47 01.0 -1.2**
MNK i pPKP pPKPdf 21 49 13.2 -8.0
MNK i sPKP 21 49 31.0
MNK i PP PP 21 49 52.7 -15
MNK i PPP PPP 21 53 18.7
MNK i SKS 21 55 31.3
MNK i SKKS 22 00 07.1
MNK i SS **SS 22 07 39.7 -3.1**
MNK i SSS SSS 22 12 58.9
NAGGM Naroch 140.18 338⇑ ePKP PKPpre 21 46 56.0
VSVD Vaisvydziai 140.27 341 eP PKPpre 21 46 56.2
VSVD Vaisvydziai 140.27 341 eP **SKKPbc 21 58 13.6 -3.2**
BLS5 Blasjo 140.33 356 ePKPdf PKPpre 21 46 56.6
BLS5 epPKPdf pPKPdf 21 49 19.1 -2.6
BLS5 eSS SS 22 07 47.9 +2.9
SOC Sochi 140.44 315 ePKHKP PKPpre 21 46 53.5
SOC i 21 47 03.4
SOC e 21 49 20.4
SOC ePPP PPP 21 53 18.5
SOC pmax pmax
comp=Z,49nm,0.8s
SOC pmax pmax
comp=Z,101nm,0.9s
PABE Paberze 140.65 340 eP PKPpre 21 46 58.0
PABE Paberze 140.65 340 eP **SKKPbc 21 58 12.3 -2.9**
PBUR Paburge 140.83 342 eP PKPpre 21 46 58.4
PBUR Paburge 140.83 342 eP **SKKPab 21 58 11.7 -2.7**
HOMB Homborsund 141.31 354 ePKPdf **PKPdf 21 47 00.6 -3.7**
HOMB eSKPdf **SKPdf 21 49 43.3 +0.7**
SNART Snartemo 141.35 355 ePKPdf **PKPdf 21 47 01.2 -3.2**
SNART epPKPdf **pPKPdf 21 49 22.0 -1.5**
ANN Anapa 141.37 318 i PKHKP PKPpre 21 46 59.4
ANN i 21 50 14.7
ANN e 21 53 20.5
ANN ePPP PPP 21 53 27.7
ANN pmax pmax
comp=E,76nm,1.2s
ANN pmax pmax
comp=Z,371nm,1.0s
ANN pmax pmax
comp=N,143nm,1.3s
KTUT Trabzon 141.42 312 ⇑P **PKPdf 21 47 04.3 -0.8**
ANKE Ethiopia-Afar 141.94 260 eP **PKPdf 21 47 05.8 -1.5**
KAC Achnashellach 142.05 6 eP **PKPdf 21 47 01.5 -4.1**
OVD Ostervraa, Den 142.06 353 i P **PKPdf 21 47 02.1 -3.5**
MCD Coleburn Disti 142.14 4 eP **PKPdf 21 47 01.3 -4.5**
KPL Plockton 142.17 7 eP **PKPdf 21 47 01.8 -4.0**
MDO Dochfour 142.19 5 eP **PKPdf 21 47 02.3 -3.6**
AKASG Malin Array Be 142.32 331 PKhKP PKPpre 21 47 02.9
comp=N,213nm,0.3s,baz=42,slow=4.8,SNR=524
AKASG SKPbc **SKiKP 21 49 49.0 -0.3**
comp=N,355nm,0.9s,baz=40,slow=3.3,SNR=20
AKASG SKKPbc **SKKPab 21 58 06.5 -1.3**
comp=N,6.9nm,0.6s,baz=239,slow=3.7,SNR=9.9
GOET G??ttrup 142.45 353 i P **PKPdf 21 47 03.1 -3.2**
FURI Furi 142.67 258 **PKPdf 21 47 07.7 -0.7**
DRUM Mains of Drumt 142.86 4 eP **PKPdf 21 47 04.3 -2.7**
MUD Monsted U'grnd 143.03 353 i P PKPab 21 47 04.9 -0.3
EDU Dundee 143.19 4 eP PKPab 21 47 05.4 -0.4
INVG Invergeldie, C 143.22 5 eP PKPab 21 47 05.0 -0.9
LAWE Loch Awe, Argy 143.26 7 eP PKPab 21 47 05.4 -0.7
COP Copenhagen 143.32 350 i P PKPab 21 47 05.7 -0.7
SIM Simferopol' 143.33 320 i PKIKP PKPab 21 47 05.5 -1.3
SIM pmax pmax
comp=Z,3μm,1.1s
BSD Bornholm Skovb 143.40 347 eP PKPab 21 47 05.9 -0.7
BSD Bornholm Skovb 143.40 347 i P PKPab 21 47 05.8 -0.9
SHEL Horse Pasture 143.66 168 PKPab 21 47 08.8 0.0
SHEL Horse Pasture 143.66 168 PKIKP PKPab 21 47 08.8 0.0
PGBU Glenifferbraes 143.79 6 eP PKPbc 21 47 06.7 -1.3
EDI Edinburgh 143.79 5 eP PKPbc 21 47 06.9 -1.1
ESY Stoneypath 143.84 4 eP PKPbc 21 47 07.0 -1.2
EBL Broad Law 143.96 5 eP PKPbc 21 47 07.5 -1.0
DIKM Dikmen 144.25 315 ⇓P **PKPab 21 47 10.5 +0.1**
RGN Rugen 144.25 348 PKPbc 21 47 09.2 -0.3
CLGH Cloghs, Cushen 144.33 8 eP **PKPdf 21 47 09.4 -0.3**
EKA Eskdalemuir Ar 144.38 5 PKP **PKPdf 21 47 09.3 -0.5**
comp=Z,80nm,0.5s,baz=322,slow=3.6,SNR=190
EKA SKPbc **SKiKP 21 49 54.1 +0.7**
comp=Z,122nm,0.9s,baz=349,slow=2.6,SNR=10
EKA SKKPbc **SKKPab 21 57 58.8 +0.2**
comp=Z,45nm,0.8s,baz=178,slow=5.3,SNR=4.5
ESK Eskdalemuir 144.40 5 eP **PKPdf 21 47 09.0 -0.8**
ESK Eskdalemuir 144.40 5 **PKPdf 21 47 09.6 -0.2**
ESK Eskdalemuir 144.40 5 PKIKP **PKPdf 21 47 09.6 -0.2**
NEWG New Galloway 144.50 6 eP **PKPdf 21 47 09.4 -0.6**
SORM Soroca 144.52 329 ⇑P SKKPab 21 58 10.2 +12
GKP Gorka Klasztor 144.56 344 ePKPbc **PKPdf 21 47 10.1 0.0**
GKP epPP **PP 21 50 29.7 -4.1**
GKP epPPP PPP 21 53 39.1
GKP eSS SS 22 08 27.7 -5.6
GKP Gorka Klasztor 144.56 344 eP PKPbc 21 47 10.4 0.0
GKP Gorka Klasztor 144.56 344 eP **SKKPab 21 57 56.8 -1.1**
BEL Belsk 144.76 339 ePKPbc PKPbc 21 47 11.3 +0.2
BEL epPKPdf pPKPdf 21 49 29.1 -0.7
BEL ePP **PP 21 50 34.9 -0.2**
BEL ePPP PPP 21 53 42.9
BEL eSS SS 22 08 30.5 -5.3
PURM Purcari 144.81 326 ⇑P **SKKPab 21 57 55.5 -1.2**
BZK Bozkurt 144.93 316 **PKPdf 21 47 10.9 -0.2**
EDMD Edmundbyers 144.97 4 eP **PKPdf 21 47 10.5 -0.3**
BNN Bunyan 145.02 310 **PKPdf 21 47 11.3 -0.3**
MBAR Mbarara 145.04 238 PKPbc **PKPdf 21 47 12.8 +0.4**
comp=Z,420nm,0.8s,baz=130,slow=2.2,SNR=433
MBAR SKPbc **SKiKP 21 49 57.8 +1.4**
comp=Z,99nm,0.9s,baz=160,slow=6.9,SNR=4.2
MBAR Mbarara 145.04 238 **PKPdf 21 47 12.4 -0.1**
KIS Kishinev 145.05 327⇓ i PKP **PKPdf 21 47 11.0 -0.2**
KIS comp=Z,5μm,5.4s
KIS M M 21 47 26.0
KIS comp=Z,7μm,11.0s
KIS ⇓ i PKP pPKPab 21 49 20.0 -6.6
KIS eSPKP 21 50 28.0
KIS Kishinev 145.05 327 ⇑P **PKPbc 21 47 12.4 +0.2**
KIS Kishinev 145.05 327 i PKIKP **PKPdf 21 47 11.0 -0.2**
KIS i 21 49 29.0
KIS e 21 50 28.0
KIS pmax pmax
comp=Z,5μm,5.4s
MILM Milestii Mici 145.11 327 ⇓P **PKPdf 21 47 11.6 +0.3**
MILM Milestii Mici 145.11 327 ⇑P **SKKPab 21 57 54.9 -0.5**
MILM Milestii Mici 145.11 327 d i PKIKP **PKPdf 21 47 11.0 -0.3**
MILM i 21 49 29.0
MILM i 21 50 30.0
MILM pmax pmax
comp=Z,3μm,0.9s
KESW Keswick, Cumbr 145.13 5 eP **PKPdf 21 47 10.7 -0.3**
LVV L'vov 145.21 334 ePKIKP **PKPbc 21 47 12.0 -0.5**
LVV e 21 49 26.1
LVV e 21 50 27.4
LVV e 22 09 31.9
DRBR Darabani 145.30 330 ⇑P **PKPbc 21 47 12.3 -0.5**
IOMK Kirk Michael 145.31 6 eP **PKPdf 21 47 11.5 +0.1**
WIM Isle of Man 145.41 7 eP **PKPdf 21 47 11.7 +0.1**
ILGA Ilgaz 145.55 315 **PKPdf 21 47 12.1 -0.5**
IAS Iasi 145.56 328 ⇑P **PKPbc 21 47 13.6 0.0**
IAS Iasi 145.56 328 ⇑PKP2 **PKPbc 21 47 13.6 0.0**
H07N1 FLORES T-PHASB 45.58 48 PKPbc **PKPbc 21 47 13.9 -0.1**
SNR=17
H07N1 FLORES T-PHASB 45.58 48 ePKP **PKPdf 21 47 13.0 +0.6**
H07S1 FLORES T-PHASB 45.65 48 PKPbc **PKPab 21 47 15.1 -0.9**
SNR=33
LEOM Leova 145.70 327 ⇑P **PKPbc 21 47 14.1 +0.1**
LEOM Leova 145.70 327 ⇑PKP2 **PKPbc 21 47 14.1 +0.1**
TSSL Sulina 145.75 324 ⇑P **PKPbc 21 47 14.2 0.0**
VASR Vaslui 145.82 327 ⇓P **PKPbc 21 47 13.9 -0.4**
VASR Vaslui 145.82 327 ⇑P **SKKPab 21 57 51.1 -1.2**
HPK Haverah Park 145.86 4 eP **PKPdf 21 47 13.0 +0.6**
RUE Ruedersdorf 146.11 347 eP **PKPbc 21 47 14.0 -0.9**
RUE Ruedersdorf 146.11 347 eP **SKKPab 21 57 44.6 -6.3**
BIR Birlad 146.15 327 ⇑P **PKPbc 21 47 14.9 -0.4**
BIR Birlad 146.15 327 ⇑PKP2 **PKPbc 21 47 14.9 -0.4**
WPS Cemaes, Angles 146.17 7 eP **PKPdf 21 47 11.8 -1.1**
WME Myndd Eilian 146.19 6 eP **PKPdf 21 47 13.3 +0.4**
VLDR Vladesti 146.20 326 ⇓P **PKPdf 21 47 13.6 +0.4**
VLDR Vladesti 146.20 326 ⇑P **SKKPab 21 57 49.2 -1.4**
BR131 Keskin Array S 146.21 313 **PKPdf 21 47 12.4 -1.2**
BR131 Keskin Array S 146.21 313 PKIKP **PKPdf 21 47 12.4 -1.2**
BRTR Keskin Array B 146.21 313 PKPbc **PKPbc 21 47 15.4 -0.5**
comp=Z,260nm,0.8s,baz=135,slow=2.4,SNR=322
BRTR SKPbc **SKiKP 21 49 58.4 +0.4**
comp=Z,91nm,1.0s,baz=128,slow=3.7,SNR=4.2
BRTR sPKPbc sPKPbc 21 50 23.1 -6.5
comp=Z,170nm,0.9s,baz=89,slow=2.5,SNR=8.7
BRTR SKKPbc **SKKPab 21 57 50.9 +0.1**
comp=Z,39nm,1.0s,baz=198,slow=3.5,SNR=11
BRTR Keskin Array B 146.21 313 **PKPdf 21 47 12.2 -1.4**
BRTR PKPbc **PKPbc 21 47 16.1 +0.1**
BRTR Keskin Array B 146.21 313 PKIKP **PKPdf 21 47 12.2 -1.4**
BRTR 21 47 16.1
TLCR 146.23 325 ⇓P **PKPbc 21 47 15.7 +0.1**
TLCR 146.23 325 ⇑P **SKKPab 21 57 49.6 -0.9**
TLCR 146.23 325 ⇓PKP2 **PKPbc 21 47 15.7 +0.1**
ASF Jabal al Asfar 146.24 298 PKPbc **PKPbc 21 47 16.6 +0.4**
comp=Z,659nm,0.9s,baz=118,slow=2.4,SNR=79
ASF SKP SKPbc 21 49 37.6 -20
comp=Z,62nm,1.0s,baz=114,slow=3.2,SNR=3.5
ASF SKKPbc **SKKPbc 21 57 51.5 +0.1**
comp=Z,56nm,1.1s,baz=318,slow=2.0,SNR=10
VARL Varlezi 146.28 326 ⇑P **PKPdf 21 47 14.5 +1.2**
WLF1 Llynfaes 146.29 7 eP **PKPdf 21 47 13.3 +0.2**
YRC Rhoscolyn 146.31 7 eP **PKPdf 21 47 14.1 +1.0**
SCTR Scanteiesti 146.36 326 ⇑P **PKPbc 21 47 15.4 -0.5**
BUR08 Bucovina Ar. S 146.36 331 **PKPbc 21 47 13.1 -0.4**
GIUM Giurgiulesti 146.37 325 ⇑P **PKPbc 21 47 16.7 +0.8**
BURAR Bucovina Array 146.37 331 ⇓P **PKPbc 21 47 14.8 -1.2**
BURAR Bucovina Array 146.37 331 **PKPdf 21 47 13.3 -0.2**
TATR Tatarca 146.38 326 ⇑P **PKPbc 21 47 14.9 -1.1**
GHRR 146.40 327 ⇓P **PKPdf 21 47 14.7 +1.2**
LMK Market Rasen 146.42 2 eP **PKPdf 21 47 14.5 +1.3**
BIZ Bicaz 146.44 329 ⇓P **PKPbc 21 47 14.9 -1.2**
YLL Llanberis 146.46 6 eP **PKPdf 21 47 14.6 +1.2**
OJC Ojcow 146.46 339 ePKPdf **PKPdf 21 47 12.5 -1.0**
OJC ePKPbc **PKPbc 21 47 15.2 -0.8**
OJC epPKPdf pPKPab 21 49 30.6 -1.5
OJC ePP PP 21 50 31.3 -14
OJC Ojcow 146.46 339 **PKPdf 21 47 11.9 -1.6**
OJC Ojcow 146.46 339 PKIKP **PKPdf 21 47 11.9 -1.6**
JURR Jurilovca 146.47 324 ⇑P **PKPbc 21 47 15.1 -1.1**
JURR Jurilovca 146.47 324 ⇑P **SKKPab 21 57 48.9 -0.5**
TESR Tescani 146.48 328 ⇑P **PKPbc 21 47 15.2 -1.0**
HWQ Hawqa 146.49 302 eP **PKPdf 21 47 14.0 -0.2**
SLCR Slobozia Conac 146.53 326 ⇓P **PKPbc 21 47 15.6 -0.8**
SCHL Schela 146.56 326 ⇓P **PKPbc 21 47 15.6 -0.8**
IZVR Izvoarele 146.56 326 ⇓P **PKPdf 21 47 14.5 +0.7**
IZVR Izvoarele 146.56 326 ⇑P **SKKPab 21 57 45.6 -3.4**
CFR Carcaliu 146.61 325 ⇓P **PKPdf 21 47 14.1 +0.3**
CFR Carcaliu 146.61 325 ⇓PKIKP **PKPdf 21 47 14.1 +0.3**
KOLS Kolonicke sedl 146.62 335 ePKIKP **PKPdf 21 47 14.6 +0.8**
KOLS e 21 47 17.6
KOLS Kolonicke sedl 146.62 335 ePKP **PKPdf 21 47 14.6 +0.8**
KOLS e 21 47 17.6
TPGR Topolog 146.66 324 ⇓P **PKPbc 21 47 15.9 -0.9**
TPGR Topolog 146.66 324 ⇑P **SKKPab 21 57 47.3 -1.3**
PANC Panciu 146.66 327 ⇓P **PKPbc 21 47 17.4 +0.7**
STNC Stoke 146.68 4 eP **PKPdf 21 47 14.6 +0.9**
ANTO Ankara 146.73 314 ⇑P **PKPdf 21 47 14.5 +0.1**
ANTO Ankara 146.73 314 **PKPdf 21 47 14.0 -0.3**
ANTO Ankara 146.73 314 ⇑PKIKP **PKPdf 21 47 14.5 +0.1**
BR231 Keskin MP Arra 146.75 314 **PKPdf 21 47 13.6 -0.9**
ODBI Odobesti 146.79 327 ⇑P **PKiKP 21 47 18.3 -0.6**
ODBI Odobesti 146.79 327 ⇑P **SKKPab 21 57 49.1 +1.1**
FOEL Foel Wylfa 146.80 5 eP **PKPdf 21 47 13.5 -0.5**
UZH Uzhgorod 146.85 335 ePKIKP **PKPbc 21 47 16.4 -0.7**
UZH e 21 47 20.7
UZH e 21 49 35.1
VRI Vrincioaia 146.88 327 ⇓P **PKPdf 21 47 15.7 +1.3**
VRI Vrincioaia 146.88 327 ⇑P **SKKPab 21 57 47.1 -0.5**
VRI Vrincioaia 146.88 327 ⇑P SKKPab 22 03 54.3
VRI Vrincioaia 146.88 327 ⇓PKIKP **PKPdf 21 47 15.7 +1.3**
MQOL MQOL 146.89 278 i P **PKPdf 21 47 15.4 +0.3**
MQOL i S **SKSdf 21 53 23.3 -4.4**
SHBL Chebaa 146.90 301 eP **PKPdf 21 47 15.3 +0.4**
TIRR Tirgusor 146.92 324 ⇑P **SKKPab 21 57 47.9 +0.4**
TIRR Tirgusor 146.92 324 **PKPdf 21 47 13.7 -0.7**
TIRR Tirgusor 146.92 324 PKIKP **PKPdf 21 47 13.7 -0.7**
PLOR Plostina 146.93 327 ⇑P **PKPbc 21 47 16.3 -1.2**
PLOR Plostina 146.93 327 ⇑P **SKKPab 21 57 46.7 -0.7**
PLOR Plostina 146.93 327 ⇑PKIKP **PKPbc 21 47 16.3 -1.2**
CRVS Cervenica-Dubn 146.96 336 ePKIKP **PKPdf 21 47 14.8 +0.4**
CRVS e 21 47 18.5
CRVS e 21 49 34.2
CRVS e 21 50 32.8
CRVS Cervenica-Dubn 146.96 336 ePKP **PKPdf 21 47 14.8 +0.4**
CRVS e 21 47 18.5
CRVS e 21 47 22.1
CRVS e 21 49 34.2
CRVS e 21 50 32.8
NIE Niedzica 146.97 338 ePKPdf **PKPdf 21 47 15.3 +0.9**
NIE ePKPbc **PKiKP 21 47 19.2 0.0**
NIE epPKPbc pPKPab 21 49 35.3 +1.2
NIE ePP PP 21 50 34.1 -14
TSCT Constanta Port 146.97 323 ⇑P **PKPdf 21 47 15.2 +0.7**
KSP Ksiaz 147.00 343 ePKPdf **PKPdf 21 47 14.9 +0.6**
KSP ePKPbc **PKPbc 21 47 18.2 +0.7**
KSP epPKPbc pPKPab 21 49 34.9 +0.6
KSP ePP PP 21 50 33.5 -15
EFOR EFORIE 147.03 323 ⇑P **PKiKP 21 47 19.0 -0.5**
HARR Harsova 147.03 325 ⇑P **PKPdf 21 47 15.4 +0.8**
HARR Harsova 147.03 325 ⇑P sSKSdf 21 57 46.7 +6.0
HARR Harsova 147.03 325 ⇑PKIKP **PKPdf 21 47 15.4 +0.8**
TLBR Topalu 147.06 324 ⇑P sSKSdf 21 57 46.8 +6.1
GRER 147.09 326 ⇑P **PKiKP 21 47 19.6 0.0**
CWF Charnwood Fore 147.09 3 eP **PKPdf 21 47 13.1 -1.3**
BMR Baia Mare 147.10 333 ⇑P **PKPdf 21 47 15.5 +0.9**
BMR Baia Mare 147.10 333 ⇑PKIKP **PKPdf 21 47 15.5 +0.9**
TRPA Tarpa 147.15 334 ⇑P sSKSdf 21 57 44.5 +3.8
TRPA Tarpa 147.15 334 PKP **PKPdf 21 47 14.3 +0.3**
ARCR ARCALIA 147.16 331 ⇓P **PKPdf 21 47 15.4 +0.6**
COVR Voineasa-Covas 147.16 328 ⇓P **PKPbc 21 47 18.1 0.0**
WACR West Acre 147.18 1 eP **PKPdf 21 47 14.8 +0.3**
OZUR 147.20 328 ⇑P sSKSdf 21 57 44.3 +3.1
HLM1 Long Mynd 147.20 5 eP **PKPdf 21 47 15.0 +0.4**
CVDA Cernavoda 147.20 324 ⇑P **PKPdf 21 47 15.5 +0.7**
MANR Mangalia 147.22 323 ⇑P **PKPdf 21 47 15.9 +1.0**
TSMN Mangalia Port- 147.22 323 ⇑P **PKPbc 21 47 18.6 +0.4**
MMAI Mount Meron Ar 147.27 300 PKPbc **PKPbc 21 47 18.9 +0.1**
comp=Z,812nm,0.9s,baz=78,slow=7.9,SNR=248
MMAI SKP SKPbc 21 49 39.0 -21
comp=Z,159nm,1.0s,baz=68,slow=4.6,SNR=5.6
MMAI SKKPbc 21 57 47.5
comp=Z,59nm,1.1s,baz=268,slow=2.2,SNR=7.6
OSTC Ostas 147.28 343 ePKPDF **PKPdf 21 47 15.7 +0.8**
OSTC ⇑ePKP **PKPbc 21 47 18.7 +0.5**
OSTC epPKP **pPKPab 21 49 35.2 0.0**
CHVC Chvalec 147.29 343 ePKPDF **PKPdf 21 47 15.6 +0.7**
CHVC ⇑ePKP **PKPbc 21 47 18.8 +0.5**
CHVC epPKP **pPKPdf 21 49 33.2 -1.0**
OKC Ostrava-Krasne 147.34 340 ePKIKP **PKPdf 21 47 15.4 +0.5**
OKC e 21 47 18.5
OKC e 21 49 35.2
OKC Ostrava-Krasne 147.34 340 ePKPDF **PKPdf 21 47 15.4 +0.5**
OKC ⇑ePKP **PKPbc 21 47 18.5 +0.1**
OKC epPKP **pPKPab 21 49 35.2 -0.2**
CLL Collm 147.38 347 **PKPdf 21 47 14.5 -0.5**
CLL Collm 147.38 347 ePKIKP **PKPdf 21 47 15.0 +0.1**
CLL i 21 47 22.7
CLL e 21 49 35.0
CLL pmax pmax
comp=Z,2μm,1.3s
CLL pmax pmax
comp=Z,2μm,1.0s
CLL Collm 147.38 347 ePKPdf **PKPdf 21 47 15.0 +0.1**
CLL i PKPbc **PKPbc 21 47 19.0 +0.6**
comp=Z,2μm,1.3s
CLL ePKPlp 21 47 21.0
comp=Z,6μm,21.4s
CLL i PKPab **PKPab 21 47 22.7 +0.3**
comp=Z,2μm,1.0s
CLL epPKPbc **pPKPbc 21 49 35.0 -0.2**
CLL epPKiKP **pPKPab 21 49 39.0 +3.5**
CLL i x x 21 49 42.6
CLL i SKPbc **SKiKP 21 50 01.4 +1.6**
comp=Z,437nm,1.1s
CLL esPKiKP **sPKiKP 21 50 38.0 +1.7**
CLL epPP 21 52 56.0
CLL esPP 21 53 51.0
CLL ex x 21 54 48.0
CLL i SKKSac **SKKSac 21 56 41.4 -0.6**
CLL esSKSdf **sSKSdf 21 57 42.0 +0.4**
CLL eSKSP 22 00 06.0
CLL ePSKS 22 01 00.0
CLL ex x 22 01 53.0
CLL eSKKSdf **SKKSdf 22 02 30.0 -0.6**
CLL ePPS PPS 22 03 48.0
CLL esPSKS 22 04 12.0
CLL epPPS 22 05 20.0
CLL ex x 22 07 42.0
CLL eSS **SS 22 08 59.0 -5.7**
CLL eSSP SSP 22 09 53.0
CLL ex x 22 10 42.0
CLL esSS 22 12 46.0
CLL eSSS SSS 22 14 46.0
UPC Upice 147.38 343 ePKIKP **PKPdf 21 47 15.7 +0.7**
UPC e 21 47 19.0
UPC e 21 49 32.9
UPC Upice 147.38 343 ePKPDF **PKPdf 21 47 15.7 +0.7**
UPC ⇑ePKP **PKPbc 21 47 19.0 +0.5**
UPC epPKP **pPKPdf 21 49 32.9 -1.4**
PGOR Pogoanele 147.40 326 ⇓P **PKiKP 21 47 19.8 -0.4**
AMRR Amara 147.41 325 ⇑P **PKiKP 21 47 19.6 -0.6**
AMRR Amara 147.41 325 ⇑PKP2 **PKiKP 21 47 19.6 -0.6**
DPC Dobruska-Polom 147.43 343 ePKP2 **PKPbc 21 47 19.3 +0.6**
DPC Dobruska-Polom 147.43 343⇑ ePKP **PKPbc 21 47 19.3 +0.6**
DPC epPKP **pPKPdf 21 49 34.8 +0.3**
ICOR Ion Corvin 147.47 324 ⇑P **PKPbc 21 47 17.6 -1.3**
ICOR Ion Corvin 147.47 324 ⇑P sSKSdf 21 57 44.6 +3.2
DOPR Dopca 147.48 329 ⇓P **PKPdf 21 47 16.3 +1.0**
LANS Liptovska Anna 147.49 338 ePKIKP **PKPdf 21 47 16.3 +1.0**
LANS e 21 47 20.4
LANS Liptovska Anna 147.49 338 ePKP **PKPdf 21 47 16.3 +1.0**
LANS e 21 47 20.4
ISR Istrita 147.49 326 ⇑P **PKPdf 21 47 16.4 +1.0**
ISR Istrita 147.49 326 ⇑P sSKSdf 21 57 44.6 +2.9
ISR Istrita 147.49 326 ⇑PKIKP **PKPdf 21 47 16.4 +1.0**
TGMR Targu Mures 147.49 330 ⇑P **PKPab 21 47 22.4 -0.7**
MDUB Mudurnu 147.50 316 **PKPdf 21 47 13.9 -1.8**
CEI Carei 147.53 334 ⇑P **PKiKP 21 47 19.9 -0.5**
CEI Carei 147.53 334 ⇑PKP2 **PKiKP 21 47 19.9 -0.5**
PSN Preselentsi 147.53 323 i P **PKiKP 21 47 19.9 -0.6**

GHAJ	**Ghor Haditha**	**147.54**	**297**			**PKPdf**	**21 47 15.3**	**-0.5**
GHAJ				PKPbc		**PKiKP**	**21 47 20.3**	**-0.6**
MLR	**Muntele Rosu**	**147.54**	**327**	⇑P		**PKPdf**	**21 47 16.8**	**+1.2**
MLR	**Muntele Rosu**	**147.54**	**327**	⇑P		sSKSdf	21 57 44.9	+3.0
MLR	**Muntele Rosu**	**147.54**	**327**	PKPbc		**PKPbc**	**21 47 19.4**	**+0.2**
	comp=Z,228nm,0.5s,baz=322,slow=5.5,SNR=228							
MLR				SKP		SKPdf	21 49 41.8	-11
	comp=Z,123nm,1.0s,baz=12,slow=3.6,SNR=3.6							
MLR				SKKPbc			21 57 44.9	
	comp=Z,60nm,1.0s,baz=128,slow=4.0,SNR=8.5							
MLR	**Muntele Rosu**	**147.54**	**327**			**PKPdf**	**21 47 14.6**	**-1.0**
KRLC	**Kraliky**	**147.55**	**342**	*e*PKIKP		**PKPdf**	**21 47 15.9**	**+0.5**
KRLC				*e*			21 47 19.1	
KRLC				*e*			21 49 35.6	
KRLC	**Kraliky**	**147.55**	**342**	*e*PKPDF		**PKPdf**	**21 47 15.9**	**+0.5**
KRLC				⇑*e*PKP		**PKPbc**	**21 47 19.1**	**+0.1**
KRLC				*ep*PKP		**pPKPbc**	**21 49 35.6**	**-0.1**
RSBS	**Rosebush, Pemb**	**147.56**	**7**	*e*P		**PKPdf**	**21 47 15.4**	**+0.2**
BRG	**Berggiesshubel**	**147.57**	**346**	*i* PKP		**PKPdf**	**21 47 15.7**	**+0.4**
BRG				Amp			21 47 17.8	
	comp=Z,228nm,1.3s							
BRG				*i* x	x		21 47 19.8	
BRG				Amp			21 47 21.7	
	comp=Z,599nm,1.1s							
BRG				*i* x	x		21 47 25.3	
BRG				Amp			21 47 26.6	
	comp=Z,2μm,1.2s							
BRG	**Berggiesshubel**	**147.57**	**346**	Amp			21 50 03.9	
	comp=Z,274nm,1.2s							
BRG	**Berggiesshubel**	**147.57**	**346**	*ex*	x		21 53 04.0	
BRG				*ex*	x		21 53 41.5	
BRG				Amp			21 53 43.2	
	comp=Z,30nm,1.1s							
BRG				*i* x	x		21 55 40.6	
BRG				Amp			21 55 41.2	
	comp=Z,28nm,0.6s							
BRG				*i* x	x		21 55 44.5	
BRG				Amp			21 55 45.1	
	comp=Z,22nm,0.7s							
BRG	**Berggiesshubel**	**147.57**	**346**	SKKS			21 56 48.0	
BRG	**Berggiesshubel**	**147.57**	**346**	*i* PKIKP		**PKPdf**	**21 47 15.6**	**+0.4**
BRG				*i*			21 47 19.8	
BRG							21 49 31.6	
BRG							21 50 48.9	
BRG				SS		SS	22 09 10.0	+3.0
BRG				pmax	pmax			
	comp=Z,228nm,1.3s							
BRG				pmax	pmax			
	comp=Z,599nm,1.1s							
BRG				pmax	pmax			
	comp=Z,2μm,1.2s							
BRG				pmax	pmax			
	comp=Z,430nm,1.5s							
BRG				pmax	pmax			
	comp=Z,274nm,1.2s							
BRG				pmax	pmax			
	comp=Z,128nm,1.3s							
BRG				pmax	pmax			
	comp=Z,30nm,1.1s							
BRG				pmax	pmax			
	comp=Z,28nm,0.6s							
BRG				pmax	pmax			
	comp=Z,22nm,0.7s							
BRG	**Berggiesshubel**	**147.57**	**346**	pPKP		pPKPdf	21 49 31.6	-3.0
BRG	**Berggiesshubel**	**147.57**	**346**	Amp			21 49 33.8	
	comp=Z,430nm,1.5s							
BRG	**Berggiesshubel**	**147.57**	**346**	SKP		**SKPdf**	**21 50 00.2**	**+7.3**
MORC	**Moravsky Berou**	**147.58**	**341**	⇑P		**PKPbc**	**21 47 17.7**	**-1.3**
MORC	**Moravsky Berou**	**147.58**	**341**	⇑P		sSKSdf	21 57 39.5	-2.7
MORC	**Moravsky Berou**	**147.58**	**341**			**PKPdf**	**21 47 14.8**	**-0.6**
MORC	**Moravsky Berou**	**147.58**	**341**	*e*PKP		**PKPdf**	**21 47 15.6**	**+0.2**
MORC				*e*			21 47 19.8	
MORC				*ep*PKP		**pPKPab**	**21 49 37.8**	**+1.5**
MORC				*e*			22 03 52.0	
MORC	**Moravsky Berou**	**147.58**	**341**	⇑PKIKP		**PKPbc**	**21 47 17.7**	**-1.3**
KECS	**Kecovo**	**147.67**	**336**	*e*PKP2		**PKiKP**	**21 47 20.4**	**-0.3**
KECS	**Kecovo**	**147.67**	**336**	*e*PKP		**PKiKP**	**21 47 20.4**	**-0.3**
KECS				*e*			21 49 39.5	
MCH1	**Michaelchurch**	**147.71**	**5**	*e*P		**PKPdf**	**21 47 15.0**	**-0.4**
MESR	**Meseseni**	**147.74**	**332**	⇑P		**PKPdf**	**21 47 16.3**	**+0.6**
PCED	**Cedros**	**147.74**	**48**	*e*PKP		**PKPbc**	**21 47 20.1**	**+0.4**
PVCC	**Panska Ves**	**147.74**	**345**	*e*PKIKP		**PKPdf**	**21 47 16.3**	**+0.7**
PVCC				*e*			21 47 20.1	
PVCC				*e*			21 49 35.8	
PVCC	**Panska Ves**	**147.74**	**345**	*e*PKPDF		**PKPdf**	**21 47 16.3**	**+0.7**
PVCC				⇑*e*PKP		**PKiKP**	**21 47 20.1**	**-0.7**
PVCC				*e*PKPAB		**PKPab**	**21 47 26.1**	**+2.2**
PVCC				*ep*PKP		**pPKPbc**	**21 49 35.8**	**-0.4**
CALA	**Caldeira**	**147.76**	**48**	*e*PKP		**PKPbc**	**21 47 19.1**	**-0.8**
CBBR	**Cluj-Babes-Bol**	**147.76**	**331**	⇑P		**PKPbc**	**21 47 19.9**	**+0.3**
RASA	**Rasa**	**147.77**	**325**	⇑P		**PKPdf**	**21 47 17.5**	**+1.7**
LEHL	**Lehliu**	**147.78**	**325**	⇑P		**PKPbc**	**21 47 18.3**	**-1.3**
CJR	**Cluj-Napoca**	**147.78**	**331**	⇑P		**PKPdf**	**21 47 16.8**	**+0.9**
CJR	**Cluj-Napoca**	**147.78**	**331**	⇑PKIKP		**PKPdf**	**21 47 16.8**	**+0.9**
SECR		**147.79**	**327**	⇑P		**PKPbc**	**21 47 19.0**	**-0.7**
SECR		**147.79**	**327**	⇑P		sSKSdf	21 57 43.4	+1.3
MDB	**Medias**	**147.84**	**330**	⇑P		**PKiKP**	**21 47 20.9**	**-0.2**
MDB	**Medias**	**147.84**	**330**	⇑PKP2		**PKiKP**	**21 47 20.9**	**-0.2**
MAUC	**Maruska**	**147.85**	**340**	*e*PKPDF		**PKPdf**	**21 47 16.8**	**+0.9**
MAUC				⇑*e*PKP		**PKiKP**	**21 47 20.5**	**-0.6**
MAUC				*ep*PKP		**pPKPdf**	**21 49 35.8**	**+0.6**
MONM	**Monmouth**	**147.88**	**5**	*e*P		**PKPdf**	**21 47 16.0**	**+0.3**
PLAR	**PLOIESTI**	**147.90**	**327**	⇑P		**PKPbc**	**21 47 19.8**	**-0.2**
SULR		**147.94**	**326**	⇑P		**PKPdf**	**21 47 17.7**	**+1.6**
SULR		**147.94**	**326**	⇑P		sSKSdf	21 57 43.6	+1.5
PCAN	**Candelaria**	**147.96**	**48**	*e*PKP		**PKPbc**	**21 47 19.7**	**-0.7**
PICO	**Pico**	**147.99**	**48**	*e*PKP		**PKPbc**	**21 47 19.5**	**-1.0**
STRD	**Stroud**	**147.99**	**5**	*e*P		**PKPdf**	**21 47 16.9**	**+0.9**
LTVH	**Ltavrtes, Hu**	**148.00**	**334**	⇓P		**PKPdf**	**21 47 17.1**	**+1.1**
LTVH	**Ltavrtes, Hu**	**148.00**	**334**	PKP		**PKPdf**	**21 47 17.2**	**+1.1**
ROSA	**Rosais**	**148.02**	**48**	*e*PKP		**PKPbc**	**21 47 21.0**	**+0.5**
ROSA	**Rosais**	**148.02**	**48**			**PKPdf**	**21 47 15.7**	**-0.7**
VOIR		**148.03**	**328**	⇑P		sSKSdf	21 57 41.4	-1.1
PGRA	**Graciosa**	**148.05**	**47**	*e*PKP		**PKPbc**	**21 47 19.9**	**-0.6**
PPNO	**Prainha do Nor**	**148.11**	**48**	*e*PKP		**PKPbc**	**21 47 19.5**	**-1.3**
DRGR		**148.12**	**332**	⇑P		**PKPdf**	**21 47 17.1**	**+0.7**
DRGR		**148.12**	**332**	⇑PKHKP		**PKPdf**	**21 47 17.1**	**+0.7**
PMAN	**Manadas**	**148.16**	**48**	*e*PKP		**PKPbc**	**21 47 19.3**	**-1.5**
MTUR	**Matau**	**148.17**	**328**	⇓P		**PKPbc**	**21 47 20.3**	**-0.5**
MTUR	**Matau**	**148.17**	**328**	⇓PKHKP		**PKPbc**	**21 47 20.3**	**-0.5**
H10N3	**ASCENSION HYDR**	**148.18**	**148**	PKPbc		**PKPbc**	**21 47 19.5**	**-1.7**
	baz=198,slow=3.6,SNR=38							
H10N1	**ASCENSION HYDR**	**148.19**	**148**	PKPbc		**PKPbc**	**21 47 19.2**	**-2.1**
	baz=198,slow=3.6,SNR=67							
H10N2	**ASCENSION HYDR**	**148.20**	**148**	PKPbc		**PKPdf**	**21 47 19.2**	**+2.1**
	baz=198,slow=3.6,SNR=42							
PID	**Ribeirinha**	**148.23**	**48**	*e*PKP		**PKPbc**	**21 47 19.5**	**-1.5**
PRU	**Pruhonice**	**148.24**	**344**	*e*PKHKP		**PKPdf**	**21 47 16.7**	**+0.3**
PRU				*e*			21 47 20.5	
PRU	**Pruhonice**	**148.24**	**344**	*e*PKPDF		**PKPdf**	**21 47 16.7**	**+0.3**
PRU				⇑*e*PKP		**PKPbc**	**21 47 20.5**	**-0.1**
PRU				*ep*PKP		**pPKPdf**	**21 49 35.5**	**-0.3**
GOPC	**GO Pecny, Ondr**	**148.25**	**344**	*e*PKHKP		**PKPdf**	**21 47 16.5**	**0.0**
GOPC				*e*			21 47 21.0	
GOPC	**GO Pecny, Ondr**	**148.25**	**344**	*e*PKPDF		**PKPdf**	**21 47 16.5**	**0.0**
GOPC				⇑*e*PKP		**PKPbc**	**21 47 21.0**	**+0.3**
GOPC				*ep*PKP		**pPKPab**	**21 49 38.9**	**-0.1**
VYHS	**Vyhne**	**148.26**	**338**	*e*PKHKP		**PKPdf**	**21 47 16.5**	**0.0**
VYHS				*e*			21 47 21.8	
VYHS	**Vyhne**	**148.26**	**338**	*e*PKP		**PKPdf**	**21 47 16.5**	**0.0**
VYHS				*e*			21 47 21.8	
VYHS				*e*			21 49 38.9	
VYHS				*e*			21 50 35.2	
PRD	**Provadia**	**148.28**	**323**	*i* P		**PKiKP**	**21 47 21.7**	**-0.4**
BORR	**Bors**	**148.28**	**334**	⇑P		**PKPdf**	**21 47 17.8**	**+1.3**
BUC1	**Bucharest**	**148.28**	**326**	⇑P		**PKiKP**	**21 47 22.1**	**0.0**
BUC1	**Bucharest**	**148.28**	**326**	⇑PKP2		**PKiKP**	**21 47 22.1**	**0.0**
SWN1	**Swindon**	**148.28**	**4**	*e*P		**PKPdf**	**21 47 16.9**	**+0.5**
ARR	**Arges**	**148.28**	**329**	⇑P		**PKPdf**	**21 47 18.1**	**+1.4**
VRAC	**Vranov**	**148.28**	**341**	⇑P		**PKPdf**	**21 47 17.0**	**+0.5**
VRAC	**Vranov**	**148.28**	**341**	⇑P		sSKSdf	21 57 45.0	+1.7
VRAC	**Vranov**	**148.28**	**341**	PKPbc		**PKPbc**	**21 47 20.5**	**-0.3**
	comp=Z,109nm,1.1s,baz=38,slow=1.5,SNR=24							
VRAC				SKP		SKPdf	21 49 43.1	-11
	comp=Z,61nm,1.1s,baz=119,slow=3.9,SNR=3.8							
VRAC				SKKPbc	SKKPbc		21 57 41.0	
	comp=Z,9.3nm,0.9s,baz=192,slow=7.6,SNR=3.5							
VRAC	**Vranov**	**148.28**	**341**	*e*PKP		**PKPdf**	**21 47 16.6**	**+0.1**
VRAC				*e*			21 47 21.5	
VRAC				*ep*PKP		**pPKPab**	**21 49 41.5**	**+2.5**
VRAC				*e*			22 03 46.6	
BORA	**Eskisehir**	**148.29**	**315**			**PKPdf**	**21 47 16.1**	**-0.8**
BORA				PKPbc		**PKPbc**	**21 47 21.5**	**+0.2**
JAVC	**Velka Javorina**	**148.34**	**340**	*e*PKP		**PKPdf**	**21 47 17.8**	**+1.1**
JAVC				*e*			21 47 22.9	
JAVC				*ep*PKP		**pPKPab**	**21 49 42.1**	**+2.8**
JAVC				*e*			22 03 50.3	
ROIA	**ROIAK**	**148.36**	**323**	*i* P		**PKiKP**	**21 47 22.4**	**+0.1**
PSZ	**Piszkesteto**	**148.36**	**336**			**PKPdf**	**21 47 16.4**	**-0.4**
PSZ				PKPbc		**PKiKP**	**21 47 21.8**	**-0.4**
PSZ	**Piszkesteto**	**148.36**	**336**	PKP2		**PKiKP**	**21 47 21.8**	**-0.4**
PSZ	**Piszkesteto**	**148.36**	**336**	PKP		**PKPdf**	**21 47 16.8**	**0.0**
EIL	**Elat**	**148.38**	**295**	PKP		**PKPdf**	**21 47 17.3**	**0.0**
	comp=Z,360nm,1.2s,baz=167,slow=1.2,SNR=20							
EIL				PKPbc		**PKiKP**	**21 47 22.7**	**-0.1**
	comp=Z,580nm,0.9s,baz=76,slow=1.9,SNR=100							
EIL				SKP		**SKPdf**	**21 49 46.5**	**-8.4**
	comp=Z,306nm,1.2s,baz=245,slow=7.4,SNR=4.5							
STFAR	**Stefanesti-Arg**	**148.48**	**328**	⇑P		**PKPbc**	**21 47 21.5**	**0.0**
NKC	**Novy Kostel**	**148.51**	**347**	*e*PKHKP		**PKPdf**	**21 47 17.1**	**+0.2**
NKC				*e*			21 47 21.6	
NKC	**Novy Kostel**	**148.51**	**347**	*e*PKPDF		**PKPdf**	**21 47 17.1**	**+0.2**
NKC				⇑*e*PKP		**PKPbc**	**21 47 21.6**	**+0.3**
NKC				*ep*PKP		**pPKPdf**	**21 49 35.5**	**-0.8**
HTL	**Hartland**	**148.54**	**8**	*e*P		**PKPdf**	**21 47 17.6**	**+0.8**
RAZG	**Razgrad**	**148.54**	**324**	⇓P		**PKPdf**	**21 47 18.7**	**+1.6**
KRUC	**Moravsky**	**148.56**	**341**	*e*PKP		**PKPdf**	**21 47 16.9**	**-0.1**
KRUC				*e*			21 47 22.2	
KRUC				*ep*PKP		**pPKPab**	**21 49 41.5**	**+1.4**
KRUC				*e*			22 03 46.0	
TREC	**Trest**	**148.62**	**343**	*e*PKHKP		**PKPdf**	**21 47 17.5**	**+0.4**
TREC				*e*			21 47 21.8	
TREC	**Trest**	**148.62**	**343**	*e*PKPDF		**PKPdf**	**21 47 17.5**	**+0.4**
TREC				⇑*e*PKP		**PKPbc**	**21 47 21.8**	**+0.2**
TREC				*ep*PKP		**pPKPab**	**21 49 42.2**	**+1.8**
LOT	**Lotru**	**148.64**	**329**	⇑P		**PKPdf**	**21 47 17.3**	**0.0**
DEV	**Deva**	**148.72**	**331**	⇑P		**PKPdf**	**21 47 18.1**	**+0.8**
DEV	**Deva**	**148.72**	**331**	⇑PKHKP		**PKPdf**	**21 47 18.1**	**+0.8**
PAGU	**Agualva, Azore**	**148.72**	**47**	*e*PKP		**PKPbc**	**21 47 22.4**	**+0.2**
SMOL	**Smolenice**	**148.72**	**340**	*e*PKHKP		**PKPdf**	**21 47 18.2**	**+1.0**
SMOL				*e*			21 47 23.1	
BSZH	**Besenyszg**	**148.73**	**335**	⇑P		**PKPdf**	**21 47 18.0**	**+0.7**
BSZH	**Besenyszg**	**148.73**	**335**	PKP		**PKPdf**	**21 47 18.2**	**+0.9**
PSCM	**Serra do Cume**	**148.80**	**47**	*e*PKP		**PKPdf**	**21 47 18.5**	**+0.8**
COPA	**Copaceanca**	**148.85**	**326**	⇓P		**PKPbc**	**21 47 22.4**	**+0.1**
MODS	**Modra-Piesok**	**148.89**	**340**	*e*PKHKP		**PKPdf**	**21 47 18.1**	**+0.6**
MODS				*e*			21 47 23.7	
MODS	**Modra-Piesok**	**148.89**	**340**	*e*PKP		**PKPdf**	**21 47 18.1**	**+0.6**
MODS				*e*			21 47 23.7	
MODS				*e*			21 49 42.0	
MODS				*e*			21 50 41.0	
BEBN	**Eben Emael**	**148.96**	**355**	*d*PKPdf		**PKPdf**	**21 47 17.8**	**+0.3**
BEBN				*d*PKP		**PKPbc**	**21 47 22.2**	**-0.2**
BEBN				*d*PKPab		**PKPab**	**21 47 28.2**	**-0.7**
BEBN				*dp*PKP		**pPKPab**	**21 49 41.9**	**+0.5**
SRO	**Srobarova**	**149.03**	**338**	*e*PKHKP		**PKPdf**	**21 47 18.0**	**+0.3**
SRO				*e*			21 47 23.6	
SRO	**Srobarova**	**149.03**	**338**	*e*PKP		**PKPdf**	**21 47 18.0**	**+0.3**
SRO				*e*			21 47 23.6	
HMNX	**Herstmonceux**	**149.03**	**2**	*e*P		**PKPdf**	**21 47 18.5**	**+0.9**
BUD	**Budapest**	**149.05**	**337**	PKP		**PKPdf**	**21 47 18.2**	**+0.5**
SZH	**Strazhica**	**149.05**	**324**	*i* P		**PKiKP**	**21 47 24.1**	**+0.4**
ZIMR		**149.10**	**325**	⇓P		**PKPbc**	**21 47 22.8**	**-0.1**
ZIMR		**149.10**	**325**	⇓PKHKP		**PKPbc**	**21 47 22.8**	**-0.1**
ZST	**Bratislava**	**149.11**	**340**	*e*PKHKP		**PKPdf**	**21 47 18.9**	**+1.1**
ZST				*e*			21 47 24.2	
ZST	**Bratislava**	**149.11**	**340**	*e*PKP		**PKPdf**	**21 47 18.9**	**+1.1**
ZST				*e*			21 47 24.2	
ZST				*e*			21 49 40.8	
MEM	**Membach**	**149.12**	**355**	*d*PKPdf		**PKPdf**	**21 47 17.9**	**+0.1**
MEM				*d*PKP		**PKiKP**	**21 47 23.2**	**-0.4**
MEM				*dp*PKP		**pPKPab**	**21 49 42.5**	**+0.4**
DYA	**Yadsworthy**	**149.15**	**7**	*e*P		**PKPdf**	**21 47 18.1**	**+0.2**
BSTI	**Sart Tilman**	**149.18**	**355**	*d*PKPdf		**PKPdf**	**21 47 18.2**	**+0.3**
BSTI				*d*PKP		**PKPbc**	**21 47 23.1**	**+0.2**
BSTI				*dp*PKP		**pPKPab**	**21 49 42.5**	**+0.1**
JMB	**Yambol**	**149.21**	**323**	*i* P		**PKPbc**	**21 47 21.2**	**-2.0**
ISP	**Isparta**	**149.25**	**312**			**PKPdf**	**21 47 17.5**	**-1.1**
ISP				PKPbc		**PKPbc**	**21 47 23.4**	**-0.2**
ISP	**Isparta**	**149.25**	**312**	PKIKP		**PKPdf**	**21 47 17.5**	**-1.1**
ISP				*e*			21 47 23.4	
GRA1	**Grafenberg Arr**	**149.27**	**348**			**PKPdf**	**21 47 18.1**	**0.0**
GRA1				PKPbc		**PKiKP**	**21 47 24.1**	**+0.1**
GRF	**Grafenberg Arr**	**149.27**	**348**	PKHKP		**PKPdf**	**21 47 18.1**	**0.0**
GRFO	**Grafenberg**	**149.28**	**348**			**PKPdf**	**21 47 17.9**	**-0.2**
GRFO				PKPbc		**PKiKP**	**21 47 23.9**	**-0.1**
GRFO	**Grafenberg**	**149.28**	**348**	PKP2		**PKiKP**	**21 47 23.9**	**-0.1**
KHC	**Kasperske Hory**	**149.28**	**345**			**PKPdf**	**21 47 17.9**	**-0.3**
KHC				PKPbc		**PKiKP**	**21 47 23.9**	**-0.2**
KHC	**Kasperske Hory**	**149.28**	**345**	*e*PKHKP		**PKPdf**	**21 47 18.2**	**0.0**
KHC				*e*			21 47 30.2	
KHC	**Kasperske Hory**	**149.28**	**345**	*e*PKPDF		**PKPdf**	**21 47 18.2**	**0.0**
KHC				⇑*e*PKP		**PKPbc**	**21 47 23.5**	**+0.3**
KHC				*e*PKPAB		**PKPab**	**21 47 30.2**	**-0.2**
KHC				*ep*PKP		**pPKPdf**	**21 49 35.3**	**-2.3**
KHC				*ex*	x		21 50 44.7	
KHC				*ex*	x		21 53 05.3	
KHC				*ex*	x		21 54 05.0	
BCLA	**Clavier**	**149.37**	**356**	*d*PKPdf		**PKPdf**	**21 47 18.0**	**-0.2**
BCLA				*d*PKPbc		**PKPbc**	**21 47 22.8**	**-0.6**
BCLA				*dp*PKP		**pPKPab**	**21 49 43.4**	**+0.3**
VLAD	**Vladila**	**149.37**	**327**	⇑P		**PKPdf**	**21 47 20.1**	**+1.7**
BHOU	**Houvegnez**	**149.37**	**355**	*d*PKPdf		**PKPdf**	**21 47 18.2**	**0.0**
BHOU				*d*PKP		**PKPbc**	**21 47 23.5**	**+0.1**
BHOU				*dp*PKP		**pPKPab**	**21 49 50.1**	**+6.9**
CKRC	**Cesky Krumlov**	**149.37**	**344**	*e*PKPDF		**PKPdf**	**21 47 18.4**	**+0.1**
CKRC				⇑*e*PKP		**PKiKP**	**21 47 24.0**	**-0.2**
CKRC				*e*PKPAB		**PKPab**	**21 47 30.4**	**-0.4**
CKRC				*ep*PKP		**pPKPab**	**21 49 43.9**	**+0.6**
PVL	**Pavlikeni**	**149.41**	**325**	*i* P		**PKiKP**	**21 47 24.8**	**+0.4**
BGES	**Gesves**	**149.42**	**356**	*d*PKPdf		**PKPdf**	**21 47 18.1**	**-0.1**
BGES				*d*PKPbc		**PKPbc**	**21 47 23.1**	**-0.4**
BGES				*d*PKPab		**PKPab**	**21 47 29.4**	**-1.4**
BGES				*dp*PKP		**pPKPab**	**21 49 45.1**	**+1.8**
CSKK	**Cskako**	**149.43**	**338**	PKP		**PKPdf**	**21 47 18.1**	**-0.3**
SRE	**Strehaia**	**149.49**	**329**	⇑P		**PKPbc**	**21 47 23.3**	**-0.6**
SRE	**Strehaia**	**149.49**	**329**	⇑PKHKP		**PKPbc**	**21 47 23.3**	**-0.6**
BZS	**Buzias**	**149.51**	**332**	⇑P		**PKPdf**	**21 47 18.6**	**+0.1**
BZS	**Buzias**	**149.51**	**332**	⇑PKHKP		**PKPdf**	**21 47 18.6**	**+0.1**
GEC2	**GERESS Array S**	**149.51**	**344**			**PKPdf**	**21 47 18.1**	**-0.5**
GEC2				PKPbc		**PKPbc**	**21 47 24.1**	**+0.2**
GERES	**GERESS Array B**	**149.51**	**344**	PKP		**PKPdf**	**21 47 17.6**	**-1.0**
	comp=Z,28nm,1.0s,baz=54,slow=9.0,SNR=136							
GERES				PKPbc		**PKiKP**	**21 47 24.5**	**-0.1**
	comp=Z,254nm,0.7s,baz=34,slow=2.6,SNR=160							
GERES				SKP		**SKPdf**	**21 49 55.7**	**-0.3**
	comp=Z,28nm,0.9s,baz=301,slow=0.8,SNR=3.6							
GERES	**GERESS Array B**	**149.51**	**344**			**PKPdf**	**21 47 17.4**	**-1.2**
GERES				PKPbc		**PKPbc**	**21 47 23.7**	**-0.2**
BMRD	**Maredsous**	**149.52**	**356**	*d*PKPdf		**PKPdf**	**21 47 18.6**	**+0.2**
BMRD				*d*PKP		**PKPbc**	**21 47 23.9**	**+0.2**
TIM	**Timisoara**	**149.59**	**333**	⇑P		**PKiKP**	**21 47 24.9**	**+0.2**
TIM	**Timisoara**	**149.59**	**333**	⇑PKHKP		**PKiKP**	**21 47 24.9**	**+0.2**
RCHB	**Rochefort**	**149.63**	**356**	*d*PKPdf		**PKPdf**	**21 47 18.6**	**0.0**
RCHB				*dp*PKP		**pPKPab**	**21 49 50.2**	**+6.0**
HERR	**Herculane**	**149.70**	**330**	⇑P		**PKPdf**	**21 47 19.3**	**+0.4**
EGYH	**Egyhazaskeszo**	**149.71**	**339**	PKP		**PKPdf**	**21 47 19.5**	**+0.7**
SOP	**Sopron**	**149.73**	**340**	PKP		**PKPdf**	**21 47 18.8**	**0.0**
CONA	**Conrad Observa**	**149.74**	**341**	*e*P		**PKPdf**	**21 47 18.9**	**-0.1**
	comp=Z,204nm,1.5s,SNR=88							
DOU	**Dourbes**	**149.74**	**356**	*d*PKPdf		**PKPdf**	**21 47 18.9**	**+0.1**
DOU				*d*PKPbc		**PKPbc**	**21 47 23.9**	**-0.4**
DOU				*dp*PKP		**pPKPbc**	**21 49 41.1**	**-1.0**
RMGR	**Halanga-Turnu**	**149.74**	**330**	⇓P		**PKPbc**	**21 47 24.5**	**+0.1**
RONA	**Rosalia, Austr**	**149.80**	**340**	*i* P		**PKPdf**	**21 47 19.0**	**0.0**
	comp=Z,2μm,0.0s,SNR=79							
MPLH	**Magyarpolny**	**149.85**	**338**	PKP		**PKPdf**	**21 47 18.9**	**-0.2**
BAIL	**Bailesti**	**149.89**	**328**	⇓P		**PKiKP**	**21 47 25.9**	**+0.5**
PUNG	**Punghina**	**149.91**	**329**	⇓P		**PKPdf**	**21 47 20.7**	**+1.5**
TIH	**Tihany**	**149.96**	**338**	PKP		**PKPdf**	**21 47 19.5**	**+0.3**
WLF	**Walferdange**	**150.04**	**354**			**PKPdf**	**21 47 19.3**	**0.0**
WLF				PKPbc		**PKPbc**	**21 47 25.8**	**+0.8**
WLF	**Walferdange**	**150.04**	**354**	PKHKP		**PKPbc**	**21 47 25.8**	**+0.8**
WLF	**Walferdange**	**150.04**	**354**	*d*PKPdf		**PKPdf**	**21 47 19.7**	**+0.4**
WLF				*dp*PKP		**pPKPab**	**21 49 44.9**	**-1.1**
DIM	**Dimitrovgrad**	**150.07**	**323**	*i* P		**PKPbc**	**21 47 25.4**	**+0.1**
MDVR	**Moldovita**	**150.11**	**331**	⇑P		**PKPdf**	**21 47 19.7**	**+0.1**
MPEP	**Malo Peshtene**	**150.16**	**327**	*i* P		**PKiKP**	**21 47 26.2**	**+0.2**
ELL	**Elmali**	**150.17**	**310**			**PKPdf**	**21 47 19.2**	**-0.9**
ELL				PKPbc		**PKPbc**	**21 47 25.9**	**0.0**
ELL	**Elmali**	**150.17**	**310**	PKIKP		**PKPdf**	**21 47 19.2**	**-0.9**
ELL							21 47 25.9	
PSET	**Sete Cidades**	**150.19**	**47**	*e*PKP		**PKPdf**	**21 47 18.7**	**-1.2**
MORH	**Mrgy, Hungar**	**150.25**	**336**	⇑P		sSKSdf	21 57 34.7	-11
MORH	**Mrgy, Hungar**	**150.25**	**336**	PKP		**PKPdf**	**21 47 19.0**	**-0.7**
MANT	**Manisa**	**150.27**	**314**			**PKPdf**	**21 47 19.8**	**-0.5**
MANT				PKPbc		**PKiKP**	**21 47 26.6**	**-0.1**
MOA	**Molln**	**150.27**	**343**	*e*P		**PKPdf**	**21 47 19.3**	**-0.5**
	comp=Z,0.3nm,0.0s,SNR=28							
JAWL	**J.Aulia**	**150.33**	**266**	*i* P		**PKPdf**	**21 47 21.3**	**+0.6**
JAWL				*i*			21 47 33.2	
	baz=280,slow=14							
CMLA	**Cha da Macela**	**150.35**	**47**	P		**PKPdf**	**21 47 22.4**	**+2.2**
KDZ	**Kurdzhali**	**150.40**	**322**	*i* P		**PKPbc**	**21 47 25.9**	**-0.2**
ARSA	**Arzberg**	**150.44**	**341**	*e*P		**PKPdf**	**21 47 19.5**	**-0.5**
	comp=Z,362nm,3.0s,SNR=27							
PGRON	**Lagoa das Cont**	**150.45**	**47**	*e*PKP		**PKPdf**	**21 47 20.1**	**-0.2**
PGB	**Panagyurishte**	**150.50**	**325**	*i* P		**PKiKP**	**21 47 27.2**	**+0.4**
PLD	**Plovdiv**	**150.50**	**324**	*i* P		**PKPbc**	**21 47 26.4**	**+0.1**
ALN	**Alexandroupoli**	**150.50**	**321**

PGAV				*i* LQ	LQ	21 50 16.3		
PGAV	**Gavieira, Arco**	**156.38**	**19**	*e*PP	**PP**	**21 51 42.9**	**+2.1**	
PGAV	**Gavieira, Arco**	**156.38**	**19**	*e*SS	SS	22 10 47.2	+4.4	
PCAB	**Cabril**	**156.69**	**19**	*e*PKPdf	**PKPdf**	**21 47 29.0**	**0.0**	
PCAB				*i* LQ	LQ	21 50 18.1		
TIP	**Timpagrande**	**156.78**	**329**	⇑P	**PKPdf**	**21 47 29.2**	**0.0**	
PBRG	**Braganca**	**156.97**	**16**	*e*PKPdf	**PKPdf**	**21 47 29.2**	**-0.1**	
PBRG	**Braganca**	**156.97**	**16**	*e*PKPab	**PKPab**	**21 48 03.5**	**+0.1**	
PBRG				*i* LQ	LQ	21 50 18.8		
PBRG	**Braganca**	**156.97**	**16**	*e*PP	**PP**	**21 51 46.6**	**+2.8**	
POLO	**Lamas de Olo**	**157.07**	**19**	*e*PKPdf	**PKPdf**	**21 47 29.9**	**+0.4**	
POLO	**Lamas de Olo**	**157.07**	**19**	*e*PKPab	**PKPab**	**21 48 05.3**	**+1.4**	
POLO				*i* LQ	LQ	21 50 20.7		
POLO	**Lamas de Olo**	**157.07**	**19**	*e*PP	**PP**	**21 51 48.0**	**+3.5**	
PVRL	**Vila Real**	**157.18**	**19**	*e*PKPdf	**PKPdf**	**21 47 30.0**	**+0.4**	
PVRL	**Vila Real**	**157.18**	**19**	*e*PKPab	**PKPab**	**21 48 05.3**	**+1.0**	
PVRL				*i* LQ	LQ	21 50 21.7		
PVRL	**Vila Real**	**157.18**	**19**	*e*PP	**PP**	**21 51 46.5**	**+1.5**	
MVO	**Moncorvo**	**157.48**	**17**	*e*PKPdf	**PKPdf**	**21 47 30.4**	**+0.4**	
MVO	**Moncorvo**	**157.48**	**17**	*e*PKPab	**PKPab**	**21 48 06.0**	**+0.3**	
MVO				*i* LQ	LQ	21 50 19.0		
MVO	**Moncorvo**	**157.48**	**17**	*e*PP	**PP**	**21 51 48.7**	**+2.0**	
MVO	**Moncorvo**	**157.48**	**17**	*e*SS	SS	22 10 59.7	+5.5	
PVIS	**Viseu**	**157.64**	**20**	*e*PKPdf	**PKPdf**	**21 47 30.2**	**0.0**	
PVIS	**Viseu**	**157.64**	**20**	*e*PKPab	**PKPab**	**21 48 06.4**	**0.0**	
PVIS				*i* LQ	LQ	21 50 20.7		
PVIS	**Viseu**	**157.64**	**20**	*e*PP	**PP**	**21 51 49.7**	**+2.2**	
COI	**Coimbra**	**157.93**	**21**	*e*PKPdf	**PKPdf**	**21 47 31.3**	**+0.8**	
COI	**Coimbra**	**157.93**	**21**	*e*PKPab	**PKPab**	**21 48 07.4**	**-0.1**	
COI				*i* LQ	LQ	21 50 17.8		
COI	**Coimbra**	**157.93**	**21**	*e*PP	**PP**	**21 51 52.0**	**+3.0**	
COI	**Coimbra**	**157.93**	**21**		**PKPdf**	**21 47 30.0**	**-0.5**	
COI				PKPab	**PKPab**	**21 48 06.8**	**-0.8**	
COI	**Coimbra**	**157.93**	**21**	PKP2	**PKPab**	**21 48 06.8**	**-0.8**	
COI						22 47 30.0		
MTE	**Manteigas**	**158.03**	**19**	*e*PKPdf	**PKPdf**	**21 47 31.0**	**+0.3**	
MTE	**Manteigas**	**158.03**	**19**	*e*PKPab	**PKPab**	**21 48 08.8**	**+0.7**	
MTE				*i* LQ	LQ	21 50 20.9		
MTE	**Manteigas**	**158.03**	**19**	*e*PP	**PP**	**21 51 52.6**	**+2.9**	
MTE	**Manteigas**	**158.03**	**19**	*e*SS	SS	22 11 04.8	+4.7	
MTE	**Manteigas**	**158.03**	**19**		**PKPdf**	**21 47 30.0**	**-0.7**	
PCAS	**Casmilo, Conde**	**158.03**	**21**	*e*PKPdf	**PKPdf**	**21 47 30.6**	**0.0**	
PCAS	**Casmilo, Conde**	**158.03**	**21**	*e*PKPab	**PKPab**	**21 48 08.3**	**+0.2**	
PCAS				*i* LQ	LQ	21 50 19.3		
PCAS	**Casmilo, Conde**	**158.03**	**21**	*e*PP	**PP**	**21 51 52.8**	**+3.1**	
PSBE	**So Bento**	**158.41**	**23**	*e*PKPdf	**PKPdf**	**21 47 31.6**	**+0.5**	
PSBE	**So Bento**	**158.41**	**23**	*e*PKPab	**PKPab**	**21 48 09.8**	**+0.1**	
PSBE				*i* LQ	LQ	21 50 23.5		
PSBE	**So Bento**	**158.41**	**23**	*e*PP	**PP**	**21 51 53.1**	**+1.4**	
PCBR	**Castelo Branco**	**158.56**	**20**	*e*PKPdf	**PKPdf**	**21 47 31.5**	**+0.3**	
PCBR	**Castelo Branco**	**158.56**	**20**	*e*PKPab	**PKPab**	**21 48 10.6**	**+0.3**	
PCBR				*i* LQ	LQ	21 50 27.1		
PCBR	**Castelo Branco**	**158.56**	**20**	*e*PP	**PP**	**21 51 54.8**	**+2.4**	
PMAFR	**Mafra**	**158.72**	**24**	*e*PKPdf	**PKPdf**	**21 47 31.8**	**+0.3**	
PMAFR	**Mafra**	**158.72**	**24**	*e*PKPab	**PKPab**	**21 48 11.1**	**0.0**	
PMAFR				*i* LQ	LQ	21 50 27.3		
PMAFR	**Mafra**	**158.72**	**24**	*e*PP	**PP**	**21 51 55.2**	**+1.8**	
PMOZ	**Porto Moniz, M**	**158.73**	**49**	*e*PKPdf	**PKPdf**	**21 47 32.7**	**+0.9**	
PMOZ	**Porto Moniz, M**	**158.73**	**49**	*e*PKPab	**PKPab**	**21 48 12.1**	**+0.6**	
PMOZ				*i* LQ	LQ	21 50 25.1		
PMST	**Lisbon--Monsan**	**158.94**	**24**	*e*PKPdf	**PKPdf**	**21 47 32.2**	**+0.5**	
PMST	**Lisbon--Monsan**	**158.94**	**24**	*e*PKPab	**PKPab**	**21 48 12.2**	**+0.2**	
PMST				*i* LQ	LQ	21 50 26.4		
PMST	**Lisbon--Monsan**	**158.94**	**24**	*e*PP	**PP**	**21 51 56.3**	**+1.7**	
PMRV	**Marv??o**	**158.97**	**20**	*e*PKPdf	**PKPdf**	**21 47 31.9**	**+0.1**	
PMRV	**Marv??o**	**158.97**	**20**	*e*PKPab	**PKPab**	**21 48 12.2**	**+0.1**	
PMRV				*i* LQ	LQ	21 50 25.6		
PMRV	**Marv??o**	**158.97**	**20**	*e*PP	**PP**	**21 51 58.5**	**+3.9**	
PMRV	**Marv??o**	**158.97**	**20**	*e*SS	SS	22 11 14.7	+4.9	
LIS	**Lisbon**	**158.97**	**24**	*e*PKPdf	**PKPdf**	**21 47 32.2**	**+0.5**	
LIS	**Lisbon**	**158.97**	**24**	*e*PKPdf	**PKPdf**	**21 47 32.3**	**+0.6**	
LIS	**Lisbon**	**158.97**	**24**	*e*PKPab	**PKPab**	**21 48 12.4**	**+0.3**	
LIS				*i* LQ	LQ	21 50 22.0		
LIS	**Lisbon**	**158.97**	**24**	*e*PP	**PP**	**21 51 57.7**	**+3.0**	
PMAR	**Madeira**	**158.98**	**49**	*e*PKPdf	**PKPdf**	**21 47 33.2**	**+1.0**	
PMAR	**Madeira**	**158.98**	**49**	*e*PKPab	**PKPab**	**21 48 13.4**	**+0.7**	
PMAR				*i* LQ	LQ	21 50 28.0		
PMAR	**Madeira**	**158.98**	**49**	*e*PP	**PP**	**21 51 53.6**	**-2.3**	
PMTG	**Montargil**	**159.01**	**22**	*e*PKPdf	**PKPdf**	**21 47 31.8**	**0.0**	
PMTG	**Montargil**	**159.01**	**22**	*e*PKPab	**PKPab**	**21 48 12.2**	**-0.1**	
PMTG				*i* LQ	LQ	21 50 23.7		
PMTG	**Montargil**	**159.01**	**22**	*e*PP	**PP**	**21 51 57.4**	**+2.5**	
FUL	**Funchal**	**159.04**	**49**	*e*PKPdf	**PKPdf**	**21 47 31.7**	**-0.3**	
FUL	**Funchal**	**159.04**	**49**	*e*PKPab	**PKPab**	**21 48 13.4**	**+0.7**	
FUL				*i* LQ	LQ	21 50 28.5		
FUL	**Funchal**	**159.04**	**49**	*e*PP	**PP**	**21 51 58.6**	**+2.6**	
PACT	**Alcochete**	**159.05**	**24**	*e*PKPdf	**PKPdf**	**21 47 32.3**	**+0.5**	
PACT	**Alcochete**	**159.05**	**24**	*e*PKPab	**PKPab**	**21 48 12.4**	**-0.1**	
PACT				*i* LQ	LQ	21 50 22.0		
PACT	**Alcochete**	**159.05**	**24**	*e*PP	**PP**	**21 51 57.8**	**+2.7**	
UCM	**Universidad Co**	**159.17**	**11**	PKP	**PKPdf**	**21 47 37.9**	**+5.9**	
PMPST	**Porto Santo, M**	**159.19**	**47**	*e*PKPdf	**PKPdf**	**21 47 33.2**	**+1.0**	
PMPST	**Porto Santo, M**	**159.19**	**47**	*e*PKPab	**PKPab**	**21 48 13.6**	**+0.2**	
PMPST				*i* LQ	LQ	21 50 25.7		
PMPST	**Porto Santo, M**	**159.19**	**47**	*e*PP	PP	21 52 04.6	+7.8	
PMPS	**Porto Santo**	**159.20**	**47**	*e*PKPdf	**PKPdf**	**21 47 33.2**	**+1.0**	
PMPS	**Porto Santo**	**159.20**	**47**	*e*PKPab	**PKPab**	**21 48 13.7**	**+0.3**	
PMPS				*i* LQ	LQ	21 50 27.4		
PMPS	**Porto Santo**	**159.20**	**47**	*e*PP	**PP**	**21 52 03.2**	**+6.4**	
VAE	**Valguarnera**	**159.24**	**330**	PKP	**PKPdf**	**21 47 33.6**	**+1.5**	
	comp=Z,27nm,1.2s,baz=155,slow=5.8,SNR=4.4							
VAE				PKPab	**PKPab**	**21 48 14.1**	**+0.6**	
	comp=Z,18nm,0.9s,baz=67,slow=23,SNR=3.6							
PESTR	**Estremoz**	**159.41**	**21**	*e*PKPdf	**PKPdf**	**21 47 32.4**	**+0.1**	
PESTR	**Estremoz**	**159.41**	**21**	*e*PKPab	**PKPab**	**21 48 14.0**	**-0.1**	
PESTR				*i* LQ	LQ	21 50 25.1		
PESTR	**Estremoz**	**159.41**	**21**	*e*PP	**PP**	**21 51 59.8**	**+2.8**	
PESTR	**Estremoz**	**159.41**	**21**		**PKPdf**	**21 47 31.4**	**-0.9**	
PESTR				PKPab	**PKPab**	**21 48 13.7**	**-0.4**	
PESTR	**Estremoz**	**159.41**	**21**	P	**PKPdf**	**21 47 33.2**	**+0.9**	
PESTR	**Estremoz**	**159.41**	**21**	P	**PKPab**	**21 48 14.4**	**+0.4**	
ESBB	**Sonseca Array**	**159.65**	**13**		**PKPdf**	**21 47 31.6**	**-0.9**	
ESBB				PKPab	**PKPab**	**21 48 14.9**	**-0.2**	
ESDC	**Sonseca Array**	**159.65**	**13**	PKP	**PKPdf**	**21 47 32.8**	**+0.3**	
	comp=Z,21nm,1.0s,baz=345,slow=2.7,SNR=84							
ESDC				PKPab	**PKPab**	**21 48 15.2**	**+0.1**	
	comp=Z,159nm,1.1s,baz=341,slow=3.9,SNR=35							
ESDC				sPKPbc	**pPKPab**	**21 50 33.3**	**+7.4**	
	comp=Z,29nm,1.2s,baz=334,slow=3.1,SNR=4.4							
ESDC				PP	**PP**	**21 51 57.2**	**-0.9**	
	comp=Z,35nm,1.2s,baz=360,slow=6.1,SNR=4.6							
ESDC				SKKPbc		21 56 48.7		
	comp=Z,7.5nm,0.8s,baz=135,slow=0.4,SNR=6.9							
ESDC	**Sonseca Array**	**159.65**	**13**		**PKPdf**	**21 47 31.7**	**-0.8**	
ESDC				PKPab	**PKPab**	**21 48 15.2**	**+0.1**	
PAB	**San Pablo**	**159.69**	**14**		**PKPdf**	**21 47 32.1**	**-0.5**	
PAB	**San Pablo**	**159.69**	**14**	⇑PKIKP	**PKPdf**	**21 47 32.4**	**-0.3**	
PAB	**San Pablo**	**159.69**	**14**	P	**PKPdf**	**21 47 33.6**	**+1.0**	
PNCL	**Nicolau / Gran**	**159.74**	**24**	*e*PKPdf	**PKPdf**	**21 47 33.3**	**+0.7**	
PNCL	**Nicolau / Gran**	**159.74**	**24**	*e*PKPab	**PKPab**	**21 48 15.6**	**+0.1**	
PNCL				*i* LQ	LQ	21 50 27.3		
PNCL	**Nicolau / Gran**	**159.74**	**24**	*e*PP	**PP**	**21 52 01.3**	**+2.5**	
PBEJ	**Beja**	**160.06**	**23**	*e*PKPdf	**PKPdf**	**21 47 33.5**	**+0.5**	
PBEJ	**Beja**	**160.06**	**23**	*e*PKPab	**PKPab**	**21 48 17.2**	**+0.2**	
PBEJ				*i* LQ	LQ	21 50 29.6		
PBEJ	**Beja**	**160.06**	**23**	*e*PP	**PP**	**21 52 02.6**	**+2.1**	
MESJ	**Messejana**	**160.10**	**24**	*e*PKPdf	**PKPdf**	**21 47 33.4**	**+0.3**	
MESJ	**Messejana**	**160.10**	**24**	*e*PKPdf	**PKPdf**	**21 47 33.7**	**+0.7**	
MESJ	**Messejana**	**160.10**	**24**	*e*PKPab	**PKPab**	**21 48 18.2**	**+1.1**	
MESJ				*i* LQ	LQ	21 50 29.6		
MESJ	**Messejana**	**160.10**	**24**	*e*PP	**PP**	**21 52 00.1**	**-0.6**	
PTEO	**Sao Teotonio**	**160.16**	**25**	*e*PKPdf	**PKPdf**	**21 47 33.3**	**+0.5**	
PTEO	**Sao Teotonio**	**160.16**	**25**	*e*PKPab	**PKPab**	**21 48 17.3**	**-0.1**	
PTEO				*i* LQ	LQ	21 50 31.0		
PTEO	**Sao Teotonio**	**160.16**	**25**	*e*PP	**PP**	**21 52 02.4**	**+1.3**	
PBAR	**Barrancos**	**160.22**	**21**	*e*PKPdf	**PKPdf**	**21 47 33.5**	**+0.3**	
PBAR	**Barrancos**	**160.22**	**21**	*e*PKPab	**PKPab**	**21 48 18.2**	**+0.6**	
PBAR				*i* LQ	LQ	21 50 29.6		
PBAR	**Barrancos**	**160.22**	**21**	*e*PP	**PP**	**21 52 03.5**	**+2.2**	
PCVE	**Castro Verde**	**160.35**	**24**	*e*PKPdf	**PKPdf**	**21 47 34.1**	**+0.8**	
PCVE	**Castro Verde**	**160.35**	**24**	*e*PKPab	**PKPab**	**21 48 18.2**	**0.0**	
PCVE				*i* LQ	LQ	21 50 31.9		
PCVE	**Castro Verde**	**160.35**	**24**	*e*PP	**PP**	**21 52 05.6**	**+3.5**	
MORF	**Marmelete**	**160.39**	**25**	*e*PKPdf	**PKPdf**	**21 47 33.8**	**+0.3**	
MORF	**Marmelete**	**160.39**	**25**	*e*PKPdf	**PKPdf**	**21 47 33.9**	**+0.5**	
MORF	**Marmelete**	**160.39**	**25**	*e*PKPab	**PKPab**	**21 48 18.7**	**+0.2**	
MORF				*i* LQ	LQ	21 50 30.2		
MORF	**Marmelete**	**160.39**	**25**	*e*PP	**PP**	**21 52 05.9**	**+3.5**	
PFVI	**Vila Bisbo**	**160.47**	**26**	*e*PKPdf	**PKPdf**	**21 47 34.3**	**+0.8**	
PFVI	**Vila Bisbo**	**160.47**	**26**	*e*PKPab	**PKPab**	**21 48 19.2**	**+0.4**	
PFVI				*i* LQ	LQ	21 50 29.6		
PFVI	**Vila Bisbo**	**160.47**	**26**	*e*PP	**PP**	**21 52 05.6**	**+2.8**	
PFVI	**Vila Bisbo**	**160.47**	**26**		**PKPdf**	**21 47 33.0**	**-0.4**	
PFVI	**Vila Bisbo**	**160.47**	**26**	P	**PKPdf**	**21 47 34.9**	**+1.5**	
PVAQ	**Vaqueiros**	**160.67**	**23**	*e*PKPdf	**PKPdf**	**21 47 34.3**	**+0.6**	
PVAQ	**Vaqueiros**	**160.67**	**23**	*e*PKPab	**PKPab**	**21 48 19.5**	**-0.1**	
PVAQ				*i* LQ	LQ	21 50 35.6		
PVAQ	**Vaqueiros**	**160.67**	**23**	*e*PP	**PP**	**21 52 06.7**	**+3.0**	
PVAQ	**Vaqueiros**	**160.67**	**23**	*e*SS	SS	22 11 32.8	+5.3	
PVAQ	**Vaqueiros**	**160.67**	**23**		**PKPdf**	**21 47 33.1**	**-0.6**	
PVAQ				PKPab	**PKPab**	**21 48 19.8**	**+0.2**	
PVAQ	**Vaqueiros**	**160.67**	**23**	P	**PKPdf**	**21 47 34.6**	**+1.0**	
PVAQ	**Vaqueiros**	**160.67**	**23**	P	**PKPab**	**21 48 20.4**	**+0.8**	
BBTS	**Babate**	**161.82**	**104**	PKP	**PKPdf**	**21 47 36.0**	**+0.6**	
	comp=Z,278nm,1.1s,baz=326,slow=2.2,SNR=16							
BBTS				PKPab	**PKPab**	**21 48 26.1**	**+0.7**	
	comp=Z,338nm,0.9s,baz=300,slow=4.8,SNR=15							
BBTS				PP	**PP**	**21 52 11.3**	**-0.3**	
	comp=Z,101nm,1.1s,baz=335,slow=8.1,SNR=3.7							
SFS	**San Fernando**	**162.04**	**21**	PKP	**PKPdf**	**21 47 34.8**	**-0.3**	
EMAL	**Malaga-Limoner**	**162.31**	**16**	PKP	**PKPdf**	**21 47 37.2**	**+1.8**	
EKNA	**AfricaArray -**	**162.80**	**207**	⇓*e*P	**PKPab**	**21 48 31.1**	**+1.6**	
KEST	**Kesra**	**162.81**	**339**	PKP	**PKPdf**	**21 47 36.1**	**+0.1**	
	comp=Z,34nm,0.9s,baz=245,slow=1.9,SNR=29							
KEST				PKPab	**PKPab**	**21 48 29.6**	**+0.4**	
	comp=Z,94nm,0.8s,baz=318,slow=5.5,SNR=6.8							
KEST	**Kesra**	**162.81**	**339**		**PKPdf**	**21 47 35.1**	**-0.9**	
KEST				PKPab	**PKPab**	**21 48 28.9**	**-0.2**	
CEU	**Ceuta**	**162.84**	**20**	PKP	**PKPdf**	**21 47 38.6**	**+2.7**	
SMIR	**Smir Dam**	**163.03**	**20**	P	**PKPdf**	**21 47 37.2**	**+1.1**	
SMIR	**Smir Dam**	**163.03**	**20**	P	**PKPab**	**21 48 33.0**	**+3.0**	
CHEFC	**Chefchaouen**	**163.57**	**21**	P	**PKPdf**	**21 47 38.0**	**+1.2**	
CHEFC	**Chefchaouen**	**163.57**	**21**	P	**PKPab**	**21 48 35.0**	**+2.4**	
PVLZ	**Peæn de**	**163.84**	**18**	PKP	**PKPdf**	**21 47 41.0**	**+4.1**	
PALE	**Palemas**	**163.90**	**17**	P	**PKPdf**	**21 47 37.0**	**0.0**	
WMELI	**Melilla**	**164.05**	**14**	PKP	**PKPdf**	**21 47 40.5**	**+3.5**	
CHAS	**Isla Isabel II**	**164.29**	**13**	PKP	**PKPdf**	**21 47 41.4**	**+4.1**	
EAH	**EAH**	**164.46**	**39**	P	**PKPdf**	**21 47 39.3**	**+1.8**	
ZHG	**ZHG**	**164.54**	**27**	P	**PKPdf**	**21 47 39.0**	**+1.3**	
AKLM	**AKLM**	**164.58**	**18**	P	**PKPdf**	**21 47 38.0**	**+0.4**	
TAF	**Taforalt**	**164.65**	**13**	P	**PKPdf**	**21 47 39.0**	**+1.3**	
SRHM	**Skhour des Reh**	**164.76**	**33**	P	**PKPdf**	**21 47 39.0**	**+1.1**	
SRHM	**Skhour des Reh**	**164.76**	**33**	P	**PKPab**	**21 48 39.0**	**+1.1**	
LIC	**Lamto**	**164.95**	**153**	⇑*i*PKIKP	**PKPdf**	**21 47 38.0**	**-0.4**	
	comp=Z,752nm,0.8s							
LCRM	**LCR**	**165.03**	**22**	P	**PKPdf**	**21 47 40.0**	**+1.8**	
JBK	**JBK**	**165.08**	**14**	P	**PKPdf**	**21 47 39.0**	**+0.8**	
IFR	**Ifrane**	**165.08**	**23**	PKP	**PKPdf**	**21 47 38.2**	**-0.1**	
KIC	**Kosan Boka**	**165.19**	**154**	⇑*e*PKIKP	**PKPdf**	**21 47 38.1**	**-0.5**	
	comp=Z,123nm,0.6s							
TIC	**Toumodi**	**165.33**	**153**	⇑*i*PKIKP	**PKPdf**	**21 47 38.3**	**-0.5**	
	comp=Z,347nm,0.7s							
DBIC	**Dimbokro**	**165.42**	**153**	PKP	**PKPdf**	**21 47 38.4**	**-0.4**	
	comp=Z,165nm,0.9s,baz=165,slow=0.8,SNR=98							
DBIC				PKPab	**PKPab**	**21 48 42.0**	**+1.0**	
	comp=Z,318nm,0.8s,baz=212,slow=5.2,SNR=32							
DBIC				PP	**PP**	**21 52 29.6**	**+1.3**	
	comp=Z,33nm,0.8s,baz=200,slow=5.4,SNR=3.9							
DBIC	**Dimbokro**	**165.42**	**153**		**PKPdf**	**21 47 37.5**	**-1.4**	
DBIC				PKPab	**PKPab**	**21 48 41.6**	**+0.5**	
OUK	**Oukaimeden**	**165.77**	**36**	P	**PKPdf**	**21 47 40.1**	**+1.1**	
OUK	**Oukaimeden**	**165.77**	**36**	P	**PKPab**	**21 48 44.0**	**+1.2**	
MDT	**Midelt**	**165.90**	**22**	PKP	**PKPdf**	**21 47 39.9**	**+1.1**	
	comp=Z,99nm,1.0s,baz=38,slow=0.5,SNR=99							
MDT				PKPab	**PKPab**	**21 48 43.6**	**+0.7**	
	comp=Z,63nm,1.0s,baz=236,slow=3.4,SNR=12							
MDT				PP	**PP**	**21 52 31.4**	**+0.5**	
	comp=Z,72nm,1.4s,baz=326,slow=4.9,SNR=4.3							
MDT	**Midelt**	**165.90**	**22**	P	**PKPdf**	**21 47 39.5**	**+0.7**	
MDT	**Midelt**	**165.90**	**22**	P	**PKPab**	**21 48 45.9**	**+3.0**	
TTIG	**Tnine Tigouga,**	**165.94**	**39**	P	**PKPdf**	**21 47 40.0**	**+1.0**	
TTIG	**Tnine Tigouga,**	**165.94**	**39**	P	**PKPab**	**21 48 44.0**	**+0.7**	
FIGM	**Figuig**	**167.48**	**12**	P	**PKPdf**	**21 47 41.0**	**+0.9**	
KOWA	**Kowa**	**172.35**	**133**	PKP	**PKPdf**	**21 47 42.0**	**-1.0**	
	comp=Z,112nm,0.9s,baz=228,slow=0.5,SNR=123							
KOWA				PKPab	**PKPab**	**21 49 12.1**	**+0.2**	
	comp=Z,63nm,0.8s,baz=239,slow=2.7,SNR=11							
KOWA				PP	**PP**	**21 53 04.8**	**+1.1**	
	comp=Z,57nm,1.2s,baz=269,slow=2.3,SNR=6.9							
KOWA	**Kowa**	**172.35**	**133**		**PKPdf**	**21 47 41.6**	**-1.4**	
KOWA				PKPab	**PKPab**	**21 49 11.6**	**-0.3**	
KOWA	**Kowa**	**172.35**	**133**	P	**PKPdf**	**21 47 42.5**	**-0.5**	
TOA0	**Torodi Ar. Sit**	**173.33**	**180**		**PKPdf**	**21 47 41.8**	**-1.7**	
TOA0				PKPab	**PKPab**	**21 49 16.4**	**+0.4**	
TORD	**Torodi Ar. Bea**	**173.33**	**180**	PKP	**PKPdf**	**21 47 42.5**	**-1.0**	
	comp=Z,135nm,1.0s,baz=328,slow=0.7,SNR=310							
TORD				PKPab	**PKPab**	**21 49 16.4**	**+0.5**	
	comp=Z,147nm,0.9s,baz=180,slow=3.4,SNR=28							
TORD				PP	**PP**	**21 53 06.7**	**-0.4**	
	comp=Z,58nm,0.9s,baz=179,slow=4.8,SNR=6.7							
TORD	**Torodi Ar. Bea**	**173.33**	**180**		**PKPdf**	**21 47 42.3**	**-1.2**	
TORD					**PKPab**	**21 49 16.1**	**+0.1**	

*MOS **24** 21:35:01.2±0.9, 19°.86S×178°.42W, h582km, mb5.1/20, Error ellipse: s-maj=11.7km s-min=10.1km az=75.0*
*IDC **24** 21:35:02.4±1.3, 19°.93S×178°.40W, h586km±15km, mb4.6/28, mbtmp5.6/31, Error ellipse: s-maj=10.9km s-min=8.9km az=64.0*
*NEIC **24** 21:35:02.8±1.4, 19°.91S±0°.10×178°.3W±0°.1, h585km±4km, mb5.2/104, Error ellipse: s-maj=14.9km s-min=13.9km az=55.0*
*NOU **24** 21:35:03.7, 19°.94S×178°.33W, h606km, mb5.5/47, Fiji Islands Region*

ISC 24 21:35:03.3±0.4, 19°.94S±0°.05×178°.33W±0°.05, h600km±4km, h601km; pP-P, n334, σ1§10/348, mb5.2/83, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
LKBA	**Tubou, Lakemba**	**1.76**	**345**	P	**P**	**21 36 17.7**	**+0.9**
TAVE	**Taveuni**	**3.55**	**335**	P	**P**	**21 36 26.8**	**+0.9**
MSVF	**Nonsavu**	**4.07**	**302**	P	**P**	**21 36 30.6**	**+1.2**
	2µm,0.7s,baz=152,slow=4.9,SNR=87						
MSVF				S	**S**	**21 37 42.3**	**+2.8**
	210nm,0.8s,baz=182,slow=23,SNR=0.6						
MSVF	**Nonsavu**	**4.07**	**302**	P	**P**	**21 36 30.7**	**+1.3**
MSVF	**Nonsavu**	**4.07**	**302**	P	**P**	**21 36 30.6**	**+1.2**
FUTU	**Fugatoga**	**5.61**	**2**	P	**P**	**21 36 41.7**	**+0.5**
AFI	**Afiamalu**	**8.67**	**47**	P	**P**	**21 37 07.4**	**-1.9**
	872nm,0.9s,baz=129,slow=17,SNR=1.7						
AFI				S	**S**	**21 38 46.7**	**-5.7**
	604nm,0.9s,baz=13,slow=23,SNR=3.1						
RAO	**Raoul Island**	**9.28**	**178**	P	**P**	**21 37 13.1**	**-1.6**
	562nm,0.3s,baz=192,slow=22,SNR=8.1						
RAO				S	**S**	**21 38 59.0**	**-3.7**
	1µm,0.6s,baz=83,slow=23,SNR=4.8						
RAO	**Raoul Island**	**9.28**	**178**	P	**P**	**21 37 12.7**	**-2.1**
RTV	**Rentapao**	**12.72**	**277**	P	**P**	**21 37 50.1**	**+0.8**
MARNC	**Mare, Loyalty**	**12.86**	**261**	P	**P**	**21 37 49.9**	**-0.8**
MARNC	**Mare, Loyalty**	**12.86**	**261**	P	**P**	**21 37 49.9**	**-0.8**
DVP	**Devils Point**	**12.96**	**278**	P	**P**	**21 37 52.0**	**+0.3**
PINNC	**Pines Island,**	**13.53**	**256**	P	**P**	**21 37 56.9**	**-0.6**
PINNC	**Pines Island,**	**13.53**	**256**	P	**P**	**21 37 57.3**	**-0.2**
LIFNC	**LIFOU**	**13.56**	**264**	P	**P**	**21 37 55.9**	**-2.0**
LIFNC	**LIFOU**	**13.56**	**264**	P	**P**	**21 37 56.2**	**-1.7**
YATNC	**Mamie plateau,**	**13.97**	**259**	P	**P**	**21 38 01.9**	**0.0**
DZM	**Mont Dzumac**	**14.38**	**259**	P	**P**	**21 38 07.3**	**+1.4**
	82nm,0.6s,baz=296,slow=23,SNR=14						
DZM	**Mont Dzumac**	**14.38**	**259**	P	**P**	**21 38 07.7**	**+1.8**
ONTNC	**Ouen Toro**	**14.40**	**258**	P	**P**	**21 38 05.2**	**-0.8**
ONTNC	**Ouen Toro**	**14.40**	**258**	P	**P**	**21 38 06.0**	**+0.1**
NOUC	**Port Laguerre**	**14.51**	**259**	P	**P**	**21 38 07.4**	**+0.4**
KOUNC	**Koumac, New Ca**	**16.33**	**265**	P	**P**	**21 38 25.4**	**+1.7**
KOUNC	**Koumac, New Ca**	**16.33**	**265**	P	**P**	**21 38 25.5**	**+1.8**
OUZ	**Omahuta**	**16.81**	**203**	P	**P**	**21 38 30.2**	**+2.3**
WMGZ	**Waiomatatini S**	**18.04**	**188**	P	**P**	**21 38 39.0**	**-0.1**
HAZ	**Te Kaha**	**18.07**	**190**	P	**P**	**21 38 37.6**	**-1.7**
PKGZ	**Pakihiroa**	**18.16**	**189**	P	**P**	**21 38 39.2**	**-1.0**
RUGZ	**Raukumara Rang**	**18.29**	**190**	P	**P**	**21 38 40.5**	**-1.0**
PUZ	**Puketiti**	**18.31**	**189**	P	**P**	**21 38 40.5**	**-1.1**
TGRZ	**Tauranga**	**18.34**	**194**	P	**P**	**21 38 43.3**	**+1.5**
OPRZ	**Ohinepanea**	**18.39**	**193**	P	**P**	**21 38 43.1**	**+0.8**
TWGZ	**Tauwhareparae**	**18.45**	**189**	P	**P**	**21 38 42.5**	**-0.3**
MARZ	**Manawahe**	**18.50**	**193**	P	**P**	**21 38 43.4**	**+0.1**
URZ	**Urewera**	**18.68**	**191**	P	**P**	**21 38 42.7**	**-2.2**
	142nm,0.3s,baz=355,slow=2.7,SNR=38						
URZ				S	**S**	**21 41 37.9**	**-6.6**
	28nm,0.5s,baz=285,slow=18,SNR=1.7						
URZ	**Urewera**	**18.68**	**191**	P	**P**	**21 38 42.5**	**-2.4**
URZ	**Urewera**	**18.68**	**191**	P	**P**	**21 38 44.2**	**-0.7**
BKZ	**Black Stump Fm**	**19.68**	**192**	P	**P**	**21 38 54.4**	**+0.4**
BFZ	**Birch Farm**	**21.19**	**191**	P	**P**	**21 39 06.1**	**-1.4**
BFZ	**Birch Farm**

JOW	Kunigami	69.57	310	P	P	21 45 13.1	-0.4		
JOW				IAmb	IAmb	21 45 14.9			
	comp=Z,88nm,1.0s								
MJAR	Matsushiro Arr	69.58	324	P	P	21 45 12.7	-0.7		
	comp=Z,30nm,0.7s,baz=155,slow=6.0,SNR=13								
	comp=Z,30nm,0.7s								
MAJO	Matsushiro	69.58	324	P	P	21 45 12.7	-0.7		
MAJO				IAmb	IAmb	21 45 13.4			
	comp=Z,43nm,0.7s								
MAJO	Matsushiro	69.58	324	P	P	21 45 12.7	-0.7		
MAJO				pmax	pmax				
	comp=Z,43nm,0.7s								
MAJO	Matsushiro	69.58	324	P	P	21 45 12.9	-0.5		
MJB9	Matsu-Tunnel	69.58	324	P	P	21 45 13.5	+0.1		
MJB9				IAmb	IAmb	21 45 14.4			
	comp=Z,42nm,0.7s								
UGM	Wanagama	69.67	269	P	P	21 45 13.7	-0.7		
UGM				IAmb	IAmb	21 45 19.5			
	comp=Z,114nm,1.0s								
UGM	Wanagama	69.67	269	P	P	21 45 14.1	-0.3		
SMRI	Semarang	70.02	270	P	P	21 45 16.2	-0.3		
QSPA	South Pole Qui	70.12	180	P	P	21 45 17.1	+0.9		
	comp=Z,135nm,0.8s,baz=256,slow=0.6,SNR=23								
	comp=Z,135nm,0.8s								
QSPA	South Pole Qui	70.12	180	P	P	21 45 17.0	+0.7		
QSPA	South Pole Qui	70.12	180	P	P	21 45 17.2	+0.9		
QSPA				sP	sP	21 48 20.5	+1.8		
JSD	Sado	70.63	325		P	21 45 19.6	0.0		
JSD				IAmb	IAmb	21 45 20.7			
	comp=Z,127nm,1.2s								
JSU	Suzuyama	70.91	315		P	21 45 21.3	-0.1		
JSU				IAmb	IAmb	21 45 21.9			
	comp=Z,59nm,0.7s								
JTM	Tenmabayashi	71.23	329	P	P	21 45 22.5	-0.5		
JTM				IAmb	IAmb	21 45 23.6			
	comp=Z,51nm,0.9s								
JHS	Saijyo	71.48	320	P	P	21 45 24.5	-0.1		
JHS				IAmb	IAmb	21 45 26.0			
	comp=Z,91nm,1.0s								
ADK	Adak	71.53	1	P	P	21 45 23.7	-0.7		
ADK				IAmb	IAmb	21 45 24.5			
	comp=Z,92nm,0.9s								
ADK	Adak	71.53	1	P	P	21 45 23.7	-0.7		
ADK				pmax	pmax				
	comp=Z,92nm,1.0s								
ADK	Adak	71.53	1	P	P	21 45 23.7	-0.7		
ADK				pP	pP	21 47 24.7	-1.1		
SBUM	Sibu	71.61	280	P	P	21 45 26.2	+0.4		
YOJ	Yonaguni jima	72.17	305	P	P	21 45 28.7	0.0		
JEW	Eniwo	72.62	330		P	21 45 31.4	+0.4		
YULB	Yu-li	72.94	303	P	P	21 45 31.5	-1.7		
NIKH	Nikolski High	73.07	6	P	P	21 45 32.7	-0.5		
	baz=189								
NACB	Ninganchiao	73.11	304	P	P	21 45 33.0	-1.1		
NACB				IAmb	IAmb	21 45 34.1			
	comp=Z,70nm,0.8s								
SSLB	Suanglung	73.41	304	P	P	21 45 34.4	-1.5		
SSLB				IAmb	IAmb	21 45 35.3			
	comp=Z,48nm,0.6s								
SSLB	Suanglung	73.41	304	P	P	21 45 34.7	-1.2		
TPUB	Ta-pu	73.42	303	P	P	21 45 34.6	-1.4		
YHNB	Yeheng	73.54	305	P	P	21 45 36.5	-0.2		
TATO	Taipei	73.61	305	P	P	21 45 36.5	-0.5		
TATO				IAmb	IAmb	21 45 36.6			
	comp=Z,70nm,0.9s								
UNV	Unalaska Valle	74.18	7	P	P	21 45 38.6	-0.9		
	baz=192								
YSS	Yuzh-Sakhalins	75.26	334	P	P	21 45 45.7	0.0		
YSS				IAmb	IAmb	21 45 47.6			
	comp=Z,136nm,1.0s								
PEA0B	Petropavlovsk-	75.65	345	P	P	21 45 47.3	-0.5		
PEA0B	Petropavlovsk-	75.65	345	P	P	21 45 47.3	-0.5		
PEA0B				pmax	pmax				
	comp=Z,200nm,1.4s								
PETK	Petropavlovsk-	75.65	345	P	P	21 45 47.1	-0.7		
	comp=Z,48nm,0.9s,baz=148,slow=8.7,SNR=8.2								
	comp=Z,48nm,0.9s								
PETK	Petropavlovsk-	75.65	345	P	P	21 45 47.3	-0.5		
PETK	Petropavlovsk-	75.65	345	P	P	21 45 47.3	-0.5		
KSRS	Korea Array	76.27	319	P	P	21 45 52.0	+0.5		
	comp=Z,11nm,0.7s,baz=128,slow=5.9,SNR=14								
	comp=Z,11nm,0.7s								
KSRS	Korea Array	76.27	319	P	P	21 45 52.0	+0.5		
KSAR	Wonju Array Be	76.28	319	P	P	21 45 51.8	+0.2		
KSAR	Wonju Array Be	76.28	319	P	P	21 45 51.8	+0.2		
KS19	Wonju Array Si	76.33	319	P	P	21 45 52.0	+0.2		
KS19				IAmb	IAmb	21 45 53.3			
	comp=Z,62nm,1.4s								
SDPT	Sand Point	76.52	10	P	P	21 45 51.3	-1.1		
	baz=197								
UGL	Uglegorsk	77.22	335	eP	P	21 45 55.7	-0.7		
UGL				pmax	pmax				
	comp=Z,150nm,1.0s								
CHGN	Chignik	77.78	11	P	P	21 45 58.9	-0.4		
	baz=199								
SAO	San Andreas Ge	77.83	43	P	P	21 46 01.4	+1.4		
SAO	San Andreas Ge	77.83	43	P	P	21 46 01.4	+1.4		
SAO				pmax	pmax				
	comp=Z,25nm,0.9s								
MNAI	Manna	77.93	270	P	P	21 46 00.9	-0.2		
BCW	Bitter Crk WRg	78.12	46	P	P	21 46 02.4	+0.6		
HKPS	Hong Kong Po S	78.16	299	P	P	21 46 02.2	+0.1		
HKPS				IAmb	IAmb	21 46 04.1			
	comp=Z,125nm,1.1s								
USA0B	Ussuriysk Arra	78.33	326	P	P	21 46 02.9	+0.4		
USA0B				IAmb	IAmb	21 46 04.4			
	comp=Z,75nm,0.9s								
USA0B	Ussuriysk Arra	78.33	326	P	P	21 46 02.9	+0.4		
USA0B				pmax	pmax				
	comp=Z,75nm,1.0s								
USRK	Ussuriysk Ar.	78.33	326	P	P	21 46 03.5	+1.1		
	comp=Z,45nm,0.8s,baz=140,slow=3.4,SNR=13								
	comp=Z,45nm,0.8s								
USRK	Ussuriysk Ar.	78.33	326	P	P	21 46 02.9	+0.4		
SII	Sitkinak Islan	78.87	13	P	P	21 46 05.7	+0.6		
	baz=203								
MONP2	Monument Peak	79.08	49	P	P	21 46 08.2	+1.2		
	baz=238								
IKP	In-Ko-Pah, Jac	79.17	49	P	P	21 46 08.9	+1.6		
	baz=238								
CMB	Columbia Colle	79.26	43	P	P	21 46 08.3	+0.6		
CMB	Columbia Colle	79.26	43	P	P	21 46 08.3	+0.6		
CMB				pmax	pmax				
	comp=Z,13nm,1.0s								
KSXB	Camp Six Broad	79.42	38	P	P	21 46 09.2	+0.7		
SWSC	Sam W. Stewart	79.55	49	P	P	21 46 10.3	+1.1		
	baz=238								
CWC	Cottonwood Cre	79.86	45	P	P	21 46 12.3	+1.3		
	baz=236								
MDJ	Mudanjiang	79.89	325	P	P	21 46 10.7	+0.1		
MDJ				IAmb	IAmb	21 46 12.6			
	comp=Z,56nm,0.9s								
YBH	Yreka Blue Hor	80.05	39	P	P	21 46 13.2	+1.5		
	comp=Z,17nm,0.8s,baz=194,slow=1.3,SNR=9.3								
	comp=Z,17nm,0.8s								
YBH	Yreka Blue Hor	80.05	39	P	P	21 46 12.7	+1.0		
BELA	Belgrano 2	80.15	173	P	P	21 46 11.5	-0.1		
BELA				IAmb	IAmb	21 46 12.6			
	comp=Z,164nm,1.3s								
BEKR	Beckworth	80.35	41	P	P	21 46 13.4	0.0		
P16K	Nushagak River	80.44	10	P	P	21 46 13.2	0.0		
	baz=199								
PIX	Pinacate	80.53	52	P	P	21 46 15.1	+0.8		
YERR	Yerington	80.55	43	P	P	21 46 15.3	+0.7		
L04D	Klamath Falls	80.58	39	P	P	21 46 15.8	+1.2		
	baz=232								
GRAC	Grapevine Rang	80.65	45	P	P	21 46 15.9	+0.9		
GRAC	Grapevine Rang	80.65	45	P	P	21 46 16.4	+1.5		
	baz=236								
NVAR	Mina Array Bea	80.83	44	P	P	21 46 17.1	+1.1		
	comp=Z,9.4nm,0.8s,baz=228,slow=8.9,SNR=4.9								
	comp=Z,9.4nm,0.8s								
NVAR	Mina Array Bea	80.83	44	P	P	21 46 16.9	+0.9		
P17K	Kvichak River	80.87	11	P	P	21 46 15.5	+0.1		
	baz=201								
NV11	Mina Array Sit	80.93	44	P	P	21 46 17.0	+0.6		
O16K	Kokwok River B	80.96	10	P	P	21 46 15.4	-0.5		
	baz=199								
Q19K	Cape Douglas,	81.17	13	P	P	21 46 17.0	-0.1		
	baz=203								
214A	Organ Pipe Nat	81.21	52	P	P	21 46 19.4	+1.5		
	baz=240								
P18K	Big Mountain,	81.28	12	P	P	21 46 17.1	-0.5		
	baz=202								
J04D	Umpqua Nationa	81.32	38	P	P	21 46 20.1	+1.7		
	baz=232								
TPNV	Topopah Spring	81.37	46	P	P	21 46 18.9	+0.1		
TPNV	Topopah Spring	81.37	46	P	P	21 46 18.9	+0.1		
TPNV				pmax	pmax				
	comp=Z,16nm,0.9s								
TPNV	Topopah Spring	81.37	46	P	P	21 46 19.8	+1.0		
	baz=237								
HEBO	Mount Hebo	81.62	36	P	P	21 46 21.8	+2.0		
HEBO				IAmb	IAmb	21 46 26.9			
	comp=Z,97nm,1.2s								
N16K	Nishlik Lake	81.69	10	P	P	21 46 20.6	+1.0		
	baz=199								
O18K	Koktuh Hills	81.72	12	P	P	21 46 19.7	-0.1		
	baz=202								
J05D	Fort Rock, OR	81.86	38	P	P	21 46 22.8	+1.7		
	baz=233								
PMSA	Palmer Station	81.92	157	P	P	21 46 21.5	+0.7		
	comp=Z,57nm,0.8s,baz=243,slow=4.6,SNR=7.1								
	comp=Z,57nm,0.8s								
PMSA	Palmer Station	81.92	157	P	P	21 46 21.5	+0.7		
PMSA				IAmb	IAmb	21 46 22.7			
	comp=Z,119nm,1.1s								
MAW	Mawson	81.98	200	P	P	21 46 21.6	+0.4		
	comp=Z,17nm,0.7s,baz=235,slow=1.7,SNR=10								
	comp=Z,17nm,0.7s								
O19K	Port Alsworth	82.20	12	P	P	21 46 22.0	-0.2		
	baz=203								
PRN	Pahroc Range	82.43	46	P	P	21 46 25.3	+1.2		
O20K	Slope Mountain	82.44	13	P	P	21 46 23.5	0.0		
	baz=204								
BRSE	Bradley Lake S	82.53	14	P	P	21 46 24.2	+0.3		
	baz=206								
UBPT	Khong Chiam	82.66	289	P	P	21 46 25.5	0.0		
N19K	Bonanza Creek	82.75	12	P	P	21 46 24.5	-0.6		
	baz=202								
IPM	Ipoh	82.75	277	P	P	21 46 26.1	0.0		
IPM				IAmb	IAmb	21 46 27.3			
	comp=Z,53nm,0.7s								
IPM	Ipoh	82.75	277	P	P	21 46 26.6	+0.5		
TUC	Tucson	82.88	52	P	P	21 46 28.1	+1.7		
TUC	Tucson	82.88	52	P	P	21 46 28.1	+1.7		
TUC				pmax	pmax				
	comp=Z,19nm,1.0s								
TUC	Tucson	82.88	52	P	P	21 46 28.6	+2.3		
	baz=241								
NLWA	Neilton Lookou	82.94	34	P	P	21 46 27.4	+1.1		
MA2	Magadan	83.17	345	P	P	21 46 26.5	-0.5		
MA2				IAmb	IAmb	21 46 26.9			
	comp=Z,51nm,1.0s								
MA2	Magadan	83.17	345	P	P	21 46 26.5	-0.5		
MA2				pmax	pmax				
	comp=Z,51nm,1.0s								
KULM	Kulim	83.39	278	P	P	21 46 29.2	-0.1		
KULM				IAmb	IAmb	21 46 30.6			
	comp=Z,26nm,0.6s								
N20K	Mount Spurr	83.55	12	P	P	21 46 28.5	-0.5		
	baz=205								
SPCR	Spurr Chakacha	83.55	12	P	P	21 46 28.4	-0.6		
	baz=205								
U15A	North Rim	83.81	48	P	P	21 46 32.3	+1.1		
MG05	Puerto Natales	83.94	143	P	P	21 46 32.1	+0.9		
MG05				IAmb	IAmb	21 46 33.3			
	comp=Z,108nm,1.2s								
L19K	White Mountain	83.95	11	P	P	21 46 31.4	+0.5		
	baz=202								
PGC	Sidney	83.96	33	P	P	21 46 32.1	+0.9		
RC01	Rabbit Creek A	83.97	14	P	P	21 46 31.1	+0.2		
	baz=207								
SUA	Susitna One	84.08	13	P	P	21 46 31.9	+0.2		
	baz=206								
GO10	Punta Arenas	84.12	145	P	P	21 46 33.7	+1.5		
GO10				IAmb	IAmb	21 46 34.6			
	comp=Z,69nm,0.8s								
GLI	Glacier Island	84.39	15	P	P	21 46 33.2	+0.2		
	baz=209								
PMR	Palmer	84.55	14	P	P	21 46 33.4	-0.3		
	baz=207								
GSI	Gunungsitoli	84.89	273	P	P	21 46 37.4	+0.8		
GSI				IAmb	IAmb	21 46 37.9			
	comp=Z,70nm,0.8s								
GSI	Gunungsitoli	84.89	273	P	P	21 46 37.8	+1.2		
MESA	MESA	85.13	17	P	P	21 46 38.3	+1.4		
	baz=214								
SCM	Sheep Creek Mo	85.17	14	P	P	21 46 36.6	-0.3		
	baz=209								
121A	Cookes Peak, D	85.22	53	P	P	21 46 39.9	+1.9		
	baz=243								
BJT	Baijiatuau	85.27	315	P	P	21 46 38.0	+0.2		
BJT				IAmb	IAmb	21 46 38.6			
	comp=Z,23nm,0.8s								
BJT	Baijiatuau	85.27	315	P	P	21 46 38.0	+0.2		
BJT				pmax	pmax				
	comp=Z,23nm,0.8s								
MG02	Cerro Sombrero	85.28	145	P	P	21 46 38.6	+0.9		
ENH	Enshi	85.47	304	P	P	21 46 39.4	+0.3		
ENH				IAmb	IAmb	21 46 40.6			
	comp=Z,80nm,1.0s								
SRIT	Nakonsritamara	85.53	281	P	P	21 46 40.0	+0.4		
SRIT				IAmb	IAmb	21 46 42.1			
	comp=Z,99nm,1.1s								
WAT6	Susitna Watana	85.73	14	P	P	21 46 39.7	0.0		
	baz=209								
SEY	Seymchan	85.76	347	P	P	21 46 39.4	-0.2		
	comp=Z,52nm,1.1s,baz=140,slow=6.2,SNR=6.1								
	comp=Z,52nm,1.1s								
TRF	Thorofare Moun	85.97	12	P	P	21 46 40.5	-0.3		
	baz=206								
HLID	Hailey	86.11	41	P	P	21 46 43.6	+1.6		
	baz=238								
P30M	Million Dollar	86.56	19	P	P	21 46 45.1	+1.6		
	baz=218								
COYC	Coyhaique	86.76	138	P	P	21 46 46.0	+1.1		
YUK3	Moose Creek	86.86	17	P	P	21 46 45.8	+0.7		
	baz=215								
S34M	Telegraph Cree	86.87	23	P	P	21 46 46.6	+1.7		
	baz=224								
M27K	Edge Creek, AK	86.96	16	P	P	21 46 46.5	+1.1		
	baz=214								
TX31	Lajitas Ar. Si	87.01	57	P	P	21 46 47.2	+0.7		
TX31				IAmb	IAmb	21 46 49.0			
	comp=Z,72nm,1.0s								
TXAR	Lajitas Array	87.02	57	P	P	21 46 48.1	+1.6		
	comp=Z,16nm,0.9s,baz=218,slow=5.7,SNR=9.5								
	comp=Z,16nm,0.9s								
TXAR	Lajitas Array	87.02	57		P	21 46 47.6	+1.2		
I21K	Tanana	87.22	11	P	P	21 46 46.8	+0.4		
	baz=205								
K24K	Donnelly Dome	87.24	14	P	P	21 46 47.3	+0.7		
	baz=210								
HDA	Harding Lake	87.51	13	P	P	21 46 47.7	-0.1		
	baz=209								
CCB	Clear Creek Bu	87.54	13	P	P	21 46 47.1	-0.8		
CCB				IAmb	IAmb	21 46 48.0			
	comp=Z,31nm,0.8s								
TCOL	CIGO, UAF Yank	87.73	13	P	P	21 46 48.4	-0.4		
	baz=208								
COLA	College	87.73	13	P	P	21 46 47.9	-0.8		
COLA				IAmb	IAmb	21 46 48.9			
	comp=Z,53nm,0.9s								
COLA	College	87.73	13	P	P	21 46 47.9	-0.8		
COLA				pmax	pmax				
	comp=Z,53nm,0.9s								
COLA	College	87.73	13	P	P	21 46 48.4	-0.4		
	baz=208								
ILAR	Eielson Array	87.84	13	P	P	21 46 48.9	-0.4		
	comp=Z,16nm,0.9s,baz=217,slow=5.7,SNR=4.6								
ILAR				PKKPbc	PKKPdf	22 04 29.9	+0.8		
	comp=Z,1.5nm,0.8s,baz=3.9,slow=3.9,SNR=5.0								
	comp=Z,16nm,0.9s								
ILAR	Eielson Array	87.84	13	P	P	21 46 48.5	-0.8		
LL02	Futaleuf	87.94	135	P	P	21 46 51.6	+1.2		
M29M	Somme Creek	87.95	17	P	P	21 46 50.7	+0.7		
	baz=217								
POKR	Poker Plat Res	88.03	13	P	P	21 46 48.8	-1.4		
	baz=209								
G21K	Allakaket	88.19	10	P	P	21 46 51.1	+0.2		
	baz=203								
TROLL	Troll, Antarti	88.29	180	P	P	21 46 51.5	-0.2		
J26L	Joseph Creek	88.34	14	P	P	21 46 52.5	+0.7		
	baz=212								
SNAA	Sanae	88.58	179	P	P	21 46 52.4	-0.5		
SNAA	Sanae	88.58	179	P	P	21 46 52.0	-1.0		
	comp=Z,23nm,1.1s,baz=171,slow=0.9,SNR=2.9								
	comp=Z,23nm,1.1s								
SNAA	Sanae	88.58	179	P	P	21 46 52.0	-1.0		
L29M	L29M	88.58	17	P	P	21 46 54.0	+1.2		
	baz=217								
VNA3	Neumayer Olymp	88.72	176	P	P	21 46 53.3	-0.3		
BW06	Boulder Array	88.77	43	P	P	21 46 54.9	+0.5		
	baz=241								
PD31	Pinedale Array	88.77	43	P	P	21 46 54.7	+0.2		
PDAR	Pinedale Array	88.77	43	P	P	21 46 54.9	+0.4		
	comp=Z,13nm,0.9s,baz=213,slow=2.7,SNR=5.8								
	comp=Z,13nm,0.9s								
PDAR	Pinedale Array	88.77	43	P	P	21 46 54.5	0.0		
G22K	Bettles	88.89	10	P	P	21 46 55.1	+0.9		
	baz=205								
DAWY	Dawson	89.01	16	P	P	21 46 55.3	+0.4		
	baz=216								
LR03	Panguipulli	89.12	132	P	P	21 46 56.7	+0.6		
VNA2	Neumayer--Watz	89.16	177	P	P	21 46 55.6	+0.1		
	baz=186,slow=4.5								
VNA1	Neumayer--Stat	89.38	177	P	P	21 46 56.7	+0.2		
MAYO	Mayo, Yukon	89.59	18	P	P	21 46 58.5	+1.0		
	baz=219								
CM31	Chiang Mai Arr	89.64	290	P	P	21 46 59.8	+1.0		
CM31				IAmb	IAmb	21 47 01.1			
	comp=Z,50nm,1.1s								
CMAR	Chiang Mai Arr	89.64	290	P	P	21 46 60.0	+1.2		
	comp=Z,21nm,0.9s,baz=120,slow=3.0,SNR=6.0								
CMAR				PKKPbc	PKKPdf	22 04 24.6	+0.6		
	comp=Z,1.2nm,0.3s,baz=14,slow=4.3,SNR=6.6								
	comp=Z,21nm,0.9s								
CMAR	Chiang Mai Arr	89.64	290	P	P	21 46 59.7	+0.9		
CMAR	Chiang Mai Arr	89.64	290	P	P	21 47 00.0	+1.2		
GO06	Curarrehue	89.75	132	P	P	21 46 59.4	+0.2		
GO06				IAmb	IAmb	21 47 01.1			
	comp=Z,47nm,1.1s								
CHTO	Chiang Mai	89.77	290	P	P	21 46 60.0	+0.6		
CHTO	Chiang Mai	89.77	290	P	P	21 47 00.0	+0.6		
CHTO				pmax	pmax				
	comp=Z,1.0nm,0.8s								
CHTO	Chiang Mai	89.77	290	P	P	21 47 00.4	+1.1		
PLCA	Paso Flores	89.88	134	P	P	21 47 00.4	+0.8		
	comp=Z,15nm,0.9s,baz=223,slow=6.2,SNR=4.8								
	comp=Z,15nm,0.9s								
PLCA	Paso Flores	89.88	134	P	P	21 47 00.4	+0.8		
PLCA				IAmb	IAmb	21 47 01.8			
	comp=Z,28nm,1.0s								
CHI	Chicago-Loyola	103.54	50	P	Pdif	21 47 58.0	-2.8		
PTH	Pithoragarh	109.22	295	eP	PKiKP	21 52 35.9	+9.2		
MKAR	Makanchi Array	110.59	314	PKKPbc	PKKPbc	22 03 29.6	-0.9		
	comp=Z,2.0nm,0.7s,baz=277,slow=3.1,SNR=5.5								
BVAR	Borovoye Array	118.45	320	PKP	PKPdf	21 52 41.9	-1.6		
	comp=Z,1.7nm,0.4s,baz=151,slow=1.9,SNR=1.8								
SPITS	Spitsbergen Ar	121.29	356	PKP	PKPdf	21 52 47.7	-0.6		
	comp=Z,5.0nm,0.8s,baz=64,slow=3.4,SNR=1.5								
ARU	Arti	124.57	326	PKP	PKPdf	21 52 54.6	-0.4		
	comp=Z,12nm,0.8s,baz=0.7,slow=22,SNR=1.9								
SUR	Sutherland	124.84	200	PKP	PKPdf	21 52 56.4	-0.4		
	comp=Z,14nm,0.8s,baz=89,slow=17,SNR=1.6								
MDP	Montagnes des	125.21	98	PKP	PKPdf	21 52 56.8	-0.8		
	comp=Z,6.9nm,0.7s,baz=292,slow=23,SNR=2.7								
AKTO	Aktyubinsk	126.45	319	PKP	PKPdf	21 52 58.4	-0.5		
	comp=Z,11nm,0.9s,baz=189,slow=18,SNR=2.2								
BELG	Belogornoye	131.97	324	SKPbc	SKPab	21 55 41.6	-0.2		
	comp=Z,108nm,1.0s,baz=274,slow=3.0,SNR=4.5								
FINES	FINESS Array B	135.15	344	PKP	PKPdf	21 53 15.6	+0.6		
	comp=Z,18nm,0.8s,baz=164,slow=15,SNR=2.2								
TSUM	Tsumeb	138.09	203	PKP	PKPdf	21 53 22.0	+0.1		
	comp=Z,13nm,0.8s,baz=257,slow=6.6,SNR=2.3								
NB2	NORSAR Subarra	138.39	353	PKP		21 55 12.8			
	comp=Z,3.1nm,0.8s,baz=16,slow=3.2								
HFS	Hagfors	138.94	351	PKhKP	PKPpre	21 53 15.7			
	comp=Z,9.9nm,1.0s,baz=48,slow=2.3,SNR=8.6								
AKASG	Malin Array Be	142.38	331	PKhKP	PKPpre	21 53 24.3			
	comp=Z,3.4nm,0.3s,baz=43,slow=4.2,SNR=18								
AKASG				SKPbc	SKiKP	21 56 11.1	-0.6		
	comp=Z,8.3nm,0.8s,baz=37,slow=3.8,SNR=5.1								
SHEL	Horse Pasture	143.59	168		PKPbc	21 53 30.7	+0.1		
SHEL	Horse Pasture	143.59	168	PKiKP	PKPbc	21 53 30.7	+0.1		
EKA	Eskdalemuir Ar	144.47	5	PKP	PKPdf	21 53 31.4	-0.6		
	comp=Z,8.6nm,0.8s,baz=353,slow=2.9,SNR=4.0								
MBAR	Mbarara	144.96	238	PKP	PKPbc	21 53 35.2	+0.1		
	comp=Z,19nm,0.7s,baz=77,slow=22,SNR=5.7								
BNN	Bunyan	145.04	310		PKPdf	21 53 33.5	-0.1		
BRTR	Keskin Array B	146.24	313	PKPbc	PKPbc	21 53 37.4	-0.6		
	comp=Z,3.6nm,0.9s,baz=198,slow=23,SNR=6.6								
ANTO	Ankara	146.75	313		PKPbc	21 53 38.2	-1.1		
ANTO	Ankara	146.75	313	PKiKP	PKPbc	21 53 38.2	-1.1		
MMAI	Mount Meron Ar	147.27	300	PKPbc	PKPbc	21 53 41.3	+0.4		
	comp=Z,19nm,0.6s,baz=72,slow=5.6,SNR=8.8								
CLL	Collm	147.45	347	*i* PKiKP	PKPbc	21 53 39.8	-0.8		
CLL	Collm	147.45	347	⫴ *i*PKPbc	PKPbc	21 53 39.8	-0.8		
	comp=Z,45nm,1.1s								
CLL				⇑*i*PKiKP	PKPab	21 53 43.9	-0.8		
	comp=Z,50nm,1.1s								
CLL				*ep*PKiKP	pPKPbc	21 55 57.0	+0.1		
CLL				*e*SKPbc	SKiKP	21 56 23.0	+0.9		
GERES	GERESS Array B	149.58	344	PKPbc	P

comp=Z,77nm,1.0s
SNZO South Karori 22.24 194 P **P** **21 41 14.3 -1.8**
RPZ Rata Peaks 25.45 198 P **P** **21 41 43.8 -0.7**
comp=Z,24nm,0.7s,baz=54,slow=8.1,SNR=1.7
comp=Z,24nm,0.7s
PPT Papeete 27.20 90 P **P** **21 41 59.9 -0.3**
comp=Z,41nm,0.5s,baz=216,slow=0.6,SNR=4.1
comp=Z,41nm,0.5s
PPTF Pamatai, Papee 27.21 90 P **P** **21 41 60.0 -0.3**
EIDS Eidsvold 28.84 253 P **P** **21 42 14.0 -0.3**
EIDS IAmb IAmb 21 42 20.0
comp=Z,34nm,1.1s
CAN Canberra 32.73 235 P **P** **21 42 47.6 +0.2**
CAN IAmb IAmb 21 42 47.9
comp=Z,69nm,1.3s
CAN Canberra 32.73 235 P **P** **21 42 47.6 +0.2**
CTA Charters Tower 33.37 263 P **P** **21 42 53.5 +0.5**
comp=Z,93nm,0.5s,baz=85,slow=8.5,SNR=23
comp=Z,93nm,0.5s
CTAO Charters Tower 33.37 263 P **P** **21 42 53.5 +0.5**
CTAO Charters Tower 33.37 263 P **P** **21 42 53.5 +0.5**
CTAO Charters Tower 33.37 263 P **P** **21 42 53.5 +0.5**
PMG Port Moresby 35.01 282 P **P** **21 43 07.3 +0.7**
comp=Z,111nm,0.8s,baz=86,slow=4.2,SNR=5.5
comp=Z,111nm,0.8s
PMG Port Moresby 35.01 282 P **P** **21 43 06.6 0.0**
PMG Port Moresby 35.01 282 P **P** **21 43 06.6 0.0**
PMG Port Moresby 35.01 282 P **P** **21 43 07.2 +0.6**
PMG pP **pP** **21 44 45.0 +0.5**
PATS Pohnpei 35.16 317 P **P** **21 43 08.5 +0.6**
TOO Toolangi 36.14 233 P **P** **21 43 15.6 -0.1**
TOO IAmb IAmb 21 43 18.8
comp=Z,65nm,1.4s
TOO Toolangi 36.14 233 P **P** **21 43 15.6 -0.1**
COEN Coen 37.35 273 P **P** **21 43 26.6 +0.7**
STKA Stephens Creek 37.91 243 P **P** **21 43 30.6 +0.4**
comp=Z,21nm,0.9s,baz=91,slow=16,SNR=1.3
comp=Z,21nm,0.9s
MANU Manus Island 38.00 293 P **P** **21 43 32.7 +1.5**
WAKE Wake Island 41.61 338 P **P** **21 43 59.5 -0.2**
BBOO Buckleboo 42.67 243 P **P** **21 44 08.0 -0.1**
WB0 Warramunga Arr 44.48 262 P **P** **21 44 21.8 -0.4**
AS31 Alice Springs 44.48 256 P **P** **21 44 22.2 0.0**
AS31 IAmb IAmb 21 44 23.5
comp=Z,30nm,0.8s
ASAR Alice Springs 44.48 256 P **P** **21 44 22.2 +0.1**
comp=Z,45nm,0.6s,baz=86,slow=8.1,SNR=8.7
ASAR PcP **PcP** **21 45 52.4 +0.2**
comp=Z,10nm,0.7s,baz=108,slow=3.9,SNR=2.1
ASAR S **S** **21 50 12.5 -2.6**
comp=Z,12nm,1.0s,baz=95,slow=16,SNR=5.0
ASAR ScS **ScS** **21 53 14.6 +0.5**
comp=Z,1.7nm,0.6s,baz=99,slow=4.8,SNR=4.6
comp=Z,45nm,0.6s
WRA Warramunga Arr 44.50 261 P **P** **21 44 22.0 -0.3**
comp=Z,26nm,0.5s,baz=98,slow=7.6,SNR=18
WRA S **S** **21 50 13.0 -2.4**
comp=Z,3.7nm,0.9s,baz=90,slow=14,SNR=2.9
comp=Z,26nm,0.5s
MTN Manton Dam 48.96 270 P **P** **21 44 55.3 -0.6**
MTN IAmb IAmb 21 45 13.6
comp=Z,69nm,0.8s
GUMO Guam 49.23 310 P **P** **21 44 57.6 -0.1**
comp=Z,89nm,0.7s,baz=158,slow=12,SNR=7.0
comp=Z,89nm,0.7s
GUMO Guam 49.23 310 P **P** **21 44 57.7 0.0**
GUMO Guam 49.23 310 P **P** **21 44 57.7 0.0**
GUMO Guam 49.23 310 P **P** **21 44 57.8 0.0**
FAKI Fak Fak 51.16 283 P **P** **21 45 11.5 -0.4**
FAKI IAmb IAmb 21 45 22.0
comp=Z,90nm,1.3s
FITZ Fitzroy Crossi 52.92 262 P **P** **21 45 24.4 0.0**
comp=Z,75nm,0.8s,baz=360,slow=23,SNR=1.6
comp=Z,75nm,0.8s
DRV Dumont d'Urvil 53.91 199 P **P** **21 45 31.3 +0.8**
TNTI Ternate 57.10 284 P **P** **21 45 53.6 +0.1**
TNTI IAmb IAmb 21 45 54.6
comp=Z,67nm,1.0s
PSA00 Pilbara Seismi 57.63 257 P **P** **21 45 57.2 +0.2**
PSA00 Pilbara Seismi 57.63 257 P **P** **21 45 56.3 -0.7**
PSA00 IAmb IAmb 21 46 05.0
comp=Z,278nm,1.4s
MBWA Marble Bar 57.81 257 P **P** **21 45 57.2 -1.0**
MBWA Marble Bar 57.81 257 P **P** **21 45 57.9 -0.3**
SBA Scott Base 58.52 184 P **P** **21 46 04.6 +2.6**
MMRI Maumere 58.53 272 P **P** **21 46 02.7 -0.5**
VNDA Vanda 58.55 185 P **P** **21 46 04.1 +1.9**
MORW Morawa 59.90 247 P **P** **21 46 11.6 -0.4**
JCJ Chichijima 60.41 319 P **P** **21 46 14.6 -0.8**
comp=Z,78nm,0.7s,baz=266,slow=18,SNR=5.2
comp=Z,78nm,0.7s
JCJ Chichijima 60.41 319 P **P** **21 46 14.5 -0.8**
LUWI Luwuk 60.62 280 P **P** **21 46 17.1 +0.1**
LUWI IAmb IAmb 21 46 22.1
comp=Z,198nm,1.2s
GIRL Giralia 62.54 254 P **P** **21 46 29.9 +0.5**
CCD Concordia, Ant 63.06 194 P **P** **21 46 32.1 -0.1**
CCD pP **pwP** **21 48 34.5 +5.1**
CASY Casey 64.48 205 P **P** **21 46 40.8 -0.1**
CASY IAmb IAmb 21 46 44.7
comp=Z,129nm,1.4s
CASY Casey 64.48 205 P **P** **21 46 41.9 +1.0**
JHJ2 Mitsune 66.17 322 P **P** **21 46 52.0 +0.1**
JMM Marumori 69.14 326 P **P** **21 47 10.0 +0.2**
JMM IAmb IAmb 21 47 10.8
comp=Z,42nm,0.9s
INU Inuyama 69.39 322 P **P** **21 47 12.0 +0.6**
KKM Kota Kinabalu 69.40 285 P **P** **21 47 12.2 +0.1**
KKM IAmb IAmb 21 47 19.1
comp=Z,109nm,1.4s
MJAR Matsushiro Arr 69.56 324 P **P** **21 47 12.1 -0.3**
comp=Z,25nm,0.6s,baz=157,slow=5.9,SNR=29
comp=Z,25nm,0.6s
MAJO Matsushiro 69.56 324 P **P** **21 47 12.4 -0.1**
JOW Kunigami 69.59 310 P **P** **21 47 13.5 +0.7**
JOW IAmb IAmb 21 47 14.5
comp=Z,42nm,0.9s
UGM Wanagama 69.78 269 P **P** **21 47 13.5 -0.8**
JMN Monobe 70.16 319 P **P** **21 47 16.2 +0.1**
JMN IAmb IAmb 21 47 17.8
comp=Z,57nm,1.0s
QSPA South Pole Qui 70.23 180 P **P** **21 47 17.1 +1.0**
comp=Z,53nm,0.9s,baz=167,slow=1.9,SNR=6.9
comp=Z,53nm,0.9s
QSPA South Pole Qui 70.23 180 P **P** **21 47 16.6 +0.4**
QSPA IAmb IAmb 21 47 23.6
comp=Z,96nm,1.1s
QSPA South Pole Qui 70.23 180 P **P** **21 47 17.3 +1.2**
QSPA sP **sP** **21 50 15.2 -3.3**
JSD Sado 70.61 325 P **P** **21 47 18.7 +0.1**
JSD IAmb IAmb 21 47 19.9
comp=Z,49nm,0.9s
AMKA Amchitka 70.93 358 P **P** **21 47 19.5 -0.6**
JTM Tenmabayashi 71.20 328 P **P** **21 47 22.0 +0.1**
JTM IAmb IAmb 21 47 23.2
comp=Z,41nm,0.7s
ADK Adak 71.42 1 P **P** **21 47 22.6 -0.4**
ADK Adak 71.42 1 P **P** **21 47 22.6 -0.4**
ADK pmax pmax
comp=Z,417nm,1.5s
ADK Adak 71.42 1 P **P** **21 47 22.3 -0.7**
ADK pP **pP** **21 49 25.6 +1.5**
SBUM Sibu 71.70 280 P **P** **21 47 25.6 +0.1**
YOJ Yonaguni jima 72.19 305 P **P** **21 47 28.1 0.0**
YOJ Yonaguni jima 72.19 305 P **P** **21 47 28.1 0.0**
YOJ pmax pmax
comp=Z,85nm,0.6s
SHEM Shemya Is, Ala 72.56 355 P **P** **21 47 28.8 -0.7**
comp=Z,27nm,0.2s,baz=282,slow=10,SNR=11
comp=Z,27nm,0.2s
NIKH Nikolski High 72.95 6 P **P** **21 47 31.6 -0.1**
baz=189
YULB Yu-li 72.97 303 P **P** **21 47 31.1 -1.5**
NACB Ninganchiao 73.14 304 P **P** **21 47 33.0 -0.6**
NACB IAmb IAmb 21 47 33.7
comp=Z,60nm,0.8s
TPUB Ta-pu 73.45 303 P **P** **21 47 34.4 -1.0**
UNV Unalaska Valle 74.06 7 P **P** **21 47 37.2 -0.8**
UNV IAmb IAmb 21 48 02.2
comp=Z,78nm,1.3s
UNV Unalaska Valle 74.06 7 P **P** **21 47 37.2 -0.8**
baz=191
PEA0B Petropavlovsk- 75.58 345 P **P** **21 47 45.7 -0.8**
PEA0B IAmb IAmb 21 47 47.5
comp=Z,36nm,0.8s
PEA0B Petropavlovsk- 75.58 345 P **P** **21 47 45.7 -0.8**
PEA0B pmax pmax
comp=Z,36nm,0.8s
PETK Petropavlovsk- 75.58 345 P **P** **21 47 46.4 -0.1**
comp=Z,30nm,0.7s,baz=105,slow=5.4,SNR=17
comp=Z,30nm,0.7s
PETK Petropavlovsk- 75.58 345 P **P** **21 47 45.8 -0.7**
PETK Petropavlovsk- 75.58 345 P **P** **21 47 45.8 -0.7**
CNBA Chernabura Isl 76.04 11 P **P** **21 47 48.1 -0.9**
KSRS Korea Array 76.26 319 P **P** **21 47 51.5 +0.9**
comp=Z,7.3nm,0.6s,baz=128,slow=6.1,SNR=16
comp=Z,7.3nm,0.6s
KSAR Wonju Array Be 76.28 319 P **P** **21 47 50.7 0.0**
KSAR Wonju Array Be 76.28 319 P **P** **21 47 50.7 0.0**
SDPT Sand Point 76.39 10 P **P** **21 47 50.2 -0.7**
SDPT IAmb IAmb 21 47 50.9
comp=Z,42nm,0.8s
SDPT Sand Point 76.39 10 P **P** **21 47 50.6 -0.3**
baz=197
S14K Fog Glacier 77.44 11 P **P** **21 47 57.2 +0.4**
baz=198
CHGN Chignik 77.66 11 P **P** **21 47 57.5 -0.2**
CHIR Chirikof Islan 77.75 13 P **P** **21 47 58.0 -0.3**
CHIR IAmb IAmb 21 48 09.4
comp=Z,108nm,1.3s
MNAI Manna 78.04 270 P **P** **21 48 00.6 -0.3**
HKPS Hong Kong Po S 78.20 299 P **P** **21 48 02.4 +0.9**
HKPS IAmb IAmb 21 48 04.1
comp=Z,40nm,0.9s
USA0B Ussuriysk Arra 78.31 326 P **P** **21 48 01.8 +0.3**
USA0B Ussuriysk Arra 78.31 326 P **P** **21 48 01.8 +0.3**
USA0B pmax pmax
comp=Z,37nm,0.9s
USRK Ussuriysk Ar. 78.31 326 P **P** **21 48 03.0 +1.4**
comp=Z,33nm,0.8s,baz=117,slow=3.5,SNR=17
comp=Z,33nm,0.8s
USRK Ussuriysk Ar. 78.31 326 P **P** **21 48 02.1 +0.6**
USRK Ussuriysk Ar. 78.31 326 P **P** **21 48 02.1 +0.6**
SII Sitkinak Islan 78.74 13 P **P** **21 48 03.3 -0.3**
SII IAmb IAmb 21 48 04.6
comp=Z,47nm,0.8s
SII Sitkinak Islan 78.74 13 P **P** **21 48 03.9 +0.2**
baz=203
OHAK Old Harbor 79.55 13 P **P** **21 48 07.6 -0.2**
OHAK Old Harbor 79.55 13 P **P** **21 48 08.4 +0.6**
baz=204
MDJ Mudanjiang 79.86 325 P **P** **21 48 10.4 +0.7**
MDJ IAmb IAmb 21 48 11.8
comp=Z,42nm,0.8s
YBH Yreka Blue Hor 79.89 39 P **P** **21 48 11.3 +1.1**
comp=Z,4.2nm,0.6s,baz=237,slow=0.5,SNR=5.7
comp=Z,4.2nm,0.6s
YBH Yreka Blue Hor 79.89 39 P **P** **21 48 11.1 +1.0**
YBH Yreka Blue Hor 79.89 39 P **P** **21 48 11.1 +1.0**
YBH pmax pmax
comp=Z,12nm,1.2s
KDAK Kodiak Island 80.22 14 P **P** **21 48 11.5 +0.3**
comp=Z,10nm,0.6s,baz=260,slow=3.1,SNR=9.0
comp=Z,10nm,0.6s
KDAK Kodiak Island 80.22 14 P **P** **21 48 11.4 +0.2**
KDAK Kodiak Island 80.22 14 P **P** **21 48 11.4 +0.2**
KDAK pmax pmax
comp=Z,46nm,1.4s
Q16K King Salmon 80.22 11 P **P** **21 48 11.7 +0.5**
baz=200
BELA Belgrano 2 80.24 173 P **P** **21 48 10.9 -0.4**
NVAR Mina Array Bea 80.68 44 P **P** **21 48 15.3 +0.9**
comp=Z,0.5nm,0.2s,baz=224,slow=5.0,SNR=5.6
P17K Kvichak River 80.75 11 P **P** **21 48 14.2 +0.2**
baz=201
O16K Kokwok River B 80.83 10 P **P** **21 48 13.9 -0.5**
baz=199
Q19K Cape Douglas, 81.04 13 P **P** **21 48 15.8 +0.2**
baz=203
P18K Big Mountain, 81.16 12 P **P** **21 48 16.0 -0.1**
baz=202
O17K Koliganek Bris 81.17 11 P **P** **21 48 16.1 -0.1**
baz=200
N16K Nishlik Lake 81.56 10 P **P** **21 48 19.3 +1.1**
baz=198
K05A Summer Lake 81.57 39 P **P** **21 48 20.1 +1.2**
K05A IAmb IAmb 21 48 30.3
comp=Z,71nm,1.4s
O18K Koktuh Hills 81.59 11 P **P** **21 48 18.6 +0.3**
baz=202
P19K Oil Pt 81.79 13 P **P** **21 48 19.2 -0.1**
KLR Kul'dur 81.86 329 P **P** **21 48 20.6 +0.7**
comp=Z,14nm,1.0s,baz=285,slow=5.3,SNR=5.5
comp=Z,14nm,1.0s
PMSA Palmer Station 81.97 157 P **P** **21 48 20.6 +0.3**
comp=Z,17nm,0.8s,baz=284,slow=4.2,SNR=1.7
comp=Z,17nm,0.8s
PMSA Palmer Station 81.97 157 P **P** **21 48 19.2 -1.1**
PMSA IAmb IAmb 21 48 28.5
comp=Z,68nm,1.3s
O19K Port Alsworth 82.08 12 P **P** **21 48 20.8 +0.1**
baz=203
CNPM China Poot 82.10 13 P **P** **21 48 20.8 -0.2**
CNPM IAmb IAmb 21 48 21.7
comp=Z,28nm,0.7s
N18K Kilae Creek 82.24 11 P **P** **21 48 21.2 -0.4**
BRLK Bradley Lake 82.39 14 P **P** **21 48 22.0 -0.4**
BRLK IAmb IAmb 21 48 23.1
comp=Z,36nm,0.8s
BRSE Bradley Lake S 82.40 14 P **P** **21 48 22.9 +0.5**
baz=206
N19K Bonanza Creek 82.62 11 P **P** **21 48 23.3 -0.3**
baz=202
SVW2 Sparrevohn 82.68 11 P **P** **21 48 23.6 -0.2**
UBPT Khong Chiam 82.73 289 P **P** **21 48 25.7 +0.6**
IPM Ipoh 82.85 277 P **P** **21 48 26.2 +0.4**
IPM IAmb IAmb 21 48 27.2
comp=Z,60nm,0.7s
MA2 Magadan 83.09 345 P **P** **21 48 25.6 -0.2**
MA2 IAmb IAmb 21 48 48.0
comp=Z,56nm,1.1s
MA2 Magadan 83.09 345 P **P** **21 48 25.6 -0.2**
MA2 pmax pmax
comp=Z,56nm,1.1s
I07A Izee 83.19 38 P **P** **21 48 27.4 +0.5**
SPU Mount Spurr 83.43 12 P **P** **21 48 26.3 -1.2**
KULM Kulim 83.48 278 P **P** **21 48 29.2 +0.3**
KULM IAmb IAmb 21 48 30.6
comp=Z,25nm,0.7s
M19K Big River Lodg 83.65 11 P **P** **21 48 28.1 -0.5**
M19K Big River Lodg 83.65 11 P **P** **21 48 28.7 +0.1**
baz=202
PGC Sidney 83.81 33 P **P** **21 48 30.3 +0.7**
L19K White Mountain 83.82 11 P **P** **21 48 30.7 +1.2**
baz=202
BBB Bella Bella 83.91 28 P **P** **21 48 30.7 +0.7**
BBB IAmb IAmb 21 48 51.5
comp=Z,56nm,1.4s
PWL Port Wells 83.95 14 P **P** **21 48 29.2 -0.9**
PWL IAmb IAmb 21 48 30.6
comp=Z,34nm,0.8s
SUA Susitna One 83.96 13 P **P** **21 48 29.6 -0.6**
baz=206
MG05 Puerto Natales 83.96 143 P **P** **21 48 30.9 +0.4**
GLI Glacier Island 84.25 15 P **P** **21 48 31.7 +0.1**
baz=209
SKT Skwentna 84.26 12 P **P** **21 48 31.0 -0.6**
baz=205
EYAK Cordova Ski Ar 84.30 15 P **P** **21 48 31.9 +0.2**
KNK Knik Glacier 84.41 14 P **P** **21 48 32.8 +0.4**
baz=208
PMR Palmer 84.42 14 P **P** **21 48 32.1 -0.2**
baz=207
BMRM Bremner River 84.95 16 P **P** **21 48 35.0 0.0**
BMRM IAmb IAmb 21 48 49.1
comp=Z,67nm,1.4s
BMRM Bremner River 84.95 16 P **P** **21 48 35.7 +0.7**
baz=211
GSI Gunungsitoli 85.00 273 P **P** **21 48 37.1 +0.8**
GSI IAmb IAmb 21 48 38.2
comp=Z,34nm,0.6s
SCM Sheep Creek Mo 85.04 14 P **P** **21 48 35.9 +0.5**
baz=209
K20K Telida 85.05 11 P **P** **21 48 35.2 -0.2**
K20K IAmb IAmb 21 48 36.4
comp=Z,30nm,0.9s
K20K Telida 85.05 11 P **P** **21 48 35.7 +0.3**
baz=203
BJT Baijiatuau 85.28 315 P **P** **21 48 37.6 +0.6**
BJT IAmb IAmb 21 48 37.7
comp=Z,34nm,1.3s
BJT Baijiatuau 85.28 315 P **P** **21 48 37.6 +0.6**
BJT pmax pmax
comp=Z,34nm,1.3s
MG02 Cerro Sombrero 85.30 145 P **P** **21 48 37.4 +0.4**
MG02 IAmb IAmb 21 48 39.2
comp=Z,58nm,0.8s
CAST Castle Rocks 85.47 11 P **P** **21 48 36.4 -1.0**
baz=204
N25K Chitina, Valde 85.50 15 P **P** **21 48 37.6 -0.1**
N25K IAmb IAmb 21 48 52.5
comp=Z,44nm,1.3s
N25K Chitina, Valde 85.50 15 P **P** **21 48 38.1 +0.5**
baz=211
ENH Enshi 85.50 304 P **P** **21 48 38.4 0.0**
ENH IAmb IAmb 21 48 40.2
comp=Z,70nm,1.0s
WAT6 Susitna Watana 85.60 14 P **P** **21 48 38.5 +0.2**
baz=208
WAT1 Susitna Watana 85.64 13 P **P** **21 48 38.4 +0.1**
baz=208
SEY Seymchan 85.68 347 P **P** **21 48 38.4 0.0**
comp=Z,42nm,0.8s,baz=152,slow=5.7,SNR=16
comp=Z,42nm,0.8s
J20K Nowinta River 85.80 10 P **P** **21 48 39.2 +0.3**
baz=203
TRF Thorofare Moun 85.84 12 P **P** **21 48 38.9 -0.4**
baz=206
CHUM Lake Minchumin 85.85 11 P **P** **21 48 38.6 -0.6**
baz=204
DHY Denali Highway 86.12 14 P **P** **21 48 40.4 -0.3**
baz=209
MCK McKinley 86.37 13 P **P** **21 48 41.4 -0.2**
baz=207
YUK3 Moose Creek 86.72 17 P **P** **21 48 44.5 +0.8**
baz=215
S34M Telegraph Cree 86.73 23 P **P** **21 48 45.1 +1.6**
baz=224
HYT Haines Junctio 86.81 19 P **P** **21 48 44.2 +0.3**
M27K Edge Creek, AK 86.83 16 P **P** **21 48 44.1 +0.1**
M27K IAmb IAmb 21 48 49.5
comp=Z,52nm,1.2s
TXAR Lajitas Array 86.86 57 P **P** **21 48 46.1 +1.2**
comp=Z,2.2nm,0.7s,baz=214,slow=8.6,SNR=4.6
comp=Z,2.2nm,0.7s
I21K Tanana 87.09 11 P **P** **21 48 45.0 0.0**
baz=204
K24K Donnelly Dome 87.11 14 P **P** **21 48 45.2 0.0**
baz=210
MLY Manley 87.18 11 P **P** **21 48 44.7 -0.8**
baz=206
O30N Mendenhall 87.20 19 P **P** **21 48 46.5 +0.9**
baz=219
HDA Harding Lake 87.38 13 P **P** **21 48 45.9 -0.5**
baz=209
H21K Melozitna Rive 87.39 10 P **P** **21 48 46.0 -0.4**
H21K IAmb IAmb 21 48 51.7
comp=Z,37nm,1.3s
H21K Melozitna Rive 87.39 10 P **P** **21 48 46.7 +0.2**
baz=204
IMAR Indian Mountai 87.53 10 P **P** **21 48 46.7 -0.3**
TCOL CIGO, UAF Yank 87.60 12 P **P** **21 48 46.9 -0.4**
baz=208
COLA College 87.60 12 P **P** **21 48 47.0 -0.3**
baz=208
IL31 87.71 13 P **P** **21 48 47.1 -0.7**
IL31 IAmb IAmb 21 49 02.1
comp=Z,30nm,1.2s
ILAR Eielson Array 87.71 13 P **P** **21 48 47.2 -0.7**
comp=Z,16nm,0.8s,baz=214,slow=5.5,SNR=20
comp=Z,16nm,0.8s
M29M Somme Creek 87.82 17 P **P** **21 48 49.4 +0.8**
baz=217
H22K Ishtalitna Cre 87.85 11 P **P** **21 48 48.4 -0.1**
baz=205
N31M Braeburn, Yuko 87.85 19 P **P** **21 48 49.7 +1.0**
baz=219
J25K Salcha River, 87.90 14 P **P** **21 48 48.7 -0.2**
baz=211
G21K Allakaket 88.07 10 P **P** **21 48 49.6 +0.1**
baz=203
J26L Joseph Creek 88.21 14 P **P** **21 48 50.8 +0.5**
baz=212
L29M L29M 88.44 17 P **P** **21 48 52.2 +0.7**
baz=217
PDAR Pinedale Array 88.61 43 P **P** **21 48 53.1 +0.2**
comp=Z,1.4nm,0.8s,baz=270,slow=4.2,SNR=1.3
comp=Z,1.4nm,0.8s
PRP Porcupine Dome 88.65 13 P **P** **21 48 52.5 +0.1**
baz=210
G22K Bettles 88.76 10 P **P** **21 48 52.8 0.0**
baz=205
DAWY Dawson 88.88 16 P **P** **21 48 54.1 +0.7**
baz=216
EGAK Eagle 89.01 15 P **P** **21 48 54.0 0.0**
EGAK IAmb IAmb 21 48 55.0
comp=Z,24nm,0.9s
K29M Barlow Dome 89.19 17 P **P** **21 48 55.8 +0.8**
baz=218
COLD Coldfoot 89.26 11 P **P** **21 48 55.9 +0.8**
baz=206
MAYO Mayo, Yukon 89.45 18 P **P** **21 48 57.3 +1.3**
baz=219
CMAR Chiang Mai Arr 89.71 290 P **P** **21 48 59.9 +1.6**
comp=Z,18nm,0.9s,baz=99,slow=2.9,SNR=9.6
comp=Z,18nm,0.9s
PLCA Paso Flores 89.87 134 P **P** **21 48 59.5 +0.7**
comp=Z,7.9nm,0.9s,baz=236,slow=4.8,SNR=3.0
comp=Z,7.9nm,0.9s
EPYK Eagle Plains 91.40 15 P **P** **21 49 04.6 -0.4**
baz=218
SONM Songino Array 95.12 319 P **P** **21 49 21.9 -0.7**
comp=Z,8.5nm,1.1s,baz=116,slow=3.5,SNR=1.8
comp=Z,8.5nm,1.1s
YKA Yellowknife Ar 95.99 25 P **P** **21 49 25.4 -0.6**
comp=Z,1.6nm,0.6s,baz=227,slow=3.9,SNR=1.5
comp=Z,1.6nm,0.6s
ZALV Zalesovo Beam 109.85 321 PKiKP **PKiKP** **21 54 24.1 -2.0**
comp=Z,2.4nm,0.7s,baz=98,slow=1.6,SNR=1.7
MKAR Makanchi Array 110.60 314 PKiKP **PKiKP** **21 54 26.7 -1.1**
comp=Z,2.9nm,0.6s,baz=264,slow=1.0,SNR=4.7
KURBB Kurchatov Arra 113.42 317 PKiKP **PKiKP** **21 54 31.9 -1.1**
comp=Z,1.3nm,0.5s,baz=104,slow=1.8,SNR=5.0
BVAR Borovoye Array 118.44 320 PKP **PKPdf** **21 54 41.9 -0.8**
comp=Z,4.4nm,0.4s,baz=124,slow=1.7,SNR=14
SPITS Spitsbergen Ar 121.19 357 PKP **PKPdf** **21 54 46.4 -0.9**
comp=Z,18nm,1.0s,baz=64,slow=6.6,SNR=2.7
ARU Arti 124.54 326 PKP **PKPdf** **21 54 53.7 -0.5**
comp=Z,8.7nm,0.4s,baz=64,slow=2.5,SNR=8.9
ARCES ARCESS Array B 128.23 350 PKP **PKPdf** **21 55 00.3 -0.6**
comp=Z,4.4nm,0.4s,baz=103,slow=1.2,SNR=21
GEYT Alibeck 128.26 303 PKP **PKPdf** **21 55 01.7 -0.3**
comp=Z,4.6nm,0.9s,baz=264,slow=1.4,SNR=1.6
KIRV Kirov 128.29 330 PKP **PKPdf** **21 55 01.5 +0.3**
comp=Z,34nm,0.9s,baz=57,slow=1.9,SNR=5.8
FINES FINESS Array B 135.08 344 PKP **PKPdf** **21 55 14.9 +0.9**
comp=Z,3.0nm,0.4s,baz=123,slow=2.0,SNR=6.9
FINES PKKP **PKKPdf** **22 04 59.5 +0.4**
comp=Z,3.8nm,0.9s,baz=288,slow=1.8,SNR=4.0
NOA NORSAR Array B 138.30 353 PKhKP **PKPpre** 21 55 13.3
comp=Z,2.4nm,0.8s,baz=23,slow=3.9,SNR=4.2
NOA PKP **PKiKP** **21 55 21.4 -0.9**
comp=Z,4.5nm,1.2s,baz=37,slow=2.0,SNR=1.6
HFS Hagfors 138.85 351 PKhKP PKPpre 21 55 11.4
comp=Z,5.5nm,0.4s,baz=54,slow=3.2,SNR=17
AKASG Malin Array Be 142.34 331 PKhKP PKPpre 21 55 23.5
comp=Z,11nm,0.3s,baz=43,slow=4.2,SNR=55
EKA Eskdalemuir Ar 144.36 5 PKP **PKPdf** **21 55 30.4 -0.5**
comp=Z,7.0nm,0.5s,baz=325,slow=3.5,SNR=22
PURM Purcari 144.83 326 ⇑P **PKPdf** **21 55 32.4 +0.4**
MBAR Mbarara 145.11 238 PKPbc **PKPab** **21 55 35.8 -0.1**
comp=Z,10nm,0.6s,baz=86,slow=23,SNR=7.9
MILM Milestii Mici 145.13 327 ⇑P **PKPdf** **21 55 32.8 +0.3**
MILM Milestii Mici 145.13 327 ⇑PKHKP **PKPdf** **21 55 32.8 +0.3**
LEOM Leova 145.72 327 ⇑P **PKPbc** **21 55 35.3 0.0**
LEOM Leova 145.72 327 ⇑PKHKP **PKPbc** **21 55 35.3 0.0**
VASR Vaslui 145.84 327 ⇑P **PKPbc** **21 55 35.4 -0.3**
VLDR Vladesti 146.22 326 ⇑P **PKPbc** **21 55 36.9 +0.2**
BRTR Keskin Array B 146.25 313 PKPbc **PKPbc** **21 55 36.8 -0.4**
comp=Z,13nm,0.5s,baz=133,slow=3.6,SNR=35
TLCR 146.25 325 ⇑P **PKPbc** **21 55 36.8 0.0**
TLCR 146.25 325 ⇑PKHKP **PKPbc** **21 55 36.8 0.0**
ASF Jabal al Asfar 146.29 299 PKPbc **PKPbc** **21 55 38.0 +0.5**
comp=Z,18nm,0.7s,baz=141,slow=1.1,SNR=9.0
VARL Varlezi 146.30 326 ⇑P **PKPbc** **21 55 36.5 -0.4**
SCTR Scanteiesti 146.38 326 ⇑P **PKPbc** **21 55 37.4 +0.3**
BURAR Bucovina Array 146.39 331 ⇑P **PKPbc** **21 55 38.0 +0.7**
BURAR Bucovina Array 146.39 331 ⇑PKIKP **PKPbc** **21 55 38.0 +0.7**

GHRR		**146.42 327**	⇑P	**PKPbc**	**21 55 37.9**	**+0.7**
BIZ	**Bicaz**	**146.46 329**	⇓P	**PKPbc**	**21 55 37.9**	**+0.5**
JURR	**Jurilovca**	**146.49 324**	⇑P	**PKPbc**	**21 55 37.2**	**-0.2**
SLCR	**Slobozia Conac**	**146.55 326**	⇑P	**PKPbc**	**21 55 38.1**	**+0.6**
IZVR	**Izvoarele**	**146.58 326**	⇑P	**PKPbc**	**21 55 37.8**	**+0.1**
CFR	**Carcaliu**	**146.63 325**	⇑P	**PKPbc**	**21 55 37.4**	**-0.4**
CFR	**Carcaliu**	**146.63 325**	⇑PKHKP	**PKPbc**	**21 55 37.4**	**-0.4**
TPGR	**Topolog**	**146.68 325**	⇑P	**PKPbc**	**21 55 38.0**	**0.0**
PANC	**Panciu**	**146.69 327**	⇑P	**PKPbc**	**21 55 38.2**	**+0.2**
ANTO	**Ankara**	**146.76 314**	⇑P	**PKPbc**	**21 55 37.6**	**-0.9**
ANTO	**Ankara**	**146.76 314**	⇑PKHKP	**PKPbc**	**21 55 37.6**	**-0.9**
BR231	**Keskin MP Arra**	**146.78 314**		**PKPbc**	**21 55 38.7**	**+0.1**
ODBI	**Odobesti**	**146.81 327**	⇓P	**PKPbc**	**21 55 39.0**	**+0.7**
VRI	**Vrincioaia**	**146.90 327**	⇑P	**PKPbc**	**21 55 37.6**	**-1.0**
VRI	**Vrincioaia**	**146.90 327**	⇑PKHKP	**PKPbc**	**21 55 37.6**	**-1.0**
TIRR	**Tirgusor**	**146.94 324**	⇑P	**PKPbc**	**21 55 38.0**	**-0.6**
TIRR	**Tirgusor**	**146.94 324**	⇑PKHKP	**PKPbc**	**21 55 38.0**	**-0.6**
CRVS	**Cervenica-Dubn**	**146.97 336**	*e*PKIKP	**PKPbc**	**21 55 39.1**	**+0.4**
CRVS			*e*		21 55 42.7	
CRVS	**Cervenica-Dubn**	**146.97 336**	*e*	**PKPbc**	**21 55 39.1**	**+0.4**
CRVS	**Cervenica-Dubn**	**146.97 336**	*e*	**PKPab**	**21 55 42.7**	**+0.6**
HARR	**Harsova**	**147.06 325**	⇑P	**PKPbc**	**21 55 39.0**	**0.0**
HARR	**Harsova**	**147.06 325**	⇑PKIKP	**PKPbc**	**21 55 39.0**	**0.0**
TLBR	**Topalu**	**147.09 324**	⇑P	**PKPbc**	**21 55 38.8**	**-0.3**
BMR	**Baia Mare**	**147.11 333**	⇑P	**PKPbc**	**21 55 39.1**	**+0.1**
BMR	**Baia Mare**	**147.11 333**	⇑PKIKP	**PKPbc**	**21 55 39.1**	**+0.1**
TRPA	**Tarpa**	**147.16 334**	⇑P	**PKPbc**	**21 55 39.1**	**0.0**
COVR	**Voineasa-Covas**	**147.18 328**	⇑P	**PKPbc**	**21 55 39.2**	**-0.1**
OZUR		**147.21 328**	⇑P	**PKPbc**	**21 55 39.1**	**-0.4**
MANR	**Mangalia**	**147.24 323**	⇑P	**PKPbc**	**21 55 39.4**	**0.0**
OSTC	**Ostas**	**147.28 343**	*e*PKP	pPKPdf	21 57 45.5	-10
OSTC	**Ostas**	**147.28 343**	*e*PKP	**PKPbc**	**21 55 39.9**	**+0.5**
CHVC	**Chvalec**	**147.29 343**	*e*PKP	**PKPbc**	**21 55 40.0**	**+0.5**
MMAI	**Mount Meron Ar**	**147.31 301**	PKPbc	**PKPbc**	**21 55 40.5**	**+0.4**
	comp=Z,25nm,0.6s,baz=75,slow=6.3,SNR=35					
OKC	**Ostrava-Krasne**	**147.34 340**	*e*PKIKP	**PKPbc**	**21 55 39.7**	**+0.1**
OKC	**Ostrava-Krasne**	**147.34 340**	*e*PKP	**PKPbc**	**21 55 39.7**	**+0.1**
CLL	**Collm**	**147.37 347**	⇓*i*PKIKP	**PKPbc**	**21 55 39.5**	**-0.1**
CLL			*i*		21 55 43.2	
CLL			*e*		21 57 44.0	
CLL			pmax	pmax		
	comp=Z,58nm,0.9s					
CLL	**Collm**	**147.37 347**	⇓*i*PKPbc	**PKPbc**	**21 55 39.5**	**-0.1**
	comp=Z,58nm,0.9s					
CLL			*i* PKiKP	**PKPab**	**21 55 43.2**	**-0.4**
	comp=Z,29nm,0.9s					
CLL			*ex*	x	21 57 44.0	
CLL			*ex*	x	21 58 07.0	
UPC	**Upice**	**147.38 343**	*e*PKIKP	**PKPbc**	**21 55 40.1**	**+0.4**
UPC	**Upice**	**147.38 343**	*e*PKP	**PKPbc**	**21 55 40.1**	**+0.4**
PGOR	**Pogoanele**	**147.42 326**	⇑P	**PKPbc**	**21 55 40.2**	**+0.3**
DPC	**Dobruska-Polom**	**147.43 343**	*e*PKIKP	**PKPbc**	**21 55 40.4**	**+0.5**
DPC			*e*		21 55 44.7	
DPC			*e*		21 57 44.3	
DPC	**Dobruska-Polom**	**147.43 343**	*e*pPKP	pPKPdf	21 57 44.3	-11
DPC	**Dobruska-Polom**	**147.43 343**	*ex*	x	21 55 44.7	
DPC	**Dobruska-Polom**	**147.43 343**	*e*PKP	**PKPbc**	**21 55 40.4**	**+0.5**
LANS	**Liptovska Anna**	**147.49 338**	*e*PKIKP	**PKiKP**	**21 55 41.3**	**-0.3**
LANS			*e*		21 55 45.5	
DOPR	**Dopca**	**147.50 329**	⇑P	**PKPbc**	**21 55 40.6**	**+0.5**
ISR	**Istrita**	**147.51 327**	⇑P	**PKPbc**	**21 55 39.1**	**-1.2**
MDUB	**Mudurnu**	**147.53 316**		**PKPbc**	**21 55 39.4**	**-1.1**
KRLC	**Kraliky**	**147.55 342**	*e*PKIKP	**PKPbc**	**21 55 40.6**	**+0.4**
KRLC	**Kraliky**	**147.55 342**	*e*PKP	**PKPbc**	**21 55 40.6**	**+0.4**
MLR	**Muntele Rosu**	**147.56 328**	⇑P	**PKPbc**	**21 55 40.5**	**0.0**
MLR	**Muntele Rosu**	**147.56 328**	PKPbc	**PKPbc**	**21 55 40.0**	**-0.5**
	comp=Z,17nm,0.5s,baz=340,slow=12,SNR=3.9					
MLR	**Muntele Rosu**	**147.56 328**	⇑PKIKP	**PKPbc**	**21 55 40.5**	**0.0**
MORC	**Moravsky Berou**	**147.58 341**	⇓P	**PKPbc**	**21 55 40.4**	**+0.1**
MORC	**Moravsky Berou**	**147.58 341**	⇓PKIKP	**PKPbc**	**21 55 40.4**	**+0.1**
PVCC	**Panska Ves**	**147.74 345**	*e*PKIKP	**PKPbc**	**21 55 41.0**	**+0.4**
PVCC	**Panska Ves**	**147.74 345**	*e*PKP	**PKPbc**	**21 55 41.0**	**+0.4**
MESR	**Meseseni**	**147.75 333**	⇓P	**PKiKP**	**21 55 41.6**	**-0.4**
CJR	**Cluj-Napoca**	**147.79 331**	⇑P	**PKPbc**	**21 55 40.7**	**-0.2**
CJR	**Cluj-Napoca**	**147.79 331**	⇑PKIKP	**PKPbc**	**21 55 41.7**	**-0.2**
LEHL	**Lehliu**	**147.80 325**	⇑P	**PKPbc**	**21 55 41.1**	**+0.2**
SECR		**147.81 327**	⇑P	**PKPbc**	**21 55 40.9**	**-0.1**
MAUC	**Maruska**	**147.85 340**	*e*PKP	**PKPbc**	**21 55 41.5**	**+0.5**
MDB	**Medias**	**147.86 330**	⇑P	**PKPbc**	**21 55 41.3**	**+0.3**
MDB	**Medias**	**147.86 330**	⇑PKIKP	**PKPbc**	**21 55 41.3**	**+0.3**
PLAR	**PLOIESTI**	**147.92 327**	⇑P	**PKPbc**	**21 55 41.3**	**+0.1**
SULR		**147.96 326**	⇑P	**PKPbc**	**21 55 41.2**	**-0.1**
VOIR		**148.04 328**	⇑P	**PKPbc**	**21 55 41.3**	**-0.3**
VOIR		**148.04 328**	⇑PKIKP	**PKPbc**	**21 55 41.3**	**-0.3**
PRU	**Pruhonice**	**148.24 344**	*e*PKIKP	**PKPbc**	**21 55 42.0**	**+0.2**
PRU			*e*		21 55 47.5	
PRU	**Pruhonice**	**148.24 344**	*ex*	x	21 55 47.5	
PRU	**Pruhonice**	**148.24 344**	*e*PKP	**PKPbc**	**21 55 42.0**	**+0.2**
GOPC	**GO Pecny, Ondr**	**148.25 344**	*e*PKIKP	**PKPbc**	**21 55 42.2**	**+0.3**
GOPC	**GO Pecny, Ondr**	**148.25 344**	*e*pPKP	pPKPdf	21 57 40.3	-16
GOPC	**GO Pecny, Ondr**	**148.25 344**	*e*PKP	**PKPbc**	**21 55 42.2**	**+0.3**
VYHS	**Vyhne**	**148.27 338**	*e*PKIKP	**PKPbc**	**21 55 42.2**	**+0.2**
VYHS			*e*		21 55 48.1	
VRAC	**Vranov**	**148.29 341**	⇑P	**PKPbc**	**21 55 42.1**	**+0.1**
VRAC	**Vranov**	**148.29 341**	PKPbc	**PKPbc**	**21 55 42.1**	**+0.1**
	comp=Z,7.7nm,0.7s,baz=40,slow=4.1,SNR=5.0					
BORR	**Bors**	**148.29 334**	⇑P	**PKPab**	**21 55 47.7**	**+0.2**
ARR	**Arges**	**148.30 329**	⇑P	**PKiKP**	**21 55 43.2**	**-0.1**
BORA	**Eskisehir**	**148.32 315**		**PKPbc**	**21 55 42.2**	**-0.3**
PSZ	**Piszkesteto**	**148.37 337**	⇑P	**PKPbc**	**21 55 41.9**	**-0.4**
PSZ	**Piszkesteto**	**148.37 337**	⇑PKIKP	**PKPbc**	**21 55 41.9**	**-0.4**
EIL	**Elat**	**148.43 295**	PKPbc	**PKPbc**	**21 55 43.0**	**+0.1**
	comp=Z,21nm,0.7s,baz=95,slow=5.6,SNR=6.7					
NKC	**Novy Kostel**	**148.50 347**	*e*PKIKP	**PKPbc**	**21 55 42.7**	**+0.2**
NKC	**Novy Kostel**	**148.50 347**	*e*PKP	**PKPbc**	**21 55 42.7**	**+0.2**
RAZG	**Razgrad**	**148.56 324**	⇑P	**PKPbc**	**21 55 42.6**	**-0.3**
LOTR	**Lotru**	**148.66 330**	⇑P	**PKPbc**	**21 55 42.1**	**-1.1**
SMOL	**Smolenice**	**148.73 340**	*e*PKIKP	**PKiKP**	**21 55 44.1**	**0.0**
DEV	**Deva**	**148.74 331**	⇑P	**PKPbc**	**21 55 43.0**	**-0.2**
DEV	**Deva**	**148.74 331**	⇑PKIKP	**PKPbc**	**21 55 43.0**	**-0.2**
MODS	**Modra-Piesok**	**148.90 340**	*e*PKIKP	**PKiKP**	**21 55 44.4**	**-0.1**
MODS	**Modra-Piesok**	**148.90 340**	*e*	**PKiKP**	**21 55 44.4**	**-0.1**
SIRR	**Siria**	**148.99 333**	⇑P	**PKPbc**	**21 55 43.1**	**-0.7**
ZIMR		**149.12 326**	⇑P	**PKPbc**	**21 55 43.8**	**-0.3**
ZIMR		**149.12 326**	⇑PKHKP	**PKPbc**	**21 55 43.8**	**-0.3**
GZR	**Gura Zlata**	**149.17 331**	⇑P	**PKPbc**	**21 55 43.9**	**-0.5**
GZR	**Gura Zlata**	**149.17 331**	⇑PKIKP	**PKPbc**	**21 55 43.9**	**-0.5**
KHC	**Kasperske Hory**	**149.28 345**	*e*PKHKP	**PKPbc**	**21 55 44.7**	**+0.3**
KHC			*e*		21 55 52.0	
KHC	**Kasperske Hory**	**149.28 345**	*ex*	x	21 55 52.0	
KHC	**Kasperske Hory**	**149.28 345**	*e*PKP	**PKPbc**	**21 55 44.7**	**+0.3**
CKRC	**Cesky Krumlov**	**149.37 344**	*e*pPKP	pPKPdf	21 57 36.9	-22
CKRC	**Cesky Krumlov**	**149.37 344**	*e*PKP	**PKPbc**	**21 55 45.0**	**+0.3**
CKRC	**Cesky Krumlov**	**149.37 344**	*ex*	x	21 55 52.3	
SRE	**Strehaia**	**149.51 329**	⇓P	**PKPbc**	**21 55 45.2**	**+0.1**
SRE	**Strehaia**	**149.51 329**	⇓PKHKP	**PKPbc**	**21 55 45.2**	**+0.1**
GERES	**GERESS Array B**	**149.51 344**	PKPbc	**PKPbc**	**21 55 45.0**	**-0.1**
	comp=Z,13nm,0.6s,baz=34,slow=3.3,SNR=34					
BZS	**Buzias**	**149.52 332**	⇑P	**PKPbc**	**21 55 44.8**	**-0.3**
BZS	**Buzias**	**149.52 332**	⇑PKHKP	**PKPbc**	**21 55 44.8**	**-0.3**
HERR	**Herculane**	**149.72 330**	⇑P	**PKPbc**	**21 55 44.8**	**-0.7**
BANR	**Banloc**	**149.91 332**	⇑P	**PKiKP**	**21 55 46.6**	**0.0**
MDVR	**Moldovita**	**150.12 331**	⇑P	**PKPbc**	**21 55 46.7**	**+0.1**
MORH	**Mrgy, Hungar**	**150.26 336**	⇑P	**PKPbc**	**21 55 46.3**	**-0.4**
BLKB	**Belogradchik**	**150.53 328**	⇑P	**PKPbc**	**21 55 46.8**	**-0.8**
AKAS	**Kas**	**150.65 310**		**PKPbc**	**21 55 46.2**	**-2.0**
FRGS	**Fruska Gora**	**150.66 333**	⇑P	**PKPbc**	**21 55 47.0**	**-0.8**
VTS	**Vitosha**	**150.97 326**	⇑P	**PKPbc**	**21 55 48.4**	**-0.3**
VTS	**Vitosha**	**150.97 326**	⇑PKHKP	**PKPbc**	**21 55 48.4**	**-0.3**
BOVS	**Bovan**	**150.99 329**	⇑P	**PKPbc**	**21 55 47.4**	**-1.2**
DAVOX	**Davos/Dischmat**	**152.32 348**	PKPbc	**PKPbc**	**21 55 51.6**	**0.0**
	comp=Z,17nm,0.6s,baz=243,slow=3.4,SNR=29					

JMA 24 21:38:01.2±0.1, 32.6°N±0.2°×130.6°E±0.3°, h10km, MV0.1/18, SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.15**	**103**	*eP*	Pg	21 38 04.6	+0.1
JIU3				*eS*	Sg	21 38 07.0	+0.1
JTA	**Tamana**	**0.39**	**346**	*eP*	Pg	21 38 08.9	-0.1
JZO	**Okuchi**	**0.44**	**185**	*eP*	Pg	21 38 10.4	+0.5
JZO				*eS*	Sg	21 38 16.1	+0.3

*NEIC **24** 21:39:45.1±0.7, 53.5°N±0.03°×163.42°W±0.07°, h25km±12km, ML3.5/6, ML3.5(AEIC), Error ellipse: s-maj=6.4km s-min=2.6km az=57.0*
AEIC 24 21:39:45±0.9, 53.47°N±0.07°×163.46°W±0.09, h16km±6km,

Error ellipse: s-maj=11.4km s-min=6.4km az=155.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.19**	**352**		Pn	21 40 05.5	-1.5
ISLZ	**Isanotski Laza**	**1.27**	**353**		Pn	21 40 06.3	-1.7
WESP	**Westdahl Peak**	**1.27**	**324**		Pn	21 40 06.5	-1.6
WESP					Sb	21 40 23.5	-1.1
SSLS	**Shishaldin Sou**	**1.29**	**346**		Pn	21 40 07.1	-1.2
SSLS					Sb	21 40 22.6	-2.6
WESN	**West Dahl Nort**	**1.29**	**329**		Pn	21 40 07.4	-0.9
WECS	**Westdahl Cape**	**1.32**	**324**		Pn	21 40 07.5	-1.3
WECS					Sn	21 40 23.3	-2.8
SSBA	**Shishaldin**	**1.36**	**344**		Pn	21 40 08.1	-1.3
ISNN	**Isanotski Nort**	**1.38**	**352**		Pn	21 40 08.8	-0.8
SSLN	**Shishaldin Nor**	**1.38**	**347**		Pn	21 40 09.3	-0.3
AKSA	**Akutan Strait**	**1.49**	**298**		Pn	21 40 09.8	-1.2
AKSA					Sn	21 40 28.6	-1.5
AKUT	**Akutan**	**1.53**	**297**	Pn	Pn	21 40 10.5	-1.0
AKUT				IAML		21 40 34.0	
	comp=N,491nm,0.5s						
AKBBA	**Akutan Broad B**	**1.60**	**294**		Pn	21 40 11.6	-0.9
AKBBA					Sn	21 40 30.7	-2.1
ZRO	**Akutan Zero**	**1.62**	**294**		Pn	21 40 11.9	-0.9
AKLV	**Akutan Long Va**	**1.64**	**296**		Pn	21 40 11.9	-1.2
AKMO	**Akutan Morgan**	**1.64**	**293**		Pn	21 40 12.2	-0.9
AKRB	**Akutan Reef Bi**	**1.69**	**294**		Pn	21 40 12.9	-0.8
UNV	**Unalaska Valle**	**1.85**	**283**	Pn	Pn	21 40 14.6	-1.4
MNAT	**Makushin Natee**	**1.96**	**284**		Pn	21 40 16.4	-1.1
SDPT	**Sand Point**	**2.57**	**42**	Pn	Pn	21 40 24.9	-0.9
SDPT				IAML		21 41 13.7	
	comp=E,315nm,1.5s						
CNBA	**Chernabura Isl**	**2.65**	**58**	Pn	Pn	21 40 25.3	-1.6
CNBA				IAML		21 41 35.3	
	comp=N,84nm,1.9s						
NIKH	**Nikolski High**	**3.28**	**263**	Pn	Pn	21 40 34.7	-1.0
OHAK	**Old Harbor**	**6.91**	**53**	Pn	Pn	21 41 22.7	-2.7
ADK	**Adak**	**8.20**	**264**	Pn	Pn	21 41 42.6	-0.5

*NEIC **24** 21:43:28.6±1.6, 20.0°S±0.1°×178.1°W±0.1, h589km±8km, mb4.6/41, Error ellipse: s-maj=17.8km s-min=16.4km az=99.0*
*IDC **24** 21:43:30.3±1.4, 19.81°S×178.38°W, h598km±15km, mb3.6/15, mbtmp4.6/17, Error ellipse: s-maj=13.9km s-min=12.6km az=65.0*
ISC 24 21:43:29.9±0.5, 19.89°S±0.08°×178.35°W±0.08, h602km, n73, σ1°08/76, mb4.5/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.03**	**302**	P	**P**	**21 44 55.5**	**-0.4**
	114nm,0.3s,baz=238,slow=22,SNR=174						
MARNC	**Mare, Loyalty**	**12.85**	**261**	P	**P**	**21 46 15.9**	**-1.3**
PINNC	**Pines Island,**	**13.52**	**256**	P	**P**	**21 46 23.0**	**-1.0**
DZM	**Mont Dzumac**	**14.37**	**259**	P	**P**	**21 46 34.3**	**+1.8**
	4.8nm,0.4s,baz=113,slow=22,SNR=9.8						
DZM	**Mont Dzumac**	**14.37**	**259**	P	**P**	**21 46 34.0**	**+1.6**
KOUNC	**Koumac, New Ca**	**16.32**	**265**	P	**P**	**21 46 52.7**	**+2.6**
URZ	**Urewera**	**18.72**	**191**	P	**P**	**21 47 09.2**	**-2.6**
	12nm,0.3s,baz=347,slow=2.4,SNR=18						
URZ	**Urewera**	**18.72**	**191**	P	**P**	**21 47 09.1**	**-2.8**
BKZ	**Black Stump Fm**	**19.72**	**192**	P	**P**	**21 47 18.2**	**-2.7**
LTZ	**Lake Taylor**	**24.15**	**197**	P	**P**	**21 47 57.9**	**-2.5**
LTZ				IAmb	IAmb	21 48 06.3	
	comp=Z,33nm,1.4s						
EIDS	**Eidsvold**	**28.70**	**253**	P	**P**	**21 48 41.1**	**+0.6**
EIDS				IAmb	IAmb	21 48 57.2	
	comp=Z,23nm,1.4s						
ARMA	**Armidale**	**29.05**	**243**	P	**P**	**21 48 44.5**	**+1.0**
ARMA				IAmb	IAmb	21 48 59.0	
	comp=Z,20nm,1.2s						
CTA	**Charters Tower**	**33.23**	**263**	P	**P**	**21 49 19.9**	**+0.7**
	comp=Z,20nm,0.4s,baz=88,slow=10.0,SNR=60						
	comp=Z,20nm,0.4s						
CTAO	**Charters Tower**	**33.23**	**263**	P	**P**	**21 49 19.7**	**+0.5**
PMG	**Port Moresby**	**34.89**	**282**	P	**P**	**21 49 33.4**	**+0.4**
	comp=Z,22nm,0.8s,baz=78,slow=5.9,SNR=6.4						
	comp=Z,22nm,0.8s						
PMG	**Port Moresby**	**34.89**	**282**	P	**P**	**21 49 33.0**	**-0.1**
PATS	**Pohnpei**	**35.12**	**317**	P	**P**	**21 49 35.4**	**+0.5**
COEN	**Coen**	**37.22**	**273**	P	**P**	**21 49 53.0**	**+0.8**
COEN				IAmb	IAmb	21 49 59.8	
	comp=Z,20nm,1.1s						
WB0	**Warramunga Arr**	**44.34**	**262**	P	**P**	**21 50 48.3**	**-0.1**
WB0				IAmb	IAmb	21 50 54.1	
	comp=Z,31nm,1.1s						
AS31	**Alice Springs**	**44.34**	**256**	P	**P**	**21 50 49.0**	**+0.5**
ASAR	**Alice Springs**	**44.34**	**256**	P	**P**	**21 50 48.8**	**+0.3**
	comp=Z,7.0nm,0.8s,baz=83,slow=8.6,SNR=7.3						
ASAR				ScP	**ScP**	**21 55 17.2**	**+2.7**
	comp=Z,0.9nm,0.7s,baz=102,slow=3.9,SNR=3.7						
ASAR				S	**S**	**21 56 39.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=90,slow=16,SNR=5.2						
	comp=Z,7.0nm,0.8s						
WB2	**Warramunga Arr**	**44.35**	**262**	P	**P**	**21 50 48.3**	**-0.3**
WRA	**Warramunga Arr**	**44.37**	**262**	P	**P**	**21 50 48.5**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=97,slow=7.1,SNR=40						
WRA				S	**S**	**21 56 38.6**	**-2.1**
	comp=Z,1.5nm,1.1s,baz=98,slow=13,SNR=3.2						
	comp=Z,2.3nm,0.3s						
MTN	**Manton Dam**	**48.83**	**270**	P	**P**	**21 51 22.8**	**+0.6**
MTN				IAmb	IAmb	21 51 23.8	
	comp=Z,38nm,1.3s						
KNRA	**Kununurra**	**50.38**	**266**	P	**P**	**21 51 33.5**	**0.0**
SIJI	**Sorong**	**52.77**	**285**	P	**P**	**21 51 51.2**	**+0.4**
	comp=Z,17nm,0.9s,baz=41,slow=9.3,SNR=7.9						
	comp=Z,17nm,0.9s						
MBWA	**Marble Bar**	**57.67**	**257**	P	**P**	**21 52 24.0**	**-0.6**
MBWA				IAmb	IAmb	21 52 36.5	
	comp=Z,40nm,1.4s						
SBA	**Scott Base**	**58.45**	**184**	P	**P**	**21 52 31.2**	**+2.3**
VNDA	**Vanda**	**58.48**	**185**	P	**P**	**21 52 30.6**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=7.7,slow=6.4,SNR=12						
	comp=Z,2.0nm,0.6s						
VNDA	**Vanda**	**58.48**	**185**	P	**P**	**21 52 30.1**	**+1.1**
CASY	**Casey**	**64.37**	**205**	P	**P**	**21 53 07.5**	**0.0**
CASY				IAmb	IAmb	21 53 08.7	
	comp=Z,27nm,1.2s						
KKM	**Kota Kinabalu**	**69.29**	**285**	P	**P**	**21 53 38.5**	**-0.2**
KKM				IAmb	IAmb	21 53 46.7	
	comp=Z,29nm,1.1s						
MJAR	**Matsushiro Arr**	**69.53**	**324**	P	**P**	**21 53 39.1**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=156,slow=5.8,SNR=14						
	comp=Z,3.1nm,0.6s						
MAJO	**Matsushiro**	**69.53**	**324**	P	**P**	**21 53 39.5**	**-0.1**
MAJO				IAmb	IAmb	21 53 40.1	
	comp=Z,5.3nm,0.5s						
MJB9	**Matsu-Tunnel**	**69.53**	**324**	P	**P**	**21 53 40.3**	**+0.7**
MJB9				IAmb	IAmb	21 53 41.1	
	comp=Z,5.2nm,0.5s						
UGM	**Wanagama**	**69.65**	**269**	P	**P**	**21 53 40.8**	**-0.1**
QSPA	**South Pole Qui**	**70.17**	**180**	P	**P**	**21 53 43.9**	**+0.8**
	comp=Z,12nm,0.5s,baz=131,slow=1.8,SNR=29						
	comp=Z,12nm,0.5s						
QSPA	**South Pole Qui**	**70.17**	**180**	P	**P**	**21 53 43.1**	**0.0**
QSPA				IAmb	IAmb	21 53 44.7	
	comp=Z,13nm,0.8s						
JSD	**Sado**	**70.58**	**325**	P	**P**	**21 53 46.2**	**+0.5**
JHS	**Saijyo**	**71.43**	**320**	P	**P**	**21 53 50.4**	**-0.4**
ADK	**Adak**	**71.48**	**1**	P	**P**	**21 53 49.2**	**-1.4**
SSLB	**Suanglung**	**73.37**	**304**	P	**P**	**21 54 01.2**	**-1.0**
SSLB				IAmb	IAmb	21 54 05.7	
	comp=Z,18nm,1.3s						
PEA0B	**Petropavlovsk-**	**75.60**	**345**	P	**P**	**21 54 13.8**	**-0.1**
PEA0B				IAmb	IAmb	21 54 34.7	
	comp=Z,27nm,1.3s						
PETK	**Petropavlovsk-**	**75.60**	**345**	P	**P**	**21 54 13.8**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=111,slow=7.1,SNR=6.8						
	comp=Z,3.6nm,0.7s						
PETK	**Petropavlovsk-**	**75.60**	**345**	P	**P**	**21 54 14.1**	**+0.1**
KSRS	**Korea Array**	**76.22**	**319**	P	**P**	**21 54 18.4**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=133,slow=6.6,SNR=4.3						
	comp=Z,0.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**78.28**	**326**	P	**P**	**21 54 29.8**	**+1.1**
	comp=Z,5.3nm,0.9s,baz=94,slow=5.8,SNR=2.9						
	comp=Z,5.3nm,0.9s						
BELA	**Belgrano 2**	**80.20**	**173**	P	**P**	**21 54 37.9**	**-0.5**
O18K	**Koktuh Hills**	**81.68**	**12**	P	**P**	**21 54 45.7**	**-0.4**
MAW	**Mawson**	**82.02**	**200**	P	**P**	**21 54 48.8**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=154,slow=4.0,SNR=10						
	comp=Z,1.2nm,0.3s						
MAW	**Mawson**	**82.02**	**200**	P	**P**	**21 54 48.5**	**+0.7**
CNPM	**China Poot**	**82.19**	**14**	P	**P**	**21 54 48.5**	**-0.1**
CNPM				IAmb	IAmb	21 55 13.6	
	comp=Z,41nm,1.3s						
N19K	**Bonanza Creek**	**82.70**	**12**		**P**	**21 54 50.2**	**-1.1**
IPM	**Ipoh**	**82.73**	**277**	P	**P**	**21 54 52.9**	**+0.5**
IPM				IAmb	IAmb	21 55 13.6	
	comp=Z,16nm,1.4s						
KULM	**Kulim**	**83.36**	**278**	P	**P**	**21 54 55.7**	**+0.1**
KULM				IAmb	IAmb	21 55 11.6	
	comp=Z,16nm,1.3s						
PWL	**Port Wells**	**84.04**	**14**	P	**P**	**21 54 57.1**	**-0.7**
PWL				IAmb	IAmb	21 55 17.6	
	comp=Z,41nm,1.4s						
GHO	**Glory Hole Cre**	**84.71**	**14**	P	**P**	**21 55 00.3**	**-0.9**
GHO				IAmb	IAmb	21 55 04.3	
	comp=Z,13nm,1.1s						
PLID	**Pearl Lake**	**85.95**	**39**		**P**	**21 55 07.4**	**-0.3**
TXAR	**Lajitas Array**	**87.00**	**57**	P	**P**	**21 55 14.2**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=205,slow=8.3,SNR=5.6						
	comp=Z,2.3nm,0.8s						
TXAR	**Lajitas Array**	**87.00**	**57**	P	**P**	**21 55 13.3**	**+0.5**
ILAR	**Eielson Array**	**87.80**	**13**	P	**P**	**21 55 14.8**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=216,slow=5.5,SNR=4.3						
	comp=Z,2.3nm,0.8s						
SNAA	**Sanae**	**88.62**	**179**	P	**P**	**21 55 19.0**	**-0.7**
SNAA				IAmb	IAmb	21 55 36.6	
	comp=Z,18nm,1.5s						
PDAR	**Pinedale Array**	**88.75**	**43**	P	**P**	**21 55 21.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=174,slow=2.6,SNR=2.2						
	comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**88.75**	**43**	P	**P**	**21 55 20.9**	**0.0**
AKASG	**Malin Array Be**	**142.33**	**331**	PKhKP	PKPpre	22 01 51.0	
	comp=Z,1.5nm,0.3s,baz=43,slow=4.2,SNR=13						
MBAR	**Mbarara**	**144.97**	**238**	PKP	**PKPab**	**22 02 02.8**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=351,slow=24,SNR=4.8						
BRTR	**Keskin Array B**	**146.19**	**313**	PKPbc	**PKPbc**	**22 02 03.8**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=146,slow=3.9,SNR=5.4						
MMAI	**Mount Meron Ar**	**

MOPA	**Mopani**	**2.73**	**228**	*e*P	Pn	21 48 02.0	+1.5
MOPA				*e*S	Sn	21 48 34.0	+0.3
MOPA				IAML		21 48 38.0	
	comp=Z,25nm,0.3s						
MUSN	**Musina, Limpop**	**3.52**	**259**	*e*P	Pn	21 48 12.2	+0.8
MUSN				*e*S	Sn	21 48 53.2	+0.1
MUSN				IAML		21 49 05.3	
	comp=Z,15nm,0.8s						
LBTB	**Lobatse**	**8.06**	**244**	*e*P	Pn	21 49 13.5	-0.4
LBTB				*e*S	Sn	21 50 40.9	-4.3

NEIC ***24*** *21:51:57.4±1.7, 19°.8S±0°.1×177°.9W±0°.2, h596km±8km, mb4.2/18, Error ellipse: s-maj=24.9km s-min=13.9km az=58.0*
IDC ***24*** *21:51:58.4±2.1, 19°.60S×178°.10W, h605km±22km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=24.8km s-min=22.4km az=92.0*
ISC 24 21:51:57.5±0.8,**19°.7S**±0°.1×**178°.0W**±0°.1,**h600**km,**n34,** σ0**995**/34,**mb4.0**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.24**	**297**	P	**P**	**21 53 25.0**	**+0.2**
	20nm,0.5s,baz=130,slow=3.4,SNR=42						
MSVF	**Nonsavu**	**4.24**	**297**	P	**P**	**21 53 24.8**	**0.0**
KOUNC	**Koumac, New Ca**	**16.68**	**264**	P	**P**	**21 55 23.6**	**+2.5**
KOUNC				IAmb	IAmb	21 55 24.6	
	comp=Z,19nm,1.2s						
URZ	**Urewera**	**18.98**	**192**	P	**P**	**21 55 39.6**	**-2.2**
	comp=Z,5.7nm,0.6s,baz=0.0,slow=6.1,SNR=1.7						
URZ	**Urewera**	**18.98**	**192**	P	**P**	**21 55 40.5**	**-1.3**
BKZ	**Black Stump Fm**	**19.98**	**193**	P	**P**	**21 55 48.9**	**-2.0**
CTA	**Charters Tower**	**33.59**	**263**	P	**P**	**21 57 50.0**	**+0.2**
	comp=Z,3.1nm,0.3s,baz=87,slow=10,SNR=9.7						
	comp=Z,3.1nm,0.3s						
CTAO	**Charters Tower**	**33.59**	**263**	P	**P**	**21 57 49.7**	**-0.2**
CTAO				IAmb	IAmb	21 57 50.6	
	comp=Z,5.7nm,0.8s						
COEN	**Coen**	**37.56**	**273**	P	**P**	**21 58 22.8**	**+0.2**
COEN				IAmb	IAmb	21 58 33.1	
	comp=Z,19nm,1.5s						
STKA	**Stephens Creek**	**38.16**	**243**	P	**P**	**21 58 27.8**	**+0.6**
WR0	**Warramunga Arr**	**44.54**	**261**	P	**P**	**21 59 17.2**	**-0.4**
WR0				IAmb	IAmb	21 59 34.9	
	comp=Z,6.2nm,1.2s						
WB0	**Warramunga Arr**	**44.71**	**261**	P	**P**	**21 59 18.2**	**-0.7**
WB0				IAmb	IAmb	21 59 44.6	
	comp=Z,6.0nm,1.1s						
AS31	**Alice Springs**	**44.72**	**256**	P	**P**	**21 59 18.9**	**-0.1**
ASAR	**Alice Springs**	**44.72**	**256**	P	**P**	**21 59 19.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=86,slow=8.3,SNR=20						
	comp=Z,1.8nm,0.6s						
WRA	**Warramunga Arr**	**44.73**	**261**	P	**P**	**21 59 18.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=97,slow=7.6,SNR=21						
	comp=Z,1.0nm,0.3s						
KNRA	**Kununurra**	**50.73**	**266**	P	**P**	**22 00 03.1**	**-0.6**
KNRA				IAmb	IAmb	22 00 05.5	
	comp=Z,16nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.16**	**262**	P	**P**	**22 00 20.8**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=87,slow=24,SNR=7.4						
	comp=Z,0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.16**	**262**	P	**P**	**22 00 21.0**	**-0.1**
MBWA	**Marble Bar**	**58.05**	**257**	P	**P**	**22 00 54.0**	**-0.8**
MBWA				IAmb	IAmb	22 01 13.2	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**58.70**	**185**	P	**P**	**22 00 59.9**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=354,slow=10,SNR=1.3						
	comp=Z,0.7nm,0.8s						
VNDA	**Vanda**	**58.70**	**185**	P	**P**	**22 00 59.6**	**+1.4**
KKM	**Kota Kinabalu**	**69.58**	**285**	P	**P**	**22 02 07.0**	**-1.1**
MJAR	**Matsushiro Arr**	**69.58**	**323**	P	**P**	**22 02 07.1**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=153,slow=6.1,SNR=4.9						
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**70.36**	**180**	P	**P**	**22 02 12.8**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=287,slow=0.8,SNR=5.9						
	comp=Z,3.2nm,0.8s						
QSPA	**South Pole Qui**	**70.36**	**180**	P	**P**	**22 02 12.7**	**+0.8**
QSPA				IAmb	IAmb	22 02 20.6	
	comp=Z,9.6nm,1.2s						
GHO	**Glory Hole Cre**	**84.45**	**13**	P	**P**	**22 03 27.9**	**+0.3**
GHO				IAmb	IAmb	22 03 33.3	
	comp=Z,16nm,1.4s						
SCM	**Sheep Creek Mo**	**84.86**	**14**	P	**P**	**22 03 30.1**	**+0.5**
SNAA	**Sanae**	**88.80**	**178**	P	**P**	**22 03 47.5**	**-0.7**
SNAA				IAmb	IAmb	22 03 53.5	
	comp=Z,4.7nm,1.3s						
INK	**Inuvik**	**93.50**	**15**	P	**P**	**22 04 09.2**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=60,slow=6.6,SNR=3.6						
	comp=Z,3.7nm,0.8s						
BRTR	**Keskin Array B**	**146.31**	**313**	PKPbc	**PKPbc**	**22 10 32.1**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=11,slow=2.9,SNR=2.9						
BRTR	**Keskin Array B**	**146.31**	**313**	PKPbc	**PKPbc**	**22 10 32.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**146.36**	**331**	PKPbc	**PKPbc**	**22 10 32.2**	**+0.1**
GERES	**GERESS Array B**	**149.44**	**345**	PKPbc	**PKPbc**	**22 10 40.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=17,slow=4.4,SNR=4.2						
GERES	**GERESS Array B**	**149.44**	**345**	PKPbc	**PKiKP**	**22 10 40.7**	**+0.1**

BJI ***24*** *21:55:05.0±0.0, 19°.90S×178°.30W, h594km, mb4.8/36, mB5.4/4*
IDC ***24*** *21:55:06.8±0.7, 19°.80S×178°.30W, h596km±7km, mb4.3/45, mbtmp5.2/50, Error ellipse: s-maj=7.8km s-min=7.2km az=152.0*
MOS ***24*** *21:55:06.1±1.0, 19°.80S×178°.34W, h597km, mb4.9/11, Error ellipse: s-maj=9.4km s-min=8.7km az=63.5*
NEIC ***24*** *21:55:06.5±1.7, 19°.86S±0°.09×178°.29W±0°.09, h587km±5km, mb5.1/153, Error ellipse: s-maj=13.7km s-min=12.4km az=142.0*
NOU ***24*** *21:55:06.8, 19°.82S×178°.21W, h600km, mb5.2/101, Fiji Islands Region*
ISC 24 21:55:07.1±0.4,**19°.83S**±0°.04×**178°.26W**±0°.04,
h606km±4km,**h607**km:**pP-P,n1089,**σ1**9**06**/1147,**mb5.0**/197,
110C-29D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**1.68**	**342**	P	**P**	**21 56 21.3**	**+0.4**
TAVE	**Taveuni**	**3.48**	**333**	P	**P**	**21 56 29.9**	**+0.1**
MSVF	**Nonsavu**	**4.07**	**300**	P	**P**	**21 56 33.9**	**+0.2**
	1μm,0.8s,baz=143,slow=9.2,SNR=287						
MSVF				S	**S**	**21 57 44.6**	**+0.3**
	587nm,1.1s,baz=143,slow=17,SNR=6.6						
MSVF	**Nonsavu**	**4.07**	**300**	P	**P**	**21 56 33.8**	**+0.1**
MSVF	**Nonsavu**	**4.07**	**300**	P	**P**	**21 56 34.2**	**+0.5**
FUTU	**Fugatoga**	**5.50**	**1**	P	**P**	**21 56 44.6**	**+0.1**
NIUE	**Niue**	**7.90**	**86**	P	**P**	**21 57 05.1**	**-0.6**
	baz=7.9,SNR=27						
NIUE	**Niue**	**7.90**	**86**	P	**P**	**21 57 04.8**	**-0.9**
NIUE	**Niue**	**7.90**	**86**	P	**P**	**21 57 05.3**	**-0.4**
AFI	**Afiamalu**	**8.55**	**47**	P	**P**	**21 57 09.9**	**-2.2**
	129nm,0.4s,baz=144,slow=1.4,SNR=25						
AFI				S	**S**	**21 58 47.0**	**-7.5**
	201nm,0.5s,baz=31,slow=23,SNR=12						
AFI	**Afiamalu**	**8.55**	**47**	P	**P**	**21 57 09.8**	**-2.3**
AFI	**Afiamalu**	**8.55**	**47**	P	**P**	**21 57 09.8**	**-2.3**
AFI	**Afiamalu**	**8.55**	**47**	P	**P**	**21 57 09.8**	**-2.3**
RAO	**Raoul Island**	**9.38**	**178**	P	**P**	**21 57 17.9**	**-1.9**
	231nm,0.3s,baz=79,slow=20,SNR=8.0						
RAO				S	**S**	**21 59 05.6**	**-3.1**
	457nm,0.3s,baz=61,slow=21,SNR=9.3						
RAO	**Raoul Island**	**9.38**	**178**	P	**P**	**21 57 17.6**	**-2.2**
RAO	**Raoul Island**	**9.38**	**178**	P	**P**	**21 57 17.6**	**-2.2**
GLKZ	**Green Lake**	**9.39**	**178**	P	**P**	**21 57 18.6**	**-1.3**
GLKZ				S	S	21 58 52.9	-16
FUNA	**Funafuti**	**11.51**	**347**	P	**P**	**21 57 39.9**	**-1.2**
RTV	**Rentapao**	**12.77**	**277**	P	**P**	**21 57 54.1**	**+0.5**
MARNC	**Mare, Loyalty**	**12.94**	**260**	P	**P**	**21 57 53.8**	**-1.4**
MARNC	**Mare, Loyalty**	**12.94**	**260**	P	**P**	**21 57 54.5**	**-0.8**
DVP	**Devils Point**	**13.01**	**277**	P	**P**	**21 57 56.1**	**+0.1**
PINNC	**Pines Island,**	**13.62**	**256**	P	**P**	**21 58 00.9**	**-1.1**
PINNC	**Pines Island,**	**13.62**	**256**	P	**P**	**21 58 01.8**	**-0.2**
LIFNC	**LIFOU**	**13.64**	**264**	P	**P**	**21 57 59.9**	**-2.4**
LIFNC	**LIFOU**	**13.64**	**264**	P	**P**	**21 58 00.1**	**-2.2**
YATNC	**Mamie plateau,**	**14.05**	**258**	P	**P**	**21 58 06.7**	**+0.3**
DZM	**Mont Dzumac**	**14.46**	**258**	*e*P	**P**	**21 58 08.5**	**-1.8**
	194nm,1.2s						
DZM	**Mont Dzumac**	**14.46**	**258**	P	**P**	**21 58 11.5**	**+1.1**
	58nm,0.5s,baz=114,slow=22,SNR=111						
DZM	**Mont Dzumac**	**14.46**	**258**	P	**P**	**21 58 09.8**	**-0.5**
DZM	**Mont Dzumac**	**14.46**	**258**	P	**P**	**21 58 11.9**	**+1.6**
ONTNC	**Ouen Toro**	**14.48**	**258**		**P**	**21 58 10.6**	**+0.2**
ONTNC	**Ouen Toro**	**14.48**	**258**	P	**P**	**21 58 11.3**	**+0.9**
NOUC	**Port Laguerre**	**14.60**	**258**	P	**P**	**21 58 12.6**	**+1.2**
KOUNC	**Koumac, New Ca**	**16.40**	**265**	P	**P**	**21 58 29.3**	**+1.4**
KOUNC	**Koumac, New Ca**	**16.40**	**265**	P	**P**	**21 58 29.7**	**+1.8**
OUZ	**Omahuta**	**16.93**	**203**	P	**P**	**21 58 34.4**	**+1.8**
GRZ	**Great Barrier**	**17.26**	**197**	P	**P**	**21 58 37.4**	**+1.8**
WCZ	**Waipu Caves**	**17.32**	**201**	P	**P**	**21 58 38.3**	**+2.2**
RAR	**Rarotonga**	**17.37**	**98**	P	**P**	**21 58 36.0**	**-0.7**
	28nm,0.6s,baz=291,slow=8.6,SNR=8.3						
RAR	**Rarotonga**	**17.37**	**98**		**P**	**21 58 37.6**	**+0.8**
RAR	**Rarotonga**	**17.37**	**98**	P	**P**	**21 58 37.6**	**+0.8**
RAR	**Rarotonga**	**17.37**	**98**	P	**P**	**21 58 38.3**	**+1.5**
KUZ	**Kuaotunu**	**17.66**	**196**	P	**P**	**21 58 40.6**	**+1.5**
WIAZ	**Waiheke Island**	**17.86**	**198**	P	**P**	**21 58 42.9**	**+1.9**
MXZ	**Matakaoa Point**	**17.92**	**189**	P	**P**	**21 58 40.7**	**-0.8**
MKAZ	**Moumakai**	**18.14**	**197**	P	**P**	**21 58 44.8**	**+1.3**
WMGZ	**Waiomatatini S**	**18.16**	**188**	P	**P**	**21 58 43.3**	**-0.3**
WMGZ				S	**S**	**22 01 35.4**	**-3.9**
HAZ	**Te Kaha**	**18.19**	**190**	P	**P**	**21 58 42.9**	**-1.0**
HAZ				S	**S**	**22 01 33.7**	**-6.2**
PKGZ	**Pakihiroa**	**18.27**	**189**	P	**P**	**21 58 44.3**	**-0.5**
RUGZ	**Raukumara Rang**	**18.41**	**190**	P	**P**	**21 58 44.7**	**-1.4**
PUZ	**Puketiti**	**18.43**	**189**	P	**P**	**21 58 45.4**	**-0.7**
PUZ				S	**S**	**22 01 40.5**	**-3.3**
URZ	**Urewera**	**18.80**	**191**	P	**P**	**21 58 47.5**	**-1.9**
	89nm,0.7s,baz=37,slow=2.0,SNR=46						
URZ				S	**S**	**22 01 43.3**	**-6.4**
	48nm,0.8s,baz=324,slow=20,SNR=8.0						
TKGZ	**Te Karaka**	**18.85**	**190**	P	**P**	**21 58 49.7**	**-0.2**
BKZ	**Black Stump Fm**	**19.79**	**192**	P	**P**	**21 58 56.3**	**-2.3**
BKZ	**Black Stump Fm**	**19.79**	**192**	P	**P**	**21 58 56.7**	**-1.9**
BFZ	**Birch Farm**	**21.31**	**192**	P	**P**	**21 59 10.4**	**-1.7**
QRZ	**Quartz Range**	**22.36**	**199**	P	**P**	**21 59 21.5**	**+0.1**
TARA	**Tarawa**	**22.76**	**337**	P	**P**	**21 59 24.9**	**-0.6**
TARA	**Tarawa**	**22.76**	**337**	P	**P**	**21 59 25.5**	**+0.1**
	319nm,1.2s						
THZ	**Tophouse**	**23.11**	**197**	P	**P**	**21 59 26.9**	**-1.3**
LHI	**Lord Howe Isla**	**23.47**	**236**	P	**P**	**21 59 33.0**	**+1.5**
	baz=24,SNR=5.5						
LHI	**Lord Howe Isla**	**23.47**	**236**	P	**P**	**21 59 31.3**	**-0.1**
LHI	**Lord Howe Isla**	**23.47**	**236**	P	**P**	**21 59 31.7**	**+0.3**
KHZ	**Kahutara**	**23.56**	**195**	P	**P**	**21 59 30.4**	**-1.6**
RPZ	**Rata Peaks**	**25.44**	**198**	P	**P**	**21 59 48.1**	**-0.6**
	14nm,0.5s,baz=54,slow=2.8,SNR=20						
RPZ				S	**S**	**22 03 32.1**	**-2.2**
	20nm,0.9s,baz=349,slow=22,SNR=5.6						
	14nm,0.5s						
RPZ	**Rata Peaks**	**25.44**	**198**	P	**P**	**21 59 48.5**	**-0.2**
PAE	**Paea**	**27.23**	**90**	*e*P	**P**	**22 00 04.6**	**-0.1**
PPT2	**Papeete2**	**27.24**	**90**	*e*P	**P**	**22 00 05.2**	**+0.3**
	72nm,1.1s						
PPT2				*e*LR	LR	22 07 45.0	
	comp=Z,2μm,24.8s						
PPT	**Papeete**	**27.25**	**90**	P	**P**	**22 00 04.9**	**0.0**
	41nm,0.6s,baz=321,slow=12,SNR=5.7						
	41nm,0.6s						
PPTF	**Pamatai, Papee**	**27.25**	**90**	P	**P**	**22 00 06.3**	**+1.3**
TIAR	**Tiarei**	**27.47**	**90**	*e*P	**P**	**22 00 06.7**	**-0.1**
	5.9nm,0.7s						
TVO	**Taravao**	**27.52**	**91**	*e*P	**P**	**22 00 07.6**	**+0.3**
	18nm,0.7s						
EIDS	**Eidsvold**	**28.80**	**253**	P	**P**	**22 00 18.6**	**+0.3**
	baz=29,SNR=14						
EIDS	**Eidsvold**	**28.80**	**253**	P	**P**	**22 00 18.3**	**0.0**
EIDS				IAmb	IAmb	22 00 19.5	
	comp=Z,82nm,1.1s						
EIDS	**Eidsvold**	**28.80**	**253**	P	**P**	**22 00 18.5**	**+0.3**
ARMA	**Armidale**	**29.15**	**243**	P	**P**	**22 00 22.2**	**+0.8**
	baz=29,SNR=17						
ARMA	**Armidale**	**29.15**	**243**	P	**P**	**22 00 21.4**	**0.0**
ARMA				IAmb	IAmb	22 00 23.6	
	comp=Z,45nm,0.9s						
ARMA	**Armidale**	**29.15**	**243**	P	**P**	**22 00 22.1**	**+0.8**
RK1H	**Rockhampton Ha**	**29.24**	**257**	P	**P**	**22 00 20.6**	**-1.4**
VAH	**Vaihoa**	**29.54**	**86**	*e*P	**P**	**22 00 24.2**	**-0.5**
	comp=Z,62nm,0.8s						
RIV	**Riverview**	**30.51**	**237**	P	**P**	**22 00 33.3**	**+0.4**
	baz=30,SNR=3.3						
SYDH	**Sydney Hard Ro**	**30.82**	**237**	P	**P**	**22 00 36.7**	**+1.3**
RMQ	**Roma**	**30.98**	**251**	P	**P**	**22 00 37.9**	**+0.9**
	baz=31,SNR=32						
RMQ	**Roma**	**30.98**	**251**	P	**P**	**22 00 37.9**	**+0.9**
CNB	**Canberra Magne**	**32.40**	**235**	P	**P**	**22 00 50.0**	**+1.0**
	baz=32,SNR=29						
CNB	**Canberra Magne**	**32.40**	**235**	P	**P**	**22 00 50.0**	**+1.0**
CAN	**Canberra**	**32.69**	**235**	P	**P**	**22 00 51.5**	**+0.1**
CAN	**Canberra**	**32.69**	**235**	P	**P**	**22 00 51.5**	**+0.1**
CAN				pmax	pmax		
	comp=Z,139nm,1.4s						
CAN	**Canberra**	**32.69**	**235**	P	**P**	**22 00 52.2**	**+0.9**
CAN	**Canberra**	**32.69**	**235**	P	**P**	**22 00 52.2**	**+0.9**
RABL	**Rabaul**	**32.75**	**294**	P	**P**	**22 00 51.8**	**-0.3**
KRVT	**Keravat (AS076**	**32.81**	**294**	P	**P**	**22 00 51.2**	**-1.4**
	comp=Z,64nm,0.4s,baz=191,slow=0.6,SNR=21						
	comp=Z,64nm,0.4s						
CTA	**Charters Tower**	**33.32**	**263**	P	**P**	**22 00 56.8**	**-0.1**
	comp=Z,184nm,0.6s,baz=89,slow=9.7,SNR=336						
	comp=Z,184nm,0.6s						
CTA	**Charters Tower**	**33.32**	**263**	P	**P**	**22 00 56.8**	**-0.1**
CTAO	**Charters Tower**	**33.32**	**263**	P	**P**	**22 00 56.8**	**-0.1**
CTAO	**Charters Tower**	**33.32**	**263**	P	**P**	**22 00 56.8**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,223nm,0.9s						
CTAO	**Charters Tower**	**33.32**	**263**	P	**P**	**22 00 56.7**	**-0.1**
CTAO	**Charters Tower**	**33.32**	**263**	P	**P**	**22 00 56.8**	**-0.1**
CMSA	**Cobar Meteorol**	**34.37**	**243**	P	**P**	**22 01 05.9**	**+0.5**
	baz=34,SNR=24						
CMSA	**Cobar Meteorol**	**34.37**	**243**	P	**P**	**22 01 05.9**	**+0.5**
PMG	**Port Moresby**	**34.96**	**282**	P	**P**	**22 01 10.8**	**+0.3**
	comp=Z,151nm,0.9s,baz=95,slow=5.9,SNR=46						
	comp=Z,151nm,0.9s						
PMG	**Port Moresby**	**34.96**	**282**	P	**P**	**22 01 10.5**	**0.0**
PMG	**Port Moresby**	**34.96**	**282**	*d*P	**P**	**22 01 10.6**	**0.0**
PMG				pmax	pmax		
	comp=Z,215nm,1.0s						
PMG	**Port Moresby**	**34.96**	**282**	P	**P**	**22 01 10.8**	**+0.3**
PMG	**Port Moresby**	**34.96**	**282**	P	**P**	**22 01 10.9**	**+0.4**
PMG	**Port Moresby**	**34.96**	**282**	P	**P**	**22 01 10.6**	**0.0**
PMG				pP	**pP**	**22 02 50.1**	**+1.1**
QLP	**Quilpie**	**35.03**	**252**	P	**P**	**22 01 11.0**	**+0.1**
	baz=35,SNR=61						
QLP	**Quilpie**	**35.03**	**252**	P	**P**	**22 01 11.0**	**+0.1**
MTSU	**Mount Surprise**	**35.38**	**266**	P	**P**	**22 01 13.8**	**-0.2**
	baz=35,SNR=271						
MTSU	**Mount Surprise**	**35.38**	**266**	P	**P**	**22 01 14.2**	**+0.2**
TOO	**Toolangi**	**36.10**	**233**	P	**P**	**22 01 20.5**	**+0.9**
	baz=36,SNR=58						
TOO	**Toolangi**	**36.10**	**233**	P	**P**	**22 01 20.3**	**+0.6**
TOO	**Toolangi**	**36.10**	**233**	P	**P**	**22 01 20.3**	**+0.6**
TOO				pmax	pmax		
	comp=Z,89nm,0.8s						
TOO	**Toolangi**	**36.10**	**233**	P	**P**	**22 01 20.6**	**+0.9**
CORO	**Coronation Par**	**36.39**	**226**	P	**P**	**22 01 23.7**	**+1.8**
TAU	**Tasmania Unive**	**36.93**	**224**	P	**P**	**22 01 26.5**	**+0.2**
TAU	**Tasmania Unive**	**36.93**	**224**	P	**P**	**22 01 26.5**	**+0.2**
TAU				pmax	pmax		
	comp=Z,159nm,1.6s						
GEXS	**Deakin Univers**	**37.20**	**232**	P	**P**	**22 01 30.2**	**+1.6**
BRAT	**Ballarat**	**37.27**	**234**	P	**P**	**22 01 30.6**	**+1.5**
COEN	**Coen**	**37.30**	**273**	P	**P**	**22 01 29.9**	**+0.1**
	baz=37,SNR=81						
COEN	**Coen**	**37.30**	**273**	P	**P**	**22 01 29.8**	**+0.1**
COEN	**Coen**	**37.30**	**273**	P	**P**	**22 01 30.0**	**+0.2**
STKA	**Stephens Creek**	**37.86**	**243**	P	**P**	**22 01 34.6**	**+0.6**
	comp=Z,71nm,0.9s,baz=88,slow=9.1,SNR=55						
	comp=Z,71nm,0.9s						
STKA	**Stephens Creek**	**37.86**	**243**	P	**P**	**22 01 34.5**	**+0.4**
	baz=38,SNR=48						
STKA	**Stephens Creek**	**37.86**	**243**	P	**P**	**22 01 34.8**	**+0.7**
STKA	**Stephens Creek**	**37.86**	**243**	P	**P**	**22 01 34.8**	**+0.7**
STKA				pmax	pmax		
	comp=Z,36nm,1.2s						
STKA	**Stephens Creek**	**37.86**	**243**	P	**P**	**22 01 35.0**	**+0.9**
MANU	**Manus Island**	**37.96**	**293**	P	**P**	**22 01 35.1**	**0.0**
INKA	**Innaminka**	**38.19**	**250**	P	**P**	**22 01 38.3**	**+1.5**
TAOE	**Nuku Hiva Isla**	**38.41**	**79**	P	**P**	**22 01 39.5**	**+0.6**
ARPS	**Mount Arapiles**	**38.66**	**236**	P	**P**	**22 01 40.7**	**+0.3**
	baz=39,SNR=21						
ARPS	**Mount Arapiles**	**38.66**	**236**	P	**P**	**22 01 41.0**	**+0.6**
QIS	**Mount Isa**	**39.47**	**261**	P	**P**	**22 01 46.7**	**-0.6**
	baz=39,SNR=12						
QIS	**Mount Isa**	**39.47**	**261**	P	**P**	**22 01 46.8**	**-0.4**
HTT	**Hallett**	**40.33**	**241**	P	**P**	**22 01 54.1**	**+0.3**
	baz=40,SNR=38						
HTT	**Hallett**	**40.33**	**241**	P	**P**	**22 01 54.4**	**+0.5**
LCRK	**Leigh Creek**	**40.58**	**246**	P	**P**	**22 01 56.3**	**+0.5**
TWOA	**Tennyson Woods**	**40.87**	**239**	P	**P**	**22 01 58.5**	**+0.5**
PTPS	**Port Pirie**	**41.06**	**242**	P	**P**	**22 02 00.0**	**+0.5**
WHYH	**Whyalla**	**41.39**	**242**	P	**P**	**22 02 02.9**	**+0.7**
BBOO	**Buckleboo**	**42.63**	**243**	P	**P**	**22 02 11.8**	**-0.1**
	baz=43,SNR=114						
BBOO	**Buckleboo**	**42.63**	**243**	P	**P**	**22 02 11.8**	**-0.1**
BBOO	**Buckleboo**	**42.63**	**243**	P	**P**	**22 02 12.4**	**+0.5**
OOD	**Oodnadatta**	**42.67**	**250**	P	**P**	**22 02 13.2**	**+0.9**
GENI	**Genyem**	**44.05**	**288**	P	**P**	**22 02 24.4**	**+1.3**
	comp=Z,215nm,1.5s						
GENI	**Genyem**	**44.05**	**288**	P	**P**	**22 02 24.3**	**+1.2**
	comp=Z,214nm,1.5s						
MULG	**Mulgathing**	**44.16**	**247**	P	**P**	**22 02 23.7**	**0.0**
WR0	**Warramunga Arr**	**44.27**	**261**	P	**P**	**22 02 23.8**	**-0.9**
WR0				IAmb	IAmb	22 02 26.2	
	comp=Z,109nm,1.1s						
AS31	**Alice Springs**	**44.44**	**256**	P	**P**	**22 02 25.7**	**-0.3**
AS31				IAmb	IAmb	22 02 27.7	
	comp=Z,71nm,1.1s						
ASAR	**Alice Springs**	**44.44**	**256**	P	**P**	**22 02 25.6**	**-0.5**
	comp=Z,183nm,0.8s,baz=86,slow=8.7,SNR=567						
ASAR				PcP	**PcP**	**22 03 56.5**	**+0.3**
	comp=Z,14nm,0.9s,baz=108,slow=4.0,SNR=6.0						
ASAR				ScP	**ScP**	**22 06 53.6**	**+2.4**
	comp=Z,3.4nm,0.9s,baz=102,slow=4.3,SNR=4.8						
ASAR				S	**S**	**22 08 16.5**	**-1.8**
	comp=Z,11nm,0.8s,baz=91,slow=15,SNR=23						
	comp=Z,183nm,0.8s						
ASAR	**Alice Springs**	**44.44**	**256**	P	**P**	**22 02 25.8**	**-0.3**
ASAR	**Alice Springs**	**44.44**	**256**	P	**P**	**22 02 25.8**	**-0.3**
WB2	**Warramunga Arr**	**44.44**	**261**	P	**P**	**22 02 25.6**	**-0.5**
	baz=44						
WRAB	**Tennant Creek**	**44.45**	**261**	*de*P	**P**	**22 02 25.7**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,292nm,1.7s						
WRAB	**Tennant Creek**	**44.45**	**261**	P	**P**	**22 02 25.6**	**-0.5**
WRAB	**Tennant Creek**	**44.45**	**261**	P	**P**	**22 02 25.3**	**-0.8**
WRAB				pP	**pP**	**22 04 11.7**	**+0.3**
WRA	**Warramunga Arr**	**44.46**	**261**	P	**P**	**22 02 25.4**	**-0.8**
	comp=Z,45nm,0.5s,baz=97,slow=8.3,SNR=294						
WRA				PcP	**PcP**	**22 03 56.8**	**+0.5**
	comp=Z,10nm,1.0s,baz=97,slow=3.6,SNR=6.6						
WRA				S	**S**	**22 08 16.2**	**-2.4**
	comp=Z,9.4nm,0.9s,baz=94,slow=14,SNR=12						
	comp=Z,45nm,0.5s						
KHLU	**Kahalu`u**	**44.90**	**31**	P	**P**	**22 02 29.9**	**+0.3**
MLH	**Mauna Loa**	**45.06**	**31**	P	**P**	**22 02 31.6**	**+0.7**
HMH	**Humu'ula Sheep**	**45.10**	**31**	P	**P**	**22 02 31.6**	**+0.2**
HMH				IAmb	IAmb	22 03 13.7	
	comp=Z,132nm,1.4s						
KIP	**Kipapa**	**45.53**	**27**	*e*P	**P**	**22 02 32.5**	**-1.7**
KIP				pmax	pmax		
	comp=Z,45nm,1.4s						
SMPI	**Sarmi**	**45.62**	**287**	P	**P**	**22 02 36.4**	**+1.3**
	comp=Z,66nm,1.5s						
KDU	**Kakadu**	**47.70**	**271**	P	**P**	**22 02 50.1**	**-0.6**
	baz=48,SNR=25						
KDU	**Kakadu**	**47.70**	**271**	P	**P**	**22 02 50.1**	**-0.6**
BAKI	**Biak**	**48.31**	**287**	P	**P**	**22 02 55.5**	**+0.2**
	comp=Z,158nm,1.5s						
MTN	**Manton Dam**	**48.92**	**270**	P	**P**	**22 02 58.9**	**-0.8**
	baz=49,SNR=56						
MTN	**Manton Dam**	**48.92**	**270**	P	**P**	**22 02 58.9**	**-0.8**
MTN				IAmb

MMRI IAmb IAmb 22 04 07.7
comp=Z,131nm,1.2s
SBA Scott Base 58.52 184 P P 22 04 08.6 +2.5
SBA Scott Base 58.52 184 P P 22 04 08.6 +2.5
SBA pmax pmax
comp=Z,13nm,0.9s
SBA Scott Base 58.52 184 P P 22 04 08.4 +2.3
SBA pP pwP 22 06 05.2 +1.7
VNDA Vanda 58.55 185 P P 22 04 07.9 +1.6
comp=Z,4.6nm,0.6s,baz=0.6,slow=7.3,SNR=52
comp=Z,4.6nm,0.6s
VNDA Vanda 58.55 185 P P 22 04 08.0 +1.6
VNDA Vanda 58.55 185 P P 22 04 08.0 +1.6
VNDA pmax pmax
comp=Z,7.0nm,0.7s
VNDA Vanda 58.55 185 P P 22 04 07.8 +1.4
VNDA pP pP 22 06 03.5 +1.6
EDFI Ende, Flores 58.97 272 P P 22 04 10.2 -0.2
comp=Z,50nm,0.9s
BLDU Ballidu 59.10 246 P P 22 04 10.3 -0.6
baz=59,SNR=39
BLDU Ballidu 59.10 246 P P 22 04 10.5 -0.4
BBSI Bau Bau 59.18 276 P P 22 04 10.7 -1.0
comp=Z,25nm,1.4s
MUN Mundaring 59.40 244 P P 22 04 13.0 +0.2
baz=59,SNR=15
MUN Mundaring 59.40 244 P P 22 04 13.1 +0.3
MORW Morawa 59.86 247 P P 22 04 15.6 -0.3
baz=60,SNR=19
MORW Morawa 59.86 247 P P 22 04 15.3 -0.6
MORW Morawa 59.86 247 P P 22 04 15.6 -0.3
JCJ Chichijima 60.38 319 P P 22 04 17.8 -1.5
comp=Z,45nm,0.4s,baz=265,slow=19,SNR=5.5
comp=Z,45nm,0.4s
LUWI Luwuk 60.57 280 P P 22 04 21.1 +0.3
LUWI Luwuk 60.57 280 P P 22 04 21.8 +0.9
comp=Z,155nm,1.5s
LUWI Luwuk 60.57 280 P P 22 04 21.6 +0.7
BKSI Bulukumba 61.53 275 P P 22 04 27.5 +0.4
comp=Z,37nm,1.6s
APSI Ampana 61.66 280 P P 22 04 30.1 +2.1
comp=Z,76nm,1.1s
MRSI Marisa 61.92 282 P P 22 04 30.6 +1.0
comp=Z,43nm,1.4s
KAPI Kappang 61.98 275 P P 22 04 29.3 -0.7
comp=Z,11nm,0.7s,baz=128,slow=2.9,SNR=7.6
comp=Z,11nm,0.7s
KAPI Kappang 61.98 275 P P 22 04 30.1 +0.1
KAPI Kappang 61.98 275*ce*P P 22 04 30.3 +0.2
KAPI pmax pmax
comp=Z,52nm,1.6s
KAPI Kappang 61.98 275 P P 22 04 31.6 +1.5
comp=Z,35nm,1.7s
KAPI Kappang 61.98 275 P P 22 04 29.9 -0.2
KAPI pP pwP 22 06 32.4 +1.4
SPSI Sidrap Palu 62.32 276 P P 22 04 32.7 +0.5
comp=Z,32nm,0.9s
GIRL Giralia 62.50 254 P P 22 04 34.1 +0.8
baz=62,SNR=8.1
GIRL Giralia 62.50 254 P P 22 04 33.6 +0.4
PLAI Plampang 62.63 270 P P 22 04 34.2 0.0
comp=Z,186nm,0.9s
PLAI Plampang 62.63 270 P P 22 04 33.9 -0.3
CCD Concordia, Ant 63.05 194 P P 22 04 36.9 +0.6
TWSI Taliwang, Sumb 63.50 270 P P 22 04 39.7 0.0
comp=Z,87nm,0.8s
MPSI Mapaga 63.75 281 P P 22 04 41.7 +0.3
comp=Z,93nm,0.8s
CASY Casey 64.46 205 P P 22 04 45.4 +0.5
CASY Casey 64.46 205 P P 22 04 45.6 +0.7
JHJ2 Mitsune 66.14 322 P P 22 04 56.1 +0.2
JAGI Jajag, Banyuwa 66.15 269 P P 22 04 54.7 -1.7
JAGI IAmb IAmb 22 04 56.3
comp=Z,67nm,0.8s
JAGI Jajag, Banyuwa 66.15 269 P P 22 04 55.9 -0.5
comp=Z,100nm,1.2s
JAGI Jajag, Banyuwa 66.15 269 P P 22 04 55.2 -1.2
JHJ Hachijo jima 2 66.17 322 P P 22 04 56.2 +0.1
comp=Z,128nm,0.4s,baz=62,slow=21,SNR=23
MYLDM Lahad Datu 66.93 285 P P 22 05 02.2 +1.1
BBKI Banjar Baru 67.11 275 P P 22 05 03.6 +1.3
comp=Z,62nm,1.8s
MTKI Muara Teweh, K 67.94 277 P P 22 05 08.4 +1.1
comp=Z,4μmcomp=Z,31nm,1.0s
JYT Yasato 68.21 325 P P 22 05 08.5 +0.1
JYT IAmb IAmb 22 05 09.7
comp=Z,109nm,1.4s
PWJI Pagerwojo 68.50 269 P P 22 05 11.3 +0.6
comp=Z,62nm,1.5s
PCJI Pacitan 69.03 269 P P 22 05 14.5 +0.6
comp=Z,285nm,0.8s
JMM Marumori 69.11 326 P P 22 05 13.8 -0.1
JMM IAmb IAmb 22 06 52.5
comp=Z,106nm,1.4s
KKM Kota Kinabalu 69.36 285 P P 22 05 16.1 +0.1
KKM IAmb IAmb 22 05 17.4
comp=Z,45nm,1.0s
INU Inuyama 69.36 322 P P 22 05 15.7 +0.3
INU IAmb IAmb 22 06 51.6
comp=Z,89nm,1.4s
INU Inuyama 69.36 322 P P 22 05 15.0 -0.4
MJAR Matsushiro Arr 69.53 324 P P 22 05 15.9 -0.5
comp=Z,9.4nm,0.4s,baz=160,slow=5.6,SNR=61
comp=Z,9.4nm,0.4s
MAJO Matsushiro 69.53 324 P P 22 05 16.4 0.0
MAJO IAmb IAmb 22 06 52.3
comp=Z,65nm,1.1s
MAJO Matsushiro 69.53 324 P P 22 05 16.4 0.0
MAJO pmax pmax
comp=Z,65nm,1.2s
MAJO Matsushiro 69.53 324 P P 22 05 16.4 0.0
MAJO Matsushiro 69.53 324 P P 22 05 15.9 -0.6
MJB9 Matsu-Tunnel 69.54 324 P P 22 05 17.2 +0.7
MJB9 IAmb IAmb 22 06 53.2
comp=Z,68nm,1.2s
JOW Kunigami 69.55 310 P P 22 05 17.1 +0.3
comp=Z,10nm,0.4s,baz=124,slow=12,SNR=8.1
comp=Z,10nm,0.4s
UGM Wanagama 69.73 269 P P 22 05 17.6 -0.6
SMRI Semarang 70.08 270 P P 22 05 21.5 +1.3
comp=Z,134nm,0.8s
SMRI Semarang 70.08 270 P P 22 05 21.5 +1.3
comp=Z,134nm,0.8s
QSPA South Pole Qui 70.23 180 P P 22 05 21.2 +0.9
comp=Z,19nm,0.6s,baz=360,slow=0.3,SNR=115
comp=Z,19nm,0.6s
QSPA South Pole Qui 70.23 180 P P 22 05 21.3 +1.1
QSPA IAmb IAmb 22 06 54.5
comp=Z,143nm,1.4s
QSPA South Pole Qui 70.23 180 P P 22 05 21.1 +0.8
QSPA pP pP 22 07 22.1 +0.3
PBKI Pangkalan Bun 70.35 274 P P 22 05 23.2 +1.5
comp=Z,171nm,1.1s
JSD Sado 70.58 325 P P 22 05 23.3 +0.8
JSD IAmb IAmb 22 06 48.2
comp=Z,201nm,1.7s
JSU Suzuyama 70.88 315 P P 22 05 24.8 +0.3
JSU IAmb IAmb 22 06 46.9
comp=Z,162nm,1.4s
AMKA Amchitka 70.93 358 P P 22 05 23.7 -0.5
JTM Tenmabayashi 71.17 328 P P 22 05 26.4 +0.5
ADK Adak 71.42 1 P P 22 05 26.9 -0.2
ADK IAmb IAmb 22 05 27.5
comp=Z,46nm,0.7s
ADK Adak 71.42 1 P P 22 05 26.9 -0.2
ADK pmax pmax
comp=Z,45nm,0.7s
ADK Adak 71.42 1 P P 22 05 27.0 -0.1
JHS Saijyo 71.44 319 P P 22 05 27.7 0.0
JHS IAmb IAmb 22 05 29.4
comp=Z,176nm,1.8s
STKI Sintang 71.49 277 P P 22 05 29.8 +1.4
comp=Z,44nm,1.2s
SBUM Sibu 71.66 280 P P 22 05 29.6 +0.2
YOJ Yonaguni jima 72.16 305 P P 22 05 32.0 0.0
YOJ IAmb IAmb 22 07 14.5
comp=Z,85nm,1.0s
YOJ Yonaguni jima 72.16 305 P P 22 05 32.0 0.0
YOJ pmax pmax
comp=Z,85nm,1.0s
LEM Lembang 72.81 269 P P 22 05 36.9 +0.7
comp=Z,154nm,0.9s,baz=38,slow=6.9,SNR=21
comp=Z,154nm,0.9s
YULB Yu-li 72.93 303 P P 22 05 35.1 -1.4
YULB IAmb IAmb 22 05 38.0
comp=Z,59nm,1.4s

NIKH Nikolski High 72.96 6 P P 22 05 36.1 +0.2
NIKH IAmb IAmb 22 07 11.9
comp=Z,82nm,1.0s
NIKH Nikolski High 72.96 6 P P 22 05 35.1 -0.8
baz=189
NACB Ninganchiao 73.10 304 P P 22 05 36.5 -1.0
NACB IAmb IAmb 22 05 37.9
comp=Z,55nm,1.0s
SSLB Suanglung 73.41 303 P P 22 05 38.0 -1.2
SSLB IAmb IAmb 22 05 39.0
comp=Z,46nm,0.4s
SSLB Suanglung 73.41 303 P P 22 05 38.2 -1.0
TPUB Ta-pu 73.41 303 P P 22 05 38.1 -1.1
TPUB IAmb IAmb 22 05 39.6
comp=Z,108nm,1.3s
TPUB Ta-pu 73.41 303 P P 22 05 38.3 -0.9
YHNB Yeheng 73.53 304 P P 22 05 39.5 -0.4
YHNB IAmb IAmb 22 05 40.7
comp=Z,130nm,1.6s
TATO Taipei 73.60 305 P P 22 05 40.2 -0.1
CBJI Citeko 73.66 269 P P 22 05 40.3 -0.6
comp=Z,105nm,0.8s
SKJI Sukabumi 73.75 268 P P 22 05 42.5 +1.1
comp=Z,76nm,0.6s
UNV Unalaska Valle 74.07 7 P P 22 05 41.6 -0.6
UNV IAmb IAmb 22 06 02.8
comp=Z,174nm,1.9s
UNV Unalaska Valle 74.07 7 P P 22 05 41.2 -1.0
baz=192
TPI Tanjungpandan 74.10 273 P P 22 05 44.2 +0.8
comp=Z,38nm,1.5s
YSS Yuzh-Sakhalins 75.19 334 P P 22 05 48.4 -0.3
YSS IAmb IAmb 22 05 50.2
comp=Z,67nm,1.1s
YSS Yuzh-Sakhalins 75.19 334 *e*P P 22 05 49.6 +1.0
YSS pmax pmax
comp=Z,50nm,1.2s
YSS Yuzh-Sakhalins 75.19 334 P P 22 05 50.0 +1.4
comp=Z,84nm,1.2s
PEA0B Petropavlovsk- 75.57 345 P P 22 05 50.3 -0.3
PEA0B Petropavlovsk- 75.57 345 P P 22 05 50.3 -0.3
PEA0B pmax pmax
comp=Z,284nm,2.0s
PETK Petropavlovsk- 75.57 345 P P 22 05 50.2 -0.4
comp=Z,16nm,0.7s,baz=120,slow=7.7,SNR=44
comp=Z,16nm,0.7s
PETK Petropavlovsk- 75.57 345 P P 22 05 50.4 -0.2
PETK Petropavlovsk- 75.57 345 P P 22 05 50.4 -0.2
PPBI Pangkal Pinang 75.73 273 P P 22 05 54.1 +1.7
comp=Z,68nm,1.7s
TJN Taejon 75.92 317⇑ *e*P P 22 05 53.8 +0.9
CHNA Chernabura Isl 76.06 11 P P 22 05 52.2 -1.0
baz=198
KASI Kota Agung 76.16 269 P P 22 05 54.5 -0.3
comp=Z,165nm,1.0s
KSRS Korea Array 76.23 319 P P 22 05 55.4 +0.8
comp=Z,2.4nm,0.5s,baz=131,slow=6.5,SNR=15
comp=Z,2.4nm,0.5s
KSAR Wonju Array Be 76.25 319 P P 22 05 55.4 +0.7
KSAR Wonju Array Be 76.25 319 P P 22 05 55.4 +0.7
KS19 Wonju Array Si 76.29 319 P P 22 05 55.3 +0.3
KS19 IAmb IAmb 22 05 56.9
comp=Z,103nm,2.0s
SDPT Sand Point 76.40 10 P P 22 05 54.4 -0.7
baz=197
LWLI Liwa 76.74 269 P P 22 05 58.5 +0.4
comp=Z,106nm,0.8s
PMBI Palembang 76.76 272 P P 22 05 58.6 +0.6
INCN Inchon 77.06 318 P P 22 05 59.8 +0.6
INCN IAmb IAmb 22 06 01.2
comp=Z,82nm,1.6s
INCN Inchon 77.06 318 P P 22 05 59.8 +0.6
INCN pmax pmax
comp=Z,82nm,1.6s
SCZ2 Santa Cruz Isl 77.32 47 P P 22 06 02.8 +2.2
baz=235
S14K Fog Glacier 77.45 11 P P 22 06 01.1 +0.2
baz=198
SCI2 San Clemente I 77.50 48 P P 22 06 03.0 +1.3
baz=236
CHGN Chignik 77.67 11 P P 22 06 02.9 +1.0
baz=199
PKM Mcpherson Peak 77.70 46 P P 22 06 04.5 +1.6
baz=235
CHIR Chirikof Islan 77.76 13 P P 22 06 02.8 +0.3
CHIR Chirikof Islan 77.76 13 P P 22 06 03.3 +0.8
baz=202
DSRI Dabo 77.76 274 P P 22 06 05.2 +1.7
comp=Z,32nm,1.7s
CIS Catalina Islan 77.83 48 P P 22 06 03.9 +0.5
baz=236
MNAI Mana 77.99 270 P P 22 06 04.9 +0.2
JMBI JAMBI 78.25 273 P P 22 06 07.5 +1.4
comp=Z,133nm,1.4s
USA0B Ussuriysk Arra 78.28 326 P P 22 06 06.0 +0.6
USA0B IAmb IAmb 22 06 07.8
comp=Z,151nm,1.9s
USA0B Ussuriysk Arra 78.28 326 P P 22 06 06.1 +0.6
USA0B pmax pmax
comp=Z,151nm,1.9s
USRK Ussuriysk Ar. 78.28 326 P P 22 06 06.7 +1.2
comp=Z,7.6nm,0.5s,baz=128,slow=3.3,SNR=22
comp=Z,7.6nm,0.5s
USRK Ussuriysk Ar. 78.28 326 P P 22 06 06.4 +0.9
USRK Ussuriysk Ar. 78.28 326 P P 22 06 06.4 +0.9
TPRI Tanjung Pinang 78.29 275 P P 22 06 08.0 +1.7
TYV Tymovskoe 78.33 336 *e*P P 22 06 05.3 -0.3
TYV *e*S S 22 15 06.5 -5.9
TYV pmax pmax
comp=Z,38nm,1.2s
TYV pmax pmax
comp=Z,900nm,5.4s
TYV smax smax
comp=N,600nm,6.9s
TYV smax smax
comp=E,900nm,6.9s
KMRM Mail Ridge 78.40 40 P P 22 06 07.8 +1.4
KMRM IAmb IAmb 22 06 09.9
comp=Z,48nm,1.0s
KSI Kapahiang 78.57 270 P P 22 06 07.6 -0.3
comp=Z,3μmcomp=Z,127nm,0.9s
VES Vestal, Richgr 78.73 45 P P 22 06 09.2 +1.0
baz=235,SNR=5.5
SII Sitkinak Islan 78.75 13 P P 22 06 08.3 +0.5
SII IAmb IAmb 22 06 09.0
comp=Z,42nm,0.6s
SII Sitkinak Islan 78.75 13 P P 22 06 08.5 +0.7
baz=203
MURC Murrieta 78.79 48 P P 22 06 10.3 +1.8
baz=237,SNR=5.5
BFSC Mount Baldy Ra 78.81 47 P P 22 06 09.8 +1.1
baz=237
ESJX Sierra Juarez 78.83 50 P P 22 06 10.7 +1.8
EDW2 Edwards Air Fo 78.94 47 P P 22 06 11.3 +2.0
baz=236,SNR=11
MONP2 Monument Peak 78.96 49 P P 22 06 11.6 +1.9
baz=238,SNR=8.7
ISA Isabella, Lake 79.05 46 P P 22 06 11.6 +1.7
ISA Isabella, Lake 79.05 46 P P 22 06 11.6 +1.7
ISA pmax pmax
comp=Z,33nm,1.3s
ISA Isabella, Lake 79.05 46 P P 22 06 11.5 +1.7
baz=236,SNR=10
IKP In-Ko-Pah, Jac 79.05 49 P P 22 06 11.5 +1.5
baz=238,SNR=6.5
MASI Maura Aman, Be 79.07 271 P P 22 06 12.1 +1.6
comp=Z,80nm,1.3s
KRMB Red Mountain 79.09 38 P P 22 06 11.7 +1.7
CMB Columbia Colle 79.14 43 P P 22 06 11.4 +1.1
CMB Columbia Colle 79.14 43 P P 22 06 11.4 +1.1
CMB pmax pmax
comp=Z,18nm,1.0s
NJ2 Nanjing 79.27 310 *e*P P 22 06 11.3 +0.3
NJ2 pmax pmax
comp=Z,19nm,1.2s
R17K Ugashik Creek 79.31 12 P P 22 06 11.2 +0.6
baz=201
PFO Pinyon Flats O 79.31 48 P P 22 06 12.7 +1.3
PFO Pinyon Flats O 79.31 48 P P 22 06 12.7 +1.3
PFO pmax pmax
comp=Z,16nm,1.2s
PFO Pinyon Flats O 79.31 48 P P 22 06 11.0 -0.5
baz=238,SNR=5.1
TPFO Pinon Flats 79.31 48 P P 22 06 10.7 -0.7
baz=238,SNR=5.3
ORV Oroville 79.33 41 P P 22 06 13.0 +1.8
ORV pmax pmax
comp=Z,18nm,1.0s
SLBS Sierra La Lagu 79.39 60 P P 22 06 13.6 +1.6
SWSC Sam W. Stewart 79.43 49 P P 22 06 12.6 +0.7
baz=238,SNR=6.5
LRMC Laurel Mtn Rad 79.48 46 P P 22 06 12.7 +0.4
baz=236
OHAK Old Harbor 79.56 14 P P 22 06 12.4 +0.4
OHAK Old Harbor 79.56 14 P P 22 06 12.3 +0.4
baz=204
RRX Edison Barstow 79.62 47 P P 22 06 12.1 -0.8
baz=237
CWC Cottonwood Cre 79.74 45 P P 22 06 15.2 +1.5
baz=236
OMMB Old Mammoth Mi 79.79 44 P P 22 06 15.9 +1.8
MDJ Mudanjiang 79.83 325 P P 22 06 14.3 +0.6
MDJ Mudanjiang 79.83 325 P P 22 06 15.1 +1.4
comp=Z,38nm,1.6s
BELC Belle Mtn. Jos 79.84 48 P P 22 06 16.0 +1.8
baz=238,SNR=8.8
MLAC Mammoth, Mammo 79.91 44 P P 22 06 16.7 +2.0
baz=235
YBH Yreka Blue Hor 79.92 39 P P 22 06 16.0 +1.6
comp=Z,7.2nm,0.5s,baz=174,slow=1.9,SNR=30
comp=Z,7.2nm,0.5s
MPMC Manual Prospec 79.93 46 P P 22 06 16.1 +1.4
baz=236,SNR=11
K02D Willamette Mer 79.97 38 P P 22 06 16.8 +2.3
baz=231
GSC Goldstone, Bar 79.98 47 P P 22 06 16.7 +1.8
baz=237,SNR=5.9
TIN Tinemaha, Big 79.99 45 P P 22 06 16.9 +2.0
baz=236
BC3 Big Chuckawall 80.05 49 P P 22 06 17.4 +2.2
baz=238
HEC Hector,Ludlow 80.05 47 P P 22 06 17.6 +2.4
baz=237
J01E Myrtle Point 80.11 37 P P 22 06 17.6 +2.5
baz=231
GLA Glamis 80.18 50 P P 22 06 17.7 +1.9
GLA Glamis 80.18 50 P P 22 06 17.7 +1.9
GLA pmax pmax
comp=Z,26nm,1.0s
GLA Glamis 80.18 50 P P 22 06 18.2 +2.3
baz=239,SNR=5.1
KDAK Kodiak Island 80.23 14 P P 22 06 15.4 +0.1
comp=Z,13nm,0.7s,baz=242,slow=2.5,SNR=16
comp=Z,13nm,0.7s
KDAK Kodiak Island 80.23 14 P P 22 06 15.9 +0.5
KDAK Kodiak Island 80.23 14 P P 22 06 15.9 +0.5
KDAK pmax pmax
comp=Z,51nm,1.3s
KDAK Kodiak Island 80.23 14 P P 22 06 15.5 +0.1
baz=204
BEKR Beckworth 80.23 41 P P 22 06 16.6 +0.4
Q16K King Salmon 80.23 11 P P 22 06 15.3 -0.1
baz=201
BELA Belgrano 2 80.25 173 P P 22 06 15.4 -0.1
BELA IAmb IAmb 22 09 04.9
comp=Z,70nm,1.5s
P16K Nushagak River 80.33 10 P P 22 06 15.4 -0.5
baz=199
PIX Pinacate 80.41 52 P P 22 06 18.6 +1.6
L04D Klamath Falls 80.46 39 P P 22 06 18.7 +1.5
L04D Klamath Falls 80.46 39 P P 22 06 18.6 +1.3
baz=232
GMRC Granite Mounta 80.50 48 P P 22 06 19.0 +1.4
baz=238
GRAC Grapevine Rang 80.53 45 P P 22 06 19.0 +1.4
baz=236,SNR=6.9
IRM Iron Mountain 80.53 49 P P 22 06 19.1 +1.5
baz=238,SNR=7.9
SDSI Sungai Dareh 80.57 272 P P 22 06 17.6 -0.7
comp=Z,1μmcomp=Z,18nm,1.3s
FURC Furnace Creek, 80.58 46 P P 22 06 19.5 +1.8
baz=237
TUQ Turquoise Moun 80.66 47 P P 22 06 19.9 +1.5
baz=238
SHOC Shoshone, Teco 80.67 47 P P 22 06 19.8 +1.6
baz=237
NVAR Mina Array Bea 80.71 44 P P 22 06 20.0 +1.3
comp=Z,12nm,0.9s,baz=226,slow=8.8,SNR=31
comp=Z,12nm,0.9s
I02E Swisshome, OR 80.75 36 P P 22 06 20.3 +1.9
baz=231
P17K Kvichak River 80.76 11 P P 22 06 18.0 -0.1
baz=201,SNR=12
I03D Drain, OR 80.77 37 P P 22 06 20.5 +2.0
baz=231
113A Mohawk Valley, 80.80 50 P P 22 06 21.0 +2.0
GRNR Gornyy 80.81 333⇓ *i*P P 22 06 19.4 +0.8
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=E,460nm,19.0s
GRNR MLR MLR
comp=N,210nm,17.0s
GRNR MLR MLR
comp=Z,640nm,16.0s
NV11 Mina Array Sit 80.81 44 P P 22 06 20.9 +1.8
O16K Kokwok River B 80.84 10 P P 22 06 17.9 -0.7
baz=199,SNR=7.7
Q20K Shuyak Island 81.02 13 P P 22 06 19.0 -0.5
baz=205
Q19K Cape Douglas, 81.05 13 P P 22 06 19.3 -0.4
baz=203
HSIG 81.07 55 P P 22 06 21.8 +1.3
HSIG IAmb IAmb 22 09 04.7
comp=Z,79nm,1.9s
214A Organ Pipe Nat 81.09 52 P P 22 06 22.1 +1.5
214A Organ Pipe Nat 81.09 52 P P 22 06 23.0 +2.5
baz=240
P18K Big Mountain, 81.17 12 P P 22 06 20.0 -0.3
baz=202
O17K Koliganek Bris 81.18 11 P P 22 06 20.1 -0.2
baz=200,SNR=6.1
J04D Umpqua Nationa 81.20 38 P P 22 06 23.0 +2.0
baz=232
NEE2 Needles Airpor 81.22 48 P P 22 06 22.7 +1.6
baz=238
TPH Tonopah 81.22 44 P P 22 06 22.7 +1.4
TPH Tonopah 81.22 44 P P 22 06 22.7 +1.4
TPH pmax pmax
comp=Z,126nm,0.9s
TPNV Topopah Spring 81.25 46 P P 22 06 23.1 +1.6
TPNV Topopah Spring 81.25 46 P P 22 06 23.1 +1.6
TPNV pmax pmax
comp=Z,22nm,1.0s
TPNV Topopah Spring 81.25 46 P P 22 06 23.4 +1.9
baz=237,SNR=13
PDMCI Parker Dam,Lak 81.31 49 P P 22 06 23.1 +1.5
baz=239
BKNI Bangkinang 81.36 273 P P 22 06 22.7 +0.3
BKNI Bangkinang 81.36 273 P P 22 06 24.4 +2.1
comp=Z,81nm,1.1s
BKNI Bangkinang 81.36 273 P P 22 06 24.4 +2.1
comp=Z,80nm,1.1s
I04A Tendick Farm, 81.36 37 P P 22 06 23.7 +2.0
baz=232
MOD Modoc Plateau 81.46 40 P P 22 06 23.3 +0.9
MOD IAmb IAmb 22 09 07.7
comp=Z,54nm,1.1s
PDSI Padang 81.49 272 P P 22 06 23.0 0.0
comp=Z,18nm,1.0s
HEBO Mount Hebo 81.50 36 P P 22 06 24.9 +2.5
HEBO IAmb IAmb 22 08 47.8
comp=Z,137nm,1.5s
N16K Nishlik Lake 81.57 10 P P 22 06 23.1 +0.8
baz=198,SNR=9.4
O18K Koktuh Hills 81.60 12 P P 22 06 22.2 -0.2
baz=202,SNR=22
CN2 Changchun 81.62 322 P P 22 06 23.4 +0.5
CN2 pP pwP 22 08 32.4 -0.7
CN2 pmax pmax
comp=Z,30nm,1.5s
H04D Lebanon 81.63 37 P P 22 06 25.0 +2.1
baz=232
J05D Fort Rock, OR 81.73 38 P P 22 06 25.5 +1.8
baz=233
P19K Oil Pt 81.80 13 P P 22 06 23.9 +0.3
baz=204
KLR Kul'dur 81.83 330 P P 22 06 25.2 +1.3
comp=Z,8.7nm,0.9s,baz=161,slow=4.2,SNR=14
comp=Z,8.7nm,0.9s
KLR Kul'dur 81.83 330*ce*P P 22 06 26.1 +2.2
KLR pmax pmax

comp=Z,25nm,1.7s
WHN **Wuhan** 81.86 306 ⇑P P 22 06 25.5 +1.1
WHN pmax pmax
comp=Z,360nm,2.0s
O19K **Port Alsworth** 82.09 12 P P 22 06 24.5 -0.3
baz=203,SNR=10
MAW **Mawson** 82.11 200 P P 22 06 26.2 +1.2
comp=Z,10.0nm,1.0s,baz=307,slow=3.1,SNR=15
comp=Z,10.0nm,1.0s
MAW **Mawson** 82.11 200 P P 22 06 26.0 +1.0
MAW **Mawson** 82.11 200 P P 22 06 26.0 +1.0
MAW pmax pmax
comp=Z,6.0nm,1.3s
ILSW **Iliamna Southw** 82.12 12 P P 22 06 24.9 -0.3
ILSW IAmb IAmb 22 06 26.9
comp=Z,58nm,0.8s
BRLK **Bradley Lake** 82.40 14 P P 22 06 26.5 -0.1
BRLK IAmb IAmb 22 06 27.4
comp=Z,28nm,0.6s
BRSE **Bradley Lake S** 82.41 14 P P 22 06 26.8 +0.2
baz=206
R11A **Troy Canyon, C** 82.45 45 P P 22 06 28.8 +1.3
R11A **Troy Canyon, C** 82.45 45 P P 22 06 29.1 +1.6
baz=237
BMN **Battle Mountai** 82.52 42 P P 22 06 28.2 +0.4
BMN **Battle Mountai** 82.52 42 P P 22 06 28.2 +0.4
BMN pmax pmax
comp=Z,37nm,1.0s
N19K **Bonanza Creek** 82.63 11 P P 22 06 27.1 -0.7
baz=202,SNR=9.8
TIA **Tai'an** 82.65 313 ⇑P P 22 06 23.3 -5.0
TIA pmax pmax
comp=Z,12nm,2.6s
UBPT **Khong Chiam** 82.69 289 P P 22 06 28.9 0.0
TUC **Tucson** 82.76 52 P P 22 06 31.5 +2.4
baz=241
IPM **Ipoh** 82.81 277 P P 22 06 30.1 +0.4
IPM IAmb IAmb 22 06 31.5
comp=Z,107nm,1.3s
IPM **Ipoh** 82.81 277 P P 22 06 30.3 +0.7
NLWA **Neilton Lookou** 82.82 34 P P 22 06 30.3 +1.3
NLWA IAmb IAmb 22 09 02.7
comp=Z,91nm,1.1s
G05D **Wamic, OR** 82.87 37 P P 22 06 31.0 +1.7
baz=233
OZB **Mount Ozzard** 83.00 32 P P 22 06 31.4 +1.5
SEW **Seward** 83.03 14 P P 22 06 30.2 +0.6
baz=207
MA2 **Magadan** 83.08 345 P P 22 06 30.0 +0.1
MA2 IAmb IAmb 22 09 02.0
comp=Z,163nm,1.4s
MA2 **Magadan** 83.08 345 P P 22 06 30.0 +0.1
MA2 pmax pmax
comp=Z,163nm,1.4s
KULM **Kulim** 83.44 278 P P 22 06 32.8 0.0
KULM IAmb IAmb 22 06 34.9
comp=Z,52nm,1.1s
CBB **Campbell River** 83.77 31 P P 22 06 35.1 +1.6
CBB IAmb IAmb 22 08 59.7
comp=Z,146nm,1.6s
L19K **White Mountain** 83.83 11 P P 22 06 34.3 +0.7
baz=202,SNR=5.2
BBB **Bella Bella** 83.93 28 P P 22 06 35.2 +0.9
comp=Z,8.0nm,0.9s,baz=288,slow=5.4,SNR=5.6
comp=Z,8.0nm,0.9s
ELK **Elko** 83.96 43 P P 22 06 37.0 +2.0
comp=Z,4.1nm,0.9s,baz=240,slow=3.4,SNR=7.4
comp=Z,4.1nm,0.9s
SUA **Susitna One** 83.97 13 P P 22 06 34.5 +0.1
SUA IAmb IAmb 22 06 35.7
comp=Z,38nm,0.8s
SUA **Susitna One** 83.97 13 P P 22 06 33.9 -0.5
baz=206,SNR=8.0
PSI **Prapat** 84.19 275 P P 22 06 36.6 -0.1
comp=Z,30nm,1.0s,baz=170,slow=6.1,SNR=10.0
comp=Z,30nm,1.0s
GLI **Glacier Island** 84.27 15 P P 22 06 35.6 -0.2
baz=209
L20K **Farewell, AK** 84.28 11 P P 22 06 36.0 +0.2
baz=203
EYAK **Cordova Ski Ar** 84.31 15 P P 22 06 36.4 +0.5
EYAK IAmb IAmb 22 09 55.1
comp=Z,112nm,1.8s
KNK **Knik Glacier** 84.42 14 P P 22 06 37.1 +0.6
baz=208
PMR **Palmer** 84.43 14 P P 22 06 37.1 +0.7
baz=207
GHO **Glory Hole Cre** 84.64 14 P P 22 06 37.7 +0.1
GHO IAmb IAmb 22 06 39.6
comp=Z,45nm,0.8s
V35K **Ketchikan** 84.69 25 P P 22 06 38.8 +0.9
baz=223
CUT **Chulitna** 84.91 13 P P 22 06 39.2 +0.4
baz=206
M23K **Glacier View** 84.92 14 P P 22 06 39.4 +0.5
baz=209
GSI **Gunungsitoli** 84.95 273 P P 22 06 41.1 +0.9
GSI **Gunungsitoli** 84.95 273 P P 22 06 42.4 +2.2
comp=Z,113nm,1.4s
GSI **Gunungsitoli** 84.95 273 P P 22 06 41.0 +0.9
BMRM **Bremner River** 84.96 16 P P 22 06 39.7 +0.5
BMRM IAmb IAmb 22 06 40.9
comp=Z,25nm,0.7s
BMRM **Bremner River** 84.96 16 P P 22 06 39.4 +0.3
baz=212
WAX **Waxell Ridge** 84.98 17 P P 22 06 40.7 +1.4
MESA **MESA** 85.00 17 P P 22 06 40.4 +0.9
baz=214
SCM **Sheep Creek Mo** 85.05 14 P P 22 06 39.7 +0.1
SCM IAmb IAmb 22 06 41.3
comp=Z,48nm,0.8s
SCM **Sheep Creek Mo** 85.05 14 P P 22 06 39.7 +0.1
SCM pmax pmax
comp=Z,47nm,0.8s
SCM **Sheep Creek Mo** 85.05 14 P P 22 06 39.5 -0.1
baz=209,SNR=6.1
K20K **Telida** 85.06 11 P P 22 06 39.6 +0.1
K20K IAmb IAmb 22 06 42.0
comp=Z,51nm,1.4s
K20K **Telida** 85.06 11 P P 22 06 39.9 +0.4
baz=203
KLU **Klutina** 85.08 15 P P 22 06 39.5 -0.3
baz=210
LYN **LuoYang** 85.15 309 ⇓P P 22 06 40.3 -0.3
LYN pmax pmax
comp=Z,30nm,1.5s
BJT **Baijiatuau** 85.24 315 P P 22 06 41.8 +0.9
BJT IAmb IAmb 22 06 43.0
comp=Z,106nm,1.8s
BJT **Baijiatuau** 85.24 315 P P 22 06 41.8 +0.9
BJT pmax pmax
comp=Z,106nm,1.8s
BJI **Beijing** 85.25 315 P P 22 06 41.4 +0.5
BJI pmax pmax
comp=Z,26nm,1.6s
ENH **Enshi** 85.47 304 P P 22 06 43.6 +1.3
CAST **Castle Rocks** 85.48 11 P P 22 06 40.4 -1.1
CAST IAmb IAmb 22 06 42.4
comp=Z,35nm,1.2s
CAST **Castle Rocks** 85.48 11 P P 22 06 41.3 -0.3
baz=205,SNR=5.4
N25K **Chitina, Valde** 85.51 15 P P 22 06 42.4 +0.5
baz=212
M24K **Tolsona, Glenn** 85.56 15 P P 22 06 43.3 +1.3
baz=210
SRIT **Nakonsritamara** 85.57 281 P P 22 06 44.4 +1.3
WAT6 **Susitna Watana** 85.61 14 P P 22 06 42.2 -0.2
baz=209
WAT1 **Susitna Watana** 85.66 13 P P 22 06 42.3 -0.1
baz=208
SEY **Seymchan** 85.67 347 P P 22 06 42.5 +0.1
comp=Z,10nm,0.5s,baz=148,slow=5.6,SNR=18
comp=Z,10nm,0.5s
SEY **Seymchan** 85.67 347 ⇓*e*P P 22 06 42.3 -0.1
SEY pmax pmax
comp=Z,87nm,1.8s
J20K **Nowinta River** 85.81 10 P P 22 06 43.2 +0.2
baz=203
LOGN **Logan Glacier** 85.81 17 P P 22 06 44.0 +0.7
LOGN IAmb IAmb 22 06 45.9
comp=Z,40nm,1.4s
P29M **Windy Craggy** 85.81 19 P P 22 06 43.4 +0.2
baz=218
CTG **Chitna Glacier** 85.83 17 P P 22 06 44.0 +0.6
baz=214
CTGM **Chitina Glacie** 85.83 17 P P 22 06 43.8 +0.3
CTGM IAmb IAmb 22 09 05.4

comp=Z,30nm,0.7s
PLID **Pearl Lake** 85.85 39 P P 22 06 44.8 +0.7
TRF **Thorofare Moun** 85.85 12 P P 22 06 42.7 -0.8
baz=206,SNR=9.8
CHUM **Lake Minchumin** 85.86 11 P P 22 06 42.4 -0.9
baz=204,SNR=5.8
LLLB **Lillooet** 85.86 32 P P 22 06 44.5 +0.8
HLID **Hailey** 85.98 41 P P 22 06 46.0 +1.4
HLID **Hailey** 85.98 41 P P 22 06 45.7 +1.1
baz=238,SNR=7.4
O28M **Mount Upton** 85.99 18 P P 22 06 44.9 +0.5
baz=216
HARP **HAARP** 86.05 15 P P 22 06 45.2 +0.9
baz=211
PLBC **Pleasant Camp** 86.10 20 P P 22 06 45.1 +0.6
baz=219
GYA **Guiyang** 86.11 300 ⇑*i*P P 22 06 46.8 +1.3
GYA pmax pmax
comp=Z,18nm,1.0s
DHY **Denali Highway** 86.13 14 P P 22 06 44.7 -0.1
baz=209
MCK **McKinley** 86.38 13 P P 22 06 45.6 -0.2
baz=208
P30M **Million Dollar** 86.44 19 P P 22 06 46.6 +0.4
baz=218
SKAG **Skagway** 86.44 20 P P 22 06 47.1 +1.0
baz=220
PAX **Paxson** 86.47 14 P P 22 06 46.8 +0.4
baz=211
M26K **Nabesna, AK** 86.59 16 P P 22 06 47.8 +0.9
baz=213
TIY **Taiyuan** 86.65 312 *e*P P 22 06 48.6 +0.8
TIY pmax pmax
comp=Z,20nm,0.5s
YUK6 **Outpost Mounta** 86.66 18 P P 22 06 48.4 +0.9
baz=217
YUK3 **Moose Creek** 86.74 17 P P 22 06 48.2 +0.5
baz=215,SNR=9.5
S34M **Telegraph Cree** 86.75 23 P P 22 06 48.6 +1.0
baz=224
HYT **Haines Junctio** 86.82 19 P P 22 06 49.2 +1.1
baz=218
M27K **Edge Creek, AK** 86.84 16 P P 22 06 48.9 +0.7
M27K IAmb IAmb 22 06 51.1
comp=Z,37nm,1.2s
M27K **Edge Creek, AK** 86.84 16 P P 22 06 49.2 +1.0
baz=214
TX31 **Lajitas Ar. Si** 86.90 57 P P 22 06 50.9 +1.7
TX31 **Lajitas Ar. Si** 86.90 57 P P 22 06 50.9 +1.7
baz=245
TXAR **Lajitas Array** 86.90 57 P P 22 06 51.3 +2.1
comp=Z,14nm,0.9s,baz=224,slow=5.2,SNR=26
comp=Z,14nm,0.9s
TXAR **Lajitas Array** 86.90 57 P P 22 06 51.0 +1.8
TXAR **Lajitas Array** 86.90 57 P P 22 06 51.0 +1.8
NEW **Newport** 86.98 36 P P 22 06 49.7 +0.7
comp=Z,2.9nm,0.8s,baz=291,slow=5.6,SNR=4.5
comp=Z,2.9nm,0.8s
NEW **Newport** 86.98 36 P P 22 06 49.5 +0.5
baz=236
L26K **Log Cabin Wild** 87.03 15 P P 22 06 49.5 +0.6
baz=213
MLSI **Meulaboh, Aceh** 87.06 276 P P 22 06 51.7 +1.6
comp=Z,60nm,1.1s
P32M **Atlin** 87.08 21 P P 22 06 50.3 +1.1
baz=221
I21K **Tanana** 87.10 11 P P 22 06 48.9 -0.2
baz=205,SNR=6.6
Q32M **Nakina River** 87.11 22 P P 22 06 50.8 +1.2
baz=223
NEA2 **Nenana** 87.12 12 P P 22 06 48.9 -0.3
baz=207
K24K **Donnelly Dome** 87.12 14 P P 22 06 49.5 +0.2
baz=210,SNR=10
BVCY **Beaver Creek** 87.15 16 P P 22 06 50.5 +1.0
baz=215
ANMO **Albuquerque** 87.18 51 ⇑*e*P P 22 06 51.8 +1.3
ANMO pmax pmax
comp=Z,15nm,1.2s
ANMO **Albuquerque** 87.18 51 P P 22 06 52.0 +1.5
baz=243
ANMO **Albuquerque** 87.18 51 P P 22 06 51.2 +0.7
baz=243
MLY **Manley** 87.19 11 P P 22 06 48.8 -0.8
MLY **Manley** 87.19 11 P P 22 06 48.7 -0.9
baz=206
O30N **Mendenhall** 87.21 19 P P 22 06 50.5 +0.7
baz=219
RIDG **Independent Ri** 87.28 14 P P 22 06 50.1 0.0
baz=211
XLT **XiLinHaoTe** 87.28 319 *e*P P 22 06 51.3 +0.7
XLT pP pP 22 09 00.9 +1.2
XLT pmax pmax
comp=Z,19nm,1.3s
DOT **Dot Lake** 87.38 15 P P 22 06 50.8 +0.2
DOT IAmb IAmb 22 06 53.1
comp=Z,61nm,1.8s
HDA **Harding Lake** 87.39 13 P P 22 06 50.3 -0.2
baz=209,SNR=18
H21K **Melozitna Rive** 87.40 10 P P 22 06 50.8 +0.2
baz=204,SNR=7.8
CCB **Clear Creek Bu** 87.42 13 P P 22 06 50.0 -0.6
L27K **Beaver Creek,** 87.44 16 P P 22 06 50.9 +0.1
baz=214
N30M **Aishikik Lake** 87.45 18 P P 22 06 51.2 +0.3
baz=218
BCAR **Beaver Creek A** 87.45 16 P P 22 06 52.1 +1.2
WHY **Whitehorse** 87.51 20 P P 22 06 52.4 +1.1
baz=220
DLBC **Dease Lake** 87.53 23 P P 22 06 52.1 +0.7
comp=Z,6.1nm,0.8s,baz=242,slow=4.5,SNR=6.2
comp=Z,6.1nm,0.8s
DLBC **Dease Lake** 87.53 23 P P 22 06 52.6 +1.2
baz=225
IMAR **Inuit Mountai** 87.54 10 P P 22 06 51.4 +0.2
MCMT **McKenzie Canyo** 87.60 40 P P 22 06 53.8 +1.5
TCOL **CIGO, UAF Yank** 87.61 12 P P 22 06 51.4 -0.1
baz=208,SNR=7.0
COLA **College** 87.61 12 P P 22 06 51.1 -0.4
COLA IAmb IAmb 22 06 52.5
comp=Z,40nm,0.7s
COLA **College** 87.61 12 P P 22 06 51.1 -0.4
COLA pmax pmax
comp=Z,40nm,0.7s
COLA **College** 87.61 12 P P 22 06 51.6 +0.2
baz=208
AHID **Auburn Hatcher** 87.65 43 P P 22 06 54.0 +1.4
AHID IAmb IAmb 22 06 55.4
comp=Z,34nm,1.4s
SCRK **Sand Creek** 87.68 14 P P 22 06 52.8 +0.8
baz=212,SNR=6.2
IL31 87.72 13 P P 22 06 51.5 -0.5
IL31 IAmb IAmb 22 06 53.6
comp=Z,30nm,1.2s
ILAR **Eielson Array** 87.72 13 P P 22 06 51.3 -0.7
comp=Z,7.4nm,0.4s,baz=213,slow=5.0,SNR=93
ILAR PKKP **PKKPdf** 22 24 32.4 -0.2
comp=Z,0.2nm,0.6s,baz=304,slow=36,SNR=2.2
comp=Z,7.4nm,0.4s
ILAR **Eielson Array** 87.72 13 P P 22 06 51.7 -0.3
ILAR **Eielson Array** 87.72 13 P P 22 06 51.7 -0.3
M29M **Somme Creek** 87.83 17 P P 22 06 53.4 +0.6
baz=217,SNR=8.2
P33M **Teslin, Yukon** 87.84 21 P P 22 06 53.7 +0.9
baz=222
H22K **Ishtalitna Cre** 87.86 11 P P 22 06 52.7 0.0
baz=205,SNR=9.9
N31M **Braeburn, Yuko** 87.86 19 P P 22 06 53.4 +0.5
baz=220
R33M **Jennings River** 87.88 22 P P 22 06 54.3 +1.3
baz=224
J25K **Salcha River,** 87.91 14 P P 22 06 53.0 -0.1
baz=211,SNR=8.8
POKR **Poker Plat Res** 87.91 13 P P 22 06 52.7 -0.2
baz=209
LL02 **Futaleuf** 87.97 135 P P 22 06 54.7 +0.8
LL02 IAmb IAmb 22 06 56.6
comp=Z,30nm,1.2s
MSO **Missoula** 88.00 38 P P 22 06 54.8 +0.9
baz=238
G21K **Allakaket** 88.07 10 P P 22 06 53.9 +0.2
baz=203,SNR=7.4
H23K **Yukon River** 88.13 11 P P 22 06 53.8 -0.1
baz=207
FXWY **Fox Creek** 88.13 42 P P 22 06 56.3 +1.5
S22A **4UR Ranch, Cre** 88.16 49 P P 22 06 56.9 +1.7
baz=243,SNR=6.1

K27K **Chicken** 88.18 15 P P 22 06 55.5 +1.3
baz=214
J26L **Joseph Creek** 88.22 14 P P 22 06 55.2 +0.7
baz=212,SNR=12
O20A **White River Ci** 88.27 46 P P 22 06 57.1 +1.6
baz=242
TROLL **Troll, Antarti** 88.39 180 P P 22 06 55.5 +0.1
TROLL S S 22 16 48.5 -2.0
H24K **Noodor Dome** 88.46 12 P P 22 06 55.8 +0.3
baz=208
L29M **L29M** 88.46 17 P P 22 06 56.5 +1.0
baz=217,SNR=11
PHRA **Phrae** 88.54 290 P P 22 06 57.8 +0.8
BW06 **Boulder Array** 88.64 43 P P 22 06 58.2 +1.0
baz=241
PDAR **Pinedale Array** 88.64 43 P P 22 06 58.2 +1.0
comp=Z,5.7nm,0.7s,baz=207,slow=3.0,SNR=12
PDAR PKKPbc **PKKPbc** 22 24 34.6 -0.9
comp=Z,0.5nm,0.8s,baz=126,slow=2.0,SNR=4.2
comp=Z,5.7nm,0.7s
PDAR **Pinedale Array** 88.64 43 P P 22 06 57.8 +0.6
PRP **Porcupine Dome** 88.66 13 P P 22 06 56.2 -0.4
PRP **Porcupine Dome** 88.66 13 P P 22 06 56.7 +0.1
baz=211
SNAA **Sanae** 88.68 179 P P 22 06 56.4 -0.3
SNAA **Sanae** 88.68 179 P P 22 06 56.7 -0.1
comp=Z,2.4nm,0.6s,baz=203,slow=8.4,SNR=9.8
comp=Z,2.4nm,0.6s
SNAA **Sanae** 88.68 179 P P 22 06 56.6 -0.1
SNAA **Sanae** 88.68 179 P P 22 06 56.6 -0.1
SNAA pmax pmax
comp=Z,19nm,1.2s
HHC **Hu-ho-hao-te** 88.72 314 *e*P P 22 06 58.6 +1.2
HHC pmax pmax
comp=Z,27nm,1.0s
F21K **Alatna River** 88.73 9 P P 22 06 56.9 +0.2
baz=203
BOZ **Bozeman (W)** 88.74 40 P P 22 06 58.4 +1.0
BOZ IAmb IAmb 22 07 00.4
comp=Z,23nm,1.1s
BOZ **Bozeman (W)** 88.74 40 P P 22 06 58.4 +1.0
BOZ pmax pmax
comp=Z,23nm,1.2s
BOZ **Bozeman (W)** 88.74 40 P P 22 06 58.5 +1.1
baz=240,SNR=10
G22K **Bettles** 88.77 10 P P 22 06 57.6 +0.7
baz=205
H17A **Grant Village** 88.79 42 P P 22 07 01.2 +3.4
baz=240
VNA3 **Neumayer Olymp** 88.82 176 P P 22 06 57.2 -0.1
VNA3 S S 22 16 52.4 -1.7
KMI **Kunming** 88.83 297 ⇓P P 22 06 59.8 +1.4
KMI pmax pmax
comp=Z,31nm,1.7s
G23K **Bananza Creek** 88.83 11 P P 22 06 58.1 +0.9
baz=206
M31M **Drury Creek, Y** 88.84 19 P P 22 06 57.9 +0.5
baz=221
DAWY **Dawson** 88.89 16 P P 22 06 58.0 +0.5
DAWY IAmb IAmb 22 07 00.1
comp=Z,17nm,0.8s
DAWY **Dawson** 88.89 16 P P 22 06 57.9 +0.4
baz=216,SNR=9.2
I26K **Coal Creek Min** 89.00 14 P P 22 06 58.1 +0.1
baz=213
EGAK **Eagle** 89.03 15 P P 22 06 58.5 +0.4
EGAK IAmb IAmb 22 07 00.6
comp=Z,25nm,0.9s
EGAK **Eagle** 89.03 15 P P 22 06 58.3 +0.2
baz=215
CRAI **Chiangrai** 89.04 292 P P 22 06 59.5 +0.3
CRAI IAmb IAmb 22 07 01.7
comp=Z,41nm,1.4s
SDCO **Great Sand Dun** 89.11 49 P P 22 07 00.6 +1.1
baz=244
SDCO **Great Sand Dun** 89.11 49 P P 22 07 00.2 +0.7
baz=244
LR03 **Panguipulli** 89.14 132 P P 22 07 00.1 +0.6
FARO **Faro, Yukon** 89.18 19 P P 22 06 59.4 +0.5
baz=222
F22K **John River** 89.20 10 P P 22 06 59.1 +0.2
baz=204
K29M **Barlow Dome** 89.21 17 P P 22 06 59.8 +0.6
baz=218,SNR=11
H25K **Birch Creek** 89.25 13 P P 22 06 59.9 +0.9
baz=210
VNA2 **Neumayer--Watz** 89.26 177 P P 22 06 59.4 +0.1
baz=188,slow=4.7
VNA2 S S 22 16 56.7 -1.4
COLD **Coldfoot** 89.27 11 P P 22 07 00.1 +0.9
baz=206,SNR=6.8
G24K **Hadweenzic Riv** 89.30 12 P P 22 06 59.4 +0.1
baz=209
NVL **N'lazarevskaya** 89.37 183 ⇑*i*P P 22 06 58.7 -1.1
NVL pmax pmax
comp=Z,17nm,1.0s
MAYO **Mayo, Yukon** 89.47 18 P P 22 07 01.6 +1.4
baz=219
VNA1 **Neumayer--Stat** 89.49 177 P P 22 07 00.6 +0.3
MSTX **Muleshoe** 89.51 54 P P 22 07 02.2 +0.9
baz=246
MSTX **Muleshoe** 89.51 54 P P 22 07 01.3 0.0
baz=246
T25A **Trinidad** 89.63 50 P P 22 07 03.7 +1.8
baz=245
CM31 **Chiang Mai Arr** 89.66 290 P P 22 07 03.2 +1.1
CM31 IAmb IAmb 22 07 05.0
comp=Z,57nm,1.3s
CMAR **Chiang Mai Arr** 89.66 290 P P 22 07 03.9 +1.7
comp=Z,18nm,1.0s,baz=114,slow=2.9,SNR=40
CMAR PKKPbc **PKKPbc** 22 24 29.9 -1.9
comp=Z,0.6nm,0.3s,baz=314,slow=5.1,SNR=4.5
comp=Z,18nm,1.0s
CMAR **Chiang Mai Arr** 89.66 290 P P 22 07 03.3 +1.2
CMAR **Chiang Mai Arr** 89.66 290 *ce*P P 22 07 03.9 +1.7
CMAR pmax pmax
comp=Z,19nm,1.0s
CMIG **Matias Romero** 89.69 72 P P 22 07 03.3 +1.0
comp=Z,6.6nm,1.0s,baz=288,slow=4.5,SNR=5.3
comp=Z,6.6nm,1.0s
CHTO **Chiang Mai** 89.79 290 IAmb IAmb 22 07 05.2
comp=Z,49nm,1.3s
CHTO **Chiang Mai** 89.79 290 P P 22 07 03.4 +0.7
CHTO **Chiang Mai** 89.79 290 P P 22 07 03.4 +0.7
CHTO pmax pmax
comp=Z,49nm,1.3s
CHTO **Chiang Mai** 89.79 290 P P 22 07 04.0 +1.3
E22K **Anaktuvuk Pass** 89.83 10 P P 22 07 02.6 +0.7
baz=205
Q24A **Divide** 89.88 48 P P 22 07 05.1 +2.0
baz=244
PLCA **Paso Flores** 89.91 134 P P 22 07 04.0 +1.1
comp=Z,3.7nm,0.8s,baz=236,slow=4.4,SNR=9.3
comp=Z,3.7nm,0.8s
PLCA **Paso Flores** 89.91 134 P P 22 07 04.1 +1.1
PLCA IAmb IAmb 22 08 58.6
comp=Z,27nm,1.4s
PLCA **Paso Flores** 89.91 134 P P 22 07 04.1 +1.1
PLCA pmax pmax
comp=Z,27nm,1.4s
ISCO **Idaho Springs** 89.92 47 P P 22 07 05.0 +1.7
baz=244
833A **Chaparral WMA,** 89.94 60 P P 22 07 04.5 +1.3
baz=247
833A **Chaparral WMA,** 89.94 60 P P 22 07 04.8 +1.6
baz=247
F24K **Squaw Lake** 89.94 11 P P 22 07 02.8 +0.5
baz=208
RLMT **Red Lodge** 89.96 41 P P 22 07 04.8 +1.6
baz=241
E23K **Chandalar** 90.12 10 P P 22 07 03.9 +0.7
baz=207
MMPY **Sheldon Lake,** 90.12 20 P P 22 07 03.9 +0.6
baz=224
H27K **Steamboat Moun** 90.14 14 P P 22 07 03.9 +0.6
baz=214
N23A **Red Feather La** 90.18 46 P P 22 07 05.1 +0.7
baz=244
PZH **PanZhiHua** 90.18 298 P P 22 07 05.3 +0.8
PZH pmax pmax
comp=Z,30nm,1.1s
I29M **Ogilvie Camp,** 90.21 16 P P 22 07 04.6 +1.0
baz=217
G26K **Porcupine Rive** 90.25 13 P P 22 07 05.0 +1.2
baz=212
E24K **Your Creek** 90.33 11 P P 22 07 05.1 +0.9
baz=208

TGTN	Hyland Airport	90.34	22	P		P		22 07 05.9	+1.5	
	baz=226									
F25K	Christian Rive	90.43	12	P		P		22 07 06.6	+1.9	
	baz=210									
JCT	Junction City	90.43	58	P		P		22 07 06.1	+0.5	
	baz=247									
BMAR	Burnt Mountain	90.50	12	P		P		22 07 05.6	+0.7	
K22A	Casper	90.57	44	P		P		22 07 07.9	+1.9	
	baz=243									
K22A	Casper	90.57	44	P		P		22 07 07.3	+1.3	
	baz=243									
TOLK	Toolik Lake Re	90.65	10	P		P		22 07 05.7	+0.1	
	baz=207									
D23K	Nanushuk River	90.76	10	P		P		22 07 06.5	+0.4	
	baz=206									
F26K	Sheenjek River	90.81	12	P		P		22 07 07.0	+0.6	
	baz=212									
E25K	Arctic Village	90.90	12	P		P		22 07 07.8	+1.0	
	baz=211									
D24K	Happy Valley	91.23	10	P		P		22 07 09.4	+1.2	
	baz=208									
ABTX	Abilene, Hawle	91.38	56	P		P		22 07 09.9	+0.1	
	baz=247									
ABTX	Abilene, Hawle	91.38	56	P		P		22 07 10.7	+0.8	
	baz=247									
YAK	Yakutsk	91.41	338	P		P		22 07 08.7	-0.5	
	comp=Z,4.7nm,0.4s,baz=76,slow=1.2,SNR=5.4									
	comp=Z,4.7nm,0.4s									
YAK	Yakutsk	91.41	338	⇑	eP	P		22 07 08.6	-0.5	
YAK					pmax	pmax				
	comp=Z,11nm,0.8s									
EPYK	Eagle Plains	91.41	16	P		P		22 07 09.1	-0.1	
	baz=219									
C23K	Itkillik River	91.56	9	P		P		22 07 10.7	+1.0	
	baz=206									
KSCO	Kaye Shedlock'	91.69	49	P		P		22 07 12.7	+1.5	
	baz=246									
LZH	Lanzhou	92.17	308	eP		P		22 07 14.5	+1.0	
LZH				pP		pP		22 09 19.3	-4.3	
LZH				sP		sP		22 10 16.6	-6.7	
LZH				pmax		pmax				
	comp=Z,21nm,1.1s									
RSSD	Black Hills	92.84	44	P		P		22 07 16.8	+0.3	
RSSD				IAmb		IAmb		22 07 19.3		
	comp=Z,18nm,1.6s									
RSSD	Black Hills	92.84	44	P		P		22 07 16.8	+0.3	
RSSD				pmax		pmax				
	comp=Z,18nm,1.6s									
RSSD	Black Hills	92.84	44	P		P		22 07 17.7	+1.2	
	baz=245									
INK	Inuvik	93.69	15	P		P		22 07 18.8	-0.6	
	comp=Z,2.9nm,0.8s,baz=241,slow=5.3,SNR=3.9									
	comp=Z,2.9nm,0.8s									
DGMT	Dagmar	94.57	40	P		P		22 07 25.8	+1.8	
	baz=245									
ULN	Ulaanbaatar	94.70	319	⇑	eP	P		22 07 24.7	-0.1	
ULN					pmax	pmax				
	comp=Z,12nm,1.5s									
SONM	Songino Array	95.09	319	P		P		22 07 26.2	-0.4	
	comp=Z,1.1nm,0.5s,baz=127,slow=4.2,SNR=14									
SONM					PP	PP		22 11 26.3	-1.0	
	comp=Z,1.5nm,1.1s,baz=116,slow=5.0,SNR=3.7									
	comp=Z,1.1nm,0.5s									
YKA	Yellowknife Ar	96.01	25	P		P		22 07 29.9	-0.1	
	comp=Z,1.3nm,0.6s,baz=233,slow=4.8,SNR=5.1									
	comp=Z,1.3nm,0.6s									
GTA	Gaotai	96.36	309	⇑	P	P		22 07 33.3	+0.9	
GTA					sP	sP		22 10 43.4	+0.7	
GTA					pmax	pmax				
	comp=Z,7.0nm,1.5s									
ROSC	El Rosal	104.73	90	PKKPbc		PKKPbc		22 23 50.0	-1.5	
	comp=Z,11nm,0.5s,baz=287,slow=22,SNR=5.8									
CPUP	Villa Florida	106.59	127	PKKP				22 23 53.0		
	comp=Z,12nm,1.1s,baz=240,slow=5.9,SNR=7.0									
ZALV	Zalesovo Beam	109.82	321	PKKP		PKiKP		22 12 28.8	-1.3	
	comp=Z,1.9nm,0.6s,baz=135,slow=1.0,SNR=8.3									
MKAR	Makanchi Array	110.56	314	PKiKP		PKiKP		22 12 30.7	-1.0	
	comp=Z,2.2nm,0.5s,baz=224,slow=0.6,SNR=27									
MAKZ	Makanchi	110.78	314	⇑	PKiKP	PKiKP		22 12 30.9	-1.3	
KURK	Kurchatov	113.34	318	d	iPKiKP	PKiKP		22 12 36.9	0.0	
KURK					pmax	pmax				
	comp=Z,9.0nm,1.7s									
KURBB	Kurchatov Arra	113.39	317	PKiKP		PKiKP		22 12 35.9	-1.1	
	comp=Z,2.6nm,0.6s,baz=97,slow=1.8,SNR=23									
KURBB				PKKPbc		PKKPbc		22 23 23.6	-1.1	
	comp=Z,0.9nm,0.8s,baz=297,slow=4.0,SNR=5.5									
BVAR	Borovoye Array	118.41	320	PKP		PKPdf		22 12 46.0	-0.6	
	comp=Z,4.1nm,0.4s,baz=119,slow=2.3,SNR=54									
BRVK	Borovoye	118.47	320	⇓	iPKiKP	PKiKP		22 12 46.8	+0.1	
BRVK					pmax	pmax				
	comp=Z,16nm,2.5s									
KK31	Karatay Array	118.64	309	PKPdf		PKPdf		22 12 46.9	-0.5	
KK31	Karatay Array	118.64	309	PKiKP		PKPdf		22 12 46.9	-0.5	
KKAR	Karatay Array	118.64	309	PKPdf		PKPdf		22 12 46.7	-0.7	
KKAR	Karatay Array	118.64	309			PKPdf		22 12 46.6	-0.7	
KKAR	Karatay Array	118.64	309	PKiKP		PKPdf		22 12 46.7	-0.7	
GAR	Garm	118.64	304			PKPdf		22 12 47.2	-0.5	
CHGR	Chuyangaron	119.53	304			PKPdf		22 12 49.0	-0.3	
CHGR	Chuyangaron	119.53	304	PKiKP		PKPdf		22 12 49.0	-0.3	
ARU	Arti	124.52	326	PKP		PKPdf		22 12 58.0	-0.2	
	comp=Z,8.6nm,0.3s,baz=105,slow=1.1,SNR=22									
ARU	Arti	124.52	326	PKPdf		PKPdf		22 12 57.9	-0.3	
ARU	Arti	124.52	326	i	PKiKP	PKPdf		22 12 57.8	-0.3	
ARU								22 19 13.7		
ABKAR	Akbulak array	125.44	317	PKPdf		PKPdf		22 13 00.3	+0.1	
ABKAR	Akbulak array	125.44	317	PKPdf		PKPdf		22 12 59.8	-0.4	
AKTO	Aktyubinsk	126.41	319	PKP		PKiKP		22 13 02.6	+0.1	
	comp=Z,4.3nm,0.7s,baz=74,slow=2.9,SNR=10									
BOSA	Boshof	126.75	206	PKP		PKiKP		22 13 04.4	+0.3	
	comp=Z,8.2nm,1.0s,baz=97,slow=0.5,SNR=7.6									
WSAR	Wadi Sarin	127.25	285	PKP		PKiKP		22 13 04.9	-0.1	
	comp=Z,1.5nm,0.4s,baz=275,slow=9.2,SNR=4.5									
HAMF	Hammerfest	127.53	351	e	PKPdf	PKPdf		22 13 03.3	-0.2	
GEYT	Alibeck	128.22	303	PKP		PKiKP		22 13 06.5	-0.1	
	comp=Z,3.1nm,0.5s,baz=331,slow=12,SNR=9.4									
GEYT					PP	PP		22 15 17.8	-2.3	
	comp=Z,0.8nm,0.3s,baz=302,slow=11,SNR=4.8									
GEYT	Alibeck	128.22	303	PKPdf		PKPdf		22 13 06.0	+0.1	
GYA0B	ALIBECK ARRAY	128.22	303	PKPdf		PKiKP		22 13 06.3	-0.4	
ARA0	ARCESS Array S	128.22	350	e	PKPdf	PKPdf		22 13 04.8	-0.2	
ARCES	ARCESS Array B	128.22	350		PKPbc	PKPpre		22 12 51.1		
	comp=Z,0.3nm,0.4s,baz=225,slow=1.5,SNR=6.9									
ARCES					PKP	sPdif		22 13 05.0	+0.3	
	comp=Z,4.3nm,0.3s,baz=89,slow=0.7,SNR=21									
KIRV	Kirov	128.27	330	PKP		PKiKP		22 13 05.6	-0.4	
	comp=Z,8.0nm,0.5s,baz=52,slow=22,SNR=8.8									
KIRV	Kirov	128.27	330	⇓	iPKiKP	PKiKP		22 13 05.7	-0.2	
PRGR	Permogore	128.34	335	e	PKiKP	PKPdf		22 13 03.6	-1.7	
PRGR					pmax	pmax				
	comp=Z,4.0nm,0.8s									
JETT	Jettan, Norway	128.99	352	e	PKPdf	PKiKP		22 13 06.8	-0.4	
KTK1	Kautokeino	129.06	350	e	PKPdf	PKPdf		22 13 06.1	-0.4	
KTK1					IAmb	IAmb		22 13 06.8		
	comp=Z,8.0nm,1.2s									
TRO	Tromso	129.11	352	e	PKPdf	PKPdf		22 13 06.5	0.0	
TRO					IAmb	IAmb		22 13 15.0		
	comp=Z,84nm,1.9s									
UOSS	Minazif	129.66	286	PKPdf		PKPdf		22 13 07.9	-1.1	
STEI	Steigen	131.16	353	e	PKPdf	PKiKP		22 13 11.0	-0.5	
STEI					IAmb	IAmb		22 13 16.4		
	comp=Z,20nm,1.3s									
KLMR	Klimovskoe	131.17	337	e	PKiKP	PKPdf		22 13 10.6	-0.1	
KLMR				e				22 15 39.8		
KLMR					pmax	pmax				
	comp=Z,25nm,1.6s									
KLMR	Klimovskoe	131.17	337	e	PKPdf	PKPdf		22 13 10.7	0.0	
KLMR					AMP			22 13 13.8		
	comp=Z,25nm,1.6s									
KLMR				e	PP	PP		22 15 39.8	+2.1	
BELG	Belogornoye	131.92	324	PKP		PKiKP		22 13 13.1	-0.4	
	comp=Z,11nm,0.5s,baz=54,slow=1.2,SNR=9.7									
BELG					SKPbc	SKPbc		22 15 43.2	+0.5	
	comp=Z,44nm,1.1s,baz=255,slow=1.3,SNR=11									
FINES	FINESS Array B	135.07	344	PKiKP		PKPpre		22 13 03.8		
	comp=Z,0.7nm,0.4s,baz=142,slow=4.6,SNR=17									
FINES					PKP	PKPdf		22 13 18.4	+0.4	
	comp=Z,3.0nm,0.3s,baz=78,slow=2.5,SNR=8.8									
FINES					SKPbc	SKPbc		22 15 52.8	+0.1	
	comp=Z,3.6nm,0.9s,baz=129,slow=5.2,SNR=6.2									
FINES					PP	PP		22 16 00.8	-1.2	
	comp=Z,2.2nm,0.8s,baz=4.3,slow=7.6,SNR=4.1									
MOS	Moscow	135.20	332	e	PKiKP	PKiKP		22 13 19.4	-0.7	
OBN	Obninsk	136.06	332		PKP	PKPdf		22 13 20.7	+0.7	
	comp=Z,3.0nm,0.5s,baz=291,slow=18,SNR=4.9									
OBN					SKPbc	SKPbc		22 15 57.1	+1.2	
	comp=Z,2.9nm,0.4s,baz=92,slow=8.5,SNR=6.9									
OBN	Obninsk	136.06	332	⇓	iPKiKP	PKiKP		22 13 20.9	-0.9	
OBN					PPP	PPP		22 19 16.0		
OBN								22 19 36.0		
OBN					pmax	pmax				
	comp=Z,27nm,1.4s									
OBN					pmax	pmax				
	comp=Z,30nm,1.8s									
RAF	Rauma	136.49	346	eP		PKPdf		22 13 18.8	-1.8	
VORR	Voronezh	136.82	326	e	PKiKP	PKPdf		22 13 22.3	+0.8	
VORR					pmax	pmax				
	comp=Z,20nm,0.4s									
VSU	Vasula	137.34	341	eP		PKPpre		22 13 11.4		
MTSE	Matsula	137.99	343	eP		PKPpre		22 13 14.1		
GNI	Garni	138.10	308	PKP		PKPdf		22 13 25.5	+1.0	
	comp=Z,4.6nm,0.8s,baz=164,slow=13,SNR=3.8									
GNI					SKP			22 16 04.2		
	comp=Z,2.6nm,0.5s,baz=286,slow=8.6,SNR=4.2									
NB2	NORSAR Subarra	138.29	353	PKP		PKPpre		22 13 14.5		
	comp=Z,2.7nm,0.6s,baz=10,slow=3.2									
NB2	NORSAR Subarra	138.29	353	e		PKPpre		22 13 14.5		
	baz=10,slow=3.2									
NOA	NORSAR Array B	138.29	353	PKhKP		PKPpre		22 13 14.2		
	comp=Z,0.5nm,0.6s,baz=217,slow=8.3,SNR=14									
NOA					PKP	PKiKP		22 13 26.0	-0.3	
	comp=Z,1.1nm,0.4s,baz=14,slow=3.9,SNR=7.4									
NC602	NORSAR Array S	138.55	353	e		PKPpre		22 13 17.9		
HFS	Hagfors	138.85	351	PKhKP		PKPpre		22 13 15.7		
	comp=Z,9.0nm,0.3s,baz=51,slow=2.7,SNR=50									
RAYN	Ar Rayn	139.28	283	PKPdf		PKPdf		22 13 26.9	-0.1	
RAYN	Ar Rayn	139.28	283	PKiKP		PKPdf		22 13 26.9	-0.1	
SLIT	Slitere, Latvi	139.33	343	eP		PKPpre		22 13 17.0		
ODD1	Oddа	139.81	356	e		PKPpre		22 13 20.1		
KONO	Kongsberg	139.83	354	e		PKPpre		22 13 19.9		
ISAL	Salakas	139.87	339	eP		PKPpre		22 13 20.5		
IIGN	Ignalina	140.01	338	eP		PKPpre		22 13 20.8		
NACGM	Naroch	140.17	338	⇓	ePKiKP	PKPpre		22 13 21.0		
	comp=Z,14nm,0.8s,baz=38									
VSVD	Vaisvydziai	140.25	341	eP		PKPpre		22 13 21.4		
BLS5	Blasjo	140.31	356	e		PKPpre		22 13 21.4		
PABE	Paberze	140.64	340	eP		PKPpre		22 13 23.5		
PBUR	Paburge	140.82	342	eP		PKPpre		22 13 23.7		
SNART	Snartemo	141.34	355	e		PKPpre		22 13 24.8		
SNART					IAmb	IAmb		22 13 26.7		
	comp=Z,195nm,1.3s									
KAC	Achnashellach	142.03	6	eP		PKPpre		22 13 27.1		
KPL	Plockton	142.15	7	eP		PKPpre		22 13 27.4		
DEL	Delary	142.31	349	i	P	PKPpre		22 13 27.0		
AKASG	Malin Array Be	142.31	331	PKhKP		PKPpre		22 13 27.3		
	comp=Z,20nm,0.3s,baz=43,slow=4.3,SNR=186									
AKASG					SKPbc	SKiKP		22 16 14.0	-0.2	
	comp=Z,1.4nm,0.6s,baz=37,slow=3.2,SNR=10.0									
EDU	Dundee	143.17	4	eP		PKPbc		22 13 31.2	-0.1	
INVG	Invergeldie, C	143.21	5	eP		PKPab		22 13 31.1	0.0	
LAWE	Loch Awe, Argy	143.24	7	eP		PKPab		22 13 31.1	-0.1	
SIM	Simferopol'	143.33	320	i	PKHKP	PKPab		22 13 30.2	-1.8	
SIM					pmax	pmax				
	comp=Z,98nm,0.8s									
BSD	Bornholm Skovb	143.39	347	eP		PKPab		22 13 31.3	-0.5	
BSD	Bornholm Skovb	143.39	347	i	P	PKPab		22 13 31.0	-0.8	
BSD				i	P	PKPab		22 13 31.0	-0.8	
PGBU	Glenifferbraes	143.77	6	eP		PKPbc		22 13 32.8	-0.4	
EBL	Broad Law	143.94	5	eP		PKPbc		22 13 33.5	-0.2	
EKA	Eskdalemuir Ar	144.36	5	PKP		PKPbc		22 13 34.9	-0.1	
	comp=Z,4.0nm,0.4s,baz=346,slow=3.2,SNR=34									
NEWG	New Galloway	144.48	6	eP		PKPdf		22 13 34.8	-0.3	
GKP	Gorka Klasztor	144.54	344	ePKPbc		PKPbc		22 13 35.6	0.0	
GKP	Gorka Klasztor	144.54	344	eP		PKPab		22 13 35.9	-0.4	
BEL	Belsk	144.75	339	ePKPbc		PKPab		22 13 37.1	-0.1	
PURM	Purcari	144.80	326	⇑	P	PKPbc		22 13 36.5	-0.2	
EDMD	Edmundbyers	144.95	4	eP		PKPbc		22 13 36.6	-0.2	
BNN	Bunyan	145.02	310			PKPdf		22 13 36.2	-0.6	
MBAR	Mbarara	145.07	238			PKPbc		22 13 38.2	-0.4	
MBAR	Mbarara	145.07	238	c	iPKP2	PKPab		22 13 39.8	0.0	
MBAR					pmax	pmax				
	comp=Z,77nm,1.3s									
IOMK	Kirk Michael	145.29	7	eP		PKPbc		22 13 37.7	-0.1	
WIM	Isle of Man	145.39	7	eP		PKPbc		22 13 38.0	-0.1	
ILGA	Ilgaz	145.55	315			PKPbc		22 13 38.7	-0.7	
LEOM	Leova	145.69	327	⇑	P	PKPbc		22 13 39.3	+0.1	
VASR	Vaslui	145.81	327	⇑	P	PKPbc		22 13 39.3	-0.3	
BIR	Birlad	146.15	327	⇑	P	PKPbc		22 13 41.5	+1.0	
BIR	Birlad	146.15	327	⇑	PKP2	PKPbc		22 13 41.5	+1.0	
WME	Myndd Eilian	146.17	7	eP		PKPbc		22 13 40.2	-0.1	
VLDR	Vladesti	146.19	326	⇓	P	PKPbc		22 13 41.1	+0.5	
BR131	Keskin Array S	146.21	313			PKPbc		22 13 41.0	-0.1	
BR131	Keskin Array S	146.21	313		PKiKP	PKPbc		22 13 41.0	-0.1	
BRTR	Keskin Array B	146.21	313		PKPbc	PKPbc		22 13 41.0	-0.1	
	comp=Z,7.6nm,0.3s,baz=126,slow=3.1,SNR=128									
BRTR	Keskin Array B	146.21	313		PKPdf	PKPdf		22 13 38.6	-0.2	
BRTR	Keskin Array B	146.21	313	c	iPKiKP	PKPbc		22 13 41.0	-0.1	
BRTR					pmax	pmax				
	comp=Z,8.0nm,0.3s									
TLCR		146.23	325	⇑	P	PKPbc		22 13 40.6	-0.1	
TLCR		146.23	325	⇑	PKiKP	PKPbc		22 13 40.6	-0.1	
ASF	Jabal al Asfar	146.25	298	PKPbc		PKPbc		22 13 41.8	+0.4	
	comp=Z,19nm,0.9s,baz=336,slow=2.1,SNR=14									
WLF1	Llynfaes	146.27	7	eP		PKPbc		22 13 40.2	-0.4	
VARL	Varlezi	146.28	326	⇑	P	PKPbc		22 13 40.8	-0.1	
YRC	Rhoscolyn	146.29	7	eP		PKPbc		22 13 40.5	-0.1	
BUR08	Bucovina Ar. S	146.35	331			PKiKP		22 13 42.3	-1.1	
SCTR	Scanteiesti	146.35	325	⇑	P	PKPbc		22 13 41.8	+0.7	
BURAR	Bucovina Array	146.36	331	⇑	P	PKPbc		22 13 41.9	+0.7	
BURAR	Bucovina Array	146.36	331		PKPdf	PKPdf		22 13 38.3	-0.4	
BURAR	Bucovina Array	146.36	331	⇑	PKP2	PKPbc		22 13 41.9	+0.7	
GHRR		146.40	327	⇓	P	PKPbc		22 13 41.5	+0.3	
BIZ	Bicaz	146.44	329	⇓	P	PKPbc		22 13 42.2	+0.9	
YLL	Llanberis	146.44	6	eP		PKPbc		22 13 41.1	0.0	
OJC	Ojcow	146.45	339	e	PKPdf	PKPdf		22 13 37.0	-1.7	
OJC				e	PKPbc	PKPbc		22 13 39.9	-1.3	
OJC	Ojcow	146.45	339		PKPdf	PKPdf		22 13 38.1	-0.6	
OJC	Ojcow	146.45	339		PKiKP	PKPdf		22 13 38.1	-0.6	
JURR	Jurilovca	146.46	324	⇑	P	PKPbc		22 13 41.5	+0.1	
TESR	Tescani	146.47	328	⇑	P	PKPbc		22 13 41.1	-0.3	
SLCR	Slobozia Conac	146.53	326	⇑	P	PKPbc		22 13 41.9	+0.3	
IZVR	Izvoarele	146.56	326	⇑	P	PKPbc		22 13 42.3	+0.7	
CFR	Carcaliu	146.60	325	⇑	P	PKPbc		22 13 41.9	+0.1	
CFR	Carcaliu	146.60	325	⇑	PKP2	PKPbc		22 13 41.9	+0.1	
KOLS	Kolonicke sedl	146.61	335	⇑	PKP2	PKiKP		22 13 42.0	-0.9	
KOLS	Kolonicke sedl	146.61	335	e	PKP	PKiKP		22 13 42.8	-0.9	
TPGR	Topolog	146.65	324	⇑	P	PKPbc		22 13 42.4	+0.5	
PANC	Panciu	146.66	327	⇑	P	PKPbc		22 13 42.4	+0.5	
ANTO	Ankara	146.72	314	⇑	P	PKPdf		22 13 40.4	+0.8	
ANTO	Ankara	146.72	314			PKPdf		22 13 39.5	-0.1	
ANTO	Ankara	146.72	314	⇑	PKiKP	PKPdf		22 13 40.4	+0.8	
BR231	Keskin MP Arra	146.75	314			PKPdf		22 13 40.0	+0.3	
ODBI	Odobesti	146.78	327	⇑	P	PKiKP		22 13 43.9	-0.3	
FOEL	Foel Wylfa	146.78	5	eP		PKPbc		22 13 41.0	-1.0	
UZH	Uzhgorod	146.84	335	e	PKiKP	PKPdf		22 13 38.7	-0.6	
UZH				e				22 13 46.3		
VRI	Vrincioaia	146.88	327	⇑	P	PKiKP		22 13 43.6	-0.8	
VRI	Vrincioaia	146.88	327	⇑	PKP2	PKiKP		22 13 43.6	-0.8	
MQOL	MQOL	146.90	278	i	P	PKPdf		22 13 41.6	+1.3	
TIRR	Tirgusor	146.91	324	⇑	P	PKPbc		22 13 43.1	+0.5	
TIRR	Tirgusor	146.91	324	⇑	PKP2	PKPbc		22 13 43.1	+0.5	
PLOR	Plostina	146.93	327	⇑	P	PKPbc		22 13 42.4	-0.3	
PLOR	Plostina	146.93	327	⇑	PKiKP	PKPbc		22 13 42.4	-0.3	
CRVS	Cervenica-Dubn	146.95	336	e	PKP2	PKPbc		22 13 43.3	+0.6	
CRVS	Cervenica-Dubn	146.95	336	e	PKP	PKPbc		22 13 43.2	+0.6	
NIE	Niedzica	146.95	338	e	PKPdf	PKPdf		22 13 40.7	+1.1	
KSP	Ksiaz	146.98	343	e	PKPdf	PKPdf		22 13 40.0	+0.5	
KSP				e	PKPbc	PKPbc		22 13 43.1	+0.5	
HARR	Harsova	147.03	325	⇑	P	PKPbc		22 13 43.4	+0.5	
HARR	Harsova	147.03	325	⇑	PKP2	PKPbc		22 13 43.4	+0.5	
TLBR	Topalu	147.06	324	⇑	P	PKPbc		22 13 41.8	-1.2	
CWF	Charnwood Fore	147.07	3	eP		PKPbc		22 13 41.6	-1.2	
GRER		147.08	326	⇑	P	PKPbc		22 13 42.7	-0.3	
BMR	Baia Mare	147.09	333	⇑	P	PKPbc		22 13 43.5	+0.5	
BMR	Baia Mare	147.09	333	⇑	PKP2	PKPbc		22 13 43.5	+0.5	
TRPA	Tarpa	147.14	334	⇑	P	PKPbc		22 13 43.5	+0.4	
TRPA	Tarpa	147.14	334		PKP	PKPbc		22 13 42.0	-1.1	
ARCR	ARCALIA	147.15	331	⇑	P	PKPdf		22 13 41.4	+1.5	
COVR	Voineasa-Covas	147.16	328	⇑	P	PKPbc		22 13 42.9	-0.4	
HLM1	Long Mynd	147.18	5	eP		PKPbc		22 13 42.6	-0.5	
OZUR		147.19	328	⇑	P	PKPbc		22 13 43.9	+0.6	
MANR	Mangalia	147.22	323	⇑	P	PKPbc		22 13 43.9	+0.4	
OSTC	Ostas	147.26	343	⇑	ePKP	PKiKP		22 13 44.2	-0.8	
MMAI	Mount Meron Ar	147.27	301	PKPbc		PKPbc		22 13 44.8	+0.7	
	comp=Z,17nm,0.5s,baz=76,slow=7.0,SNR=110									
CHVC	Chvalec	147.28	343	e	PKPDF	PKPdf		22 13 41.3	+1.2	
CHVC				⇑	ePKP	PKPbc		22 13 43.9	+0.4	
CLL	Collm	147.36	347		PKPdf	PKPdf		22 13 40.4	+0.2	
CLL					PKPbc	PKPbc		22 13 43.8	+0.2	
CLL	Collm	147.36	347	⇓	ePKiKP	PKPdf		22 13 40.0	-0.1	
CLL				i				22 13 47.9		
CLL					pmax	pmax				
	comp=Z,13nm,1.3s									
CLL					pmax	pmax				
	comp=Z,61nm,0.9s									
CLL					pmax	pmax				
	comp=Z,29nm,0.9s									
CLL	Collm	147.36	347	e	PKPdf	PKPdf		22 13 40.0	-0.1	
	comp=Z,13nm,1.3s									
CLL				i	PKPbc	PKiKP		22 13 44.8	-0.4	
	comp=Z,61nm,0.9s									
CLL				e	PKiKP	PKPab		22 13 47.0	-0.6	
CLL				i	PKPab	PKPbc		22 13 48.6	+5.0	
	comp=Z,29nm,0.9s									
CLL				e	pPKiKP	pPKPab		22 16 02.0	+0.4	
CLL				e	x	x		22 16 09.0		
CLL				e	x	x		22 16 23.0		
CLL				e	SKPbc	SKiKP		22 16 26.0	+1.4	
CLL				e	x	x		22 16 35.1		
UPC	Upice	147.37	343	e	PKP2	PKPbc		22 13 44.1	+0.5	
UPC	Upice	147.37	343	⇑	ePKP	PKPbc		22 13 44.1	+0.5	
DPC	Dobruska-Polom	147.42	343	e	PKiKP	PKPdf		22 13 41.5	+1.2	
DPC	Dobruska-Polom	147.42	343	e	PKPDF	PKPdf		22 13 41.5	+1.2	
DPC				⇑	ePKP	PKPbc		22 13 44.4	+0.6	
LANS	Liptovska Anna	147.47	338	e	PKP2	PKiKP		22 13 45.2	-0.3	
LANS	Liptovska Anna	147.47	338	e	PKP	PKiKP		22 13 45.2	-0.3	
DOPR	Dopca	147.48	329	⇑	P	PKiKP		22 13 44.9	-0.8	
ISR	Istrita	147.48	326	⇑	P	PKiKP		22 13

GERES GERESS Array B 149.50 344 PKHKP PKPbc 22 13 49.5 +0.4
BZS Buzias 149.50 332 ⇑P PKPdf 22 13 45.0 +1.3
BZS Buzias 149.50 332 ⇑PKHKP PKPdf 22 13 45.0 +1.3
BMRD Maredsous 149.50 356 dPKP PKPbc 22 13 49.0 +0.1
BMRD dPKiKP PKiKP 22 13 50.1 +0.5
RCHB Rochefort 149.62 356 dPKP PKPbc 22 13 49.3 +0.1
RCHB dPKiKP PKiKP 22 13 50.2 +0.3
EGYH Egyhazaskeszo 149.70 339 PKP PKiKP 22 13 50.8 +0.7
HERR Herculane 149.70 330 ⇑P PKPbc 22 13 49.4 -0.1
DOU Dourbes 149.72 356 dPKP PKiKP 22 13 49.8 -0.3
SOP Sopron 149.72 340 PKP PKiKP 22 13 50.3 +0.1
CONA Conrad Observa 149.72 341 eP PKiKP 22 13 50.2 0.0
comp=Z,6.7nm,0.5s,SNR=21
RONA Rosalia, Austr 149.79 340 eP PKiKP 22 13 50.3 -0.1
comp=Z,13nm,0.4s,SNR=17
MPLH Magyarpolny 149.84 338 PKP PKPbc 22 13 50.0 +0.2
BANR Banloc 149.89 332 ⇑P PKiKP 22 13 51.3 +0.8
WLF Walferdange 150.03 354 PKiKP 22 13 50.8 0.0
WLF Walferdange 150.03 354 PKHKP PKiKP 22 13 50.8 0.0
WLF Walferdange 150.03 354 dPKP PKiKP 22 13 50.7 0.0
MDVR Moldovita 150.10 331 ⇑P PKPbc 22 13 50.6 0.0
ELL Elmali 150.17 310 PKPbc 22 13 50.9 -0.2
ELL Elmali 150.17 310 PKIKP PKPbc 22 13 50.9 -0.2
MORH Mrgy, Hungar 150.25 336 ⇑P PKPdf 22 13 46.0 +1.1
MORH Mrgy, Hungar 150.25 336 PKP PKPdf 22 13 45.4 +0.6
MOA Molln 150.26 343 eP PKPbc 22 13 50.9 +0.1
comp=Z,3.4nm,0.4s,SNR=6.1
JAWL J.Aulia 150.35 266 IAML 22 37 06.2
comp=E,974nm,0.1s
JAWL J.Aulia 150.35 266 i P PKiKP 22 13 52.9 +0.5
JAWL J.Aulia 150.35 266 i PKPab 22 13 58.4 -2.8
baz=336,slow=22
ARSA Arzberg 150.43 341 eP PKiKP 22 13 51.4 -0.2
comp=E,7.5nm,1.0s,SNR=5.3
BLKB Belogradchik 150.50 328 ⇑P PKPbc 22 13 51.5 0.0
STU Stuttgart 150.51 350 PKPdf PKPdf 22 13 45.9 +0.6
STU PKiKP 22 13 52.0 +0.2
STU Stuttgart 150.51 350 PKIKP PKPdf 22 13 45.9 +0.6
JSA Saint Aubin 150.54 5 eP PKPbc 22 13 51.1 -0.2
KOVH Kovagotottos 150.56 336 PKP PKPdf 22 13 45.3 +0.9
BIOA Bad Ischl, Aus 150.58 344 i P PKPdf 22 13 45.7 +0.2
comp=E,0.3nm,0.3s,SNR=11
AKAS Kas 150.62 310 PKPbc 22 13 51.2 -1.0
FRGS Fruska Gora 150.64 333 ⇑P PKPbc 22 13 51.7 -0.1
RDO Rodhopi 150.65 322 PKPbc 22 13 51.5 -0.3
VTS Vitosha 150.94 326 ⇑P PKPbc 22 13 52.6 -0.1
VTS Vitosha 150.94 326 PKPdf 22 13 46.3 0.0
VTS PKPbc PKiKP 22 13 52.9 -0.1
VTS PKPab PKPab 22 14 03.4 +0.4
VTS Vitosha 150.94 326 PKIKP PKPdf 22 13 46.3 0.0
VTS 22 14 03.4
BOVS Bovan 150.97 329 ⇑P PKPbc 22 13 51.4 -1.1
BFO Black Forest 151.08 351 PKPbc 22 13 52.6 -0.1
BFO PKPab PKPab 22 14 03.6 +0.5
SOKA Soboth 151.09 341 i P PKPdf 22 13 46.6 +0.3
comp=E,5.2nm,1.2s,SNR=11
SOKA eP PKPbc 22 13 52.4 -0.5
comp=E,3.9nm,0.4s
KALN Kalnik 151.11 339 i P PKPbc 22 13 52.2 -0.6
A252A Venje 151.20 336 i P PKiKP 22 13 53.1 -0.2
KBA Koelnbreinsper 151.22 343 i P PKPdf 22 13 46.6 0.0
comp=E,6.0nm,1.3s,SNR=8.0
KBA eP PKPbc 22 13 52.5 -0.7
comp=E,2.7nm,0.4s
LOBO Lobor 151.22 339 i P PKPbc 22 13 52.5 -0.5
OBKA Obir 151.39 341 eP PKPdf 22 13 47.0 +0.3
comp=E,4.5nm,1.4s
OBKA eP PKiKP 22 13 53.9 +0.1
comp=E,8.1nm,0.9s
DIVS Divibare 151.41 332 PKPdf PKPdf 22 13 46.5 -0.3
DIVS PKPbc PKiKP 22 13 53.9 0.0
WATA Walderalm 151.42 346 eP PKPdf 22 13 47.2 +0.4
comp=E,6.9nm,1.2s,SNR=10
WATA i P PKPbc 22 13 53.5 -0.2
comp=E,6.5nm,0.4s
RETA Reutte 151.45 347 eP PKiKP 22 13 53.8 -0.1
comp=E,22nm,1.3s
MOSL Moslavina 151.46 338 i P PKPbc 22 13 53.3 -0.3
WTTA Wattenberg 151.47 346 eP PKPdf 22 13 47.7 +0.7
comp=E,9.6nm,1.2s,SNR=8.7
PTJ Puntijarka 151.47 339 P PKPbc 22 13 53.2 -0.5
MOTA Moosalm 151.51 347 eP PKPdf 22 13 47.5 +0.5
comp=E,9.4nm,1.1s,SNR=7.7
MOTA eP PKiKP 22 13 54.3 +0.2
comp=E,22nm,1.0s
MYKA Terra Mystica 151.55 343 eP PKPbc 22 13 53.1 -0.8
comp=E,7.9nm,0.4s
SQTA Sankt Quirin 151.61 346 i P PKPdf 22 13 47.7 +0.6
comp=E,6.8nm,0.9s
SQTA eP PKPbc 22 13 54.0 0.0
comp=E,4.6nm,0.4s
PRED Cave del Predi 151.74 343 PKPdf 22 13 46.5 -0.7
PRED PKPab 22 14 05.5 -0.7
ABTA Abfaltersbach 151.74 344 eP PKPdf 22 13 47.4 +0.1
comp=E,9.2nm,0.9s
ABTA eP PKPbc 22 13 53.8 -0.4
comp=E,6.1nm,0.4s
DAVA Damuels 151.82 348 eP PKPdf 22 13 48.1 +0.7
comp=E,6.2nm,1.1s,SNR=7.0
DAVA eP PKiKP 22 13 55.6 +0.8
comp=E,30nm,1.4s
FETA Feichten 151.90 347 eP PKPdf 22 13 48.6 +1.0
comp=E,8.1nm,0.9s
FETA eP PKiKP 22 13 55.1 +0.2
comp=E,2.9nm,0.4s
CLUD Cludinico 151.91 344 PKPdf PKPdf 22 13 46.4 -1.1
CLUD PKPbc PKPbc 22 13 54.4 -0.2
STAL STALIGIAL 152.14 344 PKPdf 22 13 46.9 -0.9
STAL PKPbc PKiKP 22 13 55.1 -0.1
CIMO Cimolais 152.17 344 PKPdf PKPdf 22 13 46.8 -1.1
CIMO PKPbc PKPbc 22 13 54.5 -0.6
DAVOX Davos/Dischmat 152.31 348 PKP PKPdf 22 13 49.1 +0.9
comp=E,3.5nm,0.8s,baz=138,slow=3.7,SNR=6.6
DAVOX PKPbc PKPbc 22 13 55.5 -0.1
comp=E,17nm,0.5s,baz=255,slow=2.6,SNR=68
CTI Castel Tesino 152.61 345 PKPdf 22 13 47.8 -0.8
CTI PKPbc PKiKP 22 13 56.5 +0.2
CTI PKPab PKPab 22 14 09.7 -0.2
CTI Castel Tesino 152.61 345 PKIKP PKPdf 22 13 47.8 -0.8
CTI 22 14 09.7
A253A Karojba, Istri 152.71 341 i P PKPbc 22 13 55.8 -0.6
UDBI Udbina 152.75 338 i P PKPbc 22 13 56.0 -0.5
SMRN Sveta Marina 152.84 340 i P PKPbc 22 13 56.2 -0.3
PDG Podgorica 153.05 331 ⇑P PKPbc 22 13 56.2 -0.9
PDG Podgorica 153.05 331 PKPdf PKPdf 22 13 48.4 -0.7
PDG PKPbc PKiKP 22 13 57.2 0.0
PDG PKPab PKPab 22 14 12.1 +0.4
LIT Litokhoron 153.08 323 PKPab PKPab 22 14 11.7 -0.3
LIT Litokhoron 153.08 323 PKP2 PKPab 22 14 11.7 -0.3
RICI Ricice 153.11 335 i P PKPbc 22 13 56.3 -0.9
SENIN Lac Senin/Sane 153.15 351 PKPbc PKPbc 22 13 56.9 -0.7
SENIN PKPab PKPab 22 14 11.9 -0.3
TEOL Teolo 153.25 344 PKPbc PKPbc 22 13 57.3 -0.2
TEOL PKPab 22 14 12.7 +0.2
KBN Korca 153.65 326 PKPab 22 14 13.8 -0.7
KBN Korca 153.65 326 PKP2 PKPab 22 14 13.8 -0.7
IDI Anoyia 154.44 312 PKPbc PKiKP 22 14 00.1 -0.2
comp=E,3.9nm,0.3s,baz=326,slow=8.1,SNR=9.2
BNI Bardonecchia 154.52 352 PKPdf PKPdf 22 13 51.8 +0.4
BNI PKPbc PKPbc 22 14 01.2 +0.8
BNI PKPab PKPab 22 14 18.7 +0.6
BNI Bardonecchia 154.52 352 PKP2 PKPab 22 14 18.7 +0.6
BNI 23 13 51.8
FDMO Fiordimonte 154.97 340 PKPab 22 14 20.0 0.0
OSSC Osservatorio P 155.07 343 PKPab PKPab 22 14 19.5 -0.9
TIP Timpagrande 156.77 329 PKPdf 22 13 54.1 -0.3
TIP PKPab PKPab 22 14 28.1 +0.1
PBRG Braganca 156.94 16 ePKPab PKPab 22 14 29.1 +0.6
MVO Moncorvo 157.46 17 ePKPab PKPab 22 14 31.7 +0.9
PVIS Viseu 157.61 20 ePKPab PKPab 22 14 32.1 +0.6
PCAS Casmilo, Conde 158.01 21 ePKPab PKPab 22 14 33.9 +0.7
PSBE So Bento 158.39 23 ePKPab PKPab 22 14 35.7 +0.8
PMAFR Mafra 158.69 24 ePKPab PKPab 22 14 37.3 +1.1
PESTR Estremoz 159.38 21 ePKPab PKPab 22 14 39.7 +0.5
ESDC Sonseca Array 159.62 13 PKP PKPdf 22 13 58.8 +1.0
comp=E,2.6nm,1.2s,baz=336,slow=3.3,SNR=5.7
ESDC PKPab PKPab 22 14 40.3 0.0
comp=E,2.3nm,0.8s,baz=343,slow=4.5,SNR=12
PNCL Nicolau / Gran 159.72 24 ePKPab PKPab 22 14 41.3 +0.6
PBAR Barrancos 160.19 21 ePKPdf PKPdf 22 13 59.8 +1.5
PBAR Barrancos 160.19 21 ePKPab PKPab 22 14 44.1 +1.3
PCVE Castro Verde 160.32 24 ePKPab PKPab 22 14 44.8 +1.4
PVAQ Vaqueiros 160.65 23 ePKPab PKPab 22 14 46.2 +1.4

KEST Kesra 162.80 339 PKPab PKPab 22 14 54.5 +0.1
comp=E,3.4nm,0.7s,baz=351,slow=2.1,SNR=8.3
LIC Lamto 164.96 153 ⇑iPKIKP PKPdf 22 14 03.9 +0.3
comp=E,29nm,0.6s
KIC Kosan Boka 165.20 154 ⇑iPKIKP PKPdf 22 14 03.8 -0.1
comp=E,4.8nm,0.6s
TIC Toumodi 165.34 152 ⇑iPKIKP PKPdf 22 14 03.2 -0.8
comp=E,4.0nm,0.2s
DBIC Dimbokro 165.43 153 PKP PKPdf 22 14 04.1 +0.1
comp=E,13nm,1.2s,baz=15,slow=3.9,SNR=3.9
DBIC PKPab PKPab 22 15 07.2 +0.8
comp=E,3.5nm,0.7s,baz=235,slow=4.4,SNR=5.8
MDT Midelt 165.88 22 PKP PKPdf 22 14 04.8 +0.8
comp=E,5.9nm,1.1s,baz=62,slow=3.3,SNR=6.0
MDT PKPab PKPab 22 15 08.3 +0.3
comp=E,2.0nm,0.7s,baz=10,slow=5.4,SNR=4.0
KOWA Kowa 172.36 133 PKP PKPdf 22 14 07.8 -0.5
comp=E,11nm,1.2s,baz=125,slow=0.9,SNR=7.2
KOWA Kowa 172.36 133 PKPdf 22 14 07.3 -0.9
TORD Torodi Ar. Bea 173.35 180 PKP PKPdf 22 14 07.9 -0.8
comp=E,7.2nm,1.1s,baz=335,slow=1.8,SNR=20
TORD PKPab PKPab 22 15 40.6 -0.7
comp=E,3.1nm,1.0s,baz=178,slow=3.2,SNR=10
TORD PP PP 22 19 32.2 -0.1
comp=E,2.8nm,1.2s,baz=170,slow=1.7,SNR=4.3

NEIC ***24*** *22:04:48.3±1.0, 19°.9S±0°.2×178°.03W±0°.06, h608km±11km, mb4.2/10, Error ellipse: s-maj=31.5km s-min=8.4km az=175.0*
IDC ***24*** *22:04:54.5±5.1, 18°.88S×178°.99W, h632km±24km, mb3.1/4, mbtmp4.1/6, Error ellipse: s-maj=160.1km s-min=36.6km az=145.0*

ISC 24 22:04:48.2±1.2, 20°.0S±0°.2×178°.1W±0°.2, h600km, n28, σ0s81/24, mb4.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.27	301	P	P	22 06 16.5	+0.7
	5.4nm,0.5s,baz=108,slow=24,SNR=11						
MSVF	Nonsavu	4.27	301	P	P	22 06 15.8	+0.1
MARNC	Mare, Loyalty	13.04	261	P	P	22 07 38.5	+1.0
DZM	Mont Dzumac	14.56	259	P	P	22 07 53.8	+1.3
	6.3nm,0.9s,baz=106,slow=19,SNR=1.7						
DZM	Mont Dzumac	14.56	259	P	P	22 07 53.0	+0.5
CTA	Charters Tower	33.43	264	P	P	22 10 39.1	-0.1
	2.9nm,0.4s,baz=87,slow=11,SNR=9.2						
	2.9nm,0.4s						
CTAO	Charters Tower	33.43	264	P	P	22 10 39.0	-0.2
CTAO				IAmb	IAmb	22 10 46.0	
	comp=Z,10nm,1.3s						
COEN	Coen	37.44	273	P	P	22 11 11.7	-0.7
BBOO	Buckleboo	42.67	243	P	P	22 11 53.8	0.0
AS31	Alice Springs	44.52	256	P	P	22 12 08.0	-0.3
ASAR	Alice Springs	44.52	256	P	P	22 12 08.0	-0.3
	comp=Z,1.6nm,0.4s,baz=86,slow=8.3,SNR=23						
	comp=Z,1.6nm,0.4s						
ASAR	Alice Springs	44.52	256	P	P	22 12 07.7	-0.6
WB0	Warramunga Arr	44.53	262	P	P	22 12 07.5	-0.9
WB0				IAmb	IAmb	22 12 34.8	
	comp=Z,12nm,1.3s						
WB2	Warramunga Arr	44.55	262	P	P	22 12 07.5	-0.9
WB2				IAmb	IAmb	22 12 29.7	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	44.56	262	P	P	22 12 07.5	-1.0
	comp=Z,0.9nm,0.4s,baz=96,slow=8.2,SNR=14						
	comp=Z,0.9nm,0.4s						
FITZ	Fitzroy Crossi	52.98	262	P	P	22 13 10.1	-0.4
	comp=Z,1.0nm,0.6s,baz=94,slow=19,SNR=1.5						
	comp=Z,1.0nm,0.6s						
FITZ	Fitzroy Crossi	52.98	262	P	P	22 13 10.2	-0.4
PSA00	Pilbara Seismi	57.67	257	P	P	22 13 42.0	-1.1
PSA00				IAmb	IAmb	22 14 05.7	
	comp=Z,24nm,1.5s						
MBWA	Marble Bar	57.85	257	P	P	22 13 43.4	-0.9
MBWA				IAmb	IAmb	22 13 46.6	
	comp=Z,24nm,1.4s						
QSPA	South Pole Qui	70.07	180	P	P	22 15 01.0	0.0
QSPA				IAmb	IAmb	22 15 23.0	
	comp=Z,6.3nm,1.3s						
IMAR	Indian Mountai	87.68	10	P	P	22 16 32.9	-0.6
BRTR	Keskin Array B	146.41	313	PKPbc	PKPdf	22 23 22.8	+1.9
CHVC	Chvalec	147.47	343	ePKP	PKPab	22 23 45.9	+16
DPC	Dobruska-Polom	147.61	343	ePKP	PKPab	22 23 46.2	+16
KRLC	Kraliky	147.73	342	ePKP	PKPab	22 23 46.6	+16
KHC	Kasperske Hory	149.45	345	ePKP	PKPab	22 23 54.2	+16
GERES	GERESS Array B	149.69	344	PKPbc	PKPbc	22 23 31.3	+0.1
	comp=Z,0.2nm,0.4s,baz=15,slow=4.1,SNR=2.7						
GERES	GERESS Array B	149.69	344	PKPbc	PKPbc	22 23 31.1	-0.2

NEIC ***24*** *22:06:11.0±1.6, 19°.7S±0°.1×178°.3W±0°.2, h593km±6km, mb4.3/18, Error ellipse: s-maj=21.4km s-min=18.7km az=76.0*
IDC ***24*** *22:06:13.4±4.4, 19°.50S×178°.59W, h610km±24km, mb2.9/6, mbtmp4.0/8, Error ellipse: s-maj=108.9km s-min=24.0km az=141.0*

ISC 24 22:06:11.6±0.8, 19°.8S±0°.1×178°.4W±0°.1, h600km, n41, σ0s64/40, mb4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.93	300	P	P	22 07 37.4	+0.7
	30nm,0.4s,baz=154,slow=7.0,SNR=52						
PINNC	Pines Island,	13.51	255	P	P	22 09 04.8	-0.9
DZM	Mont Dzumac	14.36	258	P	P	22 09 15.0	+1.0
	2.4nm,0.7s,baz=3.0,slow=18,SNR=1.3						
DZM	Mont Dzumac	14.36	258	P	P	22 09 14.6	+0.6
WHZ	Wether Hill Ro	28.39	200	P	P	22 11 19.1	-0.1
CTA	Charters Tower	33.20	263	P	P	22 12 00.4	-0.3
	1.9nm,0.7s,baz=106,slow=15,SNR=1.9						
	1.9nm,0.7s						
CTAO	Charters Tower	33.20	263	P	P	22 12 00.5	-0.2
CTAO				IAmb	IAmb	22 12 04.3	
	comp=Z,8.2nm,1.2s						
COEN	Coen	37.17	273	P	P	22 12 33.6	0.0
COEN				IAmb	IAmb	22 12 57.6	
	comp=Z,17nm,1.4s						
WB0	Warramunga Arr	44.32	262	P	P	22 13 29.8	-0.3
WB0				IAmb	IAmb	22 13 52.7	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	44.33	261	P	P	22 13 29.7	-0.5
WB2				IAmb	IAmb	22 13 52.8	
	comp=Z,11nm,1.4s						
ASAR	Alice Springs	44.34	256	P	P	22 13 30.1	-0.1
	comp=Z,1.1nm,0.8s,baz=96,slow=8.0,SNR=5.5						
	comp=Z,1.1nm,0.8s						
ASAR	Alice Springs	44.34	256	P	P	22 13 29.4	-0.8
WRA	Warramunga Arr	44.34	261	P	P	22 13 30.1	-0.2
	comp=Z,0.4nm,0.4s,baz=97,slow=7.6,SNR=7.1						
	comp=Z,0.4nm,0.4s						
MTN	Manton Dam	48.79	270	P	P	22 14 03.1	-0.6
FORT	Forrest	49.25	246	P	P	22 14 06.6	-0.3
FITZ	Fitzroy Crossi	52.77	262	P	P	22 14 32.1	-0.3
	comp=Z,1.9nm,0.9s,baz=96,slow=1.0,SNR=2.2						
	comp=Z,1.9nm,0.9s						
FITZ	Fitzroy Crossi	52.77	262	P	P	22 14 32.0	-0.4
SBA	Scott Base	58.58	184	P	P	22 15 12.7	+1.1
VNDA	Vanda	58.61	185	P	P	22 15 12.3	+0.5
QSPA	South Pole Qui	70.30	180	P	P	22 16 25.2	-0.5
PETK	Petropavlovsk-	75.47	345	P	P	22 16 55.0	0.0
USRK	Ussuriysk Ar.	78.15	326	P	P	22 17 09.2	-0.7
	comp=Z,1.5nm,0.7s,baz=138,slow=4.2,SNR=4.7						
	comp=Z,1.5nm,0.7s						
USRK	Ussuriysk Ar.	78.15	326	P	P	22 17 11.1	+1.2
O18K	Koktuh Hills	81.56	12	P	P	22 17 27.3	0.0
O18K				IAmb	IAmb	22 17 27.9	
	comp=Z,9.7nm,1.1s						
RSO	Redoubt South	82.60	12	P	P	22 17 31.7	-1.1
IPM	Ipoh	82.67	277	P	P	22 17 34.2	+0.1
IPM				IAmb	IAmb	22 17 35.5	
	comp=Z,11nm,1.2s						
KULM	Kulim	83.31	278	P	P	22 17 38.6	+1.5
KULM				IAmb	IAmb	22 17 60.0	
	comp=Z,13nm,1.2s						
L19K	White Mountain	83.78	11	P	P	22 17 39.2	+0.7
L19K				IAmb	IAmb	22 17 42.5	
	comp=Z,7.0nm,1.5s						
SCM	Sheep Creek Mo	85.01	14	P	P	22 17 44.6	+0.1
RND	Reindeer	86.06	13	P	P	22 17 49.1	-0.3
RND				IAmb	IAmb	22 18 06.8	
	comp=Z,12nm,1.4s						
MLY	Manley	87.15	11	P	P	22 17 53.4	-1.1
CCB	Clear Creek Bu	87.38	13	P	P	22 17 54.9	-0.6
CCB				IAmb	IAmb	22 17 55.4	
	comp=Z,3.6nm,0.6s						
IMAR	Indian Mountai	87.50	10	P	P	22 17 55.9	-0.1
ILAR	Eielson Array	87.68	13	P	P	22 17 56.1	-0.8
	comp=Z,0.7nm,0.6s,baz=221,slow=6.0,SNR=7.2						
	comp=Z,0.7nm,0.6s						
ILAR	Eielson Array	87.68	13	P	P	22 17 56.8	-0.2
AKASG	Malin Array Be	142.19	331	PKhKP	PKPpre	22 24 32.3	
	comp=Z,0.6nm,0.3s,baz=43,slow=4.2,SNR=5.8						
BRTR	Keskin Array B	146.07	313	PKPbc	PKPbc	22 24 45.5	-0.4
	comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=4.5						
BRTR	Keskin Array B	146.07	313	PKPbc	PKPbc	22 24 45.2	-0.6
BUR08	Bucovina Ar. S	146.23	331	PKPbc	PKPbc	22 24 46.1	+0.1
CLL	Collm	147.26	347	ePKPbc	PKPab	22 24 52.0	-0.3
GERES	GERESS Array B	149.39	344	PKPbc	PKPbc	22 24 53.9	-0.1
	comp=Z,0.8nm,0.8s,baz=98,slow=2.7,SNR=5.5						

ISK 24 22:11:48.4, 36°.95N×27°.60E, h5km, ML2.0/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	Bodrum	0.26	297	PG	Pb	22 11 54.5	-1.0
BODT				SG	Sb	22 11 59.4	-0.9
NIS1	Nisyros Isl.	0.48	224	PG	Pb	22 11 58.7	-0.6
NIS1				SG	Sb	22 12 06.8	+0.1
TURN	Turunc	0.55	108	PG	Pb	22 12 00.2	-0.3
YER	Yerkesik	0.58	71	PG	Pb	22 12 00.5	-0.6
AYDB	Zeytinkoy-Aydi	1.02	13	PG	Pn	22 12 09.5	-0.1
CAME	Cameli-Denizli	1.37	90	PN	Pg	22 12 15.7	+1.1

NEIC ***24*** *22:18:37.0±1.9, 19°.8S±0°.1×178°.3W±0°.1, h601km±10km, mb4.2/15, Error ellipse: s-maj=22.7km s-min=12.1km az=203.0*
IDC ***24*** *22:18:37.3±2.0, 19°.70S×178°.34W, h604km±21km, mb2.9/7, mbtmp3.8/8, Error ellipse: s-maj=29.3km s-min=20.7km az=117.0*

ISC 24 22:18:36.7±0.7, 19°.7S±0°.1×178°.3W±0°.1, h600km, n35, σ0s80/33, mb3.8/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.99	300	P	P	22 20 02.8	+0.6
	22nm,0.4s,baz=158,slow=3.7,SNR=73						
MSVF	Nonsavu	3.99	300	P	P	22 20 02.5	+0.3
AFI	Afiamalu	8.53	48	S	S	22 22 14.3	-9.0
	5.8nm,0.5s,baz=216,slow=17,SNR=1.7						
KOUNC	Koumac, New Ca	16.36	264	P	P	22 21 58.1	+0.7
KOUNC				IAmb	IAmb	22 21 59.1	
	comp=Z,8.2nm,0.8s						
URZ	Urewera	18.87	191	P	P	22 22 17.7	-2.3
WHZ	Wether Hill Ro	28.43	200	P	P	22 23 44.4	-0.3
PYZ	Puysegur Point	29.10	202	P	P	22 23 52.3	+1.9
CTAO	Charters Tower	33.28	263	P	P	22 24 26.8	+0.3
CTAO				IAmb	IAmb	22 24 34.1	
	comp=Z,12nm,1.5s						
STKA	Stephens Creek	37.86	243	P	P	22 25 05.0	+0.9
	comp=Z,1.0nm,0.5s,baz=72,slow=19,SNR=1.9						
	comp=Z,1.0nm,0.5s						
WB0	Warramunga Arr	44.40	262	P	P	22 25 55.2	-0.5
ASAR	Alice Springs	44.41	256	P	P	22 25 56.1	+0.2
	comp=Z,1.5nm,0.8s,baz=90,slow=8.7,SNR=13						
	comp=Z,1.5nm,0.8s						
WRA	Warramunga Arr	44.42	261	P	P	22 25 55.4	-0.6
	comp=Z,0.7nm,0.5s,baz=98,slow=8.6,SNR=4.4						
	comp=Z,0.7nm,0.5s						
KNRA	Kununurra	50.42	266	P	P	22 26 40.4	-0.3
KNRA				IAmb	IAmb	22 26 51.2	
	comp=Z,19nm,1.4s						
SBA	Scott Base	58.60	184	P	P	22 27 38.1	+1.4
VNDA	Vanda	58.63	185	P	P	22 27 37.2	+0.3
	comp=Z,0.4nm,0.7s,baz=3.2,slow=5.6,SNR=6.8						
	comp=Z,0.4nm,0.7s						
VNDA	Vanda	58.63	185	P	P	22 27 37.3	+0.3
MORW	Morawa	59.85	247	P	P	22 27 44.5	-1.5
MORW				IAmb	IAmb	22 28 09.2	
	comp=Z,21nm,1.4s						
MJAR	Matsushiro Arr	69.43	324	P	P	22 28 45.1	-0.8
	comp=Z,1.1nm,0.6s,baz=145,slow=5.5,SNR=4.5						
	comp=Z,1.1nm,0.6s						
QSPA	South Pole Qui	70.32	180	P	P	22 28 50.9	0.0
QSPA				IAmb	IAmb	22 28 51.8	
	comp=Z,2.1nm,0.7s						
SCM	Sheep Creek Mo	84.98	14	P	P	22 30 10.0	+0.6
SCM				IAmb	IAmb	22 30 35.6	
	comp=Z,25nm,1.4s						
TRF	Thorofare Moun	85.78	12	P	P	22 30 13.4	+0.1
TRF				IAmb	IAmb	22 30 14.4	
	comp=Z,3.3nm,1.0s						
H21K	Melozitna Rive	87.32	10	P	P	22 30 21.2	+0.9
H21K				IAmb	IAmb	22 30 46.4	
	comp=Z,3.9nm,1.4s						
CCB	Clear Creek Bu	87.35	13	P	P	22 30 20.1	-0.3
CCB				IAmb	IAmb	22 30 21.1	
	comp=Z,3.2nm,0.6s						
IMAR	Indian Mountai	87.47	10	P	P	22 30 21.0	+0.1
ILAR	Eielson Array	87.65	13	P	P	22 30 21.9	0.0
	comp=Z,0.9nm,0.8s,baz=210,slow=6.7,SNR=6.5						
	comp=Z,0.9nm,0.8s						
PDAR	Pinedale Array	88.61	43	P	P	22 30 27.6	+0.4
	comp=Z,0.2nm,0.5s,baz=215,slow=4.1,SNR=2.0						
	comp=Z,0.2nm,0.5s						
AKASG	Malin Array Be	142.22	331	PKhKP	PKPpre	22 36 57.0	
	comp=Z,0.4nm,0.3s,baz=41,slow=3.5,SNR=3.4						
BR131	Keskin Array S	146.12	313	PKPbc	PKPbc	22 37 11.5	+0.4
BRTR	Keskin Array B	146.12	313	PKPbc	PKPbc	22 37 11.2	+0.2
	comp=Z,0.3nm,0.4s,baz=163,slow=3.7,SNR=1.7						
BRTR	Keskin Array B	146.12	313	PKPbc	PKPbc	22 37 11.1	0.0
BUR08	Bucovina Ar. S	146.25	331	PKPbc	PKiKP	22 37 12.9	-0.5
CLL	Collm	147.26	347	ePKPbc	PKPbc	22 37 13.0	-0.5
MLR	Muntele Rosu	147.43	328	PKPbc	PKPbc	22 37 13.9	-0.5
GERES	GERESS Array B	149.40	344	PKPbc	PKPbc	22 37 18.6	-0.5
	comp=Z,0.4nm,0.7s,baz=33,slow=3.2,SNR=4.9						
CIMO	Cimolais	152.07	344	PKPbc	PKPbc	22 37 25.3	+0.2

IDC 24 22:38:32.0±7.1, 18°.86S×179°.12W, h630km±30km, mb3.0/2, mbtmp3.8/3, Error ellipse: s-maj=266.9km s-min=34.4km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.91	292	P	P	22 39 53.4	-0.1
	3.8nm,0.5s,baz=255,slow=22,SNR=9.8						
WRA	Warramunga Arr	43.80	261	P	P	22 45 44.7	+0.1
	0.7nm,0.3s,baz=97,slow=8.3,SNR=15						
	0.7nm,0.3s						
ASAR	Alice Springs	43.89	255	P	P	22 45 45.1	-0.1
	1.6nm,0.6s,baz=90,slow=7.9,SNR=26						
	1.6nm,0.6s						
BRTR	Keskin Array B	144.96	313	PKP	PKPbc	22 56 59.8	-0.4
	0.2nm,0.4s,baz=350,slow=3.4,SNR=1.9

OK029	**Liberty Lake**	**0.27**	**230**	Pg	**Pg**	**22 41 35.0**	**+0.3**			
OK031	**S. Brethren Rd**	**0.30**	**93**	Pg	**Pb**	**22 41 35.6**	**-0.9**			
OK031				Sg	**Sb**	**22 41 40.0**	**-1.4**			
OK005	**Luther M Schoo**	**0.31**	**178**		**Pb**	**22 41 36.1**	**-0.7**			
OK005				Sg	**Sb**	**22 41 40.9**	**-1.0**			
OK025	**Westminster Rd**	**0.40**	**196**	Pg	**Pb**	**22 41 37.7**	**-0.6**			
OK025				Sg	**Sb**	**22 41 43.7**	**-0.7**			
OK034	**N. Norfolk Rd.**	**0.40**	**84**	Pg	**Pb**	**22 41 37.4**	**-0.8**			
OK009	**Oakdale Elemen**	**0.42**	**205**		**Pb**	**22 41 38.2**	**-0.5**			
OK049	**E0420 Rd and N**	**0.44**	**350**	Pg	**Pg**	**22 41 38.1**	**+0.1**			
QUOK	**Quay**	**0.45**	**63**	Pg	**Pb**	**22 41 38.3**	**-0.8**			
BCOK	**Bluff Creek, N**	**0.45**	**227**	Pg	**Pg**	**22 41 38.5**	**+0.4**			
OK050	**Pawnee Station**	**0.46**	**23**	Pg	**Pg**	**22 41 38.4**	**+0.2**			
OK046	**Pawnee Station**	**0.49**	**29**	Pg	**Pg**	**22 41 39.0**	**+0.2**			
OK048	**Pawnee Station**	**0.49**	**25**	Pg	**Pg**	**22 41 39.1**	**+0.2**			
OK044	**Pawnee Station**	**0.52**	**39**	Pg	**Pg**	**22 41 39.5**	**+0.2**			
OK045	**Pawnee Station**	**0.53**	**25**		**Pg**	**22 41 39.7**	**+0.2**			
DEOK	**Depew**	**0.59**	**102**	Pg	**Pb**	**22 41 40.9**	**-0.5**			
OK051	**E0350 and S346**	**0.61**	**29**	Pg	**Pg**	**22 41 41.2**	**+0.1**			
OK047	**Pawnee, Statio**	**0.63**	**38**	Pg	**Pg**	**22 41 41.6**	**+0.1**			
FNO	**Franklin**	**0.73**	**193**	Pg	**Pg**	**22 41 43.0**	**-0.3**			
BLOK	**Blackwell**	**0.79**	**359**	Pg	**Pg**	**22 41 44.3**	**-0.1**			
BLOK				IAmb_Lg		22 41 54.2				
	comp=Z,131nm,0.8s									
CROK	**Carrier**	**0.82**	**311**		**Pg**	**22 41 45.0**	**-0.1**			
GC02	**Grant County #**	**1.03**	**329**	Pg	**Pg**	**22 41 48.6**	**-0.4**			
KAN13	**South Haven SW**	**1.06**	**348**		**Pg**	**22 41 49.3**	**-0.4**			
T35A	**Sooner Cattle**	**1.10**	**30**	Pg	**Pg**	**22 41 49.9**	**-0.4**			
T35B	**Sooner Cattle**	**1.10**	**30**	P	**Pg**	**22 41 49.9**	**-0.4**			
	baz=211,SNR=212									
T35B				S	**Sg**	**22 42 04.6**	**0.0**			
	baz=211									
TUL1	**Leonard**	**1.15**	**92**	Pg	**Pg**	**22 41 50.4**	**-0.8**			
TUL1	**Leonard**	**1.15**	**92**	P	**Pg**	**22 41 50.4**	**-0.8**			
	baz=274,SNR=138									
TUL1				S	**Sb**	**22 42 06.0**	**0.0**			
	baz=274									
KAN14	**Manchester OK**	**1.16**	**328**		**Pg**	**22 41 51.0**	**-0.5**			
OK032	**Salt Plains WL**	**1.16**	**316**		**Pg**	**22 41 51.0**	**-0.5**			
KAN17	**Caldwell West**	**1.16**	**337**	Pg	**Pg**	**22 41 51.1**	**-0.5**			
KAN09	**Caldwell North**	**1.21**	**344**	Pg	**Pg**	**22 41 51.9**	**-0.6**			
CSTR	**Hydro, Custer**	**1.25**	**255**	Pg	**Pg**	**22 41 52.8**	**-0.4**			
KAN01	**Argonia South**	**1.26**	**340**	Pg	**Pg**	**22 41 52.9**	**-0.6**			
KS20	**Mayfield South**	**1.29**	**348**	Pg	**Pg**	**22 41 53.5**	**-0.5**			
OK038	**West end E0370**	**1.34**	**293**	Pg	**Pn**	**22 41 54.1**	**+0.3**			
KAN10	**Anthony SW Sta**	**1.36**	**328**		**Pn**	**22 41 54.5**	**+0.5**			
KS21	**Milan North St**	**1.37**	**345**	Pg	**Pn**	**22 41 54.7**	**+0.5**			
KAN06	**Argonia West S**	**1.38**	**338**		**Pn**	**22 41 55.0**	**+0.6**			
KAN08	**Anthony NE Sta**	**1.40**	**334**		**Pn**	**22 41 55.2**	**+0.6**			
OK035	**E0210 Rd and N**	**1.42**	**302**		**Pn**	**22 41 55.3**	**+0.4**			
KAN16	**Harper SW Stat**	**1.43**	**331**		**Pn**	**22 41 55.7**	**+0.6**			
KAN16				IAmb_Lg		22 42 15.9				
	comp=Z,295nm,1.2s									
X34A	**Smith Ranch, M**	**1.46**	**201**		**Pg**	**22 41 56.9**	**-0.3**			
KAN12	**Harper NE Stat**	**1.47**	**335**	Pg	**Pn**	**22 41 56.6**	**+1.0**			
NOKA	**Waynoka**	**1.54**	**296**	Pg	**Pb**	**22 41 58.1**	**+0.3**			
RLO	**Rose Lookout**	**1.78**	**83**		**Pn**	**22 42 01.1**	**+1.3**			
WMOK	**Wichita Mounta**	**1.78**	**227**		**Pb**	**22 42 01.5**	**-0.4**			
WMOK	**Wichita Mounta**	**1.78**	**227**	P	**Pb**	**22 42 01.4**	**-0.4**			
	baz=46									
WMOK				S	**Sg**	**22 42 25.9**	**-0.5**			
	baz=46									
ELIS	**Ellis County**	**1.80**	**274**	Pn	**Pb**	**22 42 01.9**	**-0.2**			
ELIS				IAmb_Lg		22 42 27.2				
	comp=Z,116nm,0.8s									
LOOK	**Love County**	**1.97**	**179**	Pn	**Pb**	**22 42 04.2**	**-0.8**			
LOOK				IAmb_Lg		22 42 36.5				
	comp=Z,351nm,1.0s									
U38A	**Gravette**	**2.33**	**78**	Pn	**Pn**	**22 42 08.7**	**+1.3**			
U38A				IAmb_Lg		22 42 44.2				
	comp=Z,294nm,0.9s									
U38A	**Gravette**	**2.33**	**78**	P	**Pn**	**22 42 09.0**	**+1.7**			
	baz=259,SNR=28									
U38A				S	**Sb**	**22 42 39.4**	**-0.5**			
	baz=259									
Z35A	**Perchaven, San**	**2.63**	**181**		**Pn**	**22 42 13.1**	**+1.6**			
Z35A	**Perchaven, San**	**2.63**	**181**	P	**Pn**	**22 42 13.5**	**+2.0**			
	baz=0.9									
Z35A				S	**Sb**	**22 42 47.6**	**-1.0**			
	baz=0.9									
HHAR	**Hobbs**	**2.66**	**82**	Pn	**Pn**	**22 42 13.1**	**+1.1**			
R32A	**Long Quarter,**	**2.73**	**334**		**Pn**	**22 42 14.8**	**+1.9**			
KSU1	**Kansas State U**	**3.16**	**8**		**Pn**	**22 42 20.1**	**+1.3**			
KSU1				IAmb_Lg		22 43 11.9				
	comp=Z,111nm,0.9s									
MIAR	**Mount Ida**	**3.29**	**115**		**Pn**	**22 42 22.1**	**+1.5**			
MIAR				IAmb_Lg		22 43 21.7				
	comp=Z,113nm,0.8s									
MIAR	**Mount Ida**	**3.29**	**115**	P	**Pn**	**22 42 22.4**	**+1.8**			
	baz=297									
MIAR				S	**Sn**	**22 43 02.7**	**+3.0**			
	baz=297									
CBKS	**Cedar Bluff**	**3.48**	**325**		**Pn**	**22 42 24.8**	**+1.5**			
CBKS	**Cedar Bluff**	**3.48**	**325**	S	**Sn**	**22 43 06.6**	**+2.1**			
	baz=144									
S39A	**Bolivar**	**3.56**	**60**		**Pn**	**22 42 25.5**	**+1.2**			
S39A	**Bolivar**	**3.56**	**60**	P	**Pn**	**22 42 25.7**	**+1.5**			
	baz=242									
AMTX	**Amarillo**	**3.81**	**255**		**Pn**	**22 42 29.8**	**+1.9**			
ABTX	**Abilene, Hawle**	**3.90**	**212**		**Pn**	**22 42 30.3**	**+1.3**			
ABTX				IAmb_Lg		22 43 38.7				
	comp=Z,92nm,0.7s									
WHTX	**Lake Whitney,**	**3.97**	**183**		**Pn**	**22 42 31.7**	**+1.7**			
WHAR	**Wooly Hollow**	**4.06**	**98**		**Pn**	**22 42 32.6**	**+1.4**			
WHAR				IAmb_Lg		22 43 46.4				
	comp=Z,102nm,0.8s									
WLAR	**White Oak Lake**	**4.06**	**123**	IAmb_Lg		22 43 43.9				
	comp=Z,109nm,0.7s									
237A	**Washetta, Mont**	**4.12**	**163**	Pn	**Pn**	**22 42 32.7**	**+0.7**			
237A	**Washetta, Mont**	**4.12**	**163**	S	**Sn**	**22 43 21.7**	**+1.4**			
	baz=344									
FCAR	**Ozark Folk Cen**	**4.12**	**90**		**Pn**	**22 42 33.4**	**+1.3**			
FCAR				IAmb_Lg		22 43 42.2				
	comp=Z,139nm,0.7s									
MGMO	**Mountain Grove**	**4.15**	**72**	Pn	**Pn**	**22 42 33.9**	**+1.5**			
MGMO				IAmb_Lg		22 43 45.2				
	comp=Z,98nm,0.8s									
UALR	**University of**	**4.15**	**105**	IAmb_Lg		22 43 50.8				
	comp=Z,109nm,0.7s									
R40A	**Maddies Statio**	**4.58**	**58**	Pn	**Pn**	**22 42 39.2**	**+1.0**			
R40A				IAmb_Lg		22 44 03.4				
	comp=Z,82nm,0.8s									
R40A	**Maddies Statio**	**4.58**	**58**	P	**Pn**	**22 42 39.4**	**+1.2**			
	baz=241,SNR=20									
P38A	**Dawn**	**4.67**	**37**	IAmb_Lg		22 43 56.7				
	comp=Z,117nm,0.8s									
N33A	**J Bar K, Exete**	**4.77**	**358**	IAmb_Lg		22 44 10.8				
	comp=Z,67nm,0.8s									
LCAR	**Lake Charles**	**4.91**	**87**	Pn	**Pn**	**22 42 43.3**	**+0.5**			
LCAR				IAmb_Lg		22 44 02.7				
	comp=Z,72nm,1.0s									
MSTX	**Muleshoe**	**4.99**	**248**	Pn	**Pn**	**22 42 44.9**	**+0.9**			
N35A	**Tabor**	**5.04**	**14**	Pn	**Pn**	**22 42 45.4**	**+0.8**			
CCM	**Cathedral Cave**	**5.21**	**65**	Pn	**Pn**	**22 42 47.9**	**+1.0**			
CCM				IAmb_Lg		22 44 12.9				
	comp=Z,60nm,0.9s									
KSCO	**Kaye Shedlock'**	**5.27**	**307**	IAmb_Lg		22 44 29.7				
	comp=Z,71nm,0.8s									
P40A	**Paris**	**5.42**	**47**	Pn	**Pn**	**22 42 51.0**	**+1.2**			
P40A				IAmb_Lg		22 44 35.6				
	comp=Z,53nm,0.8s									
BGNE	**Belgrade**	**5.48**	**353**	Pn	**Pn**	**22 42 51.4**	**+0.7**			
BGNE				IAmb_Lg		22 44 32.4				
	comp=Z,123nm,0.8s									
N38A	**Joes South For**	**5.74**	**32**	Pn	**Pn**	**22 42 55.1**	**+0.9**			
FVM	**French Village**	**5.79**	**68**	Pn	**Pn**	**22 42 55.3**	**+0.4**			
143A	**Socs Landing,**	**5.80**	**122**	IAmb_Lg		22 44 48.8				
	comp=Z,115nm,0.8s									
JCT	**Junction City**	**5.89**	**202**	IAmb_Lg		22 44 42.1				
	comp=Z,86nm,0.8s									
T25A	**Trinidad**	**5.92**	**284**	Pn	**Pn**	**22 42 58.2**	**+1.3**			
T25A				IAmb_Lg		22 44 41.7				
	comp=Z,100nm,1.0s									
SLM	**Saint Louis**	**6.16**	**62**	IAmb_Lg		22 44 58.0				
	comp=Z,55nm,0.7s									
CGM3	**Cape Girardeau**	**6.21**	**75**	IAmb_Lg		22 44 45.3				
	comp=Z,97nm,1.2s									
OGNE	**Ogallala**	**6.25**	**324**	Pn	**Pn**	**22 43 02.2**	**+0.9**			
OGNE				IAmb_Lg		22 44 59.6				
	comp=Z,61nm,0.8s									
HALT	**Halls**	**6.38**	**88**	IAmb_Lg		22 45 08.9				
	comp=Z,105nm,0.8s									
GLAT	**Glass**	**6.42**	**85**	IAmb_Lg		22 45 00.3				
	comp=Z,88nm,0.7s									
W45A	**Hickory Valley**	**6.59**	**95**	IAmb_Lg		22 45 06.2				
	comp=Z,98nm,0.8s									
S44A	**Carbondale**	**6.61**	**73**		**Pn**	**22 43 06.2**	**+0.1**			
S44A				IAmb_Lg		22 44 56.9				
	comp=Z,74nm,0.7s									
Y45A	**Yeager Farm, C**	**6.63**	**106**	IAmb_Lg		22 45 11.8				
	comp=Z,60nm,0.8s									
SIUC	**Southern Illin**	**6.64**	**72**	IAmb_Lg		22 45 02.6				
	comp=Z,78nm,0.7s									
SCIA	**State Center**	**6.70**	**26**	Pn	**Pn**	**22 43 08.5**	**+1.1**			
SCIA				IAmb_Lg		22 45 10.1				
	comp=Z,90nm,0.8s									
SDCO	**Great Sand Dun**	**6.88**	**287**	IAmb_Lg		22 45 08.8				
	comp=Z,92nm,1.1s									
Q24A	**Divide**	**6.99**	**298**	IAmb_Lg		22 45 26.7				
	comp=Z,42nm,0.7s									
K38A	**Parkersburg**	**7.50**	**26**	IAmb_Lg		22 45 40.6				
	comp=Z,86nm,0.8s									
146A	**Union**	**7.52**	**114**	IAmb_Lg		22 45 46.2				
	comp=Z,50nm,0.9s									
ANMO	**Albuquerque**	**7.62**	**265**	Pg	Pb	**22 43 48.0**	**+6.7**			
	comp=Z,0.2nm,0.3s,baz=87,slow=17,SNR=2.9									
L40A	**Anamosa**	**7.66**	**36**	IAmb_Lg		22 45 35.8				
	comp=Z,62nm,0.9s									
OLIL	**Olney**	**7.76**	**66**	IAmb_Lg		22 45 50.3				
	comp=Z,71nm,1.0s									
ECSD	**EROS Data Cent**	**7.77**	**3**	Pn	**Pn**	**22 43 22.0**	**-0.1**			
ECSD				IAmb_Lg		22 45 36.3				
	comp=Z,42nm,1.1s									
833A	**Chaparral WMA,**	**7.84**	**194**	IAmb_Lg		22 45 48.5				
	comp=Z,39nm,0.9s									
USIN	**University of**	**7.89**	**73**	IAmb_Lg		22 45 46.9				
	comp=Z,53nm,0.8s									
O44A	**Mansfield**	**8.06**	**56**	IAmb_Lg		22 46 02.4				
	comp=Z,60nm,0.8s									
Y22D	**IRIS PASSCAL I**	**8.19**	**259**	IAmb_Lg		22 45 56.2				
	comp=Z,53nm,0.9s									
PHWY	**Pilot Hill**	**8.37**	**312**	IAmb_Lg		22 46 12.2				
	comp=Z,33nm,0.9s									
N23A	**Red Feather La**	**8.44**	**308**	IAmb_Lg		22 46 16.6				
	comp=Z,38nm,0.8s									
I37A	**Lemond, Waseca**	**8.55**	**19**	IAmb_Lg		22 46 09.7				
	comp=Z,51nm,0.8s									
TXAR	**Lajitas Array**	**8.57**	**221**	Pn	Pn	**22 43 39.2**	**+6.0**			
	comp=Z,0.2nm,0.3s,baz=39,slow=12,SNR=4.0									
TXAR				Pg	Pg	**22 44 00.5**	**-13**			
	comp=Z,0.5nm,0.3s,baz=43,slow=15,SNR=4.9									
TXAR				Sn	**Sn**	**22 45 09.8**	**-0.1**			
	comp=Z,0.3nm,0.3s,baz=18,slow=19,SNR=1.6									
TXAR				Lg	Lg	22 45 56.2				
	comp=Z,1.3nm,0.3s,baz=34,slow=22,SNR=5.8									
	comp=Z,0.3nm,0.3s									
SUSD	**Miller**	**8.57**	**352**	IAmb_Lg		22 46 19.1				
	comp=Z,32nm,0.8s									
P46A	**Rosedale**	**8.71**	**62**	IAmb_Lg		22 46 24.7				
	comp=Z,52nm,0.8s									
JFWS	**Jewell Farm**	**8.78**	**36**	IAmb_Lg		22 46 06.0				
	comp=Z,57nm,0.7s									
I40A	**Norwalk**	**9.39**	**31**	IAmb_Lg		22 46 38.8				
	comp=Z,41nm,0.8s									
K22A	**Casper**	**9.83**	**316**	IAmb_Lg		22 46 52.1				
	comp=Z,50nm,1.2s									
SPMN	**Marine on St.**	**9.83**	**19**	IAmb_Lg		22 46 40.3				
	comp=Z,26nm,0.8s									
F33A	**5 Mile Ranch,**	**9.88**	**4**	IAmb_Lg		22 46 41.1				
	comp=Z,53nm,1.2s									
PDAR	**Pinedale Array**	**11.72**	**309**	Pn	Pn	**22 44 23.5**	**+7.0**			
	comp=Z,0.1nm,0.3s,baz=121,slow=24,SNR=2.5									
PDAR				Pg		22 45 06.2				
	comp=Z,0.2nm,0.3s,baz=118,slow=18,SNR=8.9									
PDAR				Lg	Lg	22 47 29.3				
	comp=Z,0.2nm,0.3s,baz=118,slow=27,SNR=2.3									
	comp=Z,0.3nm,0.6s									
ULM	**Lac du Bonnet**	**14.31**	**3**	Pn	**P**	**22 44 56.5**	**-2.2**			
	comp=Z,0.4nm,0.3s,baz=188,slow=20,SNR=2.2									
ULM				Lg	Lg	22 48 52.8				
	comp=Z,0.4nm,0.3s,baz=92,slow=22,SNR=4.3									
	comp=Z,1.9nm,0.5s									

NEIC ***24*** *22:57:59.2±1.1, 19.9S±0.1×178.1W±0.1, h595km±9km, mb4.3/29, Error ellipse: s-maj=20.2km s-min=17.1km az=115.0*
IDC ***24*** *22:58:01.3±1.1, 19.82S×178.42W, h606km±10km, mb3.3/15, mbtmp4.2/17, Error ellipse: s-maj=14.8km s-min=12.1km az=131.0*

ISC 24 22:58:00.2±0.4, 19.82S±0.08×178.27W±0.07, h602km, n74, σ1§06/79, mb4.1/28, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.06**	**300**	P		**P**		**22 59 26.7**	**+0.4**
	45nm,0.4s,baz=152,slow=3.2,SNR=80								
MSVF				S		**S**		**23 00 35.9**	**-0.6**
	10nm,0.8s,baz=135,slow=19,SNR=3.6								
MSVF	**Nonsavu**	**4.06**	**300**	P		**P**		**22 59 27.1**	**+0.8**
AFI	**Afiamalu**	**8.55**	**48**	P		**P**		**23 00 02.9**	**-2.0**
	37nm,0.5s,baz=256,slow=8.3,SNR=9.5								
AFI				S		**S**		**23 01 44.2**	**-3.0**
	17nm,0.4s,baz=202,slow=18,SNR=5.7								
AFI	**Afiamalu**	**8.55**	**48**	P		**P**		**23 00 02.7**	**-2.3**
MARNC	**Mare, Loyalty**	**12.94**	**260**	P		**P**		**23 00 46.7**	**-1.6**
PINNC	**Pines Island,**	**13.61**	**256**	P		**P**		**23 00 54.1**	**-1.1**
DZM	**Mont Dzumac**	**14.46**	**258**	P		**P**		**23 01 05.0**	**+1.6**
	5.4nm,0.8s,baz=98,slow=11,SNR=2.6								
KOUNC	**Koumac, New Ca**	**16.40**	**264**	P		**P**		**23 01 21.9**	**+0.8**
KOUNC				IAmb	IAmb			23 01 42.7	
	comp=Z,18nm,1.4s								
URZ	**Urewera**	**18.81**	**191**	P		**P**		**23 01 40.2**	**-2.7**
	comp=Z,7.3nm,0.3s,baz=348,slow=3.2,SNR=15								
URZ	**Urewera**	**18.81**	**191**	P		**P**		**23 01 40.0**	**-2.8**
BFZ	**Birch Farm**	**21.32**	**192**	P		**P**		**23 02 02.7**	**-2.8**
RPZ	**Rata Peaks**	**25.45**	**198**	P		**P**		**23 02 42.5**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=350,slow=12,SNR=2.2								
	comp=Z,3.9nm,0.7s								
MLZ	**Mavora Lakes**	**27.86**	**201**	P		**P**		**23 03 02.7**	**-0.4**
ARMA	**Armidale**	**29.15**	**243**	P		**P**		**23 03 14.7**	**+0.1**
ARMA				IAmb	IAmb			23 03 42.0	
	comp=Z,14nm,1.4s								
CTAO	**Charters Tower**	**33.31**	**263**	P		**P**		**23 03 49.9**	**-0.2**
CTAO				IAmb	IAmb			23 03 50.9	
	comp=Z,4.2nm,0.5s								
PMG	**Port Moresby**	**34.95**	**282**	P		**P**		**23 04 04.3**	**+0.5**
	comp=Z,9.4nm,0.7s,baz=61,slow=13,SNR=4.3								
	comp=Z,9.4nm,0.7s								
PMG	**Port Moresby**	**34.95**	**282**	P		**P**		**23 04 03.8**	**+0.1**
PMG				IAmb	IAmb			23 04 05.1	
	comp=Z,12nm,0.8s								
TOO	**Toolangi**	**36.10**	**233**	P		**P**		**23 04 12.4**	**-0.6**
COEN	**Coen**	**37.29**	**273**	P		**P**		**23 04 22.8**	**-0.2**
COEN				IAmb	IAmb			23 04 24.6	
	comp=Z,5.6nm,0.9s								
STKA	**Stephens Creek**	**37.87**	**243**	P		**P**		**23 04 28.0**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=96,slow=9.3,SNR=4.6								
	comp=Z,3.3nm,0.8s								
STKA	**Stephens Creek**	**37.87**	**243**	P		**P**		**23 04 27.8**	**+0.4**
BBOO	**Buckleboo**	**42.63**	**243**	P		**P**		**23 05 04.7**	**-0.5**
BBOO				IAmb	IAmb			23 05 24.9	
	comp=Z,18nm,1.3s								
WB0	**Warramunga Arr**	**44.42**	**262**	P		**P**		**23 05 18.7**	**-0.6**
AS31	**Alice Springs**	**44.43**	**256**	P		**P**		**23 05 19.3**	**-0.1**
ASAR	**Alice Springs**	**44.43**	**256**	P		**P**		**23 05 19.2**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=89,slow=8.5,SNR=49								
ASAR				S		**S**		**23 11 10.1**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=93,slow=16,SNR=9.9								
	comp=Z,4.1nm,0.8s								
ASAR	**Alice Springs**	**44.43**	**256**	P		**P**		**23 05 18.9**	**-0.5**
WRA	**Warramunga Arr**	**44.45**	**261**	P		**P**		**23 05 19.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=97,slow=7.4,SNR=16								
WRA				S		**S**		**23 11 09.6**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=98,slow=14,SNR=3.6								
	comp=Z,0.7nm,0.3s								
SAUI	**Saumlaki**	**50.17**	**276**	P		**P**		**23 06 01.6**	**-0.7**
SBA	**Scott Base**	**58.53**	**184**	P		**P**		**23 07 01.8**	**+2.2**
VNDA	**Vanda**	**58.57**	**185**	P		**P**		**23 07 00.4**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=20,slow=7.3,SNR=16								
	comp=Z,0.6nm,0.5s								
VNDA	**Vanda**	**58.57**	**185**	P		**P**		**23 07 00.9**	**+1.1**
MJAR	**Matsushiro Arr**	**69.51**	**324**	P		**P**		**23 08 10.1**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=157,slow=6.0,SNR=11								
	comp=Z,2.8nm,0.7s								
QSPA	**South Pole Qui**	**70.25**	**180**	P		**P**		**23 08 14.7**	**+0.9**
QSPA				IAmb	IAmb			23 08 15.5	
	comp=Z,7.2nm,0.8s								
ADK	**Adak**	**71.40**	**1**	P		**P**		**23 08 20.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**75.55**	**345**	P		**P**		**23 08 44.2**	**+0.3**
PETK	**Petropavlovsk-**	**75.55**	**345**	P		**P**		**23 08 44.3**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=131,slow=8.3,SNR=4.0								
	comp=Z,2.7nm,0.7s								
PETK	**Petropavlovsk-**	**75.55**	**345**	P		**P**		**23 08 44.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**78.26**	**326**	P		**P**		**23 08 59.7**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=182,slow=3.8,SNR=5.3								
	comp=Z,2.3nm,0.8s								
USRK	**Ussuriysk Ar.**	**78.26**	**326**	P		**P**		**23 08 59.6**	**+0.8**
BELA	**Belgrano 2**	**80.27**	**173**	P		**P**		**23 09 08.8**	**-0.1**
MAW	**Mawson**	**82.12**	**200**	P		**P**		**23 09 19.0**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=137,slow=17,SNR=2.6								
	comp=Z,0.9nm,0.6s								
SVW2	**Sparrevohn**	**82.68**	**11**	P		**P**		**23 09 21.6**	**+0.3**
SVW2				IAmb	IAmb			23 09 43.7	
	comp=Z,12nm,1.4s								
SUA	**Susitna One**	**83.95**	**13**	P		**P**		**23 09 28.0**	**+0.2**
SUA				IAmb	IAmb			23 09 29.2	
	comp=Z,7.6nm,1.0s								
CAST	**Castle Rocks**	**85.46**	**11**	P		**P**		**23 09 34.1**	**-0.8**
CAST				IAmb	IAmb			23 09 35.6	
	comp=Z,7.5nm,1.3s								
TRF	**Thorofare Moun**	**85.83**	**12**	P		**P**		**23 09 36.8**	**-0.1**
TRF				IAmb	IAmb			23 10 03.4	
	comp=Z,4.1nm,1.1s								
RND	**Reindeer**	**86.09**	**13**	P		**P**		**23 09 38.6**	**+0.6**
RND				IAmb	IAmb			23 09 39.8	
	comp=Z,8.7nm,1.2s								
TXAR	**Lajitas Array**	**86.90**	**57**	P		**P**		**23 09 45.1**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=260,slow=5.4,SNR=3.8								
	comp=Z,0.6nm,0.7s								
MLY	**Manley**	**87.17**	**11**	P		**P**		**23 09 42.9**	**-0.1**
MLY				IAmb	IAmb			23 10 00.1	
	comp=Z,4.2nm,1.4s								
CCB	**Clear Creek Bu**	**87.41**	**13**	P		**P**		**23 09 44.2**	**+0.2**
CCB				IAmb	IAmb			23 09 44.8	
	comp=Z,4.1nm,0.6s								
IMAR	**Indian Mountai**	**87.53**	**10**	P		**P**		**23 09 45.4**	**+0.9**
IL31		**87.70**	**13**	P		**P**		**23 09 45.6**	**+0.2**
ILAR	**Eielson Array**	**87.70**	**13**	P		**P**		**23 09 45.4**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=219,slow=5.8,SNR=18								
	comp=Z,1.6nm,0.8s								
ILAR	**Eielson Array**	**87.70**	**13**	P		**P**		**23 09 45.6**	**+0.1**
TROLL	**Troll, Antarti**	**88.41**	**180**	P		**P**		**23 09 48.9**	**-0.1**
PDAR	**Pinedale Array**	**88.64**	**43**	P		**P**		**23 09 50.9**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=264,slow=9.0,SNR=2.1								
	comp=Z,0.1nm,0.4s								
SNAA	**Sanae**	**88.

comp=Z,0.9nm,0.7s,baz=143,slow=6.5,SNR=1.6
comp=Z,0.9nm,0.7s

UNV	**Unalaska Valle**	**74.02**	**5**	P		**P**	**23 17 47.1**	**+1.7**
JNU	**Nakatsue**	**74.55**	**315**	P		**P**	**23 17 48.5**	**-0.8**
NVAR	**Mina Array Bea**	**78.37**	**42**	P		**P**	**23 18 13.1**	**+2.1**
	comp=Z,1.5nm,0.7s,baz=224,slow=8.8,SNR=14							
	comp=Z,1.5nm,0.7s							
BELA	**Belgrano 2**	**79.39**	**172**	P		**P**	**23 18 15.3**	**-0.4**
BELA				IAmb		IAmb	23 18 24.4	
	comp=Z,6.8nm,1.5s							
P18K	**Big Mountain,**	**80.80**	**10**	P		**P**	**23 18 24.6**	**+1.2**
P18K				IAmb		IAmb	23 18 33.1	
	comp=Z,7.1nm,1.0s							
H03S2	**Juan Fernandez**	**83.20**	**123**	T		T	00 50 54.5	
	baz=248,SNR=63							
H03S1	**Juan Fernandez**	**83.21**	**123**	T		T	00 50 51.4	
	baz=248,SNR=40							
H03S3	**Juan Fernandez**	**83.22**	**123**	T		T	00 50 51.9	
	baz=248,SNR=67							
M19K	**Big River Lodg**	**83.32**	**9**	P		**P**	**23 18 37.9**	**+1.4**
M19K				IAmb		IAmb	23 18 41.7	
	comp=Z,6.8nm,1.2s							
H03N2	**Juan Fernandez**	**83.33**	**123**	T		T	00 51 02.7	
	baz=249,slow=71,SNR=35							
H03N3	**Juan Fernandez**	**83.33**	**123**	T		T	00 51 13.3	
	baz=249,slow=71,SNR=22							
H03N1	**Juan Fernandez**	**83.34**	**123**	T		T	00 51 03.9	
	baz=249,slow=71,SNR=17							
SUA	**Susitna One**	**83.51**	**11**	P		**P**	**23 18 38.9**	**+1.2**
SUA				IAmb		IAmb	23 18 58.5	
	comp=Z,9.9nm,1.3s							
SCM	**Sheep Creek Mo**	**84.50**	**12**	P		**P**	**23 18 43.9**	**+1.2**
PDAR	**Pinedale Array**	**86.31**	**42**	P		**P**	**23 18 52.9**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=243,slow=4.0,SNR=2.6							
	comp=Z,0.3nm,0.7s							
ILAR	**Eielson Array**	**87.25**	**11**	P		**P**	**23 18 57.1**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=214,slow=5.4,SNR=6.4							
	comp=Z,0.6nm,0.7s							
BOSA	**Boshof**	**127.98**	**202**	PKP		**PKPdf**	**23 25 16.1**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=286,slow=14,SNR=5.8							
ARCES	**ARCESS Array B**	**129.20**	**351**	PKP		**PKPdf**	**23 25 17.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=132,slow=1.8,SNR=5.3							
CLL	**Collm**	**148.43**	**351**	*e*PKPbc		**PKPbc**	**23 25 57.0**	**+0.5**
GERES	**GERESS Array B**	**150.71**	**349**	PKPbc		**PKPbc**	**23 26 01.9**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=30,slow=3.5,SNR=7.2							

BUL ***24*** *23:21:00.8±1.3, 21°.35S×33°.68E, h41km±65km, MD3.8*
PRE 24 23:20:55.6±1.8, 21°.26S×33°.61E, h10km, ML2.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.04**	**222**		*e*P		Pn	23 21 45.6	+1.9
MOPA					*e*S		Sn	23 22 20.0	-0.3
MOPA					IAML			23 22 25.4	
	comp=Z,48nm,0.3s								
MOPA	**Mopani**	**3.04**	**222**		*i* P		Pb	23 21 47.3	-2.5
MOPA					*i* S		Sn	23 22 20.1	-0.1
MOPA	**Mopani**	**3.04**	**222**		*i* P		Pb	23 21 47.3	-2.5
MOPA					*i* S		Sn	23 22 20.1	-0.1
MUSN	**Musina, Limpop**	**3.63**	**253**		*e*P		Pn	23 21 54.5	+2.5
MUSN					*e*S		Sn	23 22 35.8	+0.8
MUSN					IAML			23 22 56.2	
	comp=Z,34nm,0.6s								
MUSN	**Musina, Limpop**	**3.63**	**253**		*i* P		Pn	23 21 54.9	+2.9
MUSN					*i* S		Sn	23 22 35.0	+0.1
MUSN	**Musina, Limpop**	**3.63**	**253**		*i* P		Pn	23 21 54.9	+2.9
MUSN					*i* S		Sn	23 22 35.0	+0.1
BLWY	**Bulawayo**	**4.81**	**283**		*e*P		Pn	23 22 10.6	+2.3
BLWY					*e*S		Sn	23 23 05.6	+1.3
BLWY					IAML			23 23 22.5	
	comp=Z,80nm,0.5s								
BLWY	**Bulawayo**	**4.81**	**283**		*i* P		Pn	23 22 11.0	+2.7
BLWY					*i* S		Sn	23 23 02.5	-1.8
BLWY	**Bulawayo**	**4.81**	**283**		*i* P		Pn	23 22 11.0	+2.7
BLWY					*i* S		Sn	23 23 02.5	-1.8
MATP	**Matopo**	**4.85**	**279**		*i* P		Pn	23 22 11.7	+2.8
MATP					*i* S		Sn	23 23 03.2	-2.0
MATP	**Matopo**	**4.85**	**279**		*i* P		Pn	23 22 11.7	+2.8
MATP					*i* S		Sn	23 23 03.2	-2.0
MMAL	**MMAL**	**5.25**	**204**		*e*P		Pn	23 22 15.7	+1.5
MMAL					*e*S		Sn	23 23 14.2	-0.7
MMAL					IAML			23 23 44.7	
	comp=Z,17nm,0.4s								
LEPH	**Lephalale, Lim**	**5.96**	**243**		*e*P		Pn	23 22 24.4	+0.4
LEPH					*e*S		Sn	23 23 29.6	-2.9
LEPH					IAML			23 24 05.6	
	comp=Z,24nm,0.5s								
LBTB	**Lobatse**	**8.27**	**242**		*e*P		Pn	23 22 56.3	+0.6
LBTB					*e*S		Sn	23 24 26.1	-3.1
LBTB					IAML			23 25 27.7	
	comp=Z,4.2nm,0.7s								
LBTB	**Lobatse**	**8.27**	**242**		*i* P		Pn	23 22 56.9	+1.2
LBTB					*i* S		Sn	23 24 22.1	-7.2
LBTB	**Lobatse**	**8.27**	**242**		*i* P		Pn	23 22 56.9	+1.2
LBTB					*i* S		Sn	23 24 22.1	-7.2
BOSA	**Boshof**	**10.53**	**224**		*i* P		Pn	23 23 27.1	+0.3
BOSA					*i* S		Sn	23 25 11.4	-14

NOU ***24*** *23:27:15.6, 32°.80S×176°.94W, h34km, mb5.3/48, South of Kermadec Islands*
WEL ***24*** *23:27:16.8±0.7, 32°.5S±6°×17°.8W±1°.6, h10km, M5.0/36, mB5.4/33, ML5.9/36, MLv5.7/36, Mw(mB)4.8/33, Error ellipse: s-maj=0.0km s-min=0.0km az=107.5*
BJI ***24*** *23:27:16.8±0.0, 32°.74S×178°.46W, h6km, mb5.2/19, mB5.7/11, Ms5.3/8, Ms7 5.1/8*
MOS ***24*** *23:27:19.2±1.3, 32°.20S×178°.22W, h13km, mb5.3/13, Error ellipse: s-maj=10.9km s-min=8.7km az=82.9*
IDC ***24*** *23:27:20.0±2.6, 32°.28S×178°.05W, h16km±15km, mb4.3/14, mbtmp4.4/18, ML5.4/3, MS5.1/35, Error ellipse: s-maj=16.0km s-min=14.6km az=74.0*
NEIC ***24*** *23:27:20.0±1.7, 32°.30S±0°.07×178°.1W±0°.1, h10km±1km, mb5.2/82, Error ellipse: s-maj=16.8km s-min=10.7km az=104.0*
ISC 24 23:27:20.4±0.3, 32°.43S±0°.04×178°.05W±0°.05, h20km, n549, σ1$89/522, mb5.3/79, MS5.2/39, 45C-9D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.16**	**2**		P		**Pn**	**23 28 07.3**	**-1.7**
GLKZ					S		**Sn**	**23 28 42.8**	**-3.3**
RAO	**Raoul Island**	**3.17**	**2**		Pn		**Pn**	**23 28 05.0**	**-4.1**
	212nm,0.3s,baz=120,slow=20,SNR=7.8								
RAO					Sn		**Sn**	**23 28 40.8**	**-5.6**
	249nm,0.3s,baz=97,slow=19,SNR=6.0								
	388nm,0.3s								
RAO	**Raoul Island**	**3.17**	**2**		Pn		**Pn**	**23 28 04.8**	**-4.3**
RAO	**Raoul Island**	**3.17**	**2**		P		**Pn**	**23 28 09.3**	**+0.2**
RIZ	**Raoul Island**	**3.18**	**2**		P		**Pn**	**23 28 05.2**	**-4.1**
RIZ					S		**Sn**	**23 28 43.4**	**-3.2**
MXZ	**Matakaoa Point**	**5.93**	**209**		Pn		**Pn**	**23 28 43.7**	**-3.3**
MXZ	**Matakaoa Point**	**5.93**	**209**		P		**Pn**	**23 28 44.9**	**-2.1**
MXZ					S		**Sn**	**23 29 53.0**	**-1.2**
WMGZ	**Waiomatatini S**	**6.11**	**207**		P		**Pn**	**23 28 48.9**	**-0.5**
WMGZ					S		**Sn**	**23 29 57.4**	**-1.3**
PKGZ	**Pakihiroa**	**6.30**	**209**		P		**Pn**	**23 28 49.5**	**-2.7**
PKGZ					S		**Sn**	**23 30 02.5**	**-1.0**
HAZ	**Te Kaha**	**6.32**	**212**		P		**Pn**	**23 28 50.4**	**-1.9**
HAZ					S		**Sn**	**23 30 03.2**	**-0.6**
PUZ	**Puketiti**	**6.39**	**207**		P		**Pn**	**23 28 50.5**	**-2.8**
PUZ					S		**Sn**	**23 30 04.1**	**-1.5**
RUGZ	**Raukumara Rang**	**6.53**	**211**		P		**Pn**	**23 28 53.2**	**-2.3**
RUGZ					S		**Sn**	**23 30 08.4**	**-1.0**
TWGZ	**Tauwhareparae**	**6.59**	**208**		P		**Pn**	**23 28 54.0**	**-2.1**
TWGZ					S		**Sn**	**23 30 10.1**	**-0.5**
CNGZ	**Carnagh Statio**	**6.76**	**206**		P		**Pn**	**23 28 55.9**	**-2.6**
CNGZ					S		**Sn**	**23 30 12.9**	**-2.1**
TKGZ	**Te Karaka**	**6.86**	**208**		P		**Pn**	**23 28 59.7**	**-0.2**
TKGZ					S		**Sn**	**23 30 14.9**	**-2.4**
MWZ	**Matawai**	**6.91**	**210**		P		**Pn**	**23 28 57.4**	**-3.1**
MWZ					S		**Sn**	**23 30 15.9**	**-2.6**
URZ	**Urewera**	**7.03**	**213**		Pn		**Pn**	**23 28 59.0**	**-3.1**
	6.8nm,0.3s,baz=141,slow=2.6,SNR=29								
URZ					Sn		**Sn**	**23 30 18.8**	**-2.6**
	78nm,0.3s,baz=287,slow=6.4,SNR=12								
URZ	**Urewera**	**7.03**	**213**		Pn		**Pn**	**23 28 59.4**	**-2.7**
URZ	**Urewera**	**7.03**	**213**		P		**Pn**	**23 28 59.5**	**-2.7**
URZ					S		**Sn**	**23 30 18.5**	**-2.9**
URZ	**Urewera**	**7.03**	**213**		P		**Pn**	**23 29 00.5**	**-1.6**

RAGZ	**Rawiri**	**7.09**	**210**		P		**Pn**	**23 29 00.6**	**-2.4**
RAGZ					S		**Sn**	**23 30 20.9**	**-2.1**
RIGZ	**Rimuhau**	**7.13**	**207**		P		**Pn**	**23 29 00.2**	**-3.3**
RIGZ					S		**Sn**	**23 30 21.5**	**-2.4**
MBAZ	**Motutapu North**	**7.25**	**231**		P		**Pb**	**23 29 24.4**	**-1.0**
OMRZ	**Omania**	**7.27**	**217**		P		**Pn**	**23 29 08.7**	**+3.3**
MUGZ	**Murupara**	**7.36**	**214**		P		**Pn**	**23 29 05.3**	**-1.4**
MUGZ					S		**Sn**	**23 30 25.0**	**-4.7**
SNGZ	**Shannon Statio**	**7.36**	**209**		P		**Pn**	**23 29 05.7**	**-1.1**
SNGZ					S		**Sn**	**23 30 27.0**	**-2.7**
RRRZ	**Republican Roa**	**7.38**	**215**		P		**Pn**	**23 29 07.9**	**+1.0**
RTZ	**Ruatahuna**	**7.38**	**212**		P		**Pn**	**23 29 07.0**	**0.0**
KNZ	**Kokohu**	**7.44**	**207**		P		**Pn**	**23 29 03.8**	**-3.9**
KNZ					S		**Sn**	**23 30 26.0**	**-5.5**
MHGZ	**Mahia Peninsul**	**7.47**	**205**		P		**Pn**	**23 29 05.1**	**-3.0**
OUZ	**Omahuta**	**7.49**	**246**		P		**Pn**	**23 29 12.6**	**+4.2**
HRRZ	**Handcock Road**	**7.53**	**216**		P		**Pn**	**23 29 12.0**	**+3.0**
PRRZ	**Plateau Road**	**7.56**	**215**		P		**Pn**	**23 29 09.2**	**-0.2**
RAHZ	**Arahi**	**7.58**	**210**		P		**Pn**	**23 29 08.6**	**-1.1**
WHHZ	**Waihua**	**7.66**	**209**		P		**Pn**	**23 29 11.1**	**+0.3**
NMHZ	**Naumai**	**7.85**	**211**		P		**Pn**	**23 29 13.2**	**-0.3**
ARHZ	**Aropaoanui**	**7.91**	**209**		P		**Pn**	**23 29 12.8**	**-1.5**
BKZ	**Black Stump Fm**	**8.05**	**212**		P		**Pn**	**23 29 13.7**	**-2.5**
BKZ	**Black Stump Fm**	**8.05**	**212**		P		**Pn**	**23 29 13.5**	**-2.7**
MCHZ	**McNeill Hill**	**8.19**	**210**		P		**Pn**	**23 29 16.6**	**-1.4**
CKHZ	**Cape Kidnapper**	**8.22**	**207**		P		**Pn**	**23 29 14.0**	**-4.4**
KWHZ	**Kaweka Forest**	**8.29**	**211**		P		**Pn**	**23 29 18.1**	**-1.4**
TMVZ	**Te Maari**	**8.38**	**216**		P		**Pn**	**23 29 19.3**	**-1.4**
NTVZ	**North Tongarir**	**8.38**	**216**		P		**Pn**	**23 29 20.2**	**-0.5**
HIZ	**Hauiti**	**8.38**	**222**		P		**Pn**	**23 29 23.0**	**+2.3**
HIZ	**Hauiti**	**8.38**	**222**		P		**Pn**	**23 29 21.0**	**+0.3**
ETVZ	**East Tongariro**	**8.39**	**215**		P		**Pn**	**23 29 21.6**	**+0.6**
KAHZ	**Kahuranaki**	**8.41**	**208**		P		**Pn**	**23 29 17.0**	**-4.2**
OTVZ	**Oturere**	**8.43**	**215**		P		**Pn**	**23 29 19.4**	**-2.2**
KRHZ	**Kereru**	**8.49**	**211**		P		**Pn**	**23 29 19.2**	**-3.0**
BHHZ	**Black Hill Sta**	**8.51**	**212**		P		**Pn**	**23 29 21.8**	**-0.6**
MOVZ	**Moawhango**	**8.58**	**214**		P		**Pn**	**23 29 22.4**	**-1.1**
WNVZ	**Wahianoa**	**8.59**	**215**		P		**Pn**	**23 29 25.8**	**+2.0**
PXZ	**Pawanui**	**8.62**	**207**		P		**Pn**	**23 29 20.9**	**-3.0**
PKVZ	**Pokaka**	**8.69**	**216**		P		**Pn**	**23 29 27.6**	**+2.6**
PNHZ	**Pukenui**	**8.79**	**210**		P		**Pn**	**23 29 23.9**	**-2.5**
PRHZ	**Porangahau**	**8.91**	**207**		P		**Pn**	**23 29 24.4**	**-3.6**
WAZ	**Wanganui**	**9.22**	**216**		P		**Pn**	**23 29 32.8**	**+0.5**
BFZ	**Birch Farm**	**9.42**	**208**		P		Pn	23 29 29.6	-5.3
BFZ	**Birch Farm**	**9.42**	**208**		P		**Pn**	**23 29 30.6**	**-4.3**
PRWZ	**Pori Road**	**9.42**	**209**		P		**Pn**	**23 29 31.7**	**-3.3**
MRZ	**Mangatainoka R**	**9.68**	**210**		P		**Pn**	**23 29 33.8**	**-4.6**
HOWZ	**Holdsworth Sta**	**9.90**	**210**		P		**Pn**	**23 29 37.3**	**-4.2**
TMWZ	**Te Maipa**	**9.93**	**208**		P		**Pn**	**23 29 37.6**	**-4.3**
KIW	**Kapiti Island**	**10.13**	**212**		P		Pn	23 29 39.8	-4.9
TRWZ	**Traveller**	**10.25**	**207**		P		**Pn**	**23 29 42.4**	**-3.9**
PAWZ	**Paruwai Farm**	**10.34**	**208**		P		Pn	23 29 42.5	-5.1
MSWZ	**Moikau Station**	**10.44**	**209**		P		**Pn**	**23 29 45.0**	**-3.9**
SNZO	**South Karori**	**10.59**	**211**		P		**Pn**	**23 29 48.5**	**-2.4**
TCW	**Tory Channel**	**10.70**	**213**		P		Pn	23 29 47.5	-4.9
TUWZ	**Tuamarina**	**11.03**	**213**		P		**Pn**	**23 29 53.8**	**-3.1**
NNZ	**Nelson**	**11.13**	**216**		P		**Pn**	**23 29 55.6**	**-2.7**
TKNZ	**Takaka Hill**	**11.21**	**217**		P		**Pn**	**23 30 00.3**	**+1.0**
QRZ	**Quartz Range**	**11.28**	**219**		P		**Pn**	**23 29 59.0**	**-1.4**
MRNZ	**Matariki Terra**	**11.58**	**217**		P		**Pn**	**23 30 00.8**	**-3.7**
THZ	**Tophouse**	**11.78**	**215**		P		**Pn**	**23 30 03.1**	**-4.1**
KHZ	**Kahutara**	**11.99**	**211**		P		**Pn**	**23 30 05.4**	**-4.7**
KHZ	**Kahutara**	**11.99**	**211**		P		**Pn**	**23 30 05.8**	**-4.3**
LTZ	**Lake Taylor**	**12.86**	**214**		P		**Pn**	**23 30 20.3**	**-1.6**
INZ	**Inchbonnie**	**13.22**	**216**		P		**Pn**	**23 30 25.8**	**-1.0**
OKCZ	**Okains Bay**	**13.26**	**209**		P		Pn	23 30 21.9	-5.5
OXZ	**Oxford**	**13.39**	**213**		P		Pn	23 30 24.1	-4.8
WVZ	**Waitaha Valley**	**13.83**	**217**		P		**Pn**	**23 30 32.5**	**-2.7**
RPZ	**Rata Peaks**	**14.14**	**214**		Pn		**Pn**	**23 30 35.1**	**-4.5**
	3.0nm,0.3s,baz=319,slow=0.9,SNR=9.6								
RPZ					Sn		Sn	23 32 58.9	-17
	6.3nm,0.3s,baz=346,slow=21,SNR=12								
RPZ	**Rata Peaks**	**14.14**	**214**		P		**Pn**	**23 30 35.5**	**-4.0**
RPZ	**Rata Peaks**	**14.14**	**214**		P		**Pn**	**23 30 37.4**	**-2.1**
GCSZ	**Gaunt Creek Bo**	**14.21**	**217**		P		**Pn**	**23 30 36.9**	**-3.5**
ARCZ	**Arundel**	**14.26**	**213**		P		**Pn**	**23 30 36.9**	**-4.3**
MSVF	**Nonsavu**	**15.05**	**346**		Pn		**Pn**	**23 30 50.4**	**-1.6**
	1.8nm,0.3s,baz=133,slow=15,SNR=13								
MSVF					LR		LR	23 35 52.2	
	comp=Z,9μm,18.5s,baz=175,slow=34								
	11nm,0.7s								
MSVF	**Nonsavu**	**15.05**	**346**		Pn		**Pn**	**23 30 50.0**	**-2.1**
MSVF	**Nonsavu**	**15.05**	**346**		*e*P		**Pn**	**23 30 51.6**	**-0.5**
MSVF					pmax		pmax		
	comp=Z,9.0nm,0.5s								
LBZ	**Lake Benmore**	**15.06**	**214**		P		**Pn**	**23 30 48.0**	**-4.0**
NIUE	**Niue**	**15.17**	**31**		Pn		**Pn**	**23 30 51.0**	**-2.5**
NIUE					IAmb		IAmb	23 30 57.4	
	comp=Z,86nm,1.1s								
ODZ	**Otahua Downs**	**15.35**	**212**		P		**Pn**	**23 30 50.6**	**-5.2**
EAZ	**Eastern Island,**	**16.11**	**214**		P		**Pn**	**23 31 04.0**	**-1.5**
PINNC	**Pines Island,**	**16.15**	**304**				**Pn**	**23 31 06.8**	**+0.6**
MARNC	**Mare, Loyalty**	**16.51**	**308**		P		**P**	**23 31 12.6**	**-0.7**
YATNC	**Mamie plateau,**	**16.90**	**304**		P		**P**	**23 31 21.4**	**+3.8**
ONTNC	**Ouen Toro**	**17.05**	**302**		P		**P**	**23 31 18.2**	**-1.0**
DZM	**Mont Dzumac**	**17.20**	**303**		*e*Pn		**Pn**	**23 31 19.6**	**-0.1**
	comp=Z,353nm,1.4s								
DZM					*e*LR		LR	23 35 13.9	
	comp=Z,12μm,20.9s								
DZM	**Mont Dzumac**	**17.20**	**303**		Pn		**P**	**23 31 23.9**	**+2.8**
	comp=Z,2.7nm,0.3s,baz=164,slow=13,SNR=31								
DZM					LR		LR	23 36 55.1	
	comp=Z,20μm,18.4s,baz=130,slow=34								
DZM	**Mont Dzumac**	**17.20**	**303**				**P**	**23 31 20.9**	**-0.3**
DZM	**Mont Dzumac**	**17.20**	**303**		P		**P**	**23 31 26.1**	**+5.0**
WHZ	**Wether Hill Ro**	**17.24**	**215**		P		**Pn**	**23 31 17.3**	**-2.6**
NOUC	**Port Laguerre**	**17.29**	**303**		P		**P**	**23 31 25.7**	**+3.8**
LIFNC	**LIFOU**	**17.52**	**308**		P		**P**	**23 31 24.1**	**-0.5**
LIFNC					IAmb		IAmb	23 31 30.5	
	comp=Z,272nm,1.8s								
APZ	**The Paps**	**17.92**	**213**		P		**Pn**	**23 31 28.4**	**+0.2**
AFI	**Afiamalu**	**19.31**	**19**		P		**P**	**23 31 42.9**	**-1.4**
	comp=Z,5.5nm,0.3s,baz=272,slow=4.5,SNR=7.7								
AFI					S		Sn	23 35 01.8	-20
	comp=Z,22nm,0.8s,baz=181,slow=22,SNR=2.6								
	comp=Z,18nm,0.5s								
AFI	**Afiamalu**	**19.31**	**19**				**P**	**23 31 43.1**	**-1.2**
AFI	**Afiamalu**	**19.31**	**19**		P		**P**	**23 31 43.1**	**-1.2**
AFI					pmax		pmax		
	comp=Z,79nm,0.9s								
LHI	**Lord Howe Isla**	**19.44**	**267**		P		**Pn**	**23 31 47.2**	**+0.4**
	baz=20,SNR=4.4								
LHI	**Lord Howe Isla**	**19.44**	**267**		P		**P**	**23 31 46.0**	**+0.5**
KOUNC	**Koumac, New Ca**	**19.72**	**303**		P		**Pn**	**23 31 49.4**	**-0.8**
KOUNC	**Koumac, New Ca**	**19.72**	**303**		P		**Pn**	**23 31 52.6**	**+2.4**
RAR	**Rarotonga**	**19.74**	**60**		P		**P**	**23 31 48.8**	**-0.1**
	comp=Z,12nm,0.7s,baz=217,slow=7.4,SNR=6.4								
RAR					LR		LR	23 40 13.6	
	comp=Z,4μm,18.3s,baz=232,slow=39								
RAR	**Rarotonga**	**19.74**	**60**		P		**Pn**	**23 31 49.9**	**-0.6**
RAR	**Rarotonga**	**19.74**	**60**		P		**Pn**	**23 31 49.9**	**-0.6**
RAR					pmax		pmax		
	comp=Z,42nm,1.1s								
MGCD	**Mangrove Creek**	**25.89**	**260**		P		**P**	**23 32 52.1**	**+1.2**
	baz=26,SNR=8.9								
MGCD	**Mangrove Creek**	**25.89**	**260**		P		**P**	**23 32 53.6**	**+2.7**
	comp=Z,34nm,1.1s								
ARMA	**Armidale**	**25.91**	**266**		P		**P**	**23 32 54.8**	**+3.4**
	baz=26,SNR=11								
ARMA	**Armidale**	**25.91**	**266**		P		**P**	**23 32 51.8**	**+0.5**
CNB	**Canberra Magne**	**27.14**	**255**		P		**P**	**23 33 04.7**	**+2.4**
	baz=27,SNR=9.4								
CNB	**Canberra Magne**	**27.14**	**255**		P		**P**	**23 33 04.6**	**+2.3**
CAN	**Canberra**	**27.44**	**255**		P		**P**	**23 33 04.4**	**-0.6**
CAN					IAmb		IAmb	23 33 27.2	
	comp=Z,86nm,1.7s								
CAN	**Canberra**	**27.44**	**255**		P		**P**	**23 33 04.4**	**-0.6**
CAN					pmax		pmax		
	comp=Z,86nm,1.7s								
EIDS	**Eidsvold**	**27.86**	**277**		P		**P**	**23 33 09.7**	**+1.0**
	baz=28,SNR=10								
EIDS	**Eidsvold**	**27.86**	**277**		P		**P**	**23 33 08.3**	**-0.5**
EIDS					IAmb		IAmb	23 33 17.4	
	comp=Z,48nm,1.0s								
EIDS	**Eidsvold**	**27.86**	**277**		P		**P**	**23 33 10.5**	**+1.7**
RK1H	**Rockhampton Ha**	**29.14**	**280**		P		**P**	**23 33 23.3**	**+3.2**
TAU	**Tasmania Unive**	**29.16**	**239**		P		**P**	**23 33 20.6**	**+0.5**
TAU					IAmb		IAmb	23 33 48.3	
	comp=Z,87nm,1.3s								
TAU	**Tasmania Unive**	**29.16**	**239**		P		**P**	**23 33 20.6**	**+0.5**
TAU					pmax		pmax		
	comp=Z,87nm,1.3s								

RMQ	**Roma**	**29.43**	**273**		P		**P**	**23 33 24.5**	**+1.8**
	baz=30,SNR=34								
RMQ	**Roma**	**29.43**	**273**		P		**P**	**23 33 25.3**	**+2.6**
PAE	**Paea**	**29.57**	**67**	*e*T			T	00 04 19.2	
	comp=Z,3.6nm,0.3s								
PPT2	**Papeete2**	**29.61**	**67**	*e*LR			LR	23 41 05.5	
	comp=Z,2μm,22.8s								
PPT2				*e*LR			LR	23 41 05.6	
PPT	**Papeete**	**29.63**	**67**	LR			LR	23 44 50.2	
	comp=Z,3μm,18.1s,baz=237,slow=36								
TOO	**Toolangi**	**30.18**	**250**	P			**P**	**23 33 30.6**	**+1.4**
	baz=30,SNR=3.7								
TOO	**Toolangi**	**30.18**	**250**	P			**P**	**23 33 30.5**	**+1.2**
TOO				IAmb			IAmb	23 33 40.7	
	comp=Z,34nm,1.2s								
TOO	**Toolangi**	**30.18**	**250**	P			**P**	**23 33 30.5**	**+1.2**
TOO				pmax			pmax		
	comp=Z,34nm,1.2s								
TOO	**Toolangi**	**30.18**	**250**	P			**P**	**23 33 30.0**	**+0.7**
CMSA	**Cobar Meteorol**	**30.68**	**262**	P			**P**	**23 33 34.7**	**+0.9**
	baz=31,SNR=59								
CMSA	**Cobar Meteorol**	**30.68**	**262**	P			**P**	**23 33 35.1**	**+1.4**
VAH	**Vaihoa**	**32.51**	**65**	*e*T			T	00 07 48.5	
	comp=Z,7.7nm,0.3s								
ARPS	**Mount Arapiles**	**33.13**	**251**	P			**P**	**23 33 55.0**	**-0.2**
	baz=33,SNR=5.4								
ARPS	**Mount Arapiles**	**33.13**	**251**	P			**P**	**23 33 56.3**	**+1.1**
QLP	**Quilpie**	**33.22**	**270**	P			**P**	**23 33 57.5**	**+1.4**
	baz=33,SNR=6.8								
STKA	**Stephens Creek**	**34.03**	**260**	P			**P**	**23 34 03.1**	**0.0**
	comp=Z,6.8nm,0.6s,baz=101,slow=12,SNR=14								
STKA				LR			LR	23 47 37.6	
	comp=Z,7μm,18.1s,baz=96,slow=36								
	comp=Z,6.8nm,0.6s								
STKA	**Stephens Creek**	**34.03**	**260**	P			**P**	**23 34 04.5**	**+1.5**
	baz=34,SNR=11								
STKA	**Stephens Creek**	**34.03**	**260**	P			**P**	**23 34 02.6**	**-0.5**
STKA	**Stephens Creek**	**34.03**	**260**	*e*P			**P**	**23 34 03.5**	**+0.4**
STKA	**Stephens Creek**	**34.03**	**260**	P			**P**	**23 34 04.9**	**+1.8**
CTA	**Charters Tower**	**34.13**	**282**	P			**P**	**23 34 05.5**	**+1.4**
	comp=Z,16nm,0.5s,baz=117,slow=10.0,SNR=31								
CTA				LR			LR	23 47 07.2	
	comp=Z,4μm,18.0s,baz=135,slow=35								
	comp=Z,16nm,0.5s								

KLBR	Kellerberrin	53.68	252	P		P		23 36 39.2	-1.6
MEEK	Meekatharra	54.72	258	P		P		23 36 46.9	-1.6
	baz=55,SNR=6.1								
MEEK	Meekatharra	54.72	258	P		P		23 36 47.1	-1.4
MUN	Mundaring	54.79	251	P		P		23 36 47.4	-1.5
	baz=55,SNR=4.5								
MUN	Mundaring	54.79	251	P		P		23 36 48.0	-1.0
BLDU	Ballidu	54.85	253	P		P		23 36 48.3	-1.1
	baz=55,SNR=7.1								
BLDU	Ballidu	54.85	253	P		P		23 36 48.8	-0.6
FAKI	Fak Fak	55.03	292	P		P		23 36 50.8	0.0
FAKI	Fak Fak	55.03	292	P		P		23 36 51.8	+1.0
PSA00	Pilbara Seismi	55.71	265	P		P		23 36 54.4	-1.4
PSA00	Pilbara Seismi	55.71	265	P		P		23 36 54.0	-1.8
PSA00					IAmb	IAmb		23 37 14.4	
	comp=Z,22nm,1.0s								
MORW	Morawa	55.94	255	P		P		23 36 55.6	-1.6
	baz=56,SNR=11								
MORW	Morawa	55.94	255	P		P		23 36 55.9	-1.3
MORW	Morawa	55.94	255	P		P		23 36 56.0	-1.3
MBWA	Marble Bar	55.99	265	P		P		23 36 56.2	-1.5
MBWA					IAmb	IAmb		23 37 16.5	
	comp=Z,35nm,1.1s								
KIP	Kipapa	56.88	22⇑	*e*P		P		23 37 02.8	-1.0
KIP				pmax		pmax			
	comp=Z,109nm,1.7s								
SIJI	Sorong	57.06	293	LR		LR		00 00 36.3	
	comp=Z,1μm,19.8s,baz=120,slow=35								
SWI	Sorong	57.07	293	P		P		23 37 04.9	-0.5
	comp=Z,2μmcomp=Z,31nm,1.9s								
SOEI	Soe	57.63	279	P		P		23 37 09.3	-0.2
QSPA	South Pole Qui	57.68	180	P		P		23 37 10.6	+1.4
	comp=Z,5.2nm,0.9s,baz=51,slow=0.6,SNR=21								
QSPA				LR		LR		23 59 29.1	
	comp=Z,2μm,19.2s,baz=44,slow=33								
	comp=Z,5.2nm,0.9s								
QSPA	South Pole Qui	57.68	180	P		P		23 37 11.4	+2.2
BATI	Baumata	57.89	279	LR		LR		00 02 00.5	
	comp=Z,4μm,20.0s,baz=149,slow=36								
BATI	Baumata	57.89	279	P		P		23 37 12.0	+0.7
	comp=Z,30nm,1.0s								
RPN	Rapa Nui	58.96	104	LR		LR		23 59 28.7	
	comp=Z,2μm,18.0s,baz=217,slow=33								
GIRL	Giralia	59.97	261	P		P		23 37 26.4	+0.8
SANI	Sanana	60.53	288	P		P		23 37 27.7	-1.8
	comp=Z,28nm,1.6s								
LUWI	Luwuk	63.72	287	P		P		23 37 52.3	+1.4
	comp=Z,5μmcomp=Z,38nm,1.5s								
KAPI	Kappang	63.95	281	LR		LR		00 06 09.6	
	comp=Z,2μm,18.2s,baz=98,slow=36								
TWSI	Taliwang, Sumb	64.35	276	P		P		23 37 53.5	-1.6
	comp=Z,24nm,0.9s								
JAGI	Jajag, Banyuwa	66.79	275	P		P		23 38 09.5	-1.3
BELA	Belgrano 2	67.78	172	P		P		23 38 17.2	+1.0
BBKI	Banjar Baru	68.88	280	P		P		23 38 23.9	-0.1
	comp=Z,26nm,0.7s								
MAW	Mawson	70.40	201	P		P		23 38 33.8	+1.3
	comp=Z,2.2nm,0.6s,baz=136,slow=9.8,SNR=13								
	comp=Z,2.2nm,0.6s								
MAW	Mawson	70.40	201	P		P		23 38 33.1	+0.6
	baz=70,SNR=18								
MAW	Mawson	70.40	201	P		P		23 38 33.9	+1.4
MAW	Mawson	70.40	201	P		P		23 38 33.9	+1.4
MAW				pmax		pmax			
	comp=Z,12nm,1.8s								
PMSA	Palmer Station	70.44	155	LR		LR		00 04 45.8	
	comp=Z,678nm,20.3s,baz=248,slow=32								
LEM	Lembang	73.16	273	LR		LR		00 11 36.2	
	comp=Z,1μm,20.7s,baz=140,slow=36								
STKI	Sintang	73.62	281	P		P		23 38 53.2	+0.5
GO09	Cerro Castillo	74.25	141	P		P		23 38 57.3	+1.5
SBUM	Sibu	74.34	283	P		P		23 38 55.7	-1.2
SBUM					IAmb	IAmb		23 39 06.4	
	comp=Z,36nm,1.7s								
TGY	Tagaytay City	74.43	298	LR		LR		00 09 57.9	
	comp=Z,466nm,20.6s,baz=180,slow=34								
TROLL	Troll, Antarti	75.84	180	P		P		23 39 06.0	+1.1
TROLL	Troll, Antarti	75.84	180	PcP		PcP		23 39 19.1	+1.7
SNAA	Sanae	76.13	178	P		P		23 39 06.8	+0.4
SNAA	Sanae	76.13	178	PcP		PcP		23 39 17.4	-1.1
SNAA	Sanae	76.13	178	P		P		23 39 06.6	+0.2
SNAA					IAmb	IAmb		23 39 36.3	
	comp=Z,28nm,0.9s								
SNAA	Sanae	76.13	178⇑	*e*P		P		23 39 08.3	+1.9
SNAA				pmax		pmax			
	comp=Z,16nm,1.2s								
VNA3	Neumayer Olymp	76.28	176	P		P		23 39 08.0	+0.7
VNA3	Neumayer Olymp	76.28	176	PcP		PcP		23 39 19.3	+0.2
VNA2	Neumayer--Watz	76.72	177	P		P		23 39 09.8	+0.2
	baz=178,slow=5.2								
VNA2	Neumayer--Watz	76.72	177	PcP		PcP		23 39 20.8	-0.2
NVL	N'lazarevskaya	76.85	183	*e*P		P		23 39 19.8	+9.4
NVL				*e*S		S		23 48 52.7	-3.8
NVL				pmax		pmax			
	comp=Z,26nm,1.0s								
VNA1	Neumayer--Stat	76.95	177	P		P		23 39 13.0	+2.1
VNA1	Neumayer--Stat	76.95	177	PcP		PcP		23 39 22.9	+1.0
LL02	Futaleuf	78.96	134	P		P		23 39 23.8	+1.2
LL02				IAmb		IAmb		23 39 29.0	
	comp=Z,16nm,1.0s								
H03S2	Juan Fernandez	79.38	123	T		T		01 08 15.9	
	baz=236,SNR=6.9								
H03S1	Juan Fernandez	79.39	123	T		T		01 08 15.2	
	baz=236								
H03S3	Juan Fernandez	79.40	123	T		T		01 08 14.2	
	baz=236,SNR=8.8								
H03N3	Juan Fernandez	79.58	123	T		T		01 08 27.5	
	baz=240,slow=72,SNR=13								
H03N2	Juan Fernandez	79.59	123	T		T		01 08 26.1	
	baz=240,slow=72,SNR=8.6								
H03N1	Juan Fernandez	79.60	123	T		T		01 08 23.3	
	baz=240,slow=72,SNR=14								
MASI	Maura Aman, Be	79.64	273	P		P		23 39 27.3	+0.5
MJAR	Matsushiro Arr	79.89	326	P		P		23 39 27.1	-0.5
	comp=Z,1.6nm,0.8s,baz=130,slow=6.5,SNR=2.9								
MJAR				LR		LR		00 09 36.8	
	comp=Z,471nm,20.6s,baz=132,slow=32								
	comp=Z,1.6nm,0.8s								
MAJO	Matsushiro	79.89	326	P		P		23 39 27.8	+0.2
MAJO	Matsushiro	79.89	326	P		P		23 39 27.8	+0.2
MAJO				pmax		pmax			
	comp=Z,9.0nm,1.0s								
MJB9	Matsu-Tunnel	79.89	326	P		P		23 39 27.2	-0.3
JSD	Sado	81.07	326	P		P		23 39 32.9	-0.9
JSD				IAmb		IAmb		23 39 46.1	
	comp=Z,29nm,1.6s								
PLCA	Paso Flores	81.16	133	P		P		23 39 35.7	+1.1
	comp=Z,3.8nm,1.0s,baz=239,slow=8.4,SNR=5.3								
	comp=Z,3.8nm,1.0s								
PLCA	Paso Flores	81.16	133	P		P		23 39 36.1	+1.4
PLCA				IAmb		IAmb		23 39 48.9	
	comp=Z,30nm,1.5s								
PLCA	Paso Flores	81.16	133	P		P		23 39 36.1	+1.4
PLCA				pmax		pmax			
	comp=Z,30nm,1.5s								
ERM	Erimo	82.23	332	P		P		23 39 40.2	+0.4
ERM	Erimo	82.23	332	P		P		23 39 40.2	+0.4
ERM				pmax		pmax			
	comp=Z,71nm,1.7s								
BO02	Sierra Bellavi	84.46	128	P		P		23 39 52.9	+0.9
BO02				IAmb		IAmb		23 40 33.5	
	comp=Z,11nm,0.8s								
MT01	Popeta	84.68	127	P		P		23 39 53.5	+0.5
MT01				IAmb		IAmb		23 39 58.6	
	comp=Z,25nm,1.1s								
SHEM	Shemya Is, Ala	85.08	355	LR		LR		00 14 48.9	
	comp=Z,863nm,18.7s,baz=152,slow=34								
LMEL	Las Melosas	85.40	127	P		P		23 39 56.1	-0.6
LMEL				IAmb		IAmb		23 40 07.6	
	comp=Z,14nm,1.2s								
KULM	Kulim	85.50	279	P		P		23 39 55.4	-1.9
KULM				IAmb		IAmb		23 40 28.4	
	comp=Z,24nm,1.3s								
LPIG	La Paz	85.64	58	LR		LR		00 13 18.0	
	comp=Z,2μm,18.0s,baz=236,slow=32								
KSRS	Korea Array	85.87	320	P		P		23 39 59.1	+0.6
	comp=Z,1.7nm,0.7s,baz=134,slow=5.6,SNR=7.9								
KSRS				LR		LR		00 15 37.7	
	comp=Z,498nm,19.9s,baz=300,slow=34								
	comp=Z,1.7nm,0.7s								
KSAR	Wonju Array Be	85.88	320	P		P		23 39 57.5	-1.0
KSAR	Wonju Array Be	85.88	320	P		P		23 39 57.6	-1.0
GSI	Gunungsitoli	85.94	274	P		P		23 39 59.6	+0.1
CO02	Combarbal	86.40	125	P		P		23 40 02.5	+0.8
CO02				IAmb		IAmb		23 40 30.0	
	comp=Z,26nm,1.2s								
YSS	Yuzh-Sakhalins	86.56	334	P		P		23 40 02.7	+1.1
YSS				IAmb		IAmb		23 40 09.7	
	comp=Z,24nm,0.8s								
YSS	Yuzh-Sakhalins	86.56	334	*e*P		P		23 40 03.3	+1.7
YSS				*e*S		S		23 50 38.6	+1.7
YSS				pmax		pmax			
	comp=Z,30nm,0.8s								
YSS				smax		smax			
	comp=N,6μm,0.6s								
YSS				MLR		MLR			
	comp=Z,800nm,14.0s								
EDW2	Edwards Air Fo	87.52	45	P		P		23 40 12.8	+6.0
	baz=227								
NJ2	Nanjing	87.53	311	*e*P		P		23 40 05.5	-1.3
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
SWSC	Sam W. Stewart	87.58	48	P		P		23 40 15.2	+8.2
	baz=228								
TPFO	Pinon Flats	87.61	47	P		P		23 40 13.6	+6.3
	baz=228								
PFO	Pinyon Flats O	87.61	47	LR		LR		00 13 39.7	
	comp=Z,1μm,18.4s,baz=226,slow=32								
PFO	Pinyon Flats O	87.61	47⇑	*e*P		P		23 40 04.7	-2.6
PFO				pmax		pmax			
	comp=Z,4.0nm,1.1s								
PMD	Palm Desert	87.69	47	P		P		23 40 08.8	+1.2
PMD				IAmb		IAmb		23 40 18.9	
	comp=Z,34nm,1.7s								
PEA0B	Petropavlovsk-	87.77	346	P		P		23 40 08.9	+1.5
PEA0B	Petropavlovsk-	87.77	346	P		P		23 40 08.9	+1.5
PEA0B				pmax		pmax			
	comp=Z,33nm,1.1s								
PETK	Petropavlovsk-	87.77	346	P		P		23 40 07.7	+0.3
	comp=Z,6.6nm,0.7s,baz=132,slow=8.6,SNR=4.2								
PETK				LR		LR		00 16 54.5	
	comp=Z,631nm,19.0s,baz=152,slow=34								
	comp=Z,6.6nm,0.7s								
PETK	Petropavlovsk-	87.77	346	P		P		23 40 08.5	+1.1
PETK	Petropavlovsk-	87.77	346	P		P		23 40 08.5	+1.1
ISA	Isabella, Lake	87.77	45	P		P		23 40 09.1	+1.1
ISA				IAmb		IAmb		23 40 20.0	
	comp=Z,29nm,1.4s								
ISA	Isabella, Lake	87.77	45	P		P		23 40 09.1	+1.1
ISA				pmax		pmax			
	comp=Z,29nm,1.5s								
BELC	Belle Mtn. Jos	88.16	47	P		P		23 40 15.8	+5.9
	baz=228								
BC3	Big Chuckawall	88.27	48	P		P		23 40 16.9	+6.5
	baz=229								
CMB	Columbia Colle	88.30	42	P		P		23 40 11.1	+0.7
CMB				IAmb		IAmb		23 40 22.7	
	comp=Z,17nm,1.4s								
CMB	Columbia Colle	88.30	42	P		P		23 40 11.1	+0.7
CMB				pmax		pmax			
	comp=Z,17nm,1.4s								
HEC	Hector,Ludlow	88.50	46	P		P		23 40 17.4	+6.0
	baz=228								
GSC	Goldstone, Bar	88.53	46	P		P		23 40 13.3	+1.7
GSC	Goldstone, Bar	88.53	46	P		P		23 40 13.3	+1.7
GSC				pmax		pmax			
	comp=Z,40nm,1.5s								
MPMC	Manual Prospec	88.62	45	P		P		23 40 17.2	+5.0
	baz=228								
113A	Mohawk Valley,	88.76	49	P		P		23 40 13.2	+0.5
113A				IAmb		IAmb		23 40 25.8	
	comp=Z,14nm,1.2s								
MDPB	Devils Postpil	88.76	43	P		P		23 40 12.1	-0.8
MDPB				IAmb		IAmb		23 40 43.6	
	comp=Z,12nm,0.9s								
IRM	Iron Mountain	88.79	48	P		P		23 40 18.0	+5.3
	baz=229								
USRK	Ussuriysk Ar.	88.83	327	P		P		23 40 10.8	-1.8
USRK	Ussuriysk Ar.	88.83	327	P		P		23 40 10.8	-1.8
USA0B	Ussuriysk Arra	88.83	327	P		P		23 40 10.6	-2.0
USA0B				IAmb		IAmb		23 40 19.8	
	comp=Z,12nm,0.8s								
USA0B	Ussuriysk Arra	88.83	327	P		P		23 40 10.6	-2.0
USA0B				pmax		pmax			
	comp=Z,12nm,0.8s								
214A	Organ Pipe Nat	88.86	51	P		P		23 40 13.3	+0.2
214A				IAmb		IAmb		23 40 26.4	
	comp=Z,35nm,1.9s								
GWY	Greenwater Val	89.20	45	P		P		23 40 15.0	+0.2
GWY				IAmb		IAmb		23 40 26.6	
	comp=Z,30nm,1.6s								
GRAC	Grapevine Rang	89.33	44	P		P		23 40 21.1	+5.8
	baz=228								
YBH	Yreka Blue Hor	89.66	38	LR		LR		00 15 57.7	
	comp=Z,970nm,18.7s,baz=210,slow=33								
NVAR	Mina Array Bea	89.76	43	P		P		23 40 16.8	-0.7
	comp=Z,0.3nm,0.6s,baz=219,slow=7.0,SNR=2.4								
	comp=Z,0.3nm,0.6s								
NVAR	Mina Array Bea	89.76	43	P		P		23 40 18.4	+0.9
NV11	Mina Array Sit	89.84	43	P		P		23 40 18.6	+0.8
NV11				IAmb		IAmb		23 40 30.1	
	comp=Z,30nm,1.9s								
TPNV	Topopah Spring	89.96	45	P		P		23 40 19.4	+1.0
TPNV	Topopah Spring	89.96	45	P		P		23 40 19.4	+1.0
TPNV				pmax		pmax			
	comp=Z,12nm,1.3s								
Y14A	Wickenburg	90.00	49	P		P		23 40 19.5	+1.0
TPH	Tonopah	90.14	44	P		P		23 40 20.0	+0.8
TPH	Tonopah	90.14	44	P		P		23 40 20.0	+0.8
TPH				pmax		pmax			
	comp=Z,128nm,1.7s								
KVN	Kaiserville	90.30	42	P		P		23 40 20.8	+0.9
KVN				IAmb		IAmb		23 40 30.5	
	comp=Z,13nm,1.4s								
KVN	Kaiserville	90.30	42	P		P		23 40 20.8	+0.9
KVN				pmax		pmax			
	comp=Z,13nm,1.4s								
SHPR	Sheep Range	90.32	46	P		P		23 40 21.0	+0.9
TUC	Tucson	90.41	51	P		P		23 40 22.3	+1.8
TUC				IAmb		IAmb		23 40 33.1	
	comp=Z,34nm,1.7s								
TUC	Tucson	90.41	51	P		P		23 40 22.3	+1.8
TUC				pmax		pmax			
	comp=Z,34nm,1.7s								
TUC	Tucson	90.41	51	P		P		23 40 25.2	+4.7
	baz=231								
MOD	Modoc Plateau	91.05	39	P		P		23 40 23.0	-0.3
TIA	Tai'an	91.32	313	*e*P		P		23 40 26.8	+2.3
TIA				pmax		pmax			
	comp=Z,7.0nm,1.2s								
CN2	Changchun	91.73	323	*e*P		P		23 40 27.0	+0.8
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
CN2				LR		LR			
	comp=Z,300nm,17.0s								
CN2				LR		LR			
	comp=Z,400nm,17.0s								
CN2				LR		LR			
	comp=Z,500nm,17.0s								
PINE	Pine Mountain	92.03	37	P		P		23 40 28.4	+0.5
PINE				IAmb		IAmb		23 40 59.8	
	comp=Z,16nm,1.3s								
WUAZ	Wupatki	92.04	49	P		P		23 40 34.1	+6.0
	baz=231								
KNB	Kanab	92.08	47	P		P		23 40 29.1	+0.8
KNB				IAmb		IAmb		23 40 39.8	
	comp=Z,9.2nm,1.1s								
KNB	Kanab	92.08	47	P		P		23 40 29.1	+0.8
KNB				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KDAK	Kodiak Island	92.39	13⇑	*e*P		P		23 40 27.1	-1.8
KDAK				pmax		pmax			
	comp=Z,19nm,1.3s								
ENH	Enshi	92.71	304	P		P		23 40 31.6	+0.5
ENH				IAmb		IAmb		23 40 40.8	
	comp=Z,13nm,1.2s								
KLR	Kul'dur	92.77	330⇓	*e*P		P		23 40 31.7	+0.9
KLR				pmax		pmax			
	comp=Z,11nm,1.7s								
NNA	Nana	92.90	106	LR		LR		00 16 06.0	
	comp=Z,1μm,18.1s,baz=228,slow=32								
LVC	Limon Verde	92.99	119	LR		LR		00 15 55.2	
	comp=Z,752nm,18.5s,baz=258,slow=31								
LYN	LuoYang	93.25	309	⇑P		P		23 40 34.8	+1.3
LYN				SKS		SKSac		23 51 07.3	+0.7
LYN				S		ScS		23 51 44.9	+3.5
LYN				pmax		pmax			
	comp=Z,10.0nm,0.5s								
LYN				LR		LR			
	comp=Z,310nm,16.1s								
LYN				LR		LR			
	comp=Z,170nm,12.3s								
LYN				LR		LR			
	comp=Z,310nm,16.1s								
CMIG	Matias Romero	93.42	72	LR		LR		00 15 39.9	
	comp=Z,869nm,18.5s,baz=212,slow=31								
TXAR	Lajitas Array	93.52	57	P		P		23 40 33.0	-2.0
	comp=Z,0.2nm,0.7s,baz=202,slow=6.8,SNR=2.4								
TXAR				PKKP		PKKPbc		23 57 42.4	+1.6
	comp=Z,0.5nm,1.1s,baz=117,slow=3.1,SNR=3.4								
TXAR				LR		LR		00 17 57.1	
	comp=Z,1μm,18.0s,baz=233,slow=32								
	comp=Z,0.2nm,0.7s								
O18K	Koktuh Hills	93.87	11	P		P		23 40 37.5	+1.8
O18K				IAmb		IAmb		23 40 49.3	
	comp=Z,23nm,1.5s								
CMAR	Chiang Mai Arr	94.03	289	PP		PP		23 44 25.8	+1.8
	comp=Z,0.7nm,0.3s,baz=124,slow=5.5,SNR=4.9								
CMAR				LR		LR		00 25 05.4	
	comp=Z,276nm,19.6s,baz=330,slow=37								
ATAH	Atahualpa	94.29	101	LR		LR		00 17 25.2	
	comp=Z,628nm,18.1s,baz=263,slow=32								
PLID	Pearl Lake	95.50	39	P		P		23 40 44.6	+0.7
PLID				IAmb		IAmb		23 40 55.6	
	comp=Z,23nm,1.8s								
PZH	PanZhiHua	96.20	297	P		P		23 40 50.4	+3.0
PZH				pmax		pmax			
	comp=Z,20nm,0.9s								
PZH				pmax		pmax			
	comp=Z,110nm,5.0s								
NEW	Newport	97.04	36	LR		LR		00 18 01.9	
	comp=Z,2μm,19.9s,baz=212,slow=31								
CD2	Chengdu	97.13	302	*e*P		Pdif		23 40 53.0	+1.5
LPAZ	La Paz	97.35	114	LR		LR		00 20 21.8	
	comp=Z,390nm,18.0s,baz=330,slow=33								
HHC	Hu-ho-hao-te	97.61	314	*e*P		Pdif		23 40 55.1	+1.7
HHC				pmax		pmax			
	comp=Z,15nm,0.7s								
HHC				pmax		pmax			
	comp=Z,120nm,4.9s								
HHC				LR		LR			
	comp=Z,490nm,16.5s								
HHC				LR		LR			
	comp=Z,570nm,16.5s								
HHC				LR		LR			
	comp=Z,2μm,16.5s								
PDAR	Pinedale Array	97.63	44	P		Pdif		23 40 54.6	+1.0
	comp=Z,0.1nm,0.3s,baz=203,slow=6.6,SNR=2.1								
	comp=Z,0.1nm,0.3s								
TRF	Thorofare Moun	98.08	12	P		Pdif		23 40 56.3	+1.3
DLBC	Dease Lake	99.00	23	LR		LR		00 25 13.0	
	comp=Z,321nm,18.5s,baz=196,slow=35								
ILAR	Eielson Array	99.91	13	PP		PP		23 45 05.2	-3.2
	comp=Z,2.1nm,1.2s,baz=216,slow=9.0,SNR=4.3								
ILAR				LR		LR		00 26 01.3	
	comp=Z,419nm,18.1s,baz=193,slow=35								
PCHI	Peechi	108.70	271	*e*P		PKiKP		23 45 48.0	-0.5
PCHI				*ex*		x		00 01 45.4	
PCHI				*ex*		x		00 11 05.6	
WMQ	Urumqi	114.44	308	*e*PKP		PKiKP		23 46 00.1	+1.4
MK31	Makanchi Array	119.03	309	PKPdf		PKPdf		23 46 06.8	-0.6
MK31	Makanchi Array	119.03	309	PKIKP		PKPdf		23 46 06.8	-0.6
MKAR	Makanchi Array	119.03	309	PKP		PKPdf		23 46 06.5	-0.9
	comp=Z,2.1nm,0.7s,baz=95,slow=1.0,SNR=14								
MKAR				PKKP		PKKPdf		23 56 56.8	+3.9
	comp=Z,0.6nm,0.9s,baz=286,slow=4.9,SNR=4.2								
MKAR	Makanchi Array	119.03	309	PKPdf		PKPdf		23 46 06.8	-0.5
MKAR	Makanchi Array	119.03	309*c*	*i*PKIKP		PKiKP		23 46 09.0	+1.6
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MAKZ	Makanchi	119.24	309	PKPdf		PKiKP		23 46 07.9	+0.1
MAKZ	Makanchi	119.24	309	PKIKP		PKiKP		23 46 07.9	+0.1
ZALV	Zalesovo Beam	119.51	318	PKP		PKPdf		23 46 07.8	-0.1
	comp=Z,1.7nm,0.6s,baz=122,slow=5.2,SNR=6.0								
ZALV	Zalesovo Beam	119.51	318			PKPdf		23 46 07.2	-0.8
NRIK	Noril'sk	121.47	335	PKP		PKiKP		23 46 11.9	+0.5
	comp=Z,3.0nm,0.7s,baz=112,slow=2.7,SNR=5.0								
NRIK	Noril'sk	121.47	335	PKIKP		PKiKP		23 46 12.0	+0.5
KURK	Kurchatov	122.41	313	PKPdf		PKPdf		23 46 13.4	-0.2
KURK	Kurchatov	122.41	313*d*	*i*PKIKP		PKPdf		23 46 13.6	0.0
KURK				pmax		pmax			
	comp=Z,15nm,1.7s								
KBL	Kabul	124.96	292	PKPdf		PKPdf		23 46 19.4	0.0
KBL	Kabul	124.96	292	PKIKP		PKPdf		23 46 19.4	0.0
BTK	Batken	125.18	299			PKPdf		23 46 19.4	0.0
BTK	Batken	125.18	299	PKIKP		PKPdf		23 46 19.5	0.0
CHGR	Chuyangaron	126.06	297			PKPdf		23 46 21.3	+0.1
CHGR	Chuyangaron	126.06	297	PKIKP		PKPdf		23 46 21.3	+0.1
KK31	Karatay Array	126.14	302	PKPdf		PKPdf		23 46 21.1	0.0
KK31	Karatay Array	126.14	302	PKIKP		PKPdf		23 46 21.1	0.0
KKAR	Karatay Array	126.14	302	PKPdf		PKPdf		23 46 21.2	+0.1
KKAR	Karatay Array	126.14	302			PKiKP		23 46 21.4	-0.1
KKAR	Karatay Array	126.14	302	PKIKP		PKiKP		23 46 21.4	-0.1
BVAR	Borovoye Array	127.81	315	PKP		PKiKP		23 46 24.4	-0.1
	comp=Z,1.5nm,0.4s,baz=90,slow=1.4,SNR=2.4								
BRVK	Borovoye	127.88	315	PKPdf		PKiKP		23 46 24.4	-0.2
BRVK	Borovoye	127.88	315*d*	*i*PKIKP		PKiKP		23 46 24.6	0.0
BRVK				pmax		pmax			
	comp=Z,12nm,1.7s								
ABKAR	Akbulak array

comp=Z,123nm,1.0s
VSR Storozhevoye 146.99 316 *e*PKP2 **PKPbc 23 47 01.2 +0.1**
VSR pmax pmax
comp=Z,50nm,0.8s
FIA1 FINESS Array S 147.03 339 PKPdf **PKPbc 23 47 00.5 -0.4**
FINES FINESS Array B 147.03 339 PKPbc **PKPbc 23 47 00.5 -0.4**
comp=Z,37nm,0.6s,baz=50,slow=3.9,SNR=117
NSS Namsos 147.28 352 *e*pPKPdf **PKPbc 23 47 00.8 -0.7**
MARD Mardin 147.93 290 PKPbc 23 47 05.0 +0.7
KOPT Kop Dagi 148.19 295 PKPbc 23 47 05.7 +0.6
SOC Sochi 148.48 302 *i* PKP2 **PKPbc 23 47 05.2 -0.2**
SOC *e* 23 50 32.3
SOC *e*PPP PPP 23 53 55.9
SOC *e*SS SS 00 09 41.9 -1.1
MEF Metsahovi 148.50 339 *e*P **PKiKP 23 47 06.3 -0.1**
RAF Rauma 148.61 342 *e*P **PKiKP 23 47 06.0 -0.6**
VSU Vasula 149.05 335 *e*P **PKiKP 23 47 07.3 -0.3**
MTSE Matsula 149.87 337 *e*P **PKiKP 23 47 10.9 +1.6**
ANN Anapa 149.89 305 *e*PKIKP **PKPdf 23 47 02.8 -1.2**
ANN pmax pmax
comp=Z,83nm,1.0s
DOMB Dombas 150.02 353 *e*pPKPbc **PKiKP 23 47 10.4 +0.8**
AKN Aaknes 150.06 355 *e*pPKPbc **PKiKP 23 47 10.4 +0.8**
NC303 NORSAR Array S 150.55 351 PKPbc 23 47 09.8 -0.2
NB2 NORSAR Subarra150.75 351 PKP **PKPbc 23 47 10.4 -0.1**
comp=Z,67nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra150.75 351 *e* **PKPbc 23 47 10.4 -0.1**
baz=17,slow=2.6
NOA NORSAR Array B 150.75 351 PKPbc **PKPbc 23 47 10.0 -0.5**
comp=Z,2.0nm,0.6s,baz=49,slow=1.8,SNR=19
NOA NORSAR Array B 150.75 351 PKIKP **PKPbc 23 47 10.0 -0.5**
FOO Floro 150.75 357 *e*pPKPbc **PKiKP 23 47 12.2 +1.2**
HYA Hoyanger 151.12 356 *e*pPKPbc **PKiKP 23 47 13.5 +1.7**
MNK Minsk 151.30 328 *i* PKIKP **PKiKP 23 47 12.6 +0.2**
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,17nm,0.8s
ISAL Salakas 151.34 331 *e*P **PKPab 23 47 17.2 -2.9**
SKAR Skarslia 151.44 353 *e*PKPbc **PKiKP 23 47 12.9 +0.3**
IIGN Ignalina 151.45 331 *e*P **PKiKP 23 47 13.3 +0.6**
NACGM Naroch 151.52 329 ⇓*i* PKP **PKiKP 23 47 13.3 +0.5**
comp=Z,83nm,1.1s,baz=48
BNN Bunyan 151.83 293 PKPbc 23 47 13.5 -0.3
VSVD Vaisvydziai 151.91 333 *e*P **PKiKP 23 47 13.7 +0.1**
SIM Simferopol' 152.15 306 *i* PKIKP **PKPbc 23 47 13.8 -0.4**
SIM pmax pmax
comp=Z,16nm,0.7s
PABE Paberze 152.25 333 *e*P **PKiKP 23 47 16.2 +1.9**
KONO Kongsberg 152.30 352 ⇑PKIKP **PKiKP 23 47 15.8 +1.5**
KONO Kongsberg 152.30 352 *e*pPKPbc **PKiKP 23 47 16.2 +1.9**
ODD1 Odda 152.34 355 *e*pPKPbc **PKiKP 23 47 15.6 +1.2**
AKASG Malin Array Be 152.86 320 PKPbc **PKiKP 23 47 16.0 +0.3**
comp=Z,3.2nm,0.5s,baz=56,slow=2.7,SNR=21
AKBB Malin Array Si 152.86 320 PKiKP 23 47 15.7 -0.1
AKBB Malin Array Si 152.86 320 PKIKP **PKiKP 23 47 15.7 -0.1**
LIC Lamto 153.12 164 ⇑*i*P **PKPab 23 47 27.2 -1.4**
comp=Z,33nm,0.6s
ILGA Ilgaz 153.25 298 PKiKP 23 47 17.6 +0.4
KIC Kosan Boka 153.32 165 ⇑*e*P **PKPab 23 47 26.4 -3.1**
comp=Z,8.5nm,0.5s
BR131 Keskin Array S 153.47 295 PKiKP 23 47 17.4 -0.1
BR131 Keskin Array S 153.47 295 PKIKP **PKiKP 23 47 17.5 -0.1**
BRTR Keskin Array B 153.47 295 PKPbc **PKiKP 23 47 17.6 -0.1**
comp=Z,4.9nm,0.7s,baz=125,slow=3.1,SNR=22
BRTR Keskin Array B 153.47 295 PKPbc 23 47 17.2 -0.3
TIC Toumodi 153.53 164 ⇓*i*P **PKPab 23 47 28.2 -2.2**
comp=Z,4.1nm,0.3s
DBIC Dimbokro 153.59 165 PKPbc **PKPbc 23 47 18.3 0.0**
comp=Z,4.5nm,0.9s,baz=100,slow=3.0,SNR=3.7
DBIC PKPab **PKPab 23 47 29.9 -0.7**
comp=Z,4.3nm,0.5s,baz=212,slow=2.4,SNR=7.8
ANTO Ankara 154.10 295 ⇑P **PKPdf 23 47 10.6 0.0**
ANTO Ankara 154.10 295 PKPbc 23 47 18.0 -0.8
ANTO Ankara 154.10 295 ⇑PKIKP **PKPdf 23 47 10.6 0.0**
PURM Purcari 154.42 312 ⇑P **PKiKP 23 47 20.1 +1.0**
MILM Milestii Mici 154.93 313 ⇑P **PKiKP 23 47 20.2 +0.1**
MILM Milestii Mici 154.93 313 ⇑PKIKP **PKiKP 23 47 20.2 +0.1**
VLDR Vladesti 155.84 311 ⇑P PKPab 23 47 26.7 -13
SCTR Scanteiesti 155.96 311 ⇑P **PKPdf 23 47 18.7 +5.8**
CFR Carcaliu 156.07 310 ⇑P PKPdf 23 47 24.8 +12
CFR Carcaliu 156.07 310 ⇑PKIKP PKPdf 23 47 24.8 +12
TESR Tescani 156.44 314 ⇑P PKPab 23 47 31.0 -11
GKP Gorka Klasztor 156.45 337 *e*PKPab **PKPab 23 47 40.8 -1.0**
BIZ Bicaz 156.56 315 ⇑P **PKPdf 23 47 15.7 +2.1**
VRI Vrincioaia 156.68 312 ⇑P **PKPab 23 47 44.8 +1.6**
VRI Vrincioaia 156.68 312 ⇑PKP2 **PKPab 23 47 44.8 +1.6**
BURAR Bucovina Array 156.73 317 ⇑P PKPdf 23 47 27.4 +13
PLOR Plostina 156.74 312 ⇑P **PKPab 23 47 44.8 +1.3**
PLOR Plostina 156.74 312 ⇑PKP2 **PKPab 23 47 44.8 +1.3**
COVR Voineasa-Covas 157.02 313 ⇑P **PKPdf 23 47 18.7 +4.4**
OZUR 157.16 314 ⇑P **PKPab 23 47 47.4 +2.2**
MLR Muntele Rosu 157.34 312 ⇑P PKPdf 23 47 29.4 +15
DOPR Dopca 157.47 314 ⇑P **PKPab 23 47 42.9 -3.7**
ARCR ARCALIA 157.51 317 ⇑P **PKPdf 23 47 20.1 +5.3**
VOIR 157.93 313 ⇑P **PKPab 23 47 50.3 +1.6**
VOIR 157.93 313 ⇑PKP2 **PKPab 23 47 50.3 +1.6**
CRVS Cervenica-Dubn 157.97 324 *e*PKP2 **PKPab 23 47 49.3 +0.7**
NIE Niedzica 158.19 326 *e*PKPdf **PKPdf 23 47 17.9 +2.2**
ARR Arges 158.22 313 ⇑P **PKPdf 23 47 22.8 +7.0**
LANS Liptovska Anna 158.76 327 *e*PKP2 **PKPab 23 47 54.1 +2.1**
KSP Ksiaz 158.78 334 *e*PKPab **PKPab 23 47 51.9 -0.1**
CHVC Chvalec 159.08 334 *e*P **PKPab 23 47 51.9 -1.4**
MORC Moravsky Berou 159.14 331 *e*P **PKPab 23 47 54.0 +0.4**
DPC Dobruska-Polom 159.17 333 *e*PKP2 **PKPab 23 47 53.4 -0.4**
DPC Dobruska-Polom 159.17 333 *e*P **PKPab 23 47 53.4 -0.4**
KRLC Kraliky 159.21 332 *e*PKP2 **PKPab 23 47 47.6 -6.4**
KRLC Kraliky 159.21 332 *e*P **PKPab 23 47 47.6 -6.4**
CLL Collm 159.47 340 PKPab **PKPab 23 47 53.3 -1.6**
CLL Collm 159.47 340 PKP2 **PKPab 23 47 53.3 -1.6**
VYHS Vyhne 159.52 326 *e*PKP2 **PKPab 23 47 56.0 +0.7**
BRG Berggiesshubel 159.56 338 *e*PKP2 **PKPab 23 47 56.3 +0.9**
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG pmax pmax
comp=Z,16nm,1.5s
BRG pmax pmax
comp=Z,18nm,1.8s
PVCC Panska Ves 159.65 336 *e*PKP2 **PKPab 23 47 56.9 +1.1**
PVCC Panska Ves 159.65 336 *e*P **PKPab 23 47 56.9 +1.1**
JAVC Velka Javorina 159.78 329 *e*P **PKPab 23 47 58.0 +1.5**
HERR Herculane 159.82 314 ⇓P PKPab 23 47 47.7 -9.1
VRAC Vranov 159.89 331 ⇓P **PKPab 23 47 56.9 0.0**
VRAC Vranov 159.89 331 *e*P **PKPab 23 47 57.5 +0.6**
VRAC Vranov 159.89 331 ⇓PKP2 **PKPab 23 47 56.9 0.0**
BZS Buzias 159.90 317 ⇑P PKPdf 23 47 25.5 +7.8
BZS Buzias 159.90 317 ⇑PKIKP PKPdf 23 47 25.5 +7.8
GOPC GO Pecny, Ondr 160.09 335 *e*PKP2 **PKPab 23 48 01.1 +3.4**
GOPC GO Pecny, Ondr 160.09 335 *e*P **PKPab 23 48 01.1 +3.4**
PRU Pruhonice 160.12 336 *e*PKP2 **PKPab 23 47 58.4 +0.6**
PRU Pruhonice 160.12 336 *e*P **PKPab 23 47 58.4 +0.6**
SMOL Smolenice 160.15 329 *e*PKP2 **PKPab 23 47 58.8 +0.8**
KRUC Moravsky 160.17 331 *e*P **PKPab 23 47 58.5 +0.4**
BLKB Belogradchik 160.28 310 ⇑P **PKPdf 23 47 17.0 -1.2**
MODS Modra-Piesok 160.32 328 *e*PKP2 **PKPab 23 47 59.4 +0.6**
TOA0 Torodi Ar. Sit 160.80 179 PKPab **PKPab 23 48 02.6 +1.0**
TORD Torodi Ar. Bea 160.80 179 PKP **PKPdf 23 47 19.9 +0.3**
comp=Z,1.5nm,1.1s,baz=209,slow=1.4,SNR=4.2
TORD PKPab **PKPab 23 48 02.4 +0.9**
comp=Z,6.8nm,0.9s,baz=177,slow=3.1,SNR=10
CKRC Cesky Krumlov 161.18 334 *e*P **PKPab 23 48 02.3 -0.2**
KHC Kasperske Hory 161.18 336 *e*PKP2 **PKPab 23 48 02.5 0.0**
KHC Kasperske Hory 161.18 336 *e*P **PKPab 23 48 02.5 0.0**
RONA Rosalia, Austr 161.26 329 *e*P **PKPab 23 48 00.2 -2.8**
comp=Z,10nm,1.4s
CONA Conrad Observa 161.27 330 *e*P **PKPab 23 48 00.5 -2.6**
comp=Z,5.0nm,0.7s
GERES GERESS Array B 161.38 335 PKPab **PKPab 23 48 03.4 -0.1**
comp=Z,1.4nm,0.7s,baz=49,slow=4.1,SNR=9.1
MOA Molln 161.99 332 P **PKPab 23 48 04.6 -1.5**
comp=Z,4.6nm,1.1s
BIOA Bad Ischl, Aus 162.36 333 *e*P **PKPab 23 48 06.5 -1.2**
comp=Z,4.3nm,0.9s
RETA Reutte 163.54 339 P **PKPab 23 48 13.6 +0.7**
comp=Z,12nm,1.1s
MOTA Moosalm 163.55 338 P **PKPab 23 48 13.1 -0.1**
comp=Z,11nm,1.1s
ABTA Abfaltersbach 163.57 334 *e*P **PKPab 23 48 12.3 -0.9**
comp=Z,5.7nm,0.9s
STAL STALIGIAL 163.90 332 PKPab 23 48 13.9 -0.7
FETA Feichten 163.96 338 *e*P **PKPab 23 48 15.1 +0.2**
comp=Z,7.3nm,1.2s
DAVA Damuels 163.98 340 P **PKPab 23 48 16.4 +1.4**
comp=Z,14nm,1.1s

*IDC **24** 23:28:36.3±1.5, 10.°08N×93.°20E, h0km, mb3.7/9, mbtmp3.7/10, ML4.6/1, Error ellipse: s-maj=40.8km s-min=29.7km az=43.0*
ISC 24 23:28:41.9±1.2, 10.°0N±0.°2×93.°1E±0.°1, h43km, n14, σ1$41/11, mb3.7/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.10**	**33**	Pn	**Pn**	**23 31 03.1**	**-1.4**
	1.6nm,0.3s,baz=224,slow=15,SNR=5.1						
	1.1nm,0.3s						
PALK	**Pallekele**	**12.57**	**258**	Sn	**Sn**	**23 33 54.7**	**-2.3**
	1.2nm,0.3s,baz=95,slow=18,SNR=13						
H08S3	**Diego Garcia H**	**27.01**	**230**	T	T	00 02 18.6	
	baz=51,slow=74,SNR=19						
H08S2	**Diego Garcia H**	**27.02**	**230**	T	T	00 02 20.6	
	baz=51,slow=74,SNR=6.9						
H08S1	**Diego Carcia H**	**27.03**	**230**	T	T	00 02 21.7	
	baz=51						
MKAR	**Makanchi Array**	**37.77**	**348**	P	**P**	**23 35 53.7**	**-0.2**
	0.2nm,0.3s,baz=163,slow=10,SNR=3.3						
	0.2nm,0.3s						
SONM	**Songino Array**	**39.31**	**14**	P	**P**	**23 36 06.2**	**-0.8**
	0.2nm,0.4s,baz=207,slow=9.2,SNR=2.8						
	0.2nm,0.4s						
GEYT	**Alibeck**	**41.92**	**317**	P	**P**	**23 36 30.9**	**+2.3**
	1.2nm,0.4s,baz=109,slow=7.8,SNR=3.2						
	1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**44.30**	**353**	P	**P**	**23 36 46.6**	**-0.8**
	0.5nm,0.3s,baz=158,slow=12,SNR=2.1						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**50.35**	**126**	P	**P**	**23 37 35.1**	**+0.1**
	0.9nm,0.4s,baz=310,slow=7.8,SNR=1.5						
	0.9nm,0.4s						
BRTR	**Keskin Array B**	**60.26**	**310**	P	**P**	**23 38 46.4**	**0.0**
	0.2nm,0.7s,baz=99,slow=7.6,SNR=1.5						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**70.33**	**332**	P	**P**	**23 39 51.0**	**+0.1**
	0.4nm,0.5s,baz=98,slow=5.8,SNR=6.0						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**72.90**	**340**	P	**P**	**23 40 06.8**	**+0.5**
	1.6nm,1.1s,baz=104,slow=7.5,SNR=1.4						
	1.6nm,1.1s						
GERES	**GERESS Array B**	**75.55**	**318**	P	**P**	**23 40 23.5**	**+1.3**
	0.4nm,0.8s,baz=90,slow=4.0,SNR=3.9						
	0.4nm,0.8s						

IDC 24 23:32:15.6±3.2, 32.°54S×178.°44W, h0km, mb3.6/2, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=78.7km s-min=38.0km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.77**	**211**	Pn	Pn	23 33 56.8	+0.7
	1.2nm,0.3s,baz=333,slow=3.0,SNR=1.2						
URZ				Sn	Sn	23 35 13.3	-0.5
	2.4nm,0.3s,baz=333,slow=2.3,SNR=2.1						
	9.5nm,0.5s						
ASAR	**Alice Springs**	**42.67**	**269**	P	P	23 40 13.6	-0.7
	0.6nm,0.7s,baz=104,slow=7.8,SNR=1.9						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**43.85**	**275**	P	P	23 40 24.2	+0.5
	0.6nm,0.5s,baz=114,slow=7.4,SNR=2.2						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**147.01**	**339**	PKPbc	PKPbc	23 51 58.5	-0.9
	1.8nm,0.9s,baz=45,slow=3.5,SNR=4.5						

IDC 24 23:35:11.8±2.9, 32.°56S×178.°34W, h0km, mb3.8/2, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=71.2km s-min=36.2km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.79**	**212**	Pn	Pn	23 36 52.7	0.0
	1.4nm,0.3s,baz=87,slow=18,SNR=1.0						
URZ				Sn	Sn	23 38 10.4	-0.3
	2.3nm,0.3s,baz=336,slow=20,SNR=1.4						
	6.0nm,0.3s						
ASAR	**Alice Springs**	**42.75**	**269**	P	P	23 43 10.8	-0.4
	0.5nm,0.5s,baz=108,slow=7.5,SNR=3.0						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.93**	**275**	P	P	23 43 20.9	+0.2
	0.8nm,0.3s,baz=114,slow=7.8,SNR=8.2						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**147.06**	**339**	PKPbc	PKPbc	23 54 55.0	-0.9
	0.8nm,0.4s,baz=50,slow=4.1,SNR=13						

IDC 24 23:41:53.1±3.3, 32.°43S×178.°17W, h0km, mb3.4/2, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=80.2km s-min=48.8km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.98**	**212**	Pn	Pn	23 43 36.3	-0.2
	0.5nm,0.3s,baz=343,slow=1.4,SNR=1.6						
	9.4nm,0.8s						
ASAR	**Alice Springs**	**42.89**	**269**	P	P	23 49 53.4	-0.2
	0.2nm,0.6s,baz=108,slow=7.8,SNR=2.0						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**44.06**	**274**	P	P	23 50 03.0	-0.1
	0.3nm,0.3s,baz=114,slow=7.5,SNR=4.5						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**146.99**	**339**	PKPbc	PKPbc	00 01 36.1	-0.8
	0.9nm,0.8s,baz=36,slow=5.2,SNR=4.4						

*IDC **24** 23:42:47.3±0.5, 32.°30S×178.°08W, h0km, mb4.7/14, mbtmp4.7/17, ML5.1/2, Error ellipse: s-maj=16.9km s-min=14.4km az=68.0*
*NOU **24** 23:42:47.7, 32.°68S×177.°17W, h35km, mb5.1/23, South of Kermadec Islands*
*WEL **24** 23:42:48.5±1.5, 32.°S±14.°×17.°8W±2.°0, h72km±227km, M5.1/15, mB5.2/7, ML5.8/15, MLv5.5/15, Mw(mB)4.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=114.8*
*MOS **24** 23:42:49.2±1.1, 32.°29S×178.°16W, h17km, mb5.2/11, Error ellipse: s-maj=13.1km s-min=9.8km az=92.6*
*NEIC **24** 23:42:50.0±1.5, 32.°37S±0.°07×178.°3W±0.°1, h10km±1km, mb5.0/43, Error ellipse: s-maj=17.7km s-min=11.2km az=101.0*
ISC 24 23:42:50.5±0.3, 32.°39S±0.°04×178.°12W±0.°07, h20km, n316, σ1$58/319, mb5.1/50, 7C-11D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.12**	**3**	P	**Pn**	**23 43 35.1**	**-3.4**
GLKZ				S	**Sn**	**23 44 12.7**	**-2.5**
RAO	**Raoul Island**	**3.13**	**3**	Pn	**Pn**	**23 43 36.1**	**-2.6**
	190nm,0.3s,baz=115,slow=9.9,SNR=14						
RAO				Sn	**Sn**	**23 44 13.8**	**-1.7**
	412nm,0.3s,baz=90,slow=23,SNR=7.3						
	510nm,0.2s						
RAO	**Raoul Island**	**3.13**	**3**		**Pn**	**23 43 36.3**	**-2.4**
RAO	**Raoul Island**	**3.13**	**3**	P	**Pn**	**23 43 36.1**	**-2.6**
RAO						23 44 13.8	
RAO	**Raoul Island**	**3.13**	**3**	P	**Pn**	**23 43 37.1**	**-1.6**
RIZ	**Raoul Island**	**3.14**	**3**	P	**Pn**	**23 43 36.6**	**-2.2**
RIZ				S	**Sn**	**23 44 14.7**	**-1.0**
MXZ	**Matakaoa Point**	**5.94**	**209**	P	**Pn**	**23 44 15.0**	**-2.3**
MXZ				S	**Sn**	**23 45 22.1**	**-2.7**
WMGZ	**Waiomatatini S**	**6.12**	**207**	P	**Pn**	**23 44 20.1**	**+0.4**
WMGZ				S	**Sn**	**23 45 27.8**	**-1.4**
PKGZ	**Pakihiroa**	**6.31**	**209**	P	Pn	23 44 19.0	-3.4
PKGZ				S	**Sn**	**23 45 31.3**	**-2.7**
HAZ	**Te Kaha**	**6.32**	**211**	P	**Pn**	**23 44 20.5**	**-2.1**
HAZ				S	**Sn**	**23 45 34.1**	**-0.1**
PUZ	**Puketiti**	**6.40**	**207**	P	Pn	23 44 19.9	-3.8
PUZ				S	**Sn**	**23 45 33.9**	**-2.3**
RUGZ	**Raukumara Rang**	**6.54**	**211**	P	**Pn**	**23 44 24.0**	**-1.8**
RUGZ				S	**Sn**	**23 45 38.5**	**-1.4**
TWGZ	**Tauwhareparae**	**6.60**	**208**	P	**Pn**	**23 44 23.6**	**-2.8**
TWGZ				S	**Sn**	**23 45 38.2**	**-2.8**
CNGZ	**Carnagh Statio**	**6.78**	**205**	P	Pn	23 44 25.2	-3.7
CNGZ				S	**Sn**	**23 45 42.2**	**-3.3**
TKGZ	**Te Karaka**	**6.88**	**207**	P	**Pn**	**23 44 27.5**	**-2.7**
TKGZ				S	**Sn**	**23 45 43.0**	**-4.8**
MWZ	**Matawai**	**6.92**	**210**	P	**Pn**	**23 44 27.7**	**-3.1**
MWZ				S	**Sn**	**23 45 46.7**	**-2.2**
OPRZ	**Ohinepanea**	**6.98**	**217**	P	**Pn**	**23 44 31.0**	**-0.6**

URZ Urewera 7.04 212 Pn Pn 23 44 29.2 -3.2
15nm,0.3s,baz=134,slow=4.1,SNR=29
URZ Sn **Sn 23 45 47.7 -4.0**
31nm,0.3s,baz=211,slow=22,SNR=16
URZ Urewera 7.04 212 Pn 23 44 29.6 -2.7
URZ Urewera 7.04 212 P Pn 23 44 29.2 -3.2
URZ S **Sn 23 45 48.2 -3.5**
RAGZ Rawiri 7.10 210 P **Pn 23 44 30.2 -3.1**
RIGZ Rimuhau 7.14 207 P **Pn 23 44 31.2 -2.7**
RIGZ S **Sn 23 45 51.7 -2.7**
MUGZ Murupara 7.37 213 P **Pn 23 44 35.0 -2.0**
RTZ Ruatahuna 7.39 211 P **Pn 23 44 35.4 -1.9**
MHGZ Mahia Peninsul 7.48 204 P Pn 23 44 34.3 -4.2
PRRZ Plateau Road 7.56 215 P **Pn 23 44 39.7 0.0**
BKZ Black Stump Fm 8.06 211 Pn 23 44 42.5 -4.0
BKZ Black Stump Fm 8.06 211 P **Pn 23 44 45.2 -1.2**
RPZ Rata Peaks 14.15 214 Pn Pn 23 46 03.3 -6.5
2.0nm,0.3s,baz=355,slow=1.3,SNR=7.1
RPZ Sn Sn 23 48 29.2 -17
3.3nm,0.3s,baz=350,slow=18,SNR=14
MSVF Nonsavu 15.00 346 Pn **Pn 23 46 20.0 -1.4**
0.4nm,0.3s,baz=152,slow=11,SNR=9.6
19nm,1.1s
MSVF Nonsavu 15.00 346 Pn **Pn 23 46 20.8 -0.7**
MSVF Nonsavu 15.00 346 P **Pn 23 46 20.8 -0.7**
MSVF Nonsavu 15.00 346 P **Pn 23 46 21.6 +0.2**
NIUE Niue 15.16 31 P **Pn 23 46 19.8 -3.7**
PINNC Pines Island, 16.07 304 Pn **Pn 23 46 33.6 -1.7**
PINNC IAmb IAmb 23 46 42.4
comp=Z,134nm,1.5s
PINNC Pines Island, 16.07 304 P **P 23 46 42.9 +4.3**
comp=Z,89nm,0.9s
MARNC Mare, Loyalty 16.43 308 Pn 23 46 39.8 -0.1
MARNC Mare, Loyalty 16.43 308 P **P 23 46 46.5 +3.9**
comp=Z,13nm,1.1s
YATNC Mamie plateau, 16.82 304 P **P 23 46 52.2 +5.2**
ONTNC Ouen Toro 16.97 302 Pn 23 46 46.1 -0.7
ONTNC IAmb IAmb 23 46 55.0
comp=Z,67nm,0.8s
ONTNC Ouen Toro 16.97 302 P **P 23 46 54.3 +5.7**
comp=Z,88nm,1.0s
DZM Mont Dzumac 17.13 303 *e*Pn **Pn 23 46 50.0 +1.1**
comp=Z,126nm,1.4s
DZM *e*LR LR 23 50 43.6
comp=Z,2μm,22.5s
DZM Mont Dzumac 17.13 303 Pn **P 23 46 53.3 +2.8**
comp=Z,1.0nm,0.3s,baz=109,slow=15,SNR=16
DZM Mont Dzumac 17.13 303 Pn **Pn 23 46 47.5 -1.4**
DZM Mont Dzumac 17.13 303 P **P 23 46 54.7 +4.2**
NOUC Port Laguerre 17.21 303 P **P 23 46 55.2 +4.0**
LIFNC LIFOU 17.45 308 P **Pn 23 46 53.2 +0.5**
LIFNC LIFOU 17.45 308 P **P 23 46 58.8 +4.9**
AFI Afiamalu 19.29 19 P **Pn 23 47 15.4 +0.1**
AFI IAmb IAmb 23 47 22.5
comp=Z,72nm,1.1s
AFI Afiamalu 19.29 19 P **Pn 23 47 15.4 +0.1**
AFI pmax pmax
comp=Z,72nm,1.2s
KOUNC Koumac, New Ca 19.64 303 P **P 23 47 17.8 -0.2**
KOUNC IAmb IAmb 23 47 22.5
comp=Z,65nm,0.8s
KOUNC Koumac, New Ca 19.64 303 P **Pn 23 47 21.4 +1.9**
comp=Z,86nm,0.8s
RAR Rarotonga 19.77 60 P **P 23 47 18.5 -0.9**
comp=Z,13nm,0.7s,baz=214,slow=2.6,SNR=5.4
RAR Rarotonga 19.77 60 P **P 23 47 18.5 -0.9**
ARMA Armidale 25.86 266 P **P 23 48 21.5 +0.5**
ARMA IAmb IAmb 23 48 27.9
comp=Z,39nm,1.3s
ARMA Armidale 25.86 266 P **P 23 48 24.0 +3.0**
CAN Canberra 27.40 255 P **P 23 48 34.6 -0.1**
CAN IAmb IAmb 23 49 02.9
comp=Z,34nm,1.5s
CAN Canberra 27.40 255 P **P 23 48 34.6 -0.1**
CAN pmax pmax
comp=Z,34nm,1.5s
EIDS Eidsvold 27.80 277 P **P 23 48 38.9 +0.5**
RK1H Rockhampton Ha 29.07 280 P P 23 48 54.7 +5.0
comp=Z,15nm,0.8s
RMQ Roma 29.37 273 P **P 23 48 54.8 +2.5**
comp=Z,24nm,1.2s
PAE Paea 29.61 67 *e*T T 00 19 43.0
comp=Z,1.6nm,0.3s
PPT2 Papeete2 29.65 67 *e*LR LR 23 56 37.4
comp=Z,1μm,29.0s
CMSA Cobar Meteorol 30.63 262 P **P 23 49 05.2 +1.8**
comp=Z,50nm,1.1s
VAH Vaihoa 32.54 66 *e*T T 00 23 20.3
comp=Z,5.0nm,0.3s
QLP Quilpie 33.16 270 P **P 23 49 27.2 +1.5**
comp=Z,44nm,1.5s
STKA Stephens Creek 33.98 260 P **P 23 49 33.0 +0.2**
comp=Z,3.1nm,0.4s,baz=98,slow=11,SNR=5.2
comp=Z,3.1nm,0.4s
STKA Stephens Creek 33.98 260 P **P 23 49 32.5 -0.3**
STKA Stephens Creek 33.98 260 P **P 23 49 33.0 +0.2**
CTA Charters Tower 34.07 282 P **P 23 49 35.1 +1.4**
comp=Z,17nm,0.7s,baz=111,slow=9.9,SNR=22
comp=Z,17nm,0.7s
CTA Charters Tower 34.07 282 P **P 23 49 35.1 +1.4**
CTA Charters Tower 34.07 282 P **P 23 49 35.1 +1.4**
comp=Z,37nm,1.0s
CTAO Charters Tower 34.07 282 P **P 23 49 34.5 +0.8**
CTAO Charters Tower 34.07 282 P **P 23 49 34.5 +0.8**
CTAO pmax pmax
comp=Z,111nm,1.7s
CTAO Charters Tower 34.07 282 P **P 23 49 35.1 +1.4**
comp=Z,36nm,3.0s
INKA Innaminka 35.75 266 P **P 23 49 49.8 +1.7**
comp=Z,85nm,1.2s
MTSU Mount Surprise 36.62 284 P **P 23 49 56.9 +1.2**
comp=Z,28nm,0.8s
LCRK Leigh Creek 37.13 261 P **P 23 50 00.1 +0.2**
comp=Z,155nm,0.7s
BBOO Buckleboo 38.37 257 P **P 23 50 09.3 -1.1**
BBOO IAmb IAmb 23 51 36.4
comp=Z,64nm,1.6s
PMG Port Moresby 39.40 298 P **P 23 50 19.4 +0.3**
comp=Z,12nm,0.7s,baz=169,slow=6.0,SNR=5.2
comp=Z,12nm,0.7s
PMG Port Moresby 39.40 298 P **P 23 50 18.2 -0.9**
PMG Port Moresby 39.40 298 P **P 23 50 19.4 +0.3**
KRVT Keravat (AS076 39.51 309 P **P 23 50 21.0 +1.0**
comp=Z,215nm,0.7s,baz=181,slow=1.9,SNR=21
COEN Coen 39.76 288 P **P 23 50 22.5 +0.4**
AS31 Alice Springs 42.94 269 P **P 23 50 47.1 -1.2**
ASAR Alice Springs 42.94 269 P **P 23 50 47.7 -0.6**
comp=Z,16nm,0.8s,baz=111,slow=7.8,SNR=106
ASAR PcP **PcP 23 52 38.6 -0.2**
comp=Z,1.1nm,0.7s,baz=117,slow=5.3,SNR=1.0
comp=Z,16nm,0.8s
ASAR Alice Springs 42.94 269 P **P 23 50 47.5 -0.7**
ASAR Alice Springs 42.94 269 P **P 23 50 47.7 -0.6**
ASAR 23 52 38.6
WRA Warramunga Arr 44.11 274 P **P 23 50 56.9 -0.8**
comp=Z,33nm,0.6s,baz=116,slow=7.4,SNR=106
WRA ScP **ScP 23 56 33.3 -0.2**
comp=Z,1.1nm,0.9s,baz=117,slow=4.5,SNR=3.9
WRA Warramunga Arr 44.11 274 P **P 23 50 56.9 -0.8**
FORT Forrest 45.47 257 P **P 23 51 07.3 -1.1**
SBA Scott Base 46.05 184 P **P 23 51 15.0 +2.6**
SBA IAmb IAmb 23 51 25.4
comp=Z,56nm,1.9s
SBA Scott Base 46.05 184 P **P 23 51 15.0 +2.6**
SBA pmax pmax
comp=Z,56nm,2.0s
VNDA Vanda 46.11 186 P **P 23 51 13.4 +0.6**
comp=Z,0.3nm,0.6s,baz=346,slow=8.3,SNR=1.3
**VNDA Vanda 46.11 186

FAKI	**Fak Fak**	**54.95**	**292**	P	**P**		**23 52 19.5**	**-0.9**
FAKI				IAmb	IAmb		23 52 22.6	
	comp=Z,20nm,0.9s							
FAKI	**Fak Fak**	**54.95**	**292**	P	**P**		**23 52 19.4**	**-1.1**
	comp=Z,26nm,0.9s							
PSA00	**Pilbara Seismi**	**55.66**	**265**	P	**P**		**23 52 23.4**	**-2.1**
PSA00	**Pilbara Seismi**	**55.66**	**265**	P	**P**		**23 52 23.2**	**-2.3**
PSA00				IAmb	IAmb		23 53 00.4	
	comp=Z,34nm,1.5s							
MORW	**Morawa**	**55.89**	**255**	P	**P**		**23 52 25.0**	**-2.0**
MORW				IAmb	IAmb		23 53 26.4	
	comp=Z,41nm,1.5s							
MBWA	**Marble Bar**	**55.93**	**265**	P	**P**		**23 52 25.7**	**-1.7**
MBWA				IAmb	IAmb		23 52 26.3	
	comp=Z,16nm,0.9s							
SOEI	**Soe**	**57.56**	**279**	P	**P**		**23 52 38.6**	**-0.6**
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**		**23 52 41.1**	**+1.4**
	comp=Z,6.6nm,1.0s,baz=356,slow=0.7,SNR=17							
	comp=Z,6.6nm,1.0s							
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**		**23 52 40.9**	**+1.2**
BATI	**Baumata**	**57.83**	**279**	P	**P**		**23 52 41.3**	**+0.3**
	comp=Z,23nm,0.7s,baz=187,slow=4.8,SNR=4.5							
	comp=Z,23nm,0.7s							
GIRL	**Giralia**	**59.91**	**261**	P	**P**		**23 52 54.8**	**-0.6**
LUWI	**Luwuk**	**63.65**	**287**	P	**P**		**23 53 20.6**	**0.0**
TWSI	**Taliwang, Sumb**	**64.28**	**276**	P	**P**		**23 53 24.2**	**-0.6**
	comp=Z,22nm,0.9s							
BELA	**Belgrano 2**	**67.84**	**172**	P	**P**		**23 53 46.9**	**+0.2**
BELA				IAmb	IAmb		23 53 59.5	
	comp=Z,15nm,0.9s							
MAW	**Mawson**	**70.42**	**201**	P	**P**		**23 54 03.5**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=125,slow=13,SNR=14							
	comp=Z,2.4nm,0.8s							
MAW	**Mawson**	**70.42**	**201**	P	**P**		**23 54 03.2**	**+0.4**
MAW	**Mawson**	**70.42**	**201**	P	**P**		**23 54 03.5**	**+0.7**
TROLL	**Troll, Antarti**	**75.89**	**180**	P	**P**		**23 54 35.7**	**+0.5**
SNAA	**Sanae**	**76.18**	**178**	P	**P**		**23 54 37.0**	**+0.2**
SNAA	**Sanae**	**76.18**	**178**	PcP	**PcP**		**23 54 46.9**	**-1.9**
SNAA	**Sanae**	**76.18**	**178**	P	**P**		**23 54 37.0**	**+0.2**
SNAA				IAmb	IAmb		23 54 48.0	
	comp=Z,22nm,1.1s							
SNAA	**Sanae**	**76.18**	**178**	P	**P**		**23 54 37.0**	**+0.2**
SNAA				pmax	pmax			
	comp=Z,22nm,1.1s							
VNA3	**Neumayer Olymp**	**76.33**	**176**	P	**P**		**23 54 38.0**	**+0.3**
VNA3	**Neumayer Olymp**	**76.33**	**176**	PcP	**PcP**		**23 54 48.3**	**-1.2**
VNA2	**Neumayer--Watz**	**76.77**	**177**	P	**P**		**23 54 40.7**	**+0.6**
	baz=171,slow=4.8							
VNA2	**Neumayer--Watz**	**76.77**	**177**	PcP	**PcP**		**23 54 50.9**	**-0.5**
VNA1	**Neumayer--Stat**	**77.00**	**177**	P	**P**		**23 54 41.7**	**+0.3**
VNA1	**Neumayer--Stat**	**77.00**	**177**	PcP	**PcP**		**23 54 52.3**	**0.0**
LL02	**Futaleuf**	**79.04**	**134**	P	**P**		**23 54 54.0**	**+0.8**
LL02				IAmb	IAmb		23 54 55.1	
	comp=Z,21nm,1.4s							
H03N3	**Juan Fernandez**	**79.66**	**123**	T	T		01 23 54.7	
	baz=240							
H03N2	**Juan Fernandez**	**79.66**	**123**	T	T		01 23 57.0	
	baz=240							
H03N1	**Juan Fernandez**	**79.68**	**123**	T	T		01 23 57.2	
	baz=240							
MJAR	**Matsushiro Arr**	**79.82**	**326**	P	**P**		**23 54 54.5**	**-2.8**
	comp=Z,1.2nm,0.8s,baz=144,slow=6.7,SNR=3.6							
JSD	**Sado**	**81.00**	**327**	P	**P**		**23 55 03.3**	**-0.3**
JSD				IAmb	IAmb		23 55 34.8	
	comp=Z,39nm,2.0s							
PLCA	**Paso Flores**	**81.23**	**133**	P	**P**		**23 55 04.5**	**-0.7**
	comp=Z,3.9nm,1.0s,baz=274,slow=4.0,SNR=5.8							
	comp=Z,3.9nm,1.0s							
PLCA	**Paso Flores**	**81.23**	**133**	P	**P**		**23 55 04.5**	**-0.7**
ERM	**Erimo**	**82.16**	**332**	P	**P**		**23 55 11.0**	**+1.4**
ERM	**Erimo**	**82.16**	**332**	P	**P**		**23 55 11.0**	**+1.4**
ERM				pmax	pmax			
	comp=Z,37nm,1.4s							
BO02	**Sierra Bellavi**	**84.53**	**128**	P	**P**		**23 55 22.9**	**+0.4**
KSRS	**Korea Array**	**85.79**	**320**	P	**P**		**23 55 27.2**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=142,slow=4.6,SNR=8.0							
	comp=Z,1.6nm,0.8s							
KSRS	**Korea Array**	**85.79**	**320**	P	**P**		**23 55 27.2**	**-1.1**
KSRS	**Korea Array**	**85.79**	**320**	P	**P**		**23 55 27.2**	**-1.1**
KSAR	**Wonju Array Be**	**85.81**	**320**	P	**P**		**23 55 28.2**	**-0.2**
KSAR	**Wonju Array Be**	**85.81**	**320**	P	**P**		**23 55 28.2**	**-0.2**
GSI	**Gunungsitoli**	**85.88**	**274**	P	**P**		**23 55 29.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**86.49**	**334**	*eP*	**P**		**23 55 32.7**	**+1.2**
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
EDW2	**Edwards Air Fo**	**87.53**	**46**	P	**P**		**23 55 39.9**	**+2.9**
	baz=227							
TPFO	**Pinon Flats**	**87.62**	**47**	P	**P**		**23 55 40.2**	**+2.7**
	baz=228							
PEA0B	**Petropavlovsk-**	**87.71**	**346**	P	**P**		**23 55 37.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**87.71**	**346**	P	**P**		**23 55 37.9**	**+0.6**
PEA0B				pmax	pmax			
	comp=Z,60nm,1.6s							
PETK	**Petropavlovsk-**	**87.71**	**346**	P	**P**		**23 55 37.2**	**-0.1**
	comp=Z,7.6nm,0.9s,baz=123,slow=7.3,SNR=8.1							
	comp=Z,7.6nm,0.8s							
PETK	**Petropavlovsk-**	**87.71**	**346**	P	**P**		**23 55 38.1**	**+0.8**
PETK	**Petropavlovsk-**	**87.71**	**346**	P	**P**		**23 55 38.1**	**+0.8**
ISA	**Isabella, Lake**	**87.78**	**45**	P	**P**		**23 55 39.2**	**+1.1**
ISA				IAmb	IAmb		23 55 45.4	
	comp=Z,11nm,1.3s							
ISA	**Isabella, Lake**	**87.78**	**45**	P	**P**		**23 55 39.3**	**+1.1**
ISA				pmax	pmax			
	comp=Z,11nm,1.3s							
ISA	**Isabella, Lake**	**87.78**	**45**	P	**P**		**23 55 41.7**	**+3.6**
	baz=227							
LRMC	**Laurel Mtn Rad**	**88.13**	**45**	P	**P**		**23 55 42.9**	**+3.0**
	baz=227							
BC3	**Big Chuckawall**	**88.28**	**48**	P	**P**		**23 55 44.1**	**+3.4**
	baz=229							
HEC	**Hector,Ludlow**	**88.51**	**46**	P	**P**		**23 55 44.8**	**+3.1**
	baz=228							
GSC	**Goldstone, Bar**	**88.54**	**46**	P	**P**		**23 55 42.9**	**+1.1**
GSC				IAmb	IAmb		23 55 47.9	
	comp=Z,13nm,1.5s							
GSC	**Goldstone, Bar**	**88.54**	**46**	P	**P**		**23 55 42.9**	**+1.1**
GSC				pmax	pmax			
	comp=Z,13nm,1.5s							
GSC	**Goldstone, Bar**	**88.54**	**46**	P	**P**		**23 55 44.7**	**+2.9**
	baz=228							
MPMC	**Manual Prospec**	**88.63**	**45**	P	**P**		**23 55 45.7**	**+3.3**
	baz=228							
USRK	**Ussuriysk Ar.**	**88.76**	**327**	P	**P**		**23 55 42.5**	**+0.1**
	comp=Z,5.2nm,1.1s,baz=144,slow=7.1,SNR=4.8							
	comp=Z,5.2nm,1.1s							
USRK	**Ussuriysk Ar.**	**88.76**	**327**	P	**P**		**23 55 42.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**88.76**	**327**	P	**P**		**23 55 42.8**	**+0.3**
IRM	**Iron Mountain**	**88.80**	**48**	P	**P**		**23 55 47.1**	**+4.0**
	baz=229							
GMRC	**Granite Mounta**	**88.89**	**47**	P	**P**		**23 55 47.2**	**+3.6**
	baz=229							
NVAR	**Mina Array Bea**	**89.76**	**43**	P	**P**		**23 55 48.5**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=206,slow=6.0,SNR=3.3							
	comp=Z,0.7nm,0.7s							
NVAR	**Mina Array Bea**	**89.76**	**43**	P	**P**		**23 55 49.0**	**+1.3**
W13A	**Hualapai Mount**	**90.20**	**48**	P	**P**		**23 55 51.3**	**+1.5**
W13A				IAmb	IAmb		23 56 14.9	
	comp=Z,15nm,1.9s							
TUC	**Tucson**	**90.43**	**51**	P	**P**		**23 55 52.0**	**+1.3**
TUC				IAmb	IAmb		23 55 57.1	
	comp=Z,8.2nm,1.4s							
TUC	**Tucson**	**90.43**	**51**	P	**P**		**23 55 52.0**	**+1.3**
TUC				pmax	pmax			
	comp=Z,8.0nm,1.5s							
TUC	**Tucson**	**90.43**	**51**	P	**P**		**23 55 53.8**	**+3.0**
	baz=231							
KLR	**Kul'dur**	**92.70**	**330**	P	**P**		**23 56 00.7**	**0.0**
	comp=Z,2.3nm,0.8s,baz=105,slow=2.0,SNR=7.0							
	comp=Z,2.3nm,0.8s							
KLR	**Kul'dur**	**92.70**	**330**	P	**P**		**23 56 00.7**	**0.0**
KLR	**Kul'dur**	**92.70**	**330**	P	**P**		**23 56 00.7**	**0.0**
LYN	**LuoYang**	**93.18**	**309**	⇑P	**P**		**23 56 03.3**	**0.0**
LYN				pmax	pmax			
	comp=Z,10.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**93.96**	**289**	PP	**PP**		**23 59 57.3**	**+3.6**
	comp=Z,1.5nm,0.3s,baz=130,slow=7.2,SNR=4.5							
PZH	**PanZhiHua**	**96.13**	**297**	P	**P**		**23 56 18.9**	**+1.7**
PZH				pmax	pmax			
	comp=Z,20nm,1.1s							
HHC	**Hu-ho-hao-te**	**97.54**	**314**	*eP*	Pdif		23 56 24.6	+1.3
HHC				pmax	pmax			
	comp=Z,15nm,0.7s							
HHC				pmax	pmax			
	comp=Z,210nm,4.8s							
ILAR	**Eielson Array**	**99.88**	**13**	PP	**PP**		**00 00 35.3**	**-3.1**
	comp=Z,0.3nm,0.6s,baz=211,slow=9.6,SNR=4.5							

WMQ	**Urumqi**	**114.36**	**308**	*eP*	**PKiKP**		**00 01 30.1**	**+1.4**
WMQ				LR	LR				
	comp=N,380nm,21.7s								
MKAR	**Makanchi Array**	**118.96**	**309**	PKP	**PKPdf**		**00 01 36.4**	**-1.0**
	comp=N,2.1nm,0.9s,baz=49,slow=3.7,SNR=9.8								
MKAR	**Makanchi Array**	**118.96**	**309**	PKPdf	**PKPdf**		**00 01 36.3**	**-1.1**
MKAR	**Makanchi Array**	**118.96**	**309**	PKIKP	**PKPdf**		**00 01 36.4**	**-1.0**
ZALV	**Zalesovo Beam**	**119.44**	**318**	PKP	**PKPdf**		**00 01 36.7**	**-1.3**
	comp=N,0.6nm,0.4s,baz=222,slow=2.0,SNR=4.2								
ZALV	**Zalesovo Beam**	**119.44**	**318**	PKIKP	**PKPdf**		**00 01 36.7**	**-1.3**
NRIK	**Noril'sk**	**121.40**	**336**	PKP	**PKPdf**		**00 01 40.5**	**-0.8**
	comp=N,2.7nm,1.0s,baz=323,slow=18,SNR=2.3								
NRIK	**Noril'sk**	**121.40**	**336**	PKIKP	**PKPdf**		**00 01 40.5**	**-0.8**
MATP	**Matopo**	**121.63**	**210**	PKP	**PKPdf**		**00 01 42.9**	**-0.6**
	comp=N,1.7nm,0.8s,baz=142,slow=8.4,SNR=2.4								
KURK	**Kurchatov**	**122.34**	**313**	PKPdf	**PKPdf**		**00 01 42.8**	**-0.8**
KURK	**Kurchatov**	**122.34**	**313**	PKIKP	**PKPdf**		**00 01 42.9**	**-0.8**
KURBB	**Kurchatov Arra**	**122.37**	**313**	PKP	**PKPdf**		**00 01 42.9**	**-0.8**
	comp=N,4.0nm,0.8s,baz=107,slow=1.9,SNR=41								
KBL	**Kabul**	**124.89**	**292**	PKPdf	**PKPdf**		**00 01 49.1**	**-0.3**
KBL	**Kabul**	**124.89**	**292**	PKIKP	**PKPdf**		**00 01 49.1**	**-0.3**
GAR	**Garm**	**125.20**	**298**		**PKPdf**		**00 01 49.2**	**-0.6**
CHGR	**Chuyangaron**	**125.98**	**297**		**PKPdf**		**00 01 51.0**	**-0.2**
CHGR	**Chuyangaron**	**125.98**	**297**	PKIKP	**PKPdf**		**00 01 51.0**	**-0.2**
KK31	**Karatay Array**	**126.07**	**302**	PKPdf	**PKPdf**		**00 01 50.8**	**-0.4**
KK31	**Karatay Array**	**126.07**	**302**	PKIKP	**PKPdf**		**00 01 50.8**	**-0.4**
KKAR	**Karatay Array**	**126.07**	**302**		**PKPdf**		**00 01 50.9**	**-0.2**
KKAR	**Karatay Array**	**126.07**	**302**	PKPdf	**PKPdf**		**00 01 50.9**	**-0.2**
KKAR	**Karatay Array**	**126.07**	**302**	PKIKP	**PKPdf**		**00 01 50.9**	**-0.2**
BVAR	**Borovoye Array**	**127.74**	**315**	PKP	**PKPdf**		**00 01 53.3**	**-0.7**
	comp=N,1.7nm,0.5s,baz=108,slow=1.9,SNR=14								
BVAR	**Borovoye Array**	**127.74**	**315**	PKIKP	**PKPdf**		**00 01 53.3**	**-0.7**
BRVK	**Borovoye**	**127.81**	**315**	PKPdf	**PKPdf**		**00 01 53.0**	**-1.1**
BRVK	**Borovoye**	**127.81**	**315**	PKIKP	**PKPdf**		**00 01 53.0**	**-1.1**
ABKAR	**Akbulak array**	**134.10**	**309**		**PKPdf**		**00 02 06.1**	**0.0**
ABKAR	**Akbulak array**	**134.10**	**309**		**PKPdf**		**00 02 05.6**	**-0.5**
GEYT	**Alibeck**	**134.28**	**293**	PKP	**PKiKP**		**00 02 08.3**	**0.0**
	comp=N,2.9nm,0.8s,baz=347,slow=6.1,SNR=5.7								
GEYT				SKPbc	**SKPab**		**00 05 37.6**	**-0.8**	
	comp=N,1.2nm,0.6s,baz=49,slow=4.6,SNR=3.3								
ARU	**Arti**	**134.54**	**319**	PKP	**PKPdf**		**00 02 07.5**	**+0.8**
	comp=N,2.1nm,0.4s,baz=70,slow=0.7,SNR=5.9								
ARU				SKPbc	**SKPab**		**00 05 37.8**	**-1.1**	
	comp=N,5.1nm,0.8s,baz=358,slow=5.4,SNR=8.2								
ARU	**Arti**	**134.54**	**319**	PKPdf	**PKPdf**		**00 02 07.1**	**+0.4**
ARU	**Arti**	**134.54**	**319**	PKIKP	**PKPdf**		**00 02 07.5**	**+0.8**
AKTO	**Aktyubinsk**	**135.34**	**311**	SKPbc	**SKPbc**		**00 05 40.4**	**+2.1**
	comp=N,1.1nm,0.8s,baz=176,slow=13,SNR=3.5								
ARCES	**ARCESS Array B**	**140.50**	**347**	PKhKP	PKPpre		00 02 11.4		
	comp=N,1.3nm,0.7s,baz=48,slow=1.8,SNR=6.3								
VRH	**Novokhopyorsk**	**145.39**	**315**	*e*PKP2	**PKPbc**		**00 02 24.2**	**-2.3**
VRH				pmax	pmax				
	comp=Z,30nm,1.6s								
MOS	**Moscow**	**145.89**	**324**	*i* PKP2	**PKPdf**		**00 02 26.8**	**-0.4**
MOS				pmax	pmax				
	comp=Z,120nm,1.0s								
KBZ	**Khabaz**	**146.10**	**301**	PKPbc	**PKPdf**		**00 02 28.9**	**+0.9**
	comp=Z,11nm,0.9s,baz=93,slow=2.5,SNR=11								
KBZ	**Khabaz**	**146.10**	**301**		**PKPdf**		**00 02 28.9**	**+0.9**
KBZ	**Khabaz**	**146.10**	**301**	PKP2	**PKPdf**		**00 02 28.9**	**+0.9**
LPSR	**Galich'ya Gora**	**146.54**	**318**	*e*PKP2	**PKPdf**		**00 02 29.6**	**+1.2**
LPSR				pmax	pmax				
	comp=Z,120nm,1.9s								
VORR	**Voronezh**	**146.73**	**317**	*e*PKP2	**PKPbc**		**00 02 30.3**	**-0.2**
VORR				pmax	pmax				
	comp=Z,50nm,0.5s								
VSR	**Storozhevoye**	**146.91**	**316**	*e*PKP2	**PKPdf**		**00 02 30.4**	**+1.3**
VSR				pmax	pmax				
	comp=Z,50nm,1.1s								
GURO	**Guroymak-BITLI**	**146.92**	**292**	PKPdf	**PKPdf**		**00 02 30.1**	**+0.3**
FIA1	**FINESS Array S**	**146.96**	**339**	PKPdf	**PKPbc**		**00 02 30.4**	**-0.4**
FINES	**FINESS Array B**	**146.96**	**339**	PKPbc	**PKPdf**		**00 02 30.4**	**+1.5**
	comp=Z,18nm,0.6s,baz=53,slow=3.3,SNR=130								
FINES	**FINESS Array B**	**146.96**	**339**	PKPdf	**PKPdf**		**00 02 29.8**	**+1.0**
FINES	**FINESS Array B**	**146.96**	**339**	PKP2	**PKPdf**		**00 02 30.4**	**+1.5**
MARD	**Mardin**	**147.86**	**290**		**PKPbc**		**00 02 34.0**	**-0.3**
MEF	**Metsahovi**	**148.44**	**339**	*e*P	**PKPbc**		**00 02 34.7**	**-0.2**
RAF	**Rauma**	**148.54**	**341**	*e*P	**PKPbc**		**00 02 34.9**	**-0.2**
VSU	**Vasula**	**148.98**	**335**	*e*P	**PKPbc**		**00 02 36.8**	**+0.4**
MTSE	**Matsula**	**149.80**	**337**	*e*P	**PKPbc**		**00 02 38.1**	**-0.2**
NB2	**NORSAR Subarra**	**150.69**	**351**	PKP	**PKPbc**		**00 02 40.1**	**-0.4**
	comp=Z,13nm,1.1s,baz=17,slow=4.1								
NOA	**NORSAR Array B**	**150.69**	**351**	PKPbc	**PKPbc**		**00 02 40.1**	**-0.4**
	comp=Z,7.8nm,0.9s,baz=15,slow=4.2,SNR=19								
NOA	**NORSAR Array B**	**150.69**	**351**		**PKPbc**		**00 02 40.1**	**-0.4**
NOA	**NORSAR Array B**	**150.69**	**351**	PKIKP	**PKPbc**		**00 02 40.1**	**-0.4**
NC602	**NORSAR Array S**	**150.94**	**350**		**PKPbc**		**00 02 40.5**	**-0.5**
MNK	**Minsk**	**151.23**	**328**	*i* PKIKP	**PKPbc**		**00 02 41.6**	**-0.3**
MNK				*i*			00 02 48.8		
MNK				*i* SSS	SSS		00 31 33.9		
MNK				pmax	pmax				
	comp=E,1.0nm,1.0s								
MNK				pmax	pmax				
	comp=Z,32nm,1.0s								
ISAL	**Salakas**	**151.27**	**331**	*e*P	**PKiKP**		**00 02 43.3**	**+0.8**
IIGN	**Ignalina**	**151.38**	**331**	*e*P	**PKPbc**		**00 02 42.9**	**+0.7**
VSVD	**Vaisvydziai**	**151.84**	**333**	*e*P	**PKPbc**		**00 02 43.3**	**0.0**
PABE	**Paberze**	**152.18**	**333**	*e*P	**PKPbc**		**00 02 44.5**	**+0.5**
AKASG	**Malin Array Be**	**152.79**	**320**	PKPbc	**PKPbc**		**00 02 45.3**	**-0.3**
	comp=Z,4.2nm,0.7s,baz=57,slow=2.8,SNR=24								
AKASG	**Malin Array Be**	**152.79**	**320**		**PKPbc**		**00 02 44.9**	**-0.7**
AKASG	**Malin Array Si**	**152.79**	**320**	PKIKP	**PKPbc**		**00 02 44.9**	**-0.7**
AKBB	**Malin Array Si**	**152.79**	**320**		**PKPbc**		**00 02 44.9**	**-0.6**
AKBB	**Malin Array Si**	**152.79**	**320**	PKIKP	**PKPbc**		**00 02 44.9**	**-0.6**
ILGA	**Ilgaz**	**153.17**	**298**		**PKPbc**		**00 02 46.5**	**-0.6**
LIC	**Lamto**	**153.18**	**165**	⇑ *i*P	**PKiKP**		**00 02 48.7**	**+1.0**
	comp=Z,15nm,0.6s								
KIC	**Kosan Boka**	**153.38**	**165**	⇑ *e*P	**PKPbc**		**00 02 48.5**	**+0.5**
	comp=Z,9.6nm,0.6s								
BR131	**Keskin Array S**	**153.40**	**295**		**PKPbc**		**00 02 46.5**	**-1.0**
BR131	**Keskin Array S**	**153.40**	**295**	PKIKP	**PKPbc**		**00 02 46.5**	**-1.0**
BRTR	**Keskin Array B**	**153.40**	**295**	PKPbc	**PKPbc**		**00 02 47.2**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=127,slow=3.8,SNR=29								
BRTR	**Keskin Array B**	**153.40**	**295**		**PKPbc**		**00 02 46.9**	**-0.6**
BRTR	**Keskin Array B**	**153.40**	**295**	PKIKP	**PKPbc**		**00 02 47.3**	**-0.2**
TIC	**Toumodi**	**153.59**	**164**	⇑ *i*P	**PKiKP**		**00 02 50.7**	**+2.1**
	comp=Z,23nm,1.0s								
DBIC	**Dimbokro**	**153.65**	**165**	PKPbc	**PKPbc**		**00 02 49.0**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=226,slow=2.7,SNR=3.4								
DBIC				PKPab	**PKPab**		**00 03 02.6**	**+1.6**	
	comp=Z,4.3nm,0.8s,baz=235,slow=5.3,SNR=3.6								
DBIC	**Dimbokro**	**153.65**	**165**	PKIKP	**PKPbc**		**00 02 49.0**	**+0.4**
ANTO	**Ankara**	**154.03**	**295**	⇑P	**PKPbc**		**00 02 48.5**	**-0.2**
ANTO	**Ankara**	**154.03**	**295**		**PKPbc**		**00 02 48.8**	**+0.1**
ANTO	**Ankara**	**154.03**	**295**	PKIKP	**PKPbc**		**00 02 48.8**	**+0.1**
TESR	**Tescani**	**156.36**	**314**	⇑P	**PKPab**		**00 03 12.9**	**+1.0**
VRI	**Vrincioaia**	**156.61**	**312**	⇓P	**PKPab**		**00 03 13.7**	**+0.7**
BUR08	**Bucovina Ar. S**	**156.65**	**318**		**PKPab**		**00 03 12.9**	**-0.3**
BURAR	**Bucovina Array**	**156.66**	**317**	⇓P	PKPab		00 02 59.6	-14	
BURAR	**Bucovina Array**	**156.66**	**317**		**PKPab**		**00 03 12.6**	**-0.6**
PLOR	**Plostina**	**156.66**	**312**	⇑P	**PKPab**		**00 03 14.4**	**+1.1**
CRVS	**Cervenica-Dubn**	**157.90**	**324**	*e*PKP2	**PKPab**		**00 03 18.9**	**+0.4**
ARR	**Arges**	**158.14**	**313**	⇓P	**PKPab**		**00 03 20.1**	**+0.4**
LANS	**Liptovska Anna**	**158.69**	**327**	*e*PKP2	**PKPab**		**00 03 23.6**	**+1.7**
KSP	**Ksiaz**	**158.71**	**334**	*e*PKPab	**PKPab**		**00 03 20.8**	**-1.0**
OSTC	**Ostas**	**158.97**	**334**	*e*PKP	**PKPab**		**00 03 19.2**	**-3.8**
OSTC				*ex*	x		00 03 23.2		
CHVC	**Chvalec**	**159.01**	**334**	*e*PKP	**PKPab**		**00 03 21.4**	**-1.8**
CHVC				*ex*	x		00 03 26.6		
MORC	**Moravsky Berou**	**159.07**	**331**	⇓P	**PKPab**		**00 03 23.0**	**-0.5**
UPC	**Upice**	**159.09**	**334**	*e*PKP2	**PKPab**		**00 03 23.7**	**+0.2**
UPC	**Upice**	**159.09**	**334**	*e*PKP	**PKPab**		**00 03 23.7**	**+0.2**
DPC	**Dobruska-Polom**	**159.10**	**333**	*e*PKP2	**PKPab**		**00 03 22.9**	**-0.7**
DPC	**Dobruska-Polom**	**159.10**	**333**	*e*PKP	**PKPab**		**00 03 22.9**	**-0.7**
KRLC	**Kraliky**	**159.14**	**332**	*e*PKP2	**PKPab**		**00 03 23.0**	**-0.8**
KRLC	**Kraliky**	**159.14**	**332**	*e*PKP	**PKPab**		**00 03 23.0**	**-0.8**
MAUC	**Maruska**	**159.26**	**330**	*e*PKP	**PKPab**		**00 03 23.7**	**-0.7**
MAUC				*ex*	x		00 03 27.9		
CLL	**Collm**	**159.40**	**340**	⇓ *i*PKP2	**PKPab**		**00 03 24.3**	**-0.5**
CLL				pmax	pmax				
	comp=Z,14nm,1.0s								
CLL	**Collm**	**159.40**	**340**	⇓ *i*PKPab	**PKPab**		**00 03 24.3**	**-0.5**
	comp=Z,14nm,1.0s								
CLL				*ep*PKPab	**pPKPab**		**00 03 29.0**	**-0.7**	
VYHS	**Vyhne**	**159.45**	**326**	*e*PKP2	**PKPab**		**00 03 25.1**	**-0.1**
BRG	**Berggiesshubel**	**159.50**	**338**	*e*PKP2	**PKPab**		**00 03 25.1**	**-0.1**
BRG				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PVCC	**Panska Ves**	**159.59**	**336**	*e*PKP2	**PKPab**		**00 03 25.3**	**-0.3**
PVCC	**Panska Ves**	**159.59**	**336**	*e*PKP	**PKPab**		**00 03 25.3**	**-0.3**
VRAC	**Vranov**	**159.82**	**331**	PKPE			00 03 26.6		
PRU	**Pruhonice**	**160.05**	**336**	*e*PKP2	**PKPab**		**00 03 26.8**	**-0.9**
PRU	**Pruhonice**	**160.05**	**336**	*e*PKP	**PKPab**		**00 03 26.8**	**-0.9**

SMOL	**Smolenice**	**160.08**	**328**	*e*PKP2	**PKPab**		**00 03 28.3**	**+0.4**
MODS	**Modra-Piesok**	**160.25**	**328**	*e*PKP2	**PKPab**		**00 03 28.7**	**0.0**
NKC	**Novy Kostel**	**160.52**	**339**	*e*PKP2	**PKPab**		**00 03 29.7**	**0.0**
NKC	**Novy Kostel**	**160.52**	**339**	*e*PKP	**PKPab**		**00 03 29.7**	**0.0**
TORD	**Torodi Ar. Bea**	**160.85**	**179**	PKP	**PKPdf**		**00 02 50.1**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=226,slow=5.8,SNR=3.8								
TORD				PKPab	**PKPab**		**00 03 32.7**	**+0.8**	
	comp=Z,6.8nm,1.1s,baz=202,slow=3.1,SNR=10.0								
CKRC	**Cesky Krumlov**	**161.11**	**334**	*e*PKP	**PKPab**		**00 03 31.3**	**-1.1**
CKRC				*ex*	x		00 03 35.9		
CKRC				*ex*	x		00 03 44.5		
KHC	**Kasperske Hory**	**161.11**	**336**	*e*PKP2	**PKPab**		**00 03 31.2**	**-1.2**
KHC	**Kasperske Hory**	**161.11**	**336**	*e*PKP	**PKPab**		**00 03 31.2**	**-1.2**
KHC				*ex*	x		00 03 44.1		
RONA	**Rosalia, Austr**	**161.19**	**329**	*e*P	**PKPab**		**00 03 32.8**	**0.0**
	comp=Z,5.8nm,1.1s								
CONA	**Conrad Observa**	**161.20**	**330**	*i* P	**PKPab**		**00 03 32.6**	**-0.3**
	comp=Z,6.0nm,0.9s								
GERES	**GERESS Array B**	**161.31**	**335**	PKPab	**PKPab**		**00 03

ML3.9/44,MLv3.8/41,Error ellipse: s-maj=0.0km s-min=0.0km az=89.3

ISC 24 23:48:03.3±2.1,**37°23S**±0°06×**179°08E**±0°09,**h27**km±12km, **n112**,σ1**§07**/129,**mb4.2/7**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.70**	**241**		**Pb**	**23 48 16.4**	**-0.4**
MXZ				Sn	**Sb**	**23 48 23.9**	**-2.1**
MXZ	**Matakaoa Point**	**0.70**	**241**	P	**Pb**	**23 48 16.6**	**-0.2**
MXZ				S	**Sb**	**23 48 24.1**	**-1.9**
WMGZ	**Waiomatatini S**	**0.79**	**222**	P	**Pb**	**23 48 20.1**	**+1.8**
WMGZ				S	**Sn**	**23 48 30.9**	**+1.4**
PKGZ	**Pakihiroa**	**1.03**	**230**	P	**Pb**	**23 48 22.9**	**+0.4**
PKGZ				S	**Sb**	**23 48 35.8**	**+0.1**
PUZ	**Puketiti**	**1.06**	**217**	P	**Pb**	**23 48 23.8**	**+0.8**
PUZ				S	**Sb**	**23 48 37.0**	**+0.5**
HAZ	**Te Kaha**	**1.15**	**243**	P	**Pn**	**23 48 23.5**	**-0.1**
HAZ				S	**Sb**	**23 48 38.9**	**-0.2**
TWGZ	**Tauwhareparae**	**1.28**	**222**	P	**Pb**	**23 48 27.0**	**+0.2**
TWGZ				S	**Sb**	**23 48 43.5**	**+0.6**
RUGZ	**Raukumara Rang**	**1.33**	**236**	P	**Pb**	**23 48 27.6**	**0.0**
CNGZ	**Carnagh Statio**	**1.43**	**208**	P	**Pb**	**23 48 29.4**	**+0.2**
CNGZ				S	**Sb**	**23 48 48.2**	**+1.2**
WIZ	**White Island**	**1.53**	**258**	P	**Pn**	**23 48 28.5**	**-0.3**
TKGZ	**Te Karaka**	**1.55**	**218**	P	**Pn**	**23 48 30.1**	**+1.1**
TKGZ				S	**Sn**	**23 48 49.3**	**+1.1**
MWZ	**Matawai**	**1.65**	**228**	P	**Pn**	**23 48 31.6**	**+1.1**
MWZ				S	**Sn**	**23 48 50.8**	**0.0**
WHRZ	**Whale Island**	**1.78**	**249**	P	**Pn**	**23 48 33.1**	**+0.8**
RIGZ	**Rimuhau**	**1.80**	**215**	P	**Pn**	**23 48 33.6**	**+1.0**
RIGZ				S	**Sn**	**23 48 54.6**	**+0.1**
RAGZ	**Rawiri**	**1.82**	**226**	P	**Pn**	**23 48 34.3**	**+1.4**
RAGZ				S	**Sn**	**23 48 55.0**	**-0.1**
URZ	**Urewera**	**1.86**	**236**	Pn	**Pn**	**23 48 34.6**	**+1.2**
	212nm,0.3s,baz=2.4,slow=1.6,SNR=310						
URZ				Sn	**Sn**	**23 48 55.1**	**-0.9**
	84nm,0.3s,baz=198,slow=20,SNR=14 534nm,0.3s						
URZ	**Urewera**	**1.86**	**236**	P	**Pn**	**23 48 34.4**	**+1.0**
URZ				S	**Sn**	**23 48 56.5**	**+0.4**
EDRZ	**Edgecumbe**	**2.05**	**244**	P	**Pn**	**23 48 36.9**	**+0.9**
MARZ	**Manawahe**	**2.05**	**248**	P	**Pn**	**23 48 36.5**	**+0.5**
SNGZ	**Shannon Statio**	**2.07**	**221**	P	**Pn**	**23 48 37.2**	**+1.0**
SNGZ				S	**Sn**	**23 49 00.7**	**-0.4**
OPRZ	**Ohinepanea**	**2.10**	**252**	P	**Pn**	**23 48 36.8**	**+0.3**
OPRZ				S	**Sn**	**23 48 59.9**	**-1.8**
KNZ	**Kokohu**	**2.10**	**211**	P	**Pn**	**23 48 36.7**	**+0.1**
KNZ				S	**Sn**	**23 49 00.6**	**-1.3**
MHGZ	**Mahia Peninsul**	**2.13**	**205**	P	**Pn**	**23 48 38.2**	**+1.2**
RTZ	**Ruatahuna**	**2.16**	**229**	P	**Pn**	**23 48 38.4**	**+0.9**
MUGZ	**Murupara**	**2.21**	**235**	P	**Pn**	**23 48 38.8**	**+0.7**
TARZ	**Mount Tarawera**	**2.27**	**243**	P	**Pn**	**23 48 40.3**	**+1.2**
LIRZ	**Lichensteins R**	**2.27**	**249**	P	**Pn**	**23 48 40.1**	**+1.1**
TGRZ	**Tauranga**	**2.29**	**257**	P	**Pn**	**23 48 39.7**	**+0.4**
RAHZ	**Arahi**	**2.30**	**222**	P	**Pn**	**23 48 40.3**	**+0.9**
RRRZ	**Republican Roa**	**2.31**	**241**	P	**Pn**	**23 48 40.7**	**+1.2**
OMRZ	**Omania**	**2.32**	**247**	P	**Pn**	**23 48 40.6**	**+0.9**
WHHZ	**Waihua**	**2.35**	**218**	P	**Pn**	**23 48 40.8**	**+0.8**
KARZ	**Kaharoa**	**2.38**	**250**	P	**Pn**	**23 48 41.1**	**+0.6**
HLRZ	**Highlands Stat**	**2.39**	**244**	P	**Pn**	**23 48 41.9**	**+1.3**
NGRZ	**Ngongotaha**	**2.45**	**248**	P	**Pn**	**23 48 42.8**	**+1.3**
PRRZ	**Plateau Road**	**2.47**	**238**	P	**Pn**	**23 48 42.3**	**+0.5**
HSRZ	**Hossack Road**	**2.49**	**243**	P	**Pn**	**23 48 43.5**	**+1.5**
HRRZ	**Handcock Road**	**2.50**	**242**	P	**Pn**	**23 48 43.0**	**+0.9**
ALRZ	**Allen Road**	**2.54**	**238**	P	**Pn**	**23 48 43.3**	**+0.6**
NMHZ	**Naumai**	**2.58**	**223**	P	**Pn**	**23 48 44.5**	**+1.2**
GRRZ	**Galatos Road**	**2.60**	**244**	P	**Pn**	**23 48 44.8**	**+1.3**
ARHZ	**Aropaoanui**	**2.61**	**218**	P	**Pn**	**23 48 44.3**	**+0.7**
MRHZ	**Matea Rd**	**2.64**	**232**	P	**Pn**	**23 48 45.1**	**+1.0**
KUZ	**Kuaotuna**	**2.73**	**229**	P	**Pn**	**23 48 44.6**	**-0.6**
BKZ	**Black Stump Fm**	**2.81**	**226**	Pn	**Pn**	**23 48 46.6**	**+0.2**
BKZ	**Black Stump Fm**	**2.81**	**226**	P	**Pn**	**23 48 46.8**	**+0.4**
TOZ	**Tahuroa Road**	**2.89**	**259**	P	**Pn**	**23 48 47.6**	**+0.2**
CKHZ	**Cape Kidnapper**	**2.89**	**212**	P	**Pn**	**23 48 47.3**	**-0.2**
MCHZ	**McNeill Hill**	**2.90**	**219**	P	**Pn**	**23 48 47.9**	**+0.3**
TLZ	**Tolley Road**	**3.01**	**248**	P	**Pn**	**23 48 49.9**	**+0.7**
KWHZ	**Kaweka Forest**	**3.02**	**223**	P	**Pn**	**23 48 49.5**	**+0.1**
GRZ	**Great Barrier**	**3.06**	**288**	P	**Pn**	**23 48 50.3**	**+0.4**
KAHZ	**Kahuranaki**	**3.09**	**213**	P	**Pn**	**23 48 50.0**	**-0.2**
MKAZ	**Moumakai**	**3.13**	**271**	P	**Pn**	**23 48 50.8**	**0.0**
WIAZ	**Waiheke Island**	**3.18**	**277**	P	**Pn**	**23 48 51.5**	**0.0**
KRHZ	**Kereru**	**3.21**	**221**	P	**Pn**	**23 48 51.3**	**-0.7**
TMVZ	**Te Maari**	**3.26**	**234**	P	**Pn**	**23 48 52.9**	**+0.3**
ETVZ	**East Tongariro**	**3.26**	**233**	P	**Pn**	**23 48 52.9**	**+0.2**
NTVZ	**North Tongariro**	**3.26**	**234**	P	**Pn**	**23 48 53.0**	**+0.3**
BHHZ	**Black Hill Sta**	**3.27**	**225**	P	**Pn**	**23 48 53.1**	**+0.3**
OTVZ	**Oturere**	**3.31**	**233**	P	**Pn**	**23 48 54.0**	**+0.6**
ETAZ	**East Tamaki Re**	**3.33**	**274**	P	**Pn**	**23 48 53.9**	**+0.4**
SNVZ	**South Ngauruho**	**3.34**	**233**	P	**Pn**	**23 48 54.3**	**+0.5**
NGZ	**Ngauruhoe**	**3.35**	**234**	P	**Pn**	**23 48 52.3**	**-1.7**
MBAZ	**Motutapu North**	**3.38**	**277**	P	**Pn**	**23 48 54.5**	**+0.3**
TUVZ	**Tukino**	**3.38**	**232**	P	**Pn**	**23 48 54.6**	**+0.3**
MOVZ	**Moawhango**	**3.40**	**229**	P	**Pn**	**23 48 54.5**	**0.0**
WHVZ	**Whangaehu Hut**	**3.42**	**232**	P	**Pn**	**23 48 55.1**	**+0.1**
FWVZ	**Far West T-bar**	**3.43**	**233**	P	**Pn**	**23 48 55.3**	**+0.1**
WNVZ	**Wahianoa**	**3.44**	**232**	P	**Pn**	**23 48 55.3**	**0.0**
ABAZ	**Army Bay**	**3.46**	**279**	P	**Pn**	**23 48 55.8**	**+0.5**
EPAZ	**Eden Park BICE**	**3.48**	**275**	P	**Pn**	**23 48 56.5**	**+0.8**
HBAZ	**Herne Bay Bore**	**3.50**	**275**	P	**Pn**	**23 48 56.9**	**+1.1**
PNHZ	**Pukenui**	**3.50**	**219**	P	**Pn**	**23 48 54.7**	**-1.2**
WPHZ	**Waipukurau**	**3.50**	**215**	P	**Pn**	**23 48 55.2**	**-0.7**
AWAZ	**Awhitu Peninsu**	**3.54**	**271**	P	**Pn**	**23 48 57.1**	**+0.6**
MTVZ	**Mangateitei**	**3.56**	**232**	P	**Pn**	**23 48 56.8**	**+0.1**
HIZ	**Hauiti**	**3.58**	**246**	P	**Pn**	**23 48 58.5**	**+1.6**
WTAZ	**Waiatarua**	**3.61**	**273**	P	**Pn**	**23 48 58.3**	**+0.8**
RVAZ	**Riverhead Bore**	**3.63**	**276**	P	**Pn**	**23 48 58.4**	**+0.8**
TSZ	**Takapari Road**	**3.73**	**220**	P	**Pn**	**23 48 57.6**	**-1.5**
DVHZ	**Dannevirke**	**3.81**	**216**	P	**Pn**	**23 48 59.0**	**-1.3**
WCZ	**Waipu Caves**	**4.02**	**287**	P	**Pn**	**23 49 04.0**	**+1.0**
WAZ	**Wanganui**	**4.08**	**231**	P	**Pn**	**23 49 04.0**	**+0.2**
BFZ	**Birch Farm**	**4.09**	**212**	Pn	**Pn**	**23 49 01.7**	**-2.3**
PRWZ	**Pori Road**	**4.11**	**215**	P	**Pn**	**23 49 03.2**	**-1.0**
LREZ	**Lake Rotokare**	**4.29**	**237**	P	**Pn**	**23 49 08.3**	**+1.5**
DREZ	**Durham Road**	**4.31**	**242**	P	**Pn**	**23 49 07.5**	**+0.5**
NEZ	**North Egmont**	**4.42**	**241**	P	**Pn**	**23 49 10.7**	**+2.2**
PKE	**Pukeiti**	**4.46**	**242**	P	**Pn**	**23 49 12.2**	**+3.1**
KHEZ	**Kahui Hut**	**4.48**	**241**	P	**Pn**	**23 49 12.1**	**+2.6**
NBEZ	**Newall Road No**	**4.58**	**242**	P	**Pn**	**23 49 13.7**	**+3.0**
OUZ	**Omahuta**	**4.86**	**293**	P	**Pn**	**23 49 16.1**	**+1.5**
MSWZ	**Moikau Station**	**5.12**	**214**	Pn	**Pn**	**23 49 15.1**	**-3.1**
TKNZ	**Takaka Hill**	**6.08**	**229**	P	**Pn**	**23 49 29.9**	**-1.5**
QRZ	**Quartz Range**	**6.23**	**233**	P	**Pn**	**23 49 31.4**	**-2.0**
CTZ	**Chatham Island**	**7.28**	**155**	P	**Pn**	**23 49 50.3**	**+2.6**
STKA	**Stephens Creek**	**31.19**	**269**	P	**P**	**23 54 21.1**	**+1.0**
	1.2nm,0.4s,baz=101,slow=10,SNR=2.1 1.2nm,0.4s						
STKA	**Stephens Creek**	**31.19**	**269**	P	**P**	**23 54 19.9**	**-0.2**
BBOO	**Buckleboo**	**35.28**	**264**	P	**P**	**23 54 55.8**	**0.0**
COEN	**Coen**	**39.46**	**296**	P	**P**	**23 55 32.1**	**+0.8**
COEN				IAmb	IAmb	23 55 33.2	
	comp=Z,3.8nm,0.7s						
ASAR	**Alice Springs**	**40.85**	**276**	P	**P**	**23 55 42.4**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=114,slow=5.9,SNR=13 comp=Z,1.4nm,0.6s						
WR0	**Warramunga Arr**	**42.30**	**281**	P	**P**	**23 55 54.1**	**-0.7**
FORT	**Forrest**	**42.36**	**263**	P	**P**	**23 55 54.3**	**-0.9**
WRA	**Warramunga Arr**	**42.47**	**281**	P	**P**	**23 55 55.7**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=122,slow=7.4,SNR=36 comp=Z,2.7nm,0.3s						
MTN	**Manton Dam**	**49.12**	**287**	P	**P**	**23 56 48.0**	**-0.6**
MTN				IAmb	IAmb	23 56 48.4	
	comp=Z,4.6nm,0.9s						
KNRA	**Kununurra**	**49.25**	**282**	P	**P**	**23 56 49.5**	**-0.2**
KNRA				IAmb	IAmb	23 56 53.6	
	comp=Z,6.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.34**	**277**	P	**P**	**23 56 57.3**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=121,slow=5.9,SNR=2.4 comp=Z,1.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.34**	**277**	P	**P**	**23 56 57.7**	**-0.2**
FITZ				IAmb	IAmb	23 56 58.2	
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**144.62**	**344**	PKP	**PKPab**	**00 07 34.5**	**-0.3**
	comp=Z,1.9nm,1.0s,baz=46,slow=2.6,SNR=1.1						
FINES	**FINESS Array B**	**150.46**	**334**	PKPbc	**PKiKP**	**00 07 51.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=46,slow=5.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**155.90**	**186**	PKPab	**PKPab**	**00 08 22.8**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=179,slow=3.4,SNR=2.3						

IDC 24 23:49:09.9±5.0,**31°90S**×**178°10W**,**h0**km,**mb3.8**/3,

mbtmp3.8/3,*Error ellipse:* **s-maj=197.7km s-min=59.3km az=162.0**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.98**	**281**	P	P	23 55 57.4	+1.9
	1.3nm,0.6s,baz=101,slow=10,SNR=1.5 1.3nm,0.6s						
ASAR	**Alice Springs**	**42.97**	**269**	P	P	23 57 10.3	-0.7
	0.8nm,0.7s,baz=104,slow=7.6,SNR=6.0 0.8nm,0.7s						
WRA	**Warramunga Arr**	**44.09**	**274**	P	P	23 57 19.1	-1.0
	0.6nm,0.3s,baz=113,slow=7.9,SNR=6.8 0.6nm,0.3s						
FINES	**FINESS Array B**	**146.52**	**339**	PKPbc	PKPdf	00 08 51.6	+0.6
	1.0nm,0.7s,baz=43,slow=4.0,SNR=4.0						

NOU ***24*** *23:51:36.8,32°.59S×174°.44W,h0km,mb5.1/24,South of Kermadec Islands*

WEL ***24*** *23:52:00.6±1.0,32°S±7°×17°8W±2°1,h10km,M5.2/15, mB5.5/6,ML5.7/15,MLv5.5/15,Mw(mB)4.9/6,Error ellipse: s-maj=0.0km s-min=0.0km az=106.9*

BJI ***24*** *23:52:01.6±0.0,31°.87S×177°.50W,h10km,mb5.3/14, mB5.5/9,Ms5.3/5,Ms7 4.9/4*

IDC ***24*** *23:52:01.8±0.5,32°.23S×178°.08W,h0km,mb4.5/15, mbtmp4.5/19,ML5.0/3,MS4.7/15,Error ellipse: s-maj=16.7km s-min=14.6km az=86.0*

NEIC ***24*** *23:52:03.9±1.9,32°.36S±0°.07×178°.1W±0°.1,h10km±1km, mb5.2/64,Error ellipse: s-maj=15.9km s-min=10.6km az=105.0*

MOS ***24*** *23:52:05.1±1.9,32°.27S×178°.38W,h21km,mb5.1/12, MS5.3/4,Error ellipse: s-maj=17.0km s-min=12.1km az=105.8*

ISC 24 23:52:04.5±0.3,**32°41S**±0°04×**178°10W**±0°06,**h20**km, **n358**,σ1**§57**/357,**mb5.1**/69,**MS4.9**/25,**16C-10D**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.14**	**3**	P	**Pn**	**23 52 50.3**	**-2.6**
GLKZ				S	**Sn**	**23 53 27.8**	**-2.0**
RAO	**Raoul Island**	**3.15**	**3**	Pn	**Pn**	**23 52 50.7**	**-2.3**
	145nm,0.3s,baz=114,slow=20,SNR=9.3						
RAO				Sn	**Sn**	**23 53 26.9**	**-3.1**
	248nm,0.3s,baz=252,slow=23,SNR=4.8 408nm,0.2s						
RAO	**Raoul Island**	**3.15**	**3**	Pn	**Pn**	**23 52 51.2**	**-1.8**
RAO	**Raoul Island**	**3.15**	**3**	P	Pn	23 52 46.8	-6.2
RIZ	**Raoul Island**	**3.16**	**3**	P	**Pn**	**23 52 51.2**	**-1.8**
RIZ				S	**Sn**	**23 53 29.8**	**-0.4**
MXZ	**Matakaoa Point**	**5.92**	**209**	Pn	**Pn**	**23 53 29.2**	**-1.8**
MXZ	**Matakaoa Point**	**5.92**	**209**	P	**Pn**	**23 53 29.6**	**-1.5**
MXZ				S	**Sn**	**23 54 35.2**	**-3.1**
WMGZ	**Waiomatatini S**	**6.10**	**207**	P	**Pn**	**23 53 30.7**	**-2.8**
WMGZ				S	**Sn**	**23 54 41.4**	**-1.4**
PKGZ	**Pakihiroa**	**6.30**	**209**	P	**Pn**	**23 53 33.9**	**-2.3**
PKGZ				S	**Sn**	**23 54 45.5**	**-2.1**
HAZ	**Te Kaha**	**6.31**	**211**	P	**Pn**	**23 53 34.9**	**-1.5**
HAZ				S	**Sn**	**23 54 47.3**	**-0.6**
PUZ	**Puketiti**	**6.38**	**207**	P	**Pn**	**23 53 34.1**	**-3.3**
PUZ				S	**Sn**	**23 54 47.6**	**-2.2**
RUGZ	**Raukumara Rang**	**6.53**	**211**	P	**Pn**	**23 53 37.4**	**-2.1**
RUGZ				S	**Sn**	**23 54 52.1**	**-1.4**
TWGZ	**Tauwhareparae**	**6.58**	**208**	P	**Pn**	**23 53 38.1**	**-2.1**
TWGZ				S	**Sn**	**23 54 53.4**	**-1.3**
CNGZ	**Carnagh Statio**	**6.77**	**205**	P	**Pn**	**23 53 39.1**	**-3.5**
TKGZ	**Te Karaka**	**6.86**	**208**	P	**Pn**	**23 53 44.1**	**+0.1**
TKGZ				S	**Sn**	**23 54 58.3**	**-3.2**
MWZ	**Matawai**	**6.90**	**210**	P	**Pn**	**23 53 41.8**	**-2.8**
MWZ				S	**Sn**	**23 54 59.6**	**-3.0**
URZ	**Urewera**	**7.02**	**213**	Pn	**Pn**	**23 53 43.2**	**-2.9**
	19nm,0.3s,baz=134,slow=5.5,SNR=34						
URZ				Sn	**Sn**	**23 55 02.4**	**-3.1**
	32nm,0.3s,baz=346,slow=3.0,SNR=12						
URZ	**Urewera**	**7.02**	**213**	Pn	**Pn**	**23 53 43.4**	**-2.8**
URZ	**Urewera**	**7.02**	**213**	P	**Pn**	**23 53 43.4**	**-2.8**
URZ				S	**Sn**	**23 55 02.8**	**-2.6**
URZ	**Urewera**	**7.02**	**213**	P	**Pn**	**23 53 45.7**	**-0.5**
TGRZ	**Tauranga**	**7.04**	**220**	P	**Pn**	**23 53 46.5**	**+0.2**
RAGZ	**Rawiri**	**7.09**	**210**	P	**Pn**	**23 53 44.6**	**-2.5**
RAGZ				S	**Sn**	**23 55 03.9**	**-3.2**
RIGZ	**Rimuhau**	**7.13**	**207**	P	**Pn**	**23 53 46.6**	**-1.0**
RIGZ				S	**Sn**	**23 55 05.0**	**-3.0**
MKAZ	**Moumakai**	**7.26**	**228**	P	**Pn**	**23 53 52.8**	**+3.5**
MUGZ	**Murupara**	**7.36**	**213**	P	**Pn**	**23 53 48.5**	**-2.3**
RTZ	**Ruatahuna**	**7.38**	**212**	P	**Pn**	**23 53 49.7**	**-1.3**
KNZ	**Kokohu**	**7.44**	**206**	P	**Pn**	**23 53 48.1**	**-3.7**
TOZ	**Tahuroa Road**	**7.46**	**223**	P	**Pn**	**23 53 52.8**	**+0.7**
RAHZ	**Arahi**	**7.58**	**210**	P	**Pn**	**23 53 52.7**	**-1.1**
BKZ	**Black Stump Fm**	**8.04**	**212**	P	**Pn**	**23 53 58.4**	**-1.8**
RPZ	**Rata Peaks**	**14.14**	**214**	Pn	Pn	23 55 17.6	-6.0
	2.4nm,0.3s,baz=174,slow=2.1,SNR=7.8						
RPZ				Sn	Sn	23 57 42.6	-17
	2.6nm,0.3s,baz=305,slow=21,SNR=11						
RPZ	**Rata Peaks**	**14.14**	**214**	P	**Pn**	**23 55 22.5**	**-1.1**
	142nm,0.6s						
MSVF	**Nonsavu**	**15.02**	**346**	Pn	**Pn**	**23 55 34.2**	**-1.6**
	0.4nm,0.3s,baz=143,slow=13,SNR=13 13nm,0.8s						
MSVF	**Nonsavu**	**15.02**	**346**	Pn	**Pn**	**23 55 34.8**	**-0.9**
MSVF	**Nonsavu**	**15.02**	**346**	‖eP	**Pn**	**23 55 35.8**	**0.0**
ODZ	**Otahua Downs**	**15.35**	**212**	P	**Pn**	**23 55 34.8**	**-5.1**
PINNC	**Pines Island,**	**16.10**	**304**	P	**P**	**23 55 51.9**	**-1.0**
MARNC	**Mare, Loyalty**	**16.46**	**308**	Pn	**Pn**	**23 55 54.9**	**+0.7**
YATNC	**Mamie plateau,**	**16.85**	**304**	P	**P**	**23 56 05.5**	**+4.3**
ONTNC	**Ouen Toro**	**17.00**	**302**		**P**	**23 56 03.0**	**+0.1**
ONTNC				IAmb	IAmb	23 56 09.7	
	comp=Z,142nm,1.1s						
DZM	**Mont Dzumac**	**17.16**	**303**	*e*Pn	**Pn**	**23 56 03.1**	**-0.1**
	comp=Z,216nm,1.4s						
DZM				*e*LR	LR	23 59 59.8	
	comp=Z,4μm,22.7s						
DZM	**Mont Dzumac**	**17.16**	**303**	Pn	**P**	**23 56 07.2**	**+2.5**
	comp=Z,1.7nm,0.3s,baz=104,slow=13,SNR=20						
DZM				LR	LR	00 01 38.7	
	comp=Z,7μm,18.3s,baz=190,slow=34						
DZM	**Mont Dzumac**	**17.16**	**303**		**P**	**23 56 04.5**	**-0.2**
DZM	**Mont Dzumac**	**17.16**	**303**	P	**P**	**23 56 10.6**	**+5.9**
NOUC	**Port Laguerre**	**17.24**	**303**	P	**P**	**23 56 09.7**	**+4.2**
LIFNC	**LIFOU**	**17.48**	**308**	P	**P**	**23 56 07.4**	**-0.7**
LIFNC				IAmb	IAmb	23 56 14.2	
	comp=Z,340nm,1.8s						
LIFNC	**LIFOU**	**17.48**	**308**	P	**P**	**23 56 12.2**	**+4.1**
AFI	**Afiamalu**	**19.30**	**19**	P	**P**	**23 56 25.7**	**-2.7**
	comp=Z,2.3nm,0.3s,baz=79,slow=11,SNR=4.9 comp=Z,20nm,0.6s						
AFI	**Afiamalu**	**19.30**	**19**	P	**P**	**23 56 26.4**	**-2.0**
AFI	**Afiamalu**	**19.30**	**19**	P	**P**	**23 56 26.4**	**-2.0**
AFI				pmax	pmax		
	comp=Z,46nm,0.7s						
LHI	**Lord Howe Isla**	**19.39**	**267**	P	**P**	**23 56 29.5**	**+0.3**
LHI				IAmb	IAmb	23 56 33.6	
	comp=Z,132nm,1.6s						
KOUNC	**Koumac, New Ca**	**19.67**	**303**	P	**Pn**	**23 56 33.1**	**-0.6**
KOUNC				IAmb	IAmb	23 56 41.4	
	comp=Z,119nm,1.1s						
KOUNC	**Koumac, New Ca**	**19.67**	**303**	P	**Pn**	**23 56 36.1**	**+2.4**
RAR	**Rarotonga**	**19.77**	**60**	P	**P**	**23 56 32.3**	**-1.0**
	comp=Z,24nm,0.7s,baz=228,slow=7.8,SNR=9.6						
RAR				LR	LR	00 04 47.6	
	comp=Z,2μm,18.5s,baz=246,slow=39						
RAR	**Rarotonga**	**19.77**	**60**	P	**P**	**23 56 33.5**	**+0.2**
RAR	**Rarotonga**	**19.77**	**60**	P	**P**	**23 56 33.5**	**+0.2**
RAR				pmax	pmax		
	comp=Z,33nm,0.9s						
MGCD	**Mangrove Creek**	**25.85**	**260**	P	**P**	**23 57 37.6**	**+2.9**
ARMA	**Armidale**	**25.87**	**266**	P	**P**	**23 57 36.1**	**+1.0**
ARMA				IAmb	IAmb	23 57 42.5	
	comp=Z,122nm,1.6s						
ARMA	**Armidale**	**25.87**	**266**	P	**P**	**23 57 38.8**	**+3.7**
CNB	**Canberra Magne**	**27.11**	**255**	P	**P**	**23 57 47.4**	**+1.3**
CAN	**Canberra**	**27.41**	**255**	P	**P**	**23 57 48.9**	**+0.1**
CAN	**Canberra**	**27.41**	**255**	P	**P**	**23 57 48.9**	**+0.1**
CAN				pmax	pmax		
	comp=Z,27nm,1.2s						
EIDS	**Eidsvold**	**27.82**	**277**	P	**P**	**23 57 52.4**	**-0.1**
EIDS	**Eidsvold**	**27.82**	**277**	P	**P**	**23 57 54.4**	**+1.9**
TAU	**Tasmania Unive**	**29.13**	**239**	P	**P**	**23 58 04.5**	**+0.5**
TAU	**Tasmania Unive**	**29.13**	**239**	P	**P**	**23 58 04.5**	**+0.5**
TAU				pmax	pmax		
	comp=Z,224nm,1.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMQ	**Roma**	**29.38**	**273**	P	**P**	**23 58 08.4**	**+2.0**
PAE	**Paea**	**29.60**	**67**	*e*T	T	00 28 55.5	
	comp=Z,1.8nm,0.3s						
PPT2	**Papeete2**	**29.65**	**67**	*e*LR	LR	00 05 46.4	
	comp=Z,2μm,32.2s						
PPT	**Papeete**	**29.66**	**67**	LR	LR	00 08 57.0	
	comp=Z,1μm,18.2s,baz=210,slow=34						
TOO	**Toolangi**	**30.14**	**250**	P	**P**	**23 58 14.3**	**+1.2**
TOO				IAmb	IAmb	23 58 25.5	
	comp=Z,43nm,1.6s						
TOO	**Toolangi**	**30.14**	**250**	P	**P**	**23 58 14.3**	**+1.2**
TOO				pmax	pmax		
	comp=Z,43nm,1.6s						
CMSA	**Cobar Meteorol**	**30.64**	**262**	P	**P**	**23 58 19.4**	**+1.9**
ARPS	**Mount Arapiles**	**33.10**	**251**	P	**P**	**23 58 39.9**	**+0.9**
STKA	**Stephens Creek**	**33.99**	**260**	P	**P**	**23 58 47.8**	**+0.9**
	comp=Z,5.7nm,0.6s,baz=107,slow=12,SNR=12						
STKA				LR	LR	00 12 29.8	
	comp=Z,2μm,18.0s,baz=84,slow=36 comp=Z,5.7nm,0.6s						
STKA	**Stephens Creek**	**33.99**	**260**	P	**P**	**23 58 47.3**	**+0.4**
CTA	**Charters Tower**	**34.09**	**282**	P	**P**	**23 58 49.6**	**+1.8**
	comp=Z,20nm,0.6s,baz=110,slow=10.0,SNR=46						
CTA				LR	LR	00 10 55.7	
	comp=Z,1μm,18.2s,baz=97,slow=33 comp=Z,20nm,0.6s						
CTA	**Charters Tower**	**34.09**	**282**	P	**P**	**23 58 49.5**	**+1.7**
CTAO	**Charters Tower**	**34.09**	**282**	P	**P**	**23 58 49.2**	**+1.4**
CTAO	**Charters Tower**	**34.09**	**282**	P	**P**	**23 58 49.2**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,151nm,1.7s						
CTAO	**Charters Tower**	**34.09**	**282**	P	**P**	**23 58 49.5**	**+1.7**
INKA	**Innaminka**	**35.76**	**267**	P	**P**	**23 59 04.1**	**+1.9**
HTT	**Hallett**	**35.90**	**256**	P	**P**	**23 59 04.1**	**+0.7**
LCRK	**Leigh Creek**	**37.14**	**261**	P	**P**	**23 59 14.5**	**+0.6**
BBOO	**Buckleboo**	**38.38**	**257**	P	**P**	**23 59 23.7**	**-0.8**
BBOO				IAmb	IAmb	23 59 26.2	
	comp=Z,62nm,1.6s						
BBOO	**Buckleboo**	**38.38**	**257**	P	**P**	**23 59 24.0**	**-0.4**
PMG	**Port Moresby**	**39.43**	**298**	P	**P**	**23 59 34.5**	**+1.2**
	comp=Z,7.0nm,0.6s,baz=121,slow=20,SNR=3.6						
PMG				LR	LR	00 13 58.8	
	comp=Z,786nm,21.8s,baz=186,slow=34 comp=Z,7.0nm,0.6s						
PMG	**Port Moresby**	**39.43**	**298**	P	**P**	**23 59 33.3**	**0.0**
PMG	**Port Moresby**	**39.43**	**298**	‖*e*P	**P**	**23 59 34.9**	**+1.6**
PMG				pmax	pmax		
	comp=Z,22nm,1.5s						
KRVT	**Keravat (AS076**	**39.54**	**309**	P	**P**	**23 59 35.0**	**+0.8**
	comp=Z,179nm,0.6s,baz=169,slow=2.5,SNR=18						
**

comp=Z,55nm,1.3s
SNAA Sanae 76.15 178 *ce*P **P 00 03 52.0 +1.3**
SNAA pmax pmax
comp=Z,9.0nm,1.3s
VNA3 Neumayer Olymp 76.31 176 P **P 00 03 51.6 +0.1**
VNA3 Neumayer Olymp 76.31 176 PcP **PcP 00 04 02.2 -1.1**
VNA2 Neumayer--Watz 76.74 177 P **P 00 03 55.2 +1.2**
baz=176,slow=5.0
VNA2 Neumayer--Watz 76.74 177 PcP **PcP 00 04 04.2 -1.0**
NVL N'lazarevskaya 76.87 183 *e*P P 00 04 03.8 +9.2
NVL pmax pmax
comp=Z,9.0nm,1.1s
VNA1 Neumayer--Stat 76.97 177 P **P 00 03 56.6 +1.4**
VNA1 Neumayer--Stat 76.97 177 PcP **PcP 00 04 05.5 -0.7**
COYC Coyhaique 77.54 136 P **P 00 03 59.2 +0.3**
COYC IAmb IAmb 00 04 16.9
comp=Z,16nm,1.0s
LL02 Futaleuf 79.01 134 P **P 00 04 07.0 0.0**
LL02 IAmb IAmb 00 04 12.0
comp=Z,12nm,0.8s
MJAR Matsushiro Arr 79.84 326 P **P 00 04 09.4 -2.1**
comp=Z,3.3nm,1.1s,baz=174,slow=4.1,SNR=6.2
comp=Z,3.3nm,1.1s
MAJO Matsushiro 79.85 326⇑ *e*P **P 00 04 12.3 +0.8**
MAJO pmax pmax
comp=Z,5.0nm,1.1s
JSD Sado 81.02 327 P **P 00 04 17.5 -0.2**
EFI East Falkland 81.16 147 P **P 00 04 19.3 +0.9**
EFI East Falkland 81.16 147 P **P 00 04 19.3 +0.9**
EFI pmax pmax
comp=Z,125nm,1.7s
PLCA Paso Flores 81.20 133 P **P 00 04 19.8 +0.7**
comp=Z,2.7nm,0.8s,baz=270,slow=4.4,SNR=6.0
comp=Z,2.7nm,0.8s
ERM Erimo 82.19 332 P **P 00 04 24.1 +0.3**
ERM IAmb IAmb 00 05 21.8
comp=Z,49nm,1.4s
ERM Erimo 82.19 332 P **P 00 04 24.1 +0.3**
ERM pmax pmax
comp=Z,49nm,1.5s
ADK Adak 83.94 1 P **P 00 04 33.0 +0.4**
ADK Adak 83.94 1 P **P 00 04 33.0 +0.4**
ADK pmax pmax
comp=Z,54nm,1.3s
BO02 Sierra Bellavi 84.50 128 P **P 00 04 36.1 -0.2**
BO02 IAmb IAmb 00 04 51.5
comp=Z,7.7nm,0.8s
MT01 Popeta 84.73 127 P **P 00 04 37.5 +0.1**
MT01 IAmb IAmb 00 04 55.7
comp=Z,17nm,1.1s
SHEM Shemya Is, Ala 85.06 355 LR LR 00 38 26.0
comp=Z,273nm,18.7s,baz=119,slow=33
KSRS Korea Array 85.82 320 P **P 00 04 42.1 -0.3**
comp=Z,1.8nm,0.7s,baz=142,slow=5.4,SNR=8.5
KSRS LR LR 00 40 41.8
comp=Z,181nm,19.7s,baz=135,slow=34
comp=Z,1.8nm,0.7s
KSAR Wonju Array Be 85.83 320 P **P 00 04 42.2 -0.3**
KSAR Wonju Array Be 85.83 320 P **P 00 04 42.2 -0.3**
YSS Yuzh-Sakhalins 86.52 334 P **P 00 04 46.1 +0.5**
YSS IAmb IAmb 00 04 48.0
comp=Z,24nm,1.0s
YSS Yuzh-Sakhalins 86.52 334⇓ *e*P **P 00 04 47.3 +1.7**
YSS pmax pmax
comp=Z,22nm,1.3s
PET Petropavlovsk 87.46 346⇑ *e*P **P 00 04 50.9 +0.9**
PET pmax pmax
comp=Z,9.0nm,1.0s
NJ2 Nanjing 87.49 311 *e*P **P 00 04 52.5 +1.8**
NJ2 pmax pmax
comp=Z,20nm,0.5s
PEA0B Petropavlovsk- 87.73 346 P **P 00 04 52.1 +0.7**
PEA0B Petropavlovsk- 87.73 346 P **P 00 04 52.1 +0.7**
PEA0B pmax pmax
comp=Z,52nm,1.4s
PETK Petropavlovsk- 87.73 346 P **P 00 04 52.0 +0.6**
comp=Z,5.5nm,0.9s,baz=102,slow=11,SNR=5.7
comp=Z,5.5nm,0.9s
PETK Petropavlovsk- 87.73 346 P **P 00 04 52.1 +0.7**
ISA Isabella, Lake 87.78 45 P **P 00 04 53.9 +1.7**
ISA Isabella, Lake 87.78 45 P **P 00 04 53.9 +1.7**
ISA pmax pmax
comp=Z,7.0nm,1.1s
GSC Goldstone, Bar 88.54 46 P **P 00 04 57.0 +1.2**
GSC Goldstone, Bar 88.54 46 P **P 00 04 57.0 +1.2**
GSC pmax pmax
comp=Z,11nm,0.3s
113A Mohawk Valley, 88.78 49 P **P 00 04 56.2 -0.7**
113A IAmb IAmb 00 05 34.8
comp=Z,13nm,1.5s
MDPB Devils Postpil 88.78 43 P **P 00 04 55.5 -1.6**
MDPB IAmb IAmb 00 05 15.0
comp=Z,8.2nm,0.7s
USRK Ussuriysk Ar. 88.79 327 P **P 00 04 56.1 -0.5**
comp=Z,4.9nm,1.0s,baz=113,slow=4.4,SNR=6.5
comp=Z,4.9nm,1.0s
USRK Ussuriysk Ar. 88.79 327 P **P 00 04 57.2 +0.6**
USRK Ussuriysk Ar. 88.79 327 P **P 00 04 57.2 +0.6**
LHV Little Huntoon 89.53 43 P **P 00 05 00.6 +0.4**
LHV IAmb IAmb 00 06 25.2
comp=Z,8.3nm,1.0s
NVAR Mina Array Bea 89.77 43 P **P 00 05 03.5 +1.8**
comp=Z,1.1nm,0.9s,baz=219,slow=7.0,SNR=2.8
comp=Z,1.1nm,0.9s
NVAR Mina Array Bea 89.77 43 P **P 00 05 03.0 +1.3**
TPH Tonopah 90.16 44 P **P 00 05 04.7 +1.3**
TPH Tonopah 90.16 44 P **P 00 05 04.7 +1.3**
TPH pmax pmax
comp=Z,43nm,1.3s
W13A Hualapai Mount 90.21 48 P **P 00 05 03.4 -0.4**
TUC Tucson 90.43 51 P **P 00 05 06.8 +2.1**
TUC Tucson 90.43 51 P **P 00 05 06.8 +2.1**
TUC pmax pmax
comp=Z,6.0nm,1.2s
TIA Tai'an 91.28 313⇑ P P 00 05 01.9 -6.5
TIA pmax pmax
comp=Z,6.0nm,0.4s
ENH Enshi 92.66 304 P **P 00 05 12.9 -2.1**
ENH IAmb IAmb 00 05 38.7
comp=Z,23nm,1.6s
KLR Kul'dur 92.72 330 P **P 00 05 14.8 0.0**
comp=Z,1.9nm,0.6s,baz=87,slow=3.2,SNR=5.3
comp=Z,1.9nm,0.6s
KLR Kul'dur 92.72 330⇓ *e*P **P 00 05 15.7 +0.9**
KLR pmax pmax
comp=Z,6.0nm,1.5s
NNA Nana 92.95 106 LR LR 00 40 48.6
comp=Z,418nm,18.1s,baz=200,slow=32
LYN LuoYang 93.20 309 ⇓P **P 00 05 17.4 0.0**
LYN pmax pmax
comp=Z,10.0nm,1.0s
LYN pmax pmax
comp=Z,140nm,5.8s
LYN LR LR
comp=Z,190nm,16.3s
LYN LR LR
comp=Z,260nm,18.6s
LYN LR LR
comp=Z,440nm,18.0s
TXAR Lajitas Array 93.54 57 P **P 00 05 20.4 +1.1**
comp=Z,0.1nm,0.5s,baz=226,slow=6.2,SNR=1.6
comp=Z,0.1nm,0.5s
ILSW Iliamna Southw 94.33 12 P **P 00 05 23.1 +1.0**
ILSW IAmb IAmb 00 09 06.5
comp=Z,29nm,1.7s
KMI Kunming 94.65 297⇑ P **P 00 05 26.8 +2.2**
KMI pmax pmax
comp=Z,13nm,0.5s
SUA Susitna One 96.15 13 P **P 00 05 31.6 +1.3**
PZH PanZhiHua 96.15 297 P **P 00 05 33.8 +2.5**
PZH S **S 00 16 50.6 +0.8**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,110nm,6.3s
PZH LR LR
comp=Z,430nm,17.1s
PZH LR LR
comp=Z,230nm,18.8s
PZH LR LR
comp=Z,380nm,18.1s
CD2 Chengdu 97.08 302 *e*P Pdif 00 05 36.0 +0.6
HHC Hu-ho-hao-te 97.56 314 *e*P Pdif 00 05 38.8 +1.4
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax

comp=Z,570nm,7.7s
WMQ Urumqi 114.39 308 *e*PKP **PKiKP 00 10 43.3 +0.6**
WMQ LR LR
comp=Z,1μm,29.2s
MK31 Makanchi Array 118.99 309 **PKPdf 00 10 50.8 -0.6**
MK31 Makanchi Array 118.99 309 PKIKP **PKPdf 00 10 50.8 -0.6**
MKAR Makanchi Array 118.99 309 PKP **PKPdf 00 10 50.9 -0.6**
comp=Z,1.4nm,0.7s,baz=150,slow=1.1,SNR=11
MKAR Makanchi Array 118.99 309 PKPdf **PKPdf 00 10 50.7 -0.7**
MAKZ Makanchi 119.20 309 PKPdf **PKPdf 00 10 51.3 -0.5**
MAKZ Makanchi 119.20 309 PKIKP **PKPdf 00 10 51.3 -0.5**
ZALV Zalesovo Beam 119.47 318 PKP **PKPdf 00 10 51.4 -0.6**
comp=Z,0.7nm,0.3s,baz=62,slow=3.4,SNR=3.8
NRIK Noril'sk 121.43 335 PKP **PKPdf 00 10 54.8 -0.6**
comp=Z,1.6nm,0.7s,baz=117,slow=4.5,SNR=2.0
KURK Kurchatov 122.36 313 PKPdf **PKPdf 00 10 57.1 -0.6**
KURK Kurchatov 122.36 313 PKIKP **PKPdf 00 10 57.3 -0.4**
KURBB Kurchatov Arra 122.40 313 PKP **PKPdf 00 10 57.3 -0.5**
comp=Z,3.4nm,0.7s,baz=110,slow=1.9,SNR=28
KBL Kabul 124.91 292 PKPdf **PKiKP 00 11 03.5 -0.3**
KBL Kabul 124.91 292 PKIKP **PKiKP 00 11 03.5 -0.3**
BTK Batken 125.13 299 PKPdf **PKPdf 00 11 03.5 0.0**
BTK Batken 125.13 299 PKIKP **PKPdf 00 11 03.5 0.0**
GAR Garm 125.22 298 **PKiKP 00 11 04.0 -0.1**
CHGR Chuyangaron 126.00 297 **PKPdf 00 11 05.3 0.0**
CHGR Chuyangaron 126.00 297 PKIKP **PKPdf 00 11 05.3 0.0**
KK31 Karatay Array 126.09 302 PKPdf **PKPdf 00 11 05.0 -0.1**
KK31 Karatay Array 126.09 302 PKIKP **PKPdf 00 11 05.1 -0.1**
KKAR Karatay Array 126.09 302 PKPdf **PKPdf 00 11 04.5 -0.7**
KKAR Karatay Array 126.09 302 **PKPdf 00 11 05.0 -0.1**
KKAR Karatay Array 126.09 302 PKIKP **PKPdf 00 11 05.0 -0.1**
BVAR Borovoye Array 127.77 315 PKP **PKiKP 00 11 08.5 -0.1**
comp=Z,2.3nm,0.6s,baz=114,slow=1.8,SNR=12
BRVK Borovoye 127.83 315 PKPdf **PKPdf 00 11 07.8 -0.3**
BRVK Borovoye 127.83 315 *d* iPKIKP **PKiKP 00 11 08.4 -0.3**
BRVK pmax pmax
comp=Z,11nm,1.3s
HRA Herat 130.24 290 PKPdf **PKPdf 00 11 13.5 -0.1**
ABKAR Akbulak array 134.13 309 PKPdf **PKPdf 00 11 20.1 -0.1**
ABKAR Akbulak array 134.13 309 PKPdf **PKPdf 00 11 20.3 +0.1**
GEYT Alibeck 134.30 293 PKP **PKPdf 00 11 20.1 -0.9**
comp=Z,3.1nm,0.8s,baz=318,slow=2.0,SNR=5.6
GEYT SKPbc **SKPab 00 14 51.0 -1.6**
comp=Z,2.2nm,0.7s,baz=258,slow=4.3,SNR=4.6
GEYT Alibeck 134.30 293 PKPdf **PKPdf 00 11 20.8 -0.1**
ARU Arti 134.57 319 PKP **PKPdf 00 11 20.7 -0.1**
comp=Z,1.8nm,0.4s,baz=106,slow=1.6,SNR=6.6
ARU Arti 134.57 319 PKPdf **PKPdf 00 11 19.9 -0.9**
ARU Arti 134.57 319 *i* PKIKP **PKPdf 00 11 20.9 +0.1**
ARU 00 13 52.2
AKTO Aktyubinsk 135.37 311 PKP **PKPdf 00 11 22.8 +0.3**
comp=Z,1.9nm,0.7s,baz=117,slow=3.5,SNR=5.9
PRGR Permogore 139.51 329 *e*PKIKP **PKiKP 00 11 34.1 +2.1**
PRGR pmax pmax
comp=Z,7.0nm,0.9s
ARA0 ARCESS Array S 140.53 347 *e* **PKPdf 00 11 26.6 -4.8**
ARA0 *e*PKPdf **PKiKP 00 11 32.5 -1.5**
ARCES ARCESS Array B 140.53 347 PKhKP PKPpre 00 11 24.8
ARCES SKPbc **SKiKP 00 15 10.5 +1.6**
comp=Z,0.8nm,0.6s,baz=48,slow=2.7,SNR=5.2
RAYN Ar Rayn 140.71 268 **PKPdf 00 11 32.6 -0.6**
RAYN Ar Rayn 140.71 268 PKIKP **PKPdf 00 11 32.6 -0.6**
KLMR Klimovskoe 142.48 331 *e*PKHKP PKPpre 00 11 28.4
KLMR pmax pmax
comp=Z,20nm,1.4s
KLMR Klimovskoe 142.48 331 *e*PKPdf **PKPdf 00 11 28.5 -6.6**
KLMR AMP 00 11 43.3
comp=Z,20nm,1.4s
KLMR *e*PP **SKPbc 00 15 14.0 +2.2**
MAK Makhachkala 142.81 300 *e*P **Pdif 00 08 54.7 -3.6**
MAK *i* 00 11 34.4
MAK *e*SS SS 00 33 14.1 -8.5
MAK *e*SSS SSS 00 38 38.5
MAK pmax pmax
comp=Z,154nm,1.1s
MOR8 Moi Rana 145.37 351 *e*PKPbc **PKPbc 00 11 39.5 -0.5**
VRH Novokhopyorsk 145.42 315 *e*PKP2 **PKPbc 00 11 39.6 -0.9**
VRH pmax pmax
comp=Z,20nm,0.7s
ONI Oni 145.81 299 PKPdf **PKPbc 00 11 42.1 0.0**
ONI Oni 145.81 299 PKIKP **PKPbc 00 11 42.1 0.0**
GOF Gofitskoye 145.87 304⇑ *e*PKP2 **PKPdf 00 11 39.8 -1.7**
GOF pmax pmax
comp=Z,47nm,0.9s
MOS Moscow 145.92 324 *i* PKIKP **PKPbc 00 11 41.5 -0.4**
MOS pmax pmax
comp=Z,181nm,1.3s
KBZ Khabaz 146.12 301 PKPbc **PKPbc 00 11 43.0 0.0**
comp=Z,5.8nm,0.7s,baz=124,slow=3.4,SNR=15
KBZ Khabaz 146.12 301⇓ *e*PKP2 **PKPab 00 11 43.4 -0.2**
KIV Kislovodsk 146.25 302 *i* PKP2 **PKPab 00 11 43.9 -0.4**
KIV pmax pmax
comp=Z,13nm,1.1s
LPSR Galich'ya Gora 146.57 318 *e*PKP2 **PKPbc 00 11 43.8 -0.2**
LPSR pmax pmax
comp=Z,100nm,0.8s
OBN Obninsk 146.75 323 **PKPbc 00 11 44.2 -0.2**
OBN Obninsk 146.75 323 *c* iPKP2 **PKPbc 00 11 44.3 -0.1**
OBN pmax pmax
comp=Z,149nm,1.7s
VORR Voronezh 146.75 316 *e*PKP2 **PKPab 00 11 45.2 -0.6**
VORR pmax pmax
comp=Z,230nm,1.4s
PUL Pulkovo 146.77 334 *ce*PKP2 **PKPab 00 11 45.0 -0.6**
PUL pmax pmax
comp=Z,78nm,0.6s
VSR Storozhevoye 146.94 316 *e*PKP2 **PKPbc 00 11 44.8 -0.3**
VSR pmax pmax
comp=Z,120nm,1.6s
GURO Guroymak-BITLI 146.94 292 **PKPdf 00 11 44.2 +0.4**
FIA1 FINESS Array S 146.99 339 PKPdf **PKPdf 00 11 43.7 +0.9**
FINES FINESS Array B 146.99 339 PKPbc **PKPbc 00 11 44.7 -0.2**
comp=Z,22nm,0.6s,baz=61,slow=2.7,SNR=149
FINES FINESS Array B 146.99 339 PKPdf **PKPbc 00 11 44.1 -0.8**
MARD Mardin 147.88 290 PKPdf **PKPdf 00 11 46.6 +1.3**
KOPT Kop Dagi 148.14 295 **PKiKP 00 11 50.2 -0.7**
SOC Sochi 148.43 302 *e*PKHKP **PKPdf 00 11 43.3 -2.6**
SOC *e* 00 15 17.9
SOC *e*PPP PPP 00 18 34.3
SOC *e*SS SS 00 34 28.4 +1.8
SOC *e*SSS SSS 00 40 04.5
MEF Metsahovi 148.47 339 *e*P **PKiKP 00 11 49.6 -0.9**
RAF Rauma 148.57 342 *e*P **PKPbc 00 11 49.2 0.0**
VSU Vasula 149.01 335 *e*P **PKiKP 00 11 51.0 -0.6**
MTSE Matsula 149.83 337 *e*P **PKPbc 00 11 51.3 -1.1**
ANN Anapa 149.84 305 *i* PKHKP **PKPbc 00 11 52.0 -0.9**
ANN pmax pmax
comp=Z,62nm,0.8s
DOMB Dombas 150.00 353 *e*PKPbc **PKiKP 00 11 53.6 0.0**
NC303 NORSAR Array S 150.52 351 **PKPbc 00 11 53.6 -0.4**
NC405 NORSAR Array S 150.58 350 **PKiKP 00 11 55.7 +0.9**
NB201 NORSAR Array S 150.70 351 **PKiKP 00 11 54.8 -0.3**
NB2 NORSAR Subarra 150.72 351 PKP **PKPbc 00 11 54.1 -0.4**
comp=Z,79nm,1.7s,baz=15,slow=4.1
NB2 NORSAR Subarra 150.72 351 PKPbc **PKPbc 00 11 54.1 -0.4**
baz=15,slow=4.1
NOA NORSAR Array B 150.72 351 PKPbc **PKPbc 00 11 54.2 -0.3**
comp=Z,3.9nm,0.6s,baz=14,slow=4.1,SNR=17
NAO01 NORSAR Array S 150.95 351 **PKPab 00 12 03.1 +0.6**
NC602 NORSAR Array S 150.97 350 **PKPbc 00 11 54.9 -0.1**
NC602 NORSAR Array S 150.97 350 *e*PKPbc **PKPbc 00 11 55.1 0.0**
MNK Minsk 151.26 328 *i* PKIKP **PKiKP 00 11 56.1 -0.3**
MNK *i* 00 12 03.3
MNK *i* 00 15 41.8
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,28nm,1.0s
SKAR Skarslia 151.41 353 *e*PKPbc **PKiKP 00 11 56.6 0.0**
IIGN Ignalina 151.41 331 *e*P **PKPbc 00 11 56.3 0.0**
BNN Bunyan 151.78 293 **PKPbc 00 11 56.6 -1.2**
VSVD Vaisvydziai 151.87 333 *e*P **PKiKP 00 11 57.7 +0.1**
PABE Paberze 152.21 333 **PKiKP 00 11 58.3 0.0**
PABE Paberze 152.21 333 *e*P **PKPbc 00 11 56.5 -1.6**
KONO Kongsberg 152.28 352 *e*PKPbc **PKiKP 00 11 59.9 +1.5**
AKASG Malin Array Be 152.82 320 PKPbc **PKiKP 00 11 59.5 -0.2**
comp=Z,6.8nm,0.9s,baz=52,slow=2.7,SNR=25
AKASG Malin Array Be 152.82 320 **PKPbc 00 11 59.3 -0.3**
AKBB Malin Array Si 152.82 320 **PKiKP 00 11 60.0 +0.2**
AKBB Malin Array Si 152.82 320 PKIKP **PKiKP 00 12 00.0 +0.2**
LIC Lamto 153.16 165⇑ *e*P **PKPab 00 12 08.1 -4.8**
comp=Z,32nm,0.8s

ILGA Ilgaz 153.20 298 **PKiKP 00 12 01.6 +0.4**
KIC Kosan Boka 153.35 165⇓ *i* P **PKiKP 00 12 04.7 +2.6**
comp=Z,5.2nm,0.5s
BR131 Keskin Array S 153.43 295 **PKPbc 00 12 01.0 -0.5**
BR131 Keskin Array S 153.43 295 PKIKP **PKPbc 00 12 01.0 -0.5**
BRTR Keskin Array B 153.43 295 PKPbc **PKPbc 00 12 01.4 -0.2**
comp=Z,4.7nm,0.7s,baz=134,slow=4.0,SNR=24
BRTR Keskin Array B 153.43 295 **PKPbc 00 12 00.9 -0.5**
TIC Toumodi 153.56 164⇓ *e*P **PKiKP 00 12 07.7 +5.2**
comp=Z,3.9nm,0.4s
DBIC Dimbokro 153.62 165 PKPbc **PKiKP 00 12 05.5 +2.9**
comp=Z,3.8nm,0.9s,baz=207,slow=2.3,SNR=2.4
ANTO Ankara 154.06 295⇑ P **PKiKP 00 12 03.8 +1.0**
ANTO Ankara 154.06 295 **PKiKP 00 12 03.2 +0.4**
ANTO Ankara 154.06 295 PKIKP **PKiKP 00 12 03.2 +0.4**
LVV L'vov 156.05 323 *e*PKP2 **PKPab 00 12 21.6 -2.8**
TESR Tescani 156.39 314⇓ P **PKPab 00 12 26.9 +0.9**
VRI Vrincioaia 156.64 312⇑ P **PKPab 00 12 27.8 +0.7**
BURAR Bucovina Array 156.69 317⇓ P PKPab 00 12 12.6 -15
PLOR Plostina 156.69 312⇑ P **PKPab 00 12 26.8 -0.6**
DOPR Dopca 157.42 314⇓ P **PKPab 00 12 32.4 +1.9**
OJC Ojcow 157.80 328 *e*PKPab **PKPab 00 12 30.6 -1.4**
CRVS Cervenica-Dubn 157.93 324 *e*PKP2 **PKPab 00 12 33.1 +0.5**
DRGR 158.56 318⇑ P **PKPab 00 12 35.7 +0.3**
LANS Liptovska Anna 158.72 327 *e*PKP2 **PKPab 00 12 38.1 +2.1**
KSP Ksiaz 158.74 334 *e*PKPab **PKPab 00 12 36.4 +0.5**
OKC Ostrava-Krasne 158.80 330 AMS AMS 01 08 10.0
comp=Z,400nm,16.7s
OSTC Ostas 159.00 334 *e*PKP **PKPab 00 12 37.4 +0.3**
OSTC AMS AMS 01 00 10.0
comp=Z,800nm,21.7s
CHVC Chvalec 159.04 334 *e*PKP **PKPab 00 12 34.3 -3.0**
CHVC *ex* x 00 12 43.3
CHVC AMS AMS 01 13 50.0
comp=Z,600nm,18.2s
UPC Upice 159.12 334 AMS AMS 01 00 50.0
comp=Z,700nm,20.0s
DPC Dobruska-Polom 159.13 333 *e*PKP2 PKPab 00 12 25.0 -13
DPC MLR MLR
comp=Z,500nm,18.0s
DPC Dobruska-Polom 159.13 333 *e*PKP PKPab 00 12 25.0 -13
DPC *ex* x 00 12 37.6
DPC AMS AMS 01 20 00.0
comp=Z,500nm,18.0s
KRLC Kraliky 159.17 332 *e*PKP2 **PKPab 00 12 37.6 -0.3**
KRLC Kraliky 159.17 332 *e*PKP **PKPab 00 12 37.6 -0.3**
MAUC Maruska 159.29 330 AMS AMS 01 01 40.0
comp=Z,1μm,22.4s
CLL Collm 159.43 340 PKPab **PKPab 00 12 38.1 -0.8**
CLL Collm 159.43 340 PKP2 **PKPab 00 12 38.1 -0.8**
CLL Collm 159.43 340 *i* PKPab **PKPab 00 12 38.5 -0.4**
comp=Z,21nm,1.4s
VYHS Vyhne 159.48 326 *e*PKP2 **PKPab 00 12 39.4 +0.1**
BRG Berggiesshubel 159.53 338 *e*PKP2 **PKPab 00 12 39.5 +0.2**
BRG pmax pmax
comp=Z,13nm,1.4s
PVCC Panska Ves 159.61 336 *e*PKP2 **PKPab 00 12 40.2 +0.5**
PVCC MLR MLR
comp=Z,600nm,22.5s
PVCC Panska Ves 159.61 336 *e*PKP **PKPab 00 12 40.2 +0.5**
PVCC AMS AMS 01 08 00.0
comp=Z,600nm,22.5s
GOPC GO Pecny, Ondr 160.05 335 AMS AMS 01 05 00.0
comp=Z,700nm,22.1s
PRU Pruhonice 160.08 336 *e*PKP2 **PKPab 00 12 40.8 -1.0**
PRU MLR MLR
comp=Z,800nm,20.1s
PRU Pruhonice 160.08 336 *e*PKP **PKPab 00 12 40.8 -1.0**
PRU AMS AMS 01 07 10.0
comp=Z,800nm,20.1s
TREC Trest 160.30 333 AMS AMS 01 01 30.0
comp=Z,700nm,20.5s
NKC Novy Kostel 160.55 339 *e*PKP2 **PKPab 00 12 43.8 0.0**
NKC MLR MLR
comp=Z,800nm,17.6s
NKC Novy Kostel 160.55 339 *e*PKP **PKPab 00 12 43.8 0.0**
NKC AMS AMS 01 12 00.0
comp=Z,800nm,17.6s
TOA0 Torodi Ar. Sit 160.82 179 PKPab **PKPab 00 12 45.3 -0.5**
TORD Torodi Ar. Bea 160.82 179 PKP **PKPdf 00 12 06.1 +2.3**
comp=Z,1.2nm,1.1s,baz=113,slow=3.7,SNR=3.9
TORD PKPab **PKPab 00 12 45.9 0.0**
comp=Z,3.1nm,0.7s,baz=179,slow=3.0,SNR=7.8
CKRC Cesky Krumlov 161.14 334 *e*PKP PKPab 00 12 25.1 -21
CKRC *ex* x 00 12 46.0
KHC Kasperske Hory 161.14 336 PKPab **PKPab 00 12 45.6 -0.9**
KHC Kasperske Hory 161.14 336 PKP2 **PKPab 00 12 45.6 -0.9**
KHC Kasperske Hory 161.14 336 *e*PKP PKPab 00 12 30.6 -16
KHC *ex* x 00 12 45.5
KHC AMS AMS 01 08 30.0
comp=Z,900nm,18.1s
RONA Rosalia, Austr 161.22 329 *e*P **PKPab 00 12 47.2 +0.3**
comp=Z,7.6nm,1.1s
CONA Conrad Observa 161.23 330 *e*P **PKPab 00 12 47.5 +0.5**
comp=Z,5.7nm,1.0s
GERES GERESS Array B 161.34 335 PKPab **PKPab 00 12 47.5 0.0**
comp=Z,1.1nm,0.7s,baz=40,slow=4.4,SNR=11
ARSA Arzberg 161.90 329 *e*P **PKPab 00 12 49.9 0.0**
comp=Z,5.4nm,1.3s
BIOA Bad Ischl, Aus 162.32 333 *e*P **PKPab 00 12 52.0 +0.3**
comp=Z,5.5nm,0.9s
RETA Reutte 163.50 338 *e*P **PKPab 00 12 56.6 -0.3**
comp=Z,16nm,1.4s,SNR=7.1
MOTA Moosalm 163.52 337 *e*P **PKPab 00 12 57.1 +0.1**
comp=Z,7.3nm,1.0s,SNR=4.9
ABTA Abfaltersbach 163.53 333 *e*P **PKPab 00 12 56.2 -0.9**
comp=Z,5.0nm,0.9s
SQTA Sankt Quirin 163.59 337 *e*P **PKPab 00 12 57.7 +0.3**
comp=Z,6.4nm,0.8s,SNR=4.6
CLUD Cludinico 163.63 332 **PKPab 00 12 56.1 -1.4**
FETA Feichten 163.92 338 *e*P **PKPab 00 12 59.4 +0.5**
comp=Z,12nm,1.3s
DAVA Damuels 163.94 340 *e*P **PKPab 00 12 59.3 +0.3**
comp=Z,12nm,1.4s

*IDC **24**:23:57:12.1±4.7,33.°99N×141.°48E,h0km,mb3.4/3, mbtmp3.4/4,ML2.6/1,Error ellipse: s-maj=171.7km s-min=63.0km az=50.0*
*JMA **24**:23:57:13.9±0.5,34.°N±1.°×14.°2E±.°,h38km±3km,MV3.0/35, FAR SE OFF BOSO PEN*
ISC 24 23:57:16.5±2.0,34.40N±0.°08×141.°7E±0.°1,h27km,n19,
σt1s20/17,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.66**	**293**	P	**Pb**	**23 57 28.4**	**-0.8**
BSO3	**Boso 3**	**1.08**	**292**	P	**Pn**	**23 57 35.2**	**-0.4**
BSO4	**Boso 4**	**1.28**	**298**	*e*P	**Pn**	**23 57 38.4**	**-0.2**
JKUC	**kamogawauchiur**	**1.46**	**302**	P	**Pn**	**23 57 40.4**	**-0.8**
JKUC				*e*S	**Sn**	**23 57 59.8**	**+0.4**
CHOJ	**Chosi**	**1.48**	**332**	P	**Pn**	**23 57 39.6**	**-1.8**
JSMT	**Sammumatsuo**	**1.62**	**320**	*e*P	**Pn**	**23 57 43.2**	**-0.1**
JMKN	**Mikurajimanish**	**1.84**	**255**	P	**Pn**	**23 57 44.6**	**-1.7**
JMKN				*e*S	**Sn**	**23 58 08.4**	**-0.3**
JIM2	**Oshima 3**	**1.92**	**280**	*e*P	**Pn**	**23 57 46.6**	**-0.8**
JIM2				*e*S	**Sn**	**23 58 10.6**	**-0.1**
JHJ2	**Mitsune**	**2.04**	**232**	P	**Pn**	**23 57 50.0**	**+0.8**
MJAR	**Matsushiro Arr**	**3.57**	**308**	Pn	**Pn**	**23 58 10.1**	**-0.2**
	0.5nm,0.3s,baz=134,slow=13,SNR=26						
MJAR				Sn	**Sn**	**23 58 54.9**	**+3.3**
	0.2nm,0.3s,baz=163,slow=30,SNR=6.0						
	2.2nm,0.3s						
H11N2	**WAKE ISLAND Hy 26.66**	**117**		T	T	00 31 00.1	
	baz=306,slow=74,SNR=3.4						
H11N1	**WAKE ISLAND Hy 26.67**	**117**		T	T	00 31 02.8	
	baz=306,slow=74,SNR=3.1						
H11N3	**WAKE ISLAND Hy 26.68**	**117**		T	T	00 31 02.7	
	baz=306						
H11S1	**WAKE ISLAND Hy 27.29**	**119**		T	T	00 31 51.7	
	baz=313						
H11S3	**WAKE ISLAND Hy 27.29**	**119**		T	T	00 31 54.3	
	baz=313						
H11S2	**WAKE ISLAND Hy 27.31**	**119**		T	T	00 31 54.7	
	baz=313						
SONM	**Songino Array**	**29.53**	**308**	P	**P**	**00 03 19.1**	**+0.4**
	0.2nm,0.5s,baz=92,slow=8.8,SNR=1.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**45.77**	**304**	P	**P**	**00 05 36.1**	**+0.5**
	0.2nm,0.4s,baz=83,slow=8.2,SNR=2.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**47.85**	**310**	P	**P**	**00 05 51.8**	**0.0**
	0.5nm,0.6s,baz=84,slow=7.9,SNR=6.5						
	0.5nm,0.6s						

UCR 24 23:58:36.7±1.2, 9°52N×84°80W, h5km, MW4.1, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAFE	**Finca La Fe, P**	**0.30**	**340**	*eP*	Pb	23 58 43.8	-0.8
LAFE				*eS*	Sb	23 58 48.9	-1.0
INDI	**Punta indio, G**	**0.77**	**296**	*eP*	Pg	23 58 51.0	-0.5
INDI				*eS*	Sb	23 59 04.1	+0.7
JTS	**Las Juntas de**	**0.78**	**349**	*eP*	Pg	23 58 51.3	-0.4
LCR2	**La Lucha 2**	**0.82**	**74**	*eP*	Pg	23 58 52.2	-0.3
DUNO	**Dulce Nombre,**	**0.88**	**309**	*eP*	Pg	23 58 53.1	-0.4
GRZA	**Playa Garza**	**0.91**	**296**	*eP*	Pg	23 58 54.5	+0.3
OCM	**Ochomogo**	**0.91**	**66**	*eP*	Pg	23 58 53.8	-0.4
FORC	**Fortuna**	**0.95**	**8**	*eP*	Pg	23 58 54.7	-0.2
FORC				*eS*	Sb	23 59 08.4	-0.2
RIMA	**Rio Macho**	**0.96**	**75**	*eP*	Pg	23 58 54.6	-0.5
CDM	**Cerro de Muert**	**1.03**	**88**	*eP*	Pg	23 58 56.5	0.0
CDM				*eS*	Sn	23 59 12.6	-0.6
ACL	**Aguas Claras**	**1.13**	**348↓**	*eP*	Pg	23 58 57.5	-0.8
ACAL				*eS*	Sb	23 59 13.6	-0.2
PTEN	**Parque Tenorio**	**1.20**	**351**	*eP*	Pg	23 58 58.8	-0.9
PTEN				*eS*	Sb	23 59 16.3	+0.5
HORNC	**Hornillas**	**1.24**	**343↓**	*eP*	Pg	23 58 59.0	-1.5
HORNC				*eS*	Sg	23 59 16.3	-0.3
LIM1	**Limonal**	**1.25**	**339**	*eP*	Pg	23 59 00.0	-0.7
GUAB	**Guayabo de Bag**	**1.25**	**340**	*eP*	Pg	23 58 59.1	-1.7
GUAB				*eS*	Sg	23 59 16.6	-0.3
VERA	**Finca Concepci**	**1.32**	**357**	*eP*	Pn	23 59 00.7	-1.2
VERA				*eS*	Sn	23 59 19.9	-0.1
GPS2	**Hotel Rincn d**	**1.34**	**336**	*eP*	Pn	23 59 00.8	-1.3
GPS2				*eS*	Sg	23 59 19.5	-0.3
GPS3	**Bodega del ICE**	**1.34**	**336**	*eP*	Pn	23 59 00.7	-1.5
GPS1	**Guardaparques**	**1.36**	**337**	*eP*	Pn	23 59 01.0	-1.4
LAPC	**Finca la Perla**	**1.38**	**333**	*eP*	Pn	23 59 01.4	-1.3
BUEV	**Buena Vista**	**1.40**	**335**	*eP*	Pn	23 59 01.7	-1.3
BUEV				*eS*	Sn	23 59 22.1	+0.2
GBS3	**Finca Las Img**	**1.41**	**333**	*eP*	Pn	23 59 01.6	-1.5
GB1A	**Borinquen Arri**	**1.42**	**336**	*eP*	Pn	23 59 02.1	-1.1
GB1A				*eS*	Sb	23 59 21.9	-0.2
BUAI	**Buenos Aires**	**1.44**	**339**	*eP*	Pn	23 59 02.3	-1.3
BUAI				*eS*	Sg	23 59 23.5	+0.4
SRBA	**San Rafael, Bu**	**1.45**	**101**	*eP*	Pn	23 59 02.0	-1.7
DRK0	**Durika**	**1.56**	**99**	*eP*	Pn	23 59 04.8	-0.5

*IDC **25** 00:22:49.2±0.9, 32°.35S×178°.03W, h0km, mb4.0/6, mbtmp4.0/9, ML4.9/2, Error ellipse: s-maj=27.3km s-min=21.0km az=87.0*
*NEIC **25** 00:22:51.5±2.1, 32°.22S±0°.05×178°.1W±0°.2, h10km±2km, mb4.4/14, Error ellipse: s-maj=25.4km s-min=7.0km az=102.0*
*WEL **25** 00:22:52.7±0.8, 32°S±9°×17°8W±2°, h33km, M4.6/16, mB5.1/8, ML5.0/18, MLv4.8/16, Mw(mB)4.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=110.1*

ISC 25 00:22:52.6±0.7, 32°38S±0°.05×178°2W±0°.1, h20km, n68, σ1°72/86, mb4.3/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.12**	**5**	P	**Pn**	**00 23 38.9**	**-1.8**
GLKZ				S	**Sn**	**00 24 15.6**	**-1.8**
RAO	**Raoul Island**	**3.13**	**5**	Pn	**Pn**	**00 23 39.3**	**-1.6**
	27nm,0.3s,baz=104,slow=19,SNR=1.2						
RAO				Sn	**Sn**	**00 24 17.1**	**-0.6**
	55nm,0.3s,baz=144,slow=22,SNR=2.0						
	173nm,0.2s						
RAO	**Raoul Island**	**3.13**	**5**	Pn	**Pn**	**00 23 38.9**	**-2.0**
RIZ	**Raoul Island**	**3.14**	**5**	P	**Pn**	**00 23 42.8**	**+1.8**
RIZ				S	**Sn**	**00 24 16.5**	**-1.3**
MXZ	**Matakaoa Point**	**5.89**	**208**	Pn	**Pn**	**00 24 22.6**	**+3.8**
MXZ	**Matakaoa Point**	**5.89**	**208**	P	**Pn**	**00 24 17.8**	**-1.0**
MXZ				S	**Sn**	**00 25 23.9**	**-1.7**
WMGZ	**Waiomatatini S**	**6.08**	**206**	P	**Pn**	**00 24 20.9**	**-0.4**
WMGZ				S	**Sn**	**00 25 30.5**	**+0.3**
PKGZ	**Pakihiroa**	**6.26**	**208**	P	**Pn**	**00 24 22.5**	**-1.5**
PKGZ				S	**Sn**	**00 25 34.2**	**-0.7**
HAZ	**Te Kaha**	**6.27**	**210**	P	**Pn**	**00 24 25.2**	**+1.3**
HAZ				S	**Sn**	**00 25 34.4**	**-0.7**
PUZ	**Puketiti**	**6.36**	**206**	P	**Pn**	**00 24 23.6**	**-1.5**
PUZ				S	**Sn**	**00 25 33.7**	**-3.5**
RUGZ	**Raukumara Rang**	**6.49**	**210**	P	**Pn**	**00 24 26.9**	**-0.2**
RUGZ				S	**Sn**	**00 25 38.7**	**-2.0**
TWGZ	**Tauwhareparae**	**6.55**	**207**	S	**Sn**	**00 25 41.3**	**-0.7**
CNGZ	**Carnagh Statio**	**6.74**	**204**	P	**Pn**	**00 24 28.7**	**-1.7**
TKGZ	**Te Karaka**	**6.83**	**207**	P	Pn	00 24 26.2	-5.5
TKGZ				S	**Sn**	**00 25 46.8**	**-2.0**
MWZ	**Matawai**	**6.87**	**209**	P	Pn	00 24 27.5	-4.7
MWZ				S	**Sn**	**00 25 47.6**	**-2.2**
URZ	**Urewera**	**6.98**	**212**	Pn	Pn	00 24 29.8	-4.0
	2.7nm,0.3s,baz=319,slow=3.8,SNR=13						
URZ				Sn	**Sn**	**00 25 50.0**	**-2.5**
	2.0nm,0.3s,baz=63,slow=20,SNR=2.0						
URZ	**Urewera**	**6.98**	**212**	P	**Pn**	**00 24 31.6**	**-2.2**
URZ				S	**Sn**	**00 25 49.8**	**-2.7**
RAGZ	**Rawiri**	**7.05**	**209**	P	**Pn**	**00 24 32.4**	**-2.4**
RAGZ				S	**Sn**	**00 25 52.1**	**-2.3**
RIGZ	**Rimuhau**	**7.10**	**206**	P	**Pn**	**00 24 33.2**	**-2.1**
RIGZ				S	**Sn**	**00 25 52.1**	**-3.3**
MUGZ	**Murupara**	**7.32**	**212**	P	**Pn**	**00 24 36.4**	**-1.9**
MUGZ				S	**Sn**	**00 25 59.2**	**-1.6**
RTZ	**Ruatahuna**	**7.34**	**211**	P	**Pn**	**00 24 39.7**	**+1.0**
KNZ	**Kokohu**	**7.41**	**205**	P	**Pn**	**00 24 36.9**	**-2.7**
KNZ				S	**Sn**	**00 25 59.0**	**-4.0**
RAHZ	**Arahi**	**7.54**	**209**	P	**Pn**	**00 24 41.1**	**-0.4**
RAHZ				S	**Sn**	**00 26 04.3**	**-2.1**
NMHZ	**Naumai**	**7.81**	**210**	P	**Pn**	**00 24 44.8**	**-0.4**
NMHZ				S	**Sn**	**00 26 10.2**	**-3.0**
BKZ	**Black Stump Fm**	**8.00**	**211**	P	**Pn**	**00 24 47.1**	**-0.8**
BKZ				S	**Sn**	**00 26 15.2**	**-2.6**
MCHZ	**McNeill Hill**	**8.15**	**209**	P	**Pn**	**00 24 48.4**	**-1.4**
MCHZ				S	**Sn**	**00 26 17.9**	**-3.4**
KWHZ	**Kaweka Forest**	**8.25**	**210**	P	**Pn**	**00 24 51.1**	**-0.1**
KWHZ				S	**Sn**	**00 26 20.7**	**-3.1**
MSVF	**Nonsavu**	**14.97**	**346**	Pn	**Pn**	**00 26 20.7**	**-2.4**
	0.5nm,0.3s,baz=144,slow=23,SNR=2.3						
	1.4nm,0.5s						
MSVF	**Nonsavu**	**14.97**	**346**	Pn	**Pn**	**00 26 20.1**	**-3.1**
DZM	**Mont Dzumac**	**17.04**	**303**	P	**P**	**00 26 52.2**	**+0.7**
	5.8nm,0.9s,baz=116,slow=17,SNR=2.1						
DZM	**Mont Dzumac**	**17.04**	**303**	P	**P**	**00 26 52.3**	**+0.8**
DZM				IAmb	IAmb	00 27 18.7	
	comp=Z,14nm,1.1s						
KOUNC	**Koumac, New Ca**	**19.55**	**303**	P	**P**	**00 27 20.6**	**+1.5**
KOUNC				IAmb	IAmb	00 27 24.5	
	comp=Z,17nm,0.9s						
STKA	**Stephens Creek**	**33.88**	**260**	P	**P**	**00 29 35.6**	**+1.6**
	comp=Z,0.5nm,0.2s,baz=5.8,slow=19,SNR=1.3						
	comp=Z,0.5nm,0.2s						
STKA	**Stephens Creek**	**33.88**	**260**	P	**P**	**00 29 35.5**	**+1.5**
CTA	**Charters Tower**	**33.96**	**282**	P	**P**	**00 29 37.0**	**+2.2**
	comp=Z,1.9nm,0.5s,baz=128,slow=5.4,SNR=3.3						
	comp=Z,1.9nm,0.5s						
CTAO	**Charters Tower**	**33.96**	**282**	P	**P**	**00 29 35.8**	**+1.0**
CTAO				IAmb	IAmb	00 29 40.2	
	comp=Z,13nm,1.4s						
KRVT	**Keravat (AS076**	**39.42**	**309**	P	**P**	**00 30 23.1**	**+1.6**
	comp=Z,41nm,0.8s,baz=210,slow=3.3,SNR=3.7						
COEN	**Coen**	**39.66**	**288**	P	**P**	**00 30 22.9**	**-0.5**
COEN				IAmb	IAmb	00 30 43.9	
	comp=Z,9.8nm,1.2s						
AS31	**Alice Springs**	**42.83**	**269**	P	**P**	**00 30 49.8**	**+0.3**
ASAR	**Alice Springs**	**42.83**	**269**	P	**P**	**00 30 49.9**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=105,slow=7.2,SNR=26						
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**42.83**	**269**	P	**P**	**00 30 49.3**	**-0.2**
WR0	**Warramunga Arr**	**43.82**	**274**	P	**P**	**00 30 57.5**	**0.0**
WR0				IAmb	IAmb	00 31 04.6	
	comp=Z,7.3nm,1.1s						
WRA	**Warramunga Arr**	**44.00**	**274**	P	**P**	**00 30 59.1**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=115,slow=7.6,SNR=13						
	comp=Z,2.7nm,0.5s						
FORT	**Forrest**	**45.37**	**257**	P	**P**	**00 31 09.2**	**-0.5**
SBA	**Scott Base**	**46.05**	**184**	P	**P**	**00 31 17.4**	**+3.0**
SBA				IAmb	IAmb	00 31 32.6	
	comp=Z,1.8nm,0.9s						
VNDA	**Vanda**	**46.11**	**186**	P	**P**	**00 31 15.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=172,slow=6.8,SNR=2.6						
	comp=Z,0.2nm,0.4s						
VNDA	**Vanda**	**46.11**	**186**	P	**P**	**00 31 17.1**	**+2.2**
MTN	**Manton Dam**	**50.11**	**281**	P	**P**	**00 31 46.5**	**-0.2**
MTN				IAmb	IAmb	00 32 06.4	
	comp=Z,9.1nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.17**	**272**	P	**P**	**00 32 01.9**	**-0.2**
FAKI	**Fak Fak**	**54.85**	**292**	P	**P**	**00 32 22.7**	**+0.9**
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**	**00 32 41.3**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=117,slow=2.3,SNR=1.6						
	comp=Z,0.9nm,0.8s						
QSPA	**South Pole Qui**	**57.73**	**180**	P	**P**	**00 32 43.5**	**+1.6**
TROLL	**Troll, Antarti**	**75.89**	**180**	P	**P**	**00 34 37.6**	**+0.2**
SNAA	**Sanae**	**76.19**	**179**	P	**P**	**00 34 39.4**	**+0.4**
SNAA	**Sanae**	**76.19**	**179**	P	**P**	**00 34 39.6**	**+0.6**
SNAA				IAmb	IAmb	00 34 54.1	
	comp=Z,6.2nm,1.3s						
VNA3	**Neumayer Olymp**	**76.35**	**176**	P	**P**	**00 34 40.5**	**+0.6**
VNA2	**Neumayer--Watz**	**76.78**	**177**	P	**P**	**00 34 42.0**	**-0.3**
	baz=169,slow=4.0						
MKAR	**Makanchi Array**	**118.87**	**309**	PKP	**PKPdf**	**00 41 39.1**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=73,slow=2.0,SNR=2.9						
KURBB	**Kurchatov Arra**	**122.29**	**313**	PKP	**PKPdf**	**00 41 45.4**	**-0.3**
	comp=Z,2.1nm,0.2s,baz=96,slow=1.8,SNR=5.6						
BVAR	**Borovoye Array**	**127.66**	**315**	PKP	**PKiKP**	**00 41 57.0**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=110,slow=2.4,SNR=7.5						
ARCES	**ARCESS Array B**	**140.47**	**347**	PKhKP	PKPpre	00 42 14.5	
	comp=Z,0.9nm,0.7s,baz=90,slow=1.8,SNR=4.6						
KBZ	**Khabaz**	**146.00**	**301**	PKPbc	**PKPdf**	**00 42 29.1**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=226,slow=19,SNR=1.8						
FINES	**FINESS Array B**	**146.92**	**339**	PKPbc	**PKPbc**	**00 42 33.1**	**+0.3**
	comp=Z,6.0nm,0.6s,baz=47,slow=3.5,SNR=52						
NB2	**NORSAR Subarra**	**150.67**	**351**	PKP	**PKiKP**	**00 42 44.4**	**+1.2**
	comp=Z,4.5nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.67**	**351**	PKPbc	**PKPbc**	**00 42 42.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=15,slow=4.2,SNR=1.7						
AKASG	**Malin Array Be**	**152.72**	**320**	PKPbc	**PKPbc**	**00 42 47.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=54,slow=2.3,SNR=7.2						
BRTR	**Keskin Array B**	**153.30**	**295**	PKPbc	**PKPbc**	**00 42 49.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=124,slow=4.4,SNR=5.3						
GERES	**GERESS Array B**	**161.26**	**335**	PKPab	**PKPab**	**00 43 34.3**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=16,slow=4.5,SNR=5.0						

*TIF **25** 00:23:59.0, 42°.23N×45°.45E, h26km±3km*
*NORS **25** 00:24:00.0±0.0, 42°.17N×45°.47E, h6km, MPVA3.2*

ISC 25 00:24:00.2±1.1, 42°17N±0°.03×45°40E±0°.02, h11km±9km, n20, σ1°18/37, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHTL	**Shatili**	**0.52**	**339**	P	**Pg**	**00 24 09.4**	**-1.0**
SHTL				S	**Sg**	**00 24 16.7**	**-0.6**
BTNK	**Botanikuri**	**0.67**	**223**	P	Pg	00 24 04.5	-6.6
LGD	**Lagodekhi**	**0.71**	**118**	P	**Pb**	**00 24 13.8**	**-0.8**
LGD				S	**Sb**	**00 24 23.6**	**-0.8**
DGRG	**David-gareji**	**0.72**	**182**	P	**Pb**	**00 24 14.6**	**-0.2**
DGRG				S	**Sn**	**00 24 27.1**	**-0.3**
PNSH	**Pansheti**	**0.74**	**309**	P	**Pg**	**00 24 14.1**	**-0.5**
PNSH				S	**Sb**	**00 24 24.7**	**-0.8**
GUDG	**Gudauri**	**0.75**	**293**	P	**Pg**	**00 24 13.6**	**-1.0**
GUDG				S	**Sg**	**00 24 24.7**	**+0.2**
DDFL	**Dedoflistskaro**	**0.90**	**143**	P	**Pn**	**00 24 21.5**	**+2.6**
DVE	**Vedeno**	**0.95**	**34**	*eP*g	**Pn**	**00 24 18.1**	**-1.4**
DVE				*eS*g	**Sn**	**00 24 31.2**	**-1.9**
KMGR	**Komgaron**	**0.97**	**336**	*eP*g	**Pn**	**00 24 20.1**	**+0.3**
KMGR				*eS*g	**Sn**	**00 24 34.9**	**+1.4**
VLKR	**Vladikavkaz**	**1.02**	**329**	*eP*g	**Pg**	**00 24 20.6**	**+0.6**
VLKR				*eS*g	**Sn**	**00 24 36.0**	**+1.0**
LACR	**Lac**	**1.05**	**309**	*eP*g	**Pb**	**00 24 19.6**	**-0.8**
LACR				*eS*g	**Sn**	**00 24 34.8**	**-0.8**
GROC	**Groznyy**	**1.07**	**16**	*eP*g	**Pg**	**00 24 21.5**	**-0.7**
GROC				*eS*g	**Sn**	**00 24 37.5**	**+1.6**
GNBR	**Gunib**	**1.18**	**79**	*eP*g	**Pg**	**00 24 22.4**	**-0.4**
GNBR				*eS*g	**Sg**	**00 24 38.6**	**+0.5**
DMNI	**Dmanisi**	**1.24**	**228**	P	**Pn**	**00 24 22.6**	**-0.9**
DMNI				S	**Sb**	**00 24 39.4**	**-0.3**
ARNR	**Ardon**	**1.30**	**321**	*eP*g	**Pg**	**00 24 25.6**	**+0.4**
ARNR				*eS*g	**Sg**	**00 24 45.2**	**+3.1**
ALIG	**Mtskhetisjvari**	**1.31**	**268**	P	**Pn**	**00 24 23.6**	**-0.9**
ALIG				S	**Sb**	**00 24 41.8**	**+0.2**
KORR	**Kora**	**1.34**	**313**	*eP*g	**Pg**	**00 24 26.1**	**+0.1**
KORR				*eS*g	**Sg**	**00 24 45.6**	**+2.1**
BKRG	**Bakuriani**	**1.46**	**254**	P	**Pb**	**00 24 26.7**	**-0.8**
BKRG				S	**Sb**	**00 24 47.0**	**+0.9**
TKB	**Tkibuli**	**1.80**	**276**	P	**Pb**	**00 24 32.6**	**-0.5**
TKB				S	**Sb**	**00 24 56.5**	**+0.8**
ABS	**Abastumani**	**1.98**	**259**	P	**Pb**	**00 24 34.8**	**-1.4**
ABS				S	**Sb**	**00 25 01.6**	**+0.7**

*JMA **25** 00:24:43.1±0.1, 29°.4N±0°.6×13°0E±°, h55km±2km, MV3.6/16, NEAR AMAMI-OSHIMA ISLAND*
*IDC **25** 00:24:48.2±1.9, 29°.27N×129°.46E, h93km±43km, mb3.4/1, mbtmp3.6/4, Error ellipse: s-maj=65.5km s-min=18.2km az=116.0*

ISC 25 00:24:43.3±1.2, 29°35N±0°.05×129°95E±0°.08, h54km±14km, n14, σ0°49/21, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.50**	**353**	P	**Pn**	**00 24 54.7**	**-0.1**
JNN				*eS*	**Sn**	**00 25 03.3**	**+0.2**
JTAJ	**Takarajima**	**0.68**	**254**	*eP*	**Pn**	**00 24 57.2**	**+0.2**
JTAJ				*eS*	**Sn**	**00 25 07.4**	**+0.6**
JAM	**Amami Oshima**	**0.98**	**198**	*eP*	**Pn**	**00 25 00.5**	**-0.4**
JAM				S	**Sn**	**00 25 12.9**	**-0.9**
JYAK	**Yakushimahirau**	**1.01**	**29**	P	**Pn**	**00 25 01.1**	**-0.2**
JYAK				S	**Sn**	**00 25 14.3**	**-0.4**
JZK	**Kikaishima**	**1.03**	**179**	*eP*	**Pn**	**00 25 02.4**	**+0.9**
JKC	**Kuchinoerabu**	**1.13**	**11**	P	**Pn**	**00 25 03.2**	**+0.3**
JKC				*eS*	**Sn**	**00 25 17.6**	**+0.2**
JAMN	**Amaminishikomi**	**1.29**	**212**	*eP*	**Pn**	**00 25 04.7**	**-0.4**
JAMN				*eS*	**Sn**	**00 25 20.8**	**-0.5**
JMTN	**Minamitane**	**1.33**	**38**	*eP*	**Pn**	**00 25 06.0**	**+0.3**
JTN	**Tanegashima 3**	**1.58**	**34**	*eP*	**Pn**	**00 25 09.3**	**+0.3**
JTN				*eS*	**Sn**	**00 25 28.5**	**+0.1**
JTK	**Tokunoshima**	**1.79**	**210**	*eP*	**Pn**	**00 25 11.7**	**-0.1**
JTK				*eS*	**Sn**	**00 25 33.4**	**+0.1**
JOW	**Kunigami**	**2.91**	**211**	P	**Pn**	**00 25 28.0**	**+0.9**
	12nm,0.3s,baz=65,slow=17,SNR=9.6						
JOW				S	**Sn**	**00 26 01.2**	**+0.3**
	25nm,0.3s,baz=128,slow=27,SNR=2.5						
KSRS	**Korea Array**	**8.26**	**349**	P	Pn	00 26 45.4	+5.0
	2.9nm,0.8s,baz=171,slow=14,SNR=13						
MJAR	**Matsushiro Arr**	**9.98**	**42**	P	Pn	00 27 13.7	+10
	1.3nm,0.7s,baz=234,slow=15,SNR=5.4						
SONM	**Songino Array**	**25.90**	**322**	P	**P**	**00 30 09.8**	**-0.4**
	1.0nm,0.6s,baz=136,slow=8.1,SNR=6.7						
	1.0nm,0.6s						

*IDC **25** 00:25:08.5±0.6, 32°.36S×178°.03W, h0km, mb4.3/13, mbtmp4.4/18, ML4.7/4, MS4.3/3, Error ellipse: s-maj=19.2km s-min=16.4km az=107.0*
*NEIC **25** 00:25:10.5±2.2, 32°.35S±0°.06×178°.10W±0°.07, h10km±1km, mb4.7/30, Error ellipse: s-maj=12.6km s-min=6.7km az=223.0*
*WEL **25** 00:25:11.5±0.7, 33°S±6°×17°8W±1°7, h33km, M5.0/10, mB5.2/5, ML5.4/11, MLv5.2/10, Mw(mB)4.6/5, Error ellipse: s-maj=0.0km s-min=0.0km az=109.3*

ISC 25 00:25:11.4±0.4, 32°48S±0°.05×178°08W±0°.08, h20km, n140, σ2°05/157, mb4.7/27, MS4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.21**	**2**	P	**Pn**	**00 25 58.6**	**-2.1**
GLKZ				S	**Sn**	**00 26 35.3**	**-3.1**
RAO	**Raoul Island**	**3.22**	**2**	Pn	**Pn**	**00 25 58.5**	**-2.3**
	96nm,0.3s,baz=72,slow=20,SNR=2.4						
RAO				Sn	**Sn**	**00 26 34.8**	**-3.8**
	118nm,0.3s,baz=260,slow=19,SNR=3.7						
	272nm,0.2s						
RAO	**Raoul Island**	**3.22**	**2**	Pn	**Pn**	**00 25 57.9**	**-2.9**
MXZ	**Matakaoa Point**	**5.87**	**209**	Pn	**Pn**	**00 26 36.0**	**-1.3**
MXZ	**Matakaoa Point**	**5.87**	**209**	P	**Pn**	**00 26 33.9**	**-3.3**
MXZ				S	**Sn**	**00 27 43.5**	**-0.5**
WMGZ	**Waiomatatini S**	**6.05**	**207**	P	**Pn**	**00 26 38.8**	**-0.9**
WMGZ				S	**Sn**	**00 27 44.8**	**-3.5**
PKGZ	**Pakihiroa**	**6.25**	**209**	P	**Pn**	**00 26 39.6**	**-2.9**
PKGZ				S	**Sn**	**00 27 52.6**	**-0.7**
HAZ	**Te Kaha**	**6.26**	**212**	P	**Pn**	**00 26 40.0**	**-2.6**
HAZ				S	**Sn**	**00 27 54.3**	**+0.8**
PUZ	**Puketiti**	**6.33**	**207**	P	**Pn**	**00 26 40.1**	**-3.5**
PUZ				S	**Sn**	**00 27 55.2**	**-0.1**
RUGZ	**Raukumara Rang**	**6.48**	**211**	P	**Pn**	**00 26 44.4**	**-1.3**
RUGZ				S	**Sn**	**00 27 58.3**	**-0.8**
TWGZ	**Tauwhareparae**	**6.53**	**208**	P	**Pn**	**00 26 44.3**	**-2.1**
TWGZ				S	**Sn**	**00 27 59.4**	**-0.9**
CNGZ	**Carnagh Statio**	**6.71**	**206**	P	**Pn**	**00 26 45.3**	**-3.5**
CNGZ				S	**Sn**	**00 28 03.8**	**-0.8**
URZ	**Urewera**	**6.98**	**213**	Pn	**Pn**	**00 26 51.8**	**-0.6**
	6.6nm,0.3s,baz=15,slow=12,SNR=2.3						
URZ				Sn	**Sn**	**00 28 08.3**	**-2.8**
	11nm,0.3s,baz=288,slow=1.7,SNR=11						
	18nm,0.4s						
OUZ	**Omahuta**	**7.45**	**246**	P	**Pn**	**00 27 01.9**	**+3.0**
WHHZ	**Waihua**	**7.60**	**209**	P	**Pn**	**00 27 00.0**	**-1.0**
WHHZ				S	**Sn**	**00 28 22.9**	**-3.7**
NMHZ	**Naumai**	**7.80**	**211**	P	**Pn**	**00 27 03.6**	**-0.2**
NMHZ				S	**Sn**	**00 28 29.6**	**-1.9**
ARHZ	**Aropaoanui**	**7.86**	**209**	P	**Pn**	**00 27 03.1**	**-1.4**
ARHZ				S	**Sn**	**00 28 29.5**	**-3.4**
MCHZ	**McNeill Hill**	**8.14**	**210**	P	**Pn**	**00 27 07.3**	**-1.0**
MCHZ				S	**Sn**	**00 28 37.3**	**-2.4**
CKHZ	**Cape Kidnapper**	**8.16**	**207**	P	**Pn**	**00 27 07.1**	**-1.6**
CKHZ				S	**Sn**	**00 28 35.8**	**-4.6**
KWHZ	**Kaweka Forest**	**8.24**	**211**	P	**Pn**	**00 27 09.1**	**-0.6**
KWHZ				S	**Sn**	**00 28 38.3**	**-4.0**
KAHZ	**Kahuranaki**	**8.36**	**208**	P	**Pn**	**00 27 06.7**	**-4.7**
KAHZ				S	**Sn**	**00 28 39.7**	**-5.6**
KRHZ	**Kereru**	**8.44**	**211**	P	**Pn**	**00 27 10.9**	**-1.7**
KRHZ				S	**Sn**	**00 28 41.5**	**-5.8**
MOVZ	**Moawhango**	**8.53**	**214**	P	**Pn**	**00 27 10.7**	**-3.0**
MOVZ				S	**Sn**	**00 28 44.8**	**-4.7**
PXZ	**Pawanui**	**8.57**	**207**	P	Pn	00 27 21.3	+7.1
PXZ				S	**Sn**	**00 28 43.0**	**-7.3**
PNHZ	**Pukenui**	**8.74**	**210**	P	**Pn**	**00 27 13.5**	**-3.1**
PNHZ				S	**Sn**	**00 28 49.2**	**-5.3**
WPHZ	**Waipukurau**	**8.76**	**209**	P	**Pn**	**00 27 19.6**	**+2.6**
WPHZ				S	**Sn**	**00 28 50.2**	**-4.9**
DVHZ	**Dannevirke**	**9.07**	**209**	P	**Pn**	**00 27 20.2**	**-1.0**
DVHZ				S	**Sn**	**00 28 56.8**	**-6.0**
RPZ	**Rata Peaks**	**14.09**	**214**	Pn	**Pn**	**00 28 26.3**	**-3.5**
	1.1nm,0.3s,baz=346,slow=4.2,SNR=2.4						
RPZ				Sn	Sn	00 30 51.5	-14
	1.8nm,0.3s,baz=322,slow=19,SNR=6.0						
MSVF	**Nonsavu**	**15.10**	**346**	Pn	**Pn**	**00 28 43.5**	**-0.1**
	0.3nm,0.3s,baz=124,slow=15,SNR=7.8						
	8.3nm,0.8s						
MSVF	**Nonsavu**	**15.10**	**346**		**Pn**	**00 28 40.9**	**-2.8**
PINNC	**Pines Island,**	**16.15**	**304**		**P**	**00 29 00.1**	**-0.3**
PINNC				IAmb	IAmb	00 29 36.1	
	comp=Z,87nm,1.3s						
MARNC	**Mare, Loyalty**	**16.52**	**308**		**P**	**00 29 04.7**	**+0.3**
ONTNC	**Ouen Toro**	**17.05**	**303**		**Pn**	**00 29 08.8**	**+0.1**
DZM	**Mont Dzumac**	**17.21**	**303**	*ePn*	**P**	**00 29 12.3**	**+0.1**
	comp=Z,52nm,1.0s						
DZM				*eLR*	LR	00 33 09.5	
	comp=Z,1μm,21.1s						
DZM	**Mont Dzumac**	**17.21**	**303**	P	**P**	**00 29 14.2**	**+2.0**
	comp=Z,18nm,0.9s,baz=117,slow=18,SNR=9.4						
DZM	**Mont Dzumac**	**17.21**	**303**	P	**P**	**00 29 12.0**	**-0.2**
LIFNC	**LIFOU**	**17.53**	**308**	Pn	**Pn**	**00 29 11.9**	**-2.7**
LIFNC				IAmb	IA

	comp=Z,0.3nm,0.3s							
PSI	**Prapat**	**85.59**	**276**	LR	LR	01 20 36.4		
	comp=Z,300nm,18.1s,baz=116,slow=39							
KSRS	**Korea Array**	**85.89**	**320**	P	**P**	**00 37 49.6**	**0.0**	
	comp=Z,0.9nm,0.6s,baz=143,slow=5.9,SNR=4.8							
	comp=Z,0.9nm,0.6s							
PETK	**Petropavlovsk-**	**87.81**	**346**	P	**P**	**00 37 59.3**	**+0.7**	
	comp=Z,4.7nm,0.9s,baz=140,slow=11,SNR=5.0							
	comp=Z,4.7nm,0.9s							
NVAR	**Mina Array Bea**	**89.81**	**43**	P	**P**	**00 38 07.7**	**-1.0**	
	comp=Z,0.1nm,0.5s,baz=216,slow=12,SNR=1.7							
	comp=Z,0.1nm,0.5s							
ATAH	**Atahualpa**	**94.31**	**101**	LR	LR	01 12 12.9		
	comp=Z,112nm,21.2s,baz=237,slow=30							
PZH	**PanZhiHua**	**96.20**	**297**	P	**P**	**00 38 41.8**	**+3.4**	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,100nm,5.4s							
HHC	**Hu-ho-hao-te**	**97.63**	**314**	*e*P	Pdif	00 38 47.3	+2.8	
HHC				pmax	pmax			
	comp=Z,22nm,0.9s							
HHC				pmax	pmax			
	comp=Z,420nm,8.6s							
WMQ	**Urumqi**	**114.45**	**308**	*e*P	**PKiKP**	**00 43 51.3**	**+1.6**	
MKAR	**Makanchi Array**	**119.05**	**309**	PKP	**PKPdf**	**00 43 57.9**	**-0.5**	
	comp=Z,1.5nm,0.8s,baz=70,slow=4.7,SNR=7.2							
ZALV	**Zalesovo Beam**	**119.53**	**318**	PKP	**PKPdf**	**00 43 58.4**	**-0.6**	
	comp=Z,1.2nm,0.3s,baz=107,slow=2.8,SNR=5.8							
KURBB	**Kurchatov Arra**	**122.46**	**313**	PKP	**PKPdf**	**00 44 04.4**	**-0.4**	
	comp=Z,1.9nm,0.2s,baz=102,slow=2.2,SNR=11							
LSZ	**Lusaka**	**126.27**	**212**	PKP	**PKiKP**	**00 44 14.5**	**+0.7**	
	comp=Z,1.0nm,0.2s,baz=243,slow=4.5,SNR=1.2							
BVAR	**Borovoye Array**	**127.83**	**315**	PKP	**PKPdf**	**00 44 15.2**	**+0.1**	
	comp=Z,1.0nm,0.5s,baz=122,slow=1.5,SNR=11							
GEYT	**Alibeck**	**134.35**	**293**	PKP	**PKiKP**	**00 44 29.2**	**-0.1**	
	comp=Z,1.5nm,0.8s,baz=37,slow=0.7,SNR=3.2							
ARCES	**ARCESS Array B**	**140.60**	**347**	PKhKP	PKPpre	00 44 33.9		
	comp=Z,0.4nm,0.4s,baz=46,slow=2.6,SNR=5.3							
KBZ	**Khabaz**	**146.18**	**301**	PKPbc	**PKPbc**	**00 44 50.2**	**+0.2**	
	comp=Z,6.3nm,0.9s,baz=108,slow=3.2,SNR=8.5							
FINES	**FINESS Array B**	**147.06**	**339**	PKPbc	**PKPbc**	**00 44 52.1**	**+0.2**	
	comp=Z,16nm,0.8s,baz=50,slow=3.7,SNR=39							
MEF	**Metsahovi**	**148.54**	**339**	*e*P	**PKPbc**	**00 44 56.5**	**+0.5**	
RAF	**Rauma**	**148.64**	**341**	*e*P	**PKPbc**	**00 44 56.8**	**+0.5**	
VSU	**Vasula**	**149.08**	**335**	*e*P	**PKiKP**	**00 44 58.2**	**-0.5**	
MTSE	**Matsula**	**149.90**	**337**	*e*P	**PKiKP**	**00 45 00.1**	**-0.2**	
NB2	**NORSAR Subarra**	**150.79**	**351**	PKP	**PKiKP**	**00 45 03.1**	**+0.9**	
	comp=Z,1.5nm,0.5s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**150.79**	**351**	PKPbc	**PKPbc**	**00 45 01.8**	**+0.2**	
	comp=Z,4.0nm,0.8s,baz=14,slow=4.1,SNR=15							
IIGN	**Ignalina**	**151.48**	**331**	*e*P	**PKiKP**	**00 45 04.7**	**+0.9**	
VSVD	**Vaisvydziai**	**151.94**	**333**	*e*P	**PKiKP**	**00 45 05.7**	**+1.0**	
PABE	**Paberze**	**152.28**	**333**	*e*P	**PKiKP**	**00 45 06.4**	**+1.0**	
AKASG	**Malin Array Be**	**152.88**	**320**	PKPbc	**PKiKP**	**00 45 06.8**	**0.0**	
	comp=Z,1.1nm,0.4s,baz=56,slow=2.8,SNR=8.7							
BRTR	**Keskin Array B**	**153.47**	**295**	PKPbc	**PKPbc**	**00 45 08.2**	**-0.3**	
	comp=Z,3.4nm,0.8s,baz=119,slow=3.5,SNR=16							
CHVC	**Chvalec**	**159.11**	**334**	*e*PKPAB	**PKPab**	**00 45 43.6**	**-0.9**	
MORC	**Moravsky Berou**	**159.17**	**331**	*e*PKP	**PKPab**	**00 45 45.4**	**+0.6**	
MORC	**Moravsky Berou**	**159.17**	**331**	*e*PKP	**SKPdf**	**00 48 35.8**	**-3.2**	
DPC	**Dobruska-Polom**	**159.20**	**333**	*e*PKPAB	**PKPab**	**00 45 43.6**	**-1.3**	
KRLC	**Kraliky**	**159.24**	**332**	*e*PKPAB	**PKPab**	**00 45 45.4**	**+0.3**	
CLL	**Collm**	**159.50**	**340**	*i* PKPab	**PKPab**	**00 45 46.3**	**+0.2**	
	comp=Z,4.0nm,0.9s							
VYHS	**Vyhne**	**159.55**	**326**	*e*PKP	**PKPab**	**00 45 46.8**	**+0.3**	
VYHS	**Vyhne**	**159.55**	**326**	*e*PKP	**SKPdf**	**00 48 38.5**	**-0.9**	
BRG	**Berggiesshubel**	**159.60**	**338**	*e*PKP	**PKPab**	**00 45 47.2**	**+0.7**	
BRG				Amp		00 45 48.3		
	comp=Z,3.3nm,0.9s							
BRG	**Berggiesshubel**	**159.60**	**338**	Amp		00 48 41.0		
	comp=Z,9.7nm,1.4s							
BRG				*e*PKP	**SKPdf**	**00 48 38.5**	**-0.9**	
BRG				Amp		01 03 07.0		
	comp=Z,0.8nm,22.9s							
BRG				Amp		01 03 21.0		
	comp=N,0.5nm,22.4s							
BRG				Amp		01 03 21.0		
	comp=E,0.2nm,20.4s							
PVCC	**Panska Ves**	**159.69**	**336**	*e*PKPAB	**PKPab**	**00 45 47.7**	**+0.8**	
JAVC	**Velka Javorina**	**159.81**	**329**	*e*PKP	**SKPdf**	**00 48 40.8**	**+1.1**	
VRAC	**Vranov**	**159.92**	**331**	*e*PKP	**PKPab**	**00 45 48.7**	**+0.7**	
VRAC	**Vranov**	**159.92**	**331**	*e*PKP	**SKPdf**	**00 48 39.9**	**+0.2**	
KRUC	**Moravsky**	**160.20**	**331**	*e*PKP	**PKPab**	**00 45 49.4**	**+0.2**	
KRUC	**Moravsky**	**160.20**	**331**	*e*PKP	**SKPdf**	**00 48 40.6**	**+0.6**	
TORD	**Torodi Ar. Bea**	**160.75**	**179**	PKPab	**PKPab**	**00 45 52.3**	**-0.1**	
	comp=E,1.8nm,0.7s,baz=206,slow=3.1,SNR=3.4							
CKRC	**Cesky Krumlov**	**161.21**	**334**	*e*PKPAB	**PKPab**	**00 45 52.8**	**-0.9**	
KHC	**Kasperske Hory**	**161.21**	**336**	*e*PKPAB	**PKPab**	**00 45 53.0**	**-0.7**	
CONA	**Conrad Observa**	**161.30**	**330**	*e*P	**PKPab**	**00 45 54.2**	**0.0**	
	comp=E,2.0nm,0.8s							
GERES	**GERESS Array B**	**161.41**	**335**	PKPab	**PKPab**	**00 45 54.0**	**-0.7**	
	comp=E,1.0nm,0.8s,baz=41,slow=4.3,SNR=10							
RETA	**Reutte**	**163.57**	**338**	*e*P	**PKPab**	**00 46 04.5**	**+0.4**	
	comp=E,3.4nm,0.9s							
ABTA	**Abfaltersbach**	**163.60**	**333**	*e*P	**PKPab**	**00 46 03.2**	**-1.1**	
	comp=E,4.2nm,1.1s							
SQTA	**Sankt Quirin**	**163.66**	**337**	*i* P	**PKPab**	**00 46 04.7**	**+0.1**	
	comp=E,2.4nm,0.8s							

*BJI **25** 00:28:00.0±0.0,32°.30S×177°.90W,h10km,mb5.4/5, mB5.7/3,Ms5.0/1,Ms7 4.7/1*
*IDC **25** 00:28:00.1±0.7,32°.32S×178°.04W,h0km,mb4.5/12, mbtmp4.5/16,ML4.9/3,MS4.5/11,Error ellipse: s-maj=19.7km s-min=17.7km az=124.0*
*WEL **25** 00:28:01.4±0.8,33°.5±6°×17°.8W±1°.7,h33km,M5.1/11, mB5.3/5,ML5.6/12,MLv5.3/11,Mw(mB)4.7/5,Error ellipse: s-maj=0.0km s-min=0.0km az=108.3*
*NEIC **25** 00:28:01.4±1.9,32°.41S±0°.05×178°.0W±0°.1,h10km±1km, mb4.9/33,Error ellipse: s-maj=20.2km s-min=6.8km az=103.0*

ISC 25 00:28:00.9±0.5,32°.50S±0°.05×178°.05W±0°.08,h10km, n127,σ2§03/135,mb4.9/28,MS4.6/8,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.22**	**2**	P	**Pn**	**00 28 48.8**	**-2.8**
GLKZ				S	**Sn**	**00 29 27.6**	**-2.4**
RAO	**Raoul Island**	**3.23**	**2**	Pn	**Pn**	**00 28 50.0**	**-1.7**
	76nm,0.3s,baz=112,slow=22,SNR=1.8						
RAO				Sn	**Sn**	**00 29 26.3**	**-3.9**
	175nm,0.3s,baz=251,slow=23,SNR=2.2						
	191nm,0.3s						
RAO	**Raoul Island**	**3.23**	**2**	Pn	**Pn**	**00 28 49.6**	**-2.1**
RIZ	**Raoul Island**	**3.24**	**2**	P	**Pn**	**00 28 50.1**	**-1.7**
RIZ				S	**Sn**	**00 29 26.9**	**-3.5**
MXZ	**Matakaoa Point**	**5.88**	**210**	Pn	**Pn**	**00 29 27.3**	**-0.7**
MXZ	**Matakaoa Point**	**5.88**	**210**	P	**Pn**	**00 29 24.8**	**-3.2**
MXZ				S	**Sn**	**00 30 32.9**	**-2.4**
PKGZ	**Pakihiroa**	**6.25**	**209**	P	**Pn**	**00 29 31.3**	**-1.8**
PKGZ				S	**Sn**	**00 30 43.8**	**-0.9**
HAZ	**Te Kaha**	**6.26**	**212**	P	**Pn**	**00 29 32.9**	**-0.4**
HAZ				S	**Sn**	**00 30 45.7**	**+0.8**
PUZ	**Puketiti**	**6.33**	**207**	P	**Pn**	**00 29 31.7**	**-2.6**
PUZ				S	**Sn**	**00 30 43.3**	**-3.4**
RUGZ	**Raukumara Rang**	**6.48**	**211**	P	**Pn**	**00 29 36.8**	**+0.3**
RUGZ				S	**Sn**	**00 30 50.5**	**0.0**
TWGZ	**Tauwhareparae**	**6.53**	**209**	P	**Pn**	**00 29 37.7**	**+0.7**
TWGZ				S	**Sn**	**00 30 48.0**	**-3.6**
KUZ	**Kuaotunu**	**6.66**	**229**	P	**Pn**	**00 29 39.3**	**+0.5**
CNGZ	**Carnagh Statio**	**6.71**	**206**	P	**Pn**	**00 29 36.2**	**-3.3**
CNGZ				S	**Sn**	**00 30 50.8**	**-5.2**
TKGZ	**Te Karaka**	**6.81**	**208**	P	**Pn**	**00 29 41.6**	**+0.8**
TKGZ				S	**Sn**	**00 30 56.2**	**-2.2**
MWZ	**Matawai**	**6.86**	**211**	P	**Pn**	**00 29 38.5**	**-3.0**
MWZ				S	**Sn**	**00 30 57.4**	**-2.2**
URZ	**Urewera**	**6.98**	**213**	Pn	**Pn**	**00 29 42.8**	**-0.4**
	6.3nm,0.3s,baz=301,slow=3.0,SNR=2.0						
URZ				Sn	**Sn**	**00 31 00.4**	**-2.1**
	12nm,0.3s,baz=325,slow=5.2,SNR=10						
URZ	**Urewera**	**6.98**	**213**	Pn	**Pn**	**00 29 43.3**	**+0.2**
NMHZ	**Naumai**	**7.80**	**211**	P	**Pn**	**00 29 53.6**	**-0.9**
NMHZ				S	**Sn**	**00 31 22.3**	**-0.6**
ARHZ	**Aropaoanui**	**7.86**	**209**	P	**Pn**	**00 29 53.6**	**-1.6**
ARHZ				S	**Sn**	**00 31 21.1**	**-3.2**
MCHZ	**McNeill Hill**	**8.14**	**210**	P	**Pn**	**00 29 57.4**	**-1.6**
MCHZ				S	**Sn**	**00 31 28.7**	**-2.4**
CKHZ	**Cape Kidnapper**	**8.16**	**208**	P	**Pn**	**00 29 56.6**	**-2.8**
CKHZ				S	**Sn**	**00 31 26.6**	**-5.2**
KWHZ	**Kaweka Forest**	**8.24**	**211**	P	**Pn**	**00 29 58.7**	**-1.8**
KWHZ				S	**Sn**	**00 31 30.8**	**-2.9**
ETVZ	**East Tongariro**	**8.34**	**216**	P	**Pn**	**00 30 00.8**	**-1.2**
ETVZ				S	**Sn**	**00 31 32.9**	**-3.4**
KAHZ	**Kahuranaki**	**8.36**	**208**	P	**Pn**	**00 29 59.1**	**-3.0**
KAHZ				S	**Sn**	**00 31 28.7**	**-8.0**
KRHZ	**Kereru**	**8.44**	**211**	P	**Pn**	**00 30 00.4**	**-2.9**
KRHZ				S	**Sn**	**00 31 33.7**	**-4.9**
WHVZ	**Whangaehu Hut**	**8.52**	**216**	S	**Sn**	**00 31 37.4**	**-3.3**
MOVZ	**Moawhango**	**8.53**	**214**	P	**Pn**	**00 30 03.8**	**-0.8**
MOVZ				S	**Sn**	**00 31 35.4**	**-5.5**
RPZ	**Rata Peaks**	**14.10**	**214**	Pn	**Pn**	**00 31 18.0**	**-2.6**
	1.8nm,0.3s,baz=50,slow=7.9,SNR=1.6						
RPZ				Sn	Sn	00 33 43.4	-14
	3.4nm,0.3s,baz=135,slow=21,SNR=8.5						
MSVF	**Nonsavu**	**15.12**	**346**	Pn	**Pn**	**00 31 34.4**	**-0.2**
	0.5nm,0.3s,baz=158,slow=15,SNR=3.2						
MSVF				LR	LR	00 36 24.9	
	comp=Z,2μm,18.3s,baz=171,slow=34						
	6.4nm,0.8s						
MSVF	**Nonsavu**	**15.12**	**346**		**Pn**	**00 31 32.9**	**-1.7**
PINNC	**Pines Island,**	**16.18**	**304**	Pn	**Pn**	**00 31 49.8**	**+1.3**
PINNC				IAmb	IAmb	00 31 56.3	
	comp=Z,78nm,1.0s						
MARNC	**Mare, Loyalty**	**16.55**	**308**	P	**Pn**	**00 31 54.5**	**+1.5**
ONTNC	**Ouen Toro**	**17.08**	**303**	P	**P**	**00 32 01.8**	**+0.2**
ONTNC				IAmb	IAmb	00 32 08.3	
	comp=Z,91nm,1.1s						
DZM	**Mont Dzumac**	**17.24**	**303**	*e*Pn	**Pn**	**00 32 01.8**	**-0.1**
	comp=Z,180nm,1.5s						
DZM				*e*LR	LR	00 36 02.7	
	comp=Z,2μm,21.6s						
DZM	**Mont Dzumac**	**17.24**	**303**	P	**P**	**00 32 07.2**	**+3.8**
	comp=Z,24nm,0.9s,baz=145,slow=14,SNR=9.1						
DZM				LR	LR	00 37 37.1	
	comp=Z,3μm,19.4s,baz=194,slow=34						
DZM	**Mont Dzumac**	**17.24**	**303**	P	**P**	**00 32 03.7**	**+0.3**
DZM				IAmb	IAmb	00 32 16.0	
	comp=Z,90nm,1.3s						
LIFNC	**LIFOU**	**17.56**	**308**	P	**Pn**	**00 32 06.3**	**+0.5**
LIFNC				IAmb	IAmb	00 32 15.7	
	comp=Z,189nm,1.5s						
AFI	**Afiamalu**	**19.37**	**19**	P	**P**	**00 32 25.6**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=360,slow=18,SNR=1.2						
AFI				S	Sn	00 35 50.2	-15
	comp=Z,5.9nm,0.5s,baz=150,slow=22,SNR=1.3						
	comp=Z,11nm,0.5s						
AFI	**Afiamalu**	**19.37**	**19**	P	**P**	**00 32 25.4**	**-1.4**
KOUNC	**Koumac, New Ca**	**19.75**	**303**	P	**Pn**	**00 32 32.6**	**+0.1**
KOUNC				IAmb	IAmb	00 32 38.5	
	comp=Z,92nm,1.2s						
RAR	**Rarotonga**	**19.77**	**60**	P	**P**	**00 32 31.4**	**+0.3**
	comp=Z,8.0nm,0.8s,baz=175,slow=22,SNR=1.8						
RAR				LR	LR	00 41 05.5	
	comp=Z,667nm,18.1s,baz=246,slow=40						
ARMA	**Armidale**	**25.91**	**266**	P	**P**	**00 33 34.3**	**+0.9**
ARMA				IAmb	IAmb	00 33 40.9	
	comp=Z,41nm,1.4s						
EIDS	**Eidsvold**	**27.87**	**277**	P	**P**	**00 33 51.7**	**+0.9**
PPT2	**Papeete2**	**29.64**	**67**	*e*LR	LR	00 41 41.6	
TOO	**Toolangi**	**30.16**	**250**	P	**P**	**00 34 13.2**	**+2.0**
TOO				IAmb	IAmb	00 34 23.1	
	comp=Z,19nm,1.2s						
STKA	**Stephens Creek**	**34.02**	**260**	P	**P**	**00 34 46.3**	**+1.2**
	comp=Z,2.4nm,0.5s,baz=98,slow=11,SNR=4.7						
	comp=Z,2.4nm,0.5s						
STKA	**Stephens Creek**	**34.02**	**260**	P	**P**	**00 34 46.4**	**+1.2**
CTA	**Charters Tower**	**34.15**	**282**	P	**P**	**00 34 47.5**	**+1.2**
	comp=Z,8.8nm,0.7s,baz=107,slow=8.8,SNR=12						
	comp=Z,8.8nm,0.7s						
CTAO	**Charters Tower**	**34.15**	**282**	P	**P**	**00 34 47.8**	**+1.5**
BBOO	**Buckleboo**	**38.41**	**257**	P	**P**	**00 35 22.7**	**+0.1**
BBOO				IAmb	IAmb	00 35 23.4	
	comp=Z,19nm,1.1s						
PMG	**Port Moresby**	**39.51**	**298**	P	**P**	**00 35 32.4**	**+0.5**
	comp=Z,4.0nm,0.5s,baz=151,slow=16,SNR=1.7						
	comp=Z,4.0nm,0.5s						
PMG	**Port Moresby**	**39.51**	**298**	P	**P**	**00 35 32.1**	**+0.2**
KRVT	**Keravat (AS076**	**39.63**	**309**	P	**P**	**00 35 33.4**	**+0.4**
	comp=Z,62nm,0.5s,baz=120,slow=20,SNR=1.3						
COEN	**Coen**	**39.85**	**288**	P	**P**	**00 35 36.2**	**+1.4**
AS31	**Alice Springs**	**43.00**	**269**	P	**P**	**00 36 00.7**	**0.0**
ASAR	**Alice Springs**	**43.00**	**269**	P	**P**	**00 36 00.8**	**+0.1**
	comp=Z,12nm,0.8s,baz=114,slow=7.9,SNR=21						
ASAR				LR	LR	00 54 16.5	
	comp=Z,375nm,19.1s,baz=117,slow=37						
	comp=Z,12nm,0.8s						
ASAR	**Alice Springs**	**43.00**	**269**	P	**P**	**00 36 00.1**	**-0.6**
WRAB	**Tennant Creek**	**44.17**	**274**	P	**P**	**00 36 09.7**	**-0.4**
WRA	**Warramunga Arr**	**44.18**	**274**	P	**P**	**00 36 10.1**	**-0.1**
	comp=Z,14nm,0.5s,baz=114,slow=7.7,SNR=30						
	comp=Z,14nm,0.5s						
FORT	**Forrest**	**45.51**	**257**	P	**P**	**00 36 20.1**	**-0.5**
MTN	**Manton Dam**	**50.30**	**281**	P	**P**	**00 36 57.3**	**-0.6**
MTN				IAmb	IAmb	00 37 02.6	
	comp=Z,16nm,0.8s						
KNRA	**Kununurra**	**50.85**	**276**	P	**P**	**00 37 01.0**	**-1.1**
KNRA				IAmb	IAmb	00 37 03.1	
	comp=Z,20nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.35**	**272**	P	**P**	**00 37 13.1**	**-0.2**
FITZ				IAmb	IAmb	00 37 14.1	
	comp=Z,27nm,1.4s						
CASY	**Casey**	**53.28**	**209**	P	**P**	**00 37 20.7**	**+1.2**
CASY				IAmb	IAmb	00 37 39.9	
	comp=Z,26nm,1.1s						
FAKI	**Fak Fak**	**55.05**	**292**	P	**P**	**00 33 33.4**	**+0.2**
FAKI	**Fak Fak**	**55.05**	**292**	P	**P**	**00 37 33.2**	**+0.1**
	comp=Z,19nm,1.2s						
PSA00	**Pilbara Seismi**	**55.71**	**265**	P	**P**	**00 37 36.7**	**-1.1**
PSA00				IAmb	IAmb	00 37 37.4	
	comp=Z,11nm,1.2s						
MORW	**Morawa**	**55.92**	**255**	P	**P**	**00 37 38.3**	**-1.0**
MORW				IAmb	IAmb	00 37 51.2	
	comp=Z,19nm,1.2s						
SIJI	**Sorong**	**57.09**	**293**	P	**P**	**00 37 49.2**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=99,slow=13,SNR=4.9						
	comp=Z,1.8nm,0.3s						
QSPA	**South Pole Qui**	**57.62**	**180**	P	**P**	**00 37 53.8**	**+2.9**
	comp=Z,5.7nm,1.0s,baz=63,slow=1.8,SNR=4.8						
	comp=Z,5.7nm,1.0s						
QSPA	**South Pole Qui**	**57.62**	**180**	P	**P**	**00 37 52.9**	**+2.0**
SOEI	**Soe**	**57.64**	**280**	P	**P**	**00 37 50.0**	**-1.7**
BATI	**Baumata**	**57.90**	**279**	P	**P**	**00 37 54.0**	**+0.5**
	comp=Z,12nm,0.3s,baz=129,slow=9.1,SNR=3.8						
BATI				LR	LR	01 02 31.3	
	comp=Z,1μm,18.7s,baz=132,slow=36						
	comp=Z,12nm,0.3s						
RPN	**Rapa Nui**	**58.94**	**104**	LR	LR	01 00 11.6	
	comp=Z,286nm,18.0s,baz=238,slow=33						
KAPI	**Kappang**	**63.96**	**281**	LR	LR	01 06 24.0	
	comp=Z,423nm,18.3s,baz=84,slow=36						
TWSI	**Taliwang, Sumb**	**64.36**	**276**	P	**P**	**00 38 36.5**	**-0.8**
BELA	**Belgrano 2**	**67.72**	**172**	P	**P**	**00 38 58.7**	**+0.8**
BELA				IAmb	IAmb	00 39 12.1	
	comp=Z,11nm,0.9s						
MAW	**Mawson**	**70.34**	**201**	P	**P**	**00 39 15.9**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=130,slow=9.5,SNR=2.4						
	comp=Z,1.4nm,0.7s						
MAW	**Mawson**	**70.34**	**201**	P	**P**	**00 39 15.5**	**+1.2**
SBUM	**Sibu**	**74.35**	**283**	P	**P**	**00 39 37.9**	**-1.2**
SBUM				IAmb	IAmb	00 39 40.0	
	comp=Z,17nm,1.4s						
TROLL	**Troll, Antarti**	**75.78**	**180**	pP	pP	00 39 48.8	+0.8
SNAA	**Sanae**	**76.07**	**178**	PcP	**PcP**	**00 39 59.6**	**-0.9**
SNAA	**Sanae**	**76.07**	**178**	pP	pP	00 39 50.7	+1.1
SNAA	**Sanae**	**76.07**	**178**	LR	LR	01 09 41.9	
	comp=Z,167nm,20.4s,baz=188,slow=33						
SNAA	**Sanae**	**76.07**	**178**	P	**P**	**00 38 48.9**	**+0.7**
VNA3	**Neumayer Olymp**	**76.22**	**176**	PcP	**PcP**	**00 40 01.0**	**0.0**
VNA3	**Neumayer Olymp**	**76.22**	**176**	pP	pP	00 39 50.7	+0.3
VNA2	**Neumayer--Watz**	**76.66**	**177**	PcP	**PcP**	**00 40 03.8**	**+0.9**
VNA2	**Neumayer--Watz**	**76.66**	**177**	pP	pP	00 39 53.7	+0.8
	baz=183,slow=4.0						
VNA1	**Neumayer--Stat**	**76.89**	**177**	PcP	**PcP**	**00 40 05.0**	**+1.2**
VNA1	**Neumayer--Stat**	**76.89**	**177**	pP	pP	00 39 55.7	+1.6
MJAR	**Matsushiro Arr**	**79.94**	**326**	P	**P**	**00 40 08.6**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=165,slow=3.7,SNR=2.4						
	comp=Z,0.3nm,0.4s						
SHEM	**Shemya Is, Ala**	**85.14**	**355**	LR	LR	01 14 52.9	
	comp=Z,208nm,18.3s,baz=111,slow=33						
LPIG	**La Paz**	**85.67**	**58**	LR	LR	01 14 01.2	
	comp=Z,217nm,18.3s,baz=240,slow=32						
KSRS	**Korea Array**	**85.92**	**320**	P	**P**	**00 40 41.3**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=149,slow=5.6,SNR=4.6						
	comp=Z,1.1nm,0.8s						
KSAR	**Wonju Array Be**	**85.93**	**320**	P	**P**	**00 40 41.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**87.83**	**346**	P	**P**	**00 40 50.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**88.88**	**327**	P	**P**	**00 40 55.6**	**+0.6**
PNTR	**Pine Nut**	**89.52**	**42**	P	**P**	**00 40 58.8**	**+0.3**
PNTR				IAmb	IAmb	00 41 27.6	
	comp=Z,7.1nm,1.1s						
YBH	**Yreka Blue Hor**	**89.70**	**38**	LR	LR	01 16 40.5	
	comp=Z,292nm,18.6s,baz=238,slow=33						
NVAR	**Mina Array Bea**	**89.80**	**43**	P	**P**	**00 41 00.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=224,slow=5.0,SNR=3.1						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**89.80**	**43**	P	**P**	**00 40 59.7**	**-0.2**
PZH	**PanZhiHua**	**96.23**	**297**	P	**P**	**00 41 31.3**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
HHC	**Hu-ho-hao-te**	**97.66**	**314**	*e*P	Pdif	00 41 38.4	+2.6
HHC				pmax	pmax		
	comp=Z,24nm,1.1s						
WMQ	**Urumqi**	**114.48**	**308**	*e*PKP	PKPdf	00 46 41.4	+0.4
MKAR	**Makanchi Array**	**119.08**	**309**	PKP	**PKPdf**	**00 46 49.2**	**-0.4**
	comp=Z,11nm,1.4s,baz=99,slow=3.8,SNR=5.7						
ZALV	**Zalesovo Beam**	**119.56**	**318**	PKP	**PKPdf**	**00 46 49.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=113,slow=3.3,SNR=2.2						
KURBB	**Kurchatov Arra**	**122.49**	**313**	PKP	**PKPdf**	**00 46 56.2**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=83,slow=1.7,SNR=8.0						
KKAR	**Karatay Array**	**126.18**	**302**	PKPdf	**PKiKP**	**00 47 04.2**	**+0.3**
LSZ	**Lusaka**	**126.27**	**212**	PKP	**PKiKP**	**00 47 07.0**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=140,slow=7.0,SNR=3.5						
BVAR	**Borovoye Array**	**127.86**	**315**	PKP	**PKPdf**	**00 47 07.0**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=99,slow=2.0,SNR=12						
GEYT	**Alibeck**	**134.38**	**293**	PKP	**PKPdf**	**00 47 20.3**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=56,slow=8.8,SNR=2.9						
ARCES	**ARCESS Array B**	**140.62**	**347**	PKhKP	PKPpre	00 47 25.3	
	comp=Z,1.0nm,0.8s,baz=58,slow=3.0,SNR=4.9						
KBZ	**Khabaz**	**146.21**	**301**	PKPbc	**PKPdf**	**00 47 39.9**	**-0.3**
	comp=Z,6.2nm,1.0s,baz=140,slow=3.9,SNR=5.6						
FINES	**FINESS Array B**	**147.09**	**339**	PKPbc	**PKPbc**	**00 47 43.9**	**+0.6**
	comp=Z,11nm,0.6s,baz=44,slow=4.3,SNR=31						
NB2	**NORSAR Subarra**	**150.81**	**351**	PKP	**PKiKP**	**00 47 54.2**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**150.81**	**351**	PKPbc	**PKPbc**	**00 47 53.6**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=49,slow=1.8,SNR=13						
NACGM	**Naroch**	**151.57**	**329**	*e*PKP	**PKPbc**	**00 47 55.4**	**+0.6**
AKASG	**Malin Array Be**	**152.91**	**320**	PKPbc	**PKPbc**	**00 47 57.8**	**-0.1**
	comp=Z,1.2n

FUSB				*e*S	Sn	00 37 59.6	0.0		
	baz=288								
ETL	**Fush Village**	**0.91**	**245**	P	Pn	00 37 46.0	-0.1		
	baz=238								
ETL				*e*S	Sn	00 38 00.4	+0.3		
	baz=238								
LATG	**Datong**	**0.91**	**270**	P	Pn	00 37 46.4	+0.2		
	baz=267								
LATG				*e*S	Sn	00 38 01.0	+0.7		
	baz=267								
TNOU	**National Taiwa**	**0.91**	**312**	*i* P	Pn	00 37 46.2	0.0		
	baz=304								
TNOU				*i* S	Sn	00 38 00.1	0.0		
	baz=304								
NDT	**Datong Townshi**	**0.93**	**274**	*e*P	Pn	00 37 46.3	0.0		
	baz=267								
NACB	**Ninganchiao**	**0.93**	**247**	P	Pn	00 37 45.7	-0.5		
	baz=241								
NACB				*e*S	Sn	00 38 00.5	+0.2		
	baz=241								
TWA	**Mucha**	**0.96**	**297**	*i* P	Pn	00 37 46.6	-0.1		
	baz=288								
TWA				*i* S	Sn	00 38 00.7	-0.4		
	baz=288								
TWD	**Chiawan**	**0.97**	**242**	*e*P	Pn	00 37 46.3	-0.4		
	baz=235								
TWD				*i* S	Sn	00 38 01.3	+0.1		
	baz=235								
NHDH	**Xindian Distri**	**1.00**	**295**	*i* P	Pn	00 37 47.0	-0.2		
	baz=286								
NHDH				*e*S	Sn	00 38 01.1	-0.8		
	baz=286								
ETLH	**Xiulin Townshi**	**1.01**	**251**	*e*P	Pn	00 37 47.1	-0.2		
	baz=249								
ETLH				*e*S	Sn	00 38 02.0	-0.2		
	baz=249								
HWA	**Hwalien**	**1.01**	**236**	*i* P	Pn	00 37 47.4	+0.1		
	baz=235								
TATO	**Taipei**	**1.04**	**295**	*e*P	Pn	00 37 47.1	-0.4		
	baz=285								
NNSH	**Datong**	**1.05**	**264**	*i* P	Pn	00 37 47.7	-0.1		
	baz=256								
NNSH				S	Sn	00 38 03.2	+0.2		
	baz=256								
NNSB	**Datong**	**1.05**	**264**	*i* P	Pn	00 37 47.8	0.0		
	baz=257								
NNS	**Nan Shan**	**1.06**	**265**	*e*P	Pn	00 37 47.1	-0.7		
	baz=256								
NNS				*e*S	Sn	00 38 02.5	-0.7		
	baz=256								
YHNB	**Yeheng**	**1.06**	**277**	*e*P	Pn	00 37 48.1	+0.3		
	baz=275								
YHNB				*i* S	Sn	00 38 03.4	+0.2		
	baz=275								
YM01	**YM01**	**1.06**	**305**	*i* P	Pn	00 37 47.6	-0.2		
	baz=294								
YM01				*e*S	Sn	00 38 02.8	-0.3		
	baz=294								
YM08	**YM08**	**1.07**	**307**	*e*P	Pn	00 37 47.5	-0.4		
	baz=299								
NSK	**Sanguang**	**1.07**	**277**	*e*P	Pn	00 37 47.4	-0.6		
	baz=275								
NSK				*e*S	Sn	00 38 02.7	-0.7		
	baz=275								
TEYL	**Yanliau Villag**	**1.08**	**232**	*i* P	Pn	00 37 47.9	-0.2		
	baz=232								
TEYL				*e*S	Sn	00 38 03.6	+0.1		
	baz=232								
ETM	**Tongmen**	**1.10**	**239**	*e*P	Pn	00 37 48.0	-0.3		
	baz=232								
ETM				*e*S	Sn	00 38 04.3	+0.3		
	baz=232								
TWY	**Chenhua**	**1.11**	**311**	*e*P	Pn	00 37 48.2	-0.2		
	baz=301								
IRIF	**Iriomote-Funau**	**1.12**	**100**	P	Pn	00 37 48.3	-0.1		
IRIF				S	Sn	00 38 04.1	-0.1		
TWS1	**Kuangyinshan**	**1.15**	**299**	*i* P	Pn	00 37 48.8	-0.1		
	baz=292								
TWS1				*i* S	Sn	00 38 05.1	+0.1		
	baz=292								
NTST	**Danshui**	**1.16**	**303**	*e*P	Pn	00 37 49.0	0.0		
	baz=294								
NTST				S	Sn	00 38 05.2	+0.1		
	baz=294								
PCYT	**Pengchaiyu**	**1.16**	**339**	P	Pn	00 37 48.9	-0.1		
	baz=341								
FUSS	**Fushou**	**1.21**	**256**	P	Pn	00 37 50.1	+0.3		
	baz=251								
FUSS				S	Sn	00 38 07.0	+0.5		
	baz=251								
WHF	**Hehuan Shan**	**1.22**	**251**	*i* P	Pn	00 37 50.1	0.0		
	baz=250								
WHF				*i* S	Sn	00 38 07.2	+0.1		
	baz=250								
TEGC	**Jichi Village**	**1.23**	**228**	*i* P	Pn	00 37 49.8	+0.1		
	baz=233								
TEGC				*e*S	Sn	00 38 07.1	+0.6		
	baz=233								
ESL	**Shilin**	**1.23**	**234**	*i* P	Pn	00 37 49.5	-0.4		
	baz=229								
HATJ	**Hateruma jima**	**1.26**	**112**	P	Pn	00 37 50.7	+0.5		
HATJ				S	Sn	00 38 08.7	+1.3		
TWT	**Tachien**	**1.27**	**257**	P	Pn	00 37 51.0	+0.6		
	baz=256								
TWT				*e*S	Sn	00 38 08.3	+0.6		
	baz=256								
TDCB	**Techi**	**1.28**	**257**	*e*P	Pn	00 37 51.1	+0.5		
	baz=256								
TDCB				*i* S	Sn	00 38 08.1	+0.1		
	baz=256								
NFF	**Wufeng Townshi**	**1.29**	**274**	*e*P	Pn	00 37 50.0	-0.5		
	baz=279								
NFF				*e*S	Sn	00 38 07.0	-1.0		
	baz=279								
NCU	**National Centr**	**1.29**	**290**	P	Pn	00 37 51.0	+0.4		
	baz=287								
NCU				*i* S	Sn	00 38 08.7	+0.7		
	baz=287								
NJD	**Zhudong**	**1.32**	**279**	*e*P	Pn	00 37 51.5	+0.5		
	baz=277								
CHGB	**Renai**	**1.32**	**249**	P	Pn	00 37 51.4	+0.2		
	baz=242								
CHGB				*i* S	Sn	00 38 09.2	+0.1		
	baz=242								
EGFH	**Guangfu**	**1.33**	**229**	*i* P	Pn	00 37 50.6	-0.4		
	baz=229								
OWD	**Renai**	**1.36**	**245**	*e*P	Pn	00 37 51.6	0.0		
	baz=239								
OWD				S	Sn	00 38 09.4	-0.4		
	baz=239								
LIOB	**Emei**	**1.38**	**275**	*i* P	Pn	00 37 52.0	+0.3		
	baz=273								
LIOB				S	Sn	00 38 10.3	+0.3		
	baz=273								
JKRS	**Kuro-shima**	**1.39**	**102**	P	Pn	00 37 52.0	+0.3		
JKRS				S	Sn	00 38 10.1	+0.1		
NSTT	**Nanjuang**	**1.39**	**274**	*i* P	Pn	00 37 52.1	+0.3		
	baz=272								
NSTT				S	Sn	00 38 10.4	+0.2		
	baz=272								
HSN1	**Hsinchu**	**1.39**	**280**	*e*P	Pn	00 37 52.3	+0.5		
	baz=278								
WUSB	**Renai**	**1.40**	**247**	*i* P	Pn	00 37 52.3	+0.3		
	baz=241								
WUSB				*i* S	Sn	00 38 10.8	+0.2		
	baz=241								
NHW	**Xinwu Township**	**1.42**	**289**	*e*P	Pn	00 37 52.4	+0.2		
	baz=287								
SBCB	**Hsinchu**	**1.42**	**280**	*e*P	Pn	00 37 52.6	+0.4		
	baz=279								
SBCB				*i* S	Sn	00 38 11.4	+0.5		
	baz=279								
HSN	**Hsinchu**	**1.44**	**281**	*e*S	Sn	00 38 11.5	+0.2		
	baz=280								
HGSD	**Ruisui**	**1.45**	**224**	*e*P	Pn	00 37 52.3	-0.3		
	baz=219								
WHP	**Taichung City**	**1.47**	**260**	P	Pn	00 37 53.9	+1.1		
	baz=256								
WHP				*e*S	Sn	00 38 12.4	+0.4		
	baz=256								
JIJ	**Ishigaki jima**	**1.48**	**97**	P	Pn	00 37 52.6	-0.3		
JIJ				S	Sn	00 38 11.2	-1.0		
VWDT	**VWDT**	**1.49**	**238**	*e*P	Pn	00 37 53.4	+0.4		
	baz=233								
VWDT				*e*S	Sn	00 38 12.6	+0.2		
	baz=233								
EHY	**Hungye**	**1.51**	**227**	*e*P	Pn	00 37 52.7	-0.6		
	baz=233								
WPL	**Puli Township**	**1.53**	**250**	*e*P	Pn	00 37 54.2	+0.7		
	baz=246								
DPDB	**Guoxing**	**1.55**	**251**	*e*P	Pn	00 37 54.5	+0.7		
	baz=247								
WCS	**Beigang Elemen**	**1.55**	**252**	*e*P	Pn	00 37 53.8	0.0		
	baz=256								
ECBN	**Changbin**	**1.57**	**219**	*e*P	Pn	00 37 52.9	-1.2		
	baz=219								
NMLH	**Miaoli**	**1.58**	**270**	*e*P	Pn	00 37 54.6	+0.4		
	baz=258								
NMLH				*e*S	Sn	00 38 14.7	+0.2		
	baz=258								
YULB	**Yu-li**	**1.60**	**225**	*e*P	Pn	00 37 53.8	-0.7		
	baz=232								
TWQ1	**Liyutan**	**1.61**	**263**	*e*P	Pn	00 37 55.0	+0.5		
	baz=262								
TWQ1				*e*S	Sn	00 38 15.8	+0.7		
	baz=262								
NSY	**Sanyi**	**1.61**	**266**	*e*P	Pn	00 37 55.2	+0.6		
	baz=264								
SSLB	**Suanglung**	**1.62**	**243**	*e*P	Pn	00 37 55.0	+0.2		
	baz=239								
SSLB				*e*S	Sn	00 38 15.8	+0.3		
	baz=239								
EYUL	**Yuli**	**1.62**	**223**	*e*P	Pn	00 37 54.5	-0.2		
	baz=231								
SMLT	**Sun Moon Lake**	**1.62**	**247**	*e*P	Pn	00 37 55.4	+0.5		
	baz=239								
TWF1	**Yuli**	**1.63**	**224**	*e*P	Pn	00 37 54.4	-0.5		
	baz=230								
TYC	**Yuchr**	**1.65**	**248**	*e*P	Pn	00 37 55.8	+0.7		
	baz=241								
WDJ	**Dajia District**	**1.73**	**264**	*e*P	Pn	00 37 56.5	+0.4		
	baz=263								
WDJ				*e*S	Sn	00 38 18.2	+0.3		
	baz=263								
WWF	**Wufeng**	**1.74**	**254**	*e*P	Pn	00 37 56.2	-0.1		
	baz=263								
WWF				*e*S	Sn	00 38 18.5	+0.3		
	baz=263								
FULB	**Fuli**	**1.75**	**220**	*e*P	Pn	00 37 56.2	-0.2		
	baz=215								
FULB				*e*S	Sn	00 38 18.9	+0.5		
	baz=215								
YUS	**Yu-Shan**	**1.78**	**234**	*e*P	Pn	00 37 57.6	+0.3		
	baz=229								
YUS				*e*S	Sn	00 38 19.7	-0.2		
	baz=229								
WJS	**Zhushan**	**1.79**	**247**	*e*P	Pn	00 37 57.8	+0.9		
	baz=256								
WNT1	**Nantou City**	**1.80**	**250**	*e*P	Pn	00 37 57.9	+0.9		
	baz=258								
WNT	**Mingjian**	**1.81**	**249**	*e*P	Pn	00 37 58.4	+1.2		
	baz=257								
WCHH	**Zhanghua**	**1.85**	**256**	*e*P	Pn	00 37 58.1	+0.4		
	baz=263								
WCHH				*e*S	Sn	00 38 21.0	+0.3		
	baz=263								
ECS	**Chishang**	**1.87**	**220**	*e*P	Pn	00 37 58.3	+0.3		
	baz=228								
ALS	**Alishan**	**1.88**	**237**	*e*P	Pn	00 37 59.1	+0.8		
	baz=236								
EDH	**Donghe**	**1.92**	**216**	*e*P	Pn	00 37 58.0	-0.7		
	baz=210								
EDH				*e*S	Sn	00 38 21.3	-1.0		
	baz=210								
ELDTW	**Lidau**	**1.93**	**226**	*e*P	Pn	00 37 58.4	-0.4		
	baz=225								
JTJ	**Tarama**	**1.98**	**87**	P	Pn	00 37 59.3	0.0		
JTJ				*e*S	Sn	00 38 24.8	+1.0		
WGK	**Gukeng**	**1.99**	**245**	*e*P	Pn	00 38 01.1	+1.7		
	baz=255								
WDLH	**Douliu**	**2.01**	**245**	*e*P	Pn	00 38 00.5	+0.8		
	baz=255								
WRL	**Guolierlin Hig**	**2.06**	**252**	*e*P	Pn	00 37 59.6	-0.9		
	baz=261								
WRL				*e*S	Sn	00 38 24.6	-1.1		
	baz=261								
LONT	**Longtian**	**2.07**	**218**	*e*P	Pn	00 38 00.0	-0.6		
	baz=218								
WCKO	**Fanlu**	**2.07**	**238**	*e*P	Pn	00 38 01.0	+0.4		
	baz=238								
LDUT	**Sudao**	**2.10**	**208**	*e*P	Pn	00 38 00.0	-0.9		
	baz=213								
STYH	**Taoyuan**	**2.11**	**230**	*e*P	Pn	00 38 01.0	0.0		
	baz=229								
STYH				*e*S	Sn	00 38 26.6	-0.1		
	baz=229								
TPUB	**Ta-pu**	**2.13**	**235**	*e*P	Pn	00 38 02.1	+0.7		
	baz=234								
TWGBT	**Beinan**	**2.17**	**218**	*e*P	Pn	00 38 01.4	-0.5		
	baz=218								
TWG	**Pinlang**	**2.17**	**218**	*e*P	Pn	00 38 01.3	-0.6		
	baz=218								
WTP	**Ta-pu**	**2.17**	**234**	*e*P	Pn	00 38 02.8	+0.8		
	baz=233								
CHY	**Chiayi**	**2.19**	**242**	*e*P	Pn	00 38 02.7	+0.6		
	baz=252								
TWK	**Hsinying**	**2.26**	**236**	*e*P	Pn	00 38 04.3	+1.2		
	baz=235								
CHN1	**Nanshi**	**2.27**	**234**	*e*P	Pn	00 38 04.2	+0.9		
	baz=233								
SNST	**Tainan City**	**2.28**	**235**	*e*P	Pn	00 38 04.1	+0.8		
	baz=234								
SGST	**Jiashian**	**2.30**	**231**	*e*P	Pn	00 38 04.0	+0.4		
	baz=239								
WSL	**Shuilin Townsh**	**2.33**	**245**	*e*P	Pn	00 38 03.5	-0.5		
	baz=253								
ICHU	**Yijhu**	**2.37**	**241**	*e*P	Pn	00 38 05.0	+0.5		
	baz=240								
ECL	**Taimali**	**2.42**	**217**	*e*P	Pn	00 38 04.1	-1.0		
	baz=217								
SSD	**Sandimen**	**2.49**	**225**	*e*P	Pn	00 38 07.4	+1.2		
	baz=224								
TSMG	**Majia**	**2.51**	**224**	*e*P	Pn	00 38 07.3	+0.8		
	baz=223								
MASBT	**Mashibuluo**	**2.59**	**223**	*e*P	Pn	00 38 08.3	+0.8		
	baz=234								
MASBT				*e*S	Sn	00 38 40.5	+2.3		
	baz=234								
TSCK	**Chigu Township**	**2.63**	**239**	*e*P	Pn	00 38 08.6	+0.6		
	baz=238								
TSCK				*e*S	Sn	00 38 38.9	-0.3		
	baz=238								
EAST	**Anshuo**	**2.65**	**216**	*e*P	Pn	00 38 08.3	+0.1		
	baz=211								
LAY	**Lan-yu**	**2.65**	**200**	*e*P	Pn	00 38 07.3	-0.9		
	baz=200								
TAWH	**Dawu Township**	**2.66**	**215**	*e*P	Pn	00 38 06.9	-1.5		
	baz=215								
LYUB	**Lan-yu**	**2.67**	**199**	*e*P	Pn	00 38 07.1	-1.4		
	baz=203								
SCZT	**Fangliau**	**2.78**	**219**	*e*P	Pn	00 38 10.8	+0.8		
	baz=230								
SLIU	**Shizi**	**2.81**	**215**	*e*P	Pn	00 38 09.9	-0.5		
	baz=215								
MATB	**Ma-tsu**	**2.83**	**305**	*e*P	Pn	00 38 11.0	+0.3		
	baz=303								
VWUC	**VWUC**	**2.83**	**280**	*e*P	Pn	00 38 09.8	-0.8		
	baz=279								
PNG	**Penghu**	**2.88**	**251**	*e*P	Pn	00 38 10.8	-0.6		
	baz=250								
PHUB	**P'eng-hu**	**2.89**	**250**	*e*P	Pn	00 38 10.3	-1.1		
	baz=249								
WDGT	**Dungji**	**2.92**	**245**	*e*P	Pn	00 38 11.8	-0.1		
	baz=244								
TWKBT	**Hengchun**	**3.03**	**212**	*e*P	Pn	00 38 13.9	+0.5		
	baz=212								
VCHM	**Qimei**	**3.13**	**246**	*e*P	Pn	00 38 14.8	+0.1		
	baz=237								
PTMZ	**Houxiangcun**	**3.14**	**280**	*e*P	Pn	00 38 15.5	+0.7		
	baz=279								
KNM	**Kinmen**	**3.73**	**269**	*e*P	Pn	00 38 23.8	+1.0		
	baz=268								
KNMB	**Chin-men Tao**	**3.77**	**270**	*e*P	Pn	00 38 22.6	-0.7		
	baz=269								
AXDP	**Jialang**	**4.16**	**276**	*e*P	Pn	00 38 28.3	-0.3		
	baz=275								
ZPLA	**Ao Xicun**	**4.40**	**263**	*e*P	Pn	00 38 31.3	-0.6		
	baz=262								
JOW	**Kunigami**	**5.66**	**65**	*e*P	Pn	00 38 46.9	-2.2		
	baz=67								

IDC ***25*** *00:37:37.3±0.8, 0.°06S×17.°78W, h0km, mb4.1/14, mbtmp4.3/17, ML4.8/3, Error ellipse: s-maj=21.0km s-min=16.2km az=132.0*

NEIC ***25*** *00:37:38.8±1.1, 0.°14S±0.°09×17.°95W±0.°10, h10km±1km, mb4.7/40, Error ellipse: s-maj=16.7km s-min=14.6km az=267.0*

ISC 25 00:37:40.1±0.4, 0.°08S±0.°07×17.°93W±0.°07, h23km, n87, σ1.°13/87, mb4.6/37, 6C-5D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**8.43**	**156**	T	T	00 48 57.7	
	baz=342,slow=74,SNR=606						
H10N3	**ASCENSION HYDR**	**8.44**	**156**	T	T	00 48 07.3	
	baz=342,SNR=695						
H10N1	**ASCENSION HYDR**	**8.45**	**156**	T	T	00 48 53.0	
	baz=342,slow=74,SNR=898						
ASCN	**Ascension**	**8.58**	**156**		**Pn**	**00 39 41.5**	**-1.5**
LIC	**Lamto**	**14.32**	**64⇑**	*e*P	**Pn**	**00 41 02.4**	**+0.8**
	18nm,0.3s						
TIC	**Toumodi**	**14.51**	**62⇑**	*i*P	**Pn**	**00 41 03.7**	**-0.6**
	33nm,0.3s						
KIC	**Kosan Boka**	**14.64**	**64⇑**	*e*P	**Pn**	**00 41 06.4**	**+0.5**
	36nm,0.3s						
DBIC	**Dimbokro**	**14.67**	**63**	Pn	**Pn**	**00 41 05.0**	**-1.4**
	9.4nm,0.3s,baz=261,slow=12,SNR=112						
DBIC				Sn	Sn	00 43 34.4	-14
	0.6nm,0.3s,baz=177,slow=19,SNR=2.5						
	22nm,0.3s						
DBIC	**Dimbokro**	**14.67**	**63**	Pn	**Pn**	**00 41 04.7**	**-1.7**
BBTS	**Babate**	**14.71**	**5**	Pn	**Pn**	**00 41 04.5**	**-2.3**
	5.0nm,0.3s,baz=152,slow=17,SNR=7.4						
BBTS				Sn	Sn	00 43 34.4	-15
	6.4nm,0.3s,baz=342,slow=22,SNR=2.9						
	21nm,0.4s						
RCBR	**Riachuelo**	**18.82**	**252**	P	**P**	**00 41 57.1**	**-1.4**
	7.9nm,0.7s,baz=233,slow=14,SNR=14						
RCBR				S	Sn	00 45 09.7	-20
	9.8nm,1.1s,baz=314,slow=11,SNR=1.4						
RCBR	**Riachuelo**	**18.82**	**252**	P	**P**	**00 41 56.7**	**-1.8**
KOWA	**Kowa**	**19.98**	**43**	P	**P**	**00 42 11.0**	**-0.1**
	1.2nm,0.3s,baz=224,slow=9.1,SNR=41						
KOWA				S	S	00 45 38.0	-17
	3.4nm,0.6s,baz=315,slow=17,SNR=2.1						
	26nm,0.7s						
KOWA	**Kowa**	**19.98**	**43**		**P**	**00 42 11.2**	**+0.1**
KOWA				IAmb	IAmb	00 42 14.6	
	comp=Z,52nm,1.2s						
TOA0	**Torodi Ar. Sit**	**23.48**	**55**	P	**P**	**00 42 48.0**	**-0.3**
TOA0				IAmb	IAmb	00 42 50.6	
	comp=Z,26nm,1.1s						
TORD	**Torodi Ar. Bea**	**23.48**	**55**	P	**P**	**00 42 48.1**	**-0.3**
	comp=Z,20nm,0.9s,baz=237,slow=10,SNR=53						
TORD				S	**S**	**00 46 58.2**	**-2.7**
	comp=Z,1.0nm,0.6s,baz=237,slow=22,SNR=1.5						
	comp=Z,20nm,0.9s						
MDT	**Midelt**	**35.05**	**20**	P	**P**	**00 44 33.1**	**+1.7**
	comp=Z,2.8nm,0.9s,baz=241,slow=6.9,SNR=6.2						
	comp=Z,2.8nm,0.9s						
PESTR	**Estremoz**	**39.90**	**13**	P	**P**	**00 45 13.4**	**+1.0**
PAB	**San Pablo**	**41.35**	**16**	P	**P**	**00 45 25.2**	**+0.9**
PAB				IAmb	IAmb	00 45 27.3	
	comp=Z,12nm,1.1s						
MTE	**Manteigas**	**41.38**	**12**	P	**P**	**00 45 25.8**	**+1.1**
MTE				IAmb	IAmb	00 45 27.8	
	comp=Z,22nm,1.2s						
ESDC	**Sonseca Array**	**41.57**	**16**	P	**P**	**00 45 27.8**	**+1.6**
	comp=Z,2.0nm,1.0s,baz=208,slow=9.6,SNR=9.8						
ESDC				PP	**PP**	**00 47 04.0**	**+1.5**
	comp=Z,1.4nm,1.1s,baz=195,slow=11,SNR=4.5						
	comp=Z,2.0nm,1.0s						
ESDC	**Sonseca Array**	**41.57**	**16**	P	**P**	**00 45 26.9**	**+0.7**
BOAV	**Boa Vista**	**42.65**	**274**	P	**P**	**00 45 34.8**	**-0.5**
BOAV				IAmb	IAmb	00 45 46.8	
	comp=Z,3.9nm,1.0s						
KEST	**Kesra**	**43.75**	**33**	P	**P**	**00 45 45.0**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=207,slow=4.5,SNR=4.4						
	comp=Z,4.6nm,0.9s						
LSZ	**Lusaka**	**47.99**	**111**	P	**P**	**00 46 17.7**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=311,slow=2.0,SNR=4.7						
	comp=Z,0.9nm,0.3s						
MBAR	**Mbarara**	**48.67**	**91**	P	**P**	**00 46 22.3**	**-0.9**
MBAR				IAmb	IAmb	00 46 26.8	
	comp=Z,7.4nm,1.4s						
LBTB	**Lobatse**	**48.83**	**124**	P	**P**	**00 46 24.3**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=297,slow=11,SNR=2.2						
	comp=Z,1.6nm,0.6s						
BIRV	**Birongo**	**49.19**	**284**	P	**P**	**00 46 26.8**	**-0.2**
BOSA	**Boshof**	**50.08**	**128**	P	**P**	**00 46 33.6**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=303,slow=8.0,SNR=1.7						
	comp=Z,2.1nm,0.9s						
BOSA	**Boshof**	**50.08**	**128**	P	**P**	**00 46 33.6**	**-0.1**
BOSA				IAmb	IAmb	00 47 11.6	
	comp=Z,17nm,1.5s						
BAUV	**El Baul**	**50.70**	**282**	P	**P**	**00 46 38.2**	**-0.2**
SENIN	**Lac Senin/Sane**	**51.28**	**22**	P	**P**	**00 46 43.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**51.56**	**293**	P	**P**	**00 46 44.1**	**-0.7**
LPAZ	**La Paz**	**52.04**	**249**	P	**P**	**00 46 49.6**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=80,slow=18,SNR=2.1						
	comp=Z,1.0nm,0.9s						
ITM	**Ithomi**	**52.24**	**40**	P	**P**	**00 46 49.9**	**+0.2**
ITM				IAmb	IAmb	00 47 01.0	
	comp=Z,24nm,1.3s						
DAVA	**Damuels**	**53.05**	**23**	*e*P	**P**	**00 46 56.0**	**+0.4**
	comp=Z,7.3nm,0.8s						
SQTA	**Sankt Quirin**	**53.53**	**24**	*e*P	**P**	**00 46 59.7**	**+0.5**
	comp=Z,3.4nm,0.7s						
SABO	**M.te Sabotino**	**53.60**	**27**	P	**P**	**00 47 00.6**	**+1.0**
SABO				IAmb	IAmb	00 47 19.6	
	comp=Z,11nm,1.0s						
CLUD	**Cludinico**	**53.65**	**26**	P	**P**	**00 47 00.0**	**+0.2**
ABTA	**Abfaltersbach**	**53.71**	**26**	*e*P	**P**	**00 47 01.4**	**+1.0**
	comp=Z,3.9nm,0.9s						
WTTA	**Wattenberg**	**53.74**	**25**	*e*P	**P**	**00 47 01.1**	**+0.3**
	comp=Z,2.9nm,0.7s						
DR12	**Loma Pena Alta**	**53.84**	**293**	P	**P**	**00 46 59.9**	**-1.9**
BANI	**BANI**	**54.65**	**293**	P	**P**	**00 47 05.1**	**-2.6**
SDDR	**Presa de Saban**	**55.64**	**293**	P	**P**	**00 47 14.4**	**-0.5**
SDDR				IAmb	IAmb	00 47 16.4	
	comp=Z,12nm,0.8s						
GEC2	**GERESS Array S**	**55.84**	**25**	P	**P**	**00 47 16.4**	**+0.6**
GERES	**GERESS Array B**	**55.84**	**25**	P	**P**	**00 47 16.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=201,slow=7.1,SNR=15						
GERES				PP	**PP**	**00 49 16.5**	**-4.2**
	comp=Z,2.6nm,1.0s,baz=202,slow=6.8,SNR=6.6						
	comp=Z,1.4nm,0.7s						
GERES	**GERESS Array B**	**55.84**	**25**	P	**P**	**00 47 16.3**	**+0.4**
KHC	**Kasperske Hory**	**56.01**	**24**	P	**P**	**00 47 17.7**	**+0.8**
RONA	**Rosalia, Aust

MGMO	**Mountain Grove**	**77.59**	**308**	P	**P**	**00 49 34.5**	**-0.3**
MGMO				IAmb	IAmb	00 49 35.4	
	comp=Z,5.7nm,0.8s						
BELA	**Belgrano 2**	**78.24**	**184**	P	**P**	**00 49 39.0**	**+1.5**
SPB2	**Spitsbergen Ar**	**80.27**	**7**	P	**P**	**00 49 50.1**	**+1.5**
ECSD	**EROS Data Cent**	**81.87**	**314**	P	**P**	**00 49 57.2**	**-0.7**
ECSD				IAmb	IAmb	00 49 58.3	
	comp=Z,3.8nm,0.8s						
JCT	**Junction City**	**83.03**	**301**	P	**P**	**00 50 04.1**	**-0.1**
JCT				IAmb	IAmb	00 50 05.2	
	comp=Z,6.7nm,0.8s						
MSTX	**Muleshoe**	**85.75**	**304**	P	**P**	**00 50 18.0**	**-0.1**
MSTX				IAmb	IAmb	00 50 19.6	
	comp=Z,10nm,0.9s						
TXAR	**Lajitas Array**	**86.31**	**299**	P	**P**	**00 50 21.4**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=126,slow=6.7,SNR=18						
	comp=Z,1.7nm,0.9s						
TXAR	**Lajitas Array**	**86.31**	**299**	P	**P**	**00 50 20.8**	**0.0**
TX32	**Lajitas Array**	**86.31**	**299**	P	**P**	**00 50 21.1**	**+0.2**
TX32				IAmb	IAmb	00 50 22.3	
	comp=Z,4.5nm,1.1s						
SDCO	**Great Sand Dun**	**88.12**	**308**	P	**P**	**00 50 29.4**	**-0.3**
SDCO				IAmb	IAmb	00 50 31.4	
	comp=Z,3.3nm,1.1s						
QSPA	**South Pole Qui**	**89.99**	**180**	P	**P**	**00 50 39.9**	**+2.2**
	comp=Z,1.5nm,0.9s,baz=205,slow=3.7,SNR=4.5						
	comp=Z,1.5nm,0.9s						
PDAR	**Pinedale Array**	**91.25**	**313**	P	**P**	**00 50 43.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=116,slow=7.1,SNR=3.8						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**143.88**	**133**	PKP	**PKPdf**	**00 57 14.5**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=219,slow=3.1,SNR=3.3						
WRA	**Warramunga Arr**	**146.33**	**128**	PKPbc	**PKPbc**	**00 57 19.3**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=254,slow=3.1,SNR=2.4						

IDC 25 00:47:43.1±5.7, 5°19S×133°30E, h0km, mb3.7/1, mbtmp3.6/4, ML3.2/3, MS4.7/1, Error ellipse: s-maj=328.8km s-min=27.6km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.75**	**335**	Pn	Pn	00 48 56.6	+0.7
	0.5nm,0.3s,baz=206,slow=23,SNR=1.9						
SIJI				Sn	Sn	00 49 47.0	-4.7
	1.0nm,0.3s,baz=206,slow=22,SNR=2.2						
	2.8nm,0.4s						
WRA	**Warramunga Arr**	**14.70**	**176**	Pn	Pn	00 51 11.8	-0.8
	0.1nm,0.3s,baz=355,slow=13,SNR=5.1						
WRA				Sn	Sn	00 53 49.3	-7.0
	baz=4.4,slow=23,SNR=1.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**18.38**	**178**	P	P	00 52 00.1	+0.3
	0.2nm,0.3s,baz=359,slow=12,SNR=22						
	2.3nm,0.8s						
RAO	**Raoul Island**	**51.89**	**123**	LR	LR	01 16 09.1	
	comp=Z,686nm,20.4s,baz=186,slow=33						
MKAR	**Makanchi Array**	**68.57**	**325**	P	P	00 58 47.6	-0.2
	0.6nm,0.7s,baz=124,slow=7.5,SNR=5.1						
	0.6nm,0.7s						

IPEC 25 01:04:56.4±0.2, 51°56N×16°24E, h0km, ML2.2/5, Error ellipse: s-maj=1.8km s-min=1.1km az=28.0
VIE 25 01:04:57.6±0.6, 51°49N×16°17E, h0km, mb2.5/7, ml2.7/8, Error ellipse: s-maj=7.4km s-min=3.9km az=52.0 74 km NW of Wroclaw Suspected Mining induced.
PRU 25 01:04:58.2±0.0, 51°48N×16°14E, h0km

ISC 25 01:04:56.1±0.9, 51°57N±0°03×16°19E±0°02, h0km, n40, σ0°79/76, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**175**	*e*Pg	**Pg**	**01 05 10.4**	**+0.2**
KSP				*e*Sg	**Sg**	**01 05 19.4**	**-0.3**
CHVC	**Chvalec**	**0.99**	**185**	*e*PG	**Pg**	**01 05 14.9**	**-0.2**
CHVC				*e*SG	**Sg**	**01 05 26.2**	**-1.7**
	comp=Z,40nm,0.5s						
OSTC	**Ostas**	**1.02**	**179**	*e*PG	**Pg**	**01 05 15.6**	**0.0**
OSTC				*e*SG	**Sg**	**01 05 28.3**	**-0.5**
	comp=Z,29nm,0.5s						
UPC	**Upice**	**1.07**	**186**	*e*PG	**Pg**	**01 05 16.5**	**-0.2**
UPC				*e*SG	**Sg**	**01 05 29.7**	**-0.8**
	comp=Z,67nm,0.6s						
DPC	**Dobruska-Polom**	**1.23**	**176**	*e*PG	**Pg**	**01 05 19.4**	**-0.2**
DPC				*e*SG	**Sg**	**01 05 34.2**	**-1.3**
	comp=Z,24nm,0.7s						
PVCC	**Panska Ves**	**1.46**	**225**	*e*PG	**Pn**	**01 05 23.4**	**-0.4**
PVCC				*e*SG	**Sg**	**01 05 42.6**	**-0.5**
	comp=Z,100nm,0.2s						
KRLC	**Kraliky**	**1.55**	**166**	*e*PG	**Pn**	**01 05 24.7**	**-0.3**
KRLC				*e*SG	**Sg**	**01 05 44.3**	**-1.5**
	comp=Z,23nm,0.4s						
BRG	**Berggiesshubel**	**1.58**	**244**	Pg	**Pg**	**01 05 26.4**	**+0.1**
BRG				Sg	**Sb**	**01 05 46.8**	**+0.2**
BRG				Amp		01 05 47.2	
	comp=Z,29nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.89**	**209**	*e*PG	**Pn**	**01 05 29.6**	**0.0**
GOPC				*e*SG	**Sn**	**01 05 54.4**	**+0.3**
	comp=Z,12nm,0.2s						
PRU	**Pruhonice**	**1.90**	**214**	*e*PG	**Pb**	**01 05 31.0**	**-0.6**
PRU				*e*SG	**Sb**	**01 05 55.4**	**-0.5**
	comp=Z,28nm,0.4s						
MORC	**Moravsky Berou**	**2.00**	**154**	*e*Pn	**Pn**	**01 05 30.8**	**-0.3**
	baz=336						
MORC				*e*Sg	**Sb**	**01 05 58.2**	**-0.5**
	comp=Z,16nm,0.4s,baz=336						
CLL	**Collm**	**2.01**	**264**	*e*Pn	**Pn**	**01 05 31.0**	**-0.3**
CLL				*e*Pg	**Pb**	**01 05 34.0**	**+0.5**
CLL				*i* x	x	01 05 37.3	
CLL				*e*Sg	**Sb**	**01 06 00.0**	**+0.9**
	comp=Z,21nm,0.8s						
OKC	**Ostrava-Krasne**	**2.14**	**144**	*e*PN	**Pn**	**01 05 33.1**	**+0.1**
OKC				*e*PG	**Pb**	**01 05 36.2**	**+0.5**
OKC				*e*SG	**Sb**	**01 06 03.5**	**+0.8**
	comp=Z,34nm,0.9s						
VRAC	**Vranov**	**2.28**	**173**	*e*Pn	**Pn**	**01 05 35.1**	**+0.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**01 06 07.4**	**+0.5**
	comp=Z,12nm,0.4s,baz=354						
TREC	**Trest**	**2.33**	**191**	*e*PN	**Pn**	**01 05 35.8**	**+0.2**
TREC				*e*PG	**Pb**	**01 05 38.4**	**-0.5**
TREC				*e*SG	**Sb**	**01 06 08.6**	**+0.4**
	comp=Z,14nm,0.3s						
MAUC	**Maruska**	**2.45**	**154**	*e*PN	**Pn**	**01 05 37.7**	**+0.4**
MAUC				*e*PG	**Pb**	**01 05 41.7**	**+0.7**
MAUC				*e*SG	**Sg**	**01 06 13.9**	**-0.7**
	comp=Z,18nm,0.4s						
KRUC	**Moravsky**	**2.52**	**177**	*e*Pn	**Pn**	**01 05 38.4**	**+0.1**
	baz=358						
KRUC				*e*Sg	**Sb**	**01 06 14.8**	**+1.1**
	comp=Z,12nm,0.7s,baz=358						
OJC	**Ojcow**	**2.66**	**119**	*e*Pn	**Pn**	**01 05 38.1**	**-2.1**
OJC				*e*Pg	**Pg**	**01 05 46.0**	**-1.0**
OJC				*e*Sg	**Sg**	**01 06 21.4**	**-0.1**
NKC	**Novy Kostel**	**2.72**	**242**	*e*PN	**Pn**	**01 05 41.4**	**+0.3**
NKC				*e*SG	**Sg**	**01 06 23.0**	**-0.5**
	comp=Z,26nm,0.3s						
JAVC	**Velka Javorina**	**2.88**	**160**	*e*PN	**Pn**	**01 05 43.6**	**+0.3**
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**01 05 44.4**	**0.0**
KHC				*e*PG	**Pb**	**01 05 50.1**	**+0.3**
KHC				*e*SN	**Sn**	**01 06 19.2**	**-1.5**
KHC				*e*SG	**Sb**	**01 06 28.7**	**+2.2**
	comp=Z,9.1nm,0.4s						
CKRC	**Cesky Krumlov**	**3.01**	**204**	*e*PN	**Pn**	**01 05 45.3**	**+0.3**
CKRC				*e*PG	**Pb**	**01 05 50.7**	**+0.1**
CKRC				*e*SG	**Sb**	**01 06 29.6**	**+1.8**
LANS	**Liptovska Anna**	**3.21**	**138**	*e*PN	**Pn**	**01 05 48.7**	**+0.9**
LANS				*e*PG	**Pg**	**01 05 58.4**	**+0.8**
LANS				*e*SG	**Sg**	**01 06 38.2**	**-0.9**
MODS	**Modra-Piesok**	**3.28**	**167**	*e*PG	**Pg**	**01 05 58.8**	**-0.1**
MODS				*e*SG	**Sg**	**01 06 40.7**	**-0.7**
NIE	**Niedzica**	**3.40**	**128**	*e*P	**Pg**	**01 06 01.1**	**-0.1**
NIE				*e*S	**Sg**	**01 06 46.1**	**+0.9**
ZST	**Bratislava**	**3.43**	**170**	*e*SG	**Sg**	**01 06 44.9**	**-1.4**
VYHS	**Vyhne**	**3.52**	**150**	*e*PN	Pn	**01 05 52.0**	**-0.1**
VYHS				*e*PG	**Pg**	**01 06 03.9**	**+0.3**
VYHS				*e*SG	**Sg**	**01 06 48.7**	**-0.5**
BSD	**Bornholm Skovb**	**3.63**	**348**	*i* P	**Pn**	**01 05 53.9**	**+0.4**
CONA	**Conrad Observa**	**3.66**	**183**	*i* Pn	**Pn**	**01 05 54.7**	**+0.7**
	comp=Z,0.4nm,0.2s,SNR=5.2						
MOA	**Molln**	**3.93**	**199**	*i* Pn	**Pn**	**01 05 58.1**	**+0.4**
	comp=Z,1.9nm,0.4s,SNR=9.1						
BIOA	**Bad Ischl, Aus**	**4.22**	**204**	*e*Pn	**Pn**	**01 06 02.0**	**+0.3**
	comp=Z,2.4nm,0.3s,SNR=6.7						
ARSA	**Arzberg**	**4.35**	**186**	*e*Pn	**Pn**	**01 06 03.1**	**-0.3**
	comp=Z,0.4nm,0.3s						
LUNU	**Lund**	**4.38**	**339**	*i* P	**Pn**	**01 06 03.7**	**-0.2**
COP	**Copenhagen**	**4.69**	**333**	*i* P	**Pn**	**01 06 06.2**	**-1.8**
KOLS	**Kolonicke sedl**	**4.71**	**122**	*e*PN	**Pn**	**01 06 09.5**	**+1.1**
KOLS				*e*PG	**Pg**	**01 06 27.2**	**+0.8**
BLEU	**Blekinge**	**4.75**	**357**	*i* P	**Pn**	**01 06 09.0**	**+0.2**
BJUU	**Bjuv**	**4.88**	**339**	*i* P	**Pn**	**01 06 09.8**	**-0.9**
DEL	**Delary**	**5.09**	**345**	*i* P	**Pn**	**01 06 13.6**	**0.0**
WTTA	**Wattenberg**	**5.24**	**216**	*i* Pn	**Pn**	**01 06 17.1**	**+1.3**
	comp=Z,1.0nm,0.3s						
SQTA	**Sankt Quirin**	**5.43**	**219**	*e*Pn	**Pn**	**01 06 19.0**	**+0.6**
	comp=Z,1.1nm,0.2s,SNR=4.8						

IDC 25 01:07:34.0±3.6, 34°09N×141°47E, h0km, mb3.5/5, mbtmp3.4/6, ML2.1/1, Error ellipse: s-maj=129.8km s-min=25.0km az=63.0
JMA 25 01:07:36.0±0.5, 34°N±1°×14°2E±°, h26km±2km, MV2.7/21, FAR SE OFF BOSO PEN

ISC 25 01:07:37.5±1.5, 34°12N±0°07×141°5E±0°1, h24km, n11, σ1°16/14, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.67**	**324**	*e*P	**Pb**	**01 07 49.2**	**-1.0**
BSO3	**Boso 3**	**1.04**	**311**	P	**Pb**	**01 07 55.6**	**-1.1**
BSO4	**Boso 4**	**1.27**	**314**	*e*S	**Sb**	**01 08 16.2**	**-0.4**
JKUC	**kamogawauchiur**	**1.47**	**315**	*e*P	**Pn**	**01 08 02.1**	**-0.4**
JKUC				*e*S	**Sb**	**01 08 21.3**	**-1.2**
JMKN	**Mikurajimanish**	**1.57**	**262**	*e*P	**Pb**	**01 08 04.7**	**-1.1**
JMKN				*e*S	**Sb**	**01 08 25.4**	**+0.1**
MJAR	**Matsushiro Arr**	**3.59**	**313**	Pn	**Pn**	**01 08 31.6**	**-0.1**
	0.2nm,0.3s,baz=133,slow=12,SNR=9.1						
MJAR				Sn	**Sn**	**01 09 16.2**	**+2.8**
	0.1nm,0.3s,baz=287,slow=31,SNR=6.0						
	1.2nm,0.4s						
SONM	**Songino Array**	**29.53**	**308**	P	**P**	**01 13 41.5**	**+1.3**
	0.4nm,0.6s,baz=115,slow=8.8,SNR=1.9						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**43.95**	**315**	P	**P**	**01 15 42.0**	**-0.3**
	0.4nm,0.3s,baz=77,slow=9.0,SNR=2.2						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**45.75**	**305**	P	**P**	**01 15 56.7**	**-0.2**
	0.2nm,0.6s,baz=79,slow=7.5,SNR=1.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**47.87**	**310**	P	**P**	**01 16 12.9**	**-0.4**
	0.3nm,0.3s,baz=84,slow=7.9,SNR=5.3						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**54.18**	**188**	P	**P**	**01 17 01.1**	**+0.1**
	0.3nm,0.5s,baz=2.0,slow=7.5,SNR=5.9						
	0.3nm,0.5s						

BJI 25 01:10:08.1±0.0, 19°29S×177°76W, h567km, mb5.2/63, mB5.2/39
MOS 25 01:10:09.6±0.9, 19°61S×178°06W, h583km, mb5.2/35, Error ellipse: s-maj=8.2km s-min=7.1km az=115.4
NEIC 25 01:10:10.6±1.5, 19°67S±0°09×178°00W±0°10, h581km±5km, mb5.1/409, Error ellipse: s-maj=13.1km s-min=12.4km az=118.0
NOU 25 01:10:10.2, 19°72S×177°85W, h584km, ML5.1/122, Fiji Islands Region
IDC 25 01:10:11.1±0.3, 19°64S×178°11W, h590km±2km, mb4.6/42, mbtmp5.5/45, Error ellipse: s-maj=7.1km s-min=5.8km az=167.0

ISC 25 01:10:09.9±0.2, 19°65S±0°03×178°00W±0°03, h585km±2km, h586km; pP-P, n1525, σ1°45/1540, mb5.1/315, 86C-112D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**1.61**	**331**	P	**P**	**01 11 23.2**	**+1.7**
TAVE	**Taveuni**	**3.45**	**328**	P	**P**	**01 11 32.5**	**+1.8**
MSVF	**Nonsavu**	**4.21**	**296**	P	**P**	**01 11 37.8**	**+1.9**
	4µm,0.7s,baz=143,slow=11,SNR=3126						
MSVF				S	**S**	**01 12 47.9**	**+2.0**
	828nm,1.1s,baz=181,slow=23,SNR=0.7						
MSVF	**Nonsavu**	**4.21**	**296**	P	**P**	**01 11 38.3**	**+2.4**
FUTU	**Fugatoga**	**5.32**	**359**	P	**P**	**01 11 45.8**	**+1.2**
NIUE	**Niue**	**7.64**	**87**	P	**P**	**01 12 05.5**	**+0.2**
	baz=7.6,SNR=52						
NIUE				S	**S**	**01 13 38.9**	**-0.9**
	baz=7.6						
NIUE	**Niue**	**7.64**	**87**	P	**P**	**01 12 05.5**	**+0.2**
NIUE	**Niue**	**7.64**	**87**	P	**P**	**01 12 05.7**	**+0.4**
AFI	**Afiamalu**	**8.25**	**47**	P	**P**	**01 12 09.6**	**-1.8**
	293nm,0.4s,baz=184,slow=1.7,SNR=97						
AFI				S	**S**	**01 13 43.6**	**-7.2**
	802nm,0.8s,baz=32,slow=21,SNR=12						
AFI	**Afiamalu**	**8.25**	**47**	P	**P**	**01 12 10.0**	**-1.3**
AFI	**Afiamalu**	**8.25**	**47**	P	**P**	**01 12 10.0**	**-1.3**
AFI	**Afiamalu**	**8.25**	**47**	P	**P**	**01 12 09.9**	**-1.5**
RIZ	**Raoul Island**	**9.55**	**180**	P	**P**	**01 12 22.1**	**-1.7**
RIZ				S	**S**	**01 14 09.1**	**-4.6**
RAO	**Raoul Island**	**9.56**	**180**	P	**P**	**01 12 22.3**	**-1.6**
	664nm,0.3s,baz=110,slow=6.3,SNR=12						
RAO				S	**S**	**01 14 08.3**	**-5.5**
	1µm,0.5s,baz=273,slow=23,SNR=12						
RAO	**Raoul Island**	**9.56**	**180**	P	**P**	**01 12 22.9**	**-1.0**
RAO	**Raoul Island**	**9.56**	**180**	P	**P**	**01 12 22.9**	**-1.0**
RAO	**Raoul Island**	**9.56**	**180**	P	**P**	**01 12 22.9**	**-1.0**
GLKZ	**Green Lake**	**9.57**	**180**	P	**P**	**01 12 22.1**	**-1.9**
GLKZ				S	**S**	**01 14 10.0**	**-4.0**
FUNA	**Funafuti**	**11.39**	**346**	P	**P**	**01 12 42.8**	**+0.2**
MARNC	**Mare, Loyalty**	**13.21**	**260**	P	**P**	**01 13 00.0**	**-1.0**
MARNC	**Mare, Loyalty**	**13.21**	**260**	P	**P**	**01 13 04.7**	**+3.7**
PINNC	**Pines Island,**	**13.90**	**255**	P	**P**	**01 13 07.7**	**-0.3**
LIFNC	**LIFOU**	**13.90**	**263**	P	**P**	**01 13 06.5**	**-1.6**
LIFNC	**LIFOU**	**13.90**	**263**	P	**P**	**01 13 07.6**	**-0.5**
YATNC	**Mamie plateau,**	**14.33**	**258**	P	**P**	**01 13 13.8**	**+1.5**
DZM	**Mont Dzumac**	**14.74**	**258**	*e*P	**P**	**01 13 15.5**	**-0.8**
	288nm,1.1s						
DZM				*e*S	**S**	**01 15 47.4**	**-1.4**
	218nm,1.4s						
DZM	**Mont Dzumac**	**14.74**	**258**	P	**P**	**01 13 15.4**	**-0.8**
	110nm,1.0s,baz=86,slow=18,SNR=43						
DZM				S	**S**	**01 15 48.7**	**-0.1**
	44nm,1.1s,baz=314,slow=7.7,SNR=4.7						
DZM	**Mont Dzumac**	**14.74**	**258**	P	**P**	**01 13 17.6**	**+1.3**
ONTNC	**Ouen Toro**	**14.76**	**257**	P	**P**	**01 13 16.2**	**-0.1**
ONTNC	**Ouen Toro**	**14.76**	**257**	P	**P**	**01 13 18.1**	**+1.8**
NOUC	**Port Laguerre**	**14.88**	**258**	P	**P**	**01 13 20.2**	**+2.8**
NFK	**Norfolk Island**	**15.85**	**231**	P	**P**	**01 13 27.7**	**+1.2**
	baz=16						
KOUNC	**Koumac, New Ca**	**16.67**	**264**	P	**P**	**01 13 35.5**	**+1.4**
KOUNC	**Koumac, New Ca**	**16.67**	**264**	P	**P**	**01 13 36.8**	**+2.7**
RAR	**Rarotonga**	**17.15**	**98**	P	**P**	**01 13 38.5**	**0.0**
	43nm,0.7s,baz=251,slow=7.8,SNR=16						
RAR	**Rarotonga**	**17.15**	**98**	P	**P**	**01 13 37.9**	**-0.7**
RAR				IAmb	IAmb	01 13 39.6	
	comp=Z,48nm,0.7s						
RAR	**Rarotonga**	**17.15**	**98**	P	**P**	**01 13 38.6**	**+0.1**
OUZ	**Omahuta**	**17.20**	**204**	P	**P**	**01 13 40.8**	**+2.1**
OUZ	**Omahuta**	**17.20**	**204**	P	**P**	**01 13 40.6**	**+1.9**
OUZ	**Omahuta**	**17.20**	**204**	P	**P**	**01 13 41.4**	**+2.7**
WCZ	**Waipu Caves**	**17.57**	**201**	P	**P**	**01 13 44.7**	**+2.6**
KUZ	**Kuaotunu**	**17.90**	**197**	P	**P**	**01 13 46.7**	**+1.6**
ABAZ	**Army Bay**	**18.02**	**199**	P	**P**	**01 13 48.8**	**+2.6**
WIAZ	**Waiheke Island**	**18.11**	**198**	P	**P**	**01 13 49.2**	**+2.2**
MXZ	**Matakaoa Point**	**18.13**	**189**	P	**P**	**01 13 45.0**	**-2.2**
MXZ				S	**S**	**01 16 39.8**	**-4.0**
MBAZ	**Motutapu North**	**18.15**	**199**	P	**P**	**01 13 48.3**	**+0.9**
RVAZ	**Riverhead Bore**	**18.25**	**199**	P	**P**	**01 13 50.6**	**+2.2**
HBAZ	**Herne Bay Bore**	**18.28**	**199**	P	**P**	**01 13 50.6**	**+2.0**
EPAZ	**Eden Park BICE**	**18.30**	**199**	P	**P**	**01 13 50.6**	**+1.8**
ETAZ	**East Tamaki Re**	**18.32**	**198**	P	**P**	**01 13 51.5**	**+2.6**
WMGZ	**Waiomatatini S**	**18.37**	**189**	P	**P**	**01 13 49.2**	**-0.2**
MKAZ	**Moumakai**	**18.39**	**198**	P	**P**	**01 13 51.3**	**+1.7**
WTAZ	**Waiatarua**	**18.40**	**199**	P	**P**	**01 13 51.9**	**+2.2**
HAZ	**Te Kaha**	**18.41**	**191**	P	**P**	**01 13 49.3**	**-0.5**
HAZ				S	**S**	**01 16 42.7**	**-5.5**
PKGZ	**Pakihiroa**	**18.49**	**190**	P	**P**	**01 13 49.3**	**-1.2**
PKGZ				S	**S**	**01 16 46.4**	**-3.3**
RUGZ	**Raukumara Rang**	**18.63**	**191**	P	**P**	**01 13 51.2**	**-0.7**
RUGZ				S	**S**	**01 16 50.0**	**-2.0**
PUZ	**Puketiti**	**18.64**	**189**	P	**P**	**01 13 50.8**	**-1.1**
PUZ				S	**S**	**01 16 48.7**	**-3.3**
TGRZ	**Tauranga**	**18.69**	**194**	P	**P**	**01 13 54.1**	**+1.8**
OPRZ	**Ohinepanea**	**18.74**	**194**	P	**P**	**01 13 53.4**	**+0.7**
TWGZ	**Tauwhareparae**	**18.79**	**190**	P	**P**	**01 13 52.3**	**-0.9**
TWGZ				S	**S**	**01 16 52.1**	**-2.4**
MARZ	**Manawahe**	**18.85**	**193**	P	**P**	**01 13 54.1**	**+0.3**
EDRZ	**Edgecumbe**	**18.95**	**193**	P	**P**	**01 13 54.7**	**0.0**
KARZ	**Kaharoa**	**18.98**	**194**	P	**P**	**01 13 55.5**	**+0.5**
MWZ	**Matawai**	**19.02**	**191**	P	**P**	**01 13 53.6**	**-1.7**
MWZ				S	**S**	**01 16 54.2**	**-3.9**
URZ	**Urewera**	**19.02**	**192**	P	**P**	**01 13 52.9**	**-2.4**
	comp=Z,331nm,0.6s,baz=67,slow=4.7,SNR=127						
URZ				S	**S**	**01 16 51.7**	**-6.4**
	comp=Z,17nm,0.6s,baz=310,slow=22,SNR=2.0						
URZ				ScP	**ScP**	**01 20 31.1**	**-0.9**
	comp=Z,35nm,0.9s,baz=54,slow=7.2,SNR=3.8						
URZ	**Urewera**	**19.02**	**192**	P	**P**	**01 13 52.7**	**-2.6**
URZ				S	**S**	**01 16 52.0**	**-6.1**
URZ	**Urewera**	**19.02**	**192**	P	**P**	**01 13 54.0**	**-1.3**
OMRZ	**Omania**	**19.03**	**194**	P	**P**	**01 13 56.1**	**+0.7**
CNGZ	**Carnagh Statio**	**19.05**	**189**	P	**P**	**01 13 55.9**	**+0.3**
TARZ	**Mount Tarawera**	**19.12**	**193**	P	**P**	**01 13 56.7**	**+0.3**
RAGZ	**Rawiri**	**19.19**	**191**	P	**P**	**01 13 55.5**	**-1.5**
RRRZ	**Republican Roa**	**19.22**	**193**	P	**P**	**01 13 56.9**	**-0.2**
HSRZ	**Hossack Road**	**19.25**	**194**	P	**P**	**01 13 58.0**	**+0.6**
MUGZ	**Murupara**	**19.30**	**193**	P	**P**	**01 13 56.9**	**-1.0**
GRRZ	**Galatos Road**	**19.32**	**194**	P	**P**	**01 13 59.2**	**+1.2**
HRRZ	**Handcock Road**	**19.32**	**194**	P	**P**	**01 13 58.2**	**+0.1**
RIGZ	**Rimuhau**	**19.34**	**190**	P	**P**	**01 13 58.1**	**-0.2**
RTZ	**Ruatahuna**	**19.39**	**192**	P	**P**	**01 13 57.4**	**-1.4**
PRRZ	**Plateau Road**	**19.40**	**193**	P	**P**	**01 13 58.5**	**-0.2**
TLZ	**Tolley Road**	**19.44**	**195**	P	**P**	**01 14 01.0**	**+1.8**
ALRZ	**Allen Road**	**19.47**	**193**	P	**P**	**01 13 59.3**	**-0.1**
KUTZ	**Kaahu Road**	**19.52**	**195**	P	**P**	**01 14 00.7**	**+0.8**
KNZ	**Kokohu**	**19.66**	**190**	P	**P**	**01 14 00.1**	**-1.0**
KNZ				S	**S**	**01 17 04.3**	**-3.9**
RAHZ	**Arahi**	**19.66**	**191**	P	**P**	**01 13 58.8**	**-2.4**
MRHZ	**Matea Rd**	**19.72**	**193**	P	**P**	**01 14 00.5**	**-1.1**
WATZ	**Wairara**	**19.75**	**195**	P	**P**	**01 14 02.2**	**+0.2**
MHGZ	**Mahia Peninsul**	**19.75**	**189**	P	**P**	**01 14 02.6**	**+0.7**
HIZ	**Hauiti**	**19.79**	**197**	P	**P**	**01 14 03.9**	**+1.7**
HIZ	**Hauiti**	**19.79**	**197**	P	**P**	**01 14 04.8**	**+2.5**
WHHZ	**Waihua**	**19.79**	**191**	P	**P**	**01 14 01.6**	**-0.7**
HATZ	**Hinemaiaia**	**19.84**	**194**	P	**P**	**01 14 01.9**	**-0.9**
NMHZ	**Naumai**	**19.89**	**192**	P	**P**	**01 14 02.3**	**-0.9**
RATZ	**Rangitukua**	**19.89**	**194**	P	**P**	**01 14 02.9**	**-0.3**
ARHZ	**Arapoaanui**	**20.02**	**191**	P	**P**	**01 14 03.5**	**-0.8**
BKZ	**Black Stump Fm**	**20.02**	**193**	P	**P**	**01 14 02.4**	**-2.1**
BKZ	**Black Stump Fm**	**20.02**	**193**	P	**P**	**01 14 03.3**	**-1.1**
NTVZ	**North Tongarir**	**20.14**	**194**	P	**P**	**01 14 05.7**	**+0.1**
TMVZ	**Te Maari**	**20.15**	**194**	P	**P**	**01 14 04.2**	**-1.4**
ETVZ	**East Tongariro**	**20.16**	**194**	P	**P**	**01 14 04.7**	**-1.1**
TWVZ	**Taurewa**	**20.17**	**195**	P	**P**	**01 14 06.2**	**+0.4**
OTVZ	**Oturere**	**20.20**	**194**	P	**P**	**01 14 04.7**	**-1.5**
MCHZ	**McNeill Hill**	**20.25**	**192**	P	**P**	**01 14 05.1**	**-1.3**
KWHZ	**Kaweka Forest**	**20.28**	**193**	P	**P**	**01 14 05.7**	**-1.1**
TUVZ	**Tukino**	**20.30**	**194**	P	**P**	**01 14 05.7**	**-1.4**
FWVZ	**Far West T-bar**	**20.31**	**195**	P	**P**	**01 14 06.0**	**-1.2**
WHVZ	**Whangaehu Hut**	**20.33**	**194**	P	**P**	**01 14 06.9**	**-0.5**
WNVZ	**Wahianoa**	**20.37**	**194**	P	**P**	**01 14 06.2**	**-1.6**
CKHZ	**Cape Kidnapper**	**20.38**	**191**	P	**P**	**01 14 07.5**	**-0.1**
MOVZ	**Moawhango**	**20.41**	**194**	P	**P**	**01 14 06.4**	**-1.6**
BHHZ	**Black Hill Sta**	**20.42**	**193**	P	**P**	**01 14 06.0**	**-2.1**
KRHZ	**Kereru**	**20.51**	**192**	P	**P**	**01 14 06.9**	**-1.9**
KAHZ	**Kahuranaki**	**20.55**	**191**	P	**P**	**01 14 08.7**	**-0.5**

CTA	**Charters Tower**	**33.59**	**263**	P	**P**	**01**	**16**	**03.6 +0.5**
	comp=Z,188nm,0.7s,baz=102,slow=9.9,SNR=261							
CTA				S	**S**	**01**	**20**	**43.2 -2.1**
	comp=Z,9.5nm,1.1s,baz=188,slow=23,SNR=11							
	comp=Z,188nm,0.7s							
CTA	**Charters Tower**	**33.59**	**263**	P	**P**	**01**	**16**	**04.1 +1.0**
CTAO	**Charters Tower**	**33.59**	**263**	P	**P**	**01**	**16**	**03.6 +0.5**
CTAO	**Charters Tower**	**33.59**	**263**	P	**P**	**01**	**16**	**03.6 +0.5**
CTAO				pmax	pmax			
	comp=Z,272nm,0.9s							
CTAO	**Charters Tower**	**33.59**	**263**	P	**P**	**01**	**16**	**04.1 +1.0**
CTAO	**Charters Tower**	**33.59**	**263**	⇓P	**P**	**01**	**16**	**04.0 +1.0**
CTAO				ScP	**ScP**	**01**	**21**	**18.6 +2.8**
CMSA	**Cobar Meteorol**	**34.67**	**243**	P	**P**	**01**	**16**	**12.8 +0.9**
	baz=35,SNR=44							
CMSA	**Cobar Meteorol**	**34.67**	**243**	P	**P**	**01**	**16**	**12.9 +0.9**
PMG	**Port Moresby**	**35.16**	**282**	S	**S**	**01**	**21**	**08.1 -1.0**
	comp=Z,2.4nm,0.3s,baz=191,slow=22,SNR=0.9							
PMG	**Port Moresby**	**35.16**	**282**	P	**P**	**01**	**16**	**17.1 +0.8**
PMG	**Port Moresby**	**35.16**	**282**	*d* iP	**P**	**01**	**16**	**17.2 +1.0**
PMG				pmax	pmax			
	comp=Z,640nm,1.0s							
PMG	**Port Moresby**	**35.16**	**282**	P	**P**	**01**	**16**	**17.9 +1.6**
PMG	**Port Moresby**	**35.16**	**282**	⇓P	**P**	**01**	**16**	**17.3 +1.0**
PMG				pP	**pwP**	**01**	**17**	**54.4 -1.3**
PATS	**Pohnpei**	**35.17**	**316**	P	**P**	**01**	**16**	**17.3 +1.0**
	baz=35,SNR=9.6							
PATS	**Pohnpei**	**35.17**	**316**	P	**P**	**01**	**16**	**17.1 +0.8**
QLP	**Quilpie**	**35.32**	**252**	P	**P**	**01**	**16**	**18.2 +0.8**
	baz=35,SNR=24							
QLP	**Quilpie**	**35.32**	**252**	P	**P**	**01**	**16**	**19.4 +2.0**
MTSU	**Mount Surprise**	**35.64**	**266**	P	**P**	**01**	**16**	**20.8 +0.6**
	baz=36,SNR=242							
MTSU	**Mount Surprise**	**35.64**	**266**	P	**P**	**01**	**16**	**21.5 +1.3**
TOO	**Toolangi**	**36.40**	**233**	P	**P**	**01**	**16**	**27.2 +1.0**
	baz=36,SNR=50							
TOO	**Toolangi**	**36.40**	**233**	P	**P**	**01**	**16**	**26.3 +0.1**
TOO	**Toolangi**	**36.40**	**233**	P	**P**	**01**	**16**	**26.3 +0.1**
TOO				pmax	pmax			
	comp=Z,175nm,1.3s							
TOO	**Toolangi**	**36.40**	**233**	P	**P**	**01**	**16**	**27.5 +1.3**
MOO	**Moorlands**	**37.10**	**224**	P	**P**	**01**	**16**	**32.7 +0.9**
	baz=37,SNR=6.6							
MOO	**Moorlands**	**37.10**	**224**	P	**P**	**01**	**16**	**32.4 +0.6**
	comp=Z,107nm,2.1s							
JOHN	**Johnston Islan**	**37.10**	**14**	P	**P**	**01**	**16**	**34.6 +2.5**
TAU	**Tasmania Unive**	**37.23**	**224**	P	**P**	**01**	**16**	**33.0 +0.2**
TAU				IAmb	IAmb	01	16	34.8
	comp=Z,63nm,1.0s							
TAU	**Tasmania Unive**	**37.23**	**224**	P	**P**	**01**	**16**	**33.0 +0.2**
TAU				pmax	pmax			
	comp=Z,63nm,1.0s							
TAU	**Tasmania Unive**	**37.23**	**224**	P	**P**	**01**	**16**	**33.2 +0.3**
	comp=Z,77nm,1.5s							
TAU	**Tasmania Unive**	**37.23**	**224**	P	**P**	**01**	**16**	**33.1 +0.3**
COEN	**Coen**	**37.54**	**273**	P	**P**	**01**	**16**	**36.9 +1.1**
	baz=38,SNR=105							
COEN	**Coen**	**37.54**	**273**	P	**P**	**01**	**16**	**36.5 +0.8**
COEN	**Coen**	**37.54**	**273**	P	**P**	**01**	**16**	**36.7 +0.9**
BRAT	**Ballarat**	**37.57**	**233**	P	**P**	**01**	**16**	**37.1 +1.4**
	comp=Z,78nm,1.0s							
STKA	**Stephens Creek**	**38.16**	**243**	P	**P**	**01**	**16**	**41.4 +0.8**
	comp=Z,50nm,0.9s,baz=97,slow=10,SNR=29							
STKA				PP	**PP**	**01**	**18**	**32.5 +5.2**
	comp=Z,19nm,1.0s,baz=96,slow=10,SNR=4.9							
STKA				ScP	**ScP**	**01**	**21**	**34.2 +1.6**
	comp=Z,11nm,0.8s,baz=53,slow=6.4,SNR=6.9							
STKA				S	**S**	**01**	**21**	**48.3 -4.9**
	comp=Z,1.6nm,0.3s,baz=113,slow=24,SNR=1.4							
	comp=Z,50nm,0.9s							
STKA	**Stephens Creek**	**38.16**	**243**	P	**P**	**01**	**16**	**42.0 +1.3**
	baz=38,SNR=34							
STKA	**Stephens Creek**	**38.16**	**243**	P	**P**	**01**	**16**	**41.8 +1.2**
STKA	**Stephens Creek**	**38.16**	**243**	P	**P**	**01**	**16**	**41.8 +1.2**
STKA				pmax	pmax			
	comp=Z,11nm,1.0s							
STKA	**Stephens Creek**	**38.16**	**243**	P	**P**	**01**	**16**	**42.2 +1.6**
INKA	**Innaminka**	**38.48**	**250**	P	**P**	**01**	**16**	**45.2 +1.9**
ARPS	**Mount Arapiles**	**38.96**	**235**	P	**P**	**01**	**16**	**47.6 +0.7**
	baz=39,SNR=21							
ARPS	**Mount Arapiles**	**38.96**	**235**	P	**P**	**01**	**16**	**47.3 +0.3**
MCQ	**Macquarie Isla**	**38.98**	**201**	P	**P**	**01**	**16**	**48.0 +1.3**
	baz=39,SNR=4.5							
QIS	**Mount Isa**	**39.74**	**261**	P	**P**	**01**	**16**	**53.6 +0.1**
	baz=40,SNR=18							
QIS	**Mount Isa**	**39.74**	**261**	P	**P**	**01**	**16**	**53.6 +0.1**
HTT	**Hallett**	**40.63**	**241**	P	**P**	**01**	**17**	**01.3 +0.9**
	baz=41,SNR=35							
HTT	**Hallett**	**40.63**	**241**	P	**P**	**01**	**17**	**01.7 +1.3**
LCRK	**Leigh Creek**	**40.88**	**246**	P	**P**	**01**	**17**	**03.8 +1.5**
TWOA	**Tennyson Woods**	**41.17**	**239**	P	**P**	**01**	**17**	**04.6 0.0**
	comp=Z,30nm,1.0s							
PTPS	**Port Pirie**	**41.36**	**242**	P	**P**	**01**	**17**	**09.9 +3.8**
	comp=Z,175nm,0.8s							
WAKE	**Wake Island**	**41.52**	**338**	P	**P**	**01**	**17**	**07.3 -0.1**
WAKE	**Wake Island**	**41.52**	**338**	P	**P**	**01**	**17**	**07.8 +0.4**
H11N3	**WAKE ISLAND Hy**	**41.83**	**338**	P	**P**	**01**	**17**	**09.8 +0.2**
	baz=175,slow=9.3,SNR=7.9							
H11N1	**WAKE ISLAND Hy**	**41.83**	**338**	P	**P**	**01**	**17**	**09.8 +0.1**
	baz=175,slow=9.3,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**41.85**	**338**	P	**P**	**01**	**17**	**10.0 +0.3**
	baz=175,slow=9.3,SNR=5.1							
BBOO	**Buckleboo**	**42.93**	**243**	P	**P**	**01**	**17**	**19.1 +0.7**
	baz=43,SNR=62							
BBOO	**Buckleboo**	**42.93**	**243**	P	**P**	**01**	**17**	**19.2 +0.7**
BBOO	**Buckleboo**	**42.93**	**243**	P	**P**	**01**	**17**	**19.3 +0.9**
OOD	**Oodnadatta**	**42.97**	**250**	P	**P**	**01**	**17**	**20.5 +1.7**
GENI	**Genyem**	**44.23**	**287**	P	**P**	**01**	**17**	**29.9 +1.1**
	comp=Z,8μmcomp=Z,454nm,2.1s							
GENI	**Genyem**	**44.23**	**287**	P	**P**	**01**	**17**	**31.3 +2.5**
MULG	**Mulgathing**	**44.45**	**247**	P	**P**	**01**	**17**	**30.6 +0.4**
WC3	**Warramunga Arr**	**44.69**	**261**	P	**P**	**01**	**17**	**32.2 0.0**
	baz=45							
WRAB	**Tennant Creek**	**44.72**	**261**	*d* iP	**P**	**01**	**17**	**32.0 -0.4**
WRAB				pmax	pmax			
	comp=Z,196nm,1.3s							
WRAB	**Tennant Creek**	**44.72**	**261**	P	**P**	**01**	**17**	**32.6 +0.2**
WRAB	**Tennant Creek**	**44.72**	**261**	⇓P	**P**	**01**	**17**	**32.2 -0.2**
AS31	**Alice Springs**	**44.72**	**256**	P	**P**	**01**	**17**	**32.9 +0.4**
AS31				IAmb	IAmb	01	17	36.2
	comp=Z,33nm,0.9s							
ASAR	**Alice Springs**	**44.72**	**256**	P	**P**	**01**	**17**	**32.9 +0.4**
	comp=Z,100nm,0.7s,baz=88,slow=7.8,SNR=904							
ASAR				PcP	**PcP**	**01**	**19**	**02.4 +0.4**
	comp=Z,12nm,0.7s,baz=109,slow=3.1,SNR=6.1							
ASAR				ScP	**ScP**	**01**	**22**	**00.8 +1.7**
	comp=Z,3.2nm,0.7s,baz=105,slow=4.8,SNR=4.2							
ASAR				S	**S**	**01**	**23**	**23.7 -3.9**
	comp=Z,29nm,1.0s,baz=89,slow=16,SNR=33							
ASAR				ScS	**ScS**	**01**	**26**	**22.8 -2.9**
	comp=Z,0.7nm,0.8s,baz=79,slow=5.8,SNR=2.4							
	comp=Z,100nm,0.7s							
WRA	**Warramunga Arr**	**44.73**	**261**	P	**P**	**01**	**17**	**32.3 -0.2**
	comp=Z,39nm,0.4s,baz=96,slow=8.1,SNR=460							
WRA				PcP	**PcP**	**01**	**19**	**03.0 +1.0**
	comp=Z,9.3nm,0.8s,baz=92,slow=5.3,SNR=5.1							
WRA				ScP	**ScP**	**01**	**21**	**59.9 +0.8**
	comp=Z,1.7nm,0.7s,baz=91,slow=4.4,SNR=2.1							
WRA				S	**S**	**01**	**23**	**23.6 -4.1**
	comp=Z,3.0nm,0.7s,baz=98,slow=13,SNR=11							
WRA				ScS	**ScS**	**01**	**26**	**26.9 +1.1**
	comp=Z,1.1nm,0.8s,baz=104,slow=5.3,SNR=5.5							
	comp=Z,39nm,0.4s							
HMH	**Humu'ula Sheep**	**44.82**	**31**	P	**P**	**01**	**17**	**34.3 +0.8**
POHA	**Pohakuloa**	**44.93**	**31**	P	**P**	**01**	**17**	**36.5 +2.3**
HPAH	**Hawaii Prepara**	**45.09**	**30**	P	**P**	**01**	**17**	**35.2 0.0**
KIP	**Kipapa**	**45.26**	**27**	*e*P	**P**	**01**	**17**	**36.7 +0.3**
KIP				pmax	pmax			
	comp=Z,89nm,1.4s							
SMPI	**Sarmi**	**45.80**	**287**	P	**P**	**01**	**17**	**41.2 +0.5**
	comp=Z,2μmcomp=Z,108nm,1.1s							
KDU	**Kakadu**	**47.94**	**270**	P	**P**	**01**	**17**	**56.8 +0.1**
	baz=48,SNR=63							
KDU	**Kakadu**	**47.94**	**270**	P	**P**	**01**	**17**	**57.1 +0.3**
SRPI	**Serui, Papua**	**48.09**	**286**	P	**P**	**01**	**17**	**59.7 +1.8**
	comp=Z,119nm,1.0s							
BAKI	**Biak**	**48.49**	**287**	P	**P**	**01**	**18**	**01.9 +1.0**
	comp=Z,3μmcomp=Z,253nm,1.4s							
MTN	**Manton Dam**	**49.16**	**270**	P	**P**	**01**	**18**	**05.5 -0.3**
	baz=49,SNR=99							
MTN	**Manton Dam**	**49.16**	**270**	P	**P**	**01**	**18**	**05.5 -0.3**
MTN	**Manton Dam**	**49.16**	**270**	P	**P**	**01**	**18**	**05.9 +0.1**
GUMO	**Guam**	**49.27**	**309**	P	**P**	**01**	**18**	**06.7 +0.2**
	comp=Z,142nm,0.5s,baz=148,slow=9.8,SNR=18							
	comp=Z,142nm,0.5s							
GUMO	**Guam**	**49.27**	**309**	P	**P**	**01**	**18**	**07.5 +1.0**
GUMO	**Guam**	**49.27**	**309**	P	**P**	**01**	**18**	**07.5 +1.0**
GUMO				pmax	pmax			
	comp=Z,2μm,1.8s							
GUMO	**Guam**	**49.27**	**309**	P	**P**	**01**	**18**	**07.5 +1.0**
GUMO	**Guam**	**49.27**	**309**	P	**P**	**01**	**18**	**07.1 +0.6**
GUMO				pP	**pP**	**01**	**19**	**56.4 +3.1**
FORT	**Forrest**	**49.64**	**246**	P	**P**	**01**	**18**	**09.3 +0.2**
	baz=50,SNR=21							
FORT	**Forrest**	**49.64**	**246**	P	**P**	**01**	**18**	**08.8 -0.2**
FORT				IAmb	IAmb	01	18	13.3
	comp=Z,65nm,0.7s							
FORT	**Forrest**	**49.64**	**246**	P	**P**	**01**	**18**	**09.1 0.0**
WRKA	**Warakurna**	**49.70**	**253**	P	**P**	**01**	**18**	**10.0 +0.3**
	baz=50,SNR=71							
WRKA	**Warakurna**	**49.70**	**253**	P	**P**	**01**	**18**	**10.3 +0.6**
KNRA	**Kununurra**	**50.72**	**266**	P	**P**	**01**	**18**	**17.4 +0.2**
	baz=51,SNR=36							
KNRA	**Kununurra**	**50.72**	**266**	P	**P**	**01**	**18**	**17.4 +0.2**
KNRA				IAmb	IAmb	01	18	18.6
	comp=Z,84nm,0.8s							
KNRA	**Kununurra**	**50.72**	**266**	P	**P**	**01**	**18**	**17.7 +0.5**
FAKI	**Fak Fak**	**51.32**	**282**	P	**P**	**01**	**18**	**21.3 -0.2**
FAKI	**Fak Fak**	**51.32**	**282**	P	**P**	**01**	**18**	**21.8 +0.3**
	comp=Z,2μmcomp=Z,129nm,1.4s							
FAKI	**Fak Fak**	**51.32**	**282**	P	**P**	**01**	**18**	**22.5 +1.0**
SWI	**Sorong**	**53.04**	**284**	P	**P**	**01**	**18**	**34.0 +0.2**
	comp=Z,5μmcomp=Z,425nm,1.1s							
FITZ	**Fitzroy Crossi**	**53.15**	**262**	S	**S**	**01**	**25**	**19.5 -2.9**
	comp=Z,2.4nm,0.9s,baz=180,slow=15,SNR=3.9							
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P	**P**	**01**	**18**	**35.0 +0.5**
	baz=53,SNR=53							
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P	**P**	**01**	**18**	**34.1 -0.5**
FITZ				IAmb	IAmb	01	18	35.5
	comp=Z,80nm,1.4s							
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P	**P**	**01**	**18**	**35.5 +1.0**
DRV	**Dumont d'Urvil**	**54.15**	**199**	⇑P	**P**	**01**	**18**	**41.4 +0.7**
DRV				pP	**pP**	**01**	**20**	**31.1 +0.8**
MSAI	**Masohi**	**54.22**	**280**	P	P	01	18	48.1 +5.9
AAI	**Ambon**	**54.78**	**280**	P	**P**	**01**	**18**	**46.4 +0.3**
	comp=Z,3μmcomp=Z,120nm,0.8s							
NLAI	**Namlea**	**55.96**	**280**	P	**P**	**01**	**18**	**54.4 +0.1**
	comp=Z,4μmcomp=Z,104nm,1.4s							
SOEI	**Soe**	**56.48**	**271**	P	**P**	**01**	**19**	**00.6 +2.6**
LBMI	**Labuha**	**56.57**	**283**	P	**P**	**01**	**18**	**59.4 +0.9**
	comp=Z,2μmcomp=Z,116nm,1.2s							
BATI	**Baumata**	**56.92**	**270**	P	**P**	**01**	**19**	**02.3 +1.4**
	baz=128,slow=6.1							
BATI				S	**S**	**01**	**26**	**12.8 +1.3**
	comp=Z,7.8nm,0.3s,baz=275,slow=13,SNR=0.9							
BATI	**Baumata**	**56.92**	**270**	P	**P**	**01**	**19**	**02.7 +1.8**
	comp=Z,1μmcomp=Z,55nm,1.1s							
TNTI	**Ternate**	**57.25**	**284**	P	**P**	**01**	**19**	**02.8 -0.3**
TNTI	**Ternate**	**57.25**	**284**	P	**P**	**01**	**19**	**03.6 +0.5**
	comp=Z,3μmcomp=Z,212nm,1.1s							
SANI	**Sanana**	**57.43**	**280**	P	**P**	**01**	**19**	**04.0 -0.3**
SANI	**Sanana**	**57.43**	**280**	P	**P**	**01**	**19**	**04.7 +0.4**
PSA00	**Pilbara Seismi**	**57.87**	**256**	P	**P**	**01**	**19**	**07.1 -0.1**
PSA00				IAmb	IAmb	01	19	08.7
	comp=Z,56nm,0.7s							
PSA00	**Pilbara Seismi**	**57.87**	**256**	P	**P**	**01**	**19**	**07.4 +0.2**
MBWA	**Marble Bar**	**58.04**	**257**	P	**P**	**01**	**19**	**08.4 0.0**
MBWA				IAmb	IAmb	01	19	09.5
	comp=Z,158nm,1.6s							
MBWA	**Marble Bar**	**58.04**	**257**	P	**P**	**01**	**19**	**08.4 0.0**
MBWA	**Marble Bar**	**58.04**	**257**	⇓P	**P**	**01**	**19**	**08.3 0.0**
MBWA				pP	**pwP**	**01**	**21**	**05.7 +1.5**
MEEK	**Meekatharra**	**58.20**	**250**	P	**P**	**01**	**19**	**09.1 -0.3**
	baz=58,SNR=13							
MEEK	**Meekatharra**	**58.20**	**250**	P	**P**	**01**	**19**	**09.3 -0.1**
KLBR	**Kellerberrin**	**58.42**	**244**	P	**P**	**01**	**19**	**11.1 +0.3**
	baz=58,SNR=25							
KLBR	**Kellerberrin**	**58.42**	**244**	P	**P**	**01**	**19**	**10.6 -0.2**
SBA	**Scott Base**	**58.71**	**184**	P	**P**	**01**	**19**	**13.9 +2.1**
SBA	**Scott Base**	**58.71**	**184**	P	**P**	**01**	**19**	**13.9 +2.1**
SBA				pmax	pmax			
	comp=Z,369nm,1.4s							
SBA	**Scott Base**	**58.71**	**184**	⇑P	**P**	**01**	**19**	**14.5 +2.6**
SBA				pP	**pwP**	**01**	**21**	**07.5 +0.4**
MMRI	**Maumere**	**58.73**	**272**	IAmb	IAmb	01	19	14.1
	comp=Z,91nm,0.6s							
MMRI	**Maumere**	**58.73**	**272**	P	**P**	**01**	**19**	**13.7 +0.6**
	comp=Z,2μmcomp=Z,142nm,1.3s							
MMRI	**Maumere**	**58.73**	**272**	P	**P**	**01**	**19**	**13.4 +0.3**
VNDA	**Vanda**	**58.75**	**185**	P	**P**	**01**	**19**	**13.9 +1.8**
	comp=Z,25nm,0.6s,baz=358,slow=7.8,SNR=210							
VNDA				ScP	**ScP**	**01**	**23**	**00.6 +1.8**
	comp=Z,4.8nm,0.9s,baz=340,slow=4.5,SNR=4.1							
	comp=Z,25nm,0.6s							
VNDA	**Vanda**	**58.75**	**185**	P	**P**	**01**	**19**	**13.7 +1.5**
VNDA				IAmb	IAmb	01	19	15.4
	comp=Z,148nm,1.4s							
VNDA	**Vanda**	**58.75**	**185**	⇑P	**P**	**01**	**19**	**13.9 +1.8**
VNDA				pP	**pwP**	**01**	**21**	**10.8 +3.7**
VNDA				ScP	**ScP**	**01**	**23**	**00.8 +2.0**
NWAO	**Narrogin (SRO)**	**58.75**	**243**	P	**P**	**01**	**19**	**14.7 +1.7**
	comp=Z,38nm,1.5s							
EDFI	**Ende, Flores**	**59.21**	**271**	P	**P**	**01**	**19**	**16.2 -0.2**
BLDU	**Balliduu**	**59.40**	**245**	P	**P**	**01**	**19**	**17.5 +0.1**
	baz=59,SNR=25							
BLDU	**Balliduu**	**59.40**	**245**	P	P	01	19	**17.4 +0.1**
BBSI	**Bau Bau**	**59.41**	**275**	P	P	01	19	26.6 +9.0
MUN	**Mundaring**	**59.70**	**244**	P	**P**	**01**	**19**	**20.0 +0.8**
	baz=60,SNR=7.2							
MUN	**Mundaring**	**59.70**	**244**	P	**P**	**01**	**19**	**20.7 +1.4**
SGSI	**Sangihe**	**60.12**	**286**	P	**P**	**01**	**19**	**26.3 +3.9**
	comp=Z,165nm,0.5s							
MORW	**Morawa**	**60.15**	**247**	P	**P**	**01**	**19**	**22.5 +0.2**
	baz=60,SNR=7.8							
MORW	**Morawa**	**60.15**	**247**	P	**P**	**01**	**19**	**22.1 -0.3**
MORW	**Morawa**	**60.15**	**247**	P	**P**	**01**	**19**	**23.1 +0.7**
KMSI	**Cibinong**	**60.28**	**282**	P	**P**	**01**	**19**	**27.0 +3.6**
JCJ	**Chichijima**	**60.41**	**319**	P	**P**	**01**	**19**	**23.4 -0.5**
	comp=Z,101nm,0.5s,baz=272,slow=7.0,SNR=10							
	comp=Z,101nm,0.5s							
JCJ	**Chichijima**	**60.41**	**319**	P	**P**	**01**	**19**	**25.9 +2.0**
LUWI	**Luwuk**	**60.78**	**280**	P	**P**	**01**	**19**	**26.6 -0.1**
LUWI	**Luwuk**	**60.78**	**280**	P	**P**	**01**	**19**	**28.1 +1.4**
	comp=Z,3μmcomp=Z,244nm,1.3s							
BSSI	**Bau Bau, Buton**	**61.15**	**274**	P	**P**	**01**	**19**	**29.9 +0.8**
BKSI	**Bulukumba**	**61.76**	**275**	P	**P**	**01**	**19**	**33.7 +0.6**
APSI	**Ampana**	**61.88**	**280**	P	**P**	**01**	**19**	**35.2 +1.4**
	comp=Z,2μmcomp=Z,144nm,1.4s							
MRSI	**Marisa**	**62.12**	**281**	P	**P**	**01**	**19**	**35.5 +0.1**
KAPI	**Kappang**	**62.21**	**275**	S	**S**	**01**	**27**	**14.9 -2.7**
	comp=Z,1.5nm,0.3s,baz=192,slow=23,SNR=1.3							
KAPI	**Kappang**	**62.21**	**275**	P	**P**	**01**	**19**	**35.4 -0.6**
KAPI				IAmb	IAmb	01	19	36.9
	comp=Z,102nm,1.5s							
KAPI	**Kappang**	**62.21**	**275**	*d* iP	**P**	**01**	**19**	**36.0 0.0**
KAPI				pmax	pmax			
	comp=Z,36nm,1.1s							
KAPI	**Kappang**	**62.21**	**275**	P	**P**	**01**	**19**	**36.2 +0.2**
KAPI				pP	**pP**	**01**	**21**	**35.6 +5.1**
KAPI				PP	**PP**	**01**	**21**	**59.0 -4.0**
SPSI	**Sidrap Palu**	**62.55**	**276**	P	**P**	**01**	**19**	**37.4 -0.8**
GIRL	**Giralia**	**62.78**	**254**	P	**P**	**01**	**19**	**40.9 +1.4**
	baz=63,SNR=11							
GIRL	**Giralia**	**62.78**	**254**	P	**P**	**01**	**19**	**41.5 +2.0**
TTSI	**Tana Toraja**	**62.82**	**277**	P	**P**	**01**	**19**	**41.1 +1.2**
	comp=Z,992nmcomp=Z,28nm,1.0s							
PLAI	**Plampang**	**62.87**	**270**	P	**P**	**01**	**19**	**40.2 -0.1**
PLAI	**Plampang**	**62.87**	**270**	P	**P**	**01**	**19**	**40.9 +0.6**
CCD	**Concordia, Ant**	**63.28**	**194**	⇑P	**P**	**01**	**19**	**43.1 +0.8**
CCD				pP	**pwP**	**01**	**21**	**38.6 -0.6**
TOLI2	**Tolitoli**	**63.44**	**282**	P	**P**	**01**	**19**	**43.9 +0.1**
TOLI2				IAmb	IAmb	01	19	45.3
	comp=Z,143nm,1.2s							
TOLI2	**Tolitoli**	**63.44**	**282**	P	**P**	**01**	**19**	**45.5 +1.6**
TWSI	**Taliwang, Sumb**	**63.74**	**270**	P	**P**	**01**	**19**	**45.7 -0.1**
MPSI	**Mapaga**	**63.96**	**280**	P	**P**	**01**	**19**	**47.3 +0.1**
CASY	**Casey**	**64.73**	**205**	P	**P**	**01**	**19**	**51.6 +0.6**
CASY				IAmb	IAmb	01	19	52.8
	comp=Z,79nm,0.9s							
CASY	**Casey**	**64.73**	**205**	⇑P	**P**	**01**	**19**	**51.5 +0.4**
SRBI	**Singaraja**	**65.51**	**270**	P	**P**	**01**	**19**	**57.9 +1.0**
JHJ2	**Mitsune**	**66.15**	**322**	P	**P**	**01**	**20**	**01.4 +0.9**
JHJ	**Hachijo jima 2**	**66.18**	**322**	P	**P**	**01**	**20**	**01.0 +0.3**
	comp=Z,319nm,0.4s,baz=158,slow=5.7,SNR=41							
SMKI	**Samarinda**	**66.18**	**278**	P	**P**	**01**	**20**	**05.4 +4.3**
	comp=Z,214nm,1.3s							
JAGI	**Jajag, Banyuwa**	**66.40**	**269**	P	**P**	**01**	**20**	**01.1 -1.4**
JAGI	**Jajag, Banyuwa**	**66.40**	**269**	P	**P**	**01**	**20**	**02.0 -0.4**
JAGI	**Jajag, Banyuwa**	**66.40**	**269**	P	**P**	**01**	**20**	**01.7 -0.7**
	comp=Z,163nm,1.1s							
KMMI	**Kalianget**	**67.01**	**271**	P	**P**	**01**	**20**	**07.0 +0.8**
BBKI	**Banjar Baru**	**67.34**	**275**	P	**P**	**01**	**20**	**09.8 +1.5**
	comp=Z,88nm,1.5s							
MTKI	**Muara Teweh, K**	**68.16**	**277**	P	**P**	**01**	**20**	**14.9 +1.7**
	comp=Z,9μmcomp=Z,52nm,0.5s							
PWJI	**Pagerwojo**	**68.75**	**269**	P	**P**	**01**	**20**	**17.1 +0.4**
TGY	**Tagaytay City**	**68.81**	**294**	P	**P**	**01**	**20**	**17.1 -0.1**
	comp=Z,146nm,0.4s,baz=90,slow=2.2							
	comp=Z,146nm,0.4s							
TBJI	**Tambak Boyo**	**69.08**	**270**	P	**P**	**01**	**20**	**20.5 +1.8**
	comp=Z,3μmcomp=Z,173nm,1.2s							
PCJI	**Pacitan**	**69.28**	**268**	P	**P**	**01**	**20**	**20.5 +0.5**
JGF	**Kuroka**	**69.35**	**322**	IAmb	IAmb	01	20	21.5
	comp=Z,30nm,0.7s							
INU	**Inuyama**	**69.37**	**322**	IAmb	IAmb	01	20	21.8
	comp=Z,111nm,1.4s							
INU	**Inuyama**	**69.37**	**322**	P	**P**	**01**	**20**	**22.0 +2.0**
INU	**Inuyama**	**69.37**	**322**	P	**P**	**01**	**20**	**20.3 +0.3**
INU				pP	**pP**	**01**	**22**	**22.0 +3.6**
MJAR	**Matsushiro Arr**	**69.53**	**323**	P	**P**	**01**	**20**	**21.1 +0.1**
	comp=Z,38nm,0.5s,baz=152,slow=5.9,SNR=229							
MJAR				pP	**pP**	**01**	**22**	**20.5 +0.9**
	comp=Z,6.6nm,0.9s,baz=155,slow=6.6,SNR=7.4							
	comp=Z,38nm,0.5s							
MAJO	**Matsushiro**	**69.53**	**323**	P	**P**	**01**	**20**	**21.4 +0.4**
MAJO	**Matsushiro**	**69.53**	**323**	P	**P**	**01**	**20**	**21.4 +0.4**
MAJO				pmax	pmax			
	comp=Z,74nm,0.6s							
MAJO	**Matsushiro**	**69.53**	**323**	P	**P**	**01**	**20**	**21.6 +0.6**
MAJO	**Matsushiro**	**69.53**	**323**	⇓P	**P**	**01**	**20**	**21.4 +0.4**
MAJO				pP	**pP**	**01**	**22**	**21.7 +2.1**
KKM	**Kota Kinabalu**	**69.55**	**285**	P	**P**	**01**	**20**	**21.4 -0.3**
KKM	**Kota Kinabalu**	**69.55**	**285**	P	**P**	**01**	**20**	**23.2 +1.5**
JOW	**Kunigami**	**69.63**	**310**	P	**P**	**01**	**20**	**22.4 +0.6**
	comp=Z,41nm,0.7s,baz=134,slow=9.5,SNR=7.7							
	comp=Z,41nm,0.7s							
JOW	**Kunigami**	**69.63**	**310**	P	**P**	**01**	**20**	**23.4 +1.7**
UGM	**Wanagama**	**69.98**	**269**	P	**P**	**01**	**20**	**25.4 +1.2**
UGM	**Wanagama**	**69.98**	**269**	P	**P**	**01**	**20**	**24.6 +0.4**
JMN	**Monobe**	**70.15**	**319**	P	**P**	**01**	**20**	**25.7 +0.9**
JMN				IAmb	IAmb	01	20	27.3
	comp=Z,94nm,1.0s							
SMRI	**Semarang**	**70.33**	**269**	P

TEY	**Ternei**	**76.50**	**329**	⇓*e*P		**P**		**01 21 01.4 +0.9**
TEY				*e*				01 23 05.4
TEY				*e*				01 24 01.7
TEY					pmax	pmax		
	comp=Z,20nm,1.5s							
TEY					pmax	pmax		
	comp=Z,100nm,4.7s							
SPIA	**Saint Paul Isl**	**76.81**	**4**	P		**P**		**01 21 01.0 -0.9**
	baz=188							
LWLI	**Liwa**	**76.99**	**269**	P		**P**		**01 21 04.7 +0.6**
PMBI	**Palembang**	**77.00**	**272**	P		**P**		**01 21 05.0 +1.0**
SCZ2	**Santa Cruz Isl**	**77.02**	**47**	P		**P**		**01 21 05.4 +1.7**
	baz=235							
INCN	**Inchon**	**77.09**	**318**	P		**P**		**01 21 05.1 +1.1**
INCN				IAmb		IAmb		01 21 06.5
	comp=Z,106nm,1.1s							
INCN	**Inchon**	**77.09**	**318**	P		**P**		**01 21 05.1 +1.1**
INCN				pmax		pmax		
	comp=Z,107nm,1.1s							
UGL	**Uglegorsk**	**77.10**	**334**	*e*P		**P**		**01 21 04.7 +1.1**
SCI2	**San Clemente I**	**77.20**	**48**	P		**P**		**01 21 06.0 +1.4**
	baz=236							
S14K	**Fog Glacier**	**77.23**	**10**	P		**P**		**01 21 03.9 -0.5**
	baz=198							
PKM	**Mcpherson Peak**	**77.40**	**46**	P		**P**		**01 21 06.9 +1.0**
	baz=235							
SAO	**San Andreas Ge**	**77.41**	**43**	IAmb		IAmb		01 21 09.7
	comp=Z,62nm,1.4s							
CHGN	**Chignik**	**77.44**	**11**	P		**P**		**01 21 05.0 -0.3**
	baz=199,SNR=5.1							
SMMC	**Simmler**	**77.52**	**45**	P		**P**		**01 21 07.8 +1.4**
	baz=235							
CIS	**Catalina Islan**	**77.53**	**48**	P		**P**		**01 21 07.9 +1.5**
	baz=236							
CHIR	**Chirikof Islan**	**77.53**	**13**	P		**P**		**01 21 05.7 -0.2**
	baz=202							
BBGB	**Big Mountain B**	**77.57**	**44**	IAmb		IAmb		01 21 10.5
	comp=Z,228nm,1.9s							
BCW	**Bitter Crk WRg**	**77.70**	**46**	IAmb		IAmb		01 21 11.0
	comp=Z,62nm,1.3s							
HOPS	**Hopland Field**	**77.73**	**41**	P		**P**		**01 21 08.4 +1.1**
HOPS				IAmb		IAmb		01 21 10.7
	comp=Z,115nm,1.6s							
DSRI	**Dabo**	**78.00**	**274**	P		**P**		**01 21 11.0 +1.6**
	comp=Z,796nmcomp=Z,56nm,1.4s							
KMRM	**Mail Ridge**	**78.10**	**39**	IAmb		IAmb		01 21 13.7
	comp=Z,142nm,1.4s							
109C	**Camp Elliot, M**	**78.17**	**49**	P		**P**		**01 21 11.0 +1.1**
	baz=237							
ARVC	**Arvin**	**78.20**	**46**	P		**P**		**01 21 11.3 +1.3**
	baz=236							
MNAI	**Manna**	**78.24**	**270**	P		**P**		**01 21 11.7 +1.0**
USA0B	**Ussuriysk Arra**	**78.27**	**326**	P		**P**		**01 21 11.5 +1.4**
USA0B	**Ussuriysk Arra**	**78.27**	**326**	P		**P**		**01 21 11.5 +1.4**
USA0B				pmax		pmax		
	comp=Z,312nm,1.5s							
USRK	**Ussuriysk Ar.**	**78.27**	**326**	P		**P**		**01 21 11.9 +1.8**
	comp=Z,41nm,0.7s,baz=116,slow=4.4,SNR=60							
USRK				pP		**pP**		**01 23 14.8 +2.3**
	comp=Z,10nm,1.1s,baz=111,slow=4.3,SNR=3.5							
	comp=Z,41nm,0.7s							
TYV	**Tymovskoe**	**78.27**	**336**	*e*P		**P**		**01 21 10.8 +0.9**
TYV				*e*S		**S**		**01 30 13.8 -4.0**
TYV					pmax	pmax		
	comp=Z,900nm,3.6s							
TYV					pmax	pmax		
	comp=Z,121nm,1.2s							
TYV					smax	smax		
	comp=E,15nm,1.7s							
TYV					smax	smax		
	comp=N,600nm,7.7s							
TYV					smax	smax		
	comp=E,300nm,7.7s							
HKPS	**Hong Kong Po S**	**78.29**	**299**	IAmb		IAmb		01 21 13.7
	comp=Z,140nm,1.0s							
VES	**Vestal, Richgr**	**78.43**	**45**	P		**P**		**01 21 12.4 +1.3**
	baz=235							
MURC	**Murrieta**	**78.49**	**48**	P		**P**		**01 21 13.1 +1.5**
	baz=237,SNR=8.1							
JMBI	**JAMBI**	**78.49**	**272**	P		**P**		**01 21 15.8 +3.8**
	comp=Z,126nm,0.4s							
BFSC	**Mount Baldy Ra**	**78.51**	**47**	P		**P**		**01 21 13.0 +1.1**
	baz=237,SNR=6.6							
TPRI	**Tanjung Pinang**	**78.52**	**275**	P		**P**		**01 21 14.1 +1.9**
	comp=Z,55nm,1.2s							
ESJX	**Sierra Juarez**	**78.52**	**50**	P		**P**		**01 21 13.4 +1.4**
SII	**Sitkinak Islan**	**78.52**	**13**	IAmb		IAmb		01 21 12.3
	comp=Z,102nm,0.7s							
SII	**Sitkinak Islan**	**78.52**	**13**	P		**P**		**01 21 11.3 +0.1**
	baz=203							
SII	**Sitkinak Islan**	**78.52**	**13**	P		**P**		**01 21 12.4 +1.2**
EDW2	**Edwards Air Fo**	**78.64**	**47**	P		**P**		**01 21 14.0 +1.6**
	baz=236,SNR=13							
MONP2	**Monument Peak**	**78.65**	**49**	P		**P**		**01 21 14.4 +1.7**
	baz=238,SNR=14							
ISA	**Isabella, Lake**	**78.74**	**46**	IAmb		IAmb		01 21 17.0
	comp=Z,100nm,1.8s							
ISA	**Isabella, Lake**	**78.74**	**46**	P		**P**		**01 21 14.2 +1.2**
	baz=236							
IKP	**In-Ko-Pah, Jac**	**78.75**	**49**	P		**P**		**01 21 14.6 +1.6**
	baz=238,SNR=9.6							
KSXB	**Camp Six Broad**	**79.01**	**38**	IAmb		IAmb		01 21 17.8
	comp=Z,98nm,1.6s							
PFO	**Pinyon Flats O**	**79.01**	**48**	P		**P**		**01 21 15.6 +1.2**
	comp=Z,9.6nm,1.1s,baz=251,slow=4.7							
	comp=Z,9.6nm,1.1s							
PFO	**Pinyon Flats O**	**79.01**	**48**	P		**P**		**01 21 14.9 +0.4**
PFO	**Pinyon Flats O**	**79.01**	**48**⇑	*e*P		**P**		**01 21 16.2 +1.7**
PFO					pmax	pmax		
	comp=Z,41nm,1.5s							
PFO	**Pinyon Flats O**	**79.01**	**48**	P		**P**		**01 21 15.1 +0.6**
	baz=237,SNR=8.3							
TPFO	**Pinon Flats**	**79.01**	**48**	P		**P**		**01 21 15.1 +0.6**
	baz=237,SNR=9.0							
R17K	**Ugashik Creek**	**79.08**	**12**	P		**P**		**01 21 14.6 +0.5**
	baz=201,SNR=7.0							
PMD	**Palm Desert**	**79.09**	**48**	IAmb		IAmb		01 21 18.6
	comp=Z,23nm,1.2s							
SWSC	**Sam W. Stewart**	**79.12**	**49**	P		**P**		**01 21 16.6 +1.7**
	baz=238,SNR=10.0							
LRMC	**Laurel Mtn Rad**	**79.18**	**46**	P		**P**		**01 21 16.5 +1.2**
	baz=236,SNR=6.5							
GZH	**Guangzhou**	**79.31**	**299**	P		**P**		**01 21 17.5 +1.4**
MASI	**Maura Aman, Be**	**79.31**	**270**	P		**P**		**01 21 17.6 +1.2**
OHAK	**Old Harbor**	**79.33**	**13**	P		**P**		**01 21 15.9 +0.5**
	baz=204							
NJ2	**Nanjing**	**79.34**	**310**	⇓*i*P		**P**		**01 21 17.4 +1.3**
NJ2				PcP		**PcP**		**01 21 24.0 +2.2**
NJ2				S		**S**		**01 30 33.3 +3.6**
NJ2				pmax		pmax		
	comp=Z,46nm,0.9s							
NJ2				pmax		pmax		
	comp=Z,380nm,3.5s							
L02F	**Cave Junction**	**79.37**	**38**	P		**P**		**01 21 17.0 +1.0**
	baz=231							
CWC	**Cottonwood Cre**	**79.44**	**45**	P		**P**		**01 21 18.2 +1.5**
	baz=236							
MYKOM	**Kota Tinggi**	**79.45**	**276**	P		**P**		**01 21 17.5 +0.4**
MYKOM				IAmb		IAmb		01 21 19.4
	comp=Z,111nm,1.2s							
BELC	**Belle Mtn. Jos**	**79.54**	**48**	P		**P**		**01 21 19.1 +1.8**
	baz=238,SNR=12							
MLAC	**Mammoth, Mammo**	**79.61**	**44**	P		**P**		**01 21 19.6 +1.9**
	baz=235							
MPMC	**Manual Prospec**	**79.63**	**46**	P		**P**		**01 21 19.1 +1.3**
	baz=236,SNR=20							
YBH	**Yreka Blue Hor**	**79.63**	**39**	P		**P**		**01 21 19.2 +1.7**
	comp=Z,16nm,0.6s,baz=198,slow=2.1,SNR=72							
YBH				pP		**pwP**		**01 23 21.7 -1.3**
	comp=Z,5.0nm,1.0s,baz=154,slow=10,SNR=5.3							
	comp=Z,16nm,0.6s							
K02D	**Willamette Mer**	**79.67**	**38**	P		**P**		**01 21 19.5 +1.8**
	baz=231							
GSC	**Goldstone, Bar**	**79.68**	**47**	P		**P**		**01 21 19.4 +1.5**
	baz=237,SNR=8.7							
TIN	**Tinemaha, Big**	**79.69**	**45**	P		**P**		**01 21 19.6 +1.7**
	baz=236							
BC3	**Big Chuckawall**	**79.74**	**49**	P		**P**		**01 21 19.9 +1.5**
	baz=238,SNR=11							
HEC	**Hector,Ludlow**	**79.75**	**47**	P		**P**		**01 21 19.6 +1.3**
	baz=237,SNR=7.0							
MPK	**Martis Peak**	**79.80**	**42**	IAmb		IAmb		01 21 22.7
	comp=Z,100nm,1.3s							
J01E	**Myrtle Point**	**79.81**	**37**	P		**P**		**01 21 20.3 +2.0**
	baz=231							
MDJ	**Mudanjiang**	**79.83**	**325**	P		**P**		**01 21 19.0 +0.6**
GLA	**Glamis**	**79.88**	**50**	IAmb		IAmb		01 21 23.4
	comp=Z,64nm,1.3s							
GLA	**Glamis**	**79.88**	**50**	P		**P**		**01 21 20.8 +1.8**
	baz=239,SNR=18							
PNTR	**Pine Nut**	**79.96**	**42**	IAmb		IAmb		01 21 23.4
	comp=Z,145nm,1.5s							
KDAK	**Kodiak Island**	**80.00**	**14**	P		**P**		**01 21 19.3 +0.5**
	comp=Z,28nm,0.7s,baz=228,slow=4.2,SNR=45							
	comp=Z,28nm,0.7s							
KDAK	**Kodiak Island**	**80.00**	**14**	P		**P**		**01 21 19.5 +0.6**
KDAK				IAmb		IAmb		01 21 21.0
	comp=Z,53nm,0.8s							
KDAK	**Kodiak Island**	**80.00**	**14**	P		**P**		**01 21 19.5 +0.6**
KDAK				pmax		pmax		
	comp=Z,53nm,0.8s							
KDAK	**Kodiak Island**	**80.00**	**14**	P		**P**		**01 21 19.1 +0.3**
	baz=204							
Q16K	**King Salmon**	**80.01**	**11**	P		**P**		**01 21 19.4 +0.5**
	baz=200,SNR=12							
HUMO	**Hull Mountain**	**80.03**	**38**	IAmb		IAmb		01 21 23.1
	comp=Z,103nm,1.6s							
P16K	**Nushagak River**	**80.11**	**10**	P		**P**		**01 21 19.8 +0.4**
	baz=199,SNR=8.9							
PIX	**Pinacate**	**80.11**	**51**	P		**P**		**01 21 20.9 +0.8**
L04D	**Klamath Falls**	**80.17**	**39**	IAmb		IAmb		01 21 24.2
	comp=Z,58nm,1.1s							
L04D	**Klamath Falls**	**80.17**	**39**	P		**P**		**01 21 21.6 +1.2**
	baz=232,SNR=16							
LHV	**Little Huntoon**	**80.18**	**44**	IAmb		IAmb		01 21 24.6
	comp=Z,63nm,1.2s							
GMRC	**Granite Mounta**	**80.20**	**48**	P		**P**		**01 21 22.1 +1.4**
	baz=238,SNR=12							
IRM	**Iron Mountain**	**80.23**	**48**	P		**P**		**01 21 22.1 +1.4**
	baz=238,SNR=22							
GRAC	**Grapevine Rang**	**80.23**	**45**	IAmb		IAmb		01 21 24.9
	comp=Z,64nm,1.3s							
GRAC	**Grapevine Rang**	**80.23**	**45**	P		**P**		**01 21 22.3 +1.6**
	baz=236,SNR=9.2							
FURC	**Furnace Creek,**	**80.28**	**46**	P		**P**		**01 21 22.3 +1.5**
	baz=237							
TUQ	**Turquoise Moun**	**80.36**	**47**	P		**P**		**01 21 22.7 +1.2**
	baz=238							
SHOC	**Shoshone, Teco**	**80.37**	**46**	P		**P**		**01 21 22.7 +1.3**
	baz=237							
RYN	**Ryan**	**80.38**	**43**	IAmb		IAmb		01 21 25.5
	comp=Z,80nm,1.7s							
BELA	**Belgrano 2**	**80.39**	**173**	P		**P**		**01 21 21.0 +0.2**
BELA				IAmb		IAmb		01 21 22.4
	comp=Z,129nm,1.2s							
NVAR	**Mina Array Bea**	**80.41**	**43**	P		**P**		**01 21 22.9 +1.1**
	comp=Z,9.5nm,0.8s,baz=225,slow=8.9,SNR=64							
NVAR				pP		**pwP**		**01 23 26.3 -1.3**
	comp=Z,4.2nm,1.0s,baz=221,slow=7.8,SNR=3.8							
	comp=Z,9.5nm,0.8s							
PAHR	**Pah Rah Range**	**80.45**	**42**	IAmb		IAmb		01 21 25.7
	comp=Z,53nm,1.3s							
I02E	**Swisshome, OR**	**80.46**	**36**	P		**P**		**01 21 23.4 +1.8**
	baz=231							
I03D	**Drain, OR**	**80.48**	**37**	P		**P**		**01 21 23.2 +1.5**
	baz=231							
NV11	**Mina Array Sit**	**80.51**	**44**	P		**P**		**01 21 22.9 +0.6**
NV11				IAmb		IAmb		01 21 26.1
	comp=Z,53nm,1.3s							
QIZ	**Qiongzhong**	**80.52**	**294**	P		**P**		**01 21 23.2 +0.8**
QIZ	**Qiongzhong**	**80.52**	**294**	P		**P**		**01 21 21.3 -1.2**
QIZ				sP		**sP**		**01 21 25.3 +1.1**
QIZ				S		**S**		**01 30 39.4 -2.8**
QIZ				SS		**SS**		**01 36 10.5 -1.8**
QIZ				pmax		pmax		
	comp=Z,320nm,6.3s							
P17K	**Kvichak River**	**80.53**	**11**	P		**P**		**01 21 21.7 +0.1**
	baz=200,SNR=23							
O16K	**Kokwok River B**	**80.62**	**10**	P		**P**		**01 21 21.6 -0.5**
	baz=199,SNR=15							
GRNR	**Gornyy**	**80.76**	**333**	⇓*i*P		**P**		**01 21 24.5 +1.5**
GRNR				pmax		pmax		
	comp=Z,70nm,1.4s							
214A	**Organ Pipe Nat**	**80.78**	**51**	IAmb		IAmb		01 21 28.2
	comp=Z,62nm,1.4s							
214A	**Organ Pipe Nat**	**80.78**	**51**	P		**P**		**01 21 26.5 +2.8**
	baz=240,SNR=13							
Q20K	**Shuyak Island**	**80.79**	**13**	P		**P**		**01 21 23.5 +0.5**
	baz=204							
SDSI	**Sungai Dareh**	**80.81**	**272**	P		**P**		**01 21 23.7 -0.5**
Q19K	**Cape Douglas,**	**80.82**	**13**	P		**P**		**01 21 23.5 +0.3**
Q19K	**Cape Douglas,**	**80.82**	**13**	P		**P**		**01 21 23.5 +0.3**
	baz=203,SNR=10							
J04D	**Umpqua Nationa**	**80.91**	**38**	IAmb		IAmb		01 21 28.1
	comp=Z,66nm,0.9s							
J04D	**Umpqua Nationa**	**80.91**	**38**	P		**P**		**01 21 26.1 +1.8**
	baz=232,SNR=18							
NEE2	**Needles Airpor**	**80.92**	**48**	P		**P**		**01 21 26.2 +2.0**
	baz=238							
P18K	**Big Mountain,**	**80.94**	**12**	IAmb		IAmb		01 21 25.1
	comp=Z,167nm,1.4s							
P18K	**Big Mountain,**	**80.94**	**12**	P		**P**		**01 21 23.8 0.0**
	baz=202							
TPNV	**Topopah Spring**	**80.95**	**46**	P		**P**		**01 21 26.2 +1.6**
	baz=237,SNR=20							
O17K	**Koliganek Bris**	**80.96**	**11**	P		**P**		**01 21 23.9 +0.1**
	baz=200							
PLTX	**Planet X, Gerl**	**80.98**	**41**	IAmb		IAmb		01 21 28.3
	comp=Z,40nm,1.0s							
BUCK	**Buck Mountain**	**81.00**	**37**	IAmb		IAmb		01 21 28.6
	comp=Z,82nm,1.4s							
PDMCI	**Parker Dam,Lak**	**81.01**	**49**	P		**P**		**01 21 26.2 +1.5**
	baz=239							
COR	**Corvallis**	**81.06**	**36**	P		**P**		**01 21 26.4 +1.7**
COR				IAmb		IAmb		01 21 29.0
	comp=Z,173nm,1.7s							
COR	**Corvallis**	**81.06**	**36**	P		**P**		**01 21 26.4 +1.7**
COR				pmax		pmax		
	comp=Z,173nm,1.7s							
I04A	**Tendick Farm,**	**81.07**	**37**	P		**P**		**01 21 26.1 +1.2**
	baz=232,SNR=12							
MOD	**Modoc Plateau**	**81.17**	**40**	IAmb		IAmb		01 21 29.4
	comp=Z,85nm,1.4s							
K05A	**Summer Lake**	**81.31**	**39**	IAmb		IAmb		01 21 30.4
	comp=Z,117nm,1.3s							
H04D	**Lebanon**	**81.34**	**36**	IAmb		IAmb		01 21 30.2
	comp=Z,117nm,1.4s							
H04D	**Lebanon**	**81.34**	**36**	P		**P**		**01 21 27.9 +1.7**
	baz=232,SNR=11							
N16K	**Nishlik Lake**	**81.35**	**9**	P		**P**		**01 21 27.1 +1.2**
	baz=198,SNR=20							
Q09A	**Cervers**	**81.36**	**44**	IAmb		IAmb		01 21 29.7
	comp=Z,40nm,0.9s							
WTNK	**Soaring Height**	**81.39**	**47**	IAmb		IAmb		01 21 29.8
	comp=Z,13nm,1.5s							
J05D	**Fort Rock, OR**	**81.44**	**38**	P		**P**		**01 21 28.9 +2.0**
	baz=233,SNR=60							
SHPR	**Sheep Range**	**81.45**	**46**	P		**P**		**01 21 28.4 +1.2**
G03D	**McMinnville, O**	**81.48**	**36**	IAmb		IAmb		01 21 30.8
	comp=Z,56nm,1.1s							
G03D	**McMinnville, O**	**81.48**	**36**	P		**P**		**01 21 28.2 +1.4**
	baz=231,SNR=5.1							
P19K	**Oil Pt**	**81.57**	**12**	P		**P**		**01 21 26.9 -0.2**
	baz=204,SNR=12							
BKNI	**Bangkinang**	**81.60**	**273**	P		**P**		**01 21 29.3 +1.1**
BKNI	**Bangkinang**	**81.60**	**273**	P		**P**		**01 21 30.4 +2.2**
	comp=Z,121nm,1.3s							
CN2	**Changchun**	**81.63**	**322**	P		**P**		**01 21 28.5 +0.8**
CN2				S		**S**		**01 30 56.0 +3.6**
CN2				pmax		pmax		
	comp=Z,100nm,1.3s							
CN2				pmax		pmax		
	comp=Z,700nm,3.0s							
S11A	**Rachel**	**81.66**	**45**	IAmb		IAmb		01 21 31.8
	comp=Z,61nm,1.3s							
PDSI	**Padang**	**81.73**	**272**	P		**P**		**01 21 28.8 -0.1**
H04A	**Detroit Lake**	**81.75**	**37**	IAmb		IAmb		01 21 31.7
	comp=Z,75nm,1.3s							
KLR	**Kul'dur**	**81.80**	**329**	P		**P**		**01 21 29.2 +0.8**
	comp=Z,25nm,1.0s,baz=116,slow=5.0,SNR=35							
KLR				pP		**pP**		**01 23 32.8 +0.5**
	comp=Z,2.0nm,0.7s,baz=147,slow=7.5,SNR=2.0							
	comp=Z,25nm,1.0s							
KLR	**Kul'dur**	**81.80**	**329**	*d*iP		**P**		**01 21 29.5 +1.1**
KLR				pmax		pmax		
	comp=Z,69nm,1.3s							
ILSW	**Iliamna Southw**	**81.90**	**12**	IAmb		IAmb		01 21 30.6
	comp=Z,329nm,1.7s							
HOM	**Homer**	**81.91**	**13**	P		**P**		**01 21 29.3 +0.6**
	baz=205							
PINE	**Pine Mountain**	**81.92**	**38**	IAmb		IAmb		01 21 33.5
	comp=Z,105nm,1.2s							
PPI	**Padang Panjang**	**81.94**	**272**	P		P		01 21 45.4 +15
WHN	**Wuhan**	**81.95**	**306**	⇓P		**P**		**01 21 30.8 +1.2**
WHN				pP		**pwP**		**01 23 37.4 +1.3**
WHN				S		**S**		**01 30 56.8 +0.7**
WHN				pmax		pmax		
	comp=Z,300nm,1.4s							
WHN				pmax		pmax		
	comp=Z,1μm,3.9s							
PRN	**Pahroc Range**	**82.00**	**46**	IAmb		IAmb		01 21 34.1
	comp=Z,59nm,1.3s							
I05D	**Terrebonne, OR**	**82.02**	**37**	P		**P**		**01 21 31.0 +1.3**
	baz=233,SNR=6.4							
N18K	**Kilae Creek**	**82.03**	**11**	P		**P**		**01 21 29.3 0.0**
	baz=201,SNR=8.2							
PMSA	**Palmer Station**	**82.06**	**157**	P		**P**		**01 21 30.5 +1.0**
	comp=Z,33nm,0.7s,baz=230,slow=3.2,SNR=10							
	comp=Z,33nm,0.7s							
O20K	**Slope Mountain**	**82.09**	**13**	P		**P**		**01 21 29.6 -0.1**
	baz=204,SNR=11							
R11A	**Troy Canyon, C**	**82.15**	**45**	P		**P**		**01 21 31.7 +1.1**
	baz=237,SNR=18							
E03A	**Lebam**	**82.16**	**35**	IAmb		IAmb		01 21 34.1
	comp=Z,76nm,1.2s							
F04D	**Rainier, OR**	**82.16**	**35**	P		**P**		**01 21 31.9 +1.6**
	baz=231							
BRLK	**Bradley Lake**	**82.17**	**13**	IAmb		IAmb		01 21 31.8
	comp=Z,59nm,0.9s							
BRSE	**Bradley Lake S**	**82.18**	**14**	P		**P**		**01 21 30.4 +0.3**
	baz=206,SNR=15							
BMN	**Battle Mountai**	**82.23**	**42**	IAmb		IAmb		01 21 34.7
	comp=Z,75nm,1.3s							
MAW	**Mawson**	**82.36**	**200**	P		**P**		**01 21 31.4 +0.4**
	comp=Z,16nm,0.8s,baz=133,slow=6.1,SNR=44							
MAW				pP		**pwP**		**01 23 36.8 +0.1**
	comp=Z,24nm,1.0s,baz=112,slow=6.5,SNR=13							
	comp=Z,16nm,0.8s							
MAW	**Mawson**	**82.36**	**200**	P		**P**		**01 21 31.8 +0.8**
	baz=82,SNR=28							
MAW	**Mawson**	**82.36**	**200**	P		**P**		**01 21 31.8 +0.8**
N19K	**Bonanza Creek**	**82.40**	**11**	IAmb		IAmb		01 21 32.5
	comp=Z,38nm,0.8s							
N19K	**Bonanza Creek**	**82.40**	**11**	P		**P**		**01 21 31.1 -0.2**
	baz=202,SNR=27							
HOOD	**Mount Hood Mea**	**82.44**	**36**	IAmb		IAmb		01 21 35.4
	comp=Z,43nm,1.1s							
TUC	**Tucson**	**82.46**	**52**	P		**P**		**01 21 33.5 +1.3**
TUC				IAmb		IAmb		01 21 37.0
	comp=Z,52nm,1.2s							
TUC	**Tucson**	**82.46**	**52**	P		**P**		**01 21 33.5 +1.3**
TUC				pmax		pmax		
	comp=Z,52nm,1.3s							
TUC	**Tucson**	**82.46**	**52**	P		**P**		**01 21 34.6 +2.3**
	baz=241							
WVOR	**Wild Horse Val**	**82.48**	**40**	IAmb		IAmb		01 21 36.0
	comp=Z,54nm,1.2s							
NLWA	**Neilton Lookou**	**82.53**	**34**	IAmb		IAmb		01 21 36.1
	comp=Z,56nm,1.4s							
G05D	**Wamic, OR**	**82.58**	**37**	P		**P**		**01 21 33.9 +1.5**
	baz=232,SNR=5.3							
TIA	**Tai'an**	**82.71**	**312**	⇓P		**P**		**01 21 34.0 +0.7**
TIA				S		**S**		**01 30 59.3 -4.2**
TIA				pmax		pmax		
	comp=Z,51nm,1.5s							
TIA				pmax		pmax		
	comp=Z,450nm,3.8s							
SEW	**Seward**	**82.80**	**14**	IAmb		IAmb		01 21 34.7
	comp=Z,208nm,1.9s							
SEW	**Seward**	**82.80**	**14**	P		**P**		**01 21 32.8 -0.3**
	baz=207,SNR=6.6							
UBPT	**Khong Chiam**	**82.86**	**289**	P		**P**		**01 21 34.7 +0.3**
UBPT				IAmb		IAmb		01 21 36.9
	comp=Z,45nm,0.9s							
I07A	**Izee**	**82.92**	**38**	IAmb		IAmb		01 21 37.6
	comp=Z,46nm,1.1s							
MA2	**Magadan**	**82.97**	**345**	P		**P**		**01 21 33.5 -0.5**
	comp=Z,25nm,0.6s,baz=130,slow=17,SNR=13							
	comp=Z,25nm,0.6s							
MA2	**Magadan**	**82.97**	**345**⇑	*e*P		**P**		**01 21 35.6 +1.6**
MA2				pmax		pmax		
	comp=Z,133nm,2.5s							
MA2	**Magadan**	**82.97**	**345**	P		**P**		**01 21 34.1 +0.1**
	comp=Z,72nm,1.4s							
IPM	**Ipoh**	**83.03**	**277**	P		**P**		**01 21 35.8 +0.3**
IPM	**Ipoh**	**83.03**	**277**	P		**P**		**01 21 37.0 +1.6**
O22K	**Cooper Landing**	**83.07**	**14**	P		**P**		**01 21 34.8 +0.3**
	baz=207,SNR=11							
J08A	**Circle Bar Ran**	**83.11**	**39**	IAmb		IAmb		01 21 39.1
	comp=Z,48nm,1.2s							
319A	**Douglas**	**83.14**	**53**	IAmb		IAmb		01 21 40.5
	comp=Z,68nm,1.1s							
B04A	**Port Angeles**	**83.15**	**33**	IAmb		IAmb		01 21 38.4
	comp=Z,43nm,1.3s							
N20K	**Mount Spurr**	**83.20**	**12**	P		**P**		**01 21 34.7 -0.6**
	baz=204,SNR=11							
SPCR	**Spurr Chakacha**	**83.20**	**12**	P		**P**		**01 21 34.7 -0.5**
	baz=204,SNR=9.3							
SPU	**Mount Spurr**	**83.21**	**12**	P		**P**		**01 21 34.7 -0.6**
KNB	**Kanab**	**83.32**	**47**	IAmb		IAmb		01 21 40.8
	comp=Z,63nm,1.5s							
SPR3	**Spring Creek 3**	**83.33**	**45**	IAmb		IAmb		01 21 39.9
	comp=Z,36nm,1.5s							
U15A	**North Rim**	**83.39**	**48**	IAmb		IAmb		01 21 41.3
	comp=Z,66nm,1.3s							
D05A	**Enumclaw**	**83.40**	**35**	P		**P**		**01 21 37.9 +1.

GO10 IAmb IAmb 01 21 43.9
comp=Z,120nm,1.2s
KNK Knik Glacier 84.19 14 IAmb IAmb 01 21 41.8
comp=Z,45nm,0.8s
KNK Knik Glacier 84.19 14 P **P 01 21 40.0 -0.1**
baz=208,SNR=15
PMR Palmer 84.20 13 P **P 01 21 40.0 0.0**
baz=207,SNR=18
HAWA Hanford 84.27 36 IAmb IAmb 01 21 43.9
comp=Z,82nm,1.5s
MTPU Mount Pierson 84.28 46 P **P 01 21 42.7 +1.2**
PSI Prapat 84.42 275 P **P 01 21 41.9 -0.5**
comp=Z,39nm,0.9s,baz=142,slow=12,SNR=26
comp=Z,39nm,0.9s
V35K Ketchikan 84.42 25 P **P 01 21 42.2 +1.0**
baz=223
U33K Whale Pass 84.43 23 P **P 01 21 42.4 +1.2**
baz=222
ANM Nome 84.51 5 P **P 01 21 42.9 +1.4**
baz=192
SML Sawmill 84.57 14 IAmb IAmb 01 21 43.7
comp=Z,25nm,0.6s
SML Sawmill 84.57 14 P **P 01 21 42.0 +0.1**
baz=208,SNR=9.5
W18A Petrified Fore 84.57 50 P **P 01 21 43.9 +1.2**
baz=241
DIV Divide 84.57 15 IAmb IAmb 01 21 43.7
comp=Z,47nm,0.8s
E08A Dider Farm, El 84.59 36 P **P 01 21 43.0 +0.7**
E08A IAmb IAmb 01 21 45.3
comp=Z,24nm,0.8s
CUT Chulitna 84.69 13 P **P 01 21 42.2 -0.2**
baz=206,SNR=8.2
M23K Glacier View 84.69 14 P **P 01 21 42.5 +0.1**
baz=208,SNR=9.2
BMRM Bremner River 84.72 16 IAmb IAmb 01 21 44.6
comp=Z,61nm,0.8s
BMRM Bremner River 84.72 16 P **P 01 21 43.2 +0.5**
baz=211,SNR=15
WAX Waxell Ridge 84.74 17 IAmb IAmb 01 21 45.1
comp=Z,52nm,0.7s
PPLA Purkeypile 84.75 12 P **P 01 21 41.8 -1.1**
PPLA Purkeypile 84.75 12 P **P 01 21 41.6 -1.3**
baz=204
MESA MESA 84.76 17 P **P 01 21 43.1 0.0**
baz=214
121A Cookes Peak, D 84.80 53 P **P 01 21 46.4 +2.5**
baz=243
121A Cookes Peak, D 84.80 53 P **P 01 21 45.5 +1.6**
baz=243
SCM Sheep Creek Mo 84.81 14 P **P 01 21 43.2 0.0**
baz=209,SNR=30
ZAIG Zacatecas 84.83 64 P **P 01 21 45.7 +1.3**
K20K Telida 84.84 11 P **P 01 21 43.5 +0.4**
baz=203,SNR=30
KLU Klutina 84.85 15 IAmb IAmb 01 21 45.2
comp=Z,59nm,1.4s
KLU Klutina 84.85 15 P **P 01 21 43.7 +0.3**
baz=210,SNR=8.3
S32K Killisnoo 84.92 22 P **P 01 21 44.5 +0.9**
baz=220
WRAK Wrangell Islan 84.94 24 P **P 01 21 45.1 +1.3**
baz=222
DUG Dugway, Tooele 84.95 44 P **P 01 21 44.8 +0.4**
baz=239
HNS HongShan 84.98 312 ⇓P **P 01 21 45.8 +1.4**
HNS pP **pwP 01 23 52.9 +0.7**
HNS sS **sS 01 35 04.3 -3.0**
HNS pmax pmax
comp=Z,79nm,1.4s
TSI Tuntungan 85.00 275 P **P 01 21 47.2 +2.1**
comp=Z,87nm,1.1s
D08A Wollman Farm, 85.00 36 IAmb IAmb 01 21 47.3
comp=Z,32nm,1.0s
ISLE Juniper Island 85.01 17 IAmb IAmb 01 21 45.3
comp=Z,44nm,1.0s
PNL Peninsula 85.08 19 P **P 01 21 45.1 +0.7**
baz=216
E09A Wood Farm, Sta 85.12 37 IAmb IAmb 01 21 48.4
comp=Z,42nm,1.2s
PINM Pinnacle 85.18 18 P **P 01 21 45.2 +0.3**
baz=215
GSI Gunungsitoli 85.19 273 P **P 01 21 46.0 -0.1**
GSI Gunungsitoli 85.19 273 P **P 01 21 48.2 +2.2**
comp=Z,147nm,1.2s
LYN LuoYang 85.22 309 ⇓*i*P **P 01 21 46.3 +0.6**
LYN pP pwP 01 23 52.8 -0.7
LYN PP **PP 01 25 11.3 -3.4**
LYN SKS **SKSac 01 31 13.6 -1.7**
LYN S **S 01 31 27.9 -0.1**
LYN pmax pmax
comp=Z,80nm,1.2s
LYN pmax pmax
comp=Z,550nm,4.4s
CAST Castle Rocks 85.25 11 IAmb IAmb 01 21 45.7
comp=Z,40nm,0.7s
CAST Castle Rocks 85.25 11 P **P 01 21 44.1 -1.0**
baz=204,SNR=50
N25K Chitina, Valde 85.27 15 IAmb IAmb 01 21 47.4
comp=Z,46nm,0.8s
N25K Chitina, Valde 85.27 15 P **P 01 21 46.0 +0.6**
baz=211,SNR=17
BJT Baijiatuau 85.29 315 P **P 01 21 46.0 +0.1**
BJT IAmb IAmb 01 21 48.3
comp=Z,53nm,0.9s
BJT Baijiatuau 85.29 315 P **P 01 21 46.0 +0.1**
BJT pmax pmax
comp=Z,53nm,0.9s
BJI Beijing 85.29 315 P **P 01 21 46.8 +0.9**
BJI pP **pwP 01 23 53.8 -0.1**
BJI sP **sP 01 24 48.8 -0.2**
BJI pmax pmax
comp=Z,55nm,1.3s
BJI pmax pmax
comp=Z,590nm,3.5s
M24K Tolsona, Glenn 85.32 14 P **P 01 21 45.6 0.0**
baz=210,SNR=8.9
GLB Gilahina Butte 85.33 16 IAmb IAmb 01 21 47.5
comp=Z,43nm,0.9s
F10A Beach Ranch, E 85.33 38 IAmb IAmb 01 21 49.2
comp=Z,109nm,1.4s
MG02 Cerro Sombrero 85.33 145 P **P 01 21 46.4 +0.5**
WAT6 Susitna Watana 85.38 14 P **P 01 21 46.0 0.0**
baz=208
Q16A Castle Valley 85.40 46 IAmb IAmb 01 21 50.3
comp=Z,68nm,1.9s
WAT1 Susitna Watana 85.43 13 P **P 01 21 46.2 +0.1**
baz=208
MCARA McCarthy VSAT 85.48 16 IAmb IAmb 01 21 49.1
comp=Z,81nm,1.6s
MCARA McCarthy VSAT 85.48 16 P **P 01 21 46.7 +0.4**
baz=213,SNR=5.3
B08A Colville Reser 85.54 35 IAmb IAmb 01 21 49.1
comp=Z,27nm,1.0s
PLID Pearl Lake 85.56 39 IAmb IAmb 01 21 49.9
comp=Z,68nm,1.4s
SEY Seymchan 85.56 347 P **P 01 21 46.8 +0.2**
comp=Z,50nm,0.6s,baz=148,slow=5.3,SNR=75
SEY pP **pP 01 23 53.8 +1.8**
comp=Z,6.8nm,1.0s,baz=122,slow=9.4,SNR=2.7
comp=Z,50nm,0.6s
P29M Windy Craggy 85.56 19 P **P 01 21 47.4 +0.7**
P29M IAmb IAmb 01 21 49.5
comp=Z,105nm,1.5s
P29M Windy Craggy 85.56 19 P **P 01 21 48.1 +1.3**
baz=218,SNR=8.2
LOGN Logan Glacier 85.56 17 IAmb IAmb 01 21 49.0
comp=Z,140nm,1.8s
TMUT Trail Mountain 85.56 46 IAmb IAmb 01 21 50.9
comp=Z,55nm,1.5s
ENH Enshi 85.57 304 P **P 01 21 48.1 +0.6**
CTG Chitna Glacier 85.58 17 P **P 01 21 47.3 +0.3**
baz=214
CTGM Chitina Glacie 85.59 17 IAmb IAmb 01 21 49.2
comp=Z,44nm,0.9s
J20K Nowinta River 85.59 10 P **P 01 21 47.1 +0.4**
baz=202,SNR=39
JIS Juneau Island 85.60 21 IAmb IAmb 01 21 49.4
comp=Z,70nm,1.6s
TRF Thorofare Moun 85.62 12 IAmb IAmb 01 21 48.9
comp=Z,61nm,0.8s
TRF Thorofare Moun 85.62 12 P **P 01 21 46.7 -0.4**
baz=206,SNR=41
CHUM Lake Minchumin 85.63 11 P **P 01 21 46.5 -0.5**
baz=204,SNR=30
HLID Hailey 85.69 41 P **P 01 21 49.6 +1.6**
baz=238,SNR=31

GCSA Galena City Sc 85.69 9 P **P 01 21 47.7 +0.5**
baz=200
O28M Mount Upton 85.75 18 P **P 01 21 48.8 +0.8**
baz=215,SNR=8.5
SRIT Nakonsritamara 85.78 281 P **P 01 21 50.4 +1.6**
HVU Hansel Valley 85.78 43 IAmb IAmb 01 21 53.5
comp=Z,56nm,1.8s
C09A Chrisman Ranch 85.79 36 IAmb IAmb 01 21 50.6
comp=Z,60nm,1.4s
HARP HAARP 85.82 15 P **P 01 21 48.4 +0.5**
baz=211,SNR=5.5
O29M Mount Kennedy 85.84 18 P **P 01 21 49.2 +1.0**
baz=217,SNR=5.9
PLBC Pleasant Camp 85.85 20 P **P 01 21 49.1 +1.0**
baz=219,SNR=7.2
DHY Denali Highway 85.90 13 P **P 01 21 48.5 +0.1**
DHY IAmb IAmb 01 21 50.8
comp=Z,76nm,1.4s
DHY Denali Highway 85.90 13 P **P 01 21 48.5 +0.1**
baz=209,SNR=20
CTU Camp Tracy 85.90 44 IAmb IAmb 01 21 53.9
comp=Z,42nm,1.8s
P17A Butcher Ranch, 85.97 46 IAmb IAmb 01 21 52.5
comp=Z,38nm,1.6s
BPAW Bear Paw Mtn. 86.08 12 IAmb IAmb 01 21 49.6
comp=Z,74nm,1.7s
BPAW Bear Paw Mtn. 86.08 12 P **P 01 21 48.0 -1.1**
baz=205,SNR=13
T35M Bob Quinn 86.15 24 P **P 01 21 50.2 +0.6**
baz=224
MCK McKinley 86.15 13 IAmb IAmb 01 21 52.9
comp=Z,52nm,0.9s
MCK McKinley 86.15 13 P **P 01 21 49.4 -0.1**
baz=207,SNR=26
P30M Million Dollar 86.19 19 P **P 01 21 51.1 +1.4**
baz=218
SKAG Skagway 86.19 20 P **P 01 21 51.1 +1.5**
baz=220,SNR=8.2
GYA Guiyang 86.23 300 ⇑*i*P **P 01 21 52.3 +1.4**
GYA SKS **SKSac 01 31 21.6 -0.5**
GYA S **SKKSac 01 31 35.1 +2.9**
GYA pmax pmax
comp=Z,42nm,1.1s
PAX Paxson 86.23 14 IAmb IAmb 01 21 51.4
comp=Z,68nm,1.5s
PAX Paxson 86.23 14 P **P 01 21 49.5 -0.4**
baz=210,SNR=13
TLIG Tlapa 86.29 70 P **P 01 21 52.2 +0.9**
TCUT Toone Canyon 86.33 44 IAmb IAmb 01 21 55.0
comp=Z,90nm,1.7s
M26K Nabesna, AK 86.35 16 IAmb IAmb 01 21 53.5
comp=Z,112nm,1.6s
M26K Nabesna, AK 86.35 16 P **P 01 21 51.0 +0.6**
baz=213,SNR=18
YUK6 Outpost Mounta 86.41 18 P **P 01 21 51.7 +0.7**
baz=217,SNR=6.5
MVCO Mesa Verde 86.43 49 P **P 01 21 52.6 +0.9**
baz=242
S34M Telegraph Cree 86.49 23 P **P 01 21 52.5 +1.4**
baz=224
YUK3 Moose Creek 86.49 17 P **P 01 21 52.2 +0.8**
baz=215,SNR=29
HYT Haines Junctio 86.58 19 P **P 01 21 52.7 +1.0**
baz=218,SNR=7.7
M27K Edge Creek, AK 86.60 16 P **P 01 21 52.8 +1.1**
baz=218,SNR=25
TX31 Lajitas Ar. Si 86.60 57 IAmb IAmb 01 21 56.9
comp=Z,79nm,1.1s
TX31 Lajitas Ar. Si 86.60 57 P **P 01 21 54.0 +1.5**
baz=245
TX32 Lajitas Array 86.60 57 IAmb IAmb 01 21 56.9
comp=Z,29nm,1.1s
TXAR Lajitas Array 86.60 57 P **P 01 21 54.3 +1.8**
comp=Z,11nm,0.9s,baz=218,slow=6.5,SNR=112
comp=Z,11nm,0.9s
TXAR Lajitas Array 86.60 57 P **P 01 21 53.9 +1.4**
MENT Mentasta 86.62 15 IAmb IAmb 01 21 53.9
comp=Z,106nm,1.6s
YUK4 Talbot Arm 86.65 18 P **P 01 21 52.9 +0.8**
baz=217
NEW Newport 86.69 36 P **P 01 21 52.6 +0.2**
comp=Z,4.9nm,0.7s,baz=255,slow=5.1,SNR=11
comp=Z,4.9nm,0.7s
NEW Newport 86.69 36 P **P 01 21 53.4 +1.1**
baz=236,SNR=7.0
TIY Taiyuan 86.72 312 *e*P **P 01 21 53.9 +1.1**
TIY pP **pP 01 23 56.1 -2.1**
TIY SKS **SKSac 01 31 25.8 +1.4**
TIY S **S 01 31 44.6 +2.5**
TIY sS **sS 01 35 21.8 -3.4**
TIY pmax pmax
comp=Z,50nm,0.5s
L26K Log Cabin Wild 86.79 15 IAmb IAmb 01 21 54.8
comp=Z,77nm,1.6s
L26K Log Cabin Wild 86.79 15 P **P 01 21 53.2 +0.7**
baz=212,SNR=12
P32M Atlin 86.82 21 P **P 01 21 53.8 +1.1**
baz=221
Q32M Nakina River 86.85 22 P **P 01 21 54.5 +1.5**
baz=222,SNR=5.4
ANMO Albuquerque 86.88 51 P **P 01 21 54.9 +1.2**
ANMO Albuquerque 86.88 51 *de*P **P 01 21 55.0 +1.2**
ANMO pmax pmax
comp=Z,19nm,1.3s
ANMO Albuquerque 86.88 51 P **P 01 21 54.9 +1.2**
baz=243
ANMO Albuquerque 86.88 51 P **P 01 21 54.8 +1.0**
baz=243
AY01 Puyuhuapi 86.88 136 IAmb IAmb 01 21 55.5
comp=Z,51nm,1.4s
I21K Tanana 86.88 11 IAmb IAmb 01 21 55.1
comp=Z,110nm,1.6s
I21K Tanana 86.88 11 P **P 01 21 52.9 +0.1**
baz=204,SNR=32
K24K Donelly Dome 86.89 14 P **P 01 21 53.3 +0.3**
baz=210,SNR=18
NEA2 Nenana 86.89 12 IAmb IAmb 01 21 53.8
comp=Z,23nm,0.7s
NEA2 Nenana 86.89 12 P **P 01 21 52.2 -0.7**
baz=207,SNR=23
ZEA Zeya 86.89 331 *e*P **P 01 21 54.2 +1.1**
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,40nm,0.9s
PV07 Paradox Valley 86.90 47 IAmb IAmb 01 21 57.3
comp=Z,59nm,2.0s
BVCY Beaver Creek 86.91 16 P **P 01 21 53.6 +0.5**
baz=215
O30N Mendenhall 86.96 19 P **P 01 21 54.1 +0.7**
baz=219,SNR=18
MLY Manley 86.97 11 IAmb IAmb 01 21 53.3
comp=Z,22nm,0.7s
MLY Manley 86.97 11 P **P 01 21 52.7 -0.6**
baz=206,SNR=39
RIDG Independent Ri 87.04 14 P **P 01 21 53.9 +0.2**
RIDG IAmb IAmb 01 21 56.3
comp=Z,73nm,1.3s
RIDG Independent Ri 87.04 14 P **P 01 21 53.8 +0.1**
baz=211,SNR=16
LHMI Lhok Sumawe 87.10 277 P **P 01 21 58.4 +3.4**
comp=Z,5µmcomp=Z,146nm,1.0s
DOT Dot Lake 87.15 14 IAmb IAmb 01 21 56.0
comp=Z,76nm,1.4s
HDA Harding Lake 87.16 13 P **P 01 21 53.8 -0.4**
baz=209,SNR=90
H21K Melozitna Rive 87.18 10 IAmb IAmb 01 21 56.3
comp=Z,37nm,0.8s
H21K Melozitna Rive 87.18 10 P **P 01 21 54.8 +0.6**
baz=204,SNR=31
L27K Beaver Creek, 87.20 16 IAmb IAmb 01 21 56.5
comp=Z,78nm,1.6s
L27K Beaver Creek, 87.20 16 P **P 01 21 55.0 +0.6**
baz=214,SNR=22
N30M Aishikik Lake 87.20 18 P **P 01 21 54.7 +0.2**
baz=218,SNR=6.9
WHY Whitehorse 87.26 20 IAmb IAmb 01 21 57.4
comp=Z,53nm,1.4s
WHY Whitehorse 87.26 20 P **P 01 21 55.6 +0.7**
baz=220,SNR=7.1
DLBC Dease Lake 87.27 23 P **P 01 21 55.7 +0.8**
DLBC comp=Z,10nm,0.7s,baz=239,slow=4.5,SNR=15
pP **pP 01 24 01.7 +1.4**
comp=Z,4.3nm,1.2s,baz=239,slow=18,SNR=1.8
comp=Z,10nm,0.7s
DLBC Dease Lake 87.27 23 P **P 01 21 55.7 +0.8**
DLBC IAmb IAmb 01 21 57.8
comp=Z,26nm,1.0s

DLBC Dease Lake 87.27 23 P **P 01 21 55.9 +1.0**
baz=224,SNR=7.8
MLSI Meulaboh, Aceh 87.28 275 P **P 01 21 57.4 +1.5**
XLT XiLinHaoTe 87.31 319 ⇓*i*P **P 01 21 54.9 -0.6**
XLT PP **PP 01 25 28.1 -3.1**
XLT SKS **SKSac 01 31 26.0 -1.7**
XLT S **ScS 01 31 51.1 -0.7**
XLT pmax pmax
comp=Z,50nm,1.3s
XLT pmax pmax
comp=Z,430nm,4.2s
AHID Auburn Hatcher 87.36 43 IAmb IAmb 01 21 59.5
comp=Z,62nm,1.6s
TCOL CIGO, UAF Yank 87.38 12 P **P 01 21 55.1 0.0**
baz=208
COLA College 87.38 12 *d i*P **P 01 21 54.8 -0.3**
COLA pmax pmax
comp=Z,49nm,0.9s
COLA College 87.38 12 P **P 01 21 55.1 0.0**
baz=208
SCRK Sand Creek 87.44 14 IAmb IAmb 01 21 57.7
comp=Z,128nm,1.9s
SCRK Sand Creek 87.44 14 P **P 01 21 56.1 +0.4**
baz=212,SNR=18
ILAR Eielson Array 87.49 13 P **P 01 21 55.4 -0.4**
comp=Z,14nm,0.6s,baz=218,slow=6.0,SNR=194
ILAR pP **pwP 01 24 02.9 -1.5**
comp=Z,24nm,1.1s,baz=224,slow=5.5,SNR=22
comp=Z,14nm,0.6s
M29M Somme Creek 87.59 17 P **P 01 21 56.8 +0.5**
baz=217,SNR=33
P33M Teslin, Yukon 87.59 21 P **P 01 21 56.8 +0.4**
baz=222
N31M Braeburn, Yuko 87.61 19 IAmb IAmb 01 21 59.6
comp=Z,34nm,1.1s
N31M Braeburn, Yuko 87.61 19 P **P 01 21 57.2 +0.8**
baz=219,SNR=8.3
R33M Jennings River 87.62 22 P **P 01 21 57.7 +1.1**
baz=224,SNR=11
H22K Ishtalitna Cre 87.64 11 P **P 01 21 56.5 +0.1**
baz=205,SNR=64
J25K Salcha River, 87.68 13 IAmb IAmb 01 21 58.3
comp=Z,35nm,0.7s
J25K Salcha River, 87.68 13 P **P 01 21 56.6 -0.1**
baz=211,SNR=48
POKR Poker Plat Res 87.68 12 IAmb IAmb 01 21 57.7
comp=Z,64nm,1.1s
POKR Poker Plat Res 87.68 12 P **P 01 21 56.0 -0.6**
baz=209,SNR=14
MSO Missoula 87.70 38 P **P 01 21 57.5 +0.2**
baz=238,SNR=12
CLN7 Carlsbad 7 87.77 55 P **P 01 21 58.4 +0.5**
REDW Red Top Meadow 87.81 42 IAmb IAmb 01 22 01.7
comp=Z,53nm,1.2s
TPAW Teton Pass 87.81 42 IAmb IAmb 01 22 01.9
comp=Z,23nm,1.0s
FXWY Fox Creek 87.83 42 IAmb IAmb 01 22 02.1
comp=Z,26nm,1.2s
G21K Allakaket 87.86 10 P **P 01 21 57.6 +0.3**
baz=203,SNR=38
S22A 4UR Ranch, Cre 87.86 49 P **P 01 21 59.3 +0.8**
baz=243,SNR=18
H23K Yukon River 87.90 11 P **P 01 21 57.1 -0.6**
baz=207,SNR=10
SNOW Snow King Moun 87.92 42 P **P 01 21 59.4 +0.8**
SNOW IAmb IAmb 01 22 02.4
comp=Z,37nm,1.1s
LL02 Futaleuf 87.92 135 P **P 01 21 59.5 +1.1**
LL02 IAmb IAmb 01 22 01.3
comp=Z,74nm,1.3s
K27K Chicken 87.94 15 P **P 01 21 58.9 +1.0**
baz=214
O20A White River Ci 87.97 46 IAmb IAmb 01 22 02.3
comp=Z,21nm,1.1s
O20A White River Ci 87.97 46 P **P 01 21 59.6 +0.8**
baz=242,SNR=9.7
J26L Joseph Creek 87.99 14 P **P 01 21 59.1 +1.0**
baz=212,SNR=64
HIA Hailar 88.01 325 P **P 01 21 58.6 +0.1**
HIA IAmb IAmb 01 22 00.5
comp=Z,26nm,1.0s
HIA Hailar 88.01 325 *d i*P **P 01 21 58.8 +0.3**
HIA pmax pmax
comp=Z,19nm,1.0s
IMW Indian Meadow 88.02 42 IAmb IAmb 01 22 02.9
comp=Z,40nm,1.1s
LOHW Long Hollow 88.09 42 IAmb IAmb 01 22 02.1
comp=Z,67nm,1.6s
RDOG Red Dog Mine 88.15 6 P **P 01 21 59.4 +0.7**
baz=194
BILL Bilibino 88.20 354 P **P 01 22 00.2 +1.3**
BILL Bilibino 88.20 354 ⇓*e*P **P 01 22 00.3 +1.3**
BILL *e**PP **pP 01 24 05.5 +0.7**
BILL *e**SP **sP 01 25 01.6 -1.4**
BILL pmax pmax
comp=Z,11nm,0.6s
N32M Quiet Lake 88.21 20 P **P 01 21 59.9 +0.7**
baz=222
L29M L29M 88.21 17 P **P 01 22 00.2 +1.0**
baz=217,SNR=46
H24K Noodor Dome 88.23 12 P **P 01 21 58.0 -1.2**
baz=208,SNR=12
YHB Horse Butte 88.28 41 IAmb IAmb 01 22 04.5
comp=Z,60nm,1.3s
BW06 Boulder Array 88.35 43 IAmb IAmb 01 22 03.6
comp=Z,38nm,1.4s
BW06 Boulder Array 88.35 43 P **P 01 22 01.0 +0.4**
baz=241,SNR=16
PD31 Pinedale Array 88.35 43 IAmb IAmb 01 22 03.6
comp=Z,34nm,1.4s
PDAR Pinedale Array 88.35 43 P **P 01 22 01.2 +0.7**
comp=Z,7.5nm,0.6s,baz=212,slow=2.8,SNR=70
PDAR PKKP **PKKPbc 01 39 40.4 -0.8**
comp=Z,0.5nm,0.4s,baz=64,slow=2.1,SNR=4.4
comp=Z,7.5nm,0.6s
PDAR Pinedale Array 88.35 43 P **P 01 22 01.1 +0.6**
YFT Old Faithful 88.36 41 IAmb IAmb 01 22 05.5
comp=Z,44nm,1.2s
SMCO Snowmass 88.40 47 P **P 01 22 01.9 +0.8**
PRP Porcupine Dome 88.43 13 IAmb IAmb 01 22 01.6
comp=Z,78nm,1.5s
PRP Porcupine Dome 88.43 13 P **P 01 21 60.0 -0.3**
baz=210,SNR=27
BOZ Bozeman (W) 88.44 40 IAmb IAmb 01 22 04.5
comp=Z,69nm,1.4s
BOZ Bozeman (W) 88.44 40 P **P 01 22 02.2 +1.4**
baz=240,SNR=42
H17A Grant Village 88.49 41 P **P 01 22 03.3 +2.1**
baz=240,SNR=8.4
LL04 Puerto Octay 88.50 133 IAmb IAmb 01 22 03.5
comp=Z,79nm,1.5s
F21K Alatna River 88.51 9 P **P 01 22 00.3 -0.2**
baz=203,SNR=19
YHH Holmes Hill 88.52 41 IAmb IAmb 01 22 06.6
comp=Z,28nm,1.2s
G22K Bettles 88.55 10 P **P 01 22 01.2 +0.7**
baz=205
TROLL Troll, Antarti 88.57 180 P **P 01 22 00.9 -0.1**
TROLL Troll, Antarti 88.57 180 pP pP 01 24 07.6 +0.8
YNR Norris Junctio 88.58 41 IAmb IAmb 01 22 07.2
comp=Z,31nm,1.2s
M31M Drury Creek, Y 88.59 19 IAmb IAmb 01 22 03.5
comp=Z,30nm,1.4s
M31M Drury Creek, Y 88.59 19 P **P 01 22 00.9 0.0**
baz=220,SNR=8.0
G23K Bananza Creek 88.61 11 P **P 01 22 01.4 +0.4**
baz=206,SNR=19
DAWY Dawson 88.65 16 IAmb IAmb 01 22 04.0
comp=Z,46nm,1.1s
DAWY Dawson 88.65 16 P **P 01 22 01.9 +0.7**
baz=216,SNR=41
HHC Hu-ho-hao-te 88.77 314 *e*P **P 01 22 03.5 +1.1**
HHC SKS **SKSac 01 31 37.6 +1.1**
HHC S **ScS 01 32 04.5 +0.4**
HHC pmax pmax
comp=Z,92nm,1.5s
HHC pmax pmax
comp=Z,250nm,7.3s
I26K Coal Creek Min 88.77 14 IAmb IAmb 01 22 04.5
comp=Z,51nm,1.1s
I26K Coal Creek Min 88.77 14 P **P 01 22 02.3 +0.7**
baz=213
EGAK Eagle 88.79 15 P **P 01 22 02.4 +0.6**
baz=214,SNR=32
SDCO Great Sand Dun 88.80 49 P **P 01 22 03.7 +0.8**
baz=244
SDCO Great Sand Dun 88.80 49 P **P 01 22 03.4 +0.5**

baz=244
SNAA Sanae 88.85 178 P P 01 22 01.8 -0.4
SNAA Sanae 88.85 178 pP pP 01 24 07.1 -0.8
SNAA Sanae 88.85 178 P P 01 22 01.5 -0.7
comp=Z,11nm,0.7s,baz=205,slow=7.2,SNR=76
comp=Z,11nm,0.7s
SNAA Sanae 88.85 178 P P 01 22 01.9 -0.4
SNAA IAmb IAmb 01 22 03.3
comp=Z,27nm,1.0s
SNAA Sanae 88.85 178*c i*P **P 01 22 01.9 -0.4**
SNAA pmax pmax
comp=Z,58nm,1.7s
WALA Waterton Lakes 88.90 36 IAmb IAmb 01 22 06.0
comp=Z,18nm,1.1s
FARO Faro, Yukon 88.93 19 IAmb IAmb 01 22 04.5
comp=Z,15nm,1.0s
FARO Faro, Yukon 88.93 19 P P 01 22 03.1 +0.6
baz=221,SNR=7.4
K29M Barlow Dome 88.97 17 P P 01 22 03.9 +1.1
baz=218,SNR=35
KMI Kunming 88.97 297 ⇓P **P 01 22 05.6 +1.8**
KMI SKS **SKSac 01 31 38.8 +0.2**
KMI S **ScS 01 32 06.8 +0.1**
KMI pmax pmax
comp=Z,75nm,1.3s
KMI pmax pmax
comp=Z,280nm,3.5s
F22K John River 88.98 10 P P 01 22 03.0 +0.4
baz=204
VNA3 Neumayer Olymp 88.98 176 P P 01 22 02.5 -0.3
VNA3 Neumayer Olymp 88.98 176 pP pP 01 24 09.2 +0.7
H25K Birch Creek 89.02 12 P P 01 22 02.6 -0.1
baz=210
COLD Coldfoot 89.05 10 P P 01 22 03.9 +1.0
baz=206,SNR=24
G24K Hadweenzic Riv 89.07 12 P P 01 22 02.9 -0.1
baz=209,SNR=9.3
CRAI Chiangrai 89.20 292 P P 01 22 05.7 +0.9
CRAI IAmb IAmb 01 22 07.6
comp=Z,37nm,1.0s
MSTX Muleshoe 89.21 53 IAmb IAmb 01 22 07.8
comp=Z,43nm,1.4s
MSTX Muleshoe 89.21 53 P P 01 22 05.4 +0.8
baz=246
MSTX Muleshoe 89.21 53 P P 01 22 05.4 +0.8
baz=246
MAYO Mayo, Yukon 89.22 17 P P 01 22 05.1 +1.3
baz=219,SNR=8.6
J29M Klondike Camp 89.27 16 P P 01 22 05.5 +1.4
baz=217
T25A Trinidad 89.32 50 P P 01 22 05.7 +0.6
baz=245
I27K Kandik River 89.37 14 P P 01 22 04.6 +0.1
baz=214,SNR=18
RWWY Rawlins 89.38 45 IAmb IAmb 01 22 07.5
comp=Z,39nm,1.2s
FYU Fort Yukon 89.40 13 IAmb IAmb 01 22 05.7
comp=Z,14nm,0.6s
VNA2 Neumayer--Watz 89.42 177 P P 01 22 04.8 0.0
baz=186,slow=5.0
VNA2 Neumayer--Watz 89.42 177 pP pP 01 24 11.9 +1.1
baz=184,slow=4.0
NVL N'lazarevskaya 89.56 183⇑*i*P **P 01 22 05.6 +0.2**
NVL *e**PP **pwP 01 24 15.1 +0.9**
NVL *e*S **SKSac 01 31 38.4 -1.6**
NVL pmax pmax
comp=Z,58nm,0.7s
Q24A Divide 89.58 48 IAmb IAmb 01 22 10.1
comp=Z,34nm,1.7s
Q24A Divide 89.58 48 P P 01 22 08.0 +1.6
baz=244
E22K Anaktuvuk Pass 89.61 10 P P 01 22 06.0 +0.4
baz=205
ISCO Idaho Springs 89.62 47 P P 01 22 07.6 +1.0
ISCO Idaho Springs 89.62 47 P P 01 22 07.6 +1.0
ISCO pmax pmax
comp=Z,18nm,1.7s
ISCO Idaho Springs 89.62 47 P P 01 22 07.8 +1.2
baz=244
ISCO Idaho Springs 89.62 47 P P 01 22 07.7 +1.1
baz=244,SNR=5.7
833A Chaparral WMA, 89.63 60 IAmb IAmb 01 22 10.1
comp=Z,30nm,1.3s
833A Chaparral WMA, 89.63 60 P P 01 22 07.0 +0.5
baz=247
833A Chaparral WMA, 89.63 60 P P 01 22 07.9 +1.4
baz=247
VNA1 Neumayer--Stat 89.65 177 P P 01 22 06.0 +0.2
VNA1 Neumayer--Stat 89.65 177 pP pP 01 24 11.3 -0.5
RLMT Red Lodge 89.66 41 IAmb IAmb 01 22 10.4
comp=Z,31nm,1.4s
RLMT Red Lodge 89.66 41 P P 01 22 08.1 +1.6
baz=241
BTO Baotou 89.70 314 *e*P **P 01 22 08.5 +1.8**
GO06 Curarrehue 89.71 132 IAmb IAmb 01 22 09.4
comp=Z,58nm,1.4s
F24K Squaw Lake 89.72 11 P P 01 22 06.7 +0.6
baz=208,SNR=21
CMAR Chiang Mai Arr 89.83 290 P P 01 22 09.1 +1.4
comp=Z,34nm,0.9s,baz=114,slow=2.8,SNR=112
comp=Z,34nm,0.9s
CMAR Chiang Mai Arr 89.83 290 P P 01 22 08.2 +0.6
CMAR Chiang Mai Arr 89.83 290 *i* P **P 01 22 09.5 +1.8**
CMAR pmax pmax
comp=Z,36nm,0.9s
PLCA Paso Flores 89.85 134 P P 01 22 08.5 +1.0
comp=Z,11nm,0.9s,baz=246,slow=5.5,SNR=20
PLCA pP **pwP 01 24 15.2 -1.5**
comp=Z,3.5nm,1.0s,baz=246,slow=4.6,SNR=5.7
comp=Z,11nm,0.9s
PLCA Paso Flores 89.85 134 P P 01 22 08.3 +0.8
PLCA IAmb IAmb 01 22 10.2
comp=Z,52nm,1.4s
MMPY Sheldon Lake, 89.87 20 P P 01 22 08.1 +1.2
baz=223,SNR=14
N23A Red Feather La 89.88 46 IAmb IAmb 01 22 11.4
comp=Z,17nm,1.0s
N23A Red Feather La 89.88 46 P P 01 22 09.1 +1.3
baz=244,SNR=12
E23K Chandalar 89.90 10 P P 01 22 07.5 +0.6
baz=207,SNR=20
H27K Steamboat Moun 89.91 14 P P 01 22 07.8 +0.8
baz=214,SNR=22
CHTO Chiang Mai 89.96 290 P P 01 22 09.8 +1.5
CHTO Chiang Mai 89.96 290 P P 01 22 09.8 +1.5
CHTO pmax pmax
comp=Z,193nm,1.7s
I29M Ogilvie Camp, 89.97 16 P P 01 22 07.5 +0.2
baz=217,SNR=22
G26K Porcupine Rive 90.02 13 P P 01 22 08.3 +0.9
baz=212,SNR=32
TGTN Hyland Airport 90.08 21 P P 01 22 08.8 +0.9
baz=226,SNR=8.6
E24K Your Creek 90.10 11 P P 01 22 08.6 +0.7
baz=208
JCT Junction City 90.13 58 P P 01 22 10.0 +1.1
baz=247
JCT Junction City 90.13 58 P P 01 22 09.0 +0.1
baz=247
F25K Christian Rive 90.20 12 P P 01 22 09.3 +1.0
baz=210,SNR=10
BMAR Burnt Mountain 90.27 12 P P 01 22 08.7 +0.1
K22A Casper 90.27 44 IAmb IAmb 01 22 12.6
comp=Z,21nm,1.1s
K22A Casper 90.27 44 P P 01 22 10.3 +0.9
baz=243
K22A Casper 90.27 44 P P 01 22 10.4 +1.0
baz=243,SNR=8.7
PZH PanZhiHua 90.32 298⇑P **P 01 22 11.4 +1.5**
PZH SKS **SKSac 01 31 44.1 -1.9**
PZH S **ScS 01 32 17.4 -0.3**
PZH pmax pmax
comp=Z,60nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.3s
CD2 Chengdu 90.34 303 *e*P **P 01 22 11.0 +1.2**
G27K Doyon Strip 90.36 14 P **P 01 22 09.7 +0.7**
baz=214,SNR=12
PHWY Pilot Hill 90.39 46 IAmb IAmb 01 22 12.5
comp=Z,11nm,0.8s
AMTX Amarillo 90.40 53 IAmb IAmb 01 22 13.0
comp=Z,25nm,1.4s
AMTX Amarillo 90.40 53 P P 01 22 10.9 +0.8
baz=246
AMTX Amarillo 90.40 53 P P 01 22 10.9 +0.8
baz=246
TOLK Toolik Lake Re 90.43 10 IAmb IAmb 01 22 12.0
comp=Z,64nm,1.5s
TOLK Toolik Lake Re 90.43 10 P P 01 22 09.8 +0.4
baz=207,SNR=7.2
D23K Nanushuk River 90.54 10 P P 01 22 10.6 +0.8
baz=206,SNR=11
F26K Sheenjek River 90.59 12 P P 01 22 11.0 +1.0
baz=212,SNR=11
E25K Arctic Village 90.68 12 P P 01 22 11.3 +0.9
baz=210,SNR=8.1
EGMT Eagleton 90.76 39 IAmb IAmb 01 22 17.3
comp=Z,13nm,0.8s
EGMT Eagleton 90.76 39 P P 01 22 11.8 +0.5
baz=241
D24K Happy Valley 91.01 10 P P 01 22 12.4 +0.5
baz=207
ABTX Abilene, Hawle 91.08 56 IAmb IAmb 01 22 16.4
comp=Z,31nm,1.2s
ABTX Abilene, Hawle 91.08 56 P P 01 22 13.9 +0.7
baz=247
ABTX Abilene, Hawle 91.08 56 P P 01 22 13.6 +0.4
baz=247
EPYK Eagle Plains 91.17 15 P P 01 22 13.2 +0.4
baz=218,SNR=24
YAK Yakutsk 91.33 338 P P 01 22 13.6 +0.1
comp=Z,22nm,0.6s,baz=74,slow=1.9,SNR=7.9
comp=Z,22nm,0.6s
YAK Yakutsk 91.33 338 *e*P **P 01 22 11.9 -1.6**
YAK *e**PP **pP 01 24 16.3 -4.2**
YAK *e* 01 26 00.2
YAK *e*S **SKSac 01 31 46.6 -3.2**
YAK *e* 01 32 21.0
YAK *e*SSS SSS 01 42 28.4
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,50nm,2.0s
YAK pmax pmax
comp=N,36nm,1.7s
YAK smax smax
comp=E,72nm,1.8s
YAK smax smax
comp=N,143nm,2.0s
C23K Itkillik River 91.34 9 P P 01 22 14.3 +0.9
baz=206,SNR=8.4
KSCO Kaye Shedlock' 91.38 49 P P 01 22 14.3 -0.2
baz=246
ML02 Panimavida 91.39 129 P P 01 22 15.7 +1.1
EDM Edmonton 91.40 33 IAmb IAmb 01 22 16.5
comp=Z,46nm,1.5s
E27K Coleen River 91.52 13 P P 01 22 15.2 +0.8
baz=214,SNR=11
C24K Franklin Bluff 91.53 10 P P 01 22 15.2 +0.9
baz=208
D25K Kavik River 91.57 11 P P 01 22 14.7 +0.1
baz=210
EFI East Falkland 91.79 147⇑*e*P **P 01 22 16.8 +0.8**
EFI pmax pmax
comp=Z,28nm,1.1s
A21K Barrow 91.93 7 P P 01 22 17.5 +1.5
baz=200
LZH Lanzhou 92.26 307 *e*P **P 01 22 19.9 +1.2**
LZH pP pwP 01 24 29.1 +1.2
LZH SKS **SKSac 01 31 55.3 -1.2**
LZH S **ScS 01 32 38.1 +4.6**
LZH pmax pmax
comp=Z,61nm,1.3s
LZH pmax pmax
comp=Z,250nm,4.3s
C27K Jago River 92.32 11 P P 01 22 18.1 +0.2
baz=212,SNR=6.8
MT01 Popeta 92.32 127 IAmb IAmb 01 22 20.9
comp=Z,55nm,1.5s
C26K Camden Bay 92.35 11 P P 01 22 19.0 +0.9
baz=211
RSSD Black Hills 92.55 44 P P 01 22 21.4 +1.6
RSSD IAmb IAmb 01 22 22.7
comp=Z,14nm,1.1s
RSSD Black Hills 92.55 44 P P 01 22 21.4 +1.6
RSSD pmax pmax
comp=Z,15nm,1.1s
RSSD Black Hills 92.55 44 P P 01 22 21.7 +1.9
baz=245
RSSD Black Hills 92.55 44 P P 01 22 20.0 +0.1
baz=245
F31M Tsiigehtchic 92.75 16 P P 01 22 19.9 0.0
baz=221,SNR=30
CBKS Cedar Bluff 93.38 50 P P 01 22 24.2 +0.6
baz=248
INK Inuvik 93.46 15 P P 01 22 22.7 -0.4
comp=Z,8.3nm,0.7s,baz=207,slow=3.6,SNR=14
INK pP **pwP 01 24 31.6 -1.1**
comp=Z,1.4nm,0.3s,baz=238,slow=10,SNR=2.1
comp=Z,8.3nm,0.7s
INK Inuvik 93.46 15 IAmb IAmb 01 22 25.2
comp=Z,18nm,1.0s
INK Inuvik 93.46 15 P P 01 22 23.0 -0.2
baz=221,SNR=7.2
FNO Franklin 93.79 54 IAmb IAmb 01 22 30.1
comp=Z,15nm,1.0s
R32A Long Quarter, 93.97 51 P P 01 22 27.2 +1.0
baz=248
DGMT Dagmar 94.28 40 P P 01 22 28.5 +1.1
baz=245
DGMT Dagmar 94.28 40 P P 01 22 28.7 +1.3
baz=245
ULN Ulaanbaatar 94.73 319 P P 01 22 29.7 +0.1
ULN Ulaanbaatar 94.73 319 P P 01 22 29.7 +0.1
ULN pmax pmax
comp=Z,46nm,1.6s
SONM Songino Array 95.12 319 P P 01 22 30.9 -0.4
comp=Z,2.3nm,0.5s,baz=131,slow=4.5,SNR=20
SONM pP **pwP 01 24 40.5 -0.3**
comp=Z,2.5nm,1.1s,baz=133,slow=3.4,SNR=5.2
SONM PP PP 01 26 23.8 -7.8
comp=Z,6.9nm,1.2s,baz=129,slow=5.5,SNR=6.2
comp=Z,2.3nm,0.5s
SONM Songino Array 95.12 319 P P 01 22 31.0 -0.4
SONM IAmb IAmb 01 22 32.7
comp=Z,27nm,1.6s
TUL1 Leonard 95.25 54 P P 01 22 34.2 +2.1
baz=250
BOD Bodaibo 95.36 330 *e*P **P 01 22 31.0 -1.0**
BOD pmax pmax
comp=Z,17nm,1.6s
YKA Yellowknife Ar 95.75 25 P P 01 22 33.4 -0.2
comp=Z,2.6nm,0.6s,baz=242,slow=4.7,SNR=8.2
comp=Z,2.6nm,0.6s
GTA Gaotai 96.44 309⇑P **P 01 22 38.4 +0.9**
GTA PP **PP 01 26 40.3 -1.6**
GTA SKS **SKSac 01 32 16.6 -1.8**
GTA S **ScS 01 33 11.0 +2.8**
GTA pmax pmax
comp=Z,17nm,1.4s
GTA pmax pmax
comp=Z,60nm,4.2s
MDND Maddock 96.86 42 P P 01 22 40.2 +1.2
baz=248
ECSD EROS Data Cent 97.35 46 IAmb IAmb 01 22 43.2
comp=Z,11nm,1.5s
ECSD EROS Data Cent 97.35 46 P P 01 22 41.7 +0.4
baz=250
ECSD EROS Data Cent 97.35 46 P P 01 22 41.6 +0.2
baz=250
TIXI Tiksi 97.93 345 P Pdif 01 22 42.3 -0.9
comp=Z,6.3nm,0.6s,baz=90,slow=20,SNR=3.4
comp=Z,6.3nm,0.6s
ZAK Zakamensk 97.98 321 *e*P Pdif 01 22 42.9 -1.2
ZAK pmax pmax
comp=Z,6.0nm,1.7s
GOMU GeErMu 99.16 305 *e*P **Pdif 01 22 51.8 +1.8**
GOMU SS SS 01 40 39.4 +1.0
GOMU pmax pmax
comp=Z,32nm,4.0s
HOPE Hope Point 99.31 158 *i* P **Pdif 01 22 51.5 +1.6**
LRAL Lakeview Retre 101.26 59 P P Pdif 01 22 59.7 +0.8
baz=254
EYMN Ely 102.05 43 P Pdif 01 23 04.5 +2.3
baz=254
LPAZ La Paz 102.38 112 P Pdif 01 23 06.8 +1.8
comp=Z,0.9nm,0.7s,baz=255,slow=5.6,SNR=2.4
LPAZ PKKPbc **PKKPbc 01 39 03.9 +0.1**
comp=Z,1.2nm,0.5s,baz=53,slow=5.1,SNR=4.2
JIRN Jiri 103.83 295 *e*P **PKiKP 01 27 24.4 -0.7**
PKI Pulchoki 104.48 294 *e*P **PKiKP 01 27 25.5 -0.8**
PKIN Phulchoki 104.49 294 *e*P **PKiKP 01 27 25.3 -0.9**
comp=Z,11nm,0.5s
KKN Kakani 104.64 295 *e*P **PKiKP 01 27 26.4 0.0**
comp=Z,23nm,2.4s
DMN Daman 104.75 294 *e*P **PKiKP 01 27 26.0 -0.7**
comp=Z,11nm,0.6s
KOLN Koldanda 106.08 294 *e*P **PKiKP 01 27 28.1 -1.0**
DANN Dangsing 106.08 295 *e*P **PKiKP 01 27 28.2 -1.0**
comp=Z,18nm,0.6s
PYUN Piuthan 106.68 294 *e*P **PKiKP 01 27 29.3 -0.9**
comp=Z,12nm,0.6s
SIV San Ignacio 108.60 115 PKKPbc PKKPbc 01 38 44.6 +0.1
comp=Z,1.8nm,0.7s,baz=76,slow=5.8,SNR=8.1
NRIK Noril'sk 109.79 338 PKiKP **PKiKP 01 27 33.4 -1.1**
comp=Z,2.0nm,0.5s,baz=56,slow=5.5,SNR=5.3
NRIK PP PP **01 28 13.3 -5.4**
comp=Z,4.3nm,1.0s,baz=103,slow=6.1,SNR=5.2
ZALV Zalesovo Beam 109.84 321 PKiKP **PKiKP 01 27 34.1 -0.9**
comp=Z,4.8nm,0.6s,baz=141,slow=1.0,SNR=24
ZALV PP **PP 01 28 16.6 -2.9**
comp=Z,2.3nm,0.9s,baz=77,slow=6.5,SNR=4.3
MK31 Makanchi Array 110.62 314 *i* PKiKP **PKiKP 01 27 35.8 -1.0**
MKAR Makanchi Array 110.62 314 Pdiff **Pdif 01 23 42.7 +2.4**
comp=Z,0.7nm,0.5s,baz=92,slow=5.8,SNR=9.4
MKAR PKiKP **PKiKP 01 27 35.9 -0.9**
comp=Z,5.0nm,0.6s,baz=158,slow=0.2,SNR=42
MKAR PP PP **01 28 21.7 -3.7**
comp=Z,3.8nm,1.1s,baz=78,slow=7.5,SNR=4.3
MKAR PKKPbc **PKKPbc 01 38 37.9 -0.6**
comp=Z,0.5nm,0.5s,baz=293,slow=1.8,SNR=5.3
MKAR Makanchi Array 110.62 314*c i*PKiKP **PKiKP 01 27 36.0 -0.8**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MAKZ Makanchi 110.83 314 PKiKP **PKiKP 01 27 36.1 -1.1**
KPKS Kokpek 112.78 310 *i* PKiKP **PKiKP 01 27 40.6 -0.5**
KPKS Kokpek 112.78 310 *e*PKiKP **PKiKP 01 27 40.7 -0.5**
baz=310
SATY Saty 112.94 309 *i* PKiKP **PKiKP 01 27 41.5 0.0**
SATY Saty 112.94 309 *e*PKiKP **PKiKP 01 27 41.5 0.0**
baz=309
TDK Taldyqorghan 113.13 311 *i* PKiKP **PKiKP 01 27 41.3 -0.3**
TDK Taldyqorghan 113.13 311 *e*PKiKP **PKiKP 01 27 41.4 -0.3**
baz=311
KURK Kurchatov 113.38 318 *i* PKiKP **PKiKP 01 27 41.4 -0.5**
KURBB Kurchatov Arra 113.43 318 PKiKP **PKiKP 01 27 41.4 -0.6**
comp=Z,5.7nm,0.6s,baz=94,slow=1.8,SNR=33
KURBB PP PP 01 28 36.9 -7.9
comp=Z,2.2nm,0.2s,baz=96,slow=6.2,SNR=6.6
KURBB Kurchatov Arra 113.43 318 PKiKP **PKiKP 01 27 40.9 -1.1**
MDOK Medeo 113.94 309 *i* PKiKP **PKiKP 01 27 43.2 -0.2**
MDOK Medeo 113.94 309 *e*PKiKP **PKiKP 01 27 43.3 -0.2**
baz=309
CHKK Chushkaly 114.05 310 *i* PKiKP PKPdf 01 27 42.6 -0.8
CHKK Chushkaly 114.05 310 *e*PKiKP PKPdf 01 27 42.7 -0.8
baz=310
KSH Kashi 114.41 305 PKP **PKiKP 01 27 44.8 +0.4**
KUU Kurty 114.52 310 *e*PKiKP PKPdf 01 27 43.6 -0.7
KUU Kurty 114.52 310 *e*PKP PKPdf 01 27 43.7 -0.7
baz=310
TKM2 Tokmak 2 114.99 309 PKiKP PKPdf 01 27 44.6 -0.9
SGDS Sogindy 115.72 310 *e*PKiKP **PKPdf 01 27 46.1 -0.6**
SGDS Sogindy 115.72 310 *e*PKP **PKPdf 01 27 46.2 -0.6**
baz=310
BTLS Baital 116.22 311 *e*PKiKP **PKPdf 01 27 47.4 -0.1**
BTLS Baital 116.22 311 *e*PKP **PKPdf 01 27 47.5 -0.1**
baz=311
NEEM North Greenlan 116.75 11 *i* P **PKPdf 01 27 47.2 -0.9**
BRZS Berezniki 117.17 317 *e*PKiKP **PKPdf 01 27 48.4 -0.8**
BRZS Berezniki 117.17 317 *e*PKP **PKPdf 01 27 48.4 -0.8**
baz=317
OTUK Ortayu 117.43 315 PKiKP **PKPdf 01 27 48.8 -1.0**
BTK Batken 118.41 306 PKPdf **PKPdf 01 27 51.9 -0.1**
BTK Batken 118.41 306 PKiKP **PKPdf 01 27 51.9 -0.1**
BVAR Borovoye Array 118.43 320 PKP **PKPdf 01 27 51.0 -0.5**
comp=Z,9.3nm,0.5s,baz=111,slow=1.2,SNR=68
BVAR PP **PP 01 29 12.6 -6.6**
comp=Z,1.2nm,0.8s,baz=103,slow=4.6,SNR=1.8
BRVK Borovoye 118.49 320*c i*PKiKP **PKPdf 01 27 51.4 -0.3**
BRVK pmax pmax
comp=Z,19nm,1.0s
KK31 Karatay Array 118.72 309 PKPdf **PKPdf 01 27 51.8 -0.6**
KK31 Karatay Array 118.72 309 PKiKP **PKPdf 01 27 51.8 -0.6**
KKAR Karatay Array 118.72 309 PKPdf 01 27 51.9 -0.6
KKAR Karatay Array 118.72 309 PKiKP **PKPdf 01 27 51.9 -0.6**
CHM Chimkent 119.38 308 PKiKP PKPdf 01 27 45.4 -8.3
KBL Kabul 119.48 299 PKPdf **PKPdf 01 27 54.3 -0.2**
KBL Kabul 119.48 299 PKiKP **PKPdf 01 27 54.3 -0.2**
BDFB Brasilia 119.59 122 PKP **PKPdf 01 27 54.6 -0.4**
comp=Z,1.8nm,0.5s,baz=168,slow=0.9,SNR=4.3
KBS Kingsbay 120.50 358 *i* P **PKPdf 01 27 51.6 -3.2**
KBS Kingsbay 120.50 358 *e*PKPdf **PKPdf 01 27 51.2 -3.7**
KBS IAmb IAmb 01 27 54.8
comp=Z,44nm,0.9s
ILULI Ilulissat 120.95 19 PKPdf 01 27 55.6 -0.3
ILULI Ilulissat 120.95 19 PKiKP **PKPdf 01 27 55.6 -0.3**
ILULI Ilulissat 120.95 19 *i* P **PKPdf 01 27 54.5 -1.4**
SPA0 Spitsbergen Ar 121.02 357 *e*PKPdf **PKPdf 01 27 55.5 -0.3**
SPA0 IAmb IAmb 01 27 57.3
comp=Z,31nm,1.0s
SPITS Spitsbergen Ar 121.02 357 PKP **PKPdf 01 27 55.6 -0.3**
comp=Z,14nm,0.7s,baz=64,slow=3.4,SNR=20
OPO Ambohidratompo121.62 232 PKP **PKiKP 01 27 59.8 +0.7**
comp=Z,6.0nm,1.0s,baz=90,slow=1.0,SNR=4.7
DAG Danmarks Havn 121.90 5 *i* P **PKPdf 01 27 56.1 -1.5**
SFJD Kangerlussuaq 122.16 22 *i* P **PKPdf 01 27 56.8 -1.4**
SUMG Summit 122.33 13 PKPdf **PKPdf 01 27 59.0 0.0**
SUMG Summit 122.33 13 PKiKP **PKPdf 01 27 59.0 0.0**
SUMG Summit 122.33 13 *i* P **PKPdf 01 27 58.8 -0.3**
NUUK Nuuk 123.00 25 *i* P **PKPdf 01 27 59.5 -0.4**
DY2G Dye2 123.92 21 *i* P **PKPdf 01 28 01.4 -0.6**
ICESG Greenland Ices 124.39 17 *i* P **PKPdf 01 28 02.0 -1.0**
ARU Arti 124.51 326 PKP **PKPdf 01 28 02.9 -0.2**
comp=Z,18nm,0.5s,baz=77,slow=2.1,SNR=21
ARU PP **PP 01 29 53.2 -6.4**
comp=Z,12nm,0.9s,baz=69,slow=6.7,SNR=13
ARU PKKPbc **PKKPbc 01 37 49.1 -0.8**
comp=Z,1.7nm,0.5s,baz=265,slow=3.5,SNR=5.3
ARU Arti 124.51 326 *i* PKiKP **PKPdf 01 28 03.1 0.0**
ARU 01 34 19.7
ARU SP SP 01 38 59.5 -1.4
SUR Sutherland 125.22 200 PKP **PKPdf 01 28 05.6 0.0**
comp=Z,9.9nm,0.9s,baz=128,slow=3.5,SNR=8.4
AB31 Akbulak array 125.47 317 PKiKP **PKPdf 01 28 04.9 -0.3**
ABKAR Akbulak array 125.47 317 PKPdf **PKPdf 01 28 04.6 -0.5**
AKTO Aktyubinsk 126.44 319 PKP **PKPdf 01 28 06.8 -0.2**
comp=Z,12nm,0.9s,baz=68,slow=4.9,SNR=29
AKTO PP PP 01 30 01.9 -10
comp=Z,0.9nm,0.7s,baz=35,slow=12,SNR=1.8
BOSA Boshof 127.02 206 PKP **PKPdf 01 28 09.1 0.0**
comp=Z,5.2nm,0.9s,baz=172,slow=2.4,SNR=4.2
HAMF Hammerfest 127.39 351 *e*PKPdf **PKPdf 01 28 07.4 -0.8**
HAMF IAmb IAmb 01 28 08.9
comp=Z,15nm,0.7s
WSAR Wadi Sarin 127.45 285 PKP **PKiKP 01 28 10.1 -0.3**
comp=Z,3.8nm,0.8s,baz=112,slow=8.8,SNR=2.8
KEV Kevo 127.64 349 PKPdf **PKPdf 01 28 08.8 +0.1**
KEV Kevo 127.64 349 PKiKP **PKPdf 01 28 08.8 +0.1**
ARA0 ARCESS Array S 128.09 350 *e*PKPdf **PKPdf 01 28 09.6 0.0**
ARA0 IAmb IAmb 01 28 11.2
comp=Z,44nm,1.4s
ARCES ARCESS Array B 128.09 350 PKhKP PKPpre 01 27 56.3
comp=Z,0.9nm,0.6s,baz=45,slow=0.3,SNR=6.2
ARCES PKP **PKPdf 01 28 09.4 -0.2**
comp=Z,9.5nm,0.5s,baz=81,slow=0.7,SNR=82
ARCES SKPbc SKPbc 01 30 35.1
comp=Z,9.6nm,0.8s,baz=57,slow=3.3,SNR=12
ARCES PKKPbc PKKPdf 01 37 34.6 -47
comp=Z,0.9nm,0.7s,baz=194,slow=3.3,SNR=4.3
ARCES ARCESS Array B 128.09 350 PKPdf **PKPdf 01 28 09.5 -0.1**
KIRV Kirov 128.23 331 PKP **PKPdf 01 28 10.2 +0.1**
comp=Z,16nm,0.5s,baz=65,slow=2.6,SNR=14
KIRV PP **PP 01 30 19.4 -4.2**
comp=Z,6.9nm,0.7s,baz=70,slow=9.2,SNR=9.5
KIRV SKPbc SKPbc 01 30 35.5
comp=Z,11nm,0.7s,baz=76,slow=4.3,SNR=6.9
KIRV Kirov 128.23 331*c i*PKiKP **PKiKP 01 28 10.5 -0.3**
PRGR Permogore 128.28 335 *e*PKiKP **PKPdf 01 28 08.3 -1.8**
PRGR *e* 01 30 19.3
PRGR pmax pmax
comp=Z,15nm,0.7s
GEYT Alibeck 128.33 303 PKhKP PKPpre 01 27 59.2
comp=Z,2.2nm,0.6s,baz=316,slow=10,SNR=4.3

GEYT PKP **PKPdf 01 28 11.1 +0.1**
comp=Z,6.2nm,0.7s,baz=299,slow=3.1,SNR=9.9
GEYT PP **PP 01 30 21.9 -3.3**
comp=Z,4.1nm,1.1s,baz=57,slow=5.3,SNR=4.7
GEYT SKPbc SKPbc 01 30 35.0
comp=Z,6.8nm,1.1s,baz=208,slow=2.9,SNR=4.8
GYA0B ALIBECK ARRAY 128.33 303 PKPdf **PKPdf 01 28 10.7 -0.4**
JETT Jettan, Norway 128.84 352 *e*PKPdf **PKPdf 01 28 10.8 -0.3**
KTK1 Kautokeino 128.93 350 *e*PKPdf **PKPdf 01 28 10.3 -0.9**
KTK1 IAmb IAmb 01 28 12.0
comp=Z,7.5nm,0.8s
TRO Tromso 128.96 352 *e*PKPdf **PKPdf 01 28 11.1 -0.1**
TRO IAmb IAmb 01 28 12.7
comp=Z,14nm,0.6s
UOSS Minazif 129.84 286 PKPdf **PKPdf 01 28 13.8 -0.5**
LBTB Lobatse 130.02 208 SKPbc **SKPab 01 30 45.0 +1.1**
comp=Z,13nm,0.8s,baz=138,slow=5.8,SNR=15
STEI Steigen 131.01 353 *e*PKPdf **PKiKP 01 28 15.7 -0.4**
KLMR Klimovskoe 131.11 337 *e*PKIKP **PKPdf 01 28 15.0 -0.5**
KLMR pmax pmax
comp=Z,17nm,0.8s
KLMR Klimovskoe 131.11 337 *e*PKPdf **PKPdf 01 28 15.1 -0.5**
KLMR AMP 01 28 17.3
comp=Z,17nm,0.8s
KLMR *e*PP PP 01 30 33.9 -7.9
BELG Belogornoye 131.92 324 PKP **PKPdf 01 28 17.4 +0.1**
comp=Z,33nm,0.6s,baz=357,slow=1.4,SNR=31
BELG SKPbc **SKPbc 01 30 50.0 +0.6**
comp=Z,38nm,0.9s,baz=319,slow=2.3,SNR=12
MATP Matopo 132.46 215 PKP **PKPdf 01 28 19.3 -0.3**
comp=Z,6.5nm,0.9s,baz=172,slow=3.4,SNR=9.4
MATP SKPbc **SKPbc 01 30 53.4 +0.8**
comp=Z,11nm,0.7s,baz=155,slow=4.7,SNR=15
NSS Namsos 134.65 354 *e* PKPdf 01 28 10.4 -12
NSS *e*PKPdf **PKiKP 01 28 20.6 -3.1**
FINES FINESS Array B 134.96 344 PKhKP PKPpre 01 28 09.3
comp=Z,1.2nm,0.5s,baz=46,slow=2.2,SNR=14
FINES PKP **PKPdf 01 28 22.4 -0.4**
comp=Z,9.8nm,0.5s,baz=38,slow=2.5,SNR=12
FINES SKPbc **SKPbc 01 30 60.0 +0.9**
comp=Z,6.4nm,0.7s,baz=71,slow=4.1,SNR=8.0
FINES FINESS Array B 134.96 344 PKPdf **PKPdf 01 28 22.0 -0.7**
MAK Makhachkala 135.39 312 *e*P **Pdif 01 25 28.4 -2.1**
MAK *i* 01 28 23.3
MAK *e* 01 31 06.1
MAK *e* 01 34 43.0
MAK *e*SS SS 01 48 18.0 -2.4
MAK pmax pmax
comp=Z,199nm,1.2s
VRH Novokhopyorsk 135.72 325 *e*PKIKP **PKPdf 01 28 25.0 +0.6**
VRH pmax pmax
comp=Z,30nm,0.6s
OBN Obninsk 136.02 332 PKP **PKPdf 01 28 24.6 -0.2**
comp=Z,4.3nm,0.6s,baz=209,slow=13,SNR=5.7
OBN SKPbc **SKPbc 01 31 03.1 +0.7**
comp=Z,3.8nm,0.6s,baz=76,slow=3.1,SNR=13
OBN Obninsk 136.02 332 PKPdf **PKPdf 01 28 25.1 +0.3**
OBN Obninsk 136.02 332 *e*PKIKP **PKPdf 01 28 25.1 +0.3**
OBN pmax pmax
comp=Z,22nm,1.1s
LPSR Galich'ya Gora 136.43 328 *e*PKIKP **PKPdf 01 28 24.0 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
MEF Metsahovi 136.44 344 *e*P **PKPdf 01 28 22.7 -2.8**
GROC Groznyy 136.51 313 *e*PKIKP **PKPdf 01 28 25.5 -0.7**
GROC *e* 01 30 39.3
GROC *e* 01 31 17.9
GROC *e* 01 31 35.7
GROC pmax pmax
comp=Z,38nm,0.7s
LSZ Lusaka 136.78 218 PKhKP PKPpre 01 28 19.1
comp=Z,0.9nm,0.3s,baz=284,slow=23,SNR=1.2
LSZ PKP **PKPdf 01 28 27.5 -0.2**
comp=Z,2.1nm,0.4s,baz=104,slow=1.8,SNR=11
LSZ SKPbc **SKPbc 01 31 07.7 +1.5**
comp=Z,1.2nm,0.3s,baz=124,slow=1.7,SNR=4.8
LSZ Lusaka 136.78 218 PKPdf 01 28 26.7 -1.0
VORR Voronezh 136.81 327 *e*PKIKP **PKPdf 01 28 21.5 -4.9**
VORR pmax pmax
comp=Z,20nm,0.4s
VSR Storozhevoye 137.08 326 *e*PKIKP **PKPdf 01 28 27.5 +0.5**
VSR pmax pmax
comp=Z,20nm,1.4s
VSU Vasula 137.25 341 *e* **PKPdf 01 28 22.7 -4.4**
DOMB Dombas 137.36 355 *e* PKPdf 01 28 16.8 -10
DOMB IAmb IAmb 01 28 25.5
comp=Z,64nm,1.5s
MTSE Matsula 137.88 343 *e*P **PKPdf 01 28 25.4 -2.8**
NB2 NORSAR Subarra 138.14 353 PKP PKPdf 01 28 18.4 -10
comp=Z,2.0nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B 138.14 353 PKhKP PKPpre 01 28 18.5
comp=Z,2.3nm,0.9s,baz=1.0,slow=1.7,SNR=22
NOA PKP **PKiKP 01 28 30.0 -1.0**
comp=Z,4.2nm,0.6s,baz=14,slow=4.0,SNR=13
NOA SKPbc **SKPbc 01 31 09.3 +0.8**
comp=Z,3.1nm,0.9s,baz=14,slow=4.4,SNR=5.6
NOA NORSAR Array B 138.14 353 PKhKP **PKiKP 01 28 30.0 -1.0**
GNI Garni 138.18 309 PKP **PKPdf 01 28 29.2 -0.4**
comp=Z,6.6nm,0.6s,baz=61,slow=10,SNR=5.0
GNI SKPbc **SKPbc 01 31 10.4 +0.9**
comp=Z,4.3nm,0.5s,baz=117,slow=5.4,SNR=5.6
GNI Garni 138.18 309 PKPdf **PKPdf 01 28 28.9 -0.8**
KBZ Khabaz 138.31 314 PKhKP PKPpre 01 28 24.0
comp=Z,1.9nm,0.7s,baz=266,slow=20,SNR=2.1
KBZ SKPbc **SKPbc 01 31 10.2 +0.8**
comp=Z,5.6nm,1.0s,baz=47,slow=5.3,SNR=4.3
KIV Kislovodsk 138.37 315 *e*PKIKP **PKiKP 01 28 31.3 -0.7**
KIV pmax pmax
comp=Z,11nm,1.1s
NC602 NORSAR Array S 138.41 353 *e* PKPdf 01 28 19.8 -9.3
NC602 *e*PKPdf **PKiKP 01 28 30.9 -0.5**
TSUM Tsumeb 138.47 203 PKP **PKiKP 01 28 33.0 0.0**
comp=Z,3.2nm,0.6s,baz=116,slow=4.5,SNR=4.0
HFS Hagfors 138.71 351 PKhKP PKPpre 01 28 19.6
comp=Z,10nm,0.5s,baz=39,slow=2.7,SNR=54
HFS PKP **PKiKP 01 28 31.4 -0.6**
comp=Z,8.9nm,0.6s,baz=46,slow=4.3,SNR=6.9
HFS SKPbc **SKPbc 01 31 09.9 -0.1**
comp=Z,4.3nm,0.7s,baz=46,slow=4.2,SNR=4.4
SKAR Skarslia 138.77 355 *e* **PKPdf 01 28 22.7 -7.2**
BER Bergen 139.24 357 *e* **PKPdf 01 28 23.7 -6.9**
BER IAmb IAmb 01 28 27.0
comp=Z,36nm,1.1s
OSL Oslo 139.28 353 *e* **PKPdf 01 28 23.8 -6.9**
OSL IAmb IAmb 01 28 24.6
comp=Z,10nm,0.6s
RAYN Ar Rayn 139.48 283 PKPdf **PKPdf 01 28 31.2 -1.1**
RAYN Ar Rayn 139.48 283 PKiKP **PKPdf 01 28 31.2 -1.1**
ODD1 Odda 139.65 356 *e* **PKPdf 01 28 24.2 -7.3**
KONO Kongsberg 139.68 354 *e* **PKPdf 01 28 24.0 -7.5**
IIGN Ignalina 139.94 339 *e*P **PKPdf 01 28 26.9 -5.1**
MNK Minsk 140.01 337 *i* PKHKP PKPpre 01 28 26.0
NACGM Naroch 140.10 338 ⇓*e*PKP **PKPdf 01 28 26.9 -5.5**
comp=Z,30nm,0.9s,baz=39
BLS5 Blasjo 140.15 356 *e* **PKPdf 01 28 26.4 -6.0**
VSVD Vaisvydziai 140.17 341 *e*P **PKPdf 01 28 26.9 -5.5**
PABE Paberze 140.55 340 *e*P **PKPdf 01 28 28.7 -4.4**
PBUR Paburge 140.72 342 *e*P **PKPdf 01 28 29.4 -4.0**
SNART Snartemo 141.18 356 *e* **PKPdf 01 28 29.8 -4.4**
SNART IAmb IAmb 01 28 31.8
comp=Z,176nm,1.4s
DEL Delary 142.18 349 *i* P **PKPdf 01 28 31.0 -5.0**
AKASG Malin Array Be 142.28 332 *e* PKhKP PKPpre 01 28 32.4
comp=Z,34nm,0.5s,baz=43,slow=4.1,SNR=229
AKASG SKPbc **SKiKP 01 31 20.4 -0.4**
comp=Z,7.5nm,0.7s,baz=42,slow=3.1,SNR=10
AKASG Malin Array Be 142.28 332 *i* PKIKP **PKiKP 01 28 43.0 +3.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
MUD Monsted U'grnd 142.86 353 *i* P **PKPdf 01 28 35.1 -2.1**
FURI Furi 142.97 258 PKPdf **PKPdf 01 28 39.0 -0.2**
EDU Dundee 142.97 5 *e*P **PKPdf 01 28 35.0 -2.5**
INVG Invergeldie, C 143.00 6 *e*P PKPab 01 28 35.3 +0.1
LAWE Loch Awe, Argy 143.03 7 *e*P PKPab 01 28 35.3 0.0
LUNU Lund 143.05 349 *i* P PKPab 01 28 35.0 -0.4
COP Copenhagen 143.17 350 *i* P PKPbc 01 28 36.0 -0.2
BSD Bornholm Skovb 143.27 348 *e*P PKPbc 01 28 36.4 -0.1
BSD Bornholm Skovb 143.27 348 *i* P PKPab 01 28 35.0 -1.2
BSD *i* P PKPbc 01 28 36.1 -0.3
SIM Simferopol' 143.34 321 *e*PKIKP PKPbc 01 28 37.6 +0.5
SIM pmax pmax
comp=Z,336nm,1.0s
SIM pmax pmax
comp=Z,119nm,1.3s
PGBU Glenifferbraes 143.57 6 *e*P PKPab 01 28 37.1 -0.3

EDI Edinburgh 143.58 5 *e*P PKPab 01 28 37.0 -0.4
ESY Stoneypath 143.63 4 *e*P PKPab 01 28 36.8 -0.8
EBL Broad Law 143.74 5 *e*P PKPbc 01 28 37.7 -0.2
SHEL Horse Pasture 143.80 167 PKPdf **PKPdf 01 28 40.6 +0.4**
SHEL Horse Pasture 143.80 167 PKIKP **PKPdf 01 28 40.6 +0.4**
CLGH Cloghs, Cushen 144.10 8 *e*P **PKPab 01 28 39.2 -0.2**
EKA Eskdalemuir Ar 144.16 5 PKP PKPbc 01 28 38.9 -0.4
comp=Z,23nm,0.6s,baz=324,slow=2.8,SNR=96
EKA SKPbc **SKiKP 01 31 25.3 +0.7**
comp=Z,1.1nm,0.6s,baz=3.8,slow=2.1,SNR=3.6
ESK Eskdalemuir 144.18 5 *e*P PKPbc 01 28 38.2 -1.1
ESK Eskdalemuir 144.18 5 PKPdf 01 28 39.6 0.0
ESK Eskdalemuir 144.18 5 PKIKP **PKPdf 01 28 39.6 0.0**
NEWG New Galloway 144.28 6 *e*P PKPbc 01 28 39.0 -0.6
GKP Gorka Klasztor 144.44 344 *e*PKPbc **PKPab 01 28 40.6 -0.2**
GKP Gorka Klasztor 144.44 344 *e*P PKPbc 01 28 40.3 +0.2
BEL Belsk 144.67 340 *e*PKPbc **PKPab 01 28 41.5 -0.1**
EDMD Edmundbyers 144.75 4 *e*P **PKPdf 01 28 40.7 +0.1**
PURM Purcari 144.79 326 ⇓P PKPbc 01 28 41.8 +0.4
KESW Keswick, Cumbr 144.91 5 *e*P PKPbc 01 28 41.4 -0.2
BZK Bozkurt 144.97 316 PKPdf **PKPdf 01 28 40.6 -0.7**
MILM Milestii Mici 145.09 327 ⇑P **PKPbc 01 28 42.1 -0.2**
MILM Milestii Mici 145.09 327 ⇑PKIKP **PKPbc 01 28 42.1 -0.2**
IOMK Kirk Michael 145.09 7 *e*P **PKPbc 01 28 42.1 0.0**
LVV L'vov 145.15 335 *e*PKIKP **PKPdf 01 28 41.8 +0.4**
WIM Isle of Man 145.19 7 *e*P **PKPbc 01 28 42.3 -0.1**
GDLE Glaisdale, N Y 145.22 3 *e*P **PKPbc 01 28 42.5 0.0**
MBAR Mbarara 145.37 238 PKPbc **PKPbc 01 28 44.9 +0.4**
comp=Z,28nm,0.8s,baz=131,slow=4.6,SNR=10
MBAR Mbarara 145.37 238 PKPbc **PKPab 01 28 45.2 -0.6**
MBAR Mbarara 145.37 238*c i* PKP2 **PKPab 01 28 45.6 -0.2**
MBAR pmax pmax
comp=Z,43nm,1.3s
HPK Haverah Park 145.64 4 *e*P **PKPbc 01 28 44.1 +0.4**
VASR Vaslui 145.79 328 ⇓P **PKPbc 01 28 44.9 +0.5**
WME Myndd Eilian 145.97 7 *e*P **PKPbc 01 28 44.4 -0.3**
RUE Ruedersdorf 145.97 347 *e*P **PKPdf 01 28 42.9 +0.2**
WLF1 Llynfaes 146.06 7 *e*P **PKPbc 01 28 44.5 -0.4**
YRC Rhoscolyn 146.08 7 *e*P **PKPbc 01 28 44.5 -0.4**
BIR Birlad 146.13 327 ⇑P **PKPbc 01 28 46.4 +1.0**
BIR Birlad 146.13 327 ⇑PKP2 **PKPbc 01 28 46.4 +1.0**
VLDR Vladesti 146.18 326 ⇑P **PKPbc 01 28 46.5 +1.0**
TLCR 146.22 325 ⇑P **PKPbc 01 28 46.1 +0.5**
TLCR 146.22 325 ⇑PKP2 **PKPbc 01 28 46.1 +0.5**
VARL Varlezi 146.26 327 ⇑P **PKPbc 01 28 46.7 +0.9**
BR131 Keskin Array S 146.27 313 PKPdf 01 28 45.0 +1.1
BR131 Keskin Array S 146.27 313 PKIKP **PKPdf 01 28 45.0 +1.1**
BRTR Keskin Array B 146.27 313 PKPbc **PKPdf 01 28 44.8 +0.9**
comp=Z,26nm,0.6s,baz=132,slow=4.0,SNR=124
BRTR pmax pmax
BRTR pPKPbc **pPKPdf 01 31 00.6 +0.9**
comp=Z,9.9nm,1.1s,baz=100,slow=1.4,SNR=7.6
BRTR Keskin Array B 146.27 313 PKPbc **PKPbc 01 28 46.0 -0.2**
BURAR Bucovina Array 146.33 331 ⇓P **PKPbc 01 28 46.7 +0.7**
BURAR Bucovina Array 146.33 331 ⇓PKP2 **PKPbc 01 28 46.7 +0.7**
SCTR Scanteiesti 146.34 326 ⇓P **PKPbc 01 28 46.7 +0.7**
TATR Tatarca 146.36 326 ⇑P **PKPbc 01 28 46.8 +0.8**
OJC Ojcow 146.37 339 *e*PKPbc **PKPbc 01 28 44.9 -1.0**
OJC *ep*PKPbc pPKPab 01 30 55.7 -3.1
ASF Jabal al Asfar 146.38 299 PKPbc **PKPbc 01 28 45.5 -1.1**
comp=Z,48nm,0.9s,baz=103,slow=2.0,SNR=53
ASF pPKPbc **pPKPdf 01 31 00.6 +1.0**
comp=Z,10nm,1.0s,baz=184,slow=2.2,SNR=4.2
GHRR 146.38 327 ⇑P **PKPbc 01 28 47.1 +1.0**
BIZ Bicaz 146.41 330 ⇑P **PKPbc 01 28 46.6 +0.5**
TESR Tescani 146.45 329 ⇓P **PKPbc 01 28 46.5 +0.3**
JURR Jurilovca 146.46 324 ⇑P **PKPbc 01 28 46.8 +0.6**
STNC Stoke 146.47 5 *e*P **PKPbc 01 28 45.8 -0.2**
SLCR Slobozia Conac 146.51 326 ⇑P **PKPbc 01 28 47.5 +1.0**
SCHL Schela 146.54 326 ⇑P **PKPbc 01 28 47.5 +1.0**
IZVR Izvoarele 146.55 326 ⇑P **PKiKP 01 28 47.5 -1.0**
KOLS Kolonicke sedl 146.55 336 *e*PKIKP **PKPdf 01 28 45.1 +1.3**
KOLS *e* 01 28 47.4
KOLS Kolonicke sedl 146.55 336 *e*PKP **PKPdf 01 28 45.1 +1.3**
KOLS *e* 01 28 47.4
LLW Llanuwychllyn 146.58 6 *e*P **PKPbc 01 28 45.7 -0.7**
FOEL Foel Wylfa 146.58 6 *e*P **PKPbc 01 28 45.3 -1.1**
CFR Carcaliu 146.59 326 ⇓P **PKPbc 01 28 47.0 +0.3**
CFR Carcaliu 146.59 326 ⇓PKP2 **PKPbc 01 28 47.0 +0.3**
HWQ Hawqa 146.60 303 *e*P **PKPbc 01 28 46.9 -0.3**
PANC Panciu 146.64 327 ⇑P **PKiKP 01 28 47.9 -0.9**
TPGR Topolog 146.65 325 ⇓P **PKPbc 01 28 47.6 +0.7**
ODBI Odobesti 146.76 327 ⇑P **PKiKP 01 28 48.5 -0.6**
ANTO Ankara 146.78 314 ⇓P **PKPbc 01 28 47.9 +0.5**
ANTO Ankara 146.78 314 PKPdf 01 28 45.8 +1.2
ANTO Ankara 146.78 314 ⇓PKP2 **PKPbc 01 28 47.9 +0.5**
UZH Uzhgorod 146.78 335*c e*PKIKP **PKPdf 01 28 45.3 +1.1**
UZH *i* 01 28 52.1
UZH *i* 01 30 59.1
VRI Vrincioaia 146.86 328 ⇑P **PKPbc 01 28 46.7 -0.7**
VRI Vrincioaia 146.86 328 ⇑PKIKP **PKPbc 01 28 46.7 -0.7**
CWF Charnwood Fore 146.88 4 *e*P **PKPbc 01 28 45.8 -1.4**
NIE Niedzica 146.88 338 *ep*PKPbc pPKPbc 01 30 59.4 -1.4
NIE Niedzica 146.88 338 *e*PKPbc **PKPbc 01 28 48.3 +0.9**
CRVS Cervenica-Dubn 146.88 336 *e*PKP2 **PKPbc 01 28 47.7 +0.3**
CRVS Cervenica-Dubn 146.88 336 *e*PKP **PKPbc 01 28 47.7 +0.3**
KSP Ksiaz 146.88 343 *ep*PKPbc pPKPbc 01 30 59.9 -0.9
KSP Ksiaz 146.88 343 *e*PKPbc **PKPbc 01 28 48.1 +0.9**
PLOR Plostina 146.91 328 ⇑P **PKPbc 01 28 47.8 +0.2**
PLOR Plostina 146.91 328 ⇑PKP2 **PKPbc 01 28 47.8 +0.2**
TIRR Tirgusor 146.91 324 ⇑P **PKPbc 01 28 47.2 -0.3**
TIRR Tirgusor 146.91 324 ⇑PKIKP **PKPbc 01 28 47.2 -0.3**
BHL Bhannes 146.94 302 *e*P **PKPbc 01 28 48.4 +0.3**
WACR West Acre 146.97 2 *e*P **PKPbc 01 28 46.1 -1.3**
HLM1 Long Mynd 146.98 5 *e*P **PKPbc 01 28 46.6 -0.9**
HARR Harsova 147.02 325 ⇑P **PKPbc 01 28 48.6 +0.8**
HARR Harsova 147.02 325 ⇑PKP2 **PKPbc 01 28 48.6 +0.8**
BMR Baia Mare 147.04 333 ⇓P **PKPbc 01 28 48.4 +0.6**
BMR Baia Mare 147.04 333 ⇓PKP2 **PKPbc 01 28 48.4 +0.6**
TLBR Topalu 147.06 325 ⇑P **PKPbc 01 28 48.7 +0.8**
TRPA Tarpa 147.08 334 ⇓P **PKPbc 01 28 48.3 +0.5**
TRPA Tarpa 147.08 334 PKP **PKPdf 01 28 45.6 +0.9**
ARCR ARCALIA 147.11 331 ⇑P **PKiKP 01 28 49.0 -0.8**
COVR Voineasa-Covas 147.14 328 ⇑P **PKPbc 01 28 48.4 +0.2**
OSTC Ostas 147.16 343 *e*PKP **PKPdf 01 28 45.3 +0.5**
OSTC *ex* x 01 28 48.5
OSTC *ep*PKP **pPKPab 01 31 04.2 +2.4**
OZUR 147.16 329 ⇓P **PKPbc 01 28 48.9 +0.7**
CHVC Chvalec 147.18 343 *e*PKP **PKPdf 01 28 45.8 +0.9**
CHVC *ex* x 01 28 48.7
MANR Mangalia 147.22 323 ⇑P **PKiKP 01 28 49.4 -0.6**
OKC Ostrava-Krasne 147.24 341 *e*PKP2 **PKPbc 01 28 48.2 0.0**
OKC Ostrava-Krasne 147.24 341 *e*PKP **PKPbc 01 28 48.2 0.0**
OKC *ex* x 01 28 52.1
CLL Collm 147.24 347 ⇓*e*PKIKP **PKPdf 01 28 45.0 +0.1**
CLL *i* 01 28 52.9
CLL pmax pmax
comp=Z,127nm,1.0s
CLL pmax pmax
comp=Z,97nm,1.2s
CLL Collm 147.24 347 *e*PKPdf **PKPdf 01 28 45.0 +0.1**
CLL ⇓*i*PKPbc **PKPbc 01 28 48.7 +0.5**
comp=Z,127nm,1.0s
CLL *i* PKPab **PKPab 01 28 52.9 +1.0**
comp=Z,97nm,1.2s
CLL *ep*PKPab **pPKPab 01 31 03.0 +1.0**
CLL *e*SKPdf **SKPdf 01 31 24.0 0.0**
CLL *e*PKSdf **PKSdf 01 32 22.0 +2.2**
UPC Upice 147.26 343 *e*PKP2 **PKPbc 01 28 48.5 +0.2**
UPC Upice 147.26 343 *e*PKP **PKPbc 01 28 48.5 +0.2**
UPC *ep*PKP **pPKPab 01 31 04.3 +2.2**
DPC Dobruska-Polom 147.32 343 *e*PKIKP **PKPdf 01 28 46.5 +1.4**
DPC Dobruska-Polom 147.32 343 *e*PKP **PKPdf 01 28 46.5 +1.4**
DPC *ex* x 01 28 49.2
DPC *ep*PKP **pPKPab 01 31 03.4 +1.0**
MMAI Mount Meron Ar 147.39 301 PKPbc **PKPbc 01 28 49.6 +0.4**
comp=Z,48nm,0.5s,baz=70,slow=5.7,SNR=126
MMAI pPKPbc **pPKPab 01 31 03.5 +0.7**
comp=Z,30nm,1.0s,baz=42,slow=3.8,SNR=8.1
AMRR Amara 147.40 325 ⇑P **PKiKP 01 28 49.8 -0.5**
AMRR Amara 147.40 325 ⇑PKP2 **PKiKP 01 28 49.8 -0.5**
LANS Liptovska Anna 147.40 339 *e*PKP2 **PKiKP 01 28 50.2 -0.1**
LANS Liptovska Anna 147.40 339 *e*PKP **PKiKP 01 28 50.2 -0.1**
KRLC Kraliky 147.44 342 *e*PKIKP **PKPdf 01 28 45.8 +0.5**
KRLC Kraliky 147.44 342 *e*PKP **PKPdf 01 28 45.8 +0.5**
KRLC *ex* x 01 28 49.1
KRLC *ep*PKP **pPKPab 01 31 04.5 +1.6**
BRG Berggiesshubel 147.44 346 *i* PKP2 **PKPab 01 28 53.3 +0.6**
BRG pmax pmax
comp=Z,32nm,0.7s
BRG pmax pmax
comp=Z,66nm,1.5s

BRG Berggiesshubel 147.44 346 ⇓*e*PKPf 01 28 46.8
BRG Berggiesshubel 147.44 346 Amp 01 28 47.8
comp=Z,22nm,1.4s
BRG Berggiesshubel 147.44 346 ⇑*i*PKP **PKiKP 01 28 49.7 -0.6**
BRG Berggiesshubel 147.44 346 Amp 01 28 51.5
comp=Z,113nm,1.2s
BRG Berggiesshubel 147.44 346 *i* PKPab **PKPab 01 28 53.4 +0.6**
BRG Berggiesshubel 147.44 346 Amp 01 28 56.5
comp=Z,32nm,0.7s
BRG Berggiesshubel 147.44 346 pPKP pPKPdf 01 31 04.8 +3.8
BRG Berggiesshubel 147.44 346 Amp 01 31 07.7
comp=Z,66nm,1.5s
DOPR Dopca 147.45 329 ⇑P **PKPbc 01 28 49.6 +0.6**
ISR Istrita 147.47 327 ⇑P **PKPbc 01 28 49.8 +0.7**
ISR Istrita 147.47 327 ⇑PKP2 **PKPbc 01 28 49.8 +0.7**
MORC Moravsky Berou 147.48 341 ⇓P **PKPbc 01 28 49.5 +0.6**
MORC Moravsky Berou 147.48 341 *e*PKP **PKPdf 01 28 46.1 +0.7**
MORC *e* 01 28 49.4
MORC *e* 01 28 53.8
MORC *e* 01 31 03.8
MORC Moravsky Berou 147.48 341 ⇓PKP2 **PKPbc 01 28 49.5 +0.6**
MCH1 Michaelchurch 147.48 6 *e*P **PKPbc 01 28 48.0 -0.7**
MLR Muntele Rosu 147.51 328 ⇓P **PKPbc 01 28 48.6 -0.6**
MLR Muntele Rosu 147.51 328 PKPbc **PKPbc 01 28 49.2 -0.1**
comp=Z,33nm,0.6s,baz=13,slow=4.2,SNR=74
MLR pPKPbc **pPKPab 01 31 05.0 +1.7**
comp=Z,63nm,1.2s,baz=7.2,slow=3.7,SNR=12
PSN Preselentsi 147.53 323 *i* P **PKiKP 01 28 50.1 -0.6**
MDUB Mudurnu 147.54 316 PKPbc 01 28 48.6 -0.9
KECS Kecovo 147.60 337 *e*PKP2 **PKiKP 01 28 50.1 -0.6**
KECS Kecovo 147.60 337 *e*PKP **PKiKP 01 28 50.1 -0.6**
ELMS Elmsett, Ipswi 147.62 1 *e*P **PKPbc 01 28 47.8 -1.3**
PVCC Panska Ves 147.62 345 *e*PKP2 **PKPbc 01 28 49.1 -0.1**
PVCC Panska Ves 147.62 345 *e*PKP **PKPbc 01 28 49.1 -0.1**
PVCC *ep*PKP **pPKPab 01 31 05.6 +2.3**
MONM Monmouth 147.66 6 *e*P **PKPbc 01 28 49.0 -0.2**
CBBR Cluj-Babes-Bol 147.71 332 ⇑P **PKPbc 01 28 50.2 +0.7**
CJR Cluj-Napoca 147.73 332 ⇑P **PKPbc 01 28 50.3 +0.6**
CJR Cluj-Napoca 147.73 332 ⇑PKP2 **PKPbc 01 28 50.3 +0.6**
MAUC Maruska 147.75 340 *e*PKP **PKPdf 01 28 46.6 +0.8**
MAUC *ex* x 01 28 50.2
MAUC *ep*PKP **pPKPab 01 31 06.8 +2.8**
LEHL Lehliu 147.76 326 ⇑P **PKiKP 01 28 50.6 -0.5**
SECR 147.77 327 ⇑P **PKPbc 01 28 50.4 +0.6**
STRD Stroud 147.78 5 *e*P **PKPbc 01 28 49.0 -0.5**
MDB Medias 147.80 330 ⇓P **PKiKP 01 28 51.0 -0.2**
MDB Medias 147.80 330 ⇓PKP2 **PKiKP 01 28 51.0 -0.2**
SULR 147.92 327 ⇓P **PKPbc 01 28 50.2 +0.1**
LTVH Ltavrtes, Hu 147.94 334 ⇑P **PKiKP 01 28 50.9 -0.5**
LTVH Ltavrtes, Hu 147.94 334 PKP **PKiKP 01 28 50.9 -0.5**
VOIR 148.00 329 ⇑P **PKPbc 01 28 50.9 +0.5**
VOIR 148.00 329 ⇑PKP2 **PKPbc 01 28 50.9 +0.5**
DRGR 148.06 333 ⇓P **PKiKP 01 28 51.8 0.0**
DRGR 148.06 333 ⇓PKP2 **PKiKP 01 28 51.8 0.0**
SWN1 Swindon 148.06 4 *e*P **PKPbc 01 28 50.2 -0.1**
PRU Pruhonice 148.12 345 *e*PKHKP PKPpre 01 28 56.1
PRU *e* 01 28 56.1
PRU Pruhonice 148.12 345 *e*PKP **PKPbc 01 28 50.1 -0.4**
PRU *ex* x 01 28 56.1
PRU *ex* x 01 29 01.8
PRU *ep*PKP **pPKPab 01 31 07.3 +2.1**
GOPC GO Pecny, Ondr 148.13 344 *e*PKHKP PKPpre 01 28 49.1
GOPC GO Pecny, Ondr 148.13 344 *e*PKP **PKPbc 01 28 49.1 -1.4**
GOPC *ep*PKP **pPKPab 01 31 07.3 +2.0**
VYHS Vyhne 148.18 339 *e*PKHKP PKPpre 01 28 46.6
VYHS Vyhne 148.18 339 *e*PKP **PKPdf 01 28 46.6 +0.1**
VYHS *e* 01 28 51.4
VRAC Vranov 148.18 342 ⇑P **PKPbc 01 28 51.0 +0.3**
VRAC Vranov 148.18 342 PKPbc **PKPbc 01 28 51.0 +0.3**
comp=Z,18nm,0.7s,baz=23,slow=1.7,SNR=47
VRAC Vranov 148.18 342 *e*PKP **PKPdf 01 28 46.8 +0.3**
VRAC *e* 01 28 51.1
VRAC *e* 01 28 56.8
VRAC *e* 01 31 09.0
VRAC Vranov 148.18 342 PKP2 **PKPbc 01 28 51.0 +0.3**
BORR Bors 148.22 334 ⇑P **PKPbc 01 28 52.1 +0.1**
JAVC Velka Javorina 148.25 340 *e*PKP **PKPdf 01 28 48.7 +2.0**
JAVC *e* 01 28 52.5
JAVC *e* 01 31 10.5
ARR Arges 148.25 329 ⇑P **PKPdf 01 28 48.9 +2.1**
PSZ Piszkesteto 148.29 337 ⇓P **PKPbc 01 28 51.5 +0.5**
PSZ Piszkesteto 148.29 337 ⇓PKP2 **PKPbc 01 28 51.5 +0.5**
PSZ Piszkesteto 148.29 337 PKP **PKPbc 01 28 51.3 +0.2**
NKC Novy Kostel 148.37 347 *e*PKHKP PKPpre 01 28 47.4
NKC Novy Kostel 148.37 347 *e*PKP **PKPdf 01 28 47.4 +0.6**
NKC *ex* x 01 28 51.1
NKC *ep*PKP **pPKPab 01 31 09.8 +3.6**
KRUC Moravsky 148.46 342 *e*PKP **PKPdf 01 28 47.9 +1.0**
KRUC *e* 01 28 51.7
KRUC *e* 01 28 57.3
KRUC *e* 01 31 09.6
TREC Trest 148.51 343 *e*PKHKP PKPpre 01 28 50.9
TREC Trest 148.51 343 *e*PKP **PKPbc 01 28 50.9 -0.6**
TREC *ep*PKP **pPKPab 01 31 09.5 +2.7**
RAZG Razgrad 148.53 325 ⇑P **PKPbc 01 28 52.2 +0.4**
EIL Elat 148.54 295 PKPbc **PKPbc 01 28 52.5 +0.4**
comp=Z,43nm,0.6s,baz=89,slow=3.3,SNR=30
EIL pPKPbc **pPKPab 01 31 08.3 +0.7**
comp=Z,12nm,1.0s,baz=206,slow=1.3,SNR=2.7
ELSH Elham, Standar 148.56 1 *e*P **PKiKP 01 28 52.3 -0.3**
SMOL Smolenice 148.63 340 *e*PKP2 **PKiKP 01 28 53.2 +0.4**
BSZH Besenyszg 148.66 336 ⇑P **PKiKP 01 28 53.1 +0.2**
DEV Deva 148.68 331 ⇑P **PKiKP 01 28 52.6 -0.4**
DEV Deva 148.68 331 ⇑PKP2 **PKiKP 01 28 52.6 -0.4**
BEBN Eben Emael 148.79 355 *d*PKP **PKiKP 01 28 52.8 -0.2**
BEBN *d*PKPab **PKPab 01 28 58.5 +0.3**
BEBN *dp*PKP **pPKPab 01 31 11.5 +4.2**
MODS Modra-Piesok 148.80 340 *e*PKHKP PKPpre 01 28 49.0
MODS Modra-Piesok 148.80 340 *e*PKP **PKPdf 01 28 49.0 +1.5**
MODS *e* 01 28 53.3
SIRR Siria 148.93 333 ⇑P **PKPbc 01 28 52.5 -0.1**
SRO Srobarova 148.94 338 *e*PKHKP PKPpre 01 28 53.2
SRO *e* 01 29 00.4
SRO Srobarova 148.94 338 *e*PKP **PKiKP 01 28 53.2 -0.2**
SRO *e* 01 29 00.4
MEM Membach 148.95 355 *d*PKPdf **PKPdf 01 28 49.0 +1.3**
MEM *d*PKPbc **PKPbc 01 28 52.7 +0.2**
MEM *dp*PKP **pPKPab 01 31 12.0 +3.7**
BTNL Ternell 148.96 355 *d*PKPbc **PKPbc 01 28 52.5 0.0**
BTNL *d*PKPab **PKPab 01 28 58.6 -0.4**
BTNL *dp*PKP **pPKPab 01 31 09.2 +0.7**
BUD Budapest 148.97 337 PKP **PKiKP 01 28 53.3 -0.2**
BSTI Sart Tilman 149.01 356 *d*PKPbc **PKPbc 01 28 52.9 +0.3**
BSTI *d*PKPab **PKPab 01 28 58.7 -0.5**
BSTI *dp*PKP **pPKPab 01 31 08.3 +0.2**
ZST Bratislava 149.01 340 *e*PKP2 **PKiKP 01 28 53.7 +0.1**
ZST Bratislava 149.01 340 *e*PKP **PKiKP 01 28 53.7 +0.1**
SZH Strazhica 149.05 325 *i* P **PKPbc 01 28 53.4 +0.4**
**GZR

GERES	**GERESS Array B**	149.39	345		PKPbc	**PKPbc**	01 28 52.8	-0.9
	comp=Z,35nm,0.7s,baz=44,slow=4.1,SNR=37							
GERES					pPKPbc	**pPKPab**	01 31 10.4	0.0
	comp=Z,5.4nm,1.1s,baz=55,slow=7.0,SNR=4.0							
PVL	**Pavlikeni**	149.40	325	*i*	P	**PKiKP**	01 28 54.2	-0.3
BZS	**Buzias**	149.46	332	⇓	P	**PKPbc**	01 28 53.9	+0.1
BZS	**Buzias**	149.46	332	⇓	PKHKP	PKPpre	01 28 53.9	
RCHB	**Rochefort**	149.46	356	*d*	PKP	**PKPbc**	01 28 53.6	0.0
RCHB				*d*	PKPab	**PKPab**	01 29 01.4	+0.3
RCHB				*dp*	PKP	**pPKPab**	01 31 09.2	-0.6
SRE	**Strehaia**	149.46	329	⇑	P	**PKiKP**	01 28 54.8	+0.2
SRE	**Strehaia**	149.46	329	⇑	PKHKP	PKPpre	01 28 54.8	
EDRB	**Edirne**	149.51	322		P	**PKPbc**	01 28 54.0	-0.1
TIM	**Timisoara**	149.53	333	⇑	P	**PKiKP**	01 28 55.3	+0.5
TIM	**Timisoara**	149.53	333	⇑	PKHKP	PKPpre	01 28 55.3	
CONA	**Conrad Observa**	149.63	341	*e*	P	**PKiKP**	01 28 54.9	-0.2
	comp=Z,33nm,0.6s,SNR=31							
CONA				*e*	P	**pPKPab**	01 31 11.3	-0.2
	comp=Z,1.8nm,0.5s							
HERR	**Herculane**	149.66	331	⇓	P	**PKPbc**	01 28 54.5	+0.2
RONA	**Rosalia, Austr**	149.70	341	*i*	P	**PKPdf**	01 28 49.8	+0.8
	comp=Z,0.5nm,0.2s							
RONA				*i*	P	**PKiKP**	01 28 55.0	-0.1
	comp=Z,52nm,0.6s,SNR=46							
RONA				*e*	P	**pPKPab**	01 31 11.4	-0.3
	comp=Z,2.2nm,0.5s							
BANR	**Banloc**	149.85	333	⇓	P	**PKiKP**	01 28 55.7	+0.3
TIH	**Tihany**	149.87	338		PKP	**PKiKP**	01 28 55.4	0.0
WLF	**Walferdange**	149.87	355	*d*	PKPbc	**PKiKP**	01 28 55.6	+0.2
WLF				*d*	PKPab	**PKPab**	01 29 02.9	+0.1
WLF				*dp*	PKP	**pPKPab**	01 31 12.6	+1.0
MDVR	**Moldovita**	150.06	331	⇑	P	**PKPdf**	01 28 50.8	+1.1
DIM	**Dimitrovgrad**	150.07	323	*i*	P	**PKiKP**	01 28 55.9	-0.1
MPEP	**Malo Peshtene**	150.14	327	*i*	P	**PKiKP**	01 28 56.0	-0.1
MOA	**Molln**	150.16	343	*i*	P	**PKPdf**	01 28 50.0	+0.2
	comp=Z,0.8nm,0.4s							
MOA				*e*	P	**PKPbc**	01 28 55.6	+0.1
	comp=Z,14nm,0.5s,SNR=13							
MOA				*e*	P	**pPKPab**	01 31 13.7	+0.5
	comp=Z,1.9nm,0.5s							
MORH	**Mrgy, Hungar**	150.18	336	⇑	P	**PKPdf**	01 28 49.7	0.0
ARSA	**Arzberg**	150.34	341	*e*	P	**PKPbc**	01 28 55.8	-0.1
	comp=Z,15nm,0.7s,SNR=12							
ARSA				*e*	P	**pPKPbc**	01 31 12.0	+1.5
	comp=Z,10.0nm,1.1s							
JSA	**Saint Aubin**	150.34	6	*e*	P	**PKPbc**	01 28 55.6	-0.2
KDZ	**Kurdzhali**	150.40	323	*i*	P	**PKiKP**	01 28 56.8	+0.1
BIOA	**Bad Ischl, Aus**	150.47	344	*i*	P	**PKPdf**	01 28 50.5	+0.3
	comp=Z,0.9nm,0.4s							
BIOA				*e*	P	**PKPbc**	01 28 56.0	-0.2
	comp=Z,45nm,0.9s,SNR=12							
BIOA				*e*	P	**pPKPab**	01 31 14.2	-0.3
	comp=Z,1.2nm,0.4s							
BLKB	**Belogradchik**	150.48	329	⇓	P	**PKPbc**	01 28 56.5	+0.1
KOVH	**Kovagotottos**	150.49	337		PKP	**PKPdf**	01 28 51.1	+0.9
PLD	**Plovdiv**	150.50	324	*i*	P	**PKiKP**	01 28 57.0	+0.1
ALD	**Alexandroupoli**	150.52	321		P	**PKPbc**	01 28 55.9	-0.6
FRGS	**Fruska Gora**	150.59	334	⇓	P	**PKiKP**	01 28 56.8	-0.2
FRGS	**Fruska Gora**	150.59	334	⇓	*i*P	**PKPbc**	01 28 56.6	0.0
RDO	**Rodhopi**	150.66	322		P	**PKPbc**	01 28 56.5	-0.3
KSL	**Kastellorizon**	150.75	310		P	**PKPbc**	01 28 56.8	-0.3
RZN	**Rozhen**	150.77	324	*i*	P	**PKPbc**	01 28 57.3	0.0
VTS	**Vitosha**	150.93	327	⇓	P	**PKiKP**	01 28 57.8	-0.1
VTS	**Vitosha**	150.93	327	⇓	PKIKP	**PKiKP**	01 28 57.8	-0.1
VTS	**Vitosha**	150.93	327	*i*	P	**PKiKP**	01 28 58.1	+0.2
BFO	**Black Forest**	150.94	351		PKPdf	**PKPdf**	01 28 50.3	-0.6
BFO					PKPbc	**PKiKP**	01 28 57.7	+0.1
BFO					PKPab	**PKPab**	01 29 07.6	+0.2
BFO	**Black Forest**	150.94	351		PKIKP	**PKPdf**	01 28 50.3	-0.6
BFO							01 29 07.6	
BOVS	**Bovan**	150.94	330	⇓	P	**PKPbc**	01 28 56.8	-0.5
SOKA	**Soboth**	151.00	341	*i*	P	**PKPbc**	01 28 57.2	-0.3
	comp=Z,40nm,1.0s,SNR=12							
KALN	**Kalnik**	151.03	339	*i*	P	**PKPdf**	01 28 52.1	+1.0
KBA	**Koelnbreinsper**	151.12	344	*e*	P	**PKPbc**	01 28 57.3	-0.6
	comp=Z,28nm,0.7s,SNR=12							
LOBO	**Lobor**	151.14	340	*i*	P	**PKPdf**	01 28 51.0	-0.3
OBKA	**Obir**	151.30	342	⇓	*i*P	**PKPbc**	01 28 57.4	-0.8
OBKA	**Obir**	151.30	342	*i*	P	**PKPbc**	01 28 57.8	-0.4
	comp=Z,28nm,1.2s,SNR=9.3							
WATA	**Walderalm**	151.30	346	*i*	P	**PKPdf**	01 28 51.4	-0.2
	comp=Z,2.2nm,0.6s							
WATA				*e*	P	**PKPbc**	01 28 58.1	-0.2
	comp=Z,36nm,0.8s,SNR=13							
WATA				*e*	P	**pPKPab**	01 31 16.2	-1.7
	comp=Z,5.7nm,0.8s							
RETA	**Reutte**	151.33	348	*i*	P	**PKPdf**	01 28 51.6	+0.1
	comp=Z,0.7nm,0.4s							
RETA				*e*	P	**PKPbc**	01 28 58.2	0.0
	comp=Z,36nm,1.1s,SNR=12							
RETA				*e*	P	**pPKPab**	01 31 16.4	-1.7
	comp=Z,1.7nm,0.6s							
WTTA	**Wattenberg**	151.36	346	*i*	P	**PKPdf**	01 28 51.5	-0.2
	comp=Z,2.6nm,0.7s							
WTTA				*e*	P	**PKPbc**	01 28 58.5	+0.1
	comp=Z,78nm,0.8s,SNR=19							
WTTA				*e*	P	**pPKPab**	01 31 16.8	-1.4
	comp=Z,5.1nm,0.7s							
DIVS	**Divibare**	151.36	332	⇓	*i*P	**PKPbc**	01 28 58.3	-0.1
MOSL	**Moslavina**	151.38	338	*i*	P	**PKPdf**	01 28 51.9	+0.2
MMB	**Musomiste**	151.38	325	*i*	P	**PKPbc**	01 28 57.8	-0.7
PTJ	**Puntijarka**	151.40	339		P	**PKPdf**	01 28 52.4	+0.7
MOTA	**Moosalm**	151.40	347	*i*	P	**PKPdf**	01 28 51.5	-0.3
	comp=Z,2.3nm,0.6s,SNR=6.0							
MOTA				*i*	P	**PKPbc**	01 28 58.3	-0.2
	comp=Z,41nm,0.9s							
MOTA				*e*	P	**pPKPab**	01 31 16.5	-2.0
	comp=Z,4.8nm,0.9s							
MYKA	**Terra Mystica**	151.45	343	*e*	P	**PKPbc**	01 28 57.9	-0.6
	comp=Z,14nm,0.5s,SNR=8.9							
MYKA				*e*	P	**pPKPab**	01 31 16.2	-2.6
	comp=Z,2.6nm,0.5s							
NVR	**Nevrokopi**	151.47	324		P	**PKPbc**	01 28 58.2	-0.5
SQTA	**Sankt Quirin**	151.49	347	*i*	P	**PKPdf**	01 28 51.4	-0.4
	comp=Z,2.4nm,0.7s							
SQTA				*i*	P	**PKPbc**	01 28 58.7	0.0
	comp=Z,43nm,0.7s,SNR=13							
SQTA				*e*	P	**pPKPab**	01 31 16.8	-1.9
	comp=Z,5.5nm,0.9s							
KKB	**Krupnik**	151.54	326	*i*	P	**PKiKP**	01 28 59.1	0.0
DOB	**Doboj**	151.63	335	*e*	P	**PKiKP**	01 28 59.9	+0.8
ABTA	**Abfaltersbach**	151.64	345	*i*	P	**PKPdf**	01 28 51.4	-0.7
	comp=Z,3.1nm,0.6s,SNR=9.3							
ABTA				*i*	P	**PKPbc**	01 28 58.7	-0.3
	comp=Z,22nm,0.5s							
ABTA				*e*	P	**pPKPab**	01 31 16.7	-2.9
	comp=Z,8.0nm,0.8s							
DAVA	**Damuels**	151.70	349	*e*	P	**PKiKP**	01 28 59.4	0.0
	comp=Z,80nm,1.4s,SNR=11							
DAVA				*e*	P	**pPKPab**	01 31 16.9	-2.5
	comp=Z,3.2nm,0.7s							
LJU	**Ljubljana**	151.73	341	*i*	PKPdf	**PKPdf**	01 28 52.8	+0.6
LJU				*i*	PKPbc	**PKPbc**	01 28 59.1	0.0
LJU				*i*	PKPab	**PKPab**	01 28 59.8	0.0
LJU				*i*			01 31 16.1	
ARG	**Arkhangelos**	151.76	311			**PKPbc**	01 28 58.8	-0.6
ARG	**Arkhangelos**	151.76	311		PKIKP	**PKPbc**	01 28 58.8	-0.6
FETA	**Feichten**	151.78	347	*i*	P	**PKPdf**	01 28 52.4	+0.1
	comp=Z,7.0nm,0.8s,SNR=7.8							
FETA				*i*	P	**PKiKP**	01 28 59.6	0.0
	comp=Z,26nm,0.8s							
FETA				*e*	P	**pPKPab**	01 31 17.8	-2.2
	comp=Z,6.2nm,1.0s							
OZLJ	**Ozalj**	151.82	340	*i*	P	**PKPdf**	01 28 51.6	-0.6
A051A	**Mrakovica**	151.84	337	⇓	*i*P	**PKPbc**	01 28 59.5	+0.1
PRIJ	**Prijedor**	151.95	337	*e*	P	**PKPbc**	01 28 59.6	0.0
BLY	**Banja Luka**	151.97	337	⇓	*i*P	**PKPbc**	01 28 59.8	0.0
BOJS	**Bojanci**	151.99	340	⇓	*i*P	**PKiKP**	01 29 00.0	+0.2
BOJS	**Bojanci**	151.99	340	*i*	PKPdf	**PKPdf**	01 28 53.2	+0.7
BOJS				*i*	PKPbc	**PKiKP**	01 29 00.0	+0.2
BOJS				*i*	PKPab	**PKPab**	01 29 12.2	+0.3
RUDO	**Rudo**	152.02	332	*e*	P	**PKPbc**	01 28 59.2	-0.6
CEY	**Cerknica**	152.03	341	⇓	*i*P	**PKPbc**	01 28 58.9	-0.9
SOH	**Sokhos**	152.11	324		P	**PKPab**	01 29 12.3	-0.4
DAVOX	**Davos/Dischmat**	152.18	348		PKP	**PKPdf**	01 28 53.1	+0.1
	comp=Z,6.8nm,0.7s,baz=154,slow=1.9,SNR=12							
DAVOX					PKPbc	**PKiKP**	01 29 00.7	+0.2
	comp=Z,23nm,0.5s,baz=259,slow=3.1,SNR=67							
DAVOX					pPKPbc	**pPKPbc**	01 31 17.2	+2.3
	comp=Z,9.3nm,0.8s,baz=174,slow=0.8,SNR=5.3							
VAY	**Valandovo**	152.19	325	*i*	P	**PKPbc**	01 28 59.1	-1.1
TRI	**Trieste**	152.26	342			**PKPbc**	01 28 58.6	-1.6
TRI					PKPab	**PKPab**	01 29 11.9	-1.1
MGRS	**Mrkonjic Grad**	152.29	336	*e*	P	**PKPbc**	01 29 00.4	0.0
SKO	**Skopje**	152.31	328	*i*	P	**PKPbc**	01 29 00.4	-0.1
A050A	**Klekovaca**	152.44	337	⇓	*i*P	**PKPbc**	01 29 00.3	-0.5
PAIG	**Paliouri**	152.52	322		P	**PKPab**	01 29 14.2	-0.2
GRG	**Griva**	152.54	325		P	**PKPbc**	01 28 59.2	-1.9
UPM	**Unac-Piva**	152.55	333	*e*	P	**PKPbc**	01 28 58.2	-3.0
SRKY	**Kupres RS**	152.55	336	*e*	P	**PKPbc**	01 29 00.6	-0.5
BRY	**Bratogost**	152.95	333	⇓	*i*P	**PKPbc**	01 29 01.2	-0.8
PDG	**Podgorica**	153.01	331	⇑	P	**PKPbc**	01 29 01.9	-0.1
PHP	**Peshkopia**	153.02	329		P	**PKPbc**	01 29 01.6	-0.5
LIT	**Litokhoron**	153.09	324		P	**PKPab**	01 29 16.6	-0.2
DRME	**Dracevica, Mon**	153.24	331	*e*	P	**PKPbc**	01 29 02.2	-0.3
OHR	**Ohrid**	153.27	327	*i*	P	**PKPbc**	01 29 02.7	0.0
STON	**Ston**	153.34	334	⇓	*i*P	**PKPbc**	01 29 00.4	-2.2
SANT	**Santorini**	153.53	314		PKPab	**PKPab**	01 29 17.7	-1.2
TIR	**Tirane**	153.56	329	⇑	P	**PKiKP**	01 29 03.3	+0.1
TIR	**Tirane**	153.56	329	⇑	PKIKP	**PKiKP**	01 29 03.3	+0.1
LSK	**Leskovik**	154.08	326		P	**PKPab**	01 29 21.8	+0.7
BNI	**Bardonecchia**	154.38	352		PKPdf	**PKPdf**	01 28 56.9	+0.8
BNI						**PKPbc**	01 29 05.1	+0.1
BNI					PKPab	**PKPab**	01 29 22.1	-0.2
BNI	**Bardonecchia**	154.38	352		PKIKP	**PKPbc**	01 29 05.1	+0.1
BNI							01 29 22.1	
IDI	**Anoyia**	154.50	312		PKPbc	**PKPbc**	01 29 05.6	+0.1
	comp=Z,14nm,0.7s,baz=21,slow=1.7,SNR=3.5							
LKD2	**Lefkada island**	155.02	324		P	**PKPab**	01 29 25.4	+0.3
RLS	**Riolos of Patr**	155.05	321		P	**PKPab**	01 29 25.8	+0.6
NRCA	**Norcia**	155.06	340		PKPdf	**PKPdf**	01 28 56.2	-0.8
NRCA						**PKPab**	01 29 25.2	+0.1
EVGI	**Lefkada island**	155.13	323		P	**PKPab**	01 29 25.5	-0.1
FSK	**Fiskardo**	155.30	323		P	**PKPab**	01 29 26.7	+0.4
AQU	**L'Aquila**	155.40	339		PKPdf	**PKPdf**	01 28 56.4	-1.1
AQU						**PKPab**	01 29 26.4	-0.2
AQU	**L'Aquila**	155.40	339		PKIKP	**PKPdf**	01 28 56.4	-1.1
AQU							01 29 26.4	
PBRG	**Braganca**	156.70	17	*e*	PKPab	**PKPab**	01 29 32.6	+0.3
TIP	**Timpagrande**	156.74	330	⇓	P	**PKPdf**	01 29 00.3	+1.0
POLO	**Lamas de Olo**	156.79	19	*e*	PKPdf	**PKPdf**	01 29 00.4	+1.1
POLO	**Lamas de Olo**	156.79	19	*e*	PKPab	**PKPab**	01 29 33.4	+0.7
PVRL	**Vila Real**	156.91	19	*e*	PKPab	**PKPab**	01 29 34.2	+1.0
MVO	**Moncorvo**	157.22	18	*e*	PKPdf	**PKPdf**	01 29 01.4	+1.6
MVO	**Moncorvo**	157.22	18	*e*	PKPab	**PKPab**	01 29 35.1	+0.6
PVIS	**Viseu**	157.36	20	*e*	PKPab	**PKPab**	01 29 35.4	+0.2
PCAS	**Casmilo, Conde**	157.76	22	*e*	PKPab	**PKPab**	01 29 37.1	+0.3
MTE	**Manteigas**	157.76	20	*e*	PKPab	**PKPab**	01 29 36.9	0.0
PSBE	**So Bento**	158.13	23	*e*	PKPab	**PKPab**	01 29 39.1	+0.6
PCBR	**Castelo Branco**	158.29	20	*e*	PKPdf	**PKPdf**	01 29 02.5	+1.4
PCBR	**Castelo Branco**	158.29	20	*e*	PKPab	**PKPab**	01 29 39.2	+0.1
PMAFR	**Mafra**	158.43	25	*e*	PKPab	**PKPab**	01 29 40.1	+0.3
PMST	**Lisbon--Monsan**	158.66	25	*e*	PKPdf	**PKPdf**	01 29 03.3	+1.8
PMST	**Lisbon--Monsan**	158.66	25	*e*	PKPab	**PKPab**	01 29 41.3	+0.5
PMRV	**Marv??o**	158.69	20	*e*	PKPdf	**PKPdf**	01 29 03.7	+2.1
PMRV	**Marv??o**	158.69	20	*e*	PKPab	**PKPab**	01 29 41.5	+0.6
PMTG	**Montargil**	158.73	22	*e*	PKPab	**PKPab**	01 29 41.0	-0.1
PESTR	**Estremoz**	159.13	21	*e*	PKPab	**PKPab**	01 29 43.0	+0.1
PESTR	**Estremoz**	159.13	21		PKPdf	**PKPdf**	01 29 02.8	+0.7
PESTR					PKPab	**PKPab**	01 29 42.4	-0.5
ESDC	**Sonseca Array**	159.40	13		PKP	**PKPdf**	01 29 02.8	+0.3
	comp=Z,2.1nm,1.0s,baz=349,slow=1.8,SNR=11							
ESDC					PKPab	**PKPab**	01 29 43.9	-0.2
	comp=Z,8.4nm,1.0s,baz=342,slow=4.0,SNR=22							
ESDC					pPKPab	**pPKPab**	01 31 53.8	+2.0
	comp=Z,2.4nm,1.2s,baz=347,slow=5.0,SNR=4.3							
PNCL	**Nicolau / Gran**	159.45	24	*e*	PKPdf	**PKPdf**	01 29 03.8	+1.3
PNCL	**Nicolau / Gran**	159.45	24	*e*	PKPab	**PKPab**	01 29 44.6	+0.3
PBEJ	**Beja**	159.78	23	*e*	PKPab	**PKPab**	01 29 46.0	+0.3
MESJ	**Messejana**	159.81	24	*e*	PKPab	**PKPab**	01 29 46.3	+0.5
PTEO	**Sao Teotonio**	159.87	25	*e*	PKPdf	**PKPdf**	01 29 00.2	-2.7
PTEO	**Sao Teotonio**	159.87	25	*e*	PKPab	**PKPab**	01 29 46.9	+0.8
PBAR	**Barrancos**	159.94	21	*e*	PKPdf	**PKPdf**	01 29 04.7	+1.7
PBAR	**Barrancos**	159.94	21	*e*	PKPab	**PKPab**	01 29 46.8	+0.4
PCVE	**Castro Verde**	160.06	24	*e*	PKPab	**PKPab**	01 29 47.4	+0.4
PVAQ	**Vaqueiros**	160.38	24	*e*	PKPab	**PKPab**	01 29 49.0	+0.6
KEST	**Kesra**	162.72	340		PKPab	**PKPab**	01 29 59.1	+0.3
	comp=Z,10nm,0.6s,baz=272,slow=1.0,SNR=20							
LIC	**Lamto**	165.00	152	⇓	*e*P	**PKPab**	01 30 09.6	+0.4
	comp=Z,19nm,0.4s							
KIC	**Kosan Boka**	165.25	153	⇓	*i*P	**PKPab**	01 30 11.3	+1.0
	comp=Z,11nm,0.5s							
TIC	**Toumodi**	165.38	151	⇓	*i*P	**PKPab**	01 30 06.3	-4.6
	comp=Z,12nm,0.3s							
DBIC	**Dimbokro**	165.47	152		PKP	**PKPdf**	01 29 08.6	-0.4
	comp=Z,5.0nm,1.1s,baz=264,slow=2.7,SNR=4.2							
DBIC					PKPab	**PKPab**	01 30 12.1	+0.8
	comp=Z,5.1nm,0.5s,baz=200,slow=4.7,SNR=7.0							
MDT	**Midelt**	165.62	23		PKP	**PKPdf**	01 29 09.4	+0.7
	comp=Z,6.6nm,1.0s,baz=308,slow=0.8,SNR=7.7							
MDT					PKPab	**PKPab**	01 30 12.6	+0.9
	comp=Z,5.0nm,0.6s,baz=280,slow=4.4,SNR=20							
KOWA	**Kowa**	172.29	131		PKP	**PKPdf**	01 29 12.4	-0.8
KOWA					PKPab	**PKPab**	01 30 40.3	-1.3
	comp=Z,4.1nm,0.5s,baz=241,slow=6.4,SNR=8.6							
KOWA	**Kowa**	172.29	131			**PKPdf**	01 29 11.9	-1.3
KOWA					PKPab	**PKPab**	01 30 40.0	-1.6
TOA0	**Torodi Ar. Sit**	173.53	177			**PKPdf**	01 29 12.4	-1.3
TOA0						**PKPab**	01 30 46.4	-0.4
TORD	**Torodi Ar. Bea**	173.53	177		PKP	**PKPdf**	01 29 13.0	-0.7
	comp=Z,7.0nm,1.0s,baz=322,slow=1.0,SNR=24							
TORD					PKPab	**PKPab**	01 30 46.9	+0.1
	comp=Z,2.2nm,0.5s,baz=194,slow=3.8,SNR=17							
TORD					pPKPab	**pPKPab**	01 32 55.0	+1.2
	comp=Z,4.5nm,0.9s,baz=160,slow=4.6,SNR=8.9							
TORD					PP	**PP**	01 34 37.5	-0.4
	comp=Z,7.1nm,1.1s,baz=204,slow=4.0,SNR=9.2							

*SJA **25** 01:23:41.5±1.1,30.˚23S×72.˚08W,h10km,ML4.8,MW4.6*
*IDC **25** 01:23:43.6±0.6,30.˚32S×71.˚56W,h0km,mb4.3/15,*
mbtmp4.2/20,ML4.0/5,MS3.9/8,Error ellipse:
s-maj=21.2km s-min=15.1km az=96.0
*VAO **25** 01:23:46.0±1.3,30.˚30S×71.˚57W,h10km,mb4.5*
*GUC **25** 01:23:47.8±0.7,30.˚36S×71.˚65W,h37km±2km,ML4.9*
*NEIC **25** 01:23:47.5,30.˚31S×71.˚86W,h36km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁵Nm; Mrr6.18;
Mθθ3.40; Mϕϕ-9.58; Mrθ-1.22; Mrϕ-0.11; Mθϕ-1.73; Fault
plane solution: M₀8.68000×10¹⁵ NP1:ϕs340.56000°,
δ42.28000°,λ60.52000°. NP2:ϕs197.95000°,δ54.15000°,
λ114.11000°. Principal axes: T 6.7934, Plg70.0000°,
Azm164.0000°; N 2.9808, Plg19.0000°, Azm3.0000°; P
-9.7742, Plg6.0000°, Azm271.0000°;
*NEIC **25** 01:23:48.2±2.3,30.˚34S±0.˚04×71.˚78W±0.˚08,h30km±4km,*
mb4.7/32,Mwr4.6/55,Mwr4.6(GUC) Error ellipse:
s-maj=10.4km s-min=6.5km az=94.0
ISC 25 01:23:44.0±1.4,30.˚31S±0.˚02×71.˚77W±0.˚04,h5km±8km,
n175,σ1§22/195,mb4.7/28,MS4.0/4,3C-7D,Near coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.39**	**162**	Pg		**Pb**	**01 23 55.7**	**+2.4**
CO06	**Fray Jorge**	**0.39**	**162**	⇓	*i*P	**Pb**	**01 23 55.7**	**+2.4**
CO06				*i*	S	**Sb**	**01 24 01.0**	**+1.4**
CO06					IAML		01 24 02.7	
	comp=E,74μm,0.2s							
CO05	**La Serena**	**0.60**	**50**			**Pn**	**01 23 58.9**	**-0.3**
CO05	**La Serena**	**0.60**	**50**	⇓	*i*P	**Pn**	**01 23 59.0**	**-0.2**
CO05				*i*	S	**Sb**	**01 24 06.4**	**+0.6**
CO05					IAML		01 24 07.7	
	comp=N,200μm,0.2s							
GO04	**Tolobo Observa**	**0.85**	**81**			**Pb**	**01 24 01.8**	**+0.4**
GO04	**Tolobo Observa**	**0.85**	**81**	⇓	*i*P	**Pn**	**01 24 02.4**	**-0.5**
GO04				*i*	S	**Sb**	**01 24 12.5**	**-0.8**
GO04					IAML		01 24 16.6	
	comp=N,129μm,0.4s							
GO04	**Tolobo Observa**	**0.85**	**81**	*e*	P	**Pn**	**01 24 02.5**	**-0.5**
GO04				*e*	S	**Sb**	**01 24 13.2**	**0.0**
CO02	**Combarbal**	**1.11**	**144**			**Pb**	**01 24 06.6**	**+0.7**
CO02	**Combarbal**	**1.11**	**144**	*i*	P	**Pb**	**01 24 06.5**	**+0.7**
CO02				*i*	S	**Sg**	**01 24 20.0**	**+0.2**
CO02					IAML		01 24 23.8	
	comp=N,75μm,0.3s							
CO02	**Combarbal**	**1.11**	**144**	*e*	P	**Pn**	**01 24 06.8**	**+0.4**
CO02				*e*	S	**Sb**	**01 24 21.3**	**+0.5**
CO02					IAML		01 24 21.8	
	comp=Z,18μm,1.4s							
CO01	**Juntas del Tor**	**1.49**	**78**			**Pg**	**01 24 12.8**	**+0.2**
CO01	**Juntas del Tor**	**1.49**	**78**	⇓	*i*P	**Pg**	**01 24 12.7**	**+0.2**
CO01				*i*	S	**Sb**	**01 24 30.7**	**-1.0**
CO01					IAML		01 24 34.5	
	comp=N,14μm,0.6s							
CO01	**Juntas del Tor**	**1.49**	**78**	*e*	P	**Pg**	**01 24 12.9**	**+0.4**
CO01				*e*	S	**Sg**	**01 24 31.5**	**-0.3**
CO01					IAML		01 24 33.4	
	comp=Z,23μm,0.4s							
LCO	**Las Campanas**	**1.59**	**36**		Pn	**Pn**	**01 24 14.1**	**+0.9**
LCO	**Las Campanas**	**1.59**	**36**	⇓	*i*P	**Pn**	**01 24 14.0**	**+0.9**
LCO				*i*	S	**Sn**	**01 24 34.0**	**-0.2**
LCO	**Las Campanas**	**1.59**	**36**	*e*	P	**Pn**	**01 24 14.0**	**+0.9**
AC05	**El Transito**	**1.96**	**42**			**Pb**	**01 24 19.8**	**-0.5**
AC05	**El Transito**	**1.96**	**42**	⇓	*i*P	**Pb**	**01 24 19.8**	**-0.5**
AC05				*i*	S	**Sb**	**01 24 44.9**	**-0.2**
AC05					IAML		01 24 47.9	
	comp=N,12μm,0.5s							
AC05	**El Transito**	**1.96**	**42**	*e*	P	**Pb**	**01 24 20.1**	**-0.2**
AC05				*e*	S	**Sg**	**01 24 46.4**	**-0.6**
AC05					IAML		01 24 50.3	
	comp=Z,6μm,1.1s							
AROD	**Rodeo**	**1.99**	**87**	*e*	P	**Pb**	**01 24 21.7**	**+0.7**
AC04	**Llanos de Chal**	**2.18**	**16**			**Pn**	**01 24 21.6**	**+0.7**
AC04	**Llanos de Chal**	**2.18**	**16**	⇓	*i*P	**Pn**	**01 24 22.0**	**+1.0**
AC04					IAML		01 24 58.7	
	comp=N,5μm,0.6s							
AC04	**Llanos de Chal**	**2.18**	**16**	*e*	P	**Pn**	**01 24 22.0**	**+1.0**
AC04				*e*	S	**Sg**	**01 24 54.5**	**+0.5**
VA06	**Catapilco**	**2.29**	**170**		Pn	**Pn**	**01 24 23.5**	**+1.1**
VA06	**Catapilco**	**2.29**	**170**	*i*	P	**Pn**	**01 24 23.4**	**+1.1**
VA06				*e*	S	**Sn**	**01 24 51.2**	**+0.3**
VA06					IAML		01 25 09.4	
	comp=N,

comp=E,812nm,20.0s,baz=256,slow=39
comp=E,1.5nm,0.4s
CPUP Villa Florida 13.32 76 Pn **Pn 01 26 54.5 +0.6**
AY01 Puyuhuapi 14.11 183 Pn **Pn 01 27 03.1 -1.3**
RODS Rosario do Sul 14.32 94 *eP* **Pn 01 27 06.1 -1.3**
LPAZ La Paz 14.35 14 Pn **Pn 01 27 09.3 +0.9**
comp=E,0.7nm,0.3s,baz=190,slow=6.8,SNR=14
comp=E,2.0nm,0.5s
LPAZ La Paz 14.35 14 Pn **Pn 01 27 11.3 +2.9**
UNIS Unistalda (Bra 14.57 89 *eP* **Pn 01 27 11.6 +0.6**
COYC Coyhaique 15.24 181 Pn **Pn 01 27 22.2 +2.3**
ALGR Alto Alegre (B 16.38 89 *eP* **Pn 01 27 34.9 0.0**
ANTJ Antonio Joao (16.38 63 *eP* **Pn 01 27 34.0 -0.9**
SIV San Ignacio 17.30 37 P **Pn 01 27 44.0 -2.4**
baz=270,slow=20,SNR=9.7
SIV LR LR 01 35 43.4
comp=E,413nm,18.5s,baz=214,slow=42
comp=E,14nm,0.7s
ITAB Concordia 17.49 85 Pn **Pn 01 27 48.1 -0.6**
AQDB Aquidauana 17.49 60 Pn **Pn 01 27 47.8 -1.0**
PTGB Pitanga 18.34 77 *eP* **Pn 01 27 58.8 -0.5**
PTLB Pontes e Lacer 18.80 41 P **P 01 28 03.8 -0.6**
PTLB IAmb IAmb 01 28 17.1
comp=Z,17nm,1.1s
PTLB Pontes e Lacer 18.80 41 *eP* **P 01 28 04.7 +0.3**
NNA Nana 18.83 344 LR LR 01 34 17.8
comp=Z,232nm,18.7s,baz=170,slow=34
RPRD Ribas do Rio P 19.01 63 *eP* **P 01 28 07.3 +0.5**
VILB Vilhena 20.32 34 **P 01 28 21.5 +0.4**
VILB IAmb IAmb 01 28 26.3
comp=Z,25nm,0.9s
VILB Vilhena 20.32 34 *eP* **P 01 28 21.2 +0.1**
PCMB Pacaembu 20.35 70 *eP* **P 01 28 21.4 0.0**
SALV Santo Antonio 20.56 49 *eP* **P 01 28 23.2 -0.5**
ETMB Extrema 21.04 15 P **P 01 28 29.9 +1.1**
ETMB IAmb IAmb 01 28 46.8
comp=Z,10nm,0.8s
ETMB Extrema 21.04 15 *eP* **P 01 28 30.2 +1.4**
CZSB Cruzeiro do Su 22.48 358 P **P 01 28 44.5 +0.2**
CZSB IAmb IAmb 01 28 59.1
comp=Z,75nm,1.4s
CZSB Cruzeiro do Su 22.48 358 *eP* **P 01 28 46.1 +1.8**
BB19B Bebedouro 22.84 72 *eP* **P 01 28 48.4 +0.2**
PDRB Porto dos Gac 23.26 40 *eP* **P 01 28 52.9 +0.4**
VAO Valinhos 23.30 78 *eP* **P 01 28 51.7 -1.3**
ATAH Atahualpa 23.88 344 LR LR 01 36 56.4
comp=Z,245nm,18.2s,baz=216,slow=33
CLDB Colider 24.39 41 *eP* **P 01 29 02.3 -1.1**
USHA Ushuaia 24.63 175 P **P 01 29 05.7 +0.5**
comp=Z,9.3nm,0.5s,baz=268,slow=1.8,SNR=1.4
comp=Z,9.3nm,0.5s
IPMB Ipameri, GO 24.69 66 *eP* **P 01 29 05.6 -0.7**
PMNB Patos De Minas 25.81 69 *eP* **P 01 29 16.3 -0.1**
TBTG Tabatinga, AM 26.04 4 P **P 01 29 17.6 -0.8**
TBTG IAmb IAmb 01 29 31.6
comp=Z,25nm,0.7s
TBTG Tabatinga, AM 26.04 4 *eP* **P 01 29 19.8 +1.4**
BDFB Brasilia 26.22 61 P **P 01 29 18.9 -1.2**
comp=Z,8.5nm,0.5s,baz=238,slow=7.9,SNR=18
comp=Z,8.5nm,0.5s
BDFB Brasilia 26.22 61 **P 01 29 19.7 -0.4**
BDFB IAmb IAmb 01 29 20.1
comp=Z,9.7nm,0.6s
BDFB Brasilia 26.22 61 *eP* **P 01 29 19.4 -0.8**
SNDB Serra Nova Dou 26.33 51 *eP* **P 01 29 20.7 -0.3**
NPGB Novo Progresso 27.80 37 *eP* **P 01 29 33.5 -0.8**
MACA Manacapuru-AM 28.97 23 P **P 01 29 44.9 +0.3**
MACA IAmb IAmb 01 29 45.0
comp=Z,7.1nm,0.6s
JANB Januaria 29.43 65 *eP* **P 01 29 47.6 -1.2**
ITTB Itaituba 29.92 34 *eP* **P 01 29 52.6 -0.4**
BOAV Boa Vista 34.25 20 IAmb IAmb 01 30 32.0
comp=Z,7.5nm,0.7s
RCBR Riachuelo 41.59 61 LR LR 01 50 26.1
comp=Z,201nm,18.9s,baz=347,slow=39
CBYP Canovanas 48.63 7 P **P 01 32 28.9 -0.1**
CBYP IAmb IAmb 01 32 31.7
comp=Z,15nm,1.3s
BELA Belgrano 2 50.47 170 P **P 01 32 42.0 -0.4**
BELA IAmb IAmb 01 32 44.3
comp=Z,5.3nm,0.9s
CMIG Matias Romero 52.12 332 LR LR 01 50 33.9
comp=Z,122nm,19.1s,baz=68,slow=31
VNA3 Neumayer Olymp 52.70 159 P **P 01 32 59.6 +0.4**
VNA1 Neumayer--Stat 52.99 158 P **P 01 33 00.8 -0.4**
VNA2 Neumayer--Watz 53.34 158 P **P 01 33 03.3 -0.5**
baz=288,slow=9.0
SNAA Sanae 54.92 159 P **P 01 33 15.2 -0.3**
SNAA Sanae 54.92 159 P **P 01 33 15.0 -0.5**
comp=Z,4.4nm,0.5s,baz=284,slow=8.3,SNR=37
comp=Z,4.4nm,0.5s
SNAA Sanae 54.92 159 P **P 01 33 15.4 -0.1**
SNAA IAmb IAmb 01 33 16.6
comp=Z,9.0nm,1.0s
TROLL Troll, Antarti 56.64 159 P **P 01 33 27.6 -0.3**
QSPA South Pole Qui 59.92 180 P **P 01 33 51.1 +0.2**
JCT Junction City 66.07 334 P **P 01 34 32.6 +0.5**
JCT IAmb IAmb 01 34 44.4
comp=Z,6.2nm,0.9s
SWET Sewanee 66.52 347 IAmb IAmb 01 34 45.2
comp=Z,5.4nm,0.7s
TXAR Lajitas Array 66.65 330 P **P 01 34 36.7 +0.9**
comp=Z,0.7nm,0.7s,baz=156,slow=8.7,SNR=12
comp=Z,0.7nm,0.7s
VNDA Vanda 67.76 191 P **P 01 34 43.1 +1.0**
comp=Z,0.9nm,0.9s,baz=132,slow=6.1,SNR=6.1
comp=Z,0.9nm,0.9s
VNDA Vanda 67.76 191 P **P 01 34 41.5 -0.7**
WVT Waverly 67.79 346 P **P 01 34 42.7 -0.1**
WVT IAmb IAmb 01 34 53.1
comp=Z,11nm,1.1s
LOOK Love County 68.31 337 P **P 01 34 45.2 -0.9**
LOOK IAmb IAmb 01 35 01.0
comp=Z,16nm,1.3s
HHAR Hobbs 69.43 341 P **P 01 34 53.4 +0.3**
HHAR IAmb IAmb 01 35 03.9
comp=Z,6.8nm,1.0s
ANMO Albuquerque 72.67 331 P **P 01 35 13.7 +0.7**
T25A Trinidad 73.73 333 P **P 01 35 19.5 +0.2**
T25A IAmb IAmb 01 35 31.6
comp=Z,8.0nm,1.0s
DBIC Dimbokro 73.81 72 P **P 01 35 19.3 -0.7**
comp=Z,2.1nm,0.5s,baz=224,slow=6.6,SNR=5.7
comp=Z,2.1nm,0.5s
SDCO Great Sand Dun 74.69 333 P **P 01 35 24.2 -0.7**
SUR Sutherland 76.43 120 P **P 01 35 35.2 0.0**
comp=Z,4.6nm,0.8s,baz=243,slow=4.4,SNR=5.8
comp=Z,4.6nm,0.8s
SMCO Snowmass 76.50 333 P **P 01 35 34.7 -0.8**
SMCO IAmb IAmb 01 35 48.0
comp=Z,9.7nm,1.1s
MAW Mawson 76.65 164 P **P 01 35 35.3 -0.1**
comp=Z,1.6nm,0.5s,baz=197,slow=6.0,SNR=11
comp=Z,1.6nm,0.5s
ECSD EROS Data Cent 77.11 342 P **P 01 35 37.7 -0.5**
ECSD IAmb IAmb 01 35 49.2
comp=Z,8.8nm,0.8s
O20A White River Ci 77.83 332 IAmb IAmb 01 36 02.8
comp=Z,13nm,1.5s
KOWA Kowa 78.92 66 P **P 01 35 48.6 -0.3**
comp=Z,4.8nm,0.5s,baz=243,slow=6.2,SNR=15
comp=Z,4.8nm,0.5s
PDAR Pinedale Array 80.58 333 P **P 01 35 58.6 +1.0**
comp=Z,0.2nm,0.4s,baz=123,slow=6.5,SNR=1.3
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 81.00 325 P **P 01 36 01.6 +1.6**
comp=Z,0.2nm,0.5s,baz=131,slow=7.7,SNR=1.5
comp=Z,0.2nm,0.5s
BOSA Boshof 81.59 118 P **P 01 36 03.2 -0.3**
comp=Z,3.3nm,0.8s,baz=190,slow=10,SNR=4.4
comp=Z,3.3nm,0.8s
TOA0 Torodi Ar. Sit 82.75 70 P **P 01 36 09.4 0.0**
TOA0 IAmb IAmb 01 36 09.9
comp=Z,6.1nm,1.0s
TORD Torodi Ar. Bea 82.75 70 P **P 01 36 08.7 -0.7**
comp=Z,3.5nm,0.5s,baz=262,slow=4.9,SNR=61
comp=Z,3.5nm,0.5s
LBTB Lobatse 83.66 115 P **P 01 36 13.7 -0.6**
comp=Z,2.4nm,0.6s,baz=244,slow=7.9,SNR=4.6
comp=Z,2.4nm,0.6s
AFI Afiamalu 91.49 253 LR LR 02 11 23.8
comp=Z,73nm,18.2s,baz=27,slow=31
ESDC Sonseca Array 93.85 46 P **P 01 37 02.5 +0.1**
comp=Z,0.8nm,0.9s,baz=242,slow=3.2,SNR=4.3
comp=Z,0.8nm,0.9s
WRA Warramunga Arr 124.08 210 PKP **PKPdf 01 42 43.4 -0.9**
comp=Z,0.3nm,0.5s,baz=163,slow=1.7,SNR=8.0
H11S2 WAKE ISLAND Hyl 25.97 272 T T 04 01 35.6
baz=115,slow=75,SNR=187
H11S1 WAKE ISLAND Hyl 25.98 272 T T 04 01 36.5
baz=115,slow=75,SNR=152
H11S3 WAKE ISLAND Hyl 25.99 272 T T 04 01 37.0
baz=115,slow=75,SNR=136
KK31 Karatay Array 147.45 56 PKPbc **PKPdf 01 43 28.3 +1.8**
KKAR Karatay Array 147.45 56 PKPbc **PKPdf 01 43 28.6 +2.1**
BTK Batken 148.11 62 PKPbc **PKPbc 01 43 31.0 0.0**
ZALV Zalesovo Beam 150.94 29 PKPbc **PKPbc 01 43 37.5 +0.1**
comp=Z,11nm,0.7s,baz=299,slow=3.2,SNR=39
KSH Kashi 152.12 62 PKPbc **PKPbc 01 43 41.4 +0.6**
KSH PP PP 01 47 36.8 +14
MKAR Makanchi Array 154.05 43 PKPbc **PKPbc 01 43 44.0 -0.6**
comp=Z,0.8nm,0.8s,baz=264,slow=1.2,SNR=5.2
PZH PanZhiHua 173.15 122 PKP **PKPdf 01 43 54.8 -0.2**

ROM 25 01:26:11.2±0.0, 42°.682N±0°.002×13°.295E±0°.002, h9km, ML1.1/2, Error ellipse: s-maj=0.2km s-min=0.1km az=72.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.02**	**111**	P	Pg	01 26 12.9	0.0
T1204				S	Sg	01 26 14.0	-0.2
T1204				AML	AML		
	comp=E,1003μm,0.1s						
T1204				AML	AML		
	comp=N,580μm,0.3s						
T1202	**Accumoli, Fraz**	**0.06**	**292**	P	Pg	01 26 13.6	+0.5
T1202				S	Sg	01 26 14.9	+0.3
T1202				AML	AML		
	comp=E,404μm,0.2s						
T1202				AML	AML		
	comp=N,296μm,1.5s						
SMA1	**SAN MARTINO**	**0.06**	**150**	P	Pg	01 26 13.3	+0.2
SMA1				S	Sg	01 26 14.7	+0.1
SMA1				AML	AML		
	comp=E,174μm,0.2s						
SMA1				AML	AML		
	comp=E,174μm,0.2s						
SMA1				AML	AML		
	comp=N,206μm,0.4s						
T1243	**Rocca Santa Ma**	**0.11**	**83**	P	Pg	01 26 14.5	+0.6
T1243				S	Sg	01 26 16.4	+0.6
T1242	**Castelluccio d**	**0.16**	**336**	S	Sg	01 26 16.0	-1.1
CAMP	**Campotosto**	**0.17**	**150**	P	Pg	01 26 15.3	+0.5
CAMP				S	Sg	01 26 18.2	+0.9
T1246	**Crognaleto (TE**	**0.18**	**124**	P	Pg	01 26 15.6	+0.7
T1246				S	Sg	01 26 18.6	+1.2
RM33	**Pellescritta (**	**0.18**	**199**	P	Pg	01 26 15.7	+0.7
RM33				S	Sg	01 26 18.9	+1.3
NRCA	**Norcia**	**0.20**	**319**	P	Pg	01 26 15.7	+0.3
T1241	**Roccafluvione,**	**0.20**	**30**	P	Pg	01 26 15.9	+0.6
T1241				S	Sg	01 26 19.5	+1.4
LNSS	**Leonessa**	**0.20**	**247**	P	Pg	01 26 16.0	+0.7
LNSS				S	Sg	01 26 19.5	+1.2
MMO1	**Montemonaco**	**0.22**	**6**	P	Pg	01 26 16.2	+0.6
MMO1				S	Sg	01 26 20.2	+1.6
TERO	**Teramo**	**0.23**	**104**	P	Pg	01 26 16.4	+0.5
TERO				S	Sg	01 26 20.5	+1.4
TERO				AML	AML		
	comp=E,93μm,0.6s						
TERO				AML	AML		
	comp=N,76μm,1.1s						
TERO				AML	AML		
	comp=E,93μm,0.6s						
T1217	**Poggiodomo (PG**	**0.27**	**276**	S	Sg	01 26 18.0	-2.2
T1216	**Preci, Frazion**	**0.29**	**316**	P	Pg	01 26 17.6	+0.6
GIGS	**Gran Sasso**	**0.31**	**139**	P	Pb	01 26 18.4	-0.5
FDMO	**Fiordimonte**	**0.39**	**337**	P	Pg	01 26 19.3	+0.6
FDMO				S	Sb	01 26 25.4	-0.9
CSP1	**Cessapalombo**	**0.41**	**351**	P	Pg	01 26 20.0	+0.7
CSP1				S	Sb	01 26 26.6	-0.7

*SOME **25** 01:27:25.0, 42°.95N×80°.47E, h15km*
NNC 25 01:27:25.1±1.1, 42°.97N×80°.43E, h4km±6km, mb2.9, mpv2.8, 2C-1D, Error ellipse: s-maj=9.5km s-min=5.3km az=172.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.48**	**353**	*eP*	Pb	01 27 35.4	-0.9
KTMS	0.7nm,0.1s			*eS*	Sb	01 27 42.8	-1.0
	3.9nm,0.1s						
KTMS	**Ketmen**	**0.48**	**353**	P	Pb	01 27 35.4	-0.9
KTMS	0.7nm,0.1s			S	Sb	01 27 42.8	-1.0
	3.9nm,0.1s						
SHLS	**Shalkode**	**0.73**	**285**	*eP*	Pg	01 27 34.7	-4.5
SHLS	5.3nm,0.1s			*eS*	Sg	01 27 41.8	-6.9
	20nm,0.2s						
SHLS	**Shalkode**	**0.73**	**285**	P	Pg	01 27 34.7	-4.5
SHLS	5.3nm,0.1s			S	Sg	01 27 41.8	-6.9
	20nm,0.2s						
PDGK	**Podgornoye**	**0.78**	**298**	PKIKP	Pn	01 27 51.1	+8.1
PDGK	**Podgornoye**	**0.78**	**298**	⇓P	Pg	01 27 40.2	+0.2
PDGK	4.9nm,1.1s			⇑S	Sb	01 27 51.4	-0.8
	4.5nm,0.5s						
UZB	**Uzynbulak**	**1.04**	**280**	*eP*	Pg	01 27 45.1	-0.1
UZB	1.5nm,0.1s			*eS*	Sb	01 27 59.5	-0.5
	13nm,0.2s						
UZB	**Uzynbulak**	**1.04**	**280**	P	Pg	01 27 45.1	-0.1
UZB	1.5nm,0.1s			S	Sb	01 27 59.5	-0.5
	13nm,0.2s						
KPKS	**Kokpek**	**1.37**	**292**	*eP*	Pn	01 27 50.6	-0.5
KPKS	4.6nm,0.1s			*eS*	Sg	01 28 09.0	-0.1
	15nm,0.2s						
KPKS	**Kokpek**	**1.37**	**292**	P	Pn	01 27 50.6	-0.5
KPKS	4.6nm,0.1s			S	Sg	01 28 09.0	-0.1
	15nm,0.2s						
SATY	**Saty**	**1.48**	**274**	*eP*	Pb	01 27 53.2	-0.2
SATY	5.0nm,0.1s			*eS*	Sg	01 28 13.4	+0.6
	14nm,0.1s						
SATY	**Saty**	**1.48**	**274**	P	Pb	01 27 53.2	-0.2
SATY	5.0nm,0.1s			S	Sg	01 28 13.4	+0.6
	14nm,0.1s						
MDOK	**Medeo**	**2.48**	**276**	Pg	Pb	01 28 09.6	-0.8
MDOK	3.1nm,1.0s			⇑Lg	Lg	01 28 42.3	
	5.1nm,0.7s						

*IDC **25** 01:29:45.0±2.3, 7°.00S×130°.01E, h110km±26km, mb4.1/1, mbtmp4.4/6, MS3.9/1, Error ellipse: s-maj=38.8km s-min=21.1km az=94.0*
*DJA **25** 01:29:47.5±0.4, 7°.5±4°×13°.0E±°, h121km±26km, M4.4/6, mb4.3/5, mB4.9/2, MLv4.5/6, Mw(mB)4.2/2*
ISC 25 01:29:44.0±0.9, 7°.02S±0°.06×130°.08E±0°.08, h100km, n16, σ3s38/18, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.54**	**128**	P	Pn	01 30 19.1	+8.3
MSAI	**Masohi**	**3.82**	**343**	P	**Pn**	**01 30 44.6**	**+3.8**
FAKI	**Fak Fak**	**4.61**	**28**	P	**Pn**	**01 30 53.5**	**+2.0**
FAKI	**Fak Fak**	**4.61**	**28**	P	**Pn**	**01 30 52.7**	**+1.2**
MTN	**Manton Dam**	**5.88**	**170**	P	**Pn**	**01 31 12.4**	**+3.7**
KDU	**Kakadu**	**6.11**	**157**	P	**Pn**	**01 31 15.9**	**+4.1**
SIJI	**Sorong**	**6.22**	**11**	P	**Pn**	**01 31 14.1**	**+0.7**
	11nm,0.3s,baz=179,slow=16,SNR=16			S	**Sn**	**01 32 16.8**	**-6.4**
SIJI	9.9nm,0.2s,baz=32,slow=23,SNR=8.7			P	**Pn**	**01 31 25.2**	**+3.4**
LBMI	**Labuha**	**6.84**	**338**	P	**Pn**	**01 31 26.9**	**+1.8**
	0.2nm72nm,0.9s						
BATI	**Baumata**	**7.09**	**243**	P	**Pn**	**01 31 28.0**	**+2.9**
	38nm,0.3s,baz=77,slow=6.0,SNR=10			S	**Sn**	**01 32 41.9**	**-2.3**
	39nm,0.4s,baz=84,slow=6.0,SNR=3.5						
BATI				LR	LR	01 34 39.1	
	comp=Z,883nm,20.0s,baz=322,slow=42						
BATI	**Baumata**	**7.09**	**243**	P	**Pn**	**01 31 28.0**	**+2.9**
	0.2nm645nm31nm,0.6s						
KNRA	**Kununurra**	**8.70**	**188**	P	**Pn**	**01 31 48.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**11.83**	**201**	P	**Pn**	**01 32 28.4**	**-1.1**
	4.0nm,0.3s,baz=0.9,slow=12,SNR=40						
FITZ				S	Sn	01 34 30.5	-9.1
	4.5nm,0.3s,baz=359,slow=8.3,SNR=7.7						
FITZ	**Fitzroy Crossi**	**11.83**	**201**	P	**Pn**	**01 32 29.2**	**-0.3**
WRA	**Warramunga Arr**	**13.50**	**163**	P	**Pn**	**01 32 51.7**	**+0.2**
	3.2nm,0.4s,baz=341,slow=13,SNR=53						
WRA				S	**Sn**	**01 35 13.7**	**-6.3**
	5.2nm,0.4s,baz=336,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.96**	**168**	P	**P**	**01 33 38.0**	**+2.5**
	2.6nm,0.5s,baz=342,slow=9.2,SNR=58						
ASAR				S	Sn	01 36 34.5	-9.2
	0.9nm,0.6s,baz=328,slow=17,SNR=3.9						
MKAR	**Makanchi Array**	**68.28**	**327**	P	**P**	**01 40 33.9**	**-0.4**
	1.6nm,0.4s,baz=116,slow=8.2,SNR=29						
	1.6nm,0.4s						

*IPEC **25** 01:33:17.6±0.1, 50°.11N×19°.34E, h0km±1km, ML1.6/4, Error ellipse: s-maj=2.9km s-min=0.8km az=162.0*
PRU 25 01:33:17.5±0.0, 50°.17N×19°.27E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.34**	**81**	*eP*	Pg	01 33 23.5	-0.6
OJC				*eS*	Sg	01 33 28.4	-0.1
OKC	**Ostrava-Krasne**	**0.80**	**246**	*eP*	Pg	01 33 32.9	+0.1
OKC				*eS*	Sg	01 33 43.8	+0.7
	comp=Z,8.0nm,0.7s						
NIE	**Niedzica**	**1.01**	**138**	*eP*	Pg	01 33 36.4	-0.3
NIE				*eS*	Sb	01 33 50.9	-0.7
LANS	**Liptovska Anna**	**1.03**	**173**	*eP*	Pg	01 33 36.2	-1.0
LANS				*eS*	Sg	01 33 49.4	-1.1
LANS				*eLG*	Lg	01 33 52.9	
MORC	**Moravsky Berou**	**1.18**	**251**	*eP*	Pb	01 33 40.5	-0.3
	baz=73						
MORC				*eSg*	Sg	01 33 55.5	0.0
	10nm,0.6s,baz=73						
MORC	**Moravsky Berou**	**1.18**	**251**	*eP*	Pb	01 33 40.6	-0.2
MORC				*eSG*	Sg	01 33 55.6	+0.1
MAUC	**Maruska**	**1.23**	**230**	*eP*	Pg	01 33 40.8	-0.3
MAUC				*eSG*	Sg	01 33 57.1	0.0
	comp=Z,20nm,1.1s						
KRLC	**Kraliky**	**1.60**	**268**	*eP*	Pn	01 33 46.9	-0.2
KRLC				*eSG*	Sn	01 34 08.2	-0.4
	comp=Z,3.0nm,0.4s						
VYHS	**Vyhne**	**1.70**	**190**	*eP*	Pn	01 33 47.2	-1.2
VYHS				*eSN*	Sn	01 34 08.2	-2.7
VYHS				*eLG*	Lg	01 34 09.8	
DPC	**Dobruska-Polom**	**1.90**	**277**	*eP*	Pb	01 33 52.3	-0.8
DPC				*eSG*	Sg	01 34 18.7	+0.2
	comp=Z,6.4nm,0.9s						
VRAC	**Vranov**	**1.94**	**245**	*eP*	Pn	01 33 51.8	+0.1
	baz=65						
VRAC				*eSg*	Sb	01 34 18.8	+0.4
	2.9nm,0.5s,baz=65						
OSTC	**Ostas**	**1.99**	**282**	*eP*	Pb	01 33 53.7	-0.9
OSTC				*eSG*	Sg	01 34 22.3	+0.8
CHVC	**Chvalec**	**2.10**	**283**	*eP*	Pb	01 33 55.6	-0.9
CHVC				*eSG*	Sg	01 34 25.6	+0.7
KRUC	**Moravsky**	**2.17**	**240**	*eP*	Pn	01 33 55.2	+0.3
	baz=60						
KRUC				*eSg*	Sb	01 34 25.8	+0.6
	3.3nm,0.6s,baz=60						
PRU	**Pruhonice**	**3.05**	**268**	*eSG*	Sg	01 34 54.5	-1.0
PRU	**Pruhonice**	**3.05**	**268**	*e*	Sg	01 34 54.5	-1.0
CKRC	**Cesky Krumlov**	**3.50**	**249**	*eSG*	Sg	01 35 08.6	-1.4
KHC	**Kasperske Hory**	**3.84**	**256**	*eSG*	Sg	01 35 19.6	-1.3

IDC 25 01:37:59.1±3.1, 32°.40S×178°.47W, h0km, mb3.7/2, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=71.2km s-min=46.1km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.87**	**210**	Pn	Pn	01 39 40.2	-0.8
	0.8nm,0.3s,baz=73,slow=19,SNR=6.2						
URZ				Sn	Sn	01 40 57.1	-2.9
	1.1nm,0.3s,baz=265,slow=23,SNR=7.8						
	4.3nm,0.5s						
ASAR	**Alice Springs**	**42.64**	**269**	P	P	01 45 57.6	+0.1
	0.4nm,0.5s,baz=109,slow=7.8,SNR=7.0						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.81**	**274**	P	P	01 46 06.8	-0.2
	0.5nm,0.4s,baz=114,slow=8.0,SNR=11						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**146.87**	**339**	PKPbc	PKPbc	01 57 41.9	-0.7
	0.6nm,0.6s,baz=62,slow=3.6,SNR=5.5						

IDC 25 01:41:15.9±3.2, 32°.15S×178°.06W, h0km, mb3.9/2, mbtmp4.0/3, ML3.5/1, Error ellipse: s-maj=73.0km s-min=47.4km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.26**	**212**	Pn	Pn	01 43 01.8	-1.5
	0.7nm,0.3s,baz=20,slow=16,SNR=1.8						
URZ				Sn	Sn	01 44 21.4	-5.0
	2.3nm,0.3s,baz=316,slow=22,SNR=8.3						
	14nm,1.0s						
ASAR	**Alice Springs**	**42.99**	**269**	P	P	01 49 17.4	+0.2
	0.9nm,0.6s,baz=105,slow=7.8,SNR=13						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**44.14**	**274**	P	P	01 49 26.2	-0.3
	1.0nm,0.4s,baz=114,slow=8.0,SNR=16						
	1.0nm,0.4s						
H03S2	**Juan Fernandez**	**79.55**	**123**	T	T	03 20 51.1	
	baz=244						
H03S1	**Juan Fernandez**	**79.56**	**123**	T	T	03 20 26.6	
	baz=244						
H03S3	**Juan Fernandez**	**79.56**	**123**	T	T	03 20 43.0	
	baz=244						
FINES	**FINESS Array B**	**146.76**	**339**	PKPbc	PKPbc	02 00 58.5	-0.6
	1.9nm,0.8s,baz=54,slow=2.4,SNR=4.5						

*PAS **25** 01:41:22.9±1.5, 35°.90N±0°.03×117°.68W±0°.04, h3km±7km, ML3.4/306, ML3.0/114(NEIC), Error ellipse: s-maj=5.9km s-min=2.4km az=136.0*
*ANF **25** 01:41:22.2±0.1, 35°.89N×117°.69W, h8km±1km, ML3.4/35, Error ellipse: s-maj=1.0km s-min=0.8km az=75.0*
*NCEDC **25** 01:41:22.9, 35°.90N×117°.70W, h6km*
*NEIC **25** 01:41:23.0±1.4, 35°.90N±0°.04×117°.67W±0°.03, h7km±6km, Error ellipse: s-maj=5.5km s-min=2.1km az=153.0*
ISC 25 01:41:23.1±0.8, 35°.89N±0°.01×117°.68W±0°.01, h12km±5km, n144, σ0s79/165, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.10**	**138**		**Pg**	**01 41 26.7**	**+0.8**
WCSM	**Coso Springs S**	**0.15**	**333**		**Pg**	**01 41 25.8**	**-0.9**
WCSM					**Sg**	**01 41 28.1**	**-1.2**
WRVM	**Rose V. Centra**	**0.20**	**304**		**Pg**	**01 41 27.0**	**-0.6**
WRVM					**Sg**	**01 41 30.0**	**-0.7**
SRTC	**Snort**	**0.21**	**195**		**Pg**	**01 41 27.5**	**-0.1**
SRTC					**Sg**	**01 41 31.5**	**+0.8**
MPMC	**Manual Prospec**	**0.23**	**43**	P	**Pg**	**01 41 27.4**	**-0.7**
	baz=227,SNR=1000						
MPMC				S	**Sg**	**01 41 30.6**	**-0.8**
	baz=227						
WCHM	**Chimney Peak**	**0.32**	**269**		**Pg**	**01 41 29.6**	**0.0**
LRMC	**Laurel Mtn Rad**	**0.41**	**180**		**Pg**	**01 41 30.9**	**-0.4**
LRMC					**Sg**	**01 41 37.0**	**+0.2**
LRMC	**Laurel Mtn Rad**	**0.41**	**180**	P	**Pg**	**01 41 30.8**	**-0.4**
	baz=358,SNR=834						
LRMC				S	**Sg**	**01 41 36.4**	**-0.4**
	baz=358						
CCCA	**Chr Cany lake**	**0.45**	**145**		**Pg**	**01 41 32.0**	**+0.1**
WORM	**Onyx Ranch**	**0.50**	**247**		**Pg**	**01 41 32.3**	**-0.6**
WORM					**Sg**	**01 41 39.0**	**-0.4**
WBSM	**Bird Springs**	**0.51**	**227**		**Pg**	**01 41 32.8**	**-0.4**
WBSM					**Sg**	**01 41 39.9**	**-0.2**
WLHM	**Little Horse**	**0.57**	**297**		**Sg**	**01 41 41.4**	**-0.6**
CWC	**Cottonwood Cre**	**0.64**	**330**		**Pg**	**01 41 35.0**	**-0.5**
CWC	**Cottonwood Cre**	**0.64**	**330**	P	**Pg**	**01 41 35.0**	**-0.5**
	baz=150						
CWC				S	**Sg**	**01 41 43.6**	**-0

QSM	Queen of Sheba	0.66	83		Sg	01 41 44.5	-0.2
ISA	Isabella, Lake	0.68	251		Pg	01 41 35.8	-0.6
ISA				IAML		01 41 45.3	
	comp=N,913nm,0.6s						
ISA				IAML		01 41 46.9	
	comp=E,949nm,0.3s						
ISA	Isabella, Lake	0.68	251		Sg	01 41 44.7	-0.6
ISA	Isabella, Lake	0.68	251	P	Pg	01 41 35.8	-0.6
	baz=69,SNR=182						
ISA				S	Sg	01 41 44.7	-0.6
	baz=69						
WASM	Alta Sierra Ca	0.73	258		Pn	01 41 46.5	+7.1
CCAC	Calif City Air	0.79	200		Pg	01 41 37.8	-0.5
CCAC				IAML		01 41 49.1	
	comp=E,530nm,0.5s						
CCAC				IAML		01 41 53.6	
	comp=N,520nm,0.5s						
GWY	Greenwater Val	0.87	70		Pg	01 41 39.5	-0.5
FURC	Furnace Creek,	0.88	49		Pg	01 41 39.8	-0.2
FURC	Furnace Creek,	0.88	49	P	Pg	01 41 39.7	-0.2
	baz=230,SNR=239						
FURC				S	Sg	01 41 51.5	0.0
	baz=230						
GSC	Goldstone, Bar	0.93	129		Pg	01 41 40.1	-0.9
GSC				IAML		01 41 53.5	
	comp=E,665nm,0.4s						
GSC				IAML		01 41 55.4	
	comp=N,725nm,0.5s						
GSC	Goldstone, Bar	0.93	129		Sg	01 41 52.9	-0.2
GSC	Goldstone, Bar	0.93	129	P	Pg	01 41 40.2	-0.8
	baz=310,SNR=331						
GSC				S	Sg	01 41 52.8	-0.2
	baz=310						
SPG2	Springville 2	0.93	290		Pg	01 41 40.0	-1.1
HYS	Haystack Butte	1.03	175		Sg	01 41 56.0	-0.3
EDW2	Edwards Air Fo	1.04	194		Sg	01 41 55.9	-0.9
EDW2	Edwards Air Fo	1.04	194	P	Pg	01 41 42.0	-1.1
	baz=13,SNR=93						
EDW2				S	Sg	01 41 55.8	-0.9
	baz=13						
TEJ	El Tejon	1.05	231		Pg	01 41 42.3	-1.1
GRAC	Grapevine Rang	1.13	13	IAML		01 41 50.4	
	comp=E,438nm,0.6s						
GRAC				IAML		01 42 05.8	
	comp=N,456nm,0.7s						
GRAC	Grapevine Rang	1.13	13	P	Pg	01 41 43.9	-1.0
	baz=194,SNR=116						
MAGC	SCE Magundon P	1.14	243		Pg	01 41 44.5	-0.6
VES	Vestal, Richgr	1.14	268		Sg	01 41 59.0	-0.9
VES	Vestal, Richgr	1.14	268	P	Pg	01 41 44.2	-0.8
	baz=86,SNR=162						
VES				S	Sg	01 41 59.0	-0.9
	baz=86						
SHOC	Shoshone, Teco	1.14	89		Pg	01 41 44.2	-0.9
SHOC	Shoshone, Teco	1.14	89	P	Pg	01 41 44.1	-0.9
	baz=270,SNR=139						
SHOC				S	Sb	01 42 00.0	+0.4
	baz=270						
RRX	Edison Barstow	1.16	151		Pg	01 41 44.6	-0.8
RRX	Edison Barstow	1.16	151	P	Pg	01 41 44.6	-0.8
	baz=331,SNR=21						
RRX				S	Sb	01 42 00.6	+0.5
	baz=331						
SBB	Saddle Back Bu	1.21	186		Pg	01 41 45.1	-1.2
SBB					Sg	01 42 00.9	-1.1
ARVC	Arvin	1.21	231		Pb	01 41 46.0	0.0
ARVC	Arvin	1.21	231	P	Pb	01 41 45.8	-0.1
	baz=50,SNR=14						
ARVC				S	Sg	01 42 01.3	-0.7
	baz=50						
WCT	Wildcat Mounta	1.24	43		Pg	01 41 46.0	-1.0
WCT				IAML		01 42 06.8	
	comp=N,244nm,0.8s						
WCT				IAML		01 42 07.6	
	comp=E,308nm,1.0s						
TIN	Tinemaha, Big	1.24	339		Pg	01 41 46.1	-0.9
TIN	Tinemaha, Big	1.24	339	P	Pg	01 41 46.1	-0.9
	baz=160,SNR=26						
TIN				S	Sb	01 42 03.1	+0.5
	baz=160						
THC	Tehachapi Micr	1.27	220		Pn	01 41 46.0	-0.8
BAKC	Calstate	1.28	245		Pn	01 41 47.1	+0.2
RCTC	Rector, Farmer	1.33	289		Pn	01 41 47.2	-0.3
HELL	Mitchell Peak,	1.34	306		Pn	01 41 47.6	-0.2
LCH	Last Change Ra	1.34	1		Pn	01 41 47.0	-0.8
LCH	Last Change Ra	1.34	1	IAML		01 41 53.6	
	comp=N,96nm,0.7s						
LCH				IAML		01 42 07.5	
	comp=E,113nm,0.6s						
LEOC	Leona Valley	1.36	202		Pn	01 41 48.5	+0.5
VTV	Victorville	1.36	168		Pn	01 41 48.4	+0.4
LRRC	Littlerock Res	1.39	192		Pn	01 41 48.1	-0.2
LRRC					Sb	01 42 07.3	+0.5
CJV	Casa Juvan	1.41	196		Pn	01 41 49.0	+0.2
BTPC	Burnt Peak	1.41	211		Pn	01 41 49.0	+0.2
BTPC					Sb	01 42 07.9	+0.4
HOLC	Holcomb Ridge	1.44	185		Pn	01 41 48.7	-0.4
VOG	Valley Oaks Go	1.44	288	Pb	Pn	01 41 49.5	+0.4
	baz=107,SNR=19						
VOG				S	Sn	01 42 08.8	+0.8
	baz=107						
GMN	Gold Mountain	1.45	13		Pn	01 41 49.6	+0.2
GMN				IAML		01 41 55.1	
	comp=N,148nm,0.6s						
DSP	Deep Springs	1.49	351		Pn	01 41 50.2	+0.5
DSP				IAML		01 42 12.1	
	comp=E,183nm,0.7s						
TUQ	Turquoise Moun	1.50	107		Pn	01 41 49.5	-0.6
TUQ	Turquoise Moun	1.50	107	P	Pn	01 41 49.4	-0.6
	baz=288,SNR=229						
TUQ				S	Sn	01 42 10.2	+0.5
	baz=288						
HEC	Hector,Ludlow	1.53	134	P	Pn	01 41 49.8	-0.6
	baz=314,SNR=77						
HEC				Sb	Sg	01 42 11.6	-0.6
	baz=314						
OSI	Osito Audit: C	1.53	214	Pg	Pb	01 41 51.7	+0.2
	baz=33,SNR=13						
OSI				Sb	Sb	01 42 11.8	+0.9
	baz=33						
POCCA	Poleta Canyon	1.54	342		Pn	01 41 51.3	+0.6
TPNV	Topopah Spring	1.56	47		Pn	01 41 51.0	+0.1
TPNV				IAML		01 42 17.8	
	comp=E,306nm,0.5s						
TPNV	Topopah Spring	1.56	47	P	Pn	01 41 51.0	+0.1
	baz=228,SNR=199						
TPNV				S	Sn	01 42 11.9	+0.6
	baz=228						
CHFC	Chilao Flat St	1.58	190		Pn	01 41 52.0	+0.8
XTL	Crystal Lake,	1.60	185		Pn	01 41 51.3	-0.1
MTUM	Tungsten Hills	1.62	334		Pn	01 41 52.3	+0.5
BFSC	Mount Baldy Ra	1.65	179		Pb	01 41 53.7	+0.1
BFSC	Mount Baldy Ra	1.65	179	Pg	Pb	01 41 54.1	+0.5
	baz=359						
BFSC				Sb	Sg	01 42 15.7	-0.5
	baz=359						
SS2	San Sevaine	1.69	175		Pb	01 41 54.0	-0.1
SIL	Silver Peak	1.69	155		Pb	01 41 54.4	+0.1
MWC	Mount Wilson	1.69	191		Pb	01 41 54.2	-0.1
BCW	Bitter Crk WRg	1.70	237		Pn	01 41 53.6	+0.8
DECC	Green Verdugo	1.72	198	P	Pn	01 41 53.4	+0.5
	baz=17,SNR=10						
DECC				Sg	Sg	01 42 19.0	+0.6
	baz=17						
BBRC	Big Bear Solar	1.74	159	Pg	Pg	01 41 56.0	-0.5
	baz=339						
BBRC				Sg	Sg	01 42 19.8	+0.7
	baz=339						
MZP	Montezuma Peak	1.82	7		Pn	01 41 54.9	+0.4
BENR	Benton	1.96	339		Pn	01 41 57.2	+0.8
MLAC	Mammoth, Mammo	1.97	332		Pb	01 41 59.3	+0.3
MLAC	Mammoth, Mammo	1.97	332	Pg	Pb	01 41 59.8	+0.8
	baz=152						
SMMC	Simmler	1.97	254	Pb	Pn	01 41 58.3	+1.9
	baz=72						
GMRC	Granite Mounta	1.99	123	P	Pn	01 41 55.6	-1.2
	baz=304,SNR=41						
GMRC				Sb	Sb	01 42 25.5	+1.4
	baz=304						
PKM	Mcpherson Peak	2.01	241	Pb	Pb	01 41 59.2	-0.5
	baz=59						
PKM				Sb	Sb	01 42 25.6	+0.9
	baz=59						
MCSM	Casa Diablo Ho	2.02	331		Pb	01 42 00.2	+0.3
OMMB	Old Mammoth Mi	2.02	329	IAML		01 42 32.0	
	comp=E,82nm,1.1s						
BCH	Branch Mountai	2.08	251		Pn	01 41 58.6	+0.6
TRAM	Private Proper	2.12	265		Pn	01 41 59.0	+0.6
SHPR	Sheep Range	2.13	73		Pn	01 41 59.5	+0.8
SHPR				IAML		01 42 37.8	
	comp=E,67nm,0.8s						
PARM	Anticline Ridg	2.19	280		Pb	01 42 02.1	-0.5
WTNK	Soaring Height	2.19	81	Pn	Pn	01 41 59.9	+0.6
WTNK				IAML		01 42 39.3	
	comp=E,33nm,0.7s						
WTNK				IAML		01 42 40.2	
	comp=N,35nm,1.0s						
TPH	Tonopah	2.21	9		Pn	01 42 00.6	+0.8
TPC	Twentynine Pal	2.23	143		Pn	01 41 59.6	-0.4
ELS	Elsinore Mount	2.25	175		Pn	01 42 00.6	+0.4
ELS				IAML		01 42 37.2	
	comp=E,68nm,0.3s						
ELS				IAML		01 42 41.8	
	comp=N,59nm,0.8s						
MMIM	Miami Mountain	2.25	313		Pn	01 42 02.1	+1.8
DGR	Domenigoni Val	2.30	166		Pn	01 42 01.6	+0.6
V12A	Nelson	2.31	93		Pn	01 42 00.9	-0.1
V12A				IAML		01 42 38.3	
	comp=N,130nm,0.6s						
V12A				IAML		01 42 41.2	
	comp=E,90nm,0.6s						
MURC	Murrieta	2.32	170	Pg	Pg	01 42 06.4	-1.2
	baz=350						
BELC	Belle Mtn. Jos	2.34	143	P	Pn	01 42 01.2	-0.3
	baz=324,SNR=20						
S11A	Rachel	2.34	41		Pn	01 42 02.4	+0.8
LHV	Little Huntoon	2.44	345	IAML		01 42 49.4	
	comp=E,76nm,1.1s						
LHV				IAML		01 42 52.8	
	comp=N,49nm,1.3s						
PMD	Palm Desert	2.48	154		Pn	01 42 03.3	-0.1
PMD				IAML		01 42 48.8	
	comp=E,57nm,0.6s						
PMD				IAML		01 42 52.5	
	comp=N,42nm,1.2s						
PFO	Pinyon Flats O	2.49	156		Pn	01 42 04.9	+1.3
PFO				IAML		01 42 47.9	
	comp=N,64nm,1.4s						
PFO				IAML		01 42 48.4	
	comp=N,46nm,0.9s						
PFO	Pinyon Flats O	2.49	156	P	Pn	01 42 03.3	-0.3
	baz=336						
MBUM	Mount Bullion	2.54	312		Pb	01 42 07.6	-1.2
PMPB	Monarch Peak	2.55	278		Pn	01 42 05.2	+0.8
PRN	Pahroc Range	2.60	54		Pn	01 42 05.9	+0.7
PRN				IAML		01 42 57.0	
	comp=N,122nm,0.7s						
RAMR	Ramage Ranch	2.60	265		Pn	01 42 05.3	+0.2
BMSM	Mercy Hot Spri	2.63	288		Pn	01 42 08.3	+2.8
IRM	Iron Mountain	2.71	129	P	Pn	01 42 05.4	-1.1
	baz=310,SNR=8.5						
NEE2	Needles Airpor	2.74	113	P	Pn	01 42 06.1	-0.9
	baz=295,SNR=9.2						
BC3	Big Chuckawall	2.89	140	P	Pn	01 42 08.3	-0.8
	baz=321						
R11A	Troy Canyon, C	2.97	34	IAML		01 42 59.7	
	comp=E,40nm,1.2s						
R11A	Troy Canyon, C	2.97	34	P	Pn	01 42 10.2	-0.1
	baz=215						
SAO	San Andreas Ge	3.16	287		Pn	01 42 14.1	+1.4
MONP2	Monument Peak	3.17	160	Pg	Pg	01 42 22.2	-1.7
	baz=341						
KVN	Kaiserville	3.17	354		Pn	01 42 13.6	+0.6
W13A	Hualapai Mount	3.20	103	IAML		01 43 06.6	
	comp=N,33nm,0.5s						
W13A				IAML		01 43 09.8	
	comp=E,34nm,0.7s						
BAR	Barrett	3.31	165	Pn	Pn	01 42 15.2	+0.4
BAR				IAML		01 43 07.4	
	comp=E,65nm,0.4s						
BAR				IAML		01 43 08.8	
	comp=N,57nm,0.6s						
SWSC	Sam W. Stewart	3.33	152	Pg	Pg	01 42 24.9	-1.9
	baz=333						
YERR	Yerington	3.33	339	IAML		01 43 37.9	
	comp=E,23nm,0.8s						
DUZA	Dulzura	3.36	167		Pb	01 42 21.9	-0.8
BLYC	Blythe	3.36	129		Pn	01 42 16.0	+0.5
BLYC				IAML		01 43 15.6	
	comp=N,39nm,0.8s						
BLYC				IAML		01 43 16.5	
	comp=E,34nm,0.4s						
IKP	In-Ko-Pah, Jac	3.49	158	Pg	Pg	01 42 27.9	-2.0
	baz=338						
PNTR	Pine Nut	3.54	335	Pn	Pn	01 42 18.2	+0.1
PNTR				IAML		01 43 25.3	
	comp=E,29nm,1.2s						
PNTR				IAML		01 43 44.2	
	comp=N,26nm,1.0s						
YUH	Yuha Desert	3.55	155	Pn	Pn	01 42 18.2	+0.2
EMB	Emerald Bay	3.63	329	Pn	Pn	01 42 18.9	-0.5
EMB				IAML		01 43 19.9	
	comp=E,44nm,1.1s						
EMB				IAML		01 43 20.4	
	comp=N,50nm,0.9s						
CBX	Cerro Bola	3.67	166	IAML		01 43 20.5	
	comp=N,40nm,0.6s						
GLA	Glamis	3.69	139	Pn	Pn	01 42 21.2	+1.2
GLA				IAML		01 43 29.6	
	comp=N,40nm,0.9s						
VCNR	Virginia City	3.74	336	Pn	Pn	01 42 21.8	+0.9
VCNR				IAML		01 43 29.3	
	comp=E,22nm,0.9s						
VCNR				IAML		01 43 42.1	
	comp=N,20nm,0.6s						
CCUT	Cedar City	3.84	63	Pn	Pn	01 42 24.1	+1.7
CCUT				IAML		01 43 30.5	
	comp=N,18nm,0.7s						
CCUT				IAML		01 43 38.7	
	comp=E,13nm,1.7s						
PSUT	Pine Spring	4.04	48	Pn	Pn	01 42 25.1	+0.1
PSUT				IAML		01 43 40.1	
	comp=N,24nm,1.1s						
KNB	Kanab	4.08	73	IAML		01 43 33.9	
	comp=E,16nm,1.2s						
KNB				IAML		01 43 44.5	
	comp=N,23nm,1.1s						
SPR3	Spring Creek 3	4.09	40	Pn	Pn	01 42 25.3	-0.5
SPR3				IAML		01 43 34.0	
	comp=E,21nm,1.1s						
SPR3				IAML		01 43 41.4	
	comp=N,21nm,0.9s						
U15A	North Rim	4.39	81		Pn	01 42 31.1	+1.2
U15A				IAML		01 43 39.9	
	comp=E,23nm,0.9s						
U15A				IAML		01 43 42.8	
	comp=N,19nm,1.4s						
MTPU	Mount Pierson	4.90	62	Pn	Pn	01 42 36.9	0.0
MTPU				IAML		01 44 06.6	
	comp=E,7.7nm,1.9s						
MTPU				IAML		01 44 10.8	
	comp=N,9.4nm,1.5s						
MSU	Marysvale	5.11	58	Pn	Pn	01 42 41.8	+2.0
ELK	Elko	5.21	21	Pn	Pn	01 42 42.3	+1.1
DUG	Dugway, Tooele	5.76	40	Pn	Pn	01 42 49.1	+0.4

IDC 25 01:55:06.7±2.9, 32°20S×179°10W, h0km, mb3.5/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=67.3km s-min=36.1km az=109.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	6.79	206	Pn	Pn	01 56 48.3	+0.7
	1.1nm,0.3s,baz=310,slow=1.6,SNR=5.9						
URZ				Sn	Sn	01 58 04.1	-1.6
	0.5nm,0.3s,baz=246,slow=18,SNR=1.6						
	2.5nm,0.3s						
ASAR	Alice Springs	42.11	269	P	P	02 03 01.4	+0.6
	0.4nm,0.3s,baz=107,slow=8.0,SNR=2.2						
	0.4nm,0.3s						
WRA	Warramunga Arr	43.26	275	P	P	02 03 09.6	-0.5
	0.2nm,0.3s,baz=112,slow=8.3,SNR=8.8						
	0.2nm,0.3s						
FINES	FINESS Array B	146.48	338	PKPbc	PKPdf	02 14 48.1	+0.4
	1.2nm,0.7s,baz=33,slow=4.5,SNR=8.2						

IDC 25 01:56:56.6±1.9, 32°.39S×178°.34W, h0km, mb4.1/4, mbtmp4.2/5, ML3.9/1, Error ellipse: s-maj=44.8km s-min=34.3km az=56.0

WEL 25 01:58:21.7, 38°S±29°×17°8E±1°7, h21km±19km, M2.1/8, ML2.1/9, MLv2.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=4.3

ISC 25 01:57:02.8±1.7, 32°6S±0°.1×178°.5W±0°.2, h33km, n20, σ1s08/20, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	Waiomatatini S	5.78	205	P	Pn	01 58 27.0	+0.8
PKGZ	Pakihiroa	5.97	207	P	Pn	01 58 26.4	-2.5
HAZ	Te Kaha	5.97	210	P	Pn	01 58 29.5	+0.7
PUZ	Puketiti	6.06	205	P	Pn	01 58 28.4	-1.8
RUGZ	Raukumara Rang	6.19	209	P	Pn	01 58 32.7	+0.7
TWGZ	Tauwhareparae	6.26	206	P	Pn	01 58 33.5	+0.7
CNGZ	Carnagh Statio	6.45	204	P	Pn	01 58 33.6	-1.8
MWZ	Matawai	6.57	208	P	Pn	01 58 37.0	-0.1
URZ	Urewera	6.68	211	Pn	Pn	01 58 38.0	-0.6
	2.2nm,0.3s,baz=90,slow=5.1,SNR=2.4						
URZ				Sn	Sn	01 59 53.8	+0.2
	2.9nm,0.3s,baz=281,slow=22,SNR=11						
	15nm,0.7s						
URZ	Urewera	6.68	211	P	Pn	01 58 38.4	-0.1
RIGZ	Rimuhau	6.80	205	P	Pn	01 58 39.6	-0.7
SNGZ	Shannon Statio	7.03	208	P	Pn	01 58 43.0	-0.4
RAHZ	Arahi	7.25	208	P	Pn	01 58 46.3	-0.1
NMHZ	Naumai	7.51	209	P	Pn	01 58 49.7	-0.4
MHEZ	Mangahewa	8.69	220	P	Pn	01 59 15.2	+9.0
CTA	Charters Tower	33.79	283	P	P	02 03 42.7	+0.8
	1.6nm,0.4s,baz=107,slow=8.3,SNR=7.3						
	1.6nm,0.4s						
ASAR	Alice Springs	42.61	270	P	P	02 04 55.3	-0.8
	2.0nm,0.8s,baz=116,slow=7.9,SNR=16						
	2.0nm,0.8s						
WRA	Warramunga Arr	43.79	275	P	P	02 05 04.8	-0.9
	3.6nm,0.6s,baz=115,slow=7.5,SNR=26						
	3.6nm,0.6s						
QSPA	South Pole Qui	57.51	180	P	P	02 06 49.9	+1.2
	1.3nm,0.9s,baz=49,slow=12,SNR=2.6						
	1.3nm,0.9s						
FINES	FINESS Array B	147.04	338	PKPbc	PKPdf	02 16 38.7	-0.6
	2.8nm,0.6s,baz=44,slow=3.4,SNR=27						

IDC 25 02:22:25.2±1.4, 36°.60N×71°.86E, h0km, mb3.7/3, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=48.6km s-min=26.3km az=45.0

NNC 25 02:22:39.5±2.6, 37°.36N×71°.00E, h225km±40km, mb2.7, mpv3.8, Error ellipse: s-maj=29.7km s-min=15.7km az=32.0

ISC 25 02:22:33.2±1.5, 37°.0N±0°.1×70°.8E±0°.1, h88km, n18, σ2s42/18, mb3.4/3, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.65	23	P	Pn	02 23 56.4	+1.4
	SNR=14						
UCH	Uchtor	6.02	28	P	Pn	02 24 01.8	+1.8
	SNR=8.2						
MRKS	Merke	6.09	17	Lg	Lg	02 25 07.2	
	19nm,0.4s						
KK31	Karatay Array	6.15	358	⇑P	Pn	02 24 03.6	+2.2
	3.2nm,0.2s,baz=175,slow=12,SNR=182						
KK31				⇓S	Sn	02 25 11.5	+1.2
	2.8nm,0.2s,baz=183,slow=20,SNR=8.2						
EKS2	Erkin-Say	6.16	21	P	Pn	02 24 04.0	+2.3
	SNR=22						
AAK	Ala-Archa	6.37	26	P	Pn	02 24 06.6	+2.1
	SNR=7.1						
CHMS	Chumysh	6.78	26	P	Pn	02 24 11.5	+1.5
	SNR=7.9						
CHMS	Chumysh	6.78	26	⇑P	Pn	02 24 11.2	+1.3
	7.1nm,0.4s						
CHMS				⇑S	Sn	02 25 25.1	-0.6
	5.8nm,0.8s						
TKM2	Tokmak 2	7.03	30	⇓P	Pn	02 24 14.7	+1.1
	2.0nm,0.4s						
SGDS	Sogindy	7.14	23	P	Pn	02 24 15.7	+0.8
	4.5nm,0.3s						
KRBS	Karabastau	7.72	28	P	Pn	02 24 22.4	-0.4
	1.6nm,0.5s						
GEYT	Alibeck	10.10	279	Pn	Pn	02 25 04.9	+10
	0.3nm,0.3s,baz=106,slow=14,SNR=2.1						
	0.7nm,0.3s						
AB31	Akbulak array	14.60	331	P	Pn	02 25 54.4	-0.7
	0.5nm,0.3s,baz=136,slow=13,SNR=43						
AB31				⇑S	Sn	02 28 30.3	-5.4
	0.9nm,0.6s,baz=151,slow=23,SNR=4.1						
AKTO	Aktyubinsk	16.29	330	P	P	02 26 23.1	+5.1
	0.2nm,0.3s,baz=126,slow=15,SNR=3.6						
	0.9nm,0.5s						
ZALV	Zalesovo Beam	19.59	25	P	Pn	02 26 54.7	-1.5
	0.4nm,0.3s,baz=214,slow=9.8,SNR=3.6						
	0.9nm,0.3s						
FINES	FINESS Array B	37.00	326	P	P	02 29 42.9	+9.1
	2.9nm,1.0s,baz=126,slow=9.7,SNR=3.4						
	2.9nm,1.0s						
WRA	Warramunga Arr	82.40	122	P	P	02 34 44.5	-1.2
	0.2nm,0.5s,baz=328,slow=4.9,SNR=5.1						
	0.2nm,0.5s						
ASAR	Alice Springs	84.67	125	P	P	02 34 56.1	-1.2
	0.2nm,0.5s,baz=312,slow=4.9,SNR=4.8						
	0.2nm,0.5s						

IDC 25 02:32:49.6±6.3, 31°.10S×178°.66W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=253.8km s-min=58.9km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	42.51	268	P	P	02 40 46.5	-0.5
	0.5nm,0.6s,baz=106,slow=7.7,SNR=10						
	0.5nm,0.6s						
WRA	Warramunga Arr	43.57	273	P	P	02 40 55.7	+0.2
	1.5nm,0.6s,baz=114,slow=7.7,SNR=21						
	1.5nm,0.6s						
FINES	FINESS Array B	145.60	339	PKPbc	PKPdf	02 52 28.4	-0.7
	1.6nm,0.9s,baz=54,slow=3.3,SNR=4.6						

DJA 25 02:56:43.6±0.5, 0°N±6°×122°2E±°, h165km±6km, M4.0/13, mb4.2/2, MLv4.0/13

IDC 25 02:56:44.2±2.6, 0°.14N×122°.19E, h208km±24km, mb3.4/6, mbtmp3.9/8, Error ellipse: s-maj=47.1km s-min=10.9km az=62.0

ISC 25 02:56:43.3±0.7, 0°.21N±0°.08×122°.25E±0°.07, h202km, n31, σ1s02/32, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	Marisa	0.41	311	P	Pn	02 57 06.5	-3.9
MRSI				S	S	02 57 24.3	-7.1
GTOI	Gorontalo	0.87	61	P	Pn	02 57 09.5	-3.0
APSI	Ampana	1.26	208	P	Pn	02 57 13.1	-2.1
LUWI	Luwuk	1.35	157	P	Pn	02 57 13.9	-2.0
KMSI	Cibinong	1.77	78	P	Pn	02 57 18.4	-1.3
MPSI	Mapaga	2.35	273	P	Pn	02 57 24.0	-1.7
TTSI	Tana Toraja	4.04	217	P	Pn	02 57 45.4	-0.3
SGKI	Sangatta, Kali	4.70	261	P	Pn	02 57 51.7	-2.4
SPSI	Sidrap Palu	4.83	211	P	Pn	02 57 54.9	-0.7
LBMI	Labuha	5.32	99	P	Pn	02 58 00.9	-1.0
	0.5nm49nm,0.8s						
KAPI	Kappang	5.76	206	P	Pn	02 58 07.4	-0.1
	12nm,0.4s,baz=349,slow=5.0,SNR=17						
FITZ	Fitzroy Crossi	18.50	170	P	P	03 00 44.7	+0.2
	1.5nm,0.5s,baz=355,slow=6.7,SNR=14						
WRA	Warramunga Arr	23.27	150	P	P	03 01 32.5	-0.5
	1.2nm,0.9s,baz=325,slow=11,SNR=17						
WRA				PcP	PcP	03 05 14.2	-0

JIRN	Jiri	44.05	311	*e*P	P	03 04 32.5	+0.6
	27nm,0.6s						
GUN	Gumba	44.42	311	*e*P	P	03 04 35.5	+0.8
	36nm,0.6s						
PKI	Pulchoki	44.59	311	*e*P	P	03 04 36.2	+0.1
PKIN	Phulchoki	44.61	311	*e*P	P	03 04 36.2	0.0
	9.7nm,0.5s						
KKN	Kakani	44.80	311	*e*P	P	03 04 38.1	+0.4
DMN	Daman	44.84	311	*e*P	P	03 04 38.5	+0.5
	17nm,0.6s						
GKN	Gorkha	45.40	311	*e*P	P	03 04 42.6	+0.3
	7.5nm,0.3s						
KOLN	Koldanda	46.08	310	*e*P	P	03 04 48.2	+0.6
	3.2nm,0.7s						
DANN	Dangsing	46.24	311	*e*P	P	03 04 49.3	+0.3
	38nm,0.6s						
PYUN	Piuthan	46.71	310	*e*P	P	03 04 53.0	+0.5
	31nm,0.5s						
SONM	Songino Array	49.40	346	P	P	03 05 13.4	+0.7
	1.3nm,0.7s,baz=177,slow=8.7,SNR=5.3						
	1.3nm,0.7s						
MKAR	Makanchi Array	58.05	329	P	P	03 06 15.4	+0.2
	1.1nm,0.4s,baz=126,slow=8.2,SNR=15						
	1.1nm,0.4s						
KURBB	Kurchatov Arra	62.41	330	P	P	03 06 45.8	+1.1
	baz=138,slow=5.8						
TORD	Torodi Ar. Bea	119.63	285	PKP	PKPdf	03 15 08.3	-1.9
	0.7nm,1.1s,baz=46,slow=1.3,SNR=4.4						

IDC 25 02:57:05.5±1.7,0°14S×122°83E,h0km,mb3.4/3, mbtmp3.5/3,Error ellipse: s-maj=218.8km s-min=26.5km az=61.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.69	151	P	P	03 02 07.8	-1.1
	0.8nm,0.9s,baz=325,slow=12,SNR=2.9						
	0.8nm,0.9s						
ASAR	Alice Springs	25.75	156	P	P	03 02 39.0	+0.9
	0.3nm,0.6s,baz=336,slow=7.6,SNR=4.4						
	0.3nm,0.6s						
MKAR	Makanchi Array	58.64	328	P	P	03 07 04.5	-0.1
	0.9nm,0.6s,baz=132,slow=5.1,SNR=6.2						
	0.9nm,0.6s						

*IDC **25** 02:59:08.1±1.4,19°.79S×178°.42W,h601km±16km, mb3.2/15,mbtmp4.1/16,Error ellipse: s-maj=15.3km s-min=12.9km az=139.0*

ISC 25 02:59:07.7±0.6,20°.0S±0°.1×178°.4W±0°.1,h602km,n27, σ1§12/28,mb3.7/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.07	303	P	P	03 00 33.5	-0.5
	76nm,0.4s,baz=164,slow=2.9,SNR=254						
RAO	Raoul Island	9.25	178	P	P	03 01 17.1	-1.9
	177nm,0.2s,baz=96,slow=20,SNR=5.1						
URZ	Urewera	18.65	191	P	P	03 02 46.6	-2.3
	5.3nm,0.3s,baz=336,slow=2.6,SNR=6.4						
CTA	Charters Tower	33.22	264	P	P	03 04 57.4	+0.6
	5.0nm,0.3s,baz=89,slow=8.6,SNR=21						
	5.0nm,0.3s						
ASAR	Alice Springs	44.32	256	P	P	03 06 26.2	+0.1
	1.2nm,0.5s,baz=83,slow=8.5,SNR=13						
ASAR				ScP	ScP	03 10 54.5	+2.4
	0.2nm,0.5s,baz=96,slow=4.7,SNR=4.5						
ASAR				S	S	03 12 16.9	-0.9
	0.6nm,0.7s,baz=93,slow=16,SNR=5.1						
	1.2nm,0.5s						
WRA	Warramunga Arr	44.35	262	P	P	03 06 25.6	-0.6
	0.9nm,0.4s,baz=97,slow=7.5,SNR=41						
	0.9nm,0.4s						
VNDA	Vanda	58.41	185	P	P	03 08 08.2	+1.9
	0.8nm,0.5s,baz=358,slow=6.1,SNR=18						
	0.8nm,0.5s						
MJAR	Matsushiro Arr	69.59	324	P	P	03 09 16.6	-1.1
	1.9nm,0.5s,baz=156,slow=5.8,SNR=10.0						
	1.9nm,0.5s						
PETK	Petropavlovsk-	75.68	345	P	P	03 09 51.4	-0.7
	2.9nm,0.7s,baz=115,slow=7.0,SNR=3.7						
	2.9nm,0.7s						
KSRS	Korea Array	76.27	319	P	P	03 09 55.8	0.0
	0.7nm,0.6s,baz=137,slow=6.6,SNR=4.2						
	0.7nm,0.6s						
USRK	Ussuriysk Ar.	78.34	326	P	P	03 10 07.4	+0.6
	3.2nm,0.8s,baz=138,slow=3.8,SNR=7.9						
	3.2nm,0.8s						
NVAR	Mina Array Bea	80.87	44	P	P	03 10 20.0	-0.5
	0.3nm,0.6s,baz=230,slow=8.1,SNR=2.8						
	0.3nm,0.6s						
MAW	Mawson	81.95	200	P	P	03 10 26.0	+0.8
	1.0nm,0.6s,baz=206,slow=2.5,SNR=6.8						
	1.0nm,0.6s						
TXAR	Lajitas Array	87.05	57	P	P	03 10 51.5	+0.7
	1.3nm,0.8s,baz=218,slow=7.1,SNR=17						
	1.3nm,0.8s						
ILAR	Eielson Array	87.87	13	P	P	03 10 52.0	-1.7
	1.0nm,0.8s,baz=226,slow=6.2,SNR=17						
	1.0nm,0.8s						
TROLL	Troll, Antarti	88.26	180	P	P	03 10 55.5	-0.3
VNA3	Neumayer Olymp	88.69	176	P	P	03 10 57.4	-0.3
PDAR	Pinedale Array	88.80	43	P	P	03 10 58.6	-0.3
	0.4nm,0.7s,baz=212,slow=3.2,SNR=1.8						
	0.4nm,0.7s						
VNA2	Neumayer--Watz	89.13	177	P	P	03 10 59.6	0.0
	baz=192,slow=3.0						
VNA1	Neumayer--Stat	89.36	177	P	P	03 11 00.9	+0.2
CMAR	Chiang Mai Arr	89.63	290	P	P	03 11 04.2	+1.2
	0.5nm,0.3s,baz=110,slow=3.4,SNR=5.5						
	0.5nm,0.3s						
PLCA	Paso Flores	89.88	134	P	P	03 11 04.5	+0.7
	0.7nm,0.6s,baz=252,slow=6.3,SNR=3.7						
	0.7nm,0.6s						
FINES	FINESS Array B	135.17	344	PKP	PKPdf	03 17 19.7	+0.5
	2.1nm,1.1s,baz=336,slow=4.2,SNR=3.6						
AKASG	Malin Array Be	142.39	331	PKhKP	PKPpre	03 17 27.8	
	0.6nm,0.3s,baz=44,slow=4.6,SNR=4.9						
BRTR	Keskin Array B	146.24	313	PKPbc	PKPdf	03 17 41.0	+1.2
	0.7nm,0.9s,baz=343,slow=4.5,SNR=2.6						
GERES	GERESS Array B	149.60	344	PKPbc	PKPbc	03 17 49.9	-0.4
	0.4nm,0.8s,baz=70,slow=1.6,SNR=3.8						
TORD	Torodi Ar. Bea	173.22	180	PKPab	PKPab	03 19 42.6	+0.9
	0.3nm,0.5s,baz=156,slow=3.6,SNR=4.7						

*IDC **25** 03:01:36.3±1.0,9°.50S×111°.77E,h0km,mb4.1/11, mbtmp4.1/12,ML3.9/1,Error ellipse: s-maj=37.4km s-min=15.6km az=60.0*
*DJA **25** 03:01:39.6±0.9,10°.S±8°.×11°.2E±°,h10km,M4.1/8,mb4.7/4, mB5.1/1,MLv3.9/8,Mw(mB)4.4/1*

ISC 25 03:01:41.0±0.7,9°.73S±0°.08×111°.72E±0°.08,h35km,n37, σ1§61/36,mb4.2/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	1.61	341	P	Pn	03 02 06.4	-0.6
PCJI				S	Sn	03 02 27.4	+0.8
PWJI	Pagerwojo	1.70	3	P	Pn	03 02 06.7	-1.5
UGM	Wanagama	2.15	327	P	Pn	03 02 14.4	-0.1
UGM	Wanagama	2.15	327	P	Pn	03 02 15.4	+0.9
NGJI	Ngawi	2.36	354	P	Pn	03 02 17.7	+0.4
YOGI	Yogyakarta	2.36	323	P	Pn	03 02 17.8	+0.5
JAGI	Jajag, Banyuwa	2.71	63	P	Pn	03 02 22.9	+0.8
JAGI	Jajag, Banyuwa	2.71	63	P	Pn	03 02 24.7	+2.6
SMRI	Semarang	2.95	335	P	Pn	03 02 25.6	+0.2
SMRI	Semarang	2.95	335	P	Pn	03 02 27.3	+1.9
SRBI	Singaraja	3.82	65	P	Pn	03 02 38.9	+1.5
TWSI	Taliwang, Sumb	5.19	80	P	Pn	03 02 57.6	+1.3
	29nm,0.9s						
PLAI	Plampang	6.05	82	P	Pn	03 03 09.4	+1.4
	0.5nm1µm139nm,0.7s						
PLAI	Plampang	6.05	82	P	Pn	03 03 09.5	+1.4
EDFI	Ende, Flores	9.89	85	P	Pn	03 04 01.8	+0.8
SOEI	Soe	12.37	91	P	Pn	03 04 36.2	+1.3
GIRL	Giralia	13.07	170	P	Pn	03 04 42.2	-2.0
	131nm,1.2s						
MBWA	Marble Bar	13.74	147	P	Pn	03 04 49.9	-3.5
PSA00	Pilbara Seismi	14.13	147	P	Pn	03 04 55.9	-2.9
FITZ	Fitzroy Crossi	15.86	123	Pn	Pn	03 05 19.9	-1.8
	0.3nm,0.3s,baz=13,slow=4.4,SNR=14						
	0.8nm,0.3s						
FITZ	Fitzroy Crossi	15.86	123	P	Pn	03 05 18.7	-3.1
MEEK	Meekatharra	18.04	160	P	Pn	03 05 47.8	-1.3
FAKI	Fak Fak	21.49	73	P	P	03 06 27.0	+0.1
WRA	Warramunga Arr	24.08	118	P	P	03 06 53.8	+0.3
	2.9nm,0.7s,baz=292,slow=12,SNR=34						
	2.9nm,0.7s						
ASAR	Alice Springs	25.32	126	P	P	03 07 05.8	+1.1
	2.2nm,0.8s,baz=300,slow=9.1,SNR=17						
ASAR				PcP	PcP	03 10 38.8	+1.6
	0.3nm,0.6s,baz=318,slow=1.2,SNR=4.7						
	2.2nm,0.8s						
STKA	Stephens Creek	35.37	133	P	P	03 08 35.4	+1.9
	2.8nm,0.7s,baz=352,slow=18,SNR=5.3						
	2.8nm,0.7s						
H08S2	Diego Garcia H	38.81	270	T	T	03 50 03.7	
	baz=95,slow=75,SNR=14						
H08S3	Diego Garcia H	38.83	270	T	T	03 50 07.7	
	baz=95,SNR=18						
H08S1	Diego Garcia H	38.83	270	T	T	03 50 06.0	
	baz=95,slow=75,SNR=5.7						
KSRS	Korea Array	49.33	17	P	P	03 10 26.5	-0.3
	3.0nm,0.7s,baz=200,slow=8.1,SNR=18						
	3.0nm,0.7s						
MJAR	Matsushiro Arr	52.34	27	P	P	03 10 47.5	-2.1
	2.0nm,0.7s,baz=199,slow=7.5,SNR=8.2						
	2.0nm,0.7s						
USRK	Ussuriysk Ar.	56.74	17	P	P	03 11 20.2	-1.1
	3.6nm,0.8s,baz=197,slow=6.8,SNR=7.5						
	3.6nm,0.8s						
SONM	Songino Array	57.50	356	P	P	03 11 25.9	-1.0
	1.5nm,0.7s,baz=170,slow=8.5,SNR=6.4						
	1.5nm,0.7s						
MKAR	Makanchi Array	62.10	338	P	P	03 11 57.5	-0.8
	2.1nm,0.3s,baz=150,slow=7.3,SNR=32						
	2.1nm,0.3s						
ZALV	Zalesovo Beam	67.40	343	P	P	03 12 31.3	-1.4
	0.9nm,0.4s,baz=160,slow=4.3,SNR=4.0						
	0.9nm,0.4s						
VNDA	Vanda	72.46	170	P	P	03 13 05.6	+2.1
	0.3nm,0.6s,baz=290,slow=7.4,SNR=2.2						
	0.3nm,0.6s						
BRTR	Keskin Array B	87.12	311	P	P	03 14 23.9	+0.1
	0.6nm,0.8s,baz=165,slow=6.0,SNR=4.3						
	0.6nm,0.8s						

HLW 25 03:14:51.0,28°.61N×34°.64E,h7km±2km,Md2.0,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDHB	Dhahab	0.12	351	P	Pg	03 14 53.9	+0.4
	baz=47						
HDHB	Dhahab	0.12	351	P	Pg	03 14 53.7	+0.2
	baz=352						
NUB	Nuweibaa	0.42	1	P	Sg	03 15 04.1	-0.5
	baz=45						
NUB	Nuweibaa	0.42	1	P	Pg	03 14 58.5	-0.6
	baz=0.0						
NUB				S	Sg	03 15 03.5	-1.2
	baz=0.0						
HKAT	Jabal Katrina	0.57	262	P	Sn	03 15 10.5	-5.0
	baz=45						
HKAT	Jabal Katrina	0.57	262	P	Pg	03 15 02.3	+0.2
	baz=262						
HKAT				S	Sg	03 15 10.2	+0.6
	baz=262						
HBST	Basata	0.61	8	P	Pg	03 15 03.2	+0.4
	baz=7.0						
HBST				S	Sg	03 15 11.8	+1.0
	baz=7.0						
HRDS	Abu Rudays	1.18	275	P	Pg	03 15 13.4	-0.3
	baz=276						
HHRG	Al Ghardaqah	1.68	215	P	Pn	03 15 21.3	+0.5
	baz=211						
SUZ	Suez	2.00	308	P	Pg	03 15 28.6	-0.7
	baz=309						

*TAP **25** 03:30:46.9,23°.77N×122°.94E,h32km±2km,ML2.9,D*
*JMA **25** 03:30:47.7±0.2,23°.9N±0°.6×122°.9E±0°.6,h31km,MV2.4/8, NEAR ISHIGAKIJIMA ISLAND*

ISC 25 03:30:46.6±1.3,23°.82N±0°.04×122°.91E±0°.03,h23km±15km, n39,σ0§85/67,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.63	3	P	Pn	03 30 58.1	-2.0
JYNG				S	Sb	03 31 05.5	-1.8
YOJ	Yonaguni jima	0.64	8	*e*P	Pn	03 30 58.6	-1.7
	baz=5.0						
YOJ	Yonaguni jima	0.64	8	P	Pn	03 30 58.5	-1.7
YOJ				S	Sb	03 31 05.7	-2.0
HATJ	Hateruma jima	0.85	74	P	Pb	03 31 03.5	+0.8
HATJ				*e*S	Sb	03 31 15.0	+1.3
IRIF	Iriomote-Funau	0.91	56	P	Pn	03 31 03.7	-0.2
IRIF				*e*S	Sn	03 31 15.8	-0.5
JKRS	Kuro-shima	1.09	67	P	Pb	03 31 07.4	+0.7
JKRS				S	Sb	03 31 22.1	+1.6
EWUT	Wuta	1.21	301	P	Pn	03 31 07.7	-0.3
	baz=302						
EWUT				*e*S	Sn	03 31 23.1	-0.5
	baz=302						
ENA	Nanau	1.23	300	*e*P	Pn	03 31 09.0	+0.7
	baz=301						
ENA				S	Sn	03 31 24.4	+0.3
	baz=301						
TWC	Suao	1.25	309	P	Pn	03 31 09.3	+0.8
	baz=310						
TWC				*e*S	Sn	03 31 24.1	-0.5
	baz=310						
JIJ	Ishigaki jima	1.25	64	P	Pb	03 31 09.6	+0.1
NACB	Ninganchiao	1.25	287	*i* P	Pn	03 31 08.6	-0.1
	baz=288						
NACB				*e*S	Sn	03 31 25.2	+0.5
	baz=288						
ETM	Tongmen	1.30	277	P	Pn	03 31 08.9	-0.4
	baz=278						
ETM				S	Sn	03 31 25.7	-0.3
	baz=278						
ESL	Shilin	1.35	270	P	Pn	03 31 09.4	-0.7
	baz=271						
ETLH	Xilin Townshi	1.36	287	*e*P	Pn	03 31 09.9	-0.3
	baz=288						
HGSD	Ruisui	1.40	257	P	Pn	03 31 10.2	-0.5
	baz=258						
HGSD				*i* S	Sn	03 31 27.9	-0.5
	baz=258						
NTC	Toucheng	1.42	316	*i* P	Pn	03 31 11.5	+0.5
	baz=316						
NTC				*i* S	Sn	03 31 29.3	+0.3
	baz=316						
LATG	Datong	1.45	300	*e*P	Pn	03 31 12.8	+1.3
	baz=300						
TWB1	Santiao Chiao	1.45	325	*i* P	Pn	03 31 11.9	+0.6
	baz=325						
TWB1				*e*S	Sn	03 31 30.1	+0.4
	baz=325						
ENTT	Nioudou	1.47	304	*e*P	Pn	03 31 12.3	+0.7
	baz=304						
ENTT				*e*S	Sn	03 31 31.2	+1.0
	baz=304						
EHY	Hungye	1.49	258	*i* P	Pn	03 31 12.1	+0.1
	baz=259						
NDT	Datong Townshi	1.49	302	*e*P	Pb	03 31 13.9	+0.3
	baz=302						
NDT				*e*S	Sn	03 31 32.0	+1.2
	baz=302						
TIPB	Shuangxi	1.51	319	P	Pn	03 31 12.9	+0.7
	baz=319						
NNSB	Datong	1.52	294	*i* P	Pn	03 31 12.8	+0.4
	baz=294						
NNSH	Datong	1.52	294	*i* P	Pn	03 31 12.7	+0.2
	baz=294						
FUSB	Fushanzhiwuyua	1.52	308	*e*P	Pb	03 31 14.1	-0.1
	baz=308						
FUSB				S	Sn	03 31 32.2	+0.6
	baz=308						
WHF	Hehuan Shan	1.54	282	P	Pn	03 31 12.9	-0.1
	baz=283						
WHF				*i* S	Sn	03 31 31.8	-0.7
	baz=283						
YULB	Yu-li	1.54	254	*e*P	Pn	03 31 12.9	+0.3
	baz=255						
YULB				*e*S	Sn	03 31 31.7	-0.2
	baz=255						
SXI1	Grass Mountain	1.58	324	P	Pn	03 31 13.8	+0.5
	baz=323						
SXI1				S	Sn	03 31 33.1	+0.1
	baz=323						
OWD	Renai	1.59	275	P	Pn	03 31 13.3	-0.1
	baz=276						
OWD				*e*S	Sn	03 31 32.3	-1.1
	baz=276						
CHGB	Renai	1.60	279	P	Pn	03 31 13.5	-0.2
	baz=280						
CHGB				S	Sn	03 31 33.6	-0.2
	baz=280						
NWF	Wu-fen Shan	1.61	321	*e*P	Pn	03 31 15.4	+1.7
	baz=320						
NWF				*e*S	Sn	03 31 34.0	+0.2
	baz=320						
WFSB	Wu-fen Shan	1.61	321	*e*P	Pb	03 31 15.5	-0.1
	baz=320						
WFSB				*e*S	Sn	03 31 34.2	+0.5
	baz=320						
VWDT	VWDT	1.62	268	P	Pn	03 31 14.1	+0.4
	baz=269						
VWDT				*i* S	Sn	03 31 33.5	-0.3
	baz=269						
YHNB	Yeheng	1.63	301	P	Pn	03 31 14.5	+0.5
	baz=302						
YHNB				*e*S	Sn	03 31 35.2	+0.9
	baz=302						
WUSB	Renai	1.65	276	P	Pn	03 31 14.5	+0.2
	baz=277						
WUSB				*e*S	Sn	03 31 36.0	+1.2
	baz=277						
LDUT	Ludao	1.75	229	*e*P	Pn	03 31 15.7	+0.2
	baz=230						
LDUT				S	Sn	03 31 35.9	-1.2
	baz=230						
PCYT	Pengchaiyu	1.95	337	*e*P	Pn	03 31 19.2	+0.9
	baz=337						
LYUB	Lan-yu	2.19	214	*i* P	Pn	03 31 21.1	-0.3
	baz=215						
LYUB				*i* S	Sn	03 31 46.4	-1.4
	baz=215						
JMJ	Miyako jima 2	2.39	65	*e*S	Sn	03 31 52.8	0.0
	baz=64						

*IDC **25** 03:46:23.4±1.0,2°.35S×140°.58E,h0km,mb3.9/6, mbtmp4.0/8,ML4.3/1,MS3.4/7,Error ellipse: s-maj=34.0km s-min=22.9km az=94.0*
*DJA **25** 03:46:24.1±2.1,2°S±5°×14°0E±1°8,h10km,M4.1/4, MLv4.1/4*

ISC 25 03:46:28.1±0.9,2°.13S±0°.09×140°.5E±0°.1,h35km,n19, σ1§92/15,mb3.8/6,MS3.4/4,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.55	212	P	Pn	03 46 38.6	-0.9
GENI				S	Sn	03 46 50.2	+2.8
SMPI	Sarmi	1.75	274	P	Pn	03 46 54.5	-1.5
WAMI	Wamena	2.47	225	P	Pn	03 47 07.7	+1.8
SRPI	Serui, Papua	4.22	273	P	Pn	03 47 29.1	-1.0
SIJI	Sorong	9.27	278	Pn	Pn	03 48 39.7	+0.2
	3.1nm,0.3s,baz=223,slow=21,SNR=5.2						
	11nm,0.5s						
PMG	Port Moresby	9.83	138	LR	LR	03 53 44.2	
	comp=Z,109nm,19.1s,baz=228,slow=46						
GUMO	Guam	16.21	16	LR	LR	03 55 56.6	
	comp=Z,58nm,21.1s,baz=200,slow=35						
WRA	Warramunga Arr	18.69	198	P	P	03 50 42.7	-0.9
	2.4nm,0.5s,baz=23,slow=12						
CTA	Charters Tower	18.73	163	LR	LR	03 58 56.3	
	comp=Z,91nm,20.1s,baz=44,slow=41						
FITZ	Fitzroy Crossi	21.52	222	P	P	03 51 13.5	-0.8
	5.7nm,0.9s,baz=360,slow=9.9,SNR=9.4						
	5.7nm,0.9s						
ASAR	Alice Springs	22.33	196	P	P	03 51 22.1	-0.9
	1.2nm,0.4s,baz=25,slow=12,SNR=34						
ASAR				LR	LR	04 00 43.8	
	comp=Z,132nm,20.9s,baz=345,slow=39						
	1.2nm,0.4s						
STKA	Stephens Creek	29.61	178	P	P	03 52 27.6	-2.6
	0.9nm,0.5s,baz=343,slow=11,SNR=2.2						
STKA				LR	LR	04 06 17.4	
	comp=Z,101nm,20.9s,baz=23,slow=41						
	0.9nm,0.5s						
JHJ	Hachijo jima 2	35.06	359	LR	LR	04 05 12.9	
	comp=Z,46nm,18.6s,baz=111,slow=32						
NWAO	Narrogin (SRO)	37.60	213	LR	LR	04 10 37.1	
	comp=Z,106nm,19.3s,baz=128,slow=39						
MKAR	Makanchi Array	70.41	322	P	P	03 57 40.7	+1.9
	0.8nm,0.8s,baz=98,slow=7.5,SNR=4.2						
	0.8nm,0.8s						
VNDA	Vanda	76.21	175	P	P	03 58 11.9	-0.5
	1.4nm,0.7s,baz=323,slow=5.9,SNR=12						
	1.4nm,0.7s						
ILAR	Eielson Array	84.58	24	P	P	03 59 01.1	+3.4
	0.4nm,0.6s,baz=244,slow=3.9,SNR=2.6						
	0.4nm,0.6s						
LPAZ	La Paz	146.35	124	PKPbc	PKPbc	04 06 05.6	-1.5
	1.9nm,1.0s,baz=169,slow=5.4,SNR=5.3						
CPUP	Villa Florida	146.90	150	PKPbc	PKPbc	04 06 06.2	-1.5
	3.3nm,1.0s,baz=278,slow=4.2,SNR=3.9						

IDC 25 03:50:16.1±2.1,5°.40S×147°.66E,h0km,mb3.3/2, mbtmp3.4/3,Error ellipse: s-maj=194.0km s-min=30.6km az=123.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.41	221	P	P	03 54 43.6	-0.4
	1.2nm,0.9s,baz=45,slow=10						
ASAR	Alice Springs	22.48	215	P	P	03 55 17.3	+0.1
	0.3nm,0.6s,baz=44,slow=8.2,SNR=2.5						
	0.3nm,0.6s						
ILAR	Eielson Array	84.67	23	P	P	04 02 51.6	+0.2
	0.5nm,0.6s,baz=241,slow=4.8,SNR=5.9						
	0.5nm,0.6s						

IDC 25 03:58:26.8±5.9,31°.21S×178°.68W,h0km,mb3.9/2, mbtmp3.9/2,MS3.1/1,Error ellipse: s-maj=243.7km s-min=55.3km az=156.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.10	301	LR	LR	04 07 01.8	
	comp=Z,63nm,18.7s,baz=220,slow=32						
ASAR	Alice Springs	42.49	268	P	P	04 06 23.6	-0.4
	0.6nm,0.5s,baz=109,slow=7.3,SNR=7.0						
	0.6nm,0.5s						
WRA	Warramunga Arr	43.55	273	P	P	04 06 32.9	+0.3
	1.1nm,0.4s,baz=114,slow=8.0,SNR=2.1						
	1.1nm,0.4s						
FINES	FINESS Array B	145.70	339	PKPbc	PKPdf	04 18 05.8	-0.6
	1.2nm,0.4s,baz=44,slow=4.2,SNR=32						

*JMA **25** 04:03:48.7±0.0,41°.6N±0°.1×140°.6E±0°.2,h13km,MV3.7/40, TSUGARU STRAIT REGION*
JMA Felt II J1 at TSUGARU STRAIT REGION .
*IDC **25** 04:03:52.8±3.5,41°.55N×140°.47E,h43km±30km,mb3.4/8, mbtmp3.6/10,ML2.4/2,Error ellipse: s-maj=31.6km s-min=14.2km az=71.0*

ISC 25 04:03:47.9±1.1,41°.55N±0°.03×140°.68E±0°.04,h9km±7km, n23,σ1§34/36,mb3.6/8,16D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSR	Shiriuchi	0.20	263	⇓*e*P	Pg	04 03 52.1	+0.2
JSR				⇓*e*S	Sg	04 03 54.3	-0.3
JOT	Ohata	0.33	121	⇓*e*P	Pb	04 03 56.1	+0.2
JOT				⇓*e*S	Sb	04 04 01.2	0.0
JKB	Kayabe	0.43	39	⇓*e*P	Pb	04 03 57.5	0.0
JKB				⇓*e*S	Sb	04 04 03.7	-0.4
JOMM	Oshimamatsumae	0.50	267	⇓*e*P	Pg	04 03 57.3	-0.3
JOMM				⇓*e*S	Sg	04 04 03.5	-0.7
JSI2	Shiura 2	0.54	202	*e*P	Pb	04 03 58.7	-0.7
JSI2				*e*S	Sb	04 04 05.8	-1.4
JY

0.3nm,0.4s,baz=277,slow=2.1,SNR=1.4
1.6nm,0.4s

USRK Ussuriysk Ar. 6.91 295 P **Pn** **04 05 28.9 -0.3**
0.5nm,0.3s,baz=101,slow=14,SNR=8.2
USRK S **Sn** **04 06 46.0 -1.9**
5.2nm,0.6s,baz=106,slow=20,SNR=3.2
2.6nm,0.5s

KSRS Korea Array 10.67 252 P **Pn** **04 06 25.1 +4.3**
3.4nm,0.7s,baz=65,slow=14,SNR=18
KSRS S **Sn** **04 08 23.9 +3.6**
6.1nm,0.7s,baz=64,slow=22,SNR=18

ZALV Zalesovo Beam 38.55 308 P **P** **04 11 10.5 -0.1**
0.6nm,0.5s,baz=84,slow=7.4,SNR=2.4
ZALV PcP **PcP** **04 13 22.1 -0.9**
0.5nm,0.5s,baz=96,slow=3.6,SNR=4.7
0.6nm,0.5s

MKAR Makanchi Array 41.37 298 P **P** **04 11 32.7 -1.4**
0.7nm,0.8s,baz=70,slow=11,SNR=3.6
1.0nm,0.8s

KURBB Kurchatov Arra 42.88 304 P **P** **04 11 45.8 -0.5**
1.0nm,0.8s,baz=80,slow=8.6,SNR=5.3
1.0nm,0.8s

ILAR Eielson Array 46.04 35 P **P** **04 12 12.4 +1.0**
0.4nm,0.9s,baz=286,slow=8.0,SNR=4.6
0.4nm,0.9s

BVAR Borovoye Array 47.19 309 P **P** **04 12 20.7 +0.2**
0.4nm,0.4s,baz=69,slow=9.4,SNR=4.0
0.4nm,0.4s

WRA Warramunga Arr 61.46 187 P **P** **04 14 04.5 -0.2**
1.1nm,0.5s,baz=4.5,slow=7.1
1.1nm,0.5s

FINES FINESS Array B 64.57 331 P **P** **04 14 24.1 -0.8**
1.0nm,0.6s,baz=30,slow=11,SNR=9.3
1.0nm,0.6s

ASAR Alice Springs 65.19 187 P **P** **04 14 29.8 +0.5**
0.3nm,0.7s,baz=8.5,slow=6.9,SNR=2.5
0.3nm,0.7s

IDC 25 04:11:35.8±9.2, 2.97S×141.53E, h0km, mb3.1/2, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=275.9km s-min=78.6km az=133.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.27**	**202**	P		P	04 15 51.2	+0.1
	0.1nm,0.3s,baz=25,slow=12,SNR=3.8							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**21.85**	**199**	P		P	04 16 30.0	-0.2
	0.3nm,0.6s,baz=26,slow=10,SNR=5.6							
	0.3nm,0.6s							
VNDA	**Vanda**	**75.28**	**176**	P		P	04 23 20.2	0.0
	0.2nm,0.6s,baz=354,slow=5.9,SNR=1.6							
	0.2nm,0.6s							

---

*NEIC **25** 04:25:06.6±2.2, 1.8S±0.1°×140.6E±0.1°, h10km±2km, mb4.2/13, Error ellipse: s-maj=19.8km s-min=17.4km az=74.0*
*IDC **25** 04:25:07.3±0.9, 1.99S×140.60E, h0km, mb3.9/7, mbtmp3.9/9, ML3.8/2, Error ellipse: s-maj=33.9km s-min=19.3km az=85.0*
ISC 25 04:25:10.4±0.6, 1.88S±0.08×140.6E±0.1, h35km, n34, σ1s62/33, mb4.0/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MANU	**Manus Island**	**6.72**	**92**	Pn		**Pn**	**04 26 45.4**	**-1.3**
PMG	**Port Moresby**	**9.90**	**139**	Pn		**Pn**	**04 27 30.1**	**-0.1**
MTN	**Manton Dam**	**14.40**	**220**			**Pn**	**04 28 28.5**	**-3.3**
GUMO	**Guam**	**15.93**	**15**	Pn		**Pn**	**04 28 48.0**	**-4.0**
SOEI	**Soe**	**18.06**	**244**			**Pn**	**04 29 16.6**	**-2.3**
SOEI				IAmb		IAmb	04 29 33.3	
	comp=Z,21nm,0.8s							
WB0	**Warramunga Arr**	**18.80**	**199**	P		**P**	**04 29 26.4**	**-0.7**
CTA	**Charters Tower**	**18.91**	**164**	P		**Pn**	**04 29 29.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=342,slow=7.7,SNR=5.5							
	comp=Z,3.1nm,0.8s							
WB2	**Warramunga Arr**	**18.98**	**198**	P		**P**	**04 29 28.1**	**-0.9**
WB2				IAmb		IAmb	04 29 54.2	
	comp=Z,9.8nm,1.3s							
WRA	**Warramunga Arr**	**18.98**	**199**	P		**P**	**04 29 29.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=11,slow=12,SNR=20							
	comp=Z,2.8nm,0.7s							
WRA	**Warramunga Arr**	**18.98**	**199**	P		**P**	**04 29 27.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.83**	**221**	P		**P**	**04 29 58.8**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=1.7,slow=6.7,SNR=8.0							
	comp=Z,2.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.83**	**221**	P		**P**	**04 29 58.4**	**-1.5**
FITZ				IAmb		IAmb	04 30 24.7	
	comp=Z,8.5nm,1.4s							
AS31	**Alice Springs**	**22.62**	**196**	P		**P**	**04 30 08.9**	**+0.5**
ASAR	**Alice Springs**	**22.62**	**196**	P		**P**	**04 30 08.5**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=30,slow=11,SNR=38							
	comp=Z,3.2nm,0.7s							
ASAR	**Alice Springs**	**22.62**	**196**	P		**P**	**04 30 08.7**	**+0.4**
EIDS	**Eidsvold**	**25.43**	**158**	P		**P**	**04 30 36.0**	**+1.0**
EIDS				IAmb		IAmb	04 30 39.2	
	comp=Z,11nm,0.8s							
STKA	**Stephens Creek**	**29.85**	**178**	P		**P**	**04 31 14.7**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=23,slow=9.8,SNR=4.6							
	comp=Z,1.9nm,0.6s							
STKA	**Stephens Creek**	**29.85**	**178**	P		**P**	**04 31 14.6**	**+0.2**
STKA				IAmb		IAmb	04 31 21.4	
	comp=Z,3.9nm,1.5s							
BBOO	**Buckleboo**	**31.07**	**187**	P		**P**	**04 31 24.7**	**-0.6**
FORT	**Forrest**	**31.12**	**201**	P		**P**	**04 31 24.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**45.72**	**298**	P		**P**	**04 33 31.4**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=126,slow=5.9,SNR=4.3							
	comp=Z,0.5nm,0.3s							
MK31	**Makanchi Array**	**70.32**	**322**	P		**P**	**04 36 20.1**	**-0.5**
MK31				IAmb		IAmb	04 36 36.5	
	comp=Z,3.7nm,1.4s							
MKAR	**Makanchi Array**	**70.32**	**322**	P		**P**	**04 36 23.6**	**+3.1**
	comp=Z,0.8nm,0.8s,baz=116,slow=6.9,SNR=5.9							
	comp=Z,0.8nm,0.8s							
MKAR	**Makanchi Array**	**70.32**	**322**	P		**P**	**04 36 19.9**	**-0.6**
VNDA	**Vanda**	**76.44**	**175**	P		**P**	**04 36 58.2**	**+2.2**
	comp=Z,1.8nm,0.7s,baz=325,slow=6.9,SNR=18							
	comp=Z,1.8nm,0.7s							
VNDA	**Vanda**	**76.44**	**175**	P		**P**	**04 36 58.0**	**+2.0**
VNDA	**Vanda**	**76.44**	**175**	pmax		pmax		
	comp=Z,9.0nm,1.2s							
VNDA	**Vanda**	**76.44**	**175**	P		**P**	**04 36 58.0**	**+2.0**
KK31	**Karatay Array**	**76.90**	**315**	P		**P**	**04 36 59.0**	**-0.3**
KK31				IAmb		IAmb	04 37 03.6	
	comp=Z,2.2nm,1.1s							
KKAR	**Karatay Array**	**76.90**	**315**	P		**P**	**04 36 59.2**	**0.0**
ILAR	**Eielson Array**	**84.28**	**24**	P		**P**	**04 37 39.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=246,slow=5.5,SNR=5.1							
	comp=Z,0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**137.86**	**288**	PKP		**PKiKP**	**04 44 35.6**	**+1.3**
	comp=Z,0.8nm,1.1s,baz=99,slow=5.3,SNR=3.4							
LPAZ	**La Paz**	**146.34**	**124**	PKPbc		**PKiKP**	**04 44 51.6**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=241,slow=3.4,SNR=6.9							
CPUP	**Villa Florida**	**147.02**	**149**	PKPbc		**PKiKP**	**04 44 52.8**	**0.0**
	comp=Z,2.0nm,1.0s,baz=210,slow=8.1,SNR=3.2							

---

*IDC **25** 04:27:37.9±8.8, 21.91S×178.42W, h304km±59km, mb3.4/5, mbtmp4.1/6, Error ellipse: s-maj=121.0km s-min=34.5km az=137.0*
ISC 25 04:27:37.3±2.7, 22.0S±0.2×178.3W±0.4, h300km, n8, σ0s96/8, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**5.40**	**320**	P		**Pn**	**04 28 59.3**	**-0.3**
	14nm,0.5s,baz=175,slow=8.8,SNR=35							
CTA	**Charters Tower**	**33.06**	**267**	P		**P**	**04 33 47.1**	**+1.5**
	3.4nm,0.5s,baz=81,slow=13,SNR=3.5							
	3.4nm,0.5s							
STKA	**Stephens Creek**	**36.89**	**246**	P		**P**	**04 34 17.4**	**-0.6**
	2.3nm,0.7s,baz=56,slow=11,SNR=4.9							
	2.3nm,0.7s							
ASAR	**Alice Springs**	**43.90**	**258**	P		**P**	**04 35 14.1**	**-1.1**
	1.8nm,0.9s,baz=98,slow=7.5,SNR=14							
	1.8nm,0.9s							
WRA	**Warramunga Arr**	**44.11**	**264**	P		**P**	**04 35 16.1**	**-0.7**
	2.3nm,0.7s,baz=92,slow=8.1,SNR=22							
	2.3nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.54**	**264**	P		**P**	**04 36 21.2**	**+0.4**
	0.8nm,0.5s,baz=190,slow=5.9,SNR=1.6							
	0.8nm,0.5s							
AKASG	**Malin Array Be**	**144.11**	**330**	PKP		**PKPab**	**04 46 35.8**	**+0.1**
	1.0nm,0.5s,baz=43,slow=4.0,SNR=7.0							

BRTR Keskin Array B 147.55 310 PKPbc **PKPbc** **04 46 46.8 +0.1**
0.4nm,0.7s,baz=138,slow=5.5,SNR=2.2

---

*BJI **25** 04:28:36.7±0.0, 32.54S×177.45W, h11km, mb5.1/27, mB5.8/42, Ms5.4/51, Ms7 5.2/52*
*WEL **25** 04:28:39.8±0.8, 33.5S±0.1×177.8W±0.1, h33km, M5.3/20, mB5.6/15, ML5.9/20, MLv5.6/20, Mw(mB)5.1/15, Error ellipse: s-maj=0.0km s-min=0.0km az=106.4*
*NEIC **25** 04:28:39.9±2.4, 32.40S±0.07×177.77W±0.08, h10km±1km, mb5.3/74, Ms_20 5.5/316, Mww5.6, Error ellipse: s-maj=12.3km s-min=10.3km az=34.0*
*IDC **25** 04:28:40.5±0.4, 32.41S×178.21W, h0km, mb4.7/21, mbtmp4.7/25, ML5.2/3, MS5.2/47, Error ellipse: s-maj=15.9km s-min=14.1km az=158.0*
*MOS **25** 04:28:41.1±1.5, 32.32S×178.29W, h10km, mb5.5/17, MS5.3/11, Error ellipse: s-maj=11.8km s-min=9.1km az=109.3*
*NEIC **25** 04:28:43, 32.74S×177.37W, h12km, Moment Tensor Solution. Duration: 12s0 Moment tensor: Scale 10^17^Nm; Mrr1.55; Mθθ-0.53; Mφφ-1.02; Mrθ1.82; Mθφ-0.85; Mφr2.35; Fault plane solution: M0 3.38000×10^17^ NP1: φs216.00000°, δ14.00000°, λ89.00000°. NP2:φs38.00000°, δ76.00000°, λ90.00000°. Principal axes: T 3.3209, Plg59.0000°, Azm308.0000°; N 0.1154, Plg0.0000°, Azm217.0000°; P -3.4363, Plg31.0000°, Azm127.0000°;*
*NOU **25** 04:28:44.6, 32.89S×177.89W, h35km, mb5.3/67, South of Kermadec Islands*
*GCMT **25** 04:28:45.9±0.2, 32.51S±0.01×177.79W±0.01, h22km, MW5.5/129, Moment Tensor Solution. s104,c159; s129,c231; Duration: 18s4 Moment tensor: Scale 10^17^ Nm; Mrr1.75±.05; Mθθ-0.10±.03; Mφφ-1.64±.04; Mrθ0.36±.06; Mθφ-0.47±.02; Mφr1.53±.06; Best double couple: M0 2.36100×10^17^ NP1:φs14.00000°, δ66.00000°, λ89.00000°. NP2:φs197.00000°, δ24.00000°, λ93.00000°. Principal axes: T 2.3500, Plg69.0000°, Azm281.0000°; N 0.0280, Plg1.0000°, Azm15.0000°; P -2.3710, Plg21.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 04:28:41.5±0.2, 32.58S±0.04×177.79W±0.04, h20km, n720, σ2s47/588, mb5.2/75, MS5.5/225, 29C-22D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**3.31**	**358**	P		**Pn**	**04 29 28.8**	**-3.3**
GLKZ				S		**Sn**	**04 30 05.9**	**-4.9**
RAO	**Raoul Island**	**3.32**	**358**	Pn		**Pn**	**04 29 30.7**	**-1.5**
	406nm,0.3s,baz=68,slow=7.7,SNR=14							
RAO				Sn		**Sn**	**04 30 08.0**	**-3.0**
	620nm,0.3s,baz=32,slow=22,SNR=7.9							
	865nm,0.3s							
RAO	**Raoul Island**	**3.32**	**358**	Pn		**Pn**	**04 29 30.5**	**-1.7**
RAO	**Raoul Island**	**3.32**	**358**	P		**Pb**	**04 29 37.3**	**-2.3**
RIZ	**Raoul Island**	**3.32**	**358**	P		**Pn**	**04 29 30.1**	**-2.2**
RIZ				S		**Sn**	**04 30 07.6**	**-3.6**
MXZ	**Matakaoa Point**	**5.92**	**212**	P		**Pn**	**04 30 05.1**	**-2.8**
MXZ				S		**Sn**	**04 31 14.7**	**-0.4**
WMGZ	**Waiomatatini S**	**6.08**	**210**	P		**Pn**	**04 30 09.0**	**-1.2**
WMGZ				S		**Sn**	**04 31 19.4**	**+0.1**
PKGZ	**Pakihiroa**	**6.29**	**211**	P		**Pn**	**04 30 11.1**	**-2.0**
PKGZ				S		**Sn**	**04 31 22.0**	**-2.4**
HAZ	**Te Kaha**	**6.31**	**214**	P		**Pn**	**04 30 12.0**	**-1.4**
HAZ				S		**Sn**	**04 31 24.6**	**-0.3**
PUZ	**Puketiti**	**6.37**	**209**	P		**Pn**	**04 30 11.4**	**-2.8**
PUZ				S		**Sn**	**04 31 24.2**	**-2.0**
RUGZ	**Raukumara Rang**	**6.53**	**213**	P		**Pn**	**04 30 15.5**	**-1.0**
RUGZ				S		**Sn**	**04 31 29.5**	**-1.0**
TWGZ	**Tauwhareparae**	**6.57**	**211**	P		**Pn**	**04 30 15.6**	**-1.4**
TWGZ				S		**Sn**	**04 31 29.5**	**-1.8**
GRZ	**Great Barrier**	**6.68**	**235**	P		**Pn**	**04 30 21.9**	**+3.5**
CNGZ	**Carnagh Statio**	**6.74**	**208**	P		**Pn**	**04 30 16.6**	**-2.7**
CNGZ				S		**Sn**	**04 31 33.2**	**-2.2**
KUZ	**Kuaotunu**	**6.78**	**230**	P		**Pn**	**04 30 21.7**	**+1.9**
TKGZ	**Te Karaka**	**6.85**	**210**	P		**Pn**	**04 30 20.8**	**0.0**
TKGZ				S		**Sn**	**04 31 36.2**	**-1.8**
MWZ	**Matawai**	**6.90**	**212**	P		**Pn**	**04 30 18.8**	**-2.7**
MWZ				S		**Sn**	**04 31 36.9**	**-2.6**
OPRZ	**Ohinepanea**	**7.00**	**220**	P		**Pn**	**04 30 22.4**	**-0.5**
URZ	**Urewera**	**7.04**	**215**	Pn		**Pn**	**04 30 21.0**	**-2.3**
	19nm,0.3s,baz=110,slow=2.6,SNR=40							
URZ				Sn		**Sn**	**04 31 37.5**	**-5.2**
	22nm,0.3s,baz=333,slow=2.1,SNR=12							
URZ	**Urewera**	**7.04**	**215**	P		**Pn**	**04 30 21.0**	**-2.3**
URZ				S		**Sn**	**04 31 39.5**	**-3.2**
URZ	**Urewera**	**7.04**	**215**	P		**Pn**	**04 30 21.4**	**-1.9**
RAGZ	**Rawiri**	**7.08**	**212**	P		**Pn**	**04 30 21.2**	**-2.9**
RAGZ				S		**Sn**	**04 31 42.3**	**-1.7**
TGRZ	**Tauranga**	**7.08**	**222**	P		**Pn**	**04 30 23.9**	**-0.1**
RIGZ	**Rimuhau**	**7.11**	**209**	P		**Pn**	**04 30 22.9**	**-1.4**
RIGZ				S		**Sn**	**04 31 42.5**	**-2.1**
PRGZ	**Paritu Road**	**7.25**	**208**	P		**Pn**	**04 30 23.5**	**-2.7**
PRGZ				S		**Sn**	**04 31 44.2**	**-3.7**
MKAZ	**Moumakai**	**7.35**	**230**	P		**Pn**	**04 30 27.4**	**-0.2**
SNGZ	**Shannon Statio**	**7.35**	**211**	P		**Pn**	**04 30 25.8**	**-1.9**
SNGZ				S		**Sn**	**04 31 48.4**	**-2.1**
MUGZ	**Murupara**	**7.37**	**215**	P		**Pn**	**04 30 26.0**	**-1.9**
MUGZ				S		**Sn**	**04 31 46.1**	**-4.9**
RTZ	**Ruatahuna**	**7.38**	**214**	P		**Pn**	**04 30 27.0**	**-1.1**
RTZ				S		**Sn**	**04 31 43.1**	**-8.2**
KNZ	**Kokohu**	**7.41**	**209**	P		**Pn**	**04 30 25.1**	**-3.4**
KNZ				S		**Sn**	**04 31 44.7**	**-7.3**
MHGZ	**Mahia Peninsul**	**7.43**	**207**	P		**Pn**	**04 30 24.5**	**-4.3**
MHGZ				S		**Sn**	**04 31 47.6**	**-4.9**
TOZ	**Tahuroa Road**	**7.53**	**225**	P		**Pn**	**04 30 30.4**	**+0.3**
OUZ	**Omahuta**	**7.63**	**247**	Pn		**Pn**	**04 30 33.3**	**+1.7**
OUZ	**Omahuta**	**7.63**	**247**	P		**Pn**	**04 30 34.6**	**+3.1**
BKZ	**Black Stump Fm**	**8.05**	**214**	P		**Pn**	**04 30 36.3**	**-1.0**
KHZ	**Kahutara**	**11.99**	**213**			**Pn**	**04 31 28.3**	**-2.8**
KHZ	**Kahutara**	**11.99**	**213**	P		**Pn**	**04 31 26.7**	**-4.5**
NFK	**Norfolk Island**	**12.77**	**282**	P		**Pn**	**04 31 37.9**	**-4.0**
	baz=12							
NFK	**Norfolk Island**	**12.77**	**282**	P		**Pn**	**04 31 43.8**	**+1.9**
RPZ	**Rata Peaks**	**14.15**	**215**	Pn		Pn	04 31 55.6	-5.2
	2.9nm,0.3s,baz=72,slow=3.3,SNR=7.8							
RPZ				Sn		Sn	04 34 20.6	-17
	3.2nm,0.3s,baz=123,slow=24,SNR=9.3							
RPZ	**Rata Peaks**	**14.15**	**215**	P		**Pn**	**04 31 58.1**	**-2.7**
MSVF	**Nonsavu**	**15.25**	**345**	Pn		**Pn**	**04 32 13.5**	**-2.2**
	0.5nm,0.3s,baz=136,slow=9.6,SNR=8.9							
MSVF				LR		LR	04 37 15.2	
	comp=Z,12μm,18.2s,baz=172,slow=34							
	18nm,0.8s							
MSVF	**Nonsavu**	**15.25**	**345**	Pn		**Pn**	**04 32 13.4**	**-2.4**
MSVF				IAmb		IAmb	04 32 38.8	
	comp=Z,213nm,1.4s							
MSVF	**Nonsavu**	**15.25**	**345**	*de*P		**Pn**	**04 32 14.0**	**-1.8**
MSVF				pmax		pmax		
	comp=Z,13nm,1.0s							
ODZ	**Otahua Downs**	**15.35**	**212**	P		**Pn**	**04 32 13.5**	**-3.4**
PINNC	**Pines Island,**	**16.41**	**304**	Pn		**Pn**	**04 32 26.9**	**-3.7**
PINNC				IAmb		IAmb	04 32 43.3	
	comp=Z,288nm,1.2s							
PINNC	**Pines Island,**	**16.41**	**304**	P		**P**	**04 32 34.5**	**+1.2**
MARNC	**Mare, Loyalty**	**16.77**	**308**	Pn		**Pn**	**04 32 33.4**	**-1.8**
MARNC	**Mare, Loyalty**	**16.77**	**308**	P		**P**	**04 32 39.1**	**+1.8**
YATNC	**Mamie plateau,**	**17.16**	**304**	P		**P**	**04 32 42.5**	**+0.8**
OUTNC	**Ouen Toro**	**17.31**	**302**	Pn		**Pn**	**04 32 40.1**	**-1.9**
ONTNC				IAmb		IAmb	04 32 47.9	
	comp=Z,768nm,1.8s							
ONTNC	**Ouen Toro**	**17.31**	**302**	P		**P**	**04 32 44.6**	**+1.3**
DZM	**Mont Dzumac**	**17.47**	**303**	*e*Pn		**Pn**	**04 32 43.7**	**-0.4**
	comp=Z,624nm,1.6s							
DZM				*e*LR		LR	04 36 48.2	
	comp=Z,19μm,22.6s							
DZM	**Mont Dzumac**	**17.47**	**303**	P		**P**	**04 32 46.4**	**+1.2**
	comp=Z,61nm,0.8s,baz=104,slow=14,SNR=17							
DZM				LR		LR	04 38 17.5	
	comp=Z,27μm,18.6s,baz=126,slow=34							
DZM	**Mont Dzumac**	**17.47**	**303**			**Pn**	**04 32 44.1**	**+0.1**
DZM				IAmb		IAmb	04 32 52.5	
	comp=Z,182nm,1.1s							
DZM	**Mont Dzumac**	**17.47**	**303**	P		**P**	**04 32 45.9**	**+0.7**
NOUC	**Port Laguerre**	**17.55**	**303**	P		**P**	**04 32 47.5**	**+1.6**
LIFNC	**LIFOU**	**17.79**	**308**			**Pn**	**04 32 47.3**	**-0.6**
LIFNC	**LIFOU**	**17.79**	**308**	P		**P**	**04 32 50.2**	**+1.6**
RTV	**Rentapao**	**19.27**	**317**	P		**Pn**	**04 33 08.0**	**+2.1**

AFI Afiamalu 19.38 18 P **Pn** **04 33 08.1 +0.8**
comp=Z,3.8nm,0.3s,baz=44,slow=21,SNR=5.7
comp=Z,41nm,0.7s
AFI Afiamalu 19.38 18 P P 04 32 58.4 -7.7
AFI IAmb IAmb 04 33 27.6
comp=Z,240nm,1.2s
AFI Afiamalu 19.38 18 P **Pn** **04 33 08.2 +0.9**
RAR Rarotonga 19.62 59 P **Pn** **04 33 11.6 +1.5**
comp=Z,46nm,1.0s,baz=104,slow=16,SNR=7.5
RAR LR LR 04 41 27.0
comp=Z,7μm,18.4s,baz=222,slow=39
RAR Rarotonga 19.62 59 P P 04 33 01.4 -7.4
RAR Rarotonga 19.62 59 P **Pn** **04 33 11.2 +1.1**
LHI Lord Howe Isla 19.65 267 P **P** **04 33 08.5 -0.5**
LHI IAmb IAmb 04 33 21.7
comp=Z,182nm,1.4s
KOUNC Koumac, New Ca 19.98 302 P **P** **04 33 12.8 +0.2**
KOUNC Koumac, New Ca 19.98 302 P **Pn** **04 33 13.6 -0.8**
MGCD Mangrove Creek 26.08 260 P **P** **04 34 15.0 +1.2**
baz=26,SNR=13
MGCD Mangrove Creek 26.08 260 P **P** **04 34 15.6 +1.8**
ARMA Armidale 26.13 267 P **P** **04 34 15.2 +0.8**
baz=26,SNR=8.0
ARMA Armidale 26.13 267 P **P** **04 34 13.9 -0.4**
ARMA IAmb IAmb 04 34 20.6
comp=Z,140nm,1.6s
ARMA Armidale 26.13 267 P **P** **04 34 16.6 +2.2**
CNB Canberra Magne 27.32 255 P **P** **04 34 26.5 +1.5**
baz=27,SNR=11
CNB Canberra Magne 27.32 255 P **P** **04 34 26.2 +1.1**
CAN Canberra 27.62 255 P **P** **04 34 26.4 -1.3**
CAN IAmb IAmb 04 34 48.4
comp=Z,75nm,1.6s
CAN IAMs_20 IAMs_20 04 44 38.8
comp=Z,13μm,18.0s
CAN Canberra 27.62 255 P **P** **04 34 26.4 -1.3**
CAN pmax pmax
comp=Z,75nm,1.6s
CAN MLR MLR
comp=Z,13μm,18.0s
EIDS Eidsvold 28.10 277 P **P** **04 34 32.0 0.0**
baz=28,SNR=12
EIDS Eidsvold 28.10 277 P **P** **04 34 30.2 -1.7**
EIDS IAmb IAmb 04 34 39.7
comp=Z,49nm,0.8s
EIDS Eidsvold 28.10 277 P **P** **04 34 32.2 +0.2**
TAU Tasmania Unive 29.27 239 IAMs_20 IAMs_20 04 46 42.4
comp=Z,9μm,18.0s
RK1H Rockhampton Ha 29.38 280 P **P** **04 34 44.5 +1.1**
PAE Paea 29.42 67 *e*T T 05 05 16.7
comp=Z,3.5nm,0.3s
PPT2 Papeete2 29.47 66 *e*P **P** **04 34 41.4 -2.9**
comp=Z,267nm,23.2s
PPT2 *e*S **S** **04 39 32.9 -4.9**
comp=Z,578nm,24.5s
PPT2 *e*LR LR 04 42 09.3
comp=Z,3μm,22.5s
PPT2 *e*LR LR 04 42 09.5
comp=Z,3μm,30.8s
PPT2 Papeete2 29.47 66 *e*T T 05 05 27.7
comp=Z,4.3nm,0.3s
PPT Papeete 29.48 66 LR LR 04 46 12.7
comp=Z,5μm,18.2s,baz=243,slow=35
RMQ Roma 29.66 273 P **P** **04 34 46.6 +0.8**
baz=29,SNR=12
RMQ Roma 29.66 273 P **P** **04 34 47.7 +1.9**
CMSA Cobar Meteorol 30.88 262 P **P** **04 34 56.6 0.0**
baz=31,SNR=63
CMSA Cobar Meteorol 30.88 262 P **P** **04 34 57.7 +1.1**
HNR Honiara 30.89 313 LR LR 04 46 02.3
comp=Z,56μm,19.1s,baz=168,slow=34
BRAT Ballarat 31.58 250 P **P** **04 35 03.8 +1.2**
VAH Vaihoa 32.37 65 *e*T T 05 09 06.6
comp=Z,8.4nm,0.2s
ARPS Mount Arapiles 33.30 251 P **P** **04 35 17.8 +0.1**
baz=33,SNR=6.9
ARPS Mount Arapiles 33.30 251 P **P** **04 35 17.9 +0.1**
QLP Quilpie 33.44 270 P **P** **04 35 19.3 +0.2**
baz=33,SNR=15
QLP Quilpie 33.44 270 P **P** **04 35 20.0 +0.9**
STKA Stephens Creek 34.22 260 P **P** **04 35 25.9 0.0**
comp=Z,7.4nm,0.7s,baz=104,slow=11,SNR=16
STKA LR LR 04 48 59.2
comp=Z,10μm,18.0s,baz=92,slow=36
comp=Z,7.4nm,0.7s
STKA Stephens Creek 34.22 260 P **P** **04 35 25.8 -0.1**
baz=34,SNR=6.1
STKA Stephens Creek 34.22 260 P **P** **04 35 25.0 -0.9**
STKA Stephens Creek 34.22 260 P **P** **04 35 27.4 +1.5**
CTA Charters Tower 34.38 282 P **P** **04 35 27.3 -0.1**
comp=Z,48nm,0.9s,baz=115,slow=9.5,SNR=44
CTA LR LR 04 48 20.3
comp=Z,5μm,18.4s,baz=130,slow=35
comp=Z,48nm,0.9s
CTA Charters Tower 34.38 282 P **P** **04 35 27.7 +0.4**
CTAO Charters Tower 34.38 282 P **P** **04 35 26.1 -1.2**
CTAO Charters Tower 34.38 282 P **P** **04 35 26.2 -1.2**
CTAO pmax pmax
comp=Z,184nm,1.5s
CTAO MLR MLR
comp=Z,5μm,18.0s
CTAO Charters Tower 34.38 282 P **P** **04 35 27.8 +0.4**
comp=Z,80nm,2.1s
INKA Innaminka 36.02 267 P **P** **04 35 42.4 +1.1**
HTT Hallett 36.12 257 P **P** **04 35 42.0 -0.3**
baz=36,SNR=11
HTT Hallett 36.12 257 P **P** **04 35 42.6 +0.3**
MTSU Mount Surprise 36.93 284 P **P** **04 35 49.2 -0.1**
baz=37,SNR=64
MTSU Mount Surprise 36.93 284 P **P** **04 35 49.3 0.0**
WHYH Whyalla 37.31 257 P **P** **04 35 51.9 -0.4**
LCRK Leigh Creek 37.37 261 P **P** **04 35 52.4 -0.5**
BBOO Buckleboo 38.60 257 P **P** **04 36 01.7 -1.6**
baz=38,SNR=18
QIS Mount Isa 39.70 277 P **P** **04 36 11.5 -1.2**
baz=40,SNR=11
QIS Mount Isa 39.70 277 P **P** **04 36 13.0 +0.4**
PMG Port Moresby 39.74 298 LR LR 04 50 46.3
comp=Z,3μm,19.2s,baz=124,slow=34
PMG Port Moresby 39.74 298 *e*P **P** **04 36 12.8 -0.1**
PMG pmax pmax
comp=Z,12nm,0.9s
PMG Port Moresby 39.74 298 P **P** **04 36 15.9 +3.0**
PMG Port Moresby 39.74 298 P **P** **04 36 15.8 +2.9**
KRVT Keravat (AS076 39.85 309 P **P** **04 36 12.7 -1.1**
comp=Z,216nm,0.7s,baz=174,slow=2.5,SNR=8.8
COEN Coen 40.08 288 P **P** **04 36 15.6 -0.2**
baz=40,SNR=20
COEN Coen 40.08 288 P **P** **04 36 14.4 -1.4**
COEN IAmb IAmb 04 36 34.7
comp=Z,69nm,0.9s
COEN Coen 40.08 288 P **P** **04 36 16.4 +0.6**
OOD Oodnadatta 40.25 264 P **P** **04 36 16.4 -0.7**
MULG Mulgathing 40.88 260 P **P** **04 36 20.7 -1.6**
TAOE Nuku Hiva Isla 42.04 64 *e*P **P** **04

WRA	**Warramunga Arr**	**44.40**	**274**	P	**P**	**04 36 49.0**	**-2.0**	
PATS	**Pohnpei**	**45.32**	**326**	IAMs_20	IAMs_20	04 54 38.2		
	comp=Z,5µm,19.0s							
FORT	**Forrest**	**45.70**	**257**	P	**P**	**04 36 59.1**	**-2.1**	
	baz=45,SNR=68							
FORT	**Forrest**	**45.70**	**257**	P	**P**	**04 36 59.3**	**-1.9**	
FORT	**Forrest**	**45.70**	**257**	P	**P**	**04 36 59.8**	**-1.4**	
SBA	**Scott Base**	**45.89**	**185**	P	**P**	**04 37 02.2**	**+0.2**	
SBA				IAmb	IAmb	04 37 17.2		
	comp=Z,76nm,1.6s							
SBA	**Scott Base**	**45.89**	**185**	P	**P**	**04 37 02.2**	**+0.2**	
SBA				pmax	pmax			
	comp=Z,76nm,1.7s							
VNDA	**Vanda**	**45.96**	**186**	LR	LR	04 53 01.2		
	comp=Z,2µm,20.3s,baz=14,slow=32							
WRKA	**Warakurna**	**47.42**	**265**	P	**P**	**04 37 12.3**	**-2.5**	
	baz=47,SNR=42							
WRKA	**Warakurna**	**47.42**	**265**	P	**P**	**04 37 12.6**	**-2.2**	
GENI	**Genyem**	**49.43**	**298**	P	**P**	**04 37 29.5**	**-0.8**	
	comp=Z,18µmcomp=Z,87nm,1.1s							
KDU	**Kakadu**	**49.50**	**282**	P	**P**	**04 37 28.7**	**-2.2**	
	baz=49,SNR=9.1							
KDU	**Kakadu**	**49.50**	**282**	P	**P**	**04 37 29.2**	**-1.7**	
MTN	**Manton Dam**	**50.53**	**281**	P	**P**	**04 37 36.7**	**-1.9**	
	baz=50,SNR=6.8							
MTN	**Manton Dam**	**50.53**	**281**	P	**P**	**04 37 36.3**	**-2.4**	
MTN	**Manton Dam**	**50.53**	**281**	P	**P**	**04 37 37.3**	**-1.4**	
KNRA	**Kununurra**	**51.08**	**276**	P	**P**	**04 37 41.3**	**-1.5**	
	baz=51,SNR=14							
KNRA	**Kununurra**	**51.08**	**276**	P	**P**	**04 37 41.4**	**-1.5**	
KNRA				IAmb	IAmb	04 38 02.4		
	comp=Z,56nm,1.0s							
KNRA	**Kununurra**	**51.08**	**276**	P	**P**	**04 37 42.8**	**0.0**	
FITZ	**Fitzroy Crossi**	**52.57**	**271**	P	**P**	**04 37 52.4**	**-1.5**	
	comp=Z,15nm,0.7s,baz=185,slow=4.3,SNR=44							
FITZ				LR	LR	05 00 17.1		
	comp=Z,7µm,18.2s,baz=128,slow=36							
	comp=Z,15nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.57**	**271**	P	**P**	**04 37 52.2**	**-1.7**	
	baz=52,SNR=24							
FITZ	**Fitzroy Crossi**	**52.57**	**271**	P	**P**	**04 37 52.3**	**-1.5**	
FITZ	**Fitzroy Crossi**	**52.57**	**271**	P	**P**	**04 37 52.8**	**-1.1**	
CASY	**Casey**	**53.31**	**209**	P	**P**	**04 37 57.3**	**-1.4**	
WAKE	**Wake Island**	**53.67**	**342**	IAMs_20	IAMs_20	04 57 31.8		
	comp=Z,3µm,20.0s							
NWAO	**Narrogin (SRO)**	**53.83**	**251**	LR	LR	05 00 01.4		
	comp=Z,1µm,18.5s,baz=292,slow=35							
NWAO	**Narrogin (SRO)**	**53.83**	**251**	IAMs_20	IAMs_20	05 02 06.7		
	comp=Z,4µm,18.0s							
KLBR	**Kellerberrin**	**53.84**	**252**	P	**P**	**04 38 01.8**	**-1.4**	
	baz=54,SNR=7.7							
MEEK	**Meekatharra**	**54.90**	**258**	P	**P**	**04 38 08.4**	**-2.6**	
	baz=55,SNR=6.3							
MEEK	**Meekatharra**	**54.90**	**258**	P	**P**	**04 38 09.1**	**-1.9**	
BLDU	**Ballidu**	**55.02**	**253**	P	**P**	**04 38 10.2**	**-1.5**	
	baz=55,SNR=4.8							
FAKI	**Fak Fak**	**55.28**	**292**	P	**P**	**04 38 11.4**	**-2.4**	
FAKI				IAmb	IAmb	04 38 32.2		
	comp=Z,53nm,1.0s							
FAKI	**Fak Fak**	**55.28**	**292**	P	**P**	**04 38 11.7**	**-2.1**	
	comp=Z,896nmcomp=Z,50nm,0.8s							
FAKI	**Fak Fak**	**55.28**	**292**	P	**P**	**04 38 14.2**	**+0.4**	
PSA00	**Pilbara Seismi**	**55.92**	**265**	P	**P**	**04 38 16.4**	**-2.0**	
PSA00	**Pilbara Seismi**	**55.92**	**265**	P	**P**	**04 38 16.3**	**-2.0**	
MORW	**Morawa**	**56.11**	**255**	P	**P**	**04 38 17.7**	**-1.9**	
	baz=56,SNR=4.7							
MBWA	**Marble Bar**	**56.19**	**265**	P	**P**	**04 38 18.4**	**-1.8**	
MBWA				IAmb	IAmb	04 38 19.9		
	comp=Z,24nm,0.9s							
MBWA	**Marble Bar**	**56.19**	**265**	IAMs_20	IAMs_20	05 02 33.9		
	comp=Z,4µm,19.0s							
MBWA	**Marble Bar**	**56.19**	**265**	P	**P**	**04 38 18.1**	**-2.2**	
SIJI	**Sorong**	**57.32**	**293**	LR	LR	05 01 59.0		
	comp=Z,2µm,19.5s,baz=150,slow=35							
QSPA	**South Pole Qui**	**57.54**	**180**	P	**P**	**04 38 32.9**	**+3.5**	
	comp=Z,10nm,1.0s,baz=99,slow=0.7,SNR=11							
QSPA				LR	LR	05 00 40.1		
	comp=Z,3µm,19.2s,baz=41,slow=33							
	comp=Z,10nm,1.0s							
QSPA	**South Pole Qui**	**57.54**	**180**	P	**P**	**04 38 31.0**	**+1.6**	
QSPA	**South Pole Qui**	**57.54**	**180**	IAMs_20	IAMs_20	05 00 49.0		
	comp=Z,3µm,19.0s							
SOEI	**Soe**	**57.87**	**279**	IAMs_20	IAMs_20	05 03 08.5		
	comp=Z,5µm,20.0s							
SOEI	**Soe**	**57.87**	**279**	P	**P**	**04 38 30.9**	**-1.4**	
	comp=Z,1µmcomp=Z,115nm,1.0s							
SOEI	**Soe**	**57.87**	**279**	P	**P**	**04 38 32.6**	**+0.3**	
BATI	**Baumata**	**58.13**	**279**	P	**P**	**04 38 34.6**	**+0.6**	
	comp=Z,45nm,0.7s,baz=147,slow=4.0,SNR=5.5							
BATI				LR	LR	05 03 32.4		
	comp=Z,6µm,19.9s,baz=142,slow=36							
	comp=Z,45nm,0.7s							
GUMO	**Guam**	**58.16**	**316**	LR	LR	05 02 27.4		
	comp=Z,1µm,18.5s,baz=82,slow=35							
RPN	**Rapa Nui**	**58.71**	**104**	LR	LR	05 00 59.6		
	comp=Z,3µm,18.0s,baz=254,slow=33							
MMRI	**Maumere**	**60.16**	**279**	P	**P**	**04 38 47.3**	**-0.8**	
GIRL	**Giralia**	**60.16**	**261**	P	**P**	**04 38 46.8**	**-1.2**	
	baz=60,SNR=3.6							
MIDW	**Midway**	**60.46**	**0**	IAMs_20	IAMs_20	05 07 12.1		
	comp=Z,4µm,19.0s							
EDFI	**Ende, Flores**	**60.55**	**279**	P	**P**	**04 38 48.9**	**-2.0**	
	comp=Z,434nmcomp=Z,14nm,0.7s							
KAPI	**Kappang**	**64.19**	**281**	P	**P**	**04 39 14.1**	**-1.1**	
	comp=Z,3.9nm,0.7s,baz=96,slow=7.6,SNR=6.2							
KAPI				LR	LR	05 07 31.9		
	comp=Z,3µm,18.6s,baz=116,slow=36							
	comp=Z,3.9nm,0.7s							
KAPI	**Kappang**	**64.19**	**281**	P	**P**	**04 39 14.6**	**-0.5**	
KAPI				IAmb	IAmb	04 39 41.0		
	comp=Z,33nm,1.4s							
KAPI	**Kappang**	**64.19**	**281**	IAMs_20	IAMs_20	05 06 43.0		
	comp=Z,3µm,20.0s							
KAPI	**Kappang**	**64.19**	**281**	P	**P**	**04 39 14.6**	**-0.5**	
KAPI				pmax	pmax			
	comp=Z,33nm,1.4s							
KAPI				MLR	MLR			
	comp=Z,3µm,20.0s							
TWSI	**Taliwang, Sumb**	**64.58**	**276**	P	**P**	**04 39 15.5**	**-2.2**	
	comp=Z,42nm,0.9s							
SPSI	**Sidrap Palu**	**64.76**	**282**	P	**P**	**04 39 16.9**	**-1.9**	
	comp=Z,11nm,0.5s							
APSI	**Ampana**	**64.95**	**286**	P	**P**	**04 39 17.7**	**-2.4**	
	comp=Z,564nmcomp=Z,23nm,1.7s							
DAV	**Davao City (W)**	**66.71**	**296**	LR	LR	05 09 33.9		
	comp=Z,632nm,19.0s,baz=164,slow=37							
TOLI2	**Tolitoli**	**66.84**	**287**	P	**P**	**04 39 30.3**	**-2.0**	
TOLI2				IAmb	IAmb	04 39 37.0		
	comp=Z,15nm,1.1s							
MPSI	**Mapaga**	**67.10**	**286**	P	**P**	**04 39 31.4**	**-2.5**	
	comp=Z,17nm,0.9s							
BELA	**Belgrano 2**	**67.61**	**172**	P	**P**	**04 39 37.0**	**+0.7**	
BELA				IAmb	IAmb	04 39 53.8		
	comp=Z,22nm,0.8s							
BBKI	**Banjar Baru**	**69.12**	**280**	P	**P**	**04 39 45.6**	**-1.1**	
PMSA	**Palmer Station**	**70.21**	**155**	LR	LR	05 09 34.6		
	comp=Z,1µm,18.3s,baz=236,slow=35							
MAW	**Mawson**	**70.34**	**201**	P	**P**	**04 39 56.8**	**+3.6**	
	comp=Z,2.3nm,0.5s,baz=136,slow=11,SNR=9.8							
MAW				LR	LR	05 09 07.3		
	comp=Z,3µm,20.4s,baz=118,slow=34							
	comp=Z,2.3nm,0.5s							
MAW	**Mawson**	**70.34**	**201**	P	**P**	**04 39 54.7**	**+1.4**	
	baz=70,SNR=5.7							
MAW	**Mawson**	**70.34**	**201**	P	**P**	**04 39 55.1**	**+1.8**	
UGM	**Wanagama**	**70.37**	**273**	IAMs_20	IAMs_20	05 10 40.1		
	comp=Z,3µm,20.0s							
JCJ	**Chichijima**	**70.51**	**323**	LR	LR	05 06 23.9		
	comp=Z,750nm,20.7s,baz=106,slow=32							
LEM	**Lembang**	**73.38**	**272**	LR	LR	05 12 57.5		
	comp=Z,2µm,20.5s,baz=157,slow=36							
KKM	**Kota Kinabalu**	**73.41**	**289**	P	**P**	**04 40 09.7**	**-3.0**	
KKM				IAmb	IAmb	04 40 12.3		
	comp=Z,56nm,1.5s							
GO10	**Punta Arenas**	**73.66**	**143**	P	**P**	**04 40 13.2**	**-0.3**	
SBUM	**Sibu**	**74.58**	**283**	P	**P**	**04 40 18.9**	**-0.5**	
SBUM				IAmb	IAmb	04 40 46.4		
	comp=Z,33nm,1.6s							
TROLL	**Troll, Antarti**	**75.70**	**180**	sP	**P**	**04 40 27.1**	**+2.0**	
SNAA	**Sanae**	**75.98**	**178**	sP	**P**	**04 40 28.4**	**+1.7**	
SNAA	**Sanae**	**75.98**	**178**	LR	LR	05 13 50.4		
	comp=Z,1µm,18.0s,baz=201,slow=36							
SNAA	**Sanae**	**75.98**	**178**	P	**P**	**04 40 26.7**	**0.0**	
SNAA				IAmb	IAmb	04 40 47.0		
	comp=Z,44nm,1.1s							
SNAA	**Sanae**	**75.98**	**178⇑**	*e*P	**P**	**04 40 27.4**	**+0.7**	
SNAA				pmax	pmax			
	comp=Z,60nm,1.4s							
VNA3	**Neumayer Olymp**	**76.13**	**176**	sP	**P**	**04 40 29.6**	**+2.1**	
VNA2	**Neumayer--Watz**	**76.56**	**177**	sP	**P**	**04 40 32.4**	**+2.5**	
	baz=178,slow=4.0							
JHJ	**Hachijo jima 2**	**76.61**	**324**	LR	LR	05 14 50.9		
	comp=Z,500nm,18.1s,baz=147,slow=36							
NVL	**N'lazarevskaya**	**76.72**	**183**	*e*P	P	04 40 37.0	+6.2	
NVL				*e*S	**S**	**04 50 20.0**	**+3.8**	
NVL				pmax	pmax			
	comp=Z,10.0nm,1.0s							
NVL				MLR	MLR			
	comp=Z,2µm,18.0s							
VNA1	**Neumayer--Stat**	**76.79**	**176**	sP	**P**	**04 40 32.7**	**+1.5**	
COYC	**Coyhaique**	**77.24**	**136**	P	**P**	**04 40 32.3**	**-1.9**	
COYC				IAmb	IAmb	04 40 49.8		
	comp=Z,20nm,1.0s							
INU	**Inuyama**	**79.76**	**324**	P	**P**	**04 40 45.7**	**-2.3**	
INU				IAmb	IAmb	04 40 55.7		
	comp=Z,53nm,1.7s							
MJAR	**Matsushiro Arr**	**80.13**	**325**	P	**P**	**04 40 51.0**	**+1.0**	
	comp=Z,1.6nm,0.7s,baz=161,slow=5.4,SNR=8.4							
MJAR				LR	LR	05 10 28.5		
	comp=Z,596nm,21.7s,baz=139,slow=31							
	comp=Z,1.6nm,0.7s							
MJAR	**Matsushiro Arr**	**80.13**	**325**	P	**P**	**04 40 51.0**	**+1.0**	
MAJO	**Matsushiro**	**80.13**	**325**	P	**P**	**04 40 49.3**	**-0.7**	
MAJO	**Matsushiro**	**80.13**	**325**	P	**P**	**04 40 49.3**	**-0.7**	
MAJO				pmax	pmax			
	comp=Z,18nm,1.1s							
MAJO	**Matsushiro**	**80.13**	**325**	P	P	04 40 55.5	+5.5	
MJB9	**Matsu-Tunnel**	**80.14**	**325**	P	**P**	**04 40 48.8**	**-1.2**	
PLCA	**Paso Flores**	**80.90**	**133**	P	**P**	**04 40 59.1**	**+4.7**	
	comp=Z,8.2nm,1.1s,baz=210,slow=7.8,SNR=11							
PLCA				LR	LR	05 11 52.8		
	comp=Z,2µm,18.1s,baz=235,slow=32							
	comp=Z,8.2nm,1.1s							
GO06	**Curarrehue**	**80.98**	**131**	P	**P**	**04 40 52.5**	**-2.4**	
MYKOM	**Kota Tinggi**	**81.17**	**278**	IAMs_20	IAMs_20	05 20 21.2		
	comp=Z,2µm,19.0s							
JHS	**Saijyo**	**81.50**	**321**	P	**P**	**04 40 55.9**	**-1.4**	
JHS				IAmb	IAmb	04 41 04.9		
	comp=Z,18nm,1.0s							
ERM	**Erimo**	**82.46**	**332**	IAMs_20	IAMs_20	05 14 35.5		
	comp=Z,2µm,20.0s							
BKNI	**Bangkinang**	**82.73**	**275**	IAMs_20	IAMs_20	05 21 10.8		
	comp=Z,2µm,18.0s							
QZH	**Quanzhou**	**83.35**	**305⇑**	*i*P	**P**	**04 41 06.1**	**-1.1**	
QZH				S	**S**	**04 51 31.3**	**+4.1**	
QZH				LR	LR			
	comp=Z,340nm,17.1s							
QZH				LR	LR			
	comp=Z,350nm,17.5s							
ADK	**Adak**	**84.10**	**1**	P	**P**	**04 41 14.9**	**+4.5**	
IPM	**Ipoh**	**84.99**	**279**	IAMs_20	IAMs_20	05 25 45.4		
	comp=Z,2µm,18.0s							
PEL	**Peldehue**	**85.22**	**126**	P	**P**	**04 41 14.2**	**-2.7**	
PEL				IAmb	IAmb	04 41 24.7		
	comp=Z,39nm,1.3s							
PEL	**Peldehue**	**85.22**	**126**	P	**P**	**04 41 14.2**	**-2.7**	
PEL				pmax	pmax			
	comp=Z,39nm,1.3s							
LPIG	**La Paz**	**85.53**	**58**	LR	LR	05 14 40.7		
	comp=Z,2µm,18.1s,baz=232,slow=32							
TJN	**Taejon**	**85.65**	**319⇑**	*e*P	**P**	**04 41 20.3**	**+1.7**	
KULM	**Kulim**	**85.74**	**279**	IAMs_20	IAMs_20	05 23 29.3		
	comp=Z,2µm,20.0s							
PSI	**Prapat**	**85.84**	**276**	LR	LR	05 20 57.5		
	comp=Z,2µm,18.6s,baz=132,slow=37							
SKR	**Severo-Kuril's**	**86.05**	**344**	*e*P	**P**	**04 41 17.0**	**-3.2**	
SKR				*e*S	**S**	**04 51 49.3**	**-3.6**	
SKR				pmax	pmax			
	comp=Z,300nm,6.5s							
SKR				MLR	MLR			
	comp=Z,500nm,17.0s							
QIZ	**Qiongzhong**	**86.09**	**295**	P	**P**	**04 41 17.3**	**-3.9**	
QIZ				S	**S**	**04 51 51.1**	**-3.7**	
QIZ				SS	**SS**	**04 57 40.6**	**+6.8**	
QIZ				pmax	pmax			
	comp=Z,370nm,10.4s							
QIZ				LR	LR			
	comp=Z,240nm,15.9s							
QIZ				LR	LR			
	comp=Z,340nm,19.1s							
QIZ				LR	LR			
	comp=Z,420nm,28.7s							
KSRS	**Korea Array**	**86.12**	**320**	P	**P**	**04 41 21.9**	**+1.1**	
	comp=Z,3.3nm,0.8s,baz=134,slow=5.9,SNR=12							
KSRS				LR	LR	05 17 00.2		
	comp=Z,762nm,20.0s,baz=130,slow=34							
	comp=Z,3.3nm,0.8s							
KSRS	**Korea Array**	**86.12**	**320**	P	**P**	**04 41 22.0**	**+1.1**	
KSAR	**Wonju Array Be**	**86.13**	**320**	P	**P**	**04 41 19.6**	**-1.4**	
KSAR	**Wonju Array Be**	**86.13**	**320**	P	**P**	**04 41 19.6**	**-1.4**	
PKM	**Mcpherson Peak**	**86.39**	**44**	P	**P**	**04 41 25.9**	**+3.4**	
	baz=226							
109C	**Camp Elliot, M**	**86.66**	**47**	IAMs_20	IAMs_20	05 22 43.5		
	comp=Z,2µm,18.0s							
YSS	**Yuzh-Sakhalins**	**86.78**	**334**	P	**P**	**04 41 23.3**	**-0.6**	
YSS	**Yuzh-Sakhalins**	**86.78**	**334**	*e*P	**P**	**04 41 22.2**	**-1.7**	
YSS				*e*		04 51 47.8		
YSS				*e*S	**S**	**04 51 59.0**	**-1.2**	
YSS				pmax	pmax			
	comp=Z,300nm,4.5s							
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS				smax	smax			
	comp=E,400nm,8.4s							
YSS				MLR	MLR			
	comp=Z,1µm,21.0s							
YSS				MLR	MLR			
	comp=N,800nm,19.0s							
YSS	**Yuzh-Sakhalins**	**86.78**	**334**	P	**P**	**04 41 28.5**	**+4.6**	
	comp=N,38nm,0.9s							
INCN	**Inchon**	**86.85**	**319**	P	**P**	**04 41 24.4**	**-0.1**	
INCN	**Inchon**	**86.85**	**319**	P	**P**	**04 41 24.4**	**-0.1**	
INCN				pmax	pmax			
	comp=Z,68nm,1.7s							
INCN				MLR	MLR			
	comp=Z,600nm,18.0s							
MURC	**Murrieta**	**87.08**	**47**	P	**P**	**04 41 29.1**	**+3.3**	
	baz=227							
MONP2	**Monument Peak**	**87.09**	**48**	P	**P**	**04 41 29.4**	**+3.4**	
	baz=228							
IKP	**In-Ko-Pah, Jac**	**87.12**	**48**	P	**P**	**04 41 27.7**	**+1.6**	
	baz=228							
ARVC	**Arvin**	**87.14**	**45**	P	**P**	**04 41 28.8**	**+2.9**	
	baz=226							
BFSC	**Mount Baldy Ra**	**87.23**	**46**	P	**P**	**04 41 30.7**	**+4.1**	
	baz=227							
EDW2	**Edwards Air Fo**	**87.47**	**45**	P	**P**	**04 41 31.1**	**+3.5**	
	baz=227,SNR=7.1							
VES	**Vestal, Richgr**	**87.48**	**44**	P	**P**	**04 41 30.9**	**+3.3**	
	baz=226,SNR=5.4							
SWSC	**Sam W. Stewart**	**87.51**	**48**	P	**P**	**04 41 29.8**	**+2.0**	
	baz=228							
TPFO	**Pinon Flats**	**87.54**	**47**	P	**P**	**04 41 31.2**	**+3.0**	
	baz=228							
PFO	**Pinyon Flats O**	**87.55**	**47**	LR	LR	05 15 02.1		
	comp=Z,2µm,18.3s,baz=288,slow=32							
PFO	**Pinyon Flats O**	**87.55**	**47⇑**	*e*P	**P**	**04 41 26.6**	**-1.5**	
PFO				pmax	pmax			
	comp=Z,25nm,2.0s							
PFO	**Pinyon Flats O**	**87.55**	**47**	P	**P**	**04 41 31.4**	**+3.2**	
	baz=228							
CCAC	**Calif City Air**	**87.64**	**45**	P	**P**	**04 41 24.8**	**-3.6**	
CCAC				IAmb	IAmb	04 41 53.9		
	comp=Z,13nm,1.1s							
PET	**Petropavlovsk**	**87.68**	**346**	IAMs_20	IAMs_20	05 19 27.0		
	comp=Z,1µm,19.0s							
PET	**Petropavlovsk**	**87.68**	**346**	*e*P	**P**	**04 41 28.5**	**+0.4**	
PET				*e*S	**SKSac**	**04 51 59.0**	**+4.5**	
PET				pmax	pmax			
	comp=Z,400nm,4.3s							
PET				pmax	pmax			
	comp=Z,300nm,10.0s							
PET				MLR	MLR			
	comp=Z,2µm,18.0s							
ISA	**Isabella, Lake**	**87.72**	**44**	P	**P**	**04 41 25.2**	**-3.6**	
ISA				IAmb	IAmb	04 41 51.9		
	comp=Z,14nm,0.9s							
ISA	**Isabella, Lake**	**87.72**	**44**	P	**P**	**04 41 25.2**	**-3.6**	
ISA				pmax	pmax			
	comp=Z,14nm,1.0s							
ISA	**Isabella, Lake**	**87.72**	**44**	P	**P**	**04 41 33.2**	**+4.4**	
	baz=226,SNR=8.7							
TRQA	**Tornquist**	**87.78**	**135**	IAMs_20	IAMs_20	05 18 13.3		
	comp=Z,2µm,18.0s							
NJ2	**Nanjing**	**87.80**	**311**	*e*P	**P**	**04 41 29.4**	**+0.2**	
NJ2				SKS	**SKSac**	**04 51 56.5**	**+0.3**	
NJ2				S	**ScS**	**04 52 16.4**	**-0.8**	
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,410nm,6.9s							
NJ2				LR	LR			
	comp=Z,460nm,14.7s							
NJ2				LR	LR			
	comp=Z,560nm,18.5s							
NJ2				LR	LR			
	comp=Z,1µm,21.3s							
PEA0B	**Petropavlovsk-**	**87.96**	**346⇑**	*e*P	**P**	**04 41 28.1**	**-1.3**	
PETK	**Petropavlovsk-**	**87.96**	**346**	P	**P**	**04 41 32.1**	**+2.6**	
	comp=Z,3.8nm,0.7s,baz=72,slow=9.5,SNR=8.9							
PETK				LR	LR	05 18 17.6		
	comp=Z,971nm,18.9s,baz=159,slow=34							
	comp=Z,3.8nm,0.7s							
PETK	**Petropavlovsk-**	**87.96**	**346**	P	**P**	**04 41 28.5**	**-1.0**	
LRMC	**Laurel Mtn Rad**	**88.06**	**45**	P	**P**	**04 41 33.7**	**+3.2**	
	baz=227,SNR=10							
BELC	**Belle Mtn. Jos**	**88.09**	**47**	P	**P**	**04 41 34.3**	**+3.5**	
	baz=228,SNR=8.5							
BC3	**Big Chuckawall**	**88.20**	**48**	P	**P**	**04 41 35.8**	**+4.5**	
	baz=228							
CMB	**Columbia Colle**	**88.26**	**42**	P	**P**	**04 41 29.2**	**-2.1**	
CMB				IAmb	IAmb	04 41 47.5		
	comp=Z,10nm,1.1s							
CMB	**Columbia Colle**	**88.26**	**42**	P	**P**	**04 41 29.2**	**-2.1**	
CMB				pmax	pmax			
	comp=Z,10.0nm,1.1s							
HEC	**Hector,Ludlow**	**88.44**	**46**	P	**P**	**04 41 34.5**	**+2.2**	
	baz=228,SNR=5.2							
GSC	**Goldstone, Bar**	**88.47**	**46**	P	**P**	**04 41 36.7**	**+4.2**	
	baz=227,SNR=5.4							
CWC	**Cottonwood Cre**	**88.48**	**44**	P	**P**	**04 41 36.2**	**+3.6**	
	baz=226							
MPMC	**Manual Prospec**	**88.57**	**45**	P	**P**	**04 41 35.9**	**+2.8**	
	baz=227,SNR=7.3							
MDPB	**Devils Postpil**	**88.72**	**43**	P	**P**	**04 41 32.2**	**-1.6**	
MDPB				IAmb	IAmb	04 41 50.9		
	comp=Z,11nm,0.9s							
IRM	**Iron Mountain**	**88.72**	**47**	P	**P**	**04 41 36.5**	**+2.9**	
	baz=228,SNR=9.5							
214A	**Organ Pipe Nat**	**88.78**	**50**	P	**P**	**04 41 29.4**	**-4.5**	
214A	**Organ Pipe Nat**	**88.78**	**50**	P	**P**	**04 41 36.7**	**+2.8**	
	baz=230							
LHMI	**Lhok Sumawe**	**88.80**	**277**	IAMs_20	IAMs_20	05 24 06.6		
	comp=Z,2µm,19.0s							
GMRC	**Granite Mounta**	**88.82**	**47**	P	**P**	**04 41 36.3**	**+2.1**	
	baz=228							
SDPT	**Sand Point**	**88.82**	**10**	P	**P**	**04 41 38.1**	**+4.7**	
	baz=194							
QSM	**Queen of Sheba**	**88.88**	**45**	P	**P**	**04 41 32.8**	**-1.4**	
QSM				IAmb	IAmb	04 41 40.4		
	comp=Z,15nm,1.3s							
USA0B	**Ussuriysk Arra**	**89.07**	**326**	P	**P**	**04 41 34.3**	**-0.6**	
USA0B				IAmb	IAmb	04 41 44.9		
	comp=Z,16nm,0.9s							
USA0B	**Ussuriysk Arra**	**89.07**	**326**	P	**P**	**04 41 34.3**	**-0.6**	
USA0B				pmax	pmax			
	comp=Z,16nm,0.9s							
USRK	**Ussuriysk Ar.**	**89.07**	**326**	P	**P**	**04 41 37.3**	**+2.4**	
	comp=Z,10nm,1.1s,baz=30,slow=16,SNR=6.4							
USRK				LR	LR	05 16 49.6		
	comp=Z,926nm,20.6s,baz=133,slow=33							
	comp=Z,10nm,1.1s							
USRK	**Ussuriysk Ar.**	**89.07**	**326**	P	**P**	**04 41 33.5**	**-1.4**	
TUQ	**Turquoise Moun**	**89.09**	**46**	P	**P**	**04 41 38.8**	**+3.3**	
	baz=228							
SHOC	**Shoshone, Teco**	**89.19**	**46**	P	P	04 41 40.7	+5.0	
	baz=228							
FURC	**Furnace Creek,**	**89.22**	**45**	P	P	04 41 40.6	+4.9	
	baz=227							
GRAC	**Grapevine Rang**	**89.28**	**44**	P	**P**	**04 41 40.7**	**+4.6**	
	baz=227,SNR=5.7							
CNSH	**ChangSha**	**89.32**	**304**	⇑P	P	04 41 25.5	-11	
PDMCI	**Parker Dam,Lak**	**89.44**	**48**	P	**P**	**04 41 40.1**	**+3.2**	
	baz=229							
VCNR	**Virginia City**	**89.55**	**41**	P	**P**	**04 41 33.9**	**-3.6**	
VCNR				IAmb	IAmb	04 41 53.9		
	comp=Z,17nm,1.6s							
YBH	**Yreka Blue Hor**	**89.63**	**38**	P	**P**	**04 41 42.3**	**+4.6**	
	comp=Z,3.0nm,1.0s,baz=166,slow=11,SNR=3.5							
	comp=Z,3.0nm,1.0s							
NVAR	**Mina Array Bea**	**89.71**	**43**	P	**P**	**04 41 40.9**	**+2.5**	
	comp=Z,3.3nm,0.9s,baz=219,slow=7.3,SNR=18							
NVAR				PKKPbc	**PKKPbc**	**04 59 15.1**	**+2.7**	
	comp=Z,0.2nm,0.4s,baz=64,slow=4.1,SNR=4.1							
	comp=

CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,700nm,19.0s
PINE Pine Mountain 92.01 37 P **P** **04 41 47.9 -1.0**
PINE IAmb IAmb 04 42 11.4
comp=Z,9.6nm,0.9s
I05D Terrebonne, OR 92.20 37 P **P** **04 41 53.2 +3.6**
baz=224
GRNR Gornyy 92.30 333 *e*P **P** **04 41 50.1 +0.3**
GRNR MLR MLR
comp=E,560nm,20.0s
GRNR MLR MLR
comp=N,330nm,17.0s
GRNR MLR MLR
comp=Z,690nm,20.0s
BNX BinXian 92.39 325 ⇑P **P** **04 41 50.5 +0.2**
BNX pP **PcP** **04 41 52.6 +1.5**
BNX SKS **SKSac** **04 52 22.9 +0.6**
BNX S **ScS** **04 52 56.4 +1.6**
BNX sS **sS** **04 53 01.1 +0.6**
BNX SS **SS** **04 59 05.3 +0.7**
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,190nm,5.5s
BNX LR LR
comp=Z,320nm,21.8s
BNX LR LR
comp=Z,510nm,19.4s
BNX LR LR
comp=Z,850nm,18.6s
KDAK Kodiak Island 92.48 13 LR LR 05 16 47.8
comp=Z,861nm,21.1s,baz=199,slow=31
KDAK Kodiak Island 92.48 13 IAMs_20 IAMs_20 05 20 53.9
comp=Z,2µm,20.0s
KDAK Kodiak Island 92.48 13 P P 04 41 55.6 +5.2
baz=201
NNA Nana 92.65 106 LR LR 05 17 27.7
comp=Z,2µm,18.1s,baz=243,slow=32
LVC Limon Verde 92.73 119 LR LR 05 17 25.7
comp=Z,1µm,18.4s,baz=236,slow=31
GYA Guiyang 92.79 300 ⇑P **P** **04 41 52.8 0.0**
GYA PP **PP** **04 45 33.6 -1.8**
GYA SKS **SKSac** **04 52 26.6 +0.8**
GYA S **ScS** **04 52 59.8 +0.5**
GYA pmax pmax
comp=Z,240nm,5.4s
GYA LR LR
comp=Z,290nm,15.8s
GYA LR LR
comp=Z,340nm,20.0s
GYA LR LR
comp=Z,260nm,13.7s
EPT El Paso 92.86 54 IAMs_20 IAMs_20 05 21 25.3
comp=Z,1µm,18.0s
J08A Circle Bar Ran 93.00 39 P **P** **04 41 54.8 +1.4**
KLR Kul'dur 93.00 330 P **P** **04 41 53.9 +0.8**
comp=Z,4.1nm,1.0s,baz=63,slow=6.3,SNR=5.7
KLR LR LR 05 22 54.0
comp=Z,961nm,18.4s,baz=167,slow=35
comp=Z,4.1nm,1.0s
CMIG Matias Romero 93.25 72 LR LR 05 17 02.4
comp=Z,1µm,18.6s,baz=240,slow=31
Q19K Cape Douglas, 93.36 12 IAMs_20 IAMs_20 05 21 06.2
comp=Z,1µm,20.0s
TX31 Lajitas Ar. Si 93.41 57 P **P** **04 41 52.5 -3.1**
TX31 IAmb IAmb 04 42 08.7
comp=Z,16nm,1.4s
TXAR Lajitas Array 93.41 57 P **P** **04 41 59.7 +4.1**
comp=Z,0.6nm,0.9s,baz=202,slow=3.9,SNR=5.9
comp=Z,0.6nm,0.9s
LYN LuoYang 93.51 309 ⇑P **P** **04 41 56.9 +1.1**
LYN sP sP 04 42 04.5 +2.7
LYN PP **PP** **04 45 38.1 -2.8**
LYN SKS **SKSac** **04 52 23.5 -5.6**
LYN S **ScS** **04 53 09.3 +4.6**
LYN pmax pmax
comp=Z,10.0nm,0.9s
LYN pmax pmax
comp=Z,220nm,11.2s
LYN LR LR
comp=Z,390nm,15.9s
LYN LR LR
comp=Z,200nm,14.5s
LYN LR LR
comp=Z,440nm,18.6s
HNS HongShan 93.83 312 ⇓P **P** **04 41 53.5 -3.7**
HNS SKS **SKSac** **04 52 30.4 -0.3**
HNS pmax pmax
comp=Z,220nm,9.8s
HNS LR LR
comp=Z,570nm,18.2s
HNS LR LR
comp=Z,430nm,19.8s
HNS LR LR
comp=Z,740nm,19.1s
ATAH Atahualpa 94.05 101 LR LR 05 18 56.3
comp=Z,1µm,18.1s,baz=251,slow=32
P19K Oil Pt 94.11 12 IAMs_20 IAMs_20 05 21 18.1
comp=Z,1µm,20.0s
CMAR Chiang Mai Arr 94.29 289 P **P** **04 42 01.8 +2.0**
comp=Z,0.6nm,0.4s,baz=150,slow=3.7,SNR=1.8
CMAR PP **PP** **04 45 48.1 +1.0**
comp=Z,0.5nm,0.3s,baz=126,slow=5.0,SNR=8.0
CMAR LR LR 05 26 27.2
comp=Z,379nm,19.6s,baz=120,slow=37
comp=Z,0.6nm,0.4s
CNPM China Poot 94.36 13 IAMs_20 IAMs_20 05 21 43.7
comp=Z,2µm,20.0s
HOM Homer 94.41 13 IAMs_20 IAMs_20 05 21 46.9
comp=Z,2µm,19.0s
MFID Camas Ranch 94.46 40 P **P** **04 41 59.7 -0.4**
BRLK Bradley Lake 94.65 13 IAMs_20 IAMs_20 05 22 02.0
comp=Z,2µm,20.0s
ANMO Albuquerque 94.79 51 LR LR 05 20 11.5
comp=Z,2µm,18.1s,baz=272,slow=32
MVCO Mesa Verde 94.83 49 IAMs_20 IAMs_20 05 10 54.9
comp=Z,2µm,22.0s
BBB Bella Bella 94.92 28 LR LR 05 19 23.5
comp=Z,1µm,18.8s,baz=238,slow=32
KMI Kunming 94.96 297 ⇓P **P** **04 42 07.3 +4.3**
KMI PP **PP** **04 45 55.9 +3.3**
KMI SKS **SKSac** **04 52 40.1 +2.2**
KMI S **ScS** **04 53 21.0 +3.4**
KMI pmax pmax
comp=Z,170nm,8.8s
KMI pmax pmax
comp=Z,140nm,29.2s
KMI LR LR
comp=Z,460nm,19.1s
KMI LR LR
comp=Z,480nm,17.9s
KMI LR LR
comp=Z,630nm,18.4s
N19K Bonanza Creek 94.99 11 IAMs_20 IAMs_20 05 21 16.4
comp=Z,1µm,20.0s
HLID Hailey 95.33 41 P **P** **04 42 02.8 -1.4**
MA2 Magadan 95.43 345 LR LR 05 24 29.1
comp=Z,589nm,18.0s,baz=156,slow=35
MA2 Magadan 95.43 345 IAMs_20 IAMs_20 05 31 12.0
comp=Z,1µm,18.0s
TIY Taiyuan 95.45 312 *e*P **P** **04 42 04.1 -0.6**
TIY PP **PP** **04 45 55.8 -0.2**
TIY SKS **SKSac** **04 52 42.3 +2.7**
TIY pmax pmax
comp=Z,200nm,4.3s
TIY LR LR
comp=Z,260nm,15.1s
TIY LR LR
comp=Z,270nm,14.4s
TIY LR LR
comp=Z,520nm,19.2s
O22K Cooper Landing 95.54 14 IAMs_20 IAMs_20 05 30 42.9
comp=Z,2µm,18.0s
XAN Xi'an 95.57 307 P **P** **04 42 07.3 +2.0**
XAN pP sP 04 42 11.3 0.0
XAN sP pwP 04 42 16.5 -2.3
XAN SKS **SKSac** **04 52 37.8 -2.5**
XAN S **S** **04 53 18.9 -2.3**
XAN sS sS 04 53 28.5 -0.4
XAN pmax pmax
comp=Z,5.0nm,1.7s
XAN pmax pmax
comp=Z,230nm,6.0s
XAN LR LR
comp=Z,350nm,15.3s
XAN LR LR
comp=Z,440nm,17.0s
XAN LR LR
comp=Z,630nm,17.9s
SNET Serv Nac Est T 96.04 78 IAMs_20 IAMs_20 05 22 19.3
comp=Z,2µm,18.0s
FIS Fire Island 96.06 13 IAMs_20 IAMs_20 05 22 52.5
comp=Z,1µm,19.0s
PWL Port Wells 96.17 14 IAMs_20 IAMs_20 05 30 29.4
comp=Z,1µm,19.0s
M20K Styx River 96.22 11 IAMs_20 IAMs_20 05 22 15.9
comp=Z,1µm,20.0s
SUA Susitna One 96.25 13 IAMs_20 IAMs_20 05 23 08.7
comp=Z,2µm,20.0s
GLI Glacier Island 96.44 15 IAMs_20 IAMs_20 05 23 18.7
comp=Z,2µm,20.0s
FID Port Fidalgo 96.46 15 IAMs_20 IAMs_20 05 23 15.9
comp=Z,2µm,20.0s
PZH PanZhiHua 96.47 297 P **P** **04 42 09.9 +0.2**
PZH PP **PP** **04 46 01.4 -2.7**
PZH SKS **SKSac** **04 52 44.9 -0.7**
PZH S **S** **04 53 26.0 -3.4**
PZH sS **sS** **04 53 38.0 +0.9**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,140nm,7.1s
PZH LR LR
comp=Z,2µm,21.1s
PZH LR LR
comp=Z,860nm,21.0s
PZH LR LR
comp=Z,1µm,22.0s
KVTX Kingsville 96.60 62 IAMs_20 IAMs_20 05 25 02.9
comp=Z,2µm,20.0s
BERG Berg Lake 96.77 16 IAMs_20 IAMs_20 05 22 53.3
comp=Z,2µm,20.0s
GHO Glory Hole Cre 96.88 13 IAMs_20 IAMs_20 05 31 27.3
comp=Z,1µm,19.0s
SML Sawmill 97.03 14 IAMs_20 IAMs_20 05 27 19.3
comp=Z,1µm,18.0s
SDCO Great Sand Dun 97.06 50 IAMs_20 IAMs_20 05 28 48.0
comp=Z,1µm,18.0s
XLT XiLinHaoTe 97.08 318 *e*P **P** **04 42 11.0 -1.0**
XLT pP pP 04 42 15.5 -0.9
XLT sP sP 04 42 17.9 -0.1
XLT SKS **SKSac** **04 52 49.6 +1.7**
XLT S **ScS** **04 53 35.9 +1.7**
XLT sS sS 04 53 46.5 +4.9
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,170nm,5.7s
XLT LR LR
comp=Z,450nm,16.8s
XLT LR LR
comp=Z,590nm,18.5s
LPAZ La Paz 97.09 114 LR LR 05 21 43.5
comp=Z,546nm,18.1s,baz=254,slow=33
LPAZ La Paz 97.09 114 P **P** **04 42 12.0 -1.4**
LPAZ La Paz 97.09 114 P **P** **04 42 12.0 -1.4**
LPAZ pmax pmax
comp=Z,6.0nm,1.3s
YAH Yahtse 97.22 17 IAMs_20 IAMs_20 05 22 34.0
comp=Z,2µm,19.0s
KLU Klutina 97.25 15 IAMs_20 IAMs_20 05 23 23.9
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 97.26 14 IAMs_20 IAMs_20 05 31 22.2
comp=Z,1µm,19.0s
ISLE Juniper Island 97.28 17 IAMs_20 IAMs_20 05 30 05.8
comp=Z,2µm,19.0s
CD2 Chengdu 97.39 302 P **P** **04 42 12.3 -1.4**
CD2 pP Pdif 04 42 15.8 +2.0
CD2 PP **PP** **04 46 15.6 +4.5**
CD2 SKS **SKSac** **04 52 51.8 +1.8**
CD2 S **ScS** **04 53 40.3 +3.0**
CD2 pmax pmax
comp=Z,220nm,7.6s
CD2 LR LR
comp=Z,430nm,18.8s
CD2 LR LR
comp=Z,650nm,16.6s
CD2 LR LR
comp=Z,750nm,14.7s
BCPM Bancas Point 97.41 18 P **P** **04 42 10.4 -2.5**
TABL Table Mountain 97.44 17 IAMs_20 IAMs_20 05 22 31.9
comp=Z,2µm,19.0s
PDAR Pinedale Array 97.58 44 P Pdif 04 42 17.5 +3.0
comp=Z,0.3nm,0.6s,baz=225,slow=1.1,SNR=2.8
comp=Z,0.3nm,0.6s
N25K Chitina, Valde 97.64 15 IAMs_20 IAMs_20 05 31 00.3
comp=Z,2µm,18.0s
P29M Windy Craggy 97.65 19 IAMs_20 IAMs_20 05 24 32.5
comp=Z,2µm,19.0s
GLB Gilahina Butte 97.67 16 IAMs_20 IAMs_20 05 23 43.1
comp=Z,1µm,20.0s
M24K Tolsona, Glenn 97.74 14 IAMs_20 IAMs_20 05 23 41.1
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 97.80 16 IAMs_20 IAMs_20 05 23 54.6
comp=Z,1µm,20.0s
LOGN Logan Glacier 97.80 17 IAMs_20 IAMs_20 05 23 12.6
comp=Z,1µm,20.0s
CAST Castle Rocks 97.83 11 IAMs_20 IAMs_20 05 23 26.6
comp=Z,1µm,19.0s
CTGM Chitina Glacie 97.84 17 IAMs_20 IAMs_20 05 22 53.6
comp=Z,1µm,20.0s
HHC Hu-ho-hao-te 97.87 314 *e*P **P** **04 42 14.3 -1.4**
HHC SKS **SKSac** **04 52 54.4 +2.3**
HHC S **S** **04 53 35.8 -5.0**
HHC sS sS 04 53 49.4 +0.9
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,250nm,7.4s
HHC LR LR
comp=Z,900nm,17.1s
HHC LR LR
comp=Z,910nm,18.6s
HHC LR LR
comp=Z,1µm,16.9s
AMTX Amarillo 97.95 54 IAMs_20 IAMs_20 05 29 32.6
comp=Z,2µm,18.0s
TRF Thorofare Moun 98.17 12 IAMs_20 IAMs_20 05 24 01.5
comp=Z,2µm,20.0s
RND Reindeer 98.39 13 IAMs_20 IAMs_20 05 24 24.2
comp=Z,2µm,19.0s
CPUP Villa Florida 98.49 129 LR LR 05 21 00.7
comp=Z,640nm,18.8s,baz=230,slow=32
435B Jarrell 98.58 59 IAMs_20 IAMs_20 05 22 57.1
comp=Z,1µm,19.0s
BPAW Bear Paw Mtn. 98.65 12 IAMs_20 IAMs_20 05 25 42.2
comp=Z,1µm,19.0s
MCK McKinley 98.67 13 IAMs_20 IAMs_20 05 24 34.7
comp=Z,2µm,20.0s
M26K Nabesna, AK 98.70 16 IAMs_20 IAMs_20 05 31 35.2
comp=Z,2µm,18.0s
M27K Edge Creek, AK 98.92 16 IAMs_20 IAMs_20 05 24 13.2
comp=Z,1µm,20.0s
BWN Browne 98.98 12 IAMs_20 IAMs_20 05 24 35.7
comp=Z,2µm,20.0s
DLBC Dease Lake 99.04 23 LR LR 05 26 08.2
comp=Z,566nm,18.7s,baz=200,slow=35
L26K Log Cabin Wild 99.17 15 IAMs_20 IAMs_20 05 24 45.8
comp=Z,2µm,20.0s
HKT Hockley 99.42 61 IAMs_20 IAMs_20 05 22 07.4
comp=Z,1µm,19.0s
NEA2 Nenana 99.44 12 IAMs_20 IAMs_20 05 24 48.9
comp=Z,2µm,20.0s
RIDG Independent Ri 99.48 14 IAMs_20 IAMs_20 05 24 48.0
comp=Z,2µm,20.0s
WRH Wood River Hil 99.50 13 IAMs_20 IAMs_20 05 25 09.7
comp=Z,2µm,19.0s
L27K Beaver Creek, 99.54 16 IAMs_20 IAMs_20 05 32 19.4
comp=Z,1µm,18.0s
MLY Manley 99.56 11 IAMs_20 IAMs_20 05 28 07.0
comp=Z,1µm,18.0s
P33M Teslin, Yukon 99.56 21 IAMs_20 IAMs_20 05 24 25.9
comp=Z,2µm,19.0s
CCB Clear Creek Bu 99.72 13 IAMs_20 IAMs_20 05 25 26.2
comp=Z,2µm,20.0s
N31M Braeburn, Yuko 99.73 19 IAMs_20 IAMs_20 05 24 02.6
comp=Z,2µm,20.0s
H21K Melozitna Rive 99.81 10 IAMs_20 IAMs_20 05 34 20.9
comp=Z,1µm,19.0s
WMOK Wichita Mounta 99.86 55 IAMs_20 IAMs_20 05 16 09.8
comp=Z,1µm,19.0s
SCRK Sand Creek 99.87 14 IAMs_20 IAMs_20 05 32 34.0
comp=Z,1µm,18.0s
TCOL CIGO, UAF Yank 99.91 12 IAMs_20 IAMs_20 05 25 13.4
comp=Z,2µm,20.0s
COLA College 99.91 12 IAMs_20 IAMs_20 05 25 13.4
comp=Z,2µm,20.0s
MDM Murphy Dome 99.92 12 IAMs_20 IAMs_20 05 25 02.8
comp=Z,2µm,20.0s
ILAR Eielson Array 100.00 13 P **Pdif** **04 42 27.1 +2.7**
comp=Z,0.4nm,0.8s,baz=204,slow=2.0,SNR=2.5
ILAR PP **PP** **04 46 29.8 -0.5**
comp=Z,0.5nm,1.0s,baz=224,slow=7.6,SNR=2.3
ILAR LR LR 05 27 33.2
comp=Z,627nm,18.0s,baz=194,slow=35
comp=Z,0.4nm,0.8s
J25K Salcha River, 100.15 14 IAMs_20 IAMs_20 05 33 24.8
comp=Z,1µm,18.0s
LZH Lanzhou 100.16 306 *e*P **Pdif** **04 42 22.0 -4.1**
LZH pP pPdif 04 42 30.3 -0.2
LZH SKS **SKSac** **04 53 05.0 +1.1**
LZH *e*S **Sdif** **04 53 52.0 -8.4**
LZH SS **SS** **05 01 00.8 +5.4**
LZH pmax pmax
comp=Z,10.0nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,360nm,16.1s
LZH LR LR
comp=Z,390nm,14.4s
LZH LR LR
comp=Z,740nm,18.4s
POKR Poker Flat Res 100.21 13 IAMs_20 IAMs_20 05 25 32.3
comp=Z,2µm,20.0s
TEIG Tepich 100.22 73 IAMs_20 IAMs_20 05 21 30.5
comp=Z,1µm,19.0s
K27K Chicken 100.33 15 IAMs_20 IAMs_20 05 25 02.4
comp=Z,1µm,20.0s
J26L Joseph Creek 100.42 14 IAMs_20 IAMs_20 05 25 17.8
comp=Z,1µm,20.0s
H23K Yukon River 100.49 11 IAMs_20 IAMs_20 05 34 29.7
comp=Z,2µm,18.0s
H24K Noodor Dome 100.78 12 IAMs_20 IAMs_20 05 33 49.5
comp=Z,2µm,19.0s
PRP Porcupine Dome 100.93 13 IAMs_20 IAMs_20 05 34 12.3
comp=Z,1µm,18.0s
RDOG Red Dog Mine 100.94 6 IAMs_20 IAMs_20 05 34 28.2
comp=Z,2µm,20.0s
OK035 E0210 Rd and N 100.97 53 IAMs_20 IAMs_20 05 26 52.5
comp=Z,1µm,19.0s
EGAK Eagle 101.18 15 IAMs_20 IAMs_20 05 33 13.6
comp=Z,2µm,18.0s
I26K Coal Creek Min 101.21 14 IAMs_20 IAMs_20 05 30 03.8
comp=Z,1µm,18.0s
NATX Nacogdoches 101.22 60 IAMs_20 IAMs_20 05 24 24.1
comp=Z,1µm,19.0s
OK025 Westminster Rd 101.31 55 IAMs_20 IAMs_20 05 26 12.6
comp=Z,1µm,18.0s
OK029 Liberty Lake 101.35 55 IAMs_20 IAMs_20 05 29 12.5
comp=Z,1µm,18.0s
OK032 Salt Plains WL 101.36 54 IAMs_20 IAMs_20 05 26 46.9
comp=Z,2µm,19.0s
BCIP Isla Barro Col 101.54 86 IAMs_20 IAMs_20 05 21 07.5
comp=Z,2µm,19.0s
J29M Klondike Camp 101.58 16 IAMs_20 IAMs_20 05 25 37.3
comp=Z,1µm,20.0s
OK049 E0420 Rd and N 101.77 54 IAMs_20 IAMs_20 05 27 37.7
comp=Z,1µm,18.0s
OK033 Mehan 101.83 55 IAMs_20 IAMs_20 05 24 39.4
comp=Z,1µm,20.0s
FYU Fort Yukon 101.92 13 IAMs_20 IAMs_20 05 26 53.4
comp=Z,1µm,19.0s
OK034 N. Norfolk Rd. 101.97 55 IAMs_20 IAMs_20 05 28 59.0
comp=Z,1µm,18.0s
OK050 Pawnee Station 101.99 55 IAMs_20 IAMs_20 05 27 58.4
comp=Z,2µm,18.0s
OK048 Pawnee Station 102.02 55 IAMs_20 IAMs_20 05 25 05.4
comp=Z,2µm,19.0s
OK046 Pawnee Station 102.04 55 IAMs_20 IAMs_20 05 24 53.8
comp=Z,2µm,19.0s
OK045 Pawnee Station 102.05 54 IAMs_20 IAMs_20 05 27 58.2
comp=Z,2µm,19.0s
OK044 Pawnee Station 102.10 55 IAMs_20 IAMs_20 05 25 13.5
comp=Z,2µm,19.0s
OK051 E0350 and S346 102.14 54 IAMs_20 IAMs_20 05 24 57.6
comp=Z,2µm,18.0s
OK047 Pawnee, Statio 102.20 55 IAMs_20 IAMs_20 05 25 17.1
comp=Z,2µm,19.0s
I29M Ogilvie Camp, 102.31 16 IAMs_20 IAMs_20 05 26 41.9
comp=Z,1µm,20.0s
YAK Yakutsk 103.32 337 IAMs_20 IAMs_20 05 30 23.0
comp=Z,1µm,19.0s
PALK Pallekele 103.56 270 IAMs_20 IAMs_20 05 30 53.2
comp=Z,2µm,19.0s
KSU1 Kansas State U 103.64 52 IAMs_20 IAMs_20 05 25 49.1
comp=Z,2µm,19.0s
VBMS Vicksburg 104.49 61 IAMs_20 IAMs_20 05 21 11.7
comp=Z,1µm,18.0s
GTA Gaotai 104.61 307 *e*P **PP** **04 47 09.8 +4.1**
GTA pP PKiKP 04 47 16.5 +15
GTA pmax pmax
comp=Z,4.0nm,1.7s
A21K Barrow 104.69 7 IAMs_20 IAMs_20 05 39 19.9
comp=Z,1µm,18.0s
OXF Oxford 106.41 59 IAMs_20 IAMs_20 05 34 01.4
comp=Z,1µm,18.0s
GOMU GeErMu 106.50 303 *e*Pdif **Pdif** **04 42 45.3 -9.3**
GOMU PP **PP** **04 47 13.8 -6.2**
GOMU GeErMu 106.50 303 SS SS 05 02 13.3 -10
GOMU AMB AMB
comp=Z,61nm,4.7s
GOMU LR LR
comp=N,170nm,19.0s
GOMU LR LR
comp=E,210nm,18.4s
GOMU LR LR
comp=Z,230nm,17.5s
BRAL Brewton 106.57 63 IAMs_20 IAMs_20 05 22 59.2
comp=Z,1µm,19.0s
CCM Cathedral Cave 106.78 55 IAMs_20 IAMs_20 05 29 08.4
comp=Z,2µm,18.0s
MTDJ Mount Denham 108.02 80 IAMs_20 IAMs_20 05 28 39.8
comp=Z,1µm,18.0s
WVT Waverly 108.30 59 IAMs_20 IAMs_20 05 31 33.5
comp=Z,1µm,18.0s
C36M Paulatuk 108.89 18 IAMs_20 IAMs_20 05 29 28.5
comp=Z,1µm,20.0s
SDV Santo Domingo 109.16 92 IAMs_20 IAMs_20 05 27 04.7
comp=Z,1µm,18.0s
HDIL Hopedale 109.28 54 IAMs_20 IAMs_20 05 19 15.3
comp=Z,1µm,18.0s
GOGA Godfrey 110.30 63 IAMs_20 IAMs_20 05 33 49.7
comp=Z,868nm,18.0s
HQIL Hanson Quary C 110.80 53 IAMs_20 IAMs_20 05 33 49.6
comp=Z,1µm,20.0s
L44A Lake County Fo 110.92 53 IAMs_20 IAMs_20 05 36 58.8
comp=Z,1µm,18.0s
SDDR Presa de Saban 113.59 82 IAMs_20 IAMs_20 05 33 22.4
comp=Z,859nm,18.0s
AAM Ann Arbor 113.85 54 IAMs_20 IAMs_20 05 34 52.5
comp=Z,1µm,18.0s
GLMI Grayling 114.18 51 IAMs_20 IAMs_20 05 32 51.2
comp=Z,1µm,19.0s
WMQ Urumqi 114.70 307 *e*PKP PKPdf 04 47 18.3 -2.0
WMQ LR LR
comp=Z,150nm,21.3s
WMQ LR LR
comp=Z,250nm,19.5s
WMQ LR LR
comp=Z,350nm,21.3s
CNNC Cliffs of the 115.25 63 IAMs_20 IAMs_20 05 36 12.8
comp=Z,1µm,19.0s
MSEY Mahe Island 117.39 244 IAMs_20 IAMs_20 05 30 17.3
comp=Z,827nm,19.0s
MK31 Makanchi Array 119.30 309 PKPdf **PKiKP** **04 47 29.3 +0.3**
MK31 Makanchi Array 119.30 309 PKiKP **PKiKP** **04 47 29.3 +0.3**
MKAR Makanchi Array 119.30 309 PKP **PKiKP** **04 47 29.1 0.0**
comp=Z,2.8nm,0.7s,baz=174,slow=1.3,SNR=18
MKAR Makanchi Array 119.30 309 PKPdf **PKPdf** **04 47 28.8 -0.2**
ZALV Zalesovo Beam 119.77 318 PKP **PKPdf** **04 47 28.9 -0.7**
comp=Z,1.9nm,0.6s,baz=270,slow=0.1,SNR=7.1
ZALV Zalesovo Beam 119.77 318 PKPdf **PKPdf** **04 47 29.1 -0.5**
ZALV Zalesovo Beam 119.77 318 PKIKP **PKPdf** **04 47 29.1 -0.5**
BIM Bigot 120.07 92 IAMs_20 IAMs_20 05 41 22.9
comp=Z,844nm,18.0s

MPOM	**Morne Pois Mar**	**120.22**	**92**	IAMs_20	IAMs_20	05 35 59.6			
	comp=Z,891nm,18.0s								
GDHS	**Morne Mazeau,**	**120.33**	**89**	IAMs_20	IAMs_20	05 39 25.5			
	comp=Z,876nm,18.0s								
ILAM	**Ilet Lapin Mar**	**120.36**	**91**	IAMs_20	IAMs_20	05 37 24.5			
	comp=Z,955nm,20.0s								
CBE	**Ff, Capester**	**120.37**	**90**	IAMs_20	IAMs_20	05 33 02.4			
	comp=Z,809nm,19.0s								
ABD	**La Joyeuse, An**	**120.66**	**89**	IAMs_20	IAMs_20	05 39 42.2			
	comp=Z,797nm,19.0s								
YLE	**Yale**	**121.03**	**58**	IAMs_20	IAMs_20	05 39 37.5			
	comp=Z,1μm,18.0s								
KSH	**Kashi**	**121.48**	**299**	PKP	**PKiKP**	**04 47 35.6**	**+1.4**		
KSH				LR	LR				
	comp=Z,340nm,22.0s								
KSH				LR	LR				
	comp=Z,390nm,19.2s								
KSH				LR	LR				
	comp=Z,360nm,19.2s								
NRIK	**Noril'sk**	**121.69**	**335**	PKP	**PKiKP**	**04 47 35.6**	**+2.6**		
	comp=Z,4.5nm,0.6s,baz=85,slow=5.3,SNR=2.4								
NRIK	**Noril'sk**	**121.69**	**335**	PKPdf	**PKiKP**	**04 47 33.3**	**+0.3**		
MDOK	**Medeo**	**121.80**	**304**	PKiKP	**PKiKP**	**04 47 37.2**	**+3.0**		
KURK	**Kurchatov**	**122.67**	**313**	PKPdf	**PKPdf**	**04 47 34.5**	**-0.7**		
KURK	**Kurchatov**	**122.67**	**313**	PKiKP	**PKPdf**	**04 47 35.3**	**0.0**		
KURBB	**Kurchatov Arra**	**122.70**	**313**	PKP	**PKPdf**	**04 47 35.2**	**-0.1**		
	comp=Z,7.6nm,0.8s,baz=106,slow=1.9,SNR=5.6								
KURBB	**Kurchatov Arra**	**122.70**	**313**	PKiKP	**PKPdf**	**04 47 35.4**	**+0.1**		
TKM2	**Tokmak 2**	**122.75**	**303**	PKiKP	**PKPdf**	**04 47 35.9**	**-0.1**		
AAK	**Ala-Archa**	**123.45**	**303**	PKPdf	**PKPdf**	**04 47 36.0**	**-1.3**		
AAK	**Ala-Archa**	**123.45**	**303**	PKiKP	**PKPdf**	**04 47 36.0**	**-1.3**		
DRK	**Karamyk**	**124.56**	**298**	PKPdf	**PKPdf**	**04 47 38.4**	**-1.3**		
KBL	**Kabul**	**125.22**	**292**	PKPdf	**PKPdf**	**04 47 39.7**	**-1.3**		
KBL	**Kabul**	**125.22**	**292**	PKiKP	**PKPdf**	**04 47 39.7**	**-1.3**		
PQI	**Presque Isle**	**125.82**	**53**	IAMs_20	IAMs_20	05 38 43.0			
	comp=Z,986nm,19.0s								
TULEG	**Thule**	**125.82**	**16**	IAMs_20	IAMs_20	05 43 22.8			
	comp=Z,948nm,20.0s								
OTUK	**Ortayu**	**126.19**	**309**	PKiKP	**PKPdf**	**04 47 42.2**	**0.0**		
KK31	**Karatay Array**	**126.41**	**302**	PKPdf	**PKPdf**	**04 47 42.7**	**0.0**		
KK31	**Karatay Array**	**126.41**	**302**	*i* PKiKP	**PKiKP**	**04 47 43.2**	**0.0**		
KKAR	**Karatay Array**	**126.41**	**302**	PKPdf	**PKPdf**	**04 47 42.2**	**-0.5**		
KKAR	**Karatay Array**	**126.41**	**302**	PKiKP	**PKiKP**	**04 47 42.2**	**-0.5**		
BVA0	**Borovoye Array**	**128.07**	**315**	*i* PKiKP	**PKiKP**	**04 47 45.9**	**-0.3**		
BVAR	**Borovoye Array**	**128.07**	**315**	PKP	**PKiKP**	**04 47 46.5**	**+0.3**		
	comp=Z,2.7nm,0.4s,baz=147,slow=1.9,SNR=2.4								
BRVK	**Borovoye**	**128.14**	**315**	PKPdf	**PKPdf**	**04 47 46.0**	**+0.3**		
BRVK	**Borovoye**	**128.14**	**315**	PKiKP	**PKiKP**	**04 47 46.5**	**+0.2**		
KMBO	**Kilima Mbogo**	**132.90**	**232**	IAMs_20	IAMs_20	05 38 06.1			
	comp=Z,780nm,20.0s								
AB31	**Akbulak array**	**134.44**	**309**	*i* PKiKP	**PKiKP**	**04 48 00.2**	**+1.1**		
ABKAR	**Akbulak array**	**134.44**	**309**	PKPdf	**PKPdf**	**04 47 57.6**	**-0.1**		
GEYT	**Alibeck**	**134.61**	**293**	PKP	**PKiKP**	**04 48 01.0**	**+1.1**		
	comp=Z,4.7nm,0.7s,baz=167,slow=7.4,SNR=5.3								
GEYT				SKPbc	**SKPab**	**04 51 31.5**	**+0.7**		
	comp=Z,7.1nm,0.9s,baz=348,slow=6.7,SNR=6.3								
GEYT	**Alibeck**	**134.61**	**293**	PKPdf	**PKPdf**	**04 47 57.5**	**-1.0**		
ARU	**Arti**	**134.87**	**319**	PKPdf	**PKPdf**	**04 47 57.6**	**-0.7**		
ARU				IAMs_20	IAMs_20	05 52 04.8			
	comp=Z,888nm,20.0s								
ARU	**Arti**	**134.87**	**319**	*i* PKiKP	**PKPdf**	**04 47 57.9**	**-0.4**		
ARU						04 50 33.4			
ARU				SS	SS	05 08 23.2	-1.8		
AKTO	**Aktyubinsk**	**135.68**	**311**	PKiKP	**PKiKP**	**04 48 01.4**	**-0.2**		
MBAR	**Mbarara**	**137.41**	**225**	IAMs_20	IAMs_20	05 44 43.8			
	comp=Z,966nm,18.0s								
FURI	**Furi**	**138.88**	**243**	IAMs_20	IAMs_20	05 54 40.8			
	comp=Z,885nm,19.0s								
PRGR	**Permogore**	**139.79**	**329**	*e*PKiKP	**PKiKP**	**04 48 09.9**	**+0.3**		
PRGR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ARA0	**ARCESS Array S**	**140.75**	**347**	*e*PKPdf	**PKPdf**	**04 48 05.2**	**-3.6**		
ARA0				IAmb	IAmb	04 48 16.5			
	comp=Z,8.6nm,1.0s								
ARCES	**ARCESS Array B**	**140.75**	**347**	PKhKP	PKPpre	04 48 03.5			
	comp=Z,2.3nm,0.7s,baz=83,slow=2.5,SNR=8.3								
ARCES				PKPbc	**PKiKP**	**04 48 11.0**	**-0.4**		
	comp=Z,3.4nm,0.7s,baz=139,slow=2.4,SNR=8.2								
ARCES				SKPbc	**SKiKP**	**04 51 50.2**	**+3.8**		
	comp=Z,2.5nm,0.8s,baz=48,slow=1.8,SNR=4.1								
RAYN	**Ar Rayn**	**140.97**	**268**	PKPdf	**PKPdf**	**04 48 09.3**	**-1.4**		
RAYN	**Ar Rayn**	**140.97**	**268**	PKiKP	**PKPdf**	**04 48 09.3**	**-1.4**		
RAYN				MLR	MLR				
	comp=Z,1μm,19.0s								
KTK1	**Kautokeino**	**141.61**	**348**	*e*PKPdf	**PKPdf**	**04 48 09.5**	**-0.8**		
KTK1				IAmb	IAmb	04 48 10.1			
	comp=Z,21nm,1.6s								
TRO	**Tromso**	**141.72**	**351**	*e*PKPdf	**PKPdf**	**04 48 08.5**	**-2.0**		
TRO				IAmb	IAmb	04 48 17.3			
	comp=Z,48nm,1.7s								
KLMR	**Klimovskoe**	**142.75**	**331**	*e*PKHKP	PKPpre	04 48 07.6			
KLMR				pmax	pmax				
	comp=Z,25nm,1.3s								
KLMR	**Klimovskoe**	**142.75**	**331**	*e*PKPdf	**PKPdf**	**04 48 07.7**	**-4.9**		
KLMR				AMP		04 48 28.1			
	comp=Z,25nm,1.3s								
KLMR				*e*SKP		05 01 09.1			
MAK	**Makhachkala**	**143.12**	**300**	*e*P	**Pdif**	**04 45 25.6**	**-11**		
MAK				*i*		04 48 10.0			
MAK				*e*		04 55 21.7			
MAK				*e*SS	SS	05 10 00.0	-3.2		
MAK				pmax	pmax				
	comp=Z,175nm,1.3s								
STEI	**Steigen**	**143.80**	**352**	*e*PKPdf	**PKPdf**	**04 48 13.8**	**-0.4**		
STEI				IAmb	IAmb	04 48 16.6			
	comp=Z,87nm,1.7s								
FAUS	**Fauske**	**144.32**	**351**	*e*PKPdf	**PKPdf**	**04 48 15.0**	**-0.1**		
FAUS				IAmb	IAmb	04 48 18.9			
	comp=Z,15nm,0.8s								
GROC	**Groznyy**	**144.37**	**300**	*e*PKHKP	PKPpre	04 48 12.1			
GROC				pmax	pmax				
	comp=Z,51nm,0.6s								
GNI	**Garni**	**145.19**	**295**	PKP	**PKPdf**	**04 48 18.4**	**+0.6**		
	comp=Z,4.7nm,0.4s,baz=93,slow=7.7,SNR=3.4								
GNI	**Garni**	**145.19**	**295**	PKPbc	**PKPbc**	**04 48 16.0**	**-1.4**		
KONS	**Konsvik**	**145.42**	**352**	*e*PKPdf	**PKPab**	**04 48 17.6**	**+0.4**		
KONS				IAmb	IAmb	04 48 20.5			
	comp=Z,52nm,0.9s								
MOR8	**Moi Rana**	**145.58**	**351**	*e*PKPab	**PKPdf**	**04 48 17.0**	**-0.4**		
MOR8				IAmb	IAmb	04 48 29.3			
	comp=Z,74nm,1.1s								
STOK	**Stokkvaagen**	**145.59**	**352**	*e*pPKPbc	**PKiKP**	**04 48 20.4**	**-1.0**		
VRH	**Novokhopyorsk**	**145.72**	**315**	*e*PKP2	**PKPdf**	**04 48 17.9**	**-0.1**		
VRH				pmax	pmax				
	comp=Z,90nm,1.6s								
ZEI	**Tsey**	**145.78**	**299**	*i* PKiKP	**PKPab**	**04 48 20.4**	**+0.8**		
ZEI				pmax	pmax				
	comp=Z,49nm,1.3s								
ONI	**Oni**	**146.12**	**299**	PKPbc	**PKPdf**	**04 48 18.5**	**-0.6**		
ONI	**Oni**	**146.12**	**299**	PKP2	**PKPdf**	**04 48 18.5**	**-0.6**		
GOF	**Gofitskoye**	**146.18**	**304**⇑	*e*PKP2	**PKPbc**	**04 48 20.3**	**+0.2**		
GOF				pmax	pmax				
	comp=Z,70nm,1.0s								
MOS	**Moscow**	**146.21**	**324**	*i* PKiKP	**PKPdf**	**04 48 18.3**	**-0.4**		
MOS				*e*		04 51 48.0			
MOS				pmax	pmax				
	comp=Z,252nm,1.4s								
KBZ	**Khabaz**	**146.44**	**301**	PKPbc	**PKPab**	**04 48 21.7**	**-0.1**		
	comp=Z,11nm,1.0s,baz=168,slow=6.6,SNR=16								
KARS	**Kars**	**146.47**	**296**	PKPbc	**PKPbc**	**04 48 20.9**	**-0.4**		
KARS	**Kars**	**146.47**	**296**	PKP2	**PKPbc**	**04 48 20.9**	**-0.4**		
KIV	**Kislovodsk**	**146.56**	**302**	⇓P	**PKPab**	**04 48 22.3**	**-0.2**		
KIV	**Kislovodsk**	**146.56**	**302**	⇓PKP2	**PKPab**	**04 48 22.3**	**-0.2**		
LPSR	**Galich'ya Gora**	**146.87**	**318**	*e*PKP2	**PKPab**	**04 48 22.7**	**-0.5**		
LPSR				pmax	pmax				
	comp=Z,210nm,1.7s								
PUL	**Pulkovo**	**147.04**	**334**	*d i* PKP2	**PKPab**	**04 48 23.0**	**-0.6**		
OBN	**Obninsk**	**147.04**	**323**	⇑P	**PKPbc**	**04 48 22.5**	**+0.3**		
OBN	**Obninsk**	**147.04**	**323**	PKPbc	**PKPbc**	**04 48 22.9**	**+0.7**		
	comp=Z,6.3nm,0.7s,baz=34,slow=1.2,SNR=33								
OBN	**Obninsk**	**147.04**	**323**	PKPbc	**PKPbc**	**04 48 21.2**	**-1.0**		
OBN				IAMs_20	IAMs_20	05 55 23.1			
	comp=Z,721nm,20.0s								
OBN	**Obninsk**	**147.04**	**323**	*c i* PKP2	**PKPbc**	**04 48 22.0**	**-0.2**		
OBN				pmax	pmax				
	comp=Z,259nm,1.7s								
VORR	**Voronezh**	**147.06**	**316**	*e*PKP2	**PKPbc**	**04 48 22.9**	**+0.5**		
VORR				pmax	pmax				
	comp=Z,100nm,0.5s								
FINES	**FINESS Array B**	**147.24**	**339**	PKPbc	**PKPbc**	**04 48 22.6**	**0.0**		
	comp=Z,30nm,0.6s,baz=59,slow=2.3,SNR=114								
FINES	**FINESS Array B**	**147.24**	**339**	PKPbc	**PKPdf**	**04 48 21.2**	**+0.9**		
VSR	**Storozhevoye**	**147.24**	**316**	*e*PKP2	**PKPbc**	**04 48 23.0**	**+0.1**		
VSR				pmax	pmax				
	comp=Z,140nm,1.5s								
NSS	**Namsos**	**147.46**	**352**	*e*PKPab	**PKPab**	**04 48 24.9**	**-0.2**		
NSS				IAmb	IAmb	04 48 38.9			
	comp=Z,50nm,0.9s								
JAWL	**J.Aulia**	**147.54**	**245**	*i*	PKiKP	04 48 36.6	+10		
	baz=227,slow=3.8								
JAWL				*i* S		04 50 38.6			
MARD	**Mardin**	**148.19**	**289**	PKPbc	**PKPdf**	**04 48 24.3**	**+1.5**		
MEF	**Metsahovi**	**148.72**	**339**	*e*P	**PKiKP**	**04 48 27.9**	**-0.1**		
SOC	**Sochi**	**148.74**	**302**	*e*PKHKP	PKPpre	04 48 20.2			
SOC				*i*		04 48 26.1			
SOC				*e*		04 51 58.8			
RAF	**Rauma**	**148.81**	**342**	*e*P	**PKiKP**	**04 48 28.4**	**+0.2**		
TBLU	**Trondheim**	**148.88**	**353**	*e*pPKPbc	**PKiKP**	**04 48 28.8**	**+0.6**		
VSU	**Vasula**	**149.27**	**335***c*	*i* PKP2	**PKPbc**	**04 48 28.2**	**+0.2**		
VSU	**Vasula**	**149.27**	**335**	*e*P	**PKPbc**	**04 48 28.4**	**+0.4**		
MTSE	**Matsula**	**150.09**	**337**	*e*P	**PKiKP**	**04 48 31.2**	**+0.4**		
ANN	**Anapa**	**150.15**	**304**	*i* PKHKP	PKPpre	04 48 28.8			
ANN				pmax	pmax				
	comp=Z,111nm,1.5s								
DOMB	**Dombas**	**150.19**	**354**	*e*pPKPbc	**pPKPbc**	**04 48 33.5**	**-1.3**		
DOMB				IAmb	IAmb	04 48 46.0			
	comp=Z,101nm,1.6s								
ASF	**Jabal al Asfar**	**150.78**	**279**	PKPbc	**PKiKP**	**04 48 33.4**	**+0.1**		
	comp=Z,15nm,0.8s,baz=148,slow=4.5,SNR=11								
FOO	**Floro**	**150.91**	**357**	*e*PKPbc	**PKPbc**	**04 48 31.6**	**-0.2**		
NB2	**NORSAR Subarra**	**150.92**	**351**	PKP	**PKPbc**	**04 48 32.2**	**+0.2**		
	comp=Z,342nm,3.3s,baz=16,slow=2.6								
NB2	**NORSAR Subarra**	**150.92**	**351**	*e*	**PKPbc**	**04 48 32.2**	**+0.2**		
	baz=16,slow=2.6								
NOA	**NORSAR Array B**	**150.92**	**351**	PKPbc	**PKiKP**	**04 48 32.7**	**+0.1**		
	comp=Z,7.0nm,0.7s,baz=14,slow=4.1,SNR=29								
EKNA	**AfricaArray -**	**151.03**	**195**⇑	*e*P	**PKiKP**	**04 48 36.2**	**+1.9**		
NC602	**NORSAR Array S**	**151.17**	**350**	*e*PKPbc	**PKPbc**	**04 48 32.6**	**+0.1**		
NC602				IAmb	IAmb	04 48 39.9			
	comp=Z,28nm,0.9s								
HFS	**Hagfors**	**151.41**	**348**	PKPbc	**PKPbc**	**04 48 33.3**	**+0.2**		
	comp=Z,14nm,0.7s,baz=100,slow=3.5,SNR=24								
SLIT	**Slitere, Latvi**	**151.44**	**337**	*e*P	**PKiKP**	**04 48 36.7**	**+3.0**		
MNK	**Minsk**	**151.54**	**328**	*i* PKiKP	**PKPdf**	**04 48 27.7**	**+0.4**		
MNK				*i*		04 52 14.9			
MNK				*i*		04 55 35.3			
MNK				*i* PPP	PPP	04 55 39.4			
MNK				*i* SS	SS	05 11 42.4	+5.7		
MNK				*i* SSS	SSS	05 17 27.3			
MNK				pmax	pmax				
	comp=E,10.0nm,1.4s								
MNK				pmax	pmax				
	comp=Z,108nm,1.4s								
MNK	**Minsk**	**151.54**	**328**	*i* PKP	**PKPdf**	**04 48 27.7**	**+0.4**		
	comp=E,10.0nm,1.4s								
MNK				*i* PKP	**PKPdf**	**04 48 27.7**	**+0.4**		
MNK				*i* PKP	**PKPdf**	**04 48 27.7**	**+0.4**		
	comp=Z,108nm,1.4s,baz=228								
MNK				*i* PP	**PP**	**04 52 15.0**	**+1.8**		
MNK				*i* SKS	**SKSdf**	**04 55 35.4**	**+1.9**		
MNK				*i* PPP	PPP	04 55 39.4			
MNK				*i* SKKS	**SKKSdf**	**05 04 24.6**	**+1.9**		
MNK				*i* PPS	PPS	05 09 08.6			
MNK				*i* SS	**SS**	**05 11 42.5**	**+5.8**		
MNK				*i* SSS	SSS	05 17 27.4			
MNK				*i* LR	LR	05 53 56.5			
MNK				*i* LRM	MLR	05 56 46.4			
	comp=E,69nm,17.1s								
MNK				*i* LRM	MLR	05 57 32.9			
MNK				*i* LRM	MLR	05 57 32.9			
	comp=Z,654nm,20.1s								
ISAL	**Salakas**	**151.57**	**331**	*e*P	**PKiKP**	**04 48 35.8**	**+1.7**		
SKAR	**Skarslia**	**151.60**	**354**	*e*pPKPbc	**pPKPbc**	**04 48 37.1**	**-1.1**		
SKAR				IAmb	IAmb	04 48 40.8			
	comp=Z,40nm,1.0s								
IIGN	**Ignalina**	**151.69**	**331**	*e*P	**PKiKP**	**04 48 35.8**	**+1.5**		
GHAJ	**Ghor Haditha**	**151.73**	**276**	IAMs_20	IAMs_20	05 52 35.7			
	comp=Z,888nm,20.0s								
NACGM	**Naroch**	**151.75**	**330**‖	*e*PKP	**PKiKP**	**04 48 36.2**	**+1.7**		
EIL	**Elat**	**151.88**	**273**	PKPbc	**PKiKP**	**04 48 36.8**	**+1.3**		
	comp=Z,29nm,0.9s,baz=184,slow=1.7,SNR=14								
VSVD	**Vaisvydziai**	**152.14**	**334**	*e*P	**PKiKP**	**04 48 36.9**	**+1.8**		
MMAI	**Mount Meron Ar**	**152.16**	**280**	PKPbc	**PKiKP**	**04 48 37.0**	**+0.8**		
	comp=Z,13nm,0.6s,baz=87,slow=4.3,SNR=16								
PABE	**Paberze**	**152.48**	**333**	*e*P	**PKiKP**	**04 48 38.4**	**+2.5**		
KONO	**Kongsberg**	**152.48**	**352**	‖PKiKP	**PKiKP**	**04 48 37.6**	**+1.8**		
KONO	**Kongsberg**	**152.48**	**352**	*e*PKPbc	**PKiKP**	**04 48 35.8**	**+0.1**		
ODD1	**Odda**	**152.50**	**355**	*e*PKPbc	**PKiKP**	**04 48 35.7**	**+0.1**		
PBUR	**Paburge**	**152.83**	**335**	*e*P	**PKiKP**	**04 48 40.5**	**+3.9**		
LIC	**Lamto**	**152.93**	**164**⇑	*i* PKP1	**PKiKP**	**04 48 42.3**	**+4.2**		
AKASG	**Malin Array Be**	**153.11**	**320**	PKPbc	**PKiKP**	**04 48 37.5**	**+0.2**		
	comp=Z,17nm,1.0s,baz=53,slow=2.8,SNR=38								
KIC	**Kosan Boka**	**153.12**	**165**‖	*e*PKP1	**PKiKP**	**04 48 42.4**	**+3.8**		
	comp=Z,11nm,0.5s								
BZK	**Bozkurt**	**153.15**	**300**	⇑P	**PKPbc**	**04 48 35.8**	**-1.8**		
TIC	**Toumodi**	**153.33**	**164**‖	*e*PKP1	**PKiKP**	**04 48 43.2**	**+4.2**		
	comp=Z,21nm,0.6s								
DBIC	**Dimbokro**	**153.40**	**164**	PKPbc	**PKiKP**	**04 48 40.6**	**+1.5**		
	comp=Z,2.3nm,0.7s,baz=153,slow=4.5,SNR=1.8								
DBIC	**Dimbokro**	**153.40**	**164**	PKPab	**PKPab**	**04 48 50.8**	**-0.1**		
BRTR	**Keskin Array B**	**153.73**	**295**	PKPbc	**PKiKP**	**04 48 39.8**	**+0.5**		
	comp=Z,5.0nm,0.5s,baz=143,slow=3.8,SNR=26								
BRTR	**Keskin Array B**	**153.73**	**295**		**PKPbc**	**04 48 36.2**	**-2.9**		
BRTR	**Keskin Array B**	**153.73**	**295**	PKIKP	**PKPbc**	**04 48 36.3**	**-2.9**		
ANTO	**Ankara**	**154.37**	**295**	‖P	**PKiKP**	**04 48 40.9**	**+0.5**		
ANTO	**Ankara**	**154.37**	**295**		**PKPbc**	**04 48 39.6**	**-0.8**		
ANTO	**Ankara**	**154.37**	**295**	PKIKP	**PKPbc**	**04 48 39.6**	**-0.8**		
MILM	**Milestii Mici**	**155.18**	**313***c*	*i* PKIKP	PKPdf	04 48 21.0	-12		
MILM				pmax	pmax				
	comp=Z,7.0nm,0.3s								
ISP	**Isparta**	**156.33**	**291**	IAMs_20	IAMs_20	06 03 57.0			
	comp=Z,633nm,19.0s								
CFR	**Carcaliu**	**156.33**	**310**	‖P	PKPdf	04 48 42.4	+8.0		
CFR	**Carcaliu**	**156.33**	**310**	‖PKiKP	PKPdf	04 48 42.4	+8.0		
LVV	**L'vov**	**156.34**	**323**	*e*PKiKP	**PKPdf**	**04 48 33.0**	**-1.3**		
RGN	**Rugen**	**156.66**	**344**	IAMs_20	IAMs_20	06 04 31.3			
	comp=Z,819nm,20.0s								
BIZ	**Bicaz**	**156.82**	**315**	‖P	PKPdf	04 48 45.0	+10		
VRI	**Vrincioaia**	**156.94**	**312**	⇑P	PKPdf	04 48 45.8	+11		
VRI	**Vrincioaia**	**156.94**	**312**	⇑PKiKP	PKPdf	04 48 45.8	+11		
BURAR	**Bucovina Array**	**156.99**	**317**	‖P	PKPab	04 48 50.8	-15		
PLOR	**Plostina**	**157.00**	**312**	‖P	**PKPab**	**04 49 07.9**	**+2.2**		
PLOR	**Plostina**	**157.00**	**312**	‖PKP2	**PKPab**	**04 49 07.9**	**+2.2**		
MLR	**Muntele Rosu**	**157.60**	**312**	PKPab	**PKPab**	**04 49 09.2**	**+0.8**		
	comp=Z,2.6nm,0.6s,baz=84,slow=4.3,SNR=4.5								
MLR	**Muntele Rosu**	**157.60**	**312**	IAMs_20	IAMs_20	06 14 13.2			
	comp=Z,714nm,19.0s								
UZH	**Uzhgorod**	**157.98**	**323**	*e*PKIKP	PKPdf	04 48 50.0	+14		
UZH				*i*		04 48 54.3			
UZH				*i*		04 49 07.1			
OJC	**Ojcow**	**158.08**	**329**	*e*PKPdf	**PKPdf**	**04 48 37.1**	**+0.6**		
OJC	**Ojcow**	**158.08**	**329**	PKPdf	**PKPdf**	**04 48 35.6**	**-0.9**		
OJC				PKPab	**PKPab**	**04 49 08.8**	**-1.3**		
OJC	**Ojcow**	**158.08**	**329**	PKP2	**PKPab**	**04 49 08.8**	**-1.3**		
OJC						05 48 35.6			
NIE	**Niedzica**	**158.43**	**327**	*e*PKPdf	**PKPdf**	**04 48 39.0**	**+2.0**		
NIE				*e*PKPab	**PKPab**	**04 49 13.5**	**+1.8**		
ARR	**Arges**	**158.48**	**313**	‖P	**PKPdf**	**04 48 43.0**	**+5.8**		
DRGR		**158.86**	**318**	‖P	**PKPdf**	**04 48 45.0**	**+7.3**		
DRGR		**158.86**	**318**	‖PKIKP	**PKPdf**	**04 48 45.0**	**+7.3**		
KSP	**Ksiaz**	**159.00**	**335**	*e*PKPab	**PKPab**	**04 49 13.6**	**-0.5**		
OSTC	**Ostas**	**159.27**	**334**⇑	*e*PKP	PKPdf	04 48 49.7	+12		
OSTC				*e*PKPAB	**PKPab**	**04 49 08.9**	**-6.4**		
CHVC	**Chvalec**	**159.30**	**334**⇑	*e*PKP	PKPab	04 49 05.9	-10		
CHVC				*e*PKPAB	pPKPab	04 49 16.7	-3.2		
MORC	**Moravsky Berou**	**159.37**	**331**	*e*PKP	PKPdf	04 48 53.0	+15		
MORC				*e*		04 49 15.8			
UPC	**Upice**	**159.38**	**334**	*e*PKP2	**PKPab**	**04 49 16.7**	**+1.0**		
UPC	**Upice**	**159.38**	**334**	*e*PKPAB	**PKPab**	**04 49 16.7**	**+1.0**		
DPC	**Dobruska-Polom**	**159.40**	**334**⇑	*e*PKP	PKPdf	04 48 56.8	+19		
DPC				*e*PKPAB	**PKPab**	**04 49 17.6**	**+1.7**		
KRLC	**Kraliky**	**159.44**	**333**	*e*PKIKP	PKPdf	04 48 50.9	+13		
KRLC				*e*		04 49 14.4			
KRLC	**Kraliky**	**159.44**	**333**⇑	*e*PKP	PKPdf	04 48 50.9	+13		
KRLC				*e*PKPAB	**PKPab**	**04 49 14.4**	**-1.7**		
MAUC	**Maruska**	**159.57**	**330**⇑	*e*PKP	**PKPdf**	**04 48 43.3**	**+4.9**		
GZR	**Gura Zlata**	**159.59**	**315**	‖P	PKPdf	04 48 24.6	-14		
CLL	**Collm**	**159.68**	**340**	IAMs_20	IAMs_20	06 16 21.2			
	comp=Z,633nm,18.0s								
CLL	**Collm**	**159.68**	**340**	*e*PKPdf	**PKPdf**	**04 48 40.0**	**+1.6**		
CLL				*e*PKPdif	**sPKPdf**	**04 48 51.0**	**+6.4**		
CLL				*e*PKPab	**PKPab**	**04 49 14.0**	**-2.9**		
	comp=Z,30nm,1.4s								
CLL				*ex*	x	04 49 23.0			
CLL				*ex*	x	04 49 29.0			
CLL				*e*P	**PP**	**04 52 58.0**	**-0.2**		
CLL				*e*PPP	PPP	04 56 34.0			
CLL				*e*SKKSac	SKKSac	04 59 51.0	+5.1		
CLL				*e*PSKS		05 03 18.0			
CLL				*e*PPS	PPS	05 06 19.0			
CLL				*ex*	x	05 09 24.0			
CLL				*e*SS	**SS**	**05 13 00.0**	**-4.0**		
CLL				*ex*	x	05 14 54.0			
CLL				*e*SSS	SSS	05 19 06.0			
CLL				*e*PSSrev		05 21 06.0			
CLL				*e*SSSS		05 23 30.0			
CLL				*ex*	x	05 25 00.0			
CLL				LmV		06 04 00.0			
	comp=Z,500nm,21.2s								
CLL				LmH		06 21 00.0			
	comp=N,300nm,18.6s								
CLL				LmH		06 21 00.0			
	comp=E,500nm,18.7s								
VYHS	**Vyhne**	**159.76**	**327**	*e*PKIKP	**PKPdf**	**04 48 40.1**	**+1.5**		
VYHS				*e*		04 49 18.1			
VYHS	**Vyhne**	**159.76**	**327**	*e*PKP	**PKPdf**	**04 48 40.1**	**+1.5**		
VYHS				*e*		04 49 18.1			
BRG	**Berggiesshubel**	**159.78**	**338**	*i* PKP2	**PKPab**	**04 49 19.3**	**+1.9**		
BRG				pmax	pmax				
	comp=Z,16nm,1.2s								
BRG				pmax	pmax				
	comp=Z,28nm,1.4s								
PVCC	**Panska Ves**	**159.87**	**337**	*e*PKP2	**PKPab**	**04 49 17.8**	**0.0**		
PVCC	**Panska Ves**	**159.87**	**337**	*e*PKPAB	**PKPab**	**04 49 17.8**	**0.0**		
VRAC	**Vranov**	**160.12**	**331**	PKPab	**PKPab**	**04 49 19.9**	**+0.9**		
	comp=Z,4.4nm,0.8s,baz=120,slow=3.3,SNR=3.4								
PRU	**Pruhonice**	**160.34**	**336**	*e*PKP2	**PKPab**	**04 49 13.9**	**-6.0**		
PRU	**Pruhonice**	**160.34**	**336**	*e*PKPAB	**PKPab**	**04 49 13.9**	**-6.0**		
PRU				*ex*	x	04 49 26.2			
SMOL	**Smolenice**	**160.38**	**329**	*e*PKP2	**PKPab**	**04 49 22.1**	**+1.9**		
BLKB	**Belogradchik**	**160.54**	**310**	‖P	**PKPdf**	**04 48 33.6

n33,σ0.51/56,1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
COPN	**Copaltepe**	**0.68**	**347**	*eP*		**Pn**		**04 33 03.1**	**-0.1**
APYN	**Apoyeque**	**0.72**	**7**	*eP*		**Pn**		**04 33 03.6**	**-0.1**
APYN				*eS*		**Sn**		**04 33 15.4**	**+0.5**
HUEN		**0.86**	**17**	*eP*		**Pn**		**04 33 05.1**	**-0.1**
HUEN				*eS*		**Sn**		**04 33 18.8**	**+1.0**
MOMN	**Momotombo**	**0.90**	**354**	*eP*		**Pn**		**04 33 05.6**	**-0.1**
MOMN				*eS*		**Sn**		**04 33 18.2**	**-0.4**
CNGN	**Cerro Negro**	**1.02**	**345**	*eP*		**Pn**		**04 33 06.1**	**-1.1**
CNGN				*eS*		**Sn**		**04 33 20.2**	**-1.0**
HZTE	**Horizontes, Gu**	**1.14**	**134**	*eP*		**Pn**		**04 33 09.1**	**+0.3**
HZTE	**Horizontes, Gu**	**1.14**	**134**	*eP*		**Pn**		**04 33 09.0**	**+0.3**
HZTE				*eS*		**Sn**		**04 33 24.6**	**+0.6**
TELN	**Telica**	**1.15**	**340**	*eP*		**Pn**		**04 33 09.4**	**+0.4**
TELN				*eS*		**Sn**		**04 33 25.2**	**+0.9**
BOAB	**BOACO BROADBAN**	**1.20**	**39**	*eP*		**Pn**		**04 33 09.4**	**0.0**
BOAB				*eS*		**Sn**		**04 33 25.0**	**-0.2**
GBS3	**Finca Las Img**	**1.21**	**127**	*eP*		**Pn**		**04 33 09.2**	**-0.3**
GBS3				*eS*		**Sn**		**04 33 25.5**	**+0.1**
GB1A	**Borinquen Arri**	**1.23**	**124**	*eP*		**Pn**		**04 33 09.7**	**-0.2**
GB1A				*eS*		**Sn**		**04 33 25.0**	**-1.1**
LAPC	**Finca la Perla**	**1.23**	**127**	*eP*		**Pn**		**04 33 09.5**	**-0.4**
LAPC				*eS*		**Sn**		**04 33 25.3**	**-0.7**
BUEV	**Buena Vista**	**1.23**	**125**	*eP*		**Pn**		**04 33 10.4**	**+0.5**
BUEV				*eS*		**Sn**		**04 33 25.4**	**-0.8**
BUAI	**Buenos Aires**	**1.25**	**120**	*eP*		**Pn**		**04 33 10.4**	**+0.2**
BUAI				*eS*		**Sn**		**04 33 26.1**	**-0.4**
VRLE	**La Escondida,**	**1.27**	**124**	*eP*		**Pn**		**04 33 10.2**	**-0.3**
GPS1	**Guardaparques**	**1.29**	**124**	*eP*		**Pn**		**04 33 10.7**	**0.0**
GPS1				*eS*		**Sn**		**04 33 27.6**	**+0.1**
GPS3	**Bodega del ICE**	**1.29**	**125**	*eP*		**Pn**		**04 33 11.1**	**+0.4**
GPS3				*eS*		**Sn**		**04 33 27.7**	**+0.2**
GPS2	**Hotel Rincn d**	**1.30**	**125**	*eP*		**Pn**		**04 33 11.4**	**+0.5**
GPS2				*eS*		**Sn**		**04 33 27.9**	**+0.2**
ACON	**Acoyapa**	**1.32**	**70**	*eP*		**Pn**		**04 33 10.6**	**-0.4**
ACON				*eS*		**Sn**		**04 33 27.8**	**-0.2**
ACON	**Acoyapa**	**1.32**	**70**	*eP*		**Pn**		**04 33 10.6**	**-0.4**
ACON				*eS*		**Sn**		**04 33 27.7**	**-0.2**
CRIN	**San Cristobal**	**1.32**	**333**	*eP*		**Pn**		**04 33 11.3**	**+0.2**
CRIN	**San Cristobal**	**1.32**	**333**	*eP*		**Pn**		**04 33 11.4**	**+0.2**
GUAB	**Guayabo de Bag**	**1.43**	**124**	*eP*		**Pn**		**04 33 12.7**	**+0.3**
GUAB				*eS*		**Sn**		**04 33 31.0**	**+0.3**
VMAR	**Armenia, Volca**	**1.47**	**118**	*eP*		**Pn**		**04 33 12.8**	**-0.1**
HORNC	**Hornillas**	**1.47**	**123**	*eP*		**Pn**		**04 33 13.0**	**0.0**
HORNC				*eS*		**Sn**		**04 33 31.4**	**-0.2**
COLC	**Colonia**	**1.47**	**125**	*eP*		**Pn**		**04 33 13.9**	**+0.8**
COLC				*eS*		**Sn**		**04 33 32.7**	**+1.0**
ORTG	**Ortega, Santa**	**1.49**	**140**	*eP*		**Pn**		**04 33 13.3**	**0.0**
CUI	**Cuipilapa**	**1.51**	**124**	*eP*		**Pn**		**04 33 13.5**	**0.0**
CUI				*eS*		**Sn**		**04 33 32.9**	**+0.4**
PTEN	**Parque Tenorio**	**1.63**	**119**	*eP*		**Pn**		**04 33 15.2**	**+0.2**
PTEN				*eS*		**Sn**		**04 33 36.1**	**+0.7**
ACAL	**Aguas Claras**	**1.63**	**122**	*eP*		**Pn**		**04 33 15.1**	**0.0**
ACAL				*eS*		**Sn**		**04 33 36.3**	**+0.9**
DUNO	**Dulce Nombre,**	**1.70**	**147**	*eP*		**Pn**		**04 33 15.7**	**-0.3**
GRZA	**Playa Garza**	**1.77**	**154**	*eP*		**Pn**		**04 33 16.3**	**-0.6**
INDI	**Punta indio, G**	**1.87**	**151**	*eP*		**Pn**		**04 33 17.7**	**-0.6**

IDC 25 04:36:24.1±2.3,32.36S×178.18W,h0km,mb4.0/2, mbtmp4.1/3,ML3.8/1,Error ellipse: s-maj=66.4km s-min=42.2km az=132.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
URZ	**Urewera**	**7.03**	**212**	Pn		Pn		04 38 07.4	-0.9
	1.7nm,0.3s,baz=3.2,slow=2.8,SNR=7.2								
URZ				Sn		Sn		04 39 21.9	-7.0
	3.1nm,0.3s,baz=325,slow=4.8,SNR=11								
	26nm,0.8s								
ASAR	**Alice Springs**	**42.89**	**269**	P		P		04 44 24.4	-0.1
	0.7nm,0.5s,baz=108,slow=8.1,SNR=5.0								
	0.7nm,0.5s								
WRA	**Warramunga Arr**	**44.05**	**274**	P		P		04 44 34.0	+0.1
	1.6nm,0.4s,baz=114,slow=7.6,SNR=14								
	1.6nm,0.4s								
FINES	**FINESS Array B**	**146.92**	**339**	PKPbc		PKPbc		04 56 07.3	-0.4
	2.2nm,0.7s,baz=62,slow=4.5,SNR=14								
BRTR	**Keskin Array B**	**153.34**	**295**	PKPbc		PKPbc		04 56 23.7	-0.7
	0.5nm,0.7s,baz=57,slow=5.3,SNR=2.1								

*IDC **25** 04:37:45.6±2.6,2.18S×140.90E,h0km,mb4.0/4, mbtmp4.0/5,ML4.0/1,Error ellipse: s-maj=87.6km s-min=36.1km az=130.0*

ISC 25 04:37:46.8±2.3,2.1S±0.4×140.7E±0.4,h10km,n7,σ0.82/7, mb4.0/4,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**18.80**	**199**	P		**P**		**04 42 07.0**	**+0.4**
	0.5nm,0.3s,baz=25,slow=12,SNR=10								
	2.2nm,0.5s								
FITZ	**Fitzroy Crossi**	**21.72**	**222**	P		**P**		**04 42 38.1**	**-0.2**
	3.8nm,0.8s,baz=0.5,slow=12,SNR=2.2								
	3.8nm,0.8s								
ASAR	**Alice Springs**	**22.43**	**197**	P		**P**		**04 42 46.2**	**+0.2**
	3.2nm,0.6s,baz=28,slow=11,SNR=16								
	3.2nm,0.6s								
STKA	**Stephens Creek**	**29.63**	**179**	P		**P**		**04 43 51.8**	**-0.7**
	1.4nm,0.4s,baz=336,slow=12,SNR=2.1								
	1.4nm,0.4s								
VNDA	**Vanda**	**76.21**	**175**	P		**P**		**04 49 35.7**	**+0.8**
	0.8nm,0.6s,baz=334,slow=6.4,SNR=3.9								
	0.8nm,0.6s								
LPAZ	**La Paz**	**146.14**	**124**	PKPbc		**PKPdf**		**04 57 28.8**	**+0.6**
	0.9nm,0.8s,baz=220,slow=5.2,SNR=2.5								
SIV	**San Ignacio**	**151.94**	**131**	PKPbc		**PKPbc**		**04 57 42.3**	**-1.0**
	0.8nm,0.9s,baz=231,slow=6.5,SNR=3.7								

*IDC **25** 04:40:02.6±3.0,5.97S×154.65E,h102km±28km,mb3.6/2, mbtmp4.1/5,Error ellipse: s-maj=29.5km s-min=23.8km az=63.0*

ISC 25 04:40:01.4±1.7,6.0S±0.1×154.7E±0.1,h100km,n6, σ0.84/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
KRVT	**Keravat (AS076**	**3.19**	**302**	P		Pn		04 40 50.1	+0.5
	63nm,0.4s,baz=301,slow=2.7,SNR=16								
KRVT				S		**Sn**		**04 41 26.5**	**-0.5**
	80nm,0.3s,baz=324,slow=19,SNR=2.2								
PMG	**Port Moresby**	**8.24**	**245**	P		**Pn**		**04 41 58.1**	**-0.1**
	22nm,0.6s,baz=57,slow=8.5,SNR=9.2								
PMG				S		**Sn**		**04 43 29.3**	**-0.5**
	15nm,0.6s,baz=344,slow=23,SNR=9.9								
DZM	**Mont Dzumac**	**19.57**	**146**	P		**Pn**		**04 44 23.3**	**-0.7**
	4.5nm,0.7s,baz=335,slow=19,SNR=5.6								
WRA	**Warramunga Arr**	**24.19**	**233**	P		**P**		**04 45 10.1**	**+1.3**
	2.6nm,0.8s,baz=56,slow=9.3,SNR=5.6								
	2.6nm,0.8s								
ASAR	**Alice Springs**	**26.66**	**227**	P		**P**		**04 45 31.5**	**+0.4**
	1.1nm,0.6s,baz=60,slow=8.9,SNR=9.8								
	1.1nm,0.6s								
TORD	**Torodi Ar. Bea**	**152.51**	**287**	PKPbc		**PKiKP**		**04 59 47.5**	**+0.1**
	0.2nm,0.7s,baz=64,slow=1.2,SNR=1.0								

IDC 25 04:40:36.5±2.3,32.63S×178.02W,h0km,mb4.0/2, mbtmp4.0/3,ML3.8/1,Error ellipse: s-maj=63.7km s-min=33.7km az=128.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
URZ	**Urewera**	**6.88**	**214**	Pn		Pn		04 42 18.4	-0.2
	1.7nm,0.3s,baz=72,slow=19,SNR=1.6								
URZ				Sn		Sn		04 43 36.0	-1.6
	2.4nm,0.3s,baz=316,slow=5.7,SNR=12								
	4.3nm,0.4s								
ASAR	**Alice Springs**	**43.02**	**269**	P		P		04 48 38.2	+0.2
	0.8nm,0.6s,baz=108,slow=7.1,SNR=8.4								
	0.8nm,0.6s								
WRA	**Warramunga Arr**	**44.20**	**274**	P		P		04 48 47.6	0.0
	2.1nm,0.5s,baz=112,slow=8.0,SNR=25								
	2.1nm,0.5s								
FINES	**FINESS Array B**	**147.22**	**339**	PKPbc		PKPbc		05 00 20.9	-0.1
	2.2nm,0.7s,baz=44,slow=5.0,SNR=16								
AKASG	**Malin Array Be**	**153.02**	**320**	PKPbc		PKPbc		05 00 34.3	-1.2
	0.2nm,0.3s,baz=54,slow=1.5,SNR=4.1								

ROM 25 04:52:51.1±0.1,37.747N±0.004×15.147E±0.007, h8km,ML2.4/13,2C,Error ellipse: s-maj=0.5km s-min=0.3km az=272.0,Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
ESLN	**Serra La Nave**	**0.15**	**249**	P		P	Pg	04 52 54.1	-0.3
ESLN				S		S	Sg	04 52 57.2	+0.6
ESLN						AML	AML		
	comp=E,3145μm,1.4s								
ESLN						AML	AML		
	comp=N,2820μm,1.1s								
ESLN						AML	AML		
	comp=E,3145μm,0.6s								
ESLN						AML	AML		
	comp=N,2820μm,0.9s								
EMSG	**Monte Spagnolo**	**0.17**	**295**	P		P	Pg	04 52 54.9	+0.2
EMSG				S		S	Sg	04 52 58.7	+1.4
EMSG						AML	AML		
	comp=N,7940μm,0.4s								
EMSG						AML	AML		
	comp=E,5425μm,0.9s								
AIO	**Antillo**	**0.23**	**17**	↑P		P	Pg	04 52 56.3	+0.5
AIO						AML	AML		
	comp=N,2300μm,0.5s								
AIO						AML	AML		
	comp=E,1760μm,1.3s								
AIO						AML	AML		
	comp=E,1760μm,0.7s								
EPOZ	**Pozzillo**	**0.24**	**193**	↑P		P	Pg	04 52 54.0	-1.8
ESML	**S. M. di Licod**	**0.25**	**239**	P		P	Pg	04 52 56.6	+0.5
ESML				S		S	Sg	04 53 01.4	+1.9
ESML						AML	AML		
	comp=N,885μm,0.8s								
ESML						AML	AML		
	comp=E,1120μm,1.0s								
ESML						AML	AML		
	comp=E,1120μm,1.0s								
MNO	**Monte Soro**	**0.40**	**298**	P		P	Pg	04 52 59.8	+0.8
MNO				S		S	Sb	04 53 06.6	-0.4
MNO						AML	AML		
	comp=E,692μm,0.6s								
MNO						AML	AML		
	comp=N,894μm,0.6s								
MNO						AML	AML		
	comp=N,896μm,0.6s								
MNO						AML	AML		
	comp=N,896μm,1.4s								
MPNC	**Port Mandanici**	**0.43**	**22**	P		P	Pg	04 53 00.1	+0.6
MPNC				S		S	Sb	04 53 06.8	-0.8
MPNC						AML	AML		
	comp=E,1705μm,0.5s								
MPNC						AML	AML		
	comp=N,966μm,0.5s								
MPNC						AML	AML		
	comp=E,1705μm,1.5s								
MPNC						AML	AML		
	comp=N,966μm,1.5s								
HLNI	**Lentini**	**0.45**	**209**	P		P	Pg	04 52 60.0	+0.1
HLNI				S		S	Sb	04 53 07.3	-0.9
HLNI						AML	AML		
	comp=E,166μm,1.5s								
HLNI						AML	AML		
	comp=N,162μm,0.3s								
HLNI						AML	AML		
	comp=E,166μm,1.5s								
HAGA	**Augusta**	**0.46**	**179**	P		P	Pg	04 53 00.4	+0.4
HAGA				S		S	Sb	04 53 08.1	-0.3
MSFR	**San Fratello**	**0.53**	**303**	P		P	Pg	04 53 01.7	+0.4
MSFR				S		S	Sb	04 53 10.1	-0.3
MSFR						AML	AML		
	comp=E,160μm,0.7s								
MSFR						AML	AML		
	comp=N,144μm,0.9s								
MSFR						AML	AML		
	comp=E,160μm,1.3s								
MSFR						AML	AML		
	comp=N,144μm,1.1s								
MILZ	**Milazzo**	**0.53**	**7**	P		P	Pg	04 53 01.8	+0.5
MILZ				S		S	Sb	04 53 09.9	-0.4
MILZ						AML	AML		
	comp=E,342μm,1.2s								
MILZ						AML	AML		
	comp=N,255μm,1.1s								
MILZ						AML	AML		
	comp=N,255μm,0.9s								
MILZ						AML	AML		
	comp=E,342μm,0.8s								
MSRU	**Castanea**	**0.59**	**29**	P		P	Pg	04 53 03.0	+0.5
MSRU				S		S	Sb	04 53 12.2	0.0
MSRU						AML	AML		
	comp=E,454μm,1.1s								
MSRU						AML	AML		
	comp=E,454μm,0.9s								
MSRU						AML	AML		
	comp=N,366μm,0.4s								
VPL	**Vulcano Piano**	**0.64**	**348**	P		P	Pg	04 53 03.8	+0.2
VPL				S		S	Sb	04 53 13.1	-0.7
VPL						AML	AML		
	comp=E,1860μm,0.3s								
VPL						AML	AML		
	comp=N,2030μm,1.2s								
VPL						AML	AML		
	comp=E,1860μm,1.7s								
VPL						AML	AML		
	comp=N,2030μm,0.8s								
HVZN	**Vizzini**	**0.66**	**211**	P		P	Pg	04 53 04.2	+0.3
HVZN				S		S	Sg	04 53 13.0	+0.5
LLI	**Lipari**	**0.71**	**347**	P		P	Pg	04 53 05.3	+0.4
HAVL	**Avola**	**0.79**	**181**	P		P	Pg	04 53 06.0	-0.1
HAVL				S		S	Sb	04 53 18.1	+0.3
HAVL						AML	AML		
	comp=E,420μm,0.7s								
HAVL						AML	AML		
	comp=N,612μm,0.3s								
SOI	**Samo**	**0.79**	**65**	P		P	Pg	04 53 06.2	-0.1
RAFF	**Raffo Rosso**	**0.81**	**230**	P		P	Pg	04 53 06.7	0.0
RAFF						AML	AML		
	comp=N,192μm,0.3s								
RAFF						AML	AML		
	comp=E,219μm,0.4s								
PETRA	**Petralia Sopra**	**0.82**	**276**			AML	AML		
	comp=E,162μm,1.1s								
PETRA						AML	AML		
	comp=E,162μm,0.9s								
PETRA						AML	AML		
	comp=N,245μm,0.9s								
PLLN	**Pollina**	**0.83**	**287**	P		P	Pg	04 53 07.3	+0.3
HMDC	**Modica**	**0.84**	**200**	P		P	Pg	04 53 07.4	+0.2
HMDC				S		S	Sb	04 53 19.5	+0.1
HMDC						AML	AML		
	comp=E,354μm,0.4s								
HMDC						AML	AML		
	comp=N,231μm,1.4s								
HMDC						AML	AML		
	comp=N,231μm,0.6s								
CSLB	**Castelbuono**	**0.88**	**283**	P		P	Pg	04 53 08.4	+0.3
GIB	**Gibilmanna**	**0.92**	**286**	P		P	Pg	04 53 08.8	0.0
GIB						AML	AML		
	comp=E,344μm,0.9s								
GIB						AML	AML		
	comp=N,254μm,0.5s								
GIB						AML	AML		
	comp=E,344μm,1.1s								
IFIL	**Filicudi I Eol**	**0.94**	**331**	P		P	Pg	04 53 08.8	-0.3
IACL	**Alicudi**	**1.00**	**322**	P		P	Pg	04 53 09.9	-0.5
HPAC	**Pachino**	**1.05**	**182**	P		P	Pg	04 53 10.6	-0.6
HPAC				S		S	Sb	04 53 25.8	+0.4
PLAC	**Placanica**	**1.24**	**55**	P		P	Pn	04 53 14.4	-0.4
PLAC						AML	AML		
	comp=E,136μm,1.3s								
PLAC						AML	AML		
	comp=N,83μm,0.5s								
PLAC						AML	AML		
	comp=N,83μm,1.5s								
PLAC						AML	AML		
	comp=E,136μm,0.7s								
CAR1	**CAROLEI**	**1.72**	**29**	P		P	Pn	04 53 21.7	+0.3
CAR1						AML	AML		
	comp=E,100μm,0.5s								
CAR1						AML	AML		
	comp=N,103μm,0.6s								
CAR1						AML	AML		
	comp=E,100μm,1.5s								
CAR1						AML	AML		
	comp=N,103μm,1.4s								
ERC	**Erice**	**2.05**	**279**	P		Pn		04 53 26.1	+0.2

ROM 25 04:53:42.9±0.1,37.740N±0.004×15.16E±0.01,h9km, ML2.0/4,Error ellipse: s-maj=0.9km s-min=0.5km az=280.0,Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
ESLN	**Serra La Nave**	**0.16**	**253**	P		P	Pg	04 53 46.1	-0.3
ESLN				S		S	Sg	04 53 49.4	+0.6
ESLN						AML	AML		
	comp=N,960μm,1.8s								
EMSG	**Monte Spagnolo**	**0.19**	**295**	P		P	Pg	04 53 47.4	+0.4
EMSG				S		S	Sg	04 53 51.2	+1.5
EMSG						AML	AML		
	comp=E,1241μm,2.0s								
EPOZ	**Pozzillo**	**0.23**	**196**	P		P	Pg	04 53 45.9	-1.8
EPOZ						AML	AML		
	comp=E,1990μm,1.3s								
EPOZ						AML	AML		
	comp=N,2510μm,0.6s								
EPOZ						AML	AML		
	comp=E,1990μm,0.7s								
AIO	**Antillo**	**0.24**	**13**	P		P	Pg	04 53 48.4	+0.6
AIO				S		S	Sg	04 53 53.1	+2.1
AIO						AML	AML		
	comp=E,317μm,0.8s								
AIO						AML	AML		
	comp=E,340μm,1.3s								
AIO						AML	AML		
	comp=N,436μm,1.0s								
ESML	**S. M. di Licod**	**0.26**	**242**	P		P	Pb	04 53 49.2	-0.5
ESML				S		S	Sb	04 53 53.4	-0.9
MNO	**Monte Soro**	**0.42**	**298**	P		P	Pb	04 53 52.2	-0.4
MPNC	**Port Mandanici**	**0.43**	**20**	P		P	Pg	04 53 51.6	+0.2
MPNC				S		S	Sb	04 53 58.6	-0.7
HAGA	**Augusta**	**0.45**	**181**	P		P	Pg	04 53 52.3	+0.5
HAGA				S		S	Sb	04 53 59.4	-0.5
HLNI	**Lentini**	**0.46**	**211**	P		P	Pg	04 53 52.1	+0.4
HLNI				S		S	Sb	04 53 59.2	-0.8
HLNI						AML	AML		
	comp=E,37μm,1.6s								
MILZ	**Milazzo**	**0.53**	**6**	P		P	Pg	04 53 53.4	+0.1
MILZ				S		S	Sb	04 54 01.9	-0.3
MSRU	**Castanea**	**0.59**	**28**	P		P	Pg	04 53 54.2	-0.2
MSRU				S		S	Sb	04 54 03.1	-0.7
HAVL	**Avola**	**0.78**	**182**	P		P	Pg	04 53 57.9	0.0
HAVL				S		S	Sb	04 54 09.1	-0.2

*VAO **25** 04:54:25.4±0.6,32.78S×72.88W,h10km,mb4.2*
*SJA **25** 04:54:32.3±0.9,32.10S×72.02W,h8km±5km,ML4.4, MW4.1*
*GUC **25** 04:54:36.2±0.9,32.08S×71.83W,h30km±11km,ML4.0*
*NEIC **25** 04:54:37.0±1.8,32.06S±0.01×71.9W±0.1,h42km±19km, mb4.0/6,ML4.0(GUC),Error ellipse: s-maj=15.9km s-min=2.0km az=88.0*
*IDC **25** 04:54:39.0±2.7,32.02S×71.69W,h46km±24km,mb3.7/4, mbtmp3.9/9,ML3.8/5,MS3.6/1,Error ellipse: s-maj=31.7km s-min=18.8km az=97.0*

ISC 25 04:54:33.4±1.1,32.02S±0.02×71.88W±0.03,h6km±7km, n125,σ1.95/156,mb4.1/7,6C-9D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
VA06	**Catapilco**	**0.73**	**138**			**Pn**		**04 54 48.6**	**-1.6**
VA06	**Catapilco**	**0.73**	**138**	↓*iP*		**Pn**		**04 54 49.0**	**-1.3**
VA06				*i* S		**Sb**		**04 54 57.6**	**-1.2**
VA06						IAML		04 55 00.7	
	comp=E,15μm,0.3s								
CO02	**Combarbal**	**1.10**	**43**			**Pn**		**04 54 56.1**	**+0.7**
CO02	**Combarbal**	**1.10**	**43**	↓*iP*		**Pn**		**04 54 56.2**	**+0.7**
CO02				*i* S		**Sn**		**04 55 10.9**	**-0.2**
CO02	**Combarbal**	**1.10**	**43**	*eP*		**Pn**		**04 54 56.0**	**+0.5**
CO02						IAML		04 55 15.6	
	comp=Z,8μm,0.5s								
ROCH	**El Roble**	**1.20**	**143**	↓*iP*		**Pg**		**04 54 56.6**	**+0.1**
ROCH				*i* S		**Sb**		**04 55 11.2**	**-1.4**
ROCH						IAML		04 55 16.6	
	comp=N,5μm,0.4s								
ROC1	**El Roble**	**1.20**	**143**			**Pg**		**04 54 56.6**	**+0.1**
ROC1	**El Roble**	**1.20**	**143**	*eP*		**Pn**		**04 54 56.0**	**-1.0**
ROC1				*eP*		**Pg**		**04 54 56.6**	**+0.1**
ROC1				*eS*		**Sb**		**04 55 11.7**	**-1.0**
VA03	**San Esteban**	**1.35**	**124**			**Pb**		**04 54 58.6**	**-0.5**
VA03	**San Esteban**	**1.35**	**124**	↓*iP*		**Pg**		**04 54 58.8**	**-0.4**
VA03				*i* S		**Sb**		**04 55 15.4**	**-1.3**
VA03						IAML		04 55 18.2	
	comp=N,7μm,0.3s								
CO06	**Fray Jorge**	**1.35**	**9**	Pn		**Pg**		**04 54 59.8**	**+0.4**
CO06	**Fray Jorge**	**1.35**	**9**	↓*iP*		**Pg**		**04 54 59.8**	**+0.4**
CO06				*i* S		**Sg**		**04 55 19.3**	**+2.4**
CO06						IAML		04 55 23.0	
	comp=N,8μm,0.5s								
MT02	**Curacav**	**1.39**	**153**			**Pg**		**04 54 59.3**	**-0.7**
MT02	**Curacav**	**1.39**	**153**	↓*iP*		**Pg**		**04 54 59.3**	**-0.7**
MT02				*i* S		**Sb**		**04 55 16.1**	**-1.6**
MT02						IAML		04 55 18.8	
	comp=N,2μm,0.5s								
MT02	**Curacav**	**1.39**	**153**	*eP*		Pn		04 54 53.9	-5.4
MT02				*eP*		**Pb**		**04 54 59.0**	**-0.7**
MT02				*eS*		**Sg**		**04 55 17.2**	**-0.9**
PEL	**Peldehue**	**1.51**	**138**			**Pb**		**04 55 01.3**	**-0.5**
PEL	**Peldehue**	**1.51**	**138**	↓*iP*		**Pb**		**04 55 01.3**	**-0.5**
PEL				*i* S		**Sb**		**04 55 20.2**	**-1.0**
PEL						IAML		04 55 28.7	
	comp=E,3μm,0.5s								
PEL	**Peldehue**	**1.51**	**138**	*eP*		**Pb**		**04 55 01.4**	**-0.4**
PEL				*eS*		**Sg**		**04 55 21.5**	**-0.4**
VA05	**Santo Domingo**	**1.65**	**172**			**Pb**		**04 55 02.7**	**-1.8**
VA05	**Santo Domingo**	**1.65**	**172**	↑*iP*		**Pb**		**04 55 02.7**	**-1.5**
VA05						IAML		04 55 31.0	
	comp=E,6μm,0.4s								
MT05	**Renca**	**1.68**	**145**	Pn		**Pb**		**04 55 03.6**	**-1.0**
MT05	**Renca**	**1.68**	**145**	↑*iP*		**Pb**		**04 55 03.8**	**-0.8**
MT05				*i* S		**Sb**		**04 55 25.4**	**-0.6**
MT05						IAML		04 55 27.5	
	comp=E,4μm,0.3s								
MT05	**Renca**	**1.68**	**145**	*eP*		Pn		04 54 58.4	-4.9
MT05				*eP*		**Pb**		**04 55 04.0**	**-0.6**
MT05				*eS*		**Sg**		**04 55 27.2**	**-0.1**
MT03	**Universidad Ad**	**1.87**	**142**			**Pb**		**04 55 06.6**	**-1.4**
MT03	**Universidad Ad**	**1.87**	**142**	↑*iP*		**Pb**		**04 55 06.9**	**-1.1**
MT03				*i* S		**Sb**		**04 55 31.1**	**-0.6**
MT03						IAML		04 55 33.2	
	comp=E,4μ

BO04	**La Punta**	**2.24**	**152**	Pn		**Pb**	**04 55 11.9**	**-2.3**
BO04	**La Punta**	**2.24**	**152**	*iP*		**Pb**	**04 55 12.1**	**-2.2**
LMEL	**Las Melosas**	**2.31**	**143**			**Pb**	**04 55 13.2**	**-2.3**
CO01	**Juntas del Tor**	**2.55**	**38**			**Pb**	**04 55 19.6**	**0.0**
CO01	**Juntas del Tor**	**2.55**	**38**	*eP*		**Pb**	**04 55 18.1**	**-1.5**
CO01				*eS*		**Sb**	**04 55 50.2**	**-1.1**
CO01				IAML			04 55 55.7	
	comp=Z,2μm,0.6s							
ARCO	**CERRO ARCO**	**2.62**	**109**	*eP*		**Pb**	**04 55 21.0**	**+0.1**
ARCO				*eP*		**Pg**	**04 55 21.5**	**-2.2**
ARCO				*eS*		**Sb**	**04 55 52.9**	**-0.5**
ARCO				IAML			04 56 02.1	
	comp=Z,1μm,1.1s							
ASAL	**Salagasta**	**2.64**	**103**	*eP*		**Pb**	**04 55 21.0**	**-0.1**
ASAL				*eS*		**Sb**	**04 55 53.9**	**+0.1**
ZON	**Zonda**	**2.77**	**81**	Pn		**Pb**	**04 55 22.3**	**-0.9**
ZON	**Zonda**	**2.77**	**81**	*eP*		**Pb**	**04 55 22.8**	**-0.4**
ZON				*eP*		**Pg**	**04 55 23.0**	**-3.4**
ZON				*eS*		**Sn**	**04 55 53.9**	**+1.9**
ZON				IAML			04 56 12.7	
	comp=Z,752nm,0.8s							
AROD	**Rodeo**	**2.77**	**49**	*eP*		**Pb**	**04 55 23.0**	**-0.4**
AROD				*eS*		**Sg**	**04 56 00.4**	**-1.9**
AAGR	**Agrelo**	**2.79**	**113**	*eP*		**Pb**	**04 55 23.0**	**-0.7**
AAGR				*eS*		**Sg**	**04 56 09.2**	**+6.2**
ACCO	**Cerro Coronel**	**2.80**	**60**	*eP*		**Pb**	**04 55 23.7**	**-0.2**
ACCO				*eS*		**Sg**	**04 56 02.9**	**-0.4**
RTCV	**Cerro Valdivia**	**2.84**	**88**	*eP*		**Pb**	**04 55 25.0**	**+0.5**
RTCV				*eS*		**Sb**	**04 55 58.9**	**-0.7**
BO02	**Sierra Bellavi**	**2.92**	**162**	Pn		**Pn**	**04 55 21.5**	**+1.1**
BO02	**Sierra Bellavi**	**2.92**	**162**	*eP*		**Pn**	**04 55 21.0**	**+0.6**
BO02				*eP*		**Pn**	**04 55 21.5**	**+1.1**
BO02				*eS*		**Sb**	**04 55 58.4**	**-3.4**
BO02				IAML			04 56 06.0	
	comp=Z,618nm,0.5s							
RTLL	**Cerro Villicun**	**2.98**	**78**	*eP*		**Pb**	**04 55 25.6**	**-1.4**
RTLL				*eS*		**Sn**	**04 55 58.4**	**+1.1**
RTLL				*eS*		**Sb**	**04 55 58.9**	**-4.7**
RTLL				*eS*		**Sg**	**04 56 08.4**	**-0.8**
ACDV	**Cuesta del Vie**	**3.00**	**53**	*eP*		**Pb**	**04 55 26.4**	**-0.9**
ACDV				*eS*		**Sb**	**04 56 03.9**	**-0.3**
ACDV				IAML			04 56 15.7	
	comp=Z,752nm,0.6s							
LCO	**Las Campanas**	**3.16**	**19**	Pn		**Pn**	**04 55 25.5**	**+1.6**
LCO	**Las Campanas**	**3.16**	**19**	*eP*		**Pn**	**04 55 25.0**	**+1.1**
AC05	**El Transito**	**3.46**	**24**			**Pn**	**04 55 29.2**	**+1.4**
AC05	**El Transito**	**3.46**	**24**	*eP*		**Pn**	**04 55 30.4**	**+2.5**
AC05				*eS*		**Sn**	**04 56 10.9**	**+1.7**
AC05				IAML			04 56 27.2	
	comp=Z,1μm,0.7s							
ML02	**Panimavida**	**3.76**	**174**			**Pn**	**04 55 32.2**	**+0.4**
AC04	**Llanos de Chal**	**3.86**	**11**	Pn		**Pn**	**04 55 34.0**	**+0.7**
AC04	**Llanos de Chal**	**3.86**	**11**	*eP*		**Pn**	**04 55 34.0**	**+0.7**
AC04				*eS*		**Sb**	**04 56 25.4**	**-3.5**
AC04				IAML			04 56 42.8	
	comp=Z,840nm,0.7s							
RFA	**San Rafael**	**3.96**	**135**	*eP*		**Pn**	**04 55 37.0**	**+2.3**
RFA				*eS*		**Sg**	**04 56 42.5**	**+1.9**
AVFE	**Valle Fertil**	**4.02**	**71**	*eP*		**Pn**	**04 55 39.7**	**+4.2**
AVFE				*eS*		**Sb**	**04 56 30.4**	**-3.1**
AVFE				IAML			04 56 40.3	
	comp=Z,462nm,0.6s							
ACHE	**Chepes**	**4.53**	**81**	*eP*		**Pn**	**04 55 46.0**	**+3.4**
AC06	**Mina Casimiro**	**4.83**	**16**	Pn		**Pn**	**04 55 47.9**	**+1.3**
APLL	**PUNTA DE LOS L**	**4.86**	**72**	*eS*		**Sb**	**04 56 50.9**	**-6.8**
ACLC	**CERRO LA CRUZ**	**4.97**	**60**	*eS*		**Sb**	**04 56 53.9**	**-7.0**
AC02	**Maricunga**	**5.69**	**26**	Pn		**Pn**	**04 55 59.6**	**+0.7**
AC01	**Pan de Azucar**	**5.95**	**11**	Pn		**Pn**	**04 56 02.6**	**+0.6**
H03N1	**Juan Fernandez**	**6.09**	**255**	T		T	05 02 36.4	
	baz=82,slow=73,SNR=2094							
H03N3	**Juan Fernandez**	**6.11**	**255**	T		T	05 02 40.0	
	baz=82,slow=73,SNR=2266							
H03N2	**Juan Fernandez**	**6.11**	**255**	T		T	05 02 41.3	
	baz=82,slow=73,SNR=2075							
H03S3	**Juan Fernandez**	**6.18**	**251**	T		T	05 02 46.9	
	baz=83,SNR=24							
H03S1	**Juan Fernandez**	**6.18**	**251**	T		T	05 02 50.8	
	baz=83,SNR=20							
H03S2	**Juan Fernandez**	**6.20**	**251**	T		T	05 02 52.1	
	baz=83,SNR=30							
GO06	**Curarrehue**	**7.56**	**178**	Pn		**Pn**	**04 56 23.1**	**-1.1**
PLCA	**Paso Flores**	**8.77**	**173**	P		**Pn**	**04 56 41.4**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=334,slow=12,SNR=31							
	comp=Z,1.5nm,0.4s							
LVC	**Limon Verde**	**9.73**	**16**	P		**Pn**	**04 56 56.7**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=209,slow=13,SNR=2.2							
LVC				S		**Sn**	**04 58 43.8**	**-0.3**
	comp=Z,10.0nm,0.8s,baz=180,slow=20,SNR=4.0							
LVC				LR		LR	05 00 59.4	
	comp=Z,308nm,19.7s,baz=94,slow=39							
	comp=Z,2.1nm,0.5s							
LVC	**Limon Verde**	**9.73**	**16**	*eP*		Pn	04 56 59.2	+5.0
TRQA	**Tornquist**	**10.11**	**129**	Pn		**Pn**	**04 56 59.2**	**+0.2**
ITQB	**Itaqui**	**13.32**	**84**	*eP*		**Pn**	**04 57 47.1**	**+4.2**
CPUP	**Villa Florida**	**13.91**	**70**	P		**Pn**	**04 57 52.6**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=240,slow=16,SNR=2.5							
CPUP				S		**Sn**	**05 00 24.6**	**-1.3**
	comp=Z,5.2nm,0.8s,baz=143,slow=20,SNR=2.2							
	comp=Z,1.7nm,0.7s							
CPUP	**Villa Florida**	**13.91**	**70**	*eP*		**P**	**04 57 56.5**	**-2.8**
RODS	**Rosario do Sul**	**14.38**	**88**	*eP*		**P**	**04 58 00.5**	**-4.1**
UNIS	**Unistalda (Bra**	**14.78**	**83**	*eP*		**P**	**04 58 06.3**	**-2.7**
PLTB	**Pedras Altas**	**15.53**	**94**	*eP*		**P**	**04 58 15.2**	**-2.2**
LPAZ	**La Paz**	**16.03**	**13**	P		**P**	**04 58 21.6**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=8.1							
	comp=Z,2.8nm,0.7s							
LPAZ	**La Paz**	**16.03**	**13**	Pn		**Pn**	**04 58 19.3**	**-0.7**
LPAZ	**La Paz**	**16.03**	**13**	*eP*		**P**	**04 58 21.9**	**-1.6**
CRSM	**Crissiumal (Br**	**16.13**	**78**	*eP*		**P**	**04 58 25.1**	**+1.0**
ALGR	**Alto Alegre (B**	**16.58**	**84**	*eP*		**P**	**04 58 30.8**	**+1.7**
ANTJ	**Antonio Joao (**	**17.29**	**59**	*eP*		**P**	**04 58 41.3**	**+4.3**
MCR1	**Marechal Candi**	**17.42**	**69**	*eP*		**P**	**04 58 41.8**	**+3.5**
FRBT	**Francisco Belt**	**17.52**	**75**	*eP*		**P**	**04 58 43.0**	**+3.5**
ITAB	**Concordia**	**17.81**	**80**	*eP*		**P**	**04 58 43.5**	**+0.9**
AQDB	**Aquidauana**	**18.49**	**55**	*eP*		**Pn**	**04 58 53.6**	**+3.4**
SIV	**San Ignacio**	**18.74**	**34**	P		**Pn**	**04 58 53.2**	**-0.2**
	baz=204,slow=9.0,SNR=12							
	comp=Z,1.8nm,0.8s							
PTGB	**Pitanga**	**18.88**	**72**	*eP*		**Pn**	**04 58 58.4**	**+3.3**
PTLB	**Pontes e Lacer**	**20.17**	**38**	P		**P**	**04 59 06.7**	**-1.8**
PTLB				IAmb		IAmb	04 59 17.7	
	comp=Z,3.8nm,0.9s							
PTLB	**Pontes e Lacer**	**20.17**	**38**	*eP*		Pn	04 59 12.1	+1.6
PCMB	**Pacaembu**	**21.09**	**66**	*eP*		**P**	**04 59 20.6**	**+2.1**
SALV	**Santo Antonio**	**21.77**	**46**	*eP*		**P**	**04 59 29.1**	**+3.1**
VILB	**Vilhena**	**21.80**	**32**	P		**P**	**04 59 24.6**	**-1.6**
VILB				IAmb		IAmb	04 59 38.7	
	comp=Z,9.5nm,1.1s							
VILB	**Vilhena**	**21.80**	**32**	*eP*		**P**	**04 59 29.6**	**+3.5**
ETMB	**Extrema**	**22.71**	**15**	P		**P**	**04 59 35.8**	**-0.1**
ETMB				IAmb		IAmb	04 59 53.4	
	comp=Z,4.0nm,0.8s							
ETMB	**Extrema**	**22.71**	**15**	*eP*		**P**	**04 59 38.0**	**+2.1**
CZSB	**Cruzeiro do Su**	**24.18**	**358**	P		**P**	**04 59 50.0**	**-0.5**
CZSB				IAmb		IAmb	04 59 53.6	
	comp=Z,7.3nm,0.9s							
BDFB	**Brasilia**	**27.15**	**59**	P		**P**	**05 00 15.7**	**-2.0**
	comp=Z,7.6nm,1.0s,baz=267,slow=6.8,SNR=6.2							
	comp=Z,7.6nm,1.0s							
BDFB	**Brasilia**	**27.15**	**59**	P		**P**	**05 00 15.6**	**-2.1**
BDFB	**Brasilia**	**27.15**	**59**	*eP*		**P**	**05 00 17.5**	**-0.2**
SNDB	**Serra Nova Dou**	**27.51**	**48**	*eP*		**P**	**05 00 23.1**	**+2.3**
MACA	**Manacapuru-AM**	**30.57**	**22**	*eP*		**P**	**05 00 48.2**	**+0.3**
NAN01	**Guarapari, ES**	**31.93**	**71**	*eP*		**P**	**05 01 01.5**	**+1.6**
SNAA	**Sanae**	**53.37**	**158**	P		**P**	**05 03 54.1**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=205,slow=0.7,SNR=3.7							
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**68.08**	**330**	P		**P**	**05 05 35.1**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=142,slow=6.3,SNR=5.1							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**83.41**	**70**	P		**P**	**05 07 01.6**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=263,slow=4.0,SNR=6.4							
	comp=Z,1.5nm,0.9s							
WRA	**Warramunga Arr**	**122.55**	**210**	PKP		**PKPdf**	**05 13 29.0**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=172,slow=2.0,SNR=2.4							
H11S2	**WAKE ISLAND Hyd**	**25.91**	**270**	T		T	07 32 28.2	
	baz=117,slow=75,SNR=43							
H11S1	**WAKE ISLAND Hyd**	**25.92**	**270**	T		T	07 32 28.8	
	baz=117,slow=75,SNR=28							
H11S3	**WAKE ISLAND Hyd**	**25.93**	**270**	T		T	07 32 25.3	
	baz=117,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hyd**	**26.27**	**272**	T		T	07 32 51.0	
	baz=116,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hyd**	**26.29**	**272**	T		T	07 32 55.3	
	baz=116,slow=75,SNR=14							
H11N2	**WAKE ISLAND Hyd**	**26.29**	**272**	T		T	07 32 52.5	
	baz=116,slow=75,SNR=48							
ZALV	**Zalesovo Beam**	**152.47**	**30**	PKPbc		**PKPbc**	**05 14 28.8**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=306,slow=3.8,SNR=2.1							
ZALV				PKPab		**PKPab**	**05 14 38.8**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=288,slow=3.0,SNR=7.2							

IDC 25 05:00:55.4±3.5, 32°.63S×177°.65W, h0km, mb3.7/3, mbtmp3.6/3, Error ellipse: s-maj=217.4km s-min=36.0km az=167.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.33**	**269**	P	P	05 08 59.2	-0.1
	0.4nm,0.6s,baz=110,slow=7.5,SNR=5.8						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.52**	**274**	P	P	05 09 08.3	-0.6
	0.6nm,0.4s,baz=115,slow=7.5,SNR=14						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**93.34**	**57**	P	P	05 14 11.4	-1.1
	0.1nm,0.4s,baz=200,slow=4.6,SNR=3.8						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**147.34**	**339**	PKPbc	PKPbc	05 20 40.9	+0.8
	1.5nm,0.8s,baz=79,slow=7.2,SNR=4.7						

*BJI **25** 05:01:48.0±0.0, 41°.90N×126°.20W, h5km, mb4.9/14, mB5.3/11, Ms5.2/3, Ms7 4.8/3*
*IDC **25** 05:01:49.1±0.7, 41°.88N×126°.03W, h0km, mb4.3/18, mbtmp4.4/25, ML4.4/7, MS4.3/12, Error ellipse: s-maj=15.5km s-min=8.5km az=34.0*
*NEIC **25** 05:01:50.0±1.7, 41°.84N±0°.04×126°.14W±0°.08, h10km±1km, mb5.0/306, Mwr4.7/63, Www4.9, ML4.4/21(NCEDC), Error ellipse: s-maj=10.6km s-min=7.0km az=259.0*
*NCEDC **25** 05:01:50.4±2.9, 41°.82N±0°.05×126°.34W±0°.08, h24km±1km, Error ellipse: s-maj=10.8km s-min=7.7km az=258.0*
*NEIC **25** 05:01:50.1, 41°.83N×126°.13W, h23km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=0.22; Mθθ=-1.52; Mφφ 1.30; Mrθ=-0.02; Mrφ=0.63; Mθφ=0.26; Fault plane solution: M0 1.58000×10^16^ NP1:φs=326.44000°, δ83.69000°, λ170.38000°. NP2:φs=57.50000°, δ80.43000°, λ-6.40000°. Principal axes: T 1.4845, Plg11.0000°, Azm282.0000°; N 0.1751, Plg79.0000°, Azm114.0000°; P -1.6597, Plg2.0000°, Azm12.0000°;*
*ANF **25** 05:01:52.6±0.8, 42°.06N×125°.92W, h3km±5km, ML4.6/15 Error ellipse: s-maj=3.0km s-min=2.4km az=58.0*
*GCMT **25** 05:01:53.0±0.4, 41°.81N±0°.02×126°.30W±0°.03, h24km±1km, MW5.0/88, Moment Tensor Solution. s14,c16; s88,c125; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.29±.36; Mθθ-2.92±.21; Mφφ4.21±.24; Mrθ-0.99±.34; Mφφ2.22±.17; Mθr-0.12±.24; Best double couple: M0 4.37500×10^16^ NP1:φs=59.00000°, δ79.00000°, λ-17.00000°. NP2: φs=152.00000°, δ74.00000°, λ-168.00000°. Principal axes: T 4.8700, Plg4.0000°, Azm106.0000°; N -0.9900, Plg70.0000°, Azm207.0000°; P -3.8790, Plg20.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **25** 05:01:55, 41°.87N×126°.11W, h14km, Moment Tensor Solution. Duration: 11s6 Moment tensor: Scale 10^16^Nm; Mrr-0.90; Mθθ-2.06; Mφφ2.96; Mrθ-0.11; Mθr1.13; Mφr0.08; Fault plane solution: M0 2.86000×10^16^ NP1:φs=57.00000°, δ86.00000°, λ-3.00000°. NP2:φs=147.00000°, δ87.00000°, λ-175.00000°. Principal axes: T 3.1977, Plg1.0000°, Azm282.0000°; N -0.8880, Plg85.0000°, Azm184.0000°; P -2.3098, Plg5.0000°, Azm12.0000°;*
ISC 25 05:01:52.0±1.2, 41°.87N±0°.04×126°.11W±0°.05, h16km±7km, n729, σ1s24/612, mb5.0/176, MS5.0/24, 1C-4D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.45**	**76**		**Pn**	**05 02 15.8**	**-1.7**
KBO					**Sn**	**05 02 35.4**	**-0.9**
KEBM	**Edson Butte**	**1.66**	**52**		**Pn**	**05 02 18.7**	**-1.7**
KSXB	**Camp Six Broad**	**1.67**	**91**		**Pn**	**05 02 18.9**	**-1.7**
KSXB					**Sn**	**05 02 40.4**	**-1.4**
KRMB	**Red Mountain**	**1.69**	**101**		**Pn**	**05 02 18.9**	**-2.0**
KRPM	**Rodgers**	**1.73**	**114**		**Pn**	**05 02 19.4**	**-2.0**
JCC	**Jacoby Creek,**	**1.89**	**123**		**Pn**	**05 02 21.1**	**-2.5**
L02F	**Cave Junction**	**1.91**	**82**	P	**Pn**	**05 02 22.2**	**-1.6**
	baz=263						
KCTM	**Capetown**	**1.94**	**136**		**Pn**	**05 02 21.8**	**-2.4**
K02D	**Willamette Mer**	**2.00**	**65**	P	**Pn**	**05 02 23.3**	**-1.8**
K02D	baz=247,SNR=1000			S	**Sn**	**05 02 46.6**	**-3.1**
	baz=247						
KTRM	**Thompson Ridge**	**2.04**	**88**		**Pn**	**05 02 24.2**	**-1.7**
KHMM	**Horse Mountain**	**2.05**	**118**		**Pn**	**05 02 24.0**	**-1.9**
J01E	**Myrtle Point**	**2.06**	**51**		**Pn**	**05 02 24.2**	**-1.8**
J01E	**Myrtle Point**	**2.06**	**51**	P	**Pn**	**05 02 24.1**	**-1.8**
J01E	baz=234,SNR=1000			S	**Sn**	**05 02 48.9**	**-2.4**
	baz=234						
KMPM	**Mount Pierce**	**2.09**	**133**		**Pn**	**05 02 23.9**	**-2.6**
KSMM	**Slide Mountain**	**2.23**	**138**		**Pn**	**05 02 25.4**	**-2.9**
KCRM	**Chalk Rock**	**2.26**	**129**		**Pn**	**05 02 26.4**	**-2.3**
KMRM	**Mail Ridge**	**2.46**	**131**		**Pn**	**05 02 29.6**	**-1.8**
HUMO	**Hull Mountain**	**2.46**	**72**		**Pn**	**05 02 30.1**	**-1.2**
DBO	**Dodson Butte**	**2.46**	**59**		**Pn**	**05 02 30.2**	**-1.3**
YBH	**Yreka Blue Hor**	**2.55**	**92**	Pn	**Pn**	**05 02 32.4**	**-0.3**
	240nm,0.3s,baz=286,slow=13,SNR=3438						
YBH				LR	LR	05 03 01.4	
	comp=Z,1μm,20.9s,baz=200,slow=29						
YBH				Sn	**Sn**	**05 03 05.8**	**+2.4**
	77nm,0.3s,baz=153,slow=18,SNR=1.4						
	1μm,0.6s						
YBH	**Yreka Blue Hor**	**2.55**	**92**		**Pn**	**05 02 32.5**	**-0.2**
I03D	**Drain, OR**	**2.73**	**47**	P	**Pn**	**05 02 33.5**	**-1.6**
I03D	baz=230,SNR=1000			S	**Sn**	**05 03 05.2**	**-2.6**
	baz=230						
I02E	**Swisshome, OR**	**2.79**	**36**		**Pn**	**05 02 34.3**	**-1.5**
I02E	**Swisshome, OR**	**2.79**	**36**	P	**Pn**	**05 02 34.3**	**-1.5**
	baz=220,SNR=247						
I02E				S	**Sn**	**05 03 06.8**	**-2.2**
	baz=220						
L04D	**Klamath Falls**	**2.86**	**82**		**Pn**	**05 02 36.9**	**-0.1**
L04D	**Klamath Falls**	**2.86**	**82**	P	**Pn**	**05 02 36.8**	**-0.3**
	baz=264,SNR=1000						
L04D				Sb	**Sb**	**05 03 15.2**	**-2.3**
	baz=264						
KCPM	**Cahto Peak**	**2.91**	**138**		**Pn**	**05 02 35.2**	**-2.5**
KCPM				Sn	**Sn**	**05 03 09.2**	**-3.2**
J04D	**Umpqua Nationa**	**3.26**	**64**		**Pn**	**05 02 42.5**	**-0.1**
J04D	**Umpqua Nationa**	**3.26**	**64**	P	**Pn**	**05 02 42.5**	**-0.1**
	baz=247,SNR=252						
BUCK	**Buck Mountain**	**3.27**	**44**		**Pn**	**05 02 41.7**	**-0.9**
BUCK				Sn	**Sn**	**05 03 19.4**	**-1.7**
K04D	**Chiloquin, OR**	**3.32**	**75**	P	**Pn**	**05 02 42.7**	**-0.6**
	baz=258,SNR=202						
I04A	**Tendick Farm,**	**3.33**	**54**	P	**Pn**	**05 02 42.9**	**-0.6**
	baz=237,SNR=217						
I04A				S	**Sn**	**05 03 21.5**	**-1.2**
	baz=237						
COR	**Corvallis**	**3.40**	**36**		**Pn**	**05 02 43.2**	**-1.1**
H04D	**Lebanon**	**3.62**	**42**		**Pn**	**05 02 46.6**	**-0.7**
H04D	**Lebanon**	**3.62**	**42**	P	**Pn**	**05 02 46.6**	**-0.7**
	baz=225,SNR=1000						
H04D				S	**Sn**	**05 03 28.2**	**-1.6**
	baz=225						
HOPS	**Hopland Field**	**3.70**	**140**		**Pn**	**05 02 45.7**	**-2.6**
HEBO	**Mount Hebo**	**3.75**	**26**		**Pn**	**05 02 50.1**	**+0.9**
J05D	**Fort Rock, OR**	**3.87**	**67**	P	**Pn**	**05 02 50.3**	**-0.6**
	baz=250,SNR=519						
G03D	**McMinnville, O**	**3.93**	**31**		**Pn**	**05 02 50.4**	**-1.2**
G03D	**McMinnville, O**	**3.93**	**31**	P	**Pn**	**05 02 51.0**	**-0.5**
	baz=214,SNR=62						
G03D				S	**Sn**	**05 03 34.5**	**-2.7**
	baz=214						
K05A	**Summer Lake**	**3.97**	**76**	Pn	**Pn**	**05 02 51.4**	**-0.9**
GDXM	**Geysers**	**3.98**	**139**		**Pn**	**05 02 50.2**	**-2.1**
H04A	**Detroit Lake**	**4.01**	**44**	Pn	**Pn**	**05 02 51.8**	**-1.0**
ORV	**Oroville**	**4.20**	**122**		**Pn**	**05 02 53.2**	**-2.2**
PINE	**Pine Mountain**	**4.26**	**62**		**Pn**	**05 02 55.9**	**-0.4**
I05D	**Terrebonne, OR**	**4.28**	**53**	P	**Pn**	**05 02 56.0**	**-0.4**
	baz=237,SNR=113						
MOD	**Modoc Plateau**	**4.34**	**88**	Pn	**Pn**	**05 02 56.5**	**-0.8**
MCCM	**Marconi Confer**	**4.47**	**145**	Pn	**Pn**	**05 02 56.5**	**-2.5**
HOOD	**Mount Hood Mea**	**4.73**	**42**		**Pn**	**05 03 01.7**	**-1.1**
F04D	**Rainier, OR**	**4.77**	**27**	P	**Pn**	**05 03 03.0**	**-0.1**
	baz=210,SNR=124						
F04D				S	**Sn**	**05 03 57.2**	**-0.8**
	baz=210						
BEKR	**Beckworth**	**4.80**	**113**	Pn	**Pn**	**05 03 03.0**	**-0.8**
RADR	**Rader Ridge**	**4.84**	**19**		**Pn**	**05 03 03.9**	**-0.3**
G05D	**Wamic, OR**	**4.85**	**44**	P	**Pn**	**05 03 04.1**	**-0.2**
	baz=229,SNR=82						
E03A	**Lebam**	**5.02**	**21**		**Pn**	**05 03 06.2**	**-0.4**
PLTX	**Planet X, Gerl**	**5.14**	**101**		**Pn**	**05 03 07.0**	**-1.4**
EMB	**Emerald Bay**	**5.42**	**120**		**Pn**	**05 03 11.4**	**-1.0**
VCNR	**Virginia City**	**5.55**	**115**		**Pn**	**05 03 13.1**	**-1.0**
J08A	**Circle Bar Ran**	**5.83**	**73**		**Pn**	**05 03 16.4**	**-1.4**
YERR	**Yerington**	**5.99**	**117**		**Pn**	**05 03 19.6**	**-0.4**
G08A	**Pilot Rock**	**6.22**	**54**	Pn	**Pn**	**05 03 22.6**	**-0.6**
SAO	**San Andreas Ge**	**6.25**	**143**	Pn	**Pn**	**05 03 21.6**	**-1.9**
HAWA	**Hanford**	**6.54**	**44**		**Pn**	**05 03 26.5**	**-1.0**
LTY	**Liberty**	**6.64**	**34**		**Pn**	**05 03 29.1**	**+0.2**
RYN	**Ryan**	**6.65**	**117**		**Pn**	**05 03 28.5**	**-0.6**
KVN	**Kaiserville**	**6.73**	**112**		**Pn**	**05 03 29.9**	**-0.4**
LHV	**Little Huntoon**	**6.87**	**119**		**Pn**	**05 03 32.4**	**+0.5**
NVAR	**Mina Array Bea**	**6.90**	**117**	Pn	**Pn**	**05 03 32.2**	**-0.4**
	12nm,0.3s,baz=300,slow=15,SNR=214						
NVAR				LR	LR	05 06 32.4	
	comp=Z,2μm,19.1s,baz=298,slow=41						
	29nm,0.5s						
NVAR	**Mina Array Bea**	**6.90**	**117**		**Pn**	**05 03 32.0**	**-0.6**
PMPB	**Monarch Peak**	**7.00**	**142**		**Pn**	**05 03 32.1**	**-1.7**
MLAC	**Mammoth, Mammo**	**7.03**	**125**	P	**Pn**	**05 03 36.0**	**+1.7**
	baz=308						
BMO	**Blue Mountains**	**7.08**	**62**		**Pn**	**05 03 34.9**	**-0.1**
MFID	**Camas Ranch**	**7.74**	**75**	Pn	**Pn**	**05 03 42.8**	**-1.3**
VES	**Vestal, Richgr**	**8.14**	**135**	P	**Pn**	**05 03 49.0**	**-0.4**
	baz=319						
ELK	**Elko**	**8.27**	**94**	Pn	**Pn**	**05 03 50.8**	**-0.5**
	2.8nm,0.3s,baz=284,slow=14,SNR=161						
ELK				LR	LR	05 07 17.4	
	comp=Z,2μm,21.5s,baz=263,slow=40						
	49nm,0.7s						
CWC	**Cottonwood Cre**	**8.27**	**128**	P	**Pn**	**05 03 53.0**	**+1.7**
	baz=313						
GRAC	**Grapevine Rang**	**8.34**	**123**	P	**Pn**	**05 03 54.3**	**+2.1**
	baz=308						
ISA	**Isabella, Lake**	**8.60**	**134**	P	**Pn**	**05 03 56.8**	**+1.0**
	baz=318						
HLID	**Hailey**	**8.78**	**75**	Pn	**Pn**	**05 03 57.5**	**-0.8**
HLID	**Hailey**	**8.78**	**75**	P	**Pn**	**05 03 58.5**	**+0.1**
	baz=263						
R11A	**Troy Canyon, C**	**8.80**	**110**	P	**Pn**	**05 03 59.8**	**+1.2**
	baz=296						
ARVC	**Arvin**	**8.83**	**137**	P	**Pn**	**05 03 58.2**	**-0.6**
	baz=321						
MPMC	**Manual Prospec**	**8.88**	**128**	P	**Pn**	**05 04 02.1**	**+2.4**
	baz=313						
FURC	**Furnace Creek,**	**8.98**	**124**	P	**Pn**	**05 04 03.6**	**+2.6**
	baz=309						
NEW	**Newport**	**9.01**	**42**	Pn	**Pn**	**05 04 01.4**	**0.0**
	1.6nm,0.3s,baz=219,slow=13,SNR=23						
NEW				LR	LR	05 07 36.8	
	comp=Z,1μm,20.0s,baz=230,slow=39						
	13nm,0.7s						
NEW	**Newport**	**9.01**	**42**	Pn	**Pn**	**05 04 01.1**	**-0.3**
NEW	**Newport**	**9.01**	**42**	P	**Pn**	**05 04 01.4**	**0.0**
	baz=229						
TPNV	**Topopah Spring**	**9.08**	**120**	P	**Pn**	**05 04 03.0**	**+0.5**
	baz=305						
LRMC	**

N23A	Red Feather La baz=280	15.18	87	P		Pn	05 05 24.4	-1.4
T35M	Bob Quinn baz=169	15.36	351	P		Pn	05 05 27.2	-0.6
S22A	4UR Ranch, Cre comp=Z,98nm,1.6s	15.38	99	IAmb		IAmb	05 05 36.3	
S22A	4UR Ranch, Cre baz=291	15.38	99	P		Pn	05 05 28.4	-0.1
PHWY	Pilot Hill comp=Z,91nm,1.5s	15.47	85	IAmb		IAmb	05 05 30.9	
TUC	Tucson	15.49	123			Pn	05 05 32.0	+2.2
TUC	Tucson baz=312	15.49	123	P		Pn	05 05 31.5	+1.7
ISCO	Idaho Springs	15.65	91	Pn		Pn	05 05 31.2	-0.9
ISCO	Idaho Springs baz=284,SNR=39	15.65	91	P		Pn	05 05 31.5	-0.6
ISCO	Idaho Springs baz=284	15.65	91	P		Pn	05 05 30.6	-1.5
Q24A	Divide baz=287	16.23	93	P		Pn	05 05 38.8	-0.6
RSSD	Black Hills	16.30	75	Pn		Pn	05 05 35.4	-4.9
RSSD	Black Hills baz=270	16.30	75	P		Pn	05 05 38.4	-2.0
SDCO	Great Sand Dun comp=Z,253nm,1.9s	16.36	98	IAmb		IAmb	05 05 44.9	
SDCO	Great Sand Dun baz=291,SNR=93	16.36	98	P		Pn	05 05 42.1	+1.0
SDCO	Great Sand Dun baz=291	16.36	98	P		Pn	05 05 41.4	+0.2
S34M	Telegraph Cree baz=167	16.37	350	P		Pn	05 05 41.4	+0.5
S32K	Killisnoo baz=158	16.52	344	P		Pn	05 05 43.3	+0.5
DLBC	Dease Lake comp=Z,0.4nm,0.3s,baz=185,slow=8.8,SNR=20	16.77	353	Pn		P	05 05 48.4	+0.2
DLBC	Dease Lake	16.77	353	P		Pn	05 05 46.9	+1.0
DLBC	Dease Lake baz=170	16.77	353	P		Pn	05 05 46.5	+0.5
DGMT	Dagmar baz=255	16.77	59	P		Pn	05 05 44.8	-1.3
DGMT	Dagmar baz=255	16.77	59	P		Pn	05 05 44.1	-2.0
ANMO	Albuquerque comp=Z,0.7nm,0.3s,baz=308,slow=13,SNR=28 comp=Z,18nm,0.9s	16.87	108	Pn		Pn	05 05 48.2	+0.6
ANMO	Albuquerque	16.87	108			Pn	05 05 46.5	-1.0
ANMO	Albuquerque baz=300,SNR=41	16.87	108	P		Pn	05 05 48.6	+1.0
ANMO	Albuquerque baz=300	16.87	108	P		P	05 05 48.8	-0.7
Y22D	IRIS PASSCAL I comp=Z,201nm,1.0s	17.00	111	IAmb		IAmb	05 05 59.2	
Y22D	IRIS PASSCAL I baz=303	17.00	111	P		P	05 05 50.9	0.0
319A	Douglas comp=Z,136nm,1.3s	17.07	122	IAmb		IAmb	05 05 55.5	
121A	Cookes Peak, D comp=Z,92nm,1.1s	17.30	117	IAmb		IAmb	05 06 00.3	
121A	Cookes Peak, D baz=308,SNR=54	17.30	117	P		P	05 05 55.7	+1.4
121A	Cookes Peak, D baz=308	17.30	117	P		P	05 05 54.8	+0.5
T25A	Trinidad baz=292	17.39	99	P		P	05 05 55.2	-0.2
Q32M	Nakina River baz=165	17.54	349	P		P	05 05 57.3	+0.5
R33M	Jennings River baz=169	17.80	352	P		Pn	05 05 59.0	+0.1
OGNE	Ogallala baz=281,SNR=8.0	18.08	85	P		Pn	05 06 00.8	-1.6
OGNE	Ogallala baz=281	18.08	85	P		Pn	05 05 60.0	-2.4
KSCO	Kaye Shedlock' comp=Z,51nm,0.6s	18.09	91	IAmb		IAmb	05 06 05.0	
KSCO	Kaye Shedlock' baz=287	18.09	91	P		Pn	05 06 02.7	0.0
KSCO	Kaye Shedlock' baz=286	18.09	91	P		Pn	05 06 02.1	-0.6
P32M	Atlin baz=162	18.36	348	P		P	05 06 05.3	-0.4
FLDN	Fort Liard baz=187	18.46	4	P		Pn	05 06 07.3	+0.4
SKAG	Skagway	18.52	345	P		P	05 06 05.7	-1.7
SKAG	Skagway baz=159	18.52	345	P		Pn	05 06 08.7	+1.1
KIDD	KIDD Seismic O baz=308,SNR=9.0	18.62	116	P		Pn	05 06 11.4	+2.3
E28A	Huff comp=Z,81nm,1.3s	18.78	67	IAmb		IAmb	05 06 22.9	
E28A	Huff baz=265	18.78	67	P		P	05 06 09.7	-0.7
P33M	Teslin, Yukon	18.82	350			P	05 06 09.2	-1.6
P33M	Teslin, Yukon baz=165	18.82	350	P		P	05 06 10.6	-0.2
P29M	Windy Craggy baz=153	19.19	342	P		P	05 06 15.4	+0.6
P30M	Million Dollar baz=156	19.46	344	P		P	05 06 18.0	+0.3
WHY	Whitehorse	19.56	347	P		Pn	05 06 24.5	+4.2
WHY	Whitehorse baz=161	19.56	347	P		P	05 06 19.5	+0.5
TGTN	Hyland Airport baz=176	19.73	357	P		P	05 06 20.5	-0.1
O30N	Mendenhall baz=158	19.88	346	P		Pn	05 06 23.8	-0.2
O29M	Mount Kennedy baz=152	19.98	342	P		P	05 06 23.3	-0.2
MSTX	Muleshoe comp=Z,74nm,1.5s	19.99	106	IAmb		IAmb	05 06 29.9	
MSTX	Muleshoe baz=300	19.99	106	P		P	05 06 24.1	+0.3
MSTX	Muleshoe baz=300	19.99	106	P		Pn	05 06 25.1	-0.5
HYT	Haines Junctio	20.21	344			P	05 06 26.8	+0.8
HYT	Haines Junctio baz=155	20.21	344	P		Pn	05 06 27.4	-0.5
K31A	O'Neill comp=Z,96nm,1.0s	20.24	79	IAmb		IAmb	05 06 28.5	
K31A	O'Neill baz=277	20.24	79	P		P	05 06 27.2	+0.8
CBKS	Cedar Bluff	20.31	90	P		P	05 06 26.3	-0.9
CBKS	Cedar Bluff baz=287,SNR=21	20.31	90	P		P	05 06 28.0	+0.8
CBKS	Cedar Bluff baz=287	20.31	90	P		P	05 06 27.6	+0.5
AMTX	Amarillo comp=Z,63nm,0.8s	20.35	102	IAmb		IAmb	05 06 35.3	
AMTX	Amarillo baz=297,SNR=31	20.35	102	P		P	05 06 28.0	+0.4
AMTX	Amarillo baz=297	20.35	102	P		P	05 06 28.1	+0.4
FFC	Flin Flon FFC comp=Z,58nm,0.8s	20.44	43	P IAmb		P IAmb	05 06 27.9 05 06 36.4	-0.5
N31M	Braeburn, Yuko baz=160	20.49	347	P		P	05 06 28.7	-0.2
N30M	Aishikik Lake baz=157	20.71	345	P		P	05 06 31.3	0.0
FARO	Faro, Yukon baz=165	20.84	350	P		P	05 06 32.1	-0.6
BGNE	Belgrade BGNE comp=Z,91nm,1.1s	20.87	82	P IAmb		P IAmb	05 06 31.9 05 06 37.0	-1.3
BGNE	Belgrade baz=281	20.87	82	P		P	05 06 33.1	-0.2
M31M	Drury Creek, Y	20.95	349	P		P	05 06 33.4	-0.6
M31M	Drury Creek, Y baz=163	20.95	349	P		P	05 06 33.6	-0.3
MMPY	Sheldon Lake, baz=170	21.00	353	P		P	05 06 34.7	+0.2
R32A	Long Quarter, comp=Z,127nm,1.6s	21.19	90	IAmb		IAmb	05 06 39.0	
R32A	Long Quarter, baz=288,SNR=16	21.19	90	P		P	05 06 36.2	-0.5
WAX	Waxell Ridge comp=Z,143nm,1.7s	21.24	337	IAmb		IAmb	05 07 03.7	
CTG	Chitna Glacier baz=148	21.24	339	P		P	05 06 36.9	-0.3
WRGLY	Wrigley baz=186	21.45	3	P		P	05 06 39.4	+0.2
ELIS	Ellis County comp=Z,80nm,0.8s	21.51	97	IAmb		IAmb	05 06 46.0	
N33B	J Bar K, Exete baz=282,SNR=11	21.52	83	P		P	05 06 41.5	+1.3
NOKA	Waynoka comp=Z,120nm,0.8s	21.64	95	IAmb		IAmb	05 06 48.5	
ECSD	EROS Data Cent ECSD comp=Z,46nm,0.8s	21.68	75	P IAmb		P IAmb	05 06 41.2 05 06 43.2	-0.6
ECSD	EROS Data Cent baz=275,SNR=52	21.68	75	P		P	05 06 41.7	-0.1
ECSD	EROS Data Cent baz=275	21.68	75	P		P	05 06 40.9	-0.9
YUK3	Moose Creek baz=150	21.72	341	P		P	05 06 42.0	-0.3
YKA	Yellowknife Ar comp=Z,35nm,0.9s,baz=204,slow=11,SNR=19 comp=Z,35nm,0.9s	21.76	14	P		P	05 06 42.5	0.0
YKA	Yellowknife Ar	21.76	14	P		P	05 06 41.4	-1.1
F33A	5 Mile Ranch, baz=270,SNR=20	21.80	69	P		P	05 06 43.6	+0.5
M29M	Somme Creek baz=155	21.88	345	P		P	05 06 44.3	+0.4
MCARA	McCarthy VSAT comp=Z,44nm,1.0s	22.05	338	IAmb		IAmb	05 06 50.4	
MCARA	McCarthy VSAT baz=145	22.05	338	P		P	05 06 46.4	+0.7
TX31	Lajitas Ar. Si baz=311,SNR=64	22.05	117	P		P	05 06 48.5	+2.4
TX32	Lajitas Array comp=Z,56nm,1.1s	22.05	117	IAmb		IAmb	05 06 54.8	
TXAR	Lajitas Array comp=Z,14nm,0.8s,baz=300,slow=8.3,SNR=88	22.05	117	P		P	05 06 47.6	+1.6
LPIG	La Paz comp=Z,8.4nm,0.4s,baz=149,slow=5.9,SNR=2.6	22.07	139	P		P	05 06 49.6	+3.5
KAN16	Harper SW Stat comp=Z,69nm,0.8s	22.07	93	IAmb		IAmb	05 06 50.5	
L34A	Svendsen Farm, comp=Z,61nm,0.8s	22.08	80	IAmb		IAmb	05 06 49.5	
L34A	Svendsen Farm, baz=280,SNR=12 L34A baz=280	22.08	80	P S		P S	05 06 46.6 05 10 54.9	+0.4 +5.8
KAN10	Anthony SW Sta comp=Z,72nm,1.0s	22.09	93	IAmb		IAmb	05 06 53.1	
OK032	Salt Plains WL	22.12	94			P	05 06 48.2	+1.6
AGMN	Agassiz Nation	22.21	63	P		P	05 06 47.1	-0.4
AGMN AGMN	comp=Z,32nm,0.6s Agassiz Nation baz=264,SNR=18	22.21	63	IAmb P		IAmb P	05 06 55.7 05 06 47.4	-0.1
AGMN	Agassiz Nation baz=265	22.21	63	P		P	05 06 47.3	-0.1
CSTR	Hydro, Custer comp=Z,5.8nm,1.0s	22.22	97	IAmb		IAmb	05 06 55.9	
KAN06	Argonia West S comp=Z,74nm,0.7s	22.22	93	IAmb		IAmb	05 06 51.9	
EYAK	Cordova Ski Ar baz=139	22.22	334	P		P	05 06 48.3	+0.8
KAN14	Manchester OK comp=Z,85nm,0.9s	22.25	93	IAmb		IAmb	05 06 56.9	
BVCY	Beaver Creek baz=150	22.37	342	P		P	05 06 49.3	+0.2
CROK	Carrier comp=Z,143nm,1.1s	22.40	95	IAmb		IAmb	05 06 55.4	
L29M	L29M baz=156	22.42	346	P		P	05 06 49.1	-0.6
HPIG HPIG	comp=Z,43nm,1.0s	22.43	125	P IAmb		P IAmb	05 06 52.1 05 06 59.7	+1.8
ULM	Lac du Bonnet comp=Z,22nm,0.7s,baz=270,slow=9.8,SNR=14 comp=Z,22nm,0.7s	22.47	58	P		P	05 06 50.4	+0.1
ULM	Lac du Bonnet comp=Z,41nm,1.1s	22.47	58	IAmb		IAmb	05 06 52.9	
WMOK	Wichita Mounta comp=Z,43nm,0.8s	22.54	99	IAmb		IAmb	05 06 59.5	
WMOK	Wichita Mounta baz=297,SNR=65	22.54	99	P		P	05 06 51.3	+0.1
WMOK	Wichita Mounta baz=296	22.54	99	P		P	05 06 51.3	+0.1
KSU1	Kansas State U baz=287,SNR=23	22.56	87	P		P	05 06 51.4	0.0
KSU1	Kansas State U baz=286	22.56	87	P		P	05 06 51.4	0.0
M27K	Edge Creek, AK baz=149	22.56	341	P		P	05 06 52.1	+0.8
KAN13	South Haven SW comp=Z,59nm,0.8s	22.59	93	IAmb		IAmb	05 06 55.4	
N25K	Chitina, Valde baz=143	22.68	337	P		P	05 06 53.4	+0.9
N35A	Tabor baz=283,SNR=27	22.84	82	P		P	05 06 53.8	-0.5
BLOK	Blackwell comp=Z,64nm,0.8s	22.88	93	IAmb		IAmb	05 07 03.9	
M26K	Nabesna, AK baz=147	22.88	340	P		P	05 06 55.7	+1.1
GLI	Glacier Island baz=137	22.91	333	P		P	05 06 55.7	+0.9
ABTX	Abilene, Hawle comp=Z,52nm,0.9s	22.93	105	IAmb		IAmb	05 06 57.2	
ABTX	Abilene, Hawle baz=301,SNR=23	22.93	105	P		P	05 06 55.4	+0.1
ABTX	Abilene, Hawle baz=301	22.93	105	P		P	05 06 55.5	+0.1
K29M	Barlow Dome baz=158	22.99	347	P		P	05 06 55.5	-0.2
KLU	Klutina baz=140	22.99	335	P		P	05 06 55.4	-0.4
BCOK	Bluff Creek, N comp=Z,73nm,1.0s	23.01	96	IAmb		IAmb	05 07 01.5	
KDAK	Kodiak Island comp=Z,10nm,1.0s,baz=124,slow=3.6,SNR=3.7	23.12	323	P		P	05 06 59.2	+2.2
KDAK	Kodiak Island baz=122	23.12	323	P		P	05 06 58.3	+1.3
L27K	Beaver Creek, baz=150	23.15	342	P		P	05 06 56.9	-0.5
OHAK	Old Harbor baz=120	23.16	321	P		P	05 06 57.9	+0.6
OK050	Pawnee Station comp=Z,41nm,0.8s	23.19	94	IAmb		IAmb	05 07 03.2	
OK048	Pawnee Station comp=Z,43nm,0.8s	23.21	94	IAmb		IAmb	05 07 05.3	
OK045	Pawnee Station comp=Z,69nm,0.9s	23.21	94	IAmb		IAmb	05 07 09.1	
SEW	Seward baz=132	23.21	330	P		P	05 06 57.2	-0.7
OK046	Pawnee Station comp=Z,47nm,0.8s	23.24	94	IAmb		IAmb	05 07 03.8	
OK025	Westminster Rd comp=Z,73nm,1.0s	23.25	96	IAmb		IAmb	05 07 00.6	
OK051	E0350 and S346 comp=Z,77nm,1.1s	23.25	94	IAmb		IAmb	05 07 03.5	
X34A	Smith Ranch, M comp=Z,71nm,0.9s	23.30	99	IAmb		IAmb	05 07 09.7	
OK044	Pawnee Station comp=Z,54nm,0.8s	23.34	94	IAmb		IAmb	05 07 04.8	
T35A	Sooner Cattle comp=Z,58nm,0.9s	23.34	92	IAmb		IAmb	05 07 09.1	
T35B	Sooner Cattle baz=292,SNR=27	23.34	92	P		P	05 06 58.6	-0.8
OK047	Pawnee, Statio comp=Z,48nm,0.8s	23.35	94	IAmb		IAmb	05 07 06.1	
OK033	Mehan comp=Z,48nm,1.0s	23.36	95	IAmb		IAmb	05 07 02.0	
QUOK	Quay comp=Z,41nm,1.0s	23.48	94	IAmb		IAmb	05 07 09.9	
L26K	Log Cabin Wild baz=147	23.49	340	P		P	05 07 00.5	-0.3
MENT	Mentasta comp=Z,90nm,1.9s	23.52	340	IAmb		IAmb	05 07 10.8	
DAWY	Dawson baz=155	23.53	345	P		P	05 07 01.5	+0.4
OK034	N. Norfolk Rd. comp=Z,82nm,1.0s	23.54	95	IAmb		IAmb	05 07 11.0	
M24K	Tolsona, Glenn baz=141	23.54	336	P		P	05 07 01.7	+0.4
B35A	Bob, Littlefor comp=Z,35nm,1.1s	23.64	63	IAmb		IAmb	05 07 11.2	
B35A	Bob, Littlefor baz=266	23.64	63	P		P	05 07 02.3	0.0
SCM	Sheep Creek Mo comp=Z,99nm,1.7s	23.69	335	IAmb		IAmb	05 07 10.8	
SCM	Sheep Creek Mo baz=138	23.69	335	P		P	05 07 03.6	+0.9
F36A	Milaca comp=Z,31nm,1.1s	23.74	69	IAmb		IAmb	05 07 06.9	
F36A	Milaca baz=272	23.74	69	P		P	05 07 03.4	+0.1
KNK	Knik Glacier comp=Z,78nm,1.8s	23.76	333	IAmb		IAmb	05 07 09.9	
KNK	Knik Glacier baz=136	23.76	333	P		P	05 07 03.1	-0.2
DEOK	Depew comp=Z,144nm,1.4s	23.77	95	IAmb		IAmb	05 07 09.3	
M23K	Glacier View	23.79	334	P		P	05 07 04.4	+0.8
I37A	Lemond, Waseca comp=Z,24nm,0.7s	23.96	74	IAmb		IAmb	05 07 08.8	
I37B	Waseca baz=276,SNR=7.2	23.96	74	P		P	05 07 06.1	+0.7
JCT	Junction City comp=Z,36nm,1.1s	24.00	110	IAmb		IAmb	05 07 16.2	
JCT	Junction City baz=306	24.00	110	P		P	05 07 07.1	+1.3
JCT	Junction City baz=305	24.00	110	P		P	05 07 06.5	+0.6
SML	Sawmill baz=136	24.00	334	P		P	05 07 05.7	+0.1
PAX	Paxson baz=143	24.01	338	P		P	05 07 06.3	+0.5
K27K	Chicken baz=150	24.05	343	P		P	05 07 06.3	+0.3
LOOK	Love County comp=Z,60nm,0.9s	24.06	100	IAmb		IAmb	05 07 11.6	
PMR	Palmer baz=135	24.11	333	P		P	05 07 07.2	+0.6
TUL1	Leonard baz=294,SNR=18	24.26	94	P		P	05 07 09.6	+1.3
TUL1	Leonard baz=293	24.26	94	P		P	05 07 08.5	+0.2
SPMN	Marine on St. comp=Z,34nm,0.8s	24.28	71	IAmb		IAmb	05 07 12.5	
SPMN	Marine on St. baz=274	24.28	71	P		P	05 07 09.9	+1.6
SPMN	Marine on St. baz=274	24.28	71	P		P	05 07 07.8	-0.5
Z35A	Perchaven, San baz=299	24.32	101	P		P	05 07 10.6	+1.8
WAT6	Susitna Watana baz=139	24.38	336	P		P	05 07 09.7	+0.5
SCIA	State Center baz=281	24.41	79	P		P	05 07 09.2	-0.4
SCRK	Sand Creek baz=147	24.45	341	P		P	05 07 10.0	+0.1
RIDG	Independent Ri baz=145	24.47	340	P		P	05 07 10.4	+0.5
EGAK	Eagle baz=153	24.51	344	P		P	05 07 10.7	+0.4
I29M	Ogilvie Camp, baz=158	24.53	348	P		P	05 07 11.2	+0.8
M22K	Willow baz=134	24.57	332	P		P	05 07 12.2	+1.5
SUA	Susitna One baz=132	24.59	331	P		P	05 07 11.7	+0.6
K38A	Parkersburg baz=280,SNR=12	24.61	77	P		P	05 07 12.8	+1.5
N38A	Joes South For comp=Z,71nm,1.1s	24.63	81	IAmb		IAmb	05 07 17.5	
N38A	Joes South For baz=283	24.63	81	P		P	05 07 13.6	+2.0
DHY	Denali Highway baz=140	24.64	337	P		P	05 07 12.1	+0.5
P38A	Dawn baz=286,SNR=31	24.71	84	P		P	05 07 13.4	+1.2
RLO	Rose Lookout comp=Z,252nm,1.9s	24.74	93	IAmb		IAmb	05 07 17.8	
J26L	Joseph Creek baz=148	24.79	342	P		P	05 07 13.3	+0.5
WAT1	Susitna Watana baz=138	24.81	335	P		P	05 07 13.2	+0.2
WHTX	Lake Whitney, comp=Z,30nm,0.8s	24.84	104	IAmb		IAmb	05 07 21.9	
WHTX	Lake Whitney, baz=302,SNR=7.0	24.84	104	P		P	05 07 14.8	+1.3
WHTX	Lake Whitney, baz=301	24.84	104	P		P	05 07 14.2	+0.7
SPU	Mount Spurr	24.89	330	P		P	05 07 13.1	-0.6
N20K	Mount Spurr baz=129	24.96	330	P		P	05 07 15.0	+0.6
SPCR	Spurr Chakacha baz=129	24.96	330	P		P	05 07 14.7	+0.3
E38A	The Farm, Brul comp=Z,25nm,1.1s	25.08	67	IAmb		IAmb	05 07 19.2	
U38A	Gravette comp=Z,43nm,0.8s	25.11	92	IAmb		IAmb	05 07 27.9	
EYMN	Ely baz=269	25.11	64	P		P	05 07 15.6	-0.3
SKT	Skwentna	25.21	332	P		P	05 07 19.1	+2.5
SKT	Skwentna baz=132	25.21	332	P		P	05 07 17.1	+0.4
EPYK	Eagle Plains baz=162	25.25	350	P		P	05 07 16.4	-0.5
CHGN	Chignik baz=112	25.31	316	P		P	05 07 18.6	+1.1
J25K	Salcha River, baz=145	25.32	341	P		P	05 07 17.2	-0.4
I27K	Kandik River baz=153	25.33	345	P		P	05 07 18.1	+0.3
I26K	Coal Creek Min baz=150	25.39	343	P		P	05 07 19.4	+1.2
435B	Jarrell baz=304	25.40	107	P		P	05 07 20.4	+1.8
435B	Jarrell baz=304	25.40	107	P		P	05 07 19.4	+0.8
Q16K	King Salmon baz=118	25.44	322	P		P	05 07 20.2	+1.6
S39A	Bolivar comp=Z,28nm,0.8s	25.45	89	IAmb		IAmb	05 07 24.6	
S39A	Bolivar baz=290,SNR=18	25.45	89	P		P	05 07 20.2	+1.2
CHNA	Chernabura Isl baz=107	25.47	312	P		P	05 07 19.1	+0.2
HHAR	Hobbs comp=Z,54nm,0.9s	25.50	92	IAmb		IAmb	05 07 25.3	
HHAR	Hobbs baz=293	25.50	92	P		P	05 07 20.7	+1.2
HDA	Harding Lake baz=142	25.56	339	P		P	05 07 20.5	+0.8
833A	Chaparral WMA, baz=309,SNR=14	25.58	113	P		P	05 07 22.1	+1.8
833A	Chaparral WMA, baz=309	25.58	113	P		P	05 07 21.3	+1.0
MCK	McKinley	25.60	336	P		P	05 07 19.8	-0.4
MCK	McKinley baz=136	25.60	336	P		P	05 07 20.0	-0.1
M20K	Styx River baz=129	25.73	330	P		P	05 07 22.4	+0.9
TRF	Thorofare Moun baz=136	25.81	335	P		P	05 07 22.9	+0.7
ILAR	Eielson Array comp=Z,4.6nm,1.0s,baz=156,slow=7.7,SNR=30 ILAR comp=Z,0.6nm,0.9s,baz=180,slow=1.8,SNR=3.1 comp=Z,4.6nm,1.0s	25.83	340	P PcP		P PcP	05 07 22.8 05 10 49.6	+0.6 -1.4
P40A	Paris baz=286,SNR=34	25.84	84	P		P	05 07 23.5	+1.0
L40A	Anamosa baz=281,SNR=20	25.84	78	P		P	05 07 23.9	+1.4
H27K	Steamboat Moun baz=153	25.88	346	P		P	05 07 23.5	+0.8
F31M	Tsiigehtchic baz=167	25.96	353	P		P	05 07 22.9	-0.4
I40A	Norwalk comp=Z,26nm,0.7s	25.97	73	IAmb		IAmb	05 07 29.4	
I40A	Norwalk baz=278	25.97	73	P		P	05 07 25.4	+1.7
Z38A	Mt. Pleasant baz=298	26.02	99	P		P	05 07 27.2	+3.1
237A	Washetta, Mont baz=301	26.03	102	P		P	05 07 26.6	+2.2
R40A	Maddies Statio comp=Z,24nm,0.8s	26.04	87	IAmb		IAmb	05 07 32.2	
R40A	Maddies Statio baz=289	26.04	87	P		P	05 07 25.2	+0.8
PPLA	Purkeypile comp=Z,22nm,1.0s	26.05	333	IAmb		IAmb	05 07 34.7	
PPLA	Purkeypile baz=132	26.05	333	P		P	05 07 24.8	+0.4
KTH	Kantishna Hill comp=Z,47nm,1.8s	26.08	335	IAmb		IAmb	05 07 37.3	
BWN	Browne BWN comp=Z,57nm,1.1s	26.08	337	P IAmb		P IAmb	05 07 23.4 05 07 34.8	-1.0
PRP	Porcupine Dome baz=146	26.10	342	P		P	05 07 24.8	0.0
G40A	Rib Lake baz=275	26.11	70	P		P	05 07 27.4	+2.5
N18K	Kilae Creek baz=123	26.11	326	P		P	05 07 25.6	+0.8
FCC	Fort Churchill FCC comp=Z,26nm,1.0s	26.17	39	P IAmb		P IAmb	05 07 24.4 05 07 33.1	-0.8
M19K	Big River Lodg	26.22	329	IAmb		IAmb	05 07 38.7	

comp=Z,38nm,1.4s
M19K **Big River Lodg** 26.22 329 P P 05 07 26.8 +1.0
baz=127
POKR **Poker Plat Res** 26.25 340 P P 05 07 25.1 -0.9
POKR **Poker Plat Res** 26.25 340 P P 05 07 27.0 +1.0
baz=143
NEA2 **Nenana** 26.29 338 P P 05 07 26.3 0.0
baz=139
CAST **Castle Rocks** 26.37 334 P P 05 07 27.3 +0.2
baz=133
L20K **Farewell, AK** 26.38 331 P P 05 07 27.7 +0.5
baz=129
JFWS **Jewell Farm** 26.39 76 P P 05 07 29.2 +1.7
baz=280,SNR=15
JFWS **Jewell Farm** 26.39 76 P P 05 07 27.7 +0.2
baz=280
N41A **Harden Midland** 26.41 81 IAmb IAmb 05 07 31.1
comp=Z,30nm,0.9s
G27K **Doyon Strip** 26.42 346 P P 05 07 28.1 +0.6
baz=154
MGMO **Mountain Grove** 26.43 89 IAmb IAmb 05 07 36.7
comp=Z,29nm,0.9s
MIAR **Mount Ida** 26.48 95 IAmb IAmb 05 07 41.1
comp=Z,28nm,0.9s
MIAR **Mount Ida** 26.48 95 P P 05 07 29.8 +1.4
baz=296,SNR=14
MIAR **Mount Ida** 26.48 95 P P 05 07 28.3 0.0
baz=296
BPAW **Bear Paw Mtn.** 26.49 336 P P 05 07 28.1 -0.1
baz=136
O16K **Kokwok River B** 26.52 323 P P 05 07 29.1 +0.7
baz=118
L19K **White Mountain** 26.56 330 P P 05 07 29.4 +0.5
baz=127
CHUM **Lake Minchumin** 26.76 334 P P 05 07 30.8 +0.2
baz=133
INK **Inuvik** 26.79 354 P P 05 07 30.4 -0.3
comp=Z,4.1nm,0.8s,baz=159,slow=5.1,SNR=5.8
comp=Z,4.1nm,0.8s
INK **Inuvik** 26.79 354 P P 05 07 30.5 -0.3
INK **Inuvik** 26.79 354 P P 05 07 31.0 +0.2
baz=168
H25K **Birch Creek** 26.79 342 P P 05 07 31.0 +0.2
baz=146
CCM **Cathedral Cave** 26.88 86 P P 05 07 33.6 +1.7
CCM IAmb IAmb 05 07 38.1
comp=Z,39nm,1.1s
CCM **Cathedral Cave** 26.88 86 P P 05 07 32.6 +0.6
baz=289,SNR=24
CCM **Cathedral Cave** 26.88 86 P P 05 07 31.3 -0.6
baz=289
FYU **Fort Yukon** 26.91 343 IAmb IAmb 05 07 55.5
comp=Z,24nm,1.2s
H24K **Noodor Dome** 26.93 340 P P 05 07 32.2 0.0
baz=143
G26K **Porcupine Rive** 26.94 345 P P 05 07 32.1 0.0
baz=150
L42A **Oliver, Polo** 26.99 77 P P 05 07 33.8 +0.9
baz=282,SNR=32
NATX **Nacogdoches** 27.00 102 P P 05 07 35.6 +2.6
baz=301
NATX **Nacogdoches** 27.00 102 P P 05 07 34.2 +1.1
baz=301
K20K **Telida** 27.00 332 P P 05 07 33.3 +0.5
baz=130
FCAR **Ozark Folk Cen** 27.01 91 IAmb IAmb 05 07 40.9
comp=Z,20nm,0.7s
MLY **Manley** 27.09 337 P P 05 07 34.2 +0.6
baz=137
HKT **Hockley** 27.12 106 P P 05 07 37.2 +3.2
WHAR **Wooly Hollow** 27.12 93 IAmb IAmb 05 07 42.5
comp=Z,60nm,1.1s
I42A **Draeger Farm,** 27.19 73 IAmb IAmb 05 07 43.0
comp=Z,34nm,1.1s
H23K **Yukon River** 27.35 339 P P 05 07 36.5 +0.5
baz=140
ZAIG **Zacatecas** 27.40 127 P P 05 07 39.2 +2.2
TTA **Tatalina** 27.44 330 P P 05 07 36.5 -0.2
baz=126
SLM **Saint Louis** 27.45 85 P P 05 07 35.5 -1.5
SLM IAmb IAmb 05 07 48.6
comp=Z,27nm,0.7s
BMAR **Burnt Mountain** 27.51 345 P P 05 07 36.7 -0.7
G24K **Hadweenzic Riv** 27.53 342 P P 05 07 38.5 +1.0
baz=144
J20K **Nowinta River** 27.56 334 P P 05 07 38.0 +0.2
baz=131
C36M **Paulatuk** 27.56 2 P P 05 07 36.7 -1.0
baz=184
I21K **Tanana** 27.56 337 P P 05 07 37.5 -0.2
I21K IAmb IAmb 05 07 45.8
comp=Z,23nm,1.1s
I21K **Tanana** 27.56 337 P P 05 07 37.6 -0.1
baz=136
HDIL **Hopedale** 27.60 80 P P 05 07 37.9 -0.5
HDIL IAmb IAmb 05 07 50.0
comp=Z,55nm,1.1s
HDIL **Hopedale** 27.60 80 P P 05 07 38.4 0.0
baz=285
E27K **Coleen River** 27.65 348 P P 05 07 38.1 -0.5
baz=155
F26K **Sheenjek River** 27.66 345 P P 05 07 39.7 +1.0
baz=150
LCAR **Lake Charles** 27.66 90 P P 05 07 37.8 -1.2
LCAR IAmb IAmb 05 07 47.1
comp=Z,25nm,0.9s
P43A **Skaggs, Pawnee** 27.68 82 IAmb IAmb 05 07 44.9
comp=Z,52nm,1.2s
P43A **Skaggs, Pawnee** 27.68 82 P P 05 07 39.9 +0.8
baz=287,SNR=8.2
F25K **Christian Rive** 27.87 344 P P 05 07 40.9 +0.3
baz=148
H22K **Ishtalitna Cre** 27.91 338 P P 05 07 42.1 +1.3
baz=138
H21K **Melozitna Rive** 28.14 337 P P 05 07 43.6 +0.6
baz=135
G23K **Bananza Creek** 28.16 340 P P 05 07 43.4 +0.3
baz=140
L44A **Lake County Fo** 28.23 76 P P 05 07 44.5 +0.5
baz=282
E43A **Lone Tree Farm** 28.24 67 IAmb IAmb 05 07 50.4
comp=Z,18nm,0.8s
E25K **Arctic Village** 28.30 345 P P 05 07 44.3 -0.1
baz=149
O44A **Mansfield** 28.31 81 P P 05 07 45.6 +0.8
baz=286,SNR=6.5
CGM3 **Cape Girardeau** 28.32 87 IAmb IAmb 05 07 56.3
comp=Z,11nm,0.9s
S44A **Carbondale** 28.49 86 IAmb IAmb 05 07 51.9
comp=Z,20nm,0.8s
S44A **Carbondale** 28.49 86 P P 05 07 47.3 +1.0
baz=290
SIUC **Southern Illin** 28.51 86 IAmb IAmb 05 07 52.0
comp=Z,21nm,0.8s
G22K **Bettles** 28.70 339 P P 05 07 48.9 +1.0
baz=139
GCSA **Galena City Sc** 28.84 333 P P 05 07 49.6 +0.5
baz=128
E24K **Your Creek** 28.87 343 P P 05 07 49.9 +0.3
baz=144
143A **Socs Landing,** 28.93 97 P P 05 07 48.0 -2.3
143A IAmb IAmb 05 08 01.0
comp=Z,60nm,1.6s
G21K **Allakaket** 28.95 338 P P 05 07 50.4 +0.2
baz=135
OLIL **Olney** 29.00 83 IAmb IAmb 05 07 56.8
comp=Z,26nm,1.1s
E23K **Chandalar** 29.12 342 P P 05 07 51.4 -0.3
baz=143
UNV **Unalaska Valle** 29.22 308 P P 05 07 53.7 +1.0
baz=98
SFIN **Lafayette** 29.26 80 P P 05 07 54.1 +1.0
baz=286,SNR=11
SFIN **Lafayette** 29.26 80 P P 05 07 52.7 -0.4
baz=286
C27K **Jago River** 29.29 348 P P 05 07 53.3 +0.2
baz=153
F22K **John River** 29.32 340 P P 05 07 54.0 +0.6
baz=138
P46A **Rosedale** 29.40 81 P P 05 07 55.0 +0.6
baz=287,SNR=11
F21K **Alatna River** 29.45 339 P P 05 07 54.6 0.0
baz=136
D25K **Kavik River** 29.48 346 P P 05 07 54.6 -0.3
baz=149
TOLK **Toolik Lake Re** 29.57 343 P P 05 07 56.4 +0.7
baz=143
OXF **Oxford** 29.60 92 P P 05 07 57.8 +1.6
baz=295
OXF **Oxford** 29.60 92 P P 05 07 57.2 +1.0
baz=295
E22K **Anaktuvuk Pass** 29.70 341 P P 05 07 57.0 +0.2
baz=140
C26K **Camden Bay** 29.74 347 P P 05 07 57.8 +0.7
baz=151
344A **Westbrook Farm** 30.04 99 IAmb IAmb 05 08 09.4
comp=Z,26nm,0.9s
344A **Westbrook Farm** 30.04 99 P P 05 08 02.5 +2.4
baz=300,SNR=5.6
D23K **Nanushuk River** 30.07 343 P P 05 08 00.6 +0.5
baz=142
E46A **Sault Ste Mari** 30.09 67 IAmb IAmb 05 08 09.4
comp=Z,22nm,0.8s
WVT **Waverly** 30.12 88 P P 05 08 03.3 +2.4
WVT **Waverly** 30.12 88 P P 05 08 02.1 +1.3
baz=293
N47A **Urbana** 30.15 78 IAmb IAmb 05 08 06.2
comp=Z,21nm,0.8s
J47A **Sunmer** 30.23 73 IAmb IAmb 05 08 10.9
comp=Z,32nm,1.1s
C24K **Franklin Bluff** 30.27 345 P P 05 08 02.1 +0.4
baz=146
PLAL **Pickwick Lake** 30.40 90 IAmb IAmb 05 08 11.5
comp=Z,30nm,0.8s
WCI **Wyandotte Cave** 30.51 83 P P 05 08 03.2 -1.0
WCI IAmb IAmb 05 08 08.4
comp=Z,22nm,0.8s
WCI **Wyandotte Cave** 30.51 83 P P 05 08 05.0 +0.8
baz=290,SNR=9.1
WCI **Wyandotte Cave** 30.51 83 P P 05 08 04.4 +0.2
baz=290
O48B **Farmland** 30.72 79 P P 05 08 06.9 +0.8
baz=287
C23K **Itkillik River** 30.75 344 P P 05 08 05.9 -0.1
baz=143
P48A **Milroy** 30.76 81 IAmb IAmb 05 08 10.2
comp=Z,36nm,1.1s
P48A **Milroy** 30.76 81 P P 05 08 05.9 -0.5
baz=288,SNR=8.5
P48A P P 05 08 05.9 -0.5
baz=288,SNR=8.5
346A **Big Creek Wild** 31.01 98 P P 05 08 10.4 +1.8
baz=300,SNR=7.8
V48A **Smith Brothers** 31.03 88 IAmb IAmb 05 08 19.3
comp=Z,27nm,1.8s
Z47A **Carrollton** 31.18 94 P P 05 08 11.0 +0.9
baz=297
N49A **Columbus Grove** 31.25 77 IAmb IAmb 05 08 14.7
comp=Z,28nm,0.9s
P49A **Miami Univ. Ec** 31.26 80 P P 05 08 11.1 +0.3
baz=288
AAM **Ann Arbor** 31.27 75 P P 05 08 10.7 -0.2
baz=284
O49A **Covington** 31.34 79 IAmb IAmb 05 08 15.2
comp=Z,25nm,0.9s
O49A **Covington** 31.34 79 P P 05 08 11.6 0.0
baz=287,SNR=5.6
O49A P P 05 08 11.6 0.0
baz=287,SNR=5.6
X48A **Hartselle** 31.39 91 IAmb IAmb 05 08 21.4
comp=Z,11nm,0.8s
X48A **Hartselle** 31.39 91 P P 05 08 12.5 +0.5
baz=295,SNR=11
U49A **Red Boiling Sp** 31.50 86 IAmb IAmb 05 08 17.9
comp=Z,26nm,1.0s
U49A **Red Boiling Sp** 31.50 86 P P 05 08 14.2 +1.2
baz=292,SNR=11
R50A **Paris** 31.95 82 IAmb IAmb 05 08 24.4
comp=Z,11nm,0.9s
T50A **Nancy** 32.02 85 IAmb IAmb 05 08 21.6
comp=Z,42nm,1.9s
LRAL **Lakeview Retre** 32.05 93 IAmb IAmb 05 08 26.5
comp=Z,27nm,1.0s
LRAL **Lakeview Retre** 32.05 93 P P 05 08 19.2 +1.3
baz=298,SNR=15
LRAL **Lakeview Retre** 32.05 93 P P 05 08 18.6 +0.7
baz=297
ACSO **Alum Creek Sta** 32.32 78 P P 05 08 20.2 0.0
baz=287
W50A **Signal Mountai** 32.37 88 IAmb IAmb 05 08 29.3
comp=Z,17nm,0.8s
FPAL **Fort Paine** 32.42 90 IAmb IAmb 05 08 30.4
comp=Z,17nm,0.8s
Q51A **Peebles** 32.43 81 IAmb IAmb 05 08 32.9
comp=Z,17nm,0.7s
P51A **Williamsport** 32.49 80 P P 05 08 22.3 +0.6
baz=288,SNR=10
P51A P P 05 08 22.3 +0.6
baz=288,SNR=10
S51A **Beattyville** 32.72 83 IAmb IAmb 05 08 29.1
comp=Z,16nm,0.9s
S51A **Beattyville** 32.72 83 P P 05 08 24.0 +0.3
baz=291
S51A P P 05 08 24.0 +0.3
baz=291
V51A **Loudon** 32.84 87 IAmb IAmb 05 08 35.5
comp=Z,34nm,1.3s
CPCT **Cooper Cave** 32.86 87 IAmb IAmb 05 08 29.7
comp=Z,32nm,1.0s
X51A **Calhoun** 32.98 89 P P 05 08 27.2 +1.3
baz=295,SNR=6.1
X51A P P 05 08 27.2 +1.3
baz=295,SNR=6.1
250A **Grady** 33.09 94 P P 05 08 28.3 +1.3
baz=299
P52A **Corning** 33.12 79 IAmb IAmb 05 08 51.4
comp=Z,12nm,0.9s
P52A **Corning** 33.12 79 P P 05 08 27.8 +0.6
baz=288
TZTN **Tazewell** 33.15 85 IAmb IAmb 05 08 31.9
comp=Z,21nm,1.2s
TZTN **Tazewell** 33.15 85 P P 05 08 28.0 +0.5
baz=292
O52A **Adamsville** 33.19 78 IAmb IAmb 05 08 37.2
comp=Z,20nm,0.9s
Q52A **Bidwell** 33.24 80 IAmb IAmb 05 08 32.1
comp=Z,28nm,0.9s
Q52A **Bidwell** 33.24 80 P P 05 08 28.3 +0.1
baz=289,SNR=8.9
Q52A P P 05 08 28.3 +0.1
baz=289,SNR=8.9
TKL **Tuckaleechee C** 33.33 87 IAmb IAmb 05 08 33.3
comp=Z,20nm,0.9s
TKL **Tuckaleechee C** 33.33 87 P P 05 08 29.5 +0.4
baz=294,SNR=9.1
V52A **Sevierville** 33.39 86 IAmb IAmb 05 08 43.2
comp=Z,16nm,1.0s
W52A **Murphy** 33.45 88 IAmb IAmb 05 08 36.8
comp=Z,30nm,1.1s
W52A **Murphy** 33.45 88 P P 05 08 31.1 +1.0
baz=295,SNR=10
O53A **New Philadelph** 33.61 77 IAmb IAmb 05 08 35.5
comp=Z,22nm,0.8s
O53A **New Philadelph** 33.61 77 P P 05 08 31.4 0.0
baz=288
M53A **WI Miller and** 33.65 75 P P 05 08 31.7 -0.1
baz=286
R53A **Hurricane** 33.69 81 IAmb IAmb 05 08 36.0
comp=Z,12nm,0.9s
N53A **Lisbon** 33.71 76 IAmb IAmb 05 08 36.6
comp=Z,19nm,0.8s
P53A **Whipple** 33.72 79 P P 05 08 33.1 +0.8
baz=289
P53A P P 05 08 33.1 +0.8
baz=289
Y52A **Lilburn** 33.87 90 IAmb IAmb 05 08 38.7
comp=Z,43nm,1.4s
Y52A **Lilburn** 33.87 90 P P 05 08 34.9 +1.2
baz=296,SNR=6.9
Y52A P P 05 08 34.9 +1.2
baz=296,SNR=6.9
152A **Waverly Hall** 33.92 92 IAmb IAmb 05 08 38.8
comp=Z,47nm,1.9s
SADO **Sadowa** 33.93 69 IAmb IAmb 05 08 42.6
comp=Z,27nm,0.9s
ALLY **Alegheny Colle** 33.97 75 P P 05 08 36.4 +1.8
baz=286
V53A **Saluda** 34.05 86 P P 05 08 36.6 +1.3
baz=294,SNR=14
V53A P P 05 08 36.6 +1.3
baz=294,SNR=14
BG3 **Lake Jocassee** 34.23 87 IAmb IAmb 05 08 41.8
comp=Z,32nm,1.2s
Q54A **Coxs Mills** 34.29 79 IAmb IAmb 05 08 41.5
comp=Z,19nm,0.8s
Q54A **Coxs Mills** 34.29 79 P P 05 08 38.2 +0.9
baz=290
Q54A P P 05 08 38.2 +0.9
baz=290
U54A **Nelsons Funny** 34.45 84 P P 05 08 40.8 +1.9
baz=293,SNR=5.7
U54A P P 05 08 40.8 +1.9
baz=293,SNR=5.7
GOGA **Godfrey** 34.52 90 IAmb IAmb 05 08 47.8
comp=Z,15nm,0.8s
GOGA **Godfrey** 34.52 90 P P 05 08 40.2 +0.8
baz=297,SNR=7.2
GOGA **Godfrey** 34.52 90 P P 05 08 40.2 +0.8
baz=297
MCWV **Mont Chateau** 34.79 78 P P 05 08 42.6 +0.9
baz=289
R55A **Marlinton** 35.05 80 IAmb IAmb 05 08 48.8
comp=Z,35nm,1.1s
R55A **Marlinton** 35.05 80 P P 05 08 44.7 +0.6
baz=291,SNR=7.7
R55A P P 05 08 44.7 +0.6
baz=291,SNR=7.7
PAULI **Pauline** 35.14 87 P P 05 08 45.7 +1.0
baz=295,SNR=19
V55A **Taylorsville** 35.16 85 IAmb IAmb 05 08 52.9
comp=Z,24nm,0.9s
BLA **Blacksburg** 35.22 82 IAmb IAmb 05 08 54.1
comp=Z,26nm,0.8s
BLA **Blacksburg** 35.22 82 P P 05 08 45.8 +0.3
baz=292
TIGA **Tifton** 35.35 93 P P 05 08 47.2 +0.7
baz=299
KMSC **Kings Mountain** 35.36 86 P P 05 08 45.9 -0.8
KMSC **Kings Mountain** 35.36 86 P P 05 08 47.2 +0.5
baz=295,SNR=14
KMSC **Kings Mountain** 35.36 86 P P 05 08 46.3 -0.3
baz=295
Q56A **Snyder Ridge,** 35.48 79 IAmb IAmb 05 08 55.6
comp=Z,22nm,0.8s
JSC **Jenkinsville** 35.78 87 P P 05 08 50.1 -0.1
baz=296,SNR=15
SSPA **Standing Stone** 35.90 75 P P 05 08 52.0 +0.7
baz=288
HAW **Hawthorne Fire** 35.93 89 P P 05 08 51.3 -0.2
baz=297,SNR=6.9
BIRD **Birdtown, Kers** 36.22 86 IAmb IAmb 05 08 59.0
comp=Z,25nm,0.9s
BIRD **Birdtown, Kers** 36.22 86 P P 05 08 55.7 +1.7
baz=295,SNR=10.0
W57A **Gilead** 36.36 85 IAmb IAmb 05 09 02.6
comp=Z,21nm,0.9s
Y57A **Sumter** 36.55 87 IAmb IAmb 05 09 02.4
comp=Z,19nm,0.8s
N58A **Sunbury** 36.68 75 IAmb IAmb 05 09 02.8
comp=Z,49nm,1.5s
N58A **Sunbury** 36.68 75 P P 05 08 58.7 +0.9
baz=288
N58A P P 05 08 58.7 +0.9
baz=288
V58A **Windy Hill, Pi** 36.74 84 P P 05 08 59.1 +0.6
baz=294,SNR=18
V58A P P 05 08 59.1 +0.6
baz=294,SNR=18
BINY **Binghamton** 36.79 72 IAmb IAmb 05 09 12.2
comp=Z,28nm,1.3s
BINY **Binghamton** 36.79 72 P P 05 08 58.5 -0.4
baz=287
CBN **Corbin Frederi** 37.10 79 P P 05 09 01.2 -0.3
baz=292
NHSC **New Hope** 37.11 88 P P 05 09 03.2 +1.6
baz=297
T59A **Double "B" Far** 37.43 81 P P 05 09 05.1 +0.9
baz=293,SNR=8.3
T59A P P 05 09 05.1 +0.9
baz=293,SNR=8.3
CNNC **Cliffs of the** 37.88 84 P P 05 09 09.4 +1.3
baz=295
ODNJ **Ogdensburg** 38.12 73 IAmb IAmb 05 09 15.7
comp=Z,16nm,0.8s
TEIG **Tepich** 38.52 112 P P 05 09 12.1 -1.5
DWPF **Disney Wildern** 38.67 96 P P 05 09 15.5 +0.7
baz=303
L61B **Northampton** 39.06 71 P P 05 09 18.5 +0.6
baz=288
LBNH **Lisbon** 39.06 68 P P 05 09 18.4 +0.4
baz=286
HRV **Adam Dziewonsk** 39.83 70 P P 05 09 26.1 +1.7
baz=288
SCHQ **Schefferville** 40.26 50 P P 05 09 28.0 +0.2
comp=Z,18nm,0.8s,baz=278,slow=8.5,SNR=14
comp=Z,18nm,0.8s
SCHQ **Schefferville** 40.26 50 P P 05 09 27.4 -0.4
SCHQ IAmb IAmb 05 09 29.3
comp=Z,24nm,0.9s
PKME **Peaks-Kenny Pk** 40.59 65 P P 05 09 30.2 -0.3
baz=286
ESQI **Esquipulas** 41.81 120 P P 05 09 44.0 +2.9
MTO3 **Montecristo** 41.91 120 P P 05 09 44.8 +2.8
MATN **Matagalpa** 45.24 118 P P 05 10 10.1 +1.3
MATN IAmb IAmb 05 10 21.4
comp=Z,18nm,0.9s
NEEM **North Greenlan** 46.29 17 *i* P P 05 10 15.8 -0.8
NEEM IAmb IAmb 05 10 17.8
comp=Z,32nm,1.2s
NUUK **Nuuk** 46.70 35 *i* P P 05 10 20.5 +1.0
SFJD **Kangerlussuaq** 46.76 31 *i* P P 05 10 19.9 -0.1
SFJD IAmb IAmb 05 10 21.7
comp=Z,16nm,0.9s
ORTG **Ortega, Santa** 47.44 120 P P 05 10 24.7 -1.3
DY2G **Dye2** 48.56 32 *i* P P 05 10 34.4 +0.1
DY2G IAmb IAmb 05 10 35.7
comp=Z,45nm,0.9s
IVI **Ivigtut** 48.90 39 *i* P P 05 10 37.5 +0.9
IVI IAmb IAmb 05 10 38.3
comp=Z,28nm,0.9s
SUMG **Summit** 49.96 23 P P 05 10 44.6 -0.5
SUMG **Summit** 49.96 23 *i* P P 05 10 45.4 +0.3
SUMG IAmb IAmb 05 10 46.5
comp=Z,56nm,0.8s
NRS **Narsarsuaq** 50.20 39 *i* P P 05 10 46.2 -0.2
NRS IAmb IAmb 05 10 47.6
comp=Z,24nm,0.9s
PETK **Petropavlovsk-** 50.35 311 P P 05 10 47.5 -0.3
comp=Z,3.2nm,1.0s,baz=76,slow=12,SNR=2.1
comp=Z,3.2nm,1.0s
ICESG **Greenland Ices** 50.42 28 *i* P P 05 10 49.1 +0.6
ICESG IAmb IAmb 05 10 49.8
comp=Z,72nm,0.9s
NOR **Nord** 51.59 10 *i* P P 05 10 57.2 +0.4
TAOE **Nuku Hiva Isla** 52.09 198 *e* LR LR 05 25 59.5
comp=Z,295nm,25.8s
TAOE **Nuku Hiva Isla** 52.09 198 *e* T T 06 06 51.7
comp=Z,76nm,0.3s
DAG **Danmarks Havn** 53.45 16 *i* P P 05 11 10.7 +0.1
SJG **San Juan** 55.87 96 P P 05 11 30.2 +1.3
CBYP **Canovanas** 55.99 96 P P 05 11 30.7 +0.8
CBYP IAmb IAmb 05 11 41.2
comp=Z,16nm,0.9s
KBS **Kingsbay** 56.97 9 *i* P P 05 11 36.7 +0.7
SPB2 **Spitsbergen Ar** 58.10 9 P P 05 11 43.4 -0.5
SPB2 IAmb IAmb 05 11 44.9
comp=Z,12nm,0.8s
SDV **Santo Domingo** 58.65 108 *e* P P 05 11 47.7 -1.1
OTAV **Otavalo** 59.62 121 P P 05 11 53.8 -2.0
OTAV IAmb IAmb 05 12 05.0
comp=Z,10nm,0.8s
TULM **Tulcn-Chalpat** 59.68 120 P P 05 11 55.1 -1.2
TULM IAmb IAmb 05 12 20.0
comp=Z,17nm,0.8s
H11N3 **WAKE ISLAND Hy** 60.12 270 T T 06 16 57.9
baz=53,slow=75,SNR=314
H11N2 **WAKE ISLAND Hy** 60.12 270 T T 06 16 57.9
baz=53,slow=75,SNR=228
H11N1 **WAKE ISLAND Hy** 60.13 270 T T 06 17 01.3
baz=53,slow=75,SNR=222
H11S1 **WAKE ISLAND Hy** 61.01 269 T T 06 18 00.7
baz=52,slow=75,SNR=355
H11S2 **WAKE ISLAND Hy** 61.02 269 T T 06 18 07.4
baz=52,slow=75,SNR=279
H11S3 **WAKE ISLAND Hy** 61.03 269 T T 06 18 03.5
baz=52,slow=75,SNR=166
TIAR **Tiarei** 62.91 205 *e* T T 06 20 19.6
comp=Z,2.8nm,0.3s
PPT **Papeete** 63.00 205 LR LR 05 32 38.5
comp=Z,224nm,19.6s,baz=325,slow=29
PPT2 **Papeete2** 63.02 205 *e* LR LR 05 31 02.5
comp=Z,270nm,24.0s
PPT2 **Papeete2** 63.02 205 *e* T T 06 20 26.7

comp=Z,1.6nm,0.3s
KEV **Kevo** 66.95 10 P P 05 12 42.3 -0.8
KEV IAmb IAmb 05 12 43.6
comp=Z,12nm,1.0s
ARCES **ARCESS Array B** 66.96 10 P P 05 12 42.9 -0.3
comp=Z,4.2nm,0.9s,baz=342,slow=7.6,SNR=7.1
comp=Z,4.2nm,0.9s
ARCES **ARCESS Array B** 66.96 10 P P 05 12 42.3 -0.9
AFI **Afiamalu** 69.63 228 LR LR 05 39 27.1
comp=Z,202nm,18.5s,baz=4.0,slow=32
RAR **Rarotonga** 70.07 213 LR LR 05 35 46.0
comp=Z,183nm,19.6s,baz=322,slow=29
BOAV **Boa Vista** 70.37 105 P P 05 13 06.1 +0.9
BOAV IAmb IAmb 05 13 13.1
comp=Z,5.5nm,0.9s
BOAV **Boa Vista** 70.37 105 *eP* P 05 13 04.9 -0.3
MJAR **Matsushiro Arr** 70.44 302 P P 05 13 03.9 -1.6
comp=Z,1.5nm,0.8s,baz=45,slow=4.1,SNR=5.1
comp=Z,1.5nm,0.8s
NB2 **NORSAR Subarra** 71.72 20 P P 05 13 12.4 -0.4
comp=Z,8.9nm,1.0s,baz=328,slow=5.9
NOA **NORSAR Array B** 71.72 20 P P 05 13 12.4 -0.4
comp=Z,3.9nm,0.8s,baz=329,slow=6.2,SNR=11
comp=Z,3.9nm,0.8s
MACA **Manacapuru-AM** 74.12 109 IAmb IAmb 05 13 35.0
comp=Z,8.8nm,0.7s
MACA **Manacapuru-AM** 74.12 109 *eP* P 05 13 27.2 -0.4
FIA1 **FINESS Array S** 74.59 13 IAmb IAmb 05 13 30.4
comp=Z,12nm,0.9s
FINES **FINESS Array B** 74.59 13 P P 05 13 29.6 0.0
comp=Z,11nm,0.9s,baz=354,slow=3.2,SNR=25
comp=Z,11nm,0.9s
FINES **FINESS Array B** 74.59 13 P P 05 13 29.1 -0.5
ETMB **Extrema** 75.14 118 P P 05 13 32.4 -1.1
ETMB IAmb IAmb 05 13 40.7
comp=Z,11nm,0.9s
ETMB **Extrema** 75.14 118 *eP* P 05 13 33.0 -0.5
KSRS **Korea Array** 76.16 308 P P 05 13 39.1 0.0
comp=Z,0.4nm,0.3s,baz=42,slow=5.6,SNR=2.0
comp=Z,0.4nm,0.3s
KSAR **Wonju Array Be** 76.19 308 P P 05 13 37.9 -1.4
KLMR **Klimovskoe** 76.96 7 *eP* P 05 13 40.6 -2.6
KLMR AMP 05 13 44.6
comp=Z,22nm,1.4s
MALB **Monte Alegre** 77.81 104 *eP* P 05 13 47.8 -0.9
XLT **XiLinHaoTe** 78.02 319 *eP* P 05 13 47.3 -2.3
XLT pP pP 05 13 51.9 -2.1
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,160nm,4.9s
ITTB **Itaituba** 78.48 107 *eP* P 05 13 51.7 -0.7
MSVF **Nonsavu** 78.56 234 LR LR 05 40 40.3
comp=Z,164nm,19.5s,baz=340,slow=30
BMRD **Maredsous** 78.65 30 *dP* P 05 13 53.6 +0.8
BGES **Gesves** 78.70 29 *dP* P 05 13 53.5 +0.4
BCLA **Clavier** 78.75 29 *dP* P 05 13 53.4 0.0
LPAZ **La Paz** 78.76 124 P P 05 13 54.5 -0.1
comp=Z,2.8nm,0.8s,baz=305,slow=3.2,SNR=11
comp=Z,2.8nm,0.8s
LPAZ **La Paz** 78.76 124 P P 05 13 52.6 -1.9
LPAZ **La Paz** 78.76 124 *eP* P 05 13 54.6 0.0
RCHB **Rochefort** 78.94 29 *dP* P 05 13 55.0 +0.5
SONM **Songino Array** 79.33 327 P P 05 13 57.3 +0.5
comp=Z,0.3nm,0.3s,baz=57,slow=5.5,SNR=5.7
comp=Z,0.3nm,0.3s
GUMO **Guam** 80.34 280 LR LR 05 40 19.5
comp=Z,160nm,21.3s,baz=69,slow=29
CLL **Collm** 80.61 25 *i* P P 05 14 03.9 +0.4
comp=Z,8.0nm,1.2s
CLL *ex* x 05 14 15.0
NACGM **Naroch** 80.86 15 *eP* P 05 14 04.5 -0.2
baz=340
ZALV **Zalesovo Beam** 80.93 342 P P 05 14 05.0 -0.1
comp=Z,0.4nm,0.4s,baz=44,slow=8.6,SNR=1.5
comp=Z,0.4nm,0.4s
ZALV **Zalesovo Beam** 80.93 342 P P 05 14 04.1 -1.0
BRG **Berggiesshubel** 81.28 24 *eP* P 05 14 08.0 +0.9
BRG Amp 05 14 10.1
comp=Z,9.5nm,1.1s
BRG *ex* x 05 14 19.9
BRG Amp 05 14 20.7
comp=Z,4.7nm,0.9s
NKC **Novy Kostel** 81.36 25 AMS AMS 06 13 10.0
comp=Z,1μm,16.7s
VILB **Vilhena** 81.43 116 P P 05 14 07.3 -1.0
VILB IAmb IAmb 05 14 16.7
comp=Z,29nm,0.8s
VILB **Vilhena** 81.43 116 *eP* P 05 14 09.3 +0.9
MNK **Minsk** 81.45 15 *i* P P 05 14 06.3 -1.6
comp=E,2.0nm,0.9s
MNK *i* P P 05 14 06.3 -1.6
MNK *i* P P 05 14 06.3 -1.6
comp=Z,17nm,0.7s,baz=161
MNK *i* PP PP 05 17 10.1 -3.0
MNK *i* PPP PPP 05 18 52.0
MNK *i* S S 05 24 15.6 -2.7
MNK *i* SS SS 05 29 35.0 +1.8
MNK *i* SSS SSS 05 32 54.6
PVCC **Panska Ves** 81.77 24 AMS AMS 06 09 20.0
comp=Z,700nm,18.0s
CHVC **Chvalec** 82.16 23 *eP* P 05 14 11.9 +0.1
CHVC AMS AMS 06 02 00.0
comp=Z,900nm,22.1s
UPC **Upice** 82.22 23 AMS AMS 06 02 10.0
comp=Z,900nm,19.7s
PRU **Pruhonice** 82.24 24 AMS AMS 06 08 40.0
comp=Z,800nm,16.8s
OSTC **Ostas** 82.24 23 *eP* P 05 14 12.9 +0.8
OSTC *eP* P 05 14 13.0 +0.8
OSTC AMS AMS 06 01 50.0
comp=Z,1μm,22.5s
GOPC **GO Pecny, Ondr** 82.38 24 AMS AMS 06 06 20.0
comp=Z,900nm,20.5s
DPC **Dobruska-Polom** 82.45 23 *eP* P 05 14 13.9 +0.6
DPC *ep*P *pP* 05 14 18.3 +0.5
DPC AMS AMS 06 01 50.0
comp=Z,600nm,17.4s
HHC **Hu-ho-hao-te** 82.51 320 *eP* P 05 14 13.0 -0.9
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.8s
TMAB **Tom-Au,PA,Br** 82.67 100 *eP* P 05 14 14.9 0.0
KHC **Kasperske Hory** 82.69 25 *eP* P 05 14 14.5 -0.1
KHC AMS AMS 06 09 50.0
comp=Z,1μm,17.6s
KRLC **Kraliky** 82.83 23 *eP* P 05 14 14.2 -1.1
KRLC AMS AMS 06 05 30.0
comp=Z,500nm,16.9s
PDRB **Porto dos Gac** 82.84 112 *eP* P 05 14 15.7 -0.1
CLDB **Colider** 82.97 111 *eP* P 05 14 16.3 -0.1
GERES **GERESS Array B** 82.97 25 P P 05 14 16.5 +0.4
comp=Z,0.7nm,0.7s,baz=346,slow=4.8,SNR=8.5
comp=Z,0.7nm,0.7s
DAVA **Damuels** 83.03 28 *eP* P 05 14 17.7 +1.2
comp=Z,3.8nm,0.9s
LVC **Limon Verde** 83.13 129 *eP* P 05 14 17.2 -0.3
TREC **Trest** 83.14 24 AMS AMS 06 02 50.0
comp=Z,1μm,18.7s
MORC **Moravsky Berou** 83.32 23 *eP* P 05 14 18.7 +0.9
ESDC **Sonseca Array** 83.33 41 P P 05 14 18.5 +0.4
comp=Z,1.1nm,0.9s,baz=307,slow=5.4,SNR=7.4
comp=Z,1.1nm,0.9s
OKC **Ostrava-Krasne** 83.44 22 AMS AMS 06 09 30.0
comp=Z,700nm,21.7s
VRAC **Vranov** 83.46 24 *eP* P 05 14 19.1 +0.6
OJC **Ojcow** 83.55 21 IAmb IAmb 05 14 19.2
comp=Z,8.8nm,1.1s
SQTA **Sankt Quirin** 83.55 28 *eP* P 05 14 20.5 +1.3
comp=Z,4.1nm,1.2s
KRUC **Moravsky** 83.62 24 *eP* P 05 14 19.8 +0.5
MAUC **Maruska** 83.77 23 *eP* P 05 14 21.1 +0.9
MAUC *ex* x 05 14 32.2
MAUC AMS AMS 06 03 00.0
comp=Z,1μm,24.7s
PTLB **Pontes e Lacer** 83.94 117 *eP* P 05 14 20.8 -0.5
MOA **Molln** 84.03 26 *eP* P 05 14 22.0 +0.5
comp=Z,7.1nm,1.6s
JAVC **Velka Javorina** 84.18 23 *eP* P 05 14 24.0 +1.7
BRVK **Borovoye** 84.39 350 P P 05 14 22.1 -1.0
BRVK IAmb IAmb 05 14 30.8
comp=Z,7.9nm,0.9s
ABTA **Abfaltersbach** 84.41 27 *eP* P 05 14 25.0 +1.5
comp=Z,4.6nm,1.0s
LANS **Liptovska Anna** 84.43 22 *eP* P 05 14 25.2 +1.7
CONA **Conrad Observa** 84.47 25 *eP* P 05 14 24.8 +1.0
comp=Z,6.5nm,1.0s,SNR=6.1
MODS **Modra-Piesok** 84.50 24 *eP* P 05 14 25.2 +1.3
HNR **Honiara** 84.51 252 LR LR 05 46 40.2
comp=Z,1μm,18.9s,baz=36,slow=32
RONA **Rosalia, Austr** 84.80 24 *eP* P 05 14 26.7 +1.2
comp=Z,3.5nm,0.9s
VYHS **Vyhne** 84.85 23 *eP* P 05 14 26.1 +0.5
ARSA **Arzberg** 84.96 25 *eP* P 05 14 27.3 +1.1
comp=Z,6.3nm,0.9s,SNR=9.1
NJ2 **Nanjing** 85.25 309 *eP* P 05 14 30.0 +2.1
NJ2 pmax pmax
comp=Z,19nm,0.5s
OBKA **Obir** 85.30 26 *eP* P 05 14 28.5 +0.5
comp=Z,9.9nm,0.8s,SNR=4.5
SOKA **Soboth** 85.31 26 *eP* P 05 14 28.6 +0.5
comp=Z,6.2nm,0.9s
AKASG **Malin Array Be** 85.32 15 P P 05 14 27.4 -0.4
comp=Z,5.5nm,0.8s,baz=349,slow=4.2,SNR=24
comp=Z,5.5nm,0.8s
AKBB **Malin Array Si** 85.32 15 P P 05 14 27.4 -0.4
AKBB IAmb IAmb 05 14 28.4
comp=Z,10nm,0.9s
AK05 **Malin Array Si** 85.39 15 P P 05 14 27.1 -1.1
AK05 IAmb IAmb 05 14 28.7
comp=Z,9.8nm,0.9s
PSZ **Piszkesteto** 85.67 22 P P 05 14 28.8 -1.1
PSZ IAmb IAmb 05 14 31.9
comp=Z,15nm,1.2s
ROSB **Rosrio** 85.95 97 *eP* P 05 14 29.8 -1.8
SALV **Santo Antonio** 86.57 115 *eP* P 05 14 34.6 +0.1
SNDB **Serra Nova Dou** 86.89 109 *eP* P 05 14 35.5 -0.6
MKAR **Makanchi Array** 88.18 341 P P 05 14 42.0 +0.1
comp=Z,0.4nm,0.7s,baz=46,slow=4.2,SNR=4.4
comp=Z,0.4nm,0.7s
DZM **Mont Dzumac** 89.01 239 *eLR* LR 05 43 05.6
comp=Z,176nm,22.1s
ABKAR **Akbulak array** 89.10 356 P P 05 14 45.9 -0.3
WMQ **Urumqi** 89.45 336 *eP* P 05 14 49.8 +1.7
WMQ LR LR
comp=Z,380nm,19.7s
WMQ LR LR
comp=Z,330nm,16.1s
WMQ LR LR
comp=Z,270nm,19.7s
LZH **Lanzhou** 89.96 322 *eP* P 05 14 54.4 +3.7
LZH pP sP 05 14 57.9 +1.1
LZH pmax pmax
comp=Z,15nm,0.9s
BDFB **Brasilia** 91.71 109 *eP* P 05 14 58.0 -0.9
SDBA **SAO DESIDERIO** 91.75 105 *eP* P 05 14 58.4 -0.6
PMG **Port Moresby** 93.78 261 LR LR 05 56 09.6
comp=Z,110nm,18.2s,baz=118,slow=35
CD2 **Chengdu** 94.23 319 *eP* P 05 15 09.0 -1.4
PZH **PanZhiHua** 98.85 318 P P 05 15 30.5 -1.0
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.5s

MAN 25 05:05:53.5,6.67N×126.58E,h27km,mb4.4,ML3.3,MS3.1,
2C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.43**	**311**	*e*P		Pn	05 06 03.8	-0.1
MATI				*e*S		Sn	05 06 12.0	+1.1
DDMP	**Don Marcelino,**	**1.03**	**237**	*e*P		Pn	05 06 11.3	-0.8
DDMP				*e*S		Sb	05 06 26.3	+0.4
KCP	**Kidapawan**	**1.52**	**283**	*i*P		Pn	05 06 18.5	-0.5
KCP				*i* S		Sn	05 06 38.5	+0.6
BIPH	**Bislig**	**1.52**	**352**	*e*P		Pn	05 06 18.2	-0.8
BIPH				*e*S		Sn	05 06 37.2	-0.8
TABP	**Talibon, Bohol**	**4.07**	**327**	*e*P		Pn	05 06 45.2	-8.8
TABP				*e*S		Sn	05 07 40.2	-0.5

*IDC **25** 05:07:51.5±3.0,32.°41S×178.°27W,h0km,mb3.8/3,*
mbtmp3.9/4,ML3.6/1,Error ellipse: s-maj=71.3km
s-min=44.2km az=129.0
ISC 25 05:07:57.9±2.8,32.°6S±0.°2×178.°5W±0.°4,h33km,n5,
σ06.42/6,mb3.8/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.69**	**211**	Pn		**Pn**	**05 09 33.7**	**-0.1**
	1.2nm,0.3s,baz=124,slow=11,SNR=1.6						
URZ				Sn		**Sn**	**05 10 49.0**	**+0.2**
	1.3nm,0.3s,baz=215,slow=20,SNR=6.9						
	37nm,1.2s						
STKA	**Stephens Creek**	**33.62**	**260**	P		**P**	**05 14 34.9**	**-0.5**
	1.3nm,0.7s,baz=108,slow=20,SNR=1.8						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**42.61**	**270**	P		**P**	**05 15 51.6**	**+0.4**
	0.4nm,0.4s,baz=108,slow=7.6,SNR=6.2						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**43.80**	**275**	P		**P**	**05 16 01.1**	**+0.3**
	0.8nm,0.4s,baz=113,slow=7.8,SNR=20						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**147.04**	**338**	PKPbc		**PKPdf**	**05 27 34.4**	**0.0**
	0.8nm,0.5s,baz=38,slow=3.4,SNR=8.4						

*ARE **25** 05:09:02±2.1,5.°56S±0.°09×81.°2W±0.°1,h41km±7km,ML4.2,*
mb4.1/3(NEIC),Error ellipse: s-maj=16.5km s-min=12.1km
az=74.0
NEIC 25 05:08:58.8±2.0,5.°69S±0.°10×81.°4W±0.°1,h32km±15km,
Error ellipse: s-maj=20.7km s-min=14.2km az=82.0,
Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCRA	**Macar, Loja**	**1.95**	**48**		Pn	05 09 28.2	-1.5
MCRA				Sn	Sn	05 09 53.7	+0.4
ARNL	**Arenillas**	**2.51**	**32**		Pn	05 09 37.7	+0.3
BOSC	**San Juan Bosco**	**3.84**	**49**		Pn	05 09 55.7	-0.2
COHC	**Cochanay**	**3.85**	**34**		Pn	05 09 56.0	+0.1
CHSH	**Refugio Sur-Vo**	**4.88**	**31**	Pn	Pn	05 10 08.1	-2.4
PORT	**Chimborazo Vol**	**4.95**	**32**		Pn	05 10 10.1	-1.4
SLOR	**San Lorenzo -**	**5.72**	**31**	Pn	Pn	05 10 21.0	-1.0
OTAV	**Otavalo**	**6.59**	**27**	Pn	Pn	05 10 33.0	-0.9
CZSB	**Cruzeiro do Su**	**8.88**	**104**	Pn	Pn	05 11 04.8	-0.1
ROSC	**El Rosal**	**12.63**	**34**	Pn	Pn	05 11 54.5	-2.2
SRBA	**San Rafael, Bu**	**14.95**	**352**	Pn	Pn	05 12 28.7	+0.6
RGM0	**Gandoca**	**15.23**	**355**	Pn	Pn	05 12 31.8	+0.2
RGM0				IAmb	IAmb	05 12 37.5	
	comp=Z,46nm,0.8s						
ETMB	**Extrema**	**15.60**	**106**	P	P	05 12 38.7	-1.7
ETMB				IAmb	IAmb	05 12 44.4	
	comp=Z,4.5nm,0.9s						
CPUP	**Villa Florida**	**30.82**	**134**	P	P	05 15 11.4	-0.5
CPUP				IAmb	IAmb	05 15 13.6	
	comp=Z,5.5nm,1.5s						

*IDC **25** 05:13:33.9±6.1,5.°23S×145.°67E,h60km±57km,mb4.3/3,*
mbtmp4.5/6,ML3.1/2,Error ellipse: s-maj=54.6km
s-min=26.0km az=143.0
*DJA **25** 05:13:38.9±0.6,6.°5S±5.°×14.°7E±2.°1,h192km±17km,M4.4/7,*
mb4.3/7,MLv4.5/2
ISC 25 05:13:39.4±2.5,5.°7S±0.°2×145.°9E±0.°1,h100km,n15,
σ1.962/15,mb4.3/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.94**	**161**	P		**Pn**	**05 14 38.0**	**+0.1**
	11nm,0.3s,baz=31,slow=9.6,SNR=43						
PMG				S		**Sn**	**05 15 23.4**	**+0.3**
	53nm,0.3s,baz=204,slow=20,SNR=5.8						
	30nm,0.3s						
PMG	**Port Moresby**	**3.94**	**161**	P		**Sn**	**05 15 24.0**	**+0.9**
PMG	**Port Moresby**	**3.94**	**161**	P		**Sn**	**05 15 23.6**	**+0.5**
COEN	**Coen**	**8.66**	**198**	P		Pn	05 15 49.2	+7.2
MTSU	**Mount Surprise**	**12.49**	**187**	P		**P**	**05 16 40.2**	**-1.2**
CTA	**Charters Tower**	**14.35**	**178**	P		**P**	**05 17 01.3**	**-0.7**
	0.4nm,0.3s,baz=351,slow=15,SNR=1.9						
	1.0nm,0.4s						
KDU	**Kakadu**	**14.94**	**241**	P		P	05 17 12.3	+3.7
QIS	**Mount Isa**	**16.01**	**202**	P		**P**	**05 17 20.6**	**+0.1**
MTN	**Manton Dam**	**16.19**	**243**	P		P	05 17 27.3	+4.9
WRAB	**Tennant Creek**	**18.07**	**217**	P		**Pn**	**05 17 44.3**	**+0.2**
WRA	**Warramunga Arr**	**18.09**	**217**	P		**Pn**	**05 17 44.3**	**0.0**
	14nm,0.6s,baz=38,slow=11,SNR=154						
WRA				S		**Sn**	**05 21 08.4**	**+2.1**
	0.7nm,0.7s,baz=40,slow=18,SNR=3.8						
KNRA	**Kununurra**	**19.51**	**238**	P		**Pn**	**05 18 03.4**	**+2.2**
ASAR	**Alice Springs**	**21.29**	**212**	P		**P**	**05 18 17.4**	**-0.6**
	14nm,0.9s,baz=48,slow=8.7,SNR=62						
ASAR				S		**S**	**05 22 05.4**	**-3.7**
	1.0nm,0.8s,baz=31,slow=18,SNR=6.7						
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.30**	**236**	P		**P**	**05 18 37.6**	**-1.0**
	12nm,0.5s,baz=360,slow=5.1,SNR=50						
	12nm,0.5s						
STKA	**Stephens Creek**	**26.39**	**188**	P		**P**	**05 19 08.5**	**+1.9**
	3.2nm,0.5s,baz=353,slow=9.2,SNR=12						
	3.2nm,0.5s						

*MAN **25** 05:31:33.1,6.°61N×126.°58E,h33km,mb4.8,ML3.7,MS3.6*
*IDC **25** 05:31:34.2±1.9,6.°66N×126.°71E,h69km±15km,mb3.9/10,*
mbtmp4.3/13,MS4.1/1,Error ellipse: s-maj=29.8km
s-min=11.0km az=61.0
*DJA **25** 05:31:34.9±0.6,7.°N±5.°×12.°7E±.°,h81km±4km,M4.9/31,*
mB5.4/12,mb4.8/31,MLv5.0/9,Mw(mB)4.9/12
*NEIC **25** 05:31:35.1±1.0,6.°6N±0.°1×126.°5E±0.°1,h73km±9km,*
mb4.3/19,Error ellipse: s-maj=21.7km s-min=10.0km
az=221.0
ISC 25 05:31:34.8±0.8,6.°51N±0.°04×126.°53E±0.°06,h67km±7km,
n94,σ2.908/111,mb4.3/22,8C-6D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.51**	**328**	*e*P		**Pn**	**05 31 44.1**	**-3.3**
MATI				*e*S		**Sn**	**05 31 52.3**	**-4.3**
DDMP	**Don Marcelino,**	**0.91**	**243**	*e*P		**Pn**	**05 31 51.5**	**-0.4**
DDMP				*e*S		**Sn**	**05 32 05.9**	**+1.2**
DAV	**Davao City (W)**	**1.09**	**300**	P		**Pn**	**05 31 54.0**	**-0.3**
	2μm,0.3s,baz=224,slow=1.5,SNR=50						
DAV				LR		LR	05 31 59.9	
	comp=Z,208nm,19.2s,baz=321,slow=22						
DAV				S		**Sn**	**05 32 11.0**	**+2.1**
	4μm,0.6s,baz=257,slow=19,SNR=7.8						
DAV	**Davao City (W)**	**1.09**	**300**			**Pn**	**05 31 53.8**	**-0.6**
DAV					Sn	**Sn**	**05 32 07.6**	**-1.3**
DAV	**Davao City (W)**	**1.09**	**300**	P		**Pn**	**05 31 54.2**	**-0.1**
KCP	**Kidapawan**	**1.51**	**289**	*i*P		**Pn**	**05 31 57.8**	**-2.0**
KCP				*i* S		**Sn**	**05 32 18.9**	**+0.1**
BIPH	**Bislig**	**1.67**	**354**	*i*P		**Pn**	**05 31 59.0**	**-2.9**
BIPH				*i* S		**Sn**	**05 32 19.4**	**-3.1**
SKMP	**Bagumbayan, Su**	**1.97**	**270**	*e*P		**Pn**	**05 32 05.2**	**-0.8**
SKMP				*e*S		**Sn**	**05 32 29.6**	**-0.2**
CTBH	**Cotabato--PC H**	**2.37**	**287**	*i*P		**Pn**	**05 32 10.7**	**-0.7**
CTBH				*i* S		**Sn**	**05 32 43.3**	**+3.8**
BUTP	**Butuan**	**2.60**	**340**	*e*P		**Pn**	**05 32 10.2**	**-4.3**
BUTP				*e*S		**Sn**	**05 32 52.3**	**+7.3**
CGP	**Cagayan de Oro**	**2.65**	**317**	*e*P		**Pn**	**05 32 17.4**	**+2.2**
CGP				*e*S		**Sn**	**05 32 45.8**	**-0.5**
SGSI	**Sangihe**	**2.98**	**200**	P		**Pn**	**05 32 21.6**	**+1.9**
GLSP	**General Luna,**	**3.27**	**353**	*e*P		**Pn**	**05 32 26.6**	**+2.9**
GLSP				*e*S		**Sn**	**05 33 06.9**	**+5.4**
PAGZ	**Pagadian**	**3.39**	**293**	*e*P		**Pn**	**05 32 25.1**	**-0.2**
SCPH	**Surigao**	**3.41**	**342**	*e*P		**Pn**	**05 32 29.9**	**+4.4**
SCPH				*i* S		**Sn**	**05 33 11.3**	**+6.6**
DCPH	**Dipolog City**	**3.76**	**303**	*i*P		**Pn**	**05 32 27.2**	**-3.1**
GHBP	**Garcia Hernand**	**3.79**	**325**	*i*P		**Pn**	**05 32 31.7**	**+0.9**
GHBP				*i* S		**Sn**	**05 33 15.6**	**+1.5**
MSLP	**Maasin**	**3.96**	**335**	*e*P		**Pn**	**05 32 34.1**	**+1.1**
TBP	**Tagbilaran**	**4.12**	**320**	*e*P		**Pn**	**05 32 34.6**	**-0.6**
TBP				*i* S		**Sn**	**05 33 18.6**	**-3.5**
TABP	**Talibon, Bohol**	**4.17**	**329**	*i*P		**Pn**	**05 32 35.6**	**-0.3**
TABP				*i* S		**Sn**	**05 33 21.6**	**-1.7**
LLP	**Lapu-Lapu**	**4.55**	**326**	*e*P		**Pn**	**05 32 41.5**	**+0.3**
LLP				*i* S		**Sn**	**05 33 33.0**	**+0.2**
TNTI	**Ternate**	**5.76**	**172**	Pn		Pn	**05 32 59.4**	**+1.6**
TNTI	**Ternate**	**5.76**	**172**	P		**Pn**	**05 32 59.8**	**+2.0**
	0.7nm3μm154nm,0.8s						
TNTI	**Ternate**	**5.76**	**172**	P		**Pn**	**05 33 01.4**	**+3.6**
KMSI	**Cibinong**	**6.42**	**203**	P		**Pn**	**05 33 08.7**	**+1.9**
	1.1nm277nm,0.6s						
GTOI	**Gorontalo**	**6.81**	**211**	P		**Pn**	**05 33 13.6**	**+1.5**
	0.9nm2μm260nm,0.9s						
LBMI	**Labuha**	**7.17**	**172**	P		**Pn**	**05 33 19.4**	**+2.4**
	0.3nm1μm85nm,0.6s						
MRSI	**Marisa**	**7.54**	**218**	P		**Pn**	**05 33 23.9**	**+1.8**
	1.0nm2μm191nm,1.1s						
TOLI2	**Tolitoli**	**7.85**	**227**	Pn		Pn	**05 33 24.9**	**-1.5**
LUWI	**Luwuk**	**8.39**	**207**	Pn		Pn	**05 33 35.3**	**+1.5**
LUWI	**Luwuk**	**8.39**	**207**	P		Pn	**05 33 35.2**	**+1.5**
	4μm251nm,1.1s						
LUWI	**Luwuk**	**8.39**	**207**	P		**Pn**	**05 33 38.3**	**+4.6**
SANI	**Sanana**	**8.52**	**184**	P		**Pn**	**05 33 35.0**	**-0.5**
	2μm76nm,0.8s						
SIJI	**Sorong**	**8.73**	**147**	P		**Pn**	**05 33 38.7**	**+0.4**
	8.2nm,0.3s,baz=206,slow=22,SNR=4.2						
APSI	**Ampana**	**8.84**	**214**	P		**Pn**	**05 33 42.1**	**+2.3**
	1μm108nm,0.7s						
MPSI	**Mapaga**	**9.02**	**227**	P		**Pn**	**05 33 44.2**	**+1.8**
	13nm,0.7s						
NLAI	**Namlea**	**9.70**	**177**	P		**Pn**	**05 33 51.5**	**-0.2**
	3μm64nm,0.7s						
FAKI	**Fak Fak**	**10.97**	**148**	Pn		**Pn**	**05 34 09.4**	**+0.3**
TTSI	**Tana Toraja**	**11.62**	**215**	P		**Pn**	**05 34 19.6**	**+1.7**
	2μm86nm,1.1s						
SPSI	**Sidrap Palu**	**12.40**	**213**	P		**Pn**	**05 34 30.3**	**+1.7**
	8μm17nm,1.1s						
KAPI	**Kappang**	**13.30**	**211**	P		**Pn**	**05 34 42.2**	**+1.5**
	20nm,0.6s,baz=5.3,slow=9.6,SNR=14						
KAPI	**Kappang**	**13.30**	**211**	Pn		**Pn**	**05 34 41.8**	**+1.0**
KAPI	**Kappang**	**13.30**	**211**	P		**Pn**	**05 34 43.3**	**+2.6**
BKSI	**Bulukumba**	**13.38**	**209**	P		**Pn**	**05 34 43.8**	**+2.0**
	14nm,0.7s						
SBUM	**Sibu**	**14.82**	**255**			**Pn**	**05 35 00.1**	**-0.7**
EDFI	**Ende, Flores**	**15.91**	**198**	P		**Pn**	**05 35 15.5**	**+0.7**
	16nm,0.7s						
BATI	**Baumata**	**16.85**	**190**	P		**P**	**05 35 28.6**	**+1.0**
	44nm,0.5s,baz=230,slow=4.4,SNR=6.1						
BATI	**Baumata**	**16.85**	**190**	P		**P**	**05 35 27.6**	**0.0**
	50nm,0.6s						
PLAI	**Plampang**	**17.56**	**210**	P		**P**	**05 35 36.1**	**+0.7**
	45nm,0.8s						
PLAI	**Plampang**	**17.56**	**210**	P		**P**	**05 35 38.8**	**+3.4**
TWSI	**Taliwang, Sumb**	**17.95**	**213**	P		**P**	**05 35 39.6**	**0.0**
	26nm,1.1s						
MTN	**Manton Dam**	**19.77**	**167**	P		**P**	**05 35 59.7**	**+0.2**
MTN				IAmb	IAmb	05 36 09.5	
	comp=Z,16nm,0.5s						
MTN	**Manton Dam**	**19.77**	**167**	P		**Pn**	**05 36 01.0**	**-0.6**
KDU	**Kakadu**	**19.97**	**163**	P		**P**	**05 36 02.8**	**+1.1**
KNRA	**Kununurra**	**22.16**	**174**	P		**P**	**05 36 26.1**	**+0.8**
KNRA	**Kununurra**	**22.16**	**174**	P		**P**	**05 36 26.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.47**	**182**	P		**P**	**05 36 48.2**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=91,slow=22,SNR=21						
	comp=Z,7.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.47**	**182**	P		**P**	**05 36 48.1**	**+0.5**
FITZ				IAmb	IAmb	05 36 51.0	
	comp=Z,8.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.47**	**182**	P		**P**	**05 36 48.2**	**+0.5**
WB0	**Warramunga Arr**	**27.24**	**164**	P		**P**	**05 37 08.7**	**-4.0**
WB0				IAmb	IAmb	05 37 31.0	
	comp=Z,6.6nm,0.7s						
WRAB	**Tennant Creek**	**27.38**	**164**	P		**P**	**05 37 14.0**	**0.0**
WRAB				IAmb	IAmb	05 37 19.9	
	comp=Z,4.3nm,0.6s						
WRA	**Warramunga Arr**	**27.39**	**164**	P		**P**	**05 37 13.8**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=344,slow=10,SNR=22						
WRA				ScP		**ScP**	**05 44 05.8**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=348,slow=3.0,SNR=9.7						
	comp=Z,2.2nm,0.7s						
WB2	**Warramunga Arr**	**27.39**	**164**	P		**P**	**05 37 13.7**	**-0.5**
WB2				IAmb	IAmb	05 37 19.7	
	comp=Z,5.2nm,0.6s

	comp=Z,2.0nm,0.4s							
PZH	**PanZhiHua**	**30.86**	**313**	P	**P**	05 37 46.8	**+1.8**	
PZH				pmax	pmax			
	comp=Z,9.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							
LZH	**Lanzhou**	**36.03**	**328**	*e*P	P	05 38 35.8	+5.9	
LZH				pP	pP	05 38 42.8	-3.5	
LZH				sP	sP	05 38 46.8	-7.3	
LZH				pmax	pmax			
	comp=Z,13nm,1.0s							
HHC	**Hu-ho-hao-te**	**36.71**	**341**	*e*P	**P**	**05 38 35.6**	**0.0**	
HHC				pmax	pmax			
	comp=Z,45nm,0.9s							
HHC				pmax	pmax			
	comp=Z,170nm,5.7s							
BBOO	**Buckleboo**	**40.14**	**168**	P	**P**	**05 39 04.9**	**+0.6**	
NWAO	**Narrogin (SRO)**	**40.21**	**192**	P	**P**	**05 39 05.1**	**+0.3**	
GTA	**Gaotai**	**40.64**	**328**	*e*P	**P**	**05 39 10.3**	**+1.8**	
GTA				pP	sP	05 39 33.6	+0.8	
GTA				sP	pP	05 39 44.1	+19	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
STKA	**Stephens Creek**	**40.79**	**160**	P	**P**	**05 39 09.7**	**0.0**	
	comp=Z,5.3nm,0.6s,baz=334,slow=8.1,SNR=13							
	comp=Z,5.3nm,0.6s							
STKA	**Stephens Creek**	**40.79**	**160**	P	**P**	**05 39 09.9**	**+0.2**	
SONM	**Songino Array**	**44.62**	**341**	P	**P**	**05 39 44.2**	**+3.5**	
	comp=Z,0.3nm,0.4s,baz=150,slow=8.6,SNR=2.7							
WMQ	**Urumqi**	**50.36**	**324**	*e*P	**P**	**05 40 26.0**	**+0.8**	
MK31	**Makanchi Array**	**55.18**	**324**	P	**P**	**05 40 59.1**	**-1.6**	
MK31				IAmb	IAmb	05 41 02.0		
	comp=Z,2.2nm,0.9s							
MKAR	**Makanchi Array**	**55.18**	**324**	P	**P**	**05 40 59.4**	**-1.3**	
	comp=Z,2.1nm,0.6s,baz=123,slow=7.5,SNR=15							
MKAR				PcP	**PcP**	**05 42 00.0**	**-1.0**	
	comp=Z,1.4nm,0.8s,baz=117,slow=3.7,SNR=4.4							
	comp=Z,2.1nm,0.6s							
MKAR	**Makanchi Array**	**55.18**	**324**	P	**P**	**05 40 59.3**	**-1.4**	
ZALV	**Zalesovo Beam**	**58.04**	**332**	P	**P**	**05 41 20.8**	**+0.1**	
	comp=Z,0.6nm,0.5s,baz=123,slow=5.3,SNR=2.3							
	comp=Z,0.6nm,0.5s							
KK31	**Karatay Array**	**61.09**	**316**	P	**P**	**05 41 40.3**	**-1.6**	
KK31				IAmb	IAmb	05 41 59.7		
	comp=Z,3.5nm,1.4s							
KKAR	**Karatay Array**	**61.09**	**316**	P	**P**	**05 41 40.5**	**-1.5**	
DCZ	**Deep Cove**	**63.21**	**149**	P	**P**	**05 41 54.8**	**-1.2**	
ILAR	**Eielson Array**	**82.69**	**26**	P	**P**	**05 43 49.3**	**-1.6**	
	comp=Z,0.3nm,0.6s,baz=227,slow=5.5,SNR=7.8							
	comp=Z,0.3nm,0.6s							
VNDA	**Vanda**	**86.19**	**173**	P	**P**	**05 44 08.0**	**-0.2**	
	comp=Z,0.5nm,0.6s,baz=305,slow=7.4,SNR=4.7							
	comp=Z,0.5nm,0.6s							
VNDA	**Vanda**	**86.19**	**173**	P	**P**	**05 44 08.2**	**-0.1**	
VNDA				IAmb	IAmb	05 44 34.2		
	comp=Z,2.8nm,1.3s							
MAW	**Mawson**	**86.28**	**200**	LR	LR	06 22 03.2		
	comp=Z,81nm,18.4s,baz=170,slow=35							
MAW	**Mawson**	**86.28**	**200**	P	**P**	**05 44 08.6**	**-0.2**	
ARCES	**ARCESS Array B**	**87.78**	**340**	P	**P**	**05 44 14.2**	**-2.0**	
	comp=Z,1.3nm,0.9s,baz=71,slow=3.9,SNR=1.7							
	comp=Z,1.3nm,0.9s							
FINES	**FINESS Array B**	**89.30**	**332**	P	**P**	**05 44 21.5**	**-2.0**	
	comp=Z,2.6nm,0.9s,baz=90,slow=5.7,SNR=4.7							
	comp=Z,2.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**121.83**	**290**	PKP	**PKPdf**	**05 50 21.0**	**-1.3**	
	comp=Z,0.7nm,0.7s,baz=19,slow=1.2,SNR=4.5							

IDC 25 05:31:38.3±8.2, 32°.75S×178°.27W, h0km, mb3.8/2, mbtmp3.8/2, MS3.7/1, Error ellipse: s-maj=386.9km s-min=57.9km az=161.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.81**	**270**	P	P	05 39 36.5	-1.5
	0.5nm,0.4s,baz=109,slow=7.6,SNR=4.3						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**44.01**	**275**	P	P	05 39 49.0	+1.2
	0.8nm,0.4s,baz=114,slow=7.8,SNR=4.8						
	0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.17**	**272**	LR	LR	06 04 03.8	
	comp=Z,71nm,18.2s,baz=87,slow=37						
FINES	**FINESS Array B**	**147.25**	**339**	PKPbc	PKPbc	05 51 22.0	-0.8
	1.2nm,0.7s,baz=43,slow=4.8,SNR=8.7						

NNC 25 05:33:48.6±3.1, 37°.09N×71°.28E, h188km±42km, mb2.8, mpv3.6, 3C-3D, Error ellipse: s-maj=30.9km s-min=17.3km az=28.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.04**	**355**	P	Pn	05 35 16.7	+0.6
	4.0nm,0.4s,baz=175,slow=12,SNR=68						
KK31				S	Sn	05 36 25.6	+0.4
	8.5nm,0.7s,baz=182,slow=22,SNR=16						
CHMS	**Chumysh**	**6.48**	**23**	⇓P	Pn	05 35 20.9	-1.0
	3.1nm,0.7s						
TKM2	**Tokmak 2**	**6.70**	**28**	⇑P	Pn	05 35 24.7	-0.3
	3.6nm,0.9s						
TKM2				⇓S	Sn	05 36 42.3	+1.1
	4.9nm,0.8s						
AB31	**Akbulak array**	**14.69**	**329**	⇑P	P	05 37 08.4	-0.2
	0.8nm,0.7s,baz=145,slow=14,SNR=14						
AB31				⇓S	Sn	05 39 49.1	-2.0
	1.2nm,0.6s,baz=154,slow=23,SNR=4.8						
AKTO	**Aktyubinsk**	**16.39**	**329**	⇑P	Pn	05 37 27.9	-0.1
	3.8nm,0.9s						

*NOU **25** 05:40:09.4, 13°.87S×172°.03W, h95km, MLv3.2/5, Samoa Islands*

IDC 25 05:39:46.0±2.1, 15°.05S×173°.78W, h0km, mb3.9/3, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=118.0km s-min=23.4km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**60**	Pn	Pn	05 40 24.7	+0.2
	121nm,0.3s,baz=190,slow=2.1,SNR=159						
AFI				Sn	Sn	05 40 45.4	-7.6
	262nm,0.3s,baz=257,slow=17,SNR=18						
	334nm,0.4s						
AFI	**Afiamalu**	**2.24**	**60**	P	Pn	05 40 24.3	-0.2
H11S2	**WAKE ISLAND Hy**	**38.47**	**329**	T	T	06 28 06.7	
	baz=149,slow=74,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**38.48**	**329**	T	T	06 28 07.5	
	baz=149,slow=74,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**38.49**	**329**	T	T	06 28 05.8	
	baz=149						
WRA	**Warramunga Arr**	**49.57**	**256**	P	P	05 48 39.6	+0.3
	0.6nm,0.4s,baz=91,slow=6.9,SNR=20						
WRA				PcP	PcP	05 50 00.2	-0.9
	0.3nm,1.1s,baz=93,slow=3.1,SNR=4.9						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**49.87**	**252**	P	P	05 48 41.2	-0.3
	3.2nm,0.8s,baz=90,slow=7.5,SNR=24						
	3.2nm,0.8s						
ILAR	**Eielson Array**	**82.17**	**11**	P	P	05 52 08.2	-0.2
	0.4nm,0.7s,baz=232,slow=4.4,SNR=5.0						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**145.65**	**321**	PKPbc	PKPdf	05 59 26.8	-0.2
	1.7nm,0.9s,baz=34,slow=2.5,SNR=6.3						

MAN 25 05:55:30.3, 6°.56N×126°.61E, h32km, mb4.3, ML3.1, MS2.9, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.51**	**318**	⇑*e*P	Pn	05 55 42.0	+0.6
MATI				*e*S	Sn	05 55 50.9	+1.8
DDMP	**Don Marcelino,**	**1.00**	**243**	⇑*e*P	Pn	05 55 47.8	-0.2
DDMP				*e*S	Sn	05 56 00.4	-0.7
KCP	**Kidapawan**	**1.57**	**286**	⇓*i*P	Pn	05 55 55.3	-0.7
KCP				*i* S	Sn	05 56 14.7	-0.5
BIPH	**Bislig**	**1.63**	**351**	⇓*e*P	Pn	05 55 57.1	+0.4
BIPH				*e*S	Sn	05 56 17.6	+1.0
BUTP	**Butuan**	**2.58**	**338**	⇑*e*P	Pb	05 56 16.8	+0.9
BUTP				*e*S	Sb	05 56 50.5	+3.3
CGP	**Cagayan de Oro**	**2.67**	**315**	⇓*e*P	Pn	05 56 12.5	+1.5
CGP				*e*S	Sn	05 56 34.1	-8.2
TABP	**Talibon, Bohol**	**4.16**	**327**	⇑*i*P	Pn	05 56 33.0	+1.4
TABP				*i* S	Sn	05 57 18.7	-0.6

IDC 25 05:56:34.9±12.0, 15°.66S×165°.27E, h0km, mb3.7/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=218.3km s-min=35.3km az=52.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.47**	**170**	Pn	Pn	05 58 11.7	+0.1
	0.9nm,0.3s,baz=286,slow=23,SNR=27						
DZM				Sn	Sn	05 59 26.5	+0.3
	0.2nm,0.3s,baz=284,slow=18,SNR=2.2						
	3.3nm,0.5s						
STKA	**Stephens Creek**	**26.93**	**229**	P	P	06 02 18.1	+0.1
	1.9nm,0.6s,baz=69,slow=2.9,SNR=4.7						
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**29.73**	**257**	P	P	06 02 42.0	-1.2
	0.1nm,0.4s,baz=88,slow=9.1,SNR=1.5						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**30.54**	**250**	P	P	06 02 51.0	+0.7
	0.7nm,0.6s,baz=79,slow=9.1,SNR=12						
	0.7nm,0.6s						

IDC 25 05:57:12.8±2.8, 32°.46S×178°.30W, h0km, mb4.0/3, mbtmp4.0/4, ML3.7/1, Error ellipse: s-maj=62.5km s-min=45.2km az=130.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.90**	**212**	Pn	Pn	05 58 54.4	-0.8
	1.3nm,0.3s,baz=27,slow=1.4,SNR=2.3						
URZ				Sn	Sn	06 00 10.4	-3.9
	1.4nm,0.3s,baz=352,slow=22,SNR=8.9						
	17nm,0.8s						
CTA	**Charters Tower**	**33.93**	**282**	P	P	06 03 58.4	+0.6
	2.2nm,0.9s,baz=104,slow=8.3,SNR=4.0						
	2.2nm,0.9s						
ASAR	**Alice Springs**	**42.78**	**269**	P	P	06 05 12.2	-0.2
	0.8nm,0.6s,baz=109,slow=7.0,SNR=10						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**43.96**	**274**	P	P	06 05 21.5	-0.4
	1.0nm,0.4s,baz=113,slow=8.0,SNR=36						
	1.0nm,0.4s						
FINES	**FINESS Array B**	**146.97**	**339**	PKPbc	PKPbc	06 16 55.8	-0.8
	2.1nm,0.6s,baz=38,slow=3.2,SNR=11						

*HEL **25** 06:01:14.4±0.1, 67°.84N×20°.19E, h0km, ML1.8, ML2.2(UPP), Explosion*
*IDC **25** 06:01:15.8±1.2, 67°.84N×20°.68E, h0km, mbtmp2.9/4, ML2.0/4, Error ellipse: s-maj=19.2km s-min=6.9km az=119.0*
*KOLA **25** 06:01:16.8, 67°.79N×20°.26E, h0km, ML2.1*

ISC 25 06:01:13.6±0.8, 67°.82N±0°.03×20°.30E±0°.03, h0km, n29, σ1s10/37, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**7**	*i* P	**Pg**	**06 01 16.5**	**+0.4**
KUA				*i* S	**Sg**	**06 01 18.1**	**+0.3**
RATU	**Laukkuluspa**	**0.27**	**270**	*i* P	**Pg**	**06 01 18.4**	**-0.2**
KOVU	**Salmi**	**0.41**	**353**	*i* P	**Pg**	**06 01 21.4**	**+0.1**
NIKU	**Nikkaluokta**	**0.48**	**276**	*i* P	**Pg**	**06 01 22.1**	**-0.7**
LANU	**Lannavaara**	**0.68**	**70**	*e*P	**Pb**	**06 01 27.1**	**-1.2**
DUNU	**Dundret**	**0.71**	**171**	*i* P	**Pb**	**06 01 28.0**	**-0.9**
MASU	**Masugnsbyn**	**0.75**	**119**	*i* P	**Pb**	**06 01 28.7**	**-0.8**
SALU	**Saltoluokta**	**0.82**	**238**	*i* P	**Pg**	**06 01 28.7**	**-0.5**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P	**Pn**	**06 01 37.9**	**+0.3**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P	**Pb**	**06 01 37.1**	**-0.1**
KIF				*e*S	**Sb**	**06 01 52.9**	**-0.3**
KIF				MSG		06 02 00.5	
	comp=Z,13nm,0.2s						
PAJU	**Pajala**	**1.35**	**125**	*e*P	**Pg**	**06 01 38.9**	**-0.5**
HEF	**Hetta**	**1.39**	**63**	*e*P	**Pb**	**06 01 40.1**	**-0.3**
HEF	**Hetta**	**1.39**	**63**	*e*P	**Pn**	**06 01 39.8**	**-0.4**
HEF				*e*S	**Sb**	**06 01 58.5**	**-0.2**
HEF				MSG		06 02 07.9	
	comp=Z,6.0nm,0.2s						
ERTU	**Ertsjaerv**	**1.47**	**149**	*e*P	**Pb**	**06 01 41.2**	**-0.5**
KLF	**Kolari**	**1.53**	**111**	*e*P	**Pg**	**06 01 42.4**	**-0.5**
KTK1	**Kautokeino**	**1.61**	**41**	*e*P	**Pg**	**06 01 44.5**	**0.0**
HARU	**Harads**	**1.69**	**171**	*e*P	**Pb**	**06 01 44.8**	**-0.6**
TRO	**Tromso**	**1.89**	**345**	*e*P	**Pn**	**06 01 47.5**	**+0.5**
TOF	**Tornio**	**2.36**	**136**	*e*PB	**Pb**	**06 01 55.7**	**-1.2**
TOF				MSG		06 02 30.9	
	comp=Z,4.8nm,0.2s						
SGF	**Sodankyl**	**2.41**	**96**	*e*PB	**Pb**	**06 01 56.3**	**-1.5**
SGF				*e*SB	**Sb**	**06 02 28.6**	**+0.5**
SGF				MSG		06 02 33.7	
	comp=Z,4.2nm,0.2s						
RNF	**Rovaniemi**	**2.54**	**116**	*e*PB	**Pb**	**06 01 58.5**	**-1.4**
ARCES	**ARCESS Array B**	**2.56**	**46**	Pn	**Pb**	**06 01 58.3**	**-2.1**
ARCES				Lg	Lg	06 02 31.7	
	comp=Z,0.6nm,0.3s,baz=226,slow=15,SNR=36						
	comp=Z,1.8nm,0.3s,baz=233,slow=25,SNR=19						
	comp=Z,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**2.56**	**46**	P	**Pb**	**06 01 59.1**	**-1.3**
ARCES				S	**Sb**	**06 02 32.1**	**-0.3**
APA0	**Apatity Array**	**4.84**	**87**	P	**Pn**	**06 02 30.1**	**+2.6**
APA0				S	**Sn**	**06 03 25.0**	**+0.8**
LVZ	**Lovozero**	**5.43**	**83**	S	**Sn**	**06 03 39.0**	**+0.2**
TERR	**Teriberka**	**5.62**	**69**	S	**Sn**	**06 03 41.7**	**-1.5**
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**06 02 57.1**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=347,slow=11,SNR=1.7						
FINES				Sn	**Sn**	**06 04 15.2**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=348,slow=20,SNR=1.6						
FINES				Lg	Lg	06 04 48.0	
	comp=Z,0.2nm,0.3s,baz=337,slow=24,SNR=1.8						
	comp=Z,1.1nm,0.8s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**06 03 10.7**	**+1.7**
	baz=45,slow=18,SNR=1.9						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**8.24**	**204**	Pn	**Pn**	**06 03 15.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=12,slow=8.8,SNR=1.3						
HFS				Sn	**Sn**	**06 04 45.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=30,slow=26,SNR=1.4						
	comp=Z,1.0nm,0.6s						

*JMA **25** 06:04:00.0±0.2, 23°.6N±0°.9×122°.2E±°, h19km±3km, MV2.9/9, TAIWAN REGION*
*TAP **25** 06:04:00.7, 23°.60N×121°.78E, h32km, ML3.2, C*

ISC 25 06:04:00.2±0.9, 23°.57N±0°.02×121°.79E±0°.02, h32km±7km, n74, σ0s80/140, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.27**	**300**	*i* P	**Pb**	**06 04 07.6**	**+0.2**
	baz=297						
TEGC				*e*S	**Sn**	**06 04 12.8**	**-0.1**
	baz=297						
HGSD	**Ruisui**	**0.35**	**257**	*e*P	**Pb**	**06 04 08.4**	**-0.1**
	baz=252						
HGSD				*e*S	**Sb**	**06 04 14.2**	**+0.1**
	baz=252						
EGFH	**Guangfu**	**0.35**	**286**	*i* P	**Pb**	**06 04 08.6**	**+0.1**
	baz=286						
EGFH				*e*S	**Sb**	**06 04 14.7**	**+0.6**
	baz=286						
ESL	**Shilin**	**0.41**	**306**	*i* P	**Pb**	**06 04 08.9**	**-0.5**
	baz=304						
ESL				S	**Sb**	**06 04 14.5**	**-1.1**
	baz=304						
EHY	**Hungye**	**0.44**	**261**	P	**Pb**	**06 04 09.9**	**+0.2**
	baz=257						
EHY				*e*S	**Sb**	**06 04 16.2**	**-0.1**
	baz=257						
HWA	**Hwalien**	**0.44**	**337**	P	**Pb**	**06 04 09.8**	**+0.1**
	baz=341						
HWA				*e*S	**Sn**	**06 04 16.8**	**-0.3**
	baz=341						
YULB	**Yu-li**	**0.49**	**249**	*e*P	**Pb**	**06 04 10.6**	**0.0**
	baz=258						
YULB				*e*S	**Sb**	**06 04 18.1**	**+0.4**
	baz=258						
EYUL	**Yuli**	**0.49**	**243**	P	**Pb**	**06 04 11.0**	**+0.5**
	baz=234						
EYUL				S	**Sn**	**06 04 19.0**	**+0.6**
	baz=234						
TWD	**Chiawan**	**0.54**	**340**	P	**Pb**	**06 04 10.9**	**-0.4**
	baz=341						
TWD				S	**Sb**	**06 04 18.4**	**-0.6**
	baz=341						
FULB	**Fuli**	**0.59**	**231**	P	**Pb**	**06 04 11.8**	**-0.4**
	baz=217						
FULB				*e*S	**Sb**	**06 04 20.9**	**+0.4**
	baz=217						
ETL	**Fush Village**	**0.60**	**345**	*e*P	**Pb**	**06 04 11.9**	**-0.6**
	baz=345						
ETL				*e*S	**Sb**	**06 04 19.9**	**-1.0**
	baz=345						
VWDT	**VWDT**	**0.62**	**287**	*e*P	**Pb**	**06 04 12.8**	**+0.1**
	baz=285						
VWDT				S	**Sb**	**06 04 21.4**	**+0.1**
	baz=285						
NACB	**Ninganchiao**	**0.62**	**343**	*e*P	**Pb**	**06 04 12.1**	**-0.7**
	baz=350						
NACB				*e*S	**Sb**	**06 04 20.5**	**-0.9**
	baz=350						
OWD	**Renai**	**0.68**	**304**	P	**Pb**	**06 04 13.4**	**-0.3**
	baz=303						
OWD				*e*S	**Sb**	**06 04 22.1**	**-1.0**
	baz=303						
ETLH	**Xiulin Townshi**	**0.69**	**336**	*e*P	**Pb**	**06 04 13.5**	**-0.5**
	baz=336						
ETLH				*e*S	**Sb**	**06 04 22.4**	**-0.9**
	baz=336						
CHGB	**Renai**	**0.75**	**311**	*e*P	**Pn**	**06 04 14.7**	**0.0**
	baz=310						
CHGB				*e*S	**Sb**	**06 04 24.4**	**-0.5**
	baz=310						
WUSB	**Renai**	**0.75**	**304**	*e*P	**Pn**	**06 04 14.7**	**0.0**
	baz=303						
WUSB				*e*S	**Sb**	**06 04 24.0**	**-0.8**
	baz=303						
WHF	**Hehuan Shan**	**0.75**	**320**	P	Pn	**06 04 14.4**	**-0.5**
	baz=320						
WHF				*e*S	**Sb**	**06 04 24.5**	**-0.7**
	baz=320						
EDH	**Donghe**	**0.75**	**217**	*e*P	**Pn**	**06 04 13.9**	**-0.6**
	baz=208						
EDH				*e*S	**Sb**	**06 04 23.4**	**-1.3**
	baz=208						
YUS	**Yu-Shan**	**0.78**	**264**	P	**Pn**	**06 04 15.5**	**+0.1**
	baz=261						
YUS				*e*S	**Sb**	**06 04 25.5**	**-0.5**
	baz=261						
SSLB	**Suanglung**	**0.80**	**286**	*e*P	**Pn**	**06 04 15.2**	**-0.1**
	baz=284						
SSLB				*e*S	**Sn**	**06 04 25.8**	**-0.3**
	baz=284						
ELDTW	**Lidau**	**0.81**	**242**	*e*P	**Pn**	**06 04 15.0**	**-0.5**
	baz=239						
ELDTW				*e*S	**Sn**	**06 04 25.1**	**-1.4**
	baz=239						
FUSS	**Fushou**	**0.84**	**323**	*e*P	**Pn**	**06 04 16.2**	**+0.1**
	baz=323						
FUSS				*e*S	**Sn**	**06 04 26.8**	**-0.7**
	baz=323						
ENA	**Nanau**	**0.85**	**357**	P	Pn	**06 04 15.8**	**-0.2**
	baz=358						
ENA				S	**Sn**	**06 04 26.7**	**-0.7**
	baz=358						
EWUT	**Wuta**	**0.87**	**359**	*e*P	**Pn**	**06 04 15.1**	**-1.1**
	baz=8.0						
EWUT				*e*S	**Sn**	**06 04 25.9**	**-1.9**
	baz=8.0						
SMLT	**Sun Moon Lake**	**0.88**	**291**	*e*P	**Pn**	**06 04 16.8**	**+0.4**
	baz=295						
SMLT				*e*S	**Sb**	**06 04 28.9**	**+0.4**
	baz=295						
TWT	**Tachien**	**0.88**	**320**	*e*P	**Pn**	**06 04 17.0**	**-0.1**
	baz=311						
TWT				*e*S	**Sn**	**06 04 28.3**	**-0.1**
	baz=311						
LONT	**Longtian**	**0.90**	**223**	*e*P	**Pn**	**06 04 16.0**	**-0.7**
	baz=231						
LONT				*e*S	**Sn**	**06 04 28.4**	**-0.1**
	baz=231						
ALS	**Alishan**	**0.91**	**266**	P	Pn	**06 04 17.7**	**+0.7**
	baz=264						
ALS				S	**Sb**	**06 04 30.0**	**+0.5**
	baz=264						
TYC	**Yuchr**	**0.92**	**291**	*e*P	**Pn**	**06 04 17.3**	**+0.5**
	baz=290						
TYC				*e*S	**Sb**	**06 04 29.7**	**+0.2**
	baz=290						
NNSB	**Datong**	**0.93**	**336**	*e*P	**Pn**	**06 04 17.3**	**+0.2**
	baz=337						
NNSB				*e*S	**Sn**	**06 04 28.8**	**-0.7**
	baz=337						
WCS	**Beigang Elemen**	**0.94**	**301**	*e*P	**Pn**	**06 04 16.8**	**-0.4**
	baz=307						
WCS				*e*S	**Sn**	**06 04 28.3**	**-1.2**
	baz=307						
LDUT	**Ludao**	**0.94**	**198**	*e*P	**Pn**	**06 04 16.6**	**-0.6**
	baz=191						
LDUT				*e*S	**Sn**	**06 04 27.8**	**-1.8**
	baz=191						
LATG	**Datong**	**0.99**	**346**	*e*P	**Pn**	**06 04 17.9**	**-0.1**
	baz=335						
LATG				*e*S	**Sb**	**06 04 31.5**	**-0.2**
	baz=335						
TWGBT	**Beinan**	**1.00**	**221**	*e*P	**Pn**	**06 04 17.4**	**-0.6**
	baz=229						
TWGBT				*e*S	**Sn**	**06 04 31.3**	**+0.3**
	baz=229						
TWG	**Pinlang**	**1.00**	**222**	*e*P	**Pn**	**06 04 17.6**	**-0.4**
	baz=229						
TWG				*e*S	**Sn**	**06 04 31.4**	**+0.4**
	baz=229						
WJS	**Zhushan**	**1.01**	**284**	*e*P	**Pb**	**06 04 20.0**	**+0.9**
	baz=283						
WJS				*e*S	**Sb**	**06 04 33.5**	**+1.4**
	baz=283						
STYH	**Taoyuan**	**1.02**	**247**	*e*P	**Pn**	**06 04 17.9**	**-0.3**
	baz=239						
STYH				*e*S	**Sn**	**06 04 30.9**	**-0.5**
	baz=239						
TWC	**Suao**	**1.03**	**3**	*e*P	**Pn**	**06 04 19.0**	**+0.6**
	baz=11						
TWC				*e*S	**Sn**	**06 04 31.9**	**+0.1**
	baz=11						
WHP	**Taichung City**	**1.05**	**312**	P	Pb	**06 04 19.7**	**-0.2**
	baz=311						
NDT	**Datong Townshi**	**1.06**	**346**	*e*P	**Pn**	**06 04 19.0**	**+0.2**
	baz=335						
NDT				*e*S	**Sn**	**06 04 31.9**	**-0.5**
	baz=335						
WNT	**Mingjian**	**1.06**	**287**	*e*P	**Pb**	**06 04 20.5**	**+0.5**
	baz=286						
WNT				*e*S	**Sb**	**06 04 34.5**	**+0.9**
	baz=286						
ENTT	**Nioudou**	**1.08**	**349**	*e*P	**Pn**	**06 04 18.5**	**-0.6**
	baz=350						
TPUB	**Ta-pu**	**1.10**	**256**	*e*P	**Pb**	**06 04 20.7**	**0.0**
	baz=254						
TPUB				*e*S	**Sb**	**06 04 35.0**	**+0.2**
	baz=254						
WTP	**Ta-pu**	**1.13**	**254**	P	Pb	**06 04 21.1**	**-0.1**
	baz=251						
WTP				*e*S	**Sb**	**06 04 36.1**	**+0.4**
	baz=251						
YHNB	**Yeheng**	**1.16**	**341**	*e*P	**Pn**	**06 04 20.9**	**+0.7**
	baz=342						
YHNB				*e*S	**S

SSD	**Sandimen**	**1.35**	**233**	*eP*		**Pb**	**06 04 24.6**	**-0.3**
	baz=222							
TSMG	**Majia**	**1.36**	**231**	*eP*		**Pb**	**06 04 24.9**	**-0.3**
	baz=221							
JYNG	**Yonagunijimaku**	**1.37**	**50**	*eP*		**Pn**	**06 04 24.0**	**+0.9**
JYNG					*S*	**Sn**	**06 04 41.1**	**+1.0**
TIPB	**Shuangxi**	**1.39**	**1**	*eP*		**Pb**	**06 04 25.2**	**-0.4**
	baz=351							
TIPB					*eS*	**Sn**	**06 04 41.7**	**+0.9**
	baz=351							
YOJ	**Yonaguni jima**	**1.42**	**51**	*eP*		**Pn**	**06 04 24.7**	**+0.9**
	baz=52							
YOJ	**Yonaguni jima**	**1.42**	**51**	P		**Pn**	**06 04 24.9**	**+1.0**
YOJ					*S*	**Sn**	**06 04 42.6**	**+1.2**
MASBT	**Mashibuluo**	**1.43**	**228**	*eP*		**Pn**	**06 04 25.0**	**+1.0**
	baz=219							
TWB1	**Santiao Chiao**	**1.44**	**7**	*eP*		**Pb**	**06 04 25.8**	**-0.6**
	baz=23							
SXI1	**Grass Mountain**	**1.52**	**3**	*eP*		**Pb**	**06 04 26.7**	**-1.1**
	baz=19							
SXI1					*eS*	**Sn**	**06 04 45.0**	**+1.1**
	baz=19							
LAY	**Lan-yu**	**1.54**	**188**	*eP*		**Pn**	**06 04 25.8**	**+0.3**
	baz=188							
LYUB	**Lan-yu**	**1.57**	**187**	*eP*		**Pn**	**06 04 25.2**	**-0.8**
	baz=187							
LYUB					*eS*	**Sn**	**06 04 41.6**	**-3.6**
	baz=187							
YM01	**YM01**	**1.58**	**353**	*eP*		**Pb**	**06 04 28.4**	**-0.5**
	baz=356							
YM01					*eS*	**Sb**	**06 04 46.8**	**-1.6**
	baz=356							
SCZT	**Fangliau**	**1.61**	**222**	*eP*		**Pb**	**06 04 29.6**	**+0.3**
	baz=209							
SCZT					*eS*	**Sb**	**06 04 50.0**	**+0.7**
	baz=209							
TWKBT	**Hengchun**	**1.86**	**209**	*eP*		**Pb**	**06 04 33.1**	**-0.4**
	baz=207							
TWKBT					*eS*	**Sb**	**06 04 55.7**	**-0.7**
	baz=207							
HATJ	**Hateruma jima**	**1.91**	**75**	P		**Pn**	**06 04 31.0**	**+0.6**
HATJ					*S*	**Sn**	**06 04 53.8**	**+0.5**
IRIF	**Iriomote-Funau**	**1.93**	**66**	P		**Pn**	**06 04 31.9**	**+1.2**
IRIF					*S*	**Sn**	**06 04 55.0**	**+1.1**
PNG	**Penghu**	**2.05**	**270**	*eP*		**Pn**	**06 04 34.0**	**+1.5**
	baz=268							
PNG					*eS*	**Sn**	**06 04 58.0**	**+1.0**
	baz=268							
JKRS	**Kuro-shima**	**2.13**	**71**	P		**Pn**	**06 04 34.8**	**+1.2**
JKRS					*S*	**Sn**	**06 04 59.9**	**+0.9**
JIJ	**Ishigaki jima**	**2.29**	**69**	P		**Pn**	**06 04 36.5**	**+0.8**
JIJ					*S*	**Sn**	**06 05 02.3**	**-0.6**
VWUC	**VWUC**	**2.56**	**304**	*eP*		**Pn**	**06 04 40.1**	**+0.6**
	baz=304							
VWUC					*eS*	**Sn**	**06 05 08.8**	**-0.8**
	baz=304							
PTMZ	**Houxiangcun**	**2.84**	**301**	*eP*		**Pn**	**06 04 45.7**	**+2.3**
	baz=301							
PTMZ					*eS*	**Sn**	**06 05 15.9**	**-0.6**
	baz=301							

IDC 25 06:07:09.1±2.8, 32°.63S×178°.11W, h0km, mb3.8/2, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=68.4km s-min=35.3km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.84**	**213**	Pn	Pn	06 08 50.2	-0.4
	0.8nm,0.3s,baz=290,slow=2.6,SNR=6.7						
URZ				Sn	Sn	06 10 10.9	+1.7
	2.4nm,0.3s,baz=241,slow=19,SNR=7.8						
	17nm,1.0s						
ASAR	**Alice Springs**	**42.95**	**269**	P	P	06 15 09.8	-0.2
	0.4nm,0.5s,baz=107,slow=7.6,SNR=9.0						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.14**	**274**	P	P	06 15 19.6	0.0
	1.0nm,0.5s,baz=115,slow=7.4,SNR=29						
	1.0nm,0.5s						
FINES	**FINESS Array B**	**147.19**	**339**	PKPbc	PKPbc	06 26 52.8	-0.7
	2.2nm,0.6s,baz=51,slow=3.5,SNR=17						

IDC 25 06:08:20.4±3.0, 32°.55S×178°.46W, h0km, mb4.2/3, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=63.9km s-min=37.0km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.75**	**211**	Pn	Pn	06 09 59.9	-0.8
	2.1nm,0.3s,baz=344,slow=4.4,SNR=1.4						
URZ				Sn	Sn	06 11 17.1	-1.1
	3.1nm,0.3s,baz=229,slow=20,SNR=2.7						
	5.5nm,0.3s						
CTA	**Charters Tower**	**33.82**	**283**	P	P	06 15 04.2	-0.3
	2.6nm,0.6s,baz=143,slow=10,SNR=4.2						
	2.6nm,0.6s						
ASAR	**Alice Springs**	**42.65**	**269**	P	P	06 16 19.2	+0.3
	0.8nm,0.4s,baz=105,slow=7.2,SNR=9.7						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**43.83**	**275**	P	P	06 16 28.5	0.0
	4.5nm,1.0s,baz=113,slow=7.9,SNR=13						
	4.5nm,1.0s						
FINES	**FINESS Array B**	**147.01**	**338**	PKPbc	PKPbc	06 28 03.4	-0.9
	0.9nm,0.5s,baz=64,slow=3.8,SNR=5.4						

*IDC **25** 06:26:26.7±2.1, 18°.02S×177°.84W, h598km±28km, mb3.2/3, mbtmp4.1/5, Error ellipse: s-maj=118.2km s-min=34.4km az=158.0*
*NEIC **25** 06:26:27.1±0.5, 18°.0S±0°.4×177°.8W±0°.2, h596km±24km, mb4.1/13, Error ellipse: s-maj=62.8km s-min=23.9km az=169.0*

ISC 25 06:26:26.6±1.3, 18°.1S±0°.4×177°.8W±0°.3, h590km, n21, σ0s58/21, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.96**	**275**	P	**P**	**06 27 51.6**	**+0.5**
	2.8nm,0.6s,baz=109,slow=9.0,SNR=7.6						
MSVF	**Nonsavu**	**3.96**	**275**	P	**P**	**06 27 51.9**	**+0.7**
AFI	**Afiamalu**	**7.16**	**55**	P	**P**	**06 28 17.9**	**+0.1**
	12nm,0.4s,baz=229,slow=11,SNR=6.3						
AFI	**Afiamalu**	**7.16**	**55**	P	**P**	**06 28 17.7**	**-0.1**
EIDS	**Eidsvold**	**29.73**	**250**	P	**P**	**06 31 46.7**	**+0.1**
EIDS				IAmb	IAmb	06 32 04.5	
	comp=Z,8.3nm,1.2s						
ARMA	**Armidale**	**30.32**	**240**	P	**P**	**06 31 52.4**	**+0.6**
ARMA				IAmb	IAmb	06 31 53.9	
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**33.97**	**261**	P	**P**	**06 32 22.6**	**-0.1**
CTAO				IAmb	IAmb	06 32 33.2	
	comp=Z,14nm,1.4s						
CAN	**Canberra**	**34.02**	**233**	P	**P**	**06 32 23.5**	**+0.5**
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**06 33 03.6**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=67,slow=13,SNR=4.1						
	comp=Z,2.3nm,0.6s						
STKA	**Stephens Creek**	**39.02**	**242**	P	**P**	**06 33 04.5**	**+0.6**
BBOO	**Buckleboo**	**43.80**	**241**	P	**P**	**06 33 41.5**	**0.0**
WR0	**Warramunga Arr**	**44.96**	**260**	P	**P**	**06 33 50.3**	**-0.4**
WR0				IAmb	IAmb	06 34 26.8	
	comp=Z,5.5nm,1.3s						
WB0	**Warramunga Arr**	**45.12**	**260**	P	**P**	**06 33 51.0**	**-0.9**
WB0				IAmb	IAmb	06 34 23.2	
	comp=Z,4.8nm,1.1s						
WB2	**Warramunga Arr**	**45.14**	**260**	P	**P**	**06 33 51.5**	**-0.5**
WB2				IAmb	IAmb	06 34 06.3	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**06 33 51.1**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=96,slow=7.0,SNR=66						
	comp=Z,1.4nm,0.5s						
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**06 33 51.6**	**-0.5**
AS31	**Alice Springs**	**45.28**	**254**	P	**P**	**06 33 52.9**	**-0.2**
ASAR	**Alice Springs**	**45.28**	**254**	P	**P**	**06 33 52.8**	**-0.3**
	comp=Z,2.9nm,0.4s,baz=88,slow=8.7,SNR=74						
	comp=Z,2.9nm,0.4s						
ASAR	**Alice Springs**	**45.28**	**254**	P	**P**	**06 33 52.0**	**-1.1**
FORT	**Forrest**	**50.43**	**245**	P	**P**	**06 34 30.5**	**-0.7**
KNRA	**Kununurra**	**51.03**	**264**	P	**P**	**06 34 35.8**	**0.0**
KNRA				IAmb	IAmb	06 35 02.0	
	comp=Z,9.6nm,1.4s						

IDC 25 06:38:27.7±4.8, 1°.82S×140°.79E, h0km, mb3.6/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=100.3km s-min=56.2km az=153.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.09**	**199**	P	P	06 42 52.4	+0.3
	0.3nm,0.3s,baz=23,slow=12,SNR=25						
	1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.98**	**222**	P	P	06 43 22.1	-1.4
	1.5nm,0.6s,baz=1.2,slow=5.8,SNR=6.0						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**22.72**	**197**	P	P	06 43 31.6	+0.1
	1.7nm,0.7s,baz=29,slow=10,SNR=30						
	1.7nm,0.7s						
VNDA	**Vanda**	**76.49**	**175**	P	P	06 50 19.5	+0.5
	0.6nm,0.7s,baz=326,slow=7.3,SNR=8.0						
	0.6nm,0.7s						

*IDC **25** 06:40:55.6±1.4, 34°.42N×141°.53E, h0km, mb3.3/3, mbtmp3.2/4, ML1.9/1, MS3.3/1, Error ellipse: s-maj=40.3km s-min=25.8km az=76.0*
*JMA **25** 06:40:55.7±0.4, 35°.N±1°.×14°.2E±°, h24km±2km, MV2.7/30, FAR SE OFF BOSO PEN*

ISC 25 06:40:58.8±1.2, 34°.47N±0°.07×141°.59E±0°.08, h27km, n12, σ1s29/14, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.54**	**291**	P	**Pb**	**06 41 08.1**	**-1.2**
BSO1				X		06 41 18.6	
BSO3	**Boso 3**	**0.95**	**291**	*eP*	**Pb**	**06 41 15.6**	**-0.9**
BSO3				*eS*	**Sb**	**06 41 30.4**	**+1.8**
BSO4	**Boso 4**	**1.16**	**297**	P	**Pn**	**06 41 18.4**	**-0.7**
JKUC	**kamogawauchiur**	**1.34**	**302**	*eS*	**Sn**	**06 41 38.2**	**-0.3**
CHOJ	**Chosi**	**1.37**	**334**	P	**Pn**	**06 41 20.2**	**-1.9**
JMKN	**Mikurajimanish**	**1.75**	**252**	P	**Pn**	**06 41 27.7**	**+0.3**
JMKN				S	**Sn**	**06 41 49.5**	**+0.7**
JHJ2	**Mitsune**	**2.00**	**228**	*eS*	**Sb**	**06 41 56.9**	**-2.0**
MJAR	**Matsushiro Arr**	**3.45**	**308**	Pn	**Pn**	**06 41 50.9**	**+0.1**
	0.1nm,0.3s,baz=121,slow=8.1,SNR=9.3						
MJAR				Sn	**Sn**	**06 42 31.8**	**+1.1**
	0.1nm,0.3s,baz=146,slow=22,SNR=5.1						
	1.2nm,0.5s						
SIJI	**Sorong**	**36.46**	**198**	LR	LR	07 02 41.1	
	comp=Z,38nm,18.3s,baz=120,slow=36						
ILAR	**Eielson Array**	**51.60**	**31**	P	**P**	**06 50 03.5**	**+1.1**
	0.3nm,0.7s,baz=272,slow=6.2,SNR=4.1						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**54.54**	**188**	P	**P**	**06 50 25.6**	**+1.0**
	0.3nm,0.8s,baz=1.4,slow=7.5,SNR=7.2						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**58.27**	**188**	P	**P**	**06 50 51.0**	**-0.1**
	0.3nm,0.8s,baz=0.0,slow=6.6,SNR=2.7						
	0.3nm,0.8s						

IDC 25 06:56:17.0±1.2, 29°.15S×61°.05E, h0km, mb3.7/4, mbtmp3.7/5, ML3.8/1, MS3.6/5, Error ellipse: s-maj=62.8km s-min=26.8km az=26.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.47**	**307**	Pn	Pn	07 00 08.6	-1.1
	baz=103,slow=18,SNR=1.6						
OPO				Sn	Sn	07 03 02.3	-11
	baz=312,slow=17,SNR=5.1						
	1.4nm,0.5s						
H08S1	**Diego Carcia H**	**23.94**	**29**	T	T	07 26 17.2	
	baz=204,slow=76,SNR=8.0						
H08S2	**Diego Garcia H**	**23.95**	**29**	T	T	07 26 18.7	
	baz=204,slow=76,SNR=2.8						
H08S3	**Diego Garcia H**	**23.96**	**29**	T	T	07 26 22.6	
	baz=204,slow=76,SNR=8.3						
ATD	**Arta Tunnel**	**44.10**	**334**	LR	LR	07 20 38.5	
	comp=Z,52nm,18.3s,baz=110,slow=33						
H01W2	**Cape Leeuwin H**	**44.94**	**112**	T	T	07 52 13.6	
	baz=261,slow=75,SNR=34						
H01W3	**Cape Leeuwin H**	**44.94**	**111**	T	T	07 52 13.6	
	baz=261,slow=75,SNR=31						
H01W1	**Cape Leeuwin H**	**44.95**	**112**	T	T	07 52 14.9	
	baz=261,slow=75,SNR=40						
EIL	**Elat**	**53.58**	**335**	LR	LR	07 31 46.9	
	comp=Z,33nm,18.4s,baz=197,slow=34						
VNDA	**Vanda**	**64.07**	**166**	P	P	07 06 52.3	+0.1
	0.4nm,0.8s,baz=252,slow=8.1,SNR=2.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**64.54**	**104**	P	P	07 06 56.1	-0.2
	0.8nm,0.7s,baz=240,slow=6.3,SNR=12						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**66.36**	**100**	P	P	07 07 08.2	+0.1
	0.8nm,0.9s,baz=246,slow=5.6,SNR=5.3						
	0.8nm,0.9s						
STKA	**Stephens Creek**	**67.86**	**115**	LR	LR	07 30 48.8	
	comp=Z,88nm,21.1s,baz=207,slow=30						
TORD	**Torodi Ar. Bea**	**71.05**	**298**	P	P	07 07 37.5	+0.3
	0.8nm,0.8s,baz=113,slow=4.8,SNR=4.7						
	0.8nm,0.8s						
KBZ	**Khabaz**	**74.41**	**346**	LR	LR	07 38 41.9	
	comp=Z,33nm,20.7s,baz=180,slow=34						
DAVOX	**Davos/Dischmat**	**88.57**	**328**	LR	LR	07 52 51.8	
	comp=Z,17nm,18.1s,baz=62,slow=38						

*NOU **25** 06:58:54.9, 37°.21S×179°.66E, h0km, MLv4.5/6, Off E. Coast of N. Island, N.Z.*
*WEL **25** 06:59:03.0±1.3, 37°.S±5°.×17°.9E±°, h12km±5km, M3.2/18, ML3.5/25, MLv3.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=86.5*
*IDC **25** 06:59:03.6±3.2, 37°.08S×178°.50E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=73.4km s-min=29.2km az=118.0*

ISC 25 06:59:01.9±2.4, 37°.25S±0°.07×179°.02E±0°.09, h8km±11km, n63, σ1s03/68, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.64**	**241**	P	**Pg**	**06 59 14.2**	**-0.1**
MXZ				S	**Sg**	**06 59 21.6**	**-1.2**
WMGZ	**Waiomatatini S**	**0.74**	**220**	P	**Pb**	**06 59 18.0**	**+0.9**
WMGZ				S	**Sb**	**06 59 28.4**	**+1.0**
PKGZ	**Pakihiroa**	**0.98**	**229**	P	**Pg**	**06 59 20.8**	**0.0**
PKGZ				S	**Sg**	**06 59 34.4**	**+0.9**
PUZ	**Puketiti**	**1.02**	**216**	P	**Pg**	**06 59 21.9**	**+0.5**
PUZ				S	**Sg**	**06 59 35.6**	**+0.9**
HAZ	**Te Kaha**	**1.10**	**242**	P	**Pg**	**06 59 21.5**	**-1.6**
TWGZ	**Tauwhareparae**	**1.24**	**221**	P	**Pg**	**06 59 25.2**	**-0.4**
TWGZ				S	**Sg**	**06 59 41.6**	**-0.1**
RUGZ	**Raukumara Rang**	**1.28**	**236**	P	**Pg**	**06 59 25.7**	**-0.8**
CNGZ	**Carnagh Statio**	**1.39**	**207**	P	**Pn**	**06 59 27.6**	**0.0**
TKGZ	**Te Karaka**	**1.50**	**218**	P	**Pn**	**06 59 28.3**	**-0.9**
MWZ	**Matawai**	**1.60**	**227**	P	**Pn**	**06 59 30.0**	**-0.6**
RIGZ	**Rimuhau**	**1.76**	**214**	P	**Pn**	**06 59 32.0**	**-0.8**
URZ	**Urewera**	**1.81**	**236**	Pn	**Pn**	**06 59 33.3**	**-0.2**
	26nm,0.3s,baz=322,slow=2.0,SNR=72						
URZ				Sn	**Sn**	**06 59 55.3**	**-1.4**
	31nm,0.3s,baz=338,slow=20,SNR=37						
URZ	**Urewera**	**1.81**	**236**	P	**Pn**	**06 59 33.3**	**-0.2**
URZ				S	**Sn**	**06 59 55.7**	**-1.0**
URZ	**Urewera**	**1.81**	**236**	P	**Pn**	**06 59 33.5**	**0.0**
PRGZ	**Paritu Road**	**1.89**	**208**	P	**Pn**	**06 59 33.8**	**-0.9**
EDRZ	**Edgecumbe**	**2.00**	**244**	P	**Pn**	**06 59 35.9**	**-0.2**
SNGZ	**Shannon Statio**	**2.02**	**220**	P	**Pn**	**06 59 36.4**	**0.0**
OPRZ	**Ohinepanea**	**2.04**	**252**	P	**Pn**	**06 59 35.9**	**-0.7**
KNZ	**Kokohu**	**2.06**	**211**	P	**Pn**	**06 59 35.2**	**-1.7**
RTZ	**Ruatahuna**	**2.11**	**229**	P	**Pn**	**06 59 37.3**	**-0.4**
MUGZ	**Murupara**	**2.16**	**235**	P	**Pn**	**06 59 38.0**	**-0.3**
TARZ	**Mount Tarawera**	**2.22**	**243**	P	**Pn**	**06 59 39.4**	**+0.2**
RAHZ	**Arahi**	**2.25**	**222**	P	**Pn**	**06 59 39.4**	**-0.2**
RRRZ	**Republican Roa**	**2.26**	**241**	P	**Pn**	**06 59 39.6**	**-0.1**
ALRZ	**Allen Road**	**2.49**	**237**	P	**Pn**	**06 59 42.2**	**-0.5**
NMHZ	**Naumai**	**2.54**	**223**	P	**Pn**	**06 59 43.2**	**-0.3**
ARHZ	**Aropaoanui**	**2.56**	**218**	P	**Pn**	**06 59 43.6**	**-0.2**
MRHZ	**Matea Rd**	**2.59**	**232**	P	**Pn**	**06 59 44.0**	**-0.3**
KUZ	**Kuaotunu**	**2.69**	**280**	P	**Pn**	**06 59 45.2**	**-0.3**
BKZ	**Black Stump Fm**	**2.76**	**225**	P	**Pn**	**06 59 45.6**	**-0.9**
BKZ	**Black Stump Fm**	**2.76**	**225**	P	**Pn**	**06 59 45.7**	**-0.9**
TOZ	**Tahuroa Road**	**2.84**	**259**	P	**Pn**	**06 59 47.0**	**-0.5**
MCHZ	**McNeill Hill**	**2.85**	**219**	P	**Pn**	**06 59 46.9**	**-0.8**
KWHZ	**Kaweka Forest**	**2.98**	**222**	P	**Pn**	**06 59 48.3**	**-1.2**
MKAZ	**Moumakai**	**3.08**	**272**	P	**Pn**	**06 59 50.9**	**-0.1**
WIAZ	**Waiheke Island**	**3.14**	**277**	P	**Pn**	**06 59 52.2**	**+0.4**
KRHZ	**Kereru**	**3.17**	**220**	P	**Pn**	**06 59 50.5**	**-1.6**
TMVZ	**Te Maari**	**3.21**	**234**	P	**Pn**	**06 59 52.0**	**-0.7**
ETVZ	**East Tongariro**	**3.21**	**233**	P	**Pn**	**06 59 52.0**	**-0.9**
BHHZ	**Black Hill Sta**	**3.22**	**225**	P	**Pn**	**06 59 51.6**	**-1.3**
OTVZ	**Oturere**	**3.26**	**233**	P	**Pn**	**06 59 52.7**	**-0.8**
ETAZ	**East Tamaki Re**	**3.28**	**274**	P	**Pn**	**06 59 54.1**	**+0.4**
SNVZ	**South Ngauruho**	**3.29**	**233**	P	**Pn**	**06 59 52.8**	**-1.1**
MBAZ	**Motutapu North**	**3.33**	**277**	P	**Pn**	**06 59 55.1**	**+0.7**
MOVZ	**Moawhango**	**3.35**	**229**	P	**Pn**	**06 59 53.5**	**-1.2**
WNVZ	**Wahianoa**	**3.40**	**231**	P	**Pn**	**06 59 55.3**	**-0.1**
AWAZ	**Awhitu Peninsu**	**3.50**	**272**	P	**Pn**	**06 59 57.3**	**+0.7**
HIZ	**Hauiti**	**3.52**	**248**	P	**Pn**	**06 59 57.5**	**+0.5**
HIZ	**Hauiti**	**3.52**	**248**	P	**Pn**	**06 59 57.5**	**+0.5**
RVAZ	**Riverhead Bore**	**3.58**	**276**	P	**Pn**	**06 59 56.7**	**-1.1**
WCZ	**Waipu Caves**	**3.98**	**288**	P	**Pn**	**07 00 02.4**	**-0.9**
WAZ	**Wanganui**	**4.03**	**230**	P	**Pn**	**07 00 03.7**	**-0.3**
BFZ	**Birch Farm**	**4.05**	**211**	P	**Pn**	07 00 01.3	-2.9
BFZ	**Birch Farm**	**4.05**	**211**	P	**Pn**	**07 00 01.7**	**-2.5**
MRZ	**Mangatainoka R**	**4.33**	**217**	P	**Pn**	07 00 05.2	-2.9
OUZ	**Omahuta**	**4.83**	**293**	P	**Pn**	**07 00 14.9**	**0.0**
OUZ	**Omahuta**	**4.83**	**293**	P	**Pn**	**07 00 15.0**	**+0.1**
KHZ	**Kahutara**	**6.66**	**218**	P	**Pn**	**07 00 39.6**	**-0.5**
CTZ	**Chatham Island**	**7.28**	**154**	P	**Pn**	**07 00 48.4**	**-0.2**
WHZ	**Wether Hill Ro**	**11.96**	**220**	P	**Pn**	**07 01 57.0**	**+4.4**
ASAR	**Alice Springs**	**40.81**	**276**	P	**P**	**07 06 44.7**	**+0.6**
	0.1nm,0.6s,baz=125,slow=8.0,SNR=4.4						
	0.1nm,0.6s						
WRA	**Warramunga Arr**	**42.43**	**281**	P	**P**	**07 06 55.4**	**-1.9**
	0.3nm,0.5s,baz=123,slow=7.6,SNR=7.3						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**150.46**	**334**	PKPbc	**PKPbc**	**07 18 55.0**	**+1.8**
	3.4nm,1.1s,baz=17,slow=2.0,SNR=3.6						

*NNC **25** 07:14:13.7±0.3, 50°.00N×78°.83E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=6.5km s-min=1.7km az=74.0, Suspected Mining explosion.*
*IDC **25** 07:14:14.8±1.0, 50°.06N×78°.73E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=13.3km s-min=6.5km az=66.0*

ISC 25 07:14:14.6±0.9, 50°.01N±0°.05×78°.74E±0°.08, h0km, n23, σ0s69/31, 20C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**346**	⇑P	**Pg**	**07 14 25.6**	**-0.4**
KUR07				⇑S	**Sg**	**07 14 34.5**	**+0.9**
KUR06	**Kurchatov Arra**	**0.61**	**347**	⇓P	**Pg**	**07 14 26.0**	**-0.3**
KUR06				⇑S	**Sg**	**07 14 34.8**	**+0.6**
KUR14	**Kurchatov Arra**	**0.61**	**351**	⇑P	**Pg**	**07 14 26.0**	**-0.4**
KUR14				⇓S	**Sg**	**07 14 34.9**	**+0.6**
KUR15	**Kurchatov Arra**	**0.62**	**349**	⇑P	**Pg**	**07 14 26.0**	**-0.5**
KUR15				⇓S	**Sg**	**07 14 34.6**	**+0.1**
KURBB	**Kurchatov Arra**	**0.63**	**348**	Pg	**Pg**	**07 14 25.9**	**-0.7**
	1.9nm,0.3s,baz=166,slow=19,SNR=24						
KURBB				Lg	Lg	07 14 34.4	
	2.8nm,0.3s,baz=166,slow=32,SNR=20						
KURBB	**Kurchatov Arra**	**0.63**	**348**	⇓P	**Pg**	**07 14 26.2**	**-0.4**
	14nm,0.3s						
KURBB				⇓S	**Sb**	**07 14 36.1**	**-1.8**
	85nm,0.5s						
KUR16	**Kurchatov Arra**	**0.64**	**346**	⇓P	**Pg**	**07 14 26.5**	**-0.4**
KUR16				⇑S	**Sg**	**07 14 35.4**	**+0.3**
KUR05	**Kurchatov Arra**	**0.65**	**348**	⇓P	**Pg**	**07 14 26.5**	**-0.5**
KUR05				⇑S	**Sg**	**07 14 35.8**	**+0.4**
KUR17	**Kurchatov Arra**	**0.65**	**344**	⇑P	**Pg**	**07 14 26.4**	**-0.6**
KUR17				⇑S	**Sg**	**07 14 36.2**	**+0.8**
KUR04	**Kurchatov Arra**	**0.67**	**349**	⇑P	**Pg**	**07 14 27.0**	**-0.4**
KUR04				⇓S	**Sg**	**07 14 36.4**	**+0.4**
KURK	**Kurchatov**	**0.71**	**354**	⇑P	**Pg**	**07 14 27.6**	**-0.7**
	4.3nm,0.3s						
KURK				⇑S	**Sg**	**07 14 37.9**	**+0.5**
	7.4nm,0.5s						
MAKZ	**Makanchi**	**3.86**	**145**	⇑Pn	**Pn**	**07 15 15.0**	**-0.3**
	1.2nm,0.8s						
MAKZ				⇑Pg	**Pb**	**07 15 22.9**	**-0.7**
	1.8nm,0.7s						
MAKZ				⇑Lg	Lg	07 16 14.7	
	5.1nm,0.7s						
MK31	**Makanchi Array**	**3.99**	**142**	⇑Pn	**Pn**	**07 15 16.7**	**-0.4**
	0.1nm,0.1s,baz=322,slow=10.0,SNR=7.3						
MK31				⇑Pg	**Pb**	**07 15 26.4**	**+0.6**
	0.5nm,0.4s,baz=327,slow=14,SNR=6.6						
MK31				⇑Lg	Lg	07 16 20.2	
	2.0nm,0.4s,baz=328,slow=26,SNR=9.2						
MKAR	**Makanchi Array**	**3.99**	**142**	Pn	**Pn**	**07 15 18.3**	**+1.2**
	0.2nm,0.3s,baz=322,slow=10,SNR=12						
MKAR				Pg	**Pb**	**07 15 25.8**	**-0.1**
	0.5nm,0.3s,baz=324,slow=15,SNR=9.6						
MKAR				Lg	Lg	07 16 19.1	
	1.1nm,0.3s,baz=326,slow=26,SNR=12						
	0.3nm,0.4s						
OTUK	**Ortayu**	**4.56**	**250**	⇑Pn	**Pn**	**07 15 24.8**	**-0.1**
	0.4nm,0.2s						
OTUK			

VNDA Vanda 81.28 173 P P 07 32 00.9 -1.9
0.2nm,0.3s,baz=326,slow=5.0,SNR=1.8
0.2nm,0.3s

INMG ***25*** *07:33:54.7±2.1, 37°.51N×2°.58W, h12km±3km, MD3.9, ML3.8, Error ellipse: s-maj=2.2km s-min=1.9km az=142.0*
LDG ***25*** *07:33:54.9±0.1, 37°.52N×2°.62W, h2km, Ml3.6/38, Error ellipse: s-maj=2.0km s-min=1.2km az=150.0*
IGIL ***25*** *07:33:54.0, 37°.50N×2°.60W, h2km, ML3.7*
MDD ***25*** *07:33:55.1±0.2, 37°.49N×2°.60W, h12km, mb_Lg3.9/45, Error ellipse: s-maj=1.6km s-min=1.0km az=155.0*
SFS ***25*** *07:33:55.0, 37°.40N×2°.50W, h12km, ML3.7, CANILES (GRANADA)*
CNRM ***25*** *07:33:56.7, 37°.57N×2°.69W, h42km, ml3.5*
ISC 25 07:33:53.5±1.0, 37°.59N±0°.02×2°.65W±0°.02, h12km±8km, n122, σ2ᵗ22/278, 12C-7D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.40**	**302**	⇑Pg	**Pb**	**07 34 03.4**	**+0.8**
EQES				Sg	**Sb**	**07 34 10.6**	**+2.0**
EQES				*i* Vmb_Lg		07 34 15.0	
ENIJ	**Nijar**	**0.71**	**150**	⇓Pg	**Pg**	**07 34 06.4**	**-1.0**
ENIJ				Sg	**Sg**	**07 34 13.8**	**-2.9**
ENIJ				*i* Vmb_Lg		07 34 15.6	
ELOR	**Lorca, Murcia**	**0.72**	**86**	⇑Pg	**Pg**	**07 34 06.2**	**-1.3**
ELOR				Sg	**Sg**	**07 34 16.5**	**-0.3**
ELOR				*i* Vmb_Lg		07 34 19.5	
EBER	**Berja**	**0.72**	**196**	⇑Pg	**Pg**	**07 34 07.0**	**-0.5**
EBER				Sg	**Sg**	**07 34 14.6**	**-2.4**
EBER				*i* Vmb_Lg		07 34 18.7	
EQUE	**Quentar**	**0.74**	**239**	⇑Pg	**Pg**	**07 34 08.1**	**+0.2**
EQUE				Sg	**Sb**	**07 34 19.1**	**+0.6**
EQUE				*i* Vmb_Lg		07 34 20.9	
TLOR	**Lorca, Murcia**	**0.76**	**85**	Pg	**Pg**	**07 34 07.3**	**-1.0**
TLOR				Sg	**Sg**	**07 34 16.6**	**+0.3**
EZAR	**Zarzadilla de**	**0.81**	**69**	⇑Pg	**Pg**	**07 34 06.9**	**-2.2**
EZAR				Sg	**Sg**	**07 34 19.9**	**+0.2**
ELGU	**Los Guajares,**	**1.07**	**228**	⇑Pg	**Pg**	**07 34 13.8**	**-0.2**
ELGU				Sg	**Sg**	**07 34 27.5**	**-0.4**
ELGU				*i* Vmb_Lg		07 34 35.4	
EMUR	**La Murta**	**1.14**	**77**	Pg	**Pg**	**07 34 14.2**	**-1.3**
EMUR				Sg	**Sg**	**07 34 29.8**	**-0.6**
EMUR				*i* Vmb_Lg		07 34 32.9	
EGOR	**Sierra Gorda,**	**1.26**	**248**	Pg	**Pb**	**07 34 17.7**	**+0.5**
EGOR				Sg	**Sn**	**07 34 37.4**	**+3.4**
EGOR				*i* Vmb_Lg		07 34 40.6	
ETOB	**Tobarra**	**1.36**	**39**	⇑Pg	**Pb**	**07 34 20.0**	**+1.1**
ETOB				Sg	**Sg**	**07 34 38.7**	**+1.2**
ETOB				*i* Vmb_Lg		07 34 41.6	
ETRV	**Los Montesinos**	**1.55**	**73**	Pg	**Pn**	**07 34 21.5**	**+0.7**
ETRV				Sg	**Sb**	**07 34 43.6**	**+1.9**
ETRV				*i* Vmb_Lg		07 34 51.5	
EADA	**Adamuz**	**1.63**	**291**	⇓Pg	**Pb**	**07 34 23.2**	**-0.3**
EADA				Sg	**Sg**	**07 34 47.4**	**+1.3**
EADA				*i* Vmb_Lg		07 34 51.5	
EMAL	**Malaga-Limoner**	**1.65**	**240**	P	**Pb**	**07 34 24.2**	**+0.4**
EMAL				S	**Sg**	**07 34 48.8**	**+2.3**
AFON	**Font Roja**	**1.98**	**57**	Pg	**Pn**	**07 34 29.4**	**+2.6**
AFON				Sn	**Sn**	**07 34 52.5**	**+1.0**
AFON				Sg	**Sg**	**07 34 57.4**	**+0.4**
AFON				*i* Vmb_Lg		07 35 18.1	
EMIJ	**Mijas**	**1.99**	**240**	Pn	**Pn**	**07 34 27.9**	**+1.0**
EMIJ				Pg	**Pb**	**07 34 29.7**	**+0.1**
EMIJ				Sg	**Sb**	**07 34 56.1**	**+1.8**
EMIJ				*i* Vmb_Lg		07 35 02.9	
ECAB	**El Cabril**	**2.25**	**283**	⇓Pn	**Pn**	**07 34 31.6**	**+1.1**
ECAB				Sg	**Sg**	**07 35 06.8**	**+1.0**
ECAB				*i* Vmb_Lg		07 35 09.1	
LIJA	**Lijar**	**2.31**	**254**	P	**Pb**	**07 34 34.6**	**-0.5**
LIJA				S	**Sn**	**07 34 59.7**	**+0.1**
ESDC	**Sonseca Array**	**2.32**	**334**	Pn	**Pn**	**07 34 32.8**	**+1.3**
ESDC				Pg	**Pg**	**07 34 38.7**	**+0.7**
ESDC				Sn	**Sn**	**07 35 01.1**	**+1.1**
ESDC				Sg	**Sg**	**07 35 09.4**	**+1.3**
ESDC				*i* Vmb_Lg		07 35 11.1	
PAB	**San Pablo**	**2.36**	**326**	Pn	**Pn**	**07 34 33.3**	**+1.1**
PAB				Pg	**Pg**	**07 34 39.9**	**+1.1**
PAB				Sn	**Sn**	**07 35 02.2**	**+1.1**
PAB				Sg	**Sg**	**07 35 10.8**	**+1.3**
PAB				*i* Vmb_Lg		07 35 14.1	
PAB	**San Pablo**	**2.36**	**326**	P	**Pn**	**07 34 33.5**	**+1.4**
ECHE	**Chera**	**2.39**	**33**	⇑Pn	**Pn**	**07 34 33.9**	**+1.4**
ECHE				Pg	**Pg**	**07 34 39.2**	**-0.1**
ECHE				Sn	**Sn**	**07 35 04.0**	**+2.3**
ECHE				Sg	**Sg**	**07 35 11.5**	**+1.2**
ECHE				*i* Vmb_Lg		07 35 15.6	
PALE	**Palemas**	**2.59**	**204**	P	**Pn**	**07 34 34.4**	**-0.8**
ESPR	**Espera**	**2.66**	**255**	Pn	**Pn**	**07 34 36.7**	**+0.5**
ESPR				Pg	**Pb**	**07 34 41.8**	**+0.8**
ESPR				Sn	**Sn**	**07 35 08.3**	**-0.1**
ESPR				Sg	**Sb**	**07 35 16.2**	**+2.5**
ESPR				*i* Vmb_Lg		07 35 25.9	
UCM	**Universidad Co**	**2.75**	**350**	P	**Pn**	**07 34 40.5**	**+3.0**
UCM				S	**Sn**	**07 35 11.4**	**+0.8**
TAF	**Taforalt**	**2.78**	**176**	P	**Pn**	**07 34 40.0**	**+2.1**
SMIR	**Smir Dam**	**2.91**	**230**	P	**Pn**	**07 34 40.6**	**+1.0**
EMOS	**Mosqueruela**	**3.25**	**31**	⇑Pn	**Pn**	**07 34 46.2**	**+1.8**
EMOS				Pg	**Pb**	**07 34 53.7**	**+2.6**
EMOS				Sn	**Sn**	**07 35 25.3**	**+2.3**
EMOS				Sg	**Sg**	**07 35 36.2**	**-1.6**
EMOS				*i* Vmb_Lg		07 35 48.1	
JBK	**JBK**	**3.25**	**179**	P	**Pn**	**07 34 47.0**	**+2.5**
ETOR	**Torete**	**3.25**	**8**	Pn	**Pn**	**07 34 45.8**	**+1.4**
ETOR				Pg	**Pg**	**07 34 56.0**	**+0.1**
ETOR				Sn	**Sn**	**07 35 22.6**	**-0.5**
ETOR				Sg	**Sg**	**07 35 38.5**	**+0.4**
ETOR				*i* Vmb_Lg		07 35 43.0	
GUD	**Guadarrama**	**3.27**	**339**	Pn	**Pn**	**07 34 46.2**	**+1.6**
GUD				Pg	**Pg**	**07 34 54.7**	**-1.4**
GUD				Sn	**Sn**	**07 35 23.9**	**+0.4**
GUD				Sg	**Sg**	**07 35 37.7**	**-0.7**
GUD				*i* Vmb_Lg		07 35 40.6	
CHEFC	**Chefchaouen**	**3.30**	**222**	P	**Pn**	**07 34 47.0**	**+2.0**
EIBI	**Ibiza**	**3.45**	**64**	Pn	**Pn**	**07 34 46.5**	**-0.5**
EIBI				Sn	**Sn**	**07 35 27.2**	**-0.6**
EIBI				*i* Vmb_Lg		07 35 32.2	
ECOL	**Islas Columbre**	**3.48**	**47**	Pn	**Pn**	**07 34 48.7**	**+1.3**
ECOL				Sn	**Sn**	**07 35 28.9**	**+0.5**
PBAR	**Barrancos**	**3.52**	**281**	⇓*e*Pn	**Pn**	**07 34 48.8**	**+0.8**
PBAR				*e*Sg	**Sg**	**07 35 47.6**	**+0.9**
PBAR				A	A	07 35 56.0	
	144nm,0.8s						
EBAD	**Badajoz**	**3.63**	**290**	⇓Pn	**Pn**	**07 34 50.2**	**+0.7**
EBAD				Sn	**Sn**	**07 35 33.5**	**+1.3**
EBAD				Sg	**Sg**	**07 35 49.2**	**-1.0**
EBAD				*i* Vmb_Lg		07 35 55.3	
EPLA	**Plasencia**	**3.65**	**314**	⇓Pn	**Pn**	**07 34 51.0**	**+1.2**
EPLA				Pg	**Pg**	**07 35 02.3**	**-1.0**
EPLA				Sn	**Sn**	**07 35 34.4**	**+1.7**
EPLA				Sg	**Sg**	**07 35 48.5**	**-2.1**
EPLA				*i* Vmb_Lg		07 35 55.3	
EGRO	**El Granado**	**3.84**	**271**	⇑Pn	**Pn**	**07 34 52.9**	**+0.4**
EGRO				Sn	**Sn**	**07 35 37.0**	**-0.5**
EGRO				Sg	**Sg**	**07 35 53.3**	**-3.7**
EGRO				*i* Vmb_Lg		07 36 00.1	
PVAQ	**Vaqueiros**	**4.04**	**269**	*e*Pn	**Pn**	**07 34 55.5**	**+0.4**
PVAQ				*e*Sn	**Sn**	**07 35 42.2**	**-0.1**
PVAQ				*e*Sg	**Sg**	**07 36 02.2**	**-1.0**
PVAQ				A	A	07 36 10.8	
	84nm,0.4s						
PVAQ	**Vaqueiros**	**4.04**	**269**	P	**Pn**	**07 34 55.4**	**+0.3**
ERTA	**Horta de San J**	**4.08**	**34**	⇑Pn	**Pn**	**07 34 57.5**	**+1.9**
ERTA				Sn	**Sn**	**07 35 44.6**	**+1.3**
ERTA				Sg	**Sb**	**07 36 00.1**	**+5.6**
ERTA				*i* Vmb_Lg		07 36 12.5	
PESTR	**Estremoz**	**4.10**	**290**	*e*Pn	**Pn**	**07 34 56.6**	**+0.7**
PESTR				*e*Sn	**Sn**	**07 35 44.8**	**+1.1**
PESTR				*e*Sg	**Sg**	**07 36 05.2**	**+0.2**
PESTR				A	A	07 36 15.6	
	154nm,0.6s						
PESTR	**Estremoz**	**4.10**	**290**	P	**Pn**	**07 34 56.5**	**+0.6**
PMRV	**Marv??o**	**4.15**	**298**	*e*Pn	**Pn**	**07 34 57.4**	**+0.8**
PMRV				*e*Sg	**Sg**	**07 36 05.4**	**-1.3**
PMRV				A	A	07 36 12.6	
	342nm,0.6s						
PBEJ	**Beja**	**4.16**	**278**	*e*Pn	**Pn**	**07 34 58.1**	**+1.4**
PBEJ				*e*Sn	**Sn**	**07 35 45.2**	**0.0**
PBEJ				*e*Sg	**Sg**	**07 36 07.1**	**+0.1**
PBEJ				A	A	07 36 13.2	
	58nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.22**	**267**	*e*Sn	**Sn**	**07 35 46.8**	**-0.1**
PBDV				A	A	07 36 15.8	
	121nm,0.6s						
PCVE	**Castro Verde**	**4.28**	**272**	⇓*e*Pn	**Pn**	**07 34 59.4**	**+0.9**
PCVE				*e*Sn	**Sn**	**07 35 48.7**	**+0.4**
PCVE				*e*Sg	**Sg**	**07 36 10.8**	**-0.2**
PCVE				A	A	07 36 17.3	
	109nm,0.6s						
PCBR	**Castelo Branco**	**4.39**	**302**	*e*Pn	**Pn**	**07 35 01.1**	**+1.1**
PCBR				*e*Sn	**Sn**	**07 35 51.9**	**+0.8**
PCBR				*e*Sg	**Sg**	**07 36 14.2**	**-0.4**
PCBR				A	A	07 36 23.8	
	135nm,0.5s						
MESJ	**Messejana**	**4.43**	**275**	*e*P	**Pn**	**07 35 00.9**	**+0.5**
MESJ				*e*S	**Sn**	**07 35 49.6**	**-2.3**
MESJ				IAML		07 36 18.3	
	comp=N,145nm,0.1s						
MESJ	**Messejana**	**4.43**	**275**	*e*Pn	**Pn**	**07 35 01.0**	**+0.6**
MESJ				*e*Sn	**Sn**	**07 35 52.0**	**+0.1**
MESJ				*e*Sg	**Sg**	**07 36 12.8**	**-2.8**
MESJ				A	A	07 36 21.0	
	comp=N,93nm,0.6s						
ESAC	**San Caprasio**	**4.45**	**21**	Pn	**Pn**	**07 35 02.8**	**+1.9**
ESAC				Pg	**Pb**	**07 35 15.1**	**+3.5**
ESAC				Sn	**Sn**	**07 35 53.7**	**+1.0**
ESAC				Sg	**Sg**	**07 36 13.9**	**-2.5**
PMTG	**Montargil**	**4.63**	**290**	*e*Pn	**Pn**	**07 35 04.1**	**+0.9**
PMTG				*e*Sn	**Sn**	**07 35 57.3**	**+0.5**
PMTG				*e*Sg	**Sg**	**07 36 20.7**	**-1.4**
PMTG				A	A	07 36 30.5	
	comp=N,153nm,0.5s						
PNCL	**Nicolau / Gran**	**4.69**	**278**	*e*Pn	**Pn**	**07 35 05.1**	**+1.1**
PNCL				*e*Sg	**Sg**	**07 36 20.4**	**-3.5**
PNCL				A	A	07 36 30.1	
	comp=N,49nm,0.4s						
EPOB	**Poblet**	**4.73**	**36**	⇑Pn	**Pn**	**07 35 06.2**	**+1.5**
EPOB				Sn	**Sn**	**07 36 00.2**	**+0.6**
EPOB				Sg	**Sb**	**07 36 20.4**	**+7.0**
EPOB				*i* Vmb_Lg		07 36 39.0	
MTE	**Manteigas**	**4.74**	**308**	*e*Pn	**Pn**	**07 35 06.8**	**+2.1**
MTE				*e*Sg	**Sg**	**07 36 24.0**	**-1.5**
MTE				A	A	07 36 36.1	
	comp=N,137nm,0.5s						
MORF	**Marmelete**	**4.79**	**268**	*e*P	**Pn**	**07 35 05.6**	**+0.2**
MORF	**Marmelete**	**4.79**	**268**	*e*Pn	**Pn**	**07 35 06.5**	**+1.1**
MORF				*e*Sn	**Sn**	**07 36 00.8**	**0.0**
MORF				A	A	07 36 33.1	
	comp=N,42nm,0.7s						
ETOS	**Mallorca**	**4.79**	**61**	Pn	**Pn**	**07 35 06.4**	**+0.9**
ETOS				Pg	**Pb**	**07 35 17.8**	**+0.4**
ETOS				Sn	**Sn**	**07 36 00.9**	**-0.1**
PTEO	**Sao Teotonio**	**4.83**	**271**	*e*Pn	**Pn**	**07 35 06.9**	**+0.9**
PTEO				*e*Sn	**Sn**	**07 36 01.9**	**+0.1**
PTEO				A	A	07 36 31.0	
	comp=N,101nm,0.5s						
MVO	**Moncorvo**	**4.92**	**318**	*e*Pn	**Pn**	**07 35 08.8**	**+1.5**
MVO				*e*Sn	**Sn**	**07 36 04.1**	**-0.2**
MVO				*e*Sg	**Sg**	**07 36 31.5**	**-0.1**
MVO				A	A	07 36 37.2	
	comp=N,77nm,0.5s						
PFVI	**Vila Bisbo**	**4.95**	**267**	*e*Pn	**Pn**	**07 35 08.7**	**+1.1**
PFVI				*e*Sn	**Sn**	**07 36 04.3**	**-0.4**
PFVI				A	A	07 36 41.8	
	comp=N,50nm,0.5s						
PFVI	**Vila Bisbo**	**4.95**	**267**	P	**Pn**	**07 35 07.4**	**-0.2**
PACT	**Alcochete**	**5.01**	**285**	*e*Pn	**Pn**	**07 35 10.6**	**+2.1**
PACT				*e*Sn	**Sn**	**07 36 08.0**	**+1.7**
PACT				A	A	07 36 29.8	
	comp=N,62nm,0.5s						
MD31	**MD31**	**5.02**	**201**	P	**Pn**	**07 35 10.8**	**+2.1**
MDT	**Midelt**	**5.03**	**199**	P	**Pn**	**07 35 11.7**	**+2.9**
PVIS	**Viseu**	**5.13**	**309**	*e*Pn	**Pn**	**07 35 11.7**	**+1.5**
PVIS				*e*Sn	**Sn**	**07 36 09.1**	**-0.3**
PVIS				A	A	07 36 36.9	
	comp=N,30nm,0.6s						
PSBE	**So Bento**	**5.19**	**294**	*e*Pn	**Pn**	**07 35 12.7**	**+1.8**
PSBE				*e*Sn	**Sn**	**07 36 11.1**	**+0.4**
PSBE				A	A	07 36 50.9	
	comp=N,148nm,0.5s						
PCAS	**Casmilo, Conde**	**5.19**	**300**	*e*Pn	**Pn**	**07 35 12.7**	**+1.8**
PCAS				*e*Sn	**Sn**	**07 36 11.0**	**+0.3**
PCAS				*e*Sg	**Sg**	**07 36 40.6**	**+0.5**
PCAS				A	A	07 36 50.6	
	comp=N,161nm,0.7s						
EARA	**Aranguren**	**5.24**	**9**	Pn	**Pn**	**07 35 13.5**	**+1.9**
EARA				Sn	**Sn**	**07 36 12.4**	**+0.5**
EARA				Sg	**Sg**	**07 36 38.1**	**-3.6**
EARA				*i* Vmb_Lg		07 36 53.2	
PBRG	**Braganca**	**5.26**	**324**	*e*Pn	**Pn**	**07 35 14.1**	**+2.2**
PBRG				*e*Sn	**Sn**	**07 36 11.8**	**-0.7**
PBRG				A	A	07 36 53.6	
	comp=N,51nm,0.5s						
ZHG	**ZHG**	**5.27**	**219**	P	**Pn**	**07 35 14.0**	**+1.9**
PMST	**Lisbon--Monsan**	**5.28**	**285**	*e*Sg	**Sg**	**07 36 42.5**	**-0.4**
PMST				A	A	07 37 02.9	
	comp=N,88nm,0.5s						
ECAL	**Calabor**	**5.37**	**325**	Pn	**Pn**	**07 35 15.2**	**+1.8**
ECAL				Sn	**Sn**	**07 36 14.2**	**-0.9**
ECAL				Sg	**Sg**	**07 36 44.5**	**-1.2**
ECAL				*i* Vmb_Lg		07 36 55.7	
PVRL	**Vila Real**	**5.38**	**315**	*e*Pn	**Pn**	**07 35 14.9**	**+1.3**
PVRL				*e*Sn	**Sn**	**07 36 15.7**	**+0.3**
PVRL				*e*Sg	**Sg**	**07 36 43.6**	**-2.6**
PVRL				A	A	07 37 00.2	
	comp=N,67nm,0.6s						
EORO	**Oroz-Betelu**	**5.39**	**11**	Pn	**Pn**	**07 35 16.0**	**+2.2**
EORO				Sn	**Sn**	**07 36 14.8**	**-1.0**
EORO				Sg	**Sg**	**07 36 44.7**	**-1.9**
EORO				*i* Vmb_Lg		07 36 54.6	
PMAFR	**Mafra**	**5.40**	**287**	*e*Pn	**Pn**	**07 35 15.3**	**+1.5**
PMAFR				*e*Sn	**Sn**	**07 36 15.6**	**-0.2**
PMAFR				*e*Sg	**Sg**	**07 36 46.4**	**-0.3**
PMAFR				A	A	07 37 03.6	
	comp=N,140nm,0.5s						
POLO	**Lamas de Olo**	**5.49**	**315**	*e*Pn	**Pn**	**07 35 16.4**	**+1.3**
POLO				*e*Sn	**Sn**	**07 36 17.6**	**-0.6**
POLO				*e*Sg	**Sg**	**07 36 51.1**	**+1.4**
POLO				A	A	07 36 55.4	
	comp=N,33nm,0.5s						
ECHI	**Chisagues Biel**	**5.51**	**22**	Pn	**Pn**	**07 35 17.5**	**+2.0**
ECHI				Sn	**Sn**	**07 36 17.5**	**-1.3**
ECHI				Sg	**Sg**	**07 36 46.5**	**-4.0**
ECHI				*i* Vmb_Lg		07 36 59.5	
ETSF	**Etsaut**	**5.54**	**16**	*e*Pn	**Pn**	**07 35 17.9**	**+2.2**
ETSF				*e*Sn	**Sn**	**07 36 18.2**	**-1.1**
	comp=N,16nm,0.3s						
ETSF				*e*Sg	**Sg**	**07 36 50.8**	**-0.4**
	comp=N,18nm,0.3s						
SJPF	**Ste Jean**	**5.62**	**11**	*e*Pn	**Pn**	**07 35 19.0**	**+2.2**
SJPF				*e*Sn	**Sn**	**07 36 20.0**	**-1.3**
	comp=N,30nm,0.3s						
SJPF				*e*Sg	**Sg**	**07 36 53.7**	**-0.2**
	comp=N,30nm,0.4s						
ELAN	**Lanestosa**	**5.67**	**354**	Pn	**Pn**	**07 35 19.5**	**+2.1**
ELAN				Sn	**Sn**	**07 36 19.6**	**-2.8**
ELAN				Sg	**Sg**	**07 36 51.7**	**-3.7**
ELAN				*i* Vmb_Lg		07 37 08.9	
EALK	**Alkurruntz**	**5.69**	**8**	Pn	**Pn**	**07 35 20.2**	**+2.4**
EALK				Sn	**Sn**	**07 36 22.5**	**-0.5**
EALK				Sg	**Sg**	**07 36 50.1**	**-6.0**
EALK				*i* Vmb_Lg		07 37 04.1	
PTO	**Porto**	**5.82**	**309**	*e*Pn	**Pn**	**07 35 21.1**	**+1.6**
PTO				*e*Sg	**Sg**	**07 36 58.3**	**-1.9**
PCAB	**Cabril**	**5.84**	**316**	*e*Pn	**Pn**	**07 35 21.3**	**+1.4**
PCAB				*e*Sn	**Sn**	**07 36 25.5**	**-1.3**
PCAB				*e*Sg	**Sg**	**07 36 58.9**	**-2.2**
PCAB				A	A	07 37 06.4	
	comp=N,78nm,0.6s						
EPF	**Esparros**	**5.89**	**22**	*e*Pn	**Pn**	**07 35 22.8**	**+2.2**
EPF				*e*Sn	**Sn**	**07 36 26.5**	**-1.5**
	comp=N,16nm,0.3s						
EPF				*e*Sg	**Sg**	**07 37 01.2**	**-1.4**
	comp=N,32nm,0.5s						
ELOB	**Lobios**	**5.97**	**317**	Pn	**Pn**	**07 35 23.1**	**+1.4**
ELOB				Sn	**Sn**	**07 36 29.1**	**-1.0**
ELOB				Sg	**Sg**	**07 37 00.0**	**-5.1**
ELOB				*i* Vmb_Lg		07 37 16.0	
EARI	**Arriondas**	**6.03**	**342**	Pn	**Pn**	**07 35 24.7**	**+2.3**
EARI				Sn	**Sn**	**07 36 29.5**	**-1.9**
EARI				Sg	**Sg**	**07 37 02.1**	**-4.9**
EARI				*i* Vmb_Lg		07 37 16.2	
PGAV	**Gavieira, Arco**	**6.15**	**317**	*e*Pn	**Pn**	**07 35 25.6**	**+1.4**
PGAV				*e*Sn	**Sn**	**07 36 34.2**	**-0.3**
PGAV				*e*Sg	**Sg**	**07 37 09.5**	**-1.4**
PGAV				A	A	07 37 15.6	
	comp=N,69nm,0.5s						
EJON	**La Jonquera**	**6.45**	**39**	Pn	**Pn**	**07 35 30.5**	**+2.3**
EJON				Sn	**Sn**	**07 36 42.5**	**+0.8**
EJON				Sg	**Sg**	**07 37 13.7**	**-6.7**
EJON				*i* Vmb_Lg		07 37 35.3	
EZAM	**Zamans**	**6.51**	**316**	Pn	**Pn**	**07 35 30.5**	**+1.5**
EZAM				Sn	**Sn**	**07 36 42.8**	**-0.4**
EZAM				Sg	**Sg**	**07 37 20.1**	**-2.2**
EZAM				*i* Vmb_Lg		07 37 34.2	
EAGO	**Agolada(Pontev**	**6.67**	**323**	Pn	**Pn**	**07 35 31.3**	**+0.1**
EAGO				Sn	**Sn**	**07 36 44.6**	**-2.5**
EAGO				Sg	**Sg**	**07 37 21.3**	**-6.1**
EAGO				*i* Vmb_Lg		07 37 33.0	
EPON	**Pontenova**	**6.68**	**330**	Pn	**Pn**	**07 35 32.4**	**+1.1**
EPON				Sn	**Sn**	**07 36 44.9**	**-2.5**
EPON				Sg	**Sg**	**07 37 21.5**	**-6.3**
EPON				*i* Vmb_Lg		07 37 41.6	
MTLF	**Montolieu**	**6.83**	**31**	*e*Pn	**Pn**	**07 35 34.6**	**+1.1**
MTLF				*e*Sn	**Sn**	**07 36 48.8**	**-2.4**
	comp=N,35nm,0.9s						
LFF	**La Frestale**	**7.77**	**18**	*e*Pn	**Pn**	**07 35 47.5**	**+1.2**
LFF				*e*Sn	**Sn**	**07 37 11.5**	**-2.7**
	comp=N,9.5nm,0.4s						
LASF	**Ste Croix**	**8.14**	**35**	*e*Pn	**Pn**	**07 35 52.7**	**+1.3**
LASF				*e*Sn	**Sn**	**07 37 19.7**	**-3.5**
	comp=N,2.6nm,0.5s						
LASF				*e*Sg	**Sg**	**07 38 10.9**	**-3.6**
	comp=N,3.9nm,0.5s						
CAF	**Calviac**	**8.14**	**24**	*e*Pn	**Pn**	**07 35 52.4**	**+1.0**
CAF				*e*Sn	**Sn**	**07 37 20.1**	**-3.2**
	comp=N,5.5nm,0.3s						
RJF	**Les Rejaudoux**	**8.31**	**21**	*e*Pn	**Pn**	**07 35 54.1**	**+0.3**
RJF				*e*Sn	**Sn**	**07 37 23.8**	**-3.8**
	comp=N,9.5nm,0.4s						
TTIG	**Tnine Tigouga,**	**8.51**	**216**	P	**Pn**	**07 35 55.6**	**-1.1**
LMR	**La Mourre**	**9.03**	**48**	*e*Pn	**Pn**	**07 36 03.8**	**+0.2**
LMR				*e*Sn	**Sn**	**07 37 40.6**	**-4.5**
	comp=N,1.0nm,0.2s						
VIVF	**Saint-Julien-l**	**9.11**	**35**	*e*Pn	**Pn**	**07 36 05.6**	**+0.9**
VIVF				*e*Sn	**Sn**	**07 37 43.1**	**-4.1**
	comp=N,0.6nm,0.2s						
MFF	**Saint Martin d**	**9.19**	**11**	*e*Pn	**Pn**	**07 36 06.8**	**+1.0**
MFF				*e*Sn	**Sn**	**07 37 45.6**	**-3.5**
	comp=N,3.7nm,0.4s						
TCF	**Toulx Ste Croi**	**9.41**	**21**	*e*Pn	**Pn**	**07 36 09.6**	**+0.8**
TCF				*e*Sn	**Sn**	**07 37 50.5**	**-4.0**
	comp=N,3.4nm,0.4s						
ORIF	**Oris-en-Rattie**	**9.73**	**39**	*e*Pn	**Pn**	**07 36 15.1**	**+1.8**
ORIF				*e*Sn	**Sn**	**07 37 57.8**	**-4.7**
	comp=N,1.7nm,0.3s						
BGF	**Bois d'Agland**	**9.84**	**23**	*e*Pn	**Pn**	**07 36 15.7**	**+1.0**
BGF				*e*Sn	**Sn**	**07 38 00.7**	**-4.4**
	comp=N,16nm,0.5s						
SBF	**Sospel**	**9.88**	**48**	*e*Pn	**Pn**	**07 36 15.8**	**+0.4**
SBF				*e*Sn	**Sn**	**07 38 01.1**	**-5.1**
	comp=N,3.5nm,0.4s						
MBDF	**Montbardon**	**10.05**	**42**	*e*Pn	**Pn**	**07 36 18.1**	**+0.3**
MBDF				*e*Sn	**Sn**	**07 38 05.5**	**-5.0**
	comp=N,0.4nm,0.3s						
PGF	**Pioggiola**	**10.20**	**57**	*e*Pn	**Pn**	**07 36 20.5**	**+0.7**
PGF				*e*Sn	**Sn**	**07 38 08.5**	**-5.6**
	comp=N,1.1nm,0.3s						
AVF	**Avril sur Loir**	**10.21**	**24**	*e*Pn	**Pn**	**07 36 20.3**	**+0.6**
AVF				*e*Sn	**Sn**	**07 38 09.5**	**-4.5**
	comp=N,0.6nm,0.2s						
SMF	**Signal de Mont**	**10.24**	**26**	*e*Pn	**Pn**	**07 36 20.9**	**+0.6**
SMF				*e*Sn	**Sn**	**07 38 10.5**	**-4.5**
	comp=N,0.9nm,0.3s						
QUIF	**Quistinic**	**10.33**	**358**	*e*Pn	**Pn**	**07 36 22.4**	**+1.1**
QUIF				*e*Sn	**Sn**	**07 38 10.9**	**-6.0**
	comp=N,5.2nm,0.3s						
HYF	**Humbligny**	**10.43**	**20**	*e*Pn	**Pn**	**07 36 23.7**	**+1.0**
HYF				*e*Sn	**Sn**	**07 38 14.8**	**-4.6**
SSF	**Saint Saulge**	**10.50**	**24**	*e*Pn	**Pn**	**07 36 24.2**	**+0.5**
SSF				*e*Sn	**Sn**	**07 38 16.5**	**-4.6**
	comp=N,2.0nm,0.4s						
LPG	**La Plagne**	**10.57**	**39**	*e*Pn	**Pn**	**07 36 28.4**	**+3.4**
SGMF	**Saint Gilles

comp=Z,4.8nm,1.2s
WRA Warramunga Arr 45.15 260 P **P 07 43 37.6 -0.7**
comp=Z,0.8nm,0.6s,baz=96,slow=6.2,SNR=18
comp=Z,0.8nm,0.6s
WRA Warramunga Arr 45.15 260 P **P 07 43 37.9 -0.4**
AS31 Alice Springs 45.24 255 P **P 07 43 39.3 +0.3**
ASAR Alice Springs 45.24 255 P **P 07 43 39.2 +0.3**
comp=Z,3.2nm,0.5s,baz=90,slow=8.5,SNR=65
ASAR S **S 07 49 40.2 -2.1**
comp=Z,0.6nm,0.8s,baz=89,slow=18,SNR=5.4
comp=Z,3.2nm,0.5s
ASAR Alice Springs 45.24 255 P **P 07 43 38.9 -0.1**
FORT Forrest 50.31 245 P **P 07 44 17.0 +0.2**
FORT IAmb IAmb 07 44 34.2
comp=Z,19nm,0.9s
KNRA Kununurra 51.07 265 P **P 07 44 23.8 +1.2**
KNRA IAmb IAmb 07 44 35.9
comp=Z,11nm,1.2s
SBA Scott Base 59.79 184 P P 07 45 25.8 +3.4
SBA IAmb IAmb 07 45 26.4
comp=Z,3.1nm,1.1s
VNDA Vanda 59.83 185 P P 07 45 24.2 +1.5
comp=Z,0.6nm,0.6s,baz=351,slow=5.1,SNR=9.1
VNDA Vanda 59.83 185 P P 07 45 24.6 +1.9
CASY Casey 65.80 205 P **P 07 46 02.3 +0.8**
CASY IAmb IAmb 07 46 02.5
comp=Z,5.4nm,1.0s
MJAR Matsushiro Arr 68.83 323 P **P 07 46 22.5 +2.0**
comp=Z,0.8nm,0.6s,baz=152,slow=5.6,SNR=1.5
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 71.48 180 P P 07 46 38.1 +2.1
QSPA IAmb IAmb 07 46 38.8
comp=Z,3.6nm,0.8s
JCC Jacoby Creek, 77.29 39 P **P 07 47 09.1 +0.1**
MAW Mawson 83.45 200 P **P 07 47 42.2 +1.4**
comp=Z,0.5nm,0.5s,baz=154,slow=5.2,SNR=7.8
comp=Z,0.5nm,0.5s
ILAR Eielson Array 86.40 13 P **P 07 47 58.5 +3.5**
comp=Z,0.2nm,0.5s,baz=221,slow=4.8,SNR=5.4
comp=Z,0.2nm,0.5s

IDC 25 07:40:39.6±3.9,5°.96S×149°.19E, h0km, mb3.3/2, mbtmp3.4/2, Error ellipse: s-maj=140.2km s-min=49.1km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.04**	**225**	P	P	07 45 14.4	0.0
	1.1nm,0.6s,baz=51,slow=11,SNR=16						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**22.95**	**218**	P	P	07 45 45.6	-0.1
	0.4nm,0.5s,baz=49,slow=9.2,SNR=5.0						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**147.19**	**285**	PKPbc	PKPbc	08 00 25.1	-0.8
	0.2nm,0.4s,baz=63,slow=2.9,SNR=5.7						

---

*KRNET **25** 07:44:17.6±0.1, 42°.26N×70°.66E, h10km, mb2.5*
*SOME **25** 07:44:18.2, 42°.27N×70°.78E, h5km*
*NNC **25** 07:44:19.3±0.9, 42°.35N×70°.75E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=5.5km s-min=4.3km az=156.0*
ISC 25 07:44:18.0±1.1, 42°.40N±0°.03×70°.81E±0°.03, h12km±10km, n17, σ0°.98/31, 13C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**0.63**	**247**	*e*P	**Pg**	**07 44 30.4**	**+0.1**
	80nm,0.2s						
IUG				*e*S	**Sg**	**07 44 38.9**	**+0.3**
	216nm,0.4s						
IUG	**luzhnay**	**0.63**	**247**	P	**Pg**	**07 44 30.4**	**+0.1**
	80nm,0.2s						
IUG				S	**Sg**	**07 44 38.9**	**+0.3**
	216nm,0.4s						
KK31	**Karatay Array**	**0.74**	**343**	↑P	**Pn**	**07 44 33.7**	**-0.6**
	1.2nm,0.4s,baz=174,slow=18,SNR=112						
KK31				↓S	**Sn**	**07 44 45.5**	**0.0**
	11nm,0.6s,baz=164,slow=29,SNR=32						
KKAR	**Karatay Array**	**0.74**	**343**	↑*e*P	**Pn**	**07 44 33.9**	**-0.4**
	baz=52						
KKAR				↑*e*S	**Sn**	**07 44 45.5**	**0.0**
	baz=52						
TRKS	**Terek-Say**	**0.90**	**164**	↑*e*P	**Pg**	**07 44 34.5**	**-0.9**
	baz=54						
TRKS				↑*e*S	**Sg**	**07 44 46.9**	**-0.3**
	baz=54						
ARK	**Arkit**	**1.05**	**125**	↑*i*P	**Pn**	**07 44 38.1**	**-0.5**
	baz=15						
ARK				↑*i*S	**Sn**	**07 44 52.9**	**-0.3**
	baz=15						
MRKS	**Merke**	**1.82**	**78**	*e*P	**Pg**	**07 44 53.4**	**+0.5**
	2.0nm,0.1s						
MRKS				*e*S	**Sg**	**07 45 18.5**	**+1.9**
	7.9nm,0.3s						
MRKS	**Merke**	**1.82**	**78**	P	**Pg**	**07 44 53.4**	**+0.5**
	2.0nm,0.1s						
MRKS				S	**Sg**	**07 45 18.5**	**+1.9**
	7.9nm,0.3s						
EKS2	**Erkin-Say**	**2.21**	**82**	↑*e*P	**Pg**	**07 44 58.9**	**-1.5**
	baz=79						
EKS2				↑*e*S	**Sg**	**07 45 29.1**	**+0.1**
	baz=79						
BTK	**Batken**	**2.34**	**180**	↑*e*P	**Pn**	**07 44 57.4**	**+1.1**
	baz=77						
BTK				↑*e*S	**Sn**	**07 45 26.2**	**+1.2**
	baz=77						
UCH	**Uchtor**	**2.75**	**92**	↑*e*P	**Pb**	**07 45 06.6**	**-0.8**
	baz=89						
UCH				↑*i*S	**Sb**	**07 45 42.0**	**+0.7**
	baz=89						
SGDS	**Sogindy**	**3.00**	**68**	*e*P	**Pg**	**07 45 15.5**	**0.0**
	1.3nm,0.2s						
SGDS				*e*S	**Sg**	**07 45 56.3**	**+2.0**
	2.5nm,0.4s						
SGDS	**Sogindy**	**3.00**	**68**	Pg	**Pg**	**07 45 15.5**	**0.0**
	1.3nm,0.2s						
SGDS				Lg	Lg	07 45 56.3	
	2.5nm,0.4s						
DGS	**Degeres**	**3.75**	**75**	*e*P	**Pg**	**07 45 28.5**	**-1.3**
	2.1nm,0.5s						
DGS				*e*S	**Sg**	**07 46 18.5**	**+0.1**
	3.9nm,0.5s						
DGS	**Degeres**	**3.75**	**75**	Pg	**Pg**	**07 45 28.5**	**-1.3**
	2.1nm,0.5s						
DGS				Lg	Lg	07 46 18.5	
	3.9nm,0.5s						
KRBS	**Karabastau**	**3.80**	**68**	*e*P	**Pg**	**07 45 29.8**	**-0.9**
	1.9nm,0.3s						
KRBS				*e*S	**Sg**	**07 46 20.7**	**+0.9**
	2.4nm,0.4s						
KRBS	**Karabastau**	**3.80**	**68**	Pg	**Pg**	**07 45 29.8**	**-0.9**
	1.9nm,0.3s						
KRBS				Lg	Lg	07 46 20.7	
	2.4nm,0.4s						

---

*IDC **25** 08:00:23.0±0.8, 29°.55N×101°.96E, h0km, mb4.1/14, mbtmp4.1/15, ML4.0/1, MS3.6/37, Error ellipse: s-maj=23.4km s-min=14.8km az=45.0*
*BJI **25** 08:00:26.6±0.0, 29°.51N×102°.06E, h59km, mb4.3/16, mB4.7/7, ML4.2/17, Ms4.3/24, Ms7 4.1/23*
*MOS **25** 08:00:27.2±1.3, 29°.59N×102°.03E, h41km, mb4.2/8, Error ellipse: s-maj=11.7km s-min=7.6km az=96.6*
*NEIC **25** 08:00:30.4±1.3, 29°.63N±0°.10×101°.93E±0°.04, h57km±7km, mb4.2/14, Error ellipse: s-maj=14.2km s-min=3.9km az=194.0*
ISC 25 08:00:28.4±0.4, 29°.58N±0°.05×101°.97E±0°.05, h35km, n109, σ2°.24/95, mb4.3/27, MS3.6/36, 5C-3D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.04**	**49**	P	**Pn**	**08 00 59.8**	**-0.4**
CD2				S	**Sn**	**08 01 27.5**	**+3.0**
PZH	**PanZhiHua**	**3.08**	**184**	P	**Pn**	**08 01 17.0**	**+2.4**
PZH				smax	smax		
	comp=N,1μm,1.5s						
PZH				smax	smax		
	comp=E,1μm,1.0s						
KMI	**Kunming**	**4.50**	**171**	↑P	**Pn**	**08 01 36.5**	**+2.3**
KMI				S	**Sn**	**08 02 30.0**	**+4.6**
KMI				smax	smax		
	comp=N,170nm,1.6s						
KMI				smax	smax		
	comp=E,180nm,0.9s						
KMI				LR	LR		
	comp=N,2μm,4.9s						
KMI				LR	LR		
	comp=E,2μm,5.2s						
KMI				LR	LR		
	comp=Z,920nm,6.1s						
GYA	**Guiyang**	**5.19**	**126**	↑*i*P	**Pn**	**08 01 44.0**	**+0.4**
GYA				S	**Sn**	**08 02 47.5**	**+5.2**
GYA				smax	smax		
	comp=N,130nm,0.7s						
GYA				smax	smax		
	comp=E,100nm,1.0s						
GYA				LR	LR		
	comp=N,1μm,4.7s						
GYA				LR	LR		
	comp=E,790nm,4.4s						
GYA				LR	LR		
	comp=Z,950nm,4.7s						
ENH	**Enshi**	**6.56**	**82**		**Pn**	**08 02 02.0**	**-0.4**
LZH	**Lanzhou**	**6.67**	**13**	P	**Pn**	**08 02 06.0**	**+1.9**
LZH				smax	smax		
	comp=N,45nm,1.0s						
LZH				smax	smax		
	comp=E,59nm,1.2s						
LZH				LR	LR		
	comp=N,2μm,6.4s						
LZH				LR	LR		
	comp=E,860nm,6.2s						
LZH				LR	LR		
	comp=Z,3μm,10.5s						
XAN	**Xi'an**	**7.40**	**51**	P	**Pn**	**08 02 10.8**	**-3.1**
XAN				S	**Sn**	**08 03 30.0**	**-6.6**
XAN				smax	smax		
	comp=N,290nm,0.9s						
XAN				smax	smax		
	comp=E,270nm,1.0s						
XAN				LR	LR		
	comp=N,2μm,6.9s						
XAN				LR	LR		
	comp=E,1μm,5.7s						
XAN				LR	LR		
	comp=Z,810nm,9.8s						
GULI	**GuiLin**	**8.60**	**118**	↓P	**Pn**	**08 02 25.8**	**-4.5**
GULI				S	**Sn**	**08 04 01.0**	**-5.1**
GULI				LR	LR		
	comp=N,330nm,5.7s						
GULI				LR	LR		
	comp=E,870nm,7.1s						
GULI				LR	LR		
	comp=Z,1μm,8.2s						
MND	**Mandalay**	**9.20**	**216**	Pn	**Pn**	**08 02 40.8**	**+2.3**
LSA	**Lhasa**	**9.42**	**273**	Pn	**Pn**	**08 02 42.0**	**+0.1**
LSA	**Lhasa**	**9.42**	**273**	P	**Pn**	**08 02 42.1**	**+0.1**
CRAI	**Chiangrai**	**9.43**	**189**		**Pn**	**08 02 45.3**	**+3.6**
CNSH	**ChangSha**	**9.71**	**96**	↑P	**Pn**	**08 02 42.5**	**-3.1**
CNSH				S	**Sn**	**08 04 28.3**	**-5.1**
GTA	**Gaotai**	**9.96**	**350**	*e*P	**Pn**	**08 02 50.0**	**+0.9**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,65nm,4.4s						
GTA				LR	LR		
	comp=N,710nm,8.7s						
GTA				LR	LR		
	comp=E,1μm,11.6s						
GTA				LR	LR		
	comp=Z,680nm,8.7s						
LYN	**LuoYang**	**10.19**	**58**	↑P	**Pn**	**08 02 52.3**	**+0.2**
LYN				S	**Sn**	**08 04 49.5**	**+4.4**
LYN				SS	**SnSn**	**08 05 03.0**	**+6.1**
LYN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LYN				LR	LR		
	comp=N,2μm,6.5s						
LYN				LR	LR		
	comp=E,1μm,6.2s						
LYN				LR	LR		
	comp=Z,730nm,7.3s						
WHN	**Wuhan**	**10.77**	**82**	P	**Pn**	**08 03 00.8**	**+0.7**
WHN				sP		08 03 18.0	
WHN				S	**Sn**	**08 04 55.3**	**-4.1**
WHN				LR	LR		
	comp=N,2μm,5.7s						
WHN				LR	LR		
	comp=E,2μm,5.5s						
WHN				LR	LR		
	comp=Z,1μm,5.6s						
CHTO	**Chiang Mai**	**11.07**	**195**	Pn	**Pn**	**08 03 06.2**	**+2.0**
CHTO	**Chiang Mai**	**11.07**	**195**	P	**Pn**	**08 03 06.2**	**+2.0**
CM31	**Chiang Mai Arr**	**11.41**	**195**	Pn	**Pn**	**08 03 10.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**11.41**	**195**	Pn	**Pn**	**08 03 10.3**	**+1.3**
	baz=8.8,slow=13						
CMAR				Pg		08 03 55.0	
	0.4nm,0.3s,baz=7.7,slow=18,SNR=13						
CMAR				Lg	Lg	08 06 30.9	
	baz=8.5,slow=31						
CMAR				LR	LR	08 07 52.7	
	comp=Z,290nm,21.3s,baz=20,slow=40						
CMAR	**Chiang Mai Arr**	**11.41**	**195**		**Pn**	**08 03 10.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**11.41**	**195**	*e*P	**Pn**	**08 03 12.2**	**+3.2**
BRDH	**Bariadhala**	**11.54**	**236**	LR	LR	08 08 14.8	
	comp=Z,210nm,19.7s,baz=86,slow=41						
QIZ	**Qiongzhong**	**12.72**	**144**	P	**Pn**	**08 03 22.5**	**-4.3**
QIZ				S	**Sn**	**08 05 46.5**	**-0.7**
QIZ				LR	LR		
	comp=N,500nm,10.4s						
QIZ				LR	LR		
	comp=E,610nm,16.7s						
QIZ				LR	LR		
	comp=Z,660nm,10.4s						
HNS	**HongShan**	**13.17**	**50**	*e*P	**P**	**08 03 46.0**	**+3.6**
HNS				S	**S**	**08 06 26.5**	**+4.5**
HNS				LR	LR		
	comp=N,440nm,9.4s						
HNS				LR	LR		
	comp=E,380nm,10.0s						
HNS				LR	LR		
	comp=Z,290nm,10.8s						
TIA	**Tai'an**	**14.34**	**59**	↓P	**P**	**08 03 56.3**	**+0.9**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIA				pmax	pmax		
	comp=Z,110nm,3.5s						
TIA				LR	LR		
	comp=N,770nm,13.1s						
TIA				LR	LR		
	comp=E,510nm,9.8s						
TIA				LR	LR		
	comp=Z,500nm,12.7s						
WMQ	**Urumqi**	**18.21**	**325**	*e*P	**Pn**	**08 04 35.0**	**-3.3**
WMQ				LR	LR		
	comp=Z,320nm,14.9s						
WMQ				LR	LR		
	comp=Z,420nm,15.5s						
WMQ				LR	LR		
	comp=Z,130nm,17.7s						
SONM	**Songino Array**	**18.54**	**9**	P	**Pn**	**08 04 42.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=191,slow=11,SNR=14						
SONM				LR	LR	08 12 31.3	
	comp=Z,552nm,20.7s,baz=200,slow=39						
	comp=Z,8.0nm,0.9s						
SONM	**Songino Array**	**18.54**	**9**	P	**Pn**	**08 04 42.9**	**+0.5**
SONM				IAmb	IAmb	08 04 45.4	
	comp=Z,8.5nm,1.0s						
SONM	**Songino Array**	**18.54**	**9**	*e*P	**Pn**	**08 04 43.4**	**+1.0**
ULN	**Ulaanbaatar**	**18.67**	**11**	P	**Pn**	**08 04 43.0**	**-1.0**
ULN				IAmb	IAmb	08 04 46.8	
	comp=Z,11nm,0.8s						
ULN	**Ulaanbaatar**	**18.67**	**11**	*ce*P	**Pn**	**08 04 43.1**	**-0.9**
ULN				pmax	pmax		
	comp=Z,13nm,0.8s						
ZAK	**Zakamensk**	**20.80**	**2**	*e*P	**P**	**08 05 06.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,15nm,1.1s						
TJN	**Taejon**	**22.32**	**66**	*i*P	**P**	**08 05 21.0**	**-1.9**
DGZ	**Jazzator, Alta**	**22.92**	**335**	*i*P	**P**	**08 05 28.0**	**-1.4**
DGZ				pmax	pmax		
	comp=Z,11nm,1.5s						
KS19	**Wonju Array Si**	**22.94**	**63**	P	**P**	**08 05 28.6**	**-0.9**
KS19				IAmb	IAmb	08 05 31.8	
	comp=Z,15nm,0.9s						
KSAR	**Wonju Array Be**	**22.94**	**63**	P	**P**	**08 05 29.2**	**-0.2**
KSAR	**Wonju Array Be**	**22.94**	**63**	P	**P**	**08 05 29.2**	**-0.2**
KSRS	**Korea Array**	**22.97**	**63**	P	**P**	**08 05 29.4**	**-0.3**
	comp=Z,9.9nm,0.9s,baz=254,slow=9.6,SNR=33						
KSRS				LR	LR	08 15 34.6	
	comp=Z,121nm,18.5s,baz=245,slow=40						
	comp=Z,9.9nm,0.9s						
MK31	**Makanchi Array**	**23.01**	**324**	P	**P**	**08 05 28.8**	**-1.4**
MK31	**Makanchi Array**	**23.01**	**324**	*i*P	**P**	**08 05 31.4**	**+1.2**
MKAR	**Makanchi Array**	**23.01**	**324**	P	**P**	**08 05 29.8**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=128,slow=12,SNR=14						
	comp=Z,3.3nm,0.9s						
MKAR	**Makanchi Array**	**23.01**	**324**	P	**P**	**08 05 29.2**	**-1.0**
MKAR	**Makanchi Array**	**23.01**	**324**	*e*P	**P**	**08 05 32.7**	**+2.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAKZ	**Makanchi**	**23.19**	**323**	P	**P**	**08 05 31.8**	**-0.1**
MAKZ	**Makanchi**	**23.19**	**323**	P	**P**	**08 05 31.8**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CN2	**Changchun**	**23.47**	**46**	P	**P**	**08 05 35.8**	**+1.1**
CN2				S	**S**	**08 09 45.0**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
CN2				LR	LR		
	comp=Z,100nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
IPM	**Ipoh**	**24.98**	**182**	P	**P**	**08 05 48.5**	**-0.4**
IPM				IAmb	IAmb	08 05 50.4	
	comp=Z,16nm,1.2s						
AAK	**Ala-Archa**	**25.61**	**308**	P	**P**	**08 05 53.8**	**-0.8**
AAK				IAmb	IAmb	08 05 58.7	
	comp=Z,7.2nm,1.1s						
AAK	**Ala-Archa**	**25.61**	**308**	*i*P	**P**	**08 05 57.3**	**+2.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BNX	**BinXian**	**25.64**	**44**	↓P	**P**	**08 05 55.0**	**+0.4**
BNX				pmax	pmax		
	comp=Z,27nm,0.7s						
BNX				pmax	pmax		
	comp=Z,97nm,3.5s						
ZALV	**Zalesovo Beam**	**27.36**	**338**	P	**P**	**08 06 08.5**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=161,slow=10,SNR=6.3						
ZALV				LR	LR	08 16 50.3	
	comp=Z,65nm,18.3s,baz=164,slow=36						
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**27.36**	**338**	P	**P**	**08 06 07.8**	**-2.2**
ZALV	**Zalesovo Beam**	**27.36**	**338**	*e*P	**P**	**08 06 08.8**	**-1.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**27.41**	**327**	P	**P**	**08 06 09.4**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=132,slow=9.5,SNR=10						
KURBB				LR	LR	08 16 53.6	
	comp=Z,117nm,19.2s,baz=156,slow=36						
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**27.43**	**327**	P	**P**	**08 06 09.6**	**-1.1**
KURK				IAmb	IAmb	08 06 14.8	
	comp=Z,2.5nm,0.7s						
KURK	**Kurchatov**	**27.43**	**327**	P	**P**	**08 06 09.6**	**-1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GAR	**Garm**	**27.67**	**298**	P	**P**	**08 06 12.5**	**-0.7**
GAR				IAmb	IAmb	08 06 18.4	
	comp=Z,17nm,1.3s						
USRK	**Ussuriysk Ar.**	**27.91**	**50**	LR	LR	08 18 08.7	
	comp=Z,78nm,19.9s,baz=243,slow=38						
PALK	**Pallekele**	**29.88**	**226**	LR	LR	08 20 11.9	
	comp=Z,84nm,18.6s,baz=131,slow=40						
KLR	**Kul'dur**	**29.94**	**41**	P	**P**	**08 06 33.1**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=227,slow=6.5,SNR=4.1						
KLR				LR	LR	08 19 44.8	
	comp=Z,109nm,19.2s,baz=234,slow=39						
	comp=Z,1.8nm,0.8s						
MJAR	**Matsushiro Arr**	**31.02**	**67**	P	**P**	**08 06 43.5**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=260,slow=9.5,SNR=6.6						
MJAR				LR	LR	08 18 11.7	
	comp=Z,46nm,21.2s,baz=249,slow=34						
	comp=Z,0.4nm,0.3s						
DAV	**Davao City (W)**	**31.55**	**131**	LR	LR	08 21 26.5	
	comp=Z,171nm,18.1s,baz=346,slow=40						
BVAR	**Borovoye Array**	**32.89**	**324**	LR	LR	08 21 36.9	
	comp=Z,52nm,18.1s,baz=115,slow=39						
GEYT	**Alibeck**	**37.12**	**295**	P	**P**	**08 07 37.2**	**+1.5**
	comp=Z,4.4nm,0.8s,baz=14,slow=7.6,SNR=6.4						
	comp=Z,4.4nm,0.8s						
GEYT	**Alibeck**	**37.12**	**295**	P	**P**	**08 07 33.8**	**-1.8**
YAK	**Yakutsk**	**37.18**	**21**	LR	LR	08 25 13.1	
	comp=Z,51nm,18.5s,baz=268,slow=40						
ABKAR	**Akbulak array**	**37.34**	**314**	P	**P**	**08 07 35.5**	**-1.9**
ARU	**Aru**	**40.54**	**324**	LR	LR	08 25 51.3	
	comp=Z,59nm,18.1s,baz=104,slow=38						
NRIK	**Noril'sk**	**40.66**	**352**	P	**P**	**08 08 05.1**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=154,slow=6.6,SNR=5.1						
NRIK				LR	LR	08 25 48.9	
	comp=Z,118nm,18.9s,baz=203,slow=38						
	comp=Z,3.3nm,0.8s						
NRIK	**Noril'sk**	**40.66**	**352**	P	**P**	**08 08 04.2**	**-0.5**
NRIK				IAmb	IAmb	08 08 05.8	
	comp=Z,6.0nm,1.1s						
NRIK	**Noril'sk**	**40.66**	**352**	*e*P	**P**	**08 08 06.2**	**+1.4**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GUMO	**Guam**	**42.68**	**102**	LR	LR	08 26 42.6	
	comp=Z,32nm,20.0s,baz=254,slow=37						
MA2	**Magadan**	**44.37**	**33**	LR	LR	08 28 52.7	
	comp=Z,65nm,18.1s,baz=325,slow=38						
TIXI	**Tiksi**	**44.61**	**12**	LR	LR	08 28 15.5	
	comp=Z,129nm,18.4s,baz=181,slow=38						
GNI	**Garni**	**47.40**	**299**	LR	LR	08 31 31.0	
	comp=Z,26nm,18.7s,baz=146,slow=39						
KIV	**Kislovodsk**	**48.62**	**304**	*e*P	**P**	**08 09 09.6**	**+0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,23nm,16.0s						
KLMR	**Klimovskoe**	**51.28**	**326**	*e*P	**P**	**08 09 27.8**	**-0.7**
KLMR				pmax	pmax		
	comp=Z,22nm,2.1s						
KLMR	**Klimovskoe**	**51.28**	**326**	*e*P	**P**	**08 09 27.9**	**-0.6**
KLMR				AMP		08 09 41.9	
	comp=Z,22nm,2.1s						
OBN	**Obninsk**	**52.38**	**319**	*e*P	**P**	**08 09 36.2**	**-0.6**
OBN				*e*		08 11 40.3	
OBN				*e*PPP	PPP	08 12 37.2	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BILL	**Bilibino**	**53.33**	**25**	*e*P	**P**	**08 09 42.7**	**-1.0**
BILL				*e*PPP	PPP	08 12 49.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MMAI	**Mount Meron Ar**	**56.12**	**292**	LR	LR	08 34 43.8	
	comp=Z,27nm,19.9s,baz=224,slow=37						
EIL	**Elat**	**57.46**	**288**	LR	LR	08 37 56.7	
	comp=Z,39nm,18.5s,baz=203,slow=39						
FINES	**FINESS Array B**	**57.81**	**327**	P	**P**	**08 10 16.1**	**+0.3**
	comp=Z,4.9nm,1.1s,baz=90,slow=7.6,SNR=4.6						
FINES				LR	LR	08 37 04.3	
	comp=Z,44nm,19.1s,baz=78,slow=38						
	comp=Z,4.9nm,1.1s						
FINES	**FINESS Array B**	**57.81**	**327**	*e*P	**P**	**08 10 18.1**	**+2.2**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WB0	**Warramunga Arr**	**58.17**	**144**	P	**P**	**08 10 18.4**	**-0.6**
WRA	**Warramunga Arr**	**58.29**	**144**	P	**P**	**08 10 19.3**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=334,slow=7.8,SNR=23						
WRA				LR	LR	08 37 28.4	
	comp=Z,18nm,18.6s,baz=232,slow=38						
	comp=Z,6.2nm,0.7s						
WRA	**Warramunga Arr**	**58.29**	**144**	P	**P**	**08 10 18.8**	**-1.0**
WR0	**Warramunga Arr**	**58.41**	**144**	P	**P**	**08 10 20.1**	**-0.5**
MLR	**Muntele Rosu**	**60.19**	**308**	LR	LR	08 40 43.5	
	comp=Z,52nm,19.9s,baz=41,slow=40						
SPITS	**Spitsbergen Ar**	**60.37**	**346**	LR	LR	08 40 31.2	
	comp=Z,60nm,19.1s,baz=18,slow=40						
ASAR	**Alice Springs**	**61.20**	**146**	P	**P**	**08 10 39.5**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=327,slow=7.0,SNR=22						
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**64.00**	**326**	LR	LR	08 39 05.4	
	comp=Z,46nm,19.5s,baz=61,slow=36						
NB2	**NORSAR Subarra**	**64.94**	**328**	P	**P**	**08 11 02.3**	**-1.9**
	comp=Z,3.5nm,1.0s,baz=75,slow=6.9						
NOA	**NORSAR Array B**	**64.94**	**328**	P	**P**	**08 11 04.0**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=75,slow=6.6,SNR=4.1						
NOA				LR	LR	08 40 06.1	
	comp=Z,19nm,18.1s,baz=355,slow=37						
	comp=Z,0.9nm,0.8s						
NOA	**NORSAR Array B**	**64.94**	**328**	*e*P	**P**	**08 11 05.3**	**

comp=Z,0.7nm,0.8s,baz=77,slow=7.5,SNR=6.3
comp=Z,0.7nm,0.8s
GERES GERESS Array B 67.28 314 *e*P **P 08 11 20.2 +0.6**
GERES pmax pmax
comp=Z,1.0nm,0.8s
HNR Honiara 67.93 115 LR LR 08 42 05.1
comp=Z,194nm,18.1s,baz=240,slow=37
DAVOX Davos/Dischmat 70.43 313 LR LR 08 44 41.7
comp=Z,39nm,18.8s,baz=72,slow=38
ILAR Eielson Array 71.99 25 P **P 08 11 47.8 -0.4**
comp=Z,0.5nm,0.9s,baz=300,slow=7.1,SNR=3.5
comp=Z,0.5nm,0.9s
EKA Eskdalemuir Ar 74.14 325 LR LR 08 48 02.0
comp=Z,71nm,18.4s,baz=0.5,slow=38
INK Inuvik 74.19 19 LR LR 08 49 26.0
comp=Z,36nm,18.4s,baz=297,slow=40
SFJD Kangerlussuaq 81.50 349 LR LR 08 51 11.1
comp=Z,73nm,20.2s,baz=10.0,slow=37
ESDC Sonseca Array 82.66 312 LR LR 08 55 30.4
comp=Z,27nm,18.1s,baz=192,slow=40
YKA Yellowknife Ar 83.67 16 LR LR 08 54 50.0
comp=Z,42nm,18.0s,baz=328,slow=39
BOSA Boshof 93.33 239 LR LR 08 50 14.6
comp=Z,26nm,21.7s,baz=14,slow=32
NEW Newport 94.95 25 LR LR 09 00 13.9
comp=Z,36nm,20.8s,baz=307,slow=38
SUR Sutherland 98.54 238 LR LR 08 59 26.2
comp=Z,30nm,18.1s,baz=128,slow=36

IDC 25 08:12:08.0±3.4, 32.46S×178.50W, h0km, mb3.6/2, mbtmp3.8/3, ML3.0/1, MS3.1/1, Error ellipse: s-maj=74.8km s-min=38.0km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.81**	**211**	Pn	Pn	08 13 49.2	+0.2
	0.3nm,0.3s,baz=87,slow=15,SNR=1.8						
URZ				Sn	Sn	08 15 06.4	-0.9
	1.2nm,0.3s,baz=224,slow=15,SNR=6.7						
	26nm,1.1s						
DZM	**Mont Dzumac**	**16.90**	**304**	LR	LR	08 20 33.4	
	comp=Z,54nm,18.3s,baz=204,slow=30						
ASAR	**Alice Springs**	**42.62**	**269**	P	P	08 20 06.0	-0.3
	0.2nm,0.4s,baz=112,slow=7.3,SNR=4.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.79**	**275**	P	P	08 20 15.9	+0.2
	0.6nm,0.4s,baz=114,slow=7.9,SNR=21						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**146.91**	**339**	PKPbc	PKPdf	08 31 50.6	+0.9
	0.5nm,0.4s,baz=75,slow=7.4,SNR=1.6						

TEH 25 08:21:39.4, 32.99N×49.53E, h6km, ML3.5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHMZ	**Khomeyn**	**0.83**	**25**	*e*Pg	Pg	08 21 56.5	+0.1
IPIR	**Pirpir**	**1.18**	**104**	*e*Sg	Sn	08 22 20.9	+1.6
IPIR				*e*Pg	Pn	08 22 03.2	+0.4
IPIR				*e*		08 22 24.3	
	comp=Z,15μm,0.5s						
SHK1	**Shahrekord**	**1.32**	**120**	*e*		08 22 30.4	
	comp=Z,7μm,0.5s						
SHK1				*e*Pg	Pb	08 22 05.3	+0.6
AMIS	**Naft Sefid**	**1.33**	**189**	*e*		08 22 30.8	
	comp=Z,18μm,0.2s						
AMIS				*e*Pn	Pg	08 22 05.9	+0.9
IDOB	**Doab**	**1.39**	**306**	*e*Pn	Pg	08 22 06.4	+0.4
HSAM	**Samen**	**1.45**	**328**	*e*Sg	Sg	08 22 28.6	+2.6
HSAM				*e*Pn	Pg	08 22 07.6	+0.4
HSAM				*e*		08 22 34.9	
	comp=Z,3μm,0.4s						
IKFM	**Kafar-mosalman**	**1.51**	**291**	*e*Pn	Pg	08 22 09.6	+1.2
ASAO	**Ashtian**	**1.61**	**15**	*e*Pn	Pg	08 22 10.9	+0.6
QAMS	**Qamsar**	**1.73**	**64**	*e*Pn	Pg	08 22 12.3	-0.3
QAMS				*e*		08 22 45.2	
	comp=Z,8μm,0.4s						
IKLH	**Kolahrood**	**1.75**	**78**	*e*Pn	Pg	08 22 12.7	-0.3
IKLH				*e*		08 22 42.2	
	comp=Z,5μm,0.5s						
IBRJ	**Brojen**	**1.81**	**126**	*e*Pn	Pg	08 22 14.5	+0.3
IBRJ				*e*		08 22 52.9	
	comp=Z,3μm,0.8s						
HAGD	**Aghdareh**	**1.86**	**350**	*e*Pn	Pg	08 22 15.2	+0.1
HAGD				*e*		08 22 44.1	
	comp=Z,7μm,0.3s						
DHL1	**Dehloran**	**1.92**	**262**	*e*Pg	Pg	08 22 17.0	+0.8
IBZA	**Bozab**	**2.03**	**317**	*e*Pn	Pg	08 22 18.1	-0.3
IBZA				*e*		08 22 58.4	
	comp=Z,3μm,0.6s						
IKOM	**Komasi**	**2.06**	**306**	*e*Pn	Pb	08 22 17.9	+0.5
IGAR	**Gharneh**	**2.19**	**105**	*e*Pn	Pb	08 22 19.9	+0.3
IGAR				*e*		08 22 55.8	
	comp=Z,3μm,0.6s						
IQOM	**Qom**	**2.25**	**34**	*e*Pn	Pb	08 22 20.8	+0.2
IZEF	**Zefreh**	**2.35**	**91**	*e*Pn	Pb	08 22 21.9	-0.5
IZEF				*e*		08 23 01.7	
	comp=Z,1μm,0.7s						
KRSH	**Karshahi**	**2.39**	**65**	*e*Pn	Pb	08 22 23.3	+0.4
KRSH				*e*		08 22 58.5	
	comp=Z,3μm,0.4s						
IRAZ	**Razeghan**	**2.44**	**8**	*e*Pn	Pb	08 22 23.9	+0.1
IRAZ				*e*		08 23 08.2	
	comp=Z,5μm,1.0s						
KCHF	**Cheshme Sefid,**	**2.44**	**302**	*e*Pn	Pb	08 22 23.3	-0.6
KLNJ	**Kolanjah**	**2.64**	**138**	*e*Pn	Pb	08 22 25.6	-1.6
ISFB	**Sefidab**	**2.64**	**58**	*e*Pn	Pb	08 22 27.1	0.0
IRAM	**Ramesheh**	**2.68**	**115**	*e*Pn	Pb	08 22 26.1	-1.8
IVRN	**Varamin**	**2.71**	**42**	*e*Pn	Pb	08 22 27.0	-1.4
IVRN				*e*		08 22 33.7	
	comp=Z,2μm,0.4s						
QABG	**Abgarm-Qazvin**	**2.72**	**1**	*e*Pn	Pb	08 22 27.1	-1.5
SNGE	**Sanandaj**	**2.78**	**320**	*e*Pn	Pb	08 22 29.0	-0.6
IGHG	**Ghaleghazi**	**2.81**	**299**	*e*Pn	Pb	08 22 28.6	-1.6
IGHG				*e*		08 23 56.4	
	comp=Z,2μm,1.0s						
IMHD	**Mahdasht**	**2.85**	**19**	*e*Pn	Pb	08 22 29.3	-1.5
IMHD				*e*		08 23 14.5	
	comp=Z,1μm,0.1s						
ILIN	**Lien**	**2.88**	**313**	*e*	Pg	08 23 26.7	+52
	comp=Z,952nm,0.7s						
IDHR	**Dehrash**	**3.13**	**304**	*e*Pn	Pb	08 22 32.6	-2.9
IDHR				*e*		08 23 29.6	
	comp=Z,1μm,0.6s						
CHTH	**Charan**	**3.20**	**24**	*e*Pn	Pb	08 22 34.5	-2.3
IDMV	**Damavand**	**3.31**	**38**	*e*Pn	Pn	08 22 34.6	+2.5
DAMV	**Damavand**	**3.32**	**37**	*e*Pn	Pb	08 22 36.1	-2.8
QSDN	**Sirdan**	**3.52**	**355**	*e*Pn	Pb	08 22 38.6	-3.7
ANAR	**Anarak**	**3.53**	**86**	*e*Pn	Pb	08 22 38.7	-3.6
QALM	**Alamut, Qazvin**	**3.56**	**15**	*e*Pn	Pn	08 22 38.9	+3.5
ILAS	**Lasjerd**	**3.71**	**49**	*e*Pn	Pb	08 22 41.9	-3.6
ZNJK	**Zanjan**	**3.74**	**350**	*e*Pn	Pn	08 22 41.6	+3.7
IFIR	**Firoozkooh**	**3.76**	**44**	*e*Pn	Pn	08 22 42.2	+4.0
GIDE	**GILAN DEYLAMAN**	**3.94**	**4**	*e*Pn	Pn	08 22 44.4	+3.8
YZKH	**Yazd**	**4.31**	**97**	*e*Pn	Pb	08 22 50.8	-4.8
IANJ	**Anjilo**	**4.39**	**54**	*e*Pn	Pn	08 22 49.9	+3.0
IMEH	**Mehriz**	**4.59**	**109**	*e*Pn	Pn	08 22 52.6	+3.0
SHRO	**Shahrood**	**6.13**	**59**	*e*Pn	Pn	08 23 15.7	+5.1
TABS	**Tabas**	**6.39**	**82**	*e*Pn	Pn	08 23 18.7	+4.6

ASRS 25 08:52:41.8±0.2, 51.1°N×178.8°E, h10km, MLh3.1/19, Error ellipse: s-maj=3.2km s-min=1.9km az=114.5, confirmed
NNC 25 08:52:46.5±2.0, 50.87N×88.91E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=18.9km s-min=7.8km az=35.0

ISC 25 08:52:44.5±1.3, 50.81N±0.03×89.12E±0.04, h1km±11km, n19, σ0.92/32, 8C-3D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULGR	**Ulagan, Altay**	**0.76**	**257**	↑Pg	**Pb**	**08 53 00.7**	**+0.1**
ULGR				Sg	**Sn**	**08 53 12.1**	**-2.6**
CUR	**Chagan-Uzun**	**0.86**	**215**	↑Pg	**Pg**	**08 53 00.4**	**-0.6**
CUR				Sg	**Sg**	**08 53 12.6**	**+0.4**
SLNR	**Muhor-Tarhata,**	**1.11**	**203**	Pg	**Pg**	**08 53 05.3**	**-0.6**
SLNR				Sg	**Sg**	**08 53 20.5**	**+0.3**
CHBI	**Chibit, Altay**	**1.15**	**245**	Pg	**Pb**	**08 53 07.2**	**+0.1**
CHBI				Sg	**Sn**	**08 53 24.2**	**+0.1**
ARTR	**Artybash**	**1.53**	**311**	↓Pg	**Pn**	**08 53 12.8**	**-0.1**
ARTR				Sg	**Sg**	**08 53 34.0**	**+0.5**
DGZ	**Jazzator, Alta**	**1.55**	**225**	↓Pg	**Pn**	**08 53 13.3**	**-0.1**
DGZ				Sg	**Sg**	**08 53 35.3**	**+1.0**
TASR	**Tashtagol**	**2.10**	**339**	Pg	**Pb**	**08 53 23.0**	**-0.5**
TASR				Sg	**Sg**	**08 53 52.1**	**0.0**
GALT	**Gorno-Altaysk,**	**2.30**	**301**	Pg	**Pb**	**08 53 25.8**	**-1.0**
GALT				Sg	**Sg**	**08 53 58.0**	**-0.5**
DJO	**Djoy, Khakassi**	**2.37**	**32**	Pg	**Pn**	**08 53 25.5**	**+1.0**
DJO				Sg	**Sb**	**08 53 56.7**	**-0.9**
DJOS	**Djoyskaya Sosn**	**2.44**	**34**	Sg	**Sb**	**08 53 59.6**	**-0.2**
CERR	**Cheremushki**	**2.50**	**34**	Pg	**Pn**	**08 53 27.3**	**+1.1**
CERR				Sg	**Sb**	**08 54 01.6**	**+0.3**
UKR	**Ust'-Kan**	**2.76**	**274**	Pg	**Pb**	**08 53 35.3**	**+0.6**
UKR				Sg	**Sg**	**08 54 12.6**	**-0.5**
ELT	**Eltsovka**	**3.04**	**325**	Pg	**Pb**	**08 53 38.7**	**-0.6**
ELT				Sg	**Sb**	**08 54 17.9**	**+1.1**
ERNS	**Erzin**	**3.89**	**96**	Pg	Pn	08 53 50.6	+5.2
ERNS				Sg	**Sb**	**08 54 40.1**	**-1.3**
SALR	**Pechorkino, Sa**	**4.17**	**331**	Pg	**Pb**	**08 54 00.3**	**+1.6**
SALR				Sg	**Sg**	**08 54 58.7**	**+0.1**
MK31	**Makanchi Array**	**6.04**	**231**	⇑Pn	**Pn**	**08 54 16.5**	**+1.6**
	2.1nm,0.6s,baz=56,slow=13,SNR=30						
MK31				Lg	Lg	08 55 57.1	
	2.3nm,0.7s,baz=50,slow=28,SNR=3.5						
MAKZ	**Makanchi**	**6.19**	**232**	⇑Pn	**Pn**	**08 54 18.0**	**+1.1**
	0.5nm,0.3s						
MAKZ				⇑Lg	Lg	08 55 59.9	
	1.6nm,0.5s						
KURK	**Kurchatov**	**6.67**	**273**	⇑Sn	**Sn**	**08 55 40.0**	**0.0**
	1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**6.73**	**273**	⇑Sn	**Sn**	**08 55 41.4**	**-0.2**
	2.8nm,0.4s						
KURBB				⇑Lg	Lg	08 56 16.3	
	7.1nm,1.1s						
KURBB				⇓Lg	Lg	08 56 16.6	
	7.4nm,0.5s						

NOU 25 08:56:20.0, 37.53S×179.79E, h0km, MLv4.5/6, Off E. Coast of N. Island, N.Z.
WEL 25 08:56:25.8±0.8, 37.5S±5.5×17.9E±.°, h5km, M3.5/17, ML3.7/22, MLv3.5/17, Error ellipse: s-maj=0.0km s-min=0.0km az=112.2
IDC 25 08:56:34.9±2.7, 37.08S×177.45E, h0km, mb3.4/2, mbtmp3.4/2, MS3.1/1, Error ellipse: s-maj=60.6km s-min=22.2km az=83.0

ISC 25 08:56:24.7±2.4, 37.43S±0.07×179.17E±0.09, h2km±12km, n75, σ1.9/19/82, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.70**	**259**	P	**Pg**	**08 56 38.2**	**+0.1**
MXZ				S	**Sg**	**08 56 45.9**	**-1.2**
WMGZ	**Waiomatatini S**	**0.71**	**237**	P	**Pn**	**08 56 41.5**	**-0.3**
WMGZ				S	**Sn**	**08 56 53.8**	**+0.5**
PUZ	**Puketiti**	**0.96**	**228**	P	**Pn**	**08 56 45.3**	**0.0**
PUZ				S	**Sn**	**08 57 00.3**	**+0.7**
PKGZ	**Pakihiroa**	**0.98**	**242**	P	**Pn**	**08 56 44.8**	**-0.8**
PKGZ				S	**Sn**	**08 56 59.5**	**-0.5**
HAZ	**Te Kaha**	**1.15**	**253**	P	**Pg**	**08 56 46.3**	**-0.4**
TWGZ	**Tauwhareparae**	**1.20**	**231**	P	**Pn**	**08 56 49.3**	**+0.7**
TWGZ				S	**Sn**	**08 57 06.9**	**+1.5**
CNGZ	**Carnagh Statio**	**1.30**	**216**	P	**Pg**	**08 56 50.9**	**+1.4**
CNGZ				S	**Sn**	**08 57 12.3**	**+4.6**
RUGZ	**Raukumara Rang**	**1.30**	**245**	P	**Pg**	**08 56 50.1**	**+0.5**
TKGZ	**Te Karaka**	**1.45**	**226**	P	**Pn**	**08 56 52.2**	**+0.3**
TKGZ				S	**Sg**	**08 57 13.4**	**+2.1**
MWZ	**Matawai**	**1.58**	**235**	P	**Pn**	**08 56 53.8**	**0.0**
RIGZ	**Rimuhau**	**1.69**	**221**	P	**Pn**	**08 56 55.6**	**+0.4**
PRGZ	**Paritu Road**	**1.80**	**214**	P	**Pn**	**08 56 57.2**	**+0.4**
URZ	**Urewera**	**1.83**	**242**	Pn	**Pb**	**08 56 58.1**	**-0.8**
	17nm,0.3s,baz=340,slow=6.0,SNR=96						
URZ				Sn	**Sn**	**08 57 18.5**	**-2.3**
	14nm,0.3s,baz=121,slow=20,SNR=8.3						
URZ	**Urewera**	**1.83**	**242**	P	**Pb**	**08 56 57.9**	**-0.9**
URZ	**Urewera**	**1.83**	**242**	P	**Pn**	**08 56 58.0**	**-0.8**
SNGZ	**Shannon Statio**	**1.98**	**226**	P	**Pn**	**08 56 59.5**	**+0.3**
KNZ	**Kokohu**	**1.98**	**216**	P	**Pn**	**08 56 58.9**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.98**	**210**	P	**Pn**	**08 57 00.3**	**+1.0**
EDRZ	**Edgecumbe**	**2.04**	**250**	P	**Pb**	**08 57 01.0**	**-1.5**
RTZ	**Ruatahuna**	**2.09**	**235**	P	**Pn**	**08 57 01.6**	**+0.7**
OPRZ	**Ohinepanea**	**2.12**	**258**	P	**Pn**	**08 57 01.3**	**+0.3**
MUGZ	**Murupara**	**2.16**	**240**	P	**Pn**	**08 57 02.3**	**+0.6**
RAHZ	**Arahi**	**2.21**	**227**	P	**Pn**	**08 57 03.0**	**+0.5**
TARZ	**Mount Tarawera**	**2.26**	**248**	P	**Pb**	**08 57 04.7**	**-1.5**
RRRZ	**Republican Roa**	**2.29**	**246**	P	**Pn**	**08 57 04.1**	**+0.6**
OMRZ	**Omania**	**2.32**	**252**	P	**Pg**	**08 57 09.7**	**+0.6**
KARZ	**Kaharoa**	**2.39**	**255**	P	**Pn**	**08 57 05.5**	**+0.6**
PRRZ	**Plateau Road**	**2.44**	**243**	P	**Pn**	**08 57 05.9**	**+0.4**
NGRZ	**Ngongotaha**	**2.46**	**253**	P	**Pb**	**08 57 08.1**	**-1.5**
NMHZ	**Naumai**	**2.50**	**227**	P	**Pn**	**08 57 07.1**	**+0.7**
ALRZ	**Allen Road**	**2.50**	**242**	P	**Pn**	**08 57 07.1**	**+0.7**
ARHZ	**Arohanui**	**2.50**	**222**	P	**Pn**	**08 57 06.8**	**+0.4**
BKZ	**Black Stump Fm**	**2.73**	**230**	P	**Pn**	**08 57 09.6**	**+0.1**
BKZ	**Black Stump Fm**	**2.73**	**230**	P	**Pn**	**08 57 09.7**	**+0.1**
CKHZ	**Cape Kidnapper**	**2.76**	**216**	P	**Pn**	**08 57 09.5**	**-0.5**
MCHZ	**McNeill Hill**	**2.79**	**223**	P	**Pn**	**08 57 10.5**	**0.0**
KUZ	**Kuaotunu**	**2.84**	**283**	P	**Pn**	**08 57 11.4**	**+0.4**
TOZ	**Tahuroa Road**	**2.93**	**263**	P	**Pn**	**08 57 12.4**	**+0.2**
KWHZ	**Kaweka Forest**	**2.93**	**226**	P	**Pn**	**08 57 12.2**	**-0.2**
KAHZ	**Kahuranaki**	**2.96**	**217**	P	**Pn**	**08 57 12.2**	**-0.6**
RITZ	**Rihia Road**	**3.03**	**238**	P	**Pn**	**08 57 14.1**	**+0.4**
KRHZ	**Kereru**	**3.11**	**224**	P	**Pn**	**08 57 14.0**	**-0.8**
PXZ	**Pawanui**	**3.16**	**214**	P	**Pn**	**08 57 14.2**	**-1.3**
BHHZ	**Black Hill Sta**	**3.19**	**229**	P	**Pn**	**08 57 15.7**	**-0.2**
TMVZ	**Te Maari**	**3.20**	**237**	P	**Pn**	**08 57 16.5**	**+0.3**
ETVZ	**East Tongariro**	**3.21**	**237**	P	**Pn**	**08 57 17.0**	**+0.7**
MKAZ	**Moumakai**	**3.21**	**275**	P	**Pn**	**08 57 16.6**	**+0.4**
OTVZ	**Oturere**	**3.25**	**237**	P	**Pn**	**08 57 16.7**	**-0.2**
SNVZ	**South Ngauruho**	**3.28**	**237**	P	**Pn**	**08 57 17.3**	**0.0**
WIAZ	**Waheke Island**	**3.29**	**280**	P	**Pn**	**08 57 19.1**	**+1.9**
TUVZ	**Tukino**	**3.32**	**235**	P	**Pn**	**08 57 18.1**	**+0.3**
MOVZ	**Moawhango**	**3.33**	**233**	P	**Pn**	**08 57 18.1**	**+0.3**
FWVZ	**Far West T-bar**	**3.38**	**236**	P	**Pn**	**08 57 18.9**	**+0.2**
WNVZ	**Wahianoa**	**3.38**	**235**	P	**Pn**	**08 57 18.7**	**0.0**
WPHZ	**Waipukurau**	**3.39**	**218**	P	**Pn**	**08 57 17.3**	**-1.2**
ETAZ	**East Tamaki Re**	**3.42**	**277**	P	**Pn**	**08 57 20.1**	**+1.1**
PRHZ	**Porangahau**	**3.45**	**214**	P	**Pn**	**08 57 18.0**	**-1.5**
PKVZ	**Pokaka**	**3.53**	**237**	P	**Pn**	**08 57 22.0**	**+1.4**
HIZ	**Hauiti**	**3.58**	**251**	P	**Pn**	**08 57 22.5**	**+1.3**
HIZ	**Hauiti**	**3.58**	**251**	P	**Pn**	**08 57 22.6**	**+1.4**
ANWZ	**Angora Road**	**3.68**	**214**	P	**Pn**	**08 57 21.3**	**-1.3**
RVAZ	**Riverhead Bore**	**3.73**	**279**	P	**Pn**	**08 57 23.6**	**+0.4**
BFZ	**Birch Farm**	**3.96**	**214**	P	**Pn**	**08 57 24.2**	**-2.3**
PRWZ	**Pori Road**	**3.99**	**218**	P	**Pn**	**08 57 25.4**	**-1.5**
WAZ	**Wanganui**	**4.01**	**233**	P	**Pn**	**08 57 28.0**	**+0.8**
WCZ	**Waipu Caves**	**4.15**	**290**	P	**Pn**	**08 57 30.2**	**+1.1**
NEZ	**North Egmont**	**4.39**	**244**	P	**Pn**	**08 57 35.3**	**+2.9**
OUZ	**Omahuta**	**5.01**	**294**	P	**Pn**	**08 57 43.0**	**+2.1**
OUZ	**Omahuta**	**5.01**	**294**	P	**Pn**	**08 57 43.1**	**+2.2**
KHZ	**Kahutara**	**6.59**	**219**	P	**Pn**	**08 58 02.0**	**-0.6**
CTZ	**Chatham Island**	**7.07**	**154**	P	**Pn**	**08 58 10.9**	**+1.8**
AFI	**Afiamalu**	**24.78**	**21**	LR	LR	09 10 11.3	
	comp=Z,46nm,20.4s,baz=78,slow=33						
ASAR	**Alice Springs**	**40.95**	**276**	P	**P**	**09 04 07.6**	**-1.3**
	0.5nm,0.8s,baz=120,slow=7.2,SNR=7.5						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**42.58**	**281**	P	**P**	**09 04 20.9**	**-1.4**
	0.4nm,0.7s,baz=121,slow=7.6,SNR=8.4						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**150.68**	**334**	PKPbc	**PKPab**	**09 16 25.9**	**+1.5**
	2.1nm,1.0s,baz=122,slow=2.5,SNR=3.8						

IDC 25 08:59:45.3±2.0, 19.79S×178.26W, h601km±21km, mb3.2/8, mbtmp4.2/11, Error ellipse: s-maj=24.7km s-min=19.9km az=84.0
NEIC 25 08:59:45.4±1.6, 20.0S±0.2×178.4W±0.2, h573km±13km, mb4.1/16, Error ellipse: s-maj=24.8km s-min=23.5km az=210.0

ISC 25 08:59:45.2±1.0, 19.8S±0.1×178.2W±0.2, h600km, n33, σ1.9/03/32, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.07**	**299**	P	**P**	**09 01 11.7**	**+0.4**
	27nm,0.5s,baz=194,slow=4.2,SNR=121						
MSVF	**Nonsavu**	**4.07**	**299**	P	**P**	**09 01 11.5**	**+0.2**
PINNC	**Pines Island,**	**13.68**	**255**	P	**P**	**09 02 39.9**	**-1.0**
DZM	**Mont Dzumac**	**14.52**	**258**	P	**P**	**09 02 50.4**	**+1.3**
	3.4nm,0.8s,baz=86,slow=17,SNR=6.1						
DZM	**Mont Dzumac**	**14.52**	**258**	P	**P**	**09 02 51.0**	**+1.8**
KOUNC	**Koumac, New Ca**	**16.45**	**264**	P	**P**	**09 03 09.9**	**+3.1**
URZ	**Urewera**	**18.89**	**191**	P	**P**	**09 03 26.8**	**-1.9**
	4.7nm,0.4s,baz=333,slow=4.0,SNR=6.3						
WHZ	**Wether Hill Ro**	**28.46**	**201**	P	**P**	**09 04 53.9**	**+0.4**
CTA	**Charters Tower**	**33.37**	**263**	P	**P**	**09 05 35.4**	**-0.3**
	5.7nm,0.5s,baz=92,slow=10,SNR=15						
	5.7nm,0.5s						
CTAO	**Charters Tower**	**33.37**	**263**	P	**P**	**09 05 35.6**	**-0.1**
COEN	**Coen**	**37.34**	**273**	P	**P**	**09 06 08.7**	**+0.1**
COEN				IAmb	IAmb	09 06 09.0	
	comp=Z,5.2nm,0.7s						
BBOO	**Buckleboo**	**42.71**	**243**	P	**P**	**09 06 50.5**	**-0.5**
WR0	**Warramunga Arr**	**44.32**	**261**	P	**P**	**09 07 03.2**	**-0.4**
WR0				IAmb	IAmb	09 07 13.4	
	comp=Z,8.9nm,1.4s						
WB0	**Warramunga Arr**	**44.48**	**262**	P	**P**	**09 07 04.1**	**-0.9**
WB0				IAmb	IAmb	09 07 04.5	
	comp=Z,6.4nm,1.2s						
WB2	**Warramunga Arr**	**44.50**	**261**	P	**P**	**09 07 04.2**	**-0.9**
WB2				IAmb	IAmb	09 07 04.8	
	comp=Z,7.8nm,1.2s						
ASAR	**Alice Springs**	**44.50**	**256**	P	**P**	**09 07 04.4**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=87,slow=8.6,SNR=22						
	comp=Z,2.9nm,0.8s						
ASAR	**Alice Springs**	**44.50**	**256**	P	**P**	**09 07 04.3**	**-0.8**
WRAB	**Tennant Creek**	**44.50**	**261**	P	**P**	**09 07 04.3**	**-0.8**
WRAB				IAmb	IAmb	09 07 04.7	
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**44.51**	**261**	P	**P**	**09 07 04.1**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=97,slow=7.9,SNR=30						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	**44.51**	**261**	P	**P**	**09 07 04.2**	**-1.0**
MTN	**Manton Dam**	**48.96**	**270**	P	**P**	**09 07 38.0**	**-0.5**
MTN				IAmb	IAmb	09 07 51.2	
	comp=Z,7.7nm,1.1s						
SIJI	**Sorong**	**52.85**	**284**	P	**P**	**09 08 06.4**	**-0.4**
	comp=Z,8.0nm,0.9s,baz=23,slow=7.7,SNR=3.5						
	comp=Z,8.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.93**	**262**	P	**P**	**09 08 07.2**	**-0.1**
SBA	**Scott Base**	**58.61**	**184**	P	**P**	**09 08 47.2**	**+1.9**
VNDA	**Vanda**	**58.64**	**185**	P	**P**	**09 08 46.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=358,slow=6.4,SNR=6.2						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**58.64**	**185**	P	**P**	**09 08 46.0**	**+0.4**
MJAR	**Matsushiro Arr**	**69.49**	**324**	P	**P**	**09 09 54.6**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=156,slow=6.2,SNR=5.1						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**70.32**	**180**	P	**P**	**09 09 59.6**	**+0.2**
QSPA				IAmb	IAmb	09 10 00.4	
	comp=Z,3.5nm,0.9s						
M26K	**Nabesna, AK**	**86.49**	**16**	P	P	09 11 30.3	+5.2
M26K				IAmb	IAmb	09 11 55.1	
	comp=Z,8.9nm,1.4s						
ILAR	**Eielson Array**	**87.63**	**13**	P	**P**	**09 11 29.5**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=236,slow=6.4,SNR=5.2						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.67**	**290**	P	**P**	**09 11 41.5**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=116,slow=2.1,SNR=6.1						
	comp=Z,0.4nm,0.3s						
CLL	**Colln**	**147.29**	**347**	*e*PKPbc	**PKPbc**	**09 18 22.0**	**-0.1**
GERES	**GERESS Array B**	**149.42**	**344**	PKPbc	**PKPbc**	**09 18 27.7**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=329,slow=1.6,SNR=5.4						

IDC 25 09:16:06.8±0.8, 19.81N×121.45E, h0km, mb3.9/11, mbtmp3.9/12, ML3.7/1, MS3.4/14, Error ellipse: s-maj=27.7km s-min=16.8km az=71.0
NEIC 25 09:16:09.0±1.9, 19.78N±0.09×121.3E±0.1, h11km±5km, mb4.5/24, Error ellipse: s-maj=17.1km s-min=13.0km az=96.0
MAN 25 09:16:10.6, 19.93N×121.19E, h13km, mb4.8, ML3.7, MS3.7

ISC 25 09:16:12.2±0.5, 19.79N±0.04×121.11E±0.06, h34km, n74, σ1.5/51/59, mb4.4/22, MS3.3/12, 6C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICP	**Calayan Island**	**0.63**	**146

AS31					IAmb	IAmb	09 24 25.0		
	comp=Z,2.4nm,0.3s								
ASAR	**Alice Springs**	**44.96**	**163**	P		**P**	**09 24 23.8**	**-0.4**	
	comp=Z,1.3nm,0.3s,baz=339,slow=6.7,SNR=50								
	comp=Z,1.3nm,0.3s								
KURBB	**Kurchatov Arra**	**45.48**	**323**	P		**P**	**09 24 29.2**	**+1.1**	
	comp=Z,1.1nm,0.6s,baz=120,slow=7.8,SNR=11								
	comp=Z,1.1nm,0.6s								
HNR	**Honiara**	**48.02**	**124**	LR		LR	09 44 35.9		
	comp=Z,292nm,19.0s,baz=242,slow=36								
MORW	**Morawa**	**48.82**	**186**	P		**P**	**09 24 55.0**	**+0.8**	
FORT	**Forrest**	**50.72**	**172**	P		**P**	**09 25 08.4**	**-0.3**	
TIXI	**Tiksi**	**52.07**	**3**	LR		LR	09 50 29.0		
	comp=Z,35nm,18.4s,baz=185,slow=40								
NRIK	**Noril'sk**	**53.62**	**346**	P		**P**	**09 25 30.4**	**+0.7**	
	comp=Z,2.3nm,0.5s,baz=146,slow=7.2,SNR=5.5								
	comp=Z,2.3nm,0.5s								
BBOO	**Buckleboo**	**54.22**	**164**	P		**P**	**09 25 34.4**	**-0.2**	
BBOO					IAmb	IAmb	09 25 44.4		
	comp=Z,6.6nm,1.0s								
ABKAR	**Akbulak array**	**56.51**	**317**	P		**P**	**09 25 52.2**	**+1.3**	
TOO	**Toolangi**	**61.50**	**158**	P		**P**	**09 26 26.4**	**+0.8**	
KIRV	**Kirov**	**63.79**	**326**	LR		LR	09 55 33.5		
	comp=Z,69nm,19.8s,baz=126,slow=37								
J20K	**Nowinta River**	**70.10**	**28**	P		**P**	**09 27 20.4**	**-0.3**	
J20K					IAmb	IAmb	09 27 21.9		
	comp=Z,3.0nm,0.8s								
IMAR	**Indian Mountai**	**70.14**	**26**	P		**P**	**09 27 19.9**	**-1.0**	
K20K	**Telida**	**70.20**	**29**	P		**P**	**09 27 21.7**	**+0.3**	
H21K	**Melozitna Rive**	**70.55**	**26**	P		**P**	**09 27 23.1**	**-0.4**	
H21K					IAmb	IAmb	09 27 44.4		
	comp=Z,7.2nm,1.4s								
H23K	**Yukon River**	**71.87**	**26**	P		**P**	**09 27 31.9**	**+0.4**	
H23K					IAmb	IAmb	09 27 45.4		
	comp=Z,8.2nm,1.4s								
RND	**Reindeer**	**72.53**	**28**	P		**P**	**09 27 34.0**	**-1.5**	
ILAR	**Eielson Array**	**73.14**	**27**	P		**P**	**09 27 37.7**	**-1.3**	
	comp=Z,0.4nm,0.7s,baz=255,slow=5.5,SNR=5.0								
	comp=Z,0.4nm,0.7s								
BMAR	**Burnt Mountain**	**73.55**	**24**	P		**P**	**09 27 41.5**	**+0.1**	
RIDG	**Independent Ri**	**74.22**	**27**	P		**P**	**09 27 44.5**	**-1.0**	
RIDG					IAmb	IAmb	09 27 55.6		
	comp=Z,9.1nm,1.4s								
I26K	**Coal Creek Min**	**74.58**	**26**	P		**P**	**09 27 46.6**	**-0.8**	
FINES	**FINESS Array B**	**75.20**	**330**	P		**P**	**09 27 51.3**	**+0.2**	
	comp=Z,1.7nm,0.7s,baz=15,slow=6.0,SNR=3.1								
	comp=Z,1.7nm,0.7s								
EGAK	**Eagle**	**75.53**	**26**	P		**P**	**09 27 51.9**	**-1.0**	
EGAK					IAmb	IAmb	09 28 03.8		
	comp=Z,6.3nm,1.3s								
L27K	**Beaver Creek,**	**75.71**	**28**	P		**P**	**09 27 53.3**	**-0.7**	
L27K					IAmb	IAmb	09 28 17.3		
	comp=Z,7.8nm,1.5s								
BCAR	**Beaver Creek A**	**75.72**	**28**	P		**P**	**09 27 54.0**	**-0.1**	
AKASG	**Malin Array Be**	**76.11**	**319**	P		**P**	**09 27 56.5**	**0.0**	
	comp=Z,0.1nm,0.3s,baz=66,slow=4.7,SNR=2.5								
	comp=Z,0.1nm,0.3s								
DAWY	**Dawson**	**76.47**	**26**	P		**P**	**09 27 56.8**	**-1.5**	
DAWY					IAmb	IAmb	09 28 03.1		
	comp=Z,5.4nm,1.4s								
NOA	**NORSAR Array B**	**82.06**	**332**	LR		LR	10 09 13.1		
	comp=Z,32nm,18.4s,baz=325,slow=39								

*NNC **25** 09:35:42.9±0.6,51°.61N×75°.27E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=12.8km s-min=4.3km az=24.0, Suspected Mining explosion.*
*IDC **25** 09:35:44.4±0.9,51°.74N×75°.51E,h0km,mbtmp2.6/4, ML1.9/4,Error ellipse: s-maj=22.3km s-min=8.1km az=29.0*
ISC 25 09:35:41.4±1.0,51°.69N±0°.09×75°.16E±0°.07,h0km,n10, σ0s80/11,5C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.38**	**115**	Pn		**Pn**	**09 36 22.1**	**+0.6**
	0.1nm,0.3s,baz=304,slow=19,SNR=20							
KURBB				Lg		Lg	09 36 52.3	
	0.2nm,0.3s,baz=306,slow=32,SNR=9.3							
	1.6nm,0.7s							
KURBB	**Kurchatov Arra**	**2.38**	**115**	⇑Pn		**Pn**	**09 36 22.4**	**+0.9**
	6.2nm,0.8s							
KURBB				⇑Sn		**Sn**	**09 36 51.0**	**-0.4**
	41nm,0.7s							
BVA0	**Borovoye Array**	**3.22**	**296**	⇓Pg		**Pg**	**09 36 42.9**	**-0.1**
	1.7nm,0.7s,baz=118,slow=13,SNR=9.9							
BVA0				⇓Lg		Lg	09 37 27.6	
	9.9nm,0.8s,baz=113,slow=25,SNR=12							
BVA0				⇓Rg		Rg	09 37 46.4	
	0.7nm,0.8s,baz=74,slow=24,SNR=6.0							
BVAR	**Borovoye Array**	**3.22**	**296**	Pn		**Pb**	**09 36 38.9**	**-0.5**
	0.2nm,0.3s,baz=102,slow=14,SNR=4.0							
BVAR				Pg		**Pg**	**09 36 43.4**	**+0.4**
	0.3nm,0.3s,baz=114,slow=17,SNR=6.6							
BVAR				Lg		Lg	09 37 27.8	
	0.4nm,0.3s,baz=109,slow=27,SNR=14							
	1.5nm,0.6s							
OTUK	**Ortayu**	**3.90**	**209**	⇓Lg		Lg	09 37 46.0	
	14nm,1.1s							
I46RU	**ZALESOVO INFRA**	**6.28**	**65**	*i*			10 14 00.0	
	baz=252,slow=328,SNR=4.2							
ZALV	**Zalesovo Beam**	**6.28**	**65**	Pn		**Pn**	**09 37 15.9**	**+0.7**
	0.1nm,0.3s,baz=248,slow=14,SNR=2.0							
ZALV				Sn		**Sn**	**09 38 26.7**	**-0.9**
	0.2nm,0.3s,baz=250,slow=21,SNR=2.3							
ZALV				Lg		Lg	09 38 57.7	
	0.1nm,0.3s,baz=278,slow=33,SNR=2.1							
	0.9nm,0.6s							
MAKZ	**Makanchi**	**6.61**	**135**	⇑Lg		Lg	09 39 10.4	
	6.1nm,1.0s							
MK31	**Makanchi Array**	**6.76**	**134**	⇑Sn		**Sn**	**09 38 38.4**	**-1.2**
	0.5nm,0.5s,baz=326,slow=23,SNR=9.6							
MK31				⇑Lg		Lg	09 39 15.3	
	3.0nm,0.7s,baz=331,slow=26,SNR=4.5							
MKAR	**Makanchi Array**	**6.76**	**134**	Pn		**Pn**	**09 37 22.6**	**+0.7**
	baz=320,slow=13,SNR=4.6							
MKAR				Sn		**Sn**	**09 38 39.1**	**-0.5**
	0.1nm,0.3s,baz=333,slow=24,SNR=3.1							
MKAR				Lg		Lg	09 39 12.1	
	0.2nm,0.3s,baz=326,slow=23,SNR=13							
	0.6nm,0.8s							

*NCEDC **25** 09:50:47.2±2.8,41°.84N±0°.05×126°.42W±0°.09,h5km±2km, Error ellipse: s-maj=11.0km s-min=8.7km az=261.0*
*IDC **25** 09:50:49.0±1.1,41°.87N×126°.02W,h0km,mb3.9/8, mbtmp4.0/16,ML3.8/8,MS3.6/54,Error ellipse: s-maj=18.2km s-min=9.8km az=42.0*
*NEIC **25** 09:50:51.2±2.7,41°.85N±0°.05×126°.1W±0°.1,h16km±6km, mb4.6/32,ML4.0/82,ML4.0/19(NCEDC),Error ellipse: s-maj=11.1km s-min=6.9km az=83.0*
*ANF **25** 09:50:52.5±1.1,42°.08N×125°.76W,h0km,ML4.3/8,Error ellipse: s-maj=10.6km s-min=8.1km az=30.0*
ISC 25 09:50:52.4±3.6,41°.89N±0°.05×126°.02W±0°.05, h17km±23km,n415,σ1s47/367,mb4.5/26,MS3.6/50,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.38**	**76**			**Pn**	**09 51 15.0**	**-1.9**
KBO						**Sb**	**09 51 33.3**	**-1.7**
KBO	**Bosley Butte**	**1.38**	**76**	IAML			09 51 35.0	
	comp=N,1μm,0.3s							
KBO				IAML			09 51 38.0	
	comp=E,2μm,0.3s							
KEBM	**Edson Butte**	**1.59**	**51**			**Pn**	**09 51 17.8**	**-2.0**
KSXB	**Camp Six Broad**	**1.60**	**92**			**Pn**	**09 51 18.2**	**-1.8**
KSXB						**Sn**	**09 51 39.1**	**-1.3**
KSXB	**Camp Six Broad**	**1.60**	**92**	IAML			09 51 41.4	
	comp=N,1μm,0.6s							
KSXB				IAML			09 51 42.1	
	comp=E,1μm,0.4s							
KRMB	**Red Mountain**	**1.63**	**102**			**Pn**	**09 51 18.3**	**-2.1**
KRPM	**Rodgers**	**1.67**	**115**			**Pn**	**09 51 18.7**	**-2.3**
L02F	**Cave Junction**	**1.84**	**82**	P		**Pn**	**09 51 21.5**	**-1.7**
	baz=263							
L02F				S		**Sn**	**09 51 45.3**	**-0.8**
	baz=263							
JCC	**Jacoby Creek,**	**1.85**	**125**			**Pn**	**09 51 20.4**	**-2.8**
KCTM	**Capetown**	**1.91**	**138**			**Pn**	**09 51 21.3**	**-2.8**
K02D	**Willamette Mer**	**1.92**	**65**	P		**Pn**	**09 51 22.7**	**-1.7**
	baz=248,SNR=807							
K02D				S		**Sn**	**09 51 46.6**	**-1.6**
	baz=248							
KTRM	**Thompson Ridge**	**1.98**	**89**			**Pn**	**09 51 23.5**	**-1.7**
J01E	**Myrtle Point**	**2.00**	**50**			**Pn**	**09 51 23.4**	**-2.0**
J01E	**Myrtle Point**	**2.00**	**50**	P		**Pn**	**09 51 23.4**	**-2.0**
	baz=235,SNR=1000							
J01E				S		**Sn**	**09 51 47.9**	**-2.1**
	baz=235							
KHMM	**Horse Mountain**	**2.00**	**120**			**Pn**	**09 51 23.3**	**-2.2**
KHMM	**Horse Mountain**	**2.00**	**120**	IAML			09 51 50.3	
	comp=N,672nm,0.6s							
KHMM				IAML			09 51 50.5	
	comp=E,623nm,0.5s							
KOMM	**Orleans Mounta**	**2.02**	**107**			**Pn**	**09 51 24.2**	**-1.6**
KMPM	**Mount Pierce**	**2.06**	**135**			**Pn**	**09 51 23.3**	**-3.0**
KMPM	**Mount Pierce**	**2.06**	**135**	IAML			09 51 51.5	
	comp=N,1μm,0.7s							
KMPM				IAML			09 51 54.8	
	comp=E,2μm,0.7s							
KSMM	**Slide Mountain**	**2.21**	**140**			**Pn**	**09 51 24.9**	**-3.4**
KCRM	**Chalk Rock**	**2.22**	**131**			**Pn**	**09 51 25.9**	**-2.6**
HUMO	**Hull Mountain**	**2.38**	**72**			**Pn**	**09 51 29.4**	**-1.3**
HUMO	**Hull Mountain**	**2.38**	**72**	IAML			09 52 01.7	
	comp=E,465nm,0.4s							
HUMO				IAML			09 52 01.8	
	comp=N,607nm,0.5s							
DBO	**Dodson Butte**	**2.39**	**58**			**Pn**	**09 51 29.7**	**-1.2**
DBO				IAML			09 52 02.0	
	comp=E,530nm,0.6s							
DBO				IAML			09 52 03.4	
	comp=N,819nm,0.5s							
KMRM	**Mail Ridge**	**2.42**	**133**			**Pn**	**09 51 29.0**	**-2.3**
KMRM	**Mail Ridge**	**2.42**	**133**	IAML			09 52 02.4	
	comp=E,1μm,0.7s							
KMRM				IAML			09 52 02.9	
	comp=N,790nm,0.9s							
KHBM	**Hayfork Bally**	**2.45**	**119**			**Pn**	**09 51 29.5**	**-2.2**
YBH	**Yreka Blue Hor**	**2.48**	**93**	Pn		**Pn**	**09 51 31.6**	**-0.4**
	comp=N,61nm,0.3s,baz=284,slow=13,SNR=1786							
YBH						Sn	**09 52 02.7**	**+0.7**
	comp=N,60nm,0.3s,baz=255,slow=18,SNR=7.5							
YBH						LR	09 52 11.0	
	comp=N,405nm,20.2s,baz=201,slow=33							
	comp=N,464nm,0.6s							
YBH	**Yreka Blue Hor**	**2.48**	**93**	Pn		**Pn**	**09 51 31.8**	**-0.3**
KPPM	**Pickett Peak**	**2.54**	**127**			**Pn**	**09 51 31.0**	**-1.9**
LGPM	**Granite Peak**	**2.59**	**111**			**Pn**	**09 51 31.9**	**-1.7**
LBKM	**Bonanza King**	**2.65**	**107**			**Pn**	**09 51 33.1**	**-1.3**
BBOR	**Butler Butte**	**2.67**	**67**			**Pn**	**09 51 34.0**	**-0.8**
I03D	**Drain, OR**	**2.67**	**47**	P		**Pn**	**09 51 32.8**	**-1.8**
	baz=232,SNR=1000							
I03D				S		**Sn**	**09 52 04.3**	**-2.2**
	baz=232							
I02E	**Swisshome, OR**	**2.73**	**35**			**Pn**	**09 51 33.8**	**-1.6**
I02E				IAML			09 52 09.4	
	comp=E,806nm,0.6s							
I02E	**Swisshome, OR**	**2.73**	**35**	P		**Pn**	**09 51 33.5**	**-1.8**
	baz=221,SNR=891							
I02E				S		**Sn**	**09 52 06.2**	**-1.7**
	baz=221							
LCSM	**College of the**	**2.76**	**99**			**Pn**	**09 51 35.8**	**-0.2**
L04D	**Klamath Falls**	**2.79**	**82**			**Pn**	**09 51 36.2**	**-0.1**
L04D				IAML			09 52 15.5	
	comp=E,533nm,0.5s							
L04D				IAML			09 52 18.7	
	comp=N,302nm,0.8s							
L04D	**Klamath Falls**	**2.79**	**82**	P		**Pn**	**09 51 36.2**	**-0.1**
	baz=264,SNR=353							
L04D						Sb	**09 52 13.6**	**-2.1**
	baz=264							
KIPM	**Iron Peak**	**2.84**	**136**			**Pn**	**09 51 34.5**	**-2.6**
LBPM	**Beegum Peak**	**2.85**	**123**			**Pn**	**09 51 35.2**	**-1.9**
LHEM	**Herd Peak**	**2.86**	**94**			**Pn**	**09 51 37.4**	**0.0**
KCPM	**Cahto Peak**	**2.88**	**139**			**Pn**	**09 51 34.7**	**-2.9**
KCPM				IAML			09 52 10.1	
	comp=E,855nm,0.5s							
KCPM				IAML			09 52 18.9	
	comp=N,422nm,1.2s							
LMPM	**Military Pass**	**2.92**	**97**			**Pn**	**09 51 38.6**	**+0.4**
KBNM	**Bluenose Ridge**	**2.93**	**132**			**Pn**	**09 51 36.6**	**-1.7**
M03C	**McCloud**	**2.99**	**101**			**Pn**	**09 51 39.0**	**-0.1**
KFPM	**Farley Peak**	**2.99**	**138**			**Pn**	**09 51 36.2**	**-2.9**
LBFM	**Black Fox Moun**	**3.15**	**99**			**Pn**	**09 51 42.2**	**+0.8**
LGMM	**Garner Mountai**	**3.15**	**94**			**Pn**	**09 51 41.5**	**+0.2**
J04D	**Umpqua Nationa**	**3.19**	**64**			**Pn**	**09 51 42.0**	**+0.1**
J04D	**Umpqua Nationa**	**3.19**	**64**	P		**Pn**	**09 51 41.8**	**-0.1**
	baz=248,SNR=59							
J04D				S		**Sn**	**09 52 23.9**	**+4.3**
	baz=248							
BUCK	**Buck Mountain**	**3.20**	**43**			**Pn**	**09 51 40.9**	**-1.1**
GROM	**Round Mountain**	**3.22**	**127**			**Pn**	**09 51 40.6**	**-1.7**
K04D	**Chiloquin, OR**	**3.25**	**76**			**Pn**	**09 51 42.1**	**-0.6**
K04D	**Chiloquin, OR**	**3.25**	**76**	P		**Pn**	**09 51 41.9**	**-0.8**
	baz=259,SNR=39							
I04A	**Tendick Farm,**	**3.26**	**53**	P		**Pn**	**09 51 42.2**	**-0.6**
	baz=238,SNR=686							
I04A				S		**Sn**	**09 52 21.2**	**0.0**
	baz=238							
LMHM	**Little Mount H**	**3.28**	**94**			**Pn**	**09 51 43.2**	**0.0**
GVV	**Valley View**	**3.31**	**129**			**Pn**	**09 51 41.8**	**-1.6**
COR	**Corvallis**	**3.34**	**36**			**Pn**	**09 51 43.0**	**-0.9**
GWRM	**Wonder Ranch**	**3.39**	**141**			**Pn**	**09 51 41.5**	**-3.1**
LTCM	**Tuscan Springs**	**3.40**	**118**			**Pn**	**09 51 43.2**	**-1.3**
LTIM	**Timbered Crate**	**3.48**	**100**			**Pn**	**09 51 45.5**	**-0.3**
H04D	**Lebanon**	**3.56**	**41**			**Pn**	**09 51 46.0**	**-0.8**
H04D	**Lebanon**	**3.56**	**41**	P		**Pn**	**09 51 46.0**	**-0.8**
	baz=226,SNR=103							
H04D				S		**Sn**	**09 52 27.6**	**-0.9**
	baz=226							
GCK	**Clark Valley**	**3.60**	**130**			**Pn**	**09 51 46.6**	**-0.8**
LMEM	**Manzanita Entr**	**3.62**	**111**			**Pn**	**09 51 47.7**	**-0.1**
GHLM	**Highland Sprin**	**3.66**	**140**			**Pn**	**09 51 45.2**	**-3.1**
GTSM	**Trough Springs**	**3.66**	**134**			**Pn**	**09 51 46.1**	**-2.3**
HOPS	**Hopland Field**	**3.67**	**141**	Pn		**Pn**	**09 51 45.4**	**-3.0**
HOPS				IAML			09 52 30.3	
	comp=N,141nm,1.3s							
HEBO	**Mount Hebo**	**3.71**	**26**			**Pn**	**09 51 49.8**	**+0.9**
HEBO				IAML			09 52 35.7	
	comp=E,221nm,0.6s							
HEBO				IAML			09 52 35.9	
	comp=N,294nm,0.9s							
J05D	**Fort Rock, OR**	**3.80**	**67**	P		**Pn**	**09 51 49.5**	**-0.7**
	baz=251,SNR=52							
G03D	**McMinnville, O**	**3.87**	**30**			**Pn**	**09 51 49.7**	**-1.4**
G03D				IAML			09 52 37.0	
	comp=N,364nm,0.8s							
G03D				IAML			09 52 42.1	
	comp=E,316nm,0.5s							
G03D	**McMinnville, O**	**3.87**	**30**	P		**Pn**	**09 51 50.2**	**-1.0**
	baz=215,SNR=509							
G03D				S		**Sn**	**09 52 33.8**	**-2.4**
	baz=215							
K05A	**Summer Lake**	**3.89**	**76**	Pn		**Pn**	**09 51 50.8**	**-0.8**
K05A				IAML			09 53 04.8	
	comp=N,120nm,1.5s							
GSSM	**Skaggs Springs**	**3.93**	**143**			**Pn**	**09 51 48.8**	**-3.2**
H04A	**Detroit Lake**	**3.95**	**44**	Pn		**Pn**	**09 51 51.4**	**-0.9**
OGOM	**Van Goodin Ran**	**4.03**	**122**			**Pn**	**09 51 51.0**	**-2.2**
OSUM	**Sutter Buttes**	**4.12**	**128**			**Pn**	**09 51 51.9**	**-2.5**
ORV	**Oroville**	**4.16**	**123**			**Pn**	**09 51 52.9**	**-2.2**
ORV				IAML			09 52 45.5	
	comp=E,130nm,0.6s							
ORV				IAML			09 52 47.1	
	comp=N,113nm,0.7s							
SUTB	**Sutter Butte**	**4.18**	**128**			**Pn**	**09 51 52.4**	**-3.0**
PINE	**Pine Mountain**	**4.19**	**61**	Pn		**Pn**	**09 51 55.3**	**-0.3**
PINE				IAML			09 52 47.2	
	comp=E,163nm,0.5s							
I05D	**Terrebonne, OR**	**4.21**	**53**	P		**Pn**	**09 51 55.1**	**-0.7**
	baz=238,SNR=33							
I05D				S		**Sn**	**09 52 45.4**	**+0.8**
	baz=238							
OWYM	**Wyandotte**	**4.22**	**124**			**Pn**	**09 51 53.7**	**-2.3**
LKVW	**Lakeview**	**4.23**	**84**			**Pn**	**09 51 55.1**	**-1.0**
MOD	**Modoc Plateau**	**4.27**	**88**	Pn		**Pn**	**09 51 55.8**	**-0.9**
MCCM	**Marconi Confer**	**4.45**	**146**			**Pn**	**09 51 55.9**	**-3.2**
MCCM				IAML			09 52 48.8	
	comp=N,107nm,1.4s							
MCCM				IAML			09 52 50.2	
	comp=E,100nm,0.7s							
HOOD	**Mount Hood Mea**	**4.67**	**41**			**Pn**	**09 52 02.1**	**-0.1**
HOOD				IAML			09 53 13.4	
	comp=N,154nm,0.8s							
F04D	**Rainier, OR**	**4.72**	**26**	P		**Pn**	**09 52 03.2**	**+0.5**
	baz=211,SNR=35							
F04D				S		**Sn**	**09 52 56.8**	**-0.2**
	baz=211							
BEKR	**Beckworth**	**4.75**	**113**	Pn		**Pn**	**09 52 02.7**	**-0.6**
G05D	**Wamic, OR**	**4.78**	**44**	P		**Pn**	**09 52 03.4**	**-0.3**
	baz=229,SNR=38							
RADR	**Rader Ridge**	**4.80**	**19**			**Pn**	**09 52 03.6**	**-0.3**
RADR				IAML			09 53 06.4	
	comp=N,61nm,1.0s							
RADR				IAML			09 53 11.6	
	comp=E,53nm,0.8s							
BKS	**Berkeley--Byer**	**4.96**	**143**			**Pn**	**09 52 03.0**	**-3.0**
E03A	**Lebam**	**4.97**	**20**	Pn		**Pn**	**09 52 05.4**	**-0.8**
E03A				IAML			09 53 05.1	
	comp=E,131nm,0.6s							
DONR	**Donner Summit**	**5.03**	**118**			**Pn**	**09 52 07.2**	**0.0**
JSBM	**San Bruno Moun**	**5.05**	**145**			**Pn**	**09 52 04.3**	**-3.0**
PLTX	**Planet X, Gerl**	**5.08**	**101**			**Pn**	**09 52 08.1**	**+0.3**
PLTX				IAML			09 52 52.0	
	comp=E,129nm,1.1s							
PLTX				IAML			09 53 00.8	
	comp=N,110nm,1.3s							
TNK	**Tinkers Knob**	**5.13**	**119**			**Pn**	**09 52 08.7**	**+0.1**
MPK	**Martis Peak**	**5.25**	**118**			**Pn**	**09 52 10.5**	**+0.2**
MPK				IAML			09 53 19.3	
	comp=N,109nm,0.6s							
MPK				IAML			09 53 26.7	
	comp=E,97nm,0.8s							
I07A	**Izee**	**5.26**	**63**	Pn		**Pn**	**09 52 10.6**	**+0.3**
JRSC	**Jasper Ridge**	**5.35**	**146**			**Pn**	**09 52 08.6**	**-2.8**
EMB	**Emerald Bay**	**5.38**	**121**			**Pn**	**09 52 12.4**	**+0.4**
JFP	**Foothills Park**	**5.41**	**146**			**Pn**	**09 52 09.1**	**-3.1**
WISH	**Wishkah**	**5.46**	**16**			**Pn**	**09 52 12.3**	**-0.6**
PAHR	**Pah Rah Range**	**5.49**	**111**			**Pn**	**09 52 13.3**	**-0.2**
VCNR	**Virginia City**	**5.50**	**116**			**Pn**	**09 52 13.6**	**-0.1**
WVOR	**Wild Horse Val**	**5.51**	**82**			**Pn**	**09 52 12.2**	**-1.6**
PNTR	**Pine Nut**	**5.64**	**118**	Pn		**Pn**	**09 52 15.4**	**-0.2**
NLWA	**Neilton Lookou**	**5.71**	**15**			**Pn**	**09 52 15.9**	**-0.5**
LON	**Longmire**	**5.72**	**30**	Pn		**Pn**	**09 52 16.5**	**0.0**
J08A	**Circle Bar Ran**	**5.76**	**73**			**Pn**	**09 52 16.7**	**-1.1**
CMB	**Columbia Colle**	**5.80**	**130**			**Pn**	**09 52 16.1**	**-1.5**
YERR	**Yerington**	**5.93**	**117**			**Pn**	**09 52 18.9**	**-0.8**
F07A	**Phinny Hill Vi**	**5.95**	**46**			**Pn**	**09 52 19.5**	**-0.1**
D05A	**Enumclaw**	**6.03**	**27**			**Pn**	**09 52 21.8**	**+1.1**
G08A	**Pilot Rock**	**6.15**	**54**	Pn		**Pn**	**09 52 22.6**	**+0.1**
B04A	**Port Angeles**	**6.42**	**15**			**Pn**	**09 52 26.3**	**+0.2**
HAWA	**Hanford**	**6.48**	**44**	Pn		**Pn**	**09 52 26.8**	**-0.1**
LTY	**Liberty**	**6.58**	**34**			**Pn**	**09 52 28.5**	**+0.1**
RYN	**Ryan**	**6.60**	**117**			**Pn**	**09 52 28.4**	**-0.3**
KVN	**Kaiserville**	**6.67**	**113**			**Pn**	**09 52 29.5**	**-0.3**
E08A	**Dider Farm, El**	**6.79**	**45**			**Pn**	**09 52 31.0**	**-0.2**
BMN	**Battle Mountai**	**6.80**	**99**			**Pn**	**09 52 31.8**	**+0.3**
LHV	**Little Huntoon**	**6.82**	**120**			**Pn**	**09 52 31.6**	**+0.1**
NVAR	**Mina Array Bea**	**6.85**	**118**	Pn		**Pn**	**09 52 31.6**	**-0.6**
	comp=E,2.6nm,0.3s,baz=298,slow=14,SNR=60							
NVAR				LR		LR	09 55 31.2	
	comp=E,722nm,19.3s,baz=300,slow=41							
	comp=E,7.7nm,0.5s							
NVAR	**Mina Array Bea**	**6.85**	**118**			**Pn**	**09 52 31.2**	**-1.0**
OMMB	**Old Mammoth Mi**	**6.89**	**126**			**Pn**	**09 52 34.2**	**+1.3**
NV11	**Mina Array Sit**	**6.95**	**117**			**Pn**	**09 52 33.2**	**-0.3**
PGC	**Sidney**	**6.99**	**14**	Pn		**Pn**	**09 52 33.9**	**0.0**
BMO	**Blue Mountains**	**7.00**	**62**			**Pn**	**09 52 34.5**	**+0.2**
D08A	**Wollman Farm,**	**7.24**	**42**	Pn		**Pn**	**09 52 36.9**	**-0.4**
E09A	**Wood Farm, Sta**	**7.30**	**48**			**Pn**	**09 52 37.8**	**-0.4**
B06A	**Marblemount**	**7.36**	**24**			**Pn**	**09 52 39.2**	**+0.3**
PLID	**Pearl Lake**	**7.95**	**63**			**Pn**	**09 52 48.4**	**+1.0**
B08A	**Colville Reser**	**8.01**	**34**	Pn		**Pn**	**09 52 47.7**	**-0.2**
C09A	**Chrisman Ranch**	**8.07**	**40**			**Pn**	**09 52 49.1**	**+0.4**
ELK	**Elko**	**8.20**	**94**	Pn		**Pn**	**09 52 52.7**	**+2.0**
	comp=E,1.1nm,0.3s,baz=284,slow=13,SNR=91							
ELK				LR		LR	09 56 16.3	
	comp=E,733nm,20.9s,baz=277,slow=40							
	comp=E,17nm,0.7s							
ELK	**Elko**	**8.20**	**94**	Pn		**Pn**	**09 52 51.6**	**+0.9**
ISA	**Isabella, Lake**	**8.57**	**134**	P		**Pn**	**09 52 56.3**	**+0.6**
	baz=317							
HLID	**Hailey**	**8.71**	**75**	Pn		**Pn**	**09 52 57.7**	**0.0**
HLID	**Hailey**	**8.71**	**75**	P		**Pn**

WUAZ	Wupatki	13.09	114	P		Pn		09 53 59.8	+2.2
	baz=303								
PV23	Carpenter Ridg	13.46	99			Pn		09 54 05.1	+2.4
O20A	White River Ci	13.54	92	P		Pn		09 54 04.9	+1.0
	baz=283								
PV11	David Mesa, Pa	13.61	100			Pn		09 54 06.8	+2.0
MVCO	Mesa Verde	14.30	103	P		Pn		09 54 16.3	+2.0
	baz=294								
K22A	Casper	14.46	80	P		Pn		09 54 15.1	-1.2
	baz=274								
214A	Organ Pipe Nat	14.47	129	P		Pn		09 54 18.4	+2.0
	baz=316								
X18A	Snowflake	14.61	115	P		Pn		09 54 20.8	+2.4
SMCO	Snowmass	14.74	94	P		Pn		09 54 20.5	+0.1
N23A	Red Feather La	15.11	87			Pn		09 54 24.0	-1.2
N23A	Red Feather La	15.11	87	P		Pn		09 54 24.2	-1.0
	baz=280								
S22A	4UR Ranch, Cre	15.31	99	P		Pn		09 54 29.7	+1.7
	baz=291								
T35M	Bob Quinn	15.35	351	P		P		09 54 31.8	-0.8
	baz=169								
TUC	Tucson	15.45	123			Pn		09 54 31.8	+2.2
TUC	Tucson	15.45	123	P		Pn		09 54 31.2	+1.6
	baz=312								
ISCO	Idaho Springs	15.59	91	P		Pn		09 54 30.4	-1.1
ISCO	Idaho Springs	15.59	91	P		Pn		09 54 30.0	-1.5
	baz=284								
Q24A	Divide	16.16	94	P		Pn		09 54 38.4	-0.5
	baz=287								
RSSD	Black Hills	16.23	75	P		Pn		09 54 38.0	-1.7
	baz=270								
SDCO	Great Sand Dun	16.30	98	P		Pn		09 54 41.9	+1.3
SDCO	Great Sand Dun	16.30	98	P		P		09 54 43.0	-0.6
	baz=291								
DLBC	Dease Lake	16.75	353	Pn		Pn		09 54 45.5	-0.6
	comp=E,0.1nm,0.3s,baz=177,slow=13,SNR=3.8								
DLBC				LR		LR		10 00 08.7	
	comp=E,109nm,21.4s,baz=166,slow=33								
	comp=E,3.7nm,0.9s								
DLBC	Dease Lake	16.75	353	P		Pn		09 54 46.3	+0.2
	baz=171								
ANMO	Albuquerque	16.81	108	Pn		Pn		09 54 48.3	+1.2
	comp=E,0.3nm,0.3s,baz=309,slow=13,SNR=17								
ANMO				LR		LR		10 01 46.1	
	comp=E,330nm,19.8s,baz=309,slow=39								
ANMO	Albuquerque	16.81	108	P		Pn		09 54 47.3	+0.2
ANMO	Albuquerque	16.81	108	P		P		09 54 48.8	-0.5
	baz=300								
Y22D	IRIS PASSCAL I	16.94	111	P		P		09 54 53.4	+2.8
	baz=303								
319A	Douglas	17.02	123	P		P		09 54 52.2	+0.7
319A				IAmb		IAmb		09 54 58.6	
	comp=Z,34nm,1.1s								
BNM	Barren Site	17.10	111	P		P		09 54 52.9	+0.4
121A	Cookes Peak, D	17.24	117	P		P		09 54 55.1	+1.1
	baz=308								
T25A	Trinidad	17.33	99			P		09 54 54.8	-0.2
T25A	Trinidad	17.33	99	P		Pn		09 54 54.1	+0.5
	baz=292								
R33M	Jennings River	17.79	352	P		P		09 55 01.0	+1.2
	baz=169								
KSCO	Kaye Shedlock'	18.02	91	P		Pn		09 55 02.1	0.0
KSCO	Kaye Shedlock'	18.02	91	P		Pn		09 55 02.1	0.0
	baz=286								
FLDN	Fort Liard	18.44	4	P		P		09 55 06.8	0.0
	baz=187								
P33M	Teslin, Yukon	18.81	349	P		P		09 55 11.1	+0.1
TGTN	Hyland Airport	19.71	357	P		P		09 55 21.2	+0.5
	baz=176								
MSTX	Muleshoe	19.93	106	P		P		09 55 24.3	+0.8
	baz=300								
CLN7	Carlsbad 7	20.03	111	P		Pn		09 55 26.5	+0.2
HTMS	Hat Mesa	20.12	111	P		Pn		09 55 26.9	-0.5
CBKS	Cedar Bluff	20.24	90	P		Pn		09 55 28.2	-0.4
	baz=287								
AMTX	Amarillo	20.28	102	P		P		09 55 27.7	+0.5
AMTX				IAmb		IAmb		09 55 34.7	
	comp=Z,24nm,0.8s								
AMTX	Amarillo	20.28	102	P		P		09 55 27.9	+0.7
	baz=297								
FFC	Flin Flon	20.38	43	P		P		09 55 28.7	+0.7
FFC				IAmb		IAmb		09 55 35.7	
	comp=Z,23nm,0.8s								
FARO	Faro, Yukon	20.83	350	P		P		09 55 32.5	-0.4
	baz=165								
M31M	Drury Creek, Y	20.95	349	P		P		09 55 34.4	+0.2
	baz=163								
MMPY	Sheldon Lake,	20.99	353	P		P		09 55 34.7	0.0
	baz=170								
WRGLY	Wrigley	21.42	3	P		P		09 55 39.3	+0.1
	baz=186								
ELIS	Ellis County	21.44	97	P		P		09 55 40.7	+1.0
ELIS				IAmb		IAmb		09 55 45.8	
	comp=Z,60nm,1.3s								
N33A	J Bar K, Exete	21.45	84	P		P		09 55 40.2	+0.4
NOKA	Waynoka	21.58	95			P		09 55 41.4	+0.2
NOKA				IAmb		IAmb		09 55 47.8	
	comp=Z,57nm,1.1s								
ECSD	EROS Data Cent	21.60	75	P		P		09 55 41.1	-0.2
ECSD				IAmb		IAmb		09 55 42.4	
	comp=Z,14nm,0.9s								
ECSD	EROS Data Cent	21.60	75	P		P		09 55 41.3	-0.1
	baz=275								
YUK3	Moose Creek	21.72	341	P		P		09 55 43.2	+0.6
	baz=151								
YKA	Yellowknife Ar	21.72	14	P		P		09 55 41.9	-0.5
	comp=Z,8.9nm,0.9s,baz=205,slow=12,SNR=8.5								
YKA				LR		LR		10 03 48.1	
	comp=Z,104nm,20.4s,baz=254,slow=36								
	comp=Z,8.9nm,0.9s								
M29M	Somme Creek	21.87	344	P		P		09 55 45.9	+1.7
	baz=155								
TX31	Lajitas Ar. Si	22.00	118	P		P		09 55 48.1	+2.3
TX32	Lajitas Array	22.00	118	P		P		09 55 48.1	+2.3
TX32				IAmb		IAmb		09 55 54.1	
	comp=Z,20nm,1.1s								
TXAR	Lajitas Array	22.00	118	P		P		09 55 47.4	+1.6
	comp=Z,6.3nm,0.8s,baz=302,slow=10,SNR=38								
TXAR				LR		LR		10 05 27.2	
	comp=Z,120nm,21.0s,baz=302,slow=40								
TXAR	Lajitas Array	22.00	118	P		P		09 55 48.1	+2.3
LPIG	La Paz	22.04	139	LR		LR		10 04 16.6	
	comp=Z,67nm,19.6s,baz=332,slow=37								
AGMN	Agassiz Nation	22.14	63	P		P		09 55 47.6	+0.6
	baz=265								
ULM	Lac du Bonnet	22.40	58	P		P		09 55 51.3	+1.5
	comp=Z,11nm,0.7s,baz=270,slow=8.0,SNR=8.2								
ULM				LR		LR		10 04 11.5	
	comp=Z,73nm,21.9s,baz=274,slow=36								
L29M	L29M	22.41	346	P		P		09 55 50.2	+0.3
	baz=157								
WMOK	Wichita Mounta	22.48	100	P		P		09 55 51.1	+0.3
	baz=296								
KSU1	Kansas State U	22.49	87	P		P		09 55 51.8	+0.9
	baz=286								
M27K	Edge Creek, AK	22.57	341	P		P		09 55 52.0	+0.4
	baz=149								
ABTX	Abilene, Hawle	22.87	105	P		P		09 55 55.4	+0.4
	baz=301								
K29M	Barlow Dome	22.98	347	P		P		09 55 55.0	-0.9
	baz=158								
KDAK	Kodiak Island	23.15	322	LR		LR		10 02 24.1	
	comp=Z,210nm,21.7s,baz=134,slow=30								
L26K	Log Cabin Wild	23.50	340	P		P		09 56 02.1	+1.1
	baz=147								
DAWY	Dawson	23.52	345	P		P		09 56 02.5	+1.1
	baz=155								
JCT	Junction City	23.94	110	P		P		09 56 07.2	+1.5
	baz=305								
K27K	Chicken	24.05	343	P		P		09 56 07.1	+0.8
	baz=150								
PMR	Palmer	24.12	333	P		P		09 56 08.4	+1.4
	baz=135								
TUL1	Leonard	24.20	94	P		P		09 56 08.4	+0.5
	baz=293								
SPMN	Marine on St.	24.20	71	P		P		09 56 08.0	+0.1
	baz=274								
SCRK	Sand Creek	24.45	341	P		P		09 56 13.4	+3.2
	baz=147								
I29M	Ogilvie Camp,	24.52	348	P		P		09 56 10.4	-0.2
	baz=158								
DHY	Denali Highway	24.65	337	P		P		09 56 13.1	+1.1
	baz=140								
WHTX	Lake Whitney,	24.78	104	P		P		09 56 14.5	+1.3
	baz=301								
J26L	Joseph Creek	24.79	342	P		P		09 56 14.4	+1.3
	baz=148								
EPYK	Eagle Plains	25.24	350	P		P		09 56 15.7	-1.4
	baz=162								
J25K	Salcha River,	25.32	340	P		P		09 56 18.7	+0.8
	baz=145								
I27K	Kandik River	25.33	345	P		P		09 56 18.7	+0.7
	baz=153								
435B	Jarrell	25.34	107	P		P		09 56 19.2	+0.9
	baz=304								
I26K	Coal Creek Min	25.39	343	P		P		09 56 19.2	+0.8
	baz=150								
HHAR	Hobbs	25.43	92	P		P		09 56 19.3	+0.2
HHAR				IAmb		IAmb		09 56 23.0	
	comp=Z,17nm,0.9s								
833A	Chaparral WMA,	25.52	114	P		P		09 56 23.8	+3.8
	baz=309								
MCK	McKinley	25.61	336	P		P		09 56 24.3	+3.8
	baz=138								
P40A	Paris	25.77	84	P		P		09 56 22.9	+0.8
L40A	Anamosa	25.77	78	P		P		09 56 23.1	+1.0
ILAR	Eielson Array	25.83	339	P		P		09 56 22.5	0.0
	comp=Z,0.7nm,1.0s,baz=147,slow=7.6,SNR=4.4								
ILAR				LR		LR		10 04 28.8	
	comp=Z,90nm,21.4s,baz=114,slow=32								
	comp=Z,0.7nm,1.0s								
F31M	Tsiigehtchic	25.95	353	P		P		09 56 23.4	0.0
	baz=167								
R40A	Maddies Statio	25.97	87	P		P		09 56 26.1	+2.1
R40A				IAmb		IAmb		09 56 31.5	
	comp=Z,7.7nm,0.9s								
PRP	Porcupine Dome	26.10	342	P		P		09 56 25.7	+0.7
	baz=146								
O17K	Koliganek Bris	26.18	324	P		P		09 56 27.9	+2.2
	baz=120								
M19K	Big River Lodg	26.23	329	P		P		09 56 28.8	+2.6
	baz=127								
NEA2	Nenana	26.29	338	P		P		09 56 29.3	+2.6
	baz=139								
JFWS	Jewell Farm	26.32	76	P		P		09 56 29.0	+1.9
	baz=280								
CAST	Castle Rocks	26.38	334	P		P		09 56 28.8	+1.3
	baz=133								
L20K	Farewell, AK	26.39	331	P		P		09 56 27.0	-0.6
	baz=129								
G27K	Doyon Strip	26.41	346	P		P		09 56 30.1	+2.4
	baz=154								
MIAR	Mount Ida	26.41	95	P		P		09 56 30.1	+2.0
MIAR				IAmb		IAmb		09 56 36.4	
	comp=Z,17nm,1.2s								
MIAR	Mount Ida	26.41	95	P		P		09 56 30.6	+2.6
	baz=296								
CHUM	Lake Minchumin	26.77	334	P		P		09 56 31.5	+0.5
	baz=133								
H25K	Birch Creek	26.79	342	P		P		09 56 31.1	0.0
	baz=147								
CCM	Cathedral Cave	26.81	87	P		P		09 56 33.3	+1.6
	baz=289								
NATX	Nacogdoches	26.93	102	P		P		09 56 33.9	+1.2
	baz=301								
H24K	Noodor Dome	26.93	340	P		P		09 56 33.0	+0.5
	baz=143								
K20K	Telida	27.02	332	P		P		09 56 33.1	-0.1
	baz=130								
WHAR	Wooly Hollow	27.06	93	P		P		09 56 35.4	+1.6
WHAR				IAmb		IAmb		09 56 39.1	
	comp=Z,16nm,1.0s								
MLY	Manley	27.10	337	P		P		09 56 34.6	+0.6
	baz=137								
H23K	Yukon River	27.36	339	P		P		09 56 36.3	0.0
	baz=140								
TTA	Tatalina	27.45	330	P		P		09 56 38.0	+0.8
	baz=127								
HDIL	Hopedale	27.53	80	P		P		09 56 38.6	+0.6
	baz=285								
G24K	Hadweenzic Riv	27.53	342	P		P		09 56 39.1	+1.4
	baz=144								
J20K	Nowinta River	27.57	334	P		P		09 56 38.6	+0.5
	baz=131								
I21K	Tanana	27.57	336	P		P		09 56 37.4	-0.7
	baz=136								
H22K	Ishtalitna Cre	27.91	338	P		P		09 56 42.7	+1.5
	baz=138								
H21K	Melozitna Rive	28.15	337	P		P		09 56 48.2	+4.9
	baz=135								
G23K	Bananza Creek	28.16	340	P		P		09 56 44.3	+0.8
	baz=141								
IMAR	Indian Mountai	28.66	337	P		P		09 56 46.4	-1.5
G22K	Bettles	28.71	339	P		P		09 56 49.4	+1.2
	baz=139								
GCSA	Galena City Sc	28.85	333	P		P		09 56 51.7	+2.2
	baz=128								
E24K	Your Creek	28.87	343	P		P		09 56 51.6	+1.8
	baz=144								
G21K	Allakaket	28.96	338	P		P		09 56 52.3	+1.7
	baz=135								
E23K	Chandalar	29.12	342	P		P		09 56 51.5	-0.5
	baz=143								
SFIN	Lafayette	29.19	80	P		P		09 56 54.2	+1.4
	baz=286								
C27K	Jago River	29.28	347	P		P		09 56 54.8	+1.5
	baz=153								
OXF	Oxford	29.53	92	P		P		09 56 56.9	+1.0
OXF	Oxford	29.53	92	P		P		09 56 56.4	+0.5
	baz=295								
BLO	Bloomington	29.96	82	P		P		09 57 00.0	+0.3
WVT	Waverly	30.05	88	P		P		09 56 58.8	-1.7
	baz=293								
PLAL	Pickwick Lake	30.33	91	P		P		09 57 03.5	+0.5
PLAL				IAmb		IAmb		09 57 10.8	
	comp=Z,9.1nm,0.9s								
WCI	Wyandotte Cave	30.44	84	P		P		09 57 05.4	+1.5
	baz=290								
O48B	Farmland	30.65	79	P		P		09 57 05.1	-0.6
	baz=287								
U49A	Red Boiling Sp	31.43	86	P		P		09 57 12.8	+0.2
U49A				IAmb		IAmb		09 57 17.2	
	comp=Z,11nm,1.1s								
LRAL	Lakeview Retre	31.99	93	P		P		09 57 18.6	+1.0
	baz=297								
ACSO	Alum Creek Sta	32.25	78	P		P		09 57 20.0	+0.2
	baz=287								
BRAL	Brewton	32.84	96	P		P		09 57 26.5	+1.5
	baz=300								
250A	Grady	33.03	94	P		P		09 57 26.7	0.0
TZTN	Tazewell	33.08	85	P		P		09 57 27.0	-0.2
	baz=293								
TKL	Tuckaleechee C	33.26	87	LR		LR		10 11 42.9	
	comp=Z,213nm,20.3s,baz=298,slow=38								
TKL	Tuckaleechee C	33.26	87	P		P		09 57 29.9	+1.1
TKL				IAmb		IAmb		09 57 32.6	
	comp=Z,6.1nm,0.9s								
O53A	New Philadelph	33.53	78	P		P		09 57 32.6	+1.5
	baz=288								
Y52A	Lilburn	33.80	90	P		P		09 57 32.5	-1.0
Y52A				IAmb		IAmb		09 57 38.6	
	comp=Z,12nm,1.1s								
SADO	Sadowa	33.86	69	LR		LR		10 10 19.1	
	comp=Z,146nm,20.3s,baz=321,slow=35								
GOGA	Godfrey	34.45	90	P		P		09 57 40.2	+1.1
	baz=297								
MCWV	Mont Chateau	34.72	78	P		P		09 57 42.6	+1.2
	baz=289								
BLA	Blacksburg	35.15	82	P		P		09 57 45.6	+0.5
	baz=292								
KMSC	Kings Mountain	35.29	86	P		P		09 57 47.3	+0.9
	baz=295								
RES	Resolute Bay	35.79	14	LR		LR		10 12 02.6	
	comp=Z,63nm,20.8s,baz=180,slow=36								
SSPA	Standing Stone	35.83	76	P		P		09 57 52.0	+1.2
	baz=288								
CMIG	Matias Romero	36.34	123	LR		LR		10 14 27.6	
	comp=Z,75nm,19.4s,baz=304,slow=39								
NHSC	New Hope	37.04	88	P		P		09 58 02.9	+1.6
	baz=297								
FRB	Frobisher Bay	39.25	36	LR		LR		10 14 40.2	
	comp=Z,122nm,18.9s,baz=347,slow=36								
SCHQ	Schefferville	40.19	50	LR		LR		10 14 02.5	
	comp=Z,83nm,18.5s,baz=151,slow=35								
SHEM	Shemya Is, Ala	40.89	307	LR		LR		10 12 58.5	
	comp=Z,45nm,20.3s,baz=286,slow=32								
SFJD	Kangerlussuaq	46.71	32	LR		LR		10 19 44.5	
	comp=Z,100nm,20.4s,baz=279,slow=37								
SUMG	Summit	49.92	23	P		P		09 59 44.3	-0.7
SUMG	Summit	49.92	23	*i* P		P		09 59 44.0	-1.0
PETK	Petropavlovsk-	50.39	311	LR		LR		10 18 18.4	
	comp=Z,39nm,21.2s,baz=90,slow=33								
MA2	Magadan	51.86	320	LR		LR		10 21 10.3	
	comp=Z,56nm,18.1s,baz=96,slow=35								
TAOE	Nuku Hiva Isla	52.14	198	*e*T		T		10 55 46.2	
	comp=Z,51nm,0.3s								
SJG	San Juan	55.81	96	LR		LR		10 27 44.2	
	comp=Z,39nm,18.6s,baz=280,slow=40								
SPITS	Spitsbergen Ar	58.06	9	P		P		10 00 43.7	-0.3
	comp=Z,1.1nm,0.6s,baz=30,slow=6.8,SNR=1.6								
SPITS				LR		LR		10 25 25.6	
	comp=Z,49nm,18.2s,baz=286,slow=36								
	comp=Z,1.1nm,0.6s								
SDV	Santo Domingo	58.59	108	LR		LR		10 29 34.3	
	comp=Z,41nm,19.1s,baz=252,slow=40								
BORG	Borgarnes	58.69	29	LR		LR		10 25 00.4	
	comp=Z,81nm,19.6s,baz=308,slow=35								
ROSC	El Rosal	58.88	114	LR		LR		10 33 36.4	
	comp=Z,26nm,18.8s,baz=29,slow=44								
OTAV	Otavalo	59.57	121	P		P		10 00 53.6	-2.2
OTAV				IAmb		IAmb		10 01 04.8	
	comp=Z,7.0nm,1.0s								
PMOR	Pomariorio Ree	60.10	205	*e*T		T		11 05 46.4	
	comp=Z,4.8nm,0.3s								
H11N3	WAKE ISLAND Hy	60.19	270	T		T		11 06 00.8	
	baz=52,slow=75,SNR=97								
H11N2	WAKE ISLAND Hy	60.19	270	T		T		11 06 01.9	
	baz=52,slow=75,SNR=67								
H11N1	WAKE ISLAND Hy	60.20	270	T		T		11 06 02.1	
	baz=52,slow=75,SNR=85								
H11S1	WAKE ISLAND Hy	61.08	269	T		T		11 07 14.4	
	baz=52,slow=75,SNR=60								
H11S2	WAKE ISLAND Hy	61.09	269	T		T		11 07 15.1	
	baz=52,slow=75,SNR=92								
H11S3	WAKE ISLAND Hy	61.10	269	T		T		11 07 11.9	
	baz=52,slow=75,SNR=45								
TIAR	Tiarei	62.96	205	*e*T		T		11 09 19.0	
	comp=Z,1.5nm,0.3s								
PPT	Papeete	63.05	205	LR		LR		10 21 17.2	
	comp=Z,54nm,21.7s,baz=333,slow=29								
PPT2	Papeete2	63.06	205	*e*LR		LR		10 19 59.5	
	comp=Z,158nm,26.5s								
ATAH	Atahualpa	65.34	126	LR		LR		10 27 21.3	
	comp=Z,30nm,19.2s,baz=357,slow=34								
KLR	Kul'dur	66.50	316	LR		LR		10 30 11.2	
	comp=Z,24nm,18.1s,baz=314,slow=36								
ARCES	ARCESS Array B	66.92	11	LR		LR		10 31 11.4	
	comp=Z,50nm,20.0s,baz=356,slow=36								
RAR	Rarotonga	70.13	213	LR		LR		10 24 44.5	
	comp=Z,79nm,20.3s,baz=46,slow=29								
MJAR	Matsushiro Arr	70.49	302	LR		LR		10 27 06.8	
	comp=Z,26nm,21.8s,baz=48,slow=31								
JHJ	Hachijo jima 2	71.58	298	LR		LR		10 24 48.5	
	comp=Z,25nm,21.6s,baz=86,slow=28								
NB2	NORSAR Subarra	71.68	20	P		P		10 02 12.6	-0.2
	comp=Z,1.7nm,0.8s,baz=331,slow=5.9								
NOA	NORSAR Array B	71.68	20	P		P		10 02 12.6	-0.2
	comp=Z,1.0nm,0.9s,baz=331,slow=5.5,SNR=2.8								
NOA				LR		LR		10 32 36.2	
	comp=Z,28nm,20.8s,baz=340,slow=35								
	comp=Z,1.0nm,0.9s								
HFS	Hagfors	73.09	20	LR		LR		10 33 33.7	
	comp=Z,40nm,18.5s,baz=334,slow=35								
MDP	Montagnes des	74.25	97	LR		LR		10 38 33.1	
	comp=Z,28nm,19.6s,baz=24,slow=39								
FINES	FINESS Array B	74.55	13	P		P		10 02 29.1	-0.7
	comp=Z,1.3nm,0.8s,baz=9.5,slow=4.2,SNR=2.1								
	comp=Z,1.3nm,0.8s								
KSRS	Korea Array	76.20	308	LR		LR		10 32 25.7	
	comp=Z,14nm,20.1s,baz=30,slow=33								
BSD	Bornholm Skovb	77.79	22	*i* P		P		10 02 40.0	-8.3
MSVF	Nonsavu	78.62	234	LR		LR		10 29 20.8	
	comp=Z,56nm,21.6s,baz=13,slow=29								
LPAZ	La Paz	78.72	124	P		P		10 02 54.1	-0.5
	comp=Z,0.7nm,0.6s,baz=344,slow=5.9,SNR=5.5								
	comp=Z,0.7nm,0.6s								
SONM	Songino Array	79.35	327	LR		LR		10 38 17.6	
	comp=Z,61nm,18.6s,baz=352,slow=36								
GUMO	Guam	80.41	280	LR		LR		10 29 21.1	
	comp=Z,62nm,21.6s,baz=60,slow=29								
CLL	Collm	80.56	25	*e*P		P		10 03 04.0	+0.5
CLL				*e*PP		PP		10 06 07.0	+0.8
ZALV	Zalesovo Beam	80.93	342	LR		LR		10 40 22.8	
	comp=Z,26nm,18.7s,baz=338,slow=37								
ARU	Arti	81.97	357	LR		LR		10 43 24.2	
	comp=Z,23nm,18.2s,baz=87,slow=38								
HHC	Hu-ho-hao-te	82.54	320	*e*P		P		10 03 12.8	-1.5
HHC				pmax		pmax			
	comp=Z,34nm,0.9s								
HHC				pmax		pmax			
	comp=Z,200nm,5.8s								
ESDC	Sonseca Array	83.27	41	LR		LR		10 38 00.1	
	comp=Z,43nm,18.1s,baz=352,slow=34								
DAVOX	Davos/Dischmat	83.41	29	LR		LR		10 39 40.3	
	comp=Z,54nm,20.5s,baz=278,slow=35								
VRAC	Vranov	83.41	24	LR		LR		10 42 24.7	
	comp=Z,42nm,18.9s,baz=333,slow=37								
BVAR	Borovoye Array	84.40	350	LR		LR		10 44 07.9	
	comp=Z,21nm,19.5s,baz=35,slow=38								
MODS	Modra-Piesok	84.45	24	*e*P		P		10 03 24.9	+1.0
AKASG	Malin Array Be	85.28	15	P		P		10 03 27.2	-0.7
	comp=Z,1.0nm,0.7s,baz=340,slow=4.6,SNR=5.5								
	comp=Z,1.0nm,0.7s								
KURBB	Kurchatov Arra	85.39	345	P		P		10 03 28.5	0.0
	comp=Z,0.7nm,0.8s,baz=15,slow=4.6,SNR=4.5								
	comp=Z,0.7nm,0.8s								
RAO	Raoul Island	85.46	224	LR		LR		10 30 55.2	
	comp=Z,49nm,20.5s,baz=259,slow=28								
AKTO	Aktyubinsk	87.98	357	LR		LR		10 47 08.4	
	comp=Z,18nm,18.1s,baz=7.2,slow=38								
MKAR	Makanchi Array	88.18	341	LR		LR		10 45 41.4	
	comp=Z,43nm,18.3s,baz=104,slow=37								
DZM	Mont Dzumac	89.08	239	*e*LR		LR		10 32 04.2	
	comp=Z,54nm,23.1s								
WMQ	Urumqi	89.45	336	*e*P		P		10 03 50.0	+1.6
WMQ				pP		pwP		10 03 52.5	-4.6
WMQ				sP		PcP		10 03 55.8	+6.1

MJAR				Sn	Sn	09 53 50.9	+0.6		
	0.3nm,0.3s,baz=103,slow=27,SNR=1.7 3.3nm,0.3s								
KSRS	**Korea Array**	11.54	289	LR	LR	09 59 56.1			
	comp=Z,51nm,18.9s,baz=105,slow=40								
H11N2	**WAKE ISLAND Hy**	26.72	117	T	T	10 25 55.2			
	baz=309,slow=75,SNR=11								
H11N1	**WAKE ISLAND Hy**	26.73	117	T	T	10 26 00.2			
	baz=309,slow=75,SNR=7.3								
H11N3	**WAKE ISLAND Hy**	26.74	117	T	T	10 25 52.5			
	baz=309,slow=75,SNR=6.2								
H11S3	**WAKE ISLAND Hy**	27.35	119	T	T	10 26 47.3			
	baz=313,slow=76,SNR=4.5								
H11S1	**WAKE ISLAND Hy**	27.35	119	T	T	10 26 38.5			
	baz=313,slow=76,SNR=3.7								
H11S2	**WAKE ISLAND Hy**	27.36	119	T	T	10 26 50.6			
	baz=313,slow=76,SNR=4.3								
SONM	**Songino Array**	29.47	308	P	P	09 58 19.2	+0.7		
	0.4nm,0.4s,baz=99,slow=11,SNR=2.1 0.4nm,0.4s								
ZALV	**Zalesovo Beam**	43.84	314	P	P	10 00 20.0	-0.4		
	1.0nm,0.6s,baz=104,slow=9.3,SNR=3.8 1.0nm,0.6s								
MKAR	**Makanchi Array**	45.71	304	P	P	10 00 35.0	-0.4		
	0.2nm,0.4s,baz=92,slow=8.7,SNR=2.7 0.2nm,0.4s								
KURBB	**Kurchatov Arra**	47.78	310	P	P	10 00 50.8	-0.8		
	1.3nm,0.6s,baz=85,slow=7.7,SNR=12 1.3nm,0.6s								
ILAR	**Eielson Array**	51.56	31	P	P	10 01 19.8	-0.3		
	0.4nm,0.7s,baz=261,slow=5.9,SNR=3.6 0.4nm,0.7s								
WRA	**Warramunga Arr**	54.55	188	P	P	10 01 43.2	+0.6		
	0.3nm,0.4s,baz=1.7,slow=7.4,SNR=15 0.3nm,0.4s								
ASAR	**Alice Springs**	58.27	188	P	P	10 02 10.0	+1.0		
	0.2nm,0.5s,baz=5.2,slow=7.6,SNR=2.3 0.2nm,0.5s								
NVAR	**Mina Array Bea**	76.36	53	P	P	10 04 03.8	-0.2		
	0.2nm,0.5s,baz=297,slow=4.0,SNR=3.7 0.2nm,0.5s								
PDAR	**Pinedale Array**	79.32	45	P	P	10 04 20.6	+0.3		
	0.4nm,0.9s,baz=327,slow=4.3,SNR=1.9 0.4nm,0.9s								

NOU 25 10:05:16.2, 18.46S×176.29W, h404km, mb4.4/8, Fiji Islands Region, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	6.06	97	P	P	10 06 50.1	+0.8
FUNA	**Funafuti**	10.80	335	P	P	10 07 43.2	+0.5
DVP	**Devils Point**	14.78	270	P	P	10 08 26.3	+0.1

*IDC **25** 10:10:35.7±1.1, 52.75N×167.12W, h0km, mb3.9/14, mbtmp3.9/15, ML3.3/1, Error ellipse: s-maj=29.8km s-min=16.2km az=5.0*
*AEIC **25** 10:10:37±1.4, 52.55N±0.10×166.91W±0.09, h19km±8km, Error ellipse: s-maj=15.1km s-min=7.0km az=162.0*
*NEIC **25** 10:10:40.5±1.1, 52.7N±0.1×167.01W±0.08, h28km±18km, ML3.4/8, ML3.4(AEIC), Error ellipse: s-maj=17.3km s-min=0.8km az=156.0*

ISC 25 10:10:39.3±0.8, 52.72N±0.10×166.99W±0.06, h25km, n67, σ0.94/60, mb3.9/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	0.89	322		Pb	10 10 56.4	+0.2
OKTU	**Okmok Mt. Tuli**	0.93	317		Pn	10 10 57.2	+0.4
OKSP	**Okmok Steeple**	0.95	305		Pn	10 10 57.1	0.0
OKSO	**Okmok South**	0.96	313		Pn	10 10 57.0	-0.2
OKER	**Okmok East Rim**	0.98	319		Pn	10 10 58.4	+0.8
OKNC	**Okmok New Cone**	1.01	318		Pn	10 10 58.8	+0.9
MGOD	**Makushin Gods**	1.08	4		Pb	10 11 00.3	+0.9
MAPS	**Pakushin South**	1.10	1		Pb	10 11 00.4	+0.8
NIKH	**Nikolski High**	1.16	284		Pn	10 10 59.8	-0.2
UNV	**Unalaska Valle**	1.17	14		Pn	10 11 00.4	+0.4
MNAT	**Makushin Natee**	1.19	9		Pn	10 11 01.1	+0.7
MCIR	**Makushin Cirqu**	1.24	3		Pb	10 11 02.7	+0.6
MTBL	**Makushin Table**	1.27	8		Pn	10 11 02.8	+1.2
AKMO	**Akutan Morgan**	1.50	23		Pn	10 11 05.5	+0.9
ZRO	**Akutan Zero**	1.50	23		Pn	10 11 05.4	+0.7
AKRB	**Akutan Reef Bi**	1.52	21		Pn	10 11 06.0	+1.1
AKBBA	**Akutan Broad B**	1.52	24		Pn	10 11 05.7	+0.7
AKLV	**Akutan Long Va**	1.58	23		Pn	10 11 06.2	+0.4
AKUT	**Akutan**	1.60	27		Pn	10 11 06.6	+0.6
AKGG	**Akutan Green G**	1.60	21		Pn	10 11 06.1	+0.1
AKSA	**Akutan Strait**	1.62	28		Pn	10 11 06.5	+0.2
CLCO	**Concord Point,**	1.67	274		Pn	10 11 06.8	-0.1
CLES	**Cleveland East**	1.77	275		Pn	10 11 08.5	+0.2
CLES	**Cleveland East**	1.77	275	IAML		10 11 33.5	
	comp=N,580nm,0.5s						
CLES				IAML		10 11 48.2	
	comp=E,607nm,0.6s						
WESP	**Westdahl Peak**	2.23	36		Pn	10 11 15.9	+1.1
WECS	**Westdahl Cape**	2.25	35		Pn	10 11 16.0	+1.1
WESE	**West Dahl East**	2.27	38		Pn	10 11 16.3	+1.0
SSBA	**Shishaldin**	2.67	38		Pn	10 11 21.8	+1.0
SSLS	**Shishaldin Sou**	2.67	40		Pn	10 11 21.7	+0.9
ISLZ	**Isanotski Laza**	2.80	43		Pn	10 11 23.4	+0.9
ISNN	**Isanotski Nort**	2.85	41		Pn	10 11 24.6	+1.4
KOFP	**Korovin Flat P**	4.37	267		Pn	10 11 44.9	+0.8
SDPT	**Sand Point**	4.66	53		Pn	10 11 48.1	+0.1
SDPT	**Sand Point**	4.66	53	IAML		10 13 26.0	
	comp=N,43nm,1.1s						
SPIA	**Saint Paul Isl**	4.85	338	Pn	Pn	10 11 52.4	+1.8
CNBA	**Chernabura Isl**	4.87	61	Pn	Pn	10 11 50.1	-0.7
CNBA				IAML		10 12 50.7	
	comp=E,22nm,1.5s						
CNBA				IAML		10 13 22.0	
	comp=N,22nm,2.9s						
GSTR	**Great Sitkin T**	5.59	267	Pn	Pn	10 12 00.7	-0.1
GSCK	**Great Sitkin C**	5.67	267		Pn	10 12 02.4	+0.6
ADK	**Adak**	6.01	266		Pn	10 12 06.8	+0.2
CHGN	**Chignik**	6.15	51	Pn	Pn	10 12 10.5	+2.0
KIMD	**Kanaga Island**	6.37	265		Pn	10 12 11.9	+0.4
CESW	**Semis' Southwe**	8.29	270		Pn	10 12 38.8	+1.0
ANCK	**Angle Creek**	8.53	45		Pn	10 12 42.6	+1.5
AMKA	**Amchitka**	8.56	266		Pn	10 12 41.7	+0.2
OHAK	**Old Harbor**	9.08	55	Pn	Pn	10 12 48.5	-0.1
KDAK	**Kodiak Island**	9.66	53	Pn	Pn	10 12 55.3	-1.2
	comp=N,0.4nm,0.3s,baz=228,slow=8.8,SNR=11						
KDAK				Sn	Sn	10 14 40.2	-3.8
	baz=151,slow=19,SNR=1.1						
ILAR	**Eielson Array**	15.86	33	Pn	Pn	10 14 20.6	0.0
	comp=N,0.1nm,0.3s,baz=230,slow=11,SNR=7.2 comp=N,0.5nm,0.7s						
PETK	**Petropavlovsk-**	21.17	285	P	P	10 15 22.0	-0.5
	comp=N,2.0nm,0.4s,baz=85,slow=12,SNR=19 comp=N,2.0nm,0.4s						
INK	**Inuvik**	22.26	33	P	P	10 15 33.4	-0.6
	comp=N,2.4nm,0.4s,baz=199,slow=11,SNR=14 comp=N,2.4nm,0.4s						
NVAR	**Mina Array Bea**	36.22	93	P	P	10 17 41.8	+1.6
	comp=N,0.7nm,0.8s,baz=287,slow=7.3,SNR=5.0 comp=N,0.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	38.66	222	T	T	10 59 36.8	
	baz=25,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	38.66	222	T	T	10 59 29.3	
	baz=25,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	38.67	222	T	T	10 59 33.9	
	baz=25,slow=76,SNR=15						
PDAR	**Pinedale Array**	38.91	81	P	P	10 18 03.5	+0.6
	comp=N,0.4nm,0.5s,baz=305,slow=3.7,SNR=7.8 comp=N,0.4nm,0.5s						
H11S1	**WAKE ISLAND Hy**	39.84	221	T	T	11 01 17.7	
	baz=24,slow=76,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	39.85	221	T	T	11 01 04.8	
	baz=24,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	39.85	221	T	T	11 01 14.6	
	baz=24,slow=76,SNR=5.9						
KSRS	**Korea Array**	46.80	278	P	P	10 19 07.1	+0.4
	comp=N,1.5nm,1.0s,baz=61,slow=7.3,SNR=6.0 comp=N,1.5nm,1.0s						
TXAR	**Lajitas Array**	51.29	91	P	P	10 19 41.8	+0.5
	comp=N,0.6nm,0.5s,baz=300,slow=5.2,SNR=15 comp=N,0.6nm,0.5s						
SONM	**Songino Array**	52.36	302	P	P	10 19 48.3	-0.8
	comp=N,0.5nm,0.3s,baz=42,slow=6.8,SNR=2.1 comp=N,0.5nm,0.3s						
ARCES	**ARCESS Array B**	57.72	355	P	P	10 20 27.3	0.0
	comp=N,1.7nm,0.8s,baz=12,slow=6.2,SNR=3.7 comp=N,1.7nm,0.8s						
MKAR	**Makanchi Array**	64.61	315	P	P	10 21 13.9	-0.4
	comp=N,0.9nm,0.8s,baz=46,slow=5.6,SNR=7.6 comp=N,0.9nm,0.8s						
FINES	**FINESS Array B**	65.71	353	P	P	10 21 21.0	-0.2
	comp=N,2.5nm,0.5s,baz=17,slow=7.1,SNR=24 comp=N,2.5nm,0.5s						
NOA	**NORSAR Array B**	66.58	1	P	P	10 21 27.0	+0.1
	comp=N,0.4nm,0.5s,baz=354,slow=6.7,SNR=1.2 comp=N,0.4nm,0.5s						
HFS	**Hagfors**	67.50	360	P	P	10 21 32.5	-0.1
	comp=N,2.3nm,0.4s,baz=354,slow=4.3,SNR=3.5 comp=N,2.3nm,0.4s						
AKASG	**Malin Array Be**	76.05	349	P	P	10 22 24.2	+0.1
	comp=N,0.9nm,0.5s,baz=16,slow=6.2,SNR=4.8 comp=N,0.9nm,0.5s						
ESDC	**Sonseca Array**	86.81	13	P	P	10 23 20.8	-0.6
	comp=N,0.2nm,0.6s,baz=351,slow=3.4,SNR=2.9 comp=N,0.2nm,0.6s						

*IDC **25** 10:18:33.9±2.8, 6.71N×126.66E, h78km±23km, mb3.2/6, mbtmp3.6/7, Error ellipse: s-maj=53.2km s-min=15.1km az=56.0*
*MAN **25** 10:18:34.8, 6.63N×126.39E, h24km, mb4.6, ML3.5, MS3.4*

ISC 25 10:18:32.2±1.1, 6.71N±0.06×126.69E±0.09, h59km±11km, n13, σ1.41/19, mb3.5/6, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	0.49	299	↓eP	Pn	10 18 43.6	-0.4
MATI				eS	Sn	10 18 52.3	-0.3
DDMP	**Don Marcelino,**	1.14	238	↓eP	Pn	10 18 51.0	-1.1
DDMP				eS	Sn	10 19 05.5	-1.4
DAV	**Davao City (W)**	1.16	288	P	Pn	10 18 53.8	+1.5
	714nm,0.4s,baz=163,slow=2.8,SNR=21						
DAV				S	Sn	10 19 10.2	+2.9
	384nm,0.5s,baz=275,slow=21,SNR=11						
BIPH	**Bislig**	1.50	348	↓eP	Pn	10 18 57.9	+1.0
BIPH				eS	Sn	10 19 14.6	-1.0
KCP	**Kidapawan**	1.61	281	↓iP	Pn	10 18 58.2	-0.4
KCP				iS	Sn	10 19 17.9	-0.5
TABP	**Talibon, Bohol**	4.09	325	↓eP	Pn	10 19 30.1	-2.1
TABP				eS	Sn	10 20 20.9	+2.0
SIJI	**Sorong**	8.81	149	P	Pn	10 20 38.8	+1.8
	3.3nm,0.3s,baz=342,slow=20,SNR=12						
FITZ	**Fitzroy Crossi**	24.67	182	P	P	10 23 47.7	0.0
	1.0nm,0.5s,baz=358,slow=11,SNR=1.7 1.0nm,0.5s						
WRA	**Warramunga Arr**	27.53	164	P	P	10 24 13.2	-0.4
	0.3nm,0.6s,baz=343,slow=10,SNR=7.3 0.3nm,0.6s						
ASAR	**Alice Springs**	31.00	167	P	P	10 24 44.0	-0.3
	0.2nm,0.3s,baz=339,slow=7.1,SNR=16 0.2nm,0.3s						
STKA	**Stephens Creek**	40.92	160	P	P	10 26 09.7	+0.7
	1.2nm,0.7s,baz=349,slow=10,SNR=3.2 1.2nm,0.7s						
MKAR	**Makanchi Array**	55.12	324	P	P	10 27 57.7	-0.8
	0.2nm,0.5s,baz=126,slow=6.8,SNR=2.2 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	59.24	326	P	P	10 28 27.1	-0.3
	0.4nm,0.7s,baz=124,slow=5.9,SNR=4.4 0.4nm,0.7s						

PRE 25 10:40:15.0±2.3, 21.31S×33.58E, h10km, ML2.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	2.98	222	eP	Pn	10 41 04.0	+1.6
MOPA				eS	Sn	10 41 38.6	+0.4
MOPA				IAML		10 41 47.7	
	comp=Z,22nm,0.4s						
MUSN	**Musina, Limpop**	3.59	254	eP	Pn	10 41 11.0	+0.2
MUSN				eS	Sn	10 41 54.7	+1.5
MUSN				IAML		10 42 16.4	
	comp=Z,22nm,0.4s						
BLWY	**Bulawayo**	4.79	283	eP	Pn	10 41 28.7	+1.3
BLWY				eS	Sn	10 42 23.9	+0.8
MATP	**Matopo**	4.83	280	eP	Pn	10 41 30.4	+2.5
MATP				eS	Sn	10 42 23.2	-0.8
MATP				IAML		10 42 55.6	
	comp=Z,33nm,0.5s						
MMAL	**MMAL**	5.19	204	eP	Pn	10 41 35.9	+3.0
MMAL				eS	Sn	10 42 31.1	-1.8
MMAL				IAML		10 43 04.8	
	comp=Z,7.4nm,0.6s						
LEPH	**Lephalale, Lim**	5.91	244	eP	Pn	10 41 43.4	+0.7
LEPH				eS	Sn	10 42 48.2	-2.4
LEPH				IAML		10 43 20.6	
	comp=Z,15nm,0.5s						
LBTB	**Lobatse**	8.21	242	eP	Pn	10 42 15.9	+1.6
LBTB				eS	Sn	10 43 43.1	-4.3
LBTB				IAML		10 44 40.5	
	comp=Z,4.0nm,0.5s						

ROM 25 11:09:56.8±0.1, 42.860N±0.003×13.230E±0.004, h10km, ML1.4/8, 5C-8D, Error ellipse: s-maj=0.3km s-min=0.3km az=28.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	0.04	211	P	Pg	11 09 58.8	0.0
T1242				S	Sg	11 09 60.0	-0.3
T1242				AML	AML		
	comp=E,280μm,0.1s						
T1242				AML	AML		
	comp=N,488μm,0.1s						
T1242	**Castelluccio d**	0.04	211	P	Pg	11 09 58.8	0.0
T1242				AML	AML		
	comp=E,280μm,0.1s						
T1242				AML	AML		
	comp=N,488μm,0.1s						
MC2	**Monte Cornacci**	0.06	331	↓P	Pg	11 09 59.3	+0.2
MC2				S	Sg	11 10 00.9	0.0
MC2	**Monte Cornacci**	0.06	331	↓P	Pg	11 09 59.3	+0.2
MMO1	**Montemonaco**	0.08	61	P	Pg	11 09 59.5	+0.2
MMO1				S	Sg	11 10 01.1	+0.1
NRCA	**Norcia**	0.09	253	P	Pg	11 09 59.7	+0.4
NRCA				S	Sg	11 10 01.4	+0.3
NRCA				AML	AML		
	comp=E,286μm,0.9s						
NRCA				AML	AML		
	comp=N,434μm,1.1s						
NRCA				AML	AML		
	comp=E,286μm,0.9s						
NRCA				AML	AML		
	comp=N,435μm,1.1s						
NRCA	**Norcia**	0.09	253	P	Pg	11 09 59.7	+0.4
NRCA				AML	AML		
	comp=E,286μm,0.9s						
NRCA				AML	AML		
	comp=N,434μm,1.1s						
NRCA				AML	AML		
	comp=E,286μm,0.9s						
NRCA				AML	AML		
	comp=N,435μm,1.1s						
NRCA				AML	AML		
	comp=N,435μm,0.9s						
NRCA				AML	AML		
	comp=E,286μm,1.1s						
T1241	**Roccafluvione,**	0.15	91	↓P	Pg	11 10 00.8	+0.7
T1241				S	Sg	11 10 03.4	+0.9
T1241				AML	AML		
	comp=E,37μm,1.2s						
T1241				AML	AML		
	comp=N,59μm,0.7s						
T1241				AML	AML		
	comp=E,37μm,1.2s						
T1241	**Roccafluvione,**	0.15	91	↓P	Pg	11 10 00.8	+0.7
T1241				AML	AML		
	comp=E,37μm,1.2s						
T1241				AML	AML		
	comp=N,59μm,0.7s						
T1241				AML	AML		
	comp=E,37μm,1.2s						
T1241				AML	AML		
	comp=N,59μm,0.7s						
T1241				AML	AML		
	comp=E,37μm,1.2s						
T1241				AML	AML		
	comp=N,59μm,1.3s						
T1202	**Accumoli, Fraz**	0.16	181	↓P	Pg	11 10 01.1	+0.8
T1202				S	Sg	11 10 04.1	+1.3
T1202				AML	AML		
	comp=N,140μm,0.2s						
T1202				AML	AML		
	comp=E,92μm,1.2s						
T1202	**Accumoli, Fraz**	0.16	181	↓P	Pg	11 10 01.1	+0.8
T1202				AML	AML		
	comp=E,92μm,1.2s						
T1202				AML	AML		
	comp=N,140μm,0.2s						
T1202				AML	AML		
	comp=E,92μm,1.2s						
T1202				AML	AML		
	comp=N,140μm,0.2s						
T1204	**Amatrice, Fraz**	0.20	161	P	Pg	11 10 01.7	+0.7
T1204				S	Sg	11 10 05.1	+1.2
T1204	**Amatrice, Fraz**	0.20	161	P	Pg	11 10 01.7	+0.7
FDMO	**Fiordimonte**	0.20	329	P	Pg	11 10 01.8	+0.7
FDMO				S	Sg	11 10 05.5	+1.4
FDMO				AML	AML		
	comp=E,36μm,1.0s						
FDMO				AML	AML		
	comp=N,43μm,0.2s						
FDMO				AML	AML		
	comp=E,36μm,1.0s						
FDMO	**Fiordimonte**	0.20	329	P	Pg	11 10 01.8	+0.7
FDMO				AML	AML		
	comp=E,36μm,1.0s						
FDMO				AML	AML		
	comp=N,43μm,0.2s						
FDMO				AML	AML		
	comp=E,36μm,1.0s						
FDMO				AML	AML		
	comp=N,43μm,0.2s						
FDMO				AML	AML		
	comp=N,43μm,0.2s						
FDMO				AML	AML		
	comp=E,36μm,1.0s						
GUMA	**Gualdo di Mace**	0.22	21	↑P	Pg	11 10 02.3	+1.0
GUMA	**Gualdo di Mace**	0.22	21	↑P	Pg	11 10 02.3	+1.0
T1243	**Rocca Santa Ma**	0.23	135	P	Pg	11 10 01.9	+0.3
T1243				S	Sg	11 10 06.4	+1.6
T1243	**Rocca Santa Ma**	0.23	135	P	Pg	11 10 01.9	+0.3
T1215	**Vallo di Nera,**	0.27	258	↓P	Pg	11 10 03.0	+0.7
T1215				S	Sb	11 10 07.4	-1.2
T1215	**Vallo di Nera,**	0.27	258	↓P	Pg	11 10 03.0	+0.7
TERO	**Teramo**	0.36	131	↑P	Pg	11 10 04.4	+0.3
TERO				S	Sb	11 10 10.3	-1.0
TERO	**Teramo**	0.36	131	↑P	Pg	11 10 04.4	+0.3
SNTG	**Esanatoglia**	0.45	332	↑P	Pb	11 10 06.5	-0.4
EL6	**Elcito**	0.48	349	S	Sb	11 10 15.0	+0.4
EL6	**Elcito**	0.48	349	S	Sb	11 10 15.0	+0.4
SSFR	**Montelago di S**	0.66	331	P	Pb	11 10 11.2	+0.6
SSFR				AML	AML		
	comp=N,138μm,0.1s						
SSFR				AML	AML		
	comp=E,226μm,0.1s						
SSFR	**Montelago di S**	0.66	331	P	Pb	11 10 11.2	+0.6
SSFR				AML	AML		
	comp=E,226μm,0.1s						
SSFR				AML	AML		
	comp=N,138μm,0.1s						
SSFR				AML	AML		
	comp=N,138μm,0.1s						
SSFR				AML	AML		
	comp=E,226μm,0.1s						

ROM 25 11:10:14.0±0.1, 41.975N±0.005×13.917E±0.007, h15km±1km, ML0.8/3, 4D, Error ellipse: s-maj=0.6km s-min=0.3km az=130.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTR	**Introdacqua**	0.04	346	↓P	Pg	11 10 17.3	+0.5
INTR				AML	AML		
	comp=E,65μm,0.2s						
INTR				AML	AML		
	comp=N,120μm,0.5s						
INTR				AML	AML		
	comp=E,65μm,0.2s						
INTR				AML	AML		
	comp=N,120μm,0.5s						
INTR	**Introdacqua**	0.04	346	↓P	Pg	11 10 17.3	+0.5
INTR				S	Sg	11 10 18.8	+0.1
INTR				AML	AML		
	comp=E,65μm,0.2s						
INTR				AML	AML		
	comp=N,120μm,0.5s						
LPEL	**Lama dei Pelig**	0.21	70	↓P	Pg	11 10 19.1	+0.2
LPEL				AML	AML		
	comp=E,35μm,1.0s						
LPEL				AML	AML		
	comp=N,29μm,0.8s						
LPEL				AML	AML		
	comp=N,29μm,0.8s						
LPEL				AML	AML		
	comp=E,35μm,1.0s						
LPEL	**Lama dei Pelig**	0.21	70	P	Pg	11 10 19.0	+0.2
LPEL				S	Sg	11 10 22.6	+0.5
LPEL				AML	AML		
	comp=E,35μm,1.0s						
LPEL				AML	AML		
	comp=N,29μm,0.8s						
VVLD	**Villa Vallelon**	0.24	245	P	Pb	11 10 19.8	-0.3
VVLD				AML	AML		
	comp=E,30μm,0.3s						
VVLD				AML	AML		
	comp=N,23μm,0.2s						
VVLD				AML	AML		
	comp=E,30μm,0.3s						
VVLD				AML	AML		
	comp=N,23μm,0.2s						
VVLD	**Villa Vallelon**	0.24	245	P	Pb	11 10 19.8	-0.3
VVLD				S	Sb	11 10 23.8	-0.5
VVLD				AML	AML		
	comp=E,30μm,0.3s						
VVLD				AML	AML		
	comp=N,23μm,0.2s						
POFI	**Posta Fibreno**	0.30	211	↓P	Pg	11 10 20.5	+0.2
POFI	**Posta Fibreno**	0.30	211	P	Pg	11 10 20.4	+0.1
POFI				S	Sg	11 10 25.0	+0.5
RNI2	**Rionero Sannit**	0.32	147	P	Pb	11 10 21.1	-0.4
RNI2				S	Sb	11 10 26.3	-0.3
CERA	**Filignano**	0.38	169	P	Pg	11 10 21.7	0.0
CERA				S	Sb	11 10 27.9	-0.4

*NEIC **25** 11:17:54.0±1.1, 19.7S±0.3×178.1W±0.3, h603km±23km, mb4.3/13, Error ellipse: s-maj=55.8km s-min=26.3km az=208.0*
*IDC **25** 11:17:55.0±2.6, 19.70S×178.33W, h602km±22km, mb3.1/8, mbtmp4.1/9, Error ellipse: s-maj=56.6km s-min=19.4km az=149.0*

ISC 25 11:17:53.8±0.7, 19.7S±0.1×178.2W±0.1, h600km, n28, σ1.05/28, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.08	298	P	P	11 19 20.2	+0.2
	20nm,0.4s,baz=174,slow=2.7,SNR=123						
MSVF	**Nonsavu**	4.08	298	P	P	11 19 20.3	+0.3
AFI	**Afiamalu**	8.40	48	S	S	11 21 35.6	-2.6
	18nm,0.9s,baz=321,slow=17,SNR=2.4						
CTA	**Charters Tower**	33.42	263	P	P	11 23 44.6	-0.1
	4.4nm,0.4s,baz=81,slow=10,SNR=15 4.4nm,0.4s						
CTAO	**Charters Tower**	33.42	263	P	P	11 23 44.6	-0.1
CTAO				IAmb	IAmb	11 24 51.4	
	comp=Z,14nm,1.3s						
COEN	**Coen**	37.38	273	P	P	11 24 17.3	-0.1
BBOO	**Buckleboo**	42.76	243	P	P	11 24 59.5	-0.6
WR0	**Warramunga Arr**	44.37	261	P	P	11 25 11.7	-0.9
WR0				IAmb	IAmb	11 27 04.4	
	comp=Z,25nm,1.9s						
WB0	**Warramunga Arr**	44.53	262	P	P	11 25 13.0	-0.9
WB0				IAmb	IAmb	11 26 11.3	
	comp=Z,15nm,1.7s						
WB2	**Warramunga Arr**	44.55	261	P	P	11 25 12.7	-1.3
WB2				IAmb	IAmb	11 26 30.5	
	comp=Z,22nm,1.8s						
AS31	**Alice Springs**	44.55	256	P	P	11 25 13.8	-0.2
ASAR	**Alice Springs**	44.55	256	P	P	11 25 13.7	-0.3
	comp=Z,2.2nm,0.7s,baz=86,slow=8.3,SNR=31 comp=Z,2.2nm,

comp=Z,0.9nm,0.5s
MTN Manton Dam 49.00 270 P **P** **11 25 46.5 -1.0**
MTN IAmb IAmb 11 27 35.7
comp=Z,11nm,1.2s
SIJI Sorong 52.88 284 P **P** **11 26 15.8 +0.3**
comp=Z,4.9nm,0.7s,baz=84,slow=7.5,SNR=3.5
comp=Z,4.9nm,0.7s
FITZ Fitzroy Crossi 52.98 262 P **P** **11 26 16.1 -0.1**
comp=Z,1.0nm,0.6s,baz=360,slow=2.8,SNR=2.3
comp=Z,1.0nm,0.6s
FITZ Fitzroy Crossi 52.98 262 P **P** **11 26 15.5 -0.7**
SBA Scott Base 58.65 184 P **P** **11 26 56.2 +2.0**
SBA IAmb IAmb 11 29 04.7
comp=Z,12nm,1.9s
VNDA Vanda 58.69 185 P **P** **11 26 52.8 -1.6**
MJAR Matsushiro Arr 69.48 324 P **P** **11 28 03.8 +0.5**
comp=Z,0.9nm,0.6s,baz=146,slow=6.4,SNR=4.4
comp=Z,0.9nm,0.6s
QSPA South Pole Qui 70.36 180 P **P** **11 28 08.4 +0.2**
QSPA IAmb IAmb 11 29 20.8
comp=Z,19nm,1.9s
MAW Mawson 82.26 200 P **P** **11 29 13.6 +0.6**
TXAR Lajitas Array 86.76 57 P **P** **11 29 38.0 +2.2**
comp=Z,0.6nm,0.9s,baz=205,slow=5.5,SNR=5.7
comp=Z,0.6nm,0.9s
ILAR Eielson Array 87.58 13 P **P** **11 29 39.1 +0.5**
comp=Z,1.0nm,1.1s,baz=216,slow=5.2,SNR=10
comp=Z,1.0nm,1.1s
SNAA Sanae 88.81 179 P **P** **11 29 43.0 -1.6**
CLL Collm 147.25 347 *e*PKPbc **PKPbc** **11 36 31.0 +0.4**
GERES GERESS Array B 149.39 345 PKPbc **PKPbc** **11 36 36.5 +0.3**
comp=Z,0.3nm,0.6s,baz=301,slow=15,SNR=4.8

*MRB **25** 11:22:48.9±0.4, 42.°45N×2.°56E, h4km±3km, ML1.8/16, Error ellipse: s-maj=1.4km s-min=1.1km az=232.0*
*LDG **25** 11:22:48.7±0.1, 42.°44N×2.°56E, h5km, Md2.6/2, Ml2.5/28, Error ellipse: s-maj=1.0km s-min=0.8km az=139.0*
*MDD **25** 11:22:49.1±0.3, 42.°44N×2.°56E, h11km, mb_Lg2.5/7, Error ellipse: s-maj=2.6km s-min=2.3km az=26.0*
*STR **25** 11:22:49.4±0.6, 42.°N×6.°, h7km±6km, MLv2.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=14.0, preliminary*
ISC 25 11:22:48.3±0.8, 42.°48N±0.°02×2.°58E±0.°01, h18km±3km, n74, σ0.96/138, 6C-3D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FILF	**Fillols**	**0.08**	**348**	||P	**Pg**	**11 22 52.1**	**+0.2**
FILF				S		**Sg**	**11 22 54.5**	**+0.1**
FILF	**Fillols**	**0.08**	**348**	Pg		**Pg**	**11 22 52.0**	**+0.2**
FILF				Sg		**Sg**	**11 22 54.4**	**0.0**
SJAF	**Saint Jean de**	**0.22**	**89**	↑P		**Pb**	**11 22 53.7**	**0.0**
SJAF				S		**Sg**	**11 22 57.3**	**+0.1**
SJAF	**Saint Jean de**	**0.22**	**89**	↑Pg		**Pb**	**11 22 53.7**	**0.0**
SJAF				Sg		**Sg**	**11 22 57.3**	**+0.1**
EJON	**La Jonquera**	**0.23**	**98**	↑Pg		**Pb**	**11 22 53.8**	**0.0**
EJON				Sg		**Sg**	**11 22 57.3**	**-0.1**
EJON				*i* Vmb_Lg			11 22 57.9	
CBEU	**Beuda**	**0.23**	**163**	P		**Pg**	**11 22 53.3**	**-0.5**
CBEU				S		**Sg**	**11 22 56.5**	**-1.0**
	323nm,0.1s							
CBRU	**Bruguera**	**0.36**	**237**	↑P		**Pg**	**11 22 55.1**	**-0.8**
CBRU				S		**Sg**	**11 22 60.0**	**-1.0**
CLLI	**Llivia**	**0.45**	**270**	↓P		**Pg**	**11 22 57.1**	**-0.5**
CLLI				S		**Sg**	**11 23 02.8**	**-0.9**
	45nm,0.2s							
CPAL	**Palau Saverder**	**0.46**	**111**	P		**Pb**	**11 22 57.7**	**-0.2**
CPAL				S		**Sg**	**11 23 04.2**	**+0.2**
	54nm,0.0s							
FNEB	**Nbias**	**0.55**	**321**	Pg		**Pb**	**11 22 59.5**	**+0.1**
FNEB				Sg		**Sb**	**11 23 07.5**	**+0.5**
CCAS	**Cassa de la Se**	**0.64**	**158**	P		**Pg**	**11 23 00.6**	**-0.4**
CCAS				S		**Sg**	**11 23 09.4**	**-0.1**
	30nm,0.2s							
CORI	**Orista**	**0.64**	**218**	↑P		**Pg**	**11 23 00.3**	**-0.7**
CORI				S		**Sg**	**11 23 08.7**	**-0.9**
	36nm,0.2s							
CFON	**Fontmartina**	**0.73**	**189**	↑P		**Pg**	**11 23 01.8**	**-0.7**
CFON				S		**Sg**	**11 23 11.2**	**-1.0**
PAND	**Andorre**	**0.77**	**274**	P		**Pb**	**11 23 03.3**	**+0.1**
PAND				S		**Sb**	**11 23 13.5**	**+0.1**
	40nm,0.3s							
PAND	**Andorre**	**0.77**	**274**	Pg		**Pg**	**11 23 02.7**	**-0.6**
PAND				Sg		**Sg**	**11 23 12.9**	**-0.7**
MTLF	**Montolieu**	**0.90**	**343**	*e*Pg		**Pb**	**11 23 05.9**	**+0.5**
MTLF	**Montolieu**	**0.90**	**343**	*e*Pn		**Pn**	**11 23 07.3**	**+1.2**
MTLF				*e*Sg		**Sb**	**11 23 18.1**	**+1.0**
	22nm,0.2s							
MTLF				*e*Sn		**Sn**	**11 23 20.5**	**+1.8**
	24nm,0.2s							
MTLF	**Montolieu**	**0.90**	**343**	Pg		**Pb**	**11 23 05.9**	**+0.5**
MTLF				Sg		**Sb**	**11 23 17.8**	**+0.7**
EMIR	**Miracle**	**0.97**	**235**	Pg		**Pg**	**11 23 06.5**	**-0.6**
EMIR				Sg		**Sg**	**11 23 19.3**	**-0.5**
EMIR				*i* Vmb_Lg			11 23 20.4	
CORG	**Organya**	**0.97**	**256**	P		**Pb**	**11 23 06.8**	**+0.2**
CORG				S		**Sb**	**11 23 19.5**	**+0.4**
	15nm,0.1s							
CEST	**Esterri de Car**	**0.99**	**277**	P		**Pg**	**11 23 06.6**	**-0.9**
CEST				S		**Sb**	**11 23 20.5**	**+0.7**
	19nm,0.2s							
CSOR	**Sort**	**1.08**	**265**	P		**Pb**	**11 23 08.3**	**-0.2**
CSOR				S		**Sb**	**11 23 22.7**	**+0.4**
	13nm,0.3s							
MLS	**Moulis**	**1.20**	**294**	P		**Pg**	**11 23 11.2**	**-0.2**
MLS				S		**Sn**	**11 23 27.2**	**+1.2**
MLS	**Moulis**	**1.20**	**294**	Pg		**Pg**	**11 23 11.0**	**-0.4**
MLS				Sg		**Sn**	**11 23 26.9**	**+1.0**
CGAR	**Garraf**	**1.29**	**203**	P		**Pb**	**11 23 12.2**	**+0.2**
CGAR				S		**Sb**	**11 23 28.8**	**+0.6**
	18nm,0.3s							
CTRE	**Tremp**	**1.35**	**264**	P		**Pb**	**11 23 13.3**	**+0.2**
CTRE				S		**Sg**	**11 23 32.0**	**0.0**
	11nm,0.3s							
CAVN	**Les Avellanes**	**1.49**	**247**	↓P		**Pb**	**11 23 15.9**	**+0.5**
CAVN				S		**Sb**	**11 23 35.1**	**+1.1**
EPOB	**Poblet**	**1.59**	**225**	P		**Pb**	**11 23 17.3**	**+0.1**
EPOB				S		**Sb**	**11 23 37.6**	**+0.6**
	16nm,0.2s							
EPOB	**Poblet**	**1.59**	**225**	Pg		**Pb**	**11 23 17.3**	**+0.1**
EPOB				Sg		**Sn**	**11 23 37.0**	**+1.2**
EPOB				*i* Vmb_Lg			11 23 39.0	
EPF	**Esparros**	**1.74**	**289**	*e*Pn		**Pn**	**11 23 17.3**	**-0.4**
EPF	**Esparros**	**1.74**	**289**	*e*Pg		**Pg**	**11 23 20.8**	**-1.0**
EPF				*e*Sg		**Sg**	**11 23 43.4**	**-1.1**
	5.5nm,0.2s							
ECHI	**Chisagues Biel**	**1.77**	**277**	P		**Pb**	**11 23 20.1**	**-0.3**
ECHI				S		**Sb**	**11 23 43.5**	**+1.2**
	8.8nm,0.2s							
ECHI	**Chisagues Biel**	**1.77**	**277**	Pg		**Pg**	**11 23 21.5**	**-0.9**
ECHI				Sg		**Sg**	**11 23 44.2**	**-1.3**
ECHI				*i* Vmb_Lg			11 23 47.6	
ECHI	**Chisagues Biel**	**1.77**	**277**	Pn		**Pg**	**11 23 21.7**	**-0.7**
LASF	**Ste Croix**	**1.85**	**30**	*e*Pn		**Pn**	**11 23 19.4**	**+0.3**
LASF	**Ste Croix**	**1.85**	**30**	*e*Pg		**Pg**	**11 23 23.8**	**0.0**
LASF				*e*Sn		**Sn**	**11 23 43.0**	**+1.0**
LASF				*e*Sg		**Sg**	**11 23 48.1**	**+0.3**
	7.2nm,0.3s							
VIEF	**Viey**	**1.93**	**283**	Pg		**Pg**	**11 23 24.5**	**-0.9**
MONQ	**Montcuq**	**2.14**	**332**	Pn		**Pn**	**11 23 24.6**	**+1.4**
MONQ				Pg		**Pg**	**11 23 29.4**	**0.0**
MONQ				Sg		**Sg**	**11 23 57.1**	**-0.1**
ERTA	**Horta de San J**	**2.27**	**229**	Sg		**Sg**	**11 24 00.6**	**-0.8**
	5.0nm,0.3s							
ERTA	**Horta de San J**	**2.27**	**229**	Pg		**Pb**	**11 23 29.8**	**+1.1**
ERTA				Sg		**Sb**	**11 23 58.8**	**+2.3**
ERTA				*i* Vmb_Lg			11 24 02.5	
ETSF	**Etsaut**	**2.35**	**281**	*e*Pg		**Pg**	**11 23 32.2**	**-1.3**
ETSF				*e*Sg		**Sg**	**11 24 03.0**	**-1.0**
	13nm,0.4s							
ESAC	**San Caprasio**	**2.40**	**253**	Pg		**Pb**	**11 23 30.6**	**-0.3**
ESAC				Sg		**Sb**	**11 24 02.5**	**+2.4**
CAF	**Calviac**	**2.47**	**351**	*e*Pn		**Pn**	**11 23 28.6**	**+0.8**
CAF	**Calviac**	**2.47**	**351**	*e*Pg		**Pg**	**11 23 35.0**	**-0.7**
CAF				*e*Sn		**Sn**	**11 23 57.5**	**0.0**
CAF				*e*Sg		**Sg**	**11 24 07.7**	**-0.1**
	7.4nm,0.2s							
ATE	**Arette**	**2.49**	**285**	P		**Pn**	**11 23 30.3**	**+2.3**
ATE				S		**Sn**	**11 24 00.6**	**+2.6**
	4.4nm,0.4s							
ATE				Sg		**Sg**	**11 24 07.8**	**-0.6**
RUSF	**Rustrel**	**2.57**	**54**	Pn		**Pn**	**11 23 30.9**	**+1.8**
RUSF				Pg		**Pg**	**11 23 39.6**	**+2.0**
LFF	**La Frestale**	**2.80**	**332**	*e*Pn		**Pn**	**11 23 33.4**	**+1.2**
LFF	**La Frestale**	**2.80**	**332**	*e*Pg		**Pg**	**11 23 41.0**	**-0.9**
LFF				*e*Sn		**Sn**	**11 24 05.8**	**+0.4**
LFF				*e*Sg		**Sg**	**11 24 18.1**	**-0.1**
	12nm,0.3s							
VIVF	**Saint-Julien-l**	**2.82**	**32**	*e*Pn		**Pn**	**11 23 32.5**	**0.0**
VIVF	**Saint-Julien-l**	**2.82**	**32**	*e*Pg		**Pg**	**11 23 41.6**	**-0.7**
VIVF				*e*Sn		**Sn**	**11 24 06.3**	**+0.3**
VIVF				*e*Sg		**Sg**	**11 24 19.0**	**+0.2**
	2.0nm,0.3s							
SJPF	**Ste Jean**	**2.87**	**284**	*e*Pn		**Pn**	**11 23 33.3**	**+0.1**
SJPF	**Ste Jean**	**2.87**	**284**	*e*Pg		**Pg**	**11 23 41.9**	**-1.5**
SJPF				*e*Sg		**Sg**	**11 24 18.9**	**-1.7**
	3.4nm,0.3s							
RJF	**Les Rejaudoux**	**2.93**	**345**	*e*Pn		**Pn**	**11 23 34.6**	**+0.6**
RJF	**Les Rejaudoux**	**2.93**	**345**	*e*Pg		**Pg**	**11 23 43.8**	**-0.6**
RJF				*e*Sn		**Sn**	**11 24 08.3**	**-0.4**
RJF				*e*Sg		**Sg**	**11 24 21.9**	**-0.4**
	4.1nm,0.2s							
LMR	**La Mourre**	**3.01**	**72**	*e*Pn		**Pn**	**11 23 35.4**	**+0.4**
LMR				*e*Sn		**Sn**	**11 24 10.0**	**-0.6**
	1.7nm,0.2s							
TRIGF	**Trigance**	**3.07**	**64**	Pn		**Pn**	**11 23 37.1**	**+1.0**
ORIF	**Oris-en-Rattie**	**3.41**	**43**	*e*Pn		**Pn**	**11 23 41.1**	**+0.4**
ORIF				*e*Sn		**Sn**	**11 24 20.3**	**-0.5**
	1.0nm,0.3s							
MBDF	**Montbardon**	**3.78**	**52**	*e*Pn		**Pn**	**11 23 47.0**	**+1.2**
MBDF				*e*Sn		**Sn**	**11 24 29.1**	**-0.8**
	0.5nm,0.3s							
SBF	**Sospel**	**3.81**	**67**	*e*Pn		**Pn**	**11 23 46.0**	**-0.1**
SBF				*e*Sn		**Sn**	**11 24 29.1**	**-1.4**
	1.5nm,0.2s							
TCF	**Toulx Ste Croi**	**3.82**	**356**	*e*Pn		**Pn**	**11 23 46.8**	**+0.6**
TCF	**Toulx Ste Croi**	**3.82**	**356**	*e*Pg		**Pg**	**11 24 00.3**	**-1.1**
TCF				*e*Sn		**Sn**	**11 24 30.4**	**-0.2**
TCF				*e*Sg		**Sg**	**11 24 49.9**	**-0.9**
	3.9nm,0.3s							
BGF	**Bois d'Agland**	**4.08**	**3**	*e*Pg		**Pg**	**11 24 04.9**	**-1.5**
BGF				*e*Sg		**Sg**	**11 24 58.7**	**-0.6**
	9.6nm,0.4s							
SMF	**Signal de Mont**	**4.26**	**12**	*e*Pn		**Pn**	**11 23 52.7**	**+0.4**
SMF				*e*Sg		**Sg**	**11 25 03.7**	**-1.3**
	0.7nm,0.3s							
AVF	**Avril sur Loir**	**4.34**	**7**	*e*Pn		**Pn**	**11 23 54.1**	**+0.7**
AVF	**Avril sur Loir**	**4.34**	**7**	*e*Pg		**Pg**	**11 24 10.0**	**-1.5**
AVF				*e*Sg		**Sg**	**11 25 06.4**	**-1.3**
	0.9nm,0.2s							
MFF	**Saint Martin d**	**4.56**	**336**	*e*Pn		**Pn**	**11 23 56.8**	**+0.4**
MFF	**Saint Martin d**	**4.56**	**336**	*e*Pg		**Pg**	**11 24 13.7**	**-1.9**
MFF				*e*Sn		**Sn**	**11 24 47.9**	**-1.0**
MFF				*e*Sg		**Sg**	**11 25 13.7**	**-0.9**
	0.6nm,0.2s							
SSF	**Saint Saulge**	**4.63**	**8**	*e*Pn		**Pn**	**11 23 58.6**	**+1.3**
SSF	**Saint Saulge**	**4.63**	**8**	*e*Pg		**Pg**	**11 24 15.8**	**-1.1**
SSF				*e*Sg		**Sg**	**11 25 15.0**	**-1.8**
	1.3nm,0.3s							
PGF	**Pioggiola**	**4.74**	**87**	*e*Pn		**Pn**	**11 23 58.5**	**-0.5**
PGF				*e*Sn		**Sn**	**11 24 50.6**	**-3.0**
	0.9nm,0.2s							
CABF	**La Chapelle**	**4.83**	**30**	*e*Sg		**Sg**	**11 25 21.2**	**-2.1**
	0.9nm,0.3s							
LOR	**Lormes**	**4.87**	**10**	*e*Sg		**Sg**	**11 25 23.5**	**-1.1**
	0.4nm,0.2s							
SFTF	**Sexfontaines**	**5.98**	**16**	*e*Pn		**Pn**	**11 24 16.2**	**+0.3**
MEZF	**Maizieres J'vi**	**6.27**	**15**	*e*Pn		**Pn**	**11 24 19.4**	**-0.4**

*MEX **25** 11:31:06.6±0.8, 19.°50N×108.°87W, h10km, MD4.2*
*IDC **25** 11:31:06.9±3.3, 19.°58N×108.°80W, h0km, mb3.6/5, mbtmp3.8/9, ML3.7/4, MS3.4/18, Error ellipse: s-maj=66.0km s-min=33.7km az=37.0*
ISC 25 11:31:05.0±1.0, 19.°3N±0.°1×108.°85W±0.°04, h10km, n39, σ1.73/27, mb3.7/4, MS3.3/14, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E		**2.02**	**256**	*e*P	**Pn**	**11 31 38.2**	**-0.9**
H06E				*i* S	**Sn**	**11 32 02.5**	**-1.9**
H06E1	**SOCORRO T-PHAS**	**2.02**	**256**	T	T	11 34 05.1	
	SNR=57						
H06N1	**SOCORRO T-PHAS**	**2.06**	**259**	T	T	11 33 49.1	
	SNR=16						
H06S1	**SOCORRO T**	**2.06**	**255**	T	T	11 34 00.6	
	SNR=23						
H06N	**Isla Socorro**	**2.06**	**259**	*e*P	**Pn**	**11 31 38.6**	**-1.2**
H06N				*i* S	**Sn**	**11 32 03.2**	**-2.3**
H06S		**2.07**	**255**	*e*P	Pn	11 31 33.5	-6.3
H06S				*e*S	Sn	11 31 58.7	-6.9
H06S				*e*S	Sb	11 32 02.0	-6.4
CJM	**Chamela**	**3.60**	**86**	*e*P	**Pn**	**11 31 59.0**	**-2.0**
MAIG	**Mazatlaan**	**4.51**	**30**	*e*P	**Pn**	**11 32 09.8**	**-3.5**
CDAR	**Ciudad de Arme**	**4.59**	**93**	*e*P	**Pn**	**11 32 13.6**	**-0.9**
CDAR				*e*S	**Sn**	**11 33 07.9**	**-0.1**
R15V		**4.60**	**90**	*i* P	**Pn**	**11 32 14.0**	**-0.8**
R15V				*e*S	**Sn**	**11 33 05.1**	**-3.3**
COIG	**Colima**	**4.88**	**90**	*e*P	**Pn**	**11 32 18.1**	**-0.5**
COIG				*e*S	**Sn**	**11 33 14.2**	**-1.0**
MNGA	**Volcan de Coli**	**4.94**	**87**	*e*P	**Pn**	**11 32 20.4**	**+0.7**
INCO	**Volcan de Coli**	**4.96**	**86**	*e*P	**Pn**	**11 32 20.1**	**+0.1**
INCO				*e*S	**Sn**	**11 33 15.7**	**-2.0**
EZ5V		**4.96**	**87**	*e*P	**Pn**	**11 32 20.5**	**+0.6**
JUBC	**Volcan de Coli**	**4.99**	**86**	*e*P	**Pn**	**11 32 21.1**	**+0.8**
JUBC				*e*S	**Sn**	**11 33 17.8**	**-0.5**
LPIG	**La Paz**	**4.99**	**345**	Pn	**Pn**	**11 32 19.1**	**-0.9**
	6.5nm,0.3s,baz=170,slow=3.7,SNR=7.5						
LPIG				LR	LR	11 33 49.8	
	comp=Z,463nm,20.5s,baz=136,slow=35						
	37nm,0.5s						
TXAR	**Lajitas Array**	**11.07**	**24**	Pn	**Pn**	**11 33 43.6**	**0.0**
	0.1nm,0.3s,baz=201,slow=13,SNR=20						
TXAR				LR	LR	11 37 27.9	
	comp=Z,119nm,19.8s,baz=205,slow=35						
	1.8nm,0.7s						
CMIG	**Matias Romero**	**13.45**	**97**	Pn	**Pn**	**11 34 19.5**	**+3.4**
	0.5nm,0.3s,baz=283,slow=12,SNR=13						
CMIG				LR	LR	11 39 06.4	
	comp=Z,176nm,19.6s,baz=280,slow=36						
	5.9nm,0.7s						
ANMO	**Albuquerque**	**15.76**	**7**	Pn	**P**	**11 34 49.0**	**-2.2**
	0.1nm,0.3s,baz=222,slow=7.0,SNR=7.2						
PFO	**Pinyon Flats O**	**15.81**	**336**	Pn	**Pn**	**11 34 48.9**	**+0.9**
	0.1nm,0.3s,baz=169,slow=10,SNR=3.5						
PFO				LR	LR	11 39 55.1	
	comp=Z,282nm,20.3s,baz=155,slow=34						
	2.5nm,1.1s						
NVAR	**Mina Array Bea**	**20.78**	**339**	P	Pn	11 35 48.1	-0.9
	2.1nm,0.8s,baz=165,slow=11,SNR=10.0						
	2.1nm,0.8s						
ELK	**Elko**	**22.09**	**347**	P	**P**	**11 36 01.6**	**+1.0**
	2.0nm,0.8s,baz=167,slow=14,SNR=10						
ELK				LR	LR	11 44 27.4	
	comp=Z,61nm,19.8s,baz=134,slow=37						
	2.0nm,0.8s						
PDAR	**Pinedale Array**	**23.43**	**359**	P	**P**	**11 36 14.4**	**-0.2**
	0.4nm,0.5s,baz=173,slow=8.2,SNR=4.3						
PDAR				LR	LR	11 45 09.1	
	comp=Z,54nm,18.9s,baz=188,slow=36						
	0.4nm,0.5s						
YBH	**Yreka Blue Hor**	**25.30**	**335**	LR	LR	11 45 45.4	
	comp=Z,61nm,20.3s,baz=169,slow=35						
NEW	**Newport**	**29.69**	**349**	LR	LR	11 49 29.3	
	comp=Z,62nm,20.0s,baz=182,slow=38						
SADO	**Sadowa**	**35.44**	**38**	LR	LR	11 52 22.0	
	comp=Z,38nm,20.3s,baz=212,slow=36						
BBB	**Bella Bella**	**36.14**	**340**	LR	LR	11 51 30.7	
	comp=Z,76nm,18.6s,baz=260,slow=34						
SJG	**San Juan**	**40.39**	**84**	LR	LR	11 56 51.1	
	comp=Z,26nm,18.8s,baz=276,slow=38						
DLBC	**Dease Lake**	**42.07**	**344**	LR	LR	11 57 18.9	
	comp=Z,37nm,19.8s,baz=164,slow=38						
ILAR	**Eielson Array**	**52.02**	**340**	P	**P**	**11 40 15.2**	**+0.7**
	0.6nm,0.5s,baz=146,slow=6.7,SNR=14						
ILAR				LR	LR	12 03 03.0	
	comp=Z,55nm,18.2s,baz=184,slow=37						
	0.6nm,0.5s						
PPT	**Papeete**	**54.23**	**230**	LR	LR	11 57 55.4	
	comp=Z,36nm,19.1s,baz=36,slow=30						
RES	**Resolute Bay**	**55.95**	**4**	LR	LR	12 05 00.7	
	comp=Z,88nm,18.5s,baz=11,slow=37						
MDP	**Montagnes des**	**56.48**	**97**	LR	LR	12 06 25.4	
	comp=Z,24nm,18.1s,baz=186,slow=38						
H03N2	**Juan Fernandez**	**59.69**	**151**	T	T	12 46 15.3	
	baz=329,slow=78,SNR=74						
H03N1	**Juan Fernandez**	**59.70**	**151**	T	T	12 46 14.8	
	baz=329,slow=78,SNR=92						
H03N3	**Juan Fernandez**	**59.71**	**151**	T	T	12 46 14.3	
	baz=329,slow=78,SNR=88						
AFI	**Afiamalu**	**70.17**	**247**	LR	LR	12 06 30.1	
	comp=Z,80nm,19.6s,baz=92,slow=30						
MSVF	**Nonsavu**	**80.65**	**248**	LR	LR	12 11 17.3	
	comp=Z,44nm,19.6s,baz=61,slow=30						
ARCES	**ARCESS Array B**	**85.71**	**15**	P	**P**	**11 43 46.1**	**+2.2**
	1.1nm,0.8s,baz=310,slow=7.0,SNR=2.1						
	1.1nm,0.8s						

IDC 25 11:43:32.2±2.2, 4.°11S×131.°74E, h0km, mb3.7/1, mbtmp3.7/5, ML3.5/4, MS2.6/1, Error ellipse: s-maj=116.3km s-min=23.6km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.25**	**352**	Pn	Pn	11 44 24.3	-0.2
	2.3nm,0.3s,baz=232,slow=22,SNR=6.7						
SIJI				Sn	Sn	11 44 58.7	-5.3
	6.7nm,0.3s,baz=255,slow=22,SNR=12						
SIJI				LR	LR	11 45 44.5	
	comp=Z,97nm,20.0s,baz=178,slow=41						
	7.5nm,0.2s						
FITZ	**Fitzroy Crossi**	**15.13**	**203**	Pn	Pn	11 47 06.0	-1.4
	0.2nm,0.3s,baz=351,slow=9.6,SNR=1.5						
FITZ				Sn	Sn	11 49 47.7	-8.2
	baz=180,slow=11,SNR=1.2						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**15.94**	**171**	Pn	Pn	11 47 15.9	-2.1
	0.2nm,0.3s,baz=356,slow=13,SNR=13						
WRA				Sn	Sn	11 50 05.2	-10
	0.1nm,0.3s,baz=357,slow=23,SNR=2.3						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**19.56**	**174**	P	Pn	11 48 03.0	0.0
	0.4nm,0.3s,baz=352,slow=10,SNR=46						
	1.9nm,0.6s						
MKAR	**Makanchi Array**	**66.81**	**325**	P	P	11 54 25.9	+0.1
	0.5nm,0.6s,baz=114,slow=7.0,SNR=6.9						
	0.5nm,0.6s						

MAN 25 11:45:19.5, 17.°36N×121.°83E, h23km, mb4.0, ML2.8, MS2.4, 5C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.42**	**181**	↑*e*P	Pn	11 45 29.8	-0.4
CAUP				*e*S	Sn	11 45 37.0	-0.2
PALP	**Palanan**	**0.64**	**118**	↑*e*P	Pn	11 45 32.7	-0.5
PALP				*e*S	Sn	11 45 43.7	+1.0
SGCP	**Gonzaga**	**0.90**	**13**	↓*e*P	Pb	11 45 35.7	-0.8
SGCP				*e*S	Sb	11 45 47.7	-0.3
SAMP	**Sagada Mountai**	**0.93**	**253**	↑*e*P	Pb	11 45 36.6	-0.4
SAMP				*e*S	Sn	11 45 49.5	-0.4
PACPP	**Pamplona Cagay**	**1.18**	**337**	↑*i*P	Pn	11 45 40.5	-0.2
PACPP				*i* S	Sb	11 45 56.3	+0.2
BALP	**Baler**	**1.63**	**189**	↑*e*P	Pn	11 45 46.7	-0.2
BALP				*e*S	Sn	11 46 06.8	-0.3
SMPP	**San Manuel, Pa**	**1.63**	**223**	↓*e*P	Pn	11 45 47.4	+0.4
SMPP				*e*S	Sb	11 46 08.8	-0.3

IDC 25 11:45:30.8±2.4, 9.°63S×111.°70E, h0km, mb3.7/4, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=86.6km s-min=22.8km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.93**	**123**	Pn	Pn	11 49 14.5	-2.0
	0.1nm,0.3s,baz=0.6,slow=8.7,SNR=1.7						
	1.8nm,1.0s						
WRA	**Warramunga Arr**	**24.14**	**118**	P	P	11 50 48.7	0.0
	0.7nm,0.7s,baz=292,slow=11,SNR=6.5						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**25.39**	**126**	P	P	11 51 00.7	+0.6
	0.7nm,0.8s,baz=302,slow=8.9,SNR=5.8						
	0.7nm,0.8s						
H08S2	**Diego Garcia H**	**38.80**	**270**	T	T	12 33 57.7	
	baz=96,slow=75,SNR=9.0						
H08S3	**Diego Garcia H**	**38.81**	**270**	T	T	12 33 59.8	
	baz=96,slow=75,SNR=8.0						
H08S1	**Diego Carcia H**	**38.81**	**270**	T	T	12 33 59.3	
	baz=96,slow=75,SNR=6.5						
KSRS	**Korea Array**	**49.25**	**17**	P	P	11 54 21.4	+0.3
	1.1nm,0.7s,baz=207,slow=8.2,SNR=5.7						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**62.00**	**338**	P	P	11 55 52.4	-0.5
	0.6nm,0.3s,baz=149,slow=6.9,SNR=11						
	0.6nm,0.3s						

*IDC **25** 11:46:38.7±2.9, 32.°63S×178.°07W, h0km, mb4.1/3, mbtmp4.1/4, ML3.8/1, MS3.4/2, Error ellipse: s-maj=63.3km s-min=35.6km az=117.0*
*NEIC **25** 11:46:43.9±1.5, 32.°5S±0.°1×178.°56W±0

comp=Z,120nm,20.3s,baz=202,slow=31
CPUP Villa Florida 26.89 56 LR LR 12 18 08.0
comp=Z,496nm,18.0s,baz=224,slow=37
RPN Rapa Nui 27.98 299 LR LR 12 15 35.9
comp=Z,233nm,21.5s,baz=134,slow=30
ATAH Atahualpa 37.36 6 LR LR 12 20 33.5
comp=Z,68nm,20.6s,baz=187,slow=30
BDFB Brasilia 40.62 56 LR LR 12 26 36.0
comp=Z,226nm,18.7s,baz=194,slow=37
VNDA Vanda 52.18 194 LR LR 12 30 31.6
comp=Z,52nm,18.1s,baz=130,slow=33
SDV Santo Domingo 54.12 14 LR LR 12 31 49.5
comp=Z,54nm,21.3s,baz=268,slow=33
MDP Montagnes des 55.96 36 LR LR 12 33 35.6
comp=Z,83nm,19.5s,baz=163,slow=34
PPT Papeete 62.00 273 LR LR 12 31 36.5
comp=Z,79nm,21.4s,baz=94,slow=29
RAR Rarotonga 66.91 263 LR LR 12 33 16.1
comp=Z,168nm,18.9s,baz=102,slow=28
RPZ Rata Peaks 70.76 227 LR LR 12 35 56.3
comp=Z,74nm,19.0s,baz=93,slow=29
URZ Urewera 71.10 235 LR LR 12 36 35.3
comp=Z,82nm,20.8s,baz=236,slow=30
TXAR Lajitas Array 76.12 341 P P 12 13 28.9 +0.2
0.5nm,0.9s,baz=161,slow=8.6,SNR=2.8
0.5nm,0.9s
AFI Afiamalu 80.27 260 LR LR 12 40 00.9
comp=Z,68nm,21.9s,baz=140,slow=29
PDAR Pinedale Array 90.33 340 P P 12 14 41.7 -0.2
0.1nm,0.5s,baz=153,slow=6.1,SNR=2.2
0.1nm,0.5s
H11S2 WAKE ISLAND Hyl 17.86 269 T T 14 29 12.0
baz=131
H11S1 WAKE ISLAND Hyl 17.88 269 T T 14 29 04.7
baz=131
H11S3 WAKE ISLAND Hyl 17.88 269 T T 14 29 02.9
baz=131

---

*NEIC **25** 12:10:41.0±2.7,8.38S±0.07×75.11W±0.08,h121km±6km, mb4.6/59, Error ellipse: s-maj=11.3km s-min=10.6km az=102.0*
*VAO **25** 12:10:41.7±0.6,8.45S×74.82W,h112km±5km,mb4.8*
*IDC **25** 12:10:41.3±0.5,8.38S×75.01W,h134km±4km,mb3.9/22, mbtmp4.3/27,Error ellipse: s-maj=11.9km s-min=8.2km az=39.0*

ISC 25 12:10:41.5±0.3,8.40S±0.05×75.00W±0.05,h136km,n163, σ1ᵗ15/176,mb4.5/47,1C,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**2.37**	**74**		**Pn**	**12 11 20.9**	**+0.6**
ATAH	**Atahualpa**	**3.59**	**290**	P	**Pn**	**12 11 36.2**	**-0.2**
	254nm,0.3s,baz=108,slow=13,SNR=540						
ATAH				S	**Sn**	**12 12 17.6**	**-1.4**
	606nm,0.5s,baz=328,slow=18,SNR=12						
NNA	**Nana**	**4.00**	**207**	P	**Pn**	**12 11 40.5**	**-1.0**
	53nm,0.3s,baz=359,slow=7.2,SNR=43						
NNA				S	**Sn**	**12 12 24.4**	**-3.6**
	185nm,0.3s,baz=139,slow=19,SNR=20						
NNA	**Nana**	**4.00**	**207**	Pn	**Pn**	**12 11 40.8**	**-0.6**
BOSC	**San Juan Bosco**	**6.27**	**326**		**Pn**	**12 12 08.3**	**-3.6**
MCRA	**Macar, Loja**	**6.35**	**309**		**Pn**	**12 12 08.7**	**-4.1**
TBTG	**Tabatinga, AM**	**6.57**	**51**		**Pn**	**12 12 15.5**	**-0.2**
TBTG	**Tabatinga, AM**	**6.57**	**51**	*eP*	**Pn**	**12 12 15.2**	**-0.5**
ARNL	**Arenillas**	**6.98**	**313**		**Pn**	**12 12 18.9**	**-2.3**
PORT	**Chimborazo Vol**	**7.85**	**331**		**Pn**	**12 12 34.3**	**+0.7**
CHSH	**Refugio Sur-Vo**	**7.87**	**330**		**Pn**	**12 12 34.3**	**+0.5**
SLOR	**San Lorenzo -**	**8.38**	**335**		**Pn**	**12 12 40.7**	**+0.1**
ETMB	**Extrema**	**8.79**	**100**	Pn	**Pn**	**12 12 42.8**	**-2.8**
ETMB	**Extrema**	**8.79**	**100**	*eP*	**Pn**	**12 12 42.7**	**-2.8**
IMBA	**Imbabura, San**	**9.19**	**340**		**Pn**	**12 12 51.3**	**-0.1**
OTAV	**Otavalo**	**9.25**	**338**	Pn	**Pn**	**12 12 52.5**	**+0.3**
OTAV	**Otavalo**	**9.25**	**338**	*eP*	**Pn**	**12 12 52.9**	**+0.8**
TULM	**Tulcn-Chalpat**	**9.48**	**343**		**Pn**	**12 12 51.2**	**-4.0**
LPAZ	**La Paz**	**10.31**	**140**	P	**Pn**	**12 13 04.8**	**-1.8**
	5.9nm,0.4s,baz=322,slow=10,SNR=34						
LPAZ	**La Paz**	**10.31**	**140**	Pn	**Pn**	**12 13 04.9**	**-1.6**
LPAZ	**La Paz**	**10.31**	**140**	*eP*	**Pn**	**12 13 04.7**	**-1.8**
PB16	**IPOC Station P**	**11.22**	**152**	Pn	**Pn**	**12 13 19.2**	**+0.6**
SAML	**Samuel**	**11.69**	**94**		**Pn**	**12 13 20.4**	**-3.8**
ROSC	**El Rosal**	**13.17**	**3**	P	**Pn**	**12 13 43.5**	**-0.4**
	5.6nm,0.4s,baz=124,slow=17,SNR=2.3						
MACA	**Manacapuru-AM**	**15.16**	**71**		**Pn**	**12 14 06.4**	**-2.2**
MACA				IAmb	IAmb	12 14 11.9	
	comp=Z,264nm,0.7s						
VILB	**Vilhena**	**15.22**	**109**	Pn	**Pn**	**12 14 08.6**	**-0.9**
VILB				IAmb	IAmb	12 14 13.5	
	comp=Z,46nm,0.7s						
VILB	**Vilhena**	**15.22**	**109**	*eP*	**Pn**	**12 14 08.4**	**-1.1**
LVC	**Limon Verde**	**15.29**	**158**	*eP*	**P**	**12 14 11.7**	**-0.6**
SIV	**San Ignacio**	**15.55**	**120**	P	**Pn**	**12 14 12.5**	**-1.1**
	comp=Z,19nm,0.4s,baz=295,slow=11,SNR=83						
PTLB	**Pontes e Lacer**	**17.02**	**116**		**P**	**12 14 30.1**	**-0.9**
PTLB				IAmb	IAmb	12 14 34.1	
	comp=Z,24nm,0.8s						
PTLB	**Pontes e Lacer**	**17.02**	**116**	*eP*	**P**	**12 14 29.7**	**-1.4**
SDV	**Santo Domingo**	**17.72**	**14**	*eP*	**Pn**	**12 14 41.5**	**+1.4**
BOAV	**Boa Vista**	**17.98**	**54**		**Pn**	**12 14 43.3**	**+0.2**
BOAV				IAmb	IAmb	12 14 45.3	
	comp=Z,33nm,1.0s						
BOAV	**Boa Vista**	**17.98**	**54**	*eP*	**Pn**	**12 14 43.2**	**+0.2**
PDRB	**Porto dos Gac**	**18.27**	**102**	*eP*	**P**	**12 14 45.4**	**+0.5**
BAUV	**El Baul**	**18.57**	**22**	P	**Pn**	**12 14 49.5**	**-0.4**
BAUV				IAmb	IAmb	12 14 51.0	
	comp=Z,15nm,0.6s						
CLDB	**Colider**	**19.09**	**99**	*eP*	**P**	**12 14 53.2**	**-0.6**
NPGB	**Novo Progresso**	**19.51**	**87**	*eP*	**P**	**12 14 57.4**	**-1.0**
ITTB	**Itaituba**	**19.55**	**79**	*eP*	**P**	**12 14 58.4**	**-0.5**
SALV	**Santo Antonio**	**20.28**	**113**	*eP*	**P**	**12 15 06.8**	**+0.2**
PCRV	**Puerto La Cruz**	**21.14**	**29**	P	**P**	**12 15 16.0**	**+0.1**
	comp=Z,3.7nm,0.4s,baz=185,slow=7.4,SNR=2.4						
	comp=Z,3.7nm,0.4s						
MALB	**Monte Alegre**	**21.64**	**74**	*eP*	**P**	**12 15 21.2**	**0.0**
AQDB	**Aquidauana**	**22.18**	**125**	P	**P**	**12 15 26.7**	**0.0**
AQDB				IAmb	IAmb	12 15 30.9	
	comp=Z,12nm,0.6s						
SNDB	**Serra Nova Dou**	**23.59**	**101**	*eP*	**P**	**12 15 39.5**	**-0.7**
C2SB	**Chapadao do Su**	**23.85**	**118**	*eP*	**P**	**12 15 43.5**	**+1.1**
CPUP	**Villa Florida**	**24.48**	**139**	P	**P**	**12 15 48.6**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=318,slow=9.5,SNR=7.2						
	comp=Z,1.9nm,0.5s						
CPUP	**Villa Florida**	**24.48**	**139**	P	**P**	**12 15 48.9**	**+0.8**
CPUP	**Villa Florida**	**24.48**	**139**	*eP*	**P**	**12 15 49.6**	**+1.5**
TRCB	**Terra Rica**	**25.80**	**126**	*eP*	**P**	**12 16 01.9**	**+1.8**
MDP	**Montagnes des**	**26.02**	**60**	P	**P**	**12 16 02.7**	**+0.6**
	comp=Z,3.1nm,0.5s,baz=225,slow=7.4,SNR=11						
	comp=Z,3.1nm,0.5s						
PCMB	**Pacaembu**	**26.36**	**122**	*eP*	**P**	**12 16 06.6**	**+1.4**
SMTB	**Santa Maria do**	**27.10**	**93**	*eP*	**P**	**12 16 13.1**	**+1.2**
ITQB	**Itaqui**	**27.29**	**143**	*eP*	**P**	**12 16 15.1**	**+1.7**
BDFB	**Brasilia**	**27.33**	**108**	P	**P**	**12 16 15.3**	**+1.2**
	comp=Z,16nm,0.7s,baz=273,slow=11,SNR=26						
	comp=Z,16nm,0.7s						
BDFB	**Brasilia**	**27.33**	**108**	P	**P**	**12 16 16.4**	**+2.4**
BDFB				IAmb	IAmb	12 16 17.3	
	comp=Z,14nm,0.6s						
BDFB	**Brasilia**	**27.33**	**108**	*eP*	**P**	**12 16 15.3**	**+1.2**
TMAB	**Tom-Au,PA,Br**	**27.43**	**79**	*eP*	**P**	**12 16 14.6**	**-0.2**
IPMB	**Ipameri, GO**	**27.73**	**113**	*eP*	**P**	**12 16 18.8**	**+1.3**
SJG	**San Juan**	**27.76**	**18**	P	**P**	**12 16 17.6**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=191,slow=10,SNR=1.1						
	comp=Z,3.2nm,0.6s						
ITAB	**Concordia**	**28.62**	**134**	*eP*	**P**	**12 16 25.8**	**+0.6**
PMNB	**Patos De Minas**	**29.50**	**113**	*eP*	**P**	**12 16 35.3**	**+2.0**
SDBA	**SAO DESIDERIO**	**29.85**	**100**	*eP*	**P**	**12 16 38.3**	**+1.9**
VAO	**Valinhos**	**30.56**	**122**	*eP*	**P**	**12 16 43.4**	**+0.9**
JANB	**Januaria**	**30.74**	**105**	*eP*	**P**	**12 16 45.4**	**+1.2**
DIAM	**Diamantina, MG**	**31.98**	**111**	*eP*	**P**	**12 16 54.0**	**-1.0**
PLCA	**Paso Flores**	**32.44**	**174**	P	**P**	**12 16 58.7**	**0.0**
	comp=Z,1.2nm,0.6s,baz=347,slow=9.3,SNR=9.7						
PLCA				PcP	**PcP**	**12 19 43.5**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=325,slow=2.9,SNR=7.0						
	comp=Z,1.2nm,0.6s						
PLCA	**Paso Flores**	**32.44**	**174**	*eP*	**P**	**12 16 58.6**	**-0.2**
GDU01	**Guandu, BA**	**35.14**	**102**	*eP*	**P**	**12 17 21.9**	**-0.5**
NAN01	**Guarapari, ES**	**35.17**	**109**	*eP*	**P**	**12 17 22.6**	**-0.1**
RIB01	**Linhares ES**	**35.23**	**112**	*eP*	**P**	**12 17 24.3**	**+1.1**
ALF01	**Guarapari-ES**	**35.24**	**114**	*eP*	**P**	**12 17 25.4**	**+2.3**
GUA01	**Guaratinga, BA**	**35.26**	**107**	*eP*	**P**	**12 17 25.4**	**+2.0**
CMC01	**Camacan, BA**	**35.36**	**105**	*eP*	**P**	**12 17 25.6**	**+1.4**
RCBR	**Riachuelo**	**38.87**	**89**	*eP*	**P**	**12 17 55.2**	**+1.3**
V58A	**Windy Hill, Pi**	**44.13**	**355**	P	**P**	**12 18 36.6**	**+0.2**
V58A				IAmb	IAmb	12 18 37.6	
	comp=Z,7.8nm,0.9s						
T57A	**Hurt**	**45.34**	**355**	P	**P**	**12 18 46.7**	**+0.7**
T57A				IAmb	IAmb	12 18 47.2	
	comp=Z,12nm,0.8s						
S57A	**Dark Hollow, R**	**46.07**	**356**	P	**P**	**12 18 52.4**	**+0.7**
S57A				IAmb	IAmb	12 19 25.8	
	comp=Z,13nm,0.9s						
TXAR	**Lajitas Array**	**46.59**	**325**	P	**P**	**12 18 56.7**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=149,slow=8.9,SNR=19						
TXAR				pP	**pP**	**12 19 26.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=137,slow=8.1,SNR=4.2						
TXAR				PcP	**PcP**	**12 20 28.3**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=128,slow=4.6,SNR=3.9						
	comp=Z,0.9nm,0.5s						
TXAR	**Lajitas Array**	**46.59**	**325**	P	**P**	**12 18 56.8**	**+0.8**
TX31	**Lajitas Ar. Si**	**46.59**	**325**	P	**P**	**12 18 56.8**	**+0.7**
TX32	**Lajitas Array**	**46.59**	**325**	P	**P**	**12 18 56.8**	**+0.7**
ABTX	**Abilene, Hawle**	**47.08**	**331**	P	**P**	**12 19 00.9**	**+1.2**
ABTX				IAmb	IAmb	12 19 01.5	
	comp=Z,8.3nm,0.9s						
HHAR	**Hobbs**	**47.88**	**339**	P	**P**	**12 19 05.8**	**-0.1**
MGMO	**Mountain Grove**	**48.12**	**341**	P	**P**	**12 19 06.9**	**-0.8**
MGMO				IAmb	IAmb	12 19 40.7	
	comp=Z,10nm,1.1s						
MVL	**Millersville**	**48.17**	**359**	P	**P**	**12 19 09.3**	**+1.4**
MVL				IAmb	IAmb	12 19 09.8	
	comp=Z,11nm,0.7s						
DEOK	**Depew**	**48.45**	**337**		**P**	**12 19 10.8**	**+0.6**
DEOK				IAmb	IAmb	12 19 11.2	
	comp=Z,17nm,0.6s						
OK044	**Pawnee Station**	**49.03**	**337**		**P**	**12 19 15.4**	**+0.8**
BINY	**Binghamton**	**50.36**	**359**	P	**P**	**12 19 25.7**	**+1.1**
SADO	**Sadowa**	**53.06**	**356**	P	**P**	**12 19 44.5**	**-0.1**
SADO				IAmb	IAmb	12 20 20.1	
	comp=Z,12nm,1.1s						
PV13	**Radium Mtn., P**	**56.04**	**328**	P	**P**	**12 20 07.5**	**+0.9**
PV13				IAmb	IAmb	12 20 08.0	
	comp=Z,6.1nm,0.8s						
F36A	**Milaca**	**56.52**	**345**	P	**P**	**12 20 08.9**	**-0.6**
F36A				IAmb	IAmb	12 20 42.9	
	comp=Z,8.2nm,0.8s						
P17A	**Butcher Ranch,**	**58.02**	**328**	P	**P**	**12 20 20.4**	**0.0**
PSUT	**Pine Spring**	**59.06**	**325**	P	**P**	**12 20 29.0**	**+1.3**
DUG	**Dugway, Tooele**	**59.64**	**327**	P	**P**	**12 20 32.6**	**+1.0**
DUG				IAmb	IAmb	12 20 33.4	
	comp=Z,4.6nm,0.8s						
PDAR	**Pinedale Array**	**59.88**	**331**	P	**P**	**12 20 32.6**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=120,slow=9.0,SNR=6.8						
PDAR				pP	**pP**	**12 21 05.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=128,slow=7.8,SNR=2.9						
	comp=Z,0.6nm,0.7s						
R11A	**Troy Canyon, C**	**59.93**	**324**	P	**P**	**12 20 35.0**	**+1.4**
HWUT	**Hardware Ranch**	**60.01**	**329**	P	**P**	**12 20 34.8**	**+0.7**
HWUT				IAmb	IAmb	12 20 35.0	
	comp=Z,5.7nm,0.7s						
DSP	**Deep Springs**	**60.73**	**321**	P	**P**	**12 20 40.2**	**+1.5**
ULM	**Lac du Bonnet**	**61.17**	**345**	P	**P**	**12 20 40.6**	**-0.9**
	comp=Z,7.1nm,0.8s,baz=158,slow=6.8,SNR=4.9						
ULM				pP	**pP**	**12 21 13.8**	**-0.3**
	comp=Z,5.5nm,0.6s,baz=144,slow=6.5,SNR=4.4						
	comp=Z,7.1nm,0.8s						
ELK	**Elko**	**61.35**	**326**	P	**P**	**12 20 43.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=215,slow=6.8,SNR=3.3						
	comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**61.60**	**322**	P	**P**	**12 20 45.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=125,slow=8.8,SNR=6.7						
	comp=Z,1.0nm,0.8s						
YHH	**Holmes Hill**	**62.02**	**332**	P	**P**	**12 20 49.1**	**+1.4**
YHL	**Hebgen Lake**	**62.23**	**332**	P	**P**	**12 20 50.5**	**+1.4**
SCHQ	**Schefferville**	**63.37**	**5**	P	**P**	**12 20 56.0**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=178,slow=6.9,SNR=3.8						
	comp=Z,2.4nm,0.7s						
MSO	**Missoula**	**64.99**	**332**	P	**P**	**12 21 08.0**	**+1.1**
K05A	**Summer Lake**	**65.84**	**325**	P	**P**	**12 21 14.2**	**+1.5**
K05A				IAmb	IAmb	12 21 14.7	
	comp=Z,6.2nm,0.9s						
I07A	**Izee**	**65.93**	**326**	P	**P**	**12 21 14.4**	**+1.3**
I07A				IAmb	IAmb	12 21 14.8	
	comp=Z,5.1nm,0.7s						
F10A	**Beach Ranch, E**	**65.99**	**329**	P	**P**	**12 21 13.9**	**+0.5**
YBH	**Yreka Blue Hor**	**66.30**	**323**	P	**P**	**12 21 14.7**	**-0.7**
	comp=Z,1.6nm,1.1s,baz=150,slow=8.1,SNR=2.1						
	comp=Z,1.6nm,1.1s						
PINE	**Pine Mountain**	**66.54**	**325**	P	**P**	**12 21 18.1**	**+1.0**
PINE				IAmb	IAmb	12 21 56.1	
	comp=Z,4.9nm,0.8s						
NEW	**Newport**	**67.52**	**331**	P	**P**	**12 21 23.0**	**0.0**
	comp=Z,1.5nm,0.7s,baz=80,slow=9.2,SNR=5.6						
	comp=Z,1.5nm,0.7s						
EDM	**Edmonton**	**69.48**	**337**	P	**P**	**12 21 35.1**	**0.0**
EDM				IAmb	IAmb	12 21 35.7	
	comp=Z,16nm,1.1s						
DBIC	**Dimbokro**	**71.51**	**80**	P	**P**	**12 21 47.5**	**-0.7**
	comp=Z,4.3nm,0.4s,baz=274,slow=7.7,SNR=9.0						
	comp=Z,4.3nm,0.4s						
SNAA	**Sanae**	**76.49**	**162**	P	**P**	**12 22 16.2**	**+0.1**
SNAA	**Sanae**	**76.49**	**162**	P	**P**	**12 22 16.5**	**+0.4**
YKA	**Yellowknife Ar**	**76.98**	**342**	P	**P**	**12 22 18.1**	**-0.7**
	comp=Z,3.8nm,0.6s,baz=144,slow=6.0,SNR=12						
	comp=Z,3.8nm,0.6s						
TROLL	**Troll, Antarti**	**78.21**	**162**	P	**P**	**12 22 26.3**	**+0.6**
TOA0	**Torodi Ar. Sit**	**79.10**	**75**	P	**P**	**12 22 30.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**79.10**	**75**	P	**P**	**12 22 30.7**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=256,slow=4.2,SNR=21						
TORD				pP	**pP**	**12 23 04.0**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=273,slow=4.5,SNR=2.8						
	comp=Z,2.4nm,0.6s						
ESDC	**Sonseca Array**	**81.03**	**48**	P	**P**	**12 22 41.7**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=252,slow=6.2,SNR=10						
ESDC				pP	**pP**	**12 23 15.0**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=258,slow=5.7,SNR=3.7						
	comp=Z,1.5nm,0.9s						
QSPA	**South Pole Qui**	**81.71**	**180**	P	**P**	**12 22 45.3**	**+0.7**
	comp=Z,4.0nm,0.6s,baz=168,slow=4.9,SNR=30						
	comp=Z,4.0nm,0.6s						
QSPA	**South Pole Qui**	**81.71**	**180**	P	**P**	**12 22 45.6**	**+0.9**
QSPA				IAmb	IAmb	12 22 46.0	
	comp=Z,5.2nm,0.7s						
INK	**Inuvik**	**86.72**	**341**	P	**P**	**12 23 09.7**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=132,slow=11,SNR=18						
	comp=Z,3.0nm,0.3s						
INK	**Inuvik**	**86.72**	**341**	P	**P**	**12 23 09.9**	**+0.3**
INK				IAmb	IAmb	12 23 10.5	
	comp=Z,6.7nm,0.8s						
M27K	**Edge Creek, AK**	**86.97**	**335**	P	**P**	**12 23 11.8**	**+0.6**
M27K				IAmb	IAmb	12 23 12.7	
	comp=Z,7.5nm,0.8s						
BCAR	**Beaver Creek A**	**87.23**	**335**	P	**P**	**12 23 12.9**	**+0.6**
L27K	**Beaver Creek,**	**87.25**	**335**	P	**P**	**12 23 13.2**	**+0.8**
EGAK	**Eagle**	**87.70**	**337**	P	**P**	**12 23 14.8**	**+0.4**
EGAK				IAmb	IAmb	12 23 15.5	
	comp=Z,6.9nm,0.9s						
K27K	**Chicken**	**87.75**	**336**	P	**P**	**12 23 15.1**	**+0.4**
L26K	**Log Cabin Wild**	**87.86**	**335**	P	**P**	**12 23 15.8**	**+0.5**
L26K				IAmb	IAmb	12 23 16.4	
	comp=Z,3.3nm,0.8s						
DOT	**Dot Lake**	**88.40**	**335**	P	**P**	**12 23 18.3**	**+0.4**
KLU	**Klutina**	**88.41**	**333**	P	**P**	**12 23 18.4**	**+0.4**
SCRK	**Sand Creek**	**88.50**	**336**	P	**P**	**12 23 18.6**	**+0.2**
SCRK				IAmb	IAmb	12 23 19.4	
	comp=Z,6.5nm,0.7s						
J26L	**Joseph Creek**	**88.53**	**336**	P	**P**	**12 23 18.9**	**+0.4**
VNDA	**Vanda**	**88.62**	**190**	P	**P**	**12 23 19.3**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=122,slow=4.0,SNR=6.9						
VNDA				pP	**pP**	**12 23 54.0**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=112,slow=8.0,SNR=4.3						
	comp=Z,0.9nm,0.8s						
VNDA	**Vanda**	**88.62**	**190**	P	**P**	**12 23 19.3**	**+0.6**
I26K	**Coal Creek Min**	**88.69**	**337**	P	**P**	**12 23 18.6**	**-0.5**
I26K				IAmb	IAmb	12 23 19.6	
	comp=Z,3.1nm,0.7s						
J25K	**Salcha River,**	**89.30**	**336**	P	**P**	**12 23 22.3**	**+0.2**
PRP	**Porcupine Dome**	**89.69**	**337**	P	**P**	**12 23 24.1**	**+0.1**
PRP				IAmb	IAmb	12 23 24.7	
	comp=Z,3.5nm,0.7s						
ILAR	**Eielson Array**	**89.96**	**336**	P	**P**	**12 23 24.6**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=136,slow=3.2,SNR=13						
ILAR				pP	**pP**	**12 23 59.4**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=135,slow=3.3,SNR=8.9						
	comp=Z,1.7nm,0.9s						
ILAR	**Eielson Array**	**89.96**	**336**	P	**P**	**12 23 24.0**	**-1.1**
CCB	**Clear Creek Bu**	**90.29**	**336**	P	**P**	**12 23 26.9**	**+0.3**
CCB				IAmb	IAmb	12 23 27.4	
	comp=Z,3.4nm,0.7s						
KDAK	**Kodiak Island**	**90.50**	**328**	P	**P**	**12 23 27.7**	**0.0**
MDM	**Murphy Dome**	**90.57**	**336**	P	**P**	**12 23 28.0**	**+0.1**
H24K	**Noodor Dome**	**90.71**	**337**	P	**P**	**12 23 29.2**	**+0.6**
H24K				IAmb	IAmb	12 23 29.8	
	comp=Z,3.5nm,0.8s						
BPAW	**Bear Paw Mtn.**	**91.45**	**335**	P	**P**	**12 23 31.6**	**-0.4**
BPAW				IAmb	IAmb	12 23 32.7	
	comp=Z,6.3nm,0.9s						
ABKAR	**Akbulak array**	**124.58**	**34**	PKPdf	**PKPdf**	**12 29 25.0**	**+0.1**
STKA	**Stephens Creek**	**126.84**	**219**	PKP	**PKPdf**	**12 29 29.9**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=94,slow=1.9,SNR=7.8						
ZALV	**Zalesovo Beam**	**131.76**	**16**	PKP	**PKPdf**	**12 29 38.6**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=278,slow=2.9,SNR=7.7						
ZALV				pPKP	**pPKPdf**	**12 30 15.2**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=304,slow=2.7,SNR=5.6						
MKAR	**Makanchi Array**	**137.10**	**23**	PKP	**PKPdf**	**12 29 48.2**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=328,slow=1.1,SNR=7.7						
MKAR				pPKP	**pPKPdf**	**12 30 24.7**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=347,slow=1.2,SNR=7.9						
ASAR	**Alice Springs**	**137.41**	**221**	PKhKP	PKPpre	12 29 37.6	
	comp=Z,0.5nm,0.9s,baz=141,slow=3.3,SNR=5.4						
ASAR				PKP	**PKPdf**	**12 29 49.2**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=129,slow=1.8,SNR=23						
ASAR				pPKP	pPKPdf	12 30 24.4	-2.0
	comp=Z,0.5nm,0.6s,baz=136,slow=1.5,SNR=3.1						
MJAR	**Matsushiro Arr**	**138.83**	**318**	PKP	**PKPdf**	**12 29 51.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=83,slow=1.1,SNR=2.8						
WRA	**Warramunga Arr**	**139.66**	**225**	PKhKP	PKPpre	12 29 45.6	
	comp=Z,0.4nm,0.5s,baz=119,slow=2.4,SNR=11						
WRA				PKP	**PKPdf**	**12 29 54.0**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=119,slow=2.0,SNR=47						
KSRS	**Korea Array**	**144.40**	**328**	PKP	**PKPab**	**12 30 00.6**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=50,slow=2.6,SNR=9.2						
KSAR	**Wonju Array Be**	**144.43**	**328**	PKPdf	**PKPab**	**12 30 00.3**	**-0.3**
KNRA	**Kununurra**	**146.44**	**225**		**PKPbc**	**12 30 07.5**	**-0.1**
MTN	**Manton Dam**	**146.54**	**231**		**PKPbc**	**12 30 07.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**146.70**	**218**		**PKPbc**	**12 30 07.5**	**-0.8**
PSA00	**Pilbara Seismi**	**146.84**	**206**		**PKPdf**	**12 30 07.5**	**+0.9**
GTA	**Gaotai**	**148.78**	**8**	⇑PKPbc	**PKPbc**	**12 30 14.0**	**+0.5**
GTA				pPKP	pPKPbc	12 30 50.0	+0.3
LZH	**Lanzhou**	**152.42**	**2**	pPKP	PKPab	12 30 30.8	-1.9
LZH	**Lanzhou**	**152.42**	**2**	ePKPbc	**PKiKP**	**12 30 25.0**	**+2.5**
CMAR	**Chiang Mai Arr**	**168.40**	**30**	PKP	**PKPdf**	**12 30 33.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=292,slow=1.8,SNR=4.8						
CMAR				PKPab	**PKPab**	**12 31 42.5**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=318,slow=6.1,SNR=13						

---

*NEIC **25** 12:16:18.7±1.0,32.78S±0.2×176.2W±0.1,h39km±7km, mb4.4/10, Error ellipse: s-maj=24.3km s-min=14.8km az=176.0*
*IDC **25** 12:16:25.3±2.9,32.50S×178.20W,h0km,mb4.0/2, mbtmp4.0/3,ML3.6/1,Error ellipse: s-maj=70.0km s-min=44.1km az=126.0*

ISC 25 12:16:31.2±2.7,32.7S±0.1×178.3W±0.4,h33km,n16, σ0ᵗ86/16,mb4.3/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.73**	**213**	Pn	**Pn**	**12 18 06.5**	**-1.1**
	1.1nm,0.3s,baz=67,slow=7.7,SNR=7.5						
URZ				Sn	**Sn**	**12 19 23.6**	**+0.5**
	3.0nm,0.3s,baz=300,slow=21,SNR=11						
	11nm,0.8s						
URZ	**Urewera**	**6.73**	**

comp=Z,37nm,18.0s,baz=189,slow=32
TROLL Troll, Antarctic 52.87 199 P P 12 43 52.9 -0.9
SNAA Sanae 54.36 200 P P 12 44 02.3 -2.3
SNAA Sanae 54.36 200 P P 12 44 04.1 -0.6
comp=Z,1.8nm,0.9s,baz=62,slow=8.9,SNR=9.6
SNAA LR LR 13 03 12.7
comp=Z,74nm,19.2s,baz=45,slow=32
comp=Z,1.8nm,0.9s
SNAA Sanae 54.36 200 P P 12 44 04.6 -0.1
RAYN Ar Rayn 54.44 343 P P 12 44 05.7 0.0
RAYN IAmb IAmb 12 44 07.4
comp=Z,6.1nm,1.0s
BRDH Bariadhala 59.47 33 LR LR 13 09 01.7
comp=Z,60nm,18.3s,baz=268,slow=35
FITZ Fitzroy Crossi 59.72 95 P P 12 44 42.1 -1.2
comp=Z,1.5nm,0.8s,baz=186,slow=5.9,SNR=2.4
comp=Z,1.5nm,0.8s
CMAR Chiang Mai Arr 59.95 43 P P 12 44 45.6 +0.8
comp=Z,2.5nm,0.8s,baz=230,slow=7.3,SNR=14
CMAR LR LR 13 08 20.7
comp=Z,31nm,18.4s,baz=180,slow=34
comp=Z,2.5nm,0.8s
CMAR Chiang Mai Arr 59.95 43 P P 12 44 44.8 0.0
KOLN Koldanda 60.67 23 eP P 12 44 49.3 -0.5
PYUN Piuthan 60.77 22 eP P 12 44 49.8 -0.6
comp=Z,54nm,0.8s
QSPA South Pole Qui 60.98 180 P P 12 44 50.6 -0.8
comp=Z,2.5nm,0.8s,baz=267,slow=3.2,SNR=12
QSPA LR LR 13 08 35.3
comp=Z,86nm,18.3s,baz=262,slow=33
comp=Z,2.5nm,0.8s
QSPA South Pole Qui 60.98 180 P P 12 44 50.9 -0.5
DMN Daman 61.05 25 eP P 12 44 52.1 -0.4
GKN Gorkha 61.24 24 eP P 12 44 53.2 -0.4
ODAN Odare 61.25 27 eP P 12 44 53.4 -0.4
DANN Dangsing 61.26 23 eP P 12 44 53.1 -0.8
comp=Z,38nm,0.8s
KKN Kakani 61.28 25 eP P 12 44 53.7 -0.3
JIRN Jiri 61.50 26 eP P 12 44 55.2 -0.4
comp=Z,14nm,0.7s
GUN Gumba 61.61 25 eP P 12 44 56.4 +0.1
EIL Elat 63.53 335 LR LR 13 09 07.2
comp=Z,64nm,20.8s,baz=318,slow=33
VNDA Vanda 64.08 166 P P 12 45 11.2 -0.5
comp=Z,1.5nm,0.8s,baz=274,slow=9.0,SNR=10
VNDA LR LR 13 10 27.3
comp=Z,119nm,19.3s,baz=249,slow=34
comp=Z,1.5nm,0.8s
VNDA Vanda 64.08 166 P P 12 45 11.5 -0.2
VNDA IAmb IAmb 12 45 21.6
comp=Z,2.8nm,1.0s
ASAR Alice Springs 64.69 104 P P 12 45 15.2 -1.5
comp=Z,2.8nm,0.6s,baz=245,slow=5.3,SNR=37
ASAR LR LR 13 09 52.2
comp=Z,38nm,19.5s,baz=275,slow=33
comp=Z,2.8nm,0.6s
ASAR Alice Springs 64.69 104 P P 12 45 14.9 -1.8
AS31 Alice Springs 64.69 104 P P 12 45 15.0 -1.7
SBA Scott Base 64.96 167 P P 12 45 17.8 +0.4
SBA IAmb IAmb 12 45 27.9
comp=Z,3.7nm,0.9s
MMAI Mount Meron Ar 66.40 337 LR LR 13 11 30.2
comp=Z,48nm,19.2s,baz=236,slow=33
WRA Warramunga Arr 66.52 100 P P 12 45 27.3 -1.3
comp=Z,2.8nm,0.9s,baz=246,slow=5.4,SNR=14
WRA LR LR 13 10 30.1
comp=Z,61nm,19.3s,baz=178,slow=32
comp=Z,2.8nm,0.9s
WRA Warramunga Arr 66.52 100 P P 12 45 26.9 -1.6
QIZ Qiongzhong 67.31 51 P P 12 45 35.0 +1.6
QIZ S S **12 54 35.0 +6.1**
QIZ LR LR
comp=N,130nm,11.8s
QIZ LR LR
comp=E,160nm,15.2s
QIZ LR LR
comp=Z,120nm,15.8s
PZH PanZhiHua 67.84 39 P P 12 45 39.3 +2.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.6s
KSH Kashi 69.78 12 P P 12 45 45.8 -2.8
KSH pP pP 12 45 48.8 -1.7
KSH pmax pmax
comp=Z,11nm,0.9s
GNI Garni 70.58 347 LR LR 13 15 13.2
comp=Z,70nm,19.9s,baz=146,slow=34
TOA0 Torodi Ar. Sit 70.91 298 P P 12 45 57.0 +1.2
TORD Torodi Ar. Bea 70.91 298 P P 12 45 56.5 +0.6
comp=Z,6.1nm,0.9s,baz=114,slow=5.0,SNR=22
comp=Z,6.1nm,0.9s
DBIC Dimbokro 72.47 288 P P 12 46 07.0 +1.7
comp=Z,4.5nm,0.9s,baz=105,slow=4.5,SNR=3.5
DBIC LR LR 13 17 55.3
comp=Z,33nm,18.2s,baz=155,slow=36
comp=Z,4.5nm,0.9s
KK31 Karatay Array 72.47 7 P P 12 46 05.0 +0.4
KK31 IAmb IAmb 12 46 06.2
comp=Z,6.8nm,1.1s
KKAR Karatay Array 72.47 7 P P 12 46 05.3 +0.6
KKAR Karatay Array 72.47 7 P P 12 46 05.4 +0.7
KKAR IAmb IAmb 12 46 06.2
comp=Z,6.8nm,1.1s
AAK Ala-Archa 72.56 11 P P 12 46 05.6 +0.2
AAK IAmb IAmb 12 46 07.2
comp=Z,8.2nm,1.2s
BRTR Keskin Array B 73.08 338 P P 12 46 08.3 -0.2
comp=Z,2.4nm,0.9s,baz=161,slow=7.9,SNR=10
comp=Z,2.4nm,0.9s
KBZ Khabaz 74.40 347 LR LR 13 16 51.6
comp=Z,78nm,21.8s,baz=148,slow=34
KOWA Kowa 76.18 295 LR LR 13 21 25.9
comp=Z,36nm,18.1s,baz=120,slow=37
KOWA Kowa 76.18 295 P P 12 46 27.3 +0.4
LZH Lanzhou 76.48 35 eP P 12 46 29.3 +0.9
LZH pP pwP 12 46 35.0 -0.8
LZH pmax pmax
comp=Z,12nm,1.1s
WMQ Urumqi 76.69 20 eP P 12 46 31.5 +2.3
GTA Gaotai 77.28 30 eP P 12 46 33.0 +0.2
GTA pP sP 12 46 37.0 +1.6
GTA sP pwP 12 46 40.0 -0.2
GTA pmax pmax
comp=Z,4.0nm,1.1s
MAKZ Makanchi 78.00 15 P P 12 46 36.5 0.0
MAKZ IAmb IAmb 12 46 37.4
comp=Z,9.5nm,1.5s
MK31 Makanchi Array 78.06 15 P P 12 46 36.3 -0.5
MKAR Makanchi Array 78.06 15 P P 12 46 36.5 -0.3
comp=Z,1.7nm,0.8s,baz=181,slow=5.9,SNR=14
comp=Z,1.7nm,0.8s
MKAR Makanchi Array 78.06 15 P P 12 46 36.7 -0.1
ABKAR Akbulak array 78.08 359 P P 12 46 36.9 +0.1
ABKAR IAmb IAmb 12 46 37.8
comp=Z,5.3nm,0.9s
ABKAR Akbulak array 78.08 359 P P 12 46 36.7 -0.1
AKTO Aktyubinsk 79.30 358 P P 12 46 42.8 -0.7
comp=Z,1.4nm,0.5s,baz=135,slow=2.9,SNR=2.5
AKTO LR LR 13 19 07.3
comp=Z,32nm,20.6s,baz=199,slow=34
comp=Z,1.4nm,0.5s
CFR Carcaliu 79.78 337 ⇓P P 12 46 46.6 +0.4
LYN LuoYang 79.95 41 ⇑iP P 12 46 51.8 +4.4
BLKB Belogradchik 80.46 333 ⇑P P 12 46 49.7 -0.3
MLR Muntele Rosu 80.81 336 ⇓P P 12 46 52.1 +0.2
VRI Vrincioaia 80.86 337 ⇓P P 12 46 52.7 +0.6
PLOR Plostina 80.88 337 ⇓P P 12 46 52.7 +0.5
KURBB Kurchatov Arra 80.98 11 P P 12 46 51.8 -0.7
comp=Z,3.7nm,0.2s,baz=207,slow=6.4,SNR=7.9
comp=Z,3.7nm,0.2s
KURK Kurchatov 81.08 11 P P 12 46 53.7 +0.6
KURK IAmb IAmb 12 46 54.3
comp=Z,4.8nm,0.9s
VOIR 81.09 335 ⇓P P 12 46 53.1 -0.3
ARR Arges 81.18 335 ⇓P P 12 46 53.5 -0.3
DIVS Divibare 81.95 332 P P 12 46 58.7 +0.8
DIVS IAmb IAmb 12 46 59.6
comp=Z,7.6nm,1.2s
BELG Belogornoye 82.05 352 LR LR 13 24 20.0
comp=Z,31nm,20.8s,baz=161,slow=36
NJ2 Nanjing 82.10 47 eP P 12 46 59.0 +0.1
NJ2 pmax pmax
comp=Z,14nm,0.5s
BVAR Borovoye Array 82.28 6 P P 12 46 59.3 -0.1
comp=Z,1.4nm,0.8s,baz=164,slow=5.9,SNR=9.1
comp=Z,1.4nm,0.8s
BZS Buzias 82.54 333 ⇓P P 12 47 01.4 +0.5
BURAR Bucovina Array 82.90 337 ⇑P P 12 47 03.6 +0.8
DRGR 83.10 335 ⇓P P 12 47 04.1 +0.2
RPZ Rata Peaks 83.39 137 LR LR 13 16 09.0
comp=Z,82nm,20.5s,baz=269,slow=30
HHC Hu-ho-hao-te 84.02 36 eP P 12 47 10.0 +1.2
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,91nm,5.2s
AKASG Malin Array Be 84.31 340 P P 12 47 09.5 -0.3
comp=Z,0.9nm,0.5s,baz=159,slow=4.2,SNR=8.5
comp=Z,0.9nm,0.5s
AKBB Malin Array Si 84.31 340 P P 12 47 09.9 +0.1
ZAA0 Zalesovo Array 85.35 14 P P 12 47 14.9 -0.1
ZAA0 IAmb IAmb 12 47 16.2
comp=Z,4.4nm,0.9s
ZALV Zalesovo Beam 85.35 14 P P 12 47 13.8 -1.1
comp=Z,2.5nm,0.7s,baz=213,slow=5.1,SNR=9.3
ZALV LR LR 13 21 31.4
comp=Z,32nm,21.7s,baz=262,slow=33
comp=Z,2.5nm,0.7s
ZALV Zalesovo Beam 85.35 14 P P 12 47 15.0 0.0
BBTS Babate 86.41 289 LR LR 13 23 36.2
comp=Z,68nm,19.7s,baz=107,slow=34
CONA Conrad Observa 86.74 332 *i* P **P 12 47 22.0 -0.2**
comp=Z,4.3nm,1.3s
SONM Songino Array 86.89 29 P P 12 47 22.3 -0.7
comp=Z,0.7nm,0.7s,baz=207,slow=6.0,SNR=2.4
comp=Z,0.7nm,0.7s
MOA Molln 87.35 331 *eP* **P 12 47 25.3 +0.2**
comp=Z,4.5nm,1.2s
MDT Midelt 87.47 310 LR LR 13 26 06.5
comp=Z,56nm,20.0s,baz=145,slow=35
MNK Minsk 88.06 341 *i* P **P 12 47 27.3 -0.9**
comp=E,3.0nm,0.8s
MNK *i* P **P 12 47 27.3 -0.9**
MNK *i* P **P 12 47 27.3 -0.9**
comp=Z,11nm,0.7s,baz=152
MNK *i* PP **PP 12 50 49.6 -5.7**
MNK *i* PPP PPP 12 52 53.6
MNK *i* SKS 12 54 03.8
MNK *i* S **SKSac 12 57 55.1 -1.3**
MNK *i* SS **SS 13 03 59.0 -1.7**
MNK *i* SSS SSS 13 07 32.8
MNK *i* LQ LQ 13 21 12.0
MNK *i* LR LR 13 27 53.8
WTTA Wattenberg 88.06 329 *eP* **P 12 47 28.7 0.0**
comp=Z,7.0nm,1.3s
WATA Walderalm 88.14 329 *eP* **P 12 47 28.5 -0.6**
comp=Z,3.8nm,0.9s
SQTA Sankt Quirin 88.22 329 *eP* **P 12 47 28.7 -0.7**
comp=Z,2.7nm,0.6s
FETA Feichten 88.29 328 *eP* **P 12 47 29.8 +0.1**
comp=Z,6.9nm,1.1s
GERES GERESS Array B 88.36 331 P P 12 47 29.4 -0.6
comp=Z,0.1nm,0.3s,baz=112,slow=6.5,SNR=4.5
comp=Z,0.1nm,0.3s
MOTA Moosalm 88.36 329 *eP* **P 12 47 28.9 -1.2**
comp=Z,3.9nm,0.9s
BRG Berggiesshubel 89.82 332 *eP* **P 12 47 37.5 +0.9**
BRG Amp 12 47 40.1
comp=Z,3.8nm,1.0s
ESDC Sonseca Array 91.22 316 P P 12 47 45.1 +1.6
comp=Z,2.9nm,1.0s,baz=112,slow=3.7,SNR=17
comp=Z,2.9nm,1.0s
ESDC Sonseca Array 91.22 316 P P 12 47 44.1 +0.5
RCBR Riachuelo 93.07 262 LR LR 13 22 48.5
comp=Z,44nm,19.0s,baz=320,slow=31
NOA NORSAR Array B 98.52 338 LR LR 13 33 15.0
comp=Z,16nm,18.7s,baz=110,slow=36
ILAR Eielson Array 140.35 18 PKP PKPdf 12 54 06.2 -0.5
comp=Z,0.3nm,0.6s,baz=320,slow=4.0,SNR=3.1
YKA Yellowknife Ar 146.55 356 PKPbc PKPbc 12 54 18.4 -0.6
comp=Z,3.7nm,0.8s,baz=357,slow=2.9,SNR=5.4
ULM Lac du Bonnet 152.58 327 PKPbc PKPbc 12 54 33.6 -0.9
comp=Z,2nm,0.8s,baz=28,slow=2.4,SNR=4.0
PDAR Pinedale Array 164.40 333 PKP PKPdf 12 54 41.4 -0.8
comp=Z,0.8nm,0.8s,baz=106,slow=1.3,SNR=7.1
TXAR Lajitas Array 166.49 274 PKP PKPdf 12 54 44.8 +0.6
comp=Z,0.4nm,0.9s,baz=126,slow=1.6,SNR=4.5

*IDC **25** 12:36:18.6±1.5, 7°.97N×94°.19E, h0km, mb3.8/8, mbtmp3.8/9, MS3.4/8, Error ellipse: s-maj=48.8km s-min=29.5km az=55.0*
ISC 25 12:36:21.4±1.2, 7°.9N±0°.2×94°.2E±0°.2, h18km, n19, σ0s81/9, mb3.8/8, MS3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.45**	**23**	Pn	**Pn**	**12 39 04.8**	**+0.5**
	0.6nm,0.3s,baz=216,slow=15,SNR=4.8						
CMAR				LR	LR	12 43 35.3	
	comp=Z,173nm,18.1s,baz=215,slow=38						
PALK	**Pallekele**	**13.36**	**268**	LR		12 43 31.9	
	comp=Z,47nm,20.5s,baz=186,slow=32						
LEM	**Lembang**	**19.87**	**137**	LR		12 49 56.2	
	comp=Z,186nm,20.0s,baz=289,slow=41						
H08S3	**Diego Garcia H**	**26.57**	**235**	T	T	13 08 56.4	
	baz=53,slow=75,SNR=8.2						
H08S2	**Diego Garcia H**	**26.57**	**235**	T	T	13 08 58.1	
	baz=53,slow=75,SNR=9.0						
H08S1	**Diego Carcia H**	**26.58**	**235**	T	T	13 09 01.0	
	baz=53,slow=75,SNR=5.3						
KAPI	**Kappang**	**28.58**	**116**	LR	LR	12 54 15.1	
	comp=Z,54nm,18.6s,baz=298,slow=38						
MKAR	**Makanchi Array**	**40.04**	**347**	P	P	**12 43 54.1**	**-1.4**
	0.6nm,0.7s,baz=170,slow=7.7,SNR=6.2						
	0.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.43**	**130**	LR	LR	13 01 47.5	
	comp=Z,39nm,18.3s,baz=86,slow=38						
SONM	**Songino Array**	**41.11**	**13**	LR	LR	13 03 07.6	
	comp=Z,81nm,18.4s,baz=219,slow=39						
GEYT	**Alibeck**	**44.17**	**318**	P	P	**12 44 29.9**	**+0.5**
	2.9nm,0.5s,baz=127,slow=9.2,SNR=4.4						
	2.9nm,0.5s						
KURBB	**Kurchatov Arra**	**44.50**	**346**	P	P	**12 44 31.2**	**-0.5**
	1.0nm,0.2s,baz=166,slow=8.2,SNR=1.1						
	1.0nm,0.2s						
ZALV	**Zalesovo Beam**	**46.51**	**352**	P	P	**12 44 47.0**	**-0.5**
	0.5nm,0.3s,baz=180,slow=8.4,SNR=7.9						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**48.27**	**126**	P	P	**12 45 01.7**	**-0.1**
	0.3nm,1.0s,baz=310,slow=8.3,SNR=2.0						
	0.3nm,1.0s						
MBAR	**Mbarara**	**63.78**	**265**	LR	LR	13 12 57.3	
	comp=Z,28nm,19.8s,baz=62,slow=34						
LSZ	**Lusaka**	**69.31**	**250**	LR	LR	13 13 56.0	
	comp=Z,38nm,18.8s,baz=168,slow=33						
FINES	**FINESS Array B**	**72.67**	**332**	P	P	**12 47 47.3**	**-0.6**
	0.7nm,0.7s,baz=87,slow=7.4,SNR=1.2						
	0.7nm,0.7s						
GERES	**GERESS Array B**	**77.80**	**318**	P	P	**12 48 18.0**	**+0.1**
	0.4nm,0.5s,baz=85,slow=6.0,SNR=5.1						
	0.4nm,0.5s						
ESDC	**Sonseca Array**	**91.20**	**310**	P	P	**12 49 26.7**	**+0.8**
	0.1nm,0.5s,baz=53,slow=5.0,SNR=1.5						
	0.1nm,0.5s						

*NNC **25** 12:47:38.2±1.8, 41°.44N×83°.79E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=13.9km s-min=9.5km az=162.0*
*SOME **25** 12:47:40.1, 41°.15N×83°.35E, h20km*
ISC 25 12:47:39.5±2.3, 41°.3N±0°.1×83°.35E±0°.07, h10km, n31, σ2s09/47, 7C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.12**	**316**	*eP*	**Pg**	**12 48 39.1**	**-0.1**
	9.1nm,0.4s						
KTMS				*eS*	**Sg**	**12 49 22.0**	**+2.5**
	17nm,0.6s						
KTMS	**Ketmen**	**3.12**	**316**	Pg	**Pg**	**12 48 39.1**	**-0.1**
	9.1nm,0.4s						
KTMS				Lg	Lg	12 49 22.0	
	17nm,0.6s						
SHLS	**Shalkode**	**3.45**	**305**	*eP*	**Pb**	**12 48 40.1**	**-0.7**
	8.0nm,0.1s						
SHLS				*eS*	**Sb**	**12 49 23.7**	**+0.9**
	74nm,0.4s						
SHLS	**Shalkode**	**3.45**	**305**	Pg	**Pb**	**12 48 40.1**	**-0.7**
	8.0nm,0.1s						
SHLS				Lg	Lg	12 49 24.3	
	74nm,0.4s						
PDGK	**Podgornoye**	**3.53**	**307**	⇑Pn	**Pn**	**12 48 36.6**	**+2.1**
	1.6nm,0.3s						
PDGK				⇑Pg	**Pg**	**12 48 46.9**	**-0.2**
	17nm,0.7s						
PDGK				⇓Sn	**Sb**	**12 49 23.5**	**-1.6**
	21nm,0.6s						
PDGK				⇓Lg	Lg	12 49 38.5	
	55nm,0.8s						
UZB	**Uzynbulak**	**3.73**	**302**	*eP*	**Pg**	**12 48 49.5**	**-1.4**
	6.6nm,0.5s						
UZB				*eS*	**Sg**	**12 49 39.5**	**+0.4**
	35nm,0.7s						
UZB	**Uzynbulak**	**3.73**	**302**	Pg	**Pg**	**12 48 49.5**	**-1.4**
	6.6nm,0.5s						
UZB				Lg	Lg	12 49 39.5	
	35nm,0.7s						
DJR	**Jarkent**	**4.04**	**321**	*eP*	**Pg**	**12 48 54.4**	**-2.3**
	5.9nm,0.5s						
DJR				*eS*	**Sg**	**12 49 48.7**	**-0.4**
	16nm,0.3s						
DJR	**Jarkent**	**4.04**	**321**	Pg	**Pg**	**12 48 57.2**	**+0.5**
	5.9nm,0.5s						
DJR				Lg	Lg	12 49 53.0	
	16nm,0.3s						
SATY	**Saty**	**4.09**	**298**	*eP*	**Pg**	**12 48 57.2**	**-0.5**
	8.0nm,0.5s						
SATY				*eS*	**Sg**	**12 49 53.3**	**+2.6**
	29nm,0.6s						
SATY	**Saty**	**4.09**	**298**	Pg	**Pg**	**12 48 57.2**	**-0.5**
	8.0nm,0.5s						
SATY				Lg	Lg	12 49 53.3	
	29nm,0.6s						
KPKS	**Kokpek**	**4.10**	**304**	*eP*	**Pg**	**12 48 55.0**	**-3.0**
	12nm,0.2s						
KPKS				*eS*	**Sg**	**12 49 49.1**	**-1.9**
	43nm,0.5s						
KPKS	**Kokpek**	**4.10**	**304**	Pg	**Pg**	**12 48 54.9**	**-3.0**
	12nm,0.2s						
KPKS				Lg	Lg	12 49 49.1	
	43nm,0.5s						
KURS	**Kuram**	**4.43**	**302**	*eP*	**Pg**	**12 49 02.7**	**-1.7**
	4.5nm,0.6s						
KURS				*eS*	**Sg**	**12 50 03.2**	**+1.4**
	14nm,0.8s						
KURS	**Kuram**	**4.43**	**302**	Pg	**Pg**	**12 49 02.7**	**-1.7**
	4.5nm,0.6s						
KURS				Lg	Lg	12 50 03.2	
	14nm,0.8s						
MDOK	**Medeo**	**5.05**	**294**	*eP*	**Pg**	**12 49 13.7**	**-2.5**
	5.0nm,0.5s						
MDOK				*eS*	**Sg**	**12 50 21.9**	**+0.3**
	18nm,0.7s						
MDOK	**Medeo**	**5.05**	**294**	Pg	**Pg**	**12 49 13.7**	**-2.5**
	5.0nm,0.5s						
MDOK				Lg	Lg	12 50 21.9	
	18nm,0.7s						
MDOK				⇓Lg	Lg	12 50 27.0	
	41nm,0.8s						
TNSS	**Tian-Shan**	**5.08**	**293**	*eP*	**Pg**	**12 49 15.3**	**-1.4**
	3.9nm,0.6s						
TNSS				*eS*	**Sg**	**12 50 23.9**	**+1.4**
	6.9nm,0.6s						
TNSS	**Tian-Shan**	**5.08**	**293**	Pg	**Pg**	**12 49 15.3**	**-1.4**
	3.9nm,0.6s						
TNSS				Lg	Lg	12 50 23.9	
	6.9nm,0.6s						
CHKK	**Chushkaly**	**5.36**	**301**	*eP*	**Pg**	**12 49 23.1**	**+0.9**
	1.7nm,0.2s						
CHKK				*eS*	**Sg**	**12 50 37.2**	**+5.5**
	15nm,0.5s						
MTBS	**Maitube**	**5.47**	**292**	*eP*	**Pg**	**12 49 22.0**	**-2.2**
	2.6nm,0.1s						
MTBS				*eS*	**Sg**	**12 50 35.4**	**+0.4**
	13nm,0.8s						
MTBS	**Maitube**	**5.47**	**292**	Pg	**Pg**	**12 49 22.0**	**-2.2**
	2.6nm,0.1s						
MTBS				Lg	Lg	12 50 35.4	
	13nm,0.8s						
MK31	**Makanchi Array**	**5.59**	**353**	⇓Pn	**Pn**	**12 49 01.0**	**-1.6**
	0.2nm,0.2s,baz=162,slow=14,SNR=23						
MK31				⇓Pg	**Pb**	**12 49 16.3**	**-0.8**
	1.9nm,0.6s,baz=172,slow=16,SNR=2.8						
MK31				Sn	**Sn**	**12 50 05.3**	**-1.5**
	7.4nm,0.4s,baz=179,slow=25,SNR=5.3						
MK31				⇓Lg	Lg	12 50 31.6	
	11nm,0.7s,baz=169,slow=33,SNR=4.7						
MAKZ	**Makanchi**	**5.64**	**350**	⇑Pn	**Pn**	**12 49 00.5**	**-2.8**
	0.7nm,0.4s						
MAKZ				⇑Pg	**Pb**	**12 49 18.7**	**+0.8**
	1.5nm,0.5s						
MAKZ				⇑Sn	**Sn**	**12 50 06.5**	**-1.6**
	4.6nm,0.5s						
MAKZ				⇑Lg	Lg	12 50 32.7	
	18nm,0.7s						
KST	**Kastek**	**5.77**	**290**	*eP*	**Pg**	**12 49 29.5**	**-0.4**
	3.5nm,0.5s						
KST				*eS*	**Sg**	**12 50 48.8**	**+4.1**
	28nm,0.7s						
TKM2	**Tokmak 2**	**6.00**	**289**	⇓Pn	**Pn**	**12 49 11.6**	**+3.1**
	1.7nm,0.5s						
TKM2				⇓Lg	Lg	12 50 58.9	
	13nm,0.7s						
ZSN	**Zaisan**	**6.29**	**9**	*eP*	**Pg**	**12 49 39.5**	**-0.3**
	2.8nm,0.4s						
ZSN				*eS*	**Sg**	**12 51 06.5**	**+5.3**
	18nm,1.1s						
ZSN	**Zaisan**	**6.29**	**9**	Pg	**Pg**	**12 49 39.5**	**-0.3**
	2.8nm,0.4s						
ZSN				Lg	Lg	12 51 06.5	
	18nm,1.1s						
CHMS	**Chumysh**	**6.62**	**288**	⇑Lg	Lg	12 51 19.0	
	11nm,0.9s						
KK31	**Karatay Array**	**9.71**	**285**	⇓Lg	Lg	12 52 57.6	
	1.6nm,0.8s,baz=87,slow=23,SNR=3.8						
KURBB	**Kurchatov Arra**	**9.95**	**342**	⇓Lg	Lg	12 52 53.0	
	13nm,0.7s						

*DDA **25** 13:07:19.9±0.0, 35°.82N×33°.43E, h7km±3km, ML2.0*
*ISK **25** 13:07:20.4, 35°.86N×33°.46E, h8km, ML2.6/24*
*NIC **25** 13:07:20.8±0.0, 35°.60N×33°.53E, h84km±5km, Ml2.6/3*
ISC 25 13:07:20.4±1.0, 35°.82N±0°.02×33°.45E±0°.02, h8km±10km, n37, σ0s61/54, 1C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKK2	**Akkuyu-Mersin**	**0.33**	**13**	PG	**Pg**	**13 07 26.4**	**-0.4**
AKK2				SG	**Sg**	**13 07 31.5**	**+0.3**
AKK1	**Akkuyu-Mersin**	**0.33**	**12**	PG	**Pg**	**13 07 26.6**	**-0.3**
AKK1				SG	**Sg**	**13 07 31.9**	**+0.5**
YORU	**Yoruktepe-Mers**	**0.34**	**353**	PG	**Pg**	**13 07 26.6**	**-0.5**
AKKU	**Akkuyu-Mersin**	**0.35**	**13**	PG	**Pg**	**13 07 26.9**	**-0.4**
OREN	**Orenkoy-Mersin**	**0.39**	**1**	PG	**Pg**	**13 07 27.3**	**-0.7**
OREN				SG	**Sg**	**13 07 32.9**	**-0.3**
TISA	**Tisan-Mersin**	**0.39**	**28**	PG	**Pg**	**13 07 27.4**	**-0.6**
YESI	**Yesilovacik-Me**	**0.41**	**22**	PG	**Pg**	**13 07 27.6**	**-0.7**
TEPK	**Tepekoy-MERSIN**	**0.41**	**10**	PG	**Pg**	**13 07 28.0**	**-0.5**
TEPK				SG	**Sg**	**13 07 33.8**	**-0.1**
TEKE	**Tekeli-Mersin**	**0.43**	**320**	PG	**Pg**	**13 07 28.5**	**-0.2**
TEKE				SG	**Sg**	**13 07 34.9**	**+0.6**
KARG	**Kargicak-Mersi**	**0.44**	**28**	PG	**Pg**	**13 07 28.8**	**-0.1**
IKL	**Isikli**	**0.46**	**24**	PG	**Pg**	**13 07 28.9**	**-0.4**
LFK	**Lefkose**	**0.54**	**173**	PG	**Pb**	**13 07 32.8**	**+0.7**
BERE	**Bereket-Mersin**	**0.56**	**341**	PG	**Pg**	**13 07 30.9**	**-0.4**
TEVE	**Tevekalti-Mers**	**0.62**	**359**	PG	**Pg**	**13 07 31.8**	**-0.5**
EREN	**Erenkoy**	**0.65**	**116**	PG	**Pb**	**13 07 34.7**	**+0.8**
KEBE	**Keben-Mersin**	**0.66**	**18**	PG	**Pg**	**13 07 32.9**	**-0.3**
SILI	**Silifke-Mersin**	**0.67**	**35**	PG	**Pg**	**13 07 32.9**	**-0.4**
ATHAL	**Athalassa**	**0.68**	**184**	P	**Pb**	**13 07 34.6**	**+0.2**
ATHAL				S	**Sn**	**13 07 46.1**	**-0.8**
ATHAL				AML	AML	13 07 54.5	
	1.3nm,0.7s						
ATHAL				AML	AML	13 07 54.5	
	1.3nm,0.7s						
ATHAL				AML	AML	13 07 58.0	
	1.4nm,0.8s						
ATHAL				AML	AML	13 07 58.0	
	1.4nm,0.8s						
MVOU	**Mavrovouni**	**0.81**	**170**	P	**Pg**	**13 07 35.9**	**0.0**
MVOU				S	**Sg**	**13 07 47.3**	**+0.8**
MVOU				AML	AML	13 07 48.0	
	0.3nm,0.2s						
MVOU				AML	AML	13 07 48.0	
	0.3nm,0.2s						
MVOU				AML	AML	13 07 50.4	
	0.3nm,0.2s						
MVOU				AML	AML	13 07 50.4	
	0.3nm,0.2s						
CSS	**Mathiatis**	**0.86**	**187**	P	**Pg**	**13 07 36.6**	**-0.2**

CSS					S	**Sb**	**13 07 49.2**	**0.0**	
KIZK	**Mersin**	**0.87**	**40**		PG	**Pg**	**13 07 36.5**	**-0.5**	
KIZK	**Mersin**	**0.87**	**40**		P	**Pg**	**13 07 36.5**	**-0.5**	
KIZK					S	**Sb**	**13 07 49.2**	**-0.2**	
KIZK				*i*	AML	AML	13 07 52.0		
	comp=Z,50nm,0.6s								
KIZK				*i*	AML	AML	13 07 52.0		
	comp=N,57nm,0.7s								
KIZK				*i*	AML	AML	13 07 52.0		
	comp=E,66nm,0.6s								
ERMK	**Ermenek**	**0.93**	**332**		P	**Pg**	**13 07 38.5**	**+0.2**	
ERMK					S	**Sb**	**13 07 51.2**	**-0.4**	
ERMK				*i*	AML	AML	13 07 55.0		
	comp=E,47nm,0.3s								
ERMK				*i*	AML	AML	13 08 00.0		
	comp=N,48nm,0.4s								
ALFC	**Alefka**	**0.96**	**227**⇑	*e*	P	**Pg**	**13 07 37.9**	**-0.9**	
ALFC					AML	AML	13 07 52.4		
	0.4nm,0.1s								
ALFC					AML	AML	13 07 53.6		
	0.5nm,0.3s								
GAZI	**Gazipasa**	**1.01**	**295**		PG	**Pb**	**13 07 40.3**	**+0.1**	
GAZI	**Gazipasa**	**1.01**	**295**		P	**Pg**	**13 07 39.5**	**-0.3**	
GAZI					S	**Sg**	**13 07 53.3**	**+0.4**	
GAZI				*i*	AML	AML	13 07 56.0		
	comp=N,72nm,0.4s								
GAZI				*i*	AML	AML	13 07 57.0		
	comp=Z,46nm,0.3s								
GAZI				*i*	AML	AML	13 07 57.0		
	comp=E,43nm,0.6s								
AKMS	**Akamas**	**1.21**	**229**		P	**Pb**	**13 07 42.3**	**-1.3**	
AKMS					S	**Sb**	**13 07 58.3**	**-1.1**	
MERS	**Mersin**	**1.36**	**39**		PN	**Pn**	**13 07 45.1**	**-0.6**	
HDMB	**Hadim**	**1.39**	**326**		PN	**Pn**	**13 07 45.9**	**-0.3**	
DED	**Mersin**	**1.58**	**43**		P	**Pb**	**13 07 49.8**	**0.0**	
DED					S	**Sg**	**13 08 11.3**	**+0.3**	
DED				*i*	AML	AML	13 08 15.0		
	comp=E,18nm,0.8s								
KERG	**Konya-Eregli**	**1.68**	**19**		P	**Pn**	**13 07 50.6**	**+0.4**	
KERG					S	**Sg**	**13 08 14.6**	**0.0**	
KERG				*i*	AML	AML	13 08 20.0		
	comp=N,20nm,0.7s								
KERG				*i*	AML	AML	13 08 22.0		
	comp=E,17nm,0.6s								
KERG				*i*	AML	AML	13 08 23.0		
	comp=Z,17nm,1.0s								
GULE	**Gulek**	**1.81**	**36**		P	**Pb**	**13 07 53.5**	**-0.4**	
GULE					S	**Sg**	**13 08 17.9**	**-0.6**	
GULE				*i*	AML	AML	13 08 32.0		
	comp=E,30nm,0.5s								
GULE				*i*	AML	AML	13 08 41.0		
	comp=N,19nm,0.5s								
KEPZ	**Antalya-Kepez**	**1.84**	**306**		P	**Pb**	**13 07 54.8**	**+0.4**	
KEPZ					S	**Sb**	**13 08 18.3**	**+0.7**	
KEPZ				*i*	AML	AML	13 08 28.0		
	comp=E,14nm,0.9s								
SEYD	**Seydisehir-KON**	**2.05**	**321**		PN	**Pn**	**13 07 56.0**	**+0.7**	
SEDI	**Konya, Seydise**	**2.13**	**321**		P	**Pg**	**13 08 01.4**	**+0.2**	
SEDI					S	**Sg**	**13 08 30.6**	**+1.8**	
SEDI				*i*	AML	AML	13 08 36.0		
	comp=E,13nm,0.7s								
CMRD	**Camardi-Nigde**	**2.22**	**33**		PN	**Pn**	**13 07 58.4**	**+0.8**	
TAHT	**Tahtakopru-Hat**	**2.28**	**75**		PN	**Pn**	**13 07 59.3**	**+1.0**	

*IDC **25** 13:53:12.2±4.3, 5°.62S×152°.01E, h54km±30km, mb3.6/3, mbtmp3.9/4, ML1.7/1, MS3.3/1, Error ellipse: s-maj=84.7km s-min=16.5km az=110.0*

ISC 25 13:53:12.2±2.5, 5°.6S±0°.2×151°.9E±0°.4, h45km, n7, σ1s50/8, mb3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.27**	**8**	P		**Pn**	**13 53 33.6**	**0.0**
	857nm,0.5s,baz=177,slow=0.7,SNR=524							
KRVT				S		**Sn**	**13 53 50.6**	**+1.2**
	1µm,0.5s,baz=99,slow=22,SNR=32							
KRVT				LR		LR	13 54 17.1	
	comp=Z,385nm,19.0s,baz=337,slow=50							
PMG	**Port Moresby**	**6.01**	**230**	P		**Pn**	**13 54 40.8**	**+2.2**
	1.1nm,0.3s,baz=58,slow=11,SNR=4.2							
PMG				S		**Sn**	**13 55 44.6**	**-1.6**
	7.9nm,0.4s,baz=210,slow=19,SNR=1.9							
	10nm,0.7s							
WRA	**Warramunga Arr**	**22.23**	**228**	P		**P**	**13 58 05.4**	**+0.1**
	1.2nm,0.6s,baz=53,slow=10.0,SNR=21							
	1.2nm,0.6s							
ASAR	**Alice Springs**	**24.95**	**222**	P		**P**	**13 58 32.0**	**+0.4**
	1.6nm,0.8s,baz=60,slow=8.6,SNR=29							
	1.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**28.46**	**242**	P		**P**	**13 59 02.1**	**-1.1**
	2.3nm,0.6s,baz=354,slow=8.5,SNR=7.9							
	2.3nm,0.6s							
ZALV	**Zalesovo Beam**	**81.27**	**327**	LR		LR	14 44 47.1	
	comp=Z,16nm,18.5s,baz=138,slow=38							
TORD	**Torodi Ar. Bea**	**149.63**	**286**	PKPbc		**PKPbc**	**14 12 57.1**	**-0.9**
	1.0nm,0.6s,baz=82,slow=3.1,SNR=5.5							

*IDC **25** 13:57:24.4±1.1, 5°.44S×151°.62E, h64km±9km, mb3.9/11, mbtmp4.2/12, MS3.4/18, Error ellipse: s-maj=22.6km s-min=9.1km az=122.0*

*DJA **25** 13:57:24.2±0.4, 5°.S±3°×15°.2E±°, h57km±7km, M4.6/13, mB5.4/2, mb4.4/13, MLv4.7/3, Mw(mB)4.8/2*

*NEIC **25** 13:57:24.3±1.2, 5°.39S±0°.08×151°.7E±0°.1, h51km±8km, mb4.5/36, Error ellipse: s-maj=19.4km s-min=8.0km az=115.0*

ISC 25 13:57:24.1±0.5, 5°.42S±0°.07×151°.69E±0°.10, h57km, n79, σ0s84/68, mb4.4/26, MS3.4/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.16**	**17**	P		**Pn**	**13 57 43.8**	**-0.4**
	5µm,0.4s,baz=154,slow=1.7,SNR=704							
KRVT				S		**Sn**	**13 58 01.0**	**+1.9**
	7µm,0.3s,baz=107,slow=19,SNR=12							
RABL	**Rabaul**	**1.31**	**21**	Pn		**Pn**	**13 57 45.1**	**-1.1**
PMG	**Port Moresby**	**5.99**	**228**	P		**Pn**	**13 58 50.7**	**+0.5**
	48nm,0.8s,baz=50,slow=9.0,SNR=14							
PMG				S		**Sn**	**13 59 56.1**	**-1.3**
	39nm,0.7s,baz=342,slow=20,SNR=7.9							
PMG	**Port Moresby**	**5.99**	**228**			**Pn**	**13 58 50.4**	**+0.2**
PATS	**Pohnpei**	**13.86**	**29**	Pn		**Pn**	**14 00 38.1**	**+0.3**
CTA	**Charters Tower**	**15.51**	**199**	P		**P**	**14 01 02.2**	**-0.5**
	2.7nm,0.7s,baz=17,slow=11,SNR=6.1							
CTA				LR		LR	14 06 34.0	
	comp=Z,141nm,18.5s,baz=71,slow=36							
CTAO	**Charters Tower**	**15.51**	**199**	Pn		**Pn**	**14 01 01.0**	**+1.6**
FAKI	**Fak Fak**	**19.55**	**277**	P		**P**	**14 01 47.4**	**0.0**
FAKI				IAmb		IAmb	14 02 00.4	
	comp=Z,69nm,1.3s							
FAKI	**Fak Fak**	**19.55**	**277**	P		**Pn**	**14 01 49.4**	**+0.3**
	comp=Z,42nm,1.3s							
EIDS	**Eidsvold**	**19.84**	**182**	P		**P**	**14 01 49.8**	**-0.6**
EIDS				IAmb		IAmb	14 02 20.9	
	comp=Z,28nm,1.5s							
GUMO	**Guam**	**20.07**	**340**	LR		LR	14 10 18.1	
	comp=Z,37nm,18.6s,baz=178,slow=39							
SAUI	**Saumlaki**	**20.41**	**262**	P		Pn	14 01 59.8	+0.5
	comp=Z,10µmcomp=Z,113nm,0.6s							
MTN	**Manton Dam**	**21.58**	**249**	P		**P**	**14 02 10.1**	**+0.8**
DZM	**Mont Dzumac**	**21.85**	**141**	P		**P**	**14 02 12.5**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=321,slow=13,SNR=5.6							
DZM				LR		LR	14 09 45.6	
	comp=Z,142nm,19.3s,baz=218,slow=34							
	comp=Z,3.5nm,0.7s							
DZM	**Mont Dzumac**	**21.85**	**141**	P		**P**	**14 02 12.4**	**+0.2**
WB0	**Warramunga Arr**	**22.06**	**228**	P		**P**	**14 02 13.4**	**-1.0**
WR0	**Warramunga Arr**	**22.07**	**228**	P		**P**	**14 02 13.9**	**-0.6**
WB2	**Warramunga Arr**	**22.20**	**228**	P		**P**	**14 02 15.0**	**-0.9**
WB2				IAmb		IAmb	14 02 18.4	
	comp=Z,11nm,0.7s							
WRA	**Warramunga Arr**	**22.21**	**228**	P		**P**	**14 02 14.8**	**-1.2**
	comp=Z,5.4nm,0.6s,baz=53,slow=10.0,SNR=53							
WRA				PcP		**PcP**	**14 06 10.0**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=50,slow=2.1,SNR=2.4							
WRA				LR		LR	14 10 44.3	
	comp=Z,88nm,18.7s,baz=82,slow=36							
	comp=Z,5.4nm,0.6s							
KNRA	**Kununurra**	**24.71**	**244**	P		**P**	**14 02 39.8**	**-0.4**
AS31	**Alice Springs**	**24.95**	**222**	P		**P**	**14 02 41.8**	**-0.6**
ASAR	**Alice Springs**	**24.95**	**222**	P		**P**	**14 02 41.5**	**-0.8**
	comp=Z,7.6nm,0.8s,baz=59,slow=8.2,SNR=87							
ASAR				LR		LR	14 12 17.9	
	comp=Z,75nm,19.1s,baz=85,slow=36							
	comp=Z,7.6nm,0.8s							
ASAR	**Alice Springs**	**24.95**	**222**	P		**P**	**14 02 42.8**	**+0.4**
STKA	**Stephens Creek**	**27.96**	**199**	LR		LR	14 14 37.1	
	comp=Z,80nm,19.3s,baz=23,slow=37							
FITZ	**Fitzroy Crossi**	**28.39**	**241**	P		**P**	**14 03 12.4**	**-1.0**
	comp=Z,8.4nm,0.6s,baz=3.8,slow=8.3,SNR=21							
FITZ				LR		LR	14 16 06.5	
	comp=Z,61nm,18.4s,baz=108,slow=40							
	comp=Z,8.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**28.39**	**241**	P		**P**	**14 03 12.3**	**-1.1**
FITZ				IAmb		IAmb	14 03 16.4	
	comp=Z,13nm,1.1s							
MORW	**Morawa**	**41.10**	**231**	P		**P**	**14 05 04.9**	**+2.2**
MORW				IAmb		IAmb	14 05 27.1	
	comp=Z,22nm,1.2s							
RPZ	**Rata Peaks**	**41.78**	**159**	LR		LR	14 21 55.3	
	comp=Z,58nm,20.0s,baz=280,slow=35							
NWAO	**Narrogin (SRO)**	**42.17**	**225**	LR		LR	14 23 17.1	
	comp=Z,95nm,18.4s,baz=286,slow=37							
NWAO	**Narrogin (SRO)**	**42.17**	**225**	P		**P**	**14 05 12.5**	**+1.2**
MJAR	**Matsushiro Arr**	**43.61**	**344**	LR		LR	14 21 51.0	
	comp=Z,46nm,18.0s,baz=157,slow=34							
LEM	**Lembang**	**43.83**	**266**	LR		LR	14 28 38.0	
	comp=Z,41nm,18.5s,baz=284,slow=43							
KSRS	**Korea Array**	**48.07**	**334**	LR		LR	14 24 33.5	
	comp=Z,20nm,20.7s,baz=145,slow=34							
KLR	**Kul'dur**	**57.14**	**345**	LR		LR	14 28 34.9	
	comp=Z,25nm,21.9s,baz=160,slow=33							
PETK	**Petropavlovsk-**	**58.53**	**4**	LR		LR	14 28 49.4	
	comp=Z,27nm,21.6s,baz=168,slow=32							
SONM	**Songino Array**	**66.27**	**328**	P		**P**	**14 08 06.9**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=140,slow=4.3,SNR=6.3							
	comp=Z,1.5nm,0.6s							
SONM	**Songino Array**	**66.27**	**328**	P		**P**	**14 08 06.8**	**+0.3**
KDAK	**Kodiak Island**	**77.23**	**27**	LR		LR	14 38 25.2	
	comp=Z,44nm,20.1s,baz=241,slow=32							
L19K	**White Mountain**	**78.74**	**23**	P		**P**	**14 09 20.6**	**+0.3**
L19K				IAmb		IAmb	14 09 48.4	
	comp=Z,7.7nm,1.4s							
CNPM	**China Poot**	**78.75**	**26**	P		**P**	**14 09 20.3**	**-0.1**
SEW	**Seward**	**79.82**	**26**	P		**P**	**14 09 26.7**	**+0.6**
SEW				IAmb		IAmb	14 09 39.9	
	comp=Z,12nm,1.2s							
MKAR	**Makanchi Array**	**80.07**	**319**	P		**P**	**14 09 27.4**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=96,slow=6.6,SNR=8.6							
	comp=Z,0.5nm,0.4s							
MKAR	**Makanchi Array**	**80.07**	**319**	P		**P**	**14 09 27.8**	**-0.1**
J20K	**Nowinta River**	**80.16**	**21**	P		**P**	**14 09 28.6**	**+0.7**
J20K				IAmb		IAmb	14 09 51.4	
	comp=Z,9.0nm,1.4s							
ZALV	**Zalesovo Beam**	**81.06**	**327**	P		**P**	**14 09 31.4**	**-1.6**
	comp=Z,1.3nm,0.4s,baz=110,slow=6.5,SNR=5.9							
	comp=Z,1.3nm,0.4s							
IMAR	**Indian Mountai**	**81.34**	**20**	P		**P**	**14 09 34.0**	**-0.1**
I21K	**Tanana**	**81.50**	**21**	P		**P**	**14 09 35.2**	**+0.2**
I21K				IAmb		IAmb	14 10 01.0	
	comp=Z,6.7nm,1.4s							
SCM	**Sheep Creek Mo**	**81.58**	**25**	P		**P**	**14 09 36.2**	**+0.6**
MLY	**Manley**	**81.86**	**21**	P		**P**	**14 09 36.6**	**-0.4**
IL31		**83.15**	**22**	P		**P**	**14 09 42.6**	**-1.0**
IL31				IAmb		IAmb	14 10 24.1	
	comp=Z,5.4nm,1.2s							
ILAR	**Eielson Array**	**83.15**	**22**	P		**P**	**14 09 41.9**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=256,slow=4.9,SNR=12							
	comp=Z,0.7nm,0.6s							
ILAR	**Eielson Array**	**83.15**	**22**	P		**P**	**14 09 42.5**	**-1.2**
H24K	**Noodor Dome**	**83.30**	**21**	P		**P**	**14 09 44.5**	**-0.1**
H24K				IAmb		IAmb	14 10 18.5	
	comp=Z,5.5nm,1.5s							
KURBB	**Kurchatov Arra**	**83.61**	**322**	P		**P**	**14 09 45.6**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=112,slow=3.8,SNR=7.4							
	comp=Z,0.6nm,0.6s							
J25K	**Salcha River,**	**83.65**	**23**	P		**P**	**14 09 45.6**	**-0.7**
J25K				IAmb		IAmb	14 09 48.1	
	comp=Z,3.5nm,1.0s							
LOGN	**Logan Glacier**	**83.89**	**27**	P		**P**	**14 09 48.3**	**+0.5**
M27K	**Edge Creek, AK**	**84.11**	**25**	P		**P**	**14 09 49.5**	**+0.7**
M27K				IAmb		IAmb	14 10 18.4	
	comp=Z,6.8nm,1.3s							
TOLK	**Toolik Lake Re**	**84.15**	**18**	P		**P**	**14 09 48.9**	**+0.1**
TOLK				IAmb		IAmb	14 10 30.1	
	comp=Z,12nm,1.4s							
L27K	**Beaver Creek,**	**84.41**	**25**	P		**P**	**14 09 50.5**	**+0.3**
BCAR	**Beaver Creek A**	**84.43**	**25**	P		**P**	**14 09 50.6**	**+0.3**
BMAR	**Burnt Mountain**	**85.21**	**20**	P		**P**	**14 09 55.5**	**+1.3**
EGAK	**Eagle**	**85.36**	**23**	P		**P**	**14 09 55.7**	**+0.8**
EGAK				IAmb		IAmb	14 10 20.7	
	comp=Z,4.0nm,1.4s							
HYT	**Haines Junctio**	**85.50**	**28**	P		**P**	**14 09 56.5**	**+0.7**
HYT				IAmb		IAmb	14 10 35.2	
	comp=Z,7.5nm,1.2s							
BVAR	**Borovoye Array**	**89.08**	**323**	P		**P**	**14 10 12.1**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=100,slow=6.2,SNR=6.4							
	comp=Z,0.9nm,0.7s							
CBB	**Campbell River**	**89.59**	**40**	P		**P**	**14 10 16.1**	**+0.5**
J04D	**Umpqua Nationa**	**90.91**	**47**	P		**P**	**14 10 21.9**	**-0.2**
PINE	**Pine Mountain**	**91.81**	**46**	P		**P**	**14 10 26.3**	**0.0**
I07A	**Izee**	**92.87**	**46**	P		**P**	**14 10 31.3**	**+0.2**
I07A				IAmb		IAmb	14 10 32.3	
	comp=Z,2.7nm,0.9s							
NVAR	**Mina Array Bea**	**93.33**	**52**	P		**P**	**14 10 33.9**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=255,slow=6.0,SNR=10							
	comp=Z,1.3nm,0.8s							
G08A	**Pilot Rock**	**93.36**	**45**	P		**P**	**14 10 33.5**	**+0.2**
G08A				IAmb		IAmb	14 10 34.9	
	comp=Z,2.5nm,1.1s							
NEW	**Newport**	**94.80**	**42**	LR		LR	14 49 55.0	
	comp=Z,27nm,18.2s,baz=292,slow=33							
ELK	**Elko**	**95.83**	**50**	LR		LR	14 51 23.7	
	comp=Z,35nm,18.2s,baz=297,slow=34							
ARU	**Arti**	**96.22**	**326**	LR		LR	14 53 58.4	
	comp=Z,29nm,21.9s,baz=109,slow=35							
PDAR	**Pinedale Array**	**100.08**	**48**	P		**Pdif**	**14 11 03.2**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=264,slow=1.5,SNR=6.9							
CLL	**Collm**	**122.85**	**330**	*e*	PKPdf	**PKPdf**	**14 16 13.0**	**-0.8**
GERES	**GERESS Array B**	**124.00**	**328**		PKP	**PKPdf**	**14 16 16.1**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=70,slow=2.0,SNR=12							
TOA0	**Torodi Ar. Sit**	**149.44**	**287**			**PKPbc**	**14 17 07.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**149.44**	**287**		PKPbc	**PKPbc**	**14 17 06.8**	**-1.2**
	comp=Z,6.8nm,0.7s,baz=77,slow=3.1,SNR=37							
BDFB	**Brasilia**	**151.38**	**137**		PKPbc	**PKPbc**	**14 17 12.2**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=247,slow=3.3,SNR=4.7							

*PRE **25** 14:27:20.6±2.2, 21°.30S×33°.59E, h10km, ML3.6*

*NEIC **25** 14:27:21.5±0.8, 21°.43S±0°.10×33°.59E±0°.04, h10km±2km, mb4.3/2, Error ellipse: s-maj=16.9km s-min=7.0km az=3.0*

*BUL **25** 14:27:22.7±1.0, 21°.29S×33°.84E, h38km±46km, MD4.4*

*IDC **25** 14:27:23.8±1.3, 21°.52S×33°.26E, h0km, mb3.9/4, mbtmp4.2/11, ML4.2/5, MS3.3/3, Error ellipse: s-maj=26.2km s-min=20.9km az=154.0*

ISC 25 14:27:24.0±0.7, 21°.42S±0°.05×33°.37E±0°.05, h13km, n61, σ2s38/93, mb3.9/4, 5C-2D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MOPA	**Mopani**	**2.77**	**221**⇑	*i*	P	**Pn**	**14 28 09.8**	**+1.7**
MOPA				*e*	S	**Sn**	**14 28 45.0**	**+3.5**
MOPA				IAML			14 28 50.2	
	comp=Z,274nm,0.3s							
MOPA	**Mopani**	**2.77**	**221**	*i*	P	**Pn**	**14 28 10.9**	**+2.8**
MOPA				*i*	S	**Sb**	**14 28 46.2**	**-1.1**
MOPA	**Mopani**	**2.77**	**221**	*i*	P	**Pn**	**14 28 10.9**	**+2.8**
MOPA				*i*	S	**Sb**	**14 28 46.2**	**-1.1**
MUSN	**Musina, Limpop**	**3.37**	**255**⇑	*i*	P	**Pn**	**14 28 19.3**	**+2.8**
MUSN				*e*	S	**Sn**	**14 28 59.6**	**+3.2**
MUSN				IAML			14 29 16.1	
	comp=Z,187nm,0.6s							
MUSN	**Musina, Limpop**	**3.37**	**255**	*i*	P	**Pn**	**14 28 19.0**	**+2.5**
MUSN				*i*	S	**Sn**	**14 29 00.3**	**+3.9**
MUSN	**Musina, Limpop**	**3.37**	**255**	*i*	P	**Pn**	**14 28 19.0**	**+2.5**
MUSN				*i*	S	**Sn**	**14 29 00.3**	**+3.9**
BLWY	**Bulawayo**	**4.63**	**285**	*e*	P	**Pn**	**14 28 35.5**	**+1.6**
BLWY				*e*	S	**Sn**	**14 29 29.6**	**+2.0**
BLWY				IAML			14 29 54.1	
	comp=Z,658nm,0.9s							
BLWY	**Bulawayo**	**4.63**	**285**	*i*	P	**Pn**	**14 28 35.2**	**+1.3**
BLWY				*i*	S	**Sn**	**14 29 28.6**	**+1.0**
BLWY	**Bulawayo**	**4.63**	**285**	*i*	P	**Pn**	**14 28 35.2**	**+1.3**
BLWY				*i*	S	**Sn**	**14 29 28.6**	**+1.0**
MATP	**Matopo**	**4.66**	**281**	Pn		**Pn**	**14 28 35.8**	**+1.6**
	comp=Z,12nm,0.3s,baz=98,slow=14,SNR=79							
MATP				Sn		**Sn**	**14 29 27.1**	**-1.2**
	comp=Z,16nm,0.3s,baz=231,slow=23,SNR=8.0							
MATP				Lg		Lg	14 29 45.0	
	comp=Z,40nm,0.3s,baz=180,slow=19,SNR=7.1							
	comp=Z,22nm,0.3s							
MATP	**Matopo**	**4.66**	**281**⇑	*i*	P	**Pn**	**14 28 35.8**	**+1.6**
MATP				*e*	S	**Sn**	**14 29 29.6**	**+1.3**
MATP				IAML			14 29 56.7	
	comp=Z,490nm,0.5s							
MATP	**Matopo**	**4.66**	**281**	*i*	P	**Pn**	**14 28 36.0**	**+1.7**
MATP				*i*	S	**Sn**	**14 29 27.7**	**-0.6**
MATP	**Matopo**	**4.66**	**281**	*i*	P	**Pn**	**14 28 36.0**	**+1.7**
MATP				*i*	S	**Sn**	**14 29 27.7**	**-0.6**
CRLN	**Carolina, Mapu**	**5.49**	**213**	*e*	P	**Pn**	**14 28 49.2**	**+3.5**
CRLN				*e*	S	**Sn**	**14 29 48.4**	**-0.4**
CRLN				IAML			14 30 37.1	
	comp=Z,31nm,0.6s							
LEPH	**Lephalale, Lim**	**5.69**	**244**⇑	*i*	P	**Pn**	**14 28 49.9**	**+1.6**
LEPH				*e*	S	**Sn**	**14 29 53.5**	**-0.1**
LEPH				IAML			14 30 25.8	
	comp=Z,186nm,0.6s							
POGA	**Pongola**	**6.09**	**194**			**Pn**	**14 28 51.8**	**-2.0**
POGA	**Pongola**	**6.09**	**194**	*e*	P	**Pn**	**14 28 55.3**	**+1.5**
POGA				*e*	S	**Sn**	**14 30 03.6**	**+0.3**
POGA				IAML			14 30 46.5	
	comp=Z,38nm,0.7s							
SLR	**Silverton**	**6.34**	**226**	*e*	P	**Pn**	**14 28 59.8**	**+2.4**
SLR				*e*	S	**Sn**	**14 30 11.0**	**+1.2**
SLR				IAML			14 30 55.5	
	comp=Z,80nm,0.4s							
HRAO	**HartRAO**	**6.85**	**228**	*e*	P	**Pn**	**14 29 05.9**	**+1.5**
HRAO				*e*	S	**Sn**	**14 30 22.1**	**-0.2**
HRAO				IAML			14 31 08.9	
	comp=Z,69nm,0.6s							
NWCL	**Newcastle**	**7.04**	**206**⇓	*i*	P	**Pn**	**14 29 07.3**	**+0.4**
NWCL				*e*	S	**Sn**	**14 30 25.1**	**-1.8**
NWCL				IAML			14 31 20.4	
	comp=Z,46nm,0.6s							
WDLM	**Western Deep L**	**7.37**	**226**	*e*	P	**Pn**	**14 29 13.4**	**+1.8**
WDLM				*e*	S	**Sn**	**14 30 36.2**	**+0.9**
WDLM				IAML			14 31 39.4	
	comp=Z,44nm,0.5s							
PRYS	**Parys**	**7.75**	**224**	*e*	P	**Pn**	**14 29 18.0**	**+1.3**
PRYS				*e*	S	**Sn**	**14 30 43.4**	**-1.1**
PRYS				IAML			14 31 40.4	
	comp=Z,38nm,0.6s							
LSZ	**Lusaka**	**7.84**	**320**	Pn		**Pn**	**14 29 17.9**	**-0.2**
	comp=Z,35nm,0.5s,baz=148,slow=14,SNR=41							
LSZ				Sn		**Sn**	**14 30 39.9**	**-6.9**
	comp=Z,4.3nm,0.3s,baz=62,slow=17,SNR=5.8							
LSZ				Lg		Lg	14 31 25.4	
	comp=Z,10nm,0.3s,baz=216,slow=17,SNR=5.7							
LSZ	**Lusaka**	**7.84**	**320**			**Pn**	**14 29 17.4**	**-0.6**
LBTB	**Lobatse**	**7.99**	**242**	Pn		**Pn**	**14 29 21.0**	**+1.0**
	comp=Z,3.9nm,0.3s,baz=57,slow=14,SNR=45							
LBTB				Sn		**Sn**	**14 30 48.1**	**-2.3**
	comp=Z,3.5nm,0.3s,baz=313,slow=19,SNR=4.6							
LBTB				Lg		Lg	14 31 27.3	
	comp=Z,4.4nm,0.3s,baz=326,slow=23,SNR=6.3							
LBTB				LR		LR	14 32 34.3	
	comp=Z,125nm,20.2s,baz=29,slow=40							
	comp=Z,29nm,0.5s							
LBTB	**Lobatse**	**7.99**	**242**			**Pn**	**14 29 20.8**	**+0.8**
LBTB	**Lobatse**	**7.99**	**242**⇑	*i*	P	**Pn**	**14 29 21.2**	**+1.2**
LBTB				*e*	S	**Sn**	**14 30 49.7**	**-0.7**
LBTB				IAML			14 31 42.1	
	comp=Z,66nm,0.5s							
LBTB	**Lobatse**	**7.99**	**242**	*i*	P	**Pn**	**14 29 20.8**	**+0.8**
LBTB				*i*	S	**Sn**	**14 30 47.2**	**-3.1**
LBTB	**Lobatse**	**7.99**	**242**	*i*	P	**Pn**	**14 29 20.8**	**+0.8**
LBTB				*i*	S	**Sn**	**14 30 47.2**	**-3.1**
SNKL	**Senekal, Frees**	**8.51**	**216**	*e*	P	**Pn**	**14 29 27.3**	**+0.2**
SNKL				*e*	S	**Sn**	**14 31 03.0**	**-0.2**
SNKL				IAML			14 31 55.4	
	comp=Z,54nm,0.7s							
SWZ	**Schweizer**	**9.30**	**230**	*e*	P	**Pn**	**14 29 38.6**	**+0.6**
SWZ				*e*	S	**Sn**	**14 31 22.0**	**-0.7**
SWZ				IAML			14 32 43.5	

MTN					IAmb	IAmb	14 44 53.6	
	comp=Z,12nm,1.1s							
CTA	**Charters Tower**	**24.68**	**176**	P		**P**	**14 45 03.9**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=353,slow=11,SNR=7.0							
	comp=Z,4.8nm,0.9s							
CTAO	**Charters Tower**	**24.68**	**176**	P		**P**	**14 45 03.3**	**-0.4**
CTAO					IAmb	IAmb	14 45 05.1	
	comp=Z,4.2nm,0.8s							
KNRA	**Kununurra**	**25.41**	**217**	P		**P**	**14 45 10.6**	**+0.3**
KNRA					IAmb	IAmb	14 45 20.2	
	comp=Z,13nm,1.4s							
WB0	**Warramunga Arr**	**26.17**	**202**	P		**P**	**14 45 17.1**	**-0.1**
WB0					IAmb	IAmb	14 45 19.9	
	comp=Z,8.0nm,1.0s							
WR0	**Warramunga Arr**	**26.29**	**201**	P		**P**	**14 45 18.1**	**-0.2**
WR0					IAmb	IAmb	14 45 20.7	
	comp=Z,3.9nm,0.9s							
WB2	**Warramunga Arr**	**26.34**	**201**	P		**P**	**14 45 18.3**	**-0.5**
WB2					IAmb	IAmb	14 45 21.8	
	comp=Z,5.1nm,0.8s							
WRA	**Warramunga Arr**	**26.35**	**202**	P		**P**	**14 45 18.6**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=28,slow=11,SNR=30							
	comp=Z,3.9nm,0.8s							
WRA	**Warramunga Arr**	**26.35**	**202**	P		**P**	**14 45 18.7**	**-0.2**
ASAR	**Alice Springs**	**29.93**	**199**	P		**P**	**14 45 50.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=38,slow=7.6,SNR=9.4							
	comp=Z,0.7nm,0.5s							
MORW	**Morawa**	**43.16**	**217**	P		**P**	**14 47 44.2**	**+0.7**
MKAR	**Makanchi Array**	**67.66**	**319**	P		**P**	**14 50 39.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=110,slow=6.8,SNR=1.7							
	comp=Z,0.2nm,0.4s							
ILAR	**Eielson Array**	**76.85**	**24**	P		**P**	**14 51 34.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=258,slow=5.7,SNR=9.4							
	comp=Z,0.3nm,0.6s							
ILAR	**Eielson Array**	**76.85**	**24**	P		**P**	**14 51 34.3**	**-0.1**

*NEIC **25** 14:41:18.6±1.6, 12°.6S±0°.1×167°.1E±0°.1, h188km±7km, mb4.4/56, Error ellipse: s-maj=20.5km s-min=15.8km az=95.0*
*IDC **25** 14:41:18.6±0.9, 12°.65S×166°.96E, h194km±7km, mb3.7/14, mbtmp4.1/16, MS3.0/1, Error ellipse: s-maj=17.8km s-min=12.9km az=118.0*
ISC 25 14:41:21.2±0.5, 12°.70S±0°.07×167°.00E±0°.09, h220km, n97, σ1§27/105, mb4.3/39, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**5.13**	**167**	P	**Pn**	**14 42 37.3**	**-0.4**
RTV	**Rentapao**	**5.25**	**165**	P	**Pn**	**14 42 38.9**	**-0.4**
LIFNC	**LIFOU**	**8.04**	**178**	Pn	**Pn**	**14 43 13.6**	**-1.3**
LIFNC	**LIFOU**	**8.04**	**178**	P	**Pn**	**14 43 13.9**	**-1.0**
KOUNC	**Koumac, New Ca**	**8.23**	**198**	Pn	**Pn**	**14 43 18.0**	**+0.6**
KOUNC	**Koumac, New Ca**	**8.23**	**198**	P	**Pn**	**14 43 18.4**	**+1.0**
MARNC	**Mare, Loyalty**	**8.79**	**174**	Pn	**Pn**	**14 43 23.6**	**-1.0**
MARNC	**Mare, Loyalty**	**8.79**	**174**	P	**Pn**	**14 43 24.3**	**-0.3**
YATNC	**Mamie plateau,**	**9.31**	**181**	P	**Pn**	**14 43 33.1**	**+1.8**
DZM	**Mont Dzumac**	**9.34**	**183**	P	**Pn**	**14 43 31.8**	**+0.1**
	4.8nm,0.5s,baz=38,slow=16,SNR=4.2						
DZM				S	**S**	**14 45 15.0**	**-1.8**
	4.9nm,1.1s,baz=279,slow=22,SNR=1.2						
DZM				LR	LR	14 46 12.5	
	comp=Z,91nm,18.5s,baz=34,slow=31						
DZM	**Mont Dzumac**	**9.34**	**183**	Pn	**Pn**	**14 43 32.0**	**+0.3**
DZM	**Mont Dzumac**	**9.34**	**183**	P	**Pn**	**14 43 34.1**	**+2.3**
NOUC	**Port Laguerre**	**9.38**	**184**	P	**Pn**	**14 43 35.1**	**+2.9**
ONTNC	**Ouen Toro**	**9.57**	**183**	Pn	**Pn**	**14 43 33.7**	**-1.0**
PINNC	**Pines Island,**	**9.87**	**178**	Pn	**Pn**	**14 43 36.2**	**-2.3**
PINNC	**Pines Island,**	**9.87**	**178**	P	**Pn**	**14 43 39.3**	**+0.8**
KRVT	**Keravat (AS076**	**16.98**	**298**	P	**P**	**14 45 05.5**	**+0.8**
	22nm,0.6s,baz=156,slow=18,SNR=6.3						
EIDS	**Eidsvold**	**19.60**	**228**	P	**P**	**14 45 34.6**	**+1.6**
EIDS					IAmb	IAmb	14 46 00.8	
	comp=Z,17nm,1.2s							
PMG	**Port Moresby**	**19.74**	**278**	P	**P**	**14 45 34.9**	**+0.3**
	comp=Z,12nm,0.9s,baz=82,slow=9.7,SNR=3.8							
CTA	**Charters Tower**	**21.20**	**247**	P	**P**	**14 45 50.2**	**+0.2**
	comp=Z,7.6nm,0.8s,baz=78,slow=12,SNR=11							
	comp=Z,7.6nm,0.8s							
CTAO	**Charters Tower**	**21.20**	**247**	P	**P**	**14 45 50.2**	**+0.2**
CTAO					IAmb	IAmb	14 45 52.4	
	comp=Z,7.5nm,0.8s							
ARMA	**Armidale**	**22.65**	**216**	P	**P**	**14 46 05.8**	**+1.9**
COEN	**Coen**	**23.21**	**264**	P	**P**	**14 46 10.1**	**+1.1**
COEN					IAmb	IAmb	14 46 14.7	
	comp=Z,14nm,1.4s							
LTZ	**Lake Taylor**	**30.32**	**172**	P	**P**	**14 47 13.2**	**+1.0**
WR0	**Warramunga Arr**	**31.93**	**253**	P	**P**	**14 47 25.2**	**-1.3**
WR0					IAmb	IAmb	14 47 54.3	
	comp=Z,8.7nm,1.5s							
WB0	**Warramunga Arr**	**32.04**	**253**	P	**P**	**14 47 26.6**	**-1.0**
WB0					IAmb	IAmb	14 47 49.9	
	comp=Z,9.2nm,1.5s							
WB2	**Warramunga Arr**	**32.10**	**253**	P	**P**	**14 47 26.9**	**-1.1**
WRA	**Warramunga Arr**	**32.12**	**253**	P	**P**	**14 47 26.9**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=85,slow=9.0,SNR=9.4							
WRA				pP	**pP**	**14 48 06.5**	**-5.5**
	comp=Z,1.2nm,0.8s,baz=84,slow=8.7,SNR=7.6							
WRA				ScP	**ScP**	**14 53 37.4**	**+2.6**
	comp=Z,0.5nm,0.9s,baz=75,slow=4.5,SNR=4.9							
	comp=Z,0.6nm,0.4s							
WRA	**Warramunga Arr**	**32.12**	**253**	P	**P**	**14 47 26.7**	**-1.5**
ASAR	**Alice Springs**	**33.20**	**246**	P	**P**	**14 47 36.8**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=74,slow=9.8,SNR=7.2							
ASAR				pP	**pP**	**14 48 16.1**	**-5.5**
	comp=Z,3.2nm,0.7s,baz=75,slow=9.8,SNR=10.0							
ASAR				ScP	**ScP**	**14 53 40.0**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=75,slow=3.9,SNR=7.2							
	comp=Z,0.9nm,0.6s							
BBOO	**Buckleboo**	**34.65**	**230**	P	**P**	**14 47 50.3**	**+0.4**
KNRA	**Kununurra**	**37.15**	**261**	P	**P**	**14 48 10.7**	**-0.6**
KNRA					IAmb	IAmb	14 48 46.7	
	comp=Z,16nm,1.4s							
FORT	**Forrest**	**40.14**	**237**	P	**P**	**14 48 36.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**40.17**	**257**	P	**P**	**14 48 36.6**	**+0.2**
MBWA	**Marble Bar**	**45.85**	**253**	P	**P**	**14 49 23.0**	**+1.2**
MBWA					IAmb	IAmb	14 49 57.6	
	comp=Z,25nm,1.4s							
MJAR	**Matsushiro Arr**	**55.99**	**332**	P	**P**	**14 50 36.0**	**-1.0**
	comp=Z,3.4nm,1.0s,baz=164,slow=8.9,SNR=8.3							
	comp=Z,3.4nm,1.0s							
JSD	**Sado**	**57.20**	**333**	P	**P**	**14 50 45.1**	**-0.3**
JSD					IAmb	IAmb	14 50 46.4	
	comp=Z,6.4nm,0.9s							
JHS	**Saijyo**	**57.29**	**327**	P	**P**	**14 50 46.3**	**+0.1**
JHS					IAmb	IAmb	14 50 53.9	
	comp=Z,11nm,1.2s							
KSRS	**Korea Array**	**61.92**	**325**	P	**P**	**14 51 17.9**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=141,slow=7.5,SNR=6.2							
	comp=Z,1.1nm,0.8s							
VNDA	**Vanda**	**64.88**	**181**	P	**P**	**14 51 37.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=354,slow=3.6,SNR=6.5							
	comp=Z,1.0nm,0.7s							
VNDA	**Vanda**	**64.88**	**181**	P	**P**	**14 51 37.6**	**+1.2**
SBA	**Scott Base**	**65.16**	**180**	P	**P**	**14 51 40.1**	**+1.9**
SBA					IAmb	IAmb	14 51 41.1	
	comp=Z,6.0nm,1.0s							
PETK	**Petropavlovsk-**	**66.02**	**354**	P	**P**	**14 51 44.7**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=170,slow=8.8,SNR=2.5							
	comp=Z,2.9nm,0.7s							
CMAR	**Chiang Mai Arr**	**73.89**	**294**	P	**P**	**14 52 33.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=122,slow=4.2,SNR=8.9							
	comp=Z,0.6nm,0.3s							
CMAR	**Chiang Mai Arr**	**73.89**	**294**	P	**P**	**14 52 33.0**	**+0.4**
SONM	**Songino Array**	**80.71**	**324**	P	**P**	**14 53 10.4**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=135,slow=5.4,SNR=3.6							
	comp=Z,0.7nm,0.6s							
PWL	**Port Wells**	**81.42**	**20**	P	**P**	**14 53 13.1**	**-0.2**
GLI	**Glacier Island**	**81.86**	**21**	P	**P**	**14 53 15.8**	**+0.3**
SML	**Sawmill**	**82.10**	**20**	P	**P**	**14 53 16.4**	**-0.5**
SML					IAmb	IAmb	14 53 28.5	
	comp=Z,15nm,1.3s							
CAST	**Castle Rocks**	**82.14**	**17**	P	**P**	**14 53 16.6**	**-0.4**
CAST					IAmb	IAmb	14 53 17.7	
	comp=Z,6.6nm,1.0s							
J20K	**Nowinta River**	**82.16**	**16**	P	**P**	**14 53 17.8**	**+0.8**
J20K					IAmb	IAmb	14 53 27.6	
	comp=Z,7.8nm,1.4s							
SCM	**Sheep Creek Mo**	**82.45**	**20**	P	**P**	**14 53 18.5**	**-0.2**
SCM					IAmb	IAmb	14 53 19.5	
	comp=Z,9.4nm,0.9s							
KTH	**Kantishna Hill**	**82.59**	**18**	P	**P**	**14 53 18.9**	**-0.5**
KTH					IAmb	IAmb	14 53 42.2	
	comp=Z,11nm,1.5s							
RND	**Reindeer**	**83.10**	**18**	P	**P**	**14 53 21.8**	**-0.2**
N25K	**Chitina, Valde**	**83.23**	**21**	P	**P**	**14 53 23.1**	**+0.3**
DHY	**Denali Highway**	**83.33**	**19**	P	**P**	**14 53 23.2**	**-0.1**
DHY					IAmb	IAmb	14 53 25.2	
	comp=Z,17nm,1.5s							
GLB	**Gilahina Butte**	**83.40**	**21**	P	**P**	**14 53 24.0**	**+0.5**
I21K	**Tanana**	**83.52**	**16**	P	**P**	**14 53 23.7**	**-0.3**
H21K	**Melozitna Rive**	**83.67**	**16**	P	**P**	**14 53 25.5**	**+0.7**
H21K					IAmb	IAmb	14 54 00.6	
	comp=Z,8.1nm,1.4s							
IMAR	**Indian Mountai**	**83.68**	**15**	P	**P**	**14 53 25.5**	**+0.7**
TABL	**Table Mountain**	**83.73**	**23**	P	**P**	**14 53 25.7**	**+0.2**
MLY	**Manley**	**83.75**	**17**	P	**P**	**14 53 25.4**	**+0.1**
LOGN	**Logan Glacier**	**84.03**	**23**	P	**P**	**14 53 27.1**	**+0.2**
WRH	**Wood River Hil**	**84.11**	**18**	P	**P**	**14 53 26.4**	**-0.6**
WRH					IAmb	IAmb	14 53 27.0	
	comp=Z,6.0nm,0.8s							
CCB	**Clear Creek Bu**	**84.32**	**18**	P	**P**	**14 53 27.4**	**-0.7**
CCB					IAmb	IAmb	14 53 27.9	
	comp=Z,4.6nm,0.7s							
HDA	**Harding Lake**	**84.41**	**18**	P	**P**	**14 53 28.3**	**-0.2**
MDM	**Murphy Dome**	**84.42**	**18**	P	**P**	**14 53 28.0**	**-0.6**
TCOL	**CIGO, UAF Yank**	**84.47**	**18**	P	**P**	**14 53 27.9**	**-0.8**
COLA	**College**	**84.47**	**18**	P	**P**	**14 53 28.1**	**-0.7**
H23K	**Yukon River**	**84.68**	**17**	P	**P**	**14 53 29.3**	**-0.6**
H23K					IAmb	IAmb	14 53 31.1	
	comp=Z,5.7nm,0.9s							
IL31		**84.69**	**18**	P	**P**	**14 53 28.9**	**-0.9**
IL31					IAmb	IAmb	14 53 30.3	
	comp=Z,7.9nm,0.8s							
ILAR	**Eielson Array**	**84.69**	**18**	P	**P**	**14 53 29.2**	**-0.7**
	comp=Z,4.6nm,0.7s,baz=235,slow=5.9,SNR=55							
ILAR				pP	**pP**	**14 54 18.6**	**-4.2**
	comp=Z,1.2nm,0.8s,baz=228,slow=5.9,SNR=5.0							
	comp=Z,4.6nm,0.7s							
ILAR	**Eielson Array**	**84.69**	**18**	P	**P**	**14 53 28.7**	**-1.2**
POKR	**Poker Plat Res**	**84.77**	**18**	P	**P**	**14 53 29.4**	**-1.0**
POKR					IAmb	IAmb	14 53 30.6	
	comp=Z,6.9nm,0.8s							
J25K	**Salcha River,**	**85.04**	**19**	P	**P**	**14 53 31.6**	**-0.1**
J25K					IAmb	IAmb	14 53 32.8	
	comp=Z,7.4nm,0.8s							
SCRK	**Sand Creek**	**85.05**	**20**		**P**	**14 53 32.0**	**+0.1**
L27K	**Beaver Creek,**	**85.17**	**21**	P	**P**	**14 53 32.3**	**-0.1**
BCAR	**Beaver Creek A**	**85.19**	**21**	P	**P**	**14 53 32.8**	**+0.4**
J26L	**Joseph Creek**	**85.54**	**19**	P	**P**	**14 53 35.2**	**+1.0**
COLD	**Coldfoot**	**85.55**	**15**	P	**P**	**14 53 34.5**	**+0.4**
COLD					IAmb	IAmb	14 53 36.3	
	comp=Z,5.1nm,0.9s							
DSP	**Deep Springs**	**86.06**	**50**	P	**P**	**14 53 37.9**	**+0.6**
NVAR	**Mina Array Bea**	**86.16**	**49**	P	**P**	**14 53 38.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=239,slow=8.2,SNR=4.2							
	comp=Z,0.5nm,0.7s							
EGAK	**Eagle**	**86.50**	**20**	P	**P**	**14 53 38.7**	**-0.1**
EGAK					IAmb	IAmb	14 53 40.4	
	comp=Z,4.1nm,0.8s							
BMAR	**Burnt Mountain**	**87.22**	**17**	P	**P**	**14 53 43.3**	**+1.1**
I07A	**Izee**	**87.23**	**44**	P	**P**	**14 53 43.2**	**+0.2**
ELK	**Elko**	**89.13**	**48**	P	**P**	**14 53 52.2**	**+0.1**
ELK					IAmb	IAmb	14 53 53.7	
	comp=Z,3.0nm,1.0s							
SPR3	**Spring Creek 3**	**89.29**	**50**	P	**P**	**14 53 52.9**	**-0.1**
SPR3					IAmb	IAmb	14 53 54.5	
	comp=Z,2.4nm,0.9s							
LCMT	**Little Creek M**	**89.55**	**52**	P	**P**	**14 53 54.6**	**+0.6**
LCMT					IAmb	IAmb	14 53 55.9	
	comp=Z,4.0nm,1.0s							
CCUT	**Cedar City**	**89.60**	**51**	P	**P**	**14 53 55.1**	**+0.7**
TXAR	**Lajitas Array**	**95.54**	**61**	P	**P**	**14 54 22.4**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=207,slow=5.8,SNR=3.9							
	comp=Z,0.3nm,0.7s							
MKAR	**Makanchi Array**	**95.56**	**317**	P	**P**	**14 54 21.2**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=100,slow=6.7,SNR=13							
	comp=Z,1.9nm,0.9s							
MKAR	**Makanchi Array**	**95.56**	**317**	P	**P**	**14 54 21.0**	**-0.4**
ZALV	**Zalesovo Beam**	**95.60**	**324**	P	**P**	**14 54 20.4**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=87,slow=3.0,SNR=4.9							
	comp=Z,1.2nm,0.8s							
ARCES	**ARCESS Array B**	**118.23**	**346**	PKP	**PKPdf**	**14 59 41.3**	**-0.3**	
	comp=Z,2.0nm,0.9s,baz=316,slow=2.5,SNR=2.9							
ESDC	**Sonseca Array**	**151.97**	**345**	PKPbc	**PKiKP**	**15 00 50.8**	**0.0**	
	comp=Z,1.5nm,0.9s,baz=15,slow=3.4,SNR=10							
ESDC				PKPab	**PKPab**	**15 01 01.2**	**+0.6**	
	comp=Z,1.8nm,0.8s,baz=10,slow=4.3,SNR=12							
ESDC	**Sonseca Array**	**151.97**	**345**		**PKiKP**	**15 00 50.9**	**0.0**	
ESDC				PKPab	**PKPab**	**15 01 00.8**	**+0.2**	
TORD	**Torodi Ar. Bea**	**165.66**	**273**	PKPab	**PKPab**	**15 02 00.7**	**-0.1**	
	comp=Z,1.8nm,1.2s,baz=90,slow=4.3,SNR=4.6							

*JMA **25** 14:50:28.9±0.4, 34°.N±1°.×14°.2E±°., h39km±2km, MV2.6/29, FAR SE OFF BOSO PEN*
*IDC **25** 14:50:29.9±2.7, 34°.32N×141°.58E, h0km, mb3.2/2, mbtmp3.0/3, ML2.3/1, Error ellipse: s-maj=45.4km s-min=29.7km az=88.0*
ISC 25 14:50:32.2±1.7, 34°.36N±0°.06×141°.6E±0°.1, h27km, n11, σ1§41/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.58**	**300**	P	**Pb**	**14 50 42.6**	**-0.9**
BSO3	**Boso 3**	**0.99**	**296**	P	**Pn**	**14 50 48.9**	**-1.2**
JKUC	**kamogawauchiur**	**1.40**	**305**	P	**Pn**	**14 50 54.7**	**-1.1**
JKUC				eS	**Sn**	**14 51 13.9**	**+0.5**
CHOJ	**Chosi**	**1.47**	**336**	P	**Pn**	**14 50 54.5**	**-2.3**
JMKN	**Mikurajimanish**	**1.73**	**255**	P	**Pn**	**14 51 00.1**	**-0.3**
JHJ	**Hachijo jima 2**	**1.95**	**231**	Pn	**Pb**	**14 51 04.5**	**-2.6**
	5.4nm,0.3s,baz=168,slow=23,SNR=12						
JHJ				Sn	**Sn**	**14 51 27.9**	**+0.7**
	20nm,0.3s,baz=120,slow=23,SNR=8.1						
JOD2	**Odawara 2**	**2.25**	**294**	P	**Pn**	**14 51 07.2**	**-0.5**
JIZS	**Izushimoda**	**2.27**	**280**	P	**Pn**	**14 51 07.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.52**	**309**	Pn	**Pn**	**14 51 25.4**	**+0.4**
	0.3nm,0.3s,baz=136,slow=10.0,SNR=23						
MJAR				Sn	**Sn**	**14 52 06.0**	**+0.3**
	0.1nm,0.3s,baz=142,slow=24,SNR=2.7						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**45.70**	**304**	P	**P**	**14 58 52.6**	**+1.9**
	0.1nm,0.5s,baz=72,slow=9.5,SNR=1.7						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**54.45**	**188**	P	**P**	**14 59 58.4**	**+1.2**
	0.4nm,0.9s,baz=3.0,slow=7.9,SNR=2.4						
	0.4nm,0.9s						

*TAP **25** 15:09:08.9, 23°.96N×122°.72E, h40km±1km, ML3.4, D*
*JMA **25** 15:09:09.3±0.3, 24°.N±2°.×122°.7E±0°.7, h27km±4km, MV3.0/8, NW OFF ISHIGAKIJIMA IS*
ISC 25 15:09:06.5±1.1, 23°.93N±0°.02×122°.70E±0°.02, h13km±9km, n106, σ0§76/205, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.57**	**24**	P	**Pn**	**15 09 19.9**	**-0.4**
JYNG				eS	**Sn**	**15 09 27.4**	**-2.2**
YOJ	**Yonaguni jima**	**0.60**	**28**	P	**Pn**	**15 09 20.6**	**-0.2**
	baz=27						
YOJ				S	**Sn**	**15 09 29.4**	**-1.0**
	baz=27						
YOJ	**Yonaguni jima**	**0.60**	**28**	P	**Pn**	**15 09 20.7**	**-0.1**
YOJ				eS	**Sn**	**15 09 28.4**	**-2.0**
EWUT	**Wuta**	**0.98**	**302**	P	**Pn**	**15 09 25.7**	**-0.3**
	baz=300						
EWUT				eS	**Sn**	**15 09 39.3**	**-0.5**
	baz=300						
ENA	**Nanau**	**1.00**	**300**	P	**Pn**	**15 09 27.2**	**+0.9**
	baz=298						
ENA				eS	**Sn**	**15 09 40.7**	**+0.4**
	baz=298						
ETL	**Fush Village**	**1.01**	**283**	eP	**Pn**	**15 09 26.9**	**+0.5**
	baz=269						
ETL				eS	**Sn**	**15 09 40.9**	**+0.4**
	baz=269						
TWD	**Chiawan**	**1.02**	**279**	eP	**Pn**	**15 09 26.8**	**+0.3**
	baz=277						
TWD				eS	**Sn**	**15 09 40.4**	**-0.2**
	baz=277						
IRIF	**Iriomote-Funau**	**1.03**	**67**	P	**Pn**	**15 09 27.8**	**+1.2**
IRIF				eS	**Sn**	**15 09 42.2**	**+1.3**
TWC	**Suao**	**1.03**	**311**	P	**Pn**	**15 09 27.6**	**+0.9**
	baz=310						
TWC				S	**Sn**	**15 09 40.6**	**-0.3**
	baz=310						
NACB	**Ninganchiao**	**1.04**	**284**	P	**Pn**	**15 09 26.9**	**+0.2**
	baz=271						
NACB				eS	**Sn**	**15 09 41.4**	**+0.3**
	baz=271						
NDS	**Dongshan**	**1.14**	**308**	eP	**Pn**	**15 09 28.9**	**+0.8**
	baz=307						
NDS				eS	**Sn**	**15 09 43.5**	**-0.1**
	baz=307						
ETLH	**Xiulin Townshi**	**1.14**	**284**	P	**Pg**	**15 09 29.0**	**+0.5**
	baz=273						
ETLH				eS	**Sn**	**15 09 43.9**	**0.0**
	baz=273						
EGS		**1.15**	**323**	eP	**Pg**	**15 09 29.0**	**+0.4**
	baz=333						
EGS				eS	**Sn**	**15 09 44.6**	**+0.7**
	baz=333						
ESL	**Shilin**	**1.16**	**265**	eP	**Pb**	**15 09 28.2**	**-0.2**
	baz=256						
ESL				eS	**Sg**	**15 09 44.1**	**+0.1**
	baz=256						
EGFH	**Guangfu**	**1.19**	**258**	eP	**Pn**	**15 09 29.2**	**+0.4**
	baz=246						
EGFH				eS	**Sb**	**15 09 44.7**	**+0.5**
	baz=246						
ILA	**Ilan**	**1.20**	**314**	eP	**Pg**	**15 09 29.6**	**-0.1**
	baz=313						
ILA				eS	**Sn**	**15 09 45.2**	**+0.1**
	baz=313						
NTC	**Toucheng**	**1.22**	**320**	eP	**Pg**	**15 09 30.3**	**+0.5**
	baz=331						
NTC				eS	**Sn**	**15 09 46.3**	**+0.7**
	baz=331						
TWE	**Neicheng**	**1.23**	**310**	eP	**Pg**	**15 09 30.7**	**+0.6**
	baz=310						
TWE				eS	**Sn**	**15 09 46.3**	**+0.5**
	baz=310						
LATG	**Datong**	**1.23**	**300**	P	**Pg**	**15 09 30.6**	**+0.5**
	baz=299						
LATG				eS	**Sn**	**15 09 46.0**	**0.0**
	baz=299						
JKRS	**Kuro-shima**	**1.24**	**75**	eP	**Pg**	**15 09 31.9**	**+1.5**
JKRS				S	**Sg**	**15 09 47.8**	**+1.3**
HGSD	**Ruisui**	**1.24**	**250**	P	**Pn**	**15 09 29.6**	**+0.1**
	baz=249						
HGSD				eS	**Sb**	**15 09 45.3**	**-0.5**
	baz=249						
ENTT	**Nioudou**	**1.25**	**305**	eP	**Pg**	**15 09 30.3**	**-0.2**
	baz=304						
ENTT				eS	**Sg**	**15 09 46.6**	**-0.3**
	baz=304						
TWB1	**Santiao Chiao**	**1.25**	**329**	P	**Pg**	**15 09 30.7**	**+0.1**
	baz=329						
TWB1				eS	**Sn**	**15 09 46.8**	**+0.3**
	baz=329						
NDT	**Datong Townshi**	**1.27**	**302**	eP	**Pg**	**15 09 30.9**	**-0.1**
	baz=290						
NDT				eS	**Sg**	**15 09 47.5**	**0.0**
	baz=290						
NNSB	**Datong**	**1.30**	**293**	eP	**Pg**	**15 09 31.5**	**0.0**
	baz=292						
NNSB				eS	**Sb**	**15 09 47.5**	**0.0**
	baz=292						
FUSB	**Fushanzhiwuyua**	**1.31**	**310**	P	**Pg**	**15 09 31.8**	**+0.2**
	baz=309						
FUSB				eS	**Sg**	**15 09 48.4**	**-0.2**
	baz=309						
TIPB	**Shuangxi**	**1.31**	**323**	eP	**Pg**	**15 09 31.7**	**0.0**
	baz=334						
TIPB				eS	**Sg**	**15 09 48.4**	**-0.2**
	baz=334						
NNS	**Nan Shan**	**1.31**	**293**	eP	**Pb**	**15 09 31.1**	**+0.1**
	baz=292						
NNS				eS	**Sn**	**15 09 48.2**	**+0.1**
	baz=292						
WHF	**Hehuan Shan**	**1.33**	**280**	eP	**Pb**	**15 09 31.8**	**+0.3**
	baz=279						
WHF				eS	**Sb**	**15 09 48.5**	**-0.1**
	baz=279						
EHY	**Hungye**	**1.33**	**252**	eP	**Pn**	**15 09 31.3**	**+0.5**
	baz=251						
EHY				eS	**Sb**	**15 09 48.3**	**+0.1**
	baz=251						
FUSS	**Fushou**	**1.36**	**284**	P	**Pb**	**15 09 32.2**	**+0.2**
	baz=283						
FUSS				eS	**Sn**	**15 09 49.6**	**0.0**
	baz=283						
SXI1	**Grass Mountain**	**1.38**	**327**	P	**Pg**	**15 09 32.8**	**-0.3**
	baz=338						
SXI1				eS	**Sg**	**15 09 50.4**	**-0.6**
	baz=338						
EYUL	**Yuli**	**1.39**	**246**	eP	**Pn**	**15 09 32.5**	**+0.9**
	baz=235						
EYUL				eS	**Sn**	**15 09 50.2**	**+0.4**
	baz=235						
YULB	**Yu-li**	**1.39**	**248**	P	**Pn**	**15 09 32.0**	**+0.4**
	baz=237						
YULB				eS	**Sn**	**15 09 49.3**	**-0.5**
	baz=237						
JIJ	**Ishigaki jima**	**1.39**	**72**	P	**Pg**	**15 09 32.9**	**-0.3**
JIJ				S	**Sg**	**15 09 51.2**	**-0.1**
OWD	**Renai

baz=282
SMLT Sun Moon Lake 1.65 269 *eP* **Pb 15 09 36.4 -0.4**
baz=268
SMLT *eS* **Sn 15 09 56.3 0.0**
baz=268
ANP Anpu 1.65 320 *eP* **Pb 15 09 36.2 -0.6**
baz=319
TWS1 Kuangyinshan 1.65 315 *eP* **Pb 15 09 36.6 -0.2**
baz=329
TWS1 *eS* **Sb 15 09 57.2 -0.3**
baz=329
YUS Yu-Shan 1.66 255 *eP* **Pn 15 09 36.0 +0.3**
baz=254
YUS *eS* **Sn 15 09 56.4 -0.7**
baz=254
TWY Chenhua 1.67 324 *eP* **Pb 15 09 36.7 -0.5**
baz=324
TWY *eS* **Sn 15 09 56.8 0.0**
baz=324
NTST Danshui 1.68 318 *eP* **Pb 15 09 36.9 -0.3**
baz=330
NTST *eS* **Sb 15 09 58.0 -0.2**
baz=330
LDUT Ludao 1.68 222 *eP* **Pn 15 09 35.7 +0.1**
baz=221
LDUT *eS* **Sn 15 09 56.2 -0.8**
baz=221
TYC Yuchr 1.68 270 *eP* **Pb 15 09 37.3 0.0**
baz=269
TYC *eS* **Sn 15 09 57.9 +0.8**
baz=269
LIOB Emei 1.69 295 *eP* **Pb 15 09 38.0 +0.5**
baz=295
LIOB *eS* **Sb 15 09 58.1 -0.6**
baz=295
NSTT Nanjuang 1.70 295 *eP* **Pb 15 09 37.3 -0.3**
baz=295
NSTT *eS* **Sn 15 09 57.9 +0.4**
baz=295
ELDTW Lidau 1.71 245 *eP* **Pn 15 09 36.4 +0.3**
baz=244
ELDTW *eS* **Sn 15 09 57.1 -0.7**
baz=244
LONT Longtian 1.76 235 *eP* **Pn 15 09 37.4 +0.7**
baz=227
LONT *eS* **Sn 15 09 58.7 -0.4**
baz=227
ALS Alishan 1.78 257 *eP* **Pb 15 09 39.0 -0.2**
baz=256
ALS *eS* **Sn 15 09 60.0 0.0**
baz=256
WJS Zhushan 1.81 267 *eP* **Pb 15 09 39.9 +0.5**
baz=267
WJS *eS* **Sg 15 10 03.8 -0.7**
baz=267
TWQ1 Liyutan 1.81 284 *eP* **Pb 15 09 39.5 0.0**
baz=284
TWQ1 *eS* **Sn 15 10 00.7 +0.5**
baz=284
NSY Sanyi 1.83 286 *eP* **Pn 15 09 38.9 +1.1**
baz=286
NSY *eS* **Sn 15 10 00.9 +0.1**
baz=286
NMLH Miaoli 1.84 290 *eP* **Pb 15 09 39.2 -0.8**
baz=289
WNT Mingjian 1.84 269 *eP* **Pb 15 09 40.6 +0.6**
baz=269
WNT *eS* **Sb 15 10 02.6 -0.4**
baz=269
TWGBT Beinan 1.85 234 *eP* **Pn 15 09 38.5 +0.6**
baz=225
TWGBT *eS* **Sn 15 10 00.5 -0.8**
baz=225
TWG Pinlang 1.85 234 P **Pn 15 09 38.6 +0.6**
baz=225
TWG *eS* **Sn 15 10 00.8 -0.5**
baz=225
TCU Taichung 1.86 277 *eP* **Pb 15 09 40.6 +0.2**
baz=277
TCU *eS* **Sb 15 10 03.7 +0.2**
baz=277
STYH Taoyuan 1.92 247 *eP* **Pn 15 09 39.6 +0.8**
baz=240
STYH *eS* **Sn 15 10 02.6 -0.2**
baz=240
WCHH Zhanghua 1.96 275 *eP* **Pn 15 09 40.1 +0.7**
baz=287
WCHH *eS* **Sn 15 10 05.2 +1.3**
baz=287
WCKO Fanlu 1.98 256 *eP* **Pn 15 09 41.1 +1.4**
baz=256
WCKO *eS* **Sn 15 10 04.6 +0.2**
baz=256
WDLH Douliu 1.99 264 *eP* **Pb 15 09 42.3 -0.3**
baz=263
WDLH *eS* **Sb 15 10 07.2 -0.1**
baz=263
TPUB Ta-pu 2.00 252 *eP* **Pb 15 09 42.4 -0.3**
baz=245
TPUB *eS* **Sb 15 10 07.1 -0.4**
baz=245
WTP Ta-pu 2.03 251 *eP* **Pb 15 09 42.5 -0.7**
baz=243
WTP *eS* **Sn 15 10 07.6 +2.0**
baz=243
ECL Taimali 2.08 231 *eP* **Pn 15 09 41.7 +0.7**
baz=240
ECL *eS* **Sn 15 10 05.8 -1.0**
baz=240
SGST Jiashian 2.11 247 *eP* **Pn 15 09 42.5 +0.9**
baz=238
SGST *eS* **Sn 15 10 07.9 +0.1**
baz=238
CHN1 Nanshi 2.12 250 *eP* **Pn 15 09 42.9 +1.2**
baz=249
CHN1 *eS* **Sn 15 10 09.1 +1.2**
baz=249
WRL Guolierlin Hig 2.12 270 *eP* **Pb 15 09 43.9 -0.9**
baz=282
WRL *eS* **Sb 15 10 10.4 -0.7**
baz=282
TWK Hsinying 2.13 252 *eP* **Pb 15 09 44.0 -1.0**
baz=251
TWK *eS* **Sn 15 10 08.3 +0.1**
baz=251
LYUB Lan-yu 2.17 208 *eP* **Pn 15 09 41.7 -0.7**
baz=207
LYUB *eS* **Sn 15 10 07.2 -2.0**
baz=207
SSD Sandimen 2.23 239 *eP* **Pn 15 09 44.8 +1.6**
baz=233
SSD *eS* **Sn 15 10 10.7 0.0**
baz=233
TSMG Majia 2.24 238 *eP* **Pn 15 09 43.8 +0.5**
baz=232
TSMG *eS* **Sn 15 10 10.8 -0.2**
baz=232
SCST Cishan 2.27 243 *eP* **Pb 15 09 47.2 -0.2**
baz=233
SCST *eS* **Sb 15 10 15.1 -0.3**
baz=233
ICHU Yijhu 2.29 256 *eS* **Sb 15 10 14.7 -1.2**
baz=255
EAST Anshuo 2.29 228 *eP* **Pn 15 09 44.7 +0.7**
baz=235
EAST *eS* **Sn 15 10 11.5 -0.7**
baz=235
TAWH Dawu Township 2.29 227 *eP* **Pn 15 09 44.8 +0.7**
baz=234
TAWH *eS* **Sn 15 10 11.9 -0.2**
baz=234
WSL Shuilin Townsh 2.30 260 *eP* **Pn 15 09 45.9 +1.8**
baz=247
WSL *eS* **Sb 15 10 15.4 -0.8**
baz=247
MASBT Mashibuluo 2.31 236 *eP* **Pn 15 09 45.6 +1.4**
baz=230
MASBT *eS* **Sn 15 10 12.4 -0.1**
baz=230
CHN8 Yiju 2.35 256 *eS* **Sn 15 10 15.8 +2.3**
baz=255
SLIU Shizi 2.44 226 *eP* **Pn 15 09 46.7 +0.7**
baz=225
SLIU *eS* **Sn 15 10 15.4 -0.3**
baz=225
SCZT Fangliau 2.46 231 *eP* **Pn 15 09 47.1 +0.8**
baz=225
SCZT *eS* **Sn 15 10 16.1 -0.2**
baz=225
TSCK Chigu Township 2.52 253 *eP* **Pn 15 09 49.3 +2.2**
baz=251
TSCK *eS* **Sb 15 10 20.9 -1.6**
baz=251
HEN Hengchun 2.63 224 *eP* **Pn 15 09 49.9 +1.2**
baz=222
HEN *eS* **Sn 15 10 20.0 -0.4**
baz=222
PHUB P'eng-hu 2.89 262 *eP* **Pn 15 09 53.7 +1.4**
baz=277
PHUB *eS* **Sn 15 10 27.1 +0.1**
baz=277
PNG Penghu 2.90 264 *eP* **Pn 15 09 53.6 +1.2**
baz=278
PNG *eS* **Sn 15 10 27.4 +0.3**
baz=278
VWUC VWUC 3.14 290 *eP* **Pn 15 09 56.5 +0.9**
baz=291
VWUC *eS* **Sn 15 10 32.0 -1.1**
baz=291
PTMZ Houxiangcun 3.44 290 *eP* **Pn 15 10 01.4 +1.6**
baz=290
PTMZ *eS* **Sn 15 10 39.9 -0.6**
baz=290
XPSS Dashiqiu 3.75 323 *eP* **Pn 15 10 05.9 +1.9**
baz=323
KNMB Chin-men Tao 3.97 279 *eP* **Pn 15 10 08.0 +0.9**
baz=278
AXDP Jialang 4.42 284 *eP* **Pn 15 10 14.9 +1.7**
baz=284

IDC 25 15:11:43.6±2.6,3°.09N×128°.95E,h0km,mb3.3/3,
mbtmp3.3/3,Error ellipse: s-maj=175.5km
s-min=27.3km az=69.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.49**	**167**	P	P	15 16 54.9	-0.3
	0.2nm,0.4s,baz=346,slow=9.7,SNR=7.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**27.03**	**170**	P	P	15 17 26.7	-1.0
	0.3nm,0.4s,baz=354,slow=7.7,SNR=6.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.35**	**324**	P	P	15 21 49.0	+1.3
	0.1nm,0.4s,baz=129,slow=6.9,SNR=2.6						
	0.1nm,0.4s						

*IDC **25** 15:15:02.1±1.3, 17°.90S×178°.51W, h552km±14km,*
mb4.1/30, mbtmp5.1/32, Error ellipse: s-maj=12.3km
s-min=7.9km az=151.0
*NEIC **25** 15:15:03.4±1.9, 17°.90S±0°.10×178°.5W±0°.1, h567km±7km,*
mb4.5/288, Error ellipse: s-maj=16.1km s-min=12.9km
az=128.0
*NOU **25** 15:15:03.3, 17°.83S×178°.42W, h580km, mb5.1/88, Fiji*
Islands Region

ISC 25 15:15:03.9±0.3,17°.92S±0°.06×178°.49W±0°.05,h579km,
n767,σ0s90/774,mb4.6/200,8C-5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.45**	**225**	P	P	15 16 11.9	-0.2
TAVE	**Taveuni**	**1.81**	**311**	P	P	15 16 16.3	+0.8
MSVF	**Nonsavu**	**3.31**	**273**	P	P	15 16 24.2	+1.0
	597nm,0.8s,baz=128,slow=4.7,SNR=1052						
MSVF				S	S	15 17 29.2	+1.3
	37nm,0.9s,baz=296,slow=22,SNR=12						
MSVF	**Nonsavu**	**3.31**	**273**		P	15 16 23.9	+0.6
MSVF	**Nonsavu**	**3.31**	**273**	P	P	15 16 24.4	+1.2
FUTU	**Fugatoga**	**3.60**	**6**	P	P	15 16 25.8	+0.6
AFI	**Afiamalu**	**7.58**	**59**	P	P	15 16 55.6	-3.0
	218nm,1.0s,baz=198,slow=3.2,SNR=25						
AFI				S	S	15 18 27.0	-5.5
	30nm,0.9s,baz=323,slow=20,SNR=1.5						
AFI	**Afiamalu**	**7.58**	**59**		P	15 16 55.9	-2.8
AFI	**Afiamalu**	**7.58**	**59**	P	P	15 16 56.3	-2.3
NIUE	**Niue**	**8.20**	**99**	P	P	15 17 04.3	-0.1
	baz=8.2,SNR=9.6						
NIUE	**Niue**	**8.20**	**99**		P	15 17 03.9	-0.6
NIUE	**Niue**	**8.20**	**99**	P	P	15 17 04.3	-0.1
RTV	**Rentapao**	**12.47**	**269**	P	P	15 17 47.1	-0.2
DVP	**Devils Point**	**12.70**	**269**	P	P	15 17 49.1	-0.6
MARNC	**Mare, Loyalty**	**13.19**	**252**		P	15 17 52.4	-2.3
MARNC	**Mare, Loyalty**	**13.19**	**252**	P	P	15 17 53.3	-1.4
LIFNC	**LIFOU**	**13.77**	**256**	P	P	15 17 58.2	-2.5
LIFNC	**LIFOU**	**13.77**	**256**	P	P	15 17 59.6	-1.1
PINNC	**Pines Island,**	**14.00**	**248**		P	15 18 01.7	-1.3
PINNC	**Pines Island,**	**14.00**	**248**	P	P	15 18 02.1	-0.9
YATNC	**Mamie plateau,**	**14.35**	**251**	P	P	15 18 06.5	0.0
DZM	**Mont Dzumac**	**14.76**	**251**	P	P	15 18 09.2	-1.3
	76nm,0.7s,baz=76,slow=15,SNR=84						
DZM				S	S	15 20 43.1	-0.3
	16nm,1.1s,baz=9.4,slow=19,SNR=3.3						
DZM	**Mont Dzumac**	**14.76**	**251**	P	P	15 18 09.3	-1.1
DZM	**Mont Dzumac**	**14.76**	**251**	P	P	15 18 10.3	-0.2
ONTNC	**Ouen Toro**	**14.80**	**250**	P	P	15 18 09.9	-0.8
ONTNC	**Ouen Toro**	**14.80**	**250**	P	P	15 18 12.4	+1.6
NOUC	**Port Laguerre**	**14.89**	**251**	P	P	15 18 11.2	-0.4
KOUNC	**Koumac, New Ca**	**16.48**	**258**	P	P	15 18 27.3	+0.7
URZ	**Urewera**	**20.63**	**190**	P	P	15 19 02.0	-2.0
	15nm,0.8s,baz=33,slow=9.6,SNR=2.6						
	15nm,0.8s						
URZ	**Urewera**	**20.63**	**190**	P	P	15 19 04.5	+0.4
HNR	**Honiara**	**22.57**	**289**	P	P	15 19 21.0	-0.8
	853nm,0.7s,baz=168,slow=9.3,SNR=2.4						
HNR	**Honiara**	**22.57**	**289**	P	P	15 19 20.9	-0.8
QRZ	**Quartz Range**	**24.11**	**197**	P	P	15 19 36.3	+1.2
QRZ	**Quartz Range**	**24.11**	**197**	P	P	15 19 34.7	-0.3
NNZ	**Nelson**	**24.25**	**195**	P	P	15 19 36.3	0.0
LHI	**Lord Howe Isla**	**24.42**	**232**	P	P	15 19 38.4	+0.5
	baz=25,SNR=4.1						
LHI	**Lord Howe Isla**	**24.42**	**232**	P	P	15 19 36.7	-1.3
KHZ	**Kahutara**	**25.35**	**194**	P	P	15 19 45.4	-0.6
LTZ	**Lake Taylor**	**26.00**	**196**	P	P	15 19 50.3	-1.5
LTZ				IAmb	IAmb	15 20 19.2	
	comp=Z,28nm,1.2s						
RPZ	**Rata Peaks**	**27.20**	**197**	P	P	15 20 01.1	-1.1
	comp=Z,6.9nm,0.9s,baz=9.5,slow=6.1,SNR=1.6						
	comp=Z,6.9nm,0.9s						
LBZ	**Lake Benmore**	**28.06**	**197**	P	P	15 20 07.4	-2.3
LBZ				IAmb	IAmb	15 20 49.4	
	comp=Z,31nm,1.3s						
EIDS	**Eidsvold**	**29.20**	**250**	P	P	15 20 19.4	-0.5
	baz=29,SNR=17						
EIDS	**Eidsvold**	**29.20**	**250**	P	P	15 20 19.2	-0.6
EIDS	**Eidsvold**	**29.20**	**250**	P	P	15 20 19.4	-0.5
RK1H	**Rockhampton Ha**	**29.50**	**254**	P	P	15 20 22.0	-0.5
MLZ	**Mavora Lakes**	**29.57**	**199**	P	P	15 20 22.8	0.0
ARMA	**Armidale**	**29.87**	**240**	P	P	15 20 26.5	+0.8
	baz=30,SNR=42						
ARMA	**Armidale**	**29.87**	**240**	P	P	15 20 26.3	+0.6
ARMA	**Armidale**	**29.87**	**240**	P	P	15 20 26.4	+0.6
RMQ	**Roma**	**31.43**	**248**	P	P	15 20 39.4	+0.4
	baz=32,SNR=59						
RMQ	**Roma**	**31.43**	**248**	P	P	15 20 39.5	+0.4
SYDH	**Sydney Hard Ro**	**31.72**	**234**	P	P	15 20 42.5	+1.1
RABL	**Rabaul**	**31.80**	**292**	P	P	15 20 42.6	+0.3
KRVT	**Keravat (AS076**	**31.87**	**292**	P	P	15 20 41.5	-1.4
	comp=Z,52nm,0.6s,baz=86,slow=13,SNR=15						
	comp=Z,52nm,0.6s						
CNB	**Canberra Magne**	**33.37**	**232**	P	P	15 20 56.1	+0.8
	baz=34,SNR=99						
CNB	**Canberra Magne**	**33.37**	**232**	P	P	15 20 56.3	+0.9
CTA	**Charters Tower**	**33.37**	**261**	P	P	15 20 55.1	-0.4
	comp=Z,38nm,0.7s,baz=95,slow=9.6,SNR=96						
CTA				PcP	PcP	15 23 18.5	-1.5
	comp=Z,2.2nm,0.6s,baz=112,slow=2.6,SNR=2.1						
	comp=Z,38nm,0.7s						
CTA	**Charters Tower**	**33.37**	**261**	P	P	15 20 55.0	-0.6
CTAO	**Charters Tower**	**33.37**	**261**	P	P	15 20 55.0	-0.6
CTAO	**Charters Tower**	**33.37**	**261**	P	P	15 20 55.4	-0.2
CAN	**Canberra**	**33.64**	**233**	P	P	15 20 58.1	+0.4
CAN	**Canberra**	**33.64**	**233**	P	P	15 20 58.1	+0.4
MILA	**Mila**	**34.22**	**230**	P	P	15 21 03.3	+0.8
	baz=34,SNR=4.6						
PMG	**Port Moresby**	**34.39**	**280**	P	P	15 21 04.3	+0.3
	comp=Z,114nm,0.8s,baz=82,slow=5.9,SNR=36						
	comp=Z,114nm,0.8s						
PMG	**Port Moresby**	**34.39**	**280**	P	P	15 21 04.4	+0.3
PMG	**Port Moresby**	**34.39**	**280**	P	P	15 21 04.8	+0.7
CMSA	**Cobar Meteorol**	**35.08**	**240**	P	P	15 21 09.9	+0.2
	baz=35,SNR=133						
CMSA	**Cobar Meteorol**	**35.08**	**240**	P	P	15 21 09.7	0.0
MTSU	**Mount Surprise**	**35.34**	**264**	P	P	15 21 11.6	-0.4
	baz=35,SNR=56						
MTSU	**Mount Surprise**	**35.34**	**264**	P	P	15 21 11.4	-0.6
QLP	**Quilpie**	**35.46**	**249**	P	P	15 21 12.7	-0.2
	baz=36,SNR=81						
QLP	**Quilpie**	**35.46**	**249**	P	P	15 21 12.5	-0.4
JOHN	**Johnston Islan**	**35.54**	**15**	P	P	15 21 13.6	+0.1
COEN	**Coen**	**37.03**	**270**	P	P	15 21 26.3	+0.3
	baz=37,SNR=87						
COEN	**Coen**	**37.03**	**270**	P	P	15 21 25.9	-0.1
COEN	**Coen**	**37.03**	**270**	P	P	15 21 26.1	+0.2
MANU	**Manus Island**	**37.03**	**291**	P	P	15 21 25.9	0.0
TOO	**Toolangi**	**37.11**	**231**	P	P	15 21 26.9	+0.6
	baz=37,SNR=44						
TOO	**Toolangi**	**37.11**	**231**	P	P	15 21 26.8	+0.6
TOO	**Toolangi**	**37.11**	**231**	P	P	15 21 26.8	+0.6
MOO	**Moorlands**	**38.04**	**223**	P	P	15 21 34.5	+0.8
	baz=38,SNR=3.7						
MOO	**Moorlands**	**38.04**	**223**	P	P	15 21 34.3	+0.6
TAU	**Tasmania Unive**	**38.19**	**222**	P	P	15 21 35.0	+0.2
TAU	**Tasmania Unive**	**38.19**	**222**	P	P	15 21 34.9	0.0
BRAT	**Ballarat**	**38.26**	**232**	P	P	15 21 36.9	+1.4
STKA	**Stephens Creek**	**38.56**	**241**	P	P	15 21 38.6	+0.4
	comp=Z,63nm,0.6s,baz=89,slow=10,SNR=206						
	comp=Z,63nm,0.6s						
STKA	**Stephens Creek**	**38.56**	**241**	P	P	15 21 38.9	+0.7
	baz=39,SNR=195						
STKA	**Stephens Creek**	**38.56**	**241**	P	P	15 21 38.7	+0.6
STKA				IAmb	IAmb	15 21 39.7	
	comp=Z,24nm,1.1s						
STKA	**Stephens Creek**	**38.56**	**241**	P	P	15 21 38.5	+0.4
INKA	**Innaminka**	**38.68**	**248**	P	P	15 21 39.8	+0.7
QIS	**Mount Isa**	**39.58**	**259**	P	P	15 21 45.6	-0.9
	baz=40,SNR=10						
QIS	**Mount Isa**	**39.58**	**259**	P	P	15 21 45.8	-0.7
ARPS	**Mount Arapiles**	**39.59**	**234**	P	P	15 21 46.6	+0.3
	baz=40,SNR=20						
ARPS	**Mount Arapiles**	**39.59**	**234**	P	P	15 21 46.4	+0.1
HTT	**Hallett**	**41.08**	**239**	P	P	15 21 58.7	+0.4
	baz=41,SNR=75						
HTT	**Hallett**	**41.08**	**239**	P	P	15 21 58.5	+0.2
LCRK	**Leigh Creek**	**41.19**	**244**	P	P	15 21 59.4	+0.3
TWOA	**Tennyson Woods**	**41.69**	**237**	P	P	15 22 03.4	+0.4
WHYH	**Whyalla**	**42.12**	**240**	P	P	15 22 06.9	+0.5
OOD	**Oodnadatta**	**43.15**	**248**	P	P	15 22 15.1	+0.6
KHU	**Kahuku**	**43.23**	**32**	P	P	15 22 16.0	+0.6
GENI	**Genyem**	**43.30**	**286**	P	P	15 22 17.0	+1.2
	comp=Z,2μmcomp=Z,147nm,0.9s						
GENI	**Genyem**	**43.30**	**286**	P	P	15 22 17.1	+1.2
BBOO	**Buckleboo**	**43.34**	**241**	P	P	15 22 16.0	+0.1
	baz=43,SNR=124						
BBOO	**Buckleboo**	**43.34**	**241**	P	P	15 22 15.8	-0.2
BBOO	**Buckleboo**	**43.34**	**241**	P	P	15 22 15.7	-0.2
KHLU	**Kahalu`u**	**43.38**	**32**	P	P	15 22 16.7	+0.3
MLOA	**Mauna Loa Obse**	**43.49**	**32**	P	P	15 22 17.2	-0.4
MLH	**Mauna Loa**	**43.55**	**32**	P	P	15 22 17.7	-0.2
HMH	**Humu'ula Sheep**	**43.59**	**32**	P	P	15 22 19.0	+0.7
POHA	**Pohakuloa**	**43.70**	**32**	P	P	15 22 19.6	+0.5
POHA	**Pohakuloa**	**43.70**	**32**	P	P	15 22 15.5	-3.5
KEKH	**Kekaha**	**43.70**	**26**	P	P	15 22 19.3	+0.3
HPAH	**Hawaii Prepara**	**43.84**	**32**	P	P	15 22 20.6	+0.6
MHA	**Mahukona**	**43.87**	**31**	P	P	15 22 21.2	+1.1
KIP	**Kipapa**	**43.94**	**28**	P	P	15 22 20.8	+0.2
HLK	**Haleakala**	**44.19**	**31**	P	P	15 22 23.3	+0.4
WR0	**Warramunga Arr**	**44.37**	**260**	P	P	15 22 22.9	-1.1
WB0	**Warramunga Arr**	**44.53**	**260**	P	P	15 22 24.3	-1.0
WB2	**Warramunga Arr**	**44.55**	**260**	P	P	15 22 24.5	-1.0
WRAB	**Tennant Creek**	**44.55**	**260**	P	P	15 22 24.3	-1.2
WRAB	**Tennant Creek**	**44.55**	**260**	P	P	15 22 24.3	-1.2
WRA	**Warramunga Arr**	**44.56**	**260**	P	P	15 22 24.4	-1.1
	comp=Z,38nm,0.7s,baz=96,slow=7.0,SNR=813						
WRA				PcP	PcP	15 23 56.2	+0.3
	comp=Z,4.0nm,0.7s,baz=99,slow=3.1,SNR=3.8						
WRA				ScP	ScP	15 26 55.5	+2.0
	comp=Z,1.2nm,1.0s,baz=90,slow=5.2,SNR=4.5						
	comp=Z,38nm,0.7s						
AS31	**Alice Springs**	**44.72**	**254**	P	P	15 22 26.3	-0.4
ASAR	**Alice Springs**	**44.72**	**254**	P	P	15 22 26.6	-0.2
	comp=Z,310nm,0.6s,baz=88,slow=8.4,SNR=3462						
ASAR				PcP	PcP	15 23 56.6	+0.1
	comp=Z,6.7nm,0.7s,baz=93,slow=4.6,SNR=4.5						
ASAR				ScP	ScP	15 26 57.0	+2.9
	comp=Z,1.8nm,0.9s,baz=101,slow=4.8,SNR=5.1						
ASAR				S	S	15 28 19.6	-2.7
	comp=Z,1.8nm,0.9s,baz=86,slow=15,SNR=7.9						
MULG	**Mulgathing**	**44.74**	**245**	P	P	15 22 26.5	-0.3
SMPI	**Sarmi**	**44.87**	**286**	P	P	15 22 28.7	+0.7
	comp=Z,37nm,0.8s						
KDU	**Kakadu**	**47.48**	**269**	P	P	15 22 47.1	-0.6
	baz=48,SNR=33						
KDU	**Kakadu**	**47.48**	**269**	P	P	15 22 47.2	-0.5
GUMO	**Guam**	**47.82**	**308**	P	P	15 22 50.2	+0.1
	comp=Z,70nm,0.7s,baz=71,slow=16,SNR=5.8						
	comp=Z,70nm,0.7s						
GUMO	**Guam**	**47.82**	**308**	P	P	15 22 50.6	+0.5
MTN	**Manton Dam**	**48.73**	**268**	P	P	15 22 56.0	-0.9
	baz=49,SNR=31						
MTN	**Manton Dam**	**48.73**	**268**	P	P	15 22 56.0	-0.9
MTN	**Manton Dam**	**48.73**	**268**	P	P	15 22 56.2	-0.7
WRKA	**Warakurna**	**49.77**	**252**	P	P	15 23 04.2	-0.4
	baz=50,SNR=363						
WRKA	**Warakurna**	**49.77**	**252**	P	P	15 23 04.2	-0.4
FORT	**Forrest**	**49.94**	**245**	P	P	15 23 05.0	-0.7
	baz=50,SNR=32						
FORT	**Forrest**	**49.94**	**245**	P	P	15 23 04.9	-0.7
FORT	**Forrest**	**49.94**	**245**	P	P	15 23 04.9	-0.7
KNRA	**Kununurra**	**50.42**	**264**	P	P	15 23 08.4	-0.9
	baz=50,SNR=64						
KNRA	**Kununurra**	**50.42**	**264**	P	P	15 23 08.6	-0.6
KNRA	**Kununurra**	**50.42**	**264**	P	P	15 23 08.7	-0.6
FAKI	**Fak Fak**	**50.51**	**281**	P	P	15 23 09.7	-0.4
FAKI	**Fak Fak**	**50.51**	**281**	P	P	15 23 10.0	-0.1
	comp=Z,48nm,1.5s						
FAKI	**Fak Fak**	**50.51**	**281**	P	P	15 23 09.9	-0.1
SIJI	**Sorong**	**52.17**	**283**	P	P	15 23 21.9	-0.2
	comp=Z,95nm,0.6s,baz=101,slow=5.3,SNR=53						
	comp=Z,95nm,0.6s						
SWI	**Sorong**	**52.17**	**283**	P	P	15 23 22.1	+0.1
	comp=Z,2μmcomp=Z,183nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.95**	**261**	P	P	15 23 27.4	-0.1
	baz=53,SNR=17						
FITZ	**Fitzroy Crossi**	**52.95**	**261**	P	P	15 23 27.6	0.0
FITZ	**Fitzroy Crossi**	**52.95**	**261**	P	P	15 23 27.4	-0.1
MSAI	**Masohi**	**53.47**	**279**	P	P	15 23 32.2	+0.9
	comp=Z,404nmcomp=Z,9.2nm,0.6s						
AAI	**Ambon**	**54.05**	**279**	P	P	15 23 34.9	-0.4
	comp=Z,966nmcomp=Z,72nm,0.4s						
NLAI	**Namlea**	**55.23**	**279**	P	P	15 23 43.8	+0.2
	comp=Z,58nm,0.6s						
LBMI	**Labuha**	**55.75**	**282**	P	P	15 23 48.0	+0.8
	comp=Z,49nm,1.0s						
TNTI	**Ternate**	**56.39**	**283**	P	P	15 23 51.6	0.0
TNTI				IAmb	IAmb	15 23 52.7	
	comp=Z,31nm,0.7s						
TNTI	**Ternate**	**56.39**	**283**	P	P	15 23 52.3	+0.7
	comp=Z,50nm,0.9s						
BATI	**Baumata**	**56.46**	**269**	P	P	15 23 53.1	+1.1
	comp=Z,46nm,0.7s,baz=192,slow=1.9,SNR=13						
	comp=Z,46nm,0.7s						
BATI	**Baumata**	**56.46**	**269**	P	P	15 23 53.4	+1.3
	comp=Z,37nm,0.9s						
SANI	**Sanana**	**56.67**	**280**	P	P	15 23 53.2	-0.3
	comp=Z,566nmcomp=Z,71nm,0.9s						
SANI	**Sanana**	**56.67**	**280**	P	P	15 23 53.1	-0.4
PSA00	**Pilbara Seismi**	**57.84**	**255**	P	P	15 24 00.7	-0.7
PSA00	**Pilbara Seismi**	**57.84**	**255**	P	P	15 24 00.8	-0.6
MBWA	**Marble Bar**	**58.00**	**256**	P	P	15 24 01.8	-0.7
MBWA				IAmb	IAmb	15 24 02.7	
	comp=Z,28nm,0.8s						
MBWA	**Marble Bar**	**58.00**	**256**	P	P	15 24 01.8	-0.7
MMRI	**Maumere**	**58.23**	**271**	P	P	15 24 03.6	-0.5
MMRI				IAmb	IAmb	15 24 04.3	
	comp=Z,36nm,0.8s						
MMRI	**Maumere**	**58.23**	**271**	P	P	15 24 03.3	-0.8
	comp=Z,59nm,0.8s						
MEEK	**Meekatharra**	**58.36**	**249**	P	P	15 24 04.0	-0.9
	baz=58,SNR=23						
MEEK	**Meekatharra**	**58.36**	**249**	P	P	15 24 04.0	-0.9
EDFI	**Ende, Flores**	**58.72**	**271**	P	P	15 24 07.1	-0.4
	comp=Z,30nm,0.9s						
KLBR	**Kellerberrin**	**58.76**	**244**	P	P	15 24 06.7	-0.7
	baz=59,SNR=48						
KLBR	**Kellerberrin**	**58.76**	**244**	P	P	15 24 06.8	-0.7
BBSI	**Bau Bau**	**58.80**	**274**	P	P	15 24 07.7	-0.3
	comp=Z,21nm,1.0s						
NWAO	**Narrogin (SRO)**	**59.14**	**242**	P	P	15 24 10.0	0.0

baz=59,SNR=6.0
NWAO P P 15 24 10.0 0.0
baz=59,SNR=6.0
NWAO Narrogin (SRO) 59.14 242 P P 15 24 09.5 -0.4
NWAO IAmb IAmb 15 24 12.8
comp=Z,46nm,1.4s
NWAO Narrogin (SRO) 59.14 242 P P 15 24 09.8 -0.2
SGSI Sangihe 59.20 286 P P 15 24 10.5 -0.1
comp=Z,1µmcomp=Z,59nm,0.8s
KMSI Cibinong 59.47 282 P P 15 24 12.3 -0.1
comp=Z,47nm,0.9s
BLDU Ballidu 59.71 245 P P 15 24 13.1 -0.7
baz=60,SNR=24
BLDU Ballidu 59.71 245 P P 15 24 13.4 -0.4
LUWI Luwuk 60.03 279 P P 15 24 16.4 +0.2
comp=Z,55nm,0.8s
MUN Mundaring 60.06 243 P P 15 24 16.0 0.0
baz=60,SNR=6.2
MUN Mundaring 60.06 243 P P 15 24 16.0 0.0
GTOI Gorontalo 60.40 281 P P 15 24 19.3 +0.8
comp=Z,182nmcomp=Z,15nm,0.9s
SBA Scott Base 60.41 184 P P 15 24 19.3 +1.8
MORW Morawa 60.41 246 P P 15 24 17.7 -0.8
baz=60,SNR=14
MORW Morawa 60.41 246 P P 15 24 17.7 -0.8
MORW IAmb IAmb 15 24 18.6
comp=Z,16nm,0.6s
MORW Morawa 60.41 246 P P 15 24 17.9 -0.5
VNDA Vanda 60.43 185 P P 15 24 18.7 +1.0
comp=Z,1.0nm,0.6s,baz=350,slow=7.4,SNR=8.1
VNDA Vanda 60.43 185 P P 15 24 18.5 +0.8
APSI Ampana 61.13 279 P P 15 24 24.2 +0.8
comp=Z,622nmcomp=Z,68nm,1.0s
BKSI Bulukumba 61.18 274 P P 15 24 23.0 -0.7
comp=Z,13nm,0.8s
MRSI Marisa 61.34 281 P P 15 24 24.5 -0.2
comp=Z,37nm,1.0s
KAPI Kappang 61.62 274 P P 15 24 26.4 -0.1
comp=Z,9.5nm,0.7s,baz=156,slow=3.8,SNR=9.5
comp=Z,5.5nm,0.7s
KAPI Kappang 61.62 274 P P 15 24 26.4 -0.1
SPSI Sidrap Palu 61.92 275 P P 15 24 27.3 -1.2
comp=Z,28nm,0.8s
TTSI Tana Toraja 62.16 276 P P 15 24 35.1 +5.0
PLAI Plampang 62.42 269 P P 15 24 31.4 -0.3
comp=Z,106nm,0.9s
PLAI Plampang 62.42 269 P P 15 24 31.4 -0.3
TOLI2 Tolitoli 62.65 281 P P 15 24 33.0 -0.2
TOLI2 IAmb IAmb 15 24 36.8
comp=Z,14nm,0.6s
TOLI2 Tolitoli 62.65 281 P P 15 24 33.4 +0.2
GIRL Giralia 62.82 253 P P 15 24 35.2 +1.0
baz=63,SNR=8.6
GIRL Giralia 62.82 253 P P 15 24 34.9 +0.8
GIRL Giralia 62.82 253 P P 15 24 35.0 +0.8
MPSI Mapaga 63.20 280 P P 15 24 36.7 -0.1
comp=Z,42nm,1.2s
TWSI Taliwang, Sumb 63.30 269 P P 15 24 37.0 -0.4
comp=Z,65nm,1.0s
JAGI Jajag, Banyuwa 65.97 269 P P 15 24 52.6 -1.5
JAGI Jajag, Banyuwa 65.97 269 P P 15 24 52.7 -1.5
comp=Z,90nm,0.8s
JAGI Jajag, Banyuwa 65.97 269 P P 15 24 53.0 -1.2
CASY Casey 66.10 205 P P 15 24 54.0 -0.1
BBKI Banjar Baru 66.75 274 P P 15 25 00.0 +0.9
comp=Z,39nm,0.4s
MJAR Matsushiro Arr 67.87 323 P P 15 25 05.0 -0.4
comp=Z,3.6nm,0.6s,baz=158,slow=6.3,SNR=20
comp=Z,3.6nm,0.6s
MAJO Matsushiro 67.87 323 P P 15 25 03.3 -2.1
MJB9 Matsu-Tunnel 67.87 323 P P 15 25 04.0 -1.4
KKM Kota Kinabalu 68.67 284 P P 15 25 10.2 -0.6
KKM IAmb IAmb 15 25 11.7
comp=Z,21nm,0.8s
PCJI Pacitan 68.87 268 P P 15 25 12.2 +0.3
comp=Z,181nm,0.7s
JSD Sado 68.90 325 P P 15 25 11.2 -0.4
KIWB Kanaga Island 69.48 1 P P 15 25 15.2 +0.5
ADK Adak 69.52 1 P P 15 25 14.8 -0.1
UGM Wanagama 69.57 268 P P 15 25 15.7 -0.4
UGM Wanagama 69.57 268 P P 15 25 16.0 -0.2
JHS Saijyo 69.85 319 P P 15 25 17.4 0.0
JHS IAmb IAmb 15 25 19.0
comp=Z,15nm,0.8s
STKI Sintang 71.05 276 P P 15 25 25.7 +0.8
comp=Z,32nm,1.0s
NIKH Nikolski High 71.08 6 P P 15 25 23.5 -0.6
NIKH Nikolski High 71.08 6 P P 15 25 23.6 -0.6
baz=190
SBUM Sibu 71.14 279 P P 15 25 25.8 +0.5
SBUM IAmb IAmb 15 25 26.5
comp=Z,7.5nm,0.7s
TWG Pinlang 71.61 302 P P 15 25 26.9 -1.0
TWG IAmb IAmb 15 26 07.0
comp=Z,30nm,1.1s
YULB Yu-li 71.71 303 P P 15 25 27.8 -0.7
QSPA South Pole Qui 72.14 180 P P 15 25 30.8 +0.4
QSPA IAmb IAmb 15 25 32.2
comp=Z,10nm,0.8s
SSLB Suanglung 72.18 303 P P 15 25 30.2 -1.0
SSLB Suanglung 72.18 303 P P 15 25 30.3 -0.9
TPUB Ta-pu 72.20 302 P P 15 25 30.3 -1.0
TPUB Ta-pu 72.20 302 P P 15 25 30.6 -0.7
UNV Unalaska Valle 72.20 7 P P 15 25 29.4 -1.2
UNV Unalaska Valle 72.20 7 P P 15 25 29.4 -1.2
baz=192
UNV Unalaska Valle 72.20 7 P P 15 25 29.8 -0.8
LEM Lembang 72.64 268 P P 15 25 34.7 +0.4
comp=Z,77nm,0.7s,baz=60,slow=6.5,SNR=24
comp=Z,77nm,0.7s
PET Petropavlovsk 73.36 346 P P 15 25 37.5 +0.2
PET IAmb IAmb 15 25 38.0
comp=Z,29nm,1.4s
CBJI Citeko 73.49 268 P P 15 25 38.5 -0.4
comp=Z,62nm,0.6s
SKJI Sukabumi 73.60 268 P P 15 25 41.6 +2.0
comp=Z,22nm,0.6s
FALS False Pass 73.61 9 P P 15 25 37.8 -0.8
baz=195
PEA0B Petropavlovsk- 73.67 345 P P 15 25 39.6 +0.5
PETK Petropavlovsk- 73.67 345 P P 15 25 39.3 +0.3
comp=Z,4.4nm,0.7s,baz=129,slow=7.9,SNR=10
comp=Z,4.4nm,0.7s
PETK Petropavlovsk- 73.67 345 P P 15 25 39.5 +0.4
SDPT Sand Point 74.56 11 P P 15 25 43.5 -0.5
baz=198
KSRS Korea Array 74.66 318 P P 15 25 46.2 +1.3
comp=Z,1.3nm,0.7s,baz=131,slow=6.2,SNR=12
SPIA Saint Paul Isl 75.12 5 P P 15 25 47.3 +0.3
baz=188
S14K Fog Glacier 75.61 11 P P 15 25 49.5 -0.5
baz=199
CHGN Chignik 75.84 11 P P 15 25 50.7 -0.3
CHGN IAmb IAmb 15 25 54.2
comp=Z,17nm,0.7s
CHGN Chignik 75.84 11 P P 15 25 51.0 0.0
baz=200
CHIR Chirikof Islan 75.95 13 P P 15 25 51.9 +0.2
KASI Kota Agung 75.99 269 P P 15 25 53.4 +0.5
comp=Z,108nm,1.1s
SCZ2 Santa Cruz Isl 76.17 47 P P 15 25 54.6 +1.1
baz=237
SCI2 San Clemente I 76.39 48 P P 15 25 55.9 +1.2
baz=238
SAO San Andreas Ge 76.48 44 P P 15 25 56.5 +1.4
SAO IAmb IAmb 15 25 57.4
comp=Z,19nm,0.8s
PKM Mcpherson Peak 76.53 46 P P 15 25 56.8 +1.2
baz=237
USA0B Ussuriysk Arra 76.58 326 P P 15 25 56.1 +0.7
USRK Ussuriysk Ar. 76.58 326 P P 15 25 56.3 +0.9
PMPB Monarch Peak 76.60 45 P P 15 25 57.5 +1.7
PMPB IAmb IAmb 15 25 58.0
comp=Z,11nm,0.7s
SMMC Simmler 76.64 46 P P 15 25 57.6 +1.5
baz=236
CIS Catalina Islan 76.71 48 P P 15 25 57.7 +1.2
baz=238
BCW Bitter Crk WRg 76.84 46 P P 15 25 58.5 +1.3
BCW IAmb IAmb 15 25 59.9
comp=Z,17nm,0.8s
SII Sitkinak Islan 76.95 14 P P 15 25 57.0 -0.2
SII Sitkinak Islan 76.95 14 P P 15 25 57.0 -0.2
baz=204
SII Sitkinak Islan 76.95 14 P P 15 25 57.5 +0.3
FMP Fort Macarthur 76.96 48 P P 15 25 59.0 +1.2
baz=238
JCC Jacoby Creek, 77.23 39 P P 15 26 00.1 +1.1
JCC IAmb IAmb 15 26 18.3
comp=Z,37nm,1.2s
PASC Pasadena Art C 77.28 48 P P 15 26 00.4 +0.9
PASC IAmb IAmb 15 26 00.9
comp=Z,10nm,0.7s
ARVC Arvin 77.34 46 P P 15 26 01.0 +1.2
baz=237
109C Camp Elliot, M 77.38 49 P P 15 26 01.4 +1.4
baz=239
R17K Ugashik Creek 77.48 12 P P 15 26 00.1 +0.1
baz=202
ELS Elsinore Mount 77.54 48 P P 15 26 01.3 +0.3
VES Vestal, Richgr 77.55 46 P P 15 26 02.0 +1.1
baz=237
VOG Valley Oaks Go 77.61 45 P P 15 26 02.2 +1.0
baz=237
MURC Murrieta 77.68 49 P P 15 26 02.7 +1.0
baz=239
BFSC Mount Baldy Ra 77.69 48 P P 15 26 02.9 +1.0
baz=238,SNR=5.9
KRMB Red Mountain 77.73 39 P P 15 26 03.5 +1.5
KRMB IAmb IAmb 15 26 44.8
comp=Z,32nm,1.5s
OHAK Old Harbor 77.76 14 P P 15 26 01.7 +0.3
OHAK IAmb IAmb 15 26 02.6
comp=Z,20nm,0.8s
OHAK Old Harbor 77.76 14 P P 15 26 01.6 +0.1
baz=204
EDW2 Edwards Air Fo 77.79 47 P P 15 26 03.6 +1.3
baz=238,SNR=18
ISA Isabella, Lake 77.87 46 P P 15 26 03.8 +1.0
ISA IAmb IAmb 15 26 05.1
comp=Z,15nm,0.9s
ISA Isabella, Lake 77.87 46 P P 15 26 04.2 +1.4
baz=237,SNR=13
MONP2 Monument Peak 77.87 49 P P 15 26 04.2 +1.2
baz=239,SNR=5.8
CMB Columbia Colle 77.89 43 P P 15 26 03.6 +0.8
CMB IAmb IAmb 15 26 04.8
comp=Z,14nm,1.0s
IKP In-Ko-Pah, Jac 77.98 50 P P 15 26 04.8 +1.4
baz=240,SNR=8.6
AFDM Forest Hills D 78.03 42 P P 15 26 04.2 +0.7
AFDM IAmb IAmb 15 26 05.4
comp=Z,16nm,1.1s
ORV Oroville 78.04 42 P P 15 26 04.2 +0.7
YUH Yuha Desert 78.11 50 P P 15 26 05.2 +1.2
PFO Pinyon Flats O 78.21 49 P P 15 26 05.7 +1.0
comp=Z,3.0nm,0.7s,baz=278,slow=6.6,SNR=7.1
comp=Z,3.0nm,0.7s
PFO Pinyon Flats O 78.21 49 P P 15 26 05.5 +0.8
PFO Pinyon Flats O 78.21 49 P P 15 26 05.7 +1.0
baz=239
TPFO Pinon Flats 78.22 49 P P 15 26 05.9 +1.2
baz=239
L02F Cave Junction 78.30 38 P P 15 26 06.4 +1.6
baz=233
LRMC Laurel Mtn Rad 78.32 47 P P 15 26 06.0 +0.8
baz=238
SWSC Sam W. Stewart 78.35 50 P P 15 26 06.5 +1.2
baz=240
Q16K King Salmon 78.40 11 P P 15 26 04.7 -0.2
baz=201
KDAK Kodiak Island 78.42 14 P P 15 26 05.1 +0.1
comp=Z,9.1nm,0.7s,baz=216,slow=4.3,SNR=10
comp=Z,9.1nm,0.7s
KDAK Kodiak Island 78.42 14 P P 15 26 05.4 +0.3
KDAK IAmb IAmb 15 26 13.8
comp=Z,21nm,1.1s
KDAK Kodiak Island 78.42 14 P P 15 26 05.7 +0.7
baz=205
MDPB Devils Postpil 78.53 44 P P 15 26 06.1 -0.4
MDPB IAmb IAmb 15 26 08.6
comp=Z,14nm,0.8s
CWC Cottonwood Cre 78.56 46 P P 15 26 08.0 +1.5
baz=238
OMMB Old Mammoth Mi 78.57 44 P P 15 26 06.8 +0.1
OMMB IAmb IAmb 15 26 08.9
comp=Z,19nm,1.3s
YBH Yreka Blue Hor 78.58 39 P P 15 26 07.7 +1.3
comp=Z,12nm,0.8s,baz=212,slow=7.6,SNR=33
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 78.58 39 P P 15 26 07.7 +1.3
YBH IAmb IAmb 15 26 08.8
comp=Z,13nm,0.8s
K02D Willamette Mer 78.59 38 P P 15 26 07.7 +1.3
baz=232
SLBS Sierra La Lagu 78.63 60 P P 15 26 08.4 +1.4
MLAC Mammoth, Mammo 78.69 44 P P 15 26 08.7 +1.4
baz=237
J01E Myrtle Point 78.72 37 P P 15 26 08.1 +1.2
J01E IAmb IAmb 15 26 48.0
comp=Z,37nm,1.4s
J01E Myrtle Point 78.72 37 P P 15 26 08.7 +1.7
baz=232
BELC Belle Mtn. Jos 78.74 49 P P 15 26 08.9 +1.4
baz=239,SNR=6.6
MPMC Manual Prospec 78.76 46 P P 15 26 08.9 +1.2
baz=238,SNR=9.3
TIN Tinemaha, Big 78.79 45 P P 15 26 08.7 +1.0
baz=237
MYKOM Kota Tinggi 78.83 276 P P 15 26 08.5 +0.3
MPK Martis Peak 78.83 42 P P 15 26 09.3 +1.2
MPK IAmb IAmb 15 26 43.3
comp=Z,41nm,1.1s
GSC Goldstone, Bar 78.84 47 P P 15 26 08.8 +0.8
GSC Goldstone, Bar 78.84 47 P P 15 26 09.1 +1.2
baz=239,SNR=6.1
HEC Hector,Ludlow 78.93 48 P P 15 26 09.6 +1.2
baz=239,SNR=9.1
P17K Kvichak River 78.93 11 P P 15 26 07.6 -0.1
baz=201
BEKR Beckworth 78.94 42 P P 15 26 09.4 +0.9
BEKR IAmb IAmb 15 26 10.1
comp=Z,10nm,0.6s
HUMO Hull Mountain 78.95 38 P P 15 26 09.6 +1.3
HUMO IAmb IAmb 15 26 10.9
comp=Z,20nm,1.2s
BC3 Big Chuckawall 78.96 49 P P 15 26 10.0 +1.4
baz=240
PNTR Pine Nut 78.99 43 P P 15 26 09.8 +0.9
PNTR IAmb IAmb 15 26 11.2
comp=Z,29nm,0.9s
O16K Kokwok River B 79.00 10 P P 15 26 07.4 -0.7
baz=200
VCNR Virginia City 79.08 43 P P 15 26 09.7 +0.4
L04D Klamath Falls 79.11 39 P P 15 26 10.0 +0.7
L04D IAmb IAmb 15 26 11.3
comp=Z,18nm,0.8s
L04D Klamath Falls 79.11 39 P P 15 26 10.5 +1.2
baz=234
GLA Glamis 79.11 50 P P 15 26 10.8 +1.5
baz=240
DSP Deep Springs 79.13 45 P P 15 26 10.5 +1.2
YERR Yerington 79.17 43 P P 15 26 10.7 +0.9
YERR IAmb IAmb 15 26 11.8
comp=Z,16nm,0.8s
LHV Little Huntoon 79.25 44 P P 15 26 10.9 +1.1
LCH Last Change Ra 79.28 45 P P 15 26 11.0 +0.8
GRAC Grapevine Rang 79.34 46 P P 15 26 11.4 +0.9
GRAC IAmb IAmb 15 26 12.6
comp=Z,12nm,0.7s
GRAC Grapevine Rang 79.34 46 P P 15 26 12.1 +1.6
baz=238,SNR=16
P18K Big Mountain, 79.34 12 P P 15 26 09.3 -0.6
P18K IAmb IAmb 15 26 10.4
comp=Z,26nm,0.8s
P18K Big Mountain, 79.34 12 P P 15 26 09.7 -0.3
baz=202,SNR=5.9
I02E Swisshome, OR 79.34 37 P P 15 26 11.4 +1.1
I02E IAmb IAmb 15 26 13.8
comp=Z,16nm,1.1s
O17K Koliganek Bris 79.35 11 P P 15 26 10.0 +0.1
baz=201
GMRC Granite Mounta 79.38 48 P P 15 26 12.2 +1.3
baz=239,SNR=5.1
I03D Drain, OR 79.38 37 P P 15 26 12.0 +1.6
baz=233
GWY Greenwater Val 79.39 47 P P 15 26 11.5 +0.5
FURC Furnace Creek, 79.41 46 P P 15 26 12.1 +1.4
baz=238
IRM Iron Mountain 79.43 49 P P 15 26 12.7 +1.6
baz=240
RYN Ryan 79.44 44 P P 15 26 11.8 +0.6
RYN IAmb IAmb 15 26 51.0
comp=Z,15nm,0.7s
PAHR Pah Rah Range 79.48 42 P P 15 26 12.0 +0.7
PAHR IAmb IAmb 15 26 13.4
comp=Z,18nm,1.2s
NVAR Mina Array Bea 79.48 44 P P 15 26 12.6 +1.2
comp=Z,8.4nm,0.7s,baz=224,slow=8.8,SNR=81
comp=Z,8.4nm,0.7s
NVAR Mina Array Bea 79.48 44 P P 15 26 12.3 +0.9
SHOC Shoshone, Teco 79.52 47 P P 15 26 12.9 +1.4
baz=239
NV11 Mina Array Sit 79.58 44 P P 15 26 12.7 +0.9
MZP Montezuma Peak 79.70 45 P P 15 26 13.1 +0.4
N16K Nishlik Lake 79.72 10 P P 15 26 12.5 +0.6
baz=199
WCT Wildcat Mounta 79.74 46 P P 15 26 13.6 +0.9
113A Mohawk Valley, 79.75 51 P P 15 26 13.4 +0.7
O18K Koktuh Hills 79.78 12 P P 15 26 11.8 -0.4
O18K Koktuh Hills 79.78 12 P P 15 26 12.2 0.0
baz=202,SNR=9.8
J04D Umpqua Nationa 79.83 38 P P 15 26 14.2 +1.1
J04D Umpqua Nationa 79.83 38 P P 15 26 14.2 +1.1
baz=234
BUCK Buck Mountain 79.89 37 P P 15 26 14.6 +1.3
BUCK IAmb IAmb 15 26 15.1
comp=Z,15nm,0.9s
COR Corvallis 79.95 37 P P 15 26 14.5 +1.1
COR IAmb IAmb 15 26 15.3
comp=Z,9.4nm,0.7s
KVN Kaiserville 79.95 43 P P 15 26 14.5 +0.7
I04A Tendick Farm, 79.98 38 P P 15 26 14.6 +0.9
baz=233
CN2 Changchun 79.98 322 P P 15 26 14.5 +0.9
CN2 pmax pmax
comp=Z,10.0nm,0.7s
P19K Oil Pt 79.99 13 P P 15 26 13.6 +0.3
baz=204
TPH Tonopah 80.01 45 P P 15 26 14.9 +0.7
214A Organ Pipe Nat 80.08 52 P P 15 26 16.1 +1.6
baz=242
TPNV Topopah Spring 80.08 46 P P 15 26 15.4 +0.9
TPNV Topopah Spring 80.08 46 P P 15 26 15.7 +1.2
baz=239,SNR=9.2
MOD Modoc Plateau 80.14 40 P P 15 26 15.6 +0.9
MOD IAmb IAmb 15 26 16.7
comp=Z,17nm,0.7s
PDMCI Parker Dam,Lak 80.23 49 P P 15 26 16.0 +0.9
baz=240
H04D Lebanon 80.23 37 P P 15 26 15.7 +0.8
H04D IAmb IAmb 15 26 17.1
comp=Z,15nm,1.1s
H04D Lebanon 80.23 37 P P 15 26 16.1 +1.2
baz=233
K05A Summer Lake 80.25 39 P P 15 26 16.6 +1.3
K05A IAmb IAmb 15 26 17.8
comp=Z,31nm,1.0s
O19K Port Alsworth 80.26 12 P P 15 26 14.0 -0.6
O19K Port Alsworth 80.26 12 P P 15 26 14.3 -0.4
baz=203,SNR=6.0
SDSI Sungai Dareh 80.28 272 P P 15 26 16.0 +0.1
comp=Z,7.3nm,0.9s
CNPM China Poot 80.31 14 P P 15 26 15.0 +0.1
CNPM IAmb IAmb 15 26 16.0
comp=Z,28nm,1.2s
ILSW Iliamna Southw 80.31 13 P P 15 26 14.4 -0.6
ILSW IAmb IAmb 15 26 15.4
comp=Z,25nm,0.7s
G03D McMinnville, O 80.35 36 P P 15 26 16.7 +1.3
baz=232
J05D Fort Rock, OR 80.37 39 P P 15 26 17.2 +1.4
baz=234
N18K Kilae Creek 80.42 11 P P 15 26 15.0 -0.5
N18K Kilae Creek 80.42 11 P P 15 26 15.2 -0.3
baz=202
V12A Nelson 80.43 48 P P 15 26 16.6 +0.3
O20K Slope Mountain 80.51 13 P P 15 26 15.6 -0.4
baz=205
BRLK Bradley Lake 80.60 14 P P 15 26 16.5 0.0
BRLK IAmb IAmb 15 26 17.3
comp=Z,16nm,0.8s
SHPR Sheep Range 80.60 47 P P 15 26 18.0 +0.8
BRSE Bradley Lake S 80.61 14 P P 15 26 16.7 +0.2
baz=207
H04A Detroit Lake 80.64 37 P P 15 26 17.2 +0.1
H04A IAmb IAmb 15 26 18.2
comp=Z,13nm,0.6s
N19K Bonanza Creek 80.80 12 P P 15 26 16.9 -0.7
N19K IAmb IAmb 15 26 18.0
comp=Z,11nm,0.9s
N19K Bonanza Creek 80.80 12 P P 15 26 17.2 -0.4
baz=203
RSO Redoubt South 80.83 13 P P 15 26 17.3 -0.5
PINE Pine Mountain 80.84 38 P P 15 26 19.5 +1.2
PINE IAmb IAmb 15 26 20.8
comp=Z,24nm,0.9s
SVW2 Sparrevohn 80.86 11 P P 15 26 17.5 -0.3
I05D Terrebonne, OR 80.93 38 P P 15 26 19.6 +1.0
baz=234
E03A Lebam 81.00 35 P P 15 26 19.7 +0.9
E03A IAmb IAmb 15 26 20.9
comp=Z,23nm,0.9s
F04D Rainier, OR 81.02 35 P P 15 26 20.3 +1.4
baz=232
PRN Pahroc Range 81.13 46 P P 15 26 21.3 +1.4
PRN IAmb IAmb 15 26 22.6
comp=Z,17nm,0.9s
SEW Seward 81.23 14 P P 15 26 19.4 -0.3
baz=208
WISH Wishkah 81.24 34 P P 15 26 21.4 +1.4
WISH IAmb IAmb 15 26 22.1
comp=Z,12nm,0.7s
R11A Troy Canyon, C 81.25 45 P P 15 26 21.4 +0.9
R11A Troy Canyon, C 81.25 45 P P 15 26 21.5 +0.9
baz=239,SNR=8.2
BMN Battle Mountai 81.26 43 P P 15 26 21.5 +0.9
BMN IAmb IAmb 15 26 22.7
comp=Z,16nm,0.9s
HOOD Mount Hood Mea 81.33 37 P P 15 26 21.0 +0.3
HOOD IAmb IAmb 15 26 22.5
comp=Z,20nm,1.1s
NLWA Neilton Lookou 81.36 34 P P 15 26 21.6 +0.9
WVOR Wild Horse Val 81.46 40 P P 15 26 22.3 +0.8
WVOR IAmb IAmb 15 26 23.7
comp=Z,24nm,1.1s
G05D Wamic, OR 81.47 37 P P 15 26 22.1 +0.8
baz=234
O22K Cooper Landing 81.50 14 P P 15 26 21.2 +0.2
O22K Cooper Landing 81.50 14 P P 15 26 20.7 -0.3
baz=208
N20K Mount Spurr 81.61 13 P P 15 26 21.3 -0.5
baz=205
SPCR Spurr Chakacha 81.61 13 P P 15 26 21.5 -0.2
baz=205
TUC Tucson 81.76 52 P P 15 26 24.9 +1.7
TUC IAmb IAmb 15 26 26.4
comp=Z,13nm,1.1s
TUC Tucson 81.76 52 P P 15 26 24.7 +1.6
baz=243
M19K Big River Lodg 81.83 11 P P 15 26 22.3 -0.4
M19K Big River Lodg 81.83 11 P P 15 26 22.7 0.0
baz=203,SNR=5.1
I07A Izee 81.86 39 P P 15 26 24.0 +0.6
I07A IAmb IAmb 15 26 25.7
comp=Z,16nm,0.8s
B04A Port Angeles 81.96 34 P P 15 26 24.7 +1.0
L19K White Mountain 82.00 11 P P 15 26 24.4 +0.8
L19K White Mountain 82.00 11 P P 15 26 23.8 +0.2
baz=203,SNR=5.4
RC01 Rabbit Creek A 82.04 14 P P 15 26 23.6 -0.2
baz=208
M20K Styx River 82.05 12 P P 15 26 24.0 +0.1
baz=204
J08A Circle Bar Ran 82.07 40 P P 15 26 25.0 +0.5
J08A IAmb IAmb 15 26 26.7
comp=Z,21nm,1.0s
LON Longmire 82.08 35 P P 15 26 24.5 0.0
SUA Susitna One 82.16 13 P P 15 26 24.2 -0.4
SUA IAmb IAmb 15 26 25.0
comp=Z,15nm,0.7s
SUA Susitna One 82.16 13 P P 15 26 24.0 -0.5
baz=207,SNR=5.3
PWL Port Wells 82.16 14 P P 15 26 23.9 -0.5
PWL IAmb IAmb 15 26 25.0
comp=Z,12nm,0.8s
PWL Port Wells 82.16 14 P P 15 26 24.2 -0.2
baz=209
BELA Belgrano 2 82.17 173 P P 15 26 24.1 -0.2

BELA IAmb IAmb 15 26 25.3
comp=Z,9.3nm,0.8s
LCMT Little Creek M 82.19 47 P P 15 26 26.2 +0.9
LCMT IAmb IAmb 15 26 27.7
comp=Z,11nm,0.9s
CBB Campbell River 82.25 31 P P 15 26 25.7 +0.6
CBB IAmb IAmb 15 26 43.3
comp=Z,20nm,1.2s
IPM Ipoh 82.35 277 P P 15 26 26.6 +0.1
IPM IAmb IAmb 15 26 27.9
comp=Z,16nm,0.7s
IPM Ipoh 82.35 277 P P 15 26 27.2 +0.7
CCUT Cedar City 82.37 47 P P 15 26 27.6 +1.2
SPR3 Spring Creek 3 82.42 45 P P 15 26 27.2 +0.5
SPR3 IAmb IAmb 15 26 28.4
comp=Z,7.8nm,0.9s
L20K Farewell, AK 82.45 11 P P 15 26 25.2 -0.6
baz=204
SKT Skwentna 82.46 12 P P 15 26 25.2 -0.8
baz=206
GLI Glacier Island 82.48 15 P P 15 26 25.6 -0.5
GLI Glacier Island 82.48 15 P P 15 26 25.6 -0.5
baz=210
319A Douglas 82.49 54 P P 15 26 28.2 +1.3
319A IAmb IAmb 15 26 30.1
comp=Z,18nm,0.9s
TTA Tatalina 82.49 10 P P 15 26 25.8 -0.4
TTA IAmb IAmb 15 26 27.6
comp=Z,12nm,1.0s
TTA Tatalina 82.49 10 P P 15 26 26.2 0.0
baz=202,SNR=5.6
PSUT Pine Spring 82.52 46 P P 15 26 27.8 +0.7
PSUT IAmb IAmb 15 26 29.0
comp=Z,11nm,0.7s
M22K Willow 82.55 13 P P 15 26 26.0 -0.3
baz=207,SNR=6.8
CRAG Craig 82.55 24 P P 15 26 27.1 +0.6
baz=223
SZCU Shurtz Canyon 82.58 47 P P 15 26 28.2 +0.9
KNK Knik Glacier 82.62 14 P P 15 26 26.3 -0.5
KNK IAmb IAmb 15 26 27.1
comp=Z,11nm,0.7s
KNK Knik Glacier 82.62 14 P P 15 26 26.6 -0.1
baz=209
PMR Palmer 82.62 14 P P 15 26 26.3 -0.4
PMR IAmb IAmb 15 26 27.2
comp=Z,7.5nm,0.6s
PMR Palmer 82.62 14 P P 15 26 26.7 0.0
baz=208
ELK Elko 82.71 43 P P 15 26 29.0 +1.0
comp=Z,7.3nm,0.9s,baz=246,slow=3.8,SNR=23
comp=Z,7.3nm,0.9s
ELK Elko 82.71 43 P P 15 26 28.4 +0.4
WUAZ Wupatki 82.80 49 P P 15 26 28.6 +0.2
WUAZ IAmb IAmb 15 26 31.2
comp=Z,12nm,0.9s
WUAZ Wupatki 82.80 49 P P 15 26 30.0 +1.5
baz=242
G08A Pilot Rock 82.86 38 P P 15 26 29.0 +0.6
G08A IAmb IAmb 15 26 30.4
comp=Z,25nm,1.4s
KULM Kulim 82.96 278 P P 15 26 30.0 +0.5
SML Sawmill 83.00 14 P P 15 26 28.5 -0.2
SML Sawmill 83.00 14 P P 15 26 28.2 -0.4
baz=209
SNH Sunshine Point 83.00 17 P P 15 26 29.2 +0.5
LTY Liberty 83.02 36 P P 15 26 29.7 +0.5
DIV Divide 83.02 15 P P 15 26 28.8 0.0
DIV IAmb IAmb 15 26 29.6
comp=Z,17nm,0.7s
U33K Whale Pass 83.03 24 P P 15 26 29.7 +0.9
baz=223
CUT Chultna 83.10 13 P P 15 26 28.8 -0.3
baz=207
M23K Glacier View 83.12 14 P P 15 26 28.7 -0.6
baz=209
HAWA Hanford 83.15 37 P P 15 26 30.3 +0.6
HAWA IAmb IAmb 15 26 31.8
comp=Z,15nm,0.9s
PPLA Purkeypile 83.15 12 P P 15 26 29.0 -0.6
baz=205
BMRM Bremner River 83.18 16 P P 15 26 29.7 +0.1
BMRM IAmb IAmb 15 26 30.1
comp=Z,11nm,0.6s
BMRM Bremner River 83.18 16 P P 15 26 29.5 -0.1
baz=212
WAX Waxell Ridge 83.22 17 P P 15 26 30.3 +0.5
WAX IAmb IAmb 15 26 31.1
comp=Z,22nm,0.8s
K20K Telida 83.22 11 P P 15 26 30.0 +0.2
K20K IAmb IAmb 15 26 30.8
comp=Z,16nm,0.8s
K20K Telida 83.22 11 P P 15 26 29.7 0.0
baz=203,SNR=12
MESA MESA 83.25 17 P P 15 26 30.8 +0.6
MESA MESA 83.25 17 P P 15 26 30.3 +0.2
baz=215
SCM Sheep Creek Mo 83.25 14 P P 15 26 30.0 0.0
SCM Sheep Creek Mo 83.25 14 P P 15 26 29.9 0.0
baz=210,SNR=9.2
KLU Klutina 83.30 15 P P 15 26 30.1 -0.1
KLU Klutina 83.30 15 P P 15 26 29.8 -0.4
baz=211
MTPU Mount Pierson 83.42 47 P P 15 26 33.2 +1.4
MTPU IAmb IAmb 15 26 34.8
comp=Z,12nm,0.9s
YAH Yahtse 83.46 17 P P 15 26 31.6 +0.4
YAH IAmb IAmb 15 26 32.6
comp=Z,18nm,0.8s
ISLE Juniper Island 83.49 17 P P 15 26 31.4 +0.1
ISLE IAmb IAmb 15 26 32.3
comp=Z,25nm,1.1s
S32K Killisnoo 83.49 22 P P 15 26 31.5 +0.5
baz=222
WRAK Wrangell Islan 83.54 24 P P 15 26 32.5 +1.1
WRAK IAmb IAmb 15 26 33.3
comp=Z,13nm,0.8s
WRAK Wrangell Islan 83.54 24 P P 15 26 32.3 +0.9
baz=224
PNL Peninsula 83.59 19 P P 15 26 31.5 -0.1
baz=217
BMO Blue Mountains 83.59 39 P P 15 26 32.5 +0.5
CAST Castle Rocks 83.65 12 P P 15 26 30.4 -1.4
CAST IAmb IAmb 15 26 31.8
comp=Z,16nm,0.7s
CAST Castle Rocks 83.65 12 P P 15 26 30.6 -1.2
baz=205,SNR=23
TABL Table Mountain 83.69 18 P P 15 26 32.4 0.0
TABL IAmb IAmb 15 26 33.5
comp=Z,16nm,0.7s
MFID Camas Ranch 83.72 41 P P 15 26 33.3 +0.5
MFID IAmb IAmb 15 26 34.9
comp=Z,12nm,1.0s
N25K Chitina, Valde 83.73 16 P P 15 26 32.4 +0.1
N25K Chitina, Valde 83.73 16 P P 15 26 32.4 +0.1
baz=212,SNR=9.7
BJI Beijing 83.74 315 P P 15 26 33.8 +1.0
BJI pmax pmax
comp=Z,6.0nm,0.9s
M24K Tolsona, Glenn 83.76 15 P P 15 26 32.9 +0.5
M24K Tolsona, Glenn 83.76 15 P P 15 26 32.9 +0.5
baz=211
RPSI Rantau Prapat 83.78 275 P P 15 26 32.7 -0.9
GLB Gilahina Butte 83.79 16 P P 15 26 32.4 -0.2
GLB IAmb IAmb 15 26 33.5
comp=Z,14nm,0.6s
WAT6 Susitna Watana 83.81 14 P P 15 26 32.7 -0.1
baz=209,SNR=10
W18A Petrified Fore 83.81 50 P P 15 26 34.5 +0.9
baz=243
PSI Prapat 83.81 275 P P 15 26 32.7 -1.2
comp=Z,18nm,0.8s,baz=93,slow=3.9,SNR=8.4
comp=Z,18nm,0.8s
MAW Mawson 83.83 200 P P 15 26 33.2 +0.5
comp=Z,5.5nm,0.7s,baz=127,slow=6.3,SNR=10
comp=Z,5.5nm,0.7s
MAW Mawson 83.83 200 P P 15 26 33.7 +0.9
baz=84,SNR=11
WAT1 Susitna Watana 83.85 13 P P 15 26 32.5 -0.3
baz=208
D08A Wollman Farm, 83.88 36 P P 15 26 34.0 +0.7
D08A IAmb IAmb 15 26 35.3
comp=Z,13nm,0.9s
MCARA McCarthy VSAT 83.95 16 P P 15 26 33.5 +0.1
baz=214
J20K Nowinta River 83.97 10 P P 15 26 33.2 -0.1
J20K IAmb IAmb 15 26 34.5
comp=Z,9.4nm,0.8s
J20K Nowinta River 83.97 10 P P 15 26 33.4 +0.1
baz=203,SNR=8.9
KTH Kantishna Hill 84.00 12 P P 15 26 32.3 -1.3
KTH IAmb IAmb 15 26 33.4
comp=Z,12nm,0.9s
CHUM Lake Minchumin 84.03 11 P P 15 26 33.0 -0.6
baz=205,SNR=7.6
TRF Thorofare Moun 84.03 12 P P 15 26 33.0 -0.9
TRF Thorofare Moun 84.03 12 P P 15 26 33.2 -0.7
baz=207,SNR=16
DUG Dugway, Tooele 84.04 45 P P 15 26 34.6 +0.1
DUG Dugway, Tooele 84.04 45 P P 15 26 34.9 +0.4
baz=241
LOGN Logan Glacier 84.05 17 P P 15 26 34.2 +0.2
LOGN IAmb IAmb 15 26 36.9
comp=Z,19nm,1.2s
GCSA Galena City Sc 84.06 9 P P 15 26 33.8 +0.1
baz=201
CTG Chitna Glacier 84.07 17 P P 15 26 34.4 +0.3
baz=215
CTGM Chitina Glacie 84.07 17 P P 15 26 34.1 0.0
CTGM IAmb IAmb 15 26 34.8
comp=Z,11nm,0.7s
P29M Windy Craggy 84.08 19 P P 15 26 34.6 +0.5
P29M IAmb IAmb 15 26 35.8
comp=Z,15nm,0.8s
P29M Windy Craggy 84.08 19 P P 15 26 34.6 +0.5
baz=219
R32K Eaglecrest 84.11 22 P P 15 26 34.9 +0.7
baz=222
121A Cookes Peak, D 84.13 53 P P 15 26 36.5 +1.3
baz=244
ENH Enshi 84.22 304 P P 15 26 35.6 +0.2
O28M Mount Upton 84.24 18 P P 15 26 35.3 +0.2
baz=216,SNR=5.0
F10A Beach Ranch, E 84.25 38 P P 15 26 35.3 0.0
F10A IAmb IAmb 15 26 36.8
comp=Z,22nm,1.0s
HARP HAARP 84.26 15 P P 15 26 34.9 +0.1
baz=212
RND Reindeer 84.29 13 P P 15 26 34.5 -0.6
DHY Denali Highway 84.33 14 P P 15 26 34.9 -0.5
DHY IAmb IAmb 15 26 35.5
comp=Z,5.9nm,0.6s
DHY Denali Highway 84.33 14 P P 15 26 34.9 -0.5
baz=210,SNR=9.2
O29M Mount Kennedy 84.35 19 P P 15 26 35.6 +0.1
baz=218
LLLB Lillooet 84.36 32 P P 15 26 35.8 +0.1
B08A Colville Reser 84.39 35 P P 15 26 35.8 -0.1
B08A IAmb IAmb 15 26 37.0
comp=Z,11nm,0.8s
PLBC Pleasant Camp 84.39 20 P P 15 26 36.1 +0.6
baz=220
BPAW Bear Paw Mtn. 84.48 12 P P 15 26 34.1 -1.8
BPAW Bear Paw Mtn. 84.48 12 P P 15 26 35.3 -0.6
baz=206
PLID Pearl Lake 84.50 39 P P 15 26 36.7 0.0
MCK McKinley 84.56 13 P P 15 26 35.5 -0.8
MCK IAmb IAmb 15 26 36.8
comp=Z,18nm,1.1s
MCK McKinley 84.56 13 P P 15 26 35.7 -0.6
baz=208,SNR=7.3
PAX Paxson 84.67 14 P P 15 26 35.9 -1.1
PAX Paxson 84.67 14 P P 15 26 36.2 -0.7
baz=211
HLID Hailey 84.68 41 P P 15 26 38.3 +0.8
HLID IAmb IAmb 15 26 39.9
comp=Z,7.8nm,0.8s
HLID Hailey 84.68 41 P P 15 26 39.0 +1.4
baz=239,SNR=17
TMUT Trail Mountain 84.69 46 P P 15 26 39.1 +1.2
TMUT IAmb IAmb 15 26 40.4
comp=Z,7.0nm,0.8s
P30M Million Dollar 84.71 19 P P 15 26 37.7 +0.6
baz=219
SKAG Skagway 84.73 21 P P 15 26 38.0 +0.8
baz=221
MPU Maple Canyon 84.74 45 P P 15 26 38.6 +0.7
T35M Bob Quinn 84.76 24 P P 15 26 38.3 +0.9
baz=226
M26K Nabesna, AK 84.81 16 P P 15 26 37.8 +0.2
baz=214,SNR=11
HVU Hansel Valley 84.84 43 P P 15 26 38.8 +0.4
BWN Browne 84.84 12 P P 15 26 37.3 -0.4
YUK6 Outpost Mounta 84.92 18 P P 15 26 38.5 +0.1
baz=218
YUK3 Moose Creek 84.97 17 P P 15 26 38.8 +0.2
baz=216,SNR=11
M27K Edge Creek, AK 85.06 16 P P 15 26 39.2 +0.3
M27K IAmb IAmb 15 26 40.6
comp=Z,20nm,1.2s
M27K Edge Creek, AK 85.06 16 P P 15 26 39.3 +0.3
baz=215,SNR=8.9
MENT Mentasta 85.07 15 P P 15 26 38.8 0.0
MENT IAmb IAmb 15 26 39.5
comp=Z,6.6nm,0.7s
SRU San Rafael Swe 85.07 46 P P 15 26 40.2 +0.6
SRU IAmb IAmb 15 26 41.5
comp=Z,8.3nm,0.7s
S34M Telegraph Cree 85.08 23 P P 15 26 39.8 +0.9
baz=225,SNR=8.2
HYT Haines Junctio 85.09 19 P P 15 26 39.6 +0.6
HYT Haines Junctio 85.09 19 P P 15 26 39.5 +0.4
baz=219
YUK4 Talbot Arm 85.15 18 P P 15 26 40.1 +0.7
baz=218
L26K Log Cabin Wild 85.24 15 P P 15 26 39.6 0.0
L26K IAmb IAmb 15 26 40.9
comp=Z,11nm,1.3s
L26K Log Cabin Wild 85.24 15 P P 15 26 39.7 0.0
baz=213
I21K Tanana 85.27 11 P P 15 26 39.4 -0.2
I21K Tanana 85.27 11 P P 15 26 39.4 -0.2
baz=205,SNR=6.7
NEA2 Nenana 85.30 12 P P 15 26 39.3 -0.5
NEA2 Nenana 85.30 12 P P 15 26 39.3 -0.5
baz=208
K24K Donnelly Dome 85.32 14 P P 15 26 40.2 +0.2
baz=211,SNR=12
MLY Manley 85.36 11 P P 15 26 39.3 -0.9
MLY Manley 85.36 11 P P 15 26 39.3 -0.9
baz=206,SNR=5.5
P32M Atlin 85.37 21 P P 15 26 40.9 +0.6
baz=222
BVCY Beaver Creek 85.38 17 P P 15 26 40.9 +0.5
baz=216
WRH Wood River Hil 85.39 13 P P 15 26 39.8 -0.5
WRH IAmb IAmb 15 26 40.8
comp=Z,26nm,1.3s
Q32M Nakina River 85.42 22 P P 15 26 41.3 +0.5
baz=224
RIDG Independent Ri 85.48 14 P P 15 26 40.5 -0.3
RIDG IAmb IAmb 15 26 41.2
comp=Z,11nm,1.0s
RIDG Independent Ri 85.48 14 P P 15 26 40.5 -0.3
baz=212
O30N Mendenhall 85.48 19 P P 15 26 41.1 +0.2
baz=220
P18A Preston Nutter 85.50 46 P P 15 26 42.4 +0.6
NEW Newport 85.56 36 P P 15 26 41.5 0.0
comp=Z,5.5nm,0.7s,baz=226,slow=4.2,SNR=15
comp=Z,5.5nm,0.7s
NEW Newport 85.56 36 P P 15 26 41.4 -0.1
NEW IAmb IAmb 15 26 42.8
comp=Z,6.0nm,0.8s
NEW Newport 85.56 36 P P 15 26 41.8 +0.3
baz=237,SNR=7.1
H21K Melozitna Rive 85.56 10 P P 15 26 41.2 +0.1
H21K Melozitna Rive 85.56 10 P P 15 26 41.0 0.0
baz=204
HDA Harding Lake 85.58 13 P P 15 26 40.4 -0.8
HDA IAmb IAmb 15 26 41.2
comp=Z,5.4nm,0.7s
HDA Harding Lake 85.58 13 P P 15 26 40.8 -0.4
baz=210,SNR=6.2
DOT Dot Lake 85.59 15 P P 15 26 40.9 -0.3
DOT IAmb IAmb 15 26 42.2
comp=Z,9.4nm,0.8s
CCB Clear Creek Bu 85.61 13 P P 15 26 40.2 -1.1
CCB IAmb IAmb 15 26 41.6
comp=Z,18nm,1.2s
L27K Beaver Creek, 85.66 16 P P 15 26 41.9 +0.3
L27K Beaver Creek, 85.66 16 P P 15 26 41.9 +0.3
baz=215
BCAR Beaver Creek A 85.67 16 P P 15 26 41.5 -0.2
IMAR Indian Mountai 85.70 10 P P 15 26 41.4 -0.3
N30M Aishikik Lake 85.71 19 P P 15 26 42.2 +0.2
baz=219
WHY Whitehorse 85.79 20 P P 15 26 41.9 -0.4
WHY IAmb IAmb 15 26 44.0
comp=Z,6.7nm,0.9s
WHY Whitehorse 85.79 20 P P 15 26 42.7 +0.4
baz=221
MDM Murphy Dome 85.79 12 P P 15 26 41.1 -1.1
MDM IAmb IAmb 15 26 42.4
comp=Z,8.9nm,1.1s
TCOL CIGO, UAF Yank 85.79 13 P P 15 26 40.8 -1.4
TCOL IAmb IAmb 15 26 43.0
comp=Z,8.7nm,0.8s
TCOL CIGO, UAF Yank 85.79 13 P P 15 26 41.3 -0.8
baz=209
COLA College 85.80 13 P P 15 26 41.0 -1.2
COLA IAmb IAmb 15 26 43.0
comp=Z,8.0nm,0.7s
COLA College 85.80 13 P P 15 26 41.5 -0.6
baz=209
PV13 Radium Mtn., P 85.83 48 P P 15 26 42.7 -0.6
PV11 David Mesa, Pa 85.86 48 P P 15 26 43.5 +0.1
DLBC Dease Lake 85.87 23 P P 15 26 43.4 +0.7
comp=Z,3.1nm,0.7s,baz=217,slow=7.7,SNR=7.1
comp=Z,3.1nm,0.7s
DLBC Dease Lake 85.87 23 P P 15 26 43.7 +0.9
DLBC IAmb IAmb 15 26 44.2
comp=Z,6.9nm,1.0s
DLBC Dease Lake 85.87 23 P P 15 26 43.6 +0.8
baz=226
SCRK Sand Creek 85.89 15 P P 15 26 42.6 -0.2
SCRK Sand Creek 85.89 15 P P 15 26 42.9 +0.1
baz=213
IL31 85.91 13 P P 15 26 41.7 -1.0
IL31 IAmb IAmb 15 26 42.5
comp=Z,9.7nm,1.1s
ILAR Eielson Array 85.91 13 P P 15 26 42.0 -0.7
comp=Z,2.8nm,0.4s,baz=221,slow=5.0,SNR=127
ILAR PP PP 15 30 16.2 +2.4
comp=Z,0.9nm,0.9s,baz=216,slow=6.8,SNR=4.8
comp=Z,2.8nm,0.4s
ILAR Eielson Array 85.91 13 P P 15 26 41.7 -1.0
H22K Ishtalitna Cre 86.02 11 P P 15 26 43.2 -0.1
baz=206
TX31 Lajitas Ar. Si 86.06 58 P 15 26 46.2 +1.8
TX32 Lajitas Aray 86.06 58 P 15 26 46.3 +1.9
TX32 IAmb IAmb 15 26 47.6
comp=Z,16nm,0.9s
TXAR Lajitas Array 86.06 58 P P 15 26 46.5 +2.1
comp=Z,10nm,0.8s,baz=218,slow=5.7,SNR=95
comp=Z,10nm,0.8s
TXAR Lajitas Array 86.06 58 P 15 26 46.1 +1.7
M29M Somme Creek 86.08 17 P P 15 26 44.2 +0.4
baz=218,SNR=5.4
POKR Poker Plat Res 86.10 13 P P 15 26 42.5 -1.1
POKR IAmb IAmb 15 26 43.6
comp=Z,5.9nm,0.6s
POKR Poker Plat Res 86.10 13 P P 15 26 42.7 -0.9
baz=210,SNR=8.1
J25K Salcha River, 86.11 14 P P 15 26 43.3 -0.5
J25K IAmb IAmb 15 26 44.4
comp=Z,5.4nm,0.5s
J25K Salcha River, 86.11 14 P P 15 26 43.6 -0.1
baz=211,SNR=10
N31M Braeburn, Yuko 86.13 19 P P 15 26 44.1 +0.2
N31M IAmb IAmb 15 26 45.5
comp=Z,12nm,1.0s
N31M Braeburn, Yuko 86.13 19 P P 15 26 44.3 +0.4
baz=220
P33M Teslin, Yukon 86.14 21 P P 15 26 44.9 +0.8
baz=223
ANMO Albuquerque 86.16 52 P P 15 26 45.7 +0.9
comp=Z,3.7nm,0.8s,baz=208,slow=2.3,SNR=10
comp=Z,3.7nm,0.8s
ANMO Albuquerque 86.16 52 P P 15 26 45.2 +0.3
ANMO Albuquerque 86.16 52 P P 15 26 45.9 +1.0
baz=245
R33M Jennings River 86.20 22 P P 15 26 45.3 +1.0
baz=225
G21K Allakaket 86.23 10 P P 15 26 44.1 -0.1
baz=204
H23K Yukon River 86.30 12 P P 15 26 44.5 -0.1
baz=208
K27K Chicken 86.39 15 P P 15 26 45.5 +0.4
baz=214
RDMU Red Mountain 86.40 45 P P 15 26 46.1 +0.2
J26L Joseph Creek 86.43 14 P P 15 26 45.4 +0.1
J26L IAmb IAmb 15 26 46.3
comp=Z,7.0nm,0.7s
J26L Joseph Creek 86.43 14 P P 15 26 45.6 +0.3
baz=213,SNR=12
MSO Missoula 86.63 38 P P 15 26 47.2 +0.4
MSO Missoula 86.63 38 P P 15 26 47.2 +0.4
baz=239,SNR=5.2
L29M L29M 86.70 17 P P 15 26 46.9 +0.4
baz=218,SNR=6.4
TPAW Teton Pass 86.84 42 P P 15 26 48.9 +0.9
TPAW IAmb IAmb 15 26 50.3
comp=Z,9.5nm,1.0s
REDW Red Top Meadow 86.84 42 P P 15 26 48.4 +0.4
REDW IAmb IAmb 15 26 50.2
comp=Z,17nm,1.1s
PRP Porcupine Dome 86.85 13 P P 15 26 47.1 -0.3
PRP Porcupine Dome 86.85 13 P P 15 26 47.1 -0.3
baz=211
FXWY Fox Creek 86.86 42 P P 15 26 48.5 +0.4
FXWY IAmb IAmb 15 26 51.3
comp=Z,6.4nm,0.9s
F21K Alatna River 86.88 9 P P 15 26 47.1 -0.2
baz=204
JTMT Jette 86.90 37 P P 15 26 47.0 -1.0
JTMT IAmb IAmb 15 26 48.9
comp=Z,5.9nm,0.8s
G22K Bettles 86.93 10 P P 15 26 47.6 +0.2
baz=206
SNOW Snow King Moun 86.95 42 P P 15 26 47.4 -1.1
SNOW IAmb IAmb 15 26 50.8
comp=Z,18nm,1.1s
G23K Bananza Creek 87.00 11 P P 15 26 48.0 +0.1
baz=207
IMW Indian Meadow 87.04 42 P P 15 26 49.7 +0.7
IMW IAmb IAmb 15 26 51.3
comp=Z,14nm,0.8s
S22A 4UR Ranch, Cre 87.07 49 P P 15 26 50.0 +0.8
baz=245
MOOW Moose Ponds 87.09 42 P P 15 26 49.7 +0.6
M31M Drury Creek, Y 87.10 19 P P 15 26 48.7 +0.2
baz=222
O20A White River Ci 87.11 46 P P 15 26 50.0 +0.8
baz=244
DAWY Dawson 87.11 16 P P 15 26 49.0 +0.5
DAWY Dawson 87.11 16 P P 15 26 48.8 +0.3
baz=217,SNR=5.4
LOHW Long Hollow 87.12 42 P P 15 26 49.9 +0.7
LOHW IAmb IAmb 15 26 50.9
comp=Z,5.3nm,0.7s
QLMT Earthquake Lak 87.17 41 P P 15 26 50.6 +1.1
I26K Coal Creek Min 87.20 14 P P 15 26 49.0 +0.3
baz=213
HHC Hu-ho-hao-te 87.22 314 eP P 15 26 52.8 +3.2
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.5s
EGAK Eagle 87.24 15 P P 15 26 48.8 -0.2
EGAK Eagle 87.24 15 P P 15 26 49.2 +0.2
baz=215
YHL Hebgen Lake 87.34 41 P P 15 26 51.4 +1.1
YHL IAmb IAmb 15 26 53.2
comp=Z,15nm,0.9s
F22K John River 87.35 10 P P 15 26 49.6 +0.1
baz=205
BW06 Boulder Array 87.41 43 P P 15 26 50.7 +0.1
BW06 IAmb IAmb 15 26 52.1
comp=Z,7.5nm,0.7s
BW06 Boulder Array 87.41 43 P P 15 26 51.1 +0.5
baz=243
PD31 Pinedale Array 87.41 43 P P 15 26 50.9 +0.3
PD31 IAmb IAmb 15 26 52.1
comp=Z,6.5nm,0.7s
PDAR Pinedale Array 87.41 43 P P 15 26 51.1 +0.5
comp=Z,5.5nm,0.6s,baz=218,slow=3.3,SNR=65
PDAR PP PP 15 30 24.1 -2.3
comp=Z,1.0nm,0.9s,baz=253,slow=4.5,SNR=6.5

comp=Z,5.5nm,0.6s
PDAR Pinedale Array 87.41 43 P **P** 15 26 50.8 +0.2
BOZ Bozeman (W) 87.42 40 P **P** 15 26 51.2 +0.7
BOZ Bozeman (W) 87.42 40 P **P** 15 26 51.6 +1.1
baz=241,SNR=7.1
H25K Birch Creek 87.43 13 P **P** 15 26 49.3 -0.5
baz=211
COLD Coldfoot 87.43 11 P **P** 15 26 50.1 +0.2
COLD IAmb IAmb 15 26 51.2
comp=Z,8.1nm,1.0s
COLD Coldfoot 87.43 11 P **P** 15 26 50.4 +0.5
baz=207
K29M Barlow Dome 87.44 17 P **P** 15 26 50.5 +0.4
baz=219
FARO Faro, Yukon 87.45 19 P **P** 15 26 50.6 +0.6
baz=222
G24K Hadweenzic Riv 87.47 12 P **P** 15 26 50.0 -0.1
baz=209
YHH Holmes Hill 87.52 41 P **P** 15 26 52.2 +1.1
YHH IAmb IAmb 15 26 54.9
comp=Z,9.8nm,1.3s
MAYO Mayo, Yukon 87.71 18 P **P** 15 26 52.0 +0.7
baz=220
KMI Kunming 87.77 297 ⇑P **P** 15 26 53.8 +1.1
KMI pmax pmax
comp=Z,10.0nm,0.5s
WALA Waterton Lakes 87.79 36 P **P** 15 26 52.3 +0.2
WALA IAmb IAmb 15 26 53.3
comp=Z,8.0nm,0.9s
I27K Kandik River 87.81 14 P **P** 15 26 51.7 0.0
baz=215
HRY Holter Researc 87.83 39 P **P** 15 26 52.7 +0.4
E22K Anaktuvuk Pass 87.98 10 P **P** 15 26 52.7 +0.2
baz=205
SDCO Great Sand Dun 88.02 49 P **P** 15 26 54.5 +0.8
baz=246
F24K Squaw Lake 88.11 11 P **P** 15 26 53.5 +0.4
baz=209
E23K Chandalar 88.28 10 P **P** 15 26 54.0 +0.1
baz=207
H27K Steamboat Moun 88.34 14 P **P** 15 26 55.1 +0.9
baz=215
MMPY Sheldon Lake, 88.40 20 P **P** 15 26 55.5 +1.0
baz=224,SNR=9.8
I29M Ogilvie Camp, 88.43 16 P **P** 15 26 54.9 +0.3
baz=218
G26K Porcupine Rive 88.44 13 P **P** 15 26 54.9 +0.4
baz=213
E24K Your Creek 88.49 11 P **P** 15 26 54.8 -0.1
baz=208
MSTX Muleshoe 88.55 54 P **P** 15 26 56.5 +0.4
MSTX Muleshoe 88.55 54 P **P** 15 26 56.7 +0.7
baz=247
T25A Trinidad 88.57 50 P **P** 15 26 57.5 +1.4
baz=246
F25K Christian Rive 88.61 12 P **P** 15 26 55.7 +0.2
baz=211
TGTN Hyland Airport 88.64 22 P **P** 15 26 56.5 +0.8
baz=227
RLMT Red Lodge 88.67 41 P **P** 15 26 57.8 +1.4
baz=243
BMAR Burnt Mountain 88.68 12 P **P** 15 26 56.3 +0.5
ISCO Idaho Springs 88.79 47 P **P** 15 26 58.0 +0.8
baz=246
G27K Doyon Strip 88.79 14 P **P** 15 26 56.4 +0.2
baz=215
TOLK Toolik Lake Re 88.81 10 P **P** 15 26 56.3 +0.1
baz=207
CMAR Chiang Mai Arr 88.82 290 P **P** 15 26 58.7 +1.3
comp=Z,4.1nm,0.9s,baz=107,slow=2.9,SNR=30
CMAR PP **PP** 15 30 35.2 -2.5
comp=Z,0.4nm,0.6s,baz=116,slow=8.1,SNR=4.7
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 88.82 290 P **P** 15 26 58.2 +0.8
D23K Nanushuk River 88.91 10 P **P** 15 26 57.3 +0.6
baz=206
CHTO Chiang Mai 88.93 290 P **P** 15 26 58.4 +0.4
N23A Red Feather La 89.02 46 P **P** 15 26 59.3 +1.1
N23A IAmb IAmb 15 27 00.5
comp=Z,10nm,1.1s
N23A Red Feather La 89.02 46 P **P** 15 26 59.2 +1.0
baz=245
E25K Arctic Village 89.08 12 P **P** 15 26 58.0 +0.4
baz=211
PZH PanZhiHua 89.09 298 P **P** 15 26 59.0 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,4.1s
833A Chaparral WMA, 89.17 60 P **P** 15 26 60.0 +1.1
baz=249
K22A Casper 89.36 45 P **P** 15 26 60.0 +0.3
K22A IAmb IAmb 15 27 00.9
comp=Z,4.1nm,0.8s
K22A Casper 89.36 45 P **P** 15 27 00.3 +0.6
baz=245
D24K Happy Valley 89.39 10 P **P** 15 26 58.9 0.0
baz=208
FLDN Fort Liard 89.58 24 P **P** 15 27 00.9 +0.9
baz=231
JCT Junction City 89.60 58 P **P** 15 27 01.5 +0.6
baz=249
EPYK Eagle Plains 89.63 16 P **P** 15 27 00.3 +0.1
EPYK IAmb IAmb 15 27 01.1
comp=Z,10nm,1.0s
EPYK Eagle Plains 89.63 16 P **P** 15 27 00.1 -0.1
baz=219
EGMT Eagleton 89.70 39 P **P** 15 27 01.2 +0.3
baz=242
C23K Itkillik River 89.71 9 P **P** 15 27 00.5 +0.1
baz=206
AMTX Amarillo 89.73 53 P **P** 15 27 01.8 +0.3
baz=248
C24K Franklin Bluff 89.91 10 P **P** 15 27 01.1 -0.2
baz=208
E27K Coleen River 89.94 13 P **P** 15 27 01.6 0.0
baz=215
D25K Kavik River 89.96 11 P **P** 15 27 01.4 -0.3
baz=210
TROLL Troll, Antarti 90.30 180 P **P** 15 27 03.3 -0.2
ABTX Abilene, Hawle 90.49 56 P **P** 15 27 05.3 +0.4
ABTX Abilene, Hawle 90.49 56 P **P** 15 27 05.7 +0.8
baz=249
SNAA Sanae 90.59 179 P **P** 15 27 04.2 -0.5
C27K Jago River 90.72 12 P **P** 15 27 05.4 +0.3
baz=213
VNA3 Neumayer Olymp 90.74 176 P **P** 15 27 05.6 +0.3
F31M Tsiigehtchic 91.21 16 P **P** 15 27 07.5 +0.1
baz=222
LAO LASA Array 91.26 41 P **P** 15 27 09.3 +1.1
baz=245
VNA1 Neumayer--Stat 91.40 177 P **P** 15 27 09.1 +0.7
RSSD Black Hills 91.62 44 P **P** 15 27 10.2 +0.1
RSSD IAmb IAmb 15 27 11.4
comp=Z,6.7nm,0.9s
RSSD Black Hills 91.62 44 P **P** 15 27 11.1 +1.0
baz=246
INK Inuvik 91.91 15 P **P** 15 27 10.2 -0.3
comp=Z,7.0nm,1.0s,baz=247,slow=4.0,SNR=6.8
comp=Z,7.0nm,1.0s
INK Inuvik 91.91 15 P **P** 15 27 10.0 -0.5
INK IAmb IAmb 15 27 11.1
comp=Z,5.5nm,0.8s
INK Inuvik 91.91 15 P **P** 15 27 10.7 +0.2
baz=222
R32A Long Quarter, 93.24 51 P **P** 15 27 17.6 +0.2
DGMT Dagmar 93.25 40 P **P** 15 27 18.2 +1.0
baz=247
YKA Yellowknife Ar 94.37 25 P **P** 15 27 21.9 +0.1
comp=Z,2.3nm,0.8s,baz=237,slow=4.7,SNR=3.2
comp=Z,2.3nm,0.8s
KSU1 Kansas State U 95.01 51 P **P** 15 27 26.4 +0.9
KSU1 Kansas State U 95.01 51 P **P** 15 27 26.3 +0.9
baz=251
ECSD EROS Data Cent 96.49 46 P **P** 15 27 32.7 +0.7
baz=252
MKAR Makanchi Array 109.09 314 Pdiff **Pdif** 15 28 30.1 +2.2
comp=Z,0.3nm,0.5s,baz=124,slow=2.6,SNR=5.3
MKAR PKiKP **PKiKP** 15 32 27.4 -1.0
comp=Z,0.5nm,0.5s,baz=158,slow=0.4,SNR=6.5
ARCES ARCESS Array B 126.31 350 PKP **PKPdf** 15 33 01.4 +0.7
comp=Z,0.6nm,0.7s,baz=90,slow=2.4,SNR=3.6
AKASG Malin Array Be 140.53 332 PKhKP PKPpre 15 33 21.7
comp=Z,0.2nm,0.3s,baz=44,slow=4.1,SNR=2.2
BNN Bunyan 143.60 312 PKPdf PKPab 15 33 32.2 -0.6
BURAR Bucovina Array 144.59 332 ⇑P **PKPdf** 15 33 32.9 -2.3
BIZ Bicaz 144.68 330 ⇑P PKPbc 15 33 36.6 +0.9
BR131 Keskin Array S 144.74 315 PKPdf **PKPdf** 15 33 35.9 +0.1
BRTR Keskin Array B 144.74 315 PKP **PKPdf** 15 33 36.5 +0.7
comp=Z,4.3nm,0.8s,baz=132,slow=2.1,SNR=21
BRTR Keskin Array B 144.74 315 PKPdf **PKPdf** 15 33 36.0 +0.1
TPGR Topolog 144.97 326 ⇓P PKPbc 15 33 37.4 +0.7
OSTC Ostas 145.38 343 *e*PKP **PKPab** 15 33 39.1 +0.1
CHVC Chvalec 145.39 344 *e*PKP **PKPab** 15 33 39.9 +0.8
CLL Collm 145.45 347 **PKPbc** 15 33 37.8 0.0
CLL Collm 145.45 347 *i* PKPbc **PKPbc** 15 33 38.2 +0.4
comp=Z,7.0nm,1.0s
DPC Dobruska-Polom 145.53 343 *e*PKP **PKPab** 15 33 39.8 +0.1
BRG Berggiesshubel 145.65 346 *e*PKP **PKPab** 15 33 40.4 +0.3
BRG Amp 15 33 43.3
comp=Z,4.4nm,1.0s
MORC Moravsky Berou 145.69 341 *e*PKP PKiKP 15 33 50.1 +8.8
DOPR Dopca 145.73 330 ⇑P **PKPbc** 15 33 40.1 +1.3
MLR Muntele Rosu 145.80 329 ⇑P **PKPbc** 15 33 40.2 +1.0
DRGR 146.31 333 ⇓P **PKPbc** 15 33 40.6 +0.2
VRAC Vranov 146.39 342 *e*PKP PKPab 15 33 53.5 +10
VYHS Vyhne 146.40 339 *e*PKP **PKPbc** 15 33 41.5 +0.9
ARR Arges 146.53 330 ⇑P **PKPbc** 15 33 42.2 +1.1
BORA Eskisehir 146.76 317 **PKPbc** 15 33 41.5 -0.5
KHC Kasperske Hory 147.36 345 *e*PKP **PKPdf** 15 33 40.6 +0.8
CKRC Cesky Krumlov 147.47 344 *e*PKP **PKPbc** 15 33 44.1 +0.7
GERES GERESS Array B 147.60 345 PKPbc **PKPbc** 15 33 44.0 +0.2
comp=Z,0.8nm,0.5s,baz=48,slow=2.0,SNR=8.3
HERR Herculane 147.93 331 ⇓P **PKPbc** 15 33 44.2 -0.5
BLKB Belogradchik 148.76 330 ⇑P **PKPbc** 15 33 46.6 -0.3
BOVS Bovan 149.21 331 ⇓P **PKPbc** 15 33 47.4 -0.5
VTS Vitosha 149.22 328 ⇓P **PKPbc** 15 33 47.8 -0.3
DIVS Divibare 149.61 333 **PKPbc** 15 33 49.4 +0.5
MATE Matera 153.83 333 ⇑P **PKPdf** 15 33 42.7 -7.1
ESDC Sonseca Array 157.80 11 PKPab **PKPab** 15 34 31.3 -0.2
comp=Z,0.8nm,0.6s,baz=342,slow=4.4,SNR=8.5
TORD Torodi Ar. Bea 175.26 182 PKPab **PKPab** 15 35 48.8 -0.2
comp=Z,0.5nm,0.6s,baz=171,slow=3.7,SNR=2.9

MAN 25 15:19:32.4,9.70N×125.79E,h120km,mb4.5,ML3.3, MS3.2,8C-6D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.31**	**285**	*e*P			Pn	15 19 50.6	+1.2
SCPH				*i* S			Sn	15 20 06.2	+4.1
GLSP	**General Luna,**	**0.34**	**76**	⇑*e*P			Pn	15 19 50.7	+1.2
GLSP				*e*S			Sn	15 20 04.4	+2.1
BUTP	**Butuan**	**0.75**	**193**	⇓*e*P			Pn	15 19 54.0	+1.8
BUTP				*e*S			Sn	15 20 10.9	+3.9
MSLP	**Maasin**	**1.02**	**295**	⇑*e*P			Pn	15 19 56.3	+1.8
MSLP				*e*S			Sn	15 20 21.8	+10
GHBP	**Garcia Hernand**	**1.45**	**267**	⇑*i*P			Pn	15 20 00.1	+0.9
GHBP				*i* S			Sn	15 20 21.0	+1.3
TABP	**Talibon, Bohol**	**1.49**	**285**	⇑*i*P			Pn	15 20 00.6	+0.9
TABP				*i* S			Sn	15 20 21.4	+0.9
BIPH	**Bislig**	**1.61**	**160**	⇑*i*P			Pn	15 20 00.6	-0.5
BIPH				*i* S			Sn	15 20 23.6	+0.7
CGP	**Cagayan de Oro**	**1.65**	**221**	⇓*e*P			Pn	15 20 02.0	+0.4
CGP				*e*S			Sn	15 20 23.8	0.0
LLP	**Lapu-Lapu**	**1.90**	**289**	⇓*i*P			Pn	15 20 06.0	+1.4
LLP				*i* S			Sn	15 20 30.4	+1.2
TBP	**Tagbilaran**	**1.91**	**270**	⇓*i*P			Pn	15 20 05.3	+0.6
TBP				*i* S			Sn	15 20 29.7	+0.4
KCP	**Kidapawan**	**2.77**	**195**	⇓*e*P			Pn	15 20 15.8	+0.1
MATI	**Mati**	**2.78**	**170**	⇓*e*P			Pn	15 20 16.6	+0.8
MATI				*e*S			Sn	15 20 50.5	+1.3
CNP	**Catarman**	**3.00**	**338**	⇑*e*P			Pn	15 20 19.6	+0.9
CNP				*e*S			Sn	15 20 56.1	+1.7
DDMP	**Don Marcelino,**	**3.58**	**181**	⇑*e*P			Pn	15 20 26.0	-0.3
LQP	**Lukban**	**6.04**	**317**	⇓*e*P			Pn	15 21 01.8	+2.1

*IDC **25** 15:22:27.6±0.9, 13.66N×121.03E, h119km±6km, mb3.4/6, mbtmp3.8/6, Error ellipse: s-maj=47.2km s-min=18.3km az=60.0*
*MAN **25** 15:22:28.3, 13.58N×120.60E, h101km, mb4.2, ML3.0, MS2.7*
ISC 25 15:22:28.1±0.8, 13.57N±0.04×120.63E±0.06, h112km±6km, n20, σ1.40/33, mb3.8/6, 4C-9D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.33**	**102**	⇓*e*P			**Pn**	**15 22 43.3**	**-0.9**
PGP				*i* S			**Sn**	**15 22 56.0**	**-0.2**
LUBP	**Lubang**	**0.40**	**294**	⇑*i*P			**Pn**	**15 22 45.4**	**+0.9**
LUBP				*i* S			**Sn**	**15 22 57.7**	**+0.8**
TGY	**Tagaytay City**	**0.61**	**30**	P			**Pn**	**15 22 46.6**	**+0.6**
TGY	691nm,0.5s,baz=183,slow=8.1,SNR=20			S			**Sn**	**15 23 00.1**	**+0.7**
	3μm,0.4s,baz=86,slow=15,SNR=29								
TGY	**Tagaytay City**	**0.61**	**30**	⇓*e*P			**Pn**	**15 22 47.2**	**+1.2**
TGY				*e*S			**Sn**	**15 22 55.7**	**-3.7**
MACP	**Maragondon, Ca**	**0.70**	**8**	⇓*e*P			**Pn**	**15 22 46.6**	**0.0**
MACP				*e*S			**Sn**	**15 23 00.2**	**-0.3**
LQP	**Lukban**	**1.04**	**59**	⇑*i*P			**Pn**	**15 22 50.4**	**+0.4**
LQP				*i* S			Sn	15 23 17.4	+11
BOAC	**Boac**	**1.19**	**95**	⇓*e*P			**Pn**	**15 22 51.3**	**-0.1**
BOAC				*e*S			**Sn**	**15 23 09.8**	**+0.7**
BUSP	**Coron**	**1.61**	**195**	⇓*e*P			**Pn**	**15 22 57.0**	**+0.7**
BUSP				*e*S			**Sn**	**15 23 18.5**	**+0.7**
GQP	**Guinayangan**	**1.80**	**79**	⇓*e*P			**Pn**	**15 22 59.3**	**+0.7**
GQP				*e*S			**Sn**	**15 23 25.8**	**+3.8**
BALP	**Baler**	**2.35**	**23**	⇓*e*P			**Pn**	**15 23 06.8**	**+1.1**
SMPP	**San Manuel, Pa**	**2.57**	**1**	⇑*e*P			**Pn**	**15 23 08.4**	**0.0**
SMPP				*e*S			**Sn**	**15 23 39.7**	**+0.2**
CUYO	**Cuyo Island**	**2.73**	**172**	⇓*e*P			**Pn**	**15 23 11.4**	**+0.8**
CUYO				*e*S			**Sn**	**15 23 44.0**	**+0.7**
BOLP	**Bolinao**	**2.88**	**346**	⇑*e*P			**Pn**	**15 23 13.3**	**+0.7**
BOLP				*e*S			**Sn**	**15 23 47.3**	**+0.5**
SAMP	**Sagada Mountai**	**3.50**	**4**	⇓*e*P			**Pn**	**15 23 21.4**	**+0.6**
SAMP				*e*S			**Sn**	**15 24 02.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**21.39**	**286**	P			**P**	**15 27 09.7**	**+2.6**
	2.7nm,0.8s,baz=96,slow=7.5,SNR=18 2.7nm,0.8s								
WRA	**Warramunga Arr**	**35.93**	**158**	P			**P**	**15 29 15.7**	**-2.2**
	0.3nm,0.6s,baz=336,slow=9.2,SNR=2.0								
WRA				pP			**pP**	**15 29 43.6**	**+0.6**
	0.8nm,0.7s,baz=338,slow=9.2,SNR=4.7 0.3nm,0.6s								
ASAR	**Alice Springs**	**39.22**	**161**	P			**P**	**15 29 44.0**	**-1.6**
	0.2nm,0.4s,baz=337,slow=6.9,SNR=2.0 0.2nm,0.4s								
MKAR	**Makanchi Array**	**46.09**	**324**	P			**P**	**15 30 41.4**	**+0.4**
	0.6nm,0.3s,baz=113,slow=7.7,SNR=13 0.6nm,0.3s								
ZALV	**Zalesovo Beam**	**49.14**	**333**	P			**P**	**15 31 03.4**	**-0.9**
	1.3nm,0.4s,baz=123,slow=7.2,SNR=7.8 1.3nm,0.4s								
ARCES	**ARCESS Array B**	**79.18**	**339**	P			**P**	**15 34 19.2**	**-1.1**
	1.6nm,1.0s,baz=76,slow=7.5,SNR=2.2 1.6nm,1.0s								

*IDC **25** 15:26:57.3±1.3, 13.69N×145.06E, h109km±7km, mb3.0/4, mbtmp3.4/4, Error ellipse: s-maj=48.3km s-min=23.6km az=98.0*
*NEIC **25** 15:26:58.2±1.1, 13.7N±0.1×145.0E±0.1, h115km±5km, mb4.3/7, Error ellipse: s-maj=20.7km s-min=12.8km az=131.0*
ISC 25 15:26:56.5±0.8, 13.7N±0.1×145.2E±0.1, h109km, n22, σ0.76/17, mb4.1/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.37**	**246**	P			**Pn**	**15 27 14.2**	**+1.7**
	596nm,0.3s,baz=138,slow=3.2,SNR=362								
GUMO				S			**Sn**	**15 27 25.5**	**+1.0**
	2μm,0.3s,baz=134,slow=22,SNR=26								
PATS	**Pohnpei**	**14.59**	**117**	P			**P**	**15 30 21.4**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**21.16**	**74**	T			T	15 53 47.1	
	baz=261								
H11S1	**WAKE ISLAND Hy**	**21.17**	**74**	T			T	15 53 43.2	
	baz=261								
H11S2	**WAKE ISLAND Hy**	**21.18**	**74**	T			T	15 53 48.4	
	baz=261								
H11N1	**WAKE ISLAND Hy**	**21.59**	**71**	T			T	15 54 48.2	
	baz=257,slow=75,SNR=6.7								
H11N2	**WAKE ISLAND Hy**	**21.59**	**71**	T			T	15 54 49.9	
	baz=257,slow=75,SNR=6.2								
H11N3	**WAKE ISLAND Hy**	**21.60**	**71**	T			T	15 54 51.5	
	baz=257,slow=75,SNR=9.0								
MTN	**Manton Dam**	**29.87**	**208**	P			**P**	**15 32 53.0**	**-0.9**
MTN						IAmb	IAmb	15 32 56.1	
	comp=Z,13nm,1.4s								
WB0	**Warramunga Arr**	**34.95**	**198**	P			**P**	**15 33 37.8**	**-0.5**
WB0						IAmb	IAmb	15 34 03.6	
	comp=Z,7.6nm,1.4s								
WB2	**Warramunga Arr**	**35.13**	**198**	P			**P**	**15 33 39.3**	**-0.5**
WB2						IAmb	IAmb	15 34 01.6	
	comp=Z,3.0nm,1.0s								
WRA	**Warramunga Arr**	**35.14**	**198**	P			**P**	**15 33 39.2**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=20,slow=9.3,SNR=4.6 comp=Z,0.4nm,0.6s								
ENH	**Enshi**	**36.79**	**302**	P			**P**	**15 33 53.1**	**-0.9**
ENH						IAmb	IAmb	15 34 03.0	
	comp=Z,3.1nm,0.6s								
FITZ	**Fitzroy Crossi**	**37.06**	**212**	P			**P**	**15 33 55.5**	**-0.8**
FITZ						IAmb	IAmb	15 34 03.9	
	comp=Z,7.0nm,1.4s								
ASAR	**Alice Springs**	**38.78**	**197**	P			**P**	**15 34 10.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=18,slow=7.4,SNR=1.8 comp=Z,0.2nm,0.6s								
EIDS	**Eidsvold**	**39.29**	**172**	P			**P**	**15 34 14.5**	**-0.3**
MK31	**Makanchi Array**	**61.62**	**316**	P			**P**	**15 37 02.9**	**+0.2**
MKAR	**Makanchi Array**	**61.62**	**316**	P			**P**	**15 37 03.2**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=96,slow=8.5,SNR=6.8 comp=Z,0.6nm,0.6s								
MKAR	**Makanchi Array**	**61.62**	**316**	P			**P**	**15 37 02.6**	**-0.1**
ILAR	**Eielson Array**	**68.29**	**25**	P			**P**	**15 37 45.6**	**0.0**
	comp=Z,0.1nm,0.5s,baz=252,slow=5.6,SNR=4.2 comp=Z,0.1nm,0.5s								
ABKAR	**Akbulak array**	**76.66**	**318**	P			**P**	**15 38 34.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**135.06**	**305**	PKP			**PKiKP**	**15 46 05.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=73,slow=1.8,SNR=2.8								

IDC 25 15:52:06.6±9.7, 14.84S×166.85E, h69km±88km, mb3.0/2, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=68.8km s-min=52.6km az=3.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.20**	**183**	P			Pn	15 53 50.1	+0.8
	0.4nm,0.3s,baz=335,slow=17,SNR=12								
DZM				S			Sn	15 55 09.1	-0.7
	3.3nm,0.9s,baz=120,slow=20,SNR=1.8 1.3nm,0.4s								
WRA	**Warramunga Arr**	**31.41**	**256**	P			P	15 58 21.4	0.0
	0.3nm,0.9s,baz=82,slow=9.6,SNR=2.3 0.3nm,0.9s								
ASAR	**Alice Springs**	**32.25**	**249**	P			P	15 58 29.0	+0.1
	0.2nm,0.5s,baz=74,slow=9.7,SNR=5.9 0.2nm,0.5s								
ARCES	**ARCESS Array B**	**120.26**	**345**	PKP			PKPdf	16 10 48.9	-0.4
	1.3nm,0.8s,baz=25,slow=2.4,SNR=2.2								

IDC 25 16:04:13.4±14.0, 20.06S×178.16W, h529km±41km, mb2.9/3, mbtmp3.6/4, Error ellipse: s-maj=273.7km s-min=98.5km az=100.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.27**	**302**	P			P	16 05 36.1	-0.1
	0.9nm,0.4s,baz=122,slow=22,SNR=8.3								
STKA	**Stephens Creek**	**37.85**	**244**	P			P	16 10 44.9	-0.2
	1.1nm,0.7s,baz=98,slow=16,SNR=2.9 1.1nm,0.7s								
ASAR	**Alice Springs**	**44.48**	**256**	P			P	16 11 37.8	-0.1
	1.3nm,0.6s,baz=91,slow=8.2,SNR=34 1.3nm,0.6s								
WRA	**Warramunga Arr**	**44.52**	**262**	P			P	16 11 37.9	-0.2
	0.4nm,0.4s,baz=99,slow=8.4,SNR=17 0.4nm,0.4s								

*NEIC **25** 16:09:03.0±1.4, 19.88S±0.09×178.07W±0.08, h588km±9km, mb4.1/38, Error ellipse: s-maj=16.7km s-min=6.5km az=218.0*
*IDC **25** 16:09:05.8±1.3, 19.81S×178.44W, h607km±13km, mb3.0/12, mbtmp4.0/14, Error ellipse: s-maj=20.9km s-min=14.7km az=120.0*
ISC 25 16:09:04.0±0.5, 19.88S±0.08×178.22W±0.08, h600km, n67, σ1.50/70, mb4.0/32, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.13**	**301**	P			**P**	**16 10 31.2**	**+0.6**
	18nm,0.4s,baz=217,slow=21,SNR=111								
MSVF				S			**S**	**16 11 41.1**	**+0.1**
	6.0nm,0.9s,baz=33,slow=22,SNR=0.7								
MSVF	**Nonsavu**	**4.13**	**301**	P			**P**	**16 10 30.6**	**+0.1**
AFI	**Afiamalu**	**8.56**	**47**	P			**P**	**16 11 07.3**	**-1.6**
	15nm,0.4s,baz=205,slow=4.5,SNR=6.5								
AFI				S			**S**	**16 12 45.5**	**-5.7**
	12nm,0.5s,baz=350,slow=22,SNR=2.3								
AFI	**Afiamalu**	**8.56**	**47**	P			**P**	**16 11 07.2**	**-1.7**
RAO	**Raoul Island**	**9.33**	**178**	P			**P**	**16 11 14.3**	**-1.7**
PINNC	**Pines Island,**	**13.64**	**256**	P			**P**	**16 12 00.2**	**+0.9**
DZM	**Mont Dzumac**	**14.49**	**259**	P			**P**	**16 12 08.3**	**+0.7**
	4.5nm,1.0s,baz=128,slow=11,SNR=9.3								
DZM	**Mont Dzumac**	**14.49**	**259**	P			**P**	**16 12 09.3**	**+1.6**
URZ	**Urewera**	**18.75**	**191**	P			**P**	**16 12 43.6**	**-2.7**
	10nm,0.3s,baz=349,slow=3.4,SNR=23								
URZ	**Urewera**	**18.75**	**191**	P			**P**	**16 12 43.8**	**-2.5**
BKZ	**Black Stump Fm**	**19.75**	**192**	P			**P**	**16 12 52.9**	**-2.5**
MSWZ	**Moikau Station**	**22.17**	**193**	P			**P**	**16 13 15.8**	**-1.2**
FOZ	**Fox Glacier**	**25.62**	**200**	P			**P**	**16 13 47.1**	**-0.4**
MLZ	**Mavora Lakes**	**27.81**	**201**	P			**P**	**16 14 07.1**	**+0.5**
CTAO	**Charters Tower**	**33.35**	**263**	P			**P**	**16 14 54.4**	**+0.1**
CTAO						IAmb	IAmb	16 15 04.9	
	comp=Z,12nm,1.4s								
TOO	**Toolangi**	**36.10**	**233**	P			**P**	**16 15 16.8**	**-0.1**
COEN	**Coen**	**37.34**	**273**	P			**P**	**16 15 27.5**	**+0.2**
COEN						IAmb	IAmb	16 16 00.7	
	comp=Z,8.8nm,1.2s								
STKA	**Stephens Creek**	**37.87**	**243**	P			**P**	**16 15 31.2**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=79,slow=16,SNR=3.2 comp=Z,2.7nm,0.9s								
BBOO	**Buckleboo**	**42.64**	**243**	P			**P**	**16 16 09.1**	**-0.2**
WR0	**Warramunga Arr**	**44.29**	**261**	P			**P**	**16 16 21.9**	**-0.4**
WR0						IAmb	IAmb	16 16 26.1	
	comp=Z,14nm,1.5s								
WB0	**Warramunga Arr**	**44.46**	**262**	P			**P**	**16 16 22.7**	**-0.8**
WB0						IAmb	IAmb	16 16 58.3	
	comp=Z,8.3nm,1.5s								
AS31	**Alice Springs**	**44.46**	**256**	P			**P**	**16 16 23.3**	**-0.3**
ASAR	**Alice Springs**	**44.46**	**256**	P			**P**	**16 16 23.3**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=84,slow=7.9,SNR=38								
ASAR				S			**S**	**16 22 11.7**	**-4.5**
	comp=Z,0.5nm,0.6s,baz=92,slow=16,SNR=5.2 comp=Z,2.2nm,0.8s								
ASAR	**Alice Springs**	**44.46**	**256**	P			**P**	**16 16 23.0**	**-0.5**
WB2	**Warramunga Arr**	**44.47**	**261**	P			**P**	**16 16 23.1**	**-0.6**
WB2						IAmb	IAmb	16 16 31.0	
	comp=Z,7.7nm,1.4s								
WRA	**Warramunga Arr**	**44.48**	**261**	P			**P**	**16 16 23.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=97,slow=7.6,SNR=23								
WRA				S			**S**	**16 22 12.3**	**-4.4**
	comp=Z,0.2nm,0.9s,baz=93,slow=14,SNR=1.7 comp=Z,0.4nm,0.3s								
WRA	**Warramunga Arr**	**44.48**	**261**	P			**P**	**16 16 23.0**	**-0.7**
SBA	**Scott Base**	**58.47**	**184**	P			**P**	**16 18 05.6**	**+2.5**
VNDA	**Vanda**	**58.50**	**185**	P			**P**	**16 18 05.3**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=20,slow=6.5,SNR=13 comp=Z,0.6nm,0.4s								
VNDA	**Vanda**	**58.50**	**185**	P			**P**	**16 18 05.2**	**+1.8**
CASY	**Casey**	**64.43**	**205**	P			**P**	**16 18 42.2**	**+0.1**
MJAR	**Matsushiro Arr**	**69.59**	**324**	P			**P**	**16 19 13.9**	**-0.3**
	comp=Z,

BELA	**Belgrano 2**	**80.19**	**173**	P		**P**	**16 20 12.8**	**+0.3**
NVAR	**Mina Array Bea**	**80.72**	**44**	P		**P**	**16 20 18.5**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=225,slow=9.7,SNR=5.1							
	comp=Z,0.6nm,0.7s							
SVW2	**Sparrevohn**	**82.74**	**11**	P		**P**	**16 20 25.9**	**+0.3**
SVW2				IAmb		IAmb	16 20 48.1	
	comp=Z,6.4nm,1.2s							
M19K	**Big River Lodg**	**83.70**	**11**	P		**P**	**16 20 30.9**	**+0.5**
M19K				IAmb		IAmb	16 20 38.5	
	comp=Z,8.1nm,1.4s							
L19K	**White Mountain**	**83.88**	**11**	P		**P**	**16 20 32.4**	**+1.2**
L19K				IAmb		IAmb	16 20 53.0	
	comp=Z,4.1nm,1.1s							
SUA	**Susitna One**	**84.01**	**13**	P		**P**	**16 20 32.8**	**+0.7**
SUA				IAmb		IAmb	16 21 09.7	
	comp=Z,12nm,1.3s							
CAST	**Castle Rocks**	**85.52**	**11**	P		**P**	**16 20 38.1**	**-1.1**
CAST				IAmb		IAmb	16 20 39.0	
	comp=Z,3.7nm,1.1s							
TRF	**Thorofare Moun**	**85.89**	**12**	P		**P**	**16 20 41.4**	**+0.2**
TRF				IAmb		IAmb	16 20 42.5	
	comp=Z,6.0nm,1.1s							
TXAR	**Lajitas Array**	**86.90**	**57**	P		**P**	**16 20 48.5**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=236,slow=6.4,SNR=4.4							
	comp=Z,0.7nm,0.8s							
I21K	**Tanana**	**87.15**	**11**	P		**P**	**16 20 47.6**	**+0.8**
I21K				IAmb		IAmb	16 20 48.1	
	comp=Z,3.0nm,0.9s							
MLY	**Manley**	**87.23**	**11**	P		**P**	**16 20 47.3**	**0.0**
HDA	**Harding Lake**	**87.43**	**13**	P		**P**	**16 20 48.4**	**+0.3**
HDA				IAmb		IAmb	16 20 49.6	
	comp=Z,3.4nm,0.6s							
H21K	**Melozitna Rive**	**87.44**	**10**	P		**P**	**16 20 48.3**	**+0.1**
CCB	**Clear Creek Bu**	**87.46**	**13**	P		**P**	**16 20 48.3**	**+0.1**
CCB				IAmb		IAmb	16 20 49.0	
	comp=Z,3.8nm,0.6s							
IMAR	**Indian Mountai**	**87.59**	**10**	P		**P**	**16 20 49.0**	**+0.1**
MDM	**Murphy Dome**	**87.65**	**12**	P		**P**	**16 20 49.0**	**-0.2**
IL31		**87.76**	**13**	P		**P**	**16 20 49.8**	**+0.1**
IL31				IAmb		IAmb	16 20 50.7	
	comp=Z,4.2nm,1.3s							
ILAR	**Eielson Array**	**87.76**	**13**	P		**P**	**16 20 49.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=218,slow=5.8,SNR=21							
	comp=Z,1.1nm,0.7s							
J25K	**Salcha River,**	**87.95**	**14**	P		**P**	**16 20 50.9**	**+0.2**
J25K				IAmb		IAmb	16 21 26.7	
	comp=Z,4.2nm,1.4s							
J26L	**Joseph Creek**	**88.26**	**14**	P		**P**	**16 20 53.0**	**+0.8**
J26L				IAmb		IAmb	16 20 54.3	
	comp=Z,3.2nm,0.9s							
PDAR	**Pinedale Array**	**88.66**	**43**	P		**P**	**16 20 56.3**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=208,slow=5.6,SNR=5.5							
	comp=Z,0.5nm,0.7s							
EGAK	**Eagle**	**89.07**	**15**	P		**P**	**16 20 56.9**	**+1.1**
EGAK				IAmb		IAmb	16 21 28.4	
	comp=Z,5.1nm,1.5s							
ARCES	**ARCESS Array B**	**128.28**	**350**	PKP		**PKPdf**	**16 27 02.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=7.6,slow=2.7,SNR=4.3							
AKASG	**Malin Array Be**	**142.38**	**331**	PKhKP		PKPpre	16 27 25.8	
	comp=Z,0.6nm,0.3s,baz=42,slow=4.4,SNR=6.8							
CLL	**Colln**	**147.42**	**347**	*i* PKPbc		**PKPbc**	**16 27 41.8**	**+0.6**
	comp=Z,3.0nm,0.8s							
CLL				*i* (PKiKP)			16 27 45.6	
	comp=Z,3.0nm,0.7s							
GERES	**GERESS Array B**	**149.56**	**344**	PKPbc		**PKPbc**	**16 27 46.4**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=28,slow=3.2,SNR=6.5							

IDC 25 16:47:47.7±1.9, 12°.84S×165°.49E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=121.8km s-min=33.9km az=147.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.00**	**225**	P	P	16 53 49.4	+0.1
	1.4nm,0.9s,baz=34,slow=15,SNR=1.3						
	1.4nm,0.9s						
WRA	**Warramunga Arr**	**30.67**	**253**	P	P	16 54 04.0	-0.3
	0.1nm,0.4s,baz=85,slow=8.6,SNR=2.1						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**31.80**	**246**	P	P	16 54 14.3	+0.1
	0.2nm,0.5s,baz=72,slow=9.5,SNR=8.4						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**87.36**	**50**	P	P	17 00 37.2	0.0
	0.3nm,0.7s,baz=249,slow=7.5,SNR=2.5						
	0.3nm,0.7s						

*SOME **25** 16:56:29.7, 39°.42N×73°.28E, h10km*
*KRNET **25** 16:56:30.4±0.1, 39°.40N×73°.12E, h17km, mb3.8*
*NNC **25** 16:56:36.3±2.2, 39°.75N×73°.00E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=18.0km s-min=11.0km az=176.0*

ISC 25 16:56:30.3±1.4, 39°.59N±0°.04×73°.15E±0°.03, h2km±12km, n54, σ2§15/80, 39C-14D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.97**	**343**	⇓*i*P	**Pn**	**16 56 52.2**	**+1.0**
	baz=47						
OHH				⇓*i*S	**Sn**	**16 57 08.3**	**+2.7**
	baz=47						
DRK	**Karamyk**	**1.05**	**264**	⇑*i*P	**Pb**	**16 56 50.1**	**-1.4**
	baz=75						
DRK				⇑*i*S	**Sb**	**16 57 04.4**	**-1.4**
	baz=75						
BTK	**Batken**	**1.86**	**285**	⇑*i*P	**Pg**	**16 57 05.5**	**-0.4**
	baz=91						
BTK				⇑*i*S	**Sg**	**16 57 31.2**	**+1.2**
	baz=91						
GAR	**Garm**	**2.28**	**256**	⇑*i*P	**Pb**	**16 57 10.5**	**-1.8**
	baz=60						
GAR				⇑*i*S	**Sb**	**16 57 39.4**	**-1.5**
	baz=60						
TRKS	**Terek-Say**	**2.47**	**322**	⇑*i*P	**Pb**	**16 57 14.8**	**-0.8**
	baz=25						
TRKS				⇑*i*S	**Sb**	**16 57 47.4**	**+0.9**
	baz=25						
AML	**Almayashu**	**2.57**	**9**	P	**Pg**	**16 57 19.5**	**-0.1**
	SNR=33						
UCH	**Uchtor**	**2.83**	**21**	P	**Pg**	**16 57 23.1**	**-1.4**
	SNR=28						
UCH	**Uchtor**	**2.83**	**21**	⇑*i*P	**Pb**	**16 57 21.5**	**-0.4**
	baz=20						
UCH				⇑*i*S	**Sg**	**16 57 59.1**	**-2.1**
	baz=20						
NRN	**Naryn**	**2.85**	**49**	⇑*i*P	**Pb**	**16 57 20.8**	**-1.3**
	baz=46						
NRN				⇑*i*S	**Sb**	**16 57 57.7**	**+0.2**
	baz=46						
EKS2	**Erkin-Say**	**3.10**	**9**	P	**Pg**	**16 57 27.2**	**-2.6**
	SNR=10						
EKS2	**Erkin-Say**	**3.10**	**9**	⇓*i*P	**Pb**	**16 57 25.4**	**-0.9**
	baz=8.0						
EKS2				⇓*i*S	**Sb**	**16 58 05.4**	**+0.7**
	baz=8.0						
MRKS	**Merke**	**3.15**	**1**	*e*P	**Pg**	**16 57 30.7**	**0.0**
	15nm,0.4s						
MRKS				*e*S	**Sg**	**16 58 14.9**	**+3.4**
	66nm,0.7s						
MRKS	**Merke**	**3.15**	**1**	Pg	**Pb**	**16 57 27.3**	**+0.2**
	11nm,0.4s						
MRKS				Lg	Lg	16 58 11.8	
	66nm,0.7s						
AAK	**Ala-Archa**	**3.21**	**18**	P	**Pb**	**16 57 28.7**	**+0.6**
	SNR=16						
AAK	**Ala-Archa**	**3.21**	**18**	⇑*i*P	**Pb**	**16 57 26.8**	**-1.3**
	baz=17						
AAK				⇑*i*S	**Sb**	**16 58 08.0**	**+0.2**
	baz=17						
CHGR	**Chuyangaron**	**3.24**	**255**	⇑*i*P	**Pn**	**16 57 23.6**	**+1.2**
	baz=58						
CHGR				⇑*i*S	**Sn**	**16 58 02.6**	**+1.0**
	baz=58						
KBK	**Karagaybulak**	**3.35**	**23**	⇓*i*P	**Pb**	**16 57 28.6**	**-2.0**
	baz=22						
KBK				⇓*i*S	**Sb**	**16 58 11.3**	**-0.5**
	baz=22						
IUG	**luzhnay**	**3.48**	**318**	*e*P	**Pg**	**16 57 36.2**	**-0.8**
	262nm,0.6s						
IUG				*e*S	**Sg**	**16 58 24.2**	**+2.0**
	34nm,0.4s						
IUG	**luzhnay**	**3.48**	**318**	Pg	**Pb**	**16 57 33.1**	**+0.3**
	166nm,0.7s						
IUG				Lg	Lg	16 58 22.0	
	33nm,0.9s						
ULHL	**Ulahol**	**3.54**	**40**	P	**Pb**	**16 57 33.5**	**-0.3**
	SNR=5.7						
ULHL	**Ulahol**	**3.54**	**40**	⇑*i*P	**Pb**	**16 57 30.9**	**-2.9**
	baz=39						
ULHL				⇑*i*S	**Sb**	**16 58 15.2**	**-2.1**
	baz=39						
BOOM	**Boomskoye usch**	**3.58**	**35**	⇑*i*P	**Pb**	**16 57 31.7**	**-2.8**
	baz=34						
BOOM				⇑*i*S	**Sb**	**16 58 16.5**	**-2.0**
	baz=34						
CHMS	**Chumysh**	**3.61**	**19**	P	**Pb**	**16 57 33.9**	**-1.0**
	SNR=22						
CHMS	**Chumysh**	**3.61**	**19**	⇓Pn	**Pb**	**16 57 33.8**	**-1.1**
	16nm,0.3s						
CHMS				⇓Lg	Lg	16 58 27.8	
	21nm,0.7s						
CHMS	**Chumysh**	**3.61**	**19**	⇑*i*P	**Pb**	**16 57 32.1**	**-2.8**
	baz=18						
CHMS				⇑*i*S	**Sb**	**16 58 17.3**	**-1.9**
	baz=18						
TKM2	**Tokmak 2**	**3.80**	**28**	P	**Pb**	**16 57 36.8**	**-1.5**
	SNR=7.4						
TKM2	**Tokmak 2**	**3.80**	**28**	⇑Pn	**Pb**	**16 57 36.3**	**-2.0**
	3.2nm,0.4s						
TKM2				⇑Pg	**Pg**	**16 57 46.0**	**+2.8**
	8.2nm,0.5s						
TKM2				⇑Lg	Lg	16 58 36.0	
	20nm,0.7s						
TKM2	**Tokmak 2**	**3.80**	**28**	⇓*i*P	**Pb**	**16 57 35.0**	**-3.3**
	baz=27						
TKM2				⇓*i*S	**Sb**	**16 58 22.2**	**-2.7**
	baz=27						
USP	**Ospenovka**	**3.81**	**15**	P	**Pb**	**16 57 36.5**	**-1.8**
	SNR=9.9						
USP	**Ospenovka**	**3.81**	**15**	⇑*i*P	**Pb**	**16 57 35.1**	**-3.2**
	baz=15						
USP				⇑*i*S	**Sb**	**16 58 22.4**	**-2.5**
	baz=15						
SGDS	**Sogindy**	**4.01**	**16**	*e*P	**Pg**	**16 57 46.9**	**-0.4**
	7.9nm,0.5s						
SGDS				*e*S	**Sg**	**16 58 42.3**	**+3.0**
	17nm,0.7s						
SGDS	**Sogindy**	**4.01**	**16**	Pg	**Pg**	**16 57 45.4**	**-1.8**
	7.9nm,0.5s						
SGDS				Lg	Lg	16 58 42.3	
	17nm,0.7s						
KK31	**Karatay Array**	**4.03**	**331**	Pn	**Pb**	**16 57 38.2**	**-3.9**
	0.9nm,0.3s,baz=137,slow=13,SNR=60						
KK31				⇑Pg	**Pg**	**16 57 49.0**	**+1.4**
	6.1nm,0.4s,baz=177,slow=17,SNR=15						
KK31				⇑Sn	**Sb**	**16 58 27.1**	**-4.2**
	18nm,0.6s,baz=152,slow=22,SNR=4.9						
KK31				⇑Lg	Lg	16 58 41.4	
	14nm,0.6s						
KKAR	**Karatay Array**	**4.03**	**331**	⇑*i*P	**Pb**	**16 57 37.7**	**-4.4**
	baz=33						
KKAR				⇑*i*S	**Sb**	**16 58 26.8**	**-4.5**
	baz=33						
KST	**Kastek**	**4.05**	**31**	*e*P	**Pg**	**16 57 48.1**	**+0.2**
	3.6nm,0.4s						
KST				*e*S	**Sg**	**16 58 44.6**	**+4.3**
	27nm,1.1s						
KST	**Kastek**	**4.05**	**31**	Pg	**Pg**	**16 57 46.7**	**-1.2**
	7.1nm,0.5s						
KST				Lg	Lg	16 58 44.6	
	27nm,1.1s						
MTBS	**Maitube**	**4.31**	**34**	*e*P	**Pg**	**16 57 52.6**	**-0.3**
	3.3nm,0.5s						
MTBS				*e*S	**Sg**	**16 58 52.4**	**+3.6**
	19nm,0.3s						
MTBS	**Maitube**	**4.31**	**34**	Pg	**Pg**	**16 57 51.3**	**-1.6**
	4.8nm,0.4s						
MTBS				Lg	Lg	16 58 52.4	
	19nm,0.3s						
TNSS	**Tian-Shan**	**4.47**	**38**	*e*P	**Pg**	**16 57 55.0**	**-1.0**
	9.9nm,0.4s						
TNSS				*e*S	**Sg**	**16 58 56.9**	**+2.9**
	13nm,0.6s						
TNSS	**Tian-Shan**	**4.47**	**38**	Pg	**Pg**	**16 57 53.9**	**-2.2**
	5.9nm,0.4s						
TNSS				Lg	Lg	16 58 56.9	
	13nm,0.6s						
MDOK	**Medeo**	**4.62**	**38**	*e*P	**Pg**	**16 57 57.8**	**-1.0**
	2.5nm,0.5s						
MDOK				*e*S	**Sg**	**16 59 01.5**	**+2.9**
	16nm,0.6s						
MDOK	**Medeo**	**4.62**	**38**	⇑Pn	**Pb**	**16 57 48.7**	**-3.5**
	4.4nm,0.8s						
MDOK				Pg	**Pg**	**16 57 56.6**	**-2.2**
	3.5nm,1.0s						
MDOK				Pg	Pn	16 58 01.2	+20
	8.4nm,0.6s						
MDOK				Lg	Lg	16 59 01.5	
	16nm,0.6s						
MDOK				⇑Lg	Lg	16 59 02.3	
	27nm,0.8s						
KNDC	**Almaty**	**4.62**	**37**	⇑Lg	Lg	16 59 01.7	
	145nm,0.9s						
KUU	**Kurty**	**4.92**	**28**	*e*P	**Pg**	**16 58 03.2**	**-1.3**
	4.0nm,0.3s						
KUU				*e*S	**Sg**	**16 59 10.5**	**+2.4**
	28nm,0.7s						
KUU	**Kurty**	**4.92**	**28**	Pg	**Pg**	**16 58 01.9**	**-2.6**
	4.0nm,0.3s						
KUU				Lg	Lg	16 59 10.5	
	28nm,0.7s						
CHKK	**Chushkaly**	**5.14**	**33**	*e*P	**Pg**	**16 58 07.3**	**-1.5**
	1.6nm,0.2s						
CHKK				*e*S	**Sg**	**16 59 17.3**	**+2.1**
	15nm,0.6s						
CHKK	**Chushkaly**	**5.14**	**33**	Pg	**Pg**	**16 58 06.2**	**-2.5**
	1.6nm,0.2s						
CHKK				Lg	Lg	16 59 18.2	
	15nm,0.6s						
BTLS	**Baital**	**5.49**	**7**	*e*P	**Pg**	**16 58 12.8**	**-2.6**
	1.1nm,0.8s						
BTLS				*e*S	**Sg**	**16 59 27.2**	**+0.7**
	10nm,0.5s						
BTLS	**Baital**	**5.49**	**7**	Pg	Pg	16 58 11.2	-4.2
	2.1nm,0.3s						
BTLS				Lg	Lg	16 59 27.2	
	10nm,0.5s						
PDGK	**Podgornoye**	**6.05**	**50**	⇑Pn	Pb	16 58 09.6	-7.0
	3.8nm,1.1s						
PDGK				⇓Pg	**Pg**	**16 58 27.3**	**+1.1**
	3.4nm,0.8s						
PDGK				⇓Lg	Lg	16 59 49.0	
	11nm,0.8s						
OTUK	**Ortayu**	**8.67**	**356**	⇓Pn	Pn	16 58 40.7	+3.9
	1.7nm,0.8s						
OTUK				⇑Lg	Lg	17 01 10.5	
	9.9nm,0.8s						
MK31	**Makanchi Array**	**9.81**	**40**	⇑Lg	Lg	17 01 49.9	
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**11.66**	**17**	⇑Lg	Lg	17 02 45.8	
	6.2nm,0.8s						
AB31	**Akbulak array**	**13.49**	**320**	⇓Pn	**Pn**	**16 59 43.5**	**+0.8**
	1.1nm,0.6s,baz=131,slow=13,SNR=15						

IDC 25 17:08:54.1±4.2, 22°.56S×175°.74W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=202.4km s-min=43.4km az=146.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.13**	**258**	P	P	17 17 19.6	-1.0
	0.3nm,0.8s,baz=83,slow=7.6,SNR=2.7						
ASAR				PcP	PcP	17 18 55.8	-1.1
	0.3nm,0.6s,baz=116,slow=4.1,SNR=5.4						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**46.43**	**263**	P	P	17 17 24.2	+1.2
	0.3nm,1.0s,baz=95,slow=7.5,SNR=1.6						
	0.3nm,1.0s						
ILAR	**Eielson Array**	**89.87**	**12**	P	P	17 21 54.7	+0.3
	0.2nm,0.5s,baz=211,slow=5.4,SNR=5.3						
	0.2nm,0.5s						

*IDC **25** 17:10:38.4±1.7, 5°.51S×145°.89E, h0km, mb3.1/3, mbtmp3.3/6, ML3.3/2, Error ellipse: s-maj=47.6km s-min=28.7km az=112.0*

ISC 25 17:10:40.5±2.6, 5°.6S±0°.2×146°.3E±0°.3, h35km, n7, σ3§39/7, mb3.3/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.83**	**168**	Pn	**Pn**	**17 11 41.5**	**+4.5**
	8.6nm,0.3s,baz=348,slow=9.3,SNR=17						
PMG				Sn	**Sn**	**17 12 16.8**	**-3.9**
	4.8nm,0.3s,baz=4.9,slow=9.3,SNR=4.7						
CTA	**Charters Tower**	**14.36**	**180**	Pn	**P**	**17 14 06.1**	**-1.8**
	0.3nm,0.3s,baz=7.3,slow=13,SNR=7.8						
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**18.39**	**218**	P	**Pn**	**17 14 53.4**	**+0.7**
	0.1nm,0.3s,baz=39,slow=12,SNR=4.9						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**21.55**	**212**	P	**P**	**17 15 28.0**	**+1.0**
	0.1nm,0.5s,baz=48,slow=8.9,SNR=5.1						
	0.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.70**	**237**	P	**P**	**17 15 48.9**	**-0.4**
	1.0nm,0.9s,baz=183,slow=7.3,SNR=1.4						
	1.0nm,0.9s						
ILAR	**Eielson Array**	**85.42**	**23**	P	P	17 23 18.4	+4.3
	0.3nm,0.7s,baz=259,slow=5.5,SNR=2.0						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**144.36**	**285**	PKP	**PKiKP**	**17 30 15.3**	**-2.3**
	0.6nm,0.7s,baz=87,slow=3.0,SNR=4.3						

IDC 25 17:24:20.5±6.9, 6°.24N×123°.97E, h110km±76km, mb3.2/3, mbtmp3.6/3, Error ellipse: s-maj=87.1km s-min=20.4km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.79**	**63**	P	Pn	17 24 49.8	-1.1
	152nm,0.5s,baz=105,slow=11,SNR=3.7						
DAV				S	Sn	17 25 14.5	+0.5
	206nm,0.5s,baz=15,slow=14,SNR=5.6						
WRA	**Warramunga Arr**	**27.95**	**159**	P	P	17 30 00.6	-0.2
	0.3nm,0.4s,baz=342,slow=9.5,SNR=7.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**31.27**	**162**	P	P	17 30 30.4	+0.2
	0.3nm,0.5s,baz=342,slow=7.3,SNR=22						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**53.94**	**326**	P	P	17 33 32.9	0.0
	0.4nm,0.4s,baz=123,slow=7.7,SNR=10						
	0.4nm,0.4s						

*IDC **25** 17:24:16.8±2.6, 33°.31S×178°.69W, h0km, mb4.0/4, mbtmp4.0/5, ML3.5/1, Error ellipse: s-maj=58.7km s-min=36.0km az=117.0*

ISC 25 17:24:22.0±2.6, 33°.4S±0°.2×178°.6W±0°.4, h41km, n7, σ1§24/8, mb3.9/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.98**	**214**	Pn	**Pn**	**17 25 46.5**	**-1.5**
	1.1nm,0.3s,baz=108,slow=0.2,SNR=6.3						
URZ				Sn	**Sn**	**17 26 56.4**	**+1.3**
	6.3nm,0.3s,baz=262,slow=21,SNR=16						
	15nm,1.0s						
RPZ	**Rata Peaks**	**13.10**	**215**	Sn	Sn	17 29 39.5	-10
	0.7nm,0.3s,baz=5.7,slow=21,SNR=6.0						
CTA	**Charters Tower**	**33.86**	**284**	P	**P**	**17 30 59.7**	**-1.1**
	3.6nm,1.1s,baz=148,slow=13,SNR=3.4						
	3.6nm,1.1s						
ASAR	**Alice Springs**	**42.49**	**270**	P	**P**	**17 32 14.3**	**+0.8**
	1.4nm,0.6s,baz=114,slow=8.2,SNR=28						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**43.75**	**276**	P	**P**	**17 32 23.8**	**+0.1**
	0.8nm,0.4s,baz=117,slow=7.5,SNR=20						
WRA				PcP	**PcP**	**17 34 11.4**	**+1.4**
	0.4nm,0.9s,baz=110,slow=3.4,SNR=2.5						
	0.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**51.87**	**273**	P	**P**	**17 33 26.7**	**+0.2**
	0.8nm,0.7s,baz=356,slow=2.3,SNR=1.6						
	0.8nm,0.7s						
FINES	**FINESS Array B**	**147.71**	**338**	PKPbc	**PKPbc**	**17 44 01.3**	**-0.1**
	2.4nm,1.0s,baz=57,slow=5.1,SNR=5.1						

*NOU **25** 17:53:57.2, 14°.00S×172°.03W, h99km, MLv3.0/5, Samoa Islands*

IDC 25 17:53:33.4±5.0, 16°.13S×172°.57W, h0km, mb3.4/3, mbtmp3.6/4, ML4.6/1, MS3.2/3, Error ellipse: s-maj=184.0km s-min=26.6km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.34**	**19**	Pn	Pn	17 54 12.7	-0.4
	136nm,0.3s,baz=205,slow=3.5,SNR=136						
AFI				Sn	Sn	17 54 31.7	-11
	163nm,0.3s,baz=325,slow=23,SNR=7.9						
AFI				LR	LR	17 54 52.9	
	comp=Z,185nm,21.0s,baz=164,slow=34						
	302nm,0.3s						
AFI	**Afiamalu**	**2.34**	**19**	P	Pn	17 54 12.7	-0.5
MSVF	**Nonsavu**	**9.12**	**259**	LR	LR	17 58 44.2	
	comp=Z,86nm,18.2s,baz=114,slow=34						
WRA	**Warramunga Arr**	**50.46**	**257**	P	P	18 02 33.3	-0.1
	0.4nm,1.0s,baz=99,slow=6.7,SNR=2.3						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**50.65**	**252**	P	P	18 02 34.6	-0.2
	0.5nm,0.8s,baz=89,slow=7.8,SNR=14						
	0.5nm,0.8s						
BATI	**Baumata**	**62.17**	**267**	LR	LR	18 29 44.7	
	comp=Z,62nm,18.1s,baz=176,slow=35						
ILAR	**Eielson Array**	**83.01**	**11**	P	P	18 06 00.4	+0.3
	0.4nm,0.9s,baz=225,slow=6.9,SNR=5.3						
	0.4nm,0.9s						

*JMA **25** 18:00:53.7±0.8, 34°.N±2°.×14°.2E±°, h19km±2km, MV3.7/36, FAR SE OFF BOSO PEN*
*NIED **25** 18:00:53.7, 34°.35N×141°.81E, h19km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr3.43; Mθθ-4.92; Mφφ1.49; Mrθ2.48; Mθφ1.91; Mφr0.53; Fault plane solution: M0 5.25000×10^15^ NP1: φs312.00000°, δ38.00000°, λ131.00000°. NP2: φs84.00000°, δ63.00000°, λ63.00000°.*
*IDC **25** 18:00:55.1±0.6, 34°.46N×141°.57E, h0km, mb3.9/18, mbtmp4.0/20, ML3.9/2, MS3.8/42 Error ellipse: s-maj=16.9km s-min=14.3km az=100.0*
*NEIC **25** 18:00:55.7±1.4, 34°.57N±0°.05×141°.8E±0°.1, h10km±1km, mb4.6/11, Error ellipse: s-maj=15.7km s-min=9.3km az=92.0*

ISC 25 18:00:58.5±0.5, 34°.48N±0°.04×141°.65E±0°.06, h27km, n103, σ1§57/68, mb4.1/25, MS3.9/43, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.58**	**288**	P	**Pb**	**18 01 07.8**	**-1.9**
BSO1				X		18 01 14.9	
BSO3	**Boso 3**	**0.99**	**289**	P	**Pb**	**18 01 15.0**	**-1.8**
BSO4	**Boso 4**	**1.19**	**296**	P	**Pb**	**18 01 18.8**	**-1.5**
KTR	**Katsuura**	**1.28**	**302**	P	**Pb**	**18 01 19.8**	**-2.1**
KTR				*e*S	**Sb**	**18 01 37.4**	**-0.6**
JKUC	**kamogawauchiur**	**1.37**	**300**	P	**Pb**	**18 01 20.8**	**-2.7**
CHOJ	**Chosi**	**1.38**	**332**	P	**Pn**	**18 01 20.7**	**-1.2**
JCN	**Nagara**	**1.51**	**309**	P	**Pb**	**18 01 23.6**	**-2.2**
JSMT	**Sammumatsuo**	**1.52**	**320**	P	**Pb**	**18 01 23.7**	**-2.3**
JYO	**Yokosk**	**1.79**	**295**	P	**Pb**	**18 01 27.4**	**-3.2**
JHJ2	**Mitsune**	**2.04**	**229**		**Pb**	**18 01 31.7**	**-3.2**

JCJ Chichijima 7.37 176 P **Pn 18 02 44.7 +0.4**
ERM Erimo 7.62 9 Pn **Pn 18 02 44.4 -3.3**
ERM Erimo 7.62 9 P **Pn 18 02 45.1 -2.6**
JEW Eniwo 8.35 359 Pn **Pn 18 02 56.0 -1.8**
KSRS Korea Array 11.51 289 Pn Pn 18 03 44.5 +3.5
0.1nm,0.3s,baz=102,slow=14,SNR=10
KLR Kul'dur 16.46 337 Pn **Pn 18 04 43.8 -3.6**
baz=159,slow=18,SNR=1.7
MA2 Magadan 25.82 11 LR LR 18 17 38.7
comp=Z,109nm,18.5s,baz=222,slow=39
H11N2 WAKE ISLAND Hy 26.75 117 T T 18 34 46.7
baz=309,slow=75,SNR=30
H11N1 WAKE ISLAND Hy 26.76 117 T T 18 34 49.2
baz=309,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 26.77 117 T T 18 34 44.9
baz=309,slow=75,SNR=26
H11S3 WAKE ISLAND Hy 27.38 119 T T 18 35 35.0
baz=312,slow=75,SNR=21
H11S1 WAKE ISLAND Hy 27.38 119 T T 18 35 39.2
baz=312,slow=75,SNR=29
H11S2 WAKE ISLAND Hy 27.40 119 T T 18 35 35.1
baz=312,slow=75,SNR=21
YAK Yakutsk 28.60 348 LR LR 18 18 44.5
comp=Z,314nm,19.7s,baz=89,slow=37
SHEM Shemya Is, Ala 29.40 42 LR LR 18 19 34.5
comp=Z,59nm,18.6s,baz=248,slow=38
SONM Songino Array 29.43 308 P **P 18 07 01.6 +1.7**
1.2nm,0.6s,baz=105,slow=7.0,SNR=5.1
SONM LR LR 18 19 48.7
comp=Z,386nm,18.1s,baz=100,slow=39
1.2nm,0.6s
DAV Davao City (W) 31.04 212 LR LR 18 20 49.4
comp=Z,119nm,18.9s,baz=50,slow=38
SIJI Sorong 36.48 198 LR LR 18 21 23.0
comp=Z,90nm,18.7s,baz=22,slow=34
TIXI Tiksi 37.85 353 LR LR 18 24 57.7
comp=Z,189nm,18.5s,baz=180,slow=38
CMAR Chiang Mai Arr 41.10 258 P **P 18 08 39.9 -0.3**
1.0nm,0.3s,baz=49,slow=8.2,SNR=5.4
CMAR LR LR 18 28 26.9
comp=Z,121nm,19.0s,baz=190,slow=40
1.0nm,0.3s
ZALV Zalesovo Beam 43.80 314 P **P 18 09 01.1 -0.6**
0.9nm,0.6s,baz=90,slow=8.6,SNR=3.0
ZALV PcP **PcP 18 10 48.9 +0.9**
0.6nm,0.5s,baz=50,slow=2.5,SNR=1.9
ZALV LR LR 18 28 33.3
comp=Z,81nm,21.1s,baz=79,slow=38
0.9nm,0.6s
PMG Port Moresby 43.95 172 LR LR 18 26 18.6
comp=Z,39nm,18.4s,baz=324,slow=35
KAPI Kappang 44.38 212 LR LR 18 28 01.1
comp=Z,44nm,18.9s,baz=356,slow=37
BRDH Bariadhala 45.05 269 LR LR 18 31 41.3
comp=Z,326nm,18.4s,baz=88,slow=41
MK31 Makanchi Array 45.67 304 P **P 18 09 17.4 +0.6**
MK31 IAmb IAmb 18 09 32.4
comp=Z,2.9nm,0.9s
MKAR Makanchi Array 45.67 304 P **P 18 09 16.7 -0.1**
comp=Z,1.1nm,0.5s,baz=86,slow=9.1,SNR=16
MKAR LR LR 18 29 33.6
comp=Z,211nm,18.5s,baz=119,slow=38
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 45.67 304 P **P 18 09 15.1 -1.7**
HNR Honiara 46.99 155 LR LR 18 27 15.0
comp=Z,1μm,21.5s,baz=7.0,slow=34
KURK Kurchatov 47.69 310 P **P 18 09 31.8 -0.7**
KURK IAmb IAmb 18 09 48.8
comp=Z,6.2nm,0.8s
KURBB Kurchatov Arra 47.75 310 P **P 18 09 33.0 +0.1**
comp=Z,1.4nm,0.4s,baz=84,slow=7.6,SNR=31
comp=Z,1.4nm,0.4s
MTN Manton Dam 48.11 194 P **P 18 09 36.2 +0.2**
KDAK Kodiak Island 48.90 40 LR LR 18 30 37.7
comp=Z,81nm,18.8s,baz=248,slow=36
ILAR Eielson Array 51.56 31 P **P 18 10 03.4 +1.5**
comp=Z,0.9nm,0.7s,baz=272,slow=6.6,SNR=9.8
comp=Z,0.9nm,0.7s
LEM Lembang 52.17 225 LR LR 18 33 12.9
comp=Z,83nm,18.1s,baz=345,slow=37
BVAR Borovoye Array 52.45 314 LR LR 18 32 46.8
comp=Z,61nm,20.2s,baz=82,slow=36
WB0 Warramunga Arr 54.38 188 P **P 18 10 23.4 +0.4**
WB0 IAmb IAmb 18 10 45.5
comp=Z,10nm,1.2s
CTA Charters Tower 54.44 175 LR LR 18 34 17.0
comp=Z,25nm,19.1s,baz=322,slow=37
FITZ Fitzroy Crossi 54.46 199 P **P 18 10 23.4 -0.2**
FITZ IAmb IAmb 18 10 27.4
comp=Z,4.9nm,0.8s
WR0 Warramunga Arr 54.55 188 P **P 18 10 24.7 +0.4**
WR0 IAmb IAmb 18 10 28.4
comp=Z,13nm,1.4s
WB2 Warramunga Arr 54.56 188 P **P 18 10 24.9 +0.6**
WB2 IAmb IAmb 18 10 26.8
comp=Z,4.6nm,0.8s
WRA Warramunga Arr 54.56 188 P **P 18 10 24.6 +0.2**
comp=Z,3.1nm,0.6s,baz=5.5,slow=7.7,SNR=54
WRA LR LR 18 33 12.3
comp=Z,57nm,20.4s,baz=30,slow=36
comp=Z,3.1nm,0.6s
WRA Warramunga Arr 54.56 188 P **P 18 10 24.6 +0.2**
KKAR Karatay Array 54.60 302 P **P 18 10 24.0 -0.6**
INK Inuvik 56.58 26 P **P 18 10 40.2 +1.9**
comp=Z,0.8nm,0.4s,baz=276,slow=2.0,SNR=3.6
comp=Z,0.8nm,0.4s
AS31 Alice Springs 58.29 188 P **P 18 10 51.4 +0.5**
ASAR Alice Springs 58.29 188 P **P 18 10 51.6 +0.8**
comp=Z,2.1nm,0.8s,baz=2.2,slow=6.9,SNR=24
ASAR LR LR 18 35 27.5
comp=Z,57nm,19.9s,baz=30,slow=36
comp=Z,2.1nm,0.8s
ARU Arti 58.41 320 LR LR 18 37 26.6
comp=Z,78nm,18.1s,baz=76,slow=38
MBWA Marble Bar 59.12 204 P **P 18 10 57.6 +0.9**
ABKAR Akbulak array 59.75 311 P **P 18 10 59.9 -0.8**
ABKAR IAmb IAmb 18 11 19.6
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 60.54 313 LR LR 18 39 21.3
comp=Z,72nm,19.9s,baz=67,slow=38
DZM Mont Dzumac 60.98 154 LR LR 18 35 50.4
comp=Z,71nm,20.3s,baz=31,slow=34
PALK Palikeke 62.04 259 LR LR 18 39 38.5
comp=Z,15nm,18.7s,baz=139,slow=38
MSVF Nonsavu 62.41 140 LR LR 18 34 07.4
comp=Z,30nm,19.3s,baz=327,slow=32
SPITS Spitsbergen Ar 63.06 349 LR LR 18 40 13.3
comp=Z,89nm,21.1s,baz=27,slow=37
GEYT Alibeck 65.26 300 LR LR 18 42 32.9
comp=Z,96nm,18.6s,baz=84,slow=38
AFI Afiamalu 65.37 129 LR LR 18 35 39.1
comp=Z,72nm,20.7s,baz=32,slow=32
STKA Stephens Creek 66.00 180 LR LR 18 42 13.4
comp=Z,39nm,18.7s,baz=25,slow=38
ARCES ARCESS Array B 66.45 340 P **P 18 11 45.6 +0.6**
comp=Z,1.9nm,1.0s,baz=56,slow=8.1,SNR=3.9
ARCES LR LR 18 46 06.7
comp=Z,112nm,18.2s,baz=47,slow=41
comp=Z,1.9nm,1.0s
FINES FINESS Array B 71.16 333 P **P 18 12 15.2 +0.8**
comp=Z,0.8nm,0.7s,baz=95,slow=8.0,SNR=5.3
FINES LR LR 18 47 13.5
comp=Z,86nm,18.2s,baz=50,slow=39
comp=Z,0.8nm,0.7s
WSAR Wadi Sarin 71.73 286 LR LR 18 45 51.2
comp=Z,61nm,21.8s,baz=90,slow=38
KBZ Khabaz 72.72 311 P **P 18 12 26.3 +2.3**
comp=Z,2.1nm,1.0s,baz=31,slow=9.6,SNR=2.7
KBZ LR LR 18 45 37.2
comp=Z,69nm,19.6s,baz=62,slow=37
comp=Z,2.1nm,1.0s
NVAR Mina Array Bea 76.38 53 P **P 18 12 47.9 +2.2**
comp=Z,0.5nm,0.7s,baz=305,slow=6.0,SNR=4.8
comp=Z,0.5nm,0.7s
AKASG Malin Array Be 76.44 323 P **P 18 12 45.5 +0.1**
comp=Z,0.7nm,0.4s,baz=49,slow=6.5,SNR=7.2
AKASG LR LR 18 49 32.2
comp=Z,94nm,18.7s,baz=51,slow=38
comp=Z,0.7nm,0.4s
HFS Hagfors 76.49 336 LR LR 18 48 32.5
comp=Z,141nm,21.1s,baz=40,slow=37
NOA NORSAR Array B 76.61 338 P **P 18 12 46.3 0.0**
comp=Z,0.3nm,0.5s,baz=39,slow=5.7,SNR=1.9
NOA LR LR 18 49 31.2
comp=Z,122nm,19.9s,baz=50,slow=38
comp=Z,0.3nm,0.5s
PDAR Pinedale Array 79.33 45 P **P 18 13 03.4 +1.3**
comp=Z,0.4nm,0.9s,baz=270,slow=2.7,SNR=2.2
comp=Z,0.4nm,0.9s
BRTR Keskin Array B 80.69 312 P **P 18 13 10.6 +1.2**
comp=Z,0.4nm,0.7s,baz=64,slow=3.7,SNR=2.6
comp=Z,0.4nm,0.7s
MLR Muntele Rosu 81.46 320 LR LR 18 52 19.7
comp=Z,133nm,19.4s,baz=45,slow=38
RPZ Rata Peaks 82.31 159 LR LR 18 43 22.9
comp=Z,42nm,21.4s,baz=8.5,slow=31
VRAC Vranov 83.37 327 LR LR 18 52 34.5
comp=Z,54nm,19.5s,baz=36,slow=37
MMAI Mount Meron Ar 83.60 306 LR LR 18 55 06.5
comp=Z,83nm,18.2s,baz=314,slow=39
EKA Eskdalemuir Ar 85.60 341 LR LR 18 55 49.9
comp=Z,60nm,18.0s,baz=10.0,slow=38
DAVOX Davos/Dischmat 88.21 329 LR LR 18 56 42.8
comp=Z,94nm,18.4s,baz=106,slow=38
TXAR Lajitas Array 91.53 53 P **P 18 14 03.9 +0.9**
comp=Z,0.3nm,0.7s,baz=296,slow=2.9,SNR=2.6
comp=Z,0.3nm,0.7s
ESDC Sonseca Array 99.66 334 LR LR 19 05 58.0
comp=Z,72nm,18.1s,baz=14,slow=39
TORD Torodi Ar. Bea 119.25 314 PKP **PKiKP 18 19 46.5 +0.7**
comp=Z,0.6nm,1.1s,baz=78,slow=1.7,SNR=1.3
LPAZ La Paz 147.75 63 PKPbc **PKPbc 18 20 41.9 -0.1**
comp=Z,1.2nm,0.7s,baz=292,slow=5.1,SNR=4.7

---

*SKHL **25** 18:12:12.3±0.5, 44.°70N× 150.°20E, h44km±4km, mb4.0/2*
*JMA **25** 18:12:13.6±1.0, 45.°7N±5.′×15.°0E±.′, h30km, MV3.5/11, SE OFF ETOROFU*
ISC 25 18:12:13.6±4.5, 44.°6N±0.′1×150.°0E±0.′2, h34km, n12, σ1s95/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.66**	**293**	*eP*		**Pn**	**18 12 39.2**	**-1.1**
KUR					AMB	AMB	18 12 41.1	
	30nm,0.5s							
KUR				*eS*		**Sn**	**18 12 59.3**	**-1.1**
KUR				A		A	18 13 02.1	
	40nm,0.3s							
KUR				A		A	18 13 02.1	
	90nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.04**	**261**	*eP*		**Pn**	**18 12 59.7**	**+0.4**
YUK					AMB	AMB	18 13 03.5	
	80nm,0.5s							
YUK				*eS*		**Sn**	**18 13 35.1**	**+0.6**
YUK				A		A	18 13 39.5	
	70nm,0.6s							
YUK				A		A	18 13 39.5	
	120nm,0.6s							
NEM2	**Nemuro 2**	**3.33**	**250**	*eP*		**Pn**	**18 13 03.5**	**+0.3**
NEM2				*eS*		**Sn**	**18 13 40.8**	**-0.8**
NMR	**Nemuro--Hokkai**	**3.34**	**250**	*eP*		**Pn**	**18 13 04.0**	**+0.7**
NMR				*eS*		**Sn**	**18 13 42.5**	**+0.7**
JRA	**Rausu**	**3.59**	**261**	*eP*		**Pn**	**18 13 08.6**	**+1.9**
JNK	**Nakash**	**3.96**	**257**	*eP*		**Pn**	**18 13 13.2**	**+1.3**
JNK				*eS*		**Sn**	**18 13 57.7**	**+0.6**
JAK	**Akkeshi**	**4.18**	**249**	*eP*		**Pn**	**18 13 15.4**	**+0.5**
JTKR	**Abashiri--Toko**	**4.44**	**264**	*eP*		**Pn**	**18 13 21.0**	**+2.5**
JAR	**Ashorobuto**	**4.70**	**256**	*eP*		**Pn**	**18 13 24.1**	**+2.0**
JOB	**Onbets**	**4.80**	**251**	*eP*		**Pn**	**18 13 24.8**	**+1.5**
JNBK	**Urakawa-nobuka**	**5.78**	**249**	*eP*		**Pn**	**18 13 37.6**	**+0.7**
JANG	**Nango**	**7.58**	**239**	*eS*		**Sn**	**18 15 20.8**	**-5.4**

---

*KRSC **25** 18:16:53.9±2.0, 48.°10N× 156.°75E, h28km±54km, ML4.2*
*IDC **25** 18:16:56.0±4.3, 48.°80N× 153.°52E, h159km±34km, mb2.8/3, mbtmp3.3/4, Error ellipse: s-maj=68.7km s-min=22.7km az=147.0*
ISC 25 18:16:52.7±1.9, 48.°4N±0.′2×154.°2E±0.′2, h150km, n23, σ2s11/26, mb3.0/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.58**	**28**	P		**Pn**	**18 17 36.0**	**+1.3**
SKR				S		**Sn**	**18 18 07.5**	**+0.3**
PAU	**Pauzhetka**	**3.48**	**28**	P		**Pn**	**18 17 47.1**	**+1.1**
PAU				S		**Sn**	**18 18 26.9**	**-0.6**
KDTR	**Khodutka, Kamc**	**4.20**	**35**	P		**Pn**	**18 17 55.2**	**-0.2**
KDTR				S		**Sn**	**18 18 40.4**	**-3.9**
ASAK	**Asacha**	**4.61**	**29**	P		**Pn**	**18 18 02.6**	**+1.7**
ASAK				S		**Sn**	**18 18 53.8**	**-0.3**
MTVR	**Mutnovka**	**4.79**	**30**	P		**Pn**	**18 18 04.2**	**+0.9**
MTVR				S		**Sn**	**18 18 56.6**	**-1.8**
GRL	**Gorelyy**	**4.81**	**29**	P		**Pn**	**18 18 05.6**	**+2.0**
GRL				S		**Sn**	**18 18 57.7**	**-1.2**
RUS	**Russkaya**	**4.87**	**33**	P		**Pn**	**18 18 04.3**	**+0.2**
RUS				S		**Sn**	**18 18 55.6**	**-4.3**
KRMR	**Karymshinskiy**	**5.07**	**28**	S		**Sn**	**18 19 07.3**	**+2.5**
PETK	**Petropavlovsk-**	**5.19**	**24**	P		**Pn**	**18 18 09.0**	**+0.5**
	8.4nm,0.6s,baz=209,slow=15,SNR=26							
PETK				S		**Sn**	**18 19 09.4**	**+1.8**
	3.4nm,0.7s,baz=134,slow=17,SNR=1.4							
DALK	**Dalny**	**5.44**	**30**	P		**Pn**	**18 18 13.3**	**+1.5**
DALK				S		**Sn**	**18 19 09.9**	**-3.7**
KOK	**Koryaka**	**5.62**	**28**	P		**Pn**	**18 18 16.2**	**+1.9**
KRX	**Arik**	**5.68**	**28**	P		**Pn**	**18 18 17.0**	**+1.8**
SPN	**Mys Shipunski**	**5.96**	**36**	P		**Pn**	**18 18 18.6**	**0.0**
SPN				S		Sn	18 19 19.3	-6.6
MKZ	**Mys Kozlova**	**7.72**	**34**	P		**Pn**	**18 18 41.9**	**-0.3**
MKZ				S		Sn	18 19 59.9	-8.3
KSRS	**Korea Array**	**22.05**	**250**	P		**P**	**18 21 36.1**	**+0.9**
	0.4nm,0.6s,baz=50,slow=9.7,SNR=2.5							
	0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy 30.39**	**156**		T		T	18 55 14.9	
	baz=342,slow=76,SNR=5.1							
H11N1	**WAKE ISLAND Hy 30.40**	**156**		T		T	18 55 15.4	
	baz=342,slow=76,SNR=4.6							
H11N3	**WAKE ISLAND Hy 30.40**	**156**		T		T	18 55 15.5	
	baz=342,slow=76,SNR=3.0							
H11S1	**WAKE ISLAND Hy 31.50**	**157**		T		T	18 56 42.3	
	baz=343,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy 31.51**	**157**		T		T	18 56 37.8	
	baz=343,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy 31.52**	**157**		T		T	18 56 37.2	
	baz=343,slow=76,SNR=12							
ILAR	**Eielson Array**	**34.78**	**40**	P		**P**	**18 23 31.1**	**+2.9**
	0.1nm,0.4s,baz=261,slow=5.8,SNR=5.6							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**46.87**	**296**	P		**P**	**18 25 04.1**	**-3.3**
	0.4nm,0.6s,baz=56,slow=8.8,SNR=4.1							
	0.4nm,0.6s							

---

*IGQ **25** 18:23:57±0.4, 3.°3S±2.′×8.°1W±.′, h10km*
*ARE **25** 18:23:58±3.2, 3.°34S±0.°05×80.°96W±0.°06, h29km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=144.0*
*NEIC **25** 18:23:59.6±1.8, 3.°23S±0.°04×80.°74W±0.°04, h32km±5km, mb4.7/57, ML5.0(ARE), Error ellipse: s-maj=7.1km s-min=3.3km az=127.0*
*IDC **25** 18:24:00.9±2.2, 3.°13S×80.°55W, h44km±21km, mb4.0/13, mbtmp4.3/18, ML3.8/4, MS3.9/39, Error ellipse: s-maj=23.6km s-min=12.2km az=74.0*
*VAO **25** 18:24:01.2±0.4, 3.°18S×80.°70W, h40km, mb4.5*
*GCMT **25** 18:24:04.9±0.4, 3.°20S±0.°02×80.°95W±0.°03, h31km±1km, MW4.9/75, Moment Tensor Solution. s22,c24; s75,c96; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.76±.24; Mθθ=2.84±.14; Mϕϕ=-2.08±.16; Mrθ=-0.39±.13; Mrϕ=-1.13±.10; Mθϕ=0.51±.26; Best double couple: Mo=2.79000×10^16^ NP1:ϕs146.00000°, δ85.00000°, λ-15.00000°. NP2: ϕs238.00000°, δ75.00000°, λ-175.00000°. Principal axes: T 3.1500, Plg7.0000°, Azm193.0000°; N -0.7190, Plg74.0000°, Azm309.0000°; P -2.4310, Plg14.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 18:24:01.2±0.4, 3.°23S±0.′04×80.°73W±0.′05, h53km, n415, σ1s25/394, mb4.6/37, MS3.9/35, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	**0.73**	**115**			**Pn**	**18 24 12.9**	**-2.6**
ARNL						**Sn**	**18 24 23.7**	**-2.1**
ARNL	**Arenillas**	**0.73**	**115**	P		**Pn**	**18 24 13.0**	**-2.4**
ARNL	**Arenillas**	**0.73**	**115**	S		**Sn**	**18 24 23.0**	**-2.8**
ACH1	**Ecuador-Univer**	**0.82**	**94**	P		**Pn**	**18 24 14.0**	**-2.6**
ACH1	**Ecuador-Univer**	**0.82**	**94**	S		**Sn**	**18 24 27.0**	**-0.8**
ACH2	**Ecuador-Machal**	**0.92**	**92**	P		**Pn**	**18 24 16.0**	**-1.9**
ACH2	**Ecuador-Machal**	**0.92**	**92**	S		**Sn**	**18 24 29.0**	**-1.2**
LAMO	**ALAMOR**	**1.05**	**138**	P		**Pn**	**18 24 18.0**	**-1.8**
GYE3	**Ecuador-Guayaq**	**1.35**	**38**	P		**Pn**	**18 24 20.0**	**-3.8**
AMCR	**Ecuador-Macara**	**1.37**	**146**	P		**Pn**	**18 24 22.0**	**-2.0**
MCRA	**Macar, Loja**	**1.37**	**146**			**Pn**	**18 24 21.8**	**-2.3**
MCRA					Sn	**Sn**	**18 24 39.6**	**-1.5**
MCRA	**Macar, Loja**	**1.37**	**146**	P		**Pn**	**18 24 21.0**	**-3.0**
AGUAY	**Guayaquil**	**1.40**	**34**	P		**Pn**	**18 24 24.0**	**-0.4**
MILO	**Milagro-Astudi**	**1.50**	**51**	P		**Pn**	**18 24 24.0**	**-1.8**
AMIL	**Milagro (Trans**	**1.57**	**46**	P		**Pn**	**18 24 24.0**	**-2.7**
GONZ	**Gonzanam**	**1.66**	**127**	P		**Pn**	**18 24 28.0**	**-0.3**
ACUE	**Ecuador-Cuenca**	**1.79**	**80**	P		**Pn**	**18 24 30.0**	**-0.1**
ISPT	**Isla de la Pla**	**1.99**	**350**	P		**Pn**	**18 24 29.0**	**-3.4**
BOSC	**San Juan Bosco**	**2.23**	**88**			**Pn**	**18 24 36.1**	**+0.2**
BOSC	**San Juan Bosco**	**2.23**	**88**	P		**Pn**	**18 24 35.0**	**-0.9**
ZUMB	**Zumba**	**2.26**	**136**	P		**Pn**	**18 24 36.0**	**-0.3**
LOJ1	**Universidad t**	**2.48**	**108**	P		Pn	18 24 28.0	-11
CHSH	**Refugio Sur-Vo**	**2.54**	**47**			**Pn**	**18 24 38.9**	**-1.6**
CHSH	**Refugio Sur-Vo**	**2.54**	**47**	P		**Pn**	**18 24 39.0**	**-1.4**
TAMH	**Tambohuasha Ch**	**2.57**	**49**	P		**Pn**	**18 24 39.0**	**-1.8**
PORT	**Chimborazo Vol**	**2.63**	**48**			**Pn**	**18 24 40.6**	**-1.1**
PORT	**Chimborazo Vol**	**2.63**	**48**	P		**Pn**	**18 24 40.0**	**-1.7**
IGUA	**Igualata**	**2.71**	**50**	P		**Pn**	**18 24 41.0**	**-1.9**
BMAS	**Trigal station**	**2.83**	**53**	P		**Pn**	**18 24 43.0**	**-1.3**
BIL2	**Estacion Bilba**	**2.84**	**52**	P		**Pn**	**18 24 44.0**	**-0.3**
CABP	**Cabo Pasado**	**2.84**	**6**	P		**Pn**	**18 24 42.0**	**-2.1**
ARRY	**Arrayan**	**2.84**	**53**	P		**Pn**	**18 24 44.0**	**-0.5**
BBIL	**Ulba Tungurahu**	**2.85**	**52**	P		**Pn**	**18 24 44.0**	**-0.6**
BPAT	**Tungurahua Vol**	**2.86**	**53**	P		**Pn**	**18 24 44.0**	**-0.9**
JUI6	**Juive**	**2.88**	**52**	P		**Pn**	**18 24 44.0**	**-1.0**
POND	**Pondoa**	**2.90**	**52**	P		**Pn**	**18 24 44.0**	**-1.2**
BULB	**Ulba Tungurahu**	**2.92**	**52**	P		**Pn**	**18 24 47.0**	**+1.4**
FLF1	**Flavio Alfaro-**	**2.99**	**17**	P		**Pn**	**18 24 44.0**	**-2.2**
JAMA	**Jama**	**3.00**	**10**	P		**Pn**	**18 24 44.0**	**-2.3**
ILLI	**Illinizas Sur**	**3.20**	**39**	P		**Pn**	**18 24 48.0**	**-1.5**
PAST	**Pastocalle**	**3.27**	**40**	P		**Pn**	**18 24 50.0**	**-0.4**
MAG1	**Magdalena**	**3.28**	**17**	P		**Pn**	**18 24 48.0**	**-2.2**
SLOR	**San Lorenzo -**	**3.34**	**42**			**Pn**	**18 24 51.6**	**+0.3**
SLOR	**San Lorenzo -**	**3.34**	**42**	P		**Pn**	**18 24 50.0**	**-1.4**
BMOR	**Cotopaxi Volca**	**3.36**	**42**	P		**Pn**	**18 24 51.0**	**-0.8**
CAMI	**Rancho Maria**	**3.37**	**41**	P		**Pn**	**18 24 51.0**	**-0.8**
BNAS	**Cotopaxi Volca**	**3.39**	**41**	P		**Pn**	**18 24 52.0**	**-0.1**
SUCR	**Mariscal Sucre**	**3.41**	**41**	P		**Pn**	**18 24 51.0**	**-1.3**
BTAM	**Cotopaxi Volca**	**3.45**	**43**	P		**Pn**	**18 24 52.0**	**-0.9**
BVC2	**Cotopaxi Volca**	**3.45**	**42**	P		**Pn**	**18 24 52.0**	**-1.0**
TAMB	**Tambo**	**3.45**	**43**	P		**Pn**	**18 24 53.0**	**0.0**
VC1	**Cotopaxi 1**	**3.47**	**42**	P		**Pn**	**18 24 53.0**	**-0.2**
PITA	**Cotopaxi Volc**	**3.51**	**41**	P		**Pn**	**18 24 57.0**	**+3.3**
TOMA	**Boca Toma-Volc**	**3.55**	**40**	P		**Pn**	**18 24 54.0**	**-0.3**
ANTM	**Antisana-La Mi**	**3.67**	**43**	P		**Pn**	**18 24 56.0**	**+0.1**
ANTG	**Antisana-Guama**	**3.67**	**42**	P		**Pn**	**18 24 56.0**	**0.0**
ARDO	**Archidona, Ten**	**3.67**	**53**	P		**Pn**	**18 24 55.0**	**-0.6**
BV15	**Puerto Quito-O**	**3.69**	**24**	P		**Pn**	**18 24 52.0**	**-3.8**
GGPC	**Guagua Pichinc**	**3.71**	**35**	P		**Pn**	**18 24 55.0**	**-1.5**
PINO	**Pino**	**3.72**	**35**	P		**Pn**	**18 24 55.0**	**-1.7**
APR2	**Miler**	**3.73**	**28**	P		Pn	18 25 02.0	+5.6
ANTS	**Antisana-Sarah**	**3.73**	**43**	P		**Pn**	**18 24 56.0**	**-0.8**
YANA	**Yana**	**3.77**	**35**	P		**Pn**	**18 24 56.0**	**-1.3**
ANTI	**Antisana**	**3.77**	**43**	P		**Pn**	**18 24 57.0**	**-0.4**
APR1	**Acelerografo,**	**3.81**	**34**	P		**Pn**	**18 24 56.0**	**-1.7**
PULU	**Pululahua**	**3.92**	**35**			**Pn**	**18 24 58.2**	**-1.1**
PTGL	**Punta Galera**	**4.05**	**10**	P		**Pn**	**18 24 58.0**	**-2.7**
OTAV	**Otavalo**	**4.13**	**33**	Pn		**Pn**	**18 25 01.2**	**-1.0**
OTAV	**Otavalo**	**4.13**	**33**	*eP*		**Pn**	**18 25 01.5**	**-0.7**
CUSE	**Cuicocha Este**	**4.21**	**34**	P		**Pn**	**18 25 02.0**	**-1.4**
CAYR	**Refugio Cayamb**	**4.22**	**40**	P		**Pn**	**18 25 04.0**	**+0.4**
CUSW	**Cuicocha Oeste**	**4.23**	**34**	P		**Pn**	**18 25 02.0**	**-1.5**
ANGU	**Angureal**	**4.24**	**40**	P		**Pn**	**18 25 07.0**	**+3.1**
CAYA	**Cayambe**	**4.27**	**40**	P		**Pn**	**18 25 03.0**	**-1.2**
IMBA	**Imbabura, San**	**4.30**	**36**			**Pn**	**18 25 05.7**	**+1.1**
URCU	**Urcuqui**	**4.41**	**34**	P		**Pn**	**18 25 04.0**	**-1.9**
ATAH	**Atahualpa**	**4.52**	**149**	P		**Pn**	**18 25 09.0**	**+1.5**
	4.3nm,0.3s,baz=335,slow=7.5,SNR=88							
ATAH					S	**Sn**	**18 25 58.1**	**-0.9**
	240nm,0.7s,baz=49,slow=14,SNR=4.1							
ATAH					LR	LR	18 27 27.0	
	comp=Z,2μm,18.5s,baz=323,slow=46							
	143nm,0.8s							
LNGL	**El Angel-Carch**	**4.79**	**35**	P		**Pn**	**18 25 11.0**	**-0.4**
CHMA	**Chilma**	**4.86**	**33**	P		**Pn**	**18 25 11.0**	**-1.1**
CHL1	**Volcɲn Chiles**	**4.87**	**35**	P		**Pn**	**18 25 12.0**	**-0.4**
ECEN	**Cerro Negro**	**4.88**	**34**	P		**Pn**	**18 25 13.0**	**+0.4**
CHL2	**Volcɲn Chiles**	**4.89**	**35**	P		**Pn**	**18 25 12.0**	**-0.7**
ATUL	**Tulcn**	**4.98**	**37**	P		**Pn**	**18 25 11.0**	**-2.8**
APS1	**Acelerografo,**	**5.04**	**49**	P		**Pn**	**18 25 10.0**	**-4.4**
CMBC	**Cumbal**	**5.06**	**35**	P		**Pn**	**18 25 12.0**	**-3.0**
BBAC	**Balboa, Cauca**	**6.27**	**34**	P		**Pn**	**18 25 30.0**	**-1.4**
CZSB	**Cruzeiro do Su**	**9.15**	**120**			**Pn**	**18 26 13.2**	**+2.6**
CZSB	**Cruzeiro do Su**	**9.15**	**120**	*eP*		**Pn**	**18 26 10.0**	**-0.7**
NNA	**Nana**	**9.51**	**156**	P		**Pn**	**18 26 14.8**	**-0.8**
	3.2nm,0.3s,baz=318,slow=12,SNR=9.8							
NNA					S	**Sn**	**18 27 52.8**	**-8.4**
	22nm,0.9s,baz=11,slow=16,SNR=1.2							
NNA					LR	LR	18 30 18.2	
	comp=Z,341nm,21.2s,baz=318,slow=40							
	16nm,0.5s							
NNA	**Nana**	**9.51**	**156**	Pn		**Pn**	**18 26 14.7**	**-1.0**
PAYG	**Puerto Ayora**	**9.88**	**285**	Pn		**Pn**	**18 26 19.6**	**-1.1**
ROSC	**El Rosal**	**10.26**	**39**	P		**Pn**	**18 26 22.9**	**-3.3**
	2.9nm,0.3s,baz=181,slow=22,SNR=1.2							
TBTG	**Tabatinga, AM**	**10.84**	**95**	*eP*		**Pn**	**18 26 34.4**	**+0.6**
BCIP	**Isla Barro Col**	**12.35**	**4**	Pn		**Pn**	**18 26 54.8**	**+0.5**
SDV	**Santo Domingo**	**15.69**	**40**	P		**Pn**	**18 27 35.0**	**-4.2**
	0.5nm,0.3s,baz=337,slow=15,SNR=1.2							
SDV					LR	LR	18 34 33.9	
	comp=Z,600nm,18.9s,baz=222,slow=41							
	2.5nm,0.4s							
SDV	**Santo Domingo**	**15.69**	**40**	*eP*		**P

CUPR Culebra, Puert 26.26 35 P P 18 29 30.3 -1.4
MALB Monte Alegre 26.47 88 eP P 18 29 34.9 +1.2
SALV Santo Antonio 27.66 119 eP P 18 29 45.9 +1.6
PP1B Ponte de Pedra 29.09 121 eP P 18 29 59.2 +2.1
MDP Montagnes des 29.25 74 LR LR 18 42 27.6
comp=Z,386nm,19.3s,baz=276,slow=38
AQDB Aquidauana 29.81 127 eP P 18 30 04.6 +1.2
ANTJ Antonio Joao (30.40 130 eP P 18 30 10.3 +1.7
SNDB Serra Nova Dou 30.41 108 eP P 18 30 09.3 +0.5
ROC1 El Roble 30.96 164 P P 18 30 12.8 -0.8
ROC1 IAmb IAmb 18 30 15.7
comp=Z,12nm,0.7s
MT02 Curacav 31.19 164 P P 18 30 15.9 +0.4
MT02 IAmb IAmb 18 30 52.0
comp=Z,22nm,1.4s
MT09 Talagante 31.72 164 P P 18 30 20.6 +0.3
MT09 IAmb IAmb 18 30 21.9
comp=Z,8.9nm,0.8s
CPUP Villa Florida 32.11 138 P P 18 30 24.1 +0.6
comp=Z,2.2nm,0.7s,baz=261,slow=7.4,SNR=2.8
CPUP LR LR 18 46 26.4
comp=Z,252nm,19.1s,baz=320,slow=42
comp=Z,2.2nm,0.7s
CPUP Villa Florida 32.11 138 eP P 18 30 25.0 +1.4
SMTB Santa Maria do 33.41 101 eP P 18 30 37.3 +2.1
PCMB Pacaembu 33.96 125 eP P 18 30 41.5 +1.6
IPMB Ipameri, GO 35.07 117 eP P 18 30 50.5 +0.9
NHSC New Hope 36.15 1 P P 18 31 00.4 +1.9
baz=181
833A Chaparral WMA, 36.15 331 P P 18 31 00.1 +1.5
baz=147
GOGA Godfrey 36.54 356 P P 18 31 01.3 -0.5
baz=175
LRAL Lakeview Retre 36.56 351 P P 18 31 02.0 0.0
LRAL IAmb IAmb 18 31 02.5
comp=Z,7.0nm,0.6s
LRAL Lakeview Retre 36.56 351 P P 18 31 01.8 -0.1
baz=170,SNR=5.0
SDBA SAO DESIDERIO 36.60 106 eP P 18 31 03.1 +0.4
NATX Nacogdoches 37.24 340 P P 18 31 08.8 +1.0
baz=157
435B Jarrell 37.46 336 P P 18 31 11.4 +1.8
baz=152
JCT Junction City 38.16 333 P P 18 31 14.8 -0.8
JCT Junction City 38.16 333 P P 18 31 16.7 +1.1
baz=148
KMSC Kings Mountain 38.18 359 P P 18 31 15.7 0.0
baz=179
LL04 Puerto Octay 38.25 170 P P 18 31 16.8 +0.6
LL04 IAmb IAmb 18 31 17.4
comp=Z,9.9nm,0.8s
PLCA Paso Flores 38.45 168 P P 18 31 18.7 +0.8
comp=Z,1.5nm,0.6s,baz=339,slow=10.0,SNR=13
PLCA LR LR 18 44 25.3
comp=Z,204nm,21.2s,baz=5.0,slow=32
comp=Z,1.5nm,0.6s
PLCA Paso Flores 38.45 168 P P 18 31 18.5 +0.5
PLCA IAmb IAmb 18 31 32.7
comp=Z,14nm,1.5s
PLCA Paso Flores 38.45 168 eP P 18 31 19.7 +1.7
WHTX Lake Whitney, 38.47 337 P P 18 31 18.6 +0.5
baz=153
CPCT Cooper Cave 38.64 355 P P 18 31 18.1 -1.5
TKL Tuckaleechee C 38.79 356 LR LR 18 46 22.7
comp=Z,212nm,21.7s,baz=176,slow=35
TXAR Lajitas Array 39.14 327 P P 18 31 25.2 +1.3
comp=Z,1.3nm,0.7s,baz=144,slow=9.9,SNR=12
TXAR PcP PcP 18 33 33.6 +0.8
comp=Z,1.0nm,0.8s,baz=157,slow=6.8,SNR=4.7
comp=Z,1.3nm,0.7s
TX31 Lajitas Ar. Si 39.15 327 P P 18 31 24.1 +0.1
TZTN Tazewell 39.66 356 P P 18 31 27.4 -0.7
TZTN IAmb IAmb 18 31 31.0
comp=Z,9.9nm,0.9s
TZTN Tazewell 39.66 356 P P 18 31 27.7 -0.3
baz=176
WVT Waverly 39.72 351 P P 18 31 26.8 -1.7
WVT Waverly 39.72 351 P P 18 31 27.2 -1.3
baz=169
ABTX Abilene, Hawle 39.92 335 P P 18 31 31.4 +1.1
baz=150,SNR=5.8
FCAR Ozark Folk Cen 40.35 346 P P 18 31 33.6 -0.2
WMOK Wichita Mounta 41.41 337 P P 18 31 41.8 -0.8
WMOK IAmb IAmb 18 31 44.2
comp=Z,8.7nm,0.8s
WMOK Wichita Mounta 41.41 337 P P 18 31 43.1 +0.6
baz=152,SNR=7.6
TUL1 Leonard 41.41 341 P P 18 31 42.7 +0.2
baz=157
WCI Wyandotte Cave 41.57 353 P P 18 31 42.6 -1.2
baz=172
MGMO Mountain Grove 41.59 346 P P 18 31 44.0 0.0
CLN7 Carlsbad 7 41.67 330 P P 18 31 45.0 +0.2
CCM Cathedral Cave 42.22 348 P P 18 31 48.6 -0.5
baz=164
CMC01 Camacan, BA 42.32 109 eP P 18 31 51.9 +1.6
NAN01 Guarapari, ES 42.34 113 eP P 18 31 51.0 +0.6
MSTX Muleshoe 42.44 332 P P 18 31 52.5 +1.4
baz=146,SNR=6.4
P52A Corning 42.67 358 P P 18 31 52.1 -0.6
baz=178
O48B Farmland 43.47 355 P P 18 31 59.0 -0.2
baz=174
121A Cookes Peak, D 43.85 326 P P 18 32 04.6 +2.0
baz=139,SNR=6.7
319A Douglas 43.86 324 P P 18 32 04.5 +1.9
KSU1 Kansas State U 44.60 342 P P 18 32 09.0 +0.8
baz=157
RCBR Riachuelo 44.75 95 LR LR 18 53 50.9
comp=Z,163nm,18.6s,baz=56,slow=40
ANMO Albuquerque 45.01 330 LR LR 18 49 43.2
comp=Z,76nm,20.7s,baz=128,slow=34
ANMO Albuquerque 45.01 330 P P 18 32 11.7 -0.2
ANMO Albuquerque 45.01 330 P P 18 32 13.5 +1.7
baz=142
TUC Tucson 45.41 323 P P 18 32 16.4 +1.5
baz=136
L44A Lake County Fo 45.67 353 P P 18 32 19.2 +2.6
baz=170
T25A Trinidad 45.81 333 P P 18 32 18.2 0.0
T25A IAmb IAmb 18 32 35.4
comp=Z,14nm,1.2s
T25A Trinidad 45.81 333 P P 18 32 19.9 +1.8
baz=146,SNR=7.1
214A Organ Pipe Nat 46.40 321 P P 18 32 24.0 +1.3
baz=133,SNR=7.3
SDCO Great Sand Dun 46.80 333 P P 18 32 27.6 +1.5
baz=145,SNR=11
S22A 4UR Ranch, Cre 47.42 332 P P 18 32 32.1 +1.3
baz=144
Q24A Divide 47.65 334 P P 18 32 34.4 +1.8
baz=146
SADO Sadowa 47.81 2 LR LR 18 52 11.0
comp=Z,92nm,21.1s,baz=186,slow=35
MVCO Mesa Verde 47.81 330 P P 18 32 35.4 +1.5
baz=141
WUAZ Wupatki 48.06 326 P P 18 32 36.0 +0.3
WUAZ Wupatki 48.06 326 P P 18 32 37.4 +1.7
baz=137,SNR=9.3
ISCO Idaho Springs 48.54 334 P P 18 32 41.0 +1.5
baz=146
PV15 Paradox Valley 48.69 331 P P 18 32 41.8 +1.2
ECSD EROS Data Cent 48.89 345 P P 18 32 41.7 0.0
ECSD IAmb IAmb 18 32 56.8
comp=Z,6.3nm,0.8s
ECSD EROS Data Cent 48.89 345 P P 18 32 41.8 0.0
baz=159
SWSC Sam W. Stewart 48.95 320 P P 18 32 43.7 +1.4
baz=131
IKP In-Ko-Pah, Jac 48.95 320 P P 18 32 43.8 +1.2
baz=130
BC3 Big Chuckawall 49.19 321 P P 18 32 46.1 +1.7
baz=131
IRM Iron Mountain 49.33 322 P P 18 32 47.0 +1.7
baz=132
N23A Red Feather La 49.59 335 P P 18 32 48.7 +1.2
baz=146
BELC Belle Mtn. Jos 49.76 321 P P 18 32 49.6 +0.9
baz=131
TPFO Pinon Flats 49.79 320 P P 18 32 49.9 +1.0
baz=130
PFO Pinyon Flats O 49.80 320 LR LR 18 51 38.4
comp=Z,102nm,19.9s,baz=108,slow=33
PFO Pinyon Flats O 49.80 320 P P 18 32 50.3 +1.3
baz=130
O20A White River Ci 49.99 332 P P 18 32 51.4 +1.0
baz=143

GMRC Granite Mounta 50.06 322 P P 18 32 52.6 +1.6
baz=132
Q16A Castle Valley 50.47 329 P P 18 32 54.8 +0.7
Q16A IAmb IAmb 18 32 57.6
comp=Z,6.6nm,1.1s
HEC Hector,Ludlow 50.51 322 P P 18 32 55.4 +1.1
baz=131,SNR=5.2
CCUT Cedar City 50.63 326 P P 18 32 56.6 +1.2
CCUT IAmb IAmb 18 32 58.7
comp=Z,8.1nm,0.9s
P17A Butcher Ranch, 50.67 330 P P 18 32 54.2 -1.4
P17A IAmb IAmb 18 32 57.7
comp=Z,7.5nm,0.8s
BFSC Mount Baldy Ra 50.96 320 P P 18 32 58.9 +1.1
baz=130
GSC Goldstone, Bar 51.11 322 P P 18 33 00.3 +1.4
baz=131,SNR=9.3
SHOC Shoshone, Teco 51.18 323 P P 18 33 00.3 +1.0
baz=132
K22A Casper 51.29 336 P P 18 33 01.2 +1.0
baz=146
RSSD Black Hills 51.57 339 P P 18 33 02.4 +0.1
RSSD IAmb IAmb 18 33 04.4
comp=Z,6.9nm,0.8s
RSSD Black Hills 51.57 339 P P 18 33 03.3 +1.0
baz=150
EDW2 Edwards Air Fo 51.58 321 P P 18 33 03.4 +1.1
baz=130,SNR=5.8
TPNV Topopah Spring 51.87 324 P P 18 33 06.6 +2.0
baz=133,SNR=5.5
FURC Furnace Creek, 51.91 323 P P 18 33 06.6 +2.0
baz=132,SNR=5.8
MPMC Manual Prospec 52.02 322 P P 18 33 06.9 +1.1
baz=131
SCZ2 Santa Cruz Isl 52.10 319 P P 18 33 07.2 +1.1
baz=128
DUG Dugway, Tooele 52.27 329 P P 18 33 08.4 +0.9
baz=138
ARVC Arvin 52.27 320 P P 18 33 08.2 +0.8
baz=129
ISA Isabella, Lake 52.38 321 P P 18 33 09.4 +1.1
baz=130
R11A Troy Canyon, C 52.44 325 P P 18 33 10.3 +1.4
baz=134,SNR=7.1
GRAC Grapevine Rang 52.57 323 P P 18 33 11.0 +1.4
baz=132
CWC Cottonwood Cre 52.64 322 P P 18 33 11.5 +1.2
baz=130
BW06 Boulder Array 52.68 333 P 18 33 10.0 -0.6
BW06 IAmb IAmb 18 33 12.1
comp=Z,7.1nm,1.0s
BW06 Boulder Array 52.68 333 P P 18 33 10.8 +0.2
baz=143,SNR=9.2
PDAR Pinedale Array 52.68 333 P P 18 33 10.9 +0.3
comp=Z,3.7nm,0.8s,baz=128,slow=8.7,SNR=26
PDAR PcP PcP 18 34 20.2 +0.3
comp=Z,0.5nm,0.6s,baz=113,slow=6.9,SNR=1.2
PDAR LR LR 18 56 50.5
comp=Z,136nm,18.3s,baz=142,slow=37
comp=Z,3.7nm,0.8s
PDAR Pinedale Array 52.68 333 P P 18 33 10.5 -0.1
HWUT Hardware Ranch 52.71 331 P P 18 33 11.4 +0.6
PKM Mcpherson Peak 52.76 319 P P 18 33 11.8 +0.5
baz=128
VES Vestal, Richgr 52.88 321 P P 18 33 13.5 +1.6
baz=129
AGMN Agassiz Nation 52.99 347 P P 18 33 13.7 +1.2
baz=161
ELK Elko 53.94 328 LR LR 18 54 55.2
comp=Z,118nm,20.6s,baz=140,slow=34
NVAR Mina Array Bea 54.07 324 P P 18 33 22.3 +1.5
comp=Z,4.5nm,0.8s,baz=137,slow=6.9,SNR=34
NVAR PcP PcP 18 34 26.3 +1.1
comp=Z,1.0nm,0.7s,baz=125,slow=5.6,SNR=2.1
NVAR LR LR 18 55 54.8
comp=Z,81nm,18.1s,baz=102,slow=35
comp=Z,4.5nm,0.8s
NVAR Mina Array Bea 54.07 324 P P 18 33 21.1 +0.3
YPP Pitchstone Pla 54.43 334 P P 18 33 23.1 -0.4
YPP IAmb IAmb 18 33 43.6
comp=Z,4.9nm,1.0s
RLMT Red Lodge 54.45 335 P P 18 33 22.8 -0.7
RLMT IAmb IAmb 18 33 25.1
comp=Z,8.2nm,1.2s
RLMT Red Lodge 54.45 335 P P 18 33 23.9 +0.4
baz=144
ULM Lac du Bonnet 54.85 348 P P 18 33 25.3 -0.6
comp=Z,11nm,0.7s,baz=156,slow=7.4,SNR=8.9
comp=Z,11nm,0.7s
ULM Lac du Bonnet 54.85 348 P P 18 33 25.4 -0.6
YHL Hebgen Lake 55.05 334 P P 18 33 28.8 +0.8
HLID Hailey 55.57 331 P P 18 33 32.4 +0.8
HLID IAmb IAmb 18 33 49.6
comp=Z,8.2nm,0.9s
HLID Hailey 55.57 331 P P 18 33 32.3 +0.8
baz=138,SNR=14
BOZ Bozeman (W) 55.83 334 P P 18 33 33.8 +0.4
baz=142,SNR=10.0
EGMT Eagleton 57.01 337 P P 18 33 42.6 +1.1
baz=145
MSO Missoula 57.80 334 P P 18 33 48.1 +0.9
baz=140,SNR=5.6
K05A Summer Lake 58.38 326 P P 18 33 52.4 +1.0
YBH Yreka Blue Hor 58.78 324 LR LR 18 56 47.6
comp=Z,124nm,21.6s,baz=146,slow=33
YBH Yreka Blue Hor 58.78 324 P P 18 33 53.1 -1.0
YBH IAmb IAmb 18 33 55.0
comp=Z,6.3nm,0.8s
L04D Klamath Falls 58.85 325 P P 18 33 55.9 +1.2
baz=129,SNR=5.9
J05D Fort Rock, OR 58.93 326 P P 18 33 57.1 +1.9
baz=131,SNR=8.0
J04D Umpqua Nationa 59.39 326 P P 18 33 59.6 +1.1
baz=130
L02F Cave Junction 59.52 324 P P 18 33 59.8 +0.6
baz=128
I04A Tendick Farm, 59.91 326 P P 18 34 02.3 +0.4
baz=130
K02D Willamette Mer 59.93 325 P P 18 34 03.2 +1.1
baz=128,SNR=6.9
G05D Wamic, OR 60.26 328 P P 18 34 05.3 +1.1
baz=132
NEW Newport 60.31 333 LR LR 19 01 31.8
comp=Z,60nm,18.3s,baz=144,slow=37
NEW Newport 60.31 333 P P 18 34 05.3 +0.8
NEW IAmb IAmb 18 34 06.2
comp=Z,6.6nm,0.9s
NEW Newport 60.31 333 P P 18 34 05.4 +0.8
baz=137,SNR=5.9
J01E Myrtle Point 60.37 325 P P 18 34 06.0 +1.0
baz=128
I03D Drain, OR 60.38 326 P P 18 34 05.9 +0.9
baz=129
H04D Lennon 60.56 327 P P 18 34 06.3 0.0
baz=130
I02E Swisshome, OR 60.91 326 P P 18 34 09.7 +1.1
baz=129
PMSA Palmer Station 62.58 172 LR LR 18 58 17.9
comp=Z,86nm,18.3s,baz=346,slow=33
BBTS Babate 66.01 72 LR LR 19 01 12.7
comp=Z,143nm,21.4s,baz=264,slow=34
YKA Yellowknife Ar 70.41 344 LR LR 19 07 56.4
comp=Z,80nm,18.2s,baz=89,slow=38
DLBC Dease Lake 72.85 335 P P 18 35 25.0 +0.7
baz=128
SFJD Kangerlussuaq 73.26 12 LR LR 19 06 05.3
comp=Z,40nm,21.7s,baz=210,slow=34
WRGLY Wrigley 73.61 341 P P 18 35 29.3 +0.7
baz=135
Q32M Nakina River 74.11 335 P P 18 35 32.8 +0.9
baz=126
P33M Teen, Yukon 75.06 336 P P 18 35 37.7 +0.4
baz=125
MMPY Sheldon Lake, 75.89 338 P P 18 35 42.8 +0.8
baz=127
DBIC Dimbokro 76.37 82 LR LR 19 09 53.5
comp=Z,66nm,18.2s,baz=288,slow=36
FARO Faro, Yukon 76.44 337 P P 18 35 45.8 +0.7
baz=125
O30N Mendenhall 76.72 335 P P 18 35 46.8 +0.2
baz=122
N30M Aishikik Lake 77.50 336 P P 18 35 52.1 +1.1
baz=122
YUK6 Outpost Mounta 77.76 335 P P 18 35 53.4 +0.7
baz=120
KOWA Kowa 77.97 75 LR LR 19 10 22.9
comp=Z,91nm,20.0s,baz=99,slow=36
YUK4 Talbot Arm 78.08 335 P P 18 35 55.2 +0.8
baz=120
RES Resolute Bay 78.27 356 LR LR 19 09 46.8
comp=Z,54nm,21.1s,baz=132,slow=35
M29M Somme Creek 78.56 336 P P 18 35 57.5 +0.5
baz=121,SNR=5.2
L29M L29M 78.77 337 P P 18 35 58.8 +0.7
baz=121
K29M Barlow Dome 78.92 338 P P 18 35 59.8 +0.9
baz=122
MESA MESA 78.95 333 P P 18 35 59.6 +0.4
baz=117
YUK3 Moose Creek 79.05 335 P P 18 36 00.8 +1.1
baz=119
F31M Tsiigehtchic 79.62 342 P P 18 36 03.8 +1.3
baz=126
M27K Edge Creek, AK 79.91 335 P P 18 36 04.9 +0.6
baz=117
MCARA McCarthy VSAT 79.96 334 P P 18 36 05.3 +0.8
baz=116
EPYK Eagle Plains 79.99 340 P P 18 36 05.7 +1.1
baz=123
I29M Ogilvie Camp, 80.01 339 P P 18 36 05.7 +1.0
baz=121
INK Inuvik 80.07 343 LR LR 19 13 44.2
comp=Z,108nm,18.2s,baz=156,slow=37
INK Inuvik 80.07 343 P P 18 36 05.3 +0.4
baz=126
MDT Midelt 80.13 56 LR LR 19 08 51.1
comp=Z,59nm,21.3s,baz=312,slow=34
L27K Beaver Creek, 80.22 336 P P 18 36 05.9 0.0
baz=118
SUMG Summit 80.26 12 i P P 18 36 06.0 -0.4
A36M Sachs Harbour 80.31 347 P P 18 36 06.5 +0.3
baz=135
BORG Borgarnes 80.36 22 LR LR 19 12 05.5
comp=Z,18nm,18.3s,baz=278,slow=36
M26K Nabesna, AK 80.40 335 P P 18 36 06.8 0.0
baz=116
BMRM Bremner River 80.47 334 P P 18 36 07.1 -0.2
baz=115
N25K Chitina, Valde 80.74 334 P P 18 36 09.2 +0.5
baz=115
EGAK Eagle 80.76 338 P P 18 36 09.7 +1.0
baz=118,SNR=5.3
K27K Chicken 80.77 337 P P 18 36 09.8 +1.1
K27K IAmb IAmb 18 36 11.2
comp=Z,6.8nm,1.1s
K27K Chicken 80.77 337 P P 18 36 09.6 +0.9
baz=118
L26K Log Cabin Wild 80.82 336 P P 18 36 09.9 +0.8
baz=116
KLU Klutina 81.27 334 P P 18 36 12.0 +0.4
baz=114
I27K Kandik River 81.33 338 P P 18 36 12.2 +0.5
baz=118
P23K Montague Islan 81.36 332 P P 18 36 12.5 +0.5
baz=112
SCRK Sand Creek 81.49 337 P P 18 36 13.2 +0.5
baz=116
J26L Joseph Creek 81.56 337 P P 18 36 13.7 +0.6
J26L IAmb IAmb 18 36 14.7
comp=Z,5.6nm,0.9s
J26L Joseph Creek 81.56 337 P P 18 36 13.3 +0.3
baz=116,SNR=5.7
H27K Steamboat Moun 81.59 339 P P 18 36 13.7 +0.6
baz=118
M24K Tolsona, Glenn 81.62 334 P P 18 36 13.8 +0.4
baz=113
PAX Paxson 81.67 335 P P 18 36 13.7 0.0
baz=114
RIDG Independent Ri 81.74 336 P P 18 36 14.7 +0.7
baz=115
I26K Coal Creek Min 81.76 338 P P 18 36 14.3 +0.3
baz=117
ESDC Sonseca Array 81.91 49 P P 18 36 16.5 +1.1
comp=Z,0.7nm,0.8s,baz=269,slow=5.7,SNR=6.0
comp=Z,0.7nm,0.8s
G27K Doyon Strip 81.91 340 P P 18 36 15.1 +0.3
baz=118
SCM Sheep Creek Mo 82.02 334 P P 18 36 16.0 +0.4
baz=112
K24K Donnelly Dome 82.14 336 P P 18 36 16.1 +0.1
baz=114
M23K Glacier View 82.18 334 P P 18 36 15.9 -0.4
baz=112
J25K Salcha River, 82.31 337 P P 18 36 17.6 +0.6
J25K Salcha River, 82.31 337 P P 18 36 16.7 -0.3
baz=114
SEW Seward 82.36 332 P P 18 36 16.9 -0.3
baz=110
KNK Knik Glacier 82.36 333 P P 18 36 17.1 -0.2
baz=111
SML Sawmill 82.45 334 P P 18 36 18.1 +0.3
baz=111
WAT6 Susitna Watana 82.48 335 P P 18 36 18.0 0.0
baz=112,SNR=6.0
DHY Denali Highway 82.51 335 P P 18 36 18.1 -0.1
baz=112
E27K Coleen River 82.55 341 P P 18 36 18.2 +0.1
baz=118
G26K Porcupine Rive 82.72 339 P P 18 36 19.2 +0.2
baz=116
PRP Porcupine Dome 82.75 338 P P 18 36 19.7 +0.4
baz=114
RC01 Rabbit Creek A 82.83 333 P P 18 36 19.8 +0.1
baz=110
BRSE Bradley Lake S 82.85 331 P P 18 36 20.3 +0.5
baz=109
HDA Harding Lake 82.86 336 P P 18 36 20.3 +0.6
baz=113
ILAR Eielson Array 82.97 337 P P 18 36 20.4 +0.1
comp=Z,1.9nm,1.0s,baz=134,slow=3.4,SNR=14
ILAR LR LR 19 15 48.1
comp=Z,74nm,18.5s,baz=136,slow=38
comp=Z,1.9nm,1.0s
ILAR Eielson Array 82.97 337 P P 18 36 19.2 -1.2
KDAK Kodiak Island 83.15 329 LR LR 19 13 23.8
comp=Z,70nm,19.4s,baz=174,slow=36
H25K Birch Creek 83.17 338 P P 18 36 22.1 +0.9
baz=114
F26K Sheenjek River 83.18 340 P P 18 36 22.0 +0.6
baz=116
BMAR Burnt Mountain 83.21 340 P P 18 36 21.0 -0.6
RND Reindeer 83.26 335 P P 18 36 22.3 +0.4
RND IAmb IAmb 18 36 23.4
comp=Z,6.1nm,0.9s
POKR Poker Plat Res 83.32 337 P P 18 36 22.7 +0.5
baz=113
OHAK Old Harbor 83.35 329 P P 18 36 22.4 +0.1
baz=106
TORD Torodi Ar. Bea 83.36 76 P P 18 36 22.6 -0.8
comp=Z,1.1nm,1.0s,baz=284,slow=5.3,SNR=4.7
comp=Z,1.1nm,1.0s
CAPN Captain Cook N 83.37 332 P P 18 36 22.5 +0.1
baz=109
MCK McKinley 83.41 335 P P 18 36 22.7 0.0
baz=111
F25K Christian Rive 83.65 340 P P 18 36 24.2 +0.3
baz=114
H24K Noodor Dome 83.77 338 P P 18 36 25.0 +0.5
baz=112
NEA2 Nenana 83.78 336 P P 18 36 24.4 0.0
baz=111
E25K Arctic Village 83.85 340 P P 18 36 25.3 +0.5
baz=115
O20K Slope Mountain 83.85 331 P P 18 36 25.1 +0.1
baz=107
TRF Thorofare Moun 83.88 335 P P 18 36 25.4 +0.2
baz=110
C27K Jago River 83.89 342 P P 18 36 25.3 +0.3
baz=117
SKT Skwentna 83.94 333 P P 18 36 25.6 +0.3
SKT IAmb IAmb 18 36 26.6
comp=Z,6.3nm,0.8s
SKT Skwentna 83.94 333 P P 18 36 25.7 +0.3
baz=108
G24K Hadweenzic Riv 83.95 338 P P 18 36 26.0 +0.7
baz=113,SNR=5.4
BPAW Bear Paw Mtn. 84.39 335 P P 18 36 27.5 -0.1
BPAW Bear Paw Mtn. 84.39 335 P P 18 36 28.0 +0.4
baz=109,SNR=8.2
C26K Camden Bay 84.40 342 P P 18 36 28.2 +0.7
baz=116
H23K Yukon River 84.40 337 P P 18 36 27.8 +0.2
baz=111
F24K Squaw Lake 84.41 339 P P 18 36 28.4 +0.7
baz=112
PPLA Purkeypile 84.51 334 P P 18 36 28.9 +0.5

baz=108
MLY Manley 84.60 336 P **P** 18 36 28.6 -0.1
baz=110
D25K Kavik River 84.61 341 P **P** 18 36 29.5 +0.8
baz=114
M20K Styx River 84.63 333 P **P** 18 36 29.0 +0.1
baz=107
CAST Castle Rocks 84.63 335 P **P** 18 36 28.8 -0.1
CAST IAmb IAmb 18 36 29.6
comp=Z,5.0nm,0.8s
CAST Castle Rocks 84.63 335 P **P** 18 36 29.1 +0.2
baz=108,SNR=5.5
E24K Your Creek 84.84 340 P **P** 18 36 30.1 +0.3
baz=112
CHUM Lake Minchumin 84.87 335 P **P** 18 36 31.2 +1.2
baz=108
G23K Bananza Creek 84.90 338 P **P** 18 36 30.9 +0.7
baz=110,SNR=6.5
L20K Farewell, AK 85.13 334 P **P** 18 36 31.7 +0.3
baz=106
COLD Coldfoot 85.14 339 P **P** 18 36 31.7 +0.4
baz=110
I21K Tanana 85.14 336 P **P** 18 36 31.5 +0.2
baz=108
E23K Chandalar 85.22 339 P **P** 18 36 32.0 +0.2
baz=111
TOLK Toolik Lake Re 85.42 340 P **P** 18 36 33.5 +0.7
baz=111
K20K Telida 85.47 334 P **P** 18 36 33.4 +0.4
baz=106
P17K Kvichak River 85.48 330 P **P** 18 36 33.6 +0.5
baz=104
L19K White Mountain 85.49 333 P **P** 18 36 33.7 +0.5
baz=106
C24K Franklin Bluff 85.52 341 P **P** 18 36 33.4 +0.3
baz=112
N18K Kilae Creek 85.58 331 P **P** 18 36 34.1 +0.4
baz=105
H21K Melozitna River 85.62 337 P **P** 18 36 34.3 +0.6
baz=108
D23K Nanushuk River 85.91 340 P **P** 18 36 35.6 +0.5
baz=110
O17K Koliganek Bris 85.94 330 P **P** 18 36 35.8 +0.4
baz=103
F22K John River 85.96 339 P **P** 18 36 35.3 -0.1
baz=108
E22K Anaktuvuk Pass 86.03 339 P **P** 18 36 36.2 +0.5
baz=109
G21K Allakaket 86.15 337 P **P** 18 36 36.7 +0.4
baz=107
C23K Itkillik River 86.19 341 P **P** 18 36 37.3 +0.9
baz=110
TTA Tatalina 86.20 334 P **P** 18 36 37.4 +0.6
baz=105
P16K Nushagak River 86.22 330 P **P** 18 36 37.4 +0.6
baz=103
F21K Alatna River 86.35 338 P **P** 18 36 38.1 +0.8
baz=107
QSPA South Pole Qui 86.84 180 LR LR 19 09 47.7
comp=Z,57nm,20.8s,baz=138,slow=32
QSPA South Pole Qui 86.84 180 P **P** 18 36 38.7 -1.2
VNDA Vanda 92.60 191 LR LR 19 13 33.1
comp=Z,38nm,18.2s,baz=94,slow=32
SPITS Spitsbergen Ar 94.60 12 LR LR 19 19 26.3
comp=Z,30nm,21.9s,baz=258,slow=35
HFS Hagfors 94.99 30 LR LR 19 16 39.8
comp=Z,34nm,19.0s,baz=274,slow=33
TSUM Tsumeb 96.78 110 LR LR 19 19 08.6
comp=Z,118nm,20.0s,baz=306,slow=34
SUR Sutherland 98.00 123 LR LR 19 21 16.4
comp=Z,58nm,18.2s,baz=284,slow=35
ARCES ARCESS Array B 98.66 20 LR LR 19 16 27.6
comp=Z,24nm,21.2s,baz=276,slow=32
ZALV Zalesovo Beam 128.07 11 PKP **PKPdf** **18 43 00.9 -0.4**
comp=Z,0.6nm,0.5s,baz=4.6,slow=7.4,SNR=3.9
KURBB Kurchatov Arra 129.64 17 PKP **PKPdf** **18 43 04.7 +0.3**
comp=Z,0.8nm,0.7s,baz=324,slow=2.4,SNR=9.5
ASAR Alice Springs 136.96 230 PKP **PKPdf** **18 43 18.9 -0.2**
comp=Z,1.4nm,1.2s,baz=181,slow=26,SNR=5.1
KSRS Korea Array 136.99 326 PKP **PKPdf** **18 43 18.7 +0.1**
comp=Z,0.6nm,0.8s,baz=346,slow=2.6,SNR=4.6
WRA Warramunga Arr 138.57 235 PKP **PKPdf** **18 43 21.9 -0.2**
comp=Z,0.9nm,1.0s,baz=118,slow=1.5,SNR=6.5
GTA Gaotai 143.99 359 *e*PKP **PKiKP** **18 43 35.0 +0.1**
GTA sPKP 18 43 50.8
FITZ Fitzroy Crossi 146.47 230 PKPbc **PKPbc** **18 43 37.7 +0.2**
comp=Z,3.1nm,0.9s,baz=178,slow=3.8,SNR=3.9
LZH Lanzhou 147.03 353 *e*PKPbc **PKPdf** **18 43 36.3 -0.5**
LZH sPKP 18 43 53.3
CMAR Chiang Mai Arr 164.87 1 PKP **PKPdf** **18 44 00.7 +0.4**
comp=Z,0.3nm,0.8s,baz=194,slow=0.7,SNR=4.5
CMAR PKPab **PKPab** **18 44 55.5 -0.8**
comp=Z,0.5nm,0.5s,baz=336,slow=7.1,SNR=4.8

*NOU **25** 18:39:47.5, 37.00S×179.78E, h0km, MLv4.6/7, Off E. Coast of N. Island, N.Z.*
*IDC **25** 18:39:50.8±2.7, 36.70S×179.12E, h0km, mb4.0/2, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=66.3km s-min=39.9km az=133.0*
*WEL **25** 18:39:55.1±0.8, 37°S±4°×17°9E±°, h20km, M3.6/32, ML3.9/42, MLv3.6/32, Error ellipse: s-maj=0.0km s-min=0.0km az=87.1*

ISC 25 18:39:52.5±2.3, 37.05S±0.06×179.28E±0.09, h13km±11km, n79, σ1°01/83, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.93**	**237**	P	**Pg**	**18 40 10.5**	**+0.1**
MXZ				S	**Sg**	**18 40 21.4**	**-1.2**
WMGZ	**Waiomatatini S**	**1.03**	**222**	P	**Pn**	**18 40 14.0**	**+1.4**
WMGZ				S	**Sn**	**18 40 27.9**	**+1.0**
PUZ	**Puketiti**	**1.30**	**218**	P	**Pn**	**18 40 17.5**	**+1.1**
PUZ				S	**Sb**	**18 40 34.4**	**+1.0**
HAZ	**Te Kaha**	**1.39**	**239**	P	**Pn**	**18 40 17.3**	**-0.1**
HAZ				S	**Sn**	**18 40 36.3**	**+0.7**
TWGZ	**Tauwhareparae**	**1.53**	**222**	P	**Pn**	**18 40 21.0**	**+1.6**
RUGZ	**Raukumara Rang**	**1.57**	**234**	P	**Pb**	**18 40 21.7**	**+0.3**
RUGZ				S	**Sn**	**18 40 40.8**	**+0.5**
CNGZ	**Carnagh Statio**	**1.66**	**211**	P	**Pn**	**18 40 23.2**	**+1.9**
WIZ	**White Island**	**1.74**	**254**	P	**Pn**	**18 40 22.7**	**+0.5**
WSRZ	**White Island S**	**1.74**	**254**	P	**Pn**	**18 40 22.8**	**+0.4**
TKGZ	**Te Karaka**	**1.79**	**219**	P	**Pn**	**18 40 24.2**	**+1.1**
MWZ	**Matawai**	**1.89**	**227**	P	**Pn**	**18 40 25.7**	**+1.2**
MWZ				S	**Sn**	**18 40 47.7**	**-0.5**
RIGZ	**Rimuhau**	**2.04**	**216**	P	**Pn**	**18 40 27.2**	**+0.7**
URZ	**Urewera**	**2.10**	**234**	Pn	**Pn**	**18 40 28.6**	**+1.3**
	24nm,0.3s,baz=359,slow=3.8,SNR=156						
URZ				Sn	**Sn**	**18 40 51.6**	**-1.7**
	26nm,0.3s,baz=349,slow=20,SNR=23 59nm,0.3s						
URZ	**Urewera**	**2.10**	**234**	P	**Pn**	**18 40 28.6**	**+1.3**
URZ				S	**Sn**	**18 40 52.0**	**-1.3**
URZ	**Urewera**	**2.10**	**234**	P	**Pn**	**18 40 28.7**	**+1.3**
OPRZ	**Ohinepanea**	**2.31**	**249**	P	**Pn**	**18 40 30.8**	**+0.6**
KNZ	**Kokohu**	**2.34**	**212**	P	**Pn**	**18 40 30.6**	**0.0**
MHGZ	**Mahia Peninsul**	**2.36**	**207**	P	**Pn**	**18 40 31.7**	**+0.8**
RTZ	**Ruatahuna**	**2.40**	**229**	P	**Pn**	**18 40 32.5**	**+1.0**
RTZ				S	**Sn**	**18 41 00.0**	**-0.7**
TARZ	**Mount Tarawera**	**2.50**	**241**	P	**Pn**	**18 40 34.4**	**+1.5**
RAHZ	**Arahi**	**2.54**	**222**	P	**Pn**	**18 40 35.0**	**+1.5**
RAHZ				S	**Sn**	**18 41 04.0**	**-0.3**
RRRZ	**Republican Roa**	**2.54**	**239**	P	**Pn**	**18 40 34.8**	**+1.4**
WHHZ	**Waihua**	**2.59**	**218**	P	**Pn**	**18 40 34.5**	**+0.5**
NMHZ	**Naumai**	**2.83**	**223**	P	**Pn**	**18 40 38.1**	**+0.8**
NMHZ				S	**Sn**	**18 41 10.9**	**-0.4**
ARHZ	**Aropaoanui**	**2.85**	**219**	P	**Pn**	**18 40 38.0**	**+0.5**
KUZ	**Kuaotunu**	**2.87**	**275**	P	**Pn**	**18 40 38.0**	**+0.1**
MRHZ	**Matea Rd**	**2.88**	**231**	P	**Pn**	**18 40 39.3**	**+1.2**
BKZ	**Black Stump Fm**	**3.05**	**225**	P	**Pn**	**18 40 40.8**	**+0.4**
BKZ	**Black Stump Fm**	**3.05**	**225**	P	**Pn**	**18 40 40.9**	**+0.5**
TOZ	**Tahuroa Road**	**3.09**	**256**	P	**Pn**	**18 40 40.7**	**-0.1**
CKHZ	**Cape Kidnapper**	**3.12**	**213**	P	**Pn**	**18 40 41.0**	**-0.4**
MCHZ	**McNeill Hill**	**3.14**	**220**	P	**Pn**	**18 40 41.8**	**+0.3**
GRZ	**Great Barrier**	**3.18**	**283**	P	**Pn**	**18 40 43.2**	**+1.1**
KWHZ	**Kaweka Forest**	**3.27**	**223**	P	**Pn**	**18 40 43.7**	**+0.3**
MKAZ	**Moumakai**	**3.30**	**268**	P	**Pn**	**18 40 43.8**	**+0.1**
KAHZ	**Kahuranaki**	**3.33**	**214**	P	**Pn**	**18 40 43.6**	**-0.5**
WIAZ	**Waiheke Island**	**3.33**	**273**	P	**Pn**	**18 40 44.4**	**+0.1**
KRHZ	**Kereru**	**3.45**	**221**	P	**Pn**	**18 40 45.9**	**0.0**
TMVZ	**Te Maari**	**3.50**	**233**	P	**Pn**	**18 40 46.9**	**+0.3**
ETVZ	**East Tongariro**	**3.50**	**233**	P	**Pn**	**18 40 47.4**	**+0.7**
NTVZ	**North Tongariro**	**3.50**	**233**	P	**Pn**	**18 40 47.2**	**+0.5**
BHHZ	**Black Hill Sta**	**3.51**	**225**	P	**Pn**	**18 40 47.1**	**+0.3**
MBAZ	**Motutapu North**	**3.53**	**273**	P	**Pn**	**18 40 48.5**	**+1.6**
OTVZ	**Oturere**	**3.55**	**232**	P	**Pn**	**18 40 47.9**	**+0.5**
SNVZ	**South Ngauruho**	**3.58**	**232**	P	**Pn**	**18 40 48.3**	**+0.5**
ABAZ	**Army Bay**	**3.60**	**276**	P	**Pn**	**18 40 48.9**	**+1.0**
TUVZ	**Tukino**	**3.62**	**231**	P	**Pn**	**18 40 49.0**	**+0.8**
MOVZ	**Moawhango**	**3.64**	**229**	P	**Pn**	**18 40 48.7**	**+0.1**
WNVZ	**Wahianoa**	**3.69**	**231**	P	**Pn**	**18 40 49.4**	**+0.2**
AWAZ	**Awhitu Peninsu**	**3.71**	**268**	P	**Pn**	**18 40 50.3**	**+0.8**
PNHZ	**Pukenui**	**3.74**	**219**	P	**Pn**	**18 40 49.4**	**-0.5**
WPHZ	**Waipukurau**	**3.74**	**216**	P	**Pn**	**18 40 49.9**	**0.0**
WTAZ	**Waiatarua**	**3.77**	**270**	P	**Pn**	**18 40 52.1**	**+1.8**
HIZ	**Hauiti**	**3.80**	**246**	P	**Pn**	**18 40 49.7**	**-1.0**
HIZ	**Hauiti**	**3.80**	**246**	P	**Pn**	**18 40 52.5**	**+1.9**
PRHZ	**Porangahau**	**3.82**	**212**	P	**Pn**	**18 40 49.9**	**-1.1**
TSZ	**Takapari Road**	**3.97**	**220**	P	**Pn**	**18 40 51.9**	**-1.2**
DVHZ	**Dannevirke**	**4.05**	**216**	P	**Pn**	**18 40 53.3**	**-0.9**
WCZ	**Waipu Caves**	**4.13**	**284**	P	**Pn**	**18 40 56.0**	**+0.8**
POWZ	**Post Office Ro**	**4.32**	**218**	P	**Pn**	**18 40 57.4**	**-0.4**
WAZ	**Wanganui**	**4.32**	**230**	P	**Pn**	**18 40 58.3**	**+0.5**
BFZ	**Birch Farm**	**4.33**	**212**	P	**Pn**	**18 40 56.8**	**-1.1**
PRWZ	**Pori Road**	**4.35**	**215**	P	**Pn**	**18 40 57.5**	**-0.7**
OUZ	**Omahuta**	**4.95**	**290**	P	**Pn**	**18 41 07.8**	**+1.3**
OUZ	**Omahuta**	**4.95**	**290**	P	**Pn**	**18 41 07.9**	**+1.4**
QRZ	**Quartz Range**	**6.47**	**232**	P	**Pn**	**18 41 28.6**	**+1.2**
	52nm,1.5s						
KHZ	**Kahutara**	**6.95**	**218**	P	**Pn**	**18 41 36.2**	**+2.4**
	50nm,2.5s						
CTZ	**Chatham Island**	**7.37**	**156**	P	**Pn**	**18 41 41.7**	**+2.1**
RPZ	**Rata Peaks**	**9.14**	**221**	Sn	Sn	18 43 33.8	-13
	1.0nm,0.3s,baz=341,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**41.00**	**276**	P	**P**	**18 47 34.2**	**-1.1**
	1.5nm,0.6s,baz=120,slow=7.9,SNR=54 1.5nm,0.6s						
WRA	**Warramunga Arr**	**42.60**	**281**	P	**P**	**18 47 47.3**	**-1.1**
	1.3nm,0.6s,baz=121,slow=7.7,SNR=23 1.3nm,0.6s						
H03S2	**Juan Fernandez**	**78.67**	**124**	T	T	20 18 04.7	
	baz=230						
H03S1	**Juan Fernandez**	**78.68**	**124**	T	T	20 18 06.4	
	baz=230						
H03S3	**Juan Fernandez**	**78.69**	**124**	T	T	20 18 05.8	
	baz=230						
H03N3	**Juan Fernandez**	**78.90**	**123**	T	T	20 18 43.9	
	baz=234,slow=72,SNR=9.3						
H03N2	**Juan Fernandez**	**78.90**	**123**	T	T	20 18 35.6	
	baz=234,slow=72,SNR=8.7						
H03N1	**Juan Fernandez**	**78.92**	**123**	T	T	20 18 37.2	
	baz=234,slow=72,SNR=11						
ARCES	**ARCESS Array B**	**144.50**	**344**	PKP	**PKPab**	**18 59 26.4**	**+0.6**
	1.7nm,0.9s,baz=33,slow=2.9,SNR=5.7						
FINES	**FINESS Array B**	**150.38**	**334**	PKPbc	**PKPbc**	**18 59 42.0**	**-0.6**
	3.5nm,1.1s,baz=5.4,slow=8.0,SNR=4.3						

*IDC **25** 19:01:22.4±0.7, 38.30N×137.78E, h0km, mb3.9/10, mbtmp3.8/13, ML3.2/3, MS2.7/1, Error ellipse: s-maj=22.7km s-min=13.9km az=78.0*
*JMA **25** 19:01:25.8±0.1, 38.3°N±0.3×137.8°E±0.4, h31km, MD4.0/33, MV4.1/33, SADOGASHIMA IS REG*
JMA Felt II J1 at SADOGASHIMA IS REG .
*NIED **25** 19:01:25.8, 38.28N×137.83E, h31km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr3.81; Mθθ-0.12; Mφφ-3.69; Mrθ-1.23; Mθφ-1.52; Mφr-1.37; Fault plane solution: M0 4.44000×10^14 NP1: φs=10.00000°, δ34.00000°, λ73.00000°. NP2:φs=210.00000°, δ57.00000°, λ101.00000°.*
*NEIC **25** 19:01:26.6±2.6, 38.32N±0.06×137.91E±0.09, h30km±6km, mb4.4/7 Error ellipse: s-maj=11.0km s-min=8.4km az=114.0*

ISC 25 19:01:26.0±1.2, 38.27N±0.05×137.87E±0.04, h25km±9km, n47, σ1°09/47, mb4.0/15, 6D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSD	**Sado**	**0.39**	**127**		**Pb**	**19 01 34.3**	**-0.1**
JSD					**Sb**	**19 01 40.4**	**+0.3**
JSD	**Sado**	**0.39**	**127**	↓	**Pb**	**19 01 34.4**	**+0.1**
JSD				↓	**Sb**	**19 01 40.6**	**+0.5**
JSD	**Sado**	**0.39**	**127**	A	A	19 01 34.4	
	comp=E,9.0nm,0.4s,comp=E,15nm,0.4s						
JHG	**Hegura jima**	**0.86**	**241**	*i*	**Pn**	**19 01 41.1**	**-1.4**
JHG				↓	**Sb**	**19 01 52.5**	**-0.8**
JHG	**Hegura jima**	**0.86**	**241**	A	A	19 01 41.1	
	comp=E,12nm,0.5s,comp=E,17nm,0.7s						
JSZ	**Suzu**	**0.92**	**206**	P	**Pn**	**19 01 42.5**	**-0.8**
JSZ				S	**Sn**	**19 01 54.4**	**-1.2**
JSZ	**Suzu**	**0.92**	**206**	A	A	19 01 42.5	
	comp=E,7.0nm,0.6s,comp=E,7.0nm,2.2s						
JIZZ	**Izumozaki**	**0.99**	**138**	P	**Pn**	**19 01 44.0**	**-0.3**
JIZZ	**Izumozaki**	**0.99**	**138**	A	A	19 01 44.0	
	comp=E,13nm,0.2s,comp=E,29nm,0.3s						
JAW	**Awa shima**	**1.10**	**80**	*i*	**Pn**	**19 01 45.2**	**-0.6**
JAW				↓	**Sn**	**19 01 59.6**	**-0.6**
JJN	**Nakama**	**1.19**	**169**	*i*	**Pn**	**19 01 46.8**	**-0.3**
JJN				S	**Sn**	**19 02 00.8**	**-1.6**
JJN	**Nakama**	**1.19**	**169**	A	A	19 01 46.8	
	comp=E,9.0nm,0.9s,comp=E,8.0nm,0.6s						
JNS	**Sasagawa**	**1.23**	**111**	P	**Pn**	**19 01 47.2**	**-0.4**
JNS				S	**Sn**	**19 02 03.3**	**-0.1**
JYA	**Atsumi**	**1.48**	**77**	A	A	19 01 51.5	
	comp=E,3.0nm,0.8s,comp=E,3.0nm,4.6s						
JTT	**Ttatey**	**1.72**	**195**	A	A	19 01 54.4	
	comp=E,2.0nm,1.7s,comp=E,2.0nm,3.1s						
MJB9	**Matsu-Tunnel**	**1.74**	**171**		**Pn**	**19 01 55.2**	**+0.5**
MAJO	**Matsushiro**	**1.75**	**171**	Pn	**Pn**	**19 01 54.1**	**-0.7**
MJAR	**Matsushiro Arr**	**1.75**	**171**	Pn	**Pn**	**19 01 54.8**	**0.0**
	2.6nm,0.3s,baz=356,slow=14,SNR=57						
MJAR				Sn	**Sb**	**19 02 17.9**	**-1.0**
	7.9nm,0.3s,baz=228,slow=40,SNR=8.5						
MJAR				LR	LR	19 02 25.7	
	comp=Z,45nm,20.8s,baz=7.5,slow=36						
JKT	**Katashina**	**1.86**	**143**	A	A	19 01 56.8	
	comp=E,3.0nm,0.3s,comp=E,3.0nm,7.8s						
JMM	**Marumori**	**2.34**	**99**		**Pn**	**19 02 01.4**	**-1.5**
JYT	**Yasato**	**2.76**	**137**	Pn	**Pn**	**19 02 09.0**	**+0.4**
INU	**Inuyama**	**3.00**	**193**		**Pn**	**19 02 12.4**	**+0.5**
JTM	**Tenmabayashi**	**3.52**	**44**		**Pn**	**19 02 17.6**	**-1.6**
JHS	**Saijyo**	**5.03**	**231**	Pn	**Pn**	**19 02 41.2**	**+1.3**
JHJ	**Hachijo jima 2**	**5.37**	**163**	Pn	**Pn**	**19 02 46.4**	**+1.8**
	13nm,0.3s,baz=84,slow=5.4,SNR=4.9 34nm,0.4s						
USRK	**Ussuriysk Ar.**	**7.39**	**325**	Pn	**Pn**	**19 03 11.9**	**-0.4**
	0.5nm,0.3s,baz=146,slow=11,SNR=1.9 1.5nm,0.5s						
KSRS	**Korea Array**	**7.91**	**267**	Pn	**Pn**	**19 03 20.1**	**+0.7**
	0.4nm,0.3s,baz=80,slow=14,SNR=12						
KSRS				Sn	**Sn**	**19 04 50.2**	**+2.2**
	0.8nm,0.3s,baz=74,slow=24,SNR=8.2 2.0nm,0.5s						
KLR	**Kul'dur**	**11.81**	**340**	LR	LR	19 08 35.4	
	comp=Z,41nm,20.9s,baz=145,slow=37						
SONM	**Songino Array**	**24.76**	**303**	P	**P**	**19 06 44.8**	**-0.8**
	0.3nm,0.4s,baz=91,slow=7.2,SNR=3.6 0.3nm,0.4s						
J20K	**Nowinta River**	**46.86**	**34**	P	**P**	**19 09 54.8**	**+1.2**
J20K				IAmb	IAmb	19 10 11.4	
	comp=Z,4.0nm,1.2s						
K20K	**Telida**	**46.91**	**35**	P	**P**	**19 09 54.8**	**+0.7**
K20K				IAmb	IAmb	19 10 17.8	
	comp=Z,11nm,1.5s						
IMAR	**Indian Mountai**	**47.04**	**31**	P	**P**	**19 09 56.5**	**+1.5**
H23K	**Yukon River**	**48.77**	**32**	P	**P**	**19 10 10.8**	**+2.4**
H23K				IAmb	IAmb	19 10 11.7	
	comp=Z,2.9nm,0.8s						
ILAR	**Eielson Array**	**49.97**	**33**	P	**P**	**19 10 18.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=270,slow=5.3,SNR=8.5 comp=Z,0.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**57.23**	**194**	P	**P**	**19 11 11.6**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=0.2,slow=10,SNR=3.3 comp=Z,1.9nm,0.8s						
WB0	**Warramunga Arr**	**57.82**	**184**	P	**P**	**19 11 13.6**	**-1.8**
WRA	**Warramunga Arr**	**58.00**	**184**	P	**P**	**19 11 16.5**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=359,slow=7.5,SNR=11 comp=Z,1.7nm,0.7s						
WRA	**Warramunga Arr**	**58.00**	**184**	P	**P**	**19 11 16.3**	**-0.3**
WR0	**Warramunga Arr**	**58.01**	**184**	P	**P**	**19 11 14.1**	**-2.6**
WR0				IAmb	IAmb	19 11 53.2	
	comp=Z,5.0nm,1.2s						
AS31	**Alice Springs**	**61.72**	**184**	P	**P**	**19 11 41.9**	**-0.3**
AS31				IAmb	IAmb	19 12 26.0	
	comp=Z,1.4nm,1.1s						
ASAR	**Alice Springs**	**61.72**	**184**	P	**P**	**19 11 42.8**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=14,slow=12,SNR=14						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**61.72**	**184**	P	**P**	**19 11 42.4**	**+0.2**
FINES	**FINESS Array B**	**66.39**	**331**	P	**P**	**19 12 11.7**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=60,slow=9.1,SNR=5.9 comp=Z,2.2nm,0.8s						
AKASG	**Malin Array Be**	**71.58**	**321**	P	**P**	**19 12 44.0**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=46,slow=6.3,SNR=5.0 comp=Z,0.6nm,0.4s						
NOA	**NORSAR Array B**	**71.93**	**336**	P	**P**	**19 12 46.7**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=42,slow=7.2,SNR=2.2 comp=Z,1.3nm,0.9s						
NVAR	**Mina Array Bea**	**76.46**	**52**	P	**P**	**19 13 14.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=305,slow=5.0,SNR=5.7 comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**91.54**	**50**	P	**P**	**19 14 31.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=274,slow=3.6,SNR=4.7 comp=Z,0.3nm,0.6s						

NOU 25 19:10:40.1, 16.04S×167.79E, h60km, MLv3.8/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.72**	**167**	P	Pn	19 11 07.1	-0.7
RTV	**Rentapao**	**1.85**	**161**	P	Pn	19 11 09.6	+0.1
MARNC	**Mare, Loyalty**	**5.42**	**178**	P	Pn	19 11 59.1	+0.8
YATNC	**Mamie plateau,**	**6.05**	**188**	P	Pn	19 12 06.8	-0.2
DZM	**Mont Dzumac**	**6.13**	**192**	P	Pn	19 12 07.3	-0.9
	8.9nm,1.2s						
NOUC	**Port Laguerre**	**6.19**	**193**	P	Pn	19 12 09.9	+1.0

*NEIC **25** 19:19:36.9±1.5, 21.1S±0.2×178.6W±0.1, h572km±11km, mb4.3/28, Error ellipse: s-maj=23.4km s-min=17.4km az=159.0*
*IDC **25** 19:19:38.5±1.7, 20.72S×178.78W, h577km±17km, mb3.4/13, mbtmp4.4/15, Error ellipse: s-maj=23.7km s-min=13.4km az=146.0*

ISC 25 19:19:37.6±0.6, 20.9S±0.1×178.71W±0.09, h579km, n71, σ0°98/73, mb4.4/33, 6C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.38**	**315**	P	**P**	**19 21 04.9**	**+0.4**
	28nm,0.6s,baz=145,slow=4.8,SNR=67						
MSVF	**Nonsavu**	**4.38**	**315**	P	**P**	**19 21 04.8**	**+0.3**
NIUE	**Niue**	**8.45**	**79**	P	**P**	**19 21 38.5**	**-2.1**
PINNC	**Pines Island,**	**12.98**	**260**	P	**P**	**19 22 27.1**	**+0.8**
LIFNC	**LIFOU**	**13.14**	**268**	P	**P**	**19 22 25.6**	**-2.3**
DZM	**Mont Dzumac**	**13.87**	**262**	P	**P**	**19 22 37.3**	**+1.8**
	16nm,0.5s,baz=80,slow=20,SNR=24						
DZM	**Mont Dzumac**	**13.87**	**262**	P	**P**	**19 22 34.8**	**-0.8**
KOUNC	**Koumac, New Ca**	**15.92**	**268**	P	**P**	**19 22 54.2**	**-0.9**
EIDS	**Eidsvold**	**28.11**	**255**	P	**P**	**19 24 44.6**	**+0.5**
EIDS				IAmb	IAmb	19 24 45.3	
	comp=Z,5.7nm,0.9s						
ARMA	**Armidale**	**28.30**	**244**	P	**P**	**19 24 47.1**	**+1.2**
ARMA				IAmb	IAmb	19 24 48.2	
	comp=Z,9.6nm,0.7s						
CTAO	**Charters Tower**	**32.79**	**265**	P	**P**	**19 25 25.0**	**+0.6**
PMG	**Port Moresby**	**34.79**	**284**	P	**P**	**19 25 40.2**	**-0.9**
TOO	**Toolangi**	**35.14**	**234**	P	**P**	**19 25 42.3**	**-1.5**
TOO				IAmb	IAmb	19 25 45.5	
	comp=Z,14nm,1.1s						
COEN	**Coen**	**36.95**	**274**	P	**P**	**19 25 58.8**	**-0.2**
STKA	**Stephens Creek**	**37.02**	**244**	P	**P**	**19 26 00.4**	**+1.0**
	comp=Z,6.6nm,0.5s,baz=88,slow=11,SNR=21 comp=Z,6.6nm,0.5s						
STKA	**Stephens Creek**	**37.02**	**244**	P	**P**	**19 25 58.5**	**-0.8**
BBOO	**Buckeboo**	**41.78**	**244**	P	**P**	**19 26 37.7**	**+0.2**
BBOO				IAmb	IAmb	19 26 38.3	
	comp=Z,9.8nm,0.6s						
WR0	**Warramunga Arr**	**43.70**	**263**	P	**P**	**19 26 52.1**	**-0.5**
WR0				IAmb	IAmb	19 26 54.1	
	comp=Z,6.6nm,0.9s						
AS31	**Alice Springs**	**43.78**	**257**	P	**P**	**19 26 53.3**	**0.0**
AS31				IAmb	IAmb	19 26 54.4	
	comp=Z,3.9nm,0.7s						
ASAR	**Alice Springs**	**43.79**	**257**	P	**P**	**19 26 53.6**	**+0.3**
	comp=Z,13nm,0.7s,baz=93,slow=8.0,SNR=270						
ASAR				PcP	**PcP**	**19 28 27.5**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=108,slow=3.5,SNR=8.3						
ASAR				ScP	**ScP**	**19 31 26.2**	**+2.3**
	comp=Z,1.4nm,0.9s,baz=103,slow=4.8,SNR=8.3 comp=Z,13nm,0.7s						
WB0	**Warramunga Arr**	**43.87**	**263**	P	**P**	**19 26 53.3**	**-0.6**
WB0				IAmb	IAmb	19 26 54.6	
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**43.88**	**263**	P	**P**	**19 26 53.7**	**-0.4**
WB2				IAmb	IAmb	19 26 54.8	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**43.89**	**263**	P	**P**	**19 26 53.9**	**-0.3**
	comp=Z,7.1nm,0.7s,baz=96,slow=7.8,SNR=198						
WRA				PcP	**PcP**	**19 28 27.9**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=106,slow=2.9,SNR=2.5 comp=Z,7.1nm,0.7s						
WRA	**Warramunga Arr**	**43.89**	**263**	P	**P**	**19 26 53.3**	**-0.9**
GENI	**Genyem**	**43.98**	**289**	P	**P**	**19 26 55.0**	**+0.2**
	comp=Z,52nm,0.7s						
SRPI	**Serui, Papua**	**47.80**	**287**	P	**P**	**19 27 24.8**	**+1.0**
	comp=Z,2µmcomp=Z,15nm,0.4s						
MTN	**Manton Dam**	**48.51**	**271**	P	**P**	**19 27 28.6**	**-0.5**
MTN				IAmb	IAmb	19 27 29.9	
	comp=Z,14nm,0.7s						
FORT	**Forrest**	**48.53**	**247**

PDAR	**Pinedale Array**	**89.69**	**43**	P		**P**	**19 31 35.5**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=213,slow=3.9,SNR=17							
	comp=Z,1.3nm,0.6s							
PZH	**PanZhiHua**	**90.31**	**298**	P		**P**	**19 31 39.5**	**+1.5**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,100nn,4.7s							
AKASG	**Malin Array Be**	**143.02**	**330**	PKhKP	PKPpre		19 38 03.2	
	comp=Z,4.9nm,0.6s,baz=43,slow=4.4,SNR=22							
BRTR	**Keskin Array B**	**146.60**	**311**	PKPbc	**PKPbc**		**19 38 15.2**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=136,slow=4.5,SNR=11							
VLDR	**Vladesti**	**146.82**	**325**	⇓P	**PKPbc**		**19 38 16.3**	**+0.9**
GHRR		**147.04**	**326**	⇑P	**PKiKP**		**19 38 17.5**	**-0.3**
BURAR	**Bucovina Array**	**147.06**	**330**	⇑P	**PKiKP**		**19 38 18.3**	**+0.3**
BIZ	**Bicaz**	**147.11**	**328**	⇑P	**PKPbc**		**19 38 17.4**	**+1.2**
TPGR	**Topolog**	**147.25**	**323**	⇑P	**PKPbc**		**19 38 17.0**	**+0.3**
DOPR	**Dopca**	**148.14**	**327**	⇓P	**PKPbc**		**19 38 19.9**	**+1.0**
CLL	**Collm**	**148.28**	**346**	/ PKPbc	**PKPbc**		**19 38 19.5**	**+0.5**
	comp=Z,6.0nm,1.2s							
ARR	**Arges**	**148.94**	**327**	⇑P	**PKiKP**		**19 38 22.1**	**+0.2**
VYHS	**Vyhne**	**149.06**	**337**	*e*PKP	**PKPab**		**19 38 28.1**	**+0.4**
BZS	**Buzias**	**150.21**	**331**	⇓P	**PKPbc**		**19 38 24.2**	**+0.4**
GERES	**GERESS Array B**	**150.38**	**343**	PKPbc	**PKPbc**		**19 38 24.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=46,slow=3.9,SNR=5.0							
HERR	**Herculane**	**150.38**	**329**	⇓P	**PKPbc**		**19 38 24.3**	**+0.1**
BLKB	**Belogradchik**	**151.16**	**327**	⇑P	**PKPbc**		**19 38 26.4**	**+0.3**

DJA ***25*** *19:30:54.2±0.9, 0°N±2°×12°6E±°, h26km±8km, M4.1/19, mb4.7/1, mb4.4/13, MLv4.0/19, Mw(mB)3.9/1*
NEIC ***25*** *19:30:55.4±2.3, 0°.05S±0°.09×125°.86E±0°.07, h63km±12km, mb4.1/12, Error ellipse: s-maj=12.8km s-min=10.2km az=159.0*
IDC ***25*** *19:30:56.7±2.8, 0°.06S×125°.81E, h73km±29km, mb3.7/9, mbtmp4.1/13, MS3.4/10, Error ellipse: s-maj=22.5km s-min=14.4km az=78.0*

ISC 25 19:30:54.4±0.5, 0°.01S±0°.05×125°.78E±0°.04, h44km, n77, σ1§65/73, mb4.2/18, MS3.5/9, 1C-1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.77**	**64**	P		**Pn**	**19 31 23.1**	**+0.7**
TNTI	**Ternate**	**1.77**	**64**	P		**Pn**	**19 31 23.2**	**+0.7**
TNTI				S		**Sn**	**19 31 44.6**	**+0.8**
TNTI	**Ternate**	**1.77**	**64**	P		**Pn**	**19 31 24.3**	**+1.8**
LBMI	**Labuha**	**1.83**	**110**	P		**Pn**	**19 31 23.2**	**-0.2**
LBMI				S		**Sn**	**19 31 47.9**	**+2.5**
KMSI	**Cibinong**	**1.89**	**288**	P		**Pn**	**19 31 23.4**	**-0.7**
KMSI				S		**Sn**	**19 31 47.7**	**+1.0**
SANI	**Sanana**	**2.04**	**174**	P		**Pn**	**19 31 27.6**	**+1.4**
SANI				S		**Sn**	**19 31 54.5**	**+4.0**
SANI	**Sanana**	**2.04**	**174**	P		**Pn**	**19 31 23.9**	**-2.3**
LUWI	**Luwuk**	**3.18**	**251**			**Pn**	**19 31 43.9**	**+2.0**
LUWI	**Luwuk**	**3.18**	**251**	P		**Pn**	**19 31 44.1**	**+2.3**
LUWI	**Luwuk**	**3.18**	**251**	P		**Pn**	**19 31 45.2**	**+3.4**
NLAI	**Namlea**	**3.47**	**158**	P		**Pn**	**19 31 46.9**	**+1.0**
SGSI	**Sangihe**	**3.68**	**356**	P		**Pn**	**19 31 48.4**	**-0.3**
MRSI	**Marisa**	**3.87**	**277**	P		**Pn**	**19 31 52.5**	**+1.2**
APSI	**Ampana**	**4.22**	**258**	P		**Pn**	**19 31 57.5**	**+1.2**
AAI	**Ambon**	**4.38**	**147**	P		**Pn**	**19 31 59.9**	**+1.5**
MSAI	**Masohi**	**4.57**	**137**	P		**Pn**	**19 32 02.9**	**+1.8**
SIJI	**Sorong**	**5.55**	**99**	P		**Pn**	**19 32 16.7**	**+2.2**
	2.7nm,0.3s,baz=287,slow=14,SNR=4.0							
MPSI	**Mapaga**	**5.89**	**273**	P		**Pn**	**19 32 19.3**	**+0.2**
	0.1nm27nm,0.7s							
BBSI	**Bau Bau**	**6.32**	**210**	P		**Pn**	**19 32 27.8**	**+2.8**
	0.1nm31nm,0.9s							
TTSI	**Tana Toraja**	**6.68**	**243**	P		**Pn**	**19 32 30.8**	**+0.9**
	0.1nm519nm23nm,0.6s							
FAKI	**Fak Fak**	**7.09**	**114**	Pn		**Pn**	**19 32 36.1**	**+0.5**
FAKI	**Fak Fak**	**7.09**	**114**	P		**Pn**	**19 32 37.5**	**+1.9**
	0.2nm39nm,1.6s							
FAKI	**Fak Fak**	**7.09**	**114**	P		**Pn**	**19 32 36.1**	**+0.5**
SPSI	**Sidrap Palu**	**7.18**	**237**	P		**Pn**	**19 32 38.0**	**+1.2**
	0.1nm24nm,0.7s							
BKSI	**Bulukumba**	**7.73**	**227**	P		**Pn**	**19 32 45.4**	**+1.0**
	0.1nm13nm,0.7s							
KAPI	**Kappang**	**7.81**	**230**	P		**Pn**	**19 32 47.6**	**+2.1**
	3.5nm,0.3s,baz=32,slow=3.1,SNR=4.0							
BSSI	**Bau Bau, Buton**	**8.06**	**221**	P		**Pn**	**19 32 51.8**	**+2.8**
	15nm,1.0s							
MYLDM	**Lahad Datu**	**8.91**	**305**			Pn	19 33 05.5	+4.9
MMRI	**Maumere**	**9.27**	**202**	Pn		**Pn**	**19 33 04.4**	**-1.1**
MMRI	**Maumere**	**9.27**	**202**	P		**Pn**	**19 33 04.9**	**-0.6**
EDFI	**Ende, Flores**	**9.59**	**205**	P		**Pn**	**19 33 11.0**	**+1.0**
	9.7nm,0.9s							
BATI	**Baumata**	**10.35**	**192**	LR		LR	19 37 38.3	
	comp=Z,210nm,20.3s,baz=35,slow=39							
MTN	**Manton Dam**	**13.81**	**158**	Pn		**Pn**	**19 34 06.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**17.98**	**180**	P		**Pn**	**19 34 59.9**	**-1.2**
	3.1nm,0.7s,baz=359,slow=8.0,SNR=12							
FITZ	**Fitzroy Crossi**	**17.98**	**180**			**Pn**	**19 34 59.8**	**-1.3**
FITZ				IAmb		IAmb	19 35 11.2	
	comp=Z,4.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**17.98**	**180**	P		**Pn**	**19 35 00.0**	**-1.2**
LEM	**Lembang**	**19.34**	**249**	P		**Pn**	**19 35 16.9**	**-1.0**
	comp=Z,40nm,0.8s,baz=306,slow=23,SNR=9.2							
WB0	**Warramunga Arr**	**21.38**	**157**	P		**P**	**19 35 36.1**	**-2.2**
WB0				IAmb		IAmb	19 35 44.2	
	comp=Z,9.4nm,0.8s							
WRAB	**Tennant Creek**	**21.51**	**158**	P		**P**	**19 35 38.1**	**-1.6**
WRA	**Warramunga Arr**	**21.52**	**158**	P		**P**	**19 35 38.0**	**-1.7**
	comp=Z,2.5nm,0.5s,baz=336,slow=11,SNR=27							
	comp=Z,2.5nm,0.5s							
WRA	**Warramunga Arr**	**21.52**	**158**	P		**P**	**19 35 37.0**	**-2.7**
WB2	**Warramunga Arr**	**21.52**	**158**	P		**P**	**19 35 38.1**	**-1.8**
WB2				IAmb		IAmb	19 35 44.6	
	comp=Z,15nm,1.2s							
WR0	**Warramunga Arr**	**21.61**	**157**	P		**P**	**19 35 38.4**	**-2.4**
WR0				IAmb		IAmb	19 36 06.2	
	comp=Z,16nm,1.4s							
MBWA	**Marble Bar**	**21.84**	**195**	P		**P**	**19 35 41.1**	**-2.1**
MBWA				IAmb		IAmb	19 35 45.6	
	comp=Z,15nm,1.1s							
COEN	**Coen**	**22.11**	**130**	P		**P**	**19 35 46.5**	**+0.3**
GUMO	**Guam**	**23.24**	**54**	LR		LR	19 44 42.6	
	comp=Z,52nm,20.2s,baz=240,slow=36							
TPUB	**Ta-pu**	**23.70**	**348**	P		**P**	**19 35 59.8**	**-2.6**
AS31	**Alice Springs**	**24.81**	**162**	P		**P**	**19 36 11.7**	**-0.8**
ASAR	**Alice Springs**	**24.81**	**162**	P		**P**	**19 36 12.2**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=344,slow=7.3,SNR=61							
ASAR				LR		LR	19 46 58.5	
	comp=Z,50nm,21.5s,baz=344,slow=39							
	comp=Z,1.5nm,0.5s							
WRKA	**Warakurna**	**25.00**	**175**	P		**P**	**19 36 14.9**	**+0.6**
CTA	**Charters Tower**	**28.29**	**136**	LR		LR	19 49 01.5	
	comp=Z,66nm,21.5s,baz=308,slow=38							
OOD	**Oodnadatta**	**29.22**	**162**	P		**P**	**19 36 52.2**	**+0.1**
	comp=Z,17nm,2.4s							
CHTO	**Chiang Mai**	**32.31**	**307**	P		**P**	**19 37 19.7**	**+0.2**
KMI	**Kunming**	**33.47**	**320**	⇑P		**P**	**19 37 33.8**	**+4.0**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.8s							
STKA	**Stephens Creek**	**35.05**	**156**	P		**P**	**19 37 42.3**	**-0.8**
	comp=Z,3.9nm,0.8s,baz=348,slow=7.9,SNR=9.2							
	comp=Z,3.9nm,0.8s							
STKA	**Stephens Creek**	**35.05**	**156**	P		**P**	**19 37 42.3**	**-0.8**
STKA				IAmb		IAmb	19 38 16.9	
	comp=Z,2.2nm,1.2s							
STKA	**Stephens Creek**	**35.05**	**156**	P		**P**	**19 37 43.8**	**+0.6**
PZH	**PanZhiHua**	**35.08**	**321**	P		**P**	**19 37 45.3**	**+1.7**
PZH				pmax		pmax		
	comp=Z,8.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,90nm,4.3s							
HTT	**Hallett**	**35.47**	**161**	P		**P**	**19 37 46.9**	**+0.1**
KSRS	**Korea Array**	**37.33**	**3**	P		**P**	**19 38 03.0**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=178,slow=10,SNR=12							
	comp=Z,1.8nm,0.7s							
MJAR	**Matsushiro Arr**	**38.15**	**16**	P		**P**	**19 38 08.3**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=192,slow=7.2,SNR=5.2							
	comp=Z,1.0nm,0.8s							
ARPS	**Mount Arapiles**	**39.49**	**160**	P		**P**	**19 38 21.6**	**+0.9**
HHC	**Hu-ho-hao-te**	**42.67**	**344**	*e*P		**P**	**19 38 48.5**	**+1.6**
HHC				pmax		pmax		
	comp=Z,21nm,0.9s							
HHC				pmax		pmax		
	comp=Z,260nm,6.8s							
GTA	**Gaotai**	**45.86**	**332**	⇓P		**P**	**19 39 15.5**	**+3.0**
GTA				pP		sP	19 39 29.0	+0.1
GTA				sP		pwP	19 39 35.8	+8.6
GTA				pmax		pmax		
	comp=Z,3.0nm,1.3s							
SONM	**Songino Array**	**50.55**	**343**	P		**P**	**19 39 49.0**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=156,slow=7.5,SNR=4.4							
	comp=Z,1.5nm,0.8s							
MSVF	**Nonsavu**	**54.32**	**112**	LR		LR	20 02 35.0	
	comp=Z,39nm,21.7s,baz=309,slow=35							
WMQ	**Urumqi**	**55.27**	**327**	*e*P		**P**	**19 40 24.3**	**+0.9**
MK31	**Makanchi Array**	**60.11**	**327**	P		**P**	**19 40 55.7**	**-1.6**
MKAR	**Makanchi Array**	**60.11**	**327**	P		**P**	**19 40 56.4**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=122,slow=8.4,SNR=30							
MKAR				LR		LR	20 08 05.4	
	comp=Z,61nm,21.6s,baz=86,slow=37							
	comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**60.11**	**327**	P		**P**	**19 40 55.9**	**-1.4**
ZALV	**Zalesovo Beam**	**63.49**	**334**	P		**P**	**19 41 18.9**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=135,slow=6.4,SNR=4.4							
ZALV				LR		LR	20 09 48.9	
	comp=Z,34nm,21.9s,baz=102,slow=37							
	comp=Z,0.9nm,0.5s							
KURK	**Kurchatov**	**64.39**	**329**	P		**P**	**19 41 25.2**	**-0.7**
ILAR	**Eielson Array**	**88.86**	**25**	P		**P**	**19 43 42.3**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=254,slow=5.9,SNR=2.1							
	comp=Z,0.3nm,0.8s							
SPITS	**Spitsbergen Ar**	**93.94**	**349**	LR		LR	20 31 47.7	
	comp=Z,23nm,19.3s,baz=21,slow=39							
LSZ	**Lusaka**	**97.32**	**255**	LR		LR	20 26 53.6	
	comp=Z,29nm,18.1s,baz=150,slow=34							
BOSA	**Boshof**	**99.23**	**241**	LR		LR	20 24 01.0	
	comp=Z,25nm,18.5s,baz=170,slow=32							
TORD	**Torodi Ar. Bea**	**123.09**	**286**	PKP		**PKPdf**	**19 49 46.3**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=51,slow=2.6,SNR=5.7							

DJA ***25*** *19:37:35.2±0.2, 0°N±2°×12°6E±°, h10km, M4.1/17, mb4.4/6, mB5.8/1, MLv3.9/17, Mw(mB)5.3/1*
IDC ***25*** *19:37:38.4±3.0, 0°.10S×125°.70E, h56km±30km, mb3.8/12, mbtmp4.0/15, ML3.7/3, Error ellipse: s-maj=27.5km s-min=14.9km az=77.0*

ISC 25 19:37:37.5±0.6, 0°.01S±0°.06×125°.80E±0°.04, h44km, n33, σ1§54/37, mb4.0/12, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.75**	**64**	P		**Pn**	**19 38 06.2**	**+0.8**
TNTI				S		**Sn**	**19 38 29.0**	**+2.5**
LBMI	**Labuha**	**1.81**	**110**	P		**Pn**	**19 38 06.8**	**+0.5**
LBMI				S		**Sn**	**19 38 30.3**	**+2.2**
KMSI	**Cibinong**	**1.91**	**288**	P		**Pn**	**19 38 06.0**	**-1.5**
KMSI				S		**Sn**	**19 38 32.5**	**+2.2**
SANI	**Sanana**	**2.04**	**175**	P		**Pn**	**19 38 07.1**	**-2.2**
SANI				S		**Sn**	**19 38 37.3**	**+3.7**
GTOI	**Gorontalo**	**2.86**	**283**	P		**Pn**	**19 38 23.7**	**+3.1**
LUWI	**Luwuk**	**3.19**	**251**	P		**Pn**	**19 38 25.8**	**+0.6**
NLAI	**Namlea**	**3.46**	**158**	P		**Pn**	**19 38 28.1**	**-0.8**
SGSI	**Sangihe**	**3.68**	**356**	P		**Pn**	**19 38 32.0**	**+0.1**
MRSI	**Marisa**	**3.89**	**277**	P		**Pn**	**19 38 35.1**	**+0.4**
APSI	**Ampana**	**4.25**	**258**	P		**Pn**	**19 38 39.0**	**-0.7**
AAI	**Ambon**	**4.37**	**147**	P		**Pn**	**19 38 42.1**	**+0.7**
SIJI	**Sorong**	**5.54**	**99**	P		**Pn**	**19 38 59.6**	**+2.2**
	1.1nm,0.3s,baz=218,slow=22,SNR=6.1							
	3.1nm,0.4s							
MPSI	**Mapaga**	**5.91**	**273**	P		**Pn**	**19 39 03.7**	**+1.2**
	0.1nm29nm,0.7s							
BBSI	**Bau Bau**	**6.33**	**211**	P		**Pn**	**19 39 08.8**	**+0.5**
	0.1nm7µm27nm,0.9s							
TTSI	**Tana Toraja**	**6.69**	**243**	P		**Pn**	**19 39 12.5**	**-0.8**
	0.1nm22nm,0.6s							
SPSI	**Sidrap Palu**	**7.19**	**237**	P		**Pn**	**19 39 21.3**	**+1.1**
	0.1nm24nm,0.6s							
BKSI	**Bulukumba**	**7.75**	**227**	P		**Pn**	**19 39 29.5**	**+1.8**
	0.1nm12nm,0.8s							
KAPI	**Kappang**	**7.82**	**230**	P		**Pn**	**19 39 27.6**	**-1.2**
	0.6nm,0.3s,baz=55,slow=17,SNR=1.3							
	2.8nm,0.3s							
EDFI	**Ende, Flores**	**9.60**	**205**	P		**Pn**	**19 39 53.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**17.98**	**180**	P		**Pn**	**19 41 43.2**	**-1.0**
	0.4nm,0.3s,baz=7.2,slow=10,SNR=16							
	1.9nm,0.5s							
WRA	**Warramunga Arr**	**21.51**	**158**	P		**P**	**19 42 20.7**	**-2.1**
	2.3nm,0.7s,baz=335,slow=11,SNR=26							
	2.3nm,0.7s							
ASAR	**Alice Springs**	**24.80**	**162**	P		**P**	**19 42 55.4**	**-0.3**
	1.3nm,0.4s,baz=342,slow=7.5,SNR=73							
	1.3nm,0.4s							
STKA	**Stephens Creek**	**35.05**	**156**	P		**P**	**19 44 26.5**	**+0.3**
	3.3nm,0.6s,baz=327,slow=9.9,SNR=8.8							
	3.3nm,0.6s							
KSRS	**Korea Array**	**37.33**	**3**	P		**P**	**19 44 47.5**	**+1.9**
	1.2nm,0.6s,baz=179,slow=8.2,SNR=8.4							
	1.2nm,0.6s							
MJAR	**Matsushiro Arr**	**38.15**	**16**	P		**P**	**19 44 51.4**	**-1.2**
	0.8nm,0.7s,baz=190,slow=8.5,SNR=4.3							
	0.8nm,0.7s							
SONM	**Songino Array**	**50.55**	**343**	P		**P**	**19 46 32.2**	**+0.5**
	0.8nm,0.5s,baz=154,slow=9.3,SNR=5.1							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**60.12**	**327**	P		**P**	**19 47 39.7**	**-0.8**
	4.0nm,0.6s,baz=122,slow=8.2,SNR=40							
	4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**63.50**	**334**	P		**P**	**19 48 03.6**	**+0.6**
	1.1nm,0.5s,baz=164,slow=4.9,SNR=6.4							
	1.1nm,0.5s							
KBZ	**Khabaz**	**84.86**	**314**	P		**P**	**19 50 07.2**	**-0.6**
	0.7nm,0.6s,baz=84,slow=9.2,SNR=2.5							
	0.7nm,0.6s							
ILAR	**Eielson Array**	**88.86**	**25**	P		**P**	**19 50 26.5**	**-0.2**
	0.1nm,0.6s,baz=233,slow=4.4,SNR=1.7							
	0.1nm,0.6s							
ARCES	**ARCESS Array B**	**93.61**	**340**	P		**P**	**19 50 47.1**	**-1.6**
	0.7nm,0.7s,baz=76,slow=5.1,SNR=4.0							
	0.7nm,0.7s							
FINES	**FINESS Array B**	**94.66**	**332**	P		**P**	**19 50 53.9**	**+0.2**
	2.1nm,0.9s,baz=36,slow=5.7,SNR=2.0							
	2.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**123.11**	**286**	PKP		**PKPdf**	**19 56 28.8**	**-1.6**
	0.5nm,0.6s,baz=46,slow=0.4,SNR=6.0							

IDC 25 19:39:26.8±1.7, 0°.01S×125°.64E, h0km, mb3.6/4, mbtmp3.6/5, ML3.5/1, MS3.2/4, Error ellipse: s-maj=111.2km s-min=24.9km az=66.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**7.04**	**360**	LR		LR	19 43 47.9	
	comp=Z,196nm,20.9s,baz=192,slow=37							
KAPI	**Kappang**	**7.70**	**230**	LR		LR	19 45 19.3	
	comp=Z,62nm,19.5s,baz=64,slow=46							
FITZ	**Fitzroy Crossi**	**17.97**	**180**	P		P	19 43 39.4	+0.5
	0.1nm,0.3s,baz=356,slow=9.8,SNR=2.0							
	1.4nm,0.8s							
LEM	**Lembang**	**19.21**	**249**	LR		LR	19 52 11.7	
	comp=Z,109nm,20.6s,baz=50,slow=40							
WRA	**Warramunga Arr**	**21.56**	**157**	P		P	19 44 16.8	-1.2
	0.5nm,0.4s,baz=334,slow=11,SNR=6.1							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**24.84**	**162**	P		P	19 44 51.6	+0.5
	0.5nm,0.5s,baz=342,slow=7.6,SNR=5.5							
	0.5nm,0.5s							
PSI	**Prapat**	**26.85**	**276**	LR		LR	19 55 34.3	
	comp=Z,89nm,21.4s,baz=92,slow=36							
STKA	**Stephens Creek**	**35.10**	**156**	P		P	19 46 21.9	-0.1
	0.8nm,0.5s,baz=315,slow=11,SNR=1.3							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**60.04**	**327**	P		P	19 49 35.5	-0.1
	0.8nm,0.6s,baz=126,slow=7.7,SNR=4.7							
	0.8nm,0.6s							

NEIC ***25*** *19:56:00.7±1.4, 4°.2S±0°.1×152°.8E±0°.1, h34km±11km, mb4.1/8, Error ellipse: s-maj=23.6km s-min=8.6km az=132.0*
IDC ***25*** *19:56:00.3±3.4, 4°.20S×152°.82E, h42km±27km, mb3.8/7, mbtmp4.0/7, MS3.1/8, Error ellipse: s-maj=36.9km s-min=23.3km az=116.0*

ISC 25 19:55:59.6±0.8, 4°.3S±0°.1×152°.90E±0°.10, h35km, n29, σ0§72/23, mb4.1/9, MS3.1/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**0.74**	**276**	Pn		**Pn**	**19 56 13.5**	**-0.1**
KRVT	**Keravat (AS076**	**0.88**	**268**	P		**Pn**	**19 56 15.7**	**+0.2**
	442nm,0.3s,baz=223,slow=0.9,SNR=352							
KRVT				S		**Sn**	**19 56 27.0**	**0.0**
	2µm,0.3s,baz=316,slow=23,SNR=25							
PMG	**Port Moresby**	**7.65**	**228**	LR		LR	20 00 47.1	
	comp=Z,92nm,21.4s,baz=242,slow=38							
PATS	**Pohnpei**	**12.29**	**26**	Pn		**Pn**	**19 58 53.0**	**+0.8**
CTA	**Charters Tower**	**17.00**	**202**	LR		LR	20 05 52.6	
	comp=Z,43nm,20.5s,baz=62,slow=35							
GUMO	**Guam**	**19.46**	**336**	LR		LR	20 08 30.6	
	comp=Z,32nm,18.5s,baz=80,slow=39							
SIJI	**Sorong**	**21.88**	**278**	LR		LR	20 08 11.5	
	comp=Z,28nm,21.8s,baz=182,slow=34							
DZM	**Mont Dzumac**	**22.03**	**145**	LR		LR	20 07 31.4	
	comp=Z,67nm,18.9s,baz=218,slow=31							
WB0	**Warramunga Arr**	**23.72**	**228**	P		**P**	**20 01 08.8**	**+0.1**
WR0	**Warramunga Arr**	**23.73**	**227**	P		**P**	**20 01 09.7**	**+1.0**
WR0				IAmb		IAmb	20 01 30.9	
	comp=Z,11nm,1.2s							
WB2	**Warramunga Arr**	**23.86**	**228**	P		**P**	**20 01 10.2**	**+0.2**
WB2				IAmb		IAmb	20 01 12.0	
	comp=Z,5.5nm,0.7s							
WRA	**Warramunga Arr**	**23.87**	**228**	P		**P**	**20 01 10.2**	**+0.1**
	comp=Z,2.8nm,0.4s,baz=52,slow=9.9,SNR=39							
WRA				LR		LR	20 10 04.2	
	comp=Z,45nm,20.6s,baz=60,slow=35							
	comp=Z,2.8nm,0.4s							
WRA	**Warramunga Arr**	**23.87**	**228**	P		**P**	**20 01 09.5**	**-0.5**
KNRA	**Kununurra**	**26.30**	**243**	P		**P**	**20 01 34.1**	**+2.0**
AS31	**Alice Springs**	**26.61**	**222**	P		**P**	**20 01 34.8**	**-0.1**
ASAR	**Alice Springs**	**26.61**	**222**	P		**P**	**20 01 35.3**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=56,slow=9.1,SNR=28							
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**26.61**	**222**	P		**P**	**20 01 35.6**	**+0.7**
STKA	**Stephens Creek**	**29.44**	**200**	P		**P**	**20 02 00.7**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=29,slow=14,SNR=5.6							
	comp=Z,1.6nm,0.7s							
STKA	**Stephens Creek**	**29.44**	**200**	P		**P**	**20 02 00.1**	**0.0**
STKA				IAmb		IAmb	20 02 00.2	
	comp=Z,3.0nm,1.5s							
DAV	**Davao City (W)**	**29.51**	**292**	LR		LR	20 12 37.7	
	comp=Z,43nm,19.4s,baz=20,slow=34							
FITZ	**Fitzroy Crossi**	**30.00**	**241**	P		**P**	**20 02 04.2**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=24,slow=3.6,SNR=10							
	comp=Z,0.9nm,0.4s							
FITZ	**Fitzroy Crossi**	**30.00**	**241**	P		**P**	**20 02 04.5**	**-0.8**
FITZ				IAmb		IAmb	20 02 47.6	
	comp=Z,5.2nm,1.2s							
MJAR	**Matsushiro Arr**	**42.87**	**343**	LR		LR	20 19 49.4	
	comp=Z,44nm,19.0s,baz=208,slow=33							
VNDA	**Vanda**	**73.35**	**178**	P		**P**	**20 07 27.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=326,slow=7.3,SNR=5.6							
	comp=Z,0.5nm,0.6s							
ILAR	**Eielson Array**	**81.64**	**22**	P		**P**	**20 08 12.8**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=259,slow=5.4,SNR=6.5							
	comp=Z,0.6nm,0.8s							
MAW	**Mawson**	**86.09**	**203**	P		**P**	**20 08 36.6**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=91,slow=9.0,SNR=6.5							
	comp=Z,1.5nm,0.7s							
GERES	**GERESS Array B**	**123.66**	**329**	PKP		**PKiKP**	**20 14 54.4**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=7.6,slow=1.5,SNR=4.1							
LPAZ	**La Paz**	**134.57**	**118**	PKP		**PKiKP**	**20 15 17.2**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=247,slow=4.4,SNR=4.5							
TORD	**Torodi Ar. Bea**	**150.24**	**289**	PKPbc		**PKPbc**	**20 15 47.5**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=81,slow=2.3,SNR=12							

IDC ***25*** *20:04:50.0±1.0, 43°.80N×105°.56W, h0km, mb3.6/1, mbtmp3.4/6, ML3.5/4, Error ellipse: s-maj=24.3km s-min=8.9km az=150.0*
NEIC ***25*** *20:04:50.8±1.0, 43°.80N±0°

*NIED **25** 20:13:12.1,33°.86N×137°.37E,h350km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}7.55; $M_{\theta\theta}$2.04; $M_{\phi\phi}$-9.59; $M_{r\theta}$1.22; $M_{r\phi}$0.38; $M_{\theta\phi}$-3.10; Fault plane solution: $M_0$9.23000×10^{14} NP1:ϕ_s9.00000°, δ36.00000°, λ107.00000°. NP2:ϕ_s169.00000°, δ56.00000°, λ78.00000°.*

*IDC **25** 20:13:13.5±0.6,33°.87N×137°.27E,h344km±6km, mb3.2/17, mbtmp3.9/21 Error ellipse: s-maj=14.1km s-min=8.5km az=77.0*

ISC 25 20:13:13.2±0.6,33°.88N±0'.06×137°.31E±0'.05,h341km±5km, n47,σ1§01/59,mb3.5/17,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TTO3	TONANKAI O.B.S	0.08	105	*e*P		Pn	20 13 56.5	+0.8
TTO4	TONANKAI O.B.S	0.23	57	*e*P		Pn	20 13 56.3	+0.7
TTO2	TONANKAI O.B.S	0.28	238	*e*P		Pn	20 13 56.4	+0.6
TK02	Tokai 2	0.38	80	P		Pn	20 13 56.5	+0.6
TTO5	TONANKAI O.B.S	0.50	43	*e*P		Pn	20 13 57.0	+0.8
TTO1	TONANKAI O.B.S	0.51	239	*e*P		Pn	20 13 56.6	+0.4
JIE	Ise	0.71	316	P		Pn	20 13 57.3	+0.4
JTNC	Tanabenakahech	1.41	268	P		Pn	20 13 60.0	0.0
JTNC				*e*S		S	20 14 36.8	-0.7
JWY	Kouya	1.46	284	P		Pn	20 14 00.7	+0.4
JWY				*e*S		S	20 14 37.0	-1.0
INU	Inuyama	1.48	351	P		Pn	20 14 00.8	+0.6
JYTA	Yamagatataniai	1.77	345	P		Pn	20 14 02.7	+0.7
JYN	Shimob	1.91	32	P		Pn	20 14 02.7	-0.3
JOD2	Odawara 2	2.01	46	P		Pn	20 14 04.1	+0.4
JOD2				*e*S		S	20 14 44.4	+0.1
JWT	Wachi	2.10	312	*e*P		Pn	20 14 04.8	+0.5
JWT				*e*S		S	20 14 44.4	-1.0
JHJ	Hachijo jima 2	2.21	110	P		Pn	20 14 05.6	+0.4
	74nm,0.6s,baz=86,slow=22,SNR=9.2							
JHJ				S		S	20 14 50.2	+3.3
	64nm,0.3s,baz=130,slow=23,SNR=7.7							
JAI	Aioi	2.38	269	P		Pn	20 14 06.6	+0.1
JAI				*e*S		S	20 14 48.0	-1.3
JRY	Ryogami san	2.50	31	P		Pn	20 14 08.0	+0.5
JRY				*e*S		S	20 14 51.1	0.0
JKG	Kaga	2.52	342	P		Pn	20 14 08.1	+0.5
MJAR	Matsushiro Arr	2.75	15	P		Pn	20 14 09.7	+0.1
	13nm,0.6s,baz=190,slow=9.8,SNR=59							
MJAR				S		S	20 14 54.2	-0.8
	11nm,0.8s,baz=189,slow=17,SNR=6.4							
MAJO	Matsushiro	2.75	15	P		Pn	20 14 10.0	+0.4
MAT	Matsushiro	2.75	15	P		Pn	20 14 09.8	+0.2
MAT				*e*S		S	20 14 54.5	-0.5
JMN	Monobe	2.86	268	P		Pn	20 14 10.8	+0.2
JMN				S		S	20 14 56.2	-0.6
JAG	Ashikaga	3.09	34	P		Pn	20 14 11.6	-0.9
BSO1	Boso 1	3.13	75	P		Pn	20 14 10.7	-1.7
BSO1				S		S	20 14 56.3	-3.9
JHS	Saijyo	3.64	289	*e*P		Pn	20 14 18.4	+0.5
JHS				S		S	20 15 10.5	+0.3
JTO	Tosashimizu	3.91	256	P		Pn	20 14 20.7	0.0
JCJ	Chichijima	7.97	147	S		S	20 16 27.4	-12
	38nm,0.4s,baz=291,slow=20,SNR=5.4							
KSRS	Korea Array	8.43	298	P		P	20 15 13.6	-1.7
	9.7nm,0.7s,baz=112,slow=12,SNR=49							
USRK	Ussuriysk Ar.	11.10	340	P		P	20 15 45.1	+0.2
	1.1nm,0.6s,baz=139,slow=9.0,SNR=2.2							
SONM	Songino Array	27.01	310	P		P	20 18 25.9	+1.0
	2.1nm,0.8s,baz=121,slow=10,SNR=8.9							
	2.1nm,0.8s							
CMAR	Chiang Mai Arr	37.46	256	P		P	20 19 55.7	+0.5
	1.0nm,0.4s,baz=48,slow=7.8,SNR=12							
	1.0nm,0.4s							
ZALV	Zalesovo Beam	41.67	315	PcP		PcP	20 22 18.1	-0.4
	0.8nm,0.6s,baz=96,slow=1.4,SNR=2.5							
MKAR	Makanchi Array	43.04	304	P		P	20 20 40.8	+0.6
	0.3nm,0.5s,baz=84,slow=10,SNR=6.5							
MKAR				PcP		PcP	20 22 22.8	-0.6
	0.3nm,0.7s,baz=83,slow=4.5,SNR=2.2							
	0.3nm,0.5s							
FITZ	Fitzroy Crossi	52.87	194	P		P	20 21 54.5	-0.5
	1.9nm,0.5s,baz=357,slow=6.5,SNR=10							
	1.9nm,0.5s							
WRA	Warramunga Arr	53.60	183	P		P	20 21 59.1	-1.1
	1.4nm,0.3s,baz=358,slow=7.6,SNR=46							
	1.4nm,0.3s							
ILAR	Eielson Array	53.93	31	P		P	20 22 01.8	-0.3
	0.3nm,0.7s,baz=261,slow=4.8,SNR=8.7							
	0.3nm,0.7s							
ARU	Arti	56.52	319	P		P	20 22 19.3	-1.3
	2.7nm,0.5s,baz=143,slow=20,SNR=6.2							
	2.7nm,0.5s							
ASAR	Alice Springs	57.32	184	P		P	20 22 25.8	-0.7
	1.0nm,0.6s,baz=13,slow=13,SNR=29							
	1.0nm,0.6s							
INK	Inuvik	58.69	26	P		P	20 22 36.2	+0.9
	0.9nm,0.6s,baz=306,slow=8.1,SNR=4.3							
	0.9nm,0.6s							
STKA	Stephens Creek	65.53	176	P		P	20 23 20.1	-0.6
	0.9nm,0.5s,baz=8.4,slow=6.6,SNR=3.1							
	0.9nm,0.5s							
ARCES	ARCESS Array B	65.75	339	P		P	20 23 22.3	+0.6
	0.8nm,0.8s,baz=67,slow=9.3,SNR=4.7							
	0.8nm,0.8s							
FINES	FINESS Array B	70.01	332	P		P	20 23 48.5	+0.3
	1.1nm,0.4s,baz=58,slow=5.7,SNR=23							
	1.1nm,0.4s							
HFS	Hagfors	75.53	335	P		P	20 24 20.3	-0.1
	1.1nm,0.8s,baz=79,slow=7.7,SNR=7.3							
	1.1nm,0.8s							
NOA	NORSAR Array B	75.74	336	P		P	20 24 21.4	-0.3
	1.0nm,0.8s,baz=8.2,slow=4.0,SNR=1.8							
	1.0nm,0.8s							
NVAR	Mina Array Bea	79.56	51	P		P	20 24 44.7	+1.4
	0.4nm,0.5s,baz=280,slow=5.2,SNR=4.2							
	0.4nm,0.5s							
GERES	GERESS Array B	83.54	326	P		P	20 25 03.5	0.0
	0.3nm,0.5s,baz=30,slow=6.2,SNR=3.7							
	0.3nm,0.5s							
TXAR	Lajitas Array	94.70	50	P		P	20 25 58.1	+1.5
	0.4nm,0.6s,baz=296,slow=4.0,SNR=5.0							
	0.4nm,0.6s							

IDC 25 20:23:48.0±3.3,32°.48S×178°.26W,h0km,mb3.6/2, mbtmp3.7/3,ML3.0/1,Error ellipse: s-maj=74.5km s-min=37.8km az=114.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	Urewera	6.90	212	Pn		Pn	20 25 29.9	-0.4
	0.3nm,0.3s,baz=258,slow=14,SNR=1.3							
URZ				Sn		Sn	20 26 48.6	-0.9
	1.0nm,0.3s,baz=150,slow=22,SNR=5.7							
	9.2nm,0.9s							
ASAR	Alice Springs	42.82	269	P		P	20 31 48.4	+0.5
	0.5nm,0.8s,baz=106,slow=7.7,SNR=4.6							
	0.5nm,0.8s							
WRA	Warramunga Arr	43.99	274	P		P	20 31 57.1	-0.3
	0.5nm,0.3s,baz=113,slow=8.0,SNR=30							
	0.5nm,0.3s							
FINES	FINESS Array B	147.00	339	PKPbc		PKPbc	20 43 30.9	-1.0
	2.3nm,1.0s,baz=66,slow=3.5,SNR=3.9							

*GUC **25** 20:24:43.8±0.8,21°.42S×67°.54W,h216km±8km, ML3.7*
*SCB **25** 20:24:45.1±0.8,21°.38S×67°.38W,h187km±6km, ML3.4/4, MW3.1,Error ellipse: s-maj=3.0km s-min=2.2km az=0.0*

ISC 25 20:24:41.6±1.9,21°.40S±0'.05×67°.37W±0'.05, h201km±16km,n27,σ1§49/41,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MOCB	Mochara	1.62	85	P		Pn	20 25 17.7	+0.7
MOCB				S		Sn	20 25 42.0	-2.4
MOCB				IAML			20 25 44.5	
	41nm,0.4s							
PB09	IPOC Station P	1.79	257	*e*P		Pn	20 25 19.8	+1.5
PB09				*i* S		Sn	20 25 47.5	+0.8
LVC	Limon Verde	1.87	230	P		Pn	20 25 21.0	+1.7
YJA	Yavi	1.89	115	P		Pn	20 25 20.7	+1.1
PB01	IPOC Station P	2.01	280	*e*P		Pn	20 25 21.5	+1.1
PB01				*i* S		Sn	20 25 50.7	+0.2
PB01				IAML			20 25 51.8	
	comp=N,262nm,0.2s							
PB08	IPOC Station P	2.08	307	*e*P		Pn	20 25 23.2	+1.6
PB08				*i* S		Sn	20 25 53.2	+0.7
PB02	IPOC Station P	2.36	271	*e*P		Pn	20 25 25.3	+1.1
PB02				*i* S		Sn	20 25 56.3	-0.9
PB02	IPOC Station P	2.36	271	P		Pn	20 25 25.2	+1.1
PB07	IPOC Station P	2.37	262	*e*P		Pn	20 25 25.2	+0.9
PB07				*i* S		Sn	20 25 56.7	-0.8
PB07				IAML			20 25 57.8	
	comp=N,322nm,0.3s							
PB06	IPOC Station P	2.42	237	*e*P		Pn	20 25 26.2	+1.3
PB06				*i* S		Sn	20 25 58.8	+0.2
PB06				IAML			20 26 00.0	
	comp=E,268nm,0.3s							
PB06	IPOC Station P	2.42	237	P		Pn	20 25 26.0	+1.1
PB06				S		Sn	20 25 56.0	-2.6
PB06				IAML			20 25 59.8	
	comp=E,193nm,0.2s							
GO01	Chusmiza	2.42	315	P		Pn	20 25 26.2	+0.9
HMBC	Humberstone	2.60	295	*e*P		Pn	20 25 27.4	+0.5
HMBC				*i* S		Sn	20 26 01.2	-1.0
PB15	IPOC Station P	2.65	227	*i* S		Sn	20 26 03.4	+0.1
PB15	IPOC Station P	2.65	227	P		Pn	20 25 28.5	+1.0
PATCX	Punta Patache	2.66	282	*e*P		Pn	20 25 28.1	+0.6
PATCX				*i* S		Sn	20 26 02.3	-1.0
PATCX				IAML			20 26 05.0	
	comp=E,256nm,0.2s							
PB04	IPOC Station P	2.74	250	*i* S		Sn	20 26 03.8	-1.3
PB04	IPOC Station P	2.74	250	P		Pn	20 25 29.7	+1.2
PB04				S		Sn	20 26 01.6	-3.5
PB04				IAML			20 26 07.4	
	comp=E,151nm,0.2s							
TA01	Diego Aracena	2.75	287	*e*P		Pn	20 25 28.9	+0.5
TA01				*i* S		Sn	20 26 03.0	-1.9
TA01				IAML			20 26 04.5	
	comp=E,104nm,0.2s							
TA01	Diego Aracena	2.75	287	P		Pn	20 25 29.0	+0.5
TA02	Huaiquique	2.82	293	P		Pn	20 25 29.9	+0.7
TA02				S		Sn	20 26 02.9	-3.4
TA02				IAML			20 26 07.3	
	comp=E,262nm,0.1s							
PB10	IPOC Station P	3.62	234	*i* S		Sn	20 26 21.4	-2.3
GO02	Mina Guanaco	4.27	208	*e*P		Pn	20 25 48.2	+1.1
GO02				*i* S		Sn	20 26 37.3	-1.3
GO02	Mina Guanaco	4.27	208	P		Pn	20 25 48.5	+1.4
BBOE	La Paz, Chanca	4.60	353	P		Pn	20 25 52.8	+1.2
BBOD	La Paz, Gloria	4.88	346	P		Pn	20 25 56.3	+1.2
LPAZ	La Paz	5.13	352	P		Pn	20 25 59.5	+1.1

*DSN **25** 20:37:53.9±1.6,28°.64N×55°.95E,h10km,ML3.7/10,Error ellipse: s-maj=26.9km s-min=12.0km az=65.0*
*IDC **25** 20:37:54.6±0.7,28°.27N×56°.16E,h0km,mb3.7/18, mbtmp3.7/22,ML3.3/4,MS3.0/3,Error ellipse: s-maj=16.4km s-min=15.3km az=37.0*
*TEH **25** 20:37:56.9,28°.37N×56°.22E,h11km,ML3.8*
*OMAN **25** 20:38:01.0±0.1,28°.22N×56°.32E,h33km,mb4.9/5, ml3.8/16,Error ellipse: s-maj=1.6km s-min=0.9km az=16.0*

ISC 25 20:37:56.7±0.5,28°.33N±0'.04×56°.23E±0'.05,h10km,n124, σ1§85/141,mb3.8/27,MS2.6/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENO	Geno	0.93	183	*e*Pg		Pg	20 38 15.0	+0.4
GENO				*e*Sg		Sn	20 38 31.2	+1.7
GENO				*e*			20 38 37.2	
	comp=Z,25μm,0.4s							
KHNJ	Kahnooj	1.36	106	*e*Pg		Pn	20 38 23.2	+1.4
NGRK	Negar Kerman	1.38	18	*e*Pn		Pn	20 38 20.8	-1.6
NGRK				*e*			20 38 31.0	
	comp=Z,9μm,0.4s							
KRBR	Kerman	1.71	16	*e*Pg		Pn	20 38 26.8	-0.1
TVBK	TV Kerman	1.71	16	*e*Pn		Pn	20 38 28.2	+1.3
TVBK				*e*			20 38 58.4	
	comp=Z,19μm,0.5s							
LAR1	LAR	1.77	249	*e*Pn		Pn	20 38 29.2	+1.8
LAR1				*e*			20 39 09.0	
	comp=Z,11μm,0.6s							
CHMN	Cheshme madani	1.91	37	*e*Pn		Pn	20 38 30.8	+1.2
CHMN				*e*			20 39 06.2	
	comp=Z,9μm,0.4s							
KHGB	Koh Gabri	2.05	6	*e*Pn		Pn	20 38 32.7	+1.2
KHGB				*e*			20 38 38.1	
	comp=Z,5μm,0.4s							
KBAM	BAM	2.11	67	*e*Pn		Pn	20 38 34.2	+2.0
KBAM				*e*			20 38 41.0	
	comp=Z,7μm,0.7s							
SHME	Shamm	2.27	182	P		Pn	20 38 37.3	+3.0
SHME	Shamm	2.27	182	*e*P		Pn	20 38 37.2	+2.9
	SNR=7.6							
JHRM	Jahrom	2.34	275	*e*Pn		Pn	20 38 36.7	+1.3
JHRM				*e*			20 39 24.1	
	comp=Z,7μm,0.6s							
BANOM	Banah	2.40	179	P		Pn	20 38 39.0	+2.9
	SNR=16							
BANOM				S		Sn	20 39 08.2	+2.6
	SNR=16							
BANOM	Banah	2.40	179	*e*P		Pn	20 38 38.1	+2.0
	SNR=8.2							
BANOM				S		Sb	20 39 11.8	+2.1
QIR1	Qir	2.81	274	*e*Pn		Pn	20 38 43.1	+1.3
JASK	Jask - Hormozg	2.85	149	*e*Pn		Pn	20 38 44.2	+1.9
JASK	Jask - Hormozg	2.85	149	P		Pn	20 38 43.9	+1.5
MASF	Masafi	2.95	181	P		Pn	20 38 46.6	+2.9
MSFE	Esma-Masafi	2.96	181	P		Pn	20 38 45.7	+1.9
IBAF	Bafgh	3.30	350	*e*Pn		Pn	20 38 51.0	+2.4
IBAF				*e*			20 39 01.7	
	comp=Z,2μm,0.7s							
NAZ	Nazwa, Dubai	3.37	189	P		Pn	20 38 52.4	+3.0
	SNR=6.6							
NAZ	Nazwa, Dubai	3.37	189	*i* P		Pn	20 38 50.5	+1.1
	SNR=6.6							
UOSS	Minazif	3.37	180	P		Pn	20 38 51.2	+1.7
UOSS				S		Sn	20 39 30.4	+0.9
UOSS	Minazif	3.37	180	P		Pn	20 38 49.9	+0.4
HATD	Hatta, Dubai	3.49	181	P		Pn	20 38 53.1	+2.0
	SNR=5.1							
HATD	Hatta, Dubai	3.49	181	P		Pn	20 38 52.6	+1.5
FAQ	Al Faqa, Dubai	3.62	189	P		Pn	20 38 55.0	+2.2
	SNR=6.1							
FAQ	Al Faqa, Dubai	3.62	189	*i* P		Pn	20 38 54.5	+1.7
	SNR=6.0							
ASHO	Ashiyiah	3.64	182	P		Pn	20 38 55.2	+2.1
	SNR=12							
ASHO	Ashiyiah	3.64	182	*i* P		Pn	20 38 54.6	+1.5
	SNR=27							
ASUD	Al Ashush, Dub	3.78	193	P		Pn	20 38 57.7	+2.7
	SNR=14							
ASUD	Al Ashush, Dub	3.78	193	*i* P		Pn	20 38 57.0	+1.9
	SNR=14							
AJN	Ajban	3.92	197	P		Pn	20 38 58.1	+1.2
ZHDN	Zahedan	4.16	74	*e*Pn		Pn	20 39 03.3	+2.9
ZHSF	Zahedan	4.18	71	*e*Pn		Pn	20 39 06.3	+5.6
ISAD	Sadrabad	4.20	329	*e*Pn		Pn	20 39 03.4	+2.4
ISAD				*e*			20 40 26.5	
	comp=Z,800nm,0.8s							
ALNE	Al Ain	4.28	186	P		Pn	20 39 03.7	+1.7
YZKH	Yazd	4.29	341	*e*Pn		Pn	20 39 04.8	+2.7
BSRN	Basiran	4.41	34	*e*Pn		Pn	20 39 07.9	+4.1
NHDN	Nehbandan	4.51	46	*e*Pn		Pn	20 39 07.4	+2.2
CHBR	Chabahar	4.67	125	*e*Pn		Pn	20 39 09.3	+2.0
TPRV	Parvadeh(Tabas	4.70	5	*e*Pn		Pn	20 39 09.8	+2.0
IRAM	Ramesheh	4.81	317	*e*Pn		Pn	20 39 11.5	+2.1
HOQ	Hoqain	4.83	168	P		Pn	20 39 10.4	+0.9
HOQ				S		Sn	20 40 05.0	-0.6
KLNJ	Kolanjah	4.84	305	*e*Pn		Pn	20 39 11.8	+1.9
ARQ	Araqi	4.98	177	P		Pn	20 39 13.2	+1.6
	SNR=12							
ARQ				S		Sn	20 40 08.5	-0.8
MZWR	Madinat Zayed	5.02	205	P		Pn	20 39 13.7	+1.6
MZWR				S		Sn	20 40 11.1	+1.0
ITEG	Tejag	5.04	25	*e*Pn		Pn	20 39 15.2	+2.6
BIDO	Bidbid	5.08	160	P		Pn	20 39 13.4	+0.4
BIDO				S		Sn	20 40 11.0	-0.8
GHWR	Ruwais	5.29	215	P		Pn	20 39 17.4	+1.6
GHWR				S		Sn	20 40 18.1	+1.2
ANAR	Anarak	5.30	337	*e*Pn		Pn	20 39 18.4	+2.3
TKDS	Koohdasht(Taba	5.32	8	*e*Pn		Pn	20 39 18.9	+2.6
NASN	Na'in	5.34	327	*e*Pn		Pn	20 39 19.3	+2.5
TABS	Tabas	5.36	8	*e*Pn		Pn	20 39 20.3	+3.5
IDAH	Dahanechah	5.40	35	*e*Pn		Pn	20 39 20.4	+2.9
IGAR	Gharneh	5.44	319	*e*Pn		Pn	20 39 20.1	+2.1
SMDO	Samad	5.50	162	P		Pn	20 39 18.8	-0.1
SMDO				S		Sn	20 40 21.3	-0.9
WSAR	Wadi Sarin	5.51	156	Pn		Pn	20 39 17.9	-1.0
	comp=Z,2.1nm,0.3s,baz=357,slow=13,SNR=33							
WSAR				Sn		Sn	20 40 20.7	-1.7
	comp=Z,3.6nm,0.3s,baz=225,slow=19,SNR=11							
	comp=Z,4.7nm,0.3s							
AFRZ	Afriz	5.61	25	*e*Pn		Pn	20 39 23.8	+3.4
TNSJ	Nastanj	5.62	3	*e*Pn		Pn	20 39 22.8	+2.3
BSY	Bisya	5.63	171	P		Pn	20 39 21.5	+1.0
BSY				S		Sn	20 40 24.1	-1.3
IZEF	Zefreh	5.66	324	*e*Pn		Pn	20 39 22.6	+1.5
MZR	Muzera	5.86	206	P		Pn	20 39 24.4	+0.7
MZR				S		Sn	20 40 30.9	0.0
MZR	Muzera	5.86	206	P		Pn	20 39 23.4	-0.2
SMRA	Abu-Samra	6.02	235	P		Pn	20 39 27.9	+2.1
SMRA				S		Sn	20 40 35.2	+0.5
JMDO	Jabal Madar	6.17	164	P		Pn	20 39 27.9	0.0
JMDO				S		Sn	20 40 37.9	-0.8
WBK	Wadi Bani Khal	6.21	156	P		Pn	20 39 28.9	+0.3
WBK				S		Sn	20 40 37.9	-1.7
IPIR	Pirpir	6.33	315	*e*Pn		Pn	20 39 31.9	+1.6
SHRT	Shahrakht	6.34	32	*e*Pn		Pn	20 39 34.5	+4.2
IKLH	Kolahrood	6.38	322	*e*Pn		Pn	20 39 32.3	+1.3
KRSH	Karshahi	6.62	329	*e*Pn		Pn	20 39 35.9	+1.6
QAMS	Qamsar	6.80	324	*e*Pn		Pn	20 39 38.6	+1.8
AMIS	Naft Sefid	6.88	301	*e*Pn		Pn	20 39 39.0	+1.4
ISFB	Sefidab	6.90	331	*e*Pn		Pn	20 39 40.4	+2.4
MHTO	MHTO	7.48	167	P		Pn	20 39 46.1	+0.2
MHTO				S		Sn	20 41 09.0	-1.9
	SNR=7.2							
KHMZ	Khomeyn	7.62	317	*e*Pn		Pn	20 39 50.4	+2.5
SHRO	Shahrood	7.64	359	*e*Pn		Pn	20 39 51.2	+3.0
IVRN	Varamin	7.67	331	*e*Pn		Pn	20 39 50.8	+2.2
TBJM	Torbat-e-JAM	7.74	26	*e*Pn		Pn	20 39 53.2	+3.5
IFIR	Firoozkooh	7.86	339	*e*Pn		Pn	20 39 53.8	+2.4
SBZV	Sabzevar	8.12	8	*e*Pn		Pn	20 39 58.0	+3.2
DAMV	Damavand	8.12	335	*e*Pn		Pn	20 39 57.5	+2.5
ASAO	Ashtian	8.15	321	*e*Pn		Pn	20 39 57.8	+2.4
DQM	DQM	8.45	172	P		Pn	20 39 58.8	-0.4
DQM				S		Sn	20 41 31.3	-3.4
CHTH	Charan	8.70	331	*e*Pn		Pn	20 40 06.1	+3.2
MRVT	Maraveh tapeh	9.30	359	*e*Pn		Pn	20 40 14.0	+3.0
IKOM	Komasi	9.46	310	*e*Pn		Pn	20 40 14.2	+0.9
GEYT	Alibeck	9.70	9	Pn		Pn	20 40 16.9	+0.6
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=2.3							
	comp=Z,0.6nm,0.3s							
DOK	Doka	9.86	192	P		Pn	20 40 18.1	-0.5
DOK				S		Sn	20 42 06.5	-2.9
IDHR	Dehrash	10.53	310	*e*Pn		Pn	20 40 27.9	+0.1
WHFO	Wadi Hawf	10.61	193	P		Pn	20 40 27.8	-1.1
	SNR=15							
WHFO				S		Sn	20 42 25.0	-2.8
	SNR=7.1							
ABTO	Aybut	11.26	195	P		Pn	20 40 36.5	-1.3
	SNR=5.5							
MMAI	Mount Meron Ar	18.51	290	P		P	20 42 13.6	+0.4
	comp=Z,0.3nm,0.3s,baz=243,slow=26,SNR=2.2							
	comp=Z,1.8nm,0.8s							
KBZ	Khabaz	18.73	329	P		P	20 42 16.8	+1.3
	baz=126,slow=14,SNR=2.5							
	comp=Z,1.3nm,0.8s							
ATD	Arta Tunnel	20.89	220	LR		LR	20 53 04.2	
	comp=Z,22nm,19.0s,baz=110,slow=44							
BRTR	Keskin Array B	21.84	307	P		P	20 42 49.1	-0.3
	comp=Z,1.7nm,0.7s,baz=127,slow=13,SNR=14							
	comp=Z,1.7nm,0.7s							
AKTO	Aktyubinsk	22.12	3	P		P	20 42 53.0	+0.8
	comp=Z,2.2nm,0.6s,baz=180,slow=9.9,SNR=8.1							
AKTO				LR		LR	20 52 42.3	
	comp=Z,25nm,20.4s,baz=246,slow=40							
	comp=Z,2.2nm,0.6s							
BVAR	Borovoye Array	26.80	19	P		P	20 43 36.8	-0.1
	comp=Z,0.7nm,0.7s,baz=222,slow=2.0,SNR=5.1							
	comp=Z,0.7nm,0.7s							
MKAR	Makanchi Array	27.48	41	P		P	20 43 45.5	+0.3
	comp=Z,0.9nm,0.7s,baz=217,slow=7.5,SNR=5.3							
	comp=Z,0.9nm,0.7s							
KURBB	Kurchatov Arra	27.94	31	P		P	20 43 47.7	+0.7
	comp=Z,0.3nm,0.8s,baz=231,slow=8.7,SNR=3.0							
	comp=Z,0.3nm,0.8s							
AKASG	Malin Array Be	30.25	325	P		P	20 44 06.8	-0.8
	comp=Z,0.5nm,0.6s,baz=116,slow=6.0,SNR=2.4							
	comp=Z,0.5nm,0.6s							
ZALV	Zalesovo Beam	33.03	31	P		P	20 44 32.2	+0.1
	comp=Z,1.6nm,0.7s,baz=238,slow=9.2,SNR=7.8							
	comp=Z,1.6nm,0.7s							
RONA	Rosalia, Austr	36.42	313	*e*P		P	20 45 00.8	-0.6
	comp=Z,2.9nm,0.5s							
MOA	Molln	37.77	313	*e*P		P	20 45 12.3	-0.6
	comp=Z,2.1nm,0.5s							
BIOA	Bad Ischl, Aus	38.14

BUTP					*e*S		**Sg**	**20 42 39.6**	**-0.9**
MSLP	**Maasin**	**1.54**	**266**	⇓	*e*P		**Pg**	**20 42 23.3**	**+1.0**
MSLP					*e*S		**Sg**	**20 42 42.3**	**0.0**
BIPH	**Bislig**	**2.04**	**182**	⇑	*i*P		**Pn**	**20 42 29.1**	**+0.7**
BIPH					*i* S		**Sn**	**20 42 52.1**	**-2.3**
TABP	**Talibon, Bohol**	**2.06**	**266**	⇓	*i*P		**Pb**	**20 42 31.2**	**+0.1**
TABP					*i* S		**Sb**	**20 42 56.1**	**-1.0**
GHBP	**Garcia Hernand**	**2.15**	**254**	⇓	*e*P		**Pb**	**20 42 33.2**	**+0.6**
GHBP					*e*S		**Sn**	**20 42 57.2**	**0.0**
LLP	**Lapu-Lapu**	**2.41**	**272**	⇑	*i*P		**Pb**	**20 42 37.3**	**+0.1**
LLP					*i* S		**Sb**	**20 43 05.9**	**-1.5**
CGP	**Cagayan de Oro**	**2.45**	**224**	⇓	*e*P		**Pn**	**20 42 35.2**	**+1.1**
CGP					*e*S		**Sn**	**20 43 01.2**	**-3.5**
TBP	**Tagbilaran**	**2.57**	**258**	⇓	*i*P		**Pb**	**20 42 38.0**	**-1.9**
TBP					*i* S		**Sn**	**20 43 06.6**	**-1.2**
CNP	**Catarman**	**2.84**	**323**	⇓	*e*P		**Pg**	**20 42 46.6**	**-0.8**
CNP					*e*S		**Sb**	**20 43 20.6**	**+0.8**
DAV	**Davao City (W)**	**3.25**	**195**		LR		LR	20 44 23.0	
comp=Z,246nm,18.8s,baz=357,slow=47									
DCPH	**Dipolog City**	**3.44**	**242**	⇑	*e*P		**Pn**	**20 42 50.0**	**+2.3**
KCP	**Kidapawan**	**3.46**	**202**	⇓	*i*P		**Pn**	**20 42 50.6**	**+2.5**
KCP					*i* S		**Sn**	**20 43 30.6**	**+0.8**
CNOP	**Candoni, Negro**	**3.74**	**264**	⇓	*e*P		**Pn**	**20 42 54.9**	**+3.1**
CNOP					*e*S		**Sn**	**20 43 36.8**	**+0.2**
RCP	**Roxas**	**3.84**	**290**	⇑	*e*P		**Pb**	**20 42 58.3**	**-3.2**
CMAR	**Chiang Mai Arr**	**27.81**	**290**		P		**P**	**20 47 43.4**	**-0.6**
0.5nm,0.8s,baz=111,slow=9.2,SNR=2.1 0.5nm,0.8s									
WRA	**Warramunga Arr**	**30.98**	**165**		P		**P**	**20 48 12.3**	**+0.3**
0.3nm,1.0s,baz=347,slow=9.4,SNR=1.4 0.3nm,1.0s									
ASAR	**Alice Springs**	**34.48**	**168**		P		**P**	**20 48 43.3**	**+0.6**
0.2nm,0.7s,baz=353,slow=6.8,SNR=2.6 0.2nm,0.7s									
H11S3	**WAKE ISLAND Hy**	**39.79**	**73**		T		T	21 32 25.1	
baz=262,slow=75,SNR=11									
H11S1	**WAKE ISLAND Hy**	**39.81**	**73**		T		T	21 32 25.9	
baz=262,slow=75,SNR=13									
H11S2	**WAKE ISLAND Hy**	**39.81**	**73**		T		T	21 32 26.5	
baz=262,slow=75,SNR=17									
MKAR	**Makanchi Array**	**52.14**	**323**		P		**P**	**20 51 05.9**	**+0.9**
0.9nm,0.7s,baz=121,slow=8.5,SNR=8.8 0.9nm,0.7s									
ZALV	**Zalesovo Beam**	**54.73**	**331**		P		**P**	**20 51 23.5**	**-0.3**
0.5nm,0.4s,baz=128,slow=9.3,SNR=2.4 0.5nm,0.4s									
KURBB	**Kurchatov Arra**	**56.19**	**325**		P		**P**	**20 51 34.5**	**0.0**
0.8nm,0.5s,baz=125,slow=6.9,SNR=12 0.8nm,0.5s									
ARU	**Arti**	**69.34**	**327**		P		**P**	**20 53 01.4**	**-0.7**
1.3nm,0.5s,baz=103,slow=12,SNR=4.4 1.3nm,0.5s									
ARCES	**ARCESS Array B**	**84.28**	**340**		P		**P**	**20 54 27.3**	**+1.1**
0.8nm,0.6s,baz=70,slow=7.0,SNR=5.7 0.8nm,0.6s									
FINES	**FINESS Array B**	**85.99**	**332**		P		**P**	**20 54 35.5**	**+0.6**
2.1nm,1.0s,baz=78,slow=4.8,SNR=14 2.1nm,1.0s									
GERES	**GERESS Array B**	**96.81**	**322**		LR		LR	21 43 00.1	
comp=Z,163nm,19.7s,baz=55,slow=38									

NDI 25 20:43:59.7±2.4, 23°62N×69°91E, h15km, ML3.7, Southern India

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
BHUN	**Bhuj North**	**0.36**	**222**	*e*P		Pg	20 44 07.0			0.0
BHUN				*e*S		Sg	20 44 14.2			+1.0
BHUJ	**Bhuj**	**0.43**	**213**	*e*P		Pg	20 44 06.5			-1.8
BHUJ				*e*S		Sg	20 44 13.4			-0.8
BHUJ				IAML			20 44 13.9			
comp=E,6μm,0.2s										
BHUJ				IAML			20 44 13.9			
comp=N,5μm,0.3s										
TAPR	**Tapar**	**0.46**	**209**	*e*P		Pg	20 44 09.2			+0.3
TAPR				*e*S		Sb	20 44 16.8			+0.6
NALA	**Naliya**	**1.05**	**250**	*e*P		Pb	20 44 18.9			-0.7
NALA				*e*S		Sn	20 44 34.2			0.0
AJM	**Ajmer**	**5.15**	**55**	*e*P		Pn	20 45 16.4			0.0

*DDA **25** 20:51:20.5±0.0, 38°.91N×27°.75E, h11km±1km, MW3.9*
*IDC **25** 20:51:20.7±1.1, 38°.79N×27°.73E, h0km, mb3.6/6, mbtmp3.5/13, ML3.4/7, MS2.8/6, Error ellipse: s-maj=17.8km s-min=16.2km az=72.0*
*ISK **25** 20:51:20.4, 38°.90N×27°.73E, h12km, ML3.9/19*
ISC 25 20:51:21.0±0.8, 38°.90N±0°.02×27°.73E±0°.02, h10km±5km, n102, σ1§15/119, mb3.5/6, 15C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
AKS	**Akhisar**	**0.07**	**109**	PG		**Pg**	**20 51 23.0**			**-0.3**
AKS				SG		**Sg**	**20 51 24.8**			**-0.1**
AKHS	**Akhisar**	**0.07**	**109**	P		**Pg**	**20 51 23.2**			**0.0**
AKHS				S		**Sg**	**20 51 24.6**			**-0.3**
GOMA	**Golmarmara-Man**	**0.24**	**143**	PG		**Pb**	**20 51 26.2**			**-1.3**
GOMA				SG		**Sg**	**20 51 30.2**			**+0.9**
STEP	**BALIKESIR_Sava**	**0.48**	**359**	P		**Pg**	**20 51 30.2**			**-0.2**
STEP				S		**Sg**	**20 51 36.7**			**+0.1**
ZEDA	**zmir-Bergama**	**0.52**	**278**	P		**Pb**	**20 51 31.4**			**-0.8**
ZEDA				S		**Sb**	**20 51 38.6**			**-1.1**
DKL	**Dikili**	**0.67**	**285**	PG		**Pb**	**20 51 34.4**			**-0.3**
DKL				SG		**Sb**	**20 51 43.5**			**-0.6**
BLCB	**Balcova**	**0.75**	**227**	PG		**Pb**	**20 51 35.4**			**-0.7**
MANT	**Manisa**	**0.76**	**122**	P		**Pg**	**20 51 35.6**			**-0.2**
MANT				S		**Sb**	**20 51 46.3**			**-0.7**
DEMI	**Demirci**	**0.78**	**79**	P		**Pb**	**20 51 36.0**			**-0.8**
DEMI				S		**Sg**	**20 51 45.1**			**-1.2**
BUHA	**Balikesir, Bur**	**0.79**	**320**	P		**Pb**	**20 51 36.1**			**-0.8**
BALY	**Balya**	**0.84**	**354**	P		**Pg**	**20 51 35.8**			**-1.5**
BALY				S		**Sg**	**20 51 47.1**			**-1.2**
DURS	**Dursunbey**	**0.91**	**39**	P		**Pg**	**20 51 37.6**			**-0.9**
DURS				S		**Sb**	**20 51 50.4**			**-0.7**
AYVA	**Ayvalik**	**0.91**	**297**	P		**Pb**	**20 51 38.7**			**-0.2**
AYVA				S		**Sb**	**20 51 50.9**			**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**173**	PG		**Pb**	**20 51 39.4**			**-0.4**
KRBN	**Karaburun**	**0.97**	**252**	PG		**Pb**	**20 51 39.5**			**-0.4**
DST	**Dursunbey**	**0.98**	**44**	PG		**Pb**	**20 51 39.9**			**-0.3**
SMAA	**Simav-Kutahya**	**0.99**	**78**	PG		**Pn**	**20 51 40.2**			**-0.9**
USAK	**Uak-Merkez**	**1.02**	**100**	P		**Pg**	**20 51 39.9**			**-0.8**
URLA	**Izmir**	**1.04**	**239**	PG		**Pg**	**20 51 40.1**			**-1.0**
URLA	**Izmir**	**1.04**	**239**	P		**Pg**	**20 51 39.7**			**-1.3**
URLA				S		**Sg**	**20 51 52.8**			**-1.8**
DGB	**zmir**	**1.08**	**218**	P		**Pb**	**20 51 41.0**			**-0.7**
DGB				S		**Sn**	**20 51 56.5**			**-0.6**
GONE	**Gonen-Balikesi**	**1.15**	**358**	PN		**Pg**	**20 51 42.7**			**-0.4**
ZEYE	**Izmir, Urla-Ze**	**1.17**	**236**	P		**Pn**	**20 51 42.7**			**-0.7**
ZEYE				S		**Sg**	**20 51 58.1**			**-0.6**
BAYC	**CANAKKALE_Bayr**	**1.25**	**313**	P		**Pb**	**20 51 44.2**			**-0.5**
BAYC				S		**Sb**	**20 51 59.8**			**-0.9**
GCAM	**G?zelcaml?**	**1.26**	**198**	PN		**Pn**	**20 51 43.6**			**-1.0**
GCAM	**G?zelcaml?**	**1.26**	**198**	P		**Pn**	**20 51 43.7**			**-1.0**
GEDZ	**Gediz**	**1.32**	**83**	PN		**Pg**	**20 51 46.1**			**-0.2**
GPNR	**Gulpinar-Canak**	**1.36**	**295**	PN		**Pb**	**20 51 45.8**			**-0.8**
GDZ	**Gediz**	**1.38**	**82**	P		**Pb**	**20 51 46.1**			**-0.8**
GDZ				S		**Sb**	**20 52 04.0**			**-0.7**
KOCA	**Canakkale, Ayv**	**1.38**	**296**	P		**Pb**	**20 51 46.1**			**-0.8**
KNL	**Balıkesir**	**1.38**	**353**	P		**Pn**	**20 51 45.9**			**-0.4**
KNL				S		**Sg**	**20 52 04.6**			**-0.8**
EZN	**Ezine**	**1.43**	**311**	PN		**Pb**	**20 51 46.8**			**-1.0**
EDC	**Edincik**	**1.45**	**4**	PN		**Pn**	**20 51 46.9**			**-0.4**
TVSB	**Tavsanli**	**1.45**	**67**	PN		**Pn**	**20 51 46.3**			**-1.1**
ORLT	**Orhaneli**	**1.46**	**38**	PN		**Pb**	**20 51 47.4**			**-0.9**
PASA	**Karahalli, USA**	**1.48**	**111**	P		**Pb**	**20 51 47.7**			**-1.0**
DDIM	**Aydin, Didim**	**1.49**	**195**	P		**Pg**	**20 51 49.2**			**-0.5**
SIGR	**SIGRI**	**1.49**	**283**	PN		**Pn**	**20 51 47.6**			**-0.3**
KHL	**Karahalli**	**1.52**	**112**	PN		**Pb**	**20 51 48.4**			**-0.9**
BOZC	**Bozcaada**	**1.61**	**306**	PN		**Pn**	**20 51 49.1**			**-0.3**
BOZC	**Bozcaada**	**1.61**	**306**	P		**Pn**	**20 51 49.1**			**-0.3**
ULDT	**Uludag**	**1.65**	**41**	P		**Pn**	**20 51 49.7**			**-0.5**
ECEA	**Canakkale, Ece**	**1.66**	**314**	P		**Pn**	**20 51 50.3**			**+0.1**
MRMT	**Marmara Adasi**	**1.70**	**356**	PN		**Pn**	**20 51 50.5**			**-0.4**
MULA	**Mugla, Merkez-**	**1.71**	**164**	P		**Pn**	**20 51 50.3**			**-0.6**
TAVA	**DENİZLİ_Tavas**	**1.71**	**147**	P		**Pn**	**20 51 50.5**			**-0.4**
MDNY	**Mudanya-Bursa**	**1.71**	**31**	PN		**Pn**	**20 51 50.6**			**-0.3**
IGD	**Bursa**	**1.77**	**39**	P		**Pn**	**20 51 51.3**			**-0.5**
ANDZ	**Kutahya, Merke**	**1.79**	**69**	P		**Pg**	**20 51 54.2**			**-1.1**
YER	**Yerkesik**	**1.82**	**166**	PN		**Pn**	**20 51 52.1**			**-0.3**
SART	**Tekirdag**	**1.84**	**347**	P		**Pn**	**20 51 52.5**			**-0.2**
GOKA	**anakkale-Gk**	**1.91**	**313**	P		**Pn**	**20 51 53.8**			**+0.1**
KZIL	**AFYON_Kizioren**	**1.99**	**108**	P		**Pn**	**20 51 55.4**			**+0.5**
BILE	**Bilecik/Merkez**	**2.08**	**52**	P		**Pn**	**20 51 55.6**			**-0.5**
KESN	**Edirne-Kesan**	**2.09**	**337**	P		**Pn**	**20 51 55.8**			**-0.6**
CAVK	**Edirne/Enez-Ca**	**2.16**	**327**	P		**Pn**	**20 51 57.2**			**+0.2**
TURN	**Turunc**	**2.16**	**169**	P		**Pn**	**20 51 56.4**			**-0.7**
CAEL	**Denizli, Camel**	**2.17**	**144**	P		**Pn**	**20 51 57.9**			**+0.5**
BRDR	**BURDUR-Merkez**	**2.19**	**123**	P		**Pn**	**20 51 57.2**			**-0.4**
GOLH	**Golhisar**	**2.20**	**138**	P		**Pn**	**20 51 57.6**			**-0.1**
ELBA	**Catalca**	**2.31**	**13**	P		**Pn**	**20 51 58.9**			**-0.2**
SGAZ	**Eskisehir, Sey**	**2.49**	**74**	P		**Pn**	**20 52 02.8**			**+1.0**
APE	**Apeiranthos**	**2.52**	**224**	⇓	P		**Pn**	**20 52 01.3**		**-0.8**
BAGO	**Egridir - ISPA**	**2.57**	**110**	P		**Pn**	**20 52 03.5**			**+0.7**
IDI	**Anoyia**	**4.26**	**213**		Pn		**Pn**	**20 52 25.4**		**-0.7**
1.2nm,0.3s,baz=30,slow=11,SNR=8.7										
IDI					Sn		**Sn**	**20 53 15.3**		**-0.5**
2.1nm,0.3s,baz=317,slow=16,SNR=1.8										
IDI					LR		LR	20 53 56.6		
comp=Z,43nm,20.9s,baz=35,slow=37 6.2nm,0.5s										
VAY	**Valandovo**	**4.64**	**303**		*i* Pn		**Pn**	**20 52 33.3**		**+2.2**
VAY					*i* Sn		**Sn**	20 53 09.3		-16
BRTR	**Keskin Array B**	**4.66**	**78**		Pn		**Pn**	**20 52 33.1**		**+1.6**
1.0nm,0.3s,baz=252,slow=14,SNR=24										
BRTR					Lg		Lg	20 53 52.4		
0.8nm,0.3s,baz=271,slow=23,SNR=6.4										
BRTR					LR		LR	20 54 45.5		
comp=Z,78nm,19.4s,baz=292,slow=44 3.7nm,0.5s										
VTS	**Vitosha**	**5.04**	**319**	⇑	P		**Pn**	**20 52 37.6**		**+0.7**
TIRR	**Tirgusor**	**5.58**	**5**	⇓	P		**Pn**	**20 52 43.7**		**-0.3**
BLKB	**Belogradchik**	**6.06**	**323**	⇑	P		**Pn**	**20 52 50.9**		**+0.2**
CFR	**Carcaliu**	**6.28**	**3**	⇑	P		**Pn**	**20 52 53.3**		**-0.3**
BOVS	**Bovan**	**6.55**	**318**	⇑	P		**Pn**	**20 52 58.0**		**+0.6**
MLR	**Muntele Rosu**	**6.72**	**349**	⇑	P		**Pn**	**20 53 00.9**		**+1.1**
MLR	**Muntele Rosu**	**6.72**	**349**		Pn		**Pn**	**20 53 01.2**		**+1.4**
0.5nm,0.3s,baz=214,slow=8.1,SNR=12										
MLR					Sn		**Sn**	**20 54 17.6**		**+1.2**
0.4nm,0.3s,baz=237,slow=12,SNR=3.1										
MLR					Lg		Lg	20 55 02.6		
0.5nm,0.3s,baz=286,slow=20,SNR=2.2 6.6nm,0.7s										
ODBI	**Odobesti**	**6.88**	**356**	⇑	P		**Pn**	**20 53 03.2**		**+1.4**
VLDR	**Vladesti**	**6.94**	**2**	⇓	P		**Pn**	**20 53 03.7**		**+0.9**
PLOR	**Plostina**	**6.99**	**354**	⇑	P		**Pn**	**20 53 03.2**		**-0.3**
VRI	**Vrincioaia**	**7.00**	**354**	⇓	P		**Pn**	**20 53 04.5**		**+0.9**
COVR	**Voineasa-Covas**	**7.03**	**351**	⇑	P		**Pn**	**20 53 05.1**		**+1.1**
HERR	**Herculane**	**7.17**	**328**	⇑	P		**Pn**	**20 53 05.2**		**-0.7**
SEV	**Sevastopol'**	**7.18**	**36**		*e*P		**Pn**	**20 53 03.2**		**-2.7**
SEV					Pm			20 53 07.4		
comp=Z,1.0nm,0.3s										
SEV					*e*S		**Sn**	**20 54 22.5**		**-5.0**
SEV					Sm			20 54 23.4		
comp=N,2.0nm,0.5s										
SEV					Sm			20 54 23.4		
comp=E,5.0nm,0.4s										
DOPR	**Dopca**	**7.27**	**347**	⇑	P		**Pn**	**20 53 08.5**		**+1.2**
MDVR	**Moldovita**	**7.40**	**325**	⇑	P		**Pn**	**20 53 09.2**		**+0.2**
GZR	**Gura Zlata**	**7.46**	**332**	⇑	P		**Pn**	**20 53 09.2**		**-0.7**
SUDU	**Sudak**	**8.07**	**40**		*e*S		**Sn**	**20 54 47.4**		**-2.1**
SUDU					Sm			20 54 51.0		
comp=N,14nm,0.5s										
SUDU					Sm			20 54 51.0		
comp=E,4.0nm,0.5s										
BZS	**Buzias**	**8.10**	**328**	⇑	P		**Pn**	**20 53 18.0**		**-0.6**
BIZ	**Bicaz**	**8.12**	**352**	⇑	P		**Pn**	**20 53 20.1**		**+1.2**
MMAI	**Mount Meron Ar**	**8.55**	**131**		Pn		**Pn**	**20 53 23.9**		**-1.1**
comp=E,0.5nm,0.3s,baz=309,slow=16,SNR=1.4 comp=E,0.4nm,0.3s										
DRGR		**8.70**	**337**	⇑	P		**Pn**	**20 53 27.8**		**+0.7**
BURAR	**Bucovina Array**	**8.90**	**349**	⇓	P		**Pn**	**20 53 30.5**		**+0.8**
AKASG	**Malin Array Be**	**11.85**	**5**		Pn		**Pn**	**20 54 13.5**		**+3.6**
comp=E,0.3nm,0.3s,baz=196,slow=14,SNR=2.8 comp=E,0.1nm,0.3s										
VRAC	**Vranov**	**13.11**	**326**		LR		LR	20 59 33.9		
comp=E,31nm,18.3s,baz=104,slow=37										
GNI	**Garni**	**13.19**	**79**		LR		LR	20 59 39.4		
comp=E,38nm,18.6s,baz=262,slow=38										
GERES	**GERESS Array B**	**14.16**	**319**		Pn		**P**	**20 54 46.1**		**-3.2**
comp=E,0.1nm,0.3s,baz=133,slow=13,SNR=4.2 comp=E,0.1nm,0.4s										
DAVOX	**Davos/Dischmat**	**15.26**	**307**		Pn		**P**	**20 55 00.4**		**-1.1**
comp=E,0.2nm,0.3s,baz=120,slow=10,SNR=8.2										
DAVOX					LR		LR	21 01 45.7		
comp=E,55nm,18.1s,baz=83,slow=41 comp=E,2.9nm,0.7s										
FINES	**FINESS Array B**	**22.59**	**358**		P		**P**	**20 56 22.5**		**+1.1**
comp=E,1.6nm,0.6s,baz=169,slow=11,SNR=11 comp=E,1.6nm,0.6s										
GEYT	**Alibeck**	**23.78**	**83**		P		**P**	**20 56 36.1**		**+2.4**
comp=E,2.3nm,0.9s,baz=286,slow=11,SNR=5.0 comp=E,2.3nm,0.9s										
ARCES	**ARCESS Array B**	**30.72**	**358**		P		**P**	**20 57 38.0**		**+2.2**
comp=E,0.6nm,0.7s,baz=178,slow=9.9,SNR=1.8 comp=E,0.6nm,0.7s										
TORD	**Tordil Ar. Bea**	**34.48**	**229**		P		**P**	**20 58 09.6**		**+0.4**
comp=E,0.3nm,0.8s,baz=24,slow=9.4,SNR=3.2 comp=E,0.3nm,0.8s										
KURBB	**Kurchatov Arra**	**37.22**	**55**		P		**P**	**20 58 34.1**		**+1.7**
comp=E,0.3nm,0.5s,baz=276,slow=7.9,SNR=2.9 comp=E,0.3nm,0.5s										
MKAR	**Makanchi Array**	**40.07**	**60**		P		**P**	**20 58 59.3**		**+2.9**
comp=E,0.8nm,0.7s,baz=266,slow=12,SNR=4.8 comp=E,0.8nm,0.7s										
KLR	**Kul'dur**	**69.61**	**43**		LR		LR	21 38 44.0		
comp=E,19nm,20.1s,baz=178,slow=41										

*MDD **25** 20:58:41.8±0.8, 37°.48N×17°.29W, h24km, Mb4.2/12, M_mb3.6/12, Error ellipse: s-maj=8.1km s-min=4.3km az=123.0*
*IGIL **25** 20:58:44.8, 37°.48N×17°.29W, h24km, ML3.2*
*INMG **25** 20:58:46.9±2.6, 37°.44N×17°.38W, h10km, ML3.1, Error ellipse: s-maj=12.2km s-min=4.1km az=116.0*
*CNRM **25** 20:58:53.6, 36°.38N×16°.09W, h0km, ml3.9*
ISC 25 20:58:41.0±1.2, 37°.35N±0°.06×16°.89W±0°.07, h10km, n53, σ3§35/66, 12C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
PMPST	**Porto Santo, M**	**4.29**	**174**	*e*Pn		**Pn**	**20 59 49.0**			**+2.8**
PMPST				*e*Sn		**Sn**	**21 00 34.3**			**-2.0**
PMPST				A		A	21 00 38.7			
29nm,0.1s										
PMPS	**Porto Santo**	**4.31**	**174**	*e*Sn		**Sn**	**21 00 35.3**			**-1.5**
PMPS				A		A	21 00 38.1			
20nm,0.7s										
PMOZ	**Porto Moniz, M**	**4.52**	**183**	*e*Pn		Pn	20 59 52.7			+3.1
PMOZ				*e*Sn		**Sn**	**21 00 38.3**			**-4.0**
PMOZ				A		A	21 00 40.3			
85nm,0.3s										
PMOZ	**Porto Moniz, M**	**4.52**	**183**	P		**Pn**	**20 59 51.8**			**+2.2**
PMOZ				S		**Sn**	**21 00 35.0**			**-7.3**
PMAR	**Madeira**	**4.62**	**180**	*e*Pn		**Pn**	**20 59 53.1**			**+2.2**
PMAR				*e*Sn		**Sn**	**21 00 40.9**			**-3.8**
PMAR				A		A	21 00 44.9			
81nm,0.2s										
PMAR	**Madeira**	**4.62**	**180**	P		Pn	20 59 54.5			+3.5
FUL	**Funchal**	**4.69**	**180**	*e*Sn		**Sn**	**21 00 42.1**			**-4.2**
FUL				A		A	21 00 44.6			
49nm,0.2s										
PMAFR	**Mafra**	**6.20**	**73**	*e*Pn		Pn	21 00 17.9			+5.3
PMAFR				*e*Sn		**Sn**	**21 01 24.9**			**+1.3**
PMAFR				A		A	21 01 29.6			
38nm,0.2s										
PMST	**Lisbon--Monsan**	**6.24**	**75**	*e*Sn		**Sn**	**21 01 26.7**			**+2.4**
PMST				A		A	21 01 31.9			
21nm,0.2s										
PFVI	**Vila Bisbo**	**6.43**	**89**	*e*Sn		**Sn**	**21 01 31.3**			**+2.1**
PFVI				A		A	21 01 35.8			
9.2nm,0.8s										
PTEO	**Sao Teotonio**	**6.50**	**86**	*e*Pn		**Pn**	**21 00 20.6**			**+4.0**
PTEO				*e*Sn		**Sn**	**21 01 30.1**			**-0.7**
PTEO				A		A	21 01 37.3			
23nm,0.6s										
PACT	**Alcochete**	**6.51**	**75**	*e*Pn		Pn	21 00 22.7			+5.9
PACT				*e*Sn		**Sn**	**21 01 33.2**			**+2.1**
PACT				A		A	21 01 44.8			
16nm,0.6s										
MORF	**Marmelete**	**6.56**	**88**	*e*P		**Pn**	**21 00 21.6**			**+4.0**
MORF				*e*S		**Sn**	**21 01 32.4**			**-0.1**
MORF				IAML			21 01 38.3			
comp=N,19nm,0.2s										
MORF	**Marmelete**	**6.56**	**88**	*e*Pn		**Pn**	**21 00 21.6**			**+4.0**
MORF				*e*Sn		**Sn**	**21 01 34.6**			**+2.1**
MORF				A		A	21 01 42.5			
comp=N,8.4nm,0.1s										
PNCL	**Nicolau / Gran**	**6.67**	**81**	*e*Pn		**Pn**	**21 00 23.1**			**+4.2**
PNCL				*e*Sn		**Sn**	**21 01 36.6**			**+1.6**
PNCL				A		A	21 01 40.8			
comp=N,11nm,0.2s										
PSBE	**So Bento**	**6.71**	**69**	*e*Pn		Pn	21 00 24.2			+4.6
PSBE				*e*Sn		**Sn**	**21 01 37.5**			**+1.4**
PSBE				A		A	21 01 46.2			
comp=N,5.8nm,0.5s										
MESJ	**Messejana**	**6.90**	**83**	*e*P		**Pn**	**21 00 25.7**			**+3.6**
MESJ	**Messejana**	**6.90**	**83**	*e*Pn		Pn	21 00 26.7			+4.6
MESJ				*e*Sn		**Sn**	**21 01 42.0**			**+1.3**
MESJ				A		A	21 01 47.2			
comp=N,7.4nm,0.2s										
PMTG	**Montargil**	**7.03**	**73**	*e*Sn		**Sn**	**21 01 44.1**			**+0.1**
PMTG				A		A	21 01 47.3			
comp=N,5.7nm,0.1s										
PCVE	**Castro Verde**	**7.04**	**85**	*e*Pn		Pn	21 00 29.1			+5.0
PCVE				*e*Sn		**Sn**	**21 01 45.0**			**+0.8**
PCVE				A		A	21 01 52.6			
comp=N,6.9nm,0.2s										
PCAS	**Casmilo, Conde**	**7.09**	**65**	*e*Sn		**Sn**	**21 01 45.2**			**-0.3**
PCAS				A		A	21 01 52.5			
comp=N,5.4nm,0.3s										
PBEJ	**Beja**	**7.19**	**82**	*e*Sn		**Sn**	**21 01 48.3**			**+0.6**
PBEJ				A		A	21 01 53.1			
comp=N,6.7nm,0.7s										
COI	**Coimbra**	**7.21**	**64**	*e*Sn		**Sn**	**21 01 48.5**			**+0.2**
PVAQ	**Vaqueiros**	**7.30**	**87**	*e*Pn		Pn	21 00 32.4			+4.7
PVAQ				*e*Sn		**Sn**	**21 01 52.0**			**+1.4**
PVAQ				A		A	21 01 57.1			
comp=N,8.0nm,0.3s										
PVAQ	**Vaqueiros**	**7.30**	**87**	P		Pn	21 00 32.9			+5.3
PTO	**Porto**	**7.46**	**57**	*e*Sn		**Sn**	**21 01 51.9**			**-2.5**
EGRO	**El Granado**	**7.48**	**86**	Pn		**Pn**	**21 00 32.4**			**+2.2**
EGRO				⇑*i*Vmb_V			21 00 33.3			
comp=N,62nm,SNR=0.7										
EGRO				Sn		**Sn**	**21 01 54.2**			**-0.8**
PESTR	**Estremoz**	**7.49**	**75**	*e*Pn		Pn	21 00 35.0			+4.8
PESTR				*e*Sn		**Sn**	**21 01 55.8**			**+0.7**
PESTR				A		A	21 01 59.1			
comp=N,5.2nm,0.5s										
PESTR	**Estremoz**	**7.49**	**75**	P		Pn	21 00 38.1			+7.9
PMRV	**Marv??o**	**7.74**	**72**	*e*Pn		Pn	21 00 38.3			+4.

comp=Z,468nm,0.2s
BOJS Bojanci 0.33 202 ⇓*i*Pg Pg 21 14 26.1 +0.2
BOJS *e*Sg Sg 21 14 31.8 +1.5
BOJS Bojanci 0.33 202 ⇓*i*Pg Pg 21 14 26.2 +0.3
BOJS *e*Sg Sg 21 14 31.6 +1.3
BOJS IAML 21 14 36.0
comp=Z,789nm,0.4s
DOBS Dobrina 0.34 5 ⇓*i*Pg Pg 21 14 26.6 +0.6
DOBS *i*Sg Sg 21 14 32.0 +1.4
DOBS IAML 21 14 33.8
comp=Z,323nm,0.2s
PDKS Podkum 0.39 310 *i*Pg Pg 21 14 27.8 +0.8
PDKS *i*Sg Sg 21 14 33.3 +1.1
PDKS IAML 21 14 35.1
comp=Z,164nm,0.1s
PTJ Puntijarka 0.39 76 *e*Pg Pg 21 14 27.5 +0.5
PTJ Sg Sg 21 14 33.2 +1.0
PTJ Puntijarka 0.39 76 Pg Pg 21 14 27.8 +0.8
comp=Z,5.0nm,SNR=207
ZAG Zagreb 0.39 88 *e*Pg Pb 21 14 28.1 -0.5
ZAG Sg Sb 21 14 33.8 -1.0
ZAG Zagreb 0.39 88 Pg Pb 21 14 28.4 -0.2
comp=Z,4.2nm,SNR=38
VISS Visnje 0.41 269 *i*Pg Pg 21 14 27.9 +0.5
VISS *i*Sg Sb 21 14 34.6 -0.7
VISS IAML 21 14 36.6
comp=Z,247nm,0.2s
GBRS Gornja Briga 0.52 237 ⇑*i*Pg Pb 21 14 30.7 0.0
GBRS *i*Sg Sb 21 14 38.7 +0.4
GBRS IAML 21 14 40.9
comp=Z,192nm,0.2s
A255A Hotnja, Vukome 0.53 124 *e*Pg Pb 21 14 30.7 -0.3
LOBO Lobor 0.56 52 *e*Pg Pg 21 14 30.7 +0.4
VNDS Vrh nad Dolski 0.58 300 *i*Pg Pb 21 14 31.5 -0.4
VNDS *e*Sg Sg 21 14 39.1 +0.9
VNDS IAML 21 14 41.4
comp=Z,164nm,0.2s
GROS Grobnik 0.65 5 ⇓*i*Pg Pg 21 14 32.5 +0.6
GROS IAML 21 14 47.5
comp=Z,44nm,0.1s
LJU Ljubljana 0.67 291 *i*Pg Pb 21 14 33.2 -0.1
LJU *e*Sg Sg 21 14 41.5 +0.6
LJU IAML 21 14 44.7
comp=Z,78nm,0.2s
GBAS Gorenja Brezov 0.70 280 ⇑*i*Pg Pb 21 14 33.7 -0.1
GBAS *e*Sg Sg 21 14 42.3 +0.4
GBAS IAML 21 14 46.2
comp=Z,179nm,0.3s
CEY Cerknica 0.70 264 ⇑*i*Pg Pb 21 14 33.9 0.0
CEY *e*Sg Sb 21 14 45.0 +1.2
CEY Cerknica 0.70 264 ⇑*i*Pg Pb 21 14 33.9 0.0
CEY *e*Sg Sb 21 14 43.5 -0.3
CEY IAML 21 14 50.4
comp=Z,172nm,0.4s
KALN Kalnik 0.79 66 *e*Pg Pg 21 14 34.6 +0.1
KNDS Knezji Dol 0.79 249 *i*Pg Pb 21 14 35.4 0.0
KNDS IAML 21 14 52.6
comp=Z,126nm,0.3s
A250A Rusevo Krmpots 0.81 207 *e*Pg Pg 21 14 35.3 +0.2
RIY Rijeka 0.82 234 *e*Pg Pb 21 14 36.0 +0.1
MOZS Mozjanca 0.84 305 *i*Pg Pb 21 14 36.1 -0.1
MOZS *e*Sg Sb 21 14 47.4 -0.2
MOZS IAML 21 14 49.4
comp=Z,120nm,0.3s
PERS Pernice 0.85 346 ⇓*i*Pg Pg 21 14 36.2 +0.4
PERS IAML 21 14 53.8
comp=Z,161nm,0.2s
CRNS Crni Vrh 0.85 289 ⇑*i*Pg Pb 21 14 36.7 +0.1
CRNS *e*Sg Sb 21 14 48.8 +0.6
CRNS IAML 21 14 51.0
comp=Z,103nm,0.2s
KOGS Kog 0.86 42 ⇓*e*Pg Pb 21 14 36.5 0.0
KOGS *e*Sg Sb 21 14 48.4 +0.3
KOGS IAML 21 14 52.3
comp=Z,284nm,0.3s
KOGS Kog 0.86 42 Pb Pb 21 14 36.5 0.0
comp=Z,7.8nm,SNR=68
SOKA Soboth 0.91 343 *e*Pg Pg 21 14 37.2 +0.4
comp=Z,9.1nm,0.2s,SNR=133
SOKA Sg Sg 21 14 48.2 -0.4
comp=Z,44nm,0.3s
OBKA Obir 0.93 319 *e*Pg Pn 21 14 39.2 +0.4
OBKA *e*Sg Sn 21 14 52.7 +0.4
OBKA Obir 0.93 319 *e*Pg Pb 21 14 37.9 +0.2
comp=Z,3.1nm,0.2s,SNR=65
OBKA Obir 0.93 319 x Pg 21 14 38.1 +0.9
comp=Z,0.9nm,SNR=81
PLIT Plitvice 0.94 171 *e*Pg Pg 21 14 37.8 +0.3
MOSL Moslavina 0.95 102 *i*Pg Pb 21 14 38.1 -0.1
JAVS Javornik 0.95 275 ⇑*i*Pg Pg 21 14 38.1 +0.4
JAVS *e*Sg Sb 21 14 51.8 +0.8
JAVS IAML 21 14 57.1
comp=Z,111nm,0.4s
SKDS Skadanscina 1.02 255 *e*Pg Pg 21 14 39.2 +0.1
SKDS *e*Sg Sb 21 14 53.9 +0.9
SKDS Skadanscina 1.02 255 *i*Pg Pg 21 14 39.1 +0.1
SKDS *e*Sg Sn 21 14 54.7 +0.1
SKDS IAML 21 14 58.8
comp=Z,116nm,0.3s
VOJS Vojsko 1.10 282 *i*Pg Pg 21 14 40.8 +0.3
VOJS *e*Sg Sn 21 14 56.2 -0.4
VOJS IAML 21 15 03.6
comp=Z,45nm,0.2s
GORS Gorjuse 1.12 297 *i*Pg Pn 21 14 41.6 +0.2
GORS *e*Sg Sn 21 14 58.1 +1.1
GORS IAML 21 15 00.1
comp=Z,139nm,0.2s
RABC Rab 1.16 203 *e*Pg Pn 21 14 42.4 +0.6
RABC Sg Sn 21 14 59.0 +1.3
SMRN Sveta Marina 1.19 230 *e*Pg Pn 21 14 43.1 +0.9
PRIJ Prijedor 1.23 132 *e*Pg Pb 21 14 42.8 -0.1
PRIJ *e*Sg Sg 21 14 59.4 +0.3
A253A Karojba, Istri 1.24 246 *e*Pg Pg 21 14 44.5 +1.2
CADS Cadrg 1.25 290 *e*Pg Pn 21 14 43.1 -0.1
CADS *e*Sg Sn 21 15 01.2 +1.0
CADS IAML 21 15 05.4
comp=Z,197nm,0.3s
A262A Szaknyer 1.30 36 Pg Pg 21 14 45.2 +0.9
comp=Z,1.0nm,SNR=24
A262A Lg Lg 21 15 03.9
UDBI Udbina 1.31 169 *e*Pg Pn 21 14 44.2 +0.2
UDBI Sg Sn 21 15 03.7 +2.1
NVLJ Novalja 1.31 198 *e*Pg Pg 21 14 44.9 +0.4
A051A Mrakovica 1.31 127 ⇑*i*Pg Pn 21 14 44.3 +0.2
A051A *e*Sg Sn 21 15 02.5 +0.6
A010A Fuerstenfeld 1.34 19 Pn Pg 21 14 45.1 0.0
comp=Z,0.8nm,SNR=18
A010A Sn Sn 21 15 03.3 +0.9
A264A Tarany 1.34 74 Pn Pb 21 14 44.9 +0.1
comp=Z,0.9nm,SNR=11
A264A Sn Sb 21 15 02.5 +0.3
ROBS Robic 1.40 289 *e*Pg Pb 21 14 46.2 +0.4
ROBS IAML 21 15 08.6
comp=Z,46nm,0.3s
ARSA Arzberg 1.44 3 *e*Pn Pn 21 14 46.3 +0.5
comp=Z,15nm,0.3s,SNR=28
ARSA Arzberg 1.44 3 Pn Pn 21 14 46.1 +0.3
comp=Z,0.2nm,SNR=9.4
MYKA Terra Mystica 1.48 304 *e*Pg Pg 21 14 48.7 +0.9
comp=Z,15nm,0.3s,SNR=16
MYKA Sg Sg 21 15 08.4 +1.3
comp=Z,25nm,0.5s
VIRC Vir 1.54 190 *e*Pn Pg 21 14 49.1 +0.2
A050A Klekovaca 1.54 149 ⇑*i*Pg Pg 21 14 49.0 0.0
A050A *e*Sg Sb 21 15 08.6 +0.6
BLY Banja Luka 1.64 130 ⇑*i*Pn Pb 21 14 50.0 +0.2
BLY *e*Sn Sb 21 15 10.6 +0.1
A261A Ohid 1.65 46 Pn Pn 21 14 48.7 0.0
comp=Z,0.4nm,SNR=11
A260A Vassurany 1.72 31 Pg Pg 21 14 53.0 +0.7
comp=Z,0.6nm,SNR=9.0
A252A Venje 1.74 102 *e*Pn Pn 21 14 50.6 +0.7
A265A Kaposfured 1.76 69 Pg Pg 21 14 54.4 +1.3
comp=Z,0.4nm,SNR=9.0
MGRS Mrkonjic Grad 1.82 139 *e*Pn Pb 21 14 52.5 -0.5
MGRS *e*Sn Sn 21 15 15.3 +0.9
DUGI Dugi Otok 1.84 188 *e*Pn Pb 21 14 54.0 +0.7
KBA Koelnbreinsper 1.92 312 *e*Pg Pg 21 14 56.3 +0.2
comp=Z,5.1nm,0.2s
KIJV Kijevo 1.94 159 *e*Pn Pb 21 14 54.6 -0.4
MORI Morici 1.96 174 *e*Pn Pb 21 14 55.2 0.0
RONA Rosalia, Austr 1.98 17 *e*Pn Pn 21 14 54.1 +0.8
comp=Z,9.8nm,0.2s,SNR=42
MPLH Magyarpolny 1.99 46 Pn Pn 21 14 53.0 -0.4
comp=Z,0.2nm,SNR=8.0
MPLH Magyarpolny 1.99 46 P Pn 21 14 53.0 -0.4
TIH Tihany 2.02 57 Pn Pn 21 14 53.5 -0.3
comp=Z,0.7nm,SNR=7.4
TIH Pg Pg 21 14 58.7 +0.5
TIH Tihany 2.02 57 P Pn 21 14 53.5 -0.3
SOP Sopron 2.03 22 Pn Pn 21 14 54.4 +0.6
comp=Z,0.1nm,SNR=9.9
SOP Pb Pg 21 14 58.8 +0.5
SOP Sopron 2.03 22 P Pn 21 14 54.4 +0.6
SOP Sopron 2.03 22 PG Pg 21 14 58.8 +0.5
EGYH Egyhazaskeszo 2.07 39 Pn Pn 21 14 53.4 -1.1
comp=Z,0.3nm,SNR=8.6
EGYH Egyhazaskeszo 2.07 39 P Pn 21 14 53.4 -1.1
CONA Conrad Observa 2.14 8 *e*Pn Pn 21 14 56.0 +0.6
comp=Z,3.3nm,0.3s,SNR=13
CONA Conrad Observa 2.14 8 Pn Pn 21 14 56.3 +0.8
comp=Z,0.1nm,SNR=4.6
ZIRJ Zirje 2.16 176 *e*Pn Pb 21 14 58.6 -0.2
MOA Molln 2.19 339 *e*Pn Pb 21 14 58.1 -1.1
MOA *e*Sg Sg 21 15 29.9 +0.2
MOA Molln 2.19 339 *e*Pn Pn 21 14 56.9 +0.8
comp=Z,1.9nm,0.3s,SNR=15
ABTA Abfaltersbach 2.23 296 *e*Pn Pn 21 14 57.9 +1.2
comp=Z,9.6nm,0.5s,SNR=14
ABTA Sn Sb 21 15 28.0 +0.3
comp=Z,41nm,0.7s
MORH Mrgy, Hungar 2.28 79 ⇓P Pn 21 14 56.7 -0.5
MORH Mrgy, Hungar 2.28 79 Pb Pn 21 14 56.6 -0.6
comp=Z,0.1nm,SNR=8.5
MORH Pg Pg 21 15 03.2 +0.1
MORH Mrgy, Hungar 2.28 79 P Pn 21 14 56.6 -0.6
RICI Ricice 2.62 152 *e*Pn Pb 21 15 04.7 -1.8
ZST Bratislava 2.65 25 *e*PN Pn 21 15 03.2 +0.9
ZST *e*PG Pg 21 15 10.5 +0.4
ZST *e*SG Sg 21 15 45.5 +1.1
HVAR Hvar 2.73 164 *e*Pn Pb 21 15 06.4 -2.1
MAKA Makarska 2.77 155 *e*Pn Pn 21 15 06.3 +2.3
SRO Srobarova 2.82 44 *e*PG Pg 21 15 13.4 +0.1
MODS Modra-Piesok 2.86 26 *e*PN Pn 21 15 07.0 +1.7
MODS *e*PG Pg 21 15 14.2 +0.1
MODS *e*SG Sg 21 15 51.6 +0.5
WTTA Wattenberg 2.99 300 *e*Pn Pn 21 15 08.2 +1.0
comp=Z,2.1nm,0.3s
WATA Walderalm 3.06 301 *e*Pn Pn 21 15 10.2 +2.0
comp=Z,0.3nm,0.1s
CKRC Cesky Krumlov 3.10 346 *e*PN Pn 21 15 10.7 +2.0
CKRC *e*SG Sg 21 15 57.2 -1.8
FRGS Fruska Gora 3.15 100 ⇓P Pn 21 15 11.5 +2.1
FRGS Fruska Gora 3.15 100 *e*Pn Pn 21 15 10.7 +1.4
FRGS *e*Sn Sn 21 15 48.5 +1.3
FRGS Fruska Gora 3.15 100 *e*Pn Pn 21 15 09.0 -0.3
FRGS *e*Sg Sg 21 15 59.1 -1.5
LSTV Lastovo 3.22 160 *e*Pn Pn 21 15 12.8 +2.5
SQTA Sankt Quirin 3.23 297 *e*Pn Pb 21 15 14.1 -3.0
comp=Z,1.5nm,0.4s
KRUC Moravsky 3.32 11 *e*PN Pn 21 15 12.2 +0.6
KRUC *e*SN Sn 21 15 49.7 -1.5
MOTA Moosalm 3.35 299 *e*Pn Pn 21 15 13.6 +1.4
comp=Z,0.7nm,0.3s
STON Ston 3.36 150 *e*Pn Pn 21 15 13.7 +1.5
STON *e*Sn Sn 21 15 52.7 +0.5
STON Ston 3.36 150 *e*Pn Pn 21 15 14.1 +1.9
STON Ston 3.36 150 *e*Pn Pn 21 15 14.2 +2.0
STON *e*Sg Sb 21 15 58.1 -2.1
JAVC Velka Javorina 3.41 26 *e*PN Pn 21 15 13.9 +1.0
BBLS Lazići 3.44 123 *e*Pn Pn 21 15 15.0 +1.7
FETA Feichten 3.47 292 *e*Pn Pn 21 15 17.6 +3.9
comp=Z,0.9nm,0.3s
KHC Kasperske Hory 3.55 340 *e*PN Pn 21 15 16.2 +1.4
KHC *e*SN Sn 21 15 57.0 +0.1
VYHS Vyhne 3.55 40 *e*PN Pn 21 15 15.8 +1.0
VYHS *e*PG Pg 21 15 27.1 -0.3
VYHS *e*SG Sg 21 16 14.6 +1.2
RUDO Rudo 3.57 127 *e*Pn Pn 21 15 16.1 +1.1
RUDO *e*Sn Sn 21 15 57.3 0.0
VRAC Vranov 3.59 12 *e*PN Pn 21 15 15.9 +0.6
VRAC *e*SN Sn 21 15 55.1 -2.7
UPM Unac-Piva 3.61 135 *e*Pn Pn 21 15 17.6 +1.9
BSZH Besenyszg 3.66 64 ⇓P Pn 21 15 16.8 +0.6
DIVS Divibare 3.67 116 *e*Pn Pn 21 15 17.5 +1.0
DIVS *e*Sn Sn 21 16 00.2 +0.3
BRY Bratogost 3.67 141 *e*Pn Pn 21 15 18.0 +1.5
DBRK Dubrovnik 3.70 147 *e*Pn Pn 21 15 19.0 +2.2
TRUS Trudelj 3.87 112 *e*Pn Pn 21 15 21.1 +1.9
TRUS *e*Sg Sb 21 16 18.2 +3.3
MAUC Maruska 3.91 24 *e*PN Pn 21 15 20.3 +0.6
GOPC GO Pecny, Ondr 4.13 354 *e*PN Pn 21 15 23.8 +1.1
SJES Sjenica 4.13 127 *e*Pn Pn 21 15 25.5 +2.6
MORC Moravsky Berou 4.21 19 *e*PN Pn 21 15 24.9 +0.9
PRU Pruhonice 4.22 352 *e*PN Pn 21 15 25.8 +1.8
PRU *e*SN Sn 21 16 12.3 -1.1
GRUS Gruza 4.22 115 *e*Pn Pn 21 15 25.6 +1.6
BZS Buzias 4.34 90 ⇓P Pn 21 15 25.8 +0.2
BZS Buzias 4.34 90 *e*Pn Pn 21 15 26.8 +1.2
KRLC Kraliky 4.36 12 *e*PN Pn 21 15 26.8 +0.8
KRLC *e*SN Sn 21 16 13.9 -3.1
SIRR Siria 4.37 82 ⇓P Pn 21 15 26.9 +0.9
DRME Dracevica, Mon 4.53 142 *e*Pn Pn 21 15 30.2 +2.0
MDVR Moldovita 4.55 101 ⇑P Pn 21 15 29.3 +0.7
DPC Dobruska-Polom 4.58 7 *e*PN Pn 21 15 30.3 +1.3
DPC *e*SG Sb 21 16 40.7 +5.4
PVCC Panska Ves 4.75 353 *e*PN Pn 21 15 32.5 +1.2
OSTC Ostas 4.78 6 *e*PN Pn 21 15 32.0 +0.4
CHVC Chvalec 4.80 5 *e*PN Pn 21 15 32.9 +1.0
BOVS Bovan 4.98 114 *e*Pn Pn 21 15 33.7 -0.7
HERR Herculane 5.01 98 ⇓P Pn 21 15 36.9 +2.0
BRG Berggiesshubel 5.16 349 *e*(Pn) Pn 21 15 38.5 +1.6
BRG Amp 21 15 39.8
comp=Z,2.2nm,0.3s
BRG *ex* x 21 16 60.0
BRG Amp 21 17 10.3
comp=Z,13nm,1.1s
GZR Gura Zlata 5.18 92 ⇑P Pn 21 15 38.3 +1.1
ZAGS Zajecar 5.24 110 *e*Pn Pn 21 15 38.5 +0.5
TRPA Tarpa 5.39 62 ⇑P Pn 21 15 41.3 +1.2
BARS Barje 5.48 121 *e*Pn Pn 21 15 42.9 +1.7
BLKB Belogradchik 5.61 110 ⇓P Pn 21 15 44.3 +1.1
BLKB ⇑S Sn 21 16 45.0 -2.8
PGF Pioggiola 5.66 237 *e*Pn Pn 21 15 44.4 +0.6
PGF *e*Sn Sn 21 16 45.1 -3.9
comp=Z,4.4nm,0.6s
CLL Collm 5.73 345 *e*Pn Pn 21 15 45.0 +0.3
CLL *e*Sg Sg 21 17 23.0 -0.2
comp=Z,18nm,1.2s
BMR Baia Mare 5.85 69 ⇑P Pn 21 15 47.7 +1.3
SBF Sospel 6.01 254 *e*Pn Pn 21 15 49.5 +0.9
SBF *e*Sn Sn 21 16 53.9 -3.7
comp=Z,5.6nm,0.6s
LPG La Plagne 6.09 270 *e*Pn Pn 21 15 50.9 +1.0
LPG *e*Sn Sn 21 16 56.5 -3.4
comp=Z,3.8nm,0.8s
LPL La Plagne 6.10 270 *e*Pn Pn 21 15 51.5 +1.5
LPL *e*Sn Sn 21 16 56.8 -3.3
comp=Z,1.9nm,0.4s
CDF Champ du Feu 6.14 298 *e*Pn Pn 21 15 51.8 +1.4
CDF *e*Sn Sn 21 16 58.3 -2.5
comp=Z,1.2nm,0.5s
MBDF Montbardon 6.20 263 *e*Pn Pn 21 15 52.3 +0.9
MBDF *e*Sn Sn 21 16 59.0 -3.5
comp=Z,4.4nm,0.7s
HINF Hinteralfeld 6.22 292 *e*Pn Pn 21 15 52.8 +1.4
HINF *e*Sn Sn 21 16 59.9 -2.8
comp=Z,2.4nm,0.4s
CABF La Chapelle 6.53 280 *e*Pn Pn 21 15 57.4 +1.6
CABF *e*Sn Sn 21 17 07.0 -3.5
comp=Z,0.5nm,0.4s
HAU Haudompre 6.59 293 *e*Pn Pn 21 15 57.8 +1.2
HAU *e*Sn Sn 21 17 08.7 -3.2
comp=Z,3.9nm,0.5s
ORIF Oris-en-Rattie 6.78 266 *e*Pn Pn 21 16 00.1 +0.8
ORIF *e*Sn Sn 21 17 12.9 -3.8
comp=Z,3.5nm,0.5s
LMR La Mourre 6.83 252 *e*Pn Pn 21 16 00.4 +0.5
LMR *e*Sn Sn 21 17 13.5 -4.3
VIVF Saint-Julien-l 7.64 267 *e*Pn Pn 21 16 11.6 +0.6
VIVF *e*Sn Sn 21 17 33.3 -4.4
comp=Z,0.6nm,0.4s
SMF Signal de Mont 8.08 280 *e*Pn Pn 21 16 17.6 +0.7
SMF *e*Sn Sn 21 17 44.0 -4.4
comp=Z,0.5nm,0.2s
LOR Lormes 8.11 284 *e*Pn Pn 21 16 18.3 +0.9
LOR *e*Sn Sn 21 17 44.8 -4.4
comp=Z,0.6nm,0.3s
SSF Saint Saulge 8.33 283 *e*Pn Pn 21 16 27.3 +6.9
SSF *e*Sn Sn 21 17 50.7 -3.9
comp=Z,0.2nm,0.3s
AVF Avril sur Loir 8.42 281 *e*Pn Pn 21 16 22.4 +0.8
AVF *e*Sn Sn 21 17 52.2 -4.6
comp=Z,0.3nm,0.3s
HYF Humbligny 8.94 284 *e*P Pn 21 16 33.4 +4.7
TCF Toulx Ste Croi 9.21 278 *e*Pn Pn 21 16 33.4 +1.0
TCF *e*Sn Sn 21 18 10.9 -5.3
comp=Z,0.4nm,0.3s

IDC 25 21:34:16.5±1.9, 23°56N×94°35E, h0km, mb3.3/2, mbtmp3.1/3, ML3.2/1, MS3.5/1, Error ellipse: s-maj=70.3km s-min=21.0km az=56.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.65**	**139**	Pn	Pn	21 35 56.1	+0.6
	0.1nm,0.3s,baz=314,slow=14,SNR=2.7						
CMAR				Pg	Pg	21 36 19.1	-4.8
	0.1nm,0.3s,baz=318,slow=18,SNR=5.0						
CMAR				Lg	Lg	21 37 46.8	
	0.2nm,0.3s,baz=318,slow=31,SNR=5.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**25.13**	**340**	P	P	21 39 43.2	+0.1
	0.2nm,0.4s,baz=152,slow=10.0,SNR=5.2						
	0.2nm,0.4s						
NRIK	**Noril'sk**	**45.98**	**357**	LR	LR	22 02 41.2	
	comp=Z,57nm,19.5s,baz=162,slow=37						
WRA	**Warramunga Arr**	**58.22**	**135**	P	P	21 44 12.5	-0.4
	0.4nm,0.7s,baz=324,slow=7.5,SNR=3.2						
	0.4nm,0.7s						

*IDC **25** 21:41:31.9±0.8, 30°47N×78°94E, h0km, mb3.6/13, mbtmp3.6/14, ML3.2/1, Error ellipse: s-maj=26.4km s-min=17.4km az=54.0*
*NDI **25** 21:41:35.9±2.9, 30°53N×78°98E, h10km, ML3.9*
ISC 25 21:41:34.9±0.6, 30°54N±0°04×78°96E±0°04, h24km, n23, σ2s35/31, mb3.6/12, 1C-1D, Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**0.81**	**254**	*e*P	**Pn**	**21 41 50.9**	**+0.1**
DDI				*e*S	**Sn**	**21 42 02.0**	**-0.2**
DDI				IAML		21 42 05.1	
	comp=N,9μm,0.2s						
LGTI	**Lohaghat**	**1.56**	**134**	*e*P	**Pb**	**21 42 03.6**	**+0.5**
LGTI				*e*S	**Sb**	**21 42 23.4**	**+0.9**
SMLA	**Simla**	**1.65**	**291**	*e*P	**Pb**	**21 42 05.4**	**+0.8**
SMLA				*e*S	**Sb**	**21 42 28.5**	**+3.7**
SMLA				IAML		21 42 29.3	
	comp=E,3μm,0.3s						
SMLA				IAML		21 42 29.4	
	comp=N,2μm,0.3s						
NDI	**New Delhi**	**2.39**	**220**	*e*P	**Pb**	**21 42 16.4**	**-1.0**
NDI				*e*S	**Sb**	**21 42 45.6**	**-0.8**
KHET	**Khetri**	**3.69**	**229**	*e*P	**Pn**	**21 42 32.5**	**+2.1**
BHPL	**Bhopal**	**7.40**	**191**	*e*P	**Pn**	**21 43 21.3**	**-0.2**
BHPL				*e*S	**Sn**	**21 44 40.5**	**-4.2**
BHPL				IAML		21 44 44.5	
	comp=N,40nm,0.4s						
JUMK	**Jumkunaria**	**10.50**	**229**	*e*P	**Pn**	**21 44 07.2**	**+3.3**
JUMK				*e*S	**Sn**	**21 45 57.4**	**-3.4**
PDGK	**Podgornaya**	**12.77**	**2**	⇓P	**Pn**	**21 44 35.7**	**+0.7**
	comp=N,3.5nm,0.9s						
PDGK				⇑S	**Sn**	**21 46 51.3**	**-5.2**
	comp=N,3.6nm,0.5s						
KK31	**Karatay Array**	**14.23**	**334**	P	**Pn**	**21 44 51.8**	**-3.1**
	comp=N,0.7nm,0.3s,baz=145,slow=12,SNR=26						
KK31				S	**Sn**	**21 47 25.4**	**-6.6**
	comp=N,2.2nm,0.7s,baz=162,slow=24,SNR=9.8						
MKAR	**Makanchi Array**	**16.43**	**8**	Pn	**Pn**	**21 45 23.3**	**-0.6**
	comp=N,0.1nm,0.3s,baz=186,slow=12,SNR=2.2						
MKAR				Sn	Sn	21 48 14.5	-11
	comp=N,0.2nm,0.3s,baz=190,slow=25,SNR=2.2						
	comp=N,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**20.06**	**359**	P	**P**	**21 46 06.5**	**+0.2**
	comp=N,0.3nm,0.3s,baz=181,slow=9.3,SNR=2.6						
	comp=N,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**21.77**	**119**	P	**P**	**21 46 24.5**	**-0.5**
	comp=N,0.5nm,0.5s,baz=311,slow=11,SNR=4.6						
	comp=N,0.5nm,0.5s						
BVAR	**Borovoye Array**	**23.32**	**347**	P	**P**	**21 46 41.8**	**+0.8**
	comp=N,0.2nm,0.5s,baz=162,slow=6.7,SNR=2.7						
	comp=N,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**23.77**	**9**	P	**P**	**21 46 46.5**	**+1.1**
	comp=N,0.9nm,0.4s,baz=198,slow=9.3,SNR=6.0						
	comp=N,0.9nm,0.4s						
BRTR	**Keskin Array B**	**37.84**	**297**	P	**P**	**21 48 50.4**	**+0.5**
	comp=N,0.4nm,0.6s,baz=101,slow=7.5,SNR=2.8						
	comp=N,0.4nm,0.6s						
FINES	**FINESS Array B**	**46.08**	**328**	P	**P**	**21 49 57.3**	**+0.7**
	comp=N,1.2nm,0.8s,baz=90,slow=8.3,SNR=4.0						
	comp=N,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**49.15**	**338**	P	**P**	**21 50 22.1**	**+1.7**
	comp=N,0.7nm,0.6s,baz=108,slow=7.9,SNR=6.6						
	comp=N,0.7nm,0.6s						
HFS	**Hagfors**	**51.80**	**325**	P	**P**	**21 50 41.6**	**+1.1**
	comp=N,2.0nm,0.8s,baz=81,slow=8.9,SNR=5.2						
	comp=N,2.0nm,0.8s						
ESDC	**Sonseca Array**	**66.19**	**303**	P	**P**	**21 52 22.1**	**+1.3**
	comp=N,0.1nm,0.4s,baz=64,slow=5.9,SNR=1.4						
	comp=N,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**72.56**	**275**	P	**P**	**21 53 01.4**	**+0.9**
	comp=N,0.9nm,0.5s,baz=48,slow=5.6,SNR=17						
	comp=N,0.9nm,0.5s						
WRA	**Warramunga Arr**	**73.17**	**126**	P	**P**	**21 53 04.8**	**+1.0**
	comp=N,0.1nm,0.4s,baz=317,slow=6.5,SNR=5.7						
	comp=N,0.1nm,0.4s						
ASAR	**Alice Springs**	**75.38**	**129**	P	**P**	**21 53 17.8**	**+1.1**
	comp=N,0.2nm,0.4s,baz=312,slow=6.0,SNR=1.8						
	comp=N,0.2nm,0.4s						
BOSA	**Boshof**	**77.98**	**226**	P	**P**	**21 53 31.8**	**+0.3**
	comp=N,2.1nm,0.9s,baz=0.0,slow=9.1,SNR=1.7						
	comp=N,2.1nm,0.9s						

*MOS **25** 21:52:01.5±0.9, 54°19N×111°25E, h13km, mb4.1/4, Error ellipse: s-maj=9.2km s-min=5.4km az=76.9*
*IDC **25** 21:52:01.3±1.0, 54°23N×111°20E, h0km, mb3.8/14, mbtmp3.8/18, ML4.9/2, MS3.4/8, Error ellipse: s-maj=21.7km s-min=16.4km az=119.0*
*BYKL **25** 21:52:02.6±0.1, 54°24N×111°19E*
*NEIC **25** 21:52:02.8±0.8, 54°3N±0°1×111°5E±0°2, h15km±3km, mb4.3/9, Error ellipse: s-maj=16.7km s-min=16.6km az=50.0*
ISC 25 21:52:02.0±0.4, 54°21N±0°02×111°33E±0°02, h10km, n121, σ2s20/197, mb3.9/20, MS3.4/8, 10C-5D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.67**	**352**	⇑*i*Pg	**Pg**	**21 52 13.8**	**-1.2**
YLYR				Pmax		21 52 15.1	
	2μm,0.6s						
YLYR				*e*Sg	**Sg**	**21 52 22.2**	**-1.6**
YLYR				Smax		21 52 22.4	
	7μm,0.5s						
YLYR	**Ulyunkhan**	**0.67**	**352**	⇑*i*PG	**Pg**	**21 52 13.8**	**-1.2**
YLYR				*e*		21 52 22.3	
YLYR				pmax	pmax		
	comp=Z,2μm,0.6s						
YLYR				smax	smax		
	comp=N,7μm,0.5s						
SYVR	**Suvo**	**0.96**	**235**	⇓*i*Pg	**Pg**	**21 52 19.2**	**-1.3**
	comp=N,211nm,0.5s						
SYVR				⇓*i*Pg	**Pg**	**21 52 19.2**	**-1.3**
	comp=N,331nm,0.5s						
SYVR				⇑*i*Pg	**Pg**	**21 52 19.2**	**-1.3**
	comp=N,407nm,0.5s						
SYVR				Pmax		21 52 24.2	
	comp=N,412nm,0.3s						
SYVR				*e*Sg	**Sg**	**21 52 31.6**	**-1.4**
SYVR				*e*Sb	**Sn**	**21 52 37.2**	**+1.9**
SYVR				max		21 52 37.4	
	comp=N,7μm,0.3s						
SYVR	**Suvo**	**0.96**	**235**	⇑*i*PG	**Pg**	**21 52 19.2**	**-1.3**
SYVR				*e*		21 52 31.7	
SYVR				pmax	pmax		
	comp=Z,317nm,0.2s						
SYVR				smax	smax		

comp=E,7µm,0.2s
KMO Kumora 1.68 358 ⇑*i*Pg **Pn 21 52 31.9 +0.5**
KMO Pmax 21 52 36.5
comp=E,957nm,0.5s
KMO *e*Sg **Sn 21 52 53.6 +0.6**
KMO Smax 21 52 57.4
comp=E,7µm,1.3s
KMO Kumora 1.68 358 ⇑*i*PN **Pn 21 52 31.8 +0.4**
KMO *e* 21 52 54.1
KMO pmax pmax
comp=Z,571nm,0.4s
KMO smax smax
comp=N,7µm,1.1s
MXMB Maximikha 1.81 239 *e*Pn **Pn 21 52 33.9 +0.8**
MXMB *e*Pg **Pb 21 52 34.2 -0.9**
MXMB *e*Sg **Sb 21 52 57.4 -0.4**
UKT Uakit 1.85 45 ⇓*i*Pn **Pb 21 52 35.7 -0.2**
UKT *e*Pg **Pg 21 52 36.5 -0.9**
UKT *e* 21 52 39.2
UKT max 21 52 39.7
comp=N,443nm,0.8s
UKT *e*Sg **Sg 21 53 01.6 +0.3**
UKT Smax 21 53 03.6
comp=N,1µm,1.2s
UKT Uakit 1.85 45 ⇓*i*PN **Pb 21 52 35.6 -0.3**
UKT *e* 21 53 01.5
UKT pmax pmax
comp=Z,48nm,0.1s
UKT smax smax
comp=E,628nm,0.2s
NIZ Nizh Angarsk 1.88 327 *e*Pg **Pn 21 52 35.0 +0.9**
NIZ Pmax 21 52 38.8
comp=E,820nm,0.5s
NIZ *e*Sg **Sb 21 52 59.2 -0.6**
NIZ *e* 21 53 02.9
NIZ max 21 53 03.9
comp=E,3µm,0.4s
NIZ Nizh Angarsk 1.88 327 *e*PN **Pn 21 52 34.8 +0.7**
NIZ *i* 21 52 59.3
NIZ pmax pmax
comp=Z,820nm,0.5s
NIZ smax smax
comp=N,3µm,0.4s
YOA Uoyan 1.94 7 *e*Pn **Pb 21 52 36.5 -0.9**
YOA *e*Pg **Pg 21 52 38.3 -0.8**
YOA *e*Sn **Sb 21 53 01.0 -0.6**
YOA *e*Sg **Sg 21 53 03.6 -0.7**
YOA Pmax
comp=N,3µm,0.6s
YOA Smax
comp=N,2µm,0.2s
YOA Uoyan 1.94 7 ⇑*i*PN **Pb 21 52 37.2 -0.2**
YOA *i* 21 53 03.8
YOA pmax pmax
comp=Z,276nm,0.2s
YOA smax smax
comp=N,12µm,0.7s
OGRR Ongureny 2.28 257 ⇓*i*Pn **Pb 21 52 41.8 -1.4**
OGRR *e*Pg **Pg 21 52 43.6 -2.0**
OGRR *e* 21 52 46.0
OGRR max 21 52 49.6
comp=N,197nm,0.4s
OGRR *e*Sn **Sn 21 53 08.7 +0.9**
OGRR *e*Sg **Sb 21 53 11.9 +0.5**
OGRR *e* 21 53 13.4
OGRR max 21 53 15.7
comp=N,2µm,0.2s
OGRR *e* 21 53 16.8
OGRR Ongureny 2.28 257 *e*PN **Pb 21 52 41.8 -1.4**
OGRR *e* 21 52 44.2
OGRR *e* 21 53 12.1
OGRR pmax pmax
comp=Z,195nm,0.4s
OGRR smax smax
comp=E,2µm,0.3s
SVKR Severomuysk 2.30 33 *e*Pn **Pb 21 52 42.4 -1.2**
SVKR *e*Pg **Pg 21 52 44.6 -1.4**
SVKR Pmax 21 52 46.3
comp=E,694nm,0.6s
SVKR *e*Sg **Sg 21 53 15.7 -0.1**
SVKR Smax 21 53 20.6
comp=E,5µm,1.0s
SVKR Severomuysk 2.30 33 *e*PN **Pb 21 52 42.8 -0.8**
SVKR *e* 21 52 45.0
SVKR *e* 21 53 17.1
SVKR pmax pmax
comp=Z,649nm,0.6s
SVKR smax smax
comp=N,4µm,0.8s
KELR Kotokel 2.42 234 *e*Pn **Pn 21 52 42.3 +0.6**
KELR *e*Pg **Pb 21 52 45.2 -0.5**
KELR *e*Sg **Sb 21 53 16.0 +0.4**
CIT Chita 2.57 148 *e*Pn **Pn 21 52 45.3 +1.6**
CIT *e*Pg **Pg 21 52 49.6 -1.6**
CIT Pmax 21 52 55.0
comp=N,458nm,0.2s
CIT *e*Sg **Sg 21 53 24.3 -0.2**
CIT Smax 21 53 28.2
comp=N,2µm,0.2s
CIT Chita 2.57 148 *e*PN **Pn 21 52 43.4 -0.3**
CIT *e* 21 52 48.2
CIT *e*S **Sn 21 53 16.8 +1.8**
CIT *e* 21 53 23.6
CIT pmax pmax
comp=Z,472nm,1.1s
CIT smax smax
comp=N,1µm,1.2s
ZRHB Zarechye 3.00 238 *e*Pn **Pn 21 52 50.0 +0.4**
ZRHB *e*Pg **Pb 21 52 56.4 +0.9**
ZRHB Pmax 21 53 00.9
comp=N,335nm,0.7s
ZRHB *e*Sn **Sn 21 53 25.3 -0.3**
ZRHB *e*Sg **Sb 21 53 34.4 +2.2**
ZRHB *e* 21 53 46.8
ZRHB max 21 53 48.2
comp=N,3µm,0.5s
TRG Tyrgan 3.31 246 *e*Pn **Pn 21 52 54.0 +0.1**
TRG *e*Pg **Pb 21 53 01.5 +0.7**
TRG Pmax 21 53 07.3
comp=N,61nm,0.3s
TRG *e*Sn **Sn 21 53 32.9 -0.4**
TRG *e* 21 53 41.7
TRG *e*Sg **Sb 21 53 43.8 +2.7**
TRG Smax 21 53 45.2
comp=N,1µm,0.4s
TRG *e*SgSg **SbSb 21 53 47.0 +0.8**
TRG Tyrgan 3.31 246 *e*PN **Pn 21 52 54.0 +0.1**
TRG *e* 21 53 00.2
TRG *e*S **Sn 21 53 31.4 -1.9**
TRG *e* 21 53 41.2
TRG pmax pmax
comp=Z,62nm,0.3s
TRG smax smax
comp=N,1µm,0.3s
NLYR Nelyaty 3.38 46 *e*Pn **Pn 21 52 56.8 +1.9**
NLYR *e*Pg **Pb 21 53 03.6 +1.6**
NLYR Pmax 21 53 06.7
comp=N,106nm,0.7s
NLYR *e* 21 53 10.9
NLYR *e*Sn **Sn 21 53 35.6 +0.5**
NLYR *e*Sg **Sg 21 53 48.7 -1.9**
NLYR Smax 21 53 53.6
comp=N,1µm,1.0s
NLYR Nelyaty 3.38 46 ⇑*i*PN **Pn 21 52 56.8 +1.9**
NLYR *e* 21 53 03.0
NLYR *e* 21 53 48.4
NLYR pmax pmax
comp=Z,106nm,0.6s
NLYR smax smax
comp=N,1µm,1.1s
FFNB Fofonovo 3.50 234 *e*Pn **Pn 21 52 57.1 +0.6**
FFNB *e*Pg **Pb 21 53 04.4 +0.4**
FFNB *e*Sn **Sn 21 53 37.0 -0.9**
FFNB *e*Sg **Sb 21 53 49.9 +3.3**
KAB Kabansk 3.55 234 *e*Pg **Pb 21 53 05.8 +0.9**
KAB *e* 21 53 19.4
KAB max 21 53 20.5
comp=N,341nm,0.7s
KAB *e*Sn **Sn 21 53 38.1 -1.1**
KAB *e*Sg **Sb 21 53 51.5 +3.5**
KAB Smax 21 54 03.0
comp=N,3µm,0.9s
HRMR Khuramsha 3.70 227 ⇑*i*Pn **Pn 21 53 00.0 +0.8**
HRMR *e* 21 53 07.7
HRMR *e*Pg **Pb 21 53 08.9 +1.5**
HRMR Pmax 21 53 09.3
comp=N,409nm,0.4s
HRMR *e* 21 53 12.3
HRMR *e*Sn **Sn 21 53 42.4 -0.5**
HRMR *e*Sg **Sg 21 53 56.7 -4.1**
HRMR Smax 21 54 02.8
comp=N,4µm,0.7s
BOD Bodaibo 3.92 21 *e*Pn **Pn 21 53 03.0 +0.9**
BOD *e*Pg **Pb 21 53 12.1 +1.1**
BOD Pmax 21 53 16.9
comp=N,110nm,1.0s
BOD *e* 21 53 39.1
BOD *e*Sn **Sn 21 53 46.7 -1.4**
BOD *e*Sg **Sg 21 54 03.3 -4.3**
BOD Smax 21 54 11.7
comp=N,529nm,1.4s
BOD Bodaibo 3.92 21 *e*PN **Pn 21 53 02.2 +0.1**
BOD *e* 21 53 11.7
BOD *e*S **Sn 21 53 47.0 -1.1**
BOD *e* 21 54 01.1
BOD pmax pmax
comp=Z,104nm,0.6s
BOD smax smax
comp=E,526nm,1.2s
BGT Bolshoye Golou 4.17 241 *e*Pn **Pn 21 53 05.0 -0.7**
BGT *e*Pg **Pb 21 53 16.4 +0.9**
BGT *e* 21 53 22.8
BGT max 21 53 26.1
comp=E,51nm,0.4s
BGT *e*Sn **Sn 21 53 50.9 -3.6**
BGT *e*Sg **Sb 21 54 09.8 +3.9**
BGT Smax 21 54 15.3
comp=E,351nm,0.5s
BGT *e* 21 54 15.9
KPC Khapcheranga 4.56 171 *e*Pn **Pn 21 53 12.3 +1.2**
KPC *e*Pg **Pb 21 53 24.8 +2.7**
KPC Pmax 21 53 29.5
comp=E,81nm,0.8s
KPC *e*Sn **Sn 21 54 03.4 -0.7**
KPC *e*Sg **Sg 21 54 24.7 -3.6**
KPC Smax 21 54 27.1
comp=E,708nm,0.8s
KPC Khapcheranga 4.56 171 *e*PN **Pn 21 53 12.0 +0.9**
KPC *e* 21 53 24.8
KPC *e* 21 54 24.3
KPC pmax pmax
comp=Z,69nm,0.3s
KPC smax smax
comp=E,707nm,0.8s
LSTR Listvyanka 4.57 242 *e*Pn **Pn 21 53 11.2 +0.1**
LSTR *e*Pg **Pb 21 53 22.9 +0.7**
LSTR *e* 21 53 32.9
LSTR max 21 53 34.1
comp=E,27nm,0.4s
LSTR *e*Sn **Sn 21 54 01.6 -2.6**
LSTR *e*Sg **Sb 21 54 21.4 +4.1**
LSTR *e* 21 54 31.3
LSTR max 21 54 32.1
comp=E,195nm,0.6s
IRK Irkutsk 4.68 248 *e*Pn **Pn 21 53 12.8 +0.2**
IRK *e*Pg **Pb 21 53 25.4 +1.4**
IRK *e* 21 53 29.4
IRK max 21 53 29.8
comp=E,77nm,0.2s
IRK *e*Sn **Sn 21 54 05.5 -1.4**
IRK *e*Sg **Sb 21 54 23.8 +3.5**
IRK Smax 21 54 32.6
comp=E,1µm,0.4s
IRK Irkutsk 4.68 248 *e*PN **Pb 21 53 27.1 +3.1**
IRK *e* 21 54 24.4
IRK pmax pmax
comp=Z,75nm,0.2s
IRK smax smax
comp=N,1µm,0.4s
CRS Chara 4.77 53 *e*Pn **Pn 21 53 15.3 +1.4**
CRS *e*Pg **Pb 21 53 29.0 +3.3**
CRS Pmax 21 53 37.7
comp=N,112nm,1.0s
CRS *e*Sn **Sn 21 54 08.4 -0.9**
CRS *e*Sg **Sg 21 54 31.9 -3.2**
CRS Smax 21 54 37.0
comp=N,364nm,1.0s
CRS Chara 4.77 53 *e*PN **Pn 21 53 15.1 +1.2**
CRS *e*S **Sg 21 54 31.4 -3.7**
CRS smax smax
comp=E,364nm,1.0s
IVK Ivanovka 4.82 243 *e*Pn **Pn 21 53 14.7 +0.1**
IVK *e*Pg **Pb 21 53 28.4 +1.9**
IVK Pmax 21 53 35.7
comp=E,34nm,0.8s
IVK *e*Sn **Sn 21 54 08.5 -2.0**
IVK *e*Sg **Sb 21 54 29.0 +4.4**
IVK Smax 21 54 36.9
comp=E,260nm,0.7s
TUP Tupik 5.05 84 *e*Pn **Pn 21 53 19.7 +1.9**
TUP *e*Pg **Pg 21 53 34.7 -4.0**
TUP Pmax 21 53 39.1
comp=E,29nm,0.9s
TUP *e*Sn **Sn 21 54 16.2 0.0**
TUP *e*Sg **Sg 21 54 41.7 -2.4**
TUP *e* 21 54 43.8
TUP max 21 54 44.8
comp=E,700nm,1.4s
TUP Tupik 5.05 84 *e*PN **Pn 21 53 19.7 +1.9**
TUP *e* 21 53 35.0
TUP *e*S **Sn 21 54 15.7 -0.5**
TUP *e* 21 54 41.7
TUP pmax pmax
comp=Z,16nm,0.4s
TUP smax smax
comp=N,699nm,0.9s
VTMR Vitim 5.29 7 *e*Sg **Sg 21 54 44.8 -6.7**
VTMR *e* 21 55 14.5
TLY Talaya 5.29 244 *e*Pn **Pn 21 53 20.7 -0.4**
TLY *e*Pg **Pb 21 53 36.0 +1.5**
TLY *e* 21 53 41.6
TLY max 21 53 41.9
comp=N,21nm,0.4s
TLY *e* 21 54 41.5
TLY *e*Sg **Sb 21 54 44.2 +6.1**
TLY Smax 21 54 50.0
comp=N,170nm,0.5s
TLY *e* 21 54 54.3
TLY Talaya 5.29 244 *e*PN **Pn 21 53 20.7 -0.4**
TLY *e* 21 53 36.0
TLY *e* 21 54 43.1
TLY pmax pmax
comp=Z,21nm,0.4s
TLY smax smax
comp=E,168nm,0.5s
KHNR Khani 5.61 58 *e*Pn **Pn 21 53 27.2 +1.8**
KHNR *e*Pg **Pb 21 53 44.0 +4.1**
KHNR *e*Sn **Sn 21 54 28.2 -1.7**
KHNR *e*Sg **Sg 21 54 57.0 -4.9**
ARS Arshan 5.84 250 *e*PN **Pn 21 53 29.4 +0.8**
ARS *e* 21 53 46.0
ARS *e* 21 55 00.1
ARS pmax pmax
comp=Z,74nm,0.6s
ARS smax smax
comp=E,799nm,0.7s
ZAK Zakamensk 6.25 235 *e*Pn **Pn 21 53 35.5 +1.2**
ZAK *e*Pg **Pb 21 53 55.0 +4.1**
ZAK Pmax 21 53 59.5
comp=E,25nm,0.8s
ZAK *e*Sn **Sn 21 54 42.7 -3.1**
ZAK *e*Sg **Sg 21 55 16.4 -6.1**
ZAK Smax 21 55 27.0
comp=E,263nm,1.4s
YKLR Yuktali 6.35 64 *e*Pn **Pn 21 53 37.3 +1.8**
YKLR *e*Pg Pb 21 53 57.1 +4.7
YKLR *e*Sn **Sn 21 54 46.6 -1.4**
YKLR *e*Sg **Sg 21 55 20.4 -5.1**
YKLR *e* 21 55 55.9
MOY Mondy 6.75 252 *e*Pn **Pn 21 53 42.3 +1.1**
MOY *e* 21 54 08.7
MOY max 21 54 30.7
comp=E,40nm,1.7s
MOY *e*Sn **Sn 21 54 55.3 -2.7**
MOY *e*Sg **Sg 21 55 29.8 -8.6**
MOY Smax 21 55 50.4
comp=E,239nm,1.1s
MOY Mondy 6.75 252 *e*PN **Pn 21 53 42.2 +1.1**
MOY *e* 21 54 02.0
MOY *e*S **Sn 21 54 56.0 -2.0**
MOY *e* 21 55 26.7
ULN Ulaanbaatar 6.90 205 Pn **Pn 21 53 44.6 +1.3**
ULN Ulaanbaatar 6.90 205 *e*Pn **Pn 21 53 44.9 +1.6**
ULN *e* 21 54 07.0
ULN *e*Sg **Sg 21 55 36.8 -6.6**
ULN Ulaanbaatar 6.90 205 PN **Pn 21 53 44.6 +1.3**
ORL Orlik 7.09 261 *e*PN **Pn 21 53 45.7 -0.2**
ORL *e*S **Sb 21 55 38.1 +8.2**
ORL smax smax
comp=N,178nm,1.1s
SONM Songino Array 7.10 208 Pn **Pn 21 53 47.4 +1.4**
comp=N,2.9nm,0.3s,baz=15,slow=13,SNR=75
SONM Pg Pb 21 54 10.6 +5.2
comp=N,5.2nm,0.3s,baz=14,slow=16,SNR=11
SONM Sn **Sn 21 55 04.5 -2.3**
comp=N,4.8nm,0.3s,baz=19,slow=27,SNR=5.4
SONM Lg Lg 21 55 44.8
comp=N,14nm,0.3s,baz=21,slow=27,SNR=13
SONM LR LR 21 56 50.2
comp=N,130nm,19.4s,baz=72,slow=41
comp=N,5.4nm,0.4s
HIA Hailar 7.20 130 *e*Sg **Sg 21 55 49.1 -3.6**
CLNS Chul'man 8.13 66 *e*Sg **Sg 21 56 16.4 -6.4**
CLNS *e* 21 56 37.0
ZEA Zeya 9.40 86 *e*P **Pn 21 54 13.8 -3.5**
ZEA *e* 21 56 01.0
YAK Yakutsk 12.43 44 *i*P **Pn 21 55 00.1 +1.4**
DGZ Jazzator, Alta 15.38 263 *i*P **Pn 21 55 39.7 +0.7**
ZALV Zalesovo Beam 15.53 280 Pn **Pn 21 55 39.0 -1.8**
comp=N,0.7nm,0.5s,baz=68,slow=12,SNR=3.7
ZALV Zalesovo Beam 15.53 280 Pn **Pn 21 55 38.8 -2.0**
ZALV Zalesovo Beam 15.53 280 *i*P **Pn 21 55 39.0 -1.8**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
GTA Gaotai 16.74 212 *e*P **P 21 56 01.0 +2.2**
GTA pP sP 21 56 07.0 +3.3
GTA sP pP 21 56 09.5 +7.4
GTA pmax pmax
comp=Z,2.0nm,1.4s
GTA pmax pmax
comp=Z,74nm,6.0s
GTA LR LR
comp=N,180nm,10.9s
GTA LR LR
comp=E,170nm,10.5s
GTA LR LR
comp=Z,140nm,10.9s
USRK Ussuriysk Ar. 16.75 118 LR LR 22 03 35.2
comp=Z,72nm,19.1s,baz=190,slow=41
NRIK Noril'sk 18.66 333 *i*P **P 21 56 18.0 -1.7**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 19.08 17 P **Pn 21 56 24.5 -0.5**
comp=Z,62nm,0.3s,baz=263,slow=19,SNR=5.4
comp=Z,3.1nm,0.4s
MKAR Makanchi Array 19.80 260 P **P 21 56 33.1 +0.8**
comp=Z,0.8nm,0.7s,baz=62,slow=8.5,SNR=5.2
MKAR Makanchi Array 19.80 260 *i*P **Pn 21 56 34.7 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 20.13 273 P **P 21 56 36.7 +0.9**
KURK Kurchatov 20.13 273 P **P 21 56 36.8 +0.9**
KURBB Kurchatov Arra 20.22 273 P **P 21 56 36.8 0.0**
comp=Z,1.9nm,0.5s,baz=66,slow=11,SNR=7.2
comp=Z,1.9nm,0.5s
KSRS Korea Array 20.27 139 LR LR 22 05 25.5
comp=Z,56nm,19.7s,baz=195,slow=40
JEW Eniwo 22.78 108 P **P 21 57 03.6 -0.8**
BVAR Borovoye Array 24.08 284 P **P 21 57 17.1 -0.2**
comp=Z,0.9nm,0.6s,baz=81,slow=8.7,SNR=12
comp=Z,0.9nm,0.6s
BRVK Borovoye 24.13 284 P **P 21 57 17.8 +0.1**
BRVK IAmb IAmb 21 57 24.2
comp=Z,4.7nm,0.8s
BRVK Borovoye 24.13 284 P **P 21 57 17.8 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 25.62 123 LR LR 22 08 03.3
comp=Z,39nm,19.0s,baz=319,slow=38
BILL Bilibino 28.74 40 *e*P **P 21 58 01.4 +2.3**
BILL *e* 21 58 50.1
BILL *e*PPP PPP 21 59 03.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,165nm,18.0s
ABKAR Akbulak array 31.62 282 P **P 21 58 24.9 +0.2**
ABKAR Akbulak array 31.62 282 P **P 21 58 24.6 -0.1**
UBPT Khong Chiam 39.12 189 P **P 21 59 27.6 -1.8**
UBPT IAmb IAmb 21 59 28.4
comp=Z,5.3nm,0.7s
ARCES ARCESS Array B 39.41 326 P **P 21 59 31.5 +0.1**
comp=Z,0.8nm,0.7s,baz=58,slow=5.4,SNR=4.8
comp=Z,0.8nm,0.7s
OBN Obninsk 41.31 303 *e*P **P 21 59 48.5 +1.3**
OBN *e*PPP PPP 22 01 45.3
OBN pmax pmax
comp=Z,2.0nm,0.9s
OBN MLR MLR
comp=Z,59nm,16.0s
ADK Adak 41.61 63 P **P 21 59 47.4 -2.4**
ADK IAmb IAmb 22 00 29.3
comp=Z,39nm,1.1s
ADK Adak 41.61 63 P **P 21 59 47.4 -2.4**
ADK pmax pmax
comp=Z,39nm,1.1s
FINES FINESS Array B 42.85 315 P **P 21 59 59.8 0.0**
comp=Z,1.0nm,0.5s,baz=67,slow=9.4,SNR=9.8
FINES LR LR 22 18 54.5
comp=Z,27nm,19.2s,baz=90,slow=38
comp=Z,1.0nm,0.5s
CLES Cleveland East 44.55 58 P **P 22 00 13.6 +0.1**
CLES IAmb IAmb 22 00 17.6
comp=Z,348nm,1.2s
ILAR Eielson Array 47.17 35 P **P 22 00 35.7 +1.6**
comp=Z,0.5nm,0.7s,baz=294,slow=6.6,SNR=7.4
comp=Z,0.5nm,0.7s
AKASG Malin Array Be 47.48 301 P **P 22 00 36.5 -0.1**
comp=Z,1.3nm,0.7s,baz=46,slow=8.6,SNR=7.3
comp=Z,1.3nm,0.7s
AKBB Malin Array Si 47.48 301 *ce*P **P 22 00 37.7 +1.1**
HFS Hagfors 48.58 319 P **P 22 00 45.0 0.0**
comp=Z,2.2nm,0.6s,baz=61,slow=9.2,SNR=6.9
HFS LR LR 22 22 48.1
comp=Z,23nm,21.2s,baz=350,slow=38
comp=Z,2.2nm,0.6s
HFS Hagfors 48.58 319 P **P 22 00 45.0 0.0**
NB2 NORSAR Subarra 48.94 321 P **P 22 00 47.8 -0.1**
comp=Z,0.9nm,0.6s,baz=49,slow=7.4
NOA NORSAR Array B 48.94 321 P **P 22 00 48.1 +0.2**
comp=Z,1.1nm,0.6s,baz=52,slow=7.6,SNR=4.8
comp=Z,1.1nm,0.6s
BUR08 Bucovina Ar. S 51.46 300 P **P 22 01 07.7 +0.5**
BUR08 IAmb IAmb 22 01 08.4
comp=Z,1.7nm,0.8s
BURAR Bucovina Array 51.47 300 P **P 22 01 07.7 +0.5**
BURAR IAmb IAmb 22 01 09.2
comp=Z,1.9nm,0.9s
BRTR Keskin Array B 52.28 288 P **P 22 01 14.1 +0.6**
comp=Z,0.7nm,0.8s,baz=97,slow=5.0,SNR=5.4
comp=Z,0.7nm,0.8s
BRTR Keskin Array B 52.28 288 *i*P **P 22 01 15.6 +2.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
CHVC Chvalec 53.90 308 *e*P **P 22 01 26.3 +1.2**
MAUC Maruska 53.92 306 *e*P **P 22 01 25.1 -0.2**
DPC Dobruska-Polom 53.94 308 *e*P **P 22 01 26.7 +1.2**
DPC Dobruska-Polom 53.94 308 *e*P **P 22 01 26.7 +1.2**
CLL Collm 54.79 311 *e*P **P 22 01 32.0 +0.5**
CLL Collm 54.79 311 *e*P **P 22 01 32.0 +0.5**
CKRC Cesky Krumlov 55.95 308 *e*P **P 22 01 40.7 +0.7**
KHC Kasperske Hory 56.07 308 *e*P **P 22 01 42.1 +1.3**
KHC Kasperske Hory 56.07 308 *e*P **P 22 01 42.1 +1.3**
GERES GERESS Array B 56.22 308 P **P 22 01 43.0 +1.1**
comp=Z,0.7nm,0.8s,baz=38,slow=6.8,SNR=7.1
comp=Z,0.7nm,0.8s
YKA Yellowknife Ar 58.19 23 P **P 22 01 55.8 +0.3**
comp=Z,0.4nm,0.6s,baz=340,slow=7.8,SNR=2.4
comp=Z,0.4nm,0.6s
ESDC Sonseca Array 71.28 313 P **P 22 03 22.9 +1.6**
comp=Z,0.8nm,0.9s,baz=18,slow=9.3,SNR=4.6
comp=Z,0.8nm,0.9s
FITZ Fitzroy Crossi 73.06 166 LR LR 22 40 12.6

comp=Z,207nm,18.0s,baz=165,slow=40
WRA Warramunga Arr 76.45 158 P **P** **22 03 52.6 +1.0**
comp=Z,0.8nm,0.8s,baz=351,slow=6.0,SNR=5.1
comp=Z,0.8nm,0.8s
WRA Warramunga Arr 76.45 158 *i* P **P** **22 03 55.5 +3.9**
WRA pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 90.53 293 P **P** **22 05 03.9 -0.3**
comp=Z,0.6nm,0.8s,baz=19,slow=3.7,SNR=5.0
comp=Z,0.6nm,0.8s
LPIG La Paz 94.16 37 LR LR 22 53 02.9
comp=Z,75nm,19.1s,baz=235,slow=39
TROLL Troll, Antarti 145.90 212 PKKPdf PKKPdf 22 20 32.0 -11
SNAA Sanae 147.54 213 PKKPdf PKKPdf 22 20 33.2 -6.3
VNA2 Neumayer--Watz 149.00 214 PKKPdf PKKPdf 22 20 37.1 +0.4
baz=163,slow=5.0
VNA1 Neumayer--Stat 149.28 215 PKKPdf PKKPdf 22 20 37.0 +0.9
VNA3 Neumayer Olymp 149.73 213 PKKPdf PKKPdf 22 20 33.9 -1.3

ROM 25 21:57:42.2±0.1, 42°56.8N±0.004×13°11.4E±0.005, h11km, Md1.3/1, ML1.3/7, 2C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=198.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.07**	**302**	P	Pg	21 57 44.9	+0.2
LNSS				S	Sg	21 57 46.5	+0.1
LNSS				AML	AML		
	comp=E,336μm,0.1s						
LNSS				AML	AML		
	comp=N,386μm,0.4s						
RM33	**Pellescritta (**	**0.10**	**129**	P	Pg	21 57 45.4	+0.4
RM33				S	Sg	21 57 47.2	+0.4
RM33				AML	AML		
	comp=N,113μm,0.2s						
RM33				AML	AML		
	comp=E,73μm,0.3s						
T1202	**Accumoli, Fraz**	**0.16**	**31**	⇑P	Pg	21 57 46.4	+0.6
T1202				S	Sg	21 57 49.2	+0.8
T1202				END			
SMA1	**SAN MARTINO**	**0.17**	**69**	⇑P	Pg	21 57 46.9	+0.7
SMA1				S	Sg	21 57 49.7	+0.9
SMA1				AML	AML		
	comp=E,92μm,1.4s						
SMA1				AML	AML		
	comp=N,82μm,0.2s						
T1204	**Amatrice, Fraz**	**0.18**	**54**	P	Pg	21 57 47.0	+0.7
T1204				S	Sg	21 57 50.3	+1.2
T1217	**Poggiodomo (PG**	**0.20**	**317**	P	Pb	21 57 47.4	-0.6
NRCA	**Norcia**	**0.27**	**360**	P	Pg	21 57 48.3	+0.6
NRCA				S	Sb	21 57 52.6	-1.1
NRCA				AML	AML		
	comp=E,307μm,0.1s						
NRCA				AML	AML		
	comp=N,248μm,0.2s						
T1243	**Rocca Santa Ma**	**0.28**	**62**	P	Pg	21 57 48.4	+0.5
T1243				S	Sg	21 57 52.8	+1.0
T1216	**Preci, Frazion**	**0.33**	**348**	P	Pg	21 57 49.5	+0.6
T1216				AML	AML		
	comp=N,89μm,1.2s						
T1216				AML	AML		
	comp=E,95μm,1.6s						
TERO	**Teramo**	**0.37**	**81**	P	Pg	21 57 49.8	+0.3
TERO				AML	AML		
	comp=N,64μm,0.5s						
TERO				AML	AML		
	comp=E,79μm,0.3s						
AM05	**Amandola Campo**	**0.45**	**23**	⇓P	Pn	21 57 55.3	+0.6
AM05				AML	AML		
	comp=N,184μm,1.0s						
AM05				AML	AML		
	comp=E,178μm,1.0s						

*NEIC **25** 22:08:39.4±0.7, 32°.69S±0°.08×177°.1W±0°.2, h10km±2km, mb4.8/15, Error ellipse: s-maj=23.5km s-min=11.8km az=107.0*
*IDC **25** 22:08:43.8±0.6, 32°.35S×178°.03W, h0km, mb4.4/9, mbtmp4.4/13, ML4.4/4, MS3.9/12, Error ellipse: s-maj=21.9km s-min=18.1km az=93.0*
ISC 25 22:08:42.0±0.8, 32°.62S±0°.07×177°.6W±0°.1, h10km, n76, σ1s82/68, mb4.8/17, MS3.9/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.37**	**355**	Pn	**Pn**	**22 09 33.4**	**-1.2**
	85nm,0.3s,baz=66,slow=23,SNR=2.8						
RAO				Sn	**Sn**	**22 10 10.8**	**-3.9**
	238nm,0.3s,baz=264,slow=22,SNR=5.3						
	180nm,0.3s						
RAO	**Raoul Island**	**3.37**	**355**	Pn	**Pn**	**22 09 33.0**	**-1.7**
URZ	**Urewera**	**7.11**	**216**	Pn	**Pn**	**22 10 27.3**	**+1.2**
	3.2nm,0.3s,baz=140,slow=1.6,SNR=6.5						
URZ				Sn	**Sn**	**22 11 43.8**	**-3.1**
	11nm,0.3s,baz=250,slow=18,SNR=11						
	26nm,0.6s						
URZ	**Urewera**	**7.11**	**216**	Pn	**Pn**	**22 10 25.6**	**-0.4**
OUZ	**Omahuta**	**7.79**	**248**	Pn	**Pn**	**22 10 37.5**	**+2.2**
OUZ	**Omahuta**	**7.79**	**248**	P	**Pn**	**22 10 38.0**	**+2.6**
BKZ	**Black Stump Fm**	**8.12**	**215**	Pn	**Pn**	**22 10 38.9**	**-1.0**
HIZ	**Hauiti**	**8.52**	**224**	Pn	**Pn**	**22 10 43.2**	**-2.3**
BFZ	**Birch Farm**	**9.46**	**210**	Pn	**Pn**	**22 10 57.1**	**-1.1**
SNZO	**South Karori**	**10.65**	**213**	Pn	**Pn**	**22 11 13.8**	**-0.7**
TUWZ	**Tuamarina**	**11.10**	**215**	Pn	**Pn**	**22 11 18.7**	**-2.1**
THZ	**Tophouse**	**11.87**	**217**	Pn	**Pn**	**22 11 31.2**	**-0.1**
KHZ	**Kahutara**	**12.05**	**213**	Pn	**Pn**	**22 11 32.7**	**-1.1**
RPZ	**Rata Peaks**	**14.22**	**216**	Pn	**Pn**	**22 12 01.8**	**-1.6**
	0.8nm,0.3s,baz=74,slow=13,SNR=4.1						
RPZ				Sn	Sn	22 14 26.3	-15
	0.9nm,0.3s,baz=167,slow=21,SNR=5.9						
MSVF	**Nonsavu**	**15.34**	**344**	Pn	**Pn**	**22 12 18.7**	**0.0**
	0.2nm,0.3s,baz=142,slow=13,SNR=10.0						
	6.9nm,0.8s						
MSVF	**Nonsavu**	**15.34**	**344**	Pn	**Pn**	**22 12 18.1**	**-0.6**
DZM	**Mont Dzumac**	**17.64**	**303**	*e*P	**Pn**	**22 12 46.5**	**-1.6**
	44nm,1.1s						
DZM				*e*LR	LR	22 16 42.0	
	comp=Z,488nm,24.2s						
DZM	**Mont Dzumac**	**17.64**	**303**	Pn	**Pn**	**22 12 46.8**	**-1.3**
	0.3nm,0.3s,baz=132,slow=13,SNR=7.4						
DZM				LR	LR	22 18 32.1	
	comp=Z,690nm,18.2s,baz=188,slow=34						
	8.2nm,0.9s						
DZM	**Mont Dzumac**	**17.64**	**303**	P	**Pn**	**22 12 49.5**	**+1.5**
RAR	**Rarotonga**	**19.48**	**59**	LR	LR	22 21 19.4	
	comp=Z,215nm,18.6s,baz=240,slow=38						
KOUNC	**Koumac, New Ca**	**20.16**	**302**	P	**P**	**22 13 17.3**	**+0.8**
KOUNC				IAmb	IAmb	22 13 21.7	
	comp=Z,65nm,1.4s						
PPT2	**Papeete2**	**29.32**	**66**	*e*LR	LR	22 22 24.5	
	comp=Z,94nm,20.8s						
PPT	**Papeete**	**29.33**	**66**	LR	LR	22 26 13.6	
	comp=Z,154nm,18.1s,baz=242,slow=36						
STKA	**Stephens Creek**	**34.40**	**260**	P	**P**	**22 15 30.4**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=63,slow=6.0,SNR=6.1						
STKA				LR	LR	22 29 21.4	
	comp=Z,349nm,18.0s,baz=51,slow=36						
	comp=Z,3.6nm,0.8s						
CTA	**Charters Tower**	**34.57**	**282**	P	**P**	**22 15 31.1**	**+0.1**
	comp=Z,7.9nm,0.7s,baz=107,slow=10,SNR=12						
CTA				LR	LR	22 28 42.6	
	comp=Z,183nm,18.4s,baz=84,slow=35						
	comp=Z,7.9nm,0.7s						
CTAO	**Charters Tower**	**34.57**	**282**	P	**P**	**22 15 31.0**	**0.0**
CTAO				IAmb	IAmb	22 15 32.5	
	comp=Z,9.6nm,0.8s						
KRVT	**Keravat (AS076**	**40.02**	**308**	P	**P**	**22 16 17.6**	**+0.3**
	comp=Z,103nm,0.7s,baz=170,slow=2.4,SNR=10						
COEN	**Coen**	**40.27**	**288**	P	**P**	**22 16 19.0**	**-0.4**
COEN				IAmb	IAmb	22 16 22.0	
	comp=Z,13nm,0.9s						
AS31	**Alice Springs**	**43.40**	**269**	P	**P**	**22 16 44.5**	**-0.5**
AS31				IAmb	IAmb	22 16 45.2	
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**43.40**	**269**	P	**P**	**22 16 44.4**	**-0.6**
	comp=Z,11nm,0.8s,baz=109,slow=7.5,SNR=72						
	comp=Z,11nm,0.8s						
ASAR	**Alice Springs**	**43.40**	**269**	P	**P**	**22 16 44.2**	**-0.8**
WR0	**Warramunga Arr**	**44.41**	**274**	P	**P**	**22 16 52.5**	**-0.6**
WR0				IAmb	IAmb	22 16 52.8	
	comp=Z,9.2nm,0.7s						
WB2	**Warramunga Arr**	**44.58**	**274**	P	**P**	**22 16 53.9**	**-0.6**
WRAB	**Tennant Creek**	**44.58**	**274**	P	**P**	**22 16 53.8**	**-0.7**
WRAB				IAmb	IAmb	22 16 54.1	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**44.59**	**274**	P	**P**	**22 16 53.6**	**-0.9**
	comp=Z,9.1nm,0.6s,baz=116,slow=7.5,SNR=116						
WRA				LR	LR	22 34 18.1	
	comp=Z,109nm,18.7s,baz=96,slow=35						
	comp=Z,9.1nm,0.6s						
WRA	**Warramunga Arr**	**44.59**	**274**	P	**P**	**22 16 53.8**	**-0.8**
WB0	**Warramunga Arr**	**44.62**	**274**	P	**P**	**22 16 54.0**	**-0.8**
FORT	**Forrest**	**45.87**	**257**	P	**P**	**22 17 03.8**	**-0.8**
MTN	**Manton Dam**	**50.72**	**280**	P	**P**	**22 17 41.5**	**-0.7**
MTN				IAmb	IAmb	22 17 41.8	
	comp=Z,8.6nm,0.7s						
KNRA	**Kununurra**	**51.27**	**276**	P	**P**	**22 17 45.8**	**-0.5**
KNRA				IAmb	IAmb	22 17 49.7	
	comp=Z,9.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.75**	**271**	P	**P**	**22 17 56.7**	**-0.7**
FITZ				IAmb	IAmb	22 18 19.8	
	comp=Z,18nm,1.5s						
QSPA	**South Pole Qui**	**57.50**	**180**	P	P	22 18 37.5	+6.3
	comp=Z,3.0nm,0.9s,baz=26,slow=2.6,SNR=9.0						
	comp=Z,3.0nm,0.9s						
SIJI	**Sorong**	**57.50**	**293**	LR	LR	22 41 05.5	
	comp=Z,50nm,20.8s,baz=218,slow=34						
BATI	**Baumata**	**58.32**	**278**	LR	LR	22 44 13.8	
	comp=Z,110nm,18.1s,baz=160,slow=37						
EDFI	**Ende, Flores**	**60.74**	**279**	P	**P**	**22 18 55.3**	**+1.0**
KAPI	**Kappang**	**64.38**	**281**	LR	LR	22 47 27.0	
	comp=Z,103nm,18.4s,baz=104,slow=36						
MAW	**Mawson**	**70.37**	**201**	P		22 20 00.5	+4.9
	comp=Z,2.0nm,0.8s,baz=120,slow=17,SNR=4.7						
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**86.27**	**320**	P	**P**	**22 21 25.6**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=144,slow=5.9,SNR=8.2						
	comp=Z,1.2nm,0.6s						
PETK	**Petropavlovsk-**	**88.04**	**345**	P	**P**	**22 21 33.8**	**+1.7**
	comp=Z,5.8nm,0.9s,baz=112,slow=5.3,SNR=2.6						
	comp=Z,5.8nm,0.9s						
NVAR	**Mina Array Bea**	**89.62**	**42**	P	P	22 21 44.2	+4.1
	comp=Z,0.7nm,1.0s,baz=212,slow=5.3,SNR=3.9						
	comp=Z,0.7nm,1.0s						
LVC	**Limon Verde**	**92.55**	**119**	LR	LR	22 57 37.0	
	comp=Z,45nm,18.5s,baz=212,slow=32						
ATAH	**Atahualpa**	**93.86**	**101**	LR	LR	22 58 57.6	
	comp=Z,38nm,18.2s,baz=218,slow=32						
NEW	**Newport**	**96.95**	**36**	LR	LR	22 59 26.5	
	comp=Z,86nm,19.9s,baz=218,slow=31						
MKAR	**Makanchi Array**	**119.46**	**309**	PKP	**PKiKP**	**22 27 33.6**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=116,slow=3.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**119.92**	**317**	PKP	**PKiKP**	**22 27 33.2**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=85,slow=3.0,SNR=1.9						
KURBB	**Kurchatov Arra**	**122.87**	**313**	PKP	**PKiKP**	**22 27 39.8**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=111,slow=2.0,SNR=15						
BVAR	**Borovoye Array**	**128.23**	**315**	PKP	**PKiKP**	**22 27 50.4**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=208,slow=2.9,SNR=4.9						
ARCES	**ARCESS Array B**	**140.83**	**347**	PKP	**PKiKP**	**22 28 11.7**	**-2.2**
	comp=Z,1.9nm,0.8s,baz=337,slow=1.8,SNR=3.9						
KBZ	**Khabaz**	**146.61**	**301**	PKPbc	**PKiKP**	**22 28 25.4**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=185,slow=2.1,SNR=8.1						
OBN	**Obninsk**	**147.18**	**323**	PKPbc	**PKiKP**	**22 28 26.9**	**-0.3**
	comp=Z,3.5nm,0.5s,baz=127,slow=2.5,SNR=9.7						
FINES	**FINESS Array B**	**147.34**	**339**	PKPbc	**PKiKP**	**22 28 26.8**	**-0.6**
	comp=Z,22nm,0.8s,baz=64,slow=4.4,SNR=54						
ASF	**Jabal al Asfar**	**150.97**	**279**	PKPbc	**PKPab**	**22 28 38.1**	**-4.7**
	comp=Z,7.2nm,0.8s,baz=102,slow=1.4,SNR=9.9						
NB2	**NORSAR Subarra**	**150.99**	**351**	PKP	**PKPab**	**22 28 37.5**	**-4.4**
	comp=Z,3.0nm,0.9s,baz=21,slow=3.0						
NOA	**NORSAR Array B**	**150.99**	**351**	PKPbc	**PKPab**	**22 28 37.0**	**-4.9**
	comp=Z,1.4nm,0.8s,baz=13,slow=4.1,SNR=4.2						
HFS	**Hagfors**	**151.48**	**348**	PKPbc	**PKiKP**	**22 28 37.8**	**+1.8**
	comp=Z,3.6nm,0.8s,baz=60,slow=8.8,SNR=6.0						
EIL	**Elat**	**152.07**	**273**	PKPbc	**PKiKP**	**22 28 40.3**	**+2.1**
	comp=Z,14nm,0.8s,baz=30,slow=4.4,SNR=8.6						
MMAI	**Mount Meron Ar**	**152.35**	**280**	PKPbc	**PKiKP**	**22 28 40.9**	**+2.2**
	comp=Z,9.9nm,0.8s,baz=105,slow=6.1,SNR=11						
AKASG	**Malin Array Be**	**153.26**	**320**	PKPbc	**PKiKP**	**22 28 42.2**	**+2.3**
	comp=Z,2.5nm,0.9s,baz=53,slow=2.6,SNR=10						
AKASG				PKPab	**sPKPab**	**22 28 52.6**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=52,slow=3.9,SNR=5.5						
BRTR	**Keskin Array B**	**153.92**	**295**	PKPbc	**PKiKP**	**22 28 42.9**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=146,slow=2.4,SNR=11						
BRTR				PKPab	**sPKPab**	**22 28 55.8**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=137,slow=3.9,SNR=5.5						
DPC	**Dobruska-Polom**	**159.51**	**334**	*e*PKPAB	**PKPab**	**22 29 20.8**	**+2.2**
KRLC	**Kraliky**	**159.56**	**333**	*e*PKPAB	**PKPab**	**22 29 19.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**160.61**	**178**	PKPab	**PKPab**	**22 29 28.1**	**+4.0**
	comp=Z,3.0nm,1.0s,baz=177,slow=3.9,SNR=6.7						
KHC	**Kasperske Hory**	**161.51**	**336**	*e*PKPAB	**PKPab**	**22 29 29.3**	**+2.0**
KHC				*ex*	x	22 29 40.3	
CKRC	**Cesky Krumlov**	**161.52**	**335**	*e*PKPAB	**PKPab**	**22 29 29.3**	**+2.0**
GERES	**GERESS Array B**	**161.71**	**336**	PKPab	**PKPab**	**22 29 28.8**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=45,slow=4.0,SNR=7.4						
DAVOX	**Davos/Dischmat**	**164.75**	**340**	PKPab	**PKPab**	**22 29 43.5**	**+1.8**
	comp=Z,2.3nm,0.9s,baz=51,slow=2.9,SNR=5.7						

WEL 25 22:09:21.0, 39°S±3°×17°E±°, h24km±7km, M2.3/10, ML2.4/12, MLv2.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=79.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	**Rimuhau**	**0.09**	**255**	P	Pb	22 09 26.0	+0.4
TKGZ	**Te Karaka**	**0.24**	**356**	P	Pb	22 09 27.5	+0.3
CNGZ	**Carnagh Statio**	**0.33**	**53**	P	Pb	22 09 29.1	+0.7
KNZ	**Kokohu**	**0.37**	**204**	P	Pb	22 09 29.4	+0.4
SNGZ	**Shannon Statio**	**0.43**	**256**	P	Pb	22 09 30.7	+0.7
MWZ	**Matawai**	**0.44**	**322**	P	Pb	22 09 30.5	+0.3
MHGZ	**Mahia Peninsul**	**0.47**	**176**	P	Pb	22 09 31.1	+0.4
TWGZ	**Tauwhareparae**	**0.51**	**10**	P	Pb	22 09 32.0	+0.6
TWGZ				P	Pn	22 09 32.1	-0.7
RAHZ	**Arahi**	**0.66**	**249**	P	Pb	22 09 34.2	+0.3
RTZ	**Ruatahuna**	**0.70**	**275**	P	Pb	22 09 34.9	+0.3
URZ	**Urewera**	**0.73**	**305**	P	Pb	22 09 35.1	0.0
RUGZ	**Raukumara Rang**	**0.73**	**348**	P	Pb	22 09 34.5	-0.6
PKGZ	**Pakihiroa**	**0.81**	**12**	P	Pb	22 09 36.4	-0.1
HAZ	**Te Kaha**	**0.93**	**356**	P	Pb	22 09 38.0	-0.4
MHEZ	**Mangahewa**	**2.80**	**261**	P	Pn	22 10 05.6	+1.4

IDC 25 22:10:13.7±1.9, 10°.17S×161°.02E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=43.8km s-min=29.9km az=20.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.28**	**305**	Pn	Pn	22 10 39.2	+0.3
	1μm,0.3s,baz=108,slow=3.2,SNR=9.1						
HNR				Sn	Sn	22 10 56.7	-0.1
	5μm,0.3s,baz=327,slow=20,SNR=13						
WRA	**Warramunga Arr**	**27.50**	**246**	P	P	22 16 01.7	-0.4
	0.2nm,0.5s,baz=74,slow=9.0,SNR=2.9						
	0.2nm,0.5s						
SONM	**Songino Array**	**75.26**	**325**	P	P	22 21 59.4	+0.8
	0.9nm,0.6s,baz=124,slow=7.7,SNR=5.0						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**84.22**	**20**	P	P	22 22 46.1	-0.6
	0.2nm,0.7s,baz=241,slow=5.2,SNR=4.5						
	0.2nm,0.7s						

*IDC **25** 22:15:05.9±0.8, 32°.58S×178°.04W, h0km, mb4.4/4, mbtmp4.3/7, ML4.1/3, Error ellipse: s-maj=29.0km s-min=25.9km az=61.0*
*NEIC **25** 22:15:13.6±1.2, 32°.7S±0°.2×178°.6W±0°.2, h23km±9km, mb4.5/15, Error ellipse: s-maj=24.5km s-min=22.1km az=208.0*
*WEL **25** 22:16:30.0, 38°S±37°×17°E±3°0, h43km±31km, M2.1/6, ML2.3/7, MLv2.1/6, Error ellipse: s-maj=0.1km s-min=0.0km az=19.0*
ISC 25 22:15:09.0±0.8, 32°.51S±0°.07×178°.2W±0°.1, h20km, n59, σ1s39/53, mb4.5/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.26**	**5**	Sn	**Sn**	**22 16 34.9**	**-2.3**
	132nm,0.3s,baz=93,slow=21,SNR=4.1						
WMGZ	**Waiomatatini S**	**5.97**	**207**	P	**Pn**	**22 16 36.9**	**+0.6**
PKGZ	**Pakihiroa**	**6.17**	**208**	P	**Pn**	**22 16 37.9**	**-1.1**
HAZ	**Te Kaha**	**6.18**	**211**	P	**Pn**	**22 16 40.2**	**+1.1**
PUZ	**Puketiti**	**6.25**	**207**	P	Pn	22 16 33.3	-6.9
RUGZ	**Raukumara Rang**	**6.40**	**211**	P	**Pn**	**22 16 42.0**	**-0.2**
TWGZ	**Tauwhareparae**	**6.45**	**208**	P	**Pn**	**22 16 41.8**	**-1.2**
CNGZ	**Carnagh Statio**	**6.64**	**205**	P	**Pn**	**22 16 43.4**	**-2.0**
MWZ	**Matawai**	**6.77**	**210**	P	**Pn**	**22 16 44.2**	**-3.1**
URZ	**Urewera**	**6.89**	**212**	Pn	**Pn**	**22 16 47.7**	**-1.2**
	3.0nm,0.3s,baz=311,slow=3.8,SNR=12						
URZ				Sn	**Sn**	**22 18 05.9**	**-0.7**
	10nm,0.3s,baz=179,slow=23,SNR=9.6						
	12nm,0.4s						
URZ	**Urewera**	**6.89**	**212**	P	**Pn**	**22 16 46.2**	**-2.6**
RTZ	**Ruatahuna**	**7.24**	**211**	P	Pn	22 16 47.3	-6.5
TOZ	**Tahuroa Road**	**7.32**	**223**	P	Pn	22 17 02.4	+7.5
BKZ	**Black Stump Fm**	**7.91**	**211**	Pn	**Pn**	**22 17 00.8**	**-2.1**
BKZ	**Black Stump Fm**	**7.91**	**211**	P	**Pn**	**22 17 01.6**	**-1.4**
HIZ	**Hauiti**	**8.23**	**221**	Pn	**Pn**	**22 17 08.4**	**+1.0**
OTVZ	**Oturere**	**8.29**	**215**	P	**Pn**	**22 17 07.5**	**-0.8**
PLWZ	**Palliser**	**10.44**	**208**	Pn	**Pn**	**22 17 36.7**	**-0.8**
QRZ	**Quartz Range**	**11.14**	**219**	Pn	**Pn**	**22 17 45.9**	**-1.2**
MSVF	**Nonsavu**	**15.10**	**346**	Pn	**Pn**	**22 18 41.3**	**0.0**
	0.1nm,0.3s,baz=146,slow=15,SNR=3.5						
	2.2nm,0.8s						
JCZ	**Jackson Bay**	**15.39**	**218**	P	**Pn**	**22 18 40.8**	**-4.3**
DZM	**Mont Dzumac**	**17.13**	**304**	P	**P**	**22 19 10.5**	**+1.5**
	0.1nm,0.3s,baz=131,slow=20,SNR=1.5						
	9.2nm,0.9s						
LHI	**Lord Howe Isla**	**19.30**	**267**	P	**P**	**22 19 31.1**	**-1.5**
ARMA	**Armidale**	**25.77**	**267**	P	**P**	**22 20 38.2**	**-0.5**
ARMA				IAmb	IAmb	22 20 58.1	
	comp=Z,16nm,1.4s						
TOO	**Toolangi**	**30.02**	**250**	P	**P**	**22 21 15.0**	**-1.5**
TOO				IAmb	IAmb	22 21 25.4	
	comp=Z,15nm,1.3s						
CTA	**Charters Tower**	**34.02**	**282**	P	**P**	**22 21 54.0**	**+2.2**
	comp=Z,2.3nm,0.4s,baz=108,slow=9.0,SNR=7.0						
	comp=Z,2.3nm,0.4s						
CTAO	**Charters Tower**	**34.02**	**282**	P	**P**	**22 21 53.3**	**+1.6**
CTAO				IAmb	IAmb	22 22 12.8	
	comp=Z,12nm,1.2s						
BBOO	**Buckleboo**	**38.27**	**257**	P	**P**	**22 22 26.8**	**-1.3**
BBOO				IAmb	IAmb	22 22 37.5	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**42.86**	**269**	P	**P**	**22 23 05.4**	**-0.8**
ASAR	**Alice Springs**	**42.86**	**269**	P	**P**	**22 23 06.8**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=109,slow=7.7,SNR=25						
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**42.86**	**269**	P	**P**	**22 23 06.6**	**+0.5**
WR0	**Warramunga Arr**	**43.86**	**275**	P	**P**	**22 23 14.7**	**+0.5**
WR0				IAmb	IAmb	22 23 15.1	
	comp=Z,6.9nm,1.1s						
WB2	**Warramunga Arr**	**44.03**	**274**	P	**P**	**22 23 16.1**	**+0.5**
WB2				IAmb	IAmb	22 23 17.6	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**44.04**	**274**	P	**P**	**22 23 16.1**	**+0.5**
	comp=Z,4.2nm,0.3s,baz=112,slow=8.0,SNR=88						
	comp=Z,4.2nm,0.3s						
WRA	**Warramunga Arr**	**44.04**	**274**	P	**P**	**22 23 16.1**	**+0.5**
WB0	**Warramunga Arr**	**44.07**	**275**	P	**P**	**22 23 16.4**	**+0.5**
WB0				IAmb	IAmb	22 23 17.2	
	comp=Z,7.2nm,0.9s						
FORT	**Forrest**	**45.37**	**257**	P	**P**	**22 23 26.1**	**0.0**
CASY	**Casey**	**53.20**	**209**	P	**P**	**22 24 27.2**	**+1.8**
CASY				IAmb	IAmb	22 24 52.5	
	comp=Z,4.0nm,0.9s						
QSPA	**South Pole Qui**	**57.61**	**180**	P	**P**	**22 24 57.6**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=36,slow=2.9,SNR=4.4						
	comp=Z,1.7nm,0.9s						
QSPA	**South Pole Qui**	**57.61**	**180**	P	**P**	**22 24 59.3**	**+1.9**
QSPA				IAmb	IAmb	22 25 10.3	
	comp=Z,5.3nm,0.9s						
MAW	**Mawson**	**70.28**	**201**	P	**P**	**22 26 22.5**	**+2.0**
PMSA	**Palmer Station**	**70.42**	**155**	P	P	22 26 25.8	+4.5
VNA3	**Neumayer Olymp**	**76.22**	**176**	P	P	22 27 07.2	+12
VNA2	**Neumayer--Watz**	**76.65**	**177**	P	P	22 27 09.8	+12
	baz=205,slow=1.0						
VNA1	**Neumayer--Stat**	**76.88**	**177**	P	P	22 27 10.4	+11
MKAR	**Makanchi Array**	**118.98**	**309**	PKP	**PKPdf**	**22 33 54.8**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=207,slow=1.3,SNR=1.9						
KURBB	**Kurchatov Arra**	**122.40**	**313**	PKP	**PKPdf**	**22 34 01.1**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=116,slow=1.8,SNR=5.8						
KBZ	**Khabaz**	**146.09**	**301**	PKPbc	**PKPab**	**22 34 48.4**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=175,slow=4.7,SNR=3.6						
OBN	**Obninsk**	**146.77**	**323**	PKPbc	**PKPbc**	**22 34 49.0**	**0.0**
	comp=Z,1.3nm,0.4s,baz=283,slow=5.9,SNR=4.2						
FINES	**FINESS Array B**	**147.05**	**339**	PKPbc	**PKPbc**	**22 34 49.6**	**0.0**
	comp=Z,8.7nm,0.8s,baz=30,slow=2.0,SNR=22						
ASF	**Jabal al Asfar**	**150.41**	**279**	PKPbc	**PKiKP**	**22 34 59.5**

VNA3	Neumayer Olymp	76.10 176	P	P	22 28 33.0	+13	
VNA2	Neumayer--Watz	76.53 177	P	P	22 28 35.3	+13	
	baz=227,slow=1.0						
VNA1	Neumayer--Stat	76.76 177	P	P	22 28 36.9	+14	
MKAR	Makanchi Array	119.11 309	PKP	PKiKP	22 35 20.7	-0.4	
	comp=Z,0.8nm,0.9s,baz=225,slow=3.0,SNR=2.5						
KURBB	Kurchatov Arra	122.53 313	PKP	PKPdf	22 35 25.9	-1.5	
	comp=Z,0.7nm,0.7s,baz=102,slow=2.0,SNR=4.7						
ARCES	ARCESS Array B	140.73 347	PKP	PKPdf	22 35 59.5	-1.7	
	comp=Z,1.8nm,1.0s,baz=96,slow=2.4,SNR=3.8						
OBN	Obninsk	146.91 323	PKPbc	PKPab	22 36 15.1	-0.5	
	comp=Z,2.3nm,0.4s,baz=46,slow=12,SNR=4.3						
FINES	FINESS Array B	147.19 339	PKPbc	PKPab	22 36 15.3	-1.2	
	comp=Z,15nm,0.8s,baz=85,slow=4.2,SNR=15						
ASF	Jabal al Asfar	150.50 279	PKPbc	PKiKP	22 36 25.9	+0.7	
	comp=Z,3.3nm,0.9s,baz=26,slow=2.3,SNR=4.1						
NB2	NORSAR Subarra	150.93 351	PKP	PKiKP	22 36 25.4	+0.3	
	comp=Z,10nm,1.4s,baz=14,slow=4.1						
NOA	NORSAR Array B	150.93 351	PKPbc	PKiKP	22 36 25.6	+0.6	
	comp=Z,1.0nm,0.7s,baz=14,slow=4.1,SNR=2.9						
HFS	Hagfors	151.40 348	PKPbc	PKiKP	22 36 27.5	+1.5	
	comp=Z,2.7nm,0.7s,baz=124,slow=2.7,SNR=5.6						
EIL	Elat	151.60 273	PKPbc	PKiKP	22 36 28.5	+1.1	
	comp=Z,7.1nm,0.8s,baz=191,slow=22,SNR=3.9						
MMAI	Mount Meron Ar	151.89 280	PKPbc	PKiKP	22 36 29.1	+1.1	
	comp=Z,4.2nm,0.7s,baz=84,slow=8.5,SNR=8.6						
AKASG	Malin Array Ba	152.97 320	PKPbc	PKiKP	22 36 30.7	+1.2	
	comp=Z,0.4nm,0.4s,baz=48,slow=3.0,SNR=5.5						
BRTR	Keskin Array B	153.50 295	PKPbc	PKiKP	22 36 31.9	+0.8	
	comp=Z,1.6nm,0.9s,baz=139,slow=5.9,SNR=5.4						
TORD	Torodi Ar. Bea	160.61 179	PKPab	PKPab	22 37 15.8	+1.5	
	comp=Z,1.3nm,1.0s,baz=164,slow=3.1,SNR=3.6						
GERES	GERESS Array B	161.52 335	PKPab	PKPab	22 37 18.6	+0.9	
	comp=Z,1.0nm,1.1s,baz=18,slow=1.7,SNR=4.5						

*IDC **25** 22:26:12.8±1.4, 32.48S×178.19W, h0km, mb4.3/2, mbtmp4.3/3, ML4.1/1, MS3.4/1, Error ellipse: s-maj=45.9km s-min=38.5km az=150.0*
*NEIC **25** 22:26:26.4±1.6, 32.6S±0.1×179.9W±0.2, h10km±2km, mb4.3/12, Error ellipse: s-maj=28.6km s-min=20.5km az=113.0*
ISC 25 22:26:13.6±1.4, 32.5S±0.1×178.2W±0.2, h10km, n27, σ0s99/24, mb4.4/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.22	4	Sn	Sn	22 27 41.8	-0.7
	89nm,0.3s,baz=131,slow=22,SNR=2.4						
URZ	Urewera	6.94	212	Pn	Pn	22 27 55.5	+0.2
	3.1nm,0.3s,baz=70,slow=1.7,SNR=12						
URZ				Sn	Sn	22 29 12.4	-1.9
	11nm,0.3s,baz=279,slow=21,SNR=9.7						
	13nm,0.4s						
URZ	Urewera	6.94	212	Pn	Pn	22 27 56.0	+0.7
BKZ	Black Stump Fm	7.96	211	Pn	Pn	22 28 07.4	-1.9
NNZ	Nelson	11.04	215	Pn	Pn	22 28 54.0	+2.5
THZ	Tophouse	11.68	215	Pn	Pn	22 29 00.9	+0.5
KHZ	Kahutara	11.90	211	Pn	Pn	22 29 04.3	+0.9
DZM	Mont Dzumac	17.14	303	LR	LR	22 35 51.5	
	comp=Z,117nm,18.1s,baz=207,slow=34						
DCZ	Deep Cove	17.24	217		P	22 30 16.3	+0.4
DCZ				IAmb	IAmb	22 30 59.3	
	comp=Z,34nm,1.5s						
CTAO	Charters Tower	34.04	282	P	P	22 32 58.2	+0.1
AS31	Alice Springs	42.89	269	P	P	22 34 11.9	-0.6
ASAR	Alice Springs	42.89	269	P	P	22 34 13.1	+0.6
	comp=Z,2.3nm,0.7s,baz=112,slow=8.0,SNR=24						
	comp=Z,2.3nm,0.7s						
WR0	Warramunga Arr	43.89	274	P	P	22 34 21.0	+0.4
WR0				IAmb	IAmb	22 34 22.4	
	comp=Z,6.7nm,1.1s						
WB2	Warramunga Arr	44.06	274	P	P	22 34 22.1	+0.2
WB2				IAmb	IAmb	22 34 23.8	
	comp=Z,9.9nm,1.1s						
WRA	Warramunga Arr	44.07	274	P	P	22 34 22.4	+0.4
	comp=Z,2.8nm,0.4s,baz=113,slow=7.9,SNR=81						
	comp=Z,2.8nm,0.4s						
WRA	Warramunga Arr	44.07	274	P	P	22 34 22.5	+0.5
WB0	Warramunga Arr	44.10	275	P	P	22 34 22.8	+0.5
FORT	Forrest	45.41	257	P	P	22 34 32.2	-0.4
VNDA	Vanda	46.02	186	P	P	22 34 47.3	+10
FITZ	Fitzroy Crossi	52.24	272	P	P	22 35 25.3	+0.2
FITZ				IAmb	IAmb	22 36 07.9	
	comp=Z,6.5nm,1.2s						
CASY	Casey	53.25	209	P	P	22 35 37.8	+5.8
CASY				IAmb	IAmb	22 35 52.9	
	comp=Z,2.6nm,0.8s						
QSPA	South Pole Qui	57.64	180	P	P	22 36 15.8	+12
QSPA				IAmb	IAmb	22 36 16.4	
	comp=Z,4.6nm,1.1s						
MKAR	Makanchi Array	118.98	309	PKP	PKiKP	22 45 02.3	0.0
	comp=Z,0.4nm,0.7s,baz=176,slow=5.8,SNR=2.2						
FINES	FINESS Array B	147.03	339	PKPbc	PKPab	22 45 56.1	-1.2
	comp=Z,2.9nm,0.6s,baz=43,slow=4.1,SNR=25						
MMAI	Mount Meron Ar	151.82	280	PKPbc	PKiKP	22 46 10.2	+1.0
	comp=Z,7.7nm,0.7s,baz=76,slow=7.6,SNR=3.2						
BRTR	Keskin Array B	153.39	295	PKPbc	PKiKP	22 46 12.7	+0.3
	comp=Z,0.6nm,0.8s,baz=154,slow=9.3,SNR=4.3						
TORD	Torodi Ar. Bea	160.76	180	PKPab	PKPab	22 46 56.7	+0.4
	comp=Z,0.5nm,0.7s,baz=205,slow=2.5,SNR=2.5						

*INET **25** 22:44:12.8±0.4, 9.01N×83.91W, h16km±3km, MW3.1*
*UCR **25** 22:44:12.3±2.0, 8.98N×84.13W, h8km±7km, MW3.8*
ISC 25 22:44:10.2±2.1, 9.0N±0.1×84.08W±0.05, h10km, n28, σ1s14/34, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.36	36	eP	Pn	22 44 20.5	-1.0
EDDO				eS	Sb	22 44 26.6	+2.1
PEZE	Perez Zeledon,	0.58	43	eP	Pn	22 44 24.1	-0.5
PEZE				eS	Sn	22 44 33.7	-0.5
PEZE	Perez Zeledon,	0.58	43	eP	Pn	22 44 24.2	-0.5
CDM	Cerro de Muert	0.67	28	eP	Pn	22 44 25.3	-0.9
CDM				eS	Sn	22 44 36.1	-0.8
CDM	Cerro de Muert	0.67	28	eP	Pn	22 44 25.3	-0.9
CDM				eS	Sb	22 44 35.3	+1.5
SRRA	San Rafael, Bu	0.76	69	eP	Pn	22 44 28.1	+1.0
LCR2	La Lucha 2	0.78	5	eP	Pn	22 44 26.4	+0.4
RIMA	Rio Macho	0.83	15	eP	Pn	22 44 27.4	-0.8
HDC	Heredia	1.04	358	eP	Pn	22 44 31.0	0.0
HDC3	Heredia 3	1.04	358	eP	Pn	22 44 30.8	-0.1
HDC3				eS	Sb	22 44 45.5	+1.4
LAFE	Finca La Fe, P	1.18	316	eP	Pb	22 44 32.0	-0.6
LAFE	Finca La Fe, P	1.18	316	eP	Pb	22 44 32.0	-0.6
LAFE				eS	Sn	22 44 51.3	+2.5
JTS	Las Juntas de	1.58	327	eP	Pn	22 44 38.1	-0.2
COVE	Coope Vega, Sa	1.78	350	eP	Pb	22 44 42.4	-0.5
ACAL	Aguas Claras	1.91	331	eP	Pb	22 44 43.9	-1.3
ORTG	Ortega, Santa	1.95	316	eP	Pb	22 44 45.4	-0.5
PTEN	Parque Tenorio	1.96	333	eP	Pb	22 44 45.9	-0.1
CUI	Cuipilapa	2.00	328	eP	Pb	22 44 45.0	-1.7
COLC	Colonia	2.03	327	eP	Pb	22 44 45.4	-1.7
HORNC	Hornillas	2.05	328	eP	Pb	22 44 45.9	-1.7
GUAB	Guayabo de Bag	2.08	327	eP	Pb	22 44 47.0	-1.0
GPS2	Hotel Rincn d	2.18	325	eP	Pb	22 44 49.6	-0.2
GPS3	Bodega del ICE	2.19	325	eP	Pg	22 44 51.5	-0.7
GPS1	Guardaparques	2.20	325	eP	Pb	22 44 49.6	-0.5
LAPC	Finca la Perla	2.24	324	eP	Pn	22 44 48.2	+0.9
GB1A	Boringuen Arri	2.26	325	eP	Pb	22 44 49.0	-2.2
GBS3	Finca Las Img	2.26	323	eP	Pb	22 44 50.9	-0.3
BUAI	Buenos Aires	2.27	327	eP	Pb	22 44 50.9	-0.5

IDC 25 22:47:48.4±8.1, 29.64N×137.31E, h0km, mb3.5/3, mbtmp3.5/4, ML3.5/1, MS3.4/2, Error ellipse: s-maj=338.5km s-min=126.1km az=54.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	11.04	317	Pn	Pn	22 50 27.6	+0.1
	0.3nm,0.3s,baz=134,slow=12,SNR=4.2						
	0.5nm,0.4s						
BATI	Baumata	41.74	200	LR	LR	23 13 32.7	
	comp=Z,47nm,18.8s,baz=170,slow=37						
ZALV	Zalesovo Beam	44.75	318	P	P	22 56 04.1	+0.7
	0.4nm,0.4s,baz=116,slow=9.8,SNR=1.9						
	0.4nm,0.4s						
MKAR	Makanchi Array	45.54	308	P	P	22 56 10.8	+1.0
	0.3nm,0.7s,baz=97,slow=9.3,SNR=1.6						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	48.18	313	P	P	22 56 28.9	-1.5
	0.4nm,0.4s,baz=91,slow=7.7,SNR=6.3						
	0.4nm,0.4s						
NOA	NORSAR Array B	79.62	336	LR	LR	23 39 51.5	
	comp=Z,16nm,18.7s,baz=335,slow=39						

*DJA **25** 23:21:36.9±0.5, 4.4S×12.9E, h96km±6km, M3.4/10, MLv3.4/10*
*IDC **25** 23:21:36.9±4.6, 3.88S×129.69E, h155km±59km, mb3.3/2, mbtmp3.8/4, Error ellipse: s-maj=88.1km s-min=17.3km az=81.0*
ISC 25 23:21:33.9±0.9, 3.89S±0.06×129.21E±0.05, h100km, n12, σ3s14/17, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.60	332	P	Pn	23 21 53.4	+2.9
MSAI				S	Sn	23 22 04.9	+2.0
BNDI	Bandanaira	0.94	132	P	Pn	23 21 57.1	+3.4
BNDI				S	Sn	23 22 14.1	+5.5
AAI	Ambon	1.03	281	P	Pn	23 21 57.1	+2.4
AAI				S	Sn	23 22 13.0	+2.7
NLAI	Namlea	2.20	287	P	Pn	23 22 11.5	+2.4
FAKI	Fak Fak	3.18	73	P	Pn	23 22 24.2	+2.0
SIJI	Sorong	3.63	35	P	Pn	23 22 29.1	+0.9
	11nm,0.2s,baz=248,slow=16,SNR=16						
SIJI				S	Sn	23 23 10.3	+0.1
	23nm,0.2s,baz=197,slow=19,SNR=11						
SWI	Sorong	3.63	34	P	Pn	23 22 29.6	+1.4
LBMI	Labuha	3.65	332	P	Pn	23 22 29.9	+1.5
SANI	Sanana	3.70	299	P	Pn	23 22 29.5	+0.5
WRA	Warramunga Arr	16.73	163	P	Pn	23 25 19.5	-2.8
	1.9nm,0.6s,baz=342,slow=11,SNR=27						
WRA				S	Sn	23 28 21.3	-6.8
	0.2nm,0.7s,baz=340,slow=21,SNR=1.1						
ASAR	Alice Springs	20.18	167	P	P	23 25 60.0	-0.8
	2.7nm,0.3s,baz=350,slow=12,SNR=45						
	2.7nm,0.3s						
MKAR	Makanchi Array	65.21	326	P	P	23 32 03.6	-1.1
	0.2nm,0.4s,baz=114,slow=8.0,SNR=4.9						
	0.2nm,0.4s						

*IDC **25** 23:22:52.7±4.7, 32.30S×178.23W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=184.5km s-min=56.9km az=162.0*
*NEIC **25** 23:22:53.1±1.4, 32.4S±0.1×178.1W±0.2, h10km±2km, mb4.4/7, Error ellipse: s-maj=25.5km s-min=17.7km az=107.0*
ISC 25 23:22:52.5±1.1, 32.4S±0.1×178.1W±0.2, h10km, n13, σ0s95/13, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	8.06	212	Pn	Pn	23 24 50.0	+0.3
CMWZ	Cape Campbell	11.17	211	Pn	Pn	23 25 31.1	-1.1
MLZ	Mavora Lakes	16.79	216	Pn	Pn	23 26 47.6	-0.2
MLZ				IAmb	IAmb	23 27 23.1	
	comp=Z,17nm,1.2s						
LIFNC	LIFOU	17.50	308	Pn	Pn	23 26 55.0	-1.8
LIFNC				IAmb	IAmb	23 27 05.7	
	comp=Z,58nm,1.0s						
PPTF	Pamatai, Papee	29.62	67	P	P	23 28 58.0	-0.2
CTA	Charters Tower	34.12	282	P	P	23 29 39.4	+1.7
	comp=Z,0.8nm,0.4s,baz=131,slow=11,SNR=1.8						
	comp=Z,0.8nm,0.4s						
ASAR	Alice Springs	42.99	269	P	P	23 30 52.3	+0.1
	comp=Z,0.8nm,0.6s,baz=111,slow=7.9,SNR=8.2						
	comp=Z,0.8nm,0.6s						
WB2	Warramunga Arr	44.15	274	P	P	23 31 01.5	-0.1
WB2				IAmb	IAmb	23 31 08.1	
	comp=Z,5.4nm,1.2s						
WRAB	Tennant Creek	44.16	274	P	P	23 31 02.4	+0.8
WRAB				IAmb	IAmb	23 31 21.7	
	comp=Z,9.0nm,0.7s						
WRA	Warramunga Arr	44.16	274	P	P	23 31 01.5	-0.1
	comp=Z,1.1nm,0.5s,baz=115,slow=7.8,SNR=20						
	comp=Z,1.1nm,0.5s						
WRA	Warramunga Arr	44.16	274	P	P	23 31 01.1	-0.6
WB0	Warramunga Arr	44.19	275	P	P	23 31 01.4	-0.5
WB0				IAmb	IAmb	23 31 24.2	
	comp=Z,3.4nm,1.0s						
FINES	FINESS Array B	147.01	339	PKPbc	PKPbc	23 42 35.3	+0.6
	comp=Z,1.4nm,1.0s,baz=64,slow=4.4,SNR=5.0						

*NEIC **25** 23:30:08.4±0.8, 7.6S±0.1×123.6E±0.1, h247km±15km, mb4.2/10, Error ellipse: s-maj=21.7km s-min=19.4km az=204.0*
*DJA **25** 23:30:08.0±0.7, 8.3S×12.4E±°, h260km±6km, M3.6/7, mb4.0/1, MLv3.5/7*
*IDC **25** 23:30:09.5±2.2, 7.82S×123.54E, h256km±22km, mb3.2/2, mbtmp4.0/5, Error ellipse: s-maj=83.1km s-min=16.1km az=61.0*
ISC 25 23:30:09.0±0.8, 7.73S±0.06×123.68E±0.08, h256km±8km, n32, σ1s46/40, mb4.2/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.69	238	Pn	Pn	23 30 48.3	-1.1
MMRI	Maumere	1.69	238	P	Pn	23 30 49.0	-0.4
MMRI				S	S	23 31 22.7	+1.5
SOEI	Soe	2.10	164	Pn	Pn	23 30 53.1	0.0
SOEI	Soe	2.10	164	P	Pn	23 30 53.3	+0.3
SOEI				S	S	23 31 28.2	+0.3
EDFI	Ende, Flores	2.21	243	P	Pn	23 30 53.8	-0.3
EDFI				S	S	23 31 29.8	+0.1
BATI	Baumata	2.46	180	P	Pn	23 30 56.3	-0.1
	511nm,0.3s,baz=356,slow=1.8,SNR=90						
BATI				S	S	23 31 33.0	-0.9
	314nm,0.5s,baz=348,slow=19,SNR=17						
BATI	Baumata	2.46	180	P	Pn	23 30 56.7	+0.3
BBSI	Bau Bau	2.48	334	P	Pn	23 30 56.1	-0.5
BBSI				S	S	23 31 33.8	-0.5
BSSI	Bau Bau, Buton	3.54	296	P	Pn	23 31 07.0	-0.8
BKSI	Bulukumba	4.26	304	P	Pn	23 31 15.4	-0.8
PLAI	Plampang	5.94	259	P	Pn	23 31 35.3	-1.3
MTN	Manton Dam	8.92	125		Pn	23 32 14.4	+0.4
KNRA	Kununurra	9.34	148		Pn	23 32 19.3	+0.1
FITZ	Fitzroy Crossi	10.48	170	P	Pn	23 32 34.4	+0.8
	1.3nm,0.3s,baz=2.9,slow=11,SNR=23						
FITZ				S	S	23 34 25.6	-5.7
	4.7nm,0.5s,baz=0.0,slow=20,SNR=8.3						
FITZ	Fitzroy Crossi	10.48	170		Pn	23 32 35.5	+1.9
MBWA	Marble Bar	13.89	196		P	23 33 17.1	+0.9
PSA00	Pilbara Seismi	14.25	195		P	23 33 21.4	+1.1
WB0	Warramunga Arr	15.85	140	P	Pn	23 33 39.1	-0.1
WB0				IAmb	IAmb	23 34 21.0	
	comp=Z,8.1nm,1.3s						
WRA	Warramunga Arr	15.94	141	P	Pn	23 33 39.9	-0.4
	comp=Z,1.3nm,0.5s,baz=318,slow=12,SNR=22						
WRA				S	S	23 36 29.1	-4.3
	comp=Z,0.2nm,0.5s,baz=318,slow=18,SNR=2.8						
WRA	Warramunga Arr	15.94	141	P	P	23 33 39.6	+0.7
WB2	Warramunga Arr	15.95	141	P	Pn	23 33 40.2	-0.1
WB2				IAmb	IAmb	23 34 03.0	
	comp=Z,8.9nm,1.3s						
WR0	Warramunga Arr	16.08	140	P	Pn	23 33 41.8	-0.2
WR0				IAmb	IAmb	23 33 43.5	
	comp=Z,10.0nm,1.3s						
GIRL	Giralia	17.39	210	P	P	23 33 55.6	+0.9
AS31	Alice Springs	18.64	149		Pn	23 34 10.5	-1.4
AS31				IAmb	IAmb	23 34 14.8	
	comp=Z,3.2nm,0.6s						
ASAR	Alice Springs	18.64	149	P	P	23 34 09.8	+1.6
	comp=Z,6.6nm,0.7s,baz=334,slow=12,SNR=27						
ASAR				S	S	23 37 28.0	+1.1
	comp=Z,0.9nm,0.7s,baz=334,slow=23,SNR=5.3						
ASAR	Alice Springs	18.64	149	P	Pn	23 34 11.4	-0.5
FORT	Forrest	23.30	170	P	P	23 34 55.0	+0.7
FORT				IAmb	IAmb	23 35 30.6	
	comp=Z,22nm,0.9s						
NWAO	Narrogin (SRO)	25.78	193	P	P	23 35 16.6	0.0
BBOO	Buckleboo	27.48	157	P	P	23 35 32.3	+0.5
BBOO				IAmb	IAmb	23 36 10.8	
	comp=Z,14nm,1.0s						
STKA	Stephens Creek	29.25	148	P	P	23 35 48.7	+1.2
	comp=Z,2.4nm,0.7s,baz=325,slow=15,SNR=3.0						
	comp=Z,2.4nm,0.7s						
STKA	Stephens Creek	29.25	148	P	P	23 35 48.8	+1.2
MKAR	Makanchi Array	65.56	330	P	P	23 40 25.2	-0.1
	comp=Z,0.3nm,0.6s,baz=119,slow=7.8,SNR=1.4						
	comp=Z,0.3nm,0.6s						

*IDC **25** 23:46:46.0±0.9, 32.17S×178.21W, h0km, mb4.3/7, mbtmp4.3/10, ML4.4/3, MS3.8/19, Error ellipse: s-maj=25.8km s-min=20.6km az=91.0*
*NEIC **25** 23:46:48.3±1.8, 32.61S±0.07×178.3W±0.1, h10km±1km, mb4.7/31, Error ellipse: s-maj=19.9km s-min=11.9km az=91.0*
ISC 25 23:46:46.6±0.7, 32.35S±0.06×178.2W±0.1, h10km, n85, σ1s97/60, mb4.6/21, MS3.9/18, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.10	4	Pn	Pn	23 47 34.0	-1.6
	69nm,0.3s,baz=148,slow=23,SNR=2.0						
RAO				Sn	Sn	23 48 10.5	-2.2
	78nm,0.3s,baz=271,slow=23,SNR=2.0						
	153nm,0.3s						
URZ	Urewera	7.04	212	Pn	Pn	23 48 25.8	-3.9
	3.6nm,0.3s,baz=356,slow=1.8,SNR=16						
URZ				Sn	Sn	23 49 45.0	-4.8
	5.5nm,0.3s,baz=243,slow=17,SNR=13						
URZ	Urewera	7.04	212	Pn	Pn	23 48 28.2	-1.5
BKZ	Black Stump Fm	8.06	211		Pn	23 48 41.3	-2.5
HIZ	Hauiti	8.37	221	Pn	Pn	23 48 46.0	-2.0
BFZ	Birch Farm	9.45	207	Pn	Pn	23 48 58.6	-4.1
THZ	Tophouse	11.78	215	Pn	Pn	23 49 32.8	-2.0
KHZ	Kahutara	12.01	211	Pn	Pn	23 49 33.7	-4.0
LTZ	Lake Taylor	12.87	213	Pn	Pn	23 49 46.4	-3.1
RPZ	Rata Peaks	14.15	214	Pn	Pn	23 49 57.0	-10
	0.8nm,0.3s,baz=120,slow=20,SNR=1.3						
RPZ				Sn	Sn	23 52 27.2	-17
	1.0nm,0.3s,baz=152,slow=23,SNR=2.2						
FOZ	Fox Glacier	14.62	217	Pn	Pn	23 50 10.9	-2.6
MSVF	Nonsavu	14.95	346	Pn	Pn	23 50 17.5	-0.6
	0.2nm,0.3s,baz=134,slow=15,SNR=7.1						
	5.1nm,0.9s						
MSVF	Nonsavu	14.95	346		P	23 50 20.6	-3.2
LBZ	Lake Benmore	15.07	214	P	Pn	23 50 23.2	+3.6
NIUE	Niue	15.15	31	Pn	P	23 50 25.4	-0.5
NIUE				IAmb	IAmb	23 50 27.3	
	comp=Z,54nm,0.9s						
ODZ	Otahua Downs	15.37	211		Pn	23 50 25.4	+1.9
ODZ				IAmb	IAmb	23 51 07.9	
	comp=Z,47nm,1.3s						
WKZ	Wanaka	15.96	215	Pn	Pn	23 50 28.8	-2.4
PINNC	Pines Island,	16.02	304	Pn	P	23 50 33.8	-1.7
PINNC				IAmb	IAmb	23 51 07.6	
	comp=Z,36nm,1.0s						
DZM	Mont Dzumac	17.07	303	eP	P	23 50 51.8	+4.5
	comp=Z,48nm,1.2s						
DZM				eLR	LR	23 54 43.8	
	comp=Z,466nm,25.2s						
DZM	Mont Dzumac	17.07	303	Pn	P	23 50 45.8	-1.6
	comp=Z,0.1nm,0.3s,baz=151,slow=19,SNR=1.5						
DZM				LR	LR	23 56 15.8	
	comp=Z,449nm,18.1s,baz=212,slow=34						
	comp=Z,2.9nm,1.0s						
DCZ	Deep Cove	17.34	217	Pn	Pn	23 50 44.4	-4.2
KOUNC	Koumac, New Ca	19.59	303		Pn	23 51 17.9	+1.6
KOUNC				IAmb	IAmb	23 51 23.1	
	comp=Z,30nm,1.1s						
RAR	Rarotonga	19.79	60	LR	LR	23 58 53.1	
	comp=Z,166nm,18.5s,baz=256,slow=37						
ARMA	Armidale	25.82	266	P	P	23 52 20.6	+2.4
ARMA				IAmb	IAmb	23 52 26.0	
	comp=Z,16nm,1.1s						
EIDS	Eidsvold	27.75	277	P	P	23 52 37.4	+1.9
EIDS				IAmb	IAmb	23 53 10.1	
	comp=Z,27nm,1.4s						
PPT2	Papeete2	29.68	67	eLR	LR	00 00 45.0	
	comp=Z,128nm,21.0s						
PPT	Papeete	29.69	67	LR	LR	00 02 33.4	
	comp=Z,153nm,19.0s,baz=192,slow=32						
HNR	Honiara	30.50	314	LR	LR	00 04 08.4	
	comp=Z,1µm,18.2s,baz=82,slow=34						
STKA	Stephens Creek	33.94	260	LR	LR	00 05 30.4	
	comp=Z,94nm,19.4s,baz=37,slow=33						
STKA	Stephens Creek	33.94	260	P	P	23 53 30.6	+0.5
CTA	Charters Tower	34.02	282	P	P	23 53 33.1	+2.2
	comp=Z,6.6nm,0.7s,baz=117,slow=9.4,SNR=11						
CTA				LR	LR	00 06 44.2	
	comp=Z,156nm,19.1s,baz=88,slow=35						
	comp=Z,6.6nm,0.7s						
CTAO	Charters Tower	34.02	282	P	P	23 53 33.4	+2.5
BBOO	Buckleboo	38.34	257	P	P	23 54 09.5	+1.8
BBOO				IAmb	IAmb	23 54 34.6	
	comp=Z,16nm,1.1s						
KRVT	Keravat (AS076	39.46	309	P	P	23 54 18.4	+1.1
	comp=Z,87nm,0.8s,baz=147,slow=17,SNR=5.1						
COEN	Coen	39.71	288	P	P	23 54 21.1	+1.8
COEN				IAmb	IAmb	23 54 43.8	
	comp=Z,19nm,1.3s						
AS31	Alice Springs	42.90	269	P	P	23 54 46.3	+0.7
ASAR	Alice Springs	42.90	269	P	P	23 54 44.5	-1.0
	comp=Z,7.1nm,0.8s,baz=112,slow=7.7,SNR=56						
ASAR				LR	LR	00 10 55.1	
	comp=Z,62nm,18.2s,baz=144,slow=34						
	comp=Z,7.1nm,0.8s						
ASAR	Alice Springs	42.90	269	P	P	23 54 46.0	+0.4
WR0	Warramunga Arr	43.88	274	P	P	23 54 54.3	+0.8
WR0				IAmb	IAmb	23 55 01.3	
	comp=Z,12nm,1.2s						
WB2	Warramunga Arr	44.05	274	P	P	23 54 55.4	+0.5
WB2				IAmb	IAmb	23

comp=Z,0.5nm,0.9s,baz=219,slow=7.0,SNR=2.6
comp=Z,0.5nm,0.9s

LCMT	**Little Creek M**	**91.84**	**47**	P	P	23 59 59.9 +4.9
NNA	**Nana**	**93.02**	**106**	LR	LR	00 35 11.6
	comp=Z,61nm,18.1s,baz=230,slow=31					
LVC	**Limon Verde**	**93.12**	**119**	LR	LR	00 35 09.9
	comp=Z,45nm,18.2s,baz=217,slow=31					
CMIG	**Matias Romero**	**93.49**	**72**	LR	LR	00 34 45.5
	comp=Z,43nm,18.8s,baz=225,slow=31					
ATAH	**Atahualpa**	**94.41**	**101**	LR	LR	00 35 38.6
	comp=Z,33nm,18.7s,baz=197,slow=31					
PZH	**PanZhiHua**	**96.08**	**297**	P	P	00 00 18.8 +4.1
PZH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
PZH				pmax	pmax	
	comp=Z,100nm,4.8s					
LPAZ	**La Paz**	**97.47**	**114**	LR	LR	00 39 44.8
	comp=Z,28nm,18.1s,baz=244,slow=33					
CPUP	**Villa Florida**	**98.88**	**129**	LR	LR	00 36 55.0
	comp=Z,16nm,20.8s,baz=218,slow=30					
MKAR	**Makanchi Array**	**118.91**	**309**	PKP	**PKPdf**	**00 05 33.7 -1.3**
	comp=Z,1.1nm,1.0s,baz=130,slow=2.3,SNR=1.8					
KBZ	**Khabaz**	**146.04**	**302**	PKPbc	**PKPab**	**00 06 26.0 -1.1**
	comp=Z,2.9nm,0.9s,baz=333,slow=4.5,SNR=6.8					
FINES	**FINESS Array B**	**146.92**	**339**	PKPbc	**PKPab**	**00 06 28.5 -1.4**
	comp=Z,17nm,0.8s,baz=52,slow=4.2,SNR=38					
NB2	**NORSAR Subarra**	**150.65**	**351**	PKP	**PKiKP**	**00 06 38.9 0.0**
	comp=Z,0.4nm,0.6s,baz=10,slow=3.8					
NOA	**NORSAR Array B**	**150.65**	**351**	PKPbc	**PKiKP**	**00 06 38.6 -0.3**
	comp=Z,0.7nm,0.8s,baz=16,slow=4.1,SNR=2.8					
AKASG	**Malin Array Be**	**152.74**	**320**	PKPbc	**PKiKP**	**00 06 43.2 -0.2**
	comp=Z,0.5nm,0.5s,baz=58,slow=3.4,SNR=7.4					
BRTR	**Keskin Array B**	**153.35**	**295**	PKPbc	**PKiKP**	**00 06 45.1 -0.2**
	comp=Z,1.7nm,1.0s,baz=119,slow=4.3,SNR=6.5					
CLL	**Collm**	**159.36**	**340**	*e*PKPab	**PKPab**	**00 07 25.0 +2.6**
GERES	**GERESS Array B**	**161.26**	**335**	PKPab	**PKPab**	**00 07 30.2 -0.7**
	comp=Z,0.6nm,0.8s,baz=19,slow=4.5,SNR=5.7					

*IDC **26** 00:02:53.5±1.1, 32.˚23S×178.˚18W, h0km, mb4.2/4, mbtmp4.3/7, ML4.9/3, MS3.3/4, Error ellipse: s-maj=32.5km s-min=21.9km az=135.0*
*NEIC **26** 00:03:10.5±1.2, 33.˚72S±0.˚06×179.˚5W±0.˚2, h67km±11km, mb4.5/18, Error ellipse: s-maj=25.5km s-min=7.3km az=103.0*

ISC 26 00:02:55.8±0.7, 32.˚33S±0.˚07×178.˚1W±0.˚1, h20km, n37, σ1s31/32, mb4.5/13, MS3.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.07**	**3**	Pn	**Pn**	**00 03 43.4**	**+0.2**
RAO				Sn	**Sn**	**00 04 18.5**	**-0.7**
	59nm,0.3s,baz=50,slow=20,SNR=2.0						
	60nm,0.3s,baz=204,slow=23,SNR=1.8						
	111nm,0.3s						
RAO	**Raoul Island**	**3.07**	**3**	Pn	**Sn**	**00 04 17.9**	**-1.3**
MSVF	**Nonsavu**	**14.94**	**346**	Pn	**Pn**	**00 06 26.0**	**0.0**
	0.3nm,0.3s,baz=156,slow=20,SNR=3.7						
	0.7nm,0.3s						
DZM	**Mont Dzumac**	**17.11**	**303**	LR	LR	00 11 41.0	
	comp=Z,136nm,18.6s,baz=210,slow=31						
DZM	**Mont Dzumac**	**17.11**	**303**	P	P	00 07 04.1	+8.5
DZM				IAmb	IAmb	00 07 24.1	
	comp=Z,36nm,1.5s						
AFI	**Afiamalu**	**19.22**	**19**	P	**P**	**00 07 17.3**	**-1.4**
	comp=Z,5.1nm,0.3s,baz=202,slow=19,SNR=2.2						
	comp=Z,11nm,0.3s						
EIDS	**Eidsvold**	**27.81**	**276**	P	**P**	**00 08 44.1**	**+0.3**
PPT	**Papeete**	**29.62**	**67**	LR	LR	00 22 03.9	
	comp=Z,57nm,18.2s,baz=191,slow=39						
TOO	**Toolangi**	**30.18**	**250**	P	P	00 08 58.1	-6.6
TOO				IAmb	IAmb	00 09 01.7	
	comp=Z,14nm,1.3s						
CTA	**Charters Tower**	**34.07**	**282**	P	**P**	**00 09 39.8**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=128,slow=9.5,SNR=10						
	comp=Z,3.5nm,0.6s						
CTAO	**Charters Tower**	**34.07**	**282**	P	**P**	**00 09 41.5**	**+2.5**
BBOO	**Buckleboo**	**38.41**	**257**	P	**P**	**00 10 12.3**	**-3.6**
COEN	**Coen**	**39.76**	**288**	P	**P**	**00 10 31.0**	**+3.6**
COEN				IAmb	IAmb	00 10 44.3	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**42.96**	**269**	P	**P**	**00 10 53.5**	**-0.2**
ASAR	**Alice Springs**	**42.96**	**269**	P	**P**	**00 10 53.5**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=113,slow=8.2,SNR=18						
	comp=Z,2.5nm,0.8s						
ASAR	**Alice Springs**	**42.96**	**269**	P	**P**	**00 10 53.1**	**-0.6**
WR0	**Warramunga Arr**	**43.95**	**274**	P	**P**	**00 11 02.0**	**+0.4**
WR0				IAmb	IAmb	00 11 04.9	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**44.11**	**274**	P	**P**	**00 11 03.3**	**+0.3**
WB2				IAmb	IAmb	00 11 04.7	
	comp=Z,4.8nm,0.5s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**00 11 02.3**	**-0.7**
	comp=Z,3.0nm,0.5s,baz=115,slow=7.7,SNR=51						
WRA				LR	LR	00 30 03.7	
	comp=Z,31nm,18.7s,baz=82,slow=37						
	comp=Z,3.0nm,0.5s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**00 11 02.8**	**-0.3**
WB0	**Warramunga Arr**	**44.16**	**274**	P	**P**	**00 11 03.5**	**+0.2**
WB0				IAmb	IAmb	00 11 04.9	
	comp=Z,5.3nm,0.5s						
FORT	**Forrest**	**45.51**	**257**	P	**P**	**00 11 12.9**	**-1.0**
VNDA	**Vanda**	**46.18**	**186**	LR	LR	00 26 54.2	
	comp=Z,30nm,21.4s,baz=355,slow=31						
MTN	**Manton Dam**	**50.23**	**281**	P	**P**	**00 11 51.0**	**+0.3**
MTN				IAmb	IAmb	00 12 05.9	
	comp=Z,5.4nm,1.1s						
KNRA	**Kununurra**	**50.80**	**276**	P	**P**	**00 11 55.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.30**	**271**	P	**P**	**00 12 06.2**	**0.0**
FITZ				IAmb	IAmb	00 12 16.8	
	comp=Z,8.2nm,1.5s						
CASY	**Casey**	**53.41**	**209**	P	**P**	**00 12 11.5**	**-2.2**
CASY				IAmb	IAmb	00 12 15.7	
	comp=Z,7.2nm,1.1s						
QSPA	**South Pole Qui**	**57.79**	**180**	P	**P**	**00 12 45.3**	**-0.1**
QSPA				IAmb	IAmb	00 12 58.7	
	comp=Z,7.2nm,1.4s						
BELA	**Belgrano 2**	**67.89**	**172**	P	**P**	**00 13 53.0**	**+0.7**
NVAR	**Mina Array Bea**	**89.70**	**43**	P	**P**	**00 15 53.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=206,slow=6.0,SNR=3.9						
	comp=Z,0.4nm,0.7s						
KDAK	**Kodiak Island**	**92.30**	**13**	LR	LR	00 48 57.2	
	comp=Z,619nm,20.7s,baz=254,slow=30						
FINES	**FINESS Array B**	**146.91**	**339**	PKPbc	**PKPbc**	**00 22 36.1**	**+0.1**
	comp=Z,5.1nm,0.8s,baz=116,slow=4.4,SNR=15						
ASF	**Jabal al Asfar**	**150.48**	**279**	PKPbc	**PKiKP**	**00 22 47.2**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=128,slow=7.5,SNR=5.7						
MMAI	**Mount Meron Ar**	**151.86**	**281**	PKPbc	**PKiKP**	**00 22 50.9**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=55,slow=5.5,SNR=2.3						
BRTR	**Keskin Array B**	**153.39**	**295**	PKPbc	**PKiKP**	**00 22 53.3**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=67,slow=3.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**160.91**	**179**	PKPab	**PKPab**	**00 23 39.0**	**+1.5**
	comp=Z,0.9nm,1.0s,baz=198,slow=4.0,SNR=3.5						
ESDC	**Sonseca Array**	**171.26**	**31**	PKPab	**PKPab**	**00 24 22.9**	**+0.1**
	comp=Z,0.3nm,1.0s,baz=321,slow=9.9,SNR=1.4						

*JMA **26** 00:09:24.8±0.2, 34.˚4N±0.˚8×141.˚8E±0.˚9, h14km±1km, MV3.6/29, FAR SE OFF BOSO PEN*
*NIED **26** 00:09:24.8, 34.˚41N×141.˚82E, h14km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.58; Mθθ-5.90; Mφφ1.32; Mrθ3.18; Mθφ-0.92; Mrφ3.64; Fault plane solution: M07.28000×10¹⁴ NP1: φs289.00000°, δ34.00000°, λ137.00000°. NP2: φs56.00000°, δ68.00000°, λ64.00000°.*
*IDC **26** 00:09:25.6±0.6, 34.˚43N×141.˚59E, h0km, mb3.9/20, mbtmp3.8/23, ML2.8/3, MS3.3/4 Error ellipse: s-maj=15.8km s-min=14.7km az=83.0*
*NEIC **26** 00:09:26.6±1.1, 34.˚50N±0.˚05×141.˚8E±0.˚1, h10km±1km, mb4.5/6, Error ellipse: s-maj=17.1km s-min=7.2km az=286.0*

ISC 26 00:09:26.3±2.0, 34.˚44N±0.˚05×141.˚73E±0.˚06, h7km±11km, n61, σ0s95/59, mb3.8/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.65**	**289**	P	**Pg**	**00 09 38.9**	**+0.1**
BSO3	**Boso 3**	**1.07**	**290**	*e*P	**Pb**	**00 09 46.0**	**-0.9**
BSO3				*e*S	**Sg**	**00 10 01.6**	**+1.0**
BSO4	**Boso 4**	**1.27**	**296**	P	**Pn**	**00 09 50.0**	**-0.4**
BSO4				*e*S	**Sg**	**00 10 07.7**	**+0.6**
CHOJ	**Chosi**	**1.45**	**331**	P	**Pn**	**00 09 52.0**	**-0.8**
CHOJ				*e*S	**Sn**	**00 10 10.5**	**-1.5**
JKUC	**kamogawauchiur**	**1.45**	**300**	P	**Pn**	**00 09 52.4**	**-0.5**
JKUC				*e*S	**Sn**	**00 10 11.8**	**-0.3**
JMKN	**Mikurajimanish**	**1.85**	**253**	*e*S	**Sn**	**00 10 22.2**	**+0.1**
JIM2	**Oshima 3**	**1.92**	**279**	*e*P	**Pn**	**00 09 59.2**	**-0.2**
JHJ2	**Mitsune**	**2.07**	**231**	Pn	**Pb**	**00 10 02.6**	**-1.6**
JHJ	**Hachijo jima 2**	**2.09**	**231**	Pn	**Pn**	**00 10 01.5**	**-0.2**
	8.4nm,0.3s,baz=39,slow=18,SNR=7.0						
JHJ				Sn	**Sn**	**00 10 27.7**	**-0.2**
	28nm,0.3s,baz=69,slow=23,SNR=17						
JYT	**Yasato**	**2.18**	**325**		**Pn**	**00 10 02.6**	**-0.4**
JOD2	**Odawara 2**	**2.32**	**291**	*e*P	**Pn**	**00 10 04.8**	**-0.2**
JOD2				S	**Sn**	**00 10 34.1**	**+0.4**
JMM	**Marumori**	**3.50**	**348**	Pn	**Pn**	**00 10 20.1**	**-1.0**
MJAR	**Matsushiro Arr**	**3.56**	**307**	Pn	**Pn**	**00 10 21.5**	**-0.4**
	0.7nm,0.3s,baz=135,slow=9.7,SNR=20						
MJAR				Sn	**Sn**	**00 11 03.8**	**-0.3**
	0.8nm,0.3s,baz=134,slow=17,SNR=7.5						
	4.2nm,0.4s						
MAJO	**Matsushiro**	**3.56**	**307**		**Pn**	**00 10 21.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**3.56**	**307**		**Pn**	**00 10 23.8**	**+1.8**
JGF	**Kuroka**	**3.77**	**289**		**Pn**	**00 10 25.3**	**+0.5**
INU	**Inuyama**	**3.98**	**284**	Pn	**Pn**	**00 10 27.6**	**-0.1**
JSD	**Sado**	**4.55**	**323**		**Pn**	**00 10 35.1**	**-0.5**
JTM	**Tenmabayashi**	**6.36**	**355**	Pn	**Pn**	**00 11 00.7**	**+0.4**
JHS	**Saijyo**	**7.11**	**277**	Pn	**Pn**	**00 11 13.9**	**+3.1**
ERM	**Erimo**	**7.64**	**8**	Pn	**Pn**	**00 11 16.0**	**-2.0**
KSRS	**Korea Array**	**11.59**	**289**	Pn	**Pn**	**00 12 12.6**	**+0.6**
	0.2nm,0.3s,baz=101,slow=14,SNR=4.4						
	1.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**12.31**	**325**	Pn	**Pn**	**00 12 21.5**	**-0.5**
	0.2nm,0.3s,baz=142,slow=19,SNR=1.7						
USRK				LR	LR	00 16 47.4	
	comp=Z,94nm,19.1s,baz=71,slow=36						
	1.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**12.31**	**325**		**Pn**	**00 12 20.9**	**-1.0**
KLR	**Kul'dur**	**16.52**	**336**	LR	LR	00 19 56.6	
	comp=Z,61nm,18.2s,baz=167,slow=38						
MA2	**Magadan**	**25.84**	**11**	LR	LR	00 25 14.4	
	comp=Z,47nm,19.1s,baz=106,slow=37						
H11N2	**WAKE ISLAND Hy**	**26.68**	**117**	T	T	00 43 11.1	
	baz=309,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**26.68**	**117**	T	T	00 43 11.9	
	baz=309,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**26.69**	**117**	T	T	00 43 12.9	
	baz=309,slow=75,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**27.30**	**119**	T	T	00 44 19.7	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.31**	**119**	T	T	00 44 06.4	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**27.32**	**119**	T	T	00 44 17.8	
	baz=313						
SONM	**Songjin Array**	**29.51**	**308**	P	**P**	**00 15 32.1**	**+0.8**
	0.6nm,0.6s,baz=115,slow=10,SNR=3.6						
	0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.16**	**258**	P	**P**	**00 17 10.4**	**-1.0**
	0.8nm,0.3s,baz=41,slow=8.4,SNR=1.3						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**43.88**	**314**	P	**P**	**00 17 31.7**	**-1.4**
	0.9nm,0.6s,baz=84,slow=6.4,SNR=4.3						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**45.75**	**304**	P	**P**	**00 17 47.6**	**-0.7**
	0.9nm,0.6s,baz=91,slow=8.9,SNR=6.3						
	0.9nm,0.6s						
KURK	**Kurchatov**	**47.76**	**310**	P	**P**	**00 18 03.4**	**-0.4**
KURK				IAmb	IAmb	00 18 05.9	
	comp=Z,3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**47.83**	**310**	P	**P**	**00 18 03.8**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=86,slow=7.7,SNR=16						
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**51.56**	**31**	P	**P**	**00 18 33.8**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=258,slow=6.1,SNR=9.1						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**52.53**	**314**	P	**P**	**00 18 39.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=79,slow=7.5,SNR=4.3						
	comp=Z,0.5nm,0.6s						
WB0	**Warramunga Arr**	**54.36**	**189**	P	**P**	**00 18 53.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**54.45**	**199**	P	**P**	**00 18 54.5**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=0.0,slow=10,SNR=2.3						
	comp=Z,1.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**54.45**	**199**	P	**P**	**00 18 54.8**	**+0.5**
FITZ				IAmb	IAmb	00 19 34.2	
	comp=Z,4.7nm,1.3s						
WB2	**Warramunga Arr**	**54.54**	**189**	P	**P**	**00 18 54.6**	**-0.4**
WB2				IAmb	IAmb	00 19 16.6	
	comp=Z,6.5nm,1.3s						
WRA	**Warramunga Arr**	**54.54**	**189**	P	**P**	**00 18 54.6**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=5.2,slow=7.6,SNR=6.8						
	comp=Z,0.6nm,0.9s						
WRA	**Warramunga Arr**	**54.54**	**189**	P	**P**	**00 18 54.4**	**-0.6**
INK	**Inuvik**	**56.58**	**26**	P	**P**	**00 19 10.1**	**+1.0**
	comp=Z,2.4nm,0.9s,baz=275,slow=3.0,SNR=3.3						
	comp=Z,2.4nm,0.9s						
ASAR	**Alice Springs**	**58.26**	**188**	P	**P**	**00 19 22.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=16,slow=13,SNR=4.3						
	comp=Z,0.3nm,0.5s						
ARU	**Arti**	**58.48**	**320**	P	**P**	**00 19 22.1**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=56,slow=3.6,SNR=6.8						
	comp=Z,3.5nm,0.7s						
ARU	**Arti**	**58.48**	**320**	P	**P**	**00 19 21.2**	**-1.6**
ARU				IAmb	IAmb	00 19 23.2	
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**59.82**	**311**	P	**P**	**00 19 31.4**	**-0.7**
AKTO	**Aktyubinsk**	**60.61**	**313**	P	**P**	**00 19 37.3**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=76,slow=12,SNR=3.1						
	comp=Z,1.0nm,0.6s						
PALK	**Pallekele**	**62.10**	**259**	LR	LR	00 48 58.8	
	comp=Z,48nm,18.3s,baz=217,slow=38						
NVAR	**Mina Array Bea**	**76.34**	**53**	P	**P**	**00 21 18.6**	**+2.2**
	comp=Z,0.6nm,0.7s,baz=283,slow=6.0,SNR=6.6						
	comp=Z,0.6nm,0.7s						
AKASG	**Malin Array Be**	**76.51**	**323**	P	**P**	**00 21 16.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=49,slow=6.0,SNR=2.1						
	comp=Z,0.3nm,0.4s						
NOA	**NORSAR Array B**	**76.67**	**338**	P	**P**	**00 21 17.6**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=29,slow=8.2,SNR=2.4						
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**79.30**	**45**	P	**P**	**00 21 33.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=265,slow=5.3,SNR=2.3						
	comp=Z,0.1nm,0.3s						
BRTR	**Keskin Array B**	**80.77**	**312**	P	**P**	**00 21 41.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=53,slow=5.6,SNR=4.2						
	comp=Z,0.5nm,0.7s						
RPZ	**Rata Peaks**	**82.25**	**159**	P	**P**	**00 21 47.8**	**-0.2**
	comp=Z,6.3nm,0.7s,baz=315,slow=7.1,SNR=1.0						
	comp=Z,6.3nm,0.7s						
TXAR	**Lajitas Array**	**91.49**	**53**	P	**P**	**00 22 34.9**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=298,slow=4.0,SNR=3.6						
	comp=Z,0.4nm,0.8s						
LPAZ	**La Paz**	**147.70**	**63**	PKPbc	**PKiKP**	**00 29 13.7**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=318,slow=5.3,SNR=4.0						

*IDC **26** 00:12:46.2±1.9, 32.˚47S×178.˚39W, h0km, mb3.9/4, mbtmp3.9/5, ML3.2/1, Error ellipse: s-maj=41.9km s-min=28.5km az=75.0*

ISC 26 00:12:50.9±1.8, 32.˚5S±0.˚1×178.˚4W±0.˚3, h33km, n6, σ1s34/7, mb4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.79**	**211**	Pn	**Pn**	**00 14 26.3**	**-1.8**
	0.4nm,0.3s,baz=291,slow=23,SNR=1.7						
URZ				Sn	**Sn**	**00 15 45.2**	**+1.0**
	3.7nm,0.3s,baz=260,slow=18,SNR=10						
	5.4nm,0.7s						
CTA	**Charters Tower**	**33.87**	**283**	P	**P**	**00 19 31.1**	**+0.5**
	0.9nm,0.5s,baz=111,slow=8.6,SNR=4.1						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**42.70**	**269**	P	**P**	**00 20 44.8**	**-0.1**
	0.7nm,0.6s,baz=111,slow=7.6,SNR=7.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**43.88**	**275**	P	**P**	**00 20 55.0**	**+0.5**
	1.1nm,0.5s,baz=115,slow=7.7,SNR=20						
	1.1nm,0.5s						
VNDA	**Vanda**	**45.95**	**186**	P	**P**	**00 21 11.3**	**+1.2**
	0.8nm,0.3s,baz=22,slow=5.4,SNR=17						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**147.01**	**339**	PKPbc	**PKPbc**	**00 32 28.3**	**-1.0**
	0.8nm,0.5s,baz=43,slow=2.7,SNR=9.3						

*IDC **26** 00:13:36.3±4.8, 36.˚29N×71.˚32E, h176km±35km, mb3.1/6, mbtmp3.6/11, Error ellipse: s-maj=48.4km s-min=20.0km az=149.0*
*MOS **26** 00:13:37.8±1.2, 36.˚42N×71.˚36E, h215km, mb3.9/1, Error ellipse: s-maj=15.6km s-min=6.6km az=85.4*
*NEIC **26** 00:13:41.4±2.1, 36.˚65N±0.˚06×71.˚2E±0.˚1, h216km±8km, mb4.4/10, Error ellipse: s-maj=15.7km s-min=8.1km az=106.0*
*NNC **26** 00:13:43.5±5.9, 36.˚93N×70.˚99E, h175km±91km, mb3.2, mpv4.2, Error ellipse: s-maj=54.9km s-min=30.2km az=12.0*

ISC 26 00:13:40.0±0.5, 36.˚65N±0.˚05×71.˚24E±0.˚05, h200km, n87, σ1s49/98, mb4.5/11, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.46**	**343**		**Pn**	**00 14 25.8**	**+2.3**
GAR				Sn	**Sn**	**00 14 58.5**	**+0.8**
CHGR	**Chuyangaron**	**2.60**	**321**	Pn	**Pn**	**00 14 27.0**	**+2.0**
CHGR				Sn	**Sn**	**00 14 60.0**	**-0.3**
CHGR	**Chuyangaron**	**2.60**	**321**	PN	**Pn**	**00 14 27.0**	**+2.0**
KBL	**Kabul**	**2.76**	**221**	Pn	**Pn**	**00 14 29.3**	**+2.2**
KBL				Sn	**Sn**	**00 15 05.8**	**+2.0**
BTK	**Batken**	**3.42**	**355**		**Pn**	**00 14 37.7**	**+3.0**
BTK				Sn	**Sn**	**00 15 20.1**	**+2.4**
BTK	**Batken**	**3.42**	**355**	PN	**Pn**	**00 14 37.7**	**+3.0**
BTK						00 15 20.1	
KSH	**Kashi**	**4.71**	**51**	Pn	**Pn**	**00 14 48.3**	**-2.5**
KSH				Sn	Sn	00 15 37.0	-10
KSH				pmax	pmax		
	comp=Z,56nm,0.3s						
KSH				smax	smax		
	comp=N,180nm,0.5s						
KSH				smax	smax		
	comp=E,180nm,0.5s						
TAS	**Tashkent**	**4.91**	**343**	Pn	**Pn**	**00 14 55.0**	**+1.8**
TAS					**Sn**	**00 15 49.4**	**-1.6**
TAS	**Tashkent**	**4.91**	**343**	PN	**Pn**	**00 14 55.0**	**+1.8**
THN	**Thein Dam**	**5.60**	**137**	*e*P	**Pn**	**00 15 04.5**	**+2.4**
THN				*e*S	**Sn**	**00 16 06.6**	**-0.3**
AML	**Almayashu**	**5.80**	**18**	P	**Pn**	**00 15 06.2**	**+1.3**
	SNR=97						
NRN	**Naryn**	**6.05**	**36**	Pn	**Pn**	**00 15 08.3**	**+0.2**
NRN	**Naryn**	**6.05**	**36**	PN	**Pn**	**00 15 08.3**	**+0.2**
UCH	**Uchtor**	**6.12**	**23**	P	**Pn**	**00 15 10.7**	**+1.5**
	SNR=44						
EKS2	**Erkin-Say**	**6.32**	**17**	P	**Pn**	**00 15 13.3**	**+1.9**
	SNR=13						
KK31	**Karatay Array**	**6.47**	**355**	Pn	**Pn**	**00 15 14.6**	**+1.3**
KK31	**Karatay Array**	**6.47**	**355**	PN	**Pn**	**00 15 14.6**	**+1.3**
KK31	**Karatay Array**	**6.47**	**355**	⇑P	**Pn**	**00 15 14.4**	**+1.1**
	comp=E,1.4nm,0.2s,baz=179,slow=14,SNR=181						
KK31				⇑S	**Sn**	**00 16 23.6**	**-3.7**
	comp=E,15nm,0.4s,baz=180,slow=22,SNR=19						
KKAR	**Karatay Array**	**6.47**	**355**	Pn	**Pn**	**00 15 14.5**	**+1.2**
KKAR	**Karatay Array**	**6.47**	**355**	Pn	**Pn**	**00 15 14.4**	**+1.2**
KKAR	**Karatay Array**	**6.47**	**355**	PN	**Pn**	**00 15 14.5**	**+1.2**
AAK	**Ala-Archa**	**6.49**	**22**	P	**Pn**	**00 15 15.4**	**+1.7**
	SNR=18						
AAK	**Ala-Archa**	**6.49**	**22**	Pn	**Pn**	**00 15 15.3**	**+1.7**
AAK	**Ala-Archa**	**6.49**	**22**	PN	**Pn**	**00 15 15.3**	**+1.6**
KBK	**Karagaybulak**	**6.65**	**24**	P	**Pn**	**00 15 17.8**	**+2.0**
	SNR=22						
BHK	**Bhakra**	**6.76**	**139**	*e*P	**Pn**	**00 15 18.4**	**+1.2**
BHK				*e*S	**Sn**	**00 16 31.8**	**-2.4**
ULHL	**Ulahol**	**6.80**	**33**	P	**Pn**	**00 15 19.0**	**+1.3**
	SNR=12						
BOOM	**Boomskoye usch**	**6.87**	**30**	Pn	**Pn**	**00 15 19.3**	**+0.6**
BOOM	**Boomskoye usch**	**6.87**	**30**	PN	**Pn**	**00 15 19.3**	**+0.6**
CHMS	**Chumysh**	**6.89**	**22**	P	**Pn**	**00 15 20.5**	**+1.7**
	SNR=10						
CHMS	**Chumysh**	**6.89**	**22**	⇓P	**Pn**	**00 15 20.1**	**+1.3**
	comp=E,18nm,0.8s						
CHMS				⇓S	**Sn**	**00 16 35.3**	**-2.0**
	comp=E,3.3nm,0.6s						
USP	**Ospenovka**	**7.07**	**20**	P	**Pn**	**00 15 22.6**	**+1.5**
	SNR=12						
TKM2	**Tokmak 2**	**7.11**	**27**	P	**Pn**	**00 15 23.1**	**+1.4**
	SNR=60						
TKM2	**Tokmak 2**	**7.11**	**27**	⇑P	**Pn**	**00 15 23.2**	**+1.4**
	comp=E,18nm,0.5s						
TKM2				⇑S	**Sn**	**00 16 42.5**	**0.0**
	comp=E,7.3nm,0.8s						
TARG	**Ta

NC303					IAmb	IAmb	00 22 11.5	
	comp=Z,27nm,1.4s							
NB201	**NORSAR Array S**	**44.34**	**323**	P		**P**	**00 21 30.8**	**+0.8**
NB2	**NORSAR Subarra**	**44.38**	**323**	P		**P**	**00 21 31.4**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.38**	**323**	P		**P**	**00 21 31.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=99,slow=7.9,SNR=5.0							
	comp=Z,0.6nm,0.5s							
NBO00	**NORSAR Array S**	**44.59**	**323**	P		**P**	**00 21 32.3**	**+0.3**
NC204	**NORSAR Array S**	**44.62**	**323**	P		**P**	**00 21 32.0**	**-0.2**
NC204					IAmb	IAmb	00 22 00.5	
	comp=Z,45nm,1.4s							
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P		**P**	**00 24 03.8**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=56,slow=5.4,SNR=8.3							
	comp=Z,0.4nm,0.5s							

*IDC **26** 00:17:19.1±1.8, 4.°69S×123.°88E, h0km, mb3.8/2, mbtmp3.8/5, ML3.4/3, MS3.5/4, Error ellipse: s-maj=43.8km s-min=23.8km az=44.0*

*DJA **26** 00:17:22.2±0.5, 5.°5S×12.°4E±*, h29km±5km, M4.1/10, mb4.4/6, mB4.5/2, MLv4.0/10, Mw(mB)3.6/2*

ISC 26 00:17:22.0±1.0, 4.°59S±0.°06×123.°95E±0.°06, h30km, n19, σ1§22/17, MS3.3/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.64**	**237**	P	**Pn**	**00 17 49.1**	**+0.3**
SANI	**Sanana**	**3.25**	**39**	P	**Pn**	**00 18 10.5**	**-0.5**
NLAI	**Namlea**	**3.42**	**67**	P	**Pn**	**00 18 13.6**	**+0.3**
LUWI	**Luwuk**	**3.72**	**342**	P	**Pn**	**00 18 16.7**	**-0.8**
BSSI	**Bau Bau, Buton**	**3.77**	**246**	P	**Pn**	**00 18 18.7**	**+0.5**
BKSI	**Bulukumba**	**3.88**	**259**	P	**Pn**	**00 18 19.8**	**+0.1**
KAPI	**Kappang**	**4.20**	**264**	Pn	**Pn**	**00 18 24.3**	**+0.2**
	1.9nm,0.3s,baz=108,slow=11,SNR=7.1							
KAPI				Sn	**Sn**	**00 19 11.2**	**-1.1**
	6.3nm,0.3s,baz=167,slow=24,SNR=9.0							
	11nm,0.5s							
SPSI	**Sidrap Palu**	**4.21**	**278**	P	**Pn**	**00 18 24.4**	**+0.1**
APSI	**Ampana**	**4.32**	**328**	P	**Pn**	**00 18 24.9**	**-0.8**
EDFI	**Ende, Flores**	**4.70**	**208**	P	**Pn**	**00 18 32.2**	**+1.1**
GTOI	**Gorontalo**	**5.28**	**350**	P	**Pn**	**00 18 41.1**	**+2.2**
	0.3nm318nm16nm,0.5s							
MRSI	**Marisa**	**5.42**	**338**	P	**Pn**	**00 18 40.5**	**-0.4**
	0.3nm24nm,0.5s							
FITZ	**Fitzroy Crossi**	**13.52**	**173**	Pn	**Pn**	**00 20 30.1**	**-1.9**
	0.1nm,0.3s,baz=181,slow=22,SNR=2.0							
	1.1nm,0.8s							
WRA	**Warramunga Arr**	**18.31**	**147**	P	**P**	**00 21 32.8**	**-1.1**
	0.3nm,0.3s,baz=321,slow=13,SNR=20							
	3.5nm,0.8s							
ASAR	**Alice Springs**	**21.26**	**154**	P	**P**	**00 22 07.9**	**+1.9**
	11nm,0.9s,baz=331,slow=11,SNR=29							
ASAR				LR	LR	00 31 26.9		
	comp=Z,49nm,19.0s,baz=282,slow=40							
	11nm,0.9s							
CTA	**Charters Tower**	**26.62**	**127**	LR	LR	00 32 59.1		
	comp=Z,42nm,20.3s,baz=112,slow=35							
MKAR	**Makanchi Array**	**63.01**	**329**	P	**P**	**00 27 48.0**	**+1.8**
	0.3nm,0.5s,baz=121,slow=5.8,SNR=1.8							
	0.3nm,0.5s							
PETK	**Petropavlovsk-**	**64.14**	**22**	LR	LR	00 56 07.4		
	comp=Z,188nm,20.6s,baz=83,slow=36							
WSAR	**Wadi Sarin**	**69.41**	**297**	LR	LR	01 02 42.1		
	comp=Z,38nm,18.1s,baz=142,slow=39							

OMAN 26 00:18:26.0±11.0, 28.°68N×56.°38E, h4km±530km, mb4.7/1, ml2.3/2, Error ellipse: s-maj=962.2km s-min=16.7km az=7.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**2.63**	**185**	P	Pn	00 19 09.7	+0.5
	SNR=6.4						
BANOM	**Banah**	**2.75**	**182**	P	Pn	00 19 11.0	+0.2
	SNR=14						
BANOM				S	Sn	00 19 46.0	+1.5
UOSS	**Minazif**	**3.72**	**182**	P	Pn	00 19 23.8	-0.4
UOSS				S	Sn	00 20 09.3	+0.8
NAZ	**Nazwa, Dubai**	**3.73**	**190**	P	Pn	00 19 24.5	+0.2
HATD	**Hatta, Dubai**	**3.84**	**183**	P	Pn	00 19 26.1	+0.2
FAQ	**Al Faqa, Dubai**	**3.98**	**190**	P	Pn	00 19 27.8	+0.1
FAQ				S	Sn	00 20 16.3	+1.4
ASHO	**Ashiyiah**	**3.99**	**184**	P	Pn	00 19 28.2	+0.3
	SNR=24						
ASHO				S	Sn	00 20 16.4	+1.3
ASUD	**Al Ashush, Dub**	**4.14**	**193**	P	Pn	00 19 30.5	+0.5
	SNR=13						
ASUD				S	Sn	00 20 20.5	+1.6
UMZA	**Um Al Zommool**	**6.04**	**191**	P	Pn	00 19 54.6	-1.5

*IDC **26** 00:20:31.5±1.8, 32.°71S×178.°21W, h0km, mb4.3/3, mbtmp4.2/5, ML4.8/2, MS3.6/2, Error ellipse: s-maj=45.3km s-min=29.0km az=127.0*

*NEIC **26** 00:20:33.3±1.6, 33.°13S±0.°09×178.°2W±0.°2, h10km±1km, mb4.4/13, Error ellipse: s-maj=22.5km s-min=15.8km az=98.0*

ISC 26 00:20:32.4±0.8, 32.°76S±0.°07×178.°2W±0.°1, h10km, n28, σ2§57/26, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.50**	**4**	Sn	**Sn**	**00 22 03.3**	**-5.1**
	51nm,0.3s,baz=252,slow=23,SNR=2.0						
URZ	**Urewera**	**6.69**	**214**	Pn	**Pn**	**00 22 12.0**	**+1.3**
	6.7nm,0.3s,baz=42,slow=1.5,SNR=17						
URZ				Sn	**Sn**	**00 23 27.5**	**+0.6**
	4.2nm,0.3s,baz=34,slow=22,SNR=5.7						
	14nm,0.3s						
HIZ	**Hauiti**	**8.06**	**223**	Pn	**Pn**	**00 22 24.7**	**-4.8**
RPZ	**Rata Peaks**	**13.81**	**215**	Pn	**Pn**	**00 23 44.0**	**-4.1**
FOZ	**Fox Glacier**	**14.29**	**218**	Pn	**Pn**	**00 23 50.5**	**-4.2**
ODZ	**Otahua Downs**	**15.01**	**212**		**Pn**	**00 23 58.6**	**-5.9**
MSVF	**Nonsavu**	**15.34**	**346**	Pn	**Pn**	**00 24 08.0**	**-1.0**
	0.3nm,0.3s,baz=162,slow=19,SNR=2.0						
	0.5nm,0.4s						
DZM	**Mont Dzumac**	**17.28**	**304**	LR	LR	00 30 08.1	
	comp=Z,195nm,19.1s,baz=216,slow=33						
DZM	**Mont Dzumac**	**17.28**	**304**	P	**P**	**00 24 38.0**	**+2.6**
PPTF	**Pamatai, Papee**	**29.87**	**67**	P	**P**	**00 26 40.0**	**-0.3**
CTA	**Charters Tower**	**34.08**	**283**	P	**P**	**00 27 19.2**	**+2.0**
	3.7nm,0.5s,baz=96,slow=9.2,SNR=17						
	3.7nm,0.5s						
CTAO	**Charters Tower**	**34.08**	**283**	P	**P**	**00 27 19.3**	**+2.1**
CTAO				IAmb	IAmb	00 27 20.9	
	comp=Z,4.3nm,0.6s						
TARA	**Tarawa**	**34.95**	**344**	P	**P**	**00 27 27.3**	**+2.7**
AS31	**Alice Springs**	**42.87**	**270**	P	**P**	**00 28 31.6**	**+0.5**
ASAR	**Alice Springs**	**42.87**	**270**	P	**P**	**00 28 31.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=108,slow=7.7,SNR=21						
	comp=Z,1.5nm,0.6s						
WR0	**Warramunga Arr**	**43.89**	**275**	P	**P**	**00 28 39.6**	**+0.2**
WR0				IAmb	IAmb	00 28 57.7	
	comp=Z,3.9nm,0.8s						
WB2	**Warramunga Arr**	**44.06**	**275**	P	**P**	**00 28 40.9**	**+0.1**
WB2				IAmb	IAmb	00 29 05.6	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**44.07**	**275**	P	**P**	**00 28 40.5**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=113,slow=7.8,SNR=38						
	comp=Z,1.6nm,0.4s						
WRA	**Warramunga Arr**	**44.07**	**275**	P	**P**	**00 28 40.6**	**-0.2**
WB0	**Warramunga Arr**	**44.10**	**275**	P	**P**	**00 28 41.3**	**+0.2**
WB0				IAmb	IAmb	00 28 59.3	
	comp=Z,4.1nm,0.7s						
PATS	**Pohnpei**	**45.28**	**326**	P	P	00 28 54.3	+4.0
MTN	**Manton Dam**	**50.22**	**281**	P	**P**	**00 29 29.3**	**+0.5**
MTN				IAmb	IAmb	00 29 36.7	
	comp=Z,10nm,1.3s						
FITZ	**Fitzroy Crossi**	**52.23**	**272**	LR	LR	00 51 37.4	
	comp=Z,59nm,18.3s,baz=176,slow=36						
CASY	**Casey**	**52.99**	**209**	P	**P**	**00 29 47.5**	**-1.3**
CASY				IAmb	IAmb	00 29 49.2	
	comp=Z,6.1nm,1.1s						
QSPA	**South Pole Qui**	**57.36**	**180**	P	**P**	**00 30 23.0**	**+2.4**
QSPA				IAmb	IAmb	00 30 58.4	
	comp=Z,3.3nm,0.9s						
FINES	**FINESS Array B**	**147.28**	**339**	PKPbc	**PKPbc**	**00 40 15.2**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=49,slow=2.8,SNR=16						
NOA	**NORSAR Array B**	**151.04**	**351**	PKPbc	**PKiKP**	**00 40 26.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=14,slow=4.1,SNR=1.4						
BRTR	**Keskin Array B**	**153.49**	**294**	PKPbc	**PKiKP**	**00 40 31.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=144,slow=4.4,SNR=9.1						

IDC 26 00:27:15.0±9.7, 32.°68S×178.°59W, h81km±91km, mb3.3/2, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=78.0km s-min=57.9km az=163.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.58**	**211**	P	Pn	00 28 49.4	+0.5
	0.3nm,0.3s,baz=334,slow=2.7,SNR=2.0						
URZ				S	Sn	00 30 02.6	+0.2
	6.6nm,0.4s,baz=38,slow=17,SNR=8.6						
	9.1nm,0.8s						
ASAR	**Alice Springs**	**42.54**	**270**	P	P	00 35 02.8	-0.1
	0.4nm,0.6s,baz=101,slow=7.8,SNR=4.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.73**	**275**	P	P	00 35 12.4	-0.1
	0.7nm,0.4s,baz=115,slow=7.6,SNR=20						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**147.09**	**338**	PKPbc	PKPbc	00 46 46.9	-0.9
	2.0nm,1.0s,baz=48,slow=2.1,SNR=6.2						

*MEX **26** 00:30:31.8±0.5, 14.°37N×92.°75W, h15km±40km, MD3.9*

*GCG **26** 00:30:33.4±0.6, 14.°37N×92.°52W, h58km±25km, MD3.5*

ISC 26 00:30:27.1±2.4, 14.°33N±0.°09×92.°79W±0.°06, h10km±12km, n13, σ1§73/25, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	**El Naranjo**	**0.95**	**35**	eP	**Pg**	**00 30 46.1**	**+0.7**
PATR				eS	**Sg**	**00 30 56.9**	**-1.0**
CHUJ	**Union Juarez**	**1.01**	**41**	eP	**Pg**	**00 30 47.1**	**+0.5**
CHUJ				eS	**Sg**	**00 30 59.3**	**-0.4**
PAVE	**Pavencul**	**1.05**	**35**	eP	**Pg**	**00 30 47.4**	**+0.1**
PAVE				eS	**Sg**	**00 31 00.3**	**-0.6**
STG3	**Santiaguito 3,**	**1.24**	**72**	eP	**Pg**	**00 30 51.4**	**+0.4**
STG3				eS	**Sg**	**00 31 06.4**	**-0.8**
PCIG		**1.43**	**343**	eP	Pn	00 30 53.4	+0.3
PCIG				eS	**Sg**	**00 31 10.1**	**-3.0**
FUG	**Fuego 3**	**1.89**	**86**	eP	**Pn**	**00 31 00.9**	**+1.2**
FUG				eS	**Sn**	**00 31 21.6**	**-2.2**
CCIG	**Comitan**	**2.04**	**18**	eP	**Pn**	**00 31 03.0**	**+1.3**
CCIG				eS	**Sn**	**00 31 28.5**	**+1.1**
PCG	**Pacaya**	**2.12**	**88**	eP	**Pn**	**00 31 03.9**	**+1.1**
PCG				eS	**Sn**	**00 31 27.6**	**-1.8**
CARR	**Arriaga**	**2.19**	**331**	eP	**Pn**	**00 31 04.7**	**+1.1**
CARR				eS	**Sn**	**00 31 29.7**	**-1.1**
TGIG		**2.46**	**353**	eP	**Pn**	**00 31 08.6**	**+1.3**
TGIG				eS	**Sn**	**00 31 38.0**	**+0.5**
NILT	**Santiago Nilte**	**2.83**	**322**	eP	**Pn**	**00 31 15.9**	**+3.5**
NILT				eS	**Sn**	**00 31 44.2**	**-2.5**
UXUV	**UXUV**	**3.24**	**337**	eP	**Pn**	**00 31 19.8**	**+1.6**
UXUV				eS	**Sn**	**00 31 56.5**	**-0.4**
CMIG	**Matias Romero**	**3.41**	**324**	eP	**Pn**	**00 31 21.6**	**+1.3**
CMIG				eS	**Sn**	**00 31 57.7**	**-3.1**

*IDC **26** 00:39:59.4±3.8, 59.°14S×25.°00W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=13.4km s-min=37.5km az=167.0*

ISC 26 00:40:00.7±1.0, 59.°2S±0.°2×25.°0W±0.°2, h10km, n9, σ1§51/9, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.45**	**156**	P	**Pn**	**00 43 12.3**	**+1.1**
VNA3	**Neumayer Olymp**	**13.64**	**159**	P	**Pn**	**00 43 15.2**	**+1.3**
VNA2	**Neumayer--Watz**	**13.84**	**156**	P	**Pn**	**00 43 13.4**	**-3.2**
	baz=315,slow=13						
SNAA	**Sanae**	**15.40**	**153**	P	**Pn**	**00 43 37.8**	**0.0**
TROLL	**Troll, Antarti**	**16.92**	**150**	P	**P**	**00 43 59.7**	**+0.4**
PLCA	**Paso Flores**	**33.80**	**283**	P	**P**	**00 46 42.8**	**+0.1**
	0.8nm,0.7s,baz=159,slow=7.5,SNR=6.2						
	0.8nm,0.7s						
LPAZ	**La Paz**	**53.16**	**305**	P	**P**	**00 49 19.0**	**-0.4**
	0.5nm,0.4s,baz=150,slow=8.1,SNR=2.2						
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**75.25**	**27**	P	**P**	**00 51 43.8**	**+0.3**
	0.7nm,0.6s,baz=191,slow=6.8,SNR=9.7						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**153.03**	**307**	PKPbc	**PKiKP**	**00 59 56.8**	**-0.1**
	0.6nm,0.7s,baz=122,slow=1.6,SNR=5.1						

*IDC **26** 00:40:32.9±0.6, 52.°73N×167.°08W, h0km, mb4.5/30, mbtmp4.5/32, ML3.9/2, MS4.0/48, Error ellipse: s-maj=17.4km s-min=10.6km az=177.0*

*AEIC **26** 00:40:33±4.3, 52.°54N±0.°05×166.°92W±0.°07, h4km±3km, Error ellipse: s-maj=7.5km s-min=5.6km az=174.0*

*BJI **26** 00:40:36.0±0.0, 52.°80N×167.°10W, h30km, mb4.9/53, mB5.1/24, Ms4.7/21, Ms7 4.5/21*

*MOS **26** 00:40:37.4±1.0, 52.°81N×167.°17W, h35km, mb5.0/74, Error ellipse: s-maj=8.3km s-min=5.1km az=94.1*

*GCMT **26** 00:40:38.2±0.3, 52.°53N±0.°02×166.°81W±0.°04, h20km, MW4.9/100, Moment Tensor Solution. s45,c50; s100,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.00±.17; $M_{\theta\theta}$-1.79±.10; $M_{\phi\phi}$-1.21±.10; $M_{r\theta}$0.99±.18; $M_{\theta\phi}$-1.14±.05; $M_{\phi r}$0.69±.19; Best double couple: M_o3.08500×10^{16} NP1:ϕ≈53.00000°, δ57.00000°, λ91.00000°. NP2:ϕ≈231.00000°, δ33.00000°, λ88.00000°. Principal axes: T 3.2470, Plg78.0000°, Azm327.0000°; N -0.3250, Plg1.0000°, Azm233.0000°; P -2.9220, Plg12.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **26** 00:40:40.2±2.0, 52.°75N±0.°06×167.°11W±0.°07, h46km±5km, mb4.6/267, ML4.2(AEIC) Error ellipse: s-maj=9.0km s-min=5.3km az=160.0*

ISC 26 00:40:38.9±0.5, 52.°74N±0.°05×167.°07W±0.°03, h41km±4km, h40km:pP-P, n928, σ1§25/911, mb4.7/226, MS4.1/62, 21C-22D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.84**	**323**		**Pn**	**00 40 53.0**	**-1.2**
OKFG					**Sn**	**00 41 08.3**	**+2.9**
OKTU	**Okmok Mt. Tuli**	**0.87**	**318**		**Pn**	**00 40 54.6**	**-0.1**
OKSP	**Okmok Steeple**	**0.90**	**305**		**Pn**	**00 40 54.5**	**-0.6**
OKSO	**Okmok South**	**0.90**	**314**		**Pn**	**00 40 54.4**	**-0.8**
OKSO					**Sn**	**00 41 10.7**	**+3.7**
OKER	**Okmok East Rim**	**0.93**	**321**		**Pn**	**00 40 55.8**	**+0.3**
OKNC	**Okmok New Cone**	**0.96**	**319**		**Pn**	**00 40 56.3**	**+0.4**
OKNC					**Sn**	**00 41 14.4**	**+6.0**
MGOD	**Makushin Gods**	**1.06**	**6**		**Pn**	**00 40 56.9**	**-0.5**
MAPS	**Pakushin South**	**1.07**	**4**		**Pn**	**00 40 57.1**	**-0.4**
MAPS					**Sn**	**00 41 15.5**	**+4.4**
NIKH	**Nikolski High**	**1.10**	**283**	Pn	**Pn**	**00 40 57.0**	**-0.9**
NIKH	**Nikolski High**	**1.10**	**283**		**Sn**	**00 41 15.5**	**+3.6**
NIKH	**Nikolski High**	**1.10**	**283**	P	**Pn**	**00 40 57.6**	**-0.3**
	baz=109						
UNV	**Unalaska Valle**	**1.16**	**17**		**Sn**	**00 41 16.2**	**+3.0**
UNV	**Unalaska Valle**	**1.16**	**17**	Pn	**Pn**	**00 40 57.7**	**-0.9**
UNV	**Unalaska Valle**	**1.16**	**17**	P	**Pn**	**00 40 59.0**	**+0.4**
	baz=191						
MNAT	**Makushin Natee**	**1.17**	**11**		**Pn**	**00 40 58.7**	**-0.1**
MNAT					**Sn**	**00 41 18.3**	**+4.7**
MCIR	**Makushin Cirqu**	**1.22**	**5**		**Pn**	**00 41 00.3**	**+0.8**
MTBL	**Makushin Table**	**1.26**	**11**		**Pn**	**00 41 00.2**	**+0.2**
AKMO	**Akutan Morgan**	**1.50**	**25**		**Pn**	**00 41 02.9**	**-0.4**
AKMO					**Sn**	**00 41 25.2**	**+3.6**
ZRO	**Akutan Zero**	**1.51**	**25**		**Pn**	**00 41 03.0**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.52**	**23**		**Pn**	**00 41 03.5**	**0.0**
AKLV	**Akutan Long Va**	**1.58**	**25**		**Pn**	**00 41 03.7**	**-0.7**
AKUT	**Akutan**	**1.60**	**29**		**Pn**	**00 41 04.0**	**-0.7**
CLCO	**Concord Point,**	**1.61**	**273**		**Pn**	**00 41 04.0**	**-0.8**
CLCO					**Sn**	**00 41 25.7**	**+1.4**
CLES	**Cleveland East**	**1.72**	**274**		**Pn**	**00 41 05.5**	**-0.7**
WESP	**Westdahl Peak**	**2.25**	**38**		**Pn**	**00 41 13.4**	**-0.3**
WECS	**Westdahl Cape**	**2.26**	**36**		**Pn**	**00 41 13.7**	**-0.1**
WESN	**West Dahl Nort**	**2.36**	**38**		**Pn**	**00 41 15.4**	**+0.3**
SSBA	**Shishaldin**	**2.69**	**39**		**Pn**	**00 41 19.5**	**-0.1**
SSLN	**Shishaldin Nor**	**2.77**	**40**		**Pn**	**00 41 21.0**	**+0.3**
ISLZ	**Isanotski Laza**	**2.82**	**44**		**Pn**	**00 41 21.0**	**-0.5**
KOSE	**Korovin Southe**	**4.28**	**267**		**Pn**	**00 41 42.1**	**+0.6**
KOFP	**Korovin Flat P**	**4.32**	**267**		**Pn**	**00 41 42.9**	**+0.9**
KOKL	**Mount Kliuchef**	**4.37**	**267**		**Pn**	**00 41 43.6**	**+0.8**
SDPT	**Sand Point**	**4.69**	**53**		**Pn**	**00 41 46.1**	**-0.9**
SDPT	**Sand Point**	**4.69**	**53**	P	**Pn**	**00 41 46.5**	**-0.5**
	baz=236						
SPIA	**Saint Paul Isl**	**4.81**	**339**	Pn	**Pn**	**00 41 50.5**	**+1.8**
CNBA	**Chernabura Isl**	**4.90**	**62**	Pn	**Pn**	**00 41 47.9**	**-2.1**
CHNA	**Chernabura Isl**	**4.91**	**62**	P	**Pn**	**00 41 49.0**	**-1.0**
	baz=245						
GSTR	**Great Sitkin T**	**5.54**	**267**	Pn	**Pn**	**00 41 59.3**	**+0.6**
GSTD	**Great Sitkin T**	**5.60**	**267**		**Pn**	**00 41 59.8**	**+0.2**
GSCK	**Great Sitkin C**	**5.62**	**266**		**Pn**	**00 42 00.1**	**+0.3**
S14K	**Fog Glacier**	**5.64**	**48**	P	**Pn**	**00 42 00.3**	**+0.1**
	baz=232						
ADK	**Adak**	**5.96**	**266**		**Pn**	**00 42 04.5**	**+0.1**
ADK	**Adak**	**5.96**	**266**	P	**Pn**	**00 42 04.5**	**+0.1**
CHGN	**Chignik**	**6.18**	**51**		**Pn**	**00 42 06.9**	**-0.5**
CHGN	**Chignik**	**6.18**	**51**	P	**Pn**	**00 42 07.6**	**+0.2**
	baz=236						
KIWB	**Kanaga Island**	**6.25**	**266**		**Pn**	**00 42 08.8**	**+0.3**
KIMD	**Kanaga Island**	**6.32**	**265**		**Pn**	**00 42 09.6**	**+0.2**
GANE	**Gareloi Northe**	**7.24**	**267**		**Pn**	**00 42 22.2**	**+0.1**
CHIR	**Chirikof Islan**	**7.38**	**61**	Pn	**Pn**	**00 42 22.2**	**-1.8**
R17K	**Ugashik Creek**	**7.84**	**47**		**Pn**	**00 42 31.4**	**+1.2**
R17K	**Ugashik Creek**	**7.84**	**47**	P	**Pn**	**00 42 30.4**	**+0.2**
	baz=234						
P16K	**Nushagak River**	**8.11**	**35**	P	**Pn**	**00 42 34.6**	**+0.7**
	baz=222						
CEPE	**Semis' Perret**	**8.17**	**270**		**Pn**	**00 42 35.8**	**+1.0**
CESW	**Semis' Southwe**	**8.23**	**269**		**Pn**	**00 42 36.4**	**+0.7**
Q16K	**King Salmon**	**8.36**	**41**	P	**Pn**	**00 42 37.6**	**+0.3**
	baz=228						
SII	**Sitkinak Islan**	**8.39**	**58**	Pn	**Pn**	**00 42 37.0**	**-0.9**
SII	**Sitkinak Islan**	**8.39**	**58**	P	**Pn**	**00 42 39.4**	**+1.5**
	baz=247						
O16K	**Kokwok River B**	**8.50**	**33**	P	**Pn**	**00 42 39.7**	**+0.5**
	baz=219						
AMKA	**Amchitka**	**8.51**	**266**		**Pn**	**00 42 39.3**	**-0.1**
P17K	**Kvichak River**	**8.79**	**38**	P	**Pn**	**00 42 44.4**	**+1.1**
	baz=226						
O17K	**Koliganek Bris**	**8.97**	**34**	P	**Pn**	**00 42 46.7**	**+1.1**
	baz=221						
N16K	**Nishlik Lake**	**9.00**	**27**	P	**Pn**	**00 42 46.1**	**-0.1**
	baz=213,SNR=6.7						
OHAK	**Old Harbor**	**9.11**	**55**	Pn	**Pn**	**00 42 46.2**	**-1.3**
OHAK	**Old Harbor**	**9.11**	**55**	P	**Pn**	**00 42 48.2**	**+0.7**
	baz=245						
P18K	**Big Mountain,**	**9.39**	**40**		**Pn**	**00 42 52.2**	**+0.7**
P18K	**Big Mountain,**	**9.39**	**40**	P	**Pn**	**00 42 53.2**	**+1.7**
	baz=229						
KDAK	**Kodiak Island**	**9.69**	**53**	Pn	**Pn**	**00 42 54.0**	**-1.5**
	1.3nm,0.3s,baz=255,slow=6.8,SNR=28						
KDAK				Sn	**Sn**	**00 44 37.4**	**-5.4**
	0.4nm,0.3s,baz=217,slow=20,SNR=1.5						
KDAK	**Kodiak Island**	**9.69**	**53**		**Pn**	**00 42 53.8**	**-1.7**
KDAK	**Kodiak Island**	**9.69**	**53**	P	**Pn**	**00 42 53.8**	**-1.7**
KDAK	**Kodiak Island**	**9.69**	**53**	P	**Pn**	**00 42 54.9**	**-0.6**
	baz=244						
O18K	**Koktuh Hills**	**9.70**	**38**		**Pn**	**00 42 57.3**	**+1.6**
O18K	**Koktuh Hills**	**9.70**	**38**	P	**Pn**	**00 42 57.2**	**+1.4**
	baz=227						
Q19K	**Cape Douglas,**	**9.76**	**45**	Pn	**Pn**	**00 42 56.2**	**-0.4**
Q19K	**Cape Douglas,**	**9.76**	**45**	P	**Pn**	**00 42 56.7**	**0.0**
	baz=235						
N18K	**Kilae Creek**	**10.04**	**33**	Pn	**Pn**	**00 43 03.0**	**+2.6**
Q20K	**Shuyak Island**	**10.15**	**49**	P	**Pn**	**00 43 01.4**	**-0.5**
	baz=240						
P19K	**Oil Pt**	**10.35**	**43**	Pn	**Pn**	**00 43 05.2**	**+0.5**
SVW2	**Sparrevohn**	**10.46**	**32**		**Pn**	**00 43 09.3**	**+3.3**
ILSW	**Iliamna Southw**	**10.59**	**41**	Pn	**Pn**	**00 43 09.5**	**+1.6**
N19K	**Bonanza Creek**	**10.62**	**35**	Pn	**Pn**	**00 43 09.8**	**+1.4**
N19K	**Bonanza Creek**	**10.62**	**35**	P	**Pn**	**00 43 10.0**	**+1.6**
	baz=225						
RSO	**Redoubt South**	**11.03**	**40**		**Pn**	**00 43 16.9**	**+2.7**
CNPM	**China Poot**	**11.13**	**46**	Pn	**Pn**	**00 43 13.4**	**-1.9**
SHEM	**Shemya Is, Ala**	**11.42**	**277**	Pn	**Pn**	**00 43 17.0**	**-2.2**
	1.8nm,0.3s,baz=96,slow=19,SNR=1.8						
	61nm,0.8s						
SHEM	**Shemya Is, Ala**	**11.42**	**277**		**Pn**	**00 43 17.0**	**-2.2**
M19K	**Big River Lodg**	**11.44**	**32**		**Pn**	**00 43 22.8**	**+3.3**
M19K	**Big River Lodg**	**11.44**	**32**	P	**Pn**	**00 43 21.1**	**+1.6**
	baz=221						
BRSE	**Bradley Lake S**	**11.46**	**46**	P	**Pn**	**00 43 18.8**	**-0.9**
	baz=238						
L19K	**White Mountain**	**11.50**	**30**	Pn	**Pn**	**00 43 21.6**	**+1.3**
L19K	**White Mountain**	**11.50**	**30**	P	**Pn**	**00 43 19.7**	**-0.7**
	baz=219				

KAIM **Kayak Island** 14.43 51 Pn Pn 00 43 58.5 -1.6
KAIM **Kayak Island** 14.43 51 P Pn 00 44 00.7 +0.5
baz=249
MCK **McKinley** 14.51 34 Pn Pn 00 44 01.9 +0.5
MCK **McKinley** 14.51 34 P Pn 00 44 01.9 +0.5
MCK **McKinley** 14.51 34 P Pn 00 44 01.8 +0.5
baz=228
M24K **Tolsona, Glenn** 14.59 42 P Pn 00 44 02.5 +0.2
baz=239
BWN **Browne** 14.63 32 Pn Pn 00 44 03.8 +0.8
I21K **Tanana** 14.64 26 P Pn 00 44 03.2 +0.1
baz=218,SNR=12
DHY **Denali Highway** 14.65 37 Pn Pn 00 44 03.2 -0.1
DHY **Denali Highway** 14.65 37 P Pn 00 44 03.6 +0.3
baz=233
BMRM **Bremner River** 14.73 47 Pn Pn 00 44 06.1 +1.8
BMRM **Bremner River** 14.73 47 P Pn 00 44 04.7 +0.4
baz=245
SUCK **Suckling Hills** 14.78 51 P P 00 44 12.3 +2.1
H21K **Melozitna Rive** 14.81 24 P 00 44 08.3 -2.3
H21K P Pn 00 44 12.3 +7.0
H21K **Melozitna Rive** 14.81 24 P Pn 00 44 06.1 +0.7
baz=215,SNR=36
IMAR **Indian Mountai** 14.87 22 P 00 44 08.4 -2.7
IMAR P Pn 00 44 12.8 +6.8
MLY **Manley** 14.87 28 Pn Pn 00 44 07.2 +1.1
MLY P P 00 44 12.2 +1.0
MLY **Manley** 14.87 28 P Pn 00 44 07.8 +1.7
baz=221,SNR=29
BERG **Berg Lake** 14.92 50 Pn Pn 00 44 05.8 -1.0
BERG P P 00 44 13.4 +1.6
N25K **Chitina, Valde** 15.00 45 Pn 00 44 05.8 -2.2
N25K IAmb IAmb 00 44 29.4
comp=Z,16nm,0.7s
N25K **Chitina, Valde** 15.00 45 P Pn 00 44 06.5 -1.4
baz=243
NEA2 **Nenana** 15.05 31 P Pn 00 44 09.0 +0.5
baz=226,SNR=5.4
HARP **HAARP** 15.14 42 P Pn 00 44 09.4 -0.3
baz=240
SNH **Sunshine Point** 15.26 51 Pn Pn 00 44 11.6 +0.3
SNH IAmb IAmb 00 44 42.8
comp=Z,85nm,1.1s
GLB **Gilahina Butte** 15.28 46 IAmb IAmb 00 44 18.1
comp=Z,24nm,0.7s
WRH **Wood River Hil** 15.28 32 Pn 00 44 11.2 -0.3
PAX **Paxson** 15.31 40 P Pn 00 44 11.3 -0.7
baz=237
WAX **Waxell Ridge** 15.34 50 Pn Pn 00 44 10.5 -1.8
WAX IAmb IAmb 00 44 21.9
comp=Z,36nm,0.7s
H22K **Ishtalitna Cre** 15.36 25 P Pn 00 44 13.5 +1.0
baz=218,SNR=42
G21K **Aliakaket** 15.37 21 P P 00 44 15.0 -1.7
baz=212,SNR=69
TGL **Tana Glacier** 15.45 49 Pn Pn 00 44 15.2 +1.4
TGL IAmb IAmb 00 44 22.4
comp=Z,53nm,0.8s
CCB **Clear Creek Bu** 15.49 32 Pn 00 44 12.8 -1.3
MDM **Murphy Dome** 15.56 31 Pn 00 44 15.9 +0.8
MCARA **McCarthy VSAT** 15.60 47 Pn 00 44 16.1 +0.4
MCARA P P 00 44 21.3 +2.0
MCARA IAmb IAmb 00 44 32.5
comp=Z,47nm,0.8s
MCARA **McCarthy VSAT** 15.60 47 P Pn 00 44 15.8 +0.2
baz=246,SNR=11
HDA **Harding Lake** 15.62 34 Pn 00 44 16.4 +0.6
HDA **Harding Lake** 15.62 34 P Pn 00 44 15.3 -0.5
baz=230
TCOL **CIGO, UAF Yank** 15.62 31 P Pn 00 44 16.1 +0.3
baz=227
COLA **College** 15.62 31 *i* P Pn 00 44 16.1 +0.2
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA **College** 15.62 31 P Pn 00 44 15.7 -0.2
baz=227
ISLE **Juniper Island** 15.63 50 Pn Pn 00 44 15.7 -0.5
ISLE IAmb IAmb 00 44 34.7
comp=Z,29nm,0.8s
K24K **Donnelly Dome** 15.66 37 P Pn 00 44 17.1 +0.7
baz=234
MESA **MESA** 15.68 52 IAmb IAmb 00 44 48.7
comp=Z,41nm,0.6s
MESA **MESA** 15.68 52 P Pn 00 44 17.0 +0.2
baz=252
H23K **Yukon River** 15.80 27 Pn 00 44 18.9 +0.7
H23K **Yukon River** 15.80 27 P Pn 00 44 19.1 +1.0
baz=222,SNR=11
YAH **Yahtse** 15.83 51 Pn 00 44 20.1 +1.3
YAH IAmb IAmb 00 44 35.8
comp=Z,52nm,0.9s
IL31 15.87 33 Pn 00 44 18.9 -0.1
ILAR **Eielson Array** 15.87 33 Pn Pn 00 44 17.1 -2.0
comp=Z,0.2nm,0.3s,baz=233,slow=11,SNR=15
comp=Z,2.2nm,0.8s
ILAR **Eielson Array** 15.87 33 Pn Pn 00 44 19.6 +0.6
ILAR **Eielson Array** 15.87 33 P Pn 00 44 19.6 +0.6
RIDG **Independent Ri** 15.97 38 Pn Pn 00 44 19.6 -0.8
RIDG P P 00 44 22.5 -0.9
RIDG **Independent Ri** 15.97 38 P Pn 00 44 19.1 -1.2
baz=236
F21K **Alatna River** 15.97 19 P Pn 00 44 20.2 -0.2
baz=211,SNR=19
MENT **Mentasta** 15.99 41 Pn 00 44 21.6 +1.0
M26K **Nabesna, AK** 16.04 43 P Pn 00 44 20.6 -0.7
baz=243,SNR=5.6
TABL **Table Mountain** 16.14 51 Pn 00 44 22.2 -0.5
TABL IAmb IAmb 00 44 44.8
comp=Z,43nm,0.6s
G22K **Bettles** 16.15 22 P Pn 00 44 22.8 +0.2
baz=215
L26K **Log Cabin Wild** 16.18 41 IAmb IAmb 00 44 26.1
comp=Z,24nm,0.7s
L26K **Log Cabin Wild** 16.18 41 P Pn 00 44 23.3 +0.3
baz=241,SNR=21
CTG **Chitna Glacier** 16.21 49 P Pn 00 44 23.8 +0.2
baz=250
DOT **Dot Lake** 16.21 39 Pn 00 44 24.1 +0.6
CTGM **Chitina Glacie** 16.21 49 IAmb IAmb 00 44 37.8
comp=Z,24nm,0.7s
H24K **Noodor Dome** 16.28 29 P Pn 00 44 23.9 -0.5
baz=225,SNR=8.8
J25K **Salcha River,** 16.28 35 P Pn 00 44 24.6 +0.3
baz=233,SNR=15
LOGN **Logan Glacier** 16.32 50 P P 00 44 28.8 +1.3
LOGN IAmb IAmb 00 44 53.7
comp=Z,27nm,0.9s
G23K **Bananza Creek** 16.34 24 P Pn 00 44 25.6 +0.5
baz=219,SNR=31
SCRK **Sand Creek** 16.42 38 Pn Pn 00 44 25.5 -0.6
SCRK **Sand Creek** 16.42 38 P Pn 00 44 26.5 +0.4
baz=237,SNR=32
PCA **Pinnacle** 16.47 53 IAmb IAmb 00 44 59.5
comp=Z,39nm,0.7s
PINM **Pinnacle** 16.47 53 P Pn 00 44 27.1 +0.3
baz=255
F22K **John River** 16.49 20 P P 00 44 28.9 -0.2
baz=213
M27K **Edge Creek, AK** 16.49 44 P Pn 00 44 27.3 +0.3
baz=245
O28M **Mount Upton** 16.69 51 P Pn 00 44 29.2 -0.5
baz=252,SNR=11
COLD **Coldfoot** 16.70 23 P P 00 44 30.4 -1.1
baz=217
BCPM **Bancas Point** 16.74 54 P 00 44 32.0 0.0
BCPM IAmb IAmb 00 44 46.1
comp=Z,26nm,0.8s
PRP **Porcupine Dome** 16.79 32 P Pn 00 44 29.0 -1.8
baz=230
PNL **Peninsula** 16.79 55 P Pn 00 44 30.5 -0.3
baz=257
L27K **Beaver Creek,** 16.81 42 Pn Pn 00 44 30.3 -0.7
L27K **Beaver Creek,** 16.81 42 P Pn 00 44 30.6 -0.4
baz=243,SNR=9.2
J26L **Joseph Creek** 16.86 37 P Pn 00 44 31.5 -0.2
baz=236,SNR=23
YUK3 **Moose Creek** 16.89 47 P Pn 00 44 32.2 +0.1
baz=249,SNR=10
BVCY **Beaver Creek** 16.95 45 P Pn 00 44 32.6 -0.1
baz=246
G24K **Hadweenzic Riv** 17.01 27 P Pn 00 44 33.3 -0.1
baz=224,SNR=11
E22K **Anaktuvuk Pass** 17.09 20 P P 00 44 35.5 -0.3
baz=212
K27K **Chicken** 17.17 39 P Pn 00 44 35.8 +0.4
baz=240

H25K **Birch Creek** 17.19 30 P Pn 00 44 34.9 -0.7
baz=228,SNR=7.0
O29M **Mount Kennedy** 17.34 53 P Pn 00 44 37.4 -0.3
baz=256,SNR=11
G25K **Bearman Lake** 17.44 28 P Pn 00 44 37.7 -1.0
baz=226
I26K **Coal Creek Min** 17.45 35 Pn 00 44 37.0 -1.8
I26K **Coal Creek Min** 17.45 35 P Pn 00 44 37.1 -1.8
baz=235,SNR=12
E23K **Chandalar** 17.50 22 P P 00 44 40.6 +0.2
baz=217,SNR=12
F24K **Squaw Lake** 17.50 25 P Pn 00 44 39.4 -0.2
baz=221,SNR=21
YUK4 **Talbot Arm** 17.57 49 P P 00 44 43.3 +2.0
baz=253,SNR=11
YUK6 **Outpost Mounta** 17.59 51 P P 00 44 42.6 +1.0
baz=254,SNR=20
P29M **Windy Craggy** 17.61 55 P P 00 44 43.3 +1.7
P29M IAmb IAmb 00 45 05.4
comp=Z,34nm,0.9s
P29M **Windy Craggy** 17.61 55 P P 00 44 42.6 +1.0
baz=259
E24K **Your Creek** 17.78 23 P P 00 44 44.7 +1.3
baz=219
EGAK **Eagle** 17.89 38 P Pn 00 44 44.0 -0.2
EGAK **Eagle** 17.89 38 P P 00 44 44.2 -0.3
baz=239,SNR=7.8
HYT **Haines Junctio** 17.97 52 P P 00 44 47.9 +2.3
HYT IAmb IAmb 00 45 06.6
comp=Z,28nm,0.8s
HYT **Haines Junctio** 17.97 52 P P 00 44 47.1 +1.5
baz=256,SNR=19
TOLK **Toolik Lake Re** 17.98 21 P P 00 44 47.4 +1.8
TOLK IAmb IAmb 00 44 55.9
comp=Z,47nm,0.9s
TOLK **Toolik Lake Re** 17.98 21 P P 00 44 46.2 +0.6
baz=216,SNR=11
M29M **Somme Creek** 18.00 46 P Pn 00 44 45.5 -0.3
baz=250,SNR=26
D23K **Nanushuk River** 18.02 19 P P 00 44 47.4 +1.5
baz=213
P30M **Million Dollar** 18.09 54 P P 00 44 47.5 +0.7
baz=259
F25K **Christian Rive** 18.15 27 P Pn 00 44 47.2 -0.3
baz=225,SNR=16
I27K **Kandik River** 18.16 35 P P 00 44 46.6 -1.0
baz=236,SNR=10
DAWY **Dawson** 18.23 41 P P 00 44 47.9 -0.5
baz=244,SNR=21
PLBC **Pleasant Camp** 18.28 56 P Pn 00 44 49.6 +0.5
baz=261,SNR=5.6
N30M **Aishikik Lake** 18.32 50 P Pn 00 44 51.9 +2.2
baz=254,SNR=16
L29M **L29M** 18.37 44 P Pn 00 44 51.3 +1.1
baz=248,SNR=17
R31K **City Hall, Gus** 18.49 60 P Pn 00 44 51.9 +0.3
baz=265
H27K **Steamboat Moun** 18.54 33 P P 00 44 50.5 -1.2
baz=235,SNR=12
E25K **Arctic Village** 18.55 26 P P 00 44 51.6 -0.2
baz=224,SNR=16
D24K **Happy Valley** 18.56 21 P Pn 00 44 52.6 +0.3
baz=216
F26K **Sheenjek River** 18.64 28 P Pn 00 44 53.7 +0.3
baz=227,SNR=8.8
O30N **Mendenhall** 18.64 52 P Pn 00 44 53.8 +0.4
baz=258,SNR=25
SIT **Sitka** 18.66 64 P Pn 00 44 53.7 0.0
SIT IAmb IAmb 00 45 31.4
comp=Z,44nm,1.3s
SIT **Sitka** 18.66 64 P Pn 00 44 53.7 0.0
SIT pmax pmax
comp=Z,44nm,1.3s
SIT **Sitka** 18.66 64 P Pn 00 44 54.3 +0.6
baz=270
C23K **Ikilllik River** 18.76 18 P Pn 00 44 55.5 +0.7
baz=212,SNR=17
SKAG **Skagway** 18.80 56 IAmb IAmb 00 45 04.2
comp=Z,32nm,0.8s
SKAG **Skagway** 18.80 56 P Pn 00 44 56.1 +0.7
baz=262,SNR=11
G27K **Doyon Strip** 18.83 32 P P 00 44 54.0 -1.0
baz=233,SNR=8.2
K29M **Barlow Dome** 18.90 42 P Pn 00 44 56.1 -0.5
baz=247,SNR=43
N31M **Braeburn, Yuko** 18.94 50 IAmb IAmb 00 45 04.5
comp=Z,50nm,0.8s
N31M **Braeburn, Yuko** 18.94 50 P Pn 00 44 58.1 +1.0
baz=256
BESE **Bessie Mountai** 18.96 59 IAmb IAmb 00 45 25.0
comp=Z,25nm,1.0s
C24K **Franklin Bluff** 19.04 20 P Pn 00 44 57.7 -0.5
baz=216,SNR=21
S32K **Killisnoo** 19.07 63 P Pn 00 44 58.6 0.0
baz=269
R32K **Eaglecrest** 19.12 60 P Pn 00 44 58.7 -0.5
baz=267
JIS **Juneau Island** 19.19 60 IAmb IAmb 00 45 17.0
comp=Z,24nm,0.8s
WHY **Whitehorse** 19.20 53 Pn Pn 00 45 01.4 +1.1
WHY IAmb IAmb 00 45 06.3
comp=Z,30nm,0.8s
WHY **Whitehorse** 19.20 53 P Pn 00 45 00.3 0.0
baz=259,SNR=17
D25K **Kavik River** 19.23 22 P Pn 00 45 00.2 -0.4
baz=220
MAYO **Mayo, Yukon** 19.49 44 P Pn 00 45 02.8 -0.8
baz=250
P32M **Atlin** 19.63 56 P Pn 00 45 04.7 -0.7
baz=264,SNR=12
E27K **Coleen River** 19.69 29 P P 00 45 04.0 -0.3
baz=230
M31M **Drury Creek, Y** 19.75 49 P Pn 00 45 07.1 +0.4
M31M **Drury Creek, Y** 19.75 49 P Pn 00 45 06.8 0.0
baz=256,SNR=153
BILL **Bilibino** 19.95 330 *de*P P 00 45 03.1 -3.9
BILL pmax pmax
comp=Z,47nm,2.7s
BILL MLR MLR
comp=Z,963nm,15.0s
CRAG **Craig** 19.98 69 P Pn 00 45 08.8 -0.5
CRAG IAmb IAmb 00 45 29.1
comp=Z,34nm,1.0s
CRAG **Craig** 19.98 69 P P 00 45 07.8 +0.3
baz=276
C26K **Camden Bay** 20.02 22 P P 00 45 08.4 +0.5
baz=222,SNR=23
C27K **Jago River** 20.10 24 P P 00 45 09.2 +0.5
baz=224
P33M **Teslin, Yukon** 20.15 55 Pn 00 45 12.0 +0.5
P33M IAmb IAmb 00 45 33.2
comp=Z,28nm,0.9s
P33M **Teslin, Yukon** 20.15 55 P Pn 00 45 11.1 -0.4
baz=263,SNR=10
N32M **Quiet Lake** 20.15 52 P Pn 00 45 11.2 -0.3
baz=260
FARO **Faro, Yukon** 20.23 49 P Pn 00 45 11.5 -0.9
FARO **Faro, Yukon** 20.23 49 P Pn 00 45 11.5 -0.9
baz=257,SNR=77
EPYK **Eagle Plains** 20.27 36 P P 00 45 09.9 -0.8
EPYK IAmb IAmb 00 45 11.3
comp=Z,38nm,0.8s
EPYK **Eagle Plains** 20.27 36 P P 00 45 09.8 -0.9
baz=242,SNR=28
WRAK **Wrangell Islan** 20.32 66 P P 00 45 11.1 -0.1
baz=274
Q32M **Nakina River** 20.33 58 P P 00 45 12.4 +0.9
baz=267,SNR=12
PET **Petropavlovsk** 20.57 285 *e*P Pn 00 45 15.7 -0.7
PET *e*S S 00 48 56.8 -4.7
PET pmax pmax
comp=Z,300nm,13.6s
PET MLR MLR
comp=Z,600nm,18.0s
PET MLR MLR
comp=Z,800nm,18.0s
V35K **Ketchikan** 20.85 69 P P 00 45 18.1 +1.2
baz=277
S34M **Telegraph Cree** 20.91 61 P P 00 45 18.6 +1.0
baz=271
R33M **Jennings River** 21.02 57 P P 00 45 20.0 +1.1
baz=267
PEA0B **Petropavlovsk-** 21.12 285 P P 00 45 22.4 +2.6
PEA0B IAmb IAmb 00 45 24.4
comp=Z,37nm,0.8s
PEA0B **Petropavlovsk-** 21.12 285 P P 00 45 22.5 +2.6
PEA0B pmax pmax
comp=Z,37nm,0.8s
PETK **Petropavlovsk-** 21.12 285 P P 00 45 19.8 0.0
comp=Z,21nm,0.6s,baz=83,slow=12,SNR=38
comp=Z,21nm,0.6s
PETK **Petropavlovsk-** 21.12 285 P P 00 45 22.3 +2.5
PETK **Petropavlovsk-** 21.12 285 P P 00 45 22.3 +2.5
MMPY **Sheldon Lake,** 21.26 48 P P 00 45 22.3 +1.0
baz=258,SNR=35
T35M **Bob Quinn** 21.44 64 P P 00 45 24.5 +1.3
baz=274
DLBC **Dease Lake** 21.49 60 P P 00 45 24.2 +0.3
comp=Z,2.1nm,0.7s,baz=272,slow=9.1,SNR=4.0
comp=Z,2.1nm,0.7s
DLBC **Dease Lake** 21.49 60 P P 00 45 26.9 +3.0
DLBC IAmb IAmb 00 45 54.3
comp=Z,44nm,1.4s
DLBC **Dease Lake** 21.49 60 P P 00 45 25.1 +1.2
baz=270
F31M **Tsiigehtchic** 21.81 35 P P 00 45 26.1 -0.9
baz=244
INK **Inuvik** 22.27 33 P P 00 45 29.8 -2.2
comp=Z,11nm,0.4s,baz=242,slow=9.3,SNR=27
INK LR LR 00 54 36.8
comp=Z,430nm,20.2s,baz=242,slow=38
comp=Z,11nm,0.4s
INK **Inuvik** 22.27 33 P P 00 45 30.2 -1.7
INK IAmb IAmb 00 45 46.3
comp=Z,16nm,0.7s
INK **Inuvik** 22.27 33 P P 00 45 30.3 -1.7
INK pmax pmax
comp=Z,16nm,0.7s
INK **Inuvik** 22.27 33 P P 00 45 30.1 -1.9
baz=242,SNR=12
TGTN **Hyland Airport** 22.50 52 P P 00 45 35.6 +1.0
baz=264,SNR=14
SEY **Seymchan** 23.46 312 P P 00 45 43.5 -0.7
comp=Z,9.9nm,0.7s,baz=102,slow=11,SNR=9.4
comp=Z,9.9nm,0.7s
SEY **Seymchan** 23.46 312 *ce*P P 00 45 43.9 -0.4
SEY pmax pmax
comp=Z,19nm,1.0s
MA2 **Magadan** 24.11 303 P P 00 45 50.5 +0.1
comp=Z,40nm,0.8s,baz=88,slow=15,SNR=5.6
comp=Z,40nm,0.8s
MA2 **Magadan** 24.11 303 P P 00 45 50.3 -0.1
MA2 **Magadan** 24.11 303 *i* P P 00 45 50.4 +0.1
MA2 pmax pmax
comp=Z,37nm,0.7s
WRGLY **Wrigley** 24.88 48 P P 00 45 58.5 +1.1
baz=265,SNR=9.5
C36M **Paulatuk** 25.84 34 P P 00 46 06.2 +0.2
C36M IAmb IAmb 00 46 19.1
comp=Z,15nm,0.8s
C36M **Paulatuk** 25.84 34 P P 00 46 06.0 +0.1
baz=252
A36M **Sachs Harbour** 26.43 28 P P 00 46 14.1 +2.8
A36M **Sachs Harbour** 26.43 28 P P 00 46 13.1 +1.9
baz=245,SNR=11
YKA **Yellowknife Ar** 28.94 50 P P 00 46 33.8 0.0
comp=Z,0.8nm,0.4s,baz=273,slow=8.0,SNR=9.6
YKA PcP PcP 00 49 42.2 +0.6
comp=Z,2.0nm,0.8s,baz=268,slow=2.4,SNR=4.8
YKA LR LR 01 00 10.8
comp=Z,385nm,18.2s,baz=256,slow=41
comp=Z,0.8nm,0.4s
YKA **Yellowknife Ar** 28.94 50 P P 00 46 35.0 +1.2
YKA **Yellowknife Ar** 28.94 50 *i* P P 00 46 35.9 +2.1
YKA pmax pmax
comp=Z,2.0nm,0.7s
G03D **McMinnville, O** 29.34 87 P P 00 46 36.5 -1.1
baz=300
LON **Longmire** 29.46 83 P P 00 46 40.6 +1.9
LON **Longmire** 29.46 83 P P 00 46 40.6 +1.9
LON pmax pmax
comp=Z,3.0nm,0.8s
I02E **Swisshome, OR** 29.56 89 P P 00 46 40.1 +0.6
baz=302
B08A **Colville Reser** 30.20 79 P P 00 46 45.9 +0.7
HOOD **Mount Hood Mea** 30.26 86 P P 00 46 46.3 +0.4
HOOD IAmb IAmb 00 46 58.0
comp=Z,6.9nm,0.6s
H04A **Detroit Lake** 30.27 87 P P 00 46 47.0 +1.2
H04A IAmb IAmb 00 46 56.6
comp=Z,9.9nm,0.8s
DBO **Dodson Butte** 30.47 91 P P 00 46 49.1 +1.4
DBO IAmb IAmb 00 46 54.5
comp=Z,20nm,1.4s
G05D **Wamic, OR** 30.51 86 P P 00 46 48.8 +0.9
baz=301
I04A **Tendick Farm,** 30.61 89 P P 00 46 49.0 +0.1
baz=303
HAWA **Hanford** 31.01 82 P P 00 46 53.3 +1.0
J04D **Umpqua Nationa** 31.09 89 P P 00 46 53.1 -0.3
baz=303
KHMM **Horse Mountain** 31.48 95 P P 00 46 58.8 +2.1
KHMM IAmb IAmb 00 47 41.1
comp=Z,13nm,1.1s
L04D **Klamath Falls** 31.55 91 P P 00 46 57.1 -0.2
baz=305
NEW **Newport** 31.56 78 LR LR 00 58 43.7
comp=Z,130nm,18.6s,baz=291,slow=35
NEW **Newport** 31.56 78 P P 00 46 58.0 +0.8
NEW **Newport** 31.56 78 P P 00 46 58.0 +0.8
NEW pmax pmax
comp=Z,7.0nm,1.2s
NEW **Newport** 31.56 78 P P 00 46 57.0 -0.2
baz=297
YBH **Yreka Blue Hor** 31.59 92 P P 00 46 59.6 +2.1
YBH **Yreka Blue Hor** 31.59 92 P P 00 46 59.6 +2.1
YBH pmax pmax
comp=Z,7.0nm,1.2s
J05D **Fort Rock, OR** 31.60 89 P P 00 46 58.0 +0.3
baz=303
EDM **Edmonton** 31.71 67 P P 00 46 59.3 +0.8
EDM IAmb IAmb 00 47 11.5
comp=Z,8.9nm,0.9s
EDM **Edmonton** 31.71 67 P P 00 46 59.3 +0.8
EDM pmax pmax
comp=Z,9.0nm,0.9s
KMRM **Mail Ridge** 31.88 96 P P 00 47 01.9 +1.7
G08A **Pilot Rock** 31.91 84 P P 00 47 00.8 +0.4
K05A **Summer Lake** 32.12 89 P P 00 47 04.3 +1.9
K05A IAmb IAmb 00 47 15.6
comp=Z,9.1nm,0.8s
I07A **Izee** 32.22 86 P P 00 47 04.2 +1.1
MOD **Modoc Plateau** 32.95 90 P P 00 47 11.0 +1.5
MOD IAmb IAmb 00 47 39.8
comp=Z,5.0nm,0.8s
TIXI **Tiksi** 33.15 329 P P 00 47 10.5 -0.3
comp=Z,3.1nm,0.3s,baz=90,slow=23,SNR=2.3
comp=Z,3.1nm,0.3s
J08A **Circle Bar Ran** 33.24 87 P P 00 47 12.7 +0.7
JTMT **Jette** 33.49 77 P P 00 47 14.3 +0.1
JTMT IAmb IAmb 00 47 33.7
comp=Z,5.5nm,0.9s
WVOR **Wild Horse Val** 33.66 88 P P 00 47 16.7 +1.0
WVOR IAmb IAmb 00 47 26.4
comp=Z,6.1nm,0.9s
WVOR **Wild Horse Val** 33.66 88 P P 00 47 16.7 +1.0
WVOR pmax pmax
comp=Z,6.0nm,0.9s
YAK **Yakutsk** 33.98 311 LR LR 01 01 36.0
comp=Z,426nm,18.6s,baz=88,slow=37
YAK **Yakutsk** 33.98 311 *i* P P 00 47 17.0 -1.1
YAK pmax pmax
comp=Z,16nm,0.5s
BEKR **Beckworth** 34.13 93 P P 00 47 22.2 +2.3
MSO **Missoula** 34.14 78 P P 00 47 19.8 0.0
baz=300
PAHR **Pah Rah Range** 34.82 93 P P 00 47 27.4 +1.5
PAHR IAmb IAmb 00 47 54.5
comp=Z,8.4nm,1.1s
VCNR **Virginia City** 34.92 93 P P 00 47 28.5 +1.8
VCNR IAmb IAmb 00 47 55.7
comp=Z,7.4nm,0.9s
PNTR **Pine Nut** 35.08 94 P P 00 47 28.4 +0.2
PNTR IAmb IAmb 00 47 53.8
comp=Z,11nm,0.8s
PNTR PcP 00 49 59.3 +0.2
YERR **Yerington** 35.36 93 P P 00 47 32.1 +1.6
YERR IAmb IAmb 00 47 41.1
comp=Z,7.9nm,0.8s
RES **Resolute Bay** 35.43 26 LR LR 01 04 00.9
comp=Z,311nm,19.4s,baz=262,slow=40
HLID **Hailey** 35.58 83 P P 00 47 34.6 +2.3
HLID **Hailey** 35.58 83 P P 00 47 32.9 +0.5

baz=304
MCMT McKenzie Canyo 35.83 80 P **P** **00 47 34.1 -0.5**
KVN Kaiserville 36.01 92 P **P** **00 47 36.9 +0.8**
KVN IAmb IAmb 00 47 40.1
comp=Z,3.6nm,0.7s
KVN Kaiserville 36.01 92 P **P** **00 47 36.9 +0.8**
KVN pmax pmax
comp=Z,4.0nm,0.7s
EGMT Eagleton 36.02 74 P **P** **00 47 36.7 +0.8**
EGMT Eagleton 36.02 74 P **P** **00 47 35.6 -0.4**
baz=299
RYN Ryan 36.02 93 P **P** **00 47 36.9 +0.8**
RYN IAmb IAmb 00 47 39.8
comp=Z,4.4nm,0.8s
BOZ Bozeman (W) 36.15 79 P **P** **00 47 37.3 +0.1**
BOZ Bozeman (W) 36.15 79 P **P** **00 47 37.3 +0.1**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 36.15 79 P **P** **00 47 35.8 -1.4**
baz=302
PMPB Monarch Peak 36.21 98 P **P** **00 47 40.5 +2.8**
LHV Little Huntoon 36.27 94 P **P** **00 47 39.5 +1.5**
LHV IAmb IAmb 00 48 06.8
comp=Z,8.3nm,1.0s
NVAR Mina Array Bea 36.28 93 P **P** **00 47 38.7 +0.3**
comp=Z,6.1nm,0.7s,baz=294,slow=8.1,SNR=34
NVAR PcP **PcP** **00 50 03.1 +0.4**
comp=Z,1.7nm,0.7s,baz=274,slow=2.6,SNR=6.1
NVAR LR LR 00 58 29.9
comp=Z,90nm,21.3s,baz=296,slow=30
comp=Z,6.1nm,0.7s
NVAR Mina Array Bea 36.28 93 P **P** **00 47 39.3 +0.8**
NV11 Mina Array Sit 36.37 93 P **P** **00 47 40.2 +1.1**
OMMB Old Mammoth Mi 36.38 95 P **P** **00 47 40.6 +1.2**
YHL Hebgen Lake 36.82 79 P **P** **00 47 43.5 +0.5**
YHL IAmb IAmb 00 47 53.9
comp=Z,4.5nm,0.9s
YHB Horse Butte 36.86 80 P **P** **00 47 43.8 +0.4**
YHB IAmb IAmb 00 47 54.7
comp=Z,8.0nm,0.8s
YHH Holmes Hill 37.05 79 P **P** **00 47 45.7 +0.6**
YHH IAmb IAmb 00 48 08.5
comp=Z,6.4nm,1.0s
DSP Deep Springs 37.16 94 P **P** **00 47 46.9 +1.3**
DSP IAmb IAmb 00 47 49.9
comp=Z,4.3nm,0.9s
TPH Tonopah 37.16 93 P **P** **00 47 47.1 +1.2**
TPH Tonopah 37.16 93 P **P** **00 47 47.1 +1.2**
TPH pmax pmax
comp=Z,21nm,1.1s
YNR Norris Junctio 37.19 79 P **P** **00 47 47.0 +0.9**
YNR IAmb IAmb 00 48 04.6
comp=Z,7.0nm,0.9s
SMMC Simmler 37.30 99 P **P** **00 47 46.1 -0.7**
baz=313
MZP Montezuma Peak 37.30 94 P **P** **00 47 48.6 +1.4**
LCH Last Change Ra 37.44 94 P **P** **00 47 49.2 +0.9**
LCH IAmb IAmb 00 47 52.0
comp=Z,4.8nm,0.8s
VES Vestal, Richgr 37.49 97 P **P** **00 47 48.2 -0.3**
baz=312
FXWY Fox Creek 37.58 81 P **P** **00 47 50.0 +0.6**
GMN Gold Mountain 37.63 94 P **P** **00 47 51.0 +1.0**
GMN IAmb IAmb 00 47 53.6
comp=Z,4.4nm,0.7s
KLR Kul'dur 37.66 290 *ce*P **P** **00 47 47.9 -1.8**
KLR pmax pmax
comp=Z,14nm,1.3s
PKM Mcpherson Peak 37.70 99 P **P** **00 47 50.7 +0.2**
baz=313
CWC Cottonwood Cre 37.70 96 P **P** **00 47 51.6 +1.1**
baz=311
GRAC Grapevine Rang 37.77 94 P **P** **00 47 52.1 +1.2**
GRAC IAmb IAmb 00 47 59.8
comp=Z,6.0nm,0.7s
GRAC Grapevine Rang 37.77 94 P **P** **00 47 52.4 +1.5**
baz=311
RLMT Red Lodge 37.81 78 P **P** **00 47 52.0 +0.7**
RLMT IAmb IAmb 00 48 07.2
comp=Z,6.5nm,0.9s
RLMT Red Lodge 37.81 78 P **P** **00 47 49.9 -1.5**
baz=303
REDW Red Top Meadow 37.84 81 P **P** **00 47 53.0 +1.3**
REDW IAmb IAmb 00 48 22.1
comp=Z,7.4nm,1.2s
BCW Bitter Crk WRg 37.90 99 P **P** **00 47 53.5 +1.4**
BCW IAmb IAmb 00 48 31.3
comp=Z,22nm,1.4s
ISA Isabella, Lake 37.98 97 P **P** **00 47 52.9 +0.2**
ISA IAmb IAmb 00 48 00.2
comp=Z,4.4nm,0.8s
ISA Isabella, Lake 37.98 97 P **P** **00 47 52.9 +0.2**
ISA pmax pmax
comp=Z,4.0nm,0.9s
ISA Isabella, Lake 37.98 97 P **P** **00 47 53.4 +0.8**
baz=312
R11A Troy Canyon, C 37.98 91 P **P** **00 47 52.4 -0.4**
R11A Troy Canyon, C 37.98 91 P **P** **00 47 52.7 -0.1**
baz=309
AHID Auburn Hatcher 38.03 82 P **P** **00 47 54.1 +0.9**
MPMC Manual Prospec 38.31 96 P **P** **00 47 56.3 +0.7**
baz=312
WCT Wildcat Mounta 38.35 94 P **P** **00 47 57.4 +1.6**
SCZ2 Santa Cruz Isl 38.41 100 P **P** **00 47 57.1 +0.8**
baz=314
FURC Furnace Creek, 38.42 95 P **P** **00 47 56.5 +0.2**
baz=311
HWUT Hardware Ranch 38.43 84 P **P** **00 47 57.0 +0.5**
TPNV Topopah Spring 38.48 93 P **P** **00 47 58.2 +1.2**
TPNV IAmb IAmb 00 48 00.4
comp=Z,11nm,0.7s
TPNV Topopah Spring 38.48 93 P **P** **00 47 58.2 +1.2**
TPNV pmax pmax
comp=Z,11nm,0.7s
TPNV Topopah Spring 38.48 93 P **P** **00 47 57.4 +0.4**
baz=311,SNR=18
DUG Dugway, Tooele 38.52 87 P **P** **00 47 59.4 +2.1**
DUG Dugway, Tooele 38.52 87 P **P** **00 47 59.4 +2.1**
DUG pmax pmax
comp=Z,5.0nm,1.1s
H11N2 WAKE ISLAND Hy 38.64 221 T T 01 29 38.0
baz=24,slow=76,SNR=134
H11N3 WAKE ISLAND Hy 38.65 221 T T 01 29 36.4
baz=24,slow=76,SNR=197
H11N1 WAKE ISLAND Hy 38.66 221 T T 01 29 39.4
baz=24,slow=76,SNR=125
JMM Marumori 38.68 269 P **P** **00 47 58.9 +0.4**
GWY Greenwater Val 38.72 95 P **P** **00 47 59.8 +0.8**
GWY IAmb IAmb 00 48 02.2
comp=Z,5.4nm,0.8s
QSM Queen of Sheba 38.75 95 P **P** **00 48 00.0 +0.9**
QSM IAmb IAmb 00 48 02.4
comp=Z,5.7nm,0.8s
PRN Pahroc Range 38.91 92 P **P** **00 48 01.6 +1.1**
PRN IAmb IAmb 00 48 08.1
comp=Z,6.8nm,0.8s
PSUT Pine Spring 38.91 90 P **P** **00 48 01.4 +0.7**
BW06 Boulder Array 38.96 81 P **P** **00 48 01.6 +0.6**
BW06 IAmb IAmb 00 48 17.9
comp=Z,8.6nm,1.4s
BW06 Boulder Array 38.96 81 P **P** **00 48 00.1 -0.9**
baz=305
PD31 Pinedale Array 38.96 81 **P** **00 48 00.4 -0.6**
PDAR Pinedale Array 38.96 81 P **P** **00 48 00.5 -0.6**
comp=Z,1.6nm,0.6s,baz=302,slow=4.6,SNR=18
comp=Z,1.6nm,0.6s
PDAR Pinedale Array 38.96 81 P **P** **00 48 00.8 -0.3**
SHOC Shoshone, Teco 39.15 95 P **P** **00 48 02.3 -0.1**
baz=312
GSC Goldstone, Bar 39.23 96 P **P** **00 48 04.3 +1.2**
GSC IAmb IAmb 00 48 07.1
comp=Z,8.3nm,0.8s
GSC Goldstone, Bar 39.23 96 P **P** **00 48 04.4 +1.2**
GSC pmax pmax
comp=Z,8.0nm,0.8s
GSC Goldstone, Bar 39.23 96 P **P** **00 48 03.6 +0.4**
baz=312,SNR=9.9
BFSC Mount Baldy Ra 39.44 98 P **P** **00 48 05.2 +0.2**
baz=313
CIS Catalina Islan 39.56 100 P **P** **00 48 07.0 +1.1**
baz=314
H11S1 WAKE ISLAND Hy 39.82 221 T T 01 31 01.4
baz=24,slow=76,SNR=68
HEC Hector,Ludlow 39.83 96 P **P** **00 48 08.1 -0.2**
baz=313
H11S2 WAKE ISLAND Hy 39.83 221 T T 01 31 02.9
baz=24,slow=76,SNR=71
H11S3 WAKE ISLAND Hy 39.84 221 T T 01 31 06.0
baz=24,slow=76,SNR=60
TMUT Trail Mountain 40.05 87 P **P** **00 48 11.4 +1.2**
JSD Sado 40.11 271 P **P** **00 48 10.5 +0.1**
V12A Nelson 40.13 94 P **P** **00 48 11.8 +1.1**
USRK Ussuriysk Ar. 40.18 283 P **P** **00 48 09.8 -1.0**
comp=Z,2.2nm,0.6s,baz=43,slow=8.7,SNR=5.4
USRK LR LR 01 06 27.6
comp=Z,171nm,18.9s,baz=75,slow=39
comp=Z,2.2nm,0.6s
RDMU Red Mountain 40.26 84 P **P** **00 48 12.8 +1.0**
RDMU IAmb IAmb 00 48 34.2
comp=Z,8.3nm,1.0s
LCMT Little Creek M 40.26 91 P **P** **00 48 12.3 +0.5**
GMRC Granite Mounta 40.27 96 P **P** **00 48 12.0 +0.1**
baz=312
P18A Preston Nutter 40.42 86 P **P** **00 48 14.8 +1.5**
P18A IAmb IAmb 00 48 36.6
comp=Z,11nm,1.3s
SRU San Rafael Swe 40.58 86 P **P** **00 48 16.2 +1.7**
SRU San Rafael Swe 40.58 86 P **P** **00 48 16.2 +1.7**
SRU pmax pmax
comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 40.59 98 P **P** **00 48 15.8 +1.3**
PFO IAmb IAmb 00 48 30.9
comp=Z,10nm,1.4s
PFO Pinyon Flats O 40.59 98 P **P** **00 48 15.8 +1.3**
PFO pmax pmax
comp=Z,10.0nm,1.4s
PFO Pinyon Flats O 40.59 98 P **P** **00 48 13.6 -1.0**
baz=314
TPFO Pinon Flats 40.59 98 P **P** **00 48 14.4 -0.2**
baz=314
BELC Belle Mtn. Jos 40.60 97 P **P** **00 48 14.5 -0.2**
baz=313
PMD Palm Desert 40.61 97 P **P** **00 48 15.1 +0.5**
PMD IAmb IAmb 00 48 21.4
comp=Z,4.8nm,0.8s
109C Camp Elliot, M 40.70 99 P **P** **00 48 15.0 -0.4**
baz=314
K22A Casper 40.84 79 P **P** **00 48 15.5 -1.2**
baz=306
RWWY Rawlins 41.00 81 P **P** **00 48 17.8 -0.2**
IRM Iron Mountain 41.01 96 P **P** **00 48 18.4 +0.5**
baz=313
MJAR Matsushiro Arr 41.11 269 P **P** **00 48 18.6 0.0**
comp=Z,4.7nm,0.7s,baz=55,slow=6.1,SNR=12
comp=Z,4.7nm,0.7s
MAJO Matsushiro 41.11 269 P **P** **00 48 18.9 +0.2**
MAJO Matsushiro 41.11 269 *i* P **P** **00 48 19.0 +0.3**
MJB9 Matsu-Tunnel 41.11 269 P **P** **00 48 19.9 +1.3**
BAR Barrett 41.11 99 P **P** **00 48 20.2 +1.5**
BAR IAmb IAmb 00 48 22.1
comp=Z,8.7nm,0.9s
MONP2 Monument Peak 41.11 98 P **P** **00 48 19.2 +0.3**
baz=314
W13A Hualapai Mount 41.13 94 P **P** **00 48 18.9 -0.2**
BC3 Big Chuckawall 41.16 97 P **P** **00 48 19.4 +0.1**
baz=314
U15A North Rim 41.22 91 P **P** **00 48 20.9 +1.0**
U15A IAmb IAmb 00 48 42.9
comp=Z,9.9nm,1.2s
O20A White River Ci 41.32 83 P **P** **00 48 20.6 0.0**
O20A IAmb IAmb 00 48 37.1
comp=Z,20nm,1.3s
O20A White River Ci 41.32 83 P **P** **00 48 19.9 -0.8**
baz=308
CBX Cerro Bola 41.37 99 P **P** **00 48 22.7 +1.7**
CBX IAmb IAmb 00 48 24.4
comp=Z,4.8nm,0.6s
SWSC Sam W. Stewart 41.45 98 P **P** **00 48 21.9 +0.4**
baz=314
IKP In-Ko-Pah, Jac 41.47 98 P **P** **00 48 23.0 +1.2**
baz=314
RSSD Black Hills 41.47 76 P **P** **00 48 20.6 -1.2**
baz=305
PDMCI Parker Dam,Lak 41.52 95 P **P** **00 48 22.5 +0.5**
baz=313
YUH Yuha Desert 41.58 98 P **P** **00 48 24.2 +1.7**
BLYC Blythe 41.66 96 P **P** **00 48 23.7 +0.5**
BLYC IAmb IAmb 00 48 26.3
comp=Z,6.9nm,0.8s
BNX BinXian 42.00 288 ⇓P **P** **00 48 25.0 -0.8**
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX pmax pmax
comp=Z,160nm,4.7s
PV07 Paradox Valley 42.14 86 P **P** **00 48 27.9 +0.5**
PV13 Radium Mtn., P 42.21 86 P **P** **00 48 29.5 +1.6**
PV13 IAmb IAmb 00 48 49.7
comp=Z,17nm,1.1s
N23A Red Feather La 42.24 81 P **P** **00 48 29.7 +1.5**
N23A Red Feather La 42.24 81 P **P** **00 48 27.9 -0.4**
baz=307
PV15 Paradox Valley 42.30 86 P **P** **00 48 30.2 +1.5**
WUAZ Wupatki 42.38 91 P **P** **00 48 29.3 0.0**
baz=312
Y14A Wickenburg 42.45 94 P **P** **00 48 30.7 +1.0**
JHJ Hachijo jima 2 42.45 264 LR LR 01 06 37.4
comp=Z,70nm,19.7s,baz=109,slow=37
ULM Lac du Bonnet 42.73 64 LR LR 01 08 00.8
comp=Z,217nm,18.1s,baz=262,slow=39
BOD Bodaibo 42.85 309 *e*P **P** **00 48 31.1 -1.4**
BOD pmax pmax
comp=Z,12nm,2.0s
MVCO Mesa Verde 43.02 87 P **P** **00 48 35.3 +0.8**
baz=310
ISCO Idaho Springs 43.12 82 P **P** **00 48 36.1 +0.8**
baz=308
S22A 4UR Ranch, Cre 43.68 85 P **P** **00 48 40.8 +0.9**
S22A 4UR Ranch, Cre 43.68 85 P **P** **00 48 39.5 -0.4**
baz=310
AGMN Agassiz Nation 43.80 66 P **P** **00 48 41.5 +1.2**
AGMN IAmb IAmb 00 48 57.1
comp=Z,7.9nm,0.8s
PIX Pinacate 43.83 97 P **P** **00 48 41.5 +0.7**
214A Organ Pipe Nat 43.94 96 P **P** **00 48 42.3 +0.6**
214A IAmb IAmb 00 48 44.8
comp=Z,7.0nm,0.9s
214A Organ Pipe Nat 43.94 96 P **P** **00 48 42.2 +0.4**
baz=315
NEEM North Greenlan 44.25 16 *i* P **P** **00 48 43.9 0.0**
NEEM IAmb IAmb 00 48 44.8
comp=Z,30nm,1.0s
CN2 Changchun 44.26 287 *e*P **P** **00 48 42.3 -1.8**
CN2 *e*PP **PP** **00 50 26.5 -1.0**
CN2 *e*S **S** **00 55 11.5 -3.2**
CN2 *es*S sS 00 55 28.0 -3.7
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 LR LR
comp=Z,290nm,13.0s
CN2 LR LR
comp=Z,260nm,13.0s
CN2 LR LR
comp=Z,350nm,15.0s
SDCO Great Sand Dun 44.49 84 P **P** **00 48 48.2 +1.8**
baz=310
TUC Tucson 44.92 94 P **P** **00 48 50.1 +0.5**
TUC Tucson 44.92 94 P **P** **00 48 50.1 +0.5**
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 44.92 94 P **P** **00 48 50.2 +0.5**
baz=314
NOR Nord 44.96 6 *i* P **P** **00 48 48.9 -0.4**
NOR IAmb IAmb 00 48 50.3
comp=Z,6.2nm,0.9s
JHS Saijyo 45.23 272 P **P** **00 48 52.0 +0.1**
JHS IAmb IAmb 00 49 07.7
comp=Z,11nm,0.9s
T25A Trinidad 45.54 84 P **P** **00 48 56.0 +1.3**
T25A IAmb IAmb 00 48 58.0
comp=Z,8.4nm,1.1s
T25A Trinidad 45.54 84 P **P** **00 48 54.4 -0.2**
baz=311
ANMO Albuquerque 45.75 88 *ce*P **P** **00 48 58.6 +2.3**
ANMO pmax pmax
comp=Z,7.0nm,2.3s
ANMO Albuquerque 45.75 88 P **P** **00 48 55.7 -0.6**
baz=312
SBM South Baldy 45.97 89 P **P** **00 49 00.2 +2.0**
ECSD EROS Data Cent 46.03 72 IAmb IAmb 00 49 13.0
comp=Z,5.6nm,1.1s
ECSD EROS Data Cent 46.03 72 P **P** **00 48 56.8 -1.4**
baz=307
UPNV Upernavik 46.12 23 *i* P **P** **00 48 59.2 +0.8**
BNM Barren Site 46.18 89 P **P** **00 49 00.8 +1.0**
CRNM Carthage 46.25 89 P **P** **00 49 01.6 +1.3**
121A Cookes Peak, D 46.59 91 P **P** **00 49 03.6 +0.7**
121A IAmb IAmb 00 49 06.1
comp=Z,5.2nm,0.9s
121A Cookes Peak, D 46.59 91 P **P** **00 49 03.2 +0.3**
baz=314
KSRS Korea Array 46.75 278 P **P** **00 49 04.6 +0.8**
comp=Z,12nm,1.0s,baz=55,slow=7.5,SNR=32
KSRS PcP **PcP** **00 50 38.0 +1.3**
comp=Z,0.7nm,0.4s,baz=327,slow=12,SNR=2.5
comp=Z,12nm,1.0s
KSRS Korea Array 46.75 278 **PcP** **00 50 38.0 +1.3**
KS19 Wonju Array Si 46.75 278 P **P** **00 49 04.8 +0.9**
KS19 IAmb IAmb 00 49 07.7
comp=Z,10nm,0.8s
NRIK Noril'sk 46.76 332 P **P** **00 49 03.4 -0.1**
comp=Z,5.1nm,0.9s,baz=62,slow=5.3,SNR=5.1
NRIK LR LR 01 11 26.5
comp=Z,211nm,18.3s,baz=84,slow=40
comp=Z,5.1nm,0.9s
NRIK Noril'sk 46.76 332 P **P** **00 49 03.8 +0.2**
NRIK IAmb IAmb 00 49 04.8
comp=Z,7.4nm,1.1s
NRIK Noril'sk 46.76 332 P **P** **00 49 03.8 +0.2**
NRIK pmax pmax
comp=Z,7.0nm,1.1s
KSAR Wonju Array Be 46.78 278 P **P** **00 49 04.1 0.0**
KSAR Wonju Array Be 46.78 278 P **P** **00 49 04.1 0.0**
INCN Inchon 47.50 279 P **P** **00 49 10.4 +0.6**
INCN Inchon 47.50 279 P **P** **00 49 10.4 +0.6**
INCN pmax pmax
comp=Z,28nm,1.0s
TJN Taejon 47.79 277 P **P** **00 49 11.3 -0.7**
TJN Taejon 47.79 277 *ce*P **P** **00 49 11.9 -0.1**
FRB Frobisher Bay 47.86 36 LR LR 01 10 54.7
comp=Z,402nm,18.2s,baz=316,slow=38
MSTX Muleshoe 48.65 86 P **P** **00 49 19.5 +0.7**
MSTX IAmb IAmb 00 49 42.0
comp=Z,5.8nm,0.8s
MSTX Muleshoe 48.65 86 P **P** **00 49 18.9 +0.1**
baz=313
AMTX Amarillo 48.69 84 P **P** **00 49 18.2 -0.9**
baz=312
HTMS Hat Mesa 49.16 88 P **P** **00 49 22.2 -0.5**
DAG Danmarks Havn 49.21 9 *i* P **P** **00 49 21.9 -0.5**
DAG IAmb IAmb 00 49 22.6
comp=Z,20nm,0.7s
SPITS Spitsbergen Ar 49.33 359 LR LR 01 10 39.1
comp=Z,140nm,19.0s,baz=336,slow=37
XLT XiLinHaoTe 49.56 292 ⇓*i* P **P** **00 49 26.3 +0.7**
XLT pP pwP 00 49 39.3 -0.9
XLT sP sP 00 49 43.3 +2.6
XLT PcP **PcP** **00 50 48.0 +1.2**
XLT S **S** **00 56 38.0 +7.4**
XLT sS sS 00 56 45.5 -2.3
XLT ScS **ScS** **00 59 08.3 -5.3**
XLT pmax pmax
comp=Z,20nm,0.8s
XLT pmax pmax
comp=Z,130nm,3.9s
XLT LR LR
comp=Z,21nm,16.4s
XLT LR LR
comp=Z,200nm,14.3s
XLT LR LR
comp=Z,290nm,16.4s
ILULI Ilulissat 49.72 25 *e*P **P** **00 49 27.3 +1.0**
SUMG Summit 50.01 18 P **P** **00 49 29.4 +0.4**
SUMG Summit 50.01 18 P **P** **00 49 29.4 +0.4**
SUMG pmax pmax
comp=Z,20nm,0.8s
SUMG Summit 50.01 18 *i* P **P** **00 49 29.0 +0.1**
SUMG IAmb IAmb 00 49 31.4
comp=Z,21nm,0.8s
JFWS Jewell Farm 50.18 69 P **P** **00 49 28.6 -1.5**
baz=309
LPIG La Paz 51.18 101 LR LR 01 08 12.0
comp=Z,57nm,18.6s,baz=289,slow=32
DBG Daneborg 51.29 11 *i* P **P** **00 49 37.6 -0.5**
TX32 Lajitas Array 51.34 91 IAmb IAmb 00 49 42.0
comp=Z,8.0nm,0.9s
TXAR Lajitas Array 51.35 91 P **P** **00 49 38.9 -0.3**
comp=Z,5.7nm,0.6s,baz=302,slow=5.2,SNR=50
TXAR PcP **PcP** **00 50 54.1 +0.5**
comp=Z,1.1nm,0.7s,baz=302,slow=5.2,SNR=1.2
TXAR ScP **ScP** **00 54 49.1 +2.5**
comp=Z,0.5nm,0.9s,baz=292,slow=2.8,SNR=3.5
TXAR LR LR 01 09 33.2
comp=Z,78nm,19.9s,baz=320,slow=34
comp=Z,5.7nm,0.6s
SFJD Kangerlussuaq 51.42 27 LR LR 01 15 32.7
comp=Z,122nm,18.3s,baz=316,slow=41
SFJD Kangerlussuaq 51.42 27 *i* P **P** **00 49 39.7 +0.5**
SFJD IAmb IAmb 00 49 41.1
comp=Z,16nm,0.9s
ABTX Abilene, Hawle 51.47 85 P **P** **00 49 40.4 +0.3**
baz=314
ULN Ulaanbaatar 51.95 301 P **P** **00 49 43.5 -0.1**
ULN Ulaanbaatar 51.95 301 *ce*P **P** **00 49 43.8 +0.2**
ULN pmax pmax
comp=Z,13nm,1.0s
BJI Beijing 52.00 288 P **P** **00 49 43.0 -0.8**
BJI pmax pmax
comp=Z,10.0nm,0.9s
BJI LR LR
comp=Z,45nm,11.1s
BJI LR LR
comp=Z,250nm,16.4s
BJI LR LR
comp=Z,380nm,19.8s
BJT Baijiatuau 52.02 288 P **P** **00 49 44.4 +0.4**
BJT IAmb IAmb 00 49 46.2
comp=Z,13nm,1.1s
BJT Baijiatuau 52.02 288 P **P** **00 49 44.4 +0.4**
BJT pmax pmax
comp=Z,13nm,1.1s
HDIL Hopedale 52.25 70 P **P** **00 49 45.9 +0.2**
HDIL Hopedale 52.25 70 P **P** **00 49 44.2 -1.5**
baz=311
SONM Songino Array 52.30 302 P **P** **00 49 46.8 +0.6**
comp=Z,7.0nm,1.0s,baz=51,slow=7.3,SNR=19
SONM PcP **PcP** **00 50 57.6 +0.6**
comp=Z,2.4nm,1.0s,baz=58,slow=1.9,SNR=3.7
SONM ScP **ScP** **00 54 54.8 +4.3**
comp=Z,0.3nm,0.5s,baz=48,slow=4.3,SNR=2.4
SONM LR LR 01 12 37.7
comp=Z,180nm,20.0s,baz=46,slow=37
comp=Z,7.0nm,1.0s
SONM Songino Array 52.30 302 P **P** **00 49 46.4 +0.2**
SONM IAmb IAmb 00 49 47.6
comp=Z,7.9nm,1.2s
SONM Songino Array 52.30 302 P **P** **00 49 46.4 +0.2**
SONM pmax pmax
comp=Z,8.0nm,1.2s
ICESG Greenland Ices 52.53 21 *i* P **P** **00 49 47.7 -0.2**
CCM Cathedral Cave 52.78 74 P **P** **00 49 49.4 -0.3**
baz=312
JCT Junction City 52.88 87 P **P** **00 49 49.3 -1.3**
baz=315,SNR=5.8
DY2G Dye2 52.98 26 *i* P **P** **00 49 51.0 0.0**
DY2G IAmb IAmb 00 49 53.9
comp=Z,5.5nm,1.6s
WHTX Lake Whitney, 53.24 84 P **P** **00 49 53.0 -0.2**
baz=314
FCAR Ozark Folk Cen 53.73 77 P **P** **00 49 57.4 +0.7**
FCAR IAmb IAmb 00 50 10.5
comp=Z,5.6nm,0.8s
MIAR Mount Ida 53.79 79 P **P** **00 49 57.0 -0.2**
baz=314
TIA Tai'an 54.02 284 ⇓P **P** **00 49 59.3 +0.5**
TIA pmax pmax
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 54.09 292 *e*P **P** **00 49 59.5 +0.1**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,260nm,6.7s
HHC LR LR
comp=Z,600nm,12.1s
HHC LR LR
comp=Z,390nm,12.7s
HHC LR LR
comp=Z,480nm,12.1s
SCHQ Schefferville 54.20 45 P **P** **00 50 00.2 +0.3**

comp=Z,6.1nm,0.8s,baz=321,slow=4.8,SNR=3.8
SCHQ LR LR 01 14 55.2
comp=Z,170nm,19.4s,baz=184,slow=38
comp=Z,6.1nm,0.8s
HNS HongShan 54.62 287 ⇑P **P 00 50 04.3 +1.2**
HNS pmax pmax
comp=Z,54nm,1.0s
833A Chaparral WMA, 54.67 89 P **P 00 50 03.6 0.0**
baz=316
O48B Farmland 54.80 68 P **P 00 50 02.6 -1.8**
baz=312
KNGR Kungurtug, Tuv 54.88 309 ⇓*i*P **P 00 50 05.7 +0.7**
KNGR pmax pmax
comp=Z,10.0nm,0.9s
SADO Sadowa 55.05 60 LR LR 01 12 57.2
comp=Z,91nm,20.3s,baz=2.0,slow=35
P49A Miami Univ. Ec 55.54 68 P **P 00 50 07.5 -2.2**
baz=313
JMIC Jan Mayen 55.63 8 LR LR 01 16 10.7
comp=Z,155nm,18.1s,baz=48,slow=38
NJ2 Nanjing 55.88 279 *e*P **P 00 50 11.8 -0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
T47A Sharon Grove 55.91 72 IAmb IAmb 00 50 15.3
comp=Z,8.2nm,0.9s
WVT Waverly 56.09 73 P **P 00 50 12.8 -0.9**
WVT IAmb IAmb 00 50 29.1
comp=Z,5.4nm,0.9s
WVT Waverly 56.09 73 P **P 00 50 12.9 -0.9**
WVT pmax pmax
comp=Z,5.0nm,1.0s
WVT Waverly 56.09 73 P **P 00 50 12.3 -1.4**
baz=314
OXF Oxford 56.29 76 P **P 00 50 16.3 +1.1**
OXF Oxford 56.29 76 P **P 00 50 16.3 +1.1**
OXF pmax pmax
comp=Z,27nm,1.1s
OXF Oxford 56.29 76 P **P 00 50 14.4 -0.8**
baz=314
IVI Ivigtut 56.47 31 *i*P **P 00 50 16.9 +0.8**
IVI IAmb IAmb 00 50 17.5
comp=Z,11nm,0.7s
ALLY Alegheny Colle 56.63 64 P **P 00 50 18.6 +1.0**
HAMF Hammerfest 56.68 356 *e*P **P 00 50 17.0 -0.4**
HAMF IAmb IAmb 00 50 17.5
comp=Z,6.8nm,0.8s
ZAIG Zacatecas 56.84 96 P **P 00 50 20.4 +0.9**
ZAIG IAmb IAmb 00 50 22.1
comp=Z,5.0nm,1.1s
KEV Kevo 57.38 354 P **P 00 50 22.3 -0.1**
KEV Kevo 57.38 354 P **P 00 50 22.3 -0.1**
KEV pmax pmax
comp=Z,11nm,0.7s
LONY Lake Ozonia 57.53 58 P **P 00 50 22.1 -1.8**
baz=314
ARA0 ARCESS Array S 57.69 355 *e*P **P 00 50 25.4 +0.8**
ARA0 IAmb IAmb 00 50 26.1
comp=Z,12nm,1.2s
ARCES ARCESS Array B 57.69 355 P **P 00 50 24.2 -0.4**
comp=Z,7.9nm,0.8s,baz=4.7,slow=8.4,SNR=25
ARCES PcP **PcP 00 51 17.6 +0.4**
comp=Z,5.7nm,0.9s,baz=15,slow=3.8,SNR=5.6
comp=Z,7.9nm,0.8s
ARCES ARCESS Array B 57.69 355 IAmb IAmb 00 50 25.6
comp=Z,8.1nm,0.8s
TRO Tromso 57.86 358 *e*P **P 00 50 25.8 0.0**
TRO IAmb IAmb 00 50 27.9
comp=Z,27nm,1.3s
JETT Jettan, Norway 57.89 357 *e*P **P 00 50 27.0 +0.9**
JETT IAmb IAmb 00 50 27.1
comp=Z,25nm,1.2s
ZAA0 Zalesovo Array 58.08 319 P **P 00 50 27.5 -0.1**
ZAA0 IAmb IAmb 00 50 28.7
comp=Z,4.1nm,1.1s
ZALV Zalesovo Beam 58.08 319 P **P 00 50 26.5 -1.1**
comp=Z,2.3nm,0.6s,baz=42,slow=6.8,SNR=11
comp=Z,2.3nm,0.6s
ZALV Zalesovo Beam 58.08 319 *i*P **P 00 50 27.6 0.0**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
MCWV Mont Chateau 58.17 65 P **P 00 50 27.7 -0.8**
baz=314
TZTN Tazewell 58.27 70 P **P 00 50 28.5 -0.7**
baz=315
KTK1 Kautokeino 58.33 356 *e*P **P 00 50 29.6 +0.5**
KTK1 IAmb IAmb 00 50 34.4
comp=Z,6.0nm,0.8s
V51A Loudon 58.33 71 P **P 00 50 29.7 +0.1**
V51A IAmb IAmb 00 50 46.6
comp=Z,5.9nm,1.1s
SSPA Standing Stone 58.56 63 P **P 00 50 29.8 -1.3**
baz=314
LVZ Lovozero 58.59 351 P **P 00 50 30.3 -0.7**
LVZ Lovozero 58.59 351 P **P 00 50 30.3 -0.7**
LVZ pmax pmax
comp=Z,29nm,0.8s
LRAL Lakeview Retre 58.75 75 P **P 00 50 32.1 -0.5**
baz=315
TKL Tuckaleechee C 58.77 71 LR LR 01 15 58.0
comp=Z,183nm,18.6s,baz=321,slow=36
BLA Blacksburg 59.58 68 P **P 00 50 38.0 -0.2**
baz=315
STEI Steigen 59.64 359 *e*P **P 00 50 37.7 -0.5**
STEI IAmb IAmb 00 50 48.6
comp=Z,98nm,1.7s
BORG Borgarnes 59.90 16 LR LR 01 19 21.0
comp=Z,164nm,18.1s,baz=341,slow=39
DGZ Jazzator, Alta 60.11 314 *i*P **P 00 50 42.3 +0.4**
DGZ pmax pmax
comp=Z,10.0nm,0.8s
FAUS Fauske 60.19 359 *e*P **P 00 50 41.8 -0.1**
XAN Xi'an 60.32 288 ⇑P **P 00 50 43.8 +0.4**
XAN pP pP 00 50 54.3 0.0
XAN sP sP 00 50 59.5 +0.9
XAN pmax pmax
comp=Z,20nm,1.2s
XAN LR LR
comp=Z,300nm,14.4s
XAN LR LR
comp=Z,400nm,18.6s
KMSC Kings Mountain 60.53 70 P **P 00 50 43.3 -1.5**
baz=316
HRV Adam Dziewonsk 60.58 58 P **P 00 50 43.5 -1.4**
baz=316
V58A Windy Hill, Pi 61.32 68 P **P 00 50 51.0 +0.9**
MOR8 Moi Rana 61.41 359 *e*P **P 00 50 49.1 -1.2**
GTA Gaotai 61.55 298 *e*P **P 00 50 51.5 -0.3**
GTA pP pP 00 51 04.0 +1.4
GTA sP sP 00 51 09.0 +2.1
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.4s
GTA LR LR
comp=Z,210nm,16.4s
GTA LR LR
comp=Z,360nm,17.8s
GTA LR LR
comp=Z,440nm,17.4s
LZH Lanzhou 61.74 293 ⇓P **P 00 50 54.3 +1.1**
LZH pP sP 00 51 07.8 -0.5
LZH pmax pmax
comp=Z,38nm,1.2s
LZH LR LR
comp=Z,390nm,15.5s
LZH LR LR
comp=Z,390nm,16.1s
LZH LR LR
comp=Z,450nm,16.8s
ENH Enshi 62.72 285 P **P 00 50 59.2 -0.4**
KURK Kurchatov 63.02 319 P **P 00 51 01.2 -0.1**
KURK Kurchatov 63.02 319 *ce*P **P 00 51 01.4 +0.2**
KURK pmax pmax
comp=Z,9.0nm,0.9s
PRGR Permogore 63.05 343 *e*P **P 00 51 00.6 -0.7**
PRGR pmax pmax
comp=Z,17nm,0.8s
NSS Namsos 63.06 0 *e*P **P 00 51 01.2 -0.1**
NSS IAmb IAmb 00 51 01.6
comp=Z,17nm,0.9s
TLIG Tlapa 63.22 96 P **P 00 51 02.8 -0.4**
BVAR Borovoye Array 64.20 326 LR LR 01 22 09.1
comp=Z,265nm,19.4s,baz=43,slow=39
BRVK Borovoye 64.21 326 P **P 00 51 09.4 +0.3**
BRVK IAmb IAmb 00 51 10.6
comp=Z,10nm,1.1s
BRVK Borovoye 64.21 326 P **P 00 51 09.4 +0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.1s
TBLU Trondheim 64.33 1 *e*P **P 00 51 08.2 -1.5**
WMQ Urumqi 64.39 309 *e*P **P 00 51 11.3 +0.8**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ LR LR
comp=Z,140nm,16.1s
WMQ LR LR
comp=Z,150nm,18.5s
MK31 Makanchi Array 64.56 315 IAmb IAmb 00 51 11.8
comp=Z,4.7nm,0.8s
MK31 Makanchi Array 64.56 315 ⇑*i*P **P 00 51 10.7 -0.8**
MKAR Makanchi Array 64.56 315 P **P 00 51 10.6 -0.9**
comp=Z,6.4nm,0.8s,baz=50,slow=5.7,SNR=37
comp=Z,6.4nm,0.8s
MKAR Makanchi Array 64.56 315 P **P 00 51 10.7 -0.8**
MKAR Makanchi Array 64.56 315 *i*P **P 00 51 10.8 -0.7**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 64.68 315 P **P 00 51 12.0 -0.3**
MAKZ Makanchi 64.68 315 P **P 00 51 12.0 -0.3**
MAKZ pmax pmax
comp=Z,18nm,1.3s
KLMR Klimovskoe 64.78 346 *e*P **P 00 51 11.2 -1.4**
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR Klimovskoe 64.78 346 *e*P **P 00 51 11.3 -1.4**
KLMR AMP 00 51 13.1
comp=Z,23nm,1.3s
ARU Arti 64.92 334 P **P 00 51 13.9 +0.3**
ARU Arti 64.92 334 *c i*P **P 00 51 13.7 +0.1**
ARU 00 51 46.6
ARU 00 53 36.5
ARU PPP PPP 00 55 09.7
ARU S **S 00 59 53.0 +1.2**
ARU SS **SS 01 04 01.3 -1.5**
ARU pmax pmax
comp=Z,25nm,1.2s
MOL Molde 64.96 3 *e*P **P 00 51 13.1 -0.7**
MOL IAmb IAmb 00 51 14.5
comp=Z,10nm,0.6s
KIRV Kirov 65.15 340 LR LR 01 24 25.2
comp=Z,180nm,18.6s,baz=28,slow=40
KIRV Kirov 65.15 340 *ce*P **P 00 51 14.7 -0.4**
AKN Aaknes 65.33 3 *e*P **P 00 51 16.4 +0.2**
AKN IAmb IAmb 00 51 17.2
comp=Z,32nm,0.9s
DOMB Dombas 65.52 2 IAmb IAmb 00 51 17.6
comp=Z,11nm,0.6s
DOMB *e*P **P 00 51 17.6 +0.1**
FIA0 FINESS Array S 65.68 353 P **P 00 51 17.9 -0.6**
FIA0 FINESS Array S 65.68 353 P **P 00 51 17.9 -0.6**
FINES FINESS Array B 65.68 353 P **P 00 51 18.2 -0.2**
comp=Z,13nm,0.6s,baz=20,slow=7.8,SNR=118
comp=Z,13nm,0.6s
FINES FINESS Array B 65.68 353 *i*P **P 00 51 18.3 -0.2**
FINES pmax pmax
comp=Z,13nm,0.6s
RAF Rauma 66.37 355 *e*P **P 00 51 22.7 -0.2**
NC405 NORSAR Array S 66.49 1 P **P 00 51 24.1 +0.3**
AFI Afiamalu 66.50 185 LR LR 01 19 25.4
comp=Z,76nm,18.1s,baz=48,slow=35
NB2 NORSAR Subarra 66.56 1 P **P 00 51 24.0 -0.2**
comp=Z,5.5nm,0.8s,baz=360,slow=6.2
NB2 NORSAR Subarra 66.56 1 P **P 00 51 24.0 -0.2**
baz=360,slow=6.2
NOA NORSAR Array B 66.56 1 P **P 00 51 24.1 -0.1**
comp=Z,6.8nm,0.9s,baz=0.6,slow=6.3,SNR=17
NOA LR LR 01 23 19.5
comp=Z,68nm,18.0s,baz=320,slow=39
comp=Z,6.8nm,0.9s
GOMU GeErMu 66.58 299 P **P 00 51 24.8 -0.4**
GOMU PcP **PcP 00 51 55.0 +0.7**
GOMU pmax pmax
comp=Z,10.0nm,1.0s
GOMU LR LR
comp=Z,200nm,15.8s
GOMU LR LR
comp=Z,190nm,17.9s
GOMU LR LR
comp=Z,220nm,16.2s
SKAR Skarslia 66.87 2 *e*P **P 00 51 26.5 +0.3**
SKAR IAmb IAmb 00 51 26.6
comp=Z,9.9nm,0.7s
NC602 NORSAR Array S 66.87 1 *e*P **P 00 51 27.1 +0.9**
MEF Metsahovi 67.02 354 *e*P **P 00 51 26.8 -0.3**
HFS Hagfors 67.48 360 LR LR 01 20 60.0
comp=Z,80nm,19.2s,baz=0.0,slow=36
KONO Kongsberg 67.93 2 *e*P **P 00 51 33.6 +0.7**
BLS5 Blasjo 68.07 4 *e*P **P 00 51 33.8 +0.1**
BLS5 IAmb IAmb 00 51 35.2
comp=Z,34nm,1.1s
MTSE Matsula 68.55 354 *e*P **P 00 51 37.0 +0.3**
VSU Vasula 68.59 352 *i*P **P 00 51 36.9 0.0**
VSU pmax pmax
comp=Z,52nm,0.6s
VSU Vasula 68.59 352 *e*P **P 00 51 37.5 +0.5**
SLIT Slitere, Latvi 69.73 355 *e*P **P 00 51 44.3 +0.3**
MOS Moscow 69.98 345 *e*P **P 00 51 49.1 +3.5**
PZH PanZhiHua 70.05 288 P **P 00 51 48.3 +1.6**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.2s
TKM2 Tokmak 2 70.51 316 P **P 00 51 50.0 +0.6**
SNR=9.9
KMI Kunming 70.52 286 ⇑P **P 00 51 50.5 +0.8**
KMI pP sP 00 52 03.0 -2.1
KMI pmax pmax
comp=Z,11nm,0.5s
USP Ospenovka 70.68 317 P **P 00 51 50.9 +0.7**
SNR=11
BOOM Boomskoye usch 70.72 316 P **P 00 51 51.1 +0.6**
BOOM Boomskoye usch 70.72 316 P **P 00 51 51.2 +0.6**
BOOM pmax pmax
comp=Z,14nm,0.7s
OBN Obninsk 70.74 346 P **P 00 51 50.3 0.0**
OBN Obninsk 70.74 346 *c i*P **P 00 51 49.7 -0.5**
OBN *e* 00 54 24.9
OBN *e*S **SKiKP 01 01 26.7 -2.4**
OBN pmax pmax
comp=Z,23nm,1.0s
DAV Davao City (W) 70.76 256 LR LR 01 19 25.0
comp=Z,148nm,19.6s,baz=5.5,slow=33
ABKAR Akbulak array 70.84 330 IAmb IAmb 00 51 52.5
comp=Z,10nm,1.1s
KBK Karagaybulak 71.00 316 P **P 00 51 53.3 +1.0**
SNR=7.6
AAK Ala-Archa 71.20 317 P **P 00 51 54.5 +1.0**
SNR=9.9
AAK Ala-Archa 71.20 317 P **P 00 51 54.1 +0.6**
AAK Ala-Archa 71.20 317 *ce*P **P 00 51 54.5 +1.0**
AAK pmax pmax
comp=Z,12nm,0.8s
MTO3 Montecristo 71.24 91 P **P 00 51 53.8 -0.4**
MTO3 IAmb IAmb 00 51 55.0
comp=Z,3.2nm,0.7s
VSVD Vaisvydziai 71.27 353 *e*P **P 00 51 54.4 +0.9**
BELG Belogornoye 71.27 338 *i*P **P 00 51 53.2 -0.3**
BELG pmax pmax
comp=Z,6.0nm,1.1s
MSVF Nonsavu 71.35 195 LR LR 01 18 25.3
comp=Z,76nm,19.2s,baz=357,slow=32
EKA Eskdalemuir Ar 71.47 10 LR LR 01 24 20.4
comp=Z,57nm,19.1s,baz=344,slow=37
EKS2 Erkin-Say 71.48 317 P **P 00 51 56.1 +0.9**
SNR=11
ISAL Salakas 71.50 352 *e*P **P 00 51 55.8 +0.9**
UCH Uchtor 71.53 316 P **P 00 51 57.1 +1.2**
SNR=5.0
NRN Naryn 71.56 315 P **P 00 51 56.1 +0.2**
NRN IAmb IAmb 00 51 57.9
comp=Z,13nm,1.3s
NRN Naryn 71.56 315 P **P 00 51 56.1 +0.2**
NRN pmax pmax
comp=Z,13nm,1.3s
PPT Papeete 71.64 162 LR LR 01 15 45.1
comp=Z,79nm,21.5s,baz=358,slow=30
PPT2 Papeete2 71.66 162 *e*S **S 01 01 14.7 +1.9**
comp=Z,68nm,26.8s
PPT2 Papeete2 71.66 162 *e*LR LR 01 13 53.8
comp=Z,103nm,22.0s
IIGN Ignalina 71.72 352 *e*P **P 00 51 57.2 +1.0**
PABE Paberze 71.74 353 *e*P **P 00 51 57.2 +0.9**
NACGM Naroch 72.11 352 ⇓*e*P **P 00 51 58.9 +0.4**
baz=8.9
MNK Minsk 72.41 351 *i*P **P 00 51 58.4 -1.8**
MNK *i* 00 52 16.3
MNK *i* 00 54 38.6
MNK *i* PPP PPP 00 56 23.0
MNK *i*S **S 01 01 19.4 -1.2**
MNK *i*SS **SS 01 05 56.3 -1.8**
MNK *i*SSS SSS 01 09 16.1
MNK pmax pmax
comp=Z,21nm,0.9s
MNK pmax pmax
comp=E,1.0nm,1.4s
MNK MLR MLR
comp=Z,90nm,15.0s
MNK MLR MLR
comp=E,9.0nm,14.0s
MNK Minsk 72.41 351 *i*P **P 00 51 58.5 -1.8**
comp=E,1.0nm,1.4s
MNK *i*P **P 00 51 58.5 -1.8**
MNK *i*P **P 00 51 58.5 -1.8**
comp=Z,21nm,0.9s,baz=9.5
MNK *i*PcP **sP 00 52 16.4 +0.5**
MNK *i*PP **PP 00 54 38.6 -2.2**
MNK *i*PPP PPP 00 56 23.0
MNK *i*S **S 01 01 19.4 -1.2**
MNK *i*SS **SS 01 05 56.3 -1.8**
MNK *i*SSS SSS 01 09 16.1
MNK *i*LQ LQ 01 18 48.3
MNK *i*LR LR 01 24 19.5
MNK *i*LRM MLR 01 28 07.6
comp=Z,90nm,14.8s
MNK *i*LRM MLR 01 28 43.7
comp=E,9.0nm,13.5s
KK31 Karatay Array 72.43 320 P **P 00 52 00.8 +0.1**
KK31 IAmb IAmb 00 52 02.0
comp=Z,8.5nm,1.0s
KK31 Karatay Array 72.43 320 P **P 00 52 00.8 +0.1**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 72.43 320 P **P 00 52 00.5 -0.2**
KKAR IAmb IAmb 00 52 02.0
comp=Z,8.5nm,1.0s
KKAR Karatay Array 72.43 320 P **P 00 52 00.5 -0.2**
KKAR pmax pmax
comp=Z,9.0nm,1.0s
LPSR Galich'ya Gora 72.79 344 *e*P **P 00 52 01.0 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KSH Kashi 73.14 314 P **P 00 52 09.3 +4.2**
KSH pP PcP 00 52 23.5 +1.9
KSH pmax pmax
comp=Z,20nm,1.0s
KSH LR LR
comp=Z,250nm,12.4s
KSH LR LR
comp=Z,170nm,14.4s
KSH LR LR
comp=Z,360nm,17.9s
LSA Lhasa 73.54 297 P **P 00 52 08.9 +0.9**
LSA Lhasa 73.54 297 P **P 00 52 09.5 +1.5**
LSA pmax pmax
comp=Z,27nm,0.9s
LSA Lhasa 73.54 297 P **P 00 52 08.9 +0.9**
LSA pmax pmax
comp=Z,21nm,1.0s
VRH Novokhopyorsk 73.63 342 *e*P **P 00 52 06.2 -1.4**
VRH pmax pmax
comp=Z,9.0nm,0.6s
VORR Voronezh 73.64 343 *e*P **P 00 52 07.7 +0.1**
VORR pmax pmax
comp=Z,10.0nm,0.4s
RAR Rarotonga 73.91 173 LR LR 01 16 28.7
comp=Z,40nm,20.3s,baz=298,slow=29
VSR Storozhevoye 74.08 343 *e*P **P 00 52 09.2 -1.0**
VSR pmax pmax
comp=Z,10.0nm,1.3s
MATN Matagalpa 74.47 89 P **P 00 52 13.6 +0.5**
MATN IAmb IAmb 00 52 14.6
comp=Z,5.8nm,0.9s
BTK Batken 74.88 318 P **P 00 52 15.3 +0.1**
BTK Batken 74.88 318 P **P 00 52 15.3 +0.1**
BTK pmax pmax
comp=Z,17nm,1.0s
CRAI Chiangrai 75.67 284 P **P 00 52 20.4 +0.4**
CRAI IAmb IAmb 00 52 35.5
comp=Z,13nm,0.9s
GAR Garm 75.98 317 P **P 00 52 21.6 0.0**
AKASG Malin Array Be 76.02 349 P **P 00 52 20.9 -0.5**
comp=Z,11nm,0.7s,baz=14,slow=5.8,SNR=37
AKASG LR LR 01 30 38.1
comp=Z,91nm,18.3s,baz=2.5,slow=40
comp=Z,11nm,0.7s
AKASG Malin Array Be 76.02 349 P **P 00 52 20.9 -0.5**
AKASG Malin Array Be 76.02 349 P **P 00 52 20.9 -0.5**
AKBB Malin Array Si 76.02 349 P **P 00 52 21.0 -0.4**
AKBB Malin Array Si 76.02 349 P **P 00 52 21.0 -0.4**
AKBB pmax pmax
comp=Z,26nm,1.2s
ESPN Las Esperanzas 76.03 88 P **P 00 52 22.1 +0.2**
AK05 Malin Array Si 76.10 349 P **P 00 52 20.9 -0.9**
CLL Collm 76.33 360 IAmb IAmb 00 52 24.5
comp=Z,8.9nm,1.1s
CLL Collm 76.33 360 *i*P **P 00 52 22.4 -0.7**
CLL *i* *PP **pP 00 52 34.0 -0.3**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 76.33 360 *i*P **P 00 52 22.4 -0.7**
comp=Z,9.0nm,1.1s
CLL *i*PcP **pP 00 52 34.0 -0.3**
CLL Lm MLR 01 27 00.0
comp=Z,100nm,19.3s
CHGR Chuyangaron 76.75 318 P **P 00 52 25.5 -0.4**
CHGR Chuyangaron 76.75 318 P **P 00 52 25.5 -0.4**
CHGR pmax pmax
comp=Z,45nm,0.9s
BRG Berggiesshubel 76.76 359 *e*P **P 00 52 26.6 +0.9**
BRG Amp 00 52 28.0
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 76.76 359 *e*P **P 00 52 26.5 +0.9**
BRG pmax pmax
comp=Z,5.0nm,1.0s
MEM Membach 76.86 5 *d*P **P 00 52 27.4 +1.3**
comp=Z,5.7nm,1.0s
BSTI Sart Tilman 76.86 5 *d*P **P 00 52 27.3 +1.1**
BTNL Ternell 76.89 4 *d*P **P 00 52 27.1 +0.7**
comp=Z,6.2nm,1.1s
BCLA Clavier 77.01 5 *d*P **P 00 52 27.8 +0.8**
comp=Z,5.7nm,1.0s
CHVC Chvalec 77.01 358 *e*P **P 00 52 28.2 +1.1**
BGES Gesves 77.04 5 *d*P **P 00 52 27.9 +0.8**
OSTC Ostas 77.04 358 *e*P **P 00 52 28.4 +1.2**
PVCC Panska Ves 77.10 359 *e*P **P 00 52 28.8 +1.3**
PVCC Panska Ves 77.10 359 *e*P **P 00 52 28.8 +1.3**
BMRD Maredsous 77.10 5 *d*P **P 00 52 28.5 +1.0**
comp=Z,6.9nm,0.9s
BMRD *d*PcP **pP 00 52 39.1 +0.4**
TAPN Taplejung 77.24 298 *e*P **P 00 52 29.4 +0.3**
comp=Z,29nm,0.7s
DPC Dobruska-Polom 77.25 358 *e*P **P 00 52 29.7 +1.3**
DPC *e**PP **pwP 00 52 41.6 -2.2**
DPC Dobruska-Polom 77.25 358 *e*P **P 00 52 29.7 +1.3**
DPC *e*pP **pwP 00 52 41.6 -2.2**
OJC Ojcow 77.25 355 IAmb IAmb 00 52 28.9
comp=Z,12nm,1.2s
RCHB Rochefort 77.27 5 *d*P **P 00 52 28.3 -0.2**
comp=Z,5.8nm,1.1s
LVV L'vov 77.39 353 *e*P **P 00 52 29.3 +0.2**
NKC Novy Kostel 77.40 0 *e*P **P 00 52 30.4 +1.1**
NKC Novy Kostel 77.40 0 *e*P **P 00 52 30.4 +1.1**
KRLC Kraliky 77.51 357 *e*P **P 00 52 31.1 +1.2**
KRLC Kraliky 77.51 357 *e*P **P 00 52 31.1 +1.2**
PRU Pruhonice 77.64 359 *e*P **P 00 52 31.8 +1.2**
PRU Pruhonice 77.64 359 *e*P **P 00 52 31.8 +1.2**
OKC Ostrava-Krasne 77.70 357 *e*P **P 00 52 32.3 +1.4**
OKC Ostrava-Krasne 77.70 357 *e*P **P 00 52 32.3 +1.4**
GUN Gumba 77.76 300 *e*P **P 00 52 32.7 +0.6**
MORC Moravsky Berou 77.78 357 ⇓P **P 00 52 32.4 +1.0**
MORC Moravsky Berou 77.78 357 IAmb IAmb 00 52 33.4
comp=Z,6.9nm,1.0s
MORC Moravsky Berou 77.78 357 *e*P **P 00 52 32.0 +0.6**
JIRN Jiri 77.80 300 *e*P **P 00 52 32.9 +0.6**
WLF Walferdange 77.81 4 P **P 00 52 32.6 +1.1**

WLF					IAmb	IAmb	00 52 35.2		
	comp=Z,13nm,1.1s								
WLF	**Walferdange**	**77.81**	**4**	P	**P**	**00 52 32.6**	**+1.1**		
WLF				pmax	pmax				
	comp=Z,13nm,1.1s								
WLF	**Walferdange**	**77.81**	**4**	*d*P	**P**	**00 52 33.0**	**+1.5**		
	comp=Z,7.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**77.89**	**284**	P	**P**	**00 52 32.5**	**0.0**		
	comp=Z,2.1nm,0.7s,baz=24,slow=6.1,SNR=15								
CMAR				LR	LR	01 31 10.4			
	comp=Z,57nm,18.1s,baz=80,slow=39								
	comp=Z,2.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**77.89**	**284**	*i* P	**P**	**00 52 33.2**	**+0.7**		
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
GRA1	**Grafenberg Arr**	**77.94**	**1**	IAmb	IAmb	00 52 36.1			
	comp=Z,10nm,1.0s								
GRFO	**Grafenberg**	**77.94**	**1**	P	**P**	**00 52 33.4**	**+1.2**		
GRFO				IAmb	IAmb	00 52 36.1			
	comp=Z,10nm,1.0s								
GRFO	**Grafenberg**	**77.94**	**1**	P	**P**	**00 52 33.4**	**+1.2**		
GRFO				pmax	pmax				
	comp=Z,10.0nm,1.0s								
DZM	**Mont Dzumac**	**77.98**	**205**	*e*LR	LR	01 16 48.3			
	comp=Z,96nm,22.1s								
DZM	**Mont Dzumac**	**77.98**	**205**	LR	LR	01 22 25.9			
	comp=Z,57nm,19.3s,baz=300,slow=32								
RAMN	**Ramite**	**78.15**	**299**	*e*P	**P**	**00 52 34.3**	**+0.2**		
	comp=Z,39nm,0.8s								
MAUC	**Maruska**	**78.19**	**357**	*e*P	**P**	**00 52 35.3**	**+1.6**		
MAUC				*e*pP	**pP**	**00 52 44.8**	**-0.3**		
VRAC	**Vranov**	**78.28**	**358**	⇑P	**P**	**00 52 35.4**	**+1.3**		
VRAC	**Vranov**	**78.28**	**358**	LR	LR	01 27 21.6			
	comp=Z,58nm,18.7s,baz=5.5,slow=36								
VRAC	**Vranov**	**78.28**	**358**	*e*P	**P**	**00 52 35.3**	**+1.1**		
PKI	**Pulchoki**	**78.28**	**300**	*e*P	**P**	**00 52 35.2**	**+0.3**		
PKIN	**Phulchoki**	**78.28**	**300**	*e*P	**P**	**00 52 34.8**	**-0.1**		
TREC	**Trest**	**78.32**	**358**	*e*P	**P**	**00 52 35.3**	**+0.9**		
TREC	**Trest**	**78.32**	**358**	*e*P	**P**	**00 52 35.3**	**+0.9**		
LANS	**Liptovska Anna**	**78.33**	**356**	*e*P	**P**	**00 52 36.3**	**+1.8**		
LANS				pmax	pmax				
	comp=Z,11nm,1.2s								
LANS	**Liptovska Anna**	**78.33**	**356**	*e*P	**P**	**00 52 36.3**	**+1.8**		
GKN	**Gorkha**	**78.34**	**301**	*e*P	**P**	**00 52 35.3**	**+0.3**		
	comp=Z,34nm,0.7s								
KOLS	**Kolonicke sedl**	**78.39**	**354**	*e*P	**P**	**00 52 36.3**	**+1.5**		
KOLS	**Kolonicke sedl**	**78.39**	**354**	*e*P	**P**	**00 52 36.2**	**+1.5**		
CRVS	**Cervenica-Dubn**	**78.48**	**354**	*e*P	**P**	**00 52 36.2**	**+1.0**		
CRVS				pmax	pmax				
	comp=Z,11nm,1.1s								
CRVS	**Cervenica-Dubn**	**78.48**	**354**	*e*P	**P**	**00 52 36.2**	**+1.0**		
KHC	**Kasperske Hory**	**78.50**	**360**	P	**P**	**00 52 36.1**	**+0.7**		
KHC				IAmb	IAmb	00 52 37.8			
	comp=Z,12nm,1.3s								
KHC	**Kasperske Hory**	**78.50**	**360**	*e*P	**P**	**00 52 36.7**	**+1.3**		
KHC				*e**PP	**pwP**	**00 52 48.5**	**-2.3**		
KHC	**Kasperske Hory**	**78.50**	**360**	*e*P	**P**	**00 52 36.7**	**+1.3**		
KHC				*e*pP	**pwP**	**00 52 48.5**	**-2.3**		
DANN	**Dangsing**	**78.52**	**302**	*e*P	**P**	**00 52 36.8**	**+0.6**		
	comp=Z,78nm,0.6s								
KRUC	**Moravsky**	**78.53**	**358**	*e*P	**P**	**00 52 36.6**	**+1.1**		
UZH	**Uzhgorod**	**78.69**	**354**	*e*P	**P**	**00 52 37.2**	**+0.8**		
UZH				*i*		00 52 45.6			
JAVC	**Velka Javorina**	**78.70**	**357**	*e*P	**P**	**00 52 38.5**	**+2.0**		
BRDH	**Bariadhala**	**78.79**	**293**	LR	LR	01 31 17.5			
	comp=Z,152nm,18.2s,baz=74,slow=39								
GEC2	**GERESS Array S**	**78.79**	**359**	P	**P**	**00 52 37.7**	**+0.6**		
GEC2				IAmb	IAmb	00 52 39.0			
	comp=Z,4.7nm,0.9s								
GERES	**GERESS Array B**	**78.79**	**359**	P	**P**	**00 52 37.1**	**0.0**		
	comp=Z,2.8nm,0.9s,baz=3.4,slow=4.5,SNR=23								
	comp=Z,2.8nm,0.9s								
GERES	**GERESS Array B**	**78.79**	**359**	P	**P**	**00 52 37.9**	**+0.8**		
GERES	**GERESS Array B**	**78.79**	**359**	P	**P**	**00 52 37.9**	**+0.8**		
CKRC	**Cesky Krumlov**	**78.81**	**359**	*e*P	**P**	**00 52 38.2**	**+1.1**		
CKRC				*e*pP	**pP**	**00 52 48.2**	**-0.1**		
VYHS	**Vyhne**	**79.02**	**356**	*e*P	**P**	**00 52 39.4**	**+1.2**		
VYHS				pmax	pmax				
	comp=Z,14nm,1.1s								
VYHS	**Vyhne**	**79.02**	**356**	*e*P	**P**	**00 52 39.4**	**+1.2**		
SMOL	**Smolenice**	**79.05**	**357**	*e*P	**P**	**00 52 40.0**	**+1.6**		
SMOL				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KOLN	**Koldanda**	**79.07**	**302**	*e*P	**P**	**00 52 38.4**	**-0.7**		
TRPA	**Tarpa**	**79.17**	**353**	⇓P	**P**	**00 52 40.2**	**+1.2**		
TRPA	**Tarpa**	**79.17**	**353**	P	**P**	**00 52 39.5**	**+0.5**		
MODS	**Modra-Piesok**	**79.20**	**357**	*e*P	**P**	**00 52 41.0**	**+1.8**		
MODS				pmax	pmax				
	comp=Z,28nm,1.1s								
MODS	**Modra-Piesok**	**79.20**	**357**	*e*P	**P**	**00 52 41.0**	**+1.8**		
CLF	**Chambon-Foret**	**79.20**	**7**	P	**P**	**00 52 40.4**	**+1.2**		
GOF	**Gofitskoye**	**79.20**	**339**	⇑*e*P	**P**	**00 52 41.0**	**+1.7**		
GOF				pmax	pmax				
	comp=Z,61nm,0.9s								
ECH	**Echery**	**79.30**	**4**	P	**P**	**00 52 40.6**	**+0.8**		
ECH				IAmb	IAmb	00 52 42.2			
	comp=Z,7.8nm,1.0s								
ECH	**Echery**	**79.30**	**4**	P	**P**	**00 52 40.6**	**+0.8**		
ECH				pmax	pmax				
	comp=Z,8.0nm,1.0s								
ZST	**Bratislava**	**79.38**	**357**	*e*P	**P**	**00 52 41.6**	**+1.4**		
ZST				pmax	pmax				
	comp=Z,37nm,1.1s								
ZST	**Bratislava**	**79.38**	**357**	*e*P	**P**	**00 52 41.6**	**+1.4**		
BUR08	**Bucovina Ar. S**	**79.45**	**352**	P	**P**	**00 52 40.9**	**+0.2**		
BURAR	**Bucovina Array**	**79.47**	**352**	⇑P	**P**	**00 52 41.2**	**+0.4**		
BURAR	**Bucovina Array**	**79.47**	**352**	P	**P**	**00 52 41.3**	**+0.4**		
BURAR				IAmb	IAmb	00 52 44.2			
	comp=Z,5.2nm,0.9s								
PSZ	**Piszkesteto**	**79.54**	**355**	P	**P**	**00 52 42.2**	**+1.0**		
PSZ				IAmb	IAmb	00 52 43.9			
	comp=Z,14nm,1.2s								
PSZ	**Piszkesteto**	**79.54**	**355**	P	**P**	**00 52 42.2**	**+1.0**		
PSZ				pmax	pmax				
	comp=Z,14nm,1.2s								
PSZ	**Piszkesteto**	**79.54**	**355**	P	**P**	**00 52 42.8**	**+1.7**		
CONA	**Conrad Observa**	**79.68**	**358**	*i* P	**P**	**00 52 43.5**	**+1.5**		
	comp=Z,8.1nm,0.9s,SNR=6.5								
SRO	**Srobarova**	**79.72**	**356**	*e*P	**P**	**00 52 43.9**	**+1.9**		
SRO	**Srobarova**	**79.72**	**356**	*e*P	**P**	**00 52 43.9**	**+1.9**		
MOA	**Molln**	**79.78**	**359**	*e*P	**P**	**00 52 43.7**	**+1.2**		
	comp=Z,6.9nm,1.1s								
RONA	**Rosalia, Austr**	**79.90**	**358**	*e*P	**P**	**00 52 44.7**	**+1.6**		
	comp=Z,5.4nm,1.1s								
SOP	**Sopron**	**79.91**	**358**	P	**P**	**00 52 44.4**	**+1.3**		
BIOA	**Bad Ischl, Aus**	**79.94**	**360**	*e*P	**P**	**00 52 43.9**	**+0.6**		
	comp=Z,5.4nm,1.1s								
BIZ	**Bicaz**	**80.06**	**351**	⇓P	**P**	**00 52 44.6**	**+0.7**		
ARCR	**ARCALIA**	**80.08**	**352**	⇑P	**P**	**00 52 45.9**	**+1.9**		
MAK	**Makhachkala**	**80.12**	**335**	*e*P	**P**	**00 52 42.1**	**-2.1**		
MAK				*e*S	**S**	**01 02 41.4**	**-4.2**		
MAK				*e*SS	**SS**	**01 07 52.1**	**-2.9**		
MAK				pmax	pmax				
	comp=Z,123nm,1.0s								
RETA	**Reutte**	**80.13**	**1**	*e*P	**P**	**00 52 44.9**	**+0.5**		
	comp=Z,4.7nm,0.9s								
CSKK	**Cskako**	**80.17**	**356**	P	**P**	**00 52 46.6**	**+2.1**		
MOTA	**Moosalm**	**80.28**	**1**	*e*P	**P**	**00 52 46.2**	**+0.9**		
	comp=Z,9.2nm,1.0s								
WATA	**Walderalm**	**80.30**	**1**	*e*P	**P**	**00 52 46.4**	**+1.1**		
	comp=Z,11nm,1.1s								
KBL	**Kabul**	**80.31**	**316**	P	**P**	**00 52 45.4**	**-0.3**		
KBL	**Kabul**	**80.31**	**316**	P	**P**	**00 52 45.4**	**-0.3**		
KBL				pmax	pmax				
	comp=Z,13nm,0.8s								
DAVA	**Damuels**	**80.32**	**2**	*e*P	**P**	**00 52 45.0**	**-0.5**		
	comp=Z,5.6nm,0.9s								
KIV	**Kislovodsk**	**80.33**	**339**	⇓P	**P**	**00 52 47.3**	**+1.8**		
KIV	**Kislovodsk**	**80.33**	**339**	P	**P**	**00 52 46.1**	**+0.6**		
KIV				IAmb	IAmb	00 53 11.6			
	comp=Z,9.2nm,0.9s								
KIV	**Kislovodsk**	**80.33**	**339**	*e*P	**P**	**00 52 46.0**	**+0.5**		
KIV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
ARSA	**Arzberg**	**80.36**	**358**	*e*P	**P**	**00 52 47.1**	**+1.5**		
	comp=Z,7.2nm,0.9s								
WTTA	**Wattenberg**	**80.37**	**1**	*e*P	**P**	**00 52 47.0**	**+1.2**		
	comp=Z,6.7nm,0.8s								
MPLH	**Magyarpolny**	**80.39**	**357**	P	**P**	**00 52 47.4**	**+1.7**		
SQTA	**Sankt Quirin**	**80.41**	**1**	*i* P	**P**	**00 52 47.5**	**+1.5**		
	comp=Z,17nm,1.0s,SNR=7.1								
KBZ	**Khabaz**	**80.50**	**338**	P	**P**	**00 52 46.6**	**+0.3**		
	comp=Z,4.7nm,1.1s,baz=18,slow=3.2,SNR=5.6								
KBZ				LR	LR	01 34 10.0			
	comp=Z,80nm,18.2s,baz=20,slow=40								
	comp=Z,4.7nm,1.1s								
KBZ	**Khabaz**	**80.50**	**338**	*ce*P	**P**	**00 52 47.2**	**+0.9**		
KBZ				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KBA	**Koelnbreinsper**	**80.56**	**360**	*i* P	**P**	**00 52 48.4**	**+1.6**		
	comp=Z,18nm,1.0s,SNR=10								
FETA	**Feichten**	**80.60**	**2**	*i* P	**P**	**00 52 48.5**	**+1.5**		
	comp=Z,13nm,1.0s,SNR=8.6								
DAVOX	**Davos/Dischmat**	**80.82**	**2**	LR	LR	01 30 07.9			
	comp=Z,52nm,19.2s,baz=350,slow=37								
ABTA	**Abfaltersbach**	**80.89**	**0**	*i* P	**P**	**00 52 49.8**	**+1.3**		
	comp=Z,11nm,1.1s,SNR=6.0								
SOKA	**Soboth**	**80.94**	**359**	*i* P	**P**	**00 52 50.3**	**+1.5**		
	comp=Z,17nm,1.1s,SNR=5.8								
PERS	**Pernice**	**80.98**	**358**	*e*P	**P**	**00 52 50.2**	**+1.3**		
MYKA	**Terra Mystica**	**81.01**	**360**	*e*P	**P**	**00 52 50.6**	**+1.6**		
	comp=Z,2.6nm,0.8s								
OBKA	**Obir**	**81.12**	**359**	*i* P	**P**	**00 52 51.1**	**+1.4**		
	comp=Z,13nm,0.9s,SNR=5.6								
COVR	**Voineasa-Covas**	**81.14**	**351**	⇑P	**P**	**00 52 51.0**	**+1.3**		
GROS	**Grobnik**	**81.15**	**358**	*i* P	**P**	**00 52 50.7**	**+0.8**		
ZEI	**Tsey**	**81.17**	**337**	*e*P	**P**	**00 52 50.5**	**+0.3**		
ZEI				pmax	pmax				
	comp=Z,5.0nm,1.0s								
PRED	**Cave del Predi**	**81.19**	**360**	P	**P**	**00 52 50.8**	**+0.8**		
CIMO	**Cimolais**	**81.33**	**0**	P	**P**	**00 52 51.5**	**+0.7**		
CIMO				IAmb	IAmb	00 53 01.8			
	comp=Z,3.0nm,0.8s								
GUDG	**Gudauri**	**81.34**	**337**	P	**P**	**00 52 51.5**	**+0.4**		
GUDG				IAmb	IAmb	00 53 07.5			
	comp=Z,6.7nm,0.7s								
GUDG	**Gudauri**	**81.34**	**337**	P	**P**	**00 52 51.5**	**+0.4**		
GUDG				pmax	pmax				
	comp=Z,7.0nm,0.7s								
CADS	**Cadrg**	**81.41**	**359**	*i* P	**P**	**00 52 51.4**	**+0.2**		
MLR	**Muntele Rosu**	**81.51**	**351**	LR	LR	01 31 47.8			
	comp=Z,157nm,19.0s,baz=17,slow=38								
MLR	**Muntele Rosu**	**81.51**	**351**	P	**P**	**00 52 51.8**	**-0.1**		
MLR				IAmb	IAmb	00 53 13.1			
	comp=Z,14nm,1.5s								
MLR	**Muntele Rosu**	**81.51**	**351**	P	**P**	**00 52 51.8**	**-0.1**		
MLR				pmax	pmax				
	comp=Z,14nm,1.5s								
GEYT	**Alibeck**	**81.54**	**325**	P	**P**	**00 52 52.6**	**+0.6**		
	comp=Z,7.4nm,1.0s,baz=338,slow=6.2,SNR=15								
GEYT				PP	**PP**	**00 55 56.7**	**-1.2**		
	comp=Z,1.5nm,0.8s,baz=352,slow=9.2,SNR=3.0								
	comp=Z,7.4nm,1.0s								
GEYT	**Alibeck**	**81.54**	**325**	P	**P**	**00 52 52.4**	**+0.4**		
GEYT				IAmb	IAmb	00 52 54.1			
	comp=Z,10nm,1.0s								
GYA0B	**ALIBECK ARRAY**	**81.54**	**325**	P	**P**	**00 52 52.4**	**+0.4**		
GYA0B				IAmb	IAmb	00 52 54.1			
	comp=Z,9.6nm,1.0s								
CTI	**Castel Tesino**	**81.58**	**1**	P	**P**	**00 52 52.2**	**0.0**		
CTI				IAmb	IAmb	00 53 05.2			
	comp=Z,11nm,1.3s								
CTI	**Castel Tesino**	**81.58**	**1**	P	**P**	**00 52 52.2**	**0.0**		
CTI				pmax	pmax				
	comp=Z,11nm,1.3s								
VOIR		**81.65**	**351**	⇓P	**P**	**00 52 54.9**	**+2.4**		
ARR	**Arges**	**81.76**	**352**	⇑P	**P**	**00 52 54.8**	**+1.7**		
GZR	**Gura Zlata**	**81.88**	**353**	⇓P	**P**	**00 52 54.2**	**+0.4**		
SALO	**Salr**	**82.00**	**2**	P	**P**	**00 52 54.2**	**-0.1**		
TEOL	**Teolo**	**82.27**	**1**	P	**P**	**00 52 57.0**	**+1.3**		
BNI	**Bardonecchia**	**82.44**	**4**	P	**P**	**00 52 57.8**	**+1.1**		
BNI	**Bardonecchia**	**82.44**	**4**	P	**P**	**00 52 57.8**	**+1.1**		
BNI				pmax	pmax				
	comp=Z,16nm,1.1s								
PRMA	**PARMA**	**82.85**	**2**	P	**P**	**00 52 59.5**	**+0.9**		
CTAO	**Charters Tower**	**83.05**	**224**	P	**P**	**00 53 00.1**	**+0.2**		
CTAO				IAmb	IAmb	00 53 08.3			
	comp=Z,6.1nm,1.2s								
CTAO	**Charters Tower**	**83.05**	**224**	P	**P**	**00 53 00.1**	**+0.2**		
CTAO				pmax	pmax				
	comp=Z,6.0nm,1.2s								
HRA	**Herat**	**83.19**	**321**	P	**P**	**00 53 01.2**	**+0.3**		
HRA				IAmb	IAmb	00 53 02.5			
	comp=Z,5.8nm,0.9s								
DIVS	**Divibare**	**83.35**	**355**	P	**P**	**00 53 00.7**	**-0.8**		
DIVS				IAmb	IAmb	00 53 02.7			
	comp=Z,8.1nm,1.3s								
GNI	**Garni**	**83.46**	**336**	LR	LR	01 34 60.0			
	comp=Z,76nm,18.1s,baz=16,slow=39								
OSSC	**Osservatorio P**	**84.10**	**1**	P	**P**	**00 53 05.2**	**+0.1**		
OSSC				IAmb	IAmb	00 53 07.7			
	comp=Z,7.4nm,0.8s								
MURB	**Monte Urbino**	**84.38**	**0**	P	**P**	**00 53 07.3**	**+0.7**		
FDMO	**Fiordimonte**	**84.60**	**360**	P	**P**	**00 53 08.3**	**+0.5**		
FDMO				IAmb	IAmb	00 53 21.8			
	comp=Z,9.3nm,1.0s								
VTS	**Vitosha**	**84.60**	**352**	P	**P**	**00 53 07.5**	**-0.4**		
VTS				IAmb	IAmb	00 53 26.7			
	comp=Z,4.4nm,1.2s								
VTS	**Vitosha**	**84.60**	**352**	P	**P**	**00 53 07.5**	**-0.4**		
VTS				pmax	pmax				
	comp=Z,4.0nm,1.2s								
NRCA	**Norcia**	**84.81**	**360**	P	**P**	**00 53 09.9**	**+1.1**		
ILGA	**Ilgaz**	**84.86**	**344**	P	**P**	**00 53 09.7**	**+0.4**		
CESX	**Cesi**	**85.03**	**0**	IAmb	IAmb	00 53 23.1			
	comp=Z,5.7nm,0.9s								
BRTR	**Keskin Array B**	**86.17**	**344**	P	**P**	**00 53 17.0**	**+1.2**		
	comp=Z,3.5nm,0.8s,baz=35,slow=2.0,SNR=30								
BRTR				LR	LR	01 38 10.3			
	comp=Z,35nm,18.6s,baz=12,slow=40								
	comp=Z,3.5nm,0.8s								
BRTR	**Keskin Array B**	**86.17**	**344**	*i* P	**P**	**00 53 17.0**	**+1.2**		
BRTR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BORA	**Eskisehir**	**86.51**	**347**	P	**P**	**00 53 17.9**	**+0.6**		
BNN	**Bunyan**	**86.63**	**342**	P	**P**	**00 53 18.4**	**+0.3**		
ESDC	**Sonseca Array**	**86.80**	**13**	P	**P**	**00 53 18.8**	**+0.1**		
	comp=Z,1.3nm,0.7s,baz=343,slow=4.2,SNR=12								
ESDC				LR	LR	01 34 55.7			
	comp=Z,89nm,18.1s,baz=336,slow=38								
	comp=Z,1.3nm,0.7s								
ESDC	**Sonseca Array**	**86.80**	**13**	IAmb	IAmb	00 53 23.4			
	comp=Z,2.4nm,0.9s								
WRA	**Warramunga Arr**	**88.34**	**233**	P	**P**	**00 53 24.9**	**-1.2**		
	comp=Z,1.2nm,1.0s,baz=34,slow=5.6,SNR=5.5								
	comp=Z,1.2nm,1.0s								
WRA	**Warramunga Arr**	**88.34**	**233**	*i* P	**P**	**00 53 26.1**	**0.0**		
WRA				pmax	pmax				
	comp=Z,1.0nm,1.0s								
BAUV	**El Baul**	**88.38**	**77**	P	**P**	**00 53 26.0**	**-0.5**		
URZ	**Urewera**	**91.66**	**192**	LR	LR	01 32 35.2			
	comp=Z,60nm,18.1s,baz=44,slow=34								
ASAR	**Alice Springs**	**91.72**	**232**	P	**P**	**00 53 41.3**	**-0.5**		
	comp=Z,0.4nm,0.5s,baz=29,slow=4.9,SNR=2.6								
	comp=Z,0.4nm,0.5s								
MMAI	**Mount Meron Ar**	**92.38**	**341**	LR	LR	01 44 06.0			
	comp=Z,34nm,18.1s,baz=217,slow=41								
WSAR	**Wadi Sarin**	**94.54**	**319**	LR	LR	01 42 33.8			
	comp=Z,52nm,18.4s,baz=58,slow=39								
EIL	**Elat**	**95.71**	**341**	LR	LR	01 42 50.7			
	comp=Z,53nm,18.4s,baz=145,slow=39								
PALK	**Pallekele**	**97.37**	**292**	LR	LR	01 42 32.4			
	comp=Z,35nm,20.5s,baz=146,slow=38								
RPZ	**Rata Peaks**	**97.91**	**196**	LR	LR	01 33 33.7			
	comp=Z,35nm,18.8s,baz=302,slow=32								
KMBO	**Kilima Mbogo**	**124.71**	**330**	*i* PKIKP	**PKiKP**	**00 59 36.2**	**+1.4**		
MAW	**Mawson**	**152.04**	**219**	PKPbc	**PKPbc**	**01 00 27.8**	**-0.3**		
	comp=Z,2.5nm,0.8s,baz=112,slow=3.9,SNR=7.8								
BOSA	**Boshof**	**154.22**	**334**	PKPbc	**PKiKP**	**01 00 34.5**	**+0.1**		
	comp=Z,4.6nm,1.1s,baz=33,slow=3.0,SNR=5.4								
BOSA				PKPab	**PKPab**	**01 00 48.7**	**+0.5**		
	comp=Z,5.1nm,1.0s,baz=37,slow=4.6,SNR=5.1								

*JMA **26** 00:49:51.3±0.5,34°N±2°,×14°2E±°, h14km±1km, MV3.1/22, FAR SE OFF BOSO PEN*
*IDC **26** 00:49:57.1±1.0,33°96N×140°93E, h0km, mb3.8/6, mbtmp3.7/7, ML2.1/1, MS3.0/1, Error ellipse: s-maj=25.6km s-min=16.9km az=109.0*
*NEIC **26** 00:49:59.5±2.4,34°30N±0°06×140°9E±0°2, h35km±7km, mb4.2/4, Error ellipse: s-maj=21.8km s-min=6.3km az=105.0*

ISC 26 00:49:55.4±1.1,**34°15N**±0°05×**141°28E**±0°09,**h10**km,**n27,**
s21/29,mb3.8/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.56**	**333**	P	**Pg**	**00 50 04.8**		**-1.3**
BSO3	**Boso 3**	**0.91**	**316**	*e*P	**Pb**	**00 50 11.7**		**-1.4**
BSO4	**Boso 4**	**1.14**	**317**	P	**Pn**	**00 50 16.1**		**-1.2**
BSO4				*e*S	**Sb**	**00 50 33.1**		**+1.0**
JKUC	**kamogawauchiur**	**1.34**	**319**	*e*P	**Pn**	**00 50 17.9**		**-2.3**
JKUC				*e*S	**Sn**	**00 50 37.5**		**-0.6**
JHJ2	**Mitsune**	**1.60**	**230**	Pn	**Pn**	**00 50 22.1**		**-1.6**
JHJ	**Hachijo jima 2**	**1.62**	**231**	Pn	**Pn**	**00 50 23.4**		**-0.6**
	14nm,0.3s,baz=54,slow=11,SNR=2.4							
JHJ				Sn	**Sn**	**00 50 39.2**		**-5.7**
	16nm,0.3s,baz=66,slow=20,SNR=3.8							
JIM2	**Oshima 3**	**1.63**	**291**	*e*S	**Sn**	**00 50 48.5**		**+3.2**
JYT	**Yasato**	**2.25**	**337**	Pn	**Pn**	**00 50 29.7**		**-3.0**
JRY	**Ryogami san**	**2.70**	**314**	*e*P	**Pn**	**00 50 37.6**		**-1.2**
JRY				*e*S	**Sn**	**00 51 12.2**		**+0.6**
JAG	**Ashikaga**	**2.72**	**327**	*e*P	**Pn**	**00 50 36.3**		**-2.8**
MJAR	**Matsushiro Arr**	**3.46**	**314**	Pn	**Pn**	**00 50 49.3**		**-0.1**
	0.2nm,0.3s,baz=137,slow=10,SNR=6.0							
MJAR				Sn	**Sn**	**00 51 31.0**		**+0.5**
	0.2nm,0.3s,baz=144,slow=15,SNR=5.6							
	2.1nm,0.4s							
MAJO	**Matsushiro**	**3.46**	**314**		**Pn**	**00 50 47.0**		**-2.4**
MJB9	**Matsu-Tunnel**	**3.47**	**314**		**Pn**	**00 50 46.8**		**-2.7**
JMM	**Marumori**	**3.73**	**354**	Pn	**Pn**	**00 50 50.8**		**-2.1**
JSD	**Sado**	**4.58**	**329**		**Pn**	**00 51 01.9**		**-2.8**
KSRS	**Korea Array**	**11.34**	**291**	LR	LR	00 57 32.6		
	comp=Z,72nm,19.0s,baz=60,slow=41							
ZALV	**Zalesovo Beam**	**43.82**	**315**	P	**P**	**00 58 04.1**		**+2.8**
	0.5nm,0.3s,baz=110,slow=8.4,SNR=2.5							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**45.61**	**305**	P	**P**	**00 58 18.6**		**+2.9**
	0.5nm,0.6s,baz=94,slow=8.8,SNR=3.4							
	0.5nm,0.6s							
ILAR	**Eielson Array**	**52.00**	**31**	P	P	00 59 09.8		+5.3
	0.6nm,0.6s,baz=270,slow=6.3,SNR=7.6							
	0.6nm,0.6s							
BMAR	**Burnt Mountain**	**52.91**	**28**	P	**P**	**00 59 11.8**		**+0.4**
WB0	**Warramunga Arr**	**54.02**	**188**	P	**P**	**00 59 20.7**		**+0.9**
FITZ	**Fitzroy Crossi**	**54.05**	**198**	P	**P**	**00 59 21.9**		**+1.8**
FITZ				IAmb	IAmb	00 59 24.1		
	comp=Z,1.8nm,0.8s							
WB2	**Warramunga Arr**	**54.20**	**188**	P	**P**	**00 59 21.9**		**+0.7**
WB2				IAmb	IAmb	00 59 22.2		
	comp=Z,3.3nm,1.0s							
WRA	**Warramunga Arr**	**54.20**	**188**	P	**P**	**00 59 21.8**		**+0.6**
	comp=Z,0.7nm,0.5s,baz=3.9,slow=7.6,SNR=15							
	comp=Z,0.7nm,0.5s							
WRA	**Warramunga Arr**	**54.20**	**188**	P	**P**	**00 59 21.9**		**+0.8**
INK	**Inuvik**	**57.00**	**26**	P	P	00 59 46.8		+6.0
	comp=Z,3.4nm,0.9s,baz=248,slow=5.4,SNR=4.8							
	comp=Z,3.4nm,0.9s							
ASAR	**Alice Springs**	**57.93**	**188**	P	**P**	**00 59 49.7**		**+1.9**
	comp=Z,0.5nm,0.7s,baz=8.6,slow=6.8,SNR=3.1							
	comp=Z,0.5nm,0.7s							

*MOS **26** 01:13:48.2±1.3,48°10N×154°29E, h12km, mb4.2/1, Error ellipse: s-maj=24.0km s-min=5.2km az=69.7*
*SKHL **26** 01:13:52.5±0.1,48°10N×154°30E, h47km±2km, mb4.8/5*
*KRSC **26** 01:13:52.0±2.2,48°06N×156°31E, h9km±45km, ML4.6*
*ID

NMR	**Nemuro--Hokkai**	**7.67**	**235**	*e*PN		**Pn**		01 15 43.8	+1.5
NMR	**Nemuro--Hokkai**	**7.67**	**235**	*e*P		**Pn**		01 15 42.9	+0.6
NMR				*e*S		**Sn**		01 17 04.1	-3.7
KBTR	**Krutoberegovo**	**9.64**	**29**	PN		**Pn**		01 16 07.3	-1.9
KBTR	**Krutoberegovo**	**9.64**	**29**	*e*P		**Pn**		01 16 07.3	-1.9
SHEM	**Shemya Is, Ala**	**13.40**	**62**	P		**Pn**		01 16 58.5	-2.0
	comp=E,27nm,0.4s,baz=282,slow=1.6,SNR=6.5								
KLR	**Kul'dur**	**14.99**	**283**	P		**P**		01 17 27.0	+0.2
	comp=E,0.9nm,0.7s,baz=68,slow=5.4,SNR=1.7								
MJAR	**Matsushiro Arr**	**16.58**	**232**	LR		LR		01 24 54.4	
	comp=E,40nm,19.7s,baz=72,slow=40								
KSRS	**Korea Array**	**22.03**	**251**	P		**P**		01 18 46.2	+2.2
	comp=E,0.9nm,0.4s,baz=41,slow=10,SNR=5.2								
	comp=E,0.9nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**30.05**	**156**	T		T		01 52 10.7	
	baz=343,slow=76,SNR=76								
H11N1	**WAKE ISLAND Hy**	**30.07**	**156**	T		T		01 51 42.4	
	baz=343,slow=76,SNR=141								
H11N3	**WAKE ISLAND Hy**	**30.07**	**156**	T		T		01 51 40.7	
	baz=343,slow=76,SNR=92								
H11S1	**WAKE ISLAND Hy**	**31.17**	**157**	T		T		01 52 58.1	
	baz=344,slow=76,SNR=211								
H11S3	**WAKE ISLAND Hy**	**31.18**	**157**	T		T		01 53 01.8	
	baz=344,slow=76,SNR=291								
H11S2	**WAKE ISLAND Hy**	**31.18**	**157**	T		T		01 53 03.9	
	baz=344,slow=76,SNR=194								
ILAR	**Eielson Array**	**34.97**	**40**	P		**P**		01 20 40.6	-0.3
	comp=E,1.0nm,0.9s,baz=271,slow=8.0,SNR=8.7								
	comp=E,1.0nm,0.9s								
INK	**Inuvik**	**40.06**	**33**	P		**P**		01 21 24.4	+0.6
	comp=E,2.1nm,0.8s,baz=306,slow=2.4,SNR=6.5								
	comp=E,2.1nm,0.8s								
MKAR	**Makanchi Array**	**47.10**	**297**	P		**P**		01 22 20.6	-0.2
	comp=E,1.0nm,0.9s,baz=48,slow=6.4,SNR=2.7								
	comp=E,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**49.34**	**38**	P		**P**		01 22 39.9	+2.1
	comp=E,0.4nm,0.7s,baz=291,slow=6.8,SNR=1.7								
	comp=E,0.4nm,0.7s								
NVAR	**Mina Array Bea**	**61.06**	**64**	P		**P**		01 24 03.7	+0.8
	comp=E,0.7nm,0.6s,baz=297,slow=7.8,SNR=5.7								
	comp=E,0.7nm,0.6s								
FINES	**FINESS Array B**	**63.19**	**335**	P		**P**		01 24 16.1	-0.4
	comp=E,1.1nm,0.6s,baz=33,slow=7.9,SNR=13								
	comp=E,1.1nm,0.6s								
PDAR	**Pinedale Array**	**63.27**	**55**	P		**P**		01 24 18.2	+0.6
	comp=E,0.4nm,0.7s,baz=298,slow=3.2,SNR=4.3								
	comp=E,0.4nm,0.7s								
WRA	**Warramunga Arr**	**70.06**	**200**	P		**P**		01 25 02.6	+1.8
	comp=E,0.3nm,0.8s,baz=19,slow=6.8,SNR=2.5								
	comp=E,0.3nm,0.8s								
AKASG	**Malin Array Be**	**70.91**	**327**	P		**P**		01 25 04.7	-0.9
	comp=E,0.3nm,0.4s,baz=34,slow=6.4,SNR=2.8								
	comp=E,0.3nm,0.4s								
TXAR	**Lajitas Array**	**76.09**	**62**	P		**P**		01 25 37.2	+0.7
	comp=E,0.7nm,0.7s,baz=306,slow=4.6,SNR=7.3								
	comp=E,0.7nm,0.7s								
GERES	**GERESS Array B**	**77.62**	**335**	P		**P**		01 25 44.9	+0.1
	comp=E,0.5nm,0.6s,baz=44,slow=5.9,SNR=6.6								
	comp=E,0.5nm,0.6s								
BRTR	**Keskin Array B**	**78.00**	**317**	P		**P**		01 25 47.6	+0.4
	comp=E,0.6nm,0.6s,baz=75,slow=2.9,SNR=5.7								
	comp=E,0.6nm,0.6s								
WATA	**Walderalm**	**79.59**	**335**	*e*P		**P**		01 25 55.1	-0.7
	comp=E,1.8nm,0.5s								
WTTA	**Wattenberg**	**79.64**	**335**	*e*P		**P**		01 25 56.9	+0.8
	comp=E,1.9nm,0.5s								
RETA	**Reutte**	**79.68**	**336**	*e*P		**P**		01 25 57.2	+1.0
	comp=E,0.4nm,0.3s								
MOTA	**Moosalm**	**79.72**	**336**	*e*P		**P**		01 25 57.1	+0.6
	comp=E,0.2nm,0.2s								
SQTA	**Sankt Quirin**	**79.80**	**335**	*e*P		**P**		01 25 57.9	+1.0
	comp=E,0.5nm,0.3s								
H03N2	**Juan Fernandez**	**137.89**	**90**	T		T		04 06 31.2	
	baz=309,slow=77,SNR=24								
H03N1	**Juan Fernandez**	**137.91**	**90**	T		T		04 06 37.7	
	baz=309,slow=77,SNR=29								
H03N3	**Juan Fernandez**	**137.91**	**90**	T		T		04 06 34.5	
	baz=309,slow=77,SNR=37								
PLCA	**Paso Flores**	**147.46**	**94**	PKPbc		**PKPab**		01 33 33.9	-0.4
	comp=E,0.8nm,0.9s,baz=254,slow=4.9,SNR=3.2								

*KRSC **26** 01:26:26.8±1.8,50.5°N×157.27°E,h49km±21km, ML4.2*
*MOS **26** 01:26:26.1±0.5,50.37°N×157.03°E,h51km, mb3.8/1, Error ellipse: s-maj=29.8km s-min=4.8km az=79.4*
*IDC **26** 01:26:28.8±5.5,50.44°N×157.08°E,h62km±54km, mb3.3/7, mbtmp3.5/8, ML2.3/1, Error ellipse: s-maj=55.7km s-min=19.5km az=140.0*

ISC 26 01:26:26.6±2.2,50.4°N±0.1°×157.19°E±0.07, h41km±21km, n61, σ1°38/77, mb3.6/7, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
SKR	**Severo-Kuril's**	**0.75**	**294**	PN		**Pn**	**01**	**26**	**41.1**	**+0.4**
SKR				S		**Sn**	**01**	**26**	**50.6**	**-0.2**
SKR	**Severo-Kuril's**	**0.75**	**294**	*e*P		**Pn**	**01**	**26**	**41.1**	**+0.4**
SKR				*e*S		**Sn**	**01**	**26**	**50.6**	**-0.2**
PAU	**Pauzhetka**	**1.12**	**348**	PN		**Pn**	**01**	**26**	**46.0**	**+0.3**
PAU				S		**Sn**	**01**	**26**	**58.8**	**-1.1**
PAU	**Pauzhetka**	**1.12**	**348**	*e*P		**Pn**	**01**	**26**	**46.0**	**+0.3**
PAU				*e*S		**Sn**	**01**	**26**	**58.8**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.54**	**21**	PN		**Pn**	**01**	**26**	**51.7**	**+0.2**
KDTR				S		**Sn**	**01**	**27**	**08.6**	**-1.7**
KDTR	**Khodutka, Kamc**	**1.54**	**21**	*e*P		**Pn**	**01**	**26**	**51.7**	**+0.2**
KDTR				*e*S		**Sn**	**01**	**27**	**08.6**	**-1.7**
ASAK	**Asacha**	**2.06**	**12**	PN		**Pn**	**01**	**26**	**59.2**	**+0.5**
ASAK	**Asacha**	**2.06**	**12**	*e*P		**Pn**	**01**	**26**	**59.2**	**+0.5**
MTVR	**Mutnovka**	**2.20**	**16**	PN		**Pn**	**01**	**27**	**01.6**	**+0.9**
MTVR				S		**Sn**	**01**	**27**	**25.8**	**-0.9**
MTVR	**Mutnovka**	**2.20**	**16**	*e*P		**Pn**	**01**	**27**	**01.6**	**+0.9**
MTVR				*e*S		**Sn**	**01**	**27**	**25.8**	**-0.9**
RUS	**Russkaya**	**2.22**	**21**	PN		**Pn**	**01**	**27**	**00.9**	**0.0**
RUS				S		**Sn**	**01**	**27**	**25.0**	**-2.0**
RUS	**Russkaya**	**2.22**	**21**	*e*P		**Pn**	**01**	**27**	**00.9**	**0.0**
RUS				*e*S		**Sn**	**01**	**27**	**25.0**	**-2.0**
GRL	**Gorelyy**	**2.25**	**14**	PN		**Pn**	**01**	**27**	**02.4**	**+1.0**
GRL				S		**Sn**	**01**	**27**	**26.7**	**-1.2**
GRL	**Gorelyy**	**2.25**	**14**	*e*P		**Pn**	**01**	**27**	**02.4**	**+1.0**
GRL				*e*S		**Sn**	**01**	**27**	**26.7**	**-1.2**
KRMR	**Karymshinskiy**	**2.52**	**13**	PN		**Pn**	**01**	**27**	**06.4**	**+1.3**
KRMR				S		**Sn**	**01**	**27**	**35.3**	**+0.7**
KRMR	**Karymshinskiy**	**2.52**	**13**	*e*P		**Pn**	**01**	**27**	**06.4**	**+1.3**
KRMR				*e*S		**Sn**	**01**	**27**	**35.3**	**+0.7**
APC	**Apacha**	**2.55**	**360**	PN		**Pn**	**01**	**27**	**05.9**	**+0.5**
APC				S		**Sn**	**01**	**27**	**34.6**	**-0.6**
APC	**Apacha**	**2.55**	**360**	*e*P		**Pn**	**01**	**27**	**05.9**	**+0.5**
APC				*e*S		**Sn**	**01**	**27**	**34.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**2.75**	**6**	I/PN		**Pn**	**01**	**27**	**09.3**	**+1.1**
PETK	**Petropavlovsk-**	**2.75**	**6**	P		**Pn**	**01**	**27**	**09.3**	**+1.1**
	2.4nm,0.3s,baz=194,slow=12,SNR=28									
PETK				S		**Sn**	**01**	**27**	**42.2**	**+2.0**
	4.2nm,0.4s,baz=182,slow=10,SNR=5.3									
	7.6nm,0.5s									
PET	**Petropavlovsk**	**2.80**	**18**	*e*PN		**Pn**	**01**	**27**	**12.2**	**+3.3**
PET				*e*S		**Sn**	**01**	**27**	**40.8**	**-0.6**
PET				smax		smax				
	comp=E,255nm,0.6s									
PET				smax		smax				
	comp=N,216nm,0.6s									
DALK	**Dalny**	**2.83**	**20**	PN		**Pn**	**01**	**27**	**10.1**	**+0.9**
DALK				S		**Sn**	**01**	**27**	**41.6**	**-0.5**
DALK	**Dalny**	**2.83**	**20**	*e*P		**Pn**	**01**	**27**	**10.1**	**+0.9**
DALK				*e*S		**Sn**	**01**	**27**	**41.6**	**-0.5**
UGLR	**Uglovaya**	**3.01**	**19**	PN		**Pn**	**01**	**27**	**13.4**	**+1.5**
UGLR	**Uglovaya**	**3.01**	**19**	*e*P		**Pn**	**01**	**27**	**13.4**	**+1.5**
AVH	**Avacha**	**3.05**	**18**	PN		**Pn**	**01**	**27**	**15.0**	**+2.7**
AVH	**Avacha**	**3.05**	**18**	*e*P		**Pn**	**01**	**27**	**15.0**	**+2.7**
KOK	**Koryaka**	**3.05**	**17**	PN		**Pn**	**01**	**27**	**14.7**	**+2.3**
KOK				S		**Sn**	**01**	**27**	**48.8**	**+1.1**
KOK	**Koryaka**	**3.05**	**17**	*e*P		**Pn**	**01**	**27**	**14.7**	**+2.3**
KOK				*e*S		**Sn**	**01**	**27**	**48.8**	**+1.1**
SMAR	**Somma**	**3.06**	**18**	PN		**Pn**	**01**	**27**	**12.4**	**-0.2**
SMAR	**Somma**	**3.06**	**18**	*e*P		**Pn**	**01**	**27**	**12.4**	**-0.2**
KRER	**Koryakskii**	**3.09**	**18**	PN		**Pn**	**01**	**27**	**15.5**	**+2.5**
KRER	**Koryakskii**	**3.09**	**18**	*e*P		**Pn**	**01**	**27**	**15.5**	**+2.5**
SDLR	**Sedlovina**	**3.09**	**19**	PN		**Pn**	**01**	**27**	**14.0**	**+1.1**
SDLR	**Sedlovina**	**3.09**	**19**	*e*P		**Pn**	**01**	**27**	**14.0**	**+1.1**
KRX	**Arik**	**3.12**	**16**	PN		**Pn**	**01**	**27**	**15.5**	**+2.1**
KRX				S		**Sn**	**01**	**27**	**49.9**	**+0.5**
KRX	**Arik**	**3.12**	**16**	*e*P		**Pn**	**01**	**27**	**15.5**	**+2.1**
KRX				*e*S		**Sn**	**01**	**27**	**49.9**	**+0.5**
SPN	**Mys Shipunski**	**3.24**	**32**	PN		**Pn**	**01**	**27**	**16.4**	**+1.5**
SPN	**Mys Shipunski**	**3.24**	**32**	*e*P		**Pn**	**01**	**27**	**16.4**	**+1.5**
SPN				*e*S		**Sn**	**01**	**27**	**50.5**	**-1.8**
GNL	**Ganaly**	**3.35**	**8**	PN		**Pn**	**01**	**27**	**17.2**	**+0.6**
GNL	**Ganaly**	**3.35**	**8**	*e*P		**Pn**	**01**	**27**	**17.2**	**+0.6**
MKZ	**Mys Kozlova**	**5.02**	**32**	*e*S		**Sn**	**01**	**28**	**33.4**	**-2.6**
TUMR	**Tumrok**	**5.23**	**19**	PN		**Pn**	**01**	**27**	**44.8**	**+2.5**
TUMR	**Tumrok**	**5.23**	**19**	*e*P		**Pn**	**01**	**27**	**44.8**	**+2.5**
H11N2	**WAKE ISLAND Hy**	**31.54**	**162**	T		T		02 06 20.9		
	baz=348,slow=76,SNR=42									
H11N1	**WAKE ISLAND Hy**	**31.55**	**162**	T		T		02 06 26.7		
	baz=348,slow=76,SNR=33									
H11N3	**WAKE ISLAND Hy**	**31.55**	**162**	T		T		02 06 28.0		
	baz=348,slow=76,SNR=81									
ILAR	**Eielson Array**	**32.03**	**42**	P		**P**		01 32 47.0	-1.8	
	comp=N,0.3nm,0.8s,baz=263,slow=7.6,SNR=4.3									
	comp=N,0.3nm,0.8s									
H11S1	**WAKE ISLAND Hy**	**32.69**	**163**	T		T		02 07 51.6		
	baz=348,slow=76,SNR=50									
H11S3	**WAKE ISLAND Hy**	**32.70**	**163**	T		T		02 07 53.6		
	baz=348,slow=76,SNR=80									
H11S2	**WAKE ISLAND Hy**	**32.71**	**163**	T		T		02 07 54.2		
	baz=348,slow=76,SNR=48									
CMAR	**Chiang Mai Arr**	**55.84**	**257**	P		**P**		01 35 59.3	-0.6	
	comp=N,0.6nm,0.3s,baz=15,slow=7.9,SNR=5.0									
	comp=N,0.6nm,0.3s									
NVAR	**Mina Array Bea**	**58.43**	**67**	P		**P**		01 36 19.2	+1.0	
	comp=N,0.2nm,0.5s,baz=294,slow=7.8,SNR=2.4									
	comp=N,0.2nm,0.5s									
PDAR	**Pinedale Array**	**60.47**	**58**	P		**P**		01 36 32.8	+0.5	
	comp=N,0.6nm,0.8s,baz=29,slow=3.4,SNR=4.2									
	comp=N,0.6nm,0.8s									
WRA	**Warramunga Arr**	**72.86**	**202**	P		**P**		01 37 50.8	-0.3	
	comp=N,0.3nm,0.5s,baz=18,slow=6.1,SNR=8.2									
	comp=N,0.3nm,0.5s									
WRA	**Warramunga Arr**	**72.86**	**202**	*e*P		**P**		01 37 51.1	0.0	
TXAR	**Lajitas Array**	**73.41**	**64**	P		**P**		01 37 54.8	+0.2	
	comp=N,0.4nm,0.6s,baz=301,slow=6.1,SNR=5.3									
	comp=N,0.4nm,0.6s									
ASAR	**Alice Springs**	**76.55**	**202**	P		**P**		01 38 13.1	+0.7	
	comp=N,0.3nm,0.4s,baz=17,slow=4.1,SNR=4.8									
	comp=N,0.3nm,0.4s									
H03N2	**Juan Fernandez**	**136.03**	**89**	T		T		04 17 43.5		
	baz=313,slow=77,SNR=13									
H03N1	**Juan Fernandez**	**136.05**	**89**	T		T		04 18 02.0		
	baz=313,slow=77,SNR=9.8									
H03N3	**Juan Fernandez**	**136.05**	**89**	T		T		04 17 30.9		
	baz=313,slow=77,SNR=14									

*NEIC **26** 01:30:19.3±1.5,3.70°N±0.08°×82.9°W±0.1, h10km±2km, mb4.3/12, Error ellipse: s-maj=20.3km s-min=11.5km az=245.0*
*IDC **26** 01:30:21.6±1.1,3.58°N×82.80°W, h0km, mb3.7/6, mbtmp3.8/7, ML2.6/1, MS3.4/16, Error ellipse: s-maj=42.3km s-min=20.7km az=57.0*

ISC 26 01:30:21.8±0.7,3.66°N±0.06°×82.80°W±0.08, h24km, n64, σ2°90/47, mb4.0/8, MS3.4/12, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CDITO	**Canoas**	**4.88**	**359**	Pn		**Pn**	**01**	**31**	**30.7**	**-3.0**
BCO2	**Palmira**	**5.03**	**3**	*e*S		**Sn**	**01**	**32**	**30.5**	**-2.9**
BRU2	**Volcan**	**5.10**	**1**	Pn		**Pn**	**01**	**31**	**33.8**	**-3.1**
BRU2	**Volcan**	**5.10**	**1**	*e*P		**Pn**	**01**	**31**	**34.5**	**-2.5**
BRU2				*e*S		**Sn**	**01**	**32**	**32.9**	**-2.3**
OTAV	**Otavalo**	**5.52**	**128**	Pn		**Pn**	**01**	**31**	**41.4**	**-1.6**
SRBA	**San Rafael, Bu**	**5.56**	**354**	Pn		**Pn**	**01**	**31**	**40.8**	**-2.4**
DRK0	**Durika**	**5.58**	**356**	Pn		**Pn**	**01**	**31**	**41.9**	**-1.6**
IMBA	**Imbabura, San**	**5.70**	**126**	Pn		**Pn**	**01**	**31**	**45.2**	**-0.3**
PEZE	**Perez Zeledon,**	**5.75**	**351**	Pn		**Pn**	**01**	**31**	**43.4**	**-2.4**
TULM	**Tulcn-Chalpat**	**5.80**	**120**	Pn		**Pn**	**01**	**31**	**46.7**	**-0.2**
CHOR3	**La Chorrera**	**6.01**	**30**	*e*P		**Pn**	**01**	**31**	**49.3**	**-0.1**
SLOR	**San Lorenzo -**	**6.13**	**135**	Pn		**Pn**	**01**	**31**	**51.7**	**+0.3**
RIMA	**Rio Macho**	**6.15**	**350**	Pn		**Pn**	**01**	**31**	**48.4**	**-3.0**
BCIP	**Isla Barro Col**	**6.21**	**28**	Pn		**Pn**	**01**	**31**	**51.2**	**-0.8**
BATAN	**Batan**	**6.42**	**355**	Pn		**Pn**	**01**	**31**	**53.3**	**-1.6**
HDC	**Heredia**	**6.43**	**348**	Pn		**Pn**	**01**	**31**	**53.2**	**-1.9**
CHSH	**Refugio Sur-Vo**	**6.46**	**142**	Pn		**Pn**	**01**	**31**	**53.7**	**-2.3**
PORT	**Chimborazo Vol**	**6.49**	**142**	Pn		**Pn**	**01**	**31**	**55.9**	**-0.6**
DUNO	**Dulce Nombre,**	**6.91**	**337**	Pn		**Pn**	**01**	**32**	**00.8**	**-0.9**
JTS	**Las Juntas de**	**6.92**	**342**	Pn		**Pn**	**01**	**31**	**60.0**	**-1.9**
COHC	**Cochancay**	**7.05**	**150**	Pn		**Pn**	**01**	**32**	**02.7**	**-0.8**
ORTG	**Ortega, Santa**	**7.16**	**339**	Pn		**Pn**	**01**	**32**	**04.0**	**-1.1**
COVE	**Coope Vega, Sa**	**7.19**	**347**	Pn		**Pn**	**01**	**32**	**03.5**	**-2.0**
HZTE	**Horizontes, Gu**	**7.53**	**339**	Pn		**Pn**	**01**	**32**	**08.2**	**-2.0**
ROSC	**El Rosal**	**8.54**	**82**	Pn		**Pn**	**01**	**32**	**27.2**	**+2.7**
	1.4nm,0.3s,baz=138,slow=17,SNR=2.8									
ROSC				Sn		**Sn**	**01**	**34**	**02.7**	**+2.4**
	1.5nm,0.3s,baz=98,slow=23,SNR=1.5									
	13nm,0.5s									
ROSC	**El Rosal**	**8.54**	**82**	Pn		**Pn**	**01**	**32**	**24.9**	**+0.4**
ACON	**Acoyapa**	**8.58**	**344**	Pn		**Pn**	**01**	**32**	**22.8**	**-1.8**
ATAH	**Atahualpa**	**11.59**	**158**	LR		LR	01	37	27.3	
	comp=Z,69nm,19.2s,baz=339,slow=37									
SDV	**Santo Domingo**	**13.16**	**66**	LR		LR	01	38	11.6	
	comp=Z,117nm,21.9s,baz=272,slow=36									
TBTG	**Tabatinga, AM**	**15.06**	**121**	Pn		**Pn**	**01**	**33**	**52.3**	**-1.0**
TBTG				IAmb		IAmb	01	34	00.5	
	comp=Z,28nm,1.0s									
CZSB	**Cruzeiro do Su**	**15.15**	**138**	Pn		**Pn**	**01**	**33**	**53.8**	**-0.7**
CZSB				IAmb		IAmb	01	34	03.5	
	comp=Z,8.8nm,0.6s									
BAUV	**El Baul**	**15.58**	**70**	Pn		**Pn**	**01**	**33**	**58.1**	**-1.9**
BAUV				IAmb		IAmb	01	34	05.2	
	comp=Z,11nm,0.8s									
NNA	**Nana**	**16.64**	**159**	LR		LR	01	40	52.0	
	comp=Z,39nm,21.7s,baz=328,slow=38									
CMIG	**Matias Romero**	**17.85**	**319**	LR		LR	01	40	13.8	
	comp=Z,80nm,20.1s,baz=164,slow=33									
SDDR	**Presa de Saban**	**18.93**	**36**	P		**P**	**01**	**34**	**40.5**	**-0.8**
ETMB	**Extrema**	**21.27**	**129**	P		**P**	**01**	**35**	**07.0**	**+0.3**
ETMB				IAmb		IAmb	01	35	12.1	
	comp=Z,14nm,1.0s									
CELP	**Cerrillos**	**21.39**	**47**	P		**P**	**01**	**35**	**07.5**	**-0.4**
SJG	**San Juan**	**21.73**	**47**	LR		LR	01	43	05.3	
	comp=Z,59nm,19.5s,baz=270,slow=35									
BOAV	**Boa Vista**	**22.29**	**93**	P		**P**	**01**	**35**	**17.1**	**-0.5**
BOAV				IAmb		IAmb	01	35	21.3	
	comp=Z,2.5nm,0.9s									
LPAZ	**La Paz**	**24.57**	**144**	P		**P**	**01**	**35**	**43.8**	**+3.0**
	comp=Z,8.7nm,1.1s,baz=338,slow=9.7,SNR=17									
	comp=Z,8.7nm,1.1s									
LPAZ	**La Paz**	**24.57**	**144**	P		**P**	**01**	**35**	**38.9**	**-1.9**
LPAZ				IAmb		IAmb	01	35	45.5	
	comp=Z,14nm,1.2s									
PB16	**IPOC Station P**	**25.49**	**149**	P		**P**	**01**	**35**	**48.4**	**-0.6**
PB16				IAmb		IAmb	01	35	54.8	
	comp=Z,5.0nm,1.0s									
SIV	**San Ignacio**	**29.04**	**133**	LR		LR	01	49	03.0	
	comp=Z,125nm,18.0s,baz=310,slow=39									
LVC	**Limon Verde**	**29.43**	**153**	LR		LR	01	48	17.5	
	comp=Z,49nm,21.4s,baz=297,slow=37									
H06E1	**SOCORRO T-PHAS**	**31.33**	**301**	T		T	02	09	46.2	
	SNR=4.7									
TKL	**Tuckaleechee C**	**31.85**	**359**	LR		LR	01	48	58.9	
	comp=Z,61nm,18.2s,baz=211,slow=35									
TXAR	**Lajitas Array**	**32.30**	**324**	P		P	01	36	54.4	+5.2
	comp=Z,0.2nm,0.7s,baz=144,slow=11,SNR=2.4									
TXAR				LR		LR	01	50	01.2	
	comp=Z,25nm,20.4s,baz=142,slow=36									
	comp=Z,0.2nm,0.7s									
LPIG	**La Paz**	**33.42**	**310**	LR		LR	01	47	24.9	
	comp=Z,39nm,20.8s,baz=177,slow=31									
H03N2	**Juan Fernandez**	**37.08**	**175**	T		T	02	16	54.4	
	baz=354,slow=76,SNR=25									
H03N1	**Juan Fernandez**	**37.09**	**175**	T		T	02	16	55.3	
	baz=354,slow=76,SNR=28									
H03N3	**Juan Fernandez**	**37.10**	**175**	T		T	02	16	54.1	
	baz=354,slow=76,SNR=34									
VA06	**Catapilco**	**37.64**	**164**	P		**P**	**01**	**37**	**33.7**	**-1.3**
CPUP	**Villa Florida**	**38.69**	**142**	LR		LR	01	55	03.6	
	comp=Z,79nm,18.9s,baz=27,slow=38									
PFO	**Pinon Flats O**	**43.26**	**318**	LR		LR	01	56	52.3	
	comp=Z,33nm,18.1s,baz=76,slow=37									
PLCA	**Paso Flores**	**45.58**	**167**	P		**P**	**01**	**38**	**42.5**	**+2.4**
	comp=Z,1.7nm,0.9s,baz=322,slow=10,SNR=3.8									
	comp=Z,1.7nm,0.9s									
PLCA	**Paso Flores**	**45.58**	**167**	P		**P**	**01**	**38**	**40.0**	**-0.1**
PLCA				IAmb		IAmb	01	38	42.8	
	comp=Z,4.6nm,1.2s									
LL01	**San Ignacio de**	**46.79**	**169**	P		**P**	**01**	**38**	**49.3**	**-0.1**
NVAR	**Mina Array Bea**	**47.36**	**322**	P		**P**	**01**	**38**	**57.6**	**+3.3**
	comp=Z,0.6nm,0.8s,baz=138,slow=6.8,SNR=5.0									
NVAR				LR		LR	01	58	41.0	
	comp=Z,54nm,19.1s,baz=242,slow=36									
	comp=Z,0.6nm,0.8s									
YBH	**Yreka Blue Hor**	**52.04**	**322**	LR		LR	02	01	20.0	
	comp=Z,54nm,18.1s,baz=145,slow=36									
NEW	**Newport**	**53.28**	**332**	LR		LR	02	04	03.4	
	comp=Z,30nm,18.1s,baz=310,slow=38									
YKA	**Yellowknife Ar**	**63.26**	**344**	P		**P**	**01**	**40**	**51.8**	**+3.7**
	comp=Z,0.8nm,0.7s,baz=125,slow=3.9,SNR=4.2									
	comp=Z,0.8nm,0.7s									
DLBC	**Dease Lake**	**65.77**	**335**	P		**P**	**01**	**41**	**03.5**	**-1.3**
ESDC	**Sonseca Array**	**79.08**	**50**	P		**P**	**01**	**42**	**28.5**	**+3.9**
	comp=Z,0.6nm,0.8s,baz=271,slow=5.6,SNR=3.5									
	comp=Z,0.6nm,0.8s									
SPITS	**Spitsbergen Ar**	**88.32**	**12**	LR		LR	02	27	41.6	
	comp=Z,45nm,18.0s,baz=26,slow=39									

*NEIC **26** 01:45:13.9±0.9,34.50°N±0.05°×141.80°E±0.10, h10km±1km, mb4.5/12, Error ellipse: s-maj=13.8km s-min=8.6km az=107.0*
*IDC **26** 01:45:13.9±0.7,34.44°N×141.62°E, h0km, mb3.8/13, mbtmp3.9/15, ML2.8/1, MS3.4/18, Error ellipse: s-maj=21.6km s-min=15.7km az=81.0*
*JMA **26** 01:45:14.5±0.5,34°N±1°×14°2E±°, h10km±1km, MV3.3/24, FAR SE OFF BOSO PEN*

ISC 26 01:45:14.6±0.6,34.46°N±0.06°×141.64E±0.07, h10km, n66, σ1°02/49, mb4.2/19, MS3.5/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
BSO1	**Boso 1**	**0.58**	**289**	P		**Pg**	**01**	**45**	**25.4**	**-0.3**
BSO3	**Boso 3**	**0.99**	**290**	P		**Pb**	**01**	**45**	**32.8**	**-1.0**
BSO4	**Boso 4**	**1.20**	**296**	P		**Pn**	**01**	**45**	**36.9**	**-0.5**
JKUC	**kamogawauchiur**	**1.38**	**301**	P		**Pn**	**01**	**45**	**39.4**	**-0.5**
JKUC				S

comp=Z,0.6nm,0.6s,baz=3.2,slow=2.0,SNR=2.6

JMA ***26*** *02:09:12.1±0.5, 32°.4N×13°.8E±°, h374km, MV3.3/45, FAR S OFF TOKAI DISTRICT*

IDC ***26*** *02:09:14.8±1.5, 32°.49N×137°.89E, h364km±23km, mb3.0/4, mbtmp3.6/5, Error ellipse: s-maj=70.4km s-min=20.6km az=75.0*

ISC 26 02:09:14.9±1.1, 32°.60N±0°.10×138°.04E±0°.08, h376km, n21, σ1s27/29, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.47**	**315**		*eP*		**Pn**	**02 10 05.3**	**+0.3**
JHJ	**Hachijo jima 2**	**1.56**	**70**	P			**Pn**	**02 10 06.4**	**+0.5**
	56nm,0.5s,baz=120,slow=22,SNR=6.1								
JIE	**Ise**	**2.11**	**329**	P			**Pn**	**02 10 09.6**	**+0.3**
JKN2	**Miekihoku**	**2.20**	**318**		*eP*		**Pn**	**02 10 09.6**	**-0.3**
JTNC	**Tanabenakahech**	**2.37**	**302**	P			**Pn**	**02 10 10.2**	**-1.0**
JYN	**Shimob**	**2.92**	**8**		*eP*		**Pn**	**02 10 17.4**	**+1.9**
BSO3	**Boso 3**	**3.02**	**42**		*eP*		**Pn**	**02 10 15.7**	**-0.2**
BSO3					S		**S**	**02 11 04.4**	**-0.9**
BSO4	**Boso 4**	**3.06**	**38**	P			**Pn**	**02 10 16.7**	**+0.2**
BSO4					S		**S**	**02 11 05.7**	**-0.7**
BSO1	**Boso 1**	**3.20**	**49**	P			**Pn**	**02 10 17.2**	**0.0**
BSO1					S		**S**	**02 11 06.7**	**-1.1**
JAI	**Aioi**	**3.23**	**293**	P			**Pn**	**02 10 17.2**	**-1.0**
JHU	**Hanno**	**3.41**	**17**	P			**Pn**	**02 10 20.6**	**+0.9**
JHU					S		**S**	**02 11 13.3**	**+1.1**
MJAR	**Matsushiro Arr**	**3.94**	**2**	P			**Pn**	**02 10 25.6**	**+0.8**
	2.2nm,0.4s,baz=182,slow=9.8,SNR=9.3								
MJAR					S		**S**	**02 11 20.9**	**-0.5**
	0.9nm,0.3s,baz=165,slow=28,SNR=1.9								
JAG	**Ashikaga**	**4.00**	**17**	P			**Pn**	**02 10 25.5**	**+0.2**
JAG					eS		**S**	**02 11 19.6**	**-2.7**
JYT	**Yasato**	**4.04**	**26**	P			**Pn**	**02 10 25.6**	**-0.1**
JHO	**Hitachi**	**4.52**	**27**	P			**Pn**	**02 10 30.5**	**-0.1**
JHO					S		**S**	**02 11 28.9**	**-3.0**
JHS	**Saijyo**	**4.75**	**302**	P			**Pn**	**02 10 32.6**	**-0.4**
JFK	**Kawauchi**	**5.30**	**25**	P			**Pn**	**02 10 39.0**	**+0.1**
JFK					S		**S**	**02 11 44.0**	**-3.0**
MKAR	**Makanchi Array**	**44.27**	**306**	P			**P**	**02 16 49.5**	**+0.8**
	0.5nm,0.5s,baz=92,slow=9.0,SNR=4.6 0.5nm,0.5s								
WRA	**Warramunga Arr**	**52.36**	**184**	P			**P**	**02 17 49.1**	**-0.8**
	0.1nm,0.5s,baz=0.3,slow=7.4,SNR=1.6 0.1nm,0.5s								
ARCES	**ARCESS Array B**	**67.16**	**339**	P			**P**	**02 19 30.7**	**+1.7**
	1.8nm,0.9s,baz=72,slow=8.6,SNR=3.5 1.8nm,0.9s								
FINES	**FINESS Array B**	**71.43**	**332**	P			**P**	**02 19 56.1**	**+1.1**
	1.8nm,1.0s,baz=54,slow=7.1,SNR=4.8 1.8nm,1.0s								

MAN ***26*** *02:17:35.0, 6°.57N×126°.65E, h37km, mb4.6, ML3.4, MS3.3*

IDC ***26*** *02:17:36.1±5.4, 6°.63N×126°.72E, h57km±48km, mb3.4/4, mbtmp3.7/4, Error ellipse: s-maj=71.8km s-min=23.4km az=60.0*

ISC 26 02:17:35.8±1.6, 6°.50N±0°.07×126°.6E±0°.1, h48km±16km, n12, σ1s07/19, mb3.5/4, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.58**	**320**		*eP*		**Pn**	**02 17 47.7**	**-0.3**
MATI					eS		**Sn**	**02 17 56.5**	**-0.2**
DDMP	**Don Marcelino,**	**1.00**	**247**		*eP*		**Pn**	**02 17 53.7**	**+0.2**
DDMP					eS		**Sn**	**02 18 07.0**	**+0.5**
DAV	**Davao City (W)**	**1.19**	**299**	P			**Pn**	**02 17 57.1**	**+1.0**
	246nm,0.3s,baz=35,slow=3.6,SNR=7.4								
DAV					S		**Sn**	**02 18 12.6**	**+1.4**
	531nm,0.4s,baz=263,slow=23,SNR=26								
KCP	**Kidapawan**	**1.61**	**288**		*iP*		**Pn**	**02 18 01.5**	**-0.4**
KCP					*i* S		**Sn**	**02 18 20.5**	**-1.2**
BIPH	**Bislig**	**1.70**	**351**		*eP*		**Pn**	**02 18 02.7**	**-0.4**
BIPH					eS		**Sn**	**02 18 23.4**	**-0.1**
GSPH	**General Santos**	**1.72**	**256**		*eP*		**Pn**	**02 18 01.3**	**-2.1**
SKMP	**Bagumbayan, Su**	**2.08**	**271**		*eP*		**Pn**	**02 18 08.2**	**0.0**
SKMP					eS		**Sn**	**02 18 33.8**	**+0.8**
CGP	**Cagayan de Oro**	**2.73**	**315**		*eP*		**Pn**	**02 18 18.8**	**+1.6**
CGP					eS		**Sn**	**02 18 47.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**24.46**	**182**	P			**P**	**02 22 51.7**	**+1.3**
	1.6nm,0.7s,baz=359,slow=10,SNR=2.2 1.6nm,0.7s								
WRA	**Warramunga Arr**	**27.35**	**164**	P			**P**	**02 23 16.4**	**-0.2**
	0.3nm,0.5s,baz=345,slow=9.6,SNR=8.2 0.3nm,0.5s								
ASAR	**Alice Springs**	**30.81**	**167**	P			**P**	**02 23 47.7**	**+0.4**
	0.2nm,0.3s,baz=350,slow=7.4,SNR=5.6 0.2nm,0.3s								
MKAR	**Makanchi Array**	**55.25**	**324**	P			**P**	**02 27 03.2**	**-1.1**
	1.2nm,1.0s,baz=124,slow=7.6,SNR=2.8 1.2nm,1.0s								

BJI ***26*** *02:24:35.9±0.0, 41°.77N×142°.22E, h77km, mb5.1/71, mB5.0/41, Ms4.2/30, Ms7 4.0/30*

JMA ***26*** *02:24:36.9±0.2, 41°.8N±0°.7×142°.2E±0°.7, h72km±2km, MD4.8/40, MW4.8/40, S OFF URAKAWA*

JMA Felt III J1 at S OFF URAKAWA .

MOS ***26*** *02:24:36.5±1.0, 41°.90N×142°.17E, h68km, mb5.3/56, Error ellipse: s-maj=5.8km s-min=4.1km az=112.5*

NIED ***26*** *02:24:36.9, 41°.83N×142°.21E, h72km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr 1.52; Mθθ-0.40; Mϕϕ-1.12; Mrθ 0.64; Mθϕ-0.54; Mϕr 1.33; Fault plane solution: M0 2.08000×10^16 NP1: ϕs=209.00000°, δ=22.00000°, λ=93.00000°. NP2: ϕs=26.00000°, δ=68.00000°, λ=89.00000°.*

NEIC ***26*** *02:24:37.7±1.9, 41°.88N±0°.04×142°.20E±0°.06, h64km±4km, mb5.0/370, Mwr4.8/27, Mww5.0 Error ellipse: s-maj=6.7km s-min=5.9km az=138.0*

IDC ***26*** *02:24:38.6±0.5, 41°.93N×142°.15E, h71km±4km, mb4.6/32, mbtmp4.9/36, MS3.7/77, Error ellipse: s-maj=10.9km s-min=8.6km az=126.0*

NEIC ***26*** *02:24:38.4, 41°.88N×142°.23E, h66km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 1.14; Mθθ-0.04; Mϕϕ-1.10; Mrθ 0.49; Mϕθ-0.83; Mϕr 1.52; Fault plane solution: M0 2.12000×10^16 NP1: ϕs=18.73000°, δ=70.39000°, λ=81.05000°. NP2: ϕs=223.86000°, δ=21.49000°, λ=113.58000°. Principal axes: T 1.9121, Plg64.0000°, Azm274.0000°; N 0.3676, Plg8.0000°, Azm22.0000°; P -2.2797, Plg25.0000°, Azm116.0000°;*

GCMT ***26*** *02:24:38.7±0.2, 42°.02N±0°.02×142°.34E±0°.02, h70km±2km, MW4.9/105, Moment Tensor Solution. s50,c64; s105,c148; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.02±.10; Mθθ 0.02±.10; Mϕϕ-2.05±.10; Mrθ 0.77±.06; Mϕθ-0.97±.08; Mϕr 1.30±.07; Best double couple: M0 2.69500×10^16 NP1: ϕs 28.00000°, δ62.00000°, λ96.00000°. NP2: ϕs 194.00000°, δ28.00000°, λ78.00000°. Principal axes: T 2.5000, Plg72.0000°, Azm312.0000°; N 0.3840, Plg6.0000°, Azm205.0000°; P -2.8900, Plg17.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***26*** *02:24:40, 41°.69N×142°.35E, h50km, Moment Tensor Solution. Duration: 4s0 Moment tensor: Scale 10^16 Nm; Mrr 3.10; Mθθ-0.61; Mϕϕ-2.48; Mrθ 0.44; Mϕθ-1.82; Mϕr 1.28; Fault plane solution: M0 3.63000×10^16 NP1: ϕs 218.00000°, δ35.00000°, λ100.00000°. NP2: ϕs 26.00000°, δ56.00000°, λ83.00000°. Principal axes: T 3.3731, Plg78.0000°, Azm273.0000°; N 0.4744, Plg5.0000°, Azm30.0000°; P -3.8475, Plg11.0000°, Azm121.0000°;*

ISC 26 02:24:38.2±0.3, 41°.86N±0°.03×142°.19E±0°.03, h73km±2km, h73km:pP-P, n1153, σ1s16/994, mb5.0/313, 85C-54D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.59**	**20**		*eP*		**Pn**	**02 24 51.2**	**-1.0**
JSHD					eS		**Sn**	**02 25 01.9**	**-0.7**
JSHD	**Hidakashinhida**	**0.59**	**20**	A			**A**	02 24 51.2	
	comp=E,361nm,0.9s,comp=E,287nm,2.0s								
JNBK	**Urakawa-nobuka**	**0.59**	**44**	P			**Pn**	**02 24 50.4**	**-1.9**
JNBK					eS		**Sn**	**02 25 00.5**	**-2.1**
JNBK	**Urakawa-nobuka**	**0.59**	**44**	A			**A**	02 24 50.4	
	comp=E,129nm,0.4s,comp=E,220nm,0.4s								
ERM	**Erimo**	**0.74**	**77**	Pn			**Pn**	**02 24 52.5**	**-1.3**
ERM							**Sn**	**02 25 03.5**	**-1.8**
ERM	**Erimo**	**0.74**	**77**	P			**Pn**	**02 24 52.5**	**-1.3**
ERM								02 25 03.5	
JEM	**Erimo**	**0.74**	**77**		*eP*		**Pn**	**02 24 52.6**	**-1.2**
JEM	**Erimo**	**0.74**	**77**	A			**A**	02 24 52.6	
	comp=E,46nm,1.3s,comp=E,37nm,0.6s								
JIAM	**Iburiatsuma**	**0.79**	**345**		*eP*		**Pn**	**02 24 54.1**	**-0.3**
JIAM					eS		**Sn**	**02 25 06.6**	**+0.2**
JIAM	**Iburiatsuma**	**0.79**	**345**	A			**A**	02 24 54.1	
	comp=E,313nm,1.8s,comp=E,158nm,1.1s								
JKB	**Kayabe**	**0.87**	**272**		*eP*		**Pn**	**02 24 53.8**	**-1.4**
JKB					eS		**Sn**	**02 25 06.3**	**-1.6**
JKB	**Kayabe**	**0.87**	**272**	A			**A**	02 24 53.8	
	comp=E,53nm,1.5s,comp=E,64nm,0.6s								
JAHD	**Aomorihigashid**	**0.87**	**228**	A			**A**	02 24 54.0	
	comp=E,243nm,1.3s,comp=E,179nm,1.2s								
JBT2	**Biratori 2**	**0.93**	**8**		*eS*		**Sn**	**02 25 08.5**	**-0.8**
JBT2	**Biratori 2**	**0.93**	**8**	A			**A**	02 25 08.5	
	comp=E,36nm,1.9s,comp=E,31nm,1.7s								
JTHR	**Tokachihiroo**	**0.93**	**62**	A			**A**	02 24 54.8	
	comp=E,135nm,2.6s,comp=E,106nm,0.5s								
JOT	**Ohata**	**0.98**	**241**		*eP*		**Pn**	**02 24 55.5**	**-1.2**
JOT					eS		**Sn**	**02 25 08.9**	**-1.5**
JOT	**Ohata**	**0.98**	**241**	A			**A**	02 24 55.5	
	comp=E,29nm,1.2s,comp=E,42nm,2.1s								
JARK	**Aomorirokkasho**	**1.05**	**216**	A			**A**	02 24 56.2	
	comp=E,32nm,1.6s,comp=E,27nm,0.5s								
JNB	**Noboribetsu**	**1.05**	**306**		*eP*		**Pn**	**02 24 56.0**	**-1.6**
JNB					eS		**Sn**	**02 25 10.4**	**-1.6**
JNB	**Noboribetsu**	**1.05**	**306**	A			**A**	02 24 56.0	
	comp=E,18nm,1.0s,comp=E,14nm,0.2s								
JEW	**Eniwo**	**1.13**	**331**				**Pn**	**02 24 57.7**	**-0.8**
JEW							**Sn**	**02 25 12.4**	**-1.2**
JEW	**Eniwo**	**1.13**	**331**		*eP*		**Pn**	**02 24 57.8**	**-0.8**
JEW					eS		**Sn**	**02 25 13.1**	**-0.5**
JEW	**Eniwo**	**1.13**	**331**	A			**A**	02 24 57.8	
	comp=E,97nm,0.9s,comp=E,118nm,1.0s								
JCH	**Churui**	**1.15**	**49**	P			**Pn**	**02 24 58.1**	**-0.7**
JCH	**Churui**	**1.15**	**49**	A			**A**	02 24 58.1	
	comp=E,48nm,2.4s,comp=E,29nm,1.5s								
JFR	**Furan**	**1.34**	**13**		*eP*		**Pn**	**02 25 00.1**	**-1.1**
JFR	**Furan**	**1.34**	**13**	A			**A**	02 25 00.1	
	comp=E,33nm,1.3s,comp=E,23nm,0.7s								
JTM	**Tenmabayashi**	**1.36**	**219**				**Pn**	**02 25 00.8**	**-0.7**
JTM							**Sn**	**02 25 18.7**	**-0.4**
JTM	**Tenmabayashi**	**1.36**	**219**		*eP*		**Pn**	**02 25 00.9**	**-0.7**
JTM	**Tenmabayashi**	**1.36**	**219**	A			**A**	02 25 00.9	
	comp=E,18nm,3.0s,comp=E,20nm,1.0s								
JSR	**Shiriuchi**	**1.37**	**257**				**Pn**	**02 25 00.6**	**-1.0**
JSR	**Shiriuchi**	**1.37**	**257**	A			**A**	02 25 00.6	
	comp=E,11nm,1.4s,comp=E,21nm,1.8s								
JYM2	**Yakumo 2**	**1.38**	**281**		*eP*		**Pn**	**02 25 00.7**	**-1.1**
JYM2	**Yakumo 2**	**1.38**	**281**	A			**A**	02 25 00.7	
	comp=E,10.0nm,1.0s,comp=E,15nm,2.4s								
JISS	**Ishikarishitsu**	**1.53**	**338**	A			**A**	02 25 03.0	
	comp=E,39nm,0.7s,comp=E,38nm,1.9s								
JSI2	**Shiura 2**	**1.56**	**240**	A			**A**	02 25 03.1	
	comp=E,24nm,2.1s,comp=E,31nm,2.6s								
JANG	**Nango**	**1.57**	**199**		*eP*		**Pn**	**02 25 03.6**	**-0.7**
JANG					eS		**Sn**	**02 25 22.9**	**-1.0**
JANG	**Nango**	**1.57**	**199**	A			**A**	02 25 03.6	
	comp=E,40nm,1.2s,comp=E,25nm,1.1s								
JOB	**Onbets**	**1.60**	**49**	A			**A**	02 25 03.8	
	comp=E,46nm,0.8s,comp=E,56nm,1.0s								
JAB	**Ashibetsu**	**1.65**	**1**	A			**A**	02 25 04.7	
	comp=E,39nm,1.1s,comp=E,64nm,1.1s								
JOMM	**Oshimamatsumae**	**1.67**	**259**		*eP*		**Pn**	**02 25 04.7**	**-0.8**
JOMM					eS		**Sn**	**02 25 26.3**	**+0.1**
JOMM	**Oshimamatsumae**	**1.67**	**259**	A			**A**	02 25 04.7	
	comp=E,8.0nm,0.5s,comp=E,8.0nm,3.3s								
JKEN	**Kujiedanarisaw**	**1.69**	**193**	A			**A**	02 25 04.6	
	comp=E,91nm,1.5s,comp=E,63nm,0.4s								
JSH	**Shimam**	**1.78**	**297**	A			**A**	02 25 06.4	
	comp=E,5.0nm,1.5s,comp=E,7.0nm,1.9s								
JHST	**Hiyamasetana**	**1.81**	**289**	A			**A**	02 25 06.8	
	comp=E,13nm,0.9s,comp=E,14nm,1.3s								
JHHS	**Hirosakihyakuz**	**1.83**	**230**	A			**A**	02 25 06.8	
	comp=E,29nm,3.5s,comp=E,34nm,1.7s								
JAR	**Ashorobuto**	**1.85**	**38**		*eP*		**Pn**	**02 25 07.4**	**-0.6**
JAR	**Ashorobuto**	**1.85**	**38**	A			**A**	02 25 07.4	
	comp=E,20nm,0.4s,comp=E,23nm,1.8s								
JHR	**Hokuryu**	**1.92**	**350**		*eP*		**Pn**	**02 25 08.9**	**+0.1**
JHR					eS		**Sn**	**02 25 32.5**	**+0.4**
JHR	**Hokuryu**	**1.92**	**350**	A			**A**	02 25 08.9	
	comp=E,43nm,1.6s,comp=E,23nm,2.2s								
JTH	**Tanohata**	**1.93**	**188**	A			**A**	02 25 07.9	
	comp=E,8.0nm,0.9s,comp=E,7.0nm,0.9s								
JSK	**Shakotan**	**1.96**	**320**	A			**A**	02 25 09.0	
	comp=E,8.0nm,1.3s,comp=E,8.0nm,1.5s								
JKZ	**Kuzumaki**	**1.98**	**200**	A			**A**	02 25 08.6	
	comp=E,13nm,0.5s,comp=E,17nm,0.5s								
JAH	**Hinai**	**2.04**	**216**	A			**A**	02 25 09.5	
	comp=E,16nm,1.5s,comp=E,14nm,1.2s								
JKK2	**Kamakawa 2**	**2.06**	**11**	A			**A**	02 25 10.3	
	comp=E,13nm,2.5s,comp=E,11nm,1.0s								
JIW	**Iwasaki**	**2.08**	**233**	A			**A**	02 25 10.2	
	comp=E,11nm,3.0s,comp=E,11nm,0.7s								
JAK	**Akkeshi**	**2.17**	**58**	A			**A**	02 25 11.7	
	comp=E,16nm,0.8s,comp=E,30nm,1.3s								
JNTW	**Noshirotokiwa**	**2.21**	**225**	A			**A**	02 25 11.9	
	comp=E,42nm,4.7s,comp=E,22nm,1.8s								
ASAJ	**Asahikawa**	**2.28**	**7**	A			**A**	02 25 13.4	
	comp=E,9.0nm,2.4s,comp=E,7.0nm,1.3s								
MIYJ	**Miyakonagasawa**	**2.30**	**187**	A			**A**	02 25 13.0	
	comp=E,13nm,0.5s,comp=E,12nm,0.5s								
JMP	**Maruseppu**	**2.31**	**21**	A			**A**	02 25 13.8	
	comp=E,9.0nm,1.9s,comp=E,9.0nm,2.5s								
JSZI	**Iwateshizukuis**	**2.31**	**204**	A			**A**	02 25 13.3	
	comp=E,19nm,2.2s,comp=E,20nm,3.4s								
JTKR	**Abashiri--Toko**	**2.46**	**30**	A			**A**	02 25 15.8	
	comp=E,17nm,1.6s,comp=E,10.0nm,2.0s								
JOM	**Ohasama**	**2.48**	**196**	A			**A**	02 25 15.5	
	comp=E,15nm,0.3s,comp=E,16nm,1.3s								
JKHN	**Kushirohamanak**	**2.51**	**60**	A			**A**	02 25 16.4	
	comp=E,13nm,1.4s,comp=E,11nm,0.6s								
JNK	**Nakash**	**2.54**	**46**	A			**A**	02 25 16.8	
	comp=E,7.0nm,0.4s,comp=E,8.0nm,5.7s								
JSS	**Shosan**	**2.55**	**355**	A			**A**	02 25 17.3	
	comp=E,14nm,2.7s,comp=E,15nm,2.8s								
JRG	**Rokugo**	**2.73**	**206**	A			**A**	02 25 19.1	
	comp=E,11nm,1.3s,comp=E,10.0nm,1.2s								
JYW	**Yuwa**	**2.76**	**214**	A			**A**	02 25 19.6	
	comp=E,16nm,1.6s,comp=E,13nm,1.6s								
OFUJ	**Ofunato**	**2.80**	**188**	A			**A**	02 25 20.0	
	comp=E,9.0nm,1.1s,comp=E,5.0nm,2.5s								
JNSB	**Nemuroshibetsu**	**2.82**	**46**	A			**A**	02 25 20.7	
	comp=E,12nm,0.6s,comp=E,19nm,3.9s								
JRA	**Rausu**	**2.99**	**45**	A			**A**	02 25 23.1	
	comp=E,11nm,1.5s,comp=E,12nm,1.5s								
JMK	**Ichinoseki**	**3.00**	**195**	A			**A**	02 25 22.7	
	comp=E,13nm,1.6s,comp=E,4.0nm,1.6s								
NMR	**Nemuro--Hokkai**	**3.02**	**59**		*iP*		**Pn**	**02 25 21.7**	**-1.9**
NMR					*i* S		**Sn**	**02 25 54.0**	**-4.6**
JOG3	**Oga3**	**3.05**	**232**	A			**A**	02 25 18.1	
	comp=E,11nm,3.6s,comp=E,7.0nm,3.6s								
JKMT	**Kesennumamotoy**	**3.09**	**190**	A			**A**	02 25 24.1	
	comp=E,8.0nm,1.7s,comp=E,5.0nm,3.1s								
RUSJ	**Misakicho**	**3.17**	**44**		*iP*		**Pn**	**02 25 25.9**	**+0.1**
RUSJ					eS		**Sn**	**02 26 01.4**	**-1.1**
JYK	**Kaneyama**	**3.25**	**206**	A			**A**	02 25 26.4	
	comp=E,8.0nm,1.1s,comp=E,7.0nm,1.1s								
JYYZ	**Yamagatayuza**	**3.32**	**212**	A			**A**	02 25 27.4	
	comp=E,8.0nm,3.8s,comp=E,12nm,2.5s								
JOFO	**Osakifurukawao**	**3.40**	**197**	A			**A**	02 25 28.4	
	comp=E,30nm,1.6s,comp=E,27nm,2.2s								
JIO	**Ouri**	**3.46**	**191**	A			**A**	02 25 29.2	
	comp=E,7.0nm,1.5s,comp=E,5.0nm,2.1s								
YUK	**Yuzh-Kuril'sk**	**3.46**	**50**		*iP*		**Pn**	**02 25 29.7**	**0.0**
YUK					*i* S		**Sn**	**02 26 07.7**	**-1.8**
YUK						pmax	pmax		
	comp=Z,9μm,0.3s								
YUK						pmax	pmax		
	comp=N,1μm,0.2s								
YUK						pmax	pmax		
	comp=E,2μm,0.3s								
YUK						smax	smax		
	comp=E,8μm,0.5s								
YUK						smax	smax		
	comp=N,13μm,0.4s								
JOU	**Okura**	**3.68**	**199**	A			**A**	02 25 32.3	
	comp=N,9.0nm,1.4s,comp=N,8.0nm,0.8s								
JYA	**Atsumi**	**3.77**	**211**	A			**A**	02 25 33.7	
	comp=N,10.0nm,1.2s,comp=N,19nm,1.3s								
JYS	**Shirataka**	**3.98**	**205**	A			**A**	02 25 36.5	
	comp=N,7.0nm,1.8s,comp=N,7.0nm,2.3s								
JMM	**Marumori**	**4.13**	**196**			Pn	**Pn**	**02 25 38.5**	**-0.3**
JMM	**Marumori**	**4.13**	**196**			A	**A**	02 25 38.6	
	comp=N,5.0nm,2.9s,comp=N,4.0nm,5.0s								
JYAR	**Yonezawaarcadi**	**4.24**	**202**			A	**A**	02 25 40.2	
	comp=N,8.0nm,1.2s,comp=N,9.0nm,1.1s								
JMST	**Minamisoumatoc**	**4.25**	**194**			A	**A**	02 25 40.2	
	comp=N,4.0nm,1.3s,comp=N,4.0nm,1.0s								
JSD	**Sado**	**4.87**	**220**			Pn	**Pn**	**02 25 49.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**5.11**	**4**			Pn	**Pn**	**02 25 52.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.11**	**4**			pP	**Pn**	**02 25 53.7**	**+1.5**
YSS						eS	**Sn**	**02 26 49.7**	**-0.1**
YSS						pmax	pmax		
	comp=Z,250nm,0.6s								
YSS						pmax	pmax		
	comp=N,170nm,0.7s								
YSS						pmax	pmax		
	comp=Z,400nm,2.0s								
YSS						pmax	pmax		
	comp=N,600nm,3.1s								
YSS						smax	smax		
	comp=N,180nm,0.6s								
YSS						MLR	MLR		
	comp=Z,1μm,15.0s								
YSS						MLR	MLR		
	comp=N,600nm,13.0s								
TEY	**Ternei**	**5.16**	**310**			*eP*	**Pn**	**02 25 52.7**	**-0.2**
TEY						*e*		02 27 00.7	
TEY						pmax	pmax		
	comp=E,80nm,0.6s								
TEY						pmax	pmax		
	comp=N,50nm,0.7s								
TEY						pmax	pmax		
	comp=Z,70nm,0.7s								
KUR	**Kuril'sk**	**5.33**	**49**			*eP*	**Pn**	**02 25 55.3**	**+0.1**
KUR						eS	**Sn**	**02 26 53.6**	**-1.5**
KUR						pmax	pmax		
	comp=Z,764nm,0.4s								
KUR						pmax	pmax		
	comp=N,198nm,0.2s								
KUR						pmax	pmax		
	comp=E,153nm,0.3s								
KUR						smax	smax		
	comp=E,1μm,0.8s								
KUR						smax	smax		
	comp=N,588nm,0.6s								
JYT	**Yasato**	**5.83**	**196**			Pn	**Pn**	**02 26 00.2**	**-2.0**
MJB9	**Matsu-Tunnel**	**6.14**	**212**				**Pn**	**02 26 08.0**	**+1.7**
MAJO	**Matsushiro**	**6.14**	**212**			Pn	**Pn**	**02 26 07.5**	**+1.1**
MAJO	**Matsushiro**	**6.14**	**212**			*i*P	**Pn**	**02 26 07.9**	**+1.5**
MJAR	**Matsushiro Arr**	**6.14**	**212**			P	**Pn**	**02 26 07.8**	**+1.4**
	comp=N,20nm,0.5s,baz=24,slow=15,SNR=31								
MJAR						LR	LR	02 29 06.1	
	comp=N,312nm,21.7s,baz=28,slow=43								
JGF	**Kuroka**	**7.30**	**213**			Pn	**Pn**	**02 26 23.0**	**+0.8**
INU	**Inuyama**	**7.66**	**214**			Pn	**Pn**	**02 26 26.6**	**-0.4**
VLA	**Vladivostok**	**7.72**	**283**			*i* P	**Pn**	**02 26 23.8**	**-4.1**
USA0B	**Ussuriysk Arra**	**7.83**	**291**			Pn	**Pn**	**02 26 29.1**	**-0.3**
USA0B	**Ussuriysk Arra**	**7.83**	**291**			P	**Pn**	**02 26 29.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**7.83**	**291**			P	**Pn**	**02 26 29.8**	**+0.4**
	comp=N,61nm,0.8s,baz=92,slow=13,SNR=85								
USRK						LR	LR	02 29 34.7	
	comp=N,505nm,19.0s,baz=120,slow=38								
USRK	**Ussuriysk Ar.**	**7.83**	**291**			Pn	**Pn**	**02 26 29.4**	**0.0**
JHJ	**Hachijo jima 2**	**8.93**	**193**			P	**Pn**	**02 26 41.9**	**-2.5**
	comp=N,88nm,0.3s,baz=310,slow=22,SNR=16								
JHJ						S	**Sn**	**02 28 16.1**	**-7.3**
	comp=N,122nm,0.3s,baz=219,slow=23,SNR=1.6								
JHJ						LR	LR	02 31 01.0	
	comp=N,188nm,18.5s,baz=14,slow=42								
JHJ2	**Mitsune**	**8.93**	**193**			Pn	**Pn**	**02 26 40.7**	**-3.8**
TYV	**Tymovskoe**	**9.01**	**2**			*eP*	**Pn**	**02 26 48.3**	**+2.8**
TYV						pmax	pmax		
	comp=Z,33nm,1.1s								
MDJ	**Mudanjiang**	**9.60**	**291**			P	**Pn**	**02 26 56.3**	**+2.8**
MDJ						sP		02 27 14.3	
MDJ						S	**Sn**	**02 28 41.5**	**+1.8**
MDJ						pmax	pmax		

comp=Z,400nm,12.0s
DL2 Dalian 15.94 266 P **Pn** **02 28 18.5 +0.5**
DL2 pmax pmax
comp=Z,120nm,0.8s
HIA Hailar 17.34 303 Pn **Pn** **02 28 33.0 -2.3**
HIA Hailar 17.34 303 P **Pn** **02 28 33.0 -2.3**
HIA pmax pmax
comp=Z,20nm,0.9s
MA2 Magadan 18.52 14 LR LR 02 36 25.6
comp=Z,61nm,20.2s,baz=128,slow=38
MA2 Magadan 18.52 14 P **P** **02 28 46.4 -2.1**
MA2 Magadan 18.52 14 P **P** **02 28 46.4 -2.1**
MA2 pmax pmax
comp=Z,51nm,1.1s
JOW Kunigami 18.85 222 LR LR 02 36 33.9
comp=Z,165nm,19.9s,baz=98,slow=38
XLT XiLinHaoTe 19.22 285 ⇓*i*P **P** **02 28 55.0 -1.4**
XLT pP pP 02 29 07.0 -4.2
XLT S **S** **02 32 26.5 -3.8**
XLT pmax pmax
comp=Z,32nm,1.1s
XLT pmax pmax
comp=Z,180nm,6.7s
XLT LR LR
comp=Z,35nm,13.0s
XLT LR LR
comp=Z,340nm,18.1s
XLT LR LR
comp=Z,330nm,21.5s
BJI Beijing 19.71 273 P **P** **02 29 00.3 -1.4**
BJI pP **pP** **02 29 16.0 -0.6**
BJI sP **sP** **02 29 22.8 -3.0**
BJI S **S** **02 32 33.5 -6.5**
BJI pmax pmax
comp=Z,46nm,1.2s
BJI LR LR
comp=Z,56nm,9.9s
BJI LR LR
comp=Z,290nm,13.0s
BJI LR LR
comp=Z,380nm,16.6s
BJT Baijiatuau 19.73 273 IAmb IAmb 02 29 01.9
comp=Z,72nm,1.2s
TIA Tai'an 20.24 262 ⇑P **P** **02 29 06.0 -1.4**
TIA pmax pmax
comp=Z,58nm,0.9s
NJ2 Nanjing 21.01 250 ⇓P **P** **02 29 14.0 -1.7**
NJ2 pmax pmax
comp=Z,37nm,0.8s
YAK Yakutsk 21.55 344 P **P** **02 29 17.4 -3.8**
comp=Z,42nm,0.6s,baz=20,slow=2.4,SNR=13
YAK S **S** **02 33 09.5 -6.3**
comp=Z,14nm,0.5s,baz=64,slow=22,SNR=9.3
YAK LR LR 02 38 14.3
comp=Z,151nm,19.9s,baz=90,slow=38
YAK Yakutsk 21.55 344 P **P** **02 29 16.9 -4.2**
YAK Yakutsk 21.55 344 *e*P **P** **02 29 17.4 -3.8**
YAK *e*S **S** **02 33 10.6 -5.2**
YAK *e* 02 33 17.7
YAK pmax pmax
comp=Z,64nm,0.8s
YAK pmax pmax
comp=N,17nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK smax smax
comp=N,154nm,1.5s
YAK smax smax
comp=E,124nm,1.5s
HNS HongShan 21.59 267 ⇑P **P** **02 29 19.0 -2.9**
HNS pmax pmax
comp=E,27nm,0.9s
SEY Seymchan 21.95 13 P **P** **02 29 23.5 -2.0**
comp=E,13nm,0.6s,baz=196,slow=9.0,SNR=18
comp=E,13nm,0.6s
HHC Hu-ho-hao-te 22.96 278 *e*P **P** **02 29 38.5 +2.0**
HHC pmax pmax
comp=E,19nm,0.8s
HHC pmax pmax
comp=E,270nm,4.6s
HHC LR LR
comp=E,440nm,11.4s
HHC LR LR
comp=E,600nm,13.3s
HHC LR LR
comp=E,670nm,14.0s
BOD Bodaibo 23.94 321 *e*P **P** **02 29 42.8 -2.5**
BOD pmax pmax
comp=Z,17nm,1.0s
SHEM Shemya Is, Ala 24.02 52 LR LR 02 39 22.8
comp=Z,34nm,21.4s,baz=249,slow=37
TATO Taipei 24.03 232 P **P** **02 29 46.2 -0.2**
TATO Taipei 24.03 232 P **P** **02 29 47.2 +0.8**
YHNB Yeheng 24.33 232 P **P** **02 29 47.8 -1.3**
YHNB IAmb IAmb 02 30 04.2
comp=Z,33nm,0.7s
LYN LuoYang 24.39 262 ⇓*i*P **P** **02 29 46.5 -3.0**
LYN PP **PnPn** **02 30 24.5 +0.7**
LYN sS sS 02 34 29.5 -3.3
LYN SS **SnSn** **02 34 53.3 -1.2**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN pmax pmax
comp=Z,340nm,6.9s
LYN LR LR
comp=Z,310nm,24.9s
WHN Wuhan 25.04 252 ⇓P **P** **02 29 55.0 -0.5**
WHN pmax pmax
comp=Z,98nm,0.7s
SSLB Suanglung 25.25 231 P **P** **02 29 56.8 -0.7**
SSLB IAmb IAmb 02 30 26.1
comp=Z,112nm,1.8s
YULB Yu-li 25.36 230 P **P** **02 29 56.2 -2.2**
YULB IAmb IAmb 02 30 29.4
comp=Z,68nm,1.6s
ULN Ulaanbaatar 25.47 296 P **P** **02 29 58.9 -0.5**
ULN IAmb IAmb 02 30 00.8
comp=Z,41nm,1.1s
ULN Ulaanbaatar 25.47 296 *ce*P **P** **02 29 59.5 +0.1**
ULN pmax pmax
comp=Z,5.0nm,0.5s
ULN Ulaanbaatar 25.47 296 P **P** **02 29 59.7 +0.2**
QZH Quanzhou 25.81 237 ⇑*i*P **P** **02 30 05.0 +2.5**
TPUB Ta-pu 25.81 231 P **P** **02 30 01.4 -1.1**
TPUB IAmb IAmb 02 30 04.8
comp=Z,63nm,1.2s
SONM Songino Array 25.91 296 P **P** **02 30 02.9 -0.5**
comp=Z,28nm,0.9s,baz=94,slow=8.7,SNR=57
SONM PcP **PcP** **02 33 31.4 +1.0**
comp=Z,2.2nm,0.5s,baz=120,slow=2.4,SNR=4.0
SONM ScP **ScP** **02 37 05.3 +2.0**
comp=Z,1.7nm,0.7s,baz=132,slow=2.2,SNR=5.1
SONM LR LR 02 40 52.6
comp=Z,309nm,20.5s,baz=76,slow=38
comp=Z,28nm,0.9s
SONM Songino Array 25.91 296 P **P** **02 30 02.8 -0.6**
SONM IAmb IAmb 02 30 04.8
comp=Z,26nm,0.8s
TWG Pinlang 25.93 229 P **P** **02 30 05.2 +1.6**
KNMB Chin-men Tao 26.29 236 P **P** **02 30 07.6 +0.8**
XAN Xi'an 27.25 264 ⇓P **P** **02 30 13.5 -1.9**
XAN pP pP 02 30 29.0 -3.5
XAN PcP **PcP** **02 33 34.5 +0.9**
XAN PcS **PcS** **02 37 10.5 -4.9**
XAN pmax pmax
comp=Z,45nm,1.2s
XAN LR LR
comp=Z,360nm,17.9s
ZAK Zakamensk 28.01 301 *e*P **P** **02 30 21.0 -1.2**
ZAK pmax pmax
comp=Z,14nm,1.4s
GUMO Guam 28.26 174 LR LR 02 40 41.1
comp=Z,86nm,21.6s,baz=334,slow=34
ENH Enshi 28.69 257 P **P** **02 30 26.4 -1.9**
ENH IAmb IAmb 02 30 30.8
comp=Z,44nm,0.7s
MOY Mondy 29.52 304 *e*P **P** **02 30 35.9 +0.3**
MOY pmax pmax
comp=Z,44nm,1.6s
LZH Lanzhou 30.19 272 *e*P **P** **02 30 41.5 -0.2**
LZH pP pP 02 30 57.3 -1.6
LZH pmax pmax
comp=Z,28nm,1.0s
H11N2 WAKE ISLAND Hy 30.41 129 T T 03 02 27.9
baz=323,slow=75,SNR=692
H11N1 WAKE ISLAND Hy 30.42 129 T T 03 02 28.6
baz=323,slow=75,SNR=716
H11N3 WAKE ISLAND Hy 30.43 129 T T 03 02 29.3
baz=323,slow=75,SNR=521
TIXI Tiksi 30.59 352 LR LR 02 44 06.9
comp=Z,74nm,19.6s,baz=181,slow=38
H11S1 WAKE ISLAND Hy 31.27 131 T T 03 03 19.7
baz=324,slow=76,SNR=1604
H11S3 WAKE ISLAND Hy 31.27 131 T T 03 03 13.1
baz=324,slow=76,SNR=695
H11S2 WAKE ISLAND Hy 31.28 131 T T 03 03 24.5
baz=324,slow=76,SNR=1396
GTA Gaotai 32.02 280 *e*P **P** **02 30 57.8 +0.1**
GTA pP pP 02 31 11.8 -3.2
GTA PcP **PcP** **02 33 47.5 +1.6**
GTA PcS **PcS** **02 37 32.3 +1.5**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,56nm,6.5s
GTA LR LR
comp=Z,110nm,15.6s
GTA LR LR
comp=Z,160nm,15.3s
GTA LR LR
comp=Z,280nm,17.5s
CD2 Chengdu 32.57 263 P **P** **02 31 01.5 -1.0**
CD2 pmax pmax
comp=Z,30nm,0.6s
GYA Guiyang 32.90 254 ⇓P **P** **02 31 08.0 +2.4**
GYA pmax pmax
comp=Z,16nm,0.8s
MIDW Midway 35.47 99 P **P** **02 31 27.6 0.0**
PZH PanZhiHua 36.44 258 P **P** **02 31 35.5 -0.6**
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax
comp=Z,120nm,5.6s
KMI Kunming 36.53 255 ⇓P **P** **02 31 37.0 +0.1**
KMI pP pP 02 31 55.5 +1.1
KMI pmax pmax
comp=Z,36nm,0.8s
KMI LR LR
comp=Z,250nm,15.0s
KMI LR LR
comp=Z,210nm,16.1s
KMI LR LR
comp=Z,280nm,23.5s
GOMU GeErMu 36.86 277 P **P** **02 31 39.8 -0.1**
GOMU pP pP 02 31 57.5 +0.2
GOMU sP sP 02 32 04.5 -1.2
GOMU pmax pmax
comp=Z,14nm,0.8s
GOMU pmax pmax
comp=Z,160nm,5.2s
DAV Davao City (W) 37.65 208 LR LR 02 50 04.8
comp=Z,34nm,18.2s,baz=0.5,slow=40
DGZ Jazzator, Alta 38.24 301 ⇑*i*P **P** **02 31 52.2 +1.1**
DGZ pmax pmax
comp=Z,42nm,0.8s
NRIK Noril'sk 39.20 333 P **P** **02 31 57.5 -1.1**
comp=Z,9.9nm,0.6s,baz=100,slow=12,SNR=12
NRIK LR LR 02 49 17.0
comp=Z,324nm,21.3s,baz=128,slow=38
comp=Z,9.9nm,0.6s
NRIK Noril'sk 39.20 333 P **P** **02 31 57.1 -1.5**
NRIK IAmb IAmb 02 31 58.7
comp=Z,15nm,0.9s
ZAA0 Zalesovo Array 39.26 308 P **P** **02 31 59.1 -0.2**
ZAA0 ScP **ScP** **02 37 49.3 +0.6**
ZALV Zalesovo Beam 39.26 308 P **P** **02 31 59.2 -0.1**
comp=Z,71nm,0.6s,baz=87,slow=8.0,SNR=100
ZALV PcP **PcP** **02 34 07.6 +0.8**
comp=Z,7.7nm,0.6s,baz=80,slow=3.0,SNR=4.9
ZALV ScP **ScP** **02 37 50.4 +1.7**
comp=Z,2.2nm,0.7s,baz=82,slow=3.1,SNR=5.9
ZALV LR LR 02 49 03.7
comp=Z,203nm,19.9s,baz=80,slow=37
comp=Z,71nm,0.6s
ZALV Zalesovo Beam 39.26 308 P **P** **02 31 58.7 -0.6**
ZALV ScP **ScP** **02 37 49.4 +0.7**
WMQ Urumqi 39.40 292 ⇑P **P** **02 32 01.8 +1.0**
WMQ sP sP 02 32 25.0 -1.8
WMQ pmax pmax
comp=Z,48nm,0.9s
WMQ pmax pmax
comp=Z,210nm,5.3s
WMQ LR LR
comp=Z,190nm,12.7s
WMQ LR LR
comp=Z,230nm,23.3s
CHNA Chernabura Isl 39.66 50 P **P** **02 32 01.8 -0.9**
baz=276
CNBA Chernabura Isl 39.66 50 P **P** **02 32 01.7 -0.9**
CNBA IAmb IAmb 02 32 04.5
comp=Z,15nm,0.7s
N16K Nishlik Lake 39.84 42 P **P** **02 32 03.8 -0.3**
baz=270,SNR=6.8
O16K Kokwok River B 40.18 43 P **P** **02 32 06.6 -0.3**
baz=271
CHGN Chignik 40.19 48 P **P** **02 32 05.9 -1.1**
CHGN Chignik 40.19 48 P **P** **02 32 06.5 -0.5**
baz=275
P16K Nushagak River 40.25 44 P **P** **02 32 07.5 +0.1**
baz=272
ZSN Zaisan 40.36 298 *e*P **P** **02 32 08.7 +0.1**
ZSN pmax pmax
comp=Z,7.0nm,0.7s
ZSN Zaisan 40.36 298 *e*P **P** **02 32 08.7 +0.1**
comp=Z,7.5nm,0.7s,baz=298
O17K Koliganek Bris 40.68 43 P **P** **02 32 10.9 -0.2**
baz=272
GCSA Galena City Sc 40.87 35 P **P** **02 32 12.2 -0.2**
baz=266
P17K Kvichak River 41.04 43 P **P** **02 32 13.8 -0.2**
baz=273
R17K Ugashik Creek 41.18 46 P **P** **02 32 15.3 +0.1**
baz=275
TTA Tatalina 41.18 38 P **P** **02 32 15.1 -0.1**
TTA Tatalina 41.18 38 P **P** **02 32 15.1 -0.1**
TTA pmax pmax
comp=Z,6.0nm,1.0s
TTA Tatalina 41.18 38 P **P** **02 32 14.7 -0.5**
baz=269
UBPT Khong Chiam 41.24 241 IAmb IAmb 02 32 18.3
comp=Z,19nm,1.1s
N18K Kilae Creek 41.26 41 P **P** **02 32 16.7 +0.9**
N18K Kilae Creek 41.26 41 P **P** **02 32 15.8 0.0**
baz=272,SNR=5.4
SVW2 Sparrevohn 41.39 41 P **P** **02 32 17.9 +1.0**
O18K Koktuh Hills 41.63 42 P **P** **02 32 18.7 -0.2**
baz=273
P18K Big Mountain, 41.65 43 P **P** **02 32 18.4 -0.6**
baz=274
L19K White Mountain 41.72 39 P **P** **02 32 19.5 -0.1**
L19K White Mountain 41.72 39 P **P** **02 32 19.4 -0.1**
baz=271
CHIR Chirikof Islan 41.80 48 P **P** **02 32 20.7 +0.5**
N19K Bonanza Creek 41.94 41 P **P** **02 32 21.9 +0.4**
N19K Bonanza Creek 41.94 41 P **P** **02 32 22.7 +1.2**
baz=273
M19K Big River Lodg 41.94 39 P **P** **02 32 21.8 +0.4**
baz=272
J20K Nowinta River 42.03 36 IAmb IAmb 02 32 24.4
comp=Z,19nm,0.9s
J20K Nowinta River 42.03 36 P **P** **02 32 21.2 -0.9**
baz=269,SNR=15
K20K Telida 42.06 37 P **P** **02 32 22.8 +0.5**
K20K IAmb IAmb 02 32 24.8
comp=Z,13nm,0.8s
K20K Telida 42.06 37 P **P** **02 32 22.4 +0.1**
baz=270,SNR=11
L20K Farewell, AK 42.16 38 P **P** **02 32 23.2 0.0**
baz=272,SNR=6.0
MK31 Makanchi Array 42.23 298 P **P** **02 32 23.6 -0.3**
MK31 IAmb IAmb 02 32 25.1
comp=Z,29nm,0.8s
MK31 Makanchi Array 42.23 298 ⇑*i*P **P** **02 32 24.2 +0.2**
MKAR Makanchi Array 42.23 298 P **P** **02 32 24.1 +0.2**
comp=Z,25nm,0.8s,baz=82,slow=9.3,SNR=103
MKAR PcP **PcP** **02 34 17.3 +0.6**
comp=Z,4.5nm,0.8s,baz=82,slow=4.5,SNR=3.0
MKAR LR LR 02 50 54.9
comp=Z,104nm,18.6s,baz=123,slow=37
comp=Z,25nm,0.8s
MKAR Makanchi Array 42.23 298 P **P** **02 32 23.6 -0.3**
IMAR Indian Mountai 42.24 33 P **P** **02 32 23.1 -0.7**
G21K Allakaket 42.36 32 P **P** **02 32 24.5 -0.2**
baz=267
F21K Alatna River 42.41 31 P **P** **02 32 24.9 -0.2**
baz=267
MAKZ Makanchi 42.44 298 P **P** **02 32 25.2 -0.5**
MAKZ IAmb IAmb 02 32 26.9
comp=Z,42nm,0.9s
MAKZ Makanchi 42.44 298 P **P** **02 32 25.4 -0.2**
MAKZ Makanchi 42.44 298 P **P** **02 32 25.9 +0.2**
SII Sitkinak Islan 42.49 47 P **P** **02 32 26.1 +0.2**
baz=278
Q19K Cape Douglas, 42.50 44 P **P** **02 32 25.9 -0.1**
baz=276
M20K Styx River 42.54 39 P **P** **02 32 27.4 +1.1**
baz=273
LSA Lhasa 42.58 270 IAmb IAmb 02 32 30.2
comp=Z,28nm,0.9s
LSA Lhasa 42.58 270 P **P** **02 32 29.0 +1.5**
LSA pmax pmax
comp=Z,43nm,1.0s
H21K Melozitna Rive 42.62 34 P **P** **02 32 26.9 0.0**
baz=269
CHUM Lake Minchumin 42.84 36 P **P** **02 32 28.8 +0.3**
baz=271,SNR=9.7
OHAK Old Harbor 42.89 46 P **P** **02 32 29.4 +0.3**
baz=278
O20K Slope Mountain 42.91 42 P **P** **02 32 29.0 -0.3**
baz=275
F22K John River 42.93 31 P **P** **02 32 29.5 +0.2**
baz=268
PPLA Purkeypile 42.93 38 IAmb IAmb 02 32 32.1
comp=Z,14nm,0.8s
PPLA Purkeypile 42.93 38 P **P** **02 32 29.4 -0.1**
baz=273,SNR=7.0
CAST Castle Rocks 42.95 37 P **P** **02 32 30.1 +0.5**
CAST IAmb IAmb 02 32 32.2
comp=Z,26nm,0.8s
CAST Castle Rocks 42.95 37 P **P** **02 32 29.9 +0.3**
baz=272,SNR=28
I21K Tanana 42.96 34 P **P** **02 32 30.3 +0.7**
baz=270
N20K Mount Spurr 43.02 40 P **P** **02 32 30.0 -0.2**
baz=274,SNR=5.1
SPCR Spurr Chakacha 43.02 40 P **P** **02 32 30.2 0.0**
baz=274
E22K Anaktuvuk Pass 43.09 30 P **P** **02 32 30.9 +0.2**
baz=267
G22K Bettles 43.17 32 P **P** **02 32 31.1 -0.2**
baz=269,SNR=5.8
Q20K Shuyak Island 43.19 44 P **P** **02 32 31.8 +0.3**
baz=277
KDAK Kodiak Island 43.19 45 P **P** **02 32 31.7 +0.2**
comp=Z,19nm,0.7s,baz=288,slow=5.7,SNR=28
KDAK LR LR 02 51 22.8
comp=Z,139nm,21.9s,baz=267,slow=37
comp=Z,19nm,0.7s
KDAK Kodiak Island 43.19 45 P **P** **02 32 31.1 -0.5**
KDAK IAmb IAmb 02 32 34.7
comp=Z,63nm,1.4s
KDAK Kodiak Island 43.19 45 P **P** **02 32 31.2 -0.3**
baz=278
KDAK Kodiak Island 43.19 45 P **P** **02 32 31.9 +0.3**
KDAK sP **sP** **02 32 56.4 -1.5**
H22K Ishtalitna Cre 43.21 33 P **P** **02 32 31.5 -0.1**
baz=270
CHTO Chiang Mai 43.24 251 P **P** **02 32 32.9 +0.5**
CHTO Chiang Mai 43.24 251 P **P** **02 32 32.9 +0.5**
CHTO pmax pmax
comp=Z,1.0nm,0.7s
CHTO Chiang Mai 43.24 251 P **P** **02 32 33.7 +1.3**
CHTO Chiang Mai 43.24 251 P **P** **02 32 33.3 +1.0**
CHTO pP **pP** **02 32 50.4 +0.3**
CHTO sP **sP** **02 32 59.3 +0.9**
SKT Skwentna 43.29 39 P **P** **02 32 32.1 -0.2**
baz=274
BPAW Bear Paw Mtn. 43.42 36 P **P** **02 32 33.4 +0.1**
baz=272,SNR=15
HOM Homer 43.45 42 P **P** **02 32 33.3 -0.3**
baz=276
CMAR Chiang Mai Arr 43.48 251 P **P** **02 32 35.1 +0.9**
comp=Z,8.2nm,0.7s,baz=36,slow=8.2,SNR=28
CMAR PcP **PcP** **02 34 22.7 +1.4**
comp=Z,3.4nm,0.8s,baz=33,slow=2.6,SNR=5.7
CMAR LR LR 02 52 01.5
comp=Z,95nm,18.7s,baz=55,slow=38
comp=Z,8.2nm,0.7s
CMAR Chiang Mai Arr 43.48 251 P **P** **02 32 34.4 +0.1**
MLY Manley 43.49 35 P **P** **02 32 33.6 -0.3**
baz=272,SNR=10
D23K Nanushuk River 43.55 29 P **P** **02 32 34.3 0.0**
baz=267
KURK Kurchatov 43.57 304 P **P** **02 32 34.0 -0.6**
KURK Kurchatov 43.57 304 P **P** **02 32 35.4 +0.8**
KURK Kurchatov 43.57 304 P **P** **02 32 34.8 +0.1**
KURK Kurchatov 43.57 304 P **P** **02 32 34.8 +0.1**
KURK pP **pP** **02 32 51.3 -1.2**
C23K Itkillik River 43.62 28 P **P** **02 32 34.9 +0.1**
baz=267
KURBB Kurchatov Arra 43.65 304 P **P** **02 32 35.4 +0.1**
comp=Z,62nm,0.8s,baz=77,slow=8.8,SNR=155
KURBB LR LR 02 51 38.1
comp=Z,125nm,18.2s,baz=67,slow=37
comp=Z,62nm,0.8s
KURBB Kurchatov Arra 43.65 304 P **P** **02 32 35.1 -0.2**
SIJI Sorong 43.66 196 P **P** **02 32 36.9 +1.1**
comp=Z,32nm,0.6s,baz=38,slow=7.3,SNR=14
SIJI LR LR 02 50 31.8
comp=Z,19nm,18.9s,baz=16,slow=36
comp=Z,32nm,0.6s
COLD Coldfoot 43.69 31 P **P** **02 32 35.2 -0.2**
baz=270
SUA Susitna One 43.70 40 IAmb IAmb 02 32 39.1
comp=Z,14nm,0.6s
SUA Susitna One 43.70 40 P **P** **02 32 35.2 -0.5**
baz=275,SNR=8.6
G23K Bananza Creek 43.76 32 P **P** **02 32 35.7 -0.3**
baz=270,SNR=14
TRF Thorofare Moun 43.76 37 IAmb IAmb 02 32 39.2
comp=Z,21nm,0.7s
TRF Thorofare Moun 43.76 37 P **P** **02 32 36.1 -0.1**
baz=274,SNR=23
CUT Chulitna 43.84 38 P **P** **02 32 36.3 -0.4**
CUT IAmb IAmb 02 32 39.1
comp=Z,28nm,0.7s
CUT Chulitna 43.84 38 P **P** **02 32 37.0 +0.4**
baz=275
BRSE Bradley Lake S 43.89 42 P **P** **02 32 37.3 +0.1**
baz=277
E23K Chandalar 43.92 30 P **P** **02 32 37.2 -0.1**
baz=269
TOLK Toolik Lake Re 43.94 29 P **P** **02 32 37.6 +0.1**
baz=269
H23K Yukon River 43.97 33 P **P** **02 32 37.5 -0.2**
baz=272,SNR=7.7
M22K Willow 43.97 39 P **P** **02 32 37.6 -0.1**
baz=276
D24K Happy Valley 44.22 29 P **P** **02 32 39.6 -0.1**
baz=269
NEA2 Nenana 44.22 35 P **P** **02 32 39.7 0.0**
baz=274,SNR=48
RC01 Rabbit Creek A 44.23 40 P **P** **02 32 39.1 -0.7**
RC01 IAmb IAmb 02 32 41.0
comp=Z,17nm,0.7s
RC01 Rabbit Creek A 44.23 40 P **P** **02 32 39.4 -0.4**
baz=276
C24K Franklin Bluff 44.28 28 P **P** **02 32 39.4 -0.6**
baz=268
O22K Cooper Landing 44.30 41 P **P** **02 32 39.8 -0.6**
baz=277
E24K Your Creek 44.34 30 P **P** **02 32 40.1 -0.6**
baz=270
MCK McKinley 44.34 36 IAmb IAmb 02 32 42.5
comp=Z,20nm,0.8s
MCK McKinley 44.34 36 P **P** **02 32 40.5 -0.2**
baz=274,SNR=13
RND Reindeer 44.41 37 IAmb IAmb 02 32 42.3
comp=Z,18nm,0.8s
PMR Palmer 44.46 39 P **P** **02 32 41.6 0.0**
PMR IAmb IAmb 02 32 43.5
comp=Z,18nm,0.8s
PMR Palmer 44.46 39 P **P** **02 32 41.6 0.0**
PMR pmax pmax
comp=Z,18nm,0.8s
PMR Palmer 44.46 39 P **P** **02 32 41.5 -0.1**
baz=276,SNR=11
SEW Seward 44.49 42 IAmb IAmb 02 33 11.4
comp=Z,22nm,1.0s
SEW Seward 44.49 42 P **P** **02 32 41.6 -0.2**

baz=278
MDM Murphy Dome 44.56 35 IAmb IAmb 02 32 44.8
comp=Z,21nm,0.8s
F24K Squaw Lake 44.58 31 P **P** **02 32 42.1 -0.5**
baz=272,SNR=7.2
WAT1 Susitna Watana 44.60 38 P **P** **02 32 42.3 -0.4**
baz=276
H24K Noodoo Dome 44.65 33 P **P** **02 32 43.3 +0.1**
baz=273,SNR=8.5
TCOL CIGO, UAF Yank 44.72 35 P **P** **02 32 43.7 0.0**
baz=274,SNR=8.4
COLA College 44.73 35 P **P** **02 32 43.4 -0.2**
COLA College 44.73 35⇑*iP* **P** **02 32 44.5 +0.8**
COLA pmax pmax
comp=Z,32nm,0.8s
COLA College 44.73 35 P **P** **02 32 43.9 +0.2**
baz=274
COLA College 44.73 35 P **P** **02 32 44.3 +0.6**
COLA pP **pP** **02 33 04.3 +2.5**
COLA sP **sP** **02 33 11.3 +1.1**
G24K Hadweenzic Riv 44.77 32 P **P** **02 32 44.8 +0.8**
baz=273
KNK Knik Glacier 44.80 40 IAmb IAmb 02 32 51.9
comp=Z,16nm,0.7s
KNK Knik Glacier 44.80 40 P **P** **02 32 44.4 0.0**
baz=277,SNR=6.9
SML Sawmill 44.81 39 P **P** **02 32 44.6 +0.1**
baz=277,SNR=16
POKR Poker Plat Res 44.89 34 IAmb IAmb 02 32 48.3
comp=Z,19nm,0.7s
POKR Poker Plat Res 44.89 34 P **P** **02 32 45.7 +0.7**
baz=274,SNR=5.7
TOLI2 Tolitoli 44.91 211 P **P** **02 32 45.0 -0.7**
TOLI2 IAmb IAmb 02 32 47.4
comp=Z,15nm,0.8s
PWL Port Wells 44.93 40 P **P** **02 32 45.1 -0.3**
baz=278
WAT6 Susitna Watana 45.00 38 P **P** **02 32 45.5 -0.6**
baz=277
D25K Kavik River 45.09 28 P **P** **02 32 45.9 -0.7**
baz=271
M23K Glacier View 45.10 39 P **P** **02 32 46.2 -0.6**
baz=278,SNR=7.3
DHY Denali Highway 45.10 37 P **P** **02 32 46.6 -0.4**
baz=276
IL31 45.15 35 IAmb IAmb 02 32 48.6
comp=Z,22nm,0.9s
ILAR Eielson Array 45.15 35 P **P** **02 32 46.9 -0.1**
comp=Z,16nm,0.8s,baz=266,slow=5.9,SNR=146
ILAR LR LR 02 53 08.5
comp=Z,77nm,19.6s,baz=262,slow=38
comp=Z,16nm,0.8s
ILAR Eielson Array 45.15 35 P **P** **02 32 47.0 -0.1**
HDA Harding Lake 45.15 35 IAmb IAmb 02 32 48.0
comp=Z,15nm,0.5s
HDA Harding Lake 45.15 35 P **P** **02 32 47.2 +0.1**
baz=276,SNR=20
PDGK Podgornoye 45.21 294 P **P** **02 32 47.7 -0.3**
SCM Sheep Creek Mo 45.28 39 P **P** **02 32 48.3 +0.1**
baz=278,SNR=9.7
SHLS Shalkode 45.29 294 *eP* **P** **02 32 46.1 -2.5**
SHLS Shalkode 45.29 294 *eP* **P** **02 32 46.2 -2.5**
baz=294
TDK Taldyqorghan 45.36 297 *eP* **P** **02 32 49.1 +0.1**
TDK pmax pmax
comp=Z,28nm,0.6s
TDK Taldyqorghan 45.36 297 *eP* **P** **02 32 49.2 +0.1**
comp=Z,26nm,0.6s,baz=296
E25K Arctic Village 45.43 30 P **P** **02 32 49.7 +0.4**
baz=273
F25K Christian Rive 45.44 31 P **P** **02 32 49.7 +0.4**
baz=274
H25K Birch Creek 45.46 33 P **P** **02 32 50.2 +0.7**
baz=275,SNR=7.4
FAKI Fak Fak 45.47 194 P **P** **02 32 50.0 -0.1**
GLI Glacier Island 45.53 40 P **P** **02 32 50.4 +0.3**
baz=279
UZB Uzynbulak 45.59 294 *eP* **P** **02 32 50.7 -0.4**
UZB Uzynbulak 45.59 294 *eP* **P** **02 32 50.7 -0.4**
baz=294
C26K Camden Bay 45.59 28 P **P** **02 32 51.1 +0.6**
baz=272
PRP Porcupine Dome 45.65 34 P **P** **02 32 51.7 +0.5**
baz=276,SNR=46
FYU Fort Yukon 45.67 32 IAmb IAmb 02 33 07.4
comp=Z,56nm,1.6s
KPKS Kokpek 45.71 294 *eP* **P** **02 32 51.6 -0.3**
KPKS Kokpek 45.71 294 *eP* **P** **02 32 51.6 -0.3**
baz=294
K24K Donnelly Dome 45.73 36 P **P** **02 32 51.4 -0.3**
baz=277,SNR=14
M24K Tolsona, Glenn 45.78 39 IAmb IAmb 02 32 55.2
comp=Z,25nm,0.7s
M24K Tolsona, Glenn 45.78 39 P **P** **02 32 53.1 +0.9**
baz=278,SNR=5.9
J25K Salcha River, 45.81 35 P **P** **02 32 51.8 -0.6**
baz=277,SNR=6.4
PAX Paxson 45.98 37 P **P** **02 32 54.0 +0.3**
baz=278
KLU Klutina 45.99 39 IAmb IAmb 02 32 55.7
comp=Z,22nm,0.8s
KLU Klutina 45.99 39 P **P** **02 32 54.3 +0.4**
baz=279,SNR=9.4
F26K Sheenjek River 46.00 31 P **P** **02 32 54.2 +0.4**
baz=275,SNR=5.6
C27K Jago River 46.02 28 P **P** **02 32 53.9 0.0**
baz=273
SATY Saty 46.04 294 *eP* **P** **02 32 54.7 +0.1**
SATY Saty 46.04 294 *eP* **P** **02 32 54.8 +0.1**
baz=294
BRDH Bariadhala 46.11 262 LR LR 02 52 41.3
comp=Z,87nm,19.9s,baz=90,slow=36
DIV Divide 46.13 40 IAmb IAmb 02 32 56.9
comp=Z,24nm,0.7s
RIDG Independent Ri 46.15 36 P **P** **02 32 54.7 -0.4**
baz=278
G26K Porcupine Rive 46.21 32 P **P** **02 32 55.2 -0.1**
baz=276,SNR=7.4
HARP HAARP 46.21 38 P **P** **02 32 56.4 +0.9**
baz=279,SNR=12
EYAK Cordova Ski Ar 46.24 41 IAmb IAmb 02 33 02.4
comp=Z,21nm,1.0s
EYAK Cordova Ski Ar 46.24 41 P **P** **02 32 56.0 +0.3**
baz=280
TAPN Taplejung 46.38 270⇑*iP* **P** **02 32 58.6 +0.9**
SCRK Sand Creek 46.49 36 P **P** **02 32 57.5 -0.4**
baz=278,SNR=52
DOT Dot Lake 46.51 36 IAmb IAmb 02 33 00.1
comp=Z,15nm,0.7s
J26L Joseph Creek 46.60 35 P **P** **02 32 58.6 0.0**
baz=278,SNR=13
N25K Chitina, Valde 46.60 39 IAmb IAmb 02 33 16.3
comp=Z,11nm,0.9s
N25K Chitina, Valde 46.60 39 P **P** **02 32 58.9 +0.3**
baz=280
I26K Coal Creek Min 46.66 34 P **P** **02 32 59.1 +0.2**
baz=278
BMRM Bremner River 46.71 40 IAmb IAmb 02 33 02.3
comp=Z,14nm,0.6s
BMRM Bremner River 46.71 40 P **P** **02 32 59.4 -0.1**
baz=281
CHKK Chushkaly 46.72 296 *eP* **P** **02 32 59.8 +0.1**
CHKK Chushkaly 46.72 296 *eP* **P** **02 32 59.8 +0.1**
baz=296
MENT Mentasta 46.78 37 P **P** **02 33 00.2 +0.3**
MENT IAmb IAmb 02 33 19.8
comp=Z,11nm,0.8s
KRVT Keravat (AS076 46.81 166 LR LR 02 51 10.0
comp=Z,33nm,21.8s,baz=162,slow=34
ODAN Odare 46.89 269⇑*iP* **P** **02 33 02.2 +0.7**
comp=Z,12nm,1.0s
E27K Coleen River 46.91 30 P **P** **02 33 01.0 +0.1**
baz=277
L26K Log Cabin Wild 46.93 37 IAmb IAmb 02 33 03.4
comp=Z,15nm,0.8s
L26K Log Cabin Wild 46.93 37 P **P** **02 33 01.8 +0.7**
baz=280,SNR=19
MDOK Medeo 46.93 295 *eP* **P** **02 33 01.5 -0.1**
MDOK Medeo 46.93 295 *eP* **P** **02 33 01.5 -0.1**
baz=295
GLB Gilahina Butte 47.00 39 IAmb IAmb 02 33 08.5
comp=Z,10nm,0.7s
AAA Alma-Ata 47.00 295 *eP* **P** **02 33 02.2 +0.2**
AAA Alma-Ata 47.00 295 *eP* **P** **02 33 02.3 +0.2**
baz=295
TNSS Tian-Shan 47.05 295 *eP* **P** **02 33 03.0 +0.3**
TNSS Tian-Shan 47.05 295 *eP* **P** **02 33 03.0 +0.3**
baz=294
G27K Doyon Strip 47.06 32 P **P** **02 33 02.8 +0.7**
baz=278
KUU Kurty 47.14 296 *eP* **P** **02 33 02.2 -0.8**
KUU pmax pmax
comp=Z,26nm,1.0s
KUU Kurty 47.14 296 *eP* **P** **02 33 02.3 -0.8**
comp=Z,26nm,1.0s,baz=296
H27K Steamboat Moun 47.19 32 P **P** **02 33 04.4 +1.2**
baz=278,SNR=17
M26K Nabesna, AK 47.20 38 IAmb IAmb 02 33 26.6
comp=Z,15nm,0.8s
M26K Nabesna, AK 47.20 38 P **P** **02 33 04.3 +1.1**
baz=281,SNR=5.7
I27K Kandik River 47.25 33 P **P** **02 33 04.5 +0.9**
baz=279,SNR=12
K27K Chicken 47.32 35 P **P** **02 33 04.6 +0.5**
baz=280
JIRN Jiri 47.35 271⇑*iP* **P** **02 33 06.0 +0.7**
comp=Z,56nm,0.7s
MCARA McCarthy VSAT 47.38 39 P **P** **02 33 05.0 +0.3**
baz=282
BRZS Berezniki 47.43 305 *eP* **P** **02 33 05.0 -0.2**
BRZS pmax pmax
comp=Z,8.0nm,0.5s
BRZS Berezniki 47.43 305 *eP* **P** **02 33 05.0 -0.2**
comp=Z,8.4nm,0.5s,baz=305
RAMN Ramite 47.43 270⇑*iP* **P** **02 33 06.2 +0.4**
comp=Z,202nm,1.0s
GUN Gumba 47.45 272⇑*iP* **P** **02 33 06.8 +0.8**
comp=Z,240nm,0.7s
SBUM Sibu 47.56 223 IAmb IAmb 02 33 08.8
comp=Z,12nm,0.8s
EGAK Eagle 47.58 34 IAmb IAmb 02 33 07.2
comp=Z,15nm,0.8s
EGAK Eagle 47.58 34 P **P** **02 33 06.0 -0.1**
baz=280,SNR=16
L27K Beaver Creek, 47.60 37 IAmb IAmb 02 33 08.8
comp=Z,20nm,0.7s
L27K Beaver Creek, 47.60 37 P **P** **02 33 07.2 +0.9**
baz=281,SNR=21
M27K Edge Creek, AK 47.72 38 IAmb IAmb 02 33 09.8
comp=Z,17nm,0.8s
M27K Edge Creek, AK 47.72 38 P **P** **02 33 08.4 +1.0**
baz=282,SNR=11
BVA0 Borovoye Array 47.88 309 *i* P **P** **02 33 08.4 -0.2**
BVAR Borovoye Array 47.88 309 LR LR 02 54 31.0
comp=Z,164nm,19.7s,baz=74,slow=38
BRVK Borovoye 47.93 309 P **P** **02 33 08.9 -0.1**
BRVK Borovoye 47.93 309 *ce*P **P** **02 33 09.4 +0.4**
BRVK pmax pmax
comp=Z,16nm,0.6s
BRVK Borovoye 47.93 309 P **P** **02 33 09.6 +0.6**
BRVK Borovoye 47.93 309 P **P** **02 33 09.4 +0.4**
BRVK pP **pP** **02 33 27.3 +0.3**
KKN Kakani 47.96 272⇑*iP* **P** **02 33 10.3 +0.5**
comp=Z,19nm,1.0s
PKI Pulchoki 47.98 272⇑*iP* **P** **02 33 10.5 +0.4**
comp=Z,57nm,0.7s
PKIN Phulchoki 47.99 272⇑*iP* **P** **02 33 10.4 +0.3**
comp=Z,50nm,0.6s
TKM2 Tokmak 2 48.01 295 P **P** **02 33 10.9 +0.9**
SNR=77
TKM2 Tokmak 2 48.01 295 P **P** **02 33 07.4 -2.6**
MESA MESA 48.16 41 P **P** **02 33 12.2 +1.3**
baz=284
BVCY Beaver Creek 48.17 37 P **P** **02 33 11.4 +0.6**
baz=282
DMN Daman 48.19 272⇑*iP* **P** **02 33 12.4 +0.8**
comp=Z,98nm,0.8s
OTUK Ortayu 48.21 303 P **P** **02 33 12.6 +1.4**
CTG Chitna Glacier 48.27 39 P **P** **02 33 12.5 +0.8**
baz=283
CTGM Chitina Glacie 48.27 39 IAmb IAmb 02 33 13.8
comp=Z,14nm,0.6s
NRN Naryn 48.32 293 IAmb IAmb 02 33 46.7
comp=Z,10nm,0.9s
GKN Gorkha 48.33 273⇑*iP* **P** **02 33 13.0 +0.4**
comp=Z,93nm,0.7s
SGDS Sogindy 48.45 296 *eP* **P** **02 33 13.2 0.0**
SGDS pmax pmax
comp=Z,10.0nm,1.1s
SGDS Sogindy 48.45 296 *eP* **P** **02 33 13.3 0.0**
comp=Z,9.8nm,1.1s,baz=296
DAWY Dawson 48.47 35 P **P** **02 33 13.6 +0.5**
baz=282
YUK3 Moose Creek 48.50 38 P **P** **02 33 13.6 +0.1**
baz=283
KBK Karagaybulak 48.55 295 P **P** **02 33 14.4 +0.3**
SNR=19
USP Ospenovka 48.61 296 P **P** **02 33 15.0 +0.5**
SNR=17
I29M Ogilvie Camp, 48.65 33 IAmb IAmb 02 33 16.7
comp=Z,18nm,0.7s
I29M ScP **ScP** **02 38 22.2 -4.6**
I29M Ogilvie Camp, 48.65 33 P **P** **02 33 14.6 +0.2**
baz=282,SNR=21
DANN Dangsing 48.80 274⇑*iP* **P** **02 33 17.4 +1.1**
comp=Z,309nm,0.6s
AAK Ala-Archa 48.86 295 P **P** **02 33 16.9 +0.3**
SNR=8.4
AAK Ala-Archa 48.86 295 P **P** **02 33 16.0 -0.5**
AAK Ala-Archa 48.86 295 *ce*P **P** **02 33 16.8 +0.3**
AAK pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 48.86 295 P **P** **02 33 16.8 +0.3**
AAK Ala-Archa 48.86 295 P **P** **02 33 16.8 +0.3**
O28M Mount Upton 48.87 40 P **P** **02 33 16.4 0.0**
baz=284
PINM Pinnacle 49.01 40 P **P** **02 33 17.3 +0.1**
baz=285
UCH Uchtor 49.01 294 P **P** **02 33 18.7 +0.6**
SNR=10
EPYK Eagle Plains 49.08 32 P **P** **02 33 18.2 +0.5**
baz=282,SNR=17
KSH Kashi 49.13 291 P **P** **02 33 23.0 +4.4**
KSH pP pP 02 33 37.8 +1.2
KSH pmax pmax
comp=Z,15nm,1.0s
KOLN Koldanda 49.23 273⇑*iP* **P** **02 33 20.1 +0.6**
comp=Z,11nm,1.0s
L29M L29M 49.24 36 P **P** **02 33 20.2 +1.3**
baz=284,SNR=11
M29M Somme Creek 49.25 37 P **P** **02 33 20.1 +1.0**
baz=284
K29M Barlow Dome 49.32 35 P **P** **02 33 20.4 +0.8**
baz=284,SNR=32
EKS2 Erkin-Say 49.34 295 P **P** **02 33 20.6 +0.4**
SNR=15
YUK4 Talbot Arm 49.45 39 P **P** **02 33 21.5 +0.8**
baz=285
AML Almayashu 49.61 295 P **P** **02 33 23.4 +0.9**
SNR=12
YUK6 Outpost Mounta 49.68 39 P **P** **02 33 22.7 +0.1**
baz=286
O29M Mount Kennedy 49.76 40 P **P** **02 33 23.2 +0.1**
baz=286
INK Inuvik 49.85 29 P **P** **02 33 23.8 +0.4**
comp=Z,10nm,0.6s,baz=283,slow=5.6,SNR=32
INK LR LR 02 56 38.4
comp=Z,51nm,20.0s,baz=257,slow=38
comp=Z,10nm,0.6s
INK Inuvik 49.85 29 IAmb IAmb 02 33 25.1
comp=Z,11nm,0.8s
INK Inuvik 49.85 29 P **P** **02 33 23.4 0.0**
baz=284,SNR=11
F31M Tsiigehtchic 49.98 30 P **P** **02 33 25.1 +0.8**
baz=284,SNR=6.4
MAYO Mayo, Yukon 50.09 35 P **P** **02 33 26.3 +1.0**
baz=285
HYT Haines Junctio 50.12 39 P **P** **02 33 27.6 +1.9**
baz=286,SNR=19
N30M Ashikik Lake 50.14 38 P **P** **02 33 26.6 +0.8**
baz=286
P29M Windy Craggy 50.35 41 P **P** **02 33 28.9 +1.5**
baz=287,SNR=12
P30M Million Dollar 50.58 40 P **P** **02 33 30.8 +1.6**
baz=287
N31M Braeburn, Yuko 50.73 38 IAmb IAmb 02 33 33.2
comp=Z,19nm,0.9s
N31M Braeburn, Yuko 50.73 38 P **P** **02 33 31.3 +1.1**
baz=287
O30N Mendenhall 50.80 39 P **P** **02 33 31.9 +1.1**
baz=288
DZA Taraz 50.89 297 *eP* **P** **02 33 31.6 -0.1**
DZA pmax pmax
comp=Z,18nm,0.7s
DZA Taraz 50.89 297 *eP* **P** **02 33 31.6 -0.1**
comp=Z,18nm,0.7s,baz=296
KAPI Kappang 50.94 209 P **P** **02 33 32.5 +0.3**
KAPI IAmb IAmb 02 33 34.4
comp=Z,26nm,1.1s
KAPI Kappang 50.94 209 P **P** **02 33 32.5 +0.3**
KAPI pmax pmax
comp=Z,26nm,1.1s
KAPI Kappang 50.94 209 P **P** **02 33 33.2 +1.0**
PLBC Pleasant Camp 51.07 40 P **P** **02 33 34.2 +1.4**
baz=288
M31M Drury Creek, Y 51.14 37 P **P** **02 33 34.6 +1.3**
baz=288,SNR=5.1
PMG Port Moresby 51.21 174 LR LR 02 56 35.8
comp=Z,6.1nm,19.5s,baz=359,slow=37
KK31 Karatay Array 51.35 297 IAmb IAmb 02 33 36.0
comp=Z,18nm,0.8s
KK31 Karatay Array 51.35 297 *i* P **P** **02 33 35.1 0.0**
KKAR Karatay Array 51.35 297 P **P** **02 33 34.7 -0.4**
KKAR IAmb IAmb 02 33 36.0
comp=Z,18nm,0.8s
KKAR Karatay Array 51.35 297 P **P** **02 33 34.7 -0.4**
KKAR pmax pmax
comp=Z,17nm,0.8s
WHY Whitehorse 51.40 39 P **P** **02 33 36.4 +1.1**
baz=288
SKAG Skagway 51.57 40 P **P** **02 33 37.4 +0.9**
baz=289
A36M Sachs Harbour 51.58 23 P **P** **02 33 36.9 +0.5**
baz=288
FARO Faro, Yukon 51.60 37 P **P** **02 33 37.8 +1.0**
baz=288,SNR=6.2
KULM Kulim 51.85 237 P **P** **02 33 39.5 +0.3**
N32M Quiet Lake 52.07 38 P **P** **02 33 41.1 +0.8**
baz=289
IUG Iuzhnay 52.08 296 *eP* **P** **02 33 40.9 +0.2**
IUG Iuzhnay 52.08 296 *eP* **P** **02 33 40.9 +0.2**
baz=296
BESE Bessie Mountai 52.10 41 IAmb IAmb 02 34 07.0
comp=Z,15nm,1.2s
P32M Atlin 52.30 40 P **P** **02 33 43.5 +1.5**
baz=290
R32K Eaglecrest 52.37 41 P **P** **02 33 43.8 +1.3**
baz=290,SNR=6.9
MMPY Sheldon Lake, 52.39 36 P **P** **02 33 44.2 +1.6**
baz=290,SNR=5.2
SIT Sitka 52.40 43 P **P** **02 33 44.2 +1.6**
baz=291
JIS Juneau Island 52.44 41 IAmb IAmb 02 33 46.0
comp=Z,20nm,1.0s
BTK Batken 52.46 293 IAmb IAmb 02 33 47.0
comp=Z,17nm,1.0s
P33M Teslin, Yukon 52.51 39 IAmb IAmb 02 33 47.1
comp=Z,16nm,0.9s
P33M Teslin, Yukon 52.51 39 P **P** **02 33 44.7 +1.1**
baz=290,SNR=13
S32K Killisnoo 52.63 42 P **P** **02 33 45.7 +1.4**
baz=291
C36M Paulatuk 52.82 26 IAmb IAmb 02 33 54.0
comp=Z,12nm,0.7s
C36M Paulatuk 52.82 26 P **P** **02 33 46.1 +0.5**
baz=291
ARU Arti 53.22 316 LR LR 02 58 52.9
comp=Z,167nm,19.8s,baz=59,slow=39
ARU Arti 53.22 316 P **P** **02 33 48.4 -0.3**
ARU Arti 53.22 316 *ce*P **P** **02 33 48.9 +0.2**
ARU pmax pmax
comp=Z,51nm,1.0s
ARU Arti 53.22 316 P **P** **02 33 49.0 +0.2**
Q32M Nakina River 53.22 40 P **P** **02 33 49.9 +0.9**
baz=292
HNR Honiara 53.58 158 LR LR 02 54 52.6
comp=Z,997nm,21.8s,baz=352,slow=34
R33M Jennings River 53.68 39 P **P** **02 33 53.2 +0.9**
baz=292,SNR=5.5
U33K Whale Pass 53.88 44 P **P** **02 33 54.5 +1.0**
baz=293
TGTN Hyland Airport 54.10 36 P **P** **02 33 55.6 +0.4**
baz=293
CRAG Craig 54.13 44 P **P** **02 33 55.8 +0.4**
baz=293
WRAK Wrangell Islan 54.16 43 P **P** **02 33 56.8 +1.2**
baz=293
S34M Telegraph Cree 54.18 41 P **P** **02 33 56.6 +1.0**
baz=293
DLBC Dease Lake 54.51 40 IAmb IAmb 02 34 01.5
comp=Z,11nm,0.9s
DLBC Dease Lake 54.51 40 P **P** **02 33 59.5 +1.3**
baz=294,SNR=6.7
BATI Baumata 54.53 203 LR LR 03 00 38.0
comp=Z,35nm,18.1s,baz=40,slow=40
PSI Prapat 54.86 237 P **P** **02 34 02.3 +1.0**
comp=Z,20nm,0.8s,baz=23,slow=7.5,SNR=12
PSI LR LR 02 58 53.7
comp=Z,41nm,18.5s,baz=358,slow=37
comp=Z,20nm,0.8s
T35M Bob Quinn 54.99 42 P **P** **02 34 02.9 +1.2**
baz=294,SNR=8.0
AB31 Akbulak array 55.37 308 *i* P **P** **02 34 04.7 +0.2**
ABKAR Akbulak array 55.37 308 P **P** **02 34 04.5 +0.1**
MTN Manton Dam 55.37 193 P **P** **02 34 04.8 +0.1**
MTN IAmb IAmb 02 34 31.9
comp=Z,27nm,1.2s
WRGLY Wrigley 55.45 33 P **P** **02 34 06.4 +1.6**
baz=295
COEN Coen 55.54 179 P **P** **02 34 06.5 +0.6**
COEN IAmb IAmb 02 34 29.8
comp=Z,21nm,1.0s
SPITS Spitsbergen Ar 55.92 348 LR LR 03 00 56.1
comp=Z,58nm,18.4s,baz=6.0,slow=39
SPITS Spitsbergen Ar 55.92 348 P **P** **02 34 07.7 -0.3**
SPITS pmax pmax
comp=Z,24nm,1.3s
AKTO Aktyubinsk 55.97 310 LR LR 02 59 27.8
comp=Z,148nm,20.8s,baz=62,slow=37
AKTO Aktyubinsk 55.97 310 P **P** **02 34 08.6 -0.2**
KBS Kingsbay 56.02 350 P **P** **02 34 08.9 +0.2**
KBS pP **pP** **02 34 28.0 +0.8**
KBS sP **sP** **02 34 36.6 +1.2**
NOR Nord 56.28 356 *i* P **P** **02 34 09.9 -0.6**
NOR IAML 02 34 55.1
comp=Z,2.6nm,0.9s
NOR IAmb IAmb 02 34 55.4
comp=Z,85nm,2.6s
KBL Kabul 56.36 288 P **P** **02 34 10.7 -1.3**
KBL IAmb IAmb 02 34 17.0
comp=Z,20nm,0.8s
KBL Kabul 56.36 288 P **P** **02 34 10.7 -1.3**
KBL pmax pmax
comp=Z,19nm,0.8s
KBL Kabul 56.36 288 P **P** **02 34 11.2 -0.8**
SNR=9.5
KIRV Kirov 56.81 321 LR LR 03 01 12.5
comp=Z,88nm,18.8s,baz=72,slow=39
KIRV Kirov 56.81 321 *ce*P **P** **02 34 15.0 +0.5**
HSPB Hornsund (broa 56.87 347 *eP* **P** **02 34 13.2 -1.5**
PRGR Permogore 57.09 326 *eP* **P** **02 34 15.8 -0.7**
PRGR pmax pmax
comp=Z,23nm,0.7s
LVZ Lovozero 57.98 335 *i* P **P** **02 34 23.7 +1.0**
LVZ pmax pmax
comp=Z,9.0nm,0.6s
LVZ Lovozero 57.98 335 P **P** **02 34 24.1 +1.4**
BBB Bella Bella 58.24 46 LR LR 03 01 34.4
comp=Z,33nm,18.1s,baz=298,slow=38
HYBB Hyderabad (bro 59.04 266 *eP* **P** **02 34 31.2 +0.4**
HYBB IVmB_BB 02 34 31.6
comp=Z,196nm,0.5s
KEV Kevo 59.16 338 P **P** **02 34 30.0 -0.8**
KEV IAmb IAmb 02 34 31.8
comp=Z,12nm,0.9s
KEV Kevo 59.16 338 P **P** **02 34 30.0 -0.8**
KEV pmax pmax
comp=Z,12nm,0.9s
KEV Kevo 59.16 338 P **P** **02 34 30.7 -0.1**
YKA Yellowknife Ar 59.36 32 P **P** **02 34 32.8 +0.5**
comp=Z,6.9nm,0.7s,baz=304,slow=6.5,SNR=24
YKA LR LR 03 02 17.1
comp=Z,54nm,20.4s,baz=272,slow=38
comp=Z,6.9nm,0.7s
HAMF Hammerfest 59.48 340 IAmb IAmb 02 34 33.3
comp=Z,37nm,1.3s
HAMF *eP* **P** **02 34 33.4 +0.4**
ARA0 ARCESS Array S 59.71 339 *eP* **P** **02 34 34.7 +0.1**
ARA0 IAmb IAmb 02 34 37.9
comp=Z,7.2nm,0.9s
ARCES ARCESS Array B 59.71 339 P **P** **02 34 34.5 -0.2**

comp=Z,2.3nm,0.6s,baz=48,slow=7.6,SNR=24
ARCES LR LR 03 04 05.2
comp=Z,80nm,19.8s,baz=37,slow=40
comp=Z,2.3nm,0.6s
ARCES ARCESS Array B 59.71 339 P **P** **02 34 34.0 -0.7**
ARCES IAmb IAmb 02 35 22.8
comp=Z,41nm,1.9s
KLMR Klimovskoe 60.04 327 *e*P **P** **02 34 34.5 -2.4**
KLMR *e**PP **pP** **02 34 53.3 -2.3**
KLMR *e* 02 36 47.9
KLMR pmax pmax
comp=Z,48nm,1.2s
KLMR Klimovskoe 60.04 327 *e*P **P** **02 34 34.5 -2.4**
KLMR AMP 02 34 38.0
comp=Z,48nm,1.2s
KLMR *e*pP **pP** **02 34 53.3 -2.3**
KLMR *e*PP **PP** **02 36 48.0 -1.6**
KTK1 Kautokeino 60.67 339 *e*P **P** **02 34 41.4 +0.2**
KTK1 IAmb IAmb 02 34 41.9
comp=Z,16nm,1.0s
NEEM North Greenlan 60.69 3 *i*P **P** **02 34 41.7 +0.2**
NEEM IAmb IAmb 02 35 04.7
comp=Z,21nm,0.8s
BELG Belogornoye 60.73 316 LR LR 03 03 34.1
comp=Z,236nm,18.4s,baz=32,slow=38
BELG Belogornoye 60.73 316⇑ *i*P **P** **02 34 42.2 +0.4**
BELG pmax pmax
comp=Z,16nm,0.9s
DAG Danmarks Havn 61.03 355 *i*P **P** **02 34 43.4 -0.1**
DAG IAmb IAmb 02 34 44.2
comp=Z,14nm,0.8s
JETT Jettan, Norway 61.04 340 *e*P **P** **02 34 44.3 +0.6**
JETT IAmb IAmb 02 34 44.5
comp=Z,28nm,1.1s
HRA Herat 61.21 292 P **P** **02 34 45.2 -0.5**
HRA IAmb IAmb 02 34 47.2
comp=Z,15nm,0.8s
TRO Tromso 61.36 341 *e*P **P** **02 34 45.5 -0.3**
TRO IAmb IAmb 02 34 46.3
comp=Z,27nm,1.0s
FITZ Fitzroy Crossi 61.59 198 P **P** **02 34 49.0 +1.1**
comp=Z,7.4nm,1.0s,baz=358,slow=4.8,SNR=7.8
comp=Z,7.4nm,1.0s
FITZ Fitzroy Crossi 61.59 198 P **P** **02 34 48.2 +0.3**
FITZ IAmb IAmb 02 34 50.0
comp=Z,22nm,1.4s
CTA Charters Tower 61.75 176 LR LR 02 58 15.2
comp=Z,26nm,21.8s,baz=73,slow=33
CTAO Charters Tower 61.75 176 P **P** **02 34 48.5 -0.4**
CTAO IAmb IAmb 02 35 12.6
comp=Z,10.0nm,1.2s
CTAO Charters Tower 61.75 176 P **P** **02 34 48.5 -0.4**
CTAO pmax pmax
comp=Z,10.0nm,1.2s
WRAB Tennant Creek 61.90 188 *i*P **P** **02 34 49.8 -0.2**
WRAB pmax pmax
comp=Z,18nm,1.6s
WR0 Warramunga Arr 61.91 188 IAmb IAmb 02 35 13.7
comp=Z,25nm,1.2s
WB2 Warramunga Arr 61.91 188 P **P** **02 34 49.5 -0.5**
WB2 IAmb IAmb 02 35 14.2
comp=Z,15nm,0.8s
WRA Warramunga Arr 61.91 188 P **P** **02 34 50.0 -0.1**
comp=Z,5.4nm,0.6s,baz=6.2,slow=6.9,SNR=120
WRA LR LR 03 01 37.7
comp=Z,47nm,20.0s,baz=54,slow=36
comp=Z,5.4nm,0.6s
GEYT Alibeck 62.10 297 P **P** **02 34 51.6 +0.2**
comp=Z,6.6nm,0.5s,baz=356,slow=4.9,SNR=20
GEYT LR LR 03 03 41.3
comp=Z,169nm,19.0s,baz=81,slow=38
comp=Z,6.6nm,0.5s
GYA0 ALIBECK ARRAY 62.10 297 P **P** **02 34 50.8 -0.6**
LLLB Lillooet 62.40 46 IAmb IAmb 02 35 17.8
comp=Z,11nm,0.9s
NLWA Neilton Lookou 63.07 49 P **P** **02 34 58.6 +1.0**
STEI Steigen 63.53 340 *e*P **P** **02 35 00.3 +0.1**
STEI IAmb IAmb 02 35 01.2
comp=Z,91nm,1.6s
E03A Lebam 63.71 50 IAmb IAmb 02 35 04.8
comp=Z,17nm,0.8s
MOS Moscow 63.77 322 *e*P **P** **02 35 00.3 -1.7**
MOS *e* 02 35 16.6
MOS *e* 02 35 37.0
MOS *e* 02 37 20.8
MOS pmax pmax
comp=Z,55nm,1.4s
LOF Lofoten 63.80 341 *e*P **P** **02 35 02.3 +0.3**
FAUS Fauske 63.92 340 *e*P **P** **02 35 03.0 +0.2**
FAUS IAmb IAmb 02 35 05.7
comp=Z,25nm,0.9s
PALK Pallekele 64.07 256 LR LR 03 04 23.2
comp=Z,41nm,21.0s,baz=160,slow=37
VRH Novokhopyorsk 64.45 317 *e*P **P** **02 35 05.8 -0.8**
VRH pmax pmax
comp=Z,40nm,0.7s
OBN Obninsk 64.63 322 LR LR 03 05 39.7
comp=Z,27nm,18.5s,baz=52,slow=38
OBN Obninsk 64.63 322 P **P** **02 35 07.2 -0.4**
OBN Obninsk 64.63 322⇑ *i*P **P** **02 35 07.5 -0.1**
OBN *e* 02 37 27.0
OBN *e*S **S** **02 43 42.8 +1.3**
OBN pmax pmax
comp=Z,57nm,1.3s
OBN MLR MLR
comp=Z,88nm,16.0s
FIA1 FINESS Array S 64.85 332 P **P** **02 35 08.3 -0.7**
FINES FINESS Array B 64.85 332 P **P** **02 35 08.9 -0.1**
comp=Z,27nm,0.7s,baz=52,slow=6.8,SNR=150
FINES LR LR 03 05 55.5
comp=Z,216nm,18.8s,baz=46,slow=38
comp=Z,27nm,0.7s
FINES FINESS Array B 64.85 332 P **P** **02 35 08.3 -0.7**
LTY Liberty 64.94 48 IAmb IAmb 02 35 32.7
comp=Z,13nm,1.1s
LPSR Galich'ya Gora 65.02 319 *e*P **P** **02 35 10.0 -0.3**
LPSR pmax pmax
comp=Z,50nm,0.8s
B08A Colville Reser 65.05 47 IAmb IAmb 02 35 32.8
comp=Z,11nm,1.1s
MOR8 Moi Rana 65.06 339 *e*P **P** **02 35 09.2 -1.2**
MOR8 IAmb IAmb 02 35 09.6
comp=Z,40nm,1.1s
PCHI Peechi 65.08 262⇑ *e*P **P** **02 35 11.7 +0.5**
EDM Edmonton 65.23 40 P **P** **02 35 11.9 +0.3**
EDM IAmb IAmb 02 35 13.4
comp=Z,21nm,0.7s
EDM Edmonton 65.23 40 P **P** **02 35 12.0 +0.3**
EDM pmax pmax
comp=Z,21nm,0.7s
H04D Lebanon 65.33 52 P **P** **02 35 13.7 +1.2**
baz=305
VORR Voronezh 65.44 318⇓ *i*P **P** **02 35 13.6 +0.6**
VORR pmax pmax
comp=Z,19nm,1.1s
I03D Drain, OR 65.45 53 P **P** **02 35 14.3 +1.1**
baz=305
HOOD Mount Hood Mea 65.50 50 IAmb IAmb 02 35 36.5
comp=Z,28nm,1.1s
JMIC Jan Mayen 65.51 350 LR LR 03 08 20.1
comp=Z,20nm,18.2s,baz=39,slow=40
H04A Detroit Lake 65.56 51 IAmb IAmb 02 35 41.5
comp=Z,12nm,0.9s
AS31 Alice Springs 65.64 188 P **P** **02 35 14.3 -0.2**
ASAR Alice Springs 65.64 188 P **P** **02 35 15.2 +0.6**
comp=Z,2.2nm,0.5s,baz=4.9,slow=7.1,SNR=25
ASAR pP **pP** **02 35 33.5 0.0**
comp=Z,3.3nm,0.6s,baz=10.0,slow=5.9,SNR=7.2
ASAR LR LR 03 03 43.3
comp=Z,42nm,21.0s,baz=344,slow=36
comp=Z,2.2nm,0.5s
ASAR Alice Springs 65.64 188 P **P** **02 35 14.3 -0.2**
VSR Storozhevoye 65.73 318 *e*P **P** **02 35 14.9 0.0**
VSR pmax pmax
comp=Z,30nm,0.6s
G05D Wamic, OR 65.74 50 P **P** **02 35 16.4 +1.3**
baz=306
K02D Willamette Mer 65.83 54 P **P** **02 35 16.8 +1.0**
baz=305
DBO Dodson Butte 65.84 53 P **P** **02 35 16.8 +0.9**
DBO IAmb IAmb 02 35 32.8
comp=Z,40nm,1.9s
SUMG Summit 65.87 0 P **P** **02 35 15.7 -0.2**
SUMG Summit 65.87 0 P **P** **02 35 15.7 -0.2**
SUMG pmax pmax
comp=Z,41nm,0.7s
SUMG Summit 65.87 0 *i*P **P** **02 35 16.7 +0.8**
SUMG IAmb IAmb 02 35 17.4
comp=Z,38nm,0.6s
I04A Tendick Farm, 65.95 52 P **P** **02 35 17.6 +1.1**
baz=306
C09A Chrisman Ranch 65.95 47 IAmb IAmb 02 35 39.1
comp=Z,19nm,0.9s
D08A Wollman Farm, 66.03 48 P **P** **02 35 17.4 +0.5**
F07A Phinny Hill Vi 66.15 49 IAmb IAmb 02 35 41.0
comp=Z,23nm,1.1s
L02F Cave Junction 66.22 54 P **P** **02 35 19.1 +0.9**
baz=306
I05D Terrebonne, OR 66.26 51 P **P** **02 35 19.7 +1.2**
baz=306
MEF Metsahovi 66.29 331 *e*P **P** **02 35 18.4 +0.1**
NEW Newport 66.29 46 LR LR 03 06 15.7
comp=Z,26nm,18.8s,baz=302,slow=38
NEW Newport 66.29 46 IAmb IAmb 02 35 41.3
comp=Z,14nm,0.9s
NEW Newport 66.29 46 P **P** **02 35 20.1 +1.4**
baz=307,SNR=5.4
VSU Vasula 66.62 329 *i*P **P** **02 35 20.9 +0.4**
VSU pmax pmax
comp=Z,111nm,0.7s
VSU Vasula 66.62 329 *e*P **P** **02 35 21.1 +0.7**
RAF Rauma 66.65 333 *e*P **P** **02 35 20.8 +0.3**
E09A Wood Farm, Sta 66.78 48 IAmb IAmb 02 35 44.8
comp=Z,25nm,1.0s
PINE Pine Mountain 66.81 51 P **P** **02 35 22.8 +0.6**
PINE IAmb IAmb 02 35 45.3
comp=Z,25nm,1.2s
GROC Groznyy 66.88 308 *e*P **P** **02 35 23.1 +0.7**
GROC *e**PP **sP** **02 35 46.1 -3.3**
GROC *e* 02 37 49.9
GROC pmax pmax
comp=Z,53nm,0.6s
L04D Klamath Falls 66.93 53 P **P** **02 35 24.2 +1.3**
baz=306
J05D Fort Rock, OR 66.94 52 P **P** **02 35 23.8 +0.8**
baz=306
YBH Yreka Blue Hor 66.97 54 LR LR 03 03 54.5
comp=Z,19nm,18.3s,baz=320,slow=35
YBH Yreka Blue Hor 66.97 54 P **P** **02 35 23.8 +0.7**
YBH Yreka Blue Hor 66.97 54 P **P** **02 35 23.8 +0.7**
YBH pmax pmax
comp=Z,6.0nm,0.9s
NSS Namsos 66.99 339 IAmb IAmb 02 35 23.1
comp=Z,38nm,1.2s
NSS *e*P **P** **02 35 23.2 +0.4**
DZM Mont Dzumac 67.45 156 *e*S **S** **02 44 18.7 +2.0**
comp=Z,38nm,21.9s
DZM Mont Dzumac 67.45 156 *e*LR LR 02 55 53.3
comp=Z,157nm,23.6s
K05A Summer Lake 67.47 52 IAmb IAmb 02 35 49.5
comp=Z,29nm,1.2s
MTSE Matsula 67.55 330 *e*P **P** **02 35 27.1 +0.7**
JTMT Jette 68.12 45 IAmb IAmb 02 35 53.9
comp=Z,15nm,0.9s
KIV Kislovodsk 68.24 310⇑ P **P** **02 35 32.8 +1.7**
KIV Kislovodsk 68.24 310 P **P** **02 35 31.7 +0.6**
KIV Kislovodsk 68.24 310 *e*P **P** **02 35 32.6 +1.5**
KIV pmax pmax
comp=Z,89nm,1.0s
KIV MLR MLR
comp=Z,65nm,17.0s
KIV Kislovodsk 68.24 310 P **P** **02 35 32.5 +1.5**
KIV Kislovodsk 68.24 310 P **P** **02 35 32.3 +1.2**
ZEI Tsey 68.24 308 *e*P **P** **02 35 30.4 -0.9**
ZEI pmax pmax
comp=Z,22nm,0.8s
KBZ Khabaz 68.26 310 P **P** **02 35 32.1 +1.1**
comp=Z,28nm,0.8s,baz=49,slow=4.4,SNR=74
KBZ LR LR 03 08 54.2
comp=Z,58nm,20.1s,baz=48,slow=39
comp=Z,28nm,0.8s
KBZ Khabaz 68.26 310 *ce*P **P** **02 35 32.4 +1.4**
ONI Oni 68.63 308 IAmb IAmb 02 35 36.0
comp=Z,25nm,0.9s
ILULI Ilulissat 68.81 5 *i*P **P** **02 35 33.8 -0.3**
ILULI IAmb IAmb 02 35 58.4
comp=Z,25nm,0.9s
ISAL Salakas 68.86 327 *e*P **P** **02 35 34.9 +0.4**
MNK Minsk 68.86 325 *i*P **P** **02 35 33.9 -0.7**
MNK *i**PP **pP** **02 35 52.2 -1.5**
MNK *i* 02 35 57.9
MNK *i* 02 38 06.6
MNK *i*PPP PPP 02 39 47.0
MNK *i*S **S** **02 44 32.3 -0.3**
MNK *i*SS **sS** **02 45 05.0 -0.4**
MNK *i* 02 45 26.8
MNK *i*SS **SS** **02 49 00.4 +2.4**
MNK pmax pmax
comp=Z,49nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK MLR MLR
comp=Z,160nm,22.0s
MNK MLR MLR
comp=E,9.0nm,14.0s
MNK Minsk 68.86 325 *i*P **P** **02 35 33.9 -0.7**
comp=E,3.0nm,1.0s
MNK *i*P **P** **02 35 33.9 -0.7**
MNK *i*P **P** **02 35 33.9 -0.7**
comp=Z,49nm,1.0s,baz=47
MNK *i*pP **pP** **02 35 52.2 -1.5**
MNK *i*PP **PP** **02 38 06.6 -0.3**
MNK *i*PPP PPP 02 39 47.0
MNK *i*S **S** **02 44 32.3 -0.3**
MNK *i*sS **sS** **02 45 05.0 -0.4**
MNK *i*SS **SS** **02 49 00.5 +2.4**
MNK *i*SSS SSS 02 52 17.7
MNK *i*LQ LQ 03 01 01.9
MNK *i*LR LR 03 05 39.8
MNK *i*LRM MLR 03 07 55.8
comp=Z,160nm,21.9s
MNK *i*LRM MLR 03 08 02.3
comp=E,9.0nm,14.2s
MSO Missoula 68.88 46 P **P** **02 35 36.0 +1.0**
baz=309
SLIT Slitere, Latvi 68.90 330 *e*P **P** **02 35 35.0 +0.3**
IIGN Ignalina 68.97 327 *e*P **P** **02 35 35.8 +0.5**
NACGM Naroch 69.05 326⇑ *e*P **P** **02 35 35.4 -0.4**
baz=46
JASK Jask - Hormozg 69.21 286 P **P** **02 35 39.0 +1.8**
FFC Flin Flon 69.35 34 P **P** **02 35 37.9 +0.2**
FFC IAmb IAmb 02 35 39.3
comp=Z,20nm,0.8s
FFC Flin Flon 69.35 34 P **P** **02 35 37.9 +0.2**
FFC pmax pmax
comp=Z,21nm,0.8s
FFC Flin Flon 69.35 34⇑ P **P** **02 35 38.3 +0.6**
FFC pP **pP** **02 35 58.5 +1.7**
FFC sP **sP** **02 36 07.1 +2.3**
GNI Garni 69.35 306 LR LR 03 08 58.2
comp=Z,40nm,18.1s,baz=54,slow=38
GNI Garni 69.35 306 P **P** **02 35 38.3 +0.2**
GNI IAmb IAmb 02 35 46.9
comp=Z,20nm,0.8s
GNI Garni 69.35 306 *ce*P **P** **02 35 39.1 +1.0**
GNI pmax pmax
comp=Z,28nm,1.3s
GNI Garni 69.35 306 P **P** **02 35 40.1 +2.0**
GNI Garni 69.35 306 P **P** **02 35 39.9 +1.7**
ICESG Greenland Ices 69.36 1 *i*P **P** **02 35 37.8 -0.1**
ICESG IAmb IAmb 02 35 39.1
comp=Z,34nm,0.7s
VSVD Vaisvydziai 69.45 328 *e*P **P** **02 35 38.7 +0.5**
PABE Paberze 69.77 328 IAmb IAmb 02 35 41.5
comp=Z,20nm,0.9s
PABE Paberze 69.77 328 *e*P **P** **02 35 40.5 +0.3**
DOMB Dombas 69.78 338 *e*P **P** **02 35 40.4 +0.2**
DOMB IAmb IAmb 02 35 41.4
comp=Z,11nm,0.7s
NC303 NORSAR Array S 69.79 337 IAmb IAmb 02 35 41.4
comp=Z,26nm,0.9s
AFI Afiamalu 69.83 132 LR LR 03 00 53.1
comp=Z,51nm,19.8s,baz=32,slow=31
HFS Hagfors 69.95 335 LR LR 03 09 02.0
comp=Z,81nm,19.3s,baz=44,slow=38
NB2 NORSAR Subarra 69.98 337 P **P** **02 35 41.2 -0.3**
comp=Z,30nm,0.9s,baz=36,slow=6.5
NB2 NORSAR Subarra 69.98 337 P **P** **02 35 41.2 -0.3**
baz=36,slow=6.5
NOA NORSAR Array B 69.98 337 P **P** **02 35 41.4 -0.1**
comp=Z,16nm,0.8s,baz=37,slow=6.1,SNR=80
NOA LR LR 03 09 37.6
comp=Z,94nm,21.8s,baz=40,slow=39
comp=Z,16nm,0.8s
MFID Camas Ranch 69.98 49 P **P** **02 35 42.4 +0.5**
NC602 NORSAR Array S 70.13 337 *e*P **P** **02 35 42.8 +0.4**
NC602 IAmb IAmb 02 35 44.8
comp=Z,6.0nm,0.7s
SOEG Soedalen 70.16 357 *i*P **P** **02 35 42.1 -0.2**
PBUR Paburge 70.20 329 *e*P **P** **02 35 43.4 +0.6**
WSAR Wadi Sarin 70.25 284 LR LR 03 10 08.9
comp=Z,60nm,19.5s,baz=93,slow=39
EGMT Eagleton 70.29 43 IAmb IAmb 02 36 06.7
comp=Z,20nm,0.9s
EGMT Eagleton 70.29 43 P **P** **02 35 44.7 +1.0**
baz=311
BANOM Banah 70.29 287 P **P** **02 35 44.6 +0.7**
SHME Shamm 70.33 288 P **P** **02 35 44.5 +0.4**
WBK Wadi Bani Khal 70.39 283 P **P** **02 35 46.1 +1.5**
BIDO Bidbid 70.44 284 P **P** **02 35 46.6 +1.7**
HLID Hailey 70.69 49 P **P** **02 35 46.6 +0.4**
HLID Hailey 70.69 49 P **P** **02 35 47.8 +1.5**
baz=310,SNR=5.3
YERR Yerington 70.74 55 IAmb IAmb 02 36 09.5
comp=Z,16nm,1.0s
SMDO Samad 70.78 284 P **P** **02 35 48.1 +1.0**
AKASG Malin Array Be 70.87 322 P **P** **02 35 46.9 0.0**
comp=Z,9.9nm,0.5s,baz=44,slow=6.6,SNR=94
AKASG LR LR 03 09 33.2
comp=Z,101nm,19.1s,baz=24,slow=38
comp=Z,9.9nm,0.5s
AKASG Malin Array Be 70.87 322 IAmb IAmb 02 35 48.0
comp=Z,35nm,1.1s
AKASG Malin Array Be 70.87 322 *i*P **P** **02 35 47.0 0.0**
AKASG pmax pmax
comp=Z,11nm,0.5s
AKBB Malin Array Si 70.87 322 *ce*P **P** **02 35 47.1 +0.1**
AKBB pmax pmax
comp=Z,39nm,1.0s
BOZ Bozeman (W) 70.90 46 IAmb IAmb 02 36 10.4
comp=Z,12nm,0.9s
BOZ Bozeman (W) 70.90 46 P **P** **02 35 48.9 +1.4**
baz=311,SNR=13
HOQ Hoqain 71.00 285 P **P** **02 35 49.0 +0.8**
SFJD Kangerlussuaq 71.03 5 LR LR 03 08 18.7
comp=Z,107nm,20.6s,baz=348,slow=37
SFJD Kangerlussuaq 71.03 5 *i*P **P** **02 35 47.0 -0.7**
SFJD IAmb IAmb 02 35 48.6
comp=Z,8.6nm,0.8s
SFJD Kangerlussuaq 71.03 5 P **P** **02 35 47.9 +0.2**
JMDO Jabal Madar 71.17 283 P **P** **02 35 49.9 +0.6**
HYA Hoyanger 71.28 339 *e*P **P** **02 35 49.9 +0.6**
KONO Kongsberg 71.58 337 *e*P **P** **02 35 51.7 +0.4**
BSY Bisya 71.59 284 P **P** **02 35 52.7 +0.8**
YHL Hebgen Lake 71.62 46 IAmb IAmb 02 36 15.7
comp=Z,13nm,0.9s
LHV Little Huntoon 71.65 55 IAmb IAmb 02 36 15.5
comp=Z,21nm,1.0s
NVAR Mina Array Bea 71.66 55 P **P** **02 35 53.9 +1.6**
comp=Z,4.1nm,0.8s,baz=290,slow=5.9,SNR=41
NVAR pP **pP** **02 36 12.9 +1.2**
comp=Z,6.2nm,0.8s,baz=303,slow=5.3,SNR=10
NVAR LR LR 03 04 21.5
comp=Z,17nm,20.7s,baz=268,slow=33
comp=Z,4.1nm,0.8s
NVAR Mina Array Bea 71.66 55 P **P** **02 35 53.2 +0.9**
YHB Horse Butte 71.68 46 IAmb IAmb 02 36 15.9
comp=Z,13nm,0.9s
ARQ Araqi 71.72 285 P **P** **02 35 52.9 +0.3**
ASUD Al Ashush, Dub 71.78 287 P **P** **02 35 53.8 +0.8**
DY2G Dye2 71.80 4 *i*P **P** **02 35 52.7 0.0**
DY2G IAmb IAmb 02 35 53.6
comp=Z,33nm,0.8s
FRB Frobisher Bay 71.95 14 LR LR 03 09 52.9
comp=Z,66nm,20.7s,baz=8.5,slow=38
KOPT Kop Dagi 71.97 308 P **P** **02 35 55.6 +1.4**
KOPT IAmb IAmb 02 35 58.7
comp=Z,18nm,0.8s
ELK Elko 72.02 51 LR LR 03 08 42.9
comp=Z,18nm,18.0s,baz=298,slow=37
YFT Old Faithful 72.07 46 IAmb IAmb 02 36 20.0
comp=Z,13nm,0.9s
MHTO MHTO 72.12 282 P **P** **02 35 55.9 +0.9**
ODD1 Odda 72.21 338 *e*P **P** **02 35 55.2 +0.2**
H17A Grant Village 72.25 46 IAmb IAmb 02 36 21.1
comp=Z,13nm,0.9s
H17A Grant Village 72.25 46 P **P** **02 35 57.7 +1.9**
baz=312,SNR=5.3
SIM Simferopol' 72.33 315 *e*P **P** **02 35 55.6 -0.3**
SIM *e* 02 36 13.0
SIM *e* 02 38 39.8
SIM pmax pmax
comp=Z,61nm,1.4s
SIM pmax pmax
comp=Z,38nm,15.5s
SIM MLR MLR
comp=Z,89nm,20.6s
RLMT Red Lodge 72.46 45 P **P** **02 35 57.6 +0.6**
RLMT Red Lodge 72.46 45 P **P** **02 35 58.0 +1.0**
baz=312
DSP Deep Springs 72.54 55 IAmb IAmb 02 36 20.5
comp=Z,17nm,1.2s
MOOW Moose Ponds 72.59 47 IAmb IAmb 02 36 20.9
comp=Z,14nm,1.1s
TPAW Teton Pass 72.65 47 IAmb IAmb 02 36 22.0
comp=Z,18nm,1.1s
DGMT Dagmar 72.72 40 IAmb IAmb 02 35 59.4
comp=Z,12nm,0.7s
DGMT Dagmar 72.72 40 P **P** **02 35 58.7 +0.5**
baz=314
VES Vestal, Richgr 72.81 57 P **P** **02 35 59.8 +0.9**
baz=310
LCH Last Change Ra 72.82 55 P **P** **02 35 59.2 0.0**
PKM Mcpherson Peak 72.95 58 P **P** **02 35 59.7 -0.4**
baz=309
LAO LASA Array 72.96 42 P **P** **02 36 00.1 +0.4**
baz=314
CWC Cottonwood Cre 73.06 56 P **P** **02 36 00.9 +0.3**
baz=310
DQM DQM 73.10 282 P **P** **02 36 00.8 -0.1**
GRAC Grapevine Rang 73.15 55 IAmb IAmb 02 36 23.9
comp=Z,12nm,0.7s
GRAC Grapevine Rang 73.15 55 P **P** **02 36 02.2 +1.2**
baz=310,SNR=6.3
ISA Isabella, Lake 73.31 57 P **P** **02 36 01.8 -0.1**
baz=310
R11A Troy Canyon, C 73.36 53 P **P** **02 36 03.0 +0.6**
R11A Troy Canyon, C 73.36 53 P **P** **02 36 03.8 +1.5**
baz=310,SNR=5.5
STKA Stephens Creek 73.37 181 P **P** **02 36 03.4 +1.4**
comp=Z,1.8nm,0.7s,baz=311,slow=13,SNR=2.9
comp=Z,1.8nm,0.7s
BSD Bornholm Skovb 73.49 332 *i*P **P** **02 36 02.0 -0.6**
BSD IAmb IAmb 02 36 04.2
comp=Z,18nm,0.2s
HWUT Hardware Ranch 73.56 49 IAmb IAmb 02 36 26.3
comp=Z,13nm,1.1s
MPMC Manual Prospec 73.67 56 P **P** **02 36 05.4 +1.2**
baz=310
SPR3 Spring Creek 3 73.68 52 IAmb IAmb 02 36 27.3
comp=Z,7.2nm,0.9s
S11A Rachel 73.72 54 IAmb IAmb 02 36 29.5
comp=Z,14nm,0.8s
NUUK Nuuk 73.73 6 *i*P **P** **02 36 03.1 -0.6**
NUUK IAmb IAmb 02 36 05.0
comp=Z,28nm,0.8s
BEL Belsk 73.75 327 *e*P **P** **02 36 05.2 +1.0**
DUG Dugway, Tooele 73.78 50 P **P** **02 36 05.0 +0.2**
DUG Dugway, Tooele 73.78 50 P **P** **02 36 05.0 +0.2**
DUG pmax pmax
comp=Z,10.0nm,0.9s
DUG Dugway, Tooele 73.78 50 P **P** **02 36 06.3 +1.6**
baz=311,SNR=11
FURC Furnace Creek, 73.80 56 P **P** **02 36 06.1 +1.5**
baz=310
GOET G??ttrup 73.84 335 *i*P **P** **02 36 03.7 -0.8**
GOET IAmb IAmb 02 36 06.3
comp=Z,68nm,0.9s
LVV L'vov 73.85 324 *e*P **P** **02 36 04.9 +0.1**
TPNV Topopah Spring 73.86 55 IAmb IAmb 02 36 27.6
comp=Z,23nm,1.4s
TPNV Topopah Spring 73.86 55 P **P** **02 36 06.8 +1.5**
baz=310,SNR=6.7
BW06 Boulder Array 73.89 47 IAmb IAmb 02 36 28.1
comp=Z,12nm,0.8s
BW06 Boulder Array 73.89 47 P **P** **02 36 06.5 +1.0**
baz=312,SNR=9.7

PD31	**Pinedale Array**	**73.89**	**47**	IAmb	IAmb	02 36 28.1			
	comp=Z,11nm,0.8s								
PDAR	**Pinedale Array**	**73.89**	**47**	P	**P**	**02 36 06.3**	**+0.9**		
	comp=Z,4.8nm,0.7s,baz=272,slow=2.1,SNR=63								
PDAR				pP	**pP**	**02 36 24.5**	**-0.2**		
	comp=Z,7.8nm,0.7s,baz=251,slow=0.6,SNR=13								
PDAR				LR	LR	03 09 04.8			
	comp=Z,18nm,21.5s,baz=316,slow=36								
	comp=Z,4.8nm,0.7s								
DIKM	**Dikmen**	**73.91**	**312**	⇑P	**P**	**02 36 06.5**	**+1.2**		
TCUT	**Toone Canyon**	**73.97**	**49**	IAmb	IAmb	02 36 28.8			
	comp=Z,15nm,0.8s								
GKP	**Gorka Klasztor**	**74.07**	**329**	*e*P	**P**	**02 36 06.4**	**+0.4**		
GKP				*ep*P	**pP**	**02 36 27.4**	**+2.2**		
GWY	**Greenwater Val**	**74.10**	**56**	P	**P**	**02 36 07.4**	**+0.7**		
GWY				IAmb	IAmb	02 36 29.4			
	comp=Z,23nm,1.6s								
EDW2	**Edwards Air Fo**	**74.11**	**57**	P	**P**	**02 36 07.3**	**+0.7**		
	baz=310								
MZR	**Muzera**	**74.11**	**287**	P	**P**	**02 36 06.9**	**+0.2**		
	SNR=14								
MUD	**Monsted U'grnd**	**74.34**	**335**	*e*P	**P**	**02 36 06.6**	**-0.9**		
MUD				IAmb	IAmb	02 36 36.2			
	comp=Z,12nm,1.1s								
VASR	**Vaslui**	**74.38**	**319**	⇑P	**P**	**02 36 08.5**	**+0.6**		
SHOC	**Shoshone, Teco**	**74.52**	**56**	P	**P**	**02 36 09.7**	**+0.7**		
	baz=311								
MPU	**Maple Canyon**	**74.58**	**50**	IAmb	IAmb	02 36 32.2			
	comp=Z,11nm,0.7s								
GSC	**Goldstone, Bar**	**74.58**	**56**	P	**P**	**02 36 09.8**	**+0.4**		
	baz=311								
BFSC	**Mount Baldy Ra**	**74.74**	**58**	P	**P**	**02 36 11.3**	**+1.0**		
	baz=310								
BUR08	**Bucovina Ar. S**	**74.90**	**321**	IAmb	IAmb	02 36 12.8			
	comp=Z,15nm,0.8s								
BURAR	**Bucovina Array**	**74.91**	**321**	⇑P	**P**	**02 36 11.9**	**+0.7**		
BURAR	**Bucovina Array**	**74.91**	**321**	P	**P**	**02 36 11.4**	**+0.2**		
BURAR				IAmb	IAmb	02 36 13.2			
	comp=Z,19nm,0.8s								
TESR	**Tescani**	**75.03**	**320**	⇑P	**P**	**02 36 12.4**	**+0.7**		
ULM	**Lac du Bonnet**	**75.16**	**34**	P	**P**	**02 36 12.7**	**+0.3**		
	comp=Z,4.7nm,0.4s,baz=328,slow=5.9,SNR=8.8								
ULM				pP	**pP**	**02 36 33.0**	**+1.4**		
	comp=Z,5.6nm,0.6s,baz=311,slow=4.3,SNR=3.2								
ULM				LR	LR	03 11 02.6			
	comp=Z,47nm,19.8s,baz=247,slow=37								
	comp=Z,4.7nm,0.4s								
CFR	**Carcaliu**	**75.25**	**318**	⇓P	**P**	**02 36 13.4**	**+0.4**		
KOLS	**Kolonicke sedl**	**75.28**	**324**	*e*P	**P**	**02 36 13.8**	**+0.7**		
KOLS				pmax	pmax				
	comp=Z,15nm,1.0s								
KOLS	**Kolonicke sedl**	**75.28**	**324**	*e*P	**P**	**02 36 13.8**	**+0.7**		
TPGR	**Topolog**	**75.34**	**318**	⇑P	**P**	**02 36 14.0**	**+0.5**		
OJC	**Ojcow**	**75.38**	**326**	*e*P	**P**	**02 36 13.1**	**-0.6**		
OJC				*ep*P	**pP**	**02 36 32.0**	**-0.9**		
OJC				*e*S	**S**	**02 45 44.8**	**-2.6**		
MURC	**Murrieta**	**75.44**	**58**	P	**P**	**02 36 15.0**	**+0.6**		
	baz=311								
VRI	**Vrincioaia**	**75.45**	**319**	⇑P	**P**	**02 36 14.9**	**+0.7**		
UZH	**Uzhgorod**	**75.50**	**324**	*e*P	**P**	**02 36 11.2**	**-3.1**		
UZH				*i*		02 36 33.2			
UZH				*i*		02 36 38.2			
PLOR	**Plostina**	**75.50**	**319**	⇑P	**P**	**02 36 16.0**	**+1.5**		
K22A	**Casper**	**75.60**	**45**	P	**P**	**02 36 15.3**	**+0.1**		
	baz=314								
P18A	**Preston Nutter**	**75.63**	**49**	IAmb	IAmb	02 36 41.1			
	comp=Z,10nm,0.9s								
GMRC	**Granite Mounta**	**75.63**	**56**	P	**P**	**02 36 16.3**	**+0.8**		
	baz=311,SNR=5.5								
CRVS	**Cervenica-Dubn**	**75.66**	**324**	*e*P	**P**	**02 36 16.1**	**+0.8**		
CRVS				pmax	pmax				
	comp=Z,17nm,0.9s								
CRVS	**Cervenica-Dubn**	**75.66**	**324**	*e*P	**P**	**02 36 16.1**	**+0.8**		
SHAO	**Shalim**	**75.70**	**281**	P	**P**	**02 36 16.4**	**+0.5**		
COVR	**Voineasa-Covas**	**75.72**	**320**	⇑P	**P**	**02 36 15.7**	**0.0**		
OZUR		**75.74**	**320**	⇑P	**P**	**02 36 17.4**	**+1.6**		
TLBR	**Topalu**	**75.75**	**318**	⇓P	**P**	**02 36 16.3**	**+0.5**		
TRPA	**Tarpa**	**75.76**	**323**	⇑P	**P**	**02 36 16.8**	**+1.0**		
TRPA	**Tarpa**	**75.76**	**323**	P	**P**	**02 36 17.0**	**+1.2**		
NIE	**Niedzica**	**75.78**	**325**	*e*P	**P**	**02 36 17.4**	**+1.4**		
SRU	**San Rafael Swe**	**75.82**	**50**	IAmb	IAmb	02 36 39.6			
	comp=Z,20nm,0.9s								
RSSD	**Black Hills**	**75.86**	**43**	P	**P**	**02 36 16.3**	**-0.5**		
RSSD				IAmb	IAmb	02 36 39.2			
	comp=Z,8.7nm,0.7s								
RSSD	**Black Hills**	**75.86**	**43**	P	**P**	**02 36 16.3**	**-0.5**		
RSSD				pmax	pmax				
	comp=Z,9.0nm,0.7s								
RSSD	**Black Hills**	**75.86**	**43**	P	**P**	**02 36 17.1**	**+0.3**		
	baz=315								
RWWY	**Rawlins**	**75.90**	**46**	IAmb	IAmb	02 36 38.8			
	comp=Z,22nm,0.9s								
PFO	**Pinyon Flats O**	**75.90**	**58**	P	**P**	**02 36 17.5**	**+0.4**		
	baz=311								
TPFO	**Pinon Flats**	**75.91**	**58**	P	**P**	**02 36 17.6**	**+0.5**		
	baz=311								
BELC	**Belle Mtn. Jos**	**75.94**	**57**	P	**P**	**02 36 17.4**	**+0.1**		
	baz=311								
DOPR	**Dopca**	**76.03**	**320**	⇓P	**P**	**02 36 18.7**	**+1.3**		
ISR	**Istrita**	**76.08**	**319**	⇓P	**P**	**02 36 19.0**	**+1.2**		
MLR	**Muntele Rosu**	**76.11**	**319**	⇑P	**P**	**02 36 18.7**	**+0.7**		
MLR	**Muntele Rosu**	**76.11**	**319**	LR	LR	03 11 38.5			
	comp=Z,92nm,20.6s,baz=48,slow=37								
MLR	**Muntele Rosu**	**76.11**	**319**	IAmb	IAmb	02 36 20.7			
	comp=Z,18nm,1.4s								
BR131	**Keskin Array S**	**76.12**	**311**	IAmb	IAmb	02 36 20.0			
	comp=Z,18nm,0.8s								
BR131	**Keskin Array S**	**76.12**	**311**	*i* P	**P**	**02 36 18.3**	**+0.1**		
BRTR	**Keskin Array B**	**76.12**	**311**	P	**P**	**02 36 18.9**	**+0.7**		
	comp=Z,8.0nm,0.7s,baz=66,slow=3.8,SNR=60								
BRTR				PP	**PP**	**02 39 07.8**	**-1.5**		
	comp=Z,2.0nm,0.9s,baz=53,slow=7.1,SNR=5.4								
BRTR				LR	LR	03 14 30.3			
	comp=Z,38nm,18.2s,baz=61,slow=39								
	comp=Z,8.0nm,0.7s								
BRTR	**Keskin Array B**	**76.12**	**311**	P	**P**	**02 36 17.9**	**-0.3**		
ICOR	**Ion Corvin**	**76.17**	**318**	⇑P	**P**	**02 36 19.7**	**+1.4**		
KSP	**Ksiaz**	**76.33**	**328**	*e*P	**P**	**02 36 20.0**	**+1.0**		
KSP				*ep*P	**pP**	**02 36 39.1**	**+0.8**		
CJR	**Cluj-Napoca**	**76.33**	**322**	⇓P	**P**	**02 36 20.8**	**+1.6**		
LANS	**Liptovska Anna**	**76.33**	**325**	*e*P	**P**	**02 36 20.9**	**+1.8**		
LANS				pmax	pmax				
	comp=Z,11nm,1.0s								
LANS	**Liptovska Anna**	**76.33**	**325**	*e*P	**P**	**02 36 20.9**	**+1.8**		
IRM	**Iron Mountain**	**76.36**	**56**	P	**P**	**02 36 20.3**	**+0.7**		
	baz=312								
DMTO	**DMTO**	**76.39**	**282**	P	**P**	**02 36 19.8**	**0.0**		
MONP2	**Monument Peak**	**76.39**	**58**	P	**P**	**02 36 21.0**	**+1.0**		
	baz=311								
O20A	**White River Ci**	**76.41**	**48**	P	**P**	**02 36 20.9**	**+1.0**		
	baz=314,SNR=6.3								
DOK	**Doka**	**76.41**	**283**	P	**P**	**02 36 20.1**	**+0.2**		
	SNR=10								
ANTO	**Ankara**	**76.50**	**312**	⇓P	**P**	**02 36 20.8**	**+0.5**		
ANTO				⇑P	**P**	**02 36 21.2**	**+0.9**		
BC3	**Big Chuckawall**	**76.50**	**57**	P	**P**	**02 36 21.6**	**+1.1**		
	baz=312								
VOIR		**76.58**	**320**	⇑P	**P**	**02 36 21.3**	**+0.7**		
OSTC	**Ostas**	**76.58**	**328**	*e*P	**P**	**02 36 21.5**	**+1.0**		
U15A	**North Rim**	**76.59**	**53**	IAmb	IAmb	02 36 44.4			
	comp=Z,12nm,1.0s								
CHVC	**Chvalec**	**76.62**	**328**	*e*P	**P**	**02 36 21.8**	**+1.1**		
AGMN	**Agassiz Nation**	**76.65**	**36**	P	**P**	**02 36 21.0**	**+0.1**		
	baz=319								
MORC	**Moravsky Berou**	**76.66**	**327**	⇑P	**P**	**02 36 21.8**	**+0.9**		
MORC	**Moravsky Berou**	**76.66**	**327**	IAmb	IAmb	02 36 23.0			
	comp=Z,28nm,0.9s								
MORC	**Moravsky Berou**	**76.66**	**327**	*e*P	**P**	**02 36 21.7**	**+0.8**		
MORC				*e*		02 37 03.7			
DRGR		**76.68**	**322**	⇓P	**P**	**02 36 22.1**	**+0.9**		
DPC	**Dobruska-Polom**	**76.70**	**328**	*e*P	**P**	**02 36 22.4**	**+1.2**		
DPC	**Dobruska-Polom**	**76.70**	**328**	*e*P	**P**	**02 36 22.4**	**+1.2**		
UPC	**Upice**	**76.70**	**328**	*e*P	**P**	**02 36 22.4**	**+1.3**		
UPC	**Upice**	**76.70**	**328**	*e*P	**P**	**02 36 22.4**	**+1.3**		
KRLC	**Kraliky**	**76.73**	**327**	*e*P	**P**	**02 36 22.3**	**+0.9**		
KRLC	**Kraliky**	**76.73**	**327**	*e*P	**P**	**02 36 22.3**	**+0.9**		
ARR	**Arges**	**76.83**	**320**	⇓P	**P**	**02 36 23.9**	**+1.9**		
MAUC	**Maruska**	**76.86**	**326**	*e*P	**P**	**02 36 23.1**	**+1.0**		
PDMCI	**Parker Dam,Lak**	**76.89**	**56**	P	**P**	**02 36 23.9**	**+1.4**		
	baz=312,SNR=5.6								
IVI	**Ivigtut**	**76.94**	**5**	*i* P	**P**	**02 36 22.3**	**+0.1**		
IVI				IAmb	IAmb	02 36 24.4			
	comp=Z,62nm,1.5s								
PSZ	**Piszkesteto**	**77.09**	**324**	⇑P	**P**	**02 36 24.2**	**+0.7**		
PSZ	**Piszkesteto**	**77.09**	**324**	IAmb	IAmb	02 36 25.7			
	comp=Z,20nm,1.0s								
PSZ	**Piszkesteto**	**77.09**	**324**	P	**P**	**02 36 24.0**	**+0.5**		
VYHS	**Vyhne**	**77.11**	**325**	*e*P	**P**	**02 36 24.5**	**+1.0**		
VYHS				pmax	pmax				
	comp=Z,12nm,1.1s								
VYHS	**Vyhne**	**77.11**	**325**	*e*P	**P**	**02 36 24.5**	**+1.0**		
WHFO	**Wadi Hawf**	**77.12**	**283**	P	**P**	**02 36 23.5**	**-0.5**		
	SNR=14								
PV23	**Carpenter Ridg**	**77.13**	**50**	IAmb	IAmb	02 36 47.4			
	comp=Z,22nm,1.0s								
N23A	**Red Feather La**	**77.14**	**46**	P	**P**	**02 36 24.9**	**+0.8**		
	baz=315								
BRG	**Berggiesshubel**	**77.21**	**329**	*e*P	**P**	**02 36 24.6**	**+0.5**		
BRG				Amp		02 36 25.7			
	comp=Z,8.8nm,1.0s								
BRG				*ex*	x	02 37 05.5			
BRG				Amp		02 37 07.5			
	comp=Z,13nm,1.2s								
BRG	**Berggiesshubel**	**77.21**	**329**	*e*P	**P**	**02 36 24.5**	**+0.5**		
BRG				pmax	pmax				
	comp=Z,9.0nm,1.0s								
BRG				pmax	pmax				
	comp=Z,13nm,1.3s								
CLL	**Collm**	**77.22**	**330**	IAmb	IAmb	02 36 25.3			
	comp=Z,25nm,0.9s								
CLL	**Collm**	**77.22**	**330**	⇑*i*P	**P**	**02 36 24.0**	**0.0**		
CLL				*i* *PP	**pP**	**02 36 43.7**	**+0.4**		
CLL				pmax	pmax				
	comp=Z,26nm,0.9s								
CLL	**Collm**	**77.22**	**330**	⇑*i*P	**P**	**02 36 24.0**	**0.0**		
	comp=Z,26nm,0.9s								
CLL				*i* pP	**pP**	**02 36 43.7**	**+0.4**		
CLL				*es*P	**sP**	**02 36 52.0**	**+0.8**		
CLL				*ePP*	**PP**	**02 39 16.0**	**-2.0**		
CLL				*es*PP		02 39 42.0			
PVCC	**Panska Ves**	**77.25**	**329**	*e*P	**P**	**02 36 25.5**	**+1.3**		
PVCC	**Panska Ves**	**77.25**	**329**	*e*P	**P**	**02 36 25.5**	**+1.3**		
GLA	**Glamis**	**77.30**	**57**	P	**P**	**02 36 25.3**	**+0.5**		
	baz=312								
JAVC	**Velka Javorina**	**77.31**	**326**	*e*P	**P**	**02 36 26.5**	**+1.8**		
JAVC				*e*		02 37 08.5			
PV11	**David Mesa, Pa**	**77.32**	**50**	P	**P**	**02 36 25.3**	**+0.3**		
VRAC	**Vranov**	**77.41**	**327**	⇓P	**P**	**02 36 26.5**	**+1.4**		
VRAC	**Vranov**	**77.41**	**327**	LR	LR	03 12 25.1			
	comp=Z,68nm,20.0s,baz=38,slow=37								
VRAC	**Vranov**	**77.41**	**327**	*e*P	**P**	**02 36 26.1**	**+1.0**		
VRAC				*e*		02 36 45.1			
VRAC				*e*		02 37 08.1			
PV13	**Radium Mtn., P**	**77.44**	**50**	IAmb	IAmb	02 36 48.6			
	comp=Z,15nm,0.9s								
COPA	**Copaceanca**	**77.45**	**319**	⇑P	**P**	**02 36 25.6**	**+0.2**		
PV15	**Paradox Valley**	**77.51**	**49**	IAmb	IAmb	02 36 48.8			
	comp=Z,11nm,0.9s								
B35A	**Bob, Littlefor**	**77.52**	**34**	IAmb	IAmb	02 36 26.7			
	comp=Z,18nm,0.9s								
SIRR	**Siria**	**77.55**	**322**	⇑P	**P**	**02 36 27.0**	**+1.0**		
GOPC	**GO Pecny, Ondr**	**77.65**	**328**	*e*P	**P**	**02 36 27.6**	**+1.1**		
GOPC	**GO Pecny, Ondr**	**77.65**	**328**	*e*P	**P**	**02 36 27.6**	**+1.1**		
KRUC	**Moravsky**	**77.68**	**327**	*e*P	**P**	**02 36 27.6**	**+1.0**		
KRUC				*e*		02 36 47.0			
KRUC				*e*		02 37 09.5			
SMOL	**Smolenice**	**77.68**	**326**	*e*P	**P**	**02 36 28.2**	**+1.5**		
SMOL				pmax	pmax				
	comp=Z,9.0nm,0.9s								
PRU	**Pruhonice**	**77.69**	**328**	*e*P	**P**	**02 36 27.6**	**+0.9**		
PRU	**Pruhonice**	**77.69**	**328**	*e*P	**P**	**02 36 27.6**	**+0.9**		
GZR	**Gura Zlata**	**77.69**	**321**	⇑P	**P**	**02 36 27.5**	**+0.6**		
WUAZ	**Wupatki**	**77.76**	**53**	P	**P**	**02 36 28.2**	**+0.6**		
	baz=313								
SMCO	**Snowmass**	**77.77**	**48**	IAmb	IAmb	02 36 50.6			
	comp=Z,13nm,0.9s								
BORA	**Eskisehir**	**77.78**	**313**	IAmb	IAmb	02 36 29.3			
	comp=Z,25nm,1.2s								
ABTO	**Aybut**	**77.83**	**282**	P	**P**	**02 36 28.0**	**0.0**		
SRO	**Srobarova**	**77.85**	**325**	*e*P	**P**	**02 36 29.1**	**+1.5**		
SRO				pmax	pmax				
	comp=Z,30nm,1.0s								
SRO	**Srobarova**	**77.85**	**325**	*e*P	**P**	**02 36 29.1**	**+1.5**		
MODS	**Modra-Piesok**	**77.86**	**326**	*e*P	**P**	**02 36 29.0**	**+1.3**		
MODS				pmax	pmax				
	comp=Z,30nm,1.1s								
MODS	**Modra-Piesok**	**77.86**	**326**	*e*P	**P**	**02 36 29.0**	**+1.3**		
TREC	**Trest**	**77.87**	**328**	*e*P	**P**	**02 36 28.4**	**+0.7**		
TREC	**Trest**	**77.87**	**328**	*e*P	**P**	**02 36 28.4**	**+0.7**		
BZS	**Buzias**	**78.06**	**322**	⇑P	**P**	**02 36 28.1**	**-0.7**		
ZST	**Bratislava**	**78.07**	**326**	*e*P	**P**	**02 36 30.4**	**+1.6**		
ZST				pmax	pmax				
	comp=Z,28nm,1.0s								
ZST	**Bratislava**	**78.07**	**326**	*e*P	**P**	**02 36 30.4**	**+1.6**		
ISCO	**Idaho Springs**	**78.08**	**47**	P	**P**	**02 36 29.8**	**+0.4**		
	baz=315,SNR=7.2								
SUSD	**Miller**	**78.13**	**40**	P	**P**	**02 36 29.2**	**-0.1**		
	baz=318								
CSKK	**Cskako**	**78.22**	**325**	P	**P**	**02 36 30.7**	**+1.0**		
HERR	**Herculane**	**78.24**	**321**	⇓P	**P**	**02 36 29.8**	**0.0**		
MVCO	**Mesa Verde**	**78.28**	**50**	P	**P**	**02 36 30.5**	**0.0**		
MVCO				IAmb	IAmb	02 36 53.9			
	comp=Z,25nm,1.4s								
MVCO	**Mesa Verde**	**78.28**	**50**	P	**P**	**02 36 31.1**	**+0.6**		
	baz=314,SNR=5.1								
NKC	**Novy Kostel**	**78.30**	**330**	*e*P	**P**	**02 36 31.0**	**+0.9**		
NKC	**Novy Kostel**	**78.30**	**330**	*e*P	**P**	**02 36 31.0**	**+0.9**		
F33A	**5 Mile Ranch,**	**78.32**	**37**	IAmb	IAmb	02 36 52.5			
	comp=Z,11nm,0.7s								
DJES	**Djerdap**	**78.36**	**321**	⇑P	**P**	**02 36 31.2**	**+0.7**		
MPLH	**Magyarpolny**	**78.68**	**325**	P	**P**	**02 36 33.0**	**+0.8**		
SOP	**Sopron**	**78.70**	**326**	P	**P**	**02 36 33.7**	**+1.4**		
CKRC	**Cesky Krumlov**	**78.71**	**328**	*e*P	**P**	**02 36 33.3**	**+0.9**		
KHC	**Kasperske Hory**	**78.75**	**328**	IAmb	IAmb	02 36 34.6			
	comp=Z,18nm,0.8s								
KHC	**Kasperske Hory**	**78.75**	**328**	*e*P	**P**	**02 36 33.5**	**+0.9**		
KHC				*e*		02 36 52.5			
KHC	**Kasperske Hory**	**78.75**	**328**	*e*P	**P**	**02 36 33.5**	**+0.9**		
KHC				pP	**pP**	**02 36 52.5**	**+0.5**		
EYMN	**Ely**	**78.77**	**34**	P	**P**	**02 36 33.0**	**+0.3**		
	baz=322								
EKA	**Eskdalemuir Ar**	**78.79**	**341**	LR	LR	03 15 55.2			
	comp=Z,41nm,18.4s,baz=30,slow=39								
CONA	**Conrad Observa**	**78.79**	**326**	*i* P	**P**	**02 36 34.2**	**+1.3**		
	comp=Z,15nm,1.1s,SNR=7.8								
RONA	**Rosalia, Austr**	**78.79**	**326**	*i* P	**P**	**02 36 34.1**	**+1.2**		
	comp=Z,15nm,0.7s,SNR=8.2								
S22A	**4UR Ranch, Cre**	**78.86**	**49**	P	**P**	**02 36 34.4**	**+0.7**		
	baz=315,SNR=5.0								
Q24A	**Divide**	**78.93**	**47**	P	**P**	**02 36 35.0**	**+0.8**		
	baz=316								
GERES	**GERESS Array B**	**78.93**	**328**	P	**P**	**02 36 34.0**	**+0.3**		
	comp=Z,4.2nm,0.7s,baz=34,slow=5.0,SNR=49								
GERES				pP	**pP**	**02 36 53.5**	**+0.4**		
	comp=Z,1.0nm,0.5s,baz=0.0,slow=1.9,SNR=2.8								
GERES				LR	LR	03 15 05.9			
	comp=Z,56nm,18.9s,baz=56,slow=38								
	comp=Z,4.2nm,0.7s								
MORH	**Mrgy, Hungar**	**78.95**	**324**	⇑P	**P**	**02 36 33.2**	**-0.4**		
MORH	**Mrgy, Hungar**	**78.95**	**324**	P	**P**	**02 36 33.7**	**0.0**		
BLKB	**Belogradchik**	**79.06**	**320**	⇑P	**P**	**02 36 34.6**	**+0.2**		
PGB	**Panagyurishte**	**79.13**	**318**	*i* P	**P**	**02 36 35.7**	**+0.9**		
OGNE	**Ogallala**	**79.17**	**44**	P	**P**	**02 36 35.7**	**+0.6**		
	baz=317								
GRFO	**Grafenberg**	**79.20**	**330**	P	**P**	**02 36 35.0**	**0.0**		
GRFO	**Grafenberg**	**79.20**	**330**	P	**P**	**02 36 35.0**	**0.0**		
GRFO				pmax	pmax				
	comp=Z,33nm,0.8s								
FRGS	**Fruska Gora**	**79.24**	**323**	⇑P	**P**	**02 36 36.0**	**+0.7**		
FRGS	**Fruska Gora**	**79.24**	**323**	⇑*i*P	**P**	**02 36 35.7**	**+0.4**		
214A	**Organ Pipe Nat**	**79.29**	**57**	P	**P**	**02 36 37.0**	**+1.1**		
	baz=313								
RAYN	**Ar Rayn**	**79.40**	**292**	P	**P**	**02 36 36.4**	**-0.2**		
RAYN				IAmb	IAmb	02 36 37.5			
	comp=Z,10nm,0.7s								
RAYN	**Ar Rayn**	**79.40**	**292**	P	**P**	**02 36 36.4**	**-0.2**		
RAYN				pmax	pmax				
	comp=Z,10.0nm,0.7s								
RAYN	**Ar Rayn**	**79.40**	**292**	P	**P**	**02 36 36.9**	**+0.3**		
ARSA	**Arzberg**	**79.47**	**326**	*e*P	**P**	**02 36 37.4**	**+0.8**		
	comp=Z,10nm,1.1s								
RDO	**Rodhopi**	**79.47**	**317**	IAmb	IAmb	02 36 38.8			
	comp=Z,29nm,1.0s								
MOA	**Molln**	**79.51**	**327**	*e*P	**P**	**02 36 37.2**	**+0.5**		
	comp=Z,4.0nm,0.8s								
BOVS	**Bovan**	**79.52**	**320**	⇑P	**P**	**02 36 36.6**	**-0.2**		
VTS	**Vitosha**	**79.54**	**319**	⇑P	**P**	**02 36 38.5**	**+1.4**		
VTS	**Vitosha**	**79.54**	**319**	*i* P	**P**	**02 36 38.2**	**+1.0**		
SDCO	**Great Sand Dun**	**79.60**	**48**	P	**P**	**02 36 38.6**	**+0.8**		
	baz=316								
MMAI	**Mount Meron Ar**	**79.68**	**305**	LR	LR	03 14 10.2			
	comp=Z,61nm,20.6s,baz=156,slow=37								
ECSD	**EROS Data Cent**	**79.78**	**39**	IAmb	IAmb	02 37 00.6			
	comp=Z,14nm,0.8s								
ECSD	**EROS Data Cent**	**79.78**	**39**	P	**P**	**02 36 38.7**	**+0.4**		
	baz=320,SNR=8.1								
BIOA	**Bad Ischl, Aus**	**79.89**	**328**	*i* P	**P**	**02 36 39.5**	**+0.7**		
	comp=Z,15nm,0.9s,SNR=8.3								
A252A	**Venje**	**79.90**	**324**	*i* P	**P**	**02 36 39.0**	**+0.1**		
KALN	**Kalnik**	**79.96**	**325**	*i* P	**P**	**02 36 39.2**	**0.0**		
DIVS	**Divibare**	**79.97**	**322**	IAmb	IAmb	02 36 40.8			
	comp=Z,13nm,1.1s								
DIVS	**Divibare**	**79.97**	**322**	⇑*i*P	**P**	**02 36 39.7**	**+0.3**		
MMB	**Musomiste**	**80.06**	**318**	*i* P	**P**	**02 36 40.8**	**+0.9**		
GROS	**Grobnik**	**80.11**	**326**	*i* P	**P**	**02 36 40.5**	**+0.4**		
SOKA	**Soboth**	**80.13**	**326**	*i* P	**P**	**02 36 41.0**	**+0.8**		
	comp=Z,20nm,0.7s,SNR=10								
MOSL	**Moslavina**	**80.24**	**325**	*i* P	**P**	**02 36 40.3**	**-0.4**		
BTNL	**Ternell**	**80.25**	**333**	*d*P	**P**	**02 36 40.7**	**0.0**		
	comp=Z,9.7nm,0.8s								
MEM	**Membach**	**80.27**	**333**	*d*P	**P**	**02 36 40.2**	**-0.6**		
	comp=Z,12nm,0.9s								
TUC	**Tucson**	**80.30**	**55**	P	**P**	**02 36 42.2**	**+0.8**		
	baz=314								
PTJ	**Puntijarka**	**80.35**	**325**	P	**P**	**02 36 41.3**	**-0.1**		
SPMN	**Marine on St.**	**80.36**	**36**	P	**P**	**02 36 41.6**	**+0.3**		
	baz=322								
BSTI	**Sart Tilman**	**80.44**	**334**	*d*P	**P**	**02 36 42.4**	**+0.7**		
	comp=Z,4.0nm,0.9s								
BSTI				*d*PcP	**PcP**	**02 36 48.9**	**+0.4**		
OBKA	**Obir**	**80.47**	**326**	⇑*i*P	**P**	**02 36 42.3**	**+0.2**		
OBKA	**Obir**	**80.47**	**326**	*i* P	**P**	**02 36 42.2**	**+0.2**		
	comp=Z,12nm,0.7s,SNR=5.8								
KBA	**Koelnbreinsper**	**80.50**	**327**	*e*P	**P**	**02 36 43.0**	**+0.7**		
	comp=Z,20nm,1.0s								
SCHQ	**Schefferville**	**80.54**	**17**	P	**P**	**02 36 42.6**	**+0.4**		
	comp=Z,9.5nm,0.7s,baz=350,slow=4.9,SNR=8.9								
	comp=Z,9.5nm,0.7s								
RUDO	**Rudo**	**80.62**	**322**	⇑*i*P	**P**	**02 36 43.0**	**+0.2**		
CRES	**Cresnjev**	**80.63**	**325**	⇑*i*P	**P**	**02 36 42.9**	**+0.1**		
CRES	**Cresnjev**	**80.63**	**325**	*i* P	**P**	**02 36 43.0**	**+0.1**		
T25A	**Trinidad**	**80.64**	**48**	IAmb	IAmb	02 37 06.4			
	comp=Z,14nm,0.9s								
T25A	**Trinidad**	**80.64**	**48**	P	**P**	**02 36 44.0**	**+0.8**		
	baz=316,SNR=6.8								
A051A	**Mrakovica**	**80.65**	**324**	⇑*i*P	**P**	**02 36 42.7**	**-0.3**		
BCLA	**Clavier**	**80.67**	**334**	*d*P	**P**	**02 36 43.0**	**+0.1**

baz=318
VLDQ Val d'Or 83.80 25 lAmb lAmb 02 36 59.5
comp=Z,22nm,0.8s
GLMI Grayling 84.08 31 P **P** **02 37 00.4 -0.4**
baz=327
CAMP Campotosto 84.15 325 lAmb lAmb 02 37 02.9
comp=Z,24nm,1.0s
OSSC Osservatorio P 84.26 326 lAmb lAmb 02 37 30.8
comp=Z,11nm,0.8s
AQU L'Aquila 84.30 325 P **P** **02 37 02.2 +0.2**
AQU lAmb lAmb 02 37 03.9
comp=Z,21nm,0.8s
AQU L'Aquila 84.30 325 P **P** **02 37 02.2 +0.2**
AQU pmax pmax
comp=Z,21nm,0.8s
P38A Dawn 84.41 40 lAmb lAmb 02 37 25.1
comp=Z,22nm,0.8s
CESX Cesi 84.44 325 P **P** **02 37 01.9 -0.8**
CESX lAmb lAmb 02 37 28.5
comp=Z,12nm,1.0s
BNI Bardonecchia 84.77 330 lAmb lAmb 02 37 33.7
comp=Z,14nm,1.0s
L44A Lake County Fo 84.92 35 P **P** **02 37 04.6 -0.4**
baz=325
T35A Sooner Cattle 85.03 43 lAmb lAmb 02 37 28.1
comp=Z,26nm,1.1s
P40A Paris 85.19 39 P **P** **02 37 06.0 -0.5**
P40A lAmb lAmb 02 37 29.1
comp=Z,13nm,0.8s
TIP Timpagrande 85.32 321 lAmb lAmb 02 37 37.4
comp=Z,16nm,1.1s
SSB Saint Sauveur 85.35 331 lAmb lAmb 02 37 08.4
comp=Z,9.0nm,0.8s
WMOK Wichita Mounta 85.49 46 P **P** **02 37 08.4 +0.3**
baz=319
HDIL Hopedale 85.63 37 P **P** **02 37 09.2 +0.5**
baz=324
R40A Maddies Statio 86.07 40 lAmb lAmb 02 37 32.7
comp=Z,8.3nm,0.7s
SADO Sadowa 86.16 28 LR LR 03 18 26.9
comp=Z,43nm,18.0s,baz=29,slow=38
TUL1 Leonard 86.18 44 lAmb lAmb 02 37 33.7
comp=Z,11nm,0.9s
TUL1 Leonard 86.18 44 P **P** **02 37 12.1 +0.7**
baz=321
PPT Papeete 86.28 117 LR LR 03 06 54.4
comp=Z,84nm,21.7s,baz=284,slow=29
LPIG La Paz 86.29 61 LR LR 03 09 44.4
comp=Z,22nm,20.0s,baz=274,slow=31
PPT2 Papeete2 86.30 117 *e*LR LR 03 04 37.5
comp=Z,243nm,25.5s
PPT2 Papeete2 86.30 117 *e*T T 04 11 52.2
comp=Z,3.9nm,0.2s
TRQ Mont Tremblant 86.39 25 P **P** **02 37 12.0 -0.4**
TRQ lAmb lAmb 02 37 34.9
comp=Z,14nm,0.9s
AAM Ann Arbor 86.57 32 P **P** **02 37 13.8 +0.6**
baz=328
ABTX Abilene, Hawle 86.61 48 P **P** **02 37 14.3 +0.7**
baz=319
TX32 Lajitas Array 86.72 53 P **P** **02 37 14.5 +0.2**
TX32 lAmb lAmb 02 37 37.1
comp=Z,12nm,1.1s
TXAR Lajitas Array 86.72 53 P **P** **02 37 15.2 +0.8**
comp=Z,3.0nm,0.7s,baz=287,slow=3.5,SNR=29
TXAR pP **pP** **02 37 33.8 -0.2**
comp=Z,6.8nm,0.7s,baz=295,slow=4.3,SNR=14
comp=Z,3.0nm,0.7s
CCM Cathedral Cave 86.74 39 P **P** **02 37 13.7 -0.5**
CCM lAmb lAmb 02 37 36.7
comp=Z,12nm,0.8s
CCM Cathedral Cave 86.74 39 P **P** **02 37 13.7 -0.5**
CCM Cathedral Cave 86.74 39 P **P** **02 37 14.9 +0.7**
baz=323
SFIN Lafayette 86.75 35 P **P** **02 37 14.5 +0.4**
baz=326
TAOE Nuku Hiva Isla 86.78 105 *e*LR LR 03 04 50.8
comp=Z,243nm,26.5s
MGMO Mountain Grove 86.97 41 lAmb lAmb 02 37 37.4
comp=Z,7.0nm,0.8s
O48B Farmland 87.67 34 P **P** **02 37 18.8 +0.1**
baz=327
FCAR Ozark Folk Cen 88.04 41 lAmb lAmb 02 37 42.5
comp=Z,8.3nm,0.8s
JCT Junction City 88.13 50 P **P** **02 37 21.0 0.0**
baz=319
MIAR Mount Ida 88.37 43 lAmb lAmb 02 37 45.0
comp=Z,10nm,0.9s
MIAR Mount Ida 88.37 43 P **P** **02 37 22.1 +0.1**
baz=322
WHAR Wooly Hollow 88.44 42 lAmb lAmb 02 37 44.8
comp=Z,14nm,0.8s
P49A Miami Univ. Ec 88.46 34 P **P** **02 37 22.6 +0.3**
baz=327
M53A WI Miller and 88.47 31 P **P** **02 37 23.1 +0.7**
baz=330
PARMO Parma 88.57 39 P **P** **02 37 22.9 0.0**
ACSO Alum Creek Sta 88.59 33 lAmb lAmb 02 37 48.4
comp=Z,12nm,0.8s
ACSO Alum Creek Sta 88.59 33 P **P** **02 37 23.9 +0.9**
baz=328
PKME Peaks-Kenny Pk 88.81 22 P **P** **02 37 24.3 +0.4**
baz=337
WCI Wyandotte Cave 88.87 36 P **P** **02 37 23.8 -0.5**
WCI lAmb lAmb 02 37 46.6
comp=Z,11nm,1.0s
WCI Wyandotte Cave 88.87 36 P **P** **02 37 23.8 -0.5**
WCI pmax pmax
comp=Z,11nm,1.0s
WCI Wyandotte Cave 88.87 36 P **P** **02 37 25.3 +1.0**
baz=326
ATD Arta Tunnel 89.25 285 LR LR 03 22 04.3
comp=Z,39nm,18.3s,baz=14,slow=39
O53A New Philadelph 89.29 32 P **P** **02 37 26.7 +0.5**
baz=329
P52A Corning 89.45 33 P **P** **02 37 27.1 +0.1**
baz=329
BINY Binghamton 89.51 27 P **P** **02 37 27.3 +0.1**
baz=333
H06E1 SOCORRO T-PHAS 89.59 65 T T 04 16 39.1
SNR=3.1
WVT Waverly 89.90 38 P **P** **02 37 29.8 +0.6**
baz=325
NATX Nacogdoches 89.98 45 P **P** **02 37 30.1 +0.5**
baz=321
SSPA Standing Stone 90.21 29 P **P** **02 37 30.7 +0.2**
baz=331
MCWV Mont Chateau 90.33 31 P **P** **02 37 32.2 +1.1**
baz=330
U49A Red Boiling Sp 90.52 37 lAmb lAmb 02 37 54.4
comp=Z,7.5nm,0.8s
KEST Kesra 91.54 323 P **P** **02 37 37.0 +0.1**
comp=Z,5.1nm,1.0s,baz=335,slow=3.1,SNR=7.2
KEST LR LR 03 23 23.2
comp=Z,85nm,18.6s,baz=330,slow=38
comp=Z,5.1nm,1.0s
V52A Sevierville 92.05 36 P **P** **02 37 37.5 -1.6**
TKL Tuckaleechee C 92.12 36 LR LR 03 21 38.3
comp=Z,33nm,20.9s,baz=333,slow=37
LRAL Lakeview Retre 92.83 40 P **P** **02 37 43.0 +0.3**
baz=326
ESDC Sonseca Array 93.22 334 P **P** **02 37 44.7 +0.2**
comp=Z,2.4nm,0.7s,baz=18,slow=4.0,SNR=24
ESDC PP **PP** **02 41 29.1 +1.3**
comp=Z,1.5nm,1.1s,baz=19,slow=8.5,SNR=5.0
ESDC LR LR 03 25 24.8
comp=Z,58nm,19.1s,baz=16,slow=39
comp=Z,2.4nm,0.7s
KMSC Kings Mountain 93.61 34 P **P** **02 37 47.0 +0.6**
baz=329
GOGA Godfrey 94.15 37 P **P** **02 37 49.3 +0.4**
baz=328
MDT Midelt 99.66 332 LR LR 03 26 41.9
comp=Z,47nm,21.7s,baz=31,slow=37
TORD Torodi Ar. Bea 114.28 317 PKP **PKiKP** **02 43 09.5 -0.3**
comp=Z,1.1nm,0.5s,baz=15,slow=2.2,SNR=25
TORD PP **PP** **02 44 03.1 -2.2**
comp=Z,6.4nm,1.0s,baz=21,slow=6.9,SNR=14
KOWA Kowa 115.85 323 PKPdf **PKiKP** **02 43 11.9 -0.9**
VNDA Vanda 119.72 175 PKP **PKiKP** **02 43 19.4 +1.0**
comp=Z,0.8nm,0.9s,baz=324,slow=5.9,SNR=3.6
BAUV El Baul 122.34 36 PKPdf **PKPdf** **02 43 23.9 -1.4**
DBIC Dimbokro 123.09 320 PKP **PKPdf** **02 43 26.8 +0.1**
comp=Z,4.5nm,0.6s,baz=358,slow=3.9,SNR=8.5
DBIC Dimbokro 123.09 320 PKPdf **PKPdf** **02 43 26.5 -0.3**
LBTB Lobatse 125.66 267 PKPdf **PKPdf** **02 43 31.4 +0.1**
LBTB Lobatse 125.66 267 PKIKP **PKPdf** **02 43 31.5 +0.1**
CZSB Cruzeiro do Su 134.11 52 *e*P **PKiKP** **02 43 48.6 -0.4**

MALB Monte Alegre 137.51 25 *e*P **PKiKP** **02 43 57.1 +1.2**
ETMB Extrema 139.48 46 PKPpre PKPpre 02 43 48.6
ETMB PKPdf **PKPdf** **02 43 57.1 -0.5**
LPAZ La Paz 143.57 55 PKP PKPbc 02 44 03.4 +0.3
comp=Z,1.6nm,0.8s,baz=348,slow=5.2,SNR=10.0
LPAZ La Paz 143.57 55 PKPdf PKPbc 02 44 03.0 -0.1
TROLL Troll, Antarti 143.98 200 PKPdf PKPbc 02 44 02.6 +0.4
PB16 IPOC Station P 144.25 59 PKPdf PKPbc 02 44 05.6 +0.5
VILB Vilhena 145.23 41 PKPbc **PKPdf** **02 44 08.5 +0.7**
VILB Vilhena 145.23 41 *e*P **PKPdf** **02 44 08.8 +1.0**
CLDB Colider 145.34 32 *e*P **PKPab** **02 44 08.9 +0.8**
TA01 Diego Aracena 145.42 62 **PKPdf** **02 44 07.6 -0.3**
GO01 Chusmiza 145.43 60 PKPbc **PKPab** **02 44 09.7 +0.8**
SNAA Sanae 145.52 199 PKPdf **PKPab** **02 44 07.1 -0.2**
SNAA Sanae 145.52 199 PKPdf **PKPbc** **02 44 06.9 0.0**
SNAA Sanae 145.52 199 PKP2 **PKPbc** **02 44 06.9 0.0**
PDRB Porto dos Gac 145.62 34 *e*P **PKPab** **02 44 09.5 +0.4**
PB08 IPOC Station P 145.79 60 PKPbc **PKPab** **02 44 10.3 +0.1**
SMTB Santa Maria do 146.02 17 *e*P **PKPab** **02 44 11.0 +0.4**
PB07 IPOC Station P 146.43 63 PKPbc **PKPab** **02 44 12.2 -0.1**
H03N2 Juan Fernandez 146.63 89 T T 05 27 34.5
baz=300,slow=76,SNR=43
H03N3 Juan Fernandez 146.65 89 T T 05 27 39.0
baz=300,slow=76,SNR=47
H03N1 Juan Fernandez 146.65 89 T T 05 27 35.7
baz=300,slow=76,SNR=42
VNA2 Neumayer--Watz 147.10 198 PKPdf **PKPbc** **02 44 11.9 +0.4**
baz=124,slow=2.0
VNA3 Neumayer Olymp 147.37 196 PKPdf **PKPbc** **02 44 12.2 0.0**
LVC Limon Verde 147.69 63 *e*P **PKPbc** **02 44 15.2 +0.2**
PTLB Pontes e Lacer 147.89 41 PKPbc **PKPbc** **02 44 13.9 -1.2**
PTLB Pontes e Lacer 147.89 41 *e*P **PKPbc** **02 44 14.0 -1.2**
SNDB Serra Nova Dou 147.98 25 *e*P **PKPbc** **02 44 14.2 -1.4**
SALV Santo Antonio 149.89 36 *e*P **PKPdf** **02 44 16.1 +0.7**
SDBA SAO DESIDERIO 150.01 14 *e*P **PKPbc** **02 44 19.3 -1.5**
AC05 El Transito 150.69 74 PKPbc **PKiKP** **02 44 22.7 -0.1**
GO04 Tololo Observa 151.05 77 PKPbc **PKPbc** **02 44 23.2 +0.2**
CO02 Combarbal 151.45 79 PKPbc **PKPbc** **02 44 22.6 -1.2**
GDU01 Guandu, BA 151.92 4 *e*P **PKPdf** **02 44 21.5 +2.9**
MT02 Curacav 152.32 83 PKPbc **PKiKP** **02 44 25.8 -0.1**
BDFB Brasilia 152.43 22 PKPbc **PKiKP** **02 44 27.2 +0.5**
comp=Z,9.1nm,0.7s,baz=227,slow=1.7,SNR=20
MT01 Popeta 152.55 84 PKPbc **PKPbc** **02 44 25.6 -0.4**
MT09 Talagante 152.70 84 PKPbc **PKPbc** **02 44 26.1 -0.4**
BO02 Sierra Bellavi 153.30 86 PKPdf **PKPdf** **02 44 19.9 -0.3**
BO02 PKPbc **PKiKP** **02 44 28.5 +0.6**
ZON Zonda 153.32 77 PKPbc **PKiKP** **02 44 28.2 +0.3**
ZON Zonda 153.32 77 PKIKP **PKiKP** **02 44 28.3 +0.3**
GUA01 Guaratinga, BA 154.75 4 *e*P **PKPdf** **02 44 25.9 +3.2**

NEIC ***26*** *02:35:53.4±1.1, 14.64N±0.06×92.65W±0.04, h47km±10km, mb3.9/5, Md4.1/26(MEX), Error ellipse: s-maj=9.0km s-min=5.3km az=207.0*
MEX ***26*** *02:35:53.4±0.7, 14.57N×92.59W, h65km±16km, MD4.1*
UCR ***26*** *02:35:54.7±1.9, 14.12N×92.56W, h20km±999km, ML4.0, mb3.9(NEIC)*
SNET ***26*** *02:35:54.7±1.9, 14.12N×92.53W, h15km±999km, ML4.3*
GCG ***26*** *02:35:56.4±0.5, 14.79N×92.39W, h29km±4km, MD4.0*
ISC 26 02:35:51.0±1.3, 14.56N±0.05×92.72W±0.03, h31km±11km, n59, σ1♀60/82, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.56**	**51**		*e*P		**Pn**	**02 36 04.2**	**+1.5**
THIG							**Sn**	**02 36 11.2**	**+0.3**
THIG		**0.56**	**51**		*e*P		**Pn**	**02 36 04.2**	**+1.5**
THIG					*e*S		**Sn**	**02 36 11.2**	**+0.3**
PATR	**El Naranjo**	**0.72**	**40**		*e*P		**Pn**	**02 36 05.5**	**+0.2**
PATR					*e*S		**Sn**	**02 36 15.8**	**+0.4**
CHUJ	**Union Juarez**	**0.79**	**48**		*e*P		**Pb**	**02 36 06.9**	**+0.4**
CHUJ					*e*S		**Sn**	**02 36 17.5**	**+0.4**
PAVE	**Pavencul**	**0.82**	**39**		*e*P		**Pb**	**02 36 07.3**	**+0.4**
PAVE					*e*S		**Sn**	**02 36 18.6**	**+0.8**
RTAL	**Retalhuleu**	**0.99**	**92**				**Pb**	**02 36 09.6**	**0.0**
RTAL						Sn	**Sn**	**02 36 21.6**	**0.0**
STG3	**Santiaguito 3,**	**1.12**	**82**		*e*P		**Pb**	**02 36 11.9**	**0.0**
PCIG		**1.24**	**337**					**02 36 13.8**	**+0.1**
PCIG							**Pb**	**02 36 29.4**	**0.0**
PCIG		**1.24**	**337**		*i* P		**Pb**	**02 36 13.8**	**+0.1**
PCIG					*i* S		**Sb**	**02 36 29.4**	**0.0**
HUEH	**Huehuetenango**	**1.39**	**57**				**Pb**	**02 36 16.1**	**-0.4**
HUEH						Sn	**Sb**	**02 36 33.8**	**-0.3**
CCIG	**Comitan**	**1.80**	**18**		Pn		**Pn**	**02 36 21.1**	**+1.0**
CCIG	**Comitan**	**1.80**	**18**		*e*P		**Pb**	**02 36 22.7**	**-0.7**
CCIG					*e*S		**Sb**	**02 36 45.4**	**-0.3**
FUG	**Fuego 3**	**1.82**	**93**		*e*P		**Pb**	**02 36 22.1**	**-1.6**
CARR	**Arriaga**	**2.04**	**326**		*e*P		**Pb**	**02 36 25.6**	**-1.7**
CARR					*e*S		**Sb**	**02 36 50.3**	**-2.0**
PCG	**Pacaya**	**2.05**	**94**		*e*P		**Pb**	**02 36 25.8**	**-1.9**
PCG					*e*S		**Sn**	**02 36 49.0**	**+0.8**
TGIG		**2.24**	**350**				**Pn**	**02 36 27.0**	**+1.0**
TGIG							**Sn**	**02 36 52.8**	**+0.1**
TGIG		**2.24**	**350**		*e*P		**Pn**	**02 36 27.0**	**+1.0**
TGIG					*e*S		**Sn**	**02 36 52.8**	**+0.1**
NBG	**Las Nubes**	**2.29**	**89**		*e*P		**Pb**	**02 36 31.3**	**-0.5**
NBG					*e*S		**Sb**	**02 36 57.1**	**-2.8**
NILT	**Santiago Nilte**	**2.71**	**318**		*e*P		**Pn**	**02 36 33.8**	**+1.4**
NILT					*e*S		**Sn**	**02 37 04.2**	**+0.1**
SLOZ	**Alcaldia de Sa**	**2.89**	**100**		*e*P		**Pn**	**02 36 36.3**	**+1.4**
SLOZ					*e*S		**Sn**	**02 37 11.1**	**+2.4**
NUBE	**Las Nubes**	**2.92**	**103**		*e*P		**Pn**	**02 36 36.8**	**+1.4**
NUBE	**Las Nubes**	**2.92**	**103**		*e*P		**Pn**	**02 36 36.8**	**+1.4**
MRL	**Marmol**	**2.98**	**80**		*e*P		**Pn**	**02 36 38.0**	**+1.7**
UXUV	**UXUV**	**3.07**	**334**		*e*P		**Pn**	**02 36 40.4**	**+3.0**
UXUV					*e*S		**Sn**	**02 37 14.5**	**+1.5**
CEVE	**Cerro Verde**	**3.08**	**103**		*e*P		**Pn**	**02 36 39.5**	**+1.7**
CEVE					IAML			02 37 21.2	
comp=Z,948nm,0.5s									
CEVE	**Cerro Verde**	**3.08**	**103**		*e*P		**Pn**	**02 36 39.5**	**+1.7**
CEVE					IAML			02 37 21.2	
comp=Z,948nm,0.5s									
MTO3	**Montecristo**	**3.25**	**92**		Pn		**Pn**	**02 36 40.8**	**+0.8**
ESQI	**Esquipulas**	**3.27**	**90**		Pn		**Pn**	**02 36 40.6**	**+0.5**
CMIG	**Matias Romero**	**3.27**	**321**				**Pn**	**02 36 41.7**	**+1.6**
CMIG							**Sn**	**02 37 19.8**	**+1.7**
CMIG	**Matias Romero**	**3.27**	**321**		*e*P		**Pn**	**02 36 41.7**	**+1.6**
CMIG					*e*S		**Sn**	**02 37 19.8**	**+1.7**
SNET	**Serv Nac Est T**	**3.49**	**104**		Pn		**Pn**	**02 36 44.7**	**+1.5**
HUIG	**Huatulco**	**3.49**	**291**				**Pn**	**02 36 45.0**	**+1.9**
HUIG							**Sn**	**02 37 20.9**	**-2.5**
HUIG	**Huatulco**	**3.49**	**291**		*e*P		**Pn**	**02 36 45.0**	**+1.9**
HUIG					*i* S		**Sn**	**02 37 20.9**	**-2.5**
PETF	**Flores**	**3.61**	**49**		Pn		**Pn**	**02 36 45.0**	**+0.3**
SJTE	**Alcalda de S**	**3.72**	**104**		*e*P		**Pn**	**02 36 48.8**	**+2.5**
SJTE	**Alcalda de S**	**3.72**	**104**		*e*P		**Pn**	**02 36 48.8**	**+2.5**
COEG	**Centro de Oper**	**3.84**	**104**		*e*P		**Pn**	**02 36 51.3**	**+3.3**
COEG	**Centro de Oper**	**3.84**	**104**		*e*P		**Pn**	**02 36 51.3**	**+3.3**
NEUV	**Arroyo Zacate**	**4.32**	**317**		*e*P		**Pn**	**02 36 55.3**	**+0.8**
NEUV					*e*S		**Sn**	**02 37 46.5**	**+2.7**
CRIN	**San Cristobal**	**5.81**	**108**		Pn		**Pn**	**02 37 16.0**	**+0.9**
CNGN	**Cerro Negro**	**6.20**	**109**		Pn		**Pn**	**02 37 21.7**	**+1.3**
TLIG	**Tlapa**	**6.37**	**299**		Pn		**Pn**	**02 37 25.0**	**+2.2**
MATN	**Matagalpa**	**6.79**	**103**		Pn		**Pn**	**02 37 29.5**	**+0.9**
TEIG	**Tepich**	**7.05**	**36**		Pn		**Pn**	**02 37 31.0**	**-1.1**
BOAB	**BOACO BROADBAN**	**7.17**	**106**		Pn		**Pn**	**02 37 34.5**	**+0.7**
ACON	**Acoyapa**	**7.78**	**108**		Pn		**Pn**	**02 37 43.7**	**+1.6**
HZTE	**Horizontes, Gu**	**7.93**	**118**		Pn		**Pn**	**02 37 45.9**	**+1.7**
ORTG	**Ortega, Santa**	**8.22**	**120**		Pn		**Pn**	**02 37 50.2**	**+1.9**
DUNO	**Dulce Nombre,**	**8.34**	**121**		Pn		**Pn**	**02 37 52.2**	**+2.3**
CVTR	**Volcan Turrial**	**9.84**	**116**		Pn		**Pn**	**02 38 12.6**	**+1.7**
RIMA	**Rio Macho**	**9.88**	**118**		Pn		**Pn**	**02 38 12.2**	**+1.2**
SRBA	**San Rafael, Bu**	**10.57**	**119**		Pn		**Pn**	**02 38 21.9**	**+1.4**
SOR	**Soroa**	**12.31**	**47**		Pn		**Pn**	**02 38 43.8**	**-0.3**
BCIP	**Isla Barro Col**	**13.69**	**112**		Pn		**Pn**	**02 39 05.8**	**+2.7**
LRAL	**Lakeview Retre**	**19.11**	**15**		P		**P**	**02 40 20.9**	**-0.5**
MIAR	**Mount Ida**	**19.91**	**358**		P		**P**	**02 40 20.1**	**0.0**
MIAR					lAmb		lAmb	02 40 25.1	
comp=Z,4.6nm,0.9s									
BANI	**BANI**	**21.77**	**77**		P		**P**	**02 40 36.8**	**-3.6**
OK048	**Pawnee Station**	**22.09**	**351**		P		**P**	**02 40 43.2**	**-0.4**
ELIS	**Ellis County**	**22.24**	**346**		P		**P**	**02 40 42.8**	**-2.5**
ELIS					lAmb		lAmb	02 40 53.0	
comp=Z,6.2nm,0.5s									

SKO ***26*** *02:38:23.9, 41.16N×23.12E, h15km*
SOF ***26*** *02:38:23.4, 41.19N×23.08E, h9km, MD2.8*
ATH ***26*** *02:38:24.5, 41.21N×23.11E, h10km±3km, ML2.1/5, Error ellipse: s-maj=3.2km s-min=0.8km az=296.0*
ISC 26 02:38:24.1±0.9, 41.20N±0.03×23.11E±0.02, h15km±7km, n23, σ0♀31/37, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.17**	**258**	*i*	Pg		**Pg**	**02 38 28.3**	**+0.1**
KNT				*i*	Sg		**Sg**	**02 38 30.7**	**-0.2**
KNT	**Kendrikon**	**0.17**	**258**		P		**Pg**	**02 38 28.3**	**+0.1**
KNT					S		**Sg**	**02 38 30.5**	**-0.5**
SRS	**Serrai**	**0.37**	**102**	*i*	Pg		**Pg**	**02 38 31.8**	**+0.1**
SRS				*i*	Sg		**Sg**	**02 38 37.1**	**+0.2**
SRS	**Serrai**	**0.37**	**102**		P		**Pg**	**02 38 31.7**	**+0.1**
SRS					S		**Sg**	**02 38 37.0**	**+0.2**
SOH	**Sokhos**	**0.42**	**154**	*i*	Pg		**Pb**	**02 38 33.0**	**-0.3**
SOH				*i*	Sg		**Sb**	**02 38 38.7**	**-0.7**
SOH	**Sokhos**	**0.42**	**154**		P		**Pb**	**02 38 32.9**	**-0.3**
SOH					S		**Sb**	**02 38 38.6**	**-0.7**
SOH					AML		AML	02 38 40.1	
comp=E,1466μm,0.2s									
SOH					AML		AML	02 38 40.5	
comp=N,980μm,0.2s									
VAY	**Valandovo**	**0.43**	**287**	*i*	Pg		**Pb**	**02 38 33.2**	**-0.1**
VAY				*i*	Sg		**Sg**	**02 38 38.9**	**+0.5**
VAY				*e*	Lg		Lg	02 38 39.1	
comp=E,38nm,0.2s									
VAY				*e*	Lg		Lg	02 38 39.2	
comp=N,51nm,0.3s									
THE	**Thessaloniki**	**0.57**	**191**	*i*	Pg		**Pb**	**02 38 35.9**	**0.0**
THE				*i*	Sg		**Sb**	**02 38 43.8**	**0.0**
THE	**Thessaloniki**	**0.57**	**191**		P		**Pb**	**02 38 35.8**	**0.0**
THE					S		**Sb**	**02 38 43.7**	**-0.1**
THE					AML		AML	02 38 43.9	
comp=E,569μm,0.2s									
THE					AML		AML	02 38 46.2	
comp=N,494μm,0.1s									
NVR	**Nevrokopi**	**0.59**	**75**		P		**Pg**	**02 38 35.5**	**-0.1**
NVR					S		**Sg**	**02 38 43.4**	**0.0**
NVR					AML		AML	02 38 48.1	
comp=N,190μm,0.1s									
NVR					AML		AML	02 38 49.6	
comp=E,207μm,0.1s									
GRG	**Griva**	**0.59**	**246**	*i*	Pg		**Pb**	**02 38 35.9**	**-0.2**
GRG				*i*	Sg		**Sb**	**02 38 44.5**	**+0.2**
GRG	**Griva**	**0.59**	**246**		P		**Pb**	**02 38 35.9**	**-0.2**
GRG					S		**Sg**	**02 38 43.6**	**+0.1**
GRG					AML		AML	02 38 45.7	
comp=N,390μm,0.2s									
GRG					AML		AML	02 38 45.8	
comp=E,398μm,0.2s									
HORT	**Hortiatis**	**0.60**	**181**		P		**Pb**	**02 38 36.4**	**+0.1**
HORT					S		**Sb**	**02 38 44.7**	**+0.1**
HORT					AML		AML	02 38 45.4	
comp=N,653μm,0.1s									
HORT					AML		AML	02 38 45.8	
comp=E,682μm,0.1s									
MMB	**Musomiste**	**0.61**	**50**	*i*	P		**Pg**	**02 38 35.6**	**-0.4**
KKB	**Krupnik**	**0.67**	**358**	*i*	P		**Pg**	**02 38 36.6**	**-0.6**
KOKK	**Kokkinochori,**	**0.77**	**119**		P		**Pb**	**02 38 39.1**	**-0.1**
KOKK					S		**Sb**	**02 38 49.7**	**+0.2**
KAVA	**Kavala**	**1.08**	**100**		P		**Pg**	**02 38 44.5**	**-0.4**
OUR	**Ouranopolis**	**1.09**	**142**		P		**Pn**	**02 38 45.3**	**+0.5**
LIT	**Litokhoron**	**1.19**	**204**	*i*	Pg		**Pg**	**02 38 46.8**	**-0.3**
RZN	**Rozhen**	**1.30**	**67**	*i*	P		**Pg**	**02 38 49.2**	**0.0**
PAIG	**Paliouri**	**1.34**	**161**		P		**Pb**	**02 38 48.9**	**0.0**
VTS	**Vitosha**	**1.42**	**4**	*i*	Pn		**Pb**	**02 38 50.6**	**+0.1**
VTS	**Vitosha**	**1.42**	**4**	*i*	P		**Pb**	**02 38 50.6**	**+0.1**

SJA ***26*** *02:57:35.6±0.6, 34.00S×72.45W, h20km±3km, ML4.5, MW4.5*
IDC ***26*** *02:57:37.0±0.7, 33.92S×72.12W, h0km, mb4.2/10, mbtmp4.2/13, ML4.1/3, MS3.8/13, Error ellipse: s-maj=21.7km s-min=16.0km az=111.0*
VAO ***26*** *02:57:39.0±0.3, 33.96S×72.34W, h20km, mb4.4*
NEIC ***26*** *02:57:39.8±1.6, 33.96S±0.03×72.23W±0.04, h20km±4km, mb4.6/26, Mwr4.2/54, ML4.4(GUC), Error ellipse: s-maj=5.1km s-min=3.7km az=49.0*
GUC ***26*** *02:57:39.6±0.8, 33.98S×72.23W, h25km±16km, ML4.4*
NEIC ***26*** *02:57:39.8, 33.95S×72.22W, h23km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.62; Mθθ-0.61; Mϕϕ-1.01; Mrθ0.26; Mrϕ-1.22; Mθϕ-2.30; Fault plane solution: M₀2.98000×10¹⁵ NP1:ϕ₁65.09000°, δ29.76000°, λ143.34000°. NP2:ϕ₂187.96000°, δ72.76000°, λ65.36000°. Principal axes: T 3.1509, Plg55.0000°, Azm67.0000°; N -0.3835, Plg23.0000°, Azm196.0000°; P -2.7674, Plg24.0000°, Azm297.0000°;*
ISC 26 02:57:39.0±0.9, 33.97S±0.03×72.24W±0.04, h17km±5km, n173, σ1♀25/204, mb4.6/18, MS3.9/10, 11C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.57**	**156**	↑	*e*P		**Pg**	**02 57 50.1**	**-0.2**
BO03					*e*S		**Sb**	**02 57 58.3**	**-0.2**
BO03					IAML			02 57 59.1	
comp=E,28μm,0.4s									
VA05	**Santo Domingo**	**0.61**	**59**				**Pb**	**02 57 51.8**	**+0.6**
VA05							**Sb**	**02 57 59.9**	**+0.5**
VA05	**Santo Domingo**	**0.61**	**59**	↑	*e*P		**Pg**	**02 57 51.0**	**0.0**
VA05					*e*S		**Sb**	**02 57 59.7**	**+0.2**
VA05					IAML			02 58 04.4	
comp=N,51μm,0.3s									
MT01	**Popeta**	**0.83**	**83**				**Pb**	**02 57 54.8**	**-0.2**
MT01							**Sb**	**02 58 05.6**	**-0.3**
MT01	**Popeta**	**0.83**	**83**	↓↓	*e*P		**Pb**	**02 57 54.9**	**-0.1**
MT01					*e*S		**Sb**	**02 58 05.8**	**-0.1**
MT01					IAML			02 58 07.3	
comp=E,12μm,0.3s									
MT01	**Popeta**	**0.83**	**83**		*e*P		**Pb**	**02 57 54.6**	**-0.3**
MT01					*e*S		**Sg**	**02 58 06.0**	**-0.2**
MT01					IAML			02 58 06.2	
comp=Z,17μm,0.5s									
MT09	**Talagante**	**1.06**	**80**				**Pb**	**02 57 58.3**	**-0.7**
MT09							**Pb**	**02 58 12.3**	**-0.3**
MT09	**Talagante**	**1.06**	**80**	↓↓	*e*P		**Pb**	**02 57 58.5**	**-0.5**
MT09					*e*S		**Sb**	**02 58 12.7**	**0.0**
MT09					IAML			02 58 16.8	
comp=N,13μm,0.3s									
MT02	**Curacav**	**1.16**	**53**				**Pn**	**02 58 00.2**	**-0.2**
MT02					Sn		**Sb**	**02 58 15.0**	**-0.5**
MT02	**Curacav**	**1.16**	**53**	↓↓	*e*P		**Pn**	**02 58 00.3**	**-0.2**
MT02					*e*S		**Sb**	**02 58 15.2**	**-0.3**
MT02	**Curacav**	**1.16**	**53**		*e*P		**Pn**	**02 58 00.3**	**-0.2**
MT02					*e*S		**Sb**	**02 58 15.1**	**-0.3**

PEL					*e*S		**Sb**	**02 58 26.6**	**+0.3**
PEL					IAML			02 58 34.4	
	comp=N,10μm,0.6s								
PEL	**Peldehue**	**1.54**	**58**	*e*P			**Pb**	**02 58 06.7**	**-0.4**
PEL					*e*S		**Sg**	**02 58 28.4**	**-0.3**
VA06	**Catapilco**	**1.61**	**30**	Pn			**Pn**	**02 58 06.5**	**-0.2**
VA06	**Catapilco**	**1.61**	**30**‖	*e*P			**Pn**	**02 58 06.7**	**0.0**
VA06					*e*S		**Sn**	**02 58 27.9**	**+0.8**
VA06					IAML			02 58 36.0	
	comp=E,14μm,0.5s								
LMEL	**Las Melosas**	**1.70**	**86**				**Pn**	**02 58 08.9**	**+0.8**
LMEL	**Las Melosas**	**1.70**	**86**‖	*e*P			**Pn**	**02 58 08.7**	**+0.6**
LMEL					*e*S		**Sb**	**02 58 30.8**	**-0.3**
LMEL					IAML			02 58 37.1	
	comp=N,5μm,0.2s								
FCH	**Farellones**	**1.75**	**69**‖	*e*P			**Pn**	**02 58 09.5**	**+0.6**
FCH					*e*S		**Sb**	**02 58 32.8**	**+0.1**
FCH					IAML			02 58 39.2	
	comp=E,5μm,0.6s								
VA03	**San Esteban**	**1.86**	**50**				**Pn**	**02 58 11.2**	**+1.1**
VA03	**San Esteban**	**1.86**	**50**‖	*e*P			**Pn**	**02 58 11.2**	**+1.1**
VA03					*e*S		**Sb**	**02 58 34.8**	**-0.8**
VA03					IAML			02 58 42.0	
	comp=E,12μm,0.5s								
VA03	**San Esteban**	**1.86**	**50**	*e*P			**Pn**	**02 58 11.3**	**+1.1**
VA03					*e*S		**Sg**	**02 58 40.4**	**+1.5**
VA03					IAML			02 58 43.2	
	comp=Z,5μm,0.7s								
ML02	**Panimavida**	**1.91**	**159**				**Pn**	**02 58 11.5**	**+0.7**
ML02	**Panimavida**	**1.91**	**159**‖	*e*P			**Pn**	**02 58 11.5**	**+0.7**
ML02					*e*S		**Sb**	**02 58 35.9**	**-1.1**
ML02					IAML			02 58 48.7	
	comp=E,10μm,0.5s								
BI05	**Punta Hualpn**	**2.88**	**195**	Pn			**Pn**	**02 58 23.5**	**-0.5**
CO02	**Combarbal**	**2.95**	**21**				**Pn**	**02 58 25.6**	**+0.4**
CO02	**Combarbal**	**2.95**	**21**	*e*P			**Pn**	**02 58 25.6**	**+0.4**
CO02					*e*S		**Sn**	**02 59 02.0**	**+1.6**
CO02					IAML			02 59 21.9	
	comp=Z,1μm,0.5s								
ARCO	**CERRO ARCO**	**2.99**	**69**	*e*P			**Pb**	**02 58 30.0**	**-1.9**
ARCO					IAML			02 59 21.2	
	comp=Z,686nm,0.7s								
RFA	**San Rafael**	**3.22**	**105**	*e*P			**Pn**	**02 58 26.4**	**-2.5**
RFA					*e*P		**Pb**	**02 58 31.3**	**-4.5**
RFA					*e*P		**Pb**	**02 58 31.9**	**-3.9**
RFA					*e*S		**Sg**	**02 59 27.0**	**+4.5**
RFA					IAML			02 59 31.8	
	comp=Z,513nm,1.1s								
CO06	**Fray Jorge**	**3.33**	**9**	Pn			**Pn**	**02 58 29.6**	**-0.7**
ZON	**Zonda**	**3.85**	**52**	Pn			**Pn**	**02 58 39.7**	**+2.1**
GO04	**Tololo Observa**	**3.98**	**18**				**Pn**	**02 58 39.6**	**+0.1**
GO04	**Tololo Observa**	**3.98**	**18**	*e*P			**Pn**	**02 58 39.9**	**+0.4**
GO04					*e*S		**Sb**	**02 59 31.9**	**-5.0**
RTLL	**Cerro Villicun**	**4.13**	**51**	*e*P			**Pn**	**02 58 43.7**	**+2.3**
RTLL					*e*S		**Sb**	**02 59 39.4**	**-1.5**
CO05	**La Serena**	**4.13**	**12**	Pn			**Pn**	**02 58 40.2**	**-1.1**
ACCO	**Cerro Coronel**	**4.32**	**39**	*e*P			**Pn**	**02 58 46.6**	**+2.4**
ACCO					*e*S		**Sb**	**02 59 46.9**	**+0.3**
CO01	**Juntas del Tor**	**4.38**	**25**				**Pn**	**02 58 46.1**	**+1.1**
CO01	**Juntas del Tor**	**4.38**	**25**	*e*P			**Pn**	**02 58 46.2**	**+1.2**
CO01					*e*P		**Pn**	**02 58 46.9**	**+1.9**
CO01					*e*S		**Sn**	**02 59 37.9**	**+2.1**
CO01					IAML			03 00 02.8	
	comp=Z,330nm,0.6s								
AROD	**Rodeo**	**4.46**	**33**	*e*P			**Pn**	**02 58 49.1**	**+2.9**
AROD					*e*S		**Sg**	**02 59 58.6**	**-3.7**
LCO	**Las Campanas**	**5.12**	**15**	*e*P			**Pn**	**02 58 54.8**	**-0.3**
AVFE	**Valle Fertil**	**5.23**	**52**	*e*P			**Pn**	**02 58 58.6**	**+2.2**
AC05	**El Transito**	**5.39**	**19**				**Pn**	**02 58 59.0**	**+0.3**
AC05	**El Transito**	**5.39**	**19**	*e*P			**Pn**	**02 58 59.2**	**+0.4**
AC05					*e*S		**Sb**	**03 00 21.4**	**+4.1**
AC05					IAML			03 00 34.6	
	comp=Z,630nm,0.8s								
VA04	**Juan Fernndez**	**5.50**	**272**	Pn			**Pn**	**02 58 59.4**	**-0.7**
H03S1	**Juan Fernandez**	**5.54**	**269**	Pn			**Pn**	**02 59 00.4**	**-0.1**
H03S1					T		T	03 04 47.3	
	baz=83,SNR=2832								
H03S3	**Juan Fernandez**	**5.55**	**270**	Pn			**Pn**	**02 59 00.7**	**+0.2**
H03S3					T		T	03 04 50.9	
	baz=83,SNR=2496								
H03S2	**Juan Fernandez**	**5.56**	**270**	Pn			**Pn**	**02 59 00.7**	**0.0**
H03S2					T		T	03 04 55.6	
	baz=83,SNR=2543								
H03N1	**Juan Fernandez**	**5.58**	**274**	Pn			**Pn**	**02 59 02.0**	**+1.0**
	baz=193,slow=17								
H03N1					T		T	03 05 14.3	
	baz=115,slow=74,SNR=20								
H03N3	**Juan Fernandez**	**5.59**	**273**	Pn			**Pn**	**02 59 02.2**	**+1.0**
	baz=193,slow=17								
H03N3					T		T	03 05 13.2	
	baz=115,slow=74								
H03N2	**Juan Fernandez**	**5.60**	**274**	Pn			**Pn**	**02 59 02.8**	**+1.5**
	baz=193,slow=17								
H03N2					T		T	03 05 14.9	
	baz=115,slow=73								
GO06	**Curarrehue**	**5.63**	**174**	Pn			**Pn**	**02 59 02.4**	**+0.3**
LR03	**Panguipulli**	**5.65**	**181**	Pn			**Pn**	**02 59 02.8**	**+0.6**
AC04	**Llanos de Chal**	**5.84**	**10**	Pn			**Pn**	**02 59 03.9**	**-0.9**
LR04	**Corral**	**5.97**	**189**	Pn			**Pn**	**02 59 06.1**	**-0.5**
PLCA	**Paso Flores**	**6.88**	**169**	Pn			**Pn**	**02 59 19.6**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=333,slow=11,SNR=43								
PLCA					LR		LR	03 02 04.3	
	comp=Z,520nm,18.5s,baz=350,slow=39								
	comp=Z,5.0nm,0.5s								
PLCA	**Paso Flores**	**6.88**	**169**	Pn			**Pn**	**02 59 19.8**	**+0.7**
PLCA	**Paso Flores**	**6.88**	**169**	*e*P			**Pn**	**02 59 19.4**	**+0.2**
LL04	**Puerto Octay**	**6.93**	**181**	Pn			**Pn**	**02 59 21.6**	**+1.9**
AC02	**Maricunga**	**7.60**	**22**	Pn			**Pn**	**02 59 28.4**	**-1.1**
GO02	**Mina Guanaco**	**9.08**	**15**	Pn			**Pn**	**02 59 46.5**	**-3.0**
TRQA	**Tornquist**	**9.26**	**119**	Pn			**Pn**	**02 59 53.3**	**+1.6**
TRQA	**Tornquist**	**9.26**	**119**	*e*P			**Pn**	**02 59 52.2**	**+0.5**
LVC	**Limon Verde**	**11.69**	**15**	LR			LR	03 05 28.0	
	comp=Z,202nm,21.5s,baz=206,slow=41								
LVC	**Limon Verde**	**11.69**	**15**	*e*P			**Pn**	**03 00 24.3**	**-1.2**
PB04	**IPOC Station P**	**11.74**	**10**	Pn			**Pn**	**03 00 23.4**	**-2.5**
ITQB	**Itaqui**	**13.95**	**76**	*e*P			**Pn**	**03 00 56.9**	**+1.0**
GO01	**Chusmiza**	**14.50**	**12**	Pn			**Pn**	**03 01 03.0**	**-1.0**
RODS	**Rosario do Sul**	**14.88**	**81**	*e*P			**Pn**	**03 01 10.0**	**+1.3**
CPUP	**Villa Florida**	**14.97**	**63**	Pn			**Pn**	**03 01 09.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=3.7								
CPUP					LR		LR	03 07 36.8	
	comp=Z,462nm,19.0s,baz=240,slow=40								
	comp=Z,3.1nm,0.7s								
CPUP	**Villa Florida**	**14.97**	**63**	Pn			**Pn**	**03 01 06.9**	**-2.9**
CPUP	**Villa Florida**	**14.97**	**63**	*e*P			**Pn**	**03 01 10.7**	**+0.8**
UNIS	**Unistalda (Bra**	**15.43**	**76**	*e*P			**Pn**	**03 01 17.5**	**+1.6**
PB16	**IPOC Station P**	**15.76**	**10**	P			**Pn**	**03 01 22.1**	**+1.2**
PLTB	**Pedras Altas**	**15.82**	**87**	Pn			**Pn**	**03 01 17.9**	**-3.0**
PLTB	**Pedras Altas**	**15.82**	**87**	*e*P			**Pn**	**03 01 21.2**	**+0.3**
CPSB	**Cacapava Do Su**	**16.31**	**83**	*e*P			**Pn**	**03 01 27.9**	**+0.7**
CRSM	**Crissiumal (Br**	**16.92**	**72**	*e*P			**Pn**	**03 01 35.4**	**+0.4**
ALGR	**Alto Alegre (B**	**17.19**	**78**	*e*P			**P**	**03 01 40.6**	**+0.6**
LPAZ	**La Paz**	**18.00**	**13**	P			**P**	**03 01 50.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=181,slow=6.1,SNR=46								
	comp=Z,9.1nm,0.8s								
LPAZ	**La Paz**	**18.00**	**13**	P			**P**	**03 01 50.1**	**+0.7**
LPAZ	**La Paz**	**18.00**	**13**	*e*P			**Pn**	**03 01 49.3**	**+0.3**
FRBT	**Francisco Belt**	**18.41**	**69**	*e*P			**Pn**	**03 01 54.9**	**+1.4**
MCR1	**Marechal Candi**	**18.48**	**64**	*e*P			**Pn**	**03 01 55.6**	**+1.3**
ITAB	**Concordia**	**18.55**	**74**	P			**P**	**03 01 52.7**	**-2.2**
ITAB					IAmb		IAmb	03 01 55.1	
	comp=Z,34nm,1.4s								
ITAB	**Concordia**	**18.55**	**74**	*e*P			**P**	**03 01 54.8**	**-0.2**
ANTJ	**Antonio Joao (**	**18.62**	**54**	*e*P			**P**	**03 01 55.8**	**0.0**
CNLB	**Canela**	**18.79**	**82**	*e*P			**Pn**	**03 01 59.9**	**+1.8**
AQDB	**Aquidauana**	**19.89**	**52**	P			**P**	**03 02 09.7**	**+0.1**
AQDB	**Aquidauana**	**19.89**	**52**	*e*P			**P**	**03 02 09.9**	**+0.3**
EFI	**East Falkland**	**20.46**	**154**	P			**P**	**03 02 14.0**	**-1.5**
EFI					IAmb		IAmb	03 02 51.5	
	comp=Z,47nm,1.1s								
TRCB	**Terra Rica**	**20.50**	**62**	P			**P**	**03 02 15.8**	**-0.4**
TRCB	**Terra Rica**	**20.50**	**62**	*e*P			**P**	**03 02 16.1**	**-0.2**
SIV	**San Ignacio**	**20.54**	**32**	P			**P**	**03 02 16.1**	**-0.6**
	comp=Z,6.8nm,0.6s,baz=211,slow=10,SNR=51								
SIV					LR		LR	03 11 36.8	
	comp=Z,253nm,18.2s,baz=250,slow=41								
	comp=Z,6.8nm,0.6s								
PTLB	**Pontes e Lacer**	**21.91**	**36**	P			**P**	**03 02 31.1**	**-0.3**
PTLB					IAmb		IAmb	03 02 32.7	
	comp=Z,10nm,0.9s								
PTLB	**Pontes e Lacer**	**21.91**	**36**	*e*P			**P**	**03 02 31.9**	**+0.5**
PCMB	**Pacaembu**	**22.23**	**62**	*e*P			**P**	**03 02 33.5**	**-1.3**
SALV	**Santo Antonio**	**23.37**	**44**	*e*P			**P**	**03 02 45.5**	**-1.3**
VILB	**Vilhena**	**23.62**	**31**	P			**P**	**03 02 48.9**	**-0.4**
VILB					IAmb		IAmb	03 02 50.6	
	comp=Z,17nm,0.7s								
VILB	**Vilhena**	**23.62**	**31**	*e*P			**P**	**03 02 49.4**	**+0.1**
BB19B	**Bebedouro**	**24.58**	**65**	*e*P			**P**	**03 02 58.2**	**0.0**
ETMB	**Extrema**	**24.67**	**14**	P			**P**	**03 02 59.1**	**+0.1**
ETMB					IAmb		IAmb	03 03 02.8	
	comp=Z,14nm,0.9s								
ETMB	**Extrema**	**24.67**	**14**	*e*P			**P**	**03 03 00.3**	**+1.3**
VAO	**Valinhos**	**24.69**	**70**	*e*P			**P**	**03 02 60.0**	**+0.6**
PARB	**Paraibuna**	**25.58**	**73**	*e*P			**P**	**03 03 08.1**	**+0.7**
PDRB	**Pedro dos Gac**	**26.39**	**36**	*e*P			**P**	**03 03 14.8**	**+0.2**
IPMB	**Ipameri, GO**	**26.74**	**59**	*e*P			**P**	**03 03 18.5**	**+0.6**
CLDB	**Colider**	**27.48**	**37**	*e*P			**P**	**03 03 24.3**	**-0.2**
BDFB	**Brasilia**	**28.46**	**56**	P			**P**	**03 03 32.4**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=220,slow=9.3,SNR=7.6								
	comp=Z,3.8nm,0.8s								
BDFB	**Brasilia**	**28.46**	**56**	P			**P**	**03 03 31.7**	**-1.6**
BDFB					IAmb		IAmb	03 03 41.5	
	comp=Z,7.5nm,0.9s								
BDFB	**Brasilia**	**28.46**	**56**	*e*P			**P**	**03 03 32.6**	**-0.7**
SNDB	**Serra Nova Dou**	**29.06**	**46**	*e*P			**P**	**03 03 38.8**	**+0.2**
TBTG	**Tabatinga, AM**	**29.71**	**5**	*e*P			**P**	**03 03 45.8**	**+1.5**
NPGB	**Novo Progresso**	**31.01**	**34**	*e*P			**P**	**03 03 54.8**	**-1.0**
PMSA	**Palmer Station**	**31.23**	**173**	LR			LR	03 16 20.8	
	comp=Z,172nm,18.3s,baz=338,slow=36								
JANB	**Januaria**	**31.47**	**60**	*e*P			**P**	**03 03 58.5**	**-1.4**
SJMB	**Sao Joao De Ma**	**31.56**	**69**	*e*P			**P**	**03 04 00.7**	**0.0**
MACA	**Manacapuru-AM**	**32.49**	**22**	P			**P**	**03 04 08.6**	**-0.3**
MACA					IAmb		IAmb	03 04 09.6	
	comp=Z,6.1nm,0.8s								
MACA	**Manacapuru-AM**	**32.49**	**22**	*e*P			**P**	**03 04 08.8**	**-0.1**
RPN	**Rapa Nui**	**32.54**	**272**	LR			LR	03 14 07.1	
	comp=Z,234nm,18.9s,baz=227,slow=30								
SDBA	**SAO DESIDERIO**	**32.87**	**56**	*e*P			**P**	**03 04 11.4**	**-0.8**
NAN01	**Guarapari, ES**	**32.88**	**69**	*e*P			**P**	**03 04 10.7**	**-1.5**
GUA01	**Guaratinga, BA**	**33.87**	**67**	*e*P			**P**	**03 04 20.2**	**-0.6**
CMC01	**Camacan, BA**	**34.82**	**66**	*e*P			**P**	**03 04 28.4**	**-0.7**
GDU01	**Guandu, BA**	**35.81**	**64**	*e*P			**P**	**03 04 36.8**	**-0.9**
MALB	**Monte Alegre**	**36.11**	**32**	*e*P			**P**	**03 04 39.5**	**-0.6**
BOAV	**Boa Vista**	**37.82**	**19**	P			**P**	**03 04 54.1**	**-0.6**
BOAV					IAmb		IAmb	03 05 03.5	
	comp=Z,3.5nm,0.9s								
BOAV	**Boa Vista**	**37.82**	**19**	*e*P			**P**	**03 04 54.5**	**-0.2**
BAUV	**El Baul**	**42.87**	**6**	P			**P**	**03 05 35.5**	**-1.0**
BAUV					IAmb		IAmb	03 05 37.7	
	comp=Z,13nm,0.9s								
MDP	**Montagnes des**	**43.05**	**29**	LR			LR	03 24 38.0	
	comp=Z,126nm,18.5s,baz=184,slow=38								
RCBR	**Riachuelo**	**43.77**	**58**	LR			LR	03 25 08.1	
	comp=Z,202nm,19.8s,baz=358,slow=38								
SNAA	**Sanae**	**51.67**	**158**	P			**P**	**03 06 45.3**	**+0.7**
SNAA	**Sanae**	**51.67**	**158**	P			**P**	**03 06 45.4**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=289,slow=8.6,SNR=10								
	comp=Z,3.2nm,0.8s								
SNAA	**Sanae**	**51.67**	**158**	P			**P**	**03 06 43.3**	**-1.3**
SNAA					IAmb		IAmb	03 06 53.9	
	comp=Z,11nm,1.2s								
CELP	**Cerrillos**	**52.04**	**7**	P			**P**	**03 06 47.2**	**-0.6**
TROLL	**Troll, Antarti**	**53.38**	**158**	P			**P**	**03 06 56.6**	**-0.8**
QSPA	**South Pole Qui**	**56.26**	**180**	P			**P**	**03 07 19.6**	**+1.3**
	comp=Z,3.4nm,1.0s,baz=179,slow=0.8,SNR=10								
	comp=Z,3.4nm,1.0s								
VNDA	**Vanda**	**64.09**	**191**	P			**P**	**03 08 13.8**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=108,slow=3.0,SNR=3.6								
	comp=Z,0.5nm,0.7s								
TXAR	**Lajitas Array**	**69.63**	**331**	P			**P**	**03 08 48.9**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=155,slow=11,SNR=2.6								
TXAR					LR		LR	03 35 04.6	
	comp=Z,55nm,18.3s,baz=193,slow=32								
	comp=Z,0.2nm,0.6s								
PLAL	**Pickwick Lake**	**70.18**	**346**	P			**P**	**03 08 50.7**	**+0.1**
PLAL					IAmb		IAmb	03 09 01.8	
	comp=Z,3.1nm,0.9s								
V48A	**Smith Brothers**	**70.68**	**347**	P			**P**	**03 08 53.6**	**-0.1**
V48A					IAmb		IAmb	03 08 55.3	
	comp=Z,7.2nm,1.1s								
WVT	**Waverly**	**71.25**	**347**	P			**P**	**03 08 57.4**	**+0.4**
WVT					IAmb		IAmb	03 09 06.3	
	comp=Z,7.9nm,1.0s								
BBTS	**Babate**	**71.74**	**57**	LR			LR	03 39 40.3	
	comp=Z,116nm,19.7s,baz=193,slow=35								
MAW	**Mawson**	**73.25**	**164**	P			**P**	**03 09 10.2**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=226,slow=11,SNR=5.1								
	comp=Z,1.7nm,0.5s								
DBIC	**Dimbokro**	**75.33**	**71**	P			**P**	**03 09 21.9**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=212,slow=5.5,SNR=4.1								
	comp=Z,4.2nm,0.7s								
TSUM	**Tsumeb**	**79.38**	**106**	LR			LR	03 40 42.9	
	comp=Z,72nm,19.7s,baz=316,slow=33								
TRQ	**Mont Tremblant**	**79.85**	**358**	P			**P**	**03 09 44.3**	**-2.0**
BOSA	**Boshof**	**80.23**	**118**	P			**P**	**03 09 49.2**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=212,slow=3.7,SNR=6.0								
	comp=Z,2.5nm,0.7s								
BOSA	**Boshof**	**80.23**	**118**	P			**P**	**03 09 49.0**	**-0.2**
BOSA					IAmb		IAmb	03 10 00.5	
	comp=Z,4.1nm,0.9s								
E62A	**Clayton Lake**	**80.26**	**2**	P			**P**	**03 09 48.9**	**+0.5**
ECSD	**EROS Data Cent**	**80.47**	**342**	P			**P**	**03 09 49.6**	**0.0**
ECSD					IAmb		IAmb	03 10 01.4	
	comp=Z,7.9nm,1.2s								
KOWA	**Kowa**	**80.78**	**66**	P			**P**	**03 09 52.0**	**+0.1**
KOWA					IAmb		IAmb	03 09 52.7	
	comp=Z,4.9nm,0.7s								
LBTB	**Lobatse**	**82.47**	**115**	P			**P**	**03 09 59.8**	**-1.2**
TOA0	**Torodi Ar. Sit**	**84.36**	**70**	P			**P**	**03 10 09.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**84.36**	**70**	P			**P**	**03 10 10.6**	**0.0**
	comp=Z,4.4nm,0.8s,baz=254,slow=4.2,SNR=24								
	comp=Z,4.4nm,0.8s								
LSZ	**Lusaka**	**89.97**	**108**	LR			LR	03 47 03.5	
	comp=Z,69nm,18.7s,baz=146,slow=33								
ESDC	**Sonseca Array**	**96.68**	**46**	LR			LR	03 54 12.8	
	comp=Z,19nm,18.2s,baz=219,slow=35								
WRA	**Warramunga Arr**	**120.70**	**209**	PKP			**PKPdf**	**03 16 30.3**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=156,slow=1.9,SNR=7.9								
ARCES	**ARCESS Array B**	**124.06**	**25**	PKP			**PKPdf**	**03 16 35.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=268,slow=3.2,SNR=5.1								
ZALV	**Zalesovo Beam**	**154.29**	**32**	PKPbc			**PKiKP**	**03 17 38.1**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=297,slow=2.9,SNR=18								
ZALV					pPKPbc		**sPKPbc**	**03 17 46.0**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=323,slow=3.2,SNR=4.3								
ZALV					PKPab		**PKPab**	**03 17 52.4**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=291,slow=4.9,SNR=4.0								
MKAR	**Makanchi Array**	**156.87**	**49**	PKPab			**PKPab**	**03 18 03.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=299,slow=2.5,SNR=4.1								
PZH	**PanZhiHua**	**170.92**	**143**	PKP			**PKPdf**	**03 17 45.8**	**-1.0**

IDC ***26*** *03:13:28.0±0.9, 32.°5±0.5S×178.°18±0.8W, h0km, mb4.3/4, mbtmp4.4/7, ML4.3/2, MS3.9/21, Error ellipse: s-maj=31.8km s-min=23.0km az=91.0*

NEIC ***26*** *03:13:29.2±2.5, 32.°17±0.1S×178.°27±0.2W, h10km±1km, mb4.6/15, Error ellipse: s-maj=25.1km s-min=12.6km az=106.0*

WEL ***26*** *03:13:32.3±0.6, 32.°5±11.°1×17.°9±2.°9, h33km, M5.0/10, mB5.0/2, ML5.0/12, MLv5.0/10, Mw(mB)4.4/2, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4*

ISC 26 03:13:30.6±0.7, 32.°52S±0.1°06×178.°2W±0.1°, h20km, n91, σ1s**46/78, mb4.5/14, MS4.0/20, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.25**	**4**	P		**Pn**	**03 14 17.4**	**-3.1**
GLKZ					S	**Sn**	**03 14 56.0**	**-2.6**
RAO	**Raoul Island**	**3.26**	**4**	Pn		**Pn**	**03 14 20.5**	**0.0**
	60nm,0.3s,baz=66,slow=22,SNR=2.3							
RAO					Sn	**Sn**	**03 14 57.1**	**-1.7**
	114nm,0.3s,baz=119,slow=22,SNR=2.5							
	182nm,0.2s							
RAO	**Raoul Island**	**3.26**	**4**	Pn		Pn	03 14 14.6	-6.0
RIZ	**Raoul Island**	**3.27**	**4**	S		**Sn**	**03 14 58.8**	**-0.2**
MXZ	**Matakaoa Point**	**5.81**	**209**	P		**Pn**	**03 14 57.2**	**+1.7**
MXZ					S	**Sn**	**03 16 00.6**	**-0.9**
WMGZ	**Waiomatatini S**	**5.99**	**207**	P		**Pn**	**03 14 58.2**	**+0.2**
WMGZ					S	**Sn**	**03 16 05.9**	**0.0**
PKGZ	**Pakihiroa**	**6.18**	**209**	P		**Pn**	**03 14 58.8**	**-1.9**
PKGZ					S	**Sn**	**03 16 09.3**	**-1.5**
HAZ	**Te Kaha**	**6.19**	**211**	P		**Pn**	**03 15 00.6**	**-0.2**
HAZ					S	**Sn**	**03 16 12.1**	**+1.0**
PUZ	**Puketiti**	**6.27**	**207**	P		**Pn**	**03 15 00.7**	**-1.2**
PUZ					S	**Sn**	**03 16 11.2**	**-1.7**
RUGZ	**Raukumara Rang**	**6.41**	**211**	P		**Pn**	**03 15 04.0**	**0.0**
RUGZ					S	**Sn**	**03 16 16.2**	**-0.4**
TWGZ	**Tauwhareparae**	**6.47**	**208**	P		**Pn**	**03 15 04.4**	**-0.2**
TWGZ					S	**Sn**	**03 16 17.4**	**-0.5**
CNGZ	**Carnagh Statio**	**6.65**	**205**	P		**Pn**	**03 15 05.5**	**-1.6**
MWZ	**Matawai**	**6.79**	**210**	P		**Pn**	**03 15 07.2**	**-1.8**
MWZ					S	**Sn**	**03 16 24.6**	**-1.1**
URZ	**Urewera**	**6.91**	**213**	Pn		**Pn**	**03 15 10.0**	**-0.7**
	3.2nm,0.3s,baz=120,slow=4.1,SNR=12							
URZ					Sn	**Sn**	**03 16 26.1**	**-2.5**
	11nm,0.3s,baz=349,slow=7.8,SNR=12							
	9.4nm,0.3s							
URZ	**Urewera**	**6.91**	**213**	Pn		**Pn**	**03 15 10.2**	**-0.5**
URZ	**Urewera**	**6.91**	**213**	P		**Pn**	**03 15 10.1**	**-0.5**
URZ					S	**Sn**	**03 16 25.4**	**-3.2**
RIGZ	**Rimuhau**	**7.01**	**207**	P		**Pn**	**03 15 12.1**	**0.0**
RIGZ					S	**Sn**	**03 16 29.7**	**-1.5**
OUZ	**Omahuta**	**7.37**	**246**	Pn		**Pn**	**03 15 19.8**	**+2.9**
RAHZ	**Arahi**	**7.46**	**210**	P		**Pn**	**03 15 18.6**	**+0.3**
RAHZ					S	**Sn**	**03 16 39.9**	**-2.5**
NMHZ	**Naumai**	**7.73**	**211**	P		**Pn**	**03 15 22.5**	**+0.4**
NMHZ					S	**Sn**	**03 16 46.9**	**-2.1**
BKZ	**Black Stump Fm**	**7.93**	**212**	Pn		**Pn**	**03 15 23.7**	**-1.0**
BKZ	**Black Stump Fm**	**7.93**	**212**	P		**Pn**	**03 15 25.7**	**+1.0**
BKZ					S	**Sn**	**03 16 50.3**	**-3.5**
HIZ	**Hauiti**	**8.26**	**222**	Pn		**Pn**	**03 15 30.7**	**+1.5**
OTVZ	**Oturere**	**8.31**	**215**	P		**Pn**	**03 15 29.5**	**-0.5**
OTVZ					S	**Sn**	**03 16 59.3**	**-4.1**
RPZ	**Rata Peaks**	**14.02**	**214**	Sn		Sn	03 19 07.4	-16
	0.8nm,0.3s,baz=318,slow=18,SNR=1.6							
MSVF	**Nonsavu**	**15.12**	**346**	Pn		**Pn**	**03 17 03.5**	**+0.4**
	4.2nm,0.7s,baz=156,slow=9.9,SNR=5.0							
MSVF	**Nonsavu**	**15.12**	**346**	P		**Pn**	**03 17 02.3**	**-0.7**
MLZ	**Mavora Lakes**	**16.66**	**216**	P		**P**	**03 17 27.7**	**+2.6**
DZM	**Mont Dzumac**	**17.17**	**303**	*e*P		Pn	03 17 19.1	-10
	100nm,28.4s							
DZM					*e*LR	LR	03 21 15.4	
	comp=Z,488nm,22.1s							
DZM	**

IDC 26 03:14:16.0±33.0, 35°54'N×81°53'E, h0km, mb3.5/1, mbtmp3.7/3, ML3.4/2, Error ellipse: s-maj=461.0km s-min=67.2km az=38.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**11.26**	**3**	Pn	Pn	03 16 58.2	+0.1
	0.4nm,0.3s,baz=187,slow=14,SNR=13						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**18.55**	**6**	P	Pn	03 18 34.5	+0.3
	0.5nm,0.3s,baz=192,slow=12,SNR=4.6						
	0.9nm,0.3s						
SONM	**Songino Array**	**22.16**	**49**	P	P	03 19 13.3	-0.1
	1.7nm,0.8s,baz=243,slow=9.5,SNR=6.5						
	1.7nm,0.8s						

IDC 26 03:17:20.8±6.4, 32.0°01'S×178.5°50'W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=275.8km s-min=58.5km az=159.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.63**	**269**	P	P	03 25 18.8	-0.4
	1.9nm,0.9s,baz=110,slow=7.8,SNR=6.0						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**43.76**	**274**	P	P	03 25 28.4	+0.1
	1.6nm,0.7s,baz=115,slow=7.6,SNR=11						
	1.6nm,0.7s						
FINES	**FINESS Array B**	**146.50**	**339**	PKPbc	PKPdf	03 37 02.4	+0.6
	2.8nm,0.8s,baz=20,slow=4.4,SNR=5.6						

MAN 26 03:41:57.4, 16.2°7N×120.5°7E, h32km, mb3.8, ML2.5, MS2.0, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPP	**San Manuel, Pa**	**0.16**	**137↑**	*eP*		Pn 03 42 04.8	+1.1
SMPP				*eS*		Sb 03 42 09.7	+2.0
BOLP	**Bolinao**	**0.64**	**280↓**	*eP*		Pb 03 42 09.9	-0.3
BOLP				*eS*		Sn 03 42 19.3	+0.1
SCZP	**Santa Cruz**	**0.80**	**232↑**	*eP*		Pb 03 42 13.1	+0.3
SAMP	**Sagada Mountai**	**0.87**	**22↓**	*eP*		Pn 03 42 13.4	0.0
SAMP				*eS*		Sb 03 42 25.4	0.0
BALP	**Baler**	**1.10**	**118↑**	*eP*		Pb 03 42 20.6	+2.7
BALP				*eS*		Sb 03 42 36.6	+4.6
APYP	**Conner**	**1.71**	**22↓**	*eP*		Pb 03 42 27.8	-0.5

*NEIC **26** 04:00:01.8±1.1, 32.4°40S±0.1°0×177.8°8W±0.0°5, h10km±1km, mb4.5/17, Error ellipse: s-maj=16.4km s-min=7.6km az=172.0*

*IDC **26** 04:00:02.6±0.7, 32.5°51S×178.4°3W, h0km, mb4.1/5, mbtmp4.2/6, ML4.4/1, MS3.6/15, Error ellipse: s-maj=27.0km s-min=26.6km az=17.0*

ISC 26 04:00:03.9±0.7, 32.7°9S±0.1°0×178.2°W±0.1°, h10km, n56, σ1s28/42, mb4.4/12, MS3.6/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.54**	**4**	Pn	Pn	04 00 51.3	-7.7
URZ	**Urewera**	**6.66**	**214**	Pn	**Pn**	**04 01 42.2**	**+0.4**
	6.5nm,0.3s,baz=150,slow=0.8,SNR=27						
URZ				Sn	**Sn**	**04 02 57.6**	**-0.1**
	4.7nm,0.3s,baz=335,slow=3.4,SNR=9.0						
	17nm,0.3s						
URZ	**Urewera**	**6.66**	**214**		**Pn**	**04 01 41.4**	**-0.4**
OUZ	**Omahuta**	**7.23**	**248**	Pn	**Pn**	**04 01 53.6**	**+3.9**
BKZ	**Black Stump Fm**	**7.68**	**213**	Pn	**Pn**	**04 01 55.0**	**-0.9**
HIZ	**Hauiti**	**8.03**	**223**	Pn	**Pn**	**04 02 01.3**	**+0.6**
THZ	**Tophouse**	**11.41**	**216**	Pn	**Pn**	**04 02 46.0**	**-1.0**
FOZ	**Fox Glacier**	**14.26**	**218**	Pn	**Pn**	**04 03 26.1**	**+0.2**
LBZ	**Lake Benmore**	**14.70**	**215**	Pn	Pn	04 03 29.6	-2.3
LBZ					IAmb	IAmb 04 03 32.0	
	comp=Z,27nm,1.3s						
MSVF	**Nonsavu**	**15.37**	**346**	LR	LR	04 08 32.2	
	comp=Z,179nm,18.4s,baz=326,slow=34						
DZM	**Mont Dzumac**	**17.30**	**304**	LR	LR	04 09 39.2	
	comp=Z,522nm,18.2s,baz=193,slow=34						
RAR	**Rarotonga**	**20.03**	**59**	LR	LR	04 12 55.9	
	comp=Z,55nm,19.0s,baz=250,slow=39						
PPT	**Papeete**	**29.89**	**67**	LR	LR	04 18 33.9	
	comp=Z,68nm,18.1s,baz=280,slow=37						
STKA	**Stephens Creek**	**33.84**	**260**	LR	LR	04 19 58.9	
	comp=Z,174nm,18.0s,baz=33,slow=36						
STKA	**Stephens Creek**	**33.84**	**260**	P	**P**	**04 06 48.0**	**+1.4**
CTA	**Charters Tower**	**34.09**	**283**	LR	LR	04 18 51.7	
	comp=Z,84nm,18.6s,baz=82,slow=33						
CTAO	**Charters Tower**	**34.09**	**283**	P	**P**	**04 06 47.2**	**-1.7**
CTAO					IAmb	IAmb 04 06 51.4	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**38.21**	**257**	P	**P**	**04 07 24.3**	**+0.3**
COEN	**Coen**	**39.82**	**289**	P	**P**	**04 07 35.9**	**-1.7**
COEN					IAmb	IAmb 04 08 01.3	
	comp=Z,10nm,1.2s						
AS31	**Alice Springs**	**42.87**	**270**	P	**P**	**04 08 01.8**	**-0.8**
ASAR	**Alice Springs**	**42.87**	**270**	P	**P**	**04 08 01.5**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=111,slow=7.8,SNR=35						
ASAR					LR	LR 04 26 39.1	
	comp=Z,58nm,18.2s,baz=152,slow=37						
	comp=Z,2.2nm,0.5s						
ASAR	**Alice Springs**	**42.87**	**270**	P	**P**	**04 08 01.1**	**-1.6**
WR0	**Warramunga Arr**	**43.89**	**275**	P	**P**	**04 08 10.6**	**-0.3**
WB2	**Warramunga Arr**	**44.06**	**275**	P	**P**	**04 08 11.2**	**-1.1**
WB2					IAmb	IAmb 04 08 25.0	
	comp=Z,4.2nm,0.7s						
WRAB	**Tennant Creek**	**44.06**	**275**	P	**P**	**04 08 10.7**	**-1.6**
WRAB					IAmb	IAmb 04 08 34.2	
	comp=Z,5.3nm,0.9s						
WRA	**Warramunga Arr**	**44.07**	**275**	P	**P**	**04 08 10.8**	**-1.5**
	comp=Z,2.5nm,0.3s,baz=113,slow=7.9,SNR=80						
WRA					LR	LR 04 25 01.7	
	comp=Z,79nm,20.9s,baz=44,slow=34						
	comp=Z,2.5nm,0.3s						
WRA	**Warramunga Arr**	**44.07**	**275**	P	**P**	**04 08 11.0**	**-1.3**
WB0	**Warramunga Arr**	**44.10**	**275**	P	**P**	**04 08 11.5**	**-1.1**
FORT	**Forrest**	**45.32**	**257**	P	**P**	**04 08 21.9**	**-0.3**
KNRA	**Kununurra**	**50.76**	**276**	P	**P**	**04 09 03.1**	**-1.3**
KNRA					IAmb	IAmb 04 09 18.2	
	comp=Z,4.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.23**	**272**	LR	LR	04 30 49.0	
	comp=Z,118nm,19.0s,baz=226,slow=36						
FITZ	**Fitzroy Crossi**	**52.23**	**272**	P	**P**	**04 09 13.9**	**-1.5**
FITZ					IAmb	IAmb 04 09 22.5	
	comp=Z,6.5nm,1.4s						
CASY	**Casey**	**52.96**	**209**	P	**P**	**04 09 20.1**	**0.0**
SIJI	**Sorong**	**57.08**	**293**	LR	LR	04 32 41.1	
	comp=Z,43nm,20.7s,baz=48,slow=34						
QSPA	**South Pole Qui**	**57.33**	**180**	P	**P**	**04 09 54.8**	**+2.9**
	comp=Z,1.6nm,0.8s,baz=71,slow=0.9,SNR=7.8						
	comp=Z,1.6nm,0.8s						
QSPA	**South Pole Qui**	**57.33**	**180**	P	**P**	**04 09 52.9**	**+1.0**
QSPA					IAmb	IAmb 04 10 08.5	
	comp=Z,4.8nm,0.9s						
RPN	**Rapa Nui**	**58.99**	**104**	LR	LR	04 31 20.1	
	comp=Z,31nm,20.4s,baz=195,slow=32						
SNAA	**Sanae**	**75.78**	**178**	P	**P**	**04 11 49.0**	**-0.6**
SNAA					IAmb	IAmb 04 12 13.0	
	comp=Z,5.2nm,1.3s						
PLCA	**Paso Flores**	**81.01**	**133**	P	**P**	**04 12 21.2**	**+2.1**
	comp=Z,1.3nm,0.9s,baz=252,slow=5.6,SNR=3.9						
PLCA					LR	LR 04 43 32.4	
	comp=Z,31nm,18.4s,baz=225,slow=32						
	comp=Z,1.3nm,0.9s						
LPIG	**La Paz**	**85.94**	**58**	LR	LR	04 45 51.0	
	comp=Z,35nm,18.9s,baz=198,slow=32						
YBH	**Yreka Blue Hor**	**90.02**	**38**	LR	LR	04 46 54.7	
	comp=Z,31nm,18.9s,baz=272,slow=31						
NVAR	**Mina Array Bea**	**90.11**	**43**	P	**P**	**04 13 04.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=225,slow=7.0,SNR=4.2						
	comp=Z,0.6nm,0.8s						
NNA	**Nana**	**92.93**	**106**	LR	LR	04 48 05.5	
	comp=Z,28nm,18.3s,baz=224,slow=31						
MKAR	**Makanchi Array**	**119.16**	**309**	PKPdf	**PKPdf**	**04 18 51.8**	**-1.1**
KURBB	**Kurchatov Array**	**122.59**	**313**	PKP	**PKPdf**	**04 18 58.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=121,slow=1.9,SNR=5.9						
BVAR	**Borovoye Array**	**127.97**	**314**	PKP	**PKPdf**	**04 19 09.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=56,slow=7.7,SNR=2.4						
ARCES	**ARCESS Array B**	**140.88**	**347**	PKhKP	PKPpre	04 19 27.9	
	comp=Z,1.2nm,0.9s,baz=129,slow=1.3,SNR=1.6						
FIA1	**FINESS Array S**	**147.31**	**339**	PKPbc	**PKPdf**	**04 19 44.8**	**+0.3**
FINES	**FINESS Array B**	**147.31**	**339**	PKPbc	**PKPdf**	**04 19 45.6**	**+1.0**
	comp=Z,9.1nm,0.8s,baz=66,slow=4.6,SNR=20						
FINES	**FINESS Array B**	**147.31**	**339**	PKPbc	**PKPdf**	**04 19 45.1**	**+0.5**
NB2	**NORSAR Subarra**	**151.08**	**351**	PKP	**PKPbc**	**04 19 56.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=14,slow=2.5						
NOA	**NORSAR Array B**	**151.08**	**351**	PKPbc	**PKPbc**	**04 19 55.8**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=14,slow=4.2,SNR=5.6						
HFS	**Hagfors**	**151.54**	**347**	PKPbc	**PKPbc**	**04 19 56.3**	**-1.3**
	comp=Z,3.6nm,0.9s,baz=151,slow=3.4,SNR=6.0						
AKASG	**Malin Array Be**	**153.05**	**320**	PKPbc	**PKPbc**	**04 20 00.7**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=58,slow=2.5,SNR=7.1						
BRTR	**Keskin Array B**	**153.51**	**294**	PKPbc	**PKPbc**	**04 20 02.2**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=143,slow=3.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**160.44**	**180**	PKPab	**PKPab**	**04 20 46.1**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=207,slow=3.3,SNR=2.9						

*NEIC **26** 04:21:34.8±1.7, 20.4°4S±0.1°1×177.8°8W±0.1°1, h516km±6km, mb4.4/51, Error ellipse: s-maj=17.6km s-min=15.0km az=122.0*

*NOU **26** 04:21:35.1, 20.4°4S×177.5°7W, h528km, mb4.6/34, Fiji Islands Region*

*IDC **26** 04:21:38.0±1.0, 20.4°0S×177.9°2W, h537km±10km, mb3.7/17, mbtmp4.7/20, Error ellipse: s-maj=12.4km s-min=9.3km az=153.0*

ISC 26 04:21:37.0±0.4, 20.6°36S±0.0°07×177.8°6W±0.0°07, h534km, n199, σ1s53/206, mb4.4/51, 24C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.30**	**337**	P	**P**	**04 22 46.2**	**-0.6**
TAVE	**Taveuni**	**4.12**	**332**	P	**P**	**04 22 59.0**	**+0.3**
MSVF	**Nonsavu**	**4.67**	**303**	P	**P**	**04 23 03.6**	**+0.3**
	17nm,0.4s,baz=150,slow=4.4,SNR=58						
MSVF				S	**S**	**04 24 14.8**	**+1.3**
	39nm,1.0s,baz=130,slow=23,SNR=11						
MSVF	**Nonsavu**	**4.67**	**303**		**P**	**04 23 03.3**	**+0.1**
MSVF	**Nonsavu**	**4.67**	**303**	P	**P**	**04 23 03.8**	**+0.6**
NIUE	**Niue**	**7.58**	**82**	P	**P**	04 23 24.9	-5.1
NIUE	**Niue**	**7.58**	**82**	P	**P**	**04 23 27.2**	**-2.9**
AFI	**Afiamalu**	**8.66**	**43**	P	**P**	**04 23 37.0**	**-4.0**
	74nm,0.6s,baz=341,slow=7.0,SNR=8.0						
AFI				S	S	04 25 13.0	-10
	102nm,0.6s,baz=14,slow=18,SNR=7.8						
AFI	**Afiamalu**	**8.66**	**43**	P	P	04 23 36.5	-4.6
AFI	**Afiamalu**	**8.66**	**43**	P	**P**	**04 23 37.5**	**-3.6**
	126nm,0.9s						
MARNC	**Mare, Loyalty**	**13.23**	**263**	P	**P**	**04 24 27.0**	**-1.3**
PINNC	**Pines Island,**	**13.86**	**258**	P	**P**	**04 24 34.4**	**-0.5**
PINNC	**Pines Island,**	**13.86**	**258**	P	**P**	**04 24 35.5**	**+0.6**
LIFNC	**LIFOU**	**13.96**	**266**	P	**P**	**04 24 33.3**	**-2.6**
YATNC	**Mamie plateau,**	**14.32**	**261**	P	**P**	**04 24 39.3**	**-0.4**
DZM	**Mont Dzumac**	**14.74**	**261**	P	**P**	**04 24 43.6**	**-0.5**
	37nm,0.7s,baz=77,slow=17,SNR=18						
DZM	**Mont Dzumac**	**14.74**	**261**	P	**P**	**04 24 42.2**	**-1.9**
DZM	**Mont Dzumac**	**14.74**	**261**	P	**P**	**04 24 43.9**	**-0.2**
ONTNC	**Ouen Toro**	**14.75**	**260**	P	**P**	**04 24 42.7**	**-1.4**
NOUC	**Port Laguerre**	**14.87**	**260**	P	**P**	**04 24 45.1**	**-0.3**
OUZ	**Omahuta**	**16.61**	**205**	P	**P**	**04 25 01.8**	**-0.9**
KOUNC	**Koumac, New Ca**	**16.74**	**266**	P	**P**	**04 25 02.5**	**-1.6**
KOUNC	**Koumac, New Ca**	**16.74**	**266**	P	**P**	**04 25 05.6**	**+1.5**
WIAZ	**Waiheke Island**	**17.48**	**199**	P	**P**	**04 25 12.4**	**+1.7**
WMGZ	**Waiomatatini S**	**17.70**	**190**	P	P	04 25 21.8	+9.2
HAZ	**Te Kaha**	**17.74**	**191**	P	**P**	**04 25 17.9**	**+4.9**
MKAZ	**Moumakai**	**17.76**	**199**	P	**P**	**04 25 14.0**	**+0.7**
PKGZ	**Pakihiroa**	**17.82**	**191**	P	**P**	**04 25 20.7**	**+6.8**
AWAZ	**Awhitu Peninsu**	**17.88**	**200**	P	**P**	**04 25 15.0**	**+0.6**
RUGZ	**Raukumara Rang**	**17.96**	**192**	P	**P**	**04 25 22.0**	**+6.7**
PUZ	**Puketiti**	**17.97**	**190**	P	**P**	**04 25 21.2**	**+6.1**
TWGZ	**Tauwhareparae**	**18.12**	**191**	P	**P**	**04 25 17.0**	**+0.4**
MWZ	**Mataai**	**18.35**	**192**	P	**P**	**04 25 17.7**	**-0.9**
URZ	**Urewera**	**18.36**	**193**	P	**P**	**04 25 17.4**	**-1.3**
	11nm,0.3s,baz=360,slow=2.9,SNR=28						
URZ	**Urewera**	**18.36**	**193**	P	**P**	**04 25 16.7**	**-2.0**
URZ	**Urewera**	**18.36**	**193**	P	**P**	**04 25 16.7**	**-2.0**
URZ	**Urewera**	**18.36**	**193**	P	**P**	**04 25 16.8**	**-1.9**
KUTZ	**Kaahu Road**	**18.87**	**195**	P	P	04 25 13.5	-10
BKZ	**Black Stump Fm**	**19.36**	**193**	P	**P**	**04 25 25.0**	**-2.9**
PPT	**Papeete**	**26.88**	**89**	P	**P**	**04 26 35.0**	**-0.3**
	20nm,0.6s,baz=62,slow=8.0,SNR=4.5						
	20nm,0.6s						
MLZ	**Mavora Lakes**	**27.49**	**202**	P	**P**	**04 26 38.4**	**-1.9**
MLZ					IAmb	IAmb 04 26 57.5	
	comp=Z,17nm,1.2s						
WHZ	**Wether Hill Ro**	**28.01**	**201**	P	**P**	**04 26 42.8**	**-2.0**
EIDS	**Eidsvold**	**29.01**	**254**	P	**P**	**04 26 52.9**	**-0.9**
ARMA	**Armidale**	**29.25**	**244**	P	**P**	**04 26 56.0**	**0.0**
ARMA					IAmb	IAmb 04 27 19.5	
	comp=Z,8.5nm,1.1s						
CTA	**Charters Tower**	**33.63**	**264**	P	**P**	**04 27 33.9**	**+0.4**
	comp=Z,9.8nm,0.5s,baz=91,slow=9.8,SNR=23						
	comp=Z,9.8nm,0.5s						
CTA	**Charters Tower**	**33.63**	**264**	P	**P**	**04 27 34.1**	**+0.6**
CTAO	**Charters Tower**	**33.63**	**264**	P	**P**	**04 27 32.7**	**-0.8**
CTAO	**Charters Tower**	**33.63**	**264**	P	**P**	**04 27 34.1**	**+0.6**
CMSA	**Cobar Meteorol**	**34.47**	**244**	P	**P**	**04 27 40.7**	**+0.4**
MTSU	**Mount Surprise**	**35.73**	**267**	P	**P**	**04 27 51.6**	**+0.6**
TOO	**Toolangi**	**36.09**	**234**	P	**P**	**04 27 53.3**	**-0.4**
TOO					IAmb	IAmb 04 27 54.8	
	comp=Z,7.3nm,0.7s						
COEN	**Coen**	**37.71**	**273**	P	**P**	**04 28 07.1**	**-0.2**
COEN					IAmb	IAmb 04 28 09.1	
	comp=Z,4.7nm,0.7s						
STKA	**Stephens Creek**	**37.97**	**244**	P	**P**	**04 28 09.8**	**+0.5**
	comp=Z,4.7nm,0.5s,baz=95,slow=11,SNR=13						
STKA				PcP	**PcP**	**04 30 12.1**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=76,slow=6.5,SNR=3.0						
	comp=Z,4.7nm,0.5s						
STKA	**Stephens Creek**	**37.97**	**244**		**P**	**04 28 09.6**	**+0.4**
LCRK	**Leigh Creek**	**40.71**	**247**	P	**P**	**04 28 31.8**	**+0.5**
BBOO	**Buckleboo**	**42.73**	**243**	P	**P**	**04 28 45.9**	**-1.4**
OOD	**Oodnadatta**	**42.85**	**251**	P	**P**	**04 28 49.4**	**+1.1**
MULG	**Mulgathing**	**44.30**	**247**	P	**P**	**04 28 59.5**	**0.0**
WR0	**Warramunga Arr**	**44.56**	**262**	P	**P**	**04 28 59.5**	**-2.1**
WR0					IAmb	IAmb 04 29 06.0	
	comp=Z,5.8nm,0.8s						
AS31	**Alice Springs**	**44.68**	**257**	P	**P**	**04 29 01.8**	**-0.8**
AS31					IAmb	IAmb 04 29 03.4	
	comp=Z,6.0nm,0.6s						
ASAR	**Alice Springs**	**44.68**	**257**	P	**P**	**04 29 02.7**	**+0.1**
	comp=Z,23nm,0.6s,baz=98,slow=7.5,SNR=298						
ASAR				PcP	**PcP**	**04 30 34.0**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=102,slow=4.1,SNR=8.6						
ASAR				S	**S**	**04 34 58.8**	**-1.5**
	comp=Z,5.6nm,0.9s,baz=93,slow=15,SNR=25						
	comp=Z,23nm,0.6s						
ASAR	**Alice Springs**	**44.68**	**257**	P	**P**	**04 29 01.6**	**-0.9**
WB0	**Warramunga Arr**	**44.73**	**262**	P	**P**	**04 29 02.1**	**-0.9**
WB0					IAmb	IAmb 04 29 03.4	
	comp=Z,13nm,0.9s						
WB2	**Warramunga Arr**	**44.74**	**262**	P	**P**	**04 29 02.0**	**-1.1**
WB2					IAmb	IAmb 04 29 04.2	
	comp=Z,18nm,1.1s						
WRAB	**Tennant Creek**	**44.74**	**262**	P	**P**	**04 29 02.1**	**-1.0**
WRAB					IAmb	IAmb 04 29 03.6	
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**44.74**	**262**	P	**P**	**04 29 02.8**	**-0.3**
WRA	**Warramunga Arr**	**44.75**	**262**	P	**P**	**04 29 02.8**	**-0.4**
	comp=Z,3.7nm,0.3s,baz=97,slow=7.6,SNR=262						
WRA				PcP	**PcP**	**04 30 34.5**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=91,slow=3.9,SNR=4.7						
WRA				S	**S**	**04 35 00.1**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=101,slow=11,SNR=6.4						
	comp=Z,3.7nm,0.3s						
WRA	**Warramunga Arr**	**44.75**	**262**	P	**P**	**04 29 02.0**	**-1.1**
KDU	**Kakadu**	**48.08**	**271**	P	**P**	**04 29 28.3**	**-0.1**
MTN	**Manton Dam**	**49.29**	**270**	P	**P**	**04 29 36.5**	**-0.9**
MTN					IAmb	IAmb 04 29 38.2	
	comp=Z,17nm,0.8s						
MTN	**Manton Dam**	**49.29**	**270**	P	**P**	**04 29 37.4**	**0.0**
FORT	**Forrest**	**49.47**	**246**	P	**P**	**04 29 37.0**	**-1.5**
WRKA	**Warakurna**	**49.63**	**254**	P	**P**	**04 29 39.8**	**0.0**
KNRA	**Kununurra**	**50.80**	**266**	P	**P**	**04 29 47.8**	**-0.6**
KNRA					IAmb	IAmb 04 29 49.4	
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**50.80**	**266**	P	**P**	**04 29 48.6**	**+0.2**
FAKI	**Fak Fak**	**51.60**	**283**	P	**P**	**04 29 52.9**	**-1.3**
FAKI					IAmb	IAmb 04 30 08.0	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P	**P**	**04 30 05.8**	**+0.3**
	comp=Z,6.6nm,0.5s,baz=185,slow=1.1,SNR=63						
	comp=Z,6.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P	**P**	**04 30 04.8**	**-0.7**
FITZ					IAmb	IAmb 04 30 06.3	
	comp=Z,6.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P	**P**	**04 30 06.1**	**+0.6**
SOEI	**Soe**	**56.63**	**272**	P	**P**	**04 30 30.9**	**+1.0**
SOEI	**Soe**	**56.63**	**272**	P	**P**	**04 30 31.9**	**+2.0**
PSA00	**Pilbara Seismi**	**57.83**	**257**	P	**P**	**04 30 36.7**	**-1.1**
PSA00	**Pilbara Seismi**	**57.83**	**257**	P	**P**	**04 30 37.7**	**-0.1**
MBWA	**Marble Bar**	**58.01**	**257**	P	**P**	**04 30 38.4**	**-0.7**
MBWA					IAmb	IAmb 04 30 39.6	
	comp=Z,18nm,0.7s						
SBA	**Scott Base**	**58.02**	**184**	P	**P**	**04 30 39.8**	**+1.7**
VNDA	**Vanda**	**58.06**	**185**	P	**P**	**04 30 39.8**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=357,slow=8.2,SNR=26						
	comp=Z,1.9nm,0.6s						
VNDA	**Vanda**	**58.06**	**185**		**P**	**04 30 39.3**	**+0.9**
NWAO	**Narrogin (SRO)**	**58.55**	**243**	P	**P**	**04 30 42.1**	**-0.4**
NWAO					IAmb	IAmb 04 30 57.9	
	comp=Z,21nm,1.1s						
MORW	**Morawa**	**60.00**	**248**	P	**P**	**04 30 50.9**	**-1.4**
GIRL	**Giralia**	**62.72**	**254**	P	**P**	**04 31 11.0**	**+0.8**
CASY	**Casey**	**64.14**	**205**	P	**P**	**04 31 18.3**	**-0.2**
CASY					IAmb	IAmb 04 31 19.4	
	comp=Z,14nm,1.1s						
UGM	**Wanagama**	**70.10**	**269**	P	**P**	**04 31 55.5**	**-0.6**
MJAR	**Matsushiro Arr**	**70.18**	**324**	P	**P**	**04 31 56.4**	**+0.4**
	comp=Z,5.2nm,0.6s,baz=157,slow=6.3,SNR=9.0						
	comp=Z,5.2nm,0.6s						
JHS	**Saijyo**	**72.08**	**319**	P	**P**	**04 32 07.4**	**+0.2**
JHS					IAmb	IAmb 04 32 09.0	
	comp=Z,6.8nm,0.8s						
TPUB	**Ta-pu**	**74.01**	**303**	P	**P**	**04 32 17.2**	**-1.4**
PEA0B	**Petropavlovsk-**	**76.17**	**345**	P	**P**	**04 32 30.0**	**+0.1**
PEA0B					IAmb	IAmb 04 32 30.8	
	comp=Z,23nm,1.1s						
PETK	**Petropavlovsk-**	**76.17**	**345**	P	**P**	**04 32 30.4**	**+0.4**
	comp=Z,7.2nm,0.7s,baz=158,slow=9.3,SNR=6.3						
	comp=Z,7.2nm,0.7s						
PETK	**Petropavlovsk-**	**76.17**	**345**	P	**P**	**04 32 29.6**	**-0.3**
KSRS	**Korea Array**	**76.87**	**318**	P	**P**	**04 32 35.5**	**+1.4**
	comp=Z,2.2nm,0.6s,baz=135,slow=6.1,SNR=10.0						
	comp=Z,2.2nm,0.6s						
USA0B	**Ussuriysk Arra**	**78.92**	**326**	P	**P**	**04 32 44.4**	**-0.7**
USA0B					IAmb	IAmb 04 32 47.7	
	comp=Z,9.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.92**	**326**	P	**P**	**04 32 47.0**	**+2.0**
	comp=Z,9.8nm,0.8s,baz=144,slow=2.5,SNR=9.0						
	comp=Z,9.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.92**	**326**	P	**P**	**04 32 46.1**	**+1.1**
BELA	**Belgrano 2**	**79.68**	**173**	P	**P**	**04 32 47.8**	**-0.8**
BELA					IAmb	IAmb 04 32 49.3	
	comp=Z,9.0nm,0.7s						
MDJ	**Mudanjiang**	**80.48**	**325**	P	**P**	**04 32 55.0**	**+1.8**
MDJ					pmax	pmax	
	comp=Z,14nm,0.9s						
MDJ					pmax	pmax	
	comp=Z,180nm,11.9s						
NVAR	**Mina Array Bea**	**80.83**	**43**	P	**P**	**04 32 57.0**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=218,slow=11,SNR=7.4						
	comp=Z,1.0nm,0.8s						
MAW	**Mawson**	**81.74**	**200**	P	**P**	**04 33 00.2**	**+0.9**
	comp=Z,3.3nm,0.6s,baz=129,slow=4.6,SNR=12						
	comp=Z,3.3nm,0.6s						
MAW	**Mawson**	**81.74**	**200**	P	**P**	**04 32 59.5**	**+0.1**
K05A	**Summer Lake**	**81.77**	**39**	P	**P**	**04 33 00.3**	**+0.2**
O18K	**Koktuh Hills**	**82.04**	**11**	P	**P**	**04 32 59.8**	**-1.1**
O18K					IAmb	IAmb 04 33 02.0	
	comp=Z,13nm,1.1s						
BNX	**BinXian**	**82.39**	**325**	⇑P	**P**	**04 33 04.0**	**+1.0**
BNX					pmax	pmax	
	comp=Z,14nm,0.7s						
BNX					pmax	pmax	
	comp=Z,150nm,4.2s						
PINE	**Pine Mountain**	**82.39**	**38**	P	**P**	**04 33

DPC	**Dobruska-Polom**	**148.03**	**343**⇑	*e*PKP	**PKPbc**	**04 40 23.4**	**+1.1**
DPC				*e*PKPAB	**PKPab**	**04 40 28.3**	**+1.3**
DOPR	**Dopca**	**148.12**	**329**	⇑P	**PKPbc**	**04 40 23.4**	**+0.7**
MDUB	**Mudurnu**	**148.14**	**315**	PKPdf	**PKPdf**	**04 40 15.5**	**-3.4**
MDUB					**PKPbc**	**04 40 22.3**	**-0.7**
KRLC	**Kraliky**	**148.15**	**342**⇑	*e*PKP	**PKPbc**	**04 40 23.5**	**+0.9**
KRLC				*e*PKPAB	**PKPab**	**04 40 28.4**	**+0.9**
MLR	**Muntele Rosu**	**148.18**	**327**	⇑P	**PKPdf**	**04 40 21.6**	**+2.7**
MLR	**Muntele Rosu**	**148.18**	**327**	PKPbc	**PKPdf**	**04 40 18.7**	**-0.2**
MAUC	**Maruska**	**148.46**	**340**⇑	*e*PKP	**PKPbc**	**04 40 24.6**	**+1.2**
PRU	**Pruhonice**	**148.84**	**344**⇑	*e*PKP	**PKPbc**	**04 40 24.7**	**+0.5**
GOPC	**GO Pecny, Ondr**	**148.84**	**344**⇑	*e*PKP	**PKPbc**	**04 40 25.2**	**+0.9**
BORA	**Eskisehir**	**148.93**	**315**		**PKPbc**	**04 40 24.9**	**0.0**
MEM	**Membach**	**149.66**	**355**	*d*PKP	**PKPbc**	**04 40 26.5**	**+0.3**
BTNL	**Ternell**	**149.67**	**355**	*d*PKP	**PKPbc**	**04 40 26.6**	**+0.4**
KHC	**Kasperske Hory**	**149.87**	**345**⇑	*e*PKP	**PKPbc**	**04 40 27.4**	**+0.6**
KHC				*e*PKPAB	**PKPab**	**04 40 35.6**	**+1.0**
BCLA	**Clavier**	**149.90**	**356**	*d*PKPdf	**PKPdf**	**04 40 20.9**	**-0.4**
CKRC	**Cesky Krumlov**	**149.97**	**344**⇑	*e*PKP	**PKPbc**	**04 40 27.8**	**+0.8**
BMRD	**Maredsous**	**150.05**	**357**	*d*PKP	**PKPbc**	**04 40 27.5**	**+0.4**
GERES	**GERESS Array B**	**150.10**	**345**	PKPbc	**PKPbc**	**04 40 27.6**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=52,slow=2.2,SNR=20						
GERES	**GERESS Array B**	**150.10**	**345**		**PKPbc**	**04 40 27.0**	**-0.4**
RCHB	**Rochefort**	**150.17**	**356**	*d*PKP	**PKPbc**	**04 40 27.5**	**+0.1**
DOU	**Dourbes**	**150.27**	**357**	*d*PKP	**PKPbc**	**04 40 28.3**	**+0.7**
DOU				*d*PKPab	**PKPab**	**04 40 35.8**	**-0.4**
CONA	**Conrad Observa**	**150.34**	**341**	*e*P	**PKPbc**	**04 40 28.5**	**+0.5**
	comp=Z,6.2nm,0.6s						
RONA	**Rosalia, Austr**	**150.41**	**340**	*e*P	**PKPbc**	**04 40 28.6**	**+0.5**
	comp=Z,9.2nm,0.5s						
ELL	**Elmali**	**150.80**	**310**	PKPbc	**PKPdf**	**04 40 26.9**	**+3.6**
MOA	**Molln**	**150.87**	**343**	*e*P	**PKPbc**	**04 40 29.5**	**+0.3**
	comp=Z,2.4nm,0.6s						
MORH	**Mrgy, Hungar**	**150.88**	**336**	⇑P	**PKPbc**	**04 40 29.6**	**+0.5**
BIOA	**Bad Ischl, Aus**	**151.19**	**344**	*e*P	**PKPbc**	**04 40 29.9**	**0.0**
	comp=Z,3.5nm,0.6s						
FRGS	**Fruska Gora**	**151.28**	**333**	⇑P	**PKPbc**	**04 40 30.8**	**+0.6**
RDO	**Rodhopi**	**151.29**	**321**	PKPbc	**PKPdf**	**04 40 27.8**	**+4.1**
SOKA	**Soboth**	**151.71**	**341**	*e*P	**PKPbc**	**04 40 31.1**	**-0.1**
	comp=Z,2.1nm,0.8s						
RETA	**Reutte**	**152.05**	**347**	*e*P	**PKPbc**	**04 40 31.7**	**-0.1**
	comp=Z,3.4nm,1.1s						
WTTA	**Wattenberg**	**152.07**	**346**	*e*P	**PKPbc**	**04 40 32.3**	**+0.2**
	comp=Z,6.4nm,0.8s						
MOTA	**Moosalm**	**152.11**	**347**	*e*P	**PKPbc**	**04 40 31.5**	**-0.7**
	comp=Z,2.4nm,0.6s						
MYKA	**Terra Mystica**	**152.16**	**343**	*e*P	**PKPbc**	**04 40 31.1**	**-1.1**
	comp=Z,2.1nm,0.5s						
SQTA	**Sankt Quirin**	**152.21**	**347**	*e*P	**PKPbc**	**04 40 30.9**	**-1.5**
	comp=Z,1.1nm,0.4s						
ABTA	**Abfaltersbach**	**152.35**	**345**	*e*P	**PKPdf**	**04 40 24.5**	**-0.7**
	comp=Z,7.5nm,1.0s						
FETA	**Feichten**	**152.50**	**347**	*e*P	**PKPdf**	**04 40 25.6**	**+0.1**
	comp=Z,3.0nm,0.9s						
STAL	**STALIGIAL**	**152.75**	**344**	PKPbc	**PKPbc**	**04 40 31.6**	**-1.8**
CIMO	**Cimolais**	**152.78**	**344**	PKPbc	**PKPbc**	**04 40 32.1**	**-1.4**
ESDC	**Sonseca Array**	**160.05**	**14**	PKPab	**PKPab**	**04 41 19.3**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=313,slow=4.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**172.81**	**177**	PKPab	**PKPab**	**04 42 15.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=178,slow=4.4,SNR=3.5						

IDC 26 04:24:05.6±4.8, 30°.17S×179°.16W, h0^{km}, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=236.1km s-min=75.5km az=167.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.11**	**267**	P	P	04 31 58.8	-1.0
	0.8nm,0.7s,baz=102,slow=7.3,SNR=2.3						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**43.08**	**273**	P	P	04 32 08.1	+0.4
	1.4nm,0.4s,baz=113,slow=7.9,SNR=12						
	1.4nm,0.4s						
FINES	**FINESS Array B**	**144.58**	**339**	PKP	PKPbc	04 43 42.7	+0.6
	1.2nm,0.7s,baz=48,slow=2.8,SNR=5.2						

*MOS **26** 05:13:22.7±1.1, 41°.65N×142°.97E, h27^{km}, mb5.4/68, MS4.7/20, Error ellipse: s-maj=5.5km s-min=4.0km az=111.4*

*IDC **26** 05:13:22.7±3.8, 41°.72N×142°.95E, h14^{km}±24^{km}, mb4.8/35, mbtmp5.0/42, ML5.1/5, MS4.6/6, Error ellipse: s-maj=12.4km s-min=9.0km az=95.0*

*BJI **26** 05:13:22.7±0.0, 41°.51N×143°.00E, h38^{km}, mb5.0/75, mB5.2/47, Ms5.3/56, Ms7 5.1/54*

*NIED **26** 05:13:24.6, 41°.65N×142°.99E, h29^{km}, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.40; $M_{\theta\theta}$0.50; $M_{\phi\phi}$ -0.10; $M_{r\theta}$2.50; $M_{\theta\phi}$ 7.64; $M_{\phi r}$-3.43; Fault plane solution: M_o8.66000×10^{16} NP1: ϕ_s268.00000°, δ69.00000°, λ-15.00000°. NP2:ϕ_s4.00000°, δ76.00000°, λ-158.00000°.*

*JMA **26** 05:13:24.6±0.2, 41°.7N±0°.9×14°.3E±°, h29^{km}±1^{km}, MD5.4/39, MW5.3/39, E OFF AOMORI PREF*

JMA Felt IV J1 at E OFF AOMORI PREF .

*KEA **26** 05:13:24.9, 41°.67N×143°.16E, h25^{km}, MS4.9/3*

*NEIC **26** 05:13:25.6±2.4, 41°.70N±0°.06×143°.08E±0°.10, h34^{km}±4^{km}, mb5.2/332, Ms_20 4.8/195, Mwr5.2/27, Mww5.3, Error ellipse: s-maj=10.3km s-min=8.3km az=103.0*

*NEIC **26** 05:13:25.1, 41°.67N×143°.10E, h38^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.95; $M_{\theta\theta}$-0.67; $M_{\phi\phi}$3.62; $M_{r\theta}$3.41; $M_{\theta\phi}$7.11; $M_{\phi r}$-0.64; Fault plane solution: M_o8.59000×10^{16} NP1:ϕ_s256.48000°, δ73.26000°, λ-29.72000°. NP2:ϕ_s355.82000°, δ61.66000°, λ-160.89000°. Principal axes: T 9.1070, Plg8.0000°, Azm308.0000°; N -1.1501, Plg56.0000°, Azm50.0000°; P -7.9569, Plg33.0000°, Azm213.0000°;*

*NEIC **26** 05:13:26, 41°.66N×143°.10E, h26^{km}, Moment Tensor Solution. Duration: 4^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$0.12; $M_{r\theta}$0.12; $M_{\theta\phi}$0.90; $M_{\phi r}$-0.69; Fault plane solution: M_o1.14000×10^{17} NP1: ϕ_s265.00000°, δ53.00000°, λ-5.00000°. NP2:ϕ_s359.00000°, δ86.00000°, λ-142.00000°. Principal axes: T 1.1159, Plg22.0000°, Azm126.0000°; N 0.0483, Plg52.0000°, Azm4.0000°; P -1.1642, Plg29.0000°, Azm229.0000°;*

ISC 26 05:13:25.1±0.3, 41°.67N±0°.03×143°.00E±0°.03, h33^{km}±1^{km}, h32^{km}:pP-P, n1304, σ1^{s}45/1169, mb5.2/318, MS4.8/120, 41C-42D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.37**	**18**		**Pb**	**05 13 33.0**	**-0.7**
ERM	**Erimo**	**0.37**	**18**	*e*P	**Pb**	**05 13 32.9**	**-0.7**
ERM	**Erimo**	**0.37**	**18**	P	**Pb**	**05 13 33.1**	**-0.7**
JEM	**Erimo**	**0.37**	**18**	*e*P	**Pb**	**05 13 33.0**	**-0.8**
JEM				*e*S	**Sb**	**05 13 38.8**	**-0.8**
JEM	**Erimo**	**0.37**	**18**	A	A	05 13 33.0	
	comp=E,315nm,3.4s,comp=E,307nm,2.8s						
JNBK	**Urakawa-nobuka**	**0.64**	**343**	P	**Pb**	**05 13 37.2**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.64**	**343**	A	A	05 13 37.2	
	comp=E,744nm,3.3s,comp=E,383nm,0.5s						
JTHR	**Tokachihiroo**	**0.66**	**19**	⇓P	**Pb**	**05 13 37.6**	**-0.7**
JTHR				⇓*e*S	**Sn**	**05 13 47.3**	**-0.2**
JTHR	**Tokachihiroo**	**0.66**	**19**	A	A	05 13 37.6	
	comp=E,404nm,4.3s,comp=E,309nm,3.2s						
JSHD	**Hidakashinhida**	**0.84**	**332**	*e*P	**Pn**	**05 13 40.6**	**-0.1**
JSHD				*e*S	**Sb**	**05 13 52.8**	**+0.5**
JSHD	**Hidakashinhida**	**0.84**	**332**	A	A	05 13 40.6	
	comp=E,891nm,2.2s,comp=E,522nm,1.4s						
JCH	**Churui**	**0.98**	**16**	⇓*e*P	**Pn**	**05 13 42.4**	**-0.2**
JCH				⇓*e*S	**Sn**	**05 13 55.6**	**+0.2**
JCH	**Churui**	**0.98**	**16**	A	A	05 13 42.4	
	comp=E,178nm,3.4s,comp=E,121nm,2.1s						
JBT2	**Biratori 2**	**1.21**	**337**	*e*P	**Pb**	**05 13 47.3**	**-0.2**
JBT2				*e*S	**Sb**	**05 14 04.2**	**+1.4**
JBT2	**Biratori 2**	**1.21**	**337**	A	A	05 13 47.3	
	comp=E,192nm,2.4s,comp=E,131nm,2.3s						
JIAM	**Iburiatsuma**	**1.25**	**320**	*e*P	**Pb**	**05 13 47.8**	**-0.4**
JIAM	**Iburiatsuma**	**1.25**	**320**	A	A	05 13 47.8	
	comp=E,332nm,1.2s,comp=E,512nm,1.2s						
JAHD	**Aomorihigashid**	**1.31**	**253**	A	A	05 13 47.3	
	comp=E,406nm,0.5s,comp=E,436nm,0.6s						
JOB	**Onbets**	**1.38**	**26**	*e*P	**Pb**	**05 13 49.2**	**-1.2**
JOB	**Onbets**	**1.38**	**26**	A	A	05 13 49.2	
	comp=E,182nm,1.6s,comp=E,313nm,2.9s						
JARK	**Aomorirokkasho**	**1.40**	**242**	⇓*e*P	**Pn**	**05 13 48.1**	**-0.2**
JARK				⇓*e*S	**Sn**	**05 14 05.8**	**+0.2**
JARK	**Aomorirokkasho**	**1.40**	**242**	A	A	05 13 48.1	
	comp=E,124nm,0.8s,comp=E,158nm,1.0s						
JKB	**Kayabe**	**1.49**	**279**	P	**Pn**	**05 13 49.2**	**-0.4**
JKB				*e*S	**Sn**	**05 14 07.7**	**-0.2**
JKB	**Kayabe**	**1.49**	**279**	A	A	05 13 49.2	
	comp=E,87nm,0.5s,comp=E,112nm,2.2s						
JOT	**Ohata**	**1.50**	**260**	⇓*e*P	**Pn**	**05 13 49.8**	**+0.1**
JOT				⇓*e*S	**Sn**	**05 14 08.1**	**0.0**
JOT	**Ohata**	**1.50**	**260**	A	A	05 13 49.8	
	comp=E,108nm,2.3s,comp=E,128nm,2.6s						
JFR	**Furan**	**1.52**	**349**	*e*P	**Pn**	**05 13 49.9**	**-0.2**
JFR	**Furan**	**1.52**	**349**	A	A	05 13 49.9	
	comp=E,132nm,4.0s,comp=E,82nm,1.3s						
JEW	**Eniwo**	**1.64**	**316**		**Pn**	**05 13 52.5**	**+0.8**
JEW	**Eniwo**	**1.64**	**316**	A	A	05 13 52.5	
	comp=E,136nm,2.0s,comp=E,159nm,2.4s						
JNB	**Noboribetsu**	**1.67**	**299**	A	A	05 13 52.8	
	comp=E,102nm,1.1s,comp=E,56nm,1.9s						
JTM	**Tenmabayashi**	**1.70**	**240**		**Pn**	**05 13 53.2**	**+0.6**
JTM	**Tenmabayashi**	**1.70**	**240**	A	A	05 13 53.0	
	comp=E,103nm,1.1s,comp=E,130nm,1.4s						
JANG	**Nango**	**1.71**	**222**	A	A	05 13 53.1	
	comp=E,47nm,2.0s,comp=E,51nm,1.8s						
JAR	**Ashorobuto**	**1.72**	**19**	A	A	05 13 53.8	
	comp=E,123nm,2.2s,comp=E,100nm,2.4s						
JKEN	**Kujiedanarisaw**	**1.76**	**214**	A	A	05 13 53.8	
	comp=E,79nm,0.9s,comp=E,84nm,0.3s						
JAK	**Akkeshi**	**1.83**	**43**	A	A	05 13 55.2	
	comp=E,74nm,2.5s,comp=E,115nm,2.4s						
JAB	**Ashibetsu**	**1.92**	**343**	A	A	05 13 56.6	
	comp=E,157nm,3.2s,comp=E,142nm,1.7s						
JTH	**Tanohata**	**1.93**	**207**	A	A	05 13 56.2	
	comp=E,24nm,3.9s,comp=E,24nm,3.9s						
JSR	**Shiriuchi**	**1.94**	**267**	A	A	05 13 56.6	
	comp=E,52nm,1.6s,comp=E,106nm,3.8s						
JISS	**Ishikarishitsu**	**1.99**	**324**	A	A	05 13 57.5	
	comp=E,139nm,2.6s,comp=E,155nm,4.4s						
JYM2	**Yakumo 2**	**2.02**	**284**	A	A	05 13 57.7	
	comp=E,38nm,1.7s,comp=E,110nm,2.5s						
JSI2	**Shiura 2**	**2.04**	**254**	A	A	05 13 58.0	
	comp=E,194nm,1.1s,comp=E,153nm,2.1s						
JKZ	**Kuzumaki**	**2.11**	**218**	A	A	05 13 58.8	
	comp=E,85nm,1.9s,comp=E,76nm,3.3s						
JKHN	**Kushirohamanak**	**2.13**	**48**	A	A	05 13 59.7	
	comp=E,57nm,2.6s,comp=E,60nm,3.3s						
JKK2	**Kamakawa 2**	**2.21**	**355**	A	A	05 14 00.8	
	comp=E,42nm,1.9s,comp=E,39nm,3.4s						
JHHS	**Hirosakihyakuz**	**2.24**	**244**	A	A	05 14 00.8	
	comp=E,192nm,2.8s,comp=E,160nm,5.8s						
JOMM	**Oshimamatsumae**	**2.25**	**267**	A	A	05 14 01.0	
	comp=E,53nm,0.5s,comp=E,45nm,2.3s						
MIYJ	**Miyakonagasawa**	**2.27**	**204**	A	A	05 14 01.2	
	comp=E,30nm,9.5s,comp=E,19nm,0.8s						
JHR	**Hokuryu**	**2.28**	**336**	A	A	05 14 01.7	
	comp=E,140nm,3.9s,comp=E,121nm,2.4s						
JNK	**Nakash**	**2.30**	**33**	A	A	05 14 02.0	
	comp=E,19nm,3.6s,comp=E,17nm,4.8s						
JAH	**Hinai**	**2.32**	**231**	A	A	05 14 01.9	
	comp=E,36nm,1.3s,comp=E,54nm,4.0s						
JMP	**Maruseppu**	**2.35**	**6**	A	A	05 14 02.8	
	comp=E,60nm,1.3s,comp=E,51nm,1.5s						
JTKR	**Abashiri--Toko**	**2.40**	**16**	A	A	05 14 03.5	
	comp=E,49nm,2.4s,comp=E,35nm,2.9s						
JSH	**Shimam**	**2.41**	**295**	A	A	05 14 03.4	
	comp=E,28nm,3.8s,comp=E,27nm,3.8s						
JHST	**Hiyamasetana**	**2.45**	**289**	A	A	05 14 03.9	
	comp=E,53nm,2.0s,comp=E,72nm,2.7s						
ASAJ	**Asahikawa**	**2.47**	**353**	A	A	05 14 04.4	
	comp=E,36nm,6.7s,comp=E,25nm,4.3s						
JSZI	**Iwateshizukuis**	**2.48**	**220**	A	A	05 14 04.1	
	comp=E,102nm,1.8s,comp=E,99nm,1.6s						
JIW	**Iwasaki**	**2.50**	**246**	A	A	05 14 04.6	
	comp=E,44nm,0.9s,comp=E,56nm,1.7s						
JSK	**Shakotan**	**2.52**	**313**	A	A	05 14 05.0	
	comp=E,34nm,1.5s,comp=E,30nm,5.4s						
JOM	**Ohasama**	**2.55**	**211**	A	A	05 14 05.1	
	comp=E,44nm,4.9s,comp=E,43nm,0.6s						
JNTW	**Noshirotokiwa**	**2.56**	**238**	A	A	05 14 05.4	
	comp=E,144nm,4.5s,comp=E,132nm,2.2s						
JNSB	**Nemuroshibetsu**	**2.57**	**34**	A	A	05 14 06.0	
	comp=E,55nm,6.9s,comp=E,81nm,3.1s						
NMR	**Nemuro--Hokkai**	**2.64**	**49**	*e*P	**Pn**	**05 14 05.0**	**-0.4**
NMR				*e*S	**Sn**	**05 14 34.7**	**-1.5**
NEM2	**Nemuro 2**	**2.64**	**49**	A	A	05 14 06.9	
	comp=E,18nm,5.0s,comp=E,19nm,3.1s						
JOSM	**Okushiri--Mats**	**2.67**	**280**	A	A	05 14 07.0	
	comp=E,27nm,7.0s,comp=E,37nm,3.4s						
JRA	**Rausu**	**2.75**	**34**	A	A	05 14 08.5	
	comp=E,28nm,2.5s,comp=E,29nm,4.9s						
OFUJ	**Ofunato**	**2.78**	**202**	A	A	05 14 08.4	
	comp=E,35nm,4.2s,comp=E,16nm,1.6s						
JSS	**Shosan**	**2.86**	**343**	A	A	05 14 10.0	
	comp=E,59nm,5.6s,comp=E,42nm,4.6s						
JRG	**Rokugo**	**2.90**	**219**	A	A	05 14 10.1	
	comp=E,40nm,0.9s,comp=E,54nm,1.2s						
RUSJ	**Misakicho**	**2.94**	**33**	*e*P	**Pn**	**05 14 10.5**	**+0.9**
RUSJ				*e*S	**Sn**	**05 14 44.3**	**+0.6**
JYG	**Yagishiri**	**2.99**	**338**	A	A	05 14 11.9	
	comp=E,48nm,5.7s,comp=E,37nm,4.2s						
JYW	**Yuwa**	**3.01**	**226**	A	A	05 14 11.7	
	comp=E,70nm,2.6s,comp=E,62nm,1.3s						
JMK	**Ichinoseki**	**3.04**	**207**	A	A	05 14 12.1	
	comp=E,29nm,2.7s,comp=E,16nm,3.1s						
JKMT	**Kesennumamotoy**	**3.08**	**203**	A	A	05 14 12.8	
	comp=E,32nm,4.1s,comp=E,12nm,3.8s						
YUK	**Yuzh-Kuril'sk**	**3.17**	**41**	*i*P	**Pn**	**05 14 14.0**	**+1.4**
JSE	**Soyaes**	**3.30**	**355**	A	A	05 14 16.4	
	comp=E,24nm,5.3s,comp=E,19nm,5.0s						
JYK	**Kaneyama**	**3.41**	**217**	A	A	05 14 17.4	
	comp=E,26nm,2.6s,comp=E,20nm,2.2s						
JIO	**Ouri**	**3.45**	**202**	A	A	05 14 17.9	
	comp=E,22nm,6.3s,comp=E,14nm,6.3s						
JOG3	**Oga3**	**3.45**	**241**	A	A	05 14 11.4	
	comp=E,37nm,3.4s,comp=E,35nm,2.6s						
JOFO	**Osakifurukawao**	**3.46**	**208**	A	A	05 14 18.0	
	comp=E,147nm,3.7s,comp=E,134nm,3.7s						
JYYZ	**Yamagatayuza**	**3.54**	**223**	A	A	05 14 19.2	
	comp=E,57nm,3.1s,comp=E,60nm,3.0s						
JIKH	**Ishinomakikobu**	**3.56**	**200**	A	A	05 14 19.4	
	comp=E,24nm,4.3s,comp=E,13nm,3.9s						
JTB	**Tobi-shima**	**3.61**	**228**	A	A	05 14 20.2	
	comp=E,18nm,3.7s,comp=E,20nm,4.0s						
JRR	**Rishiri**	**3.68**	**341**	A	A	05 14 21.7	
	comp=E,66nm,3.4s,comp=E,86nm,3.7s						
JWK2	**Keihoku**	**3.73**	**348**	A	A	05 14 22.5	
	comp=E,27nm,4.2s,comp=E,28nm,3.3s						
JOU	**Okura**	**3.75**	**209**	A	A	05 14 22.2	
	comp=E,22nm,3.2s,comp=E,23nm,3.0s						
JYA	**Atsumi**	**3.97**	**220**	A	A	05 14 25.3	
	comp=E,23nm,3.0s,comp=E,29nm,1.0s						
JRBN	**Rebuntou**	**4.01**	**340**	A	A	05 14 26.3	
	comp=E,10.0nm,3.4s,comp=E,10.0nm,3.8s						
JYS	**Shirataka**	**4.12**	**214**	A	A	05 14 27.3	
	comp=E,29nm,1.9s,comp=E,33nm,3.2s						
JMM	**Marumori**	**4.16**	**205**	Pn	**Pn**	**05 14 26.6**	**+0.3**
JMM	**Marumori**	**4.16**	**205**	A	A	05 14 28.0	
	comp=E,20nm,4.4s,comp=E,17nm,2.4s						
JMST	**Minamisoumatoc**	**4.26**	**203**	A	A	05 14 29.4	
	comp=E,20nm,1.4s,comp=E,11nm,2.0s						
JAW	**Awa shima**	**4.31**	**223**	A	A	05 14 30.1	
	comp=E,13nm,5.9s,comp=E,11nm,3.4s						
JYAR	**Yonezawaarcadi**	**4.35**	**211**	A	A	05 14 30.6	
	comp=E,40nm,1.5s,comp=E,45nm,1.2s						
JFK	**Kawauchi**	**4.60**	**202**	A	A	05 14 34.1	
	comp=E,16nm,3.6s,comp=E,11nm,2.2s						
JNS	**Sasagawa**	**4.78**	**218**	A	A	05 14 36.7	
	comp=E,12nm,3.7s,comp=E,9.0nm,4.4s						
JFFD	**Fukushimafurud**	**4.95**	**203**	A	A	05 14 39.0	
	comp=E,10.0nm,4.5s,comp=E,8.0nm,3.1s						
JFY	**Yanaizu**	**4.96**	**212**	A	A	05 14 39.2	
	comp=E,16nm,3.0s,comp=E,13nm,4.7s						
KUR	**Kuril'sk**	**5.02**	**43**	*c i*P	**Pn**	**05 14 40.1**	**+1.9**
KUR				*e*S	**Sn**	**05 15 36.7**	**+1.7**
KUR				pmax	pmax		
	comp=Z,1μm,0.6s						
KUR				pmax	pmax		
	comp=N,216nm,0.5s						
KUR				pmax	pmax		
	comp=E,161nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR				smax	smax		
	comp=E,349nm,0.4s						
KUR				MLR	MLR		
	comp=Z,10μm,10.0s						
JSD	**Sado**	**5.14**	**227**	Pn	**Pn**	**05 14 41.8**	**+1.9**
JSB	**Shiboa**	**5.27**	**208**	A	A	05 14 43.5	
	comp=Z,43nm,3.1s,comp=Z,17nm,4.6s						
YSS	**Yuzh-Sakhalins**	**5.29**	**358**	Pn	**Pn**	**05 14 43.4**	**+1.6**
YSS	**Yuzh-Sakhalins**	**5.29**	**358**	*e*P	**Pn**	**05 14 45.0**	**+3.2**
YSS				*e*S	**Sn**	**05 15 44.6**	**+3.0**
YSS				pmax	pmax		
	comp=Z,250nm,0.6s						
YSS				pmax	pmax		
	comp=N,340nm,0.7s						
YSS				smax	smax		
	comp=N,2μm,2.7s						
YSS				smax	smax		
	comp=N,420nm,1.3s						
YSS				MLR	MLR		
	comp=Z,10μm,18.0s						
YSS				MLR	MLR		
	comp=N,6μm,12.0s						
YSS	**Yuzh-Sakhalins**	**5.29**	**358**	P	**Pn**	**05 14 45.6**	**+3.8**
JIZZ	**Izumozaki**	**5.30**	**220**	A	A	05 14 43.9	
	comp=N,28nm,3.0s,comp=N,26nm,3.2s						
JHO	**Hitachi**	**5.39**	**201**	A	A	05 14 45.2	
	comp=N,8.0nm,4.2s,comp=N,7.0nm,8.2s						
JHYU	**Hitachinakayam**	**5.64**	**200**	A	A	05 14 48.8	
	comp=N,8.0nm,6.2s,comp=N,7.0nm,6.2s						
JKT	**Katashina**	**5.70**	**212**	A	A	05 14 49.5	
	comp=N,9.0nm,6.0s,comp=N,8.0nm,4.0s						
TEY	**Ternei**	**5.75**	**308**	⇑*e*P	**Pn**	**05 14 48.4**	**+0.2**
TEY				*e*		05 16 01.0	
TEY				pmax	pmax		
	comp=E,40nm,0.8s						
TEY				pmax	pmax		
	comp=N,20nm,1.0s						
TEY				pmax	pmax		
	comp=Z,30nm,1.0s						
TEY				MLR	MLR		
	comp=E,200nm,17.0s						
TEY				MLR	MLR		
	comp=N,300nm,13.0s						
TEY				MLR	MLR		
	comp=Z,300nm,17.0s						
JYT	**Yasato**	**5.86**	**203**	Pn	**Pn**	**05 14 48.8**	**-0.8**
JYT	**Yasato**	**5.86**	**203**	A	A	05 14 51.7	
	comp=Z,11nm,6.2s,comp=Z,6.0nm,2.1s						
JJN	**Nakama**	**5.90**	**221**	A	A	05 14 52.4	
	comp=Z,8.0nm,4.5s,comp=Z,7.0nm,4.4s						
JAG	**Ashikaga**	**5.92**	**209**	A	A	05 14 52.6	
	comp=Z,8.0nm,6.4s,comp=Z,9.0nm,3.8s						
JIHU	**Itakohorinouch**	**6.01**	**200**	A	A	05 14 53.9	
	comp=Z,53nm,4.4s,comp=Z,41nm,2.3s						
JGK	**Kuni**	**6.12**	**215**	A	A	05 14 55.5	
	comp=Z,11nm,3.7s,comp=Z,9.0nm,3.6s						
CHOJ	**Chosi**	**6.19**	**196**	A	A	05 14 56.4	
	comp=Z,9.0nm,9.4s,comp=Z,9.0nm,3.7s						
MJB9	**Matsu-Tunnel**	**6.33**	**218**		**Pn**	**05 14 59.1**	**+2.9**
MAJO	**Matsushiro**	**6.33**	**218**	Pn	**Pn**	**05 14 58.1**	**+1.9**
MAJO	**Matsushiro**	**6.33**	**218**	*d i*P	**Pn**	**05 14 58.1**	**+1.9**
MAJO	**Matsushiro**	**6.33**	**218**	P	**Pn**	**05 14 58.8**	**+2.6**
MJAR	**Matsushiro Arr**	**6.33**	**218**	Pn	**Pn**	**05 14 58.0**	**+1.8**
	comp=Z,6.1nm,0.3s,baz=26,slow=13,SNR=768						
MJAR				LR	LR	05 17 52.1	
	comp=Z,8μm,20.8s,baz=56,slow=42						
	comp=Z,545nm,1.0s						
JSMT	**Sammumatsuo**	**6.34**	**199**	A	A	05 14 58.5	
	comp=Z,33nm,5.9s,comp=Z,30nm,7.8s						
JRY	**Ryogami san**	**6.49**	**211**	A	A	05 15 00.5	
	comp=Z,8.0nm,6.3s,comp=Z,5.0nm,9.7s						
UGL	**Uglegorsk**	**7.44**	**355**	*e*P	**Pn**	**05 15 15.4**	**+4.1**
UGL				*e*S	**Sn**	**05 16 31.9**	**-2.6**
UGL				pmax	pmax		
	comp=Z,180nm,0.7s						
JGF	**Kuroka**

	comp=Z,30nm,1.2s								
CN2					pmax	pmax			
	comp=Z,260nm,4.0s								
CN2					LR	LR			
	comp=Z,4μm,14.0s								
CN2					LR	LR			
	comp=Z,5μm,14.0s								
CN2					LR	LR			
	comp=Z,5μm,14.0s								
TJN	**Taejon**	**13.25**	**252**		Pn	**Pn**	**05**	**16**	**32.2** **+1.3**
TJN	**Taejon**	**13.25**	**252**		P	**Pn**	**05**	**16**	**32.2** **+1.3**
TJN	**Taejon**	**13.25**	**252**		P	**Pn**	**05**	**16**	**34.0** **+3.1**
	comp=Z,488nm,1.4s								
INCN	**Inchon**	**13.30**	**257**		Pn	**Pn**	**05**	**16**	**34.1** **+2.5**
INCN	**Inchon**	**13.30**	**257**		P	**Pn**	**05**	**16**	**34.1** **+2.5**
INCN	**Inchon**	**13.30**	**257**		P	**P**	**05**	**16**	**36.5** **-4.4**
HJU	**Haeju**	**13.76**	**260**		P	**Pn**	**05**	**16**	**40.2** **+2.4**
HJU					pP	**P**	**05**	**16**	**45.2** **-0.7**
HJU					S	**Sn**	**05**	**19**	**13.0** **+3.6**
HJU					AMS	AMS			
	comp=N,4μm,4.7s								
HJU					AMS	AMS			
	comp=E,6μm,8.0s								
HJU					AMS	AMS			
	comp=Z,4μm,5.2s								
SUJ	**Sinuiju**	**14.09**	**270**		P	**Pn**	**05**	**16**	**44.2** **+1.8**
SUJ					pP	**P**	**05**	**16**	**49.4** **-0.3**
SUJ					S	**Sn**	**05**	**19**	**21.7** **+4.2**
SUJ					AMS	AMS			
	comp=N,1μm,1.8s								
SUJ					AMS	AMS			
	comp=E,3μm,4.4s								
SUJ					AMS	AMS			
	comp=Z,2μm,2.6s								
JSU	**Suzuyama**	**14.28**	**229**		Pn	**Pn**	**05**	**16**	**45.0** **-0.1**
JCJ	**Chichijima**	**14.55**	**183**		Pn	**Pn**	**05**	**16**	**46.8** **-1.9**
	comp=Z,14nm,0.3s,baz=104,slow=23,SNR=6.1								
JCJ					Sn	Sn	05	19	18.9 -10
	comp=Z,19nm,0.3s,baz=327,slow=22,SNR=2.8								
	comp=Z,79nm,0.5s								
JCJ	**Chichijima**	**14.55**	**183**		Pn	**Pn**	**05**	**16**	**46.2** **-2.5**
PEA0B	**Petropavlovsk-**	**15.13**	**36**		Pn	**Pn**	**05**	**16**	**54.8** **-1.5**
PEA0B	**Petropavlovsk-**	**15.13**	**36**		P	**Pn**	**05**	**16**	**54.8** **-1.5**
PEA0B					pmax	pmax			
	comp=Z,106nm,1.6s								
PETK	**Petropavlovsk-**	**15.13**	**36**		Pn	**Pn**	**05**	**16**	**53.8** **-2.6**
	comp=Z,6.9nm,0.5s,baz=190,slow=7.5,SNR=7.7								
PETK					LR	LR	05	23	00.3
	comp=Z,3μm,18.7s,baz=205,slow=38								
PETK	**Petropavlovsk-**	**15.13**	**36**		Pn	**Pn**	**05**	**16**	**53.3** **-3.0**
PETK	**Petropavlovsk-**	**15.13**	**36**		P	**Pn**	**05**	**16**	**53.3** **-3.0**
PET	**Petropavlovsk**	**15.50**	**38**	*eP*		**P**	**05**	**17**	**04.5** **-0.7**
PET				*eS*		**Sn**	**05**	**19**	**54.8** **+3.1**
PET					pmax	pmax			
	comp=Z,900nm,9.1s								
PET					pmax	pmax			
	comp=Z,2μm,11.4s								
PET					MLR	MLR			
	comp=Z,3μm,15.0s								
PET					MLR	MLR			
	comp=Z,3μm,14.0s								
ZEA	**Zeya**	**16.02**	**324**	*eP*		**Pn**	**05**	**17**	**07.3** **-0.6**
ZEA					pmax	pmax			
	comp=E,40nm,0.7s								
ZEA					pmax	pmax			
	comp=N,60nm,1.0s								
ZEA					pmax	pmax			
	comp=Z,80nm,0.9s								
ZEA					pmax	pmax			
	comp=E,400nm,5.0s								
ZEA					pmax	pmax			
	comp=N,200nm,2.5s								
ZEA					pmax	pmax			
	comp=Z,500nm,4.9s								
ZEA					MLR	MLR			
	comp=E,2μm,16.0s								
ZEA					MLR	MLR			
	comp=N,2μm,12.0s								
ZEA					MLR	MLR			
	comp=Z,2μm,17.0s								
DL2	**Dalian**	**16.54**	**267**		P	**Pn**	**05**	**17**	**14.8** **+0.3**
DL2					S	**Sn**	**05**	**20**	**16.8** **-0.2**
DL2					pmax	pmax			
	comp=Z,100nm,1.5s								
DL2					pmax	pmax			
	comp=Z,470nm,9.0s								
DL2					LR	LR			
	comp=Z,9μm,19.9s								
DL2					LR	LR			
	comp=Z,6μm,19.5s								
DL2					LR	LR			
	comp=Z,10μm,20.1s								
HIA	**Hailar**	**17.95**	**303**		P	**Pn**	**05**	**17**	**29.9** **-2.2**
HIA	**Hailar**	**17.95**	**303**		P	**Pn**	**05**	**17**	**29.9** **-2.2**
HIA					pmax	pmax			
	comp=Z,36nm,1.1s								
MA2	**Magadan**	**18.57**	**12**		P	**P**	**05**	**17**	**36.6** **-2.4**
	comp=Z,2.3nm,0.3s,baz=192,slow=12,SNR=6.4								
MA2					LR	LR	05	25	27.6
	comp=Z,1μm,19.0s,baz=194,slow=39								
	comp=Z,20nm,0.6s								
JOW	**Kunigami**	**19.12**	**224**		P	**P**	**05**	**17**	**45.2** **-0.2**
	comp=Z,7.1nm,0.3s,baz=54,slow=12,SNR=14								
	comp=Z,275nm,1.0s								
JOW	**Kunigami**	**19.12**	**224**		P	**P**	**05**	**17**	**45.2** **-0.2**
JOW	**Kunigami**	**19.12**	**224**		P	**P**	**05**	**17**	**45.5** **+0.1**
XLT	**XiLinHaoTe**	**19.86**	**286**	⇑*iP*		**P**	**05**	**17**	**51.8** **-1.6**
XLT					PP	**PnPn**	**05**	**18**	**08.8** **-0.5**
XLT					S	**S**	**05**	**21**	**33.3** **-1.9**
XLT					sS	sS	05	21	43.3 -5.3
XLT					PcP	**PcP**	**05**	**22**	**07.3** **-2.6**
XLT					pmax	pmax			
	comp=Z,38nm,1.0s								
XLT					pmax	pmax			
	comp=Z,160nm,3.8s								
XLT					LR	LR			
	comp=Z,5μm,12.2s								
XLT					LR	LR			
	comp=Z,9μm,18.3s								
BJI	**Beijing**	**20.33**	**274**		P	**P**	**05**	**17**	**56.3** **-2.2**
BJI					pP	**pP**	**05**	**18**	**08.0** **+1.1**
BJI					sP	**sP**	**05**	**18**	**11.3** **+0.2**
BJI					S	**S**	**05**	**21**	**35.8** **-8.8**
BJI					pmax	pmax			
	comp=Z,51nm,1.3s								
BJI					LR	LR			
	comp=Z,2μm,18.8s								
BJI					LR	LR			
	comp=Z,6μm,17.8s								
BJI					LR	LR			
	comp=Z,10μm,19.0s								
BJT	**Baijiatuau**	**20.34**	**274**		P	**P**	**05**	**17**	**56.7** **-1.9**
BJT	**Baijiatuau**	**20.34**	**274**		IAMs_20	IAMs_20	05	26	14.5
	comp=Z,3μm,18.0s								
BJT	**Baijiatuau**	**20.34**	**274**		P	**P**	**05**	**17**	**56.7** **-1.9**
BJT					pmax	pmax			
	comp=Z,49nm,0.9s								
BJT					MLR	MLR			
	comp=Z,3μm,18.0s								
TIA	**Tai'an**	**20.82**	**263**	⇓*iP*		**P**	**05**	**18**	**01.5** **-2.3**
TIA					pmax	pmax			
	comp=Z,55nm,0.8s								
NJ2	**Nanjing**	**21.51**	**251**	⇑*iP*		**P**	**05**	**18**	**09.0** **-2.3**
NJ2					pmax	pmax			
	comp=Z,55nm,0.8s								
NJ2					pmax	pmax			
	comp=Z,610nm,4.4s								
NJ2					LR	LR			
	comp=Z,11μm,16.1s								
NJ2					LR	LR			
	comp=Z,20μm,15.6s								
NJ2					LR	LR			
	comp=Z,23μm,17.7s								
YAK	**Yakutsk**	**21.90**	**343**		P	**P**	**05**	**18**	**11.3** **-3.9**
	comp=Z,17nm,0.3s,baz=348,slow=3.2,SNR=6.5								
YAK					S	**S**	**05**	**22**	**09.4** **-5.8**
	comp=Z,8.9nm,0.4s,baz=122,slow=16,SNR=6.5								
YAK	**Yakutsk**	**21.90**	**343**	*eP*		**P**	**05**	**18**	**11.0** **-4.2**
YAK				*e**PP		**pP**	**05**	**18**	**18.0** **-5.9**
YAK				*eS*		**S**	**05**	**22**	**07.4** **-7.7**
YAK				*e*			05	22	15.4
YAK				*e**SS		**pS**	**05**	**22**	**23.4** **-2.6**
YAK				*e*SSS		SSS	05	22	52.1
YAK				*e*			05	29	25.5
YAK					pmax	pmax			
	comp=Z,73nm,1.0s								
YAK					pmax	pmax			
	comp=N,30nm,1.1s								
YAK					pmax	pmax			
	comp=E,13nm,1.1s								
YAK					pmax	pmax			
	comp=Z,380nm,1.6s								
YAK					pmax	pmax			
	comp=N,280nm,1.5s								
YAK					pmax	pmax			
	comp=E,90nm,1.5s								
YAK					smax	smax			
	comp=N,353nm,2.0s								
YAK					smax	smax			
	comp=E,177nm,1.6s								
SEY	**Seymchan**	**22.01**	**11**		P	**P**	**05**	**18**	**13.5** **-2.9**
	comp=E,54nm,0.9s,baz=184,slow=7.8,SNR=34								
SEY	**Seymchan**	**22.01**	**11**	*ceP*		**P**	**05**	**18**	**13.3** **-3.0**
SEY					pmax	pmax			
	comp=Z,49nm,0.9s								
HNS	**HongShan**	**22.19**	**268**	⇓P		**P**	**05**	**18**	**15.3** **-3.2**
HNS					pmax	pmax			
	comp=Z,38nm,1.0s								
CIT	**Chita**	**22.50**	**307**	*eP*		P	05	18	10.5 -11
CIT				*e*			05	18	19.1
CIT				*e*			05	18	49.5
CIT				*e*			05	22	16.9
HHC	**Hu-ho-hao-te**	**23.59**	**279**	*eP*		**P**	**05**	**18**	**32.8** **-0.2**
HHC				S		**S**	**05**	**22**	**37.3** **-7.8**
HHC				SS		**SnSn**	**05**	**23**	**24.3** **+1.2**
HHC					pmax	pmax			
	comp=Z,35nm,0.8s								
HHC					pmax	pmax			
	comp=Z,390nm,5.7s								
HHC					LR	LR			
	comp=Z,4μm,13.3s								
HHC					LR	LR			
	comp=Z,2μm,13.3s								
HHC					LR	LR			
	comp=Z,2μm,13.3s								
SHEM	**Shemya Is, Ala**	**23.66**	**52**		LR	LR	05	28	21.9
	comp=Z,471nm,19.8s,baz=270,slow=38								
TIY	**Taiyuan**	**23.79**	**271**	⇑P		**P**	**05**	**18**	**32.5** **-2.4**
TIY				S		**S**	**05**	**22**	**43.0** **-5.3**
TIY					LR	LR			
	comp=Z,2μm,6.2s								
TIY					LR	LR			
	comp=Z,2μm,6.2s								
TIY					LR	LR			
	comp=Z,7μm,19.9s								
TATO	**Taipei**	**24.40**	**234**		P	**P**	**05**	**18**	**37.9** **-2.6**
BOD	**Bodaibo**	**24.47**	**321**	*eP*		**P**	**05**	**18**	**37.2** **-3.7**
BOD					pmax	pmax			
	comp=Z,32nm,1.1s								
YHNB	**Yeheng**	**24.69**	**233**		P	**P**	**05**	**18**	**42.4** **-0.9**
YHNB	**Yeheng**	**24.69**	**233**		P	**P**	**05**	**18**	**43.8** **+0.5**
LYN	**LuoYang**	**24.96**	**263**	⇓*iP*		**P**	**05**	**18**	**41.3** **-4.3**
LYN					pP	pP	05	18	54.8 +0.2
LYN					PP	**PnPn**	**05**	**19**	**19.0** **-0.2**
LYN					S	**S**	**05**	**23**	**00.3** **-6.8**
LYN					SS	**SnSn**	**05**	**23**	**58.3** **+1.5**
LYN					pmax	pmax			
	comp=Z,30nm,1.4s								
LYN					pmax	pmax			
	comp=Z,400nm,5.3s								
LYN					LR	LR			
	comp=Z,7μm,15.6s								
LYN					LR	LR			
	comp=Z,10μm,18.3s								
LYN					LR	LR			
	comp=Z,12μm,17.2s								
WHN	**Wuhan**	**25.56**	**253**	⇑P		**P**	**05**	**18**	**49.8** **-1.2**
WHN					pmax	pmax			
	comp=Z,270nm,0.7s								
SSLB	**Suanglung**	**25.61**	**233**		P	**P**	**05**	**18**	**50.7** **-0.9**
SSLB					IAmb	IAmb	05	18	54.7
	comp=Z,111nm,1.5s								
SSLB	**Suanglung**	**25.61**	**233**		P	**P**	**05**	**18**	**52.1** **+0.6**
YULB	**Yu-li**	**25.70**	**232**		P	**P**	**05**	**18**	**51.8** **-0.6**
YULB					IAmb	IAmb	05	19	02.8
	comp=Z,44nm,0.8s								
ULN	**Ulaanbaatar**	**26.09**	**296**		P	**P**	**05**	**18**	**54.9** **-1.0**
ULN					IAmb	IAmb	05	19	09.0
	comp=Z,100nm,1.6s								
ULN	**Ulaanbaatar**	**26.09**	**296**		IAMs_20	IAMs_20	05	30	20.3
	comp=Z,3μm,19.0s								
ULN	**Ulaanbaatar**	**26.09**	**296**		P	**P**	**05**	**18**	**54.9** **-1.0**
ULN					pmax	pmax			
	comp=Z,101nm,1.6s								
ULN					MLR	MLR			
	comp=Z,3μm,19.0s								
ULN	**Ulaanbaatar**	**26.09**	**296**		P	**P**	**05**	**18**	**56.5** **+0.6**
QZH	**Quanzhou**	**26.22**	**238**	⇓*iP*		**P**	**05**	**18**	**57.0** **0.0**
SONM	**Songino Array**	**26.54**	**296**		P	**P**	**05**	**18**	**59.7** **-0.2**
	comp=Z,21nm,0.7s,baz=92,slow=7.8,SNR=62								
	comp=Z,21nm,0.7s								
SONM	**Songino Array**	**26.54**	**296**		P	**P**	**05**	**18**	**59.1** **-0.8**
SONM					IAmb	IAmb	05	19	13.0
	comp=Z,151nm,1.8s								
SONM	**Songino Array**	**26.54**	**296**		P	**P**	**05**	**18**	**59.1** **-0.8**
SONM					pmax	pmax			
	comp=Z,151nm,1.8s								
XAN	**Xi'an**	**27.83**	**265**	⇓P		**P**	**05**	**19**	**10.0** **-1.5**
XAN					pP	pP	05	19	17.0 -3.6
XAN					sP	sP	05	19	21.3 -3.2
XAN					PcP	**PcP**	**05**	**22**	**26.5** **-0.5**
XAN					pmax	pmax			
	comp=Z,74nm,1.4s								
XAN					LR	LR			
	comp=Z,8μm,15.1s								
XAN					LR	LR			
	comp=Z,8μm,22.0s								
XAN					LR	LR			
	comp=Z,11μm,24.0s								
IRK	**Irkutsk**	**28.15**	**305**	*eP*		**P**	**05**	**19**	**13.4** **-0.8**
IRK					pmax	pmax			
	comp=Z,102nm,1.2s								
ZAK	**Zakamensk**	**28.63**	**301**	*eP*		**P**	**05**	**19**	**17.6** **-1.0**
ZAK					pmax	pmax			
	comp=Z,32nm,1.4s								
ENH	**Enshi**	**29.24**	**258**		P	**P**	**05**	**19**	**22.5** **-1.5**
ENH					IAmb	IAmb	05	19	24.1
	comp=Z,58nm,0.7s								
BILL	**Bilibino**	**29.24**	**18**	*deP*		**P**	**05**	**19**	**25.8** **+2.2**
BILL				*e*			05	20	19.6
BILL					pmax	pmax			
	comp=Z,25nm,1.4s								
BILL					MLR	MLR			
	comp=Z,1μm,16.0s								
GSTR	**Great Sitkin T**	**29.49**	**55**		P	**P**	**05**	**19**	**23.7** **-2.4**
H11N2	**WAKE ISLAND Hy**	**29.82**	**130**		T	T	05	50	49.9
	baz=323,slow=76,SNR=3788								
H11N1	**WAKE ISLAND Hy**	**29.83**	**130**		T	T	05	50	42.1
	baz=323,slow=76,SNR=6015								
H11N3	**WAKE ISLAND Hy**	**29.84**	**130**		T	T	05	50	42.7
	baz=323,slow=76,SNR=8097								
MOY	**Mondy**	**30.13**	**304**	*eP*		**P**	**05**	**19**	**32.0** **+0.2**
MOY					pmax	pmax			
	comp=Z,101nm,2.1s								
H11S1	**WAKE ISLAND Hy**	**30.68**	**132**		T	T	05	51	51.4
	baz=324,slow=76,SNR=5045								
H11S3	**WAKE ISLAND Hy**	**30.69**	**132**		T	T	05	51	53.6
	baz=324,slow=76,SNR=5869								
H11S2	**WAKE ISLAND Hy**	**30.70**	**132**		T	T	05	51	54.4
	baz=324,slow=76,SNR=6506								
LZH	**Lanzhou**	**30.80**	**273**	*eP*		**P**	**05**	**19**	**37.5** **-0.5**
LZH					pP	pP	05	19	46.5 -0.7
LZH					sP	sP	05	19	50.3 -0.8
LZH					pmax	pmax			
	comp=Z,35nm,1.2s								
GTA	**Gaotai**	**32.65**	**281**	*eP*		**P**	**05**	**19**	**54.0** **-0.2**
GTA					pP	pP	05	20	03.5 +0.1
GTA					sP	sP	05	20	07.0 -0.3
GTA					S	**S**	**05**	**25**	**07.8** **-0.3**
GTA					pmax	pmax			
	comp=Z,12nm,1.3s								
GTA					pmax	pmax			
	comp=Z,59nm,4.8s								
GTA					LR	LR			
	comp=Z,2μm,11.6s								
GTA					LR	LR			
	comp=Z,3μm,14.9s								
GTA					LR	LR			
	comp=Z,4μm,16.4s								
CD2	**Chengdu**	**33.15**	**264**		P	**P**	**05**	**19**	**57.3** **-1.2**
CD2					pmax	pmax			
	comp=Z,40nm,0.6s								
GYA	**Guiyang**	**33.43**	**255**	⇑P		**P**	**05**	**20**	**00.5** **-0.6**
GYA					pP	pP	05	20	08.8 -1.5
GYA					S	**S**	**05**	**25**	**19.8** **-0.7**
GYA					pmax	pmax			
	comp=Z,78nm,0.9s								
GYA					pmax	pmax			
	comp=Z,290nm,6.6s								
GYA					LR	LR			
	comp=Z,3μm,10.0s								
GYA					LR	LR			
	comp=Z,6μm,11.5s								
GYA					LR	LR			
	comp=Z,7μm,11.8s								
QIZ	**Qiongzhong**	**36.10**	**241**		P	**P**	**05**	**20**	**23.8** **-0.2**
QIZ					S	**S**	**05**	**26**	**02.8** **+1.5**
QIZ					pmax	pmax			
	comp=Z,23nm,1.7s								
PZH	**PanZhiHua**	**37.00**	**259**	⇑P		**P**	**05**	**20**	**32.0** **+0.2**
PZH				S		**S**	**05**	**26**	**14.8** **-0.5**
PZH				ScS		**ScS**	**05**	**30**	**38.8** **-5.6**
PZH					pmax	pmax			
	comp=Z,120nm,0.8s								
PZH					pmax	pmax			
	comp=Z,210nm,4.2s								
PZH					LR	LR			
	comp=Z,4μm,17.9s								
PZH					LR	LR			
	comp=Z,6μm,15.9s								
PZH					LR	LR			
	comp=Z,6μm,16.7s								
KMI	**Kunming**	**37.07**	**256**	⇓P		**P**	**05**	**20**	**32.3** **-0.2**
KMI					pmax	pmax			
	comp=Z,350nm,3.5s								
KMI	**Kunming**	**37.07**	**256**		P	**P**	**05**	**20**	**31.9** **-0.6**
GOMU	**GeErMu**	**37.49**	**278**		P	**P**	**05**	**20**	**36.5** **+0.3**
GOMU					pmax	pmax			
	comp=Z,22nm,1.1s								
GOMU					pmax	pmax			
	comp=Z,190nm,4.8s								
GOMU					LR	LR			
	comp=Z,1μm,17.4s								
GOMU					LR	LR			
	comp=Z,1μm,16.6s								
GOMU					LR	LR			
	comp=Z,1μm,18.4s								
DGZ	**Jazzator, Alta**	**38.85**	**301**	⇓*iP*		**P**	**05**	**20**	**48.2** **+1.0**
DGZ					pmax	pmax			
	comp=Z,46nm,0.8s								
CNBA	**Chernabura Isl**	**39.31**	**50**		P	**P**	**05**	**20**	**48.6** **-2.1**
CNBA					IAmb	IAmb	05	21	03.2
	comp=Z,39nm,1.1s								
CNBA					IAMs_20	IAMs_20	05	38	21.4
	comp=Z,1μm,22.0s								
N16K	**Nishlik Lake**	**39.58**	**41**		P	**P**	**05**	**20**	**53.8** **+0.8**
	baz=269,SNR=8.3								
NRIK	**Noril'sk**	**39.65**	**333**		P	**P**	**05**	**20**	**51.6** **-1.8**
	comp=Z,5.7nm,0.5s,baz=116,slow=10,SNR=7.2								
	comp=Z,5.7nm,0.5s								
NRIK	**Noril'sk**	**39.65**	**333**		P	**P**	**05**	**20**	**51.3** **-2.1**
NRIK	**Noril'sk**	**39.65**	**333**		P	**P**	**05**	**20**	**51.3** **-2.1**
NRIK					pmax	pmax			
	comp=Z,21nm,1.0s								
ZAA0	**Zalesovo Array**	**39.85**	**308**		P	**P**	**05**	**20**	**54.5** **-0.8**
ZAA0					IAmb	IAmb	05	21	16.2
	comp=Z,35nm,0.8s								
ZALV	**Zalesovo Beam**	**39.85**	**308**		P	**P**	**05**	**20**	**54.8** **-0.5**
	comp=Z,22nm,0.6s,baz=86,slow=9.1,SNR=38								
ZALV					ScP	**ScP**	**05**	**26**	**47.2** **+0.2**
	comp=Z,4.6nm,0.9s,baz=48,slow=2.2,SNR=5.2								
	comp=Z,22nm,0.6s								
O16K	**Kokwok River B**	**39.91**	**43**		P	**P**	**05**	**20**	**56.0** **+0.3**
	baz=270								
P16K	**Nushagak River**	**39.97**	**44**		P	**P**	**05**	**20**	**57.2** **+1.0**
	baz=271								
WMQ	**Urumqi**	**40.03**	**292**	*eP*		**P**	**05**	**20**	**57.8** **+0.7**
WMQ					pP	pP	05	21	06.3 -0.1
WMQ					sP	sP	05	21	14.3 +3.8
WMQ					pmax	pmax			
	comp=Z,59nm,1.1s								
WMQ					pmax	pmax			
	comp=Z,160nm,4.5s								
WMQ					LR	LR			
	comp=Z,3μm,18.9s								
WMQ					LR	LR			
	comp=Z,5μm,20.3s								
WMQ					LR	LR			
	comp=Z,4μm,22.7s								
O17K	**Koliganek Bris**	**40.41**	**42**		P	**P**	**05**	**21**	**00.9** **+1.1**
	baz=271,SNR=8.9								
Q16K	**King Salmon**	**40.67**	**44**		P	**P**	**05**	**21**	**02.6** **+0.6**
	baz=272								
GCSA	**Galena City Sc**	**40.68**	**35**		P	**P**	**05**	**21**	**01.8** **-0.1**
	baz=265								
P17K	**Kvichak River**	**40.77**	**43**		P	**P**	**05**	**21**	**02.9** **+0.2**
	baz=272								
R17K	**Ugashik Creek**	**40.88**	**46**		P	**P**	**05**	**21**	**03.7** **0.0**
	baz=274								
SGSI	**Sangihe**	**40.93**	**207**		P	**P**	**05**	**21**	**04.9** **+0.3**
	comp=Z,4μmcomp=Z,134nm,0.7s								
TTA	**Tatalina**	**40.96**	**38**		P	**P**	**05**	**21**	**04.8** **+0.3**
TTA	**Tatalina**	**40.96**	**38**		P	**P**	**05**	**21**	**04.8** **+0.3**
TTA					pmax	pmax			
	comp=Z,13nm,1.0s								
TTA	**Tatalina**	**40.96**	**38**		P	**P**	**05**	**21**	**04.9** **+0.4**
	baz=268								
ZSN	**Zaisan**	**40.99**	**298**	*eP*		**P**	**05**	**21**	**05.2** **+0.4**
ZSN					pmax	pmax			
	comp=Z,16nm,1.1s								
ZSN	**Zaisan**	**40.99**	**298**	*eP*		**P**	**05**	**21**	**05.3** **+0.4**
	comp=Z,16nm,1.1s,baz=298								
N18K	**Kilae Creek**	**41.00**	**41**		P	**P**	**05**	**21**	**03.3** **-1.4**
N18K	**Kilae Creek**	**41.00**	**41**		P	**P**	**05**	**21**	**05.9** **+1.1**
	baz=271,SNR=5.9								
SVW2	**Sparrevohn**	**41.15**	**40**		P	**P**	**05**	**21**	**07.0** **+1.0**
O18K	**Koktuh Hills**	**41.37**	**42**		P	**P**	**05**	**21**	**06.9** **-0.9**
O18K					IAmb	IAmb	05	21	24.3
	comp=Z,100nm,1.9s								
O18K	**Koktuh Hills**	**41.37**	**42**		P	**P**	**05**	**21**	**08.9** **+1.1**
	baz=272								
P18K	**Big Mountain,**	**41.38**	**43**		P	**P**	**05**	**21**	**07.2** **-0.6**
P18K	**Big Mountain,**	**41.38**	**43**		P	**P**	**05**	**21**	**08.4** **+0.5**
	baz=273								
CHIR	**Chirikof Islan**	**41.47**	**48**		IAMs_20	IAMs_20	05	37	47.4
	comp=Z,974nm,20.0s								
L19K	**White Mountain**	**41.48**	**39**		P	**P**	**05**	**21**	**09.8** **+1.0**
L19K	**White Mountain**	**41.48**	**39**		P	**P**	**05**	**21**	**09.1** **+0.4**
	baz=270								
UBPT	**Khong Chiam**	**41.68**	**242**		P	**P**	**05**	**21**	**10.4** **-0.3**
UBPT					IAmb	IAmb	05	21	12.6
	comp=Z,44nm,1.3s								
N19K	**Bonanza Creek**	**41.69**	**41**		P	**P**	**05**	**21**	**10.3** **-0.1**
N19K	**Bonanza Creek**	**41.69**	**41**		P	**P**	**05**	**21**	**10.7** **+0.2**
	baz=272								
M19K	**Big River Lodg**	**41.70**	**39**		P	**P**	**05**	**21**	**10.5** **0.0**
M19K	**Big River Lodg**	**41.70**	**39**		P	**P**	**05**	**21**	**11.6** **+1.0**
	baz=271,SNR=6.5								
CRAI	**Chiangrai**	**41.81**	**253**		P	**P**	**05**	**21**	**11.8** **-0.1**
J20K	**Nowinta River**	**41.83**	**36**		P	**P**	**05**

baz=277
CHUM Lake Minchumin 42.63 36 P P 05 21 18.8 +0.8
baz=270,SNR=7.7
O20K Slope Mountain 42.65 42 P P 05 21 17.9 -0.3
baz=274
PPLA Purkeypile 42.71 38 P P 05 21 18.1 -0.7
PPLA IAmb IAmb 05 21 34.5
comp=Z,106nm,1.6s
PPLA Purkeypile 42.71 38 P P 05 21 19.0 +0.2
baz=272,SNR=6.7
CAST Castle Rocks 42.74 37 P P 05 21 19.9 +0.9
CAST IAMs_20 IAMs_20 05 38 56.9
comp=Z,1µm,21.0s
CAST Castle Rocks 42.74 37 P P 05 21 19.1 +0.1
baz=271,SNR=17
N20K Mount Spurr 42.77 40 P P 05 21 19.7 +0.4
baz=273
SPCR Spurr Chakacha 42.77 40 P P 05 21 19.8 +0.5
baz=273
I21K Tanana 42.78 34 P P 05 21 19.0 -0.2
I21K IAMs_20 IAMs_20 05 37 57.8
comp=Z,985nm,22.0s
I21K Tanana 42.78 34 P P 05 21 20.0 +0.8
baz=269
F22K John River 42.78 31 P P 05 21 19.7 +0.5
baz=267
SPU Mount Spurr 42.85 40 P P 05 21 20.6 +0.7
MK31 Makanchi Array 42.86 298 P P 05 21 19.4 -0.7
MK31 IAmb IAmb 05 21 41.9
comp=Z,33nm,0.9s
MK31 Makanchi Array 42.86 298 *i* P P 05 21 19.4 -0.7
MK31 pmax pmax
comp=Z,39nm,0.7s
MKAR Makanchi Array 42.86 298 P P 05 21 19.8 -0.3
comp=Z,14nm,0.6s,baz=84,slow=9.2,SNR=84
comp=Z,14nm,0.6s
MKAR Makanchi Array 42.86 298 P P 05 21 19.9 -0.1
MKAR Makanchi Array 42.86 298 P P 05 21 20.0 -0.1
KDAK Kodiak Island 42.90 45 P P 05 21 19.8 -0.4
KDAK IAmb IAmb 05 21 36.3
comp=Z,44nm,1.1s
KDAK Kodiak Island 42.90 45 IAMs_20 IAMs_20 05 39 29.1
comp=Z,931nm,21.0s
KDAK Kodiak Island 42.90 45 P P 05 21 19.8 -0.4
KDAK pmax pmax
comp=Z,44nm,1.2s
KDAK MLR MLR
comp=Z,900nm,21.0s
KDAK Kodiak Island 42.90 45 P P 05 21 20.3 +0.1
baz=277
KDAK Kodiak Island 42.90 45 P P 05 21 20.4 +0.2
KDAK pP sP 05 21 31.9 -1.8
Q20K Shuyak Island 42.90 44 P P 05 21 20.4 +0.2
baz=276
E22K Anaktuvuk Pass 42.96 30 P P 05 21 20.1 -0.6
baz=266
G22K Bettles 43.01 32 P P 05 21 20.6 -0.4
baz=268
H22K Ishtalitna Cre 43.04 33 P P 05 21 21.2 -0.1
baz=269,SNR=8.7
PHRA Phrae 43.05 251 P P 05 21 22.1 +0.2
SKT Skwentna 43.05 39 P P 05 21 21.1 -0.4
baz=273
MAKZ Makanchi 43.06 298 P P 05 21 21.3 -0.4
MAKZ IAmb IAmb 05 21 41.0
comp=Z,66nm,1.2s
MAKZ IAMs_20 IAMs_20 05 42 50.1
comp=Z,967nm,18.0s
MAKZ Makanchi 43.06 298 P P 05 21 20.5 -1.2
MAKZ Makanchi 43.06 298 P P 05 21 21.7 0.0
TNTI Ternate 43.09 203 P P 05 21 21.0 -1.2
TNTI IAmb IAmb 05 21 25.8
comp=Z,62nm,0.8s
HOM Homer 43.18 42 P P 05 21 22.6 +0.2
baz=276
LSA Lhasa 43.19 271 P P 05 21 24.5 +1.0
LSA IAmb IAmb 05 21 36.8
comp=Z,33nm,1.0s
LSA Lhasa 43.19 271 P P 05 21 24.5 +1.0
LSA LR LR
comp=Z,3µm,22.8s
LSA LR LR
comp=Z,4µm,27.1s
LSA LR LR
comp=Z,6µm,24.2s
LSA Lhasa 43.19 271 P P 05 21 24.5 +1.0
LSA pmax pmax
comp=Z,33nm,1.0s
LSA MLR MLR
comp=Z,5µm,22.0s
BPAW Bear Paw Mtn. 43.21 36 P P 05 21 22.9 +0.1
BPAW Bear Paw Mtn. 43.21 36 P P 05 21 23.0 +0.2
baz=271,SNR=11
SEM Semipalatinsk 43.24 304 *eP* P 05 21 22.6 -0.8
SEM Semipalatinsk 43.24 304 *eP* P 05 21 22.7 -0.8
baz=304
KTH Kantishna Hill 43.26 37 P P 05 21 23.7 +0.5
KTH IAmb IAmb 05 21 42.7
comp=Z,37nm,0.8s
KTH IAMs_20 IAMs_20 05 39 42.6
comp=Z,975nm,19.0s
MLY Manley 43.30 35 P P 05 21 24.2 +0.6
MLY IAmb IAmb 05 21 47.2
comp=Z,57nm,1.7s
MLY IAMs_20 IAMs_20 05 38 36.7
comp=Z,1µm,21.0s
MLY Manley 43.30 35 P P 05 21 24.1 +0.6
baz=271,SNR=14
CNPM China Poot 43.40 43 P P 05 21 24.0 -0.3
CNPM IAmb IAmb 05 22 48.3
comp=Z,65nm,1.4s
D23K Nanushuk River 43.42 29 P P 05 21 25.1 +0.7
baz=266
SUA Susitna One 43.46 40 P P 05 21 23.4 -1.5
SUA Susitna One 43.46 40 P P 05 21 25.3 +0.4
baz=274,SNR=8.9
C23K Itkillik River 43.51 27 P P 05 21 25.4 +0.5
baz=266,SNR=5.7
COLD Coldfoot 43.53 31 P P 05 21 25.1 -0.2
COLD Coldfoot 43.53 31 P P 05 21 26.1 +0.8
baz=269
TRF Thorofare Moun 43.55 37 P P 05 21 26.4 +0.7
TRF IAMs_20 IAMs_20 05 39 52.2
comp=Z,890nm,20.0s
TRF Thorofare Moun 43.55 37 P P 05 21 25.2 -0.4
baz=273,SNR=5.3
BRLK Bradley Lake 43.55 42 P P 05 21 25.8 +0.2
BRLK IAmb IAmb 05 22 00.9
comp=Z,62nm,1.4s
G23K Bananza Creek 43.59 32 P P 05 21 25.8 -0.1
baz=269,SNR=12
BRSE Bradley Lake S 43.62 42 P P 05 21 26.5 +0.4
baz=276
SMPI Sarmi 43.63 186 P P 05 21 28.3 +1.8
comp=Z,65nm,1.2s
SWI Sorong 43.65 197 P P 05 21 27.8 +1.1
comp=Z,154nm,0.9s
SIJI Sorong 43.66 197 P P 05 21 27.8 +1.0
comp=Z,98nm,0.7s,baz=8.1,slow=9.7,SNR=46
comp=Z,98nm,0.7s
RKPI Ransiki, Papua 43.72 193 P P 05 21 28.1 +0.8
comp=Z,62nm,1.0s
M22K Willow 43.74 39 P P 05 21 26.8 -0.1
baz=275
CHTO Chiang Mai 43.75 252 P P 05 21 27.1 -0.5
CHTO Chiang Mai 43.75 252 P P 05 21 27.1 -0.5
CHTO pmax pmax
comp=Z,1.0nm,0.7s
CHTO Chiang Mai 43.75 252 P P 05 21 28.1 +0.5
CHTO Chiang Mai 43.75 252 P P 05 21 28.1 +0.5
CHTO Chiang Mai 43.75 252 P P 05 21 27.7 +0.1
CHTO pP pP 05 21 37.8 +0.8
CHTO sP sP 05 21 43.3 +2.4
E23K Chandalar 43.78 30 P P 05 21 27.3 0.0
baz=268,SNR=8.0
H23K Yukon River 43.79 33 P P 05 21 28.0 +0.6
H23K IAMs_20 IAMs_20 05 39 09.6
comp=Z,988nm,21.0s
H23K Yukon River 43.79 33 P P 05 21 27.6 +0.2
baz=271,SNR=8.2
TOLK Toolik Lake Re 43.81 29 P P 05 21 28.8 +1.3
TOLK IAmb IAmb 05 22 24.8
comp=Z,84nm,1.9s
TOLK Toolik Lake Re 43.81 29 IAMs_20 IAMs_20 05 40 30.1
comp=Z,1µm,21.0s
TOLK Toolik Lake Re 43.81 29 P P 05 21 27.5 0.0
baz=268
BWN Browne 43.88 36 P P 05 21 29.8 +1.7
RC01 Rabbit Creek A 43.98 40 P P 05 21 28.7 -0.2
RC01 Rabbit Creek A 43.98 40 P P 05 21 28.3 -0.6
baz=276,SNR=7.1
CM31 Chiang Mai Arr 43.99 252 P P 05 21 29.9 +0.4
CM31 IAmb IAmb 05 22 09.2
comp=Z,49nm,1.4s
CMAR Chiang Mai Arr 43.99 252 P P 05 21 29.7 +0.2
comp=Z,5.9nm,0.7s,baz=41,slow=7.3,SNR=23
comp=Z,5.9nm,0.7s
CMAR Chiang Mai Arr 43.99 252 P P 05 21 29.5 0.0
CMAR Chiang Mai Arr 43.99 252 P P 05 21 29.5 0.0
NEA2 Nenana 44.03 35 P P 05 21 29.9 +0.7
NEA2 IAmb IAmb 05 21 48.0
comp=Z,30nm,0.6s
NEA2 Nenana 44.03 35 P P 05 21 29.3 0.0
baz=272,SNR=42
O22K Cooper Landing 44.05 41 P P 05 21 29.3 -0.1
baz=276
D24K Happy Valley 44.10 29 P P 05 21 29.8 0.0
baz=268,SNR=14
GENI Genyem 44.13 184 P P 05 21 32.3 +1.8
comp=Z,86nm,1.1s
GENI Genyem 44.13 184 P P 05 21 32.7 +2.2
MCK McKinley 44.14 36 P P 05 21 30.2 0.0
MCK IAmb IAmb 05 21 54.9
comp=Z,36nm,1.2s
MCK IAMs_20 IAMs_20 05 40 18.7
comp=Z,1µm,22.0s
MCK McKinley 44.14 36 P P 05 21 30.2 0.0
MCK pmax pmax
comp=Z,36nm,1.2s
MCK MLR MLR
comp=Z,1µm,22.0s
MCK McKinley 44.14 36 P P 05 21 29.7 -0.5
baz=274,SNR=12
C24K Franklin Bluff 44.16 28 P P 05 21 30.4 +0.1
baz=268,SNR=5.8
KURK Kurchatov 44.18 305 P P 05 21 29.7 -0.9
KURK Kurchatov 44.18 305 IAMs_20 IAMs_20 05 38 24.4
comp=Z,2µm,22.0s
KURK Kurchatov 44.18 305 P P 05 21 29.7 -0.9
KURK pmax pmax
comp=Z,62nm,0.8s
KURK Kurchatov 44.18 305 P P 05 21 30.5 -0.1
KURK Kurchatov 44.18 305 P P 05 21 30.3 -0.3
KURK pP sP 05 21 42.6 -1.6
RND Reindeer 44.20 37 IAMs_20 IAMs_20 05 40 12.2
comp=Z,796nm,19.0s
E24K Your Creek 44.20 30 P P 05 21 30.6 -0.1
baz=269
PMR Palmer 44.22 39 P P 05 21 31.2 +0.4
baz=276,SNR=7.1
SEW Seward 44.23 42 P P 05 21 30.1 -0.8
SEW Seward 44.23 42 P P 05 21 30.7 -0.1
baz=277
GHO Glory Hole Cre 44.30 39 IAmb IAmb 05 21 53.7
comp=Z,62nm,1.1s
KMSI Cibinong 44.37 208 P P 05 21 33.3 +0.8
comp=Z,240nm,0.4s
MDM Murphy Dome 44.37 35 P P 05 21 32.7 +0.7
MDM IAmb IAmb 05 21 49.4
comp=Z,21nm,0.8s
WAT1 Susitna Watana 44.38 38 P P 05 21 31.9 -0.3
baz=275
LBMI Labuha 44.39 202 P P 05 21 33.3 +0.6
comp=Z,85nm,0.9s
F24K Squaw Lake 44.43 31 P P 05 21 33.9 +1.4
baz=271,SNR=7.6
WRH Wood River Hil 44.46 35 P P 05 21 33.0 +0.3
WRH IAMs_20 IAMs_20 05 38 48.3
comp=Z,1µm,22.0s
H24K Noodor Dome 44.48 33 IAMs_20 IAMs_20 05 39 22.7
comp=Z,910nm,21.0s
H24K Noodor Dome 44.48 33 P P 05 21 33.1 +0.2
baz=272,SNR=11
TCOL CIGO, UAF Yank 44.53 35 IAmb IAmb 05 21 50.8
comp=Z,40nm,0.8s
TCOL CIGO, UAF Yank 44.53 35 P P 05 21 33.7 +0.4
baz=273,SNR=11
COLA College 44.54 35 P P 05 21 33.8 +0.4
COLA IAmb IAmb 05 21 50.8
comp=Z,39nm,0.8s
COLA College 44.54 35 *i* P P 05 21 33.5 +0.2
COLA pmax pmax
comp=Z,29nm,0.8s
COLA College 44.54 35 P P 05 21 33.7 +0.4
baz=273
COLA College 44.54 35 P P 05 21 34.0 +0.7
COLA sP sP 05 21 49.8 +2.9
KNK Knik Glacier 44.56 40 P P 05 21 34.1 +0.5
KNK IAmb IAmb 05 21 54.1
comp=Z,94nm,1.6s
KNK IAMs_20 IAMs_20 05 41 12.0
comp=Z,885nm,21.0s
KNK Knik Glacier 44.56 40 P P 05 21 33.4 -0.2
baz=276,SNR=7.5
CCB Clear Creek Bu 44.57 35 P P 05 21 33.0 -0.5
SML Sawmill 44.58 39 P P 05 21 34.1 +0.3
SML IAmb IAmb 05 21 51.1
comp=Z,52nm,0.9s
SML Sawmill 44.58 39 P P 05 21 33.8 0.0
baz=276,SNR=12
G24K Hadweenzic Riv 44.61 32 P P 05 21 34.1 +0.2
baz=272
GTOI Gorontalo 44.66 209 P P 05 21 34.9 +0.1
comp=Z,457nmcomp=Z,45nm,1.1s
PWL Port Wells 44.69 40 IAmb IAmb 05 22 17.2
comp=Z,42nm,1.3s
PWL IAMs_20 IAMs_20 05 43 46.3
comp=Z,921nm,21.0s
PWL Port Wells 44.69 40 P P 05 21 34.5 -0.1
baz=277
POKR Poker Plat Res 44.70 34 IAmb IAmb 05 21 41.6
comp=Z,30nm,0.9s
POKR IAMs_20 IAMs_20 05 39 28.6
comp=Z,1µm,22.0s
POKR Poker Plat Res 44.70 34 P P 05 21 35.1 +0.5
baz=273
WAT6 Susitna Watana 44.77 38 P P 05 21 35.2 -0.2
baz=276
DHY Denali Highway 44.89 37 P P 05 21 36.8 +0.4
DHY IAmb IAmb 05 22 19.6
comp=Z,34nm,1.1s
DHY Denali Highway 44.89 37 P P 05 21 36.0 -0.3
baz=276,SNR=14
IL31 44.96 35 P P 05 21 36.4 -0.2
IL31 IAmb IAmb 05 22 09.7
comp=Z,27nm,1.0s
ILAR Eielson Array 44.96 35 P P 05 21 36.5 -0.2
comp=Z,18nm,0.9s,baz=262,slow=5.6,SNR=75
comp=Z,18nm,0.9s
HDA Harding Lake 44.96 35 IAmb IAmb 05 22 18.1
comp=Z,27nm,1.2s
HDA Harding Lake 44.96 35 P P 05 21 36.4 -0.3
baz=275,SNR=13
D25K Kavik River 44.97 28 P P 05 21 36.9 +0.1
baz=270
SCM Sheep Creek Mo 45.05 39 P P 05 21 38.4 +0.9
SCM IAmb IAmb 05 21 55.3
comp=Z,28nm,0.8s
SCM Sheep Creek Mo 45.05 39 P P 05 21 38.4 +0.9
SCM pmax pmax
comp=Z,28nm,0.8s
SCM MLR MLR
comp=Z,900nm,22.0s
SCM Sheep Creek Mo 45.05 39 P P 05 21 37.6 +0.1
baz=277
TOLI2 Tolitoli 45.07 212 P P 05 21 37.2 -0.9
TOLI2 IAmb IAmb 05 21 38.9
comp=Z,23nm,0.9s
TOLI2 Tolitoli 45.07 212 P P 05 21 38.9 +0.8
MRSI Marisa 45.20 210 P P 05 21 40.3 +1.2
comp=Z,3µmcomp=Z,282nm,1.1s
P23K Montague Islan 45.26 42 P P 05 21 38.9 -0.3
baz=279
GLI Glacier Island 45.28 40 P P 05 21 39.2 -0.2
baz=278
F25K Christian Rive 45.29 31 P P 05 21 40.1 +0.8
baz=272
E25K Arctic Village 45.29 30 P P 05 21 40.4 +1.1
baz=272
H25K Birch Creek 45.29 33 P P 05 21 39.9 +0.6
baz=274,SNR=5.1
FAKI Fak Fak 45.44 195 P P 05 21 40.9 -0.2
FAKI Fak Fak 45.44 195 P P 05 21 41.5 +0.5
comp=Z,1µmcomp=Z,164nm,1.0s
FAKI Fak Fak 45.44 195 P P 05 21 42.0 +1.0
PRP Porcupine Dome 45.47 34 P P 05 21 41.7 +0.7
PRP IAmb IAmb 05 21 58.4
comp=Z,28nm,0.8s
PRP IAMs_20 IAMs_20 05 39 52.0
comp=Z,920nm,22.0s
PRP Porcupine Dome 45.47 34 P P 05 21 41.5 +0.5
baz=275,SNR=30
C26K Camden Bay 45.48 27 P P 05 21 41.6 +0.9
baz=271
FYU Fort Yukon 45.51 32 P P 05 21 41.9 +0.9
FYU IAmb IAmb 05 21 55.9
comp=Z,31nm,0.6s
K24K Donnelly Dome 45.53 36 P P 05 21 41.5 +0.3
baz=276,SNR=11
M24K Tolsona, Glenn 45.55 38 P P 05 21 42.3 +0.8
M24K Tolsona, Glenn 45.55 38 P P 05 21 42.0 +0.5
baz=278,SNR=7.4
J25K Salcha River, 45.62 35 P P 05 21 41.1 -0.9
J25K Salcha River, 45.62 35 P P 05 21 41.9 -0.1
baz=276,SNR=6.7
BMAR Burnt Mountain 45.71 31 P P 05 21 43.6 +1.0
KLU Klutina 45.76 39 P P 05 21 43.5 +0.4
KLU IAmb IAmb 05 22 01.2
comp=Z,30nm,0.9s
KLU Klutina 45.76 39 P P 05 21 43.6 +0.4
baz=278,SNR=8.6
PAX Paxson 45.77 37 P P 05 21 42.6 -0.6
PAX Paxson 45.77 37 P P 05 21 42.6 -0.6
PAX pmax pmax
comp=Z,10.0nm,0.8s
PAX Paxson 45.77 37 P P 05 21 43.8 +0.5
baz=277
PDGK Podgornoye 45.84 294 P P 05 21 43.3 -0.8
F26K Sheenjek River 45.85 31 P P 05 21 44.6 +0.8
baz=274,SNR=9.9
DIV Divide 45.88 40 P P 05 21 43.5 -0.6
DIV IAmb IAmb 05 22 01.8
comp=Z,29nm,0.8s
C27K Jago River 45.91 28 P P 05 21 44.5 +0.4
baz=272,SNR=5.8
SHLS Shalkode 45.92 294 *eP* P 05 21 42.3 -2.4
SHLS Shalkode 45.92 294 *eP* P 05 21 42.4 -2.4
baz=294
RIDG Independent Ri 45.95 36 IAmb IAmb 05 22 48.9
comp=Z,42nm,1.4s
RIDG IAMs_20 IAMs_20 05 39 34.6
comp=Z,1µm,21.0s
RIDG Independent Ri 45.95 36 P P 05 21 44.6 0.0
baz=277
HARP HAARP 45.98 38 P P 05 21 45.7 +0.8
baz=278,SNR=14
EYAK Cordova Ski Ar 45.99 41 P P 05 21 46.1 +1.3
EYAK IAmb IAmb 05 22 02.5
comp=Z,20nm,0.7s
EYAK Cordova Ski Ar 45.99 41 P P 05 21 45.0 +0.2
baz=279
TDK Taldyqorghan 45.99 297 *eP* P 05 21 45.7 +0.6
TDK pmax pmax
comp=Z,23nm,0.5s
TDK Taldyqorghan 45.99 297 *eP* P 05 21 45.7 +0.6
comp=Z,23nm,0.5s,baz=297
G26K Porcupine Rive 46.05 32 P P 05 21 46.1 +0.8
baz=275,SNR=12
MPSI Mapaga 46.13 213 P P 05 21 46.8 +0.3
comp=Z,834nmcomp=Z,38nm,1.3s
SANI Sanana 46.17 204 P P 05 21 46.2 -0.6
comp=Z,2µmcomp=Z,198nm,1.0s
SANI Sanana 46.17 204 P P 05 21 47.1 +0.3
UZB Uzynbulak 46.22 294 *eP* P 05 21 46.9 -0.3
UZB Uzynbulak 46.22 294 *eP* P 05 21 46.9 -0.3
baz=294
SCRK Sand Creek 46.29 36 P P 05 21 47.3 -0.1
SCRK IAmb IAmb 05 22 11.6
comp=Z,24nm,0.8s
SCRK Sand Creek 46.29 36 P P 05 21 47.0 -0.4
baz=278,SNR=40
LUWI Luwuk 46.30 209 P P 05 21 45.8 -2.0
LUWI Luwuk 46.30 209 P P 05 21 45.8 -2.0
comp=Z,2µmcomp=Z,100nm,1.2s
DOT Dot Lake 46.30 36 P P 05 21 47.4 0.0
DOT IAmb IAmb 05 22 00.5
comp=Z,13nm,0.6s
KPKS Kokpek 46.34 295 *eP* P 05 21 48.0 0.0
KPKS pmax pmax
comp=Z,10.0nm,0.7s
KPKS Kokpek 46.34 295 *eP* P 05 21 48.1 0.0
comp=Z,9.9nm,0.7s,baz=295
N25K Chitina, Valde 46.37 39 P P 05 21 47.6 -0.4
N25K IAMs_20 IAMs_20 05 39 18.8
comp=Z,951nm,21.0s
N25K Chitina, Valde 46.37 39 P P 05 21 48.0 +0.1
baz=279
J26L Joseph Creek 46.41 35 P P 05 21 48.4 +0.1
baz=277,SNR=17
BMRM Bremner River 46.47 40 P P 05 21 50.0 +1.2
BMRM IAmb IAmb 05 22 27.7
comp=Z,23nm,0.8s
BMRM Bremner River 46.47 40 P P 05 21 49.0 +0.3
baz=280
I26K Coal Creek Min 46.48 34 P P 05 21 48.2 -0.4
I26K IAMs_20 IAMs_20 05 40 21.6
comp=Z,1µm,22.0s
I26K Coal Creek Min 46.48 34 P P 05 21 48.7 0.0
baz=277
RAGM Ragged Mountai 46.54 41 IAMs_20 IAMs_20 05 41 44.3
comp=Z,1µm,20.0s
MENT Mentasta 46.56 37 P P 05 21 50.2 +0.8
MENT IAmb IAmb 05 22 07.3
comp=Z,23nm,1.0s
APSI Ampana 46.59 210 P P 05 21 48.4 -1.6
comp=Z,134nm,1.3s
ZHN Zhinishke 46.62 295 *eP* P 05 21 50.3 +0.1
ZHN Zhinishke 46.62 295 *eP* P 05 21 50.3 +0.1
baz=295
SATY Saty 46.67 294 *eP* P 05 21 50.8 +0.1
SATY pmax pmax
comp=Z,7.0nm,0.8s
SATY Saty 46.67 294 *eP* P 05 21 50.9 +0.1
comp=Z,7.2nm,0.8s,baz=294
L26K Log Cabin Wild 46.72 37 IAmb IAmb 05 22 25.2
comp=Z,26nm,0.9s
L26K IAMs_20 IAMs_20 05 42 12.0
comp=Z,903nm,20.0s
L26K Log Cabin Wild 46.72 37 P P 05 21 51.2 +0.6
baz=279,SNR=31
HMT Hamilton 46.75 41 IAMs_20 IAMs_20 05 39 53.0
comp=Z,1µm,22.0s
E27K Coleen River 46.77 30 P P 05 21 52.0 +1.0
baz=276
G27K Doyon Strip 46.90 32 P P 05 21 52.9 +0.9
baz=277
M26K Nabesna, AK 46.98 38 P P 05 21 53.4 +0.7
M26K IAmb IAmb 05 22 11.5
comp=Z,32nm,0.9s
M26K Nabesna, AK 46.98 38 P P 05 21 53.9 +1.2
baz=280,SNR=19
NLAI Namlea 46.98 202 P P 05 21 54.0 +0.9
comp=Z,25nm,0.9s
TAPN Taplejung 46.99 271 *eP* P 05 21 54.0 +0.5
comp=Z,51nm,0.5s
BERG Berg Lake 47.01 41 IAMs_20 IAMs_20 05 40 00.9
comp=Z,971nm,21.0s
H27K Steamboat Moun 47.03 32 P P 05 21 54.0 +1.0
baz=278,SNR=11
I27K Kandik River 47.08 33 P P 05 21 54.1 +0.7
baz=278,SNR=6.4
AAI Ambon 47.11 200 P P 05 21 56.0 +1.9
comp=Z,163nm,0.9s
K27K Chicken 47.12 35 IAmb IAmb 05 22 18.6
comp=Z,28nm,0.8s
K27K Chicken 47.12 35 P P 05 21 54.5 +0.8
baz=279
MCARA McCarthy VSAT 47.15 39 P P 05 21 54.3 +0.4
MCARA IAmb IAmb 05 21 57.3
comp=Z,26nm,0.8s
MCARA McCarthy VSAT 47.15 39 P P 05 21 55.0 +1.0
baz=281,SNR=10
CHKK Chushkaly 47.34 296 *eP* P 05 21 55.6 -0.2
CHKK Chushkaly 47.34 296 *eP* P 05 21 55.6 -0.2
baz=296
TGL Tana Glacier 47.36 40 P P 05 21 53.6 -2.2
EGAK Eagle 47.39 34 P P 05 21 55.4 -0.5
EGAK IAmb IAmb 05 22 19.2
comp=Z,38nm,1.2s
EGAK IAMs_20 IAMs_20 05 40 14.8

comp=Z,829nm,22.0s
EGAK Eagle 47.39 34 P P 05 21 56.0 +0.1
baz=279,SNR=11
L27K Beaver Creek, 47.39 37 P P 05 21 55.6 -0.3
L27K IAmb IAmb 05 22 16.6
comp=Z,50nm,1.2s
L27K Beaver Creek, 47.39 37 P P 05 21 57.0 +1.1
baz=280,SNR=42
BCAR Beaver Creek A 47.41 37 P P 05 21 56.5 +0.4
WAX Waxell Ridge 47.41 40 IAmb IAmb 05 22 17.9
comp=Z,42nm,1.0s
WAX IAMs_20 IAMs_20 05 40 27.5
comp=Z,1µm,20.0s
ODAN Odare 47.49 270 *e*P P 05 21 57.3 -0.1
comp=Z,28nm,1.8s
BNDI Bandanaira 47.50 198 P P 05 21 57.9 +0.8
comp=Z,9µmcomp=Z,490nm,1.0s
M27K Edge Creek, AK 47.50 38 IAmb IAmb 05 22 00.1
comp=Z,27nm,0.8s
M27K Edge Creek, AK 47.50 38 P P 05 21 58.1 +1.2
baz=281,SNR=21
MDOK Medeo 47.56 295 P P 05 21 57.7 +0.1
MDOK Medeo 47.56 295 *e*P P 05 21 58.0 +0.4
baz=295
TARG Taragay, Kyrgy 47.59 293 P P 05 21 57.8 -0.4
TARG IAmb IAmb 05 22 18.0
comp=Z,31nm,0.8s
TARG Taragay, Kyrgy 47.59 293 P P 05 21 57.8 -0.4
TARG pmax pmax
comp=Z,31nm,0.8s
AAA Alma-Ata 47.63 295 *e*P P 05 21 58.6 +0.5
AAA Alma-Ata 47.63 295 *e*P P 05 21 58.6 +0.5
baz=295
ISLE Juniper Island 47.63 40 IAMs_20 IAMs_20 05 40 46.2
comp=Z,1µm,22.0s
KUU Kurty 47.77 296 *d i*P P 05 21 58.6 -0.4
KUU pmax pmax
comp=Z,20nm,0.7s
KUU Kurty 47.77 296 ⇓ *i*P P 05 21 58.6 -0.4
comp=Z,20nm,0.7s,baz=296
SBUM Sibu 47.84 224 P P 05 21 58.7 -1.2
SBUM IAmb IAmb 05 22 01.7
comp=Z,46nm,1.4s
MESA MESA 47.91 41 IAMs_20 IAMs_20 05 43 18.6
comp=Z,853nm,20.0s
MESA MESA 47.91 41 P P 05 22 01.2 +1.0
baz=283
BVCY Beaver Creek 47.95 37 P P 05 22 01.2 +0.9
baz=282,SNR=16
JIRN Jiri 47.96 272 *e*P P 05 22 01.2 0.0
comp=Z,69nm,0.6s
YAH Yahtse 47.97 40 IAmb IAmb 05 22 14.1
comp=Z,24nm,0.8s
YAH IAMs_20 IAMs_20 05 40 43.1
comp=Z,1µm,21.0s
SMKI Samarinda 47.98 216 P P 05 22 01.8 +0.9
comp=Z,11µmcomp=Z,143nm,0.7s
CTG Chitna Glacier 48.03 39 P P 05 22 02.0 +1.0
baz=282
BRZS Berezniki 48.04 305 *e*P P 05 22 00.9 -0.1
BRZS Berezniki 48.04 305 *e*P P 05 22 01.0 -0.1
baz=305
CTGM Chitina Glacie 48.04 39 IAmb IAmb 05 22 14.3
comp=Z,22nm,0.8s
RAMN Ramite 48.04 271 *e*P P 05 22 01.2 -0.4
comp=Z,128nm,0.6s
GUN Gumba 48.06 272 *e*P P 05 22 02.1 +0.2
comp=Z,106nm,0.4s
TABL Table Mountain 48.24 40 P P 05 22 03.1 +0.3
YUK3 Moose Creek 48.27 38 P P 05 22 03.8 +0.8
baz=282,SNR=8.1
DAWY Dawson 48.27 35 P P 05 22 02.7 0.0
DAWY Dawson 48.27 35 P P 05 22 03.7 +1.0
baz=281,SNR=5.3
ULHL Ulahol 48.46 294 P P 05 22 05.9 +1.2
SNR=5.6
BVA0 Borovoye Array 48.47 310 *i*P P 05 22 04.0 -0.3
I29M Ogilvie Camp, 48.48 33 P P 05 22 05.0 +0.8
I29M IAmb IAmb 05 22 16.6
comp=Z,26nm,0.9s
I29M IAMs_20 IAMs_20 05 41 58.5
comp=Z,845nm,22.0s
I29M Ogilvie Camp, 48.48 33 P P 05 22 04.9 +0.7
baz=281,SNR=30
BRVK Borovoye 48.52 310 P P 05 22 03.9 -0.8
BRVK IAmb IAmb 05 22 21.6
comp=Z,23nm,0.8s
BRVK Borovoye 48.52 310 IAMs_20 IAMs_20 05 43 56.0
comp=Z,1µm,21.0s
BRVK Borovoye 48.52 310 P P 05 22 03.9 -0.8
BRVK pmax pmax
comp=Z,23nm,0.8s
BRVK MLR MLR
comp=Z,1µm,21.0s
BRVK Borovoye 48.52 310 P P 05 22 04.7 0.0
BRVK P P 05 22 04.7 0.0
BRVK Borovoye 48.52 310 P P 05 22 05.0 +0.3
KKN Kakani 48.58 273 *e*P P 05 22 05.5 -0.2
PKI Pulchoki 48.59 272 *e*P P 05 22 05.6 -0.4
comp=Z,43nm,0.6s
PKIN Phulchoki 48.60 272 *e*P P 05 22 05.6 -0.4
comp=Z,67nm,0.7s
O28M Mount Upton 48.62 40 P P 05 22 06.4 +0.6
baz=284,SNR=5.8
TKM2 Tokmak 2 48.63 295 P P 05 22 06.6 +0.6
SNR=60
TKM2 Tokmak 2 48.63 295 *i*P P 05 22 05.8 -0.2
TKM2 pmax pmax
comp=Z,76nm,0.8s
J29M Klondike Camp 48.70 34 IAMs_20 IAMs_20 05 41 43.3
comp=Z,769nm,21.0s
DMN Daman 48.80 273 *e*P P 05 22 07.2 -0.3
comp=Z,68nm,0.6s
OTUK Ortayu 48.82 303 P P 05 22 07.0 -0.1
BTLS Baital 48.87 299 *e*P P 05 22 07.1 -0.3
BTLS Baital 48.87 299 *e*P P 05 22 07.2 -0.3
baz=298
EPYK Eagle Plains 48.92 32 P P 05 22 08.4 +0.8
baz=282,SNR=16
GKN Gorkha 48.94 273 *e*P P 05 22 08.4 -0.1
comp=Z,80nm,0.5s
NRN Naryn 48.95 293 IAmb IAmb 05 22 59.7
comp=Z,24nm,1.2s
L29M L29M 49.03 36 P P 05 22 10.1 +1.5
baz=283,SNR=35
M29M Somme Creek 49.04 37 P P 05 22 10.0 +1.3
baz=283,SNR=6.6
SGDS Sogindy 49.08 296 *e*P P 05 22 09.3 +0.1
SGDS pmax pmax
comp=Z,10.0nm,1.0s
SGDS Sogindy 49.08 296 *e*P P 05 22 09.4 +0.1
comp=Z,10.0nm,1.0s,baz=296
BCPM Bancas Point 49.09 41 IAMs_20 IAMs_20 05 43 46.9
comp=Z,934nm,20.0s
K29M Barlow Dome 49.13 35 P P 05 22 10.5 +1.1
baz=283,SNR=25
KBK Karagaybulak 49.18 295 P P 05 22 10.6 +0.5
SNR=13
YUK4 Talbot Arm 49.22 39 P P 05 22 11.2 +1.0
baz=284
USP Ospenovka 49.24 296 P P 05 22 10.6 +0.2
SNR=11
PNL Peninsula 49.28 41 P P 05 22 11.3 +0.8
baz=285
DANN Dangsing 49.41 274 *e*P P 05 22 12.3 0.0
comp=Z,256nm,0.6s
YUK6 Outpost Mounta 49.45 39 P P 05 22 12.4 +0.4
baz=285
AAK Ala-Archa 49.49 295 P P 05 22 12.4 -0.2
SNR=9.6
AAK Ala-Archa 49.49 295 P P 05 22 11.4 -1.1
AAK IAmb IAmb 05 22 41.3
comp=Z,38nm,1.4s
AAK Ala-Archa 49.49 295 IAMs_20 IAMs_20 05 46 36.4
comp=Z,2µm,21.0s
AAK Ala-Archa 49.49 295 P P 05 22 11.4 -1.1
AAK pmax pmax
comp=Z,38nm,1.4s
AAK MLR MLR
comp=Z,2µm,21.0s
AAK Ala-Archa 49.49 295 P P 05 22 13.0 +0.5
AAK P P 05 22 13.0 +0.5
AAK Ala-Archa 49.49 295 P P 05 22 12.5 0.0
AAK Ala-Archa 49.49 295 P P 05 22 13.0 +0.5
O29M Mount Kennedy 49.52 40 P P 05 22 12.7 +0.3
baz=285
UCH Uchtor 49.64 295 P P 05 22 15.5 +1.5
SNR=13
INK Inuvik 49.72 29 IAmb IAmb 05 23 04.8
comp=Z,22nm,1.1s
INK Inuvik 49.72 29 P P 05 22 14.1 +0.4
baz=283,SNR=9.2
KSH Kashi 49.77 291 P P 05 22 18.3 +3.7
KSH pmax pmax
comp=Z,12nm,1.3s
F31M Tsiigehtchic 49.84 30 P P 05 22 14.8 +0.3
baz=283
KOLN Koldanda 49.84 274 *e*P P 05 22 15.1 -0.3
HYT Haines Junctio 49.89 39 P P 05 22 17.0 +1.8
baz=286,SNR=54
MAYO Mayo, Yukon 49.89 35 P P 05 22 16.7 +1.6
MAYO Mayo, Yukon 49.89 35 P P 05 22 16.9 +1.8
baz=284,SNR=6.0
N30M Aishikik Lake 49.91 38 P P 05 22 16.3 +1.0
baz=285
EKS2 Erkin-Say 49.97 296 P P 05 22 16.2 +0.2
SNR=15
P29M Windy Craggy 50.10 41 P P 05 22 18.9 +2.1
P29M IAMs_20 IAMs_20 05 42 44.6
comp=Z,718nm,20.0s
P29M Windy Craggy 50.10 41 P P 05 22 18.2 +1.5
baz=286,SNR=20
SPSI Sidrap Palu 50.11 211 P P 05 22 16.4 -0.8
comp=Z,34nm,1.1s
AML Almayashu 50.24 295 P P 05 22 18.7 +0.3
SNR=6.2
P30M Million Dollar 50.34 40 P P 05 22 19.9 +1.4
baz=286
BNSI Bone 50.38 210 P P 05 22 19.2 0.0
comp=Z,42nm,1.1s
SRIT Nakonsritamara 50.46 242 P P 05 22 20.1 +0.2
N31M Braeburn, Yuko 50.51 38 P P 05 22 21.7 +1.9
N31M IAmb IAmb 05 22 23.6
comp=Z,28nm,0.8s
N31M Braeburn, Yuko 50.51 38 P P 05 22 20.8 +1.0
baz=286,SNR=18
O30N Mendenhall 50.57 39 P P 05 22 21.5 +1.2
baz=287,SNR=8.9
PLBC Pleasant Camp 50.82 41 P P 05 22 23.3 +1.2
baz=288,SNR=7.0
M31M Drury Creek, Y 50.93 37 P P 05 22 22.1 -0.9
M31M Drury Creek, Y 50.93 37 P P 05 22 24.7 +1.8
baz=287,SNR=12
KAPI Kappang 51.08 210 P P 05 22 25.0 +0.5
comp=Z,18nm,0.5s,baz=20,slow=5.2,SNR=16
comp=Z,13nm,0.5s
KAPI Kappang 51.08 210 P P 05 22 24.4 -0.1
KAPI Kappang 51.08 210 P P 05 22 24.4 -0.1
KAPI pmax pmax
comp=Z,114nm,1.6s
KAPI Kappang 51.08 210 P P 05 22 24.2 -0.3
KAPI P P 05 22 24.2 -0.3
KAPI Kappang 51.08 210 P P 05 22 25.4 +0.9
comp=Z,44nm,1.0s
KAPI Kappang 51.08 210 P P 05 22 24.9 +0.4
WHY Whitehorse 51.17 39 P P 05 22 24.1 -0.8
WHY Whitehorse 51.17 39 P P 05 22 26.4 +1.5
baz=288,SNR=6.0
SKAG Skagway 51.33 40 IAmb IAmb 05 23 07.0
comp=Z,24nm,1.3s
SKAG Skagway 51.33 40 P P 05 22 27.4 +1.5
baz=288
FARO Faro, Yukon 51.39 37 P P 05 22 27.4 +0.9
baz=288,SNR=13
A36M Sachs Harbour 51.51 23 P P 05 22 28.5 +1.4
baz=287
DZA Taraz 51.52 297 *e*P P 05 22 27.6 0.0
DZA pmax pmax
comp=Z,12nm,0.8s
DZA Taraz 51.52 297 *e*P P 05 22 27.7 0.0
comp=Z,12nm,0.8s,baz=297
BESE Bessie Mountai 51.84 41 IAmb IAmb 05 22 44.6
comp=Z,75nm,1.8s
N32M Quiet Lake 51.85 38 P P 05 22 30.8 +0.9
baz=289
KK31 Karatay Array 51.97 298 P P 05 22 30.7 -0.3
KK31 IAmb IAmb 05 22 48.3
comp=Z,18nm,0.9s
KK31 Karatay Array 51.97 298 *i*P P 05 22 30.6 -0.4
KKAR Karatay Array 51.97 298 P P 05 22 30.4 -0.6
KKAR Karatay Array 51.97 298 P P 05 22 30.4 -0.6
P32M Atlin 52.06 40 P P 05 22 32.4 +0.9
baz=289
R32K Eaglecrest 52.11 42 P P 05 22 32.7 +0.9
baz=290
SIT Sitka 52.12 43 P P 05 22 32.5 +0.6
baz=290
JIS Juneau Island 52.18 42 P P 05 22 34.4 +2.2
JIS IAmb IAmb 05 22 55.5
comp=Z,83nm,1.8s
MMPY Sheldon Lake, 52.19 36 P P 05 22 33.7 +1.3
baz=289,SNR=7.1
KULM Kulim 52.26 238 IAmb IAmb 05 22 50.9
comp=Z,32nm,0.8s
KULM IAMs_20 IAMs_20 05 40 03.7
comp=Z,2µm,22.0s
P33M Teslin, Yukon 52.28 39 IAmb IAmb 05 22 36.3
comp=Z,24nm,1.0s
P33M IAMs_20 IAMs_20 05 43 35.1
comp=Z,962nm,22.0s
P33M Teslin, Yukon 52.28 39 P P 05 22 34.4 +1.3
baz=290,SNR=16
S32K Killisnoo 52.36 43 P P 05 22 34.6 +1.0
baz=290
IPM Ipoh 52.65 237 IAmb IAmb 05 22 52.9
comp=Z,16nm,0.8s
IPM IAMs_20 IAMs_20 05 39 44.9
comp=Z,2µm,22.0s
IPM Ipoh 52.65 237 P P 05 22 38.1 +1.8
comp=Z,25nm,1.2s
IUG luzhnay 52.70 297 *e*P P 05 22 36.7 +0.2
IUG luzhnay 52.70 297 *e*P P 05 22 36.8 +0.2
baz=297
C36M Paulatuk 52.72 26 P P 05 22 35.2 -0.9
C36M IAmb IAmb 05 22 54.8
comp=Z,17nm,0.8s
C36M Paulatuk 52.72 26 P P 05 22 36.5 +0.4
baz=290
Q32M Nakina River 52.98 40 P P 05 22 39.5 +1.0
baz=291
BTK Batken 53.09 294 IAmb IAmb 05 23 01.6
comp=Z,51nm,1.4s
HNR Honiara 53.18 159 IAMs_20 IAMs_20 05 48 37.7
comp=Z,2µm,20.0s
R33M Jennings River 53.45 39 P P 05 22 43.1 +1.3
baz=291,SNR=7.1
U33K Whale Pass 53.60 44 P P 05 22 43.0 +0.3
baz=292
ARU Arti 53.77 317 P P 05 22 43.0 -1.1
ARU Arti 53.77 317 *d i*P P 05 22 44.0 0.0
ARU 05 23 48.7
ARU 05 24 41.7
ARU S S 05 30 18.4 +2.4
ARU SS SS 05 34 00.9 +4.4
ARU pmax pmax
comp=Z,43nm,0.7s
ARU MLR MLR
comp=Z,2µm,16.0s
ARU Arti 53.77 317 P P 05 22 44.0 0.0
ARU pP sP 05 22 55.5 -2.1
CRAG Craig 53.84 45 P P 05 22 45.0 +0.4
baz=293
TGTN Hyland Airport 53.89 36 P P 05 22 47.1 +2.2
baz=292,SNR=7.1
S34M Telegraph Cree 53.92 41 P P 05 22 46.6 +1.5
baz=292
GAR Garm 53.92 293 P P 05 22 45.2 -0.4
SOEI Soe 53.99 203 P P 05 22 46.4 +0.2
WTLY Watson Lake, Y 54.19 38 P P 05 22 48.3 +1.1
baz=292
DLBC Dease Lake 54.26 40 P P 05 22 46.4 -1.3
DLBC IAmb IAmb 05 23 06.1
comp=Z,50nm,1.6s
DLBC Dease Lake 54.26 40 P P 05 22 48.6 +0.9
baz=293
BATI Baumata 54.60 204 P P 05 22 50.3 -0.1
comp=Z,66nm,0.7s,baz=194,slow=1.2,SNR=6.8
comp=Z,66nm,0.7s
T35M Bob Quinn 54.73 42 P P 05 22 52.7 +1.7
baz=294
CHGR Chuyangaron 54.88 293 P P 05 22 51.6 -0.9
CHGR Chuyangaron 54.88 293 P P 05 22 51.6 -0.9
CHGR pmax pmax
comp=Z,117nm,1.0s
KDU Kakadu 54.95 193 P P 05 22 53.3 +0.4
WRGLY Wrigley 55.28 33 P P 05 22 56.5 +1.6
baz=294
MTN Manton Dam 55.33 194 P P 05 22 55.7 -0.1
MTN Manton Dam 55.33 194 P P 05 22 56.1 +0.4
COEN Coen 55.34 180 P P 05 22 56.0 +0.2
COEN Coen 55.34 180 P P 05 22 57.3 +1.5
comp=Z,65nm,1.2s
RPSI Rantau Prapat 55.35 238 IAmb IAmb 05 23 12.9
comp=Z,20nm,1.1s
HOPEN Hopen 55.86 345 *e*P P 05 22 59.3 +0.5
HOPEN IAmb IAmb 05 23 02.7
comp=Z,26nm,0.9s
BKNI Bangkinang 55.89 234 IAMs_20 IAMs_20 05 41 25.7
comp=Z,1µm,22.0s
AB31 Akbulak array 55.97 308 *i*P P 05 22 59.4 -0.6
ABKAR Akbulak array 55.97 308 P P 05 22 59.5 -0.5
SPA0 Spitsbergen Ar 56.23 349 *e*P P 05 23 00.8 -0.7
SPA0 IAmb IAmb 05 23 03.7
comp=Z,12nm,1.1s
KBS Kingsbay 56.31 350 P P 05 23 00.7 -1.4
KBS IAmb IAmb 05 23 24.9
comp=Z,18nm,0.9s
KBS Kingsbay 56.31 350 P P 05 23 00.7 -1.4
KBS pmax pmax
comp=Z,18nm,1.0s
KBS MLR MLR
comp=Z,400nm,19.0s
KBS Kingsbay 56.31 350 *i*P P 05 22 58.8 -3.2
KBS Kingsbay 56.31 350 *e*P P 05 23 01.8 -0.3
KBS IAmb IAmb 05 23 05.9
comp=Z,15nm,1.1s
NOR Nord 56.51 356 *i*P P 05 23 01.9 -1.5
NOR IAmb IAmb 05 23 16.1
comp=Z,34nm,1.5s
AKTO Aktyubinsk 56.56 310 P P 05 23 04.2 -0.1
comp=Z,9.9nm,0.8s,baz=59,slow=12,SNR=1.8
comp=Z,9.9nm,0.8s
SMRI Semarang 56.91 220 P P 05 23 09.1 +2.0
KBL Kabul 56.99 289 P P 05 23 06.0 -1.8
KBL IAmb IAmb 05 23 34.3
comp=Z,32nm,0.9s
KBL Kabul 56.99 289 P P 05 23 06.0 -1.8
KBL pmax pmax
comp=Z,32nm,1.0s
KBL Kabul 56.99 289 P P 05 23 08.2 +0.3
SNR=9.5
KBL P P 05 23 08.2 +0.3
SNR=9.5
PRGR Permogore 57.59 326 *e*P P 05 23 09.3 -2.0
PRGR pmax pmax
comp=Z,28nm,0.8s
TNG Tangerang 58.05 224 P P 05 23 29.0 +14
LEM Lembang 58.11 223 P P 05 23 15.8 +0.1
comp=Z,69nm,0.9s,baz=71,slow=10,SNR=6.7
comp=Z,69nm,0.9s
LVZ Lovozero 58.41 335 IAMs_20 IAMs_20 05 48 12.5
comp=Z,794nm,21.0s
LVZ Lovozero 58.41 335 P P 05 23 15.1 -1.9
LVZ sP sP 05 23 31.6 +0.8
KNRA Kununurra 58.55 196 P P 05 23 18.5 0.0
KNRA Kununurra 58.55 196 P P 05 23 19.1 +0.6
APA Apatity 58.99 335 ⇓ *i*P P 05 23 17.3 -3.7
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,600nm,11.0s
YKA Yellowknife Ar 59.21 32 P P 05 23 22.4 -0.2
comp=Z,5.9nm,0.7s,baz=302,slow=6.7,SNR=15
comp=Z,5.9nm,0.7s
MTSU Mount Surprise 59.51 179 P P 05 23 26.6 +1.4
KEV Kevo 59.56 339 P P 05 23 23.6 -1.3
KEV IAmb IAmb 05 23 41.5
comp=Z,16nm,0.7s
KEV IAMs_20 IAMs_20 05 51 26.8
comp=Z,615nm,22.0s
KEV Kevo 59.56 339 P P 05 23 23.6 -1.3
KEV pmax pmax
comp=Z,16nm,0.7s
KEV MLR MLR
comp=Z,600nm,22.0s
KEV Kevo 59.56 339 P P 05 23 24.0 -0.9
KEV pP sP 05 23 37.1 -1.6
HYBB Hyderabad (bro 59.63 267 *e*P P 05 23 25.9 -0.3
HYBB IVmB_BB 05 23 27.2
comp=Z,234nm,1.4s
HAMF Hammerfest 59.86 340 *e*P P 05 23 26.4 -0.6
HAMF IAmb IAmb 05 23 26.6
comp=Z,62nm,1.8s
ARA0 ARCESS Array S 60.11 339 *e*P P 05 23 28.3 -0.5
ARA0 IAmb IAmb 05 23 31.0
comp=Z,12nm,1.0s
ARCES ARCESS Array B 60.11 339 P P 05 23 28.0 -0.7
comp=Z,2.5nm,0.5s,baz=49,slow=8.3,SNR=28
comp=Z,2.5nm,0.5s
ARCES ARCESS Array B 60.11 339 P P 05 23 27.5 -1.3
ARCES IAmb IAmb 05 23 30.4
comp=Z,54nm,1.9s
ARCES ARCESS Array B 60.11 339 P P 05 23 27.5 -1.3
TULEG Thule 60.35 8 *e*P P 05 23 28.3 -1.9
TULEG IAmb IAmb 05 23 29.6
comp=Z,442nm,2.3s
KLMR Klimovskoe 60.53 327 *e*P P 05 23 29.0 -2.6
KLMR pmax pmax
comp=Z,74nm,1.5s
KLMR Klimovskoe 60.53 327 *e*P P 05 23 29.1 -2.6
KLMR AMP 05 23 33.3
comp=Z,74nm,1.5s
NEEM North Greenlan 60.84 3 *i*P P 05 23 33.7 -0.2
NEEM IAmb IAmb 05 23 53.9
comp=Z,43nm,1.0s
KTK1 Kautokeino 61.06 339 *e*P P 05 23 35.0 -0.2
KTK1 IAmb IAmb 05 23 37.0
comp=Z,16nm,0.7s
DAG Danmarks Havn 61.27 355 *i*P P 05 23 32.9 -3.6
DAG IAmb IAmb 05 23 49.7
comp=Z,84nm,1.7s
BELG Belogornoye 61.29 316 *i*P P 05 23 36.7 -0.3
BELG pmax pmax
comp=Z,13nm,1.0s
JETT Jettan, Norway 61.43 340 *e*P P 05 23 37.6 -0.1
JETT IAmb IAmb 05 23 39.5
comp=Z,22nm,0.7s
CTA Charters Tower 61.52 177 P P 05 23 39.0 +0.2
comp=Z,3.6nm,0.5s,baz=351,slow=5.7,SNR=8.5
comp=Z,3.6nm,0.5s
CTA Charters Tower 61.52 177 P P 05 23 39.0 +0.2
CTAO Charters Tower 61.52 177 P P 05 23 38.3 -0.5
CTAO Charters Tower 61.52 177 P P 05 23 38.3 -0.5
CTAO pmax pmax
comp=Z,11nm,1.0s
CTAO Charters Tower 61.52 177 P P 05 23 39.1 +0.3
CTAO Charters Tower 61.52 177 P P 05 23 39.0 +0.2
CTAO pP sP 05 23 50.6 -1.9
FITZ Fitzroy Crossi 61.60 199 P P 05 23 39.6 +0.3
comp=Z,26nm,1.0s,baz=0.6,slow=6.0,SNR=30
comp=Z,26nm,1.0s
FITZ Fitzroy Crossi 61.60 199 P P 05 23 39.7 +0.4
FITZ Fitzroy Crossi 61.60 199 P P 05 23 40.0 +0.6
WB0 Warramunga Arr 61.64 189 P P 05 23 38.9 -0.7
TRO Tromso 61.74 341 *e*P P 05 23 39.5 -0.3
TRO IAmb IAmb 05 23 40.9
comp=Z,28nm,0.9s
WRAB Tennant Creek 61.81 189 P P 05 23 39.8 -1.0
WRAB Tennant Creek 61.81 189 P P 05 23 39.8 -1.0
WRAB pmax pmax
comp=Z,75nm,0.9s
WRAB Tennant Creek 61.81 189 P P 05 23 40.7 -0.1
WRAB Tennant Creek 61.81 189 P P 05 23 40.4 -0.4
WR0 Warramunga Arr 61.81 189 P P 05 23 40.4 -0.4
WB2 Warramunga Arr 61.82 189 P P 05 23 40.3 -0.5
WRA Warramunga Arr 61.82 189 P P 05 23 40.3 -0.5
comp=Z,59nm,0.8s,baz=6.9,slow=6.9,SNR=173
comp=Z,59nm,0.8s
WRA Warramunga Arr 61.82 189 P P 05 23 39.7 -1.2
WRA Warramunga Arr 61.82 189 P P 05 23 39.7 -1.2
WRA pmax pmax
comp=Z,12nm,1.2s
HRA Herat 61.84 292 P P 05 23 41.1 -0.2
QIS Mount Isa 61.99 184 P P 05 23 42.4 +0.4
LLLB Lillooet 62.10 46 IAmb IAmb 05 24 09.6
comp=Z,16nm,0.9s
GEYT Alibeck 62.73 298 P P 05 23 47.5 +0.5
comp=Z,4.9nm,0.7s,baz=86,slow=4.6,SNR=5.7
comp=Z,4.9nm,0.7s

GEYT	Alibeck	62.73	298		P		P		05 23 46.9	-0.1
GYA0B	ALIBECK ARRAY	62.73	298		P		P		05 23 47.4	+0.4
E03A	Lebam	63.37	50		P		P		05 23 52.1	+1.1
E03A	comp=Z,37nm,1.1s				IAmb		IAmb		05 24 16.5	
B06A	Marblemount	63.46	48		IAmb		IAmb		05 24 13.1	
VALR	comp=Z,15nm,0.8s Valaam	63.61	330	*i*	P		P		05 23 52.1	-0.2
	comp=Z,39nm,0.9s				pmax		pmax			
STEI	Steigen	63.91	341	*e*	P		P		05 23 53.7	-0.5
STEI	comp=Z,14nm,0.8s				IAmb		IAmb		05 23 55.6	
LOF	Lofoten	64.17	341	*e*	P		P		05 23 55.8	-0.1
G03D	McMinnville, O	64.28	52		P		P		05 23 57.9	+0.8
MOS	baz=304 Moscow	64.29	323	*e*	P		P		05 23 56.9	0.0
MOS				*e*					05 24 30.6	
MOS				*e*	S		S		05 32 28.6	-3.6
MOS	comp=Z,75nm,1.5s				pmax		pmax			
MOS	comp=Z,900nm,18.0s				MLR		MLR			
FAUS	Fauske	64.31	340	*e*	P		P		05 23 56.6	-0.2
FAUS	comp=Z,35nm,0.9s				IAmb		IAmb		05 23 58.1	
LTY	Liberty	64.62	49		IAmb		IAmb		05 24 23.7	
B08A	comp=Z,37nm,1.6s Colville Reser	64.73	47		P		P		05 24 00.4	+0.4
B08A	comp=Z,28nm,1.4s				IAmb		IAmb		05 24 13.8	
H04D	Lebanon	64.97	52		P		P		05 24 03.4	+1.8
EDM	baz=304 Edmonton	64.98	40		P		P		05 24 00.4	-1.2
EDM	comp=Z,42nm,1.3s				IAmb		IAmb		05 24 17.8	
EDM	Edmonton	64.98	40		P		P		05 24 00.4	-1.2
EDM	comp=Z,42nm,1.3s				pmax		pmax			
VRH	Novokhopyorsk	65.00	317	*e*	P		P		05 24 01.8	+0.2
VRH	comp=Z,30nm,1.0s				pmax		pmax			
J01E	Myrtle Point	65.03	54		P		P		05 24 03.4	+1.4
I03D	baz=304 Drain, OR	65.08	53		P		P		05 24 03.5	+1.2
OBN	baz=304 Obninsk	65.15	323	⇑ *e*	P		P		05 24 02.8	+0.3
OBN				*e*					05 26 21.5	
OBN				*e*	SS		SS		05 36 57.9	+3.3
OBN	comp=Z,56nm,1.5s				pmax		pmax			
OBN	comp=Z,1µm,18.0s				MLR		MLR			
H04A	Detroit Lake	65.21	52		IAmb		IAmb		05 24 06.3	
FIA1	comp=Z,11nm,0.7s FINESS Array S	65.30	332		P		P		05 24 02.4	-1.0
FINES	FINESS Array B	65.30	332		P		P		05 24 02.5	-0.9
FINES	comp=Z,21nm,0.6s,baz=52,slow=6.7,SNR=63 FINESS Array B	65.30	332		P		P		05 24 02.0	-1.3
FINES	comp=Z,21nm,0.6s FINESS Array B	65.30	332		P		P		05 24 02.1	-1.3
G05D	Wamic, OR	65.40	51		P		P		05 24 05.9	+1.5
MOR8	baz=305 Moi Rana	65.45	340	*e*	P		P		05 24 02.6	-1.7
MOR8	comp=Z,35nm,0.8s				IAmb		IAmb		05 24 04.3	
K02D	Willamette Mer	65.46	54		P		P		05 24 06.0	+1.2
AS31	baz=305 Alice Springs	65.55	189		P		P		05 24 04.4	-1.0
ASAR	Alice Springs	65.55	189		P		P		05 24 05.6	+0.1
LPSR	comp=Z,29nm,0.9s,baz=8.1,slow=5.5,SNR=170 comp=Z,29nm,0.9s Galich'ya Gora	65.56	319	*e*	P		P		05 24 05.0	-0.2
LPSR	comp=Z,20nm,1.0s				pmax		pmax			
I04A	Tendick Farm,	65.58	52		P		P		05 24 07.4	+1.8
C09A	baz=305 Chrisman Ranch	65.64	47		IAmb		IAmb		05 24 29.6	
STOK	comp=Z,31nm,1.2s Stokkvaagen	65.69	340	*e*	P		P		05 24 05.1	-0.8
D08A	Wollman Farm,	65.71	48		IAmb		IAmb		05 24 09.1	
JMIC	comp=Z,11nm,0.7s Jan Mayen	65.80	350	*e*	P		P		05 24 05.6	-0.9
L02F	Cave Junction	65.84	54		P		P		05 24 08.9	+1.6
I05D	baz=305 Terrebonne, OR	65.90	51		P		P		05 24 09.1	+1.4
HUMO	baz=305,SNR=8.8 Hull Mountain	65.94	54		P		P		05 24 06.8	-1.1
HUMO	comp=Z,30nm,1.6s				IAmb		IAmb		05 24 21.1	
E08A	Dider Farm, El	65.96	49		IAmb		IAmb		05 24 10.9	
VORR	comp=Z,13nm,0.7s Voronezh	65.98	319	*e*	P		P		05 24 09.0	+1.0
VORR	comp=Z,70nm,0.4s				pmax		pmax			
NEW	Newport	65.99	46		P		P		05 24 07.7	-0.5
NEW	comp=Z,27nm,1.4s				IAmb		IAmb		05 24 21.8	
NEW	Newport	65.99	46		P		P		05 24 07.7	-0.5
NEW	comp=Z,27nm,1.4s				pmax		pmax			
SUMG	baz=306,SNR=11 Summit	66.05	0		P		P		05 24 08.5	-0.1
SUMG	Summit	66.05	0		P		P		05 24 08.5	-0.1
SUMG	comp=Z,31nm,0.8s				pmax		pmax			
SUMG	Summit	66.05	0	*i*	P		P		05 24 09.0	+0.4
J04D	comp=Z,33nm,0.8s Umpqua Nationa	66.08	53		IAmb		IAmb		05 24 20.4	
J04D	comp=Z,25nm,0.7s Umpqua Nationa	66.08	53		P		P		05 24 12.4	
MBWA	baz=305 Marble Bar	66.12	204		P		P		05 24 10.6	+1.5
MBWA	Marble Bar	66.12	204		P		P		05 24 08.7	-0.4
MBWA	Marble Bar	66.12	204		P		P		05 24 09.2	+0.1
MBWA	Marble Bar	66.12	204		P		P		05 24 09.6	+0.5
VSR	Marble Bar	66.12	204		P		P		05 24 09.1	0.0
VSR	Storozhevoye	66.28	318	*e*	P		P		05 24 09.4	-0.5
PINE	comp=Z,30nm,0.7s Pine Mountain	66.45	52		IAmb		IAmb		05 24 35.2	
E09A	comp=Z,24nm,0.8s Wood Farm, Sta	66.46	48		P		P		05 24 10.7	-0.4
E09A	comp=Z,38nm,1.2s				IAmb		IAmb		05 24 25.8	
PSA00	Pilbara Seismi	66.48	204		P		P		05 24 10.4	-1.0
PSA00	comp=Z,29nm,1.2s				IAmb		IAmb		05 24 12.4	
PSA00	Pilbara Seismi	66.48	204		P		P		05 24 11.7	+0.3
L04D	Klamath Falls	66.56	54		P		P		05 24 13.7	+1.7
L04D	comp=Z,23nm,0.8s				IAmb		IAmb		05 24 15.4	
L04D	Klamath Falls	66.56	54		P		P		05 24 13.7	+1.7
J05D	baz=306 Fort Rock, OR	66.58	52		P		P		05 24 14.4	+2.2
YBH	baz=306,SNR=8.0 Yreka Blue Hor	66.59	54		P		P		05 24 11.8	-0.4
YBH	Yreka Blue Hor	66.59	54		P		P		05 24 11.8	-0.4
YBH	comp=Z,17nm,1.4s				pmax		pmax			
G08A	Pilot Rock	66.72	50		P		P		05 24 13.6	+0.6
MEF	Metsahovi	66.75	332	*e*	P		P		05 24 12.9	+0.2
RAF	Rauma	67.09	333	*e*	P		P		05 24 14.4	-0.5
VSU	Vasula	67.10	329	*i*	P		P		05 24 14.8	-0.2
VSU	Vasula	67.10	329	*e*	P		P		05 24 15.5	+0.5
K05A	Summer Lake	67.11	53		IAmb		IAmb		05 24 50.2	
EIDS	comp=Z,39nm,1.2s Eidsvold	67.12	172		P		P		05 24 16.4	+1.0
F10A	Beach Ranch, E	67.29	48		P		P		05 24 16.2	-0.4
NSS	Namsos	67.39	339	*e*	P		P		05 24 15.5	-1.2
MSVF	Nonsavu	67.41	144		IAMs_20		IAMs_20		05 57 18.7	
GROC	comp=Z,1µm,21.0s Groznyy	67.48	308		P		P		05 24 19.3	+1.6
GROC				*e*					05 24 45.1	
WRKA	Warakurna	67.75	194		P		P		05 24 20.0	+0.5
QLP	Quilpie	67.92	179		P		P		05 24 22.4	+2.0
MOD	Modoc Plateau	67.95	53		P		P		05 24 20.1	-0.8
RMQ	Roma	68.02	174		P		P		05 24 23.2	+2.1
MTSE	Matsula	68.02	331	*e*	P		P		05 24 20.5	-0.3
MSO	Missoula	68.57	46		P		P		05 24 25.9	+1.3
MSO	comp=Z,26nm,1.4s				IAmb		IAmb		05 24 37.5	
MSO	Missoula	68.57	46		P		P		05 24 26.4	+1.7
	baz=308,SNR=5.7									

ORV	Oroville	68.62	56		P		P		05 24 24.6	-0.3
ORV	comp=Z,29nm,1.6s				IAmb		IAmb		05 24 37.8	
ORV	Oroville	68.62	56		P		P		05 24 24.6	-0.3
ORV	comp=Z,29nm,1.6s				pmax		pmax			
WVOR	Wild Horse Val	68.62	52		P		P		05 24 25.3	+0.3
WVOR	Wild Horse Val	68.62	52		P		P		05 24 25.3	+0.3
WVOR	comp=Z,10.0nm,1.2s				pmax		pmax			
KIV	Kislovodsk	68.83	310	⇑	P		P		05 24 28.5	+2.2
KIV	Kislovodsk	68.83	310		P		P		05 24 27.5	+1.3
KIV	Kislovodsk	68.83	310	*e*	P		P		05 24 27.6	+1.3
KIV				*e*	S		S		05 33 29.2	+1.4
KIV	comp=Z,51nm,1.0s				pmax		pmax			
KIV	comp=Z,23nm,4.4s				pmax		pmax			
KIV	Kislovodsk	68.83	310		P		P		05 24 27.5	+1.3
KIV					P		P		05 24 27.5	+1.3
KIV	Kislovodsk	68.83	310		P		P		05 24 27.0	+0.8
KIV	Kislovodsk	68.83	310		P		P		05 24 27.7	+1.3
KIV					pP		pP		05 24 38.2	+2.0
KIV					sP		sP		05 24 43.2	+3.1
ZEI	Tsey	68.84	309	*e*	P		P		05 24 25.7	-0.8
ZEI	comp=Z,31nm,1.4s				pmax		pmax			
KBZ	Khabaz	68.84	310		P		P		05 24 27.4	+1.2
	comp=Z,12nm,0.9s,baz=43,slow=6.6,SNR=11 comp=Z,12nm,0.9s									
ILULI	Ilulissat	68.94	5	*i*	P		P		05 24 25.5	-0.9
ILULI	comp=Z,36nm,1.1s				IAmb		IAmb		05 24 45.3	
INKA	Innaminka	69.09	182		P		P		05 24 29.3	+1.6
BEKR	Beckworth	69.13	55		IAmb		IAmb		05 24 42.2	
FFC	comp=Z,15nm,0.9s Flin Flon	69.17	34		P		P		05 24 28.1	+0.1
FFC	comp=Z,17nm,0.9s				IAmb		IAmb		05 24 42.5	
FFC	Flin Flon	69.17	34		P		P		05 24 28.1	+0.1
FFC	comp=Z,17nm,0.9s				pmax		pmax			
FFC	Flin Flon	69.17	34		P		P		05 24 28.9	+0.8
FFC					pP		sP		05 24 41.5	-0.4
ONI	Oni	69.22	309		IAmb		IAmb		05 24 46.4	
ISAL	comp=Z,27nm,1.0s Salakas	69.34	327	*e*	P		P		05 24 29.3	+0.2
MNK	Minsk	69.36	326	*i*	P		P		05 24 30.3	+1.1
MNK				*i*					05 27 04.6	
MNK				*i*	PPP		PPP		05 28 45.6	
MNK				*i*	S		S		05 33 35.9	+2.4
MNK				*i*	SS		SS		05 38 02.9	+3.1
MNK	comp=Z,36nm,1.3s				pmax		pmax			
MNK	comp=E,5.0nm,1.0s				pmax		pmax			
MNK	comp=Z,1µm,17.0s				MLR		MLR			
MNK	comp=E,112nm,14.0s				MLR		MLR			
MNK	Minsk	69.36	326	*i*	P		P		05 24 26.4	-2.8
MNK	comp=E,6.0nm,1.2s			*i*	P		P		05 24 26.4	-2.8
MNK				*i*	P		P		05 24 26.4	-2.8
MNK	comp=Z,34nm,1.2s,baz=46									
MNK				*i*	PcP		PcP		05 24 49.5	-3.1
MNK				*i*	PP		PP		05 26 59.8	-2.4
MNK				*i*	PPP		PPP		05 28 40.8	
MNK				*i*	S		S		05 33 31.6	-1.9
MNK				*i*	SS		SS		05 38 09.1	+9.2
MNK				*i*	SSS		SSS		05 40 25.8	
MNK				*i*	LQ		LQ		05 48 05.1	
MNK				*i*	LR		LR		05 53 09.2	
MNK	comp=E,163nm,17.9s			*i*	LRM		MLR		05 57 30.8	
MNK	comp=Z,2µm,20.4s			*i*	LRM		MLR		05 57 41.4	
OOD	Oodnadatta	69.44	187		P		P		05 24 31.1	+1.2
IIGN	Ignalina	69.46	327	*e*	P		P		05 24 30.0	+0.1
NACGM	Naroch	69.54	326	⇑ *e*	P		P		05 24 30.8	+0.4
ICESG	baz=45 Greenland Ices	69.54	1	*i*	P		P		05 24 31.4	+0.9
ICESG	comp=Z,54nm,0.9s				IAmb		IAmb		05 24 52.5	
MFID	Camas Ranch	69.65	50		P		P		05 24 32.1	+0.7
MFID	comp=Z,41nm,1.9s				IAmb		IAmb		05 24 44.0	
PAHR	Pah Rah Range	69.83	55		P		P		05 24 33.6	+1.0
PAHR	comp=Z,21nm,1.2s				IAmb		IAmb		05 24 55.1	
VCNR	Virginia City	69.92	55		P		P		05 24 32.6	-0.6
GNI	Garni	69.95	306		P		P		05 24 34.6	+1.3
	comp=Z,5.6nm,0.4s,baz=180,slow=7.2,SNR=6.6 comp=Z,5.6nm,0.4s									
GNI	Garni	69.95	306		IAMs_20		IAMs_20		05 55 43.2	
GNI	comp=Z,385nm,20.0s Garni	69.95	306		P		P		05 24 35.5	+2.2
EGMT	comp=Z,20nm,1.0s Eagleton	70.01	43		IAmb		IAmb		05 24 52.0	
EGMT	Eagleton	70.01	43		P		P		05 24 35.0	+1.5
PNTR	baz=310 Pine Nut	70.07	55		IAmb		IAmb		05 24 55.1	
DOMB	comp=Z,17nm,0.9s Dombas	70.17	339	*e*	P		P		05 24 34.2	0.0
NC405	NORSAR Array S	70.19	337		P		P		05 24 33.8	-0.4
NC303	NORSAR Array S	70.20	337		IAmb		IAmb		05 24 42.4	
CMB	comp=Z,19nm,0.9s Columbia Colle	70.23	56		IAmb		IAmb		05 24 48.5	
PABE	comp=Z,48nm,1.7s Paberze	70.26	328	*e*	P		P		05 24 35.5	+0.9
NC204	NORSAR Array S	70.33	338		P		P		05 24 34.8	-0.3
YERR	Yerington	70.36	55		P		P		05 24 36.1	+0.2
YERR	comp=Z,27nm,1.1s				IAmb		IAmb		05 24 50.1	
HLID	Hailey	70.36	49		P		P		05 24 35.0	-0.9
HLID	Hailey	70.36	49		P		P		05 24 37.5	+1.7
NB201	baz=309,SNR=6.7 NORSAR Array S	70.36	337		P		P		05 24 35.5	+0.2
SOEG	Soedalen	70.37	358	*i*	P		P		05 24 34.3	-0.8
NB2	NORSAR Subarra	70.39	337		P		P		05 24 34.8	-0.7
NB2	comp=Z,20nm,0.8s,baz=36,slow=6.5 NORSAR Subarra	70.39	337		P		P		05 24 34.8	-0.7
NOA	baz=36,slow=6.5 NORSAR Array B	70.39	337		P		P		05 24 34.8	-0.7
	comp=Z,8.3nm,0.7s,baz=38,slow=6.2,SNR=32 comp=Z,8.3nm,0.7s									
NC602	NORSAR Array S	70.54	337	*e*	P		P		05 24 36.3	-0.1
NC602	comp=Z,26nm,1.3s				IAmb		IAmb		05 24 40.7	
BOZ	Bozeman (W)	70.60	46		P		P		05 24 38.6	+1.4
AKN	baz=310,SNR=21 Aaknes	70.61	340	*e*	P		P		05 24 36.3	-0.5
BANOM	Banah	70.93	288		P		P		05 24 41.3	+2.0
BANOM					P		P		05 24 41.3	+2.0
BANOM	Banah	70.93	288		P		P		05 24 40.8	+1.4
SHME	Shamm	70.96	288		P		P		05 24 39.3	-0.2
KVN	Kaiserville	71.01	54		P		P		05 24 41.5	+1.6
KVN	comp=Z,27nm,1.2s				IAmb		IAmb		05 25 02.6	
KVN	Kaiserville	71.01	54		P		P		05 24 41.5	+1.6
KVN	comp=Z,27nm,1.2s				pmax		pmax			
RYN	Ryan	71.02	55		P		P		05 24 41.0	+1.1
WBK	Wadi Bani Khal	71.03	284		P		P		05 24 40.4	+0.4
WBK					P		P		05 24 40.4	+0.4
BIDO	Bidbid	71.08	285		P		P		05 24 41.7	+1.5
BIDO					P		P		05 24 41.7	+1.5
SFJD	Kangerlussuaq	71.17	6	*i*	P		P		05 24 40.7	+0.7
SFJD	comp=Z,14nm,0.9s				IAmb		IAmb		05 25 14.7	
SFJD	Kangerlussuaq	71.17	6		P		P		05 24 40.2	+0.1
NVAR	Mina Array Bea	71.28	55		P		P		05 24 42.8	+1.3
	comp=Z,9.7nm,0.7s,baz=296,slow=6.1,SNR=104 comp=Z,9.7nm,0.7s									
NVAR	Mina Array Bea	71.28	55		P		P		05 24 43.2	+1.7
MASF	Masafi	71.36	288		P		P		05 24 43.8	+1.7
NV11	Mina Array Sit	71.36	55		P		P		05 24 42.8	+0.9
NV11	comp=Z,38nm,1.8s				IAmb		IAmb		05 24 54.7	
MSFE	Esma-Masafi	71.37	288		P		P		05 24 42.8	+0.7
AKASG	Malin Array Be	71.39	322		P		P		05 24 40.8	-0.9
	comp=Z,2.4nm,0.4s,baz=42,slow=6.9,SNR=39 comp=Z,2.4nm,0.4s									
AKASG	Malin Array Be	71.39	322		P		P		05 24 40.7	-0.9
AKASG	Malin Array Be	71.39	322		P		P		05 24 40.7	-1.0

AKASG	comp=Z,10.0nm,1.1s				pmax		pmax			
AKBB	Malin Array Si	71.39	322		P		P		05 24 41.1	-0.6
AKBB	comp=Z,23nm,0.8s				IAmb		IAmb		05 25 01.6	
AKBB	Malin Array Si	71.39	322		P		P		05 24 41.1	-0.6
AKBB	comp=Z,23nm,0.8s				pmax		pmax			
SMDO	Samad	71.42	285		P		P		05 24 43.9	+1.4
SMDO					P		P		05 24 43.9	+1.4
YMR	Madison River	71.56	46		P		P		05 24 44.1	+1.0
YMR	comp=Z,20nm,1.2s				IAmb		IAmb		05 24 56.7	
UOSS	Minazif	71.59	287		P		P		05 24 43.0	-0.3
UOSS	comp=Z,30nm,0.8s				IAmb		IAmb		05 24 57.5	
UOSS	Minazif	71.59	287		P		P		05 24 43.6	+0.2
UOSS					P		P		05 24 43.6	+0.2
UOSS	Minazif	71.59	287		P		P		05 24 43.4	0.0
UOSS	Minazif	71.59	287		P		P		05 24 43.5	+0.2
HOQ	Hoqain	71.63	285		P		P		05 24 44.0	+0.4
HOQ	SNR=8.0				P		P		05 24 44.0	+0.4
HATD	SNR=8.0 Hatta, Dubai	71.72	287		P		P		05 24 44.5	+0.3
JMDO	Jabal Madar	71.80	284		P		P		05 24 45.0	+0.4
JMDO					P		P		05 24 45.0	+0.4
SOHO	SOHO	71.85	286		P		P		05 24 44.7	-0.2
ASHO	Ashiyiah	71.86	287		P		P		05 24 45.4	+0.4
ASHO					P		P		05 24 45.4	+0.4
ASHO	Ashiyiah	71.86	287		P		P		05 24 44.8	-0.1
LCRK	Leigh Creek	71.89	184		P		P		05 24 46.4	+1.7
H17A	Grant Village	71.94	46		P		P		05 24 48.4	+2.9
NAZ	baz=311,SNR=7.9 Nazwa, Dubai	71.95	288		P		P		05 24 44.9	-0.6
DY2G	Dye2	71.95	4	*i*	P		P		05 24 46.4	+1.2
DY2G	comp=Z,146nm,1.6s				IAmb		IAmb		05 25 06.4	
KONO	Kongsberg	71.99	337		IAMs_20		IAMs_20		06 01 36.4	
MULG	comp=Z,694nm,19.0s Mulgathing	72.07	188		P		P		05 24 46.0	+0.2
FAQ	Al Faqa, Dubai	72.15	287		P		P		05 24 46.7	0.0
FAQ					P		P		05 24 46.7	0.0
FAQ	Al Faqa, Dubai	72.15	287		P		P		05 24 45.5	-1.2
RLMT	Red Lodge	72.17	45		P		P		05 24 48.6	+1.8
BSY	baz=312 Bisya	72.23	285		P		P		05 24 47.7	+0.5
BSY					P		P		05 24 47.7	+0.5
TPAW	Teton Pass	72.33	47		P		P		05 24 47.0	-0.9
TPAW	comp=Z,32nm,1.4s				IAmb		IAmb		05 25 18.0	
ARQ	Araqi	72.35	286		P		P		05 24 48.6	+0.7
ARQ	SNR=5.8				P		P		05 24 48.6	+0.7
VES	SNR=5.8 Vestal, Richgr	72.41	58		P		P		05 24 49.2	+1.2
ASUD	baz=309 Al Ashush, Dub	72.41	287		P		P		05 24 48.9	+0.6
ASUD	Al Ashush, Dub	72.41	287		P		P		05 24 48.0	-0.3
ALNE	Al Ain	72.46	287		P		P		05 24 50.4	+1.8
ALNE	SNR=5.6				P		P		05 24 50.4	+1.8
ALNE	SNR=5.6 Al Ain	72.46	287		P		P		05 24 48.3	-0.3
DGMT	Dagmar	72.48	40		P		P		05 24 48.8	+0.5
DGMT	comp=Z,20nm,0.8s				IAmb		IAmb		05 25 21.4	
DGMT	Dagmar	72.48	40		IAMs_20		IAMs_20		05 58 02.2	
DGMT	comp=Z,765nm,21.0s Dagmar	72.48	40		P		P		05 24 49.9	+1.6
ASK	baz=314 Askoy	72.51	340	*e*	P		P		05 24 47.9	-0.3
PKM	Mcpherson Peak	72.54	59		P		P		05 24 50.8	+1.7
GURO	baz=309 Guroymak-BITLI	72.59	306		IAmb		IAmb		05 25 07.0	
ODD1	comp=Z,71nm,1.5s Odda	72.61	339	*e*	P		P		05 24 49.8	+0.9
GMN	Gold Mountain	72.63	55		IAmb		IAmb		05 25 02.6	
CWC	comp=Z,49nm,2.0s Cottonwood Cre	72.66	57		P		P		05 24 50.7	+0.9
LAO	baz=309 LASA Array	72.69	42		P		P		05 24 50.3	+0.6
LAO	comp=Z,67nm,1.8s				IAmb		IAmb		05 25 02.0	
LAO	LASA Array	72.69	42		P		P		05 24 51.5	+1.8
GRAC	baz=313 Grapevine Rang	72.75	56		P		P		05 24 51.5	+1.3
MHTO	baz=309 MHTO	72.76	283		P		P		05 24 51.0	+0.6
MHTO	SNR=14				P		P		05 24 51.0	+0.6
BCW	SNR=14 Bitter Crk WRg	72.76	59		P		P		05 24 47.2	-3.1
SBC	Santa Barbara	72.88	59		P		P		05 24 53.4	+2.5
CMSA	baz=309 Cobar Meteorol	72.89	178		P		P		05 24 51.3	+0.6
SIM	Simferopol'	72.89	315	*e*	P		P		05 24 45.7	-5.1
SIM				*e*					05 25 04.6	
SIM	comp=Z,16nm,0.7s				pmax		pmax			
ISA	Isabella, Lake	72.90	57		P		P		05 24 51.9	+0.8
R11A	baz=309 Troy Canyon, C	72.98	54		P		P		05 24 53.5	+1.8
ARVC	baz=310,SNR=9.9 Arvin	73.02	58		P		P		05 24 55.2	+3.5
STKA	baz=309 Stephens Creek	73.19	181		P		P		05 24 53.9	+1.5
	comp=Z,11nm,0.9s,baz=355,slow=6.0,SNR=6.6 comp=Z,11nm,0.9s									
STKA	Stephens Creek	73.19	181		P		P		05 24 53.2	+0.7
STKA	Stephens Creek	73.19	181		P		P		05 24 53.2	+0.7
STKA	comp=Z,4.0nm,1.1s				pmax		pmax			
STKA	Stephens Creek	73.19	181		P		P		05 24 53.7	+1.2
HWUT	Hardware Ranch	73.22	49		P		P		05 24 53.1	+0.1
MPMC	Manual Prospec	73.27	57		P		P		05 24 55.5	+2.0
FURC	baz=310 Furnace Creek,	73.40	56		P		P		05 24 56.3	+2.4
DUG	baz=310,SNR=15 Dugway, Tooele	73.43	51		P		P		05 24 56.5	+2.3
TPNV	baz=311,SNR=6.0 Topopah Spring	73.47	55		IAmb		IAmb		05 25 08.2	
TPNV	comp=Z,74nm,1.6s Topopah Spring	73.47	55		P		P		05 24 56.7	+2.1
CCAC	baz=310,SNR=15 Calif City Air	73.51	58		IAmb		IAmb		05 25 07.3	
BW06	comp=Z,58nm,1.6s Boulder Array	73.58	47		P		P		05 24 54.4	-0.8
BW06	comp=Z,30nm,1.4s				IAmb		IAmb		05 25 23.6	
BW06	Boulder Array	73.58	47		P		P		05 24 56.4	+1.2
PD31	baz=312,SNR=11 Pinedale Array	73.58	47		P		P		05 24 54.3	-0.9
PD31	comp=Z,27nm,1.4s				IAmb		IAmb		05 25 23.6	
PDAR	Pinedale Array	73.58	47		P		P		05 24 55.8	+0.6
	comp=Z,4.8nm,0.6s,baz=262,slow=1.9,SNR=63 comp=Z,4.8nm,0.6s									
PDAR	Pinedale Array	73.58	47		P		P		05 24 54.9	-0.3
EDW2	Edwards Air Fo	73.70	58		P		P		05 24 56.7	+0.8
GWY	baz=310,SNR=5.7 Greenwater Val	73.70	56		P		P		05 24 55.9	0.0
GWY	comp=Z,57nm,1.6s				IAmb		IAmb		05 25 09.4	
QSM	Queen of Sheba	73.72	56		IAmb		IAmb		05 25 19.3	
SNCC	comp=Z,30nm,1.1s San Nicolas Is	73.75	60		P		P		05 24 57.3	+1.2
NUUK	baz=309 Nuuk	73.85	7	*i*	P		P		05 24 55.9	-0.1
NUUK	comp=Z,23nm

MORW IAmb IAmb 05 25 02.6
comp=Z,51nm,1.1s
MORW Morawa 74.67 204 P **P** **05 25 01.4 +0.2**
MZR Muzera 74.75 287 P **P** **05 25 02.0 -0.1**
SNR=5.4
MZR P **P** **05 25 02.0 -0.1**
SNR=5.4
MZR Muzera 74.75 287 P **P** **05 25 01.5 -0.5**
HEC Hector,Ludlow 74.78 57 P **P** **05 25 03.2 +1.1**
baz=310
RGN Rugen 74.95 332 IAMs_20 IAMs_20 06 01 48.0
comp=Z,910nm,19.0s
MURC Murrieta 75.03 58 P **P** **05 25 04.2 +0.6**
baz=310
MDND Maddock 75.09 38 P **P** **05 25 03.2 -0.4**
baz=316
GMRC Granite Mounta 75.23 57 P **P** **05 25 05.8 +1.0**
baz=311
K22A Casper 75.30 46 IAmb IAmb 05 25 18.8
comp=Z,38nm,1.4s
K22A Casper 75.30 46 P **P** **05 25 03.7 -1.4**
baz=314
BUR08 Bucovina Ar. S 75.43 322 P **P** **05 25 06.0 +0.3**
BUR08 IAmb IAmb 05 25 36.0
comp=Z,17nm,0.9s
BURAR Bucovina Array 75.44 322 ⇑P **P** **05 25 05.9 +0.2**
BURAR Bucovina Array 75.44 322 P **P** **05 25 06.1 +0.3**
BURAR IAmb IAmb 05 25 22.6
comp=Z,17nm,0.8s
BURAR Bucovina Array 75.44 322 ⇑P **P** **05 25 05.9 +0.2**
PFO Pinyon Flats O 75.49 58 P **P** **05 25 05.0 -1.3**
baz=310
TPFO Pinon Flats 75.50 58 P **P** **05 25 08.1 +1.8**
baz=311
BIZ Bicaz 75.52 321 ⇑P **P** **05 25 06.1 0.0**
BELC Belle Mtn. Jos 75.53 57 P **P** **05 25 06.8 +0.2**
baz=311
PKCU Pink Cliffs 75.53 53 P **P** **05 25 06.2 -0.6**
PKCU IAmb IAmb 05 26 05.5
comp=Z,38nm,1.6s
TESR Tescani 75.56 320 ⇓P **P** **05 25 07.2 +0.8**
RSSD Black Hills 75.58 43 P **P** **05 25 07.1 +0.3**
RSSD IAmb IAmb 05 25 20.8
comp=Z,55nm,2.0s
RSSD Black Hills 75.58 43 P **P** **05 25 07.1 +0.3**
RSSD pmax pmax
comp=Z,55nm,2.0s
RSSD Black Hills 75.58 43 P **P** **05 25 07.4 +0.6**
baz=315
RWWY Rawlins 75.59 47 IAmb IAmb 05 25 19.5
comp=Z,46nm,1.6s
KOLS Kolonicke sedl 75.79 324 *e*P **P** **05 25 09.1 +1.5**
KOLS pmax pmax
comp=Z,13nm,0.6s
KOLS Kolonicke sedl 75.79 324 *e*P **P** **05 25 09.1 +1.5**
CFR Carcaliu 75.80 319 ⇑P **P** **05 25 07.1 -0.5**
CFR Carcaliu 75.80 319 ⇑P **P** **05 25 07.1 -0.5**
OJC Ojcow 75.88 326 IAmb IAmb 05 25 35.4
comp=Z,36nm,0.9s
TPGR Topolog 75.88 318 ⇓P **P** **05 25 09.9 +1.7**
BLDU Balidu 75.91 203 P **P** **05 25 09.1 +0.8**
IRM Iron Mountain 75.96 57 P **P** **05 25 09.8 +0.9**
baz=311
MONP2 Monument Peak 75.98 58 P **P** **05 25 10.9 +1.7**
baz=311
VRI Vrincioaia 75.99 320 ⇓P **P** **05 25 10.2 +1.4**
VRI ⇓P **pP** **05 25 15.0 -4.0**
VRI Vrincioaia 75.99 320 ⇓P **P** **05 25 10.2 +1.4**
PLOR Plostina 76.04 320 ⇓P P 05 25 15.7 +6.6
PLOR Plostina 76.04 320 ⇓P P 05 25 15.7 +6.6
BNN Bunyan 76.04 310 P **P** **05 25 08.6 -0.8**
O20A White River Ci 76.08 48 P **P** **05 25 10.3 +0.6**
O20A White River Ci 76.08 48 P **P** **05 25 11.4 +1.8**
baz=313,SNR=5.2
BC3 Big Chuckawall 76.10 57 P **P** **05 25 11.3 +1.6**
baz=311
CRVS Cervenica-Dubn 76.17 325 *e*P **P** **05 25 10.7 +0.9**
CRVS Cervenica-Dubn 76.17 325 *e*P **P** **05 25 10.7 +0.9**
COVR Voineasa-Covas 76.26 320 ⇑P **P** **05 25 13.5 +3.1**
TRPA Tarpa 76.28 324 ⇓P **P** **05 25 11.3 +1.0**
OZUR 76.28 320 ⇑P **P** **05 25 11.9 +1.5**
SHAO Shalim 76.33 282 P **P** **05 25 11.6 +0.4**
SHAO Shalim 76.33 282 P **P** **05 25 11.4 +0.3**
IKP In-Ko-Pah, Jac 76.34 58 P **P** **05 25 09.1 -2.0**
baz=311
SWSC Sam W. Stewart 76.34 58 P **P** **05 25 12.0 +1.0**
baz=311
AGMN Agassiz Nation 76.45 36 P **P** **05 25 11.7 +0.4**
baz=319
PDMCI Parker Dam,Lak 76.49 56 P **P** **05 25 13.3 +1.5**
baz=311
KLBR Kellerberrin 76.53 202 P **P** **05 25 12.6 +0.8**
DOPR Dopca 76.56 321 ⇑P **P** **05 25 11.3 -0.8**
ISR Istrita 76.62 319 ⇑P **P** **05 25 15.0 +2.5**
ISR Istrita 76.62 319 ⇑P **P** **05 25 15.0 +2.5**
MLR Muntele Rosu 76.64 320 ⇑P **P** **05 25 15.2 +2.5**
MLR Muntele Rosu 76.64 320 IAMs_20 IAMs_20 06 01 22.4
comp=Z,676nm,22.0s
MLR Muntele Rosu 76.64 320 ⇑P **P** **05 25 15.2 +2.5**
BR131 Keskin Array S 76.70 312 P **P** **05 25 12.9 -0.2**
BR131 Keskin Array S 76.70 312 P **P** **05 25 12.9 -0.2**
BR131 pmax pmax
comp=Z,12nm,1.0s
BRTR Keskin Array B 76.70 312 P **P** **05 25 13.2 +0.1**
comp=Z,1.7nm,0.6s,baz=76,slow=3.4,SNR=9.6
comp=Z,1.7nm,0.6s
BRTR Keskin Array B 76.70 312 P **P** **05 25 12.8 -0.2**
BRTR Keskin Array B 76.70 312 P **P** **05 25 12.9 -0.2**
N23A Red Feather La 76.83 47 P **P** **05 25 15.5 +1.5**
baz=314
LANS Liptovska Anna 76.83 326 *e*P **P** **05 25 16.1 +2.5**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 76.83 326 *e*P **P** **05 25 16.1 +2.5**
DOK Doka 77.05 283 P **P** **05 25 14.9 -0.2**
DOK P **P** **05 25 14.9 -0.2**
OSTC Ostas 77.06 328 *e*P **P** **05 25 16.7 +1.9**
ANTO Ankara 77.07 312 P **P** **05 25 15.4 +0.3**
ANTO IAmb IAmb 05 25 38.4
comp=Z,24nm,0.9s
ANTO Ankara 77.07 312 IAMs_20 IAMs_20 06 05 05.4
comp=Z,595nm,22.0s
ANTO Ankara 77.07 312 P **P** **05 25 15.5 +0.3**
ANTO pmax pmax
comp=Z,24nm,0.9s
IVI Ivigtut 77.08 6 *i* P **P** **05 25 14.1 -0.5**
IVI IAmb IAmb 05 25 46.6
comp=Z,45nm,1.6s
VOIR 77.11 320 ⇓P P 05 25 21.0 +5.7
VOIR 77.11 320 ⇓P P 05 25 21.0 +5.8
MORC Moravsky Berou 77.14 327 ⇓P **P** **05 25 16.1 +0.8**
MORC Moravsky Berou 77.14 327 IAmb IAmb 05 25 43.8
comp=Z,18nm,0.9s
MORC Moravsky Berou 77.14 327 *e*P **P** **05 25 15.7 +0.4**
MORC Moravsky Berou 77.14 327 ⇓P **P** **05 25 16.1 +0.8**
UPC Upice 77.18 328 *e*P **P** **05 25 16.5 +1.1**
UPC Upice 77.18 328 *e*P **P** **05 25 16.5 +1.1**
DPC Dobruska-Polom 77.18 328 *e*P **P** **05 25 16.5 +1.0**
DPC Dobruska-Polom 77.18 328 *e*P **P** **05 25 16.5 +1.0**
DRGR 77.20 323 ⇑P **P** **05 25 16.5 +0.8**
DRGR 77.20 323 ⇑P **P** **05 25 16.5 +0.8**
KRLC Kraliky 77.22 328 *e*P **P** **05 25 16.9 +1.2**
KRLC Kraliky 77.22 328 *e*P **P** **05 25 16.9 +1.2**
B35A Bob, Littlefor 77.33 35 P **P** **05 25 16.9 +0.6**
MAUC Maruska 77.35 327 *e*P **P** **05 25 17.5 +1.1**
ARR Arges 77.36 321 ⇑P **P** **05 25 19.2 +2.6**
WUAZ Wupatki 77.38 54 P **P** **05 25 18.8 +1.7**
baz=312
SMCO Snowmass 77.45 48 P **P** **05 25 17.1 -0.5**
PSZ Piszkesteto 77.60 325 ⇓P **P** **05 25 19.6 +1.7**
PSZ Piszkesteto 77.60 325 IAmb IAmb 05 25 46.5
comp=Z,38nm,1.3s
PSZ Piszkesteto 77.60 325 ⇓P **P** **05 25 19.6 +1.7**
VYHS Vyhne 77.61 326 *e*P **P** **05 25 18.7 +0.8**
VYHS pmax pmax
comp=Z,19nm,1.6s
VYHS Vyhne 77.61 326 *e*P **P** **05 25 18.7 +0.8**
BRG Berggiesshubel 77.69 330 *e*P **P** **05 25 18.9 +0.6**
BRG Amp 05 25 21.2
comp=Z,2.8nm,0.7s
BRG *ex* x 05 25 29.9
BRG Amp 05 25 32.4
comp=Z,8.4nm,1.1s
BRG *ex* x 05 25 38.0
BRG Amp 05 25 39.4
comp=Z,12nm,1.1s
BRG Berggiesshubel 77.69 330 *e*P **P** **05 25 18.8 +0.6**
BRG *e* 05 25 29.9
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.1s
CLL Collm 77.69 331 P **P** **05 25 18.0 -0.2**
CLL IAmb IAmb 05 25 38.3
comp=Z,25nm,0.9s
CLL IAMs_20 IAMs_20 06 02 48.3
comp=Z,887nm,20.0s
CLL Collm 77.69 331 *i* P **P** **05 25 18.0 -0.2**
CLL *e**PP **pP** **05 25 31.0 +2.6**
CLL *e*S **S** **05 35 09.0 +1.3**
CLL pmax pmax
comp=Z,27nm,1.5s
CLL Collm 77.69 331 *i* P **P** **05 25 18.0 -0.2**
comp=Z,27nm,1.5s
CLL *ex* x 05 25 26.0
comp=Z,30nm,1.4s
CLL *e*pP **pP** **05 25 31.0 +2.6**
CLL *e*sP **sP** **05 25 35.0 +2.9**
CLL *i* pPcP 05 25 37.1
comp=Z,28nm,1.0s
CLL *e*PP **PP** **05 28 11.0 -1.9**
CLL *e*S **S** **05 35 09.0 +1.3**
LOT Lotru 77.71 321 ⇑P **P** **05 25 20.6 +2.0**
WHFO Wadi Hawf 77.75 283 P **P** **05 25 18.3 -0.9**
ISCO Idaho Springs 77.77 47 P **P** **05 25 18.7 -0.7**
ISCO IAmb IAmb 05 25 33.1
comp=Z,55nm,1.8s
ISCO Idaho Springs 77.77 47 P **P** **05 25 18.7 -0.7**
ISCO pmax pmax
comp=Z,55nm,1.8s
ISCO Idaho Springs 77.77 47 P **P** **05 25 21.5 +2.2**
baz=314,SNR=6.6
JAVC Velka Javorina 77.81 327 *e*P **P** **05 25 20.1 +1.1**
VRAC Vranov 77.90 327 *e*P **P** **05 25 21.1 +1.6**
NWAO Narrogin (SRO) 77.93 202 P **P** **05 25 20.2 +0.6**
comp=Z,38nm,1.0s,baz=276,slow=3.5,SNR=6.4
comp=Z,38nm,1.0s
NWAO Narrogin (SRO) 77.93 202 P **P** **05 25 19.8 +0.2**
MVCO Mesa Verde 77.93 51 P **P** **05 25 22.1 +1.9**
baz=314
SIRR Siria 78.07 323 ⇓P **P** **05 25 22.1 +1.6**
F33A 5 Mile Ranch, 78.10 38 IAmb IAmb 05 25 31.4
comp=Z,24nm,1.2s
PRU Pruhonice 78.17 329 *e*P P 05 25 26.9 +6.0
PRU Pruhonice 78.17 329 *e*P P 05 25 26.9 +6.0
KRUC Moravsky 78.17 327 *e*P **P** **05 25 22.3 +1.3**
SMOL Smolenice 78.18 326 *e*P **P** **05 25 22.6 +1.6**
SMOL pmax pmax
comp=Z,7.0nm,1.3s
GZR Gura Zlata 78.22 322 ⇑P **P** **05 25 21.8 +0.4**
GZR Gura Zlata 78.22 322 ⇑P **P** **05 25 21.8 +0.4**
MODS Modra-Piesok 78.35 326 *e*P **P** **05 25 21.9 -0.1**
MODS Modra-Piesok 78.35 326 *e*P **P** **05 25 21.9 -0.1**
S22A 4UR Ranch, Cre 78.52 49 P **P** **05 25 25.3 +1.8**
baz=314
ZST Bratislava 78.56 326 *e*P **P** **05 25 25.2 +2.1**
ZST Bratislava 78.56 326 *e*P **P** **05 25 25.2 +2.1**
EYMN Ely 78.59 34 P **P** **05 25 23.7 +0.3**
baz=322
OGNE Ogallala 78.88 44 P **P** **05 25 27.5 +2.3**
baz=316
214A Organ Pipe Nat 78.89 57 P **P** **05 25 27.5 +2.2**
baz=312
MDVR Moldovita 79.17 322 ⇑P **P** **05 25 26.8 +0.1**
CKRC Cesky Krumlov 79.19 328 *e*P P 05 25 32.4 +5.8
KHC Kasperske Hory 79.23 329 *e*P **P** **05 25 27.6 +0.7**
KHC *e* 05 25 35.5
KHC Kasperske Hory 79.23 329 *e*P **P** **05 25 27.6 +0.7**
KHC pP **PcP** **05 25 35.5 +0.4**
SDCO Great Sand Dun 79.28 49 P **P** **05 25 29.4 +1.8**
baz=315
CONA Conrad Observa 79.28 327 *i* P **P** **05 25 29.4 +2.1**
comp=Z,15nm,1.7s,SNR=7.2
RONA Rosalia, Austr 79.29 327 *i* P **P** **05 25 28.6 +1.3**
comp=Z,17nm,1.5s,SNR=6.0
K31A O'Neill 79.33 41 IAmb IAmb 05 25 52.0
comp=Z,37nm,0.8s
GERES GERESS Array B 79.41 329 P **P** **05 25 27.6 -0.4**
comp=Z,0.8nm,0.5s,baz=49,slow=6.1,SNR=8.0
comp=Z,0.8nm,0.5s
MORH Mrgy, Hungar 79.46 324 ⇑P P 05 25 35.0 +6.9
ECSD EROS Data Cent 79.54 39 IAmb IAmb 05 25 51.8
comp=Z,18nm,0.8s
ECSD EROS Data Cent 79.54 39 P **P** **05 25 28.7 +0.1**
baz=319
ECSD EROS Data Cent 79.54 39 P **P** **05 25 29.6 +1.0**
baz=319,SNR=6.3
BLKB Belogradchik 79.60 320 ⇑P **P** **05 25 28.2 -0.7**
GRA1 Grafenberg Arr 79.66 331 IAMs_20 IAMs_20 06 03 57.6
comp=Z,865nm,20.0s
GRFO Grafenberg 79.66 331 P **P** **05 25 29.1 -0.1**
GRFO IAmb IAmb 05 25 44.3
comp=Z,27nm,0.8s
GRFO Grafenberg 79.66 331 P **P** **05 25 29.1 -0.1**
GRFO pmax pmax
comp=Z,27nm,0.8s
GRFO MLR MLR
comp=Z,800nm,19.0s
TUC Tucson 79.91 56 P **P** **05 25 32.8 +1.9**
baz=313
ASF Jabal al Asfar 79.94 304 P **P** **05 25 32.0 +0.9**
comp=Z,3.5nm,0.8s,baz=28,slow=4.4,SNR=4.4
comp=Z,3.5nm,0.8s
ASF Jabal al Asfar 79.94 304 P **P** **05 25 32.0 +0.9**
ARSA Arzberg 79.96 327 *e*P **P** **05 25 32.5 +1.7**
comp=Z,4.9nm,0.8s
MOA Molln 79.99 328 *e*P **P** **05 25 32.1 +1.1**
comp=Z,4.1nm,0.9s
RDO Rodhopi 80.03 317 IAmb IAmb 05 26 12.9
comp=Z,29nm,1.1s
RAYN Ar Rayn 80.03 292 P **P** **05 25 31.7 0.0**
RAYN IAmb IAmb 05 25 32.7
comp=Z,45nm,1.5s
RAYN Ar Rayn 80.03 292 P **P** **05 25 31.7 0.0**
RAYN pmax pmax
comp=Z,45nm,1.5s
RAYN Ar Rayn 80.03 292 P **P** **05 25 31.5 -0.1**
BOVS Bovan 80.05 321 ⇑P **P** **05 25 30.8 -0.5**
VTS Vitosha 80.08 319 ⇑P **P** **05 25 32.5 +0.8**
VTS Vitosha 80.08 319 P **P** **05 25 31.0 -0.7**
VTS IAmb IAmb 05 25 58.9
comp=Z,16nm,0.9s
VTS Vitosha 80.08 319 P **P** **05 25 31.0 -0.7**
VTS pmax pmax
comp=Z,16nm,0.9s
MMAI Mount Meron Ar 80.28 306 P **P** **05 25 34.1 +1.2**
comp=Z,6.6nm,0.6s,baz=40,slow=6.6,SNR=8.5
comp=Z,6.6nm,0.6s
T25A Trinidad 80.32 48 IAmb IAmb 05 25 46.5
comp=Z,75nm,1.8s
T25A Trinidad 80.32 48 P **P** **05 25 35.1 +1.9**
baz=316
BIOA Bad Ischl, Aus 80.37 328 *e*P **P** **05 25 35.1 +2.1**
comp=Z,20nm,1.3s
DIVS Divibare 80.49 322 IAmb IAmb 05 25 53.6
comp=Z,41nm,1.6s
BGNE Belgrade 80.53 42 P **P** **05 25 36.2 +2.1**
baz=318
SCHQ Schefferville 80.55 17 P **P** **05 25 34.3 +0.4**
comp=Z,2.2nm,0.9s,baz=244,slow=9.9,SNR=7.5
comp=Z,9.2nm,0.9s
SOKA Soboth 80.62 327 *i* P **P** **05 25 35.0 +0.5**
comp=Z,24nm,1.6s,SNR=8.6
BTNL Ternell 80.69 334 *d*P **P** **05 25 36.0 +1.3**
ANMO Albuquerque 80.69 51 P **P** **05 25 37.0 +1.7**
baz=315
ANMO Albuquerque 80.69 51 P **P** **05 25 37.2 +1.9**
baz=315
OBKA Obir 80.96 327 *e*P **P** **05 25 36.7 +0.4**
comp=Z,8.2nm,1.2s
KBA Koelnbreinsper 80.98 328 *e*P **P** **05 25 38.3 +1.7**
comp=Z,11nm,1.0s
STU Stuttgart 81.17 331 IAMs_20 IAMs_20 06 05 59.4
comp=Z,595nm,19.0s
BGES Gesves 81.21 334 *d*P **P** **05 25 38.7 +1.3**
MYKA Terra Mystica 81.23 327 *e*P **P** **05 25 37.2 -0.5**
comp=Z,7.1nm,1.2s
RCHB Rochefort 81.36 334 *d*P **P** **05 25 39.8 +1.6**
BMRD Maredsous 81.38 334 *d*P **P** **05 25 38.3 0.0**
WATA Walderalm 81.47 329 *e*P **P** **05 25 41.0 +1.9**
comp=Z,13nm,1.1s
WTTA Wattenberg 81.50 329 *e*P **P** **05 25 41.2 +1.9**
comp=Z,15nm,1.1s
ABTA Abfaltersbach 81.59 328 *e*P **P** **05 25 40.6 +0.9**
comp=Z,1.6nm,0.7s
121A Cookes Peak, D 81.59 54 P **P** **05 25 41.4 +1.3**
baz=314
121A Cookes Peak, D 81.59 54 P **P** **05 25 41.8 +1.7**
baz=314
CBKS Cedar Bluff 81.64 45 IAMs_20 IAMs_20 06 00 11.0
comp=Z,349nm,20.0s
CBKS Cedar Bluff 81.64 45 P **P** **05 25 41.9 +1.8**
baz=318
MOTA Moosalm 81.64 329 *e*P **P** **05 25 40.4 +0.4**
comp=Z,18nm,1.3s
RETA Reutte 81.66 330 *e*P **P** **05 25 40.8 +0.8**
comp=Z,19nm,1.4s
SQTA Sankt Quirin 81.71 329 *e*P **P** **05 25 41.3 +1.1**
comp=Z,1.2nm,0.4s
BFO Black Forest 81.85 331 P **P** **05 25 40.9 0.0**
BFO IAMs_20 IAMs_20 06 08 02.4
comp=Z,512nm,19.0s
BFO Black Forest 81.85 331 P **P** **05 25 40.9 0.0**
BFO pmax pmax
comp=Z,18nm,1.2s
STAL STALIGIAL 81.91 328 IAmb IAmb 05 25 54.5
comp=Z,12nm,0.6s
FETA Feichten 82.06 329 *e*P **P** **05 25 42.8 +0.6**
comp=Z,9.9nm,1.3s
PDG Podgorica 82.12 322 ⇑P P 05 25 49.6 +7.3
PDG Podgorica 82.12 322 IAMs_20 IAMs_20 06 05 55.2
comp=Z,796nm,21.0s
DAVA Damuels 82.16 330 *e*P **P** **05 25 44.4 +1.7**
comp=Z,19nm,1.0s
N35A Tabor 82.19 41 P **P** **05 25 43.3 +0.5**
N35A IAmb IAmb 05 25 58.9
comp=Z,19nm,0.8s
ECH Echery 82.36 332 P **P** **05 25 42.5 -1.1**
ECH IAmb IAmb 05 25 55.7
comp=Z,29nm,1.5s
ECH IAMs_20 IAMs_20 06 08 15.0
comp=Z,700nm,22.0s
ECH Echery 82.36 332 P **P** **05 25 42.5 -1.1**
ECH pmax pmax
comp=Z,29nm,1.5s
SCIA State Center 82.55 39 P **P** **05 25 45.2 +0.6**
baz=321
EIL Elat 82.87 303 P **P** **05 25 47.2 +0.7**
comp=Z,5.3nm,0.7s,baz=251,slow=3.5,SNR=4.2
comp=Z,5.3nm,0.7s
KSU1 Kansas State U 83.04 43 IAmb IAmb 05 26 02.7
comp=Z,13nm,0.8s
KSU1 Kansas State U 83.04 43 IAMs_20 IAMs_20 06 04 55.0
comp=Z,708nm,20.0s
KSU1 Kansas State U 83.04 43 P **P** **05 25 47.6 +0.4**
baz=319
KARP Karpathos 83.28 312 IAMs_20 IAMs_20 06 10 06.6
comp=Z,462nm,21.0s
N38A Joes South For 83.40 39 P **P** **05 25 48.3 -0.8**
N38A Joes South For 83.40 39 P **P** **05 25 49.7 +0.6**
baz=321
AMTX Amarillo 83.47 48 P **P** **05 25 50.2 +0.5**
baz=317
MSTX Muleshoe 83.52 50 P **P** **05 25 50.7 +0.8**
baz=317
VLDQ Val d'Or 83.71 26 P **P** **05 25 49.2 -1.3**
SENIN Lac Senin/Sane 83.89 331 P **P** **05 25 50.7 -1.1**
SENIN IAmb IAmb 05 26 06.9
comp=Z,10nm,0.8s
OK032 Salt Plains WL 83.94 45 IAMs_20 IAMs_20 06 04 22.0
comp=Z,376nm,21.0s
P38A Dawn 84.17 40 P **P** **05 25 53.6 +0.6**
FDMO Fiordimonte 84.38 326 P **P** **05 25 54.4 +0.3**
BLOK Blackwell 84.50 44 P **P** **05 25 54.7 0.0**
BLOK IAmb IAmb 05 26 09.2
comp=Z,45nm,1.3s
NRCA Norcia 84.54 325 P **P** **05 25 54.3 -0.7**
VLC Villacollemand 84.57 328 IAMs_20 IAMs_20 06 05 00.5
comp=Z,559nm,20.0s
IDI Anoyia 84.72 314 IAMs_20 IAMs_20 06 08 42.6
comp=Z,355nm,18.0s
T35A Sooner Cattle 84.75 44 **P** **05 25 54.4 -1.7**
T35B Sooner Cattle 84.75 44 P **P** **05 25 57.9 +1.9**
baz=320,SNR=6.6
ITM Ithomi 84.86 317 P **P** **05 25 56.2 -0.4**
OK051 E0350 and S346 84.89 44 IAMs_20 IAMs_20 06 07 14.1
comp=Z,564nm,21.0s
OK046 Pawnee Station 84.94 44 IAMs_20 IAMs_20 06 08 32.3
comp=Z,398nm,18.0s
OK047 Pawnee, Statio 84.98 44 **P** **05 25 56.2 -1.0**
WMOK Wichita Mounta 85.18 47 P **P** **05 25 58.6 +0.4**
baz=319,SNR=5.9
OK033 Mehan 85.19 45 IAMs_20 IAMs_20 06 02 53.9
comp=Z,383nm,21.0s
BNI Bardonecchia 85.23 331 IAMs_20 IAMs_20 06 09 41.0
comp=Z,707nm,20.0s
OK025 Westminster Rd 85.33 45 **P** **05 25 57.7 -1.3**
OK034 N. Norfolk Rd. 85.33 45 P **P** **05 25 57.7 -1.3**
HDIL Hopedale 85.42 37 P **P** **05 25 59.9 +0.6**
baz=324
DEOK Depew 85.58 45 P **P** **05 25 59.2 -1.0**
DEOK IAmb IAmb 05 26 13.1
comp=Z,66nm,1.3s
PPT2 Papeete2 85.67 118 *e*LR LR 05 53 04.8
comp=Z,932nm,24.2s
PPT2 Papeete2 85.67 118 *e*T T 07 00 16.8
comp=Z,24nm,0.3s
TIAR Tiarei 85.80 118 *e*T T 07 00 24.9
comp=Z,3.1nm,0.2s
SSB Saint Sauveur 85.81 332 IAmb IAmb 05 26 30.0
comp=Z,11nm,1.1s
R40A Maddies Statio 85.82 40 IAmb IAmb 05 26 13.0
comp=Z,25nm,1.1s
TIP Timpagrande 85.85 321 ⇓P **P** **05 26 02.4 +0.8**
TIP Timpagrande 85.85 321 IAMs_20 IAMs_20 06 08 18.9
comp=Z,542nm,20.0s
TUL1 Leonard 85.89 44 IAMs_20 IAMs_20 06 07 01.5
comp=Z,467nm,21.0s
TUL1 Leonard 85.89 44 P **P** **05 26 02.5 +0.8**
baz=320,SNR=6.0
TUL1 Leonard 85.89 44 P **P** **05 26 02.1 +0.4**
baz=320,SNR=6.0
TAOE Nuku Hiva Isla 86.15 105 *e*LR LR 05 53 17.9
comp=Z,905nm,22.9s
TAOE Nuku Hiva Isla 86.15 105 *e*T T 07 00 47.6
comp=Z,53nm,0.2s
ABTX Abilene, Hawle 86.28 49 P **P** **05 26 05.2 +1.4**
baz=318,SNR=6.1
TX31 Lajitas Ar. Si 86.35 53 P **P** **05 26 05.5 +1.3**
TX31 Lajitas Ar. Si 86.35 53 P **P** **05 26 05.2 +1.0**
baz=316
TX32 Lajitas Array 86.35 53 P **P** **05 26 04.9 +0.7**
TXAR Lajitas Array 86.35 53 P **P** **05 26 05.4 +1.2**
comp=Z,1.6nm,0.6s,baz=299,slow=3.4,SNR=23
comp=Z,1.6nm,0.6s
TXAR Lajitas Array 86.35 53 P **P** **05 26 05.5 +1.3**
AAM Ann Arbor 86.41 33 P **P** **05 26 04.5 +0.4**
baz=327
CCM Cathedral Cave 86.50 40 P **P** **05 26 04.7 0.0**
CCM Cathedral Cave 86.50 40 IAMs_20 IAMs_20 06 08 40.4
comp=Z,431nm,20.0s
CCM Cathedral Cave 86.50 40 P **P** **05 26 04.7 0.0**
CCM pmax pmax
comp=Z,36nm,1.2s
CCM MLR MLR
comp=Z,400nm,20.0s
CCM Cathedral Cave 86.50 40 P **P** **05 26 05.3 +0.6**
baz=322,SNR=6.4
CCM Cathedral Cave 86.50 40 P **P** **05 26 05.6 +0.9**
baz=322
SFIN Lafayette 86.55 36 P **P** **05 26 05.0 +0.1**
baz=325
HHAR Hobbs 86.56 43 P **P** **05 26 05.4 +0.3**
MGMO Mountain Grove 86.72 41 P **P** **05 26 06.7 +0.9**
MEH Mehetia 86.88 117 *e*T T 07 01 51.2
comp=Z,40nm,0.2s
CEL Celeste 86.99 321 IAMs_20 IAMs_20 05 58 23.1
comp=Z,332nm,21.0s
O48B Farmland 87.49 35 P **P** **05 26 08.8 -0.7**
baz=326
LONY Lake Ozonia 87.73 26 P **P** **05 26 11.4 +0.9**
baz=333
S44A Carbondale 87.74 39 P **P** **05 26 11.7 +1.0**
baz=324,SNR=5.7
FCAR Ozark Folk Cen 87.78 42 P **P** **05 26 08.8 -2.2**

FCAR				IAmb	IAmb	05 26 22.5		
	comp=Z,27nm,1.1s							
JCT	**Junction City**	**87.78**	**50**	IAMs_20	IAMs_20	06 09 13.0		
	comp=Z,319nm,20.0s							
JCT	**Junction City**	**87.78**	**50**	P	**P**	**05 26 11.7**	**+0.6**	
	baz=318							
MIAR	**Mount Ida**	**88.10**	**44**	P	**P**	**05 26 11.9**	**-0.5**	
MIAR	**Mount Ida**	**88.10**	**44**	P	**P**	**05 26 12.0**	**-0.5**	
MIAR				pmax	pmax			
	comp=Z,27nm,1.1s							
MIAR	**Mount Ida**	**88.10**	**44**	P	**P**	**05 26 13.5**	**+1.0**	
	baz=321,SNR=7.7							
MIAR	**Mount Ida**	**88.10**	**44**	P	**P**	**05 26 13.4**	**+0.9**	
	baz=321,SNR=7.7							
WHAR	**Wooly Hollow**	**88.17**	**42**	P	**P**	**05 26 12.8**	**-0.1**	
P49A	**Miami Univ. Ec**	**88.28**	**35**	P	**P**	**05 26 13.6**	**+0.4**	
	baz=326							
M53A	**Wt Miller and**	**88.32**	**31**	P	**P**	**05 26 12.5**	**-0.9**	
	baz=329							
ACSO	**Alum Creek Sta**	**88.42**	**33**	P	**P**	**05 26 13.7**	**-0.2**	
	baz=327							
WCI	**Wyandotte Cave**	**88.66**	**37**	IAMs_20	IAMs_20	06 07 42.4		
	comp=Z,462nm,21.0s							
WCI	**Wyandotte Cave**	**88.66**	**37**	P	**P**	**05 26 15.4**	**+0.4**	
	baz=325							
PKME	**Peaks-Kenny Pk**	**88.76**	**22**	P	**P**	**05 26 15.9**	**+0.6**	
	baz=336							
LBNH	**Lisbon**	**88.91**	**24**	P	**P**	**05 26 17.3**	**+1.2**	
	baz=335							
WLAR	**White Oak Lake**	**89.00**	**44**	P	**P**	**05 26 16.4**	**-0.3**	
H06N1	**SOCORRO T-PHAS**	**89.02**	**66**	T	T	07 04 59.4		
	SNR=46							
H06E1	**SOCORRO T-PHAS**	**89.12**	**66**	T	T	07 05 07.3		
	SNR=57							
O53A	**New Philadelph**	**89.13**	**32**	P	**P**	**05 26 16.2**	**-1.0**	
O53A				IAmb	IAmb	05 26 36.9		
	comp=Z,15nm,0.8s							
O53A	**New Philadelph**	**89.13**	**32**	P	**P**	**05 26 18.1**	**+0.9**	
	baz=328							
P52A	**Corning**	**89.28**	**33**	IAMs_20	IAMs_20	06 08 16.4		
	comp=Z,323nm,19.0s							
Q51A	**Peebles**	**89.28**	**34**	P	**P**	**05 26 18.3**	**+0.3**	
T47A	**Sharon Grove**	**89.31**	**38**	P	**P**	**05 26 18.5**	**+0.4**	
BINY	**Binghamton**	**89.40**	**28**	P	**P**	**05 26 19.6**	**+1.1**	
	baz=332							
O54A	**Avella**	**89.52**	**32**	P	**P**	**05 26 19.3**	**+0.2**	
O54A				IAmb	IAmb	05 26 31.3		
	comp=Z,21nm,1.0s							
WVT	**Waverly**	**89.67**	**39**	IAMs_20	IAMs_20	06 07 30.3		
	comp=Z,447nm,21.0s							
WVT	**Waverly**	**89.67**	**39**	P	**P**	**05 26 20.5**	**+0.6**	
	baz=324							
M57A	**Sunshine Farm,**	**89.75**	**29**	P	**P**	**05 26 20.3**	**+0.2**	
ATD	**Arta Tunnel**	**89.88**	**285**	P	**P**	**05 26 21.0**	**-0.2**	
ATD				IAmb	IAmb	05 26 23.5		
	comp=Z,24nm,1.0s							
SSPA	**Standing Stone**	**90.08**	**30**	P	**P**	**05 26 21.1**	**-0.6**	
SSPA				IAmb	IAmb	05 26 34.0		
	comp=Z,30nm,1.2s							
SSPA				IAMs_20	IAMs_20	06 09 57.5		
	comp=Z,393nm,20.0s							
SSPA	**Standing Stone**	**90.08**	**30**	P	**P**	**05 26 22.3**	**+0.6**	
	baz=331							
MCWV	**Mont Chateau**	**90.17**	**32**	P	**P**	**05 26 23.5**	**+1.4**	
	baz=329							
OXF	**Oxford**	**90.22**	**41**	IAMs_20	IAMs_20	06 05 39.9		
	comp=Z,359nm,22.0s							
U49A	**Red Boiling Sp**	**90.31**	**37**	P	**P**	**05 26 22.0**	**-0.8**	
T50A	**Nancy**	**90.31**	**36**	P	**P**	**05 26 22.5**	**-0.3**	
T50A				IAmb	IAmb	05 26 34.8		
	comp=Z,19nm,1.1s							
HKT	**Hockley**	**90.43**	**48**	IAMs_20	IAMs_20	06 13 55.6		
	comp=Z,377nm,20.0s							
PLAL	**Pickwick Lake**	**90.49**	**40**	IAMs_20	IAMs_20	06 11 10.9		
	comp=Z,505nm,21.0s							
BCX	**Boston College**	**90.87**	**25**	IAMs_20	IAMs_20	06 11 18.2		
	comp=Z,560nm,20.0s							
TZTN	**Tazewell**	**91.28**	**36**	IAMs_20	IAMs_20	06 06 39.5		
	comp=Z,568nm,21.0s							
CBN	**Corbin Frederi**	**92.39**	**31**	IAMs_20	IAMs_20	06 11 22.8		
	comp=Z,626nm,22.0s							
LRAL	**Lakeview Retre**	**92.59**	**40**	IAMs_20	IAMs_20	06 13 34.5		
	comp=Z,476nm,20.0s							
ESDC	**Sonseca Array**	**93.65**	**335**	P	**P**	**05 26 38.1**	**-0.1**	
	comp=Z,1.5nm,0.8s,baz=30,slow=3.2,SNR=7.8							
ESDC				PP	**PP**	**05 30 23.6**	**+1.2**	
	comp=Z,1.4nm,0.8s,baz=15,slow=6.6,SNR=3.6							
	comp=Z,1.5nm,0.8s							
ESDC	**Sonseca Array**	**93.65**	**335**	P	**P**	**05 26 38.4**	**+0.1**	
GOGA	**Godfrey**	**93.94**	**37**	IAMs_20	IAMs_20	06 12 54.0		
	comp=Z,405nm,21.0s							
FURI	**Furi**	**94.67**	**286**	IAMs_20	IAMs_20	06 14 45.5		
	comp=Z,409nm,20.0s							
CNNC	**Cliffs of the**	**94.77**	**33**	IAMs_20	IAMs_20	06 11 39.9		
	comp=Z,339nm,20.0s							
NHSC	**New Hope**	**95.65**	**35**	IAMs_20	IAMs_20	06 12 37.4		
	comp=Z,526nm,20.0s							
DWPF	**Disney Wildern**	**99.33**	**39**	IAMs_20	IAMs_20	06 20 51.0		
	comp=Z,354nm,20.0s							
TAM	**Tamanrasset**	**104.74**	**320**	IAMs_20	IAMs_20	06 24 14.3		
	comp=Z,348nm,21.0s							
SJG	**San Juan**	**114.69**	**31**	IAMs_20	IAMs_20	06 17 14.3		
	comp=Z,259nm,19.0s							
TORD	**Torodi Ar. Bea**	**114.83**	**318**	PKP	**PKiKP**	**05 32 01.9**	**-1.0**	
	comp=Z,0.3nm,0.4s,baz=11,slow=2.2,SNR=7.1							
TORD				PP	**PP**	**05 32 55.2**	**-5.3**	
	comp=Z,7.5nm,1.1s,baz=26,slow=7.4,SNR=14							
SMRT	**St. Maarten**	**115.87**	**28**	IAMs_20	IAMs_20	06 20 15.3		
	comp=Z,439nm,20.0s							
HATO	**Hato, Curacao**	**118.86**	**36**	IAMs_20	IAMs_20	06 21 20.2		
	comp=Z,441nm,21.0s							
VNDA	**Vanda**	**119.49**	**175**	PKP	**PKiKP**	**05 32 10.3**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=302,slow=4.5,SNR=2.1							
GRGR	**Grenville**	**121.84**	**29**	IAMs_20	IAMs_20	06 24 26.7		
	comp=Z,325nm,19.0s							
BOAV	**Boa Vista**	**131.21**	**32**	*eP*	**PKiKP**	**05 32 36.2**	**+1.0**	
LPAZ	**La Paz**	**143.18**	**56**	PKP	**PKPdf**	**05 32 55.5**	**-1.4**	
	comp=Z,0.7nm,0.5s,baz=55,slow=4.8,SNR=5.1							
LPAZ	**La Paz**	**143.18**	**56**	*eP*	**PKPdf**	**05 32 58.3**	**+1.4**	
TROLL	**Troll, Antarti**	**144.01**	**200**	PKPdf	**PKPab**	**05 32 53.7**	**+0.1**	
VILB	**Vilhena**	**144.97**	**42**	*eP*	**PKPdf**	**05 33 00.1**	**+0.7**	
CLDB	**Colider**	**145.17**	**34**	*eP*	**PKPdf**	**05 33 00.1**	**+0.4**	
SNAA	**Sanae**	**145.53**	**198**	PKPdf	**PKPdf**	**05 32 58.5**	**-0.2**	
SNAA	**Sanae**	**145.53**	**198**	PKPdf	**PKPdf**	**05 32 58.3**	**-0.4**	
SNAA	**Sanae**	**145.53**	**198**	PKIKP	**PKPdf**	**05 32 58.3**	**-0.4**	
SMTB	**Santa Maria do**	**146.01**	**19**	*eP*	**PKPbc**	**05 33 02.2**	**+0.3**	
H03N2	**Juan Fernandez**	**146.03**	**90**	T	T	08 16 04.8		
	baz=301,slow=76,SNR=106							
H03N3	**Juan Fernandez**	**146.04**	**90**	T	T	08 16 05.7		
	baz=301,slow=76,SNR=155							
H03N1	**Juan Fernandez**	**146.04**	**90**	T	T	08 16 06.1		
	baz=301,slow=76,SNR=91							
VNA2	**Neumayer--Watz**	**147.10**	**197**	PKPdf	**PKPbc**	**05 33 03.6**	**+0.2**	
VNA3	**Neumayer Olymp**	**147.35**	**196**	PKPdf	**PKPbc**	**05 33 03.7**	**-0.5**	
VNA1	**Neumayer--Stat**	**147.50**	**197**	PKPdf	**PKPbc**	**05 33 04.4**	**-0.1**	
PTLB	**Pontes e Lacer**	**147.62**	**43**	*eP*	**PKPbc**	**05 33 06.2**	**-0.3**	
SALV	**Santo Antonio**	**149.68**	**38**	*eP*	**PKPdf**	**05 33 06.8**	**-0.3**	
SDBA	**SAO DESIDERIO**	**150.04**	**16**	*eP*	**PKPdf**	**05 33 09.2**	**+1.4**	
BDFB	**Brasilia**	**152.37**	**23**	PKPbc	**PKiKP**	**05 33 19.1**	**+0.6**	
	comp=Z,3.0nm,0.7s,baz=192,slow=5.8,SNR=6.3							
BDFB				PKPab	**pPKPbc**	**05 33 29.7**	**+0.8**	
	comp=Z,7.3nm,0.8s,baz=299,slow=1.1,SNR=8.3							
PLCA	**Paso Flores**	**154.82**	**99**	PKPbc	**PKiKP**	**05 33 24.8**	**+1.9**	
	comp=Z,0.8nm,0.7s,baz=234,slow=4.8,SNR=3.5							
PLCA				PKPab	**PKPab**	**05 33 39.5**	**+1.4**	
	comp=Z,1.6nm,0.7s,baz=292,slow=3.4,SNR=5.6							
PLCA	**Paso Flores**	**154.82**	**99**	*eP*	**PKPdf**	**05 33 15.6**	**+1.5**	
CPUP	**Villa Florida**	**157.32**	**54**	PKPab	**PKPab**	**05 33 49.6**	**+0.6**	
	comp=Z,1.2nm,0.7s,baz=53,slow=10,SNR=2.9							

NNC 26 05:16:02.0±5.2, 53.91N×87.27E, h0km, mb3.8, mpv3.4, 3C-3D, Error ellipse: s-maj=41.5km s-min=30.3km az=25.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.45**	**273**	P	Pn	05 16 27.7	-1.7
ZAA0				S	Sn	05 16 49.0	-0.1
KURK	**Kurchatov**	**6.19**	**242**	⇓Pn	Pn	05 17 34.2	-0.4
	3.6nm,0.8s						
KURK				⇑Sn	Sn	05 18 45.1	-0.9
	1.8nm,0.9s						
KURK				⇑Lg	Lg	05 19 15.2	
	5.6nm,0.8s						
KURBB	**Kurchatov Arra**	**6.29**	**242**	⇓Pn	Pn	05 17 39.6	+3.6
	1.9nm,0.6s,baz=55,slow=13						
KURBB				⇑Sn	Sn	05 18 50.7	+2.2
	4.0nm,0.5s						
KURBB				⇓Lg	Lg	05 19 22.2	
	9.9nm,0.7s						

*NEIC **26** 05:17:22.9±1.6, 37.55S±0.08×179.57E±0.06, h10km±1km, mb4.7/21, Error ellipse: s-maj=13.7km s-min=7.2km az=336.0*
*NOU **26** 05:17:28.0, 37.56S×179.43E, h152km, MLv5.1/9, Off E. Coast of N. Island, N.Z.*
*IDC **26** 05:17:30.2±1.7, 37.32S×178.80E, h0km, mb4.7/3, mbtmp4.6/4, ML5.4/1, MS4.0/3, Error ellipse: s-maj=43.2km s-min=23.4km az=136.0*
*WEL **26** 05:17:32.8±1.1, 37.5S×17.9E±, h16km±5km, M4.5/72, ML4.8/70, MLv4.5/72, Error ellipse: s-maj=0.0km s-min=0.0km az=86.0*
ISC 26 05:17:28.3±1.8, 37.46S±0.06×179.36E±0.09, h41km±15km, n195, o229/195, mb4.7/15, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.83**	**244**	P	**Pn**	**05 17 45.6**	**+2.2**
WMGZ				S	**Sn**	**05 17 55.1**	**+0.6**
MXZ	**Matakaoa Point**	**0.84**	**262**		**Pn**	**05 17 43.1**	**-0.5**
MXZ	**Matakaoa Point**	**0.84**	**262**	P	**Pn**	**05 17 43.1**	**-0.5**
MXZ				S	**Sn**	**05 17 50.0**	**-4.8**
PUZ	**Puketiti**	**1.06**	**234**	P	**Pn**	**05 17 49.4**	**+2.7**
PUZ				S	**Sn**	**05 18 01.7**	**+1.4**
PKGZ	**Pakihiroa**	**1.10**	**247**	P	**Pn**	**05 17 48.9**	**+1.6**
PKGZ				S	**Sn**	**05 17 59.9**	**-1.4**
HAZ	**Te Kaha**	**1.28**	**256**	P	**Pn**	**05 17 51.0**	**+1.4**
HAZ				S	**Sn**	**05 18 04.5**	**-1.1**
TWGZ	**Tauwhareparae**	**1.30**	**236**	P	**Pn**	**05 17 53.0**	**+2.9**
TWGZ				S	**Sn**	**05 18 08.2**	**+1.9**
CNGZ	**Carnagh Statio**	**1.37**	**221**	P	**Pn**	05 17 55.5	+4.6
CNGZ				S	**Sn**	**05 18 13.1**	**+5.3**
RUGZ	**Raukumara Rang**	**1.42**	**249**	P	**Pn**	**05 17 54.0**	**+2.3**
RUGZ				S	**Sn**	**05 18 09.1**	**-0.3**
TKGZ	**Te Karaka**	**1.54**	**230**	P	**Pn**	**05 17 56.4**	**+3.1**
MWZ	**Matawai**	**1.69**	**238**	P	**Pn**	**05 17 57.7**	**+2.4**
MWZ				S	**Sn**	**05 18 15.9**	**+0.1**
WIZ	**White Island**	**1.72**	**267**	P	**Pn**	**05 17 57.4**	**+1.7**
WSRZ	**White Island S**	**1.73**	**267**	P	**Pn**	**05 17 58.7**	**+2.8**
RIGZ	**Rimuhau**	**1.77**	**225**	P	**Pn**	**05 17 59.5**	**+3.0**
RAGZ	**Rawiri**	**1.85**	**235**	P	**Pn**	**05 18 00.3**	**+2.7**
WHRZ	**Whale Island**	**1.93**	**257**	P	**Pn**	**05 18 01.0**	**+2.4**
URZ	**Urewera**	**1.95**	**245**	Pn	**Pn**	**05 18 01.4**	**+2.6**
	233nm,0.3s,baz=359,slow=1.8,SNR=969						
URZ				Sn	**Sn**	**05 18 21.9**	**-0.1**
	601nm,0.3s,baz=163,slow=23,SNR=6.7						
URZ				LR	LR	05 18 51.1	
	comp=Z,2μm,18.8s,baz=114,slow=50						
URZ	**Urewera**	**1.95**	**245**	Pn	**Pn**	**05 18 00.8**	**+2.0**
URZ				Sn	**Sn**	**05 18 21.9**	**-0.1**
URZ	**Urewera**	**1.95**	**245**	P	**Pn**	**05 18 01.4**	**+2.6**
URZ	**Urewera**	**1.95**	**245**	P	**Pn**	**05 18 01.7**	**+2.9**
MHGZ	**Mahia Peninsul**	**2.04**	**213**	P	**Pn**	**05 18 04.0**	**+3.9**
KNZ	**Kokohu**	**2.05**	**220**	P	**Pn**	**05 18 02.9**	**+2.7**
SNGZ	**Shannon Statio**	**2.07**	**230**	P	**Pn**	**05 18 03.3**	**+2.8**
EDRZ	**Edgecumbe**	**2.17**	**252**	P	**Pn**	**05 18 04.3**	**+2.3**
MARZ	**Manawahe**	**2.19**	**255**	P	**Pn**	**05 18 04.3**	**+2.1**
RTZ	**Ruatahuna**	**2.20**	**238**	P	**Pn**	**05 18 05.3**	**+2.9**
OPRZ	**Ohinepanea**	**2.26**	**259**	P	**Pn**	**05 18 04.3**	**+1.3**
MUGZ	**Murupara**	**2.28**	**243**	P	**Pn**	**05 18 05.9**	**+2.5**
RAHZ	**Arahi**	**2.31**	**230**	P	**Pn**	**05 18 06.8**	**+2.8**
WHHZ	**Waihua**	**2.32**	**225**	P	**Pn**	**05 18 07.0**	**+3.0**
WHHZ				S	**Sn**	**05 18 32.7**	**+1.3**
TARZ	**Mount Tarawera**	**2.39**	**250**	P	**Pn**	**05 18 07.4**	**+2.4**
MKRZ	**Makatiti**	**2.39**	**253**	P	**Pn**	**05 18 08.3**	**+3.4**
RRRZ	**Republican Roa**	**2.41**	**248**	P	**Pn**	**05 18 07.8**	**+2.6**
LIRZ	**Lichensteins R**	**2.42**	**256**	P	**Pn**	**05 18 07.6**	**+2.3**
OMRZ	**Omania**	**2.45**	**254**	P	**Pn**	**05 18 08.1**	**+2.3**
TGRZ	**Tauranga**	**2.47**	**263**	P	**Pn**	**05 18 07.4**	**+1.4**
MYRZ	**Mayor Island**	**2.49**	**273**	P	**Pn**	**05 18 08.1**	**+1.8**
HLRZ	**Highlands Stat**	**2.51**	**251**	P	**Pn**	**05 18 09.1**	**+2.6**
KARZ	**Kaharoa**	**2.53**	**256**	P	**Pn**	**05 18 08.8**	**+1.9**
PRRZ	**Plateau Road**	**2.56**	**245**	P	**Pn**	**05 18 09.6**	**+2.3**
ARHZ	**Aropaoanui**	**2.59**	**225**	P	**Pn**	**05 18 10.5**	**+2.9**
NMHZ	**Naumai**	**2.59**	**230**	P	**Pn**	**05 18 10.6**	**+2.9**
NGRZ	**Ngongotaha**	**2.59**	**255**	P	**Pn**	**05 18 10.4**	**+2.7**
HRRZ	**Handcock Road**	**2.60**	**248**	P	**Pn**	**05 18 10.3**	**+2.4**
HSRZ	**Hossack Road**	**2.60**	**250**	P	**Pn**	**05 18 10.7**	**+2.8**
UTUZ	**Utuhina**	**2.60**	**253**	P	**Pn**	**05 18 10.8**	**+2.9**
ALRZ	**Allen Road**	**2.62**	**244**	P	**Pn**	**05 18 10.4**	**+2.3**
MRHZ	**Matea Rd**	**2.69**	**238**	P	**Pn**	**05 18 11.6**	**+2.4**
GRRZ	**Galatos Road**	**2.72**	**250**	P	**Pn**	**05 18 12.1**	**+2.7**
WPRZ	**Whakapapatarin**	**2.74**	**246**	P	**Pn**	**05 18 12.6**	**+3.0**
BKZ	**Black Stump Fm**	**2.83**	**232**	Pn	**Pn**	**05 18 10.0**	**-0.9**
BKZ				Sn	**Sn**	**05 18 42.4**	**-1.4**
BKZ	**Black Stump Fm**	**2.83**	**232**	P	**Pn**	**05 18 13.5**	**+2.6**
BKZ	**Black Stump Fm**	**2.83**	**232**	P	**Pn**	**05 18 13.8**	**+2.9**
CKHZ	**Cape Kidnapper**	**2.83**	**218**	P	**Pn**	**05 18 13.5**	**+2.5**
MCHZ	**McNeill Hill**	**2.88**	**226**	P	**Pn**	**05 18 14.3**	**+2.7**
WHTZ	**Whakaora**	**2.94**	**245**	P	**Pn**	**05 18 16.6**	**+4.0**
HATZ	**Hinemaiaia**	**2.94**	**240**	P	**Pn**	**05 18 14.8**	**+2.3**
KUTZ	**Kaahu Road**	**2.98**	**249**	P	**Pn**	**05 18 15.4**	**+2.4**
KUZ	**Kuaotunu**	**2.99**	**283**	P	**Pn**	**05 18 13.2**	**+0.1**
KWHZ	**Kaweka Forest**	**3.03**	**229**	P	**Pn**	**05 18 15.9**	**+2.2**
KAHZ	**Kahuranaki**	**3.04**	**219**	P	**Pn**	**05 18 16.1**	**+2.3**
TOZ	**Tahuroa Road**	**3.07**	**264**	P	**Pn**	**05 18 15.6**	**+1.3**
WAIZ	**Wairara**	**3.12**	**245**	P	**Pn**	**05 18 18.1**	**+3.1**
TLZ	**Tolley Road**	**3.14**	**253**	P	**Pn**	**05 18 17.4**	**+2.1**
RITZ	**Rihia Road**	**3.14**	**240**	P	**Pn**	**05 18 17.8**	**+2.5**
RATZ	**Rangitukua**	**3.15**	**242**	P	**Pn**	**05 18 18.2**	**+2.8**
KRHZ	**Kereru**	**3.20**	**226**	P	**Pn**	**05 18 17.7**	**+1.6**
PXZ	**Pawanui**	**3.23**	**216**	P	**Pn**	**05 18 18.0**	**+1.6**
KATZ	**Kakaramea**	**3.26**	**241**	P	**Pn**	**05 18 19.6**	**+2.6**
BHHZ	**Black Hill Sta**	**3.29**	**231**	P	**Pn**	**05 18 19.4**	**+2.1**
TMVZ	**Te Maari**	**3.32**	**239**	P	**Pn**	**05 18 19.9**	**+2.1**
ETVZ	**East Tongariro**	**3.32**	**239**	P	**Pn**	**05 18 19.9**	**+2.1**
NTVZ	**North Tongarir**	**3.33**	**239**	P	**Pn**	**05 18 20.0**	**+2.1**
KRVZ	**Karewarewa**	**3.35**	**240**	P	**Pn**	**05 18 20.6**	**+2.4**
GRZ	**Great Barrier**	**3.35**	**290**	P	**Pn**	**05 18 19.5**	**+1.4**
MKAZ	**Moumakai**	**3.36**	**275**	P	**Pn**	**05 18 19.1**	**+0.9**
OTVZ	**Oturere**	**3.37**	**238**	P	**Pn**	**05 18 20.4**	**+2.0**
NNVZ	**North Ngauruho**	**3.38**	**239**	P	**Pn**	**05 18 21.2**	**+2.5**
SNVZ	**South Ngauruho**	**3.39**	**238**	P	**Pn**	**05 18 20.9**	**+2.1**
WTVZ	**West Tongariro**	**3.39**	**240**	P	**Pn**	**05 18 21.4**	**+2.6**
NGZ	**Ngauruhoe**	**3.42**	**239**	P	**Pn**	**05 18 21.2**	**+2.1**
TUVZ	**Tukino**	**3.42**	**237**	P	**Pn**	**05 18 21.4**	**+2.1**
MOVZ	**Moawhango**	**3.43**	**234**	P	**Pn**	**05 18 21.0**	**+1.7**
WIAZ	**Waiheke Island**	**3.44**	**280**	P	**Pn**	**05 18 20.1**	**+0.8**
WPHZ	**Waipukurau**	**3.46**	**220**	P	**Pn**	**05 18 21.5**	**+1.9**
WHVZ	**Whangaehu Hut**	**3.48**	**237**	P	**Pn**	**05 18 22.1**	**+2.0**
TWVZ	**Taurewa**	**3.48**	**241**	P	**Pn**	**05 18 22.3**	**+2.3**
PNHZ	**Pukenui**	**3.48**	**224**	P	**Pn**	**05 18 21.1**	**+1.2**
FWVZ	**Far West T-bar**	**3.49**	**238**	P	**Pn**	**05 18 22.2**	**+2.0**
DRZ	**Dome Shelter**	**3.49**	**237**	P	**Pn**	**05 18 22.7**	**+2.5**
WNVZ	**Wahianoa**	**3.49**	**237**	P	**Pn**	**05 18 22.2**	**+2.0**
TRVZ	**Turoa**	**3.51**	**237**	P	**Pn**	**05 18 22.5**	**+2.0**
PRHZ	**Porangahau**	**3.52**	**216**	P	**Pn**	**05 18 21.8**	**+1.4**
ETAZ	**East Tamaki Re**	**3.57**	**277**	P	**Pn**	**05 18 23.2**	**+2.1**
MTVZ	**Mangateitei**	**3.61**	**237**	P	**Pn**	**05 18 23.8**	**+2.1**
MBAZ	**Motutapu North**	**3.63**	**280**	P	**Pn**	**05 18 23.6**	**+1.7**
PKVZ	**Pokaka**	**3.64**	**239**	P	**Pn**	**05 18 24.4**	**+2.2**
HIZ	**Hauiti**	**3.71**	**252**		**Pn**	**05 18 25.4**	**+2.4**
HIZ	**Hauiti**	**3.71**	**252**	P	**Pn**	**05 18 25.9**	**+2.9**
HIZ	**Hauiti**	**3.71**	**252**	P	**Pn**	**05 18 25.9**	**+2.9**
TSZ	**Takapari Road**	**3.71**	**225**	P	**Pn**	**05 18 24.1**	**+1.0**
ABAZ	**Army Bay**	**3.72**	**282**	P	**Pn**	**05 18 24.5**	**+1.4**
EPAZ	**Eden Park BICE**	**3.73**	**278**	P	**Pn**	**05 18 25.8**	**+2.6**
HBAZ	**Herne Bay Bore**	**3.74**	**278**	P	**Pn**	**05 18 26.1**	**+2.6**
ANWZ	**Angora Road**	**3.75**	**216**	P	**Pn**	**05 18 24.9**	**+1.4**
DVHZ	**Dannevirke**	**3.77**	**220**	P	**Pn**	**05 18 24.8**	**+0.8**
AWAZ	**Awhitu Peninsu**	**3.78**	**275**	P	**Pn**	**05 18 26.5**	**+2.5**
WTAZ	**Waiatarua**	**3.85**	**276**	P	**Pn**	**05 18 27.8**	**+2.8**
RVAZ	**Riverhead Bore**	**3.88**	**279**	P	**Pn**	**05 18 27.1**	**+1.7**
BFZ	**Birch Farm**	**4.03**	**216**	Pn	**Pn**	**05 18 28.1**	**+0.7**
BFZ	**Birch Farm**	**4.03**	**216**	P	**Pn**	**05 18 28.5**	**+1.1**
POWZ	**Post Office Ro**	**4.05**	**223**	P	**Pn**	**05 18 28.4**	**+0.7**
PRWZ	**Pori Road**	**4.06**	**219**	P	**Pn**	**05 18 29.4**	**+1.5**
WAZ	**Wanganui**	**4.12**	**235**	P	**Pn**	**05 18 31.2**	**+2.6**
OHWZ	**Ohakea**	**4.18**	**228**	P	**Pn**	**05 18 31.3**	**+1.8**
CPWZ	**Castlepoint**	**4.23**	**214**	P	**Pn**	**05 18 31.2**	**+1.1**
TIWZ	**Tintock**	**4.27**	**218**	P	**Pn**	**05 18 31.7**	**+0.9**
MHEZ	**Mangahewa**	**4.28**	**246**	P	Pn	05 18 36.2	+5.3
WCZ	**Waipu Caves**	**4.30**	**289**	P	**Pn**	**05 18 32.7**	**+1.5**
LREZ	**Lake Rotokare**	**4.37**	**241**	P	**Pn**	**05 18 32.6**	**+0.5**
DREZ	**Durham Road**	**4.41**	**245**	P	Pn	05 18 37.8	+5.2
PREZ	**Palmer Road**	**4.50**	**244**	P	**Pn**	**05 18 37.8**	**+4.0**
NEZ	**North Egmont**	**4.51**	**245**	P	**Pn**	**05 18 38.0**	**+3.8**
PKE	**Pukeiti**	**4.56**	**246**	P	Pn	05 18 39.1	+4.4
KHEZ	**Kahui Hut**	**4.58**	**245**	P	**Pn**	**05 18 38.6**	**+3.5**
NBEZ	**Newall Road No**	**4.68**	**246**	P	Pn	05 18 40.8	+4.5
NMEZ	**Namu Road**	**4.72**	**244**	P	Pn	05 18 41.4	+4.5
MSWZ	**Moikau Station**	**5.07**	**218**		**Pn**	**05 18 40.8**	**-0.9**
OUZ	**Omahuta**	**5.16**	**294**	Pn	**Pn**	**05 18 44.6**	**+1.7**
OUZ	**Omahuta**	**5.16**	**294**	P	**Pn**	**05 18 45.0**	**+2.1**
OUZ	**Omahuta**	**5.16**	**294**	P	**Pn**	**05 18 44.8**	**+1.9**
PLWZ	**Palliser**	**5.19**	**216**		**Pn**	**05 18 42.1**	**-1.2**
SNZO	**South Karori**	**5.27**	**222**	Pn	**Pn**	**05 18 43.2**	**-1.2**
TUWZ	**Tuamarina**	**5.77**	**225**		**Pn**	**05 18 49.5**	**-1.8**
CMWZ	**Cape Campbell**	**5.84**	**221**	Pn	**Pn**	**05 18 49.9**	**-2.4**
NNZ	**Nelson**	**5.96**	**229**	Pn	**Pn**	**05 18 52.7**	**-1.2**
BSWZ	**Blackbirch Sta**	**6.00**	**223**		**Pn**	**05 18 52.8**	**-1.6**
QRZ	**Quartz Range**	**6.28**	**236**	Pn	**Pn**	**05 18 57.4**	**-0.9**
QRZ	**Quartz Range**	**6.28**	**236**	P	**Pn**	**05 18 57.2**	**-1.1**
THZ	**Tophouse**	**6.58**	**227**	Pn	**Pn**	**05 19 00.8**	**-1.7**
KHZ	**Kahutara**	**6.67**	**220**	Pn	**Pn**	**05 19 01.8**	**-1.9**
KHZ	**Kahutara**	**6.67**	**220**	P	**Pn**	**05 19 02.6**	**-1.0**
CTZ	**Chatham Island**	**6.98**	**155**	P	Pn	05 19 16.7	+8.8
LTZ	**Lake Taylor**	**7.60**	**223**	Pn	**Pn**	**05 19 13.3**	**-3.1**
MQZ	**McQueen's Vall**	**8.06**	**217**	Pn	**Pn**	**05 19 19.8**	**-2.8**
OXZ	**Oxford**	**8.09**	**221**	Pn	**Pn**	**05 19 21.1**	**-2.0**
RPZ	**Rata Peaks**	**8.88**	**223**	Pn	**Pn**	**05 19 32.9**	**-1.1**
	3.7nm,0.3s,baz=334,slow=1.1,SNR=18						
RPZ		

Nm; M_{rr}4.13±.05; $M_{\theta\theta}$-1.57±.04; $M_{\phi\phi}$-2.56±.04; $M_{r\theta}$1.37±.04; $M_{\theta\phi}$-2.20±.03; $M_{\phi r}$1.60±.04; Best double couple: M_{w}4.72100×10^{17} NP1:ϕ_{s}40.00000°,δ58.00000°, λ91.00000°. NP2:ϕ_{s}218.00000°,δ32.00000°,λ88.00000°. Principal axes: T 4.6260, Plg77.0000°, Azm313.0000°; N 0.1890, Plg1.0000°, Azm219.0000°; P -4.8150, Plg13.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **26** 05:19:58,27.48N×128.56E,h40km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.50; $M_{\theta\theta}$-2.78; $M_{\phi\phi}$-1.72; $M_{r\theta}$1.68; $M_{\theta\phi}$-1.25; $M_{\phi r}$1.87; Fault plane solution: M_{o}4.83000×10^{17} NP1:ϕ_{s}240.47000°, δ29.64000°,λ99.52000°. NP2:ϕ_{s}49.55000°,δ60.81000°, λ84.62000°. Principal axes: T 5.2317, Plg74.0000°, Azm306.0000°; N -0.9391, Plg5.0000°, Azm52.0000°; P -4.2926, Plg16.0000°, Azm143.0000°;*

*NEIC **26** 05:20:03,27.27N×128.90E,h36km,Moment Tensor Solution. Duration: 10s0 Moment tensor: Scale 10^{17}Nm; M_{rr}3.72; $M_{\theta\theta}$-1.43; $M_{\phi\phi}$-2.29; $M_{r\theta}$2.42; $M_{\theta\phi}$-1.79; $M_{\phi r}$2.83; Fault plane solution: M_{o}5.26000×10^{17} NP1: ϕ_{s}217.00000°,δ22.00000°,λ87.00000°. NP2:ϕ_{s}40.00000°, δ67.00000°,λ91.00000°. Principal axes: T 5.2661, Plg67.0000°, Azm312.0000°; N -0.0186, Plg1.0000°, Azm219.0000°; P -5.2475, Plg23.0000°, Azm129.0000°;*

ISC 26 05:19:57.3±0.2,27.44N±0.02,128.60E±0.02,h40km±1km, h40km:pP-P,n2216,s1533/2343,mb6.0/491,MS5.2/210, 110C-67D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JOKE	**Okinoerabujima**	**0.08**	**197**	P		**Pn**	**05 20 04.5**	**+0.6**
JOKE					S	**Sn**	**05 20 09.4**	**+1.0**
JOKE	**Okinoerabujima**	**0.08**	**197**	A		A	05 20 04.5	
	comp=E,6μm,2.1s,comp=E,3μm,1.4s							
JYRO	**Yoronjima**	**0.44**	**198**	P		**Pn**	**05 20 07.6**	**+0.4**
JYRO					S	**Sn**	**05 20 14.1**	**0.0**
JYRO	**Yoronjima**	**0.44**	**198**	A		A	05 20 07.6	
	comp=E,2μm,3.7s,comp=E,2μm,0.7s							
JTK	**Tokunoshima**	**0.46**	**42**	P		**Pn**	**05 20 07.9**	**+0.3**
JTK					*e*S	**Sn**	**05 20 15.1**	**+0.3**
JTK	**Tokunoshima**	**0.46**	**42**	A		A	05 20 07.9	
	comp=E,1μm,2.7s,comp=E,1μm,1.7s							
JOW	**Kunigami**	**0.67**	**205**	P		**Pn**	**05 20 10.8**	**+0.4**
	46μm,0.3s,baz=83,slow=18,SNR=4164							
JOW					S	**Sn**	**05 20 19.8**	**+0.1**
	67μm,0.3s,baz=59,slow=18,SNR=11							
JOW	**Kunigami**	**0.67**	**205**			**Pn**	**05 20 11.0**	**+0.6**
JOW	**Kunigami**	**0.67**	**205**	P		**Pn**	**05 20 10.7**	**+0.4**
JOW					*e*S	**Sn**	**05 20 19.4**	**-0.3**
JOW	**Kunigami**	**0.67**	**205**	A		A	05 20 10.7	
	comp=E,923nm,0.5s,comp=E,823nm,0.4s							
JIH	**Iheya**	**0.69**	**234**	P		**Pn**	**05 20 11.0**	**+0.4**
JIH					*e*S	**Sn**	**05 20 21.0**	**+0.8**
JIH	**Iheya**	**0.69**	**234**	A		A	05 20 11.0	
	comp=E,909nm,3.0s,comp=E,658nm,2.0s							
JAMN	**Amaminishikomi**	**0.95**	**32**	P		**Pn**	**05 20 14.4**	**+0.3**
JAMN					S	**Sn**	**05 20 26.1**	**-0.3**
JAMN	**Amaminishikomi**	**0.95**	**32**	A		A	05 20 14.4	
	comp=E,384nm,2.8s,comp=E,254nm,1.1s							
JNTH	**Nagotoyohara**	**1.05**	**209**	P		**Pn**	**05 20 16.1**	**+0.5**
JNTH					S	**Sn**	**05 20 29.6**	**+0.6**
JNTH	**Nagotoyohara**	**1.05**	**209**	A		A	05 20 16.1	
	comp=E,672nm,3.1s,comp=E,356nm,1.6s							
JAM	**Amami Oshima**	**1.31**	**42**	P		**Pn**	**05 20 19.9**	**+0.7**
JAM					*e*S	**Sn**	**05 20 36.3**	**+0.8**
JAM	**Amami Oshima**	**1.31**	**42**	A		A	05 20 19.9	
	comp=E,209nm,2.7s,comp=E,189nm,2.9s							
JAGN	**Aguni-jima**	**1.48**	**235**	P		**Pn**	**05 20 22.0**	**+0.6**
JAGN					*e*S	**Sn**	**05 20 40.2**	**+0.7**
JAGN	**Aguni-jima**	**1.48**	**235**	A		A	05 20 22.0	
	comp=E,193nm,2.5s,comp=E,344nm,2.8s							
JJT3	**Tamagusuku3**	**1.48**	**210**	P		**Pn**	**05 20 23.0**	**+1.5**
JJT3					*e*S	**Sn**	**05 20 41.1**	**+1.4**
JJT3	**Tamagusuku3**	**1.48**	**210**	A		A	05 20 23.0	
	comp=E,920nm,2.2s,comp=E,764nm,1.8s							
JZK	**Kikaishima**	**1.50**	**54**	*e*P		**Pn**	**05 20 23.1**	**+1.4**
JZK					*e*S	**Sn**	**05 20 41.0**	**+1.1**
JZK	**Kikaishima**	**1.50**	**54**	A		A	05 20 23.1	
	comp=E,728nm,5.3s,comp=E,738nm,1.9s							
JTAJ	**Takarajima**	**1.79**	**17**	P		**Pn**	**05 20 26.0**	**+0.4**
JTAJ					*e*S	**Sn**	**05 20 47.4**	**+0.3**
JTAJ	**Takarajima**	**1.79**	**17**	A		A	05 20 26.0	
	comp=E,133nm,4.9s,comp=E,84nm,5.9s							
JKE	**Kume jima 2**	**1.96**	**236**	P		**Pn**	**05 20 28.7**	**+0.6**
JKE					*e*S	**Sn**	**05 20 52.5**	**+1.0**
JKE	**Kume jima 2**	**1.96**	**236**	A		A	05 20 28.7	
	comp=E,79nm,3.3s,comp=E,84nm,2.0s							
JNN	**Nakanoshima**	**2.64**	**25**	P		**Pn**	**05 20 37.9**	**+0.5**
JNN					*e*S	**Sn**	**05 21 08.6**	**+0.4**
JNN	**Nakanoshima**	**2.64**	**25**	A		A	05 20 37.9	
	comp=E,88nm,1.4s,comp=E,67nm,1.2s							
JKDJ	**Kitadaitoujima**	**2.83**	**121**	P		**Pn**	**05 20 38.3**	**-1.7**
JKDJ					S	**Sn**	**05 21 09.2**	**-3.8**
JKDJ	**Kitadaitoujima**	**2.83**	**121**	A		A	05 20 38.3	
	comp=E,75nm,2.0s,comp=E,99nm,3.0s							
JMZ	**Minamidaito 2**	**2.85**	**124**	P		**Pn**	**05 20 38.5**	**-1.8**
JMZ					S	**Sn**	**05 21 09.4**	**-3.9**
JMZ	**Minamidaito 2**	**2.85**	**124**	A		A	05 20 38.5	
	comp=E,72nm,3.9s,comp=E,103nm,3.4s							
JYAK	**Yakushimahirau**	**3.25**	**31**	P		**Pn**	**05 20 46.8**	**+1.0**
JYAK					S	**Sn**	**05 21 23.5**	**+0.3**
JYAK	**Yakushimahirau**	**3.25**	**31**	A		A	05 20 46.8	
	comp=E,34nm,6.1s,comp=E,33nm,6.5s							
JKC	**Kuchinoerabu**	**3.32**	**25**	P		**Pn**	**05 20 47.7**	**+1.0**
JKC					*e*S	**Sn**	**05 21 26.5**	**+1.6**
JKC	**Kuchinoerabu**	**3.32**	**25**	A		A	05 20 47.7	
	comp=E,43nm,2.4s,comp=E,26nm,6.9s							
JMTN	**Minamitane**	**3.57**	**34**	P		**Pn**	**05 20 51.4**	**+1.2**
JMTN					*e*S	**Sn**	**05 21 32.4**	**+1.3**
JMTN	**Minamitane**	**3.57**	**34**	A		A	05 20 51.4	
	comp=E,65nm,4.4s,comp=E,78nm,4.6s							
JTN	**Tanegashima 3**	**3.82**	**33**	P		**Pn**	**05 20 55.1**	**+1.5**
JTN					*e*S	**Sn**	**05 21 38.1**	**+0.8**
JTN	**Tanegashima 3**	**3.82**	**33**	A		A	05 20 55.1	
	comp=E,43nm,2.5s,comp=E,49nm,2.2s							
JIKM	**Ikemajima**	**3.92**	**231**	A		A	05 20 57.1	
	comp=E,666nm,2.3s,comp=E,56nm,3.4s							
JOGS	**Gusukube**	**3.92**	**228**	A		A	05 20 57.1	
	comp=E,175nm,3.0s,comp=E,123nm,3.0s							
JIRB	**Irabujima**	**4.03**	**231**	A		A	05 20 58.7	
	comp=E,57nm,5.3s,comp=E,78nm,3.8s							
JTSR	**Tashiro 2**	**4.23**	**28**	A		A	05 21 01.4	
	comp=E,19nm,2.6s,comp=E,19nm,6.1s							
JSJ	**Shimokoshiki**	**4.33**	**13**	A		A	05 21 03.0	
	comp=E,10.0nm,8.5s,comp=E,11nm,3.8s							
JSU	**Suzuyama**	**4.36**	**21**	Pn		**Pn**	**05 21 02.8**	**+1.8**
JSU	**Suzuyama**	**4.36**	**21**	A		A	05 21 03.3	
	comp=E,13nm,2.5s,comp=E,8.0nm,3.5s							
JTJ	**Tarama**	**4.48**	**232**	A		A	05 21 04.9	
	comp=E,45nm,4.1s,comp=E,50nm,4.0s							
JNAR	**Kushima--Naru**	**4.69**	**29**	A		A	05 21 07.9	
	comp=E,23nm,2.4s,comp=E,32nm,2.3s							
JNKG	**Nichinankitago**	**4.85**	**29**	A		A	05 21 10.1	
	comp=E,24nm,2.4s,comp=E,26nm,3.8s							
JTZ	**Takazaki**	**4.94**	**25**	A		A	05 21 11.4	
	comp=E,14nm,2.4s,comp=E,16nm,3.7s							
JTZ	**Takazaki**	**4.94**	**25**	P		**Pn**	**05 21 11.4**	**+2.4**
JZO	**Okuchi**	**4.99**	**20**	A		A	05 21 12.2	
	comp=E,11nm,4.5s,comp=E,10.0nm,2.4s							
JIJ	**Ishigaki jima**	**5.05**	**234**	A		A	05 21 12.9	
	comp=E,14nm,2.8s,comp=E,22nm,6.0s							
JHD	**Hondo**	**5.18**	**15**	A		A	05 21 14.8	
	comp=E,15nm,4.7s,comp=E,11nm,3.2s							
JKRS	**Kuro-shima**	**5.22**	**233**	A		A	05 21 15.4	
	comp=E,96nm,3.2s,comp=E,101nm,3.2s							
NGSJ	**Nagasakinomoza**	**5.28**	**11**	A		A	05 21 16.2	
	comp=E,5.0nm,5.9s,comp=E,5.0nm,5.7s							
IRIF	**Iriomote-Funau**	**5.37**	**236**	A		A	05 21 17.4	
	comp=E,20nm,2.4s,comp=E,27nm,2.7s							
JTSN	**Tsuno**	**5.41**	**27**	A		A	05 21 18.0	
	comp=E,14nm,3.2s,comp=E,8.0nm,7.3s							
JIU3	**Izumi3**	**5.44**	**20**	A		A	05 21 18.4	
	comp=E,8.0nm,2.6s,comp=E,12nm,2.9s							
JIU3	**Izumi3**	**5.44**	**20**	P		**Pn**	**05 21 18.7**	**+2.8**
HATJ	**Hateruma jima**	**5.48**	**233**	A		A	05 21 19.0	
	comp=E,67nm,2.7s,comp=E,77nm,3.3s							
JHHC	**Hyugahichiya**	**5.64**	**27**	A		A	05 21 21.1	
	comp=E,12nm,2.9s,comp=E,11nm,3.0s							
JKIT	**Kitakata**	**5.73**	**25**	A		A	05 21 22.4	
	comp=E,8.0nm,2.7s,comp=E,8.0nm,3.7s							
JTA	**Tamana**	**5.75**	**16**	A		A	05 21 22.8	
	comp=E,12nm,2.9s,comp=E,8.0nm,2.7s							
YOJ	**Yonaguni jima**	**5.84**	**241**			**Pn**	**05 21 21.0**	**-0.3**
YOJ	**Yonaguni jima**	**5.84**	**241**	P		**Pn**	**05 21 21.0**	**-0.3**
YOJ	**Yonaguni jima**	**5.84**	**241**	P		**Pn**	**05 21 21.5**	**+0.2**
YOJ	**Yonaguni jima**	**5.84**	**241**	A		A	05 21 24.0	
	comp=E,14nm,4.2s,comp=E,20nm,8.7s							
JYNG	**Yonagunijimaku**	**5.90**	**241**	A		A	05 21 24.8	
	comp=E,17nm,3.8s,comp=E,21nm,3.2s							
JYNG	**Yonagunijimaku**	**5.90**	**241**	P		**Pn**	**05 21 22.6**	**+0.5**
JNU	**Nakatsue**	**5.99**	**19**	A		A	05 21 26.2	
	comp=E,12nm,2.7s,comp=E,14nm,2.4s							
JFI	**Itaya**	**6.16**	**14**	A		A	05 21 28.6	
	comp=E,6.0nm,9.3s,comp=E,7.0nm,5.3s							
JUS	**Usuki**	**6.23**	**25**	A		A	05 21 29.5	
	comp=E,7.0nm,3.8s,comp=E,6.0nm,2.4s							
JBEP	**Beppuamama**	**6.36**	**22**	A		A	05 21 31.2	
	comp=E,14nm,2.8s,comp=E,15nm,4.1s							
JII	**Iki**	**6.41**	**8**	A		A	05 21 32.0	
	comp=E,6.0nm,9.2s,comp=E,7.0nm,5.1s							
JII	**Iki**	**6.41**	**8**	P		**Pn**	**05 21 33.3**	**+4.2**
JTO	**Tosashimizu**	**6.51**	**33**	A		A	05 21 33.3	
	comp=E,4.0nm,7.0s,comp=E,3.0nm,3.8s							
JKI	**Kunimi**	**6.68**	**22**	A		A	05 21 35.7	
	comp=E,8.0nm,3.4s,comp=E,7.0nm,8.2s							
UWA2	**Uwa jima 2**	**6.72**	**30**	A		A	05 21 36.3	
	comp=E,3.0nm,3.8s,comp=E,7.0nm,3.9s							
TATO	**Taipei**	**6.84**	**251**			**Pn**	**05 21 36.8**	**+1.7**
JTSM	**Tsushimamitsus**	**6.91**	**5**	P		**Pn**	**05 21 40.7**	**+4.8**
JNA	**Nagahama**	**6.95**	**28**	A		A	05 21 39.5	
	comp=E,4.0nm,6.3s,comp=E,3.0nm,8.1s							
YHNB	**Yeheng**	**7.06**	**249**			**Pn**	**05 21 40.1**	**+2.0**
YHNB	**Yeheng**	**7.06**	**249**	P		**Pn**	**05 21 40.7**	**+2.5**
JTU	**Tsushima**	**7.09**	**5**	Pn		**Pn**	**05 21 39.6**	**+1.1**
JTU	**Tsushima**	**7.09**	**5**	P		**Pn**	**05 21 43.3**	**+4.8**
NACB	**Ninganchiao**	**7.10**	**244**	Pn		**Pn**	**05 21 37.6**	**-1.1**
JTY	**Toyota**	**7.12**	**17**	A		A	05 21 41.9	
	comp=E,4.0nm,3.8s,comp=E,4.0nm,9.4s							
SSE	**Sheshan**	**7.43**	**301**	P		**Pn**	**05 21 45.8**	**+2.7**
SSE					S	**Sn**	**05 23 08.5**	**+2.4**
SSE					pmax	pmax		
	comp=Z,84nm,0.8s							
SSE					pmax	pmax		
	comp=Z,820nm,7.2s							
SSE					LR	LR		
	comp=N,5μm,18.4s							
SSE					LR	LR		
	comp=E,8μm,18.0s							
JHGM	**Hagimishima**	**7.63**	**16**	A		A	05 21 49.0	
	comp=E,7.0nm,7.6s,comp=E,7.0nm,4.6s							
JHGM	**Hagimishima**	**7.63**	**16**	P		**Pn**	**05 21 47.8**	**+1.8**
YULB	**Yu-li**	**7.73**	**240**	Pn		**Pn**	**05 21 44.8**	**-2.5**
JMN	**Monobe**	**7.74**	**35**	Pn		**Pn**	**05 21 48.2**	**+0.7**
JMN	**Monobe**	**7.74**	**35**	P		**Pn**	**05 21 48.3**	**+0.8**
SSLB	**Suanglung**	**7.80**	**244**	Pn		**Pn**	**05 21 47.6**	**-0.7**
SSLB	**Suanglung**	**7.80**	**244**	P		**Pn**	**05 21 47.6**	**-0.7**
JHT	**Toyohira**	**7.91**	**24**	P		**Pn**	**05 21 51.4**	**+1.7**
JAI	**Aioi**	**8.09**	**37**	P		**Pn**	**05 21 52.7**	**+0.5**
TWG	**Pinlang**	**8.23**	**238**			**Pn**	**05 21 51.4**	**-2.7**
JJS	**Sakaide**	**8.29**	**32**	P		**Pn**	**05 21 55.3**	**+0.4**
TPUB	**Ta-pu**	**8.30**	**242**			**Pn**	**05 21 53.8**	**-1.4**
TPUB	**Ta-pu**	**8.30**	**242**	P		**Pn**	**05 21 54.7**	**-0.5**
JHS	**Saijyo**	**8.47**	**26**	Pn		**Pn**	**05 21 57.8**	**+0.4**
JWM	**Minabe**	**8.64**	**41**	P		**Pn**	**05 21 59.7**	**-0.1**
JTNC	**Tanabenakahech**	**8.77**	**42**	P		**Pn**	**05 22 01.4**	**-0.1**
JAD	**Aida**	**8.87**	**31**	P		**Pn**	**05 22 02.7**	**-0.1**
TJN	**Taejon**	**8.97**	**354**	*ce*P		**Pn**	**05 22 09.0**	**+4.8**
TJN	**Taejon**	**8.97**	**354**	P		**Pn**	**05 22 09.0**	**+4.8**
QZH	**Quanzhou**	**9.32**	**257**	⇓*i*P		**Pn**	**05 22 10.5**	**+1.3**
QZH					S	**Sn**	**05 23 56.5**	**+3.7**
QZH					pmax	pmax		
	comp=Z,97nm,0.7s							
QZH					LR	LR		
	comp=N,9μm,16.6s							
QZH					LR	LR		
	comp=E,6μm,17.6s							
QZH					LR	LR		
	comp=Z,7μm,11.8s							
JKN2	**Miekihoku**	**9.45**	**42**	P		**Pn**	**05 22 11.0**	**+0.1**
JKSM	**Kasumi**	**9.63**	**31**	P		**Pn**	**05 22 13.4**	**+0.1**
NJ2	**Nanjing**	**9.63**	**301**	⇑P		**Pn**	**05 22 16.0**	**+2.6**
NJ2					sP		05 22 28.5	
NJ2					S	**Sn**	**05 24 06.5**	**+6.2**
NJ2					pmax	pmax		
	comp=Z,160nm,0.9s							
NJ2					LR	LR		
	comp=N,11μm,15.3s							
NJ2					LR	LR		
	comp=E,20μm,15.7s							
NJ2					LR	LR		
	comp=Z,23μm,15.2s							
KNMB	**Chin-men Tao**	**9.65**	**254**	Pn		**Pn**	**05 22 12.7**	**-1.0**
JWT	**Wachi**	**9.74**	**35**	P		**Pn**	**05 22 14.7**	**-0.1**
JKY	**Yasaka**	**9.87**	**33**	P		**Pn**	**05 22 16.2**	**-0.4**
KSAR	**Wonju Array Be**	**9.99**	**357**	Pn		**Pn**	**05 22 21.9**	**+3.7**
KSAR	**Wonju Array Be**	**9.99**	**357**	P		**Pn**	**05 22 21.9**	**+3.7**
KSRS	**Korea Array**	**10.00**	**357**	P		**Pn**	**05 22 22.1**	**+3.7**
	337nm,0.9s,baz=175,slow=14,SNR=144							
KSRS					LR	LR	05 26 27.8	
	comp=Z,15μm,18.6s,baz=170,slow=39							
KSRS					PKiKP	**PKiKP**	**05 36 26.0**	**-1.0**
	2.2nm,0.8s,baz=273,slow=0.4,SNR=8.8							
KS19	**Wonju Array Si**	**10.05**	**357**			**Pn**	**05 22 22.6**	**+3.5**
INCN	**Inchon**	**10.15**	**351**	P		**Pn**	**05 22 24.8**	**+4.4**
INU	**Inuyama**	**10.67**	**40**			**Pn**	**05 22 28.9**	**+1.4**
INU	**Inuyama**	**10.67**	**40**	P		**Pn**	**05 22 30.7**	**+3.2**
JGF	**Kuroka**	**11.04**	**40**	Pn		**Pn**	**05 22 34.4**	**+1.7**
JHJ	**Hachijo jima 2**	**11.20**	**57**	P		**Pn**	**05 22 36.6**	**+1.8**
	83nm,0.3s,baz=93,slow=15,SNR=8.6							
JHJ					LR	LR	05 26 37.6	
	comp=Z,12μm,20.9s,baz=244,slow=35							
JHJ2	**Mitsune**	**11.22**	**57**			**Pn**	**05 22 36.0**	**+0.9**
JHJ2	**Mitsune**	**11.22**	**57**	P		**Pn**	**05 22 37.0**	**+1.9**
JCJ	**Chichijima**	**12.09**	**89**	P		**Pn**	**05 22 44.5**	**-2.5**
	106nm,0.4s,baz=293,slow=21,SNR=11							
JCJ					LR	LR	05 26 54.3	
	comp=Z,9μm,20.1s,baz=286,slow=34							
JCJ	**Chichijima**	**12.09**	**89**	Pn		**Pn**	**05 22 45.2**	**-1.8**
JCJ	**Chichijima**	**12.09**	**89**	P		**Pn**	**05 22 45.5**	**-1.5**
MAJO	**Matsushiro**	**12.19**	**40**	Pn		**Pn**	**05 22 49.8**	**+1.4**
MAJO	**Matsushiro**	**12.19**	**40**	P		**Pn**	**05 22 49.8**	**+1.4**
MAJO	**Matsushiro**	**12.19**	**40**	P		**Pn**	**05 22 52.3**	**+3.9**
MJAR	**Matsushiro Arr**	**12.19**	**40**	P		**Pn**	**05 22 47.9**	**-0.5**
	baz=231,slow=4.4,SNR=5.0							
MJAR					LR	LR	05 27 36.4	
	comp=Z,7μm,21.9s,baz=218,slow=37							
	17nm,0.9s							
MJB9	**Matsu-Tunnel**	**12.19**	**40**			**Pn**	**05 22 49.8**	**+1.4**
JRY	**Ryogami san**	**12.24**	**43**	P		**Pn**	**05 22 52.0**	**+3.0**
DL2	**Dalian**	**12.83**	**335**	P		**Pn**	**05 23 01.0**	**+4.0**
DL2					S	Sn	05 25 27.8	+9.3
DL2					pmax	pmax		
	comp=Z,290nm,0.9s							
DL2					pmax	pmax		
	comp=Z,4μm,8.7s							
DL2					LR	LR		
	comp=N,8μm,20.2s							
DL2					LR	LR		
	comp=E,5μm,19.1s							
DL2					LR	LR		
	comp=Z,10μm,19.6s							
WHN	**Wuhan**	**12.85**	**287**	⇑P		**Pn**	**05 23 00.5**	**+3.2**
WHN					sP	**P**	**05 23 06.5**	**-0.9**
WHN					LR	LR		
	comp=N,28μm,16.2s							
WHN					LR	LR		
	comp=E,9μm,7.6s							
WHN					LR	LR		
	comp=Z,29μm,16.4s							
TIA	**Tai'an**	**13.09**	**315**	⇑P		**Pn**	**05 23 04.5**	**+3.9**
TIA					sP	P	05 23 19.0	+8.9
TIA					pmax	pmax		
	comp=Z,88nm,1.1s							
TIA					pmax	pmax		
	comp=Z,1μm,3.7s							
TIA					LR	LR		
	comp=N,10μm,15.3s							
TIA					LR	LR		
	comp=E,10μm,17.1s							
TIA					LR	LR		
	comp=Z,18μm,17.6s							
JYT	**Yasato**	**13.18**	**45**			**Pn**	**05 23 01.1**	**-0.7**
JSD	**Sado**	**13.32**	**35**	Pn		**Pn**	**05 23 04.0**	**+0.3**
JMM	**Marumori**	**14.60**	**42**	Pn		**Pn**	**05 23 21.7**	**+0.6**
MCO	**Taipa Grande**	**14.65**	**252**	P		**P**	**05 23 27.0**	**-0.5**
SNY	**Shenyang**	**14.93**	**345**	⇑P		**P**	**05 23 28.0**	**-2.5**
SNY					S	**Sn**	**05 26 16.5**	**+6.9**
SNY					pmax	pmax		
	comp=Z,260nm,1.4s							
SNY					pmax	pmax		
	comp=Z,3μm,6.5s							
SNY					LR	LR		
	comp=N,9μm,19.4s							
SNY					LR	LR		
	comp=E,11μm,21.0s							
SNY					LR	LR		
	comp=Z,14μm,18.6s							
JYK	**Kaneyama**	**15.08**	**38**	P		**Pn**	**05 23 28.4**	**+0.9**
HNS	**HongShan**	**15.35**	**314**	⇑P		**P**	**05 23 33.8**	**-1.4**
HNS				pP		**pP**	**05 23 42.3**	**-2.6**
HNS				PP		**sP**	**05 23 48.5**	**-1.4**
HNS				S		**S**	**05 26 32.5**	**-2.4**
HNS				sS		sS	05 26 41.3	-8.9
HNS				pmax	pmax			
	comp=Z,400nm,1.1s							
HNS				pmax	pmax			
	comp=Z,2μm,3.9s							
HNS				LR	LR			
	comp=N,8μm,18.4s							
HNS				LR	LR			
	comp=E,10μm,17.8s							
HNS				LR	LR			
	comp=Z,14μm,17.0s							
LYN	**LuoYang**	**15.53**	**301**	⇑*i*P		**Pn**	**05 23 34.0**	**+0.6**
LYN				PP		**pP**	**05 23 46.8**	**-0.1**
LYN				sP		sP	05 23 49.5	-2.4
LYN				S		**Sn**	**05 26 28.8**	**+4.4**
LYN				SS		**S**	**05 26 45.5**	**+6.8**
LYN				pmax	pmax			
	comp=Z,80nm,2.0s							
LYN				pmax	pmax			
	comp=Z,3μm,3.6s							
LYN				LR	LR			
	comp=N,7μm,17.1s							
LYN				LR	LR			
	comp=E,10μm,18.2s							
LYN				LR	LR			
	comp=Z,13μm,17.5s							
JMK	**Ichinoseki**	**15.58**	**39**	P		**Pn**	**05 23 33.0**	**-1.0**
JOM	**Ohasama**	**15.98**	**38**	P		**Pn**	**05 23 38.2**	**-0.9**
BJT	**Baijiatuao**	**16.23**	**324**			**Pn**	**05 23 42.8**	**+0.4**
BJT	**Baijiatuao**	**16.23**	**324**	P		**Pn**	**05 23 42.8**	**+0.4**
BJT				pmax	pmax			
	comp=Z,482nm,1.0s							
BJI	**Beijing**	**16.25**	**324**	P		**P**	**05 23 44.3**	**-0.8**
BJI				pmax	pmax			
	comp=Z,450nm,0.9s							
BJI				LR	LR			
	comp=Z,2μm,19.5s							
BJI				LR	LR			
	comp=Z,6μm,17.6s							
BJI				LR	LR			
	comp=Z,10μm,19.0s							
CN2	**Changchun**	**16.52**	**352**	*e*P		**Pn**	**05 23 47.0**	**+1.0**
CN2				*e*PP		**sP**	**05 24 01.3**	**-1.6**
CN2				*e*S		**Sn**	**05 26 46.8**	**-1.5**
CN2				*es*S		S	05 27 01.0	+2.3
CN2				pmax	pmax			
	comp=Z,140nm,1.0s							
CN2				pmax	pmax			
	comp=Z,3μm,13.0s							
CN2				LR	LR			
	comp=Z,5μm,16.0s							
CN2				LR	LR			
	comp=Z,2μm,16.0s							
CN2				LR	LR			
	comp=Z,10μm,18.0s							
JANG	**Nango**	**16.75**	**36**	P		**Pn**	**05 23 47.3**	**-1.5**
JTM	**Tenmabayashi**	**16.82**	**35**			**Pn**	**05 23 49.1**	**-0.6**
USRK	**Ussuriysk Ar.**	**16.94**	**8**	P		**Pn**	**05 23 50.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=102,slow=36,SNR=8.4							
USRK				LR	LR		05 30 05.2	
	comp=Z,6μm,20.0s,baz=182,slow=36							
USRK	**Ussuriysk Ar.**	**16.94**	**8**	P		**Pn**	**05 23 51.0**	**-0.3**
ENH	**Enshi**	**16.98**	**284**	Pn		**Pn**	**05 23 52.0**	**+0.2**
TIY	**Taiyuan**	**17.02**	**311**	⇓P		**P**	**05 23 56.5**	**+2.7**
TIY				S		**Sn**	**05 27 00.0**	**-0.6**
TIY				pmax	pmax			
	comp=Z,270nm,0.9s							
TIY				pmax	pmax			
	comp=Z,3μm,4.9s							
TIY				LR	LR			
	comp=Z,6μm,13.7s						

comp=Z,5μm,9.6s
XLT LR LR
comp=Z,8μm,16.8s
XLT LR LR
comp=Z,9μm,16.9s
JCH Churui 19.33 35 P **P** **05 24 18.0 -1.0**
HHC Hu-ho-hao-te 19.39 318 *e*P **Pn** **05 24 21.0 -0.2**
HHC S **S** **05 27 52.0 -5.1**
HHC pmax pmax
comp=Z,270nm,1.2s
HHC pmax pmax
comp=Z,2μm,4.4s
HHC LR LR
comp=Z,19μm,14.6s
HHC LR LR
comp=Z,16μm,14.0s
HHC LR LR
comp=Z,27μm,14.6s
GYA Guiyang 19.58 272 ⇑P **Pn** **05 24 24.0 +0.3**
GYA S **S** **05 27 57.5 -3.7**
GYA pmax pmax
comp=Z,69nm,1.2s
GYA pmax pmax
comp=Z,2μm,9.7s
GYA LR LR
comp=Z,4μm,19.2s
GYA LR LR
comp=Z,6μm,23.8s
GYA LR LR
comp=Z,9μm,23.0s
JAR Ashorobuto 20.03 34 P **P** **05 24 25.4 -1.3**
BTO Baotou 20.18 315 *e*P Pn 05 24 30.5 -0.1
BTO LR LR
comp=Z,28μm,14.9s
BTO LR LR
comp=Z,24μm,18.1s
GUMO Guam 20.51 129 P **P** **05 24 33.2 +1.1**
comp=Z,818nm,1.0s,baz=223,slow=2.9,SNR=19
GUMO LR LR 05 30 56.4
comp=Z,8μm,21.1s,baz=309,slow=32
comp=Z,818nm,1.0s
GUMO Guam 20.51 129 P **P** **05 24 32.8 +0.6**
GUMO IAmb IAmb 05 24 38.3
comp=Z,1μm,1.1s
GUMO Guam 20.51 129 IAMs_20 IAMs_20 05 30 35.1
comp=Z,8μm,21.0s
GUMO Guam 20.51 129 P **P** **05 24 32.8 +0.6**
GUMO pmax pmax
comp=Z,1μm,1.1s
GUMO Guam 20.51 129 P Pn 05 24 33.6 -0.9
JKHN Kushirohamanak 20.59 36 P **P** **05 24 33.3 +0.6**
JTKR Abashiri--Toko 20.60 33 P **P** **05 24 33.1 +0.2**
JNK Nakash 20.72 35 P **P** **05 24 34.3 +0.2**
NMR Nemuro--Hokkai 21.09 37 *e*P **P** **05 24 38.1 0.0**
NEM2 Nemuro 2 21.09 37 P **P** **05 24 37.8 -0.4**
RUSJ Misakicho 21.35 35 *e*P **P** **05 24 43.9 +2.9**
YUK Yuzh-Kuril'sk 21.62 36 *i* P **P** **05 24 45.2 +1.4**
YUK *e* 05 25 04.7
YUK *e*S **S** **05 28 41.9 +0.8**
YUK pmax pmax
comp=Z,2μm,1.1s
YUK pmax pmax
comp=E,2μm,1.0s
YUK pmax pmax
comp=N,1μm,0.9s
YUK pmax pmax
comp=Z,3μm,1.3s
YUK MLR MLR
comp=Z,4μm,20.0s
YUK MLR MLR
comp=N,2μm,18.0s
KLR Kul'dur 21.89 6 P **P** **05 24 43.3 -3.3**
comp=N,6.2nm,0.5s,baz=183,slow=8.1,SNR=14
KLR PcP **PcP** **05 28 45.8 +1.0**
comp=N,13nm,0.8s,baz=289,slow=5.5,SNR=3.9
KLR LR LR 05 33 12.6
comp=N,4μm,19.8s,baz=177,slow=36
KLR Kul'dur 21.89 6*ce*P **P** **05 24 43.4 -3.3**
KLR pmax pmax
comp=Z,18nm,1.3s
KLR MLR MLR
comp=Z,4μm,20.0s
CD2 Chengdu 21.95 285 P **P** **05 24 46.8 -0.8**
CD2 pP pP 05 24 56.5 -1.0
CD2 sP sP 05 25 05.5 +3.1
CD2 S **S** **05 28 42.5 -5.3**
CD2 sS sS 05 29 03.3 -0.4
CD2 pmax pmax
comp=Z,540nm,0.9s
CD2 pmax pmax
comp=Z,950nm,6.5s
CD2 LR LR
comp=Z,9μm,16.5s
CD2 LR LR
comp=Z,9μm,17.8s
CD2 LR LR
comp=Z,10μm,17.5s
YSS Yuzh-Sakhalins 22.44 26 P **P** **05 24 53.0 +0.4**
YSS Yuzh-Sakhalins 22.44 26*ce*P **P** **05 24 52.7 +0.1**
YSS *e**SP **sP** **05 25 08.8 +1.3**
YSS *e* 05 25 15.4
YSS *e*PPP PPP 05 25 28.6
YSS *e*S **S** **05 28 52.6 -3.8**
YSS *e*SS **SnSn** **05 29 28.3 +1.5**
YSS *e*SSS SSS 05 29 51.1
YSS pmax pmax
comp=Z,2μm,12.9s
YSS pmax pmax
comp=N,1μm,13.1s
YSS pmax pmax
comp=E,1μm,11.6s
YSS pmax pmax
comp=Z,180nm,1.2s
YSS smax smax
comp=N,1μm,10.5s
YSS smax smax
comp=E,2μm,12.9s
YSS MLR MLR
comp=Z,3μm,18.0s
YSS MLR MLR
comp=E,2μm,15.0s
YSS Yuzh-Sakhalins 22.44 26 P **P** **05 24 52.6 0.0**
LZH Lanzhou 22.70 298 ⇓P **P** **05 24 56.3 +0.6**
LZH pP pP 05 25 07.5 +2.0
LZH sP sP 05 25 12.8 +2.4
LZH sS Sn 05 29 14.0 -3.4
LZH pmax pmax
comp=E,440nm,1.3s
LZH pmax pmax
comp=E,3μm,5.4s
LZH LR LR
comp=E,7μm,16.5s
LZH LR LR
comp=E,10μm,16.8s
LZH LR LR
comp=E,15μm,19.9s
HIA Hailar 22.84 345 P **P** **05 24 57.4 +0.5**
HIA Hailar 22.84 345 IAMs_20 IAMs_20 05 34 30.8
comp=Z,7μm,19.0s
HIA Hailar 22.84 345 P **P** **05 24 57.4 +0.5**
HIA pmax pmax
comp=Z,86nm,1.0s
HIA MLR MLR
comp=Z,7μm,19.0s
KMI Kunming 23.29 270 ⇑P **P** **05 25 01.3 -0.6**
KMI sP sP 05 25 16.0 -0.8
KMI PcP **PcP** **05 28 49.5 +1.0**
KMI S **S** **05 29 06.3 -5.4**
KMI SS **SnSn** **05 29 53.5 +5.3**
KMI pmax pmax
comp=Z,420nm,1.3s
KMI pmax pmax
comp=Z,1μm,3.5s
KMI LR LR
comp=Z,7μm,15.2s
KMI LR LR
comp=Z,7μm,17.6s
KUR Kuril'sk 23.48 36 *e*P **P** **05 25 02.7 -0.5**
KUR *e* 05 25 23.2
KUR *e*PPP PPP 05 25 31.2
KUR S **S** **05 29 11.9 -2.1**
KUR pmax pmax
comp=Z,6μm,2.8s
KUR pmax pmax
comp=Z,1μm,1.3s
KUR MLR MLR

comp=Z,2μm,17.0s
SGSI Sangihe 23.80 188 P **P** **05 25 05.5 -1.0**
comp=Z,6μmcomp=Z,675nm,1.0s
PZH PanZhiHua 23.94 274 ⇓P **P** **05 25 08.3 +0.4**
PZH pP **pP** **05 25 19.3 +0.8**
PZH sP **sP** **05 25 23.5 +0.3**
PZH PP **PnPn** **05 25 43.0 +5.6**
PZH S **S** **05 29 20.3 -1.7**
PZH pmax pmax
comp=Z,260nm,1.2s
PZH pmax pmax
comp=Z,830nm,5.9s
PZH LR LR
comp=Z,14μm,16.3s
PZH LR LR
comp=Z,17μm,17.3s
PZH LR LR
comp=Z,16μm,16.8s
UGL Uglegorsk 23.98 22 *e*P **P** **05 25 10.2 +2.3**
UGL *e*S **S** **05 29 27.8 +5.9**
UGL pmax pmax
comp=Z,270nm,1.2s
UGL MLR MLR
comp=E,6μm,12.0s
UGL MLR MLR
comp=N,7μm,18.0s
UGL MLR MLR
comp=Z,5μm,17.0s
GRNR Gornyy 24.05 12 ⇓*i*P **P** **05 25 09.0 +0.5**
GRNR *e*S **S** **05 29 26.5 +3.5**
GRNR pmax pmax
comp=E,7.0nm,0.7s
GRNR pmax pmax
comp=N,7.0nm,0.6s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=N,7.0nm,0.6s
GRNR MLR MLR
comp=E,1μm,16.0s
GRNR MLR MLR
comp=N,3μm,15.0s
GRNR MLR MLR
comp=Z,4μm,16.0s
MYLDM Lahad Datu 24.14 205 P **P** **05 25 11.2 +1.6**
MYLDM IAmb IAmb 05 25 29.5
comp=Z,590nm,1.4s
KKM Kota Kinabalu 24.32 211 P **P** **05 25 12.8 +1.4**
KKM IAmb IAmb 05 25 35.0
comp=Z,980nm,1.7s
KKM Kota Kinabalu 24.32 211 P **P** **05 25 13.0 +1.6**
comp=Z,272nm,1.5s
UBPT Khong Chiam 24.66 245 P **P** **05 25 15.4 +1.1**
SPMM Sapulut 25.40 209 P **P** **05 25 22.0 +0.9**
ZEA Zeya 26.29 358 *e*P **P** **05 25 29.3 +0.5**
ZEA *e* 05 25 49.1
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA MLR MLR
comp=E,2μm,15.0s
ZEA MLR MLR
comp=N,2μm,21.0s
ZEA MLR MLR
comp=Z,2μm,23.0s
ULN Ulaanbaatar 26.42 326 P **P** **05 25 29.6 -0.7**
ULN IAmb IAmb 05 25 50.3
comp=Z,348nm,1.2s
ULN Ulaanbaatar 26.42 326 P **P** **05 25 29.6 -0.7**
ULN pmax pmax
comp=Z,348nm,1.2s
TNTI Ternate 26.55 183 P **P** **05 25 33.8 +2.3**
TNTI IAmb IAmb 05 25 48.2
comp=Z,402nm,0.9s
TNTI Ternate 26.55 183 P **P** **05 25 32.5 +1.0**
GTA Gaotai 26.71 304 ⇑P **P** **05 25 31.5 -1.5**
GTA pP pP 05 25 41.0 -2.6
GTA sP sP 05 25 45.3 -3.1
GTA PcP **PcP** **05 28 56.5 +0.8**
GTA S **S** **05 30 05.0 -0.9**
GTA sS sS 05 30 22.0 -1.8
GTA ScP **ScP** **05 32 32.0 -0.7**
GTA PcS **PcS** **05 32 36.5 -0.6**
GTA pmax pmax
comp=Z,25nm,1.1s
GTA pmax pmax
comp=Z,900nm,7.8s
GTA LR LR
comp=Z,5μm,15.3s
GTA LR LR
comp=Z,8μm,16.0s
GTA LR LR
comp=Z,10μm,17.4s
SONM Songino Array 26.73 326 P **P** **05 25 30.7 -2.3**
comp=Z,17nm,0.8s,baz=135,slow=8.1,SNR=41
SONM LR LR 05 37 21.7
comp=Z,6μm,19.3s,baz=121,slow=39
comp=Z,17nm,0.8s
SONM Songino Array 26.73 326 P **P** **05 25 30.8 -2.3**
CRAI Chiangrai 26.76 261 P **P** **05 25 33.8 +0.4**
CRAI PcP **PcP** **05 28 56.9 +0.9**
CIT Chita 27.03 339 *e*P P 05 25 47.1 +12
CIT *e* 05 25 55.9
CIT *e* 05 26 03.3
CIT *e* 05 26 16.3
CIT *e* 05 26 29.3
CIT *e* 05 28 56.3
CIT *e* 05 30 09.9
CIT pmax pmax
comp=Z,526nm,1.3s
GTOI Gorontalo 27.19 192 P **P** **05 25 35.5 -1.7**
comp=Z,1μmcomp=Z,115nm,1.2s
TOLI2 Tolitoli 27.23 197 P **P** **05 25 37.3 -0.4**
TOLI2 PcP **PcP** **05 28 56.2 -1.0**
TOLI2 Tolitoli 27.23 197 P **P** **05 25 37.6 -0.1**
PHRA Phrae 27.54 257 P **P** **05 25 41.3 +0.8**
PHRA PcP **PcP** **05 28 59.1 +1.3**
MRSI Marisa 27.56 195 P **P** **05 25 40.9 +0.3**
comp=Z,3μmcomp=Z,281nm,1.4s
MPSI Mapaga 28.21 199 P **P** **05 25 46.2 -0.2**
comp=Z,2μmcomp=Z,1μmcomp=Z,74nm,1.3s
SWI Sorong 28.26 174 pP pP 05 25 57.3 -0.3
comp=Z,3μmcomp=Z,2μmcomp=Z,183nm,1.2s
SIJI Sorong 28.27 174 P **P** **05 25 46.6 -0.3**
comp=Z,12nm,0.7s,baz=239,slow=22,SNR=1.4
SIJI ScP **ScP** **05 32 36.8 -0.8**
comp=Z,3.0nm,0.3s,baz=305,slow=0.9,SNR=6.0
SIJI LR LR 05 36 31.2
comp=Z,4μm,19.2s,baz=18,slow=35
comp=Z,12nm,0.7s
CHTO Chiang Mai 28.54 259 P **P** **05 25 49.8 +0.5**
CHTO Chiang Mai 28.54 259 IAMs_20 IAMs_20 05 38 33.9
comp=Z,3μm,20.0s
CHTO Chiang Mai 28.54 259 P **P** **05 25 49.8 +0.5**
CHTO pmax pmax
comp=Z,11nm,1.0s
CHTO MLR MLR
comp=Z,3μm,20.0s
CHTO Chiang Mai 28.54 259 P **P** **05 25 50.1 +0.8**
CM31 Chiang Mai Arr 28.68 258 P **P** **05 25 51.6 +1.0**
CM31 **PcP** **05 29 02.2 +1.6**
CMAR Chiang Mai Arr 28.68 258 P **P** **05 25 50.6 0.0**
comp=Z,63nm,0.8s,baz=54,slow=7.4,SNR=139
CMAR PcP **PcP** **05 29 01.7 +1.0**
comp=Z,37nm,0.8s,baz=42,slow=1.3,SNR=28
CMAR ScP **ScP** **05 32 38.7 -0.1**
comp=Z,4.3nm,0.3s,baz=207,slow=1.0,SNR=6.7
CMAR PKiKP **PKiKP** **05 36 35.1 -0.5**
comp=Z,1.7nm,0.8s,baz=279,slow=1.7,SNR=6.0
CMAR LR LR 05 38 49.6
comp=Z,3μm,19.1s,baz=70,slow=40
comp=Z,63nm,0.8s
CMAR Chiang Mai Arr 28.68 258 P **P** **05 25 50.9 +0.3**
CMAR PcP **PcP** **05 29 01.9 +1.2**
APSI Ampana 28.97 194 P **P** **05 25 54.3 +1.1**
comp=Z,114nm,1.2s
APSI pP **pP** **05 26 05.7 +1.8**
comp=Z,114nm,1.2s
SBUM Sibu 29.38 215 P **P** **05 25 57.2 +0.4**
SBUM PcP **PcP** **05 29 03.7 +1.2**
SBUM Sibu 29.38 215 P **P** **05 25 58.0 +1.2**
SANI Sanana 29.43 185 P **P** **05 25 58.4 +1.2**
GOMU GeErMu 29.89 295 P **P** **05 26 02.0 +0.4**
GOMU pP sP 05 26 15.0 -2.1
GOMU PcP **PcP** **05 29 04.8 +0.9**
GOMU S **S** **05 30 54.0 -2.4**
GOMU pmax pmax
comp=Z,290nm,0.8s
GOMU pmax pmax
comp=Z,520nm,7.3s
GOMU LR LR
comp=Z,1μm,19.1s
GOMU LR LR
comp=Z,2μm,18.3s
GOMU LR LR
comp=Z,3μm,19.0s
FAKI Fak Fak 30.39 173 P **P** **05 26 05.8 +0.1**
FAKI IAMs_20 IAMs_20 05 37 29.0
comp=Z,4μm,20.0s
FAKI Fak Fak 30.39 173 P **P** **05 26 06.2 +0.5**
IRK Irkutsk 30.74 330 *e*P **P** **05 26 08.5 -0.1**
IRK *e* 05 27 04.2
IRK pmax pmax
comp=Z,98nm,1.7s
SKR Severo-Kuril's 31.23 35 *e*P **P** **05 26 12.9 +0.1**
SKR pmax pmax
comp=Z,300nm,2.9s
SKR pmax pmax
comp=Z,195nm,1.1s
SKR MLR MLR
comp=Z,800nm,19.0s
BNDI Bandanaira 31.80 178 P **P** **05 26 19.3 +1.1**
BOD Bodaibo 32.06 345 *e*P **P** **05 26 19.3 -0.7**
BOD pmax pmax
comp=Z,23nm,1.5s
SHL Shillong 32.84 275 P **P** **05 26 27.3 -0.2**
SHL IAmb IAmb 05 26 28.0
comp=Z,158nm,0.9s
SHL **PcP** **05 29 11.9 +0.1**
SHL Shillong 32.84 275 P **P** **05 26 27.3 -0.2**
SHL 05 29 11.9
SHL pmax pmax
comp=Z,158nm,0.9s
SHL Shillong 32.84 275 *e*P **P** **05 26 26.3 -1.1**
LSA Lhasa 32.87 283 P **P** **05 26 29.2 +1.1**
LSA IAMs_20 IAMs_20 05 40 32.8
comp=Z,5μm,22.0s
LSA Lhasa 32.87 283 P **P** **05 26 29.2 +1.1**
LSA pmax pmax
comp=Z,71nm,0.8s
LSA MLR MLR
comp=Z,5μm,22.0s
LSA Lhasa 32.87 283 P **P** **05 26 27.8 -0.2**
LSA Lhasa 32.87 283 P **P** **05 26 28.8 +0.7**
LSA pP **pP** **05 26 37.7 -1.2**
LSA sP **sP** **05 26 41.6 -1.9**
SRIT Nakonsritamara 33.20 241 P **P** **05 26 32.4 +1.9**
SRIT IAmb IAmb 05 26 33.6
comp=Z,261nm,1.0s
KAPI Kappang 33.38 196 P **P** **05 26 30.6 -1.4**
comp=Z,3.4nm,0.3s,baz=349,slow=7.8,SNR=2.0
KAPI ScP **ScP** **05 32 54.5 +0.1**
comp=Z,3.0nm,0.3s,baz=6.0,slow=4.2,SNR=5.3
KAPI LR LR 05 39 41.1
comp=Z,2μm,19.9s,baz=11,slow=36
comp=Z,3.4nm,0.3s
KAPI Kappang 33.38 196 P **P** **05 26 35.7 +3.7**
PEA0B Petropavlovsk- 33.50 32 P **P** **05 26 32.4 -0.3**
PEA0B IAmb IAmb 05 26 34.2
comp=Z,272nm,0.9s
PETK Petropavlovsk- 33.50 32 P **P** **05 26 31.7 -1.0**
comp=Z,180nm,0.9s,baz=218,slow=9.4,SNR=80
PETK LR LR 05 40 13.4
comp=Z,180nm,0.9s
comp=Z,4μm,21.8s,baz=228,slow=36
PETK Petropavlovsk- 33.50 32 P **P** **05 26 31.9 -0.8**
BRDH Bariadhala 33.73 270 PcP **PcP** **05 29 16.2 +2.1**
comp=Z,126nm,0.6s,baz=92,slow=6.3,SNR=7.4
PET Petropavlovsk 33.90 33 P **P** **05 26 36.7 +0.5**
PET IAMs_20 IAMs_20 05 40 04.2
comp=Z,4μm,22.0s
PET Petropavlovsk 33.90 33 *e*P **P** **05 26 35.5 -0.7**
PET *e*S **S** **05 31 57.0 -0.8**
PET pmax pmax
comp=Z,464nm,1.0s
PET MLR MLR
comp=Z,2μm,20.0s
PET MLR MLR
comp=Z,2μm,15.0s
PET Petropavlovsk 33.90 33 P **P** **05 26 36.6 +0.4**
comp=Z,2μm,1.6s
PET Petropavlovsk 33.90 33 P **P** **05 26 36.1 -0.1**
KULM Kulim 34.54 235 P **P** **05 26 42.9 +0.8**
KULM IAmb IAmb 05 26 44.8
comp=Z,233nm,1.2s
YAK Yakutsk 34.59 1 LR LR 05 40 54.7
comp=Z,2μm,21.4s,baz=178,slow=36
YAK Yakutsk 34.59 1 P **P** **05 26 41.5 -0.6**
YAK IAmb IAmb 05 26 44.4
comp=Z,171nm,0.8s
YAK PcP **PcP** **05 29 16.1 +0.3**
YAK Yakutsk 34.59 1 *e*P **P** **05 26 40.7 -1.4**
YAK *e**PP **pP** **05 26 52.3 -0.6**
YAK *e* 05 27 57.1
YAK *e* 05 29 14.7
YAK *e*S **S** **05 32 07.4 -0.9**
YAK *e**SS **sS** **05 32 27.1 +0.7**
YAK *e*SS **SnSn** **05 34 17.1 -5.4**
YAK *e*SSS SSS 05 34 43.1
YAK *e* 05 37 00.8
YAK pmax pmax
comp=Z,187nm,0.9s
YAK pmax pmax
comp=N,47nm,1.0s
YAK pmax pmax
comp=E,19nm,1.1s
YAK pmax pmax
comp=Z,124nm,2.0s
YAK pmax pmax
comp=N,103nm,2.1s
YAK pmax pmax
comp=E,112nm,2.5s
YAK smax smax
comp=N,123nm,1.8s
YAK smax smax
comp=E,68nm,1.6s
YAK Yakutsk 34.59 1 P **P** **05 26 40.6 -1.4**
YAK sP **sP** **05 26 55.8 -1.8**
IPM Ipoh 34.82 234 P **P** **05 26 45.1 +0.6**
IPM IAmb IAmb 05 26 46.6
comp=Z,234nm,1.0s
IPM Ipoh 34.82 234 P **P** **05 26 45.4 +0.9**
MYKOM Kota Tinggi 34.82 227 P **P** **05 26 45.9 +1.4**
MYKOM IAmb IAmb 05 26 47.2
comp=Z,288nm,1.5s
PATS Pohnpei 34.85 121 P **P** **05 26 43.6 -1.2**
PATS IAMs_20 IAMs_20 05 38 15.6
comp=Z,4μm,22.0s
PATS Pohnpei 34.85 121 P **P** **05 26 43.7 -1.1**
SAUI Saumlaki 35.31 175 P **P** **05 26 49.5 +0.8**
MA2 Magadan 35.56 19 LR LR 05 42 27.1
comp=Z,1μm,19.1s,baz=219,slow=38
WAKE Wake Island 35.76 95 IAMs_20 IAMs_20 05 38 30.4
comp=Z,3μm,20.0s
H11N2 WAKE ISLAND Hy 35.82 94 T T 06 04 37.3
baz=290,slow=75,SNR=196
H11N1 WAKE ISLAND Hy 35.82 94 T T 06 04 32.7
baz=290,slow=75,SNR=136
H11N3 WAKE ISLAND Hy 35.84 94 T T 06 04 33.8
baz=292,slow=75,SNR=158
H11S3 WAKE ISLAND Hy 36.07 96 T T 06 05 06.4
baz=292,slow=75,SNR=68
H11S1 WAKE ISLAND Hy 36.07 96 T T 06 05 02.4
baz=292,slow=75,SNR=136
H11S2 WAKE ISLAND Hy 36.08 96 T T 06 05 04.3
baz=292,slow=75,SNR=114
TAPN Taplejung 36.19 280 *e*P **P** **05 26 56.6 0.0**
comp=Z,406nm,1.1s
DGPR DIGLIPUR 36.19 254 *e*P **P** **05 26 57.4 +1.1**
DGPR IAmb IAmb 05 27 04.5
comp=Z,405nm,1.1s
ODAN Odare 36.55 279 *e*P **P** **05 26 58.9 -0.7**
comp=Z,127nm,1.0s
WMQ Urumqi 36.63 307 *e*P **P** **05 26 58.0 -1.9**
WMQ pP pP 05 27 11.5 +0.7
WMQ PP **PP** **05 28 25.3 +1.6**
WMQ PcP **PcP** **05 29 21.8 -0.5**
WMQ S **S** **05 32 33.5 -6.7**
WMQ PcS **PcS** **05 33 08.5 -1.7**

WMQ SS **SnSn** **05 35 09.5 -2.8**
WMQ pmax pmax
comp=Z,120nm,1.1s
WMQ pmax pmax
comp=Z,420nm,9.3s
WMQ LR LR
comp=Z,3µm,18.7s
WMQ LR LR
comp=Z,5µm,17.5s
WMQ LR LR
comp=Z,5µm,25.7s
WMQ Urumqi 36.63 307 S **P** **05 26 58.3 -1.6**
SOEI Soe 37.21 187 IAMs_20 IAMs_20 05 41 29.6
comp=Z,2µm,22.0s
RAMN Ramite 37.23 279 *e*P **P** **05 27 04.2 -1.2**
comp=Z,369nm,1.1s
LHMI Lhok Sumawe 37.35 239 P **P** **05 27 08.7 +2.5**
LHMI IAmb IAmb 05 27 09.4
comp=Z,390nm,1.2s
LHMI Lhok Sumawe 37.35 239 P **P** **05 27 08.2 +2.0**
JIRN Jiri 37.46 280 *e*P **P** **05 27 07.4 -0.1**
comp=Z,236nm,0.9s
PSI Prapat 37.48 234 P **P** **05 27 08.4 +1.0**
comp=Z,74nm,1.1s,baz=15,slow=4.6,SNR=36
PSI PcP **PcP** **05 29 25.3 -0.1**
comp=Z,43nm,1.2s,baz=55,slow=3.6,SNR=4.2
comp=Z,74nm,1.1s
PSI Prapat 37.48 234 P **P** **05 27 08.5 +1.0**
PSI 05 29 25.0
PSI pmax pmax
comp=Z,142nm,1.2s
PLAI Plampang 37.55 198 P **P** **05 27 07.4 -0.4**
RPSI Rantau Prapat 37.56 234 P **P** **05 27 08.5 +0.6**
RPSI **PcP** **05 29 25.0 -0.5**
GUN Gumba 37.69 281 *e*P **P** **05 27 09.8 +0.4**
comp=Z,464nm,0.8s
BATI Baumata 37.73 188 P **P** **05 27 06.8 -2.5**
comp=Z,56nm,0.6s,baz=200,slow=3.0,SNR=4.2
BATI LR LR 05 46 44.3
comp=Z,529nm,18.8s,baz=39,slow=43
BKNI Bangkinang 37.77 229 P **P** **05 27 11.3 +1.5**
BKNI Bangkinang 37.77 229 P **P** **05 27 11.4 +1.7**
PMBI Palembang 37.94 221 IAMs_20 IAMs_20 05 45 36.5
comp=Z,775nm,19.0s
PKI Pulchoki 38.16 280 *e*P **P** **05 27 13.1 -0.3**
comp=Z,785nm,0.9s
PKIN Phulchoki 38.17 281 *e*P **P** **05 27 13.2 -0.2**
comp=Z,798nm,0.9s
KKN Kakani 38.24 281 *e*P **P** **05 27 13.4 -0.5**
comp=Z,215nm,1.7s
JAGI Jajag, Banyuwa 38.34 203 P **P** **05 27 14.6 +0.1**
JAGI Jajag, Banyuwa 38.34 203 P **P** **05 27 14.5 0.0**
DMN Daman 38.42 281 *e*P **P** **05 27 15.3 -0.2**
comp=Z,1µm,1.1s
DGZ Jazzator, Alta 38.46 317 *i* P **P** **05 27 15.6 +0.2**
DGZ pmax pmax
comp=Z,20nm,0.6s
BOK Bokaro 38.55 274 *e*P **P** **05 27 16.8 +0.6**
BOK IAmb IAmb 05 27 17.5
comp=Z,308nm,0.9s
GKN Gorkha 38.76 281 *e*P **P** **05 27 18.2 0.0**
comp=Z,1µm,0.9s
SEY Seymchan 38.77 17 LR LR 05 44 36.6
comp=Z,3µm,18.7s,baz=165,slow=38
SEY Seymchan 38.77 17 *ce*P **P** **05 27 17.5 -0.1**
SEY pmax pmax
comp=Z,129nm,2.0s
RABL Rabaul 38.81 140 P **P** **05 27 18.4 -0.2**
KRVT Keravat (AS076 38.83 141 P **P** **05 27 19.4 +0.7**
comp=Z,365nm,0.9s,baz=263,slow=2.9,SNR=27
comp=Z,365nm,0.9s
ZSN Zaisan 39.42 312 *e*P **P** **05 27 22.1 -1.2**
ZSN *e*S **S** **05 33 21.1 -1.1**
ZSN Zaisan 39.42 312 *e*P **P** **05 27 22.2 -1.1**
baz=312
ZSN *e*S **S** **05 33 21.2 -1.1**
baz=312
DANN Dangsing 39.47 282 *e*P **P** **05 27 24.6 +0.4**
comp=Z,1µm,0.9s
GSI Gunungsitoli 39.49 234 P **P** **05 27 24.6 +0.4**
GSI Gunungsitoli 39.49 234 P **P** **05 27 24.5 +0.4**
VLK Valmikinagar 39.55 280 *e*P **P** **05 27 25.3 +0.7**
BWNR Bhubaneshwar 39.62 269 *e*P **P** **05 27 26.2 +1.0**
LEM Lembang 39.66 214 P **P** **05 27 27.0 +1.3**
comp=Z,160nm,1.0s,baz=120,slow=6.8,SNR=12
LEM LR LR 05 44 04.7
comp=Z,742nm,21.4s,baz=8.0,slow=37
KOLN Koldanda 39.70 281 *e*P **P** **05 27 25.6 -0.5**
comp=Z,198nm,1.6s
MTN Manton Dam 40.12 176 P **P** **05 27 28.6 -0.7**
MTN IAmb IAmb 05 27 42.1
comp=Z,388nm,0.8s
MTN Manton Dam 40.12 176 P **P** **05 27 29.8 +0.5**
PMG Port Moresby 40.81 151 P **P** **05 27 35.1 +0.1**
comp=Z,63nm,0.9s,baz=343,slow=7.0,SNR=16
PMG pP **pP** **05 27 47.4 +1.2**
comp=Z,154nm,1.0s,baz=351,slow=7.2,SNR=10
comp=Z,63nm,0.9s
PMG Port Moresby 40.81 151 P **P** **05 27 35.5 +0.5**
PMG Port Moresby 40.81 151 P **P** **05 27 35.1 +0.1**
PMG Port Moresby 40.81 151 P **P** **05 27 35.2 +0.1**
PMG Port Moresby 40.81 151 P **P** **05 27 34.9 -0.1**
PMG pP **pP** **05 27 45.1 -1.0**
MK31 Makanchi Array 40.98 311 P **P** **05 27 35.0 -1.3**
MK31 Makanchi Array 40.98 311 *i* P **P** **05 27 34.5 -1.8**
MK31 pmax pmax
comp=Z,36nm,0.7s
MKAR Makanchi Array 40.98 311 P **P** **05 27 34.3 -2.0**
comp=Z,34nm,0.8s,baz=93,slow=9.6,SNR=68
MKAR PcP **PcP** **05 29 35.9 +0.1**
comp=Z,38nm,0.8s,baz=72,slow=4.0,SNR=9.8
MKAR ScP **ScP** **05 33 22.5 0.0**
comp=Z,7.9nm,1.1s,baz=80,slow=9.4,SNR=3.5
MKAR LR LR 05 47 12.4
comp=Z,3µm,18.2s,baz=90,slow=40
comp=Z,34nm,0.8s
MKAR Makanchi Array 40.98 311 P **P** **05 27 35.2 -1.1**
MAKZ Makanchi 41.20 311 P **P** **05 27 36.8 -1.2**
MAKZ IAMs_20 IAMs_20 05 46 59.1
comp=Z,4µm,18.0s
MAKZ Makanchi 41.20 311 P **P** **05 27 36.8 -1.2**
MAKZ pmax pmax
comp=Z,117nm,1.3s
MAKZ MLR MLR
comp=Z,4µm,18.0s
MAKZ Makanchi 41.20 311 P **P** **05 27 36.8 -1.2**
MAKZ sP **sP** **05 27 52.2 -1.5**
ZAA0 Zalesovo Array 41.49 322 P **P** **05 27 39.6 -0.7**
ZALV Zalesovo Beam 41.49 322 P **P** **05 27 38.0 -2.3**
comp=Z,36nm,0.6s,baz=113,slow=9.1,SNR=58
ZALV pP **pP** **05 27 53.0 +1.6**
comp=Z,36nm,0.8s,baz=108,slow=8.0,SNR=6.3
ZALV PcP **PcP** **05 29 36.7 -0.6**
comp=Z,40nm,0.8s,baz=113,slow=3.4,SNR=9.4
ZALV ScP **ScP** **05 33 22.9 -1.4**
comp=Z,6.2nm,0.9s,baz=142,slow=4.9,SNR=4.4
ZALV LR LR 05 46 53.1
comp=Z,6µm,18.6s,baz=106,slow=39
comp=Z,36nm,0.6s
ZALV Zalesovo Beam 41.49 322 P **P** **05 27 39.6 -0.7**
ALBI Allahabad 41.78 278 *e*P **P** **05 27 43.0 0.0**
SHEM Shemya Is, Ala 42.04 40 LR LR 05 42 55.8
comp=Z,724nm,21.7s,baz=239,slow=33
SMY Shemya 42.04 40 P **P** **05 27 45.3 +0.6**
SMY IAmb IAmb 05 27 46.8
comp=Z,282nm,1.0s
SMY Shemya 42.04 40 P **P** **05 27 45.3 +0.6**
SMY pmax pmax
comp=Z,282nm,1.0s
RAGD RAYAGADA 42.06 269 *e*P **P** **05 27 46.0 +0.7**
LGTI Lohaghat 42.32 285 *e*P **P** **05 27 48.8 +1.4**
BLSP Bilaspur 42.33 273 *e*P **P** **05 27 47.4 -0.2**
PTH Pithoragarh 42.33 285 *e*P **P** **05 27 47.8 +0.1**
PDGK Podgornoye 42.44 305 P **P** **05 27 46.8 -1.6**
SHLS Shalkode 42.44 305 *e*P **P** **05 27 44.5 -3.8**
SHLS Shalkode 42.44 305 *e*P **P** **05 27 44.6 -3.8**
baz=305
UZB Uzynbulak 42.76 305 *e*P **P** **05 27 49.5 -1.5**
UZB Uzynbulak 42.76 305 *e*P **P** **05 27 49.5 -1.5**
baz=305
KNRA Kununurra 42.86 180 P **P** **05 27 51.9 +0.2**
KPKS Kokpek 43.04 305 *e*P **P** **05 27 52.0 -1.2**
KPKS pmax pmax
comp=Z,105nm,1.3s
KPKS Kokpek 43.04 305 *e*P **P** **05 27 52.0 -1.2**
comp=Z,105nm,1.3s,baz=305

SEM Semipalatinsk 43.09 316 *e*P **P** **05 27 52.0 -1.6**
SEM Semipalatinsk 43.09 316 *e*P **P** **05 27 52.0 -1.6**
baz=316
SEM *i* S **S** **05 34 15.2 -1.8**
baz=316
SEM *i* LR LR 05 46 04.6
baz=316
ZHN Zhinishke 43.19 305 *e*P **P** **05 27 53.0 -1.5**
ZHN Zhinishke 43.19 305 *e*P **P** **05 27 53.0 -1.5**
baz=305
SATY Saty 43.21 305 *e*P **P** **05 27 53.9 -0.7**
SATY pmax pmax
comp=Z,94nm,1.1s
SATY Saty 43.21 305 *e*P **P** **05 27 53.9 -0.7**
comp=Z,94nm,1.1s,baz=305
TDK Taldyqorghan 43.39 307 *e*P **P** **05 27 55.1 -0.7**
TDK pmax pmax
comp=Z,137nm,0.9s
TDK Taldyqorghan 43.39 307 *e*P **P** **05 27 55.1 -0.7**
comp=Z,137nm,0.9s,baz=307
TDK LR LR 05 46 28.1
baz=307
COEN Coen 43.52 159 P **P** **05 27 58.0 +1.0**
TARG Taragay, Kyrgy 43.57 303 P **P** **05 27 58.2 +0.3**
TARG IAmb IAmb 05 27 59.7
comp=Z,337nm,1.0s
TARG Taragay, Kyrgy 43.57 303 P **P** **05 27 58.2 +0.3**
TARG pmax pmax
comp=Z,337nm,1.0s
KURK Kurchatov 44.18 316 P **P** **05 28 00.9 -1.1**
KURK Kurchatov 44.18 316 P **P** **05 28 00.6 -1.5**
KURK 05 29 45.9
KURK Kurchatov 44.18 316 P **P** **05 28 00.5 -1.5**
KURK sP **pP** **05 28 14.6 +1.5**
MDOK Medeo 44.21 305 *e*P **P** **05 28 01.6 -1.0**
MDOK *e*S **S** **05 34 31.6 -1.8**
MDOK Medeo 44.21 305 *e*P **P** **05 28 01.6 -1.0**
baz=305
MDOK *e*S **S** **05 34 31.6 -1.8**
baz=305
MDOK LR LR 05 47 12.9
baz=305
KURBB Kurchatov Arra 44.21 316 P **P** **05 28 00.6 -1.8**
comp=Z,97nm,0.5s,baz=102,slow=8.9,SNR=238
KURBB PcP **PP** **05 29 45.9 +0.1**
comp=Z,21nm,0.8s,baz=99,slow=3.7,SNR=6.5
KURBB LR LR 05 48 05.4
comp=Z,6µm,19.1s,baz=83,slow=38
comp=Z,97nm,0.5s
TIXI Tiksi 44.25 0 LR LR 05 48 42.5
comp=Z,4µm,19.6s,baz=181,slow=39
TIXI Tiksi 44.25 0 P **P** **05 28 00.7 -1.6**
TIXI IAMs_20 IAMs_20 05 48 31.3
comp=Z,4µm,20.0s
TIXI Tiksi 44.25 0 *ce*P **P** **05 28 00.8 -1.6**
TIXI pmax pmax
comp=Z,88nm,1.0s
TIXI MLR MLR
comp=Z,4µm,19.0s
TIXI Tiksi 44.25 0 P **P** **05 28 00.0 -2.3**
KNDC Almaty 44.27 305 P **P** **05 28 04.1 +1.1**
TNSS Tian-Shan 44.27 305 *e*P **P** **05 28 02.1 -1.3**
TNSS Tian-Shan 44.27 305 *e*P **P** **05 28 02.2 -1.3**
baz=304
CHKK Chushkaly 44.29 306 *e*P **P** **05 28 01.6 -1.6**
CHKK Chushkaly 44.29 306 *e*P **P** **05 28 01.6 -1.6**
baz=306
AAA Alma-Ata 44.31 305 *e*P **P** **05 28 02.1 -1.2**
AAA pmax pmax
comp=Z,142nm,1.1s
AAA Alma-Ata 44.31 305 *e*P **P** **05 28 02.2 -1.2**
comp=Z,142nm,1.1s,baz=305
JHNI Jhansi 44.62 279 *e*P **P** **05 28 04.1 -1.9**
SMLA Simla 44.69 288 *e*P **P** **05 28 05.9 -0.5**
SMLA IAmb IAmb 05 28 07.1
comp=Z,333nm,0.9s
ULHL Ulahol 44.76 303 P **P** **05 28 08.4 +1.3**
SNR=64
KUU Kurty 44.77 306 *e*P **P** **05 28 05.7 -1.2**
KUU pmax pmax
comp=Z,101nm,0.8s
KUU Kurty 44.77 306 *e*P **P** **05 28 05.8 -1.2**
comp=Z,101nm,0.8s,baz=306
KUU LR LR 05 47 26.5
baz=306
AMKA Amchitka 44.77 44 P **P** **05 28 06.9 +0.1**
NRN Naryn 44.92 302 P **P** **05 28 08.6 +0.1**
NRN IAmb IAmb 05 28 10.4
comp=Z,181nm,0.8s
NRN Naryn 44.92 302 P **P** **05 28 08.6 +0.1**
NRN pmax pmax
comp=Z,181nm,0.8s
KSH Kashi 44.94 300 P **P** **05 28 12.5 +4.0**
KSH pP sP 05 28 26.0 +1.7
KSH PP **PP** **05 29 53.3 -0.6**
KSH PcS **PcS** **05 33 45.0 +1.8**
KSH S **S** **05 34 49.0 +4.9**
KSH pmax pmax
comp=Z,150nm,0.9s
KSH pmax pmax
comp=Z,470nm,8.9s
KSH LR LR
comp=Z,2µm,19.2s
KSH LR LR
comp=Z,5µm,18.5s
KSH LR LR
comp=Z,6µm,19.9s
BOOM Boomskoye usch 44.99 304 P **P** **05 28 08.8 0.0**
BOOM PcP **PcP** **05 29 50.1 +0.6**
BOOM Boomskoye usch 44.99 304 P **P** **05 28 08.9 0.0**
BOOM 05 29 50.2
BOOM pmax pmax
comp=Z,85nm,0.9s
TKM2 Tokmak 2 45.26 304 P **P** **05 28 11.7 +0.6**
SNR=6.1
TKM2 Tokmak 2 45.26 304 *i* P **P** **05 28 10.4 -0.7**
TKM2 pmax pmax
comp=Z,238nm,0.8s
SONA Sohna 45.27 284 *e*P **P** **05 28 10.8 -0.3**
BHK Bhakra 45.28 288 *e*P **P** **05 28 11.5 +0.3**
NGP Nagpur 45.36 273 *e*P **P** **05 28 11.5 -0.4**
FITZ Fitzroy Crossi 45.36 184 P **P** **05 28 11.9 +0.2**
comp=Z,22nm,0.6s,baz=360,slow=9.2,SNR=6.2
FITZ pP **pP** **05 28 23.1 +0.1**
comp=Z,58nm,0.8s,baz=0.0,slow=11,SNR=4.5
comp=Z,22nm,0.6s
FITZ Fitzroy Crossi 45.36 184 P **P** **05 28 12.0 +0.2**
FITZ Fitzroy Crossi 45.36 184 P **P** **05 28 12.4 +0.7**
comp=Z,71nm,1.1s
VJD Vijayawada 45.53 267 *e*P **P** **05 28 14.5 +1.2**
THN Thein Dam 45.72 290 *e*P **P** **05 28 14.2 -0.4**
KBK Karagaybulak 45.73 304 P **P** **05 28 16.2 +1.4**
SNR=48
CHMS Chumysh 45.88 304 P **P** **05 28 15.6 -0.2**
SNR=53
CHMS Chumysh 45.88 304 *i* P **P** **05 28 15.6 -0.2**
CHMS pmax pmax
comp=Z,217nm,0.8s
SGDS Sogindy 45.98 305 *e*P **P** **05 28 15.4 -1.2**
SGDS *e*S **S** **05 34 58.2 -0.7**
SGDS Sogindy 45.98 305 *e*P **P** **05 28 15.4 -1.2**
baz=305
SGDS *e*S **S** **05 34 58.2 -0.7**
baz=305
UCH Uchtor 46.04 303 P **P** **05 28 19.0 +1.5**
SNR=28
AAK Ala-Archa 46.06 304 P **P** **05 28 18.1 +0.7**
SNR=30
AAK Ala-Archa 46.06 304 P **P** **05 28 17.6 +0.3**
AAK Ala-Archa 46.06 304 IAMs_20 IAMs_20 05 49 00.2
comp=Z,3µm,19.0s
AAK Ala-Archa 46.06 304 *ce*P **P** **05 28 16.8 -0.6**
AAK pmax pmax
comp=Z,63nm,0.8s
AAK Ala-Archa 46.06 304 *i* P **P** **05 28 17.5 +0.1**
SNR=8.1
AAK Ala-Archa 46.06 304 P **P** **05 28 17.8 +0.4**
AAK pP **pP** **05 28 27.0 -1.5**
AAK sP **sP** **05 28 31.0 -2.1**
USP Ospenovka 46.07 305 P **P** **05 28 18.2 +0.9**
SNR=50
BHPL Bhopal 46.18 277 *e*P **P** **05 28 17.1 -1.3**
BHPL IAmb IAmb 05 28 18.1
comp=Z,150nm,0.9s
BILL Bilibino 46.42 19 P **P** **05 28 20.0 +0.3**

BILL IAmb IAmb 05 28 20.9
comp=Z,177nm,1.2s
BILL IAMs_20 IAMs_20 05 49 14.4
comp=Z,2µm,19.0s
BILL Bilibino 46.42 19 P **P** **05 28 19.4 -0.3**
BTLS Baital 46.47 307 *e*P **P** **05 28 19.0 -1.3**
BTLS pmax pmax
comp=Z,66nm,0.8s
BTLS Baital 46.47 307 *e*P **P** **05 28 19.1 -1.3**
comp=Z,66nm,0.8s,baz=307
EKS2 Erkin-Say 46.59 304 P **P** **05 28 22.5 +1.0**
SNR=31
AML Almayashu 46.65 303 P **P** **05 28 23.5 +1.2**
SNR=21
KIWB Kanaga Island 47.03 43 P **P** **05 28 24.3 -0.3**
HYB Hyderabad 47.06 269 *e*P **P** **05 28 25.0 -0.4**
HYBB Hyderabad (bro 47.06 269 *e*P **P** **05 28 25.2 -0.2**
HYBB IVmB_BB 05 28 25.7
comp=Z,836nm,1.3s
HYBB *e*S **S** **05 35 15.8 +1.0**
WB0 Warramunga Arr 47.27 173 P **P** **05 28 26.2 -0.5**
WB0 IAmb IAmb 05 28 40.5
comp=Z,191nm,0.8s
MDRS Chennai 47.27 262 *e*P **P** **05 28 27.6 +0.7**
AKL Akola 47.30 274 *e*P **P** **05 28 27.9 +0.7**
ADK Adak 47.32 43 P **P** **05 28 25.9 -0.9**
ADK IAmb IAmb 05 28 27.2
comp=Z,117nm,0.9s
ADK Adak 47.32 43 P **P** **05 28 25.9 -0.9**
ADK pmax pmax
comp=Z,117nm,0.9s
ADK Adak 47.32 43 P **P** **05 28 26.2 -0.6**
ADK Adak 47.32 43 P **P** **05 28 25.8 -1.1**
ADK pP **pP** **05 28 35.4 -2.6**
ADK sP **sP** **05 28 40.1 -2.4**
WRAB Tennant Creek 47.42 173 P **P** **05 28 27.9 -0.1**
WRAB IAmb IAmb 05 28 41.8
comp=Z,177nm,0.8s
WRAB Tennant Creek 47.42 173 P **P** **05 28 27.9 -0.1**
WRAB pmax pmax
comp=Z,177nm,0.9s
WRA Warramunga Arr 47.43 173 P **P** **05 28 27.7 -0.3**
comp=Z,27nm,1.0s,baz=348,slow=8.3,SNR=12
WRA pP **pP** **05 28 39.3 -0.1**
comp=Z,99nm,0.6s,baz=353,slow=8.3,SNR=19
WRA S **S** **05 35 17.6 -2.2**
comp=Z,16nm,1.2s,baz=348,slow=14,SNR=15
comp=Z,27nm,1.0s
WRA Warramunga Arr 47.43 173 P **P** **05 28 27.9 -0.1**
WB2 Warramunga Arr 47.43 173 P **P** **05 28 27.6 -0.4**
WB2 IAmb IAmb 05 28 41.9
comp=Z,180nm,0.8s
MIDW Midway 47.45 76 IAMs_20 IAMs_20 05 48 05.4
comp=Z,2µm,19.0s
WR0 Warramunga Arr 47.47 172 P **P** **05 28 28.2 -0.1**
WR0 IAmb IAmb 05 28 42.3
comp=Z,259nm,0.9s
HNR Honiara 47.60 136 LR LR 05 48 58.9
comp=Z,13µm,19.4s,baz=340,slow=36
AJM Ajmer 47.78 282 *e*P **P** **05 28 30.6 -0.2**
MTSU Mount Surprise 47.80 160 P **P** **05 28 32.2 +1.3**
comp=Z,139nm,1.0s
BRZS Berezniki 47.81 314 *e*P **P** **05 28 29.2 -1.5**
BRZS pmax pmax
comp=Z,43nm,0.6s
BRZS Berezniki 47.81 314 *e*P **P** **05 28 29.3 -1.5**
comp=Z,43nm,0.6s,baz=314
OTUK Ortayu 47.86 311 P **P** **05 28 30.0 -1.2**
DRK Karamyk 48.17 300 P **P** **05 28 35.1 +1.1**
DRK IAmb IAmb 05 28 36.1
comp=Z,102nm,0.8s
NRIK Noril'sk 48.20 342 P **P** **05 28 31.9 -1.6**
comp=Z,150nm,0.8s,baz=117,slow=9.4,SNR=66
NRIK PcP **PcP** **05 30 00.3 +0.2**
comp=Z,109nm,0.9s,baz=142,slow=4.7,SNR=7.0
NRIK LR LR 05 50 53.5
comp=Z,7µm,19.1s,baz=128,slow=38
comp=Z,150nm,0.8s
NRIK Noril'sk 48.20 342 P **P** **05 28 32.9 -0.5**
NRIK IAmb IAmb 05 28 34.2
comp=Z,228nm,1.1s
DZA Taraz 48.39 304 *e*P **P** **05 28 34.8 -0.6**
DZA Taraz 48.39 304 *e*P **P** **05 28 34.8 -0.6**
baz=304
BTK Batken 48.89 300 P **P** **05 28 38.4 -0.9**
BTK IAmb IAmb 05 28 40.7
comp=Z,110nm,0.9s
BTK Batken 48.89 300 P **P** **05 28 38.4 -0.9**
BTK pmax pmax
comp=Z,110nm,1.0s
QIS Mount Isa 48.89 166 P **P** **05 28 39.5 +0.2**
KK31 Karatay Array 48.99 305 P **P** **05 28 39.4 -0.6**
KK31 IAmb IAmb 05 28 42.3
comp=Z,147nm,1.1s
KK31 Karatay Array 48.99 305 P **P** **05 28 39.7 -0.2**
KKAR Karatay Array 48.99 305 P **P** **05 28 40.0 +0.1**
KKAR Karatay Array 48.99 305 P **P** **05 28 40.0 +0.1**
MBWA Marble Bar 49.07 191 P **P** **05 28 40.2 -0.4**
MBWA Marble Bar 49.07 191 P **P** **05 28 40.2 -0.4**
GAR Garm 49.35 299 P **P** **05 28 42.5 -0.4**
IUG Iuzhnay 49.37 303 *e*P **P** **05 28 42.3 -0.7**
IUG Iuzhnay 49.37 303 *e*P **P** **05 28 42.4 -0.7**
baz=303
PSA00 Pilbara Seismi 49.46 191 P **P** **05 28 43.3 -0.3**
PSA00 Pilbara Seismi 49.46 191 P **P** **05 28 42.8 -0.8**
PALK Pallekele 49.55 255 P **P** **05 28 45.3 +0.7**
comp=Z,59nm,0.9s,baz=170,slow=6.1,SNR=15
PALK LR LR 05 50 38.2
comp=Z,2µm,21.8s,baz=161,slow=37
comp=Z,59nm,0.9s
PALK Pallekele 49.55 255 P **P** **05 28 45.0 +0.4**
PALK Pallekele 49.55 255 IAMs_20 IAMs_20 05 49 54.4
comp=Z,2µm,22.0s
PALK Pallekele 49.55 255 P **P** **05 28 45.2 +0.6**
BVA0 Borovoye Array 49.60 318 *i* P **P** **05 28 42.9 -1.5**
BVAR Borovoye Array 49.60 318 P **P** **05 28 42.8 -1.6**
comp=Z,104nm,0.7s,baz=95,slow=9.1,SNR=205
BVAR PcP **PcP** **05 30 05.5 -0.1**
comp=Z,30nm,0.8s,baz=100,slow=5.3,SNR=5.2
BVAR LR LR 05 51 48.2
comp=Z,13µm,18.1s,baz=92,slow=39
comp=Z,104nm,0.7s
BRVK Borovoye 49.66 318 P **P** **05 28 44.1 -0.8**
BRVK Borovoye 49.66 318 P **P** **05 28 43.3 -1.6**
BRVK Borovoye 49.66 318 P **P** **05 28 44.3 -0.6**
SALM Salem 49.69 262 *e*P **P** **05 28 46.9 +1.3**
TARA Tarawa 49.73 114 IAMs_20 IAMs_20 05 45 50.8
comp=Z,3µm,22.0s
TAS Tashkent 49.96 302 P **P** **05 28 48.6 +1.2**
TAS Tashkent 49.96 302 P **P** **05 28 48.6 +1.2**
TAS pmax pmax
comp=Z,319nm,0.7s
CTA Charters Tower 50.25 158 P **P** **05 28 50.0 +0.4**
comp=Z,18nm,0.8s,baz=344,slow=8.2,SNR=16
CTA pP **pP** **05 29 01.7 +0.7**
comp=Z,151nm,1.0s,baz=339,slow=8.6,SNR=34
comp=Z,18nm,0.8s
CTA Charters Tower 50.25 158 P **P** **05 28 50.7 +1.1**
CTAO Charters Tower 50.25 158 P **P** **05 28 50.3 +0.7**
CTAO IAmb IAmb 05 29 02.9
comp=Z,196nm,1.1s
CTAO Charters Tower 50.25 158 IAMs_20 IAMs_20 05 46 52.7
comp=Z,2µm,20.0s
CTAO Charters Tower 50.25 158 P **P** **05 28 50.3 +0.7**
CTAO pmax pmax
comp=Z,196nm,1.1s
CTAO Charters Tower 50.25 158 P **P** **05 28 50.4 +0.7**
CTAO Charters Tower 50.25 158 P **P** **05 28 50.2 +0.6**
CTAO pP **pP** **05 29 01.6 +0.7**
CTAO sP **sP** **05 29 06.0 +0.4**
CHGR Chuyangaron 50.28 299 P **P** **05 28 50.0 0.0**
CHGR Chuyangaron 50.28 299 P **P** **05 28 50.0 0.0**
CHGR pmax pmax
comp=Z,449nm,1.1s
POO Poona 50.84 272 *e*P **P** **05 28 53.8 -0.5**
POO IAmb IAmb 05 28 55.8
comp=Z,195nm,0.8s
JASL Jaisalmer 50.91 284 *e*P **P** **05 28 54.4 -0.3**
KBL Kabul 50.91 294 P **P** **05 28 55.1 +0.2**
KBL Kabul 50.91 294 P **P** **05 28 55.1 +0.2**
KOD Kodaikanal 50.96 261 *e*P **P** **05 28 56.7 +1.1**
KAD Karad 50.98 271 *e*P **P** **05 28 55.0 -0.4**
ASAR Alice Springs 51.07 174 P **P** **05 28 55.8 0.0**
comp=Z,8.3nm,0.7s,baz=7.6,slow=9.5,SNR=14
ASAR pP **pP** **05 29 07.8 +0.5**

comp=Z,79nm,0.7s,baz=8.5,slow=12,SNR=26
ASAR S **S** **05 36 09.4 -1.3**
comp=Z,8.7nm,1.2s,baz=8.8,slow=19,SNR=9.1
ASAR PKP2bc P'P'bc 05 59 58.6 +9.1
comp=Z,2.4nm,1.0s,baz=138,slow=2.4,SNR=4.2
comp=Z,8.3nm,0.7s
ASAR Alice Springs 51.07 174 P **P** **05 28 55.7 -0.1**
SPIA Saint Paul Isl 51.83 37 P **P** **05 29 01.5 +0.4**
baz=262
WRKA Warakurna 52.18 180 P **P** **05 29 04.4 +0.3**
TRD Trivandrum 52.20 259 *e*P **P** **05 29 04.5 +0.1**
NIKH Nikolski High 52.20 43 P **P** **05 29 02.6 -1.3**
baz=266
BHUJ Bhuj 53.01 279 *e*P **P** **05 29 11.0 +0.6**
BHUJ IAML 05 29 11.7
comp=Z,274nm,0.8s
UNV Unalaska Valle 53.65 42 P **P** **05 29 13.1 -1.6**
baz=268
TNA Tin City 54.41 27 P **P** **05 29 21.2 +1.3**
TNA Tin City 54.41 27 P **P** **05 29 20.9 +0.9**
baz=258,SNR=13
MEEK Meekatharra 54.62 191 P **P** **05 29 21.3 -0.7**
RK1H Rockhampton Ha 54.78 155 P **P** **05 29 27.1 +4.0**
ANM Nome 55.29 29 P **P** **05 29 28.0 +1.6**
ANM IAmb IAmb 05 29 29.2
comp=Z,340nm,1.3s
ANM Nome 55.29 29 P **P** **05 29 28.0 +1.6**
ANM pmax pmax
comp=Z,340nm,1.3s
ANM Nome 55.29 29 P **P** **05 29 27.9 +1.5**
baz=261,SNR=5.8
OOD Oodnadatta 55.34 172 P **P** **05 29 27.5 +0.4**
QLP Quilpie 55.78 163 P **P** **05 29 32.4 +2.1**
AB31 Akbulak array 56.06 313 P **P** **05 29 31.0 -1.2**
ABKAR Akbulak array 56.06 313 P **P** **05 29 31.3 -0.8**
INKA Innaminka 56.09 167 P **P** **05 29 34.6 +2.1**
HRA Herat 56.46 295 P **P** **05 29 35.4 -0.2**
HRA IAmb IAmb 05 29 37.4
comp=Z,154nm,0.9s
ARU Arti 56.65 321 P **P** **05 29 35.2 -1.0**
comp=Z,165nm,0.7s,baz=91,slow=2.9,SNR=130
ARU LR LR 05 56 37.0
comp=Z,3µm,19.6s,baz=81,slow=39
comp=Z,165nm,0.7s
ARU Arti 56.65 321 P **P** **05 29 35.6 -0.6**
ARU IAmb IAmb 05 29 37.0
comp=Z,184nm,0.8s
ARU Arti 56.65 321 *ce*P **P** **05 29 34.9 -1.3**
ARU pmax pmax
comp=Z,223nm,0.8s
ARU Arti 56.65 321 P **P** **05 29 35.2 -1.0**
ARU sP **sP** **05 29 51.2 -1.0**
EIDS Eidsvold 56.80 156 P **P** **05 29 38.0 +0.5**
EIDS Eidsvold 56.80 156 P **P** **05 29 40.5 +2.9**
RDOG Red Dog Mine 56.82 25 P **P** **05 29 36.3 -0.9**
baz=261
SDPT Sand Point 57.17 40 P **P** **05 29 38.5 -1.4**
baz=272
AKTO Aktyubinsk 57.22 314 P **P** **05 29 39.9 -0.6**
comp=Z,72nm,0.7s,baz=92,slow=6.2,SNR=71
AKTO LR LR 05 57 35.1
comp=Z,1µm,18.5s,baz=89,slow=40
comp=Z,72nm,0.7s
MORW Morawa 57.46 193 P **P** **05 29 41.5 -0.7**
MORW Morawa 57.46 193 P **P** **05 29 42.6 +0.4**
comp=Z,100nm,1.2s
MULG Mulgathing 57.64 174 P **P** **05 29 43.7 +0.3**
comp=Z,247nm,1.1s
S14K Fog Glacier 57.66 39 P **P** **05 29 42.8 -0.7**
baz=272
CHNA Chernabura Isl 57.70 41 P **P** **05 29 43.3 -0.3**
baz=273,SNR=20
CHNA S **S** **05 37 37.6 -1.7**
baz=273
CNBA Chernabura Isl 57.70 41 P **P** **05 29 43.3 -0.3**
CNBA IAmb IAmb 05 30 01.9
comp=Z,254nm,1.2s
FORT Forrest 57.90 181 P **P** **05 29 45.8 +0.5**
FORT Forrest 57.90 181 P **P** **05 29 45.7 +0.5**
comp=Z,291nm,1.1s
N16K Nishlik Lake 58.02 34 P **P** **05 29 47.0 +1.1**
baz=270,SNR=37
N16K S **S** **05 37 45.4 +1.9**
baz=270
LCRK Leigh Creek 58.29 170 P **P** **05 29 48.6 +0.6**
CHGN Chignik 58.30 39 P **P** **05 29 47.3 -0.5**
CHGN Chignik 58.30 39 P **P** **05 29 46.5 -1.3**
baz=273,SNR=7.7
O16K Kokwok River B 58.36 35 P **P** **05 29 49.0 +0.8**
baz=271,SNR=31
O16K S **S** **05 37 49.8 +1.9**
baz=271
P16K Nushagak River 58.43 36 P **P** **05 29 49.3 +0.7**
baz=271,SNR=8.3
BLDU Ballidu 58.84 192 P **P** **05 29 51.9 +0.1**
O17K Koliganek Bris 58.87 35 P **P** **05 29 52.5 +0.8**
baz=272,SNR=15
O17K S **S** **05 37 55.2 +0.8**
baz=272
KOUNC Koumac, New Ca 58.90 140 IAMs_20 IAMs_20 05 56 01.9
comp=Z,2µm,19.0s
KOUNC Koumac, New Ca 58.90 140 P **P** **05 29 54.0 +1.6**
GCSA Galena City Sc 58.95 29 P **P** **05 29 52.4 +0.3**
baz=269,SNR=15
GCSA S **S** **05 37 54.2 -1.1**
baz=269
GEYT Alibeck 58.98 300 P **P** **05 29 52.9 -0.1**
comp=Z,72nm,1.0s,baz=2.9,slow=5.9,SNR=51
GEYT LR LR 06 00 06.3
comp=Z,2µm,18.8s,baz=82,slow=41
comp=Z,72nm,1.0s
GEYT Alibeck 58.98 300 P **P** **05 29 54.0 +1.1**
GEYT IAmb IAmb 05 29 54.8
comp=Z,88nm,1.0s
GYA0 ALIBECK ARRAY 58.98 300 P **P** **05 29 52.9 0.0**
GYA0B ALIBECK ARRAY 58.98 300 P **P** **05 29 53.7 +0.8**
Q16K King Salmon 59.13 36 P **P** **05 29 54.0 +0.4**
baz=273,SNR=33
Q16K S **S** **05 37 59.1 +1.2**
baz=273
P17K Kvichak River 59.22 35 P **P** **05 29 55.2 +1.0**
baz=273,SNR=25
P17K S **S** **05 37 59.7 +0.7**
baz=273
TTA Tatalina 59.32 31 P **P** **05 29 54.6 -0.4**
TTA Tatalina 59.32 31 P **P** **05 29 54.6 -0.4**
TTA pmax pmax
comp=Z,75nm,1.0s
TTA Tatalina 59.32 31 P **P** **05 29 55.7 +0.8**
baz=271,SNR=28
R17K Ugashik Creek 59.33 37 P **P** **05 29 54.2 -0.7**
baz=274,SNR=9.9
R17K S **S** **05 37 58.9 -1.7**
baz=274
A21K Barrow 59.40 21 IAMs_20 IAMs_20 05 57 40.7
comp=Z,1µm,19.0s
A21K Barrow 59.40 21 P **P** **05 29 55.9 +0.7**
baz=265
N18K Kilae Creek 59.44 34 P **P** **05 29 56.8 +1.1**
N18K IAmb IAmb 05 29 58.4
comp=Z,93nm,1.0s
N18K Kilae Creek 59.44 34 P **P** **05 29 57.0 +1.3**
baz=272,SNR=37
N18K S **S** **05 38 03.5 +1.7**
baz=272
SVW2 Sparrevohn 59.57 33 P **P** **05 29 57.7 +1.0**
SVW2 IAmb IAmb 05 29 59.3
comp=Z,111nm,0.9s
KLBR Kellerberrin 59.61 191 P **P** **05 29 57.2 +0.1**
O18K Koktuh Hills 59.81 35 P **P** **05 29 59.5 +1.2**
O18K IAmb IAmb 05 30 00.9
comp=Z,192nm,1.0s
O18K Koktuh Hills 59.81 35 P **P** **05 29 59.3 +1.0**
baz=273,SNR=36
O18K S **S** **05 38 07.7 +1.0**
baz=273
P18K Big Mountain, 59.83 35 P **P** **05 29 58.9 +0.5**
P18K IAmb IAmb 05 30 00.6
comp=Z,178nm,1.1s
P18K Big Mountain, 59.83 35 P **P** **05 29 59.3 +0.8**
baz=274
P18K S **S** **05 38 08.2 +1.2**
baz=274
L19K White Mountain 59.88 32 P **P** **05 29 59.5 +0.8**
L19K IAmb IAmb 05 30 02.8
comp=Z,130nm,1.0s

L19K White Mountain 59.88 32 P **P** **05 30 00.0 +1.3**
baz=272,SNR=68
L19K S **S** **05 38 10.5 +3.0**
baz=272
CHIR Chirikof Islan 59.89 39 P **P** **05 29 59.4 +0.5**
CHIR IAmb IAmb 05 30 00.5
comp=Z,156nm,1.1s
CHIR Chirikof Islan 59.89 39 P **P** **05 29 59.1 +0.3**
baz=275
M19K Big River Lodg 60.11 32 P **P** **05 30 01.6 +1.4**
M19K Big River Lodg 60.11 32 P **P** **05 30 01.7 +1.4**
baz=273,SNR=28
M19K S **S** **05 38 12.1 +1.7**
baz=273
N19K Bonanza Creek 60.12 33 P **P** **05 30 01.8 +1.3**
N19K Bonanza Creek 60.12 33 P **P** **05 30 01.9 +1.3**
baz=273,SNR=29
N19K S **S** **05 38 13.8 +3.0**
baz=273
J20K Nowinta River 60.13 30 IAmb IAmb 05 30 15.4
comp=Z,226nm,1.1s
J20K IAMs_20 IAMs_20 05 55 38.6
comp=Z,1µm,22.0s
J20K Nowinta River 60.13 30 P **P** **05 30 01.7 +1.3**
baz=272,SNR=91
J20K S **S** **05 38 13.1 +2.4**
baz=272
K20K Telida 60.20 30 P **P** **05 30 02.3 +1.5**
K20K IAmb IAmb 05 30 16.1
comp=Z,192nm,1.0s
K20K IAMs_20 IAMs_20 05 55 19.3
comp=Z,1µm,22.0s
K20K Telida 60.20 30 P **P** **05 30 02.4 +1.5**
baz=272,SNR=139
K20K S **S** **05 38 13.5 +2.0**
baz=272
O19K Port Alsworth 60.24 34 IAmb IAmb 05 30 03.6
comp=Z,131nm,0.8s
O19K Port Alsworth 60.24 34 P **P** **05 30 02.2 +1.1**
baz=274,SNR=24
O19K S **S** **05 38 14.6 +2.5**
baz=274
MUN Mundaring 60.26 192 P **P** **05 30 02.5 +0.9**
IMAR Indian Mountai 60.26 27 P **P** **05 30 02.2 +0.9**
STKA Stephens Creek 60.28 167 P **P** **05 30 01.4 -0.3**
comp=Z,7.2nm,0.6s,baz=355,slow=6.6,SNR=7.0
STKA pP **pP** **05 30 13.6 +0.3**
comp=Z,19nm,0.6s,baz=354,slow=7.0,SNR=11
comp=Z,7.2nm,0.6s
STKA Stephens Creek 60.28 167 P **P** **05 30 01.3 -0.3**
STKA Stephens Creek 60.28 167 P **P** **05 30 01.6 -0.1**
L20K Farewell, AK 60.32 31 P **P** **05 30 03.2 +1.5**
baz=273,SNR=50
L20K S **S** **05 38 16.7 +3.5**
baz=273
BBOO Buckleboo 60.34 173 P **P** **05 30 02.0 -0.1**
BBOO IAmb IAmb 05 30 15.1
comp=Z,188nm,1.2s
BBOO Buckleboo 60.34 173 P **P** **05 30 02.8 +0.7**
G21K Allakaket 60.35 27 P **P** **05 30 03.0 +1.1**
baz=271,SNR=116
G21K S **S** **05 38 15.7 +2.3**
baz=271
F21K Alatna River 60.35 26 P **P** **05 30 02.4 +0.5**
baz=270,SNR=109
F21K S **S** **05 38 12.9 -0.5**
baz=270
SII Sitkinak Islan 60.62 38 P **P** **05 30 04.5 +0.7**
SII IAMs_20 IAMs_20 05 53 15.7
comp=Z,2µm,22.0s
SII Sitkinak Islan 60.62 38 P **P** **05 30 04.0 +0.1**
baz=276,SNR=11
SII Sitkinak Islan 60.62 38 P **P** **05 30 04.6 +0.7**
comp=Z,279nm,0.9s
H21K Melozitna Rive 60.66 28 P **P** **05 30 05.0 +1.0**
H21K Melozitna Rive 60.66 28 P **P** **05 30 05.2 +1.2**
baz=272,SNR=138
H21K S **S** **05 38 18.2 +0.8**
baz=272
Q19K Cape Douglas, 60.68 36 P **P** **05 30 04.4 +0.2**
Q19K Cape Douglas, 60.68 36 P **P** **05 30 04.0 -0.3**
baz=275,SNR=15
M20K Styx River 60.70 32 IAmb IAmb 05 30 06.7
comp=Z,84nm,0.8s
M20K Styx River 60.70 32 P **P** **05 30 05.9 +1.5**
baz=274,SNR=53
M20K S **S** **05 38 20.9 +2.7**
baz=274
WHYH Whyalla 60.74 171 P **P** **05 30 09.5 +4.7**
LIFNC LIFOU 60.80 138 IAMs_20 IAMs_20 05 53 04.9
comp=Z,2µm,22.0s
LIFNC LIFOU 60.80 138 P **P** **05 30 06.9 +1.5**
P19K Oil Pt 60.83 35 P **P** **05 30 06.2 +0.9**
P19K Oil Pt 60.83 35 P **P** **05 30 05.6 +0.3**
baz=275,SNR=15
ILSW Iliamna Southw 60.84 34 IAmb IAmb 05 30 07.1
comp=Z,72nm,1.0s
F22K John River 60.85 26 P **P** **05 30 06.9 +1.6**
baz=272
F22K S **S** **05 38 21.1 +1.3**
baz=272
CMSA Cobar Meteorol 60.87 163 P **P** **05 30 06.8 +1.0**
CHUM Lake Minchumin 60.95 30 P **P** **05 30 07.6 +1.6**
baz=274,SNR=36
CHUM S **S** **05 38 24.2 +3.1**
baz=274
E22K Anaktuvuk Pass 60.97 25 P **P** **05 30 07.4 +1.3**
baz=272
E22K S **S** **05 38 21.5 +0.1**
baz=272
RSO Redoubt South 61.00 34 P **P** **05 30 06.6 0.0**
NWAO Narrogin (SRO) 61.00 191 P **P** **05 30 06.9 +0.4**
comp=Z,42nm,1.0s,baz=235,slow=7.5,SNR=6.8
comp=Z,42nm,1.0s
NWAO Narrogin (SRO) 61.00 191 P **P** **05 30 07.0 +0.4**
NWAO IAmb IAmb 05 30 19.9
comp=Z,199nm,1.4s
NWAO Narrogin (SRO) 61.00 191 P **P** **05 30 07.0 +0.4**
NWAO pmax pmax
comp=Z,199nm,1.4s
NWAO Narrogin (SRO) 61.00 191 P **P** **05 30 07.1 +0.5**
NWAO Narrogin (SRO) 61.00 191 P **P** **05 30 06.4 -0.2**
NWAO pP **pP** **05 30 18.4 +0.3**
I21K Tanana 61.02 28 P **P** **05 30 07.8 +1.4**
I21K Tanana 61.02 28 P **P** **05 30 07.9 +1.5**
baz=273,SNR=132
I21K S **S** **05 38 24.3 +2.3**
baz=273
OHAK Old Harbor 61.04 37 P **P** **05 30 06.6 0.0**
OHAK IAmb IAmb 05 30 08.0
comp=Z,102nm,0.9s
OHAK Old Harbor 61.04 37 P **P** **05 30 06.7 +0.1**
baz=276,SNR=14
OHAK S **S** **05 38 22.0 -0.3**
baz=276
PPLA Purkeypile 61.07 31 P **P** **05 30 08.2 +1.1**
PPLA IAmb IAmb 05 30 26.5
comp=Z,230nm,1.1s
PPLA Purkeypile 61.07 31 P **P** **05 30 08.3 +1.3**
baz=274,SNR=62
PPLA S **S** **05 38 25.8 +2.8**
baz=274
CAST Castle Rocks 61.08 30 P **P** **05 30 08.0 +1.0**
CAST IAmb IAmb 05 30 09.5
comp=Z,191nm,1.0s
CAST IAMs_20 IAMs_20 05 56 08.6
comp=Z,2µm,22.0s
CAST Castle Rocks 61.08 30 P **P** **05 30 08.0 +1.0**
baz=274,SNR=131
CAST S **S** **05 38 24.7 +1.8**
baz=274
O20K Slope Mountain 61.09 34 P **P** **05 30 07.2 0.0**
baz=275,SNR=20
O20K S **S** **05 38 23.2 0.0**
baz=275
G22K Bettles 61.13 26 P **P** **05 30 07.9 +0.7**
baz=272
G22K S **S** **05 38 24.6 +1.3**
baz=272
N20K Mount Spurr 61.20 33 P **P** **05 30 09.0 +1.2**
baz=275,SNR=75
N20K S **S** **05 38 26.7 +2.2**
baz=275
SPCR Spurr Chakacha 61.20 33 P **P** **05 30 09.0 +1.2**
baz=275,SNR=61
SPCR S **S** **05 38 27.1 +2.6**
baz=275

H22K Ishtalitna Cre 61.24 27 P **P** **05 30 09.6 +1.7**
baz=273,SNR=199
H22K S **S** **05 38 28.5 +3.7**
baz=273
NOUC Port Laguerre 61.27 140 P **P** **05 30 13.5 +4.8**
comp=Z,38nm,1.1s
SPU Mount Spurr 61.27 33 P **P** **05 30 08.8 +0.6**
HTT Hallett 61.33 170 P **P** **05 30 09.6 +0.7**
DZM Mont Dzumac 61.33 140 *e*P **P** **05 30 12.0 +2.8**
comp=Z,252nm,30.0s
DZM *e*S **S** **05 38 28.2 +1.1**
comp=Z,2µm,31.6s
DZM *e*LR LR 05 48 24.4
comp=Z,5µm,23.2s
DZM Mont Dzumac 61.33 140 P **P** **05 30 10.3 +1.1**
comp=Z,18nm,1.0s,baz=21,slow=10,SNR=4.3
DZM LR LR 05 52 04.3
comp=Z,2µm,21.8s,baz=350,slow=31
comp=Z,18nm,1.0s
DZM Mont Dzumac 61.33 140 P **P** **05 30 10.6 +1.4**
DZM Mont Dzumac 61.33 140 P **P** **05 30 10.1 +0.9**
DZM pP **pP** **05 30 20.4 -0.4**
DZM sP **sP** **05 30 25.8 +0.6**
KDAK Kodiak Island 61.35 37 LR LR 05 56 13.0
comp=Z,792nm,21.9s,baz=275,slow=35
KDAK Kodiak Island 61.35 37 P **P** **05 30 09.0 +0.2**
KDAK Kodiak Island 61.35 37 *c i*P **P** **05 30 09.2 +0.4**
KDAK pmax pmax
comp=Z,550nm,0.9s
KDAK Kodiak Island 61.35 37 P **P** **05 30 09.2 +0.4**
baz=277
KDAK S **S** **05 38 27.7 +1.4**
baz=277
KDAK Kodiak Island 61.35 37 P **P** **05 30 09.1 +0.4**
KDAK pP **pP** **05 30 18.9 -1.4**
KDAK sP **sP** **05 30 24.4 -0.4**
C23K Itkillik River 61.36 23 P **P** **05 30 09.8 +1.1**
baz=272,SNR=93
C23K S **S** **05 38 26.5 +0.4**
baz=272
Q20K Shuyak Island 61.36 36 P **P** **05 30 08.8 0.0**
baz=276,SNR=25
Q20K S **S** **05 38 25.8 -0.6**
baz=276
D23K Nanushuk River 61.37 24 P **P** **05 30 10.0 +1.3**
baz=272,SNR=173
D23K S **S** **05 38 27.3 +1.1**
baz=272
SKT Skwentna 61.45 32 IAmb IAmb 05 30 11.0
comp=Z,146nm,1.0s
SKT Skwentna 61.45 32 P **P** **05 30 09.6 +0.2**
baz=275,SNR=79
SKT S **S** **05 38 29.2 +1.6**
baz=275
KIRV Kirov 61.45 324 P **P** **05 30 08.9 -0.5**
comp=Z,260nm,0.6s,baz=81,slow=4.5,SNR=63
KIRV LR LR 06 00 05.0
comp=Z,4µm,18.2s,baz=82,slow=39
comp=Z,260nm,0.6s
KIRV Kirov 61.45 324 *ce*P **P** **05 30 09.0 -0.4**
BPAW Bear Paw Mtn. 61.52 30 P **P** **05 30 10.8 +0.9**
BPAW IAmb IAmb 05 30 24.6
comp=Z,136nm,1.0s
BPAW Bear Paw Mtn. 61.52 30 P **P** **05 30 10.9 +1.0**
baz=274,SNR=76
BPAW S **S** **05 38 29.6 +1.2**
baz=274
MLY Manley 61.56 28 IAmb IAmb 05 30 25.0
comp=Z,138nm,0.8s
MLY Manley 61.56 28 P **P** **05 30 11.3 +1.2**
baz=274,SNR=156
MLY S **S** **05 38 30.6 +1.7**
baz=274
YATNC Mamie plateau, 61.58 139 P **P** **05 30 13.1 +2.3**
KTH Kantishna Hill 61.59 30 P **P** **05 30 11.2 +0.8**
KTH IAmb IAmb 05 30 24.3
comp=Z,278nm,1.5s
KTH IAMs_20 IAMs_20 05 56 35.0
comp=Z,1µm,21.0s
ARMA Armidale 61.60 157 IAmb IAmb 05 30 24.6
comp=Z,167nm,1.4s
ARMA Armidale 61.60 157 P **P** **05 30 12.7 +1.8**
COLD Coldfoot 61.63 26 P **P** **05 30 11.3 +0.8**
COLD IAmb IAmb 05 30 13.3
comp=Z,232nm,1.3s
COLD Coldfoot 61.63 26 P **P** **05 30 11.4 +0.9**
baz=274,SNR=96
COLD S **S** **05 38 29.5 -0.1**
baz=274
HOM Homer 61.63 35 P **P** **05 30 10.8 +0.2**
baz=276,SNR=6.8
G23K Bananza Creek 61.73 27 P **P** **05 30 12.4 +1.2**
baz=274,SNR=116
G23K S **S** **05 38 31.8 +0.7**
baz=274
CAPN Captain Cook N 61.75 33 P **P** **05 30 12.5 +1.1**
baz=276
CAPN S **S** **05 38 32.8 +1.5**
baz=276
TOLK Toolik Lake Re 61.78 24 P **P** **05 30 12.5 +0.9**
TOLK Toolik Lake Re 61.78 24 IAMs_20 IAMs_20 05 57 42.0
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 61.78 24 P **P** **05 30 12.6 +1.0**
baz=273,SNR=152
TOLK S **S** **05 38 32.9 +1.3**
baz=273
E23K Chandalar 61.80 25 P **P** **05 30 13.0 +1.3**
baz=274,SNR=363
E23K S **S** **05 38 33.5 +1.5**
baz=274
CNPM China Poot 61.85 35 P **P** **05 30 12.0 -0.1**
CNPM IAmb IAmb 05 30 15.4
comp=Z,153nm,0.8s
SUA Susitna One 61.88 32 P **P** **05 30 12.4 0.0**
SUA Susitna One 61.88 32 P **P** **05 30 12.5 +0.1**
baz=276,SNR=170
SUA S **S** **05 38 34.0 +0.8**
baz=276
TRF Thorofare Moun 61.89 30 IAMs_20 IAMs_20 05 55 58.8
comp=Z,1µm,22.0s
TRF Thorofare Moun 61.89 30 P **P** **05 30 13.0 +0.5**
baz=276,SNR=38
TRF S **S** **05 38 33.3 -0.1**
baz=276
H23K Yukon River 61.99 27 P **P** **05 30 14.5 +1.5**
baz=275,SNR=152
H23K S **S** **05 38 36.8 +2.4**
baz=275
BRLK Bradley Lake 62.00 34 P **P** **05 30 12.2 -1.0**
CUT Chulitna 62.00 31 P **P** **05 30 13.3 +0.3**
CUT Chulitna 62.00 31 P **P** **05 30 13.3 +0.3**
baz=276,SNR=28
D24K Happy Valley 62.02 24 P **P** **05 30 14.3 +1.2**
baz=274
D24K S **S** **05 38 34.9 +0.4**
baz=274
C24K Franklin Bluff 62.03 23 P **P** **05 30 14.1 +1.0**
baz=274,SNR=182
C24K S **S** **05 38 33.4 -1.2**
baz=274
BRSE Bradley Lake S 62.07 34 P **P** **05 30 13.1 -0.5**
baz=277,SNR=68
M22K Willow 62.14 32 P **P** **05 30 14.0 0.0**
baz=276,SNR=103
M22K S **S** **05 38 36.6 +0.4**
baz=276
FIS Fire Island 62.16 33 P **P** **05 30 15.6 +1.4**
E24K Your Creek 62.22 25 P **P** **05 30 15.7 +1.1**
baz=275,SNR=224
E24K S **S** **05 38 39.9 +2.6**
baz=275
NEA2 Nenana 62.31 29 P **P** **05 30 15.8 +0.7**
baz=276,SNR=317
NEA2 S **S** **05 38 39.3 +0.9**
baz=276
RC01 Rabbit Creek A 62.40 33 P **P** **05 30 15.6 -0.2**
baz=277,SNR=51
RC01 S **S** **05 38 37.9 -1.7**
baz=277
MCK McKinley 62.46 30 IAMs_20 IAMs_20 05 57 12.9
comp=Z,1µm,21.0s
MCK McKinley 62.46 30 P **P** **05 30 16.4 +0.2**
baz=276,SNR=92
MCK S **S** **05 38 40.7 +0.4**
baz=276
O22K Cooper Landing 62.49 34 P **P** **05 30 16.4 0.0**
baz=278,SNR=9.6

O22K					S	**S**	**05 38 40.1**	**-0.5**		
	baz=278									
F24K	**Squaw Lake**	**62.50**	**26**	P	**P**		**05 30 17.6**	**+1.2**		
	baz=276,SNR=148									
F24K					S	**S**	**05 38 41.7**	**+1.0**		
	baz=276									
RND	**Reindeer**	**62.53**	**30**	P	**P**		**05 30 16.6**	**-0.2**		
RND				IAMs_20	IAMs_20		05 55 42.8			
	comp=Z,1µm,22.0s									
RND	**Reindeer**	**62.53**	**30**	P	**P**		**05 30 16.6**	**-0.2**		
RND				pmax	pmax					
	comp=Z,374nm,0.9s									
WSAR	**Wadi Sarin**	**62.62**	**283**	P	**P**		**05 30 17.7**	**-0.2**		
	comp=Z,181nm,0.9s,baz=102,slow=6.9,SNR=83									
WSAR				LR	LR		06 02 15.2			
	comp=Z,1µm,20.1s,baz=90,slow=41									
	comp=Z,181nm,0.9s									
MDM	**Murphy Dome**	**62.63**	**28**	P	**P**		**05 30 18.1**	**+0.8**		
PMR	**Palmer**	**62.63**	**32**	P	**P**		**05 30 17.0**	**-0.3**		
PMR				IAmb	IAmb		05 30 18.6			
	comp=Z,233nm,1.1s									
PMR	**Palmer**	**62.63**	**32**	P	**P**		**05 30 17.0**	**-0.3**		
PMR				pmax	pmax					
	comp=Z,233nm,1.1s									
PMR	**Palmer**	**62.63**	**32**	P	**P**		**05 30 17.5**	**+0.2**		
	baz=277,SNR=93									
PMR				S	**S**		**05 38 42.2**	**-0.1**		
	baz=277									
SEW	**Seward**	**62.67**	**34**	P	**P**		**05 30 17.7**	**+0.2**		
SEW	**Seward**	**62.67**	**34**	P	**P**		**05 30 17.8**	**+0.2**		
	baz=278,SNR=72									
SEW				S	**S**		**05 38 43.3**	**+0.4**		
	baz=278									
H24K	**Noodor Dome**	**62.67**	**27**	IAmb	IAmb		05 30 32.8			
	comp=Z,160nm,0.9s									
H24K	**Noodor Dome**	**62.67**	**27**	P	**P**		**05 30 19.1**	**+1.4**		
	baz=276,SNR=120									
H24K				S	**S**		**05 38 46.9**	**+3.9**		
	baz=276									
GHO	**Glory Hole Cre**	**62.70**	**32**	P	**P**		**05 30 18.2**	**+0.3**		
GHO				IAmb	IAmb		05 30 34.7			
	comp=Z,172nm,1.2s									
WAT1	**Susitna Watana**	**62.74**	**31**	P	**P**		**05 30 17.9**	**-0.1**		
	baz=277									
WAT1				S	**S**		**05 38 43.3**	**-0.5**		
	baz=277									
G24K	**Hadweenzic Riv**	**62.74**	**26**	P	**P**		**05 30 19.4**	**+1.4**		
	baz=276,SNR=114									
G24K				S	**S**		**05 38 46.1**	**+2.4**		
	baz=276									
WRH	**Wood River Hil**	**62.74**	**29**	IAmb	IAmb		05 30 33.9			
	comp=Z,127nm,0.9s									
TCOL	**CIGO, UAF Yank**	**62.79**	**28**	P	**P**		**05 30 19.4**	**+1.1**		
TCOL				IAmb	IAmb		05 30 33.5			
	comp=Z,150nm,0.8s									
TCOL	**CIGO, UAF Yank**	**62.79**	**28**	P	**P**		**05 30 19.0**	**+0.7**		
	baz=277,SNR=28									
TCOL				S	**S**		**05 38 44.9**	**+0.6**		
	baz=277									
COLA	**College**	**62.80**	**28**	P	**P**		**05 30 19.0**	**+0.7**		
COLA				IAmb	IAmb		05 30 33.5			
	comp=Z,142nm,0.8s									
COLA	**College**	**62.80**	**28**	P	**P**		**05 30 19.0**	**+0.7**		
COLA				pmax	pmax					
	comp=Z,142nm,0.8s									
COLA	**College**	**62.80**	**28**	P	**P**		**05 30 18.8**	**+0.4**		
	baz=277									
COLA				S	**S**		**05 38 45.3**	**+0.9**		
	baz=277									
COLA	**College**	**62.80**	**28**	P	**P**		**05 30 19.0**	**+0.7**		
COLA				pP	**pP**		**05 30 31.3**	**+1.4**		
CCB	**Clear Creek Bu**	**62.84**	**29**	P	**P**		**05 30 18.6**	**0.0**		
TWOA	**Tennyson Woods**	**62.85**	**171**	P	**P**		**05 30 19.7**	**+0.7**		
D25K	**Kavik River**	**62.88**	**23**	P	**P**		**05 30 19.9**	**+1.0**		
	baz=276,SNR=118									
D25K				S	**S**		**05 38 45.0**	**-0.4**		
	baz=276									
POKR	**Poker Plat Res**	**62.94**	**28**	P	**P**		**05 30 20.1**	**+0.7**		
POKR	**Poker Plat Res**	**62.94**	**28**	P	**P**		**05 30 20.4**	**+1.0**		
	baz=277,SNR=68									
POKR				S	**S**		**05 38 47.9**	**+1.6**		
	baz=277									
PRGR	**Permogore**	**62.95**	**328**	*e*P	**P**		**05 30 18.6**	**-0.8**		
PRGR				*e*			05 32 37.5			
PRGR				pmax	pmax					
	comp=Z,202nm,0.9s									
KNK	**Knik Glacier**	**62.97**	**32**	P	**P**		**05 30 19.9**	**+0.3**		
KNK				IAMs_20	IAMs_20		05 57 33.6			
	comp=Z,1µm,21.0s									
KNK	**Knik Glacier**	**62.97**	**32**	P	**P**		**05 30 20.0**	**+0.4**		
	baz=278,SNR=77									
KNK				S	**S**		**05 38 48.1**	**+1.3**		
	baz=278									
SML	**Sawmill**	**62.98**	**32**	P	**P**		**05 30 19.8**	**+0.1**		
SML				IAmb	IAmb		05 30 21.3			
	comp=Z,180nm,1.0s									
SML	**Sawmill**	**62.98**	**32**	P	**P**		**05 30 20.0**	**+0.3**		
	baz=278,SNR=39									
SML				S	**S**		**05 38 48.1**	**+1.2**		
	baz=278									
PWL	**Port Wells**	**63.11**	**33**	P	**P**		**05 30 21.2**	**+0.6**		
PWL	**Port Wells**	**63.11**	**33**	P	**P**		**05 30 20.5**	**-0.1**		
	baz=278,SNR=53									
PWL				S	**S**		**05 38 47.8**	**-0.7**		
	baz=278									
WAT6	**Susitna Watana**	**63.14**	**31**	P	**P**		**05 30 21.1**	**+0.2**		
	baz=278									
WAT6				S	**S**		**05 38 48.0**	**-1.2**		
	baz=278									
IL31		**63.22**	**29**	P	**P**		**05 30 20.6**	**-0.5**		
ILAR	**Eielson Array**	**63.22**	**29**	P	**P**		**05 30 20.6**	**-0.6**		
	comp=Z,35nm,0.8s,baz=276,slow=5.6,SNR=142									
ILAR				PKPPKP	**P'P'df**		**05 59 21.0**	**-3.3**		
	comp=Z,2.2nm,1.0s,baz=103,slow=1.6,SNR=9.6									
ILAR				PKP2ab	**P'P'bc**		**05 59 34.9**	**+3.5**		
	comp=Z,4.2nm,1.0s,baz=110,slow=2.1,SNR=8.6									
ILAR				LR	LR		06 00 09.7			
	comp=Z,453nm,19.7s,baz=280,slow=38									
	comp=Z,35nm,0.8s									
ILAR	**Eielson Array**	**63.22**	**29**	P	**P**		**05 30 20.3**	**-0.9**		
ILAR	**Eielson Array**	**63.22**	**29**	P	**P**		**05 30 20.3**	**-0.9**		
DHY	**Denali Highway**	**63.24**	**30**	IAMs_20	IAMs_20		05 56 18.5			
	comp=Z,1µm,22.0s									
DHY	**Denali Highway**	**63.24**	**30**	P	**P**		**05 30 21.5**	**0.0**		
	baz=278,SNR=40									
DHY				S	**S**		**05 38 49.8**	**-0.5**		
	baz=278									
HDA	**Harding Lake**	**63.24**	**29**	IAmb	IAmb		05 30 22.4			
	comp=Z,202nm,0.9s									
HDA	**Harding Lake**	**63.24**	**29**	P	**P**		**05 30 20.9**	**-0.4**		
	baz=278,SNR=218									
HDA				S	**S**		**05 38 47.8**	**-2.2**		
	baz=278									
HDA				S	**S**		**05 38 47.8**	**-2.2**		
	baz=278									
M23K	**Glacier View**	**63.26**	**32**	P	**P**		**05 30 21.8**	**+0.3**		
	baz=278,SNR=58									
E25K	**Arctic Village**	**63.31**	**25**	P	**P**		**05 30 23.3**	**+1.6**		
	baz=277,SNR=140									
E25K				S	**S**		**05 38 53.4**	**+2.6**		
	baz=277									
C26K	**Camden Bay**	**63.32**	**23**	P	**P**		**05 30 23.5**	**+1.8**		
	baz=277,SNR=52									
C26K				S	**S**		**05 38 51.5**	**+0.7**		
	baz=277									
F25K	**Christian Rive**	**63.35**	**25**	P	**P**		**05 30 23.9**	**+1.8**		
	baz=277,SNR=102									
F25K				S	**S**		**05 38 52.9**	**+1.5**		
	baz=277									
BELG	**Belogornoye**	**63.40**	**317**	P	**P**		**05 30 21.6**	**-0.9**		
	comp=Z,239nm,0.8s,baz=61,slow=0.5,SNR=92									
BELG				LR	LR		06 00 02.6			
	comp=Z,7µm,19.9s,baz=73,slow=38									
	comp=Z,239nm,0.8s									
SCM	**Sheep Creek Mo**	**63.45**	**32**	P	**P**		**05 30 23.3**	**+0.5**		
SCM	**Sheep Creek Mo**	**63.45**	**32**	P	**P**		**05 30 23.3**	**+0.5**		
SCM				pmax	pmax					
	comp=Z,337nm,1.0s									
SCM	**Sheep Creek Mo**	**63.45**	**32**	P	**P**		**05 30 23.3**	**+0.5**		
	baz=279,SNR=87									
SCM				S	**S**		**05 38 53.2**	**+0.4**		
	baz=279									
H25K	**Birch Creek**	**63.45**	**27**	P	**P**		**05 30 24.4**	**+1.8**		
	baz=278,SNR=81									
H25K				S	**S**		**05 38 56.8**	**+4.2**		
	baz=278									
PRP	**Porcupine Dome**	**63.68**	**28**	P	**P**		**05 30 23.7**	**-0.7**		
PRP				IAmb	IAmb		05 30 28.6			
	comp=Z,139nm,0.8s									
PRP	**Porcupine Dome**	**63.68**	**28**	P	**P**		**05 30 25.0**	**+0.6**		
	baz=279,SNR=213									
PRP				S	**S**		**05 38 56.3**	**+0.6**		
	baz=279									
P23K	**Montague Islan**	**63.70**	**34**	P	**P**		**05 30 25.0**	**+0.6**		
	baz=280									
GLI	**Glacier Island**	**63.71**	**33**	P	**P**		**05 30 24.7**	**+0.3**		
	baz=280,SNR=17									
GLI				S	**S**		**05 38 55.7**	**-0.2**		
	baz=280									
BANOM	**Banah**	**63.73**	**287**	P	**P**		**05 30 25.0**	**-0.2**		
C27K	**Jago River**	**63.77**	**23**	P	**P**		**05 30 26.2**	**+1.5**		
	baz=278,SNR=100									
C27K				S	**S**		**05 38 56.9**	**+0.4**		
	baz=278									
BMAR	**Burnt Mountain**	**63.77**	**25**	P	**P**		**05 30 26.3**	**+1.5**		
SHME	**Shamm**	**63.82**	**287**	*i* P	**P**		**05 30 26.0**	**+0.2**		
	SNR=9.7									
K24K	**Donnelly Dome**	**63.84**	**30**	P	**P**		**05 30 25.5**	**+0.2**		
	baz=279,SNR=80									
K24K				S	**S**		**05 38 55.8**	**-1.8**		
	baz=279									
J25K	**Salcha River,**	**63.89**	**29**	P	**P**		**05 30 24.7**	**-1.0**		
	baz=279,SNR=23									
J25K				S	**S**		**05 38 55.7**	**-2.5**		
	baz=279									
F26K	**Sheenjek River**	**63.90**	**25**	P	**P**		**05 30 27.4**	**+1.7**		
	baz=279,SNR=158									
F26K				S	**S**		**05 39 00.1**	**+1.9**		
	baz=279									
M24K	**Tolsona, Glenn**	**63.94**	**31**	P	**P**		**05 30 27.2**	**+1.2**		
	baz=280,SNR=48									
M24K				S	**S**		**05 39 00.8**	**+1.9**		
	baz=280									
MSFE	**Esma-Masafi**	**64.03**	**286**	*i* P	**P**		**05 30 27.8**	**+0.5**		
	SNR=8.4									
HIN	**Hinchinbrook I**	**64.08**	**33**	P	**P**		**05 30 28.2**	**+1.2**		
PAX	**Paxson**	**64.11**	**30**	P	**P**		**05 30 26.5**	**-0.7**		
PAX				IAmb	IAmb		05 30 29.1			
	comp=Z,114nm,0.9s									
PAX	**Paxson**	**64.11**	**30**	P	**P**		**05 30 26.5**	**-0.7**		
PAX				pmax	pmax					
	comp=Z,114nm,0.9s									
PAX	**Paxson**	**64.11**	**30**	P	**P**		**05 30 27.8**	**+0.6**		
	baz=280,SNR=76									
PAX				S	**S**		**05 39 01.9**	**+0.9**		
	baz=280									
SOHO	**SOHO**	**64.12**	**285**	*i* P	**P**		**05 30 27.2**	**-0.6**		
	SNR=56									
UOSS	**Minazif**	**64.13**	**286**	P	**P**		**05 30 29.0**	**+1.1**		
UOSS				IAMs_20	IAMs_20		06 02 06.2			
	comp=Z,1µm,22.0s									
UOSS	**Minazif**	**64.13**	**286**	P	**P**		**05 30 27.0**	**-0.9**		
UOSS	**Minazif**	**64.13**	**286**	P	**P**		**05 30 26.9**	**-1.0**		
UOSS				pP	**pP**		**05 30 38.0**	**-1.4**		
G26K	**Porcupine Rive**	**64.16**	**26**	P	**P**		**05 30 28.9**	**+1.6**		
	baz=279,SNR=108									
G26K				S	**S**		**05 39 04.2**	**+2.9**		
	baz=279									
KLU	**Klutina**	**64.16**	**32**	IAmb	IAmb		05 30 29.5			
	comp=Z,129nm,0.9s									
KLU	**Klutina**	**64.16**	**32**	P	**P**		**05 30 28.3**	**+0.8**		
	baz=280,SNR=48									
KLU				S	**S**		**05 39 03.1**	**+1.4**		
	baz=280									
HATD	**Hatta, Dubai**	**64.23**	**286**	*i* P	**P**		**05 30 30.0**	**+1.4**		
	SNR=17									
RIDG	**Independent Ri**	**64.26**	**30**	IAmb	IAmb		05 30 47.7			
	comp=Z,248nm,1.1s									
RIDG				IAMs_20	IAMs_20		05 58 41.4			
	comp=Z,1µm,21.0s									
RIDG	**Independent Ri**	**64.26**	**30**	P	**P**		**05 30 28.2**	**+0.1**		
	baz=280									
RIDG				S	**S**		**05 39 00.1**	**-2.7**		
	baz=280									
Q23K	**Middleton Isla**	**64.33**	**34**	P	**P**		**05 30 28.7**	**+0.2**		
	baz=281									
ASHO	**Ashiyiah**	**64.34**	**286**	*i* P	**P**		**05 30 29.7**	**+0.3**		
	SNR=8.5									
HARP	**HAARP**	**64.36**	**31**	P	**P**		**05 30 29.9**	**+1.2**		
	baz=280,SNR=80									
EYAK	**Cordova Ski Ar**	**64.42**	**33**	P	**P**		**05 30 30.0**	**+0.9**		
EYAK				IAmb	IAmb		05 30 54.7			
	comp=Z,129nm,1.1s									
EYAK	**Cordova Ski Ar**	**64.42**	**33**	P	**P**		**05 30 30.1**	**+1.1**		
	baz=281,SNR=18									
EYAK				S	**S**		**05 39 05.9**	**+1.3**		
	baz=281									
NAZ	**Nazwa, Dubai**	**64.58**	**286**	*i* P	**P**		**05 30 30.8**	**0.0**		
	SNR=27									
SCRK	**Sand Creek**	**64.59**	**29**	IAmb	IAmb		05 30 44.2			
	comp=Z,157nm,1.0s									
SCRK	**Sand Creek**	**64.59**	**29**	P	**P**		**05 30 30.5**	**+0.1**		
	baz=281,SNR=128									
SCRK				S	**S**		**05 39 05.0**	**-2.0**		
	baz=281									
DOT	**Dot Lake**	**64.62**	**30**	P	**P**		**05 30 30.4**	**-0.1**		
DOT				IAmb	IAmb		05 30 31.8			
	comp=Z,188nm,0.9s									
J26L	**Joseph Creek**	**64.67**	**29**	P	**P**		**05 30 30.5**	**-0.4**		
J26L				IAmb	IAmb		05 30 32.0			
	comp=Z,144nm,0.8s									
J26L	**Joseph Creek**	**64.67**	**29**	P	**P**		**05 30 30.7**	**-0.2**		
	baz=281,SNR=229									
J26L				S	**S**		**05 39 07.6**	**-0.4**		
	baz=281									
I26K	**Coal Creek Min**	**64.70**	**28**	P	**P**		**05 30 30.8**	**-0.1**		
I26K	**Coal Creek Min**	**64.70**	**28**	P	**P**		**05 30 30.9**	**0.0**		
	baz=281									
I26K				S	**S**		**05 39 09.7**	**+1.7**		
	baz=281									
FAQ	**Al Faqa, Dubai**	**64.72**	**286**	*i* P	**P**		**05 30 31.7**	**-0.1**		
	SNR=40									
N25K	**Chitina, Valde**	**64.76**	**32**	P	**P**		**05 30 32.5**	**+1.0**		
	baz=281,SNR=36									
N25K				S	**S**		**05 39 10.2**	**+1.0**		
	baz=281									
E27K	**Coleen River**	**64.77**	**24**	P	**P**		**05 30 32.8**	**+1.4**		
	baz=281,SNR=74									
E27K				S	**S**		**05 39 10.5**	**+1.7**		
	baz=281									
ALNE	**Al Ain**	**64.82**	**285**	*i* P	**P**		**05 30 32.7**	**+0.2**		
	SNR=15									
BMRM	**Bremner River**	**64.89**	**33**	P	**P**		**05 30 33.0**	**+0.7**		
BMRM	**Bremner River**	**64.89**	**33**	P	**P**		**05 30 32.9**	**+0.7**		
	baz=282,SNR=90									
BMRM				S	**S**		**05 39 12.2**	**+1.6**		
	baz=282									
MENT	**Mentasta**	**64.91**	**30**	IAmb	IAmb		05 30 34.7			
	comp=Z,214nm,0.9s									
RAGM	**Ragged Mountai**	**64.97**	**33**	P	**P**		**05 30 33.7**	**+0.9**		
ASUD	**Al Ashush, Dub**	**64.99**	**286**	*i* P	**P**		**05 30 33.9**	**+0.5**		
	SNR=11									
G27K	**Doyon Strip**	**65.01**	**26**	P	**P**		**05 30 34.3**	**+1.4**		
	baz=281,SNR=79									
G27K				S	**S**		**05 39 14.5**	**+2.6**		
	baz=281									
L26K	**Log Cabin Wild**	**65.06**	**30**	IAmb	IAmb		05 30 35.6			
	comp=Z,159nm,0.9s									
L26K				IAMs_20	IAMs_20		05 58 43.8			
	comp=Z,2µm,21.0s									
L26K	**Log Cabin Wild**	**65.06**	**30**	P	**P**		**05 30 34.3**	**+1.0**		
	baz=282,SNR=132									
L26K				S	**S**		**05 39 14.4**	**+1.9**		
	baz=282									
ARPS	**Mount Arapiles**	**65.08**	**168**	P	**P**		**05 30 34.1**	**+0.5**		
GLB	**Gilahina Butte**	**65.17**	**32**	P	**P**		**05 30 34.8**	**+0.7**		
GLB				IAmb	IAmb		05 30 36.2			
	comp=Z,252nm,1.0s									
H27K	**Steamboat Moun**	**65.17**	**27**	P	**P**		**05 30 35.7**	**+1.6**		
	baz=282,SNR=62									
H27K				S	**S**		**05 39 18.4**	**+4.4**		
	baz=282									
KAIM	**Kayak Island**	**65.19**	**34**	P	**P**		**05 30 35.5**	**+1.3**		
KAIM	**Kayak Island**	**65.19**	**34**	P	**P**		**05 30 35.1**	**+0.9**		
	baz=282,SNR=16									
I27K	**Kandik River**	**65.27**	**27**	P	**P**		**05 30 35.9**	**+1.3**		
	baz=282,SNR=230									
I27K				S	**S**		**05 39 16.2**	**+1.0**		
	baz=282									
CAN	**Canberra**	**65.33**	**162**	IAmb	IAmb		05 30 49.8			
	comp=Z,134nm,1.2s									
CAN				IAMs_20	IAMs_20		05 57 57.8			
	comp=Z,2µm,21.0s									
CAN	**Canberra**	**65.33**	**162**	P	**P**		**05 30 37.2**	**+1.8**		
CAN	**Canberra**	**65.33**	**162**	P	**P**		**05 30 36.6**	**+1.2**		
CAN				pP	**pP**		**05 30 48.5**	**+1.5**		
M26K	**Nabesna, AK**	**65.34**	**31**	P	**P**		**05 30 36.0**	**+0.8**		
M26K				IAMs_20	IAMs_20		05 59 31.2			
	comp=Z,1µm,22.0s									
M26K	**Nabesna, AK**	**65.34**	**31**	P	**P**		**05 30 36.0**	**+0.8**		
	baz=282,SNR=283									
M26K				S	**S**		**05 39 18.7**	**+2.5**		
	baz=282									
K27K	**Chicken**	**65.41**	**29**	IAmb	IAmb		05 30 38.0			
	comp=Z,201nm,1.1s									
K27K	**Chicken**	**65.41**	**29**	P	**P**		**05 30 36.5**	**+1.0**		
	baz=282									
K27K				S	**S**		**05 39 17.9**	**+1.1**		
	baz=282									
CNB	**Canberra Magne**	**65.43**	**161**	P	**P**		**05 30 37.4**	**+1.4**		
BERG	**Berg Lake**	**65.44**	**33**	P	**P**		**05 30 37.2**	**+1.4**		
SUCK	**Suckling Hills**	**65.47**	**33**	P	**P**		**05 30 37.4**	**+1.3**		
MCARA	**McCarthy VSAT**	**65.55**	**32**	P	**P**		**05 30 37.5**	**+1.1**		
MCARA	**McCarthy VSAT**	**65.55**	**32**	P	**P**		**05 30 37.4**	**+0.9**		
	baz=283,SNR=82									
MCARA				S	**S**		**05 39 19.6**	**+1.0**		
	baz=283									
EGAK	**Eagle**	**65.63**	**28**	P	**P**		**05 30 37.0**	**+0.1**		
EGAK				IAmb	IAmb		05 30 41.1			
	comp=Z,101nm,0.9s									
EGAK	**Eagle**	**65.63**	**28**	P	**P**		**05 30 37.0**	**+0.1**		
	baz=283,SNR=108									
EGAK				S	**S**		**05 39 18.5**	**-0.9**		
	baz=283									
MAK	**Makhachkala**	**65.65**	**307**	*e*P	**P**		**05 30 34.8**	**-2.6**		
MAK				*e*S	**S**		**05 39 17.3**	**-3.1**		
MAK				*e*SS	**SS**		**05 43 33.6**	**-0.9**		
MAK				pmax	pmax					
	comp=Z,656nm,1.3s									
MAK				MLR	MLR					
	comp=Z,2µm,15.0s									
MSVF	**Nonsavu**	**65.68**	**127**	P	**P**		**05 30 39.4**	**+1.5**		
	comp=Z,5.1nm,0.9s,baz=356,slow=6.4,SNR=9.2									
MSVF				LR	LR		05 57 10.6			
	comp=Z,692nm,19.2s,baz=308,slow=34									
MSVF	**Nonsavu**	**65.68**	**127**	P	**P**		**05 30 39.5**	**+1.6**		
MSVF	**Nonsavu**	**65.68**	**127**	P	**P**		**05 30 40.7**	**+2.7**		
	comp=Z,64nm,0.9s									
MSVF	**Nonsavu**	**65.68**	**127**	P	**P**		**05 30 40.2**	**+2.3**		
MSVF				pP	**pP**		**05 30 49.5**	**-0.3**		
BGLC	**Bering Glacier**	**65.70**	**33**	P	**P**		**05 30 38.9**	**+1.4**		
	baz=283									
L27K	**Beaver Creek,**	**65.72**	**30**	IAmb	IAmb		05 30 40.1			
	comp=Z,124nm,0.9s									
L27K				IAMs_20	IAMs_20		05 59 24.2			
	comp=Z,1µm,21.0s									
L27K	**Beaver Creek,**	**65.72**	**30**	P	**P**		**05 30 38.9**	**+1.3**		
	baz=283,SNR=140									
L27K				S	**S**		**05 39 21.1**	**+0.4**		
	baz=283									
BCAR	**Beaver Creek A**	**65.74**	**30**	P	**P**		**05 30 38.4**	**+0.7**		
TGL	**Tana Glacier**	**65.78**	**33**	P	**P**		**05 30 38.7**	**+0.6**		
WAX	**Waxell Ridge**	**65.84**	**33**	P	**P**		**05 30 39.3**	**+0.9**		
WAX				IAmb	IAmb		05 30 40.5			
	comp=Z,212nm,0.9s									
M27K	**Edge Creek, AK**	**65.86**	**31**	P	**P**		**05 30 39.5**	**+0.8**		
M27K				IAmb	IAmb		05 30 40.8			
	comp=Z,191nm,0.9s									
M27K				IAMs_20	IAMs_20		05 59 44.9			
	comp=Z,1µm,21.0s									
M27K	**Edge Creek, AK**	**65.86**	**31**	P	**P**		**05 30 39.5**	**+0.8**		
	baz=283,SNR=100									
M27K				S	**S**		**05 39 23.2**	**+0.5**		
	baz=283									
KLMR	**Klimovskoe**	**66.00**	**328**	*c i*P	**P**		**05 30 38.1**	**-1.3**		
KLMR				*e*			05 33 02.1			
KLMR				S	**S**		**05 39 23.3**	**-0.7**		
KLMR				pmax	pmax					
	comp=Z,100nm,0.7s									
KLMR	**Klimovskoe**	**66.00**	**328**	⇑ *i*P	**P**		**05 30 38.1**	**-1.3**		
KLMR				*e*P	**P**		**05 30 38.1**	**-1.3**		
KLMR				*e*P	**P**		**05 30 38.1**	**-1.3**		
KLMR				AMP			05 30 39.5			
	comp=Z,100nm,0.7s									
KLMR				*e*PP	**PP**		**05 33 02.2**	**-2.4**		
KLMR				S	**S**		**05 39 23.4**	**-0.6**		
KLMR				S	**S**		**05 39 23.4**	**-0.6**		
KLMR				LQ	LQ		05 44 24.3			
KLMR				LQ	LQ		05 44 24.3			
KLMR				LR	LR		05 47 38.8			
KLMR				AMP			05 52 13.3			
	comp=Z,872nm,17.1s									
ISLE	**Juniper Island**	**66.05**	**33**	IAmb	IAmb		05 30 41.5			
	comp=Z,139nm,0.8s									
BRAT	**Ballarat**	**66.23**	**167**	P	**P**		**05 30 42.3**	**+1.3**		
BVCY	**Beaver Creek**	**66.31**	**31**	P	**P**		**05 30 42.3**	**+0.9**		
	baz=284,SNR=43									
MESA	**MESA**	**66.34**	**33**	P	**P**		**05 30 42.7**	**+0.8**		
MESA				IAmb	IAmb		05 30 44.0			
	comp=Z,190nm,1.1s									
MESA	**MESA**	**66.34**	**33**	P	**P**		**05 30 42.6**	**+0.8**		
	baz=284,SNR=16									
LVZ	**Lovozero**	**66.35**	**336**	P	**P**		**05 30 41.0**	**-0.6**		
LVZ	**Lovozero**	**66.35**	**336**	*ce*P	**P**		**05 30 40.2**	**-1.4**		
LVZ				pmax	pmax					
	comp=Z,59nm,0.8s									
LVZ	**Lovozero**	**66.35**	**336**	P	**P**		**05

baz=285,SNR=9.5
EPYK Eagle Plains 67.03 26 P **P** **05 30 46.6 +0.6**
EPYK Eagle Plains 67.03 26 P **P** **05 30 46.5 +0.6**
baz=286,SNR=140
EPYK S **S** **05 39 36.6 +0.1**
baz=286
O28M Mount Upton 67.03 32 P **P** **05 30 47.4 +1.0**
baz=285,SNR=107
O28M S **S** **05 39 39.0 +1.8**
baz=285
SHAO Shalim 67.13 279 *i* P **P** **05 30 47.3 -0.1**
SNR=8.2
MZR Muzera 67.14 285 *i* P **P** **05 30 47.1 -0.2**
SNR=31
PCA Pinnacle 67.18 33 P **P** **05 30 48.1 +1.1**
PINM Pinnacle 67.18 33 P **P** **05 30 48.0 +1.0**
baz=286,SNR=58
PINM S **S** **05 39 39.2 +0.6**
baz=286
VRH Novokhopyorsk 67.25 317 *e*P **P** **05 30 45.9 -1.6**
VRH pmax pmax
comp=Z,190nm,0.8s
VRH pmax pmax
comp=Z,190nm,0.8s
VRH MLR MLR
comp=Z,4μm,19.0s
L29M L29M 67.34 29 P **P** **05 30 49.7 +1.7**
baz=286,SNR=138
L29M S **S** **05 39 40.6 +0.2**
baz=286
M29M Somme Creek 67.38 30 P **P** **05 30 49.8 +1.5**
baz=286,SNR=126
M29M S **S** **05 39 43.2 +2.2**
baz=286
K29M Barlow Dome 67.40 29 P **P** **05 30 49.7 +1.3**
baz=286,SNR=110
K29M S **S** **05 39 41.7 +0.5**
baz=286
BCPM Bancas Point 67.52 33 P **P** **05 30 50.3 +1.2**
YUK4 Talbot Arm 67.60 31 P **P** **05 30 50.9 +1.0**
baz=286,SNR=70
YUK4 S **S** **05 39 45.5 +1.7**
baz=286
INK Inuvik 67.65 23 PKPPKP **P'P'df** **05 59 13.2 -3.6**
comp=Z,3.4nm,0.9s,baz=61,slow=7.0,SNR=4.7
INK LR LR 06 01 55.9
comp=Z,888nm,21.7s,baz=264,slow=37
INK Inuvik 67.65 23 P **P** **05 30 50.1 +0.5**
INK IAmb IAmb 05 31 09.5
comp=Z,183nm,1.1s
INK Inuvik 67.65 23 P **P** **05 30 50.2 +0.5**
INK pmax pmax
comp=Z,183nm,1.1s
INK Inuvik 67.65 23 P **P** **05 30 50.3 +0.6**
baz=288,SNR=52
INK S **S** **05 39 43.7 0.0**
baz=288
SPB2 Spitsbergen Ar 67.71 348 P **P** **05 30 49.7 -0.3**
SPB2 IAmb IAmb 05 30 51.5
comp=Z,103nm,0.8s
SPA0 Spitsbergen Ar 67.71 348 *e*P **P** **05 30 49.2 -0.9**
SPA0 IVmBBB 05 30 50.0
comp=Z,2μm,1.3s
SPA0 *e*S **S** **05 39 44.4 0.0**
SPA0 IVMs_BB IVMs_BB 06 04 32.6
comp=Z,898nm,17.5s
SPITS Spitsbergen Ar 67.71 348 LR LR 06 04 44.0
comp=Z,2μm,18.6s,baz=8.0,slow=40
PNL Peninsula 67.72 33 P **P** **05 30 51.5 +1.1**
baz=286,SNR=30
PNL S **S** **05 39 46.5 +1.6**
baz=286
F31M Tsiigehtchic 67.84 24 P **P** **05 30 51.2 +0.3**
baz=288,SNR=42
F31M S **S** **05 39 46.0 +0.1**
baz=288
YUK6 Outpost Mounta 67.85 32 P **P** **05 30 52.9 +1.4**
baz=287,SNR=45
YUK6 S **S** **05 39 50.5 +3.7**
baz=287
GUDG Gudauri 67.93 307 P **P** **05 30 53.5 +1.2**
GUDG IAmb IAmb 05 30 54.1
comp=Z,181nm,0.8s
GUDG Gudauri 67.93 307 P **P** **05 30 53.5 +1.2**
GUDG pmax pmax
comp=Z,181nm,0.8s
O29M Mount Kennedy 67.93 32 P **P** **05 30 53.2 +1.4**
baz=287,SNR=98
O29M S **S** **05 39 51.1 +3.4**
baz=287
KBS Kingsbay 68.12 349 P **P** **05 30 51.9 -0.6**
KBS Kingsbay 68.12 349 IAMs_20 IAMs_20 06 01 04.4
comp=Z,2μm,21.0s
KBS Kingsbay 68.12 349*c e*P **P** **05 30 52.2 -0.3**
KBS pmax pmax
comp=Z,54nm,0.8s
KBS Kingsbay 68.12 349 *i* P **P** **05 30 51.4 -1.2**
KBS Kingsbay 68.12 349 *e*P **P** **05 30 52.0 -0.6**
KBS IVmB_BB 05 30 52.5
comp=Z,548nm,0.7s
KBS *e*S **S** **05 39 52.6 +3.5**
KBS IVMs_BB IVMs_BB 05 59 15.8
comp=Z,698nm,19.0s
KBS Kingsbay 68.12 349 P **P** **05 30 51.7 -0.8**
KBS sP **sP** **05 31 08.8 +0.2**
GOF Gofitskoye 68.15 310⇑ *e*P **P** **05 30 53.6 +0.3**
GOF pmax pmax
comp=Z,559nm,0.9s
MAYO Mayo, Yukon 68.17 29 P **P** **05 30 54.5 +1.3**
MAYO IAmb IAmb 05 30 55.7
comp=Z,203nm,1.1s
MAYO Mayo, Yukon 68.17 29 P **P** **05 30 54.4 +1.3**
baz=288,SNR=28
ZEI Tsey 68.24 308 *e*P **P** **05 30 51.2 -3.0**
ZEI pmax pmax
comp=Z,209nm,1.0s
HYT Haines Junctio 68.28 32 P **P** **05 30 55.4 +1.3**
HYT IAmb IAmb 05 30 56.7
comp=Z,160nm,1.0s
HYT Haines Junctio 68.28 32 P **P** **05 30 55.4 +1.3**
baz=287,SNR=98
HYT S **S** **05 39 51.3 -0.6**
baz=287
N30M Aishikik Lake 68.28 31 P **P** **05 30 55.2 +1.2**
baz=288,SNR=68
N30M S **S** **05 39 54.1 +2.3**
baz=288
MOS Moscow 68.31 323 *e*P **P** **05 30 52.7 -1.4**
MOS *e* 05 31 18.7
MOS *e* 05 33 33.2
MOS *e*S **S** **05 39 48.1 -3.9**
MOS pmax pmax
comp=Z,189nm,0.7s
MOS pmax pmax
comp=Z,200nm,0.6s
MOS MLR MLR
comp=E,4μm,17.0s
MOS MLR MLR
comp=Z,6μm,17.0s
MOS MLR MLR
comp=N,2μm,16.0s
HSPB Hornsund (broa 68.43 347 *e*P **P** **05 30 53.8 -0.7**
HSPB *e*L L 05 59 49.0
comp=N,2μm,22.9s
HSPB Hornsund (broa 68.43 347 *e*P **P** **05 30 53.9 -0.6**
KEV Kevo 68.43 338 P **P** **05 30 53.7 -0.9**
KEV Kevo 68.43 338 P **P** **05 30 53.7 -0.9**
KEV pmax pmax
comp=Z,332nm,0.9s
KEV MLR MLR
comp=Z,2μm,19.0s
KEV Kevo 68.43 338 P **P** **05 30 54.0 -0.6**
KEV sP **sP** **05 31 08.9 -1.8**
GNI Garni 68.45 305 P **P** **05 30 55.6 +0.1**
comp=Z,90nm,0.9s,baz=34,slow=0.2,SNR=35
GNI LR LR 06 04 48.8
comp=Z,1μm,18.9s,baz=81,slow=39
comp=Z,90nm,0.9s
GNI Garni 68.45 305 P **P** **05 30 55.8 +0.3**
GNI Garni 68.45 305 P **P** **05 30 56.5 +1.0**
GNI IAmb IAmb 05 30 57.6
comp=Z,173nm,1.1s
GNI Garni 68.45 305*c e*P **P** **05 30 56.7 +1.2**
GNI pmax pmax
comp=Z,303nm,1.7s
GNI Garni 68.45 305 P **P** **05 30 56.3 +0.8**
GNI Garni 68.45 305 P **P** **05 30 56.1 +0.6**
LPSR Galich'ya Gora 68.51 319 *e*P **P** **05 30 54.2 -1.2**
LPSR pmax pmax
comp=Z,180nm,0.8s
LPSR pmax pmax
comp=Z,180nm,0.8s
LPSR MLR MLR
comp=Z,5μm,18.0s
P29M Windy Craggy 68.53 33 P **P** **05 30 56.9 +1.4**
P29M IAmb IAmb 05 30 58.4
comp=Z,187nm,0.9s
P29M Windy Craggy 68.53 33 P **P** **05 30 57.0 +1.5**
baz=288,SNR=74
P29M S **S** **05 39 57.6 +3.0**
baz=288
ONI Oni 68.61 308 P **P** **05 30 56.9 +0.5**
ONI Oni 68.61 308 P **P** **05 30 57.7 +1.3**
ONI IAmb IAmb 05 30 58.6
comp=Z,199nm,1.0s
ONI Oni 68.61 308 P **P** **05 30 57.7 +1.3**
ONI pmax pmax
comp=Z,199nm,1.0s
VORR Voronezh 68.62 318⇓ *i* P **P** **05 30 56.0 -0.1**
VORR pmax pmax
comp=Z,232nm,1.5s
VORR MLR MLR
comp=Z,8μm,19.0s
KBZ Khabaz 68.65 309 P **P** **05 30 55.9 -0.5**
comp=Z,259nm,0.9s,baz=85,slow=4.2,SNR=215
KBZ LR LR 06 05 08.7
comp=Z,1μm,18.0s,baz=75,slow=40
comp=Z,259nm,0.9s
KIV Kislovodsk 68.73 309⇑ P **P** **05 30 57.8 +0.7**
KIV Kislovodsk 68.73 309 P **P** **05 30 57.2 +0.1**
KIV Kislovodsk 68.73 309 P **P** **05 30 57.6 +0.5**
KIV IAMs_20 IAMs_20 05 59 57.2
comp=Z,2μm,20.0s
KIV Kislovodsk 68.73 309 *e*P **P** **05 30 57.5 +0.5**
KIV *e*S **S** **05 39 57.8 +0.2**
KIV pmax pmax
comp=Z,392nm,1.1s
KIV pmax pmax
comp=Z,166nm,4.1s
KIV Kislovodsk 68.73 309 *i* P **P** **05 30 57.2 +0.1**
SNR=61
KIV Kislovodsk 68.73 309 P **P** **05 30 57.6 +0.5**
P30M Million Dollar 68.75 32 P **P** **05 30 58.4 +1.5**
baz=288
P30M S **S** **05 39 59.4 +2.1**
baz=288
VSR Storozhevoye 68.78 318 *e*P **P** **05 30 56.0 -1.1**
VSR pmax pmax
comp=Z,210nm,0.9s
VSR pmax pmax
comp=Z,190nm,1.0s
VSR MLR MLR
comp=Z,6μm,19.0s
SHA1 Shidzhatmaz 68.81 309*c i*P **P** **05 30 57.3 -0.5**
BJO1 Bjornoya 68.81 344 *e*P **P** **05 30 56.8 -0.1**
BJO1 *e*S **S** **05 39 56.9 -0.5**
BJO1 IVMs_BB IVMs_BB 06 01 07.7
comp=Z,629nm,24.5s
TASB TASBURUN-IGDIR 68.87 305 P **P** **05 30 58.7 +0.7**
N31M Braeburn, Yuko 68.87 31 P **P** **05 30 58.9 +1.4**
N31M IAmb IAmb 05 31 00.3
comp=Z,225nm,1.0s
N31M IAMs_20 IAMs_20 06 01 04.5
comp=Z,910nm,21.0s
N31M Braeburn, Yuko 68.87 31 P **P** **05 30 59.0 +1.4**
baz=289,SNR=80
N31M S **S** **05 40 00.9 +2.2**
baz=289
AKH Akhalkalaki 68.95 307 P **P** **05 30 59.9 +1.3**
O30N Mendenhall 68.96 32 P **P** **05 30 59.2 +1.0**
baz=289,SNR=56
O30N S **S** **05 40 02.2 +2.5**
baz=289
A36M Sachs Harbour 68.98 19 P **P** **05 30 58.7 +0.7**
A36M Sachs Harbour 68.98 19 P **P** **05 30 58.7 +0.7**
baz=294,SNR=50
A36M S **S** **05 39 58.7 -0.8**
baz=294
POHA Pohakuloa 69.00 78 P **P** **05 30 59.6 +0.3**
POHA IAmb IAmb 05 31 13.4
comp=Z,146nm,0.9s
POHA Pohakuloa 69.00 78 P **P** **05 30 59.9 +0.6**
POHA pP **pP** **05 31 10.5 -0.6**
ARA0 ARCESS Array S 69.00 338 *e*P **P** **05 30 57.7 -0.5**
ARA0 *e*S **S** **05 39 59.4 -0.5**
ARA0 IVMs_BB IVMs_BB 06 07 26.6
comp=Z,943nm,22.9s
ARCES ARCESS Array B 69.00 338 P **P** **05 30 57.5 -0.7**
comp=Z,165nm,0.8s,baz=64,slow=8.2,SNR=268
ARCES LR LR 06 07 00.3
comp=Z,2μm,18.3s,baz=64,slow=41
comp=Z,165nm,0.8s
ARCES ARCESS Array B 69.00 338 P **P** **05 30 58.1 -0.1**
ARCES IAmb IAmb 05 30 59.2
comp=Z,192nm,0.9s
ARCES ARCESS Array B 69.00 338 P **P** **05 30 58.1 -0.1**
ARCES pmax pmax
comp=Z,192nm,0.9s
OBN Obninsk 69.08 322 P **P** **05 30 58.0 -0.9**
comp=Z,21nm,0.7s,baz=37,slow=0.3,SNR=19
OBN LR LR 06 04 03.4
comp=Z,2μm,18.3s,baz=62,slow=38
comp=Z,21nm,0.7s
OBN Obninsk 69.08 322 P **P** **05 30 58.2 -0.7**
OBN IAmb IAmb 05 30 59.0
comp=Z,93nm,0.7s
OBN Obninsk 69.08 322*c i*P **P** **05 30 57.9 -0.9**
OBN *e* 05 31 22.6
OBN *e*PPP PPP 05 35 06.4
OBN pmax pmax
comp=Z,78nm,0.6s
OBN MLR MLR
comp=Z,7μm,17.0s
OBN Obninsk 69.08 322 P **P** **05 30 58.0 -0.9**
HAMF Hammerfest 69.15 340 *e*P **P** **05 30 58.2 -0.9**
HAMF *e*S **S** **05 39 59.3 -2.2**
HAMF IVMs_BB IVMs_BB 06 05 07.5
comp=Z,1μm,23.6s
PLBC Pleasant Camp 69.25 33 P **P** **05 31 00.9 +1.0**
baz=289,SNR=63
M31M Drury Creek, Y 69.26 30 P **P** **05 31 00.8 +0.8**
M31M IAmb IAmb 05 31 02.3
comp=Z,124nm,1.1s
M31M Drury Creek, Y 69.26 30 P **P** **05 31 01.0 +1.0**
baz=290,SNR=80
M31M S **S** **05 40 04.5 +1.3**
baz=290
CLDR Caldiran 69.37 304 P **P** **05 31 01.3 0.0**
KARS Kars 69.50 306 P **P** **05 31 03.4 +1.4**
KARS Kars 69.50 306 P **P** **05 31 03.4 +1.4**
KARS pmax pmax
comp=Z,569nm,0.9s
WHY Whitehorse 69.56 31 P **P** **05 31 03.2 +1.2**
WHY IAmb IAmb 05 31 04.5
comp=Z,139nm,1.1s
WHY Whitehorse 69.56 31 P **P** **05 31 03.0 +1.1**
baz=290,SNR=54
WHY S **S** **05 40 09.5 +2.6**
baz=290
FARO Faro, Yukon 69.71 30 P **P** **05 31 03.8 +1.0**
FARO Faro, Yukon 69.71 30 P **P** **05 31 03.8 +1.0**
baz=290,SNR=227
FARO S **S** **05 40 10.5 +1.9**
baz=290
SKAG Skagway 69.75 33 P **P** **05 31 04.2 +1.3**
SKAG IAmb IAmb 05 31 05.6
comp=Z,162nm,1.0s
SKAG Skagway 69.75 33 P **P** **05 31 04.3 +1.4**
baz=290,SNR=66
NOR Nord 69.76 355 *i* P **P** **05 31 01.7 -1.0**
NOR IAmb IAmb 05 31 02.6
comp=Z,68nm,1.0s
VALR Valaam 69.87 329*c i*P **P** **05 31 03.0 -0.6**
VALR pmax pmax
comp=Z,148nm,0.8s
R31K City Hall, Gus 69.90 34 P **P** **05 31 04.8 +0.9**
baz=290
AGRB Hanur-Agry 69.91 305 P **P** **05 31 05.5 +0.9**
KTK1 Kautokeino 69.95 338 *e*P **P** **05 31 03.0 -1.0**
KTK1 *e*S **S** **05 40 09.6 -1.5**
KTK1 IVMs_BB IVMs_BB 06 07 08.6
comp=Z,920nm,16.5s
SENK Senkaya-Erzuru 70.05 306 P **P** **05 31 06.2 +0.8**
ALE Alert 70.13 2 P **P** **05 31 04.8 -0.2**
N32M Quiet Lake 70.21 31 P **P** **05 31 06.9 +1.0**
baz=291
N32M S **S** **05 40 15.9 +1.5**
baz=291
CUKT Cukurca 70.23 302 P **P** **05 31 05.7 -0.8**
GEVA Gevas 70.28 304 IAmb IAmb 05 31 08.9
comp=Z,234nm,0.9s
AKDM Akdamar-Van 70.33 304 P **P** **05 31 07.7 +0.5**
C36M Paulatuk 70.45 21 P **P** **05 31 07.6 +0.5**
C36M Paulatuk 70.45 21 P **P** **05 31 07.6 +0.5**
baz=296,SNR=47
C36M S **S** **05 40 15.7 -1.1**
baz=296
P32M Atlin 70.48 32 P **P** **05 31 08.6 +1.1**
baz=291,SNR=30
P32M S **S** **05 40 17.9 +0.4**
baz=291
MMPY Sheldon Lake, 70.48 29 P **P** **05 31 08.8 +1.3**
baz=292,SNR=50
MMPY S **S** **05 40 19.9 +2.4**
baz=292
R32K Eaglecrest 70.56 34 P **P** **05 31 09.3 +1.4**
baz=291,SNR=38
SIT Sitka 70.58 35 IAmb IAmb 05 31 10.7
comp=Z,138nm,1.0s
SIT Sitka 70.58 35 P **P** **05 31 09.5 +1.4**
baz=290,SNR=16
SIT S **S** **05 40 20.6 +1.9**
baz=290
KOPR Koprukoy-ERZUR 70.60 306 P **P** **05 31 09.8 +1.0**
JIS Juneau Island 70.62 34 IAmb IAmb 05 31 11.0
comp=Z,137nm,0.9s
JETT Jettan, Norway 70.63 339 *e*P **P** **05 31 07.9 -0.4**
P33M Teslin, Yukon 70.67 32 P **P** **05 31 09.6 +0.8**
P33M IAmb IAmb 05 31 11.2
comp=Z,160nm,1.1s
P33M IAMs_20 IAMs_20 06 02 03.2
comp=Z,1μm,22.0s
P33M Teslin, Yukon 70.67 32 P **P** **05 31 09.9 +1.2**
baz=291,SNR=68
P33M S **S** **05 40 22.3 +2.4**
baz=291
PUL Pulkovo 70.69 328*c e*P **P** **05 31 09.1 +0.4**
PUL pmax pmax
comp=Z,222nm,0.8s
S32K Killisnoo 70.81 35 P **P** **05 31 10.5 +1.0**
baz=291,SNR=11
SOC Sochi 70.88 310*c i*P **P** **05 31 09.1 -1.1**
SOC *e*PPP PPP 05 35 23.7
SOC *e*S S 05 40 13.6 -9.1
SOC *e*SS **SS** **05 45 00.4 +5.1**
SOC pmax pmax
comp=Z,368nm,1.0s
SOC MLR MLR
comp=Z,2μm,18.0s
AFI Afiamalu 70.92 118 LR LR 05 58 27.3
comp=Z,599nm,19.7s,baz=302,slow=32
GURO Guroymak-BITLI 70.96 304 P **P** **05 31 11.4 +0.4**
GURO Guroymak-BITLI 70.96 304 P **P** **05 31 11.1 +0.2**
GURO IAmb IAmb 05 31 12.8
comp=Z,146nm,0.8s
EUNU Eureka 71.04 6 P **P** **05 31 10.6 0.0**
EUNU IAmb IAmb 05 31 12.4
comp=Z,181nm,0.8s
TRO Tromso 71.05 340 *e*P **P** **05 31 09.9 -0.8**
TRO *e*S **S** **05 40 23.5 -0.3**
TRO IVMs_BB IVMs_BB 06 07 21.9
comp=Z,1μm,15.2s
Q32M Nakina River 71.40 33 P **P** **05 31 14.6 +1.3**
baz=292,SNR=14
KOPT Kop Dagi 71.56 306 P **P** **05 31 15.3 +0.6**
KOPT IAmb IAmb 05 31 17.6
comp=Z,197nm,0.9s
SVAN Silvan-Diyarba 71.71 304 P **P** **05 31 15.9 +0.5**
KTUT Trabzon 71.75 307⇓ P **P** **05 31 15.6 +0.1**
KTUT Trabzon 71.75 307 P **P** **05 31 15.2 -0.3**
BNGB Bingl 71.80 305 P **P** **05 31 16.1 +0.1**
R33M Jennings River 71.85 32 P **P** **05 31 17.5 +1.6**
baz=293,SNR=56
R33M S **S** **05 40 35.4 +1.7**
baz=293
T33K Petersburg 71.88 35 P **P** **05 31 17.0 +1.1**
baz=292
FIA1 FINESS Array S 71.97 330 P **P** **05 31 15.9 -0.5**
FIA1 IAmb IAmb 05 31 16.9
comp=Z,124nm,0.8s
FINES FINESS Array B 71.97 330 P **P** **05 31 15.0 -1.5**
comp=Z,70nm,0.6s,baz=67,slow=5.8,SNR=260
FINES LR LR 06 06 27.0
comp=Z,4μm,20.0s,baz=58,slow=39
comp=Z,70nm,0.6s
FINES FINESS Array B 71.97 330 P **P** **05 31 15.6 -0.8**
FINES FINESS Array B 71.97 330 *i* P **P** **05 31 15.6 -0.8**
FINES pmax pmax
comp=Z,70nm,0.6s
ANN Anapa 72.00 312*c i*P **P** **05 31 16.0 -0.9**
ANN *e*S **S** **05 40 37.3 +1.8**
ANN pmax pmax
comp=Z,491nm,0.9s
ANN MLR MLR
comp=Z,3μm,20.0s
U33K Whale Pass 72.06 36 P **P** **05 31 18.3 +1.3**
baz=292,SNR=17
U33K S **S** **05 40 36.7 +0.9**
baz=292
TAU Tasmania Unive 72.10 166 IAMs_20 IAMs_20 06 02 12.8
comp=Z,2μm,20.0s
TGTN Hyland Airport 72.20 29 P **P** **05 31 19.1 +1.2**
baz=295,SNR=79
TGTN S **S** **05 40 38.3 +0.8**
baz=295
CRAG Craig 72.30 36 P **P** **05 31 19.7 +1.2**
CRAG IAmb IAmb 05 31 21.0
comp=Z,110nm,0.9s
CRAG Craig 72.30 36 P **P** **05 31 19.7 +1.2**
baz=293,SNR=6.8
CRAG S **S** **05 40 40.9 +2.3**
baz=293
WRAK Wrangell Islan 72.34 35 P **P** **05 31 19.5 +0.8**
WRAK Wrangell Islan 72.34 35 P **P** **05 31 19.8 +1.1**
baz=293,SNR=8.3
S34M Telegraph Cree 72.36 33 P **P** **05 31 20.2 +1.4**
baz=294,SNR=32
MAZI Mazidag 72.52 304 P **P** **05 31 20.2 -0.1**
DYBB Diyarbakir 72.56 304 P **P** **05 31 21.1 +0.6**
WTLY Watson Lake, Y 72.56 31 IAmb IAmb 05 31 22.5
comp=Z,169nm,0.8s
WTLY Watson Lake, Y 72.56 31 P **P** **05 31 21.4 +1.3**
baz=295,SNR=30
DLBC Dease Lake 72.68 33 LR LR 06 05 45.4
comp=Z,317nm,19.4s,baz=312,slow=38
DLBC Dease Lake 72.68 33 P **P** **05 31 22.3 +1.5**
DLBC Dease Lake 72.68 33 P **P** **05 31 22.4 +1.5**
baz=294,SNR=34
PTK Pertek 72.77 305 P **P** **05 31 22.4 +0.5**
VSU Vasula 72.91 327 *i* P **P** **05 31 21.1 -0.9**
VSU Vasula 72.91 327 *e*P **P** **05 31 22.2 +0.2**
STEI Steigen 73.07 339 *e*P **P** **05 31 22.1 -0.7**
STEI *e*S **S** **05 40 45.0 -1.9**
STEI *e*SS **SS** **05 45 28.8 +1.3**
STEI IVMs_BB IVMs_BB 06 08 46.9
comp=Z,2μm,20.9s
T35M Bob Quinn 73.17 34 P **P** **05 31 25.2 +1.5**
baz=294,SNR=34
MEF Metsahovi 73.24 330 *e*P **P** **05 31 23.9 0.0**
FAUS Fauske 73.34 338 *e*P **P** **05 31 23.1 -1.3**
FAUS IVmB_BB 05 31 24.0
comp=Z,3μm,0.9s
FAUS *e*S **S** **05 40 49.0 -1.0**
FAUS *e*SS **SS** **05 45 39.5 +7.8**
FAUS IVMs_BB IVMs_BB 06 09 18.6
comp=Z,1μm,15.9s
ARPR Arapgir-MALATY 73.46 306 P **P** **05 31 26.7 +0.8**
WRGLY Wrigley 73.46 27 P **P** **05 31 26.4 +1.2**
baz=296,SNR=38
LOF Lofoten 73.50 339 *e*P **P** **05 31 23.8 -1.5**
LOF *e*S **S** **05 40 52.0 +0.2**
LOF *e*SS **SS** **05 45 35.9 +1.8**
LOF IVMs_BB IVMs_BB 06 04 25.3
comp=Z,880nm,34.2s
DIB Dawson Inlet, 73.55 38 IAmb IAmb 05 31 27.6
comp=Z,152nm,1.0s
H02S1 DAWSON INLET T 73.55 38 P **P** **05 31 26.8 +0.9**
SNR=7.0

RSDY	**Resadiye-TOKAT**	**73.69**	**307**	P	**P**	**05 31 26.5**	**-0.6**
URFA	**Urfa**	**73.72**	**304**	P	**P**	**05 31 22.8**	**-4.6**
RAYN	**Ar Rayn**	**73.74**	**288**	P	**P**	**05 31 27.6**	**-0.1**
RAYN	**Ar Rayn**	**73.74**	**288**	IAMs_20	IAMs_20	06 08 23.6	
	comp=Z,1μm,22.0s						
RAYN	**Ar Rayn**	**73.74**	**288**	P	**P**	**05 31 27.6**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,393nm,1.1s						
RAYN				MLR	MLR		
	comp=Z,1μm,22.0s						
RAYN	**Ar Rayn**	**73.74**	**288**	*i* P	**P**	**05 31 28.0**	**+0.3**
	SNR=226						
MNK	**Minsk**	**73.98**	**323**	*i* P	**P**	**05 31 27.5**	**-0.9**
MNK				*i* *PP	**pP**	**05 31 39.5**	**-0.7**
MNK				*i*		05 31 42.6	
MNK				*i*		05 34 12.4	
MNK				*i* PPP	PPP	05 35 57.6	
MNK				*i* S	**S**	**05 40 56.2**	**-1.4**
MNK				*i*		05 41 33.0	
MNK				*i* SS	**SS**	**05 45 41.8**	**-0.2**
MNK				pmax	pmax		
	comp=E,14nm,0.9s						
MNK				pmax	pmax		
	comp=Z,161nm,0.9s						
MNK				MLR	MLR		
	comp=E,537nm,14.0s						
MNK				MLR	MLR		
	comp=Z,4μm,14.0s						
MNK	**Minsk**	**73.98**	**323**	*i* P	**P**	**05 31 27.5**	**-0.9**
	comp=E,14nm,0.9s						
MNK				*i* P	**P**	**05 31 27.5**	**-0.9**
MNK				*i* P	**P**	**05 31 27.5**	**-0.9**
	comp=Z,161nm,0.9s,baz=65						
MNK				*i* PP	**PP**	**05 34 12.4**	**-1.0**
MNK				*i* PPP	PPP	05 35 57.6	
MNK				*i* S	**S**	**05 40 56.3**	**-1.4**
MNK				*i* sS	**sS**	**05 41 17.4**	**+0.1**
MNK				*i* SS	**SS**	**05 45 41.8**	**-0.2**
MNK				*i* SSS	SSS	05 49 03.1	
MNK				*i* LQ	LQ	05 59 01.3	
MNK				*i* LR	LR	06 04 41.3	
MNK				*i* LRM	MLR	06 07 13.5	
	comp=E,537nm,13.8s						
MNK				*i* LRM	MLR	06 07 15.7	
	comp=Z,4μm,14.2s						
RAF	**Rauma**	**74.03**	**331**	*e*P	**P**	**05 31 28.3**	**-0.3**
DAG	**Danmarks Havn**	**74.10**	**353**	*i* P	**P**	**05 31 27.0**	**-1.8**
DAG				IAmb	IAmb	05 31 28.8	
	comp=Z,95nm,0.8s						
SVSK	**Karacayir**	**74.10**	**307**	P	**P**	**05 31 29.9**	**+0.5**
SIM	**Simferopol'**	**74.13**	**313**	*e*P	**P**	**05 31 27.9**	**-1.6**
SIM				*e*		05 31 44.4	
SIM				*e*S	**SKiKP**	**05 40 55.6**	**+1.5**
SIM				smax	smax		
	comp=N,192nm,18.7s						
SIM				MLR	MLR		
	comp=Z,2μm,21.1s						
MTSE	**Matsula**	**74.17**	**328**	*e*P	**P**	**05 31 29.4**	**0.0**
TOKT	**Tokat**	**74.27**	**307**	P	**P**	**05 31 30.8**	**+0.3**
MOR8	**Moi Rana**	**74.27**	**337**	*e*P	**P**	**05 31 28.0**	**-2.0**
DARE	**Darende-Malaty**	**74.27**	**305**	P	**P**	**05 31 31.1**	**+0.5**
RES	**Resolute Bay**	**74.30**	**11**	LR	LR	06 07 33.5	
	comp=Z,475nm,18.9s,baz=336,slow=38						
RES	**Resolute Bay**	**74.30**	**11**	P	**P**	**05 31 30.2**	**+0.3**
RES	**Resolute Bay**	**74.30**	**11**	P	**P**	**05 31 30.2**	**+0.3**
RES				pmax	pmax		
	comp=Z,312nm,1.0s						
KVT	**Kavak**	**74.33**	**308**	P	**P**	**05 31 31.1**	**+0.3**
NACGM	**Naroch**	**74.39**	**324**	⇓*i* P	**P**	**05 31 31.2**	**+0.4**
	baz=64						
ISAL	**Salakas**	**74.44**	**325**	*e*P	**P**	**05 31 31.0**	**-0.1**
IIGN	**Ignalina**	**74.48**	**325**	*e*P	**P**	**05 31 31.0**	**-0.3**
KONS	**Konsvik**	**74.54**	**338**	*e*P	**P**	**05 31 30.9**	**-0.6**
HG4B	**Hotspring**	**74.63**	**39**	IAmb	IAmb	05 31 34.4	
	comp=Z,136nm,1.0s						
GRNB	**Grenville Isla**	**74.64**	**37**	P	**P**	**05 31 33.2**	**+0.8**
GRNB				IAmb	IAmb	05 31 34.5	
	comp=Z,121nm,0.9s						
DIKM	**Dikmen**	**74.65**	**309**	⇓P	**P**	**05 31 33.1**	**+0.5**
DIKM	**Dikmen**	**74.65**	**309**	P	**P**	**05 31 32.6**	**0.0**
STOK	**Stokkvaagen**	**74.66**	**338**	*e*P	**P**	**05 31 31.8**	**-0.4**
AKASG	**Malin Array Be**	**74.83**	**319**	P	**P**	**05 31 31.5**	**-1.9**
	comp=Z,158nm,0.9s,baz=55,slow=6.3,SNR=331						
AKASG				LR	LR	06 07 11.8	
	comp=Z,8μm,18.5s,baz=62,slow=38						
	comp=Z,158nm,0.9s						
AKASG	**Malin Array Be**	**74.83**	**319**	IAmb	IAmb	05 31 33.9	
	comp=Z,215nm,1.0s						
AKASG	**Malin Array Be**	**74.83**	**319**	*i* P	**P**	**05 31 32.5**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,175nm,0.9s						
AKBB	**Malin Array Si**	**74.83**	**319**	IAmb	IAmb	05 31 33.8	
	comp=Z,235nm,1.1s						
AKBB	**Malin Array Si**	**74.83**	**319**	*ce*P	**P**	**05 31 32.5**	**-0.9**
AKBB				pmax	pmax		
	comp=Z,252nm,1.0s						
FLDN	**Fort Liard**	**74.88**	**29**	P	**P**	**05 31 34.6**	**+1.1**
	baz=299,SNR=7.8						
SARI	**SarD1z-Kayseri**	**75.11**	**306**	P	**P**	**05 31 34.9**	**-0.6**
KMRS	**Kahramanmaras**	**75.11**	**305**	P	**P**	**05 31 35.6**	**+0.2**
BNN	**Bunyan**	**75.34**	**306**	P	**P**	**05 31 35.5**	**-1.3**
NEEM	**North Greenlan**	**75.35**	**360**	*i* P	**P**	**05 31 35.2**	**-1.2**
NEEM				IAmb	IAmb	05 31 37.1	
	comp=Z,407nm,1.1s						
VSVD	**Vaisvydziai**	**75.36**	**326**	*e*P	**P**	**05 31 36.3**	**-0.1**
BZK	**Bozkurt**	**75.39**	**310**	⇓P	**P**	**05 31 35.6**	**-1.3**
BZK	**Bozkurt**	**75.39**	**310**	P	**P**	**05 31 35.1**	**-1.7**
BZK	**Bozkurt**	**75.39**	**310**	P	**P**	**05 31 35.4**	**-1.4**
SLIT	**Slitere, Latvi**	**75.39**	**328**	*e*P	**P**	**05 31 36.4**	**-0.1**
YOZ	**Yozgat**	**75.40**	**307**	P	**P**	**05 31 36.8**	**-0.4**
PABE	**Paberze**	**75.56**	**325**	P	**P**	**05 31 37.9**	**+0.4**
PABE				IAmb	IAmb	05 31 38.8	
	comp=Z,110nm,0.9s						
PABE	**Paberze**	**75.56**	**325**	*e*P	**P**	**05 31 37.7**	**+0.1**
CORM	**Corum**	**75.67**	**308**	P	**P**	**05 31 37.8**	**-0.9**
TULEG	**Thule**	**75.70**	**4**	P	**P**	**05 31 37.5**	**-0.5**
TULEG				IAMs_20	IAMs_20	06 06 39.7	
	comp=Z,2μm,22.0s						
TULEG	**Thule**	**75.70**	**4**	*i* P	**P**	**05 31 36.9**	**-1.1**
TULEG				IAmb	IAmb	05 31 38.3	
	comp=Z,352nm,0.9s						
KOZT	**Kozan**	**75.90**	**305**	P	**P**	**05 31 39.9**	**0.0**
ILGA	**Ilgaz**	**75.95**	**309**	IAmb	IAmb	05 31 42.0	
	comp=Z,293nm,1.0s						
NSS	**Namsos**	**76.05**	**337**	*e*P	**P**	**05 31 39.0**	**-1.1**
TAHT	**Tahtakopru-Hat**	**76.08**	**304**	P	**P**	**05 31 41.2**	**+0.2**
CEYT	**Ceyhan**	**76.15**	**305**	P	**P**	**05 31 41.7**	**+0.4**
RAO	**Raoul Island**	**76.16**	**134**	LR	LR	05 59 33.9	
	comp=Z,1μm,22.0s,baz=324,slow=31						
CANT	**Cankiri**	**76.20**	**309**	P	**P**	**05 31 41.3**	**-0.3**
PBUR	**Paburge**	**76.34**	**326**	*e*P	**P**	**05 31 42.5**	**+0.6**
BBB	**Bella Bella**	**76.38**	**38**	LR	LR	06 03 34.9	
	comp=Z,334nm,21.6s,baz=282,slow=34						
CMRD	**Camardi-Nigde**	**76.44**	**305**	P	**P**	**05 31 43.3**	**+0.2**
BR131	**Keskin Array S**	**76.55**	**308**	P	**P**	**05 31 43.2**	**-0.5**
BR131	**Keskin Array S**	**76.55**	**308**	*c* *i*P	**P**	**05 31 43.3**	**-0.5**
BRTR	**Keskin Array B**	**76.55**	**308**	P	**P**	**05 31 42.8**	**-0.9**
	comp=Z,174nm,0.9s,baz=96,slow=5.6,SNR=423						
BRTR				LR	LR	06 10 24.9	
	comp=Z,2μm,21.8s,baz=63,slow=40						
	comp=Z,174nm,0.9s						
BRTR	**Keskin Array B**	**76.55**	**308**	P	**P**	**05 31 43.3**	**-0.5**
BRTR	**Keskin Array B**	**76.55**	**308**	P	**P**	**05 31 44.1**	**+0.3**
BRTR	**Keskin Array B**	**76.55**	**308**	P	**P**	**05 31 44.1**	**+0.3**
KARA	**Karaisali**	**76.55**	**305**	P	**P**	**05 31 43.2**	**-0.4**
KAMT	**Kaman**	**76.65**	**307**	P	**P**	**05 31 43.2**	**-1.0**
KIS	**Kishinev**	**76.65**	**316**	⇑*i* P	**P**	**05 31 42.7**	**-1.2**
	comp=Z,300nm,0.8s						
KIS	**Kishinev**	**76.65**	**316**	*e*PP	PP	05 34 35.0	-1.2
KIS				LRM	MLR	06 07 44.0	
	comp=Z,600nm,21.0s						
KIS	**Kishinev**	**76.65**	**316**	*c* *i*P	**P**	**05 31 42.7**	**-1.2**
KIS				*e*		05 34 35.0	
KIS				pmax	pmax		
	comp=Z,300nm,0.8s						
KIS				MLR	MLR		
	comp=Z,600nm,19.0s						
MILM	**Milestii Mici**	**76.69**	**316**	⇓P	**P**	**05 31 43.6**	**-0.6**
MILM	**Milestii Mici**	**76.69**	**316**	*c* *i*P	**P**	**05 31 42.5**	**-1.6**
MILM				*e*		05 34 34.0	
MILM				*e*PPP	PPP	05 36 30.0	
MILM				*e*PS	**PnS**	**05 42 15.0**	**+5.1**
MILM				pmax	pmax		
	comp=Z,300nm,0.9s						
MILM				MLR	MLR		
	comp=Z,2μm,17.5s						
MILM				MLR	MLR		
	comp=N,2μm,18.0s						
GULA	**Gulagac**	**76.70**	**306**	P	**P**	**05 31 44.4**	**-0.1**
SERE	**Sereflikochisa**	**76.93**	**307**	P	**P**	**05 31 45.6**	**-0.2**
ANTO	**Ankara**	**77.08**	**308**	⇑P	**P**	**05 31 47.0**	**+0.3**
ANTO	**Ankara**	**77.08**	**308**	P	**P**	**05 31 46.7**	**+0.1**
ANTO	**Ankara**	**77.08**	**308**	P	**P**	**05 31 46.9**	**+0.3**
ANTO				IAmb	IAmb	05 31 47.8	
	comp=Z,221nm,1.1s						
ANTO	**Ankara**	**77.08**	**308**	IAMs_20	IAMs_20	06 11 14.9	
	comp=Z,1μm,20.0s						
ANTO	**Ankara**	**77.08**	**308**	P	**P**	**05 31 46.9**	**+0.3**
ANTO				pmax	pmax		
	comp=Z,221nm,1.1s						
LOD	**Lodumlu**	**77.10**	**308**	P	**P**	**05 31 45.2**	**-1.5**
MERS	**Mersin**	**77.10**	**305**	P	**P**	**05 31 45.3**	**-1.5**
BR231	**Keskin MP Arra**	**77.11**	**308**	IAmb	IAmb	05 31 48.0	
	comp=Z,188nm,1.0s						
HWQ	**Hawqa**	**77.12**	**302**	*e*P	**P**	**05 31 46.3**	**-0.7**
LEOM	**Leova**	**77.23**	**316**	⇓P	**P**	**05 31 47.4**	**+0.2**
ASF	**Jabal al Asfar**	**77.26**	**300**	P	**P**	**05 31 47.7**	**-0.1**
	comp=Z,210nm,0.9s,baz=74,slow=2.6,SNR=178						
ASF				LR	LR	06 12 35.3	
	comp=Z,561nm,19.2s,baz=92,slow=41						
	comp=Z,210nm,0.9s						
SULT	**Sultanhani-AKS**	**77.28**	**306**	P	**P**	**05 31 47.7**	**-0.1**
MSEY	**Mahe Island**	**77.28**	**258**	P	**P**	**05 31 48.1**	**0.0**
MSEY	**Mahe Island**	**77.28**	**258**	IAMs_20	IAMs_20	06 03 23.5	
	comp=Z,1μm,22.0s						
MSEY	**Mahe Island**	**77.28**	**258**	P	**P**	**05 31 48.1**	**0.0**
MSEY				pmax	pmax		
	comp=Z,94nm,1.2s						
MSEY	**Mahe Island**	**77.28**	**258**	P	**P**	**05 31 48.3**	**+0.2**
YKA	**Yellowknife Ar**	**77.29**	**25**	P	**P**	**05 31 47.4**	**+0.2**
	comp=Z,103nm,0.9s,baz=297,slow=5.6,SNR=202						
YKA				pP	**pP**	**05 32 00.7**	**+1.7**
	comp=Z,136nm,1.0s,baz=305,slow=6.1,SNR=17						
YKA				LR	LR	06 09 18.0	
	comp=Z,443nm,18.6s,baz=306,slow=38						
	comp=Z,103nm,0.9s						
JMIC	**Jan Mayen**	**77.31**	**347**	LR	LR	06 08 48.0	
	comp=Z,946nm,18.5s,baz=40,slow=38						
JMIC	**Jan Mayen**	**77.31**	**347**	*e*P	**P**	**05 31 47.9**	**+0.7**
IAS	**Iasi**	**77.34**	**317**	⇑P	**P**	**05 31 46.7**	**-1.1**
KDZE	**Karadeniz Ereo**	**77.40**	**310**	⇓P	**P**	**05 31 47.9**	**-0.4**
TBLU	**Trondheim**	**77.41**	**336**	*e*P	**P**	**05 31 45.7**	**-2.2**
VASR	**Vaslui**	**77.44**	**316**	⇓P	**P**	**05 31 48.8**	**+0.4**
DRBR	**Darabani**	**77.45**	**318**	⇑P	**P**	**05 31 47.2**	**-1.2**
BHL	**Bhannes**	**77.49**	**302**	*e*P	**P**	**05 31 48.5**	**-0.6**
KIZK	**Mersin**	**77.54**	**305**	P	**P**	**05 31 48.5**	**-0.6**
CHBY	**Cihanbeyli**	**77.56**	**307**	P	**P**	**05 31 48.1**	**-1.3**
JURR	**Jurilovca**	**77.59**	**314**	⇑P	**P**	**05 31 49.4**	**+0.2**
VLDR	**Vladesti**	**77.62**	**315**	⇑P	**P**	**05 31 49.9**	**+0.6**
SHBL	**Chebaa**	**77.66**	**301**	*e*P	**P**	**05 31 50.0**	**0.0**
GIUM	**Giurgiulesti**	**77.70**	**315**	⇑P	**P**	**05 31 50.3**	**+0.5**
BIR	**Birlad**	**77.71**	**316**	⇑P	**P**	**05 31 50.8**	**+0.9**
VARL	**Varlezi**	**77.74**	**315**	⇓P	**P**	**05 31 50.2**	**+0.1**
SCTR	**Scanteiesti**	**77.75**	**315**	⇑P	**P**	**05 31 50.7**	**+0.6**
TATR	**Tatarca**	**77.75**	**315**	⇓P	**P**	**05 31 50.5**	**+0.4**
TPGR	**Topolog**	**77.85**	**314**	⇓P	**P**	**05 31 50.9**	**+0.1**
KEBE	**Keben-Mersin**	**77.87**	**305**	P	**P**	**05 31 50.9**	**-0.2**
CFR	**Carcaliu**	**77.88**	**315**	⇑P	**P**	**05 31 50.7**	**-0.2**
HFS	**Hagfors**	**77.90**	**332**	LR	LR	06 10 29.0	
	comp=Z,2μm,18.4s,baz=34,slow=39						
EREN	**Erenkoy**	**77.92**	**304**	P	**P**	**05 31 51.1**	**-0.2**
SLCR	**Slobozia Conac**	**77.93**	**315**	⇓P	**P**	**05 31 51.4**	**+0.3**
SCHL	**Schela**	**77.93**	**315**	⇑P	**P**	**05 31 51.1**	**0.0**
MDUB	**Mudurnu**	**77.93**	**309**	P	**P**	**05 31 50.0**	**-1.4**
MDUB	**Mudurnu**	**77.93**	**309**	P	**P**	**05 31 50.4**	**-1.0**
GHRR		**77.94**	**316**	⇓P	**P**	**05 31 52.0**	**+0.8**
IZVR	**Izvoarele**	**77.95**	**315**	⇓P	**P**	**05 31 51.5**	**+0.3**
IKL	**Isikli**	**77.98**	**305**	P	**P**	**05 31 50.9**	**-0.7**
AUMIH	**MIHALICIK**	**78.00**	**309**	P	**P**	**05 31 51.4**	**-0.4**
TIRR	**Tirgusor**	**78.03**	**314**	⇑P	**P**	**05 31 51.8**	**+0.1**
TIRR	**Tirgusor**	**78.03**	**314**	P	**P**	**05 31 51.3**	**-0.4**
TIRR	**Tirgusor**	**78.03**	**314**	P	**P**	**05 31 51.8**	**+0.1**
TIRR	**Tirgusor**	**78.03**	**314**	P	**P**	**05 31 51.8**	**+0.1**
TIRR				pmax	pmax		
	comp=Z,412nm,1.1s						
TIRR				MLR	MLR		
	comp=Z,4μm,20.0s						
MMAI	**Mount Meron Ar**	**78.06**	**301**	P	**P**	**05 31 51.5**	**-0.7**
	comp=Z,102nm,0.9s,baz=70,slow=7.5,SNR=67						
MMAI				LR	LR	06 11 55.1	
	comp=Z,1μm,19.9s,baz=290,slow=40						
	comp=Z,102nm,0.9s						
TEVE	**Tevekalti-Mers**	**78.07**	**305**	P	**P**	**05 31 51.8**	**-0.4**
LADK	**Ladik-KONYA**	**78.09**	**307**	P	**P**	**05 31 50.3**	**-2.1**
AKKU	**Akkuyu-Mersin**	**78.11**	**305**	P	**P**	**05 31 51.9**	**-0.4**
NC405	**NORSAR Array S**	**78.14**	**334**	P	**P**	**05 31 51.0**	**-1.0**
AUSIV	**SIVRIHISAR**	**78.14**	**308**	P	**P**	**05 31 52.5**	**-0.1**
KIZT	**Kizilcal**	**78.15**	**308**	P	**P**	**05 31 52.4**	**-0.2**
SVRH	**Sivrihisar-ESK**	**78.15**	**308**	P	**P**	**05 31 52.2**	**-0.4**
PANC	**Panciu**	**78.19**	**316**	⇑P	**P**	**05 31 53.9**	**+1.3**
LVV	**L'vov**	**78.20**	**320**	⇓*i* P	**P**	**05 31 51.9**	**-0.7**
LVV				*e*		05 32 02.9	
LVV				*e*		05 34 46.1	
LVV				*e*		05 36 41.1	
LVV				*e*S	**S**	**05 41 36.9**	**-7.4**
LVV				*e*		05 42 20.6	
LVV				*e*		05 50 02.4	
LVV				MLR	MLR		
	comp=N,1μm,19.0s						
LVV				MLR	MLR		
	comp=E,6μm,19.0s						
LVV				MLR	MLR		
	comp=Z,6μm,18.0s						
TESR	**Tescani**	**78.20**	**316**	⇑P	**P**	**05 31 52.7**	**0.0**
NC303	**NORSAR Array S**	**78.20**	**334**	P	**P**	**05 31 51.9**	**-0.5**
KONT	**Konya--Tatoy**	**78.21**	**307**	P	**P**	**05 31 51.9**	**-1.0**
TLBR	**Topalu**	**78.22**	**314**	⇑P	**P**	**05 31 53.1**	**+0.3**
HARR	**Harsova**	**78.23**	**314**	⇑P	**P**	**05 31 53.0**	**+0.2**
BERE	**Bereket-Mersin**	**78.27**	**305**	P	**P**	**05 31 52.1**	**-1.3**
MMLI	**Mount Malkishu**	**78.28**	**300**	P	**P**	**05 31 53.6**	**+0.2**
ODBI	**Odobesti**	**78.30**	**316**	⇑P	**P**	**05 31 54.6**	**+1.5**
NB2	**NORSAR Subarra**	**78.37**	**334**	P	**P**	**05 31 52.4**	**-1.0**
	comp=Z,361nm,0.9s,baz=50,slow=5.9						
NB2	**NORSAR Subarra**	**78.37**	**334**	P	**P**	**05 31 52.4**	**-1.0**
	baz=50,slow=5.9						
NOA	**NORSAR Array B**	**78.37**	**334**	P	**P**	**05 31 52.2**	**-1.1**
	comp=Z,215nm,0.8s,baz=51,slow=5.6,SNR=550						
NOA				LR	LR	06 11 13.7	
	comp=Z,2μm,18.3s,baz=60,slow=39						
	comp=Z,215nm,0.8s						
NC204	**NORSAR Array S**	**78.41**	**334**	P	**P**	**05 31 52.7**	**-0.9**
SAUV	**Serdivan-Sakar**	**78.41**	**310**	P	**P**	**05 31 53.2**	**-0.7**
GULT	**Gulveren**	**78.42**	**310**	P	**P**	**05 31 53.8**	**-0.3**
NC602	**NORSAR Array S**	**78.43**	**333**	*e*P	**P**	**05 31 52.6**	**-0.9**
TEKE	**Tekeli-Mersin**	**78.44**	**305**	P	**P**	**05 31 53.0**	**-1.1**
VRI	**Vrincioaia**	**78.45**	**316**	⇓P	**P**	**05 31 55.0**	**+0.9**
VRI	**Vrincioaia**	**78.45**	**316**	P	**P**	**05 31 54.2**	**+0.1**
LFK	**Lefkose**	**78.50**	**304**	P	**P**	**05 31 53.7**	**-0.9**
PLOR	**Plostina**	**78.51**	**316**	⇓P	**P**	**05 31 55.1**	**+0.7**
CIFT	**Cifteler, Eski**	**78.51**	**308**	P	**P**	**05 31 53.9**	**-0.7**
SRCK	**Saricakaya, Es**	**78.51**	**309**	P	**P**	**05 31 53.9**	**-0.6**
GRER		**78.52**	**315**	⇑P	**P**	**05 31 55.2**	**+0.8**
PSN	**Preselentsi**	**78.53**	**313**	*i* P	**P**	**05 31 54.7**	**+0.2**
HDMB	**Hadim**	**78.54**	**306**	P	**P**	**05 31 53.7**	**-1.3**
BUR08	**Bucovina Ar. S**	**78.55**	**318**	P	**P**	**05 31 54.5**	**-0.2**
BUR08				IAmb	IAmb	05 31 56.0	
	comp=Z,143nm,0.9s						
BURAR	**Bucovina Array**	**78.56**	**318**	⇑P	**P**	**05 31 55.0**	**+0.3**
BURAR	**Bucovina Array**	**78.56**	**318**	P	**P**	**05 31 54.6**	**-0.1**
BURAR				IAmb	IAmb	05 31 56.3	
	comp=Z,176nm,0.8s						
ICOR	**Ion Corvin**	**78.58**	**314**	⇑P	**P**	**05 31 55.6**	**+0.9**
DOMB	**Dombas**	**78.59**	**335**	⇑*i* P	**P**	**05 31 53.8**	**-0.8**
DOMB				*e*S	**S**	**05 41 45.0**	**-3.1**
DOMB				IVMs_BB	IVMs_BB	06 09 33.6	
	comp=Z,1μm,26.8s						
NAO01	**NORSAR Array S**	**78.62**	**334**	P	**P**	**05 31 54.0**	**-0.7**
AMRR	**Amara**	**78.65**	**314**	⇑P	**P**	**05 31 55.3**	**+0.2**
ROCAM	**Rodrigues Isla**	**78.66**	**241**	P	**P**	**05 31 55.8**	**+0.4**
BORA	**Eskisehir**	**78.70**	**309**	P	**P**	**05 31 55.1**	**-0.6**
BORA	**Eskisehir**	**78.70**	**309**	P	**P**	**05 31 54.8**	**-0.8**
BORA				IAmb	IAmb	05 31 56.3	
	comp=Z,237nm,0.9s						
PGOR	**Pogoanele**	**78.73**	**315**	⇑P	**P**	**05 31 56.7**	**+1.1**
COVR	**Voineasa-Covas**	**78.78**	**316**	⇓P	**P**	**05 31 56.7**	**+0.7**
MOL	**Molde**	**78.81**	**336**	*e*P	**P**	**05 31 54.7**	**-0.9**
SEYD	**Seydisehir-KON**	**78.81**	**306**	P	**P**	**05 31 56.4**	**+0.1**
HRT	**Hereke**	**78.82**	**310**	P	**P**	**05 31 55.9**	**-0.3**
ISR	**Istrita**	**78.91**	**315**	⇑P	**P**	**05 31 57.8**	**+1.1**
OZUR		**78.93**	**316**	⇓P	**P**	**05 31 57.8**	**+1.1**
CBB	**Campbell River**	**78.93**	**39**	P	**P**	**05 31 56.4**	**-0.2**
ADVT	**Abdulvahap**	**78.95**	**310**	P	**P**	**05 31 55.7**	**-1.2**
GAZI	**Gazipasa**	**78.98**	**305**	P	**P**	**05 31 55.9**	**-1.2**
AUBOZ	**BOZOYUK**	**78.98**	**309**	P	**P**	**05 31 55.3**	**-1.9**
CAVI	**Cavuskoy**	**78.98**	**310**	P	**P**	**05 31 56.7**	**-0.4**
BEL	**Belsk**	**79.00**	**323**	*e*P	**P**	**05 31 57.8**	**+0.9**
BEL				*e*L	L	06 10 12.3	
	comp=Z,7μm,18.2s						
LEHL	**Lehliu**	**79.04**	**314**	⇓P	**P**	**05 31 58.3**	**+1.1**
LEF	**Lefka**	**79.04**	**304**	P	**P**	**05 31 57.1**	**-0.4**
KLYT	**Kilyos**	**79.05**	**311**	P	**P**	**05 31 57.3**	**-0.1**
MLR	**Muntele Rosu**	**79.11**	**316**	⇓P	**P**	**05 31 58.3**	**+0.5**
MLR	**Muntele Rosu**	**79.11**	**316**	P	**P**	**05 31 57.1**	**-0.7**
	comp=Z,146nm,0.9s,baz=360,slow=5.3,SNR=85						
MLR				LR	LR	06 10 02.4	
	comp=Z,3μm,20.8s,baz=51,slow=38						
	comp=Z,146nm,0.9s						
MLR	**Muntele Rosu**	**79.11**	**316**	P	**P**	**05 31 57.6**	**-0.2**
MLR	**Muntele Rosu**	**79.11**	**316**	P	**P**	**05 31 57.4**	**-0.5**
MLR				IAmb	IAmb	05 31 59.8	
	comp=Z,229nm,1.1s						
ISK	**Istanbul-Kandi**	**79.13**	**311**	P	**P**	**05 31 57.7**	**-0.1**
KAVV	**Kandilli-Istan**	**79.13**	**311**	P	**P**	**05 31 56.9**	**-0.9**
SHUT	**Suhut-Afyon**	**79.22**	**308**	P	**P**	**05 31 58.6**	**0.0**
OSL	**Oslo**	**79.23**	**333**	*e*P	**P**	**05 31 57.9**	**0.0**
DOPR	**Dopca**	**79.23**	**316**	⇑P	**P**	**05 31 59.1**	**+0.8**
SECR		**79.25**	**315**	⇓P	**P**	**05 31 59.6**	**+1.2**
PRD	**Provadia**	**79.25**	**313**	*i* P	**P**	**05 31 58.4**	**0.0**
AKN	**Aaknes**	**79.26**	**336**	*e*P	**P**	**05 31 58.2**	**0.0**
AKN				IVmB_BB		05 31 58.4	
	comp=Z,3μm,1.1s						
AKN				*e*S	**S**	**05 41 55.6**	**+0.3**
AKN				IVMs_BB	IVMs_BB	06 10 09.7	
	comp=Z,843nm,3.9s						
SULR		**79.30**	**315**	⇑P	**P**	**05 31 59.5**	**+0.8**
GEMT	**Gemlik**	**79.32**	**310**	P	**P**	**05 31 57.9**	**-1.0**
ARCR	**ARCALIA**	**79.33**	**318**	⇑P	**P**	**05 31 59.9**	**+1.1**
PLAR	**PLOIESTI**	**79.33**	**315**	⇑P	**P**	**05 32 00.0**	**+1.2**
OZB	**Mount Ozzard**	**79.39**	**40**	P	**P**	**05 32 00.5**	**+1.4**
ARMT	**Armutlu**	**79.49**	**310**	P	**P**	**05 31 59.2**	**-0.6**
TGMR	**Targu Mures**	**79.49**	**317**	⇓P	**P**	**05 32 01.1**	**+1.4**
BMR	**Baia Mare**	**79.55**	**318**	⇑P	**P**	**05 32 00.9**	**+0.9**
MDNY	**Mudanya-Bursa**	**79.56**	**310**	P	**P**	**05 31 59.3**	**-0.9**
ISP	**Isparta**	**79.57**	**307**	P	**P**	**05 31 59.6**	**-0.8**
ISP	**Isparta**	**79.57**	**307**	P	**P**	**05 32 00.0**	**-0.4**
ISP				IAmb	IAmb	05 32 00.8	
	comp=Z,174nm,0.9s						
ISP	**Isparta**	**79.57**	**307**	IAMs_20	IAMs_20	06 12 26.7	
	comp=Z,1μm,22.0s						
ISP	**Isparta**	**79.57**	**307**	P	**P**	**05 32 00.0**	**-0.4**
ISP				pmax	pmax		
	comp=Z,174nm,0.9s						
TVSB	**Tavsanli**	**79.58**	**309**	P	**P**	**05 31 59.2**	**-1.3**
SLVT	**Silivri**	**79.62**	**311**	P	**P**	**05 32 00.9**	**+0.4**
KOLS	**Kolonicke sedl**	**79.64**	**320**	*e*P	**P**	**05 32 01.0**	**+0.5**
KOLS				pmax	pmax		
	comp=Z,82nm,0.8s						
KOLS	**Kolonicke sedl**	**79.64**	**320**	*e*P	**P

RPZ	**Rata Peaks**	**80.81**	**150**	LR	LR	06 08 06.8			
	comp=Z,563nm,19.4s,baz=316,slow=36								
RPZ	**Rata Peaks**	**80.81**	**150**	P	**P**	**05 32 05.5**	**-1.1**		
CAME	**Cameli-Denizli**	**80.83**	**307**	P	**P**	**05 32 06.6**	**-0.7**		
BORR	**Bors**	**80.85**	**319**	⇑P	**P**	**05 32 07.0**	**0.0**		
ODD1	**Odda**	**80.86**	**334**	*e*P	**P**	**05 32 07.0**	**+0.1**		
KECS	**Kecovo**	**80.89**	**320**	*e*P	**P**	**05 32 07.8**	**+0.6**		
KECS				*p*max	p*max*				
	comp=Z,56nm,0.8s								
KECS	**Kecovo**	**80.89**	**320**	*e*P	**P**	**05 32 07.8**	**+0.6**		
AKAS	**Kas**	**80.94**	**306**	P	**P**	**05 32 05.7**	**-2.2**		
AKAS	**Kas**	**80.94**	**306**	P	**P**	**05 32 06.0**	**-1.9**		
AKAS				IAmb	IAmb	05 32 06.6			
	comp=Z,190nm,0.9s								
B04A	**Port Angeles**	**80.98**	**40**	P	**P**	**05 32 08.1**	**+0.3**		
KSL	**Kastellorizon**	**81.00**	**306**	P	**P**	**05 32 06.6**	**-1.4**		
DIM	**Dimitrovgrad**	**81.01**	**313**	*i*P	**P**	**05 32 08.3**	**+0.3**		
ASK	**Askoy**	**81.03**	**335**	*e*P	**P**	**05 32 07.7**	**0.0**		
COP	**Copenhagen**	**81.03**	**329**	*i*P	**P**	**05 32 06.9**	**-0.8**		
COP				IAmb	IAmb	05 32 08.9			
	comp=Z,867nm,1.0s								
OVD	**Ostervraa, Den**	**81.04**	**331**	*i*P	**P**	**05 32 07.4**	**-0.4**		
OVD				IAmb	IAmb	05 32 08.4			
	comp=Z,529nm,1.0s								
BER	**Bergen**	**81.04**	**335**	*e*P	**P**	**05 32 07.8**	**0.0**		
BER				*e*S	**S**	**05 42 13.1**	**-0.7**		
BER				*e*SS	**SS**	**05 47 30.6**	**+2.7**		
BER				IVMs_BB	IVMs_BB	06 07 21.9			
	comp=Z,1µm,4.4s								
GZR	**Gura Zlata**	**81.11**	**317**	⇓P	**P**	**05 32 09.0**	**+0.5**		
LANS	**Liptovska Anna**	**81.11**	**321**	*e*P	**P**	**05 32 09.5**	**+1.1**		
LANS				p*max*	p*max*				
	comp=Z,113nm,1.8s								
LANS	**Liptovska Anna**	**81.11**	**321**	*e*P	**P**	**05 32 09.5**	**+1.1**		
NLWA	**Neilton Lookou**	**81.11**	**41**	P	**P**	**05 32 09.0**	**+0.5**		
FETY	**Fethiye**	**81.13**	**307**	P	**P**	**05 32 06.9**	**-1.9**		
HOMB	**Homborsund**	**81.16**	**332**	IVmB_BB		05 32 08.0			
	comp=Z,2µm,1.3s								
HOMB				*e*P	**P**	**05 32 08.0**	**-0.4**		
HOMB				*e*S	**S**	**05 42 14.2**	**-1.0**		
GELI	**Tayfur-Gelibol**	**81.18**	**311**	P	**P**	**05 32 08.4**	**-0.5**		
SRE	**Strehaia**	**81.21**	**316**	⇓P	**P**	**05 32 09.9**	**+0.9**		
ALN	**Alexandroupoli**	**81.22**	**312**	P	**P**	**05 32 08.8**	**-0.4**		
ALN	**Alexandroupoli**	**81.22**	**312**	P	**P**	**05 32 08.7**	**-0.4**		
ALN	**Alexandroupoli**	**81.22**	**312**	P	**P**	**05 32 09.6**	**+0.5**		
ALN				IAmb	IAmb	05 32 10.1			
	comp=Z,166nm,0.9s								
ALN	**Alexandroupoli**	**81.22**	**312**	P	**P**	**05 32 09.6**	**+0.5**		
ALN				p*max*	p*max*				
	comp=Z,166nm,0.9s								
BLS5	**Blasjo**	**81.24**	**334**	*e*P	**P**	**05 32 08.9**	**0.0**		
BLS5				IVmB_BB		05 32 09.2			
	comp=Z,3µm,1.2s								
BLS5				*e*S	**S**	**05 42 15.3**	**-0.9**		
KDZ	**Kurdzhali**	**81.28**	**312**	P	**P**	**05 32 10.1**	**+0.7**		
KDZ	**Kurdzhali**	**81.28**	**312**	*i*P	**P**	**05 32 09.3**	**-0.1**		
NUUG	**Nuugaatsiaq**	**81.28**	**1**	*i*P	**P**	**05 32 08.3**	**-0.5**		
NUUG				IAmb	IAmb	05 32 13.3			
	comp=Z,137nm,1.4s								
RGN	**Rugen**	**81.29**	**328**	P	**P**	**05 32 10.2**	**+1.1**		
WISH	**Wishkah**	**81.31**	**41**	IAmb	IAmb	05 32 12.6			
	comp=Z,139nm,1.1s								
SIRR	**Siria**	**81.34**	**318**	⇓P	**P**	**05 32 10.4**	**+0.7**		
DALY	**Dalyan (Mula)**	**81.35**	**307**	P	**P**	**05 32 09.3**	**-0.6**		
AYDB	**Zeytinkoy-Aydi**	**81.36**	**308**	P	**P**	**05 32 09.9**	**-0.2**		
RDO	**Rodhopi**	**81.44**	**312**	P	**P**	**05 32 10.0**	**-0.3**		
RDO	**Rodhopi**	**81.44**	**312**	P	**P**	**05 32 09.9**	**-0.3**		
BAIL	**Bailesti**	**81.44**	**315**	⇑P	**P**	**05 32 10.8**	**+0.6**		
YER	**Yerkesik**	**81.47**	**307**	P	**P**	**05 32 10.6**	**0.0**		
YER	**Yerkesik**	**81.47**	**307**	P	**P**	**05 32 10.2**	**-0.4**		
OKC	**Ostrava-Krasne**	**81.47**	**322**	*e*P	**P**	**05 32 11.1**	**+0.8**		
OKC				MLR	MLR				
	comp=Z,4µm,16.5s								
OKC	**Ostrava-Krasne**	**81.47**	**322**	*e*P	**P**	**05 32 11.1**	**+0.8**		
OKC				AMS	AMS	06 11 20.0			
	comp=Z,4µm,16.5s								
DKL	**Dikili**	**81.52**	**310**	P	**P**	**05 32 09.3**	**-1.4**		
PSZ	**Piszkesteto**	**81.52**	**320**	⇓P	**P**	**05 32 11.1**	**+0.5**		
PSZ	**Piszkesteto**	**81.52**	**320**	P	**P**	**05 32 10.3**	**-0.3**		
PLD	**Plovdiv**	**81.52**	**313**	P	**P**	**05 32 11.1**	**+0.4**		
PLD	**Plovdiv**	**81.52**	**313**	*i*P	**P**	**05 32 10.2**	**-0.5**		
EZN	**Ezine**	**81.55**	**310**	P	**P**	**05 32 10.8**	**-0.1**		
EZN	**Ezine**	**81.55**	**310**	P	**P**	**05 32 10.5**	**-0.4**		
PUNG	**Punghina**	**81.57**	**316**	⇑P	**P**	**05 32 11.7**	**+0.9**		
HERR	**Herculane**	**81.59**	**316**	⇓P	**P**	**05 32 11.5**	**+0.5**		
DJES	**Djerdap**	**81.63**	**316**	⇑P	**P**	**05 32 11.6**	**+0.4**		
GOET	**G??ttrup**	**81.63**	**331**	*i*P	**P**	**05 32 10.3**	**-0.6**		
GOET				IAmb	IAmb	05 32 12.1			
	comp=Z,655nm,0.9s								
SNART	**Snartemo**	**81.64**	**333**	*e*P	**P**	**05 32 11.0**	**0.0**		
SNART				IVmBBB		05 32 11.3			
	comp=Z,6µm,1.0s								
SNART				*e*S	**S**	**05 42 21.4**	**+1.1**		
PGB	**Panagyurishte**	**81.65**	**314**	*i*P	**P**	**05 32 11.2**	**-0.3**		
RADR	**Rader Ridge**	**81.66**	**42**	P	**P**	**05 32 12.6**	**+1.2**		
RADR				IAmb	IAmb	05 32 33.1			
	comp=Z,366nm,1.7s								
TURN	**Turunc**	**81.66**	**307**	P	**P**	**05 32 11.6**	**+0.1**		
BZS	**Buzias**	**81.70**	**317**	⇑P	**P**	**05 32 11.5**	**-0.1**		
BZS	**Buzias**	**81.70**	**317**	P	**P**	**05 32 10.9**	**-0.7**		
RZN	**Rozhen**	**81.72**	**313**	*i*P	**P**	**05 32 11.6**	**-0.4**		
BOZC	**Bozcaada**	**81.73**	**311**	P	**P**	**05 32 11.8**	**0.0**		
E03A	**Lebam**	**81.73**	**42**	P	**P**	**05 32 12.8**	**+1.2**		
E03A				IAmb	IAmb	05 32 14.2			
	comp=Z,145nm,1.0s								
BLCB	**Balcova**	**81.75**	**309**	P	**P**	**05 32 10.6**	**-1.3**		
BLCB	**Balcova**	**81.75**	**309**	P	**P**	**05 32 11.4**	**-0.5**		
SMTH	**Samothraki Isl**	**81.77**	**311**	P	**P**	**05 32 11.1**	**-1.0**		
VYHS	**Vyhne**	**81.81**	**321**	*e*P	**P**	**05 32 12.8**	**+0.7**		
VYHS				p*max*	p*max*				
	comp=Z,258nm,1.0s								
VYHS	**Vyhne**	**81.81**	**321**	*e*P	**P**	**05 32 12.8**	**+0.7**		
VYHS	**Vyhne**	**81.81**	**321**	*e*S	**S**	**05 42 20.0**	**-2.4**		
VYHS				*e*L	L	06 11 41.5			
MORC	**Moravsky Berou**	**81.83**	**322**	⇑P	**P**	**05 32 13.0**	**+0.8**		
MORC	**Moravsky Berou**	**81.83**	**322**	P	**P**	**05 32 12.6**	**+0.4**		
MORC				IAmb	IAmb	05 32 13.9			
	comp=Z,173nm,1.1s								
MORC	**Moravsky Berou**	**81.83**	**322**	*e*P	**P**	**05 32 12.3**	**0.0**		
MORC	**Moravsky Berou**	**81.83**	**322**	P	**P**	**05 32 12.6**	**+0.4**		
MORC				p*max*	p*max*				
	comp=Z,173nm,1.1s								
KMY	**Karmoy**	**81.85**	**334**	*e*P	**P**	**05 32 11.8**	**-0.2**		
PRK	**Paraskevi**	**81.86**	**310**	P	**P**	**05 32 13.1**	**+0.6**		
B06A	**Marblemount**	**81.89**	**39**	P	**P**	**05 32 13.1**	**+0.6**		
MAUC	**Maruska**	**81.90**	**322**	*e*P	**P**	**05 32 13.6**	**+1.0**		
MAUC				AMS	AMS	06 11 40.0			
	comp=Z,9µm,17.7s								
KSP	**Ksiaz**	**81.91**	**324**	*e*P	**P**	**05 32 13.2**	**+0.7**		
KSP				*e*L	L	06 12 16.1			
	comp=Z,6µm,17.3s								
GCAM	**G?zelcaml?**	**81.94**	**308**	P	**P**	**05 32 13.2**	**+0.3**		
ARG	**Arkhangelos**	**82.01**	**307**	P	**P**	**05 32 12.6**	**-0.8**		
ARG	**Arkhangelos**	**82.01**	**307**	IAmb	IAmb	05 32 14.2			
	comp=Z,198nm,1.0s								
MUD	**Monsted U'grnd**	**82.02**	**331**	*i*P	**P**	**05 32 11.5**	**-1.5**		
MUD				IAmb	IAmb	05 32 13.8			
	comp=Z,405nm,1.0s								
BLKB	**Belogradchik**	**82.06**	**315**	⇓P	**P**	**05 32 14.1**	**+0.5**		
URLA	**Izmir**	**82.07**	**309**	P	**P**	**05 32 12.6**	**-1.1**		
MDVR	**Moldovita**	**82.07**	**317**	⇓P	**P**	**05 32 13.5**	**-0.1**		
KRLC	**Kraliky**	**82.08**	**323**	*e*P	**P**	**05 32 14.3**	**+0.8**		
KRLC				MLR	MLR				
	comp=Z,5µm,17.0s								
KRLC	**Kraliky**	**82.08**	**323**	*e*P	**P**	**05 32 14.3**	**+0.8**		
KRLC				*e*PP	**PP**	**05 35 14.8**	**-6.5**		
KRLC				AMS	AMS	06 12 00.0			
	comp=Z,5µm,17.0s								
OSTC	**Ostas**	**82.11**	**323**	*e*P	**P**	**05 32 14.7**	**+1.0**		
OSTC				*e*PP	**PP**	**05 35 21.6**	**+0.1**		
OSTC				AMS	AMS	06 12 10.0			
	comp=Z,5µm,16.9s								
SIGR	**SIGRI**	**82.16**	**310**	P	**P**	**05 32 13.8**	**-0.3**		
SIGR	**SIGRI**	**82.16**	**310**	P	**P**	**05 32 13.6**	**-0.5**		
DPC	**Dobruska-Polom**	**82.17**	**323**	*e*P	**P**	**05 32 15.2**	**+1.2**		
DPC				*e*S	**PP**	**05 35 22.2**	**+0.2**		
DPC				MLR	MLR				
	comp=Z,5µm,16.8s								
DPC	**Dobruska-Polom**	**82.17**	**323**	*e*P	**P**	**05 32 15.2**	**+1.2**		
DPC				*e*PP	**PP**	**05 35 22.2**	**+0.2**		
DPC				AMS	AMS	06 11 50.0			
	comp=Z,5µm,16.8s								
CHVC	**Chvalec**	**82.18**	**324**	*e*P	**P**	**05 32 15.0**	**+1.0**		
CHVC				*e*PP	PP	05 35 13.2	-8.9		
CHVC				AMS	AMS	06 12 10.0			
	comp=Z,6µm,17.1s								
BODT	**Bodrum**	**82.19**	**308**	P	**P**	**05 32 13.1**	**-1.2**		
BODT	**Bodrum**	**82.19**	**308**	P	**P**	**05 32 12.8**	**-1.5**		
SMG	**Samos**	**82.21**	**308**	P	**P**	**05 32 13.9**	**-0.5**		
VTS	**Vitosha**	**82.22**	**314**	⇓P	**P**	**05 32 15.4**	**+0.8**		
VTS	**Vitosha**	**82.22**	**314**	P	**P**	**05 32 14.2**	**-0.3**		
VTS	**Vitosha**	**82.22**	**314**	P	**P**	**05 32 14.6**	**+0.1**		
VTS				IAmb	IAmb	05 32 16.4			
	comp=Z,139nm,1.0s								
VTS	**Vitosha**	**82.22**	**314**	P	**P**	**05 32 14.6**	**+0.1**		
VTS				p*max*	p*max*				
	comp=Z,139nm,1.0s								
VTS	**Vitosha**	**82.22**	**314**	*i*P	**P**	**05 32 14.8**	**+0.3**		
BUD	**Budapest**	**82.25**	**320**	P	**P**	**05 32 14.2**	**-0.2**		
THAS	**Thassos island**	**82.25**	**312**	P	**P**	**05 32 12.8**	**-1.7**		
UPC	**Upice**	**82.25**	**323**	*e*P	**P**	**05 32 15.3**	**+0.9**		
UPC				*e*S	**PP**	**05 35 20.6**	**-2.0**		
UPC				MLR	MLR				
	comp=Z,6µm,16.7s								
UPC	**Upice**	**82.25**	**323**	*e*P	**P**	**05 32 15.3**	**+0.9**		
UPC				*e*PP	**PP**	**05 35 20.6**	**-2.0**		
UPC				AMS	AMS	06 12 10.0			
	comp=Z,6µm,16.7s								
JAVC	**Velka Javorina**	**82.27**	**322**	*e*P	**P**	**05 32 15.8**	**+1.2**		
RUE	**Ruedersdorf**	**82.27**	**326**	*e*P	**P**	**05 32 15.4**	**+1.1**		
F04D	**Rainier, OR**	**82.30**	**42**	P	**P**	**05 32 15.9**	**+1.2**		
	baz=302								
D05A	**Enumclaw**	**82.31**	**40**	P	**P**	**05 32 16.3**	**+1.5**		
MMB	**Musomiste**	**82.41**	**313**	*i*P	**P**	**05 32 14.8**	**-0.6**		
NVR	**Nevrokopi**	**82.44**	**313**	P	**P**	**05 32 14.9**	**-0.7**		
SRO	**Srobarova**	**82.47**	**320**	*e*P	**P**	**05 32 16.4**	**+0.8**		
SRO				p*max*	p*max*				
	comp=Z,62nm,1.0s								
SRO	**Srobarova**	**82.47**	**320**	*e*P	**P**	**05 32 16.4**	**+0.8**		
SMOL	**Smolenice**	**82.59**	**321**	*e*P	**P**	**05 32 17.4**	**+1.2**		
SMOL				p*max*	p*max*				
	comp=Z,120nm,1.0s								
G03D	**McMinnville, O**	**82.61**	**43**	P	**P**	**05 32 17.1**	**+0.9**		
G03D				IAmb	IAmb	05 32 36.9			
	comp=Z,111nm,1.1s								
G03D	**McMinnville, O**	**82.61**	**43**	P	**P**	**05 32 17.2**	**+0.9**		
	baz=302,SNR=8.4								
VRAC	**Vranov**	**82.61**	**322**	⇓P	**P**	**05 32 17.5**	**+1.3**		
VRAC	**Vranov**	**82.61**	**322**	P	**P**	**05 32 16.9**	**+0.7**		
	comp=Z,144nm,0.9s,baz=64,slow=5.1,SNR=105								
VRAC				LR	LR	06 12 29.3			
	comp=Z,4µm,18.2s,baz=56,slow=38								
	comp=Z,144nm,0.9s								
VRAC	**Vranov**	**82.61**	**322**	*e*P	**P**	**05 32 16.8**	**+0.5**		
KOKK	**Kokkinochori,**	**82.62**	**312**	P	**P**	**05 32 15.8**	**-0.7**		
BOVS	**Bovan**	**82.66**	**316**	⇓P	**P**	**05 32 16.2**	**-0.4**		
KKB	**Krupnik**	**82.69**	**313**	*i*P	**P**	**05 32 16.5**	**-0.4**		
SRS	**Serrai**	**82.74**	**313**	P	**P**	**05 32 16.2**	**-0.9**		
CSKK	**Cskako**	**82.75**	**320**	P	**P**	**05 32 16.5**	**-0.5**		
MODS	**Modra-Piesok**	**82.75**	**321**	*e*P	**P**	**05 32 18.1**	**+1.1**		
MODS				p*max*	p*max*				
	comp=Z,340nm,1.1s								
MODS	**Modra-Piesok**	**82.75**	**321**	*e*P	**P**	**05 32 18.1**	**+1.1**		
MODS	**Modra-Piesok**	**82.75**	**321**	*e*S	**S**	**05 42 33.9**	**+1.8**		
MODS				*e*L	L	06 12 22.2			
I02E	**Swisshome, OR**	**82.83**	**44**	IAmb	IAmb	05 32 20.2			
	comp=Z,86nm,0.8s								
I02E	**Swisshome, OR**	**82.83**	**44**	P	**P**	**05 32 18.7**	**+1.2**		
	baz=302,SNR=6.4								
KRUC	**Moravsky**	**82.85**	**322**	*e*P	**P**	**05 32 18.0**	**+0.5**		
COR	**Corvallis**	**82.91**	**43**	P	**P**	**05 32 20.1**	**+2.2**		
COR				IAmb	IAmb	05 32 21.0			
	comp=Z,193nm,0.9s								
COR	**Corvallis**	**82.91**	**43**	P	**P**	**05 32 20.1**	**+2.2**		
COR				p*max*	p*max*				
	comp=Z,193nm,1.0s								
ZST	**Bratislava**	**82.95**	**321**	*e*P	**P**	**05 32 19.1**	**+1.1**		
ZST				p*max*	p*max*				
	comp=Z,165nm,0.9s								
ZST	**Bratislava**	**82.95**	**321**	*e*P	**P**	**05 32 19.1**	**+1.1**		
PVCC	**Panska Ves**	**83.00**	**324**	*e*P	**P**	**05 32 19.4**	**+1.2**		
PVCC				MLR	MLR				
	comp=Z,5µm,16.4s								
PVCC	**Panska Ves**	**83.00**	**324**	*e*P	**P**	**05 32 19.4**	**+1.2**		
PVCC				*e*PP	PP	05 35 39.9	+11		
PVCC				AMS	AMS	06 12 40.0			
	comp=Z,5µm,16.4s								
KARP	**Karpathos**	**83.02**	**306**	P	**P**	**05 32 18.4**	**-0.3**		
KARP	**Karpathos**	**83.02**	**306**	P	**P**	**05 32 18.0**	**-0.7**		
KARP	**Karpathos**	**83.02**	**306**	P	**P**	**05 32 18.4**	**-0.3**		
KARP				IAMs_20	IAMs_20	06 12 44.0			
	comp=Z,1µm,22.0s								
FRGS	**Fruska Gora**	**83.03**	**318**	⇑P	**P**	**05 32 19.0**	**+0.4**		
FRGS	**Fruska Gora**	**83.03**	**318**	⇑*i*P	**P**	**05 32 18.2**	**-0.3**		
BRG	**Berggiesshubel**	**83.12**	**325**	⇑*i*P	**P**	**05 32 19.0**	**+0.1**		
BRG				Amp		05 32 20.7			
	comp=Z,138nm,1.1s								
BRG				pP	**pP**	**05 32 32.2**	**+1.4**		
BRG				Amp		05 32 37.0			
	comp=Z,80nm,1.1s								
BRG				*e*x	x	05 32 42.9			
BRG				Amp		05 32 45.3			
	comp=Z,59nm,1.2s								
BRG	**Berggiesshubel**	**83.12**	**325**	⇑*i*P	**P**	**05 32 19.0**	**+0.1**		
BRG						05 32 32.2			
BRG				*e*		05 42 35.0			
BRG				p*max*	p*max*				
	comp=Z,138nm,1.1s								
BRG				p*max*	p*max*				
	comp=Z,80nm,1.1s								
BRG				p*max*	p*max*				
	comp=Z,59nm,1.2s								
BRG				p*max*	p*max*				
	comp=N,3µm,16.8s								
BRG				MLR	MLR				
	comp=E,3µm,16.0s								
BRG				MLR	MLR				
	comp=Z,6µm,16.1s								
MORH	**Mrgy, Hungar**	**83.15**	**319**	⇓P	**P**	**05 32 19.5**	**+0.4**		
MORH	**Mrgy, Hungar**	**83.15**	**319**	P	**P**	**05 32 18.6**	**-0.4**		
KNT	**Kendrikon**	**83.17**	**313**	P	**P**	**05 32 18.6**	**-0.8**		
KNT	**Kendrikon**	**83.17**	**313**	P	**P**	**05 32 18.5**	**-0.8**		
B08A	**Colville Reser**	**83.17**	**38**	P	**P**	**05 32 19.8**	**+0.5**		
B08A				IAmb	IAmb	05 32 21.3			
	comp=Z,101nm,0.9s								
TIH	**Tihany**	**83.21**	**320**	P	**P**	**05 32 18.5**	**-0.9**		
TREC	**Trest**	**83.22**	**323**	*e*P	**P**	**05 32 20.4**	**+1.0**		
TREC				MLR	MLR				
	comp=Z,4µm,16.4s								
TREC	**Trest**	**83.22**	**323**	*e*P	**P**	**05 32 20.4**	**+1.0**		
TREC				AMS	AMS	06 12 40.0			
	comp=Z,4µm,16.4s								
GOPC	**GO Pecny, Ondr**	**83.23**	**323**	*e*P	**P**	**05 32 20.4**	**+0.9**		
GOPC				*e*S	**PP**	**05 35 36.0**	**+5.3**		
GOPC				MLR	MLR				
	comp=Z,6µm,16.8s								
GOPC	**GO Pecny, Ondr**	**83.23**	**323**	*e*P	**P**	**05 32 20.4**	**+0.9**		
GOPC				*e*PP	**PP**	**05 35 36.0**	**+5.3**		
GOPC				AMS	AMS	06 12 50.0			
	comp=Z,6µm,16.8s								
EGYH	**Egyhazaskeszo**	**83.25**	**320**	P	**P**	**05 32 20.0**	**+0.4**		
MPLH	**Magyarpolny**	**83.27**	**320**	P	**P**	**05 32 19.5**	**-0.2**		
J01E	**Myrtle Point**	**83.27**	**45**	P	**P**	**05 32 21.5**	**+1.8**		
J01E				IAmb	IAmb	05 32 22.4			
	comp=Z,143nm,0.9s								
J01E	**Myrtle Point**	**83.27**	**45**	P	**P**	**05 32 20.9**	**+1.1**		
	baz=302,SNR=20								
PAIG	**Paliouri**	**83.27**	**312**	P	**P**	**05 32 19.4**	**-0.5**		
PAIG	**Paliouri**	**83.27**	**312**	P	**P**	**05 32 19.0**	**-0.9**		
H04D	**Lebanon**	**83.29**	**43**	P	**P**	**05 32 21.2**	**+1.4**		
H04D				IAmb	IAmb	05 32 22.9			
	comp=Z,393nm,1.8s								
H04D	**Lebanon**	**83.29**	**43**	P	**P**	**05 32 21.3**	**+1.4**		
	baz=302,SNR=21								
VAY	**Valandovo**	**83.30**	**313**	*i*P	**P**	**05 32 19.3**	**-0.6**		
BUCK	**Buck Mountain**	**83.31**	**43**	P	**P**	**05 32 21.3**	**+1.2**		
HORT	**Hortiatis**	**83.32**	**312**	P	**P**	**05 32 19.0**	**-1.2**		
HORT	**Hortiatis**	**83.32**	**312**	P	**P**	**05 32 19.0**	**-1.2**		
PRU	**Pruhonice**	**83.32**	**324**	*e*P	**P**	**05 32 20.7**	**+0.8**		
PRU				*e*S	**PP**	**05 35 32.2**	**+0.8**		
PRU				MLR	MLR				
	comp=Z,5µm,16.9s								
PRU	**Pruhonice**	**83.32**	**324**	*e*P	**P**	**05 32 20.7**	**+0.8**		
PRU				*e*PP	**PP**	**05 35 32.2**	**+0.8**		
PRU				AMS	AMS	06 12 50.0			
	comp=Z,5µm,16.9s								
CLL	**Collm**	**83.35**	**325**	P	**P**	**05 32 19.9**	**-0.1**		
CLL				p*max*	p*max*				
	comp=Z,300nm,0.9s								
CLL				MLR	MLR				
	comp=Z,5µm,18.0s								
CLL	**Collm**	**83.35**	**325**	⇑*i*P	**P**	**05 32 20.0**	**0.0**		
	comp=Z,368nm,1.0s								
CLL				*e*pP	**pP**	**05 32 33.0**	**+1.1**		
CLL				*e*x	x	05 32 35.0			
CLL				*e*sP	**sP**	**05 32 39.0**	**+2.6**		
CLL				*i* PP	**PP**	**05 35 32.5**	**+1.0**		
	comp=Z,27nm,1.1s								
CLL				*e*(PPP)		05 37 12.0			
CLL				*e*(PPPP)		05 39 00.0			
CLL				*e*S	**S**	**05 42 36.0**	**-1.9**		
CLL				*e*PPS	PPS	05 43 57.0			
CLL				*e*(SS)		05 48 36.0			
CLL				*e*SSS	SSS	05 51 30.0			
CLL				*e*x	x	05 52 54.0			
I03D	**Drain, OR**	**83.35**	**44**	P	**P**	**05 32 21.6**	**+1.4**		
	baz=302,SNR=40								
ICESG	**Greenland Ices**	**83.37**	**356**	*i*P	**P**	**05 32 19.7**	**-0.6**		
ICESG				IAmb	IAmb	05 32 20.7			
	comp=Z,181nm,0.9s								
EDM	**Edmonton**	**83.40**	**32**	P	**P**	**05 32 21.1**	**+0.8**		
EDM				IAmb	IAmb	05 32 22.3			
	comp=Z,196nm,1.0s								
EDM	**Edmonton**	**83.40**	**32**	P	**P**	**05 32 21.1**	**+0.8**		
EDM				p*max*	p*max*				
	comp=Z,196nm,1.0s								
APE	**Apeiranthos**	**83.43**	**308**	⇑P	**P**	**05 32 19.9**	**-0.9**		
DIVS	**Divibare**	**83.48**	**317**	P	**P**	**05 32 20.4**	**-0.6**		
DIVS				IAmb	IAmb	05 32 21.9			
	comp=Z,161nm,0.9s								
DIVS	**Divibare**	**83.48**	**317**	⇑*i*P	**P**	**05 32 20.1**	**-0.9**		
HOOD	**Mount Hood Mea**	**83.51**	**42**	P	**P**	**05 32 21.8**	**+0.6**		
HOOD				IAmb	IAmb	05 32 23.6			
	comp=Z,200nm,1.1s								
TEKS	**Tekeris**	**83.52**	**317**	⇑*i*P	**P**	**05 32 19.5**	**-1.6**		
H04A	**Detroit Lake**	**83.53**	**43**	IAmb	IAmb	05 32 23.3			
	comp=Z,308nm,1.8s								
SOP	**Sopron**	**83.53**	**321**	P	**P**	**05 32 21.4**	**+0.3**		
LRW	**Lerwick**	**83.55**	**337**	*e*P	**P**	**05 32 20.2**	**-0.7**		
LRW				IAmb	IAmb	05 32 22.3			
	comp=Z,130nm,0.9s								
KBO	**Bosley Butte**	**83.58**	**46**	IAmb	IAmb	05 32 24.3			
	comp=Z,171nm,1.1s								
GRG	**Griva**	**83.59**	**313**	P	**P**	**05 32 20.8**	**-0.8**		
GRG	**Griva**	**83.59**	**313**	P	**P**	**05 32 20.7**	**-0.8**		
ILULI	**Ilulissat**	**83.63**	**360**	P	**P**	**05 32 20.9**	**-0.2**		
ILULI				IAmb	IAmb	05 32 22.3			
	comp=Z,230nm,1.0s								
ILULI	**Ilulissat**	**83.63**	**360**	P	**P**	**05 32 20.9**	**-0.2**		
ILULI				p*max*	p*max*				
	comp=Z,230nm,1.0s								
ILULI	**Ilulissat**	**83.63**	**360**	*i*P	**P**	**05 32 18.7**	**-2.4**		
ILULI				IAmb	IAmb	05 32 21.9			
	comp=Z,268nm,1.1s								
KYMI	**Kymi, Euboea I**	**83.64**	**310**	P	**P**	**05 32 20.9**	**-0.9**		
RONA	**Rosalia, Austr**	**83.67**	**321**	*i*P	**P**	**05 32 22.8**	**+1.0**		
	comp=Z,31nm,1.0s,SNR=20								
K02D	**Willamette Mer**	**83.68**	**45**	P	**P**	**05 32 23.1**	**+1.1**		
	baz=302,SNR=28								
SKO	**Skopje**	**

baz=306,SNR=102
RAR Rarotonga 84.47 117 LR LR 06 05 20.4
comp=Z,450nm,18.2s,baz=299,slow=32
PHP Peshkopia 84.48 314 P **P** **05 32 25.2 -0.9**
AXAR Agios Charalam 84.55 311 P **P** **05 32 24.8 -1.6**
OHR Ohrid 84.55 314 *i* P **P** **05 32 25.9 -0.5**
THL Klokotos Trika 84.56 312 P **P** **05 32 24.1 -2.4**
KMPM Mount Pierce 84.58 47 IAmb IAmb 05 32 29.3
comp=Z,103nm,1.1s
UPM Unac-Piva 84.62 316 *eP* **P** **05 32 25.9 -1.0**
KMR Kremsmunster 84.66 322 P **P** **05 32 28.7 +1.9**
KMR pmax pmax
comp=Z,89nm,1.2s
MOA Molln 84.71 322 *i* P **P** **05 32 27.8 +0.7**
comp=Z,123nm,1.1s,SNR=57
LOUT Loutraki 84.73 310 P **P** **05 32 24.6 -2.8**
NEST Nestorio 84.75 313 P **P** **05 32 26.5 -1.1**
IDI Anoyia 84.76 307 ⇑P **P** **05 32 27.2 -0.4**
IDI Anoyia 84.76 307 P **P** **05 32 26.3 -1.3**
comp=Z,170nm,1.1s,baz=36,slow=11,SNR=26
IDI LR LR 06 15 32.0
comp=Z,459nm,20.7s,baz=34,slow=39
comp=Z,170nm,1.1s
IDI Anoyia 84.76 307 P **P** **05 32 26.5 -1.1**
IDI Anoyia 84.76 307 P **P** **05 32 26.1 -1.5**
PINE Pine Mountain 84.77 43 P **P** **05 32 29.0 +1.3**
MAKR Makrakomi, Fth 84.77 311 P **P** **05 32 25.8 -1.8**
L04D Klamath Falls 84.78 45 P **P** **05 32 28.7 +1.0**
L04D Klamath Falls 84.78 45 P **P** **05 32 28.5 +0.8**
baz=303
YBH Yreka Blue Hor 84.79 45 P **P** **05 32 28.7 +1.0**
YBH Yreka Blue Hor 84.79 45 P **P** **05 32 28.7 +1.0**
YBH pmax pmax
comp=Z,70nm,1.1s
BLY Banja Luka 84.81 318 ⇑*i*P **P** **05 32 27.4 -0.2**
KBN Korca 84.81 313 P **P** **05 32 26.9 -0.9**
KBN Korca 84.81 313 P **P** **05 32 27.4 -0.4**
KBN Korca 84.81 313 P **P** **05 32 27.4 -0.4**
KBN pmax pmax
comp=Z,273nm,1.0s
PDG Podgorica 84.82 315 ⇓P **P** **05 32 27.7 0.0**
PDG Podgorica 84.82 315 P **P** **05 32 27.6 -0.1**
PDG Podgorica 84.82 315 P **P** **05 32 27.3 -0.4**
A051A Mrakovica 84.83 319 ⇑*i*P **P** **05 32 27.1 -0.7**
J05D Fort Rock, OR 84.87 43 P **P** **05 32 29.5 +1.4**
baz=303,SNR=115
E09A Wood Farm, Sta 84.88 40 IAmb IAmb 05 32 30.4
comp=Z,138nm,1.1s
K04D Chiloquin, OR 84.91 44 P **P** **05 32 29.5 +1.2**
baz=303,SNR=18
KMRM Mail Ridge 84.95 47 P **P** **05 32 28.6 +0.1**
KMRM IAmb IAmb 05 32 44.2
comp=Z,89nm,1.2s
SOKA Soboth 84.96 321 *i* P **P** **05 32 28.3 -0.2**
comp=Z,115nm,1.0s,SNR=78
DRME Dracevica, Mon 85.00 315 ⇑*i*P **P** **05 32 28.3 -0.3**
GOLS Golise 85.01 320 *eP* **P** **05 32 28.4 -0.2**
BRY Bratogost 85.01 316 ⇑*i*P **P** **05 32 27.8 -1.1**
TIR Tirane 85.02 314 ⇓P **P** **05 32 29.0 +0.2**
TIR Tirane 85.02 314 P **P** **05 32 28.2 -0.5**
TIR Tirane 85.02 314 P **P** **05 32 28.2 -0.5**
TIR pmax pmax
comp=Z,300nm,1.0s
TIR MLR MLR
comp=Z,2µm,20.0s
EVR Evrytania 85.04 311 P **P** **05 32 27.4 -1.6**
MGRS Mrkonjic Grad 85.06 318 ⇑*i*P **P** **05 32 29.2 +0.3**
G08A Pilot Rock 85.11 41 P **P** **05 32 29.7 +0.4**
G08A IAmb IAmb 05 32 31.8
comp=Z,176nm,1.8s
BIOA Bad Ischl, Aus 85.15 322 *i* P **P** **05 32 29.6 +0.3**
comp=Z,197nm,1.2s,SNR=54
BORG Borgarnes 85.17 348 LR LR 06 11 31.5
comp=Z,760nm,22.0s,baz=27,slow=36
BORG Borgarnes 85.17 348 P **P** **05 32 30.0 +1.0**
BORG IAmb IAmb 05 32 31.5
comp=Z,234nm,1.4s
BORG Borgarnes 85.17 348 P **P** **05 32 30.0 +1.0**
BORG pmax pmax
comp=Z,234nm,1.4s
LSK Leskovik 85.19 313 P **P** **05 32 29.1 -0.6**
CRES Cresnjev 85.21 320 ⇑*i*P **P** **05 32 29.1 -0.5**
CRES Cresnjev 85.21 320 *eP* **P** **05 32 29.3 -0.3**
CRES *eS* **SKSac** **05 42 48.0 -3.4**
EFP Efpalio 85.22 311 P **P** **05 32 28.4 -1.4**
GRA1 Grafenberg Arr 85.23 325 P **P** **05 32 29.6 -0.1**
GRF Grafenberg Arr 85.23 325 P **P** **05 32 29.6 -0.1**
GRF pmax pmax
comp=Z,539nm,1.2s
GRF MLR MLR
comp=Z,5µm,18.0s
GRFO Grafenberg 85.23 325 P **P** **05 32 29.8 +0.2**
GRFO Grafenberg 85.23 325 P **P** **05 32 29.8 +0.2**
GRFO pmax pmax
comp=Z,466nm,1.1s
GRFO MLR MLR
comp=Z,4µm,18.0s
KLV Kalavryta, Ach 85.26 311 P **P** **05 32 28.2 -1.9**
LAKA Lakka 85.27 311 P **P** **05 32 28.6 -1.5**
HCY Herceg Novi 85.29 316 ⇑*i*P **P** **05 32 28.7 -1.4**
KCPM Cahto Peak 85.31 47 P **P** **05 32 31.9 +1.5**
KCPM IAmb IAmb 05 32 45.2
comp=Z,166nm,1.4s
IMMV Iera Moni Meta 85.31 308 P **P** **05 32 30.0 -0.3**
IMMV Iera Moni Meta 85.31 308 P **P** **05 32 29.7 -0.6**
OBKA Obir 85.33 321 ⇑*i*P **P** **05 32 29.8 -0.5**
OBKA Obir 85.33 321 *i* P **P** **05 32 30.1 -0.3**
comp=Z,80nm,0.9s,SNR=25
A050A Klekovaca 85.35 318 ⇑*i*P **P** **05 32 30.0 -0.4**
K05A Summer Lake 85.39 44 P **P** **05 32 32.1 +1.3**
K05A IAmb IAmb 05 32 33.5
comp=Z,154nm,1.0s
VLI Veliai 85.40 309 P **P** **05 32 27.9 -2.8**
RER Riviere de l'E 85.41 243 IAmb IAmb 05 32 32.6
comp=Z,166nm,0.9s
TRIP Tripoli 85.44 310 P P 05 32 24.0 -7.0
I07A Izee 85.47 42 P **P** **05 32 32.1 +1.0**
I07A IAmb IAmb 05 33 00.6
comp=Z,109nm,1.4s
BOJS Bojanci 85.51 320 ⇑*i*P **P** **05 32 31.0 -0.1**
STON Ston 85.54 316 ⇑*i*P **P** **05 32 28.5 -2.8**
GVDS Gavdos 85.55 307 P **P** **05 32 30.8 -0.7**
GVD Gavdhos 85.55 307 P **P** **05 32 30.9 -0.6**
GVD Gavdhos 85.55 307 P **P** **05 32 30.6 -0.9**
KTHA Kythira Island 85.55 309 P **P** **05 32 30.0 -1.5**
KTHA Kythira Island 85.55 309 P **P** **05 32 29.8 -1.7**
KTHR Kythira 85.59 309 P **P** **05 32 30.4 -1.3**
DRO Drossia 85.60 311 P **P** **05 32 30.7 -1.0**
MLA1 Latheron 85.66 337 *eP* **P** **05 32 30.9 -0.7**
KBA Koelnbreinsper 85.67 322 *i* P **P** **05 32 32.4 +0.3**
comp=Z,55nm,0.9s,SNR=31
WALA Waterton Lakes 85.67 36 P **P** **05 32 32.7 +0.7**
WALA IAmb IAmb 05 32 34.4
comp=Z,108nm,0.9s
RLS Riolos of Patr 85.71 311 P **P** **05 32 31.4 -0.8**
F10A Beach Ranch, E 85.72 40 P **P** **05 32 32.8 +0.6**
SRN Sarande 85.72 313 P **P** **05 32 31.0 -1.2**
GORS Gorjuse 85.76 321 *i* P **P** **05 32 31.5 -0.9**
MYKA Terra Mystica 85.77 321 *i* P **P** **05 32 32.2 -0.2**
comp=Z,48nm,0.8s,SNR=30
CEY Cerknica 85.85 320 ⇑*i*P **P** **05 32 32.3 -0.5**
SFJD Kangerlussuaq 85.86 360 LR LR 06 14 43.8
comp=Z,692nm,18.2s,baz=346,slow=38
SFJD Kangerlussuaq 85.86 360 P **P** **05 32 32.6 +0.2**
SFJD Kangerlussuaq 85.86 360 P **P** **05 32 32.6 +0.2**
SFJD pmax pmax
comp=Z,421nm,1.5s
SFJD Kangerlussuaq 85.86 360 *i* P **P** **05 32 31.0 -1.4**
SFJD IAmb IAmb 05 32 32.8
comp=Z,478nm,1.6s
ITM Ithomi 85.86 310 P **P** **05 32 31.4 -1.6**
ITM Ithomi 85.86 310 P **P** **05 32 32.3 -0.7**
ITM Ithomi 85.86 310 P **P** **05 32 32.1 -0.9**
LKD2 Lefkada island 85.87 312 P **P** **05 32 31.8 -1.3**
KEK Kerkira 85.94 313 P **P** **05 32 33.3 -1.1**
KEK Kerkira 85.94 313 IAmb IAmb 05 32 33.7
comp=Z,152nm,1.2s
KNDS Knezji Dol 86.00 320 *eP* **P** **05 32 32.9 -0.7**
KNDS *eS* **SKSac** **05 42 51.3 -5.2**
HOPS Hopland Field 86.02 48 IAmb IAmb 05 32 52.2
comp=Z,84nm,1.1s
FSK Fiskardo 86.11 312 P **P** **05 32 33.5 -0.7**
PYL PYLOS 86.13 310 P **P** **05 32 32.5 -1.9**
MCD Coleburn Disti 86.17 336 *eP* **P** **05 32 33.0 -1.1**

SABO M.te Sabotino 86.18 321 P **P** **05 32 34.1 -0.3**
SABO IAmb IAmb 05 32 35.1
comp=Z,244nm,1.2s
SKDS Skadanscina 86.20 320 ⇑*i*P **P** **05 32 33.6 -0.9**
MOD Modoc Plateau 86.20 44 P **P** **05 32 35.8 +1.0**
MOD IAmb IAmb 05 32 37.2
comp=Z,155nm,0.9s
VLS Valsamata 86.24 311 P **P** **05 32 33.5 -1.4**
TRI Trieste 86.24 320 P **P** **05 32 33.9 -0.8**
TRI IAmb IAmb 05 32 35.3
comp=Z,104nm,1.1s
TRI Trieste 86.24 320 P **P** **05 32 33.9 -0.8**
TRI pmax pmax
comp=Z,105nm,1.1s
PSDA Pessada-Kefalo 86.27 311 P **P** **05 32 33.6 -1.4**
JTMT Jette 86.28 37 P **P** **05 32 35.9 +0.8**
JTMT IAmb IAmb 05 32 37.4
comp=Z,93nm,1.0s
CLUD Cludinico 86.30 321 IAmb IAmb 05 32 35.3
comp=Z,160nm,1.0s
GDXM Geysers 86.30 48 IAmb IAmb 05 32 37.8
comp=Z,93nm,1.1s
DY2G Dye2 86.30 358 *i* P **P** **05 32 32.2 -2.7**
DY2G IAmb IAmb 05 32 35.4
comp=Z,858nm,1.8s
BMO Blue Mountains 86.32 41 IAmb IAmb 05 32 37.4
comp=Z,71nm,1.1s
ABTA Abfaltersbach 86.33 322 *i* P **P** **05 32 34.7 -0.5**
comp=Z,166nm,1.2s,SNR=39
DMLN Damoulianata-K 86.35 311 P **P** **05 32 34.6 -0.8**
KEF3 Kipouria, Keph 86.38 311 P **P** **05 32 34.3 -1.3**
DRUM Mains of Drumt 86.39 336 *eP* **P** **05 32 33.9 -1.3**
DRUM IAmb IAmb 05 32 35.6
comp=Z,159nm,1.0s
WATA Walderalm 86.48 323 *i* P **P** **05 32 35.8 -0.2**
comp=Z,90nm,1.1s,SNR=30
WTTA Wattenberg 86.49 323 *i* P **P** **05 32 36.1 -0.1**
comp=Z,120nm,1.0s,SNR=56
J08A Circle Bar Ran 86.50 42 IAmb IAmb 05 32 38.8
comp=Z,115nm,1.1s
MCCM Marconi Confer 86.60 48 P **P** **05 32 36.5 -0.1**
MCCM IAmb IAmb 05 32 38.2
comp=Z,94nm,0.8s
CIMO Cimolais 86.63 321 P **P** **05 32 36.2 -0.4**
CIMO IAmb IAmb 05 32 37.0
comp=Z,110nm,1.1s
ANGG Ammassalik, Gr 86.64 354 *eP* **P** **05 32 34.3 -1.9**
MOTA Moosalm 86.73 323 *i* P **P** **05 32 36.6 -0.7**
comp=Z,132nm,1.0s,SNR=42
ORV Oroville 86.74 47 P **P** **05 32 37.5 +0.2**
ORV IAmb IAmb 05 32 38.7
comp=Z,96nm,0.9s
ORV Oroville 86.74 47 P **P** **05 32 37.5 +0.2**
ORV pmax pmax
comp=Z,97nm,1.0s
SQTA Sankt Quirin 86.75 323 *i* P **P** **05 32 37.1 -0.3**
comp=Z,79nm,0.8s,SNR=40
RETA Reutte 86.82 323 *i* P **P** **05 32 37.5 -0.2**
comp=Z,37nm,0.9s,SNR=27
STU Stuttgart 86.84 325 IAmb IAmb 05 32 39.2
comp=Z,175nm,1.3s
EDU Dundee 86.86 336 *eP* **P** **05 32 36.7 -0.8**
WVOR Wild Horse Val 86.93 43 IAmb IAmb 05 32 53.3
comp=Z,66nm,0.9s
KAC Achnashellach 86.95 337 *eP* **P** **05 32 36.9 -1.0**
LEWI Lewis, Hebride 86.98 338 *eP* **P** **05 32 35.8 -2.3**
MSO Missoula 87.03 38 IAmb IAmb 05 32 40.4
comp=Z,81nm,1.1s
MSO Missoula 87.03 38 P **P** **05 32 38.9 +0.2**
baz=308,SNR=62
FCC Fort Churchill 87.09 21 P **P** **05 32 38.6 0.0**
FCC Fort Churchill 87.09 21 P **P** **05 32 38.6 0.0**
FCC pmax pmax
comp=Z,202nm,1.0s
FETA Feichten 87.13 323 *i* P **P** **05 32 38.9 -0.4**
comp=Z,68nm,0.9s,SNR=44
ESY Stoneypath 87.18 335 *eP* **P** **05 32 37.8 -1.3**
BTNL Ternell 87.19 327 *dP* **P** **05 32 39.0 -0.3**
comp=Z,18nm,1.0s
KPL Plockton 87.20 337 *eP* **P** **05 32 38.2 -0.9**
CTI Castel Tesino 87.22 322 P **P** **05 32 39.0 -0.6**
CTI IAmb IAmb 05 32 40.3
comp=Z,86nm,1.0s
CTI Castel Tesino 87.22 322 P **P** **05 32 39.0 -0.6**
CTI pmax pmax
comp=Z,86nm,1.0s
MEM Membach 87.23 327 *dP* **P** **05 32 39.2 -0.3**
comp=Z,33nm,0.9s
MEM *dPcP* **PcP** **05 32 41.7 +0.2**
BEBN Eben Emael 87.26 328 *dP* **P** **05 32 39.2 -0.4**
comp=Z,35nm,0.9s
BEKR Beckworth 87.30 46 P **P** **05 32 40.6 +0.4**
BEKR IAmb IAmb 05 32 42.2
comp=Z,129nm,0.9s
INVG Invergeldie, C 87.33 336 *eP* **P** **05 32 38.3 -1.4**
FFC Flin Flon 87.36 27 P **P** **05 32 40.3 +0.3**
FFC Flin Flon 87.36 27 P **P** **05 32 40.3 +0.3**
FFC pmax pmax
comp=Z,349nm,0.9s
SGRT San Giovanni R 87.37 316 P **P** **05 32 39.7 -0.7**
SGRT IAmb IAmb 05 32 41.4
comp=Z,126nm,1.0s
PLTX Planet X, Gerl 87.39 45 P **P** **05 32 41.8 +1.2**
PLTX IAmb IAmb 05 32 43.1
comp=Z,129nm,0.9s
BHOU Houvegnez 87.40 327 *dP* **P** **05 32 40.4 +0.1**
AFDM Forest Hills D 87.42 47 P **P** **05 32 41.1 +0.5**
AFDM IAmb IAmb 05 32 42.5
comp=Z,72nm,1.1s
DAVA Damuels 87.42 323 *i* P **P** **05 32 40.2 -0.4**
comp=Z,68nm,0.6s,SNR=36
EBL Broad Law 87.45 335 *eP* **P** **05 32 39.4 -1.0**
BSTI Sart Tilman 87.46 328 *dP* **P** **05 32 40.5 0.0**
TEOL Teolo 87.63 321 P **P** **05 32 41.2 -0.3**
BCLA Clavier 87.69 328 *dP* **P** **05 32 41.4 -0.2**
DAVOX Davos/Dischmat 87.73 323 LR LR 06 15 54.7
comp=Z,5µm,18.6s,baz=40,slow=38
WLF Walferdange 87.79 327 P **P** **05 32 42.2 +0.1**
WLF IAmb IAmb 05 32 45.2
comp=Z,62nm,0.8s
WLF Walferdange 87.79 327 P **P** **05 32 42.2 +0.1**
WLF pmax pmax
comp=Z,62nm,0.8s
WLF Walferdange 87.79 327 *dP* **P** **05 32 42.2 +0.1**
comp=Z,44nm,1.0s
BGES Gesves 87.82 328 *dP* **P** **05 32 41.1 -1.2**
comp=Z,12nm,0.8s
BGES *dPcP* **PcP** **05 32 44.4 +0.3**
EKA Eskdalemuir Ar 87.82 335 LR LR 06 16 09.3
comp=Z,2µm,21.1s,baz=32,slow=38
MPK Martis Peak 87.83 46 P **P** **05 32 44.1 +1.2**
MPK IAmb IAmb 05 32 45.2
comp=Z,129nm,1.0s
ESK Eskdalemuir 87.85 335 *eP* **P** **05 32 41.0 -1.3**
ESK Eskdalemuir 87.85 335 P **P** **05 32 41.8 -0.5**
ESK IAmb IAmb 05 32 43.6
comp=Z,56nm,0.8s
ESK Eskdalemuir 87.85 335 P **P** **05 32 41.8 -0.5**
ESK pmax pmax
comp=Z,56nm,0.9s
ESK MLR MLR
comp=Z,2µm,21.0s
RCHB Rochefort 87.91 327 *dP* **P** **05 32 41.9 -0.8**
comp=Z,32nm,0.9s
LAWE Loch Awe, Argy 87.94 336 *eP* **P** **05 32 41.6 -1.1**
LAWE IAmb IAmb 05 32 43.2
comp=Z,40nm,0.9s
PGBU Glenifferbraes 87.95 336 *eP* **P** **05 32 41.8 -1.0**
PGBU IAmb IAmb 05 32 44.0
comp=Z,115nm,1.2s
PAHR Pah Rah Range 88.01 46 P **P** **05 32 44.2 +0.6**
PAHR IAmb IAmb 05 32 59.3
comp=Z,123nm,1.0s
BMRD Maredsous 88.03 328 *dP* **P** **05 32 42.5 -0.7**
comp=Z,37nm,1.0s
MFID Camas Ranch 88.03 41 IAmb IAmb 05 32 46.2
comp=Z,119nm,1.3s
VCNR Virginia City 88.08 46 IAmb IAmb 05 32 46.3
comp=Z,55nm,0.9s
FRB Frobisher Bay 88.11 8 LR LR 06 12 52.9
comp=Z,1µm,21.7s,baz=350,slow=36
TIP Timpagrande 88.20 314 ⇑P **P** **05 32 44.4 0.0**
TIP Timpagrande 88.20 314 IAmb IAmb 05 32 46.1
comp=Z,90nm,1.3s
TUE Stuetta 88.21 323 P **P** **05 32 44.2 -0.3**

PNTR Pine Nut 88.22 46 P **P** **05 32 45.5 +0.8**
PNTR IAmb IAmb 05 33 07.1
comp=Z,85nm,1.0s
DOU Dourbes 88.25 328 *dP* **P** **05 32 43.6 -0.7**
comp=Z,22nm,1.0s
SAO San Andreas Ge 88.30 49 P **P** **05 32 45.0 +0.1**
SAO San Andreas Ge 88.30 49 P **P** **05 32 45.0 +0.1**
SAO pmax pmax
comp=Z,57nm,1.3s
CMB Columbia Colle 88.30 48 P **P** **05 32 45.4 +0.5**
CMB IAmb IAmb 05 32 46.9
comp=Z,66nm,1.0s
CMB Columbia Colle 88.30 48 P **P** **05 32 45.4 +0.5**
CMB pmax pmax
comp=Z,66nm,1.0s
CAMP Campotosto 88.33 318 P **P** **05 32 44.8 -0.2**
KESW Keswick, Cumbr 88.36 334 *eP* **P** **05 32 44.5 -0.3**
KESW IAmb IAmb 05 32 51.5
comp=Z,105nm,1.3s
NEWG New Galloway 88.39 335 *eP* **P** **05 32 42.8 -2.0**
NEWG IAmb IAmb 05 32 49.4
comp=Z,60nm,1.2s
LRM Limekiln Ridge 88.46 38 P **P** **05 32 47.1 +1.4**
EGMT Eagleton 88.47 35 P **P** **05 32 46.1 +0.6**
EGMT Eagleton 88.47 35 P **P** **05 32 46.4 +0.8**
baz=311,SNR=58
YERR Yerington 88.51 46 IAmb IAmb 05 33 00.8
comp=Z,89nm,1.2s
ZCCA Zocca 88.64 321 P **P** **05 32 47.4 +1.1**
BBGB Big Mountain B 88.68 49 IAmb IAmb 05 33 03.8
comp=Z,116nm,1.0s
NUUK Nuuk 88.69 0 *i* P **P** **05 32 44.6 -1.4**
NUUK IAmb IAmb 05 32 46.5
comp=Z,316nm,2.0s
HLID Hailey 88.76 40 IAmb IAmb 05 32 50.0
comp=Z,68nm,0.9s
HLID Hailey 88.76 40 P **P** **05 32 48.6 +1.5**
baz=308,SNR=153
CESX Cesi 88.77 318 IAmb IAmb 05 33 15.1
comp=Z,69nm,1.2s
BMN Battle Mountai 88.95 44 P **P** **05 32 49.6 +1.5**
BMN IAmb IAmb 05 33 03.3
comp=Z,96nm,1.2s
BMN Battle Mountai 88.95 44 P **P** **05 32 49.6 +1.5**
BMN pmax pmax
comp=Z,96nm,1.2s
OSSC Osservatorio P 88.99 320 IAmb IAmb 05 33 04.9
comp=Z,200nm,1.7s
PMPB Monarch Peak 89.04 49 P **P** **05 32 48.7 +0.3**
PMPB IAmb IAmb 05 33 12.7
comp=Z,105nm,1.1s
BOZ Bozeman (W) 89.05 38 IAmb IAmb 05 32 50.7
comp=Z,63nm,1.1s
BOZ Bozeman (W) 89.05 38 P **P** **05 32 49.2 +0.8**
baz=310,SNR=67
CLGH Cloghs, Cushen 89.11 336 *eP* **P** **05 32 46.8 -1.4**
CLGH IAmb IAmb 05 32 48.9
comp=Z,66nm,0.8s
ELSH Elham, Standar 89.11 330 *eP* **P** **05 32 47.3 -1.0**
RYN Ryan 89.18 46 IAmb IAmb 05 33 04.2
comp=Z,70nm,1.2s
KVN Kaiserville 89.20 46 IAmb IAmb 05 33 04.2
comp=Z,76nm,1.2s
LATE Laterza 89.23 319 IAmb IAmb 05 32 50.0
comp=Z,138nm,1.1s
CEL Celeste 89.28 313 P **P** **05 32 49.6 +0.2**
CEL IAmb IAmb 05 33 04.3
comp=Z,99nm,1.0s
SENIN Lac Senin/Sane 89.37 324 P **P** **05 32 48.8 -1.2**
MDPB Devils Postpil 89.39 47 P **P** **05 32 51.0 +0.7**
LHV Little Huntoon 89.41 46 P **P** **05 32 51.2 +1.3**
LHV IAmb IAmb 05 33 13.0
comp=Z,208nm,1.5s
NVAR Mina Array Bea 89.43 46 P **P** **05 32 51.0 +0.6**
comp=Z,15nm,0.9s,baz=294,slow=5.2,SNR=111
NVAR pP **pP** **05 33 03.9 +1.5**
comp=Z,33nm,1.1s,baz=280,slow=5.2,SNR=12
comp=Z,15nm,0.9s
NVAR Mina Array Bea 89.43 46 P **P** **05 32 51.0 +0.6**
NV11 Mina Array Sit 89.53 46 P **P** **05 32 51.5 +0.8**
MLAC Mammoth, Mammo 89.55 47 P **P** **05 32 52.0 +1.0**
baz=305
HMNX Herstmonceux 89.66 330 *eP* **P** **05 32 49.8 -1.1**
CASP Castiglione de 89.67 319 IAmb IAmb 05 33 07.1
comp=Z,89nm,1.5s
WME Myndd Eilian 89.72 334 *eP* **P** **05 32 50.0 -1.1**
YHL Hebgen Lake 89.77 38 IAmb IAmb 05 32 54.8
comp=Z,103nm,1.1s
HLM1 Long Mynd 89.82 333 *eP* **P** **05 32 50.7 -1.0**
YHB Horse Butte 89.83 38 IAmb IAmb 05 32 55.0
comp=Z,97nm,0.9s
YLL Llanberis 89.87 334 *eP* **P** **05 32 51.3 -0.5**
VOG Valley Oaks Go 89.93 48 P **P** **05 32 52.5 0.0**
baz=305
GCMT Greycliff 89.97 37 P **P** **05 32 53.8 +1.1**
ELK Elko 89.98 43 P **P** **05 32 54.3 +1.3**
ELK Elko 89.98 43 P **P** **05 32 54.3 +1.3**
ELK pmax pmax
comp=Z,29nm,0.9s
YHH Holmes Hill 89.99 38 P **P** **05 32 54.4 +1.3**
YHH IAmb IAmb 05 32 55.9
comp=Z,80nm,1.4s
YMR Madison River 90.00 38 P **P** **05 32 54.8 +1.8**
YMR IAmb IAmb 05 32 56.1
comp=Z,96nm,1.0s
STRD Stroud 90.08 332 *eP* **P** **05 32 52.2 -0.6**
STRD IAmb IAmb 05 32 54.0
comp=Z,933nm,1.9s
SMMC Simmler 90.08 50 P **P** **05 32 54.4 +1.1**
baz=304,SNR=5.4
YNM Yellowstone No 90.11 38 IAmb IAmb 05 32 57.0
comp=Z,134nm,1.4s
YNR Norris Junctio 90.13 38 IAmb IAmb 05 33 20.1
comp=Z,149nm,1.4s
YFT Old Faithful 90.22 38 IAmb IAmb 05 32 58.4
comp=Z,116nm,1.1s
YUF Upper Falls 90.22 38 IAmb IAmb 05 33 16.2
comp=Z,95nm,1.4s
MCH1 Michaelchurch 90.26 332 *eP* **P** **05 32 53.0 -0.7**
MCH1 IAmb IAmb 05 32 54.4
comp=Z,86nm,0.9s
TIN Tinemaha, Big 90.27 47 P **P** **05 32 55.1 +0.9**
baz=305,SNR=11
MONM Monmouth 90.30 332 *eP* **P** **05 32 52.3 -1.6**
MONM IAmb IAmb 05 32 54.4
comp=Z,44nm,0.9s
TPH Tonopah 90.33 46 P **P** **05 32 55.4 +0.8**
TPH Tonopah 90.33 46 P **P** **05 32 55.4 +0.8**
TPH pmax pmax
comp=Z,376nm,1.1s
YPP Pitchstone Pla 90.35 38 IAmb IAmb 05 33 17.6
comp=Z,96nm,1.3s
LKWY Lake 90.38 38 IAmb IAmb 05 32 59.1
comp=Z,132nm,1.1s
H17A Grant Village 90.39 38 P **P** **05 32 57.5 +2.6**
H17A IAmb IAmb 05 32 59.3
comp=Z,168nm,1.2s
H17A Grant Village 90.39 38 P **P** **05 32 57.8 +2.9**
baz=310,SNR=76
VES Vestal, Richgr 90.40 49 P **P** **05 32 54.6 -0.1**
baz=305,SNR=14
YMP Mirror Lake Pl 90.40 38 IAmb IAmb 05 32 58.2
comp=Z,147nm,1.2s
PKM Mcpherson Peak 90.45 50 P **P** **05 32 56.3 +1.1**
baz=304,SNR=12
IMW Indian Meadow 90.52 39 P **P** **05 32 57.1 +1.6**
IMW IAmb IAmb 05 32 58.6
comp=Z,80nm,1.2s
LCH Last Change Ra 90.55 47 P **P** **05 32 56.0 +0.5**
LCH IAmb IAmb 05 32 57.8
comp=Z,136nm,1.8s
BNI Bardonecchia 90.56 323 IAmb IAmb 05 33 11.6
comp=Z,90nm,1.5s
RLMT Red Lodge 90.63 37 IAmb IAmb 05 32 58.5
comp=Z,109nm,1.1s
RLMT Red Lodge 90.63 37 P **P** **05 32 57.0 +1.1**
baz=311,SNR=81
VAE Valguarnera 90.68 313 LR LR 06 21 21.8
comp=Z,487nm,18.3s,baz=29,slow=41
BCW Bitter Crk WRg 90.69 50 IAmb IAmb 05 32 58.1
comp=Z,79nm,1.4s
MOOW Moose Ponds 90.72 39 P **P** **05 32 57.6 +1.2**
CWC Cottonwood Cre 90.72 48 P **P** **05 32 56.9 +0.5**
baz=306
SBC Santa Barbara 90.77 50 P **P** **05 32 57.5 +1.1**
baz=304

CLF	**Chambon-Foret**	**90.79**	**327**		P	**P**	**05 32 55.8**	**-0.4**
CLF					IAmb	IAmb	05 33 12.8	
	comp=Z,108nm,1.3s							
HVU	**Hansel Valley**	**90.81**	**41**		IAmb	IAmb	05 32 59.5	
	comp=Z,69nm,0.9s							
RAFF	**Raffo Rosso**	**90.86**	**313**		P	**P**	**05 32 57.6**	**+0.8**
GRAC	**Grapevine Rang**	**90.87**	**47**		P	**P**	**05 32 57.7**	**+0.7**
	baz=306,SNR=9.0							
LOHW	**Long Hollow**	**90.88**	**39**		P	**P**	**05 32 58.3**	**+1.2**
DGMT	**Dagmar**	**90.89**	**32**		P	**P**	**05 32 58.0**	**+1.2**
	baz=315							
DGMT	**Dagmar**	**90.89**	**32**		P	**P**	**05 32 57.4**	**+0.6**
	baz=315,SNR=53							
REDW	**Red Top Meadow**	**90.91**	**39**		P	**P**	**05 32 58.6**	**+1.3**
REDW					IAmb	IAmb	05 33 19.8	
	comp=Z,101nm,1.4s							
ISA	**Isabella, Lake**	**90.91**	**49**		P	**P**	**05 32 56.9**	**-0.3**
ISA	**Isabella, Lake**	**90.91**	**49**		P	**P**	**05 32 56.9**	**-0.3**
ISA					pmax	pmax		
	comp=Z,14nm,0.9s							
ISA	**Isabella, Lake**	**90.91**	**49**		P	**P**	**05 32 57.0**	**-0.1**
	baz=305,SNR=15							
ARVC	**Arvin**	**90.98**	**49**		P	**P**	**05 32 57.6**	**+0.2**
	baz=305,SNR=7.6							
PPT2	**Papeete2**	**90.98**	**109**	*e*	LR	LR	05 33 02.0	
	comp=Z,183nm,25.2s							
PPT2	**Papeete2**	**90.98**	**109**	*eP*		**P**	**05 32 59.6**	**+1.9**
	comp=Z,183nm,25.2s							
PPT2	**Papeete2**	**90.98**	**109**	*eS*		**S**	**05 43 51.8**	**-0.7**
	comp=Z,693nm,28.8s							
PPT2	**Papeete2**	**90.98**	**109**	*e*	LR	LR	06 02 08.9	
	comp=Z,2µm,24.0s							
SCZ2	**Santa Cruz Isl**	**91.07**	**51**		P	**P**	**05 32 58.3**	**+0.4**
	baz=304							
LAO	**LASA Array**	**91.14**	**34**		P	**P**	**05 32 59.5**	**+1.5**
	baz=314							
LAO	**LASA Array**	**91.14**	**34**		P	**P**	**05 32 59.1**	**+1.0**
	baz=314,SNR=67							
R11A	**Troy Canyon, C**	**91.21**	**45**		P	**P**	**05 32 59.5**	**+0.9**
R11A	**Troy Canyon, C**	**91.21**	**45**		P	**P**	**05 32 59.5**	**+0.9**
	baz=307,SNR=66							
ABPO	**Ambohimpanom**	**91.28**	**249**		P	**P**	**05 32 59.2**	**+0.1**
ABPO					IAmb	IAmb	05 33 00.1	
	comp=Z,52nm,0.9s							
ABPO	**Ambohimpanom**	**91.28**	**249**		P	**P**	**05 32 59.2**	**+0.1**
ABPO					pmax	pmax		
	comp=Z,52nm,1.0s							
SPUT	**South Promonto**	**91.30**	**41**		P	**P**	**05 33 00.0**	**+1.0**
SPUT					IAmb	IAmb	05 33 21.0	
	comp=Z,67nm,1.2s							
MPMC	**Manual Prospec**	**91.33**	**48**		P	**P**	**05 32 60.0**	**+0.7**
	baz=306,SNR=38							
OSI	**Osito Audit: C**	**91.34**	**50**		P	**P**	**05 32 59.8**	**+0.7**
	baz=305							
FURC	**Furnace Creek,**	**91.50**	**47**		P	**P**	**05 33 00.8**	**+1.0**
	baz=306,SNR=71							
CCAC	**Calif City Air**	**91.51**	**49**		IAmb	IAmb	05 33 14.7	
	comp=Z,49nm,0.9s							
S11A	**Rachel**	**91.53**	**46**		P	**P**	**05 33 01.3**	**+1.2**
S11A					IAmb	IAmb	05 33 17.2	
	comp=Z,89nm,1.0s							
LRMC	**Laurel Mtn Rad**	**91.54**	**48**		P	**P**	**05 33 00.8**	**+0.6**
	baz=306,SNR=9.1							
SNCC	**San Nicolas Is**	**91.57**	**51**		P	**P**	**05 33 00.9**	**+0.7**
	baz=305							
NRS	**Narsarsuaq**	**91.58**	**357**		P	**P**	**05 32 58.6**	**-1.0**
NRS	**Narsarsuaq**	**91.58**	**357**		P	**P**	**05 32 58.6**	**-1.0**
NRS					pmax	pmax		
	comp=Z,245nm,2.0s							
NRS	**Narsarsuaq**	**91.58**	**357**	*i*	P	**P**	**05 32 57.8**	**-1.8**
NRS					IAmb	IAmb	05 32 59.1	
	comp=Z,233nm,2.0s							
SPR3	**Spring Creek 3**	**91.59**	**44**		P	**P**	**05 33 02.2**	**+1.5**
SPR3					IAmb	IAmb	05 33 20.1	
	comp=Z,28nm,1.0s							
TPNV	**Topopah Spring**	**91.62**	**47**		IAmb	IAmb	05 33 18.6	
	comp=Z,70nm,0.9s							
TPNV	**Topopah Spring**	**91.62**	**47**		P	**P**	**05 33 01.5**	**+0.9**
	baz=307,SNR=58							
IVI	**Ivigtut**	**91.63**	**358**		P	**P**	**05 32 59.2**	**-0.6**
IVI					IAmb	IAmb	05 33 00.7	
	comp=Z,31nm,0.7s							
IVI	**Ivigtut**	**91.63**	**358**	*i*	P	**P**	**05 32 58.2**	**-1.7**
IVI					IAmb	IAmb	05 32 59.1	
	comp=Z,39nm,1.0s							
EDW2	**Edwards Air Fo**	**91.68**	**49**		P	**P**	**05 33 01.5**	**+0.7**
	baz=306,SNR=28							
KMBO	**Kilima Mbogo**	**91.71**	**270**		P	**P**	**05 33 01.7**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=39,slow=22,SNR=9.6							
KMBO	**Kilima Mbogo**	**91.71**	**270**		P	**P**	**05 33 01.5**	**+0.1**
KMBO	**Kilima Mbogo**	**91.71**	**270**		IAMs_20	IAMs_20	06 21 15.3	
	comp=Z,373nm,20.0s							
KMBO	**Kilima Mbogo**	**91.71**	**270**		P	**P**	**05 33 01.5**	**+0.1**
KMBO					pmax	pmax		
	comp=Z,30nm,1.1s							
KMBO	**Kilima Mbogo**	**91.71**	**270**	*i*	P	**P**	**05 33 01.7**	**+0.2**
	SNR=23							
DUG	**Dugway, Tooele**	**91.78**	**42**		P	**P**	**05 33 01.9**	**+0.7**
DUG					IAmb	IAmb	05 33 03.9	
	comp=Z,65nm,0.9s							
DUG	**Dugway, Tooele**	**91.78**	**42**		P	**P**	**05 33 01.9**	**+0.7**
DUG					pmax	pmax		
	comp=Z,65nm,0.9s							
DUG	**Dugway, Tooele**	**91.78**	**42**		P	**P**	**05 33 02.5**	**+1.3**
	baz=309,SNR=58							
QSM	**Queen of Sheba**	**91.80**	**48**		P	**P**	**05 33 01.9**	**+0.7**
QSM					IAmb	IAmb	05 33 03.4	
	comp=Z,91nm,0.9s							
GWY	**Greenwater Val**	**91.80**	**47**		P	**P**	**05 33 02.1**	**+0.7**
GWY					IAmb	IAmb	05 33 03.5	
	comp=Z,55nm,0.9s							
DECC	**Green Verdugo**	**91.81**	**50**		P	**P**	**05 33 01.7**	**+0.4**
	baz=305							
DYA	**Yadsworthy**	**91.82**	**332**	*eP*		**P**	**05 32 59.7**	**-1.3**
PASC	**Pasadena Art C**	**91.96**	**50**		IAMs_20	IAMs_20	06 10 06.9	
	comp=Z,821nm,20.0s							
JVM	**Valle D.L. Mar**	**91.99**	**330**	*eP*		**P**	**05 33 01.4**	**-0.3**
BW06	**Boulder Array**	**92.01**	**39**		IAMs_20	IAMs_20	06 18 24.2	
	comp=Z,565nm,18.0s							
BW06	**Boulder Array**	**92.01**	**39**		P	**P**	**05 33 02.9**	**+0.5**
	baz=311,SNR=50							
PD31	**Pinedale Array**	**92.02**	**39**		P	**P**	**05 33 02.6**	**+0.2**
PDAR	**Pinedale Array**	**92.02**	**39**		P	**P**	**05 33 02.2**	**-0.2**
	comp=Z,23nm,0.9s,baz=331,slow=1.1,SNR=126							
PDAR					pP	**pP**	**05 33 15.3**	**+1.0**
	comp=Z,31nm,1.0s,baz=304,slow=1.7,SNR=13							
PDAR					PP	**PP**	**05 36 39.8**	**-1.9**
	comp=Z,2.9nm,1.1s,baz=359,slow=7.5,SNR=3.7							
PDAR					PKKPbc	**PKKPbc**	**05 50 17.8**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=114,slow=4.2,SNR=12							
	comp=Z,23nm,0.9s							
TCUT	**Toone Canyon**	**92.03**	**41**		IAmb	IAmb	05 33 05.0	
	comp=Z,97nm,1.2s							
CTU	**Camp Tracy**	**92.10**	**41**		P	**P**	**05 33 03.7**	**+1.0**
PRN	**Pahroc Range**	**92.11**	**46**		IAmb	IAmb	05 33 18.6	
	comp=Z,80nm,1.1s							
FMP	**Fort Macarthur**	**92.15**	**50**		P	**P**	**05 33 03.5**	**+0.6**
	baz=305							
PSUT	**Pine Spring**	**92.17**	**44**		P	**P**	**05 33 04.2**	**+1.0**
PSUT					IAmb	IAmb	05 33 05.4	
	comp=Z,43nm,0.8s							
SHOC	**Shoshone, Teco**	**92.22**	**47**		P	**P**	**05 33 04.1**	**+0.9**
	baz=306,SNR=24							
GSC	**Goldstone, Bar**	**92.23**	**48**		IAmb	IAmb	05 33 05.5	
	comp=Z,71nm,0.9s							
GSC	**Goldstone, Bar**	**92.23**	**48**		P	**P**	**05 33 04.2**	**+0.9**
	baz=306,SNR=56							
CIS	**Catalina Islan**	**92.24**	**50**		P	**P**	**05 33 03.6**	**+0.2**
	baz=305							
BFSC	**Mount Baldy Ra**	**92.28**	**49**		P	**P**	**05 33 04.0**	**+0.4**
	baz=306,SNR=15							
JLU	**Jordanelle**	**92.33**	**41**		P	**P**	**05 33 05.1**	**+1.2**
RRX	**Edison Barstow**	**92.35**	**49**		P	**P**	**05 33 04.8**	**+1.0**
	baz=306							
NLU	**North Lily Min**	**92.37**	**42**		IAmb	IAmb	05 33 20.7	
	comp=Z,65nm,1.0s							
SCI2	**San Clemente I**	**92.39**	**51**		P	**P**	**05 33 04.5**	**+0.5**
	baz=305							
MPU	**Maple Canyon**	**92.59**	**42**		P	**P**	**05 33 06.3**	**+1.3**
MPU					IAmb	IAmb	05 33 07.6	
	comp=Z,56nm,1.1s							
TUQ	**Turquoise Moun**	**92.73**	**48**		P	**P**	**05 33 06.7**	**+1.0**
	baz=307							
BBRC	**Big Bear Solar**	**92.76**	**49**		P	**P**	**05 33 06.5**	**+0.6**
	baz=306,SNR=13							
ELS	**Elsinore Mount**	**92.78**	**50**		P	**P**	**05 33 06.5**	**+0.6**
ELS					IAmb	IAmb	05 33 07.8	
	comp=Z,50nm,1.1s							
HEC	**Hector,Ludlow**	**92.82**	**48**		P	**P**	**05 33 07.0**	**+0.9**
	baz=306,SNR=49							
WTNK	**Soaring Height**	**92.87**	**47**		IAmb	IAmb	05 33 08.6	
	comp=Z,24nm,0.9s							
MURC	**Murrieta**	**92.96**	**50**		P	**P**	**05 33 07.2**	**+0.5**
	baz=306,SNR=14							
TCRU	**Three Creeks R**	**92.99**	**43**		P	**P**	**05 33 08.2**	**+1.2**
TCRU					IAmb	IAmb	05 33 26.4	
	comp=Z,65nm,1.1s							
CCUT	**Cedar City**	**93.09**	**45**		P	**P**	**05 33 07.5**	**+0.1**
ULM	**Lac du Bonnet**	**93.19**	**27**		P	**P**	**05 33 07.1**	**-0.2**
	comp=Z,117nm,0.9s,baz=322,slow=5.1,SNR=60							
ULM					LR	LR	06 19 39.9	
	comp=Z,346nm,19.1s,baz=322,slow=38							
	comp=Z,117nm,0.9s							
ULM	**Lac du Bonnet**	**93.19**	**27**		P	**P**	**05 33 07.2**	**-0.1**
ULM	**Lac du Bonnet**	**93.19**	**27**		P	**P**	**05 33 07.2**	**-0.1**
ULM					pmax	pmax		
	comp=Z,121nm,0.9s							
MVU	**Marysvale**	**93.20**	**43**		P	**P**	**05 33 09.2**	**+1.3**
V12A	**Nelson**	**93.25**	**47**		IAmb	IAmb	05 33 10.5	
	comp=Z,72nm,0.9s							
GMRC	**Granite Mounta**	**93.29**	**48**		P	**P**	**05 33 09.2**	**+1.0**
	baz=307,SNR=76							
TMUT	**Trail Mountain**	**93.31**	**42**		P	**P**	**05 33 08.6**	**+0.1**
109C	**Camp Elliot, M**	**93.44**	**50**		P	**P**	**05 33 09.7**	**+0.9**
109C					IAmb	IAmb	05 33 10.9	
	comp=Z,80nm,1.1s							
109C	**Camp Elliot, M**	**93.44**	**50**		P	**P**	**05 33 09.6**	**+0.9**
	baz=306,SNR=7.1							
RDMU	**Red Mountain**	**93.44**	**40**		P	**P**	**05 33 09.8**	**+0.8**
RDMU					IAmb	IAmb	05 33 31.2	
	comp=Z,69nm,1.3s							
MDND	**Maddock**	**93.45**	**30**		P	**P**	**05 33 09.8**	**+1.2**
MDND	**Maddock**	**93.45**	**30**		P	**P**	**05 33 09.4**	**+0.8**
	baz=318							
MDND	**Maddock**	**93.45**	**30**		P	**P**	**05 33 09.3**	**+0.8**
	baz=318,SNR=12							
PFO	**Pinyon Flats O**	**93.45**	**49**		LR	LR	06 11 26.2	
	comp=Z,498nm,19.5s,baz=294,slow=33							
PFO	**Pinyon Flats O**	**93.45**	**49**		P	**P**	**05 33 09.7**	**+0.7**
PFO	**Pinyon Flats O**	**93.45**	**49**		IAMs_20	IAMs_20	06 11 22.4	
	comp=Z,939nm,19.0s							
PFO	**Pinyon Flats O**	**93.45**	**49**		P	**P**	**05 33 09.7**	**+0.7**
PFO					pmax	pmax		
	comp=Z,115nm,1.0s							
PFO	**Pinyon Flats O**	**93.45**	**49**		P	**P**	**05 33 09.8**	**+0.8**
	baz=306,SNR=84							
TPFO	**Pinon Flats**	**93.46**	**49**		P	**P**	**05 33 09.9**	**+0.8**
	baz=306,SNR=84							
P17A	**Butcher Ranch,**	**93.47**	**42**		P	**P**	**05 33 10.1**	**+1.0**
P17A					IAmb	IAmb	05 33 11.6	
	comp=Z,87nm,1.2s							
PMD	**Palm Desert**	**93.48**	**49**		P	**P**	**05 33 09.6**	**+0.6**
PMD					IAmb	IAmb	05 33 11.0	
	comp=Z,94nm,0.8s							
LCMT	**Little Creek M**	**93.49**	**45**		P	**P**	**05 33 10.4**	**+1.2**
LCMT					IAmb	IAmb	05 33 24.9	
	comp=Z,55nm,1.1s							
MTPU	**Mount Pierson**	**93.51**	**44**		P	**P**	**05 33 10.8**	**+1.3**
MTPU					IAmb	IAmb	05 33 25.2	
	comp=Z,51nm,1.1s							
BELC	**Belle Mtn. Jos**	**93.53**	**49**		P	**P**	**05 33 09.9**	**+0.5**
	baz=307,SNR=32							
Q16A	**Castle Valley**	**93.57**	**42**		IAmb	IAmb	05 33 12.4	
	comp=Z,137nm,1.8s							
P18A	**Preston Nutter**	**93.66**	**41**		IAmb	IAmb	05 33 12.7	
	comp=Z,52nm,0.9s							
K22A	**Casper**	**93.75**	**37**		P	**P**	**05 33 10.6**	**+0.3**
K22A	**Casper**	**93.75**	**37**		P	**P**	**05 33 10.7**	**+0.3**
	baz=313							
K22A	**Casper**	**93.75**	**37**		P	**P**	**05 33 10.5**	**+0.3**
	baz=313,SNR=12							
KNB	**Kanab**	**93.75**	**45**		P	**P**	**05 33 12.0**	**+1.5**
KNB					IAmb	IAmb	05 33 13.4	
	comp=Z,119nm,1.2s							
KNB	**Kanab**	**93.75**	**45**		P	**P**	**05 33 12.0**	**+1.5**
KNB					pmax	pmax		
	comp=Z,119nm,1.2s							
PKCU	**Pink Cliffs**	**93.81**	**44**		IAmb	IAmb	05 33 28.1	
	comp=Z,58nm,1.2s							
SRU	**San Rafael Swe**	**93.83**	**42**		P	**P**	**05 33 11.6**	**+0.8**
SRU	**San Rafael Swe**	**93.83**	**42**		P	**P**	**05 33 11.6**	**+0.8**
SRU					pmax	pmax		
	comp=Z,21nm,0.9s							
BAR	**Barrett**	**93.85**	**50**		P	**P**	**05 33 11.3**	**+0.5**
BAR					IAmb	IAmb	05 33 12.8	
	comp=Z,68nm,0.9s							
E28A	**Huff**	**93.90**	**32**		P	**P**	**05 33 11.6**	**+0.9**
	baz=318							
MONP2	**Monument Peak**	**93.90**	**50**		P	**P**	**05 33 11.9**	**+0.7**
	baz=306,SNR=35							
TKX	**Tecate**	**93.96**	**50**		IAmb	IAmb	05 33 13.3	
	comp=Z,55nm,1.0s							
NEE2	**Needles Airpor**	**93.98**	**47**		P	**P**	**05 33 11.9**	**+0.6**
	baz=308							
IRM	**Iron Mountain**	**94.00**	**48**		P	**P**	**05 33 12.5**	**+1.1**
	baz=307,SNR=60							
RWWY	**Rawlins**	**94.03**	**38**		P	**P**	**05 33 11.4**	**-0.3**
RSSD	**Black Hills**	**94.04**	**35**		P	**P**	**05 33 12.2**	**+0.5**
RSSD	**Black Hills**	**94.04**	**35**		P	**P**	**05 33 12.2**	**+0.5**
RSSD					pmax	pmax		
	comp=Z,185nm,1.7s							
RSSD	**Black Hills**	**94.04**	**35**		P	**P**	**05 33 12.0**	**+0.4**
	baz=315							
RSSD	**Black Hills**	**94.04**	**35**		P	**P**	**05 33 12.2**	**+0.5**
	baz=315							
CBX	**Cerro Bola**	**94.07**	**50**		P	**P**	**05 33 12.6**	**+0.7**
BC3	**Big Chuckawall**	**94.10**	**49**		P	**P**	**05 33 13.0**	**+1.0**
	baz=307,SNR=43							
IKP	**In-Ko-Pah, Jac**	**94.25**	**50**		P	**P**	**05 33 13.7**	**+1.0**
	baz=306,SNR=29							
W13A	**Hualapai Mount**	**94.26**	**47**		P	**P**	**05 33 13.7**	**+0.9**
W13A					IAmb	IAmb	05 33 27.6	
	comp=Z,47nm,1.1s							
SWSC	**Sam W. Stewart**	**94.29**	**50**		P	**P**	**05 33 13.7**	**+1.0**
	baz=307,SNR=21							
CCX	**Cicese**	**94.33**	**51**		P	**P**	**05 33 13.9**	**+1.0**
CCX					IAmb	IAmb	05 33 14.9	
	comp=Z,40nm,0.9s							
YUH	**Yuha Desert**	**94.38**	**50**		IAmb	IAmb	05 33 15.4	
	comp=Z,67nm,1.0s							
O20A	**White River Ci**	**94.49**	**40**		P	**P**	**05 33 14.8**	**+1.0**
O20A	**White River Ci**	**94.49**	**40**		P	**P**	**05 33 14.5**	**+0.7**
	baz=312,SNR=12							
PDMCI	**Parker Dam,Lak**	**94.58**	**48**		P	**P**	**05 33 14.7**	**+0.7**
	baz=308,SNR=22							
BLYC	**Blythe**	**94.66**	**48**		P	**P**	**05 33 15.5**	**+1.1**
BLYC					IAmb	IAmb	05 33 16.9	
	comp=Z,75nm,0.9s							
AGMN	**Agassiz Nation**	**94.72**	**28**		P	**P**	**05 33 13.9**	**-0.5**
AGMN	**Agassiz Nation**	**94.72**	**28**		P	**P**	**05 33 14.3**	**-0.1**
	baz=322							
AGMN	**Agassiz Nation**	**94.72**	**28**		P	**P**	**05 33 14.0**	**-0.4**
	baz=322,SNR=9.5							
ESJX	**Sierra Juarez**	**94.75**	**50**		P	**P**	**05 33 16.2**	**+1.1**
ESJX					IAmb	IAmb	05 33 17.6	
	comp=Z,60nm,1.0s							
GLA	**Glamis**	**94.88**	**49**		P	**P**	**05 33 17.0**	**+1.5**
GLA					IAmb	IAmb	05 33 18.0	
	comp=Z,92nm,0.9s							
GLA	**Glamis**	**94.88**	**49**		P	**P**	**05 33 17.0**	**+1.5**
GLA					pmax	pmax		
	comp=Z,91nm,1.0s							
GLA	**Glamis**	**94.88**	**49**		P	**P**	**05 33 16.5**	**+1.0**
	baz=307,SNR=17							
KEST	**Kesra**	**94.98**	**315**		P	**P**	**05 33 16.2**	**+0.3**
	comp=Z,11nm,0.8s,baz=275,slow=2.6,SNR=11							
KEST					LR	LR	06 21 23.6	
	comp=Z,974nm,20.4s,baz=348,slow=39							
	comp=Z,11nm,0.8s							
TAOE	**Nuku Hiva Isla**	**95.12**	**97**	*e*	LR	LR	06 04 03.0	
	comp=Z,894nm,24.7s							
D32B	**Dogwood Acres,**	**95.13**	**29**		P	**P**	**05 33 16.5**	**+0.2**
	baz=320							
PV23	**Carpenter Ridg**	**95.16**	**42**		P	**P**	**05 33 18.0**	**+1.0**
PV10	**Paradox Valley**	**95.19**	**42**		IAmb	IAmb	05 33 32.2	
	comp=Z,67nm,1.0s							
PHWY	**Pilot Hill**	**95.26**	**38**		P	**P**	**05 33 17.9**	**+0.5**
PHWY					IAmb	IAmb	05 33 19.3	
	comp=Z,99nm,2.0s							
N23A	**Red Feather La**	**95.27**	**38**		P	**P**	**05 33 18.4**	**+1.0**
N23A	**Red Feather La**	**95.27**	**38**		P	**P**	**05 33 18.5**	**+1.1**
	baz=314,SNR=13							
PV11	**David Mesa, Pa**	**95.34**	**42**		P	**P**	**05 33 18.5**	**+0.8**
PV11					IAmb	IAmb	05 33 34.3	
	comp=Z,59nm,1.2s							
PV15	**Paradox Valley**	**95.54**	**42**		P	**P**	**05 33 19.4**	**+0.7**
B35A	**Bob, Littlefor**	**95.55**	**27**		P	**P**	**05 33 18.1**	**-0.1**
B35A					IAmb	IAmb	05 33 20.6	
	comp=Z,66nm,1.0s							
B35A	**Bob, Littlefor**	**95.55**	**27**		P	**P**	**05 33 18.0**	**-0.1**
	baz=323							
WUAZ	**Wupatki**	**95.61**	**45**		P	**P**	**05 33 19.9**	**+0.9**
WUAZ	**Wupatki**	**95.61**	**45**		P	**P**	**05 33 19.8**	**+0.9**
	baz=310,SNR=17							
113A	**Mohawk Valley,**	**95.76**	**49**		P	**P**	**05 33 20.2**	**+0.8**
SMCO	**Snowmass**	**95.86**	**40**		IAmb	IAmb	05 33 22.7	
	comp=Z,91nm,2.0s							
ISCO	**Idaho Springs**	**96.21**	**39**		P	**P**	**05 33 22.4**	**+0.7**
ISCO	**Idaho Springs**	**96.21**	**39**		P	**P**	**05 33 22.5**	**+0.7**
ISCO					pmax	pmax		
	comp=Z,8.0nm,0.9s							
ISCO	**Idaho Springs**	**96.21**	**39**		P	**P**	**05 33 22.8**	**+1.0**
	baz=314							
ISCO	**Idaho Springs**	**96.21**	**39**		P	**P**	**05 33 22.3**	**+0.5**
	baz=314,SNR=11							
MVCO	**Mesa Verde**	**96.28**	**42**		P	**P**	**05 33 22.4**	**+0.4**
MVCO	**Mesa Verde**	**96.28**	**42**		P	**P**	**05 33 22.8**	**+0.7**
	baz=312,SNR=7.8							
SUSD	**Miller**	**96.30**	**32**		IAmb	IAmb	05 33 36.2	
	comp=Z,46nm,0.9s							
SUSD	**Miller**	**96.30**	**32**		P	**P**	**05 33 22.0**	**+0.3**
	baz=319							
SUSD	**Miller**	**96.30**	**32**		P	**P**	**05 33 21.7**	**0.0**
	baz=319							
F33A	**5 Mile Ranch,**	**96.45**	**30**		IAmb	IAmb	05 33 23.7	
	comp=Z,45nm,1.1s							
F33A	**5 Mile Ranch,**	**96.45**	**30**		P	**P**	**05 33 22.4**	**+0.1**
	baz=321							
EYMN	**Ely**	**96.76**	**26**		P	**P**	**05 33 23.8**	**0.0**
EYMN					IAmb	IAmb	05 33 24.8	
	comp=Z,39nm,0.8s							
EYMN	**Ely**	**96.76**	**26**		P	**P**	**05 33 23.6**	**-0.1**
	baz=325							
EYMN	**Ely**	**96.76**	**26**		P	**P**	**05 33 23.7**	**0.0**
	baz=325,SNR=8.6							
W18A	**Petrified Fore**	**96.89**	**45**		P	**P**	**05 33 24.6**	**-0.2**
	baz=310							
214A	**Organ Pipe Nat**	**96.90**	**49**		P	**P**	**05 33 25.0**	**+0.3**
214A	**Organ Pipe Nat**	**96.90**	**49**		P	**P**	**05 33 25.4**	**+0.7**
	baz=308							
S22A	**4UR Ranch, Cre**	**96.91**	**41**		P	**P**	**05 33 25.2**	**+0.3**
S22A	**4UR Ranch, Cre**	**96.91**	**41**		P	**P**	**05 33 25.8**	**+0.8**
	baz=313,SNR=9.6							
SCHQ	**Schefferville**	**96.99**	**9**		P	**P**	**05 33 24.0**	**-0.6**
	comp=Z,22nm,0.9s,baz=9.5,slow=5.6,SNR=9.8							
SCHQ					LR	LR	06 20 20.6	
	comp=Z,1µm,20.2s,baz=356,slow=37							
	comp=Z,22nm,0.9s							
Q24A	**Divide**	**97.04**	**39**		P	**P**	**05 33 25.5**	**0.0**
	baz=314							
MBAR	**Mbarara**	**97.26**	**273**		P	**P**	**05 33 25.1**	**-1.6**
MBAR	**Mbarara**	**97.26**	**273**		IAMs_20	IAMs_20	06 18 12.9	
	comp=Z,587nm,21.0s							
MBAR	**Mbarara**	**97.26**	**273**	*ce*	P	Pdif	05 33 27.5	+0.6
MBAR					pmax	pmax		
	comp=Z,27nm,1.3s							
OGNE	**Ogallala**	**97.34**	**36**		P	**P**	**05 33 26.6**	**0.0**
	baz=316							
F36A	**Milaca**	**97.63**	**28**		P	**P**	**05 33 27.1**	**-0.6**
F36A	**Milaca**	**97.63**	**28**		P	**P**	**05 33 27.3**	**-0.3**
	baz=323							
SDCO	**Great Sand Dun**	**97.68**	**40**		IAMs_20	IAMs_20	06 14 51.4	
	comp=Z,529nm,21.0s							
SDCO	**Great Sand Dun**	**97.68**	**40**		P	Pdif	05 33 29.0	+0.5
	baz=314							
SDCO	**Great Sand Dun**	**97.68**	**40**		P	Pdif	05 33 29.0	+0.5
	baz=314							
K31A	**O'Neill**	**97.77**	**33**		P	Pdif	05 33 29.1	+0.6
K31A					IAmb	IAmb	05 33 42.4	
	comp=Z,35nm,0.9s							
K31A	**O'Neill**	**97.77**	**33**		P	Pdif	05 33 29.4	+1.0
	baz=319							
E38A	**The Farm, Brul**	**97.83**	**27**		P	**P**	**05 33 27.3**	**-1.2**
	baz=325							
ECSD	**EROS Data Cent**	**97.94**	**31**		P	Pdif	05 33 29.4	+0.3
	baz=321							
ECSD	**EROS Data Cent**	**97.94**	**31**		P	**P**	**05 33 29.1**	**0.0**
	baz=321							
TUC	**Tucson**	**98.02**	**47**		P	Pdif	05 33 30.6	+0.8
TUC	**Tucson**	**98.02**	**47**		IAMs_20	IAMs_20	06 08 53.0	
	comp=Z,706nm,22.0s							
TUC	**Tucson**	**98.02**	**47**		P	Pdif	05 33

comp=Z,702nm,22.0s
OK032 Salt Plains WL 102.40 37 IAMs_20 IAMs_20 06 15 60.0
comp=Z,672nm,22.0s
PBAR Barrancos 102.63 326 *e*P **Pdif 05 33 50.0 -0.1**
comp=Z,40nm,1.7s
L44A Lake County Fo 102.96 27 IAMs_20 IAMs_20 06 21 13.7
comp=Z,788nm,22.0s
PBEJ Beja 103.16 326 *e*P **Pdif 05 33 52.7 +0.2**
comp=Z,30nm,1.6s
HQIL Hanson Quary C 103.30 27 IAMs_20 IAMs_20 06 07 36.8
comp=Z,422nm,22.0s
OK050 Pawnee Station 103.36 36 IAMs_20 IAMs_20 06 09 27.2
comp=Z,473nm,20.0s
OK046 Pawnee Station 103.40 36 IAMs_20 IAMs_20 06 28 31.2
comp=Z,600nm,19.0s
PNCL Nicolau / Gran 103.42 327 *e*P **Pdif 05 33 53.4 -0.2**
comp=Z,49nm,1.7s
OK044 Pawnee Station 103.47 36 IAMs_20 IAMs_20 06 28 44.2
comp=Z,610nm,19.0s
MESJ Messejana 103.48 326 *e*P **Pdif 05 33 54.0 +0.1**
PVAQ Vaqueiros 103.56 326 *e*P **Pdif 05 33 54.4 +0.1**
PVAQ Vaqueiros 103.56 326 *e*PP **PKiKP 05 38 12.4 -0.3**
PVAQ Vaqueiros 103.56 326 *e*LR LR 06 13 19.6
comp=Z,2µm,20.0s
WMOK Wichita Mounta 103.63 39 IAMs_20 IAMs_20 06 25 40.5
comp=Z,563nm,21.0s
OK033 Mehan 103.65 37 IAMs_20 IAMs_20 06 13 26.9
comp=Z,483nm,20.0s
OK034 N. Norfolk Rd. 103.79 36 IAMs_20 IAMs_20 06 25 47.7
comp=Z,496nm,20.0s
TUL1 Leonard 104.35 36 IAMs_20 IAMs_20 06 14 53.4
comp=Z,513nm,20.0s
TX31 Lajitas Ar. Si 104.57 46 P **Pdif 05 33 58.8 -0.2**
baz=314
TXAR Lajitas Array 104.57 46 Pdiff **Pdif 05 33 58.8 -0.2**
comp=Z,2.3nm,0.9s,baz=299,slow=2.4,SNR=8.8
TXAR PKiKP **PKiKP 05 38 14.7 -0.2**
comp=Z,1.8nm,0.9s,baz=334,slow=2.0,SNR=5.2
TXAR PKKPbc **PKKPbc 05 49 43.0 -0.8**
comp=Z,1.5nm,0.9s,baz=142,slow=6.3,SNR=8.2
CCM Cathedral Cave 104.91 32 P **Pdif 05 33 59.7 -0.6**
baz=324
PKME Peaks-Kenny Pk 105.83 13 P **PKiKP 05 38 16.8 +0.2**
baz=344
ERPA Erie 105.92 22 IAMs_20 IAMs_20 06 26 22.8
comp=Z,931nm,20.0s
LSZ Lusaka 105.96 261 IAMs_20 IAMs_20 06 19 04.4
comp=Z,1µm,22.0s
JCT Junction City 106.14 42 P **PKiKP 05 38 17.4 -0.3**
baz=316
MAW Mawson 106.47 201 PKKPab PKKPab 05 49 50.1 -0.7
comp=Z,3.7nm,0.9s,baz=261,slow=6.6,SNR=4.8
ACSO Alum Creek Sta 106.54 25 IAMs_20 IAMs_20 06 27 30.2
comp=Z,794nm,20.0s
MIAR Mount Ida 106.55 35 IAMs_20 IAMs_20 06 08 33.7
comp=Z,572nm,20.0s
MIAR Mount Ida 106.55 35 P **PKiKP 05 38 18.1 -0.2**
baz=322
VNDA Vanda 106.61 173 PKKPbc PKKPbc 05 49 37.9 -1.2
comp=Z,4.8nm,0.9s,baz=186,slow=1.4,SNR=23
435B Jarrell 107.22 41 IAMs_20 IAMs_20 06 15 09.1
comp=Z,511nm,22.0s
P52A Corning 107.38 24 P **PKiKP 05 38 19.2 -0.5**
baz=332
MATP Matopo 107.77 256 PKKPab PKKPab 05 49 48.3 +0.7
comp=Z,4.8nm,1.0s,baz=258,slow=5.6,SNR=4.8
SSPA Standing Stone 107.94 21 IAMs_20 IAMs_20 06 24 49.8
comp=Z,783nm,22.0s
833A Chaparral WMA, 107.94 44 P **PKiKP 05 38 20.9 -0.1**
baz=316
WVT Waverly 108.05 30 P **PKiKP 05 38 20.7 -0.3**
baz=326
PAL Paliseades 108.77 18 IAMs_20 IAMs_20 06 27 05.6
comp=Z,770nm,21.0s
HKT Hockley 108.85 40 IAMs_20 IAMs_20 06 29 57.7
comp=Z,593nm,19.0s
X48A Hartselle 109.80 31 P **PKiKP 05 38 22.9 -1.5**
baz=327
V52A Sevierville 110.11 27 P **PKiKP 05 38 25.0 +0.1**
baz=330
BLA Blacksburg 110.15 24 IAMs_20 IAMs_20 06 27 58.6
comp=Z,882nm,21.0s
TKL Tuckaleechee C 110.19 28 P **PKiKP 05 38 25.1 0.0**
baz=330
CBN Corbin Frederi 110.31 22 IAMs_20 IAMs_20 06 28 55.7
comp=Z,703nm,20.0s
CBN Corbin Frederi 110.31 22 P **PKiKP 05 38 24.7 -0.5**
baz=336
LRAL Lakeview Retre 111.00 32 P **PKiKP 05 38 26.5 -0.1**
baz=326
PAULI Pauline 111.72 27 P **PKiKP 05 38 27.8 -0.1**
baz=331
BOSA Boshof 113.50 249 PKiKP **PKiKP 05 38 31.6 +0.1**
comp=Z,2.0nm,0.6s,baz=323,slow=1.0,SNR=6.4
TORD Torodi Ar. Bea 114.60 301 PKP PKPdf 05 38 32.6 -1.4
comp=Z,10nm,0.8s,baz=21,slow=2.6,SNR=21
TORD PP **PP 05 39 30.2 -0.7**
comp=Z,9.0nm,0.9s,baz=56,slow=6.1,SNR=6.8
TORD PKKPbc **PKKPbc 05 49 12.8 +1.4**
comp=Z,2.4nm,0.8s,baz=243,slow=3.2,SNR=9.2
TORD PKKPab **PKKPab 05 49 20.6 +0.9**
comp=Z,4.0nm,0.9s,baz=248,slow=2.9,SNR=4.3
TSUM Tsumeb 116.81 261 PKPdf **PKPdf 05 38 38.0 -0.2**
TSUM Tsumeb 116.81 261 IAMs_20 IAMs_20 06 29 15.1
comp=Z,719nm,19.0s
QSPA South Pole Qui 117.22 180 PKKPbc PKKPbc 05 49 01.5 -2.5
comp=Z,4.5nm,0.8s,baz=181,slow=0.6,SNR=15
QSPA South Pole Qui 117.22 180 PKPdf **PKPdf 05 38 37.3 -0.2**
QSPA South Pole Qui 117.22 180 IAMs_20 IAMs_20 06 27 15.2
comp=Z,686nm,22.0s
DWPF Disney Wildern 117.70 30 P **PKPdf 05 38 39.3 -0.3**
baz=330
KOWA Kowa 117.96 306 PKKPbc PKKPbc 05 49 00.3 +0.6
comp=Z,3.5nm,0.9s,baz=197,slow=6.3,SNR=4.3
KOWA Kowa 117.96 306 PKPdf **PKPdf 05 38 40.2 -0.2**
DBIC Dimbokro 123.66 300 PKP **PKPdf 05 38 51.1 -0.3**
comp=Z,20nm,0.9s,baz=44,slow=2.9,SNR=10
DBIC PP **PP 05 40 34.3 +0.9**
comp=Z,12nm,1.1s,baz=36,slow=5.7,SNR=3.0
DBIC Dimbokro 123.66 300 PKPdf **PKPdf 05 38 50.9 -0.5**
KIC Kosan Boka 123.77 300 ⇓*i*PKiKP **PKPdf 05 38 51.3 -0.3**
comp=Z,13nm,0.5s
TIC Toumodi 123.80 300 ⇑*i*PKiKP **PKPdf 05 38 50.9 -0.8**
comp=Z,12nm,0.4s
LIC Lamto 124.07 300 ⇑*i*PKiKP **PKPdf 05 38 51.4 -0.8**
comp=Z,68nm,0.7s
NVL N'lazarevskaya 124.41 201 *e*PKiKP **PKPdf 05 38 50.9 -0.2**
NVL pmax pmax
comp=Z,35nm,0.9s
MTO3 Montecristo 124.45 46 PKPdf 05 38 52.3 -0.9
TGUH Tegucigalpa Un 126.03 45 PKPdf 05 38 56.1 +0.1
TROLL Troll, Antarti 126.75 198 PKPdf **PKPdf 05 38 55.5 -0.2**
MTDJ Mount Denham 128.01 32 IAMs_20 IAMs_20 06 39 14.7
comp=Z,546nm,20.0s
SNAA Sanae 128.39 198 PKPdf **PKPdf 05 38 58.0 -0.8**
SNAA Sanae 128.39 198 SKKPbc SKKPbc 05 52 09.3 -3.0
comp=Z,7.3nm,1.1s,baz=317,slow=3.7,SNR=4.0
SNAA Sanae 128.39 198 PKPdf **PKPdf 05 38 58.7 -0.1**
SNAA IAMs_20 IAMs_20 06 42 12.0
comp=Z,474nm,19.0s
SNAA Sanae 128.39 198 PKiKP **PKPdf 05 38 58.7 -0.1**
BELA Belgrano 2 128.90 184 PKPdf **PKPdf 05 38 59.0 -0.6**
ACON Arcoyapa 128.94 44 PKPdf 05 39 01.5 +0.1
SDDR Presa de Saban 129.99 25 IAMs_20 IAMs_20 06 41 27.2
comp=Z,560nm,21.0s
VNA2 Neumayer--Watz 130.02 197 PKPdf **PKPdf 05 38 60.0 -1.9**
baz=90,slow=2.0
DUNO Dulce Nombre, 130.17 46 PKPdf 05 39 04.2 +0.3
JTS Las Juntas de 130.36 46 PKPdf 05 39 03.9 -0.3
JTS Las Juntas de 130.36 46 PKiKP **PKPdf 05 39 03.9 -0.3**
COVE Coope Vega, Sa 130.38 45 PKPdf 05 39 03.6 -0.6
VNA3 Neumayer Olymp 130.41 196 PKPdf **PKPdf 05 39 01.0 -1.6**
VNA1 Neumayer--Stat 130.42 197 PKPdf **PKPdf 05 39 02.2 -0.3**
ICMP Isla Caja de M 132.61 20 PKPdf **PKPdf 05 39 07.3 -1.0**
SMRT St. Maarten 133.38 15 IAMs_20 IAMs_20 06 39 31.2
comp=Z,464nm,21.0s
SVN Savane Anatole 136.91 14 IAMs_20 IAMs_20 06 38 02.9
comp=Z,506nm,22.0s
SDV Santo Domingo 139.36 30 *e*P **PKPdf 05 39 20.0 -1.3**
ROSC El Rosal 141.01 38 PKhKP PKPpre 05 39 21.5
comp=Z,50nm,1.1s,baz=100,slow=5.4,SNR=15
OTAV Otavalo 142.15 48 *e*P **PKPdf 05 39 27.4 +0.7**
MCRA Macar, Loja 144.40 55 PKPab 05 39 28.1 -0.1
BOSC San Juan Bosco 144.59 52 PKPbc 05 39 29.5 +0.3
H09W1 TRISTAN DA CUNI 145.79 244 PKPbc **PKPab 05 39 34.2 +1.5**
MDP Montagnes des 147.62 2 PKP **PKPdf 05 39 34.7 -0.8**
MDP PKPbc **PKPbc 05 39 38.3 +0.2**
baz=358,slow=4.6
BOAV Boa Vista 149.06 18 PKPdf **PKPdf 05 39 36.6 -1.3**
BOAV Boa Vista 149.06 18 *e*P **PKPdf 05 39 36.9 -0.9**
MG01 Puerto William 150.09 161 PKiKP 05 39 44.0 0.0
GO10 Punta Arenas 150.46 156 PKPbc **PKiKP 05 39 46.1 +1.2**
MG04 Isla Riesco 150.50 155 PKPbc **PKiKP 05 39 45.6 +0.7**
TBTG Tabatinga, AM 150.90 41 PKPbc **PKPbc 05 39 45.7 -0.7**
TBTG Tabatinga, AM 150.90 41 *e*P **PKPdf 05 39 39.2 -1.5**
HOPE Hope Point 151.03 198 PKPbc 05 39 45.2 -0.2
HOPE Hope Point 151.03 198 PKiKP **PKPbc 05 39 45.2 -0.2**
MG05 Puerto Natales 151.04 152 PKPdf **PKPdf 05 39 40.9 +1.1**
NNA Nana 151.63 62 PKPdf **PKPdf 05 39 39.1 -2.7**
NNA PKPbc **PKPbc 05 39 47.7 -0.4**
NNA Nana 151.63 62 PKiKP **PKPbc 05 39 47.7 -0.4**
CZSB Cruzeiro do Su 151.87 50 PKPdf **PKPdf 05 39 41.8 -0.4**
CZSB PKPbc **PKPbc 05 39 48.8 +0.1**
CZSB Cruzeiro do Su 151.87 50 *e*P **PKPdf 05 39 40.2 -2.0**
RCBR Riachuelo 153.93 323 PKPbc **PKiKP 05 39 53.4 0.0**
comp=Z,13nm,0.8s,baz=175,slow=2.5,SNR=4.4
RCBR pPKPbc **PKPab 05 40 06.7 +0.2**
comp=Z,49nm,0.9s,baz=176,slow=3.3,SNR=9.1
RCBR Riachuelo 153.93 323 PKPdf **PKPdf 05 39 44.5 -0.8**
RCBR PKPbc **PKPbc 05 39 52.9 -0.3**
RCBR PKPab **PKPab 05 40 06.6 +0.2**
RCBR Riachuelo 153.93 323 PKiKP **PKPdf 05 39 44.5 -0.8**
RCBR 05 39 52.9
RCBR Riachuelo 153.93 323 *e*P **PKPdf 05 39 45.2 -0.1**
MACA Manacapuru-AM 154.28 22 PKPdf **PKPdf 05 39 45.3 -0.4**
MACA PKPbc **PKPbc 05 39 53.6 -0.4**
MACA PKPab **PKPab 05 40 07.4 -0.4**
MACA Manacapuru-AM 154.28 22 *e*P **PKPdf 05 39 44.5 -1.2**
MALB Monte Alegre 154.41 7 *e*P **PKPdf 05 39 44.2 -1.7**
TMAB Tom-Au,PA,Br 154.87 352 *e*P **PKPdf 05 39 46.4 -0.1**
COYC Coyhaique 155.55 143 PKPdf **PKPdf 05 39 44.9 -1.6**
COYC PKPab sPKPbc 05 40 13.4 +0.7
H03N2 Juan Fernandez 155.56 111 T T 08 34 22.8
baz=266,slow=73,SNR=14
H03N3 Juan Fernandez 155.57 111 T T 08 34 24.4
baz=266,slow=73,SNR=13
H03N1 Juan Fernandez 155.58 111 T T 08 34 23.7
baz=266,slow=73,SNR=5.6
AY01 Puyuhuapi 155.97 140 PKPdf **PKPdf 05 39 46.1 -0.9**
AY01 **PKPab 05 40 14.5 +0.3**
ITTB Itaituba 156.68 11 *e*P **PKPdf 05 39 49.2 +0.2**
LL02 Futaleuf 157.17 139 PKPdf **PKPdf 05 39 48.0 -0.7**
LL02 **PKPab 05 40 20.9 +1.3**
ETMB Extrema 157.58 41 PKPdf **PKPdf 05 39 49.0 -1.0**
ETMB PKPab **PKPab 05 40 19.8 -2.1**
ETMB Extrema 157.58 41 *e*P **PKPdf 05 39 49.2 -0.9**
LL03 Petrohue 157.99 134 PKPdf **PKPdf 05 39 48.7 -1.1**
LL03 PKPab **PKPab 05 40 24.6 +1.5**
LR03 Panguipulli 158.78 130 PKPdf 05 39 50.9 +0.1
LR03 PKPab **PKPab 05 40 27.8 +1.1**
NPGB Novo Progresso 159.37 11 *e*P **PKPdf 05 39 50.4 -1.9**
PLCA Paso Flores 159.39 135 PKP **PKPdf 05 39 52.0 +0.5**
comp=Z,2.9nm,1.0s,baz=228,slow=1.9,SNR=4.0
PLCA PKPab **PKPab 05 40 30.8 +1.5**
comp=Z,9.8nm,1.0s,baz=186,slow=4.6,SNR=5.9
PLCA PKKP 05 48 03.3
comp=Z,1.1nm,0.9s,baz=342,slow=5.4,SNR=2.8
PLCA Paso Flores 159.39 135 PKPdf **PKPdf 05 39 52.1 +0.6**
PLCA PKPab **PKPab 05 40 30.5 +1.2**
PLCA Paso Flores 159.39 135 *e*P **PKPdf 05 39 50.1 -1.5**
GO06 Curarrehue 159.40 131 PKPdf **PKPdf 05 39 51.2 -0.4**
GO06 PKPab **PKPab 05 40 31.2 +1.7**
PB12 IPOC Station P 160.51 67 PKPdf **PKPdf 05 39 53.5 +0.1**
LPAZ La Paz 160.94 58 PKP **PKPdf 05 39 55.4 +0.7**
comp=Z,16nm,1.0s,baz=5.2,slow=2.6,SNR=39
LPAZ PKPab **PKPab 05 40 38.6 +1.2**
comp=Z,6.8nm,0.7s,baz=332,slow=6.7,SNR=5.1
LPAZ La Paz 160.94 58 PKPdf **PKPdf 05 39 54.1 -0.5**
LPAZ La Paz 160.94 58 *e*P **PKPdf 05 39 53.8 -0.9**
PB16 IPOC Station P 161.03 65 PKPdf **PKPdf 05 39 54.6 0.0**
ML02 Panimavida 161.06 121 PKPdf **PKPdf 05 39 53.3 -0.1**
SMTB Santa Maria do 161.17 348 *e*P **PKPdf 05 39 52.9 -1.4**
TA01 Diego Aracena 161.54 72 PKPdf **PKPdf 05 39 55.6 +1.2**
BO02 Sierra Bellavi 161.88 119 PKPdf **PKPdf 05 39 54.4 -0.1**
GO01 Chusmiza 161.96 68 PKPdf **PKPdf 05 39 56.8 +1.3**
GDU01 Guandu, BA 162.44 319 *e*P **PKPdf 05 39 54.7 -0.8**
CLDB Colider 163.01 15 *e*P **PKPdf 05 39 56.2 +0.2**
VILB Vilhena 163.40 31 *e*P **PKPdf 05 39 57.8 +1.3**
LVC Limon Verde 163.42 77 PKP **PKPdf 05 39 57.5 +0.8**
comp=Z,7.3nm,0.9s,baz=190,slow=1.4,SNR=3.2
LVC PKPab **PKPab 05 40 49.0 +1.1**
comp=Z,12nm,0.8s,baz=278,slow=5.0,SNR=6.7
LVC Limon Verde 163.42 77 *e*P **PKPdf 05 39 55.6 -1.1**
PDRB Porto dos Gac 163.48 19 *e*P **PKPdf 05 39 56.7 +0.2**
SDBA SAO DESIDERIO 163.85 337 *e*P **PKPdf 05 39 57.0 +0.1**
SNDB Serra Nova Dou 164.61 360 *e*P **PKPdf 05 39 57.8 +0.2**
GUA01 Guaratinga, BA 164.77 313 *e*P **PKPdf 05 39 58.1 +0.5**
SIV San Ignacio 165.50 40 PKP **PKPdf 05 39 58.2 -0.1**
comp=Z,23nm,0.9s,baz=289,slow=0.4,SNR=71
SIV pPKP **pPKPdf 05 40 12.1 +1.3**
comp=Z,14nm,1.0s,baz=312,slow=0.1,SNR=8.0
SIV PKPab **PKPab 05 40 55.7 -0.8**
comp=Z,6.5nm,0.8s,baz=284,slow=6.7,SNR=11
SIV PP **PP 05 44 44.6 +1.8**
comp=Z,13nm,0.9s,baz=335,slow=5.8,SNR=10
NAN01 Guarapari, ES 165.88 310 *e*P **PKPdf 05 39 58.7 +0.2**
JANB Januaria 166.02 330 *e*P **PKPdf 05 39 58.5 -0.2**
PTLB Pontes e Lacer 166.07 33 PKPdf **PKPdf 05 39 59.5 +0.8**
PTLB PKPab **PKPab 05 40 58.7 -0.3**
PTLB Pontes e Lacer 166.07 33 *e*P **PKPdf 05 39 59.6 +1.0**
TRQA Tornquist 166.18 143 PKPdf 05 39 57.5 -0.7
TRQA PKPab **PKPab 05 40 59.1 0.0**
TRQA Tornquist 166.18 143 PKP2 **PKPab 05 40 59.1 0.0**
TRQA 06 39 57.5
TRQA Tornquist 166.18 143 *e*P **PKPdf 05 40 00.4 +2.2**
RIB01 Linhares ES 167.06 306 *e*P **PKPdf 05 39 58.8 -0.5**
SJMB Sao Joao De Ma 167.20 311 *e*P **PKPdf 05 39 58.7 -0.8**
BDFB Brasilia 167.84 344 PKP **PKPdf 05 40 00.1 -0.1**
comp=Z,22nm,0.9s,baz=263,slow=0.4,SNR=30
BDFB PKPab **PKPab 05 41 05.7 -1.1**
comp=Z,19nm,1.0s,baz=347,slow=4.9,SNR=5.9
BDFB Brasilia 167.84 344 *e*P **PKPdf 05 40 00.7 +0.5**
SALV Santo Antonio 167.84 20 *e*P **PKPdf 05 40 00.8 +0.9**
ALF01 Guarapari-ES 168.12 303 *e*P **PKPdf 05 40 00.1 0.0**
DIAM Diamantina, MG 168.44 320 *e*P **PKPdf 05 40 00.5 0.0**
CAM01 Campos-RJ 169.52 300 *e*P **PKPdf 05 40 00.2 -0.7**
PMNB Patos De Minas 170.03 332 *e*P **PKPdf 05 40 01.3 +0.5**
IPMB Ipameri, GO 170.14 342 *e*P **PKPdf 05 40 01.6 +0.1**
DUB01 Friburgo-RJ 170.22 301 *e*P **PKPdf 05 40 01.6 +0.2**
VAS01 Vassouras-RJ 171.13 304 *e*P **PKPdf 05 40 02.8 +1.0**
C2SB Chapadao do Su 171.27 9 *e*P **PKPdf 05 40 03.5 +1.5**
MAN01 Angra dos Reis 171.87 302 *e*P **PKPdf 05 40 02.7 +0.4**
AQDB Aquidauana 172.03 30 PKPdf 05 40 02.3 0.0
AQDB PKPab **PKPab 05 41 24.2 -1.0**
AQDB Aquidauana 172.03 30 *e*P **PKPdf 05 40 02.1 -0.2**
BB19B Bebedouro 173.13 337 *e*P **PKPdf 05 40 03.9 +1.1**
PARB Paraibuna 173.37 307 *e*P **PKPdf 05 40 02.7 -0.2**
RCLB Rio Claro- Sao 173.89 324 *e*P **PKPdf 05 40 03.8 +0.7**
VAO Valinhos 174.03 317 *e*P **PKPdf 05 40 03.6 +0.5**
PCMB Pacaembu 174.19 359 *e*P **PKPdf 05 40 03.6 +0.5**
CPUP Villa Florida 174.59 80 PKP **PKPdf 05 40 03.3 +0.2**
comp=Z,16nm,1.0s,baz=57,slow=1.3,SNR=25
CPUP PKPab **PKPab 05 41 36.9 +0.1**
comp=Z,5.0nm,0.8s,baz=282,slow=3.5,SNR=4.9
CPUP PP **PP 05 45 36.6 +7.0**
comp=Z,7.7nm,1.1s,baz=349,slow=6.1,SNR=4.6
CPUP Villa Florida 174.59 80 PKPdf 05 40 02.7 -0.4
CPUP PKPab **PKPab 05 41 36.7 -0.1**
CPUP Villa Florida 174.59 80 *e*P **PKPdf 05 40 03.9 +0.8**
ITQB Itaqui 174.90 117 PKPdf **PKPdf 05 40 04.2 +1.0**
ITQB Itaqui 174.90 117 *e*P **PKPdf 05 40 04.7 +1.6**
PET01 Itanhaem-SP 175.13 309 *e*P **PKPdf 05 40 03.6 +0.3**
TRCB Terra Rica 175.24 14 *e*P **PKPdf 05 40 04.2 +0.7**
PLTB Pedras Altas 175.29 157 PKPdf **PKPdf 05 40 03.3 +0.1**
PLTB Pedras Altas 175.29 157 *e*P **PKPdf 05 40 04.4 +1.2**
CPSB Cacapava Do Su 176.55 149 *e*P **PKPdf 05 40 04.2 +0.7**
TUJ01 Guaruva-PR 176.99 314 *e*P **PKPdf 05 40 04.5 +0.6**
TER01 Tubarao-SC 177.72 241 *e*P **PKPdf 05 40 04.2 +0.4**
ITAB Concordia 179.32 73 PKPdf 05 40 03.5 -0.5
ITAB Concordia 179.32 73 *e*P **PKPdf 05 40 03.5 -0.5**

*IDC **26** 05:21:41.9±2.1,7.06S×129.70E,h137km±22km, mb4.0/5, mbtmp4.5/10, Error ellipse: s-maj=31.3km s-min=16.3km az=83.0*

*NEIC **26** 05:21:43.2±1.0,6.97S±0.08×129.61E±0.10,h150km±10km, mb4.6/15, Error ellipse: s-maj=14.6km s-min=11.4km az=103.0*

ISC 26 05:21:41.8±0.6,6.98S±0.06×129.62E±0.08,h139km,n38, σ1838/40,mb4.5/13,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.94**	**121**		**Pn**	**05 22 18.0**	**+2.5**
FAKI	**Fak Fak**	**4.80**	**33**	Pn	**Pn**	**05 22 53.2**	**+0.7**
SOEI	**Soe**	**5.97**	**242**	Pn	**Pn**	**05 23 10.2**	**+2.1**
MTN	**Manton Dam**	**6.02**	**166**	Pn	**Pn**	**05 23 08.5**	**-0.1**
SIJI	**Sorong**	**6.28**	**15**	P	**Pn**	**05 23 13.3**	**+1.1**
	14nm,0.2s,baz=226,slow=22,SNR=31						
SIJI				S	**Sn**	**05 24 20.3**	**-2.6**
	42nm,0.3s,baz=248,slow=23,SNR=13						
BATI	**Baumata**	**6.71**	**241**	P	**Pn**	**05 23 19.5**	**+1.6**
	31nm,0.3s,baz=121,slow=1.1,SNR=12						
BATI				S	**Sn**	**05 24 31.3**	**-1.9**
	158nm,0.5s,baz=69,slow=13,SNR=12						
KNRA	**Kununurra**	**8.69**	**185**	Pn	**Pn**	**05 23 43.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.72**	**199**	P	**Pn**	**05 24 22.4**	**-2.3**
	4.9nm,0.3s,baz=358,slow=11,SNR=20						
FITZ				S	Sn	05 26 23.4	-11
	14nm,0.3s,baz=180,slow=22,SNR=14						
FITZ	**Fitzroy Crossi**	**11.72**	**199**	Pn	**Pn**	**05 24 25.2**	**+0.5**
WB0	**Warramunga Arr**	**13.53**	**160**	Pn	**Pn**	**05 24 44.7**	**-3.5**
WRAB	**Tennant Creek**	**13.67**	**161**	Pn	**Pn**	**05 24 48.8**	**-1.2**
WRA	**Warramunga Arr**	**13.68**	**161**	P	**Pn**	**05 24 47.2**	**-2.9**
	4.9nm,0.3s,baz=340,slow=14,SNR=20						
WRA				S	Sn	05 27 08.0	-13
	9.4nm,0.5s,baz=340,slow=21,SNR=8.8						
WRA	**Warramunga Arr**	**13.68**	**161**	Pn	**Pn**	**05 24 49.5**	**-0.6**
WB2	**Warramunga Arr**	**13.68**	**161**	Pn	**Pn**	**05 24 50.6**	**+0.4**
WR0	**Warramunga Arr**	**13.76**	**160**	Pn	**Pn**	**05 24 50.8**	**-0.4**
AS31	**Alice Springs**	**17.10**	**167**	P	**Pn**	**05 25 32.2**	**-0.3**
ASAR	**Alice Springs**	**17.10**	**167**	P	**Pn**	**05 25 32.2**	**-0.3**
	3.6nm,0.3s,baz=339,slow=9.0,SNR=15						
ASAR				S		05 28 29.7	-14
	2.9nm,0.6s,baz=352,slow=24,SNR=8.9						
PSA00	**Pilbara Seismi**	**17.32**	**212**	P	**P**	**05 25 34.5**	**+0.1**
PSA00				IAmb	IAmb	05 25 35.8	
	comp=Z,29nm,0.9s						
FORT	**Forrest**	**23.73**	**183**	P	**P**	**05 26 41.3**	**+0.1**
MORW	**Morawa**	**25.44**	**209**	P	**P**	**05 26 56.7**	**0.0**
MORW				IAmb	IAmb	05 26 58.4	
	comp=Z,28nm,1.2s						
BBOO	**Buckleboo**	**26.39**	**168**	P	**P**	**05 27 04.9**	**-0.4**
BBOO				IAmb	IAmb	05 27 10.1	
	comp=Z,29nm,1.4s						
STKA	**Stephens Creek**	**27.18**	**157**	P	**P**	**05 27 12.3**	**0.0**
	comp=Z,2.0nm,0.4s,baz=338,slow=14,SNR=4.4						
	comp=Z,2.0nm,0.4s						
STKA	**Stephens Creek**	**27.18**	**157**	P	**P**	**05 27 12.7**	**+0.3**
CHTO	**Chiang Mai**	**39.64**	**311**	P	**P**	**05 29 00.7**	**+0.4**
USRK	**Ussuriysk Ar.**	**50.98**	**2**	P	**P**	**05 30 30.0**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=177,slow=7.8,SNR=2.1						
	comp=Z,3.8nm,0.8s						
MK31	**Makanchi Array**	**68.00**	**327**	P	**P**	**05 32 23.8**	**-2.2**
MK31				IAmb	IAmb	05 32 39.2	
	comp=Z,5.8nm,1.1s						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**05 32 27.3**	**+1.3**
	comp=Z,4.0nm,0.4s,baz=117,slow=8.2,SNR=16						
	comp=Z,4.0nm,0.4s						
MAKZ	**Makanchi**	**68.18**	**327**	P	**P**	**05 32 28.3**	**+1.2**
MAKZ				IAmb	IAmb	05 32 29.4	
	comp=Z,13nm,1.4s						
ZAA0	**Zalesovo Array**	**71.40**	**334**	P	**P**	**05 32 44.6**	**-1.9**
ZAA0				IAmb	IAmb	05 33 27.2	
	comp=Z,15nm,1.1s						
ZALV	**Zalesovo Beam**	**71.40**	**334**	P	**P**	**05 32 46.6**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=134,slow=5.0,SNR=2.3						
	comp=Z,1.4nm,0.4s						
ZALV	**Zalesovo Beam**	**71.40**	**334**	P	**P**	**05 32 46.3**	**-0.3**
KURBB	**Kurchatov Array**	**72.30**	**329**	P	**P**	**05 32 52.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=129,slow=5.1,SNR=2.3						
	comp=Z,1.3nm,0.6s						
KK31	**Karatay Array**	**73.08**	**319**	P	**P**	**05 32 56.1**	**-0.7**
KK31				IAmb	IAmb	05 32 57.5	
	comp=Z,9.5nm,1.1s						
KKAR	**Karatay Array**	**73.08**	**319**	P	**P**	**05 32 56.1**	**-0.7**
KKAR				IAmb	IAmb	05 32 57.5	
	comp=Z,9.5nm,1.1s						
ABKAR	**Akbulak array**	**82.26**	**322**	P	**P**	**05 33 47.1**	**-0.5**
J20K	**Nowinta River**	**90.29**	**25**	P	**P**	**05 34 27.0**	**+0.5**
MLY	**Manley**	**91.92**	**25**	P	**P**	**05 34 34.5**	**+0.3**
MLY				IAmb	IAmb	05 34 34.5	
	comp=Z,4.4nm,1.2s						
J26L	**Joseph Creek**	**94.87**	**26**	P	**P**	**05 34 47.8**	**0.0**

ROM 26 05:23:21.1±0.1,42.691N±0.004×13.237E±0.005, h14km,Md1.3/3,ML1.3/4,1C-9D,Error ellipse: s-maj=0.4km s-min=0.3km az=311.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1202	**Accumoli, Fraz**	**0.01**	**324**	⇓P	Pg	05 23 23.9	+0.2
T1202				S	Sg	05 23 25.7	+0.3
T1202				END			
T1204	**Amatrice, Fraz**	**0.06**	**105**	⇓P	Pg	05 23 24.1	+0.2
T1204				S	Sg	05 23 25.8	-0.1
T1204				END			
T1242	**Castelluccio d**	**0.14**	**350**	⇓P	Pg	05 23 25.1	+0.3
T1242				S	Sg	05 23 28.0	+0.6
T1242				AML	AML		
	comp=N,35µm,0.4s						
T1242				AML	AML		
	comp=E,29µm,0.5s						
T1242				END			
T1243	**Rocca Santa Ma**	**0.16**	**88**	P	Pg	05 23 25.2	+0.2
T1243				S	Sg	05 23 28.1	+0.4
NRCA	**Norcia**	**0.17**	**328**	⇓P	Pg	05 23 25.4	+0.2
NRCA				S	Sg	05 23 28.3	+0.3
NRCA				AML	AML		
	comp=E,596µm,0.2s						
NRCA				AML	AML		
	comp=N,256µm,1.0s						
LNSS	**Leonessa**	**0.17**	**239**	P	Pg	05 23 25.5	+0.3
LNSS				S	Sg	05 23 28.6	+0.6
LNSS				AML	AML		
	comp=N,35µm,0.9s						
LNSS				AML	AML		
	comp=E,66µm,0.4s						
RM33	**Pellescritta (**	**0.18**	**185**	P	Pg	05 23 25.8	+0.4
RM33				S	Sb	05 23 29.0	-0.7
T1241	**Roccafluvione,**	**0.22**	**41**	P	Pg	05 23 26.2	+0.3
T1241				S	Sg	05 23 29.8	+0.6
T1217	**Poggiodomo (PG**	**0.23**	**275**	⇑P	Pg	05 23 26.3	+0.2
T1217				S	Sg	05 23 30.1	+0.6
T1216	**

0.2nm,0.3s,baz=79,slow=2.5,SNR=5.6

*ISN **26** 05:38:22.3±0.3,36°.09N×41°.96E,h5km,ML2.7*
*ISK **26** 05:38:22.5,36°.10N×41°.90E,h23km,ML2.9/7*
*DDA **26** 05:38:24.2±0.0,36°.43N×41°.95E,h14km±3km,ML2.6*

ISC 26 05:38:21.1±1.8,**36°.20N**±0°.06×**41°.90E**±0°.04,**h1**km±13km, **n15**,σ1**1**4/26,**Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDY	**Mardin/Midyat-**	**1.27**	**342**	P	**Pn**	**05 38 45.9**	**-0.2**
MIDY				S	**Sg**	**05 39 00.0**	**-2.0**
MIDY				*i* AML	AML	05 39 01.0	
	comp=E,241nm,0.3s						
MARD	**Mardin**	**1.43**	**322**	P	**Pn**	**05 38 48.2**	**-0.2**
MARD				S	**Sb**	**05 39 05.9**	**-1.5**
MARD				*i* AML	AML	05 39 11.0	
	comp=E,107nm,0.4s						
MARD				*i* AML	AML	05 39 13.0	
	comp=N,129nm,0.7s						
MAZI	**Mazidag**	**1.71**	**318**	PN	**Pn**	**05 38 52.7**	**+0.5**
MAZI				SN	**Sn**	**05 39 14.7**	**-0.1**
CUKT	**Cukurca**	**1.73**	**52**	PN	**Pn**	**05 38 52.6**	**+0.2**
CUKT				SN	**Sn**	**05 39 14.7**	**-0.5**
BTMN	**Batman**	**1.77**	**344**	P	**Pg**	**05 38 57.0**	**+2.1**
PERV	**Siirt/Pervari-**	**1.82**	**16**	P	**Pb**	**05 38 54.6**	**-0.8**
PERV				S	**Sn**	**05 39 16.1**	**-1.4**
PERV				*i* AML	AML	05 39 22.0	
	comp=N,134nm,0.4s						
PERV				*i* AML	AML	05 39 24.0	
	comp=E,91nm,0.4s						
HAKT	**HAKKARI**	**1.99**	**46**	P	**Pn**	**05 38 56.9**	**+0.8**
HAKT				S	**Sn**	**05 39 22.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**2.03**	**344**	PN	**Pb**	**05 38 57.6**	**-1.2**
SVAN				SN	**Sn**	**05 39 22.9**	**+0.4**
IKRK	**Kirkuk**	**2.14**	**111**	*e*Pg	**Pb**	**05 39 00.0**	**-0.6**
	baz=290						
IKRK				*e*Sg	Sg	05 39 40.0	+10
DYBB	**Diyarbakir**	**2.25**	**322**	PN	**Pn**	**05 39 00.3**	**+0.8**
DYBB				SN	**Sn**	**05 39 28.3**	**+0.4**
AKDM	**Akdamar-Van**	**2.30**	**22**	PN	**Pn**	**05 39 01.2**	**+0.9**
AKDM				SN	**Sn**	**05 39 29.7**	**+0.4**
HANI	**Diyarbakir_Han**	**2.52**	**332**	P	**Pb**	**05 39 07.6**	**+0.5**
HANI				S	**Sn**	**05 39 36.1**	**+1.6**
HANI				*i* AML	AML	05 39 39.0	
	comp=E,26nm,0.4s						
HANI				*i* AML	AML	05 39 47.0	
	comp=N,31nm,0.4s						
SURC	**SANLIURFA_SURC**	**2.73**	**285**	P	**Pb**	**05 39 10.0**	**-0.7**
SURC				S	**Sg**	**05 39 47.0**	**-1.9**
SURC				*i* AML	AML	05 39 58.0	
	comp=E,30nm,0.3s						
SURC				*i* AML	AML	05 40 00.0	
	comp=N,28nm,0.4s						
URFA	**Urfa**	**2.76**	**298**	PN	**Pn**	**05 39 07.5**	**+0.9**
BNGB	**Bingl**	**2.95**	**341**	PN	**Pn**	**05 39 10.8**	**+1.6**

*NEIC **26** 05:42:00.1±0.8,18°.27N±0°.05×67°.30W±0°.08,h95km±5km, Error ellipse: s-maj=11.1km s-min=7.5km az=98.0*
*RSPR **26** 05:42:01.6,18°.28N×67°.26W,h92km±1km,MD3.0/7*
*OSPL **26** 05:42:02.8±2.0,18°.23N×67°.21W,h89km±19km,ML1.8*

ISC 26 05:42:01.9±2.0,**18°.25N**±0°.08×**67°.22W**±0°.05,**h88**km±11km, **n39**,σ0**9**69/46,**9C-2D**,**Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**0.15**	**121**⇑	*e*P	**Pn**	**05 42 14.3**	**-0.2**
LSP	**Las Mesas**	**0.15**	**121**	*e*S	**Sn**	**05 42 24.9**	**+1.1**
AGPR	**Aguadilla, PR**	**0.24**	**26**⇑	*e*P	**Pn**	**05 42 14.3**	**-0.5**
AGPR	**Aguadilla, PR**	**0.24**	**26**		**Pn**	**05 42 13.7**	**-1.1**
AGPR					**Sn**	**05 42 24.4**	**0.0**
AGPR	**Aguadilla, PR**	**0.24**	**26**	*i* P	**Pn**	**05 42 14.6**	**-0.2**
AGPR				*e*S	**Sn**	**05 42 24.5**	**+0.2**
AGPR				IAML		05 42 25.8	
	comp=Z,45nm,1.2s						
CRPR	**Cabo Rojo, PR**	**0.27**	**156**⇓	*e*P	**Pn**	**05 42 14.5**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.27**	**156**	*e*S	**Sn**	**05 42 25.2**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.27**	**156**		**Sn**	**05 42 24.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.27**	**156**		**Pn**	**05 42 14.5**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.27**	**156**	*i* P	**Pn**	**05 42 14.5**	**-0.4**
CRPR				*e*S	**Sn**	**05 42 24.4**	**-0.1**
CRPR				IAML		05 42 26.9	
	comp=Z,21nm,0.2s						
IDE	**Isla Desecheo**	**0.27**	**299**⇑	*e*P	**Pn**	**05 42 14.7**	**-0.3**
IDE	**Isla Desecheo**	**0.27**	**299**	*e*S	**Sn**	**05 42 24.5**	**-0.2**
MLPR	**Magueyes Islan**	**0.33**	**149**⇑	*e*P	**Pn**	**05 42 14.9**	**-0.4**
MLPR	**Magueyes Islan**	**0.33**	**149**	*e*S	**Sn**	**05 42 25.4**	**+0.3**
MLPR	**Magueyes Islan**	**0.33**	**149**		**Pn**	**05 42 14.2**	**-1.1**
MLPR	**Magueyes Islan**	**0.33**	**149**		**Sn**	**05 42 25.4**	**+0.3**
AOPR	**Arecibo Observ**	**0.45**	**78**⇑	*e*P	**Pn**	**05 42 16.0**	**-0.1**
AOPR	**Arecibo Observ**	**0.45**	**78**	*e*S	**Sn**	**05 42 27.0**	**+0.3**
AOPR	**Arecibo Observ**	**0.45**	**78**		**Pn**	**05 42 15.4**	**-0.7**
AOPR					**Sn**	**05 42 26.6**	**-0.1**
AOPR				IAML		05 42 28.4	
	comp=N,107nm,0.2s						
UUPR	**Utuado, UPR, P**	**0.48**	**90**⇑	*e*P	**Pn**	**05 42 16.6**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.48**	**90**	*e*S	**Sn**	**05 42 27.7**	**+0.8**
UUPR	**Utuado, UPR, P**	**0.48**	**90**		**Pn**	**05 42 16.6**	**+0.3**
UUPR					**Sn**	**05 42 27.7**	**+0.8**
OBIP	**Obispado Ponce**	**0.62**	**110**⇓	*e*P	**Pn**	**05 42 16.4**	**-1.1**
OBIP	**Obispado Ponce**	**0.62**	**110**	*e*S	**Sn**	**05 42 29.6**	**+0.6**
OBIP	**Obispado Ponce**	**0.62**	**110**		**Pn**	**05 42 15.7**	**-1.8**
OBIP					**Sn**	**05 42 28.8**	**-0.3**
OBIP				IAML		05 42 35.1	
	comp=N,28nm,2.1s						
CELP	**Cerrillos**	**0.64**	**106**⇑	*e*P	**Pn**	**05 42 17.6**	**-0.1**
CELP	**Cerrillos**	**0.64**	**106**	*e*S	**Sn**	**05 42 31.0**	**+1.7**
CELP	**Cerrillos**	**0.64**	**106**		**Pn**	**05 42 17.6**	**-0.1**
CELP					**Sn**	**05 42 30.9**	**+1.5**
CELP				IAML		05 42 31.7	
	comp=E,29nm,0.2s						
CELP				IAML		05 42 31.7	
	comp=N,49nm,0.4s						
EMPR	**Esperanza - Ma**	**0.69**	**71**⇑	*e*P	**Pn**	**05 42 18.2**	**0.0**
EMPR	**Esperanza - Ma**	**0.69**	**71**	*e*S	**Sn**	**05 42 30.6**	**+0.4**
EMPR	**Esperanza - Ma**	**0.69**	**71**		**Pn**	**05 42 17.2**	**-1.0**
EMPR				IAML		05 42 32.3	
	comp=E,68nm,1.1s						
EMPR	**Esperanza - Ma**	**0.69**	**71**		**Sn**	**05 42 30.6**	**+0.4**
ICMP	**Isla Caja de M**	**0.76**	**119**	Pn	**Pn**	**05 42 18.5**	**-0.3**
ICMP				IAML		05 42 36.4	
	comp=N,61nm,1.3s						
ICMP				IAML		05 42 37.3	
	comp=E,56nm,1.1s						
PCDR	**Punta Cana, DR**	**1.13**	**283**	*i* P	**Pn**	**05 42 23.3**	**+0.3**
PCDR				*e*S	**Sn**	**05 42 39.0**	**+0.2**
PCDR				IAML		05 42 43.0	
	comp=Z,52nm,1.3s						
CBYP	**Canovanas**	**1.30**	**89**⇑	*e*P	**Pn**	**05 42 24.7**	**-0.3**
CBYP	**Canovanas**	**1.30**	**89**	*e*S	**Sn**	**05 42 43.0**	**+0.5**
CBYP	**Canovanas**	**1.30**	**89**		**Pn**	**05 42 24.2**	**-0.9**
CBYP	**Canovanas**	**1.30**	**89**		**Sn**	**05 42 43.0**	**+0.5**
CBYP	**Canovanas**	**1.30**	**89**	IAML		05 42 45.9	
	comp=N,76nm,0.2s						
CBYP				IAML		05 42 46.0	
	comp=E,53nm,0.2s						

*NEIC **26** 05:58:15.3±2.3,53°.83N±0°.07×164°.52W±0°.07, h25km±11km, Error ellipse: s-maj=11.0km s-min=3.8km az=151.0*
*AEIC **26** 05:58:16±2.3,53°.94N±0°.06×164°.62W±0°.07,h55km±8km, ML3.5/52,mb3.5/9(NEIC),ML3.5/8(NEIC), Error ellipse: s-maj=10.2km s-min=4.2km az=149.0*

ISC 26 05:58:15.4±1.3,**53°.8N**±0°.1×**164°.47W**±0°.07,**h55**km±19km, **n117**,σ1**9**20/125,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.69**	**354**		**Pn**	**05 58 29.2**	**-0.1**
WESP	**Westdahl Peak**	**0.72**	**348**		**Pn**	**05 58 29.4**	**-0.3**
WESP					**Sn**	**05 58 39.1**	**-1.0**
WECS	**Westdahl Cape**	**0.76**	**346**		**Pn**	**05 58 29.8**	**-0.4**
WECS					**Sn**	**05 58 40.8**	**-0.2**
WESN	**West Dahl Nort**	**0.78**	**355**		**Pn**	**05 58 30.4**	**0.0**
AKSA	**Akutan Strait**	**0.80**	**296**		**Pn**	**05 58 30.7**	**0.0**
AKSA					**Sn**	**05 58 41.9**	**0.0**
AKSA	**Akutan Strait**	**0.80**	**296**		**Pn**	**05 58 31.0**	**+0.3**
AKSA					**Sn**	**05 58 41.8**	**-0.1**
AKUT	**Akutan**	**0.84**	**295**		**Sn**	**05 58 42.4**	**-0.3**
AKUT	**Akutan**	**0.84**	**295**		**Pn**	**05 58 30.9**	**-0.3**
AKUT	**Akutan**	**0.84**	**295**	IAML		05 58 43.0	
	comp=N,2μm,0.4s						
AKUT				IAML		05 58 43.3	
	comp=E,2μm,0.5s						
AKBBA	**Akutan Broad B**	**0.92**	**290**		**Pn**	**05 58 32.2**	**0.0**
ZRO	**Akutan Zero**	**0.94**	**289**		**Pn**	**05 58 32.5**	**0.0**
AKLV	**Akutan Long Va**	**0.95**	**294**		**Pn**	**05 58 32.5**	**-0.2**
AKLV					**Sn**	**05 58 44.4**	**-1.0**
BRPK	**Brown Peak**	**0.96**	**26**		**Pn**	**05 58 33.2**	**+0.5**
AKMO	**Akutan Morgan**	**0.96**	**289**		**Pn**	**05 58 33.0**	**+0.3**
SSLS	**Shishaldin Sou**	**0.96**	**16**		**Pn**	**05 58 33.0**	**+0.2**
LVA	**Lava Point**	**0.99**	**292**		**Sn**	**05 58 45.9**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.00**	**290**		**Pn**	**05 58 33.5**	**+0.2**
SSBA	**Shishaldin**	**1.00**	**11**		**Pn**	**05 58 33.3**	**-0.1**
SSBA					**Sn**	**05 58 45.7**	**-0.9**
ISLZ	**Isanotski Laza**	**1.04**	**25**		**Pn**	**05 58 34.1**	**+0.3**
SSLN	**Shishaldin Nor**	**1.06**	**15**		**Pn**	**05 58 34.5**	**+0.4**
ISNN	**Isanotski Nort**	**1.12**	**21**		**Pn**	**05 58 35.6**	**+0.8**
ISNN					**Sn**	**05 58 50.0**	**+0.7**
UNV	**Unalaska Valle**	**1.21**	**273**		**Pn**	**05 58 36.1**	**+0.2**
UNV	**Unalaska Valle**	**1.21**	**273**	P	**Pn**	**05 58 36.1**	**+0.2**
	baz=84						
MNAT	**Makushin Natee**	**1.31**	**275**		**Pn**	**05 58 37.8**	**+0.3**
MNAT					**Sn**	**05 58 53.9**	**0.0**
MTBL	**Makushin Table**	**1.32**	**279**		**Pn**	**05 58 38.2**	**+0.6**
MGOD	**Makushin Gods**	**1.43**	**271**		**Pn**	**05 58 39.7**	**+0.7**
MGOD					**Sn**	**05 58 57.5**	**+0.8**
MCIR	**Makushin Cirqu**	**1.44**	**277**		**Pn**	**05 58 39.8**	**+0.6**
MAPS	**Pakushin South**	**1.47**	**272**		**Pn**	**05 58 40.0**	**+0.5**
MAPS					**Sn**	**05 58 57.5**	**-0.1**
DT1	**Dutton Round H**	**1.84**	**43**		**Pn**	**05 58 45.9**	**+1.4**
OKER	**Okmok East Rim**	**2.16**	**262**		**Pn**	**05 58 51.1**	**+2.1**
OKTU	**Okmok Mt. Tuli**	**2.17**	**261**		**Pn**	**05 58 51.4**	**+2.3**
PS4A	**Pavlof South-4**	**2.18**	**43**		**Pn**	**05 58 51.2**	**+2.0**
OKSP	**Okmok Steeple**	**2.34**	**258**		**Pn**	**05 58 53.7**	**+2.2**
NIKH	**Nikolski High**	**2.75**	**254**		**Pn**	**05 58 58.5**	**+1.5**
NIKH	**Nikolski High**	**2.75**	**254**	P	**Pn**	**05 58 58.2**	**+1.2**
	baz=67						
SDPT	**Sand Point**	**2.80**	**55**		**Pn**	**05 58 59.8**	**+2.2**
SDPT	**Sand Point**	**2.80**	**55**	IAML		05 59 46.1	
	comp=E,196nm,1.0s						
SDPT	**Sand Point**	**2.80**	**55**	P	**Pn**	**05 58 59.8**	**+2.2**
	baz=241						
CNBA	**Chernabura Isl**	**3.04**	**68**		**Pn**	**05 59 02.5**	**+1.6**
CHNA	**Chernabura Isl**	**3.04**	**68**	P	**Pn**	**05 59 02.7**	**+1.8**
	baz=255						
CHGN	**Chignik**	**4.29**	**52**		**Pn**	**05 59 20.2**	**+2.1**
CHGN				IAML		06 00 24.4	
	comp=N,46nm,0.5s						
CHIR	**Chirikof Islan**	**5.51**	**65**	Pn	**Pn**	**05 59 35.1**	**+0.4**
P16K	**Nushagak River**	**6.36**	**32**		**Pn**	**05 59 47.7**	**+1.3**
P16K	**Nushagak River**	**6.36**	**32**	P	**Pn**	**05 59 47.7**	**+1.3**
	baz=218						
SII	**Sitkinak Islan**	**6.51**	**61**	Pn	**Pn**	**05 59 50.7**	**+2.2**
P17K	**Kvichak River**	**7.00**	**36**		**Pn**	**05 59 58.0**	**+2.8**
P17K	**Kvichak River**	**7.00**	**36**	P	**Pn**	**05 59 58.0**	**+2.8**
	baz=224						
GSTR	**Great Sitkin T**	**7.21**	**261**	Pn	**Pn**	**05 59 57.9**	**-0.2**
OHAK	**Old Harbor**	**7.22**	**57**	Pn	**Pn**	**05 59 58.9**	**+0.8**
N16K	**Nishlik Lake**	**7.38**	**23**		**Pn**	**06 00 01.8**	**+1.4**
N16K	**Nishlik Lake**	**7.38**	**23**	P	**Pn**	**06 00 01.8**	**+1.4**
	baz=208						
P18K	**Big Mountain,**	**7.58**	**39**	Pn	**Pn**	**06 00 03.3**	**+0.2**
KDAK	**Kodiak Island**	**7.80**	**54**	Pn	**Pn**	**06 00 06.3**	**+0.3**
Q19K	**Cape Douglas,**	**7.91**	**45**	Pn	**Pn**	**06 00 08.9**	**+1.3**
O18K	**Koktuh Hills**	**7.92**	**36**		**Pn**	**06 00 10.0**	**+2.4**
O18K	**Koktuh Hills**	**7.92**	**36**	P	**Pn**	**06 00 10.1**	**+2.4**
	baz=225						
N18K	**Kilae Creek**	**8.32**	**30**	Pn	**Pn**	**06 00 13.6**	**+0.4**
SVW2	**Sparrevohn**	**8.74**	**30**	Pn	**Pn**	**06 00 18.9**	**-0.1**
ILSW	**Iliamna Southw**	**8.76**	**40**	Pn	**Pn**	**06 00 22.8**	**+3.4**
N19K	**Bonanza Creek**	**8.87**	**33**		**Pn**	**06 00 23.3**	**+2.5**
RSO	**Redoubt South**	**9.22**	**39**	Pn	**Pn**	**06 00 26.0**	**+0.2**
CNPM	**China Poot**	**9.27**	**46**	Pn	**Pn**	**06 00 26.7**	**+0.4**
M19K	**Big River Lodg**	**9.73**	**29**	Pn	**Pn**	**06 00 34.2**	**+1.6**
L19K	**White Mountain**	**9.83**	**27**	Pn	**Pn**	**06 00 34.5**	**+0.7**
M20K	**Styx River**	**10.10**	**32**	Pn	**Pn**	**06 00 37.8**	**+0.2**
SEW	**Seward**	**10.34**	**46**	Pn	**Pn**	**06 00 40.8**	**0.0**
O22K	**Cooper Landing**	**10.43**	**44**	Pn	**Pn**	**06 00 41.6**	**-0.4**
SUA	**Susitna One**	**10.62**	**38**	Pn	**Pn**	**06 00 45.6**	**+0.9**
RC01	**Rabbit Creek A**	**10.77**	**41**	Pn	**Pn**	**06 00 46.7**	**0.0**
K20K	**Telida**	**11.00**	**25**	Pn	**Pn**	**06 00 50.8**	**+0.9**
PPLA	**Purkeypile**	**11.15**	**30**	Pn	**Pn**	**06 00 49.7**	**-2.4**
PWL	**Port Wells**	**11.21**	**44**	Pn	**Pn**	**06 00 52.5**	**-0.2**
KNK	**Knik Glacier**	**11.46**	**42**	Pn	**Pn**	**06 00 54.6**	**-1.6**
GHO	**Glory Hole Cre**	**11.49**	**40**	Pn	**Pn**	**06 00 58.1**	**+1.4**
CAST	**Castle Rocks**	**11.59**	**29**	Pn	**Pn**	**06 00 59.9**	**+2.1**
J20K	**Nowinta River**	**11.68**	**23**	Pn	**Pn**	**06 00 59.8**	**+0.8**
GLI	**Glacier Island**	**11.74**	**46**	Pn	**Pn**	**06 00 59.3**	**-0.6**
HIN	**Hinchinbrook I**	**11.77**	**49**	Pn	**Pn**	**06 01 00.2**	**-0.2**
FID	**Port Fidalgo**	**11.95**	**47**	Pn	**Pn**	**06 01 01.1**	**-1.6**
TRF	**Thorofare Moun**	**12.15**	**32**	Pn	**Pn**	**06 01 04.2**	**-1.4**
SCM	**Sheep Creek Mo**	**12.15**	**42**	Pn	**Pn**	**06 01 05.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**12.18**	**49**	Pn	**Pn**	**06 01 04.8**	**-1.0**
BPAW	**Bear Paw Mtn.**	**12.43**	**28**	Pn	**Pn**	**06 01 10.5**	**+1.2**
DIV	**Divide**	**12.43**	**46**	Pn	**Pn**	**06 01 08.0**	**-1.4**
KLU	**Klutina**	**12.54**	**45**	Pn	**Pn**	**06 01 09.9**	**-1.0**
M24K	**Kolsona, Glenn**	**12.76**	**42**	Pn	**Pn**	**06 01 13.3**	**-0.5**
HMT	**Hamilton**	**12.77**	**51**	Pn	**Pn**	**06 01 14.3**	**+0.4**
BMRM	**Bremner River**	**12.86**	**48**	Pn	**Pn**	**06 01 15.2**	**0.0**
DHY	**Denali Highway**	**12.87**	**37**	Pn	**Pn**	**06 01 15.0**	**-0.3**
I21K	**Tanana**	**13.03**	**24**	Pn	**Pn**	**06 01 17.8**	**+0.4**
BERG	**Berg Lake**	**13.04**	**51**	Pn	**Pn**	**06 01 18.0**	**+0.3**
N25K	**Chitina, Valde**	**13.15**	**46**	Pn	**Pn**	**06 01 18.0**	**-1.2**
MLY	**Manley**	**13.22**	**26**	Pn	**Pn**	**06 01 21.1**	**+1.1**
H21K	**Melozitna Rive**	**13.24**	**21**	Pn	**Pn**	**06 01 20.1**	**-0.3**
IMAR	**Indian Mountai**	**13.33**	**19**	Pn	**Pn**	**06 01 23.8**	**+2.3**
GLB	**Gilahina Butte**	**13.41**	**47**	Pn	**Pn**	**06 01 21.8**	**-1.0**
WAX	**Waxell Ridge**	**13.46**	**52**	Pn	**Pn**	**06 01 22.6**	**-0.8**
PAX	**Paxson**	**13.50**	**40**	Pn	**Pn**	**06 01 24.5**	**+0.5**
TGL	**Tana Glacier**	**13.58**	**50**	Pn	**Pn**	**06 01 24.6**	**-0.5**
MCARA	**McCarthy VSAT**	**13.73**	**48**	Pn	**Pn**	**06 01 27.3**	**+0.3**
HDA	**Harding Lake**	**13.88**	**33**	Pn	**Pn**	**06 01 29.9**	**+1.0**
IL31		**14.14**	**32**	Pn	**Pn**	**06 01 32.2**	**-0.3**
RIDG	**Independent Ri**	**14.18**	**38**	Pn	**Pn**	**06 01 33.8**	**+0.7**
M26K	**Nabesna, AK**	**14.19**	**44**	Pn	**Pn**	**06 01 32.5**	**-0.7**
SCRK	**Sand Creek**	**14.63**	**38**	Pn	**Pn**	**06 01 36.9**	**-2.1**
M27K	**Edge Creek, AK**	**14.64**	**45**	Pn	**Pn**	**06 01 38.7**	**-0.5**
L27K	**Beaver Creek,**	**14.98**	**43**	Pn	**Pn**	**06 01 44.0**	**+0.5**
BCAR	**Beaver Creek A**	**14.99**	**43**	Pn	**Pn**	**06 01 41.9**	**-1.8**
J26L	**Joseph Creek**	**15.08**	**36**	Pn	**Pn**	**06 01 44.8**	**0.0**
COLD	**Coldfoot**	**15.13**	**22**		**Pn**	**06 01 47.5**	**+2.1**
I26K	**Coal Creek Min**	**15.70**	**34**		**P**	**06 01 55.7**	**-0.1**
I26K				IAmb	IAmb	06 02 13.1	
	comp=Z,3.6nm,1.2s						
DAWY	**Dawson**	**16.41**	**41**	Pn	**Pn**	**06 02 00.6**	**-1.1**
DAWY				IAmb	IAmb	06 02 07.3	
	comp=Z,2.8nm,0.8s						
M31M	**Drury Creek, Y**	**17.88**	**50**		**Pn**	**06 02 19.0**	**-0.9**
M31M				IAmb	IAmb	06 02 27.0	
	comp=Z,3.9nm,1.1s						
P33M	**Teslin, Yukon**	**18.26**	**57**	P	**P**	**06 02 22.9**	**-1.3**
P33M				IAmb	IAmb	06 02 28.2	
	comp=Z,3.0nm,1.0s						
FARO	**Faro, Yukon**	**18.36**	**50**	P	**P**	**06 02 26.4**	**+1.2**
EPYK	**Eagle Plains**	**18.50**	**36**	P	**P**	**06 02 26.8**	**+0.1**
EPYK				IAmb	IAmb	06 02 29.8	
	comp=Z,5.4nm,1.0s						
INK	**Inuvik**	**20.53**	**33**	P	**P**	**06 02 48.5**	**-0.2**

*IDC **26** 06:15:12.1±2.4,54°.13N×86°.45E,h0km,mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=20.6km s-min=12.3km az=57.0*
*NNC **26** 06:15:13.6±5.2,54°.12N×86°.36E,h0km,mb3.5,mpv2.8, Error ellipse: s-maj=46.8km s-min=24.9km az=12.0, Suspected Mining explosion.*

ISC 26 06:15:13.6±4.2,**54°.1N**±0°.2×**86°.4E**±0°.2,**h0**km,**n8**,σ2**8**12/11, **8C-2D**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**262**	*i*		06 20 30.0	
	baz=80,slow=325,SNR=3.0						
ZAA0	**Zalesovo Array**	**0.94**	**262**	⇑P	**Pg**	**06 15 30.0**	**-1.5**
	0.2nm,0.2s						
ZAA0				⇑S	**Sb**	**06 15 44.4**	**-1.2**
	2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**0.94**	**262**	Pg	**Pg**	**06 15 29.5**	**-2.0**
	1.8nm,0.3s,baz=78,slow=17,SNR=10						
ZALV				Lg	Lg	06 15 45.1	
	3.5nm,0.3s,baz=77,slow=29,SNR=19						
ZALV				Rg	Rg	06 15 50.1	
	8.6nm,0.6s,baz=73,slow=32,SNR=5.7						
KURK	**Kurchatov**	**5.83**	**238**	⇑Pn	**Pn**	**06 16 45.9**	**+4.7**
	0.6nm,0.4s						
KURK				⇑Sn	**Sn**	**06 17 50.6**	**+2.0**
	0.6nm,0.4s						
KURK				⇑Lg	Lg	06 18 17.5	
	4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**5.93**	**237**	Pn	**Pn**	**06 16 42.8**	**+0.3**
	0.3nm,0.3s,baz=54,slow=13,SNR=13						
	1.4nm,0.4s						
KURBB	**Kurchatov Arra**	**5.93**	**237**	⇓Pn	**Pn**	**06 16 43.4**	**+0.8**
	2.4nm,0.6s						
KURBB				⇑Sn	**Sn**	**06 17 52.0**	**+0.8**
	2.3nm,0.7s						
KURBB				⇓Lg	Lg	06 18 21.2	
	4.6nm,0.8s						
MK31	**Makanchi Array**	**7.75**	**201**	Pn	**Pn**	**06 17 08.1**	**+0.5**
	0.8nm,0.6s,baz=27,slow=14,SNR=26						
MK31				⇑Sn	**Sn**	**06 18 35.4**	**-0.6**
	0.3nm,0.4s,baz=43,slow=25,SNR=4.2						
MK31				⇑Lg	Lg	06 19 17.7	
	2.6nm,0.9s,baz=34,slow=30,SNR=4.1						
MKAR	**Makanchi Array**	**7.75**	**201**	Pn	**Pn**	**06 17 07.8**	**+0.3**
	0.5nm,0.3s,baz=26,slow=14,SNR=19						
MKAR				Lg	Lg	06 19 18.4	
	baz=27,slow=39,SNR=3.5						
	0.7nm,0.4s						

*NEIC **26** 06:20:59.1±1.1,54°.81S±0°.06×158°.6E±0°.2,h10km±1km, mb4.7/21, Error ellipse: s-maj=20.7km s-min=3.2km az=121.0*
*IDC **26** 06:21:00.7±1.1,54°.59S×158°.90E,h0km,mb4.5/8, mbtmp4.5/8,MS3.9/16, Error ellipse: s-maj=63.3km s-min=20.7km az=73.0*

ISC 26 06:21:02.3±0.5,**54°.72S**±0°.07×**158°.8E**±0°.1,**h20**km,**n99**, σ1**8**70/77,**mb4.7**/19,**MS3.8**/16,**Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.24**	**23**	Pg	**Pb**	**06 21 06.3**	**-1.7**
MCQ	**Macquarie Isla**	**0.24**	**23**	P	**Pb**	**06 21 06.5**	**-1.5**
APZ	**The Paps**	**9.80**	**40**	P	**Pn**	**06 23 20.2**	**-1.8**
PYZ	**Puysegur Point**	**9.92**	**34**	Pn	**Pn**	**06 23 23.1**	**-0.5**
SYZ	**Scrubby Hill**	**10.49**	**43**	P	**Pn**	**06 23 31.0**	**-0.4**
WHZ	**Wether Hill Ro**	**10.59**	**37**		**Pn**	**06 23 32.1**	**-0.7**
WHZ	**Wether Hill Ro**	**10.59**	**37**	P	**Pn**	**06 23 32.0**	**-0.8**
DCZ	**Deep Cove**	**10.70**	**33**	Pn	**Pn**	**06 23 33.5**	**-0.7**
DCZ	**Deep Cove**	**10.70**	**33**	P	Pn	06 23 39.5	+5.3
MLZ	**Mavora Lakes**	**11.11**	**36**	Pn	**Pn**	**06 23 39.5**	**-0.4**
MLZ	**Mavora Lakes**	**11.11**	**36**	P	**Pn**	**06 23 40.9**	**+1.0**
TUZ	**Tuapeka**	**11.16**	**43**	P	**Pn**	**06 23 41.8**	**+1.2**
EAZ	**Earnscleugh**	**11.65**	**40**	P	**Pn**	**06 23 48.4**	**+1.2**
MSZ	**Milford Sound**	**11.65**	**34**	P	**Pn**	**06 23 50.1**	**+2.9**
WKZ	**Wanaka**	**11.89**	**38**	Pn	**Pn**	**06 23 50.5**	**-0.1**
ODZ	**Otahua Downs**	**12.32**	**43**	Pn	**Pn**	**06 23 55.8**	**-0.5**
ODZ	**Otahua Downs**	**12.32**	**43**	P	**Pn**	**06 23 56.1**	**-0.2**
ODZ	**Otahua Downs**	**12.32**	**43**	P	**Pn**	**06 23 57.4**	**+1.0**
**JCZ

PMG	**Port Moresby**	**46.14**	**344**	LR	LR	06 47 59.6	
	comp=Z,151nm,18.8s,baz=236,slow=35						
PMG	**Port Moresby**	**46.14**	**344**	P	**P**	**06 29 24.0**	**-1.2**
KDU	**Kakadu**	**46.75**	**324**	P	**P**	**06 29 31.1**	**+1.1**
MTN	**Manton Dam**	**47.07**	**322**	P	**P**	**06 29 30.6**	**-2.0**
MTN	**Manton Dam**	**47.07**	**322**	P	**P**	**06 29 33.3**	**+0.8**
BELA	**Belgrano 2**	**47.41**	**176**	P	**P**	**06 29 33.5**	**-1.0**
BELA				IAmb	IAmb	06 29 42.6	
	comp=Z,5.2nm,1.2s						
SNAA	**Sanae**	**53.24**	**187**	P	**P**	**06 30 16.1**	**-2.7**
SNAA				IAmb	IAmb	06 30 26.9	
	comp=Z,12nm,1.4s						
PPT	**Papeete**	**53.99**	**68**	LR	LR	06 48 21.5	
	comp=Z,91nm,20.7s,baz=238,slow=30						
SIJI	**Sorong**	**58.22**	**327**	LR	LR	06 56 58.7	
	comp=Z,67nm,18.4s,baz=84,slow=37						
LEM	**Lembang**	**62.78**	**300**	LR	LR	06 54 19.4	
	comp=Z,105nm,21.0s,baz=216,slow=32						
H03S2	**Juan Fernandez**	**78.84**	**134**	T	T	08 00 22.0	
	baz=208						
H03S1	**Juan Fernandez**	**78.84**	**134**	T	T	08 00 23.3	
	baz=208,SNR=8190						
H03S3	**Juan Fernandez**	**78.86**	**134**	T	T	08 00 22.7	
	baz=208,SNR=9825						
TRQA	**Tornquist**	**81.19**	**149**	P	**P**	**06 33 14.3**	**-2.0**
TRQA				IAmb	IAmb	06 33 31.3	
	comp=Z,9.3nm,1.3s						
H08S2	**Diego Garcia H**	**81.68**	**269**	T	T	08 03 14.6	
	baz=144,slow=76,SNR=1077						
H08S1	**Diego Garcia H**	**81.69**	**269**	T	T	08 03 13.3	
	baz=144,slow=76,SNR=748						
H08S3	**Diego Garcia H**	**81.70**	**269**	T	T	08 03 16.1	
	baz=144,slow=76,SNR=1382						
BOSA	**Boshof**	**87.90**	**220**	P	**P**	**06 33 52.2**	**+1.7**
	comp=Z,2.6nm,0.6s,baz=189,slow=3.8,SNR=6.0						
	comp=Z,2.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**88.84**	**305**	P	**P**	**06 33 56.6**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=166,slow=3.7,SNR=8.4						
	comp=Z,0.9nm,0.3s						
MJAR	**Matsushiro Arr**	**92.61**	**344**	P	**P**	**06 34 14.0**	**+2.2**
	comp=Z,1.6nm,0.4s,baz=181,slow=5.5,SNR=7.4						
	comp=Z,1.6nm,0.4s						
PZH	**PanZhiHua**	**94.52**	**311**	P	**P**	**06 34 22.3**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
ILAR	**Eielson Array**	**126.22**	**26**	PKP	**PKiKP**	**06 40 02.5**	**+0.4**
	comp=Z,1.7nm,1.1s,baz=266,slow=2.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**134.81**	**212**	PKP	**PKiKP**	**06 40 21.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=164,slow=2.2,SNR=4.4						
OBN	**Obninsk**	**147.61**	**295**	PKPbc	**PKPab**	**06 40 46.3**	**+0.1**
	comp=Z,8.3nm,0.4s,baz=322,slow=2.5,SNR=4.8						
AKASG	**Malin Array Be**	**149.73**	**284**	PKPbc	**PKiKP**	**06 40 50.2**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=79,slow=2.0,SNR=11						
ARCES	**ARCESS Array B**	**154.47**	**324**	PKPbc	**PKiKP**	**06 41 01.1**	**+1.4**
	comp=Z,2.5nm,1.0s,baz=30,slow=7.4,SNR=4.8						
FINES	**FINESS Array B**	**154.61**	**305**	PKPbc	**PKiKP**	**06 41 01.3**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=98,slow=3.9,SNR=7.7						

IDC 26 06:33:04.0±3.3, 53.49N×87.52E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=31.9km s-min=16.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**287**	*i*		06 43 00.0	
	baz=106,slow=325,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.67**	**287**	Pg	Pn	06 33 33.6	-0.8
	1.1nm,0.3s,baz=105,slow=16,SNR=9.9						
ZALV				Lg	Lg	06 33 57.1	
	1.7nm,0.3s,baz=104,slow=25,SNR=8.1						
ZALV				Rg	Rg	06 34 12.0	
	1.2nm,0.3s,baz=93,slow=25,SNR=1.3						
KURBB	**Kurchatov Arra**	**6.24**	**246**	Pn	Pn	06 34 38.1	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=4.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.50**	**209**	Pn	Pn	06 34 55.6	+1.1
	0.1nm,0.3s,baz=34,slow=15,SNR=5.3						
	0.1nm,0.3s						

*NEIC **26** 06:40:50.7±1.7, 12.99N±0.08×145.3E±0.1, h10km±1km, mb4.3/7, Error ellipse: s-maj=21.8km s-min=5.0km az=234.0*
*IDC **26** 06:40:53.1±6.7, 13.14N×145.14E, h26km±47km, mb3.4/4, mbtmp3.6/4, MS3.7/1, Error ellipse: s-maj=35.3km s-min=14.2km az=74.0*
ISC 26 06:40:50.1±0.8, 13.01N±0.09×145.3E±0.1, h10km, n23, σ1s1, mb4.1/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.73**	**322**	Pn	**Pg**	**06 41 04.5**	**+0.2**
	610nm,0.3s,baz=147,slow=10,SNR=164						
GUMO				Sn	**Sg**	**06 41 12.4**	**-1.5**
	717nm,0.3s,baz=332,slow=22,SNR=19						
GUMO	**Guam**	**0.73**	**322**		**Pg**	**06 41 04.5**	**+0.2**
GUMO				Sg	**Sg**	**06 41 12.9**	**-1.0**
PATS	**Pohnpei**	**14.18**	**114**	Pn	**Pn**	**06 44 10.1**	**-1.0**
FAKI	**Fak Fak**	**20.47**	**220**	P	**P**	**06 45 28.9**	**+0.7**
FAKI				IAmb	IAmb	06 45 34.5	
	comp=Z,14nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**21.26**	**72**	T	T	07 08 18.2	
	baz=259,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**21.27**	**72**	T	T	07 08 20.8	
	baz=259,slow=75,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**21.27**	**72**	T	T	07 08 03.7	
	baz=259,slow=75,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**21.72**	**69**	T	T	07 08 40.1	
	baz=257,slow=75,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**21.73**	**69**	T	T	07 08 38.6	
	baz=257,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**21.74**	**69**	T	T	07 08 39.0	
	baz=257,slow=75,SNR=8.9						
JMM	**Marumori**	**25.08**	**352**	P	**P**	**06 46 15.2**	**+0.2**
JSD	**Sado**	**25.71**	**347**	P	**P**	**06 46 20.0**	**-0.6**
JSD				IAmb	IAmb	06 46 57.3	
	comp=Z,8.0nm,1.2s						
KSRS	**Korea Array**	**28.89**	**330**	P	**P**	**06 46 50.0**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=150,slow=9.4,SNR=3.0						
	comp=Z,1.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**33.12**	**342**	LR	LR	06 59 30.4	
	comp=Z,125nm,19.9s,baz=349,slow=34						
WB0	**Warramunga Arr**	**34.30**	**198**	P	**P**	**06 47 35.7**	**-1.3**
WB0				IAmb	IAmb	06 48 00.9	
	comp=Z,6.4nm,1.2s						
WB2	**Warramunga Arr**	**34.48**	**198**	P	**P**	**06 47 36.9**	**-1.7**
WB2				IAmb	IAmb	06 47 51.9	
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**34.48**	**198**	P	**P**	**06 47 39.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=23,slow=9.7,SNR=7.4						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**34.48**	**198**	P	**P**	**06 47 37.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**36.51**	**213**	P	**P**	**06 47 54.9**	**-1.1**
ASAR	**Alice Springs**	**38.12**	**197**	P	**P**	**06 48 11.0**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=23,slow=10,SNR=4.7						
	comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**62.22**	**316**	P	**P**	**06 51 13.1**	**+1.0**
K05A	**Summer Lake**	**84.03**	**48**	P	**P**	**06 53 21.9**	**+0.4**
K05A				IAmb	IAmb	06 53 52.2	
	comp=Z,7.0nm,1.4s						
NVAR	**Mina Array Bea**	**86.93**	**51**	P	**P**	**06 53 36.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=285,slow=5.3,SNR=2.4						
	comp=Z,0.1nm,0.5s						

WEL 26 07:07:50.5±2.6, 37°S±9°×17°9E±1°5, h17km±8km, M3.3/36, ML3.6/49, MLv3.3/36, Error ellipse: s-maj=0.0km s-min=0.0km az=62.2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.52**	**258**	P	Pb	07 08 01.2	0.0
MXZ				S	Sg	07 08 07.7	-0.3
WMGZ	**Waiomatatini S**	**0.56**	**229**	P	Pn	07 08 03.8	+0.1
PKGZ	**Pakihiroa**	**0.82**	**238**	P	Pn	07 08 07.1	-0.2
PUZ	**Puketiti**	**0.82**	**222**	P	Pn	07 08 07.6	+0.2
HAZ	**Te Kaha**	**0.97**	**252**	P	Pb	07 08 09.1	+0.2
TWGZ	**Tauwhareparae**	**1.07**	**227**	P	Pg	07 08 11.2	+0.3
RUGZ	**Raukumara Rang**	**1.13**	**243**	P	Pb	07 08 12.0	+0.3
CNGZ	**Carnagh Statio**	**1.18**	**210**	P	Pg	07 08 13.7	+0.3
TKGZ	**Te Karaka**	**1.31**	**221**	P	Pn	07 08 14.2	+0.2
MWZ	**Matawai**	**1.43**	**232**	P	Pn	07 08 16.1	+0.5
RIGZ	**Rimuhau**	**1.56**	**217**	P	Pn	07 08 18.0	+0.4
RAGZ	**Rawiri**	**1.60**	**229**	P	Pn	07 08 18.4	+0.3
URZ	**Urewera**	**1.66**	**241**	P	Pn	07 08 19.5	+0.6
PRGZ	**Paritu Road**	**1.69**	**210**	P	Pn	07 08 19.6	+0.3
SNGZ	**Shannon Statio**	**1.83**	**223**	P	Pn	07 08 21.6	+0.4
KNZ	**Kokohu**	**1.86**	**212**	P	Pn	07 08 21.1	-0.4
EDRZ	**Edgecumbe**	**1.87**	**249**	P	Pn	07 08 22.3	+0.5
RTZ	**Ruatahuna**	**1.94**	**233**	P	Pn	07 08 23.3	+0.5
OPRZ	**Ohinepanea**	**1.94**	**258**	P	Pn	07 08 22.5	-0.2
MUGZ	**Murupara**	**2.00**	**239**	P	Pn	07 08 23.8	+0.2
RAHZ	**Arahi**	**2.07**	**225**	P	Pn	07 08 24.7	+0.2
TARZ	**Mount Tarawera**	**2.09**	**247**	P	Pn	07 08 25.7	+0.9
RRRZ	**Republican Roa**	**2.12**	**245**	P	Pn	07 08 25.9	+0.7
PRRZ	**Plateau Road**	**2.27**	**242**	P	Pn	07 08 27.5	+0.2
ALRZ	**Allen Road**	**2.34**	**241**	P	Pn	07 08 28.6	+0.4
NMHZ	**Naumai**	**2.35**	**225**	P	Pn	07 08 28.7	+0.3
ARHZ	**Aropaoanui**	**2.37**	**220**	P	Pn	07 08 28.7	+0.1
MRHZ	**Matea Rd**	**2.42**	**235**	P	Pn	07 08 29.6	+0.2
BKZ	**Black Stump Fm**	**2.58**	**228**	P	Pn	07 08 31.7	+0.1
CKHZ	**Cape Kidnapper**	**2.64**	**213**	P	Pn	07 08 31.5	-0.9
MCHZ	**McNeill Hill**	**2.66**	**221**	P	Pn	07 08 32.3	-0.3
KUZ	**Kuaotunu**	**2.68**	**284**	P	Pn	07 08 31.1	-1.8
TOZ	**Tahuroa Road**	**2.75**	**263**	P	Pn	07 08 33.7	-0.2
KWHZ	**Kaweka Forest**	**2.79**	**225**	P	Pn	07 08 33.9	-0.6
KAHZ	**Kahuranaki**	**2.84**	**214**	P	Pn	07 08 34.5	-0.7
KRHZ	**Kereru**	**2.98**	**222**	P	Pn	07 08 35.8	-1.2
BHHZ	**Black Hill Sta**	**3.04**	**227**	P	Pn	07 08 37.5	-0.4
MKAZ	**Moumakai**	**3.04**	**275**	P	Pn	07 08 37.2	-0.7
PXZ	**Pawanui**	**3.04**	**212**	P	Pn	07 08 36.1	-1.7
TMVZ	**Te Maari**	**3.04**	**236**	P	Pn	07 08 37.9	-0.1
ETVZ	**East Tongariro**	**3.05**	**236**	P	Pn	07 08 38.0	-0.1
NTVZ	**North Tongarir**	**3.05**	**237**	P	Pn	07 08 37.9	-0.2
OTVZ	**Oturere**	**3.10**	**236**	P	Pn	07 08 38.6	-0.2
SNVZ	**South Ngauruho**	**3.12**	**235**	P	Pn	07 08 39.0	-0.1
NGZ	**Ngauruhoe**	**3.14**	**236**	P	Pn	07 08 39.4	-0.1
TUVZ	**Tukino**	**3.16**	**234**	P	Pn	07 08 39.6	0.0
MOVZ	**Moawhango**	**3.18**	**231**	P	Pn	07 08 39.5	-0.3
WHVZ	**Whangaehu Hut**	**3.21**	**234**	P	Pn	07 08 40.3	-0.1
FWVZ	**Far West T-bar**	**3.22**	**235**	P	Pn	07 08 40.5	0.0
WNVZ	**Wahianoa**	**3.23**	**234**	P	Pn	07 08 40.4	-0.2
TRVZ	**Turoa**	**3.25**	**234**	P	Pn	07 08 40.7	-0.2
WPHZ	**Waipukurau**	**3.26**	**216**	P	Pn	07 08 39.5	-1.4
PNHZ	**Pukenui**	**3.26**	**220**	P	Pn	07 08 39.2	-1.7
PRHZ	**Porangahau**	**3.34**	**212**	P	Pn	07 08 39.9	-2.0
MTVZ	**Mangateitei**	**3.34**	**234**	P	Pn	07 08 42.2	+0.1
PKVZ	**Pokaka**	**3.37**	**236**	P	Pn	07 08 42.5	+0.1
HIZ	**Hauiti**	**3.40**	**251**	P	Pn	07 08 43.9	+1.0
RVAZ	**Riverhead Bore**	**3.56**	**280**	P	Pn	07 08 45.0	+0.1
ANWZ	**Angora Road**	**3.57**	**212**	P	Pn	07 08 42.9	-2.1
DVHZ	**Dannevirke**	**3.57**	**217**	P	Pn	07 08 43.4	-1.8
WAZ	**Wanganui**	**3.86**	**232**	P	Pn	07 08 49.5	+0.3
NEZ	**North Egmont**	**4.22**	**243**	P	Pn	07 08 56.6	+2.4
OUZ	**Omahuta**	**4.87**	**296**	P	Pn	07 09 02.8	-0.1
CTZ	**Chatham Island**	**7.12**	**153**	P	Pn	07 09 35.6	+1.8

MAN 26 07:14:11.2, 6.98N×126.79E, h147km, mb4.3, ML3.2, MS2.9, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.53**	**266**	*e*P	Pn	07 14 32.0	-0.4
MATI				*e*S	Sn	07 14 50.7	+2.2
BIPH	**Bislig**	**1.27**	**340**	*e*P	Pn	07 14 39.5	+1.3
BIPH				*e*S	Sn	07 14 59.3	+0.4
DDMP	**Don Marcelino,**	**1.38**	**231**	*e*P	Pn	07 14 39.8	+0.4
DDMP				*e*S	Sn	07 15 02.3	+1.4
KCP	**Kidapawan**	**1.69**	**271**	*i*P	Pn	07 14 42.4	-0.4
KCP				*i*S	Sn	07 15 06.3	-0.5
GSPH	**General Santos**	**2.04**	**244**	*e*P	Pn	07 14 45.8	-1.0
SKMP	**Bagumbayan, Su**	**2.28**	**259**	*e*P	Pn	07 14 48.1	-1.5
GLSP	**General Luna,**	**2.86**	**347**	*e*P	Pn	07 14 57.3	+0.5
GLSP				*e*S	Sn	07 15 21.8	-10

*NEIC **26** 07:19:39.2±1.7, 5.90S±0.03×130.4E±0.1, h143km±12km, mb4.5/4, Error ellipse: s-maj=16.4km s-min=3.6km az=78.0*
*IDC **26** 07:19:39.3±2.4, 5.84S×130.45E, h172km±30km, mb3.4/2, mbtmp4.2/6, Error ellipse: s-maj=65.5km s-min=17.7km az=90.0*
ISC 26 07:19:38.1±0.7, 5.88S±0.06×130.40E±0.10, h150km, n24, σ1s54/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.27**	**157**	Pn	**Pn**	**07 20 15.9**	**-0.5**
FAKI	**Fak Fak**	**3.47**	**32**		**Pn**	**07 20 34.7**	**+3.1**
SIJI	**Sorong**	**5.05**	**10**	P	**Pn**	**07 20 53.9**	**+1.6**
	52nm,0.2s,baz=242,slow=23,SNR=79						
SIJI				S	**Sn**	**07 21 48.3**	**-1.8**
	57nm,0.2s,baz=253,slow=23,SNR=8.4						
MTN	**Manton Dam**	**6.96**	**174**		**Pn**	**07 21 19.9**	**+2.3**
SOEI	**Soe**	**7.19**	**237**	Pn	**Pn**	**07 21 21.1**	**+0.2**
KNRA	**Kununurra**	**9.87**	**189**		**Pn**	**07 21 56.4**	**+0.1**
TOLI2	**Tolitoli**	**11.85**	**306**	Pn	**Pn**	**07 22 22.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**13.00**	**201**	P	**Pn**	**07 22 37.1**	**-0.3**
	1.5nm,0.3s,baz=359,slow=9.1,SNR=21						
FITZ				S	Sn	07 24 52.6	-8.7
	4.7nm,0.7s,baz=181,slow=7.1,SNR=6.0						
FITZ	**Fitzroy Crossi**	**13.00**	**201**		**Pn**	**07 22 37.3**	**0.0**
WB0	**Warramunga Arr**	**14.34**	**165**		**Pn**	**07 22 55.0**	**+0.6**
WRAB	**Tennant Creek**	**14.49**	**165**		**Pn**	**07 22 55.8**	**-0.3**
WRA	**Warramunga Arr**	**14.49**	**165**	P	**Pn**	**07 22 55.4**	**-0.9**
	1.8nm,0.5s,baz=349,slow=12,SNR=39						
WRA				S	Sn	07 25 28.7	-8.4
	1.9nm,0.5s,baz=332,slow=24,SNR=7.8						
WRA	**Warramunga Arr**	**14.49**	**165**	Pn	**Pn**	**07 22 56.1**	**-0.1**
WB2	**Warramunga Arr**	**14.49**	**165**		**Pn**	**07 22 55.7**	**-0.6**
WR0	**Warramunga Arr**	**14.56**	**164**	Pn	**Pn**	**07 22 55.7**	**-1.5**
PMG	**Port Moresby**	**16.97**	**103**	IAmb	IAmb	07 23 24.7	
	comp=Z,23nm,1.1s						
PMG				P	**P**	**07 23 25.6**	**-0.7**
AS31	**Alice Springs**	**18.00**	**170**	P	**P**	**07 23 38.1**	**+0.6**
AS31				IAmb	IAmb	07 23 41.0	
	comp=Z,9.8nm,0.3s						
ASAR	**Alice Springs**	**18.00**	**170**	P	**Pn**	**07 23 39.3**	**+0.3**
	comp=Z,11nm,0.3s,baz=350,slow=9.9,SNR=162						
ASAR				S	**S**	**07 26 52.2**	**-4.1**
	comp=Z,1.2nm,1.0s,baz=350,slow=20,SNR=4.5						
ASAR	**Alice Springs**	**18.00**	**170**	P	**Pn**	**07 23 39.6**	**+0.6**
PSA00	**Pilbara Seismi**	**18.65**	**212**	P	**P**	**07 23 45.3**	**+0.8**
BBOO	**Buckleboo**	**27.31**	**170**	P	**P**	**07 25 10.1**	**+1.4**
KSRS	**Korea Array**	**43.17**	**357**	P	**P**	**07 27 21.4**	**-2.6**
	comp=Z,1.2nm,0.4s,baz=175,slow=6.0,SNR=5.5						
	comp=Z,1.2nm,0.4s						
MKAR	**Makanchi Array**	**67.52**	**326**	P	**P**	**07 30 18.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=118,slow=8.3,SNR=2.0						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.52**	**326**	P	**P**	**07 30 19.5**	**+1.4**

IDC 26 07:33:51.2±2.7, 8.05N×94.19E, h0km, mb3.6/3, mbtmp3.6/4, MS3.3/2, Error ellipse: s-maj=89.6km s-min=32.4km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.02**	**138**	LR	LR	07 38 43.3	
	comp=Z,277nm,18.6s,baz=296,slow=41						
CMAR	**Chiang Mai Arr**	**11.33**	**24**	Pn	Pn	07 36 34.8	+0.2
	0.7nm,0.3s,baz=211,slow=16,SNR=4.2						
CMAR				LR	LR	07 41 06.1	
	comp=Z,92nm,18.7s,baz=180,slow=38						
MKAR	**Makanchi Array**	**39.93**	**347**	P	P	07 41 26.9	-0.3
	0.8nm,1.0s,baz=148,slow=8.4,SNR=2.9						
	0.8nm,1.0s						
ZALV	**Zalesovo Beam**	**46.39**	**352**	P	P	07 42 19.2	-0.1
	0.9nm,0.3s,baz=141,slow=9.3,SNR=1.3						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**48.32**	**126**	P	P	07 42 34.9	0.0
	0.3nm,1.0s,baz=300,slow=11,SNR=3.0						
	0.3nm,1.0s						

UCR 26 07:46:14.7±1.5, 9.03N×84.15W, h5km, MW3.7, 5C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.36**	**51**	*e*P	Pg	07 46 22.4	+0.7
EDDO				*e*S	Sb	07 46 28.6	-0.9
PEZE	**Perez Zeledon,**	**0.58**	**53**	*i*P	Pg	07 46 26.1	+0.2
PEZE				*e*S	Sb	07 46 35.1	-0.9
CDM	**Cerro de Muert**	**0.64**	**36**	*i*P	Pg	07 46 27.1	-0.1
EDPN	**Palmar Norte**	**0.68**	**95**	*e*P	Pg	07 46 28.0	+0.1
EDPN				*e*S	Sb	07 46 38.4	-0.4
LCR2	**La Lucha 2**	**0.72**	**11**	*i*P	Pg	07 46 28.3	-0.3
LCR2				*e*S	Sb	07 46 39.8	-0.4
RIMA	**Rio Macho**	**0.79**	**21**	*e*P	Pg	07 46 29.2	-0.7
RIMA				*e*S	Sb	07 46 41.6	-0.4
SRBA	**San Rafael, Bu**	**0.80**	**75**	*e*P	Pg	07 46 30.2	+0.1
SRBA				*e*S	Sb	07 46 42.1	-0.2
EDBA	**Buenos Aires**	**0.87**	**81**	*e*P	Pg	07 46 30.9	-0.6
EDBA				*e*S	Sg	07 46 43.4	+0.6
OCM	**Ochomogo**	**0.88**	**12**	*i*P	Pg	07 46 31.0	-0.6
OCM				*e*S	Sb	07 46 44.0	-0.8
SJS	**Escuela Geolog**	**0.91**	**6**	*e*P	Pg	07 46 31.8	-0.4
SJS				*e*S	Sb	07 46 45.6	+0.1
DRK0	**Durika**	**0.92**	**75**	*e*P	Pb	07 46 33.0	-0.3
DRK0				*e*S	Sb	07 46 46.8	+0.9
HDC	**Heredia**	**0.97**	**2**	*e*P	Pg	07 46 32.5	-0.8
HDC				*e*S	Sb	07 46 46.6	-0.6
HDC3	**Heredia 3**	**0.97**	**2**	*e*P	Pg	07 46 32.6	-0.8
HDC3				*e*S	Sb	07 46 46.7	-0.5
RAFA	**San Farael, Vo**	**0.98**	**20**	*i*P	Pg	07 46 33.1	-0.5
RAFA				*e*S	Sb	07 46 48.4	+0.6
POTG	**Potrero Grande**	**1.01**	**89**	*i*P	Pg	07 46 34.0	-0.1
POTG				*e*S	Sb	07 46 48.9	+0.4
MRVA	**Moravia de Chi**	**1.05**	**41**	*e*P	Pg	07 46 34.0	-0.9
MRVA				*e*S	Sb	07 46 49.5	-0.1
LAFE	**Finca La Fe, P**	**1.08**	**316**	*e*P	Pg	07 46 34.0	-1.4
CRPO	**Crater poas**	**1.16**	**356**	*e*P	Pg	07 46 35.3	-1.7
EDSV	**San Vito**	**1.18**	**100**	*e*P	Pg	07 46 36.8	-0.5
EDSV				*e*S	Sn	07 46 54.7	+0.3
RIFO	**Rio Frio, Sara**	**1.30**	**10**	*e*P	Pn	07 46 38.4	-1.2
RIFO				*e*S	Sb	07 46 56.8	+0.1
BATAN	**Batan**	**1.31**	**35**	*e*P	Pn	07 46 39.1	-0.5
CCOL	**Caracol de Cor**	**1.31**	**118**	*e*P	Pn	07 46 38.7	-1.0
CCOL				*e*S	Sn	07 46 58.0	+0.4
CDITO	**Canoas**	**1.34**	**110**	*e*P	Pn	07 46 38.4	-1.7
CDITO				*e*S	Sb	07 46 57.6	-0.1
BRU2	**Volcan**	**1.46**	**99**	*e*P	Pn	07 46 40.5	-1.3
BRU2				*e*S	Sb	07 47 00.5	-0.7
JTS	**Las Juntas de**	**1.49**	**328**	*e*P	Pn	07 46 39.8	-2.4
FORC	**Fortuna**	**1.52**	**340**	*e*P	Pn	07 46 41.9	-0.7
FORC				*e*S	Sg	07 47 04.1	+0.5
COVE	**Coope Vega, Sa**	**1.70**	**351**	*e*P	Pn	07 46 44.0	-1.1
ACAL	**Aguas Claras**	**1.82**	**331**	*e*P	Pn	07 46 46.1	-0.7
ORTG	**Ortega, Santa**	**1.85**	**316**	*e*P	Pn	07 46 46.8	-0.4
PTEN	**Parque Tenorio**	**1.87**	**334**	*e*P	Pn	07 46 48.0	+0.5
CUI	**Cuipilapa**	**1.91**	**328**	*i*P	Pn	07 46 46.7	-1.2
COLC	**Colonia**	**1.93**	**327**	*e*P	Pb	07 46 50.2	-0.3
HORNC	**Hornillas**	**1.96**	**329**	*e*P	Pn	07 46 49.5	+0.8
LAPC	**Finca la Perla**	**2.14**	**324**	*e*P	Pn	07 46 51.6	+0.4
BUEV	**Buena Vista**	**2.15**	**325**	*e*P	Pn	07 46 51.9	+0.5

*CNRM **26** 07:47:28.2, 36.18N×7.73W, h0km, ml2.8*
*MDD **26** 07:47:33.5±0.6, 36.48N×7.73W, h13km±4km, mb_Lg2.9/18, Error ellipse: s-maj=5.4km s-min=2.6km az=42.0*
*INMG **26** 07:47:33.9±1.6, 36.46N×7.74W, h13km±4km, ML2.2, Error ellipse: s-maj=4.5km s-min=2.5km az=46.0*
*IGIL **26** 07:47:34.0, 36.46N×7.80W, h15km, ML2.1*
ISC 26 07:47:31.8±1.3, 36.42N±0.03×7.70W±0.03, h26km±13km, n54, σ1s83/100, 6D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.84**	**347**	*e*P	**Pb**	**07 47 47.8**	**0.0**
PBDV				*e*S	**Sb**	**07 47 58.9**	**+0.2**
PBDV				A	A	07 48 06.8	
	44nm,0.5s						
PVAQ	**Va

PCAS	**Casmilo, Conde**	**3.68**	**350**	*e*Pn	**Pn**	**07 48 28.3**	**+1.3**
EPLA	**Plasencia**	**3.85**	**19**	Pn	**Pn**	**07 48 30.4**	**+1.0**
EPLA				Sn	**Sn**	**07 49 12.1**	**-1.8**
EPLA				*i* Vmb_Lg		07 49 14.3	
EBER	**Berja**	**3.90**	**82**	Pn	**Pn**	**07 48 33.0**	**+2.8**
EBER				*i* Vmb_Lg		07 51 24.3	
SRHM	**Skhour des Reh**	**3.95**	**182**	P	**Pn**	**07 48 30.8**	**0.0**
SRHM				S	**Sn**	**07 49 19.3**	**+3.1**
EQES	**Quesada**	**3.95**	**68**	Pn	**Pn**	**07 48 32.7**	**+1.8**
EQES				Sn	**Sn**	**07 49 15.8**	**-0.6**
EQES				*i* Vmb_Lg		07 49 19.9	
MTE	**Manteigas**	**3.97**	**2**	*e*Pn	**Pn**	**07 48 32.2**	**+1.1**
MTE				*e*Sn	**Sn**	**07 49 15.8**	**-1.1**
PAB	**San Pablo**	**4.09**	**39**	Pn	**Pn**	**07 48 34.4**	**+1.6**
PAB				Sn	**Sn**	**07 49 16.7**	**-3.1**
PAB				*i* Vmb_Lg		07 49 18.2	
MD31	**MD31**	**4.30**	**145**	P	**Pn**	**07 48 35.6**	**0.0**
MD31				S	**Sn**	**07 49 20.9**	**-4.0**
MDT	**Midelt**	**4.41**	**144**	P	**Pn**	**07 48 36.1**	**-1.1**
MDT				S	**Sn**	**07 49 22.8**	**-5.0**
JBK	**JBK**	**4.68**	**115**	P	**Pn**	**07 48 41.7**	**+0.7**
JBK				S	**Sn**	**07 49 31.5**	**-3.2**
MVO	**Moncorvo**	**4.76**	**6**	*e*Pn	**Pn**	**07 48 42.9**	**+0.9**
MVO				*e*Sn	**Sn**	**07 49 33.9**	**-2.5**
MVO				A	A	07 49 35.7	
	2.9nm,0.4s						
POLO	**Lamas de Olo**	**4.94**	**359**	*e*Pn	**Pn**	**07 48 45.5**	**+1.0**
POLO				*e*Sn	**Sn**	**07 49 39.7**	**-1.1**
POLO				A	A	07 49 40.7	
	1.5nm,0.4s						
EZAR	**Zarzadilla de**	**5.01**	**71**	Pn	**Pn**	**07 48 46.9**	**+1.5**
EZAR				Sn	**Sn**	**07 49 42.5**	**-0.1**
GUD	**Guadarrama**	**5.05**	**32**	Pn	**Pn**	**07 48 47.8**	**+1.8**
GUD				Sn	**Sn**	**07 49 41.2**	**-2.3**
GUD				*i* Vmb_Lg		07 49 44.3	
OUK	**Oukaimeden**	**5.21**	**182**	P	**Pn**	**07 48 46.7**	**-1.6**
OUK				S	**Sn**	**07 49 42.5**	**-5.2**
ETOB	**Tobarra**	**5.37**	**64**	Pn	**Pn**	**07 48 51.4**	**+1.0**
ETOB				Sn	**Sn**	**07 49 49.5**	**-1.8**
ETOB				*i* Vmb_Lg		07 49 52.4	
ELOB	**Lobios**	**5.44**	**357**	Pn	**Pn**	**07 48 52.5**	**+1.2**
ELOB				Sn	**Sn**	**07 49 51.4**	**-1.7**
ELOB				*i* Vmb_Lg		07 49 52.8	
PGAV	**Gavieira, Arco**	**5.55**	**356**	*e*Pn	**Pn**	**07 48 54.0**	**+1.2**
ECAL	**Calabor**	**5.56**	**7**	Pn	**Pn**	**07 48 53.8**	**+0.9**
ECAL				Sn	**Sn**	**07 49 53.3**	**-2.7**
ECAL				*i* Vmb_Lg		07 49 56.0	
ETOR	**Torete**	**6.23**	**43**	Pn	**Pn**	**07 49 04.0**	**+1.9**
ETOR				Sn	**Sn**	**07 50 09.8**	**-2.7**
ETOR				*i* Vmb_Lg		07 50 13.5	
EMOS	**Mosqueruela**	**6.91**	**53**	Pn	**Pn**	**07 49 13.6**	**+2.1**
EMOS				Sn	**Sn**	**07 50 26.1**	**-3.3**
EARI	**Arriondas**	**7.13**	**15**	Pn	**Pn**	**07 49 15.9**	**+1.4**
EARI				Sn	**Sn**	**07 50 30.5**	**-4.1**

*KRNET **26** 07:56:40.3±0.1,41°.05N×79°.53E,mb3.4*
*SOME **26** 07:56:40.0,40°.75N×79°.27E,h0km*
*NNC **26** 07:56:43.2±1.5,40°.78N×79°.17E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=9.9km s-min=7.4km az=153.0

ISC 26 07:56:43.2±2.0,**40°.79N**±0°.08×**79°.10E**±0°.05,**h10**km,**n52,**
σ1§66/77,15C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.36**	**314**	⇑*i*P	**Pn**	**07 57 07.9**	**-0.7**
	baz=98						
TARG				⇑*i*S	**Sg**	**07 57 28.0**	**+1.0**
	baz=98						
SATY	**Saty**	**2.33**	**347**	*e*P	**Pb**	**07 57 25.9**	**+0.5**
	39nm,0.6s						
SATY				*e*S	**Sg**	**07 57 59.0**	**+0.9**
	105nm,0.7s						
SATY	**Saty**	**2.33**	**347**	Pg	**Pb**	**07 57 26.4**	**+1.0**
	39nm,0.6s						
SATY				Lg	Lg	07 57 59.0	
	105nm,0.7s						
UZB	**Uzynbulak**	**2.36**	**359**	*e*P	**Pb**	**07 57 25.4**	**-0.5**
	5.6nm,0.6s						
UZB				*e*S	**Sg**	**07 57 58.3**	**-0.7**
	48nm,1.1s						
UZB	**Uzynbulak**	**2.36**	**359**	Pg	**Pb**	**07 57 26.5**	**+0.6**
	5.6nm,0.6s						
UZB				Lg	Lg	07 57 58.5	
	48nm,1.1s						
SHLS	**Shalkode**	**2.38**	**6**	*e*P	**Pb**	**07 57 26.7**	**+0.4**
	18nm,0.4s						
SHLS				*e*S	**Sg**	**07 57 59.9**	**+0.1**
	66nm,0.7s						
SHLS	**Shalkode**	**2.38**	**6**	Pg	**Pb**	**07 57 27.3**	**+1.0**
	18nm,0.4s						
SHLS				Lg	Lg	07 57 59.9	
	66nm,0.7s						
NRN	**Naryn**	**2.43**	**286**	⇑*i*P	**Pb**	**07 57 27.1**	**-0.1**
	baz=79						
NRN				⇑*i*S	**Sg**	**07 58 01.2**	**-0.1**
	baz=79						
ZHN	**Zhinishke**	**2.43**	**348**	*e*P	**Pb**	**07 57 27.8**	**+0.7**
	9.6nm,0.1s						
ZHN				*e*S	**Sg**	**07 58 01.7**	**+0.3**
	167nm,0.4s						
ZHN	**Zhinishke**	**2.43**	**348**	Pg	**Pg**	**07 57 28.3**	**-1.5**
	9.6nm,0.1s						
ZHN				Lg	Lg	07 58 01.7	
	167nm,0.4s						
PDGK	**Podgornoye**	**2.56**	**6**	⇓Pg	**Pg**	**07 57 31.1**	**-1.1**
	10nm,0.5s						
PDGK				⇑Lg	Lg	07 58 02.3	
	40nm,0.6s						
ULHL	**Ulahol**	**2.59**	**305**	⇑*e*P	**Pb**	**07 57 27.4**	**-2.6**
	baz=97						
ULHL				⇑*i*S	**Sb**	**07 58 02.0**	**0.0**
	baz=97						
KPKS	**Kokpek**	**2.70**	**354**	*e*P	**Pb**	**07 57 31.7**	**+0.1**
	16nm,0.7s						
KPKS				*e*S	**Sg**	**07 58 09.1**	**-0.8**
	138nm,0.5s						
KPKS	**Kokpek**	**2.70**	**354**	Pg	**Pb**	**07 57 32.6**	**+1.0**
	16nm,0.7s						
KPKS				Lg	Lg	07 58 09.1	
	138nm,0.5s						
TNSS	**Tian-Shan**	**2.77**	**325**	*e*P	**Pb**	**07 57 34.1**	**+1.1**
	14nm,0.5s						
TNSS				*e*S	**Sg**	**07 58 12.9**	**+0.9**
	34nm,0.5s						
TNSS	**Tian-Shan**	**2.77**	**325**	Pg	**Pg**	**07 57 34.7**	**-1.5**
	14nm,0.5s						
TNSS				Lg	Lg	07 58 12.9	
	34nm,0.5s						
KURS	**Kuram**	**2.79**	**346**	*e*P	**Pb**	**07 57 34.1**	**+0.9**
	21nm,0.7s						
KURS				*e*S	**Sg**	**07 58 13.0**	**+0.2**
	68nm,0.5s						
KURS	**Kuram**	**2.79**	**346**	Pg	**Pb**	**07 57 34.7**	**+1.6**
	21nm,0.7s						
KURS				Lg	Lg	07 58 13.0	
	68nm,0.5s						
MDOK	**Medeo**	**2.83**	**328**	*e*P	**Pb**	**07 57 34.5**	**+0.6**
	18nm,0.5s						
MDOK				*e*S	**Sg**	**07 58 14.2**	**+0.2**
	96nm,0.6s						
MDOK	**Medeo**	**2.83**	**328**	⇑Pg	**Pb**	**07 57 35.3**	**+1.4**
	19nm,0.5s						
MDOK				Pg	**Pg**	**07 57 35.4**	**-1.9**
	18nm,0.5s						
MDOK				Lg	Lg	07 58 13.8	
	39nm,0.6s						
MDOK				Lg	Lg	07 58 14.2	
	96nm,0.6s						
KOTS	**Kotyrbulak**	**2.86**	**329**	*e*P	**Pb**	**07 57 35.8**	**+1.4**
	6.9nm,0.6s						
KOTS				*e*S	**Sg**	**07 58 15.8**	**+0.7**
	98nm,0.6s						
KOTS	**Kotyrbulak**	**2.86**	**329**	Pg	**Pg**	**07 57 36.6**	**-1.4**
	6.9nm,0.6s						
KOTS				Lg	Lg	07 58 15.8	
	98nm,0.6s						
BOOM	**Boomskoye usch**	**2.92**	**307**	⇑*e*P	**Pn**	**07 57 31.6**	**+1.8**
	baz=99						
BOOM				⇑*e*S	**Sb**	**07 58 09.2**	**-2.0**
	baz=99						
MTBS	**Maitube**	**3.08**	**321**	*e*P	**Pb**	**07 57 39.3**	**+1.2**
	6.5nm,0.3s						
MTBS				*e*S	**Sg**	**07 58 22.2**	**+0.3**
	25nm,0.5s						
MTBS	**Maitube**	**3.08**	**321**	Pg	**Pg**	**07 57 40.1**	**-2.0**
	6.5nm,0.3s						
MTBS				Lg	Lg	07 58 22.2	
	25nm,0.5s						
KST	**Kastek**	**3.25**	**315**	*e*P	**Pb**	**07 57 43.0**	**+1.9**
	18nm,0.6s						
KST				*e*S	**Sg**	**07 58 28.3**	**+0.7**
	29nm,0.6s						
KST	**Kastek**	**3.25**	**315**	Pg	**Pg**	**07 57 43.8**	**-1.6**
	18nm,0.6s						
KST				Lg	Lg	07 58 28.3	
	29nm,0.6s						
BLB	**Baldybastay**	**3.34**	**352**	*e*P	**Pb**	**07 57 43.3**	**+0.7**
	19nm,0.6s						
BLB				*e*S	**Sg**	**07 58 29.0**	**-1.5**
	49nm,0.4s						
BLB	**Baldybastay**	**3.34**	**352**	Pg	**Pb**	**07 57 44.3**	**+1.6**
	19nm,0.6s						
BLB				Lg	Lg	07 58 29.0	
	49nm,0.4s						
TKM2	**Tokmak 2**	**3.38**	**310**	⇑Pg	**Pg**	**07 57 45.7**	**-2.2**
	5.3nm,0.6s						
TKM2				⇑Lg	Lg	07 58 32.5	
	20nm,0.6s						
TKM2	**Tokmak 2**	**3.38**	**310**	⇑*e*P	**Pn**	**07 57 37.8**	**+1.6**
	baz=4.0						
TKM2				⇑*i*S	**Sn**	**07 58 19.7**	**+3.3**
	baz=4.0						
CHKK	**Chushkaly**	**3.44**	**334**	*e*P	**Pb**	**07 57 46.2**	**+1.9**
	5.0nm,0.4s						
CHKK				*e*S	**Sg**	**07 58 33.5**	**-0.3**
	44nm,0.6s						
CHKK	**Chushkaly**	**3.44**	**334**	Pg	**Pg**	**07 57 46.8**	**-2.3**
	5.0nm,0.4s						
CHKK				Lg	Lg	07 58 33.5	
	44nm,0.6s						
DGS	**Degeres**	**3.49**	**316**	*e*P	**Pb**	**07 57 46.0**	**+0.8**
	7.5nm,0.7s						
DGS				*e*S	**Sg**	**07 58 33.4**	**-1.9**
	22nm,0.5s						
DGS	**Degeres**	**3.49**	**316**	Pg	**Pb**	**07 57 46.8**	**+1.7**
	7.5nm,0.7s						
DGS				Lg	Lg	07 58 33.4	
	22nm,0.5s						
ARXS	**Arharly**	**3.55**	**345**	*e*P	**Pb**	**07 57 47.4**	**+1.2**
	8.2nm,0.7s						
ARXS				*e*S	**Sg**	**07 58 35.9**	**-1.4**
	71nm,0.7s						
ARXS	**Arharly**	**3.55**	**345**	Pg	**Pb**	**07 57 48.2**	**+2.1**
	8.2nm,0.7s						
ARXS				Lg	Lg	07 58 35.9	
	71nm,0.7s						
DJR	**Jarkent**	**3.58**	**8**	*e*P	**Pb**	**07 57 46.5**	**-0.1**
	2.6nm,0.7s						
DJR				*e*S	**Sg**	**07 58 34.7**	**-3.5**
	12nm,0.4s						
DJR	**Jarkent**	**3.58**	**8**	Pg	**Pb**	**07 57 47.4**	**+0.7**
	2.6nm,0.7s						
DJR				Lg	Lg	07 58 34.7	
	12nm,0.4s						
KUU	**Kurty**	**3.72**	**328**	*e*P	**Pb**	**07 57 50.0**	**+1.0**
	4.1nm,0.6s						
KUU				*e*S	**Sg**	**07 58 40.2**	**-2.4**
	23nm,0.6s						
KUU	**Kurty**	**3.72**	**328**	Pg	**Pb**	**07 57 50.6**	**+1.6**
	4.1nm,0.6s						
KUU				Lg	Lg	07 58 40.2	
	23nm,0.6s						
UCH	**Uchtor**	**3.73**	**294**	⇓*e*P	**Pn**	**07 57 44.3**	**+3.0**
	baz=89						
UCH				⇓*i*S	**Sb**	**07 58 31.1**	**-3.9**
	baz=89						
KRBS	**Karabastau**	**3.86**	**320**	*e*P	**Pb**	**07 57 53.1**	**+1.6**
	2.5nm,0.4s						
KRBS				*e*S	**Sg**	**07 58 45.8**	**-1.5**
	12nm,0.7s						
KRBS	**Karabastau**	**3.86**	**320**	Pg	**Pb**	**07 57 54.0**	**+2.6**
	2.5nm,0.4s						
KRBS				Lg	Lg	07 58 45.8	
	12nm,0.7s						
SGDS	**Sogindy**	**4.26**	**310**	*e*P	**Pb**	**07 58 01.2**	**+3.0**
	2.4nm,0.3s						
SGDS				*e*S	**Sg**	**07 58 59.5**	**-0.5**
	9.9nm,0.6s						
SGDS	**Sogindy**	**4.26**	**310**	Pg	**Pg**	**07 58 02.0**	**-2.8**
	2.4nm,0.3s						
SGDS				Lg	Lg	07 58 59.5	
	9.9nm,0.6s						
MRKS	**Merke**	**4.81**	**296**	*e*P	**Pg**	**07 58 12.1**	**-3.2**
	6.9nm,0.7s						
MRKS				*e*S	**Sg**	**07 59 19.0**	**+1.4**
	10nm,0.8s						
MRKS	**Merke**	**4.81**	**296**	Pg	**Pg**	**07 58 13.4**	**-1.9**
	6.9nm,0.7s						
MRKS				Lg	Lg	07 59 19.0	
	10nm,0.8s						
MK31	**Makanchi Array**	**6.43**	**20**	⇑Sn	**Sn**	**07 59 33.9**	**+2.4**
	1.8nm,0.7s,baz=152,slow=39,SNR=3.5						
MK31				Lg	Lg	08 00 09.1	
	1.0nm,0.7s						
KK31	**Karatay Array**	**6.81**	**293**	Pg	**Pg**	**07 58 51.4**	**-2.1**
	0.8nm,0.6s,baz=114,slow=14,SNR=12						
KK31				Lg	Lg	08 00 22.3	
	1.7nm,0.7s,baz=115,slow=26,SNR=5.8						
KURBB	**Kurchatov Arra**	**9.85**	**358**	Lg	Lg	08 01 54.5	
	7.6nm,0.8s						
KURK	**Kurchatov**	**9.94**	**358**	⇓Lg	Lg	08 01 56.6	
	6.3nm,1.1s						

*IDC **26** 08:03:22.5±0.9,28°.07N×103°.64E,h0km,mb4.1/7,*
mbtmp4.2/7,MS3.6/5,Error ellipse: s-maj=36.5km
s-min=18.0km az=47.0
*NEIC **26** 08:03:25.4±2.6,28°.4N±0°.1×103°.6E±0°.1,h10km±1km,*
mb4.3/19,Error ellipse: s-maj=19.6km s-min=15.3km
az=143.0

ISC 26 08:03:24.8±0.6,**28°.28N**±0°.09×**103°.54E**±0°.09,**h10**km,**n41,**
σ1§34/37,mb4.2/18,MS3.8/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**5.56**	**68**		**Pn**	**08 04 46.7**	**-0.9**
CHTO	**Chiang Mai**	**10.32**	**205**	Pn	**Pn**	**08 05 54.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**10.65**	**204**	Pn	**Pn**	**08 05 59.1**	**+1.6**
	0.6nm,0.3s,baz=15,slow=12,SNR=18						
CMAR				LR	LR	08 10 25.5	
	comp=Z,98nm,20.0s,baz=20,slow=40						
SONM	**Songino Array**	**19.65**	**6**	P	**Pn**	**08 07 57.3**	**+2.2**
	0.8nm,0.7s,baz=187,slow=10,SNR=2.5						
SONM	**Songino Array**	**19.65**	**6**	P	**P**	**08 07 52.7**	**-1.1**
KSAR	**Wonju Array Be**	**22.35**	**60**	P	**P**	**08 08 23.5**	**+0.7**
KS19	**Wonju Array Si**	**22.35**	**59**	P	**P**	**08 08 24.0**	**+1.1**
KS19				IAmb	IAmb	08 08 30.1	
	comp=Z,18nm,1.5s						
KSRS	**Korea Array**	**22.38**	**60**	P	**P**	**08 08 22.6**	**-0.6**
	comp=Z,2.8nm,0.6s,baz=244,slow=9.9,SNR=17						
	comp=Z,2.8nm,0.6s						
JMZ	**Minamidaito 2**	**24.75**	**89**	P	**P**	**08 08 47.4**	**+0.7**
MK31	**Makanchi Array**	**24.88**	**324**	P	**P**	**08 08 47.8**	**+0.2**
MK31				IAmb	IAmb	08 08 54.8	
	comp=Z,3.8nm,0.9s						
MKAR	**Makanchi Array**	**24.88**	**324**	P	**P**	**08 08 48.9**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=123,slow=12,SNR=17						
	comp=Z,1.3nm,0.4s						
MKAR	**Makanchi Array**	**24.88**	**324**	P	**P**	**08 08 48.0**	**+0.4**
TARG	**Taragay, Kyrgy**	**24.88**	**309**	P	**P**	**08 08 46.0**	**-2.1**
TARG				IAmb	IAmb	08 08 52.8	
	comp=Z,4.5nm,0.9s						
NRN	**Naryn**	**26.01**	**308**	P	**P**	**08 08 56.6**	**-1.7**
NRN				IAmb	IAmb	08 09 02.9	
	comp=Z,5.4nm,1.0s						
BOOM	**Boomskoye usch**	**26.45**	**310**	P	**P**	**08 09 02.4**	**+0.3**
BOOM				IAmb	IAmb	08 09 10.3	
	comp=Z,4.5nm,0.9s						
NIL	**Nilore**	**26.46**	**289**	P	**P**	**08 09 00.0**	**-2.1**
NIL				IAmb	IAmb	08 09 18.5	
	comp=Z,7.9nm,1.0s						
USA0B	**Ussuriysk Arra**	**27.72**	**47**	P	**P**	**08 09 13.8**	**+0.6**
USA0B				IAmb	IAmb	08 09 15.1	
	comp=Z,5.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**27.72**	**47**	P	**P**	**08 09 14.2**	**+1.0**
ZALV	**Zalesovo Beam**	**29.08**	**337**	P	**P**	**08 09 25.1**	**-0.2**
KURBB	**Kurchatov Arra**	**29.26**	**327**	P	**P**	**08 09 28.1**	**+1.2**
	comp=Z,3.2nm,0.2s,baz=132,slow=10.0,SNR=1.7						
	comp=Z,3.2nm,0.2s						
MJB9	**Matsu-Tunnel**	**30.27**	**65**	P	**P**	**08 09 36.1**	**0.0**
MJB9				IAmb	IAmb	08 09 55.0	
	comp=Z,5.1nm,1.2s						
MAJO	**Matsushiro**	**30.28**	**65**	P	**P**	**08 09 37.8**	**+1.7**
MAJO				IAmb	IAmb	08 09 54.0	
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**30.41**	**308**	P	**P**	**08 09 36.8**	**-0.4**
GEYT	**Alibeck**	**38.92**	**296**	P	**P**	**08 10 52.4**	**+1.5**
	comp=Z,2.8nm,0.6s,baz=52,slow=12,SNR=3.7						
	comp=Z,2.8nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**38.92**	**296**	P	**P**	**08 10 50.3**	**-0.6**
GYA0B				IAmb	IAmb	08 10 53.5	
	comp=Z,11nm,1.4s						
ABKAR	**Akbulak array**	**39.24**	**314**	P	**P**	**08 10 53.4**	**+0.1**
PETK	**Petropavlovsk-**	**46.58**	**42**	LR	LR	08 34 19.0	
	comp=Z,45nm,19.6s,baz=32,slow=40						
WB0	**Warramunga Arr**	**56.31**	**145**	P	**P**	**08 13 05.7**	**-0.2**
WRAB	**Tennant Creek**	**56.43**	**145**	P	**P**	**08 13 06.0**	**-0.8**
WRA	**Warramunga Arr**	**56.43**	**145**	P	**P**	**08 13 04.3**	**-2.5**
	comp=Z,2.4nm,0.8s,baz=332,slow=7.9,SNR=16						
	comp=Z,2.4nm,0.8s						
WRA	**Warramunga Arr**	**56.43**	**145**	P	**P**	**08 13 05.2**	**-1.6**
WB2	**Warramunga Arr**	**56.44**	**145**	P	**P**	**08 13 05.0**	**-1.9**
WR0	**Warramunga Arr**	**56.55**	**145**	P	**P**	**08 13 05.2**	**-2.4**
WR0				IAmb	IAmb	08 13 21.6	
	comp=Z,4.5nm,1.1s						
AKASG	**Malin Array Be**	**58.98**	**314**	P	**P**	**08 13 23.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=69,slow=6.5,SNR=3.3						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**59.36**	**147**	P	**P**	**08 13 25.3**	**-2.1**
	comp=Z,1.7nm,0.7s,baz=328,slow=6.5,SNR=18						
	comp=Z,1.7nm,0.7s						
ASAR	**Alice Springs**	**59.36**	**147**	P	**P**	**08 13 27.4**	**+0.1**
ARCES	**ARCESS Array B**	**59.63**	**336**	P	**P**	**08 13 29.4**	**+0.7**
FINES	**FINESS Array B**	**59.65**	**327**	P	**P**	**08 13 27.9**	**-0.9**
DAVOX	**Davos/Dischmat**	**72.32**	**314**	LR	LR	08 51 37.6	
	comp=Z,30nm,18.2s,baz=268,slow=40						
ILAR	**Eielson Array**	**72.59**	**25**	LR	LR	08 50 47.0	
	comp=Z,68nm,18.1s,baz=162,slow=39						
KDAK	**Kodiak Island**	**73.46**	**33**	LR	LR	08 48 32.7	
	comp=Z,85nm,18.4s,baz=46,slow=37						

*NEIC **26** 08:08:38.3±1.6,19°.95S±0°.07×178°.35W±0°.09,*
h583km±5km,mb4.5/197,Error ellipse: s-maj=13.4km
s-min=9.0km az=125.0
*NOU **26** 08:08:39.5,19°.98S×178°.30W,h603km,mb4.7/42,Fiji*
Islands Region
*IDC **26** 08:08:40.1±0.4,19°.89S×178°.41W,h607km±3km,mb3.9/22,*
mbtmp4.9/25,Error ellipse: s-maj=10.0km s-min=8.4km
az=175.0

ISC 26 08:08:39.0±0.4,**19°.97S**±0°.05×**178°.34W**±0°.05,
h600km±3km,**h601**km**:pP-P,n567,**σ1§13/591,**mb4.5**/127,
15C-31D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.78**	**345**	P	**P**	**08 09 53.7**	**+1.1**
TAVE	**Taveuni**	**3.56**	**335**	P	**P**	**08 10 02.4**	**+0.7**
MSVF	**Nonsavu**	**4.08**	**302**	P	**P**	**08 10 06.5**	**+1.3**
	513nm,0.6s,baz=161,slow=7.0,SNR=810						
MSVF				S	**S**	**08 11 16.4**	**+1.1**
	114nm,0.9s,baz=168,slow=21,SNR=0.9						
MSVF	**Nonsavu**	**4.08**	**302**	P	**P**	**08 10 07.1**	**+1.9**
FUTU	**Fugatoga**	**5.63**	**2**	P	**P**	**08 10 17.6**	**+0.4**
NIUE	**Niue**	**7.98**	**85**	P	**P**	**08 10 37.5**	**-0.8**
AFI	**Afiamalu**	**8.70**	**47**	P	**P**	**08 10 42.9**	**-2.4**
	26nm,0.4s,baz=184,slow=4.6,SNR=13						
AFI				S	**S**	**08 12 21.3**	**-7.4**
	141nm,0.6s,baz=51,slow=22,SNR=13						
AFI	**Afiamalu**	**8.70**	**47**	P	**P**	**08 10 41.8**	**-3.5**
RAO	**Raoul Island**	**9.25**	**178**	P	**P**	**08 10 49.5**	**-0.8**
	1µm,0.2s,baz=83,slow=7.9,SNR=29						
RAO	**Raoul Island**	**9.25**	**178**	P	**P**	**08 10 47.2**	**-3.1**
FUNA	**Funafuti**	**11.62**	**348**	P	**P**	**08 11 12.3**	**-1.7**
FUNA	**Funafuti**	**11.62**	**348**	P	**P**	**08 11 14.5**	**+0.4**
MARNC	**Mare, Loyalty**	**12.84**	**261**	P	**P**	**08 11 23.6**	**-2.7**
DVP	**Devils Point**	**12.95**	**278**	P	**P**	**08 11 30.1**	**+2.7**
	1µm,1.2s						
PINNC	**Pines Island,**	**13.51**	**256**	P	**P**	**08 11 33.1**	**+0.1**
DZM	**Mont Dzumac**	**14.36**	**259**	P	**P**	**08 11 41.6**	**+0.1**
	17nm,1.1s,baz=81,slow=14,SNR=3.1						
KOUNC	**Koumac, New Ca**	**16.31**	**265**	P	**P**	**08 11 57.3**	**-2.0**
KOUNC	**Koumac, New Ca**	**16.31**	**265**	P	**P**	**08 12 01.3**	**+2.0**
OUZ	**Omahuta**	**16.78**	**203**	P	**P**	**08 12 01.6**	**-1.8**
RAR	**Rarotonga**	**17.43**	**97**	P	**P**	**08 12 10.4**	**+0.9**
	31nm,0.9s,baz=267,slow=8.0,SNR=6.6						
RAR	**Rarotonga**	**17.43**	**97**	P	**P**	**08 12 07.8**	**-1.8**
RAR	**Rarotonga**	**17.43**	**97**	P	**P**	**08 12 11.2**	**+1.7**
	67nm,1.2s						
MXZ	**Matakaoa Point**	**17.78**	**189**	P	P	08 11 57.9	-15
WMGZ	**Waiomatatini S**	**18.01**	**188**	P	P	08 12 00.5	-14
HAZ	**Te Kaha**	**18.05**	**190**	P	P	08 12 06.5	-8.4
RUGZ	**Raukumara Rang**	**18.27**	**190**	P	P	08 12 08.8	-8.3
PUZ	**Puketiti**	**18.28**	**189**	P	P	08 12 04.3	-13
OPRZ	**Ohinepanea**	**18.36**	**193**	P	P	08 12 18.7	**+0.9**
TWGZ	**Tauwhareparae**	**18.43**	**189**	P	P	08 12 08.0	-10
URZ	**Urewera**	**18.65**	**191**	P	**P**	**08 12 16.4**	**-4.0**
	51nm,0.6s,baz=129,slow=2.7,SNR=25						
URZ	**Urewera**	**18.65**	**191**	P	**P**	**08 12 18.9**	**-1.5**
URZ	**Urewera**	**18.65**	**191**	P	**P**	**08 12 16.4**	**-4.0**
URZ	**Urewera**	**18.65**	**191**	P	**P**	**08 12 20.1**	**-0.3**
CNGZ	**Carnagh Statio**	**18.70**	**188**	P	P	08 12 10.3	-10
TKGZ	**Te Karaka**	**18.70**	**189**	P	P	08 12 11.0	-10
BKZ	**Black Stump Fm**	**19.65**	**192**	P	**P**	**08 12 27.6**	**-1.8**
SNZO	**South Karori**	**22.09**	**194**	P	**P**	**08 12 50.0**	**-1.2**
QRZ	**Quartz Range**	**22.21**	**199**	P	**P**	**08 12 52.5**	**+0.1**
QRZ	**Quartz Range**	**22.21**	**199**	P	**P**	**08 12 53.0**	**+0.6**
	54nm,0.7s						
**P

WAKE	**Wake Island**	**41.69**	**338**	P	**P**	**08 15 36.2**	**-0.7**
BBOO	**Buckleboo**	**42.50**	**243**	P	**P**	**08 15 43.3**	**0.0**
OOD	**Oodnadatta**	**42.56**	**250**	P	**P**	**08 15 44.5**	**+0.8**
MULG	**Mulgathing**	**44.03**	**247**	P	**P**	**08 15 55.1**	**0.0**
WR0	**Warramunga Arr**	**44.17**	**262**	P	**P**	**08 15 55.9**	**-0.5**
WR0				PcP	**PcP**	**08 17 26.5**	**-1.3**
AS31	**Alice Springs**	**44.33**	**256**	P	**P**	**08 15 57.5**	**-0.1**
AS31				PcP	**PcP**	**08 17 27.7**	**-0.6**
ASAR	**Alice Springs**	**44.33**	**256**	P	**P**	**08 15 57.5**	**-0.1**
	comp=Z,20nm,0.8s,baz=87,slow=8.6,SNR=169						
ASAR				PcP	**PcP**	**08 17 27.8**	**-0.6**
	comp=Z,8.5nm,0.8s,baz=96,slow=4.8,SNR=16						
ASAR				pP	**pP**	**08 17 43.5**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=83,slow=8.7,SNR=1.6						
ASAR				ScP	**ScP**	**08 20 25.5**	**+1.5**
	comp=Z,2.7nm,0.7s,baz=98,slow=4.4,SNR=9.6						
ASAR				S	**S**	**08 21 47.2**	**-2.3**
	comp=Z,4.4nm,0.7s,baz=91,slow=17,SNR=19						
	comp=Z,20nm,0.8s						
WB0	**Warramunga Arr**	**44.34**	**262**	P	**P**	**08 15 56.8**	**-0.9**
WB0				IAmb	IAmb	08 15 57.7	
	comp=Z,8.0nm,0.6s						
WB0				PcP	**PcP**	**08 17 27.6**	**-0.7**
WB2	**Warramunga Arr**	**44.35**	**262**	P	**P**	**08 15 56.8**	**-0.9**
WB2				IAmb	IAmb	08 15 58.4	
	comp=Z,19nm,1.4s						
WB2				PcP	**PcP**	**08 17 27.9**	**-0.5**
WRAB	**Tennant Creek**	**44.35**	**262**	P	**P**	**08 15 56.9**	**-0.8**
WRAB				IAmb	IAmb	08 16 00.9	
	comp=Z,22nm,1.5s						
WRAB				PcP	**PcP**	**08 17 28.1**	**-0.3**
WRAB	**Tennant Creek**	**44.35**	**262**	P	**P**	**08 15 57.1**	**-0.7**
WRA	**Warramunga Arr**	**44.36**	**262**	P	**P**	**08 15 57.1**	**-0.7**
	comp=Z,4.3nm,0.6s,baz=97,slow=7.9,SNR=83						
WRA				ScP	**ScP**	**08 20 25.9**	**+1.8**
	comp=Z,2.6nm,0.9s,baz=96,slow=3.4,SNR=8.6						
WRA				S	**S**	**08 21 46.2**	**-3.8**
	comp=Z,4.5nm,1.0s,baz=96,slow=14,SNR=7.5						
	comp=Z,4.3nm,0.6s						
WRA	**Warramunga Arr**	**44.36**	**262**	P	**P**	**08 15 56.8**	**-1.1**
WRA				PcP	**PcP**	**08 17 27.7**	**-0.8**
WRKA	**Warakurna**	**49.30**	**254**	P	**P**	**08 16 34.7**	**-0.2**
KNRA	**Kununurra**	**50.38**	**266**	P	**P**	**08 16 42.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.78**	**262**	P	**P**	**08 16 59.9**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=191,slow=4.7,SNR=7.9						
	comp=Z,2.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.78**	**262**	P	**P**	**08 16 59.5**	**-0.5**
SIJI	**Sorong**	**52.79**	**285**	P	**P**	**08 17 00.1**	**-0.1**
	comp=Z,10.0nm,0.5s,baz=79,slow=8.9,SNR=8.9						
	comp=Z,10.0nm,0.5s						
SWI	**Sorong**	**52.80**	**285**	P	**P**	**08 16 59.9**	**-0.3**
	comp=Z,25nm,0.4s						
SOEI	**Soe**	**56.16**	**272**	P	**P**	**08 17 24.5**	**+0.7**
PSA00	**Pilbara Seismi**	**57.48**	**257**	P	**P**	**08 17 31.5**	**-1.0**
PSA00	**Pilbara Seismi**	**57.48**	**257**	P	**P**	**08 17 32.4**	**-0.2**
MBWA	**Marble Bar**	**57.66**	**257**	P	**P**	**08 17 33.0**	**-0.7**
SBA	**Scott Base**	**58.38**	**184**	P	**P**	**08 17 40.0**	**+2.3**
SBA				IAmb	IAmb	08 17 41.4	
	comp=Z,47nm,1.1s						
VNDA	**Vanda**	**58.41**	**185**	P	**P**	**08 17 39.5**	**+1.7**
	comp=Z,6.9nm,0.7s,baz=2.6,slow=7.3,SNR=60						
	comp=Z,6.9nm,0.7s						
VNDA	**Vanda**	**58.41**	**185**	P	**P**	**08 17 39.1**	**+1.2**
BSSI	**Bau Bau, Buton**	**60.85**	**274**	P	P	08 18 07.2	+12
BNSI	**Bone**	**61.79**	**276**	P	**P**	**08 17 58.5**	**-2.8**
	comp=Z,44nm,0.8s						
SPSI	**Sidrap Palu**	**62.26**	**276**	P	**P**	**08 18 04.7**	**+0.4**
	comp=Z,24nm,0.9s						
CASY	**Casey**	**64.31**	**205**	P	**P**	**08 18 16.6**	**+0.2**
DNP	**Denpasar**	**65.01**	**270**	P	**P**	**08 18 19.6**	**-2.1**
	comp=Z,849nm,0.5s						
JAGI	**Jajag, Banyuwa**	**66.07**	**269**	P	**P**	**08 18 25.8**	**-2.6**
JAGI	**Jajag, Banyuwa**	**66.07**	**269**	P	**P**	**08 18 28.3**	**-0.1**
	comp=Z,4µmcomp=Z,111nm,0.6s						
JAGI	**Jajag, Banyuwa**	**66.07**	**269**	P	**P**	**08 18 28.3**	**-0.1**
	comp=Z,110nm,0.7s						
JHJ2	**Mitsune**	**66.20**	**322**	P	**P**	**08 18 28.8**	**+0.1**
JMM	**Marumori**	**69.17**	**326**	P	**P**	**08 18 46.5**	**-0.2**
JMM				IAmb	IAmb	08 18 47.8	
	comp=Z,16nm,0.8s						
MJAR	**Matsushiro Arr**	**69.59**	**324**	P	**P**	**08 18 48.3**	**-1.0**
	comp=Z,9.6nm,0.7s,baz=158,slow=6.1,SNR=20						
	comp=Z,9.6nm,0.7s						
MAJO	**Matsushiro**	**69.59**	**324**	P	**P**	**08 18 49.3**	**0.0**
MAJO				IAmb	IAmb	08 18 49.6	
	comp=Z,13nm,0.6s						
MAJO	**Matsushiro**	**69.59**	**324**	P	**P**	**08 18 48.8**	**-0.4**
MJB9	**Matsu-Tunnel**	**69.60**	**324**	P	**P**	**08 18 50.0**	**+0.8**
MJB9				IAmb	IAmb	08 18 50.5	
	comp=Z,13nm,0.6s						
QSPA	**South Pole Qui**	**70.10**	**180**	P	**P**	**08 18 52.5**	**+0.6**
JSD	**Sado**	**70.65**	**325**	P	**P**	**08 18 55.7**	**+0.3**
JSD				IAmb	IAmb	08 18 56.4	
	comp=Z,13nm,0.7s						
JHS	**Saijyo**	**71.49**	**320**	P	**P**	**08 19 00.4**	**0.0**
JHS				IAmb	IAmb	08 19 01.6	
	comp=Z,17nm,0.9s						
ADK	**Adak**	**71.55**	**1**	P	**P**	**08 18 59.4**	**-1.0**
NIKH	**Nikolski High**	**73.10**	**6**	P	**P**	**08 19 09.2**	**0.0**
	baz=189						
UNV	**Unalaska Valle**	**74.21**	**7**	P	**P**	**08 19 15.6**	**+0.2**
	baz=192						
YSS	**Yuzh-Sakhalins**	**75.28**	**334**	P	**P**	**08 19 21.7**	**+0.1**
PETK	**Petropavlovsk-**	**75.67**	**345**	P	**P**	**08 19 22.9**	**-0.7**
	comp=Z,13nm,0.8s,baz=115,slow=5.9,SNR=14						
	comp=Z,13nm,0.8s						
PETK	**Petropavlovsk-**	**75.67**	**345**	P	**P**	**08 19 23.7**	**0.0**
KSRS	**Korea Array**	**76.28**	**319**	P	**P**	**08 19 27.8**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=150,slow=7.3,SNR=11						
KSRS				pP	**pwP**	**08 21 34.5**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=125,slow=11,SNR=2.1						
	comp=Z,1.7nm,0.5s						
KSAR	**Wonju Array Be**	**76.29**	**319**	P	**P**	**08 19 27.6**	**+0.2**
SBC	**Santa Barbara**	**77.67**	**46**	P	**P**	**08 19 36.3**	**+1.3**
	baz=235						
CHGN	**Chignik**	**77.81**	**11**	P	**P**	**08 19 37.1**	**+1.9**
	baz=199						
PKM	**Mcpherson Peak**	**77.85**	**46**	P	**P**	**08 19 37.4**	**+1.2**
	baz=235						
SAO	**San Andreas Ge**	**77.86**	**43**	P	**P**	**08 19 36.4**	**+0.4**
SAO				IAmb	IAmb	08 19 38.2	
	comp=Z,11nm,0.9s						
CHIR	**Chirikof Islan**	**77.91**	**13**	P	**P**	**08 19 36.3**	**+0.6**
	baz=202						
SMMC	**Simmler**	**77.97**	**45**	P	**P**	**08 19 38.1**	**+1.4**
	baz=235						
USA0B	**Ussuriysk Arra**	**78.34**	**326**	P	**P**	**08 19 37.7**	**-0.7**
USA0B				IAmb	IAmb	08 19 40.0	
	comp=Z,20nm,1.2s						
USRK	**Ussuriysk Ar.**	**78.34**	**326**	P	**P**	**08 19 38.8**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=159,slow=4.4,SNR=9.3						
	comp=Z,6.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.34**	**326**	P	**P**	**08 19 39.3**	**+1.0**
KMRM	**Mail Ridge**	**78.55**	**40**	P	**P**	**08 19 41.6**	**+1.9**
KMRM				IAmb	IAmb	08 19 42.8	
	comp=Z,17nm,0.9s						
109C	**Camp Elliot, M**	**78.61**	**49**	P	**P**	**08 19 40.0**	**0.0**
	baz=237						
CBX	**Cerro Bola**	**78.62**	**49**	P	**P**	**08 19 41.4**	**+1.1**
ARVC	**Arvin**	**78.65**	**46**	P	**P**	**08 19 40.6**	**+0.4**
	baz=236						
VES	**Vestal, Richgr**	**78.88**	**45**	P	**P**	**08 19 41.6**	**+0.2**
	baz=235,SNR=6.1						
SII	**Sitkinak Islan**	**78.90**	**13**	P	**P**	**08 19 43.9**	**+2.9**
	baz=203						
MURC	**Murrieta**	**78.94**	**48**	P	**P**	**08 19 42.6**	**+0.8**
	baz=237						
BFSC	**Mount Baldy Ra**	**78.96**	**47**	P	**P**	**08 19 43.4**	**+1.3**
	baz=237						
ESJX	**Sierra Juarez**	**78.97**	**50**	P	**P**	**08 19 43.4**	**+1.2**
EDW2	**Edwards Air Fo**	**79.08**	**47**	P	**P**	**08 19 43.4**	**+0.8**
	baz=236,SNR=8.7						
MONP2	**Monument Peak**	**79.10**	**49**	P	**P**	**08 19 44.0**	**+1.1**
	baz=238,SNR=9.5						
ISA	**Isabella, Lake**	**79.19**	**46**	P	**P**	**08 19 44.3**	**+1.1**
ISA				IAmb	IAmb	08 19 45.4	
	comp=Z,20nm,1.4s						
ISA	**Isabella, Lake**	**79.19**	**46**	P	**P**	**08 19 44.4**	**+1.2**
	baz=236,SNR=7.9						
IKP	**In-Ko-Pah, Jac**	**79.20**	**49**	P	**P**	**08 19 45.1**	**+1.8**
	baz=238						
CMB	**Columbia Colle**	**79.29**	**43**	P	**P**	**08 19 44.6**	**+1.0**
NJ2	**Nanjing**	**79.29**	**310**	*e*P	**P**	**08 19 42.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YUH	**Yuha Desert**	**79.33**	**50**	P	**P**	**08 19 44.7**	**+0.9**
SRIG	**Santa Rosalia**	**79.39**	**56**	P	**P**	**08 19 45.2**	**+0.9**
SRIG				IAmb	IAmb	08 19 46.5	
	comp=Z,45nm,1.4s						
R17K	**Ugashik Creek**	**79.45**	**12**	P	**P**	**08 19 45.0**	**+1.1**
	baz=201						
PFO	**Pinyon Flats O**	**79.46**	**48**	P	**P**	**08 19 45.4**	**+0.7**
PFO	**Pinyon Flats O**	**79.46**	**48**	P	**P**	**08 19 45.8**	**+1.1**
	baz=237						
TPFO	**Pinon Flats**	**79.46**	**48**	P	**P**	**08 19 46.3**	**+1.6**
	baz=237						
PMD	**Palm Desert**	**79.54**	**48**	P	**P**	**08 19 46.2**	**+1.3**
PMD				IAmb	IAmb	08 19 46.9	
	comp=Z,7.5nm,1.2s						
SWSC	**Sam W. Stewart**	**79.57**	**49**	P	**P**	**08 19 46.2**	**+1.1**
	baz=238						
LRMC	**Laurel Mtn Rad**	**79.63**	**46**	P	**P**	**08 19 46.4**	**+0.9**
	baz=236						
RRX	**Edison Barstow**	**79.77**	**47**	P	**P**	**08 19 46.8**	**+0.6**
	baz=237						
L02F	**Cave Junction**	**79.81**	**38**	P	**P**	**08 19 47.7**	**+1.5**
	baz=231						
CWC	**Cottonwood Cre**	**79.89**	**45**	P	**P**	**08 19 47.6**	**+0.6**
	baz=236						
MDPB	**Devils Postpil**	**79.90**	**44**	IAmb	IAmb	08 19 49.1	
	comp=Z,10nm,0.9s						
BELC	**Belle Mtn. Jos**	**79.99**	**48**	P	**P**	**08 19 48.8**	**+1.3**
	baz=238,SNR=7.3						
MLAC	**Mammoth, Mammo**	**80.06**	**44**	P	**P**	**08 19 48.8**	**+0.9**
	baz=235						
YBH	**Yreka Blue Hor**	**80.08**	**39**	P	**P**	**08 19 48.6**	**+1.0**
MPMC	**Manual Prospec**	**80.08**	**46**	P	**P**	**08 19 49.1**	**+1.1**
	baz=236,SNR=10						
K02D	**Willamette Mer**	**80.12**	**38**	P	**P**	**08 19 49.9**	**+2.1**
	baz=231						
BELA	**Belgrano 2**	**80.13**	**173**	P	**P**	**08 19 47.2**	**-0.1**
GSC	**Goldstone, Bar**	**80.13**	**47**	P	**P**	**08 19 48.9**	**+0.8**
	baz=237						
TIN	**Tinemaha, Big**	**80.13**	**45**	P	**P**	**08 19 49.3**	**+1.2**
	baz=236						
BC3	**Big Chuckawall**	**80.19**	**49**	P	**P**	**08 19 50.2**	**+1.7**
	baz=238						
HEC	**Hector,Ludlow**	**80.20**	**47**	P	**P**	**08 19 49.3**	**+0.9**
	baz=237						
GLA	**Glamis**	**80.32**	**50**	IAmb	IAmb	08 19 51.8	
	comp=Z,17nm,0.8s						
GLA	**Glamis**	**80.32**	**50**	P	**P**	**08 19 50.5**	**+1.4**
	baz=238						
KDAK	**Kodiak Island**	**80.38**	**14**	P	**P**	**08 19 50.5**	**+1.9**
	baz=204						
Q16K	**King Salmon**	**80.38**	**11**	P	**P**	**08 19 50.1**	**+1.5**
	baz=201						
BEKR	**Beckworth**	**80.38**	**41**	P	**P**	**08 19 49.7**	**+0.3**
PNTR	**Pine Nut**	**80.40**	**42**	P	**P**	**08 19 50.4**	**+0.8**
PNTR				IAmb	IAmb	08 19 51.8	
	comp=Z,22nm,0.9s						
QSM	**Queen of Sheba**	**80.45**	**46**	P	**P**	**08 19 50.1**	**+0.5**
HUMO	**Hull Mountain**	**80.47**	**38**	P	**P**	**08 19 50.5**	**+0.9**
HUMO				IAmb	IAmb	08 19 52.2	
	comp=Z,13nm,1.3s						
P16K	**Nushagak River**	**80.47**	**11**	P	**P**	**08 19 51.3**	**+2.2**
	baz=199						
DSP	**Deep Springs**	**80.48**	**45**	IAmb	IAmb	08 19 52.0	
	comp=Z,17nm,1.2s						
VCNR	**Virginia City**	**80.49**	**42**	IAmb	IAmb	08 19 52.1	
	comp=Z,9.5nm,1.0s						
YERR	**Yerington**	**80.57**	**43**	P	**P**	**08 19 51.5**	**+1.1**
YERR				IAmb	IAmb	08 19 52.4	
	comp=Z,12nm,0.8s						
L04D	**Klamath Falls**	**80.61**	**39**	IAmb	IAmb	08 19 52.5	
	comp=Z,12nm,0.8s						
L04D	**Klamath Falls**	**80.61**	**39**	P	**P**	**08 19 51.4**	**+0.9**
	baz=232						
LHV	**Little Huntoon**	**80.63**	**44**	P	**P**	**08 19 51.8**	**+1.4**
LHV				IAmb	IAmb	08 19 52.9	
	comp=Z,13nm,1.0s						
GMRC	**Granite Mounta**	**80.64**	**48**	P	**P**	**08 19 51.3**	**+0.5**
	baz=238,SNR=6.1						
IRM	**Iron Mountain**	**80.67**	**49**	P	**P**	**08 19 52.2**	**+1.3**
	baz=238,SNR=5.6						
GRAC	**Grapevine Rang**	**80.68**	**45**	P	**P**	**08 19 51.7**	**+0.9**
	baz=236						
GWY	**Greenwater Val**	**80.70**	**46**	P	**P**	**08 19 51.7**	**+0.6**
FURC	**Furnace Creek,**	**80.72**	**46**	P	**P**	**08 19 53.1**	**+2.1**
	baz=237,SNR=5.4						
SHOC	**Shoshone, Teco**	**80.82**	**47**	P	**P**	**08 19 52.3**	**+0.8**
	baz=237,SNR=5.6						
RYN	**Ryan**	**80.83**	**43**	P	**P**	**08 19 52.8**	**+1.0**
NVAR	**Mina Array Bea**	**80.86**	**44**	P	**P**	**08 19 52.3**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=225,slow=8.5,SNR=52						
NVAR				PKKPbc	**PKKPbc**	**08 38 26.6**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=82,slow=3.4,SNR=4.3						
	comp=Z,4.7nm,0.7s						
NVAR	**Mina Array Bea**	**80.86**	**44**	P	**P**	**08 19 52.0**	**0.0**
PAHR	**Pah Rah Range**	**80.90**	**42**	P	**P**	**08 19 52.7**	**+0.7**
PAHR				IAmb	IAmb	08 19 54.0	
	comp=Z,11nm,1.0s						
P17K	**Kvichak River**	**80.90**	**11**	P	**P**	**08 19 51.3**	**0.0**
	baz=201						
BLYC	**Blythe**	**80.90**	**49**	P	**P**	**08 19 53.0**	**+1.0**
BLYC				IAmb	IAmb	08 19 54.4	
	comp=Z,12nm,1.1s						
GMN	**Gold Mountain**	**80.92**	**45**	P	**P**	**08 19 52.5**	**+0.2**
I03D	**Drain, OR**	**80.92**	**37**	P	**P**	**08 19 53.5**	**+1.7**
	baz=231						
113A	**Mohawk Valley,**	**80.94**	**50**	P	**P**	**08 19 53.0**	**+0.8**
113A				IAmb	IAmb	08 19 54.7	
	comp=Z,14nm,1.1s						
NV11	**Mina Array Sit**	**80.96**	**44**	P	**P**	**08 19 52.5**	**+0.1**
NV11				IAmb	IAmb	08 19 54.4	
	comp=Z,10nm,0.9s						
O16K	**Kokwok River B**	**80.99**	**10**	P	**P**	**08 19 51.6**	**-0.1**
	baz=199						
MZP	**Montezuma Peak**	**81.05**	**45**	P	**P**	**08 19 53.5**	**+0.5**
WCT	**Wildcat Mounta**	**81.06**	**46**	P	**P**	**08 19 53.7**	**+0.8**
WCT				IAmb	IAmb	08 19 54.8	
	comp=Z,16nm,1.5s						
HSIG		**81.21**	**55**	IAmb	IAmb	08 19 55.7	
	comp=Z,10.0nm,0.8s						
214A	**Organ Pipe Nat**	**81.23**	**52**	IAmb	IAmb	08 19 56.5	
	comp=Z,17nm,1.1s						
214A	**Organ Pipe Nat**	**81.23**	**52**	P	**P**	**08 19 54.9**	**+1.1**
	baz=240,SNR=5.2						
O17K	**Koliganek Bris**	**81.33**	**11**	P	**P**	**08 19 54.4**	**+0.9**
	baz=200						
KVN	**Kaiserville**	**81.34**	**43**	P	**P**	**08 19 54.8**	**+0.4**
KVN				IAmb	IAmb	08 19 56.1	
	comp=Z,10.0nm,0.8s						
J04D	**Umpqua Nationa**	**81.35**	**38**	IAmb	IAmb	08 19 56.6	
	comp=Z,18nm,0.8s						
J04D	**Umpqua Nationa**	**81.35**	**38**	P	**P**	**08 19 55.4**	**+1.1**
	baz=232						
TPNV	**Topopah Spring**	**81.40**	**46**	P	**P**	**08 19 55.3**	**+0.6**
TPNV				IAmb	IAmb	08 19 56.7	
	comp=Z,9.5nm,0.8s						
TPNV	**Topopah Spring**	**81.40**	**46**	P	**P**	**08 19 55.9**	**+1.2**
	baz=237,SNR=11						
PDMCI	**Parker Dam,Lak**	**81.46**	**49**	P	**P**	**08 19 55.3**	**+0.5**
	baz=239,SNR=7.0						
I04A	**Tendick Farm,**	**81.52**	**37**	P	**P**	**08 19 55.9**	**+1.0**
	baz=232						
MOD	**Modoc Plateau**	**81.61**	**40**	IAmb	IAmb	08 19 57.6	
	comp=Z,10nm,0.7s						
V12A	**Nelson**	**81.70**	**47**	IAmb	IAmb	08 19 58.3	
	comp=Z,14nm,1.4s						
N16K	**Nishlik Lake**	**81.71**	**10**	P	**P**	**08 19 56.7**	**+1.1**
	baz=198						
O18K	**Kobuk Hills**	**81.75**	**12**	P	**P**	**08 19 56.6**	**+0.9**
	baz=202						
K05A	**Summer Lake**	**81.75**	**39**	P	**P**	**08 19 56.7**	**+0.3**
K05A				IAmb	IAmb	08 19 58.8	
	comp=Z,20nm,0.9s						
H04D	**Lebanon**	**81.78**	**37**	P	**P**	**08 19 57.1**	**+0.8**
	baz=232						
BNX	**BinXian**	**81.81**	**325**	⇑P	**P**	**08 19 56.3**	**0.0**
BNX				pmax	pmax		
	comp=Z,12nm,0.7s						
BNX				pmax	pmax		
	comp=Z,170nm,4.6s						
J05D	**Fort Rock, OR**	**81.89**	**38**	P	**P**	**08 19 57.8**	**+0.8**
	baz=233						
G03D	**McMinnville, O**	**81.92**	**36**	P	**P**	**08 19 58.3**	**+1.4**
	baz=231						
MAW	**Mawson**	**81.96**	**200**	P	**P**	**08 19 57.4**	**+0.6**
	comp=Z,9.8nm,0.8s,baz=125,slow=6.2,SNR=15						
	comp=Z,9.8nm,0.8s						
MAW	**Mawson**	**81.96**	**200**	P	**P**	**08 19 57.5**	**+0.8**
S11A	**Rachel**	**82.11**	**45**	IAmb	IAmb	08 20 00.1	
	comp=Z,14nm,0.7s						
H04A	**Detroit Lake**	**82.19**	**37**	P	**P**	**08 19 58.8**	**+0.5**
H04A				IAmb	IAmb	08 19 59.1	
	comp=Z,16nm,1.4s						
PINE	**Pine Mountain**	**82.36**	**38**	IAmb	IAmb	08 20 01.8	
	comp=Z,17nm,0.9s						
PRN	**Pahroc Range**	**82.45**	**46**	IAmb	IAmb	08 20 02.3	
	comp=Z,14nm,0.9s						
I05D	**Terrebonne, OR**	**82.46**	**37**	P	**P**	**08 20 00.3**	**+0.6**
	baz=233						
BRSE	**Bradley Lake S**	**82.56**	**14**	P	**P**	**08 20 02.4**	**+2.5**
	baz=206						
R11A	**Troy Canyon, C**	**82.60**	**45**	P	**P**	**08 20 01.3**	**+0.6**
	baz=237						
BMN	**Battle Mountai**	**82.67**	**42**	P	**P**	**08 20 02.0**	**+0.9**
BMN				IAmb	IAmb	08 20 02.9	
	comp=Z,14nm,0.9s						
N19K	**Bonanza Creek**	**82.77**	**12**	P	**P**	**08 20 02.2**	**+1.2**
	baz=202						
TUC	**Tucson**	**82.90**	**52**	P	**P**	**08 20 03.6**	**+1.4**
TUC				IAmb	IAmb	08 20 05.2	
	comp=Z,14nm,0.9s						
TUC	**Tucson**	**82.90**	**52**	P	**P**	**08 20 03.4**	**+1.1**
	baz=241						
WVOR	**Wild Horse Val**	**82.93**	**40**	P	**P**	**08 20 03.2**	**+0.9**
WVOR				IAmb	IAmb	08 20 04.3	
	comp=Z,14nm,1.1s						
G05D	**Wamic, OR**	**83.02**	**37**	P	**P**	**08 20 03.6**	**+1.1**
	baz=233						
I07A	**Izee**	**83.37**	**38**	IAmb	IAmb	08 20 06.5	
	comp=Z,6.7nm,0.8s						
LCMT	**Little Creek M**	**83.48**	**47**	P	**P**	**08 20 06.0**	**+0.9**
LCMT				IAmb	IAmb	08 20 07.2	
	comp=Z,9.7nm,1.1s						
J08A	**Circle Bar Ran**	**83.56**	**39**	P	**P**	**08 20 05.6**	**+0.2**
J08A				IAmb	IAmb	08 20 07.3	
	comp=Z,17nm,1.3s						
P23K	**Montague Islan**	**83.57**	**15**	P	**P**	**08 20 06.3**	**+1.5**
	baz=205						
CCUT	**Cedar City**	**83.67**	**46**	P	**P**	**08 20 06.5**	**+0.4**
KNB	**Kanab**	**83.77**	**47**	IAmb	IAmb	08 20 08.9	
	comp=Z,23nm,1.5s						
SPR3	**Spring Creek 3**	**83.77**	**45**	P	**P**	**08 20 07.2**	**+0.4**
SPR3				IAmb	IAmb	08 20 08.1	
	comp=Z,7.3nm,1.2s						
U15A	**North Rim**	**83.84**	**48**	IAmb	IAmb	08 20 09.5	
	comp=Z,14nm,0.9s						
D05A	**Enumclaw**	**83.84**	**35**	P	**P**	**08 20 07.0**	**+0.5**
D05A				IAmb	IAmb	08 20 08.8	
	comp=Z,14nm,1.1s						
MG05	**Puerto Natales**	**83.93**	**143**	P	**P**	**08 20 08.1**	**+1.2**
RC01	**Rabbit Creek A**	**83.99**	**14**	P	**P**	**08 20 08.9**	**+2.0**
	baz=207						
WUAZ	**Wupatki**	**84.03**	**49**	P	**P**	**08 20 08.1**	**+0.2**
WUAZ				IAmb	IAmb	08 20 10.2	
	comp=Z,17nm,1.2s						
WUAZ	**Wupatki**	**84.03**	**49**	P	**P**	**08 20 08.6**	**+0.6**
	baz=240						
ELK	**Elko**	**84.11**	**43**	P	**P**	**08 20 07.8**	**-0.5**
SUA	**Susitna One**	**84.11**	**13**	P	**P**	**08 20 09.4**	**+1.8**
	baz=206						
PKCU	**Pink Cliffs**	**84.34**	**47**	IAmb	IAmb	08 20 12.4	
	comp=Z,15nm,0.9s						
G08A	**Pilot Rock**	**84.39**	**38**	IAmb	IAmb	08 20 11.9	
	comp=Z,8.4nm,1.1s						
HPIG		**84.43**	**59**	P	**P**	**08 20 10.8**	**+0.7**
HPIG				IAmb	IAmb	08 20 12.0	
	comp=Z,9.2nm,0.8s						
M22K	**Willow**	**84.51**	**13**	P	**P**	**08 20 10.7**	**+1.3**
	baz=206						
HAWA	**Hanford**	**84.71**	**36**	IAmb	IAmb	08 20 13.4	
	comp=Z,19nm,1.5s						
MTPU	**Mount Pierson**	**84.73**	**46**	P	**P**	**08 20 12.5**	**+1.0**
MTPU				IAmb	IAmb	08 20 14.2	
	comp=Z,6.0nm,0.9s						
SIT	**Sitka**	**84.75**	**22**	P	**P**	**08 20 11.2**	**+0.6**
	baz=220						
MVU	**Marysvale**	**84.94**	**46**	P	**P**	**08 20 13.2**	**+0.8**
MVU				IAmb	IAmb	08 20 18.3	
	comp=Z,14nm,1.1s						
HNS	**HongShan**	**84.95**	**313**	⇑P	**P**	**08 20 13.3**	**+1.2**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MSU	**Marysvale**	**84.97**	**46**	P	**P**	**08 20 13.7**	**+1.2**
W18A	**Petrified Fore**	**85.01**	**50**	P	**P**	**08 20 14.0**	**+1.2**
W18A				IAmb	IAmb	08 20 14.8	
	comp=Z,17nm,1.5s						
W18A	**Petrified Fore**	**85.01**	**50**	P	**P**	**08 20 13.7**	**+1.0**
	baz=241						
MFID	**Camas Ranch**	**85.19**	**40**	IAmb	IAmb	08 20 15.1	
	comp=Z,7.4nm,0.9s						
K20K	**Telida**	**85.20**	**11**	P	**P**	**08 20 14.9**	**+2.2**
	baz=203						
KLU	**Klutina**	**85.23**	**15**

TCUT Toone Canyon 86.78 44 P P 08 20 20.6 -0.5
TCUT IAmb IAmb 08 20 22.9
comp=Z,7.9nm,0.9s
P18A Preston Nutter 86.83 46 P P 08 20 21.9 +0.5
MVCO Mesa Verde 86.88 49 P P 08 20 21.5 -0.1
baz=242
YUK3 Moose Creek 86.89 17 P P 08 20 22.2 +1.2
baz=215
S34M Telegraph Cree 86.90 23 P P 08 20 22.6 +1.7
baz=224
HWUT Hardware Ranch 86.93 44 P P 08 20 19.8 -1.9
M27K Edge Creek, AK 86.99 16 P P 08 20 22.8 +1.4
baz=214
TX31 Lajitas Ar. Si 87.04 57 P P 08 20 23.6 +1.2
TX32 Lajitas Array 87.04 57 P P 08 20 23.6 +1.3
TXAR Lajitas Array 87.04 57 P P 08 20 23.4 +1.0
comp=Z,12nm,0.8s,baz=218,slow=6.6,SNR=73
TXAR pP pwP 08 22 33.3 -0.7
comp=Z,0.8nm,0.9s,baz=276,slow=8.1,SNR=3.1
comp=Z,12nm,0.8s
YUK4 Talbot Arm 87.05 18 P P 08 20 23.3 +1.5
baz=217
PV13 Radium Mtn., P 87.10 48 P P 08 20 22.6 0.0
PV13 IAmb IAmb 08 20 24.1
comp=Z,9.2nm,1.3s
PV23 Carpenter Ridg 87.11 47 P P 08 20 23.3 +0.6
PV23 IAmb IAmb 08 20 24.3
comp=Z,8.0nm,0.9s
NEW Newport 87.13 36 P P 08 20 22.8 +0.5
baz=236
L26K Log Cabin Wild 87.17 15 P P 08 20 23.5 +1.5
baz=213
ANMO Albuquerque 87.32 51 P P 08 20 23.9 +0.3
ANMO IAmb IAmb 08 20 25.5
comp=Z,9.8nm,1.1s
ANMO Albuquerque 87.32 51 P P 08 20 24.2 +0.6
baz=243
MLY Manley 87.34 11 P P 08 20 24.1 +1.3
baz=206
O30N Mendenhall 87.36 19 P P 08 20 24.4 +1.3
baz=219
HDA Harding Lake 87.54 13 P P 08 20 24.7 +1.0
baz=209
H21K Melozitna Rive 87.54 10 P P 08 20 25.0 +1.3
baz=204
XAN Xi'an 87.56 307 P P 08 20 24.8 +0.2
XAN pmax pmax
comp=Z,6.0nm,1.4s
N30M Aishikik Lake 87.60 18 P P 08 20 25.3 +1.1
baz=218
RDMU Red Mountain 87.73 45 P P 08 20 25.7 +0.2
RDMU IAmb IAmb 08 20 27.1
comp=Z,7.7nm,1.1s
AHID Auburn Hatcher 87.80 43 P P 08 20 25.9 +0.1
SCRK Sand Creek 87.83 14 P P 08 20 26.3 +1.1
baz=212
ILAR Eielson Array 87.87 13 P P 08 20 24.1 -1.1
comp=Z,0.7nm,0.4s,baz=216,slow=5.5,SNR=16
ILAR pP pP 08 22 35.1 +1.6
comp=Z,3.5nm,1.0s,baz=227,slow=5.8,SNR=12
comp=Z,0.7nm,0.4s
M29M Somme Creek 87.98 17 P P 08 20 27.7 +1.7
baz=217
H22K Ishtalitna Cre 88.00 11 P P 08 20 26.4 +0.5
baz=205
N31M Braeburn, Yuko 88.01 19 P P 08 20 26.7 +0.7
baz=220
J25K Salcha River, 88.06 14 P P 08 20 27.4 +1.2
baz=211
MSO Missoula 88.15 38 P P 08 20 27.7 +0.6
baz=238
REDW Red Top Meadow 88.26 42 P P 08 20 28.0 +0.1
TPAW Teton Pass 88.26 42 P P 08 20 27.6 -0.4
TPAW IAmb IAmb 08 20 29.9
comp=Z,9.4nm,1.0s
TROLL Troll, Antarti 88.26 180 P P 08 20 26.9 -0.5
FXWY Fox Creek 88.28 42 P P 08 20 27.8 -0.2
FXWY IAmb IAmb 08 20 30.8
comp=Z,8.7nm,1.2s
S22A 4UR Ranch, Cre 88.31 49 IAmb IAmb 08 20 30.3
comp=Z,10nm,1.2s
S22A 4UR Ranch, Cre 88.31 49 P P 08 20 29.2 +0.9
baz=243
K27K Chicken 88.33 15 P P 08 20 28.9 +1.5
baz=214
J26L Joseph Creek 88.37 14 P P 08 20 29.0 +1.3
baz=212
O20A White River Ci 88.42 46 P P 08 20 28.6 -0.1
O20A IAmb IAmb 08 20 30.4
comp=Z,9.9nm,1.0s
O20A White River Ci 88.42 46 P P 08 20 29.4 +0.7
baz=242
MOOW Moose Ponds 88.52 42 P P 08 20 29.2 +0.1
MOOW IAmb IAmb 08 20 30.9
comp=Z,5.2nm,1.1s
LL04 Puerto Octay 88.53 133 P P 08 20 29.6 +0.5
LOHW Long Hollow 88.54 42 IAmb IAmb 08 20 31.0
comp=Z,5.5nm,0.8s
SNAA Sanae 88.55 179 P P 08 20 27.8 -0.8
SNAA Sanae 88.55 179 P P 08 20 27.5 -1.1
SNAA IAmb IAmb 08 20 29.1
comp=Z,9.4nm,1.0s
L29M L29M 88.61 17 P P 08 20 30.8 +2.0
baz=217
VNA3 Neumayer Olymp 88.69 176 P P 08 20 28.6 -0.6
YPP Pitchstone Pla 88.73 42 IAmb IAmb 08 20 33.5
comp=Z,5.2nm,1.3s
HHC Hu-ho-hao-te 88.75 314 eP P 08 20 30.8 +0.7
HHC pmax pmax
comp=Z,32nm,0.6s
HHC pmax pmax
comp=Z,290nm,5.0s
BW06 Boulder Array 88.79 43 P P 08 20 28.7 -1.7
BW06 IAmb IAmb 08 20 31.6
comp=Z,7.3nm,0.8s
BW06 Boulder Array 88.79 43 P P 08 20 30.4 0.0
baz=241
PD31 Pinedale Array 88.80 43 P P 08 20 30.2 -0.2
PD31 IAmb IAmb 08 20 31.6
comp=Z,6.5nm,0.8s
PDAR Pinedale Array 88.80 43 P P 08 20 30.4 0.0
comp=Z,4.3nm,0.6s,baz=208,slow=3.3,SNR=51
PDAR PKKPbc PKKPbc 08 38 06.7 -1.1
comp=Z,0.4nm,0.7s,baz=99,slow=4.7,SNR=5.2
comp=Z,4.3nm,0.6s
PDAR Pinedale Array 88.80 43 P P 08 20 29.8 -0.6
PRP Porcupine Dome 88.80 13 P P 08 20 31.7 +1.9
baz=211
YMR Madison River 88.83 41 P P 08 20 29.9 -0.6
SMCO Snowmass 88.85 47 P P 08 20 31.0 +0.1
SMCO IAmb IAmb 08 20 32.6
comp=Z,15nm,1.4s
BOZ Bozeman (W) 88.89 40 P P 08 20 30.1 -0.6
BOZ IAmb IAmb 08 20 32.6
comp=Z,8.6nm,1.1s
BOZ Bozeman (W) 88.89 40 P P 08 20 31.6 +0.9
baz=240
G22K Bettles 88.91 10 P P 08 20 31.9 +1.9
baz=205
YHH Holmes Hill 88.96 41 IAmb IAmb 08 20 34.6
comp=Z,12nm,1.3s
YNR Norris Junctio 89.03 41 IAmb IAmb 08 20 35.9
comp=Z,14nm,1.4s
DAWY Dawson 89.04 16 P P 08 20 33.3 +2.5
baz=216
LR03 Panguipulli 89.11 132 P P 08 20 31.7 -0.1
VNA2 Neumayer--Watz 89.13 177 P P 08 20 30.9 -0.4
baz=185,slow=4.0
I26K Coal Creek Min 89.14 14 P P 08 20 33.3 +2.2
baz=213
EGAK Eagle 89.17 15 P P 08 20 32.8 +1.5
baz=215
SDCO Great Sand Dun 89.25 49 P P 08 20 33.1 +0.5
SDCO Great Sand Dun 89.25 49 P P 08 20 33.2 +0.5
baz=244
K29M Barlow Dome 89.36 17 P P 08 20 33.7 +1.4
baz=218
VNA1 Neumayer--Stat 89.36 177 P P 08 20 32.1 -0.1
COLD Coldfoot 89.41 11 P P 08 20 34.1 +1.7
baz=206
G24K Hadweenzic Riv 89.44 12 P P 08 20 34.5 +1.9
baz=209
MAYO Mayo, Yukon 89.62 18 P P 08 20 34.7 +1.3
baz=219
CMAR Chiang Mai Arr 89.63 290 P P 08 20 36.0 +1.4
comp=Z,1.4nm,0.3s,baz=119,slow=2.9,SNR=5.2
CMAR pP pwP 08 22 45.7 -1.0
comp=Z,1.2nm,0.5s,baz=145,slow=3.0,SNR=1.4
CMAR PKKPbc PKKPbc 08 38 05.1 +0.7
comp=Z,0.5nm,0.3s,baz=296,slow=5.3,SNR=5.1
comp=Z,1.4nm,0.3s
MSTX Muleshoe 89.65 54 P P 08 20 34.5 0.0
MSTX Muleshoe 89.65 54 P P 08 20 34.8 +0.3
baz=246
GO06 Curarrehue 89.74 132 P P 08 20 34.6 -0.2
I27K Kandik River 89.75 14 P P 08 20 35.7 +1.6
baz=214
T25A Trinidad 89.77 50 P P 08 20 35.6 +0.5
baz=245
RWWY Rawlins 89.83 45 P P 08 20 35.0 -0.2
PLCA Paso Flores 89.87 134 P P 08 20 36.9 +1.5
comp=Z,8.4nm,0.9s,baz=221,slow=5.2,SNR=20
comp=Z,8.4nm,0.9s
PLCA Paso Flores 89.87 134 P P 08 20 36.3 +0.9
E22K Anaktuvuk Pass 89.97 10 P P 08 20 36.9 +1.9
baz=205
833A Chaparral WMA, 90.07 60 P P 08 20 36.7 +0.4
baz=247
ISCO Idaho Springs 90.07 47 P P 08 20 37.4 +0.9
baz=244
RLMT Red Lodge 90.11 41 P P 08 20 36.3 -0.1
RLMT IAmb IAmb 08 20 38.3
comp=Z,8.1nm,1.2s
RLMT Red Lodge 90.11 41 P P 08 20 37.7 +1.3
baz=241
PZH PanZhiHua 90.18 298 P P 08 20 37.8 +0.8
PZH pmax pmax
comp=Z,9.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.2s
MMPY Sheldon Lake, 90.28 20 P P 08 20 38.3 +1.7
baz=224
N23A Red Feather La 90.33 46 P P 08 20 36.1 -1.5
N23A IAmb IAmb 08 20 39.5
comp=Z,8.9nm,0.9s
N23A Red Feather La 90.33 46 P P 08 20 38.4 +0.8
baz=244
I29M Ogilvie Camp, 90.36 16 P P 08 20 38.8 +2.0
baz=217
G26K Porcupine Rive 90.40 13 P P 08 20 39.2 +2.3
baz=212
JCT Junction City 90.57 58 P P 08 20 39.7 +1.0
baz=247
K22A Casper 90.72 45 P P 08 20 39.9 +0.7
baz=243
AMTX Amarillo 90.85 53 P P 08 20 41.0 +1.0
baz=246
E25K Arctic Village 91.05 12 P P 08 20 41.6 +1.6
baz=211
ABTX Abilene, Hawle 91.52 56 P P 08 20 43.6 +0.6
ABTX Abilene, Hawle 91.52 56 P P 08 20 44.0 +1.0
baz=247
KSCO Kaye Shedlock' 91.83 49 P P 08 20 45.6 +1.2
KSCO Kaye Shedlock' 91.83 49 P P 08 20 44.9 +0.5
baz=246
E27K Coleen River 91.90 13 P P 08 20 45.2 +1.4
baz=214
BO02 Sierra Bellavi 92.34 128 P P 08 20 47.5 +0.6
LAO LASA Array 92.72 41 P P 08 20 49.9 +1.7
baz=244
RSSD Black Hills 92.99 44 P P 08 20 50.3 +0.6
baz=245
OGNE Ogallala 93.03 47 P P 08 20 50.6 +0.8
baz=246
CBKS Cedar Bluff 93.82 50 P P 08 20 54.9 +1.5
baz=247
INK Inuvik 93.84 15 P P 08 20 54.6 +1.9
baz=222
R32A Long Quarter, 94.42 51 P P 08 20 56.9 +0.8
SONM Songino Array 95.14 319 PKKPbc PKKPbc 08 37 50.8 -0.8
comp=Z,0.9nm,0.6s,baz=116,slow=3.4,SNR=3.8
MIAR Mount Ida 96.94 56 P P 08 21 08.3 +0.8
baz=251
C36M Paulatuk 97.03 17 P P 08 21 08.9 +1.8
baz=230
MDND Maddock 97.31 42 P P 08 21 10.6 +1.8
baz=248
LPAZ La Paz 102.56 113 P Pdif 08 21 37.8 +4.1
comp=Z,1.4nm,0.7s,baz=249,slow=3.1,SNR=8.1
ZALV Zalesovo Beam 109.88 321 PKiKP PKiKP 08 26 01.5 -1.2
comp=Z,1.1nm,0.5s,baz=254,slow=0.7,SNR=5.3
MKAR Makanchi Array 110.60 314 PKiKP PKiKP 08 26 03.1 -1.3
comp=Z,1.2nm,0.6s,baz=143,slow=0.3,SNR=14
MKAR PKKPbc PKKPbc 08 37 05.5 -0.8
comp=Z,1.3nm,0.7s,baz=280,slow=3.4,SNR=10
MKAR PKKPab PKKPab 08 37 18.2 +0.9
comp=Z,0.6nm,0.6s,baz=264,slow=4.2,SNR=5.1
KURBB Kurchatov Arra 113.44 317 PKiKP PKiKP 08 26 08.3 -1.3
comp=Z,1.8nm,0.6s,baz=95,slow=1.7,SNR=7.8
KURBB PKKPbc PKKPbc 08 36 56.6 -0.4
comp=Z,1.0nm,0.6s,baz=269,slow=4.2,SNR=9.3
BOOM Boomskoye usch 114.64 308 PKPdf 08 26 11.9 -0.5
BVAR Borovoye Array 118.47 320 PKP PKPdf 08 26 18.1 -1.1
comp=Z,3.2nm,0.5s,baz=77,slow=2.0,SNR=15
KK31 Karatay Array 118.66 309 PKPdf PKPdf 08 26 19.3 -0.7
KKAR Karatay Array 118.66 309 PKPdf PKPdf 08 26 19.4 -0.6
KKAR Karatay Array 118.66 309 PKPdf 08 26 19.1 -0.9
BDFB Brasilia 119.70 122 PKP PKPdf 08 26 22.2 -0.7
comp=Z,2.5nm,0.4s,baz=176,slow=2.2,SNR=5.0
OPO Ambohidratompo 121.17 232 PKP PKPdf 08 26 25.6 -0.1
comp=Z,3.4nm,1.0s,baz=284,slow=5.7,SNR=4.1
ARU Arti 124.58 326 PKP PKPdf 08 26 30.3 -0.6
comp=Z,5.6nm,0.2s,baz=332,slow=3.0,SNR=7.6
ABKAR Akbulak array 125.48 317 PKPdf PKPdf 08 26 32.1 -0.8
AKTO Aktyubinsk 126.46 319 PKP PKPdf 08 26 34.1 -0.6
comp=Z,2.7nm,0.8s,baz=88,slow=4.4,SNR=7.7
BOSA Boshof 126.59 206 PKP PKiKP 08 26 36.4 0.0
comp=Z,7.8nm,1.0s,baz=155,slow=4.2,SNR=6.3
BOSA Boshof 126.59 206 PKPdf PKiKP 08 26 36.6 +0.2
GEYT Alibeck 128.23 303 PKP PKPdf 08 26 38.4 -0.1
comp=Z,2.1nm,0.4s,baz=228,slow=1.8,SNR=3.6
ARCES ARCESS Array B 128.34 350 PKP PKPdf 08 26 37.0 -0.8
comp=Z,2.0nm,0.4s,baz=37,slow=1.2,SNR=32
KLMR Klimovskoe 131.26 336 ePKPdf PKPdf 08 26 42.2 -1.3
KLMR AMP 08 26 43.4
comp=Z,16nm,2.0s
KLMR ePP PP 08 29 11.1 +0.4
BELG Belogornoye 131.98 324 PKP PKPdf 08 26 45.0 0.0
comp=Z,16nm,0.9s,baz=114,slow=1.3,SNR=6.8
BELG SKPbc SKPbc 08 29 16.4 +0.3
comp=Z,43nm,0.9s,baz=314,slow=1.3,SNR=14
FIA1 FINESS Array S 135.17 344 PKPdf PKiKP 08 26 51.9 -0.5
FINES FINESS Array B 135.17 344 PKiKP PKPpre 08 26 43.0
comp=Z,0.9nm,0.6s,baz=46,slow=5.5,SNR=4.9
FINES PKP PKPdf 08 26 50.1 -0.7
comp=Z,2.3nm,0.6s,baz=57,slow=3.7,SNR=11
FINES SKPbc SKPbc 08 29 26.4 +0.3
comp=Z,3.2nm,0.8s,baz=2.7,slow=4.0,SNR=6.4
FINES PP PP 08 29 31.6 -3.4
comp=Z,3.4nm,0.7s,baz=46,slow=6.0,SNR=10.0
OBN Obninsk 136.14 332 SKPbc SKPbc 08 29 29.9 +0.7
comp=Z,6.7nm,0.4s,baz=47,slow=7.2,SNR=5.7
TSUM Tsumeb 138.06 203 PKP PKPdf 08 26 56.2 -1.4
comp=Z,2.7nm,0.5s,baz=39,slow=11,SNR=3.8
NB2 NORSAR Subarra 138.41 353 PKP PKPpre 08 26 49.7
comp=Z,0.6nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B 138.41 353 PKhKP PKPpre 08 26 49.3
comp=Z,1.0nm,0.6s,baz=14,slow=2.4,SNR=5.2
NOA PKP PKPdf 08 26 56.8 -0.1
comp=Z,0.7nm,0.4s,baz=14,slow=3.8,SNR=4.4
NOA SKPbc SKPbc 08 29 35.5 -0.2
comp=Z,4.0nm,1.1s,baz=15,slow=4.4,SNR=3.7
HFS Hagfors 138.96 351 PKhKP PKPpre 08 26 50.0
comp=Z,3.3nm,0.4s,baz=62,slow=3.5,SNR=27
HFS SKPbc SKPbc 08 29 37.4 +0.2
comp=Z,2.6nm,0.7s,baz=231,slow=0.9,SNR=4.8
RAYN Ar Rayn 139.24 283 PKPdf PKPdf 08 26 58.6 -0.9
NACGM Naroch 140.26 337 ePKP PKPdf 08 27 00.4 +0.1
baz=39
AKASG Malin Array Be 142.39 331 PKhKP PKPpre 08 27 00.4
comp=Z,1.6nm,0.4s,baz=42,slow=4.7,SNR=18
AKASG SKPbc SKiKP 08 29 46.8 -0.6
comp=Z,5.2nm,0.8s,baz=40,slow=3.0,SNR=20
AKBB Malin Array Si 142.39 331 PKPdf PKPdf 08 27 05.6 +1.4
LODK Lodwar 143.25 248 PKPbc 08 27 05.8 +0.3
SHEL Horse Pasture 143.57 168 PKPab 08 27 04.5 -1.7
EKA Eskdalemuir Ar 144.50 5 PKP PKPdf 08 27 07.3 -0.4
comp=Z,3.3nm,0.7s,baz=342,slow=3.4,SNR=7.8
EKA SKPbc SKiKP 08 29 51.5 -0.1
comp=Z,0.5nm,0.4s,baz=285,slow=1.6,SNR=3.6
MBAR Mbarara 144.93 238 PKPbc PKPdf 08 27 10.3 +0.2
BNN Bunyan 145.05 310 PKPdf PKPdf 08 27 09.1 -0.3
ILGA Ilgaz 145.59 315 PKPdf PKPdf 08 27 09.3 -1.1
ASF Jabal al Asfar 146.24 298 PKPbc PKPbc 08 27 14.2 +0.3
comp=Z,7.9nm,0.7s,baz=119,slow=2.3,SNR=7.6
ASF pPKPbc pPKPdf 08 29 32.2 +2.3
comp=Z,7.7nm,0.9s,baz=112,slow=2.3,SNR=3.6
BR131 Keskin Array S 146.24 313 PKPbc 08 27 13.3 -0.4
BRTR Keskin Array B 146.24 313 PKPbc PKPbc 08 27 13.3 -0.4
comp=Z,4.4nm,0.7s,baz=126,slow=3.5,SNR=17
BRTR pPKPbc pPKPdf 08 29 30.1 +0.4
comp=Z,2.2nm,1.1s,baz=151,slow=2.8,SNR=3.8
BRTR SKPbc SKPbc 08 29 55.6 -0.2
comp=Z,1.5nm,0.8s,baz=60,slow=5.9,SNR=4.3
BRTR Keskin Array B 146.24 313 PKPbc 08 27 13.1 -0.7
BURAR Bucovina Array 146.44 331 ||P PKPbc 08 27 14.2 +0.2
BURAR Bucovina Array 146.44 331 PKPbc 08 27 13.8 -0.2
BIZ Bicaz 146.51 329 ||P PKPbc 08 27 14.6 +0.5
TESR Tescani 146.54 328 ||P PKPbc 08 27 13.8 -0.3
OJC Ojcow 146.55 339 ePKPdf PKPdf 08 27 12.7 +1.3
OJC epPKPdf pPKPbc 08 29 30.5 +0.6
OJC Ojcow 146.55 339 PKPbc PKPdf 08 27 12.3 +0.9
CFR Carcaliu 146.66 325 P PKPbc 08 27 14.4 -0.1
TPGR Topolog 146.72 324 ||P PKPbc 08 27 14.7 0.0
ANTO Ankara 146.76 313 PKPbc PKPbc 08 27 15.1 0.0
VRI Vrincioaia 146.95 327 ||P PKPbc 08 27 15.0 -0.3
CRVS Cervenica-Dubn 147.04 336 ePKP PKPbc 08 27 16.0 +0.6
NIE Niedzica 147.05 337 epPKPdf pPKPdf 08 29 34.2 +3.1
NIE Niedzica 147.05 337 ePKPdf PKPdf 08 27 13.2 +0.9
KSP Ksiaz 147.09 343 epPKPbc pPKPbc 08 29 34.9 +3.4
KSP Ksiaz 147.09 343 ePKPbc PKPbc 08 27 16.0 +0.5
TRPA Tarpa 147.22 334 ||P PKPbc 08 27 15.6 -0.3
MMAI Mount Meron Ar 147.27 300 PKPbc PKPbc 08 27 17.0 +0.4
comp=Z,8.8nm,0.5s,baz=56,slow=4.4,SNR=13
MMAI pPKPbc pPKPab 08 29 33.7 +1.2
comp=Z,14nm,1.0s,baz=59,slow=2.1,SNR=4.6
OSTC Ostas 147.37 343 ePKP PKiKP 08 27 17.1 -0.7
CHVC Chvalec 147.38 343 ePKP PKPbc 08 27 16.9 +0.6
UPC Upice 147.47 343 ePKP PKPbc 08 27 16.7 +0.2
CLL Collm 147.47 347 ePKPdf PKPdf 08 27 13.0 +0.1
CLL *i* PKPbc PKPbc 08 27 16.5 +0.1
comp=Z,25nm,0.9s
CLL ePKPab PKPab 08 27 21.0 +0.4
CLL epPKiKP pPKPab 08 29 34.0 +0.7
CLL eSKPbc SKiKP 08 29 59.0 +1.1
DPC Dobruska-Polom 147.52 342 ePKP PKPbc 08 27 16.8 +0.1
MDUB Mudurnu 147.54 316 PKPbc 08 27 16.1 -1.1
DOPR Dopca 147.55 328 ||P PKPbc 08 27 17.6 +0.7
LANS Liptovska Anna 147.57 338 ePKP PKiKP 08 27 17.7 -0.6
MLR Muntele Rosu 147.60 327 ||P PKPbc 08 27 16.6 -0.6
MLR Muntele Rosu 147.60 327 PKPbc PKPbc 08 27 17.0 -0.2
comp=Z,5.3nm,0.5s,baz=213,slow=4.8,SNR=6.0
MLR pPKPbc pPKPab 08 29 35.1 +1.2
comp=Z,1.5nm,0.3s,baz=93,slow=1.4,SNR=2.3
KRLC Kraliky 147.63 342 ePKP PKPbc 08 27 16.8 -0.2
BRG Berggiesshubel 147.66 345 Amp 08 29 39.0
comp=Z,11nm,1.3s
BRG Berggiesshubel 147.66 345 ePKP PKPdf 08 27 13.3 +0.1
BRG Berggiesshubel 147.66 345 Amp 08 27 14.2
comp=Z,5.2nm,1.0s
BRG Berggiesshubel 147.66 345 *i* x PKPbc 08 27 17.3 +0.3
BRG Berggiesshubel 147.66 345 Amp 08 27 18.5
comp=Z,9.5nm,0.8s
BRG Berggiesshubel 147.66 345 pPKP pPKPdf 08 29 37.1 +5.2
MORC Moravsky Berou 147.67 341 ||P PKPbc 08 27 16.4 -0.7
MORC Moravsky Berou 147.67 341 PKPbc PKPbc 08 27 16.0 -1.1
MORC Moravsky Berou 147.67 341 epPKP pPKPdf 08 29 35.2 +3.2
MORC Moravsky Berou 147.67 341 ePKP PKPbc 08 27 16.5 -0.6
MAUC Maruska 147.94 340 ePKP PKPbc 08 27 18.0 +0.3
VOIR 148.09 328 ||P PKPbc 08 27 18.2 -0.2
DRGR 148.19 332 ||P PKPbc 08 27 18.2 -0.4
PRU Pruhonice 148.33 344 ePKP PKPbc 08 27 19.0 +0.3
GOPC GO Pecny, Ondr 148.34 344 ePKP PKPbc 08 27 19.0 +0.3
VYHS Vyhne 148.35 338 ePKP PKPbc 08 27 19.0 +0.2
ARR Arges 148.35 328 ||P PKPbc 08 27 19.3 +0.4
EIL Elat 148.37 294 PKPbc PKPbc 08 27 18.7 -0.7
comp=Z,13nm,0.7s,baz=104,slow=6.6,SNR=8.4
VRAC Vranov 148.37 341 PKPbc PKPbc 08 27 18.8 0.0
comp=Z,2.9nm,0.6s,baz=359,slow=3.0,SNR=6.9
VRAC Vranov 148.37 341 ePKP PKPbc 08 27 18.1 -0.7
JAVC Velka Javorina 148.43 340 ePKP PKiKP 08 27 20.1 0.0
JAVC epPKP pPKPab 08 29 38.9 +1.9
NKC Novy Kostel 148.60 347 ePKP PKPbc 08 27 19.6 +0.2
KRUC Moravsky 148.65 341 ePKP PKPbc 08 27 19.4 -0.1
KRUC epPKP pPKPab 08 29 39.5 +1.7
MODS Modra-Piesok 148.98 340 ePKP PKPbc 08 27 20.6 +0.3
SIRR Siria 149.05 333 ||P PKPbc 08 27 20.2 -0.4
ZST Bratislava 149.19 340 ePKP PKiKP 08 27 21.4 -0.2
GZR Gura Zlata 149.22 330 ||P PKPbc 08 27 20.3 -0.8
MEM Membach 149.23 355 dPKP PKPbc 08 27 19.9 -0.9
MEM dPKiKP PKiKP 08 27 20.8 -0.9
BSTI Sart Tilman 149.29 355 dPKP PKPbc 08 27 20.4 -0.5
KHC Kasperske Hory 149.37 345 ePKP PKPbc 08 27 21.6 +0.3
CKRC Cesky Krumlov 149.47 343 ePKP PKPbc 08 27 21.7 +0.2
BCLA Clavier 149.47 355 dPKPab PKPab 08 27 28.5 -0.4
BGES Gesves 149.53 356 dPKP PKPbc 08 27 20.9 -0.6
BZS Buzias 149.58 332 ||P PKPbc 08 27 21.1 -0.7
GERES GERESS Array B 149.60 344 PKP PKPdf 08 27 15.9 -0.7
comp=Z,1.4nm,0.9s,baz=80,slow=1.5,SNR=6.5
GERES PKPbc PKPbc 08 27 21.5 -0.4
comp=Z,7.7nm,0.8s,baz=41,slow=3.1,SNR=24
GERES pPKPbc pPKPab 08 29 42.1 +0.4
comp=Z,1.5nm,0.8s,baz=46,slow=5.8,SNR=4.7
BMRD Maredsous 149.63 356 dPKPdf PKPdf 08 27 15.9 -0.5
BMRD dPKiKP PKPbc 08 27 21.7 0.0
RCHB Rochefort 149.74 355 dPKiKP PKPbc 08 27 22.0 0.0
HERR Herculane 149.77 330 ||P PKPbc 08 27 21.7 -0.6
CONA Conrad Observa 149.82 341 *i* P PKPbc 08 27 22.7 +0.3
comp=Z,9.3nm,0.6s,SNR=8.3
CONA eP pPKPab 08 29 42.2 -0.5
comp=Z,12nm,1.7s
DOU Dourbes 149.84 356 dPKiKP PKPbc 08 27 22.3 0.0
RONA Rosalia, Austr 149.89 340 eP PKPbc 08 27 22.6 +0.1
comp=Z,9.4nm,0.5s
WLF Walferdange 150.15 354 PKiKP 08 27 23.6 +0.1
WLF Walferdange 150.15 354 dPKiKP PKPbc 08 27 23.2 +0.2
MDVR Moldovita 150.18 331 ||P PKPbc 08 27 23.0 -0.3
MANT Manisa 150.31 314 PKPbc PKPbc 08 27 23.1 -0.9
MORH Mrgy, Hungar 150.33 336 ||P PKPbc 08 27 23.0 -0.6
MOA Molln 150.36 343 *i* P PKPbc 08 27 23.5 -0.2
comp=Z,4.1nm,0.5s,SNR=4.2
ARSA Arzberg 150.53 341 eP PKPdf 08 27 17.5 -0.5
comp=Z,2.6nm,0.7s
BLKB Belogradchik 150.58 328 ||P PKPbc 08 27 23.7 -0.6
BIOA Bad Ischl, Aus 150.68 343 eP PKPbc 08 27 23.7 -0.6
comp=Z,3.0nm,0.5s
FRGS Fruska Gora 150.72 333 ||P PKPbc 08 27 24.6 0.0
VTS Vitosha 151.01 326 ||P PKPbc 08 27 25.0 -0.4
BOVS Bovan 151.04 329 ||P PKPbc 08 27 24.4 -0.8
SOKA Soboth 151.19 341 eP PKPbc 08 27 25.0 -0.6
comp=Z,11nm,1.4s
SOKA eP pPKPab 08 29 48.2 +0.1
comp=Z,4.0nm,1.0s
BFO Black Forest 151.19 351 PKPbc 08 27 24.9 -0.6
KBA Koelnbreinsper 151.32 343 eP PKPbc 08 27 24.8 -1.2
comp=Z,8.6nm,1.1s
KBA eP pPKPbc 08 29 46.3 +2.7
comp=Z,0.8nm,0.4s
DIVS Divibare 151.49 332 PKPdf PKPdf 08 27 18.1 -1.4
DIVS PKPbc 08 27 26.0 -0.3
DIVS PKPab PKPab 08 27 38.0 +0.4
OBKA Obir 151.49 341 eP PKPbc 08 27 24.7 -1.6
comp=Z,5.9nm,1.1s
WATA Walderalm 151.53 346 eP PKPbc 08 27 25.6 -0.8
comp=Z,4.8nm,0.4s
RETA Reutte 151.56 347 eP PKPbc 08 27 26.0 -0.4
comp=Z,4.0nm,0.8s
WTTA Wattenberg 151.58 346 eP PKPbc 08 27 26.0 -0.6
comp=Z,11nm,0.4s
WTTA eP pPKPab 08 29 49.2 -0.6
comp=Z,3.9nm,0.8s
MOTA Moosalm 151.63 346 eP PKPdf 08 27 19.6 -0.2
comp=Z,9.9nm,1.1s
MOTA eP pPKPab 08 29 48.9 -1.1
comp=Z,2.8nm,0.5s
MYKA Terra Mystica 151.65 342 eP PKPbc 08 27 25.7 -0.9
comp=Z,5.4nm,0.5s
SQTA Sankt Quirin 151.72 346 eP PKPbc 08 27 26.1 -0.7
comp=Z,4.6nm,0.5s
SQTA eP pPKPab 08 29 49.0 -1.3
comp=Z,1.9nm,0.4s
ABTA Abfaltersbach 151.85 344 eP PKPbc 08 27 26.2 -0.9
comp=Z,11nm,0.5s
DAVA Damuels 151.94 348 eP PKPbc 08 27 27.3 -0.1
comp=Z,12nm,1.3s
CLF Chambon-Foret 152.00 359 PKPdf PKPdf 08 27 19.1 -1.0
CLF PKPbc PKiKP 08 27 28.2 +0.8
CLF PKPab PKPab 08 27 39.5 0.0

FETA	**Feichten**	**152.01**	**347**	*i* P		**PKPdf**	**08 27 19.9**	**-0.4**
	comp=Z,6.1nm,0.8s,SNR=4.4							
FETA				*e*P		**pPKPbc**	**08 29 46.0**	**+0.6**
	comp=Z,3.5nm,1.0s							
CLUD	**Cludinico**	**152.02**	**343**	PKPdf		**PKPdf**	**08 27 18.1**	**-2.1**
CLUD				PKPbc		**PKPbc**	**08 27 26.4**	**-1.0**
CLUD				PKPab		**PKPab**	**08 27 39.1**	**-0.6**
STAL	**STALIGIAL**	**152.25**	**343**	PKPdf		**PKPdf**	**08 27 18.4**	**-2.1**
STAL						**PKPbc**	**08 27 26.9**	**-1.0**
STAL				PKPab		**PKPab**	**08 27 41.0**	**+0.2**
CIMO	**Cimolais**	**152.27**	**344**	PKPdf		**PKPdf**	**08 27 19.0**	**-1.6**
CIMO						**PKPbc**	**08 27 27.2**	**-0.7**
DAVOX	**Davos/Dischmat**	**152.42**	**348**	PKP		**PKPdf**	**08 27 20.7**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=17,slow=1.1,SNR=4.7							
DAVOX				PKPbc		**PKPbc**	**08 27 28.5**	**0.0**
	comp=Z,7.1nm,0.5s,baz=291,slow=4.1,SNR=12							
CTI	**Castel Tesino**	**152.72**	**345**	PKPdf		**PKPdf**	**08 27 19.7**	**-1.7**
CTI				PKPbc		**PKPbc**	**08 27 27.6**	**-1.4**
CTI				PKPab		**PKPab**	**08 27 42.1**	**-0.8**
ESDC	**Sonseca Array**	**159.77**	**13**	PKP		**PKPdf**	**08 27 30.3**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=10,slow=3.3,SNR=4.4							
DBIC	**Dimbokro**	**165.35**	**154**	PKP		**PKPdf**	**08 27 36.2**	**-0.3**
	comp=Z,9.5nm,1.0s,baz=150,slow=9.8,SNR=3.7							
DBIC				PKPab		**PKPab**	**08 28 39.5**	**+1.0**
	comp=Z,14nm,0.9s,baz=216,slow=4.4,SNR=9.6							
DBIC	**Dimbokro**	**165.35**	**154**	PKPdf		**PKPdf**	**08 27 34.8**	**-1.7**
DBIC				PKPab		**PKPab**	**08 28 37.6**	**-0.9**
KOWA	**Kowa**	**172.32**	**134**	PKP		**PKPdf**	**08 27 39.6**	**-1.2**
	comp=Z,3.8nm,0.6s,baz=207,slow=3.3,SNR=7.0							
KOWA				PKPab		**PKPab**	**08 29 09.5**	**0.0**
	comp=Z,4.0nm,0.6s,baz=230,slow=5.9,SNR=5.7							
TOA0	**Torodi Ar. Sit**	**173.22**	**180**	PKPdf		**PKPdf**	**08 27 39.8**	**-1.4**
TOA0				PKPab		**PKPab**	**08 29 12.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**173.22**	**180**	PKP		**PKPdf**	**08 27 39.6**	**-1.6**
	comp=Z,5.4nm,1.0s,baz=276,slow=0.8,SNR=18							
TORD				PKPab		**PKPab**	**08 29 13.1**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=164,slow=4.3,SNR=11							
TORD				PP		**PP**	**08 33 03.6**	**-0.7**
	comp=Z,3.0nm,1.1s,baz=180,slow=4.0,SNR=5.9							

GUC 26 08:09:11.2±0.5, 38°.54S×73°.43W, h55km±21km, ML3.6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LR02	**Universidad Au**	**1.27**	**174**	*e*P	Pn	08 09 32.5	-0.2
LR02				*e*S	Sn	08 09 48.7	0.0
LR04	**Corral**	**1.34**	**180**	*e*P	Pn	08 09 33.4	-0.2
LR04				*e*S	Sn	08 09 50.3	-0.1
LR04				IAML		08 09 54.5	
	comp=E,2μm,0.3s						
LR03	**Panguipulli**	**1.38**	**143**	*e*P	Pn	08 09 34.1	0.0
LR03				*e*S	Sn	08 09 51.0	-0.3
LR03				IAML		08 09 59.3	
	comp=E,2μm,0.6s						
CCSP	**San Pedro de C**	**1.71**	**9**	*e*P	Pn	08 09 38.4	-0.3
CCSP				*e*S	Sn	08 09 59.3	-0.1
CCSP				IAML		08 10 10.2	
	comp=N,913nm,0.2s						
BI05	**Punta Hualpn**	**1.80**	**6**	*e*P	Pn	08 09 40.2	+0.4
BI05				*e*S	Sn	08 10 00.3	-1.2
BI05				IAML		08 10 14.2	
	comp=E,325nm,0.4s						
GO06	**Curarrehue**	**1.84**	**125**	⇓*i*P	Pn	08 09 41.0	+0.4
GO06				*e*S	Sn	08 10 03.3	+0.5
LL04	**Puerto Octay**	**2.49**	**162**	*e*P	Pn	08 09 49.4	0.0
LL04				IAML		08 10 30.5	
	comp=E,261nm,0.1s						
LL03	**Petrohue**	**2.71**	**163**	IAML		08 10 49.7	
	comp=N,324nm,0.4s						
LL05	**Los Muermos**	**2.86**	**181**	*e*P	Pn	08 09 54.8	+0.5
LL05				IAML		08 10 55.6	
	comp=E,188nm,0.4s						
ML02	**Panimavida**	**3.20**	**31**	*e*P	Pn	08 09 59.2	+0.1
ML02				IAML		08 11 02.8	
	comp=N,177nm,0.5s						
BO03	**Pichilemu**	**4.21**	**17**	*e*P	Pn	08 10 11.7	-1.1
BO02	**Sierra Bellavi**	**4.30**	**30**	*e*P	Pn	08 10 14.1	-0.1
BO02				*e*S	Sn	08 11 02.7	-0.5
BO04	**La Punta**	**5.08**	**27**	*e*P	Pn	08 10 24.9	+0.1
LMEL	**Las Melosas**	**5.36**	**30**	*e*P	Pn	08 10 29.2	+0.4

NEIC ***26*** *08:16:36.0±1.6, 8°.64S×0°.08×118°.32E×0°.08, h131km±7km, mb4.2/18, Error ellipse: s-maj=11.8km s-min=11.3km az=115.0*

DJA ***26*** *08:16:36.6±0.4, 9°.5×11°.8E, h113km±7km, M4.3/9, mb4.8/3, mB5.8/1, MLv4.0/9, Mw(mB)5.4/1, MwMwp5.0/1, Mwp5.3/1*

IDC ***26*** *08:16:36.3±2.6, 8°.57S×118°.37E, h136km±18km, mb3.6/6, mbtmp4.1/10, MS3.5/2, Error ellipse: s-maj=41.6km s-min=15.8km az=70.0*

ISC 26 08:16:36.9±0.5, 8°.64S±0°.05×118°.35E±0°.05, h152km, n63, σ2s26/72, mb4.2/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.60**	**252**	P	**Pn**	**08 16 16.1**	**-2.9**
PLAI				S	Sn	**08 17 10.7**	**-5.2**
PLAI	**Plampang**	**0.60**	**252**	P	**Pn**	**08 16 56.3**	**-2.7**
TWSI	**Taliwang, Sumb**	**1.46**	**266**	P	**Pn**	**08 17 04.0**	**-2.2**
TWSI				S	**Sn**	**08 17 24.9**	**-3.7**
SRBI	**Singaraja**	**3.15**	**280**	P	**Pn**	**08 17 26.4**	**+0.1**
IGBI	**Denpasar**	**3.17**	**267**	P	**Pn**	**08 17 25.9**	**-0.7**
BSSI	**Bau Bau, Buton**	**3.26**	**41**	P	**Pn**	**08 17 26.1**	**-1.6**
EDFI	**Ende, Flores**	**3.30**	**92**	P	**Pn**	**08 17 27.5**	**-0.8**
EDFI				S	**Sn**	**08 18 05.5**	**-2.6**
BKSI	**Bulukumba**	**3.73**	**28**	P	**Pn**	**08 17 32.9**	**-0.9**
BKSI				S	**Sn**	**08 18 15.6**	**-2.4**
MMRI	**Maumere**	**3.84**	**90**	Pn	**Pn**	**08 17 35.0**	**-0.2**
KAPI	**Kappang**	**3.86**	**21**	P	**Pn**	**08 17 34.2**	**-1.2**
	14nm,0.5s,baz=163,slow=8.0,SNR=7.2						
KAPI				S	**Sn**	**08 18 13.6**	**-7.3**
	9.2nm,0.3s,baz=142,slow=7.7,SNR=3.5						
KAPI	**Kappang**	**3.86**	**21**	Pn	**Pn**	**08 17 34.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.16**	**272**	Pn	**Pn**	**08 17 37.2**	**-2.1**
JAGI	**Jajag, Banyuwa**	**4.16**	**272**	P	**Pn**	**08 17 37.2**	**-2.1**
JAGI	**Jajag, Banyuwa**	**4.16**	**272**	P	**Pn**	**08 17 37.3**	**-2.0**
BATI	**Baumata**	**5.47**	**107**	P	**Pn**	**08 17 55.3**	**-1.4**
	49nm,0.4s,baz=257,slow=2.0,SNR=8.2						
BATI				S	**Sn**	**08 18 54.8**	**-4.1**
	27nm,0.4s,baz=124,slow=23,SNR=1.9						
BATI	**Baumata**	**5.47**	**107**	P	**Pn**	**08 17 55.4**	**-1.2**
	0.2nm31nm,0.4s						
SOEI	**Soe**	**5.95**	**101**	Pn	**Pn**	**08 18 01.8**	**-1.3**
SOEI	**Soe**	**5.95**	**101**	P	**Pn**	**08 18 01.8**	**-1.3**
	0.2nm29nm,0.8s						
SOEI				S	**Sn**	**08 19 06.5**	**-3.9**
	0.2nm29nm,0.8s						
SOEI	**Soe**	**5.95**	**101**	P	**Pn**	**08 18 01.6**	**-1.5**
LUWI	**Luwuk**	**8.73**	**30**		**Pn**	**08 18 38.7**	**-1.5**
LUWI	**Luwuk**	**8.73**	**30**	P	**Pn**	**08 18 41.0**	**+0.8**
LUWI	**Luwuk**	**8.73**	**30**	P	**Pn**	**08 18 41.5**	**+1.3**
	205nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.77**	**144**	P	**Pn**	**08 19 19.1**	**-1.2**
	5.5nm,0.8s,baz=1.2,slow=7.5,SNR=6.7						
FITZ				S	**Sn**	**08 21 22.0**	**-8.5**
	5.5nm,0.5s,baz=180,slow=19,SNR=17						
FITZ	**Fitzroy Crossi**	**11.77**	**144**	Pn	**Pn**	**08 19 19.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.77**	**144**	P	**Pn**	**08 19 18.9**	**-1.4**
KNRA	**Kununurra**	**12.35**	**126**	Pn	**Pn**	**08 19 26.0**	**-1.7**
MBWA	**Marble Bar**	**12.52**	**174**	Pn	**Pn**	**08 19 28.6**	**-1.4**
PSA00	**Pilbara Seismi**	**12.94**	**174**	Pn	**Pn**	**08 19 33.0**	**-2.4**
MTN	**Manton Dam**	**13.23**	**110**	Pn	**Pn**	**08 19 36.7**	**-2.4**
MTN	**Manton Dam**	**13.23**	**110**	P	**Pn**	**08 19 37.0**	**-2.1**
WRKA	**Warakurna**	**18.86**	**151**	P	**Pn**	**08 20 47.8**	**-0.1**
WB0	**Warramunga Arr**	**19.07**	**127**		**P**	**08 20 47.4**	**-0.4**
WB0				IAmb	IAmb	08 20 54.3	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**19.12**	**128**	P	**P**	**08 20 48.4**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=301,slow=13,SNR=17						
WRA				ScP	**ScP**	**08 28 29.7**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=328,slow=2.0,SNR=6.9						
WRA	**Warramunga Arr**	**19.12**	**128**	P	**P**	**08 20 48.5**	**+0.1**
WRAB	**Tennant Creek**	**19.12**	**128**	P	**P**	**08 20 48.6**	**+0.2**
WRAB				IAmb	IAmb	08 20 55.1	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**19.12**	**128**	P	**Pn**	**08 20 49.0**	**-1.9**
WB2	**Warramunga Arr**	**19.13**	**128**		**P**	**08 20 48.7**	**+0.2**
WB2				IAmb	IAmb	08 20 55.1	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**19.29**	**127**		**P**	**08 20 49.7**	**-0.5**
WR0				IAmb	IAmb	08 20 53.4	
	comp=Z,10.0nm,0.8s						
AS31	**Alice Springs**	**21.10**	**137**	P	**P**	**08 21 10.0**	**+0.4**
ASAR	**Alice Springs**	**21.10**	**137**	P	**P**	**08 21 10.6**	**+0.9**
	comp=Z,3.0nm,0.5s,baz=310,slow=9.1,SNR=64						
ASAR				ScP	**ScP**	**08 28 35.1**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=321,slow=1.8,SNR=5.4						
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**21.10**	**137**	P	**P**	**08 21 09.8**	**+0.1**
BLDU	**Ballidu**	**21.92**	**184**	P	**P**	**08 21 19.1**	**+0.9**
	comp=Z,20nm,2.1s						
QIS	**Mount Isa**	**23.70**	**122**	P	**P**	**08 21 36.4**	**+1.3**
FORT	**Forrest**	**23.82**	**159**	P	**P**	**08 21 38.7**	**+2.7**
FORT	**Forrest**	**23.82**	**159**	P	**P**	**08 21 38.5**	**+2.5**
NWAO	**Narrogin (SRO)**	**24.19**	**182**	P	**P**	**08 21 40.4**	**+1.0**
STKA	**Stephens Creek**	**31.64**	**140**	P	**P**	**08 22 47.4**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=337,slow=13,SNR=4.6						
	comp=Z,1.6nm,0.5s						
STKA	**Stephens Creek**	**31.64**	**140**	P	**P**	**08 22 46.2**	**+0.4**
STKA				IAmb	IAmb	08 23 12.6	
	comp=Z,3.2nm,1.5s						
KSRS	**Korea Array**	**46.72**	**10**	P	**P**	**08 24 51.4**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=185,slow=8.3,SNR=4.8						
	comp=Z,0.6nm,0.3s						
JSD	**Sado**	**50.02**	**21**	P	**P**	**08 25 15.8**	**0.0**
JSD				IAmb	IAmb	08 25 15.9	
	comp=Z,4.4nm,0.7s						
JMM	**Marumori**	**50.79**	**23**	P	**P**	**08 25 22.0**	**+0.3**
SONM	**Songino Array**	**57.21**	**350**	LR	LR	08 53 02.7	
	comp=Z,31nm,18.3s,baz=54,slow=38						
CASY	**Casey**	**57.81**	**184**	P	**P**	**08 26 13.5**	**+1.5**
CASY				IAmb	IAmb	08 26 18.2	
	comp=Z,3.2nm,1.1s						
MSVF	**Nonsavu**	**58.62**	**105**	P	**P**	**08 26 20.2**	**+1.6**
	comp=Z,1.3nm,0.4s,baz=277,slow=21,SNR=6.1						
	comp=Z,1.3nm,0.4s						
MSVF	**Nonsavu**	**58.62**	**105**	P	**P**	**08 26 18.1**	**-0.6**
MSVF				IAmb	IAmb	08 26 21.7	
	comp=Z,8.7nm,1.4s						
ZALV	**Zalesovo Beam**	**68.48**	**339**	P	**P**	**08 27 21.7**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=122,slow=7.0,SNR=1.9						
	comp=Z,0.8nm,0.4s						
VNDA	**Vanda**	**72.44**	**171**	P	**P**	**08 27 48.7**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=318,slow=9.9,SNR=9.9						
VNDA				LR	LR	08 58 25.1	
	comp=Z,31nm,18.2s,baz=356,slow=35						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**72.44**	**171**	P	**P**	**08 27 48.9**	**+2.6**
GEYT	**Alibeck**	**72.73**	**314**	P	**P**	**08 27 47.9**	**-0.8**
GEYT				IAmb	IAmb	08 27 54.6	
	comp=Z,3.9nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**72.73**	**314**	P	**P**	**08 27 50.4**	**+1.7**
GYA0B				IAmb	IAmb	08 27 51.9	
	comp=Z,4.0nm,0.5s						
MA2	**Magadan**	**72.76**	**17**	P	**P**	**08 27 49.7**	**+1.4**
ABKAR	**Akbulak array**	**76.90**	**325**	P	**P**	**08 28 13.2**	**+0.9**
QSPA	**South Pole Qui**	**81.36**	**180**	P	**P**	**08 28 37.7**	**+1.2**

ROM 26 08:24:43.5±0.2, 42°.771N±0°.005×13°.26E±0°.01, h10km, ML0.7/1,1C, Error ellipse: s-maj=0.9km s-min=0.5km az=259.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.07**	**325**	P	Pg	08 24 46.1	+0.2
T1242				S	Sg	08 24 47.5	-0.1
T1242				AML	AML		
	comp=E,63μm,0.8s						
T1242				AML	AML		
	comp=N,75μm,0.6s						
T1204	**Amatrice, Fraz**	**0.10**	**156**	P	Pg	08 24 46.9	+0.6
T1204				S	Sg	08 24 48.9	+0.6
MMO1	**Montemonaco**	**0.14**	**21**	P	Pg	08 24 47.2	+0.5
MMO1				S	Sg	08 24 49.7	+0.6
T1241	**Roccafluvione,**	**0.15**	**56**	P	Pg	08 24 47.8	+0.8
T1241				S	Sg	08 24 50.5	+1.1
T1243	**Rocca Santa Ma**	**0.16**	**118**	⇑P	Pg	08 24 47.7	+0.7
T1243				S	Sg	08 24 50.1	+0.5
TERO	**Teramo**	**0.29**	**120**	P	Pg	08 24 50.1	+0.7
TERO				S	Sg	08 24 54.6	+1.2

IDC 26 08:24:44.9±10.0, 8°.10N×94°.08E, h0km, mb3.2/2, mbtmp3.4/3, ML3.6/1, MS3.3/2, Error ellipse: s-maj=265.5km s-min=44.3km az=88.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.33**	**24**	Pn	Pn	08 27 28.2	0.0
	0.1nm,0.3s,baz=214,slow=14,SNR=4.7						
CMAR				LR	LR	08 31 50.4	
	comp=Z,119nm,18.9s,baz=225,slow=38						
	1.1nm,0.3s						
H08S3	**Diego Garcia H**	**26.60**	**235**	T	T	08 57 28.2	
	baz=53,slow=75,SNR=19						
H08S2	**Diego Garcia H**	**26.60**	**235**	T	T	08 57 32.8	
	baz=53,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**26.62**	**235**	T	T	08 57 21.6	
	baz=53,slow=75,SNR=11						
GEYT	**Alibeck**	**43.99**	**318**	LR	LR	08 52 28.3	
	comp=Z,38nm,19.6s,baz=146,slow=38						
WRA	**Warramunga Arr**	**48.44**	**126**	P	P	08 33 29.5	0.0
	0.2nm,0.6s,baz=304,slow=8.6,SNR=2.2						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**50.10**	**130**	P	P	08 33 42.0	-0.3
	0.3nm,0.8s,baz=308,slow=9.3,SNR=1.4						
	0.3nm,0.8s						

ROM 26 08:26:41.8±0.1, 42°.666N±0°.004×13°.316E±0°.005, h11km, ML0.8/3, 1D, Error ellipse: s-maj=0.4km s-min=0.1km az=299.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.01**	**2**	P	Pg	08 26 44.4	+0.3
T1204				S	Sg	08 26 45.7	+0.1
T1204				AML	AML		
	comp=E,180μm,0.8s						
T1204				AML	AML		
	comp=N,96μm,1.6s						
SMA1	**SAN MARTINO**	**0.04**	**158**	P	Pg	08 26 44.6	+0.5
SMA1				S	Sg	08 26 45.8	+0.2
SMA1				AML	AML		
	comp=E,108μm,0.4s						
SMA1				AML	AML		
	comp=N,98μm,0.1s						
T1243	**Rocca Santa Ma**	**0.10**	**72**	P	Pb	08 26 45.3	-0.6
T1243				S	Sg	08 26 47.3	+0.5
RM33	**Pellescritta (**	**0.17**	**206**	P	Pg	08 26 46.3	+0.6
RM33				S	Sg	08 26 49.2	+0.8
RM33				AML	AML		
	comp=E,37μm,0.8s						
RM33				AML	AML		
	comp=N,29μm,1.4s						
RM33				AML	AML		
	comp=E,37μm,0.8s						
RM33				AML	AML		
	comp=N,29μm,1.4s						
TERO	**Teramo**	**0.22**	**101**	⇓P	Pg	08 26 47.0	+0.6
TERO				S	Sg	08 26 50.5	+1.0
MMO1	**Montemonaco**	**0.23**	**2**	P	Pg	08 26 47.2	+0.4
MMO1				S	Sg	08 26 51.1	+1.0

ROM 26 08:28:02.7±0.1, 42°.889N±0°.003×13°.231E±0°.004, h8km, ML0.6/1, Error ellipse: s-maj=0.3km s-min=0.0km az=207.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**309**	P	Pg	08 28 04.5	-0.1
MC2				S	Sg	08 28 05.6	-0.2
T1242	**Castelluccio d**	**0.06**	**198**	P	Pg	08 28 05.0	+0.3
T1242				S	Sg	08 28 06.5	+0.4
T1242				AML	AML		
	comp=E,54μm,0.3s						
T1242				AML	AML		
	comp=N,89μm,0.5s						
T1242				AML	AML		
	comp=N,89μm,0.5s						
T1242				AML	AML		
	comp=E,54μm,0.3s						
MMO1	**Montemonaco**	**0.07**	**81**	P	Pg	08 28 04.9	+0.1
MMO1						08 28 06.2	+0.1
NRCA	**Norcia**	**0.10**	**237**	P	Pg	08 28 05.6	+0.4
T1241	**Roccafluvione,**	**0.15**	**102**	P	Pg	08 28 06.4	+0.4
T1241				S	Sg	08 28 09.3	+1.2
T1216	**Preci, Frazion**	**0.16**	**271**	P	Pg	08 28 06.6	+0.6
FDMO	**Fiordimonte**	**0.18**	**324**	P	Pg	08 28 07.1	+0.6
FDMO				S	Sg	08 28 10.2	+1.2
CSP1	**Cessapalombo**	**0.20**	**355**	P	Pg	08 28 07.4	+0.5
CSP1				S	Sg	08 28 11.2	+1.5
T1243	**Rocca Santa Ma**	**0.25**	**140**	P	Pg	08 28 08.5	+0.8
T1243				S	Sg	08 28 12.5	+1.5
T1215	**Vallo di Nera,**	**0.28**	**252**	P	Pg	08 28 08.8	+0.5
T1215				S	Sb	08 28 13.7	-1.3
LNSS	**Leonessa**	**0.32**	**206**	P	Pg	08 28 09.9	+0.9

PRU 26 08:30:57.2±0.0, 51°.45N×16°.41E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.89**	**195**	*e*PG	Pg	08 31 13.8	-0.5
CHVC				*e*SG	Sg	08 31 25.4	-0.4
	comp=Z,1.7nm,0.4s						
UPC	**Upice**	**0.98**	**195**	*e*PG	Pg	08 31 15.7	-0.2
UPC				*e*SG	Sg	08 31 28.5	0.0
	comp=Z,3.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.10**	**183**	*e*PG	Pg	08 31 17.4	-0.9
DPC				*e*SG	Sg	08 31 32.6	0.0
	comp=Z,1.4nm,0.3s						

NIED ***26*** *08:47:01.4, 33°.38N×139°.26E, h10km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.10; Mθθ0.93; Mφφ0.17; Mrθ0.52; Mθφ-1.30; Mrφ1.36; Fault plane solution: M₀2.17000×10¹⁴ NP1: φs274.00000°, δ50.00000°, λ-148.00000°. NP2: φs162.00000°, δ66.00000°, λ-45.00000°.*

JMA 26 08:47:01.4±0.2, 33°.4N±0°.3×13°.9E±°, h10km±4km, MV3.6/16, NEAR HACHIJOJIMA ISLAND, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.54**	**120**	*i* P	Pg	08 47 11.8	0.0
JHJ2				S	Sg	08 47 19.4	+0.5
JHCJ	**Hachijojimakas**	**0.55**	**124**	P	Pg	08 47 11.9	-0.1
JHCJ				*e*S	Sg	08 47 19.1	-0.2
JMKN	**Mikurajimanish**	**0.58**	**28**	P	Pg	08 47 12.6	-0.1
JMKN				S	Sg	08 47 20.8	+0.4
JSKK	**Shikinejimakit**	**0.95**	**357**	*e*P	Pb	08 47 20.0	0.0
JTHY	**Toshimahigashi**	**1.14**	**1**	P	Pb	08 47 22.9	-0.3
JTHY				*e*S	Sn	08 47 39.0	-0.1
JIM2	**Oshima 3**	**1.34**	**6**	*i* P	Pn	08 47 25.5	-0.7

NOU ***26*** *08:54:47.5, 10°.26S×161°.08E, h2km, mb4.5/8, Solomon Islands*

NEIC ***26*** *08:54:49.3±1.7, 10°.08S±0°.05×161°.21E±0°.09, h75km±6km, mb4.6/86, Error ellipse: s-maj=13.4km s-min=4.7km az=64.0*

IDC ***26*** *08:54:50.8±0.8, 10°.12S×161°.04E, h89km±5km, mb4.1/14, mbtmp4.4/16, MS3.3/24, Error ellipse: s-maj=13.5km s-min=9.7km az=51.0*

ISC 26 08:54:46.8±0.4, 10°.13S±0°.05×161°.31E±0°.06, h50km, n147, σ1s58/134, mb4.6/63, MS3.3/21, 2C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.51**	**297**	P	**Pn**	**08 55 13.0**	**+1.5**
	19μm,0.4s,baz=148,slow=4.3,SNR=56						
HNR				S	**Sn**	**08 55 30.8**	**+0.8**
	37μm,0.4s,baz=248,slow=4.6,SNR=41						
HNR				LR	LR	08 55 57.0	
	comp=Z,4μm,19.8s,baz=120,slow=52						
HNR	**Honiara**	**1.51**	**297**	Pn	**Pn**	**08 55 12.9**	**+1.5**
HNR	**Honiara**	**1.51**	**297**	P	**Pn**	**08 55 13.0**	**+1.5**
KOUNC	**Koumac, New Ca**	**10.75**	**165**	Pn	**Pn**	**08 57 22.0**	**+3.9**
KOUNC	**Koumac, New Ca**	**10.75**	**165**	P	**Pn**	**08 57 22.4**	**+4.3**
LIFNC	**LIFOU**	**12.03**	**152**	Pn	**Pn**	**08 57 37.9**	**+2.4**
DZM	**Mont Dzumac**	**12.85**	**158**	P	**Pn**	**08 57 51.5**	**+4.6**
	16nm,0.4s,baz=62,slow=7.7,SNR=92						
DZM				S	**Sn**	**09 00 04.9**	**-3.7**
	2.4nm,0.4s,baz=323,slow=22,SNR=1.7						
DZM				LR	LR	09 02 33.4	
	comp=Z,96nm,18.0s,baz=35,slow=36						
DZM	**Mont Dzumac**	**12.85**	**158**	Pn	**Pn**	**08 57 51.2**	**+4.2**
MARNC	**Mare, Loyalty**	**13.00**	**151**	Pn	**Pn**	**08 57 51.7**	**+2.8**
ONTNC	**Ouen Toro**	**13.07**	**158**	Pn	**Pn**	**08 57 52.1**	**+2.2**
PINNC	**Pines Island,**	**13.73**	**155**	Pn	**Pn**	**08 58 02.0**	**+3.1**
PMG	**Port Moresby**	**13.96**	**272**	LR	LR	09 02 53.9	
	comp=Z,82nm,20.3s,baz=74,slow=35						
MANU	**Manus Island**	**16.02**	**299**	Pn	**Pn**	**08 58 27.8**	**-1.1**
PATS	**Pohnpei**	**17.12**	**350**		**Pn**	**08 58 42.8**	**+0.2**
CTA	**Charters Tower**	**17.57**	**234**	P	**Pn**	**08 58 49.3**	**+1.0**
	8.8nm,0.5s,baz=54,slow=11,SNR=26						
CTA				LR	LR	09 04 43.2	
	comp=Z,81nm,20.3s,baz=79,slow=34						
CTA	**Charters Tower**	**17.57**	**234**	P	**Pn**	**08 58 50.5**	**+2.2**
CTAO	**Charters Tower**	**17.57**	**234**	Pn	**Pn**	**08 58 50.0**	**+1.8**
CTAO	**Charters Tower**	**17.57**	**234**	P	**Pn**	**08 58 50.4**	**+2.2**
MSVF	**Nonsavu**	**17.91**	**117**	P	**P**	**08 58 52.4**	**-

FITZ	**Fitzroy Crossi**	**35.44**	**253**	P	**P**	09 01 36.7	**-1.8**
FITZ				IAmb	IAmb	09 01 36.9	
	comp=Z,4.9nm,0.7s						
PSA00	**Pilbara Seismi**	**41.35**	**249**	P	**P**	**09 02 26.3**	**-1.9**
MBWA	**Marble Bar**	**41.39**	**250**	P	**P**	**09 02 26.4**	**-2.1**
MBWA				IAmb	IAmb	09 02 42.1	
	comp=Z,21nm,1.5s						
MORW	**Morawa**	**46.28**	**239**	P	**P**	**09 03 05.6**	**-2.1**
JMN	**Monobe**	**50.82**	**330**	P	**P**	**09 03 41.5**	**-0.9**
JSU	**Suzuyama**	**50.87**	**326**	P	**P**	**09 03 42.1**	**-0.7**
MJAR	**Matsushiro Arr**	**51.26**	**336**	P	**P**	**09 03 43.8**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=167,slow=8.5,SNR=4.8						
	comp=Z,1.6nm,0.7s						
JHS	**Saijyo**	**52.22**	**331**	P	**P**	**09 03 51.0**	**-1.8**
JSD	**Sado**	**52.54**	**337**	P	**P**	**09 03 54.5**	**-0.7**
JSD				IAmb	IAmb	09 03 55.0	
	comp=Z,7.1nm,0.7s						
JEW	**Eniwo**	**55.75**	**342**	P	**P**	**09 04 17.7**	**-0.8**
KSRS	**Korea Array**	**56.74**	**328**	P	**P**	**09 04 24.5**	**-1.1**
	comp=Z,3.4nm,0.7s,baz=143,slow=7.6,SNR=21						
KSRS				LR	LR	09 27 09.2	
	comp=Z,14nm,19.2s,baz=150,slow=34						
	comp=Z,3.4nm,0.7s						
KSAR	**Wonju Array Be**	**56.75**	**328**	P	**P**	**09 04 23.7**	**-2.0**
KS19	**Wonju Array Si**	**56.80**	**328**	P	**P**	**09 04 24.1**	**-2.0**
KS19				IAmb	IAmb	09 04 25.1	
	comp=Z,4.7nm,0.7s						
YSS	**Yuzh-Sakhalins**	**59.19**	**345**	P	**P**	**09 04 41.8**	**-0.8**
USA0B	**Ussuriysk Arra**	**60.26**	**336**	P	P	09 04 46.9	-3.1
USRK	**Ussuriysk Ar.**	**60.26**	**336**	P	**P**	**09 04 49.3**	**-0.7**
	comp=Z,8.5nm,0.8s,baz=164,slow=4.3,SNR=11						
	comp=Z,8.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**60.26**	**336**	P	**P**	**09 04 48.8**	**-1.2**
PETK	**Petropavlovsk-**	**63.06**	**358**	LR	LR	09 28 00.2	
	comp=Z,25nm,21.9s,baz=135,slow=32						
BNX	**BinXian**	**63.41**	**334**	⇑P	**P**	**09 05 10.0**	**-1.2**
BNX				pmax	pmax		
	comp=Z,13nm,0.5s						
BNX				pmax	pmax		
	comp=Z,120nm,4.2s						
SHEM	**Shemya Is, Ala**	**63.56**	**9**	LR	LR	09 31 36.9	
	comp=Z,19nm,18.0s,baz=281,slow=35						
KIWB	**Kanaga Island**	**64.47**	**15**	P	**P**	**09 05 17.8**	**-0.2**
KLR	**Kul'dur**	**64.56**	**339**	P	**P**	**09 05 18.2**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=158,slow=5.5,SNR=8.8						
KLR				LR	LR	09 34 12.3	
	comp=Z,18nm,18.5s,baz=161,slow=37						
	comp=Z,2.7nm,0.5s						
BJI	**Beijing**	**65.08**	**323**	P	**P**	**09 05 22.5**	**+0.3**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CASY	**Casey**	**65.69**	**200**	P	**P**	**09 05 25.4**	**-0.4**
VNDA	**Vanda**	**67.37**	**180**	P	**P**	**09 05 35.9**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=334,slow=6.3,SNR=23						
VNDA				LR	LR	09 31 15.6	
	comp=Z,19nm,18.9s,baz=1.5,slow=32						
	comp=Z,2.6nm,0.7s						
VNDA	**Vanda**	**67.37**	**180**	P	**P**	**09 05 35.9**	**-0.5**
XLT	**XiLinHaoTe**	**67.63**	**326**	⇑*i*P	**P**	**09 05 38.0**	**-0.6**
XLT				pP	sP	09 06 01.0	+3.4
XLT				sP	PcP	09 06 06.8	+1.5
XLT				pmax	pmax		
	comp=Z,18nm,0.6s						
XLT				pmax	pmax		
	comp=Z,140nm,5.5s						
PZH	**PanZhiHua**	**68.32**	**304**	P	**P**	**09 05 43.5**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
HHC	**Hu-ho-hao-te**	**68.36**	**321**	*e*P	**P**	**09 05 43.5**	**+0.2**
HHC				S	**S**	**09 14 41.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,32nm,0.8s						
HHC				pmax	pmax		
	comp=Z,380nm,6.2s						
HIA	**Hailar**	**69.48**	**332**	P	**P**	**09 05 49.1**	**-0.8**
HIA				IAmb	IAmb	09 05 49.9	
	comp=Z,8.3nm,0.7s						
MA2	**Magadan**	**69.99**	**354**	LR	LR	09 35 01.6	
	comp=Z,14nm,20.7s,baz=164,slow=34						
LZH	**Lanzhou**	**70.95**	**314**	*e*P	**P**	**09 06 01.0**	**+1.6**
LZH				pP	sP	09 06 21.0	+2.4
LZH				sP	PcP	09 06 28.3	+8.7
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
ULN	**Ulaanbaatar**	**75.04**	**326**	P	**P**	**09 06 22.9**	**-0.5**
ULN				IAmb	IAmb	09 06 23.6	
	comp=Z,6.2nm,0.8s						
SONM	**Songino Array**	**75.39**	**325**	P	**P**	**09 06 24.7**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=141,slow=5.7,SNR=25						
SONM				pP	**sP**	**09 06 47.8**	**+3.3**
	comp=Z,5.1nm,0.9s,baz=136,slow=6.5,SNR=7.1						
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**75.39**	**325**	P	**P**	**09 06 24.2**	**-1.1**
SONM				IAmb	IAmb	09 06 25.3	
	comp=Z,5.4nm,0.8s						
OHAK	**Old Harbor**	**76.74**	**23**	P	**P**	**09 06 31.9**	**-0.6**
KDAK	**Kodiak Island**	**77.40**	**23**	LR	LR	09 38 11.0	
	comp=Z,72nm,18.1s,baz=158,slow=34						
KDAK	**Kodiak Island**	**77.40**	**23**	P	**P**	**09 06 35.4**	**-0.9**
Q19K	**Cape Douglas,**	**77.80**	**22**	P	**P**	**09 06 38.4**	**-0.1**
N18K	**Kilae Creek**	**78.26**	**20**	P	**P**	**09 06 40.9**	**-0.1**
N18K				IAmb	IAmb	09 06 53.7	
	comp=Z,10nm,1.4s						
ANM	**Nome**	**78.60**	**14**	P	**P**	**09 06 41.6**	**-1.2**
SVW2	**Sparrevohn**	**78.67**	**20**	P	**P**	**09 06 42.9**	**-0.4**
CNPM	**China Poot**	**79.11**	**22**	P	**P**	**09 06 44.2**	**-1.5**
M19K	**Big River Lodg**	**79.65**	**20**	P	**P**	**09 06 47.4**	**-1.2**
M19K				IAmb	IAmb	09 06 50.4	
	comp=Z,9.3nm,0.7s						
L19K	**White Mountain**	**79.70**	**19**	P	**P**	**09 06 48.4**	**-0.5**
L19K				IAmb	IAmb	09 06 50.5	
	comp=Z,6.8nm,0.8s						
QSPA	**South Pole Qui**	**79.87**	**180**	P	**P**	**09 06 49.2**	**-0.8**
QSPA				IAmb	IAmb	09 06 49.5	
	comp=Z,6.3nm,0.9s						
CAST	**Castle Rocks**	**81.47**	**19**	P	**P**	**09 06 57.9**	**-0.5**
CAST				IAmb	IAmb	09 06 58.6	
	comp=Z,6.5nm,0.8s						
RND	**Reindeer**	**82.54**	**20**	P	**P**	**09 07 03.2**	**-0.9**
RND				IAmb	IAmb	09 07 47.0	
	comp=Z,8.7nm,1.1s						
I21K	**Tanana**	**82.73**	**18**	P	**P**	**09 07 05.3**	**+0.5**
MCK	**McKinley**	**82.73**	**20**	P	**P**	**09 07 04.3**	**-0.7**
MCK				IAmb	IAmb	09 07 05.7	
	comp=Z,12nm,1.0s						
IMAR	**Indian Mountai**	**82.77**	**17**	P	**P**	**09 07 04.7**	**-0.4**
DHY	**Denali Highway**	**82.84**	**21**	P	**P**	**09 07 05.7**	**0.0**
DHY				IAmb	IAmb	09 07 22.6	
	comp=Z,7.6nm,1.0s						
MLY	**Manley**	**83.01**	**19**	P	**P**	**09 07 06.1**	**-0.3**
MCARA	**McCarthy VSAT**	**83.44**	**24**	P	**P**	**09 07 06.5**	**-2.2**
PAX	**Paxson**	**83.46**	**22**	P	**P**	**09 07 06.8**	**-2.0**
PAX				IAmb	IAmb	09 07 12.6	
	comp=Z,9.2nm,1.0s						
WRH	**Wood River Hil**	**83.49**	**20**	P	**P**	**09 07 07.4**	**-1.4**
WRH				IAmb	IAmb	09 07 08.8	
	comp=Z,3.2nm,0.8s						
TABL	**Table Mountain**	**83.67**	**25**	P	**P**	**09 07 09.5**	**-0.7**
CCB	**Clear Creek Bu**	**83.70**	**20**	P	**P**	**09 07 09.1**	**-0.8**
TCOL	**CIGO, UAF Yank**	**83.83**	**19**	P	**P**	**09 07 10.1**	**-0.4**
TCOL				IAmb	IAmb	09 07 10.9	
	comp=Z,5.9nm,0.7s						
COLA	**College**	**83.83**	**19**	P	**P**	**09 07 09.9**	**-0.6**
COLA				IAmb	IAmb	09 07 10.9	
	comp=Z,6.4nm,0.6s						
HDA	**Harding Lake**	**83.84**	**20**	P	**P**	**09 07 10.4**	**-0.2**
HDA				IAmb	IAmb	09 07 11.5	
	comp=Z,4.2nm,0.8s						
MAW	**Mawson**	**83.91**	**202**	LR	LR	09 40 36.1	
	comp=Z,23nm,18.6s,baz=116,slow=33						
M26K	**Nabesna, AK**	**84.04**	**23**	P	**P**	**09 07 12.6**	**+0.8**
M26K				IAmb	IAmb	09 07 21.5	
	comp=Z,5.0nm,0.9s						
IL31		**84.08**	**20**	P	**P**	**09 07 10.6**	**-1.2**
IL31				IAmb	IAmb	09 07 49.5	
	comp=Z,8.5nm,1.4s						
ILAR	**Eielson Array**	**84.08**	**20**	P	**P**	**09 07 10.9**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=244,slow=5.3,SNR=17						
ILAR				pP	**sP**	**09 07 33.8**	**+2.7**
	comp=Z,1.8nm,1.0s,baz=241,slow=5.1,SNR=4.9						
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**84.08**	**20**	P	**P**	**09 07 10.7**	**-1.2**
L26K	**Log Cabin Wild**	**84.27**	**22**	P	**P**	**09 07 11.7**	**-1.2**
L26K				IAmb	IAmb	09 07 39.6	
	comp=Z,7.6nm,1.3s						
DOT	**Dot Lake**	**84.38**	**21**	P	**P**	**09 07 11.9**	**-1.5**
DOT				IAmb	IAmb	09 07 14.3	
	comp=Z,5.5nm,0.8s						
M27K	**Edge Creek, AK**	**84.45**	**23**	P	**P**	**09 07 14.3**	**+0.4**
M27K				IAmb	IAmb	09 07 16.9	
	comp=Z,8.1nm,1.0s						
J25K	**Salcha River,**	**84.50**	**20**	P	**P**	**09 07 13.1**	**-1.0**
J25K				IAmb	IAmb	09 07 49.1	
	comp=Z,3.6nm,0.9s						
L27K	**Beaver Creek,**	**84.86**	**23**	P	**P**	**09 07 15.5**	**-0.4**
BCAR	**Beaver Creek A**	**84.88**	**23**	P	**P**	**09 07 16.4**	**+0.4**
J26L	**Joseph Creek**	**85.06**	**21**	P	**P**	**09 07 16.4**	**-0.5**
WMQ	**Urumqi**	**85.38**	**316**	*e*P	**P**	**09 07 19.3**	**+0.3**
EGAK	**Eagle**	**86.07**	**21**	P	**P**	**09 07 22.1**	**+0.3**
EGAK				IAmb	IAmb	09 07 46.4	
	comp=Z,8.7nm,1.2s						
DAWY	**Dawson**	**86.33**	**22**	P	**P**	**09 07 23.1**	**0.0**
DAWY				IAmb	IAmb	09 07 24.9	
	comp=Z,6.1nm,1.2s						
I29M	**Ogilvie Camp,**	**87.40**	**21**	P	**P**	**09 07 28.3**	**0.0**
I29M				IAmb	IAmb	09 07 29.4	
	comp=Z,4.2nm,0.8s						
NVAR	**Mina Array Bea**	**88.80**	**51**	P	**P**	**09 07 36.3**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=239,slow=6.4,SNR=15						
	comp=Z,1.6nm,0.7s						
NVAR	**Mina Array Bea**	**88.80**	**51**	P	**P**	**09 07 35.8**	**-0.1**
NV11	**Mina Array Sit**	**88.91**	**51**	P	**P**	**09 07 35.9**	**-0.4**
KVN	**Kaiserville**	**89.10**	**50**	P	**P**	**09 07 37.9**	**+0.7**
KVN				IAmb	IAmb	09 07 39.2	
	comp=Z,1.5nm,0.6s						
PFO	**Pinyon Flats O**	**89.15**	**56**	LR	LR	09 43 28.0	
	comp=Z,22nm,18.5s,baz=288,slow=33						
I07A	**Izee**	**89.31**	**45**	P	**P**	**09 07 38.2**	**+0.2**
I07A				IAmb	IAmb	09 07 42.2	
	comp=Z,4.3nm,1.5s						
QSM	**Queen of Sheba**	**89.34**	**53**	P	**P**	**09 07 36.2**	**-2.0**
QSM				IAmb	IAmb	09 07 40.2	
	comp=Z,1.9nm,0.7s						
LTY	**Liberty**	**89.35**	**42**	P	**P**	**09 07 37.3**	**-0.7**
LTY				IAmb	IAmb	09 08 17.6	
	comp=Z,7.0nm,1.5s						
J08A	**Circle Bar Ran**	**89.86**	**46**	P	**P**	**09 07 41.5**	**+1.0**
J08A				IAmb	IAmb	09 07 42.0	
	comp=Z,2.4nm,0.7s						
MKAR	**Makanchi Array**	**89.89**	**318**	P	**P**	**09 07 38.9**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=111,slow=5.3,SNR=5.4						
MKAR				pP	**sP**	**09 08 03.9**	**+3.9**
	comp=Z,1.5nm,0.9s,baz=115,slow=5.5,SNR=5.6						
	comp=Z,0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**90.29**	**325**	LR	LR	09 50 35.2	
	comp=Z,13nm,18.2s,baz=132,slow=37						
BMO	**Blue Mountains**	**91.03**	**45**	P	**P**	**09 07 46.2**	**+0.3**
BMO				IAmb	IAmb	09 07 49.8	
	comp=Z,2.6nm,1.2s						
F10A	**Beach Ranch, E**	**91.33**	**44**	P	**P**	**09 07 47.8**	**+0.4**
BELA	**Belgrano 2**	**91.68**	**177**	P	**P**	**09 07 46.8**	**-1.6**
BELA				IAmb	IAmb	09 07 48.1	
	comp=Z,4.6nm,1.4s						
NEW	**Newport**	**91.92**	**41**	P	**P**	**09 07 49.9**	**0.0**
NEW				IAmb	IAmb	09 07 50.9	
	comp=Z,2.6nm,0.7s						
SPR3	**Spring Creek 3**	**91.95**	**51**	P	**P**	**09 07 49.8**	**-0.9**
SPR3				IAmb	IAmb	09 07 52.5	
	comp=Z,1.2nm,0.7s						
HLID	**Hailey**	**92.79**	**46**	P	**P**	**09 07 54.8**	**+0.6**
HLID				IAmb	IAmb	09 07 56.4	
	comp=Z,3.4nm,1.1s						
NRIK	**Noril'sk**	**93.76**	**340**	LR	LR	09 49 51.2	
	comp=Z,16nm,20.4s,baz=140,slow=35						
PDAR	**Pinedale Array**	**96.16**	**48**	P	**P**	**09 08 11.6**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=231,slow=2.9,SNR=3.0						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**96.18**	**28**	P	**P**	**09 08 08.3**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=260,slow=4.5,SNR=3.3						
YKA				LR	LR	09 45 52.4	
	comp=Z,31nm,19.0s,baz=302,slow=32						
	comp=Z,1.1nm,0.6s						
TXAR	**Lajitas Array**	**99.23**	**62**	LR	LR	09 50 47.4	
	comp=Z,21nm,18.4s,baz=278,slow=34						

NNC ***26*** *08:55:02.7±5.0,54˚.22N×86˚.16E,h0km,mb3.5,mpv2.7, Error ellipse: s-maj=46.6km s-min=24.2km az=3.0, Suspected Mining explosion.*
IDC ***26*** *08:55:03.1±2.4,54˚.25N×86˚.01E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=19.4km s-min=11.4km az=54.0*
ISC 26 08:55:03.5±4.1,54˚.2N±0˚.2×86˚.1E±0˚.2,h0km,n8,σ1§93/9, 2C-7D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**254**	*i*				08 59 50.0	
	baz=66,slow=325,SNR=1.9								
ZAA0	**Zalesovo Array**	**0.81**	**254**	⇓P		**Pg**		**08 55 17.7**	**-1.3**
	0.2nm,0.3s								
ZAA0				⇓S		**Sg**		**08 55 30.6**	**+1.2**
	1.6nm,0.3s								
ZALV	**Zalesovo Beam**	**0.81**	**254**	Pg		**Pg**		**08 55 16.5**	**-2.4**
	1.4nm,0.3s,baz=64,slow=17,SNR=6.6								
ZALV				Lg		Lg		08 55 28.7	
	4.6nm,0.3s,baz=67,slow=28,SNR=5.9								
KURK	**Kurchatov**	**5.75**	**236**	⇑Pn		**Pn**		**08 56 33.5**	**+3.5**
	0.7nm,0.5s								
KURK				⇓Lg		Lg		08 58 10.9	
	3.4nm,1.2s								
KURBB	**Kurchatov Arra**	**5.86**	**236**	Pn		**Pn**		**08 56 32.0**	**+0.5**
	0.2nm,0.3s,baz=52,slow=14,SNR=17								
	1.6nm,0.6s								
KURBB	**Kurchatov Arra**	**5.86**	**236**	⇓Pn		**Pn**		**08 56 31.7**	**+0.2**
	1.4nm,0.4s								
KURBB				⇑Lg		Lg		08 58 15.2	
	4.1nm,0.7s								
MK31	**Makanchi Array**	**7.79**	**200**	⇓Pn		**Pn**		**08 56 58.7**	**+0.7**
	0.6nm,0.6s,baz=26,slow=12,SNR=13								
MK31				⇓Sn		**Sn**		**08 58 26.4**	**-0.5**
	0.2nm,0.4s								
MK31				⇓Lg		Lg		08 59 07.6	
	1.1nm,0.8s,baz=174,slow=34,SNR=3.9								
MKAR	**Makanchi Array**	**7.79**	**200**	Pn		**Pn**		**08 56 58.7**	**+0.8**
	0.3nm,0.3s,baz=15,slow=11,SNR=11								
	0.6nm,0.3s								

IDC 26 09:05:33.2±4.9,5˚.00S×148˚.29E,h0km,mb3.3/3, mbtmp3.4/3,Error ellipse: s-maj=165.4km s-min=51.3km az=112.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.13**	**221**	P		P		09 10 09.4	+0.4
	0.2nm,0.3s,baz=42,slow=9.9,SNR=15								
	0.2nm,0.3s								
ASAR	**Alice Springs**	**23.17**	**215**	P		P		09 10 41.5	-0.1
	0.4nm,0.4s,baz=50,slow=9.0,SNR=11								
	0.4nm,0.4s								
FITZ	**Fitzroy Crossi**	**25.68**	**238**	P		P		09 11 04.9	-0.2
	1.3nm,0.7s,baz=358,slow=7.3,SNR=2.3								
	1.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**146.07**	**286**	PKPbc		PKPdf		09 25 15.5	+0.1
	0.2nm,0.4s,baz=89,slow=5.9,SNR=1.8								

HEL ***26*** *09:06:14.5±0.4,61˚.03N×30˚.34E,h0km,ML2.5,Explosion*
IDC ***26*** *09:06:16.5±2.3,60˚.94N×29˚.87E,h0km,mbtmp3.2/2, ML3.1/2,Error ellipse: s-maj=25.4km s-min=13.0km az=172.0*
NAO ***26*** *09:06:16.0±1.7,60˚.99N×29˚.99E,ML2.7*
BER ***26*** *09:06:17.0±3.0,60˚.91N×30˚.04E,h0km,ML2.1, ML2.5(HEL),Suspected explosion*
KOLA ***26*** *09:06:18.7,61˚.04N×30˚.49E,h0km,ML2.5*
ISC 26 09:06:12.9±1.2,61˚.01N±0˚.04×30˚.13E±0˚.05,h0km,n52, σ1§98/73,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.35**	**251**	PG		**Pb**		**09 06 39.8**	**+0.9**
VJF				MSG				09 06 58.0	
	comp=Z,50nm,0.2s								
VJF	**Virojoki**	**1.35**	**251**	PG		**Pb**		**09 06 39.8**	**+0.9**
VJF				MSG				09 06 58.0	
	comp=Z,50nm,0.2s								
VJF				SN		**Sn**		**09 07 02.2**	**+4.8**
JOF	**Joensuu**	**2.00**	**16**	PG		**Pb**		**09 06 49.3**	**-0.8**
JOF				SG		**Sn**		**09 07 14.3**	**+0.8**
FIA0	**FINESS Array S**	**2.01**	**284**	Pn		**Pb**		**09 06 50.7**	**+0.5**
	baz=109,slow=16								
FIA0				Lg		Lg		09 07 18.1	
	baz=96,slow=37								
FIA0				Rg		Rg		09 07 28.4	
	baz=99,slow=37								
FIA0	**FINESS Array S**	**2.01**	**284**	PN		**Pb**		**09 06 50.3**	**+0.1**
FIA0				SB		**Sg**		**09 07 17.2**	**-0.1**
FIA0	**FINESS Array S**	**2.01**	**284**	PN		**Pb**		**09 06 50.3**	**+0.1**
FIA0				SB		**Sg**		**09 07 17.2**	**-0.1**
FINES	**FINESS Array B**	**2.01**	**284**	Pg		**Pb**		**09 06 50.6**	**+0.4**
	comp=Z,4.6nm,0.3s,baz=108,slow=16,SNR=180								
FINES				Lg		Lg		09 07 16.3	
	comp=Z,9.9nm,0.3s,baz=108,slow=26,SNR=8.7								
KAF	**Kangasniemi**	**2.14**	**303**	PB		**Pb**		**09 06 52.9**	**+0.4**
KAF				MSG				09 07 20.1	
	comp=Z,21nm,0.2s								
KAF				SB		**Sb**		**09 07 20.6**	**+1.1**
KAF	**Kangasniemi**	**2.14**	**303**	PB		**Pb**		**09 06 52.9**	**+0.4**
KAF				MSG				09 07 20.1	
	comp=Z,21nm,0.2s								
KAF				SB		**Sb**		**09 07 20.6**	**+1.1**
PVF	**Pernaja**	**2.14**	**259**	PB		**Pb**		**09 06 52.6**	**+0.1**
	baz=73								
PVF				MSG				09 07 21.1	
	comp=Z,70nm,0.2s								
PVF	**Pernaja**	**2.14**	**259**	PB		**Pb**		**09 06 52.6**	**+0.1**
	baz=73								
PVF				MSG				09 07 21.1	
	comp=Z,70nm,0.2s								
PVF				SB		**Sg**		**09 07 22.8**	**+1.1**
ARBE	**Arbavere**	**2.60**	**234**	SG		**Sg**		**09 07 38.1**	**+1.8**
NUR	**Nurmijrvi**	**2.73**	**262**	PN		**Pb**		**09 07 01.3**	**-1.3**
NUR				SB		**Sg**		**09 07 41.2**	**+0.5**
KEF	**Keuruu**	**2.77**	**297**	PN		**Pb**		**09 07 01.9**	**-1.3**
KEF				MSG				09 07 38.5	
	comp=Z,9.3nm,0.2s								
KEF				SB		**Sb**		**09 07 38.6**	**+1.0**
MEF	**Metsahovi**	**2.94**	**257**	PN		**Pb**		**09 07 04.0**	**-2.0**
MEF				SN		**Sb**		**09 07 40.3**	**-2.1**
MEF				MSG				09 07 43.9	
	comp=Z,26nm,0.2s								
VSU	**Vasula**	**3.08**	**215**	PN		**Pb**		**09 07 07.1**	**-1.3**
RMF	**Romuvaara**	**3.22**	**358**	PN		**Pn**		**09 07 07.0**	**+2.3**
	baz=172								
RMF				SB		**Sb**		**09 07 48.5**	**-2.2**
MTSE	**Matsula**	**3.93**	**237**	PN		**Pb**		**09 07 19.9**	**-3.0**
MTSE				SG		**Sg**		**09 08 19.4**	**+0.5**
VAF	**Ylistaro**	**4.06**	**303**	PN		**Pn**		**09 07 19.8**	**+3.7**
VAF				SG		**Sg**		**09 08 23.8**	**+0.6**
RAF	**Rauma**	**4.07**	**274**	PN		**Pn**		**09 07 19.5**	**+3.2**
	baz=82								
RAF				SB		**Sb**		**09 08 16.0**	**+1.0**
OUF	**Merijarvi**	**4.19**	**326**	PB		**Pb**		**09 07 25.5**	**-1.8**
	baz=140								
OUF				SB		**Sb**		**09 08 19.7**	**+1.3**
OUL	**Oulu**	**4.52**	**337**	SB		**Sb**		**09 08 27.2**	**-0.8**
OBF8	**Ulkokalla**	**4.54**	**320**	PG		**Pb**		**09 07 36.6**	**+3.3**
	baz=133								
APA0	**Apatity Array**	**6.74**	**9**	Pn		**Pn**		**09 07 56.9**	**+4.0**
	baz=183,slow=14								
APA0	**Apatity Array**	**6.74**	**9**	Pn		**Pn**		**09 07 56.9**	**+4.0**
	baz=183,slow=14								
APA0	**Apatity Array**	**6.74**	**9**	P		**Pn**		**09 07 56.1**	**+3.1**
APA0				S		**Sn**		**09 09 09.4**	**-0.9**
LVZ	**Lovozero**	**7.19**	**14**	P		**Pn**		**09 08 01.9**	**+2.8**
LVZ				S		**Sn**		**09 09 19.6**	**-1.7**
HEF	**Hetta**	**7.92**	**342**	*e*P		**Pn**		**09 08 10.6**	**+1.4**
HFS	**Hagfors**	**8.14**	**271**	Pn		**Pn**		**09 08 13.5**	**+1.3**
	baz=91,slow=14								
HFS				Sn		**Sn**		**09 09 39.2**	**-5.6**
	baz=85,slow=28								
HFS				Lg		Lg		09 10 28.0	
	baz=71,slow=28								
HFS	**Hagfors**	**8.14**	**271**	Pn		**Pn**		**09 08 13.5**	**+1.3**
	baz=91,slow=14								
HFS				Sn		**Sn**		**09 09 39.2**	**-5.6**
	baz=85,slow=28								
SALU	**Saltoluokta**	**8.15**	**327**	*e*P		**Pn**		**09 08 13.9**	**+1.7**
KTK1	**Kautokeino**	**8.54**	**343**	*e*P		**Pn**		**09 08 18.8**	**+1.2**
KTK1				IAML				09 10 44.8	
	comp=Z,1.9nm,0.4s								
ARA0	**ARCESS Array S**	**8.78**	**349**	Pn		**Pn**		**09 08 22.1**	**+1.3**
	baz=161,slow=16								
ARA0	**ARCESS Array S**	**8.78**	**349**	IAML				09 10 38.5	
	comp=Z,1.4nm,0.5s								
ARCES	**ARCESS Array B**	**8.78**	**349**	Pn		**Pn**		**09 08 21.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=164,slow=13,SNR=8.0								
ARCES				Sn		Sn		09 09 51.0	-9.3
	comp=Z,0.1nm,0.3s,baz=160,slow=22,SNR=1.5								
	comp=Z,0.4nm,0.3s								
ARCES	**ARCESS Array B**	**8.78**	**349**	P		**Pn**		**09 08 24.0**	**+3.2**
ARCES				S		**Sn**		**09 09 58.6**	**-1.7**
KEV	**Kevo**	**8.88**	**353**	*e*P		**Pn**		**09 08 23.2**	**+1.0**

0.3nm,0.5s,baz=1.9,slow=7.2,SNR=4.0
0.3nm,0.5s

IDC 26 09:20:50.4±501.0, 53°29N×33°55E, h0km, Error ellipse: s-maj=207.9km s-min=85.7km az=28.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.04**	**30**	*i*		09 43 30.0	
	0.1nm,0.6s,baz=213,slow=331,SNR=1.2						
I26DE	**FREYUNG INFRAS**	**13.23**	**258**	*i*		10 44 17.4	
	baz=64,slow=309,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**29.88**	**68**	*i*		12 26 20.0	
	baz=289,slow=327,SNR=1.5						

*ANF **26** 09:51:41.8±0.9, 38°48N×118°60W, h15km±9km, ML3.3/15, Error ellipse: s-maj=8.1km s-min=4.6km az=131.0*
*REN **26** 09:51:42.5±1.2, 38°38N±0°02×118°32W±0°03, h9km±6km, ML3.2/42, ML3.0/62(NEIC), Error ellipse: s-maj=2.8km s-min=2.5km az=87.0*
*NEIC **26** 09:51:42.8±0.7, 38°38N±0°02×118°32W±0°02, h4km±8km, Error ellipse: s-maj=2.7km s-min=2.2km az=160.0*
ISC 26 09:51:43.0±0.8, 38°37N±0°02×118°32W±0°02, h7km±6km, n89, σ0°74/97, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NV08	**Mina Array Sit**	**0.04**	**357**		**Pg**	**09 51 44.2**	**-0.5**
NVAR	**Mina Array Bea**	**0.06**	**9**		**Pg**	**09 51 44.5**	**-0.5**
NV09	**Mina Array Sit**	**0.07**	**347**		**Pg**	**09 51 44.7**	**-0.4**
NV11	**Mina Array Sit**	**0.14**	**63**		**Pg**	**09 51 46.2**	**+0.2**
NV11					**Sg**	**09 51 48.7**	**+0.5**
NV11	**Mina Array Sit**	**0.14**	**63**	IAML		09 51 49.3	
	comp=E,4μm,0.4s						
NV11				IAML		09 51 49.5	
	comp=N,4μm,0.4s						
LHV	**Little Huntoon**	**0.19**	**232**		**Pg**	**09 51 46.8**	**+0.1**
LHV					**Sg**	**09 51 50.0**	**+0.7**
LHV	**Little Huntoon**	**0.19**	**232**	IAML		09 51 50.4	
	comp=E,21μm,0.6s						
RYN	**Ryan**	**0.31**	**328**		**Pg**	**09 51 49.1**	**0.0**
RYN					**Sg**	**09 51 53.6**	**+0.4**
RYN	**Ryan**	**0.31**	**328**	IAML		09 51 54.8	
	comp=E,4μm,0.3s						
RYN				IAML		09 51 55.7	
	comp=N,3μm,0.5s						
BENR	**Benton**	**0.68**	**197**		**Pg**	**09 51 55.9**	**-0.3**
KVN	**Kaiserville**	**0.70**	**14**		**Pg**	**09 51 56.3**	**-0.2**
LUL	**Lundy Lake**	**0.75**	**245**		**Pg**	**09 51 57.2**	**-0.2**
MLNR	**Milner Canyon**	**0.77**	**182**		**Pg**	**09 51 57.7**	**-0.2**
ORC	**Owens River**	**0.78**	**200**		**Pg**	**09 51 57.6**	**-0.4**
MLAC	**Mammoth, Mammo**	**0.84**	**209**		**Pg**	**09 51 59.0**	**-0.2**
MLAC	**Mammoth, Mammo**	**0.84**	**209**	P	**Pg**	**09 51 59.0**	**-0.2**
	baz=28						
MLAC				S	**Sg**	**09 52 10.8**	**+0.7**
	baz=28						
MCBM	**Casa Benchmark**	**0.86**	**213**		**Pg**	**09 51 59.2**	**-0.2**
MCBM					**Sg**	**09 52 11.4**	**+0.8**
MDYM	**Dry Creek**	**0.90**	**218**		**Pg**	**09 52 00.1**	**-0.2**
TPH	**Tonopah**	**0.91**	**108**		**Pg**	**09 52 00.5**	**+0.1**
TPH					**Sb**	**09 52 13.5**	**-0.1**
OMMB	**Old Mammoth Mi**	**0.93**	**216**		**Pg**	**09 52 00.3**	**-0.5**
OMMB					**Sg**	**09 52 12.8**	**-0.1**
RCCR	**Rock Creek Can**	**0.94**	**200**		**Pg**	**09 52 00.5**	**-0.5**
MDPB	**Devils Postpil**	**0.95**	**220**		**Pg**	**09 52 00.7**	**-0.6**
MDPB					**Sg**	**09 52 13.5**	**-0.1**
YERR	**Yerington**	**0.95**	**311**		**Pg**	**09 52 00.6**	**-0.6**
YERR					**Sg**	**09 52 13.8**	**+0.1**
MZP	**Montezuma Peak**	**0.99**	**132**		**Pg**	**09 52 02.0**	**-0.1**
MZP	**Montezuma Peak**	**0.99**	**132**	IAML		09 52 19.7	
	comp=E,416nm,0.8s						
MZP				IAML		09 52 19.9	
	comp=N,331nm,0.8s						
Q09A	**Carvers**	**1.00**	**62**		**Pg**	**09 52 00.7**	**-1.5**
Q09A					**Sb**	**09 52 16.7**	**+0.5**
POCCA	**Poleta Canyon**	**1.00**	**178**		**Pg**	**09 52 01.9**	**-0.4**
DSP	**Deep Springs**	**1.03**	**165**		**Pg**	**09 52 02.7**	**-0.1**
DSP					**Sb**	**09 52 17.0**	**+0.2**
DSP	**Deep Springs**	**1.03**	**165**	IAML		09 52 20.7	
	comp=E,256nm,0.5s						
SCHCA	**Scheelite**	**1.05**	**196**		**Pg**	**09 52 02.5**	**-0.6**
PNTR	**Pine Nut**	**1.24**	**306**		**Pg**	**09 52 05.7**	**-1.0**
PNTR	**Pine Nut**	**1.24**	**306**	IAML		09 52 27.1	
	comp=N,380nm,0.6s						
PNTR				IAML		09 52 29.0	
	comp=E,366nm,0.7s						
LCH	**Last Change Ra**	**1.25**	**155**		**Pg**	**09 52 06.7**	**-0.3**
LCH	**Last Change Ra**	**1.25**	**155**	IAML		09 52 26.9	
	comp=N,248nm,0.5s						
LCH				IAML		09 52 27.4	
	comp=E,334nm,0.4s						
KCC	**Kaiser Creek**	**1.31**	**218**		**Pn**	**09 52 06.8**	**-0.9**
TIN	**Tinemaha, Big**	**1.31**	**177**		**Pn**	**09 52 07.6**	**-0.2**
TIN					**Sb**	**09 52 25.9**	**+0.8**
TIN	**Tinemaha, Big**	**1.31**	**177**	P	**Pn**	**09 52 07.7**	**-0.1**
	baz=357						
TIN				S	**Sb**	**09 52 25.9**	**+0.8**
	baz=357						
GMN	**Gold Mountain**	**1.35**	**142**		**Pn**	**09 52 08.6**	**+0.1**
GMN					**Sn**	**09 52 27.4**	**+0.6**
GMN	**Gold Mountain**	**1.35**	**142**	IAML		09 52 30.0	
	comp=N,366nm,0.5s						
VCNR	**Virginia City**	**1.40**	**312**		**Pn**	**09 52 08.5**	**-0.5**
VCNR					**Sn**	**09 52 27.6**	**-0.1**
EMB	**Emerald Bay**	**1.52**	**294**		**Pn**	**09 52 10.8**	**0.0**
EMB	**Emerald Bay**	**1.52**	**294**	IAML		09 52 34.5	
	comp=N,170nm,0.8s						
EMB				IAML		09 52 35.7	
	comp=E,142nm,0.6s						
GRAC	**Grapevine Rang**	**1.56**	**151**	Pn	**Pb**	**09 52 12.5**	**+0.2**
GRAC	**Grapevine Rang**	**1.56**	**151**	P	**Pb**	**09 52 12.4**	**+0.2**
	baz=332						
GRAC				S	**Sg**	**09 52 35.1**	**+1.9**
	baz=332						
PAHR	**Pah Rah Range**	**1.57**	**328**		**Pn**	**09 52 11.3**	**-0.2**
PAHR	**Pah Rah Range**	**1.57**	**328**	IAML		09 52 34.9	
	comp=E,190nm,0.8s						
PAHR				IAML		09 52 35.8	
	comp=N,152nm,0.4s						
MPK	**Martis Peak**	**1.63**	**305**		**Pn**	**09 52 12.4**	**+0.1**
MPK	**Martis Peak**	**1.63**	**305**	IAML		09 52 38.6	
	comp=E,211nm,0.6s						
MPK				IAML		09 52 43.7	
	comp=N,184nm,0.7s						
CMB	**Columbia Colle**	**1.67**	**259**		**Pn**	**09 52 12.4**	**-0.1**
SGV	**South Grapevin**	**1.72**	**143**		**Pn**	**09 52 13.5**	**+0.1**
VPK	**Verdi Peak**	**1.74**	**310**		**Pn**	**09 52 13.7**	**-0.1**
PEAR	**Peavine Mounta**	**1.78**	**315**		**Pn**	**09 52 13.7**	**-0.7**
CWC	**Cottonwood Cre**	**1.93**	**174**		**Pn**	**09 52 17.0**	**+0.6**
CWC	**Cottonwood Cre**	**1.93**	**174**	Pb	**Pb**	**09 52 18.8**	**+0.2**
	baz=354						
CWC				S	**Sn**	**09 52 42.2**	**+1.2**
	baz=354						
WVA	**Winnemucca Val**	**1.96**	**324**		**Pn**	**09 52 16.8**	**0.0**
LOY	**Loyalton**	**1.98**	**311**		**Pn**	**09 52 17.1**	**+0.1**
WCT	**Wildcat Mounta**	**2.07**	**139**		**Pn**	**09 52 18.4**	**+0.3**
WCT	**Wildcat Mounta**	**2.07**	**139**	IAML		09 52 50.9	
	comp=E,188nm,0.4s						
WCT				IAML		09 52 51.4	
	comp=N,140nm,0.7s						
R11A	**Troy Canyon, C**	**2.15**	**90**		**Pn**	**09 52 18.8**	**-0.5**
R11A	**Troy Canyon, C**	**2.15**	**90**	IAML		09 52 54.1	
	comp=E,82nm,0.2s						
R11A				IAML		09 52 56.8	
	comp=N,81nm,0.4s						
R11A	**Troy Canyon, C**	**2.15**	**90**	P	**Pn**	**09 52 19.2**	**-0.2**
	baz=272,SNR=73						
R11A				S	**Sg**	**09 52 50.8**	**-1.2**
	baz=272						
S11A	**Rachel**	**2.15**	**109**		**Pn**	**09 52 19.6**	**+0.2**
AFDM	**Forest Hills D**	**2.16**	**286**		**Pn**	**09 52 19.8**	**+0.4**
TPNV	**Topopah Spring**	**2.17**	**130**		**Pn**	**09 52 20.6**	**+1.0**
TPNV	**Topopah Spring**	**2.17**	**130**	IAML		09 52 55.9	
	comp=N,117nm,0.5s						
TPNV				IAML		09 53 02.1	
	comp=N,134nm,0.8s						
TPNV	**Topopah Spring**	**2.17**	**130**	P	**Pn**	**09 52 20.9**	**+1.3**
	baz=312,SNR=58						
TPNV				S	**Sg**	**09 52 53.1**	**+0.5**
	baz=312						
BEKR	**Beckworth**	**2.18**	**314**		**Pn**	**09 52 20.0**	**+0.1**
BMN	**Battle Mountai**	**2.23**	**22**		**Pn**	**09 52 19.9**	**-0.6**
BMRR	**Black Mountain**	**2.32**	**319**		**Pn**	**09 52 22.0**	**+0.3**
MPMC	**Manual Prospec**	**2.40**	**164**	P	**Pn**	**09 52 23.2**	**+0.4**
	baz=344,SNR=34						
AMDNV	**Amargosa**	**2.51**	**139**		**Pn**	**09 52 24.0**	**-0.1**
GWY	**Greenwater Val**	**2.54**	**148**		**Pn**	**09 52 25.1**	**+0.3**
VES	**Vestal, Richgr**	**2.60**	**194**	Pb	**Pb**	**09 52 29.7**	**-0.1**
	baz=13						
VES				Sb	**Sg**	**09 53 04.4**	**-1.9**
	baz=13						
QSM	**Queen of Sheba**	**2.66**	**154**		**Pn**	**09 52 26.1**	**-0.2**
ISA	**Isabella, Lake**	**2.70**	**183**	Pb	**Pb**	**09 52 32.1**	**+0.4**
	baz=2.5,SNR=24						
ISA				Sb	**Sg**	**09 53 08.6**	**-1.3**
	baz=2.5						
ORV	**Oroville**	**2.75**	**297**		**Pn**	**09 52 26.9**	**-0.6**
PRN	**Pahroc Range**	**2.76**	**109**	Pn	**Pn**	**09 52 27.7**	**0.0**
Q12A	**Willow Creek R**	**2.81**	**75**		**Pn**	**09 52 29.1**	**+0.6**
SHOC	**Shoshone, Teco**	**2.95**	**146**	Pb	**Pg**	**09 52 38.4**	**-1.2**
	baz=327						
SHOC				Sb	**Sg**	**09 53 17.3**	**-0.5**
	baz=327						
SHPR	**Sheep Range**	**3.12**	**126**		**Pn**	**09 52 31.6**	**-1.1**
SPR3	**Spring Creek 3**	**3.18**	**77**	Pn	**Pn**	**09 52 33.5**	**-0.2**
ARVC	**Arvin**	**3.26**	**187**	Sb	**Sg**	**09 53 25.2**	**-2.5**
	baz=7.0						
GSC	**Goldstone, Bar**	**3.29**	**158**	Sb	**Sg**	**09 53 28.3**	**-0.4**
	baz=339						
ELK	**Elko**	**3.36**	**44**	Pn	**Pn**	**09 52 36.2**	**+0.1**
ELK				IAML		09 53 31.0	
	comp=N,30nm,0.6s						
ELK				IAML		09 53 34.9	
	comp=N,28nm,0.5s						
EDW2	**Edwards Air Fo**	**3.49**	**176**	Sb	**Sg**	**09 53 32.7**	**-2.4**
	baz=356						
TUQ	**Turquoise Moun**	**3.50**	**146**	Sb	**Sg**	**09 53 34.1**	**-1.2**
	baz=328						
LTIM	**Timbered Crate**	**3.72**	**320**		**Pn**	**09 52 43.0**	**+2.1**
HEC	**Hector,Ludlow**	**3.87**	**155**	Sb	**Sg**	**09 53 47.1**	**-0.3**
	baz=336						
CCUT	**Cedar City**	**4.00**	**100**		**Pn**	**09 52 45.2**	**+0.3**

*NEIC **26** 09:57:09.9±1.8, 22°16S±0°08×67°3W±0°2, h202km±15km, Error ellipse: s-maj=21.1km s-min=10.5km az=100.0*
*GUC **26** 09:57:10.4±0.7, 22°25S×67°19W, h183km±13km, ML4.5*
*SCB **26** 09:57:11.0±3.4, 22°20S×67°20W, h194km±5km, ML4.3/4, MW2.7, Error ellipse: s-maj=15.6km s-min=7.9km az=0.0*
*VAO **26** 09:57:11.2±0.3, 21°94S×67°15W, h159km, mb3.8*
ISC 26 09:57:10.2±0.7, 22°15S±0°05×67°28W±0°05, h183km±9km, n81, σ1°36/98, 8C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.16**	**226**		**Pn**	**09 57 39.9**	**+0.1**
LVC	**Limon Verde**	**1.58**	**253**	Pn	**Pn**	**09 57 44.6**	**+1.1**
LVC	**Limon Verde**	**1.58**	**253**	*eP*	**Pn**	**09 57 44.4**	**+0.8**
LVC				*eS*	**Sn**	**09 58 09.7**	**+0.4**
LVC	**Limon Verde**	**1.58**	**253**	P	**Pn**	**09 57 44.5**	**+0.9**
LVC	**Limon Verde**	**1.58**	**253**	*eP*	**Pn**	**09 57 44.8**	**+1.2**
LVC				*eS*	**Sn**	**09 58 09.9**	**+0.5**
YJA	**Yavi**	**1.63**	**91**	P	**Pn**	**09 57 45.6**	**+1.4**
MOCB	**Mochara**	**1.77**	**60**	P	**Pn**	**09 57 46.8**	**+1.3**
MOCB				S	**Sn**	**09 58 10.3**	**-2.5**
MOCB				IAML		09 58 14.2	
	764nm,0.4s						
PB09	**IPOC Station P**	**1.86**	**281**		**Pn**	**09 57 47.3**	**+1.2**
PB09	**IPOC Station P**	**1.86**	**281**	*eP*	**Pn**	**09 57 47.3**	**+1.2**
PB09				*eS*	**Sn**	**09 58 15.0**	**+1.0**
PB06	**IPOC Station P**	**2.19**	**255**		**Pn**	**09 57 50.3**	**+0.5**
PB06	**IPOC Station P**	**2.19**	**255**	*eP*	**Pn**	**09 57 50.2**	**+0.5**
PB06				*eS*	**Sn**	**09 58 20.5**	**0.0**
PB06				IAML		09 58 22.3	
	comp=E,879nm,0.2s						
PB06	**IPOC Station P**	**2.19**	**255**	P	**Pn**	**09 57 50.3**	**+0.5**
PB15	**IPOC Station P**	**2.28**	**242**		**Pn**	**09 57 51.5**	**+0.8**
PB15	**IPOC Station P**	**2.28**	**242**	*eP*	**Pn**	**09 57 51.6**	**+0.8**
PB15				*eS*	**Sn**	**09 58 22.5**	**+0.2**
PB15	**IPOC Station P**	**2.28**	**242**	P	**Pn**	**09 57 51.7**	**+0.9**
PB15				S	**Sn**	**09 58 19.5**	**-2.9**
PB15				IAML		09 58 24.5	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**2.33**	**298**		**Pn**	**09 57 51.7**	**+0.4**
PB01	**IPOC Station P**	**2.33**	**298**	*eP*	**Pn**	**09 57 51.6**	**+0.4**
PB01				*eS*	**Sn**	**09 58 22.7**	**-0.5**
PB01				IAML		09 58 23.3	
	comp=N,1000nm,0.4s						
PB07	**IPOC Station P**	**2.46**	**279**		**Pn**	**09 57 53.1**	**+0.3**
PB07	**IPOC Station P**	**2.46**	**279**	*eP*	**Pn**	**09 57 53.0**	**+0.2**
PB07				*eS*	**Sn**	**09 58 24.3**	**-1.6**
PB07				IAML		09 58 26.4	
	comp=N,1μm,0.2s						
PB02	**IPOC Station P**	**2.57**	**288**		**Pn**	**09 57 54.3**	**+0.3**
PB02	**IPOC Station P**	**2.57**	**288**	*eP*	**Pn**	**09 57 54.3**	**+0.3**
PB02				*eS*	**Sn**	**09 58 26.5**	**-1.6**
PB02				IAML		09 58 27.1	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**2.57**	**288**	P	**Pn**	**09 57 54.4**	**+0.4**
PB02				S	**Sn**	**09 58 25.2**	**-2.8**
PB02				IAML		09 58 27.2	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**2.66**	**318**	Pn	**Pn**	**09 57 56.5**	**+1.2**
PB08	**IPOC Station P**	**2.66**	**318**	*eP*	**Pn**	**09 57 56.7**	**+1.4**
PB08				*eS*	**Sn**	**09 58 32.3**	**+1.9**
PB04	**IPOC Station P**	**2.67**	**266**	Pn	**Pn**	**09 57 55.6**	**+0.5**
PB04	**IPOC Station P**	**2.67**	**266**	*eP*	**Pn**	**09 57 55.5**	**+0.3**
PB04				*eS*	**Sn**	**09 58 28.7**	**-1.5**
PB04				IAML		09 58 29.8	
	comp=N,839nm,0.1s						
PB04	**IPOC Station P**	**2.67**	**266**	P	**Pn**	**09 57 55.7**	**+0.5**
PATCX	**Punta Patache**	**2.99**	**296**		**Pn**	**09 57 59.0**	**0.0**
PATCX	**Punta Patache**	**2.99**	**296**	*eP*	**Pn**	**09 57 58.4**	**-0.5**
PATCX				*eS*	**Sn**	**09 58 34.5**	**-2.4**
PATCX				IAML		09 58 35.7	
	comp=N,1μm,0.2s						
GO01	**Chusmiza**	**3.05**	**324**		**Pn**	**09 58 00.9**	**+0.8**
GO01	**Chusmiza**	**3.05**	**324**	*eP*	**Pn**	**09 58 00.9**	**+0.8**
GO01				*eS*	**Sn**	**09 58 40.9**	**+2.0**
GO01				IAML		09 58 44.0	
	comp=E,452nm,0.1s						
GO01	**Chusmiza**	**3.05**	**324**	P	**Pn**	**09 58 01.0**	**+0.8**
TA01	**Diego Aracena**	**3.13**	**300**	Pn	**Pn**	**09 58 00.2**	**-0.4**
TA01	**Diego Aracena**	**3.13**	**300**	*eP*	**Pn**	**09 57 59.8**	**-0.8**
TA01				IAML		09 58 38.8	
	comp=N,688nm,0.3s						
TA01	**Diego Aracena**	**3.13**	**300**	P	**Pn**	**09 58 01.2**	**+0.6**
TA02	**Huaiquique**	**3.25**	**305**		**Pn**	**09 58 01.6**	**-0.5**
GO02	**Mina Guanaco**	**3.67**	**215**	Pn	**Pn**	**09 58 08.4**	**+0.8**
GO02	**Mina Guanaco**	**3.67**	**215**	*eP*	**Pn**	**09 58 08.2**	**+0.7**
GO02				*eS*	**Sn**	**09 58 51.1**	**-1.4**
GO02	**Mina Guanaco**	**3.67**	**215**	P	**Pn**	**09 58 08.1**	**+0.5**
GO02				IAML		09 58 52.7	
	comp=N,229nm,0.4s						
PB14	**IPOC Station P**	**3.79**	**229**	Pn	**Pn**	**09 58 09.0**	**0.0**
PB16	**IPOC Station P**	**4.33**	**331**	Pn	**Pn**	**09 58 16.9**	**+0.6**
PB16	**IPOC Station P**	**4.33**	**331**	*eP*	**Pn**	**09 58 17.0**	**+0.8**
PB16				*eS*	**Sn**	**09 59 06.9**	**-1.0**
PB12	**IPOC Station P**	**4.53**	**320**	Pn	**Pn**	**09 58 16.7**	**-1.6**
PB12	**IPOC Station P**	**4.53**	**320**	*eP*	**Pn**	**09 58 16.4**	**-2.0**
AC02	**Maricunga**	**4.96**	**200**	Pn	**Pn**	**09 58 24.9**	**+0.8**
AC01	**Pan de Azucar**	**5.00**	**217**		**Pn**	**09 58 23.5**	**-0.8**
SOEJ	**Jacaque**	**5.22**	**350**	P	**Pn**	**09 58 29.5**	**+1.9**
BBOE	**La Paz, Chanca**	**5.35**	**353**	P	**Pn**	**09 58 31.2**	**+1.8**
BBOD	**La Paz, Gloria**	**5.62**	**347**	P	**Pn**	**09 58 34.2**	**+1.3**
LPAZ	**La Paz**	**5.89**	**352**	Pn	**Pn**	**09 58 37.7**	**+1.3**
LPAZ	**La Paz**	**5.89**	**352**	P	**Pn**	**09 58 37.4**	**+1.0**
AC05	**El Transito**	**7.19**	**202**		**Pn**	**09 58 51.4**	**-1.5**
LCO	**Las Campanas**	**7.50**	**204**	Pn	**Pn**	**09 58 55.1**	**-2.0**
BBSD	**Serra de San D**	**7.99**	**53**	P	**Pn**	**09 59 01.8**	**-1.6**
BBRB	**Robore, Bolivi**	**8.00**	**63**	P	**Pn**	**09 58 59.2**	**-4.4**
SIV	**San Ignacio**	**8.48**	**45**	P	**Pn**	**09 59 06.3**	**-3.6**
GO04	**Tololo Observa**	**8.59**	**201**	Pn	**Pn**	**09 59 08.8**	**-2.7**
CO02	**Combarbal**	**9.61**	**199**	Pn	**Pn**	**09 59 22.0**	**-2.7**
CPUP	**Villa Florida**	**9.98**	**117**	*eP*	**Pn**	**09 59 31.6**	**+2.1**
PTLB	**Pontes e Lacer**	**10.19**	**51**	Pn	**Pn**	**09 59 30.8**	**-1.4**
PTLB	**Pontes e Lacer**	**10.19**	**51**	*eP*	**Pn**	**09 59 30.1**	**-2.1**
ANTJ	**Antonio Joao (**	**10.45**	**91**	*eP*	**Pn**	**09 59 35.5**	**-0.2**
VILB	**Vilhena**	**11.36**	**38**	Pn	**Pn**	**09 59 47.5**	**0.0**
VILB	**Vilhena**	**11.36**	**38**	*eP*	**Pn**	**09 59 47.3**	**-0.2**
ETMB	**Extrema**	**12.30**	**5**	*eP*	**Pn**	**09 59 58.9**	**-0.6**
MCR1	**Marechal Candi**	**12.38**	**103**	*eP*	**Pn**	**10 00 00.6**	**+0.2**
FRBT	**Francisco Belt**	**13.53**	**109**	*eP*	**P**	**10 00 17.4**	**-0.6**
RODS	**Rosario do Sul**	**13.56**	**130**	*eP*	**Pn**	**10 00 17.0**	**+1.7**
PDRB	**Porto dos Gac**	**14.54**	**46**	*eP*	**Pn**	**10 00 27.8**	**+0.2**
ITAB	**Concordia**	**14.66**	**113**	*eP*	**P**	**10 00 31.9**	**+1.4**
CPSB	**Cacapava Do Su**	**14.88**	**126**	*eP*	**P**	**10 00 34.9**	**+2.1**
PLTB	**Pedras Altas**	**15.49**	**131**	*eP*	**P**	**10 00 40.6**	**+1.0**
CLDB	**Colider**	**15.70**	**46**	*eP*	**Pn**	**10 00 41.8**	**-0.1**
SNDB	**Serra Nova Dou**	**18.31**	**59**	*eP*	**P**	**10 01 11.3**	**+0.6**
NPGB	**Novo Progresso**	**18.91**	**39**	*eP*	**P**	**10 01 16.6**	**-0.7**
BDFB	**Brasilia**	**19.33**	**74**	*eP*	**P**	**10 01 23.1**	**+1.2**
ITTB	**Itaituba**	**20.92**	**34**	*eP*	**P**	**10 01 37.7**	**-1.0**
JANB	**Januaria**	**22.86**	**76**	*eP*	**P**	**10 01 58.4**	**+0.3**
SMTB	**Santa Maria do**	**23.08**	**58**	*eP*	**P**	**10 02 00.4**	**+0.5**
SDBA	**SAO DESIDERIO**	**23.43**	**69**	*eP*	**P**	**10 02 03.6**	**+0.4**
MALB	**Monte Alegre**	**23.82**	**34**	*eP*	**P**	**10 02 07.4**	**+0.8**

*NAO **26** 10:12:13.4±1.7, 61°04N×30°01E, ML2.7*
*HEL **26** 10:12:13.2±0.5, 61°12N×30°23E, h0km, ML2.6, Explosion*
*IDC **26** 10:12:15.7±1.2, 61°09N×29°83E, h0km, mbtmp3.4/4, ML3.2/4, Error ellipse: s-maj=11.8km s-min=9.5km az=179.0*
*BER **26** 10:12:15.2±3.4, 61°10N×30°05E, h0km, ML2.2, ML2.6(HEL), Suspected explosion*
ISC 26 10:12:12.1±1.2, 61°16N±0°04×29°89E±0°06, h0km, n46, σ2°28/68, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.30**	**242**	MSG		10 12 56.2	
	comp=Z,54nm,0.2s						
VJF				SG	**Sn**	**10 12 59.4**	**+3.8**
VJF	**Virojoki**	**1.30**	**242**	MSG		10 12 56.2	
	comp=Z,54nm,0.2s						
VJF				SG	**Sn**	**10 12 59.4**	**+3.8**
FIA0	**FINESS Array S**	**1.86**	**280**	Pn	**Pb**	**10 12 47.9**	**+0.9**
	baz=110,slow=16						
FIA0				Lg	Lg	10 13 14.7	
	baz=99,slow=28						
FIA0				Rg	Rg	10 13 26.1	
	baz=101,slow=37						
FIA0	**FINESS Array S**	**1.86**	**280**	PB	**Pb**	**10 12 47.5**	**+0.5**
FIA0				Pn	**Pb**	**10 12 47.9**	**+0.9**
	baz=110,slow=16						
FIA0				SB	**Sg**	**10 13 13.9**	**+2.0**
FIA0	**FINESS Array S**	**1.86**	**280**	PB	**Pb**	**10 12 47.5**	**+0.5**
FIA0				SB	**Sg**	**10 13 13.9**	**+2.0**
FINES	**FINESS Array B**	**1.86**	**280**	Pg	**Pb**	**10 12 47.8**	**+0.8**
	comp=Z,4.0nm,0.3s,baz=100,slow=16,SNR=176						
FINES				Lg	Lg	10 13 13.6	
	comp=Z,10nm,0.3s,baz=104,slow=27,SNR=32						
FINES				Rg	Rg	10 13 25.9	
	comp=Z,6.8nm,0.4s,baz=105,slow=33,SNR=4.3						
JOF	**Joensuu**	**1.89**	**20**	PG	**Pn**	**10 12 46.6**	**+1.0**
JOF				SG	**Sn**	**10 13 11.8**	**+1.8**
KAF	**Kangasniemi**	**1.96**	**301**	PB	**Pb**	**10 12 50.3**	**+1.7**
KAF				MSG		10 13 16.2	
	comp=Z,27nm,0.2s						
KAF				SB	**Sg**	**10 13 17.5**	**+2.4**
KAF	**Kangasniemi**	**1.96**	**301**	PB	**Pb**	**10 12 50.3**	**+1.7**
KAF				MSG		10 13 16.2	
	comp=Z,27nm,0.2s						
KAF				SB	**Sg**	**10 13 17.5**	**+2.4**
PVF	**Pernaja**	**2.07**	**254**	PN	**Pn**	**10 12 49.8**	**+1.8**
	baz=73						
PVF				MSG		10 13 18.8	
	comp=Z,73nm,0.2s						
PVF				SN	**Sg**	**10 13 19.8**	**+1.3**
KEF	**Keuruu**	**2.60**	**295**	PN	**Pb**	**10 12 58.9**	**-0.6**
KEF				MSG		10 13 34.6	
	comp=Z,9.1nm,0.2s						
KEF				SB	**Sg**	**10 13 34.8**	**-0.8**
NUR	**Nurmijrvi**	**2.65**	**258**	PN	**Pn**	**10 12 58.4**	**+2.4**
NUR				SN	**Sb**	**10 13 32.5**	**-0.9**
MEF	**Metsahovi**	**2.87**	**253**	*eP*	**Pn**	**10 13 01.9**	**+3.0**
MEF				IAML		10 13 45.2	
	comp=Z,24nm,0.3s						
MEF	**Metsahovi**	**2.87**	**253**	PN	**Pn**	**10 13 00.9**	**+1.9**
	baz=67						
MEF				SN	**Sb**	**10 13 37.6**	**-2.0**
MEF				MSG		10 13 41.8	
	comp=Z,30nm,0.2s						
RMF	**Romuvaara**	**3.07**	**0**	PN	**Pn**	**10 13 04.4**	**+2.6**
	baz=173						
VSU	**Vasula**	**3.14**	**212**	*eP*	**Pn**	**10 13 03.8**	**+1.0**
VSU	**Vasula**	**3.14**	**212**	PN	**Pn**	**10 13 04.8**	**+2.1**
VSU				SN	**Sn**	**10 13 43.5**	**+2.6**
VAF	**Ylistaro**	**3.88**	**302**	PN

IDC 26 10:13:05.4±1.8, 4°13'S×145°12'E, h0km, mb3.8/3, mbtmp3.8/4, ML4.0/1, MS3.4/1, Error ellipse: s-maj=80.7km s-min=26.8km az=123.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.91**	**213**	P	P	10 17 28.0	+0.2
	0.5nm,0.3s,baz=33,slow=11,SNR=59						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**22.24**	**208**	P	P	10 18 02.6	-1.3
	0.6nm,0.5s,baz=42,slow=7.8,SNR=34						
	0.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.58**	**232**	P	P	10 18 19.0	+1.0
	4.6nm,0.5s,baz=358,slow=7.0,SNR=24						
	4.6nm,0.5s						
LEM	**Lembang**	**37.42**	**264**	LR	LR	10 38 39.2	
	comp=Z,58nm,20.4s,baz=45,slow=41						
ILAR	**Eielson Array**	**84.52**	**24**	P	P	10 25 40.0	0.0
	0.6nm,0.8s,baz=252,slow=5.5,SNR=5.2						
	0.6nm,0.8s						

*IDC **26** 10:21:40.8±0.4, 19°.05N×121°.31E, h0km, mb4.2/25, mbtmp4.2/26, ML3.7/1, MS3.7/41, Error ellipse: s-maj=19.5km s-min=10.4km az=77.0*
*NEIC **26** 10:21:44.5±1.3, 19°.09N±0°.08×121°.06E±0°.10, h20km±4km, mb4.7/77, Error ellipse: s-maj=13.5km s-min=11.2km az=107.0*
*BJI **26** 10:21:45.0±0.0, 19°.10N×121°.20E, h40km, mb4.3/18, mB4.8/7, ML4.5/1, Ms4.1/6, Ms7 4.0/7*
*MAN **26** 10:21:46.2, 19°.22N×121°.20E, h26km, mb5.0, ML3.9, MS4.0*
MAN INTENSITY II - SARRAT ILOCOS NORTE.
*DJA **26** 10:21:46.7±0.8, 19°.N±7°×12°.1E±°, h32km±4km, M4.5/15, mB6.2/1, mb4.5/15, Mw(mB)5.8/1*

ISC 26 10:21:46.8±0.4, 19°.26N±0°.03×121°.23E±0°.06, h36km±1km, n182, σ2§15/153, mb4.6/70, MS3.7/40, 8C-11D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICP	**Calayan Island**	**0.24**	**88**	⇓*i*P	**Pn**	**10 21 55.0**	**+0.1**
CICP				*i* S	**Sn**	**10 22 01.2**	**-0.6**
PACPP	**Pamplona Cagay**	**0.80**	**171**	⇓*i*P	**Pn**	**10 22 00.2**	**-1.5**
PACPP				*i* S	**Sn**	**10 22 13.1**	**+0.7**
SGCP	**Gonzaga**	**1.27**	**142**	⇑*e*P	**Pn**	**10 22 08.4**	**+0.3**
SGCP				*e*S	**Sn**	**10 22 25.3**	**+1.3**
APYP	**Conner**	**1.39**	**179**	⇓*i*P	**Pn**	**10 22 09.0**	**-0.7**
APYP				*i* S	**Sn**	**10 22 27.0**	**+0.2**
SIPP	**Brgy, Tapao**	**1.52**	**209**	⇓*e*P	**Pn**	**10 22 11.8**	**+0.4**
SIPP				*i* S	Sn	10 22 39.6	+10
SAMP	**Sagada Mountai**	**2.19**	**188**	⇓*e*P	**Pn**	**10 22 20.5**	**-0.2**
SAMP				*e*S	**Sn**	**10 22 49.4**	**+2.8**
PALP	**Palanan**	**2.46**	**152**	⇓*e*P	**Pn**	**10 22 26.5**	**+2.0**
PALP				*e*S	**Sn**	**10 22 58.0**	**+4.7**
SMPP	**San Manuel, Pa**	**3.13**	**190**	⇓*e*P	**Pn**	**10 22 34.2**	**+0.5**
SMPP				*e*S	**Sn**	**10 23 14.2**	**+4.3**
BALP	**Baler**	**3.51**	**174**	⇑*e*P	**Pn**	**10 22 40.3**	**+1.4**
BALP				*e*S	**Sn**	**10 23 20.9**	**+1.6**
TWG	**Pinlang**	**3.55**	**358**	Pn	**Pn**	**10 22 40.1**	**+0.8**
PCPH	**Palayan**	**3.68**	**182**	⇓*e*P	**Pn**	**10 22 42.5**	**+1.4**
PCPH				*e*S	**Sn**	**10 23 29.8**	**+6.5**
SCZP	**Santa Cruz**	**3.69**	**200**	⇓*e*P	**Pn**	**10 22 44.7**	**+3.4**
SCZP				*e*S	**Sn**	**10 23 31.1**	**+7.6**
TPUB	**Ta-pu**	**4.06**	**352**		**Pn**	**10 22 46.2**	**-0.2**
YULB	**Yu-li**	**4.11**	**1**	Pn	**Pn**	**10 22 48.5**	**+1.4**
SSLB	**Suanglung**	**4.51**	**357**	Pn	**Pn**	**10 22 53.8**	**+1.1**
NACB	**Ninganchiao**	**4.90**	**4**	Pn	**Pn**	**10 22 59.5**	**+1.6**
MACP	**Maragondon, Ca**	**4.99**	**186**	⇓*e*P	**Pn**	**10 23 00.3**	**+1.1**
LQP	**Lukban**	**5.13**	**177**	⇓*e*P	**Pn**	**10 23 02.7**	**+1.5**
LQP				*e*S	**Sn**	**10 24 07.5**	**+8.2**
TGY	**Tagaytay City**	**5.13**	**183**	⇓*e*P	Pn	10 23 12.5	+11
JCNP	**Jose Panganiba**	**5.14**	**164**	⇑*i*P	**Pn**	**10 23 03.5**	**+2.3**
JCNP				*i* S	**Sn**	**10 23 55.0**	**-4.3**
YHNB	**Yeheng**	**5.39**	**1**		**Pn**	**10 23 06.7**	**+2.0**
GQP	**Guinayangan**	**5.45**	**167**	⇑*e*P	**Pn**	**10 23 04.4**	**-1.1**
LUBP	**Lubang**	**5.57**	**190**	⇑*e*P	**Pn**	**10 23 11.4**	**+4.1**
LUBP				*e*S	**Sn**	**10 24 14.7**	**+4.7**
KNMB	**Chin-men Tao**	**5.81**	**334**	Pn	**Pn**	**10 23 08.8**	**-1.6**
HKPS	**Hong Kong Po S**	**7.28**	**296**		**Pn**	**10 23 27.9**	**-2.8**
QIZ	**Qiongzhong**	**10.76**	**271**	Pn	**Pn**	**10 24 14.7**	**-3.7**
DAV	**Davao City (W)**	**12.83**	**160**	LR	LR	10 30 27.8	
	comp=Z,769nm,19.2s,baz=9.0,slow=42						
NJ2	**Nanjing**	**12.92**	**351**	*e*P	**Pn**	**10 24 46.8**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KMI	**Kunming**	**18.08**	**292**	⇑P	**P**	**10 25 58.3**	**+2.7**
KMI				pP	pwP	10 26 08.0	+0.2
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI				LR	LR		
	comp=N,400nm,17.0s						
KMI				LR	LR		
	comp=E,530nm,15.4s						
KMI				LR	LR		
	comp=Z,500nm,19.8s						
XAN	**Xi'an**	**18.35**	**326**	P	**Pn**	**10 25 59.3**	**+0.8**
XAN				pP	pwP	10 26 10.5	-0.5
XAN				sP	sP	10 26 15.5	+4.7
XAN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MRSI	**Marisa**	**18.68**	**178**	P	**Pn**	**10 26 08.1**	**+5.6**
SBUM	**Sibu**	**18.89**	**209**	P	**P**	**10 26 01.3**	**-3.0**
JHS	**Saijyo**	**18.89**	**32**	P	**Pn**	**10 26 06.1**	**+1.1**
HNS	**HongShan**	**18.95**	**344**	⇓P	**Pn**	**10 26 08.3**	**+2.6**
HNS				S	Sn	10 29 26.3	-11
HNS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HNS				LR	LR		
	comp=N,370nm,13.0s						
HNS				LR	LR		
	comp=Z,460nm,15.7s						
KSRS	**Korea Array**	**19.05**	**17**	P	**P**	**10 26 06.4**	**+0.5**
	0.2nm,0.3s,baz=198,slow=11,SNR=11						
KSRS				PcP	**PcP**	**10 30 29.9**	**0.0**
	1.2nm,0.8s,baz=190,slow=2.2,SNR=6.8						
KSRS				LR	LR	10 34 21.7	
	comp=Z,170nm,19.3s,baz=215,slow=40						
	1.5nm,0.6s						
APSI	**Ampana**	**20.05**	**179**	P	**P**	**10 26 15.3**	**-1.7**
	19nm,0.6s						
JCJ	**Chichijima**	**20.77**	**64**	LR	LR	10 33 02.7	
	comp=Z,139nm,20.1s,baz=120,slow=33						
MTKI	**Muara Teweh, K**	**21.02**	**198**	P	**P**	**10 26 25.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**21.10**	**271**	P	**P**	**10 26 28.3**	**-0.1**
	3.7nm,0.9s,baz=80,slow=9.0,SNR=22						
CMAR				PcP	**PcP**	**10 30 34.5**	**+0.5**
	1.8nm,0.6s,baz=60,slow=0.6,SNR=12						
CMAR				LR	LR	10 33 59.3	
	comp=Z,131nm,20.7s,baz=85,slow=35						
	3.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.10**	**271**	P	**P**	**10 26 28.1**	**-0.3**
INU	**Inuyama**	**21.25**	**38**	P	**P**	**10 26 31.6**	**+1.7**
INU				IAmb	IAmb	10 26 43.5	
	comp=Z,46nm,1.1s						
STKI	**Sintang**	**21.34**	**208**	P	P	10 26 21.5	-9.4
LZH	**Lanzhou**	**22.70**	**321**	*e*P	P	10 27 00.0	+14
LZH				pP	pwP	10 27 06.5	+8.0
LZH				sP	sP	10 27 10.0	+12
LZH				pmax	pmax		
	comp=Z,25nm,1.8s						
MJAR	**Matsushiro Arr**	**22.78**	**37**	P	**P**	**10 26 46.5**	**+0.3**
	comp=Z,4.2nm,1.0s,baz=225,slow=11,SNR=9.6						
	comp=Z,4.2nm,1.0s						
NLAI	**Namlea**	**23.09**	**165**	P	**P**	**10 26 50.2**	**+0.7**
	comp=Z,17nm,0.8s						
SPSI	**Sidrap Palu**	**23.12**	**184**	P	**P**	**10 26 49.5**	**-0.3**
	comp=Z,16nm,1.0s						
GUMO	**Guam**	**23.36**	**100**	LR	LR	10 34 07.7	
	comp=Z,181nm,20.8s,baz=283,slow=32						
BBKI	**Banjar Baru**	**23.44**	**196**	P	**P**	**10 26 52.5**	**-0.5**
	comp=Z,7μmcomp=Z,31nm,0.9s						
KAPI	**Kappang**	**24.16**	**184**	LR	LR	10 37 17.5	
	comp=Z,113nm,19.6s,baz=6.0,slow=39						
FAKI	**Fak Fak**	**24.56**	**153**	P	**P**	**10 27 01.6**	**-1.9**
JMM	**Marumori**	**25.19**	**39**	P	**P**	**10 27 09.0**	**+0.1**
JMM				IAmb	IAmb	10 27 19.5	
	comp=Z,37nm,1.2s						
USRK	**Ussuriysk Ar.**	**26.45**	**18**	P	**P**	**10 27 21.0**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=206,slow=10,SNR=6.3						
	comp=Z,1.7nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**27.26**	**236**	LR	LR	10 37 05.4	
	comp=Z,120nm,19.3s,baz=79,slow=34						
JTM	**Tenmabayashi**	**27.36**	**34**	P	**P**	**10 27 30.2**	**+1.6**
JTM				IAmb	IAmb	10 28 12.3	
	comp=Z,29nm,1.1s						
BRDH	**Bariadhala**	**27.81**	**282**	LR	LR	10 40 04.4	
	comp=Z,244nm,18.1s,baz=90,slow=40						
EDFI	**Ende, Flores**	**27.84**	**179**	P	**P**	**10 27 38.6**	**+5.5**
GOMU	**GeErMu**	**28.70**	**311**	P	**P**	**10 27 39.8**	**-1.2**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BATI	**Baumata**	**29.38**	**175**	LR	LR	10 40 28.2	
	comp=Z,137nm,19.6s,baz=301,slow=39						
SONM	**Songino Array**	**30.95**	**340**	P	**P**	**10 28 01.9**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=162,slow=10.0,SNR=3.5						
SONM				LR	LR	10 42 46.5	
	comp=Z,198nm,18.1s,baz=175,slow=41						
	comp=Z,0.6nm,0.6s						
KLR	**Kul'dur**	**31.08**	**13**	P	**P**	**10 28 02.0**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=177,slow=6.8,SNR=6.0						
KLR				PcP	**PcP**	**10 30 55.9**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=347,slow=4.7,SNR=3.5						
	comp=Z,1.4nm,0.5s						
KNRA	**Kununurra**	**35.50**	**167**	P	**P**	**10 28 38.1**	**-2.1**
KNRA				IAmb	IAmb	10 28 59.6	
	comp=Z,22nm,1.4s						
FITZ	**Fitzroy Crossi**	**37.38**	**173**	P	**P**	**10 28 53.1**	**-3.2**
	comp=Z,2.2nm,0.4s,baz=357,slow=8.0,SNR=19						
FITZ				PcP	**PcP**	**10 31 14.6**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=246,slow=0.6,SNR=6.9						
	comp=Z,2.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**37.38**	**173**	P	**P**	**10 28 53.5**	**-2.7**
KRVT	**Keravat (AS076**	**38.30**	**125**	LR	LR	10 41 55.1	
	comp=Z,170nm,21.4s,baz=69,slow=32						
COCO	**West Island**	**39.42**	**219**	P	**P**	**10 29 11.4**	**-2.1**
COEN	**Coen**	**39.45**	**145**	P	**P**	**10 29 11.8**	**-2.1**
COEN				IAmb	IAmb	10 29 14.0	
	comp=Z,13nm,1.1s						
MBWA	**Marble Bar**	**40.20**	**182**	P	**P**	**10 29 16.9**	**-2.9**
MBWA				IAmb	IAmb	10 29 17.9	
	comp=Z,30nm,1.5s						
PSA00	**Pilbara Seismi**	**40.60**	**182**	P	**P**	**10 29 20.7**	**-2.5**
PSA00				IAmb	IAmb	10 29 21.4	
	comp=Z,15nm,0.8s						
WB0	**Warramunga Arr**	**40.88**	**161**	P	**P**	**10 29 21.9**	**-3.6**
WRAB	**Tennant Creek**	**41.02**	**161**	P	**P**	**10 29 23.2**	**-3.5**
WRA	**Warramunga Arr**	**41.02**	**161**	P	**P**	**10 29 22.8**	**-4.0**
	comp=Z,2.3nm,0.4s,baz=333,slow=10,SNR=54						
WRA				PcP	**PcP**	**10 31 26.1**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=340,slow=3.3,SNR=8.1						
WRA				LR	LR	10 48 48.7	
	comp=Z,53nm,18.0s,baz=339,slow=40						
	comp=Z,2.3nm,0.4s						
WRA	**Warramunga Arr**	**41.02**	**161**	P	**P**	**10 29 23.4**	**-3.4**
WB2	**Warramunga Arr**	**41.03**	**161**	P	**P**	**10 29 23.2**	**-3.6**
PALK	**Pallekele**	**41.09**	**259**	LR	LR	10 46 11.6	
	comp=Z,81nm,18.7s,baz=161,slow=36						
WR0	**Warramunga Arr**	**41.10**	**161**	P	**P**	**10 29 23.9**	**-3.5**
MK31	**Makanchi Array**	**42.00**	**320**	P	**P**	**10 29 34.5**	**-0.1**
MKAR	**Makanchi Array**	**42.00**	**320**	P	**P**	**10 29 35.7**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=112,slow=9.4,SNR=7.1						
MKAR				LR	LR	10 48 13.4	
	comp=Z,96nm,18.6s,baz=108,slow=38						
	comp=Z,0.9nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**42.93**	**83**	T	T	11 15 20.5	
	baz=279,slow=75,SNR=89						
H11S1	**WAKE ISLAND Hy**	**42.94**	**83**	T	T	11 15 21.3	
	baz=279,slow=75,SNR=42						
H11S2	**WAKE ISLAND Hy**	**42.95**	**83**	T	T	11 15 22.5	
	baz=279,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hy**	**42.95**	**81**	T	T	11 15 19.0	
	baz=277,slow=75,SNR=106						
H11N2	**WAKE ISLAND Hy**	**42.95**	**81**	T	T	11 15 19.7	
	baz=277,slow=75,SNR=70						
H11N3	**WAKE ISLAND Hy**	**42.97**	**81**	T	T	11 15 20.5	
	baz=277,slow=75,SNR=74						
YAK	**Yakutsk**	**43.14**	**6**	LR	LR	10 48 35.7	
	comp=Z,75nm,19.4s,baz=267,slow=37						
KSH	**Kashi**	**43.76**	**307**	P	P	10 30 00.0	+11
KSH				pP	sP	10 30 05.0	+2.2
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PETK	**Petropavlovsk-**	**43.98**	**31**	P	**P**	**10 29 51.8**	**+1.3**
	comp=Z,5.7nm,1.0s,baz=214,slow=5.9,SNR=2.5						
PETK				LR	LR	10 49 48.1	
	comp=Z,47nm,18.9s,baz=217,slow=38						
	comp=Z,5.7nm,1.0s						
PETK	**Petropavlovsk-**	**43.98**	**31**	P	**P**	**10 29 51.5**	**+1.1**
AS31	**Alice Springs**	**44.42**	**163**	P	**P**	**10 29 52.2**	**-2.1**
AS31				IAmb	IAmb	10 29 54.1	
	comp=Z,4.6nm,0.3s						
ASAR	**Alice Springs**	**44.42**	**163**	P	**P**	**10 29 51.1**	**-3.2**
	comp=Z,3.2nm,0.3s,baz=343,slow=7.0,SNR=158						
	comp=Z,3.2nm,0.3s						
ZALV	**Zalesovo Beam**	**44.45**	**330**	P	**P**	**10 29 55.1**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=99,slow=8.9,SNR=3.6						
ZALV				LR	LR	10 49 35.3	
	comp=Z,118nm,18.9s,baz=109,slow=38						
	comp=Z,0.9nm,0.3s						
AAK	**Ala-Archa**	**45.65**	**311**	LR	LR	10 51 31.5	
	comp=Z,124nm,20.9s,baz=120,slow=39						
KURBB	**Kurchatov Arra**	**45.97**	**323**	P	**P**	**10 30 07.6**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=122,slow=7.8,SNR=7.4						
	comp=Z,2.6nm,0.6s						
CTA	**Charters Tower**	**46.16**	**147**	P	**P**	**10 30 07.1**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=326,slow=7.8,SNR=3.7						
	comp=Z,2.8nm,0.6s						
CTAO	**Charters Tower**	**46.16**	**147**	P	**P**	**10 30 07.0**	**-1.2**
CTAO				IAmb	IAmb	10 30 42.8	
	comp=Z,11nm,1.3s						
HNR	**Honiara**	**47.63**	**123**	LR	LR	10 48 49.5	
	comp=Z,860nm,19.5s,baz=341,slow=34						
MORW	**Morawa**	**48.30**	**186**	P	**P**	**10 30 22.6**	**-2.1**
FORT	**Forrest**	**50.18**	**172**	P	**P**	**10 30 37.2**	**-1.8**
BVAR	**Borovoye Array**	**51.56**	**323**	P	**P**	**10 30 50.9**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=101,slow=7.8,SNR=2.5						
BVAR				PcP	**PcP**	**10 32 02.3**	**-0.5**
	baz=116,slow=3.4						
BVAR				LR	LR	10 54 20.2	
	comp=Z,69nm,18.6s,baz=116,slow=38						
	comp=Z,0.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**52.03**	**184**	P	**P**	**10 30 51.2**	**-1.7**
	comp=Z,14nm,0.6s,baz=226,slow=6.9,SNR=10						
	comp=Z,14nm,0.6s						
NWAO	**Narrogin (SRO)**	**52.03**	**184**	P	**P**	**10 30 51.1**	**-1.7**
TIXI	**Tiksi**	**52.59**	**3**	LR	LR	10 55 15.9	
	comp=Z,86nm,18.7s,baz=278,slow=38						
TIXI	**Tiksi**	**52.59**	**3**	P	**P**	**10 30 57.3**	**+0.8**
TIXI				IAmb	IAmb	10 30 57.4	
	comp=Z,12nm,1.1s						
EIDS	**Eidsvold**	**53.02**	**146**	P	**P**	**10 30 59.4**	**-1.0**
BBOO	**Buckleboo**	**53.68**	**164**	P	**P**	**10 31 03.8**	**-1.3**
NRIK	**Noril'sk**	**54.16**	**346**	P	**P**	**10 31 09.2**	**+1.1**
	comp=Z,6.8nm,0.7s,baz=154,slow=3.2,SNR=4.1						
	comp=Z,6.8nm,0.7s						
STKA	**Stephens Creek**	**54.47**	**159**	P	**P**	**10 31 08.5**	**-2.3**
	comp=Z,8.4nm,1.0s,baz=323,slow=7.5,SNR=5.6						
	comp=Z,8.4nm,1.0s						
STKA	**Stephens Creek**	**54.47**	**159**	P	**P**	**10 31 09.7**	**-1.1**
ABKAR	**Akbulak array**	**56.97**	**317**	P	**P**	**10 31 29.2**	**+0.6**
ABKAR				IAmb	IAmb	10 31 37.2	
	comp=Z,4.4nm,0.9s						
AKTO	**Aktyubinsk**	**58.38**	**318**	P	**P**	**10 31 39.0**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=112,slow=12,SNR=6.2						
AKTO				LR	LR	10 58 07.5	
	comp=Z,39nm,19.8s,baz=104,slow=37						
	comp=Z,1.8nm,0.6s						
ARU	**Arti**	**59.09**	**325**	P	**P**	**10 31 43.9**	**+0.5**
	comp=Z,6.2nm,0.2s,baz=76,slow=3.7,SNR=7.7						
ARU				LR	LR	10 59 41.4	
	comp=Z,81nm,19.1s,baz=175,slow=38						
	comp=Z,6.2nm,0.2s						
DZM	**Mont Dzumac**	**60.34**	**131**	LR	LR	10 54 12.4	
	comp=Z,74nm,21.6s,baz=20,slow=32						
TOO	**Toolangi**	**60.97**	**158**	P	**P**	**10 31 55.6**	**-0.9**
KIRV	**Kirov**	**64.29**	**326**	LR	LR	11 02 41.1	
	comp=Z,112nm,18.2s,baz=82,slow=38						
BELG	**Belogornoye**	**65.01**	**320**	LR	LR	11 02 12.1	
	comp=Z,45nm,19.6s,baz=347,slow=37						
TAU	**Tasmania Unive**	**66.36**	**159**	P	**P**	**10 32 31.8**	**-0.1**
MSVF	**Nonsavu**	**66.83**	**120**	LR	LR	10 57 09.9	
	comp=Z,38nm,21.6s,baz=329,slow=32						
MSVF	**Nonsavu**	**66.83**	**120**	P	**P**	**10 32 35.2**	**-0.2**
MSVF				IAmb	IAmb	10 32 37.3	
	comp=Z,5.7nm,0.8s						
GNI	**Garni**	**67.68**	**306**	LR	LR	11 06 37.9	
	comp=Z,36nm,19.9s,baz=112,slow=40						
KBZ	**Khabaz**	**68.63**	**310**	LR	LR	11 07 08.9	
	comp=Z,59nm,18.2s,baz=50,slow=40						
CHGN	**Chignik**	**68.88**	**36**	P	**P**	**10 32 46.9**	**-0.7**
KLMR	**Klimovskoe**	**69.35**	**329**	*e*P	**P**	**10 32 48.5**	**-2.0**
KLMR				AMP		10 32 58.9	
	comp=Z,15nm,1.4s						
N18K	**Kilae Creek**	**69.94**	**31**	P	**P**	**10 32 55.3**	**+1.1**
N18K				IAmb	IAmb	10 33 34.9	
	comp=Z,14nm,1.4s						
SVW2	**Sparrevohn**	**70.06**	**31**	P	**P**	**10 32 56.4**	**+1.4**
SVW2				IAmb	IAmb	10 33 31.4	
	comp=Z,7.8nm,1.2s						
L19K	**White Mountain**	**70.34**	**30**	P	**P**	**10 32 58.1**	**+1.5**
O18K	**Koktuh Hills**	**70.34**	**32**	P	**P**	**10 32 58.0**	**+1.3**
J20K	**Nowinta River**	**70.52**	**28**	P	**P**	**10 32 59.2**	**+1.5**
IMAR	**Indian Mountai**	**70.57**	**26**	P	**P**	**10 32 59.4**	**+1.4**
M19K	**Big River Lodg**	**70.58**	**30**	P	**P**	**10 32 59.3**	**+1.2**
K20K	**Telida**	**70.61**	**28**	P	**P**	**10 32 59.6**	**+1.3**
K20K				IAmb	IAmb	10 33 24.0	
	comp=Z,14nm,1.5s						
N19K	**Bonanza Creek**	**70.62**	**31**	P	**P**	**10 32 59.6**	**+1.1**
N19K				IAmb	IAmb	10 33 08.2	
	comp=Z,4.9nm,1.0s						
H21K	**Melozitna Rive**	**70.98**	**26**	P	**P**	**10 33 01.8**	**+1.4**
H21K				IAmb	IAmb	10 33 02.7	
	comp=Z,12nm,1.2s						
CAST	**Castle Rocks**	**71.50**	**28**	P	**P**	**10 33 04.5**	**+0.9**
CAST				IAmb	IAmb	10 33 05.4	
	comp=Z,8.1nm,0.7s						
PPLA	**Purkeypile**	**71.50**	**29**	P	**P**	**10 33 04.4**	**+0.5**
OHAK	**Old Harbor**	**71.61**	**35**	P	**P**	**10 33 04.3**	**-0.1**
MLY	**Manley**	**71.90**	**27**	P	**P**	**10 33 06.8**	**+0.7**
MLY				IAmb	IAmb	10 33 08.0	
	comp=Z,4.9nm,0.9s						
BPAW	**Bear Paw Mtn.**	**71.91**	**27**	P	**P**	**10 33 06.9**	**+0.8**
BPAW				IAmb	IAmb	10 33 07.4	
	comp=Z,6.4nm,1.0s						
KDAK	**Kodiak Island**	**71.91**	**34**	P	**P**	**10 33 06.4**	**+0.2**
SKT	**Skwentna**	**71.91**	**30**	P	**P**	**10 33 06.0**	**-0.2**
SKT				IAmb	IAmb	10 33 28.7	
	comp=Z,14nm,1.4s						
KTH	**Kantishna Hill**	**72.00**	**28**	P	**P**	**10 33 07.0**	**+0.2**
KTH				IAmb	IAmb	10 33 34.2	
	comp=Z,6.2nm,1.0s						
TRF	**Thorofare Moun**	**72.30**	**28**	P	**P**	**10 33 09.0**	**+0.4**
TRF				IAmb	IAmb	10 33 15.9	
	comp=Z,3.5nm,0.8s						
H23K	**Yukon River**	**72.30**	**26**	P	**P**	**10 33 10.0**	**+1.5**
H23K				IAmb	IAmb	10 33 10.9	
	comp=Z,12nm,1.1s						
SUA	**Susitna One**	**72.35**	**30**	P	**P**	**10 33 08.9**	**0.0**
SUA				IAmb	IAmb	10 33 09.9	
	comp=Z,8.1nm,0.8s						
NEA2	**Nenana**	**72.67**	**27**	IAmb	IAmb	10 33 20.8	
	comp=Z,4.2nm,0.8s						
MCK	**McKinley**	**72.86**	**28**	IAmb	IAmb	10 33 21.2	
	comp=Z,7.4nm,1.0s						
RND	**Reindeer**	**72.94**	**28**	IAmb	IAmb	10 33 21.4	
	comp=Z,7.5nm,0.8s						
MDM	**Murphy Dome**	**72.97**	**26**	P	**P**	**10 33 13.0**	**+0.6**
MDM				IAmb	IAmb	10 33 14.8	
	comp=Z,14nm,1.4s						
PMR	**Palmer**	**73.10**	**30**	P	**P**	**10 33 12.9**	**-0.3**
PMR				IAmb	IAmb	10 33 13.5	
	comp=Z,4.6nm,0.6s						
SML	**Sawmill**	**73.44**	**30**	IAmb	IAmb	10 33 28.2	
	comp=Z,8.7nm,1.0s						
ILAR	**Eielson Array**	**73.57**	**27**	P	**P**	**10 33 14.5**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=273,slow=4.5,SNR=8.2						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**74.11**	**339**	P	**P**	**10 33 19.1**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=74,slow=8.9,SNR=14						
	comp=Z,1.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**74.28**	**348**	P	**P**	**10 33 22.0**	**+2.0**
	comp=Z,1.8nm,0.5s,baz=100,slow=9.7,SNR=4.8						
SPITS				LR	LR	11 09 09.2	
	comp=Z,37nm,20.6s,baz=40,slow=38						
	comp=Z,1.8nm,0.5s						
RIDG	**Independent Ri**	**74.64**	**27**	IAmb	IAmb	10 33 31.8	
	comp=Z,6.5nm,1.0s						
DOT	**Dot Lake**	**75.00**	**27**	P	**P**	**10 33 24.5**	**+0.2**
DOT				IAmb	IAmb	10 33 34.4	
	comp=Z,6.3nm,1.2s						
FINES	**FINESS Array B**	**75.71**	**330**	P	**P**	**10 33 28.3**	**0.0**
	comp=Z,1.6nm,0.8s,baz=71,slow=8.3,SNR=3.4						
FINES

4.0nm,0.5s,baz=124,slow=17,SNR=15
BVA0 ⇓Lg Lg 10 23 42.4
11nm,0.6s,baz=135,slow=30,SNR=14
BVAR Borovoye Array 2.93 321 Pn **Pb 10 23 01.9 +0.7**
1.5nm,0.3s,baz=125,slow=16,SNR=18
BVAR Lg Lg 10 23 42.4
2.9nm,0.3s,baz=126,slow=28,SNR=11
3.1nm,0.6s
KURBB Kurchatov Arra 3.23 91 Pn **Pn 10 23 02.4 +2.2**
0.2nm,0.3s,baz=279,slow=14,SNR=14
KURBB Lg Lg 10 23 48.0
0.8nm,0.3s,baz=274,slow=30,SNR=5.4
2.2nm,0.5s
KURBB Kurchatov Arra 3.23 91 ⇓Pg **Pg 10 23 08.8 -1.3**
11nm,0.6s
KURBB ⇓Lg Lg 10 23 48.4
40nm,0.6s
KURK Kurchatov 3.29 89 ⇑Pg **Pb 10 23 07.1 -0.1**
3.7nm,0.6s
KURK ⇓Lg Lg 10 23 49.8
23nm,0.6s
MK31 Makanchi Array 7.08 121 ⇓Pg **Pg 10 24 20.0 -3.7**
0.8nm,0.5s,baz=300,slow=16,SNR=3.7
MK31 ⇑Lg Lg 10 25 48.3
4.2nm,0.7s,baz=310,slow=24,SNR=5.3
MKAR Makanchi Array 7.08 121 Pn **Pn 10 23 56.1 +3.1**
0.1nm,0.3s,baz=311,slow=11,SNR=2.4
MKAR Lg Lg 10 25 48.7
0.3nm,0.3s,baz=310,slow=24,SNR=4.2
0.2nm,0.5s
I46RU ZALESOVO INFRA 7.64 61 *i* 11 04 30.0
baz=250,slow=324,SNR=2.4
ZALV Zalesovo Beam 7.64 61 Pn **Pn 10 24 02.9 +2.3**
0.3nm,0.3s,baz=256,slow=10,SNR=4.2
1.0nm,0.5s

NEIC ***26*** *10:32:10.9±1.8, 6.3S±0.1°×151.5E±0.1°, h10km±2km, mb4.3/11, Error ellipse: s-maj=31.0km s-min=7.1km az=138.0*
IDC ***26*** *10:32:21.1±1.1, 6.9OS×150.4OE, h0km, mb4.0/5, mbtmp4.1/6, ML4.5/1, MS3.1/3, Error ellipse: s-maj=49.5km s-min=18.5km az=127.0*

ISC 26 10:32:26.3±0.8, 6.8S±0.1°×150.4E±0.2, h35km, n34, σ1s11/34, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.98**	**34**	Pn	**Pn**	**10 33 11.0**	**-0.1**
KRVT	56nm,0.3s,baz=62,slow=0.3,SNR=34			Sn	**Sn**	**10 33 48.5**	**+2.9**
	37nm,0.3s,baz=138,slow=20,SNR=11						
RABL	**Rabaul**	**3.15**	**35**	P	**Pn**	**10 33 13.6**	**+0.1**
PMG	**Port Moresby**	**4.09**	**230**	Pn	**Pn**	**10 33 27.7**	**+1.4**
PMG	8.1nm,0.3s,baz=61,slow=8.6,SNR=20			Sn	**Sn**	**10 34 14.1**	**+1.0**
	31nm,0.3s,baz=81,slow=14,SNR=13						
PMG				LR	LR	10 35 07.9	
	comp=Z,66nm,19.9s,baz=69,slow=41						
PMG	**Port Moresby**	**4.09**	**230**	P	**Pn**	**10 33 27.8**	**+1.4**
COEN	**Coen**	**10.03**	**224**	Pn	**Pn**	**10 34 48.1**	**+0.2**
COEN	**Coen**	**10.03**	**224**	P	**Pn**	**10 34 48.1**	**+0.2**
FAKI	**Fak Fak**	**18.44**	**281**	P	**P**	**10 36 38.5**	**-0.5**
FAKI				IAmb	IAmb	10 36 41.1	
	comp=Z,5.8nm,0.8s						
KDU	**Kakadu**	**18.56**	**250**	P	**P**	**10 36 39.9**	**-0.5**
MTN	**Manton Dam**	**19.86**	**251**	P	**P**	**10 36 54.1**	**-0.5**
MTN				IAmb	IAmb	10 37 03.3	
	comp=Z,6.1nm,0.8s						
MTN	**Manton Dam**	**19.86**	**251**	P	**P**	**10 36 54.4**	**-0.2**
WB0	**Warramunga Arr**	**20.16**	**229**	P	**P**	**10 36 57.4**	**-0.4**
WB0				IAmb	IAmb	10 36 58.0	
	comp=Z,15nm,0.7s						
WR0	**Warramunga Arr**	**20.17**	**228**	P	**P**	**10 36 57.5**	**-0.5**
WR0				IAmb	IAmb	10 36 58.1	
	comp=Z,16nm,1.0s						
WRAB	**Tennant Creek**	**20.30**	**228**	P	**P**	**10 36 58.8**	**-0.5**
WRAB				IAmb	IAmb	10 36 59.4	
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**20.30**	**228**	P	**P**	**10 36 58.8**	**-0.5**
WB2	**Warramunga Arr**	**20.30**	**228**	P	**P**	**10 36 58.8**	**-0.6**
WRA	**Warramunga Arr**	**20.31**	**228**	P	**P**	**10 36 58.7**	**-0.8**
	comp=Z,12nm,0.6s,baz=55,slow=11,SNR=100						
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**20.31**	**228**	P	**P**	**10 36 57.5**	**-1.9**
INKA	**Innaminka**	**22.74**	**203**	P	**P**	**10 37 26.2**	**+0.7**
KNRA	**Kununurra**	**22.92**	**246**	P	**P**	**10 37 26.7**	**-0.8**
KNRA				IAmb	IAmb	10 37 49.4	
	comp=Z,9.0nm,0.9s						
KNRA	**Kununurra**	**22.92**	**246**	P	**P**	**10 37 27.7**	**+0.2**
AS31	**Alice Springs**	**23.05**	**222**	P	**P**	**10 37 27.2**	**-1.6**
ASAR	**Alice Springs**	**23.05**	**222**	P	**P**	**10 37 27.6**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=57,slow=8.8,SNR=49						
	comp=Z,1.7nm,0.5s						
ASAR	**Alice Springs**	**23.05**	**222**	P	**P**	**10 37 27.1**	**-1.6**
OOD	**Oodnadatta**	**25.09**	**212**	P	**P**	**10 37 48.7**	**+0.9**
LCRK	**Leigh Creek**	**26.15**	**204**	P	**P**	**10 37 57.7**	**+0.4**
STKA	**Stephens Creek**	**26.26**	**197**	LR	LR	10 47 24.6	
	comp=Z,41nm,20.4s,baz=21,slow=34						
FITZ	**Fitzroy Crossi**	**26.58**	**243**	P	**P**	**10 38 00.9**	**-0.5**
	comp=Z,4.9nm,0.6s,baz=5.2,slow=3.1,SNR=21						
	comp=Z,4.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**26.58**	**243**	P	**P**	**10 38 00.7**	**-0.6**
FITZ				IAmb	IAmb	10 38 03.3	
	comp=Z,5.3nm,0.7s						
MULG	**Mulgathing**	**27.93**	**211**	P	**P**	**10 38 12.5**	**-0.9**
FORT	**Forrest**	**31.72**	**218**	P	**P**	**10 38 44.4**	**-2.6**
VNDA	**Vanda**	**70.95**	**177**	P	**P**	**10 43 39.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=339,slow=5.2,SNR=5.8						
	comp=Z,0.5nm,0.6s						
MAW	**Mawson**	**82.81**	**203**	LR	LR	11 18 24.7	
	comp=Z,36nm,20.5s,baz=156,slow=33						
ILAR	**Eielson Array**	**84.92**	**22**	P	**P**	**10 44 58.6**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=248,slow=5.5,SNR=5.8						
	comp=Z,0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.52**	**284**	PKPbc	**PKPbc**	**10 52 10.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=54,slow=2.9,SNR=7.2						

HEL ***26*** *11:00:19.5±0.3, 60.99N×30.21E, h0km, ML2.6, Explosion*
IDC ***26*** *11:00:22.2±1.2, 61.14N×30.00E, h0km, mb3.2/1, mbtmp3.3/5, ML3.2/4, MS2.6/1, Error ellipse: s-maj=12.3km s-min=10.1km az=14.0*
KOLA ***26*** *11:00:22.2, 61.05N×31.32E, h0km, ML2.3*

ISC 26 11:00:19.2±0.8, 61.05N±0.04×29.96E±0.05, h0km, n22, σ1s73/32, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.28**	**247**	PN	**Pn**	**11 00 45.8**	**+1.5**
VJF				MSG		11 01 01.0	
	comp=Z,61nm,0.2s						
FIA0	**FINESS Array S**	**1.92**	**283**	PG	**Pg**	**11 00 56.3**	**+0.5**
	baz=102						
FIA0				SG	**Sg**	**11 01 22.8**	**+2.2**
FINES	**FINESS Array B**	**1.92**	**283**	Pg	**Pg**	**11 00 56.6**	**+0.8**
	comp=Z,3.9nm,0.3s,baz=100,slow=16,SNR=125						
FINES				Lg		11 01 22.4	
	comp=Z,2.0nm,0.3s,baz=100,slow=25,SNR=5.8						
JOF	**Joensuu**	**1.98**	**18**	PG	**Pb**	**11 00 55.4**	**-0.6**
JOF				SG	**Sn**	**11 01 20.4**	**+1.1**
KAF	**Kangasniemi**	**2.04**	**303**	PG	**Pg**	**11 00 59.0**	**+0.7**
KAF				MSG		11 01 24.0	
	comp=Z,23nm,0.2s						
KAF				SG	**Sg**	**11 01 26.4**	**+1.6**
PVF	**Pernaja**	**2.07**	**258**	PG	**Pg**	**11 00 58.5**	**-0.3**
	baz=72						
PVF				MSG		11 01 24.0	
	comp=Z,68nm,0.2s						
NUR	**Nurmijrvi**	**2.66**	**260**	PB	**Pb**	**11 01 07.1**	**-0.5**
	baz=81						
KEF	**Keuruu**	**2.67**	**297**	PB	**Pb**	**11 01 07.8**	**-0.1**
KEF				MSG		11 01 42.4	
	comp=Z,11nm,0.2s						
KEF				SG	**Sg**	**11 01 44.6**	**-0.3**
MEF	**Metsahovi**	**2.87**	**255**	PB	**Pb**	**11 01 10.3**	**-0.8**
MEF				SB	**Sb**	**11 01 46.4**	**-0.2**
MEF				MSG		11 01 46.8	
	comp=Z,30nm,0.2s						
VSU	**Vasula**	**3.07**	**213**	PG	**Pb**	**11 01 14.0**	**-0.5**
VSU				SG	**Sb**	**11 01 52.6**	**+0.1**
RMF	**Romuvaara**	**3.18**	**360**	PN	**Pn**	**11 01 13.2**	**+2.9**
	baz=175						
MTSE	**Matsula**	**3.88**	**236**	PB	**Pb**	**11 01 25.3**	**-3.1**
OUF	**Merijarvi**	**4.10**	**326**	PB	**Pb**	**11 01 29.8**	**-2.4**
OUF				SG	**Sg**	**11 02 30.5**	**-0.3**
OUL	**Oulu**	**4.45**	**337**	PB	**Pb**	**11 01 36.4**	**-1.6**
OUL				SB	**Sb**	**11 02 33.2**	**+1.1**
APA0	**Apatity Array**	**6.71**	**10**	P	**Pn**	**11 01 59.2**	**+0.4**
APA0				S	**Sn**	**11 03 11.6**	**-4.2**
HFS	**Hagfors**	**8.06**	**271**	Pn	**Pn**	**11 02 18.1**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=79,slow=15,SNR=18						
	comp=Z,1.5nm,0.3s						
ARCES	**ARCESS Array B**	**8.71**	**350**	Pn	**Pn**	**11 02 26.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=165,slow=14,SNR=2.6						
ARCES				Sn	**Sn**	**11 04 00.6**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=166,slow=21,SNR=2.0						
ARCES				Lg	Lg	11 04 50.4	
	comp=Z,0.5nm,0.3s,baz=169,slow=25,SNR=2.9						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**8.71**	**350**	P	**Pn**	**11 02 28.4**	**+2.1**
ARCES				S	**Sn**	**11 04 04.2**	**-0.9**
NOA	**NORSAR Array B**	**9.09**	**278**	Pn	**Pn**	**11 02 31.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=81,slow=14,SNR=17						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**10.39**	**183**	Pn	**Pn**	**11 02 49.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=0.6,slow=13,SNR=1.7						
	comp=Z,0.3nm,0.3s						
IDI	**Anoyia**	**25.99**	**189**	LR	LR	11 16 50.7	
	comp=Z,13nm,20.7s,baz=181,slow=38						
MKAR	**Makanchi Array**	**32.96**	**91**	P	**P**	**11 06 56.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=318,slow=5.5,SNR=2.2						
	comp=Z,0.1nm,0.3s						

ISK 26 11:00:43.1, 36.13N×33.14E, h0km±1km, ML1.3/3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEKE	**Tekeli-Mersin**	**0.03**	**309**	PG	Pg	11 00 45.7	+2.1
TEKE				SG	Sg	11 00 47.2	+3.3
BERE	**Bereket-Mersin**	**0.23**	**17**	PG	Pg	11 00 48.3	+0.8
BERE				SG	Sg	11 00 52.4	+1.9
AKKU	**Akkuyu-Mersin**	**0.34**	**84**	PG	Pg	11 00 50.3	+0.8
AKKU				SG	Sg	11 00 55.7	+1.8
TEVE	**Tevekalti-Mers**	**0.40**	**39**	PG	Pg	11 00 51.3	+0.6
TEVE				SG	Sg	11 00 57.5	+1.7

DDA 26 11:01:07.6±0.0, 36.99N×34.90E, h7km±5km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DED	**Mersin**	**0.08**	**253**	P	Pg	11 01 09.8	+0.1
DED				S	Sg	11 01 12.7	+1.6
GULE	**Gulek**	**0.31**	**342**	P	Pg	11 01 13.0	-0.8
GULE				S	Sb	11 01 20.3	-0.8
GULE				*i* AML	AML	11 01 21.0	
	comp=E,26nm,0.4s						
GULE				*i* AML	AML	11 01 22.0	
	comp=N,28nm,0.5s						
AKO	**Adana**	**0.65**	**42**	P	Pg	11 01 17.6	-2.5
AKO				S	Sg	11 01 28.5	+0.1
AKO				*i* AML	AML	11 01 44.0	
	comp=N,13nm,0.7s						
KERG	**Konya-Eregli**	**0.75**	**305**	P	Pg	11 01 22.3	+0.3
KERG				S	Sg	11 01 32.7	+0.9
KERG				*i* AML	AML	11 01 33.0	
	comp=N,19nm,1.4s						

IDC ***26*** *11:18:55.8±0.6, 28.33S×112.13W, h0km, mb4.1/12, mbtmp4.1/13, ML4.4/1, MS4.4/49, Error ellipse: s-maj=21.6km s-min=20.1km az=81.0*
MOS ***26*** *11:19:00.6±3.0, 28.46S×111.93W, h18km, mb4.9/15, Error ellipse: s-maj=15.9km s-min=11.7km az=75.9*
GCMT ***26*** *11:19:01.3±0.1, 28.61S±0.01×112.33W±0.01, h15km, MW5.2/141, Moment Tensor Solution. s73,c97; s141,c215; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.90±.14; Mθθ-2.84±.13; Mϕϕ3.74±.13; Mrθ0.60±.39; Mrϕ-5.70±.09; Mθϕ-0.15±.39; Best double couple: Mo6.61200×10¹⁶ NP1:ϕ₁285.00000°, δ89.00000°, λ-174.00000°. NP2:ϕ₂195.00000°, δ84.00000°, λ-1.00000°. Principal axes: T 7.0550, Plg3.0000°, Azm60.0000°; N -0.8810, Plg84.0000°, Azm297.0000°; P -6.1690, Plg5.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*
NEIC ***26*** *11:19:04.3±2.2, 28.35S±0.1×111.6W±0.1, h16km±5km, mb5.0/71 Error ellipse: s-maj=17.4km s-min=16.3km az=130.0*

ISC 26 11:18:59.6±0.4, 28.62S±0.08×111.91W±0.07, h10km, n222, σ2s14/162, mb4.9/52, MS4.5/54, 2C-5D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**2.63**	**57**		**Pn**	**11 19 39.4**	**-2.8**
RPN	**Rapa Nui**	**2.72**	**57**	Pn	**Pn**	**11 19 40.5**	**-2.9**
RPN	63nm,0.3s,baz=248,slow=11,SNR=14			Sn	**Sb**	**11 20 23.4**	**+1.6**
	baz=14,slow=5.4						
	498nm,0.7s						
RPN	**Rapa Nui**	**2.72**	**57**		**Pn**	**11 19 40.8**	**-2.6**
RPN	**Rapa Nui**	**2.72**	**57**	P	**Pn**	**11 19 40.8**	**-2.6**
H03N2	**Juan Fernandez**	**28.59**	**108**	T	T	11 55 08.9	
	baz=275,slow=74,SNR=631						
H03N3	**Juan Fernandez**	**28.60**	**108**	T	T	11 55 10.2	
	baz=275,slow=74,SNR=776						
H03N1	**Juan Fernandez**	**28.61**	**108**	T	T	11 55 09.9	
	baz=275,slow=74,SNR=2191						
TAOE	**Nuku Hiva Isla**	**33.04**	**301**	*e*S	**S**	**11 31 00.3**	**+5.8**
	79nm,38.0s						
TAOE				*e*LR	LR	11 34 24.1	
	comp=Z,1μm,25.3s						
GO06	**Curarrehue**	**34.96**	**119**	P	**P**	**11 25 54.5**	**+2.4**
PLCA	**Paso Flores**	**35.78**	**121**	P	**P**	**11 26 01.1**	**+2.0**
	4.9nm,1.1s,baz=254,slow=11,SNR=5.5						
PLCA				LR	LR	11 36 57.7	
	comp=Z,375nm,19.0s,baz=274,slow=30						
	4.9nm,1.1s						
PLCA	**Paso Flores**	**35.78**	**121**	P	**P**	**11 26 02.1**	**+3.1**
PLCA				IAmb	IAmb	11 26 03.6	
	comp=Z,42nm,1.8s						
PLCA	**Paso Flores**	**35.78**	**121**	P	**P**	**11 26 02.2**	**+3.1**
PLCA				pmax	pmax		
	comp=Z,42nm,1.8s						
LMEL	**Las Melosas**	**35.86**	**109**	P	**P**	**11 26 03.6**	**+3.6**
LMEL				IAmb	IAmb	11 26 09.1	
	comp=Z,18nm,1.0s						
PPT2	**Papeete2**	**36.20**	**279**	*e*LR	LR	11 35 57.6	
	comp=Z,387nm,24.8s						
NNA	**Nana**	**36.64**	**70**	LR	LR	11 37 10.7	
	comp=Z,1μm,21.0s,baz=244,slow=30						
ZON	**Zonda**	**37.34**	**105**	P	**P**	**11 26 15.0**	**+2.5**
ZON				IAmb	IAmb	11 26 34.7	
	comp=Z,35nm,1.3s						
ZON	**Zonda**	**37.34**	**105**	P	**P**	**11 26 15.0**	**+2.5**
ZON				pmax	pmax		
	comp=Z,35nm,1.3s						
ATAH	**Atahualpa**	**38.17**	**62**	P	**P**	**11 26 20.9**	**+0.9**
	comp=Z,8.7nm,1.0s,baz=248,slow=9.1,SNR=7.5						
ATAH				LR	LR	11 38 10.1	
	comp=Z,1μm,18.7s,baz=236,slow=30						
LVC	**Limon Verde**	**39.08**	**91**	LR	LR	11 38 24.4	
	comp=Z,686nm,21.6s,baz=256,slow=30						
USHA	**Ushuaia**	**40.73**	**142**	LR	LR	11 40 04.1	
	comp=Z,1μm,18.6s,baz=244,slow=31						
PORT	**Chimborazo Vol**	**41.58**	**55**	P	**P**	**11 26 49.8**	**+1.2**
PORT				IAmb	IAmb	11 26 55.9	
	comp=Z,27nm,1.0s						
LPAZ	**La Paz**	**42.06**	**83**	P	**P**	**11 26 51.1**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=249,slow=6.3,SNR=12						
LPAZ				LR	LR	11 40 31.9	
	comp=Z,596nm,20.4s,baz=246,slow=31						
	comp=Z,1.5nm,0.9s						
LPAZ	**La Paz**	**42.06**	**83**	P	**P**	**11 26 53.7**	**+1.2**
LPAZ	**La Paz**	**42.06**	**83**	P	**P**	**11 26 53.7**	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TRQA	**Tornquist**	**42.33**	**116**	P	**P**	**11 26 56.3**	**+2.5**
TRQA				IAmb	IAmb	11 26 57.2	
	comp=Z,79nm,2.0s						
TRQA	**Tornquist**	**42.33**	**116**	*e*P	**P**	**11 26 56.3**	**+2.5**
CZSB	**Cruzeiro do Su**	**42.37**	**68**	P	**P**	**11 26 55.2**	**+0.8**
CZSB				IAmb	IAmb	11 26 57.2	
	comp=Z,47nm,1.2s						
OTAV	**Otavalo**	**42.99**	**54**	P	**P**	**11 27 00.5**	**+0.6**
OTAV	**Otavalo**	**42.99**	**54**	P	**P**	**11 27 00.5**	**+0.6**
OTAV				pmax	pmax		
	comp=Z,11nm,1.3s						
RAR	**Rarotonga**	**43.80**	**269**	LR	LR	11 40 07.9	
	comp=Z,294nm,21.2s,baz=111,slow=29						
ETMB	**Extrema**	**46.69**	**76**	P	**P**	**11 27 29.3**	**+0.4**
ETMB				IAmb	IAmb	11 28 13.5	
	comp=Z,13nm,1.8s						
PMSA	**Palmer Station**	**46.89**	**154**	P	**P**	**11 27 29.7**	**-0.1**
	comp=Z,4.6nm,0.5s,baz=328,slow=10,SNR=5.9						
PMSA				LR	LR	11 43 00.9	
	comp=Z,452nm,18.5s,baz=308,slow=31						
	comp=Z,4.6nm,0.5s						
MTO3	**Montecristo**	**48.01**	**30**	P	**P**	**11 27 38.9**	**-0.5**
CPUP	**Villa Florida**	**48.13**	**101**	LR	LR	11 43 24.3	
	comp=Z,115nm,18.4s,baz=256,slow=30						
CMIG	**Matias Romero**	**48.34**	**22**	LR	LR	11 43 07.0	
	comp=Z,306nm,20.3s,baz=195,slow=30						
SIV	**San Ignacio**	**48.36**	**86**	LR	LR	11 44 31.7	
	comp=Z,246nm,21.6s,baz=279,slow=32						
ROSC	**El Rosal**	**49.14**	**53**	LR	LR	11 44 31.4	
	comp=Z,765nm,21.6s,baz=248,slow=31						
PTLB	**Pontes e Lacer**	**50.28**	**87**	P	**P**	**11 27 58.1**	**+1.5**
PTLB				IAmb	IAmb	11 27 59.1	
	comp=Z,7.3nm,1.3s						
SDV	**Santo Domingo**	**54.57**	**53**	LR	LR	11 47 19.1	
	comp=Z,483nm,21.5s,baz=252,slow=31						
HPIG		**55.56**	**7**	P	**P**	**11 28 35.3**	**-0.3**
RAO	**Raoul Island**	**57.04**	**252**	LR	LR	11 46 26.3	
	comp=Z,457nm,21.2s,baz=110,slow=29						
AFI	**Afiamalu**	**57.15**	**272**	LR	LR	11 47 29.6	
	comp=Z,276nm,21.2s,baz=130,slow=30						
HSIG		**57.32**	**1**	P	**P**	**11 28 48.7**	**+0.9**
HSIG				IAmb	IAmb	11 28 55.6	
	comp=Z,12nm,1.0s						
833A	**Chaparral WMA,**	**57.88**	**13**	P	**P**	**11 28 52.0**	**+0.3**
833A				IAmb	IAmb	11 29 00.6	
	comp=Z,18nm,0.9s						
833A	**Chaparral WMA,**	**57.88**	**13**	P	**P**	**11 28 51.5**	**-0.2**
	baz=193						
BOAV	**Boa Vista**	**58.10**	**67**	P	**P**	**11 28 52.6**	**-1.1**
BOAV				IAmb	IAmb	11 28 54.4	
	comp=Z,18nm,1.5s						
TX31	**Lajitas Ar. Si**	**58.17**	**8**	P	**P**	**11 28 53.5**	**-0.3**
TX31				IAmb	IAmb	11 29 11.6	
	comp=Z,22nm,1.2s						
TX32	**Lajitas Array**	**58.17**	**8**	P	**P**	**11 28 54.1**	**+0.3**
TXAR	**Lajitas Array**	**58.17**	**8**	P	**P**	**11 28 50.3**	**-3.5**
	comp=Z,0.3nm,0.6s,baz=171,slow=8.9,SNR=5.4						
	comp=Z,0.3nm,0.6s						
URZ	**Urewera**	**58.71**	**241**	LR	LR	11 49 03.3	
	comp=Z,1μm,19.6s,baz=218,slow=31						
319A	**Douglas**	**59.72**	**3**	P	**P**	**11 29 04.3**	**-0.3**
319A				IAmb	IAmb	11 29 12.8	
	comp=Z,16nm,1.0s						
PCRV	**Puerto La Cruz**	**59.76**	**57**	LR	LR	11 51 34.0	
	comp=Z,762nm,21.2s,slow=33						
JCT	**Junction City**	**59.90**	**12**	P	**P**	**11 29 05.4**	**-0.4**
JCT	**Junction City**	**59.90**	**12**	P	**P**	**11 29 05.4**	**-0.4**
JCT				pmax	pmax		
	comp=Z,28nm,1.0s						
JCT	**Junction City**	**59.90**	**12**	P	**P**	**11 29 04.9**	**-0.9**
	baz=192						
BDFB	**Brasilia**	**59.97**	**92**	LR	LR	11 53 30.5	
	comp=Z,169nm,18.7s,baz=317,slow=34						
TUC	**Tucson**	**60.60**	**1**	P	**P**	**11 29 11.9**	**+1.3**
TUC				IAmb	IAmb	11 29 27.3	
	comp=Z,12nm,1.4s						
TUC	**Tucson**	**60.60**	**1**	P	**P**	**11 29 11.9**	**+1.3**
TUC				pmax	pmax		
	comp=Z,12nm,1.4s						
121A	**Cookes Peak, D**	**60.94**	**4**	P	**P**	**11 29 12.7**	**-0.3**
121A	**Cookes Peak, D**	**60.94**	**4**	P	**P**	**11 29 16.2**	**+3.2**
	baz=184						
YUH	**Yuha Desert**	**61.05**	**356**	P	**P**	**11 29 15.3**	**+1.8**
YUH				IAmb	IAmb	11 29 29.5	
	comp=Z,11nm,1.3s						
IKP	**In-Ko-Pah, Jac**	**61.07**	**356**	P	**P**	**11 29 17.4**	**+3.6**
	baz=176						
113A	**Mohawk Valley,**	**61.08**	**358**	P	**P**	**11 29 14.9**	**+1.2**
113A				IAmb	IAmb	11 29 30.4	
	comp=Z,19nm,1.5s						
BAR	**Barrett**	**61.13**	**355**	P	**P**	**11 29 15.6**	**+1.4**
BAR				IAmb	IAmb	11 29 21.9	
	comp=Z,11nm,1.1s						
HTMS	**Hat Mesa**	**61.27**	**8**	P	**P**	**11 29 16.7**	**+1.5**
VNDA	**Vanda**	**61.47**	**194**	P	**P**	**11 29 15.3**	**-0.6**
	comp=Z,0.7nm,1.0s,baz=68,slow=4.5,SNR=3.0						
VNDA				LR	LR	11 51 39.6	
	comp=Z,345nm,18.0s,baz=88,slow=32						
	comp=Z,0.7nm,1.0s						
QSPA	**South Pole Qui**	**61.56**	**180**	LR	LR	11 52 35.2	
	comp=Z,381nm,19.5s,baz=106,slow=33						
QSPA	**South Pole Qui**	**61.56**	**180**	P	**P**	**11 29 17.2**	**+0.3**
QSPA				IAmb	IAmb	11 29 36.9	
	comp=Z,25nm,1.6s						
RPZ	**Rata Peaks**	**61.89**	**233**	LR	LR	11 50 44.0	
	comp=Z,552nm,19.7s,baz=82,slow=31						
PFO	**Pinyon Flats O**	**62.04**	**356**	LR	LR	11 49 42.8	
	comp=Z,242nm,19.8s,baz=174,slow=30						
PFO	**Pinyon Flats O**	**62.04**	**356**	⇓*e*P	**P**	**11 29 21.2**	**+0.8**
PFO				pmax	pmax		
	comp=Z,11nm,1.3s						
PMD	**Palm Desert**	**62.08**	**356**	P	**P**	**11 29 21.3**	**+0.8**
PMD				IAmb	IAmb	11 29 27.9	
	comp=Z,5.9nm,1.1s						
BLYC	**Blythe**	**62.08**	**358**	P	**P**	**11 29 21.9**	**+1.4**
BLYC				IAmb	IAmb	11 29 32.5	
	comp=Z,13nm,1.1s						
SBM	**South Baldy**	**62.42**	**4**	P	**P**	**11 29 24.9**	**+1.6**
LENM	**Lemitar**	**62.62**	**5**	P	**P**	**11 29 26.5**	**+2.1**
X18A	**Snowflake**	**62.84**	**2**	P	**P**	**11 29 25.7**	**-0.1**
X18A				IAmb	IAmb	11 29 34.1	
	comp=Z,10.0nm,1.1s						
MSTX	**Muleshoe**	**62.85**	**9**	P	**P**	**11 29 25.5**	**-0.2**
MSTX	**Muleshoe**	**62.85**	**9**	P	**P**	**11 29 24.7**	**-1.1**
	baz=189						
W13A	**Hualapai Mount**	**63.41**	**358**	P	**P**	**11 29 30.5**	**+1.0**
ANMO	**Albuquerque**	**63.44**	**5**	LR	LR	11 52 16.9	
	comp=Z,163nm,18.2s,baz=188,slow=32						
ANMO	**Albuquerque**	**63.44**	**5**

352A Blakely 65.06 25 P **P** **11 29 40.7 +0.5**
MIAR Mount Ida 65.17 17 P **P** **11 29 40.6 -0.3**
MIAR IAmb IAmb 11 29 47.9
comp=Z,8.9nm,1.1s
MIAR Mount Ida 65.17 17 P **P** **11 29 40.6 -0.3**
MIAR pmax pmax
comp=Z,9.0nm,1.1s
BBGB Big Mountain B 65.42 352 P **P** **11 29 44.2 +1.6**
Z47A Carrollton 65.51 22 P **P** **11 29 41.9 -1.2**
MVCO Mesa Verde 65.56 3 P **P** **11 29 43.8 +0.2**
LRAL Lakeview Retre 65.72 23 P **P** **11 29 43.8 -0.7**
PKCU Pink Cliffs 65.72 360 P **P** **11 29 45.2 +0.4**
PKCU IAmb IAmb 11 29 57.3
comp=Z,16nm,1.1s
LCH Last Change Ra 65.73 355 P **P** **11 29 47.3 +2.7**
PRN Pahroc Range 65.75 357 P **P** **11 29 45.6 +0.9**
PRN IAmb IAmb 11 29 57.3
comp=Z,20nm,1.4s
GMN Gold Mountain 65.77 355 P **P** **11 29 45.6 +0.6**
CCUT Cedar City 65.84 359 P **P** **11 29 46.4 +1.0**
CCUT IAmb IAmb 11 29 54.0
comp=Z,12nm,1.4s
SZCU Shurtz Canyon 65.88 359 P **P** **11 29 46.0 +0.3**
SZCU IAmb IAmb 11 29 54.1
comp=Z,9.2nm,1.3s
DSP Deep Springs 65.89 355 P **P** **11 29 46.1 +0.6**
DSP IAmb IAmb 11 29 53.9
comp=Z,12nm,1.3s
TUL1 Leonard 65.96 14 P **P** **11 29 46.8 +0.8**
MDP Montagnes des 66.08 69 LR LR 11 55 14.3
comp=Z,478nm,20.5s,baz=262,slow=33
S22A 4UR Ranch, Cre 66.19 4 P **P** **11 29 47.8 0.0**
S22A IAmb IAmb 11 30 04.3
comp=Z,11nm,1.4s
S22A 4UR Ranch, Cre 66.19 4 P **P** **11 29 46.5 -1.2**
baz=185
152A Waverly Hall 66.20 25 P **P** **11 29 46.8 -0.8**
PV15 Paradox Valley 66.69 3 P **P** **11 29 51.7 +0.7**
PV15 IAmb IAmb 11 29 58.4
comp=Z,9.4nm,0.9s
HHAR Hobbs 66.74 16 P **P** **11 29 50.7 -0.2**
HHAR IAmb IAmb 11 29 58.6
comp=Z,8.7nm,0.9s
NV11 Mina Array Sit 66.96 355 P **P** **11 29 53.6 +1.1**
NV11 IAmb IAmb 11 30 00.8
comp=Z,14nm,1.1s
NVAR Mina Array Bea 66.97 355 P **P** **11 29 48.7 -3.9**
comp=Z,0.8nm,0.6s,baz=195,slow=8.7,SNR=6.3
NVAR LR LR 11 53 40.0
comp=Z,354nm,18.6s,baz=175,slow=31
comp=Z,0.8nm,0.6s
NVAR Mina Array Bea 66.97 355 P **P** **11 29 54.0 +1.3**
VNA3 Neumayer Olymp 67.01 160 P **P** **11 29 50.9 -1.5**
Q16A Castle Valley 67.19 1 P **P** **11 29 55.7 +1.7**
Q16A IAmb IAmb 11 30 01.8
comp=Z,11nm,1.1s
WVT Waverly 68.28 21 P **P** **11 29 59.0 -1.7**
baz=202
DUG Dugway, Tooele 68.47 359 P **P** **11 30 04.0 +2.0**
DUG Dugway, Tooele 68.47 359 P **P** **11 30 04.0 +2.0**
DUG pmax pmax
comp=Z,5.0nm,1.1s
DUG Dugway, Tooele 68.47 359 P **P** **11 30 04.6 +2.6**
baz=179
SNAA Sanae 68.83 161 P **P** **11 30 02.4 -1.4**
SNAA Sanae 68.83 161 LR LR 11 56 05.6
comp=Z,150nm,19.6s,baz=222,slow=32
SNAA Sanae 68.83 161 P **P** **11 30 03.7 -0.2**
SNAA IAmb IAmb 11 30 03.9
comp=Z,16nm,1.4s
SNAA Sanae 68.83 161 P **P** **11 30 03.7 -0.2**
SNAA pmax pmax
comp=Z,17nm,1.4s
RDMU Red Mountain 68.88 2 P **P** **11 30 07.0 +2.4**
ELK Elko 69.08 357 LR LR 11 54 40.7
comp=Z,270nm,19.2s,baz=190,slow=31
CCM Cathedral Cave 69.09 17 P **P** **11 30 04.5 -1.2**
baz=199
PAULI Pauline 69.21 26 P **P** **11 30 06.3 -0.3**
TKL Tuckaleechee C 69.22 24 LR LR 11 56 19.7
comp=Z,262nm,20.4s,baz=206,slow=32
V53A Saluda 69.58 25 P **P** **11 30 08.3 -0.6**
TROLL Troll, Antarti 70.13 162 P **P** **11 30 11.0 -1.0**
YBH Yreka Blue Hor 70.71 351 LR LR 11 55 16.6
comp=Z,436nm,19.5s,baz=172,slow=31
PD31 Pinedale Array 71.07 2 P **P** **11 30 19.8 +1.7**
PDAR Pinedale Array 71.07 2 P **P** **11 30 15.0 -3.1**
comp=Z,0.5nm,0.4s,baz=165,slow=7.0,SNR=3.2
comp=Z,0.5nm,0.4s
PDAR Pinedale Array 71.07 2 P **P** **11 30 19.9 +1.9**
DZM Mont Dzumac 72.75 254 *e*LR LR 11 52 58.9
comp=Z,701nm,22.9s
DZM Mont Dzumac 72.75 254 LR LR 11 54 33.0
comp=Z,389nm,21.9s,baz=76,slow=29
G08A Pilot Rock 73.84 355 P **P** **11 30 33.0 -1.4**
G08A IAmb IAmb 11 30 42.5
comp=Z,17nm,1.5s
RCBR Riachuelo 74.96 88 LR LR 12 02 17.6
comp=Z,252nm,18.9s,baz=18,slow=35
NEW Newport 76.68 356 LR LR 11 59 37.1
comp=Z,350nm,18.2s,baz=182,slow=32
SADO Sadowa 78.92 23 LR LR 12 02 03.2
comp=Z,196nm,20.9s,baz=190,slow=33
ULM Lac du Bonnet 79.80 10 P **P** **11 31 04.1 -3.6**
comp=Z,2.5nm,0.8s,baz=284,slow=6.1,SNR=1.5
ULM LR LR 12 02 45.2
comp=Z,136nm,20.6s,baz=282,slow=33
comp=Z,2.5nm,0.8s
BBB Bella Bella 81.70 350 LR LR 11 59 31.0
comp=Z,119nm,18.6s,baz=267,slow=30
HNR Honiara 83.93 263 LR LR 12 00 32.7
comp=Z,3μm,21.7s,baz=128,slow=30
MAW Mawson 83.99 178 LR LR 12 07 56.3
comp=Z,174nm,18.2s,baz=185,slow=35
STKA Stephens Creek 87.82 235 LR LR 12 04 29.5
comp=Z,204nm,21.1s,baz=139,slow=31
DLBC Dease Lake 88.04 351 LR LR 12 03 54.7
comp=Z,173nm,21.2s,baz=158,slow=31
YKA Yellowknife Ar 90.82 359 P **P** **11 31 59.3 -3.3**
comp=Z,1.3nm,0.8s,baz=158,slow=4.0,SNR=1.6
YKA LR LR 12 07 55.6
comp=Z,277nm,18.1s,baz=168,slow=32
comp=Z,1.3nm,0.8s
H11S2 WAKE ISLAND Hy 91.45 290 T T 13 13 00.4
baz=119,slow=75,SNR=6.2
H11S1 WAKE ISLAND Hy 91.46 290 T T 13 12 59.8
baz=119,slow=75,SNR=6.8
H11S3 WAKE ISLAND Hy 91.47 290 T T 13 12 58.1
baz=119,slow=75,SNR=5.3
SCHQ Schefferville 91.69 24 LR LR 12 12 38.9
comp=Z,92nm,18.9s,baz=158,slow=35
H11N3 WAKE ISLAND Hy 91.88 291 T T 13 13 27.1
baz=121,slow=76,SNR=5.7
H11N1 WAKE ISLAND Hy 91.90 291 T T 13 13 30.0
baz=121,slow=76,SNR=11
H11N2 WAKE ISLAND Hy 91.90 291 T T 13 13 31.8
baz=121,slow=76,SNR=6.3
KDAK Kodiak Island 92.59 340 LR LR 12 05 13.0
comp=Z,254nm,19.6s,baz=177,slow=30
KRVT Keravat (AS076 93.27 263 LR LR 12 06 31.2
comp=Z,181nm,20.6s,baz=266,slow=31
PMG Port Moresby 95.00 257 LR LR 12 09 00.1
comp=Z,201nm,19.3s,baz=104,slow=32
ILAR Eielson Array 97.00 346 P P 11 32 26.1 -4.8
comp=Z,0.4nm,1.0s,baz=199,slow=2.5,SNR=2.1
ILAR LR LR 12 06 31.6
comp=Z,131nm,21.5s,baz=156,slow=30
comp=Z,0.4nm,1.0s
ILAR Eielson Array 97.00 346 *e*P **P** **11 32 33.4 +2.5**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
BPAW Bear Paw Mtn. 97.38 344 P Pdif 11 32 33.6 +0.8
baz=146
INK Inuvik 97.96 352 LR LR 12 10 29.8
comp=Z,150nm,19.1s,baz=136,slow=32
ASAR Alice Springs 98.05 238 P **P** **11 32 34.6 -2.3**
comp=Z,0.4nm,0.9s,baz=160,slow=6.9,SNR=1.3
ASAR LR LR 12 15 35.0
comp=Z,189nm,18.5s,baz=148,slow=35
comp=Z,0.4nm,0.9s
FRB Frobisher Bay 98.20 18 LR LR 12 13 42.5
comp=Z,167nm,20.4s,baz=198,slow=34
WRA Warramunga Arr 99.88 241 LR LR 12 13 02.7
comp=Z,720nm,19.8s,baz=128,slow=32
H01W1 Cape Leeuwin H 103.30 217 T T 13 28 15.6
baz=138,slow=75,SNR=5.4
H01W2 Cape Leeuwin H 103.31 217 T T 13 28 16.1
baz=138,slow=75,SNR=5.6
H01W3 Cape Leeuwin H 103.32 217 T T 13 28 16.9
baz=138,slow=75,SNR=5.8
KSRS Korea Array 129.80 296 *e*PKIKP **PKiKP** **11 38 16.3 +6.2**
KSRS pmax pmax
comp=Z,1.0nm,0.9s
ZEA Zeya 130.62 318 *e*PKHKP PKPpre 11 37 49.2
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 136.38 288 *e*P **PKPdf** **11 38 18.5 -3.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NRIK Noril'sk 137.71 350 *i*PKIKP **PKiKP** **11 38 31.0 +5.8**
KLMR Klimovskoe 142.51 23 *e*PKIKP **PKPdf** **11 38 33.9 +1.8**
KLMR pmax pmax
comp=Z,19nm,1.7s
KLMR Klimovskoe 142.51 23 *e*PKPdf **PKPdf** **11 38 33.9 +1.8**
KLMR AMP 11 38 45.2
comp=Z,19nm,1.7s
HHC Hu-ho-hao-te 142.61 301 *e*PKP **PKPdf** **11 38 35.0 +1.9**
MLR Muntele Rosu 142.87 51 PKP **PKPdf** **11 38 29.6 -3.8**
comp=Z,5.3nm,1.1s,baz=333,slow=4.5,SNR=2.5
AKASG Malin Array Be 143.42 42 PKP PKPab 11 38 30.1 -0.1
comp=Z,0.6nm,0.5s,baz=294,slow=3.2,SNR=2.8
AKBB Malin Array Si 143.42 42 *e*PKIKP **PKiKP** **11 38 38.5 +1.1**
ULN Ulaanbaatar 144.35 313 *i*PKIKP **PKiKP** **11 38 39.9 +0.2**
SONM Songino Array 144.78 314 PKP **PKPab** **11 38 31.4 -4.2**
comp=Z,3.2nm,0.9s,baz=95,slow=1.8,SNR=7.2
XAN Xi'an 144.88 289 PKPbc **PKPdf** **11 38 38.0 +0.8**
OBN Obninsk 145.15 32 *e*PKIKP **PKiKP** **11 38 40.1 -0.7**
OBN *e* 11 41 59.7
OBN pmax pmax
comp=Z,41nm,1.3s
MOS Moscow 145.24 30 *e*PKIKP **PKPdf** **11 38 39.6 +2.5**
ZAK Zakamensk 145.70 319 *e*PKHKP PKPpre 11 38 34.4
ZAK pmax pmax
comp=Z,15nm,1.3s
GYA Guiyang 145.83 276 PKPbc **PKiKP** **11 38 46.5 +3.2**
MOY Mondy 146.36 322 *e*PKP2 **PKiKP** **11 38 47.2 +3.6**
KIRV Kirov 147.37 18 PKPbc **PKPdf** **11 38 40.6 0.0**
comp=Z,6.9nm,0.4s,baz=64,slow=3.0,SNR=2.0
LPSR Galich'ya Gora 147.77 34 *e*PKIKP **PKPdf** **11 38 40.2 -1.2**
LPSR pmax pmax
comp=Z,20nm,1.2s
VORR Voronezh 148.46 35 *e*PKP2 **PKPdf** **11 38 45.2 +2.6**
VORR pmax pmax
comp=Z,70nm,0.4s
VSR Storozhevoye 148.70 36 *e*PKIKP **PKPdf** **11 38 44.1 +1.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 149.02 293 *e*PKPbc **PKPdf** **11 38 42.3 -2.0**
LZH pPKP pPKPab 11 38 55.3 +0.4
LZH sPKP 11 39 05.3
CD2 Chengdu 149.03 283 PKPbc **PKPbc** **11 38 48.0 -0.4**
BR131 Keskin Array S 149.59 60 *e*PKHKP PKPpre 11 38 48.3
BRTR Keskin Array B 149.59 60 PKPbc **PKPdf** **11 38 46.8 +1.7**
comp=Z,2.1nm,0.9s,baz=236,slow=1.3,SNR=7.0
BRTR Keskin Array B 149.59 60 *e*PKP2 **PKPbc** **11 38 48.9 -0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
VRH Novokhopyorsk 149.99 34 *e*PKIKP **PKPdf** **11 38 40.5 -4.6**
VRH pmax pmax
comp=Z,40nm,0.4s
CMAR Chiang Mai Arr 150.04 257 PKPbc **PKPdf** **11 38 48.8 +2.6**
comp=Z,4.8nm,1.1s,baz=198,slow=1.0,SNR=15
CMAR Chiang Mai Arr 150.04 257 *e*PKIKP **PKPbc** **11 38 51.0 -0.2**
CMAR pmax pmax
comp=Z,5.0nm,1.1s
EIL Elat 151.09 80 PKPbc **PKPdf** **11 38 50.0 +2.5**
comp=Z,2.7nm,0.6s,baz=259,slow=16,SNR=1.8
ARU Arti 151.39 11 PKPbc **PKPdf** **11 38 50.5 +3.4**
comp=Z,3.5nm,0.3s,baz=256,slow=15,SNR=2.1
ARU Arti 151.39 11 *i*PKIKP **PKPbc** **11 38 53.1 -0.1**
GTA Gaotai 151.72 301 PKPbc **PKiKP** **11 38 57.0 +1.9**
GTA pPKP sPKPbc 11 39 01.3 +3.4
GTA sPKP 11 39 04.0
GTA LR LR
comp=N,100nm,16.0s
GTA LR LR
comp=E,200nm,20.0s
GTA LR LR
comp=Z,240nm,20.7s
ZALV Zalesovo Beam 151.89 339 PKPbc **PKPdf** **11 38 51.1 +3.2**
comp=Z,5.1nm,0.7s,baz=16,slow=3.1,SNR=14
ZALV Zalesovo Beam 151.89 339 *e*PKIKP **PKPbc** **11 38 55.0 +0.6**
ZALV pmax pmax
comp=Z,5.0nm,0.7s
KIV Kislovodsk 154.57 46 *e*PKIKP **PKPdf** **11 38 53.1 +0.8**
KIV pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 155.56 357 PKP **PKPdf** **11 38 51.2 -2.0**
comp=Z,0.4nm,0.5s,baz=79,slow=6.3,SNR=2.1
KURK Kurchatov Arra 156.54 343 PKIKP **PKPdf** **11 38 51.2 -3.4**
KURBB Kurchatov Arra 156.65 343 PKP **PKPdf** **11 38 51.2 -3.5**
comp=Z,0.2nm,0.4s,baz=116,slow=4.3,SNR=1.8
WMQ Urumqi 158.17 319 *e*PKP **PKPdf** **11 39 01.0 +4.0**
WMQ LR LR
comp=Z,170nm,18.7s
MKAR Makanchi Array 158.72 332 PKP **PKPdf** **11 38 52.9 -4.6**
comp=Z,0.1nm,0.4s,baz=116,slow=3.4,SNR=2.0
PCHI Peechi 160.41 205 *e*P **PKPab** **11 39 37.4 -3.5**
GEYT Alibeck 167.53 39 PKP **PKPdf** **11 39 02.7 -3.5**
comp=Z,0.8nm,0.3s,baz=31,slow=3.8,SNR=1.6

*JMA **26** 11:32:54.4±0.6,34°N±2°×14°2E±°, h30km±3km, MV3.3/19, FAR SE OFF BOSO PEN*
*IDC **26** 11:32:55.7±1.0,34.46N×141.55E, h0km, mb3.6/8, mbtmp3.5/10, ML2.7/2, MS3.7/7, Error ellipse: s-maj=22.0km s-min=19.0km az=90.0*
ISC 26 11:32:59.6±0.9,34.47N±0.06×141.60E±0.08, h27km, n28, σ1°21/20, mb3.6/8, MS4.1/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.54**	**290**	P	P	**Pb**	**11 33 09.2**	**-1.0**
BSO4	**Boso 4**	**1.16**	**297**	P	P	**Pn**	**11 33 19.2**	**-0.7**
JKUC	**kamogawauchiur**	**1.34**	**301**	P	P	**Pn**	**11 33 21.4**	**-1.1**
JKUC				eS	S	**Sb**	**11 33 41.5**	**+0.8**
CHOJ	**Chosi**	**1.37**	**334**	*e*P	P	**Pn**	**11 33 22.2**	**-1.7**
CHOJ				eS	S	**Sn**	**11 33 40.7**	**+0.6**
JMKN	**Mikurajimanish**	**1.76**	**251**	P	P	**Pn**	**11 33 27.0**	**-1.3**
JHJ	**Hachijo jima 2**	**2.02**	**229**	Pn	P	**Pn**	**11 33 30.7**	**-1.3**
	6.1nm,0.3s,baz=347,slow=14,SNR=1.9							
JHJ					S	**Sn**	**11 33 58.0**	**+1.7**
	18nm,0.3s,baz=68,slow=21,SNR=2.0							
JHJ					LR	LR	11 33 59.2	
	comp=Z,116nm,18.7s,baz=63,slow=32							
MJAR	**Matsushiro Arr**	**3.45**	**308**	Pn	P	**Pn**	**11 33 50.1**	**-1.4**
	0.3nm,0.3s,baz=115,slow=9.7,SNR=9.7							
MJAR					Sn	**Sn**	**11 34 33.7**	**+2.2**
	0.3nm,0.3s,baz=130,slow=9.6,SNR=4.7							
	2.6nm,0.7s							
JCJ	**Chichijima**	**7.37**	**176**	LR	LR	LR	11 37 19.7	
	comp=Z,156nm,19.0s,baz=95,slow=36							
KSRS	**Korea Array**	**11.47**	**289**	Pn	P	**Pn**	**11 35 41.7**	**+0.1**
	0.1nm,0.3s,baz=102,slow=14,SNR=6.0							
	0.8nm,0.5s							
KLR	**Kul'dur**	**16.45**	**337**	LR	LR	LR	11 42 45.5	
	comp=Z,103nm,19.3s,baz=168,slow=36							
H11N2	**WAKE ISLAND Hy**	**26.79**	**117**	T	T	T	12 06 45.5	
	baz=309,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy**	**26.80**	**117**	T	T	T	12 06 48.3	
	baz=309,slow=75,SNR=31							
H11N3	**WAKE ISLAND Hy**	**26.81**	**117**	T	T	T	12 06 51.2	
	baz=309,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hy**	**27.42**	**119**	T	T	T	12 07 38.4	
	baz=312,slow=75,SNR=8.3							
H11S1	**WAKE ISLAND Hy**	**27.42**	**119**	T	T	T	12 07 39.4	
	baz=312,slow=75,SNR=7.8							
H11S2	**WAKE ISLAND Hy**	**27.43**	**119**	T	T	T	12 07 42.5	
	baz=312,slow=75,SNR=7.4							
ZALV	**Zalesovo Beam**	**43.78**	**314**	P	P	**P**	**11 41 03.0**	**+0.4**
	0.8nm,0.5s,baz=71,slow=9.3,SNR=1.7							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**45.64**	**304**	P	P	**P**	**11 41 16.1**	**-1.6**
	0.2nm,0.4s,baz=108,slow=3.2,SNR=2.5							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**47.72**	**310**	P	P	**P**	**11 41 33.2**	**-0.7**
	0.6nm,0.5s,baz=82,slow=7.5,SNR=4.1							
	0.6nm,0.5s							
ILAR	**Eielson Array**	**51.59**	**31**	P	P	**P**	**11 42 03.3**	**+0.2**
	0.7nm,0.8s,baz=267,slow=5.3,SNR=7.2							
	0.7nm,0.8s							
BVAR	**Borovoye Array**	**52.42**	**314**	P	P	**P**	**11 42 09.8**	**+0.3**
	0.2nm,0.3s,baz=22,slow=8.3,SNR=1.8							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**54.55**	**188**	P	P	**P**	**11 42 25.4**	**0.0**
	0.5nm,0.8s,baz=2.5,slow=7.6,SNR=8.6							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**58.28**	**188**	P	P	**P**	**11 42 51.7**	**-0.3**
	0.3nm,0.8s,baz=358,slow=6.3,SNR=2.5							
	0.3nm,0.8s							
NVAR	**Mina Array Bea**	**76.41**	**53**	P	P	**P**	**11 44 48.6**	**+1.6**
	0.3nm,0.6s,baz=292,slow=4.8,SNR=2.8							
NVAR					LR	LR	12 11 42.6	
	comp=Z,42nm,19.6s,baz=326,slow=30							
	0.3nm,0.6s							
NOA	**NORSAR Array B**	**76.60**	**338**	LR	LR	LR	12 21 29.2	
	comp=Z,30nm,20.4s,baz=265,slow=38							
SFJD	**Kangerlussuaq**	**78.42**	**5**	LR	LR	LR	12 20 16.1	
	comp=Z,81nm,18.9s,baz=226,slow=36							
BORG	**Borgarnes**	**80.20**	**353**	LR	LR	LR	12 20 23.9	
	comp=Z,138nm,21.1s,baz=259,slow=36							
EKA	**Eskdalemuir Ar**	**85.59**	**341**	LR	LR	LR	12 28 20.3	
	comp=Z,72nm,18.2s,baz=256,slow=39							

*IDC **26** 11:40:56.6±2.5,36°44N×122°14E, h0km, mb3.4/1, mbtmp3.6/5, ML3.4/2, MS3.4/2, Error ellipse: s-maj=43.6km s-min=18.3km az=179.0*
*KEA **26** 11:40:57.5,36.61N×122.22E, h16km, ML3.9/3*
ISC 26 11:40:58.5±1.4,36.61N±0.10×122.24E±0.07, h10km, n11, σ2°75/13, MS3.7/3, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HJU	**Haeju**	**3.12**	**62**	Pg	**Pg**	**Pg**	**11 41 56.6**	**-1.8**
HJU				Sg	**Sg**	**Sg**	**11 42 37.9**	**-1.0**
HJU				AML	AML			
	comp=N,579nm,0.4s							
HJU					AML	AML		
	comp=E,299nm,0.4s							
HJU					AML	AML		
	comp=Z,466nm,0.4s							
PYS	**Pyongsong**	**3.89**	**46**	Pg	**Pg**	**Pg**	**11 42 10.7**	**-2.4**
PYS				Sg	**Sg**	**Sg**	**11 43 02.3**	**-1.1**
PYS				AML	AML			
	comp=N,534nm,0.4s							
PYS					AML	AML		
	comp=E,481nm,0.6s							
PYS					AML	AML		
	comp=Z,481nm,0.4s							
SUJ	**Sinuiju**	**3.91**	**26**	Pg	**Pg**	**Pg**	**11 42 11.2**	**-2.3**
SUJ				Sg	**Sg**	**Sg**	**11 43 02.8**	**-1.4**
SUJ				AML	AML			
	comp=N,314nm,0.5s							
SUJ					AML	AML		
	comp=E,309nm,0.8s							
SUJ					AML	AML		
	comp=Z,339nm,0.4s							
KSRS	**Korea Array**	**4.62**	**78**	Pn	**Pn**	**Pn**	**11 42 07.8**	**-0.7**
	comp=Z,30nm,0.3s,baz=258,slow=13,SNR=126							
KSRS				Pg	**Pg**	**Pg**	**11 42 23.1**	**-4.0**
	comp=Z,6.7nm,0.3s,baz=258,slow=18,SNR=20							
KSRS				Sn	**Sn**	**Sn**	**11 43 07.1**	**+4.9**
	comp=Z,4.4nm,0.3s,baz=261,slow=21,SNR=5.1							
KSRS				Lg	Lg		11 43 25.8	
	comp=Z,15nm,0.3s,baz=258,slow=32,SNR=14							
USRK	**Ussuriysk Ar.**	**10.61**	**41**	Pn	**Pn**	**Pn**	**11 43 34.3**	**+3.8**
	comp=Z,1.8nm,0.7s,baz=227,slow=15,SNR=0.9							
USRK				Lg	Lg		11 46 37.5	
	comp=Z,0.4nm,0.3s,baz=230,slow=48,SNR=3.2							
MJAR	**Matsushiro Arr**	**12.84**	**86**	Pn	**Pn**	**Pn**	**11 44 01.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=278,slow=7.8,SNR=2.0							
	comp=Z,0.7nm,0.5s							
SONM	**Songino Array**	**16.20**	**319**	Pn	**Pn**	**Pn**	**11 44 44.6**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=126,slow=9.8,SNR=2.7							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**31.21**	**302**	P	**P**	**P**	**11 47 18.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=101,slow=7.5,SNR=3.6							
	comp=Z,0.3nm,0.6s							
BVAR	**Borovoye Array**	**39.34**	**311**	LR	LR	LR	12 05 18.4	
	comp=Z,36nm,21.0s,baz=132,slow=37							
KIRV	**Kirov**	**50.93**	**320**	LR	LR	LR	12 12 33.1	
	comp=Z,69nm,19.3s,baz=132,slow=37							
FITZ	**Fitzroy Crossi**	**54.50**	**176**	LR	LR	LR	12 15 57.1	
	comp=Z,313nm,21.1s,baz=168,slow=39							

*IDC **26** 11:41:08.4±1.0,19°45S×177°38E, h0km, mb3.9/10, mbtmp4.0/11, ML4.1/1, MS3.7/9, Error ellipse: s-maj=34.0km s-min=16.9km az=133.0*
*NEIC **26** 11:41:11.3±2.2,19°52S±0°05×177.7E±0°2, h10km±1km, mb4.4/15, Error ellipse: s-maj=31.6km s-min=5.1km az=101.0*
ISC 26 11:41:13.0±0.6,19°43S±0°09×177°4E±0°1, h27km, n42, σ1°56/37, mb4.2/18, MS3.8/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.78**	**19**	Pn	**Pn**	**Pn**	**11 41 41.9**	**-0.2**
	76nm,0.3s,baz=214,slow=11,SNR=67.8							
MSVF					Sn	**Sn**	**11 42 05.7**	**+1.8**
	101nm,0.3s,baz=268,slow=21,SNR=19							
MSVF	**Nonsavu**	**1.78**	**19**	Pn	**Pn**	**Pn**	**11 41 42.4**	**+0.3**
OUZ	**Omahuta**	**16.09**	**191**			**P**	**11 45 00.0**	**-0.5**
OUZ					IAmb	IAmb	11 45 01.2	
	comp=Z,20nm,1.1s							
URZ	**Urewera**	**18.77**	**181**	P	**P**	**P**	**11 45 27.7**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=30,slow=3.6,SNR=5.7							
	comp=Z,1.3nm,0.8s							
URZ	**Urewera**	**18.77**	**181**	P	**P**	**P**	**11 45 28.3**	**-1.7**
RAR	**Rarotonga**	**21.44**	**99**	LR	LR	LR	11 53 46.3	
	comp=Z,100nm,19.2s,baz=258,slow=35							
TUWZ	**Tuamarina**	**22.13**	**187**	P	**P**	**P**	**11 46 04.7**	**-1.7**
LTZ	**Lake Taylor**	**23.69**	**190**	P	**P**	**P**	**11 46 22.3**	**-0.2**
LTZ					IAmb	IAmb	11 46 25.4	
	comp=Z,16nm,0.8s							
FOZ	**Fox Glacier**	**24.87**	**193**	P	**P**	**P**	**11 46 32.5**	**-0.8**
EIDS	**Eidsvold**	**25.06**	**252**	P	**P**	**P**	**11 46 36.3**	**+1.1**
EIDS					IAmb	IAmb	11 46 50.8	
	comp=Z,12nm,1.1s							
WHZ	**Wether Hill Ro**	**27.53**	**194**	P	**P**	**P**	**11 46 57.6**	**+0.3**
WHZ					IAmb	IAmb	11 47 12.9	
	comp=Z,19nm,1.2s							
PPT	**Papeete**	**31.30**	**92**	LR	LR	LR	11 57 32.5	
	comp=Z,79nm,18.3s,baz=254,slow=31							
STKA	**Stephens Creek**	**34.45**	**242**	P	**P**	**P**	**11 47 57.1**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=53,slow=6.4,SNR=1.3							
	comp=Z,1.5nm,0.8s							
WR0	**Warramunga Arr**	**40.32**	**262**	P	**P**	**P**	**11 48 50.5**	**+2.1**
WR0					IAmb	IAmb	11 49 03.1	
	comp=Z,6.5nm,1.3s							
WB0	**Warramunga Arr**	**40.48**	**262**	P	**P**	**P**	**11 48 52.5**	**+2.7**
WB0					IAmb	IAmb	11 48 53.3	
	comp=Z,8.6nm,1.2s							
WB2	**Warramunga Arr**	**40.50**	**262**	P	**P**	**P**	**11 48 50.9**	**+1.0**
WB2					IAmb	IAmb	11 48 53.1	
	comp=Z,7.7nm,1.2s							
WRAB	**Tennant Creek**	**40.50**	**262**	P	**P**	**P**	**11 48 52.6**	**+2.7**
WRAB					IAmb	IAmb	11 49 19.6	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**40.51**	**262**	P	**P**	**P**	**11 48 49.5**	**-0.4**
	comp=Z,3.5nm,1.1s,baz=83,slow=7.8,SNR=14							
	comp=Z,3.5nm,1.1s							
WRA	**Warramunga Arr**	**40.51**	**262**	P	**P**	**P**	**11 48 51.9**	**+1.9**
AS31	**Alice Springs**	**40.60**	**256**			**P**	**11 48 51.6**	**+0.8**
ASAR	**Alice Springs**	**40.60**	**256**	P	**P**	**P**	**11 48 50.7**	**-0.1**
	comp=Z,9.0nm,0.8s,baz=87,slow=7.5,SNR=32							
	comp=Z,9.0nm,0.8s							
ASAR	**Alice Springs**	**40.60**	**256**			**P**	**11 48 52.1**	**+1.3**
FORT	**Forrest**	**45.80**	**246**	P	**P**	**P**	**11 49 35.7**	**+3.0**
FITZ	**Fitzroy Crossi**	**48.92**	**263**	P	**P**	**P**	**11 49 56.0**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=185,slow=6.7,SNR=2.9							
	comp=Z,1.9nm,0.9s							
FITZ	**Fitzroy Crossi**	**48.92**	**263**	P	**P**	**P**	**11 49 59.5**	**+2.4**
VNDA	**Vanda**	**58.64**	**184**	LR	LR	LR	12 14 10.1	
	comp=Z,30nm,18.2s,baz=60,slow=34							
VNDA	**Vanda**	**58.64**	**184**	P	**P**	**P**	**11 51 09.5**	**+2.2**
MJAR	**Matsushiro Arr**	**66.88

KLR	**Kul'dur**	**79.49**	**332**	LR	LR	12 23 07.2	
	comp=Z,124nm,21.7s,baz=99,slow=32						
MAW	**Mawson**	**81.08**	**201**	LR	LR	12 27 08.8	
	comp=Z,33nm,18.2s,baz=162,slow=34						
NVAR	**Mina Array Bea**	**83.26**	**45**	P	**P**	**11 53 38.8**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=218,slow=7.0,SNR=2.7 comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**85.73**	**291**	P	**P**	**11 53 49.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=130,slow=4.0,SNR=2.5 comp=Z,0.3nm,0.3s						
ILAR	**Eielson Array**	**88.29**	**14**	P	**P**	**11 54 01.5**	**-0.1**
ILAR				LR	LR	12 26 08.1	
	comp=Z,36nm,20.8s,baz=204,slow=31 comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**90.14**	**59**	P	**P**	**11 54 11.3**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=200,slow=14,SNR=4.8 comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**92.17**	**320**	P	**P**	**11 54 18.2**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=54,slow=3.7,SNR=2.0						
SONM				LR	LR	12 33 30.3	
	comp=Z,135nm,21.9s,baz=71,slow=34 comp=Z,0.3nm,0.4s						
CMIG	**Matias Romero**	**93.44**	**73**	LR	LR	12 28 08.5	
	comp=Z,29nm,19.4s,baz=155,slow=30						
STVI	**Saint Thomas**	**121.25**	**80**		**PKPdf**	**12 00 02.5**	**-1.8**
KIRV	**Kirov**	**125.89**	**329**	PKP	**PKPdf**	**12 00 11.3**	**-0.7**
	comp=Z,24nm,0.4s,baz=39,slow=1.4,SNR=3.6						
EKA	**Eskdalemuir Ar**	**144.15**	**1**	PKP	**PKPdf**	**12 00 45.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=356,slow=2.1,SNR=2.1						
CLL	**Collm**	**145.90**	**343**	*i* PKiKP	**PKiKP**	**12 00 53.6**	**+0.3**
	comp=Z,4.0nm,1.1s						
CLL				*i* pPKiKP	**pPKPdf**	**12 00 56.6**	**-0.5**
	comp=Z,5.0nm,0.9s						
CLL				*i* x	x	12 01 04.4	

IDC 26 11:49:48.8±2.0, 8°.07S×125°.30E, *h*0km, mb3.3/1, mbtmp3.5/5, ML3.3/4, Error ellipse: s-maj=42.6km s-min=26.8km az=85.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.67**	**217**	Pn	Pn	11 50 32.1	-1.0
	4.2nm,0.3s,baz=45,slow=1.4,SNR=2.3						
BATI				Sn	Sb	11 51 08.7	-2.2
	3.4nm,0.3s,baz=27,slow=2.3,SNR=2.1 11nm,0.4s						
FITZ	**Fitzroy Crossi**	**9.98**	**178**	Pn	Pn	11 52 13.7	+0.2
	0.1nm,0.3s,baz=356,slow=14,SNR=1.6						
FITZ				Sn	Sn	11 54 03.9	-2.5
	0.2nm,0.3s,baz=270,slow=20,SNR=5.6 0.7nm,0.6s						
WRA	**Warramunga Arr**	**14.70**	**144**	Pn	Pn	11 53 16.5	-1.7
	0.2nm,0.3s,baz=318,slow=13,SNR=17						
WRA				Sn	Sn	11 55 56.3	-5.6
	0.1nm,0.3s,baz=315,slow=24,SNR=1.9 1.9nm,0.8s						
ASAR	**Alice Springs**	**17.57**	**153**	P	P	11 53 56.4	-0.1
	0.1nm,0.3s,baz=325,slow=11,SNR=16						
ASAR				S	Sn	11 57 01.1	-11
	0.1nm,0.7s,baz=39,slow=52,SNR=2.0 1.2nm,0.7s						
MKAR	**Makanchi Array**	**66.66**	**329**	P	P	12 00 41.5	+0.1
	0.1nm,0.4s,baz=121,slow=6.9,SNR=2.5 0.1nm,0.4s						

*JMA **26** 11:56:24.2±0.7, 34°.N±1°×14°.2E±°, h18km±2km, MV3.3/27, FAR SE OFF BOSO PEN*
*IDC **26** 11:56:25.7±0.8, 34°.48N×141°.35E, h0km, mb3.7/10, mbtmp3.7/11, ML3.2/1, Error ellipse: s-maj=22.2km s-min=18.6km az=99.0*
ISC 26 11:56:29.6±0.8, 34°.48N±0°.05×141°.42E±0°.07, h27km, n27, σ1s18/27, mb3.6/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.41**	**296**	P	**Pb**	**11 56 38.0**	**0.0**
BSO3	**Boso 3**	**0.82**	**294**	P	**Pb**	**11 56 44.8**	**-0.3**
BSO4	**Boso 4**	**1.03**	**300**	P	**Pb**	**11 56 49.3**	**+0.6**
JKUC	**kamogawauchiur**	**1.22**	**305**	*e*P	**Pb**	**11 56 51.3**	**-0.6**
JKUC				*e*S	**Sb**	**11 57 10.4**	**+3.2**
CHOJ	**Chosi**	**1.31**	**339**	P	**Pn**	**11 56 51.5**	**-0.6**
CHOJ				*e*S	**Sb**	**11 57 11.1**	**+1.3**
JMKN	**Mikurajimanish**	**1.63**	**250**	*e*P	**Pn**	**11 56 56.5**	**+0.1**
JIM2	**Oshima 3**	**1.66**	**279**	*e*P	**Pn**	**11 56 57.1**	**+0.2**
JIM2				*e*S	**Sb**	**11 57 21.3**	**+1.3**
JHJ	**Hachijo jima 2**	**1.92**	**226**	Pn	**Pn**	**11 57 00.3**	**-0.1**
	24nm,0.3s,baz=332,slow=22,SNR=9.1						
JHJ				Sn	**Sb**	**11 57 27.8**	**+0.3**
	20nm,0.3s,baz=72,slow=23,SNR=4.1						
MJAR	**Matsushiro Arr**	**3.33**	**309**	Pn	**Pn**	**11 57 21.1**	**+1.2**
	0.9nm,0.3s,baz=104,slow=9.3,SNR=34						
MJAR				Sn	**Sb**	**11 58 05.6**	**-2.6**
	0.5nm,0.3s,baz=142,slow=15,SNR=6.1						
KSRS	**Korea Array**	**11.34**	**289**	Pn	**Pn**	**11 59 07.9**	**-1.8**
	0.2nm,0.3s,baz=102,slow=14,SNR=1.8 0.3nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.92**	**116**	T	T	12 30 16.3	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**26.92**	**117**	T	T	12 30 26.1	
	baz=309,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.93**	**116**	T	T	12 30 17.9	
	baz=309,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.54**	**119**	T	T	12 31 10.2	
	baz=312,slow=76,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**27.54**	**119**	T	T	12 31 17.4	
	baz=312,slow=76,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**27.56**	**119**	T	T	12 31 11.0	
	baz=312,slow=76,SNR=6.7						
SONM	**Songino Array**	**29.29**	**308**	P	**P**	**12 02 29.3**	**-0.3**
	0.4nm,0.4s,baz=111,slow=7.9,SNR=1.9 0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.92**	**258**	P	**P**	**12 04 08.8**	**-1.0**
	0.3nm,0.3s,baz=64,slow=8.1,SNR=1.1 0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**43.67**	**314**	P	**P**	**12 04 30.1**	**-1.7**
	0.4nm,0.3s,baz=76,slow=8.0,SNR=1.7						
ZALV				PcP	**PcP**	**12 06 19.2**	**+0.6**
	0.7nm,0.4s,baz=80,slow=1.6,SNR=2.1 0.4nm,0.3s						
MKAR	**Makanchi Array**	**45.52**	**304**	P	**P**	**12 04 47.4**	**+0.7**
	0.6nm,0.6s,baz=90,slow=9.3,SNR=6.3 0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**47.61**	**310**	P	**P**	**12 05 03.1**	**+0.1**
	1.3nm,0.3s,baz=83,slow=7.3,SNR=2.4 1.3nm,0.3s						
ILAR	**Eielson Array**	**51.66**	**31**	P	**P**	**12 05 33.5**	**-0.1**
	0.7nm,0.8s,baz=266,slow=6.6,SNR=8.1 0.7nm,0.8s						
WRA	**Warramunga Arr**	**54.53**	**188**	P	**P**	**12 05 54.6**	**-0.7**
	0.4nm,0.4s,baz=2.9,slow=7.6,SNR=14 0.4nm,0.4s						
ASAR	**Alice Springs**	**58.26**	**188**	P	**P**	**12 06 22.1**	**+0.3**
	0.4nm,0.7s,baz=2.0,slow=5.9,SNR=8.8 0.4nm,0.7s						
AKASG	**Malin Array Be**	**76.33**	**323**	P	**P**	**12 08 15.9**	**0.0**
	0.4nm,0.4s,baz=47,slow=6.1,SNR=4.2 0.4nm,0.4s						
NVAR	**Mina Array Bea**	**76.52**	**53**	P	**P**	**12 08 19.1**	**+1.5**
	0.4nm,0.7s,baz=285,slow=5.0,SNR=5.0 0.4nm,0.7s						
LPAZ	**La Paz**	**147.91**	**63**	PKPbc	**PKPbc**	**12 16 13.6**	**+0.1**
	1.0nm,0.6s,baz=297,slow=2.3,SNR=4.1						

*HEL **26** 11:56:32.7±0.4, 60°.97N×30°.47E, h0km, ML2.6, Explosion*
*IDC **26** 11:56:35.9±1.0, 61°.17N×30°.02E, h0km, mb3.3/1, mbtmp3.5/6, ML3.5/5, Error ellipse: s-maj=11.4km s-min=8.7km az=11.0*
ISC 26 11:56:33.7±1.0, 60°.89N±0°.04×30°.18E±0°.06, h0km, n24, σ2s50/39, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.34**	**256**	PG	**Pg**	**11 56 59.2**	**-0.1**
VJF				MSG		11 57 17.5	
	comp=Z,53nm,0.2s						
VJF				SN	**Sn**	**11 57 21.6**	**+3.6**
FIA0	**FINESS Array S**	**2.06**	**287**	PN	**Pn**	**11 57 09.5**	**-0.1**
	baz=98						
FIA0				SN	**Sn**	**11 57 36.1**	**+0.1**
FINES	**FINESS Array B**	**2.06**	**287**	Pg	**Pn**	**11 57 09.9**	**+0.3**
	comp=Z,4.2nm,0.3s,baz=100,slow=16,SNR=126						
FINES				Lg	Lg	11 57 36.0	
	comp=Z,10nm,0.3s,baz=100,slow=28,SNR=8.0						
JOF	**Joensuu**	**2.10**	**14**	PG	**Pn**	**11 57 08.5**	**-1.7**
	baz=187						
JOF				SG	**Sn**	**11 57 33.7**	**-3.3**
PVF	**Pernaja**	**2.15**	**263**	PB	**Pn**	**11 57 11.8**	**+1.1**
	baz=74						
PVF				MSG		11 57 40.9	
	comp=Z,77nm,0.2s						
PVF				SB	**Sb**	**11 57 42.1**	**+1.4**
KAF	**Kangasniemi**	**2.23**	**305**	PB	**Pn**	**11 57 12.4**	**+0.6**
KAF				MSG		11 57 40.9	
	comp=Z,20nm,0.2s						
KAF				SB	**Sn**	**11 57 41.5**	**+1.5**
NUR	**Nurmijrvi**	**2.75**	**264**	PB	**Pb**	**11 57 23.2**	**-0.4**
NUR				SG	**Sb**	**11 58 00.9**	**+3.1**
KEF	**Keuruu**	**2.85**	**299**	PN	**Pn**	**11 57 21.1**	**+0.8**
KEF				SN	**Sn**	**11 57 56.4**	**+1.1**
KEF				MSG		11 57 59.2	
	comp=Z,7.2nm,0.2s						
MEF	**Metsahovi**	**2.94**	**259**	PN	**Pn**	**11 57 23.5**	**+1.9**
MEF				SN	**Sn**	**11 57 59.9**	**+2.4**
MEF				MSG		11 58 03.4	
	comp=Z,31nm,0.2s						
VSU	**Vasula**	**3.00**	**217**	PB	**Pb**	**11 57 26.8**	**-1.1**
VSU				SB	**Sb**	**11 58 05.6**	**+0.6**
RMF	**Romuvaara**	**3.34**	**358**	PN	**Pn**	**11 57 26.5**	**-0.7**
RMF				SB	**Sn**	**11 58 08.2**	**+0.7**
MTSE	**Matsula**	**3.89**	**239**	PB	**Pb**	**11 57 40.1**	**-2.9**
RAF	**Rauma**	**4.11**	**276**	PN	**Pn**	**11 57 38.9**	**+1.3**
	baz=91						
RAF				SN	**Sn**	**11 58 27.8**	**+1.5**
VAF	**Ylistaro**	**4.15**	**305**	PN	**Pn**	**11 57 39.3**	**+1.1**
VAF				SN	**Sn**	**11 58 27.9**	**+0.6**
OUF	**Merijarvi**	**4.30**	**327**	PN	**Pn**	**11 57 41.6**	**+1.4**
OUF				SG	**Sb**	**11 58 43.8**	**+1.4**
OBF4	**Vikkela, Lumij**	**4.57**	**332**	PN	**Pn**	**11 57 44.4**	**+0.4**
OUL	**Oulu**	**4.64**	**337**	PG	**Pb**	**11 57 55.3**	**-0.6**
OUL				SB	**Sb**	**11 58 47.5**	**-4.7**
OBF8	**Ulkokalla**	**4.64**	**321**	SG	**Sb**	**11 58 57.6**	**+5.2**
HFS	**Hagfors**	**8.17**	**272**	Pn	**Pn**	**11 58 32.9**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=78,slow=15,SNR=25						
HFS				Sn	**Sn**	**11 59 59.4**	**-6.9**
	comp=Z,0.4nm,0.3s,baz=79,slow=26,SNR=2.7						
HFS				Lg	Lg	12 00 49.7	
	comp=Z,1.3nm,0.3s,baz=73,slow=31,SNR=6.7 comp=Z,2.0nm,0.3s						
ARCES	**ARCESS Array B**	**8.90**	**349**	Pn	Pn	11 58 38.7	-4.6
	comp=Z,0.2nm,0.3s,baz=163,slow=15,SNR=16						
ARCES				Sn	Sn	12 00 15.1	-9.0
	comp=Z,0.2nm,0.3s,baz=166,slow=35,SNR=2.4						
ARCES				Lg	Lg	12 01 07.9	
	comp=Z,0.6nm,0.3s,baz=165,slow=32,SNR=5.3 comp=Z,0.4nm,0.3s						
NOA	**NORSAR Array B**	**9.22**	**279**	Pn	**Pn**	**11 58 45.0**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=17						
NOA				Sn	**Sn**	**12 00 25.6**	**-6.5**
	baz=100,slow=10,SNR=1.4 comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**10.23**	**183**	Pn	**Pn**	**11 59 02.3**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=4.5,slow=13,SNR=5.0 comp=Z,0.3nm,0.3s						
VRAC	**Vranov**	**13.93**	**220**	Pn	**Pn**	**11 59 52.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=46,slow=17,SNR=4.5 comp=Z,3.9nm,0.5s						
MKAR	**Makanchi Array**	**32.85**	**91**	P	**P**	**12 03 09.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=306,slow=7.0,SNR=2.5 comp=Z,0.1nm,0.3s						

IDC 26 12:03:45.4±10.0, 11°.03N×93°.10E, h117km±93km, mb3.5/4, mbtmp3.8/5, ML3.2/1, MS3.9/2, Error ellipse: s-maj=99.4km s-min=19.8km az=49.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.30**	**37**	P	Pn	12 05 57.8	+1.2
	0.1nm,0.3s,baz=232,slow=15,SNR=6.5 0.4nm,0.3s						
H08S3	**Diego Garcia H**	**27.65**	**229**	T	T	12 37 19.8	
	baz=47,slow=75,SNR=35						
H08S2	**Diego Garcia H**	**27.65**	**229**	T	T	12 37 02.9	
	baz=47,slow=75,SNR=33						
H08S1	**Diego Garcia H**	**27.67**	**229**	T	T	12 37 05.5	
	baz=47,slow=75,SNR=17						
MKAR	**Makanchi Array**	**36.81**	**348**	P	P	12 10 40.8	-1.2
	0.7nm,0.7s,baz=168,slow=7.5,SNR=5.1 0.7nm,0.7s						
WRA	**Warramunga Arr**	**50.94**	**127**	P	P	12 12 35.0	-0.4
	2.3nm,0.6s,baz=307,slow=8.2,SNR=89						
WRA				PcP	PcP	12 13 50.9	+0.8
	0.3nm,0.8s,baz=315,slow=3.1,SNR=1.3 2.3nm,0.6s						
ASAR	**Alice Springs**	**52.73**	**131**	P	P	12 12 48.0	-0.6
	1.0nm,0.5s,baz=304,slow=6.9,SNR=46						
ASAR				PcP	PcP	12 13 57.4	+0.6
	0.2nm,0.7s,baz=321,slow=3.7,SNR=1.6 1.0nm,0.5s						
KIRV	**Kirov**	**57.74**	**335**	LR	LR	12 41 34.2	
	comp=Z,100nm,19.7s,baz=340,slow=39						
BRTR	**Keskin Array B**	**59.62**	**310**	P	P	12 13 38.2	+0.7
	0.5nm,0.6s,baz=95,slow=8.7,SNR=2.0 0.5nm,0.6s						
MA2	**Magadan**	**64.48**	**28**	LR	LR	12 46 02.4	
	comp=Z,69nm,18.4s,baz=185,slow=39						

*IDC **26** 12:14:39.2±3.4, 35°.63N×133°.75E, h0km, mb3.2/1, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=69.8km s-min=17.3km az=1.0*
*JMA **26** 12:14:40.2±0.0, 35°.4N±0°.1×133°.8E±0°.1, h13km, MV3.8/20, EASTERN TOTTORI PREF*
JMA Felt II J1 at EASTERN TOTTORI PREF .
*NIED **26** 12:14:40.2, 35°.40N×133°.83E, h13km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.16; Mθθ3.77; Mϕϕ-4.92; Mrθ0.93; Mθϕ-4.23; Mrϕ-0.39; Fault plane solution: Mo6.17000×10¹⁴ NP1:ϕs66.00000°, δ81.00000°, λ171.00000°. NP2:ϕs158.00000°, δ81.00000°, λ9.00000°.*

ISC 26 12:14:37.3±0.9, 35°.57N±0°.06×134°.00E±0°.05, h10km, n7, σ1s70/10, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.24**	**217**	S	**Sg**	**12 14 43.9**	**-1.7**
JAD	**Aida**	**0.65**	**168**	*e*P	**Pb**	**12 14 50.5**	**-0.2**
JAD				S	**Sg**	**12 14 57.7**	**-0.6**
JNM	**Ikuma**	**0.80**	**265**	S	**Sg**	**12 15 02.4**	**-0.7**
JISK	**Izumosakaura**	**0.94**	**266**	S	**Sg**	**12 15 06.1**	**-1.6**
MJAR	**Matsushiro Arr**	**3.54**	**73**	Pn	**Pb**	**12 15 37.6**	**-2.5**
	0.2nm,0.3s,baz=258,slow=14,SNR=5.3						
MJAR				Pg	**Pg**	**12 15 46.7**	**+1.5**
	0.2nm,0.3s,baz=262,slow=14,SNR=11						
MJAR				Lg	Lg	12 16 40.2	
	0.8nm,0.3s,baz=260,slow=17,SNR=3.2 1.2nm,0.3s						
KSRS	**Korea Array**	**5.24**	**293**	Pn	**Pn**	**12 15 55.6**	**-0.1**
	1.0nm,0.3s,baz=108,slow=15,SNR=8.9						
KSRS				Sn	**Sn**	**12 16 56.5**	**+0.4**
	0.9nm,0.3s,baz=110,slow=24,SNR=4.9 2.4nm,0.3s						
SONM	**Songino Array**	**23.84**	**309**	P	**P**	**12 19 53.0**	**+2.3**
	0.3nm,0.3s,baz=121,slow=10,SNR=2.0 0.3nm,0.3s						

*AUST **26** 12:15:23.4±0.5, 19°.80S×148°.80E, h2km±2km, Error ellipse: s-maj=3.4km s-min=2.0km az=26.0*
*IDC **26** 12:15:25.5±6.8, 19°.73S×148°.39E, h0km, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=55.4km s-min=42.4km az=48.0*

ISC 26 12:15:26.4±1.6, 19°.99S±0°.10×148°.55E±0°.09, h10km, n12, σ1s35/17, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.16**	**267**	P	**Pb**	**12 16 04.1**	**-1.6**
	baz=2.4						
CTA				S	**Sg**	**12 16 35.3**	**-0.6**
	baz=2.4						
MTSU	**Mount Surprise**	**4.41**	**294**	P	Pn	**12 16 33.9**	**+0.5**
	baz=4.5,SNR=115						
MTSU				S	**Sn**	**12 17 26.9**	**+2.0**
	baz=4.5						
EIDS	**Eidsvold**	**5.84**	**157**	P	Pn	**12 16 52.8**	**-0.3**
	baz=6.0,SNR=21						
RMQ	**Roma**	**6.47**	**178**	P	Pn	**12 17 03.0**	**+1.3**
	baz=6.7,SNR=5.4						
COEN	**Coen**	**7.90**	**319**	P	**Pn**	**12 17 20.0**	**-1.5**
	baz=7.9						
QIS	**Mount Isa**	**8.42**	**265**	P	**Pn**	**12 17 30.4**	**+1.8**
	baz=8.7						
ARMA	**Armidale**	**10.75**	**166**	P	Pn	**12 18 00.4**	**-0.1**
	baz=11						
CMSA	**Cobar Meteorol**	**11.78**	**192**	P	Pn	**12 18 16.3**	**+1.7**
	baz=12						
WB2	**Warramunga Arr**	**13.35**	**268**	P	Pn	**12 18 37.1**	**+1.0**
	baz=14						
WRA	**Warramunga Arr**	**13.36**	**268**	Pn	Pn	**12 18 35.7**	**-0.6**
	0.1nm,0.3s,baz=90,slow=12,SNR=6.4						
WRA				Sn	**Sn**	**12 21 04.0**	**-1.1**
	0.1nm,0.3s,baz=88,slow=23,SNR=1.6						
WRA				Lg	Lg	12 22 25.0	
	0.3nm,0.3s,baz=94,slow=28,SNR=6.5 0.5nm,0.9s						
STKA	**Stephens Creek**	**13.38**	**206**	Pn	Pn	**12 18 38.4**	**+1.9**
	0.3nm,0.3s,baz=22,slow=15,SNR=2.2						
STKA				Sn	**Sn**	**12 21 04.1**	**-1.2**
	0.2nm,0.3s,baz=155,slow=22,SNR=2.1						
STKA				Lg	Lg	12 22 36.9	
	0.1nm,0.3s,baz=45,slow=8.4,SNR=1.2 1.5nm,0.5s						
ASAR	**Alice Springs**	**14.08**	**252**	Pn	**Pn**	**12 18 45.2**	**-0.9**
	0.1nm,0.3s,baz=76,slow=14,SNR=10						
ASAR				Sn	**Sn**	**12 21 22.4**	**-0.2**
	0.1nm,0.3s,baz=73,slow=26,SNR=3.5						
ASAR				Lg	Lg	12 22 51.0	
	0.3nm,0.3s,baz=82,slow=25,SNR=7.5 0.6nm,0.6s						

*IDC **26** 12:35:22.7±1.3, 35°.35N×133°.73E, h0km, mb3.1/3, mbtmp3.1/5, ML2.6/2, MS2.6/1, Error ellipse: s-maj=26.6km s-min=17.5km az=173.0*
*NIED **26** 12:35:24.9, 35°.41N×133°.83E, h13km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.64; Mθθ4.09; Mϕϕ-4.73; Mrθ0.45; Mθϕ-5.44; Mrϕ-0.52; Fault plane solution: Mo7.04000×10¹⁴ NP1:ϕs70.00000°, δ84.00000°, λ177.00000°. NP2:ϕs161.00000°, δ87.00000°, λ6.00000°.*
*JMA **26** 12:35:24.9±0.0, 35°.4N±0°.1×133°.8E±0°.1, h13km, MV3.9/20, EASTERN TOTTORI PREF*
JMA Felt II J1 at EASTERN TOTTORI PREF .
ISC 26 12:35:24.6±0.8, 35°.38N±0°.04×133°.80E±0°.02, h14km±5km, n15, σ0s78/28, mb3.2/3, 10D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.02**	**109**	*i* P	**Pg**	**12 35 27.1**	**+0.1**
JKR				*e*S	**Sg**	**12 35 28.6**	**-0.1**
JAD	**Aida**	**0.53**	**146**	⇓*i* P	**Pg**	**12 35 35.2**	**+0.1**
JAD				⇓S	**Sg**	**12 35 42.5**	**+0.2**
JNM	**Ikuma**	**0.64**	**280**	⇓*i* P	**Pb**	**12 35 37.6**	**+0.1**
JNM				⇓S	**Sb**	**12 35 46.9**	**+0.6**
JHS	**Saijyo**	**0.68**	**236**	*i* P	**Pb**	**12 35 38.1**	**-0.1**
JHS				S	**Sb**	**12 35 47.7**	**+0.2**
JKSM	**Kasumi**	**0.73**	**74**	*i* P	**Pb**	**12 35 38.1**	**-1.0**
JKSM				S	**Sb**	**12 35 47.4**	**-1.6**
JISK	**Izumosakaura**	**0.79**	**279**	⇓*i* P	**Pg**	**12 35 39.9**	**0.0**
JISK				⇓S	**Sg**	**12 35 50.4**	**+0.2**
JKS	**Kasai**	**0.94**	**115**	⇓*i* P	**Pb**	**12 35 42.2**	**-0.5**
JKS				⇓S	**Sb**	**12 35 54.6**	**-0.4**
JOI	**OKI**	**1.01**	**334**	⇓*i* P	**Pb**	**12 35 42.9**	**-0.9**
JOI				⇓S	**Sb**	**12 35 56.5**	**-0.5**
JJS	**Sakaide**	**1.01**	**174**	*i* P	**Pn**	**12 35 43.7**	**-0.6**
JJS				*i* S	**Sg**	**12 35 57.4**	**+0.1**
JKY	**Yasaka**	**1.09**	**77**	*i* P	**Pb**	**12 35 44.5**	**-0.7**
JKY				S	**Sb**	**12 35 58.7**	**-0.6**
MJAR	**Matsushiro Arr**	**3.76**	**71**	Pn	**Pn**	**12 36 23.6**	**+1.5**
	0.1nm,0.3s,baz=254,slow=14,SNR=6.9						
MJAR				Pg	**Pb**	**12 36 32.8**	**+2.1**
	0.2nm,0.3s,baz=257,slow=6.8,SNR=5.9						
MJAR				Lg	Lg	12 37 24.8	
	0.7nm,0.3s,baz=258,slow=18,SNR=8.0 1.5nm,0.4s						
KSRS	**Korea Array**	**5.17**	**295**	Pn	**Pn**	**12 36 41.8**	**+0.3**
	0.8nm,0.3s,baz=109,slow=14,SNR=9.8						
KSRS				Pg	**Pb**	**12 36 53.9**	**-0.9**
	0.5nm,0.3s,baz=112,slow=14,SNR=6.3						
KSRS				Sn	**Sn**	**12 37 40.6**	**-0.3**
	0.7nm,0.3s,baz=114,slow=24,SNR=4.8						
KSRS				LR	LR	12 38 47.9	
	comp=Z,54nm,19.6s,baz=165,slow=40 2.2nm,0.3s						
SONM	**Songino Array**	**23.83**	**310**	P	**P**	**12 40 37.4**	**+0.1**
	0.4nm,0.6s,baz=112,slow=12,SNR=2.6 0.4nm,0.6s						
WRA	**Warramunga Arr**	**55.02**	**179**	P	**P**	**12 44 55.2**	**-0.4**
	0.1nm,0.7s,baz=352,slow=7.7,SNR=0.9 0.1nm,0.7s						
ASAR	**Alice Springs**	**58.73**	**180**	P	**P**	**12 45 22.3**	**+0.4**
	0.3nm,0.9s,baz=2.1,slow=6.2,SNR=2.3 0.3nm,0.9s						

*IPEC **26** 12:35:36.2±0.5, 51°.49N×16°.20E, h1km±2km, ML2.3/5, Error ellipse: s-maj=2.9km s-min=1.1km az=18.0*
*PRU **26** 12:35:37.1±0.0, 51°.46N×16°.14E, h0km*
*VIE **26** 12:35:37.5±0.4, 51°.38N×15°.96E, h0km, mb2.3/3, ml2.6/3, Error ellipse: s-maj=2.8km s-min=2.2km az=168.0 79 km WNW of Wroclaw Suspected Mining induced.*
*IDC **26** 12:35:37.8±1.0, 51°.42N×16°.16E, h0km, mbtmp3.3/5, ML2.5/5, Error ellipse: s-maj=20.6km s-min=8.8km az=103.0*
ISC 26 12:35:35.5±0.9, 51°.52N±0°.04×16°.15E±0°.03, h0km, n29, σ0s65/60, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**172**	*e*Pg	**Pg**	**12 35 49.0**	**+0.4**
KSP				*e*Sg	**Sg**	**12 35 57.4**	**-0.1**
CHVC	**Chvalec**	**0.94**	**184**	*e*PG	**Pg**	**12 35 53.9**	**+0.4**
CHVC				*e*SG	**Sg**	**12 36 05.3**	**-0.3**
	comp=Z,27nm,0.4s						
OSTC	**Ostas**	**0.97**	**177**	*e*PG	**Pg**	**12 35 54.4**	**+0.3**
OSTC				*e*SG	**Sg**	**12 36 05.9**	**-0.7**
	comp=Z,25nm,0.3s						
UPC	**Upice**	**1.02**	**185**	*e*PG	**Pg**	**12 35 55.0**	**-0.1**
UPC				*e*SG	**Sg**	**12 36 07.9**	**-0.4**
	comp=Z,88n

KRUC	**Moravsky**	**2.47**	**176**	*e*Pn	**Pn**	**12 36 17.0**	**0.0**
	baz=357							
KRUC				*e*Sg	**Sb**	**12 36 52.2**	**+0.5**
	comp=Z,13nm,0.6s,baz=357							
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**12 36 25.9**	**-0.5**
OJC				*e*Sg	**Sg**	**12 37 01.5**	**+0.7**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PG	**Pg**	**12 36 26.8**	**0.0**
NKC				*e*SG	**Sg**	**12 37 00.9**	**-0.6**
	comp=Z,21nm,0.3s							
KHC	**Kasperske Hory**	**2.91**	**216**	*e*PN	**Pn**	**12 36 23.4**	**+0.3**
KHC				*e*PG	**Pb**	**12 36 29.1**	**+0.9**
KHC				*e*SN	**Sn**	**12 36 57.7**	**-1.0**
KHC				*e*SG	**Sg**	**12 37 08.3**	**-0.6**
	comp=Z,7.4nm,0.4s							
CKRC	**Cesky Krumlov**	**2.95**	**204**	*e*PN	**Pn**	**12 36 23.9**	**+0.2**
CKRC				*e*PG	**Pb**	**12 36 30.4**	**+1.4**
CKRC				*e*SG	**Sb**	**12 37 07.0**	**+1.4**
	comp=Z,7.6nm,0.4s							
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**12 36 26.5**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=13,SNR=6.5							
GERES				Pg	**Pb**	**12 36 32.4**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=31,slow=16,SNR=18							
GERES				Lg	Lg	12 37 14.4		
	comp=Z,2.2nm,0.3s,baz=32,slow=28,SNR=6.2							
	comp=Z,0.7nm,0.3s							
LANS	**Liptovska Anna**	**3.19**	**137**	*e*PN	**Pn**	**12 36 27.0**	**+0.1**
LANS				*e*PG	**Pg**	**12 36 37.0**	**+0.4**
LANS				*e*SG	**Sg**	**12 37 17.7**	**-0.2**
MODS	**Modra-Piesok**	**3.24**	**167**	*e*PG	**Pg**	**12 36 36.8**	**-0.7**
MODS				*e*SG	**Sg**	**12 37 17.6**	**-1.8**
VYHS	**Vyhne**	**3.49**	**149**	*e*PG	**Pg**	**12 36 41.5**	**-0.9**
VYHS				*e*SG	**Sg**	**12 37 27.2**	**-0.5**
CONA	**Conrad Observa**	**3.60**	**183**	*e*Pn	**Pn**	**12 36 33.4**	**+0.7**
	comp=Z,0.5nm,0.2s							
CONA				*e*Sg	**Sg**	**12 37 32.2**	**+1.0**
	comp=Z,4.2nm,0.3s							
MOA	**Molln**	**3.88**	**199**	*e*Pn	**Pn**	**12 36 35.3**	**-1.1**
	comp=Z,0.1nm,0.1s							
MOA				*e*Sn	**Sn**	**12 37 21.6**	**-0.9**
	comp=Z,0.5nm,0.1s							
HFS	**Hagfors**	**8.74**	**352**	Pn	**Pn**	**12 37 42.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=163,slow=17,SNR=1.2							
	comp=Z,0.6nm,0.5s							
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**12 38 17.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=212,slow=18,SNR=3.4							
	comp=Z,1.8nm,0.9s							
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**Pn**	**12 39 54.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=4.7							
	comp=Z,2.9nm,1.2s							

IDC 26 12:36:51.0±999.0, 67.60N×33.77E, h0km, Error ellipse: s-maj=717.7km s-min=253.6km az=124.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**21.03**	**133**	*i*		14 44 20.0	
	baz=336,slow=328,SNR=1.7						
I46RU	**ZALESOVO INFRA**	**27.45**	**94**	*i*		15 24 00.0	
	baz=320,slow=325,SNR=1.1						
I34MN	**SONGINO INFRAS**	**40.60**	**81**	*i*		16 48 20.0	
	baz=327,slow=332,SNR=0.7						

*IDC **26** 12:46:17.4±7.5, 7.25S×130.30E, h207km±83km, mb3.0/1, mbtmp3.3/3, Error ellipse: s-maj=124.4km s-min=33.8km az=73.0*

ISC 26 12:46:09.4±1.5, 7.1S±0.1×129.5E±0.2, h100km, n10, σ1§40/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.96**	**165**	P	**Pn**	**12 47 36.4**	**+1.2**
KDU	**Kakadu**	**6.30**	**153**	P	**Pn**	**12 47 40.7**	**+0.9**
KNRA	**Kununurra**	**8.60**	**185**	P	**Pn**	**12 48 12.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.61**	**199**	P	**Pn**	**12 48 52.7**	**+0.8**
WRA	**Warramunga Arr**	**13.63**	**160**	P	**Pn**	**12 49 15.9**	**-2.8**
	0.2nm,0.4s,baz=348,slow=13,SNR=18						
WRA				S	Sn	12 51 37.8	-11
	1.1nm,0.5s,baz=334,slow=22,SNR=8.7						
COEN	**Coen**	**15.06**	**118**	P	**Pn**	**12 49 37.3**	**+0.3**
ASAR	**Alice Springs**	**17.04**	**166**	P	**Pn**	**12 50 00.3**	**-1.3**
	0.4nm,0.4s,baz=344,slow=9.3,SNR=22						
ASAR				S	Sn	12 53 01.4	-10
	0.3nm,0.5s,baz=342,slow=25,SNR=7.4						
WRKA	**Warakurna**	**17.92**	**184**	P	**P**	**12 50 12.1**	**+0.6**
OOD	**Oodnadatta**	**21.44**	**165**	P	**P**	**12 50 49.9**	**+0.4**
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**12 56 58.0**	**0.0**
	0.2nm,0.4s,baz=110,slow=9.4,SNR=4.2						
	0.2nm,0.4s						

*HEL **26** 12:47:20.6±0.5, 60.98N×30.42E, h0km, ML2.6, Explosion*
*BER **26** 12:47:21.2±2.2, 61.03N×30.48E, h0km, ML2.0, ML2.6(HEL), Suspected explosion*
*IDC **26** 12:47:23.1±1.0, 61.05N×30.00E, h0km, mb3.2/2, mbtmp3.3/6, ML3.2/4, Error ellipse: s-maj=11.7km s-min=8.5km az=13.0*
*NAO **26** 12:47:24.0±1.8, 61.18N×29.94E, ML2.8*

ISC 26 12:47:20.5±0.9, 60.90N±0.04×30.34E±0.05, h0km, n44, σ1§62/62, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.42**	**256**	PG	**Pn**	**12 47 46.5**	**-0.9**
VJF				MSG		12 48 04.9	
	comp=Z,56nm,0.2s						
VJF	**Virojoki**	**1.42**	**256**	PG	**Pn**	**12 47 46.5**	**-0.9**
VJF				MSG		12 48 04.9	
	comp=Z,56nm,0.2s						
VJF				SN	**Sn**	**12 48 09.0**	**+2.2**
JOF	**Joensuu**	**2.07**	**12**	PG	**Pn**	**12 47 56.1**	**-0.3**
JOF				SG	**Sn**	**12 48 21.0**	**-1.9**
JOF	**Joensuu**	**2.07**	**12**	PG	**Pn**	**12 47 56.1**	**-0.3**
JOF				SG	**Sn**	**12 48 21.0**	**-1.9**
FIA0	**FINESS Array S**	**2.14**	**287**	Pn	**Pn**	**12 47 57.5**	**+0.2**
	baz=108,slow=16						
FIA0				Lg	Lg	12 48 23.3	
	baz=87,slow=28						
FIA0				Rg	Rg	12 48 35.7	
	baz=103,slow=37						
FIA0	**FINESS Array S**	**2.14**	**287**	PB	**Pn**	**12 47 57.0**	**-0.3**
FIA0				SN	**Sn**	**12 48 23.3**	**-1.2**
FIA0	**FINESS Array S**	**2.14**	**287**	PB	**Pn**	**12 47 57.0**	**-0.3**
FIA0				SN	**Sn**	**12 48 23.3**	**-1.2**
FINES	**FINESS Array B**	**2.14**	**287**	Pg	**Pn**	**12 47 57.3**	**0.0**
	comp=Z,4.3nm,0.3s,baz=108,slow=16,SNR=126						
FINES				Lg	Lg	12 48 23.2	
	comp=Z,11nm,0.3s,baz=101,slow=29,SNR=9.8						
PVF	**Pernaja**	**2.23**	**263**	PN	**Pn**	**12 47 59.4**	**+0.8**
PVF				MSG		12 48 28.2	
	comp=Z,78nm,0.2s						
PVF				SB	**Sb**	**12 48 29.6**	**-0.1**
PVF	**Pernaja**	**2.23**	**263**	PN	**Pn**	**12 47 59.4**	**+0.8**
PVF				MSG		12 48 28.2	
	comp=Z,78nm,0.2s						
PVF				SB	**Sb**	**12 48 29.6**	**-0.1**
KAF	**Kangasniemi**	**2.29**	**304**	PB	**Pn**	**12 47 59.6**	**+0.2**
KAF				MSG		12 48 28.0	
	comp=Z,21nm,0.2s						
KAF				SB	**Sn**	**12 48 29.0**	**+0.8**
KAF	**Kangasniemi**	**2.29**	**304**	PB	**Pn**	**12 47 59.6**	**+0.2**
KAF				MSG		12 48 28.0	
	comp=Z,21nm,0.2s						
KAF				SB	**Sn**	**12 48 29.0**	**+0.8**
NUR	**Nurmijrvi**	**2.83**	**264**	PN	**Pn**	**12 48 07.9**	**+1.1**
	baz=79						
NUR	**Nurmijrvi**	**2.83**	**264**	PN	**Pn**	**12 48 07.9**	**+1.1**
	baz=79						
NUR				SB	**Sb**	**12 48 48.3**	**+1.4**
KEF	**Keuruu**	**2.91**	**298**	PN	**Pn**	**12 48 08.6**	**+0.7**
KEF	**Keuruu**	**2.91**	**298**	PN	**Pn**	**12 48 08.6**	**+0.7**
KEF				SN	**Sn**	**12 48 43.9**	**+0.3**
KEF				MSG		12 48 46.1	
	comp=Z,7.7nm,0.2s						
MEF	**Metsahovi**	**3.02**	**259**	PN	**Pn**	**12 48 11.0**	**+1.6**
MEF				SN	**Sn**	**12 48 47.4**	**+1.2**
MEF				MSG		12 48 50.8	
	comp=Z,30nm,0.2s						
VSU	**Vasula**	**3.06**	**218**	PB	**Pb**	**12 48 14.0**	**-1.7**
VSU				SB	**Sb**	**12 48 52.8**	**-0.6**
RMF	**Romuvaara**	**3.33**	**357**	PB	**Pn**	**12 48 15.6**	**+1.8**
RMF				SB	**Sn**	**12 48 55.6**	**+1.6**
MTSE	**Matsula**	**3.96**	**239**	SG	**Sg**	**12 49 27.2**	**-0.3**
RAF	**Rauma**	**4.18**	**275**	PN	**Pn**	**12 48 26.3**	**+0.9**
	baz=87						
RAF				SN	**Sn**	**12 49 15.3**	**+0.4**
VAF	**Ylistaro**	**4.21**	**304**	PN	**Pn**	**12 48 26.7**	**+0.9**
VAF				SN	**Sn**	**12 49 15.3**	**-0.2**
OUF	**Merijarvi**	**4.33**	**326**	PN	**Pn**	**12 48 28.6**	**+1.1**
OUF				SB	**Sb**	**12 49 29.9**	**-0.2**
OBF0	**Syolatti, Pyha**	**4.57**	**325**	PG	**Pb**	**12 48 40.5**	**-1.0**
	baz=138						
OBF4	**Vikkela, Lumij**	**4.60**	**331**	PN	**Pn**	**12 48 32.5**	**+1.4**
OUL	**Oulu**	**4.66**	**336**	PG	**Pb**	**12 48 42.5**	**-0.5**
OUL				SB	**Sb**	**12 49 35.0**	**-4.5**
OBF8	**Ulkokalla**	**4.69**	**320**	SG	**Sb**	**12 49 45.0**	**+4.7**
APA0	**Apatity Array**	**6.83**	**9**	Pn	**Pn**	**12 48 59.6**	**-2.0**
	baz=193,slow=14						
APA0	**Apatity Array**	**6.83**	**9**	Pn	**Pn**	**12 48 59.6**	**-2.0**
	baz=193,slow=14						
HFS	**Hagfors**	**8.25**	**272**	Pn	**Pn**	**12 49 20.6**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=83,slow=13,SNR=23						
HFS				Sn	**Sn**	**12 50 49.6**	**-5.4**
	comp=Z,0.5nm,0.3s,baz=67,slow=27,SNR=2.3						
HFS				Lg	Lg	12 51 34.2	
	comp=Z,1.3nm,0.3s,baz=78,slow=29,SNR=6.3						
	comp=Z,1.8nm,0.3s						
HFS	**Hagfors**	**8.25**	**272**	Pn	**Pn**	**12 49 21.1**	**-0.1**
	baz=87,slow=11						
HFS	**Hagfors**	**8.25**	**272**	Pn	**Pn**	**12 49 21.1**	**-0.1**
	baz=87,slow=11						
KTK1	**Kautokeino**	**8.67**	**343**	*e*S	Sn	12 50 50.9	-15
KTK1				IAML		12 50 57.5	
	comp=Z,1.3nm,0.6s						
ARA0	**ARCESS Array S**	**8.90**	**349**	Pn	**Pn**	**12 49 28.3**	**-1.8**
	baz=164,slow=16						
ARA0				Sn	Sn	12 51 00.1	-11
	baz=161,slow=22						
ARA0	**ARCESS Array S**	**8.90**	**349**	Pn	**Pn**	**12 49 28.3**	**-1.8**
	baz=164,slow=16						
ARA0				Sn	Sn	12 51 00.1	-11
	baz=161,slow=22						
ARA0				IAML		12 51 23.3	
	comp=Z,1.4nm,0.4s						
ARCES	**ARCESS Array B**	**8.90**	**349**	Pn	**Pn**	**12 49 28.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=166,slow=13,SNR=18						
ARCES				Sn	Sn	12 51 00.8	-10
	comp=Z,0.2nm,0.3s,baz=168,slow=19,SNR=1.7						
ARCES				Lg	Lg	12 51 50.8	
	comp=Z,0.6nm,0.3s,baz=171,slow=30,SNR=3.5						
	comp=Z,0.4nm,0.3s						
NRA0	**NORESS Array S**	**9.18**	**277**	Pn	**Pn**	**12 49 33.3**	**-0.7**
	baz=77,slow=14						
NRA0	**NORESS Array S**	**9.18**	**277**	Pn	**Pn**	**12 49 33.3**	**-0.7**
	baz=77,slow=14						
NB2	**NORSAR Subarra**	**9.30**	**279**	Pn	**Pn**	**12 49 34.8**	**-0.8**
	baz=82,slow=14						
NB2	**NORSAR Subarra**	**9.30**	**279**	Pn	**Pn**	**12 49 34.8**	**-0.8**
	baz=82,slow=14						
NOA	**NORSAR Array B**	**9.30**	**279**	Pn	**Pn**	**12 49 32.6**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=134,slow=10,SNR=16						
	comp=Z,0.5nm,0.3s						
AKASG	**Malin Array Be**	**10.25**	**184**	Pn	**Pn**	**12 49 47.7**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=3.4,slow=13,SNR=3.1						
AKASG				Lg	Lg	12 52 50.8	
	comp=Z,0.6nm,0.3s,baz=160,slow=21,SNR=2.2						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**32.77**	**92**	P	**P**	**12 53 57.1**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=317,slow=4.3,SNR=4.4						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**52.05**	**216**	P	**P**	**12 56 33.2**	**+1.5**
	comp=Z,0.4nm,0.9s,baz=29,slow=6.2,SNR=2.1						
	comp=Z,0.4nm,0.9s						

*IDC **26** 13:02:46.0±24.0, 43.33N×143.88E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=525.5km s-min=84.7km az=156.0*
*JMA **26** 13:03:12.7±0.2, 43.6N±0.8×14.3E±, h188km±1km, MV3.0/36, TAISETSU MOUNTAINS REG*

ISC 26 13:03:12.1±0.9, 43.57N±0.06×142.84E±0.06, h191km±6km, n27, σ0§77/32, mb3.6/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKK2	**Kamakawa 2**	**0.31**	**348**	P	**Pn**	**13 03 38.0**	**+0.4**
JKK2				*e*S	**Sn**	**13 03 56.6**	**-0.8**
JFR	**Furan**	**0.45**	**203**	*e*P	**Pn**	**13 03 38.6**	**+0.5**
JFR				*e*S	**Sn**	**13 03 58.2**	**+0.2**
JAB	**Ashibetsu**	**0.45**	**262**	*e*P	**Pn**	**13 03 38.3**	**+0.3**
ASAJ	**Asahikawa**	**0.57**	**342**	P	**Pn**	**13 03 38.5**	**+0.1**
ASAJ				*e*S	**Sn**	**13 03 57.9**	**-1.1**
JMP	**Maruseppu**	**0.58**	**41**	*e*P	**Pn**	**13 03 39.0**	**+0.4**
JMP				*e*S	**Sn**	**13 03 58.6**	**-0.4**
JAR	**Ashorobuto**	**0.73**	**112**	P	**Pn**	**13 03 40.2**	**+0.9**
JAR				*e*S	**Sn**	**13 04 00.7**	**+0.5**
JHR	**Hokuryu**	**0.82**	**282**	*e*P	**Pn**	**13 03 40.0**	**+0.3**
JTKR	**Abashiri--Toko**	**0.87**	**63**	*e*P	**Pn**	**13 03 40.9**	**+0.8**
JTKR				*e*S	**Sn**	**13 04 01.8**	**0.0**
JCH	**Churui**	**1.03**	**158**	P	**Pn**	**13 03 41.3**	**+0.1**
JCH				*e*S	**Sn**	**13 04 02.5**	**-1.1**
JSS	**Shosan**	**1.09**	**320**	*e*P	**Pn**	**13 03 41.4**	**-0.2**
JEW	**Eniwo**	**1.25**	**235**	*e*P	**Pn**	**13 03 43.6**	**+0.7**
JEW				*e*S	**Sn**	**13 04 06.1**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.29**	**183**	*e*P	**Pn**	**13 03 44.0**	**+0.8**
JSE	**Soyaes**	**1.40**	**353**	*e*P	**Pn**	**13 03 43.8**	**-0.3**
JAK	**Akkeshi**	**1.48**	**112**	*e*P	**Pn**	**13 03 45.0**	**+0.3**
JAK				*e*S	**Sn**	**13 04 09.5**	**-0.5**
JWK2	**Keihoku**	**1.87**	**339**	*e*P	**Pn**	**13 03 48.6**	**+0.1**
NEM2	**Nemuro 2**	**2.13**	**95**	*e*P	**Pn**	**13 03 51.1**	**-0.1**
NEM2				*e*S	**Sn**	**13 04 19.7**	**-2.0**
JOT	**Ohata**	**2.56**	**212**	*e*P	**Pn**	**13 03 56.2**	**+0.1**
JOT				*e*S	**Sn**	**13 04 28.3**	**-2.0**
SONM	**Songino Array**	**25.65**	**292**	P	**P**	**13 08 24.3**	**+0.2**
	0.7nm,0.6s,baz=94,slow=8.4,SNR=4.0						
	0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**31.17**	**132**	T	T	13 41 05.7	
	baz=327						
H11N1	**WAKE ISLAND Hy**	**31.18**	**132**	T	T	13 41 08.0	
	baz=327						
H11N3	**WAKE ISLAND Hy**	**31.18**	**132**	T	T	13 41 05.7	
	baz=327						
H11S1	**WAKE ISLAND Hy**	**32.07**	**134**	T	T	13 42 14.0	
	baz=328						
H11S3	**WAKE ISLAND Hy**	**32.07**	**134**	T	T	13 42 15.3	
	baz=328						
H11S2	**WAKE ISLAND Hy**	**32.08**	**134**	T	T	13 42 15.7	
	baz=328						
ZALV	**Zalesovo Beam**	**38.60**	**307**	P	**P**	**13 10 16.6**	**+0.3**
	0.6nm,0.4s,baz=88,slow=7.4,SNR=2.5						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**41.87**	**296**	P	**P**	**13 10 44.2**	**+0.9**
	0.4nm,0.5s,baz=82,slow=9.7,SNR=3.8						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**63.57**	**331**	P	**P**	**13 13 21.6**	**-0.2**
	0.5nm,0.5s,baz=36,slow=10.0,SNR=3.9						
	0.5nm,0.5s						

*ANF **26** 13:14:18.9±0.1, 33.29N×115.73W, h11km±1km, ML3.3/27, Error ellipse: s-maj=1.3km s-min=1.0km az=117.0*
*PAS **26** 13:14:19.4±1.8, 33.292N±0.009×115.71W±0.01, h4km±5km, ML3.3/113, ML3.1/36(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=58.0*
*NEIC **26** 13:14:19.3±1.6, 33.295N±0.006×115.73W±0.02, h18km±1km, Error ellipse: s-maj=2.5km s-min=0.9km az=88.0*

ISC 26 13:14:19.6±0.9, 33.27N±0.01×115.72W±0.01, h18km±4km, n121, σ0§97/171, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.18**	**208**		**Pg**	**13 14 24.1**	**-0.1**
ERRC					**Sg**	**13 14 28.2**	**+0.9**
SALN	**Salton City**	**0.22**	**272**		**Sg**	**13 14 28.3**	**-0.1**
WEMD	**Westmorland, C**	**0.26**	**153**		**Pb**	**13 14 25.6**	**-0.1**
WEMD					**Sg**	**13 14 31.3**	**+1.8**
SUP	**Superstition M**	**0.33**	**195**		**Pg**	**13 14 26.3**	**-0.3**
SWSC	**Sam W. Stewart**	**0.33**	**191**		**Pg**	**13 14 26.5**	**-0.2**
SWSC					**Sg**	**13 14 31.1**	**-0.4**
SWSC	**Sam W. Stewart**	**0.33**	**191**	P	**Pg**	**13 14 26.5**	**-0.2**
	baz=12,SNR=628						
SWSC				S	**Sg**	**13 14 31.1**	**-0.4**
	baz=12						
IMPE	**Imperial**	**0.40**	**160**		**Pb**	**13 14 28.3**	**+0.2**
IMPE					**Sb**	**13 14 34.5**	**+0.7**
COK2	**Cook Ranch 2**	**0.42**	**181**		**Pg**	**13 14 28.6**	**+0.3**
COK2					**Sb**	**13 14 35.5**	**+1.0**
CTW	**Cottonwood Mou**	**0.42**	**343**		**Pg**	**13 14 27.5**	**-0.8**
CTW					**Sg**	**13 14 33.4**	**-0.8**
HAY	**Hayfield**	**0.43**	**4**		**Pg**	**13 14 27.7**	**-0.8**
HAY					**Sg**	**13 14 34.0**	**-0.6**
CRR	**Carrizo Plain**	**0.44**	**208**		**Pg**	**13 14 28.2**	**-0.3**
CRR					**Sb**	**13 14 35.3**	**+0.3**
CTCC	**Cactus City**	**0.44**	**330**		**Pg**	**13 14 28.1**	**-0.5**
CTCC					**Sg**	**13 14 34.5**	**-0.3**
BC3	**Big Chuckawall**	**0.44**	**31**		**Pg**	**13 14 27.7**	**-1.0**
BC3					**Sg**	**13 14 33.8**	**-1.1**
BC3	**Big Chuckawall**	**0.44**	**31**	P	**Pg**	**13 14 27.7**	**-1.0**
	baz=211,SNR=697						
BC3				S	**Sg**	**13 14 33.3**	**-1.6**
	baz=211						
SLH	**Sleepy Hollow**	**0.45**	**260**		**Pg**	**13 14 28.5**	**-0.3**
SLH					**Sg**	**13 14 35.1**	**+0.1**
SNR	**Schaffner Ranc**	**0.47**	**150**		**Pb**	**13 14 29.9**	**+0.5**
SNR					**Sn**	**13 14 37.9**	**-1.5**
WESC	**Westside Schoo**	**0.51**	**181**		**Pg**	**13 14 30.0**	**+0.1**
WESC					**Sb**	**13 14 37.7**	**+0.6**
BORC	**Borrego Spring**	**0.58**	**270**		**Pb**	**13 14 30.5**	**-0.7**
BORC					**Sb**	**13 14 39.2**	**+0.1**
SGL	**Mount Signal**	**0.62**	**180**		**Pb**	**13 14 31.3**	**-0.5**
SGL					**Sg**	**13 14 40.5**	**+0.3**
YUH	**Yuha Desert**	**0.65**	**195**		**Pb**	**13 14 31.8**	**-0.5**
YUH					**Sg**	**13 14 41.7**	**+0.7**
YUH	**Yuha Desert**	**0.65**	**195**	IAML		13 14 42.5	
	comp=N,576nm,0.8s						
COA	**Coachella**	**0.65**	**129**		**Pb**	**13 14 32.0**	**-0.3**
COA					**Sn**	**13 14 42.8**	**-0.8**
PMD	**Palm Desert**	**0.66**	**305**		**Pb**	**13 14 31.3**	**-1.3**
PMD					**Sb**	**13 14 41.5**	**0.0**
PMD	**Palm Desert**	**0.66**	**305**	IAML		13 14 41.6	
	comp=N,563nm,0.7s						
PMD				IAML		13 14 42.0	
	comp=E,533nm,0.4s						
RUN	**Ruthven**	**0.69**	**115**		**Pb**	**13 14 32.4**	**-0.7**
RUN					**Sg**	**13 14 42.8**	**+0.2**
MONP2	**Monument Peak**	**0.70**	**237**		**Pb**	**13 14 32.9**	**-0.5**
MONP2					**Sb**	**13 14 42.2**	**-0.5**
MONP2	**Monument Peak**	**0.70**	**237**	P	**Pb**	**13 14 32.8**	**-0.5**
	baz=56,SNR=155						
MONP2				S	**Sb**	**13 14 42.9**	**+0.2**
	baz=56						
XPFO	**Pion Flat**	**0.70**	**299**		**Pb**	**13 14 31.9**	**-1.4**
XPFO					**Sb**	**13 14 41.8**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**0.70**	**208**		**Pb**	**13 14 32.8**	**-0.5**
IKP					**Sb**	**13 14 42.8**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.70**	**208**	P	**Pb**	**13 14 32.7**	**-0.5**
	baz=27,SNR=113						
IKP				S	**Sg**	**13 14 43.1**	**+0.4**
	baz=27						
PFO	**Pinyon Flats O**	**0.70**	**299**		**Pb**	**13 14 32.3**	**-1.1**
PFO					**Sb**	**13 14 42.2**	**-0.5**
PFO	**Pinyon Flats O**	**0.70**	**299**		**Pb**	**13 14 32.0**	**-1.4**
PFO				IAML		13 14 43.4	
	comp=E,747nm,0.8s						
PFO				IAML		13 14 43.9	
	comp=E,366nm,0.6s						
PFO	**Pinyon Flats O**	**0.70**	**299**	P	**Pb**	**13 14 32.3**	**-1.1**
	baz=117,SNR=282						
PFO				S	**Sb**	**13 14 41.8**	**-1.0**
	baz=117						
RMX	**La Rumorosa**	**0.73**	**204**		**Pb**	**13 14 33.9**	**0.0**
RMX					**Sb**	**13 14 44.7**	**+1.1**
RMX	**La Rumorosa**	**0.73**	**204**	IAML		13 14 52.0	
	comp=E,785nm,0.7s						
JUEM	**Julian Eagle M**	**0.76**	**256**		**Pb**	**13 14 33.9**	**-0.4**
JUEM					**Sb**	**13 14 44.7**	**+0.4**
BELC	**Belle Mtn. Jos**	**0.76**	**343**		**Pb**	**13 14 33.7**	**-0.8**
BELC					**Sb**	**13 14 43.3**	**-1.2**
BELC	**Belle Mtn. Jos**	**0.76**	**343**	P	**Pb**	**13 14 33.6**	**-0.8**
	baz=161,SNR=298						
BELC				S	**Sb**	**13 14 43.9**	**-0.6**
	baz=161						
FRD	**Ford Ranch, An**	**0.77**	**287**		**Pb**	**13 14 33.8**	**-0.7**
FRD					**Sb**	**13 14 44.3**	**-0.3**
FRD	**Ford Ranch, An**	**0.77**	**287**		**Pb**	**13 14 33.8**	**-0.7**
FRD					**Sb**	**13 14 44.4**	**-0.3**
MATG	**Mataguay Scout**	**0.78**	**265**		**Pb**	**13 14 34.1**	**-0.6**
MATG					**Sb**	**13 14 44.5**	**-0.4**
GLA	**Glamis**	**0.78**	**106**	Pg	**Pb**	**13 14 33.9**	**-0.9**
GLA	**Glamis**	**0.78**	**106**		**Sb**	**13 14 45.5**	**+0.5**
GLA	**Glamis**	**0.78**	**106**	IAML		13 14 52.0	
	comp=E,3µm,0.5s						
GLA				IAML		13 14 52.4	
	comp=N,1µm,0.5s						
GLA	**Glamis**	**0.78**	**106**	P	**Pb**	**13 14 33.8**	**-0.9**
	baz=288,SNR=269						
GLA				S	**Sb**	**13 14 45.4**	**+0.5**
	baz=288						
SNDA	**J Saunders Pla**	**0.79**	**291**		**Pb**	**13 14 34.2**	**-0.7**
SNDA					**Sb**	**13 14 45.0**	**-0.4**
DNR	**Dunn Ranch,Anz**	**0.81**	**291**		**Pb**	**13 14 34.6**	**-0.6**
DNR					**Sb**	**13 14 46.1**	**+0.1**
EMSC	**East Mesa**	**0.82**	**130**		**Pb**	**13 14 34.6**	**-0.6**
BZNA	**Buzz No.'s Pla**	**0.82**	**286**		**Pb**	**13 14 34.9**	**-0.5**
BZNA					**

DANC	**Danby, Needles**	**1.39**	**12**			**Pb**	**13 14 45.9**	**+0.8**
BBRC	**Big Bear Solar**	**1.40**	**315**	Pb		**Pn**	**13 14 45.0**	**+0.5**
	baz=134,SNR=17							
BBRC				S		**Sb**	**13 15 03.4**	**+0.4**
	baz=134							
ELS	**Elsinore Mount**	**1.47**	**285**	Pn		**Pn**	**13 14 44.3**	**-1.0**
ELS				IAML			13 15 12.6	
	comp=E,214nm,0.7s							
ELS				IAML			13 15 14.3	
	comp=N,194nm,1.1s							
ELS	**Elsinore Mount**	**1.47**	**285**			**Sb**	**13 15 05.5**	**+0.6**
GMRC	**Granite Mounta**	**1.51**	**2**			**Pb**	**13 14 47.5**	**+0.4**
GMRC	**Granite Mounta**	**1.51**	**2**	Pb		**Pn**	**13 14 46.9**	**+1.0**
	baz=182							
GMRC				Sb		**Sb**	**13 15 07.5**	**+1.5**
	baz=182							
HEC	**Hector,Ludlow**	**1.63**	**342**			**Pb**	**13 14 50.3**	**+1.0**
HEC	**Hector,Ludlow**	**1.63**	**342**	Pg		**Pb**	**13 14 50.0**	**+0.7**
	baz=161,SNR=54							
HEC				Sg		**Sg**	**13 15 12.3**	**0.0**
	baz=161							
CSP	**Cedar Springs**	**1.70**	**307**			**Pn**	**13 14 48.5**	**0.0**
113A	**Mohawk Valley,**	**1.72**	**106**			**Pn**	**13 14 48.0**	**-0.6**
NEE2	**Needles Airpor**	**1.75**	**31**	Pg		**Pb**	**13 14 52.0**	**+0.8**
	baz=212,SNR=9.5							
NEE2				Sb		**Sb**	**13 15 14.5**	**+1.7**
	baz=212							
RRX	**Edison Barstow**	**1.92**	**327**	Sb		**Sb**	**13 15 20.0**	**+2.4**
	baz=146							
TUQ	**Turquoise Moun**	**2.16**	**356**	Pg		**Pb**	**13 15 00.0**	**+1.7**
	baz=175							
TUQ				Sb		**Sb**	**13 15 26.5**	**+1.7**
	baz=175							
FMP	**Fort Macarthur**	**2.19**	**282**	Sb		**Sb**	**13 15 26.8**	**+1.3**
	baz=100							
GSC	**Goldstone, Bar**	**2.21**	**336**	Pg		**Pb**	**13 15 00.8**	**+1.6**
	baz=156							
CIS	**Catalina Islan**	**2.26**	**274**	Pb		**Pb**	**13 14 59.8**	**0.0**
	baz=92							
Y14A	**Wickenburg**	**2.36**	**73**			**Pn**	**13 14 58.6**	**+1.0**
EDW2	**Edwards Air Fo**	**2.48**	**311**	Pb		**Pb**	**13 15 04.2**	**+0.6**
	baz=129,SNR=119							
214A	**Organ Pipe Nat**	**2.79**	**117**	Pn		**Pn**	**13 15 01.8**	**-1.5**
214A				IAML			13 16 02.7	
	comp=N,66nm,1.5s							
214A				IAML			13 16 05.2	
	comp=E,49nm,0.5s							
QSM	**Queen of Sheba**	**2.85**	**341**			**Pn**	**13 15 05.4**	**+1.3**
GWY	**Greenwater Val**	**3.01**	**345**			**Pn**	**13 15 07.1**	**+0.6**
TOW	**Tower One**	**3.04**	**327**			**Pn**	**13 15 09.9**	**+3.1**
STCC	**Santa Clara**	**3.06**	**291**			**Pn**	**13 15 08.9**	**+2.8**
ARVC	**Arvin**	**3.17**	**307**	Pg		**Pg**	**13 15 18.8**	**-1.5**
	baz=125							
SHPR	**Sheep Range**	**3.26**	**8**	Pn		**Pn**	**13 15 10.4**	**+0.4**
ISA	**Isabella, Lake**	**3.29**	**317**	Pg		**Pg**	**13 15 21.5**	**-1.2**
	baz=135							
CPY	**CP-1**	**3.66**	**356**			**Pb**	**13 15 27.2**	**+3.4**
TPNV	**Topopah Spring**	**3.69**	**353**	Pg		**Pg**	**13 15 29.2**	**-1.2**
	baz=173							
CWC	**Cottonwood Cre**	**3.71**	**329**	Pg		**Pg**	**13 15 30.0**	**-0.6**
	baz=148							
SMMC	**Simmler**	**4.08**	**301**	Pg		**Pg**	**13 15 36.7**	**-1.0**
	baz=118							
U15A	**North Rim**	**4.23**	**41**			**Pn**	**13 15 23.7**	**+0.4**
LCMT	**Little Creek M**	**4.25**	**28**			**Pn**	**13 15 24.3**	**+0.8**
LCH	**Last Change Ra**	**4.25**	**339**	Pn		**Pn**	**13 15 25.0**	**+1.4**
TUC	**Tucson**	**4.27**	**102**	Pn		**Pn**	**13 15 24.9**	**+1.1**
DSP	**Deep Springs**	**4.48**	**336**	Pn		**Pn**	**13 15 28.3**	**+1.7**
CCUT	**Cedar City**	**4.68**	**24**			**Pn**	**13 15 30.9**	**+1.3**
BENR	**Benton**	**5.00**	**333**			**Pg**	**13 15 58.1**	**+2.6**
R11A	**Troy Canyon, C**	**5.07**	**1**	Pn		**Pn**	**13 15 35.8**	**+0.9**
R11A	**Troy Canyon, C**	**5.07**	**1**	Pg		**Pg**	**13 15 55.2**	**-1.4**
	baz=181							
W18A	**Petrified Fore**	**5.29**	**68**	Pg		**Pg**	**13 15 58.5**	**-2.5**
	baz=251							
SPR3	**Spring Creek 3**	**5.82**	**11**	Pn		**Pn**	**13 15 45.9**	**+0.5**
MVCO	**Mesa Verde**	**7.10**	**54**	Pg		**Pg**	**13 16 33.6**	**-1.8**
	baz=239							
DUG	**Dugway, Tooele**	**7.29**	**18**	Pg		**Pg**	**13 16 37.6**	**-1.5**
	baz=200							

*HEL **26** 13:31:30.9±0.3,61°.00N×30°.25E,h0km,ML2.5,Explosion*
*BER **26** 13:31:33.9±2.1,61°.06N×30°.13E,h0km,ML2.7(NAO), Suspected explosion*
*NAO **26** 13:31:34.4±1.7,61°.05N×29°.93E,ML2.7*
*IDC **26** 13:31:36.0±1.3,61°.08N×29°.85E,h0km,mbtmp3.4/4, ML3.2/4,Error ellipse: s-maj=12.1km s-min=10.4km az=167.0*

ISC 26 13:31:34.3±1.3,61°.22N±0°.04×29°.77E±0°.06,h0km,n30, σ2s03/48,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VJF	**Virojoki**	**1.28**	**239**	PN		**Pg**	**13 31 57.5**	**-1.3**
VJF				MSG			13 32 13.2	
	comp=Z,55nm,0.2s							
FIA0	**FINESS Array S**	**1.80**	**279**	Pn		**Pg**	**13 32 08.7**	**0.0**
	baz=109,slow=16							
FIA0				Lg		Lg	13 32 34.9	
	baz=102,slow=28							
FIA0				Rg		Rg	13 32 45.7	
	baz=96,slow=37							
FIA0	**FINESS Array S**	**1.80**	**279**	Pn		**Pg**	**13 32 08.7**	**0.0**
	baz=109,slow=16							
FIA0	**FINESS Array S**	**1.80**	**279**	PG		**Pb**	**13 32 08.0**	**0.0**
	baz=100							
FIA0				SG		**Sg**	**13 32 34.4**	**+2.5**
FINES	**FINESS Array B**	**1.80**	**279**	Pg		**Pg**	**13 32 08.8**	**+0.2**
	comp=Z,4.3nm,0.3s,baz=100,slow=16,SNR=144							
FINES				Lg		Lg	13 32 34.2	
	comp=Z,1.5nm,0.3s,baz=103,slow=32,SNR=5.0							
FINES				Rg		Rg	13 32 47.8	
	comp=Z,5.0nm,0.3s,baz=108,slow=35,SNR=2.9							
JOF	**Joensuu**	**1.86**	**22**	PG		**Pn**	**13 32 06.9**	**-0.4**
JOF				SG		**Sn**	**13 32 32.1**	**+0.7**
KAF	**Kangasniemi**	**1.88**	**300**	PG		**Pg**	**13 32 10.6**	**+0.3**
KAF				MSG			13 32 36.0	
	comp=Z,21nm,0.2s							
KAF				SG		**Sg**	**13 32 40.0**	**+5.4**
PVF	**Pernaja**	**2.03**	**252**	PG		**Pb**	**13 32 10.8**	**-1.1**
	baz=72							
PVF				MSG			13 32 36.2	
	comp=Z,69nm,0.2s							
PVF				SG		**Sg**	**13 32 40.5**	**+1.2**
KEF	**Keuruu**	**2.52**	**294**	PB		**Pb**	**13 32 19.7**	**-0.7**
KEF				MSG			13 32 54.1	
	comp=Z,7.9nm,0.2s							
KEF				SB		**Sg**	**13 32 55.0**	**-0.3**
NUR	**Nurmijrvi**	**2.60**	**256**	PG		**Pb**	**13 32 21.7**	**-0.1**
MEF	**Metsahovi**	**2.83**	**252**	PB		**Pn**	**13 32 21.9**	**+1.3**
MEF				SB		**Sb**	**13 32 58.3**	**-2.3**
MEF				MSG			13 32 58.7	
	comp=Z,31nm,0.2s							
RMF	**Romuvaara**	**3.01**	**1**	PB		**Pn**	**13 32 25.0**	**+1.8**
RMF				SB		**Sb**	**13 33 06.7**	**+0.6**
VSU	**Vasula**	**3.16**	**210**	SG		**Sn**	**13 33 04.1**	**+0.6**
VAF	**Ylistaro**	**3.80**	**302**	SG		**Sg**	**13 33 37.8**	**+1.4**
MTSE	**Matsula**	**3.91**	**233**	PB		**Pn**	**13 32 37.4**	**+1.9**
MTSE				SB		**Sn**	**13 33 25.9**	**+4.0**
OUF	**Merijarvi**	**3.92**	**326**	PB		**Pb**	**13 32 42.4**	**-1.7**
OUF				SG		**Sg**	**13 33 41.0**	**+0.9**
OBF0	**Syolatti, Pyha**	**4.16**	**325**	PG		**Pb**	**13 32 51.1**	**+2.9**
OUL	**Oulu**	**4.26**	**337**	PB		**Pb**	**13 32 46.9**	**-3.1**
OUL				SB		**Sb**	**13 33 44.7**	**+2.8**
HFS	**Hagfors**	**7.97**	**269**	Pn		**Pn**	**13 33 31.9**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=79,slow=15,SNR=19							
HFS				Sn		**Sn**	**13 34 59.3**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=74,slow=26,SNR=4.7							
HFS				Lg		Lg	13 35 48.3	
	comp=Z,1.3nm,0.3s,baz=76,slow=31,SNR=6.6							
	comp=Z,1.9nm,0.3s							
HFS	**Hagfors**	**7.97**	**269**	Pn		**Pn**	**13 33 31.9**	**+0.7**
	baz=80,slow=16							
HFS				Sn		**Sn**	**13 34 58.0**	**-3.9**
	baz=67,slow=28							
HFS				Lg		Lg	13 35 45.6	
	baz=80,slow=37							
HFS	**Hagfors**	**7.97**	**269**	Pn		**Pn**	**13 33 31.9**	**+0.7**
	baz=80,slow=16							
HFS				Sn		**Sn**	**13 34 58.0**	**-3.9**
	baz=67,slow=28							
ARA0	**ARCESS Array S**	**8.54**	**350**	Pn		**Pn**	**13 33 39.9**	**+0.9**
	baz=165,slow=16							
ARA0				Sn		**Sn**	**13 35 12.4**	**-3.5**
	baz=163,slow=28							
ARA0	**ARCESS Array S**	**8.54**	**350**	Pn		**Pn**	**13 33 39.9**	**+0.9**
	baz=165,slow=16							
ARA0				Sn		**Sn**	**13 35 12.4**	**-3.5**
	baz=163,slow=28							
ARCES	**ARCESS Array B**	**8.54**	**350**	Pn		**Pn**	**13 33 39.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=165,slow=14,SNR=14							
ARCES				Sn		**Sn**	**13 35 14.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=163,slow=25,SNR=5.1							
	comp=Z,0.4nm,0.3s							
NRA0	**NORESS Array S**	**8.88**	**275**	Pn		**Pn**	**13 33 43.8**	**+0.2**
	baz=80,slow=7.9							
NRA0				Sn		**Sn**	**13 35 21.7**	**-2.5**
	baz=80,slow=28							
NRA0	**NORESS Array S**	**8.88**	**275**	Pn		**Pn**	**13 33 43.8**	**+0.2**
	baz=80,slow=7.9							
NRA0				Sn		**Sn**	**13 35 21.7**	**-2.5**
	baz=80,slow=28							
NB2	**NORSAR Subarra**	**8.98**	**277**	Pn		**Pn**	**13 33 45.2**	**+0.1**
	baz=81,slow=14							
NB2	**NORSAR Subarra**	**8.98**	**277**	Pn		**Pn**	**13 33 45.2**	**+0.1**
	baz=81,slow=14							
NOA	**NORSAR Array B**	**8.98**	**277**	Pn		**Pn**	**13 33 44.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=18							
NOA				Sn		**Sn**	**13 35 28.7**	**+1.9**
	baz=91,slow=19,SNR=1.3							
NOA				Lg		Lg	13 36 21.2	
	comp=Z,0.1nm,0.3s,baz=136,slow=26,SNR=1.8							
	comp=Z,0.4nm,0.3s							
AKASG	**Malin Array Be**	**10.54**	**182**	Pn		Pn	13 34 00.6	-5.9
	comp=Z,1.0nm,0.3s,baz=1.5,slow=13,SNR=2.4							
	comp=Z,0.3nm,0.3s							

*IDC **26** 13:31:45.7±0.9,63°.61N×19°.28W,h0km,mb3.5/9, mbtmp3.5/10,ML3.9/1,MS3.1/9,Error ellipse: s-maj=27.6km s-min=14.8km az=40.0*
*REY **26** 13:31:45.5,63°.62N×19°.11W,h0km*
*NEIC **26** 13:31:46.2±1.9,63°.7N±0°.2×19°.2W±0°.5,h10km±2km, mb4.1/1,Error ellipse: s-maj=44.1km s-min=11.8km az=227.0*

ISC 26 13:31:46.0±0.8,63°.66N±0°.03×19°.18W±0°.02,h9km±5km, n64,σ1s38/62,mb3.5/8,MS3.1/6,Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IAUS	**Austmannsbunga**	**0.04**	**77**	P		**Pg**	**13 31 46.9**	**-1.0**
	baz=13							
IGOD	**Go??abunga**	**0.07**	**268**	P		**Pg**	**13 31 48.1**	**+0.1**
	baz=292							
IGOD				S		**Sg**	**13 31 51.7**	**+2.1**
	baz=292							
IALF	**Alftagrof**	**0.17**	**181**	P		**Pg**	**13 31 48.8**	**-0.8**
	baz=194							
IALF				S		**Sg**	**13 31 51.2**	**-0.7**
	baz=194							
IESK	**Eystri-Skogar**	**0.18**	**222**	P		**Pg**	**13 31 49.5**	**-0.3**
	baz=238							
IESK				S		**Sg**	**13 31 52.5**	**+0.2**
	baz=238							
IHVO	**Lagu-Hvolar**	**0.20**	**133**	P		**Pg**	**13 31 49.2**	**-0.8**
	baz=129							
IHVO				S		**Sg**	**13 31 52.5**	**-0.4**
	baz=129							
IRJU	**Rjupnafell**	**0.23**	**101**	P		**Pg**	**13 31 50.0**	**-0.6**
	baz=91							
IRJU				S		**Sg**	**13 31 53.8**	**+0.1**
	baz=91							
ISNB	**Snabyli**	**0.25**	**73**	P		**Pg**	**13 31 50.5**	**-0.5**
	baz=61							
IMID	**Miomork**	**0.32**	**269**	P		**Pb**	**13 31 52.5**	**-1.3**
	baz=276							
IMID				S		**Sb**	**13 31 58.3**	**-0.8**
	baz=276							
IMJO	**Mjoaskard**	**0.35**	**321**	P		**Pb**	**13 31 53.9**	**-0.6**
	baz=322							
IFED	**Fedgar**	**0.43**	**328**	P		**Pb**	**13 31 55.1**	**-0.7**
	baz=328							
IHAU	**Haukadalur**	**0.47**	**312**	P		**Pb**	**13 31 55.3**	**-1.0**
	baz=313							
IVAT	**Vatnsfell**	**0.54**	**12**	P		**Pg**	**13 31 56.6**	**+0.1**
	baz=8.4							
IVME	**Vestmannaeyjar**	**0.55**	**245**	P		**Pb**	**13 31 56.8**	**-1.1**
	baz=250							
IIEY	**Innrieyrar**	**0.64**	**46**	P		**Pg**	**13 31 57.6**	**-0.7**
	baz=42							
ISAU	**Saurbar**	**0.64**	**301**	P		**Pb**	**13 31 58.2**	**-1.2**
	baz=303							
IASM	**Asmuli**	**0.66**	**286**	P		**Pb**	**13 31 58.3**	**-1.4**
	baz=288							
IKAL	**Kalfafell**	**0.72**	**66**	P		**Pg**	**13 31 59.0**	**-0.9**
	baz=62							
IGYG	**Gygjarholskot**	**0.77**	**324**	P		**Pb**	**13 32 00.5**	**-1.1**
	baz=324							
IJOK	**Jokulheimar**	**0.78**	**32**	P		**Pg**	**13 32 00.2**	**-0.7**
	baz=29							
ISOL	**Solvholt**	**0.83**	**290**	P		**Pb**	**13 32 01.0**	**-1.5**
	baz=292							
IHUS	**Husbondi**	**0.92**	**46**	P		**Pg**	**13 32 02.6**	**-1.2**
	baz=43							
ISKR	**Skrokkalda**	**0.96**	**21**	P		**Pg**	**13 32 03.9**	**-0.6**
	baz=18							
IKRO	**Krokur**	**0.97**	**298**	P		**Pb**	**13 32 03.4**	**-1.5**
	baz=299							
IBJA	**Bjarnastaoir**	**0.99**	**288**	P		**Pb**	**13 32 03.7**	**-1.6**
	baz=290							
IHEI	**Heioarbar**	**1.06**	**302**	P		**Pg**	**13 32 04.9**	**-1.4**
	baz=303							
IVOT	**Vottur**	**1.07**	**54**	P		**Pg**	**13 32 04.9**	**-1.7**
	baz=52							
IGRF	**Grimsfjall**	**1.12**	**47**	P		**Pg**	**13 32 05.9**	**-1.7**
	baz=45							
ISAN	**Sandskeio**	**1.13**	**291**	P		**Pb**	**13 32 06.2**	**-1.6**
	baz=293							
IFAG	**Fagurholsmyri**	**1.14**	**78**	P		**Pg**	**13 32 05.4**	**-2.4**
	baz=76							
IVOS	**Vogsosar**	**1.14**	**281**	P		**Pg**	**13 32 06.0**	**-1.9**
	baz=282							
IVOS				S		**Sb**	**13 32 21.7**	**-1.1**
	baz=282							
IVON	**Vonarskard**	**1.19**	**31**	P		**Pg**	**13 32 07.1**	**-1.7**
	baz=29							
IDJK	**Dyngjujokull**	**1.20**	**44**	P		**Pg**	**13 32 07.3**	**-1.7**
	baz=42							
ISTE	**Stelbrattur**	**1.21**	**351**	P		**Pg**	**13 32 07.9**	**-1.4**
	baz=350							
IKIS	**Kista**	**1.24**	**34**	P		**Pg**	**13 32 08.1**	**-1.7**
	baz=32							
IKAS	**Kald??rsel**	**1.24**	**288**	P		**Pg**	**13 32 07.6**	**-2.1**
	baz=290							
BORG	**Borgarnes**	**1.44**	**320**	Pn		**Pn**	**13 32 11.2**	**-1.1**
	56nm,0.3s,baz=142,slow=9.6,SNR=248							
BORG				Sn		**Sg**	**13 32 31.8**	**-0.4**
	26nm,0.3s,baz=30,slow=20,SNR=17							
IASB	**`sbjarnarst**	**1.44**	**320**	P		**Pn**	**13 32 11.2**	**-1.1**
	baz=320							
IURH	**Urdarhals**	**1.46**	**36**	P		**Pn**	**13 32 11.5**	**-1.1**
	baz=35							
SCO	**Scoresbysund**	**6.94**	**352**	Pn		**Pn**	**13 33 26.4**	**-1.2**
EKA	**Eskdalemuir Ar**	**11.62**	**129**	Pn		**Pn**	**13 34 31.6**	**-0.3**
	baz=325,slow=14							
	0.4nm,0.2s							
NOA	**NORSAR Array B**	**14.28**	**87**	LR		LR	13 40 18.3	
	comp=Z,28nm,19.1s,baz=300,slow=36							
NC405	**NORSAR Array S**	**14.47**	**86**	P		**P**	**13 35 17.8**	**+0.2**
NC602	**NORSAR Array S**	**14.55**	**88**	P		**P**	**13 35 18.0**	**-0.4**
HFS	**Hagfors**	**15.77**	**88**	LR		LR	13 40 48.7	
	comp=Z,47nm,19.2s,baz=350,slow=34							
ARCES	**ARCESS Array B**	**18.31**	**52**	LR		LR	13 42 30.3	
	comp=Z,54nm,18.3s,baz=294,slow=35							
FINES	**FINESS Array B**	**20.64**	**75**	P		**P**	**13 36 26.2**	**+0.8**
	2.1nm,0.7s,baz=298,slow=9.0,SNR=5.5							
	2.1nm,0.7s							
FIA1	**FINESS Array S**	**20.64**	**75**	P		Pn	13 36 26.7	-1.0
FIA1				IAmb		IAmb	13 36 30.1	
	comp=Z,11nm,1.1s							
KHC	**Kasperske Hory**	**22.89**	**114**	*e*P		**P**	**13 36 45.5**	**-4.2**
ESDC	**Sonseca Array**	**25.67**	**152**	P		**P**	**13 37 15.9**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=347,slow=10,SNR=4.5							
	comp=Z,1.0nm,1.0s							
BELG	**Belogornoye**	**35.42**	**76**	LR		LR	13 52 08.1	
	comp=Z,30nm,18.7s,baz=350,slow=34							
ARU	**Arti**	**37.17**	**64**	LR		LR	13 53 19.2	
	comp=Z,37nm,19.9s,baz=322,slow=35							
BRTR	**Keskin Array B**	**38.95**	**102**	P		**P**	**13 39 14.2**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=345,slow=6.9,SNR=3.4							
	comp=Z,0.7nm,0.6s							
KBZ	**Khabaz**	**39.83**	**90**	LR		LR	13 56 04.2	
	comp=Z,29nm,20.4s,baz=84,slow=37							
AKTO	**Aktyubinsk**	**41.30**	**71**	LR		LR	13 56 47.9	
	comp=Z,22nm,18.1s,baz=4.2,slow=36							
BVAR	**Borovoye Array**	**44.33**	**60**	LR		LR	13 57 44.5	
	comp=Z,40nm,18.6s,baz=301,slow=35							
ILAR	**Eielson Array**	**46.23**	**332**	P		**P**	**13 40 12.8**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=27,slow=6.8,SNR=5.0							
	comp=Z,0.4nm,0.6s							
IMAR	**Indian Mountai**	**46.49**	**336**	P		**P**	**13 40 13.1**	**+0.2**
BCAR	**Beaver Creek A**	**46.58**	**328**	P		**P**	**13 40 15.1**	**+1.4**
KURBB	**Kurchatov Arra**	**49.32**	**56**	P		**P**	**13 40 36.4**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=324,slow=7.4,SNR=2.0							
	comp=Z,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**52.53**	**154**	P		**P**	**13 40 59.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=352,slow=6.8,SNR=4.6							
	comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**52.89**	**293**	P		**P**	**13 41 03.9**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=45,slow=7.1,SNR=3.7							
	comp=Z,0.3nm,0.7s							
MKAR	**Makanchi Array**	**53.89**	**56**	P		**P**	**13 41 11.4**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=330,slow=8.3,SNR=1.8							
	comp=Z,0.2nm,0.7s							
SJG	**San Juan**	**55.53**	**237**	LR		LR	14 04 17.4	
	comp=Z,12nm,18.9s,baz=117,slow=35							
TXAR	**Lajitas Array**	**61.73**	**279**	P		**P**	**13 42 06.1**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=42,slow=7.3,SNR=2.2							
	comp=Z,0.3nm,0.8s							

IDC 26 13:31:51.3±3.3,5°.18S×133°.78E,h0km,mb3.3/1, mbtmp3.5/5,ML3.5/4,Error ellipse: s-maj=121.6km s-min=26.1km az=79.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**4.96**	**330**	Pn		Pn	13 33 08.5	+1.3
	2.4nm,0.3s,baz=126,slow=23,SNR=16							
SIJI				Sn		Sn	13 34 01.5	-3.9
	4.2nm,0.3s,baz=201,slow=22,SNR=10							
	5.6nm,0.2s							
WRA	**Warramunga Arr**	**14.68**	**178**	Pn		Pn	13 35 18.9	-1.6
	0.1nm,0.3s,baz=356,slow=13,SNR=8.9							
WRA				Sn		Sn	13 37 56.1	-8.0
	0.1nm,0.3s,baz=355,slow=24,SNR=2.3							
	0.1nm,0.3s							
FITZ	**Fitzroy Crossi**	**15.10**	**211**	Pn		Pn	13 35 25.2	-0.9
	0.3nm,0.3s,baz=0.1,slow=14,SNR=11							
FITZ				Sn		Sn	13 38 03.0	-11
	0.7nm,0.3s,baz=90,slow=20,SNR=11							
	0.8nm,0.3s							
ASAR	**Alice Springs**	**18.38**	**180**	P		P	13 36 09.2	+1.3
	0.2nm,0.3s,baz=7.1,slow=11,SNR=16							
ASAR				S		Sn	13 39 24.4	-9.5
	0.4nm,1.0s,baz=4.0,slow=28,SNR=1.8							
	1.1nm,0.7s							
MKAR	**Makanchi Array**	**68.84**	**325**	P		P	13 42 57.1	-0.6
	0.3nm,0.8s,baz=126,slow=6.4,SNR=1.5							
	0.3nm,0.8s							

*SKHL **26** 13:35:26.2±0.6,47°.50N×153°.10E,h40km±9km,mb4.6/4*
*IDC **26** 13:35:27.0±3.4,47°.30N×153°.21E,h98km±32km,mb3.2/8, mbtmp3.6/10,Error ellipse: s-maj=31.7km s-min=17.7km az=132.0*

ISC 26 13:35:26.7±0.8,47°.3N±0°.1×153°.3E±0°.1,h100km,n26, σ2s02/23,mb3.4/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.85**	**28**	*e*P		**Pn**	**13 36 23.3**	**-0.5**
SKR				AMB		AMB	13 36 26.2	
	80nm,0.6s							
SKR				*e*S		**Sn**	**13 37 06.0**	**-2.0**
SKR				A		A	13 37 10.8	
	100nm,0.3s							
SKR				A		A	13 37 10.8	
	60nm,0.3s							
KUR	**Kuril'sk**	**4.29**	**243**	*e*P		**Pn**	**13 36 30.3**	**+0.5**
KUR				AMB		AMB	13 36 33.1	
	50nm,0.8s							
KUR				*e*S		**Sn**	**13 37 18.0**	**-0.7**
KUR				A		A	13 37 20.1	
	120nm,0.4s							
KUR				A		A	13 37 20.1	
	120nm,0.4s							
PAU	**Pauzhetka**	**4.75**	**28**	*e*P		**Pn**	**13 36 34.8**	**-1.1**
PAU				AMB		AMB	13 36 35.3	
	30nm,0.4s							
PAU				*e*S		**Sn**	**13 37 26.8**	**-2.9**
PAU				A		A	13 37 30.0	
	110nm,0.3s							
PAU				A		A	13 37 30.0	
	180nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**6.14**	**240**	*e*P		**Pn**	**13 36 56.0**	**+1.1**
YUK				AMB		AMB	13 36 58.7	
	100nm,0.6s							
YUK				*e*S		**Sn**	**13 38 02.0**	**-1.7**
YUK				A		A	13 38 05.0	
	130nm,0.6s							
YUK				A		A	13 38 05.0	
	110nm,0.6s							
PETK	**Petropavlovsk-**	**6.45**	**24**	P		**Pn**	**13 36 58.6**	**-0.5**
	3.2nm,0.8s,baz=189,slow=12,SNR=12							
PETK				S		**Sn**	**13 38 16.5**	**+5.4**
	3.0nm,0.9s,baz=220,slow=22,SNR=1.4							
NMR	**Nemuro--Hokkai**	**6.62**	**236**	*e*P		**Pn**	**13 36 57.6**	**-3.8**
PET	**Petropavlovsk**	**6.67**	**29**	*e*P		**Pn**	**13 37

SAMP	**Sagada Mountai**	**1.65 176**‖	*e*P	Pn	14 14 00.7 +0.5
SAMP			*e*S	Sn	14 14 22.0 +1.6
PCPH	**Palayan**	**3.17 175**‖	*e*P	Pn	14 14 23.4 +2.4

IDC ***26*** *14:31:05.7±1.3,33.˙18N×115.˙72W,h0km,mb3.3/1, mbtmp3.3/6,ML3.4/5,MS3.5/17,Error ellipse: s-maj=17.1km s-min=7.8km az=25.0*

ANF ***26*** *14:31:07.7±0.4,33.˙29N×115.˙71W,h15km±4km,ML4.6/42, Error ellipse: s-maj=3.9km s-min=3.5km az=138.0*

PAS ***26*** *14:31:08.0±2.4,33.˙298N±0.˙009×115.˙71W±0.˙01, h2km±6km, Mwr4.3/6,ML4.3/58(NEIC),Error ellipse: s-maj=1.5km s-min=1.2km az=69.0*

NEIC ***26*** *14:31:08.3±1.7,33.˙306N±0.˙010×115.˙75W±0.˙02, h18km,Error ellipse: s-maj=2.4km s-min=1.4km az=72.0*

NEIC ***26*** *14:31:08, 33.˙30N×115.˙71W,h5km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.89; Mθθ-3.11; Mϕϕ4.00; Mrθ0.60; Mϕϕ0.88; Mϕr0.80; Fault plane solution: M₀3.79000×10¹⁵ NP1:ϕs322.00000°, δ75.00000°,λ-178.00000°. NP2:ϕs231.00000°, δ88.00000°,λ-15.00000°. Principal axes: T 4.2492, Plg10.0000°, Azm278.0000°; N -0.9272, Plg74.0000°, Azm45.0000°; P -3.3220, Plg12.0000°, Azm186.0000°;*

ISC 26 14:31:09.5±0.8,33˙28N±0.˙01×115˙73W±0.˙02,h24km±6km, n202,σt$39/242,MS3.5/13,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.18**	**206**		**Pb**	**14 31 16.6**	**+1.8**
SALN	**Salton City**	**0.22**	**270**		**Pb**	**14 31 16.5**	**+1.2**
WEMD	**Westmorland, C**	**0.27**	**154**		**Pb**	**14 31 14.7**	**-1.3**
WEMD					**Sb**	**14 31 19.9**	**-0.5**
SUP	**Superstition M**	**0.34**	**194**		**Pb**	**14 31 15.4**	**-1.6**
SUP					**Sb**	**14 31 20.4**	**-1.7**
SWSC	**Sam W. Stewart**	**0.34**	**191**		**Pb**	**14 31 15.3**	**-1.8**
SWSC					**Sb**	**14 31 20.3**	**-1.9**
SWSC	**Sam W. Stewart** baz=12,SNR=1000	**0.34**	**191**	P	**Pb**	**14 31 15.3**	**-1.8**
SWSC	baz=12			S	**Sb**	**14 31 20.2**	**-2.0**
IMPE	**Imperial**	**0.40**	**160**		**Pb**	**14 31 17.1**	**-1.0**
IMPE					**Sb**	**14 31 24.2**	**+0.3**
CTW	**Cottonwood Mou**	**0.41**	**343**		**Pb**	**14 31 16.1**	**-2.2**
CTW					**Sb**	**14 31 22.1**	**-2.2**
HAY	**Hayfield**	**0.42**	**5**		**Pb**	**14 31 16.2**	**-2.3**
HAY					**Sb**	**14 31 22.9**	**-1.7**
COK2	**Cook Ranch 2**	**0.43**	**180**		**Pb**	**14 31 17.5**	**-1.0**
COK2					**Sb**	**14 31 24.8**	**+0.2**
CTCC	**Cactus City**	**0.43**	**329**		**Pb**	**14 31 16.7**	**-1.9**
CTCC					**Sb**	**14 31 23.4**	**-1.4**
BC3	**Big Chuckawall**	**0.44**	**31**		**Pb**	**14 31 16.2**	**-2.5**
BC3					**Sb**	**14 31 22.7**	**-2.3**
BC3	**Big Chuckawall** baz=211,SNR=1000	**0.44**	**31**	P	**Pb**	**14 31 16.2**	**-2.5**
BC3	baz=211			S	**Sb**	**14 31 22.2**	**-2.8**
CRR	**Carrizo Plain**	**0.44**	**208**		**Pb**	**14 31 17.1**	**-1.6**
CRR					**Sb**	**14 31 25.6**	**+0.6**
SLH	**Sleepy Hollow**	**0.45**	**259**		**Pb**	**14 31 17.4**	**-1.5**
SLH					**Sb**	**14 31 24.2**	**-1.0**
SNR	**Schaffner Ranc**	**0.48**	**150**		**Pb**	**14 31 18.3**	**-1.1**
SNR					**Sb**	**14 31 26.7**	**+0.6**
WESC	**Westside Schoo**	**0.52**	**181**		**Pb**	**14 31 18.9**	**-1.1**
WESC					**Sb**	**14 31 27.5**	**+0.4**
DREC	**Desert Rsrch C**	**0.53**	**154**		**Pb**	**14 31 19.4**	**-0.8**
DREC					**Sn**	**14 31 29.1**	**-0.6**
BORC	**Borrego Spring**	**0.58**	**269**		**Pb**	**14 31 19.3**	**-1.7**
BORC					**Sb**	**14 31 28.4**	**-0.5**
SGL	**Mount Signal**	**0.63**	**180**		**Pb**	**14 31 20.4**	**-1.5**
SGL					**Sb**	**14 31 29.9**	**-0.4**
YUH	**Yuha Desert**	**0.65**	**195**		**Pb**	**14 31 20.8**	**-1.5**
YUH					**Sb**	**14 31 30.2**	**-0.8**
COA	**Coachella**	**0.66**	**129**		**Pb**	**14 31 20.9**	**-1.4**
COA					**Sb**	**14 31 31.7**	**+0.7**
PMD	**Palm Desert**	**0.66**	**304**		**Pb**	**14 31 20.1**	**-2.3**
PMD					**Sb**	**14 31 28.9**	**-2.1**
PMD	**Palm Desert** comp=N,9μm,0.7s	**0.66**	**304**	IAML		14 31 30.6	
PMD	comp=E,8μm,0.5s			IAML		14 31 30.6	
I57US	**PINON FLAT INF** baz=109,slow=33	**0.69**	**298**	Pg	**Pb**	**14 31 21.0**	**-2.0**
I57US				*i*		14 33 30.0	
	comp=E,0.5nm,0.6s,baz=102,slow=321,SNR=5.4						
UABX	**UABC, Campus M**	**0.69**	**160**		**Pb**	**14 31 20.7**	**-2.1**
UABX	comp=N,18μm,0.7s			IAML		14 31 34.1	
XPFO	**Pion Flat**	**0.69**	**298**		**Pb**	**14 31 21.0**	**-2.0**
XPFO					**Sb**	**14 31 30.7**	**-1.5**
PFO	**Pinyon Flats O** comp=N,475nm,0.3s,baz=115,slow=15,SNR=3268	**0.70**	**298**	Pg	**Pb**	**14 31 21.0**	**-2.0**
PFO	baz=17,slow=19			Lg	Lg	14 31 30.6	
PFO	**Pinyon Flats O** comp=N,19μm,0.7s	**0.70**	**298**	IAML	**Pb**	**14 31 21.1**	**-2.0**
PFO	comp=N,9μm,0.6s			IAML		14 31 32.4	
PFO	**Pinyon Flats O**	**0.70**	**298**		**Pb**	**14 31 21.1**	**-1.9**
PFO					**Sb**	**14 31 31.3**	**-1.0**
PFO	**Pinyon Flats O** baz=117,SNR=1000	**0.70**	**298**	P	**Pb**	**14 31 21.2**	**-1.9**
PFO	baz=117			S	**Sb**	**14 31 30.7**	**-1.6**
RUN	**Ruthven**	**0.70**	**116**		**Pb**	**14 31 21.2**	**-1.8**
RUN					**Sb**	**14 31 31.7**	**-0.5**
MONP2	**Monument Peak**	**0.70**	**237**		**Pb**	**14 31 21.9**	**-1.4**
MONP2					**Sb**	**14 31 31.4**	**-1.2**
MONP2	**Monument Peak** baz=56,SNR=1000	**0.70**	**237**	P	**Pb**	**14 31 21.8**	**-1.4**
MONP2	baz=56			S	**Sb**	**14 31 31.2**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**0.71**	**207**		**Pb**	**14 31 21.7**	**-1.6**
IKP					**Sb**	**14 31 31.3**	**-1.3**
IKP	**In-Ko-Pah, Jac** baz=27,SNR=1000	**0.71**	**207**	P	**Pb**	**14 31 21.7**	**-1.6**
IKP	baz=27			S	**Sb**	**14 31 31.3**	**-1.3**
RMX	**La Rumorosa**	**0.74**	**204**		**Pb**	**14 31 22.8**	**-1.0**
RMX					**Sb**	**14 31 33.6**	**0.0**
RMX	**La Rumorosa** comp=E,13μm,0.7s	**0.74**	**204**	IAML		14 31 40.7	
BELC	**Belle Mtn. Jos**	**0.75**	**342**		**Pb**	**14 31 22.2**	**-1.8**
BELC					**Sb**	**14 31 32.6**	**-1.4**
BELC	**Belle Mtn. Jos** baz=161,SNR=1000	**0.75**	**342**	P	**Pb**	**14 31 22.4**	**-1.6**
BELC	baz=161			S	**Sb**	**14 31 32.8**	**-1.2**
JUEM	**Julian Eagle M**	**0.76**	**255**		**Pb**	**14 31 22.7**	**-1.4**
JUEM					**Sb**	**14 31 33.3**	**-0.8**
FRD	**Ford Ranch, An**	**0.76**	**286**		**Pb**	**14 31 22.6**	**-1.6**
FRD					**Sb**	**14 31 32.6**	**-1.6**
FRD	**Ford Ranch, An**	**0.76**	**286**		**Pb**	**14 31 22.6**	**-1.6**
FRD					**Sb**	**14 31 33.1**	**-1.1**
MATG	**Mataguay Scout**	**0.78**	**264**		**Pb**	**14 31 22.9**	**-1.6**
MATG					**Sb**	**14 31 33.3**	**-1.3**
GLA	**Glamis**	**0.79**	**107**		**Pb**	**14 31 22.6**	**-2.0**
GLA					**Sb**	**14 31 32.7**	**-2.1**
GLA	**Glamis** comp=N,11μm,0.9s	**0.79**	**107**	IAML		14 31 40.3	
GLA	**Glamis** baz=289	**0.79**	**107**	P	**Pb**	**14 31 22.7**	**-1.8**
GLA	baz=289			S	**Sb**	**14 31 33.6**	**-1.2**
SNDA	**J Saunders Pla**	**0.79**	**290**		**Pb**	**14 31 23.1**	**-1.6**
SNDA					**Sb**	**14 31 34.1**	**-0.9**
DNR	**Dunn Ranch,Anz**	**0.81**	**291**		**Pb**	**14 31 23.6**	**-1.4**
DNR					**Sb**	**14 31 35.0**	**-0.5**
BZNA	**Buzz No.'s Pla**	**0.81**	**285**		**Pb**	**14 31 23.6**	**-1.4**
BZNA					**Sb**	**14 31 34.8**	**-0.9**
EMSC	**East Mesa**	**0.82**	**131**		**Pb**	**14 31 23.6**	**-1.6**
EMSC					**Sn**	**14 31 37.3**	**+0.3**
EW2	**E Wide Canyon**	**0.87**	**319**		**Pb**	**14 31 24.0**	**-1.9**
EW2					**Sb**	**14 31 36.3**	**-0.9**
GVDA	**Garner Valley**	**0.88**	**296**		**Pb**	**14 31 24.5**	**-1.7**
GVDA					**Sb**	**14 31 36.7**	**-1.0**
CRY	**Cary Ranch**	**0.89**	**289**		**Pb**	**14 31 24.8**	**-1.6**
CRY					**Sb**	**14 31 36.8**	**-1.1**
CPBX	**Cerro Prieto**	**0.93**	**158**		**Pb**	**14 31 24.4**	**-2.6**
CPBX	comp=E,12μm,0.9s			IAML		14 31 56.5	
CPBX	comp=N,8μm,0.6s			IAML		14 31 57.8	
PLM	**Palomar**	**0.95**	**275**		**Pb**	**14 31 25.8**	**-1.7**
PLM					**Sn**	**14 31 39.7**	**-0.8**
BLAC	**Blackrock camp**	**0.96**	**325**		**Pb**	**14 31 25.5**	**-2.1**
BLAC					**Sn**	**14 31 39.7**	**-0.9**
DEVC	**Devers**	**0.96**	**313**		**Pb**	**14 31 26.1**	**-1.4**
BAR	**Barrett**	**1.00**	**233**		**Pb**	**14 31 26.2**	**-1.9**
BAR	**Barrett**	**1.00**	**233**		**Sb**	**14 31 39.8**	**-1.1**
IRM	**Iron Mountain**	**1.00**	**29**		**Pb**	**14 31 26.4**	**-1.7**
IRM	**Iron Mountain** baz=209,SNR=1000	**1.00**	**29**	P	**Pb**	**14 31 26.1**	**-2.1**
IRM	baz=209			S	**Sn**	**14 31 40.5**	**-0.8**
TKX	**Tecate**	**1.03**	**226**		**Pb**	**14 31 26.7**	**-1.9**
TKX					IAML	14 31 41.7	
TKX	comp=E,9μm,0.4s				IAML	14 31 41.9	
DPP	**Dos Picos Cty**	**1.06**	**255**		**Pb**	**14 31 27.1**	**-2.1**
DPP					**Sb**	**14 31 41.5**	**-1.1**
POB	**Polly Butte**	**1.08**	**292**		**Pb**	**14 31 27.3**	**-2.2**
BLYC	**Blythe**	**1.11**	**65**		**Pn**	**14 31 28.2**	**-1.3**
BLYC	comp=N,7μm,0.5s				IAML	14 31 45.0	
BLYC	comp=E,7μm,0.8s				IAML	14 31 52.8	
DUZA	**Dulzura**	**1.11**	**233**		**Pn**	**14 31 28.1**	**-1.4**
GUVIX	**Guadalupe Vict**	**1.12**	**151**	Pg	**Pn**	**14 31 29.1**	**-0.5**
GUVIX	comp=N,9μm,1.5s				IAML	14 32 00.5	
DGR	**Domenigoni Val**	**1.13**	**289**		**Pn**	**14 31 28.0**	**-1.9**
GTM	**Goat Mountain**	**1.14**	**333**		**Pb**	**14 31 29.8**	**-0.7**
BACC	**Bachelor Mtn.**	**1.15**	**287**		**Pn**	**14 31 28.2**	**-1.9**
HMTC	**Hemet**	**1.15**	**292**		**Pn**	**14 31 28.3**	**-1.8**
SDRC	**San Diego Road**	**1.16**	**242**		**Pn**	**14 31 28.7**	**-1.5**
OLP	**Otay Lakes Par**	**1.22**	**237**		**Pb**	**14 31 31.0**	**-0.8**
109C	**Camp Elliot, M**	**1.22**	**252**		**Pn**	**14 31 29.5**	**-1.6**
109C	comp=E,7μm,0.5s				IAML	14 31 48.1	
109C	**Camp Elliot, M** baz=70,SNR=478	**1.22**	**252**	P	**Pn**	**14 31 29.3**	**-1.8**
109C	baz=70			S	**Sb**	**14 31 45.8**	**-1.5**
CPE	**Camp Elliot**	**1.22**	**252**		**Pn**	**14 31 29.6**	**-1.4**
BBSC	**Beaumont Base**	**1.23**	**302**		**Pn**	**14 31 30.6**	**-0.5**
CBX	**Cerro Bola**	**1.25**	**220**		**Pn**	**14 31 30.4**	**-1.1**
CBX	comp=E,6μm,0.9s				IAML	14 31 57.3	
CBX	comp=N,8μm,0.9s				IAML	14 32 01.4	
GORC	**Green Oak Ranc**	**1.27**	**265**		**Pn**	**14 31 30.2**	**-1.5**
MURC	**Murrieta**	**1.27**	**285**		**Pn**	**14 31 30.9**	**-0.9**
MURC	**Murrieta** baz=103,SNR=540	**1.27**	**285**	P	**Pn**	**14 31 30.0**	**-1.8**
MURC	baz=103			S	**Sb**	**14 31 48.0**	**-0.7**
ESJX	**Sierra Juarez**	**1.29**	**188**		**Pn**	**14 31 30.6**	**-1.5**
TJX	**Tijuana**	**1.36**	**236**	Pn	**Pn**	**14 31 32.4**	**-0.5**
DANC	**Danby, Needles**	**1.38**	**12**		**Pb**	**14 31 34.8**	**+0.1**
BBRC	**Big Bear Solar**	**1.40**	**315**		**Pb**	**14 31 33.8**	**-1.2**
BBRC	**Big Bear Solar** baz=134,SNR=70	**1.40**	**315**	P	**Pn**	**14 31 32.2**	**-1.4**
BBRC	baz=134			S	**Sb**	**14 31 51.9**	**-0.7**
SIL	**Silver Peak**	**1.40**	**320**		**Pn**	**14 31 32.7**	**-1.0**
SVD	**Seven Oaks Dam**	**1.41**	**306**		**Pn**	**14 31 32.8**	**-0.9**
ELS	**Elsinore Mount**	**1.47**	**285**	Pn	**Pn**	**14 31 34.6**	**+0.1**
ELS	comp=E,4μm,0.9s				IAML	14 31 56.0	
ELS	comp=N,3μm,0.9s				IAML	14 32 01.3	
GMRC	**Granite Mounta**	**1.50**	**2**		**Pn**	**14 31 33.3**	**-1.7**
GMRC	**Granite Mounta** baz=182,SNR=1000	**1.50**	**2**	P	**Pn**	**14 31 33.2**	**-1.7**
GMRC	baz=182			Sb	**Sb**	**14 31 55.4**	**0.0**
CCX	**Cicese**	**1.62**	**210**		**Pn**	**14 31 36.4**	**-0.1**
CCX	comp=N,3μm,0.9s				IAML	14 32 06.5	
CCX	comp=E,4μm,0.8s				IAML	14 32 08.8	
HEC	**Hector,Ludlow** baz=161,SNR=304	**1.62**	**342**	P	**Pn**	**14 31 34.9**	**-1.8**
HEC	baz=161			Sb	**Sb**	**14 31 59.3**	**+0.4**
PDMCI	**Parker Dam,Lak**	**1.67**	**52**		**Pb**	**14 31 38.7**	**-0.8**
PDMCI	**Parker Dam,Lak** baz=233,SNR=150	**1.67**	**52**	P	**Pn**	**14 31 35.8**	**-1.4**
PDMCI	baz=233			S	**Sn**	**14 31 56.9**	**-0.9**
CSP	**Cedar Springs**	**1.70**	**307**		**Pn**	**14 31 37.2**	**-0.5**
113A	**Mohawk Valley,**	**1.72**	**107**		**Pn**	**14 31 37.9**	**-0.1**
NEE2	**Needles Airpor**	**1.74**	**32**		**Pb**	**14 31 40.8**	**0.0**
NEE2	**Needles Airpor** baz=212,SNR=317	**1.74**	**32**	P	**Pn**	**14 31 37.0**	**-1.2**
NEE2	baz=212			S	**Sn**	**14 31 59.8**	**+0.1**
RRX	**Edison Barstow** baz=146	**1.91**	**327**	Pg	**Pb**	**14 31 43.8**	**+0.2**
RRX	baz=146			Sb	**Sb**	**14 32 08.1**	**+1.1**
PSRC	**Puddingstone R**	**1.91**	**296**		**Pn**	**14 31 39.8**	**-0.8**
TUQ	**Turquoise Moun** baz=175	**2.15**	**356**	P	**Pn**	**14 31 42.5**	**-1.6**
TUQ	baz=175			Sb	**Sb**	**14 32 15.7**	**+1.5**
FMP	**Fort Macarthur** baz=100	**2.19**	**282**	Pg	**Pb**	**14 31 48.3**	**0.0**
FMP	baz=100			Sb	**Sb**	**14 32 15.2**	**+0.1**
GSC	**Goldstone, Bar**	**2.20**	**336**		**Pn**	**14 31 43.0**	**-1.6**
GSC	comp=N,2μm,0.9s				IAML	14 32 26.2	
GSC	comp=E,2μm,1.7s				IAML	14 32 32.4	
GSC	**Goldstone, Bar** baz=156	**2.20**	**336**	Pb	**Pb**	**14 31 49.5**	**+0.8**
GSC	baz=156			Sb	**Sb**	**14 32 16.5**	**+0.9**
PASC	**Pasadena Art C**	**2.23**	**294**		**Pn**	**14 31 45.1**	**+0.2**
PASC	comp=N,2μm,0.8s				IAML	14 32 22.5	
CIS	**Catalina Islan** baz=92,SNR=122	**2.25**	**274**	P	**Pn**	**14 31 44.1**	**-1.2**
CIS	baz=92			Sb	**Sb**	**14 32 17.1**	**+0.1**
SFX	**San Felipe**	**2.36**	**161**	Pn	**Pn**	**14 31 47.5**	**+0.8**
Y14A	**Wickenburg**	**2.36**	**73**		**Pn**	**14 31 46.6**	**-0.2**
W13A	**Hualapai Mount**	**2.37**	**40**		**Pn**	**14 31 46.7**	**-0.4**
DECC	**Green Verdugo** baz=113	**2.38**	**295**	Sb	**Sb**	**14 32 21.2**	**+0.6**
SCI2	**San Clemente I** baz=82,SNR=39	**2.39**	**264**	P	**Pn**	**14 31 46.0**	**-1.1**
SCI2	baz=82			Sb	**Sb**	**14 32 21.2**	**+0.5**
EDW2	**Edwards Air Fo** baz=129,SNR=147	**2.47**	**311**	P	**Pn**	**14 31 46.8**	**-1.4**
EDW2	baz=129			Sb	**Sb**	**14 32 23.7**	**+0.5**
V12A	**Nelson**	**2.54**	**16**	Pn	**Pn**	**14 31 47.7**	**-1.7**
PIX	**Pinacate**	**2.57**	**131**	Pn	**Pn**	**14 31 47.4**	**-2.3**
SHOC	**Shoshone, Teco** baz=170	**2.65**	**350**	Pg	**Pb**	**14 31 57.5**	**+1.2**
CCAC	**Calif City Air**	**2.66**	**315**	Pn	**Pn**	**14 31 50.1**	**-0.8**
LRMC	**Laurel Mtn Rad** baz=143,SNR=29	**2.73**	**324**	P	**Pn**	**14 31 50.5**	**-1.3**
214A	**Organ Pipe Nat**	**2.79**	**117**	Pn	**Pn**	**14 31 50.6**	**-2.1**
214A	comp=N,842nm,1.5s				IAML	14 32 51.6	
214A	**Organ Pipe Nat** baz=300,SNR=10	**2.79**	**117**	P	**Pn**	**14 31 50.6**	**-2.1**
OSI	**Osito Audit: C** baz=117	**2.82**	**299**	Pb	**Pb**	**14 31 58.3**	**-1.0**
QSM	**Queen of Sheba**	**2.84**	**341**		**Pn**	**14 31 51.8**	**-1.5**
WTNK	**Soaring Height**	**2.96**	**11**		**Pn**	**14 31 53.5**	**-1.5**
GWY	**Greenwater Val**	**3.00**	**345**	Pn	**Pn**	**14 31 54.7**	**-1.0**
MPMC	**Manual Prospec** baz=152,SNR=44	**3.13**	**333**	P	**Pn**	**14 31 55.8**	**-1.7**
ARVC	**Arvin** baz=124	**3.16**	**306**	P	**Pn**	**14 31 56.1**	**-1.6**
SNCC	**San Nicolas Is**	**3.18**	**270**		**Pn**	**14 31 57.4**	**-0.6**
SNCC	comp=E,554nm,1.4s				IAML	14 32 53.4	
SNCC	**San Nicolas Is**	**3.18**	**270**	P	**Pn**	**14 31 57.1**	**-1.0**
SHPR	**Sheep Range** baz=88	**3.25**	**8**	Pn	**Pn**	**14 31 57.6**	**-1.5**
ISA	**Isabella, Lake**	**3.29**	**317**	Pn	**Pn**	**14 31 58.1**	**-1.4**
ISA	comp=E,482nm,1.3s			IAML		14 32 59.5	
ISA	**Isabella, Lake** baz=135,SNR=8.6	**3.29**	**317**	P	**Pn**	**14 31 58.3**	**-1.2**
FURC	**Furnace Creek,** baz=163	**3.31**	**344**	Pb	**Pb**	**14 32 10.7**	**+3.2**
BCW	**Bitter Crk WRg**	**3.48**	**299**		**Pn**	**14 32 00.8**	**-1.3**
WCT	**Wildcat Mounta**	**3.58**	**348**	Pn	**Pn**	**14 32 03.5**	**-0.1**
TPNV	**Topopah Spring**	**3.68**	**353**		**Pn**	**14 32 04.3**	**-0.8**
TPNV	comp=E,548nm,1.6s			IAML		14 33 24.1	
TPNV	comp=E,520nm,0.9s			IAML		14 33 28.3	
TPNV	**Topopah Spring** baz=173,SNR=19	**3.68**	**353**	P	**Pn**	**14 32 05.0**	**0.0**
CWC	**Cottonwood Cre** baz=148	**3.70**	**329**	Pb	**Pb**	**14 32 17.8**	**+3.6**
PKM	**Mcpherson Peak** baz=114	**3.75**	**296**	Pb	**Pb**	**14 32 18.8**	**+3.6**
VES	**Vestal, Richgr** baz=132	**3.77**	**314**	Pb	Pb	14 32 19.6	+4.3
GRAC	**Grapevine Rang**	**3.94**	**341**		**Pn**	**14 32 07.9**	**-0.6**
GRAC	**Grapevine Rang** baz=159	**3.94**	**341**	Pb	Pb	14 32 22.5	+4.2
SMMC	**Simmler** baz=118	**4.08**	**301**	Pb	Pb	14 32 24.6	+4.1
PRN	**Pahroc Range**	**4.15**	**7**		**Pn**	**14 32 11.3**	**-0.2**
GMN	**Gold Mountain**	**4.20**	**343**		**Pn**	**14 32 11.7**	**-0.5**
U15A	**North Rim**	**4.22**	**41**		**Pn**	**14 32 12.0**	**-0.5**
WUAZ	**Wupatki** baz=239,SNR=23	**4.23**	**57**	P	**Pn**	**14 32 14.1**	**+1.5**
LCMT	**Little Creek M**	**4.24**	**28**		**Pn**	**14 32 12.3**	**-0.4**
LCH	**Last Change Ra**	**4.24**	**339**	Pn	**Pn**	**14 32 11.9**	**-0.8**
TUC	**Tucson**	**4.27**	**102**	Pn	**Pn**	**14 32 12.7**	**-0.4**
TUC	comp=E,225nm,2.3s			IAML		14 33 45.7	
TUC	**Tucson** baz=285	**4.27**	**102**	Pb	Pb	14 32 28.2	+4.2
KNB	**Kanab**	**4.42**	**32**		**Pn**	**14 32 15.3**	**+0.1**
CCUT	**Cedar City**	**4.67**	**24**		**Pn**	**14 32 18.3**	**-0.5**
SZCU	**Shurtz Canyon**	**4.81**	**26**		**Pn**	**14 32 19.9**	**-0.7**
TPH	**Tonopah**	**4.94**	**346**	Pn	**Pn**	**14 32 21.2**	**-1.1**
X18A	**Snowflake**	**4.96**	**74**	Pn	**Pn**	**14 32 21.6**	**-1.1**
R11A	**Troy Canyon, C**	**5.06**	**1**		**Pn**	**14 32 23.2**	**-0.8**
R11A	**Troy Canyon, C** baz=181	**5.06**	**1**	P	**Pn**	**14 32 24.8**	**+0.8**
PMPB	**Monarch Peak**	**5.10**	**306**	Pn	**Pn**	**14 32 24.3**	**-0.2**
W18A	**Petrified Fore**	**5.29**	**68**		**Pn**	**14 32 27.6**	**+0.4**
W18A	**Petrified Fore** baz=252,SNR=9.4	**5.29**	**68**	P	**Pn**	**14 32 28.3**	**+1.1**
LHV	**Little Huntoon**	**5.45**	**336**		**Pn**	**14 32 30.1**	**+1.0**
PSUT	**Pine Spring**	**5.46**	**16**		**Pn**	**14 32 30.0**	**+0.5**
NVAR	**Mina Array Bea** comp=E,0.9nm,0.3s,baz=165,slow=15,SNR=12	**5.55**	**339**	Pn	**Pn**	**14 32 30.3**	**-0.4**
NVAR	comp=E,1.1nm,0.3s,baz=157,slow=16,SNR=11			Pg	**Pb**	**14 32 42.9**	**-2.8**
NVAR	baz=176,slow=24			Lg	Lg	14 34 01.9	
NVAR	comp=E,302nm,21.8s,baz=146,slow=40 comp=E,0.5nm,0.4s			LR	LR	14 34 50.0	
319A	**Douglas**	**5.78**	**107**	Pn	**Pn**	**14 32 33.3**	**-0.5**
SPR3	**Spring Creek 3**	**5.81**	**11**	Pn	**Pn**	**14 32 34.6**	**+0.1**
TCRU	**Three Creeks R**	**5.94**	**26**	Pn	**Pn**	**14 32 34.9**	**-1.3**
KVN	**Kaiserville**	**6.07**	**342**		**Pn**	**14 32 37.7**	**-0.1**
PNTR	**Pine Nut**	**6.59**	**333**	Pn	**Pn**	**14 32 45.8**	**+0.8**
121A	**Cookes Peak, D**	**6.72**	**94**	Pn	**Pn**	**14 32 46.7**	**-0.1**
121A	**Cookes Peak, D** baz=279,SNR=20	**6.72**	**94**	P	**Pn**	**14 32 46.8**	**0.0**
SBM	**South Baldy**	**7.16**	**82**	Pn	**Pn**	**14 32 53.6**	**+0.6**
SRU	**San Rafael Swe**	**7.18**	**34**	Pn	**Pn**	**14 32 52.3**	**-0.8**
BMN	**Battle Mountai**	**7.24**	**351**	Pn	**Pn**	**14 32 53.7**	**-0.1**
PV13	**Radium Mtn., P**	**7.43**	**47**	Pn	**Pn**	**14 32 56.8**	**+0.2**
ELK	**Elko** comp=E,0.2nm,0.3s,baz=188,slow=16,SNR=2.2	**7.46**	**3**	Pn	**Pn**	**14 32 59.1**	**+2.1**
ELK	comp=E,0.4nm,0.3s,baz=196,slow=6.2,SNR=7.8			Pg	Pb	14 33 10.8	-7.4
ELK	comp=E,1.2nm,0.3s,baz=24,slow=20,SNR=4.5 comp=E,0.5nm,0.4s			Lg	Lg	14 35 01.5	
CRNM	**Carthage**	**7.53**	**82**	Pn	**Pn**	**14 32 58.5**	**+0.5**
BNM	**Barren Site**	**7.63**	**81**	Pn	**Pn**	**14 32 59.6**	**+0.3**
ANMO	**Albuquerque** comp=E,0.1nm,0.3s,baz=245,slow=12,SNR=2.7	**7.86**	**75**	Pn	**Pn**	**14 33 03.6**	**+1.1**
ANMO	comp=E,0.3nm,0.3s,baz=347,slow=19,SNR=2.0 comp=E,1.1nm,0.6s			Lg	Lg	14 35 12.0	
YBH	**Yreka Blue Hor** comp=E,0.1nm,0.3s,baz=250,slow=20,SNR=1.6	**10.09**	**329**	Lg	Lg	14 36 23.3	
LPIG	**La Paz** comp=E,94nm,19.4s,baz=332,slow=38	**10.31**	**151**	LR	LR	14 37 31.5	
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=215,slow=13,SNR=14	**10.64**	**25**	Pn	Pn	14 33 45.0	+4.4
PDAR	comp=E,0.1nm,0.3s,baz=188,slow=30,SNR=1.8			Lg	Lg	14 36 47.1	
PDAR	comp=E,342nm,19.1s,baz=214,slow=37 comp=E,4.4nm,1.0s			LR	LR	14 37 41.2	
TX31	**Lajitas Ar. Si**	**11.04**	**108**	Pn	**Pn**	**14 33 46.7**	**+0.8**
TX32	**Lajitas Array**	**11.04**	**108**	Pn	**Pn**	**14 33 46.7**	**+0.8**
TXAR	**Lajitas Array** comp=E,0.2nm,0.3s,baz=288,slow=13,SNR=8.9	**11.04**	**108**	Pn	**Pn**	**14 33 45.2**	**-0.7**
TXAR	comp=E,0.1nm,0.3s,baz=295,slow=26,SNR=2.8 comp=E,0.4nm,0.5s			Lg	Lg	14 36 53.7	
TXAR	**Lajitas Array**	**11.04**	**108**	Pn	**Pn**	**14 33 46.7**	**+0.8**
NEW	**Newport** comp=E,288nm,18.2s,baz=188,slow=40	**15.00**	**356**	LR	LR	14 41 06.5	
HKT	**Hockley**	**17.27**	**96**	P	**P**	**14 35 10.9**	**+0.7**
ULM	**Lac du Bonnet** comp=E,106nm,21.7s,baz=272,slow=38	**22.39**	**35**	LR	LR	14 45 31.2	
CMIG	**Matias Romero** comp=E,145nm,20.2s,baz=278,slow=38	**24.73**	**126**	LR	LR	14 46 41.4	
TKL	**Tuckaleechee C** comp=E,82nm,19.5s,baz=274,slow=39	**26.39**	**76**	LR	LR	14 48 13.1	
YKA	**Yellowknife Ar** comp=E,94nm,20.5s,baz=168,slow=36	**29.24**	**1**	LR	LR	14 48 34.6	
SADO	**Sadowa** comp=E,134nm,18.0s,baz=343,

CTA	**Charters Tower**	**29.29**	**263**	LR	LR	14 50 15.4		
	comp=Z,57nm,18.5s,baz=83,slow=35							
PPT	**Papeete**	**31.38**	**92**	LR	LR	14 51 17.6		
	comp=Z,48nm,18.3s,baz=88,slow=35							
WRA	**Warramunga Arr**	**40.46**	**262**	P	P	14 40 49.3	-0.2	
	1.1nm,1.0s,baz=94,slow=9.0,SNR=6.5							
	1.1nm,1.0s							
ASAR	**Alice Springs**	**40.56**	**256**	P	P	14 40 50.5	0.0	
	2.5nm,0.9s,baz=86,slow=8.9,SNR=22							
	2.5nm,0.9s							
SIJI	**Sorong**	**48.73**	**287**	LR	LR	15 03 00.3		
	comp=Z,43nm,18.1s,baz=157,slow=37							
SHEM	**Shemya Is, Ala**	**71.81**	**358**	LR	LR	15 12 12.7		
	comp=Z,23nm,18.9s,baz=190,slow=33							
NVAR	**Mina Array Bea**	**83.24**	**45**	P	P	14 45 37.4	-0.3	
	0.2nm,0.6s,baz=218,slow=8.6,SNR=2.7							
	0.2nm,0.6s							
TXAR	**Lajitas Array**	**90.14**	**59**	P	P	14 46 11.5	0.0	
	0.6nm,0.8s,baz=218,slow=5.9,SNR=4.0							
	0.6nm,0.8s							
SONM	**Songino Array**	**92.05**	**320**	LR	LR	15 25 04.6		
	comp=Z,34nm,21.9s,baz=101,slow=34							

IDC 26 14:37:58.9±999.0, 67°30N×32°91E, h0km, Error ellipse: s-maj=776.3km s-min=258.0km az=121.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**21.08**	**131**	*i*		16 45 00.0	
	baz=336,slow=343,SNR=2.5						
I46RU	**ZALESOVO INFRA**	**27.76**	**93**	*i*		17 26 40.0	
	baz=320,slow=325,SNR=0.7						
I34MN	**SONGINO INFRAS**	**40.98**	**80**	*i*		18 53 40.0	
	baz=326,slow=331,SNR=0.6						

IDC 26 14:40:56.3±3.1, 6°09S×154°92E, h139km±27km, mb3.1/3, mbtmp3.6/5, MS3.0/2, Error ellipse: s-maj=39.0km s-min=25.4km az=52.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.38**	**301**	P	Pn	14 41 47.4	-0.8
	11nm,0.7s,baz=202,slow=22,SNR=2.1						
KRVT				S	Sn	14 42 29.2	+0.9
	15nm,0.4s,baz=193,slow=20,SNR=1.8						
DZM	**Mont Dzumac**	**19.41**	**146**	P	P	14 45 11.6	-0.2
	5.2nm,0.8s,baz=331,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**24.28**	**234**	P	P	14 46 01.4	+0.5
	1.0nm,0.4s,baz=57,slow=10.0,SNR=44						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**26.72**	**227**	P	P	14 46 22.2	-0.7
	0.1nm,0.3s,baz=56,slow=9.1,SNR=7.6						
	0.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**30.96**	**245**	LR	LR	15 00 27.4	
	comp=Z,17nm,21.1s,baz=84,slow=38						
BATI	**Baumata**	**31.20**	**260**	LR	LR	15 01 53.7	
	comp=Z,50nm,18.8s,baz=158,slow=40						
MKAR	**Makanchi Array**	**32.68**	**319**	P	P	14 53 04.8	+0.3
	0.2nm,0.6s,baz=91,slow=7.2,SNR=2.5						
	0.2nm,0.6s						

*IDC **26** 14:53:41.9±1.3, 30°34S×179°52W, h312km±14km, mb3.0/2, mbtmp3.9/3, Error ellipse: s-maj=34.4km s-min=24.8km az=155.0*

ISC 26 14:53:40.9±0.8, 30°5S±0°1×179°3W±0°1, h300km, n46, σ1§58/45, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.70**	**44**	P	**Pn**	**14 54 27.9**	**+2.5**
	380nm,0.3s,baz=205,slow=22,SNR=8.1						
RAO				S	**S**	**14 54 59.1**	**-1.8**
	183nm,0.3s,baz=55,slow=22,SNR=1.8						
WMGZ	**Waiomatatini S**	**7.56**	**194**	P	**Pn**	**14 55 29.8**	**+0.8**
HAZ	**Te Kaha**	**7.66**	**198**	P	Pn	14 55 25.3	-4.8
PUZ	**Puketiti**	**7.84**	**194**	P	**Pn**	**14 55 35.2**	**+2.7**
RUGZ	**Raukumara Rang**	**7.88**	**198**	P	**Pn**	**14 55 33.2**	**+0.2**
TWGZ	**Tauwhareparae**	**8.00**	**196**	P	**Pn**	**14 55 35.7**	**+1.3**
OPRZ	**Ohinepanea**	**8.11**	**204**	P	**Pn**	**14 55 39.7**	**+4.0**
CNGZ	**Carnagh Statio**	**8.25**	**194**	P	**Pn**	**14 55 39.0**	**+1.6**
MWZ	**Matawai**	**8.27**	**198**	P	**Pn**	**14 55 37.4**	**-0.3**
TKGZ	**Te Karaka**	**8.29**	**196**	P	**Pn**	**14 55 34.9**	**-2.9**
URZ	**Urewera**	**8.31**	**200**	P	**Pn**	**14 55 40.4**	**+2.3**
	12nm,0.3s,baz=67,slow=1.1,SNR=5.1						
URZ	**Urewera**	**8.31**	**200**	P	**Pn**	**14 55 37.0**	**-1.2**
RIGZ	**Rimuhau**	**8.56**	**196**	P	**Pn**	**14 55 42.8**	**+1.6**
MUGZ	**Murupara**	**8.62**	**201**	P	**Pn**	**14 55 42.7**	**+0.8**
RTZ	**Ruatahuna**	**8.68**	**200**	P	**Pn**	**14 55 42.6**	**-0.2**
SNGZ	**Shannon Statio**	**8.74**	**198**	P	**Pn**	**14 55 45.0**	**+1.6**
ALRZ	**Allen Road**	**8.83**	**203**	P	**Pn**	**14 55 46.4**	**+1.8**
KNZ	**Kokohu**	**8.88**	**196**	P	**Pn**	**14 55 45.9**	**+0.8**
RAHZ	**Arahi**	**8.93**	**199**	P	**Pn**	**14 55 46.2**	**+0.4**
MHGZ	**Mahia Peninsul**	**8.96**	**194**	P	**Pn**	**14 55 48.5**	**+2.4**
WHHZ	**Waihua**	**9.04**	**198**	P	**Pn**	**14 55 48.8**	**+1.7**
MRHZ	**Matea Rd**	**9.05**	**202**	P	**Pn**	**14 55 48.2**	**+0.9**
NMHZ	**Naumai**	**9.18**	**199**	P	**Pn**	**14 55 50.0**	**+1.2**
ARHZ	**Aropaoanui**	**9.28**	**198**	P	**Pn**	**14 55 50.7**	**+0.6**
BKZ	**Black Stump Fm**	**9.33**	**201**	P	**Pn**	**14 55 50.5**	**-0.2**
HIZ	**Hauiti**	**9.36**	**210**	P	**P**	**14 55 54.5**	**-0.8**
MCHZ	**McNeill Hill**	**9.53**	**199**	P	**Pn**	**14 55 53.8**	**+0.7**
NTVZ	**North Tongarir**	**9.54**	**204**	P	**Pn**	**14 55 55.2**	**+1.8**
KWHZ	**Kaweka Forest**	**9.59**	**200**	P	**Pn**	**14 55 54.4**	**+0.5**
OTVZ	**Oturere**	**9.60**	**204**	P	**Pn**	**14 55 54.5**	**+0.3**
SNVZ	**South Ngauruho**	**9.63**	**204**	P	**Pn**	**14 55 54.6**	**+0.1**
TUVZ	**Tukino**	**9.70**	**204**	P	**Pn**	**14 55 56.2**	**+0.8**
BHHZ	**Black Hill Sta**	**9.76**	**202**	P	**Pn**	**14 55 54.9**	**-1.2**
MOVZ	**Moawhango**	**9.79**	**203**	P	**Pn**	**14 55 56.0**	**-0.4**
KAHZ	**Kahuranaki**	**9.81**	**198**	P	**Pn**	**14 55 56.2**	**-0.4**
MTVZ	**Mangateitei**	**9.87**	**204**	P	**Pn**	**14 55 57.9**	**+0.5**
WPHZ	**Waipukurau**	**10.18**	**199**	P	**Pn**	**14 56 01.2**	**+0.1**
TKNZ	**Takaka Hill**	**12.26**	**209**	P	P	14 56 38.4	+11
MSVF	**Nonsavu**	**12.92**	**349**	P	**P**	**14 56 36.0**	**+0.8**
	3.1nm,0.6s,baz=287,slow=25,SNR=5.9						
ASAR	**Alice Springs**	**42.00**	**268**	P	**P**	**15 01 01.9**	**-1.7**
	0.2nm,0.3s,baz=105,slow=7.3,SNR=13						
ASAR				PcP	**PP**	**15 02 51.0**	**+3.3**
	0.3nm,0.5s,baz=114,slow=3.8,SNR=5.9						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**42.99**	**273**	P	**P**	**15 01 09.6**	**-2.0**
	0.9nm,0.5s,baz=112,slow=7.8,SNR=25						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**144.83**	**339**	PKP	PKPbc	15 12 40.2	-1.0
	5.8nm,0.5s,baz=55,slow=3.6,SNR=56						
NB2	**NORSAR Subarra**	**148.65**	**350**	PKP	**PKPbc**	**15 12 50.3**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=14,slow=4.1						
AKASG	**Malin Array Be**	**150.68**	**322**	PKPbc	**PKPbc**	**15 12 56.2**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=53,slow=2.4,SNR=7.5						
BRTR	**Keskin Array B**	**151.66**	**298**	PKPbc	**PKPbc**	**15 12 59.0**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=148,slow=6.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**162.73**	**183**	PKPab	**PKPab**	**15 13 57.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=190,slow=5.1,SNR=3.4						

ASRS 26 15:25:15.3±0.3, 51°N±2°×9°8E±°, h4km, MLh3.7/8, 1D, Error ellipse: s-maj=3.8km s-min=3.0km az=3.0, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.85**	**215**	||Pg	Pn	15 25 33.8	-0.3
KNGR					Sg	Sb	15 25 45.3	+0.8
MOY	**Mondy**	**1.74**	**77**	Pg	Pg	Pg	15 25 50.2	+1.6
MOY					Sg	Sg	15 26 11.6	+0.5
ERNS	**Erzin**	**2.24**	**243**	Pg	Pg	Pg	15 25 59.2	+1.1
ERNS					Sg	Sg	15 26 28.6	+1.5
KZLR	**Kyzyl**	**2.42**	**281**	Pg	Pg	Pg	15 26 03.5	+1.9
KZLR					Sg	Sg	15 26 38.0	+5.0
ZAK	**Zakamensk**	**3.31**	**104**	Pg	Pg	Pb	15 26 15.9	+1.4
ZAK					Sg	Sg	15 26 58.4	-3.1
MINR	**Mina**	**4.36**	**327**	Pg	Pg	Pg	15 26 44.0	+5.3
MINR					Sg	Sg	15 27 43.1	+8.0
DJOS	**Djoyskaya Sosn**	**4.50**	**292**	Pg	Pg	Pg	15 26 44.5	+3.1
DJOS					Sg	Sg	15 27 43.9	+4.2
CERR	**Cheremushki**	**4.51**	**293**	Pg	Pg	Pg	15 26 43.4	+1.9
CERR					Sg	Sg	15 27 44.3	+4.4
DJO	**Djoy, Khakassi**	**4.60**	**292**	Pg	Pg	Pg	15 26 42.9	-0.4
DJO					Sg	Sg	15 27 46.1	+3.2
GZLN	**Zheleznogorsk**	**5.74**	**334**	Pg	Pg	Pg	15 27 07.1	+2.0
GZLN					Sg	Sg	15 28 24.1	+4.6
SHTK	**Zheleznogorsk-**	**5.75**	**333**	Pg	Sg	Pb	15 26 53.9	-2.1
SHTK					Sg	Sb	15 28 11.2	+6.1
LUZB	**Luzhba, Kemero**	**6.19**	**296**	Pg	Pg	Pg	15 27 12.5	-1.4
LUZB					Sg	Sg	15 28 32.0	-2.1
CUR	**Chagan-Uzon**	**6.42**	**263**	Pg	Pg	Pg	15 27 14.9	-3.3
CUR					Sg	Sg	15 28 42.1	+0.8
ULGR	**Ulagan, Altay**	**6.55**	**268**	Pg	Pg	Pg	15 27 16.7	-4.0
ULGR					Sg	Sg	15 28 43.4	-2.1
TASR	**Tashtagol**	**6.58**	**287**	Pg	Pg	Pg	15 27 18.8	-2.5
TASR					Sg	Sg	15 28 48.8	+2.4
ULN	**Ulaanbaatar**	**6.67**	**118**	Pg	Pg	Pb	15 27 16.2	+4.5
ULN					Sg	Sg	15 28 43.9	-5.3
ARTR	**Artybash**	**6.87**	**278**	Pg	Pg	Pg	15 27 23.8	-3.1
ARTR					Sg	Sg	15 28 56.8	+0.9
CHBI	**Chibit, Altay**	**6.90**	**266**	Pg	Pg	Pg	15 27 23.6	-3.8
CHBI					Sn	Sn	15 28 21.6	+5.4
CHBI					Sg	Sg	15 28 56.8	+0.1
DGZ	**Jazzator, Alta**	**7.10**	**261**	Pg	Pg	Pg	15 27 26.1	-5.1
DGZ					S	Sn	15 28 22.5	+1.3
DGZ					Sg	Sg	15 29 00.2	-2.9

*IDC **26** 15:37:45.8±3.0, 34°93N×140°20E, h0km, mb3.2/2, mbtmp3.0/3, ML2.0/1, MS3.8/1, Error ellipse: s-maj=92.5km s-min=29.9km az=64.0*
*JMA **26** 15:37:47.8±0.1, 35°3N±0°4×140°6E±0°7, h24km±2km, MV2.9/39, KUJUKURI COAST BOSO PEN*

ISC 26 15:37:46.6±0.9, 35°31N±0°03×140°60E±0°05, h10km, n20, σ1§64/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.28**	**235**	P	**Pg**	**15 37 54.1**	**+1.9**
JCN	**Nagara**	**0.34**	**289**	P	**Pb**	**15 37 55.6**	**+0.8**
JSMT	**Sammumatsuo**	**0.35**	**340**	P	**Pb**	**15 37 55.5**	**+0.5**
JKUC	**kamogawauchiur**	**0.36**	**246**	*i* P	**Pg**	**15 37 55.2**	**+1.5**
BSO4	**Boso 4**	**0.38**	**214**	P	**Pb**	**15 37 56.5**	**+1.1**
CHOJ	**Chosi**	**0.45**	**28**	P	**Pg**	**15 37 56.8**	**+1.4**
CHOJ				S	**Sg**	**15 38 03.0**	**+1.7**
BSO3	**Boso 3**	**0.51**	**188**	P	**Pb**	**15 37 58.5**	**+1.0**
BSO1	**Boso 1**	**0.72**	**154**	P	**Pg**	**15 38 00.9**	**+0.5**
BSO1				X		15 38 12.2	
JYT	**Yasato**	**0.97**	**340**	P	**Pg**	**15 38 04.7**	**-0.7**
JYT				*e*S	**Sg**	**15 38 17.2**	**-0.8**
JIM2	**Oshima 3**	**1.12**	**239**	P	**Pb**	**15 38 06.1**	**-2.1**
MJAR	**Matsushiro Arr**	**2.30**	**303**	Pn	**Pn**	**15 38 24.4**	**-0.1**
	0.4nm,0.3s,baz=132,slow=16,SNR=18						
MJAR				LR	LR	15 38 49.8	
	comp=Z,11nm,20.5s,baz=176,slow=28						
MJAR				Sn	**Sb**	**15 38 58.8**	**+2.2**
	0.4nm,0.3s,baz=114,slow=22,SNR=4.4						
	2.0nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.89**	**117**	T	T	16 12 44.3	
	baz=309,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**27.90**	**117**	T	T	16 12 44.8	
	baz=309,slow=75,SNR=66						
H11N3	**WAKE ISLAND Hy**	**27.91**	**117**	T	T	16 12 45.7	
	baz=309,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	**28.54**	**119**	T	T	16 13 29.2	
	baz=311,slow=76,SNR=75						
H11S3	**WAKE ISLAND Hy**	**28.54**	**119**	T	T	16 13 26.6	
	baz=311,slow=76,SNR=63						
H11S2	**WAKE ISLAND Hy**	**28.55**	**119**	T	T	16 13 27.2	
	baz=311,slow=76,SNR=64						
PSI	**Prapat**	**50.35**	**240**	LR	LR	16 07 55.7	
	comp=Z,84nm,19.0s,baz=344,slow=36						
WRA	**Warramunga Arr**	**55.27**	**187**	P	**P**	**15 47 17.9**	**-2.2**
	0.1nm,0.3s,baz=2.8,slow=7.7,SNR=9.1						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**58.99**	**187**	P	**P**	**15 47 44.1**	**-2.3**
	0.2nm,0.9s,baz=23,slow=11,SNR=2.0						
	0.2nm,0.9s						

WEL 26 15:46:50.9±1.3, 37°S±4°×17°9E±°, h15km±7km, M3.4/46, ML3.7/55, MLv3.4/46, Error ellipse: s-maj=0.0km s-min=0.0km az=81.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.59**	**249**	P	Pg	15 47 02.6	+0.1
MXZ				S	Sg	15 47 09.5	-0.8
WMGZ	**Waiomatatini S**	**0.66**	**224**	P	Pn	15 47 05.5	-0.1
PUZ	**Puketiti**	**0.93**	**219**	P	Pn	15 47 09.6	+0.1
PUZ				S	Sn	15 47 22.2	-0.2
HAZ	**Te Kaha**	**1.04**	**247**	P	Pb	15 47 10.1	-0.6
TWGZ	**Tauwhareparae**	**1.15**	**224**	P	Pb	15 47 12.7	+0.2
TWGZ				S	Sg	15 47 28.3	+0.1
RUGZ	**Raukumara Rang**	**1.21**	**239**	P	Pb	15 47 13.7	+0.1
RUGZ				S	Sn	15 47 29.7	+0.1
CNGZ	**Carnagh Statio**	**1.29**	**209**	P	Pb	15 47 15.2	+0.3
CNGZ				S	Sg	15 47 33.4	+0.7
TKGZ	**Te Karaka**	**1.41**	**219**	P	Pn	15 47 15.8	-0.3
WIZ	**White Island**	**1.45**	**263**	P	Pn	15 47 16.8	+0.3
MWZ	**Matawai**	**1.52**	**229**	P	Pn	15 47 17.5	-0.1
RIGZ	**Rimuhau**	**1.67**	**215**	P	Pn	15 47 19.3	-0.3
WHRZ	**Whale Island**	**1.68**	**252**	P	Pn	15 47 20.4	+0.6
URZ	**Urewera**	**1.75**	**238**	P	Pn	15 47 21.0	+0.4
URZ				S	Sn	15 47 42.2	-0.4
PRGZ	**Paritu Road**	**1.80**	**209**	P	Pn	15 47 21.8	+0.4
SNGZ	**Shannon Statio**	**1.93**	**222**	P	Pn	15 47 21.5	-1.8
EDRZ	**Edgecumbe**	**1.94**	**246**	P	Pn	15 47 23.8	+0.4
MARZ	**Manawahe**	**1.95**	**250**	P	Pn	15 47 23.4	0.0
KNZ	**Kokohu**	**1.96**	**212**	P	Pn	15 47 22.8	-0.8
OPRZ	**Ohinepanea**	**2.00**	**255**	P	Pn	15 47 23.7	-0.4
RTZ	**Ruatahuna**	**2.03**	**231**	P	Pn	15 47 24.8	+0.2
MUGZ	**Murupara**	**2.09**	**237**	P	Pn	15 47 25.3	-0.1
TARZ	**Mount Tarawera**	**2.16**	**245**	P	Pn	15 47 27.1	+0.6
RAHZ	**Arahi**	**2.17**	**223**	P	Pn	15 47 26.5	0.0
LIRZ	**Lichensteins R**	**2.17**	**252**	P	Pn	15 47 26.9	+0.4
RRRZ	**Republican Roa**	**2.20**	**243**	P	Pn	15 47 27.4	+0.5
TGRZ	**Tauranga**	**2.21**	**259**	P	Pn	15 47 26.7	-0.2
OMRZ	**Omania**	**2.21**	**249**	P	Pn	15 47 27.7	+0.7
HLRZ	**Highlands Stat**	**2.28**	**246**	P	Pn	15 47 28.6	+0.6
KARZ	**Kaharoa**	**2.28**	**252**	P	Pn	15 47 28.1	+0.1
PRRZ	**Plateau Road**	**2.35**	**240**	P	Pn	15 47 29.1	+0.1
UTU	**Utuhina**	**2.37**	**249**	P	Pn	15 47 30.8	+1.6
HSRZ	**Hossack Road**	**2.38**	**245**	P	Pn	15 47 30.2	+0.8
ALRZ	**Allen Road**	**2.42**	**239**	P	Pn	15 47 30.5	+0.6
NMHZ	**Naumai**	**2.45**	**224**	P	Pn	15 47 30.8	+0.4
ARHZ	**Aropaoanui**	**2.47**	**219**	P	Pn	15 47 30.4	-0.2
MRHZ	**Matea Rd**	**2.51**	**233**	P	Pn	15 47 31.5	+0.2
BKZ	**Black Stump Fm**	**2.67**	**227**	P	Pn	15 47 33.1	-0.3
KUZ	**Kuaotunu**	**2.69**	**282**	P	Pn	15 47 31.9	-1.7
KUTZ	**Kaahu Road**	**2.75**	**245**	P	Pn	15 47 34.6	+0.1
MCHZ	**McNeill Hill**	**2.76**	**220**	P	Pn	15 47 34.1	-0.5
TOZ	**Tahuroa Road**	**2.80**	**261**	P	Pn	15 47 34.9	-0.2
KWHZ	**Kaweka Forest**	**2.89**	**224**	P	Pn	15 47 35.8	-0.6
KAHZ	**Kahuranaki**	**2.95**	**214**	P	Pn	15 47 36.1	-1.1
GRZ	**Great Barrier**	**3.04**	**290**	P	Pn	15 47 39.0	+0.5
MKAZ	**Moumakai**	**3.07**	**273**	P	Pn	15 47 37.8	-1.0
KRHZ	**Kereru**	**3.08**	**221**	P	Pn	15 47 37.8	-1.2
TMVZ	**Te Maari**	**3.13**	**235**	P	Pn	15 47 39.4	-0.4
WIAZ	**Waiheke Island**	**3.14**	**279**	P	Pn	15 47 38.7	-1.1
BHHZ	**Black Hill Sta**	**3.14**	**226**	P	Pn	15 47 39.2	-0.7
ETVZ	**East Tongariro**	**3.14**	**234**	P	Pn	15 47 39.6	-0.4
NTVZ	**North Tongarir**	**3.14**	**235**	P	Pn	15 47 39.7	-0.3
OTVZ	**Oturere**	**3.18**	**234**	P	Pn	15 47 40.0	-0.5
WTVZ	**West Tongariro**	**3.21**	**236**	P	Pn	15 47 40.9	0.0
SNVZ	**South Ngauruho**	**3.21**	**234**	P	Pn	15 47 40.7	-0.3
NGZ	**Ngauruhoe**	**3.23**	**235**	P	Pn	15 47 40.9	-0.3
TUVZ	**Tukino**	**3.25**	**233**	P	Pn	15 47 41.2	-0.3
MOVZ	**Moawhango**	**3.27**	**230**	P	Pn	15 47 41.1	-0.6
ETAZ	**East Tamaki Re**	**3.27**	**276**	P	Pn	15 47 41.4	-0.3
WNVZ	**Wahianoa**	**3.32**	**233**	P	Pn	15 47 42.1	-0.4
MBAZ	**Motutapu North**	**3.33**	**279**	P	Pn	15 47 43.1	+0.7
WPHZ	**Waipukurau**	**3.37**	**216**	P	Pn	15 47 41.2	-1.7
PNHZ	**Pukenui**	**3.37**	**220**	P	Pn	15 47 40.9	-2.0
MTVZ	**Mangateitei**	**3.43**	**233**	P	Pn	15 47 44.0	+0.1
PRHZ	**Porangahau**	**3.44**	**212**	P	Pn	15 47 41.7	-2.3
PKVZ	**Pokaka**	**3.46**	**235**	P	Pn	15 47 44.6	+0.3
HIZ	**Hauiti**	**3.47**	**249**	P	Pn	15 47 45.2	+0.9
AWAZ	**Awhitu Peninsu**	**3.48**	**273**	P	Pn	15 47 45.5	+1.0
WTAZ	**Waiatarua**	**3.56**	**275**	P	Pn	15 47 46.4	+0.8
RVAZ	**Riverhead Bore**	**3.58**	**278**	P	Pn	15 47 45.5	-0.3
WAZ	**Wanganui**	**3.95**	**231**	P	Pn	15 47 51.1	+0.1
WCZ	**Waipu Caves**	**4.00**	**289**	P	Pn	15 47 51.4	-0.2
LREZ	**Lake Rotokare**	**4.18**	**238**	P	Pn	15 47 54.7	+0.6
NEZ	**North Egmont**	**4.30**	**242**	P	Pn	15 47 57.6	+1.7
KHEZ	**Kahui Hut**	**4.37**	**242**	P	Pn	15 47 59.4	+2.6
HOWZ	**Holdsworth Sta**	**4.46**	**216**	P	Pn	15 47 55.3	-2.7
OUZ	**Omahuta**	**4.85**	**294**	P	Pn	15 48 03.7	+0.4
QRZ	**Quartz Range**	**6.11**	**233**	P	Pn	15 48 18.3	-2.3
CTZ	**Chatham Island**	**7.20**	**154**	P	Pn	15 48 36.1	+0.6

*ANF **26** 15:47:03.0±0.3, 36°12N×97°45W, h7km, ML3.5/6, Error ellipse: s-maj=4.5km s-min=2.7km az=162.0*
*NEIC **26** 15:47:03.2±1.1, 36°086N±0°008×97°44W±0°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.7km az=230.0*
*TUL **26** 15:47:03.3±0.9, 36°09N±0°01×97°44W±0°01, h7km±6km, ML3.4, mb_Lg3.2/73(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=185.0*

ISC 26 15:47:03.2±1.0, 36°10N±0°02×97°46W±0°02, h11km±11km, n92, σ0§48/64, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.31**	**180**		**Pg**	**15 47 09.3**	**0.0**
OK049	**E0420 Rd and N**	**0.33**	**22**		**Pg**	**15 47 10.2**	**+0.4**
OK033	**Mehan**	**0.42**	**98**		**Pg**	**15 47 11.6**	**+0.1**
OK033				Sg	**Sg**	**15 47 16.8**	**-0.3**
BCOK	**Bluff Creek, N**	**0.46**	**196**		**Pg**	**15 47 12.2**	**0.0**
OK050	**Pawnee Station**	**0.48**	**53**		**Pg**	**15 47 12.8**	**+0.2**
OK050				Sg	**Sg**	**15 47 18.6**	**-0.3**
OK048	**Pawnee Station**	**0.52**	**53**		**Pg**	**15 47 13.5**	**+0.2**
OK031	**S. Brethren Rd**	**0.52**	**107**		**Pg**	**15 47 13.4**	**0.0**
OK025	**Westminster Rd**	**0.53**	**170**		**Pg**	**15 47 13.5**	**-0.1**
OK046	**Pawnee Station**	**0.53**	**56**		**Pg**	**15 47 13.7**	**+0.2**
OK045	**Pawnee Station**	**0.55**	**51**		**Pg**	**15 47 14.0**	**+0.1**
CROK	**Carrier**	**0.58**	**313**		**Pg**	**15 47 14.9**	**+0.3**
OK044	**Pawnee Station**	**0.60**	**63**		**Pg**	**15 47 14.8**	**0.0**
OK034	**N. Norfolk Rd.**	**0.61**	**99**		**Pg**	**15 47 14.9**	**-0.1**
QUOK	**Quay**	**0.61**	**83**		**Pg**	**15 47 15.0**	**0.0**
OK051	**E0350 and S346**	**0.64**	**51**		**Pg**	**15 47 15.7**	**0.0**
BLOK	**Blackwell**	**0.68**	**16**		**Pg**	**15 47 16.6**	**+0.2**
OK047	**Pawnee, Statio**	**0.69**	**58**		**Pg**	**15 47 16.7**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.70**	**179**		**Pg**	**15 47 16.2**	**-0.4**
GC02	**Grant County #**	**0.81**	**337**		**Pg**	**15 47 19.0**	**0.0**
DEOK	**Depew**	**0.82**	**108**		**Pg**	**15 47 18.4**	**-0.5**
FNO	**Franklin**	**0.85**	**177**		**Pg**	**15 47 19.0**	**-0.5**
KAN13	**South Haven SW**	**0.91**	**359**		**Pg**	**15 47 20.8**	**+0.1**
OK032	**Salt Plains WL**	**0.93**	**319**		**Pg**	**15 47 21.0**	**-0.1**
KAN14	**Manchester OK**	**0.94**	**334**		**Pg**	**15 47 21.3**	**-0.1**
KAN17	**Caldwell West**	**0.97**	**345**		**Pg**	**15 47 21.8**	**-0.1**
KAN09	**Caldwell North**	**1.04**	**353**		**Pg**	**15 47 23.1**	**-0.1**
KAN01	**Argonia South**	**1.08**	**347**		**Pg**	**15 47 23.7**	**-0.2**
CSTR	**Hydro, Custer**	**1.10**	**246**		**Pg**	**15 47 23.8**	**-0.6**
OK038	**West end E0370**	**1.10**	**290**		**Pg**	**15 47 23.9**	**-0.5**
T35A	**Sooner Cattle**	**1.11**	**43**		**Pg**	**15 47 24.2**	**-0.3**
T35B	**Sooner Cattle**	**1.11**	**43**	P	**Pg**	**15 47 24.3**	**-0.3**
	baz=222						
T35B				S	**Sg**	**15 47 38.8**	**-0.2**
	baz=222						
KS20	**Mayfield South**	**1.13**	**356**		**Pg**	**15 47 24.6**	**-0.2**
KAN10	**Anthony SW Sta**	**1.14**	**333**		**Pg**	**15 47 24.

K22A	**Casper**	**9.59**	**316**	IAmb_Lg		15 52 19.8		
	comp=Z,17nm,0.8s							

*ANF **26** 15:47:28.2±0.2,33.30N×115.74W,h11km±3km,ML3.1/13, Error ellipse: s-maj=2.2km s-min=1.6km az=110.0*
*NEIC **26** 15:47:28.7±1.2,33.29N±0.02×115.731W±0.010, h19km±2km,Error ellipse: s-maj=2.5km s-min=0.6km az=203.0*
*PAS **26** 15:47:28.7±1.6,33.293N±0.004×115.72W±0.01, h3km±6km,ML3.1/137,ML2.9/38(NEIC),Error ellipse: s-maj=1.5km s-min=0.6km az=103.0*

ISC 26 15:47:28.7±0.8,33.29N±0.01×115.74W±0.02,h17km±6km, n96,σ0967/126,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERRC	**Elmore Ranch**	**0.19**	**202**		**Pb**	**15 47 33.5**	**-0.3**
ERRC					**Sg**	**15 47 37.2**	**+0.7**
SALN	**Salton City**	**0.21**	**267**		**Pb**	**15 47 33.7**	**-0.4**
SALN					**Sg**	**15 47 37.7**	**+0.7**
WEMD	**Westmorland, C**	**0.28**	**153**		**Pb**	**15 47 35.0**	**-0.3**
SUP	**Superstition M**	**0.34**	**192**		**Pg**	**15 47 35.7**	**-0.2**
SWSC	**Sam W. Stewart**	**0.35**	**189**		**Pg**	**15 47 35.9**	**-0.2**
SWSC	**Sam W. Stewart**	**0.35**	**189**	P	**Pg**	**15 47 35.8**	**-0.2**
	baz=11,SNR=364						
SWSC				S	**Sg**	**15 47 40.5**	**-0.5**
	baz=11						
CTW	**Cottonwood Mou**	**0.40**	**344**		**Pg**	**15 47 36.7**	**-0.3**
IMPE	**Imperial**	**0.41**	**159**		**Pg**	**15 47 36.9**	**-0.3**
HAY	**Hayfield**	**0.42**	**6**		**Pb**	**15 47 37.2**	**-0.5**
CTCC	**Cactus City**	**0.42**	**330**		**Pb**	**15 47 37.3**	**-0.5**
BC3	**Big Chuckawall**	**0.43**	**33**		**Sg**	**15 47 37.1**	**-0.5**
BC3					**Sg**	**15 47 43.1**	**-0.6**
BC3	**Big Chuckawall**	**0.43**	**33**	P	**Pg**	**15 47 36.8**	**-0.8**
	baz=212,SNR=193						
BC3				S	**Sg**	**15 47 43.0**	**-0.6**
	baz=212						
COK2	**Cook Ranch 2**	**0.44**	**179**		**Pb**	**15 47 38.0**	**0.0**
COK2					**Sb**	**15 47 45.0**	**+0.8**
SLH	**Sleepy Hollow**	**0.44**	**257**		**Pb**	**15 47 37.9**	**-0.2**
SLH					**Sb**	**15 47 44.6**	**+0.1**
CRR	**Carrizo Plain**	**0.45**	**206**		**Pg**	**15 47 37.6**	**-0.1**
WESC	**Westside Schoo**	**0.53**	**179**		**Pb**	**15 47 39.4**	**-0.1**
WESC					**Sb**	**15 47 47.8**	**+0.9**
BORC	**Borrego Spring**	**0.57**	**268**		**Pb**	**15 47 40.3**	**0.0**
SGL	**Mount Signal**	**0.64**	**179**		**Pg**	**15 47 40.7**	**-0.6**
PMD	**Palm Desert**	**0.64**	**304**		**Sg**	**15 47 49.5**	**-0.5**
PMD	**Palm Desert**	**0.64**	**304**	Pg	**Pg**	**15 47 40.4**	**-1.0**
PMD	**Palm Desert**	**0.64**	**304**	IAML		15 47 54.9	
	comp=N,232nm,0.8s						
PMD				IAML		15 47 56.0	
	comp=E,356nm,1.0s						
YUH	**Yuha Desert**	**0.66**	**194**		**Pg**	**15 47 41.1**	**-0.6**
YUH	**Yuha Desert**	**0.66**	**194**		**Sb**	**15 47 51.0**	**+0.3**
COA	**Coachella**	**0.67**	**129**		**Pg**	**15 47 41.5**	**-0.3**
COA					**Sb**	**15 47 51.8**	**+0.9**
XPFO	**Pion Flat**	**0.68**	**298**		**Pg**	**15 47 41.8**	**-0.3**
XPFO					**Sb**	**15 47 51.2**	**-0.2**
PFO	**Pinyon Flats O**	**0.68**	**298**		**Pg**	**15 47 41.6**	**-0.6**
PFO					**Sb**	**15 47 51.1**	**-0.4**
PFO	**Pinyon Flats O**	**0.68**	**298**	P	**Pg**	**15 47 41.6**	**-0.6**
	baz=117,SNR=121						
PFO				S	**Sg**	**15 47 50.8**	**-0.5**
	baz=117						
MONP2	**Monument Peak**	**0.70**	**236**		**Pg**	**15 47 42.3**	**-0.3**
MONP2	**Monument Peak**	**0.70**	**236**	P	**Pg**	**15 47 42.2**	**-0.3**
	baz=56,SNR=126						
MONP2				S	**Sg**	**15 47 51.5**	**-0.3**
	baz=56						
UABX	**UABC, Campus M**	**0.70**	**159**	Pg	**Pg**	**15 47 41.6**	**-0.9**
UABX				IAML		15 47 59.8	
	comp=N,811nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**0.71**	**206**		**Pg**	**15 47 42.1**	**-0.5**
IKP					**Sg**	**15 47 51.7**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.71**	**206**	P	**Pg**	**15 47 42.2**	**-0.5**
	baz=27,SNR=106						
IKP				S	**Sg**	**15 47 51.7**	**-0.4**
	baz=27						
RUN	**Ruthven**	**0.71**	**116**		**Pg**	**15 47 42.0**	**-0.7**
BELC	**Belle Mtn. Jos**	**0.74**	**343**		**Pb**	**15 47 43.0**	**-0.3**
BELC					**Sb**	**15 47 52.8**	**-0.5**
BELC	**Belle Mtn. Jos**	**0.74**	**343**	P	**Pb**	**15 47 43.0**	**-0.3**
	baz=162,SNR=178						
BELC				S	**Sb**	**15 47 52.8**	**-0.5**
	baz=162						
RMX	**La Rumorosa**	**0.74**	**203**	IAML		15 48 01.0	
	comp=E,521nm,0.8s						
RMX	**La Rumorosa**	**0.74**	**203**		**Pb**	**15 47 43.2**	**-0.2**
RMX					**Sb**	**15 47 53.7**	**+0.4**
JUEM	**Julian Eagle M**	**0.75**	**254**		**Pb**	**15 47 43.3**	**-0.1**
FRD	**Ford Ranch, An**	**0.75**	**286**		**Pb**	**15 47 43.1**	**-0.3**
FRD	**Ford Ranch, An**	**0.75**	**286**		**Pg**	**15 47 43.1**	**-0.3**
FRD					**Sb**	**15 47 53.5**	**0.0**
MATG	**Mataguay Scout**	**0.77**	**263**		**Pb**	**15 47 43.5**	**-0.2**
MATG					**Sb**	**15 47 53.9**	**0.0**
SNDA	**J Saunders Pla**	**0.78**	**290**		**Pg**	**15 47 43.6**	**-0.4**
SNDA					**Sb**	**15 47 54.4**	**+0.2**
DNR	**Dunn Ranch,Anz**	**0.80**	**290**		**Pb**	**15 47 44.0**	**-0.2**
GLA	**Glamis**	**0.80**	**107**	Pg	**Pg**	**15 47 43.3**	**-1.0**
GLA	**Glamis**	**0.80**	**107**	P	**Pg**	**15 47 43.4**	**-1.0**
	baz=288,SNR=94						
GLA				S	**Sg**	**15 47 54.3**	**-0.7**
	baz=288						
BZNA	**Buzz No.'s Pla**	**0.80**	**285**		**Pb**	**15 47 44.2**	**-0.1**
EW2	**E Wide Canyon**	**0.86**	**319**		**Pg**	**15 47 44.7**	**-0.7**
EW2					**Sb**	**15 47 56.7**	**+0.2**
CRY	**Cary Ranch**	**0.88**	**288**		**Pb**	**15 47 45.5**	**-0.1**
CRY					**Sb**	**15 47 57.4**	**+0.2**
CPBX	**Cerro Prieto**	**0.94**	**157**		**Pg**	**15 47 45.6**	**-1.4**
CPBX				IAML		15 48 13.2	
	comp=N,462nm,0.7s						
PLM	**Palomar**	**0.94**	**274**		**Pg**	**15 47 46.5**	**-0.6**
BLAC	**Blackrock camp**	**0.95**	**325**		**Pg**	**15 47 46.2**	**-1.0**
BAR	**Barrett**	**0.99**	**232**		**Pg**	**15 47 46.4**	**-1.6**
BAR				IAML		15 48 07.4	
	comp=N,263nm,0.4s						
IRM	**Iron Mountain**	**1.00**	**30**		**Pn**	**15 47 48.1**	**+0.1**
IRM	**Iron Mountain**	**1.00**	**30**	P	**Pg**	**15 47 47.3**	**-0.7**
	baz=209,SNR=112						
IRM				S	**Sb**	**15 48 01.2**	**+0.8**
	baz=209						
TKX	**Tecate**	**1.03**	**226**		**Pg**	**15 47 47.2**	**-1.5**
TKX				IAML		15 48 02.0	
	comp=E,369nm,0.3s						
TKX				IAML		15 48 02.0	
	comp=N,277nm,0.3s						
DPP	**Dos Picos Cty**	**1.05**	**254**		**Pg**	**15 47 47.7**	**-1.4**
POB	**Polly Butte**	**1.07**	**292**		**Pg**	**15 47 48.7**	**-0.7**
POB					**Sb**	**15 48 03.2**	**+0.7**
DUZA	**Dulzura**	**1.11**	**232**		**Pb**	**15 47 48.7**	**-0.8**
BLYC	**Blythe**	**1.11**	**65**	Pg	**Pb**	**15 47 48.9**	**-0.7**
BLYC				IAML		15 48 08.4	
	comp=E,411nm,0.9s						
BLYC				IAML		15 48 08.7	
	comp=N,360nm,0.9s						
DGR	**Domenigoni Val**	**1.12**	**289**		**Pb**	**15 47 48.8**	**-0.9**
HMTC	**Hemet**	**1.14**	**292**		**Pb**	**15 47 49.4**	**-0.6**
HMTC					**Sn**	**15 48 05.5**	**+0.3**
109C	**Camp Elliot, M**	**1.22**	**251**		**Pn**	**15 47 51.0**	**0.0**
109C				IAML		15 48 08.9	
	comp=E,361nm,0.3s						
109C	**Camp Elliot, M**	**1.22**	**251**	P	**Pb**	**15 47 51.3**	**0.0**
	baz=70,SNR=21						
109C				S	**Sb**	**15 48 06.6**	**-0.1**
	baz=70						
CPE	**Camp Elliot**	**1.22**	**251**		**Pb**	**15 47 51.4**	**+0.1**
CPE					**Sb**	**15 48 07.3**	**+0.6**
CBX	**Cerro Bola**	**1.25**	**219**	Pg	**Pn**	**15 47 50.7**	**-0.9**
CBX				IAML		15 48 19.7	
	comp=E,259nm,0.7s						
CBX				IAML		15 48 22.0	
	comp=N,308nm,0.7s						
MURC	**Murrieta**	**1.26**	**285**	P	**Pb**	**15 47 52.0**	**0.0**
	baz=104,SNR=16						
MURC				S	**Sn**	**15 48 09.3**	**+1.1**
	baz=104						
ESJX	**Sierra Juarez**	**1.29**	**188**		**Pn**	**15 47 51.0**	**-1.2**
TJX	**Tijuana**	**1.35**	**235**	Pn	**Pb**	**15 47 53.9**	**+0.3**
BBRC	**Big Bear Solar**	**1.38**	**315**	Pg	**Pg**	**15 47 54.6**	**-0.8**
	baz=134						
BBRC				S	**Sg**	**15 48 13.4**	**-0.1**
	baz=134						
SME	**Santa Rosa Min**	**1.45**	**292**		**Pb**	**15 47 55.4**	**0.0**
ELS	**Elsinore Mount**	**1.46**	**285**	Pn	**Pn**	**15 47 54.5**	**+0.1**
ELS				IAML		15 48 16.2	
	comp=E,143nm,0.8s						
GMRC	**Granite Mounta**	**1.49**	**2**		**Pg**	**15 47 57.2**	**-0.3**
GMRC	**Granite Mounta**	**1.49**	**2**	Pg	**Pg**	**15 47 57.0**	**-0.5**
	baz=182,SNR=115						
HEC	**Hector,Ludlow**	**1.61**	**342**	Pg	**Pg**	**15 47 59.7**	**-0.1**
	baz=162,SNR=42						
CCX	**Cicese**	**1.62**	**209**		**Pn**	**15 47 56.5**	**-0.1**
113A	**Mohawk Valley,**	**1.73**	**107**		**Pn**	**15 47 58.9**	**+0.7**
CHNC	**Chino**	**1.77**	**294**		**Pb**	**15 48 01.0**	**+0.3**
CHNC					**Sb**	**15 48 22.5**	**-0.2**
GSC	**Goldstone, Bar**	**2.19**	**337**	Pn	**Pn**	**15 48 05.3**	**+0.8**
GSC				IAML		15 48 48.4	
	comp=E,103nm,0.9s						
GSC				IAML		15 48 54.5	
	comp=N,76nm,0.8s						
PASC	**Pasadena Art C**	**2.22**	**294**	Pn	**Pn**	**15 48 05.8**	**+1.0**
PASC				IAML		15 48 44.2	
	comp=N,74nm,0.7s						
PASC				IAML		15 48 44.8	
	comp=E,57nm,0.7s						
SFX	**San Felipe**	**2.37**	**161**	Pn	**Pn**	**15 48 08.5**	**+1.7**
W13A	**Hualapai Mount**	**2.37**	**40**		**Pn**	**15 48 08.4**	**+1.3**
Y14A	**Wickenburg**	**2.37**	**73**		**Pn**	**15 48 07.4**	**+0.5**
V12A	**Nelson**	**2.54**	**17**	Pn	**Pn**	**15 48 10.8**	**+1.5**
PIX	**Pinacate**	**2.59**	**131**		**Pn**	**15 48 10.8**	**+1.0**
CCAC	**Calif City Air**	**2.65**	**315**	Pn	**Pn**	**15 48 12.2**	**+1.5**
214A	**Organ Pipe Nat**	**2.81**	**118**	Pn	**Pn**	**15 48 13.0**	**+0.1**
214A				IAML		15 49 00.2	
	comp=N,38nm,1.1s						
214A				IAML		15 49 05.8	
	comp=E,33nm,0.8s						
QSM	**Queen of Sheba**	**2.83**	**341**		**Pn**	**15 48 13.7**	**+0.5**
GWY	**Greenwater Val**	**2.99**	**345**		**Pn**	**15 48 15.9**	**+0.4**
PRN	**Pahroc Range**	**4.14**	**8**	Pn	**Pn**	**15 48 33.0**	**+1.6**
DSP	**Deep Springs**	**4.46**	**336**	Pn	**Pn**	**15 48 36.9**	**+1.3**
MZP	**Montezuma Peak**	**4.60**	**343**	Pn	**Pn**	**15 48 38.6**	**+0.8**
CCUT	**Cedar City**	**4.67**	**24**		**Pn**	**15 48 39.0**	**+0.2**
PKCU	**Pink Cliffs**	**5.00**	**33**	Pn	**Pn**	**15 48 43.6**	**+0.3**
W18A	**Petrified Fore**	**5.30**	**68**	Pn	**Pn**	**15 48 47.4**	**+0.1**
LHV	**Little Huntoon**	**5.44**	**336**	Pn	**Pn**	**15 48 49.7**	**+0.7**
SPR3	**Spring Creek 3**	**5.81**	**11**	Pn	**Pn**	**15 48 55.1**	**+0.7**

*ANF **26** 15:48:38.8±0.4,33.29N×115.72W,h10km,ML2.9/8,Error ellipse: s-maj=3.5km s-min=2.6km az=92.0*
*NEIC **26** 15:48:39.1±1.2,33.30N±0.01×115.736W±0.009, h13km±3km,Error ellipse: s-maj=1.8km s-min=1.0km az=200.0*
*PAS **26** 15:48:40.1±1.6,33.30N±0.01×115.72W±0.01,h2km±6km, ML3.2/145,ML2.9/28(NEIC),Error ellipse: s-maj=1.7km s-min=1.5km az=218.0*

ISC 26 15:48:39.1±1.0,33.29N±0.02×115.72W±0.02,h16km±7km, n69,σ0855/77,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERRC	**Elmore Ranch**	**0.19**	**206**		**Pg**	**15 48 43.9**	**+0.2**
SALN	**Salton City**	**0.22**	**268**		**Pg**	**15 48 44.1**	**-0.1**
WEMD	**Westmorland, C**	**0.28**	**155**		**Pb**	**15 48 45.7**	**0.0**
SWSC	**Sam W. Stewart**	**0.35**	**191**		**Pg**	**15 48 46.2**	**-0.1**
SWSC	**Sam W. Stewart**	**0.35**	**191**	P	**Pg**	**15 48 46.2**	**-0.1**
	baz=11						
CTW	**Cottonwood Mou**	**0.41**	**342**		**Pg**	**15 48 47.1**	**-0.4**
IMPE	**Imperial**	**0.41**	**160**		**Pb**	**15 48 49.2**	**+1.2**
HAY	**Hayfield**	**0.42**	**4**		**Pg**	**15 48 47.6**	**-0.1**
BC3	**Big Chuckawall**	**0.43**	**31**	P	**Pg**	**15 48 47.5**	**-0.4**
	baz=211						
CTCC	**Cactus City**	**0.43**	**329**		**Pg**	**15 48 47.7**	**-0.1**
COK2	**Cook Ranch 2**	**0.44**	**181**		**Pb**	**15 48 48.5**	**0.0**
CRR	**Carrizo Plain**	**0.45**	**207**		**Pg**	**15 48 48.1**	**-0.1**
SLH	**Sleepy Hollow**	**0.46**	**258**		**Pg**	**15 48 48.3**	**0.0**
WESC	**Westside Schoo**	**0.53**	**181**		**Pb**	**15 48 50.1**	**+0.1**
BORC	**Borrego Spring**	**0.58**	**268**		**Pg**	**15 48 50.6**	**0.0**
SGL	**Mount Signal**	**0.64**	**180**		**Pg**	**15 48 50.6**	**-1.0**
PMD	**Palm Desert**	**0.66**	**303**	Pg	**Pg**	**15 48 51.1**	**-0.9**
PMD				IAML		15 49 02.6	
	comp=E,601nm,0.3s						
PMD				IAML		15 49 07.2	
	comp=N,393nm,1.1s						
YUH	**Yuha Desert**	**0.66**	**195**		**Sb**	**15 49 02.7**	**+1.5**
YUH	**Yuha Desert**	**0.66**	**195**	Pg	**Pg**	**15 48 51.3**	**-0.8**
YUH	**Yuha Desert**	**0.66**	**195**	IAML		15 49 09.2	
	comp=N,210nm,0.6s						
YUH				IAML		15 49 10.0	
	comp=E,243nm,1.2s						
TPFO	**Pinon Flats**	**0.69**	**298**	P	**Pg**	**15 48 52.3**	**-0.4**
	baz=116						
TPFO				S	**Sb**	**15 49 02.4**	**+0.2**
	baz=116						
XPFO	**Pion Flat**	**0.69**	**298**		**Pg**	**15 48 52.2**	**-0.6**
PFO	**Pinyon Flats O**	**0.70**	**298**		**Pg**	**15 48 52.1**	**-0.7**
PFO	**Pinyon Flats O**	**0.70**	**298**	Pg	**Pg**	**15 48 52.1**	**-0.7**
PFO				IAML		15 49 03.9	
	comp=E,547nm,0.4s						
PFO				IAML		15 49 04.2	
	comp=E,529nm,0.3s						
PFO	**Pinyon Flats O**	**0.70**	**298**	P	**Pg**	**15 48 52.3**	**-0.5**
	baz=117						
PFO				S	**Sb**	**15 49 02.6**	**+0.2**
	baz=117						
RUN	**Ruthven**	**0.70**	**116**		**Pg**	**15 48 52.4**	**-0.4**
MONP2	**Monument Peak**	**0.71**	**236**		**Pg**	**15 48 52.8**	**-0.2**
MONP2	**Monument Peak**	**0.71**	**236**	S	**Sb**	**15 49 04.1**	**+1.3**
	baz=56						
IKP	**In-Ko-Pah, Jac**	**0.71**	**207**		**Pg**	**15 48 52.5**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.71**	**207**	P	**Pg**	**15 48 52.6**	**-0.6**
	baz=27						
RMX	**La Rumorosa**	**0.75**	**204**		**Pg**	**15 48 53.5**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.75**	**342**		**Pg**	**15 48 53.5**	**-0.3**
BELC	**Belle Mtn. Jos**	**0.75**	**342**	S	**Sb**	**15 49 03.8**	**-0.1**
	baz=161						
JUEM	**Julian Eagle M**	**0.76**	**255**		**Pg**	**15 48 53.7**	**-0.3**
FRD	**Ford Ranch, An**	**0.76**	**286**		**Pg**	**15 48 53.8**	**-0.3**
FRD					**Sb**	**15 49 05.5**	**+1.2**
FRD	**Ford Ranch, An**	**0.76**	**286**		**Pg**	**15 48 53.7**	**-0.4**
MATG	**Mataguay Scout**	**0.78**	**264**		**Pg**	**15 48 54.0**	**-0.3**
GLA	**Glamis**	**0.79**	**107**		**Pg**	**15 48 54.2**	**-0.3**
GLA	**Glamis**	**0.79**	**107**	Pg	**Pg**	**15 48 53.7**	**-0.8**
SNDA	**J Saunders Pla**	**0.79**	**290**		**Pg**	**15 48 54.3**	**-0.3**
DNR	**Dunn Ranch,Anz**	**0.81**	**290**		**Pg**	**15 48 54.6**	**-0.3**
BZNA	**Buzz No.'s Pla**	**0.82**	**285**		**Pg**	**15 48 54.8**	**-0.3**
EW2	**E Wide Canyon**	**0.87**	**319**		**Pg**	**15 48 55.3**	**-0.7**
CRY	**Cary Ranch**	**0.89**	**288**		**Pg**	**15 48 55.9**	**-0.6**
PLM	**Palomar**	**0.96**	**274**		**Pn**	**15 48 58.5**	**+0.4**
BLAC	**Blackrock camp**	**0.96**	**325**		**Pg**	**15 48 57.0**	**-0.8**
BAR	**Barrett**	**1.00**	**233**	Pg	**Pb**	**15 48 57.5**	**-0.7**
BAR				IAML		15 49 18.8	
	comp=N,342nm,0.5s						
BAR				IAML		15 49 20.6	
	comp=E,206nm,0.6s						
TKX	**Tecate**	**1.03**	**226**	Pg	**Pb**	**15 48 58.4**	**-0.3**
TKX				IAML		15 49 13.3	
	comp=E,423nm,0.3s						
TKX				IAML		15 49 13.4	
	comp=N,313nm,0.3s						
DPP	**Dos Picos Cty**	**1.06**	**255**		**Pb**	**15 48 58.9**	**-0.3**
DPP					**Sg**	**15 49 13.6**	**0.0**
POB	**Polly Butte**	**1.08**	**292**		**Pn**	**15 49 00.1**	**+0.4**
POB					**Sn**	**15 49 14.6**	**+0.2**
BLYC	**Blythe**	**1.10**	**65**	Pg	**Pb**	**15 48 59.8**	**0.0**
BLYC				IAML		15 49 16.5	
	comp=N,471nm,0.8s						
DUZA	**Dulzura**	**1.11**	**233**		**Pb**	**15 48 60.0**	**-0.1**
DUZA					**Sn**	**15 49 15.4**	**+0.2**
DGR	**Domenigoni Val**	**1.14**	**289**		**Pn**	**15 49 00.5**	**+0.1**
DGR					**Sn**	**15 49 16.3**	**+0.6**
BACC	**Bachelor Mtn.**	**1.15**	**287**		**Sn**	**15 49 17.0**	**+1.0**
HMTC	**Hemet**	**1.15**	**292**		**Pb**	**15 49 00.6**	**-0.1**
HMTC					**Sg**	**15 49 16.0**	**-0.4**
109C	**Camp Elliot, M**	**1.23**	**251**		**Pn**	**15 49 01.2**	**-0.5**
109C	**Camp Elliot, M**	**1.23**	**251**	P	**Pn**	**15 49 01.4**	**-0.2**
	baz=70						
109C				S	**Sb**	**15 49 17.6**	**+0.1**
	baz=70						
CPE	**Camp Elliot**	**1.23**	**251**		**Pn**	**15 49 01.4**	**-0.2**
CPE					**Sn**	**15 49 18.0**	**+0.1**
CBX	**Cerro Bola**	**1.25**	**219**	Pg	**Pn**	**15 49 01.0**	**-1.2**
CBX				IAML		15 49 20.6	
	comp=E,244nm,0.5s						
CBX				IAML		15 49 28.4	
	comp=N,195nm,0.7s						
GORC	**Green Oak Ranc**	**1.27**	**264**		**Sb**	**15 49 18.8**	**0.0**
ESJX	**Sierra Juarez**	**1.29**	**189**		**Pn**	**15 49 01.9**	**-0.8**
TJX	**Tijuana**	**1.36**	**236**	Pn	**Pb**	**15 49 04.6**	**+0.4**
ELS	**Elsinore Mount**	**1.47**	**285**		**Sg**	**15 49 26.1**	**-0.5**
ELS	**Elsinore Mount**	**1.47**	**285**	Pn	**Pn**	**15 49 04.9**	**-0.2**
ELS	**Elsinore Mount**	**1.47**	**285**	IAML		15 49 27.2	
	comp=E,124nm,0.9s						
ELS				IAML		15 49 34.2	
	comp=N,119nm,1.4s						
CSP	**Cedar Springs**	**1.69**	**307**		**Pn**	**15 49 08.9**	**+0.7**
BREC	**Barre Substati**	**1.96**	**286**		**Pn**	**15 49 10.9**	**-0.7**
MTPC	**Mountain Pass**	**2.20**	**4**		**Pb**	**15 49 18.8**	**+0.2**
JRC2	**Joshua Ridge**	**3.19**	**328**		**Pn**	**15 49 29.3**	**+0.5**

*BJI **26** 15:48:50.9±0.0,30.08N×99.62E,h13km,mb4.5/38, mB4.9/27,ML4.3/16,Ms4.5/37,Ms7 4.2/35*
*MOS **26** 15:48:53.3±0.9,30.10N×99.55E,h36km,mb4.8/37,Error ellipse: s-maj=7.3km s-min=3.8km az=127.0*
*NEIC **26** 15:48:53.9±1.9,30.17N±0.08×99.61E±0.08,h23km±5km, mb4.9/73,ML4.2(BJI),Error ellipse: s-maj=11.4km s-min=9.8km az=178.0*
*IDC **26** 15:48:54.5±3.0,30.10N×99.64E,h32km±22km,mb4.3/32, mbtmp4.4/34,ML3.9/2,MS3.7/57,Error ellipse: s-maj=15.7km s-min=10.4km az=43.0*

ISC 26 15:48:52.6±0.3,30.12N±0.03×99.56E±0.03,h18km,n367, σ1958/362,mb4.7/115,MS3.7/62,25C-30D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**3.71**	**77**	Pn	**Pn**	**15 49 51.8**	**+2.7**
CD2				Pg	**Pb**	**15 49 58.3**	**+0.7**
CD2				Sn	**Sn**	**15 50 32.5**	**+0.2**
CD2				Sg	**Sg**	**15 50 48.5**	**-3.3**
CD2				smax	smax		
	comp=N,740nm,0.8s						
CD2				smax	smax		
	comp=E,1μm,0.9s						
PZH	**PanZhiHua**	**4.08**	**151**	Pn	**Pn**	**15 49 55.5**	**+1.2**
PZH				Sn	**Sn**	**15 50 46.0**	**+4.3**
PZH				Sg	**Sg**	**15 51 05.5**	**+1.7**
PZH				smax	smax		
	comp=N,240nm,1.3s						
PZH				smax	smax		
	comp=E,170nm,1.2s						
PZH				LR	LR		
	comp=N,4μm,5.5s						
PZH				LR	LR		
	comp=E,4μm,5.6s						
PZH				LR	LR		
	comp=Z,4μm,5.6s						
LKP	**Lekhapani**	**4.28**	**230**	*eP*	**Pn**	**15 49 59.3**	**+2.4**
LKP				IAML		15 51 13.8	
	comp=N,2μm,0.7s						
LKP				IAML		15 51 16.5	
	comp=E,2μm,0.7s						
DIBR	**DIBRUGARH**	**4.86**	**238**	IAML		15 51 25.2	
	comp=N,3μm,1.2s						
ZIRO	**ZIRO**	**5.63**	**244**	*eP*	**Pn**	**15 50 17.1**	**+1.4**
KMI	**Kunming**	**5.72**	**150**	⇑Pn	**Pn**	**15 50 17.5**	**+0.6**
KMI				Sn	**Sn**	**15 51 24.0**	**+1.8**
KMI				smax	smax		
	comp=N,130nm,1.2s						
KMI				smax	smax		
	comp=N,80nm,1.6s						
KMI				LR	LR		
	comp=N,4μm,7.2s						
KMI				LR	LR		
	comp=N,1μm,6.2s						
KMI				LR	LR		
	comp=N,4μm,8.7s						
JORH	**JORHAT**	**5.76**	**236**	IAML		15 51 54.8	
	comp=N,10μm,0.7s						
JORH				IAML		15 51 55.6	
	comp=E,12μm,0.6s						
MOKO	**MOKOCHONG**	**5.84**	**231**	*eP*	**Pn**	**15 50 20.8**	**+2.3**
MOKO				*eS*	**Sn**	**15 51 29.2**	**+4.2**
MOKO				IAML		15 51 30.5	
	comp=E,430nm,0.6s						
MOKO				IAML		15 51 31.0	
	comp=N,449nm,1.1s						
ITAN	**ITANAGAR**	**5.92**	**241**	*eP*	**Pn**	**15 50 21.6**	**+2.2**
ITAN				*eS*	**Sn**	**15 51 28.2**	**+1.3**
ITAN				IAML		15 51 33.7	
	comp=E,368nm,0.8s						
ITAN				IAML		15 51 34.3	
	comp=N,482nm,0.8s						
KOHI	**KOHIMA**	**6.51**	**229**	*eP*	**Pn**	**15 50 29.4**	**+1.7**
KOHI				*eS*	**Sn**	**15 51 44.7**	**+3.0**
KOHI				IAML		15 51 52.4	
	comp=E,496nm,0.8s						
TEZP	**TEZPUR**	**6.90**	**241**	*eP*	**Pn**	**15 50 33.2**	**+0.3**
TEZP				*eS*	**Sn**	**15 51 51.3**	**+0.4**
TEZP				IAML		15 51 56.8	
	comp=E,93nm,0.5s						
LZH	**Lanzhou**	**6.95**	**30**	*eP*n	Pb	15 50 43.3	-10
LZH				Pg	**Pg**	**15 51 03.5**	**-2.2**
LZH				Sg	**Sg**	**15 52 39.3**	**+3.6**
LZH				smax	smax		
	comp=N,110nm,1.4s						
LZH				smax	smax		
	comp=E,100nm,1.5s						
LZH				LR	LR		
	comp=N,3μm,6.1s						
LZH				LR	LR		
	comp=E,5μm,7.7s						
LZH				LR	LR		
	comp=Z,1μm,8.7s						
GYA	**

comp=Z,340nm,8.4s
GTA LR LR
comp=Z,1μm,7.3s
GTA LR LR
comp=Z,710nm,9.1s
DHUB DHUBRI 9.38 247 *e*P **Pn** **15 51 07.5 +0.6**
DHUB *e*S **Sn** **15 52 49.0 -2.9**
AGT Agartala 9.66 232 *e*P **Pn** **15 51 11.3 +0.5**
AGT *e*S **Sn** **15 52 57.2 -1.7**
CRAI Chiangrai 9.88 176 Pn **Pn** **15 51 14.9 +1.2**
GTK Tadong 10.02 257 *e*P **Pn** **15 51 16.2 +0.5**
CHTO Chiang Mai 11.27 183 **Pn** **15 51 35.1 +2.3**
CHTO Chiang Mai 11.27 183 P **Pn** **15 51 35.1 +2.3**
CM31 Chiang Mai Arr 11.62 183 Pn **Pn** **15 51 40.1 +2.5**
CMAR Chiang Mai Arr 11.62 183 Pn **Pn** **15 51 40.1 +2.5**
comp=Z,0.4nm,0.3s,baz=358,slow=11,SNR=24
CMAR Pg 15 52 26.6
comp=Z,0.4nm,0.3s,baz=352,slow=16,SNR=5.1
CMAR Lg Lg 15 55 01.8
comp=Z,0.3nm,0.3s,baz=357,slow=30,SNR=5.4
CMAR LR LR 15 56 15.5
comp=Z,306nm,21.1s,baz=350,slow=38
comp=Z,3.6nm,0.9s
LYN LuoYang 11.78 65 *e*P **Pn** **15 51 37.5 -2.2**
LYN pmax pmax
comp=Z,10.0nm,0.9s
LYN pmax pmax
comp=Z,380nm,6.6s
CNSH ChangSha 11.85 96 ⇑P **Pn** **15 51 37.8 -2.9**
CNSH S **Sn** **15 53 48.5 -4.0**
GUN Gumba 12.17 263 *e*P **Pn** **15 51 44.9 -0.6**
comp=Z,74nm,0.6s
PKI Pulchoki 12.66 262 *e*P **Pn** **15 51 50.3 -1.8**
comp=Z,70nm,0.5s
PKIN Phulchoki 12.67 262 *e*P **Pn** **15 51 50.3 -1.9**
comp=Z,79nm,0.5s
KKN Kakani 12.72 263 *e*P **Pn** **15 51 51.8 -1.0**
comp=Z,4.8nm,0.4s
WHN Wuhan 12.79 84 ⇑P **Pn** **15 51 54.3 +0.8**
DMN Daman 12.91 262 *e*P **Pn** **15 51 54.4 -1.1**
comp=Z,63nm,0.6s
GKN Gorkha 13.22 265 *e*P **Pn** **15 51 56.8 -2.8**
comp=Z,42nm,0.6s
BOK Bokaro 13.72 246 *e*P **Pn** **15 52 04.7 -1.6**
BOK IAmb IAmb 15 52 05.6
comp=Z,24nm,0.9s
DANN Dangsing 13.91 267 *e*P **Pn** **15 52 05.4 -3.7**
comp=Z,107nm,0.8s
KOLN Koldanda 14.17 264 *e*P **Pn** **15 52 09.2 -3.4**
comp=Z,6.6nm,0.7s
QIZ Qiongzhong 14.46 137 P **Pn** **15 52 17.0 +0.5**
QIZ S **Sn** **15 54 58.3 +1.9**
QIZ LR LR
comp=Z,1μm,9.9s
QIZ LR LR
comp=Z,1μm,9.9s
QIZ LR LR
comp=Z,1μm,10.7s
HHC Hu-ho-hao-te 14.48 39 *e*P **Pn** **15 52 17.5 +0.7**
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,530nm,6.8s
HHC LR LR
comp=Z,2μm,7.9s
HHC LR LR
comp=Z,2μm,7.6s
HHC LR LR
comp=Z,1μm,8.3s
PYUN Piuthan 14.62 266 *e*P **Pn** **15 52 14.9 -4.0**
comp=Z,66nm,0.7s
UBPT Khong Chiam 15.74 159 **P** **15 52 37.3 0.0**
WMQ Urumqi 16.61 329 *e*P **P**
WMQ pP pP 15 52 50.0 -3.3
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,190nm,3.9s
WMQ LR LR
comp=Z,450nm,12.5s
WMQ LR LR
comp=Z,520nm,14.3s
WMQ LR LR
comp=Z,310nm,15.5s
NJ2 Nanjing 16.64 78 *e*P **Pn** **15 52 43.5 -1.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
SONM Songino Array 18.46 15 P **Pn** **15 53 07.5 0.0**
comp=Z,0.2nm,0.3s,baz=200,slow=10,SNR=20
SONM LR LR 16 00 35.3
comp=Z,183nm,19.5s,baz=196,slow=38
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 18.64 16 P **P** **15 53 09.2 -0.2**
ULN Ulaanbaatar 18.64 16⇑ *e*P **P** **15 53 09.5 +0.1**
ULN pmax pmax
comp=Z,8.0nm,1.0s
XLT XiLinHaoTe 19.01 39⇓ *i*P **Pn** **15 53 16.0 +1.8**
XLT pP pP 15 53 20.0 +0.1
XLT sP sP 15 53 24.5 +1.6
XLT PP **PnPn** **15 53 33.8 +7.0**
XLT S **S** **15 56 49.3 +0.7**
XLT pmax pmax
comp=Z,8.0nm,1.3s
XLT pmax pmax
comp=Z,350nm,5.1s
XLT LR LR
comp=Z,140nm,9.5s
XLT LR LR
comp=Z,860nm,9.3s
XLT LR LR
comp=Z,820nm,9.5s
SMLA Simla 19.30 279 *e*P **P** **15 53 15.3 -1.2**
SMLA IAmb IAmb 15 53 16.9
comp=Z,42nm,0.8s
YHNB Yeheng 20.11 100 P Pn 15 53 26.2 -1.2
YHNB IAmb IAmb 15 53 28.9
comp=Z,35nm,0.8s
ZAK Zakamensk 20.43 7 *e*P **P** **15 53 29.1 +0.2**
ZAK pmax pmax
comp=Z,11nm,1.1s
SHLS Shalkode 20.66 315 *e*P **P** **15 53 28.7 -2.7**
SHLS Shalkode 20.66 315 *e*P **P** **15 53 28.8 -2.7**
baz=315
ZSN Zaisan 20.69 331 *e*P **P** **15 53 32.5 +0.9**
ZSN Zaisan 20.69 331 *e*P **P** **15 53 32.5 +0.9**
baz=331
PDGK Podgornoye 20.73 315 P **P** **15 53 32.3 +0.1**
BHPL Bhopal 20.91 256 *e*P **P** **15 53 32.2 -2.0**
BHPL IAmb IAmb 15 53 35.5
comp=Z,43nm,0.6s
UZB Uzynbulak 20.92 314 *e*P **P** **15 53 34.6 +0.3**
UZB Uzynbulak 20.92 314 *e*P **P** **15 53 34.6 +0.3**
baz=314
SATY Saty 21.26 313 *e*P **P** **15 53 38.3 +0.3**
SATY Saty 21.26 313 *e*P **P** **15 53 38.4 +0.3**
baz=313
KPKS Kokpek 21.30 314 *e*P **P** **15 53 38.5 +0.2**
KPKS pmax pmax
comp=Z,17nm,0.6s
KPKS Kokpek 21.30 314 *e*P **P** **15 53 38.5 +0.2**
comp=Z,17nm,0.6s,baz=314
ZHN Zhinishke 21.30 313 *e*P **P** **15 53 38.0 -0.4**
ZHN Zhinishke 21.30 313 *e*P **P** **15 53 38.1 -0.4**
baz=313
MK31 Makanchi Array 21.37 326 P **P** **15 53 38.8 -0.1**
MK31 Makanchi Array 21.37 326*ce*P **P** **15 53 39.4 +0.4**
MKAR Makanchi Array 21.37 326 P **P** **15 53 39.5 +0.5**
comp=Z,7.3nm,0.7s,baz=138,slow=13,SNR=33
MKAR ScP **ScP** **16 01 17.8 -0.8**
comp=Z,0.3nm,0.7s,baz=90,slow=4.3,SNR=3.2
MKAR LR LR 16 02 43.0
comp=Z,182nm,19.0s,baz=142,slow=39
comp=Z,7.3nm,0.7s
MKAR Makanchi Array 21.37 326 P **P** **15 53 38.8 -0.1**
KSH Kashi 21.46 302 P **P** **15 53 42.8 +2.6**
KSH pP pP 15 53 46.5 -0.1
KSH pmax pmax
comp=Z,11nm,0.8s
KSH LR LR
comp=Z,370nm,13.1s
KSH LR LR
comp=Z,490nm,11.7s
KSH LR LR
comp=Z,680nm,16.5s
MAKZ Makanchi 21.53 326 P **P** **15 53 40.9 +0.2**
MAKZ Makanchi 21.53 326 P **P** **15 53 40.9 +0.2**
MAKZ pmax pmax
comp=Z,23nm,1.3s
MOY Mondy 21.55 2 *e*P **P** **15 53 45.2 +4.2**
MOY pmax pmax
comp=Z,30nm,2.3s
DGZ Jazzator, Alta 21.60 338⇓ *e*P **P** **15 53 42.4 +0.8**
DGZ pmax pmax
comp=Z,21nm,1.2s
NRN Naryn 22.13 307 P **P** **15 53 48.5 +1.0**
NRN IAmb IAmb 15 53 51.5
comp=Z,24nm,0.8s
NRN Naryn 22.13 307 P **P** **15 53 48.5 +1.0**
NRN pmax pmax
comp=Z,24nm,0.8s
MDOK Medeo 22.18 312 P **P** **15 53 48.2 +0.3**
MDOK Medeo 22.18 312 *e*P **P** **15 53 48.0 +0.2**
baz=312
TNSS Tian-Shan 22.19 312 *e*P **P** **15 53 47.4 -0.8**
TNSS Tian-Shan 22.19 312 *e*P **P** **15 53 47.4 -0.8**
baz=312
AAA Alma-Ata 22.29 312 *e*P **P** **15 53 49.6 +0.7**
AAA Alma-Ata 22.29 312 *e*P **P** **15 53 49.6 +0.7**
baz=312
TDK Taldyqorghan 22.31 318 *e*P **P** **15 53 48.9 -0.2**
TDK pmax pmax
comp=Z,29nm,1.1s
TDK Taldyqorghan 22.31 318 *e*P **P** **15 53 49.0 -0.2**
comp=Z,29nm,1.1s,baz=318
CHKK Chushkaly 22.56 314 *e*P **P** **15 53 51.2 -0.5**
CHKK Chushkaly 22.56 314 *e*P **P** **15 53 51.2 -0.5**
baz=314
SNY Shenyang 22.60 52 ⇑P **P** **15 53 54.0 +1.8**
SNY pmax pmax
comp=Z,64nm,0.6s
SNY pmax pmax
comp=Z,200nm,3.5s
SNY LR LR
comp=Z,470nm,6.8s
SNY LR LR
comp=Z,600nm,5.0s
SNY LR LR
comp=Z,640nm,6.9s
HYB Hyderabad 22.96 241 *e*P **P** **15 53 55.9 -0.3**
HYBB Hyderabad (bro 22.96 241 *e*P **P** **15 53 56.8 +0.7**
KUU Kurty 22.98 313 *e*P **P** **15 53 56.8 +0.6**
KUU Kurty 22.98 313 *e*P **P** **15 53 56.9 +0.6**
baz=313
TKM2 Tokmak 2 23.02 310 *i* P **P** **15 53 58.8 +2.0**
TKM2 pmax pmax
comp=Z,11nm,1.2s
KBK Karagaybulak 23.34 309 P **P** **15 54 02.1 +2.1**
SNR=14
UCH Uchtor 23.46 308 P **P** **15 54 00.4 -1.1**
SNR=6.8
INCN Inchon 23.61 65 P **P** **15 54 04.0 +1.4**
INCN IAmb IAmb 15 54 05.4
comp=Z,22nm,0.8s
INCN Inchon 23.61 65 P **P** **15 54 04.0 +1.4**
INCN pmax pmax
comp=Z,22nm,0.8s
AAK Ala-Archa 23.64 309 P **P** **15 54 04.6 +1.7**
SNR=12
AAK Ala-Archa 23.64 309 P **P** **15 54 04.3 +1.4**
comp=Z,15nm,0.8s,baz=124,slow=5.2,SNR=35
AAK LR LR 16 04 52.8
comp=Z,217nm,19.6s,baz=122,slow=40
comp=Z,15nm,0.8s
AAK Ala-Archa 23.64 309 P **P** **15 54 03.9 +1.0**
AAK IAmb IAmb 15 54 06.0
comp=Z,17nm,0.8s
SGDS Sogindy 23.88 311 *e*P **P** **15 54 05.6 +0.4**
SGDS Sogindy 23.88 311 *e*P **P** **15 54 05.6 +0.4**
baz=311
USP Ospenovka 23.89 310 P **P** **15 54 06.4 +1.2**
SNR=13
AML Almayashu 23.99 307 P **P** **15 54 08.5 +1.9**
SNR=12
TJN Taejon 24.03 68 P **P** **15 54 07.6 +1.1**
TJN Taejon 24.03 68 P **P** **15 54 07.6 +1.1**
TJN pmax pmax
comp=Z,112nm,1.1s
EKS2 Erkin-Say 24.13 308 P **P** **15 54 09.7 +2.1**
SNR=12
HIA Hailar 24.50 33 P **P** **15 54 09.6 -1.2**
HIA Hailar 24.50 33 P **P** **15 54 09.6 -1.2**
HIA pmax pmax
comp=Z,10.0nm,0.7s
DRK Karamyk 24.55 300 P **P** **15 54 11.8 +0.1**
DRK IAmb IAmb 15 54 21.4
comp=Z,15nm,0.7s
KS19 Wonju Array Si 24.59 65 P **P** **15 54 11.5 -0.2**
KS19 IAmb IAmb 15 54 15.1
comp=Z,24nm,0.7s
KSAR Wonju Array Be 24.59 65 P **P** **15 54 11.2 -0.4**
KSAR Wonju Array Be 24.59 65 P **P** **15 54 11.2 -0.4**
KSRS Korea Array 24.62 65 P **P** **15 54 11.7 -0.3**
comp=Z,22nm,0.7s,baz=258,slow=9.9,SNR=82
KSRS LR LR 16 04 00.5
comp=Z,59nm,21.8s,baz=270,slow=37
comp=Z,22nm,0.7s
CN2 Changchun 24.66 49 P **P** **15 54 13.5 +1.2**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 LR LR
comp=Z,400nm,10.0s
CN2 LR LR
comp=Z,400nm,10.0s
CN2 LR LR
comp=Z,500nm,12.0s
BTLS Baital 24.97 314 *e*P **P** **15 54 15.0 0.0**
BTLS Baital 24.97 314 *e*P **P** **15 54 15.1 0.0**
baz=314
BTK Batken 25.43 301 P **P** **15 54 19.7 +0.4**
BTK IAmb IAmb 15 54 40.2
comp=Z,16nm,0.8s
BTK Batken 25.43 301 P **P** **15 54 19.7 +0.4**
BTK pmax pmax
comp=Z,15nm,0.9s
IPM Ipoh 25.54 177 P **P** **15 54 22.4 +2.0**
GAR Garm 25.57 298 P **P** **15 54 20.9 +0.2**
GAR IAmb IAmb 15 54 24.9
comp=Z,20nm,0.7s
KURBB Kurchatov Arra 25.84 328 P **P** **15 54 23.1 +0.2**
comp=Z,6.4nm,0.8s,baz=140,slow=9.4,SNR=63
KURBB LR LR 16 05 24.2
comp=Z,260nm,20.3s,baz=114,slow=38
comp=Z,6.4nm,0.8s
KURK Kurchatov 25.86 329 P **P** **15 54 23.1 +0.1**
KURK IAmb IAmb 15 54 35.4
comp=Z,17nm,0.8s
KURK Kurchatov 25.86 329 P **P** **15 54 23.1 +0.1**
DZA Taraz 25.89 307 *e*P **P** **15 54 23.9 +0.5**
DZA Taraz 25.89 307 *e*P **P** **15 54 24.0 +0.5**
baz=307
ZAA0 Zalesovo Array 26.10 340 P **P** **15 54 24.7 -0.5**
ZAA0 IAmb IAmb 15 54 29.3
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 26.10 340 P **P** **15 54 25.1 0.0**
comp=Z,16nm,0.7s,baz=148,slow=9.9,SNR=43
ZALV LR LR 16 05 20.5
comp=Z,140nm,19.7s,baz=192,slow=38
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 26.10 340 P **P** **15 54 24.7 -0.4**
KBL Kabul 26.11 288 P **P** **15 54 24.8 -0.9**
KBL Kabul 26.11 288 P **P** **15 54 24.8 -0.9**
KBL pmax pmax
comp=Z,12nm,0.8s
CHGR Chuyangaron 26.40 297 P **P** **15 54 28.2 0.0**
CHGR IAmb IAmb 15 54 35.9
comp=Z,31nm,0.8s
CHGR Chuyangaron 26.40 297 P **P** **15 54 28.2 0.0**
CHGR pmax pmax
comp=Z,31nm,0.8s
KK31 Karatay Array 26.53 307 P **P** **15 54 28.9 -0.3**
KK31 IAmb IAmb 15 54 34.1
comp=Z,25nm,1.1s
KK31 Karatay Array 26.53 307 P **P** **15 54 29.2 0.0**
KKAR Karatay Array 26.53 307 P **P** **15 54 29.4 +0.2**
KKAR Karatay Array 26.53 307 P **P** **15 54 29.4 +0.2**
KKAR IAmb IAmb 15 54 34.1
comp=Z,25nm,1.1s
KKAR Karatay Array 26.53 307 P **P** **15 54 29.4 +0.2**
IUG luzhnay 26.56 305 *e*P **P** **15 54 30.0 +0.4**
IUG luzhnay 26.56 305 *e*P **P** **15 54 30.0 +0.4**
baz=305
BNX BinXian 26.76 47 ⇓P **P** **15 54 33.0 +1.8**
BNX pmax pmax
comp=Z,10.0nm,0.8s
BNX pmax pmax
comp=Z,180nm,6.2s
OTUK Ortayu 27.58 319 P **P** **15 54 38.3 -0.3**
BRZS Berezniki 28.33 322 *e*P **P** **15 54 46.0 +0.7**
BRZS Berezniki 28.33 322 *e*P **P** **15 54 46.0 +0.7**
baz=322
PALK Pallekele 28.81 222 LR LR 16 08 42.8
comp=Z,74nm,19.8s,baz=141,slow=41
MYLDM Lahad Datu 30.57 141 P **P** **15 55 06.2 +0.8**
MYLDM IAmb IAmb 15 55 29.6
comp=Z,22nm,1.0s
KLR Kul'dur 30.94 43 P **P** **15 55 08.9 +0.6**
comp=Z,1.4nm,0.7s,baz=253,slow=10,SNR=4.3
KLR LR LR 16 08 04.1
comp=Z,139nm,20.9s,baz=240,slow=37
comp=Z,1.4nm,0.7s
KLR Kul'dur 30.94 43 P **P** **15 55 09.0 +0.6**
BVA0 Borovoye Array 31.25 325 *i* P **P** **15 55 11.0 -0.1**
BVAR Borovoye Array 31.25 325 P **P** **15 55 11.4 +0.3**
comp=Z,1.6nm,0.6s,baz=106,slow=11,SNR=13
BVAR PcP **PcP** **15 58 04.6 -0.6**
comp=Z,1.1nm,0.6s,baz=166,slow=2.6,SNR=5.7
BVAR LR LR 16 08 48.0
comp=Z,285nm,20.0s,baz=121,slow=38
comp=Z,1.6nm,0.6s
BRVK Borovoye 31.32 325 P **P** **15 55 11.7 +0.1**
BRVK Borovoye 31.32 325*d* *i*P **P** **15 55 11.8 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
MJAR Matsushiro Arr 32.76 68 P **P** **15 55 24.5 -0.1**
comp=Z,1.3nm,0.8s,baz=279,slow=10,SNR=4.3
comp=Z,1.3nm,0.8s
DAV Davao City (W) 33.51 128 LR LR 16 09 58.3
comp=Z,228nm,18.4s,baz=10.0,slow=38
JHJ Hachijo jima 2 34.24 74 LR LR 16 11 22.8
comp=Z,127nm,18.9s,baz=73,slow=39
GEYT Alibeck 34.99 294 P **P** **15 55 45.5 +1.6**
comp=Z,23nm,0.7s,baz=111,slow=7.0,SNR=51
GEYT LR LR 16 12 16.1
comp=Z,176nm,19.4s,baz=104,slow=40
comp=Z,23nm,0.7s
GEYT Alibeck 34.99 294 P **P** **15 55 45.6 +1.6**
GYA0 ALIBECK ARRAY 34.99 294 P **P** **15 55 44.9 +0.9**
GYA0B ALIBECK ARRAY 34.99 294 P **P** **15 55 45.5 +1.5**
AB31 Akbulak array 35.46 314 *i* P **P** **15 55 48.5 +0.7**
ABKAR Akbulak array 35.46 314 P **P** **15 55 48.2 +0.4**
ABKAR Akbulak array 35.46 314 P **P** **15 55 48.6 +0.8**
AKTO Aktyubinsk 37.01 315 P **P** **15 56 01.9 +1.0**
comp=Z,4.7nm,0.7s,baz=107,slow=8.3,SNR=14
AKTO LR LR 16 12 42.1
comp=Z,107nm,18.3s,baz=117,slow=38
comp=Z,4.7nm,0.7s
AKTO Aktyubinsk 37.01 315 P **P** **15 56 02.0 +1.0**
YSS Yuzh-Sakhalins 37.21 51⇑ *i*P **P** **15 56 06.3 +3.5**
YSS pmax pmax
comp=Z,16nm,1.3s
APSI Ampana 37.36 142 P **P** **15 56 03.4 -0.9**
comp=Z,8.5nm,1.0s
KMSI Cibinong 37.45 137 P **P** **15 56 04.0 -1.1**
comp=Z,55nm,0.8s
YAK Yakutsk 37.47 23 LR LR 16 10 55.3
comp=Z,71nm,18.0s,baz=268,slow=35
YAK Yakutsk 37.47 23⇑ *e*P **P** **15 56 06.0 +1.2**
YAK pmax pmax
comp=Z,8.0nm,1.3s
LEM Lembang 37.54 167 LR LR 16 12 10.8
comp=Z,120nm,18.6s,baz=324,slow=37
TTSI Tana Toraja 38.25 146 P **P** **15 56 10.4 -1.4**
comp=Z,20nm,1.0s
ARU Arti 38.88 325 P **P** **15 56 16.9 +0.1**
comp=Z,8.5nm,0.6s,baz=124,slow=2.0,SNR=16
ARU LR LR 16 13 39.3
comp=Z,158nm,21.2s,baz=113,slow=38
comp=Z,8.5nm,0.6s
ARU Arti 38.88 325 P **P** **15 56 16.8 +0.1**
ARU IAmb IAmb 15 56 21.3
comp=Z,12nm,0.7s
ARU Arti 38.88 325*de*P **P** **15 56 17.0 +0.3**
ARU pmax pmax
comp=Z,14nm,0.8s
SPSI Sidrap Palu 39.02 147 P **P** **15 56 17.6 -0.7**
comp=Z,16nm,1.0s
NRIK Noril'sk 39.87 353 P **P** **15 56 23.4 -1.3**
comp=Z,2.8nm,0.7s,baz=158,slow=7.6,SNR=4.1
NRIK LR LR 16 13 35.1
comp=Z,151nm,20.6s,baz=158,slow=37
comp=Z,2.8nm,0.7s
NRIK Noril'sk 39.87 353⇓ *e*P **P** **15 56 24.0 -0.8**
NRIK pmax pmax
comp=Z,11nm,1.6s
KAPI Kappang 39.94 148 LR LR 16 14 48.4
comp=Z,65nm,18.3s,baz=310,slow=39
SIJI Sorong 43.16 130 LR LR 16 15 35.6
comp=Z,53nm,18.6s,baz=10,slow=37
BELG Belogornoye 43.79 316 P **P** **15 56 57.6 +0.5**
comp=Z,47nm,0.9s,baz=138,slow=7.0,SNR=13
comp=Z,47nm,0.9s
BELG Belogornoye 43.79 316*d* *i*P **P** **15 56 57.1 +0.1**
BELG pmax pmax
comp=Z,9.0nm,1.0s
KIRV Kirov 44.26 325⇓ *e*P **P** **15 56 59.8 -0.9**
GUMO Guam 44.84 101 LR LR 16 16 36.9
comp=Z,44nm,18.8s,baz=288,slow=37
MA2 Magadan 45.09 34 LR LR 16 16 55.7
comp=Z,85nm,21.1s,baz=254,slow=37
GNI Garni 45.30 298 P **P** **15 57 11.2 +1.6**
comp=Z,11nm,0.8s,baz=144,slow=6.7,SNR=4.1
GNI LR LR 16 20 49.7
comp=Z,39nm,20.4s,baz=107,slow=42
comp=Z,11nm,0.8s
GNI Garni 45.30 298 P **P** **15 57 10.5 +0.9**
GUDG Gudauri 45.34 301 P **P** **15 57 10.4 +0.4**
GUDG Gudauri 45.34 301 P **P** **15 57 10.4 +0.4**
ZEI Tsey 45.75 302 *e*P **P** **15 57 13.9 +0.7**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
ONI Oni 46.09 302 P **P** **15 57 17.3 +1.6**
ONI IAmb IAmb 15 57 21.9
comp=Z,14nm,0.8s
ONI Oni 46.09 302 P **P** **15 57 17.3 +1.6**
ONI pmax pmax
comp=Z,14nm,0.8s
BATI Baumata 46.32 146 LR LR 16 21 00.3
comp=Z,77nm,18.2s,baz=282,slow=42
BATI Baumata 46.32 146 P **P** **15 57 17.4 -0.2**
comp=Z,14nm,0.7s
KBZ Khabaz 46.44 303 P **P** **15 57 19.6 +1.4**
comp=Z,3.9nm,0.8s,baz=14,slow=3.3,SNR=6.5
KBZ LR LR 16 19 20.4
comp=Z,65nm,19.6s,baz=56,slow=39
comp=Z,3.9nm,0.8s
KIV Kislovodsk 46.58 304 P **P** **15 57 19.5 0.0**
KIV Kislovodsk 46.58 304 *e*P **P** **15 57 20.0 +0.5**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,22nm,16.0s
PRGR Permogore 46.98 328 *e*P **P** **15 57 20.6 -1.6**
PRGR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 47.29 314 *e*P **P** **15 57 23.0 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.8s
GURO Guroymak-BITLI 47.57 296 P **P** **15 57 28.4 +1.0**
GURO IAmb IAmb 15 57 33.2
comp=Z,12nm,0.9s
PETK Petropavlovsk- 47.62 44 P **P** **15 57 28.1 +0.7**
comp=Z,5.9nm,0.9s,baz=249,slow=12,SNR=2.8
PETK LR LR 16 19 45.8
comp=Z,120nm,18.8s,baz=265,slow=39
comp=Z,5.9nm,0.9s
RAYN Ar Rayn 48.32 276 P **P** **15 57 31.9 -1.4**
RAYN IAmb IAmb 15 58 05.2
comp=Z,11nm,1.6s
RAYN Ar Rayn 48.32 276 P **P** **15 57 31.9 -1.4**
RAYN pmax pmax
comp=Z,11nm,1.6s
MARD Mardin 48.74 295 P **P** **15 57 37.1 +0.6**
MARD IAmb IAmb 15 57 41.6
comp=Z,20nm,1.2s
VORR Voronezh 48.88 314 *e*P **P** **15 57 38.1 +1.0**
VORR pmax pmax
comp=Z,90nm,0.5s
VSR Storozhevoye 48.90 313 *e*P **P** **15 57 36.4 -0.8**
VSR pmax pmax

comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 49.09 315 *e*P **P** **15 57 35.6 -3.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 49.67 326 *e*P **P** **15 57 39.2 -3.7**
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 49.67 326 *e*P **P** **15 57 39.3 -3.7**
KLMR AMP 15 57 47.8
comp=Z,14nm,0.9s
MOS Moscow 50.03 319 *e*P **P** **15 57 44.9 -0.9**
ANN Anapa 50.28 305 *e*P **P** **15 57 45.9 -2.0**
ANN *e**PP **pP** **15 57 54.0 -1.0**
ANN pmax pmax
comp=Z,49nm,1.0s
OBN Obninsk 50.60 319⇑ *e*P **P** **15 57 51.4 +1.3**
OBN *e* 15 59 06.9
OBN *e* 15 59 50.2
OBN *e*S S 16 05 16.6 +13
OBN *e*SS **SS** **16 08 38.7 +1.1**
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,59nm,16.0s
SIM Simferopol' 52.61 306 *e*P **P** **15 58 05.1 -0.2**
SIM pmax pmax
comp=Z,18nm,0.6s
SIM MLR MLR
comp=Z,58nm,22.1s
ASF Jabal al Asfar 52.98 289 P **P** **15 58 09.3 +0.8**
comp=Z,3.0nm,0.7s,baz=141,slow=4.3,SNR=4.5
ASF LR LR 16 23 25.5
comp=Z,121nm,21.2s,baz=108,slow=39
comp=Z,3.0nm,0.7s
LVZ Lovozero 53.04 335 P **P** **15 58 07.9 -0.4**
LVZ Lovozero 53.04 335 P **P** **15 58 07.9 -0.4**
LVZ pmax pmax
comp=Z,79nm,1.9s
ILGA Ilgaz 53.50 301 P **P** **15 58 12.4 +0.2**
BR131 Keskin Array S 53.81 299 P **P** **15 58 13.8 -0.7**
BR131 IAmb IAmb 15 58 18.4
comp=Z,6.4nm,0.8s
BR131 Keskin Array S 53.81 299⇑ *e*P **P** **15 58 14.3 -0.1**
BRTR Keskin Array B 53.81 299 P **P** **15 58 14.7 +0.2**
comp=Z,3.5nm,0.8s,baz=114,slow=8.3,SNR=14
BRTR LR LR 16 25 28.8
comp=Z,28nm,19.7s,baz=95,slow=41
comp=Z,3.5nm,0.8s
BRTR Keskin Array B 53.81 299 P **P** **15 58 13.7 -0.7**
BRTR Keskin Array B 53.81 299 *i* P **P** **15 58 16.7 +2.2**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
VALR Valaam 53.89 326 *de*P **P** **15 58 14.1 -0.4**
VALR pmax pmax
comp=Z,8.0nm,0.9s
MMAI Mount Meron Ar 53.98 291 LR LR 16 24 24.3
comp=Z,2μm,21.1s,baz=200,slow=39
FITZ Fitzroy Crossi 54.12 149 LR LR 16 23 36.0
comp=Z,41nm,18.1s,baz=359,slow=38
AKASG Malin Array Be 55.20 313 P **P** **15 58 23.6 -0.5**
comp=Z,2.7nm,0.6s,baz=72,slow=6.9,SNR=10
AKASG LR LR 16 24 10.8
comp=Z,67nm,18.8s,baz=128,slow=38
comp=Z,2.7nm,0.6s
AKBB Malin Array Si 55.20 313 P **P** **15 58 23.6 -0.5**
AKBB IAmb IAmb 15 58 30.4
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 55.20 313 P **P** **15 58 23.6 -0.5**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
EIL Elat 55.30 287 LR LR 16 24 01.3
comp=Z,120nm,19.1s,baz=180,slow=38
MNK Minsk 55.64 318 *i* P **P** **15 58 24.2 -3.0**
MNK *i* 16 00 28.9
MNK *i* PPP PPP 16 01 42.4
MNK *i* S **S** **16 06 10.8 -1.5**
MNK *i* SS **SS** **16 09 55.9 -1.2**
MNK *i* SSS SSS 16 12 07.0
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=Z,73nm,15.0s
MNK MLR MLR
comp=E,11nm,15.0s
MNK Minsk 55.64 318 *i* P **P** **15 58 24.3 -3.0**
comp=E,3.0nm,0.9s
MNK *i* P **P** **15 58 24.3 -3.0**
MNK *i* P **P** **15 58 24.3 -3.0**
comp=Z,6.0nm,0.8s,baz=85
MNK *i* PP **PP** **16 00 28.9 -2.3**
MNK *i* PPP PPP 16 01 42.4
MNK *i* S **S** **16 06 10.8 -1.5**
MNK *i* SS **SS** **16 09 56.0 -1.2**
MNK *i* SSS SSS 16 12 07.0
MNK *i* LQ LQ 16 18 18.8
MNK *i* LR LR 16 21 08.4
MNK *i* LRM MLR 16 23 18.2
comp=Z,73nm,14.6s
MNK *i* LRM MLR 16 23 22.0
comp=E,11nm,15.3s
VSU Vasula 56.00 323⇓ *e*P **P** **15 58 31.2 +1.5**
VSU pmax pmax
comp=Z,23nm,0.7s
FIA1 FINESS Array S 56.20 326 P **P** **15 58 30.8 -0.4**
FIA1 IAmb IAmb 15 59 22.8
comp=Z,16nm,1.5s
FINES FINESS Array B 56.20 326 P **P** **15 58 31.0 -0.2**
comp=Z,2.4nm,0.4s,baz=84,slow=7.4,SNR=30
FINES LR LR 16 24 16.5
comp=Z,84nm,20.2s,baz=95,slow=38
comp=Z,2.4nm,0.4s
FINES FINESS Array B 56.20 326 P **P** **15 58 30.6 -0.6**
FINES FINESS Array B 56.20 326 *i* P **P** **15 58 33.7 +2.5**
FINES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 56.56 336 P **P** **15 58 35.7 +2.1**
comp=Z,3.7nm,0.7s,baz=83,slow=7.4,SNR=4.9
ARCES PcP **PcP** **15 59 28.0 -2.0**
comp=Z,0.8nm,0.4s,baz=46,slow=4.0,SNR=3.8
ARCES LR LR 16 25 31.8
comp=Z,49nm,20.8s,baz=106,slow=39
comp=Z,3.7nm,0.7s
TPGR Topolog 56.62 306 ⇑P **P** **15 58 34.8 +0.3**
CFR Carcaliu 56.76 307 ⇑P **P** **15 58 39.4 +4.0**
CFR Carcaliu 56.76 307 ⇑P **P** **15 58 39.4 +4.0**
HARR Harsova 56.99 306 ⇑P **P** **15 58 40.0 +2.9**
HARR Harsova 56.99 306 ⇑P **P** **15 58 40.0 +2.9**
ELL Elmali 57.35 297 P **P** **15 58 39.4 -0.5**
ELL Elmali 57.35 297 P **P** **15 58 39.4 -0.5**
ELL pmax pmax
comp=Z,33nm,0.8s
TESR Tescani 57.52 309 ⇑P **P** **15 58 44.8 +4.0**
SHEM Shemya Is, Ala 57.53 44 LR LR 16 26 21.7
comp=Z,38nm,18.2s,baz=91,slow=39
VRI Vrincioaia 57.60 308 ⇓P **P** **15 58 41.8 +0.4**
VRI Vrincioaia 57.60 308 ⇓P **P** **15 58 41.8 +0.4**
PLOR Plostina 57.65 308 ⇓P **P** **15 58 43.3 +1.5**
PLOR Plostina 57.65 308 ⇓P **P** **15 58 43.3 +1.5**
BIZ Bicaz 57.81 309 ⇓P **P** **15 58 45.4 +2.5**
COVR Voineasa-Covas 57.96 308 ⇑P **P** **15 58 45.1 +1.1**
MLR Muntele Rosu 58.21 307 ⇓P **P** **15 58 47.4 +1.6**
MLR Muntele Rosu 58.21 307 P **P** **15 58 47.2 +1.4**
comp=Z,6.0nm,0.7s,baz=144,slow=12,SNR=8.3
MLR LR LR 16 27 21.8
comp=Z,83nm,19.9s,baz=63,slow=40
comp=Z,6.0nm,0.7s
MLR Muntele Rosu 58.21 307 P **P** **15 58 46.1 +0.2**
MLR IAmb IAmb 15 58 51.6
comp=Z,14nm,1.0s
MLR Muntele Rosu 58.21 307 ⇓P **P** **15 58 47.4 +1.6**
BURAR Bucovina Array 58.27 310 ⇓P **P** **15 58 49.4 +3.2**
BURAR Bucovina Array 58.27 310 P **P** **15 58 45.9 -0.3**
BURAR Bucovina Array 58.27 310 ⇓P **P** **15 58 49.4 +3.2**
DOPR Dopca 58.49 308 ⇑P **P** **15 58 48.6 +0.9**
VOIR 58.84 308 ⇓P **P** **15 58 50.5 +0.3**
VOIR 58.84 308 ⇓P **P** **15 58 50.5 +0.3**
ARR Arges 59.14 308 ⇓P **P** **15 58 53.1 +0.9**
SPITS Spitsbergen Ar 59.35 346 LR LR 16 27 38.1
comp=Z,98nm,21.1s,baz=74,slow=39
WB0 Warramunga Arr 59.87 142 P **P** **15 58 56.0 -1.4**
WB0 IAmb IAmb 15 59 06.4
comp=Z,10nm,0.8s
TRPA Tarpa 59.93 311 ⇑P P 15 59 02.5 +5.0
WRAB Tennant Creek 59.98 142 P **P** **15 58 56.9 -1.3**
WRAB IAmb IAmb 15 59 07.3
comp=Z,10nm,0.8s
WRAB Tennant Creek 59.98 142 *d* *i*P **P** **15 58 57.7 -0.5**
WRAB pmax pmax
comp=Z,11nm,0.8s
WRA Warramunga Arr 59.99 142 P **P** **15 58 57.0 -1.2**
comp=Z,4.4nm,0.6s,baz=331,slow=7.5,SNR=113
comp=Z,4.4nm,0.6s
WRA Warramunga Arr 59.99 142 P **P** **15 58 56.7 -1.5**
WRA Warramunga Arr 59.99 142 P **P** **15 58 57.0 -1.2**
WB2 Warramunga Arr 59.99 142 P **P** **15 58 57.0 -1.3**
WR0 Warramunga Arr 60.11 142 P **P** **15 58 57.4 -1.6**
WR0 IAmb IAmb 15 59 08.1
comp=Z,9.5nm,1.1s
DRGR 60.12 309 ⇑P **P** **15 58 59.2 +0.3**
DRGR 60.12 309 ⇑P **P** **15 58 59.2 +0.3**
GZR Gura Zlata 60.40 308 ⇑P **P** **15 59 04.5 +3.6**
GZR Gura Zlata 60.40 308 ⇑P **P** **15 59 04.5 +3.6**
BLKB Belogradchik 60.92 306 ⇓P **P** **15 59 04.2 -0.3**
AMKA Amchitka 60.94 45 P **P** **15 59 04.0 -0.4**
MDVR Moldovita 61.29 307 ⇓P **P** **15 59 07.5 +0.5**
BOVS Bovan 61.59 306 ⇓P **P** **15 59 09.1 +0.1**
VYHS Vyhne 62.24 312 *e*P **P** **15 59 16.3 +3.0**
VYHS Vyhne 62.24 312 *e*P **P** **15 59 16.3 +3.0**
HFS Hagfors 62.38 326 P **P** **15 59 14.1 +0.1**
comp=Z,3.9nm,0.6s,baz=101,slow=6.3,SNR=8.8
comp=Z,3.9nm,0.6s
DIVS Divibare 62.66 307 P **P** **15 59 16.2 0.0**
DIVS IAmb IAmb 15 59 21.4
comp=Z,28nm,1.8s
MORC Moravsky Berou 62.73 314 ⇓P **P** **15 59 17.5 +0.9**
MORC Moravsky Berou 62.73 314 P **P** **15 59 16.9 +0.4**
MORC Moravsky Berou 62.73 314 *e*P **P** **15 59 16.7 +0.2**
MORC Moravsky Berou 62.73 314 ⇓P **P** **15 59 17.5 +0.9**
AS31 Alice Springs 62.83 144 P **P** **15 59 16.4 -1.0**
ASAR Alice Springs 62.83 144 P **P** **15 59 16.6 -0.8**
comp=Z,0.9nm,0.5s,baz=328,slow=6.5,SNR=26
comp=Z,0.9nm,0.5s
ASAR Alice Springs 62.83 144 P **P** **15 59 16.7 -0.7**
ASAR Alice Springs 62.83 144 P **P** **15 59 16.7 -0.7**
JAVC Velka Javorina 62.89 313 *e*P **P** **15 59 18.9 +1.2**
MORH Mrgy, Hungar 62.98 310 ⇓P **P** **15 59 18.1 -0.1**
NC405 NORSAR Array S 63.11 327 P **P** **15 59 17.8 -1.0**
ITM Ithomi 63.34 299 P **P** **15 59 18.9 -1.9**
NOA NORSAR Array B 63.36 327 P **P** **15 59 19.4 -1.1**
comp=Z,1.9nm,0.7s,baz=76,slow=6.6,SNR=11
NOA LR LR 16 28 18.2
comp=Z,56nm,21.2s,baz=80,slow=37
comp=Z,1.9nm,0.7s
VRAC Vranov 63.45 313 LR LR 16 28 26.5
comp=Z,62nm,18.1s,baz=75,slow=37
PDG Podgorica 63.66 305 ⇑P **P** **15 59 22.3 -0.5**
CONA Conrad Observa 64.31 312 *e*P **P** **15 59 27.2 +0.2**
comp=Z,4.4nm,1.0s
ARSA Arzberg 64.73 311 *e*P **P** **15 59 29.9 +0.1**
comp=Z,3.6nm,1.0s
NWAO Nagqin (SRO) 64.90 164 LR LR 16 26 49.9
comp=Z,49nm,21.8s,baz=351,slow=35
CLL Collm 65.08 316 *e*P **P** **15 59 32.0 +0.1**
CLL Collm 65.08 316 *e*P **P** **15 59 32.0 +0.1**
SOKA Soboth 65.23 311 *e*P **P** **15 59 33.6 +0.6**
comp=Z,4.3nm,1.2s
GERES GERESS Array B 65.41 314 P **P** **15 59 34.7 +0.5**
comp=Z,1.4nm,0.7s,baz=69,slow=7.3,SNR=10
comp=Z,1.4nm,0.7s
GERES GERESS Array B 65.41 314 P **P** **15 59 34.4 +0.2**
OBKA Obir 65.60 311 *e*P **P** **15 59 33.9 -1.6**
comp=Z,5.3nm,1.2s
BIOA Bad Ischl, Aus 65.81 312 *e*P **P** **15 59 36.7 -0.1**
comp=Z,0.1nm,0.2s
ABTA Abfaltersbach 66.85 312 *e*P **P** **15 59 43.1 -0.4**
comp=Z,2.4nm,0.6s
KMBO Kilima Mbogo 66.87 254 P **P** **15 59 47.6 +3.3**
comp=Z,4.2nm,0.3s,baz=16,slow=3.4,SNR=4.1
KMBO Kilima Mbogo 66.87 254 P **P** **15 59 44.2 0.0**
KMBO Kilima Mbogo 66.87 254 P **P** **15 59 44.2 0.0**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
CTAO Charters Tower 67.17 132 P **P** **15 59 44.7 -1.0**
CTAO IAmb IAmb 16 01 51.5
comp=Z,33nm,1.9s
CTAO Charters Tower 67.17 132 P **P** **15 59 44.7 -1.0**
CTAO pmax pmax
comp=Z,33nm,1.9s
WTTA Wattenberg 67.23 312 *e*P **P** **15 59 45.6 -0.5**
comp=Z,1.9nm,0.5s
JMIC Jan Mayen 67.44 340 LR LR 16 33 15.2
comp=Z,24nm,18.5s,baz=230,slow=39
SQTA Sankt Quirin 67.52 312 *e*P **P** **15 59 46.8 -1.0**
comp=Z,4.1nm,0.5s
MOTA Moosalm 67.55 313 *e*P **P** **15 59 47.2 -0.8**
comp=Z,3.7nm,0.7s
RETA Reutte 67.71 313 *e*P **P** **15 59 49.2 +0.2**
comp=Z,1.9nm,0.8s
FETA Feichten 67.90 312 *e*P **P** **15 59 49.2 -1.0**
comp=Z,3.7nm,0.9s
DAVA Damuels 68.34 313 *e*P **P** **15 59 52.6 -0.5**
comp=Z,6.4nm,1.1s
DAVOX Davos/Dischmat 68.53 312 P **P** **15 59 54.4 +0.2**
comp=Z,5.0nm,0.6s,baz=98,slow=8.9,SNR=7.7
DAVOX LR LR 16 32 22.1
comp=Z,72nm,20.0s,baz=72,slow=38
comp=Z,5.0nm,0.6s
IMAR Indian Mountai 69.29 25 P **P** **15 59 57.5 -0.9**
H21K Melozitna Rive 69.78 25 P **P** **16 00 01.6 +0.1**
H21K IAmb IAmb 16 00 16.9
comp=Z,18nm,1.6s
J20K Nowinta River 69.98 27 P **P** **16 00 02.4 -0.3**
J20K IAmb IAmb 16 02 21.9
comp=Z,29nm,1.7s
HNR Honiara 70.06 114 LR LR 16 27 43.8
comp=Z,418nm,21.8s,baz=167,slow=33
SVW2 Sparrevohn 70.83 30 P **P** **16 00 08.4 +0.6**
SVW2 IAmb IAmb 16 00 17.2
comp=Z,8.3nm,1.1s
MLY Manley 70.85 25 P **P** **16 00 07.6 -0.4**
H23K Yukon River 70.87 24 P **P** **16 00 08.4 +0.3**
H23K IAmb IAmb 16 00 38.4
comp=Z,29nm,1.9s
BPAW Bear Paw Mtn. 71.23 26 P **P** **16 00 09.6 -0.7**
BNI Bardonecchia 71.26 312 P **P** **16 00 10.7 -0.3**
BNI Bardonecchia 71.26 312 P **P** **16 00 10.7 -0.3**
BNI pmax pmax
comp=Z,4.0nm,0.7s
PPLA Purkeypile 71.37 27 P **P** **16 00 10.8 -0.5**
BMAR Burnt Mountain 71.66 21 P **P** **16 00 12.5 -0.4**
NEA2 Nenana 71.69 25 P **P** **16 00 12.4 -0.7**
COLA College 71.98 24 *i*P **P** **16 00 15.9 +1.2**
COLA pmax pmax
comp=Z,32nm,4.5s
ILAR Eielson Array 72.38 24 P **P** **16 00 17.9 +0.7**
comp=Z,0.7nm,1.0s,baz=317,slow=4.3,SNR=4.6
ILAR LR LR 16 35 44.6
comp=Z,100nm,18.0s,baz=288,slow=39
VOI Vohitsoka 72.44 231 P **P** **16 00 17.2 -1.0**
EKA Eskdalemuir Ar 72.50 324 P **P** **16 00 18.1 +0.1**
comp=Z,2.1nm,0.7s,baz=61,slow=5.8,SNR=4.9
comp=Z,2.1nm,0.7s
STKA Stephens Creek 73.44 144 P **P** **16 00 23.9 +0.1**
comp=Z,1.8nm,0.7s,baz=344,slow=6.7,SNR=4.7
STKA LR LR 16 35 17.7
comp=Z,33nm,19.3s,baz=17,slow=38
comp=Z,1.8nm,0.7s
OHAK Old Harbor 73.74 33 P **P** **16 00 24.4 -0.9**
KDAK Kodiak Island 73.78 32 LR LR 16 36 08.2
comp=Z,99nm,18.9s,baz=314,slow=38
KDAK Kodiak Island 73.78 32 P **P** **16 00 24.9 -0.7**
KDAK Kodiak Island 73.78 32 P **P** **16 00 24.9 -0.7**
KDAK pmax pmax
comp=Z,47nm,1.6s
KLU Klutina 74.60 27 P **P** **16 00 29.6 -0.8**
KLU IAmb IAmb 16 00 39.2
comp=Z,5.8nm,0.8s
FID Port Fidalgo 74.81 28 P **P** **16 00 33.4 +1.9**
FID IAmb IAmb 16 02 49.7
comp=Z,23nm,1.5s
SFJD Kangerlussuaq 80.58 349 LR LR 16 40 47.3
comp=Z,88nm,20.6s,baz=19,slow=39
ESDC Sonseca Array 80.73 311 P **P** **16 01 04.9 -0.1**
comp=Z,0.7nm,0.9s,baz=42,slow=5.9,SNR=3.2
ESDC LR LR 16 40 50.9
comp=Z,32nm,19.1s,baz=52,slow=39
comp=Z,0.7nm,0.9s
DLBC Dease Lake 82.58 24 LR LR 16 41 53.3
comp=Z,77nm,18.8s,baz=249,slow=38
DZM Mont Dzumac 82.59 121 LR LR 16 35 39.0
comp=Z,32nm,20.3s,baz=255,slow=34
YKA Yellowknife Ar 83.72 15 LR LR 16 42 42.0
comp=Z,39nm,18.5s,baz=290,slow=38
MDT Midelt 84.79 305 LR LR 16 47 58.0
comp=Z,15nm,18.9s,baz=64,slow=42
FRB Frobisher Bay 85.98 355 LR LR 16 43 09.3
comp=Z,34nm,19.2s,baz=341,slow=38
MSVF Nonsavu 89.22 111 LR LR 16 35 11.1
comp=Z,35nm,21.4s,baz=344,slow=31
LBTB Lobatse 89.58 241 LR LR 16 40 33.9
comp=Z,14nm,19.7s,baz=51,slow=35
LBTB Lobatse 89.58 241 **P** **16 01 51.2 +1.7**
LBTB Lobatse 89.58 241 P **P** **16 01 51.2 +1.7**
LBTB pmax pmax
comp=Z,53nm,1.9s
TOA0 Torodi Ar. Sit 90.15 285 P **P** **16 01 52.0 -0.3**
TOA0 IAmb IAmb 16 01 52.3
comp=Z,23nm,1.8s
TORD Torodi Ar. Bea 90.15 285 P **P** **16 01 51.7 -0.6**
comp=Z,2.8nm,0.8s,baz=64,slow=5.3,SNR=16
comp=Z,2.8nm,0.8s
NEW Newport 95.33 24 LR LR 16 47 05.6
comp=Z,71nm,20.8s,baz=318,slow=37
SUR Sutherland 97.07 237 LR LR 16 45 13.5
comp=Z,20nm,19.1s,baz=60,slow=35
YBH Yreka Blue Hor 98.56 31 LR LR 16 49 10.1
comp=Z,29nm,18.8s,baz=340,slow=37

IDC ***26*** *15:48:55.8±1.7,31°.30N×140°.01E,h108km±29km,mb3.3/6, mbtmp3.6/8,Error ellipse: s-maj=102.8km s-min=15.2km az=73.0*
JMA ***26*** *15:48:56.4±0.3,32°N±1°×14°1E±°,h123km,MV3.6/23, NEAR TORISHIMA IS*
ISC 26 15:48:54.6±1.0,31°.54N±0°.07×140°.9E±0°.2,h118km±9km, n20,σ1§18/25,mb3.6/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.33**	**314**	P	**Pn**	**15 49 20.5**	**+0.5**
JAOM				*e*S	**Sn**	**15 49 39.2**	**-0.1**
JHCJ	**Hachijojimakas**	**1.79**	**329**	*e*P	**Pn**	**15 49 26.3**	**+1.0**
JHCJ				S	**Sn**	**15 49 47.8**	**-1.0**
JHJ2	**Mitsune**	**1.82**	**330**	P	**Pn**	**15 49 26.7**	**+1.1**
JHJ2				*e*S	**Sn**	**15 49 48.3**	**-1.0**
JHJ	**Hachijo jima 2**	**1.84**	**329**	P	**Pn**	**15 49 26.7**	**+0.8**
	105nm,0.2s,baz=64,slow=21,SNR=34						
JHJ				S	**Sn**	**15 49 48.5**	**-1.4**
	130nm,0.3s,baz=137,slow=22,SNR=9.9						
JMKN	**Mikurajimanish**	**2.59**	**335**	P	**Pn**	**15 49 36.3**	**+0.9**
JMKN				*e*S	**Sn**	**15 50 06.4**	**-0.5**
CBIJ	**Chichi jima**	**4.57**	**165**	P	**Pn**	**15 50 03.5**	**+1.8**
CBIJ				*e*S	**Sn**	**15 50 53.9**	**+0.1**
JCJ	**Chichijima**	**4.57**	**165**	P	**Pn**	**15 50 02.7**	**+1.0**
	44nm,0.3s,baz=272,slow=19,SNR=7.6						
JCJ				S	**Sn**	**15 50 51.7**	**-2.2**
	26nm,0.3s,baz=334,slow=23,SNR=1.5						
JAO	**Obara**	**4.80**	**322**	*e*P	**Pn**	**15 50 05.8**	**+0.9**
MJAR	**Matsushiro Arr**	**5.47**	**337**	P	**Pn**	**15 50 13.8**	**+0.1**
	1.0nm,0.5s,baz=143,slow=12,SNR=3.6						
MJAR				S	**Sn**	**15 51 13.4**	**-2.0**
	1.9nm,0.6s,baz=325,slow=14,SNR=4.4						
JFK	**Kawauchi**	**5.81**	**360**	*e*P	**Pn**	**15 50 18.8**	**+0.3**
JMK	**Ichinoseki**	**7.40**	**2**	*e*P	**Pn**	**15 50 40.2**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**26.66**	**113**	T	T	16 23 19.8	
	baz=304,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**26.66**	**113**	T	T	16 23 17.5	
	baz=304,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**26.67**	**113**	T	T	16 23 18.7	
	baz=304,slow=75,SNR=11						
MKAR	**Makanchi Array**	**46.86**	**307**	P	**P**	**15 57 11.1**	**-1.6**
	0.3nm,0.6s,baz=91,slow=10,SNR=1.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**49.19**	**312**	P	**P**	**15 57 29.4**	**-1.1**
	1.0nm,0.8s,baz=88,slow=6.7,SNR=3.3						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**51.57**	**188**	P	**P**	**15 57 47.9**	**-0.8**
	0.5nm,0.7s,baz=2.0,slow=7.7,SNR=17						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**55.30**	**188**	P	**P**	**15 58 16.4**	**+0.5**
	0.2nm,0.5s,baz=20,slow=12,SNR=9.5						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**73.48**	**333**	P	**P**	**16 00 15.3**	**+1.5**
	1.5nm,0.9s,baz=90,slow=5.6,SNR=1.2						
	1.5nm,0.9s						
AKASG	**Malin Array Be**	**78.39**	**323**	P	**P**	**16 00 42.7**	**+0.8**
	0.4nm,0.4s,baz=49,slow=6.2,SNR=2.8						
	0.4nm,0.4s						

NNC 26 16:29:21.1±3.2,37°.72N×71°.35E,h0km,mb3.6,mpv3.1, 2C-2D,Error ellipse: s-maj=29.0km s-min=27.0km az=52.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.42**	**353**	Pn	Pn	16 30 44.0	+0.8
	0.5nm,0.3s,baz=177,slow=13,SNR=22						
KK31				⇓Sn	Sn	16 31 47.6	+1.4
	2.9nm,0.5s,baz=172,slow=20,SNR=5.9						
KK31				⇑Lg	Lg	16 32 12.7	
	3.1nm,0.6s,baz=164,slow=29,SNR=4.2						
TKM2	**Tokmak 2**	**6.13**	**31**	⇓Pn	Pn	16 30 52.8	-0.2
	1.4nm,0.5s						
TKM2				⇑Lg	Lg	16 32 34.9	
	3.1nm,0.9s						
AB31	**Akbulak array**	**14.18**	**328**	P	Pn	16 32 40.5	-2.5
	2.1nm,0.9s,baz=156,slow=11,SNR=7.5						

IDC ***26*** *17:02:46.8±1.9,7°.60S×127°.81E,h170km±21km,mb3.1/3, mbtmp3.9/7,Error ellipse: s-maj=24.4km s-min=19.4km az=135.0*
ISC 26 17:02:47.2±0.7,7°.72S±0°.06×127°.85E±0°.07,h200km,n18, σ2§98/22,mb3.2/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.43**	**95**	P	**Pn**	**17 03 42.0**	**0.0**
BATI	**Baumata**	**4.82**	**239**	P	**Pn**	**17 03 59.7**	**+0.3**
	86nm,0.5s,baz=60,slow=1.4,SNR=36						
BATI				S	**Sn**	**17 04 54.7**	**-1.5**
	24nm,0.3s,baz=144,slow=17,SNR=7.2						
MMRI	**Maumere**	**5.63**	**260**	P	**Pn**	**17 04 10.0**	**+0.2**
MTN	**Manton Dam**	**6.03**	**148**	P	**Pn**	**17 04 16.0**	**+1.1**
KDU	**Kakadu**	**6.71**	**138**	P	**Pn**	**17 04 24.6**	**+0.8**
SIJI	**Sorong**	**7.61**	**27**	P	**Pn**	**17 04 33.8**	**-1.7**
	12nm,0.3s,baz=219,slow=9.0,SNR=43						
SIJI				S	**Sn**	**17 05 55.0**	**-6.6**
	2.5nm,0.5s,baz=259,slow=23,SNR=1.3						
KNRA	**Kununurra**	**7.96**	**174**	P	**Pn**	**17 04 40.8**	**+0.8**
PLAI	**Plampang**	**10.03**	**263**	P	**Pn**	**17 05 06.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.54**	**192**	P	**Pn**	**17 05 12.9**	**-0.6**
	1.2nm,0.3s,baz=1.9,slow=11,SNR=19						
FITZ				S	**Sn**	**17 07 05.1**	**-6.1**
	4.0nm,0.2s,baz=360,slow=22,SNR=8.7						
FITZ	**Fitzroy Crossi**	**10.54**	**192**	P	**Pn**	**17 05 13.4**	**-0.1**
WRAB	**Tennant Creek**	**13.68**	**153**	P	**Pn**	**17 05 55.0**	**+1.7**
WRA	**Warramunga Arr**	**13.68**	**153**	P	**Pn**	**17 05 53.9**	**+0.5**
	1.8nm,0.7s,baz=328,slow=14,SNR=37						
WRA				S	S	17 08 18.7	-7.1
	7.3nm,0.8s,baz=327,slow=23,SNR=12						
COEN	**Coen**	**16.27**	**114**	P	**Pn**	**17 06 29.1**	**+4.1**
ASAR	**Alice Springs**	**16.89**	**161**	P	**Pn**	**17 06 35.5**	**+3.2**
	1.8nm,0.5s,baz=337,slow=12,SNR=54						
ASAR				S	**S**	**17 09 31.7**	**-5.3**
	0.6nm,0.6s,baz=330,slow=23,SNR=2.9						
WRKA	**Warakurna**	**17.23**	**179**	P	**Pn**	**17 06 39.8**	**+3.5**
CMAR	**Chiang Mai Arr**	**38.60**	**313**	P	**P**	**17 09 53.0**	**+1.7**
	0.3nm,0.6s,baz=144,slow=7.8,SNR=1.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**67.68**	**328**	P	**P**	**17 13 24.9**	**+2.0**
	0.2nm,0.4s,baz=125,slow=6.7,SNR=7.3						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**71.30**	**335**	P	**P**	**17 13 46.2**	**+1.4**
	0.5nm,0.4s,baz=120,slow=5.7,SNR=1.9						
	0.5nm,0.4s						

IDC 26 17:10:55.4±1.5,12°.16N×144°.38E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=293.7km s-min=18.2km az=108.0,South of Mariana Islands

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

GUMO Guam 1.49 18 Pn Pb 17 11 23.8 -0.2
24nm,0.3s,baz=262,slow=4.5,SNR=54
GUMO Sn Sg 17 11 42.8 -0.6
102nm,0.3s,baz=124,slow=22,SNR=37
WRA Warramunga Arr 33.40 197 P P 17 17 35.7 -0.2
0.3nm,0.7s,baz=21,slow=10,SNR=4.7
0.3nm,0.7s
ASAR Alice Springs 37.06 196 P P 17 18 07.1 -0.3
0.7nm,1.1s,baz=24,slow=12,SNR=2.7
0.7nm,1.1s
ILAR Eielson Array 70.05 25 P P 17 22 09.5 +0.5
0.2nm,0.5s,baz=253,slow=5.6,SNR=1.9
0.2nm,0.5s

*ARE **26** 17:17:00±3.2, 12°S±71″×7°8W±3°5, h46km±10km, Error ellipse: s-maj=0.0km s-min=0.0km az=115.0*
NEIC 26 17:17:51.1±1.2, 11°7S±0.1×77°4W±0.1, h63km±15km, ML4.1(ARE), Error ellipse: s-maj=27.9km s-min=5.1km az=46.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.59**	**120**	Pn	Pn	17 18 04.5	+0.1
NNA				Sn	Sn	17 18 12.0	-1.9
CZSB	**Cruzeiro do Su**	**6.04**	**50**	Pn	Pn	17 19 20.4	+2.4
MCRA	**Macar, Loja**	**7.71**	**340**	Pn	Pn	17 19 33.3	-7.6
ARNL	**Arenillas**	**8.52**	**341**	Pn	Pn	17 19 51.5	-0.4
BOSC	**San Juan Bosco**	**8.56**	**352**	Pn	Pn	17 19 52.1	-0.5
LPAZ	**La Paz**	**10.05**	**118**	Pn	Pn	17 20 12.7	-0.8
CHSH	**Refugio Sur-Vo**	**10.24**	**351**	Pn	Pn	17 20 15.8	-0.1
PORT	**Chimborazo Vol**	**10.26**	**352**	Pn	Pn	17 20 14.7	-1.5

IDC 26 17:21:28.2±6.6, 4°41S×128°60E, h120km±81km, mb3.7/1, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=130.8km s-min=44.1km az=113.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.41**	**37**	P	Pn	17 22 34.5	+1.3
	0.6nm,0.3s,baz=130,slow=3.9,SNR=22						
SIJI				S	Sn	17 23 23.6	0.0
	5.8nm,0.3s,baz=189,slow=23,SNR=14						
	3.0nm,0.5s						
WRA	**Warramunga Arr**	**16.42**	**161**	P	Pn	17 25 11.7	-0.1
	0.1nm,0.3s,baz=341,slow=12,SNR=13						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.82**	**166**	P	P	17 25 49.0	-0.5
	0.1nm,0.3s,baz=345,slow=12,SNR=16						
	0.3nm,0.3s						
STKA	**Stephens Creek**	**29.92**	**157**	P	P	17 27 25.3	+0.4
	1.2nm,0.5s,baz=338,slow=16,SNR=1.9						
	1.2nm,0.5s						

*JMA **26** 17:22:41.0±0.5, 32°N×13°8E±°, h444km, MV3.7/54, NEAR TORISHIMA IS*
*IDC **26** 17:22:50.8±1.6, 32°.36N×137°.93E, h384km±14km, mb2.8/4, mbtmp3.6/7, Error ellipse: s-maj=35.3km s-min=23.6km az=145.0*
ISC 26 17:22:51.3±1.3, 32°.5N±0°.1×138°.1E±0°.1, h400km, n24, σ1§41/26, mb2.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.57**	**66**	P	**Pn**	**17 23 43.9**	**-0.9**
	80nm,0.3s,baz=270,slow=23,SNR=11						
JIE	**Ise**	**2.21**	**329**	*e*P	**Pn**	**17 23 47.7**	**-0.9**
JKN2	**Miekihoku**	**2.31**	**320**	P	**Pn**	**17 23 47.8**	**-1.4**
HMMJ	**Hamamatsu 2**	**2.38**	**353**	P	**Pn**	**17 23 49.3**	**-0.4**
JTNC	**Tanabenakahech**	**2.45**	**303**	P	**Pn**	**17 23 48.3**	**-2.0**
JAO	**Obara**	**2.85**	**347**	P	**Pn**	**17 23 53.1**	**-0.2**
JNY	**Yasuok**	**2.87**	**357**	P	**Pn**	**17 23 53.4**	**-0.1**
JOD2	**Odawara 2**	**2.90**	**17**	P	**Pn**	**17 23 52.9**	**-0.7**
JYN	**Shimob**	**3.03**	**7**	P	**Pn**	**17 23 54.7**	**-0.1**
BSO3	**Boso 3**	**3.08**	**41**	P	**Pn**	**17 23 52.9**	**-1.9**
BSO3				S	**S**	**17 24 45.4**	**-0.8**
BSO4	**Boso 4**	**3.13**	**36**	P	**Pn**	**17 23 53.8**	**-1.6**
BSO1	**Boso 1**	**3.25**	**48**	P	**Pn**	**17 23 54.2**	**-1.7**
JHU	**Hanno**	**3.50**	**16**	P	**Pn**	**17 23 57.7**	**-1.0**
JHU				S	**S**	**17 24 50.0**	**-3.4**
JRY	**Ryogami san**	**3.59**	**11**	P	**Pn**	**17 23 59.4**	**-0.2**
MJAR	**Matsushiro Arr**	**4.05**	**2**	P	**Pn**	**17 24 02.8**	**-1.0**
	3.8nm,0.4s,baz=178,slow=11,SNR=28						
JAG	**Ashikaga**	**4.09**	**16**	P	**Pn**	**17 24 02.8**	**-1.4**
JHO	**Hitachi**	**4.60**	**26**	P	**Pn**	**17 24 07.4**	**-1.8**
JFK	**Kawauchi**	**5.38**	**25**	P	**Pn**	**17 24 16.4**	**-0.9**
KSRS	**Korea Array**	**9.69**	**304**	P	**Pn**	**17 25 05.5**	**-0.2**
	0.8nm,0.5s,baz=120,slow=10,SNR=7.3						
KLR	**Kul'dur**	**17.38**	**346**	P	**P**	**17 26 29.9**	**+0.8**
	1.6nm,0.5s,baz=189,slow=6.2,SNR=7.1						
CMAR	**Chiang Mai Arr**	**37.77**	**258**	P	**P**	**17 29 30.3**	**-1.0**
	0.6nm,0.7s,baz=49,slow=6.7,SNR=6.5						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**44.36**	**306**	P	**P**	**17 30 24.5**	**+0.6**
	0.3nm,0.6s,baz=91,slow=11,SNR=4.1						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**54.80**	**30**	P	**P**	**17 31 43.1**	**+1.9**
	0.3nm,0.6s,baz=276,slow=7.0,SNR=2.2						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**71.54**	**332**	P	**P**	**17 33 31.3**	**+1.6**
	0.4nm,0.4s,baz=64,slow=8.7,SNR=6.6						
	0.4nm,0.4s						

*IDC **26** 17:23:16.4±0.6, 21°.33S×179°.21W, h614km±6km, mb3.9/25, mbtmp4.9/29, Error ellipse: s-maj=9.8km s-min=9.3km az=148.0*
*NOU **26** 17:23:16.9, 21°.36S×179°.14W, h630km, mb4.7/73, Fiji Islands Region*
*NEIC **26** 17:23:18.2±2.0, 21°.4S±0°.1×179°.3W±0°.1, h631km±6km, mb4.6/176, Error ellipse: s-maj=17.7km s-min=14.8km az=108.0*
ISC 26 17:23:16.8±0.4, 21°41S±0°.05×179°.18W±0°.05, h626km±4km, h627km:pP-P, n631, σ1§25/688, mb4.6/122, 35C-30D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.18**	**6**	P	**P**	**17 24 40.5**	**+1.3**
MSVF	**Nonsavu**	**4.49**	**324**	P	**P**	**17 24 49.0**	**+1.2**
	940nm,0.5s,baz=87,slow=23,SNR=1488						
MSVF	**Nonsavu**	**4.49**	**324**	P	**P**	**17 24 48.8**	**+1.1**
MSVF	**Nonsavu**	**4.49**	**324**	P	**P**	**17 24 48.9**	**+1.1**
TAVE	**Taveuni**	**4.72**	**352**	P	**P**	**17 24 50.8**	**+1.4**
RIZ	**Raoul Island**	**7.89**	**172**	P	**P**	**17 25 15.4**	**-0.5**
RAO	**Raoul Island**	**7.89**	**172**	P	**P**	**17 25 15.5**	**-0.4**
	2μm,0.3s,baz=289,slow=22,SNR=19						
RAO				S	**S**	**17 26 49.0**	**-4.6**
	152nm,0.3s,baz=90,slow=20,SNR=1.5						
RAO	**Raoul Island**	**7.89**	**172**	P	**P**	**17 25 15.3**	**-0.6**
RAO					P	17 25 15.6	-0.4
RAO	**Raoul Island**	**7.89**	**172**	P	**P**	**17 25 15.7**	**-0.3**
GLKZ	**Green Lake**	**7.91**	**172**	P	**P**	**17 25 15.4**	**-0.7**
NIUE	**Niue**	**8.99**	**77**	P	**P**	**17 25 26.8**	**+0.3**
NIUE	**Niue**	**8.99**	**77**	P	**P**	**17 25 27.0**	**+0.5**
AFI	**Afiamalu**	**10.26**	**45**	P	**P**	**17 25 36.8**	**-2.1**
	35nm,0.4s,baz=13,slow=2.4,SNR=9.7						
AFI				S	**S**	**17 27 27.8**	**-7.6**
	36nm,0.7s,baz=193,slow=22,SNR=6.2						
AFI	**Afiamalu**	**10.26**	**45**	P	**P**	**17 25 36.1**	**-2.9**
AFI	**Afiamalu**	**10.26**	**45**	P	**P**	**17 25 37.2**	**-1.7**
MARNC	**Mare, Loyalty**	**11.91**	**267**	P	**P**	**17 25 54.0**	**-0.7**
MARNC	**Mare, Loyalty**	**11.91**	**267**	P	**P**	**17 25 54.6**	**-0.1**
RTV	**Rentapao**	**12.22**	**285**	P	**P**	**17 25 56.7**	**-1.0**
DVP	**Devils Point**	**12.46**	**285**	P	**P**	**17 26 00.6**	**+0.6**
PINNC	**Pines Island,**	**12.46**	**262**	P	**P**	**17 26 00.0**	**+0.1**
PINNC	**Pines Island,**	**12.46**	**262**	P	**P**	**17 26 00.3**	**+0.3**
LIFNC	**LIFOU**	**12.69**	**270**	P	**P**	**17 26 01.4**	**-0.8**
LIFNC	**LIFOU**	**12.69**	**270**	P	**P**	**17 26 01.5**	**-0.7**
FUNA	**Funafuti**	**12.90**	**353**	P	**P**	**17 26 03.2**	**-1.1**
YATNC	**Mamie plateau,**	**12.96**	**265**	P	**P**	**17 26 04.7**	**-0.1**
	20nm,0.6s						
ONTNC	**Ouen Toro**	**13.37**	**264**	P	**P**	**17 26 08.8**	**0.0**
ONTNC	**Ouen Toro**	**13.37**	**264**	P	**P**	**17 26 09.3**	**+0.5**
DZM	**Mont Dzumac**	**13.38**	**265**	P	**P**	**17 26 09.2**	**+0.2**
	56nm,0.6s,baz=81,slow=18,SNR=61						
DZM	**Mont Dzumac**	**13.38**	**265**	P	**P**	**17 26 08.9**	**-0.1**
NOUC	**Port Laguerre**	**13.51**	**264**	P	**P**	**17 26 10.5**	**+0.4**
OUZ	**Omahuta**	**15.15**	**203**	P	**P**	**17 26 28.0**	**+2.9**
OUZ	**Omahuta**	**15.15**	**203**	P	**P**	**17 26 28.1**	**+2.9**
OUZ	**Omahuta**	**15.15**	**203**	P	**P**	**17 26 28.5**	**+3.4**
KOUNC	**Koumac, New Ca**	**15.47**	**270**	P	**P**	**17 26 29.0**	**+0.8**
KOUNC	**Koumac, New Ca**	**15.47**	**270**	P	**P**	**17 26 30.3**	**+2.1**
GRZ	**Great Barrier**	**15.51**	**196**	P	**P**	**17 26 30.7**	**+2.3**
WCZ	**Waipu Caves**	**15.55**	**200**	P	**P**	**17 26 31.0**	**+2.3**
KUZ	**Kuaotunu**	**15.92**	**195**	P	**P**	**17 26 34.9**	**+2.9**
MXZ	**Matakaoa Point**	**16.25**	**187**	P	**P**	**17 26 35.4**	**+0.4**
MXZ	**Matakaoa Point**	**16.25**	**187**	P	**P**	**17 26 35.8**	**+0.7**
WMGZ	**Waiomatatini S**	**16.49**	**187**	P	**P**	**17 26 38.1**	**+0.8**
HAZ	**Te Kaha**	**16.50**	**188**	P	**P**	**17 26 37.2**	**-0.1**
HAZ				S	**S**	**17 29 14.0**	**-6.6**
PKGZ	**Pakihiroa**	**16.60**	**188**	P	**P**	**17 26 38.5**	**+0.1**
TGRZ	**Tauranga**	**16.74**	**193**	P	**P**	**17 26 42.2**	**+2.6**
PUZ	**Puketiti**	**16.76**	**187**	P	**P**	**17 26 40.1**	**+0.3**
PUZ				S	**S**	**17 29 21.0**	**-3.8**
OPRZ	**Ohinepanea**	**16.79**	**192**	P	**P**	**17 26 42.1**	**+2.0**
TWGZ	**Tauwhareparae**	**16.89**	**188**	P	**P**	**17 26 42.1**	**+1.1**
URZ	**Urewera**	**17.10**	**190**	P	**P**	**17 26 42.5**	**-0.3**
	29nm,0.3s,baz=0.6,slow=2.5,SNR=8.3						
URZ				S	**S**	**17 29 24.3**	**-5.9**
	26nm,0.7s,baz=126,slow=22,SNR=6.9						
URZ	**Urewera**	**17.10**	**190**	P	**P**	**17 26 41.5**	**-1.3**
URZ	**Urewera**	**17.10**	**190**	P	**P**	**17 26 41.5**	**-1.3**
MWZ	**Matawai**	**17.11**	**189**	P	**P**	**17 26 42.3**	**-0.6**
CNGZ	**Carnagh Statio**	**17.17**	**187**	P	**P**	**17 26 44.1**	**+0.7**
MUGZ	**Murupara**	**17.37**	**191**	P	**P**	**17 26 45.6**	**+0.2**
PRRZ	**Plateau Road**	**17.46**	**192**	P	**P**	**17 26 46.4**	**+0.3**
HIZ	**Hauiti**	**17.81**	**195**	P	**P**	**17 26 52.9**	**+3.6**
BKZ	**Black Stump Fm**	**18.09**	**191**	P	**P**	**17 26 50.5**	**-1.4**
BKZ				IAmb	IAmb	17 27 00.3	
	comp=Z,23nm,0.7s						
RAR	**Rarotonga**	**18.09**	**93**	P	**P**	**17 26 51.9**	**-0.2**
	comp=Z,22nm,0.8s,baz=261,slow=7.9,SNR=5.9						
RAR	**Rarotonga**	**18.09**	**93**	P	**P**	**17 26 52.2**	**+0.1**
BFZ	**Birch Farm**	**19.60**	**190**	P	**P**	**17 27 05.4**	**-0.2**
MSWZ	**Moikau Station**	**20.50**	**192**	P	**P**	**17 27 13.0**	**-0.6**
SNZO	**South Karori**	**20.51**	**193**	P	**P**	**17 27 11.7**	**-2.0**
SNZO	**South Karori**	**20.51**	**193**	P	**P**	**17 27 13.3**	**-0.3**
QRZ	**Quartz Range**	**20.60**	**198**	P	**P**	**17 27 14.6**	**+0.1**
QRZ				IAmb	IAmb	17 27 28.5	
	comp=Z,34nm,1.1s						
QRZ	**Quartz Range**	**20.60**	**198**	P	**P**	**17 27 15.3**	**+0.8**
PLWZ	**Palliser**	**20.64**	**192**	P	**P**	**17 27 12.9**	**-2.0**
NNZ	**Nelson**	**20.73**	**196**	P	**P**	**17 27 15.1**	**-0.5**
TUWZ	**Tuamarina**	**20.79**	**195**	P	**P**	**17 27 13.7**	**-2.5**
CMWZ	**Cape Campbell**	**21.03**	**194**	P	**P**	**17 27 16.4**	**-2.0**
BSWZ	**Blackbirch Sta**	**21.08**	**195**	P	**P**	**17 27 17.9**	**-0.9**
THZ	**Tophouse**	**21.36**	**196**	P	**P**	**17 27 20.7**	**-0.7**
THZ				IAmb	IAmb	17 27 24.5	
	comp=Z,25nm,1.1s						
KHZ	**Kahutara**	**21.82**	**195**	P	**P**	**17 27 24.4**	**-0.9**
KHZ	**Kahutara**	**21.82**	**195**	P	**P**	**17 27 24.6**	**-0.8**
LTZ	**Lake Taylor**	**22.48**	**197**	P	**P**	**17 27 30.0**	**-1.3**
OXZ	**Oxford**	**23.05**	**197**	P	**P**	**17 27 34.9**	**-1.4**
MQZ	**McQueen's Vall**	**23.25**	**195**	P	**P**	**17 27 37.5**	**-0.5**
HNR	**Honiara**	**23.34**	**297**	P	**P**	**17 27 39.1**	**-0.2**
	comp=Z,396nm,0.5s,baz=157,slow=8.3,SNR=6.2						
HNR	**Honiara**	**23.34**	**297**	P	**P**	**17 27 39.6**	**+0.3**
RPZ	**Rata Peaks**	**23.68**	**198**	P	**P**	**17 27 41.4**	**-0.5**
	comp=Z,3.3nm,0.3s,baz=16,slow=5.0,SNR=7.0						
	comp=Z,3.3nm,0.3s						
RPZ	**Rata Peaks**	**23.68**	**198**	P	**P**	**17 27 42.1**	**+0.2**
RPZ	**Rata Peaks**	**23.68**	**198**	P	**P**	**17 27 42.7**	**+0.8**
FOZ	**Fox Glacier**	**23.89**	**200**	P	**P**	**17 27 43.3**	**-0.4**
LBZ	**Lake Benmore**	**24.55**	**199**	P	**P**	**17 27 49.1**	**-0.5**
WKZ	**Wanaka**	**25.31**	**200**	P	**P**	**17 27 55.3**	**-0.9**
MLZ	**Mavora Lakes**	**26.08**	**201**	P	**P**	**17 28 03.0**	**+0.1**
MLZ				IAmb	IAmb	17 28 43.1	
	comp=Z,16nm,1.1s						
DCZ	**Deep Cove**	**26.49**	**202**	P	**P**	**17 28 06.9**	**+0.4**
DCZ				IAmb	IAmb	17 28 38.3	
	comp=Z,25nm,1.5s						
WHZ	**Wether Hill Ro**	**26.60**	**200**	P	**P**	**17 28 07.6**	**+0.1**
WHZ				IAmb	IAmb	17 28 22.0	
	comp=Z,13nm,1.0s						
EIDS	**Eidsvold**	**27.55**	**256**	P	**P**	**17 28 16.7**	**+0.6**
EIDS				IAmb	IAmb	17 28 17.5	
	comp=Z,7.8nm,0.7s						
EIDS	**Eidsvold**	**27.55**	**256**	P	**P**	**17 28 16.9**	**+0.8**
ARMA	**Armidale**	**27.68**	**245**	P	**P**	**17 28 19.2**	**+1.9**
RMQ	**Roma**	**29.69**	**254**	P	**P**	**17 28 36.3**	**+1.7**
CNB	**Canberra Magne**	**30.81**	**236**	P	**P**	**17 28 45.7**	**+1.6**
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**32.31**	**266**	P	**P**	**17 28 57.6**	**+0.7**
	comp=Z,15nm,0.5s,baz=94,slow=9.8,SNR=35						
	comp=Z,15nm,0.5s						
CTA	**Charters Tower**	**32.31**	**266**	P	**P**	**17 28 57.7**	**+0.7**
CTAO	**Charters Tower**	**32.31**	**266**	P	**P**	**17 28 57.2**	**+0.2**
CTAO	**Charters Tower**	**32.31**	**266**	P	**P**	**17 28 57.9**	**+1.0**
KRVT	**Keravat (AS076**	**32.71**	**297**	P	**P**	**17 28 58.8**	**-1.6**
	comp=Z,26nm,0.6s,baz=268,slow=20,SNR=4.6						
	comp=Z,26nm,0.6s						
CMSA	**Cobar Meteorol**	**32.90**	**245**	P	**P**	**17 29 02.8**	**+1.1**
QLP	**Quilpie**	**33.74**	**254**	P	**P**	**17 29 09.5**	**+0.7**
MTSU	**Mount Surprise**	**34.46**	**269**	P	**P**	**17 29 15.3**	**+0.4**
TOO	**Toolangi**	**34.47**	**234**	P	**P**	**17 29 16.6**	**+1.8**
PMG	**Port Moresby**	**34.49**	**285**	P	**P**	**17 29 15.6**	**+0.4**
	comp=Z,38nm,0.8s,baz=88,slow=6.7,SNR=10						
	comp=Z,38nm,0.8s						
PMG	**Port Moresby**	**34.49**	**285**	P	**P**	**17 29 14.8**	**-0.3**
PMG	**Port Moresby**	**34.49**	**285**	P	**P**	**17 29 15.5**	**+0.4**
PMG	**Port Moresby**	**34.49**	**285**	P	**P**	**17 29 15.6**	**+0.4**
STKA	**Stephens Creek**	**36.40**	**245**	P	**P**	**17 29 31.8**	**+1.1**
	comp=Z,4.7nm,0.7s,baz=104,slow=11,SNR=10						
	comp=Z,4.7nm,0.7s						
STKA	**Stephens Creek**	**36.40**	**245**	P	**P**	**17 29 31.4**	**+0.7**
COEN	**Coen**	**36.55**	**275**	P	**P**	**17 29 32.2**	**0.0**
COEN				IAmb	IAmb	17 29 34.0	
	comp=Z,17nm,0.8s						
COEN	**Coen**	**36.55**	**275**	P	**P**	**17 29 33.1**	**+1.0**
INKA	**Innaminka**	**36.87**	**252**	P	**P**	**17 29 35.0**	**+0.5**
QIS	**Mount Isa**	**38.41**	**264**	P	**P**	**17 29 47.2**	**0.0**
HTT	**Hallett**	**38.83**	**243**	P	**P**	**17 29 50.6**	**+0.2**
LCRK	**Leigh Creek**	**39.17**	**248**	P	**P**	**17 29 53.9**	**+0.8**
BBOO	**Buckleboo**	**41.16**	**244**	P	**P**	**17 30 09.4**	**+0.6**
OOD	**Oodnadatta**	**41.35**	**252**	P	**P**	**17 30 11.4**	**+1.0**
MULG	**Mulgathing**	**42.76**	**248**	P	**P**	**17 30 21.5**	**+0.2**
WR0	**Warramunga Arr**	**43.20**	**263**	P	**P**	**17 30 24.1**	**-0.8**
WR0				IAmb	IAmb	17 30 26.2	
	comp=Z,7.8nm,0.7s						
ASAR	**Alice Springs**	**43.24**	**258**	P	**P**	**17 30 25.6**	**+0.4**
	comp=Z,17nm,0.8s,baz=94,slow=7.3,SNR=14						
ASAR				PcP	**PcP**	**17 31 58.8**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=91,slow=4.7,SNR=4.3						
ASAR				pP	**pP**	**17 32 10.7**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=86,slow=8.1,SNR=1.3						
ASAR				ScP	**ScP**	**17 34 53.0**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=111,slow=4.4,SNR=6.0						
ASAR				S	**S**	**17 36 05.3**	**-3.5**
	comp=Z,4.4nm,0.9s,baz=94,slow=15,SNR=18						
	comp=Z,17nm,0.8s						
ASAR	**Alice Springs**	**43.24**	**258**	P	**P**	**17 30 25.1**	**-0.1**
WB0	**Warramunga Arr**	**43.37**	**264**	P	**P**	**17 30 25.6**	**-0.7**
WB2	**Warramunga Arr**	**43.38**	**263**	P	**P**	**17 30 25.7**	**-0.6**
WB2				IAmb	IAmb	17 30 26.9	
	comp=Z,24nm,0.8s						
WRAB	**Tennant Creek**	**43.38**	**263**	P	**P**	**17 30 25.5**	**-0.9**
WRAB				IAmb	IAmb	17 30 26.8	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**43.38**	**263**	P	**P**	**17 30 26.3**	**0.0**
WRA	**Warramunga Arr**	**43.39**	**263**	P	**P**	**17 30 26.1**	**-0.3**
	comp=Z,11nm,0.6s,baz=96,slow=7.4,SNR=69						
WRA				ScP	**ScP**	**17 34 55.1**	**+2.0**
	comp=Z,1.4nm,0.9s,baz=90,slow=3.8,SNR=5.6						
WRA				S	**S**	**17 36 04.1**	**-6.8**
	comp=Z,2.0nm,0.9s,baz=100,slow=19,SNR=9.0						
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**43.39**	**263**	P	**P**	**17 30 25.6**	**-0.8**
PUH	**Pauahi**	**46.83**	**32**	P	**P**	**17 30 51.7**	**-0.8**
KDU	**Kakadu**	**46.88**	**273**	P	**P**	**17 30 52.8**	**-0.1**
HMH	**Humu'ula Sheep**	**46.89**	**31**	P	**P**	**17 30 54.0**	**+0.8**
KEKH	**Kekaha**	**47.12**	**25**	P	**P**	**17 30 54.1**	**-0.4**
FORT	**Forrest**	**47.92**	**247**	P	**P**	**17 31 00.3**	**-0.2**
FORT				IAmb	IAmb	17 31 01.5	
	comp=Z,22nm,0.7s						
FORT	**Forrest**	**47.92**	**247**	P	**P**	**17 31 00.5**	**0.0**
MTN	**Manton Dam**	**48.08**	**272**	P	**P**	**17 31 01.4**	**-0.4**
WRKA	**Warakurna**	**48.16**	**255**	P	**P**	**17 31 02.4**	**+0.2**
KNRA	**Kununurra**	**49.51**	**267**	P	**P**	**17 31 12.4**	**+0.2**
KNRA				IAmb	IAmb	17 31 12.9	
	comp=Z,19nm,0.7s						
KNRA	**Kununurra**	**49.51**	**267**	P	**P**	**17 31 12.5**	**+0.2**
FAKI	**Fak Fak**	**50.64**	**284**	P	**P**	**17 31 20.1**	**-0.5**
FAKI				IAmb	IAmb	17 31 21.4	
	comp=Z,39nm,1.2s						
FAKI	**Fak Fak**	**50.64**	**284**	P	**P**	**17 31 20.6**	**0.0**
FITZ	**Fitzroy Crossi**	**51.82**	**263**	P	**P**	**17 31 29.4**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=171,slow=2.2,SNR=16						
FITZ				pP	**pP**	**17 33 21.1**	**-1.3**
	comp=Z,2.8nm,1.0s,baz=90,slow=20,SNR=1.2						
	comp=Z,4.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.82**	**263**	P	**P**	**17 31 28.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.82**	**263**	P	**P**	**17 31 29.5**	**+0.5**
SIJI	**Sorong**	**52.41**	**286**	P	**P**	**17 31 33.6**	**+0.2**
	comp=Z,106nm,0.7s,baz=96,slow=5.0,SNR=67						
	comp=Z,106nm,0.7s						
PSA00	**Pilbara Seismi**	**56.39**	**258**	P	**P**	**17 32 00.6**	**-0.4**
PSA00				IAmb	IAmb	17 32 01.6	
	comp=Z,21nm,0.9s						
PSA00	**Pilbara Seismi**	**56.39**	**258**	P	**P**	**17 32 00.3**	**-0.7**
PSA00				IAmb	IAmb	17 32 01.7	
	comp=Z,8.4nm,0.9s						
PSA00	**Pilbara Seismi**	**56.39**	**258**	P	**P**	**17 32 00.7**	**-0.2**
MEEK	**Meekatharra**	**56.58**	**252**	P	**P**	**17 32 02.0**	**-0.2**
MBWA	**Marble Bar**	**56.58**	**258**	P	**P**	**17 32 01.6**	**-0.6**
MBWA	**Marble Bar**	**56.58**	**258**	P	**P**	**17 32 02.2**	**0.0**
TNTI	**Ternate**	**56.63**	**286**	P	**P**	**17 32 02.5**	**-0.2**
TNTI				IAmb	IAmb	17 32 03.8	
	comp=Z,37nm,0.9s						
KLBR	**Kellerberrin**	**56.67**	**246**	P	**P**	**17 32 03.1**	**+0.4**
SBA	**Scott Base**	**56.90**	**184**	P	**P**	**17 32 06.2**	**+2.8**
SBA				IAmb	IAmb	17 32 07.8	
	comp=Z,25nm,0.9s						
VNDA	**Vanda**	**56.92**	**185**	P	**P**	**17 32 05.8**	**+2.3**
	comp=Z,4.9nm,0.7s,baz=354,slow=6.9,SNR=59						
VNDA				ScP	**ScP**	**17 35 51.2**	**+1.1**
	comp=Z,1.3nm,1.0s,baz=358,slow=6.7,SNR=3.0						
	comp=Z,4.9nm,0.7s						
VNDA	**Vanda**	**56.92**	**185**	P	**P**	**17 32 05.4**	**+1.9**
BLDU	**Ballidu**	**57.68**	**247**	P	**P**	**17 32 09.7**	**+0.1**
MMRI	**Maumere**	**57.69**	**273**	P	**P**	**17 32 09.5**	**-0.4**
MMRI				IAmb	IAmb	17 32 10.6	
	comp=Z,48nm,1.2s						
LUWI	**Luwuk**	**60.02**	**282**	P	**P**	**17 32 25.2**	**-0.2**
LUWI				IAmb	IAmb	17 32 41.4	
	comp=Z,41nm,1.0s						
GIRL	**Giralia**	**61.25**	**255**	P	**P**	**17 32 34.3**	**+1.0**
PLAI	**Plampang**	**61.78**	**271**	P	**P**	**17 32 36.6**	**-0.3**
CASY	**Casey**	**62.68**	**205**	P	**P**	**17 32 42.3**	**+0.6**
JYT	**Yasato**	**69.00**	**326**	P	**P**	**17 33 22.0**	**+0.8**
JYT				IAmb	IAmb	17 33 23.3	
	comp=Z,21nm,0.9s						
JMM	**Marumori**	**69.94**	**327**	P	**P**	**17 33 27.1**	**+0.2**
JMM				IAmb	IAmb	17 33 27.7	
	comp=Z,17nm,1.0s						
MJAR	**Matsushiro Arr**	**70.29**	**325**	P	**P**	**17 33 28.8**	**-0.2**
	comp=Z,7.0nm,0.7s,baz=158,slow=6.0,SNR=19						
	comp=Z,7.0nm,0.7s						
MAJO	**Matsushiro**	**70.30**	**325**	P	**P**	**17 33 28.7**	**-0.3**
MAJO				IAmb	IAmb	17 33 30.0	
	comp=Z,20nm,1.1s						
MAJO	**Matsushiro**	**70.30**	**325**	P	**P**	**17 33 29.2**	**+0.2**
MJB9	**Matsu-Tunnel**	**70.30**	**325**	P	**P**	**17 33 29.0**	**0.0**
MJB9				IAmb	IAmb	17 33 30.0	
	comp=Z,20nm,1.1s						
JSD	**Sado**	**71.38**	**326**	P	**P**	**17 33 35.9**	**+0.7**
JSD				IAmb	IAmb	17 33 37.6	
	comp=Z,21nm,0.9s						
LEM	**Lembang**	**71.92**	**270**	P	**P**	**17 33 39.3**	**+0.2**
	comp=Z,26nm,0.7s

baz=238
J01E Myrtle Point 81.88 37 P P 17 34 34.2 +2.1
baz=231
Q16K King Salmon 81.94 12 P P 17 34 34.1 +2.0
baz=201
BEKR Beckworth 81.97 42 P P 17 34 34.3 +1.3
PNTR Pine Nut 81.99 43 P P 17 34 34.1 +0.9
PNTR IAmb IAmb 17 34 35.7
comp=Z,15nm,0.8s
QSM Queen of Sheba 82.01 47 P P 17 34 34.5 +1.4
DSP Deep Springs 82.06 45 P P 17 34 35.1 +1.9
HUMO Hull Mountain 82.08 38 P P 17 34 35.6 +2.3
HUMO IAmb IAmb 17 34 36.5
comp=Z,13nm,1.1s
IPM Ipoh 82.16 278 P P 17 34 34.9 +0.6
IPM Ipoh 82.16 278 P P 17 34 34.7 +0.4
YERR Yerington 82.16 43 P P 17 34 35.5 +1.5
GMRC Granite Mounta 82.19 48 P P 17 34 35.8 +1.6
baz=237
LCH Last Change Ra 82.19 45 P P 17 34 35.4 +1.3
LHV Little Huntoon 82.21 44 P P 17 34 35.9 +2.0
IRM Iron Mountain 82.21 49 P P 17 34 36.0 +1.8
baz=238
L04D Klamath Falls 82.22 39 P P 17 34 35.4 +1.3
baz=232
GRAC Grapevine Rang 82.24 45 P P 17 34 35.4 +1.1
GRAC IAmb IAmb 17 34 41.6
comp=Z,8.9nm,0.5s
GWY Greenwater Val 82.26 46 P P 17 34 35.2 +0.7
CN2 Changchun 82.35 323 P P 17 34 35.5 +1.0
CN2 pmax pmax
comp=Z,10.0nm,1.1s
TUQ Turquoise Moun 82.36 47 P P 17 34 36.5 +1.5
baz=237
NVAR Mina Array Bea 82.44 44 P P 17 34 36.5 +1.1
comp=Z,3.0nm,0.8s,baz=224,slow=8.3,SNR=20
comp=Z,3.0nm,0.8s
GMN Gold Mountain 82.48 45 P P 17 34 36.9 +1.2
PAHR Pah Rah Range 82.49 42 P P 17 34 37.0 +1.5
BNX BinXian 82.53 325 ⇑P P 17 34 36.0 +0.6
BNX pmax pmax
comp=Z,15nm,0.9s
BNX pmax pmax
comp=Z,200nm,4.2s
NV11 Mina Array Sit 82.54 44 P P 17 34 36.7 +0.9
O16K Kokwok River B 82.54 11 P P 17 34 34.7 -0.4
baz=200
I03D Drain, OR 82.54 37 P P 17 34 37.1 +1.6
baz=231
214A Organ Pipe Nat 82.74 52 P P 17 34 37.7 +0.8
baz=239
Q20K Shuyak Island 82.75 14 P P 17 34 36.7 +0.6
baz=205
KLR Kul'dur 82.75 330 P P 17 34 37.5 +1.1
comp=Z,5.0nm,0.8s,baz=317,slow=7.0,SNR=14
comp=Z,5.0nm,0.8s
Q19K Cape Douglas, 82.77 13 P P 17 34 36.5 +0.2
baz=204
P18K Big Mountain, 82.88 12 P P 17 34 36.3 -0.5
baz=202
O17K Koliganek Bris 82.88 11 P P 17 34 38.5 +1.7
baz=201
KVN Kaiserville 82.92 43 P P 17 34 39.1 +1.3
TPH Tonopah 82.94 45 P P 17 34 39.3 +1.4
TPNV Topopah Spring 82.96 46 P P 17 34 38.7 +0.7
TPNV Topopah Spring 82.96 46 P P 17 34 39.1 +1.1
baz=237
J04D Umpqua Nationa 82.97 38 P P 17 34 39.5 +1.6
J04D Umpqua Nationa 82.97 38 P P 17 34 39.2 +1.3
baz=232
PDMCI Parker Dam,Lak 83.00 49 P P 17 34 38.7 +0.8
baz=238
I04A Tendick Farm, 83.13 38 P P 17 34 38.5 -0.1
baz=232
N16K Nishlik Lake 83.26 10 P P 17 34 39.6 +0.9
baz=199
O18K Koktuh Hills 83.31 12 P P 17 34 38.5 -0.5
O18K IAmb IAmb 17 34 40.0
comp=Z,21nm,0.8s
O18K Koktuh Hills 83.31 12 P P 17 34 39.0 +0.1
baz=202
K05A Summer Lake 83.36 39 P P 17 34 42.0 +2.1
K05A IAmb IAmb 17 34 42.8
comp=Z,18nm,1.0s
H04D Lebanon 83.40 37 P P 17 34 40.6 +0.8
baz=231
PSI Prapat 83.48 276 P P 17 34 40.9 -0.1
comp=Z,7.0nm,0.6s,baz=353,slow=4.7,SNR=4.8
comp=Z,7.0nm,0.6s
J05D Fort Rock, OR 83.50 39 P P 17 34 41.4 +0.9
baz=233
H04A Detroit Lake 83.81 37 P P 17 34 42.8 +1.0
H04A IAmb IAmb 17 34 43.9
comp=Z,11nm,1.1s
ILSW Iliamna Southw 83.84 13 P P 17 34 41.4 -0.3
ILSW IAmb IAmb 17 34 42.4
comp=Z,37nm,1.0s
PINE Pine Mountain 83.97 38 P P 17 34 44.9 +2.0
PINE IAmb IAmb 17 34 45.7
comp=Z,16nm,1.1s
BRSE Bradley Lake S 84.14 14 P P 17 34 43.3 +0.2
baz=206
GSI Gunungsitoli 84.18 274 P P 17 34 45.7 +1.4
N19K Bonanza Creek 84.34 12 P P 17 34 43.6 -0.5
baz=203
TUC Tucson 84.41 52 P P 17 34 47.4 +2.3
TUC Tucson 84.41 52 P P 17 34 45.5 +0.4
baz=240
SEW Seward 84.76 14 P P 17 34 45.9 -0.1
baz=208
CAPN Captain Cook N 84.97 13 P P 17 34 47.3 +0.3
baz=206
I07A Izee 84.98 39 P P 17 34 49.4 +1.7
319A Douglas 85.07 54 P P 17 34 49.5 +1.1
319A IAmb IAmb 17 34 52.1
comp=Z,8.8nm,0.8s
N20K Mount Spurr 85.14 13 P P 17 34 46.6 -1.4
baz=205
SPCR Spurr Chakacha 85.14 13 P P 17 34 47.3 -0.7
baz=205
P23K Montague Islan 85.16 15 P P 17 34 47.5 -0.5
baz=210
J08A Circle Bar Ran 85.16 40 P P 17 34 50.1 +1.6
J08A IAmb IAmb 17 34 51.1
comp=Z,9.9nm,1.2s
CCUT Cedar City 85.23 47 P P 17 34 51.0 +1.8
M19K Big River Lodg 85.36 11 P P 17 34 48.4 -0.5
baz=203
U15A North Rim 85.39 48 P P 17 34 51.6 +1.6
LYN LuoYang 85.47 310 *e*P P 17 34 51.0 +0.9
L19K White Mountain 85.53 11 P P 17 34 50.3 +0.5
L19K IAmb IAmb 17 34 51.3
comp=Z,18nm,1.1s
L19K White Mountain 85.53 11 P P 17 34 50.3 +0.5
baz=203
WUAZ Wupatki 85.57 49 P P 17 34 49.8 -0.9
baz=240
RC01 Rabbit Creek A 85.57 14 P P 17 34 50.3 +0.4
RC01 Rabbit Creek A 85.57 14 P P 17 34 50.1 +0.2
baz=207
M20K Styx River 85.58 12 P P 17 34 49.6 -0.5
baz=204
ENH Enshi 85.64 305 P P 17 34 51.7 +0.7
SUA Susitna One 85.69 13 P P 17 34 50.5 -0.1
SUA IAmb IAmb 17 34 51.3
comp=Z,16nm,1.0s
SUA Susitna One 85.69 13 P P 17 34 50.3 -0.3
baz=206
PWL Port Wells 85.69 15 P P 17 34 50.7 +0.2
PWL IAmb IAmb 17 34 51.5
comp=Z,18nm,1.0s
PWL Port Wells 85.69 15 P P 17 34 50.7 +0.2
baz=209
ELK Elko 85.69 43 P P 17 34 51.8 +0.5
BJI Beijing 85.77 316 P P 17 34 52.5 +1.2
BJI pmax pmax
comp=Z,7.0nm,0.8s
KAIM Kayak Island 85.87 17 P P 17 34 52.2 +0.9
baz=212
L20K Farewell, AK 85.99 11 P P 17 34 51.5 -0.4
baz=204
SKT Skwentna 85.99 13 P P 17 34 51.6 -0.3
baz=206
CRAG Craig 85.99 24 P P 17 34 52.7 +0.8
baz=222
GLI Glacier Island 86.00 15 P P 17 34 52.1 +0.1
baz=210
G08A Pilot Rock 86.00 38 P P 17 34 54.1 +1.6
G08A IAmb IAmb 17 34 54.9
comp=Z,10nm,1.1s
TTA Tatalina 86.03 10 P P 17 34 52.4 +0.2
baz=202
EYAK Cordova Ski Ar 86.05 16 P P 17 34 52.6 +0.4
baz=211
M22K Willow 86.08 13 P P 17 34 52.0 -0.2
M22K IAmb IAmb 17 34 53.1
comp=Z,13nm,0.8s
M22K Willow 86.08 13 P P 17 34 52.7 +0.5
baz=207
GYA Guiyang 86.14 300 ⇓P P 17 34 55.3 +1.7
GYA pmax pmax
comp=Z,13nm,1.0s
KNK Knik Glacier 86.15 14 P P 17 34 52.0 -0.7
KNK IAmb IAmb 17 34 53.9
comp=Z,17nm,1.1s
KNK Knik Glacier 86.15 14 P P 17 34 52.6 -0.1
baz=208
MTPU Mount Pierson 86.28 47 P P 17 34 55.7 +1.4
HAWA Hanford 86.33 37 P P 17 34 55.1 +1.2
HAWA IAmb IAmb 17 34 56.4
comp=Z,11nm,0.9s
U33K Whale Pass 86.47 24 P P 17 34 55.1 +0.9
baz=222
V35K Ketchikan 86.47 25 P P 17 34 54.9 +0.6
baz=224
DIV Divide 86.55 16 P P 17 34 54.8 +0.2
DIV IAmb IAmb 17 34 55.8
comp=Z,21nm,1.1s
M23K Glacier View 86.65 14 P P 17 34 55.4 +0.4
baz=209
PPLA Purkeypile 86.69 12 P P 17 34 55.0 -0.3
baz=205
BMRM Bremner River 86.70 16 P P 17 34 55.7 +0.4
BMRM IAmb IAmb 17 34 56.7
comp=Z,12nm,0.9s
BMRM Bremner River 86.70 16 P P 17 34 55.5 +0.2
baz=212
BMO Blue Mountains 86.71 39 P P 17 34 56.9 +1.1
WAX Waxell Ridge 86.73 17 P P 17 34 56.1 +0.6
MESA MESA 86.76 18 P P 17 34 56.1 +0.3
baz=214
K20K Telida 86.76 11 P P 17 34 56.0 +0.5
baz=203
SCM Sheep Creek Mo 86.78 15 P P 17 34 55.6 -0.1
SCM Sheep Creek Mo 86.78 15 P P 17 34 56.0 +0.3
baz=210,SNR=10
MFID Camas Ranch 86.79 41 P P 17 34 56.9 +0.7
MFID IAmb IAmb 17 34 58.6
comp=Z,7.9nm,1.1s
KLU Klutina 86.82 15 P P 17 34 56.4 +0.5
KLU IAmb IAmb 17 34 57.1
comp=Z,16nm,1.2s
KLU Klutina 86.82 15 P P 17 34 55.9 0.0
baz=211
TROLL Troll, Antarti 86.82 181 P P 17 34 56.0 0.0
TROLL Troll, Antarti 86.82 181 pP pP 17 37 10.9 +2.1
S32K Killisnoo 86.95 22 P P 17 34 57.1 +0.7
baz=221
YAH Yahtse 86.97 18 P P 17 34 57.7 +0.9
YAH IAmb IAmb 17 34 58.2
comp=Z,14nm,0.9s
WRAK Wrangell Islan 86.99 24 P P 17 34 57.4 +0.7
baz=223
D08A Wollman Farm, 87.06 36 P P 17 34 58.9 +1.7
D08A IAmb IAmb 17 34 59.8
comp=Z,10.0nm,0.8s
PNL Peninsula 87.09 19 P P 17 34 58.2 +1.1
baz=217,SNR=5.6
SNAA Sanae 87.13 179 P P 17 34 57.0 -0.4
SNAA Sanae 87.13 179 pP pP 17 37 12.7 +2.3
SNAA Sanae 87.13 179 P P 17 34 56.5 -0.9
SNAA pP 17 37 12.6 +2.2
E09A Wood Farm, Sta 87.18 37 P P 17 34 58.9 +1.1
E09A IAmb IAmb 17 35 00.5
comp=Z,15nm,1.3s
PINM Pinnacle 87.18 18 P P 17 34 57.9 +0.3
baz=216
CAST Castle Rocks 87.18 12 P P 17 34 56.1 -1.4
CAST IAmb IAmb 17 34 57.3
comp=Z,16nm,0.9s
CAST Castle Rocks 87.18 12 P P 17 34 56.3 -1.2
baz=205,SNR=11
TABL Table Mountain 87.20 18 P P 17 34 58.6 +0.7
TABL IAmb IAmb 17 34 59.5
comp=Z,17nm,1.0s
N25K Chitina, Valde 87.25 16 P P 17 34 57.8 -0.1
N25K IAmb IAmb 17 34 59.3
comp=Z,18nm,1.2s
N25K Chitina, Valde 87.25 16 P P 17 34 57.4 -0.5
baz=212
VNA3 Neumayer Olymp 87.31 177 P P 17 34 58.0 -0.2
VNA3 Neumayer Olymp 87.31 177 pP pP 17 37 13.2 +2.0
GLB Gilahina Butte 87.31 16 P P 17 34 58.4 +0.2
GLB IAmb IAmb 17 34 59.6
comp=Z,11nm,1.1s
WAT6 Susitna Watana 87.34 14 P P 17 34 58.2 -0.2
baz=209,SNR=5.1
WAT1 Susitna Watana 87.38 14 P P 17 34 58.5 +0.1
baz=208
LL02 Futaleuf 87.45 136 P P 17 35 01.2 +1.8
MCARA McCarthy VSAT 87.47 17 P P 17 34 59.8 +1.0
MCARA IAmb IAmb 17 35 00.6
comp=Z,13nm,1.0s
MCARA McCarthy VSAT 87.47 17 P P 17 34 58.7 -0.1
baz=213
J20K Nowinta River 87.50 11 P P 17 34 58.9 0.0
baz=203
KTH Kantishna Hill 87.53 12 P P 17 34 58.4 -0.7
KTH IAmb IAmb 17 34 59.2
comp=Z,15nm,1.0s
LOGN Logan Glacier 87.56 18 P P 17 35 00.4 +0.9
LOGN IAmb IAmb 17 35 01.0
comp=Z,12nm,0.9s
CHUM Lake Minchumin 87.56 12 P P 17 34 58.5 -0.7
baz=205
TRF Thorofare Moun 87.57 13 P P 17 34 59.0 -0.4
TRF Thorofare Moun 87.57 13 P P 17 34 58.4 -1.1
baz=207,SNR=11
P29M Windy Craggy 87.57 20 P P 17 35 00.9 +1.5
P29M IAmb IAmb 17 35 01.7
comp=Z,11nm,1.1s
P29M Windy Craggy 87.57 20 P P 17 35 00.1 +0.7
baz=218
TMUT Trail Mountain 87.58 46 P P 17 35 02.0 +1.8
CTG Chitna Glacier 87.58 17 P P 17 34 59.6 0.0
baz=215
CTGM Chitina Glacie 87.58 17 P P 17 35 00.3 +0.8
CTGM IAmb IAmb 17 35 01.2
comp=Z,13nm,0.9s
R32K Eaglecrest 87.58 22 P P 17 35 00.7 +1.3
baz=221
B08A Colville Reser 87.60 35 P P 17 35 00.3 +0.5
B08A IAmb IAmb 17 35 01.4
comp=Z,9.6nm,0.9s
PLID Pearl Lake 87.61 39 P P 17 35 00.8 +0.6
PLID IAmb IAmb 17 35 02.3
comp=Z,9.2nm,1.3s
LLLB Lillooet 87.64 32 P P 17 35 01.1 +1.1
LLLB IAmb IAmb 17 35 02.1
comp=Z,9.2nm,1.1s
VNA2 Neumayer--Watz 87.74 177 P P 17 35 00.2 +0.1
baz=163,slow=3.0
O28M Mount Upton 87.75 18 P P 17 35 01.2 +0.7
baz=216,SNR=8.3
HARP HAARP 87.79 15 P P 17 35 00.7 +0.3
baz=212
XAN Xi'an 87.81 308 ⇓P P 17 35 02.0 +0.9
XAN pmax pmax
comp=Z,16nm,1.4s
HVU Hansel Valley 87.82 43 P P 17 35 01.9 +0.8
HVU IAmb IAmb 17 35 03.4
comp=Z,9.4nm,1.3s
RND Reindeer 87.82 13 P P 17 35 00.1 -0.5
O29M Mount Kennedy 87.85 19 P P 17 35 01.6 +0.8
baz=217
DHY Denali Highway 87.86 14 P P 17 35 01.3 +0.5
baz=210
PLBC Pleasant Camp 87.87 20 P P 17 35 01.3 +0.5
baz=219
XLT XiLinHaoTe 87.89 319 ⇓*i*P P 17 35 02.3 +0.9
XLT pP pwP 17 37 20.5 +2.7
XLT pmax pmax
comp=Z,5.0nm,0.7s
XLT pmax pmax
comp=Z,180nm,6.7s
SRU San Rafael Swe 87.94 46 P P 17 35 02.6 +0.8
SRU IAmb IAmb 17 35 04.7
comp=Z,9.9nm,1.2s
VNA1 Neumayer--Stat 87.97 177 P P 17 35 01.3 +0.1
BPAW Bear Paw Mtn. 88.01 12 P P 17 35 02.2 +0.8
baz=206
MCK McKinley 88.10 13 P P 17 35 01.6 -0.1
MCK IAmb IAmb 17 35 02.4
comp=Z,20nm,1.2s
MCK McKinley 88.10 13 P P 17 35 01.4 -0.3
baz=208,SNR=5.3
P30M Million Dollar 88.20 20 P P 17 35 03.0 +0.7
baz=219
M26K Nabesna, AK 88.33 16 P P 17 35 03.5 +0.6
M26K IAmb IAmb 17 35 04.5
comp=Z,14nm,1.2s
M26K Nabesna, AK 88.33 16 P P 17 35 03.5 +0.6
baz=213,SNR=7.3
TCUT Toone Canyon 88.36 44 P P 17 35 05.3 +1.5
TCUT IAmb IAmb 17 35 06.2
comp=Z,9.6nm,1.0s
TX31 Lajitas Ar. Si 88.47 58 P P 17 35 06.2 +1.8
TX32 Lajitas Array 88.47 58 P P 17 35 06.2 +1.8
TXAR Lajitas Array 88.47 58 P P 17 35 06.5 +2.1
comp=Z,3.0nm,0.8s,baz=224,slow=5.2,SNR=15
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 88.47 58 P P 17 35 05.8 +1.4
YUK3 Moose Creek 88.49 17 P P 17 35 03.9 0.0
baz=216,SNR=24
S34M Telegraph Cree 88.53 23 P P 17 35 04.5 +0.7
baz=224
M27K Edge Creek, AK 88.58 16 P P 17 35 05.2 +1.0
M27K Edge Creek, AK 88.58 16 P P 17 35 04.8 +0.6
baz=214,SNR=10
HYT Haines Junctio 88.58 19 P P 17 35 04.9 +0.7
baz=218
YUK4 Talbot Arm 88.66 18 P P 17 35 05.6 +1.0
baz=217
NEW Newport 88.75 36 P P 17 35 05.5 +0.3
baz=235
L26K Log Cabin Wild 88.76 15 P P 17 35 05.6 +0.7
L26K IAmb IAmb 17 35 06.4
comp=Z,9.0nm,1.4s
L26K Log Cabin Wild 88.76 15 P P 17 35 06.1 +1.2
baz=213
KMI Kunming 88.78 297 ⇑P P 17 35 07.3 +1.2
KMI pmax pmax
comp=Z,8.0nm,1.0s
I21K Tanana 88.80 11 P P 17 35 05.0 +0.1
I21K IAmb IAmb 17 35 06.0
comp=Z,13nm,1.0s
I21K Tanana 88.80 11 P P 17 35 04.9 0.0
baz=205,SNR=8.6
ANMO Albuquerque 88.83 52 P P 17 35 06.3 +0.2
ANMO Albuquerque 88.83 52 P P 17 35 06.2 +0.2
baz=243
NEA2 Nenana 88.83 13 P P 17 35 04.1 -1.1
NEA2 Nenana 88.83 13 P P 17 35 05.0 -0.1
baz=208
K24K Donnelly Dome 88.85 14 P P 17 35 05.7 +0.4
baz=211,SNR=6.6
MLY Manley 88.90 12 P P 17 35 04.9 -0.5
MLY IAmb IAmb 17 35 05.7
comp=Z,9.5nm,1.2s
MLY Manley 88.90 12 P P 17 35 05.1 -0.4
baz=206,SNR=8.5
BVCY Beaver Creek 88.90 17 P P 17 35 05.6 0.0
baz=215,SNR=5.1
WRH Wood River Hil 88.92 13 P P 17 35 05.0 -0.5
O30N Mendenhall 88.98 20 P P 17 35 06.0 +0.1
baz=220
H21K Melozitna Rive 89.09 11 P P 17 35 06.5 +0.2
H21K IAmb IAmb 17 35 07.1
comp=Z,6.0nm,1.0s
H21K Melozitna Rive 89.09 11 P P 17 35 06.1 -0.2
baz=204
HDA Harding Lake 89.11 13 P P 17 35 06.3 -0.2
HDA IAmb IAmb 17 35 08.1
comp=Z,6.8nm,0.8s
HDA Harding Lake 89.11 13 P P 17 35 06.2 -0.2
baz=210,SNR=5.1
DOT Dot Lake 89.12 15 P P 17 35 06.7 +0.2
DOT IAmb IAmb 17 35 07.7
comp=Z,7.2nm,1.0s
CCB Clear Creek Bu 89.14 13 P P 17 35 06.2 -0.3
CCB IAmb IAmb 17 35 06.9
comp=Z,13nm,1.1s
L27K Beaver Creek, 89.18 16 P P 17 35 06.6 -0.2
L27K Beaver Creek, 89.18 16 P P 17 35 07.0 +0.2
baz=214,SNR=5.6
BCAR Beaver Creek A 89.19 16 P P 17 35 07.1 +0.2
HHC Hu-ho-hao-te 89.20 315 *e*P P 17 35 13.3 +5.8
N30M Aishikik Lake 89.21 19 P P 17 35 07.2 +0.2
baz=219
DLBC Dease Lake 89.31 23 P P 17 35 08.5 +0.9
baz=225
MDM Murphy Dome 89.33 13 P P 17 35 06.7 -0.7
MDM IAmb IAmb 17 35 07.8
comp=Z,13nm,1.0s
GO06 Curarrehue 89.36 133 P P 17 35 09.4 +1.0
GO06 IAmb IAmb 17 35 11.1
comp=Z,12nm,1.1s
CM31 Chiang Mai Arr 89.38 290 P P 17 35 10.3 +1.6
CMAR Chiang Mai Arr 89.38 290 P P 17 35 10.6 +1.9
comp=Z,8.0nm,0.9s,baz=130,slow=3.1,SNR=61
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 89.38 290 P P 17 35 10.2 +1.5
AHID Auburn Hatcher 89.39 43 P P 17 35 09.7 +1.3
AHID IAmb IAmb 17 35 11.7
comp=Z,5.1nm,0.8s
SCRK Sand Creek 89.41 15 P P 17 35 08.2 +0.2
SCRK IAmb IAmb 17 35 09.3
comp=Z,5.4nm,1.0s
SCRK Sand Creek 89.41 15 P P 17 35 08.5 +0.5
baz=212
IL31 89.44 13 P P 17 35 07.2 -0.6
IL31 IAmb IAmb 17 35 08.5
comp=Z,14nm,1.3s
ILAR Eielson Array 89.44 13 P P 17 35 07.3 -0.6
comp=Z,1.4nm,0.4s,baz=225,slow=5.3,SNR=15
comp=Z,1.4nm,0.4s
PLCA Paso Flores 89.45 134 P P 17 35 10.4 +1.6
comp=Z,5.5nm,1.0s,baz=238,slow=5.5,SNR=9.4
comp=Z,5.5nm,1.0s
PLCA Paso Flores 89.45 134 P P 17 35 10.3 +1.5
PLCA IAmb IAmb 17 35 11.1
comp=Z,12nm,1.1s
CHTO Chiang Mai 89.52 290 P P 17 35 10.7 +1.3
H22K Ishtalitna Cre 89.56 11 P P 17 35 08.4 -0.1
baz=206,SNR=7.0
M29M Somme Creek 89.59 18 P P 17 35 09.5 +0.7
baz=217,SNR=5.4
J25K Salcha River, 89.64 14 P P 17 35 08.9 +0.1
J25K IAmb IAmb 17 35 10.0
comp=Z,6.4nm,1.1s
J25K Salcha River, 89.64 14 P P 17 35 09.0 +0.1
baz=211,SNR=6.2
G21K Allakaket 89.76 10 P P 17 35 09.3 -0.1
baz=204
S22A 4UR Ranch, Cre 89.84 49 P P 17 35 12.3 +1.5
S22A 4UR Ranch, Cre 89.84 49 P P 17 35 11.6 +0.8
baz=243
REDW Red Top Meadow 89.84 43 P P 17 35 12.0 +1.4
REDW IAmb IAmb 17 35 12.8
comp=Z,15nm,1.4s
J26L Joseph Creek 89.95 15 P P 17 35 11.0 +0.6
J26L IAmb IAmb 17 35 12.2
comp=Z,11nm,0.9s
J26L Joseph Creek 89.95 15 P P 17 35 11.2 +0.8
baz=213,SNR=17
PZH PanZhiHua 90.16 298 P P 17 35 13.8 +1.5
PZH pmax pmax
comp=Z,100nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.3s
L29M L29M 90.21 17 P P 17 35 11.9 +0.3
baz=218,SNR=5.4
BW06 Boulder Array 90.38 44 P P 17 35 13.5 +0.4
BW06 IAmb IAmb 17 35 15.2
comp=Z,5.2nm,1.2s
BW06 Boulder Array 90.38 44 P P 17 35 13.2 +0.1
baz=241

PD31	Pinedale Array	90.38	44	P		P		17 35 13.5	+0.4
PDAR	Pinedale Array	90.38	44	P		P		17 35 13.5	+0.4
	comp=Z,1.5nm,0.8s,baz=202,slow=3.2,SNR=11								
	comp=Z,1.5nm,0.8s								
PDAR	Pinedale Array	90.38	44	P		P		17 35 12.8	-0.3
PRP	Porcupine Dome	90.38	13	P		P		17 35 12.4	-0.1
PRP				IAmb		IAmb		17 35 13.8	
	comp=Z,6.5nm,1.2s								
PRP	Porcupine Dome	90.38	13	P		P		17 35 13.4	+0.9
	baz=211								
BOZ	Bozeman (W)	90.49	40	P		P		17 35 13.8	+0.3
	baz=239								
G23K	Bananza Creek	90.54	11	P		P		17 35 13.6	+0.6
	baz=207								
M31M	Drury Creek, Y	90.60	19	P		P		17 35 13.8	+0.4
	baz=221								
DAWY	Dawson	90.63	16	P		P		17 35 14.1	+0.6
DAWY				IAmb		IAmb		17 35 15.6	
	comp=Z,6.5nm,1.1s								
DAWY	Dawson	90.63	16	P		P		17 35 14.3	+0.8
	baz=217,SNR=5.4								
EGAK	Eagle	90.76	15	P		P		17 35 14.3	+0.3
	baz=215								
SDCO	Great Sand Dun	90.78	50	P		P		17 35 15.1	0.0
	baz=243								
FARO	Faro, Yukon	90.94	20	P		P		17 35 15.6	+0.6
	baz=222								
K29M	Barlow Dome	90.96	17	P		P		17 35 16.1	+1.0
	baz=218								
COLD	Coldfoot	90.97	11	P		P		17 35 15.9	+1.0
	baz=207								
T25A	Trinidad	91.29	50	P		P		17 35 18.0	+0.6
	baz=244								
I27K	Kandik River	91.33	15	P		P		17 35 18.4	+1.7
	baz=215								
833A	Chaparral WMA,	91.47	60	P		P		17 35 18.0	-0.1
	baz=246								
Q24A	Divide	91.57	49	P		P		17 35 18.7	-0.1
	baz=244								
F24K	Squaw Lake	91.65	12	P		P		17 35 18.9	+0.8
	baz=209								
E23K	Chandalar	91.81	11	P		P		17 35 19.6	+0.7
	baz=207								
H27K	Steamboat Moun	91.87	14	P		P		17 35 20.2	+1.0
	baz=215								
N23A	Red Feather La	91.89	47	P		P		17 35 20.8	+0.6
	baz=243								
MMPY	Sheldon Lake,	91.89	20	P		P		17 35 20.4	+1.0
	baz=224								
I29M	Ogilvie Camp,	91.95	16	P		P		17 35 21.2	+1.7
	baz=218								
G26K	Porcupine Rive	91.97	13	P		P		17 35 21.1	+1.6
	baz=213								
E24K	Your Creek	92.03	11	P		P		17 35 20.5	+0.7
	baz=208								
F25K	Christian Rive	92.14	12	P		P		17 35 21.2	+0.8
	baz=211								
D23K	Nanushuk River	92.45	10	P		P		17 35 23.0	+1.3
	baz=206								
F26K	Sheenjek River	92.53	13	P		P		17 35 23.4	+1.2
	baz=212								
EPYK	Eagle Plains	93.15	16	P		P		17 35 25.4	+0.4
	baz=219								
C23K	Itkillik River	93.24	10	P		P		17 35 26.4	+1.1
	baz=206								
C24K	Franklin Bluff	93.44	10	P		P		17 35 26.8	+0.6
	baz=208								
E27K	Coleen River	93.47	13	P		P		17 35 27.1	+0.6
	baz=215								
C27K	Jago River	94.25	12	P		P		17 35 30.5	+0.6
	baz=213								
SONM	Songino Array	95.71	319	P		P		17 35 37.8	+0.6
	comp=Z,0.6nm,0.8s,baz=108,slow=3.2,SNR=2.7								
	comp=Z,0.6nm,0.8s								
GTA	Gaotai	96.69	310	*e*P		P		17 35 43.5	+1.7
GTA				pP		PcP		17 35 48.0	+6.2
GTA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
MKAR	Makanchi Array	111.01	313	PKiKP		PKiKP		17 40 39.1	-1.2
	comp=Z,0.4nm,0.4s,baz=86,slow=0.1,SNR=11								
KURBB	Kurchatov Arra	113.96	317	PKiKP		PKiKP		17 40 44.4	-1.4
	comp=Z,0.4nm,0.4s,baz=110,slow=2.0,SNR=5.5								
KURBB				PP		PP		17 41 44.9	-7.5
	comp=Z,1.0nm,0.9s,baz=88,slow=6.6,SNR=4.3								
GEYT	Alibeck	128.33	302	PKP		PKiKP		17 41 14.6	+0.1
	comp=Z,1.4nm,0.5s,baz=354,slow=1.5,SNR=4.7								
ARCES	ARCESS Array B	129.60	349	PKP		PKPdf		17 41 15.1	-0.2
	comp=Z,1.1nm,0.4s,baz=87,slow=1.4,SNR=21								
ARCES				SKPbc		SKPab		17 43 40.7	+0.6
	comp=Z,5.8nm,0.9s,baz=25,slow=4.0,SNR=7.5								
KLMR	Klimovskoe	132.25	336	*e*PP		PP		17 43 48.8	-3.9
KLMR				AMP				17 43 53.6	
	comp=Z,17nm,1.4s								
FINES	FINESS Array B	136.32	343	PKhKP		PKPpre		17 41 17.3	
	comp=Z,0.3nm,0.3s,baz=58,slow=4.7,SNR=4.7								
FINES				PKP		PKiKP		17 41 29.2	-0.7
	comp=Z,1.3nm,0.3s,baz=70,slow=4.9,SNR=16								
FINES				SKPbc		SKPbc		17 44 02.9	+0.3
	comp=Z,2.1nm,0.7s,baz=43,slow=2.7,SNR=6.3								
KMBO	Kilima Mbogo	137.94	242	SKPbc		SKPbc		17 44 07.3	-1.8
	comp=Z,3.1nm,0.5s,baz=149,slow=0.6,SNR=6.0								
NB2	NORSAR Subarra	139.74	352	PKP		PKPpre		17 41 27.1	
	comp=Z,1.0nm,0.5s,baz=21,slow=3.6								
NOA	NORSAR Array B	139.74	352	PKhKP		PKPpre		17 41 26.6	
	comp=Z,0.3nm,0.4s,baz=28,slow=1.4,SNR=8.0								
KOPT	Kop Dagi	141.55	308	PKPdf		PKPdf		17 41 35.9	-2.8
TJOU	Tjoern	142.58	351	*i* P		PKPdf		17 41 35.9	-3.5
HOMB	Homborsund	142.76	353	*i* P		PKPdf		17 41 36.9	-2.8
SNART	Snartemo	142.82	354	*i* P		PKPdf		17 41 36.6	-3.2
ONAU	Onsala	143.14	350	*i* P		PKPab		17 41 37.6	-1.0
AKASG	Malin Array Be	143.25	330	PKP		PKPab		17 41 38.6	-0.7
AKBB	Malin Array Si	143.25	330			PKPab		17 41 38.2	-1.1
FABU	Falkenberg	143.38	349	*i* P		PKPab		17 41 38.1	-1.5
BLEU	Blekinge	143.41	346	*i* P		PKPab		17 41 38.4	-1.3
DEL	Delary	143.67	348	*i* P		PKPbc		17 41 40.2	-0.4
LUNU	Lund	144.54	348	*i* P		PKPdf		17 41 41.8	-1.1
BSD	Bornholm Skovb	144.71	346	*i* P		PKPbc		17 41 43.8	0.0
BNN	Bunyan	145.34	308	PKPdf		PKPdf		17 41 45.5	+0.5
MILM	Milestii Mici	145.92	325	⇑P		PKPbc		17 41 47.5	-0.1
ILGA	Ilgaz	146.01	313			PKPbc		17 41 49.1	+0.7
BR131	Keskin Array S	146.61	311			PKPbc		17 41 49.3	-0.6
BRTR	Keskin Array B	146.61	311	PKPbc		PKPbc		17 41 49.5	-0.4
	comp=Z,3.8nm,0.6s,baz=134,slow=4.1,SNR=27								
BRTR				pPKPbc		pPKPab		17 44 09.3	-0.6
	comp=Z,0.4nm,0.6s,baz=85,slow=2.4,SNR=2.0								
BRTR	Keskin Array B	146.61	311			PKPbc		17 41 48.6	-1.3
VASR	Vaslui	146.63	325	⇑P		PKPbc		17 41 50.3	+0.7
VARL	Varlezi	147.07	324	⇓P		PKiKP		17 41 51.8	-0.6
ANTO	Ankara	147.15	311	⇓P		PKiKP		17 41 52.1	-0.8
JURR	Jurilovca	147.19	322	⇑P		PKiKP		17 41 52.0	-0.7
GHRR		147.21	325	⇑P		PKiKP		17 41 52.5	-0.2
BUR08	Bucovina Ar. S	147.27	329			PKPbc		17 41 51.7	+0.3
BURAR	Bucovina Array	147.28	329	⇑P		PKiKP		17 41 52.2	-0.8
BURAR	Bucovina Array	147.28	329			PKPbc		17 41 51.6	+0.2
BIZ	Bicaz	147.31	327	⇑P		PKiKP		17 41 52.5	-0.5
TESR	Tescani	147.32	326	⇓P		PKPbc		17 41 51.5	+0.1
CFR	Carcaliu	147.36	323	⇓P		PKPbc		17 41 51.5	0.0
TPGR	Topolog	147.40	322	⇑P		PKPbc		17 41 52.2	+0.6
OJC	Ojcow	147.58	337	*e*PKPdf		PKPbc		17 41 50.3	-1.6
OJC	Ojcow	147.58	337			PKPdf		17 41 50.0	+1.7
KOLS	Kolonicke sedl	147.64	333	*e*PKP		PKiKP		17 41 52.9	-0.6
KOLS				*e*				17 44 20.3	
VRI	Vrincioaia	147.70	325	⇓P		PKPbc		17 41 53.0	+0.6
PLOR	Plostina	147.75	325	⇑P		PKPbc		17 41 52.6	0.0
HARR	Harsova	147.77	322	⇑P		PKiKP		17 41 53.2	-0.7
CRVS	Cervenica-Dubn	148.00	334	*e*PKP		PKiKP		17 41 53.8	-0.5
CRVS				*e*				17 44 22.2	
NIE	Niedzica	148.05	336	*e*PKPbc		PKiKP		17 41 54.1	-0.3
NIE				*ep*PKPbc		pPKPab		17 44 21.8	+6.8
BMR	Baia Mare	148.05	331	⇓P		PKPbc		17 41 53.5	+0.3
TRPA	Tarpa	148.14	332	⇑P		PKiKP		17 41 54.0	-0.6
TRPA	Tarpa	148.14	332	PKP		PKPbc		17 41 53.8	+0.4
KSP	Ksiaz	148.21	341	*e*PKPbc		PKiKP		17 41 54.2	-0.4
KSP				*ep*PKPbc		pPKPab		17 44 21.6	+6.0
DOPR	Dopca	148.33	326	⇑P		PKiKP		17 41 55.0	-0.1
MLR	Muntele Rosu	148.36	325	⇑P		PKiKP		17 41 55.3	0.0
MLR	Muntele Rosu	148.36	325			PKPbc		17 41 54.0	-0.2
OSTC	Ostas	148.49	341	⇑*e*PKP		PKiKP		17 41 55.3	0.0
OSTC				*e*PKPAB		PKPab		17 42 01.6	+1.4
CHVC	Chvalec	148.51	341	⇑*e*PKP		PKiKP		17 41 55.4	+0.1
CHVC				*e*PKPAB		PKPab		17 42 01.2	+1.0
LANS	Liptovska Anna	148.58	336	*e*PKP		PKiKP		17 41 56.0	+0.5
LANS				*e*				17 42 02.5	
DPC	Dobruska-Polom	148.63	341	⇑*e*PKP		PKiKP		17 41 55.5	-0.1
DPC				*e*PKPAB		PKPab		17 42 01.9	+1.1
CLL	Collm	148.67	345			PKPbc		17 41 54.7	+0.1
CLL	Collm	148.67	345	*e*PKPdf		PKPdf		17 41 50.0	+0.1
CLL				⇓*i*PKPbc		PKPbc		17 41 54.8	+0.2
	comp=Z,25nm,1.2s								
CLL				*i* PKPab		PKPab		17 42 00.4	-0.4
	comp=Z,11nm,0.9s								
CLL				*ep*PKPbc		pPKPab		17 44 19.0	+1.6
CLL				*e*SKPdf		SKPdf		17 44 23.0	-2.4
	comp=Z,8.0nm,0.9s								
CLL				*e*SKPbc		SKPbc		17 44 33.0	-0.3
CLL				*ex*		x		17 44 51.0	
KRLC	Kraliky	148.73	340	⇑*e*PKP		PKiKP		17 41 55.5	-0.3
KRLC				*e*PKPAB		PKPab		17 42 02.0	+0.8
MORC	Moravsky Berou	148.74	339	⇑P		PKiKP		17 41 55.7	-0.2
MORC	Moravsky Berou	148.74	339			PKPbc		17 41 55.1	+0.1
MORC	Moravsky Berou	148.74	339	*e*PKP		PKPbc		17 41 55.0	+0.1
MORC				*e*				17 42 01.9	
BRG	Berggiesshubel	148.84	344	*i* PKP		PKiKP		17 41 55.7	-0.2
BRG				Amp				17 41 57.1	
	comp=Z,16nm,1.2s								
BRG				pPKP		pPKPab		17 44 23.4	+5.3
BRG				Amp				17 44 25.7	
	comp=Z,5.7nm,0.9s								
VOIR		148.87	326	⇑P		PKiKP		17 41 56.9	+0.6
MAUC	Maruska	149.00	338	⇑*e*PKP		PKiKP		17 41 56.2	-0.2
DRGR		149.06	330	⇑P		PKiKP		17 41 56.3	-0.4
ARR	Arges	149.13	326	⇓P		PKiKP		17 41 57.8	+1.0
VYHS	Vyhne	149.36	336	*e*PKP		PKPbc		17 41 56.6	+0.2
VYHS				*e*				17 42 04.7	
VYHS				*e*				17 44 24.9	
PSZ	Piszkesteto	149.42	334	⇑P		PKiKP		17 41 57.3	0.0
PSZ	Piszkesteto	149.42	334			PKPbc		17 41 55.7	-0.9
PSZ	Piszkesteto	149.42	334	PKP		PKiKP		17 41 57.6	+0.3
VRAC	Vranov	149.46	340	*e*PKP		PKiKP		17 41 56.9	-0.4
VRAC				*e*				17 42 05.0	
GOPC	GO Pecny, Ondr	149.48	342	⇑*e*PKP		PKiKP		17 41 57.2	-0.1
GOPC				*e*PKPAB		PKPab		17 42 05.1	+0.8
JAVC	Velka Javorina	149.48	338	*e*PKP		PKiKP		17 41 58.2	+0.8
JAVC				*e*				17 42 06.0	
PRU	Pruhonice	149.48	342	⇑*e*PKP		PKiKP		17 41 57.0	-0.3
PRU				*e*PKPAB		PKPab		17 42 04.9	+0.6
KRUC	Moravsky	149.74	339	*e*PKP		PKiKP		17 41 57.5	-0.4
KRUC				*e*				17 42 06.0	
NKC	Novy Kostel	149.80	345	⇑*e*PKP		PKiKP		17 41 59.5	+1.5
NKC				*e*PKPAB		PKPab		17 42 05.7	+0.1
TREC	Trest	149.82	341	⇑*e*PKP		PKiKP		17 41 58.0	-0.1
SIRR	Siria	149.94	330	⇑P		PKiKP		17 41 58.5	+0.1
MODS	Modra-Piesok	150.03	338	*e*PKP		PKiKP		17 41 58.5	0.0
MODS				*e*				17 42 07.6	
MODS				*e*				17 44 26.9	
GZR	Gura Zlata	150.05	328	⇑P		PKPbc		17 41 58.4	+0.2
BZS	Buzias	150.44	330	⇓P		PKPbc		17 41 58.9	-0.1
KHC	Kasperske Hory	150.53	343			PKPbc		17 41 58.8	-0.3
KHC						PKPab		17 42 09.3	+0.6
KHC	Kasperske Hory	150.53	343	⇑*e*PKP		PKiKP		17 41 59.4	-0.1
KHC				*e*PKPAB		PKPab		17 42 09.7	+1.0
KHC				*x*		x		17 44 26.0	
MEM	Membach	150.57	353	*d*PKPbc		PKPbc		17 41 59.0	-0.1
MEM				*d*PKPab		PKPab		17 42 08.8	0.0
GRFO	Grafenberg	150.59	346			PKPab		17 42 09.3	+0.4
HERR	Herculane	150.59	328	⇓P		PKPbc		17 41 59.3	-0.1
CKRC	Cesky Krumlov	150.60	342	⇑*e*PKP		PKiKP		17 41 59.6	-0.1
CKRC				*e*PKPAB		PKPab		17 42 10.0	+1.0
BSTI	Sart Tilman	150.64	354	*d*PKP		PKiKP		17 41 59.4	-0.2
BSTI				*d*PKPab		PKPab		17 42 09.4	+0.3
GEC2	GERESS Array S	150.75	342			PKPbc		17 41 59.6	-0.1
GERES	GERESS Array B	150.75	342	PKPbc		PKPbc		17 41 59.7	0.0
	comp=Z,2.9nm,0.6s,baz=48,slow=2.0,SNR=34								
GERES				pPKPbc		pPKPbc		17 44 20.8	-1.0
	comp=Z,0.5nm,0.8s,baz=42,slow=3.2,SNR=2.5								
GERES	GERESS Array B	150.75	342			PKPbc		17 41 59.5	-0.2
BHOU	Houvegnez	150.82	353	*d*PKPbc		PKiKP		17 42 00.3	+0.2
BHOU				*d*PKPab		PKPab		17 42 09.9	+0.1
BCLA	Clavier	150.83	354	*d*PKP		PKPab		17 42 09.3	-0.6
CONA	Conrad Observa	150.90	339	*e*P		PKiKP		17 42 00.3	-0.1
	comp=Z,7.8nm,0.8s								
CONA				*e*P		PKPab		17 42 11.0	+0.6
	comp=Z,8.7nm,1.0s								
CONA				*e*P		pPKPab		17 44 28.9	+2.6
	comp=Z,6.9nm,1.1s								
MPLH	Magyarpolny	150.95	336	PKP		PKiKP		17 42 00.5	+0.1
RONA	Rosalia, Austr	150.95	338	*e*P		PKiKP		17 42 00.2	-0.2
	comp=Z,16nm,1.0s								
RONA				*e*P		PKPab		17 42 11.7	+1.2
	comp=Z,12nm,0.9s								
RONA				*e*P		pPKPab		17 44 29.1	+2.7
	comp=Z,8.5nm,1.4s								
BMRD	Maredsous	151.00	355	*d*PKP		PKiKP		17 42 00.4	0.0
BMRD				*d*PKPab		PKPab		17 42 10.2	-0.4
MDVR	Moldovita	151.01	328	⇓P		PKPbc		17 42 00.4	0.0
RCHB	Rochefort	151.10	354	*d*PKP		PKiKP		17 42 00.5	-0.1
DOU	Dourbes	151.21	355	*d*PKPbc		PKiKP		17 42 00.7	-0.1
DOU				*d*PKPab		PKPab		17 42 11.3	-0.2
MORH	Mrgy, Hungar	151.29	334	⇑P		PKiKP		17 42 01.2	+0.1
MORH	Mrgy, Hungar	151.29	334	PKP		PKiKP		17 42 00.9	0.0
BLKB	Belogradchik	151.35	326	⇑P		PKiKP		17 42 01.3	-0.1
WLF	Walferdange	151.49	353			PKPbc		17 42 01.1	-0.1
WLF	Walferdange	151.49	353	*d*PKP		PKiKP		17 42 01.6	+0.2
WLF				*d*PKPab		PKPab		17 42 13.1	+0.4
ARSA	Arzberg	151.60	339	*e*P		PKPbc		17 42 01.4	-0.2
	comp=Z,0.6nm,0.6s								
ARSA				*e*P		PKPab		17 42 14.2	+0.8
	comp=Z,4.2nm,1.0s								
ARSA				*e*P		pPKPab		17 44 30.8	+1.8
	comp=Z,3.4nm,0.9s								
FRGS	Fruska Gora	151.62	331	⇑P		PKiKP		17 42 02.0	0.0
VTS	Vitosha	151.72	324	⇓P		PKiKP		17 42 02.7	+0.4
VTS	Vitosha	151.72	324			PKPbc		17 42 01.5	-0.7
BIOA	Bad Ischl, Aus	151.81	341	*e*P		PKPbc		17 42 02.0	0.0
	comp=Z,1.9nm,0.4s								
BIOA				*e*P		PKPab		17 42 15.0	+0.8
	comp=Z,5.6nm,0.6s								
BIOA				*e*P		pPKPab		17 44 31.1	+1.1
	comp=Z,2.6nm,0.9s								
BOVS	Bovan	151.84	327	⇓P		PKPbc		17 42 02.0	-0.2
SOKA	Soboth	152.26	339	*e*P		PKPbc		17 42 02.8	-0.3
	comp=Z,6.3nm,1.3s								
SOKA				*e*P		PKPab		17 42 16.4	+0.1
	comp=Z,4.4nm,1.0s								
SOKA				*e*P		pPKPab		17 44 31.3	-0.5
	comp=Z,4.5nm,1.2s								
KBA	Koelnbreinsper	152.45	341	*e*P		PKPbc		17 42 03.5	-0.1
	comp=Z,4.6nm,0.9s								
KBA				*e*P		pPKPab		17 44 32.2	-0.5
	comp=Z,4.8nm,1.1s								
OBKA	Obir	152.57	339	*e*P		PKPab		17 42 17.4	-0.1
	comp=Z,3.2nm,0.8s								
OBKA				*e*P		pPKPab		17 44 32.4	-0.7
	comp=Z,4.0nm,1.3s								
WATA	Walderalm	152.71	344	*e*P		PKPbc		17 42 03.8	-0.3
	comp=Z,0.4nm,0.3s								
WATA				*e*P		PKPab		17 42 18.9	+0.8
	comp=Z,15nm,1.3s								
WATA				*e*P		pPKPab		17 44 33.3	-0.5
	comp=Z,4.6nm,1.0s								
WTTA	Wattenberg	152.76	344	*e*P		PKPbc		17 42 04.2	-0.1
	comp=Z,4.2nm,0.4s								
WTTA				*e*P		PKPab		17 42 18.8	+0.4
	comp=Z,9.5nm,1.1s								
WTTA				*e*P		pPKPab		17 44 32.9	-1.2
	comp=Z,4.9nm,0.9s								
MYKA	Terra Mystica	152.76	340	*e*P		PKiKP		17 42 04.9	+0.6
	comp=Z,5.6nm,1.1s								
MYKA				*e*P		PKPab		17 42 18.1	-0.2
	comp=Z,0.8nm,0.3s								
MYKA				*e*P		pPKPab		17 44 30.4	-3.6
	comp=Z,4.6nm,0.9s								
RETA	Reutte	152.77	345	*e*P		PKPab		17 42 18.7	+0.4
	comp=Z,7.4nm,1.2s								
RETA				*e*P		pPKPab		17 44 33.7	-0.3
	comp=Z,0.5nm,0.3s								
MOTA	Moosalm	152.82	345	*e*P		PKPbc		17 42 04.3	-0.1
	comp=Z,5.9nm,0.9s								
MOTA				*e*P		PKPab		17 42 19.4	+0.8
	comp=Z,10nm,1.3s								
MOTA				*e*P		pPKPab		17 44 32.3	-2.1
	comp=Z,7.9nm,1.4s								
SQTA	Sankt Quirin	152.91	344	*e*P		PKiKP		17 42 04.6	0.0
	comp=Z,5.8nm,1.0s								
SQTA				*e*P		PKPab		17 42 19.8	+0.9
	comp=Z,6.5nm,1.2s								
SQTA				*e*P		pPKPab		17 44 34.2	-0.5
	comp=Z,5.4nm,0.9s								
PRED	Cave del Predi	152.95	340			PKiKP		17 42 04.7	0.0
PRED						PKPab		17 42 18.8	-0.3
ABTA	Abfaltersbach	152.99	342	*e*P		PKPbc		17 42 04.2	-0.5
	comp=Z,9.4nm,1.0s								
ABTA				*e*P		PKPab		17 42 19.2	-0.1
	comp=Z,11nm,1.1s								
ABTA				*e*P		pPKPab		17 44 33.9	-1.1
	comp=Z,5.1nm,0.9s								
CLUD	Cludinico	153.15	341	PKPab		PKPab		17 42 18.8	-1.1
DAVA	Damiels	153.16	346	*e*P		PKiKP		17 42 05.9	+0.7
	comp=Z,4.5nm,0.9s								
DAVA				*e*P		PKPab		17 42 20.4	+0.3
	comp=Z,4.5nm,0.7s								
DAVA				*e*P		pPKPab		17 44 35.9	+0.2
	comp=Z,5.2nm,1.1s								
FETA	Feichten	153.21	345	*e*P		PKiKP		17 42 05.4	+0.1
	comp=Z,4.0nm,1.1s								
FETA				*e*P		PKPab		17 42 20.1	-0.2
	comp=Z,2.4nm,0.9s								
FETA				*e*P		pPKPab		17 44 37.9	+2.0
	comp=Z,4.6nm,1.0s								
STAL	STALIGIAL	153.38	341			PKPbc		17 42 04.7	-0.8
LIT	Litokhoron	153.77	320	PKPab		PKPab		17 42 23.0	+0.2
SENIN	Lac Senin/Sane	154.55	350	PKPab		PKPab		17 42 26.3	+0.2
FDMO	Fiordimonte	156.12	337			PKPab		17 42 32.8	0.0
NRCA	Norcia	156.28	337			PKPab		17 42 33.5	-0.1
ESDC	Sonseca Array	161.34	12	PKPab		PKPab		17 42 55.6	0.0
	comp=Z,2.8nm,1.1s,baz=338,slow=3.8,SNR=9.7								
ESDC	Sonseca Array	161.34	12	PKPab		PKPab		17 42 55.3	-0.3
KEST	Kesra	163.89	334	PKPab		PKPab		17 43 07.1	0.0
	comp=Z,5.0nm,0.7s,baz=322,slow=2.4,SNR=5.2								
DBIC	Dimbokro	164.35	159	PKPab		PKPab		17 43 10.4	+1.0
	comp=Z,2.1nm,0.5s,baz=181,slow=5.7,SNR=5.5								
TORD	Torodi Ar. Bea	171.74	186	PKPab		PKPab		17 43 42.1	+0.1
	comp=Z,1.3nm,0.7s,baz=174,slow=4.5,SNR=5.9								

DJA ***26*** *17:23:21.8±0.4, 10.˚S±5.˚×12.˚4E±.˚, h66km±5km, M3.7/7, mb3.8/3, MLv3.6/7*
IDC ***26*** *17:23:21.9±1.8, 10.˚37S×124.˚20E, h0km, mb3.2/1, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=42.3km s-min=11.2km az=24.0*
ISC 26 17:23:21.5±1.0, 10.˚34S±0.˚08×123.˚41E±0.˚08, h50km, n11, σ2s45/14, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BATI	Baumata	0.28	63	Pg		Pn	17 23 32.4	+1.9
	337nm,0.3s,baz=42,slow=1.5,SNR=403							
BATI				Lg		Lg	17 23 40.4	
	1µm,0.3s,baz=128,slow=22,SNR=28							
BATI	Baumata	0.28	63	P		Pn	17 23 32.1	+1.7
BATI				S		Sn	17 23 40.1	+3.3
MMRI	Maumere	2.05	325	P		Pn	17 23 53.9	+0.4
MMRI				S		Sn	17 24 17.9	0.0
EDFI	Ende, Flores	2.32	313	P		Pn	17 23 58.3	+1.0
EDFI				S		Sn	17 24 25.2	+0.6
PLAI	Plampang	5.76	285	P		Pn	17 24 47.7	+3.3
BKSI	Bulukumba	5.95	327	P		Pn	17 24 45.5	-1.6
	0.0nm6.3nm,1.0s							
TWSI	Taliwang, Sumb	6.63	283	P		Pn	17 24 59.6

BANOM	**Banah**	**1.83**	**134**	P		**Pb**	**18 05 41.7**	**-0.5**
BANOM				S		**Sg**	**18 06 12.2**	**+4.1**
QIR1	**Qir**	**2.03**	**309**	*e*Pg		**Pb**	**18 05 46.7**	**+1.1**
MSFE	**Esma-Masafi**	**2.19**	**147**	P		**Pb**	**18 05 46.6**	**-1.7**
UOSS	**Minazif**	**2.56**	**151**	P		**Pn**	**18 05 48.7**	**-1.2**
HATD	**Hatta, Dubai**	**2.64**	**153**	P		**Pb**	**18 05 54.4**	**-1.6**
ASHO	**Ashiyiah**	**2.74**	**156**	P		**Pb**	**18 05 55.0**	**-2.8**
KRBR	**Kerman**	**3.25**	**31**	*e*Pn		**Pn**	**18 05 59.5**	**-0.2**
KHGB	**Koh Gabri**	**3.48**	**24**	*e*Pn		**Pn**	**18 06 02.7**	**-0.1**
CHMN	**Cheshme madani**	**3.57**	**41**	*e*Pn		**Pn**	**18 06 05.3**	**+1.2**
CHMN				*e*			18 06 51.1	
	comp=Z,289nm,0.4s							
KBAM	**BAM**	**3.74**	**58**	*e*			18 06 54.9	
	comp=Z,243nm,0.6s							
KBAM				*e*Pn		**Pn**	**18 06 06.8**	**+0.6**
IBAF	**Bafgh**	**4.42**	**8**	*e*Pn		**Pn**	**18 06 15.5**	**-0.2**
ISAD	**Sadrabad**	**4.80**	**348**	*e*Pn		**Pn**	**18 06 21.3**	**+0.3**
IRAM	**Rameshеh**	**5.07**	**336**	*e*Pn		**Pn**	**18 06 25.4**	**+0.8**
YZKH	**Yazd**	**5.18**	**358**	*e*Pn		**Pn**	**18 06 26.6**	**+0.6**
CHBR	**Chabahar**	**5.32**	**106**	*e*Pn		**Pn**	**18 06 29.9**	**+2.1**
ZHSF	**Zahedan**	**5.76**	**64**	*e*Pn		**Pn**	**18 06 34.3**	**+0.2**
BSRN	**Basiran**	**6.05**	**37**	*e*Pn		**Pn**	**18 06 36.6**	**-1.4**

NOU ***26*** *18:06:41.0,30.˝87S×174.˝91W,h29km,mb5.0/40, Kermadec Islands Region*
NEIC ***26*** *18:06:58.5±1.4,30.˝63S±0.˝09×178.˝0W±0.˝1,h10km±1km, mb4.7/46,Error ellipse: s-maj=19.9km s-min=15.3km az=86.0*
IDC ***26*** *18:07:05.4±0.7,30.˝69S×178.˝07W,h68km±6km,mb4.3/14, mbtmp4.6/16,MS3.4/18,Error ellipse: s-maj=16.1km s-min=15.4km az=94.0*
ISC 26 18:07:02.8±0.4,30.˝68S±0.˝05×178.˝05W±0.˝08,h46km, n240,σ1ᵗ90/201,mb4.7/46,MS3.5/16,1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.43**	**4**	P		**Pn**	**18 07 25.1**	**-1.1**
	2μm,0.2s,baz=58,slow=18,SNR=32							
RAO				S		**Sn**	**18 07 40.2**	**-3.6**
	8μm,0.2s,baz=130,slow=22,SNR=15							
RAO				LR		LR	18 08 15.4	
	comp=Z,1μm,20.9s,baz=262,slow=49							
RAO	**Raoul Island**	**1.43**	**4**	Pn		**Pn**	**18 07 24.0**	**-2.2**
RAO	**Raoul Island**	**1.43**	**4**	P		**Pn**	**18 07 24.9**	**-1.3**
HAZ	**Te Kaha**	**7.86**	**205**	P		**Pn**	**18 08 52.2**	**-2.2**
PUZ	**Puketiti**	**7.98**	**201**	P		**Pn**	**18 08 52.5**	**-3.7**
RUGZ	**Raukumara Rang**	**8.08**	**205**	P		**Pn**	**18 08 56.0**	**-1.7**
TWGZ	**Tauwhareparae**	**8.17**	**203**	P		**Pn**	**18 08 55.9**	**-2.9**
OUZ	**Omahuta**	**8.36**	**235**	Pn		Pn	18 09 07.6	+6.3
OUZ	**Omahuta**	**8.36**	**235**	P		Pn	18 09 08.2	+6.9
CNGZ	**Carnagh Statio**	**8.38**	**201**	P		**Pn**	**18 08 59.6**	**-2.0**
MWZ	**Matawai**	**8.46**	**204**	P		**Pn**	**18 08 59.8**	**-3.1**
URZ	**Urewera**	**8.55**	**207**	P		**Pn**	**18 09 00.0**	**-4.0**
	8.2nm,0.3s,baz=345,slow=5.5,SNR=11							
URZ				S		**Sn**	**18 10 36.1**	**-3.0**
	41nm,0.3s,baz=114,slow=23,SNR=13							
URZ				LR		LR	18 12 10.5	
	comp=Z,153nm,20.8s,baz=117,slow=36							
URZ	**Urewera**	**8.55**	**207**	P		**Pn**	**18 09 00.5**	**-3.5**
RIGZ	**Rimuhau**	**8.72**	**202**	P		**Pn**	**18 09 04.2**	**-2.1**
RTZ	**Ruatahuna**	**8.91**	**206**	P		**Pn**	**18 09 05.2**	**-3.9**
SNGZ	**Shannon Statio**	**8.93**	**204**	P		**Pn**	**18 09 05.9**	**-3.3**
NMHZ	**Naumai**	**9.40**	**205**	P		**Pn**	**18 09 13.3**	**-2.4**
BKZ	**Black Stump Fm**	**9.58**	**206**	Pn		Pn	18 09 11.1	-7.1
BKZ	**Black Stump Fm**	**9.58**	**206**	P		Pn	18 09 11.3	-6.8
BKZ	**Black Stump Fm**	**9.58**	**206**	P		Pn	18 09 13.3	-4.8
MCHZ	**McNeill Hill**	**9.75**	**205**	P		**Pn**	**18 09 19.3**	**-1.1**
HIZ	**Hauiti**	**9.76**	**215**	Pn		**Pn**	**18 09 18.9**	**-1.7**
HIZ	**Hauiti**	**9.76**	**215**	P		**Pn**	**18 09 25.3**	**+4.8**
HIZ	**Hauiti**	**9.76**	**215**	P		**Pn**	**18 09 22.4**	**+1.9**
TMVZ	**Te Maari**	**9.86**	**210**	P		**Pn**	**18 09 22.5**	**+0.5**
KRHZ	**Kereru**	**10.04**	**206**	P		Pn	18 09 19.6	-4.8
PRHZ	**Porangahau**	**10.50**	**203**	P		**Pn**	**18 09 27.1**	**-3.6**
BFZ	**Birch Farm**	**11.01**	**203**	Pn		Pn	18 09 32.0	-5.6
BFZ	**Birch Farm**	**11.01**	**203**	P		Pn	18 09 31.9	-5.7
MSWZ	**Moikau Station**	**12.01**	**205**	Pn		Pn	18 09 45.6	-5.6
TUWZ	**Tuamarina**	**12.53**	**209**			**Pn**	**18 09 53.6**	**-4.7**
NNZ	**Nelson**	**12.60**	**211**	Pn		**Pn**	**18 09 55.8**	**-3.5**
QRZ	**Quartz Range**	**12.68**	**214**	Pn		**Pn**	**18 10 00.4**	**-0.1**
QRZ	**Quartz Range**	**12.68**	**214**	P		**Pn**	**18 10 00.4**	**-0.1**
BSWZ	**Blackbirch Sta**	**12.79**	**208**	Pn		Pn	18 09 57.1	-4.9
THZ	**Tophouse**	**13.25**	**211**	Pn		**Pn**	**18 10 08.2**	**0.0**
MSVF	**Nonsavu**	**13.37**	**344**	P		**Pn**	**18 10 11.5**	**+1.5**
	6.5nm,0.6s,baz=157,slow=15,SNR=9.3							
MSVF				LR		LR	18 14 29.6	
	comp=Z,286nm,18.8s,baz=175,slow=33							
MSVF	**Nonsavu**	**13.37**	**344**	Pn		**Pn**	**18 10 06.9**	**-3.1**
MSVF	**Nonsavu**	**13.37**	**344**	P		**Pn**	**18 10 06.6**	**-3.4**
KHZ	**Kahutara**	**13.52**	**208**	Pn		Pn	18 10 04.9	-7.0
KHZ	**Kahutara**	**13.52**	**208**	P		Pn	18 10 06.7	-5.1
NIUE	**Niue**	**13.69**	**34**	P		Pn	18 10 08.1	-6.3
	baz=13,SNR=4.7							
NIUE				S		Sn	18 12 27.8	-17
	baz=13							
NIUE	**Niue**	**13.69**	**34**	Pn		Pn	18 10 07.1	-7.3
LTZ	**Lake Taylor**	**14.35**	**210**	Pn		**Pn**	**18 10 19.0**	**-4.1**
OXZ	**Oxford**	**14.89**	**209**	Pn		**Pn**	**18 10 27.2**	**-3.1**
MQZ	**McQueen's Vall**	**14.95**	**207**	Pn		Pn	18 10 24.6	-6.5
RPZ	**Rata Peaks**	**15.63**	**211**	P		**Pn**	**18 10 39.4**	**-0.4**
	5.1nm,0.3s,baz=9.0,slow=5.2,SNR=12							
RPZ				S		Sn	18 13 16.3	-16
	19nm,0.9s,baz=76,slow=9.7,SNR=7.5							
RPZ	**Rata Peaks**	**15.63**	**211**	Pn		**Pn**	**18 10 34.6**	**-5.2**
RPZ	**Rata Peaks**	**15.63**	**211**	P		**Pn**	**18 10 38.9**	**-0.9**
YATNC	**Mamie plateau,**	**15.98**	**299**	P		P	18 10 56.8	+9.4
FOZ	**Fox Glacier**	**16.05**	**214**	Pn		**Pn**	**18 10 41.2**	**-4.1**
DZM	**Mont Dzumac**	**16.32**	**298**	*e*LR		LR	18 14 35.7	
	comp=Z,523nm,25.6s							
DZM	**Mont Dzumac**	**16.32**	**298**	P		P	18 11 00.2	+9.1
	13nm,0.9s,baz=67,slow=18,SNR=4.5							
DZM				LR		LR	18 15 52.3	
	comp=Z,242nm,20.1s,baz=201,slow=32							
DZM	**Mont Dzumac**	**16.32**	**298**			**Pn**	**18 10 47.0**	**-1.9**
DZM	**Mont Dzumac**	**16.32**	**298**	P		P	18 11 00.4	+9.2
NOUC	**Port Laguerre**	**16.41**	**298**	P		P	18 11 00.0	+7.9
LIFNC	**LIFOU**	**16.50**	**303**	P		P	18 11 01.2	+8.0
LBZ	**Lake Benmore**	**16.54**	**211**	Pn		**Pn**	**18 10 47.0**	**-4.5**
ODZ	**Otahua Downs**	**16.87**	**209**	Pn		**Pn**	**18 10 53.5**	**-2.0**
ODZ	**Otahua Downs**	**16.87**	**209**	P		**Pn**	**18 10 51.5**	**-4.0**
WKZ	**Wanaka**	**17.41**	**212**	P		**Pn**	**18 10 58.1**	**-4.2**
AFI	**Afiamalu**	**17.66**	**20**	LR		LR	18 16 23.0	
	comp=Z,93nm,19.3s,baz=166,slow=32							
MLZ	**Mavora Lakes**	**18.23**	**213**	P		P	18 10 58.1	-14
DCZ	**Deep Cove**	**18.76**	**214**	P		P	18 11 10.4	-7.4
RAR	**Rarotonga**	**18.92**	**64**	LR		LR	18 19 49.2	
	comp=Z,24nm,18.1s,baz=259,slow=40							
ARMA	**Armidale**	**26.08**	**263**	P		**P**	**18 12 36.3**	**+4.0**
	baz=26,SNR=5.2							
ARMA	**Armidale**	**26.08**	**263**	P		**P**	**18 12 30.7**	**-1.6**
ARMA				IAmb		IAmb	18 13 08.9	
	comp=Z,28nm,1.4s							
ARMA	**Armidale**	**26.08**	**263**	P		**P**	**18 12 36.1**	**+3.8**
	comp=Z,8.6nm,0.7s							
TBI	**Tubuai**	**26.44**	**81**	*e*LR		LR	18 19 19.9	
	comp=Z,147nm,25.8s							
TBI	**Tubuai**	**26.44**	**81**	*e*T		T	18 40 24.8	
	comp=Z,49nm,0.3s							
CNB	**Canberra Magne**	**27.65**	**252**	P		**P**	**18 12 49.2**	**+2.9**
	baz=28,SNR=7.6							
CNB	**Canberra Magne**	**27.65**	**252**	P		**P**	**18 12 48.7**	**+2.4**
	comp=Z,11nm,0.9s							
EIDS	**Eidsvold**	**27.71**	**273**	P		**P**	**18 12 46.9**	**+0.1**
EIDS				IAmb		IAmb	18 12 51.9	
	comp=Z,9.1nm,0.9s							
MILA	**Mila**	**27.88**	**248**	P		**P**	**18 12 50.9**	**+2.6**
	baz=28,SNR=4.0							
CAN	**Canberra**	**27.95**	**252**	P		**P**	**18 12 48.2**	**-0.8**
CAN				IAmb		IAmb	18 12 53.0	
	comp=Z,12nm,0.8s							
CAN	**Canberra**	**27.95**	**252**	P		**P**	**18 12 51.1**	**+2.1**
RK1H	**Rockhampton Ha**	**28.88**	**277**	P		**P**	**18 12 59.1**	**+1.8**
	comp=Z,15nm,0.9s							
PAE	**Paea**	**28.93**	**70**	*e*T		T	18 43 34.0	
	comp=Z,34nm,0.3s							
PPT2	**Papeete2**	**28.97**	**70**	*e*LR		LR	18 20 29.1	
	comp=Z,141nm,26.2s							
PPT	**Papeete**	**28.98**	**70**	LR		LR	18 22 53.5	
	comp=Z,36nm,20.4s,baz=220,slow=33							
TVO	**Taravao**	**29.13**	**71**	*e*T		T	18 43 41.0	
	comp=Z,7.3nm,0.3s							
RMQ	**Roma**	**29.39**	**270**	P		**P**	**18 13 04.2**	**+2.4**
	baz=30,SNR=10							
RMQ	**Roma**	**29.39**	**270**	P		P	18 13 06.8	+5.0
	comp=Z,12nm,0.6s							
HNR	**Honiara**	**29.45**	**311**	LR		LR	18 22 29.1	
	comp=Z,906nm,20.5s,baz=220,slow=31							
MEH	**Mehetia**	**30.05**	**72**	*e*T		T	18 44 59.2	
	comp=Z,29nm,0.2s							
TOO	**Toolangi**	**30.82**	**247**	P		**P**	**18 13 16.0**	**+1.6**
	baz=31,SNR=6.0							
TOO	**Toolangi**	**30.82**	**247**	P		**P**	**18 13 16.0**	**+1.6**
TOO				IAmb		IAmb	18 13 16.8	
	comp=Z,11nm,1.1s							
TOO	**Toolangi**	**30.82**	**247**	P		**P**	**18 13 16.0**	**+1.6**
CMSA	**Cobar Meteorol**	**30.97**	**259**	P		**P**	**18 13 18.2**	**+2.4**
	baz=31,SNR=34							
CMSA	**Cobar Meteorol**	**30.97**	**259**	P		**P**	**18 13 18.3**	**+2.5**
VAH	**Vaihoa**	**31.81**	**68**	*e*T		T	18 47 10.3	
	comp=Z,238nm,0.2s							
QLP	**Quilpie**	**33.26**	**268**	P		**P**	**18 13 37.2**	**+1.3**
	baz=34,SNR=5.4							
ARPS	**Mount Arapiles**	**33.73**	**249**	P		**P**	**18 13 41.4**	**+1.6**
	baz=34,SNR=5.0							
CTA	**Charters Tower**	**33.80**	**280**	P		**P**	**18 13 42.7**	**+2.0**
	comp=Z,14nm,0.5s,baz=103,slow=9.9,SNR=42							
CTA				LR		LR	18 25 35.3	
	comp=Z,128nm,19.4s,baz=91,slow=33							
	comp=Z,14nm,0.5s							
CTA	**Charters Tower**	**33.80**	**280**	P		**P**	**18 13 43.0**	**+2.3**
CTAO	**Charters Tower**	**33.80**	**280**	P		**P**	**18 13 42.2**	**+1.6**
CTAO	**Charters Tower**	**33.80**	**280**	P		**P**	**18 13 42.9**	**+2.3**
STKA	**Stephens Creek**	**34.38**	**257**	P		**P**	**18 13 47.0**	**+1.5**
	comp=Z,47nm,0.9s,baz=100,slow=11,SNR=75							
STKA				LR		LR	18 25 42.0	
	comp=Z,94nm,20.7s,baz=28,slow=32							
	comp=Z,47nm,0.9s							
STKA	**Stephens Creek**	**34.38**	**257**	P		**P**	**18 13 47.3**	**+1.7**
	baz=35,SNR=68							
STKA	**Stephens Creek**	**34.38**	**257**	P		**P**	**18 13 47.2**	**+1.7**
STKA				IAmb		IAmb	18 13 48.7	
	comp=Z,9.8nm,0.9s							
INKA	**Innaminka**	**35.95**	**264**	P		**P**	**18 14 01.3**	**+2.2**
MTSU	**Mount Surprise**	**36.31**	**281**	P		**P**	**18 14 04.0**	**+1.7**
	baz=37,SNR=24							
MTSU	**Mount Surprise**	**36.31**	**281**	P		**P**	**18 14 03.9**	**+1.7**
HTT	**Hallett**	**36.39**	**254**	P		**P**	**18 14 03.9**	**+1.1**
	baz=37,SNR=21							
HTT	**Hallett**	**36.39**	**254**	P		**P**	**18 14 03.8**	**+1.0**
PTPS	**Port Pirie**	**37.19**	**254**	P		**P**	**18 14 12.3**	**+2.7**
	comp=Z,92nm,0.7s							
LCRK	**Leigh Creek**	**37.48**	**259**	P		**P**	**18 14 13.3**	**+1.2**
WHYH	**Whyalla**	**37.56**	**255**	P		**P**	**18 14 16.1**	**+3.4**
	comp=Z,38nm,0.7s							
KRVT	**Keravat (AS076**	**38.51**	**307**	P		**P**	**18 14 20.8**	**-0.1**
	comp=Z,24nm,0.9s,baz=163,slow=19,SNR=5.1							
	comp=Z,24nm,0.9s							
PMG	**Port Moresby**	**38.69**	**296**	LR		LR	18 27 42.7	
	comp=Z,56nm,19.3s,baz=110,slow=32							
BBOO	**Buckleboo**	**38.86**	**255**	P		**P**	**18 14 23.8**	**+0.2**
	baz=39,SNR=39							
BBOO	**Buckleboo**	**38.86**	**255**	P		**P**	**18 14 23.8**	**+0.2**
BBOO	**Buckleboo**	**38.86**	**255**	P		**P**	**18 14 24.8**	**+1.1**
QIS	**Mount Isa**	**39.30**	**275**	P		**P**	**18 14 28.0**	**+0.5**
	baz=40,SNR=6.8							
QIS	**Mount Isa**	**39.30**	**275**	P		**P**	**18 14 28.3**	**+0.8**
COEN	**Coen**	**39.31**	**286**	P		**P**	**18 14 29.0**	**+1.4**
	baz=40,SNR=16							
COEN	**Coen**	**39.31**	**286**	P		**P**	**18 14 29.0**	**+1.4**
COEN				IAmb		IAmb	18 14 30.3	
	comp=Z,9.0nm,0.7s							
COEN	**Coen**	**39.31**	**286**	P		**P**	**18 14 31.1**	**+3.5**
OOD	**Oodnadatta**	**40.26**	**262**	P		**P**	**18 14 36.3**	**+0.9**
MULG	**Mulgathing**	**41.03**	**258**	P		**P**	**18 14 41.9**	**+0.2**
AS31	**Alice Springs**	**43.05**	**267**	P		**P**	**18 14 58.3**	**0.0**
ASAR	**Alice Springs**	**43.05**	**267**	P		**P**	**18 14 58.3**	**-0.1**
	comp=Z,6.4nm,0.6s,baz=104,slow=7.2,SNR=78							
ASAR				PcP		**PcP**	**18 16 45.6**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=129,slow=3.7,SNR=2.3							
ASAR				ScP		**ScP**	**18 20 33.6**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=119,slow=3.8,SNR=1.6							
ASAR				LR		LR	18 32 28.0	
	comp=Z,80nm,18.8s,baz=97,slow=35							
	comp=Z,6.4nm,0.6s							
ASAR	**Alice Springs**	**43.05**	**267**	P		**P**	**18 14 57.7**	**-0.7**
WR0	**Warramunga Arr**	**43.89**	**273**	P		**P**	**18 15 04.7**	**-0.4**
WB2	**Warramunga Arr**	**44.06**	**272**	P		**P**	**18 15 05.9**	**-0.5**
	baz=44							
WB2	**Warramunga Arr**	**44.06**	**272**	P		**P**	**18 15 06.1**	**-0.4**
WRAB	**Tennant Creek**	**44.06**	**272**	P		**P**	**18 15 04.7**	**-1.8**
WRAB	**Tennant Creek**	**44.06**	**272**	P		**P**	**18 15 06.3**	**-0.2**
WRA	**Warramunga Arr**	**44.07**	**272**	P		**P**	**18 15 06.2**	**-0.4**
	comp=Z,16nm,0.5s,baz=111,slow=8.1,SNR=280							
WRA				PcP		**PP**	**18 16 50.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=116,slow=3.4,SNR=2.0							
WRA				ScP		**ScP**	**18 20 37.0**	**-2.4**
	comp=Z,0.3nm,1.1s,baz=103,slow=3.9,SNR=1.4							
WRA				LR		LR	18 32 01.3	
	comp=Z,58nm,20.8s,baz=137,slow=34							
	comp=Z,16nm,0.5s							
WRA	**Warramunga Arr**	**44.07**	**272**	P		**P**	**18 15 05.3**	**-1.2**
WB0	**Warramunga Arr**	**44.09**	**273**	P		**P**	**18 15 06.3**	**-0.4**
FORT	**Forrest**	**45.94**	**255**	P		**P**	**18 15 20.8**	**-0.4**
	baz=46,SNR=17							
FORT	**Forrest**	**45.94**	**255**	P		**P**	**18 15 20.8**	**-0.4**
FORT	**Forrest**	**45.94**	**255**	P		**P**	**18 15 21.1**	**-0.1**
WRKA	**Warakurna**	**47.41**	**263**	P		**P**	**18 15 31.6**	**-1.2**
	baz=48,SNR=32							
WRKA	**Warakurna**	**47.41**	**263**	P		**P**	**18 15 32.5**	**-0.4**
SBA	**Scott Base**	**47.76**	**184**	P		**P**	**18 15 38.1**	**+3.4**
SBA				IAmb		IAmb	18 15 39.8	
	comp=Z,6.9nm,1.1s							
VNDA	**Vanda**	**47.82**	**186**	P		**P**	**18 15 35.5**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=15,slow=6.7,SNR=14							
VNDA				LR		LR	18 34 23.7	
	comp=Z,17nm,18.5s,baz=6.0,slow=34							
	comp=Z,1.1nm,0.7s							
VNDA	**Vanda**	**47.82**	**186**	P		**P**	**18 15 36.9**	**+1.7**
VNDA				IAmb		IAmb	18 15 41.2	
	comp=Z,5.8nm,1.4s							
GENI	**Genyem**	**48.35**	**297**	P		**P**	**18 15 39.9**	**-0.3**
	comp=Z,25nm,1.2s							
KDU	**Kakadu**	**48.92**	**280**	P		**P**	**18 15 44.5**	**-0.1**
	baz=49,SNR=8.4							
KDU	**Kakadu**	**48.92**	**280**	P		**P**	**18 15 45.3**	**+0.7**
MTN	**Manton Dam**	**49.99**	**279**	P		**P**	**18 15 52.4**	**-0.3**
	baz=50,SNR=6.9							
MTN	**Manton Dam**	**49.99**	**279**	P		**P**	**18 15 52.4**	**-0.3**
MTN				IAmb		IAmb	18 15 54.1	
	comp=Z,7.0nm,0.7s							
KNRA	**Kununurra**	**50.69**	**275**	P		**P**	**18 15 58.8**	**+0.8**
	baz=51,SNR=3.3							
KNRA	**Kununurra**	**50.69**	**275**	P		**P**	**18 15 58.4**	**+0.4**
KNRA				IAmb		IAmb	18 16 28.2	
	comp=Z,10nm,1.0s							
FITZ	**Fitzroy Crossi**	**52.32**	**270**	LR		LR	18 37 11.4	
	comp=Z,70nm,18.2s,baz=156,slow=34							
FITZ	**Fitzroy Crossi**	**52.32**	**270**	P		**P**	**18 16 10.0**	**-0.1**
	baz=53,SNR=6.7							
FITZ	**Fitzroy Crossi**	**52.32**	**270**	P		**P**	**18 16 09.8**	**-0.4**
FITZ				IAmb		IAmb	18 16 11.1	
	comp=Z,7.0nm,0.8s							
RKPI	**Ransiki, Papua**	**53.70**	**293**	P		**P**	**18 16 18.1**	**-2.3**
	comp=Z,13nm,1.0s							
KLBR	**Kellerberrin**	**54.22**	**251**	P		**P**	**18 16 22.5**	**-1.5**
	baz=55,SNR=5.2							
FAKI	**Fak Fak**	**54.40**	**290**	P		**P**	**18 16 24.1**	**-1.4**
FAKI				IAmb		IAmb	18 16 52.9	
	comp=Z,17nm,1.5s							
FAKI	**Fak Fak**	**54.40**	**290**	P		**P**	**18 16 23.7**	**-1.8**
CASY	**Casey**	**54.88**	**208**	P		**P**	**18 16 26.1**	**-2.1**
MBWA	**Marble Bar**	**56.16**	**264**	P		**P**	**18 16 36.4**	**-1.7**
MBWA				IAmb		IAmb	18 16 48.6	
	comp=Z,14nm,1.4s							
SIJI	**Sorong**	**56.40**	**292**	LR		LR	18 40 30.1	
	comp=Z,16nm,18.9s,baz=86,slow=36							
MORW	**Morawa**	**56.41**	**254**	P		**P**	**18 16 38.5**	**-1.4**
MORW				IAmb		IAmb	18 16 40.4	
	comp=Z,12nm,1.1s							
GUMO	**Guam**	**56.65**	**315**	LR		LR	18 40 15.5	
	comp=Z,20nm,18.4s,baz=164,slow=35							
BATI	**Baumata**	**57.65**	**278**	LR		LR	18 40 23.1	
	comp=Z,131nm,19.3s,baz=122,slow=35							
BELA	**Belgrano 2**	**69.52**	**172**	P		**P**	**18 18 06.6**	**+0.5**
BELA				IAmb		IAmb	18 18 07.7	
	comp=Z,5.7nm,0.8s							
MAW	**Mawson**	**72.03**	**201**	P		**P**	**18 18 22.0**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=130,slow=6.5,SNR=6.4							
MAW				pP		**PcP**	**18 18 40.2**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=108,slow=9.2,SNR=3.9							
MAW				LR		LR	18 48 36.6	
	comp=Z,34nm,20.0s,baz=158,slow=35							
	comp=Z,2.3nm,0.5s							
PPBI	**Pangkal Pinang**	**76.70**	**275**	P		**P**	**18 18 52.6**	**+3.0**
	comp=Z,1μmcomp=Z,19nm,0.5s							
TROLL	**Troll, Antarti**	**77.60**	**180**	P		**P**	**18 18 54.7**	**+0.9**
SNAA	**Sanae**	**77.88**	**178**	P		**P**	**18 18 55.9**	**+0.6**
SNAA	**Sanae**	**77.88**	**178**	LR		LR	18 53 46.7	
	comp=Z,22nm,18.0s,baz=223,slow=36							
SNAA	**Sanae**	**77.88**	**178**	P		**P**	**18 18 55.9**	**+0.6**
SNAA				IAmb		IAmb	18 18 56.4	
	comp=Z,5.0nm,0.9s							
VNA3	**Neumayer Olymp**	**78.03**	**176**	P		**P**	**18 18 56.6**	**+0.5**
MJAR	**Matsushiro Arr**	**78.45**	**325**	P		**P**	**18 18 59.4**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=153,slow=5.2,SNR=4.3							
	comp=Z,1.1nm,0.7s							
VNA2	**Neumayer--Watz**	**78.47**	**177**	P		**P**	**18 18 58.7**	**+0.2**
	baz=173,slow=4.0							
VNA1	**Neumayer--Stat**	**78.70**	**177**	P		**P**	**18 19 00.7**	**+1.0**
H03S2	**Juan Fernandez**	**80.34**	**124**	T		T	19 48 22.5	
	SNR=346							
H03S1	**Juan Fernandez**	**80.36**	**124**	T		T	19 48 18.9	
	SNR=313							
H03S3	**Juan Fernandez**	**80.36**	**124**	T		T	19 48 17.7	
	SNR=321							
H03N3	**Juan Fernandez**	**80.54**	**123**	T		T	19 48 30.9	
	baz=241							
H03N2	**Juan Fernandez**	**80.54**	**123**	T		T	19 48 29.5	
	baz=241							
H03N1	**Juan Fernandez**	**80.56**	**123**	T		T	19 48 36.6	
	baz=241							
PLCA	**Paso Flores**	**82.35**	**133**	P		**P**	**18 19 21.2**	**+1.3**
	comp=Z,3.6nm,0.9s,baz=217,slow=6.7,SNR=7.4							
PLCA				pP		**sP**	**18 19 39.1**	**+1.9**
	comp=Z,3.7nm,0.8s,baz=241,slow=5.2,SNR=5.7							
	comp=Z,3.6nm,0.9s							
KSRS	**Korea Array**	**84.53**	**320**	P		**P**	**18 19 30.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=145,slow=5.5,SNR=4.3							
	comp=Z,0.4nm,0.5s							
PETK	**Petropavlovsk-**	**86.07**	**346**	P		**P**	**18 19 40.1**	**+1.9**
	comp=Z,8.5nm,0.6s,baz=119,slow=7.9,SNR=19							
	comp=Z,8.5nm,0.6s							
ISA	**Isabella, Lake**	**86.52**	**45**	P		**P**	**18 19 41.6**	**+0.7**
ISA				IAmb		IAmb	18 20 00.4	
	comp=Z,5.3nm,0.8s							
CMB	**Columbia Colle**	**86.99**	**42**	P		**P**	**18 19 44.3**	**+1.1**
CMB				IAmb		IAmb	18 20 01.9	
	comp=Z,3.4nm,0.8s							
USRK	**Ussuriysk Ar.**	**87.37**	**327**	P		**P**	**18 19 45.5**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=149,slow=5.0,SNR=2.7							
	comp=Z,2.3nm,0.8s							
LHV	**Little Huntoon**	**88.23**	**43**	P		**P**	**18 19 50.1**	**+1.2**
LHV				IAmb		IAmb	18 19

ESDC	**Sonseca Array**	**169.80**	**27**	PKP	**PKPdf**	**18 27 05.3**	**-0.1**
	comp=Z,1.1nm,1.1s,baz=345,slow=4.4,SNR=4.1						
ESDC				PKPab	**PKPab**	**18 28 19.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=347,slow=5.3,SNR=3.6						

DJA 26 18:20:55.7±0.4,**2°S**±2°×**12°7E**±°,**h12**km±3km,**M3.8**/18,
mb4.0/6,**mB4.9**/2,**MLv3.6**/18,**Mw(mB)4.2**/2,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**0.74**	**303**	Pg	Pg	18 21 09.7	-0.3
SANI				Sg	Sg	18 21 19.4	-0.3
NLAI	**Namlea**	**0.92**	**148**	Pg	Pg	18 21 12.0	-1.6
NLAI				Sg	Sg	18 21 23.3	-2.3
AAI	**Ambon**	**2.00**	**128**	P	Pn	18 21 29.7	+0.3
AAI				S	Sn	18 21 54.6	+0.2
LBMI	**Labuha**	**2.01**	**26**	P	Pn	18 21 30.7	+1.2
LBMI				S	Sn	18 21 54.9	+0.4
MSAI	**Masohi**	**2.48**	**111**	P	Pn	18 21 36.6	+0.6
MSAI				S	Sn	18 22 06.2	0.0
TNTI	**Ternate**	**3.29**	**13**	P	Pn	18 21 48.3	+1.2
TNTI				S	Sn	18 22 26.1	0.0
BNDI	**Bandanaira**	**3.88**	**122**	P	Pn	18 21 56.1	+0.9
KMSI	**Cibinong**	**3.99**	**319**	P	Pn	18 21 56.6	-0.2
KMSI				S	Sn	18 22 43.8	+0.3
LUWI	**Luwuk**	**4.08**	**290**	P	Pn	18 21 58.0	0.0
GTOI	**Gorontalo**	**4.73**	**310**	P	Pn	18 22 09.9	+3.0
APSI	**Ampana**	**5.19**	**287**	P	Pn	18 22 14.1	+0.9
	0.4nm1µm91nm,0.4s						
MRSI	**Marisa**	**5.50**	**302**	P	Pn	18 22 18.0	+0.5
	0.1nm25nm,0.4s						
FAKI	**Fak Fak**	**5.65**	**95**	P	Pn	18 22 20.4	+0.8
	0.1nm6.1nm,0.9s						
SPSI	**Sidrap Palu**	**6.99**	**257**	P	Pn	18 22 39.6	+1.6
	0.1nm7.5nm,1.0s						
BKSI	**Bulukumba**	**7.07**	**246**	P	Pn	18 22 38.3	-0.8
	0.0nm6.9nm,0.9s						
MPSI	**Mapaga**	**7.26**	**292**	P	Pn	18 22 41.9	+0.2

*KRNET **26** 18:30:55.7±0.1,39°.20N×71°.45E,h16km,mb3.5*
*NNC **26** 18:30:57.6±2.2,39°.13N×71°.46E,h0km,mb3.9,mpv3.5,*
Error ellipse: s-maj=22.2km s-min=11.0km az=162.0
*SOME **26** 18:30:59.8,39°.90N×72°.25E,h5km*
ISC 26 18:30:57.6±1.1,**39°14N**±0°.06×**71°44E**±0°.04,**h10**km,**n34,**
σ1s55/57,23C-18D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.88**	**262**	⇑*i*P	**Pg**	**18 31 12.9**	**-1.7**
	baz=57						
GAR				⇑*i*S	**Sg**	**18 31 25.4**	**-0.7**
	baz=57						
BTK	**Batken**	**1.04**	**333**	⇑*i*P	Pg	18 31 14.5	-3.1
	baz=31						
BTK				⇑*i*S	**Sg**	**18 31 28.2**	**-2.9**
	baz=31						
OHH	**Osh**	**1.73**	**36**	⇑*i*P	**Pn**	**18 31 26.8**	**-1.0**
	baz=38						
OHH				⇑*i*S	**Sn**	**18 31 49.8**	**-0.3**
	baz=38						
CHGR	**Chuyangaron**	**1.84**	**256**	⇑*i*P	**Pn**	**18 31 30.2**	**+0.9**
	baz=54						
CHGR				⇑*i*S	**Sb**	**18 31 55.4**	**+0.9**
	baz=54						
TRKS	**Terek-Say**	**2.40**	**355**	⇓*i*P	**Pn**	**18 31 36.4**	**-0.7**
	baz=55						
TRKS				⇓*i*S	**Sn**	**18 32 00.6**	**-0.7**
	baz=55						
IUG	**Iuzhnay**	**3.19**	**341**	*e*P	**Pn**	**18 31 51.7**	**+3.8**
	453nm,0.2s						
IUG				*e*S	**Sb**	**18 32 33.7**	**+0.2**
	154nm,0.4s						
AML	**Almayashu**	**3.45**	**29**	P	**Pn**	**18 31 53.8**	**+2.1**
	SNR=33						
ARLS	**Aral**	**3.50**	**38**	⇓*i*P	**Pn**	**18 31 52.4**	**+0.2**
	baz=39						
ARLS				⇓*i*S	**Sn**	**18 32 34.1**	**+0.3**
	baz=39						
MRKS	**Merke**	**3.85**	**20**	*e*P	**Pn**	**18 31 56.1**	**-0.9**
	12nm,0.2s						
MRKS				*e*S	**Sn**	**18 32 41.1**	**-1.3**
	22nm,0.4s						
UCH	**Uchtor**	**3.88**	**36**	P	**Pn**	**18 32 00.2**	**+2.5**
	SNR=24						
UCH	**Uchtor**	**3.88**	**36**	⇑*i*P	**Pn**	**18 31 58.1**	**+0.5**
	baz=37						
UCH				⇑*i*S	**Sn**	**18 32 43.6**	**+0.2**
	baz=37						
EKS2	**Erkin-Say**	**3.94**	**26**	P	**Pn**	**18 32 00.6**	**+2.3**
	SNR=5.0						
EKS2	**Erkin-Say**	**3.94**	**26**	⇓*i*P	**Pn**	**18 31 58.8**	**+0.5**
	baz=26						
EKS2				⇓*i*S	**Sn**	**18 32 44.6**	**-0.1**
	baz=26						
KK31	**Karatay Array**	**4.03**	**350**	Pn	**Pn**	**18 32 01.0**	**+1.7**
	3.6nm,0.3s,baz=167,slow=11,SNR=193						
KK31				⇓Sn	**Sn**	**18 32 49.6**	**+3.0**
	7.2nm,0.4s,baz=154,slow=28,SNR=5.7						
KKAR	**Karatay Array**	**4.03**	**350**	⇓*i*P	**Pn**	**18 31 59.8**	**+0.5**
	baz=50						
KKAR				⇓*i*S	**Sn**	**18 32 46.6**	**+0.1**
	baz=50						
NRN	**Naryn**	**4.18**	**55**	⇑*i*P	**Pn**	**18 32 01.9**	**+0.2**
	baz=56						
NRN				⇑*i*S	**Sn**	**18 32 50.3**	**-0.4**
	baz=56						
AAK	**Ala-Archa**	**4.20**	**33**	P	**Pn**	**18 32 04.0**	**+2.2**
	SNR=11						
AAK	**Ala-Archa**	**4.20**	**33**	⇑*i*P	**Pn**	**18 32 02.3**	**+0.5**
	baz=33						
AAK				⇑*i*S	**Sn**	**18 32 51.0**	**+0.1**
	baz=33						
KBK	**Karagaybulak**	**4.41**	**36**	P	**Pn**	**18 32 08.4**	**+3.7**
	SNR=7.3						
KBK	**Karagaybulak**	**4.41**	**36**	⇓*i*P	**Pn**	**18 32 05.3**	**+0.6**
	baz=36						
KBK				⇓*i*S	**Sn**	**18 32 56.0**	**-0.2**
	baz=36						
CHMS	**Chumysh**	**4.60**	**32**	P	**Pn**	**18 32 09.4**	**+2.2**
	SNR=13						
CHMS	**Chumysh**	**4.60**	**32**	⇓Pn	**Pn**	**18 32 08.4**	**+1.2**
	8.5nm,0.5s						
CHMS				⇓Sn	**Sn**	**18 33 03.8**	**+3.1**
	6.1nm,0.6s						
CHMS	**Chumysh**	**4.60**	**32**	⇓*i*P	**Pn**	**18 32 07.8**	**+0.6**
	baz=32						
CHMS				⇓*i*S	**Sn**	**18 33 00.4**	**-0.3**
	baz=32						
USP	**Ospenovka**	**4.73**	**28**	P	**Pn**	**18 32 10.7**	**+1.7**
	SNR=8.3						
USP	**Ospenovka**	**4.73**	**28**	⇓*i*P	**Pn**	**18 32 09.7**	**+0.7**
	baz=29						
USP				⇓*i*S	**Sn**	**18 33 03.5**	**-0.4**
	baz=29						
BOOM	**Boomskoye usch**	**4.79**	**44**	⇑*i*P	**Pn**	**18 32 10.5**	**+0.6**
	baz=45						
BOOM				⇑*i*S	**Sn**	**18 33 05.2**	**-0.3**
	baz=45						
ULHL	**Ulahol**	**4.79**	**48**	⇑*i*P	**Pn**	**18 32 10.7**	**+0.6**
	baz=49						
ULHL				⇑*i*S	**Sn**	**18 33 05.7**	**-0.1**
	baz=49						
TKM2	**Tokmak 2**	**4.92**	**38**	P	**Pn**	**18 32 12.9**	**+1.1**
	SNR=7.6						
TKM2	**Tokmak 2**	**4.92**	**38**	⇑Pn	**Pn**	**18 32 13.0**	**+1.2**
	1.6nm,0.3s						
TKM2				⇑Sn	**Sn**	**18 33 11.2**	**+2.4**
	5.4nm,0.8s						
TKM2	**Tokmak 2**	**4.92**	**38**	⇑*i*P	**Pn**	**18 32 12.3**	**+0.5**
	baz=39						
TKM2				⇑*i*S	**Sn**	**18 33 08.3**	**-0.5**
	baz=39						
SGDS	**Sogindy**	**4.94**	**28**	*e*P	**Pn**	**18 32 12.4**	**+0.5**
	7.9nm,0.3s						
SGDS				*e*S	**Sn**	**18 33 10.6**	**+1.5**
	10nm,0.6s						
KST	**Kastek**	**5.19**	**40**	*e*P	**Pn**	**18 32 16.9**	**+1.5**
	2.8nm,0.5s						
KST				*e*S	**Sn**	**18 33 18.6**	**+3.2**
	6.4nm,0.6s						
AB31	**Akbulak array**	**13.04**	**325**	⇓P	**Pn**	**18 34 01.5**	**-1.2**
	0.5nm,0.6s,baz=130,slow=13,SNR=8.0						
AKTO	**Aktyubinsk**	**14.75**	**324**	⇑P	**Pn**	**18 34 27.9**	**+1.7**
	2.4nm,1.1s						

*DJA **26** 18:37:45.7±0.6,11°.5±6°×11°7E±°,h40km±15km,M4.1/14,*
mb4.0/9,MLv4.1/14
ISC 26 18:37:42.6±1.5,**11°.6S**±0°.1×**117°.02E**±0°.07,**h35**km,**n25,**
σ1s67/25,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**2.81**	**357**	P	**Pn**	**18 38 26.3**	**+1.2**
TWSI				S	**Sn**	**18 38 55.7**	**-2.0**
PLAI	**Plampang**	**2.82**	**15**	P	**Pn**	**18 38 26.5**	**+1.3**
PLAI				S	**Sn**	**18 38 56.0**	**-2.0**
PLAI	**Plampang**	**2.82**	**15**	P	**Pn**	**18 38 26.8**	**+1.6**
IGBI	**Denpasar**	**3.29**	**326**	P	**Pn**	**18 38 33.0**	**+1.3**
DNP	**Denpasar**	**3.37**	**328**	P	**Pn**	**18 38 34.7**	**+1.9**
SRBI	**Singaraja**	**3.88**	**333**	P	**Pn**	**18 38 42.3**	**+2.4**
JAGI	**Jajag, Banyuwa**	**4.17**	**317**	P	**Pn**	**18 38 44.3**	**+0.5**
JAGI				S	**Sn**	**18 39 30.3**	**-1.0**
JAGI	**Jajag, Banyuwa**	**4.17**	**317**	P	**Pn**	**18 38 44.6**	**+0.8**
GMJI	**Gumukmas**	**4.80**	**313**	P	**Pn**	**18 38 52.9**	**+0.4**
GMJI				S	**Sn**	**18 39 45.7**	**-1.2**
BLJI	**Banyuglugur**	**5.07**	**318**	P	**Pn**	**18 38 57.2**	**+1.0**
EDFI	**Ende, Flores**	**5.38**	**59**	P	**Pn**	**18 39 01.7**	**+1.1**
	0.0nm3.9nm,1.2s						
KMMI	**Kalianget**	**5.40**	**326**	P	**Pn**	**18 39 02.3**	**+1.6**
	0.2nm23nm,1.6s						
MMRI	**Maumere**	**5.91**	**61**	P	**Pn**	**18 39 10.5**	**+2.8**
	0.1nm16nm,1.7s						
PWJI	**Pagerwojo**	**6.22**	**304**	P	**Pn**	**18 39 13.6**	**+1.6**
	0.3nm27nm,2.2s						
BSSI	**Bau Bau, Buton**	**6.38**	**33**	P	**Pn**	**18 39 16.6**	**+2.3**
	0.1nm15nm,1.3s						
PCJI	**Pacitan**	**6.65**	**300**	P	**Pn**	**18 39 19.2**	**+1.3**
	0.5nm74nm,2.3s						
BATI	**Baumata**	**6.67**	**79**	P	**Pn**	**18 39 19.0**	**+0.8**
	0.1nm7.6nm,1.1s						
BKSI	**Bulukumba**	**6.92**	**27**	P	**Pn**	**18 39 22.8**	**+1.2**
	0.0nm7.7nm,0.6s						
TBJI	**Tambak Boyo**	**6.94**	**312**	P	**Pn**	**18 39 23.0**	**+1.1**
	0.3nm35nm,1.6s						
TTSI	**Tana Toraja**	**8.90**	**18**	P	**Pn**	**18 39 50.7**	**+1.8**
	6.2nm,1.0s						
MBWA	**Marble Bar**	**9.89**	**165**	P	Pn	18 39 59.2	-3.2
PSA00	**Pilbara Seismi**	**10.32**	**165**	P	Pn	18 40 05.1	-3.1
FITZ	**Fitzroy Crossi**	**10.57**	**129**	P	Pn	18 40 09.2	-2.5
MEEK	**Meekatharra**	**15.07**	**174**	P	Pn	18 41 10.3	-2.8
	11nm,2.4s						
WRKA	**Warakurna**	**17.14**	**143**	P	**Pn**	**18 41 37.7**	**-1.9**

*NNC **26** 18:40:47.0±1.8,44°.02N×83°.68E,h0km,mb3.6,mpv3.4,*
Error ellipse: s-maj=16.2km s-min=6.2km az=131.0
*SOME **26** 18:40:46.2,44°.00N×83°.68E,h5km*
ISC 26 18:40:48.0±1.8,**43°.99N**±0°.08×**83°.83E**±0°.08,**h10**km,**n37,**
σ2s73/53,7C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.58**	**259**	*e*P	**Pn**	**18 41 30.5**	**+0.4**
	3.8nm,0.3s						
KTMS				*e*S	**Sn**	**18 42 03.3**	**+1.8**
	70nm,0.6s						
KTMS	**Ketmen**	**2.58**	**259**	Pg	**Pn**	**18 41 30.5**	**+0.4**
	3.8nm,0.3s						
KTMS				Lg	Lg	18 42 03.3	
	70nm,0.6s						
DJR	**Jarkent**	**2.93**	**278**	*e*P	**Pb**	**18 41 39.3**	**-1.1**
	8.0nm,0.4s						
DJR				*e*S	**Sb**	**18 42 17.8**	**+1.5**
	65nm,0.5s						
DJR	**Jarkent**	**2.93**	**278**	Pg	**Pb**	**18 41 39.3**	**-1.1**
	8.0nm,0.4s						
DJR				Lg	Lg	18 42 17.8	
	65nm,0.5s						
MK31	**Makanchi Array**	**3.01**	**339**	⇓Pn	**Pn**	**18 41 33.9**	**-1.9**
	0.9nm,0.5s,baz=157,slow=14,SNR=266						
MK31				⇑Pg	**Pb**	**18 41 41.3**	**-0.4**
	4.2nm,0.3s,baz=160,slow=17,SNR=109						
MK31				⇑Lg	Lg	18 42 21.4	
	51nm,0.6s,baz=156,slow=29,SNR=19						
MAKZ	**Makanchi**	**3.11**	**336**	⇓Pn	**Pn**	**18 41 34.3**	**-2.8**
	1.4nm,0.6s						
MAKZ				⇑Pg	**Pb**	**18 41 42.0**	**-1.4**
	7.0nm,0.5s						
MAKZ				⇑Lg	Lg	18 42 22.7	
	96nm,0.8s						
PDGK	**Podgornoye**	**3.22**	**260**	⇓Pn	**Pn**	**18 41 38.0**	**-0.8**
	1.6nm,0.5s						
PDGK				⇓Pg	**Pb**	**18 41 44.0**	**-1.4**
	8.2nm,0.5s						
PDGK				⇑Lg	Lg	18 42 23.4	
	46nm,0.6s						
SHLS	**Shalkode**	**3.28**	**257**	*e*P	**Pn**	**18 41 39.3**	**-0.4**
	8.0nm,0.3s						
SHLS				*e*S	**Sn**	**18 42 17.1**	**-1.7**
	177nm,0.6s						
SHLS	**Shalkode**	**3.28**	**257**	Pg	**Pn**	**18 41 39.3**	**-0.4**
	8.0nm,0.3s						
SHLS				Lg	Lg	18 42 17.1	
	177nm,0.6s						
ZSN	**Zaisan**	**3.54**	**11**	*e*P	**Pb**	**18 41 51.3**	**+0.6**
	24nm,0.4s						
ZSN				*e*S	**Sb**	**18 42 38.7**	**+5.0**
	65nm,0.5s						
ZSN	**Zaisan**	**3.54**	**11**	Pg	**Pb**	**18 41 51.3**	**+0.6**
	24nm,0.4s						
ZSN				Lg	Lg	18 42 38.7	
	65nm,0.5s						
UZB	**Uzunbulak**	**3.59**	**258**	*e*P	**Pb**	**18 41 49.1**	**-2.7**
	4.2nm,0.5s						
UZB				*e*S	**Sb**	**18 42 34.1**	**-1.4**
	19nm,0.5s						
UZB	**Uzunbulak**	**3.59**	**258**	Pg	**Pb**	**18 41 49.1**	**-2.7**
	4.2nm,0.5s						
UZB				Lg	Lg	18 42 34.1	
	19nm,0.5s						
KPKS	**Kokpek**	**3.77**	**264**	*e*P	**Pb**	**18 41 52.6**	**-2.1**
	3.6nm,0.2s						
KPKS				*e*S	**Sb**	**18 42 40.8**	**+0.3**
	57nm,0.6s						
KPKS	**Kokpek**	**3.77**	**264**	Pg	**Pb**	**18 41 52.6**	**-2.1**
	3.6nm,0.2s						
KPKS				Lg	Lg	18 42 40.8	
	57nm,0.6s						
BLB	**Baldybastay**	**3.86**	**273**	*e*P	**Pb**	**18 41 56.1**	**-0.2**
	15nm,0.3s						
BLB				*e*S	**Sb**	**18 42 46.1**	**+2.9**
	69nm,0.4s						
BLB	**Baldybastay**	**3.86**	**273**	Pg	**Pb**	**18 41 56.1**	**-0.2**
	15nm,0.3s						
BLB				Lg	Lg	18 42 46.1	
	69nm,0.4s						
TDK	**Taldyqorghan**	**4.01**	**287**	*e*P	**Pb**	**18 41 59.8**	**+0.9**
	45nm,0.4s						
TDK				*e*S	**Sb**	**18 42 52.3**	**+5.0**
	207nm,0.5s						
TDK	**Taldyqorghan**	**4.01**	**287**	Pg	**Pb**	**18 41 59.7**	**+0.9**
	45nm,0.4s						
TDK				Lg	Lg	18 42 52.3	
	207nm,0.5s						
SATY	**Saty**	**4.05**	**259**	*e*P	**Pb**	**18 41 59.6**	**0.0**
	2.9nm,0.3s						
SATY				*e*S	**Sb**	**18 42 52.2**	**+3.5**
	28nm,0.2s						
SATY	**Saty**	**4.05**	**259**	Pg	**Pb**	**18 41 59.6**	**0.0**
	2.9nm,0.3s						
SATY				Lg	Lg	18 42 52.2	
	28nm,0.2s						
KURS	**Kuram**	**4.13**	**265**	*e*P	**Pb**	**18 42 01.5**	**+0.6**
	3.5nm,0.5s						
KURS				*e*S	**Sb**	**18 42 55.7**	**+4.8**
	26nm,0.6s						
KURS	**Kuram**	**4.13**	**265**	Pg	**Pb**	**18 42 01.5**	**+0.6**
	3.5nm,0.5s						
KURS				Lg	Lg	18 42 55.7	
	26nm,0.6s						
CHKK	**Chushkaly**	**4.95**	**271**	*e*P	**Pb**	**18 42 14.2**	**-0.5**
CHKK				*e*S	**Sb**	**18 43 17.1**	**+2.8**
CHKK	**Chushkaly**	**4.95**	**271**	Pg	**Pb**	**18 42 14.2**	**-0.5**
CHKK				Lg	Lg	18 43 17.0	
MDOK	**Medeo**	**5.00**	**263**	*e*P	**Pb**	**18 42 17.4**	**+1.7**
	2.7nm,0.7s						
MDOK				*e*S	**Sb**	**18 43 22.8**	**+7.0**
	10nm,0.5s						
MDOK	**Medeo**	**5.00**	**263**	Pg	**Pb**	**18 42 17.4**	**+1.7**
	2.7nm,0.7s						
MDOK				⇑Pg	**Pg**	**18 42 24.2**	**+0.5**
	4.5nm,0.6s						
MDOK				Lg	Lg	18 43 22.8	
	10nm,0.5s						
MDOK				Lg	Lg	18 43 24.2	
	23nm,0.6s						
TNSS	**Tian-Shan**	**5.10**	**262**	*e*P	**Pb**	**18 42 20.1**	**+2.6**
	4.0nm,0.7s						
TNSS				*e*S	**Sg**	**18 43 27.2**	**-4.4**
	5.4nm,0.9s						
TNSS	**Tian-Shan**	**5.10**	**262**	Pg	**Pb**	**18 42 20.1**	**+2.6**
	4.0nm,0.7s						
TNSS				Lg	Lg	18 43 27.2	
	5.4nm,0.9s						
KUU	**Kurty**	**5.41**	**272**	*e*P	**Pb**	**18 42 24.7**	**+2.1**
	1.5nm,0.5s						
KUU				*e*S	**Sb**	**18 43 35.5**	**+7.9**
	18nm,0.4s						
KUU	**Kurty**	**5.41**	**272**	Pg	**Pb**	**18 42 24.7**	**+2.1**
	1.5nm,0.5s						
KUU				Lg	Lg	18 43 35.5	
	18nm,0.4s						
KST	**Kastek**	**5.80**	**263**	*e*P	**Pb**	**18 42 33.3**	**+4.0**
	2.3nm,0.5s						
KST				*e*S	**Sg**	**18 43 50.4**	**-3.8**
	13nm,0.8s						
KST	**Kastek**	**5.80**	**263**	Pg	**Pb**	**18 42 33.3**	**+4.0**
	2.3nm,0.5s						
KST				Lg	Lg	18 43 50.4	
	13nm,0.8s						
TKM2	**Tokmak 2**	**6.09**	**263**	Pg	**Pg**	**18 42 41.8**	**-2.9**
TKM2				⇑Lg	Lg	18 43 56.0	
	14nm,0.9s						
KURBB	**Kurchatov Arra**	**7.55**	**333**	⇓Lg	Lg	18 44 44.6	
	36nm,0.7s						
OTUK	**Ortayu**	**9.04**	**302**	⇓Lg	Lg	18 45 33.1	
	6.3nm,0.7s						
KK31	**Karatay Array**	**9.71**	**269**	⇓Lg	Lg	18 45 52.5	
	1.1nm,0.5s,baz=76,slow=28,SNR=5.9						

DJA 26 18:44:08.1±0.4,**1°N**±3°×**12°2E**±°,**h75**km±4km,**M3.4**/13,
mb3.8/3,**MLv3.2**/13,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.34**	**249**	P	Pn	18 44 21.3	+1.2
MRSI				S	Sn	18 44 31.8	+2.9
GTOI	**Gorontalo**	**0.75**	**87**	P	Pn	18 44 23.8	-0.1
GTOI				S	Sn	18 44 36.0	+0.3
APSI	**Ampana**	**1.62**	**202**	P	Pn	18 44 35.4	+0.6
LUWI	**Luwuk**	**1.71**	**163**	P	Pn	18 44 36.2	+0.2
LUWI				S	Sn	18 44 59.1	+1.9
KMSI	**Cibinong**	**1.72**	**91**	P	Pn	18 44 34.3	-1.8
MPSI	**Mapaga**	**2.38**	**264**	P	Pn	18 44 45.6	+0.7
TTSI	**Tana Toraja**	**4.37**	**214**	P	Pn	18 45 12.1	+0.1
SGSI	**Sangihe**	**4.48**	**47**	P	Pn	18 45 15.4	+1.8
SANI	**Sanana**	**4.56**	**125**	P	Pn	18 45 13.8	-0.9
SGKI	**Sangatta, Kali**	**4.79**	**256**	P	Pn	18 45 14.5	-3.3
TNTI	**Ternate**	**5.11**	**88**	P	Pn	18 45 20.2	-2.0
	0.1nm14nm,1.2s						
LBMI	**Labuha**	**5.38**	**103**	P	Pn	18 45 25.9	0.0
	0.1nm7.2nm,1.8s						

*JMA **26** 18:52:17.9±0.8,45°N±2°×14°7E±°,h3km,MV4.6/18,*
MW4.7/18,NEAR ETOROFU ISLAND
*NIED **26** 18:52:17.9,45°.06N×147°.19E,h3km,MW4.6,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}9.18; $M_{\theta\theta}$-1.47; $M_{\phi\phi}$-7.71; $M_{r\theta}$-1.27; $M_{r\phi}$-4.42;
$M_{\theta\phi}$-2.15; Fault plane solution: $M_0$9.91000×10^{15} NP1:
ϕ_s26.00000°,δ38.00000°,λ89.00000°. NP2:ϕ_s208.00000°,
δ52.00000°,λ91.00000°.
*IDC **26** 18:52:18.2±0.4,45.14N×147°.08E,h0km,mb4.3/28,*
mbtmp4.3/32,ML4.9/1,MS3.7/25 Error ellipse:
s-maj=13.6km s-min=11.4km az=137.0
*MOS **26** 18:52:20.5±0.9,45°.06N×147°.09E,h24km,mb4.7/13,*
MS3.7/7,Error ellipse: s-maj=7.2km s-min=5.1km az=66.7
MOS Felt (III-IV) at Gornyy, Goryachiye Klyuchi; (III) at Kuril'sk,
Reydovo.
*SKHL **26** 18:52:22.0±0.8,44°.90N×147°.50E,h34km±6km,mb5.3/7,*
mbv5.1/2,ms4.9/4
*GCMT **26** 18:52:23.0±0.4,45°.30N±0°.04×147°.26E±0°.04,h23km±1km,*
MW4.9/72,Moment Tensor Solution. s24,c26; s72,c99;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.33±.23;
$M_{\theta\theta}$-0.52±.16; $M_{\phi\phi}$-1.82±.16; $M_{r\theta}$-1.81±.26; $M_{\theta\phi}$-1.35±.10;
$M_{r\phi}$-0.72±.19; Best double couple: $M_0$3.18000×10^{16}
NP1:ϕ233.00000°,δ65.00000°,λ111.00000°. NP2:
ϕ12.00000°,δ32.00000°,λ53.00000°. Principal axes: T
3.2100, Plg64.0000°, Azm178.0000°; N -0.0650,
Plg19.0000°, Azm44.0000°; P -3.1500, Plg17.0000°,
Azm308.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*NEIC **26** 18:52:27.0±1.4,45°.21N±0°.07×147°.0E±0°.1,h57km±6km,*
mb4.8/335 Error ellipse: s-maj=10.6km s-min=9.8km
az=98.0
ISC 26 18:52:22.7±0.4,**44°.95N**±0°.04×**147°.27E**±0°.03,**h30**km±2km,
h29km:**pP-P,n792,**σ1s**34**/818,**mb4.8**/240,**MS3.9**/23,
13C-11D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.51**	**55**	*d*iPN	**Pb**	**18 52 30.6**	**-2.6**
KUR				*i* S	**Sb**	**18 52 37.9**	**-2.5**
KUR				pmax	pmax		
	comp=Z,7µm,0.4s						
KUR				pmax	pmax		
	comp=N,3µm,0.2s						
KUR				pmax	pmax		
	comp=E,3µm,0.2s						
KUR				smax	smax		
	comp=N,35µm,0.4s						
KUR				smax	smax		
	comp=E,47µm,0.4s						
KUR	**Kuril'sk**	**0.51**	**55**	*i* P	**Pb**	**18 52 30.6**	**-2.6**
KUR				AMB	AMB	18 52 32.7	
	comp=E,7µm,0.4s						
KUR				*i* S	**Sb**	**18 52 37.6**	**-2.8**
KUR				A	A	18 52 40.8	
	comp=E,36µm,0.3s						
KUR				A	A	18 52 40.8	
	comp=E,48µm,0.3s						
KUR				AMS	AMS	18 52 51.0	
	comp=E,83µm,10.0s						
KUR				AMS	AMS	18 52 51.0	
	comp=E,81µm,10.0s						
YUK	**Yuzh-Kuril'sk**	**1.36**	**228**	*c*iPN	**Pn**	**18 52 44.7**	**-0.9**
YUK				*e*S	**Sb**	**18 53 05.2**	**+0.8**
YUK				pmax	pmax		
	comp=Z,4µm,0.3s		

JRA	**Rausu**	**1.84**	**238**	*eP*		**Pn**		**18 52 51.0**	**-1.2**
NEM2	**Nemuro 2**	**1.93**	**215**	*eP*		**Pn**		**18 52 52.5**	**-0.8**
NEM2				*eS*		**Sb**		**18 53 18.5**	**-2.1**
NMR	**Nemuro--Hokkai**	**1.93**	**216**	*e*PN		**Pn**		**18 52 52.8**	**-0.6**
NMR				*eS*		**Sn**		**18 53 18.5**	**+1.9**
NMR	**Nemuro--Hokkai**	**1.93**	**216**	*eP*		**Pn**		**18 52 52.8**	**-0.6**
NMR				*eS*		**Sn**		**18 53 17.0**	**+0.4**
JNSB	**Nemuroshibetsu**	**2.00**	**235**	*eP*		**Pn**		**18 52 53.8**	**-0.7**
JNK	**Nakash**	**2.28**	**234**	*eP*		**Pn**		**18 52 58.0**	**-0.3**
JKHN	**Kushirohamanak**	**2.41**	**220**	*eP*		**Pn**		**18 53 00.2**	**+0.2**
JTKR	**Abashiri--Toko**	**2.60**	**249**	*eP*		**Pn**		**18 53 01.2**	**-1.4**
JAK	**Akkeshi**	**2.69**	**225**	*eP*		**Pn**		**18 53 03.9**	**0.0**
JAK				*eS*		**Sn**		**18 53 36.6**	**+1.1**
JMP	**Maruseppu**	**2.95**	**253**	*eP*		**Pn**		**18 53 06.4**	**-1.1**
JSE	**Soyaes**	**3.33**	**272**	*eP*		**Pn**		**18 53 11.2**	**-1.4**
JKK2	**Kamakawa 2**	**3.42**	**253**	*eP*		**Pn**		**18 53 13.2**	**-0.7**
JCH	**Churui**	**3.67**	**232**	*eP*		**Pn**		**18 53 17.5**	**+0.2**
YSS	**Yuzh-Sakhalins**	**3.74**	**304**	Pn		**Pn**		**18 53 15.8**	**-2.4**
YSS	**Yuzh-Sakhalins**	**3.74**	**304**⇑	*e*PN		**Pn**		**18 53 16.0**	**-2.3**
YSS				*eS*		**Sn**		**18 53 56.6**	**-4.6**
YSS				pmax	pmax				
	comp=Z,400nm,6.6s								
YSS				pmax	pmax				
	comp=Z,240nm,0.5s								
YSS				smax	smax				
	comp=E,200nm,0.5s								
YSS				MLR	MLR				
	comp=Z,3μm,18.0s								
YSS	**Yuzh-Sakhalins**	**3.74**	**304**	*eP*		**Pn**		**18 53 19.5**	**+1.2**
YSS				AMB	AMB	18 53 20.8			
	comp=Z,400nm,7.0s								
YSS				AMB	AMB	18 53 24.1			
	comp=Z,240nm,0.5s								
YSS				*e*S		**Sn**		**18 53 59.7**	**-1.5**
YSS				A	A	18 54 03.6			
	comp=Z,200nm,0.5s								
ERM	**Erimo**	**4.19**	**227**			**Pn**		**18 53 28.1**	**+3.7**
ERM	**Erimo**	**4.19**	**227**⇑	*e*PN		**Pn**		**18 53 28.6**	**+4.1**
JNBK	**Urakawa-nobuka**	**4.23**	**233**	*eP*		**Pn**		**18 53 25.8**	**+0.8**
JRBN	**Rebuntou**	**4.42**	**278**	*eP*		**Pn**		**18 53 27.1**	**-0.5**
JEW	**Eniwo**	**4.71**	**245**	Pn		**Pn**		**18 53 34.1**	**+2.5**
UGL	**Uglegorsk**	**5.46**	**321**	*e*PN		**Pn**		**18 53 46.1**	**+4.3**
UGL				*e*S		**Sn**		**18 54 49.7**	**+6.2**
UGL				pmax	pmax				
	comp=Z,120nm,1.2s								
UGL				smax	smax				
	comp=E,220nm,0.7s								
UGL				smax	smax				
	comp=N,180nm,1.3s								
UGL				MLR	MLR				
	comp=N,4μm,8.0s								
UGL				MLR	MLR				
	comp=Z,5μm,12.0s								
UGL				MLR	MLR				
	comp=E,3μm,10.0s								
UGL	**Uglegorsk**	**5.46**	**321**	*eP*		**Pn**		**18 53 45.6**	**+3.8**
UGL				AMB	AMB	18 53 51.5			
	comp=E,120nm,0.8s								
UGL				*e*S		**Sn**		**18 54 46.6**	**+3.1**
UGL				A	A	18 54 55.5			
	comp=E,180nm,0.7s								
UGL				A	A	18 54 55.5			
	comp=E,270nm,0.7s								
UGL				AMS	AMS	18 57 54.5			
	comp=E,5μm,12.0s								
UGL				AMS	AMS	18 57 54.5			
	comp=E,5μm,12.0s								
UGL				AMS	AMS	18 57 54.5			
	comp=E,5μm,12.0s								
JTM	**Tenmabayashi**	**6.17**	**230**			**Pn**		**18 53 52.5**	**+0.8**
TEY	**Ternei**	**7.57**	**274**⇑	*e*PN		Pn		18 54 19.2	+8.4
TEY				pmax	pmax				
	comp=N,10.0nm,1.1s								
TEY				pmax	pmax				
	comp=Z,20nm,1.1s								
TEY				MLR	MLR				
	comp=Z,100nm,11.0s								
TEY	**Ternei**	**7.57**	**274**	*eP*		**Pn**		**18 54 15.0**	**+4.2**
TEY				AMB	AMB	18 54 20.3			
	comp=Z,200nm,0.6s								
SKR	**Severo-Kuril's**	**8.27**	**43**	*e*PN		**Pn**		**18 54 22.6**	**+2.2**
SKR				*e*S		**Sn**		**18 56 01.2**	**+8.5**
SKR				pmax	pmax				
	comp=Z,200nm,2.9s								
SKR				pmax	pmax				
	comp=Z,89nm,0.9s								
SKR				MLR	MLR				
	comp=Z,1μm,10.0s								
SKR	**Severo-Kuril's**	**8.27**	**43**	*eP*		**Pn**		**18 54 20.4**	**0.0**
SKR				AMB	AMB	18 54 24.6			
	comp=Z,200nm,3.0s								
SKR				AMB	AMB	18 54 29.2			
	comp=Z,90nm,0.9s								
SKR				*e*S		**Sn**		**18 55 48.4**	**-4.3**
SKR				AMS	AMS	18 57 52.3			
	comp=Z,2μm,11.0s								
SKR				AMS	AMS	18 57 52.3			
	comp=Z,1μm,11.0s								
SKR				AMS	AMS	18 57 52.3			
	comp=Z,2μm,11.0s								
JMM	**Marumori**	**8.58**	**217**	Pn		**Pn**		**18 54 25.3**	**+0.5**
OKH	**Okha**	**9.07**	**343**	*de*PN		**Pn**		**18 54 33.5**	**+2.2**
OKH				*e*S		**Sn**		**18 56 17.0**	**+4.7**
OKH				MLR	MLR				
	comp=Z,400nm,15.0s								
OKH				MLR	MLR				
	comp=E,2μm,13.0s								
OKH				MLR	MLR				
	comp=N,600nm,13.0s								
OKH	**Okha**	**9.07**	**343**	*eP*		**Pn**		**18 54 36.1**	**+4.8**
OKH				*e*S		**Sn**		**18 56 16.4**	**+4.1**
OKH				AMS	AMS	18 59 09.4			
	comp=N,600nm,13.0s								
OKH				AMS	AMS	18 59 09.4			
	comp=N,2μm,13.0s								
OKH				AMS	AMS	18 59 09.4			
	comp=N,400nm,13.0s								
PAU	**Pauzhetka**	**9.11**	**41**	*eP*		**Pn**		**18 54 33.4**	**+1.4**
PAU				AMB	AMB	18 54 39.0			
	comp=N,100nm,0.8s								
PAU				*e*S		**Sn**		**18 56 13.3**	**-0.2**
JSD	**Sado**	**9.66**	**228**	Pn		**Pn**		**18 54 38.6**	**-0.9**
JYT	**Yasato**	**10.23**	**214**	Pn		**Pn**		**18 54 46.6**	**-0.8**
PEA0B	**Petropavlovsk-**	**10.65**	**36**			**Pn**		**18 54 57.2**	**+4.2**
PEA0B	**Petropavlovsk-**	**10.65**	**36**⇑	*i*PN		Pn		18 54 58.0	+5.0
PETK	**Petropavlovsk-**	**10.65**	**36**	Pn		**Pn**		**18 54 55.3**	**+2.2**
	comp=N,0.2nm,0.3s,baz=215,slow=12,SNR=7.4								
PETK				LR	LR	18 58 46.8			
	comp=N,400nm,18.9s,baz=197,slow=37								
PETK	**Petropavlovsk-**	**10.65**	**36**	Pn		**Pn**		**18 54 55.1**	**+2.1**
PETK	**Petropavlovsk-**	**10.65**	**36**	PN		**Pn**		**18 54 55.1**	**+2.1**
MJB9	**Matsu-Tunnel**	**10.84**	**222**			**Pn**		**18 54 57.1**	**+1.3**
MAJO	**Matsushiro**	**10.84**	**222**	Pn		**Pn**		**18 54 57.2**	**+1.4**
MAJO	**Matsushiro**	**10.84**	**222**	PN		**Pn**		**18 54 57.2**	**+1.4**
MJAR	**Matsushiro Arr**	**10.84**	**222**	Pn		**Pn**		**18 54 54.7**	**-1.1**
	comp=N,4.1nm,0.8s,baz=29,slow=14,SNR=12								
MJAR				LR	LR	18 59 39.2			
	comp=N,360nm,18.6s,baz=44,slow=40								
USA0B	**Ussuriysk Arra**	**10.93**	**271**	Pn		**Pn**		**18 55 00.7**	**+3.7**
USA0B	**Ussuriysk Arra**	**10.93**	**271**	PN		**Pn**		**18 55 00.7**	**+3.7**
USRK	**Ussuriysk Ar.**	**10.93**	**271**	Pn		**Pn**		**18 55 01.2**	**+4.3**
	comp=N,0.3nm,0.3s,baz=71,slow=11,SNR=2.2								
USRK				LR	LR	18 58 49.0			
	comp=N,500nm,18.3s,baz=79,slow=36								
USRK	**Ussuriysk Ar.**	**10.93**	**271**	Pn		**Pn**		**18 55 01.0**	**+4.0**
USRK	**Ussuriysk Ar.**	**10.93**	**271**	PN		**Pn**		**18 55 01.0**	**+4.0**
KLR	**Kul'dur**	**11.41**	**298**	Pn		**Pn**		**18 55 05.3**	**+1.8**
	comp=N,0.2nm,0.3s,baz=102,slow=14,SNR=12								
KLR				LR	LR	18 59 29.8			
	comp=N,571nm,20.4s,baz=104,slow=38								
KLR	**Kul'dur**	**11.41**	**298**⇑	*e*PN		**Pn**		**18 55 07.0**	**+3.5**
KLR				pmax	pmax				
	comp=Z,38nm,1.3s								
KLR				MLR	MLR				
	comp=Z,527nm,12.0s								
JGF	**Kuroka**	**12.01**	**222**	Pn		**Pn**		**18 55 16.3**	**+4.5**
INU	**Inuyama**	**12.38**	**223**			**Pn**		**18 55 19.8**	**+3.0**
MDJ	**Mudanjiang**	**12.57**	**275**			**Pn**		**18 55 21.6**	**+2.2**
MDJ	**Mudanjiang**	**12.57**	**275**	P		**Pn**		**18 55 23.0**	**+3.6**
MDJ				sP		P		18 55 41.5	+11
MDJ				S		**Sn**		**18 57 36.5**	**-1.8**
MDJ				pmax	pmax				
	comp=Z,14nm,1.1s								
MDJ				pmax	pmax				
	comp=Z,310nm,7.0s								
MDJ				LR	LR				
	comp=Z,1μm,15.2s								
MDJ				LR	LR				
	comp=Z,460nm,14.6s								
MDJ				LR	LR				
	comp=Z,910nm,10.7s								
JHJ	**Hachijo jima 2**	**13.16**	**209**			LR	LR	19 00 19.8	
	comp=Z,67nm,21.9s,baz=64,slow=36								
BNX	**BinXian**	**14.00**	**280**	⇑		P	**Pn**		**18 55 41.0**	**+2.2**
BNX						pmax	pmax			
	comp=Z,6.0nm,1.4s								
BNX						pmax	pmax			
	comp=Z,330nm,7.0s								
JHS	**Saijyo**	**14.69**	**232**			Pn	**Pn**		**18 55 49.4**	**+1.0**
MA2	**Magadan**	**14.81**	**7**			LR	LR	19 01 02.9		
	comp=Z,195nm,18.3s,baz=248,slow=36									
CN2	**Changchun**	**15.65**	**274**	*eP*			**Pn**		**18 55 59.8**	**-1.1**
CN2						pmax	pmax			
	comp=Z,10.0nm,0.6s									
CN2						LR	LR			
	comp=Z,1μm,13.0s									
CN2						LR	LR			
	comp=Z,700nm,13.0s									
CN2						LR	LR			
	comp=Z,900nm,13.0s									
ZEA	**Zeya**	**15.69**	**311**	*eP*			**P**		**18 56 05.4**	**+0.2**
ZEA				*eS*			**Sn**		**18 58 55.5**	**+1.3**
ZEA						pmax	pmax			
	comp=E,100nm,4.2s									
ZEA						pmax	pmax			
	comp=Z,100nm,1.6s									
ZEA						pmax	pmax			
	comp=E,30nm,1.1s									
ZEA						pmax	pmax			
	comp=N,30nm,1.3s									
ZEA						pmax	pmax			
	comp=Z,50nm,1.3s									
ZEA						smax	smax			
	comp=N,200nm,3.6s									
ZEA						smax	smax			
	comp=E,200nm,5.4s									
ZEA						MLR	MLR			
	comp=E,400nm,12.0s									
ZEA						MLR	MLR			
	comp=Z,400nm,12.0s									
ZEA	**Zeya**	**15.69**	**311**	*eP*			**P**		**18 56 05.4**	**+0.2**
KSRS	**Korea Array**	**16.35**	**249**			Pn	**Pn**		**18 56 09.2**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=56,slow=11,SNR=9.5									
KSRS						PcP	**PcP**		**19 01 02.8**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=3.4,slow=1.1,SNR=8.3									
KSRS						LR	LR	19 01 41.4		
	comp=Z,55nm,20.8s,baz=50,slow=34									
KSAR	**Wonju Array Be**	**16.38**	**250**			Pn	**Pn**		**18 56 08.7**	**-1.6**
KSAR	**Wonju Array Be**	**16.38**	**250**			P	**Pn**		**18 56 08.7**	**-1.6**
TJN	**Taejon**	**17.33**	**247**	⇓	*e*	P	**P**		**18 56 26.0**	**+2.6**
SEY	**Seymchan**	**18.26**	**7**		P		**P**		**18 56 31.9**	**-1.6**
	comp=Z,7.3nm,1.1s,baz=197,slow=20,SNR=3.5									
SEY	**Seymchan**	**18.26**	**7**	⇑	*eP*		**P**		**18 56 33.1**	**-0.4**
SEY						pmax	pmax			
	comp=Z,25nm,1.0s									
HIA	**Hailar**	**19.18**	**293**		P		**P**		**18 56 41.9**	**-1.9**
HIA	**Hailar**	**19.18**	**293**		P		**P**		**18 56 41.9**	**-1.9**
HIA						pmax	pmax			
	comp=Z,20nm,1.1s									
SHEM	**Shemya Is, Ala**	**19.22**	**57**			LR	LR	19 03 54.7		
	comp=Z,56nm,20.4s,baz=217,slow=36									
YAK	**Yakutsk**	**19.94**	**335**		P		**P**		**18 56 50.3**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=104,slow=2.6,SNR=16									
YAK						LR	LR	19 04 28.1		
	comp=Z,267nm,20.1s,baz=98,slow=37									
	comp=Z,15nm,0.6s									
YAK	**Yakutsk**	**19.94**	**335**				**P**		**18 56 52.0**	**+0.2**
YAK	**Yakutsk**	**19.94**	**335**	*eP*			**P**		**18 56 52.8**	**+0.9**
YAK						pmax	pmax			
	comp=Z,63nm,0.9s									
YAK						pmax	pmax			
	comp=N,18nm,0.9s									
YAK						pmax	pmax			
	comp=E,24nm,1.0s									
XLT	**XiLinHaoTe**	**22.24**	**278**	*eP*			**P**		**18 57 14.5**	**-2.4**
XLT					S		**S**		**19 01 16.5**	**-3.5**
XLT					sS		sS		19 01 34.3	+1.8
XLT					SS		**SnSn**		**19 01 55.3**	**+7.5**
XLT					pmax		pmax			
	comp=E,10.0nm,1.3s									
XLT					pmax		pmax			
	comp=E,200nm,6.0s									
XLT					LR		LR			
	comp=E,94nm,13.4s									
XLT					LR		LR			
	comp=E,740nm,12.7s									
XLT					LR		LR			
	comp=E,650nm,11.6s									
BJI	**Beijing**	**23.37**	**269**		P		**P**		**18 57 26.3**	**-2.2**
BJI					pmax		pmax			
	comp=E,5.0nm,0.9s									
BJT	**Baijiatuau**	**23.38**	**269**		P		**P**		**18 57 25.5**	**-3.2**
BJT	**Baijiatuau**	**23.38**	**269**		P		**P**		**18 57 25.5**	**-3.2**
BJT					pmax		pmax			
	comp=Z,32nm,1.6s									
BOD	**Bodaibo**	**24.15**	**314**	*eP*			**P**		**18 57 33.3**	**-2.5**
BOD					pmax		pmax			
	comp=Z,24nm,1.9s									
ADK	**Adak**	**24.71**	**61**		P		**P**		**18 57 39.8**	**-1.2**
ADK					IAmb		IAmb		18 57 42.2	
	comp=Z,40nm,1.1s									
ADK	**Adak**	**24.71**	**61**		P		**P**		**18 57 39.8**	**-1.2**
ADK					pmax		pmax			
	comp=Z,40nm,1.1s									
HNS	**HongShan**	**25.52**	**264**	⇓	P		**P**		**18 57 49.8**	**+1.4**
HNS					pmax		pmax			
	comp=Z,12nm,1.1s									
NJ2	**Nanjing**	**25.55**	**250**	*eP*			**P**		**18 57 48.8**	**0.0**
NJ2					pmax		pmax			
	comp=Z,14nm,0.5s									
HHC	**Hu-ho-hao-te**	**26.34**	**274**	*eP*			**P**		**18 57 56.8**	**+0.8**
HHC					S		**S**		**19 02 30.5**	**+3.4**
HHC					pmax		pmax			
	comp=Z,34nm,1.0s									
HHC					pmax		pmax			
	comp=Z,700nm,7.6s									
HHC					LR		LR			
	comp=Z,1μm,12.1s									
HHC					LR		LR			
	comp=Z,810nm,11.4s									
HHC					LR		LR			
	comp=Z,820nm,14.0s									
BTO	**Baotou**	**27.52**	**274**	*eP*			**P**		**18 58 07.8**	**+1.2**
ULN	**Ulaanbaatar**	**27.67**	**291**	P			**P**		**18 58 04.0**	**-3.9**
ULN	**Ulaanbaatar**	**27.67**	**291**	⇓	*eP*		**P**		**18 58 08.0**	**+0.1**
ULN					pmax		pmax			
	comp=Z,6.0nm,1.7s									
SONM	**Songino Array**	**28.11**	**291**		P		**P**		**18 58 11.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=81,slow=8.9,SNR=3.0									
SONM					PcP		**PcP**		**19 01 25.8**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=116,slow=2.1,SNR=4.2									
SONM					LR		LR		19 09 51.0	
	comp=Z,298nm,20.1s,baz=92,slow=38									
	comp=Z,0.8nm,0.8s									
SONM	**Songino Array**	**28.11**	**291**		P		P		18 58 06.1	-5.7
TIXI	**Tiksi**	**28.21**	**348**		LR		LR		19 09 06.8	
	comp=Z,64nm,21.4s,baz=179,slow=36									
LYN	**LuoYang**	**28.51**	**261**	*eP*			**P**		**18 58 18.5**	**+3.2**
LYN					pmax		pmax			
	comp=Z,10.0nm,1.3s									
LYN					pmax		pmax			
	comp=Z,830nm,7.3s									
LYN					LR		LR			
	comp=Z,780nm,7.6s									
LYN					LR		LR			
	comp=Z,670nm,8.1s									
LYN					LR		LR			
	comp=Z,840nm,7.7s									
H11N2	**WAKE ISLAND Hy**	**29.96**	**141**		T		T		19 29 22.9	
	baz=332,slow=75,SNR=935									
H11N1	**WAKE ISLAND Hy**	**29.97**	**141**		T		T		19 29 24.8	
	baz=332,slow=75,SNR=847									
H11N3	**WAKE ISLAND Hy**	**29.98**	**141**		T		T		19 29 23.8	
	baz=332,slow=75,SNR=679									
H11S1	**WAKE ISLAND Hy**	**30.95**	**142**		T		T		19 30 39.8	
	baz=333,slow=76,SNR=753									
H11S3	**WAKE ISLAND Hy**	**30.95**	**142**		T		T		19 30 36.5	
	baz=333,slow=76,SNR=670									
H11S2	**WAKE ISLAND Hy**	**30.96**	**142**		T		T		19 30 39.1	
	baz=333,slow=76,SNR=631									
XAN	**Xi'an**	**31.27**	**263**	⇓	P		**P**		**18 58 39.8**	**0.0**
XAN					pP		sP		18 58 54.0	+2.5
XAN					sP		pP		18 59 02.8	+15
XAN					PcP		**PcP**		**19 01 35.8**	**+2.1**
XAN					pmax		pmax			
	comp=Z,7.0nm,1.5s									
GUMO	**Guam**	**31.32**	**184**			LR	LR		19 10 09.2	
	comp=Z,48nm,20.4s,baz=4.0,slow=34									
ENH	**Enshi**	**33.00**	**257**			P	**P**		**18 58 54.0**	**-1.0**
ENH						IAmb	IAmb		18 59 16.0	
	comp=Z,13nm,1.1s									
LZH	**Lanzhou**	**33.84**	**270**	*eP*			**P**		**18 58 58.5**	**-3.9**
LZH						pP	sP		18 59 14.8	+0.7
LZH						sP	pP		18 59 21.5	+11
LZH						pmax	pmax			
	comp=Z,27nm,1.0s									
S14K	**Fog Glacier**	**34.74**	**52**			P	**P**		**18 59 09.7**	**-0.3**
	baz=275									
N16K	**Nishlik Lake**	**35.06**	**44**			P	**P**		**18 59 12.6**	**0.0**
	baz=269									
GTA	**Gaotai**	**35.20**	**278**	⇓		P	**P**		**18 59 15.0**	**+0.9**
GTA						PcP	**PcP**		**19 01 46.5**	**+1.8**
GTA						PcS	**PcS**		**19 05 33.0**	**+1.3**
GTA						pmax	pmax			
	comp=Z,4.0nm,1.5s									
GTA						pmax	pmax			
	comp=Z,200nm,8.0s									
GTA						LR	LR			
	comp=Z,370nm,11.6s									
GTA						LR	LR			
	comp=Z,250nm,12.0s									
GTA						LR	LR			
	comp=Z,250nm,10.9s									
O16K	**Kokwok River B**	**35.39**	**46**			P	**P**		**18 59 15.7**	**+0.3**
	baz=271									
R16K	**Pilot Point**	**35.73**	**49**			P	**P**		**18 59 17.7**	**-0.6**
	baz=274									
O17K	**Koliganek Bris**	**35.89**	**45**			P	**P**		**18 59 19.8**	**+0.1**
	baz=272									
TTA	**Tatalina**	**36.45**	**40**			P	**P**		**18 59 24.3**	**-0.3**
TTA						IAmb	IAmb		18 59 26.1	
	comp=Z,23nm,1.2s									
TTA	**Tatalina**	**36.45**	**40**			P	**P**		**18 59 24.3**	**-0.3**
TTA						pmax	pmax			
	comp=Z,23nm,1.2s									
TTA	**Tatalina**	**36.45**	**40**			P	**P**		**18 59 24.6**	**+0.1**
	baz=268,SNR=6.0									
N18K	**Kilae Creek**	**36.48**	**44**			P	**P**		**18 59 25.3**	**+0.6**
N18K	**Kilae Creek**	**36.48**	**44**			P	**P**		**18 59 25.1**	**+0.3**
	baz=271,SNR=5.4									
CD2	**Chengdu**	**36.63**	**263**	*eP*			**P**		**18 59 26.0**	**-0.4**
O18K	**Koktuh Hills**	**36.84**	**45**			P	**P**		**18 59 27.7**	**-0.1**
	baz=273									
P18K	**Big Mountain,**	**36.86**	**46**			P	**P**		**18 59 28.8**	**+0.9**
P18K						IAmb	IAmb		18 59 38.4	
	comp=Z,18nm,0.9s									
P18K	**Big Mountain,**	**36.86**	**46**			P	**P**		**18 59 28.1**	**+0.1**
	baz=274									
L19K	**White Mountain**	**36.97**	**41**			P	**P**		**18 59 29.0**	**+0.1**
	baz=270									
CHIR	**Chirikof Islan**	**36.98**	**52**			P	**P**		**18 59 29.5**	**+0.5**
	baz=278									
N19K	**Bonanza Creek**	**37.17**	**44**			P	**P**		**18 59 30.9**	**+0.2**
	baz=272									
M19K	**Big River Lodg**	**37.19**	**42**			P	**P**		**18 59 31.2**	**+0.4**
	baz=271									
J20K	**Nowinta River**	**37.34**	**38**			P	**P**		**18 59 31.4**	**-0.5**
J20K						IAmb	IAmb		18 59 33.6	
	comp=Z,18nm,0.9s									
J20K	**Nowinta River**	**37.34**	**38**			P	**P**		**18 59 32.3**	**+0.4**
	baz=268,SNR=6.5									
K20K	**Telida**	**37.35**	**39**			P	**P**		**18 59 33.0**	**+0.9**
K20K						IAmb	IAmb		18 59 33.8	
	comp=Z,24nm,1.2s									
K20K	**Telida**	**37.35**	**39**			P	**P**		**18 59 31.8**	**-0.3**
	baz=269									
L20K	**Farewell, AK**	**37.43**	**41**			P	**P**		**18 59 32.8**	**0.0**
	baz=271									
IMAR	**Indian Mountai**	**37.61**	**35**			P	**P**		**18 59 34.0**	**-0.3**
SII	**Sitkinak Islan**	**37.68**	**51**			P	**P**		**18 59 35.2**	**+0.3**
	baz=278									
Q19K	**Cape Douglas,**	**37.70**	**47**			P	**P**		**18 59 35.3**	**+0.2**
G21K	**Allakaket**	**37.75**	**34**			P	**P**		**18 59 35.5**	**+0.1**
	baz=266,SNR=6.1									
M20K	**Styx River**	**37.79**	**42**			P	**P**		**18 59 37.0**	**+1.1**
M20K						IAmb	IAmb		18 59 41.7	
	comp=Z,16nm,1.2s									
M20K	**Styx River**	**37.79**	**42**			P	**P**		**18 59 36.5**	**+0.6**
	baz=272									
F21K	**Alatna River**	**37.83**	**33**			P	**P**		**18 59 36.0**	**-0.1**
	baz=265									
H21K	**Melozitna Rive**	**37.98**	**36**			P	**P**		**18 59 36.9**	**-0.5**
H21K						IAmb	IAmb		18 59 47.0	
	comp=Z,14nm,1.1s									
H21K	**Melozitna Rive**	**37.98**	**36**			P	**P**		**18 59 37.5**	**+0.1**
	baz=268,SNR=6.1									
OHAK	**Old Harbor**	**38.08**	**49**			P	**P**		**18 59 38.3**	**0.0**
OHAK	**Old Harbor**	**38.08**	**49**			P	**P**		**18 59 38.5**	**+0.2**
	baz=278									
O20K	**Slope Mountain**	**38.13**	**45**			P	**P**		**18 59 38.8**	**0.0**
	baz=275									
CHUM	**Lake Minchumin**	**38.14**	**39**			P	**P**		**18 59 39.2**	**+0.5**
	baz=270									
PPLA	**Purkeypile**	**38.20**	**40**			P	**P**		**18 59 41.2**	**+1.7**
PPLA	**Purkeypile**	**38.20**	**40**			P	**P**		**18 59 39.7**	**+0.2**
	baz=272,SNR=7.8									
CAST	**Castle Rocks**	**38.24**	**39**			P	**P**		**18 59 41.1**	**+1.4**
CAST						IAmb	IAmb		18 59 41.6	
	comp=Z,17nm,0.9

C23K	**Itkillik River**	**39.15**	**29**	P	**P**	**18 59 47.2**	**+0.2**		
	baz=264								
G23K	**Bananza Creek**	**39.15**	**34**	P	**P**	**18 59 46.8**	**-0.4**		
	baz=269								
H23K	**Yukon River**	**39.33**	**35**	P	**P**	**18 59 49.7**	**+0.9**		
H23K				IAmb	IAmb	18 59 58.9			
	comp=Z,18nm,0.9s								
H23K	**Yukon River**	**39.33**	**35**	P	**P**	**18 59 48.8**	**0.0**		
	baz=270								
E23K	**Chandalar**	**39.36**	**32**	P	**P**	**18 59 48.6**	**-0.4**		
	baz=268								
BWN	**Browne**	**39.39**	**38**	P	**P**	**18 59 51.1**	**+1.9**		
TOLK	**Toolik Lake Re**	**39.41**	**31**	P	**P**	**18 59 48.4**	**-1.0**		
TOLK				IAmb	IAmb	19 00 20.4			
	comp=Z,18nm,1.4s								
TOLK	**Toolik Lake Re**	**39.41**	**31**	P	**P**	**18 59 48.9**	**-0.5**		
	baz=267								
RC01	**Rabbit Creek A**	**39.46**	**43**	P	**P**	**18 59 50.3**	**+0.4**		
RC01				IAmb	IAmb	18 59 56.6			
	comp=Z,12nm,1.0s								
RC01	**Rabbit Creek A**	**39.46**	**43**	P	**P**	**18 59 49.4**	**-0.4**		
	baz=276								
NEA2	**Nenana**	**39.55**	**37**	P	**P**	**18 59 50.1**	**-0.4**		
NEA2				IAmb	IAmb	19 00 00.2			
	comp=Z,18nm,0.8s								
NEA2	**Nenana**	**39.55**	**37**	P	**P**	**18 59 50.4**	**-0.1**		
	baz=272,SNR=12								
MCK	**McKinley**	**39.64**	**39**	P	**P**	**18 59 51.8**	**+0.4**		
MCK	**McKinley**	**39.64**	**39**	P	**P**	**18 59 51.8**	**+0.4**		
MCK				pmax	pmax				
	comp=Z,31nm,1.2s								
MCK	**McKinley**	**39.64**	**39**	P	**P**	**18 59 51.6**	**+0.3**		
	baz=273,SNR=5.4								
RND	**Reindeer**	**39.70**	**39**	P	**P**	**18 59 51.7**	**-0.2**		
RND				IAmb	IAmb	18 59 52.6			
	comp=Z,13nm,1.0s								
RND	**Reindeer**	**39.70**	**39**	P	**P**	**18 59 51.7**	**-0.2**		
RND				pmax	pmax				
	comp=Z,13nm,1.0s								
SEW	**Seward**	**39.71**	**44**	P	**P**	**18 59 51.0**	**-0.8**		
	baz=277								
D24K	**Happy Valley**	**39.72**	**30**	P	**P**	**18 59 51.4**	**-0.4**		
	baz=267								
E24K	**Your Creek**	**39.79**	**32**	P	**P**	**18 59 51.7**	**-0.8**		
	baz=268,SNR=8.3								
C24K	**Franklin Bluff**	**39.80**	**29**	P	**P**	**18 59 52.4**	**-0.1**		
	baz=266								
WAT1	**Susitna Watana**	**39.87**	**40**	P	**P**	**18 59 52.6**	**-0.7**		
	baz=275								
MDM	**Murphy Dome**	**39.89**	**37**	P	**P**	**18 59 53.8**	**+0.4**		
MDM				IAmb	IAmb	19 00 02.8			
	comp=Z,13nm,0.9s								
DGZ	**Jazzator, Alta**	**39.91**	**299**‖	*e*P	**P**	**18 59 53.9**	**0.0**		
DGZ				pmax	pmax				
	comp=Z,15nm,4.2s								
WRH	**Wood River Hil**	**39.98**	**38**	P	**P**	**18 59 54.7**	**+0.6**		
WRH				IAmb	IAmb	19 00 02.0			
	comp=Z,15nm,0.9s								
F24K	**Squaw Lake**	**40.00**	**33**	P	**P**	**18 59 53.7**	**-0.7**		
	baz=270								
H24K	**Noodor Dome**	**40.02**	**35**	P	**P**	**18 59 55.1**	**+0.6**		
H24K				IAmb	IAmb	19 00 05.2			
	comp=Z,14nm,0.9s								
H24K	**Noodor Dome**	**40.02**	**35**	P	**P**	**18 59 54.3**	**-0.1**		
	baz=272,SNR=5.8								
KNK	**Knik Glacier**	**40.04**	**42**	P	**P**	**18 59 55.0**	**+0.2**		
KNK	**Knik Glacier**	**40.04**	**42**	P	**P**	**18 59 54.1**	**-0.6**		
	baz=277,SNR=7.2								
TCOL	**CIGO, UAF Yank**	**40.05**	**37**	P	**P**	**18 59 55.2**	**+0.5**		
TCOL	**CIGO, UAF Yank**	**40.05**	**37**	P	**P**	**18 59 54.7**	**0.0**		
	baz=273								
COLA	**College**	**40.06**	**37**	P	**P**	**18 59 55.3**	**+0.6**		
COLA	**College**	**40.06**	**37***d*	*i*P	**P**	**18 59 55.7**	**+1.0**		
COLA				pmax	pmax				
	comp=Z,26nm,0.9s								
COLA	**College**	**40.06**	**37**	P	**P**	**18 59 54.7**	**0.0**		
	baz=273								
COLA	**College**	**40.06**	**37**	P	**P**	**18 59 55.4**	**+0.6**		
COLA				pP	**pP**	**19 00 02.8**	**-0.4**		
SML	**Sawmill**	**40.06**	**42**	P	**P**	**18 59 54.8**	**-0.1**		
SML	**Sawmill**	**40.06**	**42**	P	**P**	**18 59 54.8**	**-0.1**		
	baz=276,SNR=14								
CCB	**Clear Creek Bu**	**40.09**	**37**	P	**P**	**18 59 55.0**	**0.0**		
CCB				IAmb	IAmb	19 00 01.9			
	comp=Z,34nm,1.7s								
G24K	**Hadweenzic Riv**	**40.16**	**34**	P	**P**	**18 59 55.1**	**-0.5**		
	baz=271								
PWL	**Port Wells**	**40.17**	**43**	P	**P**	**18 59 55.6**	**-0.2**		
PWL				IAmb	IAmb	19 00 04.1			
	comp=Z,15nm,1.1s								
PWL	**Port Wells**	**40.17**	**43**	P	**P**	**18 59 55.5**	**-0.2**		
	baz=277								
GOMU	**GeErMu**	**40.18**	**276**	P	**P**	**18 59 57.0**	**+0.4**		
GOMU				PcP	**PcP**	**19 02 02.5**	**+2.1**		
GOMU				pmax	pmax				
	comp=Z,4.0nm,0.9s								
POKR	**Poker Plat Res**	**40.23**	**37**	P	**P**	**18 59 56.1**	**0.0**		
POKR	**Poker Plat Res**	**40.23**	**37**	P	**P**	**18 59 55.6**	**-0.5**		
	baz=273								
WAT6	**Susitna Watana**	**40.27**	**40**	P	**P**	**18 59 55.8**	**-0.9**		
	baz=276,SNR=5.8								
M23K	**Glacier View**	**40.35**	**42**	P	**P**	**18 59 56.8**	**-0.5**		
	baz=277								
ZAA0	**Zalesovo Array**	**40.36**	**306**	P	**P**	**18 59 55.3**	**-2.0**		
ZALV	**Zalesovo Beam**	**40.36**	**306**	P	**P**	**18 59 55.7**	**-1.7**		
	comp=Z,0.4nm,0.4s,baz=82,slow=11,SNR=4.0								
ZALV				PcP	**PcP**	**19 01 59.5**	**-0.6**		
	comp=Z,4.5nm,0.9s,baz=90,slow=3.3,SNR=12								
ZALV				LR	LR	19 17 30.0			
	comp=Z,179nm,18.5s,baz=96,slow=38								
	comp=Z,0.4nm,0.4s								
DHY	**Denali Highway**	**40.39**	**40**	P	**P**	**18 59 56.9**	**-0.8**		
DHY				IAmb	IAmb	18 59 58.5			
	comp=Z,16nm,1.2s								
DHY	**Denali Highway**	**40.39**	**40**	P	**P**	**18 59 57.1**	**-0.5**		
	baz=276,SNR=9.4								
HDA	**Harding Lake**	**40.47**	**38**	P	**P**	**18 59 57.5**	**-0.7**		
HDA				IAmb	IAmb	19 00 07.2			
	comp=Z,11nm,0.8s								
IL31		**40.48**	**37**	P	**P**	**18 59 58.1**	**-0.1**		
IL31				IAmb	IAmb	19 00 08.1			
	comp=Z,18nm,0.9s								
ILAR	**Eielson Array**	**40.48**	**37**	P	**P**	**18 59 57.9**	**-0.4**		
	comp=Z,11nm,1.0s,baz=269,slow=7.1,SNR=58								
ILAR				LR	LR	19 19 12.7			
	comp=Z,66nm,18.2s,baz=274,slow=40								
	comp=Z,11nm,1.0s								
ILAR	**Eielson Array**	**40.48**	**37**	P	**P**	**18 59 58.0**	**-0.2**		
ILAR	**Eielson Array**	**40.48**	**37**	P	**P**	**18 59 58.0**	**-0.2**		
SCM	**Sheep Creek Mo**	**40.53**	**42**	P	**P**	**18 59 59.3**	**+0.4**		
SCM				IAmb	IAmb	19 00 09.6			
	comp=Z,19nm,1.1s								
SCM	**Sheep Creek Mo**	**40.53**	**42**	P	**P**	**18 59 59.3**	**+0.4**		
SCM				pmax	pmax				
	comp=Z,19nm,1.1s								
SCM	**Sheep Creek Mo**	**40.53**	**42**	P	**P**	**18 59 58.5**	**-0.3**		
	baz=277,SNR=5.7								
D25K	**Kavik River**	**40.60**	**30**	P	**P**	**18 59 59.4**	**+0.2**		
	baz=269								
P23K	**Montague Islan**	**40.74**	**44**	P	**P**	**19 00 00.5**	**+0.1**		
	baz=279								
GLI	**Glacier Island**	**40.77**	**43**	P	**P**	**19 00 00.5**	**-0.1**		
GLI	**Glacier Island**	**40.77**	**43**	P	**P**	**19 00 01.0**	**+0.3**		
	baz=278								
H25K	**Birch Creek**	**40.84**	**35**	P	**P**	**19 00 01.1**	**0.0**		
	baz=273,SNR=8.2								
F25K	**Christian Rive**	**40.86**	**33**	P	**P**	**19 00 01.1**	**-0.4**		
	baz=272								
KMI	**Kunming**	**40.87**	**256**	P	**P**	**19 00 03.0**	**+0.8**		
KMI				pP	sP	19 00 17.0	+2.6		
KMI				pmax	pmax				
	comp=Z,11nm,1.1s								
PRP	**Porcupine Dome**	**41.00**	**36**	P	**P**	**19 00 02.7**	**0.0**		
PRP				IAmb	IAmb	19 00 12.6			
	comp=Z,21nm,1.0s								
PRP	**Porcupine Dome**	**41.00**	**36**	P	**P**	**19 00 02.5**	**-0.2**		
	baz=274,SNR=14								
K24K	**Donnelly Dome**	**41.03**	**38**	P	**P**	**19 00 03.0**	**+0.1**		
	baz=276,SNR=8.6								
M24K	**Tolsona, Glenn**	**41.04**	**41**	P	**P**	**19 00 04.4**	**+1.4**		
M24K				IAmb	IAmb	19 00 12.3			
	comp=Z,25nm,1.1s								
M24K	**Tolsona, Glenn**	**41.04**	**41**	P	**P**	**19 00 03.4**	**+0.4**		
	baz=278								
FYU	**Fort Yukon**	**41.06**	**34**	P	**P**	**19 00 02.9**	**-0.1**		
FYU				IAmb	IAmb	19 00 11.2			
	comp=Z,32nm,1.3s								
FID	**Port Fidalgo**	**41.08**	**43**	P	**P**	**19 00 03.5**	**+0.2**		
FID				IAmb	IAmb	19 00 12.5			
	comp=Z,20nm,1.2s								
J25K	**Salcha River,**	**41.14**	**37**	P	**P**	**19 00 03.0**	**-0.8**		
J25K	**Salcha River,**	**41.14**	**37**	P	**P**	**19 00 03.6**	**-0.2**		
	baz=275								
KLU	**Klutina**	**41.24**	**42**	P	**P**	**19 00 05.5**	**+0.9**		
KLU				IAmb	IAmb	19 00 15.1			
	comp=Z,22nm,1.0s								
KLU	**Klutina**	**41.24**	**42**	P	**P**	**19 00 04.4**	**-0.3**		
	baz=279,SNR=9.7								
PAX	**Paxson**	**41.26**	**40**	P	**P**	**19 00 06.6**	**+1.8**		
PAX	**Paxson**	**41.26**	**40**	P	**P**	**19 00 06.6**	**+1.8**		
PAX				pmax	pmax				
	comp=Z,5.0nm,1.0s								
PAX	**Paxson**	**41.26**	**40**	P	**P**	**19 00 05.5**	**+0.7**		
	baz=277								
BMAR	**Burnt Mountain**	**41.28**	**33**	P	**P**	**19 00 05.6**	**+0.7**		
Q23K	**Middleton Isla**	**41.36**	**45**	P	**P**	**19 00 05.5**	**0.0**		
	baz=281								
DIV	**Divide**	**41.37**	**43**	P	**P**	**19 00 05.3**	**-0.4**		
DIV				IAmb	IAmb	19 00 07.7			
	comp=Z,17nm,0.9s								
F26K	**Sheenjek River**	**41.43**	**32**	P	**P**	**19 00 05.8**	**-0.3**		
	baz=273,SNR=6.5								
RIDG	**Independent Ri**	**41.45**	**38**	P	**P**	**19 00 06.0**	**-0.3**		
RIDG				IAmb	IAmb	19 00 19.0			
	comp=Z,14nm,0.9s								
RIDG	**Independent Ri**	**41.45**	**38**	P	**P**	**19 00 06.1**	**-0.3**		
	baz=277								
EYAK	**Cordova Ski Ar**	**41.47**	**43**	P	**P**	**19 00 07.1**	**+0.7**		
	baz=280								
HARP	**HAARP**	**41.48**	**41**	P	**P**	**19 00 06.8**	**+0.3**		
	baz=278,SNR=5.2								
C27K	**Jago River**	**41.54**	**30**	P	**P**	**19 00 07.0**	**+0.1**		
	baz=271,SNR=5.5								
G26K	**Porcupine Rive**	**41.61**	**34**	P	**P**	**19 00 07.5**	**-0.1**		
	baz=274,SNR=7.0								
WMQ	**Urumqi**	**41.75**	**290**	*e*P	**P**	**19 00 10.0**	**+1.0**		
WMQ				LR	LR				
	comp=Z,260nm,14.1s								
WMQ				LR	LR				
	comp=Z,310nm,15.7s								
WMQ				LR	LR				
	comp=Z,230nm,21.9s								
SCRK	**Sand Creek**	**41.80**	**38**	P	**P**	**19 00 08.2**	**-1.1**		
SCRK				IAmb	IAmb	19 00 18.8			
	comp=Z,15nm,1.0s								
SCRK	**Sand Creek**	**41.80**	**38**	P	**P**	**19 00 08.4**	**-0.9**		
	baz=277,SNR=20								
DOT	**Dot Lake**	**41.81**	**39**	P	**P**	**19 00 08.9**	**-0.3**		
N25K	**Chitina, Valde**	**41.85**	**42**	P	**P**	**19 00 09.9**	**+0.2**		
	baz=280								
J26L	**Joseph Creek**	**41.93**	**37**	P	**P**	**19 00 09.2**	**-1.1**		
J26L	**Joseph Creek**	**41.93**	**37**	P	**P**	**19 00 09.2**	**-1.1**		
	baz=277								
BMRM	**Bremner River**	**41.95**	**43**	P	**P**	**19 00 10.9**	**+0.5**		
BMRM				IAmb	IAmb	19 00 20.9			
	comp=Z,19nm,0.9s								
BMRM	**Bremner River**	**41.95**	**43**	P	**P**	**19 00 10.5**	**+0.1**		
	baz=280								
RAGM	**Ragged Mountai**	**42.02**	**43**	P	**P**	**19 00 12.1**	**+1.1**		
RAGM				IAmb	IAmb	19 00 16.9			
	comp=Z,16nm,1.1s								
MENT	**Mentasta**	**42.06**	**40**	P	**P**	**19 00 10.9**	**-0.4**		
L26K	**Log Cabin Wild**	**42.22**	**39**	P	**P**	**19 00 14.0**	**+1.4**		
L26K				IAmb	IAmb	19 00 14.4			
	comp=Z,40nm,1.6s								
L26K	**Log Cabin Wild**	**42.22**	**39**	P	**P**	**19 00 12.7**	**+0.2**		
	baz=279								
GLB	**Gilahina Butte**	**42.25**	**42**	P	**P**	**19 00 12.4**	**-0.5**		
E27K	**Coleen River**	**42.37**	**32**	P	**P**	**19 00 13.4**	**-0.3**		
	baz=275								
G27K	**Doyon Strip**	**42.46**	**34**	P	**P**	**19 00 14.3**	**-0.3**		
	baz=276								
M26K	**Nabesna, AK**	**42.47**	**40**	P	**P**	**19 00 15.2**	**+0.6**		
M26K				IAmb	IAmb	19 00 25.4			
	comp=Z,30nm,1.1s								
M26K	**Nabesna, AK**	**42.47**	**40**	P	**P**	**19 00 14.3**	**-0.3**		
	baz=280,SNR=18								
BERG	**Berg Lake**	**42.49**	**43**	P	**P**	**19 00 15.4**	**+0.6**		
H27K	**Steamboat Moun**	**42.58**	**35**	P	**P**	**19 00 15.4**	**0.0**		
	baz=277,SNR=11								
I27K	**Kandik River**	**42.61**	**35**	P	**P**	**19 00 15.6**	**-0.2**		
	baz=278								
K27K	**Chicken**	**42.63**	**38**	P	**P**	**19 00 16.3**	**+0.5**		
	baz=279								
MCARA	**McCarthy VSAT**	**42.63**	**42**	P	**P**	**19 00 17.4**	**+1.5**		
MCARA				IAmb	IAmb	19 00 28.1			
	comp=Z,17nm,0.9s								
MCARA	**McCarthy VSAT**	**42.63**	**42**	P	**P**	**19 00 16.4**	**+0.4**		
	baz=281								
TGL	**Tana Glacier**	**42.85**	**43**	P	**P**	**19 00 19.1**	**+1.3**		
TGL				IAmb	IAmb	19 00 23.3			
	comp=Z,16nm,1.1s								
L27K	**Beaver Creek,**	**42.89**	**39**	P	**P**	**19 00 18.5**	**+0.4**		
L27K				IAmb	IAmb	19 00 24.4			
	comp=Z,16nm,0.9s								
L27K	**Beaver Creek,**	**42.89**	**39**	P	**P**	**19 00 18.8**	**+0.8**		
	baz=280,SNR=25								
WAX	**Waxell Ridge**	**42.90**	**43**	P	**P**	**19 00 18.6**	**+0.5**		
WAX				IAmb	IAmb	19 00 20.2			
	comp=Z,17nm,0.8s								
BCAR	**Beaver Creek A**	**42.91**	**39**	P	**P**	**19 00 18.5**	**+0.3**		
EGAK	**Eagle**	**42.92**	**37**	P	**P**	**19 00 18.2**	**0.0**		
EGAK				IAmb	IAmb	19 00 19.4			
	comp=Z,29nm,1.3s								
EGAK	**Eagle**	**42.92**	**37**	P	**P**	**19 00 17.2**	**-1.0**		
	baz=279,SNR=16								
M27K	**Edge Creek, AK**	**42.99**	**40**	P	**P**	**19 00 19.3**	**+0.3**		
M27K				IAmb	IAmb	19 00 29.1			
	comp=Z,20nm,0.9s								
M27K	**Edge Creek, AK**	**42.99**	**40**	P	**P**	**19 00 19.8**	**+0.8**		
	baz=281,SNR=12								
ISLE	**Juniper Island**	**43.11**	**43**	P	**P**	**19 00 20.5**	**+0.5**		
ISLE				IAmb	IAmb	19 00 32.2			
	comp=Z,17nm,0.8s								
BVCY	**Beaver Creek**	**43.45**	**40**	P	**P**	**19 00 23.0**	**+0.5**		
	baz=282								
YAH	**Yahtse**	**43.45**	**43**	P	**P**	**19 00 24.1**	**+1.2**		
YAH				IAmb	IAmb	19 00 30.3			
	comp=Z,29nm,1.1s								
CTG	**Chitna Glacier**	**43.52**	**42**	P	**P**	**19 00 23.5**	**+0.3**		
	baz=283								
CTGM	**Chitina Glacie**	**43.52**	**42**	P	**P**	**19 00 23.8**	**+0.5**		
CTGM				IAmb	IAmb	19 00 25.7			
	comp=Z,16nm,1.0s								
LOGN	**Logan Glacier**	**43.71**	**42**	P	**P**	**19 00 25.2**	**+0.3**		
TABL	**Table Mountain**	**43.73**	**43**	P	**P**	**19 00 25.9**	**+0.9**		
TABL				IAmb	IAmb	19 00 26.6			
	comp=Z,12nm,0.8s								
YUK3	**Moose Creek**	**43.76**	**41**	P	**P**	**19 00 25.0**	**-0.3**		
	baz=282,SNR=7.8								
DAWY	**Dawson**	**43.79**	**37**	P	**P**	**19 00 25.4**	**+0.1**		
DAWY	**Dawson**	**43.79**	**37**	P	**P**	**19 00 25.6**	**+0.3**		
	baz=281								
I29M	**Ogilvie Camp,**	**44.02**	**36**	P	**P**	**19 00 27.2**	**+0.1**		
I29M				IAmb	IAmb	19 00 36.5			
	comp=Z,19nm,0.9s								
I29M	**Ogilvie Camp,**	**44.02**	**36**	P	**P**	**19 00 27.4**	**+0.3**		
	baz=281,SNR=12								
O28M	**Mount Upton**	**44.11**	**42**	P	**P**	**19 00 28.0**	**-0.1**		
	baz=284								
MK31	**Makanchi Array**	**44.12**	**297**	P	**P**	**19 00 26.9**	**-1.2**		
MK31	**Makanchi Array**	**44.12**	**297**	P	**P**	**19 00 26.9**	**-1.2**		
MK31				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**44.12**	**297**	P	**P**	**19 00 26.6**	**-1.6**		
	comp=Z,1.0nm,0.8s,baz=78,slow=7.8,SNR=7.0								
MKAR				PcP	**PP**	**19 02 11.4**	**+0.4**		
	comp=Z,1.4nm,0.7s,baz=73,slow=2.7,SNR=4.5								
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**44.12**	**297**	P	**P**	**19 00 26.8**	**-1.4**		
PCA	**Pinnacle**	**44.24**	**43**	P	**P**	**19 00 29.4**	**+0.5**		
PCA				IAmb	IAmb	19 00 30.4			
	comp=Z,13nm,0.9s								
PINM	**Pinnacle**	**44.24**	**43**	P	**P**	**19 00 29.0**	**0.0**		
	baz=284								
EPYK	**Eagle Plains**	**44.48**	**34**	P	**P**	**19 00 30.7**	**-0.1**		
EPYK				IAmb	IAmb	19 00 40.3			
	comp=Z,20nm,1.1s								
EPYK	**Eagle Plains**	**44.48**	**34**	P	**P**	**19 00 30.8**	**+0.1**		
	baz=281,SNR=6.5								
M29M	**Somme Creek**	**44.53**	**40**	P	**P**	**19 00 31.8**	**+0.5**		
	baz=283								
L29M	**L29M**	**44.54**	**39**	P	**P**	**19 00 31.5**	**+0.2**		
	baz=283,SNR=14								
K29M	**Barlow Dome**	**44.65**	**38**	P	**P**	**19 00 32.6**	**+0.3**		
	baz=283								
YUK4	**Talbot Arm**	**44.70**	**41**	P	**P**	**19 00 33.2**	**+0.4**		
	baz=284								
KURK	**Kurchatov**	**44.94**	**303**	P	**P**	**19 00 33.3**	**-1.3**		
KURK						19 02 14.6			
KURBB	**Kurchatov Arra**	**45.03**	**303**	P	**P**	**19 00 33.2**	**-2.0**		
	comp=Z,1.9nm,0.8s,baz=70,slow=8.4,SNR=7.1								
KURBB				PcP	**PcP**	**19 02 14.6**	**-1.2**		
	comp=Z,2.5nm,0.8s,baz=69,slow=3.6,SNR=10								
	comp=Z,1.9nm,0.8s								
INK	**Inuvik**	**45.33**	**31**	P	**P**	**19 00 35.4**	**-2.0**		
	comp=Z,4.4nm,0.8s,baz=273,slow=8.9,SNR=4.2								
	comp=Z,4.4nm,0.8s								
INK	**Inuvik**	**45.33**	**31**	P	**P**	**19 00 36.2**	**-1.2**		
INK	**Inuvik**	**45.33**	**31**	P	**P**	**19 00 36.2**	**-1.2**		
INK				pmax	pmax				
	comp=Z,6.0nm,0.8s								
HYT	**Haines Junctio**	**45.37**	**42**	P	**P**	**19 00 39.4**	**+1.3**		
HYT	**Haines Junctio**	**45.37**	**42**	P	**P**	**19 00 39.4**	**+1.3**		
	baz=286,SNR=27								
N30M	**Aishikik Lake**	**45.40**	**41**	P	**P**	**19 00 38.8**	**+0.6**		
	baz=285								
F31M	**Tsiigehtchic**	**45.42**	**32**	P	**P**	**19 00 38.3**	**+0.1**		
	baz=282								
P29M	**Windy Craggy**	**45.59**	**43**	P	**P**	**19 00 40.7**	**+1.1**		
P29M	**Windy Craggy**	**45.59**	**43**	P	**P**	**19 00 40.5**	**+0.9**		
	baz=287,SNR=11								
P30M	**Million Dollar**	**45.82**	**43**	P	**P**	**19 00 42.6**	**+1.0**		
	baz=287								
N31M	**Braeburn, Yuko**	**46.00**	**41**	P	**P**	**19 00 44.6**	**+1.7**		
N31M				IAmb	IAmb	19 00 53.4			
	comp=Z,19nm,1.1s								
N31M	**Braeburn, Yuko**	**46.00**	**41**	P	**P**	**19 00 44.0**	**+1.1**		
	baz=286,SNR=7.7								
O30N	**Mendenhall**	**46.05**	**42**	P	**P**	**19 00 44.1**	**+0.7**		
	baz=287								
PLBC	**Pleasant Camp**	**46.30**	**43**	P	**P**	**19 00 46.4**	**+1.1**		
	baz=288								
M31M	**Drury Creek, Y**	**46.43**	**39**	P	**P**	**19 00 46.3**	**0.0**		
M31M				IAmb	IAmb	19 00 56.4			
	comp=Z,9.0nm,0.8s								
M31M	**Drury Creek, Y**	**46.43**	**39**	P	**P**	**19 00 46.9**	**+0.6**		
	baz=287,SNR=9.4								
WHY	**Whitehorse**	**46.66**	**41**	P	**P**	**19 00 49.5**	**+1.4**		
WHY				IAmb	IAmb	19 00 50.5			
	comp=Z,8.4nm,0.9s								
WHY	**Whitehorse**	**46.66**	**41**	P	**P**	**19 00 48.8**	**+0.6**		
	baz=288								
FARO	**Faro, Yukon**	**46.89**	**39**	P	**P**	**19 00 50.7**	**+0.9**		
FARO	**Faro, Yukon**	**46.89**	**39**	P	**P**	**19 00 50.8**	**+0.9**		
	baz=288								
PHRA	**Phrae**	**47.06**	**252**	P	**P**	**19 00 52.5**	**+0.8**		
JIS	**Juneau Island**	**47.66**	**44**	P	**P**	**19 00 57.7**	**+1.9**		
MMPY	**Sheldon Lake,**	**47.70**	**38**	P	**P**	**19 00 56.9**	**+0.7**		
	baz=289,SNR=7.5								
CHTO	**Chiang Mai**	**47.71**	**253**	P	**P**	**19 00 56.8**	**+0.1**		
CHTO	**Chiang Mai**	**47.71**	**253**	P	**P**	**19 00 56.8**	**+0.1**		
CHTO	**Chiang Mai**	**47.71**	**253**	P	**P**	**19 00 56.9**	**+0.2**		
CHTO				pP	**pP**	**19 01 04.0**	**-1.4**		
P33M	**Teslin, Yukon**	**47.77**	**42**	P	**P**	**19 00 57.8**	**+1.0**		
P33M				IAmb	IAmb	19 00 59.0			
	comp=Z,12nm,1.0s								
P33M	**Teslin, Yukon**	**47.77**	**42**	P	**P**	**19 00 57.4**	**+0.6**		
	baz=290,SNR=8.1								
S32K	**Killisnoo**	**47.84**	**46**	P	**P**	**19 00 58.4**	**+1.2**		
	baz=291								
CMAR	**Chiang Mai Arr**	**47.95**	**253**	P	**P**	**19 00 58.9**	**+0.3**		
	comp=Z,2.6nm,0.8s,baz=40,slow=7.0,SNR=10.0								
CMAR				PcP	**PcP**	**19 02 27.4**	**+0.8**		
	comp=Z,1.3nm,0.8s,baz=27,slow=3.5,SNR=5.1								
	comp=Z,2.6nm,0.8s								
CMAR	**Chiang Mai Arr**	**47.95**	**253**	P	**P**	**19 00 59.1**	**+0.5**		
Q32M	**Nakina River**	**48.46**	**43**	P	**P**	**19 01 03.3**	**+1.0**		
	baz=291								
BVAR	**Borovoye Array**	**48.82**	**309**	P	**P**	**19 01 02.7**	**-2.2**		
	comp=Z,0.2nm,0.6s,baz=50,slow=7.7,SNR=4.1								
BVAR				PcP	**PcP**	**19 02 29.2**	**0.0**		
	comp=Z,1.7nm,0.9s,baz=113,slow=3.9,SNR=7.4								
BRVK	**Borovoye**	**48.87**	**309**⇑	*i*P	**P**	**19 01 04.4**	**-0.8**		
BRVK				pmax	pmax				
	comp=Z,8.0nm,2.5s								
BRVK	**Borovoye**	**48.87**	**309**	*e*P	**P**	**19 01 04.4**	**-0.8**		
R33M	**Jennings River**

CHGR pmax pmax
comp=Z,34nm,1.3s
NIL Nilore 56.54 286 P **P** **19 02 01.7 -0.6**
NIL lAmb lAmb 19 02 13.0
comp=Z,13nm,1.0s
NIL Nilore 56.54 286 P **P** **19 02 01.7 -0.6**
NIL pmax pmax
comp=Z,13nm,1.0s
KULM Kulim 56.62 240 P **P** **19 02 04.6 +1.6**
LLLB Lillooet 57.59 49 P **P** **19 02 10.1 +0.6**
LLLB lAmb lAmb 19 02 11.2
comp=Z,12nm,1.1s
ARCES ARCESS Array B 58.16 339 P **P** **19 02 11.9 -1.2**
comp=Z,1.6nm,0.8s,baz=45,slow=9.0,SNR=2.2
comp=Z,1.6nm,0.8s
NLWA Neilton Lookou 58.25 53 P **P** **19 02 15.9 +1.8**
NLWA lAmb lAmb 19 02 17.1
comp=Z,11nm,1.1s
B06A Marblemount 58.96 51 P **P** **19 02 18.9 -0.1**
MTN Manton Dam 59.35 198 P **P** **19 02 22.1 +0.2**
D05A Enumclaw 59.43 52 P **P** **19 02 23.9 +1.7**
D05A lAmb lAmb 19 02 33.0
comp=Z,8.1nm,0.7s
KLMR Klimovskoe 59.48 327 *e*P **P** **19 02 19.1 -3.2**
KLMR pmax pmax
comp=Z,13nm,1.6s
KLMR Klimovskoe 59.48 327 *e*P **P** **19 02 19.2 -3.1**
KLMR AMP 19 02 22.2
comp=Z,13nm,1.6s
LTY Liberty 60.13 52 P **P** **19 02 27.4 +0.2**
LTY lAmb lAmb 19 02 28.8
comp=Z,15nm,1.4s
B08A Colville Reser 60.23 50 P **P** **19 02 27.9 +0.1**
B08A lAmb lAmb 19 02 29.5
comp=Z,13nm,1.1s
EDM Edmonton 60.46 43 P **P** **19 02 29.3 0.0**
EDM Edmonton 60.46 43 P **P** **19 02 29.3 0.0**
EDM pmax pmax
comp=Z,15nm,0.9s
HOOD Mount Hood Mea 60.69 54 P **P** **19 02 32.1 +0.9**
H04A Detroit Lake 60.75 55 P **P** **19 02 32.9 +1.5**
G05D Wamic, OR 60.93 54 P **P** **19 02 33.4 +0.8**
baz=306
K02D Willamette Mer 61.04 57 P **P** **19 02 34.3 +0.9**
baz=306
C09A Chrisman Ranch 61.13 50 P **P** **19 02 33.9 -0.1**
I04A Tendick Farm, 61.14 56 P **P** **19 02 34.8 +0.8**
baz=306
D08A Wollman Farm, 61.21 51 P **P** **19 02 34.6 +0.1**
HAWA Hanford 61.27 52 P **P** **19 02 35.4 +0.5**
HAWA lAmb lAmb 19 02 37.0
comp=Z,14nm,1.3s
F07A Phinny Hill Vi 61.34 53 P **P** **19 02 36.9 +1.5**
L02F Cave Junction 61.43 58 P **P** **19 02 37.1 +1.1**
baz=306
E08A Dider Farm, El 61.47 52 P **P** **19 02 36.3 +0.1**
E08A lAmb lAmb 19 02 47.0
comp=Z,7.7nm,0.6s
NEW Newport 61.48 49 LR LR 19 29 26.4
comp=Z,33nm,18.8s,baz=347,slow=36
NEW Newport 61.48 49 P **P** **19 02 36.9 +0.6**
NEW lAmb lAmb 19 02 38.1
comp=Z,8.4nm,0.9s
NEW Newport 61.48 49 P **P** **19 02 36.9 +0.6**
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 61.48 49 P **P** **19 02 37.1 +0.8**
baz=307
J04D Umpqua Nationa 61.64 56 P **P** **19 02 38.0 +0.3**
J04D Umpqua Nationa 61.64 56 P **P** **19 02 38.6 +0.9**
baz=307
E09A Wood Farm, Sta 61.97 51 P **P** **19 02 40.1 +0.5**
PINE Pine Mountain 62.00 55 P **P** **19 02 41.5 +1.4**
J05D Fort Rock, OR 62.13 56 P **P** **19 02 42.1 +1.2**
baz=307,SNR=10
L04D Klamath Falls 62.13 57 P **P** **19 02 41.3 +0.4**
YBH Yreka Blue Hor 62.18 58 P **P** **19 02 42.9 +1.7**
YBH lAmb lAmb 19 02 43.9
comp=Z,6.8nm,0.9s
YBH Yreka Blue Hor 62.18 58 P **P** **19 02 42.9 +1.7**
YBH pmax pmax
comp=Z,7.0nm,1.0s
G08A Pilot Rock 62.24 53 P **P** **19 02 42.9 +1.4**
G08A lAmb lAmb 19 02 43.7
comp=Z,7.0nm,1.2s
I07A Izee 62.66 54 P **P** **19 02 45.9 +1.5**
I07A lAmb lAmb 19 02 55.5
comp=Z,9.1nm,1.3s
K05A Summer Lake 62.66 56 P **P** **19 02 46.1 +1.6**
WALA Waterton Lakes 62.70 47 P **P** **19 02 45.9 +1.3**
JTMT Jette 63.31 48 P **P** **19 02 49.7 +1.0**
JTMT lAmb lAmb 19 02 50.9
comp=Z,10nm,1.1s
BMO Blue Mountains 63.44 52 P **P** **19 02 50.6 +1.1**
BMO lAmb lAmb 19 02 51.7
comp=Z,9.1nm,1.2s
BMO Blue Mountains 63.44 52 P **P** **19 02 50.6 +1.1**
BMO pmax pmax
comp=Z,9.0nm,1.2s
MOD Modoc Plateau 63.51 56 P **P** **19 02 50.8 +0.6**
MOD lAmb lAmb 19 02 52.3
comp=Z,7.4nm,0.9s
J08A Circle Bar Ran 63.69 54 P **P** **19 02 52.2 +0.9**
J08A lAmb lAmb 19 03 01.9
comp=Z,10nm,1.0s
FINES FINESS Array B 63.85 333 P **P** **19 02 49.2 -2.6**
comp=Z,2.4nm,0.7s,baz=35,slow=10,SNR=11
comp=Z,2.4nm,0.7s
FINES FINESS Array B 63.85 333 P **P** **19 02 49.0 -2.8**
GDXM Geysers 63.89 60 P **P** **19 02 54.6 +2.0**
GDXM lAmb lAmb 19 02 55.3
comp=Z,10nm,1.2s
GEYT Alibeck 63.95 298 P **P** **19 02 52.6 -0.3**
comp=Z,1.3nm,0.9s,baz=35,slow=5.3,SNR=1.8
comp=Z,1.3nm,0.9s
PLID Pearl Lake 64.02 51 P **P** **19 02 53.9 +0.3**
PLID lAmb lAmb 19 02 55.3
comp=Z,18nm,1.1s
MSO Missoula 64.06 49 P **P** **19 02 54.2 +0.6**
MSO lAmb lAmb 19 02 55.5
comp=Z,13nm,1.0s
MSO Missoula 64.06 49 P **P** **19 02 54.1 +0.4**
baz=309,SNR=6.3
WVOR Wild Horse Val 64.16 55 P **P** **19 02 55.8 +1.4**
WVOR lAmb lAmb 19 02 56.6
comp=Z,8.4nm,1.0s
WVOR Wild Horse Val 64.16 55 P **P** **19 02 55.8 +1.4**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
ORV Oroville 64.23 59 P **P** **19 02 55.0 +0.3**
ORV Oroville 64.23 59 P **P** **19 02 55.0 +0.3**
ORV pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 64.69 37 P **P** **19 02 57.8 +0.4**
FFC Flin Flon 64.69 37 P **P** **19 02 57.8 +0.4**
FFC pmax pmax
comp=Z,22nm,1.0s
FFC Flin Flon 64.69 37 P **P** **19 02 57.8 +0.4**
FFC pP **pP** **19 03 05.6 -0.8**
FFC sP **sP** **19 03 09.7 -0.1**
BEKR Beckworth 64.73 58 P **P** **19 02 59.0 +0.9**
BEKR lAmb lAmb 19 03 00.0
comp=Z,11nm,1.0s
AFDM Forest Hills D 64.92 59 P **P** **19 02 59.8 +0.5**
MFID Camas Ranch 65.17 53 P **P** **19 03 01.2 +0.3**
HRY Holter Researc 65.26 48 P **P** **19 03 02.3 +0.8**
MPK Martis Peak 65.28 59 P **P** **19 03 03.1 +1.2**
PAHR Pah Rah Range 65.42 58 P **P** **19 03 03.9 +1.3**
PAHR lAmb lAmb 19 03 04.6
comp=Z,10nm,1.1s
EMB Emerald Bay 65.44 59 P **P** **19 03 03.7 +0.8**
EMB lAmb lAmb 19 03 05.0
comp=Z,7.8nm,1.0s
WB0 Warramunga Arr 65.46 193 P **P** **19 03 03.2 +0.4**
WB0 lAmb lAmb 19 03 04.6
comp=Z,14nm,0.9s
EGMT Eagleton 65.49 46 P **P** **19 03 03.0 +0.2**
EGMT Eagleton 65.49 46 P **P** **19 03 03.1 +0.2**
baz=311,SNR=8.7
LRM Limekiln Ridge 65.50 49 P **P** **19 03 03.7 +0.5**
VCNR Virginia City 65.51 58 P **P** **19 03 02.9 -0.4**
VCNR lAmb lAmb 19 03 05.6
comp=Z,6.2nm,0.8s
WR0 Warramunga Arr 65.63 193 P **P** **19 03 04.3 +0.5**
WR0 lAmb lAmb 19 03 05.3
comp=Z,8.5nm,0.9s
WRAB Tennant Creek 65.63 193 P **P** **19 03 04.2 +0.3**
WRAB Tennant Creek 65.63 193 ‖*i*P **P** **19 03 04.7 +0.9**
WRAB pmax pmax
comp=Z,15nm,1.1s
WRAB Tennant Creek 65.63 193 P **P** **19 03 03.8 -0.1**
WRAB x x 19 03 08.2
WRAB pP **pP** **19 03 10.4 -2.5**
WB2 Warramunga Arr 65.64 193 P **P** **19 03 04.2 +0.3**
WB2 lAmb lAmb 19 03 05.3
comp=Z,12nm,0.9s
WRA Warramunga Arr 65.64 193 P **P** **19 03 04.2 +0.2**
comp=Z,8.6nm,0.9s,baz=12,slow=6.8,SNR=44
comp=Z,8.6nm,0.9s
WRA Warramunga Arr 65.64 193 P **P** **19 03 03.5 -0.4**
PNTR Pine Nut 65.67 59 P **P** **19 03 05.6 +1.2**
PNTR lAmb lAmb 19 03 06.7
comp=Z,11nm,0.9s
FITZ Fitzroy Crossi 65.76 203 P **P** **19 03 05.8 +1.1**
comp=Z,4.6nm,0.9s,baz=360,slow=14,SNR=5.8
comp=Z,4.6nm,0.9s
FITZ Fitzroy Crossi 65.76 203 P **P** **19 03 06.0 +1.3**
FITZ lAmb lAmb 19 03 07.7
comp=Z,12nm,1.4s
CMB Columbia Colle 65.85 60 P **P** **19 03 06.8 +1.5**
CMB Columbia Colle 65.85 60 P **P** **19 03 06.8 +1.5**
CMB pmax pmax
comp=Z,7.0nm,1.0s
HLID Hailey 65.87 52 P **P** **19 03 06.7 +1.2**
HLID Hailey 65.87 52 P **P** **19 03 06.3 +0.8**
baz=310,SNR=6.5
YERR Yerington 65.95 58 P **P** **19 03 07.0 +0.8**
YERR lAmb lAmb 19 03 08.4
comp=Z,17nm,1.1s
BOZ Bozeman (W) 66.09 49 P **P** **19 03 06.8 0.0**
BOZ lAmb lAmb 19 03 08.8
comp=Z,12nm,0.8s
BOZ Bozeman (W) 66.09 49 P **P** **19 03 06.8 0.0**
BOZ pmax pmax
comp=Z,13nm,0.9s
BOZ Bozeman (W) 66.09 49 P **P** **19 03 07.2 +0.4**
baz=311,SNR=18
WAKR Walker 66.14 59 P **P** **19 03 08.6 +1.3**
WAKR lAmb lAmb 19 03 09.8
comp=Z,8.2nm,1.0s
BMN Battle Mountai 66.25 56 P **P** **19 03 08.8 +0.9**
BMN lAmb lAmb 19 03 10.2
comp=Z,8.6nm,0.9s
BMN Battle Mountai 66.25 56 P **P** **19 03 08.8 +0.9**
BMN pmax pmax
comp=Z,9.0nm,0.9s
BBGB Big Mountain B 66.36 61 P **P** **19 03 09.7 +1.0**
KVN Kaiserville 66.60 58 P **P** **19 03 11.3 +1.0**
KVN lAmb lAmb 19 03 12.5
comp=Z,11nm,0.9s
KVN Kaiserville 66.60 58 P **P** **19 03 11.3 +1.0**
RYN Ryan 66.61 58 P **P** **19 03 11.6 +1.3**
QLMT Earthquake Lak 66.69 49 P **P** **19 03 11.9 +1.1**
YHL Hebgen Lake 66.81 49 P **P** **19 03 13.1 +1.5**
YHL lAmb lAmb 19 03 13.9
comp=Z,8.5nm,0.9s
LHV Little Huntoon 66.86 59 P **P** **19 03 13.0 +1.3**
YHB Horse Butte 66.87 49 P **P** **19 03 12.2 +0.3**
YHB lAmb lAmb 19 03 14.1
comp=Z,13nm,0.9s
NVAR Mina Array Bea 66.87 58 P **P** **19 03 13.0 +0.9**
comp=Z,5.9nm,0.8s,baz=289,slow=6.5,SNR=34
comp=Z,5.9nm,0.8s
NVAR Mina Array Bea 66.87 58 P **P** **19 03 12.6 +0.5**
MDPB Devils Postpil 66.91 59 P **P** **19 03 13.8 +1.4**
NV11 Mina Array Sit 66.96 58 P **P** **19 03 13.0 +0.5**
NV11 lAmb lAmb 19 03 19.7
comp=Z,7.3nm,0.9s
OMMB Old Mammoth Mi 66.97 59 P **P** **19 03 13.2 +0.4**
YHH Holmes Hill 67.03 49 P **P** **19 03 13.8 +0.7**
YHH lAmb lAmb 19 03 15.7
comp=Z,11nm,1.1s
YNR Norris Junctio 67.17 49 P **P** **19 03 15.3 +1.4**
YNR lAmb lAmb 19 03 20.8
comp=Z,26nm,1.6s
ELK Elko 67.20 55 P **P** **19 03 14.1 -0.1**
ELK lAmb lAmb 19 03 15.8
comp=Z,21nm,2.0s
ELK Elko 67.20 55 P **P** **19 03 14.1 -0.1**
ELK pmax pmax
comp=Z,21nm,2.0s
YFT Old Faithful 67.26 49 P **P** **19 03 16.9 +2.5**
YFT lAmb lAmb 19 03 26.1
comp=Z,13nm,1.0s
PAGB Antelope Grade 67.40 62 P **P** **19 03 16.7 +1.5**
PAGB lAmb lAmb 19 03 18.2
comp=Z,18nm,1.2s
LKWY Lake 67.42 49 P **P** **19 03 17.2 +1.8**
LKWY lAmb lAmb 19 03 27.3
comp=Z,8.5nm,0.7s
LKWY Lake 67.42 49 P **P** **19 03 17.3 +1.8**
LKWY pmax pmax
comp=Z,8.0nm,0.7s
YMP Mirror Lake Pl 67.44 49 P **P** **19 03 17.6 +2.0**
YMP lAmb lAmb 19 03 46.3
comp=Z,8.1nm,1.0s
IMW Indian Meadow 67.57 50 P **P** **19 03 17.6 +1.2**
IMW lAmb lAmb 19 03 22.1
comp=Z,11nm,1.1s
RLMT Red Lodge 67.65 48 P **P** **19 03 18.1 +1.2**
RLMT lAmb lAmb 19 03 22.8
comp=Z,24nm,1.5s
RLMT Red Lodge 67.65 48 P **P** **19 03 17.8 +0.9**
baz=312,SNR=6.9
FXWY Fox Creek 67.69 50 P **P** **19 03 18.0 +0.8**
FXWY lAmb lAmb 19 03 23.3
comp=Z,12nm,1.2s
TPH Tonopah 67.75 58 P **P** **19 03 18.4 +0.8**
TPH Tonopah 67.75 58 P **P** **19 03 18.4 +0.8**
TPH pmax pmax
comp=Z,49nm,1.0s
DSP Deep Springs 67.75 59 P **P** **19 03 18.9 +1.5**
DSP lAmb lAmb 19 03 20.1
comp=Z,14nm,1.0s
MOOW Moose Ponds 67.77 50 P **P** **19 03 19.4 +1.7**
MOOW lAmb lAmb 19 03 20.3
comp=Z,11nm,1.1s
TPAW Teton Pass 67.83 50 P **P** **19 03 19.9 +1.7**
TPAW lAmb lAmb 19 03 20.9
comp=Z,17nm,1.0s
MZP Montezuma Peak 67.90 58 P **P** **19 03 19.3 +0.7**
LOHW Long Hollow 67.94 50 P **P** **19 03 20.1 +1.4**
LOHW lAmb lAmb 19 03 21.4
comp=Z,20nm,1.4s
HVU Hansel Valley 67.94 53 P **P** **19 03 19.5 +0.8**
HVU Hansel Valley 67.94 53 P **P** **19 03 19.5 +0.8**
HVU pmax pmax
comp=Z,7.0nm,1.0s
DGMT Dagmar 67.96 43 P **P** **19 03 19.2 +0.7**
REDW Red Top Meadow 67.97 50 P **P** **19 03 20.2 +1.2**
REDW lAmb lAmb 19 03 24.4
comp=Z,16nm,1.1s
FRB Frobisher Bay 68.01 16 LR LR 19 33 35.5
comp=Z,48nm,21.1s,baz=322,slow=36
LCH Last Change Ra 68.04 59 P **P** **19 03 20.1 +0.7**
LAO LASA Array 68.17 45 P **P** **19 03 20.1 +0.1**
LAO LASA Array 68.17 45 P **P** **19 03 20.8 +0.8**
baz=313
PKM Mcpherson Peak 68.21 62 P **P** **19 03 20.9 +0.4**
baz=311
AHID Auburn Hatcher 68.23 51 P **P** **19 03 21.0 +0.4**
AHID lAmb lAmb 19 03 22.6
comp=Z,13nm,1.3s
GMN Gold Mountain 68.23 59 P **P** **19 03 21.6 +0.9**
CWC Cottonwood Cre 68.29 60 P **P** **19 03 21.4 +0.4**
baz=311
NC405 NORSAR Array S 68.33 339 P **P** **19 03 18.1 -2.5**
BGU Big Grassy Mou 68.36 53 P **P** **19 03 22.1 +0.8**
GRAC Grapevine Rang 68.36 59 P **P** **19 03 22.2 +0.9**
GRAC lAmb lAmb 19 03 23.7
comp=Z,14nm,0.9s
GRAC Grapevine Rang 68.36 59 P **P** **19 03 22.2 +0.9**
baz=311,SNR=14
BCW Bitter Crk WRg 68.43 62 P **P** **19 03 23.8 +2.0**
BCW lAmb lAmb 19 03 24.9
comp=Z,23nm,1.3s
SPUT South Promonto 68.44 53 P **P** **19 03 23.7 +1.9**
SPUT lAmb lAmb 19 03 24.1
comp=Z,11nm,1.1s
NB201 NORSAR Array S 68.49 339 P **P** **19 03 19.4 -2.3**
NB2 NORSAR Subarra 68.52 339 P **P** **19 03 19.0 -2.8**
comp=Z,4.0nm,0.8s,baz=32,slow=6.5
NOA NORSAR Array B 68.52 339 P **P** **19 03 19.1 -2.7**
comp=Z,2.7nm,0.9s,baz=32,slow=6.2,SNR=8.6
NOA LR LR 19 37 47.9
comp=Z,66nm,18.6s,baz=105,slow=40
comp=Z,2.7nm,0.9s
ISA Isabella, Lake 68.55 61 P **P** **19 03 22.2 -0.2**
ISA Isabella, Lake 68.55 61 P **P** **19 03 22.2 -0.2**
ISA pmax pmax
comp=Z,6.0nm,1.0s
ISA Isabella, Lake 68.55 61 P **P** **19 03 22.3 -0.2**
baz=311
R11A Troy Canyon, C 68.56 57 P **P** **19 03 22.6 0.0**
R11A Troy Canyon, C 68.56 57 P **P** **19 03 22.8 +0.2**
baz=311,SNR=12
HWUT Hardware Ranch 68.74 52 P **P** **19 03 24.1 +0.4**
SPR3 Spring Creek 3 68.87 56 P **P** **19 03 26.4 +1.6**
SPR3 lAmb lAmb 19 03 27.3
comp=Z,6.5nm,0.8s
MPMC Manual Prospec 68.90 60 P **P** **19 03 25.5 +0.7**
baz=311,SNR=12
S11A Rachel 68.92 58 P **P** **19 03 26.6 +1.7**
S11A lAmb lAmb 19 03 32.5
comp=Z,14nm,0.8s
WCT Wildcat Mounta 68.94 59 P **P** **19 03 26.2 +1.2**
DUG Dugway, Tooele 68.97 54 P **P** **19 03 25.9 +0.8**
DUG lAmb lAmb 19 03 27.4
comp=Z,12nm,1.1s
DUG Dugway, Tooele 68.97 54 P **P** **19 03 25.9 +0.8**
DUG pmax pmax
comp=Z,12nm,1.1s
DUG Dugway, Tooele 68.97 54 P **P** **19 03 25.6 +0.5**
baz=312,SNR=7.9
FURC Furnace Creek, 69.01 59 P **P** **19 03 26.0 +0.8**
baz=311,SNR=8.6
KVAR Kislovodsk Arr 69.03 312 LR LR 19 37 35.6
comp=Z,173nm,19.3s,baz=290,slow=40
KIV Kislovodsk 69.03 312 P **P** **19 03 24.4 -1.0**
KIV lAmb lAmb 19 03 26.9
comp=Z,15nm,1.1s
KIV Kislovodsk 69.03 312 *e*P **P** **19 03 25.5 +0.1**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,136nm,17.0s
KIV Kislovodsk 69.03 312 *e*P **P** **19 03 25.5 +0.1**
OSI Osito Audit: C 69.07 62 P **P** **19 03 26.6 +0.9**
baz=311
TPNV Topopah Spring 69.07 58 P **P** **19 03 26.4 +0.6**
TPNV lAmb lAmb 19 03 27.9
comp=Z,11nm,0.9s
TPNV Topopah Spring 69.07 58 P **P** **19 03 26.4 +0.6**
TPNV pmax pmax
comp=Z,11nm,1.0s
TPNV Topopah Spring 69.07 58 P **P** **19 03 26.7 +0.8**
baz=311,SNR=11
BW06 Boulder Array 69.07 50 P **P** **19 03 25.9 0.0**
BW06 lAmb lAmb 19 03 27.5
comp=Z,11nm,1.1s
BW06 Boulder Array 69.07 50 P **P** **19 03 25.8 0.0**
baz=313,SNR=11
PD31 Pinedale Array 69.07 50 P **P** **19 03 26.1 +0.3**
PD31 lAmb lAmb 19 03 27.5
comp=Z,9.9nm,1.1s
PDAR Pinedale Array 69.07 50 P **P** **19 03 26.1 +0.3**
comp=Z,4.9nm,0.8s,baz=318,slow=2.0,SNR=27
comp=Z,4.9nm,0.8s
PABE Paberze 69.07 329 P **P** **19 03 23.5 -1.8**
PABE lAmb lAmb 19 03 24.4
comp=Z,11nm,1.0s
KBZ Khabaz 69.08 311 P **P** **19 03 25.0 -0.4**
comp=Z,5.7nm,0.9s,baz=104,slow=2.6,SNR=6.0
KBZ LR LR 19 38 15.0
comp=Z,194nm,18.4s,baz=71,slow=40
comp=Z,5.7nm,0.9s
KBZ Khabaz 69.08 311 *ce*P **P** **19 03 25.1 -0.4**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
TCUT Toone Canyon 69.15 52 P **P** **19 03 27.4 +1.0**
LRMC Laurel Mtn Rad 69.16 60 P **P** **19 03 26.7 +0.4**
baz=311
CCAC Calif City Air 69.16 61 P **P** **19 03 27.2 +0.9**
CCAC lAmb lAmb 19 03 28.2
comp=Z,11nm,0.8s
ZEI Tsey 69.17 310 *e*P **P** **19 03 24.6 -1.8**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
CTU Camp Tracy 69.24 53 P **P** **19 03 27.4 +0.6**
CTU lAmb lAmb 19 03 36.1
comp=Z,6.2nm,0.6s
GWY Greenwater Val 69.32 59 P **P** **19 03 28.2 +0.9**
GWY lAmb lAmb 19 03 29.3
comp=Z,13nm,0.9s
QSM Queen of Sheba 69.34 60 P **P** **19 03 28.5 +1.2**
QSM lAmb lAmb 19 03 29.4
comp=Z,15nm,1.0s
EDW2 Edwards Air Fo 69.35 61 P **P** **19 03 28.3 +0.8**
baz=311,SNR=13
ASAR Alice Springs 69.36 193 P **P** **19 03 28.6 +1.2**
comp=Z,2.9nm,0.9s,baz=11,slow=6.1,SNR=23
comp=Z,2.9nm,0.9s
ASAR Alice Springs 69.36 193 P **P** **19 03 28.7 +1.3**
ASAR Alice Springs 69.36 193 P **P** **19 03 28.7 +1.3**
PSUT Pine Spring 69.46 56 P **P** **19 03 28.6 +0.3**
JLU Jordanelle 69.47 53 P **P** **19 03 28.7 +0.3**
PRN Pahroc Range 69.49 57 P **P** **19 03 29.0 +0.6**
NLU North Lily Min 69.55 54 P **P** **19 03 29.5 +0.7**
MPU Maple Canyon 69.76 53 P **P** **19 03 31.2 +1.1**
MPU lAmb lAmb 19 03 32.2
comp=Z,7.4nm,0.7s
GSC Goldstone, Bar 69.81 60 P **P** **19 03 31.7 +1.4**
GSC Goldstone, Bar 69.81 60 P **P** **19 03 31.7 +1.4**
GSC pmax pmax
comp=Z,10.0nm,1.1s
GSC Goldstone, Bar 69.81 60 P **P** **19 03 31.2 +0.9**
baz=312
SHPR Sheep Range 70.02 58 P **P** **19 03 33.1 +1.4**
CIS Catalina Islan 70.06 63 P **P** **19 03 33.0 +1.2**
baz=312
TUQ Turquoise Moun 70.27 59 P **P** **19 03 34.3 +1.1**
baz=312
CCUT Cedar City 70.40 56 P **P** **19 03 35.1 +1.0**
HEC Hector,Ludlow 70.41 60 P **P** **19 03 35.1 +1.0**
baz=312
MVU Marysvale 70.44 55 P **P** **19 03 35.3 +0.9**
MSU Marysvale 70.45 55 P **P** **19 03 35.1 +0.7**
MSU Marysvale 70.45 55 P **P** **19 03 35.1 +0.7**
GNI Garni 70.48 307 ‖*eP* **P** **19 03 35.8 +1.3**
GNI pmax pmax
comp=Z,15nm,1.6s
TMUT Trail Mountain 70.48 54 P **P** **19 03 34.8 +0.1**
ULM Lac du Bonnet 70.50 37 P **P** **19 03 32.2 -1.9**
comp=Z,7.2nm,0.7s,baz=1.7,slow=5.9,SNR=5.7
comp=Z,7.2nm,0.7s
ULM Lac du Bonnet 70.50 37 P **P** **19 03 33.7 -0.5**
ULM lAmb lAmb 19 04 29.6
comp=Z,20nm,1.3s
ULM Lac du Bonnet 70.50 37 P **P** **19 03 33.7 -0.5**
ULM pmax pmax
comp=Z,20nm,1.3s
ELS Elsinore Mount 70.52 62 P **P** **19 03 35.5 +0.9**
ELS lAmb lAmb 19 03 36.4
comp=Z,11nm,1.1s
SZCU Shurtz Canyon 70.53 56 P **P** **19 03 35.8 +0.9**
RDMU Red Mountain 70.55 52 P **P** **19 03 35.7 +0.8**
MDND Maddock 70.58 41 P **P** **19 03 34.7 0.0**
P17A Butcher Ranch, 70.63 53 P **P** **19 03 35.7 +0.3**
P17A lAmb lAmb 19 03 37.5
comp=Z,14nm,1.0s
AKASG Malin Array Be 70.67 324 P **P** **19 03 32.5 -2.7**
comp=Z,1.2nm,0.7s,baz=40,slow=7.9,SNR=11
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 70.67 324 *i*P **P** **19 03 33.4 -1.8**
AKBB Malin Array Si 70.67 324 ‖*eP* **P** **19 03 34.0 -1.2**
AKBB pmax pmax
comp=Z,2.0nm,0.6s
MURC Murrieta 70.69 62 P **P** **19 03 36.5 +0.9**
baz=312
V12A Nelson 70.72 59 P **P** **19 03 36.0 +0.1**
V12A lAmb lAmb 19 03 38.3
comp=Z,16nm,1.4s
Q16A Castle Valley 70.76 54 P **P** **19 03 38.0 +1.8**
MTPU Mount Pierson 70.77 55 P **P** **19 03 38.1 +1.6**
PSA00 Pilbara Seismi 70.77 207 P **P** **19 03 36.7 +0.6**
K22A Casper 70.79 49 P **P** **19 03 36.8 +0.5**

K22A	**Casper**	**70.79**	**49**	P	**P**	**19 03 36.5 +0.2**
	baz=314					
P18A	**Preston Nutter**	**70.81**	**53**	P	**P**	**19 03 37.6 +1.0**
LCMT	**Little Creek M**	**70.83**	**57**	P	**P**	**19 03 37.3 +0.7**
GMRC	**Granite Mounta**	**70.86**	**60**	P	**P**	**19 03 37.7 +0.9**
	baz=312,SNR=6.2					
SRU	**San Rafael Swe**	**71.00**	**54**	P	**P**	**19 03 38.5 +0.8**
SRU				IAmb	IAmb	19 03 40.1
	comp=Z,13nm,0.9s					
SRU	**San Rafael Swe**	**71.00**	**54**	P	**P**	**19 03 38.5 +0.8**
SRU				pmax	pmax	
	comp=Z,13nm,0.9s					
RSSD	**Black Hills**	**71.06**	**46**	P	**P**	**19 03 38.5 +0.5**
RSSD				IAmb	IAmb	19 03 39.2
	comp=Z,13nm,1.1s					
RSSD	**Black Hills**	**71.06**	**46**	P	**P**	**19 03 38.5 +0.5**
RSSD				pmax	pmax	
	comp=Z,13nm,1.1s					
RSSD	**Black Hills**	**71.06**	**46**	P	**P**	**19 03 38.1 +0.1**
	baz=315					
RSSD	**Black Hills**	**71.06**	**46**	P	**P**	**19 03 38.4 +0.5**
RSSD				pP	**pP**	**19 03 46.5 -0.5**
KNB	**Kanab**	**71.08**	**56**	P	**P**	**19 03 39.1 +0.9**
KNB				IAmb	IAmb	19 03 40.8
	comp=Z,12nm,1.0s					
KNB	**Kanab**	**71.08**	**56**	P	**P**	**19 03 39.1 +0.9**
KNB				pmax	pmax	
	comp=Z,12nm,1.0s					
RWWY	**Rawlins**	**71.08**	**50**	P	**P**	**19 03 38.5 +0.2**
RWWY				IAmb	IAmb	19 03 39.3
	comp=Z,11nm,0.9s					
PFO	**Pinyon Flats O**	**71.14**	**61**	P	**P**	**19 03 39.9 +1.4**
PFO	**Pinyon Flats O**	**71.14**	**61**	P	**P**	**19 03 39.9 +1.4**
PFO				pmax	pmax	
	comp=Z,16nm,0.5s					
PMD	**Palm Desert**	**71.17**	**61**	P	**P**	**19 03 39.4 +0.8**
PMD				IAmb	IAmb	19 03 50.3
	comp=Z,11nm,0.6s					
IRM	**Iron Mountain**	**71.59**	**60**	P	**P**	**19 03 41.8 +0.7**
	baz=313,SNR=9.3					
BAR	**Barrett**	**71.63**	**62**	P	**P**	**19 03 42.3 +0.9**
BAR				IAmb	IAmb	19 03 56.1
	comp=Z,10nm,1.1s					
MONP2	**Monument Peak**	**71.64**	**62**	P	**P**	**19 03 42.8 +1.1**
	baz=312					
W13A	**Hualapai Mount**	**71.73**	**59**	P	**P**	**19 03 42.8 +0.6**
U15A	**North Rim**	**71.79**	**57**	P	**P**	**19 03 44.3 +1.7**
U15A				IAmb	IAmb	19 03 45.1
	comp=Z,9.3nm,1.0s					
AGMN	**Agassiz Nation**	**71.95**	**39**	P	**P**	**19 03 42.8 -0.2**
AGMN				IAmb	IAmb	19 03 44.0
	comp=Z,11nm,1.0s					
IKP	**In-Ko-Pah, Jac**	**72.00**	**62**	P	**P**	**19 03 45.2 +1.6**
	baz=313					
PDMCI	**Parker Dam,Lak**	**72.11**	**59**	P	**P**	**19 03 45.6 +1.4**
	baz=313					
YUH	**Yuha Desert**	**72.12**	**62**	P	**P**	**19 03 42.6 -1.7**
YUH				IAmb	IAmb	19 03 43.7
	comp=Z,9.4nm,0.8s					
BLYC	**Blythe**	**72.25**	**60**	P	**P**	**19 03 46.5 +1.5**
PHWY	**Pilot Hill**	**72.30**	**49**	P	**P**	**19 03 45.2 -0.4**
PV23	**Carpenter Ridg**	**72.31**	**53**	P	**P**	**19 03 45.8 +0.1**
PV23				IAmb	IAmb	19 03 47.6
	comp=Z,20nm,1.2s					
N23A	**Red Feather La**	**72.32**	**50**	P	**P**	**19 03 46.9 +1.2**
N23A				IAmb	IAmb	19 03 56.8
	comp=Z,15nm,1.2s					
N23A	**Red Feather La**	**72.32**	**50**	P	**P**	**19 03 46.7 +1.0**
	baz=315,SNR=5.1					
PV10	**Paradox Valley**	**72.35**	**53**	P	**P**	**19 03 47.5 +1.6**
PV22	**Blue Mesa, Par**	**72.38**	**53**	P	**P**	**19 03 45.4 -0.6**
PV22				IAmb	IAmb	19 03 47.9
	comp=Z,14nm,1.1s					
PV11	**David Mesa, Pa**	**72.50**	**53**	P	**P**	**19 03 47.1 +0.4**
PV07	**Paradox Valley**	**72.53**	**53**	P	**P**	**19 03 47.0 +0.1**
PV13	**Radium Mtn., P**	**72.62**	**53**	P	**P**	**19 03 47.8 +0.3**
PV13				IAmb	IAmb	19 03 49.5
	comp=Z,13nm,0.9s					
PV15	**Paradox Valley**	**72.69**	**53**	P	**P**	**19 03 48.9 +1.0**
PV15				IAmb	IAmb	19 03 53.1
	comp=Z,11nm,1.0s					
WUAZ	**Wupatki**	**72.95**	**57**	P	**P**	**19 03 49.2 -0.2**
WUAZ	**Wupatki**	**72.95**	**57**	P	**P**	**19 03 50.3 +0.9**
	baz=314					
SMCO	**Snowmass**	**72.96**	**51**	P	**P**	**19 03 50.4 +0.8**
Y14A	**Wickenburg**	**73.05**	**59**	P	**P**	**19 03 51.2 +1.4**
ISCO	**Idaho Springs**	**73.27**	**50**	P	**P**	**19 03 52.2 +0.9**
ISCO				IAmb	IAmb	19 04 02.5
	comp=Z,15nm,1.1s					
ISCO	**Idaho Springs**	**73.27**	**50**	P	**P**	**19 03 52.3 +0.9**
ISCO				pmax	pmax	
	comp=Z,15nm,1.1s					
ISCO	**Idaho Springs**	**73.27**	**50**	P	**P**	**19 03 52.4 +0.9**
	baz=315,SNR=7.3					
113A	**Mohawk Valley,**	**73.38**	**60**	P	**P**	**19 03 52.8 +1.1**
MVCO	**Mesa Verde**	**73.47**	**54**	P	**P**	**19 03 52.9 +0.4**
	baz=315					
S22A	**4UR Ranch, Cre**	**74.04**	**52**	P	**P**	**19 03 57.0 +1.1**
S22A				IAmb	IAmb	19 03 58.4
	comp=Z,11nm,1.1s					
S22A	**4UR Ranch, Cre**	**74.04**	**52**	P	**P**	**19 03 56.2 +0.3**
	baz=315,SNR=7.7					
EYMN	**Ely**	**74.12**	**37**	P	**P**	**19 03 56.1 +0.3**
EYMN	**Ely**	**74.12**	**37**	P	**P**	**19 03 56.2 +0.3**
	baz=321					
OGNE	**Ogallala**	**74.36**	**47**	P	**P**	**19 03 57.2 -0.3**
OGNE	**Ogallala**	**74.36**	**47**	P	**P**	**19 03 58.2 +0.7**
	baz=317					
X18A	**Snowflake**	**74.48**	**57**		**P**	**19 03 58.4 0.0**
214A	**Organ Pipe Nat**	**74.52**	**60**	P	**P**	**19 03 58.9 +0.4**
214A				IAmb	IAmb	19 04 04.0
	comp=Z,16nm,1.4s					
MARD	**Mardin**	**74.68**	**308**	P	**P**	**19 03 57.3 -2.2**
BUR08	**Bucovina Ar. S**	**74.71**	**324**	P	**P**	**19 03 58.5 -0.9**
BURAR	**Bucovina Array**	**74.73**	**324**	P	**P**	**19 03 58.3 -1.2**
SDCO	**Great Sand Dun**	**74.78**	**52**	P	**P**	**19 04 00.4 +0.1**
	baz=316					
ECSD	**EROS Data Cent**	**75.02**	**42**	P	**P**	**19 04 01.0 -0.2**
ECSD				IAmb	IAmb	19 04 02.1
	comp=Z,15nm,1.0s					
ECSD	**EROS Data Cent**	**75.02**	**42**	P	**P**	**19 04 01.5 +0.3**
	baz=319,SNR=7.3					
TUC	**Tucson**	**75.52**	**59**	P	**P**	**19 04 05.2 +0.9**
TUC	**Tucson**	**75.52**	**59**	P	**P**	**19 04 05.2 +0.9**
TUC				pmax	pmax	
	comp=Z,10.0nm,1.5s					
TUC	**Tucson**	**75.52**	**59**	P	**P**	**19 04 04.8 +0.5**
	baz=315					
LANS	**Liptovska Anna**	**75.81**	**328**	*eP*	**P**	**19 04 06.1 +0.5**
LANS	**Liptovska Anna**	**75.81**	**328**	*eP*	**P**	**19 04 06.1 +0.5**
T25A	**Trinidad**	**75.82**	**51**	P	**P**	**19 04 07.2 +1.1**
T25A				IAmb	IAmb	19 04 16.8
	comp=Z,9.1nm,0.9s					
T25A	**Trinidad**	**75.82**	**51**	P	**P**	**19 04 06.7 +0.6**
	baz=316					
MORC	**Moravsky Berou**	**76.01**	**329**	P	**P**	**19 04 06.2 -0.6**
MORC	**Moravsky Berou**	**76.01**	**329**	*eP*	**P**	**19 04 06.5 -0.2**
MORC	**Moravsky Berou**	**76.01**	**329**	P	**P**	**19 04 06.2 -0.6**
MORC				pmax	pmax	
	comp=Z,6.0nm,1.1s					
ANMO	**Albuquerque**	**76.23**	**54**	P	**P**	**19 04 09.5 +1.0**
ANMO	**Albuquerque**	**76.23**	**54**	P	**P**	**19 04 09.5 +1.0**
ANMO				pmax	pmax	
	comp=Z,7.0nm,1.2s					
ANMO	**Albuquerque**	**76.23**	**54**	P	**P**	**19 04 09.3 +0.8**
	baz=316					
CLL	**Collm**	**76.30**	**332**	P	**P**	**19 04 07.1 -1.2**
CLL	**Collm**	**76.30**	**332**	*i* P	**P**	**19 04 07.1 -1.2**
CLL				*e**PP	**sP**	**19 04 24.0 +3.6**
CLL				pmax	pmax	
	comp=Z,6.0nm,1.0s					
CLL	**Collm**	**76.30**	**332**	*i* P	**P**	**19 04 07.1 -1.2**
	comp=Z,6.0nm,1.0s					
CLL				*e*PcP	**pP**	**19 04 19.0 +1.9**
CLL				epP	**sP**	**19 04 24.0 +3.6**
CLL				esP	PcP	19 04 31.0 +11
CLL				*e*PP	**PP**	**19 07 01.0 +1.9**
CLL				*e*(SS)		19 19 24.0
CLL				LmH		19 35 00.0
	comp=N,100nm,21.1s					
CLL				LmH		19 35 00.0
	comp=E,200nm,21.5s					
I37A	**Lemond, Waseca**	**76.32**	**40**	P	**P**	**19 04 09.2 +0.6**
LENM	**Lemitar**	**76.48**	**55**	P	**P**	**19 04 12.0 +2.1**
VYHS	**Vyhne**	**76.58**	**328**	*eP*	**P**	**19 04 09.9 -0.1**
VYHS	**Vyhne**	**76.58**	**328**	*eP*	**P**	**19 04 09.9 -0.1**
STKA	**Stephens Creek**	**76.63**	**185**	P	**P**	**19 04 11.7 +1.5**
	comp=E,4.3nm,0.8s,baz=320,slow=8.4,SNR=5.6					
	comp=E,4.3nm,0.8s					
STKA	**Stephens Creek**	**76.63**	**185**	P	**P**	**19 04 12.4 +2.2**
STKA	**Stephens Creek**	**76.63**	**185**	P	**P**	**19 04 12.4 +2.2**
STKA				pmax	pmax	
	comp=Z,6.0nm,1.8s					
BNM	**Barren Site**	**76.70**	**55**	P	**P**	**19 04 12.3 +1.1**
JAVC	**Velka Javorina**	**76.72**	**328**	*eP*	**P**	**19 04 11.6 +0.8**
VRAC	**Vranov**	**76.74**	**329**	*eP*	**P**	**19 04 09.7 -1.2**
BRTR	**Keskin Array B**	**76.78**	**313**	P	**P**	**19 04 10.2 -1.3**
	comp=Z,0.5nm,0.7s,baz=34,slow=10,SNR=2.9					
	comp=Z,0.5nm,0.7s					
KRUC	**Moravsky**	**77.02**	**329**	*eP*	**P**	**19 04 12.2 -0.2**
319A	**Douglas**	**77.08**	**59**	P	**P**	**19 04 14.7 +1.5**
121A	**Cookes Peak, D**	**77.17**	**57**	P	**P**	**19 04 15.1 +1.4**
121A				IAmb	IAmb	19 04 25.3
	comp=Z,15nm,1.2s					
121A	**Cookes Peak, D**	**77.17**	**57**	P	**P**	**19 04 14.8 +1.1**
	baz=316					
KHC	**Kasperske Hory**	**77.96**	**331**	P	**P**	**19 04 17.0 -0.7**
KHC	**Kasperske Hory**	**77.96**	**331**	*eP*	**P**	**19 04 17.0 -0.7**
KHC	**Kasperske Hory**	**77.96**	**331**	*eP*	**P**	**19 04 17.0 -0.7**
GERES	**GERESS Array B**	**78.16**	**331**	P	**P**	**19 04 17.6 -1.4**
	comp=Z,0.8nm,0.8s,baz=46,slow=3.9,SNR=6.8					
	comp=Z,0.8nm,0.8s					
CONA	**Conrad Observa**	**78.16**	**329**	*i* P	**P**	**19 04 19.3 +0.4**
	comp=Z,4.4nm,1.3s					
RONA	**Rosalia, Austr**	**78.19**	**329**	*i* P	**P**	**19 04 19.6 +0.6**
	comp=Z,5.4nm,1.4s					
AMTX	**Amarillo**	**78.98**	**51**	P	**P**	**19 04 23.6 0.0**
AMTX				IAmb	IAmb	19 04 34.4
	comp=Z,18nm,1.0s					
MSTX	**Muleshoe**	**79.04**	**53**	P	**P**	**19 04 23.3 -0.7**
BIOA	**Bad Ischl, Aus**	**79.16**	**330**	*eP*	**P**	**19 04 24.3 -0.1**
	comp=Z,5.4nm,1.0s					
KAN16	**Harper SW Stat**	**79.19**	**48**	P	**P**	**19 04 24.3 -0.4**
ELIS	**Ellis County**	**79.34**	**49**	P	**P**	**19 04 26.8 +1.2**
ELIS				IAmb	IAmb	19 04 27.4
	comp=Z,62nm,1.5s					
VLDQ	**Val d'Or**	**79.37**	**29**	P	**P**	**19 04 24.2 -1.2**
KAN17	**Caldwell West**	**79.48**	**48**	P	**P**	**19 04 26.0 -0.3**
KAN09	**Caldwell North**	**79.49**	**47**	P	**P**	**19 04 26.0 -0.3**
KAN09				IAmb	IAmb	19 04 27.2
	comp=Z,10nm,0.9s					
SOKA	**Soboth**	**79.52**	**329**	*eP*	**P**	**19 04 26.3 -0.1**
	comp=Z,6.5nm,1.3s					
VTS	**Vitosha**	**79.54**	**322**	P	**P**	**19 04 26.1 -0.5**
VTS	**Vitosha**	**79.54**	**322**	P	**P**	**19 04 26.2 -0.5**
VTS				pmax	pmax	
	comp=Z,8.0nm,1.2s					
CROK	**Carrier**	**79.78**	**48**	P	**P**	**19 04 28.2 +0.3**
CROK				IAmb	IAmb	19 04 29.1
	comp=Z,24nm,1.1s					
KBA	**Koelnbreinsper**	**79.79**	**330**	*eP*	**P**	**19 04 28.1 +0.1**
	comp=Z,4.4nm,0.7s					
WATA	**Walderalm**	**80.19**	**331**	*eP*	**P**	**19 04 30.2 +0.1**
	comp=Z,8.3nm,1.0s					
WTTA	**Wattenberg**	**80.23**	**331**	*i* P	**P**	**19 04 30.4 0.0**
	comp=Z,10nm,1.5s					
T35A	**Sooner Cattle**	**80.23**	**47**	P	**P**	**19 04 30.8 +0.5**
T35A				IAmb	IAmb	19 04 31.6
	comp=Z,18nm,0.9s					
RETA	**Reutte**	**80.33**	**332**	*i* P	**P**	**19 04 30.7 -0.1**
	comp=Z,5.6nm,1.0s					
MOTA	**Moosalm**	**80.34**	**331**	*eP*	**P**	**19 04 30.8 -0.1**
	comp=Z,9.5nm,1.1s					
SQTA	**Sankt Quirin**	**80.41**	**331**	*eP*	**P**	**19 04 31.3 +0.1**
	comp=Z,5.8nm,1.0s					
P40A	**Paris**	**80.44**	**42**	P	**P**	**19 04 31.7 +0.3**
P40A				IAmb	IAmb	19 04 32.5
	comp=Z,19nm,1.1s					
WMOK	**Wichita Mounta**	**80.68**	**50**	P	**P**	**19 04 32.8 0.0**
WMOK	**Wichita Mounta**	**80.68**	**50**	P	**P**	**19 04 32.8 0.0**
WMOK				pmax	pmax	
	comp=Z,6.0nm,0.9s					
WMOK	**Wichita Mounta**	**80.68**	**50**	P	**P**	**19 04 33.0 +0.2**
	baz=319					
MMAI	**Mount Meron Ar**	**80.82**	**308**	P	**P**	**19 04 32.0 -1.7**
	comp=Z,2.4nm,1.0s,baz=65,slow=6.8,SNR=1.9					
	comp=Z,2.4nm,1.0s					
R40A	**Maddies Statio**	**81.31**	**43**	P	**P**	**19 04 35.9 -0.1**
R40A				IAmb	IAmb	19 04 36.8
	comp=Z,17nm,1.0s					
SADO	**Sadowa**	**81.64**	**31**	LR	LR	19 46 27.8
	comp=Z,51nm,18.9s,baz=327,slow=40					
TX31	**Lajitas Ar. Si**	**81.91**	**56**	P	**P**	**19 04 39.9 +0.4**
TX32	**Lajitas Array**	**81.91**	**56**	P	**P**	**19 04 40.1 +0.6**
TX32				IAmb	IAmb	19 04 41.5
	comp=Z,10nm,0.9s					
TXAR	**Lajitas Array**	**81.92**	**56**	P	**P**	**19 04 40.3 +0.7**
	comp=Z,6.6nm,0.8s,baz=299,slow=4.1,SNR=29					
	comp=Z,6.6nm,0.8s					
TXAR	**Lajitas Array**	**81.92**	**56**	P	**P**	**19 04 39.8 +0.3**
CCM	**Cathedral Cave**	**81.99**	**43**	P	**P**	**19 04 39.9 +0.3**
CCM				IAmb	IAmb	19 04 49.0
	comp=Z,15nm,0.9s					
CCM	**Cathedral Cave**	**81.99**	**43**	P	**P**	**19 04 39.9 +0.3**
CCM				pmax	pmax	
	comp=Z,15nm,1.0s					
CCM	**Cathedral Cave**	**81.99**	**43**	P	**P**	**19 04 39.4 -0.2**
	baz=323					
TRQ	**Mont Tremblant**	**81.99**	**28**	P	**P**	**19 04 38.5 -1.1**
MGMO	**Mountain Grove**	**82.20**	**44**	P	**P**	**19 04 40.8 0.0**
MGMO				IAmb	IAmb	19 04 41.4
	comp=Z,19nm,1.4s					
O48B	**Farmland**	**83.00**	**38**	P	**P**	**19 04 45.0 +0.1**
	baz=326					
FCAR	**Ozark Folk Cen**	**83.26**	**45**	P	**P**	**19 04 45.6 -0.7**
FCAR				IAmb	IAmb	19 04 47.0
	comp=Z,8.9nm,0.8s					
JCT	**Junction City**	**83.31**	**53**	P	**P**	**19 04 47.0 +0.3**
JCT				IAmb	IAmb	19 04 48.3
	comp=Z,11nm,1.1s					
JCT	**Junction City**	**83.31**	**53**	P	**P**	**19 04 47.0 +0.3**
JCT				pmax	pmax	
	comp=Z,11nm,1.1s					
JCT	**Junction City**	**83.31**	**53**	P	**P**	**19 04 47.1 +0.4**
	baz=319					
MIAR	**Mount Ida**	**83.58**	**47**	P	**P**	**19 04 48.7 +0.7**
MIAR				IAmb	IAmb	19 04 49.5
	comp=Z,12nm,1.1s					
MIAR	**Mount Ida**	**83.58**	**47**	P	**P**	**19 04 48.7 +0.7**
MIAR				pmax	pmax	
	comp=Z,12nm,1.1s					
MIAR	**Mount Ida**	**83.58**	**47**	P	**P**	**19 04 48.7 +0.7**
	baz=322					
WHAR	**Wooly Hollow**	**83.65**	**45**	P	**P**	**19 04 48.3 0.0**
F62A	**Pittston Farm,**	**83.74**	**25**	P	**P**	**19 04 48.8 +0.2**
P49A	**Miami Univ. Ec**	**83.79**	**38**	P	**P**	**19 04 48.9 -0.1**
	baz=326					
M53A	**WI Miller and**	**83.88**	**34**	P	**P**	**19 04 49.5 +0.1**
	baz=328					
ACSO	**Alum Creek Sta**	**83.95**	**36**	P	**P**	**19 04 50.0 +0.2**
	baz=327					
H62A	**Milan**	**84.56**	**27**	P	**P**	**19 04 53.2 +0.5**
O53A	**New Philadelph**	**84.67**	**35**	P	**P**	**19 04 52.8 -0.6**
	baz=328					
T47A	**Sharon Grove**	**84.80**	**41**	P	**P**	**19 04 54.5 +0.3**
P52A	**Corning**	**84.81**	**36**	P	**P**	**19 04 54.5 +0.3**
	baz=328					
WVT	**Waverly**	**85.16**	**42**	P	**P**	**19 04 56.7 +0.8**
WVT				IAmb	IAmb	19 04 57.3
	comp=Z,14nm,1.1s					
WVT	**Waverly**	**85.16**	**42**	P	**P**	**19 04 56.7 +0.8**
WVT				pmax	pmax	
	comp=Z,14nm,1.2s					
WVT	**Waverly**	**85.16**	**42**	P	**P**	**19 04 56.3 +0.3**
	baz=325					
SSPA	**Standing Stone**	**85.66**	**33**	P	**P**	**19 04 58.1 -0.2**
	baz=330					
OXF	**Oxford**	**85.70**	**44**	P	**P**	**19 04 58.8 +0.2**
	baz=324					
U49A	**Red Boiling Sp**	**85.80**	**40**	P	**P**	**19 04 59.3 +0.2**
T50A	**Nancy**	**85.81**	**39**	P	**P**	**19 04 59.5 +0.3**
CLTN	**Cedars of Leba**	**85.89**	**41**	P	**P**	**19 04 59.9 +0.3**
CLTN				IAmb	IAmb	19 05 00.9
	comp=Z,10nm,1.0s					
SWET	**Sewanee**	**86.80**	**41**	P	**P**	**19 05 03.9 -0.2**
PAL	**Palisades**	**86.81**	**30**	P	**P**	**19 05 03.9 -0.1**
	baz=332					
CPCT	**Cooper Cave**	**87.25**	**40**	P	**P**	**19 05 06.3 0.0**
TKL	**Tuckaleechee C**	**87.42**	**39**	P	**P**	**19 05 07.3 +0.2**
TKL	**Tuckaleechee C**	**87.42**	**39**	P	**P**	**19 05 07.3 +0.2**
TKL				pmax	pmax	
	comp=Z,15nm,1.1s					
BLA	**Blacksburg**	**87.57**	**36**	P	**P**	**19 05 08.1 +0.3**
	baz=329					
BG3	**Lake Jocassee**	**88.35**	**39**	P	**P**	**19 05 12.5 +0.9**
Z51A	**Franklin**	**88.71**	**42**	P	**P**	**19 05 13.0 -0.3**
KMSC	**Kings Mountain**	**88.94**	**38**	P	**P**	**19 05 14.6 +0.3**
	baz=328					
KEST	**Kesra**	**91.12**	**327**	LR	LR	19 49 35.9
	comp=Z,85nm,20.4s,baz=262,slow=38					
TORD	**Torodi Ar. Bea**	**114.30**	**323**	PKP	**PKiKP**	**19 10 57.9 -1.8**
	comp=Z,0.6nm,0.7s,baz=20,slow=1.6,SNR=1.8					
VNDA	**Vanda**	**122.53**	**176**	PKP	**PKPdf**	**19 11 13.7 +0.2**
	comp=Z,1.4nm,0.8s,baz=333,slow=3.6,SNR=12					
DBIC	**Dimbokro**	**122.84**	**326**	PKP	**PKiKP**	**19 11 17.0 +0.7**
	comp=Z,3.6nm,0.7s,baz=55,slow=1.5,SNR=1.6					
LPAZ	**La Paz**	**138.78**	**58**	PKP	**PKPdf**	**19 11 46.7 -0.1**
	comp=Z,0.6nm,0.6s,baz=315,slow=1.4,SNR=1.9					
NVL	**N'lazarevskaya**	**146.30**	**205**	*e*PKP2	**PKPab**	**19 12 00.2 +0.4**
NVL				pmax	pmax	
	comp=Z,13nm,0.9s					
BDFB	**Brasilia**	**148.06**	**29**	PKPbc	**PKPbc**	**19 12 05.6 -0.1**
	comp=Z,1.9nm,0.4s,baz=67,slow=8.6,SNR=5.7					
TROLL	**Troll, Antarti**	**148.15**	**200**	PKPdf	**PKPbc**	**19 12 04.8 +0.5**
SNAA	**Sanae**	**149.62**	**198**	PKPdf	**PKPbc**	**19 12 07.7 -0.2**
VNA2	**Neumayer--Watz**	**151.16**	**197**	PKPdf	**PKiKP**	**19 12 12.4 +0.4**
	baz=125,slow=3.0					
VNA3	**Neumayer Olymp**	**151.35**	**195**	PKPdf	**PKPbc**	**19 12 12.3 +0.3**
VNA1	**Neumayer--Stat**	**151.55**	**197**	PKPdf	**PKiKP**	**19 12 13.6 +0.7**
PLCA	**Paso Flores**	**152.12**	**95**	PKPbc	**PKiKP**	**19 12 15.1 0.0**
	comp=Z,5.5nm,0.8s,baz=239,slow=4.2,SNR=17					
CPUP	**Villa Florida**	**152.88**	**55**	PKPbc	**PKPbc**	**19 12 16.6 -0.2**
	comp=Z,1.2nm,0.6s,baz=308,slow=1.3,SNR=2.9					

IDC 26 18:53:16.2±3.5, 31°.32N×140°.35E, h203km±73km, mb2.9/3, mbtmp3.4/4, Error ellipse: s-maj=244.2km s-min=28.8km az=69.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**5.50**	**342**	P	Pn	18 54 36.7	-0.4
	1.3nm,0.4s,baz=159,slow=11,SNR=8.2						
KURBB	**Kurchatov Arra**	**48.99**	**312**	P	P	19 01 42.0	-0.1
	1.0nm,0.8s,baz=76,slow=8.6,SNR=1.8						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**51.30**	**187**	P	P	19 01 59.3	-0.3
	0.2nm,0.3s,baz=5.4,slow=7.6,SNR=6.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**55.02**	**187**	P	P	19 02 27.0	+0.2
	0.1nm,0.6s,baz=359,slow=5.0,SNR=1.4						
	0.1nm,0.6s						

IDC 26 18:55:35.4±4.9, 1°.93S×140°.74E, h0km, mb3.5/4, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=93.6km s-min=57.2km az=157.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.97**	**199**	P	P	18 59 57.9	-0.7
	0.1nm,0.3s,baz=24,slow=12,SNR=11						
	0.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.86**	**222**	P	P	19 00 28.8	-1.1
	0.6nm,0.6s,baz=0.0,slow=12,SNR=1.5						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**22.61**	**197**	P	P	19 00 37.5	-0.5
	0.7nm,0.6s,baz=28,slow=10,SNR=20						
	0.7nm,0.6s						
STKA	**Stephens Creek**	**29.80**	**179**	P	P	19 01 45.6	+1.5
	0.5nm,0.3s,baz=347,slow=6.8,SNR=2.9						
	0.5nm,0.3s						
VNDA	**Vanda**	**76.38**	**175**	P	P	19 07 26.4	+0.2
	0.6nm,1.0s,baz=337,slow=7.3,SNR=6.3						
	0.6nm,1.0s						

*IDC **26** 19:00:37.5±1.8, 8°.16N×93°.91E, h0km, mb3.4/5, mbtmp3.3/6, ML3.1/1, MS4.0/1, Error ellipse: s-maj=73.7km s-min=24.8km az=60.0*

ISC 26 19:00:39.2±1.5, 8°.2N±0°.2×94°.0E±0°.3, h10km, n10, σ1s 06/6, mb3.3/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.24**	**25**	Pn	**Pn**	**19 03 19.7**	**-0.3**
	baz=212,slow=15,SNR=1.9						
	0.2nm,0.4s						
H08S3	**Diego Garcia H**	**26.61**	**234**	T	T	19 33 14.4	
	baz=53,slow=75,SNR=19						
H08S2	**Diego Garcia H**	**26.62**	**234**	T	T	19 33 13.3	
	baz=53,slow=75,SNR=23						
H08S1	**Diego Garcia H**	**26.63**	**234**	T	T	19 33 14.4	
	baz=53,slow=75,SNR=9.8						
MKAR	**Makanchi Array**	**39.71**	**347**	P	**P**	**19 08 11.8**	**+0.1**
	0.3nm,0.6s,baz=169,slow=8.6,SNR=3.7						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**46.19**	**352**	P	**P**	**19 09 05.7**	**+1.6**
	0.3nm,0.4s,baz=188,slow=9.5,SNR=2.3						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**48.58**	**126**	P	**P**	**19 09 23.4**	**+0.2**
	0.1nm,0.7s,baz=304,slow=8.9,SNR=1.3						
	0.1nm,0.7s						
ASAR	**Alice Springs**	**50.25**	**130**	P	**P**	**19 09 35.9**	**-0.1**
	0.4nm,1.0s,baz=310,slow=7.9,SNR=2.0						
	0.4nm,1.0s						
OPO	**Ambohidratompo**	**53.31**	**240**	LR	LR	19 28 23.1	
	comp=Z,142nm,21.7s,baz=138,slow=31						
FINES	**FINESS Array B**	**72.33**	**332**	P	**P**	**19 12 04.2**	**-0.8**
	1.2nm,1.

SONM	**Songino Array**	**27.04**	**300**	P		**P**	**19 08 02.9**	**-2.1**
	comp=E,6µm,13.1s							
	0.3nm,0.6s,baz=95,slow=8.0,SNR=2.2							
	0.3nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.94**	**126**	T		T	19 38 55.7	
	baz=318,slow=75,SNR=118							
H11N1	**WAKE ISLAND Hy**	**28.95**	**126**	T		T	19 38 56.4	
	baz=318,slow=75,SNR=106							
H11N3	**WAKE ISLAND Hy**	**28.96**	**126**	T		T	19 38 58.6	
	baz=318,slow=75,SNR=78							
H11S1	**WAKE ISLAND Hy**	**29.73**	**127**	T		T	19 39 57.1	
	baz=319,slow=76,SNR=39							
H11S3	**WAKE ISLAND Hy**	**29.74**	**128**	T		T	19 39 57.2	
	baz=319,slow=76,SNR=54							
H11S2	**WAKE ISLAND Hy**	**29.75**	**127**	T		T	19 39 59.3	
	baz=319,slow=76,SNR=26							
ZALV	**Zalesovo Beam**	**40.80**	**310**	P		**P**	**19 10 03.0**	**-0.6**
	1.1nm,0.5s,baz=90,slow=11,SNR=6.1							
	1.1nm,0.5s							
MKAR	**Makanchi Array**	**43.41**	**300**	P		**P**	**19 10 24.9**	**-0.1**
	0.7nm,0.8s,baz=82,slow=10.0,SNR=5.9							
	0.7nm,0.8s							
KSH	**Kashi**	**50.02**	**293**	P		**P**	**19 11 17.5**	**+0.6**
KSH				pmax	pmax			
	comp=Z,8.0nm,0.9s							
WRA	**Warramunga Arr**	**59.51**	**189**	P		**P**	**19 12 25.5**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=5.7,slow=7.2,SNR=10							
	comp=Z,0.5nm,0.7s							
ASAR	**Alice Springs**	**63.24**	**189**	P		**P**	**19 12 51.0**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=9.6,slow=8.2,SNR=5.7							
	comp=Z,0.2nm,0.7s							

IDC 26 19:03:05.6±2.7, 8˚04N×93˚70E, h0km, mb3.4/3, mbtmp3.4/4, ML3.2/1, MS3.9/1, Error ellipse: s-maj=86.7km s-min=32.4km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.55**	**26**	Pn	Pn	19 05 52.3	+0.5
	baz=217,slow=14,SNR=4.4						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**39.84**	**348**	P	P	19 10 40.2	-0.5
	0.4nm,0.8s,baz=166,slow=6.7,SNR=2.8						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**46.34**	**353**	P	P	19 11 33.2	0.0
	0.9nm,0.6s,baz=180,slow=6.1,SNR=3.9						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**48.71**	**125**	P	P	19 11 52.3	0.0
	0.3nm,0.8s,baz=305,slow=9.2,SNR=2.8						
	0.3nm,0.8s						
JCJ	**Chichijima**	**49.61**	**61**	LR	LR	19 31 31.6	
	comp=Z,128nm,21.8s,baz=116,slow=34						

*IDC **26** 19:04:13.1±0.6, 8˚26N×94˚01E, h0km, mb4.1/17, mbtmp4.1/20, ML3.5/3, MS4.3/25, Error ellipse: s-maj=22.3km s-min=13.8km az=54.0*

*BJI **26** 19:04:15.8±0.0, 8˚14N×94˚13E, h22km, mb4.5/37, mB5.1/21, Ms4.8/18, Ms7 4.5/19*

*NDI **26** 19:04:17.0±1.9, 8˚30N×94˚25E, h10km, ML4.1*

*GCMT **26** 19:04:18.6±0.2, 8˚34N±0˚01×94˚19E±0˚01, h16km±1km, MW5.0/123, Moment Tensor Solution. s45,c59; s123,c196; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.27±.10; Mθθ-1.94±.09; Mϕϕ2.21±.09; Mrθ-2.36±.32; Mθϕ3.22±.09; Mϕr-0.38±.23; Best double couple: M₀4.52000×10¹⁶ NP1:ϕs73.00000°, δ86.00000°, λ-32.00000°. NP2:ϕs165.00000°, δ58.00000°, λ-175.00000°. Principal axes: T 4.4640, Plg19.0000°, Azm123.0000°; N 0.1120, Plg58.0000°, Azm246.0000°; P -4.5770, Plg25.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **26** 19:04:19.1±2.1, 8˚37N±0˚06×94˚27E±0˚09, h35km±2km, mb4.6/45 Error ellipse: s-maj=15.4km s-min=9.5km az=65.0*

*DJA **26** 19:04:20.6±0.3, 8˚N±2˚×94˚E±˚, h39km±4km, M4.8/44, mb4.8/44, mB5.3/8, MLv4.7/9, Mw(mB)4.8/8, MwMwp4.5/1, Mwp4.9/1*

ISC 26 19:04:17.4±0.3, 8˚30N±0˚05×94˚08E±0˚05, h22km, n196, σ2˚04/176, mb4.6/67, MS4.4/31, 5C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.58**	**339**	Pn	**Pn**	**19 05 10.4**	**-1.2**
PBA	**Port Blair**	**3.58**	**339**	*eP*	**Pn**	**19 05 14.1**	**+2.4**
PBA				IAML		19 05 45.0	
	comp=E,706nm,0.5s						
LHMI	**Lhok Sumawe**	**4.17**	**137**	Pn	**Pn**	**19 05 17.5**	**-2.3**
LHMI	**Lhok Sumawe**	**4.17**	**137**	P	**Pn**	**19 05 21.9**	**+2.1**
LHMI				S	**Sn**	**19 06 10.9**	**+3.0**
MLSI	**Meulaboh, Aceh**	**4.63**	**150**	P	**Pn**	**19 05 28.3**	**+2.3**
SRIT	**Nakonsritamara**	**5.47**	**87**	Pn	**Pn**	**19 05 34.5**	**-3.1**
KCSI	**Kotacane, Aceh**	**6.00**	**142**	P	Pn	19 05 49.1	+4.2
	comp=E,0.4nmcomp=E,1µmcomp=E,126nm,1.0s						
KULM	**Kulim**	**7.18**	**114**	Pn	**Pn**	**19 06 00.2**	**-0.9**
PSI	**Prapat**	**7.29**	**138**	Pn	**Pn**	**19 06 01.6**	**-1.1**
	comp=E,0.5nm,0.3s,baz=5.7,slow=12,SNR=1.4						
PSI				LR	LR	19 09 18.0	
	comp=E,5µm,18.9s,baz=308,slow=41						
	comp=E,2.0nm,0.3s						
RPSI	**Rantau Prapat**	**7.37**	**139**	Pn	**Pn**	**19 06 01.4**	**-2.3**
RPSI	**Rantau Prapat**	**7.37**	**139**		**Pn**	**19 06 01.6**	**-2.0**
GSI	**Gunungsitoli**	**7.77**	**153**	Pn	**Pn**	**19 06 06.4**	**-2.9**
GSI	**Gunungsitoli**	**7.77**	**153**	P	**Pn**	**19 06 12.2**	**+2.9**
	comp=E,0.3nmcomp=E,40nm,1.1s						
IPM	**Ipoh**	**7.88**	**118**	Pn	Pn	19 06 05.3	-5.4
PBSI	**Pulau Batu**	**9.30**	**153**	P	**Pn**	**19 06 34.1**	**+3.9**
	comp=E,305nm,1.2s						
BKNI	**Bangkinang**	**10.53**	**138**	Pn	**Pn**	**19 06 46.6**	**-0.5**
BKNI	**Bangkinang**	**10.53**	**138**	P	**Pn**	**19 06 47.5**	**+0.4**
	comp=E,72nm,0.9s						
PDSI	**Padang**	**11.15**	**145**	P	**Pn**	**19 06 57.9**	**+2.3**
	comp=E,17nm,0.9s						
CM31	**Chiang Mai Arr**	**11.15**	**25**		**Pn**	**19 06 54.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**11.15**	**25**	Pn	**Pn**	**19 06 56.4**	**+0.8**
	comp=E,0.2nm,0.3s,baz=215,slow=14,SNR=39						
	comp=E,6.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.15**	**25**	Pn	**Pn**	**19 06 53.9**	**-1.7**
CHTO	**Chiang Mai**	**11.47**	**24**	Pn	**Pn**	**19 07 01.8**	**+1.8**
MYKOM	**Kota Tinggi**	**11.68**	**123**		**Pn**	**19 06 60.0**	**-2.9**
SDSI	**Sungai Dareh**	**11.74**	**141**	P	Pn	19 07 08.7	+5.1
	comp=E,13nm,1.1s						
PHRA	**Phrae**	**11.77**	**30**	Pn	**Pn**	**19 07 06.7**	**+2.7**
PPSI	**Pulau Pagai**	**12.48**	**151**	P	**Pn**	**19 07 16.6**	**+2.8**
	comp=E,9µmcomp=E,233nm,1.2s						
TPRI	**Tanjung Pinang**	**12.73**	**125**	P	**Pn**	**19 07 15.9**	**-1.3**
	comp=E,1µmcomp=E,6.3nm,0.5s						
PALK	**Pallekele**	**13.29**	**267**	Pn	**Pn**	**19 07 22.4**	**-2.6**
	comp=E,0.1nm,0.3s,baz=188,slow=12,SNR=1.8						
PALK				Sn	Sn	19 09 38.4	-14
	comp=E,0.3nm,0.3s,baz=318,slow=22,SNR=1.9						
	comp=E,9.7nm,1.0s						
DSRI	**Dabo**	**13.62**	**129**	P	**Pn**	**19 07 30.8**	**+1.4**
	comp=E,15nm,0.9s						
MND	**Mandalay**	**13.78**	**8**		**Pn**	**19 07 30.3**	**-1.1**
MASI	**Maura Aman, Be**	**13.98**	**144**	P	**P**	**19 07 39.2**	**-2.9**
	comp=E,101nm,1.2s						
MDRS	**Chennai**	**14.39**	**290**	*eP*	**Pn**	**19 07 40.4**	**+0.5**
BRDH	**Bariadhala**	**14.48**	**351**	LR	LR	19 14 42.0	
	comp=E,2µm,20.0s,baz=176,slow=43						
RAGD	**RAYAGADA**	**14.98**	**318**	*eP*	**Pn**	**19 07 49.7**	**+1.8**
RAGD				*eS*	**Sn**	**19 10 23.4**	**-10**
MNAI	**Manna**	**15.38**	**145**	P	**P**	**19 07 55.0**	**-2.7**
	comp=E,437nm,0.4s						
PPBI	**Pangkal Pinang**	**15.89**	**130**	P	**P**	**19 08 02.4**	**-1.0**
	comp=E,1µmcomp=E,54nm,1.2s						
SALM	**Salem**	**15.99**	**283**	*eP*	**P**	**19 08 05.2**	**+0.8**
SALM				*eS*	**Sn**	**19 10 50.7**	**-7.2**
LWLI	**Liwa**	**16.56**	**143**	P	**Pn**	**19 08 01.5**	**-6.9**
KASI	**Kota Agung**	**17.22**	**143**	P	**P**	**19 08 19.2**	**+1.1**
	comp=E,49nm,1.1s						
SHL	**Shillong**	**17.30**	**353**		**Pn**	**19 08 17.4**	**-0.4**
TPI	**Tanjungpandan**	**17.43**	**129**	P	**P**	**19 08 20.1**	**-0.4**
	comp=E,18nm,1.3s						
PCHI	**Peechi**	**17.64**	**279**	*eP*	**P**	**19 08 24.6**	**+1.9**
PCHI				*eS*	Sn	19 11 26.1	-12
QIZ	**Qiongzhong**	**18.64**	**54**	P	**P**	**19 08 31.3**	**-2.5**
QIZ				S	**Sn**	**19 11 59.3**	**-3.0**
QIZ				pmax	pmax		
	comp=E,13nm,1.6s						
QIZ				LR	LR		
	comp=E,6µm,13.1s						
QIZ				LR	LR		
	comp=E,2µm,11.8s						
QIZ				LR	LR		
	comp=E,2µm,11.6s						
KMI	**Kunming**	**18.66**	**25**	⇑P	**Pn**	**19 08 38.3**	**+3.8**
KMI				pP	pwP	19 08 44.8	+1.4
KMI				S	**S**	**19 12 11.0**	**+5.3**
KMI				pmax	pmax		
	comp=E,15nm,1.2s						
KMI				pmax	pmax		
	comp=E,430nm,7.2s						
KMI				LR	LR		
	comp=E,1µm,14.1s						
KMI				LR	LR		
	comp=E,1µm,18.7s						
KMI				LR	LR		
	comp=E,2µm,16.9s						
SBJI	**Serang**	**18.70**	**140**	P	**Pn**	**19 08 34.5**	**-0.4**
	comp=E,5µmcomp=E,224nm,1.0s						
ODAN	**Odare**	**19.52**	**342**	*eP*	**Pn**	**19 08 44.4**	**-0.5**
RAMN	**Ramite**	**19.86**	**340**	*eP*	**Pn**	**19 08 47.9**	**-1.1**
	comp=E,33nm,0.6s						
TAPN	**Taplejung**	**19.88**	**343**	*eP*	**P**	**19 08 47.7**	**+0.1**
	comp=E,75nm,0.8s						
LEM	**Lembang**	**20.20**	**138**	LR	LR	19 17 47.3	
	comp=E,2µm,18.1s,baz=300,slow=40						
JIRN	**Jiri**	**20.65**	**340**	*eP*	Pn	19 08 56.7	-1.7
	comp=E,113nm,1.1s						
PKI	**Pulchoki**	**20.85**	**338**	*eP*	**P**	**19 08 58.5**	**+0.3**
	comp=E,218nm,1.5s						
PKIN	**Phulchoki**	**20.86**	**338**	*eP*	**P**	**19 08 58.4**	**+0.2**
	comp=E,221nm,1.5s						
GUN	**Gumba**	**20.99**	**339**	*eP*	**P**	**19 08 59.9**	**+0.2**
	comp=E,98nm,0.9s						
DMN	**Daman**	**21.00**	**337**	*eP*	Pn	19 09 00.8	-1.5
	comp=E,96nm,1.0s						
KKN	**Kakani**	**21.09**	**338**	*eP*	**P**	**19 09 00.8**	**+0.1**
LSA	**Lhasa**	**21.46**	**353**	P	**P**	**19 09 03.6**	**-1.3**
LSA				IAmb	IAmb	19 09 30.1	
	comp=Z,27nm,1.0s						
LSA	**Lhasa**	**21.46**	**353**	P	**P**	**19 09 04.3**	**-0.6**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GKN	**Gorkha**	**21.53**	**337**	*eP*	**P**	**19 09 04.9**	**-0.4**
GYA	**Guiyang**	**21.66**	**32**	⇓P	P	19 09 15.8	+9.2
GYA				pmax	pmax		
	comp=Z,25nm,1.1s						
KOLN	**Koldanda**	**21.75**	**334**	*eP*	**P**	**19 09 08.0**	**+0.3**
DANN	**Dangsing**	**22.19**	**335**	*eP*	**P**	**19 09 12.6**	**0.0**
PYUN	**Piuthan**	**22.30**	**333**	*eP*	**P**	**19 09 14.3**	**+0.6**
SMRI	**Semarang**	**22.33**	**133**	P	**P**	**19 09 17.0**	**+3.2**
	comp=Z,90nm,1.1s						
MTKI	**Muara Teweh, K**	**22.69**	**113**	P	**P**	**19 09 19.1**	**+1.4**
	comp=Z,12nm,0.9s						
BBKI	**Banjar Baru**	**23.78**	**119**	P	**P**	**19 09 30.0**	**+1.4**
KMMI	**Kalianget**	**25.01**	**127**	P	P	19 09 51.7	+12
ENH	**Enshi**	**26.19**	**31**	P	**P**	**19 09 49.8**	**-0.8**
ENH				IAmb	IAmb	19 10 05.8	
	comp=Z,23nm,1.0s						
H08S3	**Diego Garcia H**	**26.72**	**234**	T	T	19 36 49.5	
	baz=53,slow=75,SNR=30						
H08S2	**Diego Garcia H**	**26.72**	**234**	T	T	19 36 49.7	
	baz=53,slow=75,SNR=42						
H08S1	**Diego Garcia H**	**26.73**	**234**	T	T	19 36 50.8	
	baz=53,slow=75,SNR=37						
MPSI	**Mapaga**	**26.91**	**106**	P	**P**	**19 09 59.3**	**+2.1**
	comp=E,14nm,1.1s						
IGBI	**Denpasar**	**27.01**	**129**	P	**P**	**19 10 00.9**	**+2.8**
	comp=E,78nm,1.4s						
GOMU	**GeErMu**	**27.78**	**1**	P	**P**	**19 10 07.8**	**+2.6**
GOMU				pP	sP	19 10 11.5	-1.9
GOMU				pmax	pmax		
	comp=E,3.0nm,0.8s						
TTSI	**Tana Toraja**	**28.04**	**113**	P	**P**	**19 10 07.4**	**+0.1**
	comp=E,12nm,1.1s						
MRSI	**Marisa**	**28.82**	**104**	P	**P**	**19 10 16.2**	**+1.9**
	comp=E,14nm,0.8s						
BNSI	**Bone**	**28.86**	**115**	P	P	19 10 09.3	-5.3
APSI	**Ampana**	**28.96**	**107**	P	**P**	**19 10 17.3**	**+1.7**
	comp=E,18nm,1.2s						
XAN	**Xi'an**	**29.04**	**26**	⇑P	**P**	**19 10 18.3**	**+2.3**
XAN				pP	pwP	19 10 24.3	-1.4
XAN				sP	sP	19 10 28.0	+3.9
XAN				pmax	pmax		
	comp=E,6.0nm,1.2s						
XAN				LR	LR		
	comp=E,1µm,16.5s						
XAN				LR	LR		
	comp=E,2µm,16.5s						
XAN				LR	LR		
	comp=E,3µm,17.9s						
BKSI	**Bulukumba**	**29.29**	**117**	P	**P**	**19 10 19.0**	**+0.6**
	comp=E,19nm,1.0s						
LUWI	**Luwuk**	**30.07**	**107**	P	**P**	**19 10 26.7**	**+1.3**
	comp=Z,52nm,1.1s						
KMSI	**Cibinong**	**30.76**	**103**	P	**P**	**19 10 29.8**	**-1.7**
	comp=Z,36nm,1.0s						
LYN	**LuoYang**	**31.12**	**30**	*eP*	P	19 10 39.3	+4.9
LYN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LYN				pmax	pmax		
	comp=Z,510nm,9.8s						
LYN				LR	LR		
	comp=Z,860nm,12.0s						
LYN				LR	LR		
	comp=Z,1µm,10.9s						
LYN				LR	LR		
	comp=Z,1µm,16.0s						
GTA	**Gaotai**	**31.40**	**9**	*eP*	**P**	**19 10 39.8**	**+2.8**
GTA				pP	sP	19 10 43.8	-1.3
GTA				sP	pwP	19 10 46.5	-0.5
GTA				pmax	pmax		
	comp=Z,120nm,7.1s						
GTA				LR	LR		
	comp=Z,470nm,17.5s						
GTA				LR	LR		
	comp=Z,450nm,13.5s						
GTA				LR	LR		
	comp=Z,580nm,18.5s						
NIL	**Nilore**	**31.71**	**326**	P	**P**	**19 10 40.8**	**+1.1**
NJ2	**Nanjing**	**32.99**	**41**	*eP*	P	19 10 54.5	+3.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	**HongShan**	**34.48**	**30**	⇑P	**P**	**19 11 06.5**	**+2.8**
HNS				S	S	19 16 39.5	+8.5
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
HNS				LR	LR		
	comp=Z,1µm,13.3s						
HNS				LR	LR		
	comp=Z,700nm,14.8s						
HNS				LR	LR		
	comp=Z,1µm,14.9s						
KBL	**Kabul**	**34.80**	**322**	P	**P**	**19 11 06.4**	**-0.4**
KBL				IAmb	IAmb	19 11 22.7	
	comp=Z,5.5nm,0.7s						
WMQ	**Urumqi**	**35.82**	**352**	*eP*	**P**	**19 11 17.5**	**+2.2**
WMQ				LR	LR		
	comp=Z,470nm,14.5s						
WMQ				LR	LR		
	comp=Z,610nm,20.3s						
WMQ				LR	LR		
	comp=Z,340nm,20.3s						
HHC	**Hu-ho-hao-te**	**35.95**	**23**	*eP*	**P**	**19 11 17.5**	**+1.0**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,430nm,5.7s						
HHC				LR	LR		
	comp=Z,2µm,14.0s						
HHC				LR	LR		
	comp=Z,1µm,14.6s						
HHC				LR	LR		
	comp=Z,2µm,14.0s						
AAI	**Ambon**	**36.05**	**108**	P	**P**	**19 11 18.7**	**+1.1**
	comp=Z,26nm,1.0s						
MSAI	**Masohi**	**36.63**	**107**	P	**P**	**19 11 22.0**	**-0.6**
	comp=Z,3.9nm,0.6s						
DRK	**Karamyk**	**36.91**	**331**	P	**P**	**19 11 25.0**	**+0.1**
JOW	**Kunigami**	**37.27**	**56**	LR	LR	19 28 51.8	
	comp=Z,889nm,18.1s,baz=168,slow=40						
BOOM	**Boomskoye usch**	**37.61**	**338**	P	**P**	**19 11 29.5**	**-1.3**
BOOM				IAmb	IAmb	19 11 39.2	
	comp=Z,10nm,1.1s						
BNDI	**Bandanaira**	**37.93**	**108**	P	**P**	**19 11 33.1**	**-0.5**
	comp=Z,94nm,1.5s						
AAK	**Ala-Archa**	**38.30**	**336**	LR	LR	19 28 57.0	
	comp=Z,856nm,20.9s,baz=158,slow=39						
MBWA	**Marble Bar**	**38.63**	**140**	P	**P**	**19 11 35.9**	**-3.4**
MBWA				IAmb	IAmb	19 12 09.8	
	comp=Z,24nm,1.4s						
MK31	**Makanchi Array**	**39.66**	**347**	P	**P**	**19 11 46.0**	**-1.7**
MKAR	**Makanchi Array**	**39.66**	**347**	P	**P**	**19 11 46.9**	**-0.8**
	comp=Z,3.0nm,0.9s,baz=164,slow=7.9,SNR=11						
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**39.66**	**347**	P	**P**	**19 11 46.6**	**-1.1**
MAKZ	**Makanchi**	**39.74**	**347**	P	**P**	**19 11 47.6**	**-0.8**
XLT	**XiLinHaoTe**	**40.32**	**25**	*eP*	**P**	**19 11 55.8**	**+2.5**
XLT				pP	sP	19 11 59.8	-1.7
XLT				sP	pwP	19 12 02.5	-0.7
XLT				S	**S**	**19 17 59.8**	**-0.1**
XLT				sS	sS	19 18 15.8	+6.4
XLT				pmax	pmax		
	comp=Z,4.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,230nm,4.1s						
XLT				LR	LR		
	comp=Z,1µm,17.2s						
XLT				LR	LR		
	comp=Z,680nm,21.6s						
KKAR	**Karatay Array**	**40.36**	**333**	P	**P**	**19 11 51.4**	**-2.2**
SONM	**Songino Array**	**40.76**	**13**	P	**P**	**19 11 56.1**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=100,slow=28,SNR=3.3						
SONM				PcP	**PcP**	**19 13 57.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=209,slow=3.9,SNR=1.5						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**40.76**	**13**	P	**P**	**19 11 54.9**	**-2.1**
KSAR	**Wonju Array Be**	**42.15**	**41**	P	**P**	**19 12 04.4**	**-3.9**
KSRS	**Korea Array**	**42.18**	**41**	P	**P**	**19 12 08.3**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=226,slow=8.6,SNR=7.4						
	comp=Z,1.1nm,0.9s						
KSRS	**Korea Array**	**42.18**	**41**	P	**P**	**19 12 08.3**	**-0.2**
GEYT	**Alibeck**	**43.84**	**318**	P	**P**	**19 12 22.1**	**0.0**
	comp=Z,2.2nm,0.4s,baz=156,slow=7.5,SNR=14						
	comp=Z,2.2nm,0.4s						
GEYT	**Alibeck**	**43.84**	**318**	P	**P**	**19 12 22.7**	**+0.6**
GEYT				IAmb	IAmb	19 12 29.4	
	comp=Z,13nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**43.84**	**318**	P	**P**	**19 12 22.7**	**+0.6**
GYA0B				IAmb	IAmb	19 12 29.3	
	comp=Z,12nm,0.7s						
KURK	**Kurchatov**	**44.19**	**346**	P	**P**	**19 12 23.7**	**-0.8**
KURK				IAmb	IAmb	19 12 32.6	
	comp=Z,7.8nm,0.9s						
ZAA0	**Zalesovo Array**	**46.13**	**352**		**P**	**19 12 39.2**	**-0.8**
ZAA0				IAmb	IAmb	19 12 46.2	
	comp=Z,11nm,0.9s						
ZALV	**Zalesovo Beam**	**46.13**	**352**	P	**P**	**19 12 40.1**	**+0.1**
	comp=Z,4.1nm,0.5s,baz=177,slow=8.3,SNR=14						
	comp=Z,4.1nm,0.5s						
ZALV	**Zalesovo Beam**	**46.13**	**352**		**P**	**19 12 39.4**	**-0.5**
NWAO	**Narrogin (SRO)**	**46.55**	**153**	P	**P**	**19 12 42.9**	**-0.6**
	comp=Z,6.2nm,0.8s,baz=164,slow=8.5,SNR=1.7						
	comp=Z,6.2nm,0.8s						
BNX	**BinXian**	**47.04**	**32**	⇑P	**P**	**19 12 50.5**	**+3.3**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,160nm,6.7s						
WRA	**Warramunga Arr**	**48.56**	**126**	P	**P**	**19 12 58.1**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=306,slow=9.1,SNR=17						
	comp=Z,1.4nm,0.7s						
WRA	**Warramunga Arr**	**48.56**	**126**	P	**P**	**19 12 57.4**	**-2.0**
WB2	**Warramunga Arr**	**48.57**	**126**	P	**P**	**19 12 59.1**	**-0.4**
WB2				IAmb	IAmb	19 13 09.0	
	comp=Z,4.6nm,0.8s						
BRVK	**Borovoye**	**48.63**	**341**	P	**P**	**19 12 58.7**	**-0.8**
WR0	**Warramunga Arr**	**48.73**	**126**	P	**P**	**19 12 59.1**	**-1.6**
WR0				IAmb	IAmb	19 13 10.3	
	comp=Z,5.0nm,0.9s						
RAYN	**Ar Rayn**	**48.86**	**294**	P	**P**	**19 13 03.5**	**+1.8**
RAYN				IAmb	IAmb	19 13 09.9	
	comp=Z,6.9nm,0.8s						
MJAR	**Matsushiro Arr**	**48.92**	**48**	PcP	**PcP**	**19 14 27.9**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=269,slow=3.8,SNR=4.2						
ABKAR	**Akbulak array**	**49.83**	**331**	P	**P**	**19 13 08.2**	**-0.5**
ABKAR				IAmb	IAmb	19 13 14.2	
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**50.23**	**130**	P	**P**	**19 13 11.0**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=309,slow=7.6,SNR=19						
ASAR				PcP	**PcP**	**19 14 31.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=312,slow=3.2,SNR=6.2						
	comp=Z,1.6nm,0.8s						
AS31	**Alice Springs**	**50.23**	**130**	P	**P**	**19 13 10.8**	**-1.4**
ARU	**Arti**	**55.48**	**337**	LR	LR	19 39 37.8	
	comp=Z,612nm,20.4s,baz=136,slow=38						
ARU	**Arti**	**55.48**	**337**	P	**P**	**19 13 51.0**	**+0.6**
ARU				IAmb	IAmb	19 14 11.2	
	comp=Z,9.5nm,1.3s						
GURO	**Guroymak-BITLI**	**55.51**	**311**	P	**P**	**19 13 51.6**	**+0.5**
KIBK	**Kibwezi**	**56.86**	**262**	P	**P**	**19 14 03.7**	**+2.6**
KIBK				IAmb	IAmb	19 14 14.1	
	comp=Z,5.5nm,1.0s						
KIV	**Kislovodsk**	**56.96**	**318**	P	**P**	**19 14 01.2**	**-0.1**
KIV				IAmb	IAmb	19 14 28.3	
	comp=Z,6.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.41**	**263**	P	**P**	**19 14 08.1**	**+2.9**
BELG	**Belogornoye**	**57.92**	**328**	LR	LR	19 43 45.2	
	comp=Z,189nm,19.6s,baz=151,slow=41						
BR131	**Keskin Array S**	**62.11**	**311**	P	**P**	**19 14 36.0**	**-0.9**
BR131				IAmb	IAmb	19 14 45.3	
	comp=Z,3.5nm,0.8s						
BRTR	**Keskin Array B**	**62.11**	**311**	P	**P**	**19 14 35.0**	**-1.9**
	comp=Z,1.2nm,0.8s,baz=124,slow=6.1,SNR=7.5						
	comp=Z,1.2nm,0.8s						
BRTR	**Keskin Array B**	**62.11**	**311**	P	**P**	**19 14 35.3**	**-1.6**
KLMR	**Klimovskoe**	**66.05**	**334**	*eP*	**P**	**19 15 01.1**	**-1.1**
KLMR				AMP		19 15 04.6	
	comp=Z,15nm,1.4s						
AKASG	**Malin Array Be**	**67.78**	**322**	P	**P**	**19 15 11.1**	**-2.4**
	comp=Z,0.2nm,0.4s,baz=88,slow=5.4,SNR=2.9				

KRUC	Moravsky	75.71 318	*e*P		P	19 15 59.6	-1.6
BOSA	Boshof	75.76 238	P		P	19 16 02.3	+0.3
	comp=Z,7.9nm,1.2s,baz=79,slow=5.2,SNR=2.2						
BOSA			LR		LR	19 43 38.0	
	comp=Z,126nm,21.0s,baz=50,slow=31						
	comp=Z,7.9nm,1.2s						
DPC	Dobruska-Polom	75.84 320	*e*P		P	19 16 02.1	+0.1
SOKA	Soboth	76.50 316	*e*P		P	19 16 07.0	+1.1
	comp=Z,5.3nm,1.2s						
VAE	Valguarnera	76.81 307	LR		LR	19 52 50.9	
	comp=Z,42nm,20.6s,baz=88,slow=38						
BRG	Berggiesshubel	77.39 320	*e*P		P	19 16 11.6	+0.9
BRG			Amp			19 16 16.3	
	comp=Z,3.1nm,0.7s						
BRG			*ex*		x	19 16 31.0	
BRG			Amp			19 16 33.2	
	comp=Z,5.1nm,0.9s						
BRG			Amp			19 42 26.0	
	comp=E,0.1nm,15.7s						
BRG			Amp			19 42 29.0	
	comp=Z,0.2nm,14.1s						
BRG			Amp			19 42 41.0	
	comp=N,0.1nm,13.9s						
GEC2	GERESS Array S	77.47 318	P		P	19 16 11.7	+0.3
GEC2			IAmb		IAmb	19 16 17.7	
	comp=Z,3.4nm,0.8s						
GERES	GERESS Array B	77.47 318	P		P	19 16 10.3	-1.1
	comp=Z,1.3nm,0.7s,baz=68,slow=7.7,SNR=7.1						
	comp=Z,1.3nm,0.7s						
GERES	GERESS Array B	77.47 318	P		P	19 16 11.4	+0.1
CLUD	Cludinico	77.98 316	P		P	19 16 13.6	-0.5
CLL	Collm	78.00 321	*e*P		P	19 16 16.0	+1.9
	comp=Z,18nm,2.1s						
CLL			*ep*P		pwP	19 16 24.0	+0.1
CLL			*ex*		x	19 16 34.0	
HFS	Hagfors	78.06 330	LR		LR	19 55 15.7	
	comp=Z,233nm,19.2s,baz=90,slow=39						
STAL	STALIGIAL	78.09 315	P		P	19 16 14.3	-0.5
CIMO	Cimolais	78.28 316	P		P	19 16 16.3	+0.4
CIMO			IAmb		IAmb	19 16 28.6	
	comp=Z,14nm,1.1s						
WTTA	Wattenberg	78.83 317	*e*P		P	19 16 19.0	0.0
	comp=Z,3.7nm,0.6s						
WATA	Walderalm	78.87 317	*i* P		P	19 16 19.2	0.0
	comp=Z,3.9nm,0.9s						
MAW	Mawson	78.94 192	LR		LR	19 46 40.9	
	comp=Z,118nm,18.1s,baz=352,slow=32						
SQTA	Sankt Quirin	79.12 316	*e*P		P	19 16 20.8	+0.2
	comp=Z,5.4nm,0.8s						
NC602	NORSAR Array S	79.16 330	P		P	19 16 18.9	-1.4
MOTA	Moosalm	79.20 317	*i* P		P	19 16 21.3	+0.3
	comp=Z,4.3nm,0.9s						
NB2	NORSAR Subarra	79.33 331	P		P	19 16 25.7	+4.4
	comp=Z,1.9nm,0.6s,baz=92,slow=5.6						
NOA	NORSAR Array B	79.33 331	P		P	19 16 20.1	-1.1
	comp=Z,1.3nm,0.9s,baz=92,slow=5.6,SNR=13						
	comp=Z,1.3nm,0.9s						
SPITS	Spitsbergen Ar	79.41 348	LR		LR	19 57 43.9	
	comp=Z,290nm,19.9s,baz=82,slow=40						
RETA	Reutte	79.43 317	*e*P		P	19 16 21.0	-1.2
	comp=Z,3.1nm,0.6s						
FETA	Feichten	79.45 316	*e*P		P	19 16 22.4	0.0
	comp=Z,3.4nm,0.8s						
DAVOX	Davos/Dischmat	80.04 316	LR		LR	19 56 24.4	
	comp=Z,72nm,21.8s,baz=78,slow=39						
SUR	Sutherland	80.52 235	LR		LR	19 46 28.3	
	comp=Z,157nm,18.6s,baz=86,slow=32						
JMIC	Jan Mayen	86.28 341	LR		LR	19 57 38.5	
	comp=Z,168nm,20.4s,baz=156,slow=37						
EKA	Eskdalemuir Ar	87.34 325	LR		LR	20 00 35.7	
	comp=Z,110nm,21.0s,baz=70,slow=39						
TORD	Torodi Ar. Bea	90.44 283	P		P	19 17 17.8	-0.3
	comp=Z,0.4nm,0.8s,baz=88,slow=4.7,SNR=2.0						
TORD			LR		LR	19 56 27.2	
	comp=Z,106nm,20.4s,baz=224,slow=35						
	comp=Z,0.4nm,0.8s						
ESDC	Sonseca Array	90.90 310	P		P	19 17 19.3	-0.5
	comp=Z,0.5nm,0.7s,baz=46,slow=4.5,SNR=3.8						
	comp=Z,0.5nm,0.7s						
ESDC	Sonseca Array	90.90 310	P		P	19 17 20.3	+0.5
ESDC			IAmb		IAmb	19 17 32.8	
	comp=Z,3.5nm,1.1s						
MDT	Midelt	92.78 304	LR		LR	20 06 29.0	
	comp=Z,45nm,18.1s,baz=105,slow=40						
BORG	Borgarnes	93.01 337	LR		LR	20 01 24.4	
	comp=Z,116nm,20.0s,baz=62,slow=37						
KOWA	Kowa	95.70 285	LR		LR	20 00 04.3	
	comp=Z,135nm,21.5s,baz=73,slow=35						
DBIC	Dimbokro	97.83 278	LR		LR	19 59 41.2	
	comp=Z,81nm,20.5s,baz=86,slow=34						
QSPA	South Pole Qui	98.20 180	LR		LR	19 56 57.0	
	comp=Z,129nm,21.4s,baz=330,slow=32						
PDAR	Pinedale Array	124.79 21	PKP		PKPdf	19 23 14.9	-1.2
	comp=Z,0.2nm,0.4s,baz=318,slow=1.2,SNR=1.9						
PLCA	Paso Flores	144.33 201	PKP		PKPbc	19 23 51.8	-0.7
	comp=Z,2.1nm,0.9s,baz=152,slow=4.8,SNR=2.1						
CPUP	Villa Florida	147.47 233	PKPbc		PKPdf	19 23 59.0	+1.1
	comp=Z,0.9nm,0.3s,baz=66,slow=1.0,SNR=2.4						

NEIC ***26*** *19:15:33.7±1.6,4.29S±0.08×128.25E±0.09, h169km±11km, mb4.1/18, Error ellipse: s-maj=13.9km s-min=10.7km az=65.0*

DJA ***26*** *19:15:34.4±0.2,4.2°S×12.9°E±°, h182km×2km, M4.0/17, mb3.9/17, mB5.1/1, MLv4.1/15, Mw(mB)4.5/1, MwMwp5.0/2, Mwp5.3/2*

IDC ***26*** *19:15:35.0±1.8,4.15S×128.71E, h195km×20km, mb3.6/5, mbtmp4.2/8, Error ellipse: s-maj=26.8km s-min=12.6km az=78.0*

ISC 26 19:15:34.4±0.5,**4.25S**±0.05×**128.54E**±0.05,**h200**km,**n79,** σ1§**84**/**89**,**mb4.0/7**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.66	328	P	P	Pn	19 16 01.6	-0.6
AAI				S	S	Sn	19 16 20.1	-3.7
MSAI	Masohi	0.98	23	P	P	Pn	19 16 03.1	-1.0
MSAI				S	S	Sn	19 16 23.6	-3.5
BNDI	Bandanaira	1.39	101	P	P	Pn	19 16 08.0	+0.9
BNDI	Bandanaira	1.39	101	P	P	Pn	19 16 08.0	+0.9
NLAI	Namlea	1.75	305	P	P	Pn	19 16 09.9	-0.6
NLAI				S	S	Sn	19 16 38.0	-0.5
SANI	Sanana	3.36	311	P	P	Pn	19 16 27.3	-1.1
SANI				S	S	Sn	19 17 06.5	-4.1
SANI	Sanana	3.36	311	P	P	Pn	19 16 27.3	-1.1
LBMI	Labuha	3.74	344	P	P	Pn	19 16 32.8	-0.2
LBMI				S	S	Sn	19 17 15.5	-3.5
FAKI	Fak Fak	3.93	70			Pn	19 16 36.0	+0.6
FAKI				Sn		Sn	19 17 18.6	-4.6
FAKI	Fak Fak	3.93	70	P	P	Pn	19 16 35.8	+0.4
FAKI				S	S	Sn	19 17 19.5	-3.7
FAKI	Fak Fak	3.93	70	P	P	Pn	19 16 35.9	+0.6
SIJI	Sorong	4.32	39	P	P	Pn	19 16 40.2	-0.1
	45nm,0.3s,baz=75,slow=8.1,SNR=167							
SIJI				S		Sn	19 17 27.9	-4.3
	78nm,0.2s,baz=56,slow=17,SNR=22							
SAUI	Saumlaki	4.61	144	Pn		Pn	19 16 46.8	+2.9
SAUI	Saumlaki	4.61	144	P	P	Pn	19 16 44.4	+0.5
TNTI	Ternate	5.12	347	Pn		Pn	19 16 51.0	+0.5
RKPI	Ransiki, Papua	6.25	64	P	P	Pn	19 17 06.0	+1.0
LUWI	Luwuk	6.59	299	Pn	Pn	Pn	19 17 03.3	-6.1
LUWI	Luwuk	6.59	299	P	P	Pn	19 17 10.5	+1.2
	0.1nm15nm,0.7s							
LUWI	Luwuk	6.59	299	P	P	Pn	19 17 11.0	+1.7
APSI	Ampana	7.64	296	P	P	Pn	19 17 24.1	+1.0
	0.0nm8.1nm,0.9s							
BATI	Baumata	7.64	219	P	P	Pn	19 17 23.1	0.0
	0.1nm8.3nm,1.1s							
MRSI	Marisa	8.10	305	P	P	Pn	19 17 28.7	-0.3
	19nm,0.9s							
BAKI	Biak	8.14	68	P	P	Pn	19 17 31.4	+1.8
	70nm,1.2s							
BKSI	Bulukumba	8.46	262	P	P	Pn	19 17 31.5	-2.2
	8.2nm,0.7s							
SPSI	Sidrap Palu	8.76	272	P	P	Pn	19 17 37.8	+0.2
	14nm,0.9s							
MTN	Manton Dam	8.91	163	Pn		Pn	19 17 39.8	+0.2
MTN	Manton Dam	8.91	163	P	P	Pn	19 17 39.8	+0.2
KDU	Kakadu	9.24	155	P	P	Pn	19 17 43.9	0.0
SMPI	Sarmi	10.40	78	P	P	Pn	19 18 00.3	+1.4
	9.3nm,2.8s							
KNRA	Kununurra	11.36	179	Pn		Pn	19 18 11.3	+0.2
KNRA	Kununurra	11.36	179	P	P	Pn	19 18 11.4	+0.2
PLAI	Plampang	11.62	246	P	P	Pn	19 18 13.9	-0.7
	5µm34nm,0.9s							
PLAI	Plampang	11.62	246	P	P	Pn	19 18 15.5	+0.9
TWSI	Taliwang, Sumb	12.41	248	P	P	Pn	19 18 26.4	-2.3
	3µm11nm,1.2s							
FITZ	Fitzroy Crossi	14.05	191	P	P	Pn	19 18 45.6	-1.3
	2.2nm,0.6s,baz=6.8,slow=8.6,SNR=8.9							
FITZ	Fitzroy Crossi	14.05	191	P	P	Pn	19 18 45.4	-1.5
FITZ	Fitzroy Crossi	14.05	191	P	P	Pn	19 18 45.7	-1.2
JAGI	Jajag, Banyuwa	14.90	253			Pn	19 18 53.3	-2.3
JAGI	Jajag, Banyuwa	14.90	253	P	P	Pn	19 18 54.6	-1.0
	30nm,1.5s							
JAGI	Jajag, Banyuwa	14.90	253	P	P	Pn	19 18 55.5	-0.9
WB0	Warramunga Arr	16.44	160			Pn	19 19 14.3	+0.1
WB0				IAmb	IAmb		19 19 15.3	
	comp=Z,9.7nm,1.1s							
WRAB	Tennant Creek	16.58	161	P	P	Pn	19 19 16.3	+0.4
WRAB	Tennant Creek	16.58	161	P	P	Pn	19 19 16.1	+0.2
WRA	Warramunga Arr	16.59	161	P	P	Pn	19 19 15.7	-0.2
	comp=Z,4.6nm,0.3s,baz=341,slow=11,SNR=124							
WRA				S	S		19 22 12.0	-6.3
	comp=Z,0.3nm,0.4s,baz=335,slow=20,SNR=3.4							
WRA	Warramunga Arr	16.59	161	P	P	Pn	19 19 14.8	-1.1
WB2	Warramunga Arr	16.59	161	P	P	Pn	19 19 16.0	0.0
WR0	Warramunga Arr	16.67	160			Pn	19 19 17.0	0.0
WR0				IAmb	IAmb		19 19 17.9	
	comp=Z,5.5nm,0.6s							
COEN	Coen	17.36	125	P	P	Pn	19 19 26.1	+1.1
COEN				IAmb	IAmb		19 19 26.8	
	comp=Z,14nm,0.8s							
COEN	Coen	17.36	125	P	P	Pn	19 19 26.3	+1.2
MBWA	Marble Bar	18.86	206	P	P	Pn	19 19 40.0	+0.3
MBWA				IAmb	IAmb		19 20 12.7	
	comp=Z,20nm,1.4s							
PSA00	Pilbara Seismi	19.18	205	P	P		19 19 43.7	+0.6
PSA00				IAmb	IAmb		19 20 02.4	
	comp=Z,9.8nm,1.1s							
PSA00	Pilbara Seismi	19.18	205	P	P		19 19 42.8	-0.3
PSA00				IAmb	IAmb		19 20 20.2	
	comp=Z,5.4nm,1.3s							
QIS	Mount Isa	19.46	147	P	P	Pn	19 19 47.9	-1.9
AS31	Alice Springs	19.98	165	P	P	Pn	19 19 53.3	-2.9
AS31				IAmb	IAmb		19 19 55.1	
	comp=Z,2.3nm,0.6s							
ASAR	Alice Springs	19.98	165	P	P	Pn	19 19 53.5	-2.7
	comp=Z,4.4nm,0.3s,baz=345,slow=11,SNR=196							
ASAR				S	S		19 23 23.4	-2.2
	comp=Z,0.8nm,0.7s,baz=347,slow=24,SNR=5.6							
ASAR				ScP	ScP		19 27 18.0	+1.1
	comp=Z,0.2nm,0.4s,baz=348,slow=2.2,SNR=6.0							
	comp=Z,4.4nm,0.3s							
ASAR	Alice Springs	19.98	165	P	P		19 19 53.0	+1.2
WRKA	Warakurna	20.67	181	P	P		19 20 00.5	+1.4
MTSU	Mount Surprise	20.70	133	P	P		19 20 01.5	+2.0
OOD	Oodnadatta	24.38	165	P	P		19 20 35.6	+1.2
INKA	Innaminka	26.10	155	P	P		19 20 52.2	+2.3
MULG	Mulgathing	26.41	169	P	P		19 20 54.4	+1.7
LCRK	Leigh Creek	27.61	162	P	P		19 21 05.2	+1.9
BBOO	Buckleboo	29.27	167	P	P		19 21 19.6	+1.5
BBOO	Buckleboo	29.27	167	P	P		19 21 20.0	+2.0
STKA	Stephens Creek	30.09	157	P	P		19 21 27.2	+1.9
	comp=Z,1.2nm,0.4s,baz=335,slow=8.3,SNR=5.5							
	comp=Z,1.2nm,0.4s							
STKA	Stephens Creek	30.09	157	P	P		19 21 27.0	+1.7
HTT	Hallett	30.60	163	P	P		19 21 31.7	+1.9
CMSA	Cobar Meteorol	31.57	151	P	P		19 21 40.5	+2.2
CAN	Canberra	36.25	151	P	P		19 22 21.1	+2.5
CM31	Chiang Mai Arr	36.88	309	P	P		19 22 25.5	+1.5
CM31				IAmb	IAmb		19 22 26.4	
	comp=Z,3.5nm,0.6s							
CMAR	Chiang Mai Arr	36.88	309	P	P		19 22 25.9	+1.8
	comp=Z,2.3nm,0.5s,baz=134,slow=7.1,SNR=28							
	comp=Z,2.3nm,0.5s							
CMAR	Chiang Mai Arr	36.88	309	P	P		19 22 25.0	+1.0
CHTO	Chiang Mai	37.08	309	P	P		19 22 26.4	+0.7
MK31	Makanchi Array	65.14	327	P	P		19 25 55.2	+1.2
MK31				IAmb	IAmb		19 25 55.8	
	comp=Z,1.7nm,1.1s							
MKAR	Makanchi Array	65.14	327	P	P		19 25 55.2	+1.1
	comp=Z,1.1nm,0.4s,baz=114,slow=8.2,SNR=26							
	comp=Z,1.1nm,0.4s							
MAKZ	Makanchi	65.33	327	P	P		19 25 55.2	+0.1
MAKZ				IAmb	IAmb		19 26 35.3	
	comp=Z,3.4nm,1.2s							
ZALV	Zalesovo Beam	68.49	334	P	P		19 26 15.3	+0.4
	comp=Z,0.4nm,0.4s,baz=151,slow=6.3,SNR=2.8							
	comp=Z,0.4nm,0.4s							
ABKAR	Akbulak array	79.47	322	P	P		19 27 19.8	+1.2
ABKAR	Akbulak array	79.47	322	P	P		19 27 20.0	+1.4
ABKAR				IAmb	IAmb		19 27 31.1	
	comp=Z,1.8nm,1.4s							

IDC ***26*** *19:28:07.0±4.5,5.58S×147.35E, h214km±33km, mb3.8/3, mbtmp4.3/6, Error ellipse: s-maj=46.7km s-min=45.4km az=140.0*

DJA ***26*** *19:28:07.1±0.4,6.5S±6.4×14.7E±°, h212km±8km, M4.2/7, mB4.1/2, mb4.1/7, MLv4.3/4, Mw(mB)3.1/2*

NEIC ***26*** *19:28:07.1±0.8,5.57S±0.09×147.3E±0.1, h205km±18km, mb4.4/13, Error ellipse: s-maj=15.8km s-min=12.3km az=86.0*

ISC 26 19:28:06.3±1.1,**5.63S**±0.09×**147.29E**±0.10,**h200**km,**n27,** σ1§**77**/**30**,**mb4.3/6**,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.57	1	Pn	Pn	Pn	19 29 03.0	+0.3
PMG	Port Moresby	3.75	182	P	Pn	Pn	19 29 06.6	+1.7
	34nm,0.4s,baz=60,slow=19,SNR=56							
PMG				S		Sn	19 29 51.5	+0.3
	54nm,0.5s,baz=204,slow=22,SNR=12							
PMG	Port Moresby	3.75	182	Pn	Pn	Pn	19 29 06.3	+1.3
RABL	Rabaul	5.06	74	Pn	Pn	Pn	19 29 21.4	-0.1
MMPI	Merauke	7.41	247	P	Pn	Pn	19 29 55.0	+3.1
	0.1nm21nm,0.9s							
COEN	Coen	9.21	206	Pn	Pn	Pn	19 30 16.9	+1.5
CTA	Charters Tower	14.40	184	P	P	Pn	19 31 23.7	+1.1
	4.1nm,0.6s,baz=3.3,slow=12,SNR=6.9							
CTAO	Charters Tower	14.40	184	P	P		19 31 24.0	+1.3
MTN	Manton Dam	17.48	245	P	P		19 31 57.2	+0.7
WB0	Warramunga Arr	18.84	221	P	P		19 32 11.9	+0.6
WR0	Warramunga Arr	18.89	220	P	P		19 32 12.6	+0.8
WR0				IAmb	IAmb		19 32 13.4	
	comp=Z,9.7nm,0.6s							
WB2	Warramunga Arr	18.99	220	P	P		19 32 13.6	+0.6
WB2				IAmb	IAmb		19 32 18.0	
	comp=Z,13nm,0.7s							
WRA	Warramunga Arr	19.00	220	P	P		19 32 13.8	+0.8
	comp=Z,10nm,0.7s,baz=45,slow=11,SNR=94							
WRA				S	S		19 35 31.9	-6.3
	comp=Z,0.1nm,0.4s,baz=38,slow=20,SNR=1.0							
WRA	Warramunga Arr	19.00	220	P	P		19 32 13.3	+0.3
EIDS	Eidsvold	19.96	170	P	P		19 32 25.3	+2.1
EIDS				IAmb	IAmb		19 32 34.1	
	comp=Z,13nm,1.4s							
KNRA	Kununurra	20.75	240	P	P		19 32 32.8	+1.0
KNRA				IAmb	IAmb		19 32 46.8	
	comp=Z,23nm,1.5s							
AS31	Alice Springs	22.08	214	P	P		19 32 46.5	+1.1
AS31				IAmb	IAmb		19 32 47.1	
	comp=Z,3.4nm,0.5s							
ASAR	Alice Springs	22.09	214	P	P		19 32 46.4	+0.9
	comp=Z,6.8nm,0.7s,baz=48,slow=7.7,SNR=85							
ASAR				S	S		19 36 31.0	-3.3
	comp=Z,0.3nm,0.7s,baz=30,slow=19,SNR=1.8							
	comp=Z,6.8nm,0.7s							
ASAR	Alice Springs	22.09	214	P	P		19 32 45.9	+0.5
FITZ	Fitzroy Crossi	24.51	238	P	P		19 33 07.2	-0.4
	comp=Z,11nm,0.5s,baz=0.9,slow=7.9,SNR=69							
	comp=Z,11nm,0.5s							
FITZ	Fitzroy Crossi	24.51	238	P	P		19 33 07.1	-0.4
ARMA	Armidale	24.99	171	P	P		19 33 11.4	-0.4
ARMA				IAmb	IAmb		19 33 23.1	
	comp=Z,22nm,1.4s							
STKA	Stephens Creek	26.65	191	P	P		19 33 25.3	-1.3
	comp=Z,1.1nm,0.9s,baz=356,slow=14,SNR=1.3							
	comp=Z,1.1nm,0.9s							
BBOO	Buckleboo	29.00	200	P	P		19 33 47.6	+0.2
FORT	Forrest	30.86	214	P	P		19 34 04.1	+0.2
MORW	Morawa	37.63	228	P	P		19 35 01.4	-0.7
MORW				IAmb	IAmb		19 35 42.6	
	comp=Z,9.1nm,1.1s							
TORD	Torodi Ar. Bea	145.28	285	PKPbc	PKPdf		19 47 19.7	-1.5
	comp=Z,0.3nm,0.5s,baz=57,slow=1.9,SNR=2.3							

NOU ***26*** *19:39:09.6,10.83S×162.29E,h54km,mb5.2/50, Solomon Islands*

IDC ***26*** *19:39:10.1±2.1,10.85S×162.15E,h56km±17km, mb4.2/19, mbtmp4.6/24,ML4.8/4,MS4.1/43,Error ellipse: s-maj=15.7km s-min=11.1km az=78.0*

NEIC ***26*** *19:39:10.8±1.4,10.91S±0.09×162.3E±0.1,h55km±7km, mb4.9/90,Error ellipse: s-maj=15.7km s-min=11.1km az=57.0*

GCMT ***26*** *19:39:10.8±0.2,10.97S±0.01×162.15E±0.01,h41km±1km, MW5.1/103,Moment Tension Solution. s75,c97; s103,c155; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.79±.19; Mθθ-1.57±.14; Mϕϕ-1.22±.13; Mrθ-0.88±.14; Mθϕ4.34±.10; Mϕr-2.79±.13; Best double couple: Mo5.75700×10¹⁶ NP1:ϕs169.00000°,δ67.00000°, λ139.00000°. NP2:ϕs278.00000°,δ52.00000°,λ29.00000°. Principal axes: T 5.5630, Plg45.0000°, Azm127.0000°; N 0.3890, Plg44.0000°, Azm326.0000°; P -5.9510, Plg9.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 19:39:09.6±0.4,**10.94S**±0.05×**162.22E**±0.06,**h50**km,**n268,** σ1§**21**/**241**,**mb4.9**/**84**,**MS4.1**/**41**,**2C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.69	304	P	P	Pn	19 39 50.7	+0.3
	127µm,0.7s,baz=168,slow=3.3,SNR=390							
HNR				S		Sn	19 40 20.1	-1.6
	33µm,0.3s,baz=100,slow=1.4,SNR=4.5							
HNR				LR	LR		19 41 01.6	
	comp=Z,123µm,19.9s,baz=168,slow=43							
HNR	Honiara	2.69	304	P	P	Pn	19 39 51.1	+0.7
DVP	Devils Point	8.88	140	P	P	Pn	19 41 15.2	-0.2
	4µm,0.6s							
RTV	Rentapao	9.09	139	P	P	Pn	19 41 18.4	+0.3
KOUNC	Koumac, New Ca	9.76	168	Pn	Pn	Pn	19 41 27.4	0.0
KOUNC	Koumac, New Ca	9.76	168	P	Pn	Pn	19 41 27.9	+0.5
LIFNC	LIFOU	10.91	154	Pn	Pn	Pn	19 41 41.9	-1.1
DZM	Mont Dzumac	11.79	160	*e*LR	LR		19 45 02.5	
	comp=Z,2µm,21.1s							
DZM	Mont Dzumac	11.79	160	P	Pn	Pn	19 41 56.1	+1.0
	5.9nm,0.3s,baz=346,slow=12,SNR=93							
DZM				S		Sn	19 44 02.6	-2.7
	30nm,0.6s,baz=278,slow=21,SNR=4.7							
DZM				LR	LR		19 45 49.2	
	comp=Z,2µm,19.4s,baz=344,slow=34							
	23nm,0.4s							
DZM	Mont Dzumac	11.79	160	Pn	Pn	Pn	19 41 55.8	+0.6
MARNC	Mare, Loyalty	11.87	153	Pn	Pn	Pn	19 41 55.0	-1.2
RABL	Rabaul	12.01	303	Pn	Pn	Pn	19 42 00.2	+2.0
ONTNC	Ouen Toro	12.01	161	Pn	Pn	Pn	19 41 58.5	+0.4
KRVT	Keravat (AS076	12.06	302	P	Pn	Pn	19 41 59.8	+1.0
	1.6nm,0.3s,baz=194,slow=14,SNR=1.6							
KRVT				LR	LR		19 45 38.2	
	comp=Z,504nm,21.2s,baz=257,slow=32							
	13nm,0.5s							
PINNC	Pines Island,	12.64	157			Pn	19 42 06.4	-0.3
PMG	Port Moresby	14.90	275	P	Pn	Pn	19 42 37.9	+0.7
	31nm,1.1s,baz=93,slow=9.8,SNR=8.9							
PMG				LR	LR		19 47 55.6	
	comp=Z,3µm,21.3s,baz=106,slow=35							
PMG	Port Moresby	14.90	275			Pn	19 42 39.4	+2.2
RK1H	Rockhampton Ha	16.68	221	P	P	Pn	19 43 01.1	+1.2
MSVF	Nonsavu	16.75	116	P	Pn	Pn	19 43 02.6	+1.6
	0.3nm,0.3s,baz=264,slow=1.8,SNR=17							
MSVF				LR	LR		19 48 26.4	
	comp=Z,1µm,21.5s,baz=306,slow=33							
	26nm,1.0s							
MSVF	Nonsavu	16.75	116	P	Pn	Pn	19 43 02.5	+1.6
EIDS	Eidsvold	17.81	215	P	Pn	Pn	19 43 15.6	+1.7
	baz=18,SNR=5.5							
EIDS	Eidsvold	17.81	215	P	Pn	Pn	19 43 15.7	+1.7
EIDS	Eidsvold	17.81	215	P	P	Pn	19 43 16.1	+2.0
CTA	Charters Tower	17.85	237	P	Pn	Pn	19 43 15.8	+1.3
	3.5nm,0.3s,baz=64,slow=11,SNR=47							
CTA				LR	LR		19 49 09.2	
	comp=Z,845nm,21.7s,baz=76,slow=34							
	58nm,0.9s							
CTAO	Charters Tower	17.85	237	P		Pn	19 43 16.1	+1.6
CTAO				IAmb	IAmb		19 43 20.8	
	comp=Z,116nm,1.1s							
CTAO	Charters Tower	17.85	237	P	P		19 43 17.5	+2.8
PATS	Pohnpei	18.08	347	P	Pn		19 43 20.0	+2.7
	baz=18,SNR=3.9							
PATS	Pohnpei	18.08	347	P	P		19 43 17.0	-0.1
PATS				IAmb	IAmb		19 43 22.5	
	comp=Z,87nm,0.9s							
PATS	Pohnpei	18.08	347	P	P		19 43 16.3	-0.9
MTSU	Mount Surprise	18.73	246	P	Pn		19 43 27.6	+2.4
	baz=19,SNR=99							
MTSU	Mount Surprise	18.73	246	P	Pn		19 43 27.5	+2.3
COEN	Coen	18.83	259	P	Pn		19 43 28.5	+2.1
	baz=19,SNR=18							
COEN	Coen	18.83	259	P	P		19 43 27.5	+2.0
COEN				IAm

	comp=Z,650nm,19.0s,baz=53,slow=33								
MTN	**Manton Dam**	**30.47**	**263**	P		**P**	**19 45 17.2**	**-0.6**	
	baz=30,SNR=5.3								
MTN	**Manton Dam**	**30.47**	**263**	P		**P**	**19 45 17.3**	**-0.6**	
MTN	**Manton Dam**	**30.47**	**263**	P		**P**	**19 45 17.3**	**-0.6**	
TOO	**Toolangi**	**30.48**	**207**	P		**P**	**19 45 18.6**	**+0.8**	
	baz=31,SNR=4.6								
TOO	**Toolangi**	**30.48**	**207**	P		**P**	**19 45 19.5**	**+1.7**	
FAKI	**Fak Fak**	**30.77**	**283**	P		**P**	**19 45 24.1**	**+3.5**	
	comp=Z,11nm,1.2s								
H11N1	**WAKE ISLAND Hy**	**30.81**	**9**	T		T	20 17 35.6		
	baz=188,slow=76,SNR=304								
H11N3	**WAKE ISLAND Hy**	**30.81**	**9**	T		T	20 17 36.0		
	baz=188,slow=76,SNR=352								
H11N2	**WAKE ISLAND Hy**	**30.82**	**9**	T		T	20 17 36.9		
	baz=188,slow=76,SNR=395								
BKZ	**Black Stump Fm**	**30.85**	**158**	P		**P**	**19 45 22.5**	**+1.4**	
HTT	**Hallett**	**30.94**	**220**	P		**P**	**19 45 22.7**	**+0.8**	
	baz=31,SNR=4.9								
HTT	**Hallett**	**30.94**	**220**	P		**P**	**19 45 22.5**	**+0.5**	
THZ	**Tophouse**	**32.10**	**165**	P		**P**	**19 45 33.1**	**+1.0**	
SIJI	**Sorong**	**32.33**	**286**	LR		LR	20 00 46.0		
	comp=Z,402nm,18.4s,baz=86,slow=40								
BBOO	**Buckleboo**	**32.43**	**224**	P		**P**	**19 45 35.3**	**+0.2**	
	baz=32,SNR=17								
BBOO	**Buckleboo**	**32.43**	**224**	P		**P**	**19 45 35.2**	**+0.2**	
BBOO				IAmb		IAmb	19 45 44.6		
	comp=Z,20nm,0.8s								
BBOO	**Buckleboo**	**32.43**	**224**	P		**P**	**19 45 35.2**	**+0.2**	
MULG	**Mulgathing**	**32.48**	**229**	P		**P**	**19 45 35.1**	**-0.4**	
BNDI	**Bandanaira**	**32.62**	**279**	P		**P**	**19 45 33.6**	**-3.3**	
	comp=Z,3μmcomp=Z,101nm,0.7s								
KNRA	**Kununurra**	**32.87**	**258**	P		**P**	**19 45 38.6**	**-0.4**	
	baz=33,SNR=16								
KNRA	**Kununurra**	**32.87**	**258**	P		**P**	**19 45 38.1**	**-0.9**	
KNRA	**Kununurra**	**32.87**	**258**	P		**P**	**19 45 38.6**	**-0.4**	
KHZ	**Kahutara**	**32.88**	**164**	P		**P**	**19 45 39.3**	**+0.5**	
LTZ	**Lake Taylor**	**32.91**	**166**	P		**P**	**19 45 40.6**	**+1.5**	
LTZ				IAmb		IAmb	19 46 14.2		
	comp=Z,23nm,1.1s								
RPZ	**Rata Peaks**	**33.54**	**168**	P		**P**	**19 45 45.3**	**+0.8**	
	comp=Z,18nm,0.7s,baz=315,slow=4.3,SNR=9.6								
	comp=Z,18nm,0.7s								
RPZ	**Rata Peaks**	**33.54**	**168**	P		**P**	**19 45 45.0**	**+0.4**	
RPZ	**Rata Peaks**	**33.54**	**168**	P		**P**	**19 45 45.9**	**+1.3**	
AAI	**Ambon**	**34.48**	**279**	P		**P**	**19 45 50.7**	**-2.4**	
	comp=Z,28nm,0.7s								
DCZ	**Deep Cove**	**34.66**	**174**	P		**P**	**19 45 54.7**	**+0.5**	
DCZ				IAmb		IAmb	19 45 58.5		
	comp=Z,12nm,0.9s								
WRKA	**Warakurna**	**35.05**	**242**	P		**P**	**19 45 57.0**	**-1.0**	
	baz=35,SNR=49								
WRKA	**Warakurna**	**35.05**	**242**	P		**P**	**19 45 57.0**	**-1.0**	
NLAI	**Namlea**	**35.65**	**280**	P		**P**	**19 46 03.3**	**+0.2**	
	comp=Z,17nm,0.9s								
LBMI	**Labuha**	**35.97**	**284**	P		**P**	**19 46 08.4**	**+2.5**	
	comp=Z,23nm,1.5s								
FITZ	**Fitzroy Crossi**	**36.06**	**254**	P		**P**	**19 46 05.6**	**-1.0**	
	comp=Z,12nm,0.7s,baz=357,slow=4.6,SNR=49								
FITZ				LR		LR	20 00 17.4		
	comp=Z,676nm,21.2s,baz=273,slow=35								
	comp=Z,12nm,0.7s								
FITZ	**Fitzroy Crossi**	**36.06**	**254**	P		**P**	**19 46 05.7**	**-1.0**	
	baz=36,SNR=42								
FITZ	**Fitzroy Crossi**	**36.06**	**254**	P		**P**	**19 46 05.5**	**-1.2**	
FITZ	**Fitzroy Crossi**	**36.06**	**254**	P		**P**	**19 46 05.8**	**-0.9**	
SANI	**Sanana**	**37.02**	**281**	P		**P**	**19 46 14.2**	**-0.7**	
	comp=Z,41nm,1.0s								
SANI	**Sanana**	**37.02**	**281**	P		**P**	**19 46 16.2**	**+1.3**	
FORT	**Forrest**	**37.30**	**233**	P		**P**	**19 46 17.4**	**+0.3**	
	baz=37								
FORT	**Forrest**	**37.30**	**233**	P		**P**	**19 46 17.4**	**+0.3**	
FORT	**Forrest**	**37.30**	**233**	P		**P**	**19 46 17.4**	**+0.3**	
RAR	**Rarotonga**	**37.83**	**110**	LR		LR	19 58 56.5		
	comp=Z,192nm,20.4s,baz=305,slow=31								
BATI	**Baumata**	**37.89**	**267**	P		**P**	**19 46 22.6**	**+0.3**	
	comp=Z,16nm,0.4s,baz=137,slow=4.7								
BATI				LR		LR	20 03 13.2		
	comp=Z,450nm,19.0s,baz=111,slow=38								
	comp=Z,16nm,0.4s								
BATI	**Baumata**	**37.89**	**267**	P		**P**	**19 46 22.5**	**+0.3**	
	comp=Z,30nm,0.7s								
MMRI	**Maumere**	**39.44**	**270**	P		**P**	**19 46 32.8**	**-2.5**	
	comp=Z,973nmcomp=Z,41nm,0.7s								
KMSI	**Cibinong**	**39.69**	**284**	P		**P**	**19 46 38.0**	**+0.7**	
	comp=Z,50nm,0.6s								
EDFI	**Ende, Flores**	**39.97**	**269**	P		**P**	**19 46 37.8**	**-1.9**	
	comp=Z,8.5nm,0.7s								
LUWI	**Luwuk**	**40.39**	**281**	P		**P**	**19 46 43.2**	**+0.1**	
	comp=Z,7μmcomp=Z,56nm,1.4s								
LUWI	**Luwuk**	**40.39**	**281**	P		**P**	**19 46 43.7**	**+0.6**	
DAV	**Davao City (W)**	**40.62**	**295**	LR		LR	20 04 15.5		
	comp=Z,152nm,18.3s,baz=94,slow=37								
APSI	**Ampana**	**41.51**	**281**	P		**P**	**19 46 52.1**	**-0.2**	
	comp=Z,23nm,1.5s								
BSSI	**Bau Bau, Buton**	**41.51**	**273**	P		**P**	**19 46 51.6**	**-0.7**	
	comp=Z,17nm,0.9s								
MRSI	**Marisa**	**41.61**	**283**	P		**P**	**19 46 56.0**	**+2.8**	
	comp=Z,11nm,1.3s								
PSA00	**Pilbara Seismi**	**41.90**	**250**	P		**P**	**19 46 54.7**	**-0.8**	
PSA00				IAmb		IAmb	19 47 05.9		
	comp=Z,23nm,1.2s								
PSA00	**Pilbara Seismi**	**41.90**	**250**	P		**P**	**19 46 55.1**	**-0.4**	
MBWA	**Marble Bar**	**41.96**	**251**	P		**P**	**19 46 55.2**	**-0.7**	
MBWA	**Marble Bar**	**41.96**	**251**	P		**P**	**19 46 55.7**	**-0.2**	
MBWA	**Marble Bar**	**41.96**	**251**	P		**P**	**19 46 55.4**	**-0.5**	
MBWA				pP		**pP**	**19 47 07.2**	**-1.0**	
MBWA				sP		**sP**	**19 47 13.1**	**-0.7**	
KAPI	**Kappang**	**42.43**	**275**	LR		LR	20 06 23.8		
	comp=Z,132nm,20.4s,baz=106,slow=39								
JCJ	**Chichijima**	**42.52**	**333**	LR		LR	20 03 53.7		
	comp=Z,224nm,19.3s,baz=108,slow=35								
MPSI	**Mapaga**	**43.53**	**282**	P		P	19 47 04.7	-4.0	
	comp=Z,10.0nm,0.8s								
PLAI	**Plampang**	**43.80**	**269**	P		**P**	**19 47 08.6**	**-2.3**	
	comp=Z,34nm,0.8s								
PLAI	**Plampang**	**43.80**	**269**	P		**P**	**19 47 09.3**	**-1.6**	
MEEK	**Meekatharra**	**43.90**	**243**	P		**P**	**19 47 12.0**	**+0.4**	
	baz=44,SNR=11								
MEEK	**Meekatharra**	**43.90**	**243**	P		**P**	**19 47 12.2**	**+0.6**	
TWSI	**Taliwang, Sumb**	**44.69**	**269**	P		**P**	**19 47 18.5**	**+0.4**	
	comp=Z,17nm,0.7s								
KLBR	**Kellerberrin**	**45.86**	**236**	P		**P**	**19 47 26.8**	**-0.2**	
	baz=46,SNR=7.5								
KLBR	**Kellerberrin**	**45.86**	**236**	P		**P**	**19 47 26.9**	**-0.2**	
IGBI	**Denpasar**	**46.39**	**268**	P		**P**	**19 47 30.3**	**-1.2**	
	comp=Z,95nm,1.1s								
BLDU	**Ballidu**	**46.46**	**238**	P		**P**	**19 47 32.1**	**+0.3**	
	baz=46,SNR=14								
BLDU	**Ballidu**	**46.46**	**238**	P		**P**	**19 47 31.5**	**-0.3**	
MORW	**Morawa**	**46.65**	**240**	P		**P**	**19 47 33.5**	**+0.1**	
	baz=47,SNR=9.7								
MORW	**Morawa**	**46.65**	**240**	P		**P**	**19 47 33.2**	**-0.1**	
MORW	**Morawa**	**46.65**	**240**	P		**P**	**19 47 33.5**	**+0.1**	
NWAO	**Narrogin (SRO)**	**46.67**	**235**	P		**P**	**19 47 33.0**	**-0.5**	
	comp=Z,18nm,0.9s,baz=298,slow=7.3,SNR=4.8								
NWAO				LR		LR	20 07 46.6		
	comp=Z,549nm,18.4s,baz=290,slow=37								
	comp=Z,18nm,0.9s								
NWAO	**Narrogin (SRO)**	**46.67**	**235**	P		**P**	**19 47 33.7**	**+0.3**	
PPT	**Papeete**	**47.09**	**104**	LR		LR	20 02 31.8		
	comp=Z,260nm,21.0s,baz=267,slow=30								
PPT2	**Papeete2**	**47.09**	**104**	*e*P		P	19 47 43.8	+6.8	
	comp=Z,60nm,27.0s								
PPT2				*e*S		S	19 54 40.3	+14	
	comp=Z,75nm,27.0s								
PPT2				*e*LR		LR	20 01 26.6		
	comp=Z,855nm,25.5s								
MUN	**Mundaring**	**47.23**	**236**	P		**P**	**19 47 38.4**	**+0.6**	
JAGI	**Jajag, Banyuwa**	**47.40**	**269**	P		**P**	**19 47 39.5**	**0.0**	
JAGI	**Jajag, Banyuwa**	**47.40**	**269**	P		**P**	**19 47 37.2**	**-2.2**	
	comp=Z,67nm,0.9s								
MTKI	**Muara Teweh, K**	**48.03**	**279**	P		**P**	**19 47 46.5**	**+2.2**	
JHJ	**Hachijo jima 2**	**48.76**	**335**	LR		LR	20 09 06.5		
	comp=Z,92nm,19.0s,baz=90,slow=37								
UGM	**Wanagama**	**51.04**	**269**	P		**P**	**19 48 05.3**	**-1.9**	
MJAR	**Matsushiro Arr**	**52.36**	**336**	P		**P**	**19 48 15.3**	**-1.3**	
	comp=Z,1.6nm,0.6s,baz=161,slow=7.9,SNR=5.9								
MJAR				LR		LR	20 06 20.9		
	comp=Z,65nm,21.7s,baz=164,slow=31								
	comp=Z,1.6nm,0.6s								
MAJO	**Matsushiro**	**52.36**	**336**	P		**P**	**19 48 15.5**	**-1.2**	
LEM	**Lembang**	**54.04**	**269**	LR		LR	20 14 00.2		
	comp=Z,97nm,18.7s,baz=144,slow=39								
TAOE	**Nuku Hiva Isla**	**56.75**	**93**	*e*LR		LR	20 05 50.6		
	comp=Z,536nm,23.8s								

DRV	**Dumont d'Urvil**	**57.65**	**190**	P		**P**	**19 48 54.9**	**+0.6**	
DRV				pP		**pP**	**19 49 03.9**	**-3.5**	
DRV				sP		**pwP**	**19 49 10.6**	**-0.1**	
KSRS	**Korea Array**	**57.89**	**328**	P		**P**	**19 48 54.8**	**-1.7**	
	comp=Z,0.8nm,0.8s,baz=141,slow=7.2,SNR=5.2								
KSRS				LR		LR	20 10 34.3		
	comp=Z,154nm,22.0s,baz=140,slow=33								
	comp=Z,0.8nm,0.8s								
KSAR	**Wonju Array Be**	**57.91**	**328**			**P**	**19 48 56.4**	**-0.2**	
USRK	**Ussuriysk Ar.**	**61.36**	**336**	P		**P**	**19 49 19.3**	**-1.0**	
	comp=Z,6.9nm,0.8s,baz=168,slow=6.6,SNR=10								
USRK				LR		LR	20 11 55.5		
	comp=Z,131nm,21.5s,baz=138,slow=32								
	comp=Z,6.9nm,0.8s								
USRK	**Ussuriysk Ar.**	**61.36**	**336**	P		**P**	**19 49 20.0**	**-0.2**	
PETK	**Petropavlovsk-**	**63.91**	**357**	P		**P**	**19 49 37.5**	**+0.4**	
	comp=Z,6.0nm,0.9s,baz=184,slow=10,SNR=4.2								
PETK				LR		LR	20 13 47.9		
	comp=Z,138nm,21.2s,baz=166,slow=33								
	comp=Z,6.0nm,0.9s								
CN2	**Changchun**	**63.92**	**331**	*e*P		P	19 49 48.0	+11	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
SHEM	**Shemya Is, Ala**	**64.23**	**8**	LR		LR	20 13 32.9		
	comp=Z,194nm,19.1s,baz=246,slow=32								
PSI	**Prapat**	**64.42**	**278**	LR		LR	20 20 54.2		
	comp=Z,99nm,18.5s,baz=113,slow=39								
BNX	**BinXian**	**64.53**	**334**	⇑P		**P**	**19 49 41.5**	**+0.2**	
BNX				pmax		pmax			
	comp=Z,8.0nm,0.7s								
BNX				pmax		pmax			
	comp=Z,160nm,5.5s								
CASY	**Casey**	**65.24**	**200**	P		**P**	**19 49 45.5**	**-0.1**	
CASY				IAmb		IAmb	19 49 47.8		
	comp=Z,13nm,1.4s								
CASY	**Casey**	**65.24**	**200**	P		**P**	**19 49 45.8**	**+0.2**	
HNS	**HongShan**	**65.53**	**320**	⇑P		P	19 49 57.3	+9.4	
HNS				pmax		pmax			
	comp=Z,9.0nm,0.7s								
KLR	**Kul'dur**	**65.64**	**339**	LR		LR	20 15 04.7		
	comp=Z,136nm,21.6s,baz=152,slow=33								
VNDA	**Vanda**	**66.57**	**180**	P		**P**	**19 49 55.4**	**+1.3**	
	comp=Z,4.7nm,0.7s,baz=350,slow=6.4,SNR=58								
VNDA				LR		LR	20 13 27.6		
	comp=Z,203nm,21.6s,baz=360,slow=31								
	comp=Z,4.7nm,0.7s								
VNDA	**Vanda**	**66.57**	**180**	P		**P**	**19 49 55.3**	**+1.3**	
VNDA				pP		**pP**	**19 50 05.3**	**-1.8**	
SBA	**Scott Base**	**66.94**	**179**	P		**P**	**19 49 57.7**	**+1.3**	
SBA				IAmb		IAmb	19 49 59.9		
	comp=Z,12nm,1.1s								
SBA	**Scott Base**	**66.94**	**179**	P		**P**	**19 49 58.6**	**+2.2**	
SBA				pP		**pP**	**19 50 08.4**	**-1.1**	
CCD	**Concordia, Ant**	**67.68**	**190**	P		**P**	**19 50 02.3**	**+0.7**	
CCD				pP		**pP**	**19 50 12.2**	**-2.6**	
XLT	**XiLinHaoTe**	**68.80**	**326**	*e*P		**P**	**19 50 09.3**	**+0.6**	
XLT				pmax		pmax			
	comp=Z,6.0nm,1.2s								
XLT				pmax		pmax			
	comp=Z,110nm,4.4s								
CMAR	**Chiang Mai Arr**	**68.91**	**295**	LR		LR	20 19 41.7		
	comp=Z,35nm,20.2s,baz=120,slow=35								
MA2	**Magadan**	**70.88**	**354**	LR		LR	20 18 42.2		
	comp=Z,84nm,20.4s,baz=145,slow=34								
ULN	**Ulaanbaatar**	**76.21**	**325**	P		**P**	**19 50 52.5**	**-0.3**	
ULN				IAmb		IAmb	19 51 04.2		
	comp=Z,8.0nm,0.7s								
GTA	**Gaotai**	**76.51**	**315**	*e*P		P	19 50 59.8	+5.1	
GTA				pmax		pmax			
	comp=Z,2.0nm,1.1s								
SONM	**Songino Array**	**76.56**	**325**	P		**P**	**19 50 54.7**	**-0.1**	
	comp=Z,3.1nm,0.8s,baz=145,slow=5.4,SNR=9.8								
SONM				LR		LR	20 22 48.8		
	comp=Z,141nm,21.8s,baz=118,slow=34								
	comp=Z,3.1nm,0.8s								
SONM	**Songino Array**	**76.56**	**325**	P		**P**	**19 50 54.2**	**-0.5**	
SONM				IAmb		IAmb	19 51 08.3		
	comp=Z,8.6nm,0.7s								
BRDH	**Bariadhala**	**76.74**	**297**	LR		LR	20 26 32.7		
	comp=Z,50nm,18.3s,baz=90,slow=37								
YAK	**Yakutsk**	**77.05**	**345**	P		**P**	**19 50 56.1**	**-0.9**	
KDAK	**Kodiak Island**	**77.79**	**23**	P		**P**	**19 51 00.8**	**-0.4**	
	comp=Z,11nm,0.9s,baz=256,slow=6.0,SNR=9.5								
KDAK				LR		LR	20 20 30.3		
	comp=Z,128nm,19.6s,baz=242,slow=32								
	comp=Z,11nm,0.9s								
P18K	**Big Mountain,**	**77.99**	**21**			**P**	**19 51 01.6**	**-0.8**	
Q19K	**Cape Douglas,**	**78.21**	**22**	P		**P**	**19 51 03.8**	**+0.2**	
QSPA	**South Pole Qui**	**79.06**	**180**	P		**P**	**19 51 08.8**	**+0.4**	
QSPA				IAmb		IAmb	19 51 09.6		
	comp=Z,12nm,0.9s								
SVW2	**Sparrevohn**	**79.13**	**19**	P		**P**	**19 51 09.4**	**+0.8**	
SVW2				IAmb		IAmb	19 51 11.1		
	comp=Z,12nm,0.8s								
M19K	**Big River Lodg**	**80.11**	**19**	P		**P**	**19 51 15.6**	**+1.7**	
M19K				IAmb		IAmb	19 51 28.5		
	comp=Z,30nm,1.5s								
PWL	**Port Wells**	**81.49**	**22**	P		**P**	**19 51 21.7**	**+0.4**	
PWL				IAmb		IAmb	19 51 39.4		
	comp=Z,9.7nm,0.8s								
CAST	**Castle Rocks**	**81.94**	**19**	P		**P**	**19 51 23.7**	**+0.1**	
CAST				IAmb		IAmb	19 51 39.6		
	comp=Z,8.5nm,0.7s								
KTH	**Kantishna Hill**	**82.41**	**19**	P		**P**	**19 51 26.1**	**0.0**	
KTH				IAmb		IAmb	19 54 25.0		
	comp=Z,28nm,1.7s								
SCM	**Sheep Creek Mo**	**82.49**	**22**	P		**P**	**19 51 27.3**	**+0.7**	
SCM				IAmb		IAmb	19 52 19.8		
	comp=Z,22nm,1.3s								
BERG	**Berg Lake**	**82.97**	**24**	P		**P**	**19 51 29.8**	**+0.7**	
RND	**Reindeer**	**82.99**	**20**	P		**P**	**19 51 29.4**	**+0.3**	
M24K	**Tolsona, Glenn**	**83.08**	**22**	P		**P**	**19 51 31.2**	**+1.5**	
PALK	**Pallekele**	**83.10**	**279**	LR		LR	20 30 53.4		
	comp=Z,78nm,19.9s,baz=178,slow=37								
I21K	**Tanana**	**83.22**	**18**	P		**P**	**19 51 30.9**	**+0.7**	
I21K				IAmb		IAmb	19 51 46.3		
	comp=Z,11nm,1.0s								
IMAR	**Indian Mountai**	**83.29**	**17**	P		**P**	**19 51 30.1**	**-0.4**	
H21K	**Melozitna Rive**	**83.32**	**17**	P		**P**	**19 51 32.1**	**+1.4**	
N25K	**Chitina, Valde**	**83.36**	**23**	P		**P**	**19 51 32.5**	**+1.3**	
N25K				IAmb		IAmb	19 52 30.4		
	comp=Z,8.3nm,0.5s								
MLY	**Manley**	**83.49**	**18**	P		**P**	**19 51 32.5**	**+0.8**	
MAW	**Mawson**	**83.51**	**202**	P		**P**	**19 51 32.4**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=121,slow=5.9,SNR=4.0								
	comp=Z,2.3nm,0.8s								
GLB	**Gilahina Butte**	**83.56**	**23**	P		**P**	**19 51 31.9**	**-0.2**	
GLB				IAmb		IAmb	19 51 35.0		
	comp=Z,6.9nm,0.7s								
WRH	**Wood River Hil**	**83.95**	**19**	P		**P**	**19 51 34.0**	**0.0**	
TABL	**Table Mountain**	**84.03**	**25**	P		**P**	**19 51 34.6**	**-0.1**	
TABL				IAmb		IAmb	19 51 46.2		
	comp=Z,14nm,1.0s								
CCB	**Clear Creek Bu**	**84.16**	**19**	P		**P**	**19 51 35.0**	**0.0**	
CCB				IAmb		IAmb	19 51 50.9		
	comp=Z,7.1nm,0.8s								
MDM	**Murphy Dome**	**84.23**	**19**	P		**P**	**19 51 35.4**	**-0.1**	
CTGM	**Chitina Glacie**	**84.25**	**24**	P		**P**	**19 51 35.9**	**+0.1**	
CTGM				IAmb		IAmb	19 51 38.0		
	comp=Z,8.6nm,0.8s								
HDA	**Harding Lake**	**84.29**	**20**	P		**P**	**19 51 36.2**	**+0.5**	
LOGN	**Logan Glacier**	**84.31**	**24**	P		**P**	**19 51 36.3**	**+0.2**	
LOGN				IAmb		IAmb	19 51 47.1		
	comp=Z,14nm,1.2s								
H23K	**Yukon River**	**84.40**	**18**	P		**P**	**19 51 37.1**	**+0.8**	
H23K				IAmb		IAmb	19 51 47.7		
	comp=Z,8.6nm,1.1s								
M26K	**Nabesna, AK**	**84.44**	**22**	P		**P**	**19 51 36.7**	**+0.1**	
H02S1	**DAWSON INLET T**	**84.48**	**33**	T		T	21 24 44.3		
	SNR=174								
ILAR	**Eielson Array**	**84.54**	**20**	P		**P**	**19 51 35.8**	**-1.2**	
	comp=Z,1.5nm,0.7s,baz=248,slow=4.3,SNR=10								
	comp=Z,1.5nm,0.7s								
RIDG	**Independent Ri**	**84.58**	**21**	P		**P**	**19 51 37.4**	**+0.2**	
RIDG				IAmb		IAmb	19 51 57.6		
	comp=Z,9.5nm,0.9s								
DOT	**Dot Lake**	**84.80**	**21**	P		**P**	**19 51 39.6**	**+1.3**	
M27K	**Edge Creek, AK**	**84.84**	**23**	P		**P**	**19 51 39.3**	**+0.6**	
M27K				IAmb		IAmb	19 51 55.9		
	comp=Z,13nm,0.8s								
J25K	**Salcha River,**	**84.95**	**20**	P		**P**	**19 51 40.2**	**+1.1**	
SCRK	**Sand Creek**	**85.03**	**21**	P		**P**	**19 51 40.6**	**+1.1**	
L27K	**Beaver Creek,**	**85.27**	**22**	P		**P**	**19 51 41.3**	**+0.6**	
L27K				IAmb		IAmb	19 51 42.6		
	comp=Z,17nm,1.5s								
BCAR	**Beaver Creek A**	**85.28**	**22**	P		**P**	**19 51 40.5**	**-0.3**	

TIXI	**Tiksi**	**85.36**	**350**	LR		LR	20 27 41.1		
	comp=Z,43nm,21.9s,baz=181,slow=34								
J26L	**Joseph Creek**	**85.50**	**21**	P		**P**	**19 51 43.3**	**+1.4**	
K27K	**Chicken**	**85.74**	**21**	P		**P**	**19 51 44.3**	**+1.4**	
K27K				IAmb		IAmb	19 51 57.5		
	comp=Z,14nm,1.1s								
YBH	**Yreka Blue Hor**	**86.31**	**46**	P		**P**	**19 51 47.0**	**+0.6**	
YBH				IAmb		IAmb	19 52 01.2		
	comp=Z,15nm,1.6s								
EGAK	**Eagle**	**86.50**	**21**	P		**P**	**19 51 47.1**	**+0.4**	
DAWY	**Dawson**	**86.73**	**22**	P		**P**	**19 51 49.2**	**+1.3**	
AFDM	**Forest Hills D**	**86.75**	**50**	P		**P**	**19 51 48.1**	**-0.5**	
I29M	**Ogilvie Camp,**	**87.83**	**21**	P		**P**	**19 51 52.6**	**-0.6**	
I29M				IAmb		IAmb	19 52 11.3		
	comp=Z,7.1nm,0.8s								
PINE	**Pine Mountain**	**88.18**	**45**	P		**P**	**19 51 55.6**	**+0.1**	
PINE				IAmb		IAmb	19 51 59.0		
	comp=Z,7.1nm,1.1s								
RYN	**Ryan**	**88.50**	**50**	P		**P**	**19 51 56.6**	**-0.6**	
DSP	**Deep Springs**	**88.60**	**52**	P		**P**	**19 51 57.2**	**-0.2**	
NVAR	**Mina Array Bea**	**88.62**	**51**	P		**P**	**19 51 56.6**	**-1.1**	
	comp=Z,1.4nm,0.5s,baz=225,slow=8.2,SNR=11								
NVAR				LR		LR	20 26 28.8		
	comp=Z,185nm,19.2s,baz=257,slow=32								
	comp=Z,1.4nm,0.5s								
NVAR	**Mina Array Bea**	**88.62**	**51**	P		**P**	**19 51 57.4**	**-0.4**	
EPYK	**Eagle Plains**	**88.91**	**21**	P		**P**	**19 52 00.2**	**+1.9**	
KVN	**Kaiserville**	**88.93**	**50**	P		**P**	**19 51 59.2**	**0.0**	
MZP	**Montezuma Peak**	**89.14**	**51**	P		**P**	**19 51 59.9**	**-0.4**	
I07A	**Izee**	**89.25**	**45**	P		**P**	**19 52 00.8**	**+0.3**	
WVOR	**Wild Horse Val**	**89.42**	**47**	P		**P**	**19 52 01.6**	**+0.3**	
WVOR				IAmb		IAmb	19 52 03.1		
	comp=Z,9.7nm,1.2s								
J08A	**Circle Bar Ran**	**89.78**	**46**	P		**P**	**19 52 02.3**	**-0.7**	
J08A				IAmb		IAmb	19 52 04.4		
	comp=Z,10.0nm,1.4s								
TPNV	**Topopah Spring**	**89.83**	**52**	P		**P**	**19 52 03.1**	**-0.3**	
BMN	**Battle Mountai**	**89.94**	**49**	P		**P**	**19 52 03.0**	**-0.8**	
BMN				IAmb		IAmb	19 52 05.4		
	comp=Z,5.7nm,1.2s								
G08A	**Pilot Rock**	**89.95**	**44**	P		**P**	**19 52 03.4**	**-0.3**	
G08A				IAmb		IAmb	19 52 05.2		
	comp=Z,8.3nm,1.5s								
R11A	**Troy Canyon, C**	**90.67**	**51**	P		**P**	**19 52 07.2**	**-0.2**	
R11A				IAmb		IAmb	19 52 09.3		
	comp=Z,7.9nm,1.6s								
BELA	**Belgrano 2**	**90.83**	**176**	P		**P**	**19 52 06.4**	**-0.7**	
PRN	**Pahroc Range**	**90.87**	**52**	P		**P**	**19 52 08.2**	**0.0**	
BMO	**Blue Mountains**	**90.97**	**45**	P		**P**	**19 52 08.2**	**-0.3**	
BMO				IAmb		IAmb	19 52 09.7		
	comp=Z,7.5nm,1.4s								
MKAR	**Makanchi Array**	**91.09**	**317**	P		**P**	**19 52 07.6**	**-1.3**	
	comp=Z,0.8nm,0.7s,baz=88,slow=5.8,SNR=5.0								
MKAR				LR		LR	20 34 09.8		
	comp=Z,36nm,19.8s,baz=112,slow=36								
	comp=Z,0.8nm,0.7s								
MKAR	**Makanchi Array**	**91.09**	**317**	P		**P**	**19 52 07.7**	**-1.2**	
ZALV	**Zalesovo Beam**	**91.46**	**325**	P		**P**	**19 52 10.7**	**+0.4**	
	comp=Z,0.4nm,0.4s,baz=106,slow=6.1,SNR=1.6								
ZALV				LR		LR	20 32 38.1		
	comp=Z,49nm,21.6s,baz=92,slow=35								
	comp=Z,0.4nm,0.4s								
ELK	**Elko**	**91.48**	**49**	P		**P**	**19 52 10.9**	**-0.2**	
ELK	

GHBP *i* S **Sn** **20 04 08.8 +0.9**
DDMP Don Marcelino, 2.20 187 *e*P **Pb** **20 03 47.5 -0.7**
TABP Talibon, Bohol 2.40 318 *e*P **Pn** **20 03 47.0 +0.2**
TABP *e*S **Sn** **20 04 14.9 -0.6**
LSIP Lazi, Siquijor 2.45 290 *i*P **Pn** **20 03 48.9 +1.3**
LSIP *i* S **Sn** **20 04 17.1 +0.3**
TBP Tagbilaran 2.49 304 *e*P **Pn** **20 03 48.8 +0.6**
TBP *e*S **Sn** **20 04 18.9 +1.1**
PAGZ Pagadian 2.60 260 *e*P **Pb** **20 03 53.5 -1.4**
PAGZ *e*S **Sn** **20 04 15.9 -4.6**
DCPH Dipolog City 2.60 276 *e*P **Pb** **20 03 55.0 +0.1**
WRA Warramunga Arr 29.26 164 P **P** **20 09 09.3 -0.2**
0.3nm,0.8s,baz=344,slow=10.0,SNR=2.0
0.3nm,0.8s
ASAR Alice Springs 32.71 166 P **P** **20 09 40.5 +0.6**
0.3nm,0.7s,baz=341,slow=6.9,SNR=6.3
0.3nm,0.7s
MKAR Makanchi Array 53.41 324 P **P** **20 12 27.0 0.0**
0.6nm,0.9s,baz=121,slow=7.8,SNR=2.1
0.6nm,0.9s

IDC ***26*** *20:15:07.7±0.4, 19°.70S×177°.59E, h0km, mb4.6/25, mbtmp4.7/29, ML4.9/2, MS4.5/54, Error ellipse: s-maj=15.4km s-min=10.2km az=154.0*
MOS ***26*** *20:15:09.6±2.4, 19°.66S×177°.65E, h10km, mb5.2/15, MS4.7/11, Error ellipse: s-maj=8.4km s-min=7.4km az=54.5*
NEIC ***26*** *20:15:09.9±2.2, 19°.58S±0°.06×177°.66E±0°.07, h10km±1km, mb5.2/207, Error ellipse: s-maj=12.8km s-min=9.7km az=126.0*
GCMT ***26*** *20:15:11.9±0.1, 19°.76S±0°.01×177°.61E±0°.01, h12km, MW5.2/153, Moment Tensor Solution. s93,c141; s153,c256; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.08±.01; Mθθ-0.83±.01; Mϕϕ0.90±.02; Mrθ-0.12±.03; Mrϕ0.04±.01; Mθϕ0.24±.04; Best double couple: M₀0.90800×10¹⁷ NP1:ϕ₁316.00000°, δ88.00000°, λ164.00000°. NP2:ϕ₂47.00000°, δ74.00000°, λ2.00000°. Principal axes: T 0.9620, Plg13.0000°, Azm270.0000°; N -0.1080, Plg74.0000°, Azm129.0000°; P -0.8540, Plg10.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***26*** *20:15:12.8, 19°.59S×177°.75E, h25km, mb5.2/65, South of Fiji Islands*
ISC 26 20:15:09.6±0.3, 19°.72S±0°.05×177°.72E±0°.05, h10km, n669, σ1§48/634, **mb5.1**/179, **MS4.6**/69, **50C-43D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.00**	**9**	Pn		**Pn**	**20 15 41.0**	**-2.7**
	453nm,0.3s,baz=168,slow=21,SNR=1330							
MSVF				Sn		**Sn**	**20 16 04.3**	**-4.6**
	796nm,0.3s,baz=252,slow=20,SNR=20							
MSVF				LR		LR	20 16 07.1	
	comp=Z,8μm,19.1s,baz=237,slow=30							
MSVF	**Nonsavu**	**2.00**	**9**	P		**Pn**	**20 15 41.0**	**-2.7**
MSVF	**Nonsavu**	**2.00**	**9**	P		**Pn**	**20 15 41.4**	**-2.3**
LKBA	**Tubou, Lakemba**	**3.60**	**66**	P		**Pn**	**20 16 04.0**	**-1.5**
TAVE	**Taveuni**	**3.75**	**37**	P		**Pn**	**20 16 07.0**	**-0.6**
FUTU	**Fugatoga**	**6.69**	**37**	P		**Pn**	**20 16 49.2**	**+1.1**
RTV	**Rentapao**	**9.02**	**281**	P		**Pn**	**20 17 21.7**	**+1.7**
MARNC	**Mare, Loyalty**	**9.24**	**257**	Pn		**Pn**	**20 17 20.4**	**-2.7**
MARNC	**Mare, Loyalty**	**9.24**	**257**	P		**Pn**	**20 17 26.5**	**+3.4**
	2.0nm,0.9s							
LIFNC	**LIFOU**	**9.90**	**262**	Pn		**Pn**	**20 17 32.6**	**+0.6**
LIFNC	**LIFOU**	**9.90**	**262**	P		**Pn**	**20 17 34.1**	**+2.1**
	341nm,0.5s							
PINNC	**Pines Island,**	**10.01**	**252**	Pn		**Pn**	**20 17 34.9**	**+1.3**
PINNC	**Pines Island,**	**10.01**	**252**	P		**Pn**	**20 17 36.9**	**+3.3**
	426nm,1.3s							
RAO	**Raoul Island**	**10.28**	**158**	LR		LR	20 20 20.9	
	comp=Z,3μm,19.2s,baz=347,slow=30							
DZM	**Mont Dzumac**	**10.80**	**256**	*e*Pn		**Pn**	**20 17 43.2**	**-1.3**
	244nm,1.6s							
DZM				*e*LR		LR	20 20 15.0	
	comp=Z,4μm,25.8s							
DZM	**Mont Dzumac**	**10.80**	**256**	Pn		**Pn**	**20 17 43.4**	**-1.1**
	17nm,1.1s,baz=88,slow=12,SNR=8.3							
DZM				LR		LR	20 21 06.7	
	comp=Z,8μm,21.5s,baz=78,slow=34							
DZM	**Mont Dzumac**	**10.80**	**256**	Pn		**Pn**	**20 17 44.6**	**+0.1**
DZM	**Mont Dzumac**	**10.80**	**256**	P		**Pn**	**20 17 47.0**	**+2.5**
ONTNC	**Ouen Toro**	**10.84**	**254**	Pn		**Pn**	**20 17 43.2**	**-1.7**
NOUC	**Port Laguerre**	**10.93**	**256**	P		**Pn**	**20 17 49.1**	**+2.9**
AFI	**Afiamalu**	**11.59**	**62**	Pn		**Pn**	**20 17 57.4**	**+2.0**
	12nm,0.3s,baz=265,slow=14,SNR=7.0							
AFI				LR		LR	20 21 42.9	
	comp=Z,2μm,22.0s,baz=236,slow=34							
	30nm,0.3s							
AFI	**Afiamalu**	**11.59**	**62**	Pn		**Pn**	**20 17 54.3**	**-1.1**
AFI	**Afiamalu**	**11.59**	**62**	P		**Pn**	**20 17 57.0**	**+1.6**
NIUE	**Niue**	**11.67**	**89**	P		**Pn**	**20 17 56.3**	**0.0**
	baz=12,SNR=15							
NIUE	**Niue**	**11.67**	**89**	Pn		**Pn**	**20 17 55.6**	**-0.8**
NIUE	**Niue**	**11.67**	**89**	P		**Pn**	**20 17 55.9**	**-0.5**
KOUNC	**Koumac, New Ca**	**12.65**	**264**	Pn		**Pn**	**20 18 08.5**	**-1.2**
KOUNC	**Koumac, New Ca**	**12.65**	**264**	P		**Pn**	**20 18 12.0**	**+2.3**
	103nm,1.1s							
NFK	**Norfolk Island**	**12.86**	**222**	P		**Pn**	**20 18 13.1**	**+0.5**
	baz=13,SNR=7.4							
OUZ	**Omahuta**	**15.86**	**192**			**Pn**	**20 18 54.2**	**+1.2**
URZ	**Urewera**	**18.48**	**182**	P		**P**	**20 19 26.0**	**+0.3**
	2.7nm,0.3s,baz=72,slow=2.3,SNR=16							
URZ				LR		LR	20 24 56.9	
	comp=Z,3μm,18.1s,baz=115,slow=32							
	40nm,0.8s							
URZ	**Urewera**	**18.48**	**182**			**P**	**20 19 24.2**	**-1.5**
URZ				IAmb		IAmb	20 19 30.1	
	comp=Z,398nm,1.7s							
HIZ	**Hauiti**	**18.89**	**187**	P		**P**	**20 19 30.3**	**0.0**
BKZ	**Black Stump Fm**	**19.40**	**183**	P		**P**	**20 19 35.1**	**-0.8**
BKZ				IAmb		IAmb	20 19 40.1	
	comp=Z,127nm,1.3s							
BKZ	**Black Stump Fm**	**19.40**	**183**	P		**P**	**20 19 38.2**	**+2.2**
	comp=Z,258nm,1.4s							
HNR	**Honiara**	**20.00**	**298**	P		**P**	**20 19 41.2**	**-1.3**
	comp=Z,165nm,0.3s,baz=173,slow=10.0,SNR=4.5							
HNR				LR		LR	20 25 58.7	
	comp=Z,15μm,22.0s,baz=132,slow=33							
HNR	**Honiara**	**20.00**	**298**	Pn		**P**	**20 19 42.2**	**-0.3**
HNR	**Honiara**	**20.00**	**298**	P		**P**	**20 19 42.2**	**-0.3**
HNR				pmax		pmax		
	comp=Z,381nm,2.0s							
HNR	**Honiara**	**20.00**	**298**	P		**Pn**	**20 19 43.7**	**-0.6**
RAR	**Rarotonga**	**21.14**	**98**	P		**P**	**20 19 56.6**	**+1.7**
	comp=Z,28nm,0.9s,baz=268,slow=9.8,SNR=11							
RAR				LR		LR	20 26 21.8	
	comp=Z,1μm,21.1s,baz=294,slow=32							
	comp=Z,28nm,0.9s							
RAR	**Rarotonga**	**21.14**	**98**	P		**P**	**20 19 57.8**	**+2.9**
RAR	**Rarotonga**	**21.14**	**98**	P		**P**	**20 19 57.8**	**+2.9**
RAR				pmax		pmax		
	comp=Z,623nm,2.0s							
RAR	**Rarotonga**	**21.14**	**98**	P		**P**	**20 19 58.2**	**+3.3**
QRZ	**Quartz Range**	**21.50**	**191**	P		**P**	**20 19 59.5**	**+0.9**
QRZ				IAmb		IAmb	20 20 10.3	
	comp=Z,97nm,1.0s							
SNZO	**South Karori**	**21.67**	**186**	P		**P**	**20 19 56.4**	**-4.0**
SNZO	**South Karori**	**21.67**	**186**	P		**P**	**20 20 03.1**	**+2.7**
MSWZ	**Moikau Station**	**21.73**	**185**	P		**P**	**20 19 57.0**	**-4.0**
NNZ	**Nelson**	**21.74**	**189**	P		**P**	**20 19 58.6**	**-2.6**
TUWZ	**Tuamarina**	**21.88**	**188**	P		**P**	**20 20 00.4**	**-2.2**
PLWZ	**Palliser**	**21.88**	**185**	P		**P**	**20 20 02.2**	**-0.6**
BSWZ	**Blackbirch Sta**	**22.16**	**188**	P		**P**	**20 20 06.0**	**+0.3**
THZ	**Tophouse**	**22.35**	**190**	P		**P**	**20 20 08.0**	**+0.2**
KHZ	**Kahutara**	**22.90**	**188**	P		**P**	**20 20 12.4**	**-1.1**
LTZ	**Lake Taylor**	**23.44**	**190**	P		**P**	**20 20 16.4**	**-2.8**
LTZ				IAmb		IAmb	20 20 32.2	
	comp=Z,70nm,0.9s							
OXZ	**Oxford**	**24.01**	**190**	P		**P**	**20 20 22.1**	**-2.5**
OXZ				IAmb		IAmb	20 20 41.6	
	comp=Z,78nm,0.9s							
RPZ	**Rata Peaks**	**24.57**	**192**	P		**P**	**20 20 29.0**	**-0.7**
	comp=Z,9.5nm,0.4s,baz=4.1,slow=1.8,SNR=8.0							
RPZ				LR		LR	20 29 03.3	
	comp=Z,1μm,18.0s,baz=10,slow=34							
	comp=Z,9.5nm,0.4s							
RPZ	**Rata Peaks**	**24.57**	**192**	P		**P**	**20 20 27.4**	**-2.3**
FOZ	**Fox Glacier**	**24.65**	**194**	P		**P**	**20 20 28.9**	**-1.5**
EIDS	**Eidsvold**	**25.21**	**252**	P		**P**	**20 20 35.2**	**-0.6**
	baz=25,SNR=20							
EIDS	**Eidsvold**	**25.21**	**252**	P		**P**	**20 20 34.5**	**-1.2**
EIDS				IAmb		IAmb	20 20 39.1	
	comp=Z,59nm,1.0s							
EIDS	**Eidsvold**	**25.21**	**252**	P		**P**	**20 20 35.5**	**-0.3**
LBZ	**Lake Benmore**	**25.38**	**193**	P		**P**	**20 20 35.3**	**-1.8**
LBZ				IAmb		IAmb	20 20 43.1	
	comp=Z,97nm,1.5s							
RK1H	**Rockhampton Ha**	**25.57**	**257**	P		**P**	**20 20 41.6**	**+2.6**
	comp=Z,17nm,1.0s							
ARMA	**Armidale**	**25.86**	**241**	P		**P**	**20 20 41.5**	**-0.3**
	baz=26							
ARMA	**Armidale**	**25.86**	**241**	P		**P**	**20 20 43.8**	**+2.0**
WKZ	**Wanaka**	**26.06**	**194**	P		**P**	**20 20 41.3**	**-1.9**
WKZ				IAmb		IAmb	20 20 55.9	
	comp=Z,82nm,1.1s							
MLZ	**Mavora Lakes**	**26.78**	**195**	P		**P**	**20 20 49.2**	**-0.5**
DCZ	**Deep Cove**	**27.12**	**196**	P		**P**	**20 20 51.0**	**-1.7**
DCZ				IAmb		IAmb	20 21 17.8	
	comp=Z,52nm,1.4s							
WHZ	**Wether Hill Ro**	**27.32**	**195**	P		**P**	**20 20 53.5**	**-1.1**
RMQ	**Roma**	**27.44**	**250**	P		**P**	**20 20 56.1**	**+0.2**
	baz=27,SNR=20							
RMQ	**Roma**	**27.44**	**250**	P		**P**	**20 20 58.2**	**+2.3**
KRVT	**Keravat (AS076**	**29.36**	**298**	S		**S**	**20 26 03.2**	**-3.7**
	comp=Z,15nm,0.5s,baz=330,slow=19,SNR=1.4							
KRVT				LR		LR	20 31 51.0	
	comp=Z,623nm,21.3s,baz=263,slow=34							
CTA	**Charters Tower**	**29.57**	**264**	P		**P**	**20 21 12.7**	**-2.3**
	comp=Z,11nm,1.0s,baz=86,slow=7.6,SNR=8.5							
CTA				S		**S**	**20 26 08.9**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=311,slow=9.9,SNR=2.2							
CTA				LR		LR	20 32 26.9	
	comp=Z,1μm,19.3s,baz=97,slow=35							
	comp=Z,11nm,1.0s							
CTA	**Charters Tower**	**29.57**	**264**	P		**P**	**20 21 14.3**	**-0.7**
CTAO	**Charters Tower**	**29.57**	**264**	P		**P**	**20 21 11.9**	**-3.0**
CTAO	**Charters Tower**	**29.57**	**264**	P		**P**	**20 21 11.9**	**-3.0**
CTAO				pmax		pmax		
	comp=Z,27nm,1.2s							
CTAO	**Charters Tower**	**29.57**	**264**	P		**P**	**20 21 14.3**	**-0.7**
PPT2	**Papeete2**	**31.03**	**92**	*e*P		**P**	**20 21 28.1**	**+0.2**
	comp=Z,108nm,25.0s							
PPT2				*e*S		**S**	**20 26 28.3**	**-4.9**
	comp=Z,390nm,23.5s							
PPT2				*e*LR		LR	20 29 35.7	
	comp=Z,4μm,29.0s							
PPT	**Papeete**	**31.03**	**91**	LR		LR	20 30 45.9	
	comp=Z,798nm,21.3s,baz=251,slow=30							
CMSA	**Cobar Meteorol**	**31.07**	**241**	P		**P**	**20 21 28.2**	**+0.1**
	baz=31,SNR=14							
CMSA	**Cobar Meteorol**	**31.07**	**241**	P		**P**	**20 21 27.2**	**-0.9**
PMG	**Port Moresby**	**31.25**	**285**	LR		LR	20 32 00.4	
	comp=Z,1μm,19.8s,baz=116,slow=32							
PMG	**Port Moresby**	**31.25**	**285**	P		**P**	**20 21 28.9**	**-0.9**
PMG	**Port Moresby**	**31.25**	**285**	*d*P		**P**	**20 21 29.4**	**-0.5**
PMG				pmax		pmax		
	comp=Z,50nm,0.8s							
PMG	**Port Moresby**	**31.25**	**285**	P		**P**	**20 21 28.8**	**-1.1**
QLP	**Quilpie**	**31.48**	**251**	P		**P**	**20 21 30.9**	**-0.8**
	baz=31,SNR=7.0							
QLP	**Quilpie**	**31.48**	**251**	P		**P**	**20 21 31.9**	**+0.2**
MTSU	**Mount Surprise**	**31.61**	**267**	P		**P**	**20 21 32.4**	**-0.7**
	baz=32,SNR=9.2							
MTSU	**Mount Surprise**	**31.61**	**267**	P		**P**	**20 21 32.8**	**-0.2**
TOO	**Toolangi**	**33.19**	**231**	P		**P**	**20 21 45.7**	**-1.0**
TOO	**Toolangi**	**33.19**	**231**	P		**P**	**20 21 45.7**	**-1.0**
TOO				pmax		pmax		
	comp=Z,18nm,1.0s							
TOO	**Toolangi**	**33.19**	**231**	P		**P**	**20 21 49.4**	**+2.7**
COEN	**Coen**	**33.52**	**274**	P		**P**	**20 21 47.6**	**-2.1**
	baz=34,SNR=4.0							
COEN	**Coen**	**33.52**	**274**	P		**P**	**20 21 46.3**	**-3.5**
COEN				IAmb		IAmb	20 21 58.1	
	comp=Z,49nm,1.5s							
COEN	**Coen**	**33.52**	**274**	P		**P**	**20 21 51.1**	**+1.4**
BRAT	**Ballarat**	**34.33**	**232**	P		**P**	**20 21 58.2**	**+1.7**
STKA	**Stephens Creek**	**34.55**	**242**	P		**P**	**20 21 57.6**	**-0.9**
	comp=Z,22nm,0.9s,baz=75,slow=7.6,SNR=14							
STKA				LR		LR	20 34 39.5	
	comp=Z,700nm,18.9s,baz=75,slow=34							
	comp=Z,22nm,0.9s							
STKA	**Stephens Creek**	**34.55**	**242**	P		**P**	**20 21 58.7**	**+0.2**
	baz=34,SNR=16							
STKA	**Stephens Creek**	**34.55**	**242**	P		**P**	**20 21 57.5**	**-1.0**
STKA	**Stephens Creek**	**34.55**	**242**	*e*P		**P**	**20 21 58.2**	**-0.3**
STKA	**Stephens Creek**	**34.55**	**242**	P		**P**	**20 22 00.8**	**+2.3**
INKA	**Innaminka**	**34.68**	**250**	P		**P**	**20 22 00.8**	**+1.1**
QIS	**Mount Isa**	**35.74**	**262**	P		**P**	**20 22 09.5**	**+0.6**
	baz=36,SNR=12							
QIS	**Mount Isa**	**35.74**	**262**	P		**P**	**20 22 10.9**	**+1.9**
HTT	**Hallett**	**37.07**	**240**	P		**P**	**20 22 20.3**	**+0.1**
	baz=37,SNR=9.3							
HTT	**Hallett**	**37.07**	**240**	P		**P**	**20 22 22.1**	**+1.9**
LCRK	**Leigh Creek**	**37.17**	**245**	P		**P**	**20 22 21.6**	**+0.6**
WHYH	**Whyalla**	**38.10**	**241**	P		**P**	**20 22 31.5**	**+2.6**
	comp=Z,32nm,1.0s							
OOD	**Oodnadatta**	**39.15**	**250**	P		**P**	**20 22 37.8**	**0.0**
BBOO	**Buckleboo**	**39.32**	**242**	P		**P**	**20 22 39.1**	**-0.1**
	baz=39,SNR=6.6							
BBOO	**Buckleboo**	**39.32**	**242**	P		**P**	**20 22 38.3**	**-0.9**
BBOO	**Buckleboo**	**39.32**	**242**	P		**P**	**20 22 41.2**	**+2.0**
GENI	**Genyem**	**40.44**	**290**	P		**P**	**20 22 47.1**	**-1.5**
	comp=Z,68nm,1.2s							
GENI	**Genyem**	**40.44**	**290**	P		**P**	**20 22 48.4**	**-0.2**
WR0	**Warramunga Arr**	**40.54**	**262**	P		**P**	**20 22 46.5**	**-2.9**
WC3	**Warramunga Arr**	**40.69**	**262**	P		**P**	**20 22 48.2**	**-2.5**
	baz=41							
WB0	**Warramunga Arr**	**40.70**	**262**	P		**P**	**20 22 47.9**	**-2.9**
WB2	**Warramunga Arr**	**40.72**	**262**	P		**P**	**20 22 49.1**	**-1.8**
WB2				IAmb		IAmb	20 22 52.2	
	comp=Z,43nm,1.2s							
WRAB	**Tennant Creek**	**40.72**	**262**	P		**P**	**20 22 49.2**	**-1.7**
WRAB				IAmb		IAmb	20 22 52.2	
	comp=Z,43nm,1.2s							
WRAB	**Tennant Creek**	**40.72**	**262**	P		**P**	**20 22 49.2**	**-1.7**
WRAB				pmax		pmax		
	comp=Z,43nm,1.2s							
WRAB	**Tennant Creek**	**40.72**	**262**	P		**P**	**20 22 49.7**	**-1.2**
WRA	**Warramunga Arr**	**40.73**	**262**	P		**P**	**20 22 48.5**	**-2.5**
	comp=Z,24nm,1.0s,baz=94,slow=8.6,SNR=30							
WRA				S		**S**	**20 29 01.7**	**+0.1**
	comp=Z,1.7nm,1.3s,baz=97,slow=13,SNR=5.6							
WRA				LR		LR	20 40 03.1	
	comp=Z,702nm,18.3s,baz=103,slow=37							
	comp=Z,24nm,1.0s							
WRA	**Warramunga Arr**	**40.73**	**262**	P		**P**	**20 22 48.1**	**-2.9**
MULG	**Mulgathing**	**40.73**	**246**	P		**P**	**20 22 52.4**	**+1.5**
	comp=Z,44nm,0.9s							
AS31	**Alice Springs**	**40.79**	**256**	P		**P**	**20 22 49.4**	**-2.1**
ASAR	**Alice Springs**	**40.79**	**256**	P		**P**	**20 22 49.8**	**-1.7**
	comp=Z,68nm,0.9s,baz=86,slow=8.6,SNR=232							
ASAR				LR		LR	20 38 35.0	
	comp=Z,2μm,21.4s,baz=105,slow=35							
	comp=Z,68nm,0.9s							
ASAR	**Alice Springs**	**40.79**	**256**	P		**P**	**20 22 49.1**	**-2.4**
SMPI	**Sarmi**	**42.00**	**290**	P		**P**	**20 23 00.8**	**-0.7**
	comp=Z,22nm,1.3s							
TAOE	**Nuku Hiva Isla**	**42.12**	**81**	*e*LR		LR	20 34 42.0	
	comp=Z,2μm,28.9s							
KDU	**Kakadu**	**43.91**	**272**	P		**P**	**20 23 18.0**	**+1.1**
MTN	**Manton Dam**	**45.13**	**271**	P		**P**	**20 23 25.2**	**-1.5**
MTN	**Manton Dam**	**45.13**	**271**	P		**P**	**20 23 28.9**	**+2.2**
WRKA	**Warakurna**	**45.81**	**254**	P		**P**	**20 23 30.8**	**-1.3**
	baz=46,SNR=16							
WRKA	**Warakurna**	**45.81**	**254**	P		**P**	**20 23 33.4**	**+1.3**
FORT	**Forrest**	**45.92**	**246**	P		**P**	**20 23 31.3**	**-1.6**
	baz=46,SNR=11							
FORT	**Forrest**	**45.92**	**246**	P		**P**	**20 23 31.1**	**-1.7**
FORT	**Forrest**	**45.92**	**246**	P		**P**	**20 23 34.9**	**+2.1**
RKPI	**Ransiki, Papua**	**46.26**	**288**	P		**P**	**20 23 34.3**	**-1.4**
	comp=Z,26nm,1.1s							
GUMO	**Guam**	**46.28**	**313**	LR		LR	20 40 40.8	
	comp=Z,248nm,21.5s,baz=144,slow=33							
KNRA	**Kununurra**	**46.69**	**267**	P		**P**	**20 23 38.9**	**-0.1**
	baz=47,SNR=3.6							
KNRA	**Kununurra**	**46.69**	**267**	P		**P**	**20 23 36.3**	**-2.7**
FAKI	**Fak Fak**	**47.41**	**285**	P		**P**	**20 23 44.2**	**-0.5**
	comp=Z,21nm,1.4s							
FAKI	**Fak Fak**	**47.41**	**285**	P		**P**	**20 23 46.5**	**+1.8**
BNDI	**Bandanaira**	**48.94**	**282**	P		**P**	**20 23 55.4**	**-1.1**
	comp=Z,3μmcomp=Z,172nm,1.4s							
FITZ	**Fitzroy Crossi**	**49.14**	**263**	LR		LR	20 43 16.1	
	comp=Z,809nm,21.3s,baz=269,slow=34							
FITZ	**Fitzroy Crossi**	**49.14**	**263**	P		**P**	**20 23 57.3**	**-0.6**
	baz=49,SNR=15							
FITZ	**Fitzroy Crossi**	**49.14**	**263**	P		**P**	**20 23 56.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**49.14**	**263**	P		**P**	**20 23 57.4**	**-0.6**
	comp=Z,48nm,1.1s							
SIJI	**Sorong**	**49.16**	**287**	LR		LR	20 43 32.8	
	comp=Z,664nm,21.9s,baz=104,slow=35							
AAI	**Ambon**	**50.83**	**282**	P		**P**	**20 24 09.5**	**-1.4**
	comp=Z,830nmcomp=Z,49nm,1.4s							
NLAI	**Namlea**	**52.01**	**282**	P		**P**	**20 24 16.6**	**-3.1**
	comp=Z,2μmcomp=Z,18nm,0.8s							
LBMI	**Labuha**	**52.67**	**285**	P		**P**	**20 24 23.8**	**-0.8**
	comp=Z,17nm,1.1s							
BATI	**Baumata**	**52.89**	**272**	LR		LR	20 48 16.4	
	comp=Z,551nm,18.0s,baz=138,slow=38							
BATI	**Baumata**	**52.89**	**272**	P		**P**	**20 24 24.4**	**-1.9**
	comp=Z,21nm,0.8s							
TNTI	**Ternate**	**53.38**	**286**	P		**P**	**20 24 29.6**	**-0.3**
	comp=Z,660nmcomp=Z,33nm,1.3s							
SANI	**Sanana**	**53.49**	**283**	P		**P**	**20 24 28.0**	**-2.7**
	comp=Z,33nm,1.6s							
SANI	**Sanana**	**53.49**	**283**	P		**P**	**20 24 32.5**	**+1.8**
	comp=Z,33nm,1.6s							
PSA00	**Pilbara Seismi**	**53.92**	**257**	P		**P**	**20 24 34.4**	**+0.6**
PSA00				IAmb		IAmb	20 24 35.6	
	comp=Z,21nm,0.9s							
PSA00	**Pilbara Seismi**	**53.92**	**257**	P		**P**	**20 24 32.2**	**-1.6**
PSA00				IAmb		IAmb	20 24 40.0	
	comp=Z,12nm,1.1s							
PSA00	**Pilbara Seismi**	**53.92**	**257**	P		**P**	**20 24 35.1**	**+1.3**
MBWA	**Marble Bar**	**54.09**	**258**	P		**P**	**20 24 33.4**	**-1.6**
MBWA				IAmb		IAmb	20 24 38.4	
	comp=Z,26nm,0.9s							
MBWA	**Marble Bar**	**54.09**	**258**	P		**P**	**20 24 36.4**	**+1.3**
	comp=Z,19nm,1.4s							
MEEK	**Meekatharra**	**54.37**	**251**	P		**P**	**20 24 37.6**	**+0.5**
	baz=54,SNR=4.8							
MEEK	**Meekatharra**	**54.37**	**251**	P		**P**	**20 24 39.9**	**+2.8**
MMRI	**Maumere**	**54.70**	**273**	P		**P**	**20 24 38.3**	**-1.2**
	comp=Z,1μmcomp=Z,41nm,0.9s							
KLBR	**Kellerberrin**	**54.74**	**245**	P		**P**	**20 24 38.1**	**-1.5**
	baz=55,SNR=6.3							
KLBR	**Kellerberrin**	**54.74**	**245**	P		**P**	**20 24 41.5**	**+1.8**
NWAO	**Narrogin (SRO)**	**55.13**	**243**	LR		LR	20 46 10.9	
	comp=Z,666nm,20.8s,baz=313,slow=34							
EDFI	**Ende, Flores**	**55.18**	**273**	P		**P**	**20 24 42.3**	**-0.8**
	comp=Z,23nm,1.3s							
BBSI	**Bau Bau**	**55.41**	**277**	P		**P**	**20 24 43.5**	**-1.2**
	comp=Z,8μmcomp=Z,23nm,1.5s							
MORW	**Morawa**	**56.40**	**248**	P		**P**	**20 24 51.5**	**-0.1**
	baz=56,SNR=5.8							
MORW	**Morawa**	**56.40**	**248**	P		**P**	**20 24 49.9**	**-1.7**
MORW				IAmb		IAmb	20 25 27.1	
	comp=Z,32nm,1.3s							
LUWI	**Luwuk**	**56.84**	**282**	P		**P**	**20 24 53.1**	**-1.7**
LUWI				IAmb		IAmb	20 25 35.1	
	comp=Z,37nm,1.0s							
LUWI	**Luwuk**	**56.84**	**282**	P		**P**	**20 24 53.2**	**-1.7**
	comp=Z,26nm,1.1s							
LUWI	**Luwuk**	**56.84**	**282**	P		**P**	**20 24 55.8**	**+0.9**
GTOI	**Gorontalo**	**57.28**	**284**	P		**P**	**20 24 58.8**	**+0.8**
	comp=Z,12nm,1.3s							
BKSI	**Bulukumba**	**57.76**	**276**	P		**P**	**20 24 59.8**	**-1.6**
	comp=Z,13nm,0.9s							
DAV	**Davao City (W)**	**57.81**	**292**	LR		LR	20 49 18.4	
	comp=Z,99nm,18.0s,baz=108,slow=36							
JCJ	**Chichijima**	**57.90**	**322**	LR		LR	20 45 13.9	
	comp=Z,186nm,21.3s,baz=116,slow=31							
APSI	**Ampana**	**57.93**	**282**	P		**P**	**20 25 00.1**	**-2.5**
	comp=Z,37nm,1.0s							
BNSI	**Bone**	**58.09**	**277**	P		**P**	**20 25 01.8**	**-1.9**
	comp=Z,15nm,1.4s							
KAPI	**Kappang**	**58.21**	**276**	LR		LR	20 49 48.3	
	comp=Z,258nm,21.8s,baz=88,slow=36							
KAPI	**Kappang**	**58.21**	**276**	P		**P**	**20 25 04.1**	**-0.4**
KAPI				IAmb		IAmb	20 25 25.0	
	comp=Z,16nm,0.8s							
KAPI	**Kappang**	**58.21**	**276**

MDJ **Mudanjiang** 77.63 327 P **P** 20 27 07.9 +1.8
GRNR **Gornyy** 79.03 335 ⇓*i*P **P** 20 27 17.7 +3.9
GRNR pmax pmax
comp=Z,9.0nm,1.1s
IPM **Ipoh** 79.04 279 P **P** 20 27 15.5 +0.8
IPM IAmb IAmb 20 27 17.8
comp=Z,20nm,0.9s
IPM **Ipoh** 79.04 279 P **P** 20 27 15.3 +0.6
CN2 **Changchun** 79.28 324 P **P** 20 27 18.3 +3.0
CN2 pmax pmax
comp=Z,20nm,1.2s
BNX **BinXian** 79.53 327 ⇓P **P** 20 27 20.5 +3.9
BNX pmax pmax
comp=Z,10.0nm,1.0s
BNX pmax pmax
comp=Z,330nm,4.1s
TIA **Tai'an** 79.82 314 P **P** 20 27 21.8 +3.4
TIA pmax pmax
comp=Z,6.0nm,1.0s
KLR **Kul'dur** 79.87 331 LR LR 20 57 31.5
comp=Z,157nm,21.4s,baz=148,slow=32
KLR **Kul'dur** 79.87 331 ⇓*e*P **P** 20 27 22.0 +3.6
KLR pmax pmax
comp=Z,10.0nm,1.1s
SAO **San Andreas Ge** 80.28 45 P **P** 20 27 19.9 -1.0
SAO **San Andreas Ge** 80.28 45 P **P** 20 27 19.9 -1.0
SAO pmax pmax
comp=Z,17nm,1.2s
PSI **Prapat** 80.42 276 LR LR 21 03 40.9
comp=Z,285nm,19.8s,baz=133,slow=36
KMRM **Mail Ridge** 80.77 41 P **P** 20 27 20.9 -2.6
BELA **Belgrano 2** 80.81 173 P **P** 20 27 22.6 -0.6
MAW **Mawson** 80.90 201 P **P** 20 27 22.2 -1.5
comp=Z,4.3nm,1.0s,baz=96,slow=5.9,SNR=4.2
MAW LR LR 20 59 46.1
comp=Z,494nm,20.6s,baz=97,slow=33
comp=Z,4.3nm,1.0s
MAW **Mawson** 80.90 201 P **P** 20 27 24.1 +0.3
MAW **Mawson** 80.90 201 P **P** 20 27 24.1 +0.3
MAW pmax pmax
comp=Z,3.0nm,1.1s
KDAK **Kodiak Island** 81.08 16 LR LR 20 56 30.6
comp=Z,453nm,21.4s,baz=227,slow=31
EDW2 **Edwards Air Fo** 81.66 48 P **P** 20 27 29.5 +1.2
baz=239
CMB **Columbia Colle** 81.68 45 P **P** 20 27 29.2 +0.8
CMB **Columbia Colle** 81.68 45 P **P** 20 27 29.2 +0.8
CMB pmax pmax
comp=Z,9.0nm,1.1s
ISA **Isabella, Lake** 81.72 48 P **P** 20 27 29.3 +0.6
ISA IAmb IAmb 20 27 40.3
comp=Z,22nm,1.2s
ISA **Isabella, Lake** 81.72 48 P **P** 20 27 29.3 +0.6
ISA pmax pmax
comp=Z,22nm,1.3s
ISA **Isabella, Lake** 81.72 48 P **P** 20 27 29.9 +1.2
baz=239
ORV **Oroville** 81.79 43 P **P** 20 27 28.5 -0.4
ORV **Oroville** 81.79 43 P **P** 20 27 28.5 -0.4
ORV pmax pmax
comp=Z,10.0nm,1.2s
AFDM **Forest Hills D** 81.80 44 P **P** 20 27 28.9 -0.1
IKP **In-Ko-Pah, Jac** 81.89 51 P **P** 20 27 31.2 +1.5
baz=240
YUH **Yuha Desert** 82.03 51 P **P** 20 27 29.2 -1.1
MA2 **Magadan** 82.03 347 LR LR 20 59 08.8
comp=Z,146nm,19.2s,baz=141,slow=32
HNS **HongShan** 82.10 314 ⇑P **P** 20 27 34.0 +3.5
HNS pmax pmax
comp=Z,11nm,0.9s
PFO **Pinyon Flats O** 82.11 50 P **P** 20 27 31.5 +0.6
comp=Z,1.6nm,0.6s,baz=254,slow=2.7,SNR=2.2
PFO LR LR 20 56 22.3
comp=Z,337nm,20.1s,baz=242,slow=30
comp=Z,1.6nm,0.6s
LYN **LuoYang** 82.18 311 *e*P **P** 20 27 33.0 +2.0
LYN pmax pmax
comp=Z,10.0nm,1.1s
LYN pmax pmax
comp=Z,640nm,7.4s
LRMC **Laurel Mtn Rad** 82.18 48 P **P** 20 27 32.9 +1.7
baz=239
YBH **Yreka Blue Hor** 82.26 41 P **P** 20 27 31.6 +0.2
comp=Z,4.8nm,0.9s,baz=242,slow=3.6,SNR=12
YBH LR LR 20 56 13.6
comp=Z,225nm,20.7s,baz=242,slow=30
comp=Z,4.8nm,0.9s
YBH **Yreka Blue Hor** 82.26 41 P **P** 20 27 31.4 0.0
ENH **Enshi** 82.31 306 P **P** 20 27 30.1 -1.7
ENH IAmb IAmb 20 27 47.3
comp=Z,31nm,1.1s
O18K **Koktuh Hills** 82.31 13 P **P** 20 27 30.5 -0.7
O18K IAmb IAmb 20 27 39.0
comp=Z,23nm,0.9s
OMMB **Old Mammoth Mi** 82.39 46 P **P** 20 27 30.7 -1.8
LPIG **La Paz** 82.52 61 LR LR 20 57 19.4
comp=Z,264nm,18.4s,baz=236,slow=31
WAKR **Walker** 82.57 45 P **P** 20 27 33.3 +0.1
WAKR IAmb IAmb 20 27 56.9
comp=Z,42nm,1.5s
MPK **Martis Peak** 82.60 44 P **P** 20 27 32.8 -0.7
HUMO **Hull Mountain** 82.61 40 P **P** 20 27 31.3 -1.9
MPMC **Manual Prospec** 82.61 48 P **P** 20 27 34.5 +1.0
baz=239
TIN **Tinemaha, Big** 82.61 46 P **P** 20 27 35.4 +2.0
baz=239
BELC **Belle Mtn. Jos** 82.64 50 P **P** 20 27 35.0 +1.3
baz=240
SLBS **Sierra La Lagu** 82.64 62 P **P** 20 27 34.4 +0.6
SLBS IAmb IAmb 20 27 42.5
comp=Z,27nm,1.1s
BEKR **Beckworth** 82.70 43 P **P** 20 27 32.8 -1.1
BEKR IAmb IAmb 20 27 57.1
comp=Z,33nm,1.6s
GSC **Goldstone, Bar** 82.71 49 P **P** 20 27 33.7 -0.2
GSC IAmb IAmb 20 27 57.0
comp=Z,23nm,1.6s
GSC **Goldstone, Bar** 82.71 49 P **P** 20 27 33.7 -0.2
GSC pmax pmax
comp=Z,23nm,1.6s
PNTR **Pine Nut** 82.77 44 P **P** 20 27 33.8 -0.5
PNTR IAmb IAmb 20 27 43.2
comp=Z,26nm,1.0s
L04D **Klamath Falls** 82.78 40 P **P** 20 27 34.9 +0.6
L04D IAmb IAmb 20 27 42.4
comp=Z,21nm,1.1s
O19K **Port Alsworth** 82.81 14 P **P** 20 27 33.0 -0.7
ILSW **Iliamna Southw** 82.89 14 P **P** 20 27 33.3 -1.1
ILSW IAmb IAmb 20 27 50.0
comp=Z,40nm,1.2s
YERR **Yerington** 82.95 44 P **P** 20 27 33.4 -1.9
YERR IAmb IAmb 20 27 43.8
comp=Z,15nm,1.0s
DSP **Deep Springs** 82.96 46 P **P** 20 27 34.8 -0.2
DSP IAmb IAmb 20 27 46.9
comp=Z,19nm,1.4s
QSM **Queen of Sheba** 83.00 48 P **P** 20 27 34.5 -0.8
LHV **Little Huntoon** 83.05 45 P **P** 20 27 36.3 +0.9
LHV IAmb IAmb 20 27 48.1
comp=Z,23nm,1.1s
LCH **Last Change Ra** 83.11 47 P **P** 20 27 35.5 -0.5
LCH IAmb IAmb 20 28 05.7
comp=Z,37nm,1.8s
GRAC **Grapevine Rang** 83.18 47 P **P** 20 27 35.6 -0.6
GRAC **Grapevine Rang** 83.18 47 P **P** 20 27 38.1 +1.8
baz=239
RYN **Ryan** 83.24 45 P **P** 20 27 36.3 -0.4
PAHR **Pah Rah Range** 83.24 44 P **P** 20 27 35.6 -1.0
PAHR IAmb IAmb 20 27 48.4
comp=Z,17nm,1.2s
GWY **Greenwater Val** 83.25 48 P **P** 20 27 35.3 -1.5
GMRC **Granite Mounta** 83.27 50 P **P** 20 27 38.4 +1.5
baz=241
NVAR **Mina Array Bea** 83.28 45 P **P** 20 27 37.7 +0.8
comp=Z,3.0nm,0.8s,baz=226,slow=9.3,SNR=23
NVAR LR LR 20 56 48.3
comp=Z,199nm,21.9s,baz=246,slow=30
comp=Z,3.0nm,0.8s
NVAR **Mina Array Bea** 83.28 45 P **P** 20 27 36.8 -0.2
IRM **Iron Mountain** 83.33 50 P **P** 20 27 38.7 +1.6
baz=241
NV11 **Mina Array Sit** 83.38 45 P **P** 20 27 36.7 -0.7
NV11 IAmb IAmb 20 27 46.0
comp=Z,18nm,1.2s
GMN **Gold Mountain** 83.41 47 P **P** 20 27 36.9 -0.8
GMN IAmb IAmb 20 28 00.8
comp=Z,35nm,2.0s
J04D **Umpqua Nationa** 83.48 40 P **P** 20 27 39.0 +1.1
J04D IAmb IAmb 20 27 41.2
comp=Z,19nm,0.8s
J04D **Umpqua Nationa** 83.48 40 P **P** 20 27 39.3 +1.4
baz=235
MZP **Montezuma Peak** 83.53 46 P **P** 20 27 37.8 -0.5
PMSA **Palmer Station** 83.56 158 LR LR 21 00 27.3
comp=Z,145nm,18.1s,baz=240,slow=32
I04A **Tendick Farm,** 83.62 39 P **P** 20 27 39.3 +0.9
baz=235
113A **Mohawk Valley,** 83.68 52 P **P** 20 27 40.0 +1.1
113A IAmb IAmb 20 27 47.5
comp=Z,23nm,1.3s
KVN **Kaiserville** 83.74 45 P **P** 20 27 36.2 -3.1
KVN IAmb IAmb 20 27 48.5
comp=Z,41nm,1.8s
KVN **Kaiserville** 83.74 45 P **P** 20 27 36.2 -3.1
KVN pmax pmax
comp=Z,41nm,1.8s
TPH **Tonopah** 83.83 46 P **P** 20 27 37.1 -2.6
TPH **Tonopah** 83.83 46 P **P** 20 27 37.1 -2.6
TPH pmax pmax
comp=Z,72nm,1.2s
TPNV **Topopah Spring** 83.92 47 P **P** 20 27 37.9 -2.4
TPNV IAmb IAmb 20 27 52.5
comp=Z,13nm,1.0s
TPNV **Topopah Spring** 83.92 47 P **P** 20 27 37.9 -2.4
TPNV pmax pmax
comp=Z,13nm,1.0s
TPNV **Topopah Spring** 83.92 47 P **P** 20 27 41.0 +0.8
baz=240
K05A **Summer Lake** 83.93 41 P **P** 20 27 40.5 +0.3
214A **Organ Pipe Nat** 84.02 53 P **P** 20 27 40.5 -0.2
214A IAmb IAmb 20 27 43.4
comp=Z,18nm,1.2s
214A **Organ Pipe Nat** 84.02 53 P **P** 20 27 42.3 +1.6
baz=242
J05D **Fort Rock, OR** 84.04 40 P **P** 20 27 42.1 +1.5
baz=236
PDMCI **Parker Dam,Lak** 84.13 51 P **P** 20 27 42.7 +1.5
baz=242
H04A **Detroit Lake** 84.26 38 P **P** 20 27 37.7 -3.9
H04A IAmb IAmb 20 27 58.1
comp=Z,16nm,1.1s
V12A **Nelson** 84.31 49 P **P** 20 27 42.0 -0.1
V12A IAmb IAmb 20 28 10.1
comp=Z,19nm,1.4s
SHPR **Sheep Range** 84.47 48 P **P** 20 27 41.9 -1.2
L19K **White Mountain** 84.49 13 P **P** 20 27 41.5 -0.8
L19K **White Mountain** 84.49 13 P **P** 20 27 43.9 +1.6
baz=206
XAN **Xi'an** 84.50 309 ⇓P **P** 20 27 45.8 +2.7
XAN pmax pmax
comp=Z,12nm,1.5s
PINE **Pine Mountain** 84.50 40 P **P** 20 27 41.7 -1.4
PINE IAmb IAmb 20 27 48.7
comp=Z,19nm,0.9s
E03A **Lebam** 84.56 36 P **P** 20 27 42.3 -0.7
RC01 **Rabbit Creek A** 84.68 15 P **P** 20 27 42.5 -0.8
W13A **Hualapai Mount** 84.70 50 P **P** 20 27 43.3 -1.0
XLT **XiLinHaoTe** 84.74 320 *e*P P 20 27 50.0 +5.9
XLT pmax pmax
comp=Z,7.0nm,1.4s
XLT pmax pmax
comp=Z,340nm,6.8s
SUA **Susitna One** 84.76 15 P **P** 20 27 42.9 -0.9
SUA IAmb IAmb 20 27 55.6
comp=Z,15nm,0.9s
Y14A **Wickenburg** 84.79 51 P **P** 20 27 43.7 -0.9
HOOD **Mount Hood Mea** 84.94 38 P **P** 20 27 43.2 -1.9
HOOD IAmb IAmb 20 27 53.4
comp=Z,26nm,1.2s
PRN **Pahroc Range** 84.98 47 P **P** 20 27 45.8 +0.2
PRN IAmb IAmb 20 27 58.0
comp=Z,14nm,0.9s
BMN **Battle Mountai** 85.03 44 P **P** 20 27 45.4 -0.4
BMN **Battle Mountai** 85.03 44 P **P** 20 27 45.4 -0.4
BMN pmax pmax
comp=Z,47nm,1.8s
ZEA **Zeya** 85.05 333 *e*P P 20 27 50.0 +4.7
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
R11A **Troy Canyon, C** 85.08 46 P **P** 20 27 45.8 -0.3
R11A **Troy Canyon, C** 85.08 46 P **P** 20 27 46.9 +0.8
baz=240
WVOR **Wild Horse Val** 85.17 42 P **P** 20 27 47.0 +0.6
WVOR IAmb IAmb 20 28 09.8
comp=Z,22nm,1.2s
WVOR **Wild Horse Val** 85.17 42 P **P** 20 27 47.0 +0.6
WVOR pmax pmax
comp=Z,22nm,1.2s
GLI **Glacier Island** 85.18 16 P **P** 20 27 45.7 -0.1
GLI IAmb IAmb 20 27 54.6
comp=Z,20nm,1.0s
KMI **Kunming** 85.43 299 ⇑P **P** 20 27 50.0 +1.8
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI LR LR
comp=Z,280nm,23.7s
GHO **Glory Hole Cre** 85.47 15 P **P** 20 27 47.4 0.0
GHO IAmb IAmb 20 27 53.5
comp=Z,17nm,1.0s
I07A **Izee** 85.53 40 P **P** 20 27 48.3 +0.2
TUC **Tucson** 85.71 54 P **P** 20 27 50.4 +1.2
TUC IAmb IAmb 20 27 52.1
comp=Z,20nm,1.3s
TUC **Tucson** 85.71 54 P **P** 20 27 50.4 +1.2
TUC pmax pmax
comp=Z,20nm,1.3s
DIV **Divide** 85.75 17 P **P** 20 27 48.2 -0.5
DIV IAmb IAmb 20 27 54.9
comp=Z,12nm,1.0s
J08A **Circle Bar Ran** 85.77 41 P **P** 20 27 47.4 -1.9
D05A **Enumclaw** 85.81 36 P **P** 20 27 49.1 -0.1
SCM **Sheep Creek Mo** 85.92 16 P **P** 20 27 49.3 -0.3
SCM IAmb IAmb 20 27 56.7
comp=Z,13nm,0.8s
SCM **Sheep Creek Mo** 85.92 16 P **P** 20 27 49.3 -0.3
SCM pmax pmax
comp=Z,13nm,0.8s
HHC **Hu-ho-hao-te** 85.97 316 *e*P **P** 20 27 50.0 -0.4
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,360nm,5.1s
LCMT **Little Creek M** 86.06 49 P **P** 20 27 50.9 -0.1
LCMT IAmb IAmb 20 27 54.0
comp=Z,28nm,1.8s
CMAR **Chiang Mai Arr** 86.08 291 P **P** 20 27 49.8 -1.5
comp=Z,6.0nm,1.0s,baz=145,slow=3.3,SNR=7.2
CMAR LR LR 21 04 16.8
comp=Z,72nm,21.6s,baz=115,slow=34
comp=Z,6.0nm,1.0s
CMAR **Chiang Mai Arr** 86.08 291 *e*P **P** 20 27 54.1 +2.8
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CAST **Castle Rocks** 86.18 13 P **P** 20 27 49.9 -0.8
CAST **Castle Rocks** 86.18 13 P **P** 20 27 50.6 -0.1
baz=208
CHTO **Chiang Mai** 86.21 291 P **P** 20 27 52.0 +0.1
CHTO **Chiang Mai** 86.21 291 P **P** 20 27 52.0 +0.1
CHTO pmax pmax
comp=Z,1.0nm,1.4s
CHTO **Chiang Mai** 86.21 291 P **P** 20 27 54.1 +2.2
CCUT **Cedar City** 86.23 48 P **P** 20 27 52.1 +0.2
CCUT IAmb IAmb 20 30 46.6
comp=Z,11nm,0.5s
PSUT **Pine Spring** 86.36 47 P **P** 20 27 51.3 -1.1
KNB **Kanab** 86.36 49 P **P** 20 27 53.3 +0.8
KNB IAmb IAmb 20 28 07.5
comp=Z,27nm,1.5s
KNB **Kanab** 86.36 49 P **P** 20 27 53.3 +0.8
KNB pmax pmax
comp=Z,27nm,1.5s
SZCU **Shurtz Canyon** 86.44 48 P **P** 20 27 52.8 -0.1
SZCU IAmb IAmb 20 27 55.4
comp=Z,38nm,1.9s
319A **Douglas** 86.46 55 P **P** 20 27 54.4 +1.4
319A IAmb IAmb 20 27 55.9
comp=Z,24nm,1.1s
U15A **North Rim** 86.46 49 P **P** 20 27 54.1 +0.9
U15A IAmb IAmb 20 28 03.7
comp=Z,14nm,1.0s
ELK **Elko** 86.50 44 P **P** 20 27 53.7 +0.6
comp=Z,2.2nm,0.9s,baz=276,slow=2.2,SNR=8.4
ELK LR LR 21 00 34.0
comp=Z,217nm,19.0s,baz=246,slow=32
comp=Z,2.2nm,0.9s
ELK **Elko** 86.50 44 P **P** 20 27 52.9 -0.3
G08A **Pilot Rock** 86.50 39 P **P** 20 27 53.1 +0.2
G08A IAmb IAmb 20 28 12.3
comp=Z,18nm,1.3s
GLB **Gilahina Butte** 86.55 17 P **P** 20 27 50.9 -1.8
LTY **Liberty** 86.59 37 P **P** 20 27 53.3 0.0
LTY IAmb IAmb 20 28 29.1
comp=Z,7.9nm,0.7s
TRF **Thorofare Moun** 86.60 14 P **P** 20 27 54.3 +1.3
TRF IAmb IAmb 20 28 17.3
comp=Z,15nm,1.2s
WUAZ **Wupatki** 86.71 51 P **P** 20 27 54.3 +0.1
WUAZ IAmb IAmb 20 27 56.6
comp=Z,26nm,1.5s
HAWA **Hanford** 86.76 38 P **P** 20 27 54.1 +0.1
HAWA IAmb IAmb 20 28 13.5
comp=Z,14nm,0.9s
PZH **PanZhiHua** 86.81 299 P **P** 20 27 51.8 -3.1
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.4s
RND **Reindeer** 86.89 14 P **P** 20 27 53.7 -0.6
RND IAmb IAmb 20 28 02.6
comp=Z,13nm,1.0s
RND **Reindeer** 86.89 14 P **P** 20 27 53.7 -0.6
RND pmax pmax
comp=Z,13nm,1.0s
PKCU **Pink Cliffs** 86.92 48 P **P** 20 27 54.1 -1.3
CD2 **Chengdu** 87.01 304 *e*P **P** 20 27 53.0 -2.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BMO **Blue Mountains** 87.27 40 P **P** 20 27 57.0 +0.4
BMO **Blue Mountains** 87.27 40 P **P** 20 27 57.0 +0.4
BMO pmax pmax
comp=Z,11nm,1.3s
MTPU **Mount Pierson** 87.28 48 P **P** 20 27 58.2 +1.0
MFID **Camas Ranch** 87.45 42 P **P** 20 27 55.0 -2.6
MFID IAmb IAmb 20 28 17.0
comp=Z,19nm,1.5s
D08A **Wollman Farm,** 87.48 38 P **P** 20 27 55.8 -1.7
MVU **Marysvale** 87.48 48 P **P** 20 27 58.7 +0.7
M26K **Nabesna, AK** 87.55 17 P **P** 20 27 55.8 -1.7
M26K IAmb IAmb 20 28 23.7
comp=Z,16nm,1.4s
E09A **Wood Farm, Sta** 87.64 38 P **P** 20 27 57.8 -0.4
E09A IAmb IAmb 20 28 17.4
comp=Z,27nm,1.4s
SKAG **Skagway** 87.71 22 P **P** 20 27 58.8 +0.6
LLLB **Lillooet** 87.83 34 P **P** 20 27 59.9 +0.9
LLLB IAmb IAmb 20 28 18.2
comp=Z,18nm,1.4s
F10A **Beach Ranch, E** 87.90 39 P **P** 20 27 59.8 +0.1
F10A IAmb IAmb 20 28 15.3
comp=Z,12nm,0.9s
BILL **Bilibino** 87.91 356 ⇓*e*P **P** 20 28 01.1 +2.1
BILL *e* 20 31 30.6
BILL *e*S S 20 39 44.5 +63
BILL pmax pmax
comp=Z,26nm,0.9s
BILL MLR MLR
comp=Z,200nm,19.0s
B08A **Colville Reser** 87.95 36 P **P** 20 27 59.5 -0.2
B08A IAmb IAmb 20 28 07.6
comp=Z,24nm,1.6s
WRH **Wood River Hil** 87.98 14 P **P** 20 28 01.7 +2.3
WRH IAmb IAmb 20 28 07.2
comp=Z,12nm,1.2s
121A **Cookes Peak, D** 88.10 55 P **P** 20 28 01.5 +0.5
S34M **Telegraph Cree** 88.18 25 P **P** 20 28 02.1 +1.6
baz=227
PLID **Pearl Lake** 88.18 40 P **P** 20 28 01.3 +0.1
PLID IAmb IAmb 20 28 10.2
comp=Z,15nm,1.2s
CCB **Clear Creek Bu** 88.19 14 P **P** 20 27 59.8 -0.6
DOT **Dot Lake** 88.28 16 P **P** 20 27 59.6 -1.3
MDM **Murphy Dome** 88.36 14 P **P** 20 27 59.5 -1.8
COLA **College** 88.37 14 ⇑*i*P **P** 20 28 03.4 +2.2
COLA pmax pmax
comp=Z,8.0nm,0.9s
Q16A **Castle Valley** 88.39 48 P **P** 20 28 03.2 +0.9
HLID **Hailey** 88.42 42 P **P** 20 28 02.9 +0.7
HLID IAmb IAmb 20 28 12.0
comp=Z,20nm,1.6s
HLID **Hailey** 88.42 42 P **P** 20 28 03.6 +1.3
baz=241
TROLL **Troll, Antarti** 88.44 181 P **P** 20 28 01.6 -0.3
IL31 88.51 14 P **P** 20 28 00.9 -1.0
ILAR **Eielson Array** 88.51 14 P **P** 20 28 00.3 -1.6
comp=Z,1.5nm,0.8s,baz=232,slow=6.0,SNR=16
ILAR LR LR 21 00 29.2
comp=Z,348nm,21.8s,baz=217,slow=31
comp=Z,1.5nm,0.8s
ILAR **Eielson Array** 88.51 14 P **P** 20 27 59.8 -2.2
TMUT **Trail Mountain** 88.54 47 P **P** 20 28 04.2 +1.1
TMUT IAmb IAmb 20 28 13.2
comp=Z,15nm,1.2s
SCRK **Sand Creek** 88.56 16 P **P** 20 28 00.9 -1.5
SCRK IAmb IAmb 20 28 10.1
comp=Z,15nm,1.5s
HVU **Hansel Valley** 88.62 44 P **P** 20 28 02.5 -0.7
HVU **Hansel Valley** 88.62 44 P **P** 20 28 02.5 -0.7
HVU pmax pmax
comp=Z,35nm,1.6s
J25K **Salcha River,** 88.74 15 P **P** 20 28 01.6 -1.6
J25K IAmb IAmb 20 28 15.3
comp=Z,32nm,1.9s
SNAA **Sanae** 88.84 180 LR LR 21 06 23.7
comp=Z,263nm,19.0s,baz=190,slow=35
SNAA **Sanae** 88.84 180 ⇑*e*P **P** 20 28 06.1 +2.4
SNAA pmax pmax
comp=Z,6.0nm,1.2s
SRU **San Rafael Swe** 88.93 48 P **P** 20 28 03.9 -0.9
SRU IAmb IAmb 20 28 06.8
comp=Z,26nm,1.6s
SRU **San Rafael Swe** 88.93 48 P **P** 20 28 03.9 -0.9
SRU pmax pmax
comp=Z,26nm,1.6s
DLBC **Dease Lake** 88.97 25 P **P** 20 28 03.0 -1.3
comp=Z,1.5nm,0.4s,baz=182,slow=7.7,SNR=5.4
DLBC LR LR 21 03 40.0
comp=Z,367nm,18.3s,baz=260,slow=33
comp=Z,1.5nm,0.4s
DLBC **Dease Lake** 88.97 25 P **P** 20 28 02.4 -2.0
DLBC IAmb IAmb 20 28 14.7
comp=Z,18nm,1.4s
J26L **Joseph Creek** 89.10 16 P **P** 20 28 03.0 -1.9
J26L **Joseph Creek** 89.10 16 P **P** 20 28 05.7 +0.8
baz=216
K27K **Chicken** 89.11 17 P **P** 20 28 03.8 -1.0
LZH **Lanzhou** 89.13 309 *e*P P 20 27 59.5 -6.3
LZH pP sP 20 28 09.8 +0.5
LZH sP pwP 20 28 17.5 +6.0
LZH pmax pmax
comp=Z,26nm,1.4s
NEW **Newport** 89.15 37 P **P** 20 28 03.9 -1.5
comp=Z,2.0nm,0.7s,baz=96,slow=14,SNR=2.2
NEW LR LR 21 02 08.1
comp=Z,155nm,19.0s,baz=222,slow=32
comp=Z,2.0nm,0.7s
TCUT **Toone Canyon** 89.23 46 P **P** 20 28 05.1 -1.1
R33M **Jennings River** 89.25 24 P **P** 20 28 07.5 +1.8
baz=227
HWUT **Hardware Ranch** 89.34 45 P **P** 20 28 03.0 -3.7
P18A **Preston Nutter** 89.35 47 P **P** 20 28 06.6 -0.3
P18A IAmb IAmb 20 31 18.2
comp=Z,7.4nm,0.6s
PRP **Porcupine Dome** 89.45 14 P **P** 20 28 06.5 -0.1
BNM **Barren Site** 89.65 53 P **P** 20 28 07.7 -0.7
PV23 **Carpenter Ridg** 89.70 49 P **P** 20 28 08.3 -0.3
PV23 IAmb IAmb 20 28 14.5
comp=Z,12nm,0.9s
PV13 **Radium Mtn., P** 89.71 49 P **P** 20 28 09.4 +0.9
PV13 IAmb IAmb 20 28 10.5
comp=Z,20nm,1.4s
YAK **Yakutsk** 89.94 339 LR LR 21 02 10.1
comp=Z,174nm,22.0s,baz=89,slow=31
YAK **Yakutsk** 89.94 339 P **P** 20 28 07.4 -1.3
YAK **Yakutsk** 89.94 339 *e*P **P** 20 28 10.0 +1.3

YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
EGAK Eagle 89.94 16 P **P 20 28 08.9 +0.2**
EGAK Eagle 89.94 16 P **P 20 28 09.4 +0.7**
baz=218
PV07 Paradox Valley 89.95 49 P **P 20 28 07.4 -2.2**
PV07 IAmb IAmb 20 28 19.7
comp=Z,23nm,1.4s
PV15 Paradox Valley 90.03 49 P **P 20 28 07.9 -2.1**
PV15 IAmb IAmb 20 28 35.9
comp=Z,22nm,1.4s
TX31 Lajitas Ar. Si 90.06 59 P **P 20 28 10.1 -0.1**
TX32 Lajitas Array 90.06 59 P **P 20 28 10.5 +0.3**
TX32 IAmb IAmb 20 28 12.9
comp=Z,26nm,1.2s
TXAR Lajitas Array 90.06 59 P **P 20 28 09.6 -0.6**
comp=Z,8.7nm,0.9s,baz=226,slow=5.0,SNR=28
TXAR LR LR 21 00 54.2
comp=Z,321nm,20.6s,baz=234,slow=30
comp=Z,8.7nm,0.9s
TXAR Lajitas Array 90.06 59 P **P 20 28 10.9 +0.7**
TXAR Lajitas Array 90.06 59 P **P 20 28 10.9 +0.7**
ANMO Albuquerque 90.10 53 P **P 20 28 09.0 -1.3**
comp=Z,5.3nm,1.1s,baz=258,slow=3.0,SNR=3.8
ANMO LR LR 21 00 34.2
comp=Z,320nm,21.0s,baz=246,slow=30
comp=Z,5.3nm,1.1s
ANMO Albuquerque 90.10 53 P **P 20 28 11.1 +0.7**
ANMO Albuquerque 90.10 53 *i* P **P 20 28 11.4 +1.0**
ANMO pmax pmax
comp=Z,11nm,1.2s
ANMO Albuquerque 90.10 53 P **P 20 28 10.9 +0.5**
baz=246
RDMU Red Mountain 90.23 47 P **P 20 28 10.9 0.0**
TPAW Teton Pass 90.60 44 P **P 20 28 12.9 +0.3**
TPAW IAmb IAmb 20 28 22.1
comp=Z,27nm,1.4s
REDW Red Top Meadow 90.61 44 P **P 20 28 12.0 -0.6**
FXWY Fox Creek 90.62 43 P **P 20 28 11.8 -0.9**
FXWY IAmb IAmb 20 28 35.0
comp=Z,29nm,1.8s
IMW Indian Meadow 90.80 43 P **P 20 28 13.9 +0.4**
MOOW Moose Ponds 90.85 43 P **P 20 28 13.5 -0.2**
MOOW IAmb IAmb 20 28 23.1
comp=Z,19nm,1.6s
LOHW Long Hollow 90.89 44 P **P 20 28 14.4 +0.5**
LOHW IAmb IAmb 20 28 41.7
comp=Z,23nm,1.6s
O20A White River Ci 90.96 47 P **P 20 28 14.6 +0.3**
O20A White River Ci 90.96 47 P **P 20 28 14.8 +0.5**
baz=245
S22A 4UR Ranch, Cre 90.97 50 P **P 20 28 15.3 +0.9**
S22A 4UR Ranch, Cre 90.97 50 P **P 20 28 15.4 +0.9**
baz=246
G26K Porcupine Rive 91.03 14 P **P 20 28 14.6 +0.9**
baz=216
YHL Hebgen Lake 91.07 42 P **P 20 28 15.6 +0.8**
YHL IAmb IAmb 20 28 34.9
comp=Z,25nm,1.5s
BOZ Bozeman (W) 91.13 41 P **P 20 28 15.4 +0.5**
BOZ IAmb IAmb 20 28 24.2
comp=Z,16nm,1.5s
BOZ Bozeman (W) 91.13 41 P **P 20 28 15.4 +0.5**
BOZ pmax pmax
comp=Z,17nm,1.5s
BOZ Bozeman (W) 91.13 41 P **P 20 28 15.5 +0.5**
baz=243
I29M Ogilvie Camp, 91.17 17 P **P 20 28 13.0 -1.4**
I29M IAmb IAmb 20 28 31.2
comp=Z,19nm,1.6s
BW06 Boulder Array 91.20 45 P **P 20 28 15.4 +0.1**
BW06 IAmb IAmb 20 28 23.2
comp=Z,20nm,1.6s
BW06 Boulder Array 91.20 45 P **P 20 28 15.9 +0.5**
baz=244
PD31 Pinedale Array 91.20 45 P **P 20 28 14.8 -0.5**
PD31 IAmb IAmb 20 28 23.2
comp=Z,18nm,1.6s
PDAR Pinedale Array 91.20 45 P **P 20 28 14.3 -1.0**
comp=Z,2.1nm,0.9s,baz=207,slow=3.0,SNR=11
PDAR LR LR 21 03 17.0
comp=Z,149nm,19.4s,baz=252,slow=32
comp=Z,2.1nm,0.9s
PDAR Pinedale Array 91.20 45 P **P 20 28 14.8 -0.5**
HTMS Hat Mesa 91.29 56 P **P 20 28 14.6 -1.2**
MMPY Sheldon Lake, 91.34 21 P **P 20 28 16.1 +0.8**
baz=227
SMCO Snowmass 91.45 49 P **P 20 28 16.1 -0.8**
SMCO IAmb IAmb 20 28 23.8
comp=Z,15nm,1.0s
SDCO Great Sand Dun 91.93 51 P **P 20 28 19.3 +0.3**
SDCO IAmb IAmb 20 28 20.7
comp=Z,11nm,1.2s
SDCO Great Sand Dun 91.93 51 P **P 20 28 19.8 +0.9**
baz=247
ULN Ulaanbaatar 92.18 321 *e* P **P 20 28 20.7 +1.0**
ULN pmax pmax
comp=Z,4.0nm,0.9s
C24K Franklin Bluff 92.34 11 P **P 20 28 21.3 +1.7**
baz=211
EPYK Eagle Plains 92.36 17 P **P 20 28 21.4 +1.5**
baz=222
RLMT Red Lodge 92.41 43 P **P 20 28 20.9 0.0**
RLMT IAmb IAmb 20 28 38.8
comp=Z,14nm,1.4s
T25A Trinidad 92.49 51 P **P 20 28 21.6 +0.2**
baz=247
MSTX Muleshoe 92.52 55 P **P 20 28 20.5 -1.1**
MSTX Muleshoe 92.52 55 P **P 20 28 21.9 +0.3**
baz=248
SONM Songino Array 92.56 320 P **P 20 28 20.0 -1.4**
comp=Z,0.6nm,0.8s,baz=132,slow=2.1,SNR=3.3
comp=Z,0.6nm,0.8s
ISCO Idaho Springs 92.66 49 P **P 20 28 20.5 -1.8**
ISCO IAmb IAmb 20 28 46.5
comp=Z,16nm,1.5s
ISCO Idaho Springs 92.66 49 P **P 20 28 20.5 -1.8**
ISCO pmax pmax
comp=Z,16nm,1.5s
ISCO Idaho Springs 92.66 49 P **P 20 28 23.1 +0.8**
baz=247
Q24A Divide 92.67 50 P **P 20 28 23.1 +0.7**
Q24A IAmb IAmb 20 28 24.4
comp=Z,14nm,1.1s
Q24A Divide 92.67 50 P **P 20 28 21.7 -0.6**
baz=247
PLCA Paso Flores 92.69 135 P **P 20 28 21.7 -0.6**
comp=Z,1.3nm,0.9s,baz=238,slow=8.8,SNR=2.7
PLCA LR LR 21 00 43.2
comp=Z,112nm,21.4s,baz=247,slow=30
comp=Z,1.3nm,0.9s
N23A Red Feather La 92.87 48 P **P 20 28 23.9 +0.7**
N23A IAmb IAmb 20 28 31.5
comp=Z,18nm,1.2s
N23A Red Feather La 92.87 48 P **P 20 28 24.0 +0.8**
baz=246
CMIG Matias Romero 93.27 73 LR LR 21 01 07.3
comp=Z,324nm,20.9s,baz=226,slow=30
GTA Gaotai 93.40 311 *e* P **P 20 28 27.5 +2.0**
GTA pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 94.62 16 LR LR 21 06 34.4
comp=Z,125nm,19.8s,baz=206,slow=33
LAO LASA Array 94.99 42 P **P 20 28 33.8 +1.3**
baz=247
CO02 Combarbal 96.89 126 P **P 20 28 41.0 -0.7**
YKA Yellowknife Ar 97.53 26 LR LR 21 06 56.3
comp=Z,380nm,19.9s,baz=258,slow=32
PALK Pallekele 99.00 275 LR LR 21 15 35.3
comp=Z,82nm,18.0s,baz=235,slow=37
PCHI Peechi 104.10 276 *e* P **PP 20 33 33.8 +1.7**
BVAR Borovoye Array 115.91 320 PKP **PKPdf 20 33 52.9 +0.4**
comp=Z,0.4nm,0.7s,baz=90,slow=2.9,SNR=2.4
BRVK Borovoye 115.97 320 *i* PKIKP **PKiKP 20 33 57.0 +4.4**
ARU Arti 122.27 325 PKP **PKPdf 20 34 04.2 -0.4**
comp=Z,2.8nm,0.6s,baz=74,slow=6.8,SNR=7.9
ARU Arti 122.27 325 *i* PKIKP **PKiKP 20 34 06.1 +1.3**
ARU 20 35 43.0
ARU 20 41 17.8
AKTO Aktyubinsk 123.81 318 PKP **PKPdf 20 34 06.5 -1.2**
comp=Z,1.2nm,0.8s,baz=34,slow=1.9,SNR=2.2
GEYT Alibeck 124.99 303 PKP **PKiKP 20 34 11.5 +0.7**
comp=Z,0.8nm,0.4s,baz=339,slow=16,SNR=2.2
BOSA Boshof 125.07 210 PKP **PKPdf 20 34 11.5 +0.4**
comp=Z,4.2nm,1.0s,baz=149,slow=3.1,SNR=2.5
KIRV Kirov 126.27 329 *i* PKIKP **PKiKP 20 34 14.6 +2.0**
PRGR Permogore 126.61 334 *e*PKIKP **PKiKP 20 34 13.5 +0.3**
PRGR pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 127.39 348 PKP **PKPdf 20 34 13.8 -0.3**
comp=Z,3.6nm,1.1s,baz=90,slow=0.9,SNR=2.6
KLMR Klimovskoe 129.52 335 *e*PKIKP **PKiKP 20 34 19.2 +0.2**
KLMR pmax pmax
comp=Z,11nm,1.5s
KLMR Klimovskoe 129.52 335 *e*PKPdf **PKiKP 20 34 19.2 +0.2**
KLMR AMP 20 34 37.3
comp=Z,11nm,1.5s
FINES FINESS Array B 133.83 342 PKP **PKPdf 20 34 26.0 -0.5**
comp=Z,1.8nm,0.9s,baz=110,slow=8.5,SNR=4.8
VORR Voronezh 134.59 325 *e*PKIKP **PKiKP 20 34 30.9 +1.3**
VORR pmax pmax
comp=Z,40nm,0.4s
KIV Kislovodsk 135.52 313 *i* PKIKP **PKiKP 20 34 32.0 +0.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 140.33 329 PKP **PKPdf 20 34 36.6 -2.2**
comp=Z,0.3nm,0.4s,baz=36,slow=1.6,SNR=1.5
ASF Jabal al Asfar 142.86 297 PKhKP PKPpre 20 34 38.1
comp=Z,0.6nm,0.3s,baz=223,slow=4.2,SNR=2.1
BRTR Keskin Array B 143.32 311 PKP **PKPdf 20 34 43.3 -1.4**
comp=Z,1.2nm,0.8s,baz=62,slow=3.2,SNR=8.1
BRTR Keskin Array B 143.32 311 PKPdf PKPbc 20 34 43.0 +1.2
BRTR Keskin Array B 143.32 311 *e*PKIKP **PKPdf 20 34 44.0 -0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
LVV L'vov 143.38 331 *e*PKIKP **PKiKP 20 34 48.2 +0.6**
MMAI Mount Meron Ar 143.94 299 PKP **PKPdf 20 34 45.3 -0.6**
comp=Z,4.5nm,0.9s,baz=1.6,slow=5.8,SNR=5.5
GHRR 144.16 324 ⇓P **PKPdf 20 34 46.3 +0.6**
CFR Carcaliu 144.27 322 ⇓P **PKPab 20 34 43.3 -0.6**
CFR Carcaliu 144.27 322 ⇓PKIKP **PKPab 20 34 43.3 -0.6**
TPGR Topolog 144.29 322 ⇑P **PKPdf 20 34 46.9 +0.8**
TESR Tescani 144.30 325 ⇑P **PKPdf 20 34 45.9 -0.1**
BIZ Bicaz 144.32 326 ⇑P **PKPab 20 34 38.4 -5.6**
BURAR Bucovina Array 144.33 328 ⇑P **PKPdf 20 34 47.2 +1.0**
BURAR Bucovina Array 144.33 328 PKPdf PKPbc 20 34 44.9 +0.4
BURAR Bucovina Array 144.33 328 ⇑PKIKP **PKPdf 20 34 47.2 +1.0**
PANC Panciu 144.42 324 ⇑P **PKPdf 20 34 46.5 +0.3**
VRI Vrincioaia 144.66 324 ⇑P **PKPab 20 34 44.8 -0.5**
VRI Vrincioaia 144.66 324 ⇑PKIKP **PKPab 20 34 44.8 -0.5**
HARR Harsova 144.67 322 ⇓P **PKPdf 20 34 46.9 +0.2**
HARR Harsova 144.67 322 ⇓PKIKP **PKPdf 20 34 46.9 +0.2**
TLBR Topalu 144.69 321 ⇓P **PKPdf 20 34 48.5 +1.8**
PLOR Plostina 144.71 324 ⇑P **PKPdf 20 34 47.3 +0.5**
PLOR Plostina 144.71 324 ⇑PKIKP **PKPdf 20 34 47.3 +0.5**
KOLS Kolonicke sedl 144.81 332 *e*PKIKP **PKPab 20 34 45.5 -0.3**
KOLS Kolonicke sedl 144.81 332 *e*PKP **PKPab 20 34 45.5 -0.3**
OJC Ojcow 144.88 335 *e*PKPbc PKPbc 20 34 45.9 -0.2
EIL Elat 144.89 294 PKP **PKPab 20 34 45.8 -0.9**
comp=Z,15nm,1.1s,baz=112,slow=3.9,SNR=4.4
COVR Voineasa-Covas 144.96 325 ⇑P **PKPdf 20 34 47.9 +0.7**
OZUR 145.03 325 ⇑P **PKiKP 20 34 50.6 -0.6**
UZH Uzhgorod 145.03 331 *d* PKHKP PKPpre 20 34 43.9
UZH *e* 20 34 48.3
UZH *i* 20 34 54.5
ARCR ARCALIA 145.12 328 ⇑P **PKPdf 20 34 47.3 -0.1**
BMR Baia Mare 145.15 329 ⇑P **PKPab 20 34 46.4 -0.6**
BMR Baia Mare 145.15 329 ⇑PKP2 **PKPab 20 34 46.4 -0.6**
CRVS Cervenica-Dubn 145.19 332 *e*PKIKP **PKPdf 20 34 49.1 +1.6**
CRVS Cervenica-Dubn 145.19 332 *e*PKP **PKPdf 20 34 49.1 +1.6**
ISR Istrita 145.21 323 ⇓P **PKiKP 20 34 49.9 -1.7**
ISR Istrita 145.21 323 ⇓PKIKP **PKiKP 20 34 49.9 -1.7**
TRPA Tarpa 145.28 330 ⇓P **PKPbc 20 34 46.7 -0.6**
TRPA Tarpa 145.28 330 PKP **PKPdf 20 34 48.7 +1.1**
NIE Niedzica 145.30 334 *e*PKPbc **PKPdf 20 34 47.8 +0.1**
MLR Muntele Rosu 145.32 324 ⇑P **PKiKP 20 34 51.0 -0.9**
MLR Muntele Rosu 145.32 324 PKPbc **PKPdf 20 34 48.1 +0.1**
comp=Z,23nm,1.3s,baz=7.9,slow=4.2,SNR=8.2
MLR Muntele Rosu 145.32 324 ⇑PKIKP **PKiKP 20 34 51.0 -0.9**
DOPR Dopca 145.32 325 ⇑P **PKPdf 20 34 49.7 +1.9**
KSP Ksiaz 145.65 339 *e*PKPbc **PKPab 20 34 48.6 -0.1**
CJR Cluj-Napoca 145.76 328 ⇑P **PKiKP 20 34 52.7 0.0**
CJR Cluj-Napoca 145.76 328 ⇑PKP2 **PKiKP 20 34 52.7 0.0**
OKC Ostrava-Krasne 145.82 336 *e*PKP2 **PKPab 20 34 50.7 +1.3**
OKC MLR MLR
comp=Z,200nm,19.9s
OKC Ostrava-Krasne 145.82 336 ⇑*e*PKP **PKPab 20 34 50.7 +1.3**
OKC AMS AMS 21 30 00.0
comp=Z,200nm,19.9s
VOIR 145.84 325 ⇑P **PKPab 20 34 50.5 +0.7**
VOIR 145.84 325 ⇑PKP2 **PKPab 20 34 50.5 +0.7**
LANS Liptovska Anna 145.85 334 *e*PKP **PKiKP 20 34 52.2 -0.6**
OSTC Ostas 145.92 339 ⇑*e*PKP **PKiKP 20 34 51.2 -1.7**
OSTC AMS AMS 21 31 40.0
comp=Z,200nm,17.4s
CHVC Chvalec 145.95 339 ⇑*e*PKP **PKPab 20 34 51.2 +1.3**
CHVC AMS AMS 21 42 20.0
comp=Z,200nm,22.4s
UPC Upice 146.03 339 *e*PKP2 **PKPab 20 34 51.0 +0.8**
UPC MLR MLR
comp=Z,200nm,18.5s
UPC Upice 146.03 339 ⇑*e*PKP **PKPab 20 34 51.0 +0.8**
UPC AMS AMS 21 42 00.0
comp=Z,200nm,18.5s
DPC Dobruska-Polom 146.06 339 *e*PKP2 **PKPab 20 34 51.1 +0.7**
DPC MLR MLR
comp=Z,200nm,19.0s
DPC Dobruska-Polom 146.06 339 ⇑*e*PKP **PKPab 20 34 51.1 +0.7**
DPC AMS AMS 21 30 00.0
comp=Z,200nm,19.0s
MORC Moravsky Berou 146.10 337 *e*PKP **PKPab 20 34 50.0 -0.6**
ARR Arges 146.11 325 ⇑P **PKPab 20 34 51.0 +0.2**
KRLC Kraliky 146.13 338 *e*PKP2 **PKPab 20 34 51.4 +0.7**
KRLC MLR MLR
comp=Z,200nm,17.7s
KRLC Kraliky 146.13 338 ⇑*e*PKP **PKPab 20 34 51.4 +0.7**
KRLC AMS AMS 21 40 10.0
comp=Z,200nm,17.7s
DRGR 146.14 329 ⇓P **PKPdf 20 34 49.4 +0.1**
DRGR 146.14 329 ⇓PKIKP **PKPdf 20 34 49.4 +0.1**
CLL Collm 146.26 343 **PKPdf 20 34 49.0 -0.2**
CLL Collm 146.26 343 *e*PKIKP **PKPdf 20 34 49.0 -0.2**
CLL *e* 20 34 51.0
CLL *i* 20 34 55.9
CLL pmax pmax
comp=Z,28nm,0.8s
CLL Collm 146.26 343 *e*PKPdf **PKPdf 20 34 49.0 -0.2**
CLL *e*PKPbc **PKPab 20 34 51.0 0.0**
comp=Z,28nm,0.8s
CLL *i* PKPmax 20 34 55.9
comp=Z,60nm,1.0s
CLL *ex* x 20 38 01.0
CLL *e*PP **PP 20 38 14.0 +2.0**
CLL *ex* x 20 38 34.0
CLL Lm MLR 21 48 00.0
comp=Z,100nm,21.4s
MAUC Maruska 146.33 336 ⇑*e*PKP **PKPab 20 34 51.9 +0.5**
BRG Berggiesshubel 146.37 341 *e*PKP **PKPab 20 34 52.0 +0.5**
BRG Amp 20 34 54.3
comp=Z,9.8nm,0.8s
BRG *ex* x 20 34 57.2
BRG Amp 20 34 58.6
comp=Z,32nm,1.0s
BRG Berggiesshubel 146.37 341 *e*PKP2 **PKPab 20 34 52.0 +0.5**
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG pmax pmax
comp=Z,32nm,1.0s
PVCC Panska Ves 146.48 340 *e*PKP2 **PKPbc 20 34 51.0 0.0**
PVCC MLR MLR
comp=Z,200nm,18.5s
PVCC Panska Ves 146.48 340 ⇑*e*PKP **PKPbc 20 34 51.0 0.0**
PVCC AMS AMS 21 36 30.0
comp=Z,200nm,18.5s
LOT Lotru 146.52 326 ⇑P **PKiKP 20 35 02.1 +7.7**
PSZ Piszkesteto 146.62 333 ⇑P **PKiKP 20 34 54.9 +0.4**
PSZ Piszkesteto 146.62 333 ⇑PKP2 **PKiKP 20 34 54.9 +0.4**
VYHS Vyhne 146.62 334 *e*PKP2 **PKiKP 20 34 53.3 -1.1**
VYHS Vyhne 146.62 334 *e*PKP **PKiKP 20 34 53.2 -1.1**
JAVC Velka Javorina 146.80 336 *e*PKP **PKiKP 20 34 55.0 +0.2**
VRAC Vranov 146.83 337 PKPbc **PKPab 20 34 52.5 -0.9**
comp=Z,11nm,1.1s,baz=76,slow=2.0,SNR=8.1
VRAC Vranov 146.83 337 *e*PKP **PKPab 20 34 53.7 +0.3**
GOPC GO Pecny, Ondr 146.94 340 AMS AMS 21 39 30.0
comp=Z,200nm,23.9s
PRU Pruhonice 146.96 340 *e*PKP2 **PKPab 20 34 53.9 +0.1**
PRU MLR MLR
comp=Z,200nm,25.2s
PRU Pruhonice 146.96 340 ⇑*e*PKP **PKPab 20 34 53.9 +0.1**
PRU AMS AMS 21 36 40.0
comp=Z,200nm,25.2s
SIRR Siria 147.03 329 ⇑P **PKPab 20 34 54.2 0.0**
GZR Gura Zlata 147.08 327 ⇓P **PKPab 20 34 54.5 0.0**
GZR Gura Zlata 147.08 327 ⇓PKIKP **PKPab 20 34 54.5 0.0**
KRUC Moravsky 147.11 337 *e*PKP **PKPbc 20 34 53.0 +0.1**
SMOL Smolenice 147.17 336 *e*PKP2 **PKiKP 20 34 54.9 -0.6**
TREC Trest 147.24 338 *e*PKIKP **PKPdf 20 34 51.2 +0.2**
TREC MLR MLR
comp=Z,200nm,22.2s
TREC Trest 147.24 338 ⇑*e*PKP **PKPdf 20 34 51.2 +0.2**
TREC AMS AMS 21 32 10.0
comp=Z,200nm,22.2s
MODS Modra-Piesok 147.34 336 *e*PKP2 **PKPab 20 34 54.7 -0.7**
MODS Modra-Piesok 147.34 336 *e*PKP **PKPab 20 34 54.7 -0.7**
NKC Novy Kostel 147.38 342 *e*PKP2 **PKPab 20 34 55.0 -0.5**
NKC MLR MLR
comp=Z,200nm,22.8s
NKC Novy Kostel 147.38 342 ⇑*e*PKP **PKPab 20 34 55.0 -0.5**
NKC AMS AMS 21 36 10.0
comp=Z,200nm,22.8s
BZS Buzias 147.51 328 ⇓P **PKPbc 20 34 52.9 -1.2**
BZS Buzias 147.51 328 ⇓PKIKP **PKPab 20 34 52.9 -1.2**
ZST Bratislava 147.56 336 *e*PKP2 **PKPab 20 34 55.6 -0.6**
ZST Bratislava 147.56 336 *e*PKP **PKPab 20 34 55.6 -0.6**
HERR Herculane 147.61 326 ⇓P **PKPbc 20 34 55.1 +0.7**
KHC Kasperske Hory 148.02 340 **PKiKP 20 34 56.2 -1.0**
KHC Kasperske Hory 148.02 340 *e*PKP2 **PKiKP 20 34 56.5 -0.7**
KHC MLR MLR
comp=Z,200nm,18.0s
KHC Kasperske Hory 148.02 340 ⇑*e*PKP **PKiKP 20 34 56.5 -0.7**
KHC AMS AMS 21 38 30.0
comp=Z,200nm,18.0s
MDVR Moldovita 148.04 327 ⇑P **PKiKP 20 34 56.8 -0.7**
CKRC Cesky Krumlov 148.05 339 ⇑*e*PKP **PKPbc 20 34 54.8 -0.7**
CKRC AMS AMS 21 40 10.0
comp=Z,200nm,16.9s
RDO Rodhopi 148.12 318 **PKPbc 20 34 56.5 +0.6**
SOP Sopron 148.19 336 PKP **PKPab 20 34 58.9 +0.2**
MPLH Magyarpolny 148.21 334 PKP **PKPab 20 34 58.8 0.0**
GEC2 GERESS Array S 148.23 340 PKPab **PKiKP 20 34 57.0 -0.7**
GERES GERESS Array B 148.23 340 PKPbc **PKPbc 20 34 55.5 -0.6**
comp=Z,4.5nm,0.9s,baz=45,slow=2.1,SNR=21
GERES GERESS Array B 148.23 340 **PKPbc 20 34 56.6 +0.6**
GERES GERESS Array B 148.23 340 PKP2 **PKPbc 20 34 56.6 +0.6**
CONA Conrad Observa 148.25 337 *e*P **PKiKP 20 34 57.3 -0.6**
comp=Z,17nm,1.2s,SNR=9.5
RONA Rosalia, Austr 148.27 336 *e*P **PKiKP 20 34 57.1 -0.7**
comp=Z,20nm,1.2s,SNR=13
BLKB Belogradchik 148.31 324 ⇑P **PKiKP 20 34 57.5 -0.5**
MORH Mrgy, Hungar 148.48 332 ⇓P **PKiKP 20 34 57.4 -0.8**
MORH Mrgy, Hungar 148.48 332 PKP **PKiKP 20 34 58.7 +0.5**
MEM Membach 148.49 350 *d*PKP **PKPbc 20 34 57.2 +0.7**
BTNL Ternell 148.49 350 *d*PKP **PKiKP 20 34 57.5 -0.7**
BSTI Sart Tilman 148.59 350 *d*PKP **PKiKP 20 34 58.0 -0.2**
VTS Vitosha 148.64 322 ⇑P **PKiKP 20 34 59.5 +0.7**
VTS Vitosha 148.64 322 PKPab **PKPbc 20 34 57.6 +0.2**
VTS Vitosha 148.64 322 PKP2 **PKPbc 20 34 57.6 +0.2**
FRGS Fruska Gora 148.73 329 ⇑P **PKiKP 20 34 58.5 -0.3**
BHOU Houvegnez 148.74 350 *d*PKP **PKiKP 20 34 58.3 -0.3**
BHOU dpPKP **sPKiPab 20 35 06.3 +1.9**
BCLA Clavier 148.78 351 *d*PKP **PKPbc 20 34 57.5 +0.2**
BOVS Bovan 148.83 325 ⇑P **PKPbc 20 34 56.4 -1.3**
BGES Gesves 148.85 351 *d*PKP **PKPab 20 35 02.7 +1.4**
MOA Molln 148.90 338 *e*P **PKiKP 20 34 59.1 +0.1**
comp=Z,13nm,1.2s
ARSA Arzberg 148.94 336 *e*P **PKiKP 20 34 59.3 +0.1**
comp=Z,7.1nm,1.2s
BMRD Maredsous 148.98 351 *d*PKP **PKiKP 20 35 00.2 +1.1**
H10S3 ASCENSION HYDR 149.00 156 T T 23 22 31.4
baz=9.1
H10S2 ASCENSION HYDR 149.00 156 T T 23 22 38.6
baz=211
RCHB Rochefort 149.05 351 *d*PKP **PKPab 20 35 02.0 0.0**
DOU Dourbes 149.20 351 *d*PKP **PKiKP 20 34 59.5 0.0**
BIOA Bad Ischl, Aus 149.25 339 *e*P **PKiKP 20 34 59.7 -0.2**
comp=Z,17nm,1.3s
WLF Walferdange 149.38 349 **PKiKP 20 34 59.6 -0.4**
WLF Walferdange 149.38 349 PKP2 **PKiKP 20 34 59.6 -0.4**
WLF Walferdange 149.38 349 *d*PKP **PKiKP 20 35 00.9 +0.9**
DIVS Divibare 149.40 328 **PKPbc 20 34 59.2 0.0**
SOKA Soboth 149.60 336 *e*P **PKPbc 20 34 59.8 +0.2**
comp=Z,22nm,1.3s
KBA Koelnbreinsper 149.88 338 *i* P **PKPbc 20 34 59.7 -0.7**
comp=Z,16nm,1.6s
OBKA Obir 149.93 336 *e*P **PKPbc 20 34 59.3 -1.1**
comp=Z,9.7nm,1.0s
H10N3 ASCENSION HYDR 150.08 155 T T 23 23 56.3
baz=205
H10N1 ASCENSION HYDR 150.08 155 T T 23 23 56.6
baz=205
H10N2 ASCENSION HYDR 150.10 155 T T 23 23 58.3
baz=205
MYKA Terra Mystica 150.16 338 *e*P **PKiKP 20 35 01.4 -0.4**
comp=Z,14nm,0.8s
WATA Walderalm 150.23 341 *e*P **PKPbc 20 35 00.1 -1.1**
comp=Z,11nm,0.8s
WTTA Wattenberg 150.28 341 *e*P **PKPbc 20 35 00.6 -0.7**
comp=Z,35nm,1.6s,SNR=12
RETA Reutte 150.34 342 *e*P **PKPbc 20 34 59.9 -1.5**
comp=Z,17nm,1.1s
MOTA Moosalm 150.37 341 *e*P **PKPbc 20 35 01.3 -0.3**
comp=Z,14nm,0.9s
SQTA Sankt Quirin 150.45 341 *i* P **PKPbc 20 35 01.7 0.0**
comp=Z,13nm,0.9s
ABTA Abfaltersbach 150.45 339 *i* P **PKPbc 20 35 00.9 -0.7**
comp=Z,21nm,1.0s,SNR=15
FETA Feichten 150.77 342 *e*P **PKPbc 20 35 02.2 -0.3**
comp=Z,20nm,1.4s
DAVA Damuels 150.77 343 *e*P **PKPbc 20 35 02.4 -0.1**
comp=Z,17nm,1.2s
PDG Podgorica 150.96 326 ⇓P **PKiKP 20 35 04.8 +1.4**
IDI Anoyia 151.47 309 PKPab **PKPab 20 35 10.6 -2.2**
comp=Z,17nm,0.8s,baz=333,slow=18,SNR=6.2
SENIN Lac Senin/Sane 152.29 346 PKPab **PKPab 20 35 12.3 -3.6**
ESDC Sonseca Array 160.06 4 PKPab **PKPab 20 35 47.1 -2.1**
comp=Z,0.6nm,1.0s,baz=325,slow=4.9,SNR=1.8
TORD Torodi Ar. Bea 172.43 211 PKP **PKPdf 20 35 18.9 -0.9**
comp=Z,1.7nm,1.1s,baz=101,slow=0.8,SNR=3.8

IDC 26 20:19:29.7±2.1, 6.50S×150.43E, h0km, mb3.3/2, mbtmp3.5/3, ML4.5/1, Error ellipse: s-maj=131.4km s-min=22.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
KRVT	**Keravat (AS076**	**2.70**	**36**	Pn	Pn	20 20 13.7	-0.8
	8.3nm,0.3s,baz=262,slow=4.4,SNR=6.6						
KRVT				Sn	Sb	20 20 50.3	-2.3
	6.6nm,0.3s,baz=169,slow=13,SNR=3.9						
	45nm,0.5s						
WRA	**Warramunga Arr**	**20.56**	**228**	P	P	20 24 10.1	-0.1
	1.0nm,0.6s,baz=53,slow=11,SNR=1.0						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**23.32**	**221**	P	P	20 24 39.2	-0.4
	0.5nm,0.6s,baz=56,slow=9.3,SNR=0.6						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.51**	**285**	PKPbc	PKPbc	20 39 19.4	-0.2
	0.3nm,0.5s,baz=96,slow=2.1,SNR=4.7						

---

*IDC **26** 20:30:42.8±0.6, 19.70S×177.49E, h0km, mb4.3/20, mbtmp4.4/23, ML4.0/2, MS4.4/55, Error ellipse: s-maj=21.4km s-min=13.8km az=148.0*

*NEIC **26** 20:30:45.7±2.8, 19.56S±0.07×177.73E±0.09, h10km±1km, mb5.0/73, Error ellipse: s-maj=15.2km s-min=11.9km az=112.0*

*GCMT **26** 20:30:46.7±0.2, 19.76S±0.01×177.63E±0.01, h12km, MW5.2/150, Moment Tensor Solution. s51,c70; s150,c257; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.01±.12; $M_{\theta\theta}$-6.49±.10; $M_{\phi\phi}$6.48±.10; $M_{r\theta}$-0.27±.32; $M_{\theta\phi}$0.49±.11; $M_{\phi r}$3.07±.34; Best double couple: M_o7.12300×10^{16} NP1:ϕ_s315.00000°, δ78.00000°, λ162.00000°. NP2:ϕ_s49.00000°, δ72.00000°, λ13.00000°. Principal axes: T 7.7130, Plg22.0000°, Azm272.0000°; N -1.1830, Plg68.0000°, Azm102.0000°; P -6.5340, Plg4.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS 26 20:30:47.0₀2.5, 19.°32S×177.°17E, h10km, mb5.0/7 Error ellipse: s-maj=13.8km s-min=11.7km az=166.0

ISC 26 20:30:44.3₀0.4, 19.°72S₀0.°06×177.°69E₀0.°06, h10km, n240, σ1§61/191, mb4.8/58, MS4.4/50, 11C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSVF	**Nonsavu**	**2.00**	**10**	Pn	**Pn**		**20 31 16.0**	**-2.3**
	621nm,0.4s,baz=231,slow=12,SNR=219							
MSVF				Sn	**Sn**		**20 31 40.3**	**-3.2**
	779nm,0.3s,baz=266,slow=17,SNR=20							
MSVF				LR	LR		20 31 52.5	
	comp=Z,7μm,21.0s,baz=233,slow=35							
MSVF	**Nonsavu**	**2.00**	**10**	Pn	**Pn**		**20 31 15.6**	**-2.7**
MSVF				Sn	**Sn**		**20 31 40.1**	**-3.3**
MSVF	**Nonsavu**	**2.00**	**10**	P	**Pn**		**20 31 15.6**	**-2.7**
MSVF							20 31 40.1	
MARNC	**Mare, Loyalty**	**9.21**	**257**		**Pn**		**20 32 55.6**	**-1.7**
LIFNC	**LIFOU**	**9.86**	**262**		**Pn**		**20 33 05.1**	**-1.2**
PINNC	**Pines Island,**	**9.98**	**251**	Pn	**Pn**		**20 33 08.2**	**+0.4**
RAO	**Raoul Island**	**10.30**	**158**	LR	LR		20 35 55.2	
	comp=Z,3μm,19.2s,baz=349,slow=30							
DZM	**Mont Dzumac**	**10.77**	**255**	*e*Pn	Pn		20 33 15.7	-3.0
	234nm,1.7s							
DZM				*e*LR	LR		20 35 47.5	
	comp=Z,9μm,26.1s							
DZM	**Mont Dzumac**	**10.77**	**255**	Pn	Pn		20 33 16.1	-2.6
	0.1nm,0.3s,baz=132,slow=10,SNR=1.6							
DZM				LR	LR		20 36 51.9	
	comp=Z,6μm,20.3s,baz=68,slow=35							
	4.5nm,0.9s							
DZM	**Mont Dzumac**	**10.77**	**255**	Pn	**Pn**		**20 33 16.7**	**-2.0**
ONTNC	**Ouen Toro**	**10.80**	**254**	Pn	**Pn**		**20 33 18.5**	**-0.6**
AFI	**Afiamalu**	**11.62**	**62**	LR	LR		20 37 28.4	
	comp=Z,894nm,21.3s,baz=236,slow=34							
NIUE	**Niue**	**11.71**	**89**	Pn	**Pn**		**20 33 31.5**	**0.0**
KOUNC	**Koumac, New Ca**	**12.61**	**264**	Pn	**Pn**		**20 33 45.3**	**+1.4**
OUZ	**Omahuta**	**15.86**	**192**		**Pn**		**20 34 25.2**	**-2.5**
OUZ				IAmb	IAmb		20 34 30.0	
	comp=Z,140nm,1.9s							
WMGZ	**Waiomatatini S**	**18.05**	**178**	P	**Pn**		**20 34 57.3**	**+2.1**
URZ	**Urewera**	**18.49**	**181**	P	**P**		**20 35 01.0**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=20,slow=2.6,SNR=15							
URZ				LR	LR		20 40 31.0	
	comp=Z,3μm,18.1s,baz=116,slow=32							
	comp=Z,22nm,0.6s							
URZ	**Urewera**	**18.49**	**181**	P	**P**		**20 34 59.0**	**-1.5**
URZ				IAmb	IAmb		20 35 10.1	
	comp=Z,70nm,1.0s							
URZ	**Urewera**	**18.49**	**181**	P	**P**		**20 35 01.3**	**+0.8**
HIZ	**Hauiti**	**18.89**	**187**	P	**P**		**20 35 02.8**	**-2.2**
HIZ				IAmb	IAmb		20 35 15.2	
	comp=Z,169nm,1.4s							
HIZ	**Hauiti**	**18.89**	**187**	P	Pn		20 35 16.1	+11
TMVZ	**Te Maari**	**19.41**	**185**	P	**P**		**20 35 13.8**	**+3.0**
BKZ	**Black Stump Fm**	**19.41**	**183**	P	**P**		**20 35 07.6**	**-3.1**
BKZ				IAmb	IAmb		20 35 17.3	
	comp=Z,93nm,1.3s							
BKZ	**Black Stump Fm**	**19.41**	**183**	P	**P**		**20 35 12.8**	**+2.1**
OTVZ	**Oturere**	**19.46**	**185**	P	**P**		**20 35 12.8**	**+1.5**
SNVZ	**South Ngauruho**	**19.48**	**185**	P	**P**		**20 35 13.2**	**+1.6**
HNR	**Honiara**	**19.96**	**298**	LR	LR		20 41 43.6	
	comp=Z,9μm,19.6s,baz=136,slow=33							
HNR	**Honiara**	**19.96**	**298**	P	**P**		**20 35 15.3**	**-1.4**
HNR				IAmb	IAmb		20 35 25.6	
	comp=Z,149nm,1.3s							
HNR	**Honiara**	**19.96**	**298**	P	**P**		**20 35 15.4**	**-1.4**
HNR				pmax	pmax			
	comp=Z,149nm,1.3s							
MRZ	**Mangatainoka R**	**20.95**	**184**	P	**P**		**20 35 25.9**	**-1.6**
OGWZ	**Otaki Gorge**	**21.14**	**185**	P	**P**		**20 35 28.4**	**-1.0**
RAR	**Rarotonga**	**21.17**	**98**	P	**P**		**20 35 32.4**	**+2.5**
	comp=Z,11nm,0.9s,baz=269,slow=2.4,SNR=4.2							
RAR				LR	LR		20 41 56.0	
	comp=Z,919nm,21.1s,baz=302,slow=32							
	comp=Z,11nm,0.9s							
RAR	**Rarotonga**	**21.17**	**98**	P	**P**		**20 35 28.5**	**-1.4**
RAR				IAmb	IAmb		20 35 51.2	
	comp=Z,209nm,2.0s							
RAR	**Rarotonga**	**21.17**	**98**	P	**P**		**20 35 28.5**	**-1.4**
RAR				pmax	pmax			
	comp=Z,209nm,2.0s							
HOWZ	**Holdsworth Sta**	**21.20**	**185**	P	**P**		**20 35 28.1**	**-1.9**
KIW	**Kapiti Island**	**21.21**	**186**	P	**P**		**20 35 28.7**	**-1.4**
DUWZ	**D'Urville Isla**	**21.26**	**188**	P	**P**		**20 35 30.7**	**-0.1**
QRZ	**Quartz Range**	**21.50**	**191**	P	**P**		**20 35 35.6**	**+2.4**
TCW	**Tory Channel**	**21.62**	**187**	P	**P**		**20 35 36.9**	**+2.3**
SNZO	**South Karori**	**21.68**	**186**	P	**P**		**20 35 34.0**	**-1.1**
MSWZ	**Moikau Station**	**21.73**	**185**	P	**P**		**20 35 33.3**	**-2.4**
NNZ	**Nelson**	**21.75**	**189**	P	**P**		**20 35 33.8**	**-2.1**
NNZ				IAmb	IAmb		20 35 38.0	
	comp=Z,105nm,1.3s							
NNZ	**Nelson**	**21.75**	**189**	P	**P**		**20 35 35.5**	**-0.4**
TUWZ	**Tuamarina**	**21.88**	**188**	P	**P**		**20 35 36.8**	**-0.5**
TUWZ	**Tuamarina**	**21.88**	**188**	P	**P**		**20 35 37.4**	**+0.1**
THZ	**Tophouse**	**22.35**	**189**	P	**P**		**20 35 41.6**	**-0.8**
THZ				IAmb	IAmb		20 35 54.6	
	comp=Z,33nm,0.9s							
THZ	**Tophouse**	**22.35**	**189**	P	**P**		**20 35 42.9**	**+0.5**
KHZ	**Kahutara**	**22.90**	**188**	P	**P**		**20 35 46.8**	**-1.4**
KHZ				IAmb	IAmb		20 35 58.0	
	comp=Z,89nm,1.3s							
LTZ	**Lake Taylor**	**23.45**	**190**	P	**P**		**20 35 52.0**	**-1.9**
LTZ				IAmb	IAmb		20 36 14.5	
	comp=Z,64nm,1.2s							
INZ	**Inchbonnie**	**23.54**	**192**	P	**P**		**20 35 53.2**	**-1.5**
OXZ	**Oxford**	**24.01**	**190**	P	**P**		**20 35 57.9**	**-1.4**
OXZ				IAmb	IAmb		20 36 03.6	
	comp=Z,47nm,1.1s							
MQZ	**McQueen's Vall**	**24.29**	**189**	P	**P**		**20 35 59.9**	**-1.9**
RPZ	**Rata Peaks**	**24.57**	**192**	P	**P**		**20 36 02.8**	**-1.6**
	comp=Z,14nm,0.8s,baz=54,slow=12,SNR=3.4							
RPZ				LR	LR		20 44 11.0	
	comp=Z,1μm,20.2s,baz=9.5,slow=33							
	comp=Z,14nm,0.8s							
RPZ	**Rata Peaks**	**24.57**	**192**	P	**P**		**20 36 02.6**	**-1.7**
RPZ				IAmb	IAmb		20 36 13.0	
	comp=Z,68nm,1.4s							
FOZ	**Fox Glacier**	**24.65**	**194**	P	**P**		**20 36 02.6**	**-2.4**
FOZ				IAmb	IAmb		20 36 10.0	
	comp=Z,50nm,1.0s							
EIDS	**Eidsvold**	**25.18**	**252**	P	**P**		**20 36 10.8**	**+0.6**
EIDS				IAmb	IAmb		20 36 19.0	
	comp=Z,37nm,1.6s							
LBZ	**Lake Benmore**	**25.38**	**193**	P	**P**		**20 36 09.7**	**-2.1**
LBZ				IAmb	IAmb		20 36 44.3	
	comp=Z,44nm,1.3s							
JCZ	**Jackson Bay**	**25.40**	**195**	P	**P**		**20 36 10.5**	**-1.5**
WKZ	**Wanaka**	**26.06**	**194**	P	**P**		**20 36 15.0**	**-2.9**
WHZ	**Wether Hill Ro**	**27.32**	**195**	P	**P**		**20 36 29.2**	**0.0**
PYZ	**Puysegur Point**	**27.89**	**196**	P	**P**		**20 36 33.0**	**-1.3**
PYZ				IAmb	IAmb		20 36 36.6	
	comp=Z,45nm,1.2s							
KRVT	**Keravat (AS076**	**29.33**	**298**	LR	LR		20 47 26.0	
	comp=Z,577nm,21.4s,baz=264,slow=34							
CTA	**Charters Tower**	**29.54**	**264**	P	**P**		**20 36 48.7**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=63,slow=13,SNR=1.7							
CTA				LR	LR		20 48 01.7	
	comp=Z,1μm,18.9s,baz=95,slow=35							
	comp=Z,0.8nm,0.3s							
CTAO	**Charters Tower**	**29.54**	**264**	P	**P**		**20 36 48.1**	**-1.2**
CTAO				IAmb	IAmb		20 37 07.9	
	comp=Z,46nm,1.8s							
CTAO	**Charters Tower**	**29.54**	**264**	P	**P**		**20 36 48.1**	**-1.2**
CTAO				pmax	pmax			
	comp=Z,46nm,1.8s							
PPT2	**Papeete2**	**31.07**	**92**	*e*S	**S**		**20 42 00.9**	**-7.5**
	comp=Z,267nm,23.5s							
PPT2				*e*LR	LR		20 45 07.9	
	comp=Z,4μm,28.8s							
PPT	**Papeete**	**31.07**	**92**	LR	LR		20 46 20.0	
	comp=Z,683nm,20.7s,baz=242,slow=30							
PMG	**Port Moresby**	**31.22**	**285**	LR	LR		20 47 45.1	
	comp=Z,1μm,19.9s,baz=118,slow=33							
PMG	**Port Moresby**	**31.22**	**285**⇑	*e*P	**P**		**20 37 03.5**	**-0.7**
PMG				pmax	pmax			
	comp=Z,33nm,1.2s							
STKA	**Stephens Creek**	**34.52**	**242**	P	**P**		**20 37 31.0**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=72,slow=12,SNR=7.9							
STKA				LR	LR		20 51 01.3	
	comp=Z,554nm,18.0s,baz=74,slow=36							
	comp=Z,1.0nm,0.4s							
STKA	**Stephens Creek**	**34.52**	**242**	P	**P**		**20 37 30.8**	**-2.1**
STKA	**Stephens Creek**	**34.52**	**242**⇑	*e*P	**P**		**20 37 35.4**	**+2.5**
BBOO	**Buckleboo**	**39.30**	**242**	P	**P**		**20 38 15.1**	**+1.5**
BBOO				IAmb	IAmb		20 38 23.8	
	comp=Z,30nm,1.2s							
WR0	**Warramunga Arr**	**40.50**	**262**	P	**P**		**20 38 22.3**	**-1.4**
WB0	**Warramunga Arr**	**40.66**	**262**	P	**P**		**20 38 22.8**	**-2.4**
WB2	**Warramunga Arr**	**40.68**	**262**	P	**P**		**20 38 23.3**	**-1.9**
WRAB	**Tennant Creek**	**40.68**	**262**		**P**		**20 38 23.6**	**-1.7**
WRAB	**Tennant Creek**	**40.68**	**262**	P	**P**		**20 38 23.6**	**-1.7**
WRAB				pmax	pmax			
	comp=Z,15nm,1.1s							
WRA	**Warramunga Arr**	**40.69**	**262**	P	**P**		**20 38 23.2**	**-2.1**
	comp=Z,11nm,1.2s,baz=98,slow=8.0,SNR=17							
	comp=Z,11nm,1.2s							
WRA	**Warramunga Arr**	**40.69**	**262**	P	**P**		20 38 22.4	-2.9
WRA	**Warramunga Arr**	**40.69**	**262**	*e*P	**P**		**20 38 24.8**	**-0.6**
WRA				pmax	pmax			
	comp=Z,9.0nm,1.1s							
AS31	**Alice Springs**	**40.76**	**256**	P	**P**		**20 38 24.4**	**-1.5**
ASAR	**Alice Springs**	**40.76**	**256**	P	**P**		**20 38 24.4**	**-1.4**
	comp=Z,15nm,1.0s,baz=84,slow=8.5,SNR=49							
ASAR				LR	LR		20 54 09.8	
	comp=Z,1μm,21.2s,baz=104,slow=35							
	comp=Z,15nm,1.0s							
TAOE	**Nuku Hiva Isla**	**42.15**	**81**	*e*LR	LR		20 50 15.0	
	comp=Z,2μm,28.7s							
FORT	**Forrest**	**45.90**	**246**	P	**P**		**20 39 06.0**	**-1.3**
GUMO	**Guam**	**46.24**	**313**	LR	LR		20 56 26.7	
	comp=Z,225nm,21.6s,baz=148,slow=34							
KNRA	**Kununurra**	**46.66**	**267**	P	**P**		**20 39 12.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**49.11**	**263**	P	**P**		**20 39 31.5**	**-0.9**
	comp=Z,8.1nm,1.0s,baz=149,slow=2.0,SNR=19							
FITZ				LR	LR		20 58 50.6	
	comp=Z,610nm,21.5s,baz=269,slow=34							
	comp=Z,8.1nm,1.0s							
FITZ	**Fitzroy Crossi**	**49.11**	**263**	P	**P**		**20 39 31.8**	**-0.6**
SIJI	**Sorong**	**49.12**	**287**	P	**P**		**20 39 30.1**	**-2.5**
	comp=Z,10nm,0.8s,baz=112,slow=5.8,SNR=3.8							
SIJI				LR	LR		21 00 39.8	
	comp=Z,527nm,18.8s,baz=124,slow=37							
	comp=Z,10nm,0.8s							
BATI	**Baumata**	**52.85**	**272**	LR	LR		21 03 42.4	
	comp=Z,432nm,18.0s,baz=133,slow=38							
MBWA	**Marble Bar**	**54.06**	**258**	P	**P**		**20 40 10.3**	**+0.8**
MBWA				IAmb	IAmb		20 40 24.1	
	comp=Z,16nm,1.2s							
DAV	**Davao City (W)**	**57.77**	**292**	LR	LR		21 04 44.6	
	comp=Z,132nm,18.0s,baz=112,slow=36							
JCJ	**Chichijima**	**57.87**	**322**	LR	LR		21 00 49.1	
	comp=Z,122nm,21.4s,baz=116,slow=31							
KAPI	**Kappang**	**58.17**	**276**	LR	LR		21 05 11.2	
	comp=Z,243nm,21.4s,baz=96,slow=36							
VNDA	**Vanda**	**58.37**	**184**	LR	LR		21 01 44.2	
	comp=Z,370nm,21.6s,baz=4.5,slow=32							
CASY	**Casey**	**62.95**	**205**	P	**P**		**20 41 10.1**	**-0.7**
CASY				IAmb	IAmb		20 41 22.0	
	comp=Z,18nm,1.3s							
JHJ	**Hachijo jima 2**	**63.80**	**325**	LR	LR		21 02 43.8	
	comp=Z,84nm,21.4s,baz=145,slow=30							
RPN	**Rapa Nui**	**66.56**	**112**	LR	LR		21 04 34.7	
	comp=Z,103nm,20.7s,baz=246,slow=30							
MJA0	**Matsu Arr-Jizo**	**67.22**	**326**	*e*P	**P**		**20 41 41.6**	**+2.7**
MJA0				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MJAR	**Matsushiro Arr**	**67.24**	**326**	P	**P**		**20 41 38.5**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=159,slow=5.9,SNR=5.9							
MJAR				LR	LR		21 05 26.1	
	comp=Z,120nm,21.4s,baz=124,slow=31							
	comp=Z,2.3nm,0.7s							
LEM	**Lembang**	**68.99**	**270**	P	**P**		**20 41 49.3**	**-1.4**
	comp=Z,9.1nm,0.4s,baz=349,slow=22,SNR=1.7							
LEM				LR	LR		21 13 37.0	
	comp=Z,256nm,18.4s,baz=145,slow=37							
	comp=Z,9.1nm,0.4s							
QSPA	**South Pole Qui**	**70.34**	**180**	LR	LR		21 09 48.3	
	comp=Z,330nm,18.7s,baz=32,slow=33							
QSPA	**South Pole Qui**	**70.34**	**180**	P	**P**		**20 41 58.0**	**-0.1**
QSPA				IAmb	IAmb		20 42 08.3	
	comp=Z,11nm,1.1s							
SHEM	**Shemya Is, Ala**	**72.20**	**358**	LR	LR		21 08 46.7	
	comp=Z,265nm,19.2s,baz=152,slow=32							
YSS	**Yuzh-Sakhalins**	**73.45**	**336**	*e*P	**P**		**20 42 21.3**	**+4.6**
YSS				pmax	pmax			
	comp=Z,20nm,1.3s							
KSRS	**Korea Array**	**73.67**	**321**	P	**P**		**20 42 18.3**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=113,slow=2.8,SNR=2.5							
KSRS				LR	LR		21 08 49.4	
	comp=Z,93nm,21.5s,baz=135,slow=31							
	comp=Z,0.7nm,0.8s							
KSAR	**Wonju Array Be**	**73.68**	**321**	P	**P**		**20 42 20.2**	**+1.9**
KSAR	**Wonju Array Be**	**73.68**	**321**	P	**P**		**20 42 20.2**	**+1.9**
PETK	**Petropavlovsk-**	**74.56**	**348**	P	**P**		**20 42 23.4**	**+0.3**
	comp=Z,5.1nm,1.0s,baz=99,slow=9.2,SNR=2.5							
	comp=Z,5.1nm,1.0s							
USRK	**Ussuriysk Ar.**	**76.10**	**328**	P	**P**		**20 42 32.6**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=174,slow=4.3,SNR=2.0							
USRK				LR	LR		21 09 47.7	
	comp=Z,124nm,21.1s,baz=139,slow=31							
	comp=Z,1.5nm,0.7s							
USRK	**Ussuriysk Ar.**	**76.10**	**328**	P	**P**		**20 42 33.3**	**+1.2**
USRK	**Ussuriysk Ar.**	**76.10**	**328**	P	**P**		**20 42 33.3**	**+1.2**
CN2	**Changchun**	**79.25**	**324**	P	P		20 42 58.8	+9.0
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KLR	**Kul'dur**	**79.85**	**331**	LR	LR		21 13 17.6	
	comp=Z,149nm,21.5s,baz=149,slow=32							
BELA	**Belgrano 2**	**80.83**	**173**	P	**P**		**20 42 58.1**	**+0.2**
MAW	**Mawson**	**80.89**	**201**	LR	LR		21 15 09.4	
	comp=Z,460nm,20.9s,baz=97,slow=33							
KDAK	**Kodiak Island**	**81.08**	**16**	LR	LR		21 11 54.6	
	comp=Z,457nm,21.7s,baz=226,slow=30							
CMB	**Columbia Colle**	**81.70**	**45**	P	**P**		**20 43 05.0**	**+1.8**
CMB	**Columbia Colle**	**81.70**	**45**	P	**P**		**20 43 05.0**	**+1.8**
CMB				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MA2	**Magadan**	**82.02**	**347**	LR	LR		21 14 55.8	
	comp=Z,96nm,20.0s,baz=136,slow=32							
PFO	**Pinyon Flats O**	**82.14**	**50**	LR	LR		21 11 36.7	
	comp=Z,226nm,20.3s,baz=238,slow=30							
ENH	**Enshi**	**82.27**	**306**	P	**P**		**20 43 06.8**	**+0.5**
YBH	**Yreka Blue Hor**	**82.28**	**41**	P	**P**		**20 43 06.9**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=154,slow=4.9,SNR=1.9							
YBH				LR	LR		21 11 14.7	
	comp=Z,187nm,21.8s,baz=246,slow=30							
	comp=Z,1.1nm,0.6s							
LPIG	**La Paz**	**82.54**	**61**	LR	LR		21 13 03.2	
	comp=Z,230nm,18.5s,baz=238,slow=31							
BEKR	**Beckworth**	**82.72**	**43**	P	**P**		**20 43 10.5**	**+1.9**
BEKR				IAmb	IAmb		20 43 20.2	
	comp=Z,12nm,1.4s							
O19K	**Port Alsworth**	**82.81**	**14**	P	**P**		**20 43 07.9**	**-0.5**
ILSW	**Iliamna Southw**	**82.89**	**14**	P	**P**		**20 43 10.5**	**+1.6**
ILSW				IAmb	IAmb		20 43 23.2	
	comp=Z,28nm,1.2s							
DSP	**Deep Springs**	**82.98**	**46**	P	**P**		**20 43 11.4**	**+1.6**
DSP				IAmb	IAmb		20 43 30.3	
	comp=Z,9.7nm,1.4s							
LHV	**Little Huntoon**	**83.07**	**45**	P	**P**		**20 43 11.2**	**+1.0**
LCH	**Last Change Ra**	**83.13**	**47**	P	**P**		**20 43 09.7**	**-1.1**
LCH				IAmb	IAmb		20 43 39.3	
	comp=Z,7.3nm,1.3s							
NVAR	**Mina Array Bea**	**83.30**	**45**	P	**P**		**20 43 11.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=234,slow=7.7,SNR=4.2							
NVAR				LR	LR		21 11 59.9	
	comp=Z,147nm,21.6s,baz=248,slow=30							
	comp=Z,0.7nm,0.7s							
NVAR	**Mina Array Bea**	**83.30**	**45**	P	**P**		**20 43 10.7**	**-1.0**
NV11	**Mina Array Sit**	**83.40**	**45**	P	**P**		**20 43 11.4**	**-0.8**
GMN	**Gold Mountain**	**83.43**	**47**	P	**P**		**20 43 12.1**	**-0.4**
GMN				IAmb	IAmb		20 43 40.9	
	comp=Z,21nm,1.9s							
PMSA	**Palmer Station**	**83.58**	**158**	LR	LR		21 16 28.5	
	comp=Z,134nm,18.0s,baz=238,slow=33							
KVN	**Kaiserville**	**83.76**	**45**	P	**P**		**20 43 13.9**	**-0.1**
KVN	**Kaiserville**	**83.76**	**45**	P	**P**		**20 43 13.9**	**-0.1**
KVN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
K05A	**Summer Lake**	**83.95**	**41**	P	**P**		**20 43 14.2**	**-0.7**
K05A				IAmb	IAmb		20 43 37.3	
	comp=Z,14nm,1.3s							
XAN	**Xi'an**	**84.46**	**309**	P	P		20 43 24.5	+7.0
XAN				pP	pwP		20 43 32.3	+9.3
XAN				pmax	pmax			
	comp=Z,9.0nm,1.6s							
L19K	**White Mountain**	**84.49**	**13**	P	**P**		**20 43 18.9**	**+1.9**
PINE	**Pine Mountain**	**84.51**	**40**	P	**P**		**20 43 18.9**	**+1.1**
PINE				IAmb	IAmb		20 43 26.3	
	comp=Z,8.1nm,0.8s							
SEY	**Seymchan**	**84.75**	**349**⇓	*e*P	**P**		**20 43 21.8**	**+3.6**
SEY				pmax	pmax			
	comp=Z,18nm,1.4s							
HOOD	**Mount Hood Mea**	**84.95**	**38**	P	**P**		**20 43 20.5**	**+0.6**
PRN	**Pahroc Range**	**85.00**	**47**	P	**P**		**20 43 21.2**	**+0.9**
PRN				IAmb	IAmb		20 43 57.3	
	comp=Z,25nm,1.8s							
KMI	**Kunming**	**85.40**	**299**	⇓P	P		20 43 31.3	+8.6
KMI				pmax	pmax			
	comp=Z,13nm,1.3s							
GHO	**Glory Hole Cre**	**85.47**	**15**	P	**P**		**20 43 23.1**	**+1.1**
GHO				IAmb	IAmb		20 43 46.5	
	comp=Z,10nm,1.1s							
I07A	**Izee**	**85.54**	**40**	P	**P**		**20 43 23.5**	**+0.6**
I07A				IAmb	IAmb		20 43 30.7	
	comp=Z,6.3nm,0.9s							
BBB	**Bella Bella**	**85.70**	**30**	LR	LR		21 18 41.5	
	comp=Z,94nm,18.1s,baz=204,slow=34							
J08A	**Circle Bar Ran**	**85.78**	**41**	P	**P**		**20 43 23.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**86.04**	**291**	P	**P**		**20 43 25.0**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=135,slow=3.7,SNR=9.6							
	comp=Z,1.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**86.04**	**291**	P	**P**		**20 43 25.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**86.04**	**291**	P	**P**		**20 43 25.5**	**-0.2**
CHTO	**Chiang Mai**	**86.17**	**291**	P	**P**		**20 43 27.4**	**+1.0**
CHTO	**Chiang Mai**	**86.17**	**291**	P	**P**		**20 43 27.4**	**+1.0**
CAST	**Castle Rocks**	**86.18**	**13**	P	**P**		**20 43 25.9**	**+0.5**
CAST				IAmb	IAmb		20 43 38.4	
	comp=Z,6.4nm,1.0s							
U15A	**North Rim**	**86.48**	**49**	P	**P**		**20 43 29.2**	**+1.3**
U15A				IAmb	IAmb		20 43 38.5	
	comp=Z,6.0nm,0.8s							
ELK	**Elko**	**86.52**	**45**	LR	LR		21 15 49.3	
	comp=Z,152nm,19.1s,baz=250,slow=31							
G08A	**Pilot Rock**	**86.52**	**39**	P	**P**		**20 43 29.0**	**+1.3**
F10A	**Beach Ranch, E**	**87.91**	**39**	P	**P**		**20 43 35.0**	**+0.6**
F10A				IAmb	IAmb		20 43 41.5	
	comp=Z,6.1nm,0.8s							
RIDG	**Independent Ri**	**88.15**	**16**	P	**P**		**20 43 36.7**	**+1.7**
PLID	**Pearl Lake**	**88.20**	**40**	P	**P**		**20 43 37.3**	**+1.4**
TROLL	**Troll, Antarti**	**88.45**	**182**	P	**P**		**20 43 36.2**	**-0.4**
ILAR	**Eielson Array**	**88.51**	**14**	P	**P**		**20 43 36.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=240,slow=6.2,SNR=5.0							
ILAR				LR	LR		21 16 15.3	
	comp=Z,292nm,21.7s,baz=224,slow=31							
	comp=Z,0.6nm,0.7s							
ILAR	**Eielson Array**	**88.51**	**14**	*e*P	P		20 43 42.0	+5.4
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TMUT	**Trail Mountain**	**88.56**	**47**	P	**P**		**20 43 38.7**	**+0.9**
HVU	**Hansel Valley**	**88.64**	**45**	P	**P**		**20 43 38.6**	**+0.6**
HVU				IAmb	IAmb		20 43 55.6	
	comp=Z,9.2nm,1.3s							
HVU	**Hansel Valley**	**88.64**	**45**	P	**P**		**20 43 38.6**	**+0.6**
HVU				pmax	pmax			
	comp=Z,9.0nm,1.3s							
SNAA	**Sanae**	**88.85**	**180**	LR	LR		21 21 57.5	
	comp=Z,263nm,19.0s,baz=180,slow=35							
DLBC	**Dease Lake**	**88.97**	**25**	LR	LR		21 20 10.0	
	comp=Z,303nm,18.1s,baz=261,slow=33							
J26L	**Joseph Creek**	**89.10**	**16**	P	**P**		**20 43 40.5**	**+1.0**
NEW	**Newport**	**89.16**	**37**	LR	LR		21 17 43.1	
	comp=Z,139nm,19.4s,baz=218,slow=32							
YAK	**Yakutsk**	**89.92**	**339**	LR	LR		21 18 07.3	
	comp=Z,163nm,21.5s,baz=89,slow=32							
EGAK	**Eagle**	**89.95**	**16**	P	**P**		**20 43 46.1**	**+2.8**
TX31	**Lajitas Ar. Si**	**90.09**	**59**	P	**P**		**20 43 45.8**	**+0.8**
TX32	**Lajitas Array**	**90.09**	**59**	P	**P**		**20 43 44.9**	**-0.1**
TX32				IAm

SOKA	**Soboth**	**149.58**	**336**	*i* P		**PKPbc**	**20 50 34.7**	**+0.5**
	comp=Z,6.5nm,1.5s								
KBA	**Koelnbreinsper**	**149.86**	**338**	*e*P		**PKPbc**	**20 50 35.6**	**+0.6**
	comp=Z,5.0nm,1.1s								
OBKA	**Obir**	**149.91**	**336**	*e*P		**PKPbc**	**20 50 35.3**	**+0.3**
	comp=Z,4.5nm,1.1s								
H10N3	**ASCENSION HYDR**	**150.10**	**155**	T		T	23 39 28.9		
	baz=204,slow=74								
H10N1	**ASCENSION HYDR**	**150.11**	**155**	T		T	23 39 29.7		
	baz=204								
H10N2	**ASCENSION HYDR**	**150.12**	**155**	T		T	23 39 28.4		
	baz=204,slow=74								
WTTA	**Wattenberg**	**150.26**	**341**	*i* P		**PKPbc**	**20 50 36.9**	**+0.9**
	comp=Z,12nm,1.1s								
RETA	**Reutte**	**150.32**	**342**	*i* P		**PKPbc**	**20 50 36.2**	**+0.2**
	comp=Z,2.5nm,0.9s								
MOTA	**Moosalm**	**150.35**	**341**	*i* P		**PKiKP**	**20 50 37.6**	**+0.7**
	comp=Z,6.8nm,1.5s								
SQTA	**Sankt Quirin**	**150.43**	**341**	*i* P		**PKPbc**	**20 50 37.2**	**+0.9**
	comp=Z,3.7nm,0.9s								
ABTA	**Abfaltersbach**	**150.43**	**339**	*e*P		**PKPbc**	**20 50 37.3**	**+1.1**
	comp=Z,6.7nm,0.9s								
FETA	**Feichten**	**150.75**	**342**	*i* P		**PKiKP**	**20 50 38.9**	**+1.1**
	comp=Z,8.6nm,1.1s								
DAVOX	**Davos/Dischmat**	**151.22**	**342**	PKPbc		**PKPbc**	**20 50 38.0**	**-0.2**
	baz=19,slow=8.7								
ESDC	**Sonseca Array**	**160.06**	**4**	PKPab		**PKPab**	**20 51 24.0**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=350,slow=8.1,SNR=2.1								

LDG ***26*** *20:32:41.4±0.1,47.98N×7.54E,h11km,Md1.2/3,Ml1.4/1, Error ellipse: s-maj=1.2km s-min=0.8km az=8.0*

STR 26 20:32:41.7±0.7,48°N±3°×±°,h8km±16km,MLv1.0/10, 3C-3D,Error ellipse: s-maj=0.0km s-min=0.0km az=11.5, preliminary,Switzerland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VOGT	**Vogtsburg - To**	**0.14**	**36**		Sg		Sg	20 32 47.5	+0.6
VOGT	**Vogtsburg - To**	**0.14**	**36**	⇑Pg	Sg		Pg	20 32 44.9	+0.1
KIZ	**Kirchzarten**	**0.25**	**92**		Sg		Sg	20 32 49.9	-0.2
KIZ	**Kirchzarten**	**0.25**	**92**	⇑Pg	Sg		Pg	20 32 46.6	-0.1
MOF	**Molkenrain**	**0.30**	**248**	⇑Pg	Sg		Pg	20 32 47.4	-0.1
MOF					Sg		Sg	20 32 51.6	+0.1
FELD	**Feldberg im Sc**	**0.32**	**106**		Sg		Sg	20 32 52.3	-0.1
FELD	**Feldberg im Sc**	**0.32**	**106**		Pg		Pg	20 32 47.5	-0.6
ECH	**Echery**	**0.36**	**315**	⇓Pg	Sg		Pg	20 32 48.4	-0.3
ECH					Sg		Sg	20 32 53.1	-0.4
CDF	**Champ du Feu**	**0.48**	**338**	*e*Pg	Sg		Pg	20 32 50.5	-0.6
CDF				*e*Sg	Sg		Sg	20 32 56.8	-0.6
	1.8nm,0.3s								
HINF	**Hinteralfeld**	**0.49**	**253**	*e*Pg	Pg			20 32 51.0	-0.1
HINF				*e*Sg	Sg			20 32 57.1	-0.4
	1.2nm,0.2s								
SULZ	**Cheisacher**	**0.58**	**138**	⇓Pg	Pg			20 32 53.2	+0.3
BOURR	**Bourrignon**	**0.61**	**200**	Pg	Pg			20 32 53.3	-0.1
BALST	**Balsthal**	**0.64**	**171**	Pg	Pg			20 32 54.4	+0.4
BALST	**Balsthal**	**0.64**	**171**	Sg	Sg			20 33 02.4	+0.2
RONF	**Ronchamp**	**0.65**	**248**	Pg	Pg			20 32 54.2	-0.1
SLE	**Schleitheim**	**0.67**	**107**	Sg	Sg			20 33 03.4	+0.1
SLE	**Schleitheim**	**0.67**	**107**	Pg	Pg			20 32 54.4	-0.2
HAU	**Haudompre**	**0.80**	**273**	*e*Pg	Pg			20 32 56.5	-0.6
HAU	**Haudompre**	**0.80**	**273**	*e*Pn	Pg			20 32 57.0	-0.1
HAU				*e*Sg	Sg			20 33 07.0	-0.6
	2.4nm,0.3s								
CHMF	**Charmoille**	**0.94**	**220**	⇓Pg	Pg			20 32 59.6	0.0
CHMF					Sg			20 33 12.0	+0.2
PAGF	**Fort de Pagny**	**1.35**	**297**	*e*Sg	Sb			20 33 23.8	-0.9
	0.4nm,0.2s								

BUL ***26*** *20:34:29.0±1.1,21.43S×33.98E,h10km,MD4.5 EAF* ***26*** *20:34:30.3±0.5,21.35S×33.91E,h10km,MD3.8*

PRE 26 20:34:41.3±2.3,21.31S×33.40E,h10km,ML2.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.87**	**220**	*e*P	Pn			20 35 28.0	+0.8
MOPA				*e*S	Sn			20 36 00.6	-1.3
MOPA				IAML				20 36 06.5	
	comp=Z,9.0nm,0.3s								
MOPA	**Mopani**	**2.87**	**220**	*i* Pg	Pn			20 35 27.5	+0.3
MOPA				*i* Sg	Sb			20 36 08.6	+0.6
MOPA	**Mopani**	**2.87**	**220**	*i* Pg	Pn			20 35 27.5	+0.3
MOPA				*i* Sg	Sb			20 36 08.6	+0.6
MUSN	**Musina, Limpop**	**3.43**	**253**	*e*P	Pn			20 35 36.3	+1.4
MUSN				*e*S	Sn			20 36 17.0	+1.3
MUSN				IAML				20 36 30.2	
	comp=Z,7.7nm,0.4s								
MUSN	**Musina, Limpop**	**3.43**	**253**	*i* P	Pn			20 35 28.6	-6.3
MUSN				*i* S	Sn			20 36 13.5	-2.2
MUSN	**Musina, Limpop**	**3.43**	**253**	*i* P	Pn			20 35 28.6	-6.3
MUSN				*i* S	Sn			20 36 13.5	-2.2
BLWY	**Bulawayo**	**4.63**	**284**	*e*S	Sn			20 36 46.0	+0.5
BLWY				IAML				20 37 08.6	
	comp=Z,16nm,0.6s								
BLWY	**Bulawayo**	**4.63**	**284**	*i* P	Pn			20 35 45.9	-5.7
BLWY				*i* S	Sn			20 36 41.8	-3.7
BLWY	**Bulawayo**	**4.63**	**284**	*i* P	Pn			20 35 45.9	-5.7
BLWY				*i* S	Sn			20 36 41.8	-3.7
MMAL	**MMAL**	**5.13**	**203**	*e*P	Pn			20 36 01.3	+3.0
MMAL				*e*S	Sn			20 36 57.0	-0.7
MMAL				IAML				20 37 19.7	
	comp=Z,3.2nm,0.7s								
LEPH	**Lephalale, Lim**	**5.77**	**243**	*e*P	Pn			20 36 07.7	+0.7
LEPH				*e*S	Sn			20 37 12.9	-0.4
LEPH				IAML				20 37 41.6	
	comp=Z,5.6nm,0.5s								
LBTB	**Lobatse**	**8.07**	**241**	*e*S	Sn			20 38 06.5	-3.6
LBTB				IAML				20 38 55.5	
	comp=Z,1.8nm,0.5s								

IDC ***26*** *20:37:37.4±2.3,5.53N×126.68E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=181.7km s-min=26.3km az=66.0*

MAN ***26*** *20:37:54.6,6.01N×127.01E,h159km,mb4.4,ML3.3, MS3.0*

ISC 26 20:37:49.7±1.3,5.5N±0.2×126.8E±0.7,h100km,n4, σ2§81/5,mb3.0/3,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**4.27**	**351**	⇓*e*P			**Pn**	**20 38 54.6**	**+2.1**
GLSP				*e*S			**Sn**	**20 39 39.1**	**-2.2**
WRA	**Warramunga Arr**	**26.39**	**164**	P			**P**	**20 43 14.5**	**-2.4**
	0.1nm,0.3s,baz=344,slow=10,SNR=4.9								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**29.85**	**167**	P			**P**	**20 43 48.5**	**+0.8**
	0.2nm,0.5s,baz=338,slow=6.7,SNR=1.6								
	0.2nm,0.5s								
MKAR	**Makanchi Array**	**56.11**	**325**	P			**P**	**20 47 18.3**	**-0.4**
	0.5nm,0.4s,baz=112,slow=7.9,SNR=9.9								
	0.5nm,0.4s								

IDC ***26*** *20:45:19.9±0.8,19.55S×177.37E,h0km,mb4.1/13, mbtmp4.1/14,ML2.9/1,MS4.1/31,Error ellipse: s-maj=26.9km s-min=16.6km az=135.0*

NEIC ***26*** *20:45:20.6±1.1,19.48S±0.04×177.5E±0.1,h10km±1km, mb4.7/21,Error ellipse: s-maj=19.8km s-min=3.9km az=108.0*

GCMT ***26*** *20:45:23.6±0.3,19.76S±0.02×177.62E±0.02,h13km±1km, MW4.9/99,Moment Tensor Solution. s9,c9; s99,c131; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.53±.12; Mθθ-2.23±.10; Mφφ2.76±.14; Mrθ-0.69±.29; Mrφ0.53±.09; Mθφ1.24±.37; Best double couple: M₀2.91500×10¹⁶ NP1:ϕs143.00000°,δ86.00000°,λ-150.00000°. NP2: ϕs51.00000°,δ60.00000°,λ-4.00000°. Principal axes: T 3.1900, Plg18.0000°, Azm273.0000°; N -0.5530, Plg60.0000°, Azm150.0000°; P -2.6400, Plg24.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 20:45:20.2±0.5,19.56S±0.07×177.53E±0.08,h10km,n86, σ1§56/59,mb4.5/22,MS4.2/28,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.88**	**15**	Pn			**Pn**	**20 45 51.8**	**-0.6**
	254nm,0.3s,baz=264,slow=23,SNR=174								
MSVF						Sn	**Sn**	**20 46 16.0**	**-0.2**
	302nm,0.3s,baz=248,slow=23,SNR=20								
MSVF						LR	LR	20 46 16.7	
	comp=Z,2μm,19.3s,baz=234,slow=30								
MSVF	**Nonsavu**	**1.88**	**15**				**Pn**	**20 45 51.6**	**-0.9**
MSVF						Sn	**Sn**	**20 46 14.7**	**-1.6**
RAO	**Raoul Island**	**10.50**	**158**			LR	LR	20 50 42.0	
	comp=Z,1μm,21.1s,baz=351,slow=30								
DZM	**Mont Dzumac**	**10.67**	**255**	*e*LR			LR	20 50 23.9	
	comp=Z,3μm,25.7s								
DZM	**Mont Dzumac**	**10.67**	**255**	Pn			**Pn**	**20 47 52.0**	**-1.3**
	0.1nm,0.3s,baz=33,slow=17,SNR=1.7								
DZM						LR	LR	20 51 17.6	
	comp=Z,2μm,21.2s,baz=61,slow=34								
	4.9nm,0.9s								
DZM	**Mont Dzumac**	**10.67**	**255**	Pn			**Pn**	**20 47 54.9**	**+1.6**
AFI	**Afiamalu**	**11.67**	**63**	LR			LR	20 52 02.5	
	comp=Z,408nm,18.1s,baz=220,slow=34								
NIUE	**Niue**	**11.85**	**90**	Pn			**Pn**	**20 48 06.1**	**-3.2**
KOUNC	**Koumac, New Ca**	**12.49**	**263**				**Pn**	**20 48 17.8**	**-0.4**
URZ	**Urewera**	**18.64**	**181**			LR	LR	20 55 05.9	
	comp=Z,1μm,18.1s,baz=118,slow=31								
HIZ	**Hauiti**	**19.04**	**186**	P			**Pn**	**20 49 44.1**	**+1.0**
HIZ				IAmb			IAmb	20 49 58.8	
	comp=Z,86nm,1.3s								
BKZ	**Black Stump Fm**	**19.57**	**182**	P			**P**	**20 49 46.0**	**-2.2**
HNR	**Honiara**	**19.76**	**298**	LR			LR	20 56 20.3	
	comp=Z,3μm,21.0s,baz=132,slow=34								
RAR	**Rarotonga**	**21.34**	**98**	LR			LR	20 56 31.5	
	comp=Z,354nm,21.1s,baz=304,slow=31								
RAR	**Rarotonga**	**21.34**	**98**	P			**P**	**20 50 10.3**	**+2.7**
RAR				IAmb			IAmb	20 50 16.4	
	comp=Z,43nm,1.4s								
MSWZ	**Moikau Station**	**21.88**	**185**	P			**P**	**20 50 11.2**	**-2.0**
TUWZ	**Tuamarina**	**22.02**	**187**	P			**P**	**20 50 14.1**	**-0.7**
PLWZ	**Palliser**	**22.03**	**185**	P			**P**	**20 50 13.1**	**-1.8**
RPZ	**Rata Peaks**	**24.70**	**191**	P			**P**	**20 50 41.4**	**0.0**
	comp=Z,6.0nm,0.6s,baz=38,slow=19,SNR=2.2								
RPZ						LR	LR	20 59 13.5	
	comp=Z,463nm,18.1s,baz=2.5,slow=34								
	comp=Z,6.0nm,0.6s								
RPZ	**Rata Peaks**	**24.70**	**191**	P			**P**	**20 50 39.7**	**-1.7**
RPZ				IAmb			IAmb	20 50 51.3	
	comp=Z,32nm,1.1s								
FOZ	**Fox Glacier**	**24.77**	**193**	P			**P**	**20 50 39.7**	**-2.3**
EIDS	**Eidsvold**	**25.10**	**252**	P			**P**	**20 50 41.9**	**-3.4**
EIDS				IAmb			IAmb	20 51 00.1	
	comp=Z,14nm,1.1s								
WHZ	**Wether Hill Ro**	**27.43**	**195**	P			**P**	**20 51 06.3**	**+0.2**
KRVT	**Keravat (AS076**	**29.13**	**298**	LR			LR	21 02 02.6	
	comp=Z,359nm,21.2s,baz=251,slow=35								
CTA	**Charters Tower**	**29.41**	**264**	LR			LR	21 02 36.4	
	comp=Z,478nm,18.0s,baz=93,slow=35								
PMG	**Port Moresby**	**31.04**	**285**	LR			LR	21 02 21.3	
	comp=Z,592nm,19.0s,baz=134,slow=33								
PPT2	**Papeete2**	**31.21**	**92**	*e*LR			LR	20 59 43.9	
	comp=Z,1μm,28.0s								
PPT	**Papeete**	**31.22**	**92**	LR			LR	21 00 55.4	
	comp=Z,271nm,21.0s,baz=196,slow=30								
STKA	**Stephens Creek**	**34.47**	**242**	P			**P**	**20 52 07.5**	**-0.9**
	comp=Z,1.1nm,1.1s,baz=77,slow=9.3,SNR=3.8								
	comp=Z,5.0nm,1.1s								
STKA	**Stephens Creek**	**34.47**	**242**	P			**P**	**20 52 08.4**	**0.0**
WR0	**Warramunga Arr**	**40.38**	**262**	P			**P**	**20 52 55.7**	**-3.0**
WB0	**Warramunga Arr**	**40.54**	**262**	P			**P**	**20 52 58.5**	**-1.5**
WB0				IAmb			IAmb	20 53 02.3	
	comp=Z,13nm,1.1s								
WB2	**Warramunga Arr**	**40.56**	**262**	P			**P**	**20 52 59.1**	**-1.0**
WB2				IAmb			IAmb	20 53 02.6	
	comp=Z,21nm,1.4s								
WRA	**Warramunga Arr**	**40.57**	**262**	P			**P**	**20 52 59.1**	**-1.2**
	comp=Z,7.5nm,1.1s,baz=94,slow=8.2,SNR=22								
WRA						LR	LR	21 08 04.8	
	comp=Z,337nm,21.7s,baz=99,slow=34								
	comp=Z,7.5nm,1.1s								
WRA	**Warramunga Arr**	**40.57**	**262**	P			**P**	**20 52 58.8**	**-1.5**
AS31	**Alice Springs**	**40.65**	**256**	P			**P**	**20 53 00.1**	**-0.8**
ASAR	**Alice Springs**	**40.66**	**256**	P			**P**	**20 53 00.5**	**-0.4**
	comp=Z,8.2nm,0.8s,baz=86,slow=8.5,SNR=74								
ASAR						LR	LR	21 09 37.4	
	comp=Z,385nm,18.2s,baz=103,slow=36								
	comp=Z,8.2nm,0.8s								
ASAR	**Alice Springs**	**40.66**	**256**	P			**P**	**20 52 59.9**	**-1.0**
TAOE	**Nuku Hiva Isla**	**42.27**	**82**	*e*S			S	20 59 25.4	-10
	comp=Z,359nm,26.5s								
TAOE					*e*LR		LR	21 04 51.6	
	comp=Z,677nm,25.9s								
GUMO	**Guam**	**46.03**	**313**	LR			LR	21 13 39.9	
	comp=Z,71nm,18.7s,baz=153,slow=37								
HON	**Honolulu**	**47.16**	**32**	P			**P**	**20 53 52.2**	**-0.8**
SIJI	**Sorong**	**48.94**	**287**	LR			LR	21 13 43.8	
	comp=Z,240nm,21.7s,baz=141,slow=35								
FITZ	**Fitzroy Crossi**	**48.98**	**263**	P			**P**	**20 54 07.9**	**+0.5**
	comp=Z,11nm,1.1s,baz=177,slow=2.9,SNR=14								
FITZ						LR	LR	21 13 04.0	
	comp=Z,303nm,21.8s,baz=262,slow=34								
	comp=Z,11nm,1.1s								
FITZ	**Fitzroy Crossi**	**48.98**	**263**	P			**P**	**20 54 07.8**	**+0.4**
BATI	**Baumata**	**52.71**	**272**	LR			LR	21 16 00.3	
	comp=Z,219nm,20.5s,baz=106,slow=35								
PSA00	**Pilbara Seismi**	**53.79**	**257**	P			**P**	**20 54 42.6**	**-0.7**
PSA00				IAmb			IAmb	20 54 45.4	
	comp=Z,8.1nm,1.2s								
DAV	**Davao City (W)**	**57.58**	**292**	LR			LR	21 17 37.6	
	comp=Z,87nm,20.3s,baz=128,slow=34								
VNDA	**Vanda**	**58.52**	**184**	P			**P**	**20 55 18.6**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=150,slow=7.6,SNR=5.3								
VNDA						LR	LR	21 16 51.3	
	comp=Z,138nm,19.6s,baz=354,slow=32								
	comp=Z,0.4nm,0.5s								
MJAR	**Matsushiro Arr**	**67.03**	**326**	P			**P**	**20 56 16.1**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=144,slow=5.5,SNR=2.3								
	comp=Z,0.8nm,0.7s								
QSPA	**South Pole Qui**	**70.50**	**180**	LR			LR	21 24 14.0	
	comp=Z,155nm,18.3s,baz=26,slow=33								
QSPA	**South Pole Qui**	**70.50**	**180**	P			**P**	**20 56 35.7**	**+0.7**
QSPA				IAmb			IAmb	20 57 00.0	
	comp=Z,9.4nm,1.1s								
SHEM	**Shemya Is, Ala**	**72.04**	**358**	LR			LR	21 23 51.8	
	comp=Z,109nm,18.9s,baz=239,slow=32								
KSRS	**Korea Array**	**73.45**	**321**	P			**P**	**20 56 55.0**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=120,slow=6.7,SNR=1.2								
	comp=Z,0.3nm,0.5s								
PETK	**Petropavlovsk-**	**74.37**	**348**	LR			LR	21 27 46.0	
	comp=Z,63nm,18.4s,baz=178,slow=34								
KDAK	**Kodiak Island**	**80.96**	**16**	LR			LR	21 26 08.0	
	comp=Z,188nm,22.0s,baz=229,slow=30								
BELA	**Belgrano 2**	**81.00**	**173**	P			**P**	**20 57 33.8**	**-0.9**
BELA				IAmb			IAmb	20 57 40.0	
	comp=Z,11nm,1.5s								
MA2	**Magadan**	**81.83**	**347**	LR			LR	21 32 50.4	
	comp=Z,29nm,19.5s,baz=158,slow=35								
YBH	**Yreka Blue Hor**	**82.25**	**41**	LR			LR	21 27 04.7	
	comp=Z,55nm,18.5s,baz=264,slow=30								
LPIG	**La Paz**	**82.59**	**61**	LR			LR	21 25 42.0	
	comp=Z,95nm,20.0s,baz=247,slow=29								
LHV	**Little Huntoon**	**83.06**	**45**	P			**P**	**20 57 45.8**	**-0.2**
LHV				IAmb			IAmb	20 58 02.1	
	comp=Z,8.4nm,1.2s								
NVAR	**Mina Array Bea**	**83.29**	**45**	P			**P**	**20 57 49.5**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=58,slow=39,SNR=3.8								
	comp=Z,0.5nm,0.6s								
BBB	**Bella Bella**	**85.63**	**30**	LR			LR	21 28 01.3	
	comp=Z,88nm,19.9s,baz=222,slow=30								
CMAR	**Chiang Mai Arr**	**85.85**	**291**	P			**P**	**20 58 01.6**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=353,slow=33,SNR=4.0								
	comp=Z,1.1nm,0.9s								
ILAR	**Eielson Array**	**88.39**	**14**	P			**P**	**20 58 11.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=196,slow=6.2,SNR=3.1								
	comp=Z,0.4nm,0.7s								
DLBC	**Dease Lake**	**88.89**	**25**	LR			LR	21 33 42.1	
	comp=Z,125nm,18.1s,baz=265,slow=33								
TX31	**Lajitas Ar. Si**	**90.13**	**59**	P			**P**	**20 58 20.8**	**-0.3**
TX32	**Lajitas Array**	**90.13**	**59**	P			**P**	**20 58 22.5**	**+1.5**
TX32				IAmb			IAmb	20 58 27.3	
	comp=Z,7.0nm,1.3s								
TXAR	**Lajitas Array**	**90.13**	**59**	P			**P**	**20 58 22.6**	**+1.5**
	comp=Z,3.1nm,1.1s,baz=256,slow=3.6,SNR=3.3								
TXAR						LR	LR	21 31 02.9	
	comp=Z,94nm,20.5s,baz=245,slow=30								
	comp=Z,3.1nm,1.1s								
PDAR	**Pinedale Array**	**91.20**	**45**	P			**P**	**20 58 28.6**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=208,slow=2.9,SNR=5.1								
	comp=Z,0.6nm,0.8s								
PLCA	**Paso Flores**	**92.94**	**135**	LR			LR	21 35 56.6	
	comp=Z,48nm,18.1s,baz=218,slow=33								
CMIG	**Matias Romero**	**93.39**	**73**	LR			LR	21 32 34.2	
	comp=Z,91nm,18.6s,baz=220,slow=30								
CLL	**Collm**	**146.05**	**343**	*e*PKPbc			**PKPab**	**21 05 02.0**	**+1.2**
	comp=Z,5.0nm,0.9s								
CLL				*i* PKPmax				21 05 11.0	
	comp=Z,7.0nm,0.9s								
GERES	**GERESS Array B**	**148.01**	**340**	PKPbc			**PKPbc**	**21 05 07.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=44,slow=4.4,SNR=2.1								
CONA	**Conrad Observa**	**148.03**	**336**	*e*P			**PKPab**	**21 05 10.4**	**+1.6**
	comp=Z,8.9nm,1.4s								
RONA	**Rosalia, Austr**	**148.05**	**336**	*e*P			**PKPab**	**21 05 12.8**	**+4.0**
	comp=Z,3.1nm,1.1s								
SOKA	**Soboth**	**149.38**	**336**	*e*P			**PKPab**	**21 05 13.7**	**-0.6**
	comp=Z,5.1nm,1.4s								
KBA	**Koelnbreinsper**	**149.66**	**338**	*e*P			**PKPab**	**21 05 15.1**	**-0.3**
	comp=Z,3.7nm,1.0s								
WATA	**Walderalm**	**150.01**	**341**	*e*P			**PKiKP**	**21 05 11.9**	**-0.2**
	comp=Z,7.6nm,1.6s								
WTTA	**Wattenberg**	**150.06**	**341**	*e*P			**PKPbc**	**21 05 11.0**	**-0.4**
	comp=Z,4.2nm,1.0s								
MOTA	**Moosalm**	**150.15**	**341**	*e*P			**PKPab**	**21 05 17.4**	**-0.1**
	comp=Z,5.0nm,1.1s								
ABTA	**Abfaltersbach**	**150.23**	**339**	*e*P			**PKPbc**	**21 05 11.0**	**-0.7**
	comp=Z,4.2nm,0.9s								
ABTA				*e*P			**PKPab**	**21 05 17.0**	**-0.7**
	comp=Z,4.2nm,0.9s								
H10N3	**ASCENSION HYDR**	**150.31**	**155**	T			T	23 54 01.3	
	baz=204								
H10N1	**ASCENSION HYDR**	**150.31**	**155**	T			T	23 54 04.3	
	baz=204								
H10N2	**ASCENSION HYDR**	**150.32**	**155**	T			T	23 54 01.8	
	baz=204								
FETA	**Feichten**	**150.55**	**341**	*e*P			**PKPab**	**21 05 18.6**	**-0.5**
	comp=Z,6.6nm,1.2s								
DAVA	**Damuels**	**150.56**	**343**	*e*P			**PKPab**	**21 05 18.5**	**-0.6**
	comp=Z,4.3nm,0.9s								

ISK ***26*** *21:06:37.2,35.65N×26.31E,h15km,ML2.5/11*

THE ***26*** *21:06:38.4,35.62N×26.34E,h13km±2km,ML2.2/3,Error ellipse: s-maj=2.8km s-min=0.5km az=150.0*

ISC 26 21:06:37.8±1.5,35.64N±0.04×26.31E±0.03,h14km±13km, n16,σ0§28/24,Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STIA	**Sitia Lasithi**	**0.47**	**202**	P			**Pg**	**21 06 47.4**	**+0.3**
STIA					S		**Sb**	**21 06 54.6**	**-0.2**
ZKR	**Zakros**	**0.53**	**188**	P			**Pb**	**21 06 48.6**	**-0.3**
ZKR					S		**Sb**	**21 06 56.6**	**+0.2**
	428nm,0.2s								
ZKR	**Zakros**	**0.53**	**188**	PG			**Pb**	**21 06 48.6**	**-0.3**
ZKR					SG		**Sb**	**21 06 56.4**	**0.0**
KARP	**Karpathos**	**0.70**	**97**	P			**Pb**	**21 06 51.6**	**-0.2**
KARP					S		**Sb**	**21 07 01.4**	**0.0**
	298nm,0.2s								
KARP	**Karpathos**	**0.70**	**97**	PG			**Pg**	**21 06 51.4**	**0.0**
KARP					SG		**Sb**	**21 07 01.6**	**+0.2**
SANT	**Santorini**	**1.00**	**317**	PG			**Pb**	**21 06 56.8**	**-0.3**
HRKL	**Herakleio**	**1.04**	**252**	PG			**Pb**	**21 06 57.6**	**0.0**
HRKL					SG		**Sn**	**21 07 12.6**	**+0.2**
IDI	**Anoyia**	**1.21**	**254**	P			**Pn**	**21 06 59.9**	**-0.6**
IDI					S		**Sb**	**21 07 16.4**	**+0.2**
	82nm,0.2s								
IDI	**Anoyia**	**1.21**	**254**	PN			**Pn**	**21 07 00.1**	**-0.4**
IDI					SN		**Sn**	**21 07 16.9**	**+0.2**
APE	**Apeiranthos**	**1.56**	**336**	PN			**Pn**	**21 07 04.9**	**-0.3**
ARG	**Arkhangelos**	**1.58**	**68**	PN			**Pn**	**21 07 05.4**	**-0.1**
BODT	**Bodrum**	**1.63**	**29**	PN			**Pn**	**21 07 06.1**	**-0.1**
IMMV	**Iera Moni Meta**	**1.91**	**265**	PN			**Pn**	**21 07 10.4**	**+0.4**
TURN	**Turunc**	**1.93**	**54**	PN			**Pn**	**21 07 10.3**	**0.0**
DALY	**Dalyan (Mula)**	**2.23**	**58**	PN			**Pn**	**21 07 14.6**	**+0.2**
CAME	**Cameli-Denizli**	**2.75**	**61**	PN			**Pn**	**21 07 21.9**	**+0.3**

IDC ***26***

comp=Z,1.7nm,0.5s,baz=90,slow=20,SNR=9.3
FITZ LR LR 21 36 07.7
comp=Z,87nm,19.9s,baz=262,slow=35
comp=Z,1.7nm,0.5s
FITZ Fitzroy Crossi 49.04 263 P **P** **21 16 37.6 -0.5**
FITZ IAmb IAmb 21 16 55.6
comp=Z,11nm,1.3s
BATI Baumata 52.77 272 LR LR 21 38 57.8
comp=Z,88nm,19.2s,baz=112,slow=36
KAPI Kappang 58.07 276 LR LR 21 42 05.5
comp=Z,38nm,21.6s,baz=63,slow=36
VNDA Vanda 58.49 184 LR LR 21 39 31.3
comp=Z,54nm,18.6s,baz=358,slow=32
CASY Casey 63.03 205 P **P** **21 18 17.2 -0.2**
CASY IAmb IAmb 21 18 43.7
comp=Z,7.4nm,1.3s
MJAR Matsushiro Arr 67.09 326 P **P** **21 18 42.1 -2.1**
comp=Z,0.6nm,0.5s,baz=166,slow=6.9,SNR=2.1
comp=Z,0.6nm,0.5s
LEM Lembang 68.91 270 LR LR 21 49 45.6
comp=Z,42nm,19.2s,baz=318,slow=37
QSPA South Pole Qui 70.47 180 LR LR 21 46 52.6
comp=Z,50nm,18.2s,baz=17,slow=33
QSPA South Pole Qui 70.47 180 P **P** **21 19 03.6 -1.5**
QSPA IAmb IAmb 21 19 20.7
comp=Z,6.9nm,0.9s
SHEM Shemya Is, Ala 72.08 358 LR LR 21 44 15.7
comp=Z,48nm,21.3s,baz=292,slow=30
BELA Belgrano 2 80.96 173 P **P** **21 20 02.9 -1.8**
BELA IAmb IAmb 21 20 12.5
comp=Z,3.1nm,0.9s
KDAK Kodiak Island 80.98 16 LR LR 21 49 24.0
comp=Z,67nm,21.0s,baz=229,slow=31
MAW Mawson 80.98 201 P **P** **21 20 06.2 +1.3**
comp=Z,1.8nm,0.8s,baz=90,slow=7.1,SNR=2.4
MAW LR LR 21 52 45.5
comp=Z,52nm,18.6s,baz=86,slow=33
comp=Z,1.8nm,0.8s
MA2 Magadan 81.88 347 LR LR 21 54 51.7
comp=Z,23nm,18.5s,baz=138,slow=35
LPIG La Paz 82.56 61 LR LR 21 49 11.8
comp=Z,78nm,18.3s,baz=254,slow=30
CMAR Chiang Mai Arr 85.92 291 P **P** **21 20 31.8 +0.6**
comp=Z,0.3nm,0.3s,baz=116,slow=4.1,SNR=1.9
comp=Z,0.3nm,0.3s
ILAR Eielson Array 88.41 14 P **P** **21 20 41.2 -1.0**
ILAR LR LR 21 53 43.8
comp=Z,56nm,19.4s,baz=248,slow=31
comp=Z,0.7nm,0.8s
TXAR Lajitas Array 90.09 59 P **P** **21 20 52.6 +1.5**
comp=Z,1.8nm,0.9s,baz=238,slow=5.2,SNR=5.2
TXAR LR LR 21 54 52.4
comp=Z,64nm,18.4s,baz=286,slow=31
comp=Z,1.8nm,0.9s
PDAR Pinedale Array 91.19 45 P **P** **21 20 57.7 +1.7**
comp=Z,0.2nm,0.4s,baz=240,slow=12,SNR=1.9
comp=Z,0.2nm,0.4s
CLL Collm 146.10 343 *e*PKPbc **PKiKP** **21 27 33.0 -0.8**
comp=Z,4.0nm,1.0s
CLL *i* PKPmax 21 27 40.6
comp=Z,7.0nm,0.9s
KHC Kasperske Hory 147.85 340 *e*PKP **PKPab** **21 27 43.5 +5.4**
GERES GERESS Array B 148.06 340 PKPbc **PKiKP** **21 27 38.0 -0.1**
comp=Z,0.1nm,0.3s,baz=28,slow=4.4,SNR=3.1
CONA Conrad Observa 148.08 337 *e*P **PKPab** **21 27 40.0 +0.8**
comp=Z,4.0nm,1.3s
RONA Rosalia, Austr 148.10 336 *e*P **PKPab** **21 27 39.5 +0.4**
comp=Z,3.3nm,1.4s
ARSA Arzberg 148.77 336 *e*P **PKiKP** **21 27 40.7 +1.2**
comp=Z,2.0nm,0.8s
WATA Walderalm 150.06 341 *i* P **PKPab** **21 27 48.3 +1.1**
comp=Z,2.9nm,0.8s
WTTA Wattenberg 150.11 341 *i* P **PKPab** **21 27 48.8 +1.3**
comp=Z,4.6nm,0.7s
RETA Reutte 150.18 342 *i* P **PKPab** **21 27 48.6 +1.0**
comp=Z,3.3nm,1.0s
MOTA Moosalm 150.20 341 *i* P **PKPab** **21 27 48.7 +0.9**
comp=Z,4.5nm,1.0s
ABTA Abfaltersbach 150.28 339 *i* P **PKPab** **21 27 48.4 +0.3**
comp=Z,2.4nm,0.7s
SQTA Sankt Quirin 150.28 341 *i* P **PKPab** **21 27 49.0 +0.9**
comp=Z,4.2nm,0.9s
FETA Feichten 150.60 342 *i* P **PKPab** **21 27 49.9 +0.4**
comp=Z,3.2nm,0.9s

*ECX **26** 21:18:50.4±0.5, 32.°19N×115.°29W, h12km±2km, MD2.5, ML2.7*
*MEX **26** 21:18:52.0±0.4, 32.°34N×115.°05W, h36km±4km, MD3.6*
ISC 26 21:18:51.2±1.0, 32.°17N±0.°02×115.°27W±0.°03, h19km±2km, n22, σ0°55/39, 8C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.04**	**205**	⇑*e*P		**Pg**		**21 18 54.3**	**-0.3**
RHX				*i* S		**Sg**		**21 18 56.0**	**-0.9**
RHX				IAML				21 18 56.1	
	comp=N,1μm,0.2s								
RHX				⇓*e*				21 18 56.1	
RHX				IAML				21 18 56.2	
	comp=E,928nm,0.1s								
RHX				⇓*e*				21 18 56.2	
MBIG	**Mexicali**	**0.25**	**14**	*e*P		**Pg**		**21 18 56.8**	**-0.2**
MBIG				*i* P		**Pg**		**21 18 57.0**	**0.0**
MBIG				*e*S		**Sg**		**21 19 00.8**	**-0.1**
MBIG				*i* S		**Sg**		**21 19 01.7**	**+0.8**
MBIG	**Mexicali**	**0.25**	**14**	⇓*i*P		**Pg**		**21 18 57.0**	**0.0**
MBIG				*e*S		**Sg**		**21 19 01.8**	**+0.9**
CPBX	**Cerro Prieto**	**0.25**	**353**	⇓*e*P		**Pb**		**21 18 56.8**	**-0.2**
CPBX				*e*S		**Sg**		**21 19 01.6**	**+0.4**
CPBX				⇑*e*				21 19 02.6	
CPBX				IAML				21 19 02.6	
	comp=N,4μm,0.2s								
CPBX				⇓*e*				21 19 04.1	
CPBX				IAML				21 19 04.1	
	comp=E,4μm,0.3s								
SGL	**Mount Signal**	**0.62**	**321**	⇑*i*P		**Pg**		**21 19 03.4**	**-0.2**
EMSC	**East Mesa**	**0.62**	**23**	*e*P		**Pg**		**21 19 03.4**	**-0.2**
EMSC				*e*S		**Sg**		**21 19 12.4**	**+0.5**
COA	**Coachella**	**0.71**	**10**	*e*P		**Pb**		**21 19 04.2**	**-0.6**
SJX	**San Joaquin**	**0.71**	**236**	⇑*i*P		**Pb**		**21 19 04.2**	**-0.8**
SJX				⇑*e*				21 19 13.8	
SJX				IAML				21 19 13.8	
	comp=N,735nm,0.2s								
SJX				*e*				21 19 14.0	
SJX				IAML				21 19 14.0	
	comp=E,766nm,0.1s								
ECBX	**El Chinero**	**0.72**	**165**	⇓*e*P		**Pg**		**21 19 05.6**	**+0.3**
ECBX				*e*S		**Sn**		**21 19 16.2**	**-0.4**
ECBX				IAML				21 19 17.2	
	comp=E,440nm,0.2s								
ECBX				IAML				21 19 17.3	
	comp=N,418nm,0.2s								
ECBX				*e*				21 19 17.3	
YUH2	**Yuha Desert**	**0.73**	**311**	⇑*i*P		**Pb**		**21 19 05.2**	**-0.1**
YUH2				*e*S		**Sb**		**21 19 15.1**	**+0.2**
RMX	**La Rumorosa**	**0.81**	**303**	*e*P		**Pb**		**21 19 05.9**	**-0.8**
RMX				*e*S		**Sb**		**21 19 15.8**	**-1.6**
RMX				⇑*e*				21 19 16.3	
RMX				IAML				21 19 16.3	
	comp=N,127nm,0.2s								
IKP	**In-Ko-Pah, Jac**	**0.86**	**304**	⇑*i*P		**Pb**		**21 19 07.7**	**+0.1**
IKP				*e*S		**Sg**		**21 19 19.4**	**-0.1**
SPIG	**San Pedro Mart**	**1.13**	**189**	*e*P		**Pb**		**21 19 12.6**	**+0.3**
SPIG				*e*S		**Sg**		**21 19 29.0**	**+0.9**
SFX	**San Felipe**	**1.18**	**162**	*e*P		**Pg**		**21 19 14.2**	**+0.1**
CBX	**Cerro Bola**	**1.19**	**277**	*e*P		**Pn**		**21 19 13.2**	**+0.2**
CBX				*e*S		**Sn**		**21 19 28.9**	**+0.3**
CBX	**Cerro Bola**	**1.19**	**277**	*e*P		**Pg**		**21 19 13.9**	**-0.4**
CBX				*e*S		**Sg**		**21 19 29.9**	**-0.1**
MONP2	**Monument Peak**	**1.22**	**307**	*e*P		**Pb**		**21 19 13.8**	**+0.2**
MONP2				*e*S		**Sn**		**21 19 29.7**	**+0.3**
TJIG	**Tijuana**	**1.22**	**283**	*e*P		**Pn**		**21 19 13.2**	**0.0**
TJIG				*e*S		**Sn**		**21 19 29.5**	**+0.2**
BAR	**Barrett**	**1.29**	**294**	*e*P		**Pn**		**21 19 14.6**	**+0.3**
BAR				*e*S		**Sb**		**21 19 32.1**	**+0.9**
SLH	**Sleepy Hollow**	**1.32**	**321**	*e*P		**Pb**		**21 19 15.6**	**+0.2**
MATG	**Mataguay Scout**	**1.56**	**312**	*e*P		**Pb**		**21 19 19.7**	**+0.3**
214A	**Organ Pipe Nat**	**2.10**	**95**	*e*		**Pb**		**21 19 27.8**	**-0.8**
214A				*e*				21 19 52.7	

*JMA **26** 21:29:16.5±0.4, 34.°4N±0.°9×14.°2E±.°, h20km±1km,*

MV3.6/31, FAR SE OFF BOSO PEN
*NIED **26** 21:29:16.5, 34.°40N×141.°80E, h20km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.85; Mθθ-5.02; Mφφ3.17; Mrθ6.16; Mrφ-2.01; Mθφ4.31; Fault plane solution: M0 8.72000×10¹⁴ NP1: φs301.00000°, δ26.00000°, λ159.00000°. NP2: φs50.00000°, δ81.00000°, λ66.00000°.*
*NEIC **26** 21:29:18.0±1.8, 34.°57N±0.°05×141.°70E±0.°09, h10km±1km, mb4.5/18 Error ellipse: s-maj=14.9km s-min=3.6km az=125.0*
*IDC **26** 21:29:21.8±3.5, 34.°45N×141.°54E, h36km±28km, mb3.6/15, mbtmp3.8/18, ML3.7/3, MS3.3/4, Error ellipse: s-maj=19.9km s-min=15.3km az=80.0*
ISC 26 21:29:19.9±0.5, 34.°51N±0.°05×141.°71E±0.°06, h27km, n78, σ1°24/75, mb4.0/28, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.62**	**284**	P		**Pb**		**21 29 30.2**	**-1.6**
BSO3	**Boso 3**	**1.03**	**287**	P		**Pn**		**21 29 37.5**	**-0.8**
BSO4	**Boso 4**	**1.23**	**294**	P		**Pb**		**21 29 40.9**	**-1.4**
KTR	**Katsuura**	**1.31**	**300**	P		**Pn**		**21 29 42.0**	**-0.4**
CHOJ	**Chosi**	**1.38**	**330**	P		**Pn**		**21 29 43.0**	**-0.4**
CHOJ				S		**Sb**		**21 30 02.4**	**+0.2**
JKUC	**kamogawauchiur**	**1.40**	**298**	P		**Pn**		**21 29 43.2**	**-0.5**
JMKN	**Mikurajimanish**	**1.86**	**251**	P		**Pn**		**21 29 48.8**	**-1.1**
JMKN				S		**Sn**		**21 30 12.2**	**-0.3**
JIM2	**Oshima 3**	**1.89**	**277**	P		**Pn**		**21 29 49.2**	**-1.1**
JIM2				S		**Sn**		**21 30 13.8**	**+0.5**
JTHY	**Toshimahigashi**	**2.00**	**271**	S		**Sn**		**21 30 16.5**	**+0.6**
JHJ2	**Mitsune**	**2.10**	**229**			**Pn**		**21 29 52.6**	**-0.6**
JYT	**Yasato**	**2.12**	**325**	Pn		**Pn**		**21 29 53.2**	**-0.3**
JHJ	**Hachijo jima 2**	**2.12**	**230**	Pn		**Pn**		**21 29 53.3**	**-0.2**
	32nm,0.3s,baz=34,slow=11,SNR=12								
JHJ						**Sn**		**21 30 18.2**	**-0.7**
	117nm,0.3s,baz=68,slow=23,SNR=18								
JMM	**Marumori**	**3.43**	**348**	Pn		**Pn**		**21 30 11.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.50**	**306**	Pn		**Pn**		**21 30 13.0**	**+0.5**
	2.8nm,0.3s,baz=148,slow=12,SNR=84								
MJAR						**Sn**		**21 30 50.8**	**-2.3**
	0.7nm,0.3s,baz=146,slow=12,SNR=6.5								
	9.1nm,0.3s								
MAJO	**Matsushiro**	**3.50**	**306**	Pn		**Pn**		**21 30 13.1**	**+0.6**
MJB9	**Matsu-Tunnel**	**3.51**	**306**	Pn		**Pn**		**21 30 12.6**	**0.0**
JGF	**Kuroka**	**3.73**	**288**	Pn		**Pn**		**21 30 16.1**	**+0.3**
INU	**Inuyama**	**3.94**	**284**	Pn		**Pn**		**21 30 19.0**	**+0.4**
JSD	**Sado**	**4.49**	**323**	Pn		**Pn**		**21 30 25.3**	**-0.8**
JTM	**Tenmabayashi**	**6.29**	**356**	Pn		**Pn**		**21 30 48.5**	**-2.3**
JHS	**Saijyo**	**7.09**	**276**	Pn		**Pn**		**21 31 01.0**	**-0.8**
JCJ	**Chichijima**	**7.40**	**177**	Pn		**Pn**		**21 31 06.3**	**+0.2**
	6.0nm,0.3s,baz=264,slow=17,SNR=2.2								
JCJ						**Sn**		**21 32 25.9**	**-3.3**
	7.0nm,0.3s,baz=281,slow=19,SNR=1.3								
	39nm,0.5s								
ERM	**Erimo**	**7.58**	**8**	Pn		**Pn**		**21 31 05.6**	**-2.9**
KSRS	**Korea Array**	**11.55**	**289**	Pn		**Pn**		**21 32 02.1**	**-0.8**
	0.2nm,0.3s,baz=103,slow=14,SNR=4.8								
KSRS						LR	LR	21 35 57.4	
	comp=Z,38nm,18.1s,baz=145,slow=34								
	0.9nm,0.6s								
USRK	**Ussuriysk Ar.**	**12.25**	**325**	LR		LR	LR	21 36 55.6	
	comp=Z,61nm,18.3s,baz=40,slow=37								
PEA0B	**Petropavlovsk-**	**21.79**	**27**	P		**P**		**21 34 08.4**	**-1.2**
HHC	**Hu-ho-hao-te**	**24.61**	**294**	*e*P		**P**		**21 34 39.8**	**+1.8**
HHC				pmax		pmax			
	comp=Z,26nm,0.8s								
HHC				pmax		pmax			
	comp=Z,330nm,5.5s								
H11N2	**WAKE ISLAND Hy**	**26.72**	**117**	T		T		22 03 06.2	
	baz=309,slow=75,SNR=12								
H11N1	**WAKE ISLAND Hy**	**26.73**	**117**	T		T		22 02 56.8	
	baz=309,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hy**	**26.74**	**117**	T		T		22 02 58.4	
	baz=309,slow=75,SNR=10								
H11S3	**WAKE ISLAND Hy**	**27.35**	**119**	T		T		22 04 00.0	
	baz=311								
H11S1	**WAKE ISLAND Hy**	**27.35**	**119**	T		T		22 04 08.6	
	baz=311								
H11S2	**WAKE ISLAND Hy**	**27.37**	**119**	T		T		22 04 00.5	
	baz=311								
SONM	**Songino Array**	**29.45**	**308**	P		**P**		**21 35 21.3**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=107,slow=7.9,SNR=3.7								
	comp=Z,0.8nm,0.6s								
GTA	**Gaotai**	**33.61**	**291**	*e*P		**P**		**21 35 54.0**	**-4.1**
GTA				sP		pwP		21 36 10.0	-2.4
GTA				pmax		pmax			
	comp=Z,1.0nm,1.0s								
PZH	**PanZhiHua**	**35.17**	**268**	P		**P**		**21 36 14.0**	**+2.3**
PZH				pmax		pmax			
	comp=Z,9.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,90nm,4.3s								
CMAR	**Chiang Mai Arr**	**41.15**	**258**	P		**P**		**21 37 00.7**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=49,slow=8.5,SNR=5.1								
	comp=Z,0.5nm,0.3s								
WMQ	**Urumqi**	**42.24**	**299**	*e*P		**P**		**21 37 13.8**	**+3.1**
ZAA0	**Zalesovo Array**	**43.82**	**314**	P		**P**		**21 37 22.6**	**-0.7**
ZALV	**Zalesovo Beam**	**43.82**	**314**	P		**P**		**21 37 23.0**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=95,slow=7.4,SNR=4.3								
	comp=Z,0.4nm,0.3s								
ZALV	**Zalesovo Beam**	**43.82**	**314**	P		**P**		**21 37 23.4**	**+0.1**
BRDH	**Bariadhala**	**45.11**	**269**	LR		LR		21 58 02.3	
	comp=Z,93nm,18.4s,baz=78,slow=38								
MK31	**Makanchi Array**	**45.70**	**304**	P		**P**		**21 37 38.1**	**-0.3**
MKAR	**Makanchi Array**	**45.70**	**304**	P		**P**		**21 37 38.6**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=85,slow=9.9,SNR=9.5								
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**45.70**	**304**	P		**P**		**21 37 37.7**	**-0.8**
MAKZ	**Makanchi**	**45.91**	**304**	P		**P**		**21 37 40.8**	**+0.7**
MAKZ						IAmb	IAmb	21 37 47.8	
	comp=Z,8.9nm,1.5s								
KURK	**Kurchatov**	**47.70**	**310**	P		**P**		**21 37 53.8**	**-0.2**
KURK						IAmb	IAmb	21 37 59.2	
	comp=Z,6.3nm,0.9s								
COEN	**Coen**	**48.22**	**178**	P		**P**		**21 37 58.8**	**+0.5**
KDAK	**Kodiak Island**	**48.84**	**40**	P		**P**		**21 38 04.1**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=259,slow=5.2,SNR=1.9								
	comp=Z,2.6nm,0.7s								
KDAK	**Kodiak Island**	**48.84**	**40**	P		**P**		**21 38 01.9**	**-0.8**
ILAR	**Eielson Array**	**51.51**	**31**	P		**P**		**21 38 23.6**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=270,slow=6.0,SNR=11								
	comp=Z,1.2nm,0.8s								
BMAR	**Burnt Mountain**	**52.44**	**28**	P		**P**		**21 38 29.8**	**+0.1**
BRVK	**Borovoye**	**52.52**	**314**	P		**P**		**21 38 30.6**	**+0.1**
SCRK	**Sand Creek**	**52.80**	**32**	P		**P**		**21 38 32.6**	**0.0**
SCRK						IAmb	IAmb	21 38 39.6	
	comp=Z,6.3nm,1.4s								
WB0	**Warramunga Arr**	**54.42**	**188**	P		**P**		**21 38 44.5**	**-0.2**
WB0						IAmb	IAmb	21 39 09.8	
	comp=Z,7.4nm,1.2s								
FITZ	**Fitzroy Crossi**	**54.50**	**199**	P		**P**		**21 38 46.4**	**+1.1**
FITZ						IAmb	IAmb	21 38 56.7	
	comp=Z,1.9nm,0.8s								
WB2	**Warramunga Ar**	**54.60**	**188**	P		**P**		**21 38 46.5**	**+0.5**
WB2						IAmb	IAmb	21 39 16.5	
	comp=Z,4.4nm,1.1s								
WRA	**Warramunga Arr**	**54.60**	**189**	P		**P**		**21 38 45.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=2.2,slow=7.5,SNR=14								
	comp=Z,0.5nm,0.4s								
WRA	**Warramunga Arr**	**54.60**	**189**	P		**P**		**21 38 46.0**	**0.0**
KKAR	**Karatay Array**	**54.62**	**302**	P		**P**		**21 38 45.0**	**-1.2**
EPYK	**Eagle Plains**	**55.61**	**29**	P		**P**		**21 38 54.8**	**+1.9**
EPYK						IAmb	IAmb	21 39 12.4	
	comp=Z,8.6nm,1.2s								
GAR	**Garm**	**56.03**	**297**	P		**P**		**21 38 57.0**	**+0.6**
GAR						IAmb	IAmb	21 39 35.3	
	comp=Z,12nm,1.5s								
CHGR	**Chuyangaron**	**56.99**	**297**	P		**P**		**21 39 03.3**	**0.0**
CHGR						IAmb	IAmb	21 39 18.2	
	comp=Z,6.7nm,0.9s								
ASAR	**Alice Springs**	**58.33**	**188**	P		**P**		**21 39 12.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=15,slow=11,SNR=6.3								
	comp=Z,0.4nm,0.7s								
ARU	**Arti**	**58.42**	**320**	P		**P**		**21 39 13.2**	**+0.3**
ARU						IAmb	IAmb	21 39 14.1	
	comp=Z,4.2nm,0.9s								
ABKAR	**Akbulak array**	**59.77**	**311**	P		**P**		**21 39 21.7**	**-0.6**
FINES	**FINESS Array B**	**71.16**	**333**	P		**P**		**21 40 36.3**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=38,slow=7.0,SNR=3.7								
	comp=Z,0.9nm,0.7s								
FINES	**FINESS Array B**	**71.16**	**333**	P		**P**		**21 40 36.5**	**+0.8**
NVAR	**Mina Array Bea**	**76.32**	**53**	P		**P**		**21 41 09.3**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=287,slow=5.6,SNR=8.9								
	comp=Z,0.9nm,0.7s								
AKASG	**Malin Array Be**	**76.44**	**323**	P		**P**		**21 41 06.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=52,slow=6.0,SNR=4.4								
	comp=Z,0.6nm,0.4s								
HFS	**Hagfors**	**76.49**	**336**	P		**P**		**21 41 08.3**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=52,slow=9.3,SNR=4.4								
	comp=Z,0.3nm,0.4s								
NB2	**NORSAR Subarra**	**76.61**	**338**	P		**P**		**21 41 08.7**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=36,slow=5.9								
NOA	**NORSAR Array B**	**76.61**	**338**	P		**P**		**21 41 08.0**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=36,slow=4.6,SNR=2.0								
	comp=Z,0.4nm,0.6s								
SFJD	**Kangerlussuaq**	**78.38**	**5**	LR		LR	LR	22 18 04.4	
	comp=Z,63nm,18.6s,baz=110,slow=37								
BRTR	**Keskin Array B**	**80.71**	**312**	P		**P**		**21 41 32.6**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=31,slow=3.4,SNR=2.1								
	comp=Z,0.4nm,0.7s								
BRTR	**Keskin Array B**	**80.71**	**312**	P		**P**		**21 41 32.2**	**+1.4**
MMAI	**Mount Meron Ar**	**83.62**	**306**	P		**P**		**21 41 47.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=64,slow=6.6,SNR=1.3								
	comp=Z,0.2nm,0.3s								
LPAZ	**La Paz**	**147.69**	**63**	PKPbc		**PKPbc**		**21 49 03.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=236,slow=3.6,SNR=3.7								

*KRNET **26** 22:25:21.5±0.1, 40.°57N×73.°07E, h22km, mb2.2*
*SOME **26** 22:25:22.6, 40.°65N×73.°08E, h20km*
*NNC **26** 22:25:24.4±6.8, 40.°77N×73.°17E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=52.9km s-min=26.3km az=161.0*
*ISU **26** 22:25:27, 40.°61N×72.°61E, h5km*
ISC 26 22:25:16.6±1.8, 40.°40N±0.°08×73.°27E±0.°04, h9km±10km, n20, σ1°51/33, 13C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.39**	**289**	⇑*i*P		**Pn**		**22 25 26.9**	**-1.6**
	baz=59								
OHH				⇑*i*S		**Sb**		**22 25 30.8**	**-1.1**
	baz=59								
OHH	**Osh**	**0.39**	**289**	P		**Pn**		**22 25 27.0**	**-1.6**
OHH				S		**Sg**		**22 25 30.1**	**+0.8**
ANR	**Andizhan**	**0.78**	**298**	P		**Sg**		**22 25 42.1**	**+0.4**
ARSB	**Arslanbob**	**0.95**	**347**	⇑*e*P		**Pg**		**22 25 36.1**	**-0.2**
	baz=55								
ARSB				⇑*e*S		**Sg**		**22 25 46.4**	**-0.8**
	baz=55								
FRG	**Fergana**	**1.13**	**269**	P		Pg		22 25 43.5	+5.2
FRG				S		**Sn**		**22 25 54.3**	**-0.1**
CHMI	**Chimion**	**1.34**	**265**	P		**Sg**		**22 26 02.7**	**+3.0**
ARLS	**Aral**	**1.66**	**28**	⇑*e*P		**Pg**		**22 25 50.4**	**+1.8**
	baz=36								
ARLS				⇑*i*S		**Sg**		**22 26 11.6**	**+1.4**
	baz=36								
ARK	**Arkit**	**1.71**	**325**	⇓*i*P		**Pb**		**22 25 48.8**	**+0.5**
	baz=26								
ARK				⇓*i*S		**Sn**		**22 26 08.4**	**-0.4**
	baz=26								
UCH	**Uchtor**	**2.05**	**27**	⇑*e*P		**Pg**		**22 25 56.6**	**+0.6**
	baz=33								
UCH				⇑*i*S		**Sb**		**22 26 21.7**	**+1.4**
	baz=33								
EKS2	**Erkin-Say**	**2.29**	**9**	⇑*e*P		**Pb**		**22 25 58.4**	**+0.1**
	baz=14								
EKS2				⇑*i*S		**Sn**		**22 26 25.4**	**+2.1**
	baz=14								
MRKS	**Merke**	**2.34**	**359**	*e*P		**Pg**		**22 26 01.6**	**0.0**
	10nm,0.3s								
MRKS				*e*S		**Sb**		**22 26 30.1**	**+1.9**
	12nm,0.3s								
MRKS	**Merke**	**2.34**	**359**	Pg		**Pg**		**22 26 01.6**	**0.0**
	10nm,0.3s								
MRKS				Lg		Lg		22 26 30.1	
	12nm,0.3s								
AAK	**Ala-Archa**	**2.42**	**22**	⇑*e*P		**Pb**		**22 26 01.1**	**+0.6**
	baz=27								
AAK				⇑*i*S		**Sb**		**22 26 29.7**	**-0.8**
	baz=27								
IUG	**Iuzhnay**	**3.00**	**307**	*e*P		**Pg**		**22 26 12.3**	**-1.8**
	25nm,0.4s								
IUG				*e*S		**Sb**		**22 26 48.2**	**+1.1**
	6.5nm,0.4s								
IUG	**Iuzhnay**	**3.00**	**307**	Pg		**Pg**		**22 26 12.3**	**-1.8**
	25nm,0.4s								
IUG				Lg		Lg		22 26 48.2	
	6.5nm,0.4s								
KST	**Kastek**	**3.32**	**37**	*e*P		**Pg**		**22 26 19.7**	**-0.6**
	1.5nm,0.6s								
KST				*e*S		**Sg**		**22 27 00.9**	**-2.5**
	2.3nm,0.6s								
KST	**Kastek**	**3.32**	**37**	Pg		**Pg**		**22 26 19.7**	**-0.6**
KST				Lg		Lg		22 27 00.9	
KK31	**Karatay Array**	**3.40**	**324**	⇑Pn		**Pb**		**22 26 19.0**	**+2.0**
	0.1nm,0.2s,baz=137,slow=16,SNR=6.2								
KK31				⇓Lg		Lg		22 26 59.4	
	0.5nm,0.4s,baz=132,slow=30,SNR=6.0								
KRBS	**Karabastau**	**3.75**	**28**	*e*P		**Pg**		**22 26 27.4**	**-1.1**
	0.8nm,0.5s								
KRBS				*e*S		**Sg**		**22 27 13.7**	**-3.3**
	1.3nm,0.5s								
KTBS	**Karatobe**	**4.17**	**36**	*e*P		**Pg**		**22 26 36.7**	**+0.2**
	0.4nm,0.5s								
KTBS				*e*S		**Sg**		**22 27 29.9**	**-0.8**
	3.8

WRA	**Warramunga Arr**	**30.54**	**165**	P	**P**		**22 53 34.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=344,slow=9.2,SNR=0.9 comp=Z,0.3nm,0.6s							
WRA	**Warramunga Arr**	**30.54**	**165**		**P**		**22 53 34.4**	**-0.2**
WB2	**Warramunga Arr**	**30.54**	**165**	P	**P**		**22 53 34.2**	**-0.4**
WB2				IAmb	IAmb		22 53 52.9	
	comp=Z,8.3nm,1.4s							
WR0	**Warramunga Arr**	**30.61**	**165**	P	**P**		**22 53 33.9**	**-1.3**
ASAR	**Alice Springs**	**34.03**	**168**	P	**P**		**22 54 05.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=347,slow=7.9,SNR=4.1 comp=Z,0.2nm,0.3s							
ERM	**Erimo**	**35.30**	**22**	P	P		22 54 23.8	+7.9
H11S3	**WAKE ISLAND Hy**	**39.88**	**73**	T	T		23 37 55.3	
	baz=262,slow=75,SNR=9.4							
H11S1	**WAKE ISLAND Hy**	**39.89**	**73**	T	T		23 37 51.0	
	baz=262,slow=75,SNR=8.2							
H11S2	**WAKE ISLAND Hy**	**39.90**	**73**	T	T		23 37 55.9	
	baz=262,slow=75,SNR=9.8							
H11N1	**WAKE ISLAND Hy**	**40.23**	**71**	T	T		23 38 17.7	
	baz=264,slow=74,SNR=12							
H11N2	**WAKE ISLAND Hy**	**40.24**	**71**	T	T		23 38 13.8	
	baz=264,slow=74,SNR=16							
H11N3	**WAKE ISLAND Hy**	**40.25**	**71**	T	T		23 38 18.3	
	baz=264,slow=74,SNR=16							
FORT	**Forrest**	**40.36**	**178**	P	**P**		**22 54 57.6**	**-1.1**
BBOO	**Buckleboo**	**43.33**	**168**	P	**P**		**22 55 23.3**	**+0.3**
BBOO				IAmb	IAmb		22 55 28.8	
	comp=Z,31nm,1.4s							
ARMA	**Armidale**	**46.72**	**150**	P	**P**		**22 55 52.5**	**+2.4**
ARMA				IAmb	IAmb		22 55 57.6	
	comp=Z,17nm,1.2s							
PEA0B	**Petropavlovsk-**	**50.00**	**24**	P	P		22 56 22.1	+7.1
PETK	**Petropavlovsk-**	**50.00**	**24**	P	P		22 56 22.9	+7.9
MK31	**Makanchi Array**	**52.53**	**323**	P	**P**		**22 56 33.8**	**-0.3**
MKAR	**Makanchi Array**	**52.53**	**323**	P	**P**		**22 56 34.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=125,slow=8.1,SNR=8.6 comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**52.53**	**323**	P	**P**		**22 56 33.5**	**-0.6**
KURK	**Kurchatov**	**56.57**	**326**	P	**P**		**22 57 03.4**	**+0.1**
KURK				IAmb	IAmb		22 57 06.5	
	comp=Z,4.1nm,1.2s							
KURBB	**Kurchatov Arra**	**56.58**	**325**	P	**P**		**22 57 03.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=128,slow=7.0,SNR=4.3 comp=Z,0.5nm,0.6s							
KK31	**Karatay Array**	**58.73**	**315**	P	**P**		**22 57 17.1**	**-1.5**
KK31				IAmb	IAmb		22 57 21.7	
	comp=Z,1.4nm,1.1s							
KKAR	**Karatay Array**	**58.73**	**315**	P	**P**		**22 57 17.2**	**-1.4**
ABKAR	**Akbulak array**	**67.36**	**319**	P	**P**		**22 58 14.9**	**-0.9**
CASY	**Casey**	**76.76**	**187**	P	**P**		**22 59 09.2**	**-2.4**
CASY				IAmb	IAmb		22 59 18.6	
	comp=Z,2.8nm,1.1s							
ARCES	**ARCESS Array B**	**84.71**	**340**	P	**P**		**22 59 55.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=76,slow=6.4,SNR=8.1 comp=Z,1.3nm,0.8s							
FINES	**FINESS Array B**	**86.41**	**332**	P	**P**		**23 00 02.9**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=65,slow=4.6,SNR=18 comp=Z,0.8nm,0.5s							

*JMA **26** 23:03:38.7±0.3,25°N±3°×123°0E±0°.8,h231km±4km, MV4.3/17, NW OFF ISHIGAKIJIMA IS*
*IDC **26** 23:03:40.1±4.4,25°.62N×123°.03E,h279km±46km, mb3.3/13,mbtmp3.9/14,Error ellipse: s-maj=32.0km s-min=12.4km az=64.0*

ISC 26 23:03:36.3±0.7,25°.6N±0°.1×123°.03E±0°.09,h239km±10km, n27,σ1°30/35,mb3.5/13,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.16**	**181**	*eP*	**Pn**	**23 04 11.3**	**+0.1**
YOJ				*eS*	**S**	**23 04 37.2**	**-1.3**
IRIF	**Iriomote-Funau**	**1.44**	**154**	*eS*	**S**	**23 04 40.5**	**-1.5**
JISG	**Ishigakijimahi**	**1.56**	**132**	P	**Pn**	**23 04 14.8**	**+0.8**
JISG				*eS*	**S**	**23 04 43.5**	**-0.1**
JIJ	**Ishigaki jima**	**1.61**	**141**	P	**Pn**	**23 04 15.1**	**+0.5**
JIJ				S	**S**	**23 04 42.4**	**-2.1**
JKRS	**Kuro-shima**	**1.65**	**147**	*eP*	**Pn**	**23 04 15.7**	**+0.9**
JKRS				S	**S**	**23 04 43.6**	**-1.3**
JTJ	**Tarama**	**1.81**	**123**	P	**Pn**	**23 04 17.5**	**+1.4**
JTJ				S	**S**	**23 04 47.4**	**+0.1**
JIRB	**Irabujima**	**2.10**	**112**	P	**Pn**	**23 04 20.1**	**+1.3**
JIRB				*eS*	**S**	**23 04 51.3**	**-0.8**
JIKM	**Ikemajima**	**2.13**	**109**	P	**Pn**	**23 04 20.9**	**+1.8**
JIKM				*eS*	**S**	**23 04 52.6**	**+0.1**
JOGS	**Gusukube**	**2.32**	**111**	P	**Pn**	**23 04 22.9**	**+2.0**
JKE	**Kume jima 2**	**3.45**	**78**	*eP*	**Pn**	**23 04 34.1**	**+0.9**
JKE				*eS*	**S**	**23 05 17.8**	**-0.2**
JAGN	**Aguni-jima**	**3.91**	**75**	*eS*	**S**	**23 05 25.6**	**-2.0**
JOW	**Kunigami**	**4.86**	**75**	S	**S**	**23 05 44.1**	**-4.5**
	21nm,0.2s,baz=115,slow=24,SNR=7.3							
KSRS	**Korea Array**	**12.50**	**18**	P	**P**	**23 06 30.4**	**+1.4**
	2.0nm,0.7s,baz=197,slow=11,SNR=9.8							
MKAR	**Makanchi Array**	**38.51**	**314**	P	**P**	**23 10 35.6**	**0.0**
	2.1nm,0.5s,baz=100,slow=9.6,SNR=35 2.1nm,0.5s							
ZALV	**Zalesovo Beam**	**39.98**	**325**	P	**P**	**23 10 47.3**	**-0.3**
	2.3nm,0.5s,baz=118,slow=8.2,SNR=14 2.3nm,0.5s							
KURBB	**Kurchatov Arra**	**42.12**	**318**	P	**P**	**23 11 04.7**	**-0.4**
	1.5nm,0.8s,baz=109,slow=8.4,SNR=9.1 1.5nm,0.8s							
WRA	**Warramunga Arr**	**46.62**	**165**	P	**P**	**23 11 40.5**	**-0.4**
	1.3nm,0.6s,baz=349,slow=8.9,SNR=13 1.3nm,0.6s							
BVAR	**Borovoye Array**	**47.64**	**319**	P	**P**	**23 11 48.4**	**-0.1**
	0.6nm,0.3s,baz=97,slow=7.6,SNR=5.8 0.6nm,0.3s							
ASAR	**Alice Springs**	**50.12**	**167**	P	**P**	**23 12 07.6**	**0.0**
	0.5nm,0.7s,baz=348,slow=8.5,SNR=6.1 0.5nm,0.7s							
GEYT	**Alibeck**	**55.53**	**300**	P	**P**	**23 12 47.6**	**+0.6**
	3.4nm,0.7s,baz=22,slow=1.6,SNR=6.8 3.4nm,0.7s							
ILAR	**Eielson Array**	**67.16**	**28**	P	**P**	**23 14 03.6**	**-0.6**
	0.2nm,0.5s,baz=291,slow=5.7,SNR=1.9 0.2nm,0.5s							
ARCES	**ARCESS Array B**	**68.83**	**338**	P	**P**	**23 14 15.2**	**+0.7**
	0.8nm,0.7s,baz=50,slow=4.8,SNR=1.1 0.8nm,0.7s							
FINES	**FINESS Array B**	**71.05**	**330**	P	**P**	**23 14 28.0**	**-0.1**
	1.5nm,0.7s,baz=52,slow=5.1,SNR=9.5 1.5nm,0.7s							
BRTR	**Keskin Array B**	**73.67**	**307**	P	**P**	**23 14 44.1**	**-0.1**
	0.4nm,0.7s,baz=104,slow=6.1,SNR=2.7 0.4nm,0.7s							
NB2	**NORSAR Subarra**	**77.73**	**332**	P	**P**	**23 15 05.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=57,slow=5.6							
NOA	**NORSAR Array B**	**77.73**	**332**	P	**P**	**23 15 06.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=72,slow=6.1,SNR=4.4 comp=Z,0.5nm,0.5s							
GERES	**GERESS Array B**	**82.78**	**321**	P	**P**	**23 15 33.8**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=18,slow=4.8,SNR=4.9 comp=Z,0.6nm,0.8s							

*NEIC **26** 23:06:11.4±1.7,18°.66N±0°.09×145°.7E±0°.3,h181km±12km, mb3.7/7,Error ellipse: s-maj=43.6km s-min=13.6km az=90.0*
*IDC **26** 23:06:23.4±10.0,18°.61N×145°.68E,h311km±100km, mb3.2/6,mbtmp3.9/6,Error ellipse: s-maj=85.7km s-min=19.9km az=84.0*

ISC 26 23:06:17.7±1.3,18°.6N±0°.1×145°.6E±0°.3,h250km,n15, σ0°65/15,mb3.6/10,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**32.52**	**343**	P	**P**	**23 12 25.4**	**+0.3**
	0.6nm,0.3s,baz=126,slow=5.0,SNR=4.2 0.6nm,0.3s						
WB0	**Warramunga Arr**	**39.69**	**197**	P	**P**	**23 13 26.2**	**+0.2**
WB0				IAmb	IAmb	23 13 37.0	
	comp=Z,3.0nm,1.1s						
WR0	**Warramunga Arr**	**39.83**	**196**	P	**P**	**23 13 27.6**	**+0.4**
WR0				IAmb	IAmb	23 13 32.9	
	comp=Z,2.7nm,1.1s						
WB2	**Warramunga Arr**	**39.87**	**197**	P	**P**	**23 13 27.3**	**-0.2**
WB2				IAmb	IAmb	23 13 32.3	
	comp=Z,1.4nm,0.9s						
WRA	**Warramunga Arr**	**39.87**	**197**	P	**P**	**23 13 27.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=14,slow=8.1,SNR=9.2 comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**39.87**	**197**	P	**P**	**23 13 27.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.41**	**209**	P	**P**	**23 13 40.0**	**-0.1**
FITZ				IAmb	IAmb	23 13 49.0	
	comp=Z,3.4nm,1.1s						
SONM	**Songino Array**	**43.15**	**321**	P	**P**	**23 13 54.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=117,slow=7.3,SNR=3.1 comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**43.15**	**321**	P	**P**	**23 13 53.1**	**-0.8**
SONM				IAmb	IAmb	23 13 55.9	
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.45**	**314**	P	**P**	**23 15 48.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=88,slow=8.3,SNR=8.4 comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**58.45**	**314**	P	**P**	**23 15 48.5**	**+1.0**
NRIK	**Noril'sk**	**61.66**	**340**	P	**P**	**23 16 08.4**	**-0.4**
BMAR	**Burnt Mountain**	**65.24**	**24**	P	**P**	**23 16 32.6**	**+0.3**
ARCES	**ARCESS Array B**	**82.55**	**342**	P	**P**	**23 18 12.2**	**-0.1**
	comp=Z,2.2nm,1.1s,baz=78,slow=8.4,SNR=1.4 comp=Z,2.2nm,1.1s						
FINES	**FINESS Array B**	**86.92**	**335**	P	**P**	**23 18 32.7**	**-1.4**
	comp=Z,2.2nm,1.0s,baz=74,slow=4.9,SNR=8.2 comp=Z,2.2nm,1.0s						

*ISK **26** 23:12:36.4,36°.40N×28°.06E,h74km±2km,ML2.9/17*
*DDA **26** 23:12:37.5±0.0,36°.49N×28°.03E,h55km±4km,ML2.9*
*NIC **26** 23:12:39.0±0.0,35°.78N×28°.33E,h19km±1km,MI3.6/9*
*THE **26** 23:12:38.9,36°.40N×28°.00E,h67km±2km,ML2.8/3,Error ellipse: s-maj=3.2km s-min=1.2km az=116.0*
*ATH **26** 23:12:38.5,35°.99N×27°.66E,h40km±10km,ML3.0/4,Error ellipse: s-maj=10.8km s-min=1.3km az=48.0*
*GII **26** 23:12:41.6±0.4,36°.05N×28°.47E,h80km,Mm3.0/5*

ISC 26 23:12:35.8±1.2,36°.30N±0°.03×28°.14E±0°.03,h82km±7km, n81,σ1°52/124,3C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.09**	**187**	P	**Pn**	**23 12 48.4**	**+1.0**
ARG				S	**Sn**	**23 12 56.5**	**+0.5**
	2µm,0.2s						
ARG	**Arkhangelos**	**0.09**	**187**	PG	**Pn**	**23 12 48.5**	**+1.0**
ARG				SG	**Sn**	**23 12 56.5**	**+0.5**
ARG	**Arkhangelos**	**0.09**	**187**	⇑P	**Pn**	**23 12 48.4**	**+1.0**
ARG				S	**Sn**	**23 12 55.8**	**-0.2**
ARG	**Arkhangelos**	**0.09**	**187**	P	**Pn**	**23 12 48.5**	**+1.0**
ARG				S	**Sn**	**23 12 55.8**	**-0.2**
ARG				AML	AML	23 12 56.9	
	comp=N,4274µm,0.2s						
ARG				AML	AML	23 12 57.0	
	comp=E,5518µm,0.2s						
DALY	**Dalyan (Mula)**	**0.66**	**39**	PG	**Pn**	**23 12 52.4**	**+1.3**
DALY				SG	**Sn**	**23 13 02.6**	**+0.1**
FETY	**Fethiye**	**0.83**	**66**	PG	**Pn**	**23 12 53.6**	**+0.6**
FETY				SG	**Sn**	**23 13 05.5**	**-0.3**
NIS1	**Nisyros Isl.**	**0.83**	**291**	PG	**Pn**	**23 12 53.4**	**+0.4**
NIS1				SG	**Sn**	**23 13 04.8**	**-1.0**
NIS1	**Nisyros Isl.**	**0.83**	**291**	P	**Pn**	**23 12 53.3**	**+0.4**
NIS1				S	**Sn**	**23 13 02.9**	**-2.9**
NIS1				AML	AML	23 13 06.5	
	comp=E,5131µm,0.2s						
NIS1				AML	AML	23 13 06.9	
	comp=N,4573µm,0.3s						
YER	**Yerkesik**	**0.84**	**8**	P	**Pn**	**23 12 54.5**	**+1.3**
YER	**Yerkesik**	**0.84**	**8**	PG	**Pn**	**23 12 54.5**	**+1.3**
NISR	**Nisiros**	**0.87**	**291**	P	**Pn**	**23 12 53.5**	**+0.1**
MULA	**Mugla, Merkez-**	**0.96**	**9**	P	**Pn**	**23 12 55.8**	**+1.2**
MULA				S	**Sn**	**23 13 09.1**	**+0.5**
BODT	**Bodrum**	**1.01**	**319**	P	**Pn**	**23 12 54.1**	**-1.0**
BODT				S	**Sn**	**23 13 06.7**	**-2.8**
BODT	**Bodrum**	**1.01**	**319**	PG	**Pn**	**23 12 54.2**	**-0.9**
BODT				SG	**Sn**	**23 13 07.1**	**-2.4**
KOSK	**Kos Island**	**1.04**	**296**	P	**Pn**	**23 12 55.6**	**+0.3**
KOSK				S	**Sn**	**23 13 08.8**	**-1.2**
	comp=N,295nm,0.6s						
KOSK	**Kos Island**	**1.04**	**296**	PG	**Pn**	**23 12 55.4**	**+0.1**
KOSK				SG	**Sn**	**23 13 08.8**	**-1.2**
KOSK	**Kos Island**	**1.04**	**296**	P	**Pn**	**23 12 55.6**	**+0.3**
KOSK				S	**Sn**	**23 13 08.8**	**-1.2**
KOSK				AML	AML	23 13 09.5	
	comp=E,1596µm,0.6s						
KOSK				AML	AML	23 13 11.6	
	comp=N,1890µm,0.6s						
KARP	**Karpathos**	**1.09**	**227**	PN	**Pn**	**23 12 57.6**	**+1.5**
KARP				SN	**Sn**	**23 13 12.4**	**+1.1**
KARP	**Karpathos**	**1.09**	**227**	AML	AML	23 12 57.4	
	comp=N,1.1nm,0.1s						
KARP				AML	AML	23 12 57.4	
	comp=N,1.1nm,0.1s						
KARP				⇑P	**Pn**	**23 12 57.5**	**+1.3**
KARP				S	**Sn**	**23 13 11.3**	**-0.1**
KARP				AML	AML	23 13 12.6	
	comp=N,1.0nm,0.3s						
KARP				AML	AML	23 13 12.6	
	comp=N,1.0nm,0.3s						
CAME	**Cameli-Denizli**	**1.13**	**55**	PN	**Pn**	**23 12 58.0**	**+1.3**
CAME				SN	**Sn**	**23 13 13.5**	**+1.2**
KSL	**Kastellorizon**	**1.18**	**97**	⇑P	**Pn**	**23 12 59.0**	**+2.0**
KSL				S	**Sn**	**23 13 14.6**	**+1.5**
KSL				AML	AML	23 13 15.0	
	comp=N,0.3nm,0.3s						
KSL				AML	AML	23 13 15.0	
	comp=N,0.3nm,0.3s						
KSL				AML	AML	23 13 15.3	
	comp=N,0.6nm,0.4s						
KSL				AML	AML	23 13 15.3	
	comp=N,0.6nm,0.4s						
AKAS	**Kas**	**1.19**	**93**	PN	**Pn**	**23 12 58.5**	**+1.2**
AKAS	**Kas**	**1.19**	**93**	P	**Pn**	**23 12 57.9**	**+0.6**
CAEL	**Denizli, Camel**	**1.25**	**49**	P	**Pn**	**23 12 59.7**	**+1.5**
CAEL				S	**Sn**	**23 13 16.6**	**+1.7**
TAVA	**DENIZLI_Tavas**	**1.32**	**28**	P	**Pn**	**23 12 59.7**	**+0.8**
TAVA				S	**Sn**	**23 13 16.0**	**-0.3**
DDIM	**Aydin, Didim**	**1.36**	**328**	P	**Pn**	**23 12 59.2**	**-0.1**
DDIM				S	**Sn**	**23 13 15.4**	**-1.7**
DDIM				*i* AML	AML	23 13 17.0	
	comp=N,232nm,0.4s						
GOLH	**Golhisar**	**1.47**	**50**	P	**Pn**	**23 13 02.9**	**+2.0**
GOLH				S	**Sn**	**23 13 20.9**	**+1.0**
APMY	**Acipayam-Deniz**	**1.49**	**38**	PN	**Pn**	**23 13 02.5**	**+1.3**
ELL	**Elmali**	**1.49**	**72**	PN	**Pn**	**23 13 02.9**	**+1.7**
GCAM	**G?zelcaml?**	**1.57**	**333**	PN	**Pn**	**23 13 02.5**	**+0.4**
GCAM				SN	**Sn**	**23 13 20.5**	**-1.5**
GCAM	**G?zelcaml?**	**1.57**	**333**	P	**Pn**	**23 13 01.6**	**-0.4**
GCAM				S	**Sn**	**23 13 20.1**	**-1.9**
GCAM				*i* AML	AML	23 13 21.0	
	comp=N,139nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.65**	**353**	PN	**Pn**	**23 13 03.8**	**+0.5**
SMG	**Samos**	**1.75**	**324**	P	**Pn**	**23 13 04.4**	**0.0**
SMG				S	**Sn**	**23 13 24.6**	**-1.5**
	comp=N,192nm,0.4s						
ZKR	**Zakros**	**1.96**	**233**	S	**Sn**	**23 13 33.8**	**+2.6**
ZKR	**Zakros**	**1.96**	**233**	P	**Pn**	**23 13 04.6**	**-2.6**
STIA	**Sitia Lasithi**	**2.00**	**237**	P	**Pn**	**23 13 09.6**	**+1.9**
STIA				S	**Sn**	**23 13 32.2**	**+0.3**
DGB	**zmir**	**2.01**	**330**	P	**Pn**	**23 13 06.9**	**-1.0**
BRDR	**BURDUR-Merkez**	**2.07**	**47**	P	**Pn**	**23 13 10.2**	**+1.4**
BUCA	**Burdur, Bucak-**	**2.19**	**61**	P	**Pn**	**23 13 13.2**	**+2.8**
BUCA				S	**Sn**	**23 13 38.0**	**+1.2**
MANT	**Manisa**	**2.21**	**9**	P	**Pn**	**23 13 10.5**	**-0.2**
MANT				S	**Sn**	**23 13 35.5**	**-1.9**
BASM	**Basmaki-Afyon**	**2.22**	**43**	PN	**Pn**	**23 13 11.9**	**+1.1**
APE	**Apeiranthos**	**2.23**	**291**	P	**Pn**	**23 13 11.8**	**+0.9**
APE	**Apeiranthos**	**2.23**	**291**	PN	**Pn**	**23 13 11.4**	**+0.5**
BLCB	**Balcova**	**2.26**	**338**	P	**Pn**	**23 13 11.2**	**+0.1**
BLCB				S	**Sn**	**23 13 36.1**	**-2.0**
BLCB	**Balcova**	**2.26**	**338**	PN	**Pn**	**23 13 11.3**	**+0.1**
PASA	**Karahalli, USA**	**2.31**	**27**	P	**Pn**	**23 13 12.2**	**+0.3**
URLA	**Izmir**	**2.39**	**330**	PN	**Pn**	**23 13 12.4**	**-0.6**
URLA	**Izmir**	**2.39**	**330**	P	**Pn**	**23 13 10.5**	**-2.5**
USAK	**Uak-Merkez**	**2.51**	**16**	P	**Pn**	**23 13 15.2**	**+0.6**
USAK				S	**Sn**	**23 13 42.5**	**-1.7**
KZIL	**AFYON_Kizioren**	**2.52**	**39**	P	**Pn**	**23 13 15.9**	**+1.1**
HRKL	**Herakleio**	**2.66**	**249**	P	**Pn**	**23 13 17.3**	**+0.8**
CHOS	**Chios island**	**2.66**	**322**	P	**Pn**	**23 13 16.5**	**-0.2**
CHOS				S	**Sn**	**23 13 46.0**	**-2.0**
KSTL	**Kastelli Herak**	**2.69**	**249**	P	**Pn**	**23 13 15.5**	**-1.4**
DEMI	**Demirci**	**2.77**	**9**	P	**Pn**	**23 13 17.9**	**-0.3**
DEMI				S	**Sn**	**23 13 48.3**	**-2.5**
ZEDA	**zmir-Bergama**	**2.79**	**343**	P	**Pn**	**23 13 17.9**	**-0.4**
IDI	**Anoyia**	**2.83**	**250**	P	**Pn**	**23 13 19.3**	**+0.4**
IDI				AML	AML	23 13 55.1	
	comp=N,94µm,0.4s						
IDI				AML	AML	23 13 58.5	
	comp=E,92µm,0.6s						
GDZ	**Gediz**	**2.98**	**21**	P	**Pn**	**23 13 19.2**	**-1.8**
SIVA	**Sivas**	**3.00**	**246**	P	**Pn**	**23 13 23.1**	**+2.0**
TMBK	**Timbaki Herakl**	**3.01**	**247**	P	**Pn**	**23 13 23.4**	**+2.2**
IMMV	**Iera Moni Meta**	**3.48**	**257**	P	**Pn**	**23 13 30.3**	**+2.6**
GVD	**Gavdhos**	**3.61**	**247**	P	**Pn**	**23 13 31.8**	**+2.4**
AKMS	**Akamas**	**3.65**	**109**	P	**Pn**	**23 13 31.2**	**+1.2**
AKMS				AML	AML	23 14 10.5	
	comp=E,0.3nm,0.4s						
AKMS				AML	AML	23 14 12.3	
	comp=E,0.8nm,0.7s						
ALFC	**Alefka**	**3.80**	**106**	P	**Pn**	**23 13 33.0**	**+0.9**
ALFC				AML	AML	23 14 16.1	
	comp=E,0.4nm,0.4s						
ALFC				AML	AML	23 14 17.5	
	comp=E,0.5nm,0.2s						
NATA	**Nata**	**3.92**	**112**	P	**Pn**	**23 13 34.9**	**+1.3**
NATA				AML	AML	23 14 19.8	
	comp=E,0.7nm,0.4s						
NATA				AML	AML	23 14 25.4	
	comp=E,1.1nm,0.5s						
SZAC	**Souni**	**4.16**	**110**	P	**Pn**	**23 13 38.1**	**+1.1**
SZAC				AML	AML	23 14 26.1	
	comp=E,0.6nm,0.4s						
SZAC				AML	AML	23 14 27.1	
	comp=E,0.2nm,0.3s						
ASGA	**Asgata**	**4.43**	**108**	P	**Pn**	**23 13 42.0**	**+1.4**
ASGA				AML	AML	23 14 31.9	
	comp=E,0.1nm,0.2s						
ASGA				AML	AML	23 14 33.1	
	comp=E,0.2nm,0.2s						
CSS	**Mathiatis**	**4.43**	**106**	P	**Pn**	**23 13 41.9**	**+1.2**
CSS				AML	AML	23 14 36.6	
CSS				AML	AML	23 14 38.0	
MVOU	**Mavrovouni**	**4.65**	**104**	P	**Pn**	**23 13 44.7**	**+1.1**
MVOU				AML	AML	23 14 37.6	
	comp=E,0.1nm,0.3s						
MVOU				AML	AML	23 14 42.7	
	comp=E,0.1nm,0.3s						
OSC2	**CSNet OBS 4**	**4.68**	**132**	P	**Pn**	**23 13 43.0**	**-1.0**
MMA0B	**Mount Meron ar**	**6.82**	**117**	Pn	**Pn**	**23 14 14.7**	**+1.4**
MMA0B				Sn	**Sn**	**23 15 27.4**	**-2.1**
GEM	**Giv'at Ha'Em**	**6.92**	**114**	Pn	**Pn**	**23 14 16.3**	**+1.8**
GEM				Sn	**Sn**	**23 15 29.9**	**-1.8**
NATI	**Neve Ativ**	**6.95**	**114**	Pn	**Pn**	**23 14 17.1**	**+2.2**
NATI				Sn	**Sn**	**23 15 29.4**	**-3.0**
MMLI	**Mount Malkishu**	**7.15**	**121**	Pn	**Pn**	**23 14 19.4**	**+1.7**
MMLI				Sn	**Sn**	**23 15 35.1**	**-2.3**
HMDT	**Nahal Hemdat**	**7.33**	**121**	Pn	**Pn**	**23 14 22.0**	**+1.9**
HMDT				Sn	**Sn**	**23 15 38.9**	**-2.8**
AMAZ	**Amatzia**	**7.37**	**128**	Pn	**Pn**	**23 14 21.7**	**+1.0**
AMAZ				Sn	**Sn**	**23 15 40.9**	**-1.9**
KZIT	**Kziot**	**7.50**	**134**	Pn	**Pn**	**23 14 23.6**	**+1.2**
KZIT				Sn	**Sn**	**23 15 42.9**	**-3.0**
YTIR	**Yattir**	**7.61**	**128**	Pn	**Pn**	**23 14 24.5**	**+0.4**
YTIR				Sn	**Sn**	**23 15 46.6**	**-2.2**
PRNI	**Paran**	**8.26**	**134**	Pn	**Pn**	**23 14 33.2**	**+0.4**
PRNI				Sn	**Sn**	**23 16 01.6**	**-2.9**
KRMI	**Paran Flat**	**8.27**	**136**	Pn	**Pn**	**23 14 33.3**	**+0.2**
KRMI				Sn	**Sn**	**23 16 01.9**	**-3.0**
HRFI	**Mount Harif**	**8.51**	**135**	Pn	**Pn**	**23 14 37.8**	**+1.5**
HRFI				Sn	**Sn**	**23 16 08.4**	**-2.3**
MBRI	**Mt Berech**	**8.63**	**137**	Pn	**Pn**	**23 14 38.8**	**+0.9**

*NEIC **26** 23:30:51.8±1.0,36°.80N±0°.01×98°.27W±0°.01,h5km±1km, Error ellipse: s-maj=3.0km s-min=2.2km az=132.0*
*TUL **26** 23:30:51.6±1.3,36°.817N±0°.010×98°.273W±0°.009, h7km±5km,ML3.8,mb_Lg3.7/103(NEIC),Error ellipse: s-maj=1.5km s-min=1.0km az=202.0*
*ANF **26** 23:30:51.9±0.2,36°.82N×98°.25W,h7km,ML4.5/20,Error ellipse: s-maj=2.2km s-min=2.0km az=103.0*
*IDC **26** 23:30:52.2±0.8,36°.81N×98°.11W,h0km,mb3.4/1, mbtmp3.6/7,ML3.5/6,MS2.9/1,Error ellipse: s-maj=11.8km s-min=9.9km az=164.0*

ISC 26 23:30:52.0±0.8,36°.80N±0°.02×98°.26W±0°.02,h11km±5km, n138,σ1°17/122,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.04**	**88**	Pg	**Pg**	**23 30 53.4**	**-0.7**
OK032				Sg	**Sg**	**23 30 54.8**	**-0.8**
KAN14	**Manchester OK**	**0.28**	**57**		**Pg**	**23 30 57.6**	**-0.2**
KAN14				Sg	**Sg**	**23 31 01.8**	**+0.1**
GC02	**Grant County #**	**0.33**	**81**	Pg	**Pg**	**23 30 58.4**	**-0.1**
GC02				Sg	**Sg**	**23 31 03.2**	**+0.3**
KAN10	**Anthony SW Sta**	**0.35**	**22**	Pg	**Pg**	**23 30 58.6**	**-0.3**
KAN10				Sg	**Sg**	**23 31 03.6**	**0.0**
CROK	**Carrier**	**0.37**	**143**	Pg	**Pg**	**23 30 59.3**	**0.0**
CROK				Sg	**Sg**	**23 31 04.8**	**+

TUL1	Leonard	2.18	113	S	Sb	23 31 59.7	+1.2		
	baz=295								
X34A	Smith Ranch, M	2.22	171	Pn	Pn	23 31 30.4	+1.6		
X34A				IAmb_Lg		23 32 04.2			
	comp=Z,456nm,0.7s								
CBKS	Cedar Bluff	2.32	330	Pn	Pn	23 31 31.3	+1.1		
CBKS	Cedar Bluff	2.32	330	P	Pn	23 31 31.0	+0.8		
	baz=149,SNR=97								
CBKS				S	Sn	23 32 00.8	+1.9		
	baz=149								
KSU1	Kansas State U	2.64	29	Pn	Pn	23 31 35.7	+1.2		
KSU1				IAmb_Lg		23 32 22.1			
	comp=Z,268nm,0.7s								
KSU1	Kansas State U	2.64	29	P	Pn	23 31 35.3	+0.8		
	baz=210,SNR=35								
KSU1	Kansas State U	2.64	29	P	Pn	23 31 35.7	+1.2		
	baz=210								
RLO	Rose Lookout	2.69	103	Pn	Pn	23 31 36.1	+0.9		
LOOK	Love County	2.94	162	Pn	Pn	23 31 39.5	+0.9		
LOOK				IAmb_Lg		23 32 32.0			
	comp=Z,135nm,1.0s								
U38A	Gravette	3.14	95	Pn	Pn	23 31 42.2	+0.8		
U38A				IAmb_Lg		23 32 36.4			
	comp=Z,203nm,0.9s								
U38A	Gravette	3.14	95	P	Pn	23 31 42.2	+0.8		
	baz=278,SNR=105								
X37A	Clayton	3.23	132	Pn	Pn	23 31 43.5	+0.9		
X37A				IAmb_Lg		23 32 39.9			
	comp=Z,157nm,0.7s								
X37A	Clayton	3.23	132	P	Pn	23 31 43.5	+0.9		
	baz=314,SNR=186								
X37A				S	Sn	23 32 22.7	+1.7		
	baz=314								
AMTX	Amarillo	3.38	236		Pb	23 31 53.0	+1.2		
AMTX				IAmb_Lg		23 32 45.3			
	comp=Z,246nm,0.8s								
AMTX	Amarillo	3.38	236	P	Pn	23 31 45.7	+1.0		
	baz=54,SNR=29								
AMTX	Amarillo	3.38	236	P	Pb	23 31 53.1	+1.2		
	baz=54								
HHAR	Hobbs	3.52	97	Pn	Pn	23 31 47.1	+0.5		
HHAR				IAmb_Lg		23 32 52.3			
	comp=Z,132nm,0.8s								
Z35A	Perchaven, San	3.56	166		Pb	23 31 55.9	+1.0		
Z35A				IAmb_Lg		23 32 51.9			
	comp=Z,139nm,1.0s								
Z35A	Perchaven, San	3.56	166	S	Sn	23 32 32.0	+2.8		
	baz=347								
N33B	J Bar K, Exete	3.98	9	P	Pn	23 31 52.8	-0.1		
	baz=190,SNR=24								
N33B				S	Sn	23 32 39.5	-0.1		
	baz=190								
N33A	J Bar K, Exete	3.98	9		Pn	23 31 52.8	-0.2		
N33A				IAmb_Lg		23 33 07.6			
	comp=Z,223nm,0.7s								
S39A	Bolivar	4.04	76	IAmb_Lg		23 33 03.3			
	comp=Z,148nm,0.8s								
S39A	Bolivar	4.04	76	P	Pn	23 31 54.2	+0.4		
	baz=259,SNR=16								
KSCO	Kaye Shedlock'	4.10	304	IAmb_Lg		23 33 05.7			
	comp=Z,132nm,0.7s								
KSCO	Kaye Shedlock'	4.10	304	P	Pn	23 31 55.2	+0.5		
	baz=121,SNR=22								
KSCO	Kaye Shedlock'	4.10	304	P	Pn	23 31 55.5	+0.9		
	baz=121								
ABTX	Abilene, Hawle	4.32	196		Pn	23 31 59.8	+2.1		
ABTX	Abilene, Hawle	4.32	196	P	Pn	23 31 57.9	+0.3		
	baz=15,SNR=16								
ABTX	Abilene, Hawle	4.32	196	P	Pn	23 31 58.0	+0.3		
	baz=15								
MIAR	Mount Ida	4.43	119	IAmb_Lg		23 33 24.9			
	comp=Z,105nm,0.8s								
MIAR	Mount Ida	4.43	119	P	Pn	23 31 59.6	+0.6		
	baz=302,SNR=87								
MIAR	Mount Ida	4.43	119	P	Pn	23 32 00.3	+1.2		
	baz=302								
BGNE	Belgrade	4.60	1	P	Pn	23 32 02.1	+0.7		
	baz=181,SNR=44								
BGNE	Belgrade	4.60	1	P	Pn	23 32 02.1	+0.7		
	baz=181								
MSTX	Muleshoe	4.64	234	IAmb_Lg		23 33 24.4			
	comp=Z,103nm,0.7s								
MGMO	Mountain Grove	4.81	84	IAmb_Lg		23 33 25.3			
	comp=Z,91nm,0.7s								
WHTX	Lake Whitney,	4.84	172	P	Pn	23 32 05.3	+0.5		
	baz=352,SNR=42								
WHTX	Lake Whitney,	4.84	172	P	Pn	23 32 05.4	+0.5		
	baz=352								
R40A	Maddies Statio	4.99	71	IAmb_Lg		23 33 32.2			
	comp=Z,93nm,0.7s								
R40A	Maddies Statio	4.99	71	P	Pn	23 32 06.7	0.0		
	baz=255,SNR=59								
WHAR	Wooly Hollow	5.07	106	IAmb_Lg		23 33 31.0			
	comp=Z,125nm,0.9s								
OGNE	Ogallala	5.08	326	IAmb_Lg		23 33 33.1			
	comp=Z,185nm,0.8s								
237A	Washetta, Mont	5.20	156	P	Pn	23 32 10.1	+0.5		
	baz=338,SNR=10								
WLAR	White Oak Lake	5.23	125	IAmb_Lg		23 33 46.0			
	comp=Z,132nm,0.7s								
N38A	Joes South For	5.59	43	P	Pn	23 32 15.1	0.0		
	baz=226,SNR=7.0								
P40A	Paris	5.60	59	IAmb_Lg		23 33 55.3			
	comp=Z,127nm,0.7s								
CCM	Cathedral Cave	5.72	75	IAmb_Lg		23 33 57.2			
	comp=Z,73nm,0.7s								
NATX	Nacogdoches	5.84	148	S	Sn	23 33 23.1	-2.5		
	baz=330								
Q24A	Divide	5.86	294	S	Sn	23 33 25.8	-0.6		
	baz=109								
CCAR	Cane Creek	6.03	117	IAmb_Lg		23 34 18.7			
	comp=Z,86nm,0.8s								
PBMO	Poplar Bluff	6.28	88	IAmb_Lg		23 34 21.2			
	comp=Z,78nm,0.8s								
SCIA	State Center	6.42	36	IAmb_Lg		23 34 23.5			
	comp=Z,128nm,0.7s								
ISCO	Idaho Springs	6.51	300	P	Pn	23 32 28.4	+0.4		
	baz=115,SNR=11								
SLM	Saint Louis	6.62	72	IAmb_Lg		23 34 25.3			
	comp=Z,72nm,0.7s								
GNAR	Gosnell	6.70	95	IAmb_Lg		23 34 26.8			
	comp=Z,95nm,0.7s								
CGM3	Cape Girardeau	6.90	83	IAmb_Lg		23 34 37.4			
	comp=Z,72nm,0.8s								
ANMO	Albuquerque	6.91	257	Pn	Pn	23 32 37.6	+4.3		
	comp=Z,0.3nm,0.3s,baz=75,slow=16,SNR=5.1								
ANMO				Pg	Pg	23 33 00.6	-3.6		
	comp=Z,0.6nm,0.3s,baz=77,slow=16,SNR=6.3								
ANMO				Lg	Lg	23 34 28.2			
	comp=Z,3.9nm,0.3s,baz=112,slow=11,SNR=4.2								
	comp=Z,0.7nm,0.3s								
143A	Socs Landing,	6.97	124	IAmb_Lg		23 34 41.7			
	comp=Z,58nm,0.8s								
LNXT	Lenox	7.10	93	IAmb_Lg		23 34 52.4			
	comp=Z,126nm,0.8s								
PHWY	Pilot Hill	7.18	311	IAmb_Lg		23 34 40.9			
	comp=Z,63nm,0.8s								
S44A	Carbondale	7.24	80	IAmb_Lg		23 34 43.4			
	comp=Z,105nm,0.7s								
HALT	Halls	7.25	94	IAmb_Lg		23 34 42.5			
	comp=Z,74nm,0.9s								
N23A	Red Feather La	7.25	307	IAmb_Lg		23 34 45.9			
	comp=Z,118nm,0.9s								
HICK	Hickman	7.26	89	IAmb_Lg		23 34 53.5			
	comp=Z,110nm,0.8s								
W45A	Hickory Valley	7.54	100	IAmb_Lg		23 35 02.4			
	comp=Z,80nm,0.8s								
OXF	Oxford	7.56	105	IAmb_Lg		23 34 52.3			
	comp=Z,50nm,0.8s								
UTMT	University of	7.57	91	IAmb_Lg		23 34 57.6			
	comp=Z,109nm,1.0s								
Y22D	IRIS PASSCAL I	7.58	251	IAmb_Lg		23 35 04.4			
	comp=Z,94nm,0.9s								
SUSD	Miller	7.65	356	IAmb_Lg		23 34 58.9			
	comp=Z,92nm,0.8s								
Y45A	Yeager Farm, C	7.70	110	IAmb_Lg		23 35 18.0			
	comp=Z,52nm,0.8s								
T45A	Paducah	7.71	86	IAmb_Lg		23 34 58.9			
	comp=Z,110nm,0.7s								
735A	Kenedy	7.93	177	IAmb_Lg		23 35 18.5			
	comp=Z,50nm,0.7s								
I37A	Lemond, Waseca	8.10	26	IAmb_Lg		23 35 28.0			
	comp=Z,51nm,0.8s								
WVT	Waverly	8.43	91	P	Pn	23 32 53.5	-0.6		
	baz=278,SNR=5.6								
L42A	Oliver, Polo	8.44	49	IAmb_Lg		23 35 33.6			
	comp=Z,92nm,0.8s								
RWWY	Rawlins	8.48	308	IAmb_Lg		23 35 31.8			
	comp=Z,46nm,1.0s								
833A	Chaparral WMA,	8.51	187	IAmb_Lg		23 35 32.8			
	comp=Z,45nm,1.0s								
K22A	Casper	8.64	315	IAmb_Lg		23 35 39.9			
	comp=Z,68nm,0.8s								
JFWS	Jewell Farm	8.67	43	IAmb_Lg		23 35 26.7			
	comp=Z,93nm,0.8s								
JFWS	Jewell Farm	8.67	43	P	Pn	23 32 56.8	-0.5		
	baz=228								
TXAR	Lajitas Array	8.72	213	Pn	Pn	23 32 58.8	+0.7		
	comp=Z,0.5nm,0.3s,baz=42,slow=11,SNR=16								
TXAR				Pg	Pg	23 33 30.9	-8.0		
	comp=Z,2.0nm,0.3s,baz=37,slow=15,SNR=11								
TXAR				Lg	Lg	23 35 24.1			
	comp=Z,3.1nm,0.3s,baz=33,slow=30,SNR=10								
	comp=Z,0.7nm,0.4s								
121A	Cookes Peak, D	8.93	244	IAmb_Lg		23 35 46.2			
	comp=Z,42nm,1.1s								
F33A	5 Mile Ranch,	9.15	9	IAmb_Lg		23 35 42.8			
	comp=Z,41nm,1.0s								
I40A	Norwalk	9.17	37	IAmb_Lg		23 35 44.6			
	comp=Z,79nm,1.2s								
E28A	Huff	9.93	350	IAmb_Lg		23 36 11.3			
	comp=Z,50nm,0.8s								
PDAR	Pinedale Array	10.53	308	Pn	Pn	23 33 27.5	+4.4		
	comp=Z,0.2nm,0.3s,baz=120,slow=15,SNR=2.5								
PDAR				Lg	Lg	23 36 24.1			
	comp=Z,1.4nm,0.3s,baz=99,slow=28,SNR=2.9								
	comp=Z,0.3nm,0.3s								
TKL	Tuckaleechee C	11.76	91	Pn	Pn	23 33 38.9	-0.7		
	comp=Z,1.3nm,0.3s,baz=278,slow=10,SNR=18								
TKL				Sn	Sn	23 35 45.7	-5.1		
	comp=Z,0.4nm,0.3s,baz=41,slow=20,SNR=1.2								
TKL				Lg	Lg	23 36 52.7			
	comp=Z,0.6nm,0.3s,baz=0.0,slow=20,SNR=2.0								
	comp=Z,4.9nm,0.5s								
ULM	Lac du Bonnet	13.55	7	Pn	Pn	23 34 00.1	-3.9		
	comp=Z,0.5nm,0.3s,baz=183,slow=14,SNR=1.1								
ULM				Sn	Sn	23 36 24.3	-10		
	comp=Z,0.9nm,0.3s,baz=272,slow=22,SNR=3.4								
ULM				Lg	Lg	23 37 48.3			
	comp=Z,0.8nm,0.3s,baz=125,slow=6.0,SNR=3.4								
ULM				LR	LR	23 39 51.7			
	comp=Z,56nm,21.7s,baz=240,slow=40								
	comp=Z,1.4nm,0.3s								
NVAR	Mina Array Bea	15.97	282	Pn	P	23 34 40.4	0.0		
	comp=Z,0.1nm,0.3s,baz=89,slow=11,SNR=4.6								
	comp=Z,0.4nm,0.6s								
ILAR	Eielson Array	39.98	330	P	P	23 38 27.6	+1.4		
	comp=Z,0.5nm,0.8s,baz=105,slow=6.6,SNR=5.1								
	comp=Z,0.5nm,0.8s								

*ANF **26** 23:33:36.7±0.1, 33°.30N×115°.72W, h8km±2km, ML3.3/31, Error ellipse: s-maj=1.4km s-min=1.0km az=126.0*
*PAS **26** 23:33:37.2±1.9, 33°.30N±0'.01×115°.71W±0'.02, h3km±6km, ML3.2/160, ML3.1/99(NEIC), Error ellipse: s-maj=3.1km s-min=1.7km az=74.0*
*NEIC **26** 23:33:37.6±2.0, 33°.26N±0'.01×115°.78W±0'.02, h4km±6km, Error ellipse: s-maj=2.5km s-min=1.9km az=74.0*

ISC 26 23:33:37.6±0.9, 33°.27N±0'.01×115°.75W±0'.02, h13km±8km, n126, σ1°39/144, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
WEMD	Westmorland, C	0.27	148		Pg	23 33 43.6	+0.2
SUP	Superstition M	0.32	191		Pg	23 33 44.4	+0.2
SWSC	Sam W. Stewart	0.33	187		Pg	23 33 44.5	+0.2
SWSC	Sam W. Stewart	0.33	187	P	Pg	23 33 44.5	+0.2
	baz=13,SNR=485						
SWSC				S	Sg	23 33 49.0	+0.2
	baz=13						
IMPE	Imperial	0.40	156		Pg	23 33 45.9	+0.2
COK2	Cook Ranch 2	0.42	177		Pb	23 33 46.5	-0.3
CTW	Cottonwood Mou	0.42	346		Pg	23 33 45.2	-0.8
CRR	Carrizo Plain	0.42	206		Pg	23 33 46.2	+0.2
SLH	Sleepy Hollow	0.43	260		Pb	23 33 46.5	-0.5
CTCC	Cactus City	0.43	333		Pg	23 33 45.9	-0.5
CTCC					Sg	23 33 52.2	+0.1
HAY	Hayfield	0.44	7		Pg	23 33 45.3	-1.1
BC3	Big Chuckawall	0.46	33	P	Pg	23 33 45.2	-1.6
	baz=210,SNR=453						
BC3				S	Sg	23 33 51.0	-2.0
	baz=210						
SNR	Schaffner Ranc	0.48	147		Pg	23 33 47.4	+0.2
WESC	Westside Schoo	0.51	178		Pg	23 33 48.0	+0.3
BORC	Borrego Spring	0.56	270		Pg	23 33 48.5	-0.1
SGL	Mount Signal	0.62	178		Pg	23 33 49.1	-0.6
YUH	Yuha Desert	0.64	193	Pg	Pg	23 33 49.6	-0.4
YUH				Sg	Sb	23 33 59.3	-0.1
PMD	Palm Desert	0.65	306		Pg	23 33 49.2	-1.1
PMD				Sg	Sg	23 33 58.5	-0.3
PMD				IAML		23 33 59.4	
	comp=N,904nm,0.4s						
PMD				IAML		23 34 00.1	
	comp=E,750nm,0.4s						
COA	Coachella	0.67	127		Pg	23 33 49.8	-0.9
MONP2	Monument Peak	0.68	236		Pg	23 33 50.9	0.0
MONP2	Monument Peak	0.68	236	P	Pg	23 33 50.8	-0.1
	baz=56,SNR=77						
MONP2				S	Sb	23 34 00.5	-0.2
	baz=56						
XPFO	Pion Flat	0.68	300		Pg	23 33 50.1	-0.8
PFO	Pinyon Flats O	0.68	300		Pg	23 33 50.1	-0.9
PFO				Sg	Sg	23 33 59.9	-0.2
PFO				IAML		23 34 01.2	
	comp=E,1μm,0.6s						
PFO	Pinyon Flats O	0.68	300		Pg	23 33 50.1	-0.9
PFO	Pinyon Flats O	0.68	300	P	Pg	23 33 50.2	-0.8
	baz=116,SNR=169						
PFO				S	Sg	23 34 00.1	+0.1
	baz=116						
IKP	In-Ko-Pah, Jac	0.69	206		Pg	23 33 50.7	-0.3
IKP	In-Ko-Pah, Jac	0.69	206	P	Pg	23 33 50.7	-0.3
	baz=28,SNR=67						
IKP				S	Sb	23 34 00.6	-0.3
	baz=28						
UABX	UABC, Campus M	0.69	157	Pg	Pg	23 33 50.4	-0.6
UABX				IAML		23 34 03.6	
	comp=N,1μm,0.7s						
UABX				IAML		23 34 15.5	
	comp=E,1μm,1.0s						
RUN	Ruthven	0.71	114		Pg	23 33 50.1	-1.4
RMX	La Rumorosa	0.72	202	Pg	Pg	23 33 51.7	0.0
RMX					Pb	23 33 51.9	-0.2
JUEM	Julian Eagle M	0.73	255		Pg	23 33 51.9	-0.1
FRD	Ford Ranch, An	0.75	288		Pg	23 33 51.8	-0.4
MATG	Mataguay Scout	0.75	265		Pg	23 33 52.0	-0.3
BELC	Belle Mtn. Jos	0.76	344		Pg	23 33 51.4	-1.0
BELC	Belle Mtn. Jos	0.76	344	P	Pg	23 33 51.4	-1.0
	baz=161,SNR=222						
BELC				S	Sg	23 34 01.5	-1.0
	baz=161						
SNDA	J Saunders Pla	0.77	292		Pg	23 33 52.2	-0.4
BZNA	Buzz No.'s Pla	0.80	286		Pg	23 33 52.7	-0.5
GLA	Glamis	0.81	105		Pg	23 33 51.5	-1.8
GLA	Glamis	0.81	105	Pg	Pg	23 33 51.4	-1.9
GLA	Glamis	0.81	105	IAML		23 34 05.1	
	comp=N,944nm,0.7s						
GLA	Glamis	0.81	105	P	Pg	23 33 51.4	-1.9
	baz=289,SNR=130						
GLA				S	Sg	23 34 02.7	-1.1
	baz=289						
EW2	E Wide Canyon	0.86	321		Pg	23 33 53.3	-1.1
GVDA	Garner Valley	0.87	298		Pg	23 33 53.5	-1.0
CRY	Cary Ranch	0.88	290		Pg	23 33 53.7	-0.9
PLM	Palomar	0.93	276		Pg	23 33 54.8	-0.9
BLAC	Blackrock camp	0.96	327		Pg	23 33 55.1	-1.1
BAR	Barrett	0.97	233		Pg	23 33 55.4	-1.0
BAR	Barrett	0.97	233		Pg	23 33 55.9	-0.6
BAR				IAML		23 34 10.7	
	comp=N,433nm,0.2s						
BAR				IAML		23 34 11.3	
	comp=E,363nm,0.3s						
IRM	Iron Mountain	1.02	30		Pg	23 33 55.3	-2.1
IRM					Sg	23 34 09.1	-1.6
IRM	Iron Mountain	1.02	30	P	Pg	23 33 55.2	-2.1
	baz=209,SNR=313						
IRM				S	Sg	23 34 09.1	-1.6
	baz=209						
DPP	Dos Picos Cty	1.03	255		Pg	23 33 56.1	-1.5
POB	Polly Butte	1.06	293		Pg	23 33 56.4	-1.8
DUZA	Dulzura	1.08	233		Pg	23 33 57.3	-1.2
DUZA					Sg	23 34 11.8	-0.9
DGR	Domenigoni Val	1.12	290		Pg	23 33 56.9	-2.3
GUVIX	Guadalupe Vict	1.12	149	Pg	Pg	23 33 58.3	-0.9
GUVIX				IAML		23 34 23.9	
	comp=E,631nm,0.6s						
BACC	Bachelor Mtn.	1.13	288		Pg	23 33 57.3	-2.1
BLYC	Blythe	1.13	65		Pg	23 33 57.2	-2.3
BLYC	Blythe	1.13	65		Pg	23 33 57.5	-2.1
BLYC				IAML		23 34 12.9	
	comp=N,1μm,0.6s						
BLYC				IAML		23 34 13.3	
	comp=E,1μm,0.6s						
HMTC	Hemet	1.13	293		Pg	23 33 57.3	-2.2
109C	Camp Elliot, M	1.20	252	Pg	Pg	23 33 58.9	-1.8
109C				IAML		23 34 16.5	
	comp=E,478nm,0.2s						
109C	Camp Elliot, M	1.20	252	P	Pg	23 33 59.8	-0.9
	baz=70,SNR=27						
109C				S	Sb	23 34 16.0	+0.4
	baz=70						
CPE	Camp Elliot	1.20	252		Pg	23 33 59.8	-0.9
CPE					Sb	23 34 15.9	+0.4
CBX	Cerro Bola	1.22	219	Pg	Pg	23 33 59.5	-1.8
CBX				IAML		23 34 18.9	
	comp=E,219nm,0.7s						
CBX				IAML		23 34 25.3	
	comp=N,223nm,0.9s						
CBX	Cerro Bola	1.22	219	IAML		23 34 30.7	
	comp=N,221nm,1.0s						
GORC	Green Oak Ranc	1.24	265		Sg	23 34 16.0	-1.7
MURC	Murrieta	1.25	286		Pg	23 33 59.6	-2.1
MURC	Murrieta	1.25	286	P	Pg	23 34 00.5	-1.3
	baz=103						
ESJX	Sierra Juarez	1.27	187	Pg	Pg	23 33 59.7	-2.4
TJX	Tijuana	1.33	236		Pb	23 34 03.3	+0.9
BBRC	Big Bear Solar	1.39	316	P	Pn	23 34 02.2	-0.7
	baz=133						
BBRC				S	Sg	23 34 21.5	-1.0
	baz=133						
SVD	Seven Oaks Dam	1.40	307		Pn	23 34 01.6	-1.3
ELS	Elsinore Mount	1.45	286	Pn	Pn	23 34 02.2	-1.4
ELS				IAML		23 34 30.3	
	comp=N,166nm,0.8s						
ELS				IAML		23 34 30.8	
	comp=E,154nm,0.9s						
GMRC	Granite Mounta	1.51	3		Pn	23 34 05.3	+0.7
GMRC	Granite Mounta	1.51	3	Pb	Pn	23 34 04.7	+0.1
	baz=182						
GMRC				S	Sn	23 34 24.9	+0.7
	baz=182						
CCX	Cicese	1.59	209		Pb	23 34 06.9	-0.1
CCX	Cicese	1.59	209	IAML		23 34 39.3	
	comp=E,176nm,0.7s						
HEC	Hector,Ludlow	1.63	343	Pb	Pn	23 34 07.2	+1.1
	baz=161,SNR=75						
HEC				S	Sn	23 34 28.5	+1.6
	baz=161						
PDMCI	Parker Dam,Lak	1.69	52	Pb	Pn	23 34 07.6	+0.7
	baz=233						
113A	Mohawk Valley,	1.74	106	Pn	Pn	23 34 06.3	-1.2
NEE2	Needles Airpor	1.77	32	Pb	Pn	23 34 08.8	+0.8
	baz=212						
NEE2				S	Sn	23 34 30.7	+0.5
	baz=212						
RRX	Edison Barstow	1.91	328	Sb	Sg	23 34 37.7	-1.2
	baz=146						
TUQ	Turquoise Moun	2.17	356	Pg	Pb	23 34 17.9	+1.1
	baz=175						
TUQ				Sb	Sb	23 34 45.8	+2.2
	baz=175						
FMP	Fort Macarthur	2.17	282	Sb	Sg	23 34 47.1	-0.3
	baz=100						
GSC	Goldstone, Bar	2.21	337		Pn	23 34 14.4	+0.3
GSC				IAML		23 34 55.4	
	comp=N,144nm,0.9s						
GSC				IAML		23 34 56.4	
	comp=E,153nm,0.8s						
GSC	Goldstone, Bar	2.21	337	Pg	Pb	23 34 18.3	+0.9
	baz=155						
GSC				Sb	Sb	23 34 46.4	+1.7
	baz=155						
PASC	Pasadena Art C	2.22	295		Pn	23 34 15.1	+0.9
PASC				IAML		23 34 53.1	
	comp=E,71nm,0.5s						
PASC				IAML		23 34 53.4	
	comp=N,63nm,0.6s						
CIS	Catalina Islan	2.23	274	Pb	Pb	23 34 17.8	-0.1
	baz=92						
CIS				Sb	Sg	23 34 48.1	-1.4
	baz=92						
SFX	San Felipe	2.35	161		Pn	23 34 17.0	+1.1
CJV	Casa Juvan	2.35	303		Pn	23 34 15.1	-1.0
DECC	Green Verdugo	2.36	295	Sb	Sg	23 34 52.1	-1.5
	baz=113						
Y14A	Wickenburg	2.39	73	Pg	Pb	23 34 20.1	-0.4
W13A	Hualapai Mount	2.39	40	Pn	Pn	23 34 15.9	-0.8
EDW2	Edwards Air Fo	2.46	311	Pb	Pb	23 34 21.9	+0.2
	baz=129						
EDW2				Sb	Sb	23 34 53.7	+1.7
	baz=129						
V12A	Nelson	2.56	17	Pn	Pn	23 34 18.3	-0.6
PIX	Pinacate	2.58	131	Pn	Pn	23 34 19.6	+0.6
CCAC	Calif City Air	2.66	316		Pb	23 34 26.6	+1.6
CCAC				IAML		23 35 11.4	
	comp=N,113nm,1.4s						
CCAC				IAML		23 35 30.6	
	comp=E,90nm,1.4s						
SHOC	Shoshone, Teco	2.66	351	Pg	Pb	23 34 26.3	+1.1
	baz=170						
SHOC				Sb	Sb	23 35 00.4	+2.8
	baz=170						
LRMC	Laurel Mtn Rad	2.72	325	Sb	Sb	23 35 02.5	+2.9
	baz=143						
214A	Organ Pipe Nat	2.81	117	Pg	Pb	23 34 28.9	+1.3
214A				IAML		23 35 07.8	
	comp=N,50nm,0.7s						
214A				IAML		23 35 27.8	
	comp=E,47nm,0.8s						
214A	Organ Pipe Nat	2.81	117	Sb	Sb	23 35 04.3	+2.3
	baz=300						
OSI	Osito Audit: C	2.81	299	Sb	Sg	23 35 05.8	-2.2
	baz=117						
QSM	Queen of Sheba	2.84	341	Pg	Pg	23 34 31.2	-1.0
WTNK	Soaring Height	2.98	12	Pn	Pn	23 34 24.7	+0.1
WTNK				IAML		23 35

U15A				IAML		23 36 12.9	
	comp=E,28nm,1.1s						
WUAZ	**Wupatki**	**4.26**	**57**	IAML		23 35 58.4	
	comp=E,34nm,0.9s						
LCMT	**Little Creek M**	**4.26**	**28**	IAML		23 36 03.4	
	comp=E,16nm,0.7s						
LCMT				IAML		23 36 04.4	
	comp=N,16nm,0.9s						
KNB	**Kanab**	**4.44**	**32**	IAML		23 36 13.8	
	comp=E,29nm,1.1s						
DSP	**Deep Springs**	**4.47**	**337**	IAML		23 36 20.4	
	comp=E,11nm,3.6s						
MZP	**Montezuma Peak**	**4.62**	**344**		**Pg**	**23 35 03.6**	**-2.5**
CCUT	**Cedar City**	**4.70**	**24**	IAML		23 36 18.0	
	comp=E,12nm,1.3s						
CCUT				IAML		23 36 21.6	
	comp=N,10.0nm,1.1s						
SZCU	**Shurtz Canyon**	**4.83**	**26**	IAML		23 36 15.4	
	comp=E,18nm,0.5s						
SZCU				IAML		23 36 18.7	
	comp=N,12nm,0.9s						
OMMB	**Old Mammoth Mi**	**5.08**	**329**	IAML		23 36 40.5	
	comp=E,6.9nm,2.2s						
OMMB				IAML		23 37 44.8	
	comp=N,8.2nm,4.9s						
MDPB	**Devils Postpil**	**5.13**	**329**	IAML		23 36 50.0	
	comp=E,7.6nm,1.5s						

PAS ***26*** *23:34:01.2±1.8,33°30N±0°01×115°71W±0°02, h6km±4km, ML3.0/53, ML3.0/33(NEIC), Error ellipse: s-maj=2.7km s-min=1.7km az=64.0*

NEIC 26 23:34:01.2±1.6, 33°280N±0°010×115°75W±0°01, h10km±1km, Error ellipse: s-maj=3.0km s-min=2.0km az=74.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.17**	**200**		**Sg**	23 34 09.8	+2.4
ERRC	**Elmore Ranch**	**0.17**	**200**		**Pg**	23 34 05.8	+0.9
SALN	**Salton City**	**0.20**	**270**		**Sg**	23 34 10.2	+2.0
SALN	**Salton City**	**0.20**	**270**		**Pg**	23 34 06.2	+0.9
SWSC	**Sam W. Stewart**	**0.34**	**187**		**Sg**	23 34 13.0	+0.6
SWSC	**Sam W. Stewart**	**0.34**	**187**		**Pg**	23 34 08.2	+0.3
CTW	**Cottonwood Mou**	**0.41**	**346**		**Sg**	23 34 14.8	+0.1
CTW	**Cottonwood Mou**	**0.41**	**346**		**Pg**	23 34 09.0	-0.3
CTCC	**Cactus City**	**0.42**	**332**		**Sg**	23 34 15.9	+0.8
CTCC	**Cactus City**	**0.42**	**332**		**Pg**	23 34 09.7	+0.1
COK2	**Cook Ranch 2**	**0.43**	**177**		**Pb**	23 34 10.3	-0.6
HAY	**Hayfield**	**0.43**	**7**		**Pg**	23 34 09.2	-0.5
SLH	**Sleepy Hollow**	**0.43**	**258**		**Pb**	23 34 10.3	-0.6
CRR	**Carrizo Plain**	**0.43**	**205**		**Sb**	23 34 16.9	-0.6
CRR	**Carrizo Plain**	**0.43**	**205**		**Pg**	23 34 10.0	+0.4
BC3	**Big Chuckawall**	**0.45**	**33**		**Sg**	23 34 15.1	-0.9
BC3	**Big Chuckawall**	**0.45**	**33**		**Pg**	23 34 09.2	-0.8
BORC	**Borrego Spring**	**0.56**	**269**		**Sb**	23 34 20.4	-0.7
BORC	**Borrego Spring**	**0.56**	**269**		**Pg**	23 34 12.4	+0.4
PMD	**Palm Desert** comp=N,554nm,0.3s	**0.64**	**305**	IAML		23 34 23.6	
PMD	**Palm Desert**	**0.64**	**305**	Pg	Pg	23 34 12.9	-0.7
PMD	**Palm Desert**	**0.64**	**305**	Sg	Sg	23 34 22.0	0.0
PMD	**Palm Desert** comp=E,432nm,0.3s	**0.64**	**305**	IAML		23 34 23.4	
YUH	**Yuha Desert**	**0.65**	**193**	Pg	Pg	23 34 13.7	0.0
YUH	**Yuha Desert**	**0.65**	**193**	Sg	Sb	23 34 23.0	-0.6
XPFO	**Pion Flat**	**0.68**	**299**		Sg	23 34 23.6	+0.5
XPFO	**Pion Flat**	**0.68**	**299**		Pg	23 34 14.2	-0.1
PFO	**Pinyon Flats O**	**0.68**	**299**		Sg	23 34 23.7	+0.4
PFO	**Pinyon Flats O** comp=E,571nm,0.5s	**0.68**	**299**	IAML		23 34 24.8	
PFO	**Pinyon Flats O**	**0.68**	**299**	Pg	Pg	23 34 14.2	-0.2
PFO	**Pinyon Flats O**	**0.68**	**299**		Pg	23 34 14.1	-0.2
PFO	**Pinyon Flats O**	**0.68**	**299**	Sg	Sg	23 34 23.7	+0.4
PFO	**Pinyon Flats O** comp=E,370nm,0.3s	**0.68**	**299**	IAML		23 34 24.8	
IKP	**In-Ko-Pah, Jac**	**0.70**	**206**		Pg	23 34 14.5	-0.2
UABX	**UABC, Campus M** comp=E,902nm,0.6s	**0.70**	**158**	IAML		23 34 32.5	
UABX	**UABC, Campus M**	**0.70**	**158**	Pn	Pn	23 34 17.2	+0.1
UABX	**UABC, Campus M** comp=N,1µm,0.8s	**0.70**	**158**	IAML		23 34 28.3	
RMX	**La Rumorosa**	**0.73**	**202**	Pg	Pb	23 34 15.8	-0.3
RMX	**La Rumorosa**	**0.73**	**202**		Sb	23 34 26.6	+0.4
RMX	**La Rumorosa** comp=E,316nm,0.2s	**0.73**	**202**	IAML		23 34 27.0	
JUEM	**Julian Eagle M**	**0.74**	**255**		**Pg**	23 34 15.8	+0.4
FRD	**Ford Ranch, An**	**0.74**	**287**		**Pg**	23 34 15.5	0.0
FRD	**Ford Ranch, An**	**0.74**	**287**		**Sb**	23 34 26.3	-0.3
FRD	**Ford Ranch, An**	**0.74**	**287**		**Pg**	23 34 15.5	-0.1
MATG	**Mataguay Scout**	**0.76**	**264**		**Sb**	23 34 26.4	-0.5
MATG	**Mataguay Scout**	**0.76**	**264**		**Pg**	23 34 16.0	+0.2
SNDA	**J Saunders Pla**	**0.77**	**291**		**Pg**	23 34 16.0	-0.1
DNR	**Dunn Ranch,Anz**	**0.79**	**291**		**Pg**	23 34 16.5	+0.1
GVDA	**Garner Valley**	**0.86**	**297**		**Pg**	23 34 17.4	-0.4
CRY	**Cary Ranch**	**0.87**	**289**		**Pg**	23 34 17.9	-0.1
CPBX	**Cerro Prieto** comp=N,653nm,0.5s	**0.94**	**156**	IAML		23 34 33.9	
CPBX	**Cerro Prieto**	**0.94**	**156**	Pg	Pg	23 34 17.7	-1.5
CPBX	**Cerro Prieto** comp=E,610nm,0.5s	**0.94**	**156**	IAML		23 34 30.0	
BAR	**Barrett**	**0.98**	**233**		**Sg**	23 34 32.7	-0.1
TKX	**Tecate**	**1.01**	**226**	Pg	Pg	23 34 20.5	-0.1
TKX	**Tecate**	**1.01**	**226**		**Sg**	23 34 34.0	+0.2
GUVIX	**Guadalupe Vict**	**1.13**	**150**	Pg	Pb	23 34 22.3	-0.5
109C	**Camp Elliot, M**	**1.20**	**251**	Pg	Pg	23 34 24.4	+0.2
109C	**Camp Elliot, M**	**1.20**	**251**	Sg	Sg	23 34 40.0	+0.1
109C	**Camp Elliot, M** comp=E,361nm,0.4s	**1.20**	**251**	IAML		23 34 40.2	
CBX	**Cerro Bola** comp=E,172nm,0.5s	**1.23**	**219**	IAML		23 34 41.0	
CBX	**Cerro Bola**	**1.23**	**219**	Pn	Pn	23 34 24.5	-0.1
CBX	**Cerro Bola**	**1.23**	**219**	Sg	Sb	23 34 40.2	-0.4
ESJX	**Sierra Juarez**	**1.28**	**188**	Pn	Pn	23 34 25.0	-0.4
ELS	**Elsinore Mount**	**1.45**	**285**	Pn	Pn	23 34 24.7	-2.8
CCX	**Cicese**	**1.61**	**209**		Pn	23 34 26.5	-3.1
113A	**Mohawk Valley,**	**1.74**	**106**	Pn	Pn	23 34 31.2	-0.3
GSC	**Goldstone, Bar**	**2.20**	**337**	Pn	Pn	23 34 37.7	-0.1
PASC	**Pasadena Art C**	**2.21**	**294**		Pn	23 34 38.2	+0.1
SFX	**San Felipe**	**2.36**	**161**	Pn	Pn	23 34 39.7	-0.3
W13A	**Hualapai Mount**	**2.38**	**40**	Pn	Pn	23 34 39.3	-1.3
Y14A	**Wickenburg**	**2.38**	**73**	Pn	Pn	23 34 39.6	-0.7
V12A	**Nelson**	**2.55**	**17**	Pn	Pn	23 34 42.9	+0.1
NVAR	**Mina Array Bea**	**5.54**	**339**		Pn	23 35 21.4	-2.5
RYN	**Ryan**	**5.79**	**338**		Pn	23 35 24.3	-3.0
SPR3	**Spring Creek 3**	**5.82**	**11**	Pn	Pn	23 35 24.9	-2.9

UPP ***26*** *23:39:37.2±0.0, 67°85N×20°21E, h0km, ML2.3, Explosion*
HEL ***26*** *23:39:37.8±0.0, 67°85N×20°21E, h0km, ML2.0, ML2.3(UPP), Explosion*
IDC ***26*** *23:39:39.1±1.3, 67°81N×20°85E, h0km, mbtmp2.6/3, ML1.7/3, Error ellipse: s-maj=19.0km s-min=7.4km az=115.0*

ISC 26 23:39:37.1±0.8, 67°84N±0°02×20°23E±0°02, h0km, n42, σ1§02/65, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**19**	P	**Pg**	**23 39 39.7**	**+0.2**
KUA				S	**Sg**	**23 39 41.4**	**+0.3**
KUA	**Kurravaara**	**0.12**	**19**	*i* P	**Pg**	**23 39 39.7**	**+0.2**
KUA				*i* S	**Sg**	**23 39 41.4**	**+0.3**
RATU	**Laukkuluspa**	**0.24**	**267**	P	**Pg**	**23 39 41.9**	**+0.1**
RATU	**Laukkuluspa**	**0.24**	**267**	*i* P	**Pg**	**23 39 41.9**	**+0.1**
KOVU	**Salmi**	**0.39**	**356**	P	**Pg**	**23 39 44.5**	**-0.1**
KOVU				S	**Sg**	**23 39 49.6**	**0.0**
KOVU	**Salmi**	**0.39**	**356**	*i* P	**Pg**	**23 39 44.5**	**-0.1**
KOVU				*i* S	**Sg**	**23 39 49.6**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**275**	P	**Pg**	**23 39 45.7**	**-0.1**
NIKU				S	**Sg**	**23 39 52.1**	**+0.4**
NIKU	**Nikkaluokta**	**0.46**	**275**	*i* P	**Pg**	**23 39 45.7**	**-0.1**
NIKU				*i* S	**Sg**	**23 39 52.1**	**+0.4**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 39 50.6**	**+0.1**
LANU	**Lannavaara**	**0.70**	**71**	*e*P	**Pg**	**23 39 50.3**	**-0.1**
LANU				*e*S	**Sg**	**23 40 00.2**	**+0.8**
DUNU	**Dundret**	**0.73**	**170**	P	**Pg**	**23 39 51.0**	**0.0**
DUNU	**Dundret**	**0.73**	**170**	*i* P	**Pg**	**23 39 51.0**	**0.0**
MASU	**Masugnsbyn**	**0.78**	**119**	P	**Pg**	**23 39 52.1**	**+0.2**
MASU	**Masugnsbyn**	**0.78**	**119**	*i* P	**Pg**	**23 39 52.1**	**+0.2**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**23 39 52.2**	**-0.3**
SALU	**Saltoluokta**	**0.80**	**236**	*i* P	**Pg**	**23 39 52.2**	**-0.3**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pg**	**23 39 60.0**	**+0.1**
KIF	**Kilpisjarvi** baz=194	**1.19**	**10**	*e*P	**Pg**	**23 39 59.7**	**-0.3**
KIF				MSG		23 40 15.0	
KIF	comp=E,23nm,0.2s			*e*SB	**Sg**	**23 40 15.7**	**+0.3**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**23 40 02.7**	**-0.8**
PAJU	**Pajala** baz=303	**1.38**	**125**	*e*P	**Pg**	**23 40 02.6**	**-0.8**
PAJU				*e*SB	**Sg**	**23 40 21.4**	**0.0**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**23 40 03.3**	**-0.7**
HEF	**Hetta** baz=247	**1.41**	**64**	*e*PG	**Pn**	**23 40 03.3**	**-0.7**
HEF	comp=Z,11nm,0.2s			MSG		23 40 20.9	
HEF				*e*SB	**Sg**	**23 40 21.9**	**-0.3**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**23 40 05.0**	**-0.2**
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	**Pn**	**23 40 04.7**	**-0.5**
ERTU				*e*SN	**Sn**	**23 40 26.0**	**+0.6**
KLF	**Kolari**	**1.56**	**111**	*e*PG	**Pn**	**23 40 06.0**	**0.0**
KLF				*e*SN	**Sg**	**23 40 28.1**	**+1.1**
KTK1	**Kautokeino**	**1.62**	**42**	*e*PN	**Pn**	**23 40 07.2**	**+0.3**
KTK1				*e*SN	**Sg**	**23 40 31.0**	**+1.9**
HARU	**Harads**	**1.71**	**170**	P	**Pn**	**23 40 08.4**	**+0.4**
HARU	**Harads**	**1.71**	**170**	*e*P	**Pn**	**23 40 08.4**	**+0.4**
TRO	**Tromso**	**1.87**	**346**	*e*PN	**Pn**	**23 40 10.9**	**+0.6**
TRO				*e*SG	**Sb**	**23 40 35.6**	**-0.3**
KALU	**Kalix** baz=328	**2.34**	**147**	*e*P	**Pn**	**23 40 18.1**	**+1.3**
KALU				*e*SB	**Sb**	**23 40 49.2**	**-0.2**
TOF	**Tornio** baz=317	**2.39**	**136**	*e*PB	**Pn**	**23 40 19.1**	**+1.7**
TOF	comp=Z,6.7nm,0.2s			MSG		23 40 48.9	
TOF				*e*SG	**Sb**	**23 40 51.9**	**+1.1**
SGF	**Sodankyl**	**2.44**	**96**	*e*P	**Pn**	**23 40 19.6**	**+1.5**
SGF				*e*SB	**Sb**	**23 40 50.9**	**-1.5**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB	**Pn**	**23 40 21.9**	**+2.1**
RNF				*e*SG	**Sb**	**23 40 56.4**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,0.4nm,0.3s,baz=225,slow=16,SNR=15	**2.57**	**46**	Pn	**Pn**	**23 40 20.9**	**+0.9**
ARCES				Pg	**Pb**	**23 40 22.5**	**-1.6**
ARCES	comp=Z,0.4nm,0.3s,baz=222,slow=16,SNR=4.3			Lg	Lg	23 40 54.9	
	comp=Z,1.2nm,0.3s,baz=225,slow=30,SNR=13 comp=Z,0.9nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	*e*PB	**Pb**	**23 40 31.5**	**-2.0**
KEV				*e*S	**Sn**	**23 41 07.0**	**+1.5**
KEV	comp=Z,5.1nm,0.2s			MSG		23 41 10.2	
VRF	**Varrio**	**3.56**	**87**	*e*PB	**Pn**	**23 40 36.9**	**+3.3**
VRF				*e*SB	**Sb**	**23 41 24.6**	**0.0**
OUL	**Oulu**	**3.58**	**138**	*e*SG	**Sb**	**23 41 26.4**	**+1.4**
OLKF	**Oulanka, Finla**	**3.90**	**109**	*e*P	**Pn**	**23 40 39.5**	**+1.4**
MSF	**Maaselka** baz=303	**3.98**	**115**	*e*P	**Pn**	**23 40 41.0**	**+1.8**
KU6	**Riekki** baz=297	**4.21**	**111**	*e*P	**Pn**	**23 40 43.8**	**+1.4**
KU6				*e*SG	**Sg**	**23 41 49.9**	**-2.3**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=350,slow=15,SNR=1.0	**6.89**	**156**	Pn	**Pn**	**23 41 20.6**	**+1.4**
FINES				Sn	**Sn**	**23 42 36.6**	**-1.5**
FINES	comp=Z,0.1nm,0.3s,baz=342,slow=25,SNR=2.0			Lg	Lg	23 43 11.3	
	comp=Z,0.2nm,0.3s,baz=350,slow=30,SNR=2.1 comp=Z,0.5nm,0.7s						
NOA	**NORSAR Array B** baz=12,slow=12,SNR=1.3	**7.85**	**214**	Pn	**Pn**	**23 41 33.1**	**+0.7**
NOA	baz=29,slow=22,SNR=2.2 comp=Z,0.5nm,0.8s			Lg	Lg	23 43 49.0	

IDC 26 23:40:54.5±3.3, 1°97S×140°35E, h0km, mb3.5/3, mbtmp3.6/4, ML3.6/1, MS3.1/3, Error ellipse: s-maj=97.4km s-min=30.1km az=90.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** comp=Z,63nm,21.4s,baz=335,slow=41	**10.03**	**138**	LR	LR	23 47 46.5	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=19,slow=12,SNR=9.6 1.3nm,0.7s	**18.81**	**198**	P	P	23 45 15.8	0.0
CTA	**Charters Tower** comp=Z,46nm,18.8s,baz=81,slow=39	**18.91**	**163**	LR	LR	23 53 18.1	
FITZ	**Fitzroy Crossi** 0.9nm,0.6s,baz=8.6,slow=7.7,SNR=5.6 0.9nm,0.6s	**21.57**	**221**	P	P	23 45 45.9	+0.1
ASAR	**Alice Springs** 1.0nm,0.5s,baz=26,slow=11,SNR=20 1.0nm,0.5s	**22.46**	**196**	P	P	23 45 55.0	-0.4
STKA	**Stephens Creek** comp=Z,67nm,18.5s,baz=24,slow=42	**29.77**	**178**	LR	LR	00 01 51.2	
MKAR	**Makanchi Array** 0.7nm,0.9s,baz=100,slow=6.0,SNR=3.3 0.7nm,0.9s	**70.21**	**322**	P	P	23 52 09.7	+0.3

BJI ***27*** *01:32:41.6±0.0, 11°82N×143°05E, h43km, mb4.9/25, mB5.3/9*
IDC ***27*** *01:32:42.4±2.2, 11°65N×143°09E, h41km±21km, mb4.4/33, mbtmp4.6/34, ML4.4/1, MS3.4/32, Error ellipse: s-maj=16.0km s-min=8.5km az=88.0*
NEIC ***27*** *01:32:43.8±1.2, 11°62N±0°09×143°1E±0°1, h52km±8km, mb4.7/93, Error ellipse: s-maj=16.1km s-min=12.1km az=106.0*

ISC 27 01:32:41.2±0.4, 11°60N±0°06×143°05E±0°07, h32km, n175, σ0§85/163, mb4.8/84, MS3.5/32, 2D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 69nm,0.3s,baz=217,slow=4.4,SNR=16	**2.66**	**42**	P	**Pn**	**01 33 23.4**	**+1.5**
GUMO				S	**Sn**	**01 33 52.6**	**-0.4**
GUMO	852nm,0.5s,baz=161,slow=23,SNR=20			LR	LR	01 34 30.9	
	comp=Z,525nm,19.4s,baz=226,slow=42 158nm,0.3s						
GUMO	**Guam**	**2.66**	**42**		**Pn**	**01 33 23.5**	**+1.6**
GUMO				Sn	**Sn**	**01 33 53.3**	**+0.3**
PATS	**Pohnpei**	**15.79**	**106**	Pn	**Pn**	**01 36 20.7**	**-0.7**
PATS	comp=Z,127nm,1.3s			IAmb	IAmb	01 36 30.0	
SIJI	**Sorong** comp=Z,120nm,20.6s,baz=183,slow=32	**17.05**	**224**	LR	LR	01 41 40.9	
JOW	**Kunigami**	**20.56**	**320**	P	Pn	01 37 19.3	-0.5
PMG	**Port Moresby** comp=Z,19nm,0.7s,baz=353,slow=10,SNR=4.7	**21.27**	**169**	P	**P**	**01 37 25.2**	**+0.1**
PMG				LR	LR	01 45 00.4	
	comp=Z,73nm,21.7s,baz=336,slow=35 comp=Z,19nm,0.7s						
JHJ	**Hachijo jima 2** comp=Z,120nm,18.3s,baz=140,slow=34	**21.62**	**353**	LR	LR	01 44 46.9	
JMN	**Monobe**	**23.57**	**341**	P	**P**	**01 37 48.5**	**-0.6**
JMN	comp=Z,25nm,1.2s			IAmb	IAmb	01 38 19.7	
LUWI	**Luwuk**	**23.74**	**239**	P	**P**	**01 37 50.3**	**-0.6**
H11S3	**WAKE ISLAND Hy** baz=253,slow=75,SNR=10.0	**23.82**	**70**	T	T	02 01 58.9	
H11S1	**WAKE ISLAND Hy** baz=253,slow=75,SNR=5.1	**23.83**	**70**	T	T	02 02 04.1	
H11S2	**WAKE ISLAND Hy** baz=253,slow=75,SNR=13	**23.83**	**70**	T	T	02 02 03.6	
SSLB	**Suanglung**	**24.24**	**303**	P	**P**	**01 37 55.8**	**+0.2**
H11N1	**WAKE ISLAND Hy** baz=254,slow=74,SNR=6.2	**24.31**	**68**	T	T	02 02 43.7	
H11N2	**WAKE ISLAND Hy** baz=254,slow=74,SNR=5.9	**24.32**	**68**	T	T	02 02 44.9	
H11N3	**WAKE ISLAND Hy** baz=254,slow=74,SNR=7.3	**24.33**	**68**	T	T	02 02 48.3	
JYT	**Yasato**	**24.65**	**354**	P	**P**	**01 37 58.4**	**-0.6**
JHS	**Saijyo**	**24.98**	**340**	P	**P**	**01 38 01.2**	**-0.9**
MJAR	**Matsushiro Arr** comp=Z,2.5nm,0.3s,baz=186,slow=12,SNR=11 comp=Z,2.5nm,0.3s	**25.21**	**351**	P	**P**	**01 38 02.5**	**-1.6**
MAJO	**Matsushiro**	**25.21**	**351**	P	**P**	**01 38 02.6**	**-1.6**
MJB9	**Matsu-Tunnel**	**25.22**	**351**	P	**P**	**01 38 01.9**	**-2.3**
COEN	**Coen**	**25.40**	**180**	P	**P**	**01 38 03.5**	**-2.4**
JMM	**Marumori**	**26.23**	**356**	P	**P**	**01 38 13.2**	**-0.1**
JMM	comp=Z,47nm,1.3s			IAmb	IAmb	01 38 17.3	
JSD	**Sado**	**26.67**	**352**	P	**P**	**01 38 16.9**	**-0.4**
JSD	comp=Z,12nm,0.5s			IAmb	IAmb	01 38 20.8	
HNR	**Honiara** comp=Z,940nm,18.4s,baz=340,slow=38	**26.81**	**141**	LR	LR	01 49 40.7	
BATI	**Baumata** comp=Z,33nm,21.0s,baz=90,slow=34	**29.00**	**222**	LR	LR	01 48 59.0	
KSRS	**Korea Array** comp=Z,1.0nm,0.5s,baz=148,slow=9.4,SNR=5.2	**29.10**	**335**	P	**P**	**01 38 38.1**	**-0.9**
KSRS	comp=Z,60nm,20.9s,baz=155,slow=32 comp=Z,1.0nm,0.5s			LR	LR	01 48 10.5	
NJ2	**Nanjing**	**30.17**	**316**	*e*P	**P**	**01 38 48.8**	**+0.2**
NJ2	comp=Z,8.0nm,0.5s			pmax	pmax		
CTA	**Charters Tower** comp=Z,5.6nm,0.6s,baz=357,slow=9.3,SNR=13	**31.65**	**174**	P	**P**	**01 39 02.4**	**+0.6**
CTA				LR	LR	01 50 22.5	
	comp=Z,69nm,21.1s,baz=292,slow=34 comp=Z,5.6nm,0.6s						
CTAO	**Charters Tower**	**31.65**	**174**	P	**P**	**01 39 02.1**	**+0.3**
CTAO	comp=Z,7.2nm,0.7s			IAmb	IAmb	01 39 02.6	
WB0	**Warramunga Arr**	**32.32**	**195**	P	**P**	**01 39 07.5**	**-0.1**
WB0	comp=Z,27nm,1.5s			IAmb	IAmb	01 39 08.1	
WR0	**Warramunga Arr**	**32.46**	**195**	P	**P**	**01 39 08.4**	**-0.5**
WR0	comp=Z,8.2nm,0.5s			IAmb	IAmb	01 39 09.1	
WB2	**Warramunga Arr**	**32.50**	**195**	P	**P**	**01 39 09.3**	**+0.1**
WB2	comp=Z,13nm,0.9s			IAmb	IAmb	01 39 09.8	
WRA	**Warramunga Arr** comp=Z,7.7nm,0.6s,baz=18,slow=9.6,SNR=63	**32.50**	**195**	P	**P**	**01 39 09.2**	**0.0**
WRA	comp=Z,98nm,22.0s,baz=96,slow=35 comp=Z,7.7nm,0.6s			LR	LR	01 51 40.4	
WRA	**Warramunga Arr**	**32.50**	**195**	P	**P**	**01 39 07.4**	**-1.8**
USA0B	**Ussuriysk Arra**	**33.85**	**346**	P	**P**	**01 39 21.3**	**+0.5**
USA0B	comp=Z,9.8nm,0.8s			IAmb	IAmb	01 39 21.6	
USRK	**Ussuriysk Ar.** comp=Z,7.9nm,0.7s,baz=176,slow=8.6,SNR=16 comp=Z,7.9nm,0.7s	**33.85**	**346**	P	**P**	**01 39 21.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**33.85**	**346**	P	**P**	**01 39 21.0**	**+0.3**
FITZ	**Fitzroy Crossi** comp=Z,2.5nm,0.9s,baz=357,slow=7.5,SNR=4.4	**34.15**	**210**	P	**P**	**01 39 23.4**	**-0.3**
FITZ	comp=Z,20nm,18.1s,baz=286,slow=41 comp=Z,2.5nm,0.9s			LR	LR	01 56 03.4	
CN2	**Changchun**	**35.50**	**338**	*e*P	**P**	**01 39 37.5**	**+2.5**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
LYN	**LuoYang**	**35.99**	**314**	*e*P	**P**	**01 39 38.0**	**-1.4**
LYN	comp=Z,20nm,0.6s			pmax	pmax		
LYN	comp=Z,800nm,7.2s			pmax	pmax		
HNS	**HongShan**	**36.13**	**320**	⇓P	**P**	**01 39 41.0**	**+0.5**
HNS	comp=Z,15nm,0.8s			pmax	pmax		
AS31	**Alice Springs**	**36.17**	**194**	P	**P**	**01 39 42.0**	**+0.9**
ASAR	**Alice Springs** comp=Z,2.6nm,0.6s,baz=18,slow=11,SNR=32	**36.18**	**194**	P	**P**	**01 39 41.1**	**0.0**
ASAR	comp=Z,106nm,19.1s,baz=340,slow=36 comp=Z,2.6nm,0.6s			LR	LR	01 54 22.4	
ASAR	**Alice Springs**	**36.18**	**194**	P	**P**	**01 39 40.8**	**-0.3**
ENH	**Enshi**	**36.23**	**306**	P	**P**	**01 39 42.0**	**+0.5**
BJT	**Baijiatuan**	**36.95**	**325**	P	**P**	**01 39 47.5**	**0.0**
XAN	**Xi'an**	**38.29**	**311**	P	**P**	**01 39 58.8**	**-0.2**
XAN				pP	pP	01 40 07.3	+0.4
XAN	comp=Z,11nm,0.6s			pmax	pmax		
KLR	**Kul'dur** comp=Z,7.1nm,0.6s,baz=147,slow=7.1,SNR=19	**38.67**	**348**	P	**P**	**01 40 01.7**	**-0.2**
KLR	comp=Z,75nm,21.4s,baz=203,slow=34 comp=Z,7.1nm,0.6s			LR	LR	01 54 29.1	
DZM	**Mont Dzumac** comp=Z,21nm,0.6s,baz=263,slow=6.1,SNR=33 comp=Z,21nm,0.6s	**40.58**	**146**	P	**P**	**01 40 19.1**	**+0.9**
DZM	**Mont Dzumac**	**40.58**	**146**	P	**P**	**01 40 17.8**	**-0.4**
CRAI	**Chiangrai**	**41.83**	**287**	P	**P**	**01 40 28.9**	**+0.5**
PETK	**Petropavlovsk-** comp=Z,1.7nm,0.5s,baz=180,slow=5.9,SNR=4.0	**43.03**	**13**	P	**P**	**01 40 37.4**	**-0.4**
PETK	comp=Z,29nm,18.4s,baz=93,slow=40 comp=Z,1.7nm,0.5s			LR	LR	02 01 09.5	
CMAR	**Chiang Mai Arr** comp=Z,9.6nm,0.8s,baz=86,slow=6.2,SNR=44	**43.05**	**285**	P	**P**	**01 40 40.2**	**+1.7**
CMAR	comp=Z,51nm,19.1s,baz=85,slow=35 comp=Z,9.6nm,0.8s			LR	LR	01 57 56.8	
CMAR	**Chiang Mai Arr**	**43.05**	**285**	P	**P**	**01 40 39.8**	**+1.3**
STKA	**Stephens Creek** comp=Z,3.0nm,0.5s,baz=358,slow=9.4,SNR=7.6 comp=Z,3.0nm,0.5s	**43.26**	**182**	P	**P**	**01 40 39.2**	**-0.6**
GTA	**Gaotai**	**47.20**	**314**	*e*P	**P**	**01 41 11.8**	**+0.5**
GTA				pP	sP	01 41 22.3	+0.7
GTA				sP	pwP	01 41 26.0	+0.3
GTA	comp=Z,12nm,0.8s			pmax	pmax		
SONM	**Songino Array** comp=Z,2.2nm,0.6s,baz=146,slow=6.5,SNR=13	**47.37**	**327**	P	**P**	**01 41 12.5**	**+0.1**
SONM	comp=Z,45nm,18.4s,baz=147,slow=37 comp=Z,2.2nm,0.6s			LR	LR	02 01 37.2	
SHEM	**Shemya Is, Ala** comp=Z,33nm,20.8s,baz=282,slow=31	**48.00**	**25**	LR	LR	01 57 35.2	
MA2	**Magadan** comp=Z,27nm,20.4s,baz=172,slow=34	**48.23**	**5**	LR	LR	02 00 06.6	
GOMU	**GeErMu**	**49.80**	**308**	‖*e*P	**P**	**01 41 32.5**	**+0.8**
GOMU	comp=Z,6.0nm,0.9s			pmax	pmax		
GOMU	comp=Z,270nm,6.0s			pmax	pmax		
YAK	**Yakutsk** comp=Z,16nm,0.4s,baz=340,slow=3.5,SNR=6.1	**51.27**	**352**	P	**P**	**01

AAK	**Ala-Archa**	**66.47**	**311**	LR	LR	02 13 23.3		
	comp=Z,41nm,20.7s,baz=88,slow=37							
N19K	**Bonanza Creek**	**66.66**	**28**	P	**P**	**01 43 29.3**	**+0.5**	
N19K				IAmb	IAmb	01 43 30.2		
	comp=Z,13nm,1.1s							
L19K	**White Mountain**	**66.95**	**27**	P	**P**	**01 43 30.5**	**0.0**	
L19K				IAmb	IAmb	01 43 31.7		
	comp=Z,9.7nm,0.9s							
NRIK	**Noril'sk**	**67.43**	**342**	P	**P**	**01 43 33.1**	**-0.3**	
	comp=Z,9.6nm,0.6s,baz=111,slow=7.8,SNR=15							
	comp=Z,9.6nm,0.6s							
NRIK	**Noril'sk**	**67.43**	**342**	P	**P**	**01 43 32.9**	**-0.5**	
M20K	**Styx River**	**67.62**	**27**	P	**P**	**01 43 34.9**	**0.0**	
M20K				IAmb	IAmb	01 43 36.4		
	comp=Z,5.9nm,0.8s							
K20K	**Telida**	**67.68**	**26**	P	**P**	**01 43 35.5**	**+0.4**	
K20K				IAmb	IAmb	01 43 36.7		
	comp=Z,8.1nm,0.9s							
CNPM	**China Poot**	**67.83**	**30**	P	**P**	**01 43 35.6**	**-0.5**	
J20K	**Nowinta River**	**67.93**	**25**	P	**P**	**01 43 36.8**	**+0.2**	
J20K				IAmb	IAmb	01 43 38.2		
	comp=Z,7.3nm,0.7s							
BRLK	**Bradley Lake**	**68.07**	**30**	P	**P**	**01 43 36.8**	**-0.8**	
BRLK				IAmb	IAmb	01 43 38.0		
	comp=Z,7.4nm,0.5s							
SKT	**Skwentna**	**68.37**	**28**	P	**P**	**01 43 38.5**	**-1.0**	
CAST	**Castle Rocks**	**68.55**	**26**	P	**P**	**01 43 40.3**	**-0.3**	
CAST				IAmb	IAmb	01 43 41.4		
	comp=Z,12nm,1.1s							
SUA	**Susitna One**	**68.58**	**28**	P	**P**	**01 43 40.3**	**-0.6**	
SUA				IAmb	IAmb	01 43 49.1		
	comp=Z,12nm,1.3s							
SEW	**Seward**	**68.85**	**30**	P	**P**	**01 43 42.1**	**-0.4**	
RC01	**Rabbit Creek A**	**68.96**	**29**	P	**P**	**01 43 42.8**	**-0.4**	
H21K	**Melozitna Rive**	**68.96**	**24**	P	**P**	**01 43 42.0**	**-1.1**	
H21K				IAmb	IAmb	01 43 44.9		
	comp=Z,7.8nm,1.1s							
KTH	**Kantishna Hill**	**69.09**	**26**	P	**P**	**01 43 43.2**	**-0.8**	
KTH				IAmb	IAmb	01 43 44.9		
	comp=Z,16nm,1.3s							
I21K	**Tanana**	**69.14**	**24**	P	**P**	**01 43 44.6**	**+0.5**	
I21K				IAmb	IAmb	01 43 45.5		
	comp=Z,9.1nm,1.1s							
BPAW	**Bear Paw Mtn.**	**69.22**	**25**	P	**P**	**01 43 44.5**	**-0.3**	
BPAW				IAmb	IAmb	01 43 45.4		
	comp=Z,11nm,1.1s							
TRF	**Thorofare Moun**	**69.33**	**26**	P	**P**	**01 43 44.6**	**-1.0**	
KK31	**Karatay Array**	**69.42**	**312**	P	**P**	**01 43 45.8**	**-0.7**	
KKAR	**Karatay Array**	**69.42**	**312**	P	**P**	**01 43 45.9**	**-0.5**	
GHO	**Glory Hole Cre**	**69.51**	**28**	P	**P**	**01 43 44.6**	**-2.0**	
GHO				IAmb	IAmb	01 43 48.0		
	comp=Z,12nm,1.2s							
PWL	**Port Wells**	**69.57**	**29**	P	**P**	**01 43 46.8**	**-0.2**	
MLY	**Manley**	**69.59**	**24**	P	**P**	**01 43 46.7**	**-0.4**	
MLY				IAmb	IAmb	01 43 48.1		
	comp=Z,8.5nm,1.0s							
KNK	**Knik Glacier**	**69.64**	**29**	P	**P**	**01 43 46.9**	**-0.5**	
KNK				IAmb	IAmb	01 43 55.9		
	comp=Z,7.1nm,0.7s							
SML	**Sawmill**	**69.79**	**28**	P	**P**	**01 43 48.0**	**-0.4**	
GLI	**Glacier Island**	**70.16**	**29**	P	**P**	**01 43 50.2**	**-0.3**	
GLI				IAmb	IAmb	01 43 51.5		
	comp=Z,6.5nm,0.6s							
CHGR	**Chuyangaron**	**70.29**	**307**	P	**P**	**01 43 52.2**	**+0.3**	
CHGR				IAmb	IAmb	01 43 52.6		
	comp=Z,13nm,0.8s							
H23K	**Yukon River**	**70.30**	**24**	P	**P**	**01 43 51.2**	**-0.2**	
H23K				IAmb	IAmb	01 44 01.2		
	comp=Z,8.3nm,1.1s							
BVAR	**Borovoye Array**	**70.39**	**322**	P	**P**	**01 43 52.2**	**+0.1**	
	comp=Z,19nm,0.6s,baz=103,slow=8.1,SNR=112							
BVAR				LR	LR	02 14 45.1		
	comp=Z,48nm,21.8s,baz=101,slow=36							
	comp=Z,19nm,0.6s							
FID	**Port Fidalgo**	**70.43**	**29**	P	**P**	**01 43 51.7**	**-0.6**	
FID				IAmb	IAmb	01 43 53.2		
	comp=Z,9.3nm,0.6s							
COLD	**Coldfoot**	**70.45**	**22**	P	**P**	**01 43 51.9**	**-0.4**	
COLD				IAmb	IAmb	01 43 53.8		
	comp=Z,15nm,1.2s							
BRVK	**Borovoye**	**70.45**	**322**	P	**P**	**01 43 53.0**	**+0.5**	
DHY	**Denali Highway**	**70.51**	**27**	P	**P**	**01 43 52.5**	**-0.4**	
DHY				IAmb	IAmb	01 43 53.5		
	comp=Z,9.0nm,1.3s							
WRH	**Wood River Hil**	**70.54**	**25**	P	**P**	**01 43 51.9**	**-0.9**	
WRH				IAmb	IAmb	01 43 52.7		
	comp=Z,16nm,1.3s							
MDM	**Murphy Dome**	**70.60**	**25**	P	**P**	**01 43 53.4**	**+0.2**	
CCB	**Clear Creek Bu**	**70.70**	**25**	P	**P**	**01 43 52.5**	**-1.2**	
KLU	**Klutina**	**70.84**	**29**	P	**P**	**01 43 54.9**	**+0.1**	
KLU				IAmb	IAmb	01 43 55.6		
	comp=Z,4.1nm,0.6s							
DIV	**Divide**	**70.84**	**29**	P	**P**	**01 43 54.9**	**+0.1**	
DIV				IAmb	IAmb	01 43 55.7		
	comp=Z,6.6nm,0.7s							
H24K	**Noodor Dome**	**70.96**	**24**	P	**P**	**01 43 55.2**	**-0.2**	
H24K				IAmb	IAmb	01 43 56.7		
	comp=Z,13nm,1.3s							
HDA	**Harding Lake**	**71.00**	**26**	P	**P**	**01 43 54.3**	**-1.4**	
TOLK	**Toolik Lake Re**	**71.09**	**21**	P	**P**	**01 43 56.8**	**+0.6**	
TOLK				IAmb	IAmb	01 43 58.7		
	comp=Z,22nm,1.5s							
IL31		**71.11**	**25**	P	**P**	**01 43 54.7**	**-1.5**	
ILAR	**Eielson Array**	**71.11**	**25**	P	**P**	**01 43 54.7**	**-1.6**	
	comp=Z,2.8nm,0.5s,baz=246,slow=5.9,SNR=47							
ILAR				LR	LR	02 11 22.4		
	comp=Z,34nm,22.0s,baz=250,slow=33							
	comp=Z,2.8nm,0.5s							
ILAR	**Eielson Array**	**71.11**	**25**	P	**P**	**01 43 54.9**	**-1.4**	
PAX	**Paxson**	**71.34**	**27**	P	**P**	**01 43 57.6**	**-0.2**	
N25K	**Chitina, Valde**	**71.49**	**29**	P	**P**	**01 43 58.9**	**+0.2**	
BERG	**Berg Lake**	**71.72**	**30**	P	**P**	**01 44 00.0**	**0.0**	
BERG				IAmb	IAmb	01 44 01.1		
	comp=Z,13nm,1.0s							
RIDG	**Independent Ri**	**71.77**	**26**	P	**P**	**01 43 60.0**	**-0.4**	
GLB	**Gilahina Butte**	**71.83**	**29**	P	**P**	**01 44 00.6**	**-0.2**	
GLB				IAmb	IAmb	01 44 16.5		
	comp=Z,9.4nm,1.4s							
DOT	**Dot Lake**	**72.09**	**27**	P	**P**	**01 44 01.8**	**-0.5**	
DOT				IAmb	IAmb	01 44 11.4		
	comp=Z,4.6nm,0.7s							
SCRK	**Sand Creek**	**72.18**	**26**	P	**P**	**01 44 02.9**	**0.0**	
L26K	**Log Cabin Wild**	**72.30**	**27**	P	**P**	**01 44 03.1**	**-0.4**	
L26K				IAmb	IAmb	01 44 04.0		
	comp=Z,3.7nm,0.6s							
J26L	**Joseph Creek**	**72.46**	**26**	P	**P**	**01 44 04.2**	**-0.3**	
YAH	**Yahtse**	**72.68**	**30**	P	**P**	**01 44 06.4**	**+0.4**	
YAH				IAmb	IAmb	01 44 06.9		
	comp=Z,7.0nm,0.8s							
CTGM	**Chitina Glacie**	**72.95**	**30**	P	**P**	**01 44 07.4**	**-0.2**	
CTGM				IAmb	IAmb	01 44 10.0		
	comp=Z,9.0nm,0.8s							
TABL	**Table Mountain**	**72.98**	**30**	P	**P**	**01 44 07.7**	**-0.2**	
LOGN	**Logan Glacier**	**73.10**	**30**	P	**P**	**01 44 08.4**	**0.0**	
LOGN				IAmb	IAmb	01 44 09.6		
	comp=Z,7.0nm,0.7s							
DAWY	**Dawson**	**74.20**	**27**	P	**P**	**01 44 15.2**	**+0.5**	
HYT	**Haines Junctio**	**74.80**	**30**	P	**P**	**01 44 18.8**	**+0.4**	
HYT				IAmb	IAmb	01 44 21.3		
	comp=Z,6.3nm,0.8s							
HRA	**Herat**	**76.00**	**303**	P	**P**	**01 44 25.6**	**-0.3**	
ABKAR	**Akbulak array**	**76.82**	**318**	P	**P**	**01 44 29.7**	**-0.2**	
ABKAR				IAmb	IAmb	01 44 30.6		
	comp=Z,8.4nm,0.7s							
P33M	**Teslin, Yukon**	**77.11**	**31**	P	**P**	**01 44 31.4**	**0.0**	
ARU	**Arti**	**77.38**	**325**	P	**P**	**01 44 32.6**	**-0.3**	
	comp=Z,6.2nm,0.5s,baz=95,slow=4.2,SNR=19							
ARU				LR	LR	02 19 05.3		
	comp=Z,28nm,21.4s,baz=85,slow=36							
	comp=Z,6.2nm,0.5s							
ARU	**Arti**	**77.38**	**325**	P	**P**	**01 44 32.5**	**-0.5**	
ARU				IAmb	IAmb	01 44 33.4		
	comp=Z,9.3nm,0.7s							
AKTO	**Aktyubinsk**	**78.00**	**319**	P	**P**	**01 44 36.1**	**-0.5**	
	comp=Z,2.1nm,0.7s,baz=91,slow=6.7,SNR=9.7							
AKTO				LR	LR	02 19 25.7		
	comp=Z,25nm,21.8s,baz=84,slow=36							
	comp=Z,2.1nm,0.7s							
GEYT	**Alibeck**	**79.00**	**307**	P	**P**	**01 44 43.5**	**+1.1**	
	comp=Z,2.2nm,0.6s,baz=5.7,slow=1.5,SNR=6.5							
	comp=Z,2.2nm,0.6s							
GEYT	**Alibeck**	**79.00**	**307**	P	**P**	**01 44 42.4**	**0.0**	
GEYT				IAmb	IAmb	01 44 44.1		
	comp=Z,10nm,1.4s							
BBB	**Bella Bella**	**80.23**	**39**	LR	LR	02 15 56.4		
	comp=Z,18nm,19.0s,baz=250,slow=32							
BELG	**Belogornoye**	**84.19**	**322**	P	**P**	**01 45 09.3**	**-0.1**	
	comp=Z,8.0nm,0.6s,baz=336,slow=3.3,SNR=9.2							
BELG				LR	LR	02 23 47.8		
	comp=Z,29nm,21.6s,baz=121,slow=36							
	comp=Z,8.0nm,0.6s							
YKA	**Yellowknife Ar**	**85.43**	**27**	P	**P**	**01 45 15.7**	**+0.2**	
	comp=Z,3.7nm,0.7s,baz=283,slow=5.1,SNR=6.9							
	comp=Z,3.7nm,0.7s							
YBH	**Yreka Blue Hor**	**85.51**	**48**	LR	LR	02 19 03.1		
	comp=Z,13nm,19.2s,baz=278,slow=32							
SPITS	**Spitsbergen Ar**	**85.71**	**350**	LR	LR	02 24 08.4		
	comp=Z,36nm,20.0s,baz=52,slow=36							
B08A	**Colville Reser**	**86.43**	**41**	P	**P**	**01 45 20.6**	**-0.2**	
B08A				IAmb	IAmb	01 45 22.6		
	comp=Z,5.1nm,0.9s							
RES	**Resolute Bay**	**86.88**	**13**	LR	LR	02 23 58.7		
	comp=Z,12nm,21.8s,baz=356,slow=35							
ARCES	**ARCESS Array B**	**88.41**	**342**	P	**P**	**01 45 29.2**	**-0.6**	
	comp=Z,1.5nm,0.5s,baz=73,slow=6.3,SNR=17							
	comp=Z,1.5nm,0.5s							
KBZ	**Khabaz**	**89.28**	**314**	P	**P**	**01 45 35.1**	**+0.7**	
	comp=Z,2.7nm,0.9s,baz=193,slow=16,SNR=4.2							
	comp=Z,2.7nm,0.9s							
NVAR	**Mina Array Bea**	**89.54**	**51**	P	**P**	**01 45 37.1**	**+1.0**	
	comp=Z,0.8nm,0.5s,baz=263,slow=5.9,SNR=12							
	comp=Z,0.8nm,0.5s							
NVAR	**Mina Array Bea**	**89.54**	**51**	P	**P**	**01 45 35.4**	**-0.7**	
VNDA	**Vanda**	**89.62**	**176**	P	**P**	**01 45 35.7**	**+0.5**	
	comp=Z,1.6nm,1.0s,baz=326,slow=7.1,SNR=4.0							
	comp=Z,1.6nm,1.0s							
ELK	**Elko**	**91.22**	**48**	LR	LR	02 19 07.9		
	comp=Z,16nm,20.5s,baz=293,slow=31							
FINES	**FINESS Array B**	**92.19**	**335**	P	**P**	**01 45 45.9**	**-1.7**	
	comp=Z,1.5nm,0.3s,baz=63,slow=4.3,SNR=20							
	comp=Z,1.5nm,0.3s							
MNK	**Minsk**	**94.63**	**328**	*i* P	**P**	**01 45 57.6**	**-1.4**	
	comp=E,1.0nm,0.7s							
MNK				*i* P	**P**	**01 45 57.6**	**-1.4**	
MNK				*i* P	**P**	**01 45 57.6**	**-1.4**	
	comp=Z,3.0nm,0.7s,baz=62							
MNK				*i* pP	**sP**	**01 46 12.3**	**+2.6**	
MNK				*i* PP	**PP**	**01 49 46.6**	**-0.2**	
MNK				*i* PPP	PPP	01 51 48.4		
MNK				*i* S	**SKSac**	**01 56 28.3**	**-3.7**	
MNK				*i* PS	**PS**	**01 58 30.9**	**+1.7**	
MNK				*i* SS	**SS**	**02 03 32.9**	**+0.4**	
MNK				*i* SSS	SSS	02 07 15.3		
MNK				*i* LR	LR	02 27 17.6		
MNK				*i* LRM	MLR	02 28 43.0		
	comp=N,1.0nm,17.2s							
MNK				*i* LRM	MLR	02 28 43.8		
	comp=Z,35nm,14.9s							
MNK				*i* LRM	MLR	02 28 57.1		
	comp=E,5.0nm,15.3s							
AKASG	**Malin Array Be**	**95.59**	**324**	LR	LR	02 31 08.0		
	comp=E,38nm,20.3s,baz=12,slow=37							
NOA	**NORSAR Array B**	**98.25**	**339**	P	**P**	**01 46 14.5**	**-0.9**	
	comp=E,0.5nm,0.7s,baz=54,slow=6.5,SNR=2.5							
	comp=E,0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**134.45**	**302**	PKP	**PKPdf**	**01 51 57.8**	**+0.5**	
	comp=E,0.2nm,0.5s,baz=46,slow=2.3,SNR=4.8							
LPAZ	**La Paz**	**149.40**	**102**	PKPbc	**PKPbc**	**01 52 28.8**	**0.0**	
	comp=E,1.4nm,0.7s,baz=37,slow=14,SNR=5.9							

*IDC **27** 01:36:30.1±1.6,5.°78S×151.°40E,h68km±13km, mb3.7/6, mbtmp4.1/7, Error ellipse: s-maj=45.2km s-min=9.0km az=125.0*
*NEIC **27** 01:36:31.2±2.0,5.°3S±0.°2×151.°1E±0.°1, h54km±19km, mb4.3/9, Error ellipse: s-maj=28.4km s-min=9.5km az=147.0*

ISC 27 01:36:30.9±0.7,5.°5S±0.°1×151.°1E±0.°1,h65km,n22,
σ1§52/24,mb4.1/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.47**	**39**	P		**Pn**		**01 36 54.5**	**-0.7**
	185nm,0.3s,baz=286,slow=3.0,SNR=24								
KRVT				S		**Sn**		**01 37 16.1**	**+2.4**
	269nm,0.3s,baz=242,slow=15,SNR=15								
RABL	**Rabaul**	**1.65**	**40**	Pn		**Pn**		**01 36 55.7**	**-2.0**
PMG	**Port Moresby**	**5.54**	**225**	P		**Pn**		**01 37 50.1**	**-0.6**
	21nm,0.4s,baz=38,slow=16,SNR=5.3								
PMG				S		**Sn**		**01 38 52.0**	**-1.0**
	59nm,0.4s,baz=105,slow=15,SNR=9.8								
PMG	**Port Moresby**	**5.54**	**225**			**Pn**		**01 37 52.1**	**+1.3**
MTN	**Manton Dam**	**21.02**	**248**	P		**P**		**01 41 10.9**	**+1.5**
MTN				IAmb		IAmb		01 41 16.1	
	comp=Z,17nm,1.4s								
WB0	**Warramunga Arr**	**21.60**	**227**	P		**P**		**01 41 14.6**	**-1.0**
WB0				IAmb		IAmb		01 41 18.0	
	comp=Z,5.7nm,0.8s								
WR0	**Warramunga Arr**	**21.61**	**227**	P		**P**		**01 41 17.7**	**+1.9**
WB2	**Warramunga Arr**	**21.74**	**227**	P		**P**		**01 41 19.0**	**+1.9**
WB2				IAmb		IAmb		01 41 19.3	
	comp=Z,7.9nm,0.6s								
WRA	**Warramunga Arr**	**21.75**	**227**	P		**P**		**01 41 16.6**	**-0.6**
	comp=Z,7.7nm,0.7s,baz=53,slow=9.7,SNR=22								
	comp=Z,7.7nm,0.7s								
WRA	**Warramunga Arr**	**21.75**	**227**	P		**P**		**01 41 17.4**	**+0.2**
KNRA	**Kununurra**	**24.16**	**243**	P		**P**		**01 41 42.3**	**+1.1**
KNRA				IAmb		IAmb		01 41 53.1	
	comp=Z,9.2nm,0.8s								
ASAR	**Alice Springs**	**24.54**	**221**	P		**P**		**01 41 43.9**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=55,slow=9.3,SNR=22								
	comp=Z,3.0nm,0.6s								
FITZ	**Fitzroy Crossi**	**27.86**	**241**	P		**P**		**01 42 14.6**	**0.0**
	comp=Z,7.6nm,0.6s,baz=0.8,slow=5.2,SNR=34								
	comp=Z,7.6nm,0.6s								
FITZ	**Fitzroy Crossi**	**27.86**	**241**	P		**P**		**01 42 14.6**	**0.0**
FITZ				IAmb		IAmb		01 42 15.3	
	comp=Z,6.8nm,0.7s								
MBWA	**Marble Bar**	**34.18**	**240**	P		**P**		**01 43 10.1**	**-0.1**
NIUE	**Niue**	**40.30**	**113**	P		**P**		**01 44 04.9**	**+2.8**
BSWZ	**Blackbirch Sta**	**41.42**	**154**	P		**P**		**01 44 11.2**	**+0.1**
SONM	**Songino Array**	**65.99**	**329**	P		**P**		**01 47 12.3**	**+1.7**
	comp=Z,2.0nm,0.3s,baz=146,slow=10,SNR=2.7								
	comp=Z,2.0nm,0.3s								
VNDA	**Vanda**	**72.25**	**178**	P		**P**		**01 47 46.1**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=338,slow=5.4,SNR=3.0								
	comp=Z,0.4nm,0.7s								
ILAR	**Eielson Array**	**83.41**	**22**	P		**P**		**01 48 48.8**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=255,slow=4.7,SNR=6.3								
	comp=Z,0.5nm,0.6s								
GERES	**GERESS Array B**	**123.71**	**327**	PKP		**PKPdf**		**01 55 21.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=0.0,slow=1.6,SNR=4.0								
TORD	**Torodi Ar. Bea**	**148.88**	**286**	PKPbc		**PKPbc**		**01 56 12.1**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=86,slow=2.4,SNR=18								

*IDC **27** 01:36:45.8±1.4,36.°68N×76.°65E,h0km, mb3.8/4, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=29.5km s-min=21.7km az=61.0*
*SOME **27** 01:36:51.7,37.°77N×79.°00E,h10km*

ISC 27 01:36:53.7±0.9,36.°59N±0.°07×76.°96E±0.°09,h77km,n25,
σ2§12/28,mb3.6/4,1D,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.33**	**343**	Pn		**Pn**		**01 38 23.4**	**-1.1**
	0.4nm,0.3s,baz=285,slow=20,SNR=2.0								
AAK				Sn		**Sn**		**01 39 33.2**	**-2.2**
	1.0nm,0.3s,baz=156,slow=14,SNR=2.1								
	0.9nm,0.3s								
TNSS	**Tian-Shan**	**6.44**	**360**	*e*P		Pn		01 38 36.1	+10
	6.5nm,0.2s								
TNSS				*e*S		Sn		01 39 51.3	+13
	5.7nm,0.2s								
UZB	**Uzynbulak**	**6.74**	**13**	*e*P		**Pn**		**01 38 32.1**	**+2.1**
	1.0nm,0.5s								
UZB				*e*S		**Sn**		**01 39 44.8**	**-0.5**
	14nm,0.4s								
SHLS	**Shalkode**	**6.83**	**16**	*e*P		**Pn**		**01 38 34.2**	**+2.9**
	7.4nm,0.3s								
SHLS				*e*S		**Sn**		**01 39 47.9**	**+0.3**
	23nm,0.2s								
KPKS	**Kokpek**	**6.99**	**10**	*e*P		**Pn**		**01 38 36.0**	**+2.6**
	9.7nm,0.2s								
KPKS				*e*S		**Sn**		**01 39 51.0**	**-0.4**
	24nm,0.3s								
KRBS	**Karabastau**	**7.16**	**353**	*e*P		Pn		01 38 49.1	+13
	1.9nm,0.2s								
KRBS				*e*S		Sn		01 40 13.6	+18
	6.4nm,0.4s								
KTMS	**Ketmen**	**7.32**	**20**	*e*P		**Pn**		**01 38 38.8**	**+0.8**
	6.6nm,0.1s								
KTMS				*e*S		**Sn**		**01 39 55.8**	**-3.8**
	7.9nm,0.3s								
BLB	**Baldybastay**	**7.58**	**8**	*e*P		Pn		01 38 49.9	+8.3
	7.9nm,0.3s								
BLB				*e*S		Sn		01 40 15.0	+8.9
	6.1nm,0.4s								
KK31	**Karatay Array**	**8.18**	**325**	P		**Pn**		**01 38 52.9**	**+3.4**
	0.7nm,0.3s,baz=165,slow=14,SNR=16								
KK31				⇓S		**Sn**		**01 40 18.7**	**-1.6**
	1.6nm,0.4s,baz=167,slow=28,SNR=10								
PYUN	**Piuthan**	**9.88**	**147**	*e*P		**Pn**		**01 39 11.8**	**-1.3**
	18nm,0.4s								
DANN	**Dangsing**	**10.02**	**143**	*e*P		**Pn**		**01 39 13.2**	**-1.9**
	6.0nm,0.2s								
KOLN	**Koldanda**	**10.44**	**146**	*e*P		**Pn**		**01 39 19.7**	**-1.0**
	0.7nm,0.3s								
GKN	**Gorkha**	**10.74**	**141**	*e*P		**Pn**		**01 39 23.0**	**-1.8**
	8.8nm,0.3s								
MKAR	**Makanchi Array**	**10.94**	**20**	Pn		**Pn**		**01 39 26.6**	**-0.6**
	1.0nm,0.3s,baz=203,slow=13,SNR=28								
	1.4nm,0.3s								
DMN	**Daman**	**11.30**	**140**	*e*P		**Pn**		**01 39 30.7**	**-1.8**
PKIN	**Phulchoki**	**11.48**	**139**	*e*P		**Pn**		**01 39 33.3**	**-1.7**
PKI	**Pulchoki**	**11.49**	**139**	*e*P		**Pn**		**01 39 33.5**	**-1.7**
	3.9nm,0.2s								
JIRN	**Jiri**	**11.85**	**136**	*e*P		**Pn**		**01 39 37.6**	**-2.4**
RAMN	**Ramite**	**12.63**	**137**	*e*P		**Pn**		**01 39 47.7**	**-2.8**
	3.1nm,0.3s								
TAPN	**Taplejung**	**12.96**	**132**	*e*P		**Pn**		**01 39 52.2**	**-2.8**
	5.0nm,0.3s								
ZALV	**Zalesovo Beam**	**18.20**	**15**	P		**P**		**01 40 58.9**	**-1.3**
	0.3nm,0.3s,baz=209,slow=12,SNR=4.8								
	0.7nm,0.3s								
SONM	**Songino Array**	**24.38**	**53**	P		**P**		**01 42 06.6**	**+1.9**
	1.3nm,0.5s,baz=247,slow=10,SNR=6.6								
	1.3nm,0.5s								
CMAR	**Chiang Mai Arr**	**26.47**	**127**	P		**P**		**01 42 27.1**	**+3.3**
	1.1nm,0.3s,baz=310,slow=12,SNR=6.8								
	1.1nm,0.3s								
FINES	**FINESS Array B**	**40.14**	**325**	P		**P**		**01 44 21.8**	**+0.2**
	0.3nm,0.3s,baz=121,slow=9.7,SNR=5.3								
	0.3nm,0.3s								
TORD	**Torodi Ar. Bea**	**70.52**	**272**	P		**P**		**01 48 00.8**	**+0.2**
	0.2nm,0.4s,baz=55,slow=5.9,SNR=1.9								
	0.2nm,0.4s								

*IDC **27** 01:37:24.2±3.1,63.°64S×172.°39E,h0km,mb3.9/3, mbtmp3.9/4,ML3.5/1,MS3.6/12,Error ellipse: s-maj=130.8km s-min=27.1km az=72.0*

ISC 27 01:37:24.1±2.7,63.°6S±0.°2×172.°9E±0.°7,h10km,n30,
σ1§02/6,mb4.0/3,MS3.6/12,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.39**	**190**	Pn		**Pn**		**01 40 47.0**	**-0.4**
	0.2nm,0.3s,baz=0.6,slow=11,SNR=23								
VNDA				LR		LR		01 44 09.0	
	comp=Z,64nm,20.1s,baz=26,slow=28								
	1.5nm,0.6s								
RPZ	**Rata Peaks**	**19.97**	**356**	LR		LR		01 48 15.4	
	comp=Z,185nm,20.1s,baz=170,slow=33								
URZ	**Urewera**	**25.52**	**8**	LR		LR		01 51 08.7	
	comp=Z,136nm,22.0s,baz=262,slow=32								
QSPA	**South Pole Qui**	**26.47**	**180**	P		**P**		**01 43 02.2**	**+1.1**
	3.6nm,1.1s,baz=1.3,slow=5.0,SNR=4.7								
QSPA				LR		LR		01 51 56.6	
	comp=Z,202nm,19.5s,baz=34,slow=33								
	3.6nm,1.1s								
STKA	**Stephens Creek**	**37.34**	**313**	LR		LR		01 56 48.8	
	comp=Z,62nm,19.0s,baz=247,slow=31								
MAW	**Mawson**	**39.84**	**214**	LR		LR		02 00 22.7	
	comp=Z,73nm,18.1s,baz=144,slow=35								
DZM	**Mont Dzumac**	**41.75**	**351**	*e*LR		LR		01 57 23.6	
	comp=Z,84nm,20.9s								
DZM	**Mont Dzumac**	**41.75**	**351**	LR		LR		02 00 23.0	
	comp=Z,90nm,19.7s,baz=228,slow=33								
SNAA	**Sanae**	**44.95**	**182**	LR		LR		02 03 41.5	
	comp=Z,208nm,18.5s,baz=220,slow=35								
PMSA	**Palmer Station**	**45.27**	**150**	LR		LR		02 01 22.4	
	comp=Z,56nm,21.0s,baz=222,slow=32								
H01W1	**Cape Leeuwin H**	**45.55**	**280**	T		T		02 34 34.5	
	baz=147,slow=76,SNR=14								
H01W2	**Cape Leeuwin H**	**45.56**	**280**	T		T		02 34 35.0	
	baz=147,slow=76,SNR=12								
H01W3	**Cape Leeuwin H**	**45.57**	**280**	T		T		02 34 35.7	
	baz=147,slow=76,SNR=12								
CTA	**Charters Tower**	**47.08**	**325**	LR		LR		02 02

ZHN				S	Sg	01 40 53.4	-1.3	
	91nm,0.2s							
KTMS	**Ketmen**	**1.36**	**25**	*eP*	**Pn**	**01 40 39.5**	**+0.1**	
	26nm,0.3s							
KTMS				*eS*	**Sb**	**01 40 57.2**	**-0.2**	
	24nm,0.3s							
KTMS	**Ketmen**	**1.36**	**25**	P	**Pn**	**01 40 39.5**	**+0.1**	
	26nm,0.3s							
KTMS				S	**Sb**	**01 40 57.2**	**-0.2**	
	23nm,0.3s							
TARG	**Taragay, Kyrgy**	**1.39**	**250**	⇓*iP*	**Pn**	**01 40 37.1**	**-2.9**	
	baz=74							
TARG				⇓*iS*	**Sb**	**01 40 54.9**	**-3.5**	
	baz=74							
KPKS	**Kokpek**	**1.40**	**333**	*eP*	**Pn**	**01 40 39.8**	**-0.1**	
	12nm,0.2s							
KPKS				*eS*	**Sg**	**01 40 58.2**	**-1.2**	
	244nm,0.4s							
KPKS	**Kokpek**	**1.40**	**333**	P	**Pn**	**01 40 39.8**	**-0.1**	
	12nm,0.2s							
KPKS				S	**Sg**	**01 40 58.2**	**-1.2**	
	244nm,0.4s							
KURS	**Kuram**	**1.63**	**322**	*eP*	**Pb**	**01 40 44.1**	**-0.2**	
	16nm,0.5s							
KURS				*eS*	**Sg**	**01 41 05.0**	**-1.5**	
	58nm,0.5s							
KURS	**Kuram**	**1.63**	**322**	P	**Pb**	**01 40 44.1**	**-0.2**	
	16nm,0.5s							
KURS				S	**Sg**	**01 41 05.0**	**-1.5**	
	58nm,0.5s							
BLB	**Baldybastay**	**2.04**	**338**	*eP*	**Pb**	**01 40 51.7**	**+0.3**	
	30nm,0.2s							
BLB				*eS*	**Sg**	**01 41 18.2**	**-1.4**	
	820nm,0.3s							
BLB	**Baldybastay**	**2.04**	**338**	Pg	**Pb**	**01 40 51.7**	**+0.3**	
	30nm,0.2s							
BLB				Lg	Lg	01 41 18.2		
	820nm,0.3s							
KOTS	**Kotyrbulak**	**2.07**	**300**	*eP*	**Pb**	**01 40 51.0**	**-0.8**	
	8.3nm,0.3s							
KOTS				*eS*	**Sg**	**01 41 18.6**	**-1.9**	
	161nm,0.5s							
KOTS	**Kotyrbulak**	**2.07**	**300**	Pg	**Pb**	**01 40 51.0**	**-0.8**	
	8.3nm,0.3s							
KOTS				Lg	Lg	01 41 18.6		
	161nm,0.5s							
MDOK	**Medeo**	**2.08**	**298**	*eP*	**Pb**	**01 40 50.9**	**-1.1**	
	61nm,0.2s							
MDOK				*eS*	**Sb**	**01 41 17.4**	**-0.5**	
	88nm,0.7s							
MDOK	**Medeo**	**2.08**	**298**	⇑Pn	**Pb**	**01 40 50.8**	**-1.1**	
	33nm,0.4s							
MDOK				Pg	**Pb**	**01 40 50.8**	**-1.1**	
	61nm,0.2s							
MDOK				Lg	Lg	01 41 17.4		
	88nm,0.7s							
MDOK				Sn	**Sb**	**01 41 17.7**	**-0.1**	
	95nm,0.6s							
TNSS	**Tian-Shan**	**2.09**	**294**	*eP*	**Pb**	**01 40 51.3**	**-1.1**	
	225nm,0.3s							
TNSS				*eS*	**Sb**	**01 41 17.7**	**-0.8**	
	64nm,0.3s							
TNSS	**Tian-Shan**	**2.09**	**294**	Pg	**Pb**	**01 40 51.3**	**-1.1**	
	225nm,0.3s							
TNSS				Lg	Lg	01 41 17.7		
	64nm,0.3s							
DJR	**Jarkent**	**2.12**	**5**	*eP*	**Pb**	**01 40 52.8**	**0.0**	
	42nm,0.3s							
DJR				*eS*	**Sg**	**01 41 20.1**	**-2.2**	
	124nm,0.5s							
DJR	**Jarkent**	**2.12**	**5**	Pg	**Pb**	**01 40 52.8**	**0.0**	
	42nm,0.3s							
DJR				Lg	Lg	01 41 20.1		
	124nm,0.5s							
KNDC	**Almaty**	**2.15**	**299**	⇓Pn	**Pb**	**01 40 52.8**	**-0.4**	
	125nm,0.8s							
KNDC				⇓Sn	**Sg**	**01 41 21.4**	**-1.9**	
	104nm,0.5s							
AAA	**Alma-Ata**	**2.18**	**298**	*eP*	**Pb**	**01 40 53.5**	**-0.2**	
	112nm,0.4s							
AAA				*eS*	**Sg**	**01 41 22.1**	**-2.1**	
	139nm,0.5s							
AAA	**Alma-Ata**	**2.18**	**298**	Pg	**Pb**	**01 40 53.5**	**-0.2**	
	112nm,0.4s							
AAA				Lg	Lg	01 41 22.4		
	139nm,0.5s							
ULHL	**Ulahol**	**2.46**	**272**	⇓*iP*	**Pn**	**01 40 57.1**	**+2.6**	
	baz=85							
ULHL				⇓*iS*	**Sb**	**01 41 29.4**	**+0.4**	
	baz=85							
MTBS	**Maitube**	**2.48**	**293**	*eP*	**Pb**	**01 40 58.9**	**+0.1**	
	23nm,0.3s							
MTBS				*eS*	**Sb**	**01 41 30.1**	**+0.7**	
	90nm,0.3s							
MTBS	**Maitube**	**2.48**	**293**	Pg	**Pb**	**01 40 58.9**	**+0.1**	
	23nm,0.3s							
MTBS				Lg	Lg	01 41 30.1		
	90nm,0.3s							
CHKK	**Chushkaly**	**2.49**	**312**	*eP*	**Pb**	**01 40 58.9**	**-0.1**	
	62nm,0.4s							
CHKK				*eS*	**Sg**	**01 41 31.1**	**-3.2**	
	276nm,0.3s							
CHKK	**Chushkaly**	**2.49**	**312**	Pg	**Pb**	**01 40 58.9**	**-0.1**	
	62nm,0.4s							
CHKK				Lg	Lg	01 41 31.0		
	276nm,0.3s							
BOOM	**Boomskoye usch**	**2.69**	**277**	⇓*iP*	**Pn**	**01 41 00.2**	**+2.6**	
	baz=89							
BOOM				⇓*iS*	**Sb**	**01 41 35.8**	**+0.2**	
	baz=89							
NRN	**Naryn**	**2.77**	**255**	⇑*iP*	**Pn**	**01 40 58.9**	**+0.1**	
	baz=66							
NRN				⇑*iS*	**Sn**	**01 41 33.1**	**+0.7**	
	baz=66							
KST	**Kastek**	**2.77**	**289**	*eP*	**Pb**	**01 41 03.8**	**-0.1**	
	44nm,0.3s							
KST				*eS*	**Sb**	**01 41 39.2**	**+1.2**	
	62nm,0.3s							
KST	**Kastek**	**2.77**	**289**	Pg	**Pb**	**01 41 03.8**	**-0.1**	
	44nm,0.3s							
KST				Lg	Lg	01 41 39.2		
	61nm,0.5s							
KUU	**Kurty**	**2.89**	**307**	*eP*	**Pb**	**01 41 05.1**	**-0.7**	
	15nm,0.3s							
KUU				*eS*	**Sb**	**01 41 41.8**	**+0.6**	
	95nm,0.5s							
KUU	**Kurty**	**2.89**	**307**	Pg	**Pb**	**01 41 05.1**	**-0.7**	
	15nm,0.3s							
KUU				Lg	Lg	01 41 41.8		
	95nm,0.5s							
TDK	**Taldyqorghan**	**2.91**	**344**	*eP*	**Pb**	**01 41 06.6**	**+0.5**	
	25nm,0.1s							
TDK				*eS*	**Sg**	**01 41 43.8**	**-3.7**	
	114nm,0.5s							
TDK	**Taldyqorghan**	**2.91**	**344**	Pg	**Pb**	**01 41 06.6**	**+0.5**	
	53nm,0.3s							
TDK				Lg	Lg	01 41 43.8		
	114nm,0.5s							
DGS	**Degeres**	**2.97**	**292**	*eP*	**Pb**	**01 41 07.2**	**0.0**	
	27nm,0.5s							
DGS				*eS*	**Sb**	**01 41 45.3**	**+1.7**	
	79nm,0.5s							
DGS	**Degeres**	**2.97**	**292**	Pg	**Pb**	**01 41 07.2**	**0.0**	
	27nm,0.5s							
DGS				Lg	Lg	01 41 45.3		
	79nm,0.5s							
TKM2	**Tokmak 2**	**3.00**	**285**	⇓Pn	**Pn**	**01 41 04.8**	**+2.8**	
	5.3nm,0.3s							
TKM2				⇑Lg	Lg	01 41 49.3		
	34nm,0.6s							
TKM2	**Tokmak 2**	**3.00**	**285**	⇑*iP*	**Pb**	**01 41 06.3**	**-1.6**	
	baz=95							
TKM2				⇑*iS*	**Sb**	**01 41 45.4**	**+0.7**	
	baz=95							
KRBS	**Karabastau**	**3.21**	**299**	*eP*	**Pb**	**01 41 10.1**	**-1.2**	
	18nm,0.3s							
KRBS				*eS*	**Sb**	**01 41 50.3**	**-0.1**	
	52nm,0.2s							
KRBS	**Karabastau**	**3.21**	**299**	Pg	**Pb**	**01 41 10.1**	**-1.2**	
	18nm,0.3s							
KRBS				Lg	Lg	01 41 50.3		
	45nm,0.4s							
KBK	**Karagaybulak**	**3.44**	**279**	⇑*iP*	**Pn**	**01 41 11.5**	**+3.6**	
	baz=88							
KBK				⇑*iS*	**Sb**	**01 41 54.1**	**-3.0**	
	baz=88							
CHMS	**Chumysh**	**3.63**	**284**	⇓Pn	**Pn**	**01 41 13.5**	**+3.1**	
	6.1nm,0.6s							
CHMS				⇓Lg	Lg	01 42 09.7		
	11nm,0.6s							
UCH	**Uchtor**	**3.74**	**272**	⇓*iP*	**Pn**	**01 41 14.8**	**+2.5**	
	baz=81							
UCH				⇓*iS*	**Sn**	**01 41 59.8**	**+3.1**	
	baz=81							
AAK	**Ala-Archa**	**3.77**	**278**	⇑*iP*	**Pn**	**01 41 15.6**	**+3.2**	
	baz=87							
AAK				⇑*iS*	**Sn**	**01 42 01.4**	**+4.5**	
	baz=87							
ARLS	**Aral**	**3.91**	**267**	⇑*iP*	**Pn**	**01 41 15.8**	**+1.4**	
	baz=75							
ARLS				⇑*iS*	**Sn**	**01 42 02.1**	**+1.7**	
	baz=75							
MRKS	**Merke**	**4.71**	**279**	*eP*	**Pb**	**01 41 39.3**	**+2.5**	
	7.9nm,0.2s							
MRKS				*eS*	**Sg**	**01 42 39.9**	**-5.4**	
	14nm,0.4s							
MRKS	**Merke**	**4.71**	**279**	Pg	**Pb**	**01 41 39.3**	**+2.5**	
	9.6nm,0.4s							
MAKZ	**Makanchi**	**4.91**	**20**	⇑Pn	**Pn**	**01 41 30.8**	**+2.8**	
	1.2nm,0.5s							
MAKZ				⇓Lg	Lg	01 41 42.5		
	2.8nm,1.0s							
MAKZ				⇑Lg	Lg	01 42 49.8		
	3.0nm,0.8s							
MK31	**Makanchi Array**	**4.98**	**22**	⇓Pn	**Pn**	**01 41 31.7**	**+2.8**	
	0.9nm,0.3s,baz=205,slow=9.7,SNR=15							
MK31				⇑Sn	**Sn**	**01 42 29.4**	**+2.9**	
	1.5nm,0.5s							
MK31				⇑Lg	Lg	01 42 53.1		
	6.4nm,0.5s,baz=93,slow=8.3,SNR=17							
KK31	**Karatay Array**	**6.72**	**281**	⇓Pn	**Pn**	**01 41 55.9**	**+3.0**	
	1.0nm,0.3s,baz=94,slow=16,SNR=6.4							
KK31				⇑Lg	Lg	01 43 47.5		
	1.4nm,0.5s,baz=90,slow=9.8,SNR=12							
OTUK	**Ortayu**	**7.89**	**322**	⇑Pn	**Pn**	**01 42 11.9**	**+3.0**	
	1.0nm,0.6s							
OTUK				⇑Sn	**Sn**	**01 43 40.3**	**+2.1**	
	5.2nm,1.1s							
OTUK				⇓Lg	Lg	01 44 22.3		
	9.3nm,1.0s							

UPA ***27*** *01:48:48.0±0.4, 9.°58N×84.°24W, h10km±28km, MW3.9*
INET ***27*** *01:48:49.8±1.1, 9.°54N×84.°14W, h9km±14km, MW2.7*
UCR ***27*** *01:48:50.7±1.6, 9.°53N×84.°10W, h29km±1km, MW3.9*

ISC 27 01:48:50.4±1.0, 9.°50N±0.°04×84.°15W±0.°03, h30km±8km, n44, σ0°79/69, 3C-8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.28**	**31**	⇓*iP*	**Pb**	**01 48 56.9**	**-0.9**
LCR2				*eS*	**Sb**	**01 49 02.6**	**-0.2**
EDDO	**Dominical**	**0.37**	**130**	*eP*	**Pb**	**01 48 58.3**	**-0.6**
EDDO				*eS*	**Sb**	**01 49 05.3**	**+0.7**
CDM	**Cerro de Muert**	**0.39**	**81**	⇓*iP*	**Pb**	**01 48 59.0**	**-0.4**
CDM				*eS*	**Sb**	**01 49 06.1**	**+0.5**
CDM	**Cerro de Muert**	**0.39**	**81**	*eP*	**Pb**	**01 48 58.9**	**-0.5**
CDM				*eS*	**Sb**	**01 49 05.9**	**+0.3**
PEZE	**Perez Zeledon,**	**0.48**	**104**	⇓*iP*	**Pb**	**01 49 00.3**	**-0.3**
PEZE				*eS*	**Sb**	**01 49 08.3**	**+0.7**
PEZE	**Perez Zeledon,**	**0.48**	**104**	*eP*	**Pb**	**01 49 00.1**	**-0.5**
HDC	**Heredia**	**0.50**	**4**	⇓*iP*	**Pb**	**01 49 00.3**	**-0.7**
HDC				*eS*	**Sb**	**01 49 08.4**	**+0.2**
HDC3	**Heredia 3**	**0.50**	**5**	*eP*	**Pb**	**01 49 00.3**	**-0.7**
LAFE	**Finca La Fe, P**	**0.81**	**293**	*eP*	**Pb**	**01 49 05.1**	**-0.8**
LAFE	**Finca La Fe, P**	**0.81**	**293**	*eP*	**Pb**	**01 49 04.9**	**-1.1**
SRBA	**San Rafael, Bu**	**0.82**	**109**	⇓*eP*	**Pb**	**01 49 05.0**	**-1.3**
SRBA				*eS*	**Sb**	**01 49 16.9**	**-0.2**
EDPN	**Palmar Norte**	**0.87**	**128**	*eP*	**Pb**	**01 49 05.8**	**-1.2**
DRK0	**Durika**	**0.92**	**104**	*eP*	**Pn**	**01 49 07.6**	**0.0**
EDBA	**Buenos Aires**	**0.93**	**111**	⇑*iP*	**Pn**	**01 49 06.3**	**-1.2**
EDBA				*eS*	**Sb**	**01 49 19.0**	**-0.9**
BATAN	**Batan**	**0.97**	**52**	⇓*iP*	**Pn**	**01 49 07.6**	**-0.4**
BATAN				*eS*	**Sn**	**01 49 21.9**	**+1.1**
FORC	**Fortuna**	**1.09**	**332**	⇑*iP*	**Pn**	**01 49 09.1**	**-0.6**
FORC				*eS*	**Sn**	**01 49 24.6**	**+0.7**
JTS	**Las Juntas de**	**1.12**	**315**	*eP*	**Pn**	**01 49 08.3**	**-0.8**
JTS	**Las Juntas de**	**1.12**	**315**	*eP*	**Pn**	**01 49 09.3**	**-0.8**
COVE	**Coope Vega, Sa**	**1.24**	**349**	⇓*eP*	**Pn**	**01 49 11.0**	**-0.7**
EDSV	**San Vito**	**1.34**	**120**	*eP*	**Pb**	**01 49 14.4**	**-0.6**
ACAL	**Aguas Claras**	**1.43**	**322**	*eP*	**Pn**	**01 49 14.7**	**+0.3**
PTEN	**Parque Tenorio**	**1.46**	**326**	*eP*	**Pn**	**01 49 15.8**	**+0.9**
VERA	**Finca Concepci**	**1.52**	**332**	⇑*eP*	**Pn**	**01 49 15.8**	**+0.2**
VERA				*eS*	**Sb**	**01 49 37.0**	**+0.1**
COLC	**Colonia**	**1.56**	**318**	*eP*	**Pn**	**01 49 16.2**	**+0.1**
COLC				*eS*	**Sn**	**01 49 36.6**	**+1.2**
HORNC	**Hornillas**	**1.58**	**320**	*eP*	**Pn**	**01 49 16.5**	**0.0**
HORNC				*eS*	**Sn**	**01 49 36.5**	**+0.6**
BRU2	**Volcan**	**1.60**	**116**	*eP*	**Pn**	**01 49 17.3**	**+0.4**
BRU2				*eS*	**Sb**	**01 49 40.2**	**+0.8**
GUAB	**Guayabo de Bag**	**1.60**	**319**	*eP*	**Pb**	**01 49 18.5**	**-0.9**
GUAB				*eS*	**Sb**	**01 49 39.3**	**0.0**
LIM1	**Limonal**	**1.61**	**318**	*eP*	**Pn**	**01 49 17.1**	**+0.2**
LIM1				*eS*	**Sb**	**01 49 39.6**	**0.0**
VMAR	**Armenia, Volca**	**1.62**	**324**	*eP*	**Pn**	**01 49 17.3**	**+0.3**
CNI2	**El Empalme, Bo**	**1.66**	**92**	*eS*	**Sn**	**01 49 38.7**	**+0.9**
GPS2	**Hotel Rincn d**	**1.72**	**317**	*eP*	**Pn**	**01 49 19.7**	**+1.3**
GPS2				*eS*	**Sb**	**01 49 42.2**	**-0.4**
GPS3	**Bodega del ICE**	**1.73**	**316**	*eP*	**Pn**	**01 49 19.6**	**+1.0**
GPS3				*eS*	**Sb**	**01 49 43.2**	**+0.3**
GPS1	**Guardaparques**	**1.73**	**317**	*eP*	**Pn**	**01 49 20.1**	**+1.4**
GPS1				*eS*	**Sb**	**01 49 42.9**	**-0.2**
BCO2	**Palmira**	**1.78**	**116**	*eP*	**Pn**	**01 49 19.5**	**+0.2**
BCO2				*eS*	**Sb**	**01 49 44.4**	**-0.1**
LAPC	**Finca la Perla**	**1.79**	**315**	*eP*	**Pn**	**01 49 20.2**	**+0.9**
BUEV	**Buena Vista**	**1.79**	**316**	*eP*	**Pn**	**01 49 19.8**	**+0.4**
BUAI	**Buenos Aires**	**1.80**	**320**	*eP*	**Pn**	**01 49 20.3**	**+0.8**
GB1A	**Borinquen Arri**	**1.80**	**317**	*eP*	**Pn**	**01 49 21.2**	**+1.6**
GBS3	**Finca Las Img**	**1.81**	**315**	⇓*iP*	**Pn**	**01 49 20.8**	**+1.2**
GBS3				*eS*	**Sb**	**01 49 44.8**	**-0.5**
LNBQ3	**Los Naranjos,**	**1.83**	**112**	*eP*	**Pn**	**01 49 20.8**	**+0.8**
LNBQ3				*eS*	**Sb**	**01 49 45.4**	**-0.5**
LIMO3	**Limones**	**1.88**	**137**	*eP*	**Pn**	**01 49 21.1**	**+0.6**
LIMO3				*eS*	**Sb**	**01 49 46.4**	**-0.8**
DVD	**David**	**1.98**	**122**	*eP*	**Pn**	**01 49 22.9**	**+0.9**
DVD				*eS*	**Sb**	**01 49 49.1**	**-1.0**
CHGR2	**Aguacate**	**2.06**	**105**	*eP*	**Pn**	**01 49 23.8**	**+0.8**
CHGR2				*eS*	**Sb**	**01 49 50.6**	**-1.7**
CHIR3	**Chiriqui UPA,**	**2.11**	**121**	*eP*	**Pn**	**01 49 24.4**	**+0.7**

IDC 27 02:04:36.0±2.2, 53.°87S×144.°71E, h0km, mb3.6/3, mbtmp3.6/3, MS3.2/1, Error ellipse: s-maj=253.7km s-min=26.8km az=77.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**20.00**	**70**	LR	LR	02 15 22.3	
	comp=Z,72nm,20.7s,baz=224,slow=32						
VNDA	**Vanda**	**24.55**	**171**	P	P	02 09 56.6	-0.3
	0.6nm,0.7s,baz=321,slow=9.1,SNR=4.3						
	0.6nm,0.7s						
H01W1	**Cape Leeuwin H**	**28.59**	**299**	T	T	02 40 27.2	
	baz=142,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**28.59**	**299**	T	T	02 40 22.8	
	baz=142,slow=75,SNR=10						
H01W3	**Cape Leeuwin H**	**28.61**	**299**	T	T	02 40 28.5	
	baz=142,slow=75,SNR=8.8						
ASAR	**Alice Springs**	**31.24**	**341**	P	P	02 10 56.5	-0.7
	0.6nm,0.6s,baz=167,slow=9.6,SNR=4.7						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**34.79**	**343**	P	P	02 11 28.3	+0.1
	1.1nm,0.6s,baz=168,slow=7.9,SNR=16						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**147.46**	**308**	PKPbc	PKPbc	02 24 20.4	0.0
	0.7nm,0.8s,baz=104,slow=5.9,SNR=2.0						

NEIC ***27*** *02:06:26.4±2.1, 3.°8S±0.°2×154.°24E±0.°09, h10km±2km, mb4.4/9, Error ellipse: s-maj=30.1km s-min=14.2km az=344.0*
IDC ***27*** *02:06:30.0±2.9, 4.°06S×153.°47E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=101.3km s-min=45.2km az=110.0*

ISC 27 02:06:27.1±2.1, 3.°7S±0.°3×154.°2E±0.°1, h10km, n15, σ1°92/16, mb4.3/8, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.05**	**257**	Pn	**Pb**	**02 07 05.2**	**+0.7**
RABL				Sn	**Sn**	**02 07 28.1**	**+0.8**
PMG	**Port Moresby**	**8.96**	**231**		**Pn**	**02 08 39.1**	**+2.4**
EIDS	**Eidsvold**	**21.73**	**188**	P	**P**	**02 11 17.8**	**-0.9**
ONTNC	**Ouen Toro**	**21.99**	**148**	P	**P**	**02 11 24.4**	**+2.9**
ONTNC				IAmb	IAmb	02 12 02.3	
	comp=Z,49nm,1.2s						
WB0	**Warramunga Arr**	**25.03**	**229**	P	**P**	**02 11 50.1**	**-1.5**
WB0				IAmb	IAmb	02 12 23.2	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**25.03**	**228**	P	**P**	**02 11 50.4**	**-1.3**
WR0				IAmb	IAmb	02 11 55.7	
	comp=Z,9.6nm,1.3s						
WB2	**Warramunga Arr**	**25.16**	**229**	P	**P**	**02 11 51.3**	**-1.5**
WB2				IAmb	IAmb	02 11 52.6	
	comp=Z,3.9nm,0.6s						
WRA	**Warramunga Arr**	**25.17**	**229**	P	**P**	**02 11 51.5**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=54,slow=10.0,SNR=28						
	comp=Z,2.1nm,0.5s						
WRA	**Warramunga Arr**	**25.17**	**229**	P	**P**	**02 11 51.1**	**-1.9**
ASAR	**Alice Springs**	**27.86**	**223**	P	**P**	**02 12 15.2**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=50,slow=8.6,SNR=3.5						
	comp=Z,0.3nm,0.6s						
SOEI	**Soe**	**30.27**	**257**	P	**P**	**02 12 37.9**	**-1.0**
STKA	**Stephens Creek**	**30.40**	**201**	P	**P**	**02 12 38.6**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=8.7,slow=13,SNR=3.4						
	comp=Z,1.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**31.37**	**241**	P	**P**	**02 12 46.2**	**-2.1**
FITZ				IAmb	IAmb	02 13 23.3	
	comp=Z,5.7nm,1.3s						
FORT	**Forrest**	**36.48**	**220**	P	**P**	**02 13 30.4**	**-2.2**
TORD	**Torodi Ar. Bea**	**151.23**	**291**	PKPbc	**PKiKP**	**02 26 24.5**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=69,slow=1.6,SNR=4.0						

NEIC ***27*** *02:09:24.2±0.5, 18.°0S±0.°2×178.°5W±0.°1, h615km±13km, mb4.1/16, Error ellipse: s-maj=27.9km s-min=11.6km az=157.0*
IDC ***27*** *02:09:25.1±1.9, 17.°42S×178.°82W, h623km±20km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=81.6km s-min=15.8km az=150.0*

ISC 27 02:09:22.6±0.8, 17.°9S±0.°1×178.°5W±0.°1, h600km, n26, σ0°87/26, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.34**	**273**	P	**P**	**02 10 46.2**	**+2.4**
	65nm,0.7s,baz=129,slow=7.1,SNR=13						
RAO	**Raoul Island**	**11.29**	**178**	P	**P**	**02 11 54.5**	**+0.4**
DZM	**Mont Dzumac**	**14.79**	**251**	P	**P**	**02 12 29.4**	**+0.4**
KOUNC	**Koumac, New Ca**	**16.52**	**258**	P	**P**	**02 12 44.6**	**-0.1**
KOUNC				IAmb	IAmb	02 12 53.0	
	comp=Z,9.1nm,0.8s						
THZ	**Tophouse**	**24.89**	**196**	P	**P**	**02 13 58.9**	**-0.8**
EIDS	**Eidsvold**	**29.23**	**250**	P	**P**	**02 14 36.7**	**-1.1**
EIDS				IAmb	IAmb	02 14 37.4	
	comp=Z,5.3nm,0.9s						
CTAO	**Charters Tower**	**33.41**	**261**	P	**P**	**02 15 13.1**	**-0.3**
CTAO				IAmb	IAmb	02 15 13.8	
	comp=Z,4.4nm,0.7s						
COEN	**Coen**	**37.07**	**270**	P	**P**	**02 15 44.3**	**+0.6**
TOO	**Toolangi**	**37.14**	**231**	P	**P**	**02 15 44.2**	**+0.2**
TOO				IAmb	IAmb	02 15 44.5	
	comp=Z,3.8nm,0.7s						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**02 15 56.1**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=92,slow=11,SNR=8.6						
	comp=Z,2.6nm,0.5s						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**02 15 55.8**	**-0.1**
BBOO	**Buckleboo**	**43.37**	**241**	P	**P**	**02 16 32.9**	**-0.7**
WR0	**Warramunga Arr**	**44.41**	**260**	P	**P**	**02 16 41.0**	**-0.6**
WB0	**Warramunga Arr**	**44.56**	**260**	P	**P**	**02 16 42.1**	**-0.8**
WB0				IAmb	IAmb	02 16 42.5	
	comp=Z,4.9nm,0.5s						
WB2	**Warramunga Arr**	**44.59**	**260**	P	**P**	**02 16 41.9**	**-1.2**
WB2				IAmb	IAmb	02 16 42.7	
	comp=Z,4.2nm,0.6s						
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	**02 16 42.1**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=95,slow=7.2,SNR=73						
	comp=Z,2.1nm,0.3s						
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	**02 16 42.1**	**-1.1**
AS31	**Alice Springs**	**44.75**	**254**	P	**P**	**02 16 43.9**	**-0.5**
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**02 16 43.9**	**-0.5**
	comp=Z,12nm,0.5s,baz=86,slow=8.7,SNR=113						
	comp=Z,12nm,0.5s						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**02 20 28.3**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=222,slow=8.4,SNR=11						
	comp=Z,0.8nm,0.7s						
U15A	**North Rim**	**82.55**	**48**	P	**P**	**02 20 44.4**	**+0.1**
ILAR	**Eielson Array**	**85.90**	**13**	P	**P**	**02 20 58.1**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=221,slow=5.0,SNR=7.3						
	comp=Z,0.3nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.03**	**58**	P	**P**	**02 21 01.4**	**+0.3**
TX31				IAmb	IAmb	02 21 06.5	
	comp=Z,3.2nm,1.1s						
TX32	**Lajitas Array**	**86.03**	**58**	P	**P**	**02 21 01.4**	**+0.3**
TX32				IAmb	IAmb	02 21 02.7	
	comp=Z,4.7nm,1.1s						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**02 21 02.1**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=212,slow=6.6,SNR=9.2						
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**87.38**	**43**	P	**P**	**02 21 07.1**	**-0.2**
	comp=Z,0.6nm,0.5s,

SWZ					IAmb	IAmb	02 18 50.4		
	comp=Z,1μm,3.8s								
LBTB	**Lobatse**	**31.66**	**269**		P	**P**	**02 18 49.9**	**+0.2**	
	comp=Z,6.3nm,0.8s,baz=107,slow=8.5,SNR=7.4								
LBTB					LR	LR	02 29 18.6		
	comp=Z,95nm,20.2s,baz=122,slow=32								
	comp=Z,6.3nm,0.8s								
LBTB	**Lobatse**	**31.66**	**269**	*eP*	**P**	**02 18 48.9**	**-0.7**		
LBTB					IAmb	IAmb	02 19 00.5		
	comp=Z,488nm,3.7s								
LSZ	**Lusaka**	**33.20**	**288**		P	**P**	**02 19 03.7**	**+0.4**	
LSZ					IAmb	IAmb	02 19 05.3		
	comp=Z,22nm,1.2s								
SUR	**Sutherland**	**34.47**	**254**		LR	LR	02 30 51.3		
	comp=Z,145nm,18.2s,baz=132,slow=32								
KIBK	**Kibwezi**	**34.47**	**317**		P	**P**	**02 19 13.3**	**-1.0**	
KEIM	**Keimoes**	**34.85**	**261**	*eP*		**P**	**02 19 19.0**	**+1.5**	
KEIM					IAmb	IAmb	02 19 36.1		
	comp=Z,330nm,2.9s								
ARMS	**Ukamas**	**36.05**	**262**	*eP*		**P**	**02 19 24.5**	**-3.3**	
ARMS					IAmb	IAmb	02 19 31.7		
	comp=Z,741nm,3.5s								
MAW	**Mawson**	**38.43**	**179**		P	**P**	**02 19 46.8**	**-0.6**	
	comp=Z,4.2nm,0.8s,baz=340,slow=7.2,SNR=6.2								
MAW					LR	LR	02 32 26.2		
	comp=Z,239nm,18.1s,baz=352,slow=31								
	comp=Z,4.2nm,0.8s								
MAW	**Mawson**	**38.43**	**179**		P	**P**	**02 19 48.5**	**+1.1**	
MBAR	**Mbarara**	**40.48**	**309**		LR	LR	02 35 12.0		
	comp=Z,169nm,19.8s,baz=124,slow=34								
TSUM	**Tsumeb**	**40.58**	**274**		P	**P**	**02 20 06.6**	**+0.5**	
	comp=Z,8.0nm,0.9s,baz=112,slow=7.3,SNR=6.2								
TSUM					LR	LR	02 35 45.2		
	comp=Z,163nm,18.5s,baz=149,slow=34								
	comp=Z,8.0nm,0.9s								
TSUM	**Tsumeb**	**40.58**	**274**		P	**P**	**02 20 06.6**	**+0.5**	
TSUM	**Tsumeb**	**40.58**	**274**	*eP*		**P**	**02 20 01.9**	**-4.2**	
PALK	**Pallekele**	**40.97**	**31**		LR	LR	02 33 10.5		
	comp=Z,157nm,20.5s,baz=307,slow=30								
ATD	**Arta Tunnel**	**44.11**	**334**		LR	LR	02 36 09.6		
	comp=Z,241nm,20.4s,baz=169,slow=32								
H01W2	**Cape Leeuwin H**	**45.01**	**111**		T	T	03 08 23.8		
	baz=261,slow=75,SNR=15								
H01W3	**Cape Leeuwin H**	**45.02**	**111**		T	T	03 08 23.9		
	baz=261,slow=75,SNR=18								
H01W1	**Cape Leeuwin H**	**45.03**	**111**		T	T	03 08 25.7		
	baz=261,slow=75,SNR=21								
CASY	**Casey**	**47.68**	**155**		P	**P**	**02 21 02.8**	**+0.6**	
CASY					IAmb	IAmb	02 21 03.7		
	comp=Z,7.4nm,1.1s								
NWAO	**Narrogin (SRO)**	**47.89**	**109**		LR	LR	02 37 15.8		
	comp=Z,111nm,19.2s,baz=106,slow=31								
HYBB	**Hyderabad (bro**	**49.39**	**22**	*eP*		**P**	**02 21 16.9**	**+0.9**	
WSAR	**Wadi Sarin**	**52.20**	**357**		P	**P**	**02 21 36.4**	**-0.6**	
	comp=Z,4.8nm,0.9s,baz=140,slow=6.6,SNR=4.3								
WSAR					LR	LR	02 41 04.9		
	comp=Z,44nm,18.2s,baz=198,slow=33								
	comp=Z,4.8nm,0.9s								
SNAA	**Sanae**	**54.34**	**200**		P	**P**	**02 21 52.6**	**+0.2**	
SNAA	**Sanae**	**54.34**	**200**		P	**P**	**02 21 52.8**	**+0.4**	
	comp=Z,4.3nm,1.1s,baz=121,slow=5.8,SNR=13								
SNAA					LR	LR	02 40 01.7		
	comp=Z,156nm,21.2s,baz=91,slow=30								
	comp=Z,4.3nm,1.1s								
SNAA	**Sanae**	**54.34**	**200**		P	**P**	**02 21 52.7**	**+0.2**	
SNAA					IAmb	IAmb	02 21 53.5		
	comp=Z,11nm,1.3s								
SNAA	**Sanae**	**54.34**	**200**	*eP*		**P**	**02 21 48.5**	**-3.9**	
RAYN	**Ar Rayn**	**54.50**	**343**		P	**P**	**02 21 53.7**	**-0.3**	
RAYN					IAmb	IAmb	02 21 55.8		
	comp=Z,11nm,1.0s								
PBKI	**Pangkalan Bun**	**54.87**	**71**		P	**P**	**02 21 57.2**	**+0.3**	
	comp=Z,10μmcomp=Z,550nm,0.7s								
VNA2	**Neumayer--Watz**	**55.61**	**202**		P	**P**	**02 22 02.0**	**+0.5**	
	baz=84,slow=5.8								
VNA3	**Neumayer Olymp**	**56.40**	**201**		P	**P**	**02 22 07.3**	**+0.2**	
BRDH	**Bariadhala**	**59.47**	**33**		LR	LR	02 46 59.9		
	comp=Z,114nm,19.0s,baz=274,slow=35								
FITZ	**Fitzroy Crossi**	**59.66**	**95**		LR	LR	02 43 58.7		
	comp=Z,44nm,19.3s,baz=104,slow=32								
CMAR	**Chiang Mai Arr**	**59.94**	**42**		P	**P**	**02 22 33.5**	**+1.0**	
	comp=Z,4.4nm,0.8s,baz=231,slow=7.2,SNR=18								
CMAR					LR	LR	02 46 29.8		
	comp=Z,63nm,18.2s,baz=230,slow=34								
	comp=Z,4.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**59.94**	**42**		P	**P**	**02 22 31.5**	**-1.0**	
KAPI	**Kappang**	**60.46**	**78**		LR	LR	02 48 10.2		
	comp=Z,24nm,18.1s,baz=316,slow=36								
KOLN	**Koldanda**	**60.68**	**23**	*eP*		**P**	**02 22 37.7**	**0.0**	
	comp=Z,10nm,1.5s								
PYUN	**Piuthan**	**60.78**	**22**	*eP*		**P**	**02 22 38.3**	**0.0**	
	comp=Z,115nm,0.9s								
QSPA	**South Pole Qui**	**60.94**	**180**		P	**P**	**02 22 38.7**	**-0.3**	
	comp=Z,2.7nm,0.8s,baz=275,slow=2.3,SNR=8.7								
QSPA					LR	LR	02 46 23.1		
	comp=Z,129nm,18.4s,baz=274,slow=34								
	comp=Z,2.7nm,0.8s								
QSPA	**South Pole Qui**	**60.94**	**180**		P	**P**	**02 22 38.5**	**-0.5**	
QSPA					IAmb	IAmb	02 23 05.6		
	comp=Z,15nm,1.3s								
RAMN	**Ramite**	**61.03**	**26**	*eP*		**P**	**02 22 40.4**	**+0.3**	
	comp=Z,54nm,0.9s								
DMN	**Daman**	**61.06**	**25**	*eP*		**P**	**02 22 40.7**	**+0.3**	
PKI	**Pulchoki**	**61.14**	**25**	*eP*		**P**	**02 22 40.5**	**-0.5**	
PKIN	**Phulchoki**	**61.14**	**25**	*eP*		**P**	**02 22 40.4**	**-0.5**	
GKN	**Gorkha**	**61.25**	**24**	*eP*		**P**	**02 22 41.5**	**0.0**	
	comp=Z,94nm,1.0s								
ODAN	**Odare**	**61.26**	**27**	*eP*		**P**	**02 22 41.8**	**+0.1**	
	comp=Z,6.8nm,1.1s								
DANN	**Dangsing**	**61.27**	**23**	*eP*		**P**	**02 22 41.6**	**-0.2**	
	comp=Z,83nm,0.8s								
KKN	**Kakani**	**61.29**	**25**	*eP*		**P**	**02 22 41.9**	**+0.1**	
	comp=Z,9.8nm,1.3s								
JIRN	**Jiri**	**61.51**	**26**	*eP*		**P**	**02 22 43.7**	**+0.2**	
	comp=Z,34nm,0.9s								
GUN	**Gumba**	**61.62**	**25**	*eP*		**P**	**02 22 44.4**	**+0.2**	
	comp=Z,73nm,1.0s								
TAPN	**Taplejung**	**61.82**	**27**	*eP*		**P**	**02 22 46.1**	**+0.6**	
	comp=Z,50nm,0.9s								
EIL	**Elat**	**63.59**	**335**		LR	LR	02 47 24.8		
	comp=Z,133nm,19.4s,baz=216,slow=33								
NIL	**Nilore**	**63.60**	**11**		P	**P**	**02 22 56.0**	**-1.0**	
VNDA	**Vanda**	**64.03**	**166**		P	**P**	**02 22 58.9**	**-0.4**	
	comp=Z,2.4nm,0.8s,baz=265,slow=6.9,SNR=16								
VNDA					LR	LR	02 49 02.5		
	comp=Z,207nm,18.2s,baz=255,slow=34								
	comp=Z,2.4nm,0.8s								
VNDA	**Vanda**	**64.03**	**166**		P	**P**	**02 22 59.6**	**+0.4**	
ASAR	**Alice Springs**	**64.62**	**104**		P	**P**	**02 23 03.6**	**-0.5**	
	comp=Z,3.6nm,0.8s,baz=243,slow=6.3,SNR=32								
ASAR					LR	LR	02 48 17.1		
	comp=Z,52nm,18.2s,baz=206,slow=33								
	comp=Z,3.6nm,0.8s								
SBA	**Scott Base**	**64.91**	**167**		P	**P**	**02 23 05.2**	**+0.2**	
WRA	**Warramunga Arr**	**66.45**	**100**		P	**P**	**02 23 15.7**	**-0.2**	
	comp=Z,3.8nm,0.9s,baz=248,slow=5.6,SNR=16								
WRA					LR	LR	02 47 47.2		
	comp=Z,125nm,20.9s,baz=218,slow=32								
	comp=Z,3.8nm,0.9s								
MMAI	**Mount Meron Ar**	**66.46**	**337**		LR	LR	02 48 51.1		
	comp=Z,93nm,19.6s,baz=102,slow=33								
WB0	**Warramunga Arr**	**66.57**	**100**		P	**P**	**02 23 16.1**	**-0.6**	
WB0					IAmb	IAmb	02 23 45.0		
	comp=Z,20nm,1.7s								
GEYT	**Alibeck**	**66.85**	**358**		P	**P**	**02 23 18.5**	**+0.5**	
	comp=Z,0.7nm,0.4s,baz=221,slow=5.9,SNR=4.5								
GEYT					LR	LR	02 49 20.6		
	comp=Z,71nm,21.7s,baz=212,slow=33								
	comp=Z,0.7nm,0.4s								
STKA	**Stephens Creek**	**67.92**	**115**		LR	LR	02 49 09.1		
	comp=Z,65nm,19.8s,baz=213,slow=32								
GAR	**Garm**	**68.43**	**8**		P	**P**	**02 23 28.1**	**+0.1**	
GAR					IAmb	IAmb	02 23 28.7		
	comp=Z,14nm,1.2s								
GURO	**Guroymak-BITLI**	**69.69**	**344**		P	**P**	**02 23 36.6**	**+0.8**	
GNI	**Garni**	**70.63**	**347**		LR	LR	02 53 02.0		
	comp=Z,132nm,19.6s,baz=161,slow=34								
GNI	**Garni**	**70.63**	**347**		P	**P**	**02 23 42.3**	**+0.6**	
GNI					IAmb	IAmb	02 23 44.4		
	comp=Z,16nm,1.1s								
TOA0	**Torodi Ar. Sit**	**70.99**	**298**		P	**P**	**02 23 44.4**	**+0.2**	
TORD	**Torodi Ar. Bea**	**70.99**	**298**		P	**P**	**02 23 44.9**	**+0.7**	
	comp=Z,12nm,0.9s,baz=117,slow=4.8,SNR=58								
TORD					LR	LR	02 54 41.0		
	comp=Z,244nm,19.2s,baz=210,slow=36								
	comp=Z,12nm,0.9s								
KOPT	**Kop Dagi**	**71.45**	**344**		P	**P**	**02 23 46.2**	**-0.6**	
IUG	**Iuzhnay**	**71.50**	**7**	*eP*		**P**	**02 23 46.8**	**-0.1**	
	baz=7.2								
DZA	**Taraz**	**72.39**	**8**	*eP*		**P**	**02 23 52.1**	**+0.1**	
	baz=8.1								
KK31	**Karatay Array**	**72.50**	**7**		P	**P**	**02 23 53.1**	**+0.5**	
KK31					IAmb	IAmb	02 23 54.5		
	comp=Z,14nm,1.1s								
KKAR	**Karatay Array**	**72.50**	**7**		P	**P**	**02 23 53.3**	**+0.6**	
KKAR					IAmb	IAmb	02 23 54.5		
	comp=Z,14nm,1.1s								
KKAR	**Karatay Array**	**72.50**	**7**		P	**P**	**02 23 52.9**	**+0.2**	
DBIC	**Dimbokro**	**72.54**	**288**		P	**P**	**02 23 54.9**	**+1.3**	
	comp=Z,5.4nm,0.8s,baz=109,slow=5.8,SNR=4.9								
DBIC					LR	LR	02 55 26.2		
	comp=Z,89nm,18.2s,baz=150,slow=36								
	comp=Z,5.4nm,0.8s								
AAK	**Ala-Archa**	**72.58**	**10**		P	**P**	**02 23 54.2**	**+0.8**	
	comp=Z,7.1nm,1.0s,baz=190,slow=7.5,SNR=8.3								
AAK					LR	LR	02 53 28.9		
	comp=Z,66nm,19.1s,baz=168,slow=34								
	comp=Z,7.1nm,1.0s								
AAK	**Ala-Archa**	**72.58**	**10**		P	**P**	**02 23 54.2**	**+0.8**	
AAK					IAmb	IAmb	02 23 55.5		
	comp=Z,13nm,1.1s								
GUDG	**Gudauri**	**72.92**	**347**		P	**P**	**02 23 53.6**	**-1.8**	
GUDG					IAmb	IAmb	02 23 57.1		
	comp=Z,12nm,0.8s								
BR131	**Keskin Array S**	**73.14**	**338**		P	**P**	**02 23 56.9**	**+0.1**	
BR131					IAmb	IAmb	02 23 57.8		
	comp=Z,9.3nm,0.9s								
BRTR	**Keskin Array B**	**73.14**	**338**		P	**P**	**02 23 56.8**	**+0.1**	
	comp=Z,4.5nm,0.8s,baz=161,slow=8.3,SNR=29								
BRTR					LR	LR	02 53 25.4		
	comp=Z,56nm,19.8s,baz=142,slow=34								
	comp=Z,4.5nm,0.8s								
BRTR	**Keskin Array B**	**73.14**	**338**		P	**P**	**02 23 57.0**	**+0.3**	
ONI	**Oni**	**73.24**	**347**		P	**P**	**02 23 57.6**	**+0.5**	
SGDS	**Sogindy**	**73.40**	**10**	*eP*		**P**	**02 23 57.7**	**-0.4**	
	baz=10								
MDOK	**Medeo**	**73.53**	**12**	*eP*		**P**	**02 23 58.4**	**-0.6**	
MDOK	**Medeo**	**73.53**	**12**	*eP*		**P**	**02 23 58.4**	**-0.6**	
	baz=12								
SATY	**Saty**	**73.69**	**13**	*eP*		**P**	**02 23 59.6**	**-0.3**	
SATY	**Saty**	**73.69**	**13**	*eP*		**P**	**02 23 59.6**	**-0.3**	
	baz=13								
SHLS	**Shalkode**	**74.00**	**14**	*eP*		**P**	**02 24 02.4**	**+0.7**	
SHLS	**Shalkode**	**74.00**	**14**	*eP*		**P**	**02 24 02.4**	**+0.7**	
	baz=14								
KUU	**Kurty**	**74.11**	**12**	*eP*		**P**	**02 24 01.7**	**-0.4**	
	comp=Z,13nm,1.0s,baz=12								
KPKS	**Kokpek**	**74.14**	**13**	*eP*		**P**	**02 24 02.3**	**-0.2**	
	comp=Z,10nm,0.9s,baz=13								
CHKK	**Chushkaly**	**74.19**	**12**	*eP*		**P**	**02 24 02.0**	**-0.6**	
CHKK	**Chushkaly**	**74.19**	**12**	*eP*		**P**	**02 24 02.1**	**-0.6**	
	baz=12								
KBZ	**Khabaz**	**74.45**	**347**		P	**P**	**02 24 04.8**	**+0.7**	
	comp=Z,2.8nm,0.7s,baz=174,slow=7.3,SNR=8.3								
KBZ					LR	LR	02 54 51.7		
	comp=Z,131nm,22.0s,baz=146,slow=34								
	comp=Z,2.8nm,0.7s								
KVAR	**Kislovodsk Arr**	**74.71**	**346**		LR	LR	02 55 38.3		
	comp=Z,67nm,20.5s,baz=38,slow=35								
TDK	**Taldyqorghan**	**75.56**	**13**	*eP*		**P**	**02 24 10.5**	**0.0**	
	comp=Z,11nm,0.8s,baz=13								
KOWA	**Kowa**	**76.25**	**295**		LR	LR	02 58 03.1		
	comp=Z,91nm,18.5s,baz=117,slow=36								
KOWA	**Kowa**	**76.25**	**295**		P	**P**	**02 24 14.8**	**-0.3**	
CTA	**Cheters Tower**	**76.54**	**106**		LR	LR	02 54 50.6		
	comp=Z,39nm,18.4s,baz=261,slow=33								
PMSA	**Palmer Station**	**77.06**	**201**		LR	LR	02 54 59.7		
	comp=Z,28nm,19.1s,baz=101,slow=33								
MAKZ	**Makanchi**	**78.03**	**15**		P	**P**	**02 24 24.9**	**+0.5**	
MAKZ					IAmb	IAmb	02 24 25.7		
	comp=Z,15nm,1.6s								
MK31	**Makanchi Array**	**78.08**	**15**		P	**P**	**02 24 25.0**	**+0.3**	
MKAR	**Makanchi Array**	**78.08**	**15**		P	**P**	**02 24 25.0**	**+0.3**	
	comp=Z,4.3nm,0.8s,baz=186,slow=4.9,SNR=22								
MKAR					LR	LR	02 56 33.9		
	comp=Z,78nm,19.1s,baz=182,slow=34								
	comp=Z,4.3nm,0.8s								
MKAR	**Makanchi Array**	**78.08**	**15**		P	**P**	**02 24 24.5**	**-0.2**	
ABKAR	**Akbulak array**	**78.12**	**359**		P	**P**	**02 24 25.1**	**+0.3**	
ABKAR	**Akbulak array**	**78.12**	**359**		P	**P**	**02 24 25.3**	**+0.4**	
ABKAR					IAmb	IAmb	02 24 26.2		
	comp=Z,11nm,0.9s								
KBN	**Korca**	**78.83**	**330**		P	**P**	**02 24 30.3**	**+1.2**	
KBN					IAmb	IAmb	02 24 31.0		
	comp=Z,18nm,1.2s								
TIRR	**Tirgusor**	**79.11**	**337**	⇑	P	**P**	**02 24 26.5**	**-3.9**	
ZSN	**Zaisan**	**79.30**	**16**	*eP*		**P**	**02 24 31.2**	**-0.3**	
	baz=16								
AKTO	**Aktyubinsk**	**79.34**	**358**		LR	LR	02 56 35.0		
	comp=Z,58nm,20.4s,baz=167,slow=33								
VAE	**Valguarnera**	**79.38**	**324**		LR	LR	03 00 19.7		
	comp=Z,61nm,18.3s,baz=144,slow=36								
BRZS	**Berezniki**	**79.53**	**8**	*eP*		**P**	**02 24 32.1**	**-0.5**	
	baz=7.8								
CFR	**Carcaliu**	**79.84**	**337**	⇓	P	**P**	**02 24 35.0**	**+0.7**	
BLKB	**Belogradchik**	**80.52**	**333**	⇑	P	**P**	**02 24 38.0**	**-0.2**	
KEST	**Kesra**	**80.82**	**320**		P	**P**	**02 24 40.9**	**+0.9**	
	comp=Z,4.8nm,1.0s,baz=125,slow=5.2,SNR=3.6								
KEST					LR	LR	03 02 50.4		
	comp=Z,128nm,18.1s,baz=232,slow=37								
	comp=Z,4.8nm,1.0s								
MLR	**Muntele Rosu**	**80.87**	**336**	⇑	P	**P**	**02 24 40.9**	**+0.8**	
MLR	**Muntele Rosu**	**80.87**	**336**		LR	LR	02 59 42.5		
	comp=Z,26nm,18.3s,baz=151,slow=35								
MLR	**Muntele Rosu**	**80.87**	**336**		P	**P**	**02 24 39.4**	**-0.7**	
MLR					IAmb	IAmb	02 24 41.4		
	comp=Z,16nm,1.1s								
VRI	**Vrincioaia**	**80.92**	**337**	⇓	P	**P**	**02 24 40.9**	**+0.7**	
BOVS	**Bovan**	**80.92**	**332**	⇑	P	**P**	**02 24 39.3**	**-1.0**	
PLOR	**Plostina**	**80.94**	**337**	⇑	P	**P**	**02 24 40.7**	**+0.4**	
KURBB	**Kurchatov Arra**	**81.00**	**11**		P	**P**	**02 24 40.9**	**+0.4**	
	comp=Z,3.6nm,0.9s,baz=206,slow=6.0,SNR=15								
KURBB					LR	LR	02 56 59.8		
	comp=Z,35nm,19.8s,baz=163,slow=33								
	comp=Z,3.6nm,0.9s								
COVR	**Voinease-Covas**	**81.09**	**336**	⇓	P	**P**	**02 24 41.0**	**-0.1**	
KURK	**Kurchatov**	**81.11**	**11**		P	**P**	**02 24 41.3**	**+0.2**	
KURK					IAmb	IAmb	02 24 42.6		
	comp=Z,11nm,1.0s								
VOIR		**81.15**	**335**	⇓	P	**P**	**02 24 41.4**	**-0.2**	
ARR	**Arges**	**81.24**	**335**	⇓	P	**P**	**02 24 41.8**	**-0.3**	
HERR	**Herculane**	**81.68**	**333**	⇓	P	**P**	**02 24 44.6**	**+0.4**	
DIVS	**Divibare**	**82.01**	**332**		P	**P**	**02 24 46.3**	**+0.2**	
DIVS					IAmb	IAmb	02 24 48.0		
	comp=Z,16nm,1.3s								
BELG	**Belogornoye**	**82.09**	**352**		LR	LR	03 04 56.8		
	comp=Z,37nm,18.0s,baz=138,slow=38								
PMG	**Port Moresby**	**82.21**	**96**		LR	LR	02 59 16.7		
	comp=Z,51nm,18.0s,baz=122,slow=34								
BVAR	**Borovoye Array**	**82.31**	**6**		P	**P**	**02 24 47.7**	**+0.4**	
	comp=Z,2.7nm,0.8s,baz=165,slow=6.2,SNR=20								
BVAR					LR	LR	02 58 59.2		
	comp=Z,86nm,21.5s,baz=181,slow=34								
	comp=Z,2.7nm,0.8s								
BRVK	**Borovoye**	**82.33**	**6**		P	**P**	**02 24 47.8**	**+0.4**	
BZS	**Buzias**	**82.60**	**333**	⇓	P	**P**	**02 24 49.5**	**+0.4**	
BURAR	**Bucovina Array**	**82.96**	**337**	⇓	P	**P**	**02 24 52.1**	**+1.1**	
BURAR	**Bucovina Array**	**82.96**	**337**		P	**P**	**02 24 51.3**	**+0.3**	
BUR08	**Bucovina Ar. S**	**82.99**	**337**		P	**P**	**02 24 51.9**	**+0.7**	
BUR08					IAmb	IAmb	02 25 12.6		
	comp=Z,7.8nm,1.3s								
DRGR		**83.16**	**335**	⇑	P	**P**	**02 24 52.2**	**+0.2**	
RPZ	**Rata Peaks**	**83.32**	**137**		LR	LR	02 55 01.0		
	comp=Z,113nm,18.1s,baz=258,slow=31								
AKASG	**Malin Array Be**	**84.37**	**340**		P	**P**	**02 24 57.9**	**-0.1**	
	comp=Z,3.2nm,0.7s,baz=156,slow=4.1,SNR=15								
	comp=Z,3.2nm,0.7s								
AKBB	**Malin Array Si**	**84.37**	**340**		P	**P**	**02 24 57.8**	**-0.2**	
ARU	**Arti**	**85.33**	**359**		P	**P**	**02 25 02.8**	**+0.1**	
ZAA0	**Zalesovo Array**	**85.37**	**14**		P	**P**	**02 25 02.7**	**-0.3**	
ZAA0					IAmb	IAmb	02 25 04.5		
	comp=Z,11nm,1.1s								
ZALV	**Zalesovo Beam**	**85.37**	**14**		P	**P**	**02 25 03.0**	**+0.1**	
	comp=Z,9.0nm,1.0s,baz=222,slow=4.0,SNR=22								
ZALV					LR	LR	03 00 09.4		
	comp=Z,47nm,18.1s,baz=224,slow=34								
	comp=Z,9.0nm,1.0s								
ZALV	**Zalesovo Beam**	**85.37**	**14**		P	**P**	**02 25 02.2**	**-0.8**	
RONA	**Rosalia, Austr**	**86.44**	**332**	*i*	P	**P**	**02 25 08.6**	**+0.1**	
	comp=Z,9.7nm,1.7s								
CONA	**Conrad Observa**	**86.80**	**332**	*eP*		**P**	**02 25 10.4**	**0.0**	
	comp=Z,12nm,1.3s								
JAVC	**Velka Javorina**	**86.80**	**333**	*eP*		**P**	**02 25 11.7**	**+1.4**	
SONM	**Songino Array**	**86.89**	**29**		P	**P**	**02 25 11.7**	**+0.9**	
	comp=Z,0.5nm,0.6s,baz=210,slow=5.1,SNR=3.5								
	comp=Z,0.5nm,0.6s								
MAUC	**Maruska**	**87.15**	**333**	*eP*		**P**	**02 25 12.0**	**+0.1**	
KBA	**Koelnbreinsper**	**87.22**	**330**	*i*	P	**P**	**02 25 13.1**	**+0.6**	
	comp=Z,5.7nm,1.5s								
MOA	**Molln**	**87.41**	**331**	*eP*		**P**	**02 25 13.3**	**+0.1**	
	comp=Z,10nm,1.3s								
KRUC	**Moravsky**	**87.47**	**332**	*eP*		**P**	**02 25 13.8**	**+0.4**	
MDT	**Mideit**	**87.54**	**310**		LR	LR	03 04 14.3		
	comp=Z,126nm,19.0s,baz=120,slow=36								
BIOA	**Bad Ischl, Aus**	**87.56**	**330**	*i*	P	**P**	**02 25 13.8**	**-0.2**	
	comp=Z,5.9nm,1.1s								
MORC	**Moravsky Berou**	**87.59**	**334**	*eP*		**P**	**02 25 14.6**	**+0.6**	
VRAC	**Vranov**	**87.59**	**333**	*eP*		**P**	**02 25 14.5**	**+0.5**	
TREC	**Trest**	**88.03**	**332**	*eP*		**P**	**02 25 15.7**	**-0.4**	
MNK	**Minsk**	**88.11**	**341**	*i*	P	**P**	**02 25 16.9**	**+0.6**	
	comp=E,1.0nm,0.7s								
MNK				*i*	P	**P**	**02 25 16.9**	**+0.6**	
MNK				*i*	P	**P**	**02 25 16.9**	**+0.6**	
	comp=Z,25nm,0.9s,baz=332								
MNK				*i*	PP	**PP**	**02 28 44.3**	**+0.7**	
MNK				*i*	PPP	PPP	02 30 39.9		
MNK				*i*	S	**SKSac**	**02 35 45.5**	**+0.9**	
MNK				*i*	PS	**PS**	**02 37 05.8**	**+1.5**	
MNK				*i*	SS	**SS**	**02 41 53.5**	**+4.0**	
MNK				*i*	SSS	SSS	02 45 27.7		
MNK				*i*	LR	LR	03 04 08.8		
MNK				*i*	LRM	MLR	03 05 43.9		
	comp=N,1.0nm,14.4s								
MNK				*i*	LRM	MLR	03 05 55.0		
	comp=E,12nm,18.4s								
MNK				*i*	LRM	MLR	03 05 55.6		
	comp=Z,35nm,15.7s								
KRLC	**Kraliky**	**88.12**	**333**	*eP*		**P**	**02 25 16.2**	**-0.4**	
KRLC				*ex*		x	02 25 23.7		
WTTA	**Wattenberg**	**88.12**	**329**	*i*	P	**P**	**02 25 16.9**	**0.0**	
	comp=Z,13nm,1.2s								
WATA	**Walderalm**	**88.21**	**329**	*i*	P	**P**	**02 25 17.0**	**-0.2**	
	comp=Z,12nm,1.3s								
SQTA	**Sankt Quirin**	**88.29**	**329**	*eP*		**P**	**02 25 17.7**	**+0.2**	
	comp=Z,9.4nm,1.2s,SNR=5.3								
FETA	**Feichten**	**88.36**	**328**	*i*	P	**P**	**02 25 18.5**	**+0.6**	
	comp=Z,15nm,1.1s								
GERES	**GERESS Array B**	**88.42**	**331**		P	**P**	**02 25 17.1**	**-1.0**	
	comp=Z,0.3nm,0.5s,baz=153,slow=4.5,SNR=8.0								
	comp=Z,0.3nm,0.5s								
MOTA	**Moosalm**	**88.43**	**329**	*eP*		**P**	**02 25 18.4**	**+0.1**	
	comp=Z,9.4nm,1.1s,SNR=6.9								
DPC	**Dobruska-Polom**	**88.52**	**333**	*eP*		P	02 25 09.4	-9.1	
DPC				*ex*		x	02 25 18.4		
RETA	**Reutte**	**88.69**	**329**	*i*	P	**P**	**02 25 19.9**	**+0.5**	
	comp=Z,15nm,1.2s,SNR=7.4

PET				*eS*		**Sn**	**02 15 56.2**	**-0.5**
DALK	**Dalny**	**2.19**	**11**	PN		**Pn**	**02 15 32.1**	**+0.9**
DALK				S		**Sn**	**02 15 56.5**	**-0.7**
DALK	**Dalny**	**2.19**	**11**	*eP*		**Pn**	**02 15 32.1**	**+0.9**
DALK				*eS*		**Sn**	**02 15 56.5**	**-0.7**
PEA0B	**Petropavlovsk-**	**2.23**	**355**			**Pn**	**02 15 32.4**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.23**	**355**	PN		**Pn**	**02 15 32.4**	**+0.6**
PETK	**Petropavlovsk-**	**2.23**	**355**	Pn		**Pn**	**02 15 32.6**	**+0.8**
	comp=E,4.1nm,0.3s,baz=174,slow=20,SNR=36							
PETK				Sn		**Sn**	**02 16 00.7**	**+2.4**
	comp=E,7.0nm,0.3s,baz=163,slow=21,SNR=6.2							
	comp=E,13nm,0.6s							
PETK	**Petropavlovsk-**	**2.23**	**355**			**Pn**	**02 15 32.0**	**+0.2**
AVH	**Avacha**	**2.42**	**10**	PN		Pn	02 15 36.2	+1.8
AVH				S		**Sn**	**02 16 04.4**	**+1.5**
AVH	**Avacha**	**2.42**	**10**	*eP*		Pn	02 15 36.2	+1.8
AVH				*eS*		**Sn**	**02 16 04.4**	**+1.5**
NLC	**Nalytchevo**	**2.42**	**19**	*eS*		**Sn**	**02 15 59.9**	**-3.0**
KOK	**Koryaka**	**2.43**	**9**	PN		**Pn**	**02 15 35.6**	**+1.0**
KOK				S		**Sn**	**02 16 03.9**	**+0.6**
KOK	**Koryaka**	**2.43**	**9**	*eP*		**Pn**	**02 15 35.6**	**+1.0**
KOK				*eS*		**Sn**	**02 16 03.9**	**+0.6**
KRX	**Arik**	**2.50**	**9**	PN		Pn	02 15 37.2	+1.6
KRX				S		**Sn**	**02 16 05.7**	**+0.7**
KRX	**Arik**	**2.50**	**9**	*eP*		Pn	02 15 37.2	+1.6
KRX				*eS*		**Sn**	**02 16 05.7**	**+0.7**
GNL	**Ganaly**	**2.81**	**359**	PN		**Pn**	**02 15 41.1**	**+1.3**
GNL				S		**Sn**	**02 16 13.9**	**+1.4**
GNL	**Ganaly**	**2.81**	**359**	*eP*		**Pn**	**02 15 41.1**	**+1.3**
GNL				*eS*		**Sn**	**02 16 13.9**	**+1.4**
KBTR	**Krutoberegovo**	**6.04**	**26**	PN		**Pn**	**02 16 24.5**	**+0.7**
KBTR	**Krutoberegovo**	**6.04**	**26**	*eP*		**Pn**	**02 16 24.5**	**+0.7**
ADK	**Adak**	**15.79**	**77**	Pn		**P**	**02 18 36.1**	**-2.0**
ADK				IAmb		IAmb	02 18 42.5	
	comp=Z,25nm,1.2s							
ADK	**Adak**	**15.79**	**77**	P		**P**	**02 18 36.1**	**-2.0**
ADK				pmax		pmax		
	comp=Z,25nm,1.3s							
JTU	**Tsushima**	**26.42**	**243**	P		**P**	**02 20 29.6**	**+2.0**
N18K	**Kilae Creek**	**27.14**	**51**	P		**P**	**02 20 35.6**	**+1.6**
N18K				IAmb		IAmb	02 20 39.8	
	comp=Z,14nm,1.4s							
K20K	**Telida**	**28.09**	**45**	P		**P**	**02 20 44.5**	**+2.0**
J20K	**Nowinta River**	**28.12**	**44**	P		**P**	**02 20 43.0**	**+0.4**
J20K				IAmb		IAmb	02 20 43.9	
	comp=Z,7.2nm,1.5s							
KDAK	**Kodiak Island**	**29.04**	**57**	P		**P**	**02 20 51.7**	**+0.9**
KDAK				IAmb		IAmb	02 21 17.9	
	comp=Z,8.9nm,1.1s							
KDAK	**Kodiak Island**	**29.04**	**57**	P		**P**	**02 20 51.7**	**+0.9**
KDAK				pmax		pmax		
	comp=Z,9.0nm,1.1s							
HDA	**Harding Lake**	**31.27**	**43**	P		**P**	**02 21 10.4**	**0.0**
H11N2	**WAKE ISLAND Hy**	**31.88**	**164**	T		T	02 55 11.6	
	baz=349,slow=76,SNR=171							
H11N3	**WAKE ISLAND Hy**	**31.89**	**164**	T		T	02 55 13.3	
	baz=349,slow=76,SNR=137							
H11N1	**WAKE ISLAND Hy**	**31.89**	**164**	T		T	02 55 07.7	
	baz=349,slow=76,SNR=112							
H11S1	**WAKE ISLAND Hy**	**33.04**	**165**	T		T	02 56 34.6	
	baz=349,slow=76,SNR=30							
H11S3	**WAKE ISLAND Hy**	**33.05**	**165**	T		T	02 56 37.0	
	baz=349,slow=76,SNR=30							
H11S2	**WAKE ISLAND Hy**	**33.06**	**165**	T		T	02 56 36.9	
	baz=349,slow=76,SNR=20							
L27K	**Beaver Creek,**	**33.64**	**45**	P		**P**	**02 21 32.5**	**+1.2**
L27K				IAmb		IAmb	02 21 51.4	
	comp=Z,5.5nm,1.5s							
BCAR	**Beaver Creek A**	**33.66**	**45**	P		**P**	**02 21 31.6**	**+0.2**
EGAK	**Eagle**	**33.74**	**42**	P		**P**	**02 21 31.7**	**-0.4**
EGAK				IAmb		IAmb	02 21 31.9	
	comp=Z,5.6nm,1.2s							
KURK	**Kurchatov**	**47.83**	**303**	P		**P**	**02 23 25.8**	**-2.2**
KURK	**Kurchatov**	**47.83**	**303**	P		**P**	**02 23 26.1**	**-1.9**
KURBB	**Kurchatov Arra**	**47.93**	**302**	P		**P**	**02 23 26.1**	**-2.7**
	comp=Z,1.2nm,0.4s,baz=60,slow=8.1,SNR=4.3							
	comp=Z,1.2nm,0.4s							
MKAR	**Makanchi Array**	**47.97**	**296**	P		**P**	**02 23 26.3**	**-2.9**
	comp=Z,0.5nm,0.5s,baz=50,slow=7.6,SNR=5.3							
	comp=Z,0.5nm,0.5s							
BVAR	**Borovoye Array**	**50.77**	**309**	P		**P**	**02 23 47.4**	**-3.0**
	comp=Z,0.8nm,0.6s,baz=46,slow=11,SNR=5.7							
	comp=Z,0.8nm,0.6s							
NVAR	**Mina Array Bea**	**57.73**	**67**	P		**P**	**02 24 43.4**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=300,slow=7.2,SNR=8.6							
	comp=Z,0.7nm,0.7s							
PDAR	**Pinedale Array**	**59.74**	**58**	P		**P**	**02 24 56.9**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=349,slow=3.0,SNR=3.5							
	comp=Z,0.3nm,0.6s							
FINES	**FINESS Array B**	**61.63**	**336**	P		**P**	**02 25 05.3**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=35,slow=5.8,SNR=4.1							
	comp=Z,0.4nm,0.4s							
TXAR	**Lajitas Array**	**72.70**	**65**	P		**P**	**02 26 20.0**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=297,slow=5.0,SNR=9.0							
	comp=Z,1.0nm,0.6s							
PLCA	**Paso Flores**	**145.23**	**92**	PKPbc		**PKPbc**	**02 34 27.2**	**+0.5**
	comp=Z,2.2nm,1.0s,baz=225,slow=1.4,SNR=3.9							

*BUL **27** 02:16:47.2±0.8,25°.93S×29°.20E, h0km±13km, MD4.5*
PRE 27 02:16:54.6±1.7,21°.85S×33°.91E, h10km, ML1.9,
Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.85**	**234**	*eP*	Pn	02 17 42.1	+1.8
MOPA				*eS*	Sn	02 18 16.3	+1.6
MOPA				IAML		02 18 27.4	
	comp=Z,3.6nm,0.2s						
MOPA	**Mopani**	**2.85**	**234**	*i* Pg	Pn	02 17 41.3	+1.0
MOPA				*i* Sg	Sb	02 18 21.8	+1.0
MOPA	**Mopani**	**2.85**	**234**	*i* Pg	Pn	02 17 41.3	+1.0
MOPA				*i* Sg	Sb	02 18 21.8	+1.0
MUSN	**Musina, Limpop**	**3.79**	**263**	*eP*	Pn	02 17 54.4	+1.3
MUSN				*eS*	Sn	02 18 36.4	-1.4
MUSN				IAML		02 18 54.3	
	comp=Z,3.9nm,0.5s						
MUSN	**Musina, Limpop**	**3.79**	**263**	*i* Pg	Pn	02 17 53.6	+0.5
MUSN				*i* Sg	Sn	02 18 41.1	+3.3
MUSN	**Musina, Limpop**	**3.79**	**263**	*i* Pg	Pn	02 17 53.6	+0.5
MUSN				*i* Sg	Sn	02 18 41.1	+3.3
MMAL	**MMAL**	**4.86**	**210**	*eP*	Pn	02 18 08.8	+0.9
MMAL				*eS*	Sn	02 19 03.9	-0.4
MMAL				IAML		02 19 38.2	
	comp=Z,3.0nm,0.6s						
BLWY	**Bulawayo**	**5.24**	**288**	*i* P	Pn	02 18 13.5	+0.3
BLWY	**Bulawayo**	**5.24**	**288**	*i* P	Pn	02 18 13.5	+0.3
LEPH	**Lephalale, Lim**	**5.99**	**249**	*eP*	Pn	02 18 24.4	+1.0
LEPH				*eS*	Sn	02 19 28.7	-3.3
LEPH				IAML		02 20 07.2	
	comp=Z,3.0nm,0.6s						
LBTB	**Lobatse**	**8.26**	**246**	*eP*	Pn	02 18 55.2	+0.5
LBTB				*eS*	Sn	02 20 25.3	-2.8

*GCG **27** 02:23:59.1±6.5, 14°.48N×91°.96W, h106km±49km, MD4.0*
*MEX **27** 02:24:00.0±0.6, 14°.43N×91°.98W, h75km±12km, MD4.1*
*UCR **27** 02:24:00.6±1.4, 14°.42N×91°.96W, h20km±999km, ML3.7*
*SNET **27** 02:24:00.6±1.4, 14°.42N×91°.93W, h15km±999km, ML3.9*
ISC 27 02:23:59.9±1.8, 14°.4N±0°.1×92°.14W±0°.09, h69km±14km,
n22, σ1s95/34, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.52**	**347**	*i* P	**Pn**	**02 24 12.8**	**-0.1**
THIG				*eS*	**Sn**	**02 24 21.7**	**-0.6**
STG3	**Santiaguito 3,**	**0.64**	**60**	*eP*	**Pn**	**02 24 13.7**	**-0.5**
STG3				*eS*	**Sn**	**02 24 29.9**	**+5.1**
CHUJ	**Union Juarez**	**0.70**	**3**	*eP*	**Pn**	**02 24 13.9**	**-1.1**
CHUJ				*i* S	**Sn**	**02 24 25.1**	**-0.9**
PATR	**El Naranjo**	**0.72**	**353**	*eP*	**Pn**	**02 24 14.0**	**-1.3**
PATR				*i* S	**Sn**	**02 24 25.5**	**-1.0**
PAVE	**Pavencul**	**0.80**	**358**	*eP*	**Pn**	**02 24 15.0**	**-1.1**
PAVE				*eS*	**Sn**	**02 24 27.2**	**-0.8**
FUG	**Fuego 3**	**1.26**	**87**	*eP*	**Pn**	**02 24 21.6**	**-0.2**
FUG				*eS*	**Sn**	**02 24 43.9**	**+5.5**
PCG	**Pacaya**	**1.49**	**90**	*eP*	**Pn**	**02 24 25.1**	**+0.2**
PCG				*eS*	**Sn**	**02 24 43.2**	**-0.5**
PCIG		**1.67**	**322**	*eP*	**Pn**	**02 24 27.4**	**+0.4**
PCIG				*eS*	**Sn**	**02 24 47.9**	**+0.3**
NBG	**Las Nubes**	**1.75**	**83**	*eP*	**Pn**	**02 24 29.1**	**+0.7**
NBG				*eS*	**Sn**	**02 24 44.9**	**-5.1**
SLOZ	**Alcaldia de Sa**	**2.32**	**99**	*eP*	**Pn**	**02 24 35.5**	**-0.4**
SLOZ				IAML		02 25 17.7	
	comp=Z,231nm,0.4s						
NUBE	**Las Nubes**	**2.34**	**102**	*eP*	**Pn**	**02 24 35.9**	**-0.4**
NUBE				*eS*	**Sn**	**02 25 02.0**	**-2.2**
NUBE	**Las Nubes**	**2.34**	**102**	*eP*	**Pn**	**02 24 35.9**	**-0.4**
NUBE				*eS*	**Sn**	**02 25 02.0**	**-2.2**
MRL	**Marmol**	**2.48**	**74**	*eP*	**Pn**	**02 24 38.3**	**+0.2**
CEVE	**Cerro Verde**	**2.51**	**103**	*eP*	**Pn**	**02 24 38.8**	**+0.2**
CEVE				IAML		02 25 17.1	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**2.51**	**103**	*eP*	**Pn**	**02 24 38.8**	**+0.2**
CEVE				IAML		02 25 17.1	
	comp=Z,2μm,0.3s						
TGIG		**2.55**	**338**	*eP*	**Pn**	**02 24 38.6**	**-0.4**
TGIG				*eS*	**Sn**	**02 25 12.5**	**+3.4**
SJTE	**Alcalda de S**	**3.14**	**104**	*eP*	**Pn**	**02 24 47.6**	**+0.5**
SJTE	**Alcalda de S**	**3.14**	**104**	*eP*	**Pn**	**02 24 47.6**	**+0.5**
COEG	**Centro de Oper**	**3.26**	**103**	*eS*	**Sn**	**02 25 26.8**	**+0.4**
COEG				IAML		02 25 38.5	
	comp=Z,367nm,0.4s						
COEG	**Centro de Oper**	**3.26**	**103**	*eS*	**Sn**	**02 25 26.8**	**+0.4**
COEG				IAML		02 25 38.5	
	comp=Z,367nm,0.4s						
SCLA	**Alcaldia de Sa**	**3.39**	**101**	*eP*	**Pn**	**02 24 50.0**	**-0.3**
SCLA	**Alcaldia de Sa**	**3.39**	**101**	*eP*	**Pn**	**02 24 50.0**	**-0.3**

*IDC **27** 03:04:49.9±0.6,29°.26S×61°.00E, h0km, mb4.3/13, mbtmp4.3/14, ML3.9/1, MS3.6/28, Error ellipse: s-maj=21.0km s-min=16.3km az=68.0*
*NEIC **27** 03:04:50.9±1.3,29°.25S±0°.10×60°.7E±0°.2, h10km±1km, mb4.7/11, Error ellipse: s-maj=31.2km s-min=5.9km az=60.0*
ISC 27 03:04:51.5±0.5,29°.22S±0°.09×61°.1E±0°.1, h10km, n75,
σ1s32/57, mb4.5/23, MS3.7/29, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.37**	**328**		**Pn**	**03 07 03.6**	**-3.2**
OPO	**Ambohidratompo**	**16.54**	**307**	Pn	**Pn**	**03 08 44.4**	**+0.6**
	baz=106,slow=8.7,SNR=5.2						
OPO				Sn	Sn	03 11 30.9	-17
	baz=65,slow=19,SNR=2.8						
	3.9nm,0.5s						
BOSA	**Boshof**	**31.30**	**262**	P	**P**	**03 11 15.1**	**+3.0**
	2.4nm,1.0s,baz=142,slow=18,SNR=1.3						
BOSA				LR	LR	03 20 37.4	
	comp=Z,25nm,21.2s,baz=336,slow=30						
KAAM	**Kaadhehdhoo**	**31.66**	**23**	P	**P**	**03 11 16.0**	**+0.8**
LBTB	**Lobatse**	**31.79**	**269**	LR	LR	03 22 53.7	
	comp=Z,40nm,18.5s,baz=96,slow=34						
LSZ	**Lusaka**	**33.33**	**287**	LR	LR	03 23 51.9	
	comp=Z,55nm,18.2s,baz=162,slow=34						
SUR	**Sutherland**	**34.60**	**254**	LR	LR	03 24 13.1	
	comp=Z,31nm,18.1s,baz=112,slow=34						
MAW	**Mawson**	**38.42**	**179**	LR	LR	03 25 16.7	
	comp=Z,130nm,19.6s,baz=359,slow=32						
MBAR	**Mbarara**	**40.59**	**309**	LR	LR	03 27 27.9	
	comp=Z,71nm,20.1s,baz=128,slow=34						
TSUM	**Tsumeb**	**40.72**	**274**	LR	LR	03 27 40.2	
	comp=Z,44nm,19.3s,baz=144,slow=34						
PALK	**Pallekele**	**40.91**	**31**	LR	LR	03 25 56.6	
	comp=Z,91nm,18.7s,baz=298,slow=31						
ATD	**Arta Tunnel**	**44.18**	**334**	LR	LR	03 28 36.1	
	comp=Z,119nm,20.2s,baz=140,slow=32						
H01W2	**Cape Leeuwin H**	**44.88**	**111**	T	T	04 00 47.4	
	baz=261,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**44.88**	**111**	T	T	04 00 45.5	
	baz=261,slow=75,SNR=21						
H01W1	**Cape Leeuwin H**	**44.90**	**111**	T	T	04 00 48.7	
	baz=261,slow=75,SNR=21						
PSI	**Prapat**	**48.24**	**55**	LR	LR	03 28 56.1	
	comp=Z,56nm,21.3s,baz=296,slow=30						
WSAR	**Wadi Sarin**	**52.21**	**357**	LR	LR	03 33 02.8	
	comp=Z,28nm,19.0s,baz=182,slow=32						
SNAA	**Sanae**	**54.39**	**200**	P	**P**	**03 14 16.8**	**-1.5**
SNAA	**Sanae**	**54.39**	**200**	P	**P**	**03 14 17.8**	**-0.5**
	2.7nm,0.9s,baz=100,slow=6.6,SNR=21						
SNAA				LR	LR	03 32 36.9	
	comp=Z,87nm,20.7s,baz=75,slow=31						
	2.7nm,0.9s						
SNAA	**Sanae**	**54.39**	**200**	P	**P**	**03 14 17.4**	**-0.9**
SNAA				IAmb	IAmb	03 14 18.9	
	comp=Z,7.8nm,1.4s						
RAYN	**Ar Rayn**	**54.54**	**342**	P	**P**	**03 14 17.4**	**-2.5**
VNA2	**Neumayer--Watz**	**55.66**	**202**	P	**P**	**03 14 27.2**	**-0.2**
	baz=79,slow=6.3						
VNA3	**Neumayer Olymp**	**56.44**	**202**	P	**P**	**03 14 32.6**	**-0.5**
BRDH	**Bariadhala**	**59.40**	**33**	LR	LR	03 39 06.4	
	comp=Z,50nm,21.3s,baz=256,slow=35						
CMAR	**Chiang Mai Arr**	**59.85**	**42**	P	**P**	**03 14 58.7**	**+1.2**
	comp=Z,1.6nm,0.4s,baz=230,slow=6.8,SNR=10						
CMAR				LR	LR	03 38 55.6	
	comp=Z,51nm,18.1s,baz=215,slow=34						
	comp=Z,1.6nm,0.4s						
KOLN	**Koldanda**	**60.63**	**23**	*eP*	**P**	**03 15 03.1**	**+0.2**
PYUN	**Piuthan**	**60.73**	**22**	*eP*	**P**	**03 15 03.6**	**0.0**
	comp=Z,60nm,0.8s						
QSPA	**Sach Pole Qui**	**60.93**	**180**	P	**P**	**03 15 04.3**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=249,slow=2.5,SNR=16						
QSPA				LR	LR	03 37 50.4	
	comp=Z,79nm,21.0s,baz=266,slow=32						
	comp=Z,3.7nm,0.8s						
QSPA	**South Pole Qui**	**60.93**	**180**	P	**P**	**03 15 03.6**	**-1.0**
QSPA				IAmb	IAmb	03 15 08.4	
	comp=Z,7.1nm,1.1s						
RAMN	**Ramite**	**60.97**	**26**	*eP*	**P**	**03 15 05.9**	**+0.6**
	comp=Z,27nm,0.8s						
DMN	**Daman**	**61.01**	**24**	*eP*	**P**	**03 15 06.1**	**+0.5**
ODAN	**Odare**	**61.20**	**27**	*eP*	**P**	**03 15 07.1**	**+0.3**
	comp=Z,3.0nm,0.9s						
GKN	**Gorkha**	**61.20**	**24**	*eP*	**P**	**03 15 06.7**	**-0.1**
DANN	**Dangsing**	**61.22**	**23**	*eP*	**P**	**03 15 07.0**	**0.0**
	comp=Z,48nm,0.8s						
KKN	**Kakani**	**61.24**	**24**	*eP*	**P**	**03 15 07.2**	**+0.1**
JIRN	**Jiri**	**61.46**	**25**	*eP*	**P**	**03 15 08.9**	**+0.2**
GUN	**Gumba**	**61.57**	**25**	*eP*	**P**	**03 15 10.1**	**+0.6**
	comp=Z,31nm,0.9s						
TAPN	**Taplejung**	**61.76**	**27**	*eP*	**P**	**03 15 11.2**	**+0.5**
	comp=Z,20nm,0.8s						
EIL	**Elat**	**63.66**	**335**	LR	LR	03 40 19.1	
	comp=Z,52nm,18.6s,baz=195,slow=33						
VNDA	**Vanda**	**63.99**	**166**	P	**P**	**03 15 24.3**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=282,slow=5.7,SNR=16						
VNDA				LR	LR	03 41 26.8	
	comp=Z,83nm,18.3s,baz=260,slow=34						
	comp=Z,2.4nm,0.8s						
VNDA	**Vanda**	**63.99**	**166**	P	**P**	**03 15 23.9**	**-0.7**
VNDA				IAmb	IAmb	03 15 25.7	
	comp=Z,4.8nm,1.0s						
ASAR	**Alice Springs**	**64.49**	**104**	P	**P**	**03 15 28.9**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=241,slow=6.0,SNR=23						
	comp=Z,2.3nm,0.7s						
SBA	**Scott Base**	**64.87**	**167**	P	**P**	**03 15 30.8**	**+0.5**
SBA				IAmb	IAmb	03 15 32.1	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**66.32**	**100**	P	**P**	**03 15 41.0**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=246,slow=5.4,SNR=11						
WRA				LR	LR	03 41 20.0	
	comp=Z,44nm,19.8s,baz=120,slow=33						
	comp=Z,2.9nm,1.0s						
MMAI	**Mount Meron Ar**	**66.52**	**337**	LR	LR	03 41 17.7	
	comp=Z,41nm,19.0s,baz=104,slow=33						
GNI	**Garni**	**70.67**	**347**	LR	LR	03 45 38.2	
	comp=Z,61nm,20.0s,baz=173,slow=35						
TORD	**Toradi Ar. Bea**	**71.11**	**298**	P	**P**	**03 16 10.4**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=106,slow=5.4,SNR=15						
	comp=Z,2.8nm,0.8s						
KKAR	**Karatay Array**	**72.49**	**7**	P	**P**	**03 16 17.7**	**-0.5**
KKAR	**Karatay Array**	**72.49**	**7**	P	**P**	**03 16 17.1**	**-1.1**
KKAR				IAmb	IAmb	03 16 19.8	
	comp=Z,4.6nm,1.0s						
AAK	**Ala-Archa**	**72.56**	**10**	LR	LR	03 44 34.0	
	comp=Z,34nm,18.4s,baz=139,slow=33						
AAK	**Ala-Archa**	**72.56**	**10**	P	**P**	**03 16 18.3**	**-0.5**
AAK				IAmb	IAmb	03 16 20.8	
	comp=Z,5.4nm,1.0s						
DBIC	**Dimbokro**	**72.67**	**288**	P	**P**	**03 16 18.4**	**-1.5**
	comp=Z,4.3nm,0.9s,baz=135,slow=7.1,SNR=3.1						
DBIC				LR	LR	03 48 10.5	
	comp=Z,31nm,18.2s,baz=146,slow=36						
	comp=Z,4.3nm,0.9s						
BRTR	**Keskin Array B**	**73.20**	**338**	P	**P**	**03 16 21.8**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=163,slow=9.4,SNR=13						
	comp=Z,1.9nm,0.8s						
KBZ	**Khabaz**	**74.49**	**346**	LR	LR	03 47 39.1	
	comp=Z,54nm,20.7s,baz=144,slow=34						
PMSA	**Palmer Station**	**77.10**	**201**	LR	LR	03 46 03.9	
	comp=Z,36nm,21.9s,baz=112,slow=32						
MKAR	**Makanchi Array**	**78.05**	**15**	P	**P**	**03 16 50.2**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=175,slow=4.4,SNR=11						
	comp=Z,1.6nm,0.8s						
ABKAR	**Akbulak array**	**78.13**	**359**	P	**P**	**03 16 50.4**	**-0.1**
ABKAR				IAmb	IAmb	03 16 51.5	
	comp=Z,5.5nm,1.0s						
ABKAR	**Akbulak array**	**78.13**	**359**	P	**P**	**03 16 50.2**	**-0.2**
AKTO	**Aktyubinsk**	**79.35**	**358**	LR	LR	03 49 10.4	
	comp=Z,35nm,20.0s,baz=125,slow=34						
BVAR	**Borovoye Array**	**82.30**	**6**	LR	LR	03 51 35.7	
	comp=Z,53nm,20.7s,baz=160,slow=34						
RPZ	**Rata Peaks**	**83.22**	**137**	LR	LR	03 46 39.7	
	comp=Z,76nm,18.4s,baz=264,slow=30						
AKASG	**Malin Array Be**	**84.42**	**340**	P	**P**	**03 17 23.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=153,slow=4.1,SNR=6.0						
	comp=Z,0.8nm,0.5s						
AKBB	**Malin Array Si**	**84.42**	**340**	P	**P**	**03 17 20.9**	**-2.9**
AKBB				IAmb	IAmb	03 17 26.7	
	comp=Z,8.5nm,1.2s						
ZALV	**Zalesovo Beam**	**85.34**	**14**	P	**P**	**03 17 29.0**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=216,slow=4.8,SNR=7.1						
	comp=Z,1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**85.34**	**14**	P	**P**	**03 17 28.9**	**+0.5**
MNK	**Minsk**	**88.16**	**341**	*i* P	**P**	**03 17 42.8**	**+0.7**
	comp=E,1.0nm,0.7s						
MNK				*i* P	**P**	**03 17 42.8**	**+0.7**
MNK				*i* P	**P**	**03 17 42.8**	**+0.7**
	comp=Z,11nm,0.7s,baz=332						
MNK				*i* PP	**PP**	**03 21 09.9**	**+0.3**
MNK				*i* PPP	PPP	03 23 05.4	
MNK				*i* S	**SKSac**	**03 28 11.0**	**+0.6**
MNK				*i* PS	**PS**	**03 29 31.1**	**+0.7**
MNK				*i* SS	**SS**	**03 34 21.4**	**+5.7**
MNK				*i* SSS	SSS	03 37 52.6	
MNK				*i* LQ	LQ	03 51 42.8	
MNK				*i* LR	LR	03 56 51.0	
MNK				*i* LRM	MLR	03 58 14.7	
	comp=N,1.0nm,17.2s						
MNK				*i* LRM	MLR	03 58 16.6	
	comp=E,3.0nm,14.1s						
MNK				*i* LRM	MLR	03 58 20.5	
	comp=Z,28nm,17.9s						
WATA	**Walderalm**	**88.28**	**329**	*eP*	**P**	**03 17 43.2**	**+0.1**
	comp=Z,4.9nm,0.9s						
SQTA	**Sankt Quirin**	**88.36**	**329**	*eP*	**P**	**03 17 45.0**	**+1.6**
	comp=Z,3.7nm,0.8s						
FETA	**Feichten**	**88.44**	**328**	*i* P	**P**	**03 17 44.4**	**+0.6**
	comp=Z,6.0nm,1.2s						
RETA	**Reutte**	**88.77**	**329**	*eP*	**P**	**03 17 45.0**	**-0.3**
	comp=Z,2.5nm,0.6s						
ESDC	**Sonseca Array**	**91.39**	**316**	P	**P**	**03 17 58.5**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=112,slow=3.3,SNR=7.8						
	comp=Z,1.3nm,1.0s						
NOA	**NORSAR Array B**	**98.63**	**338**	LR	LR	04 03 21.6	
	comp=Z,17nm,19.0s,baz=300,slow=36						
ILAR	**Eielson Array**	**140.33**	**18**	PKP	**PKPdf**	**03 24 18.2**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=298,slow=2.5,SNR=3.5						
PDAR	**Pinedale Array**	**164.53**	**333**	PKP	**PKPdf**	**03 24 56.0**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=147,slow=3.0,SNR=6.4						
NVAR	**Mina Array Bea**	**170.80**	**357**	PKP	**PKPdf**	**03 25 02.4**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=167,slow=2.0,SNR=4.2						

*ANF **27** 03:06:13.6±0.1, 33°.30N×115°.72W, h15km, ML3.4/29, Error ellipse: s-maj=1.3km s-min=0.9km az=114.0*
*PAS **27** 03:06:14.2±1.5, 33°.297N±0°.009×115°.72W±0°.01, h3km±5km, ML3.3/150, ML3.2/54(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=60.0*
*NEIC **27** 03:06:14.6±2.2, 33°.28N±0°.01×115°.75W±0°.02, h18km, Error ellipse: s-maj=2.7km s-min=1.5km az=56.0*
ISC 27 03:06:14.4±0.8, 33°.29N±0°.01×115°.74W±0°.02, h17km±6km,
n149, σ1s107/182, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.19**	**202**		**Pg**	**03 06 19.1**	**+0.1**
SALN	**Salton City**	**0.21**	**267**		**Pg**

EMSC	East Mesa	0.84	131			Pb	03 06 29.7	-0.7
EW2	E Wide Canyon	0.86	319			Pb	03 06 30.2	-0.6
EW2						Sg	03 06 42.1	-0.4
GVDA	Garner Valley	0.87	296			Pb	03 06 30.5	-0.6
CRY	Cary Ranch	0.88	288			Pb	03 06 30.9	-0.4
PLM	Palomar	0.94	274			Pb	03 06 31.9	-0.5
BLAC	Blackrock camp	0.95	325			Pb	03 06 31.9	-0.5
BLAC						Sg	03 06 45.5	+0.1
BAR	Barrett	0.99	232	Pg		Pb	03 06 32.4	-0.8
IRM	Iron Mountain	0.99	30			Pb	03 06 32.5	-0.7
IRM	Iron Mountain baz=209,SNR=438	0.99	30	P		Pb	03 06 32.4	-0.8
IRM				S		Sb	03 06 45.6	-0.5
	baz=209							
DPP	Dos Picos Cty	1.05	254			Pb	03 06 33.2	-0.9
POB	Polly Butte	1.07	292			Pb	03 06 33.4	-1.1
POB						Sg	03 06 48.9	-0.2
DUZA	Dulzura	1.11	232			Pb	03 06 34.2	-0.9
DUZA						Sb	03 06 49.7	+0.5
BLYC	Blythe	1.11	65	Pg		Pb	03 06 35.0	-0.2
BLYC				IAML			03 06 50.3	
	comp=N,891nm,0.9s							
BLYC				IAML			03 06 54.8	
	comp=E,775nm,0.8s							
DGR	Domenigoni Val	1.12	289			Pb	03 06 34.4	-0.9
GTM	Goat Mountain	1.13	333			Pn	03 06 35.7	+0.2
GUVIX	Guadalupe Vict	1.13	150			Pn	03 06 35.7	+0.3
GUVIX				IAML			03 07 07.3	
	comp=E,818nm,1.1s							
BACC	Bachelor Mtn.	1.14	287			Pb	03 06 35.5	-0.1
HMTC	Hemet	1.14	292			Pb	03 06 34.6	-1.0
HMTC						Sg	03 06 51.4	0.0
SDRC	San Diego Road	1.15	242			Pn	03 06 35.7	0.0
SDRC						Sb	03 06 50.7	+0.2
109C	Camp Elliot, M	1.22	251	Pn		Pn	03 06 35.6	-1.0
109C				IAML			03 06 41.8	
	comp=E,462nm,0.6s							
109C				IAML			03 06 54.7	
	comp=N,510nm,0.4s							
109C	Camp Elliot, M baz=70,SNR=86	1.22	251	P		Pn	03 06 35.6	-1.0
CPE	Camp Elliot	1.22	251			Pn	03 06 37.0	+0.4
CPE						Sb	03 06 51.5	-0.8
CBX	Cerro Bola	1.25	219			Pn	03 06 36.9	-0.2
CBX				IAML			03 07 07.4	
	comp=N,388nm,0.9s							
CBX				IAML			03 07 12.7	
	comp=E,350nm,0.9s							
MURC	Murrieta baz=103,SNR=161	1.26	285	P		Pn	03 06 36.4	-0.8
ESJX	Sierra Juarez	1.29	188			Pn	03 06 38.0	+0.2
TJX	Tijuana	1.35	235			Pg	03 06 40.1	-0.5
DANC	Danby, Needles	1.38	12			Pg	03 06 40.4	-0.6
BBRC	Big Bear Solar	1.38	315			Pb	03 06 39.9	0.0
BBRC						Sg	03 06 58.5	-0.7
BBRC	Big Bear Solar baz=134,SNR=34	1.38	315	Pb		Pn	03 06 39.6	+0.5
BBRC				Sb		Sb	03 06 58.3	+0.9
	baz=134							
SME	Santa Rosa Min	1.45	292			Pb	03 06 41.1	+0.1
ELS	Elsinore Mount	1.46	285			Pn	03 06 39.1	-0.9
ELS				IAML			03 07 07.2	
	comp=N,382nm,0.7s							
ELS				IAML			03 07 07.5	
	comp=E,383nm,0.8s							
GMRC	Granite Mounta	1.49	2			Pb	03 06 41.8	+0.1
GMRC	Granite Mounta baz=182,SNR=312	1.49	2	P		Pn	03 06 39.5	-1.0
GMRC				Sg		Sg	03 07 03.3	+0.6
	baz=182							
HEC	Hector,Ludlow	1.61	342			Pg	03 06 45.2	-0.3
HEC	Hector,Ludlow baz=161,SNR=56	1.61	342	Pg		Pg	03 06 44.7	-0.8
HEC				Sg		Sg	03 07 07.3	+0.8
	baz=161							
CCX	Cicese	1.62	209			Pn	03 06 42.8	+0.7
CCX				IAML			03 07 12.7	
	comp=E,292nm,1.0s							
CCX				IAML			03 07 15.4	
	comp=N,209nm,0.8s							
PDMCI	Parker Dam,Lak baz=233,SNR=58	1.67	52	Pb		Pb	03 06 44.4	-0.3
113A	Mohawk Valley,	1.74	107			Pn	03 06 44.4	+0.6
NEE2	Needles Airpor baz=212,SNR=34	1.74	32	Pg		Pg	03 06 46.9	-1.0
BFSC	Mount Baldy Ra baz=120,SNR=26	1.86	301	P		Pn	03 06 44.9	-0.7
DSCC	Desert Studies	1.87	351			Pg	03 06 49.7	-0.7
TUQ	Turquoise Moun baz=175	2.15	356	Pg		Pg	03 06 54.6	-1.0
GSC	Goldstone, Bar	2.19	337	Pn		Pn	03 06 51.3	+1.2
GSC				IAML			03 07 32.5	
	comp=N,141nm,1.0s							
GSC				IAML			03 07 40.6	
	comp=E,234nm,1.4s							
GSC	Goldstone, Bar baz=156	2.19	337	Pg		Pg	03 06 55.3	-1.2
PASC	Pasadena Art C	2.22	294	Pn		Pn	03 06 52.0	+1.6
PASC				IAML			03 07 30.7	
	comp=E,120nm,0.5s							
PASC				IAML			03 07 31.1	
	comp=N,121nm,0.7s							
CIS	Catalina Islan baz=92	2.24	274	Pb		Pb	03 06 54.4	-0.1
W13A	Hualapai Mount	2.37	40			Pn	03 06 53.4	+0.7
SFX	San Felipe	2.37	161	Pn		Pn	03 06 53.9	+1.5
Y14A	Wickenburg	2.37	73			Pn	03 06 53.9	+1.4
V12A	Nelson	2.54	17	Pn		Pn	03 06 56.1	+1.3
CCAC	Calif City Air	2.65	315	Pn		Pn	03 06 58.4	+2.0
CCAC				IAML			03 08 07.0	
	comp=E,159nm,1.2s							
LRMC	Laurel Mtn Rad baz=143	2.71	324	Pg		Pg	03 07 05.7	-0.7
SBI	Santa Barbara	2.76	275			Pn	03 06 58.5	+0.7
214A	Organ Pipe Nat	2.81	118	Pn		Pn	03 06 59.9	+1.4
214A				IAML			03 07 55.9	
	comp=E,72nm,1.4s							
214A				IAML			03 07 57.4	
	comp=N,91nm,1.4s							
214A	Organ Pipe Nat baz=300	2.81	118	P		Pn	03 06 57.2	-1.2
QSM	Queen of Sheba	2.83	341			Pn	03 06 59.9	+1.1
WTNK	Soaring Height	2.96	11	Pn		Pn	03 07 01.9	+1.3
GWY	Greenwater Val	2.99	345	Pn		Pn	03 07 01.9	+0.8
MPMC	Manual Prospec baz=152,SNR=16	3.12	333	Pg		Pg	03 07 13.2	-1.0
ARVC	Arvin baz=124	3.15	306	Pg		Pg	03 07 13.8	-1.0
SHPR	Sheep Range	3.24	8	Pn		Pn	03 07 05.9	+1.3
ISA	Isabella, Lake	3.27	317			Pn	03 07 06.7	+1.7
ISA				IAML			03 08 05.9	
	comp=E,39nm,1.1s							
ISA	Isabella, Lake baz=135	3.27	317	Pg		Pg	03 07 16.3	-0.9
BAKC	Calstate	3.46	307			Pn	03 07 06.0	-1.4
BCW	Bitter Crk WRg	3.46	299	Pn		Pn	03 07 09.0	+1.4
WCT	Wildcat Mounta	3.57	348	Pn		Pn	03 07 10.1	+1.1
TPNV	Topopah Spring	3.67	354			Pn	03 07 11.4	+0.9
TPNV				IAML			03 08 16.8	
	comp=E,48nm,0.8s							
TPNV				IAML			03 08 22.4	
	comp=E,57nm,0.9s							
TPNV	Topopah Spring baz=173	3.67	354	Pg		Pg	03 07 23.2	-1.6
PKM	Mcpherson Peak baz=114	3.74	296	Pg		Pg	03 07 25.3	-0.8
GRAC	Grapevine Rang	3.93	341			Pn	03 07 15.5	+1.5
GRAC				IAML			03 08 47.3	
	comp=E,55nm,1.6s							
GRAC	Grapevine Rang baz=160	3.93	341	Pg		Pg	03 07 28.3	-1.5
SMMC	Simmler baz=118	4.06	301	Pg		Pg	03 07 30.4	-1.8
PRN	Pahroc Range	4.14	8	Pn		Pn	03 07 18.5	+1.5
GMN	Gold Mountain	4.19	343			Pn	03 07 19.0	+1.3
U15A	North Rim	4.22	41			Pn	03 07 19.3	+1.1
LCH	Last Change Ra	4.23	339			Pn	03 07 18.8	+0.6
WUAZ	Wupatki	4.24	57			Pn	03 07 19.0	+0.7
TUC	Tucson comp=E,19nm,1.4s	4.28	102	IAML			03 08 37.9	
TUC				IAML			03 08 40.4	
	comp=E,18nm,0.9s							
TUC	Tucson	4.28	102	Pn		Pn	03 07 19.6	+0.8
S11A	Rachel	4.34	360	Pn		Pn	03 07 21.9	+2.1
KNB	Kanab	4.42	32			Pn	03 07 22.3	+1.5
DSP	Deep Springs	4.46	336	Pn		Pn	03 07 23.1	+1.9
MZP	Montezuma Peak	4.60	343	Pn		Pn	03 07 24.9	+1.6
CCUT	Cedar City	4.67	24			Pn	03 07 26.7	+2.4
SZCU	Shurtz Canyon	4.81	26			Pn	03 07 27.8	+1.6
TPH	Tonopah	4.92	346	Pn		Pn	03 07 29.3	+1.5
X18A	Snowflake	4.97	74	Pn		Pn	03 07 31.4	+3.1
R11A	Troy Canyon, C	5.05	1	Pn		Pn	03 07 31.8	+2.4
R11A	Troy Canyon, C baz=181	5.05	1	Pg		Pg	03 07 49.5	-1.6
OMMB	Old Mammoth Mi	5.07	329	Pn		Pn	03 07 32.9	+3.1
PMPB	Monarch Peak	5.09	306	Pn		Pn	03 07 31.4	+1.5
MDPB	Devils Postpil	5.12	329	Pn		Pn	03 07 33.6	+3.1
W18A	Petrified Fore	5.30	68	Pn		Pn	03 07 35.0	+2.2
LHV	Little Humtoom	5.44	336	Pn		Pn	03 07 38.5	+3.9
PSUT	Pine Spring	5.45	16			Pn	03 07 38.4	+3.3
NV11	Mina Array Sit	5.49	340	Pn		Pn	03 07 37.1	+1.5
319A	Douglas	5.79	108	Pn		Pn	03 07 40.6	+1.1
SPR3	Spring Creek 3	5.81	11	Pn		Pn	03 07 39.2	-0.8
TCRU	Three Creeks R	5.94	26	Pn		Pn	03 07 42.4	+0.6
WAKR	Walker	6.01	331	Pn		Pn	03 07 43.9	+1.3
KVN	Kaiserville	6.06	342	Pn		Pn	03 07 43.8	+0.5
CMB	Columbia Colle	6.06	323	Pn		Pn	03 07 45.1	+1.9
121A	Cookes Peak, D	6.73	94			Pn	03 07 53.6	+1.0
121A	Cookes Peak, D baz=279	6.73	94	P		Pn	03 07 52.9	+0.3

IDC 27 03:15:52.0±2.0, 2°.67S×141°.15E, h0km, mb3.6/4, mbtmp3.7/5, ML3.9/1, MS3.3/3, Error ellipse: s-maj=62.6km s-min=28.0km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.4nm,0.3s,baz=19,slow=12,SNR=21	18.41	201	P	Pn	03 20 08.5	-0.4
WRA				LR	LR	03 27 20.2	
	comp=Z,90nm,18.4s,baz=101,slow=37 1.9nm,0.6s						
FITZ	Fitzroy Crossi 2.5nm,0.7s,baz=10,slow=5.0,SNR=9.5	21.59	224	P	P	03 20 43.8	+0.1
FITZ				LR	LR	03 29 53.6	
	comp=Z,84nm,18.1s,baz=278,slow=39 2.5nm,0.7s						
ASAR	Alice Springs 1.4nm,0.6s,baz=30,slow=11,SNR=25	22.02	198	P	P	03 20 48.2	0.0
ASAR				LR	LR	03 29 36.7	
	comp=Z,61nm,20.2s,baz=203,slow=38 1.4nm,0.6s						
H11S3	WAKE ISLAND Hy baz=232,slow=76,SNR=163	32.78	49	T	T	03 56 37.6	
H11S2	WAKE ISLAND Hy baz=232,slow=76,SNR=90	32.79	49	T	T	03 56 38.6	
H11S1	WAKE ISLAND Hy baz=232,slow=76,SNR=95	32.80	49	T	T	03 56 38.9	
H11N1	WAKE ISLAND Hy baz=229,slow=76,SNR=34	33.68	48	T	T	03 57 51.3	
H11N2	WAKE ISLAND Hy baz=229,slow=76,SNR=49	33.69	48	T	T	03 57 50.8	
H11N3	WAKE ISLAND Hy baz=229,slow=76,SNR=27	33.69	48	T	T	03 57 53.9	
MKAR	Makanchi Array 0.9nm,0.7s,baz=104,slow=9.6,SNR=5.7 0.9nm,0.7s	71.26	322	P	P	03 27 13.9	+0.5
VNDA	Vanda 0.2nm,0.6s,baz=319,slow=8.8,SNR=1.5 0.2nm,0.6s	75.61	175	P	P	03 27 37.8	-0.6

*ANF **27** 03:23:57.5±0.2, 33°.30N×115°.73W, h15km±1km, ML4.4/40, Error ellipse: s-maj=1.5km s-min=1.4km az=1.0*
*NEIC **27** 03:23:58.1±1.7, 33°.30N±0°.01×115°.73W±0°.02, h18km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=69.0*
*IDC **27** 03:23:58.0±1.3, 33°.43N×115°.63W, h0km, mbtmp3.4/3, ML3.7/3, Error ellipse: s-maj=18.4km s-min=8.4km az=14.0*
*PAS **27** 03:23:58.1±2.0, 33°.300N±0°.009×115°.71W±0°.01, h5km±5km, Mwr4.3/6, mb4.2/3(NEIC), ML4.2/60(NEIC), Mwr4.3/102(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=71.0*
*NEIC **27** 03:23:58.2, 33°.30N×115°.71W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.81; $M_{\theta\theta}$-2.22; $M_{\phi\phi}$3.04; $M_{r\theta}$1.49; $M_{\theta\phi}$0.86; $M_{\phi r}$0.42; Fault plane solution: M_o3.25000×10^{15} NP1:∅=327.96000°, δ60.91000°, λ-163.78000°. NP2:∅=229.91000°, δ75.87000°, λ-30.09000°. Principal axes: T 3.2899, Plg10.0000°, Azm282.0000°; N -0.0774, Plg57.0000°, Azm27.0000°; P -3.2125, Plg31.0000°, Azm186.0000°;*
*NEIC **27** 03:23:58.2, 33°.30N×115°.71W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.24; $M_{\theta\theta}$-2.98; $M_{\phi\phi}$4.23; $M_{r\theta}$1.04; $M_{\theta\phi}$0.71; $M_{\phi r}$0.60; Fault plane solution: M_o3.94000×10^{15} NP1:∅=322.00000°, δ68.00000°, λ-168.00000°. NP2:∅=228.00000°, δ78.00000°, λ-23.00000°. Principal axes: T 4.3857, Plg7.0000°, Azm277.0000°; N -0.8908, Plg65.0000°, Azm22.0000°; P -3.4949, Plg24.0000°, Azm183.0000°;*

ISC 27 03:23:58.1±0.8, 33°.29N±0°.01×115°.72W±0°.01, h17km±6km, n183, σ∅=90/226, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	Elmore Ranch	0.19	206		Pb	03 24 03.0	-0.1
SALN	Salton City	0.22	267		Pg	03 24 03.2	-0.1
WEMD	Westmorland, C	0.28	155		Pb	03 24 04.5	-0.1
WEMD					Sb	03 24 10.0	+1.1
SUP	Superstition M	0.35	195		Pg	03 24 05.2	-0.2
SWSC	Sam W. Stewart	0.35	191		Pg	03 24 05.3	-0.1
SWSC	Sam W. Stewart baz=12,SNR=1000	0.35	191	P	Pg	03 24 05.3	-0.1
SWSC				S	Sg	03 24 10.1	-0.4
	baz=12						
CTW	Cottonwood Mou	0.41	342		Pg	03 24 06.0	-0.5
CTW					Sg	03 24 12.3	+0.2
IMPE	Imperial	0.41	161		Pb	03 24 06.9	0.0
HAY	Hayfield	0.42	4		Pg	03 24 06.1	-0.5
HAY					Sb	03 24 13.2	+0.1
BC3	Big Chuckawall	0.43	32		Pg	03 24 06.2	-0.7
BC3	Big Chuckawall baz=211,SNR=1000	0.43	32	P	Pg	03 24 06.2	-0.7
BC3				S	Sg	03 24 12.4	-0.4
	baz=211						
CTCC	Cactus City	0.43	328		Pg	03 24 06.6	-0.2
CTCC					Sb	03 24 13.8	+0.5
COK2	Cook Ranch 2	0.44	181		Pb	03 24 07.4	+0.1
COK2					Sb	03 24 14.8	+1.2
CRR	Carrizo Plain	0.45	207		Pg	03 24 07.2	-0.1
CRR					Sb	03 24 14.0	0.0
SLH	Sleepy Hollow	0.46	258		Pg	03 24 07.4	+0.1
SLH					Sb	03 24 13.9	-0.2
SNR	Schaffner Ranc	0.49	151		Pb	03 24 08.0	-0.2
SNR					Sn	03 24 16.7	-1.6
WESC	Westside Schoo	0.53	181		Pb	03 24 08.8	-0.1
WESC					Sb	03 24 16.9	+0.7
DREC	Desert Rsrch C	0.54	155		Pb	03 24 09.1	+0.1
DREC					Sn	03 24 18.6	-0.9
BORC	Borrego Spring	0.58	268		Pg	03 24 09.3	-0.4
SGL	Mount Signal	0.64	180		Pg	03 24 10.1	-0.6
SGL					Sb	03 24 19.5	+0.1
PMD	Palm Desert	0.65	303		Pg	03 24 09.9	-1.1
PMD				IAML		03 24 21.2	
	comp=N,6μm,0.5s						
PMD				IAML		03 24 21.2	
	comp=E,5μm,0.5s						
PMD	Palm Desert	0.65	303		Sg	03 24 19.1	-0.7
COA	Coachella	0.66	130		Pg	03 24 10.8	-0.3
COA					Sn	03 24 21.5	-1.0
YUH	Yuha Desert	0.66	195		Pg	03 24 10.6	-0.6
YUH	Yuha Desert	0.66	195		Sb	03 24 20.1	0.0
I57US	PINON FLAT INF baz=113,slow=21	0.69	297	Pg	Pb	03 24 11.7	0.0
I57US				Lg	Lg	03 24 21.8	
	baz=116,slow=33						
I57US				*i*		03 27 10.0	
	baz=111,slow=319,SNR=2.1						
XPFO	Pion Flat	0.69	298		Pg	03 24 10.9	-0.8
XPFO					Sg	03 24 20.8	-0.2
PFO	Pinyon Flats O	0.69	298		Pg	03 24 10.9	-0.8
PFO				IAML		03 24 22.6	
	comp=E,8μm,0.6s						
PFO	Pinyon Flats O baz=116,SNR=1000	0.69	298	P	Pg	03 24 11.0	-0.8
PFO				S	Sg	03 24 20.9	-0.2
	baz=116						
UABX	UABC, Campus M	0.70	160		Pb	03 24 11.6	-0.2
UABX				IAML		03 24 33.7	
	comp=N,12μm,1.4s						
RUN	Ruthven	0.70	117		Pb	03 24 11.3	-0.5
MONP2	Monument Peak	0.71	236		Pg	03 24 11.8	-0.4
MONP2					Sg	03 24 21.4	-0.2
MONP2	Monument Peak baz=55,SNR=1000	0.71	236	P	Pg	03 24 11.7	-0.4
MONP2				S	Sg	03 24 21.1	-0.4
	baz=55						
IKP	In-Ko-Pah, Jac	0.72	207		Pb	03 24 11.6	-0.5
IKP					Sg	03 24 21.6	-0.2
IKP	In-Ko-Pah, Jac baz=27,SNR=1000	0.72	207	P	Pb	03 24 11.6	-0.5
IKP				S	Sg	03 24 22.0	+0.3
	baz=27						
BELC	Belle Mtn. Jos	0.74	342		Pb	03 24 12.2	-0.5
BELC					Sg	03 24 22.8	+0.1
BELC	Belle Mtn. Jos baz=161,SNR=1000	0.74	342	P	Pb	03 24 12.2	-0.5
BELC				S	Sg	03 24 22.7	0.0
	baz=161						
RMX	La Rumorosa	0.75	204		Pb	03 24 12.6	-0.1
RMX	La Rumorosa	0.75	204		Sg	03 24 23.4	+0.6
JUEM	Julian Eagle M	0.76	254		Pb	03 24 12.7	-0.2
JUEM					Sg	03 24 23.8	+0.6
FRD	Ford Ranch, An	0.77	286		Pb	03 24 12.6	-0.4
FRD					Sg	03 24 24.1	+0.8
FRD	Ford Ranch, An baz=286	0.77	286		Pb	03 24 12.6	-0.4
FRD					Sg	03 24 23.2	0.0
MATG	Mataguay Scout	0.78	264		Pb	03 24 12.8	-0.4
MATG					Sg	03 24 23.7	-0.1
GLA	Glamis	0.79	107		Pb	03 24 12.8	-0.6
GLA	Glamis comp=N,7μm,1.3s	0.79	107	IAML		03 24 30.6	
GLA	Glamis baz=289,SNR=882	0.79	107	P	Pb	03 24 12.7	-0.6
GLA				S	Sg	03 24 24.2	+0.3
	baz=289						
SNDA	J Saunders Pla	0.79	289		Pb	03 24 13.2	-0.2
SNDA					Sg	03 24 24.9	+0.9
DNR	Dunn Ranch,Anz	0.81	290		Pb	03 24 13.5	-0.3
BZNA	Buzz No.'s Pla	0.82	284		Pb	03 24 13.6	-0.3
EMSC	East Mesa	0.83	131		Pb	03 24 13.4	-0.5
EW2	E Wide Canyon	0.86	319		Pb	03 24 13.9	-0.8
EW2					Sg	03 24 26.8	+0.4
GVDA	Garner Valley	0.88	296		Pb	03 24 14.4	-0.5
GVDA					Sb	03 24 26.6	+0.2
CRY	Cary Ranch	0.89	288		Pb	03 24 14.8	-0.4
CRY					Sg	03 24 27.3	0.0
CPBX	Cerro Prieto	0.94	158		Pb	03 24 14.6	-1.2
CPBX				IAML		03 24 38.0	
	comp=N,7μm,0.9s						
CPBX				IAML		03 24 46.6	
	comp=E,7μm,0.7s						
BLAC	Blackrock camp	0.96	325		Pb	03 24 15.4	-0.9
BLAC					Sg	03 24 29.4	+0.1
PLM	Palomar	0.96	274		Pb	03 24 15.7	-0.6
PLM					Sg	03 24 29.6	+0.2
DEVC	Devers	0.96	312		Pb	03 24 15.8	-0.4
IRM	Iron Mountain	0.99	29		Pb	03 24 16.3	-0.5
IRM	Iron Mountain baz=209,SNR=1000	0.99	29	P	Pb	03 24 16.1	-0.6
IRM				S	Sg	03 24 30.0	-0.3
	baz=209						
BAR	Barrett	1.00	233		Pb	03 24 16.1	-0.9
BAR				IAML		03 24 38.8	
	comp=N,4μm,0.7s						
TKX	Tecate	1.04	226		Pb	03 24 17.0	-0.5
TKX					Sb	03 24 31.1	+0.2
TKX	Tecate comp=E,4μm,0.7s	1.04	226	IAML		03 24 39.0	
DPP	Dos Picos Cty	1.06	254		Pb	03 24 17.0	-1.1
DPP					Sn	03 24 32.1	-0.5
POB	Polly Butte	1.08	292		Pb	03 24 17.2	-1.1
BLYC	Blythe	1.10	65		Pb	03 24 18.1	-0.6
BLYC	Blythe comp=N,6μm,1.0s	1.10	65	IAML		03 24 34.9	
BLYC				IAML		03 24 41.4	
	comp=E,6μm,0.7s						
DUZA	Dulzura	1.12	233		Pn	03 24 18.0	-1.0
GUVIX	Guadalupe Vict	1.12	151		Pg	03 24 19.6	-0.3
GTM	Goat Mountain	1.13	332		Sg	03 24 34.9	0.0
DGR	Domenigoni Val	1.14	289		Pn	03 24 17.9	-1.3
BACC	Bachelor Mtn.	1.15	287		Pn	03 24 18.3	-1.1
HMTC	Hemet	1.15	292		Pn	03 24 18.3	-1.1
HMTC					Sg	03 24 35.3	-0.1
SDRC	San Diego Road	1.17	242		Pn	03 24 18.8	-0.8
SDRC					Sn	03 24 35.0	0.0
MTRP	Mission Trails	1.22	248		Sn	03 24 36.5	+0.2
OLP	Otay Lakes Par	1.22	236		Pn	03 24 20.0	-0.4
OLP					Sn	03 24 36.9	+0.4
BBSC	Beaumont Base	1.23	301		Pn	03 24 20.0	-0.5
109C	Camp Elliot, M	1.23	251	Pn	Pn	03 24 19.7	-0.7
109C				IAML		03 24 26.1	
	comp=E,4μm,0.7s						
109C				IAML		03 24 38.8	
	comp=N,6μm,0.8s						
109C	Camp Elliot, M baz=70,SNR=838	1.23	251	P	Pn	03 24 19.7	-0.7
109C				S	Sn	03 24 37.0	+0.4
	baz=70						
CPE	Camp Elliot	1.23	251		Pn	03 24 19.5	-0.9
CBX	Cerro Bola	1.26	219		Pn	03 24 20.3	-0.7
CBX				IAML		03 24 46.0	
	comp=E,5μm,0.9s						
CBX				IAML		03 24 51.5	
	comp=N,6μm,1.1s						
MURC	Murrieta	1.27	284		Pn	03 24 20.4	-0.7
MURC	Murrieta baz=103,SNR=1000	1.27	284	P	Pn	03 24 20.2	-0.8
MURC				Sg	Sg	03 24 40.0	+0.8
	baz=103						
GORC	Green Oak Ranc	1.27	264		Pn	03 24 20.1	-0.9
ESJX	Sierra Juarez	1.30	189		Pn	03 24 20.6	-0.9
ESJX	Sierra Juarez comp=N,2μm,0.7s	1.30	189	IAML		03 24 29.8	
ESJX				IAML		03 24 47.9	
	comp=E,2μm,1.3s						
PEC	Perris	1.34	297		Pn	03 24 21.3	-0.8
TJX	Tijuana	1.37	236		Pn	03 24 22.4	+0.1
DANC	Danby, Needles	1.37	12		Pn	03 24 22.2	-0.2
CFT	Crafton Hills	1.38	303		Pn	03 24 22.3	-0.2
BBRC	Big Bear Solar baz=133	1.39	314	P	Pn	03 24 22.6	-0.3
BBRC				Sg	Sg	03 24 43.6	+0.5
	baz=133						
SIL	Silver Peak	1.40	319		Pn	03 24 23.0	0.0
SVD	Seven Oaks Dam	1.41	306		Pn	03 24 22.5	-0.5
SME	Santa Rosa Min	1.46	292		Pn	03 24 22.8	-0.9
ELS	Elsinore Mount	1.47	284	Pn	Pn	03 24 22.8	-1.0
ELS	

	baz=120,SNR=233							
BFSC				Sg	Sg	03 24 59.5	+1.1	
	baz=120							
SSK	Sunset Peak	1.88	300		Pn	03 24 29.7	+0.1	
HOLC	Holcomb Ridge	2.12	304		Pn	03 24 32.9	+0.2	
TUQ	Turquoise Moun	2.15	356	P	Pn	03 24 32.6	-0.6	
	baz=175,SNR=256							
JNH	Juniper Hills	2.19	302		Pn	03 24 33.9	+0.1	
FMP	Fort Macarthur	2.19	282	Pg	Pg	03 24 39.2	-0.9	
	baz=100							
GSC	Goldstone, Bar	2.20	336		Pn	03 24 33.0	-0.9	
GSC				IAML		03 25 16.9		
	comp=N,2μm,1.0s							
GSC	Goldstone, Bar	2.20	336	Pg	Pg	03 24 39.6	-0.7	
	baz=155							
PASC	Pasadena Art C	2.23	294		Pn	03 24 35.9	+1.7	
PASC				IAML		03 25 15.4		
	comp=N,1μm,1.1s							
CIS	Catalina Islan	2.26	274	Pb	Pb	03 24 38.5	+0.2	
	baz=92							
Y14A	Wickenburg	2.36	73		Pn	03 24 36.3	+0.3	
W13A	Hualapai Mount	2.36	40		Pn	03 24 36.8	+0.6	
SFX	San Felipe	2.37	162		Pn	03 24 37.2	+1.2	
DECC	Green Verdugo	2.38	295	Pb	Pb	03 24 40.3	-0.1	
	baz=113							
SCI2	San Clemente I	2.39	263	Pb	Pb	03 24 40.1	-0.6	
	baz=82							
EDW2	Edwards Air Fo	2.46	311	P	Pn	03 24 37.3	-0.2	
	baz=129,SNR=28							
EDW2				Sb	Sb	03 25 14.2	+2.2	
	baz=129							
V12A	Nelson	2.53	16		Pn	03 24 39.0	+0.6	
PIX	Pinacate	2.58	131		Pn	03 24 37.7	-1.3	
SHOC	Shoshone, Teco	2.64	350	Pg	Pg	03 24 47.7	-1.0	
	baz=170							
CCAC	Calif City Air	2.66	315		Pn	03 24 40.4	+0.2	
LRMC	Laurel Mtn Rad	2.72	324	Pg	Pg	03 24 49.5	-0.8	
	baz=143							
214A	Organ Pipe Nat	2.79	118	Pn	Pn	03 24 41.2	-0.8	
214A				IAML		03 25 41.8		
	comp=N,803nm,1.5s							
214A				IAML		03 25 55.5		
	comp=E,530nm,1.2s							
214A	Organ Pipe Nat	2.79	118	P	Pn	03 24 41.2	-0.8	
	baz=300,SNR=11							
OSI	Osito Audit: C	2.82	299	Pg	Pg	03 24 51.5	-0.7	
	baz=117							
QSM	Queen of Sheba	2.83	341		Pn	03 24 42.1	-0.4	
WTNK	Soaring Height	2.95	11		Pn	03 24 45.6	+1.4	
GWY	Greenwater Val	2.99	345		Pn	03 24 45.9	+1.1	
MPMC	Manual Prospec	3.12	333	P	Pn	03 24 46.2	-0.4	
	baz=152,SNR=42							
ARVC	Arvin	3.16	306	P	Pn	03 24 47.3	+0.3	
	baz=124,SNR=30							
SNCC	San Nicolas Is	3.19	270		Pn	03 24 49.9	+2.5	
SNCC	San Nicolas Is	3.19	270	Pb	Pb	03 24 53.8	-0.4	
	baz=88							
SHPR	Sheep Range	3.24	8		Pn	03 24 49.1	+0.8	
ISA	Isabella, Lake	3.28	317		Pn	03 24 48.8	+0.1	
ISA				IAML		03 25 49.5		
	comp=E,411nm,1.3s							
ISA	Isabella, Lake	3.28	317	P	Pn	03 24 48.7	-0.1	
	baz=135,SNR=14							
BCW	Bitter Crk WRg	3.48	299		Pn	03 24 52.5	+1.0	
WCT	Wildcat Mounta	3.57	348		Pn	03 24 54.5	+1.7	
TPNV	Topopah Spring	3.67	353		Pn	03 24 55.6	+1.4	
TPNV				IAML		03 26 14.3		
	comp=E,412nm,1.6s							
TPNV				IAML		03 26 15.9		
	comp=E,456nm,1.4s							
TPNV	Topopah Spring	3.67	353	P	Pn	03 24 55.2	+1.0	
	baz=173,SNR=24							
CWC	Cottonwood Cre	3.69	329	P	Pn	03 24 54.8	+0.4	
	baz=148							
PKM	Mcpherson Peak	3.75	296	P	Pn	03 24 56.5	+1.2	
	baz=114,SNR=16							
GRAC	Grapevine Rang	3.94	340		Pn	03 24 59.8	+2.1	
GRAC	Grapevine Rang	3.94	340	P	Pn	03 24 59.8	+2.1	
	baz=159,SNR=6.0							
SMMC	Simmler	4.07	301	P	Pn	03 25 00.4	+0.9	
	baz=118							
PRN	Pahroc Range	4.14	7		Pn	03 25 02.0	+1.4	
GMN	Gold Mountain	4.19	343		Pn	03 25 02.5	+1.0	
WUAZ	Wupatki	4.22	57		Pn	03 25 03.9	+2.1	
WUAZ				IAML		03 26 30.0		
	comp=E,357nm,1.0s							
WUAZ	Wupatki	4.22	57	P	Pn	03 25 03.8	+2.1	
	baz=240,SNR=29							
LCMT	Little Creek M	4.23	28		Pn	03 25 02.8	+1.0	
LCH	Last Change Ra	4.24	339		Pn	03 25 02.4	+0.5	
TUC	Tucson	4.27	102	Pn	Pn	03 25 03.1	+0.8	
TUC				IAML		03 26 35.9		
	comp=E,220nm,2.2s							
TUC	Tucson	4.27	102	P	Pn	03 25 03.6	+1.2	
	baz=285							
S11A	Rachel	4.34	360		Pn	03 25 05.3	+1.9	
KNB	Kanab	4.41	32		Pn	03 25 05.8	+1.5	
DSP	Deep Springs	4.47	336		Pn	03 25 05.6	+0.7	
MZP	Montezuma Peak	4.60	343		Pn	03 25 07.7	+0.6	
CCUT	Cedar City	4.67	24		Pn	03 25 09.8	+1.9	
SZCU	Shurtz Canyon	4.80	26		Pn	03 25 12.1	+2.3	
TPH	Tonopah	4.93	346		Pn	03 25 12.3	+0.8	
X18A	Snowflake	4.96	74	Pn	Pn	03 25 12.8	+1.0	
R11A	Troy Canyon, C	5.05	1	P	Pn	03 25 14.8	+1.6	
	baz=181							
W18A	Petrified Fore	5.28	68	P	Pn	03 25 18.6	+2.2	
	baz=252,SNR=16							
NVAR	Mina Array Bea	5.54	338	Pn	Pn	03 25 20.4	+0.5	
	comp=E,0.3nm,0.3s,baz=164,slow=14,SNR=7.5							
NVAR				Lg	Lg	03 26 48.8		
	baz=120,slow=19							
	comp=E,0.4nm,0.4s							
SPR3	Spring Creek 3	5.81	11		Pn	03 25 24.0	+0.4	
SAO	San Andreas Ge	5.84	308	Pn	Pn	03 25 25.2	+1.4	
WAKR	Walker	6.01	331	Pn	Pn	03 25 27.4	+1.0	
EMB	Emerald Bay	6.69	329	Pn	Pn	03 25 36.7	+1.1	
121A	Cookes Peak, D	6.72	94	Pn	Pn	03 25 37.0	+1.0	
121A	Cookes Peak, D	6.72	94	P	Pn	03 25 37.0	+1.0	
	baz=279,SNR=20							
VCNR	Virginia City	6.78	333	Pn	Pn	03 25 37.8	+0.9	
PAHR	Pah Rah Range	7.05	336	Pn	Pn	03 25 41.5	+0.9	
AFDM	Forest Hills D	7.06	325	Pn	Pn	03 25 41.9	+1.2	
LENM	Lemitar	7.34	81	Pn	Pn	03 25 44.9	+0.3	
PDAR	Pinedale Array	10.63	25	Pn	Pn	03 26 33.7	+4.0	
	comp=E,0.1nm,0.3s,baz=201,slow=9.7,SNR=23							
PDAR				Lg	Lg	03 29 32.6		
	comp=E,0.1nm,0.3s,baz=177,slow=20,SNR=1.4							
	comp=E,5.4nm,0.9s							
TXAR	Lajitas Array	11.04	108	Pn	Pn	03 26 38.7	+3.5	
	comp=E,0.2nm,0.3s,baz=287,slow=13,SNR=7.3							
TXAR				Lg	Lg	03 29 40.9		
	comp=E,0.1nm,0.3s,baz=262,slow=32,SNR=2.5							
	comp=E,0.5nm,0.4s							
NEW	Newport	14.99	356	Pn	P	03 27 34.9	+0.4	
	comp=E,0.1nm,0.3s,baz=194,slow=6.8,SNR=3.1							
KAN12	Harper NE Stat	15.01	70	Pn	Pn	03 27 28.0	-1.4	
KAN12				IAmb	IAmb	03 28 04.1		
	comp=Z,11nm,1.1s							
KAN08	Anthony NE Sta	15.02	70	Pn	P	03 27 32.9	-1.9	
KAN08				IAmb	IAmb	03 28 09.4		
	comp=Z,11nm,1.3s							
LAO	LASA Array	15.21	26	Pn	Pn	03 27 32.4	+0.3	
LAO				IAmb	IAmb	03 27 56.6		
	comp=Z,15nm,1.4s							

PAS ***27*** *03:24:44.7±0.8, 33°.30N±0°.01×115°.70W±0°.04, h2km±9km, ML3.1/9, Error ellipse: s-maj=4.5km s-min=1.6km az=86.0*

NEIC 27 03:24:45.3±1.0, 33°.31N±0°.02×115°.72W±0°.02, h6km±8km, Error ellipse: s-maj=3.0km s-min=2.1km az=121.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	Elmore Ranch	0.21	205		Pg	03 24 49.7	+0.3
SALN	Salton City	0.23	263		Pg	03 24 49.9	+0.2
CTW	Cottonwood Mou	0.39	340		Pg	03 24 52.7	-0.2
HAY	Hayfield	0.40	4		Sg	03 24 58.8	+0.5
BORC	Borrego Spring	0.59	266		Sg	03 25 04.8	+0.5
PMD	Palm Desert	0.65	302		Pg	03 24 57.5	-0.3
PMD					Sg	03 25 07.0	+0.7
YUH	Yuha Desert	0.68	195		Pg	03 24 58.0	-0.4
YUH					Sg	03 25 07.1	-0.2
PFO	Pinyon Flats O	0.69	296		Pg	03 24 58.1	-0.5
PFO					Sg	03 25 07.9	+0.3

PAS ***27*** *03:25:06.2±1.7, 33°.29N±0°.01×115°.71W±0°.01, h5km±4km, ML3.3/61, Error ellipse: s-maj=1.8km s-min=1.6km az=69.0*

NEIC 27 03:25:06.0±1.1, 33°.29N±0°.02×115°.75W±0°.03, h17km±1km, Error ellipse: s-maj=3.4km s-min=2.6km az=55.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	Elmore Ranch	0.18	200		Pb	03 25 10.8	-0.1
ERRC					Sb	03 25 14.7	+0.6
SALN	Salton City	0.20	267		Pb	03 25 11.1	-0.1
SALN					Sb	03 25 14.9	+0.3
SUP	Superstition M	0.34	191		Pb	03 25 14.0	+0.4
SWSC	Sam W. Stewart	0.35	187		Pg	03 25 13.1	-0.1
CTW	Cottonwood Mou	0.40	345		Pg	03 25 14.1	-0.2
CTW					Sg	03 25 20.0	+0.2
CTCC	Cactus City	0.42	331		Pg	03 25 14.7	+0.1
CTCC					Sb	03 25 21.1	+0.2
HAY	Hayfield	0.42	7		Pg	03 25 14.3	-0.3
HAY					Sg	03 25 20.6	+0.1
SLH	Sleepy Hollow	0.43	257		Pb	03 25 15.2	0.0
SLH					Sb	03 25 21.9	+0.5
BC3	Big Chuckawall	0.44	34		Pb	03 25 16.1	+0.8
BC3					Sg	03 25 20.5	-0.6
CRR	Carrizo Plain	0.44	205		Sb	03 25 23.1	+1.5
BORC	Borrego Spring	0.56	268		Sb	03 25 25.6	+0.5
PMD	Palm Desert	0.64	304		Pg	03 25 18.2	-0.4
PMD					Sg	03 25 26.7	-0.3
YUH	Yuha Desert	0.66	193		Pg	03 25 18.7	-0.2
YUH					Sb	03 25 28.1	+0.4
XPFO	Pion Flat	0.67	299		Pg	03 25 19.0	-0.3
XPFO					Sg	03 25 27.8	-0.5
PFO	Pinyon Flats O	0.68	299		Pg	03 25 19.1	-0.2
PFO					Sb	03 25 28.6	+0.1
MONP2	Monument Peak	0.69	235		Pg	03 25 19.6	0.0
MONP2					Sb	03 25 29.3	+0.3
IKP	In-Ko-Pah, Jac	0.71	206		Pb	03 25 19.6	-0.2
IKP					Sb	03 25 29.5	+0.2
RMX	La Rumorosa	0.74	202		Sg	03 25 31.4	+1.1
BELC	Belle Mtn. Jos	0.74	344		Sb	03 25 30.3	0.0
JUEM	Julian Eagle M	0.74	254		Pg	03 25 20.8	+0.2
JUEM					Sg	03 25 31.0	+0.6
FRD	Ford Ranch, An	0.74	286		Pb	03 25 20.5	0.0
FRD					Sg	03 25 31.3	+0.9
MATG	Mataguay Scout	0.76	263		Pg	03 25 21.0	+0.1
MATG					Sg	03 25 31.4	+0.5
SNDA	J Saunders Pla	0.77	290		Pb	03 25 20.9	-0.1
SNDA					Sg	03 25 31.9	+0.6
DNR	Dunn Ranch,Anz	0.79	291		Pg	03 25 21.4	-0.1
DNR					Sg	03 25 32.7	+0.8
BZNA	Buzz No.'s Pla	0.80	285		Pb	03 25 21.3	-0.1
BZNA					Sg	03 25 32.6	+0.5
GLA	Glamis	0.81	107		Sg	03 25 33.0	+0.5
EW2	E Wide Canyon	0.85	320		Pb	03 25 22.3	-0.1
EW2					Sg	03 25 34.4	+0.5
GVDA	Garner Valley	0.86	296		Pb	03 25 22.2	-0.3
GVDA					Sg	03 25 34.1	-0.1
CRY	Cary Ranch	0.87	289		Pb	03 25 22.8	+0.1
PLM	Palomar	0.94	274		Pb	03 25 24.0	+0.2
BLAC	Blackrock camp	0.94	326		Pb	03 25 23.9	0.0
BLAC					Sg	03 25 37.0	+0.2
DEVC	Devers	0.95	313		Sn	03 25 37.2	-0.3
BAR	Barrett	0.99	232		Sg	03 25 37.7	-0.4
TKX	Tecate	1.02	225		Sb	03 25 38.7	+0.4
DPP	Dos Picos Cty	1.04	254		Sg	03 25 39.5	-0.4
POB	Polly Butte	1.06	292		Sg	03 25 40.0	-0.5
BLYC	Blythe	1.12	65		Sn	03 25 42.0	+0.1

IDC ***27*** *03:25:35.6±3.5, 18°.02S×178°.17W, h644km, 23km, mb3.1/5, mbtmp4.1/6, Error ellipse: s-maj=105.9km s-min=24.8km az=142.0*

ISC 27 03:25:35.7±2.3, 17°.9S±0°.6×178°.2W±0°.4, h650km, n9, σ0s36/10, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.62	273	P	P	03 27 02.0	-0.5
	4.6nm,0.5s,baz=81,slow=22,SNR=7.3						
CTA	Charters Tower	33.68	261	P	P	03 31 26.4	+0.4
	2.3nm,0.6s,baz=81,slow=14,SNR=4.8						
	2.3nm,0.6s						
STKA	Stephens Creek	38.82	241	P	P	03 32 07.6	-0.2
	2.3nm,0.8s,baz=68,slow=8.6,SNR=3.9						
	2.3nm,0.8s						
WRA	Warramunga Arr	44.86	260	P	P	03 32 55.0	-0.1
	1.8nm,0.4s,baz=96,slow=6.9,SNR=65						
	1.8nm,0.4s						
ASAR	Alice Springs	45.01	254	P	P	03 32 56.5	+0.2
	5.7nm,0.6s,baz=91,slow=7.7,SNR=60						
ASAR				PcP	PcP	03 34 23.0	+0.3
	0.6nm,0.4s,baz=107,slow=3.8,SNR=6.4						
	5.7nm,0.6s						
ILAR	Eielson Array	85.86	13	P	P	03 37 08.3	+0.2
	0.2nm,0.4s,baz=217,slow=4.5,SNR=2.0						
	0.2nm,0.4s						
ARCES	ARCESS Array B	126.38	350	PKP	PKPdf	03 43 25.9	+0.1
	1.8nm,1.0s,baz=64,slow=2.3,SNR=1.4						
BRTR	Keskin Array B	144.97	315	PKPbc	PKPbc	03 44 02.0	0.0
	0.7nm,0.6s,baz=108,slow=3.7,SNR=4.9						
GERES	GERESS Array B	147.70	345	PKPbc	PKiKP	03 44 10.0	-0.4
	0.8nm,0.2s,baz=8.1,slow=1.9,SNR=4.5						

PAS ***27*** *03:29:32.1±1.5, 33°.292N±0°.010×115°.714W±0°.007, h2km±5km, ML3.0/103, ML2.8/8(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=174.0*

NEIC 27 03:29:32.5±1.2, 33°.297N±0°.009×115°.734W±0°.010, h10km±4km, Error ellipse: s-maj=1.5km s-min=1.0km az=217.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALN	Salton City	0.21	266		Sg	03 29 41.0	+1.1
WEMD	Westmorland, C	0.29	154		Pg	03 29 38.5	+0.3
WEMD					Sg	03 29 43.0	+0.9
SUP	Superstition M	0.35	193		Pg	03 29 39.2	-0.2
SWSC	Sam W. Stewart	0.35	189		Pg	03 29 39.2	-0.3
CTW	Cottonwood Mou	0.40	343		Pg	03 29 40.2	-0.2
CTW					Sg	03 29 46.1	+0.5
HAY	Hayfield	0.41	6		Pg	03 29 40.5	-0.1
HAY					Sg	03 29 46.8	+0.7
CTCC	Cactus City	0.42	329		Pg	03 29 40.8	+0.1
CTCC					Sb	03 29 47.4	-1.1
IMPE	Imperial	0.42	160		Pg	03 29 41.0	+0.2
BC3	Big Chuckawall	0.43	33		Pg	03 29 40.5	-0.4
BC3					Sg	03 29 46.7	+0.1
COK2	Cook Ranch 2	0.45	179		Pg	03 29 41.4	+0.2
COK2					Sb	03 29 48.3	-0.8
SLH	Sleepy Hollow	0.45	257		Pg	03 29 41.3	+0.1
SLH					Sb	03 29 49.7	+0.4
CRR	Carrizo Plain	0.45	206		Pg	03 29 41.1	-0.3
WESC	Westside Schoo	0.54	180		Pg	03 29 42.8	-0.1
DREC	Desert Rsrch C	0.55	154		Pg	03 29 43.2	+0.1
BORC	Borrego Spring	0.57	267		Pg	03 29 43.4	+0.3
BORC					Sb	03 29 52.5	-0.4
PMD	Palm Desert	0.64	303	IAML		03 29 53.2	
	comp=N,299nm,0.3s						
PMD				IAML		03 29 54.8	
	comp=E,300nm,0.2s						
PMD	Palm Desert	0.64	303		Pg	03 29 44.4	-0.5
PMD					Sg	03 29 53.2	-0.2
SGL	Mount Signal	0.65	179		Pg	03 29 44.2	-0.8
SGL					Sg	03 29 53.4	0.0
YUH	Yuha Desert	0.67	194	IAML		03 29 54.7	
	comp=N,396nm,0.6s						
YUH				IAML		03 29 55.0	
	comp=E,484nm,0.3s						
YUH	Yuha Desert	0.67	194		Pg	03 29 44.6	-0.8
YUH					Sg	03 29 53.9	-0.2
COA	Coachella	0.67	130		Pg	03 29 44.8	-0.7
COA					Sb	03 29 56.0	+0.3
XPFO	Pion Flat	0.68	298		Pg	03 29 45.2	-0.4
XPFO					Sb	03 29 55.6	-0.5
PFO	Pinyon Flats O	0.68	298		Pg	03 29 45.1	-0.6
PFO					Sg	03 29 54.8	+0.1
MONP2	Monument Peak	0.70	235		Pg	03 29 45.8	-0.3
MONP2					Sg	03 29 56.0	+0.6
RUN	Ruthven	0.71	117		Pg	03 29 45.5	-0.8
IKP	In-Ko-Pah, Jac	0.72	206		Pg	03 29 45.6	-0.8
BELC	Belle Mtn. Jos	0.74	343		Pg	03 29 46.5	-0.2
FRD	Ford Ranch, An	0.75	285		Pg	03 29 46.2	-0.8
FRD					Sg	03 29 57.0	+0.1
FRD	Ford Ranch, An	0.75	285		Pg	03 29 46.1	-0.9
FRD					Sg	03 29 57.4	+0.5
JUEM	Julian Eagle M	0.76	254		Pg	03 29 46.7	-0.4
JUEM					Sg	03 29 57.4	+0.5
MATG	Mataguay Scout	0.77	263		Pg	03 29 46.9	-0.5
MATG					Sg	03 29 57.6	+0.1
SNDA	J Saunders Pla	0.78	289		Pg	03 29 47.5	-0.1
DNR	Dunn Ranch,Anz	0.80	290		Pg	03 29 48.1	+0.2
DNR					Sg	03 29 58.3	0.0
GLA	Glamis	0.80	108		Pg	03 29 46.9	-1.0
GLA					Sg	03 29 58.7	+0.4
GLA	Glamis	0.80	108	IAML		03 30 05.1	
	comp=N,467nm,0.4s						
BZNA	Buzz No.'s Pla	0.80	284		Pg	03 29 47.2	-0.8
BZNA					Sb	03 29 59.1	-0.6
EMSC	East Mesa	0.84	131		Pg	03 29 47.9	-0.8
EW2	E Wide Canyon	0.85	319		Pg	03 29 48.4	-0.6
EW2					Sb	03 30 00.7	-0.4
CRY	Cary Ranch	0.88	288		Pg	03 29 49.0	-0.4
BLAC	Blackrock camp	0.94	325		Pn	03 29 51.7	-0.3
BLAC					Sg	03 30 03.1	+0.1
PLM	Palomar	0.95	274		Sg	03 30 03.4	+0.3
IRM	Iron Mountain	0.99	30		Pb	03 29 51.9	+0.1
IRM					Sb	03 30 04.7	-0.2
POB	Polly Butte	1.07	292		Sg	03 30 06.8	-0.1
BLYC	Blythe	1.11	66		Pb	03 29 53.5	-0.3
BLYC	Blythe	1.11	66	IAML		03 30 08.7	
	comp=E,304nm,0.6s						
GTM	Goat Mountain	1.12	333		Sb	03 30 09.1	+0.3
HMTC	Hemet	1.14	292		Sg	03 30 08.4	-0.7
MURC	Murrieta	1.26	284		Sn	03 30 13.2	-0.1
BBRC	Big Bear Solar	1.38	315		Sg	03 30 16.8	-0.2
PIX	Pinacate	2.59	131		Pn	03 30 13.7	-0.7
TCRU	Three Creeks R	5.93	26		Sb	03 32 26.8	-0.6

IDC ***27*** *03:30:34.3±2.2, 5°.52N×126°.72E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=162.9km s-min=28.1km az=65.0*

MAN ***27*** *03:30:39.6, 5°.78N×127°.30E, h43km, mb4.6, ML3.5, MS3.4*

ISC 27 03:30:40.2±2.6, 5°.6N±0°.1×127°.1E±0°.1, h42km±31km, n10, σ1s51/16, mb3.7/4, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.50	291	↑eP	Pn	03 31 02.2	-2.4
DDMP				eS	Sn	03 31 22.4	-0.7
MATI	Mati	1.62	328	↓eP	Pn	03 31 05.9	-0.3
MATI				eS	Sn	03 31 28.0	+2.1
KCP	Kidapawan	2.48	305	↑iP	Pn	03 31 17.3	-0.8
KCP				iS	Sn	03 31 47.0	-0.2
BIPH	Bislig	2.71	344	eP	Pn	03 31 19.3	-1.9
BIPH				eS	Sn	03 31 53.5	+0.8
SKMP	Bagumbayan, Su	2.74	290	↓eP	Pn	03 31 23.2	+1.6
SKMP				eS	Sn	03 31 54.0	+0.6
CGP	Cagayan de Oro	3.75	320	↑eP	Pn	03 31 37.0	+1.5
CGP				eS	Sn	03 32 19.3	+0.9
WRA	Warramunga Arr	26.33	165	P	P	03 36 12.4	+0.1
	1.0nm,0.5s,baz=343,slow=10,SNR=22						
	1.0nm,0.5s						
ASAR	Alice Springs	29.80	167	P	P	03 36 45.3	+1.9
	0.2nm,0.3s,baz=343,slow=7.5,SNR=2.1						
	0.2nm,0.3s						
STKA	Stephens Creek	39.71	161	P	P	03 38 08.2	-0.5
	2.6nm,0.8s,baz=324,slow=14,SNR=3.5						
	2.6nm,0.8s						
MKAR	Makanchi Array	56.29	324	P	P	03 40 15.4	-1.2
	0.4nm,0.5s,baz=117,slow=8.1,SNR=2.8						
	0.4nm,0.5s						

ANF ***27*** *03:36:14.8±0.2, 33°.30N×115°.72W, h13km±2km, ML4.5/40, ML4.5/40, Error ellipse: s-maj=2.0km s-min=1.8km az=132.0*

IDC ***27*** *03:36:15.0±1.1, 33°.36N×115°.71W, h0km, mbtmp3.5/6, ML3.6/6, Error ellipse: s-maj=14.7km s-min=7.6km az=14.0.*

NEIC ***27*** *03:36:15.3±1.7, 33°.30N±0°.02×115°.71W±0°.02, h18km±1km, Error ellipse: s-maj=2.5km s-min=2.0km az=49.0*

PAS ***27*** *03:36:15.2±1.7, 33°.306N±0°.009×115°.70W±0°.01, h3km±6km, Mwr4.1/6, mb4.1/3(NEIC), ML4.2/48(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=67.0*

NEIC ***27*** *03:36:15.2, 33°.31N×115°.70W, h5km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.52; Mθθ-1.66; Mϕϕ2.18; Mrθ0.05; Mϕϕ0.28; Mϕr0.02; Fault plane solution: M₀1.94000×10¹⁵ NP1:φs319.00000°, δ88.00000°,λ-179.00000°. NP2:φs229.00000°, δ89.00000°,λ-2.00000°. Principal axes: T 2.2003, Plg0.0000°, Azm274.0000°; N -0.5218, Plg88.0000°, Azm17.0000°; P -1.6785, Plg2.0000°, Azm184.0000°;*

ISC 27 03:36:15.4±0.8, 33°.31N±0°.01×115°.72W±0°.01, h17km±6km, n189, σ0s81/233, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	Elmore Ranch	0.21	205		Pg	03 36 20.3	-0.1
ERRC					Sb	03 36 24.5	+0.2
SALN	Salton City	0.23	264		Pg	03 36 20.5	-0.1
SALN					Sb	03 36 24.6	-0.3
WEMD	Westmorland, C	0.29	157		Pg	03 36 21.8	+0.1
SUP	Superstition M	0.36	194		Pg	03 36 22.5	-0.4
SWSC	Sam W. Stewart	0.37	191		Pg	03 36 22.6	-0.3
SWSC	Sam W. Stewart	0.37	191	P	Pg	03 36 22.5	-0.5
	baz=13,SNR=554						
SWSC				S	Sg	03 36 26.8	-1.3
	baz=13						
CTW	Cottonwood Mou	0.39	341		Pg	03 36 23.1	-0.4
CTW					Sg	03 36 29.2	+0.1
HAY	Hayfield	0.40	4		Pg	03 36 23.2	-0.4
HAY					Sb	03 36 29.6	-0.3
BC3

PFO IAML 03 36 39.7
comp=E,13µm,0.7s
PFO Pinyon Flats O 0.69 296 P **Pg** **03 36 28.5 -0.6**
baz=116,SNR=483
PFO S **Sg** **03 36 38.2 -0.1**
baz=116
RUN Ruthven 0.70 118 **Pg** **03 36 28.5 -0.7**
RUN **Sg** **03 36 37.5 -1.0**
UABX UABC, Campus M 0.71 161 Pg **Pg** **03 36 28.9 -0.4**
UABX IAML 03 36 48.9
comp=N,10µm,0.9s
UABX IAML 03 36 51.4
comp=E,16µm,0.9s
MONP2 Monument Peak 0.72 235 **Pg** **03 36 29.2 -0.3**
MONP2 **Sb** **03 36 39.6 +0.2**
MONP2 Monument Peak 0.72 235 P **Pg** **03 36 29.3 -0.3**
baz=55,SNR=432
MONP2 S **Sb** **03 36 39.4 +0.1**
baz=55
BELC Belle Mtn. Jos 0.73 341 **Pg** **03 36 29.3 -0.5**
BELC Belle Mtn. Jos 0.73 341 P **Pg** **03 36 29.5 -0.3**
baz=160,SNR=574
BELC S **Sg** **03 36 39.5 0.0**
baz=160
IKP In-Ko-Pah, Jac 0.73 207 **Pg** **03 36 29.0 -0.7**
IKP **Sg** **03 36 38.9 -0.6**
IKP In-Ko-Pah, Jac 0.73 207 P **Pg** **03 36 29.2 -0.5**
baz=28,SNR=521
IKP S **Sg** **03 36 39.4 -0.1**
baz=28
FRD Ford Ranch, An 0.76 285 **Pg** **03 36 29.9 -0.5**
FRD Ford Ranch, An 0.76 285 **Pg** **03 36 29.9 -0.5**
FRD **Sb** **03 36 41.0 +0.6**
RMX La Rumorosa 0.76 204 **Pg** **03 36 30.2 -0.2**
RMX IAML 03 36 48.4
comp=E,4µm,0.8s
RMX La Rumorosa 0.76 204 **Sg** **03 36 41.1 +0.6**
JUEM Julian Eagle M 0.77 253 **Pg** **03 36 30.4 -0.1**
JUEM **Sb** **03 36 41.5 +0.8**
MATG Mataguay Scout 0.79 263 **Pg** **03 36 30.3 -0.5**
MATG **Sg** **03 36 41.1 -0.1**
GLA Glamis 0.79 108 **Pb** **03 36 29.8 -0.9**
GLA **Sg** **03 36 40.2 -1.0**
GLA Glamis 0.79 108 IAML 03 36 43.7
comp=N,12µm,0.8s
GLA Glamis 0.79 108 P **Pb** **03 36 29.8 -0.9**
baz=289,SNR=862
GLA S **Sg** **03 36 41.2 0.0**
baz=289
SNDA J Saunders Pla 0.79 288 **Pg** **03 36 30.3 -0.5**
SNDA **Sb** **03 36 41.7 +0.5**
DNR Dunn Ranch,Anz 0.81 289 **Pb** **03 36 30.8 -0.3**
DNR **Sg** **03 36 42.5 +0.7**
BZNA Buzz No.'s Pla 0.82 283 **Pb** **03 36 30.9 -0.3**
BZNA **Sb** **03 36 42.3 +0.3**
EMSC East Mesa 0.83 132 **Pb** **03 36 30.6 -0.8**
EW2 E Wide Canyon 0.86 318 **Pb** **03 36 31.2 -0.7**
EW2 **Sg** **03 36 43.7 +0.2**
GVDA Garner Valley 0.88 295 **Pb** **03 36 31.7 -0.6**
GVDA **Sb** **03 36 43.5 -0.2**
CRY Cary Ranch 0.89 287 **Pb** **03 36 32.2 -0.3**
CRY **Sg** **03 36 44.6 0.0**
BLAC Blackrock camp 0.95 324 **Pb** **03 36 32.7 -0.8**
BLAC **Sg** **03 36 46.4 +0.1**
CPBX Cerro Prieto 0.95 158 **Pb** **03 36 33.4 0.0**
CPBX Cerro Prieto 0.95 158 IAML 03 37 03.0
comp=E,6µm,0.5s
CPBX IAML 03 37 05.1
comp=N,8µm,0.5s
DEVC Devers 0.95 311 **Pb** **03 36 33.2 -0.3**
DEVC **Sg** **03 36 46.6 0.0**
PLM Palomar 0.96 273 **Pb** **03 36 33.2 -0.5**
PLM **Sg** **03 36 47.0 +0.2**
IRM Iron Mountain 0.97 29 **Pb** **03 36 33.4 -0.5**
IRM Iron Mountain 0.97 29 P **Pb** **03 36 33.4 -0.5**
baz=209,SNR=622
IRM S **Sg** **03 36 47.4 +0.2**
baz=209
BAR Barrett 1.02 232 **Pb** **03 36 33.6 -1.0**
TKX Tecate 1.05 226 **Pb** **03 36 34.4 -0.8**
TKX **Sb** **03 36 48.3 -0.3**
DPP Dos Picos Cty 1.07 254 **Pb** **03 36 34.4 -1.1**
DPP **Sb** **03 36 49.4 +0.2**
POB Polly Butte 1.08 291 **Pb** **03 36 34.8 -0.8**
POB **Sg** **03 36 50.1 -0.4**
BLYC Blythe 1.09 66 **Pb** **03 36 34.9 -0.9**
BLYC **Sb** **03 36 49.6 -0.2**
BLYC Blythe 1.09 66 IAML 03 36 55.2
comp=E,8µm,0.6s
BLYC IAML 03 36 56.7
comp=N,7µm,0.8s
GTM Goat Mountain 1.12 332 **Pb** **03 36 35.5 -0.8**
DUZA Dulzura 1.13 232 **Pb** **03 36 35.5 -1.0**
DUZA **Sn** **03 36 51.8 +0.2**
DGR Domenigoni Val 1.13 288 **Pb** **03 36 35.5 -1.1**
BACC Bachelor Mtn. 1.15 286 **Pn** **03 36 36.1 -0.6**
HMTC Hemet 1.15 291 **Pn** **03 36 35.7 -1.1**
HMTC **Sg** **03 36 52.5 -0.2**
SDRC San Diego Road 1.18 241 **Sb** **03 36 52.6 +0.4**
109C Camp Elliot, M 1.24 251 P **Pn** **03 36 37.0 -0.9**
baz=70,SNR=550
MURC Murrieta 1.27 284 P **Pn** **03 36 37.7 -0.7**
baz=103,SNR=403
MURC S **Sg** **03 36 56.1 -0.4**
baz=103
ESJX Sierra Juarez 1.31 189 **Pn** **03 36 38.3 -0.8**
DANC Danby, Needles 1.36 12 **Pb** **03 36 40.5 +0.1**
TJX Tijuana 1.38 235 Pn **Pn** **03 36 39.9 +0.1**
BBRC Big Bear Solar 1.38 314 **Pn** **03 36 39.5 -0.6**
BBRC Big Bear Solar 1.38 314 P **Pn** **03 36 39.4 -0.7**
baz=133,SNR=89
BBRC S **Sg** **03 36 59.8 -0.4**
baz=133
SME Santa Rosa Min 1.46 291 **Pn** **03 36 40.5 -0.5**
GMRC Granite Mounta 1.48 2 **Pn** **03 36 40.4 -0.9**
GMRC Granite Mounta 1.48 2 P **Pn** **03 36 40.5 -0.9**
baz=181,SNR=963
HEC Hector,Ludlow 1.60 342 **Pb** **03 36 45.2 +0.6**
HEC Hector,Ludlow 1.60 342 P **Pn** **03 36 42.0 -1.1**
baz=161,SNR=680
HEC S **Sg** **03 37 06.9 -0.3**
baz=161
CCX Cicese 1.64 209 **Pn** **03 36 44.2 +0.7**
CCX IAML 03 37 14.3
comp=E,2µm,0.9s
PDMCI Parker Dam,Lak 1.65 52 P **Pn** **03 36 43.2 -0.3**
baz=233,SNR=81
CSP Cedar Springs 1.69 306 **Pn** **03 36 44.3 +0.1**
NEE2 Needles Airpor 1.72 32 **Pn** **03 36 44.9 +0.4**
NEE2 Needles Airpor 1.72 32 P **Pn** **03 36 44.1 -0.5**
baz=212,SNR=123
113A Mohawk Valley, 1.72 108 **Pn** **03 36 44.9 +0.3**
SS2 San Sevaine 1.74 302 **Pn** **03 36 44.9 +0.2**
BFSC Mount Baldy Ra 1.87 300 P **Pn** **03 36 46.2 -0.5**
baz=119,SNR=71
SSK Sunset Peak 1.88 299 **Pn** **03 36 46.7 -0.2**
RRX Edison Barstow 1.89 326 Pg **Pg** **03 36 51.4 -0.3**
baz=145
RRX Sb **Sg** **03 37 16.4 +0.1**
baz=145
PSRC Puddingstone R 1.91 295 **Pn** **03 36 47.8 +0.6**
TUQ Turquoise Moun 2.13 355 P **Pn** **03 36 49.9 -0.4**
baz=175
CHFC Chilao Flat St 2.18 299 **Pn** **03 36 51.4 +0.4**
JNH Juniper Hills 2.18 302 **Pn** **03 36 51.2 +0.2**
GSC Goldstone, Bar 2.19 336 **Pn** **03 36 50.3 -0.8**
GSC IAML 03 37 33.7
comp=N,2µm,0.9s
GSC Goldstone, Bar 2.19 336 P **Pn** **03 36 50.4 -0.6**
baz=155
FMP Fort Macarthur 2.19 281 Pg **Pg** **03 36 56.3 -1.1**
baz=100
PASC Pasadena Art C 2.23 293 **Pn** **03 36 52.5 +0.9**
PASC IAML 03 37 30.2
comp=N,1µm,0.7s
PASC IAML 03 37 33.5
comp=E,754nm,1.2s
CIS Catalina Islan 2.26 273 Pb **Pb** **03 36 55.5 -0.3**
baz=92
W13A Hualapai Mount 2.35 40 **Pn** **03 36 53.6 +0.2**
DECC Green Verdugo 2.38 294 Pb **Pb** **03 36 57.6 -0.2**
baz=113
SFX San Felipe 2.38 162 Pn **Pn** **03 36 54.9 +1.3**
SCI2 San Clemente I 2.40 263 Pb **Pb** **03 36 57.9 -0.2**
baz=81
EDW2 Edwards Air Fo 2.46 310 P **Pn** **03 36 54.1 -0.7**
baz=129
V12A Nelson 2.52 16 Pn **Pn** **03 36 56.9 +1.3**
PIX Pinacate 2.58 132 Pn **Pn** **03 36 54.6 -1.8**
SHOC Shoshone, Teco 2.63 350 P **Pn** **03 36 56.1 -1.0**
baz=170
CCAC Calif City Air 2.65 315 **Pn** **03 36 56.9 -0.5**
CCAC IAML 03 38 08.8
comp=E,2µm,1.6s
LRMC Laurel Mtn Rad 2.71 324 P **Pn** **03 36 57.4 -0.9**
baz=142
214A Organ Pipe Nat 2.80 118 P **Pn** **03 36 58.2 -1.1**
baz=300,SNR=12
OSI Osito Audit: C 2.82 298 Pg **Pg** **03 37 08.7 -0.8**
baz=117
WTNK Soaring Height 2.94 11 **Pn** **03 37 02.4 +1.0**
MPMC Manual Prospec 3.11 332 P **Pn** **03 37 03.0 -0.9**
baz=151,SNR=13
ARVC Arvin 3.15 306 P **Pn** **03 37 03.7 -0.6**
baz=124
ISA Isabella, Lake 3.27 317 **Pn** **03 37 05.1 -0.9**
ISA IAML 03 38 20.1
comp=E,426nm,1.6s
ISA Isabella, Lake 3.27 317 P **Pn** **03 37 05.4 -0.6**
baz=135
FURC Furnace Creek, 3.29 344 Pg **Pg** **03 37 17.8 -0.6**
baz=163
BCW Bitter Crk WRg 3.47 299 **Pn** **03 37 09.9 +1.1**
SBC Santa Barbara 3.51 290 Pg **Pg** **03 37 21.5 -1.2**
baz=108
WCT Wildcat Mounta 3.56 348 **Pn** **03 37 11.1 +1.2**
TPNV Topopah Spring 3.66 353 **Pn** **03 37 11.7 +0.2**
TPNV IAML 03 38 29.7
comp=E,484nm,0.7s
TPNV IAML 03 38 37.5
comp=E,479nm,1.2s
TPNV Topopah Spring 3.66 353 P **Pn** **03 37 11.6 +0.2**
baz=173,SNR=7.6
PKM Mcpherson Peak 3.75 296 P **Pn** **03 37 13.1 +0.5**
baz=114,SNR=11
GRAC Grapevine Rang 3.92 340 **Pn** **03 37 15.1 +0.2**
GRAC IAML 03 38 48.4
comp=E,495nm,1.5s
SMMC Simmler 4.07 301 P **Pn** **03 37 17.0 +0.1**
baz=118
PRN Pahroc Range 4.13 7 Pn **Pn** **03 37 18.9 +1.1**
GMN Gold Mountain 4.18 343 **Pn** **03 37 18.7 +0.1**
U15A North Rim 4.20 41 **Pn** **03 37 19.7 +0.7**
WUAZ Wupatki 4.21 57 **Pn** **03 37 20.1 +1.0**
WUAZ Wupatki 4.21 57 P **Pn** **03 37 20.6 +1.6**
baz=240,SNR=34
LCMT Little Creek M 4.22 28 **Pn** **03 37 19.5 +0.5**
LCH Last Change Ra 4.22 339 **Pn** **03 37 19.2 0.0**
TUC Tucson 4.27 102 Pn **Pn** **03 37 18.9 -0.8**
TUC IAML 03 38 38.8
comp=E,205nm,1.4s
TUC IAML 03 38 41.6
comp=E,143nm,0.7s
TUC Tucson 4.27 102 P **Pn** **03 37 20.2 +0.5**
baz=285
KNB Kanab 4.40 32 **Pn** **03 37 22.7 +1.1**
DSP Deep Springs 4.45 336 Pn **Pn** **03 37 22.4 +0.3**
MZP Montezuma Peak 4.59 343 **Pn** **03 37 24.6 +0.3**
CCUT Cedar City 4.65 24 **Pn** **03 37 26.3 +1.2**
SZCU Shurtz Canyon 4.79 26 **Pn** **03 37 28.0 +1.1**
TPH Tonopah 4.92 346 **Pn** **03 37 29.4 +0.8**
X18A Snowflake 4.95 74 Pn **Pn** **03 37 30.0 +0.9**
PKCU Pink Cliffs 4.98 33 Pn **Pn** **03 37 30.6 +0.9**
R11A Troy Canyon, C 5.03 1 **Pn** **03 37 31.2 +0.9**
R11A Troy Canyon, C 5.03 1 P **Pn** **03 37 32.0 +1.7**
baz=181
OMMB Old Mammoth Mi 5.07 329 **Pn** **03 37 31.9 +1.1**
PMPB Monarch Peak 5.09 306 **Pn** **03 37 32.5 +1.5**
W18A Petrified Fore 5.28 68 **Pn** **03 37 34.5 +0.9**
W18A Petrified Fore 5.28 68 P **Pn** **03 37 35.0 +1.4**
baz=252,SNR=27
LHV Little Huntoon 5.43 336 **Pn** **03 37 36.6 +1.1**
PSUT Pine Spring 5.43 16 **Pn** **03 37 37.0 +1.2**
NVAR Mina Array Bea 5.53 338 Pn **Pn** **03 37 37.8 +0.7**
comp=E,0.5nm,0.3s,baz=166,slow=16,SNR=8.1
NVAR Lg Lg 03 39 08.5
baz=157,slow=31
comp=E,0.9nm,0.4s
MTPU Mount Pierson 5.53 30 Pn **Pn** **03 37 38.2 +0.9**
Q09A Carvers 5.64 348 Pn **Pn** **03 37 40.3 +1.6**
319A Douglas 5.78 108 Pn **Pn** **03 37 41.6 +1.2**
SPR3 Spring Creek 3 5.79 11 Pn **Pn** **03 37 40.5 -0.3**
SAO San Andreas Ge 5.83 308 Pn **Pn** **03 37 42.4 +1.3**
KVN Kaiserville 6.05 342 **Pn** **03 37 45.0 +0.8**
CMB Columbia Colle 6.06 322 **Pn** **03 37 45.0 +0.8**
EMB Emerald Bay 6.68 329 Pn **Pn** **03 37 53.3 +0.4**
121A Cookes Peak, D 6.71 94 Pn **Pn** **03 37 53.4 0.0**
121A Cookes Peak, D 6.71 94 P **Pn** **03 37 53.8 +0.4**
baz=279,SNR=26
VCNR Virginia City 6.77 333 Pn **Pn** **03 37 54.9 +0.8**
MPK Martis Peak 6.92 331 Pn **Pn** **03 37 57.0 +0.7**
AFDM Forest Hills D 7.05 324 Pn **Pn** **03 37 58.4 +0.5**
SBM South Baldy 7.15 82 **Pn** **03 37 58.4 -1.1**
BMN Battle Mountai 7.21 351 Pn **Pn** **03 38 01.1 +0.9**
ELK Elko 7.44 3 Pn **Pn** **03 38 04.7 +1.4**
comp=E,0.2nm,0.3s,baz=144,slow=8.8,SNR=6.1
ELK Lg Lg 03 40 10.7
comp=E,1.1nm,0.3s,baz=111,slow=1.5,SNR=5.2
comp=E,0.8nm,0.5s
PV23 Carpenter Ridg 7.48 45 **Pn** **03 38 04.0 0.0**
CRNM Carthage 7.52 83 **Pn** **03 38 05.1 +0.6**
BEKR Beckworth 7.54 332 Pn **Pn** **03 38 05.4 +0.7**
BNM Barren Site 7.62 81 Pn **Pn** **03 38 06.5 +0.6**
ORV Oroville 7.78 325 Pn **Pn** **03 38 08.5 +0.6**
ANMO Albuquerque 7.85 75 Pn **Pn** **03 38 11.8 +2.8**
comp=E,0.4nm,0.3s,baz=272,slow=12,SNR=5.2
ANMO Lg Lg 03 40 18.8
comp=E,0.5nm,0.3s,baz=9.0,slow=19,SNR=2.3
comp=E,1.1nm,0.4s
CTU Camp Tracy 8.03 22 Pn **Pn** **03 38 11.6 +0.2**
PDAR Pinedale Array 10.62 25 Pn **Pn** **03 38 51.2 +4.3**
comp=E,0.1nm,0.3s,baz=216,slow=15,SNR=15
comp=E,4.6nm,1.0s
TX31 Lajitas Ar. Si 11.04 108 **Pn** **03 38 53.1 +0.5**
TX32 Lajitas Array 11.04 108 **Pn** **03 38 53.1 +0.5**
TXAR Lajitas Array 11.04 108 Pn **Pn** **03 38 55.6 +3.0**
comp=E,0.3nm,0.3s,baz=289,slow=12,SNR=10
TXAR Lg Lg 03 42 05.5
comp=E,0.2nm,0.3s,baz=295,slow=26,SNR=2.6
comp=E,0.7nm,0.4s
JTMT Jette 14.47 4 Pn **Pn** **03 39 41.3 +1.8**
NEW Newport 14.98 356 Pn **P** **03 39 50.8 -0.9**
comp=E,0.1nm,0.3s,baz=173,slow=8.1,SNR=4.8
comp=E,1.8nm,0.7s
NEW Newport 14.98 356 Pn **Pn** **03 39 46.7 +0.4**
KAN08 Anthony NE Sta 15.01 70 Pn **Pn** **03 39 47.5 +0.8**
KAN08 IAmb IAmb 03 40 10.0
comp=Z,11nm,1.3s
LCAR Lake Charles 20.37 75 P **P** **03 40 50.2 -0.9**
LCAR IAmb IAmb 03 41 05.8
comp=Z,3.7nm,1.1s
WAPA Wapiti River 22.01 355 P **P** **03 41 07.2 -1.6**
WAPA IAmb IAmb 03 41 29.6
comp=Z,12nm,0.9s

*ANF **27** 03:39:39.9±0.2, 33°.31N×115°.71W, h14km±1km, ML3.3/14, Error ellipse: s-maj=1.6km s-min=1.1km az=125.0*
*PAS **27** 03:39:40.6±1.6, 33°.309N±0°.008×115°.693W±0°.009, h3km±5km, ML3.4/140, ML3.1/28(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=217.0*
*NEIC **27** 03:39:40.6±1.6, 33°.29N±0°.02×115°.71W±0°.02, h20km, Error ellipse: s-maj=2.5km s-min=2.2km az=74.0*
ISC 27 03:39:40.4±0.8, 33°.30N±0°.01×115°.70W±0°.02, h17km±7km, n92, σ0.53/133, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.21**	**209**		**Pb**	**03 39 45.9**	**+0.1**
ERRC					**Sb**	**03 39 50.3**	**+0.8**
SALN	**Salton City**	**0.24**	**265**		**Sg**	**03 39 50.3**	**+0.7**
WEMD	**Westmorland, C**	**0.28**	**160**		**Pb**	**03 39 47.2**	**+0.2**
SWSC	**Sam W. Stewart**	**0.37**	**193**		**Pg**	**03 39 48.1**	**+0.1**
SWSC	**Sam W. Stewart**	**0.37**	**193**	P	**Pg**	**03 39 48.2**	**+0.1**
	baz=14,SNR=17						
SWSC				S	**Sg**	**03 39 52.4**	**-0.8**
	baz=14						
CTW	**Cottonwood Mou**	**0.40**	**339**		**Pg**	**03 39 48.5**	**-0.2**
CTW					**Sg**	**03 39 54.4**	**+0.1**
HAY	**Hayfield**	**0.40**	**2**		**Pg**	**03 39 48.6**	**-0.2**
HAY					**Sg**	**03 39 54.6**	**+0.3**
BC3	**Big Chuckawall**	**0.41**	**30**		**Pg**	**03 39 48.5**	**-0.3**
BC3					**Sg**	**03 39 54.5**	**0.0**
BC3	**Big Chuckawall**	**0.41**	**30**	P	**Pg**	**03 39 48.4**	**-0.3**
	baz=210,SNR=10						
BC3				S	**Sg**	**03 39 54.2**	**-0.3**
	baz=210						
IMPE	**Imperial**	**0.42**	**164**		**Pb**	**03 39 49.6**	**+0.3**
CTCC	**Cactus City**	**0.43**	**325**		**Pg**	**03 39 49.2**	**0.0**
CTCC					**Sb**	**03 39 55.6**	**-0.2**
COK2	**Cook Ranch 2**	**0.45**	**183**		**Pb**	**03 39 50.2**	**+0.3**
COK2					**Sb**	**03 39 58.2**	**+1.8**
CRR	**Carrizo Plain**	**0.47**	**209**		**Pg**	**03 39 50.0**	**+0.1**
CRR					**Sb**	**03 39 58.1**	**+1.1**
SLH	**Sleepy Hollow**	**0.48**	**257**		**Pg**	**03 39 50.2**	**+0.2**
SLH					**Sb**	**03 39 58.9**	**+1.7**
SNR	**Schaffner Ranc**	**0.49**	**153**		**Pb**	**03 39 51.3**	**+0.6**
SNR					**Sn**	**03 40 00.8**	**-0.1**
WESC	**Westside Schoo**	**0.54**	**183**		**Pb**	**03 39 51.6**	**+0.1**
WESC					**Sn**	**03 40 01.0**	**-1.1**
BORC	**Borrego Spring**	**0.60**	**267**		**Pg**	**03 39 52.2**	**-0.2**
BORC					**Sb**	**03 40 01.2**	**+0.4**
COA	**Coachella**	**0.65**	**132**		**Pb**	**03 39 53.5**	**+0.2**
SGL	**Mount Signal**	**0.65**	**182**		**Pg**	**03 39 52.9**	**-0.4**
PMD	**Palm Desert**	**0.66**	**301**		**Pg**	**03 39 52.8**	**-0.7**
PMD					**Sg**	**03 40 01.7**	**-0.7**
PMD	**Palm Desert**	**0.66**	**301**	IAML		03 40 03.4	
	comp=N,1µm,0.4s						
PMD				IAML		03 40 03.8	
	comp=E,1µm,0.1s						
YUH	**Yuha Desert**	**0.68**	**196**		**Pg**	**03 39 53.4**	**-0.4**
YUH					**Sb**	**03 40 03.1**	**+0.1**
RUN	**Ruthven**	**0.69**	**118**		**Pg**	**03 39 53.8**	**-0.2**
RUN					**Sb**	**03 40 03.4**	**+0.2**
XPFO	**Pion Flat**	**0.70**	**296**		**Pg**	**03 39 53.8**	**-0.5**
XPFO					**Sg**	**03 40 03.5**	**-0.2**
PFO	**Pinyon Flats O**	**0.71**	**296**		**Pg**	**03 39 53.8**	**-0.5**
PFO					**Sb**	**03 40 04.0**	**0.0**
PFO	**Pinyon Flats O**	**0.71**	**296**	P	**Pg**	**03 39 53.8**	**-0.5**
	baz=115,SNR=13						
PFO				S	**Sg**	**03 40 03.6**	**-0.2**
	baz=115						
MONP2	**Monument Peak**	**0.73**	**236**		**Sg**	**03 39 54.6**	**-0.3**
MONP2					**Sg**	**03 40 04.5**	**-0.1**
MONP2	**Monument Peak**	**0.73**	**236**	P	**Pg**	**03 39 54.6**	**-0.3**
	baz=56,SNR=8.1						
MONP2				S	**Sg**	**03 40 04.5**	**-0.1**
	baz=56						
IKP	**In-Ko-Pah, Jac**	**0.74**	**208**		**Pg**	**03 39 54.5**	**-0.4**
IKP					**Sb**	**03 40 04.8**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.74**	**208**	P	**Pg**	**03 39 54.5**	**-0.4**
	baz=28,SNR=5.5						
IKP				S	**Sb**	**03 40 04.9**	**+0.1**
	baz=28						
BELC	**Belle Mtn. Jos**	**0.74**	**340**		**Pg**	**03 39 54.7**	**-0.3**
BELC					**Sb**	**03 40 05.0**	**+0.1**
BELC	**Belle Mtn. Jos**	**0.74**	**340**	P	**Pg**	**03 39 54.7**	**-0.3**
	baz=160,SNR=8.2						
BELC				S	**Sg**	**03 40 04.7**	**-0.1**
	baz=160						
RMX	**La Rumorosa**	**0.77**	**205**		**Pg**	**03 39 55.5**	**0.0**
RMX					**Sb**	**03 40 06.4**	**+0.7**
RMX	**La Rumorosa**	**0.77**	**205**	IAML		03 40 13.9	
	comp=E,554nm,0.5s						
GLA	**Glamis**	**0.77**	**109**		**Pg**	**03 39 55.2**	**-0.3**
GLA					**Sg**	**03 40 05.2**	**-0.6**
GLA	**Glamis**	**0.77**	**109**	P	**Pg**	**03 39 55.0**	**-0.5**
	baz=290,SNR=9.8						
GLA				S	**Sb**	**03 40 06.2**	**+0.5**
	baz=290						
FRD	**Ford Ranch, An**	**0.78**	**284**		**Pg**	**03 39 55.4**	**-0.3**
FRD	**Ford Ranch, An**	**0.78**	**284**		**Pg**	**03 39 55.4**	**-0.3**
JUEM	**Julian Eagle M**	**0.79**	**254**		**Pg**	**03 39 55.5**	**-0.3**
JUEM					**Sg**	**03 40 06.4**	**+0.1**
MATG	**Mataguay Scout**	**0.80**	**263**		**Pg**	**03 39 55.6**	**-0.5**
MATG					**Sg**	**03 40 06.8**	**+0.1**
SNDA	**J Saunders Pla**	**0.80**	**288**		**Pg**	**03 39 55.8**	**-0.4**
EMSC	**East Mesa**	**0.82**	**133**		**Pb**	**03 39 56.0**	**-0.2**
DNR	**Dunn Ranch,Anz**	**0.82**	**289**		**Pg**	**03 39 56.1**	**-0.4**
DNR					**Sb**	**03 40 07.9**	**+0.6**
BZNA	**Buzz No.'s Pla**	**0.83**	**283**		**Pg**	**03 39 56.4**	**-0.3**
EW2	**E Wide Canyon**	**0.87**	**317**		**Pb**	**03 39 56.9**	**-0.3**
EW2					**Sg**	**03 40 08.8**	**-0.1**
GVDA	**Garner Valley**	**0.89**	**294**		**Pb**	**03 39 57.3**	**-0.3**
GVDA					**Sb**	**03 40 09.1**	**-0.2**
CRY	**Cary Ranch**	**0.91**	**287**		**Pb**	**03 39 57.4**	**-0.5**
BLAC	**Blackrock camp**	**0.96**	**323**		**Pb**	**03 39 58.4**	**-0.3**
DEVC	**Devers**	**0.97**	**311**		**Sn**	**03 40 12.4**	**-0.3**
IRM	**Iron Mountain**	**0.97**	**28**		**Pb**	**03 39 58.5**	**-0.3**
IRM	**Iron Mountain**	**0.97**	**28**	P	**Pb**	**03 39 58.4**	**-0.4**
	baz=208						
IRM				S	**Sg**	**03 40 11.7**	**-0.3**
	baz=208						
PLM	**Palomar**	**0.98**	**273**		**Pb**	**03 39 59.1**	**+0.1**
BAR	**Barrett**	**1.03**	**233**		**Pb**	**03 39 59.7**	**-0.1**
BAR				IAML		03 40 14.4	
	comp=N,494nm,0.2s						
BAR	**Barrett**	**1.03**	**233**		**Sg**	**03 40 13.6**	**-0.2**
TKX	**Tecate**	**1.06**	**227**		**Pb**	**03 39 59.5**	**-0.8**
TKX				IAML		03 40 14.7	
	comp=N,647nm,0.4s						
TKX				IAML		03 40 14.7	
	comp=E,637nm,0.4s						
BLYC	**Blythe**	**1.08**	**65**		**Pg**	**03 40 01.4**	**0.0**
BLYC					**Sn**	**03 40 15.6**	**+0.2**
DPP	**Dos Picos Cty**	**1.09**	**254**		**Pb**	**03 39 59.9**	**-1.0**
DPP					**Sg**	**03 40 15.6**	**-0.1**
POB	**Polly Butte**	**1.09**	**291**		**Pb**	**03 40 00.8**	**-0.2**
POB					**Sb**	**03 40 15.3**	**+0.3**
GTM	**Goat Mountain**	**1.13**	**331**		**Sg**	**03 40 17.5**	**+0.3**
DUZA	**Dulzura**	**1.14**	**233**		**Pb**	**03 40 00.9**	**-0.8**
DGR	**Domenigoni Val**	**1.15**	**288**		**Pn**	**03 40 01.6**	**-0.2**
DGR					**Sn**	**03 40 17.4**	**+0.2**
BACC	**Bachelor Mtn.**	**1.16**	**286**		**Pn**	**03 40 02.1**	**+0.1**
HMTC	**Hemet**	**1.16**	**291**		**Pn**	**03 40 01.9**	**-0.1**
HMTC					**Sb**	**03 40 16.9**	**-0.1**
SDRC	**San Diego Road**	**1.19**	**242**		**Pn**	**03 40 02.5**	**+0.2**
BBSC	**Beaumont Base**	**1.23**	**300**		**Sg**	**03 40 20.4**	**-0.1**
OLP	**Otay Lakes Par**	**1.25**	**237**		**Sb**	**03 40 19.5**	**+0.2**
109C	**Camp Elliot, M**	**1.25**	**251**		**Pn**	**03 40 02.3**	**-0.9**
109C				IAML		03 40 20.5	
	comp=E,398nm,0.4s						
109C	**Camp Elliot, M**	**1.25**	**251**	P	**Pn**	**03 40 02.3**	**-0.9**
	baz=70,SNR=18						
109C				S	**Sb**	**03 40 19.8**	**+0.3**
	baz=70						
CPE	**Camp Elliot**	**1.25**	**251**		**Pb**	**03 40 03.6**	**0.0**
CBX	**Cerro Bola**	**1.28**	**220**		**Pn**	**03 40 03.5**	**-0.1**
CBX				IAML		03 40 21.6	
	comp=E,329nm,0.5s						
CBX				IAML		03 40 26.2	
	comp=N,278nm,0.4s						
CBX	**Cerro Bola**	**1.28**	**220**		**Sb**	**03 40 20.1**	**-0.3**
MURC	**Murrieta**	**1.29**	**284**	P	**Pn**	**03 40 03.0**	**-0.7**
	baz=103						
MURC				S	**Sn**	**03 40 21.2**	**+0.7**
	baz=103						
GORC	**Green Oak Ranc**	**1.29**	**264**		**Pb**	**03 40 04.4**	**+0.1**
GORC					**Sn**	**03 40 21.3**	**+0.7**
DANC	**Danby, Needles**	**1.36**	**11**		**Pg**	**03 40 06.7**	**0.0**
TJX	**Tijuana**	**1.39**	**236**		**Pn**	**03 40 04.8**	**-0.2**
BBRC	**Big Bear Solar**	**1.40**	**314**		**Sg**	**03 40 25.4**	**-0.2**
BBRC	**Big Bear Solar**	**1.40**	**314**	Pb	**Pn**	**03 40 05.9**	**+0.5**
	baz=133						
BBRC				S	**Sb**	**03 40 24.5**	**+0.5**
	baz=133						
SVD	**Seven Oaks Dam**	**1.42**	**305**		**Sg**	**03 40 25.9**	**-0.3**
SME	**Santa Rosa Min**	**1.48**	**291**		**Pn**	**03 40 07.7**	**+0.2**
GMRC	**Granite Mounta**	**1.48**	**1**		**Pb**	**03 40 08.3**	**+0.7**
GMRC	**Granite Mounta**	**1.48**	**1**	P	**Pn**	**03 40 06.5**	**+0.1**
	baz=181						
ELS	**Elsinore Mount**	**1.48**	**284**		**Pb**	**03 40 07.6**	**0.0**
ELS	**Elsinore Mount**	**1.48**	**284**		**Sb**	**03 40 27.1**	**+0.8**
CCX	**Cicese**	**1.65**	**210**		**Pb**	**03 40 10.2**	**-0.2**
CCX				IAML		03 40 33.1	
	comp=N,176nm,0.5s						
CCX				IAML		03 40 39.5	
	comp=E,237nm,0.7s						
CSP	**Cedar Springs**	**1.70**	**306**		**Pb**	**03 40 11.8**	**+0.4**
BFSC	**Mount Baldy Ra**	**1.88**	**300**	Sb	**Sb**	**03 40 39.0**	**+1.2**
	baz=119						

BREC	**Barre Substati**	**1.97**	**285**		**Pn**	**03 40 12.5**	**-0.5**
TUQ	**Turquoise Moun**	**2.14**	**355**	Sg	**Sg**	**03 40 49.6**	**+0.4**
	baz=175						
PASC	**Pasadena Art C**	**2.25**	**293**		**Pb**	**03 40 20.2**	**-0.4**
PASC				IAML		03 40 55.6	
	comp=E,93nm,0.5s						
CIS	**Catalina Islan**	**2.28**	**273**	Sb	**Sb**	**03 40 50.8**	**+1.8**
	baz=92						
SCI2	**San Clemente I**	**2.41**	**263**	Sb	**Sb**	**03 40 55.0**	**+2.1**
	baz=81						
WORM	**Onyx Ranch**	**3.18**	**319**		**Pb**	**03 40 36.3**	**-0.2**

*ANF **27** 03:46:29.8±0.1,33°.30N×115°.71W,h12km±1km,ML3.4/23, Error ellipse: s-maj=1.7km s-min=1.1km az=114.0*
*NEIC **27** 03:46:30.7±2.1,33°.30N±0°.02×115°.72W±0°.02,h19km±1km, Error ellipse: s-maj=2.4km s-min=2.1km az=52.0*
*PAS **27** 03:46:30.4±1.4,33°.308N±0°.009×115°.70W±0°.01, h3km±5km,ML3.4/135,ML3.3/52(NEIC),Error ellipse: s-maj=1.5km s-min=1.2km az=62.0*

ISC 27 03:46:30.5±0.9,33°.31N±0°.01×115°.72W±0°.01,h18km±4km, n150,σ0°92/199,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALN	**Salton City**	**0.22**	**263**		**Pb**	**03 46 35.8**	**-0.1**
SALN					**Sg**	**03 46 40.0**	**+0.7**
WEMD	**Westmorland, C**	**0.29**	**156**		**Pg**	**03 46 36.8**	**-0.1**
WEMD					**Sg**	**03 46 42.4**	**+1.1**
SWSC	**Sam W. Stewart**	**0.37**	**190**		**Pg**	**03 46 37.9**	**-0.3**
SWSC	**Sam W. Stewart**	**0.37**	**190**	P	**Pg**	**03 46 37.9**	**-0.3**
	baz=13,SNR=621						
SWSC				S	**Sg**	**03 46 42.1**	**-1.3**
	baz=13						
CTW	**Cottonwood Mou**	**0.39**	**341**		**Pg**	**03 46 38.3**	**-0.4**
CTW					**Sg**	**03 46 44.1**	**-0.1**
HAY	**Hayfield**	**0.40**	**5**		**Pg**	**03 46 38.4**	**-0.5**
HAY					**Sg**	**03 46 44.6**	**+0.2**
BC3	**Big Chuckawall**	**0.41**	**33**	P	**Pg**	**03 46 38.4**	**-0.7**
	baz=210,SNR=367						
BC3				S	**Sg**	**03 46 43.8**	**-1.1**
	baz=210						
CTCC	**Cactus City**	**0.41**	**327**		**Pg**	**03 46 38.9**	**-0.2**
CTCC					**Sg**	**03 46 45.1**	**+0.3**
IMPE	**Imperial**	**0.43**	**161**		**Pg**	**03 46 39.2**	**0.0**
IMPE					**Sb**	**03 46 46.9**	**+1.3**
COK2	**Cook Ranch 2**	**0.46**	**181**		**Pg**	**03 46 39.9**	**+0.1**
COK2					**Sb**	**03 46 47.4**	**+0.9**
SLH	**Sleepy Hollow**	**0.46**	**256**		**Pg**	**03 46 39.9**	**0.0**
SLH					**Sn**	**03 46 48.6**	**-1.3**
CRR	**Carrizo Plain**	**0.47**	**206**		**Pg**	**03 46 39.8**	**-0.2**
CRR					**Sb**	**03 46 47.7**	**+0.9**
SNR	**Schaffner Ranc**	**0.51**	**152**		**Pg**	**03 46 40.4**	**-0.3**
WESC	**Westside Schoo**	**0.55**	**181**		**Pb**	**03 46 41.2**	**-0.3**
WESC					**Sg**	**03 46 50.4**	**+1.6**
DREC	**Desert Rsrch C**	**0.55**	**155**		**Pb**	**03 46 41.6**	**0.0**
DREC					**Sn**	**03 46 51.4**	**0.8**
BORC	**Borrego Spring**	**0.58**	**266**		**Pb**	**03 46 41.9**	**-0.3**
BORC					**Sb**	**03 46 50.0**	**-0.1**
PMD	**Palm Desert**	**0.65**	**302**		**Pb**	**03 46 42.6**	**-0.7**
PMD					**Sb**	**03 46 51.4**	**-0.5**
PMD	**Palm Desert**	**0.65**	**302**	IAML		03 46 52.9	
	comp=N,1μm,0.3s						
PMD				IAML		03 46 53.6	
	comp=E,1μm,0.3s						
SGL	**Mount Signal**	**0.66**	**180**		**Pb**	**03 46 42.7**	**-0.7**
SGL					**Sg**	**03 46 52.4**	**+0.1**
COA	**Coachella**	**0.67**	**131**		**Pb**	**03 46 43.3**	**-0.4**
COA					**Sg**	**03 46 53.7**	**+1.0**
YUH	**Yuha Desert**	**0.68**	**194**		**Pb**	**03 46 43.1**	**-0.7**
YUH					**Sb**	**03 46 52.8**	**0.0**
XPFO	**Pion Flat**	**0.68**	**296**		**Pb**	**03 46 43.5**	**-0.5**
XPFO					**Sb**	**03 46 53.0**	**-0.1**
PFO	**Pinyon Flats O**	**0.69**	**296**		**Pb**	**03 46 43.4**	**-0.6**
PFO				IAML		03 46 54.5	
	comp=E,2μm,0.2s						
PFO	**Pinyon Flats O**	**0.69**	**296**		**Pb**	**03 46 43.5**	**-0.6**
PFO					**Sb**	**03 46 53.3**	**0.0**
PFO	**Pinyon Flats O**	**0.69**	**296**	P	**Pb**	**03 46 43.7**	**-0.3**
	baz=115,SNR=393						
PFO				S	**Sb**	**03 46 53.2**	**0.0**
	baz=115						
RUN	**Ruthven**	**0.71**	**118**		**Pb**	**03 46 43.5**	**-0.8**
RUN					**Sb**	**03 46 53.3**	**-0.4**
MONP2	**Monument Peak**	**0.72**	**235**		**Pb**	**03 46 44.4**	**-0.3**
MONP2					**Sb**	**03 46 54.1**	**-0.2**
MONP2	**Monument Peak**	**0.72**	**235**	P	**Pb**	**03 46 44.4**	**-0.3**
	baz=55,SNR=224						
MONP2				S	**Sb**	**03 46 54.0**	**-0.2**
	baz=55						
BELC	**Belle Mtn. Jos**	**0.73**	**342**		**Pb**	**03 46 44.5**	**-0.3**
BELC					**Sb**	**03 46 53.6**	**-0.9**
BELC	**Belle Mtn. Jos**	**0.73**	**342**	P	**Pb**	**03 46 44.5**	**-0.3**
	baz=160,SNR=338						
BELC				S	**Sg**	**03 46 54.9**	**+0.3**
	baz=160						
IKP	**In-Ko-Pah, Jac**	**0.73**	**207**		**Pb**	**03 46 44.2**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.73**	**207**	P	**Pb**	**03 46 44.2**	**-0.6**
	baz=28,SNR=199						
IKP				S	**Sb**	**03 46 54.3**	**-0.2**
	baz=28						
FRD	**Ford Ranch, An**	**0.76**	**284**		**Pb**	**03 46 45.1**	**-0.2**
FRD					**Sg**	**03 46 55.9**	**+0.3**
FRD	**Ford Ranch, An**	**0.76**	**284**		**Pb**	**03 46 45.1**	**-0.2**
FRD					**Sg**	**03 46 56.0**	**+0.4**
RMX	**La Rumorosa**	**0.76**	**203**		**Pb**	**03 46 45.2**	**-0.2**
RMX	**La Rumorosa**	**0.76**	**203**	IAML		03 46 57.0	
	comp=E,1μm,0.2s						
JUEM	**Julian Eagle M**	**0.77**	**253**		**Pb**	**03 46 45.3**	**-0.1**
JUEM					**Sg**	**03 46 56.1**	**+0.3**
MATG	**Mataguay Scout**	**0.78**	**262**		**Pb**	**03 46 45.4**	**-0.3**
MATG					**Sb**	**03 46 56.0**	**+0.1**
SNDA	**J Saunders Pla**	**0.78**	**288**		**Pb**	**03 46 45.6**	**-0.1**
SNDA					**Sg**	**03 46 56.9**	**+0.5**
GLA	**Glamis**	**0.79**	**109**		**Pb**	**03 46 44.9**	**-0.9**
GLA				IAML		03 46 58.5	
	comp=N,1μm,0.8s						
GLA	**Glamis**	**0.79**	**109**		**Sb**	**03 46 55.6**	**-0.6**
GLA	**Glamis**	**0.79**	**109**	P	**Pb**	**03 46 44.8**	**-0.9**
	baz=290,SNR=360						
GLA				S	**Sb**	**03 46 56.0**	**-0.2**
	baz=290						
DNR	**Dunn Ranch,Anz**	**0.80**	**289**		**Pb**	**03 46 46.0**	**0.0**
DNR					**Sg**	**03 46 57.0**	**0.0**
BZNA	**Buzz No.'s Pla**	**0.81**	**283**		**Pb**	**03 46 46.1**	**-0.1**
BZNA					**Sg**	**03 46 58.0**	**+0.8**
EMSC	**East Mesa**	**0.84**	**132**		**Pb**	**03 46 45.7**	**-0.8**
EMSC					**Sn**	**03 46 58.8**	**-0.5**
EW2	**E Wide Canyon**	**0.85**	**318**		**Pb**	**03 46 46.4**	**-0.4**
EW2					**Sg**	**03 46 58.7**	**+0.2**
GVDA	**Garner Valley**	**0.87**	**295**		**Pb**	**03 46 47.0**	**-0.2**
GVDA					**Sb**	**03 46 58.6**	**0.0**
CRY	**Cary Ranch**	**0.89**	**287**		**Pb**	**03 46 47.2**	**-0.3**
CRY					**Sg**	**03 46 59.6**	**0.0**
BLAC	**Blackrock camp**	**0.94**	**324**		**Pb**	**03 46 48.4**	**0.0**
BLAC					**Sg**	**03 47 01.2**	**-0.1**
CPBX	**Cerro Prieto**	**0.95**	**158**	Pg	**Pb**	**03 46 47.9**	**-0.6**
CPBX				IAML		03 47 21.4	
	comp=N,852nm,0.5s						
PLM	**Palomar**	**0.95**	**273**		**Pb**	**03 46 48.2**	**-0.4**
PLM					**Sg**	**03 47 02.2**	**+0.4**
IRM	**Iron Mountain**	**0.97**	**29**		**Pn**	**03 46 49.6**	**+0.2**
IRM	**Iron Mountain**	**0.97**	**29**	P	**Pb**	**03 46 48.4**	**-0.5**
	baz=209,SNR=233						
IRM				S	**Sg**	**03 47 02.4**	**+0.1**
	baz=209						
BAR	**Barrett**	**1.01**	**232**	Pg	**Pb**	**03 46 48.7**	**-0.9**
BAR				IAML		03 47 04.1	
	comp=E,833nm,0.2s						
BAR				IAML		03 47 04.1	
	comp=N,1μm,0.2s						
TKX	**Tecate**	**1.05**	**226**		**Pb**	**03 46 49.6**	**-0.5**
TKX	**Tecate**	**1.05**	**226**		**Sb**	**03 47 03.8**	**+0.3**
DPP	**Dos Picos Cty**	**1.07**	**254**		**Pb**	**03 46 49.6**	**-0.9**
POB	**Polly Butte**	**1.07**	**291**		**Pb**	**03 46 50.1**	**-0.5**
POB					**Sg**	**03 47 06.0**	**+0.6**
BLYC	**Blythe**	**1.09**	**66**		**Pn**	**03 46 50.2**	**-0.7**
BLYC				IAML		03 47 10.7	
	comp=E,610nm,0.7s						
BLYC				IAML		03 47 12.0	
	comp=N,793nm,0.7s						
GTM	**Goat Mountain**	**1.12**	**332**		**Pb**	**03 46 51.9**	**+0.5**
DGR	**Domenigoni Val**	**1.13**	**288**		**Pn**	**03 46 50.6**	**-0.9**
BACC	**Bachelor Mtn.**	**1.14**	**286**		**Pn**	**03 46 51.1**	**-0.6**
HMTC	**Hemet**	**1.14**	**291**		**Pb**	**03 46 52.0**	**+0.2**
HMTC					**Sn**	**03 47 07.4**	**+0.5**
SDRC	**San Diego Road**	**1.17**	**241**		**Pb**	**03 46 52.4**	**+0.1**
SDRC					**Sn**	**03 47 07.4**	**-0.2**
109C	**Camp Elliot, M**	**1.23**	**251**	Pg	**Pn**	**03 46 52.2**	**-0.7**
109C	**Camp Elliot, M**	**1.23**	**251**	P	**Pn**	**03 46 52.1**	**-0.7**
	baz=70,SNR=135						
CPE	**Camp Elliot**	**1.23**	**251**		**Pb**	**03 46 53.6**	**+0.3**
MURC	**Murrieta**	**1.27**	**284**		**Pb**	**03 46 54.1**	**+0.3**
MURC	**Murrieta**	**1.27**	**284**	P	**Pn**	**03 46 52.7**	**-0.6**
	baz=103,SNR=137						
MURC				S	**Sg**	**03 47 11.7**	**+0.1**
	baz=103						
CBX	**Cerro Bola**	**1.27**	**219**		**Pn**	**03 46 52.9**	**-0.6**
CBX				IAML		03 47 12.4	
	comp=E,462nm,0.5s						
CBX				IAML		03 47 24.1	
	comp=N,514nm,0.7s						
GORC	**Green Oak Ranc**	**1.27**	**263**		**Pb**	**03 46 53.8**	**-0.1**
TJX	**Tijuana**	**1.37**	**235**		**Pb**	**03 46 55.9**	**+0.2**
BBRC	**Big Bear Solar**	**1.38**	**314**	P	**Pn**	**03 46 55.0**	**-0.1**
	baz=133,SNR=51						
BBRC				S	**Sg**	**03 47 14.6**	**-0.6**
	baz=133						
SVD	**Seven Oaks Dam**	**1.40**	**305**		**Pg**	**03 46 57.2**	**-0.3**
SME	**Santa Rosa Min**	**1.46**	**291**		**Pn**	**03 46 55.3**	**-0.7**
ELS	**Elsinore Mount**	**1.47**	**284**	Pn	**Pn**	**03 46 55.2**	**-0.9**
GMRC	**Granite Mounta**	**1.47**	**2**		**Pg**	**03 46 58.6**	**-0.4**
GMRC	**Granite Mounta**	**1.47**	**2**	P	**Pn**	**03 46 56.7**	**+0.4**
	baz=181						
GMRC				Sb	**Sg**	**03 47 17.5**	**-0.8**
	baz=181						
HEC	**Hector,Ludlow**	**1.60**	**342**		**Pg**	**03 47 00.8**	**-0.6**
HEC	**Hector,Ludlow**	**1.60**	**342**	Pg	**Pg**	**03 47 00.8**	**-0.6**
	baz=161						
HEC				Sb	**Sg**	**03 47 21.8**	**-0.5**
	baz=161						
CCX	**Cicese**	**1.64**	**209**		**Pn**	**03 46 58.8**	**+0.3**
CCX				IAML		03 47 22.8	
	comp=N,271nm,0.5s						
CCX				IAML		03 47 29.3	
	comp=E,380nm,0.8s						
PDMCI	**Parker Dam,Lak**	**1.65**	**53**	Pb	**Pb**	**03 47 00.3**	**0.0**
	baz=233						
NEE2	**Needles Airpor**	**1.72**	**32**	Pb	**Pb**	**03 47 01.6**	**0.0**
	baz=212						
113A	**Mohawk Valley,**	**1.73**	**108**		**Pn**	**03 47 00.4**	**+0.7**
BFSC	**Mount Baldy Ra**	**1.86**	**300**	Pb	**Pb**	**03 47 03.9**	**-0.2**
	baz=119						
BFSC				Sb	**Sg**	**03 47 29.2**	**-1.4**
	baz=119						
RRX	**Edison Barstow**	**1.89**	**326**	Pg	**Pg**	**03 47 06.7**	**-0.1**
	baz=145						
RRX				Sb	**Sg**	**03 47 30.6**	**-0.8**
	baz=145						
TUQ	**Turquoise Moun**	**2.13**	**356**	Pg	**Pg**	**03 47 11.0**	**-0.5**
	baz=175						
GSC	**Goldstone, Bar**	**2.18**	**336**	Pn	**Pn**	**03 47 07.5**	**+1.5**
GSC				IAML		03 47 49.6	
	comp=E,235nm,0.9s						
GSC	**Goldstone, Bar**	**2.18**	**336**	Pg	**Pg**	**03 47 11.5**	**-0.9**
	baz=155						
PASC	**Pasadena Art C**	**2.23**	**293**	Pn	**Pn**	**03 47 08.2**	**+1.7**
CIS	**Catalina Islan**	**2.26**	**273**	Pb	**Pb**	**03 47 10.9**	**+0.2**
	baz=92						
W13A	**Hualapai Mount**	**2.35**	**40**		**Pn**	**03 47 09.2**	**+0.8**
Y14A	**Wickenburg**	**2.35**	**74**		**Pn**	**03 47 08.6**	**+0.3**
DECC	**Green Verdugo**	**2.37**	**294**	Pg	**Pg**	**03 47 15.1**	**-1.0**
	baz=113						
V12A	**Nelson**	**2.52**	**16**	Pn	**Pn**	**03 47 12.5**	**+1.8**
CCAC	**Calif City Air**	**2.65**	**315**		**Pn**	**03 47 13.8**	**+1.5**
CCAC				IAML		03 48 23.8	
	comp=E,150nm,1.4s						
214A	**Organ Pipe Nat**	**2.80**	**118**		**Pn**	**03 47 13.3**	**-1.1**
214A				IAML		03 48 06.5	
	comp=N,86nm,0.9s						
214A	**Organ Pipe Nat**	**2.80**	**118**	P	**Pn**	**03 47 13.4**	**-1.1**
	baz=300						
QSM	**Queen of Sheba**	**2.81**	**341**		**Pn**	**03 47 16.0**	**+1.4**
WTNK	**Soaring Height**	**2.94**	**11**	Pn	**Pn**	**03 47 17.6**	**+1.3**
GWY	**Greenwater Val**	**2.98**	**345**		**Pn**	**03 47 18.2**	**+1.3**
MPMC	**Manual Prospec**	**3.11**	**333**	P	**Pn**	**03 47 19.3**	**+0.4**
	baz=151						
SHPR	**Sheep Range**	**3.22**	**8**	Pn	**Pn**	**03 47 21.9**	**+1.5**
ISA	**Isabella, Lake**	**3.27**	**317**	Pn	**Pn**	**03 47 22.4**	**+1.4**
BCW	**Bitter Crk WRg**	**3.47**	**299**	Pn	**Pn**	**03 47 25.0**	**+1.3**
BCW				IAML		03 48 35.7	
	comp=N,80nm,1.4s						
WCT	**Wildcat Mounta**	**3.56**	**348**	Pn	**Pn**	**03 47 26.2**	**+1.4**
TPNV	**Topopah Spring**	**3.66**	**353**	Pn	**Pn**	**03 47 27.9**	**+1.5**
TPNV				IAML		03 48 38.5	
	comp=N,46nm,0.9s						
TPNV				IAML		03 48 44.6	
	comp=N,48nm,0.8s						
GRAC	**Grapevine Rang**	**3.92**	**340**	Pn	**Pn**	**03 47 31.7**	**+1.9**
GRAC				IAML		03 48 47.3	
	comp=N,49nm,1.7s						
GRAC				IAML		03 48 49.0	
	comp=E,48nm,0.8s						
PRN	**Pahroc Range**	**4.13**	**7**	Pn	**Pn**	**03 47 34.5**	**+1.7**
GMN	**Gold Mountain**	**4.18**	**343**	Pn	**Pn**	**03 47 34.7**	**+1.1**
U15A	**North Rim**	**4.20**	**41**	Pn	**Pn**	**03 47 34.9**	**+1.0**
WUAZ	**Wupatki**	**4.22**	**57**	Pn	**Pn**	**03 47 35.0**	**+1.0**
WUAZ				IAML		03 48 55.6	
	comp=E,42nm,0.8s						
LCMT	**Little Creek M**	**4.22**	**28**		**Pn**	**03 47 35.6**	**+1.6**
LCH	**Last Change Ra**	**4.22**	**339**		**Pn**	**03 47 35.6**	**+1.5**
TUC	**Tucson**	**4.28**	**102**	Pn	**Pn**	**03 47 37.1**	**+1.3**
S11A	**Rachel**	**4.33**	**360**	Pn	**Pn**	**03 47 36.6**	**+1.1**
KNB	**Kanab**	**4.40**	**32**		**Pn**	**03 47 37.8**	**+1.2**
DSP	**Deep Springs**	**4.45**	**336**	Pn	**Pn**	**03 47 38.6**	**+1.5**
MZP	**Montezuma Peak**	**4.59**	**343**	Pn	**Pn**	**03 47 40.3**	**+1.0**
CCUT	**Cedar City**	**4.65**	**24**	Pn	**Pn**	**03 47 41.1**	**+1.0**
SZCU	**Shurtz Canyon**	**4.79**	**26**		**Pn**	**03 47 43.9**	**+2.0**
TPH	**Tonopah**	**4.91**	**346**	Pn	**Pn**	**03 47 45.7**	**+2.1**
X18A	**Snowflake**	**4.95**	**74**	Pn	**Pn**	**03 47 45.4**	**+1.2**
PKCU	**Pink Cliffs**	**4.98**	**33**	Pn	**Pn**	**03 47 46.4**	**+1.7**
R11A	**Troy Canyon, C**	**5.03**	**1**	Pn	**Pn**	**03 47 47.7**	**+2.5**
OMMB	**Old Mammoth Mi**	**5.06**	**329**	Pn	**Pn**	**03 47 48.0**	**+2.2**
PMPB	**Monarch Peak**	**5.09**	**306**	Pn	**Pn**	**03 47 47.0**	**+1.1**
MDPB	**Devils Postpil**	**5.11**	**329**	Pn	**Pn**	**03 47 47.5**	**+1.1**
W18A	**Petrified Fore**	**5.28**	**68**	Pn	**Pn**	**03 47 50.2**	**+1.6**
LHV	**Little Huntoon**	**5.43**	**336**	Pn	**Pn**	**03 47 52.3**	**+1.8**
BBGB	**Big Mountain B**	**5.45**	**308**	Pn	**Pn**	**03 47 52.6**	**+1.7**
NV11	**Mina Array Sit**	**5.48**	**340**	Pn	**Pn**	**03 47 53.3**	**+1.8**
NVAR	**Mina Array Bea**	**5.52**	**338**	Pn	**Pn**	**03 47 53.2**	**+1.2**
Q09A	**Carvers**	**5.64**	**348**	Pn	**Pn**	**03 47 55.3**	**+1.7**
RYN	**Ryan**	**5.78**	**338**	Pn	**Pn**	**03 47 57.4**	**+2.0**
SPR3	**Spring Creek 3**	**5.79**	**11**	Pn	**Pn**	**03 47 56.2**	**+0.4**
WAKR	**Walker**	**6.00**	**331**	Pn	**Pn**	**03 47 59.1**	**+0.5**
KVN	**Kaiserville**	**6.05**	**342**	Pn	**Pn**	**03 48 00.5**	**+1.3**
CMB	**Columbia Colle**	**6.05**	**222**	Pn	**Pn**	**03 48 01.1**	**+1.9**
PNTR	**Pine Nut**	**6.57**	**333**	Pn	**Pn**	**03 48 08.1**	**+1.8**
Q16A	**Castle Valley**	**6.70**	**32**	Pn	**Pn**	**03 48 09.5**	**+1.3**
121A	**Cookes Peak, D**	**6.72**	**94**		**Pn**	**03 48 09.0**	**+0.6**
VCNR	**Virginia City**	**6.76**	**333**	Pn	**Pn**	**03 48 10.1**	**+1.0**
MVCO	**Mesa Verde**	**7.08**	**55**	Pn	**Pn**	**03 48 15.3**	**+1.9**
SBM	**South Baldy**	**7.15**	**82**		**Pn**	**03 48 16.2**	**+1.6**
SRU	**San Rafael Swe**	**7.15**	**34**		**Pn**	**03 48 15.0**	**+0.6**
P17A	**Butcher Ranch,**	**7.35**	**32**	Pn	**Pn**	**03 48 17.0**	**-0.1**
ELK	**Elko**	**7.43**	**3**	Pn	**Pn**	**03 48 19.6**	**+1.3**
PV11	**David Mesa, Pa**	**7.47**	**46**	Pn	**Pn**	**03 48 20.1**	**+1.4**
PV07	**Paradox Valley**	**7.69**	**46**	Pn	**Pn**	**03 48 23.4**	**+1.6**

NOU 27 04:05:54.9,15°.93S×174°.98W,h291km,MLv4.2/6,Tonga Islands,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.75**	**124**	P	Pn	04 07 21.1	+0.2

*RSPR **27** 04:08:20.0,18°.01N×68°.75W,h30km±18km,MD3.3/5*
*OSPL **27** 04:08:20.0±1.8,17°.93N×68°.75W,h31km±63km,ML2.3*
*NEIC **27** 04:08:20.7±2.0,18°.0N±0°.1×68°.60W±0°.04,h25km±13km, Error ellipse: s-maj=15.3km s-min=5.3km az=171.0*

ISC 27 04:08:18.6±1.4,18°.03N±0°.08×68°.78W±0°.04,h35km,n40, σ1°01/40,9C-1D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.62**	**38**	*e*P	**Pn**	**04 08 30.8**	**-0.2**
PCDR	**Punta Cana, DR**	**0.62**	**38**	*e*S	**Sn**	**04 08 39.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.62**	**38**		**Pb**	**04 08 30.8**	**-0.2**
PCDR					**Sn**	**04 08 39.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.62**	**38**	IAML		04 08 40.7	
	comp=E,417nm,0.5s						
PCDR				IAML		04 08 41.0	
	comp=N,502nm,0.3s						
IDE	**Isla Desecheo**	**1.29**	**74**	*e*P	**Pn**	**04 08 38.9**	**-1.3**
IDE	**Isla Desecheo**	**1.29**	**74**	*e*S	**Sn**	**04 08 54.6**	**-1.8**
CRPR	**Cabo Rojo, PR**	**1.59**	**90**	*e*P	**Pn**	**04 08 43.2**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.59**	**90**	*e*S	**Sn**	**04 09 02.0**	**-1.7**
CRPR	**Cabo Rojo, PR**	**1.59**	**90**		**Sn**	**04 08 43.2**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.59**	**90**		**Sn**	**04 09 02.0**	**-1.7**
CRPR	**Cabo Rojo, PR**	**1.59**	**90**	*i* P	**Pn**	**04 08 43.5**	**-0.8**
CRPR				IAML		04 09 12.3	
	comp=Z,18nm,2.1s						
LSP	**Las Mesas**	**1.62**	**84**	*e*P	**Pn**	**04 08 45.6**	**+0.8**
AGPR	**Aguadilla, PR**	**1.65**	**74**	*e*P	**Pn**	**04 08 46.6**	**+1.5**
AGPR	**Aguadilla, PR**	**1.65**	**74**	*e*S	**Sn**	**04 09 04.3**	**-0.8**
AGPR	**Aguadilla, PR**	**1.65**	**74**		**Pn**	**04 08 46.6**	**+1.5**
AGPR					**Sn**	**04 09 04.3**	**-0.8**
AGPR	**Aguadilla, PR**	**1.65**	**74**	IAML		04 09 18.1	
	comp=E,57nm,3.0s						
AGPR				IAML		04 09 48.7	
	comp=N,52nm,0.6s						
AGPR	**Aguadilla, PR**	**1.65**	**74**	*i* P	**Pn**	**04 08 44.4**	**-0.7**
AGPR				IAML		04 09 09.8	
	comp=Z,35nm,0.8s						
MLPR	**Magueyes Islan**	**1.66**	**92**	*e*P	**Pn**	**04 08 44.7**	**-0.5**
MLPR	**Magueyes Islan**	**1.66**	**92**	*e*S	**Sn**	**04 09 05.7**	**+0.5**
MLPR	**Magueyes Islan**	**1.66**	**92**		**Pn**	**04 08 44.7**	**-0.5**
MLPR	**Magueyes Islan**	**1.66**	**92**		**Sn**	**04 09 05.7**	**+0.5**
MLPR	**Magueyes Islan**	**1.66**	**92**	IAML		04 09 00.1	
	comp=E,14nm,2.0s						
AOPR	**Arecibo Observ**	**1.96**	**80**	*e*P	**Pn**	**04 08 49.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.96**	**80**	*e*S	**Sn**	**04 09 12.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.96**	**80**		**Pn**	**04 08 49.9**	**+0.5**
AOPR					**Sn**	**04 09 12.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.96**	**80**	IAML		04 09 16.4	
	comp=N,50nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.97**	**83**	*e*S	**Sn**	**04 09 12.9**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.97**	**83**		**Sn**	**04 09 12.9**	**-0.2**
LOBA2	**Hotel Casa Bon**	**2.20**	**272**	*i* P	**Pn**	**04 08 54.0**	**+1.3**
LOBA2				*e*S	**Sn**	**04 09 16.4**	**-2.2**
LOBA2				IAML		04 09 25.8	
	comp=Z,18nm,2.1s						
HUMP	**Col San Antoni**	**2.79**	**87**	*e*P	**Pn**	**04 09 01.5**	**+0.7**
HUMP	**Col San Antoni**	**2.79**	**87**	*e*S	**Sn**	**04 09 33.3**	**-0.1**
HUMP	**Col San Antoni**	**2.79**	**87**		**Pn**	**04 09 01.5**	**+0.7**
HUMP					**Sn**	**04 09 33.3**	**-0.1**
HUMP	**Col San Antoni**	**2.79**	**87**	IAML		04 09 38.9	
	comp=N,14nm,0.2s						
CBYP	**Canovanas**	**2.79**	**85**	*e*P	**Pn**	**04 09 01.4**	**+0.4**
CBYP	**Canovanas**	**2.79**	**85**		**Pn**	**04 09 01.4**	**+0.4**
MTP	**Monte Pirata**	**3.07**	**88**	*e*P	**Pn**	**04 09 06.2**	**+1.5**
MTP	**Monte Pirata**	**3.07**	**88**	*e*S	**Sn**	**04 09 40.2**	**0.0**
MTP	**Monte Pirata**	**3.07**	**88**		**Pn**	**04 09 06.2**	**+1.5**
MTP					**Sn**	**04 09 40.2**	**0.0**
MTP	**Monte Pirata**	**3.07**	**88**	IAML		04 09 40.5	
	comp=E,9.9nm,1.6s						
MTP				IAML		04 09 54.2	
	comp=N,9.3nm,2.5s						
STVI	**Saint Thomas**	**3.65**	**84**	Pn	**Pn**	**04 09 14.3**	**+1.6**

IDC 27 04:19:36.6±2.7,28°.72S×61°.33E,h0km,mb3.8/3, mbtmp3.9/4,ML4.2/1,MS3.6/2,Error ellipse: s-maj=341.7km s-min=27.4km az=22.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.41**	**305**	Pn	Pn	04 23 28.7	+0.1
	0.1nm,0.3s,baz=111,slow=17,SNR=3.6						
OPO				Sn	Sn	04 26 17.8	-14
	0.1nm,0.3s,baz=270,slow=20,SNR=2.2						
	1.8nm,0.3s						
**

WRA				S	Sn	04 47 07.0	-10
	2.6nm,0.7s,baz=346,slow=24,SNR=5.0						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**16.97**	**168**	P	P	04 45 33.3	+0.1
	0.3nm,0.3s,baz=340,slow=9.3,SNR=2.4						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**68.25**	**327**	P	P	04 52 32.8	0.0
	0.9nm,0.4s,baz=117,slow=8.3,SNR=13						
	0.9nm,0.4s						

DJA 27 04:41:49.5±0.6,1°N±7°×12°4E±°,h75km±7km,M3.7/7, mb3.8/1,MLv3.7/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.47**	**217**	P	Pn	04 42 05.9	+3.4
KMSI				S	Sn	04 42 14.8	+2.8
GTOI	**Gorontalo**	**1.29**	**256**	P	Pn	04 42 14.7	+2.8
GTOI				S	Sn	04 42 29.6	+0.9
MRSI	**Marisa**	**2.37**	**259**	P	Pn	04 42 26.4	+0.2
LUWI	**Luwuk**	**2.48**	**217**	P	Pn	04 42 28.5	+0.8
APSI	**Ampana**	**3.20**	**235**	P	Pn	04 42 45.0	+7.5
MPSI	**Mapaga**	**4.40**	**262**	P	Pn	04 42 52.7	-1.2
NLAI	**Namlea**	**5.04**	**146**	P	Pn	04 43 01.2	-1.4

KRNET 27 04:43:08.6±0.1,40°52N×69°55E,h14km,mb2.8
ISC 27 04:43:08.8±1.3,40°52N±0°03×69°58E±0°07,h11km±13km, n6,σ0°51/11,7C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAS	**Tashkent**	**0.83**	**345**	⇑*i*	P	**g**	**04 43 24.6**	**-0.3**
	baz=47						
TAS				⇑*i*	S	**b**	**04 43 36.6**	**0.0**
	baz=47						
BTK	**Batken**	**1.05**	**115**	⇓*i*	P	**n**	**04 43 29.3**	**-0.3**
	baz=15						
BTK				⇓*i*	S	**n**	**04 43 44.3**	**0.0**
	baz=15						
TRKS	**Terek-Say**	**1.56**	**49**	⇓*i*	P	**b**	**04 43 38.1**	**+0.4**
	baz=52						
TRKS				⇓*i*	S	**g**	**04 43 59.2**	**+0.3**
	baz=52						
GAR	**Garm**	**1.62**	**159**	⇑*i*	P	**g**	**04 43 39.2**	**-0.7**
	baz=58						
GAR				⇑*i*	S	**g**	**04 44 01.7**	**+0.8**
	baz=58						
CHGR	**Chuyangaron**	**1.89**	**190**	⇑*i*	P	**b**	**04 43 43.7**	**+0.4**
	baz=89						
CHGR				⇑*i*	S	**g**	**04 44 09.6**	**+0.2**
	baz=89						
KK31	**Karatay Array**	**2.68**	**15**	Pn		**Pb**	**04 43 57.0**	**+0.2**
	0.3nm,0.2s,baz=198,slow=15,SNR=14							
KK31				⇑Lg	Lg	04 44 31.7		
	1.7nm,0.4s,baz=195,slow=33,SNR=14							

NOU 27 04:43:59.3,37°08S×179°59E,h102km,MLv4.5/8,Off E. Coast of N. Island, N.Z.
WEL 27 04:44:01.8±1.1,37°S±5°×17°9E±°,h20km,M3.8/49, ML4.0/52,MLv3.8/49,Error ellipse: s-maj=0.0km s-min=0.0km az=77.9
ISC 27 04:43:59.0±2.9,37°07S±0°09×179°3E±0°.1,h5km±14km, n90,σ0°96/95,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.95**	**239**	P	**Pg**	**04 44 17.4**	**+0.1**
MXZ				S	**Sg**	**04 44 28.6**	**-1.1**
WMGZ	**Waiomatatini S**	**1.05**	**224**	P	Pn	04 44 21.3	+0.9
WMGZ				S	**Sb**	**04 44 34.7**	**+1.0**
PKGZ	**Pakihiroa**	**1.29**	**230**	P	**Pg**	**04 44 24.5**	**+0.7**
PKGZ				S	**Sb**	**04 44 40.5**	**-0.4**
PUZ	**Puketiti**	**1.32**	**220**	P	**Pg**	**04 44 24.8**	**+0.5**
PUZ				S	**Sb**	**04 44 41.1**	**-0.4**
HAZ	**Te Kaha**	**1.41**	**241**	P	Pn	04 44 24.2	-1.2
HAZ				S	**Sn**	**04 44 44.7**	**+0.3**
TWGZ	**Tauwhareparae**	**1.54**	**224**	P	**Pb**	**04 44 28.4**	**+0.3**
RUGZ	**Raukumara Rang**	**1.59**	**235**	P	Pn	04 44 28.4	+0.4
CNGZ	**Carnagh Statio**	**1.67**	**212**	P	**Pb**	**04 44 30.6**	**+0.4**
WIZ	**White Island**	**1.77**	**254**	P	Pn	04 44 29.3	-1.0
TKGZ	**Te Karaka**	**1.80**	**220**	P	Pn	04 44 31.5	+0.7
MWZ	**Matawai**	**1.91**	**228**	P	Pn	04 44 32.9	+0.6
RIGZ	**Rimuhau**	**2.05**	**217**	P	Pn	04 44 34.8	+0.5
RAGZ	**Rawiri**	**2.08**	**226**	P	Pn	04 44 34.9	+0.1
URZ	**Urewera**	**2.13**	**225**	P	Pn	04 44 35.7	+0.4
URZ	**Urewera**	**2.13**	**235**	P	Pn	04 44 35.7	+0.4
MARZ	**Manawahe**	**2.30**	**246**	P	Pn	04 44 37.6	-0.1
EDRZ	**Edgecumbe**	**2.31**	**243**	P	Pn	04 44 38.0	+0.2
SNGZ	**Shannon Statio**	**2.33**	**222**	P	Pn	04 44 39.3	+1.3
OPRZ	**Ohinepanea**	**2.34**	**250**	P	Pn	04 44 37.9	-0.3
KNZ	**Kokohu**	**2.35**	**213**	P	Pn	04 44 38.0	-0.3
MHGZ	**Mahia Peninsul**	**2.36**	**208**	P	Pn	04 44 39.0	+0.5
RTZ	**Ruatahuna**	**2.42**	**230**	P	Pn	04 44 39.9	+0.6
MUGZ	**Murupara**	**2.47**	**235**	P	Pn	04 44 40.0	0.0
TGRZ	**Tauranga**	**2.54**	**254**	P	Pn	04 44 40.7	-0.2
RAHZ	**Arahi**	**2.56**	**223**	P	Pn	04 44 42.1	+0.9
RRRZ	**Republican Roa**	**2.57**	**240**	P	Pn	04 44 41.6	+0.2
WHHZ	**Waihua**	**2.60**	**219**	P	Pn	04 44 42.8	+1.0
MTHZ	**Maungataniwha**	**2.66**	**227**	P	Pn	04 44 43.1	+0.5
PRRZ	**Plateau Road**	**2.73**	**238**	P	Pn	04 44 43.7	+0.1
HRRZ	**Handcock Road**	**2.75**	**241**	P	Pn	04 44 44.5	+0.5
ALRZ	**Allen Road**	**2.80**	**237**	P	Pn	04 44 44.6	+0.1
NMHZ	**Naumai**	**2.84**	**224**	P	Pn	04 44 45.5	+0.4
ARHZ	**Aropaoanui**	**2.86**	**219**	P	Pn	04 44 45.5	+0.1
MRHZ	**Matea Rd**	**2.90**	**232**	P	Pn	04 44 46.2	+0.2
KUZ	**Kuaotunu**	**2.92**	**275**	P	Pn	04 44 44.1	-2.0
BKZ	**Black Stump Fm**	**3.07**	**226**	P	Pn	04 44 48.1	-0.1
BKZ	**Black Stump Fm**	**3.07**	**226**	P	Pn	04 44 47.9	-0.3
KUTZ	**Kaahu Road**	**3.12**	**242**	P	Pn	04 44 49.4	+0.4
TOZ	**Tahuroa Road**	**3.12**	**257**	P	Pn	04 44 48.0	-0.9
MCHZ	**McNeill Hill**	**3.15**	**220**	P	Pn	04 44 49.3	-0.1
GRZ	**Great Barrier**	**3.22**	**284**	P	Pn	04 44 49.8	-0.5
TLZ	**Tolley Road**	**3.26**	**246**	P	Pn	04 44 51.1	+0.2
KWHZ	**Kaweka Forest**	**3.28**	**223**	P	Pn	04 44 51.2	-0.1
KAHZ	**Kahuranaki**	**3.33**	**215**	P	Pn	04 44 51.0	-0.9
MKAZ	**Moumakai**	**3.34**	**268**	P	Pn	04 44 50.5	-1.4
RITZ	**Rihia Road**	**3.34**	**234**	P	Pn	04 44 52.5	+0.5
WIAZ	**Waiheke Island**	**3.38**	**273**	P	Pn	04 44 51.3	-1.2
KRHZ	**Kereru**	**3.47**	**221**	P	Pn	04 44 53.1	-0.7
TMVZ	**Te Maari**	**3.52**	**233**	P	Pn	04 44 54.3	-0.2
ETVZ	**East Tongariro**	**3.52**	**233**	P	Pn	04 44 54.4	-0.2
NTVZ	**North Tongarir**	**3.53**	**234**	P	Pn	04 44 54.5	-0.1
ETAZ	**East Tamaki Re**	**3.53**	**271**	P	Pn	04 44 54.1	-0.5
BHHZ	**Black Hill Sta**	**3.53**	**226**	P	Pn	04 44 54.7	0.0
PXZ	**Pawanui**	**3.53**	**213**	P	Pn	04 44 53.3	-1.3
MBAZ	**Motutapu North**	**3.57**	**274**	P	Pn	04 44 54.2	-0.8
OTVZ	**Oturere**	**3.57**	**233**	P	Pn	04 44 54.8	-0.5
SNVZ	**South Ngauruho**	**3.60**	**233**	P	Pn	04 44 55.6	0.0
NGZ	**Ngauruhoe**	**3.62**	**233**	P	Pn	04 44 56.0	0.0
TUVZ	**Tukino**	**3.64**	**232**	P	Pn	04 44 56.4	+0.2
ABAZ	**Army Bay**	**3.64**	**276**	P	Pn	04 44 55.6	-0.5
MOVZ	**Moawhango**	**3.66**	**229**	P	Pn	04 44 56.0	-0.5
EPAZ	**Eden Park BICE**	**3.68**	**272**	P	Pn	04 44 57.4	+0.8
HBAZ	**Herne Bay Bore**	**3.69**	**272**	P	Pn	04 44 57.6	+0.8
WNVZ	**Wahianoa**	**3.71**	**231**	P	Pn	04 44 57.0	-0.1
AWAZ	**Awhitu Peninsu**	**3.75**	**269**	P	Pn	04 44 57.0	-0.6
WPHZ	**Waipukurau**	**3.75**	**216**	P	Pn	04 44 56.9	-0.8
PNHZ	**Pukenui**	**3.76**	**225**	P	Pn	04 44 56.7	-1.0
WTAZ	**Waiatarua**	**3.81**	**271**	P	Pn	04 44 58.0	-0.5
MTVZ	**Mangateitei**	**3.82**	**232**	P	Pn	04 44 58.9	+0.3
PRHZ	**Porangahau**	**3.83**	**213**	P	Pn	04 44 57.0	-1.7
HIZ	**Hauiti**	**3.83**	**247**	P	Pn	04 44 59.7	+1.0
HIZ	**Hauiti**	**3.83**	**247**	P	Pn	04 44 59.7	+1.0
PKVZ	**Pokaka**	**3.84**	**234**	P	Pn	04 44 59.7	+0.7
DVHZ	**Dannevirke**	**4.07**	**217**	P	Pn	04 45 00.5	-1.5
WCZ	**Waipu Caves**	**4.17**	**284**	P	Pn	04 45 02.8	-0.6
BFZ	**Birch Farm**	**4.34**	**213**	P	Pn	04 45 04.3	-1.4
WAZ	**Wanganui**	**4.34**	**231**	P	Pn	04 45 06.3	+0.5
PRWZ	**Pori Road**	**4.36**	**216**	P	Pn	04 45 04.6	-1.4
NEZ	**North Egmont**	**4.68**	**240**	P	Pn	04 45 12.4	+2.0
PKE	**Pukeiti**	**4.72**	**242**	P	Pn	04 45 13.3	+2.4
KHEZ	**Kahui Hut**	**4.74**	**240**	P	Pn	04 45 13.7	+2.4
OUZ	**Omahuta**	**5.00**	**290**	P	Pn	04 45 14.6	-0.1
OUZ	**Omahuta**	**5.00**	**290**	P	Pn	04 45 14.5	-0.2
KIW	**Kapiti Island**	**5.12**	**221**	P	Pn	04 45 14.6	-1.8
TUWZ	**Tuamarina**	**6.04**	**222**	P	Pn	04 45 28.2	-0.8
QRZ	**Quartz Range**	**6.50**	**233**	P	Pn	04 45 32.8	-2.5
KHZ	**Kahutara**	**6.96**	**218**	P	Pn	04 45 39.9	-1.7
KHZ	**Kahutara**	**6.96**	**218**	P	Pn	04 45 39.9	-1.7
CTZ	**Chatham Island**	**7.34**	**156**	P	Pn	04 45 49.4	+2.5
ODZ	**Otahua Downs**	**10.31**	**217**	P	Pn	04 46 26.3	-1.4

NOU 27 04:54:25.0,18°28S×177°43W,h699km,MLv3.6/4,Fiji Islands Region
IDC 27 04:54:32.9±1.8,18°14S×178°04W,h632km±20km,mb3.1/8, mbtmp4.1/9,Error ellipse: s-maj=36.3km s-min=17.7km az=148.0
ISC 27 04:54:33.7±0.8,18°0S±0°2×178°1W±0°2,h650km,n15, σ1°77/16,mb3.5/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.75**	**250**	P	**P**	**04 55 46.0**	**-3.3**
TAVE	**Taveuni**	**2.16**	**306**	P	**P**	**04 55 51.3**	**-2.0**
FUTU	**Fugatoga**	**3.65**	**359**	P	**P**	**04 55 57.6**	**-3.2**
MSVF	**Nonsavu**	**3.70**	**273**	P	**P**	**04 55 59.2**	**-1.9**
	42nm,0.8s,baz=128,slow=6.0,SNR=21						
MSVF	**Nonsavu**	**3.70**	**273**	P	**P**	**04 55 59.6**	**-1.5**
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**05 01 06.3**	**+0.1**
	5.8nm,0.9s,baz=82,slow=12,SNR=8.1						
	5.8nm,0.9s						
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**05 01 53.6**	**-0.1**
	3.2nm,0.5s,baz=96,slow=7.0,SNR=115						
	3.2nm,0.5s						
ASAR	**Alice Springs**	**45.08**	**254**	P	**P**	**05 01 55.1**	**+0.4**
	8.5nm,0.6s,baz=94,slow=6.6,SNR=6.1						
ASAR				PcP	**PcP**	**05 03 21.1**	**+0.2**
	0.7nm,0.4s,baz=90,slow=4.0,SNR=3.4						
	8.5nm,0.6s						
VNDA	**Vanda**	**60.40**	**185**	P	**P**	**05 03 41.5**	**-0.5**
	0.3nm,0.6s,baz=14,slow=4.2,SNR=1.7						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**79.25**	**44**	P	**P**	**05 05 35.0**	**+0.9**
	0.6nm,0.7s,baz=221,slow=10,SNR=6.8						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**85.76**	**57**	P	**P**	**05 06 08.2**	**+1.6**
	0.5nm,0.6s,baz=215,slow=5.9,SNR=5.6						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**87.18**	**43**	P	**P**	**05 06 14.2**	**+1.0**
	0.3nm,0.6s,baz=235,slow=4.3,SNR=2.3						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.21**	**290**	P	**P**	**05 06 24.8**	**+2.0**
	0.5nm,0.4s,baz=121,slow=3.5,SNR=1.1						
	0.5nm,0.4s						
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	**PKPab**	**05 13 01.1**	**-0.6**
	0.9nm,0.7s,baz=242,slow=2.7,SNR=4.2						
GERES	**GERESS Array B**	**147.76**	**345**	PKPbc	**PKiKP**	**05 13 08.0**	**-0.6**
	0.3nm,0.3s,baz=11,slow=2.7,SNR=6.8						

IDC 27 05:11:42.5±0.6,36°77N×73°09E,h0km,mb4.1/19, mbtmp4.1/27,ML3.6/8,MS3.5/2,Error ellipse: s-maj=15.2km s-min=12.3km az=15.0
BJI 27 05:11:49.2±0.0,37°00N×73°10E,h65km,mb4.4/13, mB4.8/8,Ms4.2/4,Ms7 4.1/4
NEIC 27 05:11:50.7±2.1,36°86N±0°06×73°13E±0°09,h53km±10km, mb4.4/8,Error ellipse: s-maj=10.0km s-min=9.1km az=68.0
NNC 27 05:12:30.1±3.5,40°32N×73°04E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=35.6km s-min=21.4km az=171.0
ISC 27 05:11:49.5±0.5,36°91N±0°05×73°17E±0°05,h50km,n101, σ1°89/106,mb4.1/22,MS3.4/3,4C-2D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.78**	**338**		**Pn**	**05 12 34.5**	**+2.6**
GAR	**Garm**	**3.07**	**314**		**Pn**	**05 12 38.2**	**+2.5**
CHCP	**Chirah Chowk**	**3.25**	**179**	P	**Pn**	**05 12 40.1**	**+2.1**
CEP	**Cherat**	**3.25**	**199**	P	**Pn**	**05 12 40.2**	**+2.1**
CEP				S	Sn	05 13 26.0	+10
NIL	**Nilore**	**3.25**	**179**		**Pn**	**05 12 39.6**	**+1.5**
KSH	**Kashi**	**3.41**	**39**	P	Pn	05 12 37.0	-3.3
KSH				sP		05 12 51.0	
KSH				S	**Sn**	**05 13 14.8**	**-4.7**
CHGR	**Chuyangaron**	**3.63**	**300**	Pn	**Pn**	**05 12 45.0**	**+1.7**
BTK	**Batken**	**3.65**	**330**		**Pn**	**05 12 46.6**	**+3.1**
KBL	**Kabul**	**4.11**	**236**	Pn	**Pn**	**05 12 50.8**	**+0.8**
THW	**Thamme Wali**	**4.27**	**196**	P	**Pn**	**05 12 52.6**	**+0.5**
JMU	**Jammu**	**4.42**	**161**	*e*P	**Pn**	**05 12 55.0**	**+1.0**
THN	**Thein Dam**	**4.93**	**154**	*e*P	**Pn**	**05 13 02.3**	**+1.2**
NRN	**Naryn**	**5.02**	**25**	Pn	**Pn**	**05 13 04.0**	**+1.4**
AML	**Almayashu**	**5.23**	**4**	P	**Pn**	**05 13 08.2**	**+2.7**
	SNR=9.8						
UCH	**Uchtor**	**5.41**	**11**	P	**Pn**	**05 13 10.4**	**+2.4**
	SNR=12						
EKS2	**Erkin-Say**	**5.76**	**4**	P	**Pn**	**05 13 15.6**	**+3.0**
	SNR=14						
IUG	**Iuzhnay**	**5.76**	**336**	*e*P	**Pn**	**05 13 12.9**	**+0.4**
	baz=336						
AAK	**Ala-Archa**	**5.81**	**10**	P	**Pn**	**05 13 15.7**	**+2.5**
	SNR=7.1						
AAK	**Ala-Archa**	**5.81**	**10**	Pn	**Pn**	**05 13 15.7**	**+2.5**
	1.4nm,0.3s,baz=178,slow=4.4,SNR=13						
	7.4nm,0.5s						
AAK	**Ala-Archa**	**5.81**	**10**	Pn	**Pn**	**05 13 15.4**	**+2.2**
BOOM	**Boomskoye usch**	**5.97**	**20**		**Pn**	**05 13 17.4**	**+2.0**
TARG	**Taragay, Kyrgy**	**6.00**	**35**		**Pn**	**05 13 17.2**	**+1.1**
BHK	**Bhakra**	**6.10**	**153**	*e*P	**Pn**	**05 13 16.8**	**-0.3**
DZA	**Taraz**	**6.14**	**347**	*e*P	**Pn**	**05 13 18.2**	**+0.6**
	baz=348						
CHMS	**Chumysh**	**6.20**	**11**	⇑Pn	**Pn**	**05 13 20.5**	**+2.0**
	5.6nm,0.5s						
CHMS				⇑Lg	Lg	05 14 04.1	
	15nm,0.6s						
TKM2	**Tokmak 2**	**6.29**	**16**	P	**Pn**	**05 13 21.9**	**+2.1**
	SNR=23						
TKM2	**Tokmak 2**	**6.29**	**16**	⇑Pn	**Pn**	**05 13 21.7**	**+1.9**
	14nm,0.8s						
TKM2				⇑Lg	Lg	05 14 12.3	
	16nm,0.7s						
KK31	**Karatay Array**	**6.51**	**343**	Pn	**Pn**	**05 13 23.8**	**+1.1**
KK31	**Karatay Array**	**6.51**	**343**	Pn	**Pn**	**05 13 23.6**	**+0.8**
	1.2nm,0.3s,baz=144,slow=11,SNR=76						
KK31				⇓Lg	Lg	05 14 16.0	
	5.1nm,0.3s,baz=151,slow=11,SNR=12						
KKAR	**Karatay Array**	**6.51**	**343**	Pn	**Pn**	**05 13 23.7**	**+1.0**
SGDS	**Sogindy**	**6.63**	**9**	*e*P	**Pn**	**05 13 25.8**	**+1.4**
	baz=10						
SMLA	**Simla**	**6.65**	**149**	*e*P	**Pn**	**05 13 23.8**	**-0.8**
SMLA				IAML		05 14 17.4	
	comp=N,108nm,0.3s						
SMLA				IAML		05 14 17.8	
	comp=E,137nm,0.3s						
TNSS	**Tian-Shan**	**6.77**	**24**	*e*P	**Pn**	**05 13 27.9**	**+1.3**
	baz=26						
AAA	**Alma-Ata**	**6.91**	**23**	*e*P	**Pn**	**05 13 29.9**	**+1.6**
	baz=25						
MDOK	**Medeo**	**6.92**	**24**	*e*P	**Pn**	**05 13 29.6**	**+1.2**
	baz=26						
MDOK	**Medeo**	**6.92**	**24**	Pn	**Pn**	**05 13 32.8**	**+4.4**
	comp=E,9.5nm,1.0s						
MDOK				⇓Lg	Lg	05 14 41.2	
	comp=E,37nm,1.0s						
SATY	**Saty**	**7.34**	**32**	*e*P	**Pn**	**05 13 35.5**	**+1.4**
	baz=33						
KUU	**Kurty**	**7.38**	**18**	*e*P	**Pn**	**05 13 35.7**	**+1.1**
	baz=19						
CHKK	**Chushkaly**	**7.52**	**22**	*e*P	**Pn**	**05 13 38.4**	**+1.8**
	baz=23						
UZB	**Uzynbulak**	**7.67**	**34**	*e*P	**Pn**	**05 13 40.5**	**+1.7**
	baz=35						
KPKS	**Kokpek**	**7.79**	**31**	*e*P	**Pn**	**05 13 42.0**	**+1.8**
	baz=32						
SHLS	**Shalkode**	**7.88**	**36**	*e*P	**Pn**	**05 13 46.3**	**+4.7**
	baz=39						
BTLS	**Baital**	**8.15**	**4**	*e*P	**Pn**	**05 13 45.6**	**+0.5**
	baz=5.1						
NDI	**New Delhi**	**8.88**	**156**	*e*P	**Pn**	**05 13 55.0**	**-0.2**
TDK	**Taldyqorghan**	**9.00**	**24**	*e*P	**Pn**	**05 13 58.5**	**+1.7**
	baz=25						
KHET	**Khetri**	**9.09**	**165**	*e*P	**Pn**	**05 13 54.1**	**-4.0**
SONA	**Sohna**	**9.24**	**158**	*e*P	**Pn**	**05 13 59.2**	**-1.0**
LGTI	**Lohaghat**	**9.51**	**139**	*e*P	**Pn**	**05 14 00.3**	**-3.5**
AJM	**Ajmer**	**10.47**	**173**	*e*P	**Pn**	**05 14 14.2**	**-2.8**
MAKZ	**Makanchi**	**11.86**	**31**		**Pn**	**05 14 37.6**	**+1.7**
MK31	**Makanchi Array**	**11.98**	**32**	Pn	**Pn**	**05 14 39.2**	**+1.7**
MKAR	**Makanchi Array**	**11.98**	**32**	Pn	**Pn**	**05 14 37.5**	**0.0**
	comp=E,0.1nm,0.3s,baz=215,slow=14,SNR=11						
	comp=E,2.8nm,1.0s						
MKAR	**Makanchi Array**	**11.98**	**32**	Pn	**Pn**	**05 14 38.6**	**+1.1**
GEYT	**Alibeck**	**12.02**	**279**	Pn	**Pn**	**05 14 35.4**	**-2.7**
	comp=E,2.1nm,0.3s,baz=111,slow=8.3,SNR=9.3						
	comp=E,4.6nm,0.4s						
JHNI	**Jhansi**	**12.30**	**157**	*e*P	Pn	05 14 37.5	-4.4
BRZS	**Berezniki**	**13.07**	**359**	*i* P	**Pn**	**05 14 53.0**	**+0.7**
	baz=359						
ZSN	**Zaisan**	**13.62**	**36**	*e*P	**Pn**	**05 15 01.4**	**+1.5**
	baz=36						
BHPL	**Bhopal**	**14.11**	**164**	*e*P	Pn	05 15 01.9	-4.8
BHPL				IAmb	IAmb	05 15 08.8	
	comp=Z,7.8nm,0.6s						
BHPL				*e*S	**Sn**	**05 17 45.7**	**+3.9**
KURBB	**Kurchatov Arra**	**14.24**	**14**	Pn	**Pn**	**05 15 07.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=203,slow=12,SNR=3.6						
	comp=Z,0.4nm,0.4s						
KURK	**Kurchatov**	**14.34**	**14**	Pn	**Pn**	**05 15 11.9**	**+2.4**
ABKAR	**Akbulak array**	**15.64**	**326**	Pn	**Pn**	**05 15 24.0**	**-2.4**
BVAR	**Borovoye Array**	**16.23**	**354**	Pn	**Pn**	**05 15 32.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=156,slow=11,SNR=3.0						
	comp=Z,1.3nm,0.5s						
BRVK	**Borovoye**	**16.27**	**354**	Pn	**Pn**	**05 15 35.1**	**+0.6**
AKTO	**Aktyubinsk**	**17.36**	**326**	P	**Pn**	**05 15 45.5**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=122,slow=7.9,SNR=5.4						
	comp=Z,2.2nm,0.6s						
GOMU	**GeErMu**	**17.40**	**86**	P	**Pn**	**05 15 47.3**	**-1.8**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,230nm,5.7s						
WSAR	**Wadi Sarin**	**18.52**	**227**	P	**P**	**05 16 00.1**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=45,slow=4.3,SNR=2.4						
	comp=Z,3.3nm,0.5s						
ZAA0	**Zalesovo Array**	**18.85**	**22**	IAmb	IAmb	05 16 10.3	
	comp=Z,19nm,1.0s						
ZALV	**Zalesovo Beam**	**18.85**	**22**	P	**P**	**05 16 04.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=212,slow=10,SNR=26						
	comp=Z,5.8nm,0.7s						
ZALV	**Zalesovo Beam**	**18.85**	**22**	P	**P**	**05 16 05.3**	**+0.1**
GTA	**Gaotai**	**21.07**	**75**	*e*P	**P**	**05 16 30.3**	**+0.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARU	**Arti**	**21.86**	**338**	P	**P**	**05 16 36.9**	**-0.8**
	comp=Z,6.4nm,0.2s,baz=167,slow=6.6,SNR=4.3						
ARU				LR	LR	05 25 38.3	
	comp=Z,62nm,19.6s,baz=136,slow=38						
	comp=Z,6.4nm,0.2s						
GNI	**Garni**	**22.44**	**287**	P	**P**	**05 16 44.0**	**-0.3**
	comp=Z,5.0nm,0.5s,baz=192,slow=14,SNR=1.9						
	comp=Z,5.0nm,0.5s						
GNI	**Garni**	**22.44**	**287**	P	**P**	**05 16 45.5**	**+1.2**
GNI				IAmb	IAmb	05 16 50.3	
	comp=Z,25nm,1.1s						
BELG	**Belogornoye**	**23.70**	**319**	P	**P**	**05 16 56.3**	**-0.2**
	comp=Z,10nm,0.8s,baz=349,slow=0.3,SNR=5.6						
	comp=Z,10nm,0.8s						
KBZ	**Khabaz**	**23.98**	**296**	P	**P**	**05 17 00.2**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=25,slow=17,SNR=1.5						
	comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**26.67**	**55**	P	**P**	**05 17 24.9**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=259,slow=9.8,SNR=9.0						
	comp=Z,1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.16**	**122**	P	**P**	**05 17 46.1**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=319,slow=9.5,SNR=1.3						
	comp=Z,0.7nm,0.3s						
BR131	**Keskin Array S**	**30.97**	**287**	P	**P**	**05 18 03.1**	**+1.0**
BR131				IAmb	IAmb	05 18 03.8	
	comp=Z,3.6nm,0.6s						
BRTR	**Keskin Array B**	**30.97**	**287**	P	**P**	**05 18 03.1**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=106,slow=8.3,SNR=9.9						
	comp=Z,1.5nm,0.5s						
BRTR	**Keskin Array B**	**30.97**	**287**	P	**P**	**05 18 03.0**	**+0.9**
KLMR	**Klimovskoe**	**32.00**	**329**	*e*P	**P**	**05 18 10.1**	**-0.6**
KLMR				AMP		05 18 27.0	
	comp=Z,16nm,1.9s						
AKASG	**Malin Array Be**	**34.06**	**308**	P	**P**	**05 18 28.6**	**-0.2**
	comp=Z,0.5nm,0.4

BOOM	**Boomskoye usch**	**6.10**	**20**	Pn	**Pn**	**05 14 05.3**	**+1.4**
TARG	**Taragay, Kyrgy**	**6.12**	**35**	Pn	**Pn**	**05 14 07.0**	**+2.6**
SMLA	**Simla**	**6.53**	**148**	*e*P	**Pn**	**05 14 11.8**	**+2.1**
SMLA				IAML		05 15 34.4	
	comp=N,506nm,0.7s						
KK31	**Karatay Array**	**6.65**	**343**	Pn	**Pn**	**05 14 12.0**	**+0.6**
KKAR	**Karatay Array**	**6.65**	**343**	Pn	**Pn**	**05 14 12.0**	**+0.6**
KHET	**Khetri**	**8.95**	**165**	*e*P	**Pn**	**05 14 43.6**	**+0.7**
KHET				*e*S	**Sn**	**05 16 20.3**	**-2.1**
SONA	**Sohna**	**9.11**	**158**	*e*P	**Pn**	**05 14 46.5**	**+1.3**
PTH	**Pithoragarh**	**9.30**	**139**	*e*S	**Sn**	**05 16 31.2**	**-0.2**
AJM	**Ajmer**	**10.33**	**173**	*e*P	**Pn**	**05 15 00.7**	**-1.2**
PYUN	**Piuthan**	**11.97**	**133**	*e*P	**Pn**	**05 15 22.4**	**-2.0**
PYUN				*e*S	**Sn**	**05 17 30.6**	**-6.1**
GEYT	**Alibeck**	**12.05**	**280**	Pn	**Pn**	**05 15 22.9**	**-2.4**
	comp=N,4.3nm,0.3s,baz=108,slow=11,SNR=9.5						
GEYT				LR	LR	05 21 03.4	
	comp=N,262nm,21.2s,baz=88,slow=43						
	comp=N,11nm,0.4s						
MK31	**Makanchi Array**	**12.10**	**31**	Pn	**Pn**	**05 15 26.9**	**+0.9**
MKAR	**Makanchi Array**	**12.10**	**31**	Pn	**Pn**	**05 15 27.4**	**+1.4**
	comp=N,0.3nm,0.3s,baz=215,slow=10,SNR=4.7						
	comp=N,2.3nm,0.7s						
MKAR	**Makanchi Array**	**12.10**	**31**	Pn	**Pn**	**05 15 26.1**	**+0.1**
JHNI	**Jhansi**	**12.16**	**156**	*e*P	**Pn**	**05 15 25.3**	**-1.6**
JHNI				*e*S	**Sn**	**05 17 36.3**	**-4.8**
DANN	**Dangsing**	**12.24**	**130**	*e*P	**Pn**	**05 15 26.1**	**-2.2**
KOLN	**Koldanda**	**12.57**	**133**	*e*P	**Pn**	**05 15 31.5**	**-1.2**
	comp=N,2.7nm,0.4s						
GKN	**Gorkha**	**13.03**	**129**	*e*P	**Pn**	**05 15 36.0**	**-2.9**
KKN	**Kakani**	**13.59**	**128**	*e*P	**Pn**	**05 15 42.3**	**-4.3**
DMN	**Daman**	**13.60**	**129**	*e*P	**Pn**	**05 15 43.6**	**-3.2**
PKIN	**Phulchoki**	**13.81**	**128**	*e*P	**Pn**	**05 15 45.9**	**-3.8**
	comp=N,26nm,0.4s						
PKI	**Pulchoki**	**13.82**	**128**	*e*P	**Pn**	**05 15 45.8**	**-4.1**
	comp=N,26nm,0.5s						
GUN	**Gumba**	**13.89**	**126**	*e*P	**Pn**	**05 15 46.2**	**-4.6**
	comp=N,37nm,0.5s						
BHPL	**Bhopal**	**13.97**	**164**	*e*P	**Pn**	**05 15 49.0**	**-2.6**
BHPL				IAmb	IAmb	05 16 00.4	
	comp=Z,18nm,0.5s						
JIRN	**Jiri**	**14.26**	**126**	*e*P	**Pn**	**05 15 51.5**	**-4.4**
	comp=Z,88nm,0.6s						
KURBB	**Kurchatov Arra**	**14.38**	**14**	Pn	**Pn**	**05 15 57.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=205,slow=10,SNR=1.7						
KURBB				LR	LR	05 21 41.7	
	comp=Z,156nm,19.9s,baz=183,slow=38						
KURK	**Kurchatov**	**14.48**	**14**	P	**P**	**05 16 01.9**	**-2.3**
RAMN	**Ramite**	**15.01**	**127**	*e*P	Pn	05 16 00.9	-4.9
	comp=Z,45nm,0.6s						
TAPN	**Taplejung**	**15.47**	**123**	*e*P	**Pn**	**05 16 05.9**	**-5.9**
	comp=Z,21nm,0.3s						
ODAN	**Odare**	**15.59**	**125**	*e*P	**Pn**	**05 16 08.1**	**-5.1**
ABKAR	**Akbulak array**	**15.76**	**326**	P	**Pn**	**05 16 16.5**	**+1.4**
BVAR	**Borovoye Array**	**16.37**	**354**	Pn	**Pn**	**05 16 21.1**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=155,slow=11,SNR=2.1						
BRVK	**Borovoye**	**16.42**	**354**	P	**Pn**	**05 16 23.5**	**+0.1**
AKTO	**Aktyubinsk**	**17.48**	**326**	P	**Pn**	**05 16 36.8**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=113,slow=15,SNR=2.9						
	comp=Z,5.0nm,0.4s						
WSAR	**Wadi Sarin**	**18.42**	**227**	P	**Pn**	**05 16 48.4**	**-0.1**
	comp=Z,17nm,1.0s,baz=62,slow=6.2,SNR=6.2						
ZAA0	**Zalesovo Array**	**18.98**	**22**	P	**P**	**05 16 52.2**	**-1.7**
ZALV	**Zalesovo Beam**	**18.98**	**22**	P	**Pn**	**05 16 54.4**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=210,slow=10,SNR=10.0						
	comp=Z,19nm,0.8s						
ZALV	**Zalesovo Beam**	**18.98**	**22**	P	**P**	**05 16 53.1**	**-0.9**
GNI	**Garni**	**22.48**	**287**	P	**P**	**05 17 34.2**	**+2.1**
	comp=Z,16nm,0.8s,baz=122,slow=15,SNR=3.1						
GNI				LR	LR	05 29 29.9	
	comp=Z,47nm,19.4s,baz=104,slow=46						
GNI	**Garni**	**22.48**	**287**	P	**P**	**05 17 34.1**	**+1.9**
GNI				IAmb	IAmb	05 17 38.0	
	comp=Z,19nm,0.8s						
BELG	**Belogornoye**	**23.81**	**319**	P	**P**	**05 17 44.8**	**-0.2**
	comp=Z,17nm,0.9s,baz=229,slow=4.0,SNR=3.6						
	comp=Z,17nm,0.9s						
SONM	**Songino Array**	**26.74**	**55**	P	**P**	**05 18 11.0**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=251,slow=11,SNR=4.1						
	comp=Z,1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.07**	**122**	P	**P**	**05 18 35.0**	**+2.2**
	comp=Z,1.5nm,0.3s,baz=309,slow=10,SNR=2.7						
	comp=Z,1.5nm,0.3s						
XAN	**Xi'an**	**29.16**	**85**	P	**P**	**05 18 37.5**	**+4.0**
XAN				pP	pP	05 18 47.0	+0.8
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
BR131	**Keskin Array S**	**31.02**	**288**	P	**P**	**05 18 50.9**	**+0.9**
BR131				IAmb	IAmb	05 18 51.4	
	comp=Z,5.7nm,0.6s						
BRTR	**Keskin Array B**	**31.02**	**288**	P	**P**	**05 18 50.6**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=100,slow=7.7,SNR=11						
	comp=Z,2.9nm,0.6s						
BRTR	**Keskin Array B**	**31.02**	**288**	P	**P**	**05 18 49.9**	**-0.1**
AKASG	**Malin Array Be**	**34.15**	**308**	P	**P**	**05 19 17.3**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=108,slow=8.7,SNR=6.4						
	comp=Z,0.9nm,0.5s						
ATD	**Arta Tunnel**	**37.10**	**235**	P	**P**	**05 19 45.2**	**+2.5**
	comp=Z,3.2nm,0.3s,baz=0.0,slow=4.3,SNR=3.7						
ATD	**Arta Tunnel**	**37.10**	**235**	P	**P**	**05 19 44.4**	**+1.7**
FINES	**FINESS Array B**	**38.25**	**325**	P	**P**	**05 19 51.5**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=99,slow=12,SNR=6.2						
	comp=Z,2.2nm,0.6s						
ARCES	**ARCESS Array B**	**41.58**	**337**	P	**P**	**05 20 19.1**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=110,slow=9.2,SNR=9.3						
	comp=Z,2.1nm,0.5s						
ARCES	**ARCESS Array B**	**41.58**	**337**	P	**P**	**05 20 19.5**	**0.0**
KSRS	**Korea Array**	**43.13**	**72**	P	**P**	**05 20 34.6**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=275,slow=7.1,SNR=5.5						
	comp=Z,1.2nm,0.6s						
NC303	**NORSAR Array S**	**45.16**	**323**	P	**P**	**05 20 48.1**	**-0.4**
NC303				IAmb	IAmb	05 20 54.2	
	comp=Z,5.4nm,0.8s						
NB201	**NORSAR Array S**	**45.19**	**323**	P	**P**	**05 20 47.8**	**-0.9**
NB201				IAmb	IAmb	05 20 50.8	
	comp=Z,8.7nm,1.0s						
NB2	**NORSAR Subarra**	**45.23**	**323**	P	**P**	**05 20 47.8**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**45.23**	**323**	P	**P**	**05 20 48.0**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=103,slow=7.3,SNR=6.2						
	comp=Z,2.2nm,0.7s						
NC204	**NORSAR Array S**	**45.46**	**323**	P	**P**	**05 20 50.0**	**-0.9**
MJAR	**Matsushiro Arr**	**51.22**	**69**	P	**P**	**05 21 37.5**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=288,slow=9.2,SNR=7.3						
	comp=Z,2.9nm,0.7s						
ESDC	**Sonseca Array**	**58.88**	**298**	P	**P**	**05 22 30.6**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=59,slow=7.7,SNR=6.6						
	comp=Z,1.6nm,0.8s						
SUMG	**Summit**	**61.37**	**341**	*i*P	**P**	**05 22 47.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**67.47**	**270**	P	**P**	**05 23 25.9**	**-2.2**
	comp=Z,1.7nm,0.7s,baz=49,slow=6.1,SNR=11						
	comp=Z,1.7nm,0.7s						
INK	**Inuvik**	**73.35**	**10**	P	**P**	**05 24 02.3**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=305,slow=5.7,SNR=6.7						
	comp=Z,1.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**73.66**	**128**	P	**P**	**05 24 06.7**	**+1.1**
	comp=Z,3.9nm,1.0s,baz=155,slow=0.4,SNR=5.4						
	comp=Z,3.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**73.66**	**128**	P	**P**	**05 24 06.8**	**+1.3**
FITZ				IAmb	IAmb	05 24 09.7	
	comp=Z,3.7nm,0.9s						
KNRA	**Kununurra**	**73.91**	**124**	P	**P**	**05 24 07.9**	**+0.8**
ILAR	**Eielson Array**	**74.03**	**17**	P	**P**	**05 24 05.9**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=339,slow=3.1,SNR=4.6						
	comp=Z,0.7nm,0.9s						
WRA	**Warramunga Arr**	**80.66**	**123**	P	**P**	**05 24 45.4**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=322,slow=5.0,SNR=14						
	comp=Z,4.3nm,0.9s						
WRA	**Warramunga Arr**	**80.66**	**123**	P	**P**	**05 24 45.1**	**+0.3**
WB2	**Warramunga Arr**	**80.67**	**123**	P	**P**	**05 24 45.5**	**+0.6**
WB2				IAmb	IAmb	05 24 50.7	
	comp=Z,9.4nm,1.1s						
YKA	**Yellowknife Ar**	**80.88**	**4**	P	**P**	**05 24 45.1**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=346,slow=5.6,SNR=4.5						
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**82.98**	**126**	P	**P**	**05 24 57.5**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=322,slow=5.5,SNR=13						
	comp=Z,3.5nm,0.9s						
PLCA	**Paso Flores**	**151.57**	**251**	PKPbc	**PKPbc**	**05 32 25.6**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=155,slow=1.2,SNR=5.6						

IDC 27 05:21:37.0±1.6, 51.43S×138.12E, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/11, Error ellipse: s-maj=127.9km s-min=27.3km az=83.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.71**	**9**	LR	LR	05 32 30.5	
	comp=Z,101nm,18.6s,baz=204,slow=33						
RPZ	**Rata Peaks**	**23.37**	**84**	LR	LR	05 33 03.9	
	comp=Z,54nm,20.4s,baz=286,slow=29						
H01W1	**Cape Leeuwin H**	**23.89**	**304**	T	T	05 52 25.8	
	baz=140,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**23.90**	**304**	T	T	05 52 26.9	
	baz=140,slow=75,SNR=8.3						
H01W3	**Cape Leeuwin H**	**23.91**	**304**	T	T	05 52 27.0	
	baz=140,slow=75,SNR=9.6						
VNDA	**Vanda**	**27.65**	**169**	P	P	05 27 26.2	+0.3
	0.2nm,0.7s,baz=318,slow=7.9,SNR=3.1						
VNDA				LR	LR	05 36 16.7	
	comp=Z,55nm,19.0s,baz=326,slow=32						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**27.91**	**352**	P	P	05 27 28.9	+0.2
	0.6nm,0.7s,baz=168,slow=10,SNR=4.3						
ASAR				LR	LR	05 37 16.7	
	comp=Z,51nm,21.2s,baz=160,slow=34						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**31.57**	**353**	P	P	05 28 01.2	+0.2
	1.8nm,0.8s,baz=174,slow=7.6,SNR=12						
WRA				LR	LR	05 39 42.7	
	comp=Z,61nm,19.5s,baz=118,slow=34						
	1.8nm,0.8s						
CTA	**Charters Tower**	**31.93**	**15**	LR	LR	05 40 00.9	
	comp=Z,70nm,19.9s,baz=259,slow=35						
FITZ	**Fitzroy Crossi**	**34.70**	**339**	LR	LR	05 41 04.7	
	comp=Z,37nm,21.5s,baz=103,slow=34						
DZM	**Mont Dzumac**	**36.63**	**48**	LR	LR	05 40 15.4	
	comp=Z,34nm,20.9s,baz=220,slow=30						
MAW	**Mawson**	**38.61**	**216**	LR	LR	05 42 44.3	
	comp=Z,65nm,19.5s,baz=114,slow=33						
QSPA	**South Pole Qui**	**38.68**	**180**	LR	LR	05 44 07.1	
	comp=Z,82nm,19.7s,baz=12,slow=35						
BOSA	**Boshof**	**80.92**	**235**	LR	LR	06 01 54.5	
	comp=Z,16nm,21.5s,baz=18,slow=30						
GERES	**GERESS Array B**	**145.00**	**288**	PKPbc	PKPbc	05 41 13.2	-1.5
	0.4nm,0.5s,baz=142,slow=5.0,SNR=4.4						

GUC 27 05:30:14.6±0.6, 21.86S×67.50W, h209km±9km, ML3.5
SCB 27 05:30:17.0±0.7, 21.88S×67.39W, h174km±6km, ML3.5/3, MW3.1, Error ellipse: s-maj=2.8km s-min=1.7km az=0.0
ISC 27 05:30:14.3±1.9, 21.87S±0.05×67.38W±0.04, h180km±17km, n26, σ1s15/40, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.59**	**242**	P	**Pn**	**05 30 48.6**	**+1.0**
MOCB	**Mochara**	**1.74**	**69**	P	**Pn**	**05 30 49.9**	**+0.8**
MOCB				S	**Sn**	**05 31 13.8**	**-2.2**
MOCB				IAML		05 31 17.1	
	122nm,0.6s						
YJA	**Yavi**	**1.76**	**100**	P	**Pn**	**05 30 50.2**	**+0.9**
PB01	**IPOC Station P**	**2.13**	**292**	*e*P	**Pn**	**05 30 53.4**	**+0.5**
PB01				*e*S	**Sn**	**05 31 22.9**	**+0.1**
PB01				IAML		05 31 24.9	
	comp=E,235nm,0.2s						
PB06	**IPOC Station P**	**2.19**	**247**	*e*P	**Pn**	**05 30 54.4**	**+0.8**
PB06				*e*S	**Sn**	**05 31 24.9**	**+0.7**
PB06				IAML		05 31 30.2	
	comp=E,47nm,0.1s						
PB06	**IPOC Station P**	**2.19**	**247**	P	**Pn**	**05 30 54.3**	**+0.7**
PB07	**IPOC Station P**	**2.33**	**273**	*e*P	**Pn**	**05 30 55.8**	**+0.5**
PB07				*e*S	**Sn**	**05 31 27.0**	**-0.1**
PB07				IAML		05 31 28.2	
	comp=N,177nm,0.1s						
PB15	**IPOC Station P**	**2.34**	**235**	*e*P	**Pn**	**05 30 56.4**	**+1.0**
PB15				*e*S	**Sn**	**05 31 29.1**	**+1.7**
PB15				IAML		05 31 35.5	
	comp=N,402nm,0.2s						
PB15	**IPOC Station P**	**2.34**	**235**	P	**Pn**	**05 30 56.2**	**+0.8**
PB15				S	**Sn**	**05 31 24.3**	**-3.1**
PB15				IAML		05 31 35.5	
	comp=N,350nm,0.2s						
PB08	**IPOC Station P**	**2.39**	**316**	*i*P	**Pn**	**05 30 57.4**	**+1.2**
PB08				*e*S	**Sn**	**05 31 29.5**	**+0.8**
PB08				IAML		05 31 31.3	
	comp=E,69nm,0.2s						
PB02	**IPOC Station P**	**2.41**	**283**	*e*P	**Pn**	**05 30 56.3**	**+0.3**
PB02				*e*S	**Sn**	**05 31 28.1**	**-0.3**
PB02				IAML		05 31 28.7	
	comp=N,173nm,0.2s						
PB02	**IPOC Station P**	**2.41**	**283**	P	**Pn**	**05 30 56.5**	**+0.5**
PB02				S	**Sn**	**05 31 25.2**	**-3.2**
PB02				IAML		05 31 28.9	
	comp=N,144nm,0.4s						
AOVT	**TarijaAcel**	**2.51**	**83**	P	**Pn**	**05 30 57.7**	**+0.4**
PB04	**IPOC Station P**	**2.61**	**259**	*e*P	**Pn**	**05 30 58.8**	**+0.4**
PB04				*e*S	**Sn**	**05 31 32.7**	**-0.1**
PB04				IAML		05 31 35.8	
	comp=E,63nm,0.2s						
PB04	**IPOC Station P**	**2.61**	**259**	P	**Pn**	**05 30 59.0**	**+0.6**
GO01	**Chusmiza**	**2.77**	**322**	*e*P	**Pn**	**05 31 01.3**	**+0.6**
GO01				*e*S	**Sn**	**05 31 36.7**	**-0.1**
GO01				IAML		05 31 42.4	
	comp=E,265nm,0.1s						
GO01	**Chusmiza**	**2.77**	**322**	P	**Pn**	**05 31 01.3**	**+0.6**
PATCX	**Punta Patache**	**2.79**	**292**	*e*P	**Pn**	**05 30 60.0**	**-0.5**
PATCX				*e*S	**Sn**	**05 31 34.9**	**-1.5**
PATCX				IAML		05 31 37.7	
	comp=E,170nm,0.2s						
TA01	**Diego Aracena**	**2.92**	**296**	*e*P	**Pn**	**05 31 01.5**	**-0.4**
TA01				*e*S	**Sn**	**05 31 37.3**	**-1.8**
TA01				IAML		05 31 39.4	
	comp=N,93nm,0.5s						
TA01	**Diego Aracena**	**2.92**	**296**	P	**Pn**	**05 31 02.4**	**+0.4**
GO02	**Mina Guanaco**	**3.85**	**211**	*i*P	**Pn**	**05 31 14.2**	**+0.3**
GO02				*e*S	**Sn**	**05 31 59.6**	**-0.8**
GO02	**Mina Guanaco**	**3.85**	**211**	P	**Pn**	**05 31 14.1**	**+0.3**
SOEJ	**Jacaque**	**4.93**	**351**	P	**Pn**	**05 31 29.1**	**+1.2**
BBOE	**La Paz, Chanca**	**5.07**	**353**	P	**Pn**	**05 31 30.7**	**+1.0**
BBOD	**La Paz, Gloria**	**5.33**	**347**	P	**Pn**	**05 31 34.0**	**+0.8**
LPAZ	**La Paz**	**5.60**	**353**	P	**Pn**	**05 31 36.9**	**+0.2**

IDC 27 05:38:11.2±2.4, 0.10S×101.23E, h0km, mb3.5/3, mbtmp3.5/4, ML3.5/1, MS3.5/1, Error ellipse: s-maj=97.2km s-min=21.5km az=52.0
DJA 27 05:38:11.6±0.2, 0.7S±2.7×10.70E±, *h10km, M4.2/13, mb4.4/1, MLv4.0/13*
ISC 27 05:38:10.5±0.9, 0.34S±0.04×100.43E±0.05, h10km, n14, σ1s69/16, mb3.4/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.57**	**177**	P	**Pg**	**05 38 22.7**	**+1.0**
PDSI				S	**Sb**	**05 38 31.4**	**+0.5**
BKNI	**Bangkinang**	**0.90**	**43**	P	**Pg**	**05 38 27.9**	**0.0**
BKNI				S	**Sg**	**05 38 40.6**	**+1.0**
SDSI	**Sungai Dareh**	**1.16**	**121**	P	**Pn**	**05 38 33.7**	**+0.9**
SISI	**Saibi**	**1.66**	**234**	P	**Pn**	**05 38 39.8**	**0.0**
PPSI	**Pulau Pagai**	**2.44**	**190**	P	**Pn**	**05 38 52.1**	**+1.6**
GSI	**Gunungsitoli**	**3.29**	**300**	P	**Pn**	**05 39 02.5**	**+0.3**
MASI	**Maura Aman, Be**	**3.32**	**147**	P	**Pn**	**05 39 04.1**	**+1.5**
PSI	**Prapat**	**3.46**	**334**	Pn	**Pn**	**05 39 08.3**	**+3.7**
	3.7nm,0.3s,baz=138,slow=9.4,SNR=9.3						
PSI				Sn	**Sb**	**05 39 52.8**	**-1.5**
	3.2nm,0.3s,baz=252,slow=22,SNR=6.9						
	12nm,0.4s						
DSRI	**Dabo**	**4.15**	**92**	P	**Pn**	**05 39 14.9**	**+0.9**
KCSI	**Kotacane, Aceh**	**4.67**	**325**	P	**Pn**	**05 39 22.7**	**+1.6**
WRA	**Warramunga Arr**	**38.49**	**123**	P	**P**	**05 45 30.8**	**-2.4**
	0.8nm,1.0s,baz=303,slow=9.1,SNR=4.0						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**39.90**	**128**	P	**P**	**05 45 43.0**	**-2.1**
	0.6nm,0.7s,baz=298,slow=7.9,SNR=2.5						
	0.6nm,0.7s						
SONM	**Songino Array**	**48.26**	**5**	P	**P**	**05 46 51.7**	**-0.2**
	0.5nm,0.6s,baz=168,slow=8.4,SNR=2.5						
	0.5nm,0.6s						
STKA	**Stephens Creek**	**49.94**	**133**	LR	LR	06 09 58.7	
	comp=Z,48nm,18.9s,baz=10,slow=38						

ANF 27 05:52:49.6±0.1, 33.30N×115.73W, h15km, ML3.2/27, Error ellipse: s-maj=1.5km s-min=1.1km az=102.0
PAS 27 05:52:50.5±2.0, 33.291N±0.003×115.71W±0.02, h7km±5km, ML3.2/137, ML3.0/36(NEIC), Error ellipse: s-maj=2.2km s-min=0.4km az=90.0
NEIC 27 05:52:50.7±1.8, 33.286N±0.010×115.75W±0.02, h10km±4km, Error ellipse: s-maj=2.1km s-min=1.5km az=76.0
ISC 27 05:52:50.9±0.8, 33.29N±0.01×115.73W±0.01, h17km±6km, n99, σ1s108/145, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.18**	**205**		**Pg**	**05 52 55.1**	**-0.3**
ERRC					**Sg**	**05 52 59.0**	**+0.5**
SALN	**Salton City**	**0.21**	**269**		**Pb**	**05 52 59.2**	**+2.9**
WEMD	**Westmorland, C**	**0.28**	**153**		**Pg**	**05 52 56.7**	**-0.2**
WEMD					**Sb**	**05 53 02.0**	**+0.3**
SUP	**Superstition M**	**0.34**	**193**		**Pg**	**05 52 57.5**	**-0.4**
SWSC	**Sam W. Stewart**	**0.34**	**190**		**Pg**	**05 52 57.5**	**-0.6**
SWSC					**Sg**	**05 53 02.2**	**-0.7**
SWSC	**Sam W. Stewart**	**0.34**	**190**	P	**Pg**	**05 52 57.5**	**-0.6**
	baz=12,SNR=632						
SWSC				S	**Sg**	**05 53 02.1**	**-0.9**
	baz=12						
IMPE	**Imperial**	**0.41**	**160**		**Pg**	**05 52 59.2**	**0.0**
IMPE					**Sb**	**05 53 06.0**	**+0.4**
CTW	**Cottonwood Mou**	**0.41**	**343**		**Pg**	**05 52 58.5**	**-0.7**
CTW					**Sg**	**05 53 04.3**	**-0.6**
HAY	**Hayfield**	**0.42**	**5**		**Pg**	**05 52 58.7**	**-0.8**
HAY					**Sg**	**05 53 04.9**	**-0.5**
CTCC	**Cactus City**	**0.43**	**330**		**Pg**	**05 52 59.1**	**-0.5**
CTCC					**Sg**	**05 53 05.5**	**-0.1**
COK2	**Cook Ranch 2**	**0.43**	**180**		**Pg**	**05 52 59.5**	**-0.1**
BC3	**Big Chuckawall**	**0.44**	**32**		**Sg**	**05 53 04.8**	**-0.9**
BC3	**Big Chuckawall**	**0.44**	**32**	P	**Pg**	**05 52 58.7**	**-1.1**
	baz=211,SNR=431						
BC3				S	**Sg**	**05 53 04.6**	**-1.2**
	baz=211						
CRR	**Carrizo Plain**	**0.45**	**207**		**Pg**	**05 52 59.3**	**-0.6**
CRR					**Sb**	**05 53 07.3**	**+0.7**
SLP	**Sleepy Hollow**	**0.45**	**258**		**Pg**	**05 52 59.5**	**-0.4**
SLH					**Sb**	**05 53 06.5**	**-0.3**
SNR	**Schaffner Ranc**	**0.49**	**150**		**Pg**	**05 53 00.1**	**-0.5**
SNR					**Sb**	**05 53 08.7**	**+0.9**
WESC	**Westside Schoo**	**0.52**	**180**		**Pg**	**05 53 01.0**	**-0.3**
WESC					**Sb**	**05 53 09.4**	**+0.5**
DREC	**Desert Rsrch C**	**0.53**	**153**		**Pg**	**05 53 01.3**	**-0.2**
DREC					**Sb**	**05 53 10.9**	**+1.8**
BORC	**Borrego Spring**	**0.57**	**269**		**Pg**	**05 53 01.5**	**-0.8**
BORC					**Sb**	**05 53 10.2**	**-0.2**
SGL	**Mount Signal**	**0.63**	**180**		**Pg**	**05 53 02.3**	**-1.0**
PMD	**Palm Desert**	**0.65**	**304**	Pg	**Pg**	**05 53 02.4**	**-1.3**
PMD				IAML		05 53 12.4	
	comp=N,819nm,0.6s						
PMD				IAML		05 53 12.8	
	comp=E,594nm,0.3s						
PMD	**Palm Desert**	**0.65**	**304**		**Sg**	**05 53 11.1**	**-1.2**
YUH	**Yuha Desert**	**0.66**	**194**		**Pg**	**05 53 02.7**	**-1.0**
YUH					**Sg**	**05 53 12.3**	**-0.2**
COA	**Coachella**	**0.66**	**129**		**Pg**	**05 53 02.9**	**-0.9**
COA					**Sb**	**05 53 13.9**	**+1.1**
XPFO	**Pion Flat**	**0.69**	**298**		**Pg**	**05 53 03.2**	**-1.2**
XPFO					**Sg**	**05 53 12.9**	**-0.7**
PFO	**Pinyon Flats O**	**0.69**	**298**		**Pg**	**05 53 03.5**	**-0.9**
PFO				IAML		05 53 14.2	
	comp=E,1μm,0.6s						
PFO				IAML		05 53 14.2	
	comp=E,579nm,0.5s						
PFO	**Pinyon Flats O**	**0.69**	**298**		**Pg**	**05 53 03.3**	**-1.2**
PFO					**Sg**	**05 53 12.9**	**-0.8**
PFO	**Pinyon Flats O**	**0.69**	**298**	P	**Pg**	**05 53 03.2**	**-1.2**
	baz=117,SNR=254						
PFO				S	**Sg**	**05 53 12.8**	**-0.8**
	baz=117						
MONP2	**Monument Peak**	**0.70**	**236**		**Pg**	**05 53 03.9**	**-0.8**
MONP2					**Sg**	**05 53 13.6**	**-0.4**
MONP2	**Monument Peak**	**0.70**	**236**	P	**Pg**	**05 53 03.7**	**-0.9**
	baz=56,SNR=109						
MONP2				S	**Sg**	**05 53 13.5**	**-0.4**
	baz=56						
RUN	**Ruthven**	**0.70**	**116**		**Pg**	**05 53 03.3**	**-1.4**
IKP	**In-Ko-Pah, Jac**	**0.71**	**207**		**Pg**	**05 53 03.8**	**-1.0**
IKP					**Sg**	**05 53 14.0**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**0.

DANC	**Danby, Needles**	**1.38**	**12**			**Pn**	**05 53 16.2**	**+0.8**
BBRC	**Big Bear Solar**	**1.39**	**315**	P		**Pn**	**05 53 14.4**	**-1.4**
	baz=134,SNR=44							
BBRC				S		**Sb**	**05 53 33.3**	**-0.8**
	baz=134							
ELS	**Elsinore Mount**	**1.46**	**285**	Pn		**Pn**	**05 53 15.3**	**-1.3**
GMRC	**Granite Mounta**	**1.50**	**2**			**Pb**	**05 53 18.8**	**+0.5**
GMRC	**Granite Mounta**	**1.50**	**2**	P		**Pn**	**05 53 15.6**	**-1.5**
	baz=182							
GMRC				Sb		**Sb**	**05 53 37.7**	**+0.6**
	baz=182							
CCX	**Cicese**	**1.62**	**209**			**Pn**	**05 53 18.8**	**+0.1**
HEC	**Hector,Ludlow**	**1.62**	**342**	Pg		**Pb**	**05 53 21.1**	**+0.7**
	baz=161							
HEC				Sg		**Sg**	**05 53 42.7**	**-0.5**
	baz=161							
PDMCI	**Parker Dam,Lak**	**1.67**	**52**	Sb		**Sn**	**05 53 41.7**	**+1.3**
	baz=233							
NEE2	**Needles Airpor**	**1.74**	**32**	Pg		**Pb**	**05 53 23.0**	**+0.6**
	baz=212							
NEE2				Sb		**Sb**	**05 53 44.4**	**+0.4**
	baz=212							
BFSC	**Mount Baldy Ra**	**1.87**	**301**	Sb		**Sb**	**05 53 48.0**	**+0.2**
	baz=120							
RRX	**Edison Barstow**	**1.90**	**327**	Sb		**Sg**	**05 53 51.6**	**-0.6**
	baz=146							
TUQ	**Turquoise Moun**	**2.15**	**356**	Pg		**Pb**	**05 53 30.8**	**+1.3**
	baz=175							
TUQ				Sg		**Sg**	**05 53 59.8**	**-0.3**
	baz=175							
FMP	**Fort Macarthur**	**2.18**	**282**	Sb		**Sb**	**05 53 58.5**	**+1.8**
	baz=100							
CIS	**Catalina Islan**	**2.25**	**274**	Pb		**Pb**	**05 53 30.3**	**-0.8**
	baz=92							
CIS				Sb		**Sb**	**05 53 59.0**	**+0.3**
	baz=92							
Y14A	**Wickenburg**	**2.37**	**73**			**Pb**	**05 53 31.9**	**-1.2**
W13A	**Hualapai Mount**	**2.37**	**40**			**Pn**	**05 53 31.0**	**+1.8**
EDW2	**Edwards Air Fo**	**2.46**	**311**	Pb		**Pb**	**05 53 34.9**	**+0.2**
	baz=129							
EDW2				Sb		**Sb**	**05 54 06.4**	**+1.6**
	baz=129							
SHOC	**Shoshone, Teco**	**2.65**	**350**	Pg		**Pb**	**05 53 39.7**	**+1.8**
	baz=170							
LRMC	**Laurel Mtn Rad**	**2.72**	**324**	Pg		**Pg**	**05 53 42.4**	**-0.6**
	baz=143							
214A	**Organ Pipe Nat**	**2.80**	**117**	Pn		**Pn**	**05 53 32.9**	**-2.0**
214A				IAML			05 54 34.8	
	comp=E,36nm,0.8s							
214A	**Organ Pipe Nat**	**2.80**	**117**	P		**Pn**	**05 53 32.9**	**-2.0**
	baz=299							
GWY	**Greenwater Val**	**3.00**	**345**	Pn		**Pn**	**05 53 39.6**	**+1.8**
MPMC	**Manual Prospec**	**3.12**	**333**	Pg		**Pg**	**05 53 48.9**	**-1.8**
	baz=152							
ARVC	**Arvin**	**3.16**	**306**	Pg		**Pg**	**05 53 49.9**	**-1.5**
	baz=125							
TPNV	**Topopah Spring**	**3.68**	**354**	Pg		**Pg**	**05 53 59.7**	**-1.7**
	baz=173							
GRAC	**Grapevine Rang**	**3.94**	**341**			**Pn**	**05 53 51.2**	**+0.6**
GRAC				IAML			05 55 04.8	
	comp=N,33nm,1.3s							
GRAC				IAML			05 55 08.6	
	comp=E,31nm,1.2s							
PRN	**Pahroc Range**	**4.15**	**8**	Pn		**Pn**	**05 53 56.5**	**+3.0**
U15A	**North Rim**	**4.22**	**41**			**Pn**	**05 53 57.0**	**+2.3**
LCH	**Last Change Ra**	**4.24**	**339**			**Pn**	**05 53 55.0**	**+0.2**
KNB	**Kanab**	**4.42**	**32**			**Pn**	**05 53 58.6**	**+1.2**
CCUT	**Cedar City**	**4.67**	**24**	Pn		**Pn**	**05 54 02.8**	**+1.9**
SZCU	**Shurtz Canyon**	**4.81**	**26**			**Pn**	**05 54 05.0**	**+2.3**
LHV	**Little Huntoon**	**5.44**	**336**	Pn		**Pn**	**05 54 13.9**	**+2.7**
SPR3	**Spring Creek 3**	**5.81**	**11**	Pn		**Pn**	**05 54 16.5**	**-0.1**

*ATH **27** 06:00:45.1, 37.35N×20.26E, h8km±2km, ML2.7/10, Error ellipse: s-maj=3.8km s-min=1.3km az=63.0*
*THE **27** 06:00:46.9, 37.40N×20.41E, h1km±4km, ML2.9/6, Error ellipse: s-maj=5.5km s-min=1.1km az=234.0*
ISC 27 06:00:46.2±1.9, 37.40N±0.07×20.37E±0.08, h17km±9km, n34, σ0°55/48, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.48**	**51**	P	**Pb**	**06 00 56.1**	**-0.2**
LTHK	**Lithakia**	**0.48**	**51**	P	**Pb**	**06 00 56.2**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.73**	**14**	P	**Pg**	**06 00 59.6**	**-0.9**
PSDA				S	**Sb**	**06 01 11.3**	**+1.0**
	1µm,0.3s						
PSDA	**Pessada-Kefalo**	**0.73**	**14**	P	**Pg**	**06 00 59.8**	**-0.7**
PSDA				S	**Sn**	**06 01 11.8**	**-0.8**
ARGA	**Argostoli. Kep**	**0.78**	**7**	P	**Pg**	**06 01 00.7**	**-0.7**
ARGA				S	**Sn**	**06 01 13.0**	**-0.8**
VLS	**Valsamata**	**0.79**	**13**	P	**Pg**	**06 01 01.1**	**-0.6**
VLS				S	**Sb**	**06 01 12.7**	**+0.6**
	822nm,0.3s						
VLS	**Valsamata**	**0.79**	**13**	P	**Pg**	**06 01 01.0**	**-0.7**
VLS				S	**Sn**	**06 01 13.4**	**-0.8**
VLS				AML	AML	06 01 19.6	
	comp=E,1957µm,0.4s						
VLS				AML	AML	06 01 22.7	
	comp=N,1571µm,0.4s						
KEF3	**Kipouria, Keph**	**0.80**	**359**	P	**Pg**	**06 01 01.7**	**-0.1**
KEF3				S	**Sn**	**06 01 13.9**	**-0.4**
	comp=N,3µm,0.6s						
KEF3	**Kipouria, Keph**	**0.80**	**359**	P	**Pb**	**06 01 01.9**	**+0.3**
KEF3				S	**Sn**	**06 01 13.7**	**-0.6**
DMLN	**Damoulianata-K**	**0.83**	**0**	P	**Pb**	**06 01 02.2**	**-0.1**
DMLN				S	**Sn**	**06 01 14.5**	**-0.7**
	comp=N,1µm,0.4s						
KEF4	**Livadi, Kephal**	**0.86**	**3**	P	**Pn**	**06 01 03.2**	**-0.3**
KEF4				S	**Sn**	**06 01 15.0**	**-0.7**
KEF4	**Livadi, Kephal**	**0.86**	**3**	P	**Pg**	**06 01 03.0**	**+0.1**
KEF4				S	**Sg**	**06 01 14.8**	**+0.6**
FSK	**Fiskardo**	**1.07**	**8**	P	**Pg**	**06 01 07.5**	**+0.6**
FSK				S	**Sn**	**06 01 22.6**	**+1.7**
	comp=N,315nm,0.3s						
FSK	**Fiskardo**	**1.07**	**8**	P	**Pg**	**06 01 06.8**	**-0.1**
FSK				AML	AML	06 01 31.9	
	comp=N,745µm,0.6s						
FSK				AML	AML	06 01 32.4	
	comp=E,612µm,0.3s						
RLS	**Riolos of Patr**	**1.09**	**53**	P	**Pg**	**06 01 07.4**	**+0.1**
RLS	**Riolos of Patr**	**1.09**	**53**	P	**Pg**	**06 01 07.2**	**-0.1**
RLS				AML	AML	06 01 32.4	
	comp=E,267µm,0.7s						
RLS				AML	AML	06 01 38.9	
	comp=N,457µm,0.5s						
DRO	**Drossia**	**1.20**	**62**	P	**Pg**	**06 01 09.4**	**0.0**
DRO	**Drossia**	**1.20**	**62**	P	**Pg**	**06 01 09.4**	**0.0**
DRO				AML	AML	06 01 40.2	
	comp=N,776µm,0.4s						
DRO				AML	AML	06 01 44.1	
	comp=E,1224µm,0.4s						
PYL	**PYLOS**	**1.21**	**114**	P	**Pn**	**06 01 08.1**	**-0.3**
PYL				S	**Sg**	**06 01 25.6**	**+0.2**
	comp=E,360nm,0.7s						
EVGl	**Lefkada island**	**1.24**	**11**	P	**Pn**	**06 01 08.9**	**+0.1**
EVGl	**Lefkada island**	**1.24**	**11**	P	**Pb**	**06 01 09.2**	**0.0**
ITM	**Ithomi**	**1.27**	**100**	P	**Pb**	**06 01 09.9**	**+0.3**
ITM				AML	AML	06 01 38.5	
	comp=E,551µm,0.5s						
ITM				AML	AML	06 01 40.7	
	comp=N,315µm,0.4s						
LKD2	**Lefkada island**	**1.40**	**9**	P	**Pg**	**06 01 13.3**	**0.0**
LKD2	**Lefkada island**	**1.40**	**9**	P	**Pb**	**06 01 12.4**	**+0.4**
LKD2				S	**Sg**	**06 01 31.6**	**0.0**
LKD2				AML	AML	06 01 44.2	
	comp=E,461µm,0.5s						
LKD2				AML	AML	06 01 47.7	
	comp=N,513µm,0.4s						
TSLK	**Tsoukalades, L**	**1.44**	**9**	P	**Pg**	**06 01 14.1**	**+0.2**
TSLK	**Tsoukalades, L**	**1.44**	**9**	P	**Pb**	**06 01 12.6**	**+0.1**
TSLK				S	**Sg**	**06 01 32.4**	**-0.3**
TSLK				AML	AML	06 01 42.1	
	comp=E,716µm,0.4s						
TSLK				AML	AML	06 01 45.9	
	comp=N,678µm,0.5s						
PVO	**Paravola**	**1.52**	**37**	P	**Pg**	**06 01 14.9**	**-0.6**
PVO	**Paravola**	**1.52**	**37**	P	**Pg**	**06 01 15.1**	**-0.4**
LAKA	**Lakka**	**1.53**	**56**	P	**Pg**	**06 01 15.1**	**-0.5**
KLV	**Kalavryta, Ach**	**1.55**	**65**	P	**Pb**	**06 01 14.9**	**+0.3**
KLV				AML	AML	06 01 53.7	
	comp=E,161µm,0.9s						
KLV				AML	AML	06 01 56.5	
	comp=N,161µm,0.6s						
EFP	**Efpalio**	**1.59**	**50**	P	**Pg**	**06 01 16.3**	**-0.5**
EFP				AML	AML	06 01 52.9	
	comp=N,265µm,0.4s						
EFP				AML	AML	06 01 56.4	
	comp=E,179µm,0.4s						
GUR	**Goura**	**1.66**	**71**	P	**Pb**	**06 01 16.5**	**+0.2**
SERG	**Sergoula**	**1.68**	**52**	P	**Pb**	**06 01 17.0**	**+0.3**
SERG	**Sergoula**	**1.68**	**52**	P	**Pb**	**06 01 16.9**	**+0.3**
SERG				AML	AML	06 01 48.0	
	comp=E,275µm,0.3s						
SERG				AML	AML	06 01 51.8	
	comp=N,342µm,0.4s						

*IDC **27** 06:01:55.6±3.6, 4.37S×153.53E, h112km±28km, mb3.5/4, mbtmp4.0/5, MS3.1/4, Error ellipse: s-maj=44.5km s-min=29.4km az=107.0*
ISC 27 06:01:53.8±1.7, 4.3S±0.2×153.7E±0.1, h100km, n9, σ0°99/9, mb3.7/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.63**	**270**	P	**Pn**	**06 02 22.1**	**+0.4**
	101nm,0.4s,baz=241,slow=2.3,SNR=10						
KRVT				S	**Sn**	**06 02 42.8**	**-0.1**
	388nm,0.7s,baz=359,slow=20,SNR=14						
PMG	**Port Moresby**	**8.20**	**232**	P	**Pn**	**06 03 51.7**	**+1.7**
	14nm,0.5s,baz=82,slow=9.4,SNR=4.6						
PMG				S	**Sn**	**06 05 20.3**	**-0.9**
	22nm,0.7s,baz=309,slow=21,SNR=7.1						
CTA	**Charters Tower**	**17.26**	**204**	LR	LR	06 11 50.1	
	comp=Z,47nm,18.4s,baz=86,slow=35						
WRA	**Warramunga Arr**	**24.41**	**229**	P	**P**	**06 07 02.8**	**-0.4**
	3.3nm,0.8s,baz=54,slow=9.9,SNR=29						
	3.3nm,0.8s						
ASAR	**Alice Springs**	**27.09**	**223**	P	**P**	**06 07 26.7**	**-0.6**
	0.7nm,0.9s,baz=55,slow=8.9,SNR=7.4						
ASAR				LR	LR	06 17 44.7	
	comp=Z,14nm,19.6s,baz=350,slow=35						
	0.7nm,0.9s						
STKA	**Stephens Creek**	**29.67**	**201**	P	**P**	**06 07 49.0**	**-1.1**
	1.5nm,0.6s,baz=24,slow=11,SNR=5.0						
STKA				LR	LR	06 19 12.0	
	comp=Z,30nm,18.3s,baz=25,slow=35						
	1.5nm,0.6s						
SONM	**Songino Array**	**66.38**	**327**	LR	LR	06 39 43.9	
	comp=Z,48nm,19.6s,baz=154,slow=34						
VNDA	**Vanda**	**73.28**	**178**	P	**P**	**06 13 14.4**	**+0.6**
	0.7nm,0.7s,baz=327,slow=6.6,SNR=6.3						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.97**	**289**	PKPbc	**PKPbc**	**06 21 36.0**	**-0.1**
	1.2nm,0.8s,baz=73,slow=2.5,SNR=5.7						

*RSPR **27** 06:19:30.8, 19.63N×64.43W, h25km±30km, MD3.7/9*
*NEIC **27** 06:19:30.1±0.9, 19.56N±0.08×64.4W±0.1, h39km±55km, Error ellipse: s-maj=15.1km s-min=11.7km az=62.0*
ISC 27 06:19:29.7±3.2, 19.5N±0.1×64.4W±0.1, h27km, n46, σ0°81/49, 11C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.11**	**189**	⇑eP	**Pb**	**06 19 49.7**	**-0.6**
TBVI	**Tortola**	**1.11**	**189**		**Pb**	**06 19 49.7**	**-0.6**
SJVI	**Gifft Hill Sch**	**1.23**	**195**	⇑eP	**Pn**	**06 19 51.1**	**-0.1**
SJVI	**Gifft Hill Sch**	**1.23**	**195**	eS	**Sn**	**06 20 08.1**	**+1.3**
SJVI	**Gifft Hill Sch**	**1.23**	**195**		**Pn**	**06 19 51.1**	**-0.1**
SJVI					**Sn**	**06 20 08.1**	**+1.3**
STVI	**Saint Thomas**	**1.27**	**203**	⇓eP	**Pb**	**06 19 52.2**	**-0.7**
STVI	**Saint Thomas**	**1.27**	**203**	eS	**Sn**	**06 20 08.2**	**+0.5**
STVI	**Saint Thomas**	**1.27**	**203**		**Pb**	**06 19 52.2**	**-0.7**
STVI					**Sn**	**06 20 08.2**	**+0.5**
STVI	**Saint Thomas**	**1.27**	**203**	IAML		06 20 12.0	
	comp=N,64nm,0.4s						
CUPR	**Culebra, Puert**	**1.45**	**213**	⇑eP	**Pn**	**06 19 54.5**	**+0.4**
CUPR	**Culebra, Puert**	**1.45**	**213**	eS	**Sn**	**06 20 13.4**	**+1.1**
CUPR	**Culebra, Puert**	**1.45**	**213**		**Pn**	**06 19 54.5**	**+0.4**
CUPR					**Sn**	**06 20 13.4**	**+1.1**
MTP	**Monte Pirata**	**1.77**	**217**	⇓eP	**Pn**	**06 19 59.1**	**+0.6**
MTP	**Monte Pirata**	**1.77**	**217**	eS	**Sn**	**06 20 21.3**	**+1.1**
MTP	**Monte Pirata**	**1.77**	**217**		**Pn**	**06 19 59.1**	**+0.6**
MTP					**Sn**	**06 20 21.3**	**+1.1**
CDVI	**St. Croix**	**1.79**	**190**	⇑eP	**Pb**	**06 20 00.5**	**-1.4**
CDVI	**St. Croix**	**1.79**	**190**	eS	**Sn**	**06 20 21.0**	**+0.3**
CDVI	**St. Croix**	**1.79**	**190**		**Pb**	**06 20 00.5**	**-1.4**
CDVI					**Sn**	**06 20 21.0**	**+0.3**
CBYP	**Canovanas**	**1.83**	**227**	⇑eP	**Pn**	**06 19 59.4**	**0.0**
CBYP	**Canovanas**	**1.83**	**227**		**Pn**	**06 19 59.4**	**0.0**
CBYP	**Canovanas**	**1.83**	**227**	IAML		06 20 35.7	
	comp=E,96nm,0.2s						
HUMP	**Col San Antoni**	**1.92**	**224**	⇑eP	**Pn**	**06 20 00.9**	**+0.3**
HUMP	**Col San Antoni**	**1.92**	**224**	eS	**Sn**	**06 20 24.0**	**+0.2**
HUMP	**Col San Antoni**	**1.92**	**224**		**Pn**	**06 20 00.9**	**+0.3**
HUMP					**Sn**	**06 20 24.0**	**+0.2**
SJG	**San Juan**	**2.14**	**229**	Pn	**Pb**	**06 20 05.4**	**-2.5**
SJG				IAML		06 20 20.6	
	comp=E,30nm,0.3s						
SJG				IAML		06 20 25.0	
	comp=E,28nm,0.3s						
IGPR	**InterUniversit**	**2.21**	**226**	⇑eP	**Pn**	**06 20 05.7**	**+1.0**
AOPR	**Arecibo Observ**	**2.48**	**242**	⇑eP	**Pn**	**06 20 09.1**	**+0.6**
AOPR	**Arecibo Observ**	**2.48**	**242**	eS	**Sn**	**06 20 38.5**	**+0.6**
AOPR	**Arecibo Observ**	**2.48**	**242**		**Pn**	**06 20 09.1**	**+0.6**
AOPR					**Sn**	**06 20 38.5**	**+0.6**
AOPR	**Arecibo Observ**	**2.48**	**242**	IAML		06 20 54.0	
	comp=N,42nm,0.8s						
CELP	**Cerrillos**	**2.49**	**235**	⇑eP	**Pn**	**06 20 09.0**	**+0.6**
CELP	**Cerrillos**	**2.49**	**235**		**Pn**	**06 20 09.0**	**+0.6**
CELP	**Cerrillos**	**2.49**	**235**	IAML		06 20 57.1	
	comp=N,17nm,0.4s						
OBIP	**Obispado Ponce**	**2.53**	**235**	⇓eP	**Pn**	**06 20 09.6**	**+0.7**
OBIP	**Obispado Ponce**	**2.53**	**235**	eS	**Sn**	**06 20 40.0**	**+1.1**
OBIP	**Obispado Ponce**	**2.53**	**235**		**Pn**	**06 20 09.6**	**+0.7**
OBIP					**Sn**	**06 20 40.0**	**+1.1**
OBIP	**Obispado Ponce**	**2.53**	**235**	IAML		06 20 43.6	
	comp=N,24nm,1.4s						
MLPR	**Magueyes Islan**	**2.91**	**238**	⇑eP	**Pn**	**06 20 14.6**	**+0.3**
MLPR	**Magueyes Islan**	**2.91**	**238**	eS	**Sn**	**06 20 48.7**	**+0.3**
MLPR	**Magueyes Islan**	**2.91**	**238**		**Pn**	**06 20 14.6**	**+0.3**
MLPR					**Sn**	**06 20 48.7**	**+0.3**
MLPR	**Magueyes Islan**	**2.91**	**238**	IAML		06 20 59.9	
	comp=N,17nm,1.2s						
MLPR				IAML		06 21 04.6	
	comp=E,16nm,1.5s						
CRPR	**Cabo Rojo, PR**	**2.95**	**240**	⇑eP	**Pn**	**06 20 14.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.95**	**240**	eS	**Sn**	**06 20 49.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.95**	**240**		**Pn**	**06 20 14.8**	**+0.1**
CRPR					**Sn**	**06 20 49.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.95**	**240**	IAML		06 21 07.8	
	comp=N,15nm,1.2s						
CRPR				IAML		06 21 25.7	
	comp=E,17nm,1.8s						
SDDR	**Presa de Saban**	**6.49**	**266**		**Pn**	**06 21 04.8**	**+1.2**

*IDC **27** 06:31:05.0±3.3, 53.68N×88.16E, h0km, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=29.3km s-min=17.1km az=63.0*
*NNC **27** 06:31:05.5±2.7, 53.62N×88.15E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=22.2km s-min=10.2km az=58.0, Suspected Mining explosion.*
ISC 27 06:31:06.8±3.9, 53.7N±0.1×88.0E±0.2, h0km, n9, σ0°99/10, 8C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**280**	*i*		06 44 40.0	
	baz=92,slow=330,SNR=13						
ZAA0	**Zalesovo Array**	**1.88**	**280**	⇑Pn	**Pn**	**06 31 39.8**	**-0.2**
	1.2nm,0.9s						
ZAA0				⇑Sn	**Sg**	**06 32 07.6**	**+0.6**
	2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**1.88**	**280**	Pn	**Pn**	**06 31 40.0**	**-0.1**
	0.9nm,0.3s,baz=99,slow=14,SNR=17						
ZALV				Lg	Lg	06 32 08.7	
	3.2nm,0.3s,baz=99,slow=27,SNR=15						
KURK	**Kurchatov**	**6.46**	**246**	⇑Lg	Lg	06 34 30.8	
	2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.55**	**246**	Pn	**Pn**	**06 32 44.4**	**+0.1**
	0.1nm,0.3s,baz=65,slow=15,SNR=1.5						
	1.0nm,0.2s						
KURBB	**Kurchatov Arra**	**6.55**	**246**	⇑Lg	Lg	06 34 35.6	
	3.4nm,0.6s						
MK31	**Makanchi Array**	**7.79**	**210**	Pn	**Pn**	**06 33 02.3**	**+1.0**
	0.4nm,0.6s,baz=27,slow=13,SNR=7.5						
MK31				⇑Sn	**Sn**	**06 34 31.3**	**+1.1**
	0.7nm,0.8s						
MK31				⇓Lg	Lg	06 35 11.2	
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**7.79**	**210**	Pn	**Pn**	**06 33 02.0**	**+0.7**
	0.1nm,0.3s,baz=27,slow=14,SNR=6.8						
MKAR				Sn	**Sn**	**06 34 29.0**	**-1.2**
	0.1nm,0.3s,baz=31,slow=23,SNR=3.5						
MKAR				Lg	Lg	06 35 12.3	
	0.1nm,0.3s,baz=26,slow=32,SNR=2.7						
	0.2nm,0.4s						
MAKZ	**Makanchi**	**7.87**	**211**	⇑Pn	**Pn**	**06 33 01.8**	**-0.6**
	1.1nm,0.7s						
MAKZ				⇑Sn	**Sn**	**06 34 30.8**	**-1.4**
	0.9nm,0.8s						
MAKZ				⇑Lg	Lg	06 35 13.0	
	0.1nm,0.3s						

*VAO **27** 06:38:45.8±1.1, 21.86S×72.40W, h35km, mb3.8*
*GUC **27** 06:39:18.7±0.6, 21.89S×69.41W, h80km±2km, ML3.7*
ISC 27 06:39:17.8±0.9, 21.87S±0.04×69.46W±0.06, h87km±8km, n31, σ1°06/44, 9C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.22**	**70**	⇓*i*P	**Pn**	**06 39 30.4**	**-0.4**
PB09				*e*S	**Sn**	**06 39 39.5**	**-0.9**
PB09				IAML		06 39 41.3	
	comp=E,6µm,0.2s						
PB07	**IPOC Station P**	**0.42**	**290**	⇑*i*P	**Pn**	**06 39 32.0**	**+0.1**
PB07				*e*S	**Sn**	**06 39 42.2**	**-0.1**
PB07				IAML		06 39 43.8	
	comp=N,7µm,0.1s						
PB02	**IPOC Station P**	**0.68**	**324**	⇑*i*P	**Pn**	**06 39 34.4**	**+0.3**
PB02				*i* S	**Sn**	**06 39 46.6**	**+0.5**
PB02				IAML		06 39 48.4	
	comp=E,4µm,0.2s						
PB04	**IPOC Station P**	**0.79**	**234**	⇑*i*P	**Pn**	**06 39 35.2**	**0.0**
PB04				*e*S	**Sn**	**06 39 48.0**	**-0.1**
PB04				IAML		06 39 48.9	
	comp=N,3µm,0.1s						
PB01	**IPOC Station P**	**0.82**	**358**	⇑*i*P	**Pn**	**06 39 35.8**	**+0.2**
PB01				*e*S	**Sn**	**06 39 48.8**	**+0.1**
PB01				IAML		06 39 49.6	
	comp=E,4µm,0.1s						
PB06	**IPOC Station P**	**0.84**	**187**	⇑*i*P	**Pn**	**06 39 35.5**	**-0.3**
PB06				*e*S	**Sn**	**06 39 48.9**	**-0.1**
PB06				IAML		06 39 49.4	
	comp=N,3µm,0.2s						
LVC	**Limon Verde**	**0.90**	**145**	*e*P	**Pn**	**06 39 35.9**	**-0.7**
LVC				*e*S	**Sn**	**06 39 50.5**	**0.0**
LVC	**Limon Verde**	**0.90**	**145**	*e*P	**Pn**	**06 39 36.3**	**-0.2**
PATCX	**Punta Patache**	**1.23**	**328**	⇑*e*P	**Pn**	**06 39 40.5**	**+0.4**
PATCX				*e*S	**Sn**	**06 39 57.5**	**+0.5**
PATCX				IAML		06 39 59.4	
	comp=N,2µm,0.3s						
PB15	**IPOC Station P**	**1.33**	**180**	⇑*e*P	**Pn**	**06 39 41.8**	**+0.3**
PB15				*e*S	**Sn**	**06 40 00.1**	**+0.7**
PB15				IAML		06 40 03.1	
	comp=N,7µm,0.3s						
TA01	**Diego Aracena**	**1.46**	**333**	*e*P	**Pn**	**06 39 43.1**	**+0.1**
TA01				*e*S	**Sn**	**06 40 02.3**	**+0.3**
TA01				IAML		06 40 06.1	
	comp=E,532nm,0.5s						
AF01	**San Pedro de A**	**1.60**	**132**	⇑*i*P	**Pn**	**06 39 46.4**	**+1.3**
AF01				*e*S	**Sn**	**06 40 05.2**	**-0.4**
AF01				IAML		06 40 09.1	
	comp=N,3µm,0.4s						
TA02	**Huaiquique**	**1.71**	**338**	*e*P	**Pn**	**06 39 46.4**	**+0.2**
TA02				*e*S	**Sn**	**06 40 08.1**	**+0.4**
TA02				IAML		06 40 12.3	
	comp=N,1µm,0.1s						
PB08	**IPOC Station P**	**1.75**	**10**	⇑*e*P	**Pn**	**06 39 47.8**	**+0.8**
PB08				*e*S	**Sn**	**06 40 08.3**	**-0.8**
PB08				IAML		06 40 15.4	
	comp=E,282nm,0.1s						
GO01	**Chusmiza**	**2.21**	**7**	*e*P	**Pn**	**06 39 53.9**	**+0.7**
GO01				IAML		06 40 27.0	
	comp=N,735nm,0.1s						
PTLB	**Pontes e Lacer**	**11.68**	**59**	*e*P	**Pn**	**06 42 01.9**	**+0.3**
CPUP	**Villa Florida**	**11.94**	**114**	*e*P	**Pn**	**06 42 08.7**	**+3.8**
VILB	**Vilhena**	**12.52**	**46**	*e*P	**Pn**	**06 42 10.5**	**-2.3**
AQDB	**Aquidauana**	**12.91**	**86**	*e*P	**P**	**06 42 23.7**	**-1.7**
SALV	**Santo Antonio**	**14.31**	**68**	*e*P	**P**	**06 42 41.4**	**+0.4**
CRSM	**Crissiumal (Br**	**15.09**	**115**	*e*P	**P**	**06 42 48.4**	**-1.1**
RODS	**Rosario do Sul**	**15.33**	**126**	*e*P	**Pn**	**06 42 49.1**	**-0.2**
FRBT	**Francisco Belt**	**15.54**	**108**	*e*P	**Pn**	**06 42 53.5**	**+1.4**
PDRB	**Porto dos Gac**	**15.89**	**52**	*e*P	**Pn**	**06 42 55.4**	**-1.1**
ALGR	**Alto Alegre (B**	**16.37**	**118**	*e*P	**P**	**06 43 03.7**	**-0.1**
PCMB	**Pacaembu**	**16.91**	**92**	*e*P	**P**	**06 43 10.7**	**+0.9**
CLDB	**Colider**	**17.06**	**52**	*e*P	**Pn**	**06 43 08.9**	**-2.1**
BB19B	**Boldouro**	**19.50**	**92**	*e*P	**P**	**06 43 39.4**	**+1.2**
SNDB	**Serra Nova Dou**	**19.95**	**63**	*e*P	**P**	**06 43 41.3**	**-1.9**
IPMB	**Ipameri, GO**	**20.35**	**83**	*e*P	**P**	**06 43 47.7**	**+0.3**
BDFB	**Brasil

	5.2nm,0.4s							
KURK				⇑S		**Sg**	**07 22 25.9**	**-0.5**
	2.1nm,0.3s							
MAKZ	**Makanchi**	**3.87**	**145**	⇑Pn		**Pn**	**07 23 03.7**	**-0.7**
	0.8nm,0.8s							
MAKZ				⇑Pg		**Pb**	**07 23 13.7**	**+1.0**
	1.4nm,0.6s							
MAKZ				⇓Lg		Lg	07 24 04.9	
	8.0nm,0.8s							
MK31	**Makanchi Array**	**4.00**	**142**	⇑Pn		**Pn**	**07 23 06.7**	**+0.5**
	0.1nm,0.1s,baz=277,slow=7.0,SNR=30							
MK31				⇓Pg		**Pb**	**07 23 15.2**	**+0.2**
	0.5nm,0.3s,baz=323,slow=14,SNR=13							
MK31				⇑Lg		Lg	07 24 08.2	
	11nm,0.8s,baz=333,slow=37,SNR=14							
MKAR	**Makanchi Array**	**4.00**	**142**	Pn		**Pn**	**07 23 06.5**	**+0.3**
	0.2nm,0.3s,baz=324,slow=10,SNR=35							
MKAR				Pg		**Pb**	**07 23 14.7**	**-0.4**
	0.5nm,0.3s,baz=329,slow=16,SNR=12							
MKAR				Lg		Lg	07 24 09.3	
	1.1nm,0.3s,baz=332,slow=25,SNR=17							
	0.2nm,0.3s							
OTUK	**Ortayu**	**4.54**	**250**	⇓Pn		**Pn**	**07 23 13.6**	**0.0**
	0.3nm,0.1s							
OTUK				⇑Lg		Lg	07 24 29.0	
	3.3nm,0.7s							
I46RU	**ZALESOVO INFRA**	**5.46**	**41**	*i*			07 55 00.0	
	baz=225,slow=323,SNR=6.3							
ZALV	**Zalesovo Beam**	**5.46**	**41**	Pn		**Pn**	**07 23 27.3**	**+1.2**
	0.4nm,0.3s,baz=230,slow=11,SNR=2.8							
	0.7nm,0.3s							

IDC ***27*** *07:27:58.9±1.2,34°.34N×141°.72E, h0km, mb3.7/8, mbtmp3.7/10, ML3.3/2, Error ellipse: s-maj=24.9km s-min=18.8km az=88.0*

JMA ***27*** *07:28:00.8±0.4,34°.4N±0°.9×14°.2E±°, h33km±2km, MV3.3/34, FAR SE OFF BOSO PEN*

ISC 27 07:28:01.4±2.2,34°.41N±0°.05×141°.73E±0°.09,h16km±12km, n25,σ0°84/26,mb3.7/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.67**	**291**	P	**Pg**	**07 28 14.4**	**+0.1**
BSO3	**Boso 3**	**1.08**	**291**	P	**Pb**	**07 28 21.2**	**-0.2**
BSO4	**Boso 4**	**1.28**	**297**	P	**Pn**	**07 28 24.5**	**0.0**
JKUC	**kamogawauchiur**	**1.46**	**301**	P	**Pn**	**07 28 26.7**	**-0.3**
JKUC				*e*S	**Sn**	**07 28 45.6**	**-0.3**
CHOJ	**Chosi**	**1.47**	**331**	P	**Pn**	**07 28 26.4**	**-0.7**
CHOJ				*e*S	**Sn**	**07 28 44.1**	**-2.0**
JMKN	**Mikurajimanish**	**1.85**	**254**	*e*P	**Pn**	**07 28 31.8**	**-0.6**
JMKN				S	**Sn**	**07 28 54.4**	**-1.0**
JIM2	**Oshima 3**	**1.92**	**280**	*e*P	**Pn**	**07 28 33.4**	**0.0**
JIM2				*e*S	**Sn**	**07 28 57.3**	**0.0**
JHJ2	**Mitsune**	**2.06**	**231**	P	**Pn**	**07 28 35.4**	**+0.2**
JHJ2				*e*S	**Sn**	**07 29 00.8**	**+0.4**
JHJ	**Hachijo jima 2**	**2.07**	**232**	Pn	**Pn**	**07 28 35.1**	**-0.3**
	36nm,0.3s,baz=129,slow=21,SNR=20						
JHJ				Sn	**Sn**	**07 29 00.8**	**-0.1**
	52nm,0.3s,baz=235,slow=23,SNR=7.8						
	89nm,0.3s						
JOD2	**Odawara 2**	**2.33**	**292**	P	**Pn**	**07 28 38.2**	**-0.8**
MJAR	**Matsushiro Arr**	**3.57**	**307**	Pn	**Pn**	**07 28 56.6**	**+0.5**
	1.5nm,0.3s,baz=12,slow=13,SNR=16						
MJAR				Sn	**Sn**	**07 29 40.0**	**+2.0**
	0.5nm,0.3s,baz=226,slow=9.4,SNR=2.3						
	7.1nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.66**	**117**	T	T	08 01 38.7	
	baz=309,slow=75,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**26.67**	**117**	T	T	08 01 41.1	
	baz=309,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**26.68**	**117**	T	T	08 01 42.8	
	baz=309,slow=75,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**27.29**	**119**	T	T	08 02 34.4	
	baz=313,slow=74,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**27.29**	**119**	T	T	08 02 27.5	
	baz=313,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**27.30**	**119**	T	T	08 02 37.0	
	baz=313						
SONM	**Songino Array**	**29.53**	**308**	P	**P**	**07 34 06.6**	**+1.5**
	0.5nm,0.5s,baz=113,slow=6.1,SNR=2.5						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.15**	**258**	P	**P**	**07 35 44.0**	**-1.1**
	1.4nm,0.5s,baz=44,slow=10,SNR=8.4						
	1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**43.90**	**314**	P	**P**	**07 36 06.7**	**-0.2**
	0.9nm,0.6s,baz=99,slow=9.2,SNR=3.8						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**45.77**	**304**	P	**P**	**07 36 22.3**	**+0.3**
	0.5nm,0.6s,baz=91,slow=10.0,SNR=7.2						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**47.85**	**310**	P	**P**	**07 36 38.0**	**-0.2**
	1.6nm,0.6s,baz=84,slow=7.8,SNR=20						
	1.6nm,0.6s						
ILAR	**Eielson Array**	**51.58**	**31**	P	**P**	**07 37 07.2**	**+0.8**
	0.6nm,0.9s,baz=252,slow=7.0,SNR=5.3						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**54.51**	**189**	P	**P**	**07 37 28.1**	**-0.4**
	0.6nm,0.7s,baz=4.6,slow=7.6,SNR=6.2						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**58.23**	**188**	P	**P**	**07 37 54.5**	**-0.4**
	0.4nm,0.7s,baz=10,slow=13,SNR=4.4						
	0.4nm,0.7s						

IDC ***27*** *07:46:10.5±2.8,32°.52S×178°.18W, h0km, mb4.2/2, mbtmp4.2/3, ML3.7/1, Error ellipse: s-maj=67.2km s-min=35.3km az=119.0*

NEIC ***27*** *07:46:28.7±1.3,32°.9S±0°.1×180°.0E±0°.2, h37km±13km, mb4.5/12, Error ellipse: s-maj=28.7km s-min=20.7km az=86.0*

ISC 27 07:46:09.8±3.1,32°.6S±0°.2×177°.9W±0°.4,h10km,n20, σ0°73/19,mb4.4/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.98**	**214**	Pn	**Pn**	**07 47 53.3**	**+1.2**
	1.4nm,0.3s,baz=58,slow=3.0,SNR=7.3						
URZ				Sn	**Sn**	**07 49 11.0**	**-0.5**
	4.3nm,0.3s,baz=260,slow=24,SNR=8.0						
	7.5nm,0.5s						
URZ	**Urewera**	**6.98**	**214**	Pn	**Pn**	**07 47 53.1**	**+1.1**
BKZ	**Black Stump Fm**	**8.00**	**213**	Pn	**Pn**	**07 48 05.8**	**-0.2**
LTZ	**Lake Taylor**	**12.81**	**215**	Pn	**Pn**	**07 49 12.3**	**+0.3**
BBOO	**Buckleboo**	**38.52**	**257**	P	**P**	**07 53 30.6**	**-1.9**
COEN	**Coen**	**40.01**	**288**	P	**P**	**07 53 45.7**	**+0.6**
COEN				IAmb	IAmb	07 54 22.1	
	comp=Z,20nm,1.5s						
ASAR	**Alice Springs**	**43.14**	**269**	P	**P**	**07 54 11.0**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=111,slow=7.4,SNR=22						
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**43.14**	**269**	P	**P**	**07 54 11.1**	**+0.4**
WR0	**Warramunga Arr**	**44.15**	**274**	P	**P**	**07 54 19.0**	**+0.2**
WB2	**Warramunga Arr**	**44.31**	**274**	P	**P**	**07 54 20.4**	**+0.2**
WB2				IAmb	IAmb	07 54 22.1	
	comp=Z,8.0nm,1.0s						
WRA	**Warramunga Arr**	**44.33**	**274**	P	**P**	**07 54 20.3**	**0.0**
	comp=Z,2.2nm,0.5s,baz=114,slow=7.5,SNR=41						
	comp=Z,2.2nm,0.5s						
WRA	**Warramunga Arr**	**44.33**	**274**	P	**P**	**07 54 20.9**	**+0.6**
WB0	**Warramunga Arr**	**44.36**	**275**	P	**P**	**07 54 20.3**	**-0.2**
FORT	**Forrest**	**45.62**	**257**	P	**P**	**07 54 30.4**	**-0.1**
MTN	**Manton Dam**	**50.46**	**281**	P	**P**	**07 55 08.4**	**+0.4**
MTN				IAmb	IAmb	07 55 08.8	
	comp=Z,5.7nm,1.1s						
KNRA	**Kununurra**	**51.01**	**276**	P	**P**	**07 55 12.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.49**	**272**	P	**P**	**07 55 23.2**	**-0.1**
FITZ				IAmb	IAmb	07 55 41.3	
	comp=Z,7.0nm,1.5s						
QSPA	**South Pole Qui**	**57.53**	**180**	P	P	07 56 12.9	+14
QSPA				IAmb	IAmb	07 56 14.7	
	comp=Z,2.3nm,0.6s						
SNAA	**Sanae**	**75.97**	**178**	P	P	07 58 10.2	+14
SNAA				IAmb	IAmb	07 58 11.6	
	comp=Z,6.9nm,1.4s						
FINES	**FINESS Array B**	**147.22**	**339**	PKPbc	**PKPab**	**08 05 53.7**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=45,slow=4.0,SNR=15						

NOU ***27*** *07:54:30.9,32°.84S×176°.95W, h26km, mb4.9/14, South of Kermadec Islands*

IDC ***27*** *07:54:34.3±0.7,32°.34S×178°.33W, h0km, mb4.3/6, mbtmp4.3/8, ML4.4/2, MS4.2/23, Error ellipse: s-maj=25.5km s-min=20.3km az=114.0*

NEIC ***27*** *07:54:36.3±1.3,32°.44S±0°.07×178°.2W±0°.2, h10km±1km, mb4.8/21, Error ellipse: s-maj=22.6km s-min=11.4km az=106.0*

WEL ***27*** *07:54:36.7±0.7,32°.S±14°×17°.9W±3°.7, h33km, M4.8/13, mB5.1/7, ML5.3/13, MLv5.0/13, Mw(mB)4.5/7, Error ellipse: s-maj=0.1km s-min=0.0km az=109.8*

GCMT ***27*** *07:54:40.3±0.4,32°.65S±0°.04×177°.90W±0°.04, h22km±1km, MW5.0/71, Moment Tensor Solution. s26,c26; s71,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.99±.32; Mθθ-3.27±.25; Mφφ-1.72±.17; Mrθ0.56±.37; Mrφ-0.17±.11; Mθφ1.60±.26; Best double couple: M=4.37400×10^16 NP1:ϕs68.00000°,δ52.00000°,λ75.00000°. NP2: ϕs271.00000°,δ40.00000°,λ108.00000°. Principal axes: T 5.3810, Plg77.0000°, Azm285.0000°; N -2.0150, Plg12.0000°, Azm77.0000°; P -3.3660, Plg6.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 07:54:35.3±0.5,32°.51S±0°.05×178°.06W±0°.09,h10km, n126,σ1°93/122,mb4.8/17,MS4.2/25,1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.24**	**2**	P	**Pn**	**07 55 22.7**	**-3.5**
GLKZ				S	**Sn**	**07 55 59.7**	**-5.2**
RAO	**Raoul Island**	**3.25**	**2**	Pn	**Pn**	**07 55 23.4**	**-3.0**
	83nm,0.3s,baz=153,slow=23,SNR=5.9						
RAO				Sn	**Sn**	**07 56 03.5**	**-1.6**
	257nm,0.3s,baz=105,slow=20,SNR=3.6						
	207nm,0.2s						
RAO	**Raoul Island**	**3.25**	**2**	Pn	**Pn**	**07 55 24.6**	**-1.8**
RIZ	**Raoul Island**	**3.26**	**2**	P	**Pn**	**07 55 23.2**	**-3.3**
RIZ				S	**Sn**	**07 56 03.1**	**-2.3**
MXZ	**Matakaoa Point**	**5.85**	**210**	Pn	**Pn**	**07 56 00.2**	**-1.9**
MXZ	**Matakaoa Point**	**5.85**	**210**	P	**Pn**	**07 55 59.3**	**-2.8**
MXZ				S	**Sn**	**07 57 05.7**	**-3.5**
WMGZ	**Waiomatatini S**	**6.03**	**208**	P	**Pn**	**07 56 04.0**	**-0.5**
WMGZ				S	**Sn**	**07 57 13.0**	**-0.6**
PKGZ	**Pakihiroa**	**6.22**	**209**	P	**Pn**	**07 56 06.0**	**-1.3**
PKGZ				S	**Sn**	**07 57 16.6**	**-1.9**
HAZ	**Te Kaha**	**6.24**	**212**	P	**Pn**	**07 56 06.4**	**-1.0**
HAZ				S	**Sn**	**07 57 18.7**	**-0.1**
PUZ	**Puketiti**	**6.31**	**207**	P	**Pn**	**07 56 06.1**	**-2.3**
PUZ				S	**Sn**	**07 57 18.4**	**-2.1**
RUGZ	**Raukumara Rang**	**6.46**	**211**	P	**Pn**	**07 56 09.0**	**-1.6**
RUGZ				S	**Sn**	**07 57 23.4**	**-1.0**
TWGZ	**Tauwhareparae**	**6.51**	**209**	P	**Pn**	**07 56 10.8**	**-0.4**
TWGZ				S	**Sn**	**07 57 23.5**	**-2.0**
CNGZ	**Carnagh Statio**	**6.69**	**206**	P	**Pn**	**07 56 11.2**	**-2.4**
TKGZ	**Te Karaka**	**6.79**	**208**	P	**Pn**	**07 56 14.2**	**-0.7**
TKGZ				S	**Sn**	**07 57 29.9**	**-2.4**
MWZ	**Matawai**	**6.83**	**211**	P	**Pn**	**07 56 13.1**	**-2.5**
MWZ				S	**Sn**	**07 57 29.2**	**-4.3**
OPRZ	**Ohinepanea**	**6.91**	**218**	P	**Pn**	**07 56 16.2**	**-0.4**
URZ	**Urewera**	**6.96**	**213**	Pn	**Pn**	**07 56 16.3**	**-0.9**
	3.7nm,0.3s,baz=0.4,slow=2.2,SNR=18						
URZ				Sn	**Sn**	**07 57 32.8**	**-3.6**
	6.3nm,0.3s,baz=345,slow=6.7,SNR=8.1						
	13nm,0.4s						
URZ	**Urewera**	**6.96**	**213**	Pn	**Pn**	**07 56 16.5**	**-0.7**
URZ	**Urewera**	**6.96**	**213**	P	**Pn**	**07 56 16.0**	**-1.2**
URZ				S	**Sn**	**07 57 33.8**	**-2.6**
URZ	**Urewera**	**6.96**	**213**	P	**Pn**	**07 56 16.1**	**-1.2**
RAGZ	**Rawiri**	**7.01**	**210**	P	**Pn**	**07 56 17.7**	**-0.4**
RAGZ				S	**Sn**	**07 57 36.8**	**-1.2**
RIGZ	**Rimuhau**	**7.05**	**208**	P	**Pn**	**07 56 15.7**	**-2.9**
RIGZ				S	**Sn**	**07 57 34.3**	**-4.5**
SNGZ	**Shannon Statio**	**7.29**	**210**	P	**Pn**	**07 56 21.5**	**-0.3**
SNGZ				S	**Sn**	**07 57 42.2**	**-2.4**
MUGZ	**Murupara**	**7.29**	**214**	P	**Pn**	**07 56 20.3**	**-1.6**
RRRZ	**Republican Roa**	**7.30**	**216**	P	**Pn**	**07 56 23.7**	**+1.6**
RTZ	**Ruatahuna**	**7.30**	**212**	P	**Pn**	**07 56 20.8**	**-1.3**
RTZ				S	**Sn**	**07 57 42.4**	**-2.8**
KNZ	**Kokohu**	**7.36**	**207**	P	**Pn**	**07 56 19.7**	**-3.1**
KNZ				S	**Sn**	**07 57 42.1**	**-4.3**
TOZ	**Tahuroa Road**	**7.41**	**224**	P	**Pn**	**07 56 22.6**	**-0.9**
OUZ	**Omahuta**	**7.45**	**246**	P	**Pn**	**07 56 27.6**	**+3.6**
RAHZ	**Arahi**	**7.51**	**210**	P	**Pn**	**07 56 24.3**	**-0.5**
MTHZ	**Maungataniwha**	**7.56**	**212**	P	**Pn**	**07 56 25.4**	**-0.2**
ARHZ	**Aropaoanui**	**7.84**	**209**	P	**Pn**	**07 56 27.5**	**-1.8**
BKZ	**Black Stump Fm**	**7.97**	**212**	Pn	**Pn**	**07 56 31.0**	**-0.3**
BKZ	**Black Stump Fm**	**7.97**	**212**	P	**Pn**	**07 56 28.9**	**-2.4**
BKZ	**Black Stump Fm**	**7.97**	**212**	P	**Pn**	**07 56 29.8**	**-1.5**
MCHZ	**McNeill Hill**	**8.12**	**210**	P	**Pn**	**07 56 32.0**	**-1.2**
BFZ	**Birch Farm**	**9.35**	**208**	P	**Pn**	**07 56 47.4**	**-2.6**
MSWZ	**Moikau Station**	**10.37**	**209**		**Pn**	**07 57 03.6**	**-0.4**
TUWZ	**Tuamarina**	**10.95**	**213**		Sn	07 59 05.3	-9.3
NNZ	**Nelson**	**11.06**	**216**		**Pn**	**07 57 15.2**	**+1.7**
THZ	**Tophouse**	**11.71**	**215**		**Pn**	**07 57 22.7**	**+0.3**
KHZ	**Kahutara**	**11.92**	**212**	P	Pn	07 57 20.7	-4.5
OXZ	**Oxford**	**13.31**	**213**		**Pn**	**07 57 45.9**	**+1.6**
RPZ	**Rata Peaks**	**14.07**	**214**	P	**Pn**	**07 57 52.6**	**-2.1**
ODZ	**Otahua Downs**	**15.28**	**212**	P	**Pn**	**07 58 06.3**	**-4.7**
DZM	**Mont Dzumac**	**17.24**	**303**	*e*P	**P**	**07 58 36.7**	**-1.2**
	73nm,1.4s						
DZM				*e*LR	LR	08 02 30.7	
	comp=Z,2μm,22.7s						
DZM	**Mont Dzumac**	**17.24**	**303**	LR	LR	08 04 10.7	
	comp=Z,2μm,18.7s,baz=142,slow=34						
DZM	**Mont Dzumac**	**17.24**	**303**	P	**P**	**07 58 36.5**	**-1.4**
DZM	**Mont Dzumac**	**17.24**	**303**	P	**P**	**07 58 42.1**	**+4.2**
NOUC	**Port Laguerre**	**17.32**	**303**	P	**P**	**07 58 42.0**	**+3.4**
KOUNC	**Koumac, New Ca**	**19.75**	**303**	P	**Pn**	**07 59 07.3**	**+0.4**
KOUNC				IAmb	IAmb	07 59 10.7	
	comp=Z,74nm,1.4s						
EIDS	**Eidsvold**	**27.86**	**277**	P	**P**	**08 00 24.3**	**-0.9**
EIDS				IAmb	IAmb	08 00 28.6	
	comp=Z,12nm,0.9s						
PPT2	**Papeete2**	**29.66**	**67**	*e*LR	LR	08 08 23.9	
	comp=Z,360nm,25.2s						
CMSA	**Cobar Meteorol**	**30.66**	**262**	P	**P**	**08 00 51.4**	**+1.4**
STKA	**Stephens Creek**	**34.01**	**260**	P	**P**	**08 01 17.8**	**-1.6**
	comp=Z,2.3nm,0.6s,baz=0.0,slow=7.1,SNR=1.8						
STKA				LR	LR	08 14 42.3	
	comp=Z,841nm,18.0s,baz=84,slow=36						
	comp=Z,2.3nm,0.6s						
CTA	**Charters Tower**	**34.14**	**282**	LR	LR	08 13 35.3	
	comp=Z,400nm,18.9s,baz=99,slow=34						
CTA	**Charters Tower**	**34.14**	**282**	P	**P**	**08 01 21.9**	**+1.3**
CTAO	**Charters Tower**	**34.14**	**282**	P	**P**	**08 01 21.2**	**+0.6**
CTAO	**Charters Tower**	**34.14**	**282**	P	**P**	**08 01 22.1**	**+1.5**
INKA	**Innaminka**	**35.79**	**267**	P	**P**	**08 01 36.2**	**+1.4**
LCRK	**Leigh Creek**	**37.15**	**261**	P	**P**	**08 01 46.7**	**+0.3**
BBOO	**Buckleboo**	**38.39**	**257**	P	**P**	**08 01 56.4**	**-0.5**
BBOO				IAmb	IAmb	08 02 23.6	
	comp=Z,42nm,1.6s						
PMG	**Port Moresby**	**39.50**	**298**	LR	LR	08 16 49.0	
	comp=Z,313nm,19.5s,baz=125,slow=34						
COEN	**Coen**	**39.84**	**288**	P	**P**	**08 02 08.4**	**-0.7**
TAOE	**Nuku Hiva Isla**	**42.22**	**65**	*e*LR	LR	08 14 12.8	
	comp=Z,312nm,29.9s						
AS31	**Alice Springs**	**42.99**	**269**	P	**P**	**08 02 34.5**	**-0.5**
ASAR	**Alice Springs**	**42.99**	**269**	P	**P**	**08 02 34.2**	**-0.8**
	comp=Z,8.8nm,0.7s,baz=107,slow=7.5,SNR=58						
ASAR				LR	LR	08 20 14.0	
	comp=Z,361nm,18.0s,baz=116,slow=36						
	comp=Z,8.8nm,0.7s						
WR0	**Warramunga Arr**	**43.99**	**274**	P	**P**	**08 02 42.1**	**-1.0**
WB2	**Warramunga Arr**	**44.16**	**274**	P	**P**	**08 02 43.4**	**-1.0**
WB2				IAmb	IAmb	08 02 45.4	
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**44.17**	**274**	P	**P**	**08 02 43.5**	**-1.0**
	comp=Z,9.8nm,0.6s,baz=115,slow=7.4,SNR=75						
WRA				ScP	**ScP**	**08 08 20.6**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=112,slow=3.9,SNR=5.1						
WRA				LR	LR	08 20 24.2	
	comp=Z,379nm,18.1s,baz=103,slow=35						
	comp=Z,9.8nm,0.6s						
WRA	**Warramunga Arr**	**44.17**	**274**	P	**P**	**08 02 43.1**	**-1.4**
WB0	**Warramunga Arr**	**44.20**	**275**	P	**P**	**08 02 43.8**	**-1.0**
WB0				IAmb	IAmb	08 02 50.4	
	comp=Z,17nm,0.9s						
FORT	**Forrest**	**45.49**	**257**	P	**P**	**08 02 53.9**	**-1.0**
VNDA	**Vanda**	**45.99**	**186**	P	**P**	**08 03 01.3**	**+3.1**
	comp=Z,0.8nm,1.0s,baz=23,slow=4.2,SNR=3.0						
VNDA				LR	LR	08 18 43.5	
	comp=Z,178nm,19.0s,baz=13,slow=31						
	comp=Z,0.8nm,1.0s						
VNDA	**Vanda**	**45.99**	**186**	P	**P**	**08 03 00.2**	**+2.0**
VNDA				IAmb	IAmb	08 03 48.5	
	comp=Z,14nm,1.8s						

MTN	**Manton Dam**	**50.29**	**281**	P	**P**	**08 03 30.2**	**-2.1**
KNRA	**Kununurra**	**50.84**	**276**	P	**P**	**08 03 35.5**	**-0.9**
KNRA				IAmb	IAmb	08 04 00.2	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.34**	**272**	P	**P**	**08 03 46.8**	**-0.8**
FITZ				IAmb	IAmb	08 03 47.5	
	comp=Z,20nm,1.5s						
CASY	**Casey**	**53.26**	**209**	P	**P**	**08 03 54.6**	**+0.9**
CASY				IAmb	IAmb	08 04 08.2	
	comp=Z,14nm,0.9s						
NWAO	**Narrogin (SRO)**	**53.63**	**251**	LR	LR	08 26 37.6	
	comp=Z,102nm,18.3s,baz=288,slow=36						
MBWA	**Marble Bar**	**55.97**	**265**	P	**P**	**08 04 12.2**	**-1.8**
QSPA	**South Pole Qui**	**57.60**	**180**	P	**P**	**08 04 26.7**	**+1.5**
BATI	**Baumata**	**57.89**	**279**	LR	LR	08 29 25.4	
	comp=Z,526nm,19.7s,baz=124,slow=36						
GUMO	**Guam**	**57.95**	**316**	LR	LR	08 30 33.6	
	comp=Z,80nm,18.0s,baz=115,slow=37						
RPN	**Rapa Nui**	**58.95**	**104**	LR	LR	08 26 54.4	
	comp=Z,193nm,18.0s,baz=258,slow=33						
KAPI	**Kappang**	**63.95**	**281**	LR	LR	08 32 47.1	
	comp=Z,244nm,19.2s,baz=100,slow=36						
PMSA	**Palmer Station**	**70.37**	**155**	LR	LR	08 31 59.9	
	comp=Z,108nm,19.4s,baz=234,slow=32						
LEM	**Lembang**	**73.15**	**273**	LR	LR	08 38 40.2	
	comp=Z,213nm,20.4s,baz=153,slow=36						
TROLL	**Troll, Antarti**	**75.76**	**180**	P	**P**	**08 06 20.7**	**-0.3**
SNAA	**Sanae**	**76.05**	**178**	P	**P**	**08 06 22.9**	**+0.4**
SNAA	**Sanae**	**76.05**	**178**	P	**P**	**08 06 23.1**	**+0.5**
SNAA				IAmb	IAmb	08 06 40.2	
	comp=Z,7.3nm,1.1s						
VNA3	**Neumayer Olymp**	**76.20**	**176**	P	**P**	**08 06 23.7**	**+0.4**
VNA3	**Neumayer Olymp**	**76.20**	**176**	PcP	**PcP**	**08 06 34.1**	**-1.2**
VNA2	**Neumayer--Watz**	**76.64**	**177**	P	**P**	**08 06 25.8**	**0.0**
	baz=174,slow=5.0						
VNA2	**Neumayer--Watz**	**76.64**	**177**	PcP	**PcP**	**08 06 36.9**	**-0.4**
VNA1	**Neumayer--Stat**	**76.87**	**177**	P	**P**	**08 06 28.4**	**+1.4**
PLCA	**Paso Flores**	**81.11**	**133**	P	**P**	**08 06 52.7**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=205,slow=9.9,SNR=3.8						
PLCA				LR	LR	08 37 38.5	
	comp=Z,142nm,18.2s,baz=236,slow=32						
	comp=Z,1.5nm,0.8s						
PLCA	**Paso Flores**	**81.11**	**133**	P	**P**	**08 06 55.2**	**+4.2**
PLCA				IAmb	IAmb	08 06 56.8	
	comp=Z,24nm,1.6s						
PSI	**Prapat**	**85.61**	**276**	LR	LR	08 46 12.7	
	comp=Z,144nm,20.0s,baz=64,slow=36						
NVAR	**Mina Array Bea**	**89.82**	**43**	P	**P**	**08 07 36.5**	**+2.1**
	comp=Z,0.9nm,1.0s,baz=224,slow=7.9,SNR=5.1						
	comp=Z,0.9nm,1.0s						
KDAK	**Kodiak Island**	**92.47**	**13**	LR	LR	08 42 43.1	
	comp=Z,46nm,20.7s,baz=217,slow=31						
NNA	**Nana**	**92.89**	**106**	LR	LR	08 43 40.6	
	comp=Z,139nm,18.1s,baz=245,slow=32						
LVC	**Limon Verde**	**92.96**	**119**	LR	LR	08 43 20.4	
	comp=Z,91nm,18.4s,baz=230,slow=31						
CMIG	**Matias Romero**	**93.45**	**72**	LR	LR	08 43 24.4	
	comp=Z,67nm,18.3s,baz=237,slow=31						
MA2	**Magadan**	**95.31**	**345**	LR	LR	08 53 05.5	
	comp=Z,55nm,18.2s,baz=154,slow=37						
PZH	**PanZhiHua**	**96.23**	**297**	P	**P**	**08 08 06.8**	**+2.7**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,350nm,6.9s						
LPAZ	**La Paz**	**97.32**	**114**	LR	LR	08 48 41.0	
	comp=Z,55nm,18.1s,baz=244,slow=33						
HHC	**Hu-ho-hao-te**	**97.66**	**314**	*e*P	Pdif	08 08 12.3	+2.0
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,620nm,6.2s						
CPUP	**Villa Florida**	**98.71**	**129**	LR	LR	08 50 09.3	
	comp=Z,54nm,18.3s,baz=223,slow=34						
LZH	**Lanzhou**	**99.94**	**306**	*e*P	**Pdif**	**08 08 21.5**	**+0.9**
LZH				pP	pwP	08 08 26.8	-3.1
LZH				sP	sP	08 08 30.3	+7.8
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
WMQ	**Urumqi**	**114.48**	**308**	*e*P	PKPdf	08 13 16.0	+0.6
WMQ				LR	LR		
	comp=Z,160nm,20.7s		

mB5.4/11
*NOU **27** 08:01:27.2, 16°12.5S×173°13.80W, h177km, mb5.4/85, Tonga Islands*
*IDC **27** 08:01:27.7±0.7, 16°04.5S×174°21.1W, h160km±6km, mb4.8/20, mbtmp5.2/22, MS4.0/8, Error ellipse: s-maj=11.9km s-min=9.5km az=136.0*
*GCMT **27** 08:01:30.8±0.2, 16°08.5S±0°01×173°14.7W±0°01, h174km±1km, MW5.2/124, Moment Tensor Solution. s81,c110; s124,c185; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.48±.15; $M_{\theta\theta}$-4.52±.18; $M_{\phi\phi}$2.04±.18; $M_{r\theta}$-3.05±.13; $M_{r\phi}$-1.69±.19; $M_{\theta\phi}$5.47±.11; Best double couple: $M_0$7.14700×10^{16} NP1:ϕ_s302.00000°,δ77.00000°, λ127.00000°. NP2:ϕ_s49.00000°,δ39.00000°,λ21.00000°. Principal axes: T 8.6040, Plg45.0000°, Azm249.0000°; N -2.9150, Plg36.0000°, Azm113.0000°; P -5.6890, Plg23.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 08:01:27.1±0.4, 16°09S±0°05×174°09W±0°05, h154km±3km, h154km: pP-P, n846, σ1§23/853, mb5.2/107, 63C-18D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.11**	**46**	P	**Pn**	**08 02 13.8**	**-2.2**
	4μm,0.7s,baz=201,slow=1.3,SNR=599						
AFI				S	Sn	08 02 47.2	-6.7
	5μm,0.3s,baz=111,slow=20,SNR=24						
AFI				LR	LR	08 03 07.5	
	comp=Z,1μm,21.0s,baz=296,slow=32						
AFI	**Afiamalu**	**3.11**	**46**		**Pn**	**08 02 13.3**	**-2.8**
AFI	**Afiamalu**	**3.11**	**46**	P	**Pn**	**08 02 13.3**	**-2.8**
AFI	**Afiamalu**	**3.11**	**46**	P	**Pn**	**08 02 14.1**	**-2.0**
FUTU	**Fugatoga**	**4.28**	**294**	P	**Pn**	**08 02 34.8**	**+3.7**
NIUE	**Niue**	**4.96**	**127**	P	**Pn**	**08 02 38.8**	**-1.2**
	baz=5.2,SNR=148						
NIUE	**Niue**	**4.96**	**127**		**Pn**	**08 02 39.0**	**-1.0**
NIUE	**Niue**	**4.96**	**127**	P	**Pn**	**08 02 39.0**	**-1.0**
LKBA	**Tubou, Lakemba**	**5.00**	**244**	P	Pn	08 02 45.1	+4.6
TAVE	**Taveuni**	**5.62**	**263**	P	Pn	08 02 53.7	+4.9
MSVF	**Nonsavu**	**7.70**	**257**	P	**Pn**	**08 03 19.2**	**+2.6**
	209nm,0.9s,baz=94,slow=11,SNR=79						
MSVF	**Nonsavu**	**7.70**	**257**	Pn	Pn	08 03 21.0	+4.4
MSVF	**Nonsavu**	**7.70**	**257**	*c iP*	Pn	08 03 21.2	+4.6
MSVF	**Nonsavu**	**7.70**	**257**	P	Pn	08 03 21.7	+5.1
FUNA	**Funafuti**	**9.97**	**318**	Pn	**Pn**	**08 03 49.1**	**+2.4**
FUNA	**Funafuti**	**9.97**	**318**	P	**Pn**	**08 03 50.1**	**+3.4**
	197nm,1.2s						
GLKZ	**Green Lake**	**13.58**	**194**	P	Pn	08 04 26.5	-7.0
RAR	**Rarotonga**	**14.49**	**113**	P	**Pn**	**08 04 47.1**	**+2.1**
	26nm,0.6s,baz=261,slow=3.7,SNR=5.7						
RAR				LR	LR	08 08 26.8	
	comp=Z,450nm,19.3s,baz=276,slow=29						
RAR	**Rarotonga**	**14.49**	**113**	P	**P**	**08 04 49.0**	**+1.7**
RAR	**Rarotonga**	**14.49**	**113**	P	**P**	**08 04 49.0**	**+1.7**
RAR	**Rarotonga**	**14.49**	**113**	P	**Pn**	**08 04 42.6**	**-2.4**
RTV	**Rentapao**	**16.82**	**262**	P	**Pn**	**08 05 16.4**	**+2.8**
DVP	**Devils Point**	**17.04**	**262**	P	**Pn**	**08 05 18.5**	**+2.2**
MARNC	**Mare, Loyalty**	**17.76**	**250**	P	**P**	**08 05 22.5**	**-0.9**
MARNC	**Mare, Loyalty**	**17.76**	**250**	P	**Pn**	**08 05 23.5**	**-1.3**
LIFNC	**LIFOU**	**18.32**	**252**	P	**P**	**08 05 29.0**	**-0.6**
LIFNC	**LIFOU**	**18.32**	**252**	P	**P**	**08 05 28.9**	**-0.6**
PINNC	**Pines Island,**	**18.59**	**247**		**P**	**08 05 32.4**	**-0.1**
PINNC	**Pines Island,**	**18.59**	**247**	P	**P**	**08 05 32.8**	**+0.3**
YATNC	**Mamie plateau,**	**18.93**	**249**	P	**Pn**	**08 05 37.0**	**-1.6**
DZM	**Mont Dzumac**	**19.33**	**249**	*eP*	**P**	**08 05 38.8**	**-1.9**
	850nm,1.1s						
DZM				*e*LR	LR	08 10 22.7	
	comp=Z,296nm,25.0s						
DZM	**Mont Dzumac**	**19.33**	**249**	P	**P**	**08 05 40.3**	**-0.4**
	82nm,1.0s,baz=91,slow=14,SNR=26						
DZM	**Mont Dzumac**	**19.33**	**249**	P	**P**	**08 05 39.9**	**-0.8**
DZM	**Mont Dzumac**	**19.33**	**249**	P	**P**	**08 05 40.0**	**-0.8**
ONTNC	**Ouen Toro**	**19.38**	**248**	P	**P**	**08 05 40.6**	**-0.6**
ONTNC	**Ouen Toro**	**19.38**	**248**	P	**P**	**08 05 40.7**	**-0.5**
NOUC	**Port Laguerre**	**19.47**	**249**	P	**P**	**08 05 41.4**	**-0.7**
NFK	**Norfolk Island**	**20.98**	**229**	P	**P**	**08 05 56.2**	**-2.1**
	baz=21,SNR=4.4						
KOUNC	**Koumac, New Ca**	**21.00**	**255**	P	**P**	**08 05 57.8**	**-0.7**
KOUNC	**Koumac, New Ca**	**21.00**	**255**	P	**P**	**08 05 57.9**	**-0.6**
TARA	**Tarawa**	**21.56**	**322**	P	**P**	**08 06 05.7**	**+1.1**
OUZ	**Omahuta**	**22.02**	**208**	P	**P**	**08 06 10.4**	**+1.3**
OUZ	**Omahuta**	**22.02**	**208**	P	**P**	**08 06 07.7**	**-1.3**
GRZ	**Great Barrier**	**22.14**	**203**	P	**P**	**08 06 12.0**	**+1.7**
WCZ	**Waipu Caves**	**22.30**	**205**	P	**P**	**08 06 11.6**	**-0.3**
MXZ	**Matakaoa Point**	**22.43**	**196**	P	**P**	**08 06 14.5**	**+1.5**
KUZ	**Kuaotunu**	**22.48**	**202**	P	**P**	**08 06 14.1**	**+0.5**
WMGZ	**Waiomatatini S**	**22.64**	**196**	P	**P**	**08 06 13.2**	**-1.8**
WIAZ	**Waiheke Island**	**22.74**	**203**	P	**P**	**08 06 16.6**	**+0.6**
RUGZ	**Raukumara Rang**	**22.98**	**197**	P	**P**	**08 06 20.2**	**+1.9**
RUGZ				S	**S**	**08 10 18.2**	**+1.2**
MKAZ	**Moumakai**	**23.00**	**202**	P	**P**	**08 06 19.4**	**+1.0**
TWGZ	**Tauwhareparae**	**23.09**	**196**	P	**P**	**08 06 21.3**	**+2.1**
TWGZ				S	**S**	**08 10 20.2**	**+1.6**
TGRZ	**Tauranga**	**23.18**	**200**	P	**P**	**08 06 23.0**	**+2.9**
OPRZ	**Ohinepanea**	**23.20**	**199**	P	**P**	**08 06 20.2**	**+0.1**
CNGZ	**Carnagh Statio**	**23.32**	**195**	P	**P**	**08 06 23.0**	**+1.7**
MWZ	**Matawai**	**23.36**	**197**	P	**P**	**08 06 22.2**	**+0.5**
MWZ				S	S	08 09 50.6	-32
TKGZ	**Te Karaka**	**23.37**	**196**	P	**P**	**08 06 22.6**	**+0.8**
URZ	**Urewera**	**23.41**	**198**	P	**P**	**08 06 20.8**	**-1.4**
	22nm,0.3s,baz=25,slow=1.7,SNR=29						
	22nm,0.3s						
URZ	**Urewera**	**23.41**	**198**	P	**P**	**08 06 21.6**	**-0.5**
URZ	**Urewera**	**23.41**	**198**	P	**P**	**08 06 20.7**	**-1.4**
URZ	**Urewera**	**23.41**	**198**	P	**P**	**08 06 20.8**	**-1.4**
TOZ	**Tahuroa Road**	**23.44**	**201**	P	**P**	**08 06 24.1**	**+1.7**
OMRZ	**Omania**	**23.49**	**199**	P	**P**	**08 06 25.6**	**+2.6**
PAE	**Paea**	**23.50**	**97**	*eT*	T	08 30 14.3	
	2.0nm,0.3s						
PPT2	**Papeete2**	**23.50**	**97**	*e*LR	LR	08 12 17.5	
PPT2	**Papeete2**	**23.50**	**97**	*eT*	T	08 30 07.0	
	2.1nm,0.3s						
RAGZ	**Rawiri**	**23.54**	**197**	P	**P**	**08 06 25.0**	**+1.5**
UTU	**Utuhina**	**23.61**	**199**	P	**P**	**08 06 27.2**	**+3.1**
RIGZ	**Rimuhau**	**23.65**	**196**	P	**P**	**08 06 25.5**	**+1.2**
RIGZ				S	**S**	**08 10 32.0**	**+4.4**
RRRZ	**Republican Roa**	**23.66**	**199**	P	**P**	**08 06 23.2**	**-1.3**
MUGZ	**Murupara**	**23.71**	**198**	P	**P**	**08 06 23.2**	**-1.8**
RTZ	**Ruatahuna**	**23.78**	**198**	P	**P**	**08 06 27.0**	**+1.5**
HRRZ	**Handcock Road**	**23.78**	**199**	P	**P**	**08 06 27.1**	**+1.5**
TVO	**Taravao**	**23.81**	**98**	*eT*	T	08 30 24.5	
	1.3nm,0.3s						
SNGZ	**Shannon Statio**	**23.83**	**197**	P	**P**	**08 06 28.4**	**+2.4**
SNGZ				S	**S**	**08 10 35.8**	**+5.2**
PRRZ	**Plateau Road**	**23.85**	**199**	P	**P**	**08 06 27.4**	**+1.2**
ALRZ	**Allen Road**	**23.92**	**199**	P	**P**	**08 06 28.1**	**+1.3**
KNZ	**Kokohu**	**23.97**	**196**	P	**P**	**08 06 29.9**	**+2.8**
KNZ				S	S	08 10 44.0	+11
TLZ	**Tolley Road**	**23.97**	**200**	P	**P**	**08 06 28.5**	**+1.2**
RAHZ	**Arahi**	**24.03**	**197**	P	**P**	**08 06 28.6**	**+0.8**
MTHZ	**Maungataniwha**	**24.04**	**198**	P	**P**	**08 06 29.0**	**+1.1**
MRHZ	**Matea Rd**	**24.15**	**198**	P	**P**	**08 06 29.6**	**+0.6**
HIZ	**Hauiti**	**24.37**	**201**	P	**P**	**08 06 33.1**	**+2.2**
HIZ	**Hauiti**	**24.37**	**201**	P	**P**	**08 06 32.4**	**+1.6**
RATZ	**Rangitukua**	**24.38**	**199**	P	**P**	**08 06 30.6**	**-0.4**
BKZ	**Black Stump Fm**	**24.43**	**198**	P	**P**	**08 06 30.5**	**-1.0**
BKZ	**Black Stump Fm**	**24.43**	**198**	P	**P**	**08 06 29.9**	**-1.6**
BKZ				S	**S**	**08 10 39.8**	**-0.4**
BKZ	**Black Stump Fm**	**24.43**	**198**	P	**P**	**08 06 30.2**	**-1.3**
NTVZ	**North Tongarir**	**24.62**	**199**	P	**P**	**08 06 33.6**	**+0.3**
TMVZ	**Te Maari**	**24.63**	**199**	P	**P**	**08 06 32.9**	**-0.4**
MCHZ	**McNeill Hill**	**24.63**	**197**	P	**P**	**08 06 32.0**	**-1.2**
MCHZ				S	S	08 10 59.7	+16
ETVZ	**East Tongariro**	**24.64**	**199**	P	**P**	**08 06 33.0**	**-0.5**
WTVZ	**West Tongariro**	**24.66**	**200**	P	**P**	**08 06 33.3**	**-0.3**
OTVZ	**Oturere**	**24.68**	**199**	P	**P**	**08 06 32.7**	**-1.2**
KWHZ	**Kaweka Forest**	**24.69**	**198**	P	**P**	**08 06 33.6**	**-0.3**
KWHZ				S	**S**	**08 10 52.8**	**+8.5**
SNVZ	**South Ngauruho**	**24.71**	**199**	P	**P**	**08 06 33.5**	**-0.7**
NGZ	**Ngauruhoe**	**24.71**	**199**	P	**P**	**08 06 34.1**	**-0.1**
TUVZ	**Tukino**	**24.78**	**199**	P	**P**	**08 06 33.8**	**-1.0**
WNVZ	**Wahianoa**	**24.85**	**199**	P	**P**	**08 06 34.1**	**-1.3**
BHHZ	**Black Hill Sta**	**24.86**	**198**	P	**P**	**08 06 33.8**	**-1.6**
MOVZ	**Moawhango**	**24.88**	**199**	P	**P**	**08 06 34.4**	**-1.1**
PKVZ	**Pokaka**	**24.90**	**200**	P	**P**	**08 06 34.7**	**-1.1**
KAHZ	**Kahuranaki**	**24.91**	**197**	P	**P**	**08 06 37.7**	**+1.9**
KRHZ	**Kereru**	**24.91**	**198**	P	**P**	**08 06 35.8**	**+0.1**
PXZ	**Pawanui**	**25.13**	**197**	P	**P**	**08 06 37.5**	**-0.2**
PNHZ	**Pukenui**	**25.21**	**198**	P	**P**	**08 06 37.7**	**-0.8**
PMOR	**Pomariorio Ree**	**25.25**	**91**	*e*T	T	08 33 00.7	
	2.7nm,0.3s						
NEZ	**North Egmont**	**25.31**	**202**	P	**P**	**08 06 42.2**	**+2.7**
KHEZ	**Kahui Hut**	**25.36**	**202**	P	**P**	**08 06 42.1**	**+2.2**
LREZ	**Lake Rotokare**	**25.37**	**201**	P	**P**	**08 06 42.6**	**+2.7**
NBEZ	**Newall Road No**	**25.39**	**202**	P	**P**	**08 06 43.2**	**+3.1**
PRHZ	**Porangahau**	**25.41**	**197**	P	**P**	**08 06 42.4**	**+2.1**
WAZ	**Wanganui**	**25.44**	**200**	P	**P**	**08 06 41.1**	**+0.6**
NMEZ	**Namu Road**	**25.52**	**202**	P	**P**	**08 06 43.8**	**+2.6**
DVHZ	**Dannevirke**	**25.57**	**197**	P	**P**	**08 06 43.4**	**+1.6**
BFZ	**Birch Farm**	**25.91**	**197**	P	**P**	**08 06 43.4**	**-1.3**
MRZ	**Mangatainoka R**	**26.08**	**198**	P	**P**	**08 06 44.6**	**-1.7**
HOWZ	**Holdsworth Sta**	**26.32**	**198**	P	**P**	**08 06 47.5**	**-0.9**
OGWZ	**Otaki Gorge**	**26.35**	**199**	P	**P**	**08 06 48.2**	**-0.4**
KIW	**Kapiti Island**	**26.47**	**199**	P	**P**	**08 06 49.2**	**-0.6**
CAW	**Cannon Point**	**26.64**	**198**	P	**P**	**08 06 51.1**	**-0.2**
DUWZ	**D'Urville Isla**	**26.73**	**201**	P	**P**	**08 06 51.8**	**-0.4**
MSWZ	**Moikau Station**	**26.87**	**198**	P	**P**	**08 06 53.0**	**-0.4**
SNZO	**South Karori**	**26.94**	**199**	P	**P**	**08 06 53.9**	**-0.1**
SNZO				IAmb	IAmb	08 06 56.0	
	comp=Z,46nm,0.8s						
QRZ	**Quartz Range**	**27.25**	**203**	P	**P**	**08 06 57.1**	**+0.3**
QRZ				IAmb	IAmb	08 06 57.9	
	comp=Z,90nm,0.8s						
QRZ	**Quartz Range**	**27.25**	**203**	P	**P**	**08 06 55.9**	**-0.9**
NNZ	**Nelson**	**27.29**	**201**	P	**P**	**08 06 57.3**	**+0.2**
NNZ				IAmb	IAmb	08 07 00.7	
	comp=Z,40nm,0.6s						
TUWZ	**Tuamarina**	**27.29**	**200**	P	**P**	**08 06 56.7**	**-0.4**
KHZ	**Kahutara**	**28.31**	**200**	P	**P**	**08 07 04.8**	**-1.3**
RPZ	**Rata Peaks**	**30.30**	**202**	P	**P**	**08 07 22.9**	**-0.9**
	comp=Z,13nm,0.4s,baz=196,slow=1.4,SNR=20						
	comp=Z,13nm,0.4s						
EIDS	**Eidsvold**	**33.78**	**248**	P	**P**	**08 07 52.6**	**-1.8**
	baz=34,SNR=12						
EIDS	**Eidsvold**	**33.78**	**248**	P	**P**	**08 07 52.7**	**-1.8**
EIDS				IAmb	IAmb	08 07 53.5	
	comp=Z,26nm,0.8s						
EIDS	**Eidsvold**	**33.78**	**248**	P	**P**	**08 07 52.7**	**-1.7**
PYZ	**Puysegur Point**	**34.02**	**204**	P	**P**	**08 07 56.4**	**+0.2**
PYZ				IAmb	IAmb	08 07 59.0	
	comp=Z,30nm,0.6s						
ARMA	**Armidale**	**34.42**	**239**	P	**P**	**08 07 59.3**	**-0.7**
	baz=34,SNR=25						
ARMA	**Armidale**	**34.42**	**239**	P	**P**	**08 07 59.4**	**-0.7**
ARMA				IAmb	IAmb	08 08 00.3	
	comp=Z,110nm,1.7s						
ARMA	**Armidale**	**34.42**	**239**	P	**P**	**08 07 59.4**	**-0.7**
KRVT	**Keravat (AS076**	**35.28**	**286**	P	**P**	**08 08 05.0**	**-2.4**
	comp=Z,46nm,0.6s,baz=218,slow=5.1,SNR=8.9						
	comp=Z,46nm,0.6s						
RMQ	**Roma**	**36.02**	**247**	P	**P**	**08 08 12.7**	**-0.9**
	baz=36,SNR=20						
RMQ	**Roma**	**36.02**	**247**	P	**P**	**08 08 12.9**	**-0.7**
SYDH	**Sydney Hard Ro**	**36.20**	**234**	P	**P**	**08 08 14.0**	**-1.0**
CNB	**Canberra Magne**	**37.81**	**233**	P	**P**	**08 08 28.1**	**-0.7**
	baz=38,SNR=47						
CNB	**Canberra Magne**	**37.81**	**233**	P	**P**	**08 08 28.2**	**-0.5**
CTA	**Charters Tower**	**37.85**	**258**	P	**P**	**08 08 29.5**	**+0.3**
CTAO	**Charters Tower**	**37.85**	**258**	P	**P**	**08 08 27.6**	**-1.6**
CTAO				IAmb	IAmb	08 08 30.5	
	comp=Z,19nm,0.5s						
CTAO	**Charters Tower**	**37.85**	**258**	P	**P**	**08 08 27.6**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,19nm,0.5s						
CTAO	**Charters Tower**	**37.85**	**258**	P	**P**	**08 08 29.5**	**+0.3**
CTAO	**Charters Tower**	**37.85**	**258**	P	**P**	**08 08 27.1**	**-2.1**
CAN	**Canberra**	**38.09**	**233**	P	**P**	**08 08 30.3**	**-0.8**
CAN	**Canberra**	**38.09**	**233**	P	**P**	**08 08 30.3**	**-0.8**
CAN				pmax	pmax		
	comp=Z,168nm,1.6s						
CAN	**Canberra**	**38.09**	**233**	P	**P**	**08 08 30.6**	**-0.5**
CAN	**Canberra**	**38.09**	**233**	P	**P**	**08 08 30.0**	**-1.1**
PMG	**Port Moresby**	**38.33**	**275**	P	**P**	**08 08 33.1**	**-0.2**
	comp=Z,73nm,1.0s,baz=96,slow=1.3,SNR=11						
	comp=Z,73nm,1.0s						
PMG	**Port Moresby**	**38.33**	**275**	*c iP*	**P**	**08 08 33.4**	**+0.2**
PMG				pmax	pmax		
	comp=Z,108nm,1.1s						
PMG	**Port Moresby**	**38.33**	**275**	P	**P**	**08 08 34.3**	**+1.0**
PMG	**Port Moresby**	**38.33**	**275**	P	**P**	**08 08 34.2**	**+1.0**
PMG	**Port Moresby**	**38.33**	**275**	P	**P**	**08 08 33.7**	**+0.4**
PMG				pP	**pP**	**08 09 01.9**	**-4.1**
PMG				sP	**pwP**	**08 09 15.1**	**+6.3**
MILA	**Mila**	**38.62**	**230**	P	**P**	**08 08 34.5**	**-0.9**
	baz=38,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**39.22**	**330**	T	T	08 50 07.4	
	baz=146,slow=76,SNR=85						
H11S3	**WAKE ISLAND Hy**	**39.23**	**330**	T	T	08 50 04.6	
	baz=146,slow=76,SNR=86						
H11S1	**WAKE ISLAND Hy**	**39.24**	**330**	T	T	08 50 08.6	
	baz=146,slow=76,SNR=27						
CMSA	**Cobar Meteorol**	**39.64**	**240**	P	**P**	**08 08 42.8**	**-1.2**
	baz=39,SNR=52						
CMSA	**Cobar Meteorol**	**39.64**	**240**	P	**P**	**08 08 42.7**	**-1.2**
MTSU	**Mount Surprise**	**39.75**	**261**	P	**P**	**08 08 43.7**	**-1.3**
	baz=40,SNR=57						
MTSU	**Mount Surprise**	**39.75**	**261**	P	**P**	**08 08 44.4**	**-0.7**
QLP	**Quilpie**	**40.05**	**248**	P	**P**	**08 08 45.6**	**-1.7**
	baz=40,SNR=16						
QLP	**Quilpie**	**40.05**	**248**	P	**P**	**08 08 46.1**	**-1.3**
H11N3	**WAKE ISLAND Hy**	**40.19**	**332**	T	T	08 51 52.2	
	baz=159,slow=80,SNR=15						
H11N1	**WAKE ISLAND Hy**	**40.19**	**332**	T	T	08 51 25.4	
	baz=159,slow=80,SNR=13						
H11N2	**WAKE ISLAND Hy**	**40.20**	**332**	T	T	08 51 54.6	
	baz=159,slow=80,SNR=13						
KIP	**Kipapa**	**40.47**	**23**	*i* P	**P**	**08 08 50.5**	**-0.3**
KIP				pmax	pmax		
	comp=Z,80nm,1.0s						
COEN	**Coen**	**41.28**	**267**	P	**P**	**08 08 57.7**	**0.0**
	baz=41,SNR=48						
COEN	**Coen**	**41.28**	**267**	P	**P**	**08 08 57.6**	**0.0**
COEN				IAmb	IAmb	08 08 58.9	
	comp=Z,67nm,0.8s						
COEN	**Coen**	**41.28**	**267**	P	**P**	**08 08 58.0**	**+0.4**
TOO	**Toolangi**	**41.52**	**231**	P	**P**	**08 08 58.5**	**-0.8**
	baz=41,SNR=23						
TOO	**Toolangi**	**41.52**	**231**	P	**P**	**08 08 58.5**	**-0.8**
TOO				IAmb	IAmb	08 08 59.6	
	comp=Z,90nm,1.0s						
TOO	**Toolangi**	**41.52**	**231**	P	**P**	**08 08 58.5**	**-0.8**
TOO				pmax	pmax		
	comp=Z,90nm,1.0s						
TOO	**Toolangi**	**41.52**	**231**	P	**P**	**08 08 58.5**	**-0.8**
CORO	**Coronation Par**	**41.84**	**225**	P	**P**	**08 09 01.8**	**0.0**
	comp=Z,89nm,1.1s						
MOO	**Moorlands**	**42.24**	**224**	P	**P**	**08 09 04.4**	**-0.7**
	baz=42,SNR=7.2						
TAU	**Tasmania Unive**	**42.37**	**223**	P	**P**	**08 09 05.4**	**-0.7**
TAU				IAmb	IAmb	08 09 06.1	
	comp=Z,52nm,1.4s						
TAU	**Tasmania Unive**	**42.37**	**223**	P	**P**	**08 09 05.4**	**-0.7**
TAU				pmax	pmax		
	comp=Z,52nm,1.4s						
GEXS	**Deakin Univers**	**42.63**	**231**	P	**P**	**08 09 08.2**	**0.0**
	comp=Z,131nm,0.9s						
BRAT	**Ballarat**	**42.69**	**232**	P	**P**	**08 09 08.5**	**-0.2**
STKA	**Stephens Creek**	**43.12**	**240**	P	**P**	**08 09 11.8**	**-0.6**
	comp=Z,98nm,0.9s,baz=91,slow=9.7,SNR=92						
	comp=Z,98nm,0.9s						
STKA	**Stephens Creek**	**43.12**	**240**	P	**P**	**08 09 11.8**	**-0.6**
	baz=43,SNR=84						
STKA	**Stephens Creek**	**43.12**	**240**	P	**P**	**08 09 11.7**	**-0.6**
STKA				IAmb	IAmb	08 09 12.8	
	comp=Z,41nm,1.2s						
STKA	**Stephens Creek**	**43.12**	**240**	P	**P**	**08 09 11.8**	**-0.6**
INKA	**Innaminka**	**43.26**	**247**	P	**P**	**08 09 12.8**	**-0.7**
ARPS	**Mount Arapiles**	**44.05**	**233**	P	**P**	**08 09 18.6**	**-1.1**
	baz=44,SNR=13						
ARPS	**Mount Arapiles**	**44.05**	**233**	P	**P**	**08 09 18.8**	**-0.9**
QIS	**Mount Isa**	**44.08**	**257**	P	**P**	**08 09 19.4**	**-0.7**
	baz=44,SNR=14						
QIS	**Mount Isa**	**44.08**	**257**	P	**P**	**08 09 19.5**	**-0.7**
HTT	**Hallett**	**45.63**	**239**	P	**P**	**08 09 31.5**	**-0.8**
	baz=45,SNR=30						
HTT	**Hallett**	**45.63**	**239**	P	**P**	**08 09 31.4**	**-0.8**
LCRK	**Leigh Creek**	**45.77**	**243**	P	**P**	**08 09 32.4**	**-0.9**
TWOA	**Tennyson Woods**	**46.21**	**237**	P	**P**	**08 09 35.8**	**-0.9**
WHYH	**Whyalla**	**46.67**	**240**	P	**P**	**08 09 39.4**	**-0.9**
	comp=Z,97nm,0.8s						
GENI	**Genyem**	**46.96**	**282**	P	**P**	**08 09 44.4**	**+1.6**
	comp=Z,7μmcomp=Z,124nm,1.1s						
GENI	**Genyem**	**46.96**	**282**	P	**P**	**08 09 44.5**	**+1.6**
	comp=Z,124nm,1.1s						
OOD	**Oodnadatta**	**47.73**	**247**	P	**P**	**08 09 48.1**	**-0.6**
BBOO	**Buckleboo**	**47.90**	**240**	P	**P**	**08 09 48.8**	**-1.1**
	baz=48,SNR=54						
BBOO	**Buckleboo**	**47.90**	**240**	P	**P**	**08 09 48.7**	**-1.1**
BBOO	**Buckleboo**	**47.90**	**240**	P	**P**	**08 09 48.8**	**-1.1**
SMPI	**Sarmi**	**48.53**	**282**	P	**P**	**08 09 54.4**	**-0.5**
WR0	**Warramunga Arr**	**48.86**	**257**	P	**P**	**08 09 56.0**	**-1.4**
WR0				IAmb	IAmb	08 09 58.1	
	comp=Z,72nm,1.2s						
WB0	**Warramunga Arr**	**49.01**	**258**	P	**P**	**08 09 56.7**	**-1.9**
WB2	**Warramunga Arr**	**49.04**	**257**	P	**P**	**08 09 57.0**	**-1.8**
WRAB	**Tennant Creek**	**49.04**	**257**	*c iP*	**P**	**08 09 56.4**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,120nm,1.2s						
WRAB	**Tennant Creek**	**49.04**	**257**	P	**P**	**08 09 57.2**	**-1.6**
WRAB	**Tennant Creek**	**49.04**	**257**	P	**P**	**08 09 56.9**	**-1.9**
WRA	**Warramunga Arr**	**49.05**	**257**	P	**P**	**08 09 57.1**	**-1.7**
	comp=Z,59nm,0.8s,baz=98,slow=6.1,SNR=280						
	comp=Z,59nm,0.8s						
WRA	**Warramunga Arr**	**49.05**	**257**	P	**P**	**08 09 57.4**	**-1.5**
WRA	**Warramunga Arr**	**49.05**	**257**	P	**P**	**08 09 57.4**	**-1.5**
WRA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
AS31	**Alice Springs**	**49.27**	**252**	P	**P**	**08 09 59.1**	**-1.4**
AS31				IAmb	IAmb	08 10 01.4	
	comp=Z,59nm,0.9s						
ASAR	**Alice Springs**	**49.27**	**252**	P	**P**	**08 09 59.2**	**-1.4**
	comp=Z,185nm,0.8s,baz=91,slow=7.5,SNR=1326						
ASAR				S	**S**	**08 16 53.0**	**-2.2**
	comp=Z,1.6nm,1.0s,baz=88,slow=14,SNR=6.3						
	comp=Z,185nm,0.8s						
MULG	**Mulgathing**	**49.32**	**244**	P	**P**	**08 09 59.6**	**-1.2**
GUMO	**Guam**	**50.16**	**304**	P	**P**	**08 10 06.2**	**-1.0**
KDU	**Kakadu**	**51.76**	**266**	P	**P**	**08 10 18.6**	**-0.7**
	baz=52,SNR=54						
KDU	**Kakadu**	**51.76**	**266**	P	**P**	**08 10 18.8**	**-0.5**
MTN	**Manton Dam**	**53.02**	**266**	P	**P**	**08 10 27.7**	**-0.9**
	baz=53,SNR=36						
MTN	**Manton Dam**	**53.02**	**266**	P	**P**	**08 10 27.3**	**-1.2**
MTN	**Manton Dam**	**53.02**	**266**	P	**P**	**08 10 27.7**	**-0.9**
WRKA	**Warakurna**	**54.34**	**251**	P	**P**	**08 10 37.0**	**-1.1**
	baz=54,SNR=455						
WRKA	**Warakurna**	**54.34**	**251**	P	**P**	**08 10 37.2**	**-0.9**
FAKI	**Fak Fak**	**54.35**	**278**	P	**P**	**08 10 38.7**	**+0.4**
	comp=Z,31nm,1.3s						
FAKI	**Fak Fak**	**54.35**	**278**	P	**P**	**08 10 37.6**	**-0.7**
FORT	**Forrest**	**54.52**	**243**	P	**P**	**08 10 37.7**	**-1.5**
	baz=54,SNR=37						
FORT	**Forrest**	**54.52**	**243**	P	**P**	**08 10 37.8**	**-1.5**
FORT	**Forrest**	**54.52**	**243**	P	**P**	**08 10 37.7**	**-1.5**
KNRA	**Kununurra**	**54.81**	**262**	P	**P**	**08 10 40.7**	**-0.9**
	baz=54,SNR=41						
KNRA	**Kununurra**	**54.81**	**262**	P	**P**	**08 10 40.7**	**-0.9**
KNRA	**Kununurra**	**54.81**	**262**	P	**P**	**08 10 40.8**	**-0.7**
SWI	**Sorong**	**55.93**	**280**	P	**P**	**08 10 49.6**	**0.0**
	comp=

CCD **Concordia, Ant** 67.64 194 ⇑P P 08 12 07.8 +0.4
MJAR **Matsushiro Arr** 69.04 320 P P 08 12 16.4 +0.2
comp=Z,1.3nm,0.6s,baz=159,slow=6.5,SNR=2.8
IGBI **Denpasar** 69.21 267 P P 08 12 17.5 -0.2
comp=Z,203nm,1.0s
SRBI **Singaraja** 69.32 267 P P 08 12 17.9 -0.5
comp=Z,2µmcomp=Z,156nm,1.4s
CASY **Casey** 69.51 205 P P 08 12 18.6 0.0
CASY IAmb IAmb 08 12 19.6
comp=Z,59nm,1.1s
CASY **Casey** 69.51 205 ⇑P P 08 12 18.4 -0.2
CASY pP pP 08 12 49.8 -5.3
UNV **Unalaska Valle** 69.95 5 P P 08 12 23.2 +1.9
baz=188
JAGI **Jajag, Banyuwa** 70.25 267 P P 08 12 22.6 -1.5
JAGI **Jajag, Banyuwa** 70.25 267 P P 08 12 22.5 -1.6
comp=Z,2µmcomp=Z,230nm,0.9s
JAGI **Jajag, Banyuwa** 70.25 267 P P 08 12 22.6 -1.5
KMMI **Kalianget** 70.78 268 P P 08 12 27.1 -0.2
comp=Z,2µmcomp=Z,106nm,1.1s
BBKI **Banjar Baru** 70.86 272 P P 08 12 28.7 +0.9
JHS **Saijyo** 71.34 316 P P 08 12 29.4 -0.8
JHS IAmb IAmb 08 12 37.7
comp=Z,16nm,0.8s
SCI2 **San Clemente I** 72.06 47 P P 08 12 35.2 +0.7
baz=236
PKM **Mcpherson Peak** 72.26 44 P P 08 12 36.6 +0.6
baz=235
SMMC **Simmler** 72.38 44 P P 08 12 37.1 +0.7
baz=235
CIS **Catalina Islan** 72.38 46 P P 08 12 36.6 +0.1
baz=236
PWJI **Pagerwojo** 72.61 266 P P 08 12 38.0 -0.2
comp=Z,90nm,0.9s
TBJI **Tambak Boyo** 72.87 268 P P 08 12 41.9 +2.1
comp=Z,2µmcomp=Z,153nm,1.0s
ARVC **Arvin** 73.06 45 P P 08 12 40.5 +0.1
baz=236
PETK **Petropavlovsk-** 73.08 343 P P 08 12 39.9 -0.3
comp=Z,9.5nm,0.9s,baz=147,slow=8.9,SNR=5.9
comp=Z,9.5nm,0.9s
PCJI **Pacitan** 73.17 266 P P 08 12 42.0 +0.5
comp=Z,267nm,1.2s
VES **Vestal, Richgr** 73.29 44 P P 08 12 41.9 +0.1
baz=235,SNR=7.8
MURC **Murrieta** 73.34 47 P P 08 12 42.5 +0.3
baz=237
BFSC **Mount Baldy Ra** 73.37 46 P P 08 12 42.5 +0.1
baz=237,SNR=6.9
EDW2 **Edwards Air Fo** 73.49 45 P P 08 12 43.2 +0.1
baz=236,SNR=13
MONP2 **Monument Peak** 73.51 48 P P 08 12 44.0 +0.6
baz=238,SNR=7.0
ISA **Isabella, Lake** 73.60 44 P P 08 12 43.9 +0.2
baz=236,SNR=6.2
IKP **In-Ko-Pah, Jac** 73.61 48 P P 08 12 44.4 +0.6
baz=238,SNR=6.1
YSS **Yuzh-Sakhalins** 73.75 331 eP P 08 12 44.0 -0.2
YSS pmax pmax
comp=Z,30nm,0.9s
YSS **Yuzh-Sakhalins** 73.75 331 P P 08 12 44.8 +0.6
comp=Z,40nm,1.0s
PFO **Pinyon Flats O** 73.87 47 *i* P P 08 12 45.5 +0.1
PFO pmax pmax
comp=Z,7.0nm,1.0s
QSPA **South Pole Qui** 73.96 180 P P 08 12 46.3 +0.9
comp=Z,104nm,0.9s,baz=32,slow=1.0,SNR=346
comp=Z,104nm,0.9s
QSPA **South Pole Qui** 73.96 180 P P 08 12 45.8 +0.4
LRMC **Laurel Mtn Rad** 74.03 45 P P 08 12 46.6 +0.3
baz=236,SNR=10
PBKI **Pangkalan Bun** 74.12 272 P P 08 12 49.2 +2.1
comp=Z,6µmcomp=Z,252nm,1.2s
SMRI **Semarang** 74.16 267 P P 08 12 48.7 +1.3
comp=Z,107nm,0.9s
SMRI **Semarang** 74.16 267 P P 08 12 46.9 -0.5
RRX **Edison Barstow** 74.17 46 P P 08 12 47.3 +0.4
baz=237
SII **Sitkinak Islan** 74.27 11 P P 08 12 48.2 +1.2
baz=200
L02F **Cave Junction** 74.29 37 P P 08 12 48.3 +0.8
baz=230
CWC **Cottonwood Cre** 74.30 44 P P 08 12 48.1 +0.3
baz=236
MDPB **Devils Postpil** 74.32 42 P P 08 12 48.4 +0.4
OMMB **Old Mammoth Mi** 74.36 43 P P 08 12 48.9 +0.6
BELC **Belle Mtn. Jos** 74.40 47 P P 08 12 48.5 +0.1
baz=238
MPMC **Manual Prospec** 74.48 45 P P 08 12 49.2 +0.3
baz=236,SNR=18
GSC **Goldstone, Bar** 74.54 46 P P 08 12 49.3 +0.2
baz=237,SNR=9.9
TIN **Tinemaha, Big** 74.55 43 P P 08 12 49.7 +0.6
baz=236
BC3 **Big Chuckawall** 74.60 48 P P 08 12 49.7 +0.1
baz=238
HEC **Hector,Ludlow** 74.61 46 P P 08 12 49.6 0.0
baz=236
GMRC **Granite Mounta** 75.05 47 P P 08 12 52.4 +0.2
baz=238,SNR=8.9
STKI **Sintang** 75.07 274 P P 08 12 54.3 +1.7
L04D **Klamath Falls** 75.08 37 P P 08 12 52.8 +0.6
baz=231
IRM **Iron Mountain** 75.08 47 P P 08 12 52.8 +0.5
baz=238,SNR=6.7
GRAC **Grapevine Rang** 75.09 44 P P 08 12 52.8 +0.6
baz=236,SNR=12
FURC **Furnace Creek,** 75.13 45 P P 08 12 53.0 +0.6
baz=237,SNR=8.2
TUQ **Turquoise Moun** 75.22 46 P P 08 12 53.4 +0.3
baz=238
SHOC **Shoshone, Teco** 75.22 45 P P 08 12 53.2 +0.2
baz=237,SNR=9.2
NVAR **Mina Array Bea** 75.28 42 P P 08 12 54.0 +0.5
comp=Z,6.9nm,0.8s,baz=227,slow=9.9,SNR=60
NVAR pP pP 08 13 32.5 +1.6
comp=Z,2.7nm,1.0s,baz=228,slow=9.0,SNR=2.0
comp=Z,6.9nm,0.8s
NVAR **Mina Array Bea** 75.28 42 P P 08 12 53.6 +0.1
I03D **Drain, OR** 75.42 35 P P 08 12 54.5 +0.6
baz=230
214A **Organ Pipe Nat** 75.66 50 P P 08 12 55.9 +0.4
baz=240
KDAK **Kodiak Island** 75.72 12 P P 08 12 55.6 +0.3
KDAK IAmb IAmb 08 12 59.9
comp=Z,51nm,1.8s
KDAK **Kodiak Island** 75.72 12 P P 08 12 55.6 +0.3
KDAK pmax pmax
comp=Z,51nm,1.8s
KDAK **Kodiak Island** 75.72 12 P P 08 12 56.3 +1.0
baz=201
TPNV **Topopah Spring** 75.81 44 P P 08 12 57.1 +0.7
baz=237,SNR=11
J04D **Umpqua Nationa** 75.83 36 P P 08 12 56.8 +0.3
baz=231,SNR=5.2
PDMCI **Parker Dam,Lak** 75.87 48 P P 08 12 57.0 +0.4
baz=239,SNR=7.3
I04A **Tendick Farm,** 76.01 36 P P 08 12 57.7 +0.4
baz=231
MOD **Modoc Plateau** 76.07 38 P P 08 12 57.9 +0.1
KSRS **Korea Array** 76.19 316 P P 08 12 58.0 -0.3
comp=Z,0.9nm,0.6s,baz=130,slow=5.7,SNR=7.1
K05A **Summer Lake** 76.22 37 P P 08 12 59.7 +1.0
J05D **Fort Rock, OR** 76.36 37 P P 08 13 00.1 +0.6
baz=232,SNR=9.9
P17K **Kvichak River** 76.39 9 P P 08 12 58.6 -0.3
baz=198
O16K **Kokwok River B** 76.53 8 P P 08 12 59.9 +0.2
baz=196
Q20K **Shuyak Island** 76.53 11 P P 08 13 00.0 +0.2
baz=202
Q19K **Cape Douglas,** 76.60 11 P P 08 13 00.5 +0.3
baz=200
P18K **Big Mountain,** 76.77 10 P P 08 13 01.2 0.0
baz=199
O17K **Koliganek Bris** 76.84 9 P P 08 13 01.7 +0.2
baz=197
LEM **Lembang** 76.93 267 P P 08 13 03.0 -0.3
comp=Z,83nm,0.6s,baz=159,slow=22,SNR=9.2
comp=Z,83nm,0.6s
LEM **Lembang** 76.93 267 P P 08 13 03.0 -0.3
I05D **Terrebonne, OR** 76.95 36 P P 08 13 02.5 -0.1
baz=232
R11A **Troy Canyon, C** 77.01 43 P P 08 13 03.0 -0.3
baz=237,SNR=8.8
O18K **Koktuh Hills** 77.21 10 P P 08 13 03.3 -0.4
O18K IAmb IAmb 08 13 05.2
comp=Z,19nm,0.9s
O18K **Koktuh Hills** 77.21 10 P P 08 13 04.2 +0.6
baz=199
N16K **Nishlik Lake** 77.29 8 P P 08 13 04.6 +0.5
baz=195
P19K **Oil Pt** 77.35 11 P P 08 13 05.1 +0.7
baz=201
O19K **Port Alsworth** 77.68 10 P P 08 13 06.3 +0.1
baz=200
CBJI **Citeko** 77.77 267 P P 08 13 07.9 +0.1
comp=Z,60nm,0.7s
N18K **Kilae Creek** 77.89 9 P P 08 13 07.5 +0.1
baz=198
BRSE **Bradley Lake S** 77.90 12 P P 08 13 07.5 0.0
baz=203
KNB **Kanab** 78.18 46 P P 08 13 10.8 +1.1
KNB IAmb IAmb 08 13 53.1
comp=Z,35nm,1.5s
KNB **Kanab** 78.18 46 P P 08 13 10.8 +1.1
KNB pmax pmax
comp=Z,35nm,1.5s
N19K **Bonanza Creek** 78.23 10 P P 08 13 09.4 0.0
baz=199
WUAZ **Wupatki** 78.45 48 P P 08 13 12.1 +0.9
baz=241,SNR=8.8
SEW **Seward** 78.50 12 P P 08 13 10.5 -0.1
baz=204
P23K **Montague Islan** 78.83 13 P P 08 13 12.5 0.0
baz=206
N20K **Mount Spurr** 78.98 11 P P 08 13 12.7 -0.7
baz=202
MDJ **Mudanjiang** 79.16 323 P P 08 13 16.3 +1.6
MDJ pP pP 08 13 48.0 -4.1
MDJ sS sS 08 23 57.5 -8.9
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,79nm,3.9s
M19K **Big River Lodg** 79.28 9 P P 08 13 15.0 0.0
M19K **Big River Lodg** 79.28 9 P P 08 13 14.7 -0.3
baz=199
RC01 **Rabbit Creek A** 79.34 12 P P 08 13 15.5 +0.2
baz=204,SNR=5.7
MVU **Marysvale** 79.35 45 P P 08 13 17.4 +1.2
MVU IAmb IAmb 08 14 00.7
comp=Z,87nm,1.4s
PWL **Port Wells** 79.42 12 P P 08 13 15.5 -0.2
PWL IAmb IAmb 08 13 16.4
comp=Z,30nm,1.6s
PWL **Port Wells** 79.42 12 P P 08 13 15.3 -0.4
baz=205,SNR=6.4
M20K **Styx River** 79.47 10 P P 08 13 16.0 -0.1
baz=200
KAIM **Kayak Island** 79.47 15 P P 08 13 16.0 0.0
baz=209
L19K **White Mountain** 79.47 9 P P 08 13 16.1 +0.1
baz=199
SUA **Susitna One** 79.49 11 P P 08 13 16.1 -0.2
baz=203,SNR=7.8
PPBI **Pangkal Pinang** 79.58 271 P P 08 13 19.7 +2.0
V35K **Ketchikan** 79.67 23 P P 08 13 17.3 +0.1
baz=221
121A **Cookes Peak, D** 79.69 52 P P 08 13 19.2 +1.1
baz=244
121A **Cookes Peak, D** 79.69 52 P P 08 13 18.9 +0.8
baz=244
GLI **Glacier Island** 79.70 13 P P 08 13 16.9 -0.3
baz=206,SNR=6.9
EYAK **Cordova Ski Ar** 79.70 14 P P 08 13 16.9 -0.3
baz=208
DUG **Dugway, Tooele** 79.81 43 P P 08 13 18.6 +0.1
baz=239
SKT **Skwentna** 79.83 11 P P 08 13 17.1 -0.8
baz=202
M22K **Willow** 79.88 11 P P 08 13 17.7 -0.5
baz=203,SNR=6.9
KNK **Knik Glacier** 79.89 12 P P 08 13 18.0 -0.4
baz=205,SNR=5.5
L20K **Farewell, AK** 79.91 9 P P 08 13 18.0 -0.4
baz=200,SNR=6.2
PMR **Palmer** 79.92 12 P P 08 13 18.1 -0.3
baz=204,SNR=7.5
TTA **Tatalina** 80.02 8 P P 08 13 19.5 +0.5
baz=198,SNR=6.5
NJ2 **Nanjing** 80.05 307 eP P 08 13 19.5 -0.3
NJ2 pmax pmax
comp=Z,11nm,0.5s
GHO **Glory Hole Cre** 80.13 12 P P 08 13 19.0 -0.6
WRAK **Wrangell Islan** 80.23 22 P P 08 13 20.9 +0.8
baz=221
SML **Sawmill** 80.28 12 P P 08 13 20.9 +0.5
baz=205
MESA **MESA** 80.31 16 P P 08 13 19.5 -1.2
baz=211
KIDD **KID Seismic O** 80.33 53 P P 08 13 22.1 +0.6
baz=244
BMRM **Bremner River** 80.34 14 P P 08 13 20.3 -0.4
baz=209,SNR=7.0
M23K **Glacier View** 80.39 12 P P 08 13 20.9 0.0
baz=206
KLU **Klutina** 80.50 13 P P 08 13 21.5 -0.2
baz=207
SCM **Sheep Creek Mo** 80.51 13 P P 08 13 21.5 -0.2
baz=206,SNR=8.0
HLID **Hailey** 80.57 39 P P 08 13 22.6 +0.1
baz=237,SNR=14
MA2 **Magadan** 80.62 343 LR LR 08 44 22.8
comp=Z,99nm,21.6s,baz=154,slow=32
K20K **Telida** 80.71 9 P P 08 13 23.0 +0.4
baz=200,SNR=7.3
KLR **Kul'dur** 80.73 327 *i* P P 08 13 23.2 +0.2
KLR pmax pmax
comp=Z,15nm,2.7s
N25K **Chitina, Valde** 80.90 14 P P 08 13 23.6 -0.1
baz=209,SNR=9.7
Y22A **Socorro** 80.92 51 P P 08 13 25.1 +0.4
baz=244
M24K **Tolsona, Glenn** 81.00 13 P P 08 13 24.6 +0.4
baz=207
P29M **Windy Craggy** 81.01 18 P P 08 13 24.7 +0.4
baz=215
BNX **BinXian** 81.08 323 ⇓P P 08 13 24.5 -0.4
BNX pmax pmax
comp=Z,6.0nm,0.7s
BNX pmax pmax
comp=Z,380nm,7.5s
MCARA **McCarthy VSAT** 81.08 15 P P 08 13 24.4 -0.2
baz=210
CAST **Castle Rocks** 81.08 10 P P 08 13 23.2 -1.4
baz=201,SNR=6.2
WAT6 **Susitna Watana** 81.10 12 P P 08 13 24.7 -0.2
baz=206,SNR=9.4
CTG **Chitna Glacier** 81.14 15 P P 08 13 25.1 0.0
baz=212
WAT1 **Susitna Watana** 81.16 12 P P 08 13 24.9 -0.2
baz=205
CN2 **Changchun** 81.19 320 eP P 08 13 28.5 +2.9
CN2 pmax pmax
comp=Z,10.0nm,0.7s
O28M **Mount Upton** 81.27 16 P P 08 13 25.8 -0.2
baz=213
PLBC **Pleasant Camp** 81.28 18 P P 08 13 26.0 +0.3
baz=217
MVCO **Mesa Verde** 81.29 47 P P 08 13 26.0 -0.6
baz=242
O29M **Mount Kennedy** 81.32 17 P P 08 13 26.5 +0.4
baz=214
TRF **Thorofare Moun** 81.41 11 P P 08 13 25.8 -0.7
baz=203,SNR=7.4
T35M **Bob Quinn** 81.42 23 P P 08 13 27.2 +0.7
baz=222
J20K **Nowinta River** 81.47 9 P P 08 13 26.9 +0.3
J20K **Nowinta River** 81.47 9 P P 08 13 26.7 +0.1
baz=199,SNR=16
CHUM **Lake Minchumin** 81.47 10 P P 08 13 26.1 -0.5
baz=201
HARP **HAARP** 81.47 13 P P 08 13 26.5 -0.2
baz=208
TX31 **Lajitas Ar. Si** 81.54 56 P P 08 13 28.7 +0.8
TX31 IAmb IAmb 08 14 12.3
comp=Z,105nm,1.4s
TX31 **Lajitas Ar. Si** 81.54 56 P P 08 13 28.3 +0.3
baz=246
TX32 **Lajitas Array** 81.54 56 P P 08 13 28.6 +0.7
TX32 IAmb IAmb 08 14 12.3
comp=Z,35nm,1.4s
TXAR **Lajitas Array** 81.54 56 P P 08 13 28.5 +0.6
comp=Z,7.3nm,1.0s,baz=224,slow=5.2,SNR=44
TXAR pP pP 08 14 08.3 +2.4
comp=Z,8.9nm,1.1s,baz=223,slow=6.8,SNR=6.7
comp=Z,7.3nm,1.0s
SKAG **Skagway** 81.60 19 P P 08 13 27.9 +0.6
baz=218
DHY **Denali Highway** 81.62 12 P P 08 13 27.3 -0.3
baz=206
NEW **Newport** 81.64 34 P P 08 13 27.8 -0.2
baz=235
GCSA **Galena City Sc** 81.65 7 P P 08 13 28.1 +0.6
baz=197,SNR=5.0
ANMO **Albuquerque** 81.75 50 *ce* P P 08 13 29.8 +0.8
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO **Albuquerque** 81.75 50 P P 08 13 29.5 +0.5
baz=244
ANMO **Albuquerque** 81.75 50 P P 08 13 29.6 +0.5
baz=244
S34M **Telegraph Cree** 81.80 22 P P 08 13 29.0 +0.6
baz=222
PAX **Paxson** 81.92 13 P P 08 13 28.4 -0.7
baz=208
MCK **McKinley** 81.92 11 P P 08 13 28.6 -0.4
baz=204,SNR=16
M26K **Nabesna, AK** 81.97 14 P P 08 13 29.3 0.0
baz=210,SNR=10
YUK3 **Moose Creek** 82.05 15 P P 08 13 30.0 0.0
baz=213
HYT **Haines Junctio** 82.06 17 P P 08 13 30.1 +0.2
HYT **Haines Junctio** 82.06 17 P P 08 13 30.3 +0.4
baz=215
YUK4 **Talbot Arm** 82.17 16 P P 08 13 31.3 +0.7
baz=214
M27K **Edge Creek, AK** 82.19 15 P P 08 13 31.3 +0.6
baz=211,SNR=7.7
Q32M **Nakina River** 82.20 20 P P 08 13 31.0 +0.3
baz=220
P32M **Atlin** 82.21 19 P P 08 13 30.6 0.0
baz=219
O30N **Mendenhall** 82.42 18 P P 08 13 32.2 +0.5
baz=217
L26K **Log Cabin Wild** 82.43 14 P P 08 13 32.0 +0.3
baz=210,SNR=7.2
BVCY **Beaver Creek** 82.49 15 P P 08 13 32.1 +0.1
baz=212
DLBC **Dease Lake** 82.58 22 LR LR 08 42 07.2
comp=Z,68nm,20.0s,baz=54,slow=30
DLBC **Dease Lake** 82.58 22 P P 08 13 32.8 +0.2
baz=222
K24K **Donnelly Dome** 82.59 12 P P 08 13 33.0 +0.4
baz=207,SNR=7.5
MSO **Missoula** 82.62 37 P P 08 13 32.8 -0.4
baz=237,SNR=5.2
NEA2 **Nenana** 82.68 11 P P 08 13 32.1 -0.8
baz=204,SNR=7.7
N30M **Aishikik Lake** 82.69 17 P P 08 13 33.0 -0.1
baz=216
S22A **4UR Ranch, Cre** 82.72 47 P P 08 13 34.7 +0.6
baz=243
RIDG **Independent Ri** 82.73 13 P P 08 13 33.1 -0.2
baz=208,SNR=5.0
I21K **Tanana** 82.74 9 P P 08 13 34.0 +0.9
baz=202
MLY **Manley** 82.80 10 P P 08 13 33.0 -0.6
baz=203,SNR=10
L27K **Beaver Creek,** 82.81 14 P P 08 13 33.4 -0.3
baz=211
O20A **White River Ci** 82.83 45 P P 08 13 34.7 +0.2
baz=242,SNR=5.6
HDA **Harding Lake** 82.90 12 P P 08 13 33.7 -0.4
baz=206,SNR=16
R33M **Jennings River** 82.97 21 P P 08 13 35.0 +0.3
baz=222
P33M **Teslin, Yukon** 82.98 19 P P 08 13 34.7 0.0
baz=220
SEY **Seymchan** 83.01 345 *i* P P 08 13 33.5 -1.1
SEY pmax pmax
comp=Z,8.0nm,0.9s
H21K **Melozitna Rive** 83.07 9 P P 08 13 35.5 +0.6
baz=201,SNR=9.2
N31M **Braeburn, Yuko** 83.08 17 P P 08 13 35.3 +0.2
baz=217
SCRK **Sand Creek** 83.12 13 P P 08 13 35.1 -0.3
baz=209,SNR=10.0
M29M **Somme Creek** 83.13 16 P P 08 13 35.3 -0.1
baz=214
TCOL **CIGO, UAF Yank** 83.15 11 P P 08 13 35.1 -0.2
baz=205,SNR=12
COLA **College** 83.16 11 *ce* P P 08 13 35.2 -0.1
COLA pmax pmax
comp=Z,32nm,1.0s
COLA **College** 83.16 11 P P 08 13 35.0 -0.2
baz=205
BW06 **Boulder Array** 83.21 42 P P 08 13 36.4 0.0
BW06 **Boulder Array** 83.21 42 P P 08 13 36.1 -0.4
baz=241,SNR=15
PD31 **Pinedale Array** 83.21 42 P P 08 13 36.2 -0.2
PDAR **Pinedale Array** 83.21 42 P P 08 13 35.9 -0.6
comp=Z,10nm,0.8s,baz=207,slow=2.9,SNR=76
PDAR pP pP 08 14 16.3 +1.7
comp=Z,6.4nm,1.1s,baz=222,slow=2.0,SNR=3.3
comp=Z,10nm,0.8s
PDAR **Pinedale Array** 83.21 42 P P 08 13 36.2 -0.2
YHL **Hebgen Lake** 83.23 40 P P 08 13 37.1 +0.6
YHL IAmb IAmb 08 13 38.5
comp=Z,22nm,0.7s
IMAR **Indian Mountai** 83.24 8 P P 08 13 36.1 +0.3
IL31 83.24 11 P P 08 13 35.2 -0.5
ILAR **Eielson Array** 83.24 11 P P 08 13 35.3 -0.5
comp=Z,1.9nm,0.4s,baz=221,slow=6.2,SNR=22
comp=Z,1.9nm,0.4s
ILAR **Eielson Array** 83.24 11 P P 08 13 35.2 -0.6
BOZ **Bozeman (W)** 83.34 39 P P 08 13 37.2 +0.3
baz=239,SNR=11
J25K **Salcha River,** 83.40 12 P P 08 13 36.8 +0.1
baz=208,SNR=11
BELA **Belgrano 2** 83.42 172 P P 08 13 36.6 0.0
BELA IAmb IAmb 08 13 37.6
comp=Z,79nm,1.1s
POKR **Poker Plat Res** 83.45 11 P P 08 13 36.5 -0.4
baz=206,SNR=5.2
H22K **Ishtalitna Cre** 83.50 9 P P 08 13 37.2 0.0
baz=202,SNR=19
K27K **Chicken** 83.59 14 P P 08 13 37.9 +0.3
K27K IAmb IAmb 08 14 18.8
comp=Z,36nm,1.9s
K27K **Chicken** 83.59 14 P P 08 13 38.0 +0.5
baz=211
N32M **Quiet Lake** 83.62 19 P P 08 13 38.1 +0.3
baz=219
SDCO **Great Sand Dun** 83.66 48 P P 08 13 39.2 +0.2
baz=244
SDCO **Great Sand Dun** 83.66 48 P P 08 13 38.7 -0.2
baz=244
J26L **Joseph Creek** 83.67 13 P P 08 13 38.6 +0.5
J26L **Joseph Creek** 83.67 13 P P 08 13 38.7 +0.5
baz=210,SNR=14
H23K **Yukon River** 83.73 10 P P 08 13 37.8 -0.5
baz=204
L29M **L29M** 83.77 16 P P 08 13 38.8 +0.2
baz=215,SNR=8.7
G21K **Allakaket** 83.78 8 P P 08 13 38.9 +0.4
baz=200
HRY **Holter Researc** 83.79 38 P P 08 13 39.5 +0.3
H24K **Noodor Dome** 84.03 11 P P 08 13 39.2 -0.6
baz=205
M31M **Drury Creek, Y** 84.06 18 P P 08 13 40.3 +0.3
baz=218
MSTX **Muleshoe** 84.10 52 P P 08 13 41.2 +0.2
baz=246
MSTX **Muleshoe** 84.10 52 P P 08 13 40.9 -0.1
baz=246
PRP **Porcupine Dome** 84.17 12 P P 08 13 40.9 +0.2
baz=208,SNR=14
T25A **Trinidad** 84.19 49 P P 08 13 41.1 -0.4
baz=245
DAWY **Dawson** 84.25 15 P P 08 13 41.2 +0.3
DAWY **Dawson** 84.25 15 P P 08 13 41.5 +0.5
baz=213,SNR=10
FARO **Faro, Yukon** 84.38 18 P P 08 13 42.0 +0.3
baz=219
EGAK **Eagle** 84.44 14 P P 08 13 42.0 +0.2
EGAK **Eagle** 84.44 14 P P 08 13 42.1 +0.2
baz=212,SNR=9.3
Q24A **Divide** 84.44 47 P P 08 13 42.9 0.0
baz=244
G22K **Bettles** 84.44 9 P P 08 13 42.5 +0.7
baz=202,SNR=11

F21K	Alatna River	84.45	8	P		P		08 13 42.3	+0.4			
	baz=200,SNR=7.6											
I26K	Coal Creek Min	84.46	13	P		P		08 13 41.9	-0.1			
I26K	Coal Creek Min	84.46	13	P		P		08 13 42.3	+0.4			
	baz=210											
G23K	Bananza Creek	84.47	9	P		P		08 13 42.4	+0.4			
	baz=203,SNR=14											
ISCO	Idaho Springs	84.48	46	P		P		08 13 43.1	0.0			
	baz=244											
ISCO	Idaho Springs	84.48	46	P		P		08 13 43.1	0.0			
	baz=244											
K29M	Barlow Dome	84.53	15	P		P		08 13 43.3	+0.8			
	baz=215											
RLMT	Red Lodge	84.54	40	P		P		08 13 43.1	0.0			
	baz=241,SNR=5.4											
833A	Chaparral WMA,	84.62	59	P		P		08 13 43.7	+0.1			
	baz=249											
833A	Chaparral WMA,	84.62	59	P		P		08 13 43.0	-0.6			
	baz=249											
N23A	Red Feather La	84.73	45	P		P		08 13 44.2	0.0			
	baz=244											
MAYO	Mayo, Yukon	84.75	16	P		P		08 13 43.7	+0.3			
	baz=217											
H25K	Birch Creek	84.78	11	P		P		08 13 43.5	-0.1			
	baz=207											
F22K	John River	84.89	8	P		P		08 13 44.7	+0.6			
	baz=201,SNR=6.5											
COLD	Coldfoot	84.92	9	P		P		08 13 45.1	+0.9			
	baz=203,SNR=10											
I27K	Kandik River	85.04	13	P		P		08 13 45.1	+0.1			
	baz=211											
JCT	Junction City	85.08	57	P		P		08 13 45.4	-0.5			
	baz=248											
BILL	Bilibino	85.10	353	*c*eP		P		08 13 45.8	+0.7			
BILL				pmax		pmax						
	comp=Z,32nm,2.5s											
K22A	Casper	85.13	43	P		P		08 13 46.4	+0.3			
	baz=243											
AMTX	Amarillo	85.29	52	P		P		08 13 47.4	+0.5			
	baz=247											
AMTX	Amarillo	85.29	52	P		P		08 13 46.5	-0.5			
	baz=247											
MMPY	Sheldon Lake,	85.31	18	P		P		08 13 46.6	+0.3			
	baz=221											
TGTN	Hyland Airport	85.44	20	P		P		08 13 47.1	+0.1			
	baz=224											
BJI	Beijing	85.46	314	P		P		08 13 47.3	-0.2			
BJI				pmax		pmax						
	comp=Z,9.0nm,1.8s											
F24K	Squaw Lake	85.55	10	P		P		08 13 48.1	+0.6			
	baz=205											
I29M	Ogilvie Camp,	85.58	14	P		P		08 13 47.8	+0.2			
	baz=214,SNR=6.6											
H27K	Steamboat Moun	85.60	13	P		P		08 13 48.1	+0.4			
	baz=211,SNR=7.7											
ZEA	Zeya	85.67	329	eP		P		08 13 48.1	-0.1			
ZEA				pmax		pmax						
	comp=Z,10.0nm,1.4s											
EGMT	Eagleton	85.67	37	P		P		08 13 48.3	-0.2			
	baz=240											
G26K	Porcupine Rive	85.77	11	P		P		08 13 48.9	+0.4			
	baz=209,SNR=16											
E23K	Chandalar	85.77	9	P		P		08 13 49.1	+0.5			
	baz=204											
E24K	Your Creek	85.96	9	P		P		08 13 50.1	+0.6			
	baz=205											
ABTX	Abilene, Hawle	86.00	55	P		P		08 13 50.6	+0.2			
ABTX				IAmb		IAmb		08 14 34.2				
	comp=Z,66nm,1.1s											
ABTX	Abilene, Hawle	86.00	55	P		P		08 13 50.8	+0.4			
	baz=248											
ABTX	Abilene, Hawle	86.00	55	P		P		08 13 50.1	-0.3			
	baz=248											
F25K	Christian Rive	86.00	11	P		P		08 13 50.3	+0.6			
	baz=207											
BMAR	Burnt Mountain	86.05	11	P		P		08 13 50.8	+1.0			
G27K	Doyon Strip	86.07	12	P		P		08 13 50.4	+0.4			
	baz=211											
735A	Kenedy	86.11	59	P		P		08 13 51.7	+0.7			
	baz=249											
TOLK	Toolik Lake Re	86.32	9	P		P		08 13 51.5	+0.3			
	baz=204											
F26K	Sheenjek River	86.36	11	P		P		08 13 52.3	+1.0			
	baz=209											
EDM	Edmonton	86.41	32	P		P		08 13 51.8	-0.2			
EDM				IAmb		IAmb		08 14 35.4				
	comp=Z,30nm,1.3s											
EDM	Edmonton	86.41	32	P		P		08 13 51.8	-0.2			
EDM				pmax		pmax						
	comp=Z,30nm,1.3s											
D23K	Nanushuk River	86.46	8	P		P		08 13 52.6	+0.8			
	baz=203											
E25K	Arctic Village	86.48	10	P		P		08 13 52.8	+0.9			
	baz=207											
EPYK	Eagle Plains	86.79	14	P		P		08 13 53.4	-0.1			
	baz=216											
D24K	Happy Valley	86.90	9	P		P		08 13 54.3	+0.4			
	baz=204											
MAW	Mawson	86.94	199	P		P		08 13 55.1	+0.8			
	comp=Z,65nm,0.7s,baz=140,slow=5.4,SNR=103											
	comp=Z,65nm,0.7s											
MAW	Mawson	86.94	199	P		P		08 13 55.1	+0.8			
	baz=87,SNR=63											
MAW	Mawson	86.94	199	P		P		08 13 55.0	+0.8			
MAW				IAmb		IAmb		08 13 56.0				
	comp=Z,15nm,0.9s											
435B	Jarrell	86.97	57	P		P		08 13 55.4	+0.3			
	baz=249											
LAO	LASA Array	87.15	40	P		P		08 13 56.3	+0.6			
	baz=243											
LAO	LASA Array	87.15	40	P		P		08 13 56.6	+0.8			
	baz=243											
E27K	Coleen River	87.27	12	P		P		08 13 57.2	+1.4			
	baz=211											
C23K	Itkillik River	87.28	8	P		P		08 13 56.3	+0.6			
	baz=203											
G30M	tAoh Zraii Nji	87.40	14	P		P		08 13 56.6	+0.1			
	baz=216											
RSSD	Black Hills	87.41	43	P		P		08 13 56.7	-0.5			
	baz=245											
C24K	Franklin Bluff	87.44	9	P		P		08 13 57.0	+0.6			
	baz=204											
GYA	Guiyang	87.78	298	⇓P		P		08 14 00.5	+1.2			
GYA				pmax		pmax						
	comp=Z,22nm,1.4s											
LL02	Futaleuf	87.78	134	P		P		08 14 00.0	+1.1			
LL02				IAmb		IAmb		08 14 01.3				
	comp=Z,21nm,0.8s											
C27K	Jago River	88.14	10	P		P		08 14 00.3	+0.5			
	baz=209											
F31M	Tsiigehtchic	88.36	14	P		P		08 14 01.2	+0.4			
	baz=219											
XAN	Xi'an	88.50	306	⇓P		P		08 14 03.0	+0.6			
XAN				pmax		pmax						
	comp=Z,16nm,2.0s											
HHC	Hu-ho-hao-te	89.01	313	eP		P		08 14 05.5	+0.8			
HHC				pmax		pmax						
	comp=Z,240nm,5.4s											
INK	Inuvik	89.09	14	P		P		08 14 04.8	+0.5			
	baz=219											
YAK	Yakutsk	89.48	337	*i* P		P		08 14 05.8	-0.4			
YAK				pmax		pmax						
	comp=Z,7.0nm,0.8s											
PLCA	Paso Flores	89.54	132	P		P		08 14 08.6	+1.3			
	comp=Z,5.3nm,0.9s,baz=238,slow=5.2,SNR=16											
	comp=Z,5.3nm,0.9s											
KMI	Kunming	90.73	296	⇑P		P		08 14 14.3	+1.1			
KMI				pmax		pmax						
	comp=Z,13nm,1.2s											
YKA	Yellowknife Ar	90.98	24	LR		LR		08 50 41.2				
	comp=Z,93nm,19.1s,baz=258,slow=32											
CD2	Chengdu	91.60	302	eP		P		08 14 17.0	0.0			
PZH	PanZhiHua	91.99	297	P		P		08 14 16.0	-2.9			
PZH				pmax		pmax						
	comp=Z,20nm,0.9s											
PZH				pmax		pmax						
	comp=Z,470nm,6.1s											
TROLL	Troll, Antarti	92.09	179	P		P		08 14 18.6	0.0			
CMAR	Chiang Mai Arr	92.20	288	P		P		08 14 19.9	+0.1			
	comp=Z,5.6nm,0.8s,baz=89,slow=2.9,SNR=26											
	comp=Z,5.6nm,0.8s											
CMAR	Chiang Mai Arr	92.20	288	P		P		08 14 20.0	+0.1			
VNA3	Neumayer Olymp	92.24	175	P		P		08 14 19.2	+0.1			
SNAA	Sanae	92.26	177	P		P		08 14 19.0	-0.2			
SNAA	Sanae	92.26	177	P		P		08 14 19.1	-0.2			
SNAA				IAmb		IAmb		08 14 20.4				
	comp=Z,27nm,1.0s											
SNAA	Sanae	92.26	177	*i* P		P		08 14 19.3	0.0			
SNAA				pmax		pmax						
	comp=Z,30nm,1.0s											
VNA2	Neumayer--Watz	92.72	176	P		P		08 14 21.7	+0.3			
	baz=185,slow=4.0											
VNA1	Neumayer--Stat	92.93	175	P		P		08 14 22.6	+0.3			
LZH	Lanzhou	93.10	307	eP		P		08 14 23.0	-0.9			
LZH				pmax		pmax						
	comp=Z,19nm,1.4s											
NVL	N'lazarevskaya	93.27	182	eP		P		08 14 23.4	-0.4			
NVL				pmax		pmax						
	comp=Z,32nm,1.1s											
R40A	Maddies Statio	93.57	51	P		P		08 14 25.0	-0.7			
	baz=252											
CCM	Cathedral Cave	94.27	52	P		P		08 14 28.7	-0.3			
	baz=253											
ULM	Lac du Bonnet	94.88	39	LR		LR		08 53 35.0				
	comp=Z,70nm,18.2s,baz=275,slow=33											
SONM	Songino Array	94.91	318	P		P		08 14 31.9	0.0			
	comp=Z,0.5nm,0.4s,baz=112,slow=1.6,SNR=3.6											
	comp=Z,0.5nm,0.4s											
SPMN	Marine on St.	95.27	45	P		P		08 14 33.2	-0.2			
	baz=253											
TIXI	Tiksi	95.48	345	LR		LR		08 55 42.3				
	comp=Z,87nm,19.2s,baz=180,slow=34											
JFWS	Jewell Farm	96.37	47	P		P		08 14 38.5	0.0			
	baz=254											
EYMN	Ely	96.92	42	P		P		08 14 40.4	-0.5			
	baz=254											
GTA	Gaotai	97.09	309	eP		P		08 14 42.3	+0.3			
GTA				pP		pP		08 15 15.0	-5.4			
GTA				sP		sP		08 15 30.8	-5.5			
GTA				pmax		pmax						
	comp=Z,4.0nm,0.8s											
TKL	Tuckaleechee C	99.44	56	LR		LR		08 57 01.6				
	comp=Z,125nm,18.2s,baz=256,slow=34											
TZTN	Tazewell	99.82	55	P		Pdif		08 14 54.4	+0.3			
	baz=257											
ZALV	Zalesovo Beam	109.36	322	PKiKP		PKiKP		08 19 39.3	+0.5			
	comp=Z,1.2nm,0.6s,baz=116,slow=3.4,SNR=4.1											
MKAR	Makanchi Array	110.83	314	PKiKP		PKiKP		08 19 40.5	-1.4			
	comp=Z,1.2nm,0.5s,baz=217,slow=0.2,SNR=14											
MKAR				PKKPbc		PKKPbc		08 30 40.3	-1.3			
	comp=Z,0.5nm,0.8s,baz=298,slow=2.6,SNR=3.6											
KURBB	Kurchatov Arra	113.28	319	PKKPbc		PKKPbc		08 30 32.4	-1.2			
	comp=Z,0.6nm,0.7s,baz=263,slow=4.3,SNR=6.4											
AAK	Ala-Archa	116.42	310	*i* PKiKP		PKiKP		08 19 53.4	+0.5			
AAK				pmax		pmax						
	comp=Z,1.0nm,1.0s											
KBS	Kingsbay	117.06	359	*e*		PKiKP		08 20 09.0	+16			
BRVK	Borovoye	118.07	322	*i* PKiKP		PKPdf		08 19 53.9	-1.6			
BRVK				pmax		pmax						
	comp=Z,3.0nm,1.0s											
BDFB	Brasilia	118.14	118	PKP		PKPdf		08 19 55.4	-1.5			
	comp=Z,1.1nm,0.6s,baz=101,slow=3.8,SNR=3.3											
GAR	Garm	119.75	306			PKPdf		08 19 58.9	-0.4			
ARU	Arti	123.57	328	*i* PKiKP		PKPdf		08 20 04.7	-1.2			
ARU								08 27 05.1				
HAMF	Hammerfest	124.39	353	*e*PKPdf		PKPdf		08 20 06.2	-0.9			
HAMF				IAmb		IAmb		08 20 06.6				
	comp=Z,11nm,0.8s											
ARA0	ARCESS Array S	125.19	352	*e*PKPdf		PKPdf		08 20 08.1	-0.6			
ARA0				IAmb		IAmb		08 20 08.8				
	comp=Z,13nm,0.8s											
ARCES	ARCESS Array B	125.19	352	PKP		PKPdf		08 20 08.0	-0.7			
	comp=Z,15nm,0.7s,baz=5.7,slow=1.2,SNR=32											
ARCES	ARCESS Array B	125.19	352	PKPdf		PKPdf		08 20 08.2	-0.5			
ARCES	ARCESS Array B	125.19	352	PKiKP		PKPdf		08 20 08.2	-0.5			
JETT	Jettan, Norway	125.79	354	*e*PKPdf		PKPdf		08 20 09.0	-0.9			
TRO	Tromso	125.86	354	*e*PKPdf		PKPdf		08 20 09.2	-0.7			
KTK1	Kautokeino	125.98	352	*e*PKPdf		PKPdf		08 20 09.5	-0.7			
KTK1				IAmb		IAmb		08 20 09.8				
	comp=Z,5.7nm,0.7s											
PRGR	Permogore	126.52	338	*e*PKiKP		PKPdf		08 20 09.3	-2.1			
PRGR				pmax		pmax						
	comp=Z,10.0nm,0.9s											
OPO	Ambohidratompo	126.74	231	PKP		PKPdf		08 20 13.5	+0.1			
	comp=Z,2.4nm,0.5s,baz=206,slow=7.2,SNR=3.7											
STEI	Steigen	127.84	356	*e*PKPdf		PKPdf		08 20 13.0	-0.7			
STEI				IAmb		IAmb		08 20 14.0				
	comp=Z,20nm,1.2s											
FAUS	Fauske	128.37	355	*e*PKPdf		PKPdf		08 20 14.4	-0.4			
KLMR	Klimovskoe	129.20	340	*e*PKiKP		PKPdf		08 20 14.2	-2.3			
KLMR				pmax		pmax						
	comp=Z,9.0nm,1.0s											
KLMR	Klimovskoe	129.20	340	*e*PKPdf		PKPdf		08 20 14.3	-2.3			
KLMR				AMP				08 20 17.2				
	comp=Z,9.0nm,1.0s											
BELG	Belogornoye	131.10	327	*i* PKiKP		PKPdf		08 20 19.8	-0.6			
BELG				pmax		pmax						
	comp=Z,4.0nm,1.4s											
NSS	Namsos	131.43	357	*e*PKPdf		PKiKP		08 20 21.6	0.0			
BOSA	Boshof	131.78	203	PKP		PKPdf		08 20 22.9	+0.3			
	comp=Z,3.3nm,0.6s,baz=164,slow=1.7,SNR=7.0											
BOSA	Boshof	131.78	203	PKiKP		PKPdf		08 20 23.0	+0.3			
FIA1	FINESS Array S	132.46	347			PKPdf		08 20 22.9	+0.2			
FINES	FINESS Array B	132.46	347	PKhKP		PKPpre		08 20 12.5				
	comp=Z,0.7nm,0.5s,baz=243,slow=0.4,SNR=4.0											
FINES				PKP		PKPdf		08 20 21.7	-1.0			
	comp=Z,4.0nm,0.6s,baz=126,slow=2.6,SNR=16											
FINES	FINESS Array B	132.46	347			PKPdf		08 20 22.7	0.0			
FINES	FINESS Array B	132.46	347	PKiKP		PKPdf		08 20 22.7	0.0			
OBN	Obninsk	134.47	336‖	*e*PKiKP		PKPdf		08 20 26.8	+0.2			
OBN				pmax		pmax						
	comp=Z,7.0nm,0.4s											
NB2	NORSAR Subarra	134.94	356	PKP		PKPdf		08 20 26.9	-0.6			
	comp=Z,5.0nm,1.0s,baz=11,slow=4.0											
NOA	NORSAR Array B	134.94	356	PKP		PKPdf		08 20 26.9	-0.6			
	comp=Z,3.4nm,0.8s,baz=13,slow=4.0,SNR=8.1											
VSU	Vasula	134.95	345	*i* PKiKP		PKPdf		08 20 26.3	-1.2			
VSU				pmax		pmax						
	comp=Z,16nm,1.0s											
SKAR	Skarslia	135.43	358	*e*PKPdf		PKPdf		08 20 28.6	+0.2			
ASK	Askoy	135.66	1	*e*PKPdf		PKiKP		08 20 30.0	-0.3			
ODD1	Odda	136.24	359	*e*PKPdf		PKPdf		08 20 30.2	+0.3			
KONO	Kongsberg	136.42	357	*e*PKPdf		PKiKP		08 20 31.0	-0.9			
MATP	Matopo	137.47	212	PKhKP		PKPpre		08 20 20.9				
	comp=Z,1.4nm,0.4s,baz=152,slow=3.0,SNR=6.1											
MNK	Minsk	138.04	341	*i* PKiKP		PKPdf		08 20 29.7	-3.6			
MNK				*i*				08 21 02.1				
MNK				*i*				08 23 19.2				
MNK				*i* SS		SS		08 41 21.5	+0.9			
MNK				*i* SSS		SSS		08 46 30.6				
MNK				pmax		pmax						
	comp=Z,20nm,0.7s											
MNK				pmax		pmax						
	comp=E,3.0nm,0.9s											
MNK				MLR		MLR						
	comp=E,86nm,21.0s											
MNK				MLR		MLR						
	comp=N,1.0nm,23.0s											
MNK				MLR		MLR						
	comp=Z,29nm,16.0s											
MNK	Minsk	138.04	341	*i* PKP		PKPdf		08 20 29.7	-3.6			
	comp=E,3.0nm,0.9s											
MNK				*i* PKP		PKPdf		08 20 29.7	-3.6			
MNK				*i* PKP		PKPdf		08 20 29.7	-3.6			
	comp=Z,20nm,0.7s,baz=213											
MNK				*i* pPKP		pPKPdf		08 21 02.1	-11			
MNK				*i* PP		PP		08 23 19.3	-3.4			
MNK				*i* PPP		PPP		08 26 20.4				
MNK				*i* SPP		SPP		08 39 14.8				
MNK				*i* PPS		PPS		08 39 14.8				
MNK				*i* SS		SS		08 41 21.5	+0.9			
MNK				*i* SSS		SSS		08 46 30.6				
MNK				*i* LRM		MLR		09 20 25.5				
	comp=E,86nm,21.1s											
MNK				*i* LRM		MLR		09 21 01.0				
	comp=N,1.0nm,23.0s											
MNK				*i* LRM		MLR		09 21 01.0				
	comp=Z,29nm,15.9s											
KBZ	Khabaz	138.28	319	*i* PKiKP		PKiKP		08 20 36.1	-0.1			
KBZ				pmax		pmax						
	comp=Z,2.0nm,0.9s											
SHA1	Shidzhatmaz	138.42	319	*i* PKiKP		PKPdf		08 20 34.7	0.0			
AKASG	Malin Array Be	140.71	337	PKhKP		PKPpre		08 20 30.9				
	comp=Z,1.0nm,0.5s,baz=43,slow=4.1,SNR=4.5											
LSZ	Lusaka	141.86	216	PKhKP		PKPpre		08 20 36.2				
	comp=Z,3.0nm,0.4s,baz=129,slow=2.2,SNR=7.3											
RAYN	Ar Rayn	142.12	288	⇑PKHKP		PKPpre		08 20 36.5				
TSUM	Tsumeb	143.10	199	PKP		PKPbc		08 20 41.1	+0.1			
	comp=Z,6.4nm,0.6s,baz=146,slow=5.5,SNR=10											
TSUM	Tsumeb	143.10	199	PKPdf		PKPbc		08 20 41.8	+0.8			
KIBK	Kibwezi	143.35	243	PKPdf		PKPbc		08 20 41.9	+0.1			
OJC	Ojcow	144.15	345	*e*PKPdf		PKPab		08 20 40.9	-1.6			
KSP	Ksiaz	144.34	349	*e*PKPdf		PKPbc		08 20 43.6	+0.1			
CLL	Collm	144.41	352	PKPdf		PKPab		08 20 42.8	-0.6			
CLL	Collm	144.41	352	PKiKP		PKPab		08 20 42.8	-0.6			
CLL	Collm	144.41	352	⇑*i*PKPdf		PKPab		08 20 42.6	-0.8			
	comp=Z,16nm,0.8s											
KOLS	Kolonicke sedl	144.62	341	*e*PKiKP		PKPbc		08 20 44.3	-0.1			
KOLS	Kolonicke sedl	144.62	341	*e*PKP		PKPbc		08 20 44.3	-0.1			
CHVC	Chvalec	144.62	349	*e*PKP		PKPab		08 20 43.9	-0.4			
OSTC	Ostas	144.62	349	*e*PKP		PKPbc		08 20 44.6	+0.2			
KMBO	Kilima Mbogo	144.64	244	PKP		PKPdf		08 20 46.4	-0.3			
	comp=Z,30nm,0.9s,baz=70,slow=4.3,SNR=44											
BZK	Bozkurt	144.68	323	⇑P		PKPab		08 20 42.5	-2.2			
BRG	Berggiesshubel	144.70	351	*e*PKP		PKPab		08 20 43.8	-0.7			
BRG				Amp				08 20 44.9				
	comp=Z,8.3nm,0.8s											
BRG	Berggiesshubel	144.70	351	*e*PKiKP		PKPab		08 20 43.8	-0.7			
BRG				pmax		pmax						
	comp=Z,8.0nm,0.8s											
BUR08	Bucovina Ar. S	144.73	337	PKPdf		PKPbc		08 20 44.8	-0.1			
BURAR	Bucovina Array	144.75	337	⇑P		PKPdf		08 20 45.2	-0.5			
BURAR	Bucovina Array	144.75	337	PKPdf		PKPbc		08 20 44.9	-0.1			
BURAR	Bucovina Array	144.75	337	⇑PKiKP		PKPdf		08 20 45.3	-0.5			
NIE	Niedzica	144.75	344	*e*PKPdf		PKPbc		08 20 44.9	0.0			
DPC	Dobruska-Polom	144.80	348	*e*PKiKP		PKPab		08 20 44.6	-0.4			
DPC	Dobruska-Polom	144.80	348	*e*PKP		PKPab		08 20 44.6	-0.4			
UZH	Uzhgorod	144.88	341	*e*PKHKP		PKPpre		08 20 42.1				
UZH				*e*				08 20 44.9				
UZH				*e*				08 21 30.1				
CRVS	Cervenica-Dubn	144.89	342	*e*PKiKP		PKPab		08 20 44.9	-0.4			
CRVS	Cervenica-Dubn	144.89	342	*e*PKP		PKPab		08 20 44.9	-0.4			
OKC	Ostrava-Krasne	144.90	346	*e*PKiKP		PKPab		08 20 44.8	-0.5			
OKC	Ostrava-Krasne	144.90	346	*e*PKP		PKPab		08 20 44.8	-0.5			
BIZ	Bicaz	144.96	336	⇑P		PKPbc		08 20 44.3	-1.3			
KRLC	Kraliky	144.97	348	*e*PKiKP		PKPbc		08 20 44.7	-0.9			
KRLC	Kraliky	144.97	348	*e*PKP		PKPbc		08 20 44.7	-0.9			
TESR	Tescani	145.09	335	⇓P		PKPbc		08 20 45.4	-0.6			
MORC	Moravsky Berou	145.09	347	⇑P		PKPdf		08 20 46.0	-0.2			
MORC	Moravsky Berou	145.09	347			PKPdf		08 20 45.9	-0.2			
MORC	Moravsky Berou	145.09	347	*e*PKP		PKPbc		08 20 45.5	-0.4			
MORC	Moravsky Berou	145.09	347	⇑PKiKP		PKPdf		08 20 46.5	+0.3			
GHRR		145.13	333	⇑P		PKPdf		08 20 46.5	+0.2			
TLCR		145.18	331	⇑P		PKPbc		08 20 45.7	-0.5			
TLCR		145.18	331	⇑PKiKP		PKPdf		08 20 46.5	+0.1			
LANS	Liptovska Anna	145.22	344	*e*PKiKP		PKPab		08 20 47.0	+0.4			
LANS	Liptovska Anna	145.22	344	*e*PKP		PKPab		08 20 47.0	+0.4			
BEBN	Eben Emael	145.37	0	*d*PKP		PKPab		08 20 46.8	-0.2			
PANC	Panciu	145.39	334	⇑P		PKPbc		08 20 46.7	-0.2			
MAUC	Maruska	145.42	346	*e*PKP		PKPab		08 20 47.2	-0.1			
PRU	Pruhonice	145.47	350	*e*PKiKP		PKPdf		08 20 46.3	-0.4			
PRU	Pruhonice	145.47	350	*e*PKP		PKPdf		08 20 46.3	-0.4			
CFR	Carcaliu	145.50	332	⇑P		PKPbc		08 20 46.9	-0.4			
CFR	Carcaliu	145.50	332	⇑PKP2		PKPab		08 20 47.6	-0.1			
GOPC	GO Pecny, Ondr	145.50

	comp=Z,5.8nm,1.0s								
WATA	**Walderalm**	**148.49**	**353**	*e*P		**PKPbc**	**08 20 55.1**	**-0.7**
	comp=Z,5.0nm,0.5s								
WATA				*e*S		**pPKiKP**	**08 21 41.0**	**+3.6**
	comp=Z,7.9nm,1.0s								
MOTA	**Moosalm**	**148.53**	**353**	*e*P		**PKPbc**	**08 20 55.2**	**-0.7**
	comp=Z,15nm,1.1s								
MOTA				*e*S		**pPKiKP**	**08 21 41.8**	**+4.3**
	comp=Z,12nm,1.4s								
WTTA	**Wattenberg**	**148.55**	**353**	*i* P		**PKPbc**	**08 20 55.7**	**-0.3**
	comp=Z,22nm,0.6s,SNR=12								
WTTA				*e*S		**pPKiKP**	**08 21 40.5**	**+2.9**
	comp=Z,19nm,1.5s								
SOKA	**Soboth**	**148.56**	**348**	*e*P		**PKPbc**	**08 20 55.3**	**-0.6**
	comp=Z,15nm,1.3s								
PERS	**Pernice**	**148.59**	**348**	*i* PKPbc		**PKPbc**	**08 20 55.0**	**-1.0**
SQTA	**Sankt Quirin**	**148.65**	**353**	*e*P		**PKPbc**	**08 20 56.1**	**-0.1**
	comp=Z,9.8nm,0.7s								
SQTA				*e*S		**pPKiKP**	**08 21 41.1**	**+3.4**
	comp=Z,0.8nm,0.4s								
DAVA	**Damuels**	**148.71**	**355**	*i* P		**PKPbc**	**08 20 56.2**	**-0.2**
	comp=Z,17nm,0.8s,SNR=5.4								
DAVA				*e*S		**pPKiKP**	**08 21 41.8**	**+4.0**
	comp=Z,8.3nm,0.9s								
FRGS	**Fruska Gora**	**148.74**	**341**	⇓P		**PKiKP**	**08 20 58.2**	**+0.5**
OBKA	**Obir**	**148.82**	**348**	*e*P		**PKPbc**	**08 20 55.8**	**-0.8**
	comp=Z,7.8nm,1.1s								
OBKA				*e*S		**pPKiKP**	**08 21 41.6**	**+3.5**
	comp=Z,5.0nm,0.9s								
MYKA	**Terra Mystica**	**148.87**	**350**	*e*P		**PKPbc**	**08 20 55.3**	**-1.4**
	comp=Z,8.1nm,0.6s								
MYKA				*e*S		**pPKiKP**	**08 21 41.4**	**+3.3**
	comp=Z,9.1nm,1.1s								
FETA	**Feichten**	**148.90**	**354**	*i* P		**PKPbc**	**08 20 56.6**	**-0.2**
	comp=Z,9.5nm,0.8s,SNR=9.6								
FETA				*e*S		**pPKiKP**	**08 21 42.5**	**+4.2**
	comp=Z,11nm,1.2s								
ABTA	**Abfaltersbach**	**148.94**	**351**	*i* P		**PKPbc**	**08 20 55.9**	**-1.0**
	comp=Z,15nm,0.7s,SNR=7.9								
ABTA				*e*S		**pPKiKP**	**08 21 41.4**	**+3.1**
	comp=Z,7.6nm,0.7s								
BLKB	**Belogradchik**	**149.07**	**336**	⇑P		**PKPbc**	**08 20 55.9**	**-1.3**
LJU	**Ljubljana**	**149.27**	**348**	*i* PKPbc		**PKPbc**	**08 20 57.1**	**-0.6**
FUORN	**Ofenpass-Fuorn**	**149.34**	**354**			**PKPbc**	**08 20 58.3**	**+0.2**
CIMO	**Cimolais**	**149.38**	**351**			**PKPbc**	**08 20 57.1**	**-0.8**
BOVS	**Bovan**	**149.43**	**337**	⇑P		**PKPbc**	**08 20 55.8**	**-2.3**
CEY	**Cerknica**	**149.59**	**348**	*i* PKPbc		**PKPbc**	**08 20 57.7**	**-0.8**
MBAR	**Mbarara**	**150.41**	**238**	PKPbc		**PKPbc**	**08 21 01.5**	**-0.1**
	comp=Z,3.2nm,0.2s,baz=71,slow=6.3,SNR=7.6								
SSB	**Saint Sauveur**	**150.87**	**2**			**PKiKP**	**08 21 02.0**	**-0.1**
SSB	**Saint Sauveur**	**150.87**	**2**	PKIKP		**PKiKP**	**08 21 02.0**	**-0.1**
BNI	**Bardonecchia**	**151.12**	**359**			**PKPbc**	**08 21 01.9**	**-0.3**
BNI	**Bardonecchia**	**151.12**	**359**	PKIKP		**PKPbc**	**08 21 01.9**	**-0.3**
PDG	**Podgorica**	**151.36**	**339**	⇑P		**PKPbc**	**08 21 02.0**	**-0.7**
PGAV	**Gavieira, Arco**	**151.47**	**22**	*e*PKPbc		**PKPbc**	**08 21 03.0**	**-0.1**
PCAB	**Cabril**	**151.78**	**22**	*e*PKPbc		**PKiKP**	**08 21 03.9**	**-0.2**
PBRG	**Braganca**	**152.15**	**21**	*e*PKPbc		**PKPbc**	**08 21 04.3**	**-0.3**
POLO	**Lamas de Olo**	**152.16**	**22**	*e*PKPbc		**PKPbc**	**08 21 04.7**	**0.0**
PVRL	**Vila Real**	**152.27**	**22**	*e*PKPbc		**PKiKP**	**08 21 05.0**	**-0.1**
MVO	**Moncorvo**	**152.61**	**22**	*e*PKPbc		**PKiKP**	**08 21 05.9**	**0.0**
PVIS	**Viseu**	**152.69**	**23**	*e*PKPbc		**PKPbc**	**08 21 05.6**	**-0.2**
PCAS	**Casmilo, Conde**	**153.02**	**25**	*e*PKPbc		**PKPbc**	**08 21 06.4**	**-0.1**
MTE	**Manteigas**	**153.10**	**23**	*e*PKPbc		**PKPbc**	**08 21 06.6**	**-0.2**
PCBR	**Castelo Branco**	**153.61**	**24**	*e*PKPbc		**PKPbc**	**08 21 07.6**	**-0.2**
PMRV	**Marv??o**	**154.00**	**24**	*e*PKPbc		**PKiKP**	**08 21 08.7**	**0.0**
ESDC	**Sonseca Array**	**154.96**	**18**	PKP		**PKPdf**	**08 21 01.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=1.0,slow=1.4,SNR=7.2								
ESDC				PKPbc		**PKPbc**	**08 21 10.2**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=332,slow=3.1,SNR=9.0								
ESDC				PKPab		**PKPab**	**08 21 26.4**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=325,slow=4.0,SNR=9.0								
DBIC	**Dimbokro**	**165.90**	**130**	PKP		**PKPdf**	**08 21 13.1**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=215,slow=3.3,SNR=3.5								
DBIC				PKPab		**PKPab**	**08 22 14.2**	**-0.8**
	comp=Z,4.1nm,0.9s,baz=213,slow=5.8,SNR=4.3								
TOA0	**Torodi Ar. Sit**	**174.98**	**125**			**PKPdf**	**08 21 17.7**	**-1.8**
TOA0				PKPab		**PKPab**	**08 22 55.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**174.98**	**125**	PKP		**PKPdf**	**08 21 17.9**	**-1.6**
	comp=Z,4.8nm,0.9s,baz=327,slow=1.3,SNR=15								
TORD				PKPab		**PKPab**	**08 22 54.0**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=264,slow=4.3,SNR=5.8								
TORD				PP		**PP**	**08 26 53.9**	**+6.3**
	comp=Z,2.2nm,1.0s,baz=176,slow=4.3,SNR=5.6								
TORD	**Torodi Ar. Bea**	**174.98**	**125**			**PKPdf**	**08 21 17.9**	**-1.6**
TORD				PKPab		**PKPab**	**08 22 55.0**	**-0.3**

*ISK **27** 08:02:13.1,39˚.39N×25˚.82E,h1km,ML2.6/12*
*DDA **27** 08:02:14.3±0.0,39˚.38N×25˚.91E,h20km±1km, ML2.2*
*ATH **27** 08:02:14.7,39˚.36N×25˚.81E,h23km±10km, ML2.4/4, Error ellipse: s-maj=10.6km s-min=1.1km az=78.0*
*THE **27** 08:02:14.7,39˚.40N×25˚.84E,h12km±1km, ML2.1/5, Error ellipse: s-maj=2.1km s-min=0.8km az=64.0*

ISC 27 08:02:14.3±1.0,39˚.38N±0˚.02×25˚.84E±0˚.02,h19km±2km, n39,σ0s64/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.24**	**71**	PG	**Pb**	**08 02 19.3**	**-0.4**
KOCA	**Canakkale, Ayv**	**0.26**	**61**	P	**Pb**	**08 02 19.9**	**-0.3**
KOCA				S	**Sb**	**08 02 23.5**	**-0.6**
KOCA				*i* AML	AML	08 02 24.0	
	comp=N,382nm,0.2s						
KOCA				*i* AML	AML	08 02 24.0	
	comp=E,588nm,0.3s						
PRK	**Paraskevi**	**0.36**	**111**	P	**Pb**	**08 02 22.5**	**+0.4**
PRK				S	**Sb**	**08 02 27.6**	**+0.2**
	898nm,0.3s						
PRK	**Paraskevi**	**0.36**	**111**	P	**Pb**	**08 02 22.6**	**+0.6**
PRK				S	**Sb**	**08 02 28.0**	**+0.6**
PRK				AML	AML	08 02 28.2	
	comp=E,2416μm,0.3s						
PRK				AML	AML	08 02 28.3	
	comp=N,1153μm,0.3s						
BOZC	**Bozcaada**	**0.49**	**19**	PG	**Pg**	**08 02 23.8**	**-0.5**
BOZC				SG	**Sb**	**08 02 31.4**	**+0.3**
BOZC	**Bozcaada**	**0.49**	**19**	P	**Pg**	**08 02 23.8**	**-0.5**
BOZC				S	**Sb**	**08 02 31.6**	**+0.5**
BOZC				*i* AML	AML	08 02 33.0	
	comp=N,142nm,0.1s						
BOZC				*i* AML	AML	08 02 34.0	
	comp=N,169nm,0.2s						
EZN	**Ezine**	**0.58**	**40**	P	**Pb**	**08 02 25.4**	**-0.3**
EZN				S	**Sb**	**08 02 33.5**	**-0.1**
	comp=N,262nm,0.3s						
EZN	**Ezine**	**0.58**	**40**	PG	**Pb**	**08 02 25.5**	**-0.3**
EZN				SG	**Sg**	**08 02 34.6**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**0.65**	**56**	P	**Pb**	**08 02 26.1**	**-0.9**
BAYC				S	**Sb**	**08 02 34.9**	**-0.8**
BAYC				*i* AML	AML	08 02 35.0	
	comp=N,96nm,0.4s						
BAYC				*i* AML	AML	08 02 40.0	
	comp=N,100nm,0.3s						
AYVA	**Ayvalik**	**0.66**	**96**	P	**Pb**	**08 02 26.5**	**-0.6**
AYVA				S	**Sb**	**08 02 35.9**	**0.0**
AYVA				*i* AML	AML	08 02 38.0	
	comp=N,173nm,0.4s						
EFSA	**Agios Efstrati**	**0.68**	**284**	P	**Pb**	**08 02 27.8**	**+0.3**
ECEA	**Canakkale, Ece**	**0.71**	**21**	P	**Pb**	**08 02 27.9**	**-0.1**
ECEA				S	**Sn**	**08 02 39.5**	**-0.3**
ECEA				*i* AML	AML	08 02 40.0	
	comp=N,217nm,0.6s						
ECEA				*i* AML	AML	08 02 42.0	
	comp=N,175nm,0.3s						
LIA	**Limnos Island**	**0.73**	**316**	P	**Pg**	**08 02 28.7**	**+0.1**
LIA				S	**Sg**	**08 02 38.3**	**0.0**
	comp=N,120nm,0.6s						
LIA	**Limnos Island**	**0.73**	**316**	P	**Pb**	**08 02 28.4**	**+0.1**
LIA				S	**Sb**	**08 02 37.8**	**-0.1**
LIA				AML	AML	08 02 40.4	
	comp=E,224μm,0.4s						
LIA				AML	AML	08 02 41.6	
	comp=N,211μm,0.4s						
GADA	**Gvkgeada**	**0.81**	**3**	PG	**Pb**	**08 02 29.5**	**-0.3**
GADA				SG	**Sg**	**08 02 41.5**	**+0.5**
GOKA	**anakkale-Gk**	**0.81**	**4**	P	**Pb**	**08 02 29.4**	**-0.4**
GOKA				S	**Sb**	**08 02 39.7**	**-0.7**
GOKA				*i* AML	AML	08 02 45.0	
	comp=N,222nm,0.3s						
PSRA	**Psara**	**0.86**	**195**	P	**Pb**	**08 02 30.3**	**-0.3**
PSRA				S	**Sb**	**08 02 41.3**	**-0.4**
PSRA				AML	AML	08 02 45.0	
	comp=E,1010μm,0.2s						
PSRA				AML	AML	08 02 45.7	
	comp=N,732μm,0.4s						
DKL	**Dikili**	**0.88**	**110**	PG	**Pb**	**08 02 31.1**	**+0.2**
BUHA	**Balikesir, Bur**	**0.96**	**82**	P	**Pb**	**08 02 32.6**	**+0.3**
BUHA				S	**Sb**	**08 02 44.3**	**-0.4**
BUHA				*i* AML	AML	08 02 49.0	
	comp=N,87nm,0.3s						
BUHA				*i* AML	AML	08 02 49.0	
	comp=N,66nm,0.5s						
CHOS	**Chios island**	**1.00**	**170**	P	**Pb**	**08 02 33.2**	**+0.1**
CHOS				S	**Sn**	**08 02 47.8**	**+0.8**
	comp=N,508nm,0.4s						
CHOS	**Chios island**	**1.00**	**170**	PG	**Pb**	**08 02 33.2**	**+0.1**
CHOS				SG	**Sn**	**08 02 48.6**	**+1.6**
CHOS	**Chios island**	**1.00**	**170**	P	**Pb**	**08 02 33.2**	**+0.1**
CHOS				S	**Sb**	**08 02 44.9**	**-1.0**
CHOS				AML	AML	08 02 49.4	
	comp=N,556μm,0.5s						
CHOS				AML	AML	08 02 50.3	
	comp=E,1483μm,0.3s						
ZEDA	**zmir-Bergama**	**1.04**	**113**	P	**Pb**	**08 02 33.0**	**-0.7**
ZEDA				S	**Sb**	**08 02 47.3**	**+0.4**
ZEDA				*i* AML	AML	08 02 51.0	
	comp=E,54nm,0.2s						
SMTH	**Samothraki Isl**	**1.12**	**348**	P	**Pn**	**08 02 35.0**	**0.0**
SMTH				S	**Sg**	**08 02 51.0**	**+0.4**
	comp=E,62nm,0.8s						
SMTH	**Samothraki Isl**	**1.12**	**348**	P	**Pn**	**08 02 34.9**	**0.0**
SMTH				S	**Sn**	**08 02 50.2**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.13**	**25**	PN	**Pn**	**08 02 34.8**	**-0.2**
GELI				SN	**Sg**	**08 02 51.8**	**+0.8**
URLA	**Izmir**	**1.17**	**150**	P	**Pn**	**08 02 33.1**	**-2.6**
URLA				S	**Sb**	**08 02 49.6**	**-1.1**
URLA				*i* AML	AML	08 02 56.0	
	comp=E,67nm,0.8s						
URLA				*i* AML	AML	08 02 56.0	
	comp=E,68nm,1.1s						
ZEYE	**Izmir, Urla-Ze**	**1.25**	**155**	P	**Pn**	**08 02 37.0**	**+0.3**
ZEYE				S	**Sg**	**08 02 55.0**	**+0.3**
ZEYE				*i* AML	AML	08 02 57.0	
	comp=E,40nm,0.3s						
ZEYE				*i* AML	AML	08 03 01.0	
	comp=E,36nm,0.4s						
BLCB	**Balcova**	**1.36**	**136**	PN	**Pb**	**08 02 40.2**	**+1.1**
BALY	**Balya**	**1.42**	**75**	P	**Pn**	**08 02 39.9**	**+0.8**
BALY				S	**Sb**	**08 02 58.0**	**+0.1**
BALY				*i* AML	AML	08 02 59.0	
	comp=E,151nm,0.6s						
BALY				*i* AML	AML	08 02 59.0	
	comp=E,39nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.45**	**89**	P	**Pn**	**08 02 40.1**	**+0.6**
STEP				S	**Sg**	**08 03 01.2**	**0.0**
STEP				*i* AML	AML	08 03 03.0	
	comp=E,50nm,0.5s						
STEP				*i* AML	AML	08 03 06.0	
	comp=E,40nm,0.3s						
ALN	**Alexandroupoli**	**1.53**	**6**	PN	**Pb**	**08 02 42.4**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.66**	**38**	PN	**Pb**	**08 02 43.9**	**-0.4**
OUR	**Ouranopolis**	**1.72**	**304**	PN	**Pb**	**08 02 44.8**	**-0.5**
RDO	**Rodhopi**	**1.78**	**353**	PN	**Pb**	**08 02 45.4**	**-0.9**
MRMT	**Marmara Adasi**	**1.82**	**47**	PN	**Pb**	**08 02 46.7**	**-0.3**
EDC	**Edincik**	**1.83**	**57**	PN	**Pb**	**08 02 47.0**	**-0.1**
SMG	**Samos**	**1.84**	**155**	P	**Pb**	**08 02 46.6**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**131**	PN	**Pb**	**08 02 51.7**	**-0.9**

*MDD **27** 08:10:22.1±1.5,37˚.79N×17˚.21W,h0km,Mb3.6/3, Error ellipse: s-maj=10.9km s-min=10.8km az=86.0*
*INMG **27** 08:10:26.3±2.7,37˚.40N×17˚.40W,h31km, ML3.1, Error ellipse: s-maj=21.0km s-min=5.1km az=119.0*

ISC 27 08:10:17.7±2.2,37˚.57N±0˚.08×17˚.2W±0˚.1,h10km,n34, σ3s29/39,3C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**4.54**	**171**	*e*P	**Pn**	**08 11 27.4**	**+1.0**
PMPST				*e*S	**Sn**	**08 12 12.2**	**-7.0**
PMPST				A	A	08 12 14.8	
	28nm,1.0s						
PMPS	**Porto Santo**	**4.56**	**171**	*e*S	**Sn**	**08 12 13.6**	**-6.1**
PMPS				A	A	08 12 19.1	
	24nm,1.0s						
PMOZ	**Porto Moniz, M**	**4.74**	**180**	*e*S	**Sn**	**08 12 17.8**	**-6.5**
PMOZ				A	A	08 12 19.0	
	82nm,0.7s						
PMAR	**Madeira**	**4.84**	**177**	*e*S	**Sn**	**08 12 19.2**	**-7.8**
PMAR				A	A	08 12 24.2	
	42nm,0.2s						
PMAFR	**Mafra**	**6.38**	**75**	*e*S	**Sn**	**08 13 05.3**	**+0.8**
PMAFR				A	A	08 13 09.8	
	41nm,0.6s						
PMST	**Lisbon--Monsan**	**6.42**	**77**	*e*S	**Sn**	**08 13 05.3**	**-0.3**
PFVI	**Vila Bisbo**	**6.68**	**91**	*e*P	**Pn**	**08 11 59.9**	**+4.1**
PFVI				*e*S	**Sn**	**08 13 11.7**	**-0.3**
PFVI				A	A	08 13 22.5	
	7.4nm,0.7s						
PACT	**Alcochete**	**6.69**	**77**	*e*S	**Sn**	**08 13 13.8**	**+1.5**
PTEO	**Sao Teotonio**	**6.73**	**88**	*e*S	**Sn**	**08 13 13.5**	**+0.3**
PTEO				A	A	08 13 21.4	
	7.5nm,0.5s						
PSBE	**So Bento**	**6.86**	**71**	*e*S	**Sn**	**08 13 17.6**	**+1.1**
PNCL	**Nicolau / Gran**	**6.88**	**83**	*e*P	**Pn**	**08 12 02.0**	**+3.4**
PNCL				*e*S	**Sn**	**08 13 16.2**	**-0.7**
PNCL				A	A	08 13 19.4	
	7.6nm,0.2s						
MESJ	**Messejana**	**7.12**	**85**	*e*S	**Sn**	**08 13 23.4**	**+0.6**
MESJ				A	A	08 13 25.8	
	8.4nm,0.4s						
PMTG	**Montargil**	**7.21**	**75**	*e*P	Pn	08 12 08.1	+5.0
PMTG				*e*S	**Sn**	**08 13 24.4**	**-0.6**
PMTG				A	A	08 13 28.5	
	6.2nm,0.4s						
PCAS	**Casmilo, Conde**	**7.23**	**67**	*e*S	**Sn**	**08 13 24.9**	**-0.6**
PCAS				A	A	08 13 28.7	
	5.7nm,0.5s						
PCVE	**Castro Verde**	**7.27**	**87**	*e*P	Pn	08 12 08.4	+4.5
PCVE				*e*S	**Sn**	**08 13 25.9**	**-0.6**
PCVE				A	A	08 13 30.2	
	3.8nm,0.4s						
EVO	**Evora**	**7.31**	**80**	*e*S	**Sn**	**08 13 28.1**	**+0.7**
PBDV	**Barranco-do-Ve**	**7.38**	**90**	*e*S	**Sn**	**08 13 29.9**	**+0.6**
PBEJ	**Beja**	**7.40**	**84**	*e*S	**Sn**	**08 13 30.6**	**+0.9**
PBEJ				A	A	08 13 43.2	
	5.9nm,0.6s						
PVAQ	**Vaqueiros**	**7.54**	**88**	*e*P	Pn	08 12 12.7	+5.1
PVAQ				*e*S	**Sn**	**08 13 31.3**	**-1.8**
PVAQ				A	A	08 13 37.9	
	4.8nm,0.4s						
PESTR	**Estremoz**	**7.67**	**77**	*e*S	**Sn**	**08 13 36.0**	**-0.4**
PESTR				A	A	08 13 43.2	
	4.6nm,0.4s						
EGRO	**El Granado**	**7.71**	**87**	S	**Sn**	**08 13 35.3**	**-2.1**
PVIS	**Viseu**	**7.88**	**64**	*e*S	**Sn**	**08 13 38.1**	**-3.5**
PVIS				A	A	08 13 41.7	
	6.3nm,0.3s						
PMRV	**Marv??o**	**7.91**	**73**	*e*S	**Sn**	**08 13 41.5**	**-0.7**
PMRV				A	A	08 13 44.3	
	5.8nm,0.4s						
PCBR	**Castelo Branco**	**7.93**	**70**	*e*S	**Sn**	**08 13 42.4**	**-0.3**
PCBR				A	A	08 13 44.1	
	3.8nm,0.4s						
EZAM	**Zamans**	**7.97**	**52**	S	**Sn**	**08 13 40.2**	**-3.7**
PBAR	**Barrancos**	**8.05**	**83**	*e*P	Pn	08 12 19.8	+5.1
PBAR				*e*S	**Sn**	**08 13 44.4**	**-1.4**
PBAR				A	A	08 13 49.7	
	6.5nm,0.4s						
EBAD	**Badajoz**	**8.11**	**78**	P	Pn	08 12 20.3	+4.9
EBAD				⇑*i*Vmb_V		08 12 23.9	
	21nm,SNR=2.1						
EBAD				S	**Sn**	**08 13 45.6**	**-1.5**
PGAV	**Gavieira, Arco**	**8.15**	**55**	*e*S	**Sn**	**08 13 44.2**	**-4.2**
PGAV				A	A	08 13 51.5	
	4.1nm,0.3s						
POLO	**Lamas de Olo**	**8.20**	**59**	*e*S	**Sn**	**08 13 46.9**	**-2.7**
POLO				A	A	08 14 00.8	
	1.2nm,0.5s						
ELOB	**Lobios**	**8.24**	**56**	P	**Pn**	**08 12 19.2**	**+1.8**
ELOB				⇑*i*Vmb_V		08 12 20.2	
	46nm,SNR=5.9						
ELOB				S	**Sn**	**08 13 46.0**	**-4.6**
MVO	**Moncorvo**	**8.65**	**62**	*e*S	**Sn**	**08 13 57.3**	**-3.3**
MVO				A	A	08 14 04.8	
	4.5nm,0.4s						
EAGO	**Agolada(Pontev**	**8.71**	**50**	S	**Sn**	**08 13 56.0**	**-5.9**
PBRG	**Braganca**	**9.10**	**59**	*e*S	**Sn**	**08 14 07.7**	**-3.8**
PBRG				A	A	08 14 12.8	
	2.3nm,0.5s						
ECAB	**El Cabril**	**9.33**	**83**	P	**Pn**	**08 12 36.2**	**+3.9**
ECAB				⇑*i*Vmb_V		08 12 42.3	
	9.4nm,SNR=3.0						
ECAB				S	**Sn**	**08 14 16.3**	**-1.0**

*IDC **27** 08:11:52.1±0.8, 1˚.43S×100˚.44E, h0km, mb4.1/14, mbtmp4.1/16, ML4.0/2, MS2.6/1, Error ellipse: s-maj=32.7km s-min=15.4km az=61.0*
*DJA **27** 08:12:02.7±0.4, 1˚S±3˚×10˚0E±˚, h34km±6km, M4.1/13, MLv4.1/13*

ISC 27 08:12:00.6±0.6,1˚.40S±0˚.05×100˚.44E±0˚.05,h58km,n34, σ1s92/35,mb4.3/14,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.48**	**4**	P	**Pn**	**08 12 14.0**	**+1.7**
PDSI				S	**Sn**	**08 12 23.2**	**+2.4**
SDSI	**Sungai Dareh**	**1.10**	**65**	P	**Pn**	**08 12 21.4**	**+1.4**
SDSI				S	**Sn**	**08 12 37.7**	**+3.4**
KRJI	**Kerinci**	**1.24**	**124**	P	**Pn**	**08 12 23.9**	**+2.0**
KRJI				S	**Sn**	**08 12 42.5**	**+4.7**
SISI	**Saibi**	**1.34**	**273**	P	**Pn**	**08 12 24.7**	**+1.6**
PPSI	**Pulau Pagai**	**1.42**	**197**	P	**Pn**	**08 12 26.2**	**+2.0**
PPSI				S	Sn	08 12 50.8	+8.9
BKNI	**Bangkinang**	**1.82**	**20**	P	**Pn**	**08 12 31.5**	**+1.9**
MASI	**Maura Aman, Be**	**2.51**	**134**	P	**Pn**	**08 12 41.0**	**+2.0**
PBSI	**Pulau Batu**	**2.53**	**302**	P	**Pn**	**08 12 41.7**	**+2.4**
MNAI	**Manna**	**3.88**	**139**	P	**Pn**	**08 13 00.3**	**+2.5**
GSI	**Gunungsitoli**	**3.92**	**313**	P	**Pn**	**08 13 01.4**	**+3.1**
DSRI	**Dabo**	**4.25**	**78**	P	**Pn**	**08 13 04.2**	**+1.3**
PSI	**Prapat**	**4.43**	**340**	Pn	Pn	08 13 00.8	-4.7
	1.5nm,0.3s,baz=149,slow=5.9,SNR=1.6						
PSI				LR	LR	08 14 14.6	
	comp=Z,72nm,18.1s,baz=66,slow=33						
	3.8nm,0.4s						
TPRI	**Tanjung Pinang**	**4.70**	**61**	P	**Pn**	**08 13 10.7**	**+1.6**
KASI	**Kota Agung**	**5.77**	**135**	P	**Pn**	**08 13 20.4**	**-3.3**
CMAR	**Chiang Mai Arr**	**19.78**	**356**	P	**P**	**08 16 25.1**	**-1.2**
	0.6nm,0.3s,baz=186,slow=10,SNR=11						
	2.7nm,0.5s						
H08S2	**Diego Garcia H**	**28.52**	**257**	T	T	08 46 56.4	
	baz=80,slow=75,SNR=17						
H08S3	**Diego Garcia H**	**28.52**	**257**	T	T	08 46 56.8	
	baz=80,slow=75,SNR=23						
H08S1	**Diego Garcia H**	**28.53**	**257**	T	T	08 46 57.8	
	baz=80,slow=75,SNR=13						
WRA	**Warramunga Arr**	**37.93**	**121**	P	**P**	**08 19 10.2**	**-2.6**
	0.5nm,0.7s,baz=302,slow=9.2,SNR=4.7						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**39.27**	**127**	P	**P**	**08 19 22.4**	**-1.6**
	0.7nm,0.5s,baz=301,slow=8.1,SNR=12						
ASAR				PcP	**PcP**	**08 21 31.4**	**-0.7**
	0.7nm,0.5s,baz=298,slow=2.9,SNR=6.0						
	0.7nm,0.5s						
KSRS	**Korea Array**	**46.29**	**31**	P	**P**	**08 20 20.3**	**-0.2**
	0.8nm,0.6s,baz=218,slow=7.7,SNR=2.4						
	0.8nm,0.6s						
SONM	**Songino Array**	**49.31**	**5**	P	**P**	**08 20 43.5**	**-0.4**
	2.0nm,0.5s,baz=185,slow=8.6,SNR=7.7						
SONM				PcP	**PcP**	**08 22 05.2**	**-0.7**
	1.1nm,0.5s,baz=192,slow=5.0,SNR=3.5						
	2.0nm,0.5s						
MKAR	**Makanchi Array**	**50.57**	**344**	P	**P**	**08 20 53.0**	**-0.4**
	1.0nm,0.3s,baz=156,slow=9.0,SNR=30						
	1.0nm,0.3s						
USRK	**Ussuriysk Ar.**	**53.43**	**28**	P	**P**	**08 21 14.5**	**-0.1**
	3.6nm,0.7s,baz=323,slow=0.7,SNR=6.3						
	3.6nm,0.7s						
KURBB	**Kurchatov Arra**	**55.10**	**343**	P	**P**	**08 21 25.9**	**-0.8**
	2.9nm,0.8s,baz=162,slow=7.1,SNR=12						
	2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**56.66**	**349**	P	**P**	**08 21 36.6**	**-1.2**
	1.6nm,0.3s,baz=164,slow=6.0,SNR=9.6						
	1.6nm,0.3s						
BVAR	**Borovoye Array**	**59.77**	**340**	P	**P**	**08 21 58.4**	**-1.2**
	2.6nm,0.4s,baz=142,slow=8.6,SNR=14						
	2.6nm,0.4s						
KBZ	**Khabaz**	**68.14**	**319**	P	**P**	**08 22 54.7**	**0.0**
	1.3nm,0.4s,baz=135,slow=6.5,SNR=4.5						
	1.3nm,0.4s						
BRTR	**Keskin Array B**	**73.23**	**312**	P	**P**	**08 23 24.8**	**-1.2**
	1.2nm,0.7s,baz=79,slow=7.5,SNR=2.6						
	1.2nm,0.7s						

GLKZ Green Lake 3.36 360 P **Pn** **08 34 43.6 -3.3**
GLKZ S **Sn** **08 35 21.9 -4.3**
RAO Raoul Island 3.37 360 Pn **Pn** **08 34 43.6 -3.4**
73nm,0.3s,baz=92,slow=22,SNR=2.0
RAO Sn **Sn** **08 35 22.9 -3.6**
128nm,0.3s,baz=77,slow=23,SNR=3.5
206nm,0.3s
MXZ Matakaoa Point 5.82 211 P Pn 08 35 15.5 -5.1
MXZ S **Sn** **08 36 25.2 -1.5**
WMGZ Waiomatatini S 5.99 209 P **Pn** **08 35 23.5 +0.5**
WMGZ S **Sn** **08 36 28.8 -2.2**
PKGZ Pakihiroa 6.19 211 P **Pn** **08 35 24.4 -1.4**
PKGZ S **Sn** **08 36 36.2 +0.2**
HAZ Te Kaha 6.21 213 P **Pn** **08 35 24.7 -1.4**
HAZ S **Sn** **08 36 40.5 +4.1**
PUZ Puketiti 6.27 209 P **Pn** **08 35 24.7 -2.1**
PUZ S **Sn** **08 36 37.9 0.0**
RUGZ Raukumara Rang 6.43 213 P **Pn** **08 35 28.2 -1.0**
RUGZ S **Sn** **08 36 40.5 -1.5**
TWGZ Tauwhareparae 6.47 210 P **Pn** **08 35 27.7 -2.0**
TWGZ S **Sn** **08 36 42.3 -0.7**
CNGZ Carnagh Statio 6.64 207 P **Pn** **08 35 30.6 -1.4**
CNGZ S **Sn** **08 36 46.6 -0.5**
TKGZ Te Karaka 6.75 210 P **Pn** **08 35 33.2 -0.3**
TKGZ S **Sn** **08 36 46.6 -3.1**
MWZ Matawai 6.80 212 P **Pn** **08 35 32.5 -1.7**
MWZ S **Sn** **08 36 50.1 -0.9**
URZ Urewera 6.93 215 Pn **Pn** **08 35 34.9 -1.0**
7.3nm,0.3s,baz=8.0,slow=3.0,SNR=38
URZ Sn **Sn** **08 36 52.2 -2.0**
15nm,0.3s,baz=346,slow=22,SNR=16
20nm,0.3s
URZ Urewera 6.93 215 **Pn** **08 35 35.8 -0.2**
URZ Urewera 6.93 215 P **Pn** **08 35 34.9 -1.0**
URZ S **Sn** **08 36 52.7 -1.5**
URZ Urewera 6.93 215 P **Pn** **08 35 35.7 -0.2**
RAGZ Rawiri 6.98 212 P **Pn** **08 35 35.1 -1.6**
RAGZ S **Sn** **08 36 54.5 -1.1**
RIGZ Rimuhau 7.01 209 P **Pn** **08 35 36.1 -1.0**
RIGZ S **Sn** **08 36 53.6 -2.6**
PRGZ Paritu Road 7.15 207 P **Pn** **08 35 37.9 -1.0**
PRGZ S **Sn** **08 36 56.2 -3.4**
SNGZ Shannon Statio 7.25 211 P **Pn** **08 35 39.9 -0.5**
SNGZ S **Sn** **08 37 00.6 -1.6**
MUGZ Murupara 7.27 215 P **Pn** **08 35 38.8 -1.8**
MUGZ S **Sn** **08 37 00.6 -2.0**
RRRZ Republican Roa 7.29 217 P **Pn** **08 35 40.9 0.0**
RRRZ S **Sn** **08 37 03.2 +0.1**
KNZ Kokohu 7.32 208 P **Pn** **08 35 39.1 -2.1**
KNZ S **Sn** **08 37 01.5 -2.2**
OUZ Omahuta 7.52 248 Pn 08 35 47.0 +3.0
OUZ Omahuta 7.52 248 P **Pn** **08 35 46.0 +1.9**
OUZ Omahuta 7.52 248 P Pn 08 35 47.2 +3.1
WHHZ Waihua 7.54 210 P **Pn** **08 35 44.9 +0.5**
WHHZ S **Sn** **08 37 06.7 -2.6**
ARHZ Aropaoanui 7.80 211 P **Pn** **08 35 51.4 -1.4**
ARHZ S **Sn** **08 37 12.8 -2.8**
TLZ Tolley Road 7.80 221 P **Pn** **08 35 48.6 +0.6**
BKZ Black Stump Fm 7.95 213 **Pn** **08 35 47.9 -2.0**
BKZ Black Stump Fm 7.95 213 P **Pn** **08 35 48.2 -1.7**
BKZ S **Sn** **08 37 16.3 -3.0**
MCHZ McNeill Hill 8.08 211 P **Pn** **08 35 51.3 -0.4**
KWHZ Kaweka Forest 8.19 213 P **Pn** **08 35 51.4 -1.8**
TMVZ Te Maari 8.29 217 P **Pn** **08 35 53.4 -1.3**
NTVZ North Tongariro 8.29 217 P **Pn** **08 35 53.6 -1.2**
KAHZ Kahuranaki 8.30 209 P **Pn** **08 35 53.4 -1.3**
ETVZ East Tongariro 8.30 217 P **Pn** **08 35 53.4 -1.5**
HIZ Hauiti 8.32 223 P **Pn** **08 35 56.5 +1.5**
OTVZ Oturere 8.35 217 P **Pn** **08 35 54.6 -0.9**
SNVZ South Ngauruho 8.38 217 P **Pn** **08 35 55.1 -0.9**
KRHZ Kereru 8.39 212 P **Pn** **08 35 53.5 -2.5**
NGZ Ngauruhoe 8.39 217 P **Pn** **08 35 55.3 -0.8**
BHHZ Black Hill Sta 8.40 214 P **Pn** **08 35 55.7 -0.5**
MOVZ Moawhango 8.49 215 P **Pn** **08 35 56.1 -1.3**
PNHZ Pukenui 8.69 212 P **Pn** **08 35 57.8 -2.3**
DVHZ Dannevirke 9.02 210 P **Pn** **08 36 01.6 -3.0**
BFZ Birch Farm 9.30 209 P **Pn** **08 36 04.6 -3.9**
MRZ Mangatainoka R 9.57 211 P **Pn** **08 36 08.0 -4.2**
TMWZ Te Maipa 9.81 209 P **Pn** **08 36 11.5 -3.9**
TUWZ Tuamarina 10.93 214 P **Pn** **08 36 27.2 -3.5**
QRZ Quartz Range 11.21 220 P **Pn** **08 36 33.4 -1.2**
KHZ Kahutara 11.89 212 P **Pn** **08 36 39.7 -4.2**
LTZ Lake Taylor 12.76 215 **Pn** **08 36 52.4 -3.5**
RPZ Rata Peaks 14.05 215 Pn **Pn** **08 37 08.8 -4.6**
1.0nm,0.3s,baz=58,slow=1.8,SNR=6.7
RPZ Sn Sn 08 39 32.9 -16
1.6nm,0.3s,baz=10,slow=15,SNR=9.8
MSVF Nonsavu 15.28 345 LR LR 08 42 20.3
comp=Z,338nm,18.4s,baz=168,slow=34
PINNC Pines Island, 16.36 304 P **P** **08 37 49.0 +2.2**
PINNC IAmb IAmb 08 37 50.0
comp=Z,40nm,0.8s
DZM Mont Dzumac 17.42 303 *e*Pn **P** **08 38 01.8 +3.1**
comp=Z,66nm,1.4s
DZM *e*LR LR 08 42 14.9
comp=Z,594nm,22.6s
DZM Mont Dzumac 17.42 303 P **P** **08 37 59.4 +0.8**
comp=Z,14nm,0.9s,baz=118,slow=18,SNR=6.0
DZM LR LR 08 43 29.7
comp=Z,830nm,18.3s,baz=198,slow=34
DZM Mont Dzumac 17.42 303 P **P** **08 38 00.5 +1.8**
DZM IAmb IAmb 08 38 05.9
comp=Z,92nm,1.8s
DZM Mont Dzumac 17.42 303 P **P** **08 38 02.4 +3.7**
RAR Rarotonga 19.73 59 LR LR 08 46 52.0
comp=Z,125nm,18.2s,baz=253,slow=39
KOUNC Koumac, New Ca 19.93 303 P **Pn** **08 38 28.1 +0.3**
KOUNC IAmb IAmb 08 38 28.9
comp=Z,30nm,0.8s
KOUNC Koumac, New Ca 19.93 303 P **Pn** **08 38 28.2 +0.3**
ARMA Armidale 26.02 267 P **P** **08 39 30.6 +3.1**
ARMA IAmb IAmb 08 39 32.2
comp=Z,51nm,1.6s
EIDS Eidsvold 28.01 277 P **P** **08 39 45.9 +0.7**
EIDS IAmb IAmb 08 39 47.2
comp=Z,12nm,1.1s
EIDS Eidsvold 28.01 277 P **P** **08 39 46.0 +0.7**
RMQ Roma 29.56 273 P **P** **08 39 58.3 -0.8**
PPT2 Papeete2 29.58 66 *e*LR LR 08 47 22.8
comp=Z,122nm,24.0s
PPT Papeete 29.59 66 LR LR 08 51 19.5
comp=Z,86nm,18.2s,baz=239,slow=35
CMSA Cobar Meteorol 30.77 262 P **P** **08 40 10.8 +1.1**
QLP Quilpie 33.34 270 P **P** **08 40 33.8 +1.5**
STKA Stephens Creek 34.12 260 P **P** **08 40 39.4 +0.3**
comp=Z,2.3nm,0.8s,baz=102,slow=10,SNR=4.0
STKA LR LR 08 53 33.4
comp=Z,237nm,18.4s,baz=43,slow=35
comp=Z,2.3nm,0.8s
STKA Stephens Creek 34.12 260 P **P** **08 40 39.7 +0.6**
CTA Charters Tower 34.30 282 LR LR 08 52 45.0
comp=Z,120nm,18.7s,baz=83,slow=33
CTA Charters Tower 34.30 282 P **P** **08 40 41.3 +0.6**
CTAO Charters Tower 34.30 282 P **P** **08 40 41.2 +0.5**
CTAO Charters Tower 34.30 282 P **P** **08 40 41.3 +0.6**
INKA Innaminka 35.91 267 P **P** **08 40 56.6 +2.1**
MTSU Mount Surprise 36.85 284 P **P** **08 41 03.1 +0.4**
LCRK Leigh Creek 37.27 261 P **P** **08 41 06.2 +0.1**
BBOO Buckleboo 38.49 257 P **P** **08 41 15.4 -1.0**
QIS Mount Isa 39.61 277 P **P** **08 41 25.7 -0.2**
PMG Port Moresby 39.68 298 LR LR 08 55 28.3
comp=Z,97nm,20.3s,baz=141,slow=33
KRVT Keravat (AS076 39.81 309 P **P** **08 41 27.4 -0.1**
comp=Z,93nm,0.8s,baz=171,slow=1.4,SNR=9.1
COEN Coen 40.01 288 P **P** **08 41 28.1 -1.2**
OOD Oodnadatta 40.15 264 P **P** **08 41 30.0 -0.3**
AS31 Alice Springs 43.12 269 P **P** **08 41 53.9 -0.8**
ASAR Alice Springs 43.12 269 P **P** **08 41 53.6 -1.1**
comp=Z,8.4nm,0.8s,baz=111,slow=7.7,SNR=84
ASAR LR LR 08 59 40.4
comp=Z,109nm,18.4s,baz=144,slow=36
comp=Z,8.4nm,0.8s
ASAR Alice Springs 43.12 269 P **P** **08 41 53.4 -1.3**
WR0 Warramunga Arr 44.13 274 P **P** **08 42 01.5 -1.4**
WR0 IAmb IAmb 08 42 03.5
comp=Z,13nm,0.9s
WB2 Warramunga Arr 44.30 274 P **P** **08 42 02.8 -1.4**
WB2 IAmb IAmb 08 42 04.8
comp=Z,15nm,0.6s
WRAB Tennant Creek 44.30 274 P **P** **08 42 03.4 -0.9**
WRA Warramunga Arr 44.31 274 P **P** **08 42 03.0 -1.3**
comp=Z,11nm,0.5s,baz=114,slow=8.0,SNR=129
WRA LR LR 08 59 34.3
comp=Z,153nm,18.1s,baz=152,slow=35
comp=Z,11nm,0.5s
WRA Warramunga Arr 44.31 274 P **P** **08 42 02.6 -1.7**
WB0 Warramunga Arr 44.34 275 P **P** **08 42 03.3 -1.3**
WB0 IAmb IAmb 08 42 05.1
comp=Z,17nm,0.8s
FORT Forrest 45.59 257 P **P** **08 42 13.1 -1.3**
FORT Forrest 45.59 257 P **P** **08 42 13.2 -1.2**
WRKA Warakurna 47.32 260 P **P** **08 42 25.9 -2.2**
KDU Kakadu 49.42 282 P **P** **08 42 43.2 -1.1**
MTN Manton Dam 50.45 281 P **P** **08 42 51.6 -0.5**
MTN IAmb IAmb 08 43 04.3
comp=Z,9.7nm,0.9s
MTN Manton Dam 50.45 281 P **P** **08 42 50.6 -1.5**
KNRA Kununurra 50.99 276 P **P** **08 42 55.1 -1.1**
KNRA IAmb IAmb 08 42 55.9
comp=Z,20nm,1.1s
FITZ Fitzroy Crossi 52.47 272 LR LR 09 05 10.2
comp=Z,184nm,18.3s,baz=162,slow=36
FITZ Fitzroy Crossi 52.47 272 P **P** **08 43 06.2 -1.1**
FITZ Fitzroy Crossi 52.47 272 P **P** **08 43 06.4 -0.8**
CASY Casey 53.22 209 P **P** **08 43 13.2 +1.1**
CASY IAmb IAmb 08 43 27.2
comp=Z,7.5nm,0.7s
MORW Morawa 56.00 255 P **P** **08 43 31.4 -1.5**
MBWA Marble Bar 56.09 265 P **P** **08 43 31.0 -2.6**
SIJI Sorong 57.25 293 LR LR 09 07 31.7
comp=Z,44nm,19.7s,baz=145,slow=35
QSPA South Pole Qui 57.48 180 P **P** **08 43 45.9 +2.8**
baz=31,slow=2.1
QSPA South Pole Qui 57.48 180 P **P** **08 43 46.0 +3.0**
QSPA IAmb IAmb 08 43 57.6
comp=Z,11nm,0.7s
BATI Baumata 58.04 279 LR LR 09 08 23.6
comp=Z,178nm,19.4s,baz=136,slow=36
GUMO Guam 58.13 316 LR LR 09 07 43.3
comp=Z,28nm,18.1s,baz=152,slow=35
RPN Rapa Nui 58.79 104 LR LR 09 06 23.2
comp=Z,63nm,18.0s,baz=284,slow=33
KAPI Kappang 64.10 281 LR LR 09 11 46.7
comp=Z,77nm,20.0s,baz=114,slow=36
TROLL Troll, Antarti 75.65 180 P **P** **08 45 41.0 +2.1**
SNAA Sanae 75.93 178 P **P** **08 45 42.2 +1.7**
SNAA Sanae 75.93 178 PcP **PcP** **08 45 51.3 -1.6**
SNAA Sanae 75.93 178 P **P** **08 45 41.6 +1.2**
comp=Z,0.6nm,0.5s,baz=157,slow=5.5,SNR=5.9
comp=Z,0.6nm,0.5s
SNAA Sanae 75.93 178 P **P** **08 45 42.2 +1.7**
SNAA IAmb IAmb 08 45 53.5
comp=Z,8.6nm,1.0s
VNA3 Neumayer Olymp 76.08 176 P **P** **08 45 43.0 +1.8**
VNA3 Neumayer Olymp 76.08 176 PcP **PcP** **08 45 53.8 +0.4**
VNA2 Neumayer--Watz 76.51 177 P **P** **08 45 45.8 +2.1**
baz=172,slow=5.3
VNA2 Neumayer--Watz 76.51 177 PcP **PcP** **08 45 56.1 +0.8**
VNA1 Neumayer--Stat 76.74 176 P **P** **08 45 47.5 +2.6**
VNA1 Neumayer--Stat 76.74 176 PcP **PcP** **08 45 57.7 +1.5**
KSRS Korea Array 86.10 320 P **P** **08 46 35.8 +1.0**
comp=Z,0.4nm,0.3s,baz=141,slow=6.2,SNR=2.0
comp=Z,0.4nm,0.3s
PETK Petropavlovsk- 87.99 346 P **P** **08 46 43.7 +0.1**
comp=Z,2.4nm,0.8s,baz=67,slow=6.9,SNR=1.6
comp=Z,2.4nm,0.8s
NVAR Mina Array Bea 89.82 43 P **P** **08 46 56.1 +3.1**
comp=Z,0.5nm,1.0s,baz=252,slow=1.8,SNR=1.9
comp=Z,0.5nm,1.0s
NNA Nana 92.73 106 LR LR 09 21 46.7
comp=Z,34nm,18.3s,baz=203,slow=31
ATAH Atahualpa 94.13 101 LR LR 09 24 45.9
comp=Z,20nm,18.4s,baz=252,slow=32
PZH PanZhiHua 96.40 297 P **P** **08 47 22.3 -1.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,340nm,5.0s
HHC Hu-ho-hao-te 97.84 314 *e*P Pdif 08 47 29.5 -0.1
HHC pmax pmax
comp=Z,38nm,0.9s
HHC pmax pmax
comp=Z,510nm,6.5s
CPUP Villa Florida 98.53 129 LR LR 09 29 46.8
comp=Z,29nm,18.9s,baz=204,slow=34
LZH Lanzhou 100.11 306 *e*P **Pdif** **08 47 39.5 -0.4**
LZH pP sP 08 47 48.5 +2.1
LZH sP pwP 08 47 53.3 +0.8
LZH pmax pmax
comp=Z,13nm,1.3s
WMQ Urumqi 114.66 307 *e*P PKPdf 08 52 31.0 -3.3
MKAR Makanchi Array 119.25 309 PKP **PKiKP** **08 52 42.9 -0.1**
comp=Z,1.2nm,0.9s,baz=60,slow=4.8,SNR=3.8
KURBB Kurchatov Arra 122.67 313 PKP **PKiKP** **08 52 49.5 0.0**
comp=Z,1.9nm,0.8s,baz=112,slow=1.6,SNR=9.7
BVAR Borovoye Array 128.04 315 PKP **PKiKP** **08 53 00.5 +0.3**
comp=Z,1.2nm,0.6s,baz=101,slow=3.0,SNR=5.9
KBZ Khabaz 146.38 301 PKPbc **PKPab** **08 53 35.0 -0.7**
comp=Z,4.6nm,0.9s,baz=129,slow=4.7,SNR=6.0
FINES FINESS Array B 147.26 339 PKPbc **PKPbc** **08 53 37.2 +0.5**
comp=Z,10nm,0.7s,baz=42,slow=4.0,SNR=42
MEF Metsahovi 148.73 339 *e*P **PKiKP** **08 53 41.3 -0.8**
RAF Rauma 148.83 342 *e*P **PKPbc** **08 53 41.3 +0.4**
VSU Vasula 149.28 335 *e*P **PKiKP** **08 53 43.1 -0.2**
MTSE Matsula 150.10 337 *e*P **PKiKP** **08 53 45.0 +0.1**
NB2 NORSAR Subarra 150.96 351 PKP **PKiKP** **08 53 47.7 +0.9**
comp=Z,9.4nm,1.4s,baz=8.3,slow=2.6
NOA NORSAR Array B 150.96 351 PKPbc **PKiKP** **08 53 46.6 -0.1**
comp=Z,1.4nm,0.6s,baz=16,slow=4.2,SNR=4.4
NACGM Naroch 151.75 329 *i*P *e*PKP **PKiKP** **08 53 49.8 +1.4**
baz=47
AKASG Malin Array Be 153.09 320 PKPbc **PKiKP** **08 53 51.9 +0.5**
comp=Z,1.2nm,0.5s,baz=55,slow=2.7,SNR=11
BRTR Keskin Array B 153.67 295 PKPbc **PKiKP** **08 53 53.5 +0.3**
comp=Z,2.3nm,0.6s,baz=134,slow=3.6,SNR=9.3
CLL Collm 159.69 340 *i* PKPab **PKPab** **08 54 31.5 +0.4**
TORD Torodi Ar. Bea 160.60 179 PKPab **PKPab** **08 54 37.5 +1.6**
comp=Z,0.7nm,0.7s,baz=179,slow=3.3,SNR=6.1
GERES GERESS Array B 161.61 335 PKPab **PKPab** **08 54 38.9 -0.8**
comp=Z,0.9nm,0.7s,baz=30,slow=3.2,SNR=5.5

*IDC **27** 08:39:22.6s 0.4,29.2°S 20.5°E 61.1°E, h0km, mb4.4/27, mbtmp4.4/28, ML4.6/1, MS3.9/40, Error ellipse: s-maj=16.3km s-min=12.8km az=72.0*
*NEIC **27** 08:39:25.3s 1.2,29.2°S 0.1°E 61.0°E 0.1°, h15km ±4km, mb4.7/25, Error ellipse: s-maj=19.0km s-min=13.6km az=62.0*
ISC 27 08:39:24.4 ±0.4, **29.15°S** ±0.07°, **60.88°E** ±0.08°, **h10km**, **n127**, **σ1s 28**/107, **mb4.6**/44, **MS3.9**/40, **10C-1D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.21**	**329**	Pn	**Pn**	**08 41 35.8**	**-1.6**
VOI	**Vohitsoka**	**14.61**	**296**	Pn	**Pn**	**08 42 52.9**	**+1.5**
OPO	**Ambohidratompo**	**16.34**	**307**	Pn	**Pn**	**08 43 15.3**	**+1.0**
	0.2nm,0.3s,baz=137,slow=11,SNR=13						
OPO				Sn	**Sn**	**08 46 07.6**	**-8.1**
	0.1nm,0.3s,baz=61,slow=17,SNR=8.6						
OPO				LR	LR	08 46 54.6	
	comp=Z,175nm,21.3s,baz=18,slow=27						
	4.6nm,0.4s						
H08S1	**Diego Carcia H**	**24.02**	**29**	T	T	09 09 38.4	
	baz=204,slow=76,SNR=71						
H08S2	**Diego Garcia H**	**24.03**	**29**	T	T	09 09 40.2	
	baz=204,slow=76,SNR=34						
H08S3	**Diego Garcia H**	**24.04**	**29**	T	T	09 09 40.0	
	baz=204,slow=76,SNR=68						
BOSA	**Boshof**	**31.12**	**262**	P	**P**	**08 45 44.6**	**+1.2**
	4.3nm,0.9s,baz=148,slow=13,SNR=2.7						
BOSA				LR	LR	08 57 44.8	
	comp=Z,150nm,18.1s,baz=186,slow=35						
	4.3nm,0.9s						
BOSA	**Boshof**	**31.12**	**262**	P	**P**	**08 45 43.3**	**-0.1**
BOSA				IAmb	IAmb	08 46 11.5	
	comp=Z,14nm,1.3s						
LSZ	**Lusaka**	**33.13**	**288**	LR	LR	08 59 00.0	
	comp=Z,90nm,18.7s,baz=167,slow=35						
KMBO	**Kilima Mbogo**	**35.83**	**317**	LR	LR	08 58 22.7	
	comp=Z,182nm,20.1s,baz=92,slow=32						
MAW	**Mawson**	**38.50**	**179**	P	**P**	**08 46 46.5**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=340,slow=10,SNR=2.9						
MAW				LR	LR	08 59 05.4	
	comp=Z,166nm,19.8s,baz=10.0,slow=31						
	comp=Z,3.4nm,0.8s						
MBAR	**Mbarara**	**40.40**	**309**	LR	LR	09 02 09.3	
	comp=Z,118nm,19.5s,baz=76,slow=34						
TSUM	**Tsumeb**	**40.52**	**274**	P	**P**	**08 47 05.1**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=88,slow=7.9,SNR=5.3						
TSUM				LR	LR	09 02 42.3	
	comp=Z,93nm,18.7s,baz=150,slow=34						
	comp=Z,4.3nm,0.8s						
PALK	**Pallekele 40.94 31**			LR	LR	09 00 37.6	
	comp=Z,156nm,19.2s,baz=283,slow=31						
ATD	**Arta Tunnel 44.03 334**			P	**P**	**08 47 34.2**	**+1.8**
	comp=Z,3.7nm,0.3s,baz=150,slow=13,SNR=5.1						
ATD				LR	LR	09 03 07.0	
	comp=Z,194nm,21.0s,baz=156,slow=32						
	comp=Z,3.7nm,0.3s						
H01W2	**Cape Leeuwin H 45.08 112**			T	T	09 35 18.1	
	baz=261,slow=75,SNR=54						
H01W3	**Cape Leeuwin H 45.09 112**			T	T	09 35 18.4	
	baz=261,slow=75,SNR=65						
H01W1	**Cape Leeuwin H 45.10 112**			T	T	09 35 22.7	
	baz=261,slow=75,SNR=60						
CASY	**Casey 47.76 155**			P	**P**	**08 48 00.4**	**-0.9**
CASY				IAmb	IAmb	08 48 01.6	
	comp=Z,6.2nm,1.1s						
NWAO	**Narrogin (SRO) 47.95 109**			LR	LR	09 04 24.8	
	comp=Z,91nm,19.8s,baz=176,slow=32						
WSAR	**Wadi Sarin 52.13 357**			LR	LR	09 05 10.8	
	comp=Z,91nm,21.4s,baz=168,slow=30						
SNAA	**Sanae 54.39 200**			P	**P**	**08 48 50.5**	**-0.7**
SNAA	**Sanae 54.39 200**			P	**P**	**08 48 50.3**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=108,slow=8.3,SNR=12						
SNAA				LR	LR	09 07 10.6	
	comp=Z,109nm,20.6s,baz=76,slow=31						
	comp=Z,3.0nm,0.6s						
SNAA	**Sanae 54.39 200**			P	**P**	**08 48 50.7**	**-0.5**
RAYN	**Ar Rayn 54.42 343**			P	**P**	**08 48 51.5**	**-0.4**
RAYN				IAmb	IAmb	08 48 53.7	
	comp=Z,7.4nm,0.9s						
VNA2	**Neumayer--Watz 55.66 202**			P	**P**	**08 49 00.1**	**-0.1**
	baz=81,slow=6.7						
VNA3	**Neumayer Olymp 56.44 201**			P	**P**	**08 49 05.3**	**-0.6**
BRDH	**Bariadhala 59.44 33**			LR	LR	09 13 37.7	
	comp=Z,100nm,18.8s,baz=260,slow=35						
CM31	**Chiang Mai Arr 59.92 43**			P	**P**	**08 49 29.8**	**-1.1**
CMAR	**Chiang Mai Arr 59.92 43**			P	**P**	**08 49 30.5**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=230,slow=7.4,SNR=14						
CMAR				LR	LR	09 13 26.7	
	comp=Z,40nm,18.1s,baz=210,slow=34						
	comp=Z,2.8nm,0.6s						
KOLN	**Koldanda 60.64 23**			*e*P	**P**	**08 49 35.4**	**-0.4**
	comp=Z,6.8nm,1.4s						
PYUN	**Piuthan 60.73 22**			*e*P	**P**	**08 49 36.2**	**-0.3**
	comp=Z,81nm,0.8s						
RAMN	**Ramite 60.99 26**			*e*P	**P**	**08 49 38.4**	**+0.1**
	comp=Z,37nm,0.8s						
QSPA	**South Pole Qui 61.01 180**			P	**P**	**08 49 37.1**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=252,slow=1.6,SNR=17						
QSPA				LR	LR	09 13 49.2	
	comp=Z,120nm,18.0s,baz=298,slow=34						
	comp=Z,4.0nm,0.8s						
QSPA	**South Pole Qui 61.01 180**			P	**P**	**08 49 36.9**	**-1.1**
DMN	**Daman 61.02 25**			*e*P	**P**	**08 49 38.7**	**+0.2**
PKI	**Pulchoki 61.10 25**			*e*P	**P**	**08 49 38.5**	**-0.7**
PKIN	**Phulchoki 61.10 25**			*e*P	**P**	**08 49 38.4**	**-0.7**
GKN	**Gorkha 61.21 24**			*e*P	**P**	**08 49 39.3**	**-0.4**
	comp=Z,74nm,0.9s						
ODAN	**Odare 61.22 27**			*e*P	**P**	**08 49 39.9**	**0.0**
	comp=Z,3.6nm,0.9s						
DANN	**Dangsing 61.22 23**			*e*P	**P**	**08 49 39.4**	**-0.5**
	comp=Z,76nm,0.9s						
KKN	**Kakani 61.25 25**			*e*P	**P**	**08 49 39.9**	**-0.1**
JIRN	**Jiri 61.47 26**			*e*P	**P**	**08 49 41.6**	**-0.1**
	comp=Z,20nm,0.7s						
GUN	**Gumba 61.58 25**			*e*P	**P**	**08 49 42.4**	**0.0**
	comp=Z,50nm,1.0s						
TAPN	**Taplejung 61.78 27**			*e*P	**P**	**08 49 44.0**	**+0.3**
	comp=Z,40nm,0.8s						
EIL	**Elat 63.51 335**			LR	LR	09 14 03.7	
	comp=Z,93nm,19.9s,baz=57,slow=33						
VNDA	**Vanda 64.10 166**			P	**P**	**08 49 57.9**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=253,slow=6.4,SNR=15						
VNDA				LR	LR	09 15 43.0	
	comp=Z,139nm,18.7s,baz=238,slow=34						
	comp=Z,2.1nm,0.7s						
VNDA	**Vanda 64.10 166**			P	**P**	**08 49 57.6**	**-0.7**
ASAR	**Alice Springs 64.69 104**			P	**P**	**08 50 00.5**	**-2.5**
	comp=Z,3.5nm,0.6s,baz=244,slow=5.7,SNR=30						
	comp=Z,3.5nm,0.6s						
AS31	**Alice Springs 64.69 104**			P	**P**	**08 50 02.0**	**-1.0**
SBA	**Scott Base 64.98 167**			P	**P**	**08 50 04.7**	**+0.8**
SBA				IAmb	IAmb	08 50 27.1	
	comp=Z,4.9nm,0.9s						
MMAI	**Mount Meron Ar 66.38 337**			LR	LR	09 16 17.7	
	comp=Z,76nm,20.2s,baz=333,slow=33						
WRA	**Warramunga Arr 66.51 100**			P	**P**	**08 50 13.6**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=248,slow=5.6,SNR=12						
WRA				LR	LR	09 15 25.8	
	comp=Z,78nm,18.7s,baz=191,slow=33						
	comp=Z,2.8nm,0.9s						
WB2	**Warramunga Arr 66.52 100**			P	**P**	**08 50 13.3**	**-1.5**
GEYT	**Alibeck 66.78 358**			LR	LR	09 16 39.0	
	comp=Z,84nm,21.8s,baz=165,slow=34						
PZH	**PanZhiHua 67.81 39**			P	**P**	**08 50 24.5**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,430nm,5.6s						
STKA	**Stephens Creek 68.00 115**			P	**P**	**08 50 22.2**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=278,slow=5.7,SNR=3.3						
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek 68.00 115**			P	**P**	**08 50 23.2**	**-0.8**
KSH	**Kashi 69.75 12**			P	**P**	**08 50 31.8**	**-2.9**
KSH				pmax	pmax		
	comp=Z,17nm,0.8s						
GNI	**Garni 70.56 347**			LR	LR	09 19 59.5	
	comp=Z,82nm,19.7s,baz=156,slow=34						
TOA0	**Torodi Ar. Sit 70.91 298**			P	**P**	**08 50 42.6**	**+0.4**
TORD	**Torodi Ar. Bea 70.91 298**			P	**P**	**08 50 43.0**	**+0.8**
	comp=Z,6.7nm,0.9s,baz=114,slow=4.9,SNR=32						
TORD				LR	LR	09 21 57.2	
	comp=Z,197nm,18.3s,baz=214,slow=36						
	comp=Z,6.7nm,0.9s						
TORD	**Torodi Ar. Bea 70.91 298**			P	**P**	**08 50 42.9**	**+0.8**
TORD				IAmb	IAmb	08 50 44.0	
	comp=Z,8.7nm,0.9s						
KK31	**Karatay Array 72.44 7**			P	**P**	**08 50 51.8**	**+1.0**
KK31				IAmb	IAmb	08 50 52.4	
	comp=Z,8.7nm,1.1s						
KKAR	**Karatay Array 72.44 7**			P	**P**	**08 50 51.1**	**+0.3**
KKAR	**Karatay Array 72.44 7**			P	**P**	**08 50 51.6**	**+0.9**
KKAR				IAmb	IAmb	08 50 52.4	
	comp=Z,8.7nm,1.1s						
DBIC	**Dimbokro 72.47 288**			P	**P**	**08 50 52.7**	**+1.1**
	comp=Z,5.0nm,0.9s,baz=190,slow=6.1,SNR=2.9						
DBIC				LR	LR	09 22 40.7	
	comp=Z,94nm,18.4s,baz=156,slow=36						
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa 72.52 10**			P	**P**	**08 50 51.7**	**+0.2**
	comp=Z,6.5nm,1.1s,baz=148,slow=9.5,SNR=6.6						
AAK				LR	LR	09 19 28.6	
	comp=Z,71nm,18.8s,baz=172,slow=33						
	comp=Z,6.5nm,1.1s						
AAK	**Ala-Archa 72.52 10**			P	**P**	**08 50 52.7**	**+1.2**
AAK				IAmb	IAmb	08 50 55.5	
	comp=Z,7.3nm,1.1s						
BR131	**Keskin Array S 73.06 338**			P	**P**	**08 50 54.1**	**-0.6**
BR131				IAmb	IAmb	08 50 58.8	
	comp=Z,5.0nm,0.8s						
BRTR	**Keskin Array B 73.06 338**			P	**P**	**08 50 54.7**	**0.0**

XAN	**Xi'an**	**77.55**	**39**	P	**P**	**08 51 20.3**	**-0.3**
XAN				pP	sP	08 51 25.0	+1.8
XAN				pmax	pmax		
	comp=Z,10.0nm,2.0s						
MAKZ	**Makanchi**	**77.97**	**15**	P	**P**	**08 51 22.9**	**+0.3**
MK31	**Makanchi Array**	**78.03**	**15**	P	**P**	**08 51 23.1**	**+0.2**
MKAR	**Makanchi Array**	**78.03**	**15**	P	**P**	**08 51 23.0**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=180,slow=4.9,SNR=18						
MKAR				LR	LR	09 21 33.9	
	comp=Z,47nm,20.1s,baz=150,slow=32						
	comp=Z,2.6nm,0.7s						
ABKAR	**Akbulak array**	**78.05**	**359**	P	**P**	**08 51 22.9**	**0.0**
ABKAR	**Akbulak array**	**78.05**	**359**	P	**P**	**08 51 23.1**	**+0.2**
ABKAR				IAmb	IAmb	08 51 24.1	
	comp=Z,8.1nm,0.9s						
AKTO	**Aktyubinsk**	**79.27**	**358**	P	**P**	**08 51 29.5**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=150,slow=6.5,SNR=3.9						
AKTO				LR	LR	09 25 13.7	
	comp=Z,46nm,18.2s,baz=120,slow=35						
	comp=Z,2.5nm,0.8s						
CFR	**Carcaliu**	**79.75**	**337**	⇑P	**P**	**08 51 32.7**	**+0.3**
BLKB	**Belogradchik**	**80.44**	**333**	⇓P	**P**	**08 51 36.2**	**0.0**
KEST	**Kesra**	**80.73**	**320**	LR	LR	09 29 02.5	
	comp=Z,114nm,18.3s,baz=264,slow=37						
MLR	**Muntele Rosu**	**80.79**	**336**	⇑P	**P**	**08 51 38.5**	**+0.3**
VRI	**Vrincioaia**	**80.84**	**337**	⇑P	**P**	**08 51 38.7**	**+0.4**
PLOR	**Plostina**	**80.85**	**337**	⇑P	**P**	**08 51 38.5**	**+0.1**
KURBB	**Kurchatov Arra**	**80.94**	**11**	P	**P**	**08 51 38.3**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=207,slow=6.1,SNR=14						
	comp=Z,2.7nm,0.9s						
COVR	**Voineasa-Covas**	**81.00**	**336**	⇑P	**P**	**08 51 38.5**	**-0.7**
KURK	**Kurchatov**	**81.05**	**11**	P	**P**	**08 51 38.9**	**-0.3**
KURK				IAmb	IAmb	08 51 40.5	
	comp=Z,6.0nm,1.0s						
VOIR		**81.07**	**335**	⇑P	**P**	**08 51 38.9**	**-0.6**
ARR	**Arges**	**81.16**	**335**	⇑P	**P**	**08 51 39.5**	**-0.6**
GZR	**Gura Zlata**	**81.88**	**334**	⇑P	**P**	**08 51 44.0**	**+0.2**
DIVS	**Divibare**	**81.93**	**332**	P	**P**	**08 51 45.1**	**+0.9**
DIVS				IAmb	IAmb	08 51 45.9	
	comp=Z,6.7nm,1.0s						
BELG	**Belogornoye**	**82.02**	**352**	P	**P**	**08 51 44.2**	**0.0**
	comp=Z,11nm,0.7s,baz=87,slow=2.7,SNR=7.0						
BELG				LR	LR	09 28 55.8	
	comp=Z,60nm,19.9s,baz=168,slow=36						
	comp=Z,11nm,0.7s						
NJ2	**Nanjing**	**82.07**	**47**	*e*P	**P**	**08 51 46.0**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
BVAR	**Borovoye Array**	**82.25**	**6**	P	**P**	**08 51 45.1**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=183,slow=5.9,SNR=11						
BVAR				LR	LR	09 25 56.1	
	comp=Z,82nm,20.2s,baz=174,slow=34						
	comp=Z,2.0nm,0.7s						
DRGR		**83.08**	**335**	⇑P	**P**	**08 51 49.4**	**-0.6**
RPZ	**Rata Peaks**	**83.40**	**137**	LR	LR	09 20 03.5	
	comp=Z,117nm,21.2s,baz=249,slow=29						
HHC	**Hu-ho-hao-te**	**83.99**	**36**	*e*P	**P**	**08 51 58.3**	**+3.3**
HHC				pmax	pmax		
	comp=Z,32nm,0.9s						
HHC				pmax	pmax		
	comp=Z,440nm,5.6s						
AKASG	**Malin Array Be**	**84.29**	**340**	P	**P**	**08 51 55.8**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=161,slow=4.2,SNR=11						
	comp=Z,2.0nm,0.6s						
ARU	**Arti**	**85.26**	**359**	P	**P**	**08 52 00.7**	**-0.1**
	comp=Z,10nm,0.2s,baz=178,slow=1.6,SNR=7.8						
ARU				LR	LR	09 29 12.2	
	comp=Z,66nm,18.6s,baz=106,slow=35						
ZALV	**Zalesovo Beam**	**85.31**	**14**	P	**P**	**08 52 01.2**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=220,slow=3.9,SNR=12						
ZALV				LR	LR	09 26 16.2	
	comp=Z,70nm,18.8s,baz=110,slow=33						
	comp=Z,2.5nm,0.6s						
OBN	**Obninsk**	**86.48**	**346**	P	**P**	**08 52 07.6**	**+0.8**
	comp=Z,4.6nm,0.3s,baz=152,slow=24,SNR=4.1						
	comp=Z,4.6nm,0.3s						
SONM	**Songino Array**	**86.86**	**29**	P	**P**	**08 52 08.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=180,slow=1.3,SNR=1.9						
SONM				LR	LR	09 29 08.5	
	comp=Z,47nm,20.3s,baz=204,slow=34						
	comp=Z,0.5nm,0.7s						
MDT	**Midelt**	**87.46**	**310**	LR	LR	09 33 35.4	
	comp=Z,114nm,18.1s,baz=170,slow=37						
MNK	**Minsk**	**88.03**	**341**	*i* P	**P**	**08 52 13.6**	**-0.8**
	comp=E,2.0nm,0.7s						
MNK				*i* P	**P**	**08 52 13.6**	**-0.8**
MNK				*i* P	**P**	**08 52 13.6**	**-0.8**
	comp=Z,10.0nm,0.5s,baz=332						
MNK				*i* PP	**PP**	**08 55 40.2**	**-1.2**
MNK				*i* PPP	PPP	08 57 35.6	
MNK				*i* S	**SKSac**	**09 02 42.0**	**-0.5**
MNK				*i* PS	**PnS**	**09 04 00.9**	**+0.5**
MNK				*i* SS	**SS**	**09 08 47.9**	**+1.2**
MNK				*i* SSS	SSS	09 12 21.9	
MNK				*i* LR	LR	09 31 04.9	
MNK				*i* LRM	MLR	09 32 17.0	
	comp=E,16nm,19.0s						
MNK				*i* LRM	MLR	09 32 52.4	
	comp=Z,39nm,16.4s						
MNK				*i* LRM	MLR	09 33 13.4	
	comp=N,1.0nm,17.1s						
GERES	**GERESS Array B**	**88.34**	**331**	P	**P**	**08 52 17.9**	**+1.8**
	comp=N,0.3nm,0.2s,baz=0.0,slow=1.0,SNR=3.7						
	comp=N,0.3nm,0.2s						
NACGM	**Naroch**	**88.69**	**341**	⇑*e*P	**P**	**08 52 16.2**	**-1.3**
	baz=151						
BRG	**Berggiesshubel**	**89.80**	**332**	*e*P	**P**	**08 52 23.8**	**+1.0**
BRG				Amp		08 52 25.4	
	comp=Z,5.0nm,1.0s						
ESDC	**Sonseca Array**	**91.21**	**316**	P	**P**	**08 52 31.7**	**+1.9**
	comp=Z,2.6nm,0.9s,baz=107,slow=3.2,SNR=13						
	comp=Z,2.6nm,0.9s						
ESDC	**Sonseca Array**	**91.21**	**316**	P	**P**	**08 52 30.3**	**+0.5**
ESDC				IAmb	IAmb	08 52 32.9	
	comp=Z,4.6nm,1.1s						
KLMR	**Klimovskoe**	**91.36**	**350**	*e*P	**P**	**08 52 29.2**	**-0.6**
KLMR				AMP		08 52 36.8	
	comp=Z,5.0nm,1.1s						
HNR	**Honiara**	**93.28**	**103**	LR	LR	09 31 32.3	
	comp=Z,307nm,18.8s,baz=217,slow=34						
PLCA	**Paso Flores**	**97.17**	**215**	LR	LR	09 32 23.3	
	comp=Z,27nm,18.1s,baz=160,slow=33						
NOA	**NORSAR Array B**	**98.50**	**338**	LR	LR	09 37 51.5	
	comp=Z,22nm,18.9s,baz=50,slow=36						
YKA	**Yellowknife Ar**	**146.52**	**356**	PKPbc	**PKPbc**	**08 59 04.8**	**-0.5**
	comp=Z,5.5nm,0.8s,baz=349,slow=2.5,SNR=5.7						
ULM	**Lac du Bonnet**	**152.56**	**327**	PKPbc	**PKPbc**	**08 59 19.1**	**-1.7**
	comp=Z,6.7nm,0.7s,baz=124,slow=5.1,SNR=5.5						
PDAR	**Pinedale Array**	**164.37**	**333**	PKP	**PKPdf**	**08 59 28.1**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=128,slow=2.4,SNR=8.9						
TXAR	**Lajitas Array**	**166.50**	**275**	PKP	**PKPdf**	**08 59 31.4**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=315,slow=0.5,SNR=3.9						
NVAR	**Mina Array Bea**	**170.72**	**356**	PKP	**PKPdf**	**08 59 35.0**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=169,slow=1.5,SNR=4.8						

WEL ***27*** *08:41:49.9±1.1,32°S±18°×17°9W±5°0,h223km±19km, M4.4/4,mB4.3/1,MLv4.4/4,Mw(mB)3.4/1,Error ellipse: s-maj=0.1km s-min=0.0km az=109.8*

IDC ***27*** *08:41:50.8±2.8,32°64S×178°18W,h0km,mb4.1/3, mbtmp4.1/4,ML3.9/1,Error ellipse: s-maj=61.9km s-min=35.3km az=117.0*

NEIC ***27*** *08:42:03.0±0.6,32°81S±0°10×179°1W±0°2,h43km±11km, mb4.4/9,Error ellipse: s-maj=27.4km s-min=6.1km az=118.0*

ISC 27 08:41:48.0±2.1,32°7S±0°1×177°7W±0°3,h10km,n35, σ3©30/43,mb4.4/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.44**	**357**	P	**Pn**	**08 42 40.8**	**-0.8**
GLKZ				S	**Sn**	**08 43 17.6**	**-4.8**
MXZ	**Matakaoa Point**	**5.85**	**213**	S	**Sn**	**08 44 22.0**	**+0.1**
WMGZ	**Waiomatatini S**	**6.02**	**211**	P	**Pn**	**08 43 21.0**	**+4.0**
WMGZ				S	**Sn**	**08 44 28.3**	**+2.4**
PKGZ	**Pakihiroa**	**6.22**	**213**	P	**Pn**	**08 43 21.4**	**+1.5**
PKGZ				S	**Sn**	**08 44 32.5**	**+1.3**
HAZ	**Te Kaha**	**6.26**	**215**	P	**Pn**	**08 43 23.5**	**+3.2**
HAZ				S	**Sn**	**08 44 35.0**	**+3.2**
PUZ	**Puketiti**	**6.30**	**211**	P	**Pn**	**08 43 22.6**	**+1.8**
PUZ				S	**Sn**	**08 44 34.6**	**+1.7**
RUGZ	**Raukumara Rang**	**6.47**	**215**	P	**Pn**	**08 43 26.0**	**+2.6**
RUGZ				S	**Sn**	**08 44 38.8**	**+1.4**
TWGZ	**Tauwhareparae**	**6.50**	**212**	P	**Pn**	**08 43 25.2**	**+1.4**
TWGZ				S	**Sn**	**08 44 39.2**	**+1.1**
URZ	**Urewera**	**6.98**	**216**	Pn	**Pn**	**08 43 32.1**	**+1.9**
	2.1nm,0.3s,baz=13,slow=4.6,SNR=12						
URZ				Sn	**Sn**	**08 44 49.0**	**-0.6**
	2.9nm,0.3s,baz=1.8,slow=21,SNR=12						
	22nm,1.1s						
URZ	**Urewera**	**6.98**	**216**	Pn	**Pn**	**08 43 32.8**	**+2.6**
BKZ	**Black Stump Fm**	**7.99**	**215**	Pn	**Pn**	**08 43 46.1**	**+2.0**
PRHZ	**Porangahau**	**8.82**	**210**	S	**Sn**	**08 45 33.0**	**-2.0**
DVHZ	**Dannevirke**	**9.05**	**211**	S	**Sn**	**08 45 36.2**	**-4.4**
ANWZ	**Angora Road**	**9.05**	**210**	S	**Sn**	**08 45 39.8**	**-0.8**
POWZ	**Post Office Ro**	**9.30**	**213**	S	**Sn**	**08 45 43.5**	**-3.3**
BFZ	**Birch Farm**	**9.33**	**210**	P	**Pn**	**08 43 58.8**	**-3.7**
BFZ				S	**Sn**	**08 45 42.5**	**-5.0**
TIWZ	**Tintock**	**9.56**	**211**	P	Pn	08 43 57.5	-8.2
TIWZ				S	**Sn**	**08 45 47.6**	**-5.6**
MRZ	**Mangatainoka R**	**9.60**	**212**	P	**Pn**	**08 44 06.6**	**+0.4**
MRZ				S	**Sn**	**08 45 48.9**	**-5.3**
HOWZ	**Holdsworth Sta**	**9.82**	**212**	S	**Sn**	**08 45 52.6**	**-7.1**
OGWZ	**Otaki Gorge**	**9.91**	**213**	S	**Sn**	**08 45 54.2**	**-7.6**
KIW	**Kapiti Island**	**10.07**	**214**	S	**Sn**	**08 45 59.4**	**-6.3**
MSWZ	**Moikau Station**	**10.36**	**211**	S	**Sn**	**08 46 07.0**	**-5.8**
CTA	**Charters Tower**	**34.49**	**282**	P	**P**	**08 48 38.6**	**+2.2**
	1.7nm,0.5s,baz=100,slow=11,SNR=2.1						
	1.7nm,0.5s						
CTAO	**Charters Tower**	**34.49**	**282**	P	**P**	**08 48 37.7**	**+1.3**
CTAO				IAmb	IAmb	08 48 42.7	
	comp=Z,9.9nm,1.4s						
AS31	**Alice Springs**	**43.30**	**269**	P	**P**	**08 49 49.4**	**-0.8**
ASAR	**Alice Springs**	**43.30**	**269**	P	**P**	**08 49 50.9**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=109,slow=7.7,SNR=14						
	comp=Z,0.6nm,0.3s						
WR0	**Warramunga Arr**	**44.32**	**274**	P	**P**	**08 49 58.7**	**+0.3**
WR0				IAmb	IAmb	08 50 32.7	
	comp=Z,6.9nm,1.2s						
WB2	**Warramunga Arr**	**44.49**	**274**	P	**P**	**08 49 59.8**	**+0.1**
WB2				IAmb	IAmb	08 50 14.7	
	comp=Z,9.9nm,1.1s						
WRA	**Warramunga Arr**	**44.50**	**274**	P	**P**	**08 50 00.2**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=113,slow=7.9,SNR=30						
	comp=Z,1.8nm,0.5s						
WRA	**Warramunga Arr**	**44.50**	**274**	P	**P**	**08 49 59.9**	**+0.1**
WB0	**Warramunga Arr**	**44.53**	**275**	P	**P**	**08 50 00.3**	**+0.3**
WB0				IAmb	IAmb	08 50 15.8	
	comp=Z,13nm,1.5s						
FORT	**Forrest**	**45.76**	**257**	P	**P**	**08 50 09.9**	**+0.3**
QSPA	**South Pole Qui**	**57.41**	**180**	P	P	08 51 46.2	+10
SNAA	**Sanae**	**75.85**	**178**	P	P	08 53 44.3	+10
SNAA				IAmb	IAmb	08 54 14.4	
	comp=Z,5.8nm,1.5s						
FINES	**FINESS Array B**	**147.39**	**339**	PKPbc	**PKPbc**	**09 01 34.3**	**+3.1**
	comp=Z,1.9nm,0.6s,baz=44,slow=4.0,SNR=11						

IDC 27 08:44:53.5±3.4,32°59S×178°34W,h0km,mb3.6/2, mbtmp3.7/3,ML3.4/1,Error ellipse: s-maj=78.3km s-min=38.4km az=113.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.77**	**212**	Pn	Pn	08 46 33.9	-0.1
	0.7nm,0.3s,baz=170,slow=14,SNR=1.6						
URZ				Sn	Sn	08 47 51.0	-0.8
	0.5nm,0.3s,baz=60,slow=10,SNR=1.6						
	12nm,0.9s						
ASAR	**Alice Springs**	**42.75**	**269**	P	P	08 52 52.5	-0.3
	0.2nm,0.3s,baz=108,slow=7.1,SNR=2.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.94**	**275**	P	P	08 53 02.6	+0.2
	0.4nm,0.3s,baz=114,slow=8.0,SNR=8.0						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**147.08**	**339**	PKPbc	PKPbc	09 04 36.6	-1.0
	1.3nm,0.8s,baz=72,slow=8.9,SNR=2.1						

IDC ***27*** *08:46:23.4±3.3,54°55N×87°31E,h0km,mbtmp3.0/2, ML2.6/2,Error ellipse: s-maj=27.4km s-min=20.8km az=44.0*

NNC 27 08:46:23.1±3.3,54°57N×87°04E,h0km,mb2.8,mpv2.7, 3C-4D,Error ellipse: s-maj=19.1km s-min=14.9km az=63.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**245**	*i*		08 54 45.0	
	baz=69,slow=325,SNR=4.1						
ZAA0	**Zalesovo Array**	**1.44**	**245**	⇓P	Pn	08 46 49.6	-0.9
	0.4nm,0.5s,baz=67,slow=16						
ZAA0				⇑S	Sb	08 47 09.7	-0.1
	2.7nm,0.8s,baz=61,slow=25						
ZALV	**Zalesovo Beam**	**1.44**	**245**	Pg	Pn	08 46 50.1	-0.4
	1.1nm,0.3s,baz=67,slow=17,SNR=7.1						
ZALV				Lg	Lg	08 47 14.2	
	1.7nm,0.3s,baz=63,slow=26,SNR=5.1						
KURK	**Kurchatov**	**6.41**	**236**	⇑Sn	Sn	08 49 13.2	+0.5
	2.1nm,1.0s						
KURK				⇓Lg	Lg	08 49 47.1	
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.52**	**236**	Pn	Pn	08 48 02.9	+2.7
	0.1nm,0.3s,baz=53,slow=14,SNR=12						
KURBB				Lg	Lg	08 49 53.0	
	baz=58,slow=30,SNR=4.6						
	2.2nm,0.7s						
KURBB	**Kurchatov Arra**	**6.52**	**236**	⇓Pn	Pn	08 48 01.8	+1.6
	4.9nm,0.9s						
KURBB				⇑Sn	Sn	08 49 14.1	-1.1
	3.0nm,0.7s						
KURBB				⇓Lg	Lg	08 49 51.1	
	12nm,1.4s						
MKAR	**Makanchi Array**	**8.35**	**203**	Pn	Pn	08 48 27.2	+1.8
	0.1nm,0.3s,baz=22,slow=12,SNR=2.0						
MKAR				Lg	Lg	08 50 52.6	
	baz=25,slow=39,SNR=3.1						
	0.2nm,0.6s						

IDC ***27*** *08:51:47.1±2.7,54°29N×87°20E,h0km,mbtmp3.3/3, ML3.1/3,Error ellipse: s-maj=25.1km s-min=16.4km az=61.0*

NNC ***27*** *08:51:48.1±1.4,54°52N×86°77E,h0km,mb3.2,mpv3.1, Error ellipse: s-maj=30.7km s-min=8.3km az=155.0, Suspected Mining explosion.*

ISC 27 08:51:48.4±3.1,54°4N±0°2×86°9E±0°2,h0km,n10, σ1©60/10,8C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**252**	*i*		09 00 06.3	
	baz=74,slow=324,SNR=10						
ZAA0	**Zalesovo Array**	**1.30**	**252**	⇑P	**Pg**	**08 52 11.8**	**-1.5**
	1.2nm,0.6s						
ZAA0				⇑S	**Sb**	**08 52 29.7**	**-1.3**
	7.7nm,1.1s						
ZALV	**Zalesovo Beam**	**1.30**	**252**	Pg	**Pg**	**08 52 11.9**	**-1.4**
	3.7nm,0.3s,baz=73,slow=17,SNR=19						
ZALV				Lg	Lg	08 52 33.3	
	2.6nm,0.3s,baz=72,slow=30,SNR=8.1						
KURK	**Kurchatov**	**6.24**	**237**	⇑Pn	**Pn**	**08 53 21.9**	**+0.2**
	4.4nm,1.3s						
KURK				⇑Sn	**Sn**	**08 54 36.0**	**+2.3**
	3.6nm,1.0s						
KURK				⇑Lg	Lg	08 55 05.9	
	4.9nm,1.0s						
KURBB	**Kurchatov Arra**	**6.35**	**237**	Pn	**Pn**	**08 53 23.6**	**+0.5**
	0.2nm,0.3s,baz=54,slow=14,SNR=16						
KURBB				Lg	Lg	08 55 09.4	
	baz=58,slow=33,SNR=6.2						
	2.7nm,0.5s						
KURBB	**Kurchatov Arra**	**6.35**	**237**	⇑Pn	**Pn**	**08 53 24.2**	**+1.1**
	3.5nm,0.6s						
KURBB				⇓Sn	**Sn**	**08 54 38.0**	**+1.8**
	3.4nm,0.7s						
KURBB				⇑Lg	Lg	08 55 10.5	
	15nm,1.2s						
MK31	**Makanchi Array**	**8.14**	**203**	Lg	Lg	08 56 08.2	
	6.6nm,1.1s,baz=23,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**8.14**	**203**	Pn	**Pn**	**08 53 47.2**	**-0.5**
	0.3nm,0.3s,baz=23,slow=13,SNR=7.9						
MKAR				Lg	Lg	08 56 05.5	
	0.1nm,0.3s,baz=22,slow=28,SNR=5.4						
	0.4nm,0.4s						
MAKZ	**Makanchi**	**8.20**	**204**	⇑Lg	Lg	08 56 07.2	
	3.0nm,1.1s						
BVAR	**Borovoye Array**	**9.89**	**269**	Pn	**Pn**	**08 54 13.0**	**+1.3**
	0.2nm,0.3s,baz=64,slow=16,SNR=3.0						
	0.6nm,0.5s						

ISK ***27*** *09:15:49.8,38°05N×41°29E,h20km,ML2.5/9*

DDA ***27*** *09:15:51.5±0.0,37°98N×41°28E,h3km±1km,ML2.1*

ISC 27 09:15:50.6±0.9,38°03N±0°03×41°30E±0°03,h14km±6km, n17,σ0©99/25,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTMN	**Batman**	**0.14**	**188**	P	**Pg**	**09 15 53.7**	**-0.7**
BTMN				S	**Sg**	**09 15 58.4**	**+1.4**
BTMN				*i* AML	AML	09 15 59.0	
	comp=N,4μm,0.8s						
BTMN				*i* AML	AML	09 15 59.0	
	comp=E,1μm,0.4s						
SVAN	**Silvan-Diyarba**	**0.14**	**328**	PG	**Pg**	**09 15 53.9**	**-0.6**
SVAN				SG	**Sg**	**09 15 57.4**	**+0.4**
MIDY	**Mardin/Midyat-**	**0.63**	**172**	P	**Pg**	**09 16 02.1**	**-0.9**
MIDY				S	**Sb**	**09 16 11.9**	**-0.2**
MIDY				*i* AML	AML	09 16 19.0	
	comp=E,84nm,0.5s						
MIDY				*i* AML	AML	09 16 21.0	
	comp=N,123nm,1.1s						
BLIS	**Bitlis-Merkez**	**0.75**	**59**	P	**Pb**	**09 16 06.5**	**+0.9**
BLIS				S	**Sg**	**09 16 15.6**	**+0.4**
BLIS				*i* AML	AML	09 16 18.0	
	comp=E,93nm,0.6s						
BLIS				*i* AML	AML	09 16 18.0	
	comp=N,127nm,0.7s						
GURO	**Guroymak-BITLI**	**0.78**	**48**	PG	**Pg**	**09 16 05.5**	**-0.3**
HANI	**Diyarbakir_Han**	**0.80**	**299**	P	**Pn**	**09 16 07.8**	**+0.2**
HANI				S	**Sn**	**09 16 19.8**	**+0.4**
HANI				*i* AML	AML	09 16 25.0	
	comp=E,24nm,0.7s						
HANI				*i* AML	AML	09 16 26.0	
	comp=N,27nm,0.7s						
MARD	**Mardin**	**0.82**	**210**	P	**Pb**	**09 16 07.2**	**+0.4**
MARD				*i* AML	AML	09 16 32.0	
	comp=E,120nm,0.7s						
MARD				*i* AML	AML	09 16 34.0	
	comp=N,444nm,0.8s						
MAZI	**Mazidag**	**0.88**	**230**	PG	**Pb**	**09 16 07.6**	**-0.2**
MAZI				SG	**Sn**	**09 16 20.5**	**-0.8**
DYBB	**Diyarbakir**	**0.92**	**266**	PG	**Pg**	**09 16 08.1**	**-0.3**
PERV	**Siirt/Pervari-**	**0.99**	**94**	P	**Pn**	**09 16 10.7**	**+0.5**
PERV				S	**Sn**	**09 16 25.2**	**+1.2**
PERV				*i* AML	AML	09 16 27.0	
	comp=N,207nm,0.4s						
PERV				*i* AML	AML	09 16 28.0	
	comp=E,264nm,0.6s						
BNGB	**Bingl**	**1.07**	**333**	PG	**Pb**	**09 16 10.1**	**-1.0**
VRTB	**Varto-Mus**	**1.14**	**6**	PN	**Pb**	**09 16 10.9**	**-1.2**
KOVA	**Elazig, Kovanc**	**1.35**	**301**	P	**Pg**	**09 16 17.0**	**+0.5**
KOVA				S	**Sg**	**09 16 36.8**	**+2.7**
KOVA				*i* AML	AML	09 16 44.0	
	comp=E,25nm,0.7s						
KOVA				*i* AML	AML	09 16 46.0	
	comp=N,31nm,0.7s						
AKDM	**Akdamar-Van**	**1.36**	**77**	PN	**Pn**	**09 16 14.4**	**-0.9**
PTK	**Pertek**	**1.72**	**301**	PN	**Pn**	**09 16 19.3**	**-1.1**
CUKT	**Cukurca**	**2.00**	**112**	PN	**Pn**	**09 16 23.4**	**-0.6**
URFA	**Urfa**	**2.05**	**254**	PN	**Pn**	**09 16 24.1**	**-0.6**

IDC 27 09:21:45.3±2.5,54°04N×86°51E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=20.4km s-min=12.7km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**265**	*i*		09 28 00.0	
	baz=85,slow=324,SNR=5.3						
ZALV	**Zalesovo Beam**	**1.00**	**265**	Pg	Pg	09 22 03.1	-1.3
	3.4nm,0.3s,baz=83,slow=17,SNR=26						
ZALV				Lg	Lg	09 22 18.6	
	3.4nm,0.3s,baz=83,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**5.97**	**238**	Pn	Pn	09 23 16.1	+1.3
	0.3nm,0.3s,baz=56,slow=14,SNR=9.6						
KURBB				Lg	Lg	09 24 56.9	
	baz=57,slow=34,SNR=2.2						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**7.74**	**202**	Pn	Pn	09 23 40.0	+0.9
	0.2nm,0.3s,baz=26,slow=14,SNR=11						
MKAR				Lg	Lg	09 25 48.4	
	baz=30,slow=32						
	0.4nm,0.2s						

IDC ***27*** *09:35:06.5±1.6,0°99N×124°48E,h0km,mb3.7/5, mbtmp3.8/5,Error ellipse: s-maj=156.1km s-min=26.0km az=63.0*

NEIC ***27*** *09:35:09.8±1.1,1°4N±0°2×124°8E±0°2,h35km±1km, mb4.1/10,Error ellipse: s-maj=34.7km s-min=15.3km az=221.0*

ISC 27 09:35:11.2±0.9,1°2N±0°1×124°9E±0°2,h50km,n19, σ1©99/20,mb3.9/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.53**	**100**		**Pn**	**09 35 49.8**	**-0.1**
WB0	**Warramunga Arr**	**22.85**	**156**	P	**P**	**09 40 11.2**	**+0.7**
WB0				IAmb	IAmb	09 40 44.6	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**22.98**	**157**	P	**P**	**09 40 12.5**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=332,slow=11,SNR=24						
WRA				S	**S**	**09 44 13.3**	**-5.4**
	comp=Z,1.4nm,0.8s,baz=343,slow=17,SNR=7.1						
	comp=Z,1.5nm,0.5s						
WRA	**Warramunga Arr**	**22.98**	**157**	P	**P**	**09 40 11.1**	**-0.8**
WB2	**Warramunga

BVA0	**Borovoye Array**	**3.29**	**297**	⇓Pg	**Pb**	**09 41 59.7**	**+0.7**
	1.1nm,0.7s,baz=119,slow=16,SNR=5.6						
BVA0				Lg	Lg	09 42 47.3	
	7.3nm,0.8s,baz=110,slow=28,SNR=8.6						
BRVK	**Borovoye**	**3.36**	**297**	⇑Pg	**Pb**	**09 41 59.1**	**-1.1**
	2.3nm,1.0s						
BRVK				⇑Lg	Lg	09 42 47.9	
	11nm,0.9s						
I46RU	**ZALESOVO INFRA**	**6.26**	**64**	*i*		10 15 50.0	
	baz=252,slow=319,SNR=3.4						
ZALV	**Zalesovo Beam**	**6.26**	**64**	Pn	**Pn**	**09 42 34.0**	**+0.7**
	0.1nm,0.3s,baz=252,slow=12,SNR=3.8						
	1.0nm,0.5s						
MAKZ	**Makanchi**	**6.53**	**135**	⇑Lg	Lg	09 44 25.3	
	2.1nm,0.7s						
MK31	**Makanchi Array**	**6.68**	**134**	⇑Lg	Lg	09 44 28.4	
	2.0nm,0.6s,baz=323,slow=25,SNR=6.4						
MKAR	**Makanchi Array**	**6.68**	**134**	Pn	**Pn**	**09 42 39.7**	**+0.5**
	baz=312,slow=13,SNR=3.4						
MKAR				Sn	**Sn**	**09 43 56.6**	**+0.7**
	0.1nm,0.3s,baz=312,slow=17,SNR=2.9						
MKAR				Lg	Lg	09 44 29.2	
	0.2nm,0.3s,baz=319,slow=24,SNR=10						
	0.3nm,0.7s						

AZER ***27*** *09:42:36.6±0.1,38°.49N×46°.69E,h10km,Error ellipse:*
s-maj=2.8km s-min=1.3km az=12.0
TEH ***27*** *09:42:37.6,38°.45N×46°.71E,h9km,ML3.5*
NSSP ***27*** *09:42:41.0,39°.08N×47°.38E,h17km,Ms3.7*

ISC 27 09:42:38.0±0.9,38°.46N±0°.02×46°.70E±0°.02,h8km±6km, n101,σ1§36/134,5C-5D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVRZ	**Varzaqan**	**0.05**	**328**	*e*Pg	**Pg**	**09 42 39.7**	**-0.3**
TVRZ				*e*Sg	**Sg**	**09 42 42.1**	**+0.7**
TVRZ				*e*		09 42 44.4	
	comp=Z,3953μm,0.2s						
IHRS	**Heris**	**0.30**	**118**	*e*Pg	**Pg**	**09 42 43.5**	**-0.6**
IHRS				*e*Sg	**Sg**	**09 42 48.2**	**0.0**
ITBZ	**Tabriz**	**0.49**	**243**	*e*Pg	**Pg**	**09 42 46.9**	**-0.7**
ORD	**Ordubad**	**0.72**	**310**	*e*Pg	**Pg**	**09 42 51.9**	**-0.1**
ORD	**Ordubad**	**0.72**	**310**	P	**Pg**	**09 42 51.9**	**-0.1**
	SNR=309						
ORD				S	**Sb**	**09 43 02.1**	**-1.0**
IBST	**Bostanabad**	**0.78**	**169**	*e*Pg	**Pg**	**09 42 52.1**	**-0.9**
IMRD	**Marand**	**0.82**	**288**	*e*Pg	**Pg**	**09 42 53.6**	**-0.3**
ISHB	**Shabestar**	**0.87**	**259**	*e*Pg	**Pg**	**09 42 54.0**	**-0.8**
ISHB				*e*		09 43 13.6	
	comp=Z,15μm,0.6s						
IAZR	**Azarshahr**	**0.97**	**216**	*e*Pg	**Pg**	**09 42 56.2**	**-0.5**
IAZR				*e*		09 43 15.0	
	comp=Z,31μm,0.5s						
ISRB	**Sarab**	**0.99**	**130**	*e*Pg	**Pg**	**09 42 55.8**	**-1.3**
ISRB				*e*Sg	**Sg**	**09 43 10.2**	**+0.2**
ISRB				*e*		09 43 12.2	
	comp=Z,12μm,0.2s						
GRMI	**Germi**	**1.00**	**69**	*e*Pg	**Pg**	**09 42 55.5**	**-1.7**
GRMI				*e*		09 43 13.8	
	comp=Z,99nm,0.4s						
GRS	**Goris**	**1.08**	**345**	⇑*i*P	**Pn**	**09 42 59.5**	**-0.1**
GRS				⇑*i*S	**Sb**	**09 43 13.2**	**-0.1**
QRD	**Qoradiz**	**1.11**	**26**	*e*Pg	**Pn**	**09 42 59.3**	**-0.6**
QRD	**Qoradiz**	**1.11**	**26**	P	**Pn**	**09 42 59.4**	**-0.6**
	SNR=18						
QRD				S	**Sn**	**09 43 15.4**	**0.0**
NAX	**Nakhchivan**	**1.18**	**307**	*e*Pg	**Pb**	**09 43 00.3**	**-0.4**
NAX	**Nakhchivan**	**1.18**	**307**	P	**Pb**	**09 43 00.4**	**-0.4**
	SNR=45						
NAX				S	**Sn**	**09 43 17.0**	**-0.3**
IHSH	**Hashtrud**	**1.24**	**159**	*e*Pg	**Pb**	**09 43 00.1**	**-1.8**
IHSH				*e*		09 43 05.5	
	comp=Z,11μm,0.2s						
YRD	**Yardimli**	**1.29**	**69**	*e*Pg	**Pn**	**09 43 01.9**	**-0.6**
YRD	**Yardimli**	**1.29**	**69**	P	**Pn**	**09 43 01.9**	**-0.6**
	SNR=27						
YRD				S	**Sn**	**09 43 20.3**	**+0.2**
SBZ	**Shahbuz**	**1.29**	**317**	*e*Pg	**Pn**	**09 43 02.1**	**-0.5**
SBZ	**Shahbuz**	**1.29**	**317**	P	**Pn**	**09 43 02.1**	**-0.5**
	SNR=44						
SBZ				S	**Sn**	**09 43 20.8**	**+0.6**
LRK	**Lerik**	**1.30**	**81**	*e*Pg	**Pn**	**09 43 01.8**	**-0.8**
LRK	**Lerik**	**1.30**	**81**	P	**Pn**	**09 43 01.8**	**-0.8**
	SNR=54						
LRK				S	**Sn**	**09 43 21.0**	**+0.7**
BLQ	**Beylaqan**	**1.42**	**28**	*e*Pg	**Pg**	**09 43 04.9**	**-0.4**
BLQ	**Beylaqan**	**1.42**	**28**	P	**Pg**	**09 43 05.0**	**-0.4**
	SNR=7.4						
BLQ				S	**Sg**	**09 43 25.4**	**+1.6**
GLBA	**Clilabad**	**1.53**	**59**	*e*Pg	**Pg**	**09 43 07.0**	**-0.4**
GLBA	**Clilabad**	**1.53**	**59**	P	**Pg**	**09 43 07.0**	**-0.4**
	SNR=20						
GLBA				S	**Sg**	**09 43 29.8**	**+2.5**
ASTR	**Astara**	**1.64**	**86**	*e*Pn	**Pb**	**09 43 07.9**	**-0.7**
ASTR	**Astara**	**1.64**	**86**	P	**Pb**	**09 43 07.9**	**-0.7**
	SNR=12						
ASTR				S	**Sg**	**09 43 31.4**	**+0.6**
LKRN	**Lenkeran, Azer**	**1.65**	**81**	*e*Pn	**Pb**	**09 43 08.5**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.65**	**81**	P	**Pb**	**09 43 08.6**	**-0.1**
	SNR=25						
LKRN				S	**Sg**	**09 43 32.0**	**+1.0**
AGDM	**Agdam**	**1.67**	**11**	P	**Pb**	**09 43 08.9**	**-0.2**
	SNR=38						
AGDM				S	**Sg**	**09 43 32.3**	**+0.4**
GAS1	**Astara - Iran**	**1.68**	**92**	*e*		09 43 33.4	
	comp=Z,7μm,0.3s						
GAS1				*e*Pn	**Pn**	**09 43 07.6**	**-0.1**
MAKU	**Maku**	**1.81**	**300**	*e*Pg	**Pb**	**09 43 10.7**	**-0.9**
MAKU				*e*		09 43 36.8	
	comp=Z,99nm,0.6s						
BRDA	**Brd**	**1.84**	**11**	*e*Pn	**Pb**	**09 43 10.9**	**-1.0**
BRDA	**Brd**	**1.84**	**11**	P	**Pb**	**09 43 10.9**	**-1.0**
	SNR=5.5						
BRDA				S	**Sg**	**09 43 39.6**	**+2.6**
MAHB	**Mahabad**	**1.87**	**205**	*e*Pn	**Pb**	**09 43 11.8**	**-0.7**
MAHB				*e*		09 43 42.7	
	comp=Z,9μm,0.5s						
HYR	**Heyderabad**	**1.91**	**312**	*e*Pn	**Pb**	**09 43 11.8**	**-1.4**
HYR	**Heyderabad**	**1.91**	**312**	P	**Pb**	**09 43 11.8**	**-1.4**
	SNR=14						
HYR				S	**Sg**	**09 43 38.3**	**-1.2**
SAAT	**Saatly**	**1.94**	**43**	S	**Sg**	**09 43 39.5**	**-0.7**
ZRD	**Zardab**	**1.97**	**22**	*e*Pn	**Pb**	**09 43 13.3**	**-0.8**
ZRD	**Zardab**	**1.97**	**22**	P	**Pb**	**09 43 13.4**	**-0.8**
	SNR=9.9						
ZRD				S	**Sg**	**09 43 44.3**	**+3.1**
CSN1	**Caspian**	**2.09**	**115**	*e*Pn	**Pb**	**09 43 15.5**	**-0.7**
CSN1				*e*		09 43 18.5	
	comp=Z,10μm,0.2s						
GANJ	**Ganja**	**2.20**	**352**	*e*Pn	**Pb**	**09 43 16.4**	**-1.7**
GANJ	**Ganja**	**2.20**	**352**	P	**Pb**	**09 43 16.5**	**-1.7**
	SNR=17						
GANJ				S	**Sb**	**09 43 46.2**	**+0.6**
NRKZ	**NAREK**	**2.21**	**315**	⇑*i*P	**Pb**	**09 43 17.2**	**-1.1**
NRKZ				⇑*i*S	**Sg**	**09 43 47.2**	**-1.8**
KDMR	**Kurdemir**	**2.23**	**31**	S	**Sb**	**09 43 46.4**	**0.0**
GNI	**Garni**	**2.27**	**319**	*e*P	**Pb**	**09 43 19.8**	**+0.4**
GNI	**Garni**	**2.27**	**319**	⇓*i*P	**Pb**	**09 43 20.0**	**+0.6**
GNI				⇓*i*S	**Sg**	**09 43 51.1**	**+0.1**
CLDR	**Caldiran**	**2.28**	**288**	*e*P	**Pb**	**09 43 19.2**	**-0.4**
MNGR	**Mingechevir, A**	**2.33**	**7**	S	**Sb**	**09 43 49.4**	**+0.2**
ALIB	**Äli-Bayra**	**2.33**	**49**	*e*Pn	**Pn**	**09 43 18.1**	**+1.4**
ALIB	**Äli-Bayra**	**2.33**	**49**	P	**Pn**	**09 43 18.2**	**+1.4**
	SNR=4.2						
ALIB				S	**Sg**	**09 43 53.5**	**+0.5**
GDB	**GEDABAY**	**2.37**	**342**	*e*Pn	**Pn**	**09 43 18.7**	**+1.3**
GDB	**GEDABAY**	**2.37**	**342**	P	**Pn**	**09 43 18.7**	**+1.3**
	SNR=62						
GDB				S	**Sb**	**09 43 50.7**	**+0.1**
ZNJK	**Zanjan**	**2.38**	**138**	*e*Pn	**Pn**	**09 43 18.9**	**+1.2**
KAPZ	**Kaputan**	**2.42**	**321**	⇓*i*P	**Pg**	**09 43 23.1**	**-1.3**
KAPZ				⇓*i*S	**Sg**	**09 43 56.5**	**+0.7**
TASB	**TASBURUN-IGDIR**	**2.44**	**309**	*e*P	**Pb**	**09 43 22.8**	**+0.5**
IML	**Ismayilli**	**2.59**	**26**	*e*Pn	**Pn**	**09 43 21.8**	**+1.4**
IML	**Ismayilli**	**2.59**	**26**	P	**Pn**	**09 43 21.8**	**+1.4**
IML				S	**Sb**	**09 43 56.4**	**-0.5**
VANB	**Van**	**2.60**	**274**	*e*P	**Pb**	**09 43 23.4**	**-1.6**
QBL	**Gabala**	**2.63**	**19**	S	**Sb**	**09 43 57.6**	**-0.3**
GBS	**Qobustan**	**2.70**	**39**	S	**Sb**	**09 43 58.2**	**-1.8**
CUKT	**Cukurca**	**2.73**	**245**	*e*P	**Pn**	**09 43 24.1**	**+1.7**
PQL	**Pirkuli**	**2.75**	**32**	*e*Pn	**Pn**	**09 43 23.9**	**+1.4**
PQL	**Pirkuli**	**2.75**	**32**	P	**Pn**	**09 43 24.0**	**+1.4**
	SNR=5.1						
PQL				S	**Sb**	**09 44 00.3**	**-1.0**
SEKA	**Sheki**	**2.77**	**8**	*e*Pn	**Pn**	**09 43 24.4**	**+1.6**
SEKA	**Sheki**	**2.77**	**8**	P	**Pn**	**09 43 24.5**	**+1.6**
	SNR=12						
SEKA				S	**Sb**	**09 44 01.6**	**-0.4**
VNNZ	**Vanand**	**2.77**	**307**	⇓*i*P	**Pb**	**09 43 28.2**	**+0.3**
VNNZ				⇓*i*S	**Sg**	**09 44 08.6**	**+1.6**
QSDN	**Sirdan**	**2.77**	**134**	*e*Pn	**Pn**	**09 43 24.1**	**+1.1**
QZX	**Qazax, Azerbai**	**2.79**	**339**	P	**Pn**	**09 43 24.5**	**+1.5**
	SNR=16						
QZX				S	**Sb**	**09 44 01.0**	**-1.5**
XNQ	**Khinaliq**	**2.92**	**22**	P	**Pn**	**09 43 26.6**	**+1.5**
	SNR=6.2						
XNQ				S	**Sb**	**09 44 04.5**	**-2.1**
AKDM	**Akdamar-Van**	**2.93**	**269**	*e*P	**Pn**	**09 43 27.5**	**+2.4**
ATGJ	**Altiaghaj**	**2.95**	**35**	P	**Pn**	**09 43 26.8**	**+1.4**
ATGJ				S	**Sb**	**09 44 06.2**	**-1.1**
LHJ2	**Lahijan - Gila**	**2.96**	**115**	*e*Pn	**Pn**	**09 43 26.1**	**+0.8**
GIDE	**GILAN DEYLAMAN**	**2.97**	**120**	*e*Pn	**Pn**	**09 43 26.8**	**+1.1**
JIR1	**Jirandeh**	**3.02**	**124**	*e*Pn	**Pn**	**09 43 27.9**	**+1.5**
GOBA	**Gobu**	**3.04**	**50**	S	**Sb**	**09 44 07.9**	**-1.8**
AGRB	**Hanur-Agry**	**3.10**	**292**	*e*P	**Pb**	**09 43 30.9**	**-2.6**
SIZA	**Siyzn**	**3.11**	**32**	P	**Pn**	**09 43 28.9**	**+1.4**
SIZA				S	**Sb**	**09 44 08.9**	**-2.9**
ZKTA	**Zakatala**	**3.17**	**359**	S	**Sb**	**09 44 10.5**	**-3.0**
QUBA	**Quba, Azerbaij**	**3.20**	**25**	P	**Pn**	**09 43 30.4**	**+1.7**
	SNR=4.5						
QUBA				S	**Sb**	**09 44 10.9**	**-3.5**
QSAR	**Qusar**	**3.28**	**21**	P	**Pn**	**09 43 31.2**	**+1.5**
QSAR				S	**Sn**	**09 44 11.7**	**+2.8**
SNGE	**Sanandaj**	**3.40**	**171**	*e*Pn	**Pn**	**09 43 34.8**	**+3.2**
IGZV	**Ghazvin**	**3.48**	**125**	*e*Pn	**Pn**	**09 43 34.8**	**+2.0**
QABG	**Abgarm-Qazvin**	**3.59**	**139**	*e*Pn	**Pn**	**09 43 34.4**	**+0.2**
QALM	**Alamut, Qazvin**	**3.74**	**122**	*e*Pn	**Pn**	**09 43 37.9**	**+1.6**
IDHR	**Dehrash**	**3.76**	**184**	*e*Pn	**Pn**	**09 43 38.9**	**+2.3**
IRAZ	**Razeghan**	**4.00**	**139**	*e*Pn	**Pn**	**09 43 41.5**	**+1.7**
HAGD	**Aghdareh**	**4.13**	**151**	*e*Pn	**Pn**	**09 43 43.5**	**+1.9**
CHTH	**Charan**	**4.36**	**124**	*e*Pn	**Pn**	**09 43 46.1**	**+1.3**
ASAO	**Ashtian**	**4.74**	**145**	*e*Pn	**Pn**	**09 43 51.5**	**+1.5**
ONI	**Oni**	**4.81**	**330**	*e*P	**Pn**	**09 43 55.8**	**+5.0**
IDOB	**Doab**	**4.81**	**165**	*e*Pn	**Pn**	**09 43 52.3**	**+1.2**
IKFM	**Kafar-mosalman**	**5.01**	**169**	*e*Pn	**Pn**	**09 43 55.1**	**+1.5**
DAMV	**Damavand**	**5.07**	**122**	*e*Pn	**Pn**	**09 43 56.2**	**+1.5**
KHMZ	**Khomeyn**	**5.40**	**150**	*e*Pn	**Pn**	**09 44 02.0**	**+2.9**
GHVR	**GHOM**	**5.43**	**136**	*e*Pn	**Pn**	**09 44 00.5**	**+1.1**
MRVT	**Maraveh tapeh**	**7.45**	**93**	*e*Pn	**Pn**	**09 44 28.4**	**+1.3**
SHRO	**Shahrood**	**7.83**	**106**	*e*Pn	**Pn**	**09 44 33.3**	**+1.0**
SBZV	**Sabzevar**	**8.92**	**100**	*e*Pn	**Pn**	**09 44 49.3**	**+1.8**

IDC 27 09:45:57.9±2.1,19°.41S×177°.36E,h0km,mb3.6/3, mbtmp3.6/3,Error ellipse: s-maj=66.5km s-min=21.1km az=135.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.79**	**22**	Pn	Pn	09 46 30.1	-0.1
	21nm,0.3s,baz=224,slow=19,SNR=66						
MSVF				Sn	Sn	09 46 54.2	+0.5
	32nm,0.3s,baz=100,slow=22,SNR=19						
WRA	**Warramunga Arr**	**40.43**	**262**	P	P	09 53 37.8	-0.5
	0.3nm,0.9s,baz=101,slow=8.7,SNR=2.3						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**40.53**	**256**	P	P	09 53 39.2	+0.1
	1.9nm,0.7s,baz=85,slow=8.6,SNR=34						
	1.9nm,0.7s						
TXAR	**Lajitas Array**	**90.20**	**59**	P	P	09 59 00.8	0.0
	0.3nm,0.8s,baz=221,slow=3.6,SNR=3.5						
	0.3nm,0.8s						

NEIC ***27*** *09:46:42.8±1.2,32°.42S±0°.08×177°.9W±0°.1,h10km±2km, mb4.4/14,Error ellipse: s-maj=20.5km s-min=12.7km az=112.0*
IDC ***27*** *09:46:43.5±1.9,32°.41S×178°.24W,h0km,mb4.0/5, mbtmp4.0/6,ML3.9/1,MS3.1/2,Error ellipse: s-maj=42.7km s-min=34.0km az=56.0*
WEL ***27*** *09:46:46.4±0.5,32°.5±11°×17°.9W±2°.6,h33km,M4.5/11, mB4.6/4,ML4.9/15,MLv4.8/11,Mw(mB)3.8/4,Error ellipse: s-maj=0.0km s-min=0.0km az=112.1*

ISC 27 09:46:44.5±1.1,32°.48S±0°.07×178°.1W±0°.2,h20km,n47, σ1§69/64,mb4.3/10,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.21**	**3**	P	**Pn**	**09 47 32.4**	**-1.4**
GLKZ				S	**Sn**	**09 48 08.8**	**-2.6**
RAO	**Raoul Island**	**3.22**	**3**	Pn	**Pn**	**09 47 32.4**	**-1.5**
MXZ	**Matakaoa Point**	**5.86**	**209**	P	**Pn**	**09 48 06.4**	**-3.8**
MXZ				S	**Sn**	**09 49 15.8**	**-1.0**
WMGZ	**Waiomatatini S**	**6.04**	**207**	P	**Pn**	**09 48 11.8**	**-0.8**
WMGZ				S	**Sn**	**09 49 22.1**	**+0.9**
HAZ	**Te Kaha**	**6.25**	**211**	P	**Pn**	**09 48 14.5**	**-1.0**
HAZ				S	**Sn**	**09 49 26.2**	**-0.1**
PUZ	**Puketiti**	**6.32**	**207**	P	**Pn**	**09 48 15.6**	**-1.0**
PUZ				S	**Sn**	**09 49 26.7**	**-1.5**
RUGZ	**Raukumara Rang**	**6.47**	**211**	P	**Pn**	**09 48 17.9**	**-0.8**
RUGZ				S	**Sn**	**09 49 30.7**	**-1.3**
TWGZ	**Tauwhareparae**	**6.52**	**208**	P	**Pn**	**09 48 18.8**	**-0.5**
TWGZ				S	**Sn**	**09 49 31.6**	**-1.6**
CNGZ	**Carnagh Statio**	**6.70**	**206**	P	**Pn**	**09 48 21.0**	**-0.7**
CNGZ				S	**Sn**	**09 49 38.0**	**+0.5**
TKGZ	**Te Karaka**	**6.80**	**208**	P	**Pn**	**09 48 23.1**	**0.0**
TKGZ				S	**Sn**	**09 49 37.5**	**-2.4**
MWZ	**Matawai**	**6.84**	**210**	P	**Pn**	**09 48 22.1**	**-1.6**
MWZ				S	**Sn**	**09 49 38.8**	**-2.2**
URZ	**Urewera**	**6.96**	**213**	Pn	**Pn**	**09 48 24.9**	**-0.5**
	2.3nm,0.3s,baz=359,slow=1.6,SNR=14						
URZ				Sn	**Sn**	**09 49 42.2**	**-1.7**
	8.0nm,0.3s,baz=346,slow=22,SNR=15						
	6.3nm,0.3s						
URZ	**Urewera**	**6.96**	**213**	Pn	**Pn**	**09 48 25.4**	**+0.1**
URZ	**Urewera**	**6.96**	**213**	P	**Pn**	**09 48 24.9**	**-0.5**
URZ				S	**Sn**	**09 49 41.8**	**-2.1**
MUGZ	**Murupara**	**7.30**	**213**	P	**Pn**	**09 48 29.8**	**-0.2**
MUGZ				S	**Sn**	**09 49 48.9**	**-3.3**
SNGZ	**Shannon Statio**	**7.30**	**209**	P	**Pn**	**09 48 29.5**	**-0.5**
SNGZ				S	**Sn**	**09 49 50.2**	**-2.0**
RTZ	**Ruatahuna**	**7.31**	**212**	P	**Pn**	**09 48 29.8**	**-0.4**
RTZ				S	**Sn**	**09 49 49.7**	**-2.9**
OUZ	**Omahuta**	**7.42**	**246**	Pn	Pn	09 48 35.5	+3.9
RAHZ	**Arahi**	**7.52**	**210**	P	**Pn**	**09 48 34.0**	**+1.1**
RAHZ				S	**Sn**	**09 49 54.6**	**-3.0**
MTHZ	**Maungataniwha**	**7.57**	**211**	P	**Pn**	**09 48 34.0**	**+0.3**
MTHZ				S	**Sn**	**09 49 56.7**	**-2.3**
BKZ	**Black Stump Fm**	**7.98**	**212**	P	**Sn**	**09 48 38.0**	**-1.4**
BKZ				S	**Sn**	**09 50 05.1**	**-4.0**
KWHZ	**Kaweka Forest**	**8.22**	**211**	P	**Pn**	**09 48 41.1**	**-1.6**
KWHZ				S	**Sn**	**09 50 12.2**	**-2.9**
HIZ	**Hauiti**	**8.31**	**222**		**Pn**	**09 48 45.8**	**+1.9**
OTVZ	**Oturere**	**8.37**	**215**	P	**Pn**	**09 48 44.2**	**-0.5**
OTVZ				S	**Sn**	**09 50 15.1**	**-3.6**
WHZ	**Wether Hill Ro**	**17.18**	**215**		**P**	**09 50 45.2**	**+0.5**
WHZ				IAmb	IAmb	09 50 58.1	
	comp=Z,28nm,1.5s						
DZM	**Mont Dzumac**	**17.18**	**303**	LR	LR	09 56 27.8	
	comp=Z,116nm,18.8s,baz=15,slow=34						
RAR	**Rarotonga**	**19.81**	**60**	LR	LR	10 00 05.1	
	comp=Z,28nm,18.3s,baz=153,slow=40						
EIDS	**Eidsvold**	**27.81**	**277**	P	**P**	**09 52 34.4**	**+2.0**
EIDS				IAmb	IAmb	09 52 47.9	
	comp=Z,6.7nm,1.1s						
STKA	**Stephens Creek**	**33.97**	**260**	P	**P**	**09 53 28.9**	**+2.2**
	comp=Z,1.3nm,0.9s,baz=94,slow=15,SNR=1.5						
	comp=Z,1.3nm,0.9s						
STKA	**Stephens Creek**	**33.97**	**260**	P	**P**	**09 53 27.8**	**+1.1**
CTA	**Charters Tower**	**34.09**	**282**	P	**P**	**09 53 29.8**	**+1.9**
	comp=Z,3nm,0.5s,baz=109,slow=8.8,SNR=6.4						
	comp=Z,2.3nm,0.5s						
CTAO	**Charters Tower**	**34.09**	**282**	P	**P**	**09 53 29.9**	**+2.1**
CTAO				IAmb	IAmb	09 53 54.7	
	comp=Z,9.0nm,1.3s						
PMG	**Port Moresby**	**39.45**	**298**	P	**P**	**09 54 12.4**	**-1.1**
AS31	**Alice Springs**	**42.94**	**269**	P	**P**	**09 54 42.1**	**-0.1**
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**09 54 43.0**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=108,slow=7.6,SNR=16						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**09 54 42.4**	**+0.1**
WR0	**Warramunga Arr**	**43.94**	**274**	P	**P**	**09 54 49.9**	**-0.4**
WB2	**Warramunga Arr**	**44.11**	**274**	P	**P**	**09 54 52.3**	**+0.7**
WB2				IAmb	IAmb	09 54 54.0	
	comp=Z,4.1nm,0.7s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**09 54 52.4**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=113,slow=7.9,SNR=62						
	comp=Z,2.7nm,0.5s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**09 54 52.0**	**+0.2**
WB0	**Warramunga Arr**	**44.15**	**275**	P	**P**	**09 54 52.6**	**+0.7**
WB0				IAmb	IAmb	09 54 58.6	
	comp=Z,5.0nm,0.9s						
KNRA	**Kununurra**	**50.80**	**276**	P	**P**	**09 55 44.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.29**	**272**	P	**P**	**09 55 54.2**	**-0.6**
FITZ				IAmb	IAmb	09 56 10.0	
	comp=Z,4.8nm,1.2s						
CASY	**Casey**	**53.27**	**209**	P	**P**	**09 56 02.1**	**+0.7**
CASY				IAmb	IAmb	09 56 09.1	
	comp=Z,5.6nm,1.2s						
QSPA	**South Pole Qui**	**57.64**	**180**	P	**P**	**09 56 36.0**	**+2.9**
	comp=Z,0.9nm,1.0s,baz=96,slow=1.9,SNR=1.5						
	comp=Z,0.9nm,1.0s						
QSPA	**South Pole Qui**	**57.64**	**180**	P	**P**	**09 56 33.6**	**+0.6**
QSPA				IAmb	IAmb	09 56 46.9	
	comp=Z,3.2nm,0.7s						
FINES	**FINESS Array B**	**147.05**	**339**	PKPbc	**PKPab**	**10 06 26.2**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=67,slow=4.7,SNR=12						

IDC 27 09:53:08.4±3.0,32°.38S×178°.39W,h0km,mb3.7/2, mbtmp3.7/3,ML3.5/1,Error ellipse: s-maj=70.5km s-min=45.4km az=120.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.92**	**211**	Pn	Pn	09 54 50.1	-1.1
	0.9nm,0.3s,baz=356,slow=2.5,SNR=10						
URZ				Sn	Sn	09 56 06.6	-4.1
	3.0nm,0.3s,baz=277,slow=22,SNR=12						
	3.1nm,0.3s						
ASAR	**Alice Springs**	**42.71**	**269**	P	P	10 01 07.9	+0.4
	0.4nm,0.5s,baz=107,slow=7.2,SNR=7.3						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.88**	**274**	P	P	10 01 16.6	-0.4
	0.7nm,0.4s,baz=113,slow=7.9,SNR=34						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**146.87**	**339**	PKPbc	PKPbc	10 12 51.1	-0.8
	0.7nm,0.4s,baz=68,slow=4.9,SNR=6.3						

IDC 27 09:54:10.6±3.2,7°.63N×34°.76W,h0km,mb3.7/5, mbtmp3.7/5,MS3.4/11,Error ellipse: s-maj=130.9km s-min=27.4km az=2.4,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**17.95**	**263**	LR	LR	10 04 49.0	
	comp=Z,37nm,18.1s,baz=94,slow=36						
BBTS	**Babate**	**19.19**	**67**	LR	LR	10 05 56.3	
	comp=Z,61nm,18.0s,baz=246,slow=37						
H10N3	**ASCENSION HYDR**	**25.38**	**127**	T	T	10 25 52.2	
	baz=306,slow=75,SNR=57						
H10N2	**ASCENSION HYDR**	**25.38**	**127**	T	T	10 25 52.5	
	baz=306,slow=75,SNR=49						
H10N1	**ASCENSION HYDR**	**25.40**	**127**	T	T	10 25 53.7	
	baz=306,slow=75,SNR=59						
H10S3	**ASCENSION HYDR**	**25.93**	**129**	T	T	10 26 37.5	
	baz=274,slow=74,SNR=35						
H10S2	**ASCENSION HYDR**	**25.95**	**129**	T	T	10 26 36.8	
	baz=306,slow=74,SNR=19						
H05S1	**Guadeloupe/Mar**	**26.45**	**287**	T	T	10 27 17.9	
	SNR=4.0						
SJG	**San Juan**	**32.27**	**292**	LR	LR	10 12 41.7	
	comp=Z,29nm,18.9s,baz=104,slow=34						
SIV	**San Ignacio**	**35.07**	**228**	LR	LR	10 14 32.3	
	comp=Z,98nm,18.5s,baz=94,slow=35						
TORD	**Torodi Ar. Bea**	**36.25**	**78**	P	P	10 01 15.7	-0.1

ONTNC **Ouen Toro** 15.08 259 P P **10 04 19.4 +1.4**
NOUC **Port Laguerre** 15.20 260 P P **10 04 20.2 +0.9**
NFK **Norfolk Island** 15.89 233 P P **10 04 27.6 +1.2**
baz=16,SNR=3.5
OUZ **Omahuta** 16.93 206 P P **10 04 36.4 -0.1**
OUZ **Omahuta** 16.93 206 P P **10 04 36.0 -0.5**
OUZ **Omahuta** 16.93 206 P P **10 04 36.4 -0.1**
KOUNC **Koumac, New Ca** 17.05 265 P P **10 04 39.5 +1.7**
KOUNC **Koumac, New Ca** 17.05 265 P P **10 04 38.7 +0.9**
GRZ **Great Barrier** 17.18 199 P P **10 04 39.3 +0.5**
WCZ **Waipu Caves** 17.28 203 P P **10 04 39.6 -0.1**
KUZ **Kuaotunu** 17.56 198 P P **10 04 41.6 -0.7**
MXZ **Matakaoa Point** 17.73 191 P P **10 04 42.1 -1.8**
TGRZ **Tauranga** 18.33 196 P P **10 04 49.5 +0.2**
OPRZ **Ohinepanea** 18.37 195 P P **10 04 48.7 -1.0**
TWGZ **Tauwhareparae** 18.39 191 P P **10 04 48.6 -1.2**
TWGZ S S 10 08 13.0 +22
MARZ **Manawahe** 18.48 195 P P **10 04 50.8 +0.1**
KMRZ **Kaimai** 18.53 196 P P **10 04 52.6 +1.5**
TOZ **Tahuroa Road** 18.54 198 P P **10 04 52.1 +0.9**
LIRZ **Lichensteins R** 18.56 195 P P **10 04 51.7 +0.3**
EDRZ **Edgecumbe** 18.58 194 P P **10 04 51.1 -0.5**
KARZ **Kaharoa** 18.61 196 P P **10 04 52.7 +0.8**
URZ **Urewera** 18.64 193 P P **10 04 48.8 -3.3**
115nm,0.3s,baz=10.0,slow=2.2,SNR=99
URZ **Urewera** 18.64 193 P P **10 04 48.8 -3.3**
URZ S S 10 08 11.5 +16
URZ **Urewera** 18.64 193 P P **10 04 49.0 -3.1**
CNGZ **Carnagh Statio** 18.64 190 P P **10 04 51.7 -0.5**
CNGZ S S 10 08 23.5 +28
OMRZ **Omania** 18.66 195 P P **10 04 52.4 0.0**
TKGZ **Te Karaka** 18.66 191 P P **10 04 51.3 -1.0**
TKGZ S S 10 08 15.6 +20
NGRZ **Ngongotaha** 18.70 196 P P **10 04 54.5 +1.7**
UTU **Utuhina** 18.77 196 P P **10 04 54.3 +1.0**
RAGZ **Rawiri** 18.80 192 P P **10 04 52.1 -1.6**
RRRZ **Republican Roa** 18.85 195 P P **10 04 53.6 -0.5**
MUGZ **Murupara** 18.92 194 P P **10 04 53.0 -1.8**
MUGZ S S 10 08 21.4 +22
RIGZ **Rimuhau** 18.94 191 P P **10 04 53.3 -1.6**
RIGZ S S 10 08 26.7 +27
GRRZ **Galatos Road** 18.96 196 P P **10 04 55.1 0.0**
RTZ **Ruatahuna** 19.01 193 P P **10 04 52.8 -2.8**
RTZ S S 10 08 22.9 +22
PRRZ **Plateau Road** 19.03 195 P P **10 04 54.3 -1.4**
TLZ **Tolley Road** 19.09 197 P P **10 04 56.8 +0.5**
SNGZ **Shannon Statio** 19.09 192 P P **10 04 54.7 -1.6**
SNGZ S S 10 08 29.9 +27
PRGZ **Paritu Road** 19.13 191 P P **10 04 57.3 +0.7**
KUTZ **Kaahu Road** 19.16 196 P P **10 04 56.9 -0.1**
KNZ **Kokohu** 19.26 191 P P **10 04 56.8 -1.0**
KNZ S S 10 08 31.1 +26
RAHZ **Arahi** 19.27 193 P P **10 04 56.2 -1.7**
RAHZ S S 10 08 31.4 +26
MHGZ **Mahia Peninsul** 19.35 191 P P **10 04 58.9 +0.3**
MHGZ S S 10 08 34.9 +28
WATZ **Wairara** 19.39 196 P P **10 04 59.0 0.0**
WHHZ **Waihua** 19.40 192 P P **10 04 58.4 -0.6**
WHHZ S S 10 08 36.9 +29
HIZ **Hauiti** 19.45 198 P P **10 05 00.7 +1.2**
HIZ **Hauiti** 19.45 198 P P **10 05 00.4 +0.9**
RATZ **Rangitukua** 19.53 196 P P **10 04 58.8 -1.5**
ARHZ **Aropaoanui** 19.63 193 P P **10 05 00.6 -0.6**
ARHZ S S 10 08 39.9 +29
BKZ **Black Stump Fm** 19.64 194 P P **10 04 58.6 -2.7**
BKZ S S 10 08 39.6 +28
BKZ **Black Stump Fm** 19.64 194 P P **10 04 58.5 -2.8**
NTVZ **North Tongarir** 19.78 196 P P **10 05 02.2 -0.5**
TMVZ **Te Maari** 19.79 196 P P **10 05 01.1 -1.6**
ETVZ **East Tongariro** 19.80 196 P P **10 05 00.4 -2.5**
TWVZ **Taurewa** 19.81 196 P P **10 05 01.9 -1.0**
NNVZ **North Ngauruho** 19.82 196 P P **10 05 02.9 -0.2**
OTVZ **Oturere** 19.84 196 P P **10 05 00.9 -2.3**
MCHZ **McNeill Hill** 19.86 193 P P **10 05 00.9 -2.3**
MCHZ S S 10 08 48.6 +34
NGZ **Ngauruhoe** 19.87 196 P P **10 05 02.8 -0.7**
SNVZ **South Ngauruho** 19.87 196 P P **10 05 01.4 -2.1**
KWHZ **Kaweka Forest** 19.91 194 P P **10 05 01.7 -2.0**
KWHZ S S 10 08 46.9 +31
TUVZ **Tukino** 19.94 196 P P **10 05 03.0 -1.2**
FWVZ **Far West T-bar** 19.95 196 P P **10 05 03.0 -1.0**
CKHZ **Cape Kidnapper** 19.99 192 P P **10 05 02.6 -1.9**
TRVZ **Turoa** 20.00 196 P P **10 05 03.4 -1.4**
WNVZ **Wahianoa** 20.01 196 P P **10 05 03.2 -1.6**
PKVZ **Pokaka** 20.04 196 P P **10 05 03.5 -1.5**
MOVZ **Moawhango** 20.05 195 P P **10 05 03.4 -1.7**
BHHZ **Black Hill Sta** 20.05 195 P P **10 05 01.8 -3.2**
MTVZ **Mangateitei** 20.10 196 P P **10 05 04.5 -1.0**
KRHZ **Kereru** 20.13 194 P P **10 05 03.1 -2.6**
BFZ **Birch Farm** 21.15 193 P P **10 05 13.0 -1.9**
SNZO **South Karori** 22.11 196 P P **10 05 21.7 -1.8**
QRZ **Quartz Range** 22.29 200 P P **10 05 24.8 -0.4**
QRZ **Quartz Range** 22.29 200 P P **10 05 24.7 -0.5**
KHZ **Kahutara** 23.45 197 P P **10 05 34.0 -1.5**
KHZ **Kahutara** 23.45 197 P P **10 05 33.7 -1.8**
RPZ **Rata Peaks** 25.37 200 P P **10 05 50.8 -1.7**
47nm,0.4s,baz=209,slow=0.5,SNR=35
47nm,0.4s
RPZ **Rata Peaks** 25.37 200 P P **10 05 50.9 -1.6**
RPZ **Rata Peaks** 25.37 200 P P **10 05 50.7 -1.8**
PAE **Paea** 26.55 89 eT T 10 32 17.8
5.3nm,0.3s
PPT2 **Papeete2** 26.57 89 eLR LR 10 13 25.3
comp=Z,34nm,22.2s
PPT2 **Papeete2** 26.57 89 eT T 10 32 21.3
3.0nm,0.3s
ODZ **Otahua Downs** 26.69 199 P P **10 06 02.5 -1.7**
ODZ **Otahua Downs** 26.69 199 P P **10 06 02.4 -1.7**
MLZ **Mavora Lakes** 27.81 202 P P **10 06 13.2 -0.8**
EIDS **Eidsvold** 29.36 254 P P **10 06 27.9 +0.1**
baz=30,SNR=20
EIDS **Eidsvold** 29.36 254 P P **10 06 28.2 +0.4**
EIDS **Eidsvold** 29.36 254 P P **10 06 27.9 +0.1**
ARMA **Armidale** 29.61 244 P P **10 06 30.8 +0.8**
baz=30,SNR=27
ARMA **Armidale** 29.61 244 P P **10 06 31.1 +1.0**
ARMA **Armidale** 29.61 244 P P **10 06 30.9 +0.8**
RK1H **Rockhampton Ha** 29.83 258 P P **10 06 32.0 +0.1**
SYDH **Sydney Hard Ro** 31.22 238 P P **10 06 44.3 +0.6**
RMQ **Roma** 31.53 252 P P **10 06 47.6 +1.1**
baz=32,SNR=8.6
RMQ **Roma** 31.53 252 P P **10 06 47.3 +0.8**
CNB **Canberra Magne** 32.78 236 P P **10 06 57.6 +0.4**
baz=33,SNR=24
CNB **Canberra Magne** 32.78 236 P P **10 06 57.3 +0.2**
CAN **Canberra** 33.07 236 P P **10 06 59.4 -0.2**
CAN IAmb IAmb 10 07 35.6
comp=Z,78nm,1.8s
CAN **Canberra** 33.07 236 P P **10 06 59.2 -0.3**
CAN **Canberra** 33.07 236 P P **10 06 59.3 -0.2**
CTA **Charters Tower** 33.96 264 P P **10 07 07.4 +0.2**
CTAO **Charters Tower** 33.96 264 P P **10 07 07.6 +0.4**
CTAO **Charters Tower** 33.96 264 P P **10 07 07.4 +0.2**
CTAO **Charters Tower** 33.96 264 ⇓P P **10 07 07.5 +0.2**
CMSA **Cobar Meteorol** 34.83 243 P P **10 07 14.4 +0.1**
baz=35,SNR=53
CMSA **Cobar Meteorol** 34.83 243 P P **10 07 14.4 +0.1**
QLP **Quilpie** 35.58 252 P P **10 07 20.9 +0.3**
baz=36,SNR=6.9
QLP **Quilpie** 35.58 252 P P **10 07 20.7 +0.1**
PMG **Port Moresby** 35.69 282 P P **10 07 22.2 +0.5**
PMG **Port Moresby** 35.69 282 P P **10 07 21.9 +0.3**
PMG **Port Moresby** 35.69 282 P P **10 07 22.0 +0.3**
PMG **Port Moresby** 35.69 282 P P **10 07 21.9 +0.3**
PATS **Pohnpei** 35.82 316 P P **10 07 23.8 +1.0**
MTSU **Mount Surprise** 36.04 267 P P **10 07 24.7 +0.1**
baz=36,SNR=109
MTSU **Mount Surprise** 36.04 267 P P **10 07 24.7 +0.1**
TOO **Toolangi** 36.45 234 P P **10 07 27.9 +0.1**
baz=37,SNR=21
TOO **Toolangi** 36.45 234 P P **10 07 27.9 +0.1**
TOO IAmb IAmb 10 07 28.7
comp=Z,30nm,0.8s
TOO **Toolangi** 36.45 234 P P **10 07 27.8 +0.1**
MOO **Moorlands** 37.06 225 P P **10 07 32.9 +0.3**
baz=37,SNR=3.2
MOO **Moorlands** 37.06 225 P P **10 07 31.8 -0.8**
TAU **Tasmania Unive** 37.18 224 P P **10 07 33.5 -0.1**
TAU IAmb IAmb 10 07 34.4
comp=Z,58nm,1.4s
TAU **Tasmania Unive** 37.18 224 P P **10 07 33.5 -0.1**

TAU **Tasmania Unive** 37.18 224 P P **10 07 33.5 -0.1**
BRAT **Ballarat** 37.63 234 P P **10 07 38.1 +0.7**
COEN **Coen** 37.99 273 P P **10 07 41.1 +0.4**
baz=38,SNR=47
COEN **Coen** 37.99 273 P P **10 07 41.2 +0.5**
COEN **Coen** 37.99 273 P P **10 07 40.9 +0.2**
STKA **Stephens Creek** 38.33 244 P P **10 07 43.6 +0.4**
comp=Z,25nm,0.5s,baz=92,slow=10,SNR=62
comp=Z,25nm,0.5s
STKA **Stens Creek** 38.33 244 P P **10 07 43.6 +0.4**
baz=38,SNR=33
STKA **Stephens Creek** 38.33 244 P P **10 07 43.7 +0.5**
STKA **Stephens Creek** 38.33 244 P P **10 07 43.7 +0.5**
MCQ **Macquarie Isla** 38.68 202 P P **10 07 46.9 +1.3**
ARPS **Mount Arapiles** 39.04 236 P P **10 07 48.7 -0.2**
baz=39,SNR=8.6
ARPS **Mount Arapiles** 39.04 236 P P **10 07 48.5 -0.4**
QIS **Mount Isa** 40.10 262 P P **10 07 57.1 -0.5**
baz=40,SNR=16
QIS **Mount Isa** 40.10 262 P P **10 07 57.1 -0.5**
HTT **Hallett** 40.77 242 P P **10 08 02.9 0.0**
baz=41,SNR=29
HTT **Hallett** 40.77 242 P P **10 08 02.6 -0.3**
LCRK **Leigh Creek** 41.07 247 P P **10 08 05.4 +0.1**
TWOA **Tennyson Woods** 41.29 240 P P **10 08 06.6 -0.3**
BBOO **Buckleboo** 43.09 243 P P **10 08 20.9 -0.2**
baz=43,SNR=96
BBOO **Buckleboo** 43.09 243 P P **10 08 21.1 -0.1**
BBOO **Buckleboo** 43.09 243 P P **10 08 20.8 -0.4**
OOD **Oodnadatta** 43.21 251 P P **10 08 22.8 +0.7**
MULG **Mulgathing** 44.66 247 P P **10 08 33.0 -0.3**
GENI **Genyem** 44.79 287 P P **10 08 35.5 +0.9**
comp=Z,6µmcomp=Z,246nm,1.0s
WR0 **Warramunga Arr** 44.89 262 P P **10 08 34.7 -0.5**
AS31 **Alice Springs** 45.02 256 P P **10 08 36.3 +0.1**
AS31 IAmb IAmb 10 08 37.5
comp=Z,19nm,0.5s
ASAR **Alice Springs** 45.02 256 P P **10 08 36.2 -0.1**
comp=Z,55nm,0.7s,baz=92,slow=7.5,SNR=850
ASAR PcP **PcP** **10 10 06.1 -0.2**
comp=Z,5.3nm,0.5s,baz=109,slow=3.1,SNR=7.8
ASAR S **S** **10 14 33.8 -3.1**
comp=Z,38nm,0.9s,baz=94,slow=16,SNR=70
comp=Z,55nm,0.7s
WB0 **Warramunga Arr** 45.06 262 P P **10 08 36.0 -0.5**
WB2 **Warramunga Arr** 45.07 262 P P **10 08 36.3 -0.4**
WRAB **Tennant Creek** 45.07 262 P P **10 08 36.2 -0.5**
WRAB **Tennant Creek** 45.07 262 P P **10 08 36.0 -0.7**
WRAB **Tennant Creek** 45.07 262 P P **10 08 36.0 -0.7**
WRA **Warramunga Arr** 45.08 262 P P **10 08 36.0 -0.7**
comp=Z,52nm,0.4s,baz=98,slow=8.3,SNR=1490
WRA PcP **PcP** **10 10 06.6 +0.1**
comp=Z,5.8nm,0.9s,baz=94,slow=3.8,SNR=5.0
WRA S **S** **10 14 34.1 -3.6**
comp=Z,5.3nm,0.8s,baz=94,slow=13,SNR=12
comp=Z,52nm,0.4s
WRA **Warramunga Arr** 45.08 262 P P **10 08 35.5 -1.3**
WRA IAmb IAmb 10 08 36.9
comp=Z,8.5nm,0.5s
SMPI **Sarmi** 46.36 287 P P **10 08 46.8 +0.2**
comp=Z,69nm,0.8s
KDU **Kakadu** 48.38 271 P P **10 09 01.2 -0.4**
baz=49,SNR=62
KDU **Kakadu** 48.38 271 P P **10 09 01.3 -0.4**
SRPI **Serui, Papua** 48.64 286 P P **10 09 05.3 +1.6**
comp=Z,10µmcomp=Z,441nm,0.4s
MTN **Manton Dam** 49.59 270 P P **10 09 10.3 -0.4**
baz=50,SNR=13
MTN **Manton Dam** 49.59 270 P P **10 09 09.7 -1.0**
FORT **Forrest** 49.83 246 P P **10 09 11.8 -0.5**
baz=50,SNR=35
FORT **Forrest** 49.83 246 P P **10 09 11.2 -1.1**
FORT IAmb IAmb 10 09 12.6
comp=Z,36nm,0.7s
FORT **Forrest** 49.83 246 P P **10 09 11.8 -0.5**
GUMO **Guam** 49.91 309 P P **10 09 12.6 -0.4**
comp=Z,144nm,0.8s,baz=148,slow=6.1,SNR=13
comp=Z,144nm,0.8s
GUMO **Guam** 49.91 309 P P **10 09 12.3 -0.7**
GUMO **Guam** 49.91 309 P P **10 09 13.5 +0.5**
GUMO **Guam** 49.91 309 P P **10 09 13.2 +0.2**
GUMO sP **sP** **10 11 44.8 -4.2**
WRKA **Warakurna** 49.98 254 P P **10 09 13.3 -0.2**
baz=50,SNR=512
WRKA **Warakurna** 49.98 254 P P **10 09 13.1 -0.4**
SAUI **Saumlaki** 50.89 276 P P **10 09 20.9 +0.6**
KNRA **Kununurra** 51.12 266 P P **10 09 21.6 -0.2**
baz=51,SNR=39
KNRA **Kununurra** 51.12 266 P P **10 09 21.3 -0.5**
KNRA **Kununurra** 51.12 266 P P **10 09 21.6 -0.2**
FAKI **Fak Fak** 51.84 283 P P **10 09 26.3 -0.9**
FAKI IAmb IAmb 10 09 28.4
comp=Z,35nm,0.8s
FAKI **Fak Fak** 51.84 283 P P **10 09 27.1 -0.1**
comp=Z,56nm,1.1s
FAKI **Fak Fak** 51.84 283 P P **10 09 26.8 -0.4**
FITZ **Fitzroy Crossi** 53.51 262 P P **10 09 39.0 0.0**
baz=54,SNR=150
FITZ **Fitzroy Crossi** 53.51 262 P P **10 09 38.6 -0.4**
FITZ IAmb IAmb 10 09 39.7
comp=Z,27nm,0.5s
FITZ **Fitzroy Crossi** 53.51 262 P P **10 09 39.2 +0.2**
SWI **Sorong** 53.58 284 P P **10 09 39.5 0.0**
comp=Z,2µmcomp=Z,304nm,0.9s
DRV **Dumont d'Urvil** 53.83 199 P P **10 09 40.7 +0.3**
AAI **Ambon** 55.29 280 P P **10 09 52.3 +0.7**
comp=Z,2µmcomp=Z,106nm,1.3s
NLAI **Namlea** 56.47 280 P P **10 10 00.6 +0.8**
comp=Z,45nm,0.5s
SOEI **Soe** 56.92 271 P P **10 10 04.3 +1.2**
SOEI **Soe** 56.92 271 P P **10 10 04.1 +1.1**
comp=Z,4µmcomp=Z,389nm,0.7s
SOEI **Soe** 56.92 271 P P **10 10 04.4 +1.4**
LBMI **Labuha** 57.10 283 P P **10 10 04.9 +0.8**
comp=Z,1µmcomp=Z,72nm,1.0s
BATI **Baumata** 57.36 271 P P **10 10 07.6 +1.7**
comp=Z,873nmcomp=Z,92nm,0.7s
TNTI **Ternate** 57.79 284 P P **10 10 09.3 +0.5**
TNTI **Ternate** 57.79 284 P P **10 10 09.5 +0.7**
comp=Z,132nm,0.9s
SANI **Sanana** 57.94 281 P P **10 10 09.1 -0.8**
comp=Z,800nmcomp=Z,91nm,1.0s
SANI **Sanana** 57.94 281 P P **10 10 09.5 -0.3**
PSA00 **Pilbara Seismi** 58.17 257 P P **10 10 10.7 -0.6**
PSA00 IAmb IAmb 10 10 11.5
comp=Z,49nm,0.7s
PSA00 **Pilbara Seismi** 58.17 257 P P **10 10 10.9 -0.4**
SBA **Scott Base** 58.25 184 P P **10 10 13.2 +2.4**
SBA IAmb IAmb 10 10 14.5
comp=Z,47nm,1.1s
SBA **Scott Base** 58.25 184 P P **10 10 13.5 +2.6**
SBA ScP **ScP** **10 14 06.8 +1.8**
VNDA **Vanda** 58.30 185 P P **10 10 12.9 +1.6**
comp=Z,7.7nm,0.7s,baz=358,slow=8.1,SNR=47
comp=Z,7.7nm,0.7s
VNDA **Vanda** 58.30 185 P P **10 10 12.9 +1.6**
VNDA **Vanda** 58.30 185 P P **10 10 12.8 +1.6**
VNDA ScP **ScP** **10 14 07.7 +2.4**
MBWA **Marble Bar** 58.35 257 P P **10 10 11.7 -0.9**
MBWA IAmb IAmb 10 10 12.7
comp=Z,36nm,0.7s
MBWA **Marble Bar** 58.35 257 P P **10 10 12.1 -0.5**
MBWA **Marble Bar** 58.35 257 P P **10 10 11.9 -0.7**
MEEK **Meekatharra** 58.44 251 P P **10 10 12.4 -0.8**
baz=59,SNR=11
MEEK **Meekatharra** 58.44 251 P P **10 10 12.1 -1.0**
KLBR **Kellerberrin** 58.60 245 P P **10 10 14.3 +0.3**
baz=59,SNR=5.8
KLBR **Kellerberrin** 58.60 245 P P **10 10 14.1 0.0**
MMRI **Maumere** 59.17 272 P P **10 10 17.6 -0.6**
MMRI **Maumere** 59.17 272 P P **10 10 18.2 0.0**
comp=Z,2µmcomp=Z,2µmcomp=Z,195nm,0.9s
BLDU **Ballidu** 59.59 246 P P **10 10 20.6 -0.1**
baz=60,SNR=12
BLDU **Ballidu** 59.59 246 P P **10 10 20.2 -0.5**
EDFI **Ende, Flores** 59.65 272 P P **10 10 20.7 -0.8**
comp=Z,1µmcomp=Z,82nm,0.8s
MUN **Mundaring** 59.87 244 P P **10 10 23.0 +0.5**
baz=60,SNR=3.3
MUN **Mundaring** 59.87 244 P P **10 10 22.9 +0.3**
MORW **Morawa** 60.36 247 P P **10 10 25.9 0.0**
baz=60,SNR=4.9
MORW **Morawa** 60.36 247 P P **10 10 25.5 -0.4**
SGSI **Sangihe** 60.68 286 P P **10 10 28.6 +0.4**
comp=Z,95nm,0.7s

JCJ **Chichijima** 61.06 319 P P **10 10 30.4 +0.1**
LUWI **Luwuk** 61.30 280 P P **10 10 32.5 +0.2**
LUWI **Luwuk** 61.30 280 P P **10 10 33.5 +1.3**
comp=Z,3µmcomp=Z,159nm,0.9s
BSSI **Bau Bau, Buton** 61.61 274 P P **10 10 36.8 +2.5**
comp=Z,34nm,0.9s
GTOI **Gorontalo** 61.72 282 P P **10 10 36.5 +1.5**
comp=Z,38nm,0.7s
BKSI **Bulukumba** 62.23 275 P P **10 10 38.4 +0.1**
comp=Z,27nm,0.7s
APSI **Ampana** 62.38 280 P P **10 10 40.1 +0.8**
comp=Z,747nmcomp=Z,87nm,1.1s
BNSI **Bone** 62.56 276 P P **10 10 41.0 +0.5**
comp=Z,44nm,1.2s
MRSI **Marisa** 62.64 281 P P **10 10 41.0 0.0**
comp=Z,35nm,0.6s
KAPI **Kappang** 62.69 275 P P **10 10 41.2 0.0**
KAPI IAmb IAmb 10 10 44.0
comp=Z,16nm,0.7s
CCD **Concordia, Ant** 62.92 194 ⇑P P **10 10 42.9 +0.7**
SPSI **Sidrap Palu** 63.03 276 P P **10 10 42.6 -0.9**
comp=Z,37nm,0.8s
GIRL **Giralia** 63.06 254 P P **10 10 44.6 +1.0**
baz=63,SNR=4.2
GIRL **Giralia** 63.06 254 P P **10 10 44.3 +0.7**
PLAI **Plampang** 63.30 270 P P **10 10 44.8 -0.5**
comp=Z,2µmcomp=Z,221nm,0.9s
PLAI **Plampang** 63.30 270 P P **10 10 44.8 -0.5**
TOLI2 **Tolitoli** 63.96 282 P P **10 10 48.9 -0.5**
TOLI2 **Tolitoli** 63.96 282 P P **10 10 49.7 +0.3**
TWSI **Taliwang, Sumb** 64.17 270 P P **10 10 50.9 +0.1**
comp=Z,1µmcomp=Z,110nm,0.7s
CASY **Casey** 64.47 205 P P **10 10 51.3 -0.5**
CASY IAmb IAmb 10 10 52.7
comp=Z,21nm,0.8s
CASY **Casey** 64.47 205 ⇑P P **10 10 51.9 +0.1**
CASY pP **pP** **10 12 40.1 +2.4**
MPSI **Mapaga** 64.47 280 P P **10 10 52.6 -0.1**
comp=Z,2µmcomp=Z,146nm,0.5s
IGBI **Denpasar** 65.78 269 P P **10 11 01.9 +1.0**
comp=Z,147nm,1.2s
SRBI **Singaraja** 65.94 270 P P **10 11 01.6 -0.4**
comp=Z,101nm,0.8s
JHJ2 **Mitsune** 66.80 322 P P **10 11 07.4 +0.6**
JHJ2 **Mitsune** 66.80 322 P P **10 11 07.2 +0.4**
JAGI **Jajag, Banyuwa** 66.82 269 P P **10 11 06.4 -1.1**
JAGI **Jajag, Banyuwa** 66.82 269 P P **10 11 06.6 -0.8**
comp=Z,92nm,0.7s
JHJ **Hachijo jima 2** 66.83 322 P P **10 11 07.2 +0.1**
comp=Z,241nm,0.3s,baz=163,slow=5.4,SNR=44
KMMI **Kalianget** 67.44 271 P P **10 11 11.3 +0.1**
comp=Z,85nm,0.9s
JMZ **Minamidaito 2** 67.55 310 P P **10 11 10.6 -1.0**
MYLDM **Lahad Datu** 67.66 285 P P **10 11 14.2 +1.6**
BBKI **Banjar Baru** 67.81 275 P P **10 11 14.4 +0.9**
MTKI **Muara Teweh, K** 68.65 277 P P **10 11 19.5 +0.9**
comp=Z,69nm,0.9s
JYT **Yasato** 68.86 324 P P **10 11 19.8 +0.5**
PWJI **Pagerwojo** 69.17 269 P P **10 11 25.6 +3.9**
NGJI **Ngawi** 69.70 269 P P 10 11 37.8 +13
PCJI **Pacitan** 69.70 269 P P **10 11 25.2 +0.3**
comp=Z,406nm,0.6s
JMM **Marumori** 69.74 326 P P **10 11 24.6 0.0**
QSPA **South Pole Qui** 69.92 180 P P **10 11 26.3 +0.8**
QSPA IAmb IAmb 10 11 27.4
comp=Z,42nm,0.8s
QSPA **South Pole Qui** 69.92 180 P P **10 11 26.5 +1.0**
QSPA pP **pwP** **10 13 17.6 +1.3**
JGF **Kuroka** 70.00 322 P P **10 11 26.3 0.0**
JGF IAmb IAmb 10 11 27.1
comp=Z,13nm,0.7s
INU **Inuyama** 70.02 322 P P **10 11 25.4 -1.0**
INU IAmb IAmb 10 11 27.4
comp=Z,22nm,0.9s
INU **Inuyama** 70.02 322 P P **10 11 26.2 -0.1**
KKM **Kota Kinabalu** 70.09 284 P P **10 11 27.4 +0.1**
KKM **Kota Kinabalu** 70.09 284 P P **10 11 27.7 +0.4**
MJAR **Matsushiro Arr** 70.18 323 P P **10 11 27.1 -0.3**
comp=Z,37nm,0.6s,baz=157,slow=6.1,SNR=108
comp=Z,37nm,0.6s
MAJO **Matsushiro** 70.19 323 P P **10 11 27.2 -0.2**
MAJO **Matsushiro** 70.19 323 P P **10 11 27.2 -0.2**
MAJO **Matsushiro** 70.19 323 P P **10 11 27.1 -0.2**
MJB9 **Matsu-Tunnel** 70.19 323 P P **10 11 27.0 -0.3**
JOW **Kunigami** 70.27 310 P P **10 11 28.9 +0.8**
comp=Z,24nm,0.5s,baz=229,slow=12,SNR=4.4
comp=Z,24nm,0.5s
JOW **Kunigami** 70.27 310 P P **10 11 29.0 +1.0**
UGM **Wanagama** 70.41 269 P P **10 11 28.7 -0.5**
UGM **Wanagama** 70.41 269 P P **10 11 29.2 0.0**
SMRI **Semarang** 70.76 269 P P **10 11 31.6 +0.4**
SMRI **Semarang** 70.76 269 P P **10 11 32.4 +1.2**
comp=Z,130nm,0.8s
JMN **Monobe** 70.80 319 P P **10 11 31.8 +0.8**
JMN IAmb IAmb 10 11 32.9
comp=Z,45nm,0.9s
PBKI **Pangkalan Bun** 71.05 274 P P **10 11 34.3 +1.4**
comp=Z,251nm,0.9s
JSD **Sado** 71.23 324 P P **10 11 33.8 +0.4**
JSD IAmb IAmb 10 11 34.8
comp=Z,45nm,0.8s
AMKA **Amchitka** 71.27 358 P P **10 11 32.9 -0.4**
JSU **Suzuyama** 71.58 315 P P **10 11 35.9 +0.3**
KIWB **Kanaga Island** 71.69 0 P P **10 11 35.7 -0.1**
ADK **Adak** 71.72 1 P P **10 11 35.9 -0.1**
ADK **Adak** 71.72 1 P P **10 11 35.5 -0.5**
ADK **Adak** 71.72 1 P P **10 11 35.4 -0.5**
ERM **Erimo** 71.73 330 P P **10 11 38.2 +2.0**
ERM **Erimo** 71.73 330 P P **10 11 37.1 +0.9**
JTM **Tenmabayashi** 71.80 328 P P **10 11 37.5 +0.8**
GSTR **Great Sitkin T** 71.94 1 P P **10 11 37.3 0.0**
JHS **Saijyo** 72.12 319 P P **10 11 39.5 +0.8**
STKI **Sintang** 72.20 277 P P **10 11 40.8 +1.2**
comp=Z,46nm,0.8s
SBUM **Sibu** 72.37 279 P P **10 11 41.1 +0.5**
SBUM IAmb IAmb 10 11 41.9
comp=Z,15nm,0.8s
SHEM **Shemya Is, Ala** 72.93 355 P P **10 11 42.1 -0.7**
comp=Z,77nm,0.9s,baz=283,slow=20,SNR=2.3
comp=Z,77nm,0.9s
JEW **Eniwo** 73.17 330 P P **10 11 44.8 +0.2**
NIKH **Nikolski High** 73.20 5 P P **10 11 44.4 -0.1**
NIKH **Nikolski High** 73.20 5 P P **10 11 43.8 -0.7**
baz=188
TWG **Pinlang** 73.56 302 P P **10 11 45.9 -1.3**
YULB **Yu-li** 73.67 303 P P **10 11 46.7 -1.1**
SSLB **Suanglung** 74.14 303 P P **10 11 49.7 -0.9**
SSLB **Suanglung** 74.14 303 P P **10 11 49.9 -0.7**
TPUB **Ta-pu** 74.15 303 P P **10 11 49.3 -1.3**
UNV **Unalaska Valle** 74.30 7 P P **10 11 49.9 -0.7**
baz=191
UNV **Unalaska Valle** 74.30 7 P P **10 11 49.9 -0.7**
YSS **Yuzh-Sakhalins** 75.77 333 P P **10 12 00.1 +1.0**
PEA0B **Petropavlovsk-** 76.04 345 P P **10 12 00.9 +0.5**
PEA0B IAmb IAmb 10 12 01.1
comp=Z,46nm,0.9s
PETK **Petropavlovsk-** 76.04 345 P P **10 12 00.6 +0.1**
comp=Z,31nm,0.8s,baz=121,slow=7.6,SNR=24
comp=Z,31nm,0.8s
PETK **Petropavlovsk-** 76.04 345 P P **10 12 00.4 -0.1**
PPBI **Pangkal Pinang** 76.42 273 P P **10 12 04.6 +1.1**
comp=Z,42nm,1.0s
SDPT **Sand Point** 76.58 10 P P **10 12 02.8 -0.6**
baz=196
TJN **Taejon** 76.60 317 P P **10 12 04.3 +0.3**
KASI **Kota Agung** 76.84 269 P P **10 12 05.5 -0.3**
comp=Z,159nm,1.0s
KSRS **Korea Array** 76.91 318 P P **10 12 06.5 +0.9**
comp=Z,9.6nm,0.8s,baz=139,slow=6.5,SNR=35
comp=Z,9.6nm,0.8s
KSAR **Wonju Array Be** 76.93 318 P P **10 12 06.4 +0.7**
KS19 **Wonju Array Si** 76.97 318 P P **10 12 06.5 +0.5**
SCZ2 **Santa Cruz Isl** 77.04 46 P P **10 12 08.1 +1.6**
baz=235
SCI2 **San Clemente I** 77.21 48 P P **10 12 08.9 +1.6**
baz=236
SBC **Santa Barbara** 77.25 46 P P **10 12 09.4 +1.9**
baz=234
SPIA **Saint Paul Isl** 77.27 4 P P **10 12 07.3 +0.3**
baz=187
PKM **Mcpherson Peak** 77.44 45 P P **10 12 10.8 +2.0**
baz=234
SAO **San Andreas Ge** 77.47 43 P P **10 12 10.6 +1.9**
SAO IAmb IAmb 10 12 11.2
comp=Z,19nm,0.8s

CIS	Catalina Islan	77.54	47	P	P	10 12 09.4	+0.3
	baz=236						
SMMC	Simmler	77.56	45	P	P	10 12 11.0	+1.7
	baz=234						
BBGB	Big Mountain B	77.62	43	P	P	10 12 11.7	+2.0
BBGB				IAmb	IAmb	10 12 12.8	
	comp=Z,27nm,1.1s						
S14K	Fog Glacier	77.63	10	P	P	10 12 09.3	+0.1
	baz=197						
BCW	Bitter Crk WRg	77.73	46	P	P	10 12 12.0	+1.7
BCW				IAmb	IAmb	10 12 13.1	
	comp=Z,26nm,0.8s						
INCN	Inchon	77.74	318	P	P	10 12 10.2	0.0
INCN				IAmb	IAmb	10 12 12.0	
	comp=Z,31nm,0.9s						
CHGN	Chignik	77.84	11	P	P	10 12 10.5	+0.3
CHGN				IAmb	IAmb	10 12 10.7	
	comp=Z,42nm,0.7s						
CHGN	Chignik	77.84	11	P	P	10 12 09.8	-0.4
	baz=198						
GDXM	Geysers	77.87	41	P	P	10 12 12.9	+2.0
CHIR	Chirikof Islan	77.92	12	P	P	10 12 10.5	-0.1
	baz=201						
CCX	Cicese	77.92	49	P	P	10 12 12.7	+1.5
DECC	Green Verdugo	78.08	47	P	P	10 12 13.0	+1.0
	baz=235						
PASC	Pasadena Art C	78.13	47	P	P	10 12 13.4	+1.1
CBX	Cerro Bola	78.16	49	P	P	10 12 14.5	+1.8
109C	Camp Elliot, M	78.17	48	P	P	10 12 13.5	+1.0
109C	Camp Elliot, M	78.17	48	P	P	10 12 13.6	+1.0
	baz=236						
KMRM	Mail Ridge	78.21	39	P	P	10 12 15.1	+2.4
KMRM				IAmb	IAmb	10 12 15.7	
	comp=Z,56nm,0.8s						
ARVC	Arvin	78.23	46	P	P	10 12 14.4	+1.5
	baz=235,SNR=8.1						
BAR	Barrett	78.36	49	P	P	10 12 14.6	+1.0
ELS	Elsinore Mount	78.36	48	P	P	10 12 14.6	+0.9
DSRI	Dabo	78.46	274	P	P	10 12 16.0	+1.4
	comp=Z,3µmcomp=Z,18nm,1.1s						
VES	Vestal, Richgr	78.47	45	P	P	10 12 15.2	+1.1
	baz=235,SNR=7.5						
MURC	Murrieta	78.50	48	P	P	10 12 15.7	+1.4
	baz=236,SNR=6.3						
ESJX	Sierra Juarez	78.51	50	P	P	10 12 16.0	+1.4
BFSC	Mount Baldy Ra	78.53	47	P	P	10 12 15.9	+1.2
	baz=236,SNR=9.1						
MONP2	Monument Peak	78.65	49	P	P	10 12 17.1	+1.7
	baz=237,SNR=26						
EDW2	Edwards Air Fo	78.66	46	P	P	10 12 16.8	+1.6
	baz=236,SNR=34						
MNAI	Manna	78.67	269	P	P	10 12 16.2	+0.5
RMX	La Rumorosa	78.74	49	P	P	10 12 17.5	+1.7
RMX				IAmb	IAmb	10 12 18.5	
	comp=Z,19nm,0.9s						
IKP	In-Ko-Pah, Jac	78.74	49	P	P	10 12 17.6	+1.8
	baz=237,SNR=14						
ISA	Isabella, Lake	78.78	45	P	P	10 12 17.4	+1.5
ISA	Isabella, Lake	78.78	45	P	P	10 12 17.4	+1.5
	baz=235,SNR=14						
CCAC	Calif City Air	78.80	46	P	P	10 12 17.4	+1.5
YUH	Yuha Desert	78.87	49	P	P	10 12 17.8	+1.5
SII	Sitkinak Islan	78.90	13	P	P	10 12 16.4	+0.5
SII	Sitkinak Islan	78.90	13	P	P	10 12 16.3	+0.3
	baz=202						
SII	Sitkinak Islan	78.90	13	P	P	10 12 16.2	+0.3
HKPS	Hong Kong Po S	78.90	299	P	P	10 12 17.7	+1.0
HKPS				IAmb	IAmb	10 12 18.9	
	comp=Z,64nm,0.9s						
CMB	Columbia Colle	78.91	43	P	P	10 12 17.6	+1.2
USA0B	Ussuriysk Arra	78.92	326	P	P	10 12 16.8	+0.5
USA0B				IAmb	IAmb	10 12 18.5	
	comp=Z,46nm,0.9s						
USRK	Ussuriysk Ar.	78.92	326	P	P	10 12 17.7	+1.5
	comp=Z,37nm,0.8s,baz=134,slow=3.4,SNR=126						
	comp=Z,37nm,0.8s						
USRK	Ussuriysk Ar.	78.92	326	P	P	10 12 17.3	+1.1
PFO	Pinyon Flats O	79.02	48	P	P	10 12 18.7	+1.5
PFO	Pinyon Flats O	79.02	48	P	P	10 12 18.6	+1.3
	baz=237,SNR=8.1						
TPFO	Pinon Flats	79.02	48	P	P	10 12 18.7	+1.5
	baz=237,SNR=8.5						
BBRC	Big Bear Solar	79.05	47	P	P	10 12 18.9	+1.3
	baz=236						
AFDM	Forest Hills D	79.09	42	P	P	10 12 18.2	+0.8
PMD	Palm Desert	79.09	48	P	P	10 12 18.3	+0.8
PMD				IAmb	IAmb	10 12 19.9	
	comp=Z,12nm,1.3s						
SWSC	Sam W. Stewart	79.12	49	P	P	10 12 19.3	+1.7
	baz=237,SNR=6.2						
ORV	Oroville	79.13	41	P	P	10 12 18.7	+1.2
LRMC	Laurel Mtn Rad	79.21	46	P	P	10 12 19.6	+1.4
	baz=236,SNR=7.5						
R17K	Ugashik Creek	79.48	11	P	P	10 12 19.0	+0.1
	baz=200						
CWC	Cottonwood Cre	79.48	45	P	P	10 12 21.2	+1.5
	baz=235						
L02F	Cave Junction	79.49	38	P	P	10 12 21.3	+1.9
	baz=230						
MDPB	Devils Postpil	79.51	43	P	P	10 12 20.9	+1.0
BELC	Belle Mtn. Jos	79.55	48	P	P	10 12 21.5	+1.5
	baz=237,SNR=20						
OMMB	Old Mammoth Mi	79.55	44	P	P	10 12 20.7	+0.5
EMB	Emerald Bay	79.64	42	P	P	10 12 21.9	+1.3
MPMC	Manual Prospec	79.66	46	P	P	10 12 22.1	+1.4
	baz=236,SNR=15						
MLAC	Mammoth, Mammo	79.67	44	P	P	10 12 22.4	+1.7
	baz=234						
GSC	Goldstone, Bar	79.70	46	P	P	10 12 21.4	+0.6
GSC	Goldstone, Bar	79.70	46	P	P	10 12 22.2	+1.4
	baz=236,SNR=7.6						
OHAK	Old Harbor	79.71	13	P	P	10 12 20.5	+0.4
	baz=203						
TIN	Tinemaha, Big	79.73	44	P	P	10 12 22.9	+2.0
	baz=235						
BC3	Big Chuckawall	79.74	49	P	P	10 12 22.9	+1.8
	baz=237,SNR=7.5						
YBH	Yreka Blue Hor	79.74	38	P	P	10 12 21.6	+0.8
YBH				IAmb	IAmb	10 12 23.5	
	comp=Z,20nm,0.8s						
HEC	Hector,Ludlow	79.77	47	P	P	10 12 22.4	+1.3
	baz=237,SNR=21						
WAKR	Walker	79.79	43	P	P	10 12 23.0	+1.7
WAKR				IAmb	IAmb	10 12 24.0	
	comp=Z,23nm,1.0s						
K02D	Willamette Mer	79.80	37	P	P	10 12 22.7	+1.6
	baz=230						
BELA	Belgrano 2	79.85	173	P	P	10 12 20.7	-0.1
GLA	Glamis	79.87	49	P	P	10 12 23.4	+1.8
	baz=238,SNR=5.3						
MPK	Martis Peak	79.88	42	P	P	10 12 23.4	+1.5
MPK				IAmb	IAmb	10 12 24.2	
	comp=Z,61nm,1.3s						
MYKOM	Kota Tinggi	79.93	276	P	P	10 12 23.1	+0.7
MYKOM				IAmb	IAmb	10 12 23.9	
	comp=Z,100nm,1.4s						
J01E	Myrtle Point	79.95	37	P	P	10 12 23.2	+1.5
	baz=230						
NJ2	Nanjing	79.99	309	eP	P	10 12 23.3	+1.1
NJ2				pmax	pmax		
	comp=Z,44nm,0.5s						
BEKR	Beckworth	80.02	41	P	P	10 12 22.9	+0.5
BEKR				IAmb	IAmb	10 12 24.7	
	comp=Z,30nm,1.3s						
QSM	Queen of Sheba	80.03	46	P	P	10 12 22.7	+0.3
PNTR	Pine Nut	80.03	42	P	P	10 12 23.9	+1.4
PNTR				IAmb	IAmb	10 12 25.1	
	comp=Z,34nm,0.8s						
DSP	Deep Springs	80.08	44	P	P	10 12 24.3	+1.8
YERR	Yerington	80.19	42	P	P	10 12 24.8	+1.4
YERR				IAmb	IAmb	10 12 25.6	
	comp=Z,43nm,1.3s						
GMRC	Granite Mounta	80.21	47	P	P	10 12 24.7	+1.2
	baz=237,SNR=9.1						
LCH	Last Change Ra	80.22	44	P	P	10 12 24.6	+1.1
IRM	Iron Mountain	80.23	48	P	P	10 12 25.3	+1.8
	baz=238,SNR=13						
LHV	Little Huntoon	80.24	43	P	P	10 12 25.2	+1.8
LHV				IAmb	IAmb	10 12 26.2	
	comp=Z,31nm,1.2s						
GRAC	Grapevine Rang	80.27	45	IAmb	IAmb	10 12 26.3	
	comp=Z,32nm,1.3s						
GRAC	Grapevine Rang	80.27	45	P	P	10 12 25.4	+1.8
	baz=236						
L04D	Klamath Falls	80.28	38	P	P	10 12 24.4	+0.7
L04D				IAmb	IAmb	10 12 26.1	
	comp=Z,28nm,0.8s						
L04D	Klamath Falls	80.28	38	P	P	10 12 25.1	+1.4
	baz=231,SNR=10						
GWY	Greenwater Val	80.28	46	P	P	10 12 24.8	+0.9
FURC	Furnace Creek,	80.31	45	P	P	10 12 25.1	+1.3
	baz=236,SNR=7.7						
KDAK	Kodiak Island	80.37	13	P	P	10 12 23.9	+0.4
	comp=Z,24nm,0.8s,baz=230,slow=4.4,SNR=18						
	comp=Z,24nm,0.8s						
KDAK	Kodiak Island	80.37	13	P	P	10 12 24.4	+0.9
KDAK				IAmb	IAmb	10 12 25.8	
	comp=Z,27nm,0.8s						
KDAK	Kodiak Island	80.37	13	P	P	10 12 24.0	+0.4
	baz=204						
TUQ	Turquoise Moun	80.38	47	P	P	10 12 25.6	+1.2
	baz=237,SNR=14						
SHOC	Shoshone, Teco	80.39	46	P	P	10 12 25.3	+1.0
	baz=236,SNR=8.1						
Q16K	King Salmon	80.41	11	P	P	10 12 24.1	+0.4
	baz=200,SNR=14						
RYN	Ryan	80.44	43	P	P	10 12 26.3	+1.7
NVAR	Mina Array Bea	80.47	43	P	P	10 12 26.2	+1.3
	comp=Z,12nm,0.9s,baz=225,slow=8.7,SNR=91						
	comp=Z,12nm,0.9s						
NVAR	Mina Array Bea	80.47	43	P	P	10 12 26.7	+1.8
113A	Mohawk Valley,	80.48	50	P	P	10 12 26.9	+2.1
MDJ	Mudanjiang	80.48	325	IAmb	IAmb	10 12 26.7	
	comp=Z,49nm,0.8s						
MDJ	Mudanjiang	80.48	325	P	P	10 12 25.5	+1.0
MDJ				S	S	10 21 50.8	+3.0
MDJ				pmax	pmax		
	comp=Z,72nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,170nm,4.9s						
P16K	Nushagak River	80.51	10	P	P	10 12 24.2	0.0
	baz=198						
PAHR	Pah Rah Range	80.53	42	P	P	10 12 26.5	+1.5
NV11	Mina Array Sit	80.57	43	P	P	10 12 26.6	+1.3
NV11				IAmb	IAmb	10 12 27.7	
	comp=Z,19nm,1.0s						
I02E	Swisshome, OR	80.60	36	P	P	10 12 26.7	+1.6
	baz=230						
I03D	Drain, OR	80.61	37	P	P	10 12 26.7	+1.6
	baz=230						
WCT	Wildcat Mounta	80.65	45	P	P	10 12 27.1	+1.4
MZP	Montezuma Peak	80.65	44	P	P	10 12 27.3	+1.4
214A	Organ Pipe Nat	80.75	51	P	P	10 12 28.2	+1.9
214A	Organ Pipe Nat	80.75	51	P	P	10 12 28.0	+1.7
	baz=239,SNR=5.3						
K04D	Chiloquin, OR	80.85	38	P	P	10 12 28.1	+1.5
	baz=232						
P17K	Kvichak River	80.93	11	P	P	10 12 26.3	-0.1
	baz=200						
KVN	Kaiserville	80.96	43	P	P	10 12 28.5	+1.1
KVN				IAmb	IAmb	10 12 29.5	
	comp=Z,19nm,0.9s						
TPNV	Topopah Spring	80.98	45	P	P	10 12 28.9	+1.4
TPNV	Topopah Spring	80.98	45	P	P	10 12 28.7	+1.2
	baz=236,SNR=16						
PDMCI	Parker Dam,Lak	81.01	49	P	P	10 12 29.4	+1.9
	baz=238,SNR=13						
J04D	Umpqua Nationa	81.03	38	P	P	10 12 29.2	+1.5
J04D	Umpqua Nationa	81.03	38	P	P	10 12 29.4	+1.7
	baz=231,SNR=23						
O16K	Kokwok River B	81.03	10	P	P	10 12 26.5	-0.5
	baz=198,SNR=9.4						
PLTX	Planet X, Gerl	81.06	41	IAmb	IAmb	10 13 08.3	
	comp=Z,52nm,0.3s						
Q20K	Shuyak Island	81.17	13	P	P	10 12 27.8	+0.1
	baz=204						
I04A	Tendick Farm,	81.20	37	P	P	10 12 29.5	+1.2
	baz=231,SNR=7.8						
Q19K	Cape Douglas,	81.21	12	P	P	10 12 28.1	+0.1
Q19K				IAmb	IAmb	10 12 28.7	
	comp=Z,47nm,1.1s						
Q19K	Cape Douglas,	81.21	12	P	P	10 12 27.7	-0.3
	baz=203						
MOD	Modoc Plateau	81.27	39	P	P	10 12 30.3	+1.5
MOD				IAmb	IAmb	10 12 31.2	
	comp=Z,31nm,1.1s						
V12A	Nelson	81.27	47	P	P	10 12 29.9	+1.0
P18K	Big Mountain,	81.34	11	P	P	10 12 28.3	-0.3
P18K				IAmb	IAmb	10 12 29.1	
	comp=Z,27nm,0.6s						
P18K	Big Mountain,	81.34	11	P	P	10 12 28.3	-0.3
	baz=201,SNR=7.6						
O17K	Koliganek Bris	81.36	10	P	P	10 12 28.4	-0.3
	baz=199,SNR=6.6						
WTNK	Soaring Height	81.41	47	P	P	10 12 30.5	+0.9
WTNK				IAmb	IAmb	10 12 32.1	
	comp=Z,4.9nm,1.3s						
K05A	Summer Lake	81.42	38	P	P	10 12 31.2	+1.6
K05A				IAmb	IAmb	10 12 32.4	
	comp=Z,57nm,1.0s						
Q09A	Carvers	81.42	43	P	P	10 12 31.3	+1.5
Q09A				IAmb	IAmb	10 12 32.0	
	comp=Z,34nm,0.8s						
PMSA	Palmer Station	81.44	157	P	P	10 12 29.9	+0.8
	comp=Z,6.7nm,0.8s,baz=298,slow=11,SNR=2.2						
	comp=Z,6.7nm,0.8s						
SHPR	Sheep Range	81.48	46	P	P	10 12 31.7	+1.6
H04D	Lebanon	81.48	36	P	P	10 12 30.6	+1.0
H04D				IAmb	IAmb	10 12 32.3	
	comp=Z,24nm,0.9s						
H04D	Lebanon	81.48	36	P	P	10 12 31.3	+1.6
	baz=231,SNR=6.3						
J05D	Fort Rock, OR	81.56	38	P	P	10 12 32.1	+1.8
	baz=232,SNR=48						
W13A	Hualapai Mount	81.61	48	P	P	10 12 32.5	+1.6
G03D	McMinnville, O	81.62	35	P	P	10 12 31.9	+1.6
	baz=230						
Y14A	Wickenburg	81.63	49	P	P	10 12 32.4	+1.7
S11A	Rachel	81.70	45	P	P	10 12 32.7	+1.5
S11A				IAmb	IAmb	10 12 33.4	
	comp=Z,20nm,0.8s						
N16K	Nishlik Lake	81.77	9	P	P	10 12 31.7	+0.9
	baz=198,SNR=10.0						
O18K	Koktuh Hills	81.77	11	P	P	10 12 30.7	-0.1
	baz=201						
H04A	Detroit Lake	81.89	36	P	P	10 12 32.8	+1.0
H04A				IAmb	IAmb	10 12 33.7	
	comp=Z,24nm,1.0s						
P19K	Oil Pt	81.96	12	P	P	10 12 31.7	-0.1
	baz=203,SNR=7.8						
PRN	Pahroc Range	82.04	45	IAmb	IAmb	10 12 35.6	
	comp=Z,23nm,0.9s						
PINE	Pine Mountain	82.04	38	IAmb	IAmb	10 12 35.6	
	comp=Z,48nm,0.9s						
MAW	Mawson	82.04	200	P	P	10 12 32.9	+0.7
	comp=Z,3.9nm,0.6s,baz=142,slow=6.8,SNR=13						
	comp=Z,3.9nm,0.6s						
I05D	Terrebonne, OR	82.15	37	P	P	10 12 34.6	+1.5
	baz=232,SNR=18						
R11A	Troy Canyon, C	82.19	44	P	P	10 12 33.7	0.0
R11A	Troy Canyon, C	82.19	44	P	P	10 12 34.6	+0.9
	baz=237,SNR=14						
O19K	Port Alsworth	82.25	11	P	P	10 12 33.0	-0.2
	baz=202,SNR=18						
CNPM	China Poot	82.26	13	P	P	10 12 33.4	+0.1
CNPM				IAmb	IAmb	10 12 34.4	
	comp=Z,32nm,0.8s						
HOM	Homer	82.29	13	P	P	10 12 33.8	+0.4
	baz=204						
BMN	Battle Mountai	82.30	42	IAmb	IAmb	10 12 36.4	
	comp=Z,24nm,0.9s						
F04D	Rainier, OR	82.32	35	P	P	10 12 35.6	+1.7
	baz=230						
E03A	Lebam	82.32	34	IAmb	IAmb	10 12 36.3	
	comp=Z,34nm,0.8s						
N18K	Kilae Creek	82.43	11	P	P	10 12 33.3	-0.8
N18K	Kilae Creek	82.43	11	P	P	10 12 33.8	-0.3
	baz=200,SNR=6.5						
KLR	Kul'dur	82.44	329	P	P	10 12 34.0	-0.4
	comp=Z,11nm,0.9s,baz=64,slow=3.2,SNR=21						
	comp=Z,11nm,0.9s						
O20K	Slope Mountain	82.48	12	P	P	10 12 34.2	-0.2
	baz=204,SNR=5.5						
BRLK	Bradley Lake	82.55	13	P	P	10 12 35.0	+0.2
BRLK				IAmb	IAmb	10 12 35.7	
	comp=Z,38nm,0.8s						
BRSE	Bradley Lake S	82.56	13	P	P	10 12 35.0	+0.2
	baz=205,SNR=17						
HOOD	Mount Hood Mea	82.58	36	P	P	10 12 36.3	+0.9
HOOD				IAmb	IAmb	10 12 38.1	
	comp=Z,20nm,0.9s						
WVOR	Wild Horse Val	82.58	40	P	P	10 12 36.1	+0.6
WVOR				IAmb	IAmb	10 12 37.9	
	comp=Z,28nm,1.1s						
NLWA	Neilton Lookou	82.70	33	P	P	10 12 37.5	+1.7
NLWA				IAmb	IAmb	10 12 38.4	
	comp=Z,36nm,1.1s						
G05D	Wamic, OR	82.72	36	P	P	10 12 37.0	+1.1
	baz=232,SNR=5.0						
N19K	Bonanza Creek	82.80	11	IAmb	IAmb	10 12 36.5	
	comp=Z,24nm,0.7s						
N19K	Bonanza Creek	82.80	11	P	P	10 12 35.4	-0.7
	baz=202,SNR=14						
I07A	Izee	83.04	38	P	P	10 12 39.1	+1.3
I07A				IAmb	IAmb	10 12 40.2	
	comp=Z,24nm,0.9s						
LCMT	Little Creek M	83.05	47	P	P	10 12 39.5	+1.5
LCMT				IAmb	IAmb	10 12 40.5	
	comp=Z,15nm,0.9s						
319A	Douglas	83.09	53	IAmb	IAmb	10 12 41.5	
	comp=Z,27nm,0.9s						
SEW	Seward	83.17	14	IAmb	IAmb	10 12 38.5	
	comp=Z,23nm,0.8s						
SEW	Seward	83.17	14	P	P	10 12 37.6	-0.2
	baz=206,SNR=8.0						
J08A	Circle Bar Ran	83.22	39	P	P	10 12 40.1	+1.4
J08A				IAmb	IAmb	10 12 41.1	
	comp=Z,29nm,1.2s						
CCUT	Cedar City	83.25	46	P	P	10 12 40.1	+1.0
KNB	Kanab	83.34	47	IAmb	IAmb	10 12 42.3	
	comp=Z,15nm,1.0s						
TIA	Tai'an	83.36	312	eP	P	10 12 39.5	+0.1
TIA				pmax	pmax		
	comp=Z,21nm,1.4s						
SPR3	Spring Creek 3	83.37	44	IAmb	IAmb	10 12 41.5	
	comp=Z,9.3nm,1.1s						
U15A	North Rim	83.40	48	P	P	10 12 41.1	+1.2
U15A				IAmb	IAmb	10 12 42.7	
	comp=Z,26nm,0.8s						
UBPT	Khong Chiam	83.43	289	P	P	10 12 41.0	+0.8
UBPT				IAmb	IAmb	10 12 41.9	
	comp=Z,24nm,1.0s						
PSUT	Pine Spring	83.44	45	P	P	10 12 41.0	+1.1
O22K	Cooper Landing	83.45	13	P	P	10 12 39.1	-0.1
	baz=206,SNR=9.6						
IPM	Ipoh	83.52	277	P	P	10 12 41.4	+0.7
P23K	Montague Islan	83.55	15	P	P	10 12 39.7	0.0
	baz=208						
MA2	Magadan	83.56	344	P	P	10 12 39.0	-0.7
	comp=Z,17nm,0.6s,baz=115,slow=4.5,SNR=7.8						
	comp=Z,17nm,0.6s						
MA2	Magadan	83.56	344	P	P	10 12 39.2	-0.6
D05A	Enumclaw	83.56	34	P	P	10 12 42.0	+1.9
D05A				IAmb	IAmb	10 12 42.9	
	comp=Z,44nm,1.2s						
WUAZ	Wupatki	83.58	49	P	P	10 12 41.7	+0.9
WUAZ				IAmb	IAmb	10 12 43.4	
	comp=Z,18nm,1.2s						
WUAZ	Wupatki	83.58	49	P	P	10 12 42.4	+1.7
	baz=240,SNR=9.6						
N20K	Mount Spurr	83.59	12	P	P	10 12 39.2	-0.8
	baz=204,SNR=6.4						
SPCR	Spurr Chakacha	83.59	12	P	P	10 12 39.3	-0.7
	baz=204						
SPU	Mount Spurr	83.60	12	P	P	10 12 39.4	-0.7
ELK	Elko	83.73	43	P	P	10 12 42.3	+0.9
PGC	Sidney	83.73	33	P	P	10 12 42.4	+1.6
PGC				IAmb	IAmb	10 12 43.0	
	comp=Z,22nm,0.8s						
M19K	Big River Lodg	83.83	11	P	P	10 12 41.5	+0.3
M19K				IAmb	IAmb	10 12 41.8	
	comp=Z,18nm,0.8s						
M19K	Big River Lodg	83.83	11	P	P	10 12 40.9	-0.2
	baz=202						
HPIG		83.87	59	P	P	10 12 43.4	+1.0
F07A	Phinny Hill Vi	83.89	36	IAmb	IAmb	10 12 44.0	
	comp=Z,21nm,1.0s						
PKCU	Pink Cliffs	83.91	47	P	P	10 12 44.1	+1.6
PKCU				IAmb	IAmb	10 12 45.8	
	comp=Z,31nm,1.1s						
RC01	Rabbit Creek A	83.99	13	P	P	10 12 41.9	-0.1
RC01	Rabbit Creek A	83.99	13	P	P	10 12 41.8	-0.1
	baz=206,SNR=11						
L19K	White Mountain	84.01	10	P	P	10 12 42.6	+0.6
L19K				IAmb	IAmb	10 12 44.1	
	comp=Z,21nm,0.9s						
L19K	White Mountain	84.01	10	P	P	10 12 42.3	+0.2
	baz=201,SNR=14						
M20K	Styx River	84.04	11	P	P	10 12 41.6	-0.6
M20K	Styx River	84.04	11	P	P	10 12 41.6	-0.6
	baz=203						
G08A	Pilot Rock	84.07	37	P	P	10 12 44.0	+1.2
G08A				IAmb	IAmb	10 12 45.1	
	comp=Z,20nm,0.8s						
PWL	Port Wells	84.09	14	P	P	10 12 42.5	0.0
PWL	Port Wells	84.09	14	P	P	10 12 42.2	-0.2
	baz=207,SNR=23						
X18A	Snowflake	84.11	50	P	P	10 12 44.2	+0.8
SUA	Susitna One	84.12	13	P	P	10 12 42.4	-0.3
	baz=205,SNR=35						
KULM	Kulim	84.15	278	P	P	10 12 44.4	+0.6
KULM				IAmb	IAmb	10 12 45.0	
	comp=Z,21nm,0.6s						
KAIM	Kayak Island	84.23	16	P	P	10 12 43.3	+0.2
KAIM				IAmb	IAmb	10 12 44.8	
	comp=Z,37nm,0.8s						
KAIM	Kayak Island	84.23	16	P	P	10 12 44.0	+0.9
	baz=211						
GLI	Glacier Island	84.40	14	P	P	10 12 43.9	0.0
GLI	Glacier Island	84.40	14	P	P	10 12 43.8	-0.2
	baz=208,SNR=25						
HAWA	Hanford	84.41	36	IAmb	IAmb	10 12 46.7	
	comp=Z,28nm,1.2s						
TCRU	Three Creeks R	84.42	46	IAmb	IAmb	10 13 31.9	
	comp=Z,11nm,0.4s						
FID	Port Fidalgo	84.43	15	P	P	10 12 43.7	-0.4
FID				IAmb	IAmb	10 12 44.7	
	comp=Z,26nm,1.4s						
EYAK	Cordova Ski Ar	84.43	15	P	P	10 12 44.5	+0.4
EYAK				IAmb	IAmb	10 12 45.0	
	comp=Z,17nm,0.7s						
EYAK	Cordova Ski Ar	84.43	15	P	P	10 12 44.2	+0.2
	baz=210,SNR=9.7						
SKT	Skwentna	84.43	12	P	P	10 12 42.9	-1.2
	baz=204,SNR=7.4						
L20K	Farewell, AK	84.46	11	P	P	10 12 44.0	-0.2
	baz=202,SNR=8.4						
M22K	Willow	84.51	13	IAmb	IAmb	10 12 45.6	
	comp=Z,35nm,0.9s						
M22K	Willow	84.51	13	P	P	10 12 44.0	-0.4
	baz=206,SNR=21						
MVU	Marysvale	84.52	46	P	P	10 12 46.3	+0.9
TTA	Tatalina	84.52	10	IAmb	IAmb	10 12 46.0	
	comp=Z,16nm,0.8s						
TTA	Tatalina	84.52	10	P	P	10 12 45.1	+0.5
	baz=200,SNR=14						
MSU	Marysvale	84.55	46	P	P	10 12 47.2	+

	comp=Z,12nm,0.9s								
SML	**Sawmill**	**84.94**	**13**	P	**P**	**10 12 46.4**	**-0.2**
	baz=207,SNR=9.7								
DUG	**Dugway, Tooele**	**85.00**	**44**	P	**P**	**10 12 48.4**	**+0.8**
	baz=238								
M23K	**Glacier View**	**85.06**	**14**	P	**P**	**10 12 46.8**	**-0.3**
	baz=208,SNR=9.2								
CUT	**Chulitna**	**85.07**	**12**	P	**P**	**10 12 47.0**	**-0.2**
CUT	**Chulitna**	**85.07**	**12**	P	**P**	**10 12 46.9**	**-0.2**
	baz=206,SNR=7.5								
BMRM	**Bremner River**	**85.08**	**15**	P	**P**	**10 12 47.6**	**+0.2**
BMRM				IAmb	IAmb	10 12 48.4	
	comp=Z,30nm,0.8s								
BMRM	**Bremner River**	**85.08**	**15**	P	**P**	**10 12 47.5**	**+0.2**
	baz=211,SNR=12								
WAX	**Waxell Ridge**	**85.09**	**16**	P	**P**	**10 12 47.8**	**+0.4**
MESA	**MESA**	**85.10**	**17**	P	**P**	**10 12 48.5**	**+0.9**
MESA	**MESA**	**85.10**	**17**	P	**P**	**10 12 48.2**	**+0.6**
	baz=213,SNR=6.0								
D08A	**Wollman Farm,**	**85.14**	**36**	P	**P**	**10 12 48.8**	**+0.9**
D08A				IAmb	IAmb	10 12 50.2	
	comp=Z,13nm,0.8s								
PPLA	**Purkeypile**	**85.15**	**11**	IAmb	IAmb	10 12 49.9	
	comp=Z,52nm,1.9s								
PPLA	**Purkeypile**	**85.15**	**11**	P	**P**	**10 12 47.2**	**-0.5**
	baz=204								
SCM	**Sheep Creek Mo**	**85.19**	**14**	P	**P**	**10 12 48.3**	**+0.5**
SCM	**Sheep Creek Mo**	**85.19**	**14**	P	**P**	**10 12 47.9**	**+0.1**
	baz=208,SNR=22								
KLU	**Klutina**	**85.21**	**15**	IAmb	IAmb	10 12 49.1	
	comp=Z,16nm,1.1s								
KLU	**Klutina**	**85.21**	**15**	P	**P**	**10 12 48.0**	**+0.1**
	baz=210,SNR=8.7								
S32K	**Killisnoo**	**85.21**	**22**	P	**P**	**10 12 48.6**	**+0.7**
	baz=220								
WRAK	**Wrangell Islan**	**85.22**	**23**	IAmb	IAmb	10 12 50.0	
	comp=Z,22nm,0.8s								
WRAK	**Wrangell Islan**	**85.22**	**23**	P	**P**	**10 12 48.7**	**+0.7**
	baz=222								
K20K	**Telida**	**85.24**	**10**	P	**P**	**10 12 47.8**	**-0.2**
K20K				IAmb	IAmb	10 12 49.1	
	comp=Z,24nm,0.9s								
K20K	**Telida**	**85.24**	**10**	P	**P**	**10 12 47.9**	**-0.1**
	baz=202,SNR=16								
E09A	**Wood Farm, Sta**	**85.25**	**37**	P	**P**	**10 12 48.4**	**-0.1**
E09A				IAmb	IAmb	10 12 51.0	
	comp=Z,17nm,1.0s								
TGL	**Tana Glacier**	**85.35**	**16**	IAmb	IAmb	10 12 50.1	
	comp=Z,29nm,1.2s								
PNL	**Peninsula**	**85.41**	**18**	P	**P**	**10 12 49.4**	**+0.5**
	baz=216,SNR=6.1								
PINM	**Pinnacle**	**85.51**	**18**	P	**P**	**10 12 49.7**	**+0.2**
	baz=215								
TMUT	**Trail Mountain**	**85.60**	**45**	P	**P**	**10 12 50.7**	**+0.1**
TMUT				IAmb	IAmb	10 12 53.8	
	comp=Z,11nm,0.7s								
HNS	**HongShan**	**85.63**	**312**	⇓P	**P**	**10 12 51.3**	**+0.9**
HNS				pmax	pmax		
	comp=Z,27nm,1.1s								
N25K	**Chitina, Valde**	**85.63**	**15**	P	**P**	**10 12 50.4**	**+0.4**
N25K				IAmb	IAmb	10 12 51.3	
	comp=Z,24nm,0.8s								
N25K	**Chitina, Valde**	**85.63**	**15**	P	**P**	**10 12 50.3**	**+0.3**
	baz=211,SNR=19								
CAST	**Castle Rocks**	**85.65**	**11**	P	**P**	**10 12 49.0**	**-1.0**
CAST				IAmb	IAmb	10 12 49.7	
	comp=Z,27nm,0.7s								
CAST	**Castle Rocks**	**85.65**	**11**	P	**P**	**10 12 48.8**	**-1.2**
	baz=204,SNR=31								
PLID	**Pearl Lake**	**85.67**	**39**	P	**P**	**10 12 51.2**	**+0.4**
PLID				IAmb	IAmb	10 12 52.5	
	comp=Z,48nm,1.6s								
MPU	**Maple Canyon**	**85.68**	**45**	P	**P**	**10 12 51.6**	**+0.7**
GLB	**Gilahina Butte**	**85.68**	**16**	P	**P**	**10 12 50.5**	**+0.3**
GLB				IAmb	IAmb	10 12 51.4	
	comp=Z,19nm,0.8s								
M24K	**Tolsona, Glenn**	**85.69**	**14**	P	**P**	**10 12 50.8**	**+0.5**
M24K				IAmb	IAmb	10 12 52.0	
	comp=Z,32nm,0.9s								
M24K	**Tolsona, Glenn**	**85.69**	**14**	P	**P**	**10 12 50.9**	**+0.6**
	baz=209								
B08A	**Colville Reser**	**85.69**	**35**	IAmb	IAmb	10 12 52.0	
	comp=Z,16nm,0.9s								
TNA	**Tin City**	**85.75**	**4**	P	**P**	**10 12 50.5**	**+0.2**
	baz=189								
WAT6	**Susitna Watana**	**85.76**	**13**	P	**P**	**10 12 50.6**	**-0.1**
	baz=208,SNR=16								
LLLB	**Lillooet**	**85.76**	**32**	IAmb	IAmb	10 12 52.7	
	comp=Z,13nm,1.0s								
HLID	**Hailey**	**85.78**	**41**	IAmb	IAmb	10 12 53.7	
	comp=Z,23nm,1.6s								
HLID	**Hailey**	**85.78**	**41**	P	**P**	**10 12 52.4**	**+1.1**
	baz=237,SNR=15								
WAT1	**Susitna Watana**	**85.81**	**13**	P	**P**	**10 12 50.4**	**-0.3**
	baz=207								
MCARA	**McCarthy VSAT**	**85.83**	**16**	P	**P**	**10 12 51.6**	**+0.7**
MCARA				IAmb	IAmb	10 12 52.4	
	comp=Z,18nm,1.1s								
MCARA	**McCarthy VSAT**	**85.83**	**16**	P	**P**	**10 12 51.2**	**+0.3**
	baz=212,SNR=5.9								
R32K	**Eaglecrest**	**85.85**	**21**	P	**P**	**10 12 51.8**	**+0.8**
	baz=220								
LYN	**LuoYang**	**85.87**	**309**	*e*P	**P**	**10 12 51.8**	**+0.1**
LYN				S	**S**	**10 22 44.5**	**+3.2**
LYN				pmax	pmax		
	comp=Z,30nm,1.1s								
LYN				pmax	pmax		
	comp=Z,330nm,5.9s								
SBM	**South Baldy**	**85.87**	**52**	P	**P**	**10 12 53.6**	**+1.4**
P29M	**Windy Craggy**	**85.88**	**19**	P	**P**	**10 12 52.2**	**+1.0**
P29M				IAmb	IAmb	10 12 53.2	
	comp=Z,16nm,0.8s								
P29M	**Windy Craggy**	**85.88**	**19**	P	**P**	**10 12 52.1**	**+1.0**
	baz=217,SNR=6.7								
JIS	**Juneau Island**	**85.90**	**21**	P	**P**	**10 12 52.5**	**+1.3**
JIS				IAmb	IAmb	10 12 53.0	
	comp=Z,15nm,1.1s								
LOGN	**Logan Glacier**	**85.90**	**17**	P	**P**	**10 12 51.8**	**+0.4**
LOGN				IAmb	IAmb	10 12 52.8	
	comp=Z,30nm,1.2s								
CTG	**Chitna Glacier**	**85.93**	**17**	P	**P**	**10 12 52.0**	**+0.4**
	baz=214								
CTGM	**Chitina Glacie**	**85.93**	**17**	P	**P**	**10 12 52.5**	**+0.9**
CTGM				IAmb	IAmb	10 12 53.0	
	comp=Z,18nm,0.9s								
C09A	**Chrisman Ranch**	**85.94**	**36**	P	**P**	**10 12 52.6**	**+1.0**
C09A				IAmb	IAmb	10 12 53.6	
	comp=Z,18nm,1.0s								
BJT	**Baijiatuau**	**85.94**	**315**	P	**P**	**10 12 52.9**	**+1.0**
BJT				IAmb	IAmb	10 12 52.9	
	comp=Z,12nm,0.7s								
BJI	**Beijing**	**85.95**	**315**	P	**P**	**10 12 52.5**	**+0.6**
BJI				pmax	pmax		
	comp=Z,17nm,0.9s								
SRU	**San Rafael Swe**	**85.97**	**46**	P	**P**	**10 12 53.7**	**+1.4**
SRU				IAmb	IAmb	10 12 54.3	
	comp=Z,16nm,1.0s								
BESE	**Bessie Mountai**	**85.97**	**21**	P	**P**	**10 12 52.8**	**+1.1**
BESE				IAmb	IAmb	10 12 53.7	
	comp=Z,15nm,1.0s								
KTH	**Kantishna Hill**	**85.98**	**12**	P	**P**	**10 12 51.1**	**-0.5**
KTH				IAmb	IAmb	10 12 51.6	
	comp=Z,27nm,0.9s								
J20K	**Nowinta River**	**85.99**	**10**	IAmb	IAmb	10 12 52.9	
	comp=Z,16nm,0.9s								
J20K	**Nowinta River**	**85.99**	**10**	P	**P**	**10 12 51.8**	**+0.2**
	baz=202,SNR=14								
P17A	**Butcher Ranch,**	**86.00**	**45**	IAmb	IAmb	10 12 54.8	
	comp=Z,16nm,1.4s								
TRF	**Thorofare Moun**	**86.01**	**12**	P	**P**	**10 12 51.8**	**-0.1**
TRF	**Thorofare Moun**	**86.01**	**12**	P	**P**	**10 12 51.3**	**-0.6**
	baz=206,SNR=52								
CHUM	**Lake Minchumin**	**86.03**	**11**	P	**P**	**10 12 51.0**	**-0.7**
	baz=204,SNR=13								
O28M	**Mount Upton**	**86.08**	**17**	P	**P**	**10 12 53.1**	**+0.6**
	baz=215,SNR=11								
Y22D	**IRIS PASSCAL I**	**86.11**	**52**	P	**P**	**10 12 51.7**	**-1.3**
	baz=242								
Y22F	**Passcal Instru**	**86.11**	**52**	P	**P**	**10 12 51.2**	**-1.9**
	baz=242								
GCSA	**Galena City Sc**	**86.11**	**9**	P	**P**	**10 12 52.5**	**+0.5**
	baz=199,SNR=6.3								
SEY	**Seymchan**	**86.13**	**347**	P	**P**	**10 12 52.5**	**+0.3**
	comp=Z,34nm,0.8s,baz=144,slow=5.8,SNR=59								
	comp=Z,34nm,0.8s								
O29M	**Mount Kennedy**	**86.17**	**18**	P	**P**	**10 12 53.3**	**+0.6**
	baz=216,SNR=7.5								
PLBC	**Pleasant Camp**	**86.17**	**20**	P	**P**	**10 12 53.5**	**+1.1**
	baz=218,SNR=7.5								
HARP	**HAARP**	**86.18**	**14**	P	**P**	**10 12 52.9**	**+0.4**
	baz=210								
ENH	**Enshi**	**86.20**	**304**	P	**P**	**10 12 54.2**	**+0.8**
RND	**Reindeer**	**86.26**	**13**	P	**P**	**10 12 52.8**	**-0.1**
DHY	**Denali Highway**	**86.27**	**13**	P	**P**	**10 12 53.3**	**+0.2**
DHY				IAmb	IAmb	10 12 53.4	
	comp=Z,11nm,1.0s								
DHY	**Denali Highway**	**86.27**	**13**	P	**P**	**10 12 52.7**	**-0.4**
	baz=208,SNR=6.4								
SRIT	**Nakonsritamara**	**86.29**	**280**	P	**P**	**10 12 55.4**	**+1.3**
TCUT	**Toone Canyon**	**86.39**	**44**	IAmb	IAmb	10 12 56.4	
	comp=Z,11nm,0.7s								
T35M	**Bob Quinn**	**86.42**	**24**	P	**P**	**10 12 55.2**	**+1.4**
	baz=224								
MVCO	**Mesa Verde**	**86.44**	**48**	P	**P**	**10 12 55.3**	**+0.7**
	baz=241								
BPAW	**Bear Paw Mtn.**	**86.47**	**11**	P	**P**	**10 12 53.0**	**-0.9**
BPAW	**Bear Paw Mtn.**	**86.47**	**11**	P	**P**	**10 12 53.6**	**-0.3**
	baz=205								
TX31	**Lajitas Ar. Si**	**86.50**	**57**	P	**P**	**10 12 56.7**	**+1.7**
TX31				IAmb	IAmb	10 12 57.7	
	comp=Z,27nm,0.8s								
TX32	**Lajitas Array**	**86.50**	**57**	P	**P**	**10 12 56.7**	**+1.7**
TX32				IAmb	IAmb	10 12 57.7	
	comp=Z,9.2nm,0.8s								
SKAG	**Skagway**	**86.50**	**20**	P	**P**	**10 12 55.4**	**+1.4**
SKAG				IAmb	IAmb	10 12 56.6	
	comp=Z,46nm,1.6s								
SKAG	**Skagway**	**86.50**	**20**	P	**P**	**10 12 55.3**	**+1.3**
	baz=219,SNR=5.2								
TXAR	**Lajitas Array**	**86.50**	**57**	P	**P**	**10 12 56.7**	**+1.7**
	comp=Z,7.2nm,0.7s,baz=218,slow=6.5,SNR=101								
TXAR				pP	**pwP**	**10 14 53.7**	**+1.4**
	comp=Z,2.0nm,1.1s,baz=212,slow=5.9,SNR=5.3								
	comp=Z,7.2nm,0.7s								
TXAR	**Lajitas Array**	**86.50**	**57**	P	**P**	**10 12 56.5**	**+1.5**
P30M	**Million Dollar**	**86.51**	**19**	P	**P**	**10 12 55.5**	**+1.3**
	baz=218,SNR=13								
MCK	**McKinley**	**86.53**	**12**	P	**P**	**10 12 53.8**	**-0.4**
	baz=207,SNR=23								
PAX	**Paxson**	**86.60**	**14**	P	**P**	**10 12 54.1**	**-0.5**
	baz=210								
PV13	**Radium Mtn., P**	**86.66**	**47**	P	**P**	**10 12 55.9**	**+0.2**
PV23	**Carpenter Ridg**	**86.67**	**47**	IAmb	IAmb	10 12 57.6	
	comp=Z,9.4nm,0.8s								
PV11	**David Mesa, Pa**	**86.69**	**47**	P	**P**	**10 12 56.0**	**+0.2**
M26K	**Nabesna, AK**	**86.70**	**15**	P	**P**	**10 12 55.3**	**+0.2**
M26K				IAmb	IAmb	10 12 56.6	
	comp=Z,14nm,0.8s								
M26K	**Nabesna, AK**	**86.70**	**15**	P	**P**	**10 12 55.5**	**+0.4**
	baz=212,SNR=11								
YUK6	**Outpost Mounta**	**86.75**	**18**	P	**P**	**10 12 56.1**	**+0.6**
	baz=216								
S34M	**Telegraph Cree**	**86.77**	**23**	P	**P**	**10 12 56.6**	**+1.2**
	baz=223,SNR=8.8								
BWN	**Browne**	**86.82**	**12**	P	**P**	**10 12 55.5**	**0.0**
NEW	**Newport**	**86.83**	**36**	P	**P**	**10 12 56.1**	**+0.2**
NEW	**Newport**	**86.83**	**36**	P	**P**	**10 12 56.5**	**+0.5**
	baz=235,SNR=7.5								
YUK3	**Moose Creek**	**86.84**	**17**	P	**P**	**10 12 56.5**	**+0.6**
	baz=214,SNR=25								
ANMO	**Albuquerque**	**86.84**	**51**	P	**P**	**10 12 57.1**	**+0.6**
ANMO	**Albuquerque**	**86.84**	**51**	P	**P**	**10 12 57.6**	**+1.0**
	baz=243								
HYT	**Haines Junctio**	**86.90**	**18**	P	**P**	**10 12 56.2**	**+0.1**
HYT	**Haines Junctio**	**86.90**	**18**	P	**P**	**10 12 56.9**	**+0.8**
	baz=217,SNR=8.9								
M27K	**Edge Creek, AK**	**86.95**	**16**	IAmb	IAmb	10 12 58.2	
	comp=Z,28nm,0.9s								
M27K	**Edge Creek, AK**	**86.95**	**16**	P	**P**	**10 12 57.2**	**+0.9**
	baz=213,SNR=18								
MENT	**Mentasta**	**86.99**	**15**	IAmb	IAmb	10 12 57.9	
	comp=Z,12nm,0.9s								
YUK4	**Talbot Arm**	**86.99**	**18**	P	**P**	**10 12 57.6**	**+1.0**
	baz=216,SNR=5.8								
P32M	**Atlin**	**87.13**	**21**	P	**P**	**10 12 58.0**	**+0.9**
	baz=221,SNR=7.3								
Q32M	**Nakina River**	**87.14**	**22**	P	**P**	**10 12 58.5**	**+1.1**
	baz=222,SNR=6.9								
L26K	**Log Cabin Wild**	**87.15**	**15**	P	**P**	**10 12 57.5**	**+0.4**
L26K				IAmb	IAmb	10 12 58.6	
	comp=Z,10nm,0.8s								
L26K	**Log Cabin Wild**	**87.15**	**15**	P	**P**	**10 12 57.5**	**+0.4**
	baz=212,SNR=13								
BVCY	**Beaver Creek**	**87.26**	**16**	P	**P**	**10 12 58.2**	**+0.6**
	baz=214,SNR=9.4								
K24K	**Donnelly Dome**	**87.26**	**14**	P	**P**	**10 12 57.9**	**+0.3**
	baz=210,SNR=10								
NEA2	**Nenana**	**87.28**	**12**	IAmb	IAmb	10 12 58.3	
	comp=Z,12nm,0.8s								
NEA2	**Nenana**	**87.28**	**12**	P	**P**	**10 12 56.8**	**-0.8**
	baz=207,SNR=16								
I21K	**Tanana**	**87.28**	**11**	P	**P**	**10 12 57.5**	**-0.1**
	baz=204,SNR=22								
O30N	**Mendenhall**	**87.28**	**19**	P	**P**	**10 12 58.6**	**+0.8**
	baz=218,SNR=14								
RDMU	**Red Mountain**	**87.32**	**45**	P	**P**	**10 12 59.0**	**+0.3**
MLY	**Manley**	**87.36**	**11**	P	**P**	**10 12 57.6**	**-0.5**
MLY	**Manley**	**87.36**	**11**	P	**P**	**10 12 57.4**	**-0.7**
	baz=205,SNR=39								
WRH	**Wood River Hil**	**87.36**	**12**	P	**P**	**10 12 57.8**	**-0.2**
RIDG	**Independent Ri**	**87.41**	**14**	P	**P**	**10 12 58.5**	**+0.2**
RIDG				IAmb	IAmb	10 12 59.5	
	comp=Z,25nm,1.3s								
RIDG	**Independent Ri**	**87.41**	**14**	P	**P**	**10 12 58.4**	**+0.1**
	baz=210,SNR=8.3								
DOT	**Dot Lake**	**87.51**	**14**	P	**P**	**10 12 59.4**	**+0.6**
DOT				IAmb	IAmb	10 12 60.0	
	comp=Z,16nm,1.0s								
N30M	**Aishikik Lake**	**87.53**	**18**	P	**P**	**10 12 59.5**	**+0.5**
	baz=218,SNR=5.8								
HDA	**Harding Lake**	**87.54**	**13**	P	**P**	**10 12 58.7**	**-0.1**
	baz=208,SNR=42								
L27K	**Beaver Creek,**	**87.55**	**15**	P	**P**	**10 12 59.6**	**+0.6**
L27K				IAmb	IAmb	10 13 00.4	
	comp=Z,11nm,0.9s								
L27K	**Beaver Creek,**	**87.55**	**15**	P	**P**	**10 12 59.4**	**+0.4**
	baz=213,SNR=14								
DLBC	**Dease Lake**	**87.56**	**23**	P	**P**	**10 13 00.6**	**+1.4**
	comp=Z,6.7nm,0.8s,baz=218,slow=5.9,SNR=18								
	comp=Z,6.7nm,0.8s								
DLBC	**Dease Lake**	**87.56**	**23**	P	**P**	**10 12 59.4**	**+0.3**
DLBC				IAmb	IAmb	10 13 01.3	
	comp=Z,8.7nm,0.8s								
DLBC	**Dease Lake**	**87.56**	**23**	P	**P**	**10 13 00.2**	**+1.1**
	baz=224,SNR=6.8								
BCAR	**Beaver Creek A**	**87.57**	**15**	P	**P**	**10 12 59.9**	**+0.8**
WHY	**Whitehorse**	**87.57**	**20**	P	**P**	**10 12 59.9**	**+0.7**
WHY				IAmb	IAmb	10 13 01.1	
	comp=Z,10nm,0.8s								
WHY	**Whitehorse**	**87.57**	**20**	P	**P**	**10 13 00.2**	**+1.0**
	baz=220,SNR=5.8								
H21K	**Melozitna Rive**	**87.58**	**10**	IAmb	IAmb	10 13 00.2	
	comp=Z,16nm,0.8s								
H21K	**Melozitna Rive**	**87.58**	**10**	P	**P**	**10 12 59.4**	**+0.3**
	baz=203,SNR=24								
IMAR	**Indian Mountai**	**87.74**	**10**	P	**P**	**10 12 59.9**	**+0.2**
TCOL	**CIGO, UAF Yank**	**87.77**	**12**	P	**P**	**10 12 59.4**	**-0.5**
TCOL	**CIGO, UAF Yank**	**87.77**	**12**	P	**P**	**10 12 59.4**	**-0.5**
	baz=208,SNR=27								
COLA	**College**	**87.77**	**12**	P	**P**	**10 12 59.4**	**-0.4**
COLA	**College**	**87.77**	**12**	P	**P**	**10 12 59.5**	**-0.4**
	baz=208								
SCRK	**Sand Creek**	**87.81**	**14**	IAmb	IAmb	10 13 01.6	
	comp=Z,8.1nm,0.9s								
SCRK	**Sand Creek**	**87.81**	**14**	P	**P**	**10 13 00.5**	**+0.2**
	baz=211,SNR=9.1								
MSO	**Missoula**	**87.82**	**38**	P	**P**	**10 13 01.0**	**+0.3**
MSO	**Missoula**	**87.82**	**38**	P	**P**	**10 13 01.0**	**+0.3**
	baz=237,SNR=9.6								
S22A	**4UR Ranch, Cre**	**87.86**	**48**	P	**P**	**10 13 02.1**	**+0.8**
S22A				IAmb	IAmb	10 13 03.6	
	comp=Z,8.9nm,1.0s								
S22A	**4UR Ranch, Cre**	**87.86**	**48**	P	**P**	**10 13 02.4**	**+1.0**
	baz=242,SNR=13								
HTMS	**Hat Mesa**	**87.86**	**54**	P	**P**	**10 13 02.2**	**+0.9**
IL31		**87.87**	**13**	P	**P**	**10 12 59.8**	**-0.6**
ILAR	**Eielson Array**	**87.87**	**13**	P	**P**	**10 12 59.9**	**-0.5**
	comp=Z,9.4nm,0.5s,baz=216,slow=5.5,SNR=91								
ILAR				PKiKP	**PKiKP**	**10 17 58.0**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=255,slow=2.6,SNR=5.7								
	comp=Z,9.4nm,0.5s								
REDW	**Red Top Meadow**	**87.88**	**42**	IAmb	IAmb	10 13 03.5	
	comp=Z,24nm,1.2s								
TPAW	**Teton Pass**	**87.88**	**42**	P	**P**	**10 13 02.6**	**+1.3**
TPAW				IAmb	IAmb	10 13 03.6	
	comp=Z,8.6nm,0.9s								
P33M	**Teslin, Yukon**	**87.89**	**21**	P	**P**	**10 13 01.4**	**+0.7**
P33M				IAmb	IAmb	10 13 02.4	
	comp=Z,9.3nm,0.9s								
P33M	**Teslin, Yukon**	**87.89**	**21**	P	**P**	**10 13 01.4**	**+0.7**
	baz=221,SNR=9.3								
FXWY	**Fox Creek**	**87.91**	**42**	P	**P**	**10 13 03.0**	**+1.6**
FXWY				IAmb	IAmb	10 13 04.5	
	comp=Z,12nm,1.4s								
R33M	**Jennings River**	**87.92**	**22**	P	**P**	**10 13 01.9**	**+1.0**
	baz=223,SNR=7.4								
M29M	**Somme Creek**	**87.93**	**17**	P	**P**	**10 13 01.4**	**+0.5**
	baz=216,SNR=32								
N31M	**Braeburn, Yuko**	**87.94**	**19**	P	**P**	**10 13 01.7**	**+0.9**
N31M				IAmb	IAmb	10 13 02.6	
	comp=Z,19nm,0.8s								
N31M	**Braeburn, Yuko**	**87.94**	**19**	P	**P**	**10 13 01.7**	**+0.9**
	baz=219,SNR=9.7								
SNOW	**Snow King Moun**	**87.99**	**42**	P	**P**	**10 13 02.5**	**+0.7**
SNOW				IAmb	IAmb	10 13 04.1	
	comp=Z,19nm,1.1s								
O20A	**White River Ci**	**88.00**	**46**	P	**P**	**10 13 02.8**	**+1.0**
O20A				IAmb	IAmb	10 13 03.8	
	comp=Z,39nm,1.8s								
O20A	**White River Ci**	**88.00**	**46**	P	**P**	**10 13 02.6**	**+0.8**
	baz=241,SNR=5.4								
H22K	**Ishtalitna Cre**	**88.04**	**10**	P	**P**	**10 13 01.4**	**+0.2**
	baz=204,SNR=29								
J25K	**Salcha River,**	**88.06**	**13**	P	**P**	**10 13 01.8**	**+0.4**
J25K				IAmb	IAmb	10 13 02.2	
	comp=Z,16nm,0.8s								
J25K	**Salcha River,**	**88.06**	**13**	P	**P**	**10 13 01.4**	**0.0**
	baz=210,SNR=25								
POKR	**Poker Plat Res**	**88.07**	**12**	P	**P**	**10 13 01.0**	**-0.3**
POKR	**Poker Plat Res**	**88.07**	**12**	P	**P**	**10 13 00.7**	**-0.6**
	baz=208,SNR=6.9								
TROLL	**Troll, Antarti**	**88.08**	**180**	P	**P**	**10 13 01.3**	**-0.4**
TROLL				x	x	10 13 02.5	
IMW	**Indian Meadow**	**88.10**	**42**	IAmb	IAmb	10 13 04.7	
	comp=Z,14nm,0.9s								
JTMT	**Jette**	**88.12**	**37**	P	**P**	**10 13 02.8**	**+0.6**
MOOW	**Moose Ponds**	**88.14**	**42**	P	**P**	**10 13 03.0**	**+0.5**
LOHW	**Long Hollow**	**88.16**	**42**	IAmb	IAmb	10 13 04.6	
	comp=Z,27nm,1.6s								
XAN	**Xi'an**	**88.26**	**307**	⇑P	**P**	**10 13 03.8**	**+0.8**
XAN				pmax	pmax		
	comp=Z,64nm,0.8s								
G21K	**Allakaket**	**88.27**	**9**	P	**P**	**10 13 02.6**	**+0.4**
	baz=202								
H23K	**Yukon River**	**88.30**	**11**	IAmb	IAmb	10 13 02.7	
	comp=Z,7.1nm,0.8s								
H23K	**Yukon River**	**88.30**	**11**	P	**P**	**10 13 02.1**	**-0.3**
	baz=206,SNR=5.3								
K27K	**Chicken**	**88.31**	**15**	P	**P**	**10 13 03.7**	**+1.2**
K27K				IAmb	IAmb	10 13 04.4	
	comp=Z,18nm,0.8s								
K27K	**Chicken**	**88.31**	**15**	P	**P**	**10 13 03.3**	**+0.8**
	baz=213								
SNAA	**Sanae**	**88.35**	**178**	P	**P**	**10 13 01.8**	**-1.0**
J26L	**Joseph Creek**	**88.36**	**14**	P	**P**	**10 13 03.6**	**+0.8**
	baz=212,SNR=32								
YPP	**Pitchstone Pla**	**88.37**	**41**	P	**P**	**10 13 05.0**	**+1.4**
YHB	**Horse Butte**	**88.37**	**41**	P	**P**	**10 13 04.4**	**+0.9**
YHB				IAmb	IAmb	10 13 06.3	
	comp=Z,18nm,0.9s								
BW06	**Boulder Array**	**88.41**	**43**	IAmb	IAmb	10 13 05.2	
	comp=Z,8.5nm,0.8s								
BW06	**Boulder Array**	**88.41**	**43**	P	**P**	**10 13 04.1**	**+0.4**
	baz=240,SNR=14								
PD31	**Pinedale Array**	**88.41**	**43**	P	**P**	**10 13 04.2**	**+0.5**
PD31				IAmb	IAmb	10 13 05.2	
	comp=Z,7.6nm,0.8s								
PDAR	**Pinedale Array**	**88.41**	**43**	P	**P**	**10 13 04.5**	**+0.8**
	comp=Z,5.3nm,0.6s,baz=212,slow=3.4,SNR=64								
	comp=Z,5.3nm,0.6s								
PDAR	**Pinedale Array**	**88.41**	**43**	P	**P**	**10 13 04.1**	**+0.4**
SMCO	**Snowmass**	**88.42**	**47**	IAmb	IAmb	10 13 06.0	
	comp=Z,16nm,1.5s								
YHL	**Hebgen Lake**	**88.43**	**41**	P	**P**	**10 13 05.9**	**+2.0**
YFT	**Old Faithful**	**88.44**	**41**	IAmb	IAmb	10 13 07.4	
	comp=Z,15nm,1.0s								
VNA3	**Neumayer Olymp**	**88.47**	**176**	P	**P**	**10 13 03.1**	**-0.2**
YMR	**Madison River**	**88.47**	**41**	P	**P**	**10 13 05.5**	**+1.5**
YMR				IAmb	IAmb	10 13 06.8	
	comp=Z,17nm,0.8s								
N32M	**Quiet Lake**	**88.52**	**20**	P	**P**	**10 13 04.5**	**+1.0**
	baz=221								
BOZ	**Boz

comp=Z,47nm,1.2s
HHC pmax pmax
comp=Z,510nm,5.6s
RWWY Rawlins 89.42 45 P **P** **10 13 08.2 -0.3**
RWWY IAmb IAmb 10 13 09.2
comp=Z,13nm,0.9s
COLD Coldfoot 89.45 10 IAmb IAmb 10 13 09.3
comp=Z,20nm,0.9s
COLD Coldfoot 89.45 10 P **P** **10 13 07.9 +0.2**
baz=206,SNR=13
G24K Hadweenzic Riv 89.46 11 P **P** **10 13 07.7 0.0**
baz=208
833A Chaparral WMA, 89.51 60 P **P** **10 13 08.8 0.0**
baz=247
MAYO Mayo, Yukon 89.56 17 P **P** **10 13 09.2 +0.9**
MAYO Mayo, Yukon 89.56 17 P **P** **10 13 09.2 +0.9**
baz=219,SNR=15
KMI Kunming 89.58 297 ⇓P **P** **10 13 11.0 +1.4**
KMI pmax pmax
comp=Z,25nm,0.9s
J29M Klondike Camp 89.62 16 P **P** **10 13 10.1 +1.5**
J29M Klondike Camp 89.62 16 P **P** **10 13 09.6 +1.0**
baz=216
ISCO Idaho Springs 89.64 47 P **P** **10 13 10.4 +0.8**
baz=243
I27K Kandik River 89.74 14 P **P** **10 13 09.1 0.0**
baz=213,SNR=7.0
RLMT Red Lodge 89.74 41 IAmb IAmb 10 13 12.2
comp=Z,10nm,0.9s
RLMT Red Lodge 89.74 41 P **P** **10 13 10.8 +0.9**
baz=241,SNR=12
G25K Bearman Lake 89.78 12 P **P** **10 13 11.3 +2.1**
baz=209
CRAI Chiangrai 89.78 292 P **P** **10 13 11.2 +0.9**
CRAI IAmb IAmb 10 13 12.4
comp=Z,25nm,1.4s
GCMT Greycliff 89.83 40 P **P** **10 13 11.8 +1.7**
N23A Red Feather La 89.91 46 P **P** **10 13 12.2 +1.4**
N23A IAmb IAmb 10 13 13.0
comp=Z,11nm,1.1s
N23A Red Feather La 89.91 46 P **P** **10 13 12.3 +1.5**
baz=243,SNR=7.5
JCT Junction City 90.03 58 IAmb IAmb 10 13 12.7
comp=Z,7.7nm,0.8s
JCT Junction City 90.03 58 P **P** **10 13 11.7 +0.4**
baz=246
BRLDA Berland Lookou 90.06 31 P **P** **10 13 11.9 +0.9**
F24K Squaw Lake 90.11 11 P **P** **10 13 11.3 +0.5**
baz=208,SNR=7.4
MMPY Sheldon Lake, 90.19 20 P **P** **10 13 12.0 +0.7**
baz=223,SNR=10
H27K Steamboat Moun 90.28 14 P **P** **10 13 12.2 +0.6**
baz=214,SNR=12
E23K Chandalar 90.30 10 P **P** **10 13 12.5 +0.8**
baz=206,SNR=6.7
K22A Casper 90.32 44 IAmb IAmb 10 13 14.3
comp=Z,7.0nm,0.7s
K22A Casper 90.32 44 P **P** **10 13 13.0 +0.5**
baz=242,SNR=6.7
I29M Ogilvie Camp, 90.33 15 IAmb IAmb 10 13 12.7
comp=Z,19nm,1.1s
I29M Ogilvie Camp, 90.33 15 P **P** **10 13 11.4 -0.4**
baz=216,SNR=13
AMTX Amarillo 90.35 53 P **P** **10 13 13.6 +0.8**
AMTX IAmb IAmb 10 13 14.3
comp=Z,7.9nm,1.0s
AMTX Amarillo 90.35 53 P **P** **10 13 13.0 +0.2**
baz=246
TGTN Hyland Airport 90.38 21 P **P** **10 13 13.3 +1.1**
baz=225,SNR=6.1
CM31 Chiang Mai Arr 90.41 289 P **P** **10 13 14.6 +1.4**
CMAR Chiang Mai Arr 90.41 289 P **P** **10 13 14.7 +1.4**
comp=Z,9.3nm,0.8s,baz=116,slow=2.9,SNR=53
comp=Z,9.3nm,0.8s
CMAR Chiang Mai Arr 90.41 289 P **P** **10 13 14.5 +1.2**
G26K Porcupine Rive 90.41 13 P **P** **10 13 12.5 +0.4**
baz=211,SNR=15
PHWY Pilot Hill 90.42 46 P **P** **10 13 13.1 -0.1**
PHWY IAmb IAmb 10 13 14.8
comp=Z,4.0nm,0.6s
E24K Your Creek 90.51 11 P **P** **10 13 13.2 +0.6**
baz=207
CHTO Chiang Mai 90.53 290 P **P** **10 13 13.8 0.0**
CHTO Chiang Mai 90.53 290 P **P** **10 13 15.0 +1.2**
F25K Christian Rive 90.59 12 P **P** **10 13 13.8 +0.8**
baz=210
BMAR Burnt Mountain 90.66 12 P **P** **10 13 13.9 +0.6**
G27K Doyon Strip 90.74 13 P **P** **10 13 13.8 +0.1**
baz=213
TOLK Toolik Lake Re 90.83 10 P **P** **10 13 14.3 +0.1**
baz=206
EGMT Eagleton 90.87 38 P **P** **10 13 14.3 -0.5**
baz=240
PZH PanZhiHua 90.93 298 P **P** **10 13 17.5 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,160nm,4.5s
D23K Nanushuk River 90.95 9 P **P** **10 13 15.4 +0.8**
baz=205,SNR=7.7
F26K Sheenjek River 90.97 12 P **P** **10 13 15.6 +0.9**
baz=211
ABTX Abilene, Hawle 91.00 56 P **P** **10 13 16.4 +0.7**
ABTX IAmb IAmb 10 13 17.4
comp=Z,12nm,0.9s
ABTX Abilene, Hawle 91.00 56 P **P** **10 13 16.4 +0.7**
baz=247
E25K Arctic Village 91.07 11 P **P** **10 13 15.8 +0.6**
baz=210
KSCO Kaye Shedlock' 91.38 49 P **P** **10 13 18.3 +0.9**
KSCO Kaye Shedlock' 91.38 49 P **P** **10 13 18.1 +0.6**
baz=245
D24K Happy Valley 91.42 10 P **P** **10 13 18.0 +1.2**
baz=207
EPYK Eagle Plains 91.53 15 P **P** **10 13 17.6 +0.2**
EPYK Eagle Plains 91.53 15 P **P** **10 13 17.1 -0.3**
baz=218,SNR=8.0
EDM Edmonton 91.58 33 P **P** **10 13 18.1 +0.2**
EDM IAmb IAmb 10 13 18.6
comp=Z,9.4nm,0.6s
C23K Itkillik River 91.75 9 P **P** **10 13 18.9 +0.6**
baz=205
E27K Coleen River 91.91 13 P **P** **10 13 19.4 +0.3**
baz=213
435B Jarrell 91.91 58 P **P** **10 13 20.9 +0.9**
baz=248
C24K Franklin Bluff 91.94 10 P **P** **10 13 20.1 +1.0**
baz=207
YAK Yakutsk 91.95 338 P **P** **10 13 18.7 -0.6**
D25K Kavik River 91.97 11 P **P** **10 13 19.7 +0.4**
baz=209
G30M tAoh Zraii Nji 92.13 15 P **P** **10 13 20.0 -0.2**
baz=218
LAO LASA Array 92.36 41 P **P** **10 13 23.0 +1.4**
baz=243
WHTX Lake Whitney, 92.46 57 P **P** **10 13 23.3 +0.9**
baz=248
OGNE Ogallala 92.60 47 P **P** **10 13 23.4 +0.4**
baz=245
RSSD Black Hills 92.60 44 P **P** **10 13 23.7 +0.6**
RSSD IAmb IAmb 10 13 25.0
comp=Z,15nm,1.1s
RSSD Black Hills 92.60 44 P **P** **10 13 23.8 +0.8**
baz=244
C27K Jago River 92.71 11 P **P** **10 13 24.3 +1.6**
baz=212
LZH Lanzhou 92.90 307 *e*P **P** **10 13 25.5 +0.9**
LZH pmax pmax
comp=Z,21nm,1.3s
F31M Tsiigehtchic 93.11 16 P **P** **10 13 24.5 +0.1**
baz=221,SNR=8.9
INK Inuvik 93.82 15 P **P** **10 13 27.2 -0.5**
INK Inuvik 93.82 15 P **P** **10 13 27.2 -0.5**
baz=221
R32A Long Quarter, 93.95 51 P **P** **10 13 30.2 +1.1**
DGMT Dagmar 94.38 40 P **P** **10 13 32.1 +1.3**
DGMT Dagmar 94.38 40 P **P** **10 13 31.8 +1.0**
baz=244
SONM Songino Array 95.77 319 P **P** **10 13 36.8 -0.5**
comp=Z,0.9nm,0.5s,baz=141,slow=4.4,SNR=6.7
SONM PP **PP** **10 17 35.3 -2.9**
comp=Z,1.0nm,1.0s,baz=134,slow=4.8,SNR=4.1
comp=Z,0.9nm,0.5s
GTA Gaotai 97.08 309 *e*P Pdif 10 13 44.0 +0.6
GTA pmax pmax
comp=Z,5.0nm,1.2s
ECSD EROS Data Cent 97.38 46 P **P** **10 13 44.7 +0.2**
baz=249
OXF Oxford 99.66 57 P **Pdif** **10 13 54.2 -0.6**
baz=252
ZALV Zalesovo Beam 110.49 321 PKiKP **PKiKP** **10 18 38.5 -1.2**
comp=Z,3.7nm,0.6s,baz=148,slow=1.0,SNR=15
MKAR Makanchi Array 111.27 313 Pdiff **Pdif** **10 14 46.9 +0.7**
comp=Z,0.4nm,0.5s,baz=81,slow=6.2,SNR=4.9
MKAR PKiKP **PKiKP** **10 18 40.3 -1.3**
comp=Z,3.5nm,0.6s,baz=215,slow=0.5,SNR=22
NEEM North Greenlan 117.14 11 *i* P **PKPdf** **10 18 51.3 -1.0**
BRVK Borovoye 119.15 320 PKPdf **PKPdf** **10 18 55.8 -0.6**
KK31 Karatay Array 119.36 309 PKPdf **PKPdf** **10 18 56.5 -0.7**
KKAR Karatay Array 119.36 309 PKPdf **PKPdf** **10 18 56.1 -1.1**
GAR Garm 119.38 304 **PKPdf** **10 18 56.9 -0.6**
KBL Kabul 120.10 299 PKPdf **PKiKP** **10 18 59.2 0.0**
CHGR Chuyangaron 120.27 304 PKPdf **PKPdf** **10 18 58.9 -0.2**
ILULI Ilulissat 121.27 20 *i* P **PKPdf** **10 18 58.7 -1.3**
DAG Danmarks Havn 122.34 6 *i* P **PKPdf** **10 19 00.4 -1.5**
SFJD Kangerlussuaq 122.45 22 *i* P **PKPdf** **10 18 59.9 -2.4**
SUMG Summit 122.71 14 **PKiKP** **10 19 03.5 +0.1**
SUMG Summit 122.71 14 *i* P **PKPdf** **10 19 02.0 -1.2**
DY2G Dye2 124.22 21 *i* P **PKPdf** **10 19 04.8 -1.3**
ICESG Greenland Ices 124.73 17 *i* P **PKPdf** **10 19 05.8 -1.4**
ARU Arti 125.16 326 PKPdf **PKPdf** **10 19 07.5 -0.3**
IVI Ivigtut 126.02 28 *i* P **PKPdf** **10 19 08.1 -1.2**
ABKAR Akbulak array 126.13 317 PKPdf **PKPdf** **10 19 09.4 -0.5**
BOSA Boshof 126.76 205 PKP **PKPdf** **10 19 12.3 +0.3**
comp=Z,2.2nm,0.7s,baz=190,slow=5.0,SNR=4.6
NRS Narsarsuaq 127.23 27 *i* P **PKPdf** **10 19 10.1 -1.5**
ARCES ARCESS Array B 128.65 350 PKhKP PKPpre 10 19 01.1
ARCES PKP **PKPdf** **10 19 13.8 -0.4**
comp=Z,0.7nm,0.5s,baz=243,slow=0.3,SNR=6.7
comp=Z,3.1nm,0.4s,baz=35,slow=0.8,SNR=42
GEYT Alibeck 128.96 303 PKP **PKPdf** **10 19 15.2 -0.5**
comp=Z,4.4nm,0.6s,baz=252,slow=3.3,SNR=7.7
GEYT Alibeck 128.96 303 PKPdf **PKiKP** **10 19 16.1 -0.4**
KLMR Klimovskoe 131.73 337 *e*PKPdf **PKPdf** **10 19 19.5 -0.7**
KLMR AMP 10 19 21.1
comp=Z,9.0nm,0.8s
KLMR *e*PP **PP** **10 21 48.5 +0.5**
FIA1 FINESS Array S 135.55 344 **PKPdf** **10 19 25.6 -1.7**
FINES FINESS Array B 135.55 344 PKhKP PKPpre 10 19 14.2
comp=Z,1.0nm,0.4s,baz=39,slow=2.9,SNR=9.2
FINES PKP **PKPdf** **10 19 28.1 +0.7**
comp=Z,3.9nm,0.5s,baz=68,slow=3.5,SNR=14
FINES SKPbc **SKPbc** **10 22 10.8 +1.3**
comp=Z,0.8nm,0.4s,baz=76,slow=5.9,SNR=2.4
FINES FINESS Array B 135.55 344 PKPdf **PKPdf** **10 19 26.8 -0.5**
NB2 NORSAR Subarra 138.68 354 PKP PKPpre 10 19 23.2
comp=Z,2.8nm,0.7s,baz=18,slow=4.6
NOA NORSAR Array B 138.68 354 PKhKP PKPpre 10 19 23.3
comp=Z,1.4nm,0.5s,baz=16,slow=4.6,SNR=9.4
NOA PKP **PKPdf** **10 19 34.0 +0.8**
comp=Z,1.7nm,0.6s,baz=14,slow=4.1,SNR=6.5
KBZ Khabaz 138.96 314 PKP **PKPdf** **10 19 34.4 +0.2**
comp=Z,2.2nm,0.8s,baz=188,slow=3.4,SNR=3.1
MNK Minsk 140.63 337 *i* PKP **PKPdf** **10 19 33.2 -3.6**
comp=E,3.0nm,0.9s
MNK *i* PKP **PKPdf** **10 19 33.2 -3.6**
MNK *i* PKP **PKPdf** **10 19 33.2 -3.6**
comp=Z,21nm,0.8s,baz=219
MNK *i* pPKP **pPKPdf** **10 21 35.9 -3.5**
MNK *i* PP **PP** **10 22 40.6 -2.3**
MNK *i* PPP PPP 10 25 52.0
MNK *i* SKS **SKSdf** **10 25 53.6 -3.6**
MNK *i* SKKS **SKKSdf** **10 35 17.7 -6.4**
MNK *i* SS **SS** **10 40 26.5 +0.2**
MNK *i* SSS SSS 10 45 31.9
MNK *i* LRM MLR 11 22 32.0
comp=Z,26nm,16.1s
MNK *i* LRM MLR 11 22 43.9
comp=N,1.0nm,18.7s
MNK *i* LRM MLR 11 22 52.3
comp=E,4.0nm,16.1s
NACGM Naroch 140.71 338 ⇑*e*PKP **PKPdf** **10 19 31.8 -5.2**
comp=Z,23nm,1.0s,baz=38
KAC Achnashellach 142.26 7 *e*P **PKPdf** **10 19 36.2 -3.4**
KPL Plockton 142.38 7 *e*P **PKPdf** **10 19 36.2 -3.7**
MCD Coleburn Disti 142.38 5 *e*P **PKPdf** **10 19 35.7 -4.2**
AKASG Malin Array Be 142.91 332 PKhKP PKPpre 10 19 37.6
comp=Z,45nm,0.6s,baz=42,slow=4.6,SNR=206
AKASG SKPbc **SKiKP** **10 22 30.6 -0.3**
comp=Z,1.9nm,0.8s,baz=48,slow=2.8,SNR=5.7
DRUM Mains of Drumt 143.10 5 *e*P PKPab 10 19 37.9 -0.8
MUD Monsted U'grnd 143.40 354 *i* P PKPab 10 19 39.8 -0.1
EDU Dundee 143.42 5 *e*P PKPab 10 19 40.0 0.0
INVG Invergeldie, C 143.45 6 *e*P PKPab 10 19 39.9 -0.2
LAWE Loch Awe, Argy 143.46 7 *e*P PKPab 10 19 39.7 -0.4
EAB Aberfoyle 143.65 6 *e*P PKPab 10 19 40.4 -0.4
COP Copenhagen 143.73 350 *i* P PKPab 10 19 40.3 -0.8
BSD Bornholm Skovb 143.84 348 *i* P PKPbc 10 19 40.8 -0.7
LODK Lodwar 143.88 247 PKPbc 10 19 42.9 -0.1
ESY Stonypath 144.08 5 *e*P PKPbc 10 19 41.6 -0.7
DIKM Dikmen 144.94 315 ⇑P **PKPab** **10 19 45.9 -0.4**
EDMD Edmundbyers 145.21 4 *e*P **PKPdf** **10 19 45.2 +0.3**
BEL Belsk 145.28 340 *e*PKPbc **PKPbc** **10 19 46.6 +0.5**
IOMK Kirk Michael 145.52 7 *e*P **PKPbc** **10 19 46.5 -0.2**
BZK Bozkurt 145.62 316 ⇓P **PKPdf** **10 19 45.8 -0.2**
MILM Milestii Mici 145.73 327 ⇑P **PKPbc** **10 19 47.0 -0.5**
BNN Bunyan 145.74 310 **PKPdf** **10 19 47.2 +0.7**
HPK Haverah Park 146.10 4 *e*P **PKPbc** **10 19 48.5 +0.1**
ILGA Ilgaz 146.25 315 **PKPbc** **10 19 49.7 +0.1**
VASR Vaslui 146.43 328 ⇓P **PKPbc** **10 19 49.9 +0.3**
WLF1 Llynfaes 146.49 7 *e*P **PKPdf** **10 19 46.1 -1.0**
TLCR 146.87 325 ⇑P **PKPbc** **10 19 50.9 +0.1**
BR131 Keskin Array S 146.92 313 **PKPbc** **10 19 50.8 -0.5**
BRTR Keskin Array B 146.92 313 PKPbc **PKPbc** **10 19 50.5 -0.8**
comp=Z,15nm,0.6s,baz=112,slow=3.3,SNR=51
BRTR Keskin Array B 146.92 313 PKPbc **PKPbc** **10 19 50.8 -0.5**
BUR08 Bucovina Ar. S 146.95 331 **PKPbc** **10 19 51.1 0.0**
BURAR Bucovina Array 146.96 331 ⇓P **PKPbc** **10 19 51.5 +0.4**
BURAR Bucovina Array 146.96 331 **PKPbc** **10 19 51.8 +0.7**
OJC Ojcow 146.98 339 *e*PKPbc **PKPbc** **10 19 49.6 -1.3**
SCTR Scanteiesti 146.99 326 ⇑P **PKPbc** **10 19 51.5 +0.4**
FOEL Foel Wylfa 147.02 6 *e*P **PKPdf** **10 19 49.0 +1.0**
BIZ Bicaz 147.05 330 ⇓P **PKPbc** **10 19 51.9 +0.7**
TESR Tescani 147.09 329 ⇓P **PKPbc** **10 19 51.2 -0.2**
KOLS Kolonicke sedl 147.17 336 *e*PKP **PKPbc** **10 19 52.0 +0.5**
CFR Carcaliu 147.24 326 ⇓P **PKPbc** **10 19 51.7 -0.1**
TPGR Topolog 147.30 325 ⇓P **PKPbc** **10 19 52.2 +0.2**
HLM1 Long Mynd 147.42 6 *e*P **PKPbc** **10 19 51.7 -0.4**
ANTO Ankara 147.43 314 ⇓P **PKPbc** **10 19 52.4 -0.1**
ANTO Ankara 147.43 314 **PKPbc** **10 19 52.8 +0.2**
WACR West Acre 147.45 2 *e*P **PKPbc** **10 19 51.2 -0.9**
BR231 Keskin MP Arra 147.45 314 PKPbc **PKPbc** **10 19 53.1 +0.4**
KSP Ksiaz 147.48 344 *e*PKPbc **PKPbc** **10 19 52.8 +0.6**
NIE Niedzica 147.50 338 *e*PKPbc **PKPbc** **10 19 53.1 +0.7**
VRI Vrincioaia 147.50 328 ⇓P **PKPbc** **10 19 51.9 -0.6**
CRVS Cervenica-Dubn 147.51 336 *e*PKP **PKPbc** **10 19 52.7 +0.3**
PLOR Plostina 147.55 328 ⇑P **PKPbc** **10 19 52.4 -0.3**
TIRR Tirgusor 147.56 324 ⇑P **PKPbc** **10 19 52.0 -0.6**
HARR Harsova 147.67 325 ⇑P **PKPbc** **10 19 53.2 +0.3**
MFTR Murfatlar 147.73 324 ⇓P **PKPbc** **10 19 53.4 +0.4**
OSTC Ostas 147.76 343 ⇑*e*PKP **PKPdf** **10 19 49.6 +0.3**
OSTC *e*PKPAB **PKPbc** **10 19 53.5 +0.5**
CHVC Chvalec 147.77 344 ⇑*e*PKP **PKPbc** **10 19 53.1 +0.1**
COVR Voineasa-Covas 147.78 328 ⇑P **PKPbc** **10 19 52.7 -0.5**
OZUR 147.81 329 ⇓P **PKPbc** **10 19 53.7 +0.4**
CLL Collm 147.81 348 *e*PKPdf **PKPdf** **10 19 49.0 -0.3**
CLL ⇓*i*PKPbc **PKPbc** **10 19 53.2 +0.2**
comp=Z,88nm,0.6s
CLL *i* PKPab **PKPab** **10 19 57.1 -0.2**
comp=Z,33nm,0.9s
OKC Ostrava-Krasne 147.84 341 ⇑*e*PKP **PKPbc** **10 19 53.5 +0.3**
UPC Upice 147.86 344 ⇑*e*PKP **PKPbc** **10 19 53.3 +0.1**
UPC *e*PKPAB **PKPab** **10 19 57.8 +0.2**
MANR Mangalia 147.87 323 ⇑P **PKPbc** **10 19 53.9 +0.5**
DPC Dobruska-Polom 147.92 343 ⇑*e*PKP **PKPbc** **10 19 53.6 +0.2**
DPC *e*PKPAB **PKPab** **10 19 58.2 +0.3**
MCH1 Michaelchurch 147.92 6 *e*P **PKPbc** **10 19 52.7 -0.6**
LANS Liptovska Anna 148.01 339 *e*PKP **PKiKP** **10 19 55.0 -0.1**
BRG Berggiesshubel 148.02 346 ⇓*e*PKPf **PKPdf** **10 19 50.0 +0.3**
BRG Amp 10 19 50.8
comp=Z,8.4nm,1.0s
BRG ⇑PKP **PKPbc** **10 19 54.0 +0.4**
BRG Amp 10 19 54.5
comp=Z,44nm,0.6s
BRG PKPab **PKPab** **10 19 58.3 +0.1**
BRG Amp 10 19 59.0
comp=Z,20nm,0.7s
KRLC Kraliky 148.04 342 ⇑*e*PKP **PKPbc** **10 19 53.8 +0.1**
KRLC *e*PKPAB **PKPab** **10 19 58.3 -0.1**
MORC Moravsky Berou 148.08 341 ⇑P **PKPbc** **10 19 54.1 +0.2**
MORC Moravsky Berou 148.08 341 *e*PKP **PKPbc** **10 19 54.0 +0.1**
DOPR Dopca 148.09 329 ⇑P **PKiKP** **10 19 54.8 -0.5**
MONM Monmouth 148.10 6 *e*P **PKPbc** **10 19 53.2 -0.5**
ISR Istrita 148.11 327 ⇑P **PKPbc** **10 19 54.4 +0.3**
MLR Muntele Rosu 148.16 328 ⇑P **PKiKP** **10 19 55.7 +0.1**
MDUB Mudurnu 148.20 316 **PKPbc** **10 19 53.7 -0.8**
PVCC Panska Ves 148.20 345 ⇑*e*PKP **PKPbc** **10 19 54.1 0.0**
KECS Kecovo 148.22 337 *e*PKP **PKPbc** **10 19 54.8 +0.6**
MAUC Maruska 148.36 341 ⇑*e*PKP **PKPdf** **10 19 50.3 -0.1**
MAUC *e*PKPAB **PKPbc** **10 19 54.9 +0.3**
CJR Cluj-Napoca 148.37 332 ⇓P **PKPbc** **10 19 54.9 +0.2**
VOIR 148.64 329 ⇑P **PKPbc** **10 19 55.5 +0.1**
DRGR 148.70 333 ⇓P **PKPbc** **10 19 55.2 -0.3**
PRU Pruhonice 148.71 345 ⇑*e*PKP **PKPbc** **10 19 55.4 +0.1**
PRU *e*PKPAB **PKPab** **10 20 01.3 +0.2**
VRAC Vranov 148.78 342 ⇑P **PKiKP** **10 19 56.2 -0.4**
VRAC Vranov 148.78 342 *e*PKP **PKPbc** **10 19 55.9 +0.3**
VRAC *e* 10 20 02.1
MTUR Matau 148.78 328 ⇑P **PKiKP** **10 19 58.3 +1.5**
VYHS Vyhne 148.79 339 *e*PKP **PKPbc** **10 19 55.8 +0.2**
VYHS *e* 10 20 01.7
JAVC Velka Javorina 148.85 340 *e*PKP **PKiKP** **10 19 57.0 +0.2**
ARR Arges 148.89 329 ⇑P **PKiKP** **10 19 57.0 -0.1**
PSZ Piszkesteto 148.91 337 ⇑P **PKPbc** **10 19 56.2 +0.2**
PSZ Piszkesteto 148.91 337 PKP **PKPbc** **10 19 56.4 +0.4**
NKC Novy Kostel 148.95 348 ⇑*e*PKP **PKPbc** **10 19 56.1 +0.1**
NKC *e*PKPAB **PKPab** **10 20 04.4 +2.3**
BORA Eskisehir 148.99 315 **PKPbc** **10 19 56.3 -0.2**
KRUC Moravsky 149.06 342 *e*PKP **PKPbc** **10 19 56.2 0.0**
KRUC *e* 10 20 03.0
BEBN Eben Emael 149.31 356 *d*PKP **PKiKP** **10 19 57.2 -0.4**
DEV Deva 149.31 331 ⇑P **PKPbc** **10 19 56.8 -0.2**
MODS Modra-Piesok 149.41 340 *e*PKP **PKiKP** **10 19 57.8 -0.1**
MEM Membach 149.47 356 *d*PKPdf **PKPdf** **10 19 52.5 +0.5**
MEM *d*PKP **PKPbc** **10 19 57.1 -0.1**
MEM *d*PKPab **PKPab** **10 20 04.2 0.0**
BTNL Ternell 149.48 355 *d*PKP **PKPbc** **10 19 57.2 -0.1**
BTNL *d*PKPab **PKPab** **10 20 04.5 +0.2**
BSTI Sart Tilman 149.53 356 *d*PKP **PKPbc** **10 19 57.6 +0.3**
SIRR Siria 149.56 333 ⇓P **PKPbc** **10 19 57.8 +0.2**
GRFO Grafenberg 149.70 349 PKPdf **PKPdf** **10 19 52.0 -0.4**
GRFO **PKiKP** **10 19 58.5 0.0**
GRFO PKPab **PKPab** **10 20 05.4 +0.2**
BCLA Clavier 149.71 356 *d*PKPbc **PKPbc** **10 19 57.5 -0.2**
BCLA *d*PKPab **PKPab** **10 20 04.8 -0.3**
BHOU Houvegnez 149.72 355 *d*PKP **PKPbc** **10 19 58.0 +0.2**
BHOU *d*PKPab **PKPab** **10 20 05.2 -0.1**
KHC Kasperske Hory 149.74 345 **PKPdf** **10 19 51.8 -0.8**
KHC PKPbc **PKiKP** **10 19 58.5 -0.1**
KHC PKPab **PKPab** **10 20 05.9 +0.5**
KHC Kasperske Hory 149.74 345 *e*PKPDF **PKPdf** **10 19 51.2 -1.4**
KHC ⇑*e*PKP **PKPbc** **10 19 57.5 -0.4**
KHC *e*PKPAB **PKPab** **10 20 06.0 +0.6**
GZR Gura Zlata 149.75 331 ⇓P **PKPbc** **10 19 57.8 -0.2**
BGES Gesves 149.75 357 *d*PKP **PKPbc** **10 19 57.5 -0.3**
CKRC Cesky Krumlov 149.85 344 *e*PKPDF **PKPdf** **10 19 52.9 +0.2**
CKRC ⇑*e*PKP **PKPbc** **10 19 57.8 -0.4**
CKRC *e*PKPAB **PKPab** **10 20 06.1 +0.2**
BMRD Maredsous 149.85 357 *d*PKP **PKPbc** **10 19 58.1 +0.1**
BMRD *d*PKPab **PKPab** **10 20 05.6 -0.2**
RCHB Rochefort 149.97 356 *d*PKPbc **PKPbc** **10 19 58.1 -0.2**
GEC2 GERESS Array S 149.97 345 PKPdf **PKPdf** **10 19 51.9 -1.1**
GEC2 PKPbc **PKPbc** **10 19 58.5 -0.2**
GEC2 PKPab **PKPab** **10 20 06.4 -0.1**
GERES GERESS Array B 149.97 345 PKP **PKPdf** **10 19 52.8 -0.2**
comp=Z,1.1nm,0.7s,baz=64,slow=3.1,SNR=9.2
GERES PKPbc **PKPbc** **10 19 58.4 -0.2**
comp=Z,1.3nm,0.6s,baz=309,slow=0.9,SNR=5.9
GERES GERESS Array B 149.97 345 PKPdf **PKPdf** **10 19 52.0 -1.0**
GERES PKPbc **PKPbc** **10 19 58.3 -0.2**
GERES PKPab **PKPab** **10 20 06.9 +0.4**
DOU Dourbes 150.07 357 *d*PKP **PKPbc** **10 19 58.5 -0.1**
DOU *d*PKPab **PKPab** **10 20 05.7 -1.0**
BZS Buzias 150.09 332 ⇓P **PKPbc** **10 19 58.6 -0.2**
EGYH Egyhazaskeszo 150.23 339 PKP **PKiKP** **10 20 00.1 +0.5**
CONA Conrad Observa 150.23 342 *i* P **PKiKP** **10 19 59.5 -0.3**
comp=Z,24nm,0.7s,SNR=16
CONA *e*P **PKPab** **10 20 08.5 +0.9**
comp=Z,14nm,0.7s
SOP Sopron 150.24 341 PKP **PKiKP** **10 19 59.4 -0.2**
HERR Herculane 150.30 331 ⇓P **PKPbc** **10 19 59.1 -0.2**
RONA Rosalia, Austr 150.31 341 *i* P **PKiKP** **10 19 59.6 -0.2**
comp=Z,34nm,0.5s,SNR=19
MPLH Magyarpolny 150.37 339 PKP **PKPbc** **10 19 59.5 +0.1**
WLF Walferdange 150.40 355 *d*PKP **PKiKP** **10 19 60.0 +0.1**
WLF *d*PKPab **PKPab** **10 20 08.2 +0.1**
MDVR Moldovita 150.70 331 ⇑P **PKPbc** **10 19 60.0 -0.3**
JVM Valle D.L. Mar 150.75 6 *e*P **PKPbc** **10 20 00.3 +0.1**
MOA Molln 150.75 344 *e*P **PKPbc** **10 20 00.1 -0.2**
comp=Z,5.6nm,0.5s
MOA *e*P **PKPab** **10 20 10.2 +0.5**
comp=Z,14nm,0.8s
JSA Saint Aubin 150.79 6 *e*P **PKPbc** **10 19 59.8 -0.4**
MORH Mrgy, Hungar 150.80 337 ⇓P **PKPbc** **10 20 00.1 -0.3**
MORH Mrgy, Hungar 150.80 337 PKP **PKPbc** **10 19 59.9 -0.4**
ARSA Arzberg 150.94 342 *e*P **PKPbc** **10 20 00.3 -0.4**
comp=Z,6.2nm,0.7s
ARSA *e*P **PKPab** **10 20 11.0 +0.5**
comp=Z,14nm,1.1s
MANT Manisa 150.97 315 PKPdf **PKPdf** **10 19 53.6 -1.4**
MANT **PKPbc** **10 20 01.5 +0.1**
MANT PKPab **PKPab** **10 20 11.3 +0.1**
BIOA Bad Ischl, Aus 151.06 344 *e*P **PKPbc** **10 20 00.4 -0.6**
comp=Z,22nm,1.3s
BIOA *e*P **PKPab** **10 20 11.7 +0.7**
comp=Z,20nm,0.6s
KOVH Kovagotottos 151.11 337 PKP **PKPbc** **10 20 00.7 -0.4**
BLKB Belogradchik 151.12 329 ⇓P **PKPbc** **10 20 00.9 -0.4**
FRGS Fruska Gora 151.22 334 ⇓P **PKPbc** **10 20 01.3 -0.1**
BFO Black Forest 151.49 352 PKPdf **PKPdf** **10 19 54.5 -0.8**
BFO **PKPbc** **10 20 02.0 0.0**
BFO PKPab **PKPab** **10 20 12.4 -0.4**
BOVS Bovan 151.58 330 ⇓P **PKPbc** **10 20 01.2 -1.1**
SOKA Soboth 151.61 342 *e*P **PKPbc** **10 20 01.3 -1.1**
comp=Z,9.2nm,0.8s
SOKA *e*P **PKPab** **10 20 13.6 +0.2**
comp=Z,15nm,0.9s
PERS Pernice 151.62 341 *i* PKPbc **PKPbc** **10 20 01.6 -0.7**
KBA Koelnbreinsper 151.71 344 *e*P **PKPbc** **10 20 02.3 -0.4**
comp=Z,7.1nm,0.5s
KBA *e*P **PKPab** **10 20 14.9 +1.0**
comp=Z,14nm,0.7s
WATA Walderalm 151.88 347 *e*P **PKPbc** **10 20 02.3 -0.7**
comp=Z,6.7nm,0.5s
WATA *e*P **PKPab** **10 20 15.1 +0.5**
comp=Z,17nm,1.1s
OBKA Obir 151.90 342 *e*P **PKPbc** **10 20 02.2 -0.9**
comp=Z,6.6nm,0.8s
OBKA *e*P **PKPab** **10 20 14.4 -0.3**
comp=Z,10nm,0.7s
RETA Reutte 151.90 348 *e*P **PKPbc** **10 20 02.6 -0.4**
comp=Z,5.9nm,0.8s
RETA *e*P **PKPab** **10 20 14.5 0.0**
comp=Z,16nm,1.1s
WTTA Wattenberg 151.94 347 *i* P **PKPbc** **10 20 02.8 -0.4**
comp=Z,11nm,0.4s,SNR=6.3
WTTA *e*P **PKPab** **10 20 14.9 0.0**
comp=Z,18nm,0.6s
MOTA Moosalm 151.97 347 *e*P **PKPbc** **10 20 02.7 -0.5**
comp=Z,7.0nm,0.6s
MOTA *e*P **PKPab** **10 20 14.6 -0.4**
comp=Z,11nm,0.7s
MYKA Terra Mystica 152.04 343 *e*P **PKPbc** **10 20 02.3 -1.0**
comp=Z,7.0nm,0.5s
MYKA *e*P **PKPab** **10 20 15.0 -0.2**
comp=Z,8.9nm,0.6s
SQTA Sankt Quirin 152.07 347 *e*P **PKPdf** **10 19 55.7 -0.6**
comp=Z,4.9nm,0.7s
SQTA *e*P **PKPbc** **10 20 03.2 -0.2**
comp=Z,6.4nm,0.6s
ABTA Abfaltersbach 152.22 345 *i* P **PKPdf** **10 19 55.3 -1.2**
comp=Z,8.1nm,0.7s,SNR=5.1
ABTA *e*P **PKPbc** **10 20 02.8 -0.9**
comp=Z,10nm,0.5s
ABTA *e*P **PKPab** **10 20 15.8 -0.2**
comp=Z,12nm,0.6s
DAVA Damuels 152.26 349 *i* P **PKPbc** **10 20 03.7 -0.2**
comp=Z,20nm,1.2s,SNR=6.3
DAVA *e*P **PKPab** **10 20 15.9 -0.3**
comp=Z,6.2nm,0.7s
LJU Ljubljana 152.33 342 *i* PKPbc **PKPbc** **10 20 03.5 -0.4**
LJU *i* PKPab **PKPab** **10 20 16.6 +0.2**
FETA Feichten 152.35 348 *e*P **PKPdf** **10 19 56.2 -0.6**

comp=Z,6.2nm,0.7s

FETA				*e*P		**PKPbc**	10 20 04.1	**0.0**
	comp=Z,11nm,0.9s							
CLUD	**Cludinico**	**152.40**	**344**			**PKPdf**	10 19 55.1	**-1.5**
CLUD					PKPbc	**PKPbc**	10 20 03.5	**-0.6**
CLUD					PKPab	**PKPab**	10 20 16.2	**-0.5**
STAL	**STALIGIAL**	**152.63**	**344**			**PKPdf**	10 19 56.2	**-0.8**
STAL					PKPbc	**PKPbc**	10 20 04.1	**-0.5**
STAL						**PKPab**	10 20 16.6	**-1.0**
CEY	**Cerknica**	**152.63**	**342**	*i* PKPbc		**PKPbc**	10 20 04.2	**-0.4**
CEY				*i* PKPab		**PKPab**	10 20 17.2	**-0.5**
CIMO	**Cimolais**	**152.65**	**345**	PKPdf		**PKPdf**	10 19 54.7	**-2.4**
CIMO				PKPbc		**PKPbc**	10 20 04.1	**-0.5**
CIMO				PKPab		**PKPab**	10 20 16.9	**-0.8**
CTI	**Castel Tesino**	**153.08**	**346**	PKPdf		**PKPdf**	10 19 56.3	**-1.5**
CTI						**PKPbc**	10 20 05.3	**-0.4**
CTI				PKPab		**PKPab**	10 20 19.2	**-0.5**
SENIN	**Lac Senin/Sane**	**153.55**	**352**	PKPdf		**PKPdf**	10 19 57.6	**-1.0**
SENIN				PKPab		**PKPab**	10 20 22.0	**+0.2**
TEOL	**Teolo**	**153.72**	**345**	PKPab		**PKPab**	10 20 22.0	**-0.3**
LIT	**Litokhoron**	**153.74**	**324**	PKPdf		**PKPdf**	10 19 57.9	**-0.9**
LIT				PKPab		**PKPab**	10 20 22.6	**-0.1**
SALO	**Salr**	**153.74**	**347**	PKPdf		**PKPdf**	10 19 57.6	**-1.0**
SALO				PKPab		**PKPab**	10 20 22.2	**-0.2**
ZCCA	**Zocca**	**154.84**	**346**	PKPdf		**PKPdf**	10 19 58.6	**-1.6**
ZCCA						**PKPab**	10 20 28.2	**+1.0**
BNI	**Bardonecchia**	**154.92**	**353**	PKPdf		**PKPdf**	10 19 59.8	**-0.6**
BNI				PKPab		**PKPab**	10 20 26.8	**-0.8**
CESX	**Cesi**	**156.03**	**341**	PKPdf		**PKPdf**	10 19 59.9	**-1.9**
CESX						**PKPab**	10 20 31.4	**-0.9**
LATE	**Laterza**	**156.25**	**343**	PKPdf		**PKPdf**	10 19 59.5	**-2.6**
LATE				PKPab		**PKPab**	10 20 32.8	**-0.5**
PBRG	**Braganca**	**157.04**	**18**	*e*PKPab		**PKPab**	10 20 37.2	**+0.4**
POLO	**Lamas de Olo**	**157.11**	**20**	*e*PKPab		**PKPab**	10 20 36.4	**-0.7**
TIP	**Timpagrande**	**157.38**	**330**	⇓P		**PKPab**	10 20 38.4	**0.0**
MVO	**Moncorvo**	**157.54**	**19**	*e*PKPdf		**PKPdf**	10 20 03.7	**-0.1**
PVIS	**Viseu**	**157.67**	**21**	*e*PKPab		**PKPab**	10 20 39.7	**+0.2**
PCAS	**Casmilo, Conde**	**158.04**	**23**	*e*PKPab		**PKPab**	10 20 41.1	**0.0**
MTE	**Manteigas**	**158.07**	**21**	*e*PKPab		**PKPab**	10 20 41.0	**-0.3**
PCBR	**Castelo Branco**	**158.59**	**21**	*e*PKPdf		**PKPdf**	10 20 05.5	**+0.5**
PCBR	**Castelo Branco**	**158.59**	**21**	*e*PKPab		**PKPab**	10 20 43.5	**0.0**
PMPST	**Porto Santo, M**	**158.87**	**49**	*e*PKPab		**PKPab**	10 20 46.6	**+1.6**
PMRV	**Marv??o**	**158.99**	**22**	*e*PKPdf		**PKPdf**	10 20 04.1	**-1.4**
PMRV	**Marv??o**	**158.99**	**22**	*e*PKPab		**PKPab**	10 20 45.4	**+0.1**
PESTR	**Estremoz**	**159.42**	**23**	*e*PKPab		**PKPab**	10 20 46.8	**-0.4**
PNCL	**Nicolau / Gran**	**159.71**	**24**	*e*PKPdf		**PKPdf**	10 20 07.0	**+0.7**
ESDC	**Sonseca Array**	**159.77**	**14**	PKP		**PKPdf**	10 20 05.8	**-0.7**
	comp=Z,0.8nm,0.7s,baz=331,slow=1.2,SNR=6.0							
ESDC				PKPab		**PKPab**	10 20 48.7	**0.0**
	comp=Z,1.8nm,0.9s,baz=342,slow=4.4,SNR=7.9							
ESDC				PP		**PP**	10 24 35.5	**+4.1**
	comp=Z,0.4nm,0.6s,baz=312,slow=9.1,SNR=4.4							
ESDC	**Sonseca Array**	**159.77**	**14**	PKPdf		**PKPdf**	10 20 05.1	**-1.3**
ESDC				PKPab		**PKPab**	10 20 46.7	**-2.0**
PBAR	**Barrancos**	**160.23**	**23**	*e*PKPab		**PKPab**	10 20 50.4	**-0.3**
KEST	**Kesra**	**163.33**	**340**	PKPab		**PKPab**	10 21 04.4	**0.0**
	comp=Z,5.6nm,0.7s,baz=267,slow=6.2,SNR=5.2							
DBIC	**Dimbokro**	**164.84**	**151**	PKP		**PKPdf**	10 20 10.9	**-1.2**
	comp=Z,3.7nm,0.8s,baz=187,slow=6.3,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**173.00**	**174**			**PKPdf**	10 20 14.1	**-3.0**
TOA0				PKPab		**PKPab**	10 21 46.1	**-1.4**
TORD	**Torodi Ar. Bea**	**173.00**	**174**	PKP		**PKPdf**	10 20 15.7	**-1.4**
	comp=Z,5.5nm,0.9s,baz=317,slow=0.9,SNR=24							
TORD				PKPab		**PKPab**	10 21 47.9	**+0.3**
	comp=Z,0.5nm,0.5s,baz=181,slow=3.8,SNR=5.7							
TORD	**Torodi Ar. Bea**	**173.00**	**174**			**PKPdf**	10 20 16.2	**-0.9**
TORD				PKPab		**PKPab**	10 21 47.0	**-0.5**

JMA 27 10:04:38.4±0.2, 32°1.1N±0.8×142°1.1E±1.0, h7km, MV4.0/20, FAR E OFF IZU ISLANDS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.01**	**282**	*e*P	Pn	10 05 13.7	**+0.8**
JHCJ	**Hachijojimakas**	**2.19**	**298**	*e*S	Sn	10 05 43.0	**+0.4**
JHJ2	**Mitsune**	**2.19**	**299**	P	Pn	10 05 16.1	**+0.9**
JHJ2				*e*S	Sn	10 05 43.9	**+1.2**
BSO1	**Boso 1**	**2.76**	**341**	*e*P	Pn	10 05 24.3	**+1.8**
BSO1				*e*S	Sn	10 05 58.4	**+2.6**
JMKN	**Mikurajimanish**	**2.79**	**312**	*e*S	Sn	10 05 59.3	**+1.9**
BSO3	**Boso 3**	**3.04**	**335**	*e*P	Pn	10 05 28.4	**+1.7**
JOD2	**Odawara 2**	**4.06**	**323**	*e*P	Pn	10 05 42.5	**+1.5**
JOD2				*e*S	Sn	10 06 29.9	**+1.0**
JYN	**Shimob**	**4.53**	**320**	*e*P	Pn	10 05 50.7	**+3.2**
JRY	**Ryogami san**	**4.76**	**327**	*e*P	Pn	10 05 52.9	**+2.3**
JRY				*e*S	Sn	10 06 48.1	**+2.1**
JIE	**Ise**	**5.08**	**299**	*e*P	Pn	10 05 57.5	**+2.5**

IDC 27 10:14:26.0±3.3, 32°62S×178°.08W, h0km, mb3.6/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=75.7km s-min=37.9km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.86**	**214**	Pn	Pn	10 16 07.6	**-0.2**
	0.3nm,0.3s,baz=5.5,slow=6.0,SNR=1.7						
URZ				Sn	Sn	10 17 26.1	**-0.5**
	1.0nm,0.3s,baz=200,slow=19,SNR=9.6						
	7.9nm,0.8s						
ASAR	**Alice Springs**	**42.97**	**269**	P	P	10 22 27.3	**+0.2**
	0.6nm,0.9s,baz=108,slow=7.9,SNR=7.5						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**44.16**	**274**	P	P	10 22 36.6	**-0.1**
	0.7nm,0.5s,baz=114,slow=7.9,SNR=14						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**147.19**	**339**	PKPbc	PKPbc	10 34 09.4	**-1.0**
	1.1nm,0.8s,baz=52,slow=2.3,SNR=3.8						

IDC 27 10:15:47.3±0.9, 34°.53N×141°.89E, h0km, mb3.7/7, mbtmp3.6/9, ML3.0/2, MS2.9/1, Error ellipse: s-maj=24.6km s-min=19.7km az=94.0
JMA 27 10:15:48.8±0.4, 34°.1°×14°2E±°, h24km±1km, MV3.3/36, FAR SE OFF BOSO PEN

ISC 27 10:15:49.4±3.7, 34°.49N±0°.06×141°.75E±0°.08, h14km±23km, n26, σ0°70/25, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.66**	**285**	P	**Pb**	10 16 02.2	**-0.1**
BSO3	**Boso 3**	**1.07**	**287**	P	**Pn**	10 16 09.4	**-0.3**
BSO4	**Boso 4**	**1.27**	**294**	P	**Pb**	10 16 12.8	**-0.2**
KTR	**Katsuura**	**1.35**	**299**	*e*P	**Pn**	10 16 13.8	**0.0**
CHOJ	**Chosi**	**1.42**	**329**	P	**Pn**	10 16 14.0	**0.7**
CHOJ				*e*S	**Sn**	10 16 32.6	**-0.5**
JKUC	**kamogawauchiur**	**1.44**	**298**	P	**Pn**	10 16 14.8	**-0.2**
JKUC				*e*S	**Sn**	10 16 32.9	**-0.9**
JMKN	**Mikurajimanish**	**1.89**	**252**	P	**Pn**	10 16 20.7	**-0.5**
JMKN				*e*S	**Sn**	10 16 43.3	**-1.5**
JIM2	**Oshima 3**	**1.93**	**277**	*e*P	**Pn**	10 16 22.3	**+0.5**
JHJ	**Hachijo jima 2**	**2.13**	**231**	Pn	**Pn**	10 16 24.7	**+0.1**
	14nm,0.3s,baz=15,slow=23,SNR=23						
JHJ				Sn	**Sn**	10 16 50.7	**-0.2**
	96nm,0.3s,baz=241,slow=21,SNR=15						
	55nm,0.2s						
JOD2	**Odawara 2**	**2.32**	**290**	P	**Pn**	10 16 27.1	**-0.1**
JOD2				*e*S	**Sn**	10 16 55.7	**+0.2**
JIZS	**Izushimoda**	**2.38**	**276**	P	**Pn**	10 16 28.1	**+0.1**
MJAR	**Matsushiro Arr**	**3.54**	**306**	Pn	**Pn**	10 16 44.7	**+0.7**
	0.8nm,0.3s,baz=52,slow=27,SNR=26						
MJAR				Sn	**Sn**	10 17 26.8	**+1.1**
	0.4nm,0.3s,baz=62,slow=18,SNR=3.9						
	3.4nm,0.4s						
KSRS	**Korea Array**	**11.59**	**289**	LR	LR	10 23 20.3	
	comp=Z,54nm,19.8s,baz=90,slow=39						
H11N2	**WAKE ISLAND Hy**	**26.68**	**117**	T	T	10 49 37.2	
	baz=309,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**26.68**	**117**	T	T	10 49 33.0	
	baz=309,slow=75,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**26.70**	**117**	T	T	10 49 38.1	
	baz=309,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**27.31**	**119**	T	T	10 50 28.4	
	baz=312,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**27.31**	**119**	T	T	10 50 29.5	
	baz=312,slow=76,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**27.33**	**119**	T	T	10 50 25.0	
	baz=312,slow=76,SNR=6.9						
ZALV	**Zalesovo Beam**	**43.86**	**314**	P	**P**	10 23 54.9	**0.0**
	0.6nm,0.5s,baz=98,slow=10,SNR=2.0						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	10 24 10.7	**+0.6**
	0.2nm,0.5s,baz=78,slow=7.6,SNR=2.2						

0.2nm,0.5s

KURBB	**Kurchatov Arra**	**47.81**	**310**	P		**P**	10 24 26.5	**+0.3**
	0.9nm,0.4s,baz=86,slow=7.6,SNR=5.9							
	0.9nm,0.4s							
ILAR	**Eielson Array**	**51.51**	**31**	P		**P**	10 24 54.8	**+0.6**
	0.5nm,0.7s,baz=252,slow=6.6,SNR=5.1							
	0.5nm,0.7s							
WRA	**Warramunga Arr**	**54.59**	**189**	P		**P**	10 25 18.1	**+0.8**
	1.0nm,0.7s,baz=5.0,slow=7.6,SNR=23							
	1.0nm,0.7s							
ASAR	**Alice Springs**	**58.31**	**188**	P		**P**	10 25 44.5	**+0.7**
	0.4nm,0.7s,baz=16,slow=11,SNR=13							
	0.4nm,0.7s							
NVAR	**Mina Array Bea**	**76.30**	**53**	P		**P**	10 27 36.7	**-1.4**
	0.5nm,0.7s,baz=293,slow=14,SNR=8.0							
	0.5nm,0.7s							

NEIC 27 10:17:51.8±2.2, 17°.26N±0°.06×95°.40W±0°.05, h110km±10km, Error ellipse: s-maj=9.0km s-min=6.5km az=200.0
IDC 27 10:17:51.6±0.6, 17°.21N×95°.00W, h117km±6km, mb3.6/11, mbtmp3.9/12, MS3.3/1, Error ellipse: s-maj=31.8km s-min=19.2km az=62.0
MEX 27 10:17:53.4±0.9, 17°.34N×95°.39W, h106km±7km, MD4.5

ISC 27 10:17:51.7±0.6, 17°.29N±0°.03×95°.43W±0°.02, h118km±5km, n222, σ1°95/273, mb4.2/34, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEUV	**Arroyo Zacate**	**0.55**	**320**	*e*P	**Pn**	10 18 08.4	**-1.4**
NEUV				*i* S	**Sn**	10 18 21.1	**-2.4**
CMIG	**Matias Romero**	**0.56**	**111**	P	**Pn**	10 18 08.7	**-1.2**
	4µm,0.3s,baz=260,slow=7.7						
CMIG				LR	LR	10 18 16.6	
	comp=Z,108nm,18.7s,baz=39,slow=155						
CMIG				S	**Sn**	10 18 21.0	**-2.5**
	1µm,0.3s,baz=49,slow=21,SNR=11						
CMIG	**Matias Romero**	**0.56**	**111**		**Pn**	10 18 09.0	**-0.8**
CMIG	**Matias Romero**	**0.56**	**111**	*i* P	**Pn**	10 18 09.0	**-0.8**
CMIG				*i* S	**Sn**	10 18 21.3	**-2.2**
NILT	**Santiago Nilte**	**1.06**	**133**	*i* P	**Pn**	10 18 13.5	**-0.7**
NILT				*e*S	**Sn**	10 18 29.5	**-1.7**
MIHL	**Minatitlan**	**1.09**	**50**	*i* P	**Pn**	10 18 13.6	**-1.0**
MIHL				*e*S	**Sn**	10 18 29.1	**-2.7**
TUIG	**Tuzandepetl**	**1.21**	**52**	*i* P	**Pn**	10 18 15.1	**-0.7**
TUIG				*e*S	**Sn**	10 18 31.5	**-2.5**
UXUV	**UXUV**	**1.22**	**89**	*i* P	**Pn**	10 18 15.3	**-0.7**
UXUV				*e*S	**Sn**	10 18 31.7	**-2.5**
OXLC	**Oaxaca**	**1.24**	**260**	*i* P	**Pn**	10 18 16.4	**0.0**
OXLC				*e*S	**Sn**	10 18 34.9	**-0.1**
OXBJ	**Oaxaca**	**1.26**	**260**		**Pn**	10 18 16.5	**0.0**
OXBJ	**Oaxaca**	**1.26**	**260**	*i* P	**Pn**	10 18 16.5	**0.0**
OXIG	**Oaxaca**	**1.27**	**260**		**Pn**	10 18 16.9	**+0.2**
OXIG					**Sn**	10 18 35.5	**0.0**
VHO	**Vista Hermosa**	**1.27**	**260**	*e*P	**Pn**	10 18 16.9	**+0.2**
VHO				*e*S	**Sn**	10 18 35.5	**0.0**
HUIG	**Huatulco**	**1.65**	**203**		**Pn**	10 18 19.3	**-1.5**
HUIG					**Sn**	10 18 41.0	**-2.0**
HUIG	**Huatulco**	**1.65**	**203**	*i* P	**Pn**	10 18 19.3	**-1.5**
HUIG				*i* S	**Sn**	10 18 41.0	**-2.0**
TOIG	**Toxpalan**	**1.75**	**297**		**Pn**	10 18 21.5	**-0.7**
TOIG					**Sn**	10 18 44.7	**-0.8**
TOIG	**Toxpalan**	**1.75**	**297**	*e*P	**Pn**	10 18 21.5	**-0.7**
TOIG				*e*S	**Sn**	10 18 44.7	**-0.8**
CARR	**Arriaga**	**1.78**	**125**	*i* P	**Pn**	10 18 21.6	**-0.8**
CARR				*e*S	**Sn**	10 18 43.2	**-2.6**
PANG	**Puerto Angel**	**1.90**	**212**		**Pn**	10 18 21.7	**-2.2**
PANG					**Sn**	10 18 46.0	**-2.4**
PANG	**Puerto Angel**	**1.90**	**212**	*i* P	**Pn**	10 18 21.7	**-2.2**
PANG				*e*S	**Sn**	10 18 46.0	**-2.4**
YOIG	**Yosondua**	**2.07**	**258**		**Pn**	10 18 26.0	**-0.3**
YOIG					**Sn**	10 18 50.6	**-2.1**
YOIG	**Yosondua**	**2.07**	**258**	*e*P	**Pn**	10 18 26.0	**-0.3**
YOIG				*e*S	**Sn**	10 18 50.6	**-2.1**
PEIG	**Puerto Escondi**	**2.09**	**232**		**Pn**	10 18 24.5	**-1.8**
PEIG					**Sn**	10 18 51.6	**-1.1**
PEIG	**Puerto Escondi**	**2.09**	**232**	*i* P	**Pn**	10 18 24.5	**-1.8**
PEIG				*i* S	**Sn**	10 18 51.6	**-1.1**
TPIG	**Tehuac#an**	**2.16**	**302**		**Pn**	10 18 28.0	**+0.7**
TPIG					**Sn**	10 18 51.0	**-3.4**
TPIG	**Tehuac#an**	**2.16**	**302**	*e*P	**Pn**	10 18 28.0	**+0.7**
TPIG				*e*S	**Sn**	10 18 51.0	**-3.4**
THEZ	**Tehuacan**	**2.21**	**303**	*e*P	**Pn**	10 18 29.1	**+1.2**
THEZ				*e*S	**Sn**	10 18 53.5	**-2.1**
OZST	**Orizaba**	**2.23**	**315**	*i* P	**Pn**	10 18 27.3	**-0.8**
OZST				*e*S	**Sn**	10 18 53.6	**-2.4**
TXIG	**Tlaxiaco**	**2.24**	**269**		**Pn**	10 18 28.6	**+0.3**
TXIG					**Sn**	10 18 54.4	**-2.0**
TXIG	**Tlaxiaco**	**2.24**	**269**	*i* P	**Pn**	10 18 28.6	**+0.3**
TXIG				*e*S	**Sn**	10 18 54.4	**-2.0**
TGIG		**2.26**	**103**		**Pn**	10 18 27.9	**-0.5**
TGIG					**Sn**	10 18 53.8	**-2.9**
TGIG		**2.26**	**103**	*i* P	**Pn**	10 18 27.9	**-0.5**
TGIG				*e*S	**Sn**	10 18 53.8	**-2.9**
TGBT	**Tuxtla Gutierr**	**2.29**	**103**		**Pn**	10 18 27.9	**-0.8**
TGBT					**Sn**	10 18 53.3	**-3.9**
TGBT	**Tuxtla Gutierr**	**2.29**	**103**	*e*P	**Pn**	10 18 27.9	**-0.8**
TGBT				*e*S	**Sn**	10 18 53.3	**-3.9**
HLIG	**Huajuapan de L**	**2.33**	**284**		**Pn**	10 18 30.0	**+0.5**
HLIG					**Sn**	10 18 56.3	**-2.1**
HLIG	**Huajuapan de L**	**2.33**	**284**	*e*P	**Pn**	10 18 30.0	**+0.5**
HLIG				*e*S	**Sn**	10 18 56.3	**-2.1**
JAUV	**Jalcomulco**	**2.44**	**328**	*i* P	**Pn**	10 18 29.2	**-1.5**
JAUV				*e*S	**Sn**	10 18 56.8	**-4.0**
VHSA	**Villahermosa**	**2.47**	**73**	*e*P	**Pn**	10 18 30.8	**-0.2**
VHSA				*e*S	**Sn**	10 18 59.3	**-2.0**
LVIG	**Laguna Verde**	**2.60**	**339**	*i* P	**Pn**	10 18 30.2	**-2.5**
LVIG				*i* S	**Sn**	10 18 58.6	**-5.6**
PCIG		**2.64**	**126**		**Pn**	10 18 33.1	**-0.1**
PCIG					**Sn**	10 19 04.7	**-0.5**
PCIG		**2.64**	**126**	*e*P	**Pn**	10 18 33.1	**-0.1**
PCIG				*e*S	**Sn**	10 19 04.7	**-0.5**
FTIG	**Fresnillo de T**	**2.65**	**284**		**Pn**	10 18 33.3	**-0.3**
FTIG					**Sn**	10 19 02.6	**-3.1**
FTIG	**Fresnillo de T**	**2.65**	**284**	*e*P	**Pn**	10 18 33.3	**-0.3**
FTIG				*e*S	**Sn**	10 19 02.6	**-3.1**
PNIG	**Pinotepa**	**2.74**	**251**		**Pn**	10 18 32.6	**-1.9**
PNIG					**Sn**	10 19 04.0	**-3.5**
PNIG	**Pinotepa**	**2.74**	**251**	*i* P	**Pn**	10 18 32.6	**-1.9**
PNIG				*e*S	**Sn**	10 19 04.0	**-3.5**
TLIG	**Tlapa**	**3.01**	**276**	Pn	**Pn**	10 18 38.6	**+0.3**
TLIG	**Tlapa**	**3.01**	**276**	*e*P	**Pn**	10 18 38.5	**+0.3**
TLIG				*e*S	**Sn**	10 19 09.6	**-4.5**
HMTT	**Tlapaneco**	**3.03**	**280**		**Pn**	10 18 38.9	**+0.4**
HMTT					**Sn**	10 19 08.6	**-5.9**
HMTT	**Tlapaneco**	**3.03**	**280**	*i* P	**Pn**	10 18 38.9	**+0.4**
HMTT				*e*S	**Sn**	10 19 08.6	**-5.9**
PHPU	**Puebla**	**3.14**	**304**	*e*	**Pn**	10 18 40.2	**+0.1**
PHPU				*e*		10 19 15.3	
CCIG	**Comitan**	**3.31**	**107**		**Pn**	10 18 42.3	**+0.1**
PPM	**Popocatepetl**	**3.52**	**301**	*i* P	**Pn**	10 18 47.5	**+2.3**
PPM				*e*S	**Sn**	10 19 18.4	**-8.2**
PPIG	**Popocatepetl**	**3.52**	**301**		**Pn**	10 18 47.5	**+2.2**
PPIG					**Sn**	10 19 18.4	**-8.3**
CXUV	**Coxquihui**	**3.52**	**325**	*i* P	**Pn**	10 18 44.7	**-0.3**
CXUV				*e*S	**Sn**	10 19 24.4	**-1.7**
PATR	**El Naranjo**	**3.75**	**125**	*e*P	**Pn**	10 18 47.5	**-0.7**
PATR				*e*		10 19 29.3	
PAVE	**Pavencul**	**3.75**	**123**	*e*P	**Pn**	10 18 48.2	**0.0**
PAVE				*e*		10 19 29.6	
YAIG	**Yautepec**	**3.80**	**295**		**Pn**	10 18 50.3	**+1.6**
YAIG					**Sn**	10 19 29.8	**-3.1**
YAIG	**Yautepec**	**3.80**	**295**	*e*P	**Pn**	10 18 50.3	**+1.6**
YAIG				*e*S	**Sn**	10 19 29.8	**-3.1**
CHUJ	**Union Juarez**	**3.86**	**124**	*e*P	**Pn**	10 18 49.5	**-0.1**
CHUJ				*e*		10 19 30.8	
PLIG	**Platanillo**	**4.03**	**286**		**Pn**	10 18 53.0	**+1.2**
PLIG					**Sn**	10 19 33.0	**-5.4**
PLIG	**Platanillo**	**4.03**	**286**	*i* P	**Pn**	10 18 53.0	**+1.2**
PLIG				*e*S	**Sn**	10 19 33.0	**-5.4**
MEIG	**Mezcala**	**4.05**	**280**		**Pn**	10 18 52.7	**+0.7**
MEIG					**Sn**	10 19 32.7	**-6.0**
MEIG	**Mezcala**	**4.05**	**280**	*e*P	**Pn**	10 18 52.7	**+0.7**
MEIG				*e*S	**Sn**	10 19 32.7	**-6.0**
HUEH	**Huehuetenango**	**4.25**	**117**		**Pn**	10 18 54.5	**-0.3**
SCIG	**Sabancuy**	**4.36**	**67**	*e*P	**Pn**	10 18 53.2	**-2.9**
SCIG				*e*S	**Sn**	10 19 39.4	**-6.7**
RTAL	**Retalhuleu**	**4.52**	**127**	Pn	**Pn**	10 18 59.8	**+1.5**
CAIG	**El Cayaco**	**4.63**	**268**		**Pn**	10 18 58.7	**-1.0**

CAIG						**Sn**	10 19 46.6	**-6.0**
CAIG	**El Cayaco**	**4.63**	**268**	*e*P		**Pn**	10 18 58.7	**-1.0**
CAIG				*e*S		**Sn**	10 19 46.6	**-6.0**
ARIG	**Puente Sto Nin**	**4.79**	**283**			**Pn**	10 19 03.3	**+1.4**
ARIG						**Sn**	10 19 50.4	**-6.0**
ARIG	**Puente Sto Nin**	**4.79**	**283**	*i* P		**Pn**	10 19 03.3	**+1.4**
ARIG				*e*S		**Sn**	10 19 50.4	**-6.0**
PETF	**Flores**	**5.33**	**93**			**Pn**	10 19 08.4	**-0.7**
MOIG	**Morelia**	**5.96**	**294**			**Pn**	10 19 18.8	**+0.9**
ESQI	**Esquipulas**	**6.45**	**114**	Pn		**Pn**	10 19 22.5	**-1.9**
MTO3	**Montecristo**	**6.51**	**115**			**Pn**	10 19 24.9	**-0.3**
TEIG	**Tepich**	**7.38**	**66**	Pn		**Pn**	10 19 34.2	**-2.5**
TGUH	**Tegucigalpa,Un**	**8.48**	**111**	Pn		**Pn**	10 19 50.6	**-1.4**
ACON	**Acoyapa**	**11.24**	**117**	Pn		**Pn**	10 20 30.6	**+1.6**
HZTE	**Horizontes, Gu**	**11.56**	**123**	Pn		**Pn**	10 20 35.2	**+1.9**
833A	**Chaparral WMA,**	**11.57**	**342**	Pn		**Pn**	10 20 33.8	**+0.5**
ORTG	**Ortega, Santa**	**11.88**	**124**			**Pn**	10 20 38.9	**+1.4**
DUNO	**Dulce Nombre,**	**12.02**	**125**	Pn		**Pn**	10 20 40.5	**+1.2**
JTS	**Las Juntas de**	**12.32**	**123**	Pn		**Pn**	10 20 45.0	**+1.7**
SOR	**Soroa**	**12.89**	**63**	Pn		**Pn**	10 20 50.1	**-0.5**
RIMA	**Rio Macho**	**13.50**	**122**	Pn		**Pn**	10 20 59.9	**+1.1**
441A	**DeRidder**	**13.55**	**8**	Pn		**Pn**	10 21 01.5	**+2.4**
435B	**Jarrell**	**13.57**	**352**	Pn		**Pn**	10 21 01.1	**+1.6**
JCT	**Junction City**	**13.72**	**344**	Pn		**Pn**	10 21 01.1	**-0.4**
PEZE	**Perez Zeledon,**	**13.87**	**123**	Pn		**Pn**	10 21 04.6	**+1.2**
TXAR	**Lajitas Array**	**14.17**	**329**	P		**P**	10 21 10.5	**-0.5**
	1.2nm,0.8s,baz=160,slow=11,SNR=18							
TXAR	**Lajitas Array**	**14.17**	**329**	Pn		**Pn**	10 21 08.1	**+0.9**
TX31	**Lajitas Ar. Si**	**14.17**	**329**	Pn		**Pn**	10 21 06.0	**-1.2**
TX32	**Lajitas Array**	**14.17**	**329**	Pn		**Pn**	10 21 05.9	**-1.3**
SRBA	**San Rafael, Bu**	**14.21**	**123**	Pn		**Pn**	10 21 08.1	**+0.3**
DRK0	**Durika**	**14.28**	**122**			**P**	10 21 10.7	**-1.8**
342A	**Flagon Creek P**	**14.30**	**11**	Pn		**Pn**	10 21 10.3	**+1.6**
NATX	**Nacogdoches**	**14.42**	**3**	Pn		**Pn**	10 21 11.0	**+0.7**
344A	**Westbrook Farm**	**14.73**	**16**	Pn		**Pn**	10 21 16.2	**+2.0**
WHTX	**Lake Whitney,**	**14.75**	**353**	Pn		**Pn**	10 21 14.1	**-0.4**
346A	**Big Creek Wild**	**15.04**	**20**			**Pn**	10 21 19.0	**+0.8**
ABTX	**Abilene, Hawle**	**15.73**	**347**			**P**

HODGE					IAmb	IAmb	10 22 20.9		
	comp=Z,9.7nm,0.7s								
BG3	**Lake Jocassee**	**20.86**	**30**	P	**P**		**10 22 23.4**	**-0.8**
BG3				IAmb	IAmb		10 22 39.4		
	comp=Z,10nm,0.9s								
V51A	**Loudon**	**20.90**	**26**	P	**P**		**10 22 23.4**	**-1.3**
V51A				IAmb	IAmb		10 22 42.0		
	comp=Z,19nm,1.4s								
CCM	**Cathedral Cave**	**21.01**	**9**	P	**P**		**10 22 24.3**	**-1.5**
CCM				IAmb	IAmb		10 22 28.7		
	comp=Z,16nm,1.4s								
TKL	**Tuckaleechee C**	**21.02**	**27**	P	**P**		**10 22 24.9**	**-1.1**
	comp=Z,2.5nm,0.4s,baz=199,slow=8.9,SNR=9.9								
	comp=Z,2.5nm,0.4s								
TKL	**Tuckaleechee C**	**21.02**	**27**	P	**P**		**10 22 24.6**	**-1.4**
TKL				IAmb	IAmb		10 22 43.1		
	comp=Z,10nm,0.9s								
S44A	**Carbondale**	**21.04**	**14**	P	**P**		**10 22 26.6**	**+0.5**
S44A				IAmb	IAmb		10 22 28.9		
	comp=Z,12nm,0.7s								
SIUC	**Southern Illin**	**21.07**	**14**	P	**P**		**10 22 26.3**	**-0.1**
SIUC				IAmb	IAmb		10 22 30.3		
	comp=Z,12nm,0.7s								
JSC	**Jenkinsville**	**21.15**	**34**	IAmb	IAmb		10 22 27.0		
	comp=Z,15nm,0.5s								
T25A	**Trinidad**	**21.30**	**340**	P	**P**		**10 22 30.6**	**+1.4**
T25A				IAmb	IAmb		10 22 34.6		
	comp=Z,14nm,1.2s								
KSU1	**Kansas State U**	**21.75**	**358**	P	**P**		**10 22 34.2**	**+0.4**
KSU1				IAmb	IAmb		10 22 35.6		
	comp=Z,8.4nm,0.8s								
T50A	**Nancy**	**21.76**	**23**	P	**P**		**10 22 34.1**	**+0.2**
T50A				IAmb	IAmb		10 22 51.2		
	comp=Z,7.5nm,0.7s								
Y58A	**Scranton**	**21.76**	**38**	P	**P**		**10 22 33.1**	**-0.8**
KMSC	**Kings Mountain**	**21.77**	**33**	P	**P**		**10 22 33.5**	**-0.5**
KMSC				IAmb	IAmb		10 22 33.8		
	comp=Z,7.7nm,0.8s								
BIRD	**Birdtown, Kers**	**21.85**	**35**	P	**P**		**10 22 34.4**	**-0.5**
BIRD				IAmb	IAmb		10 23 05.6		
	comp=Z,14nm,1.3s								
SDCO	**Great Sand Dun**	**22.22**	**338**	P	**P**		**10 22 40.9**	**+1.9**
Q44A	**Meyer Farm, Va**	**22.25**	**13**	P	**P**		**10 22 38.7**	**-0.1**
OLIL	**Olney**	**22.30**	**15**	P	**P**		**10 22 39.0**	**-0.4**
P38A	**Dawn**	**22.32**	**4**	P	**P**		**10 22 38.0**	**-1.5**
P38A				IAmb	IAmb		10 23 14.4		
	comp=Z,11nm,0.8s								
P40A	**Paris**	**22.35**	**7**	P	**P**		**10 22 39.7**	**-0.2**
P40A				IAmb	IAmb		10 22 41.1		
	comp=Z,6.5nm,0.5s								
V55A	**Taylorsville**	**22.39**	**32**	P	**P**		**10 22 39.6**	**-0.7**
V55A				IAmb	IAmb		10 22 40.3		
	comp=Z,7.0nm,0.7s								
R49A	**Shelbyville**	**22.77**	**21**	IAmb	IAmb		10 22 44.8		
	comp=Z,8.8nm,0.7s								
S51A	**Beattyville**	**22.79**	**25**	P	**P**		**10 22 43.1**	**-1.2**
S51A				IAmb	IAmb		10 23 05.9		
	comp=Z,9.6nm,0.8s								
P43A	**Skaggs, Pawnee**	**22.86**	**12**	P	**P**		**10 22 43.9**	**-1.0**
P43A				IAmb	IAmb		10 23 01.0		
	comp=Z,10nm,1.0s								
R50A	**Paris**	**23.07**	**23**	P	**P**		**10 22 45.4**	**-1.5**
R50A				IAmb	IAmb		10 22 47.4		
	comp=Z,8.4nm,0.8s								
BLO	**Bloomington**	**23.14**	**18**	P	**P**		**10 22 46.7**	**-1.0**
V58A	**Windy Hill, Pi**	**23.44**	**35**	IAmb	IAmb		10 22 51.2		
	comp=Z,13nm,0.8s								
YUH	**Yuha Desert**	**24.00**	**313**	P	**P**		**10 22 55.9**	**+0.4**
PV11	**David Mesa, Pa**	**24.02**	**333**	P	**P**		**10 22 56.4**	**+0.6**
PV07	**Paradox Valley**	**24.04**	**334**	P	**P**		**10 22 55.3**	**-0.8**
Q51A	**Peebles**	**24.09**	**24**	P	**P**		**10 22 55.9**	**-0.3**
Q51A				IAmb	IAmb		10 23 22.5		
	comp=Z,23nm,0.9s								
CCX	**Cicese**	**24.09**	**311**	P	**P**		**10 22 58.7**	**+2.3**
SFIN	**Lafayette**	**24.11**	**16**	P	**P**		**10 22 56.7**	**+0.3**
PV23	**Carpenter Ridg**	**24.21**	**333**	P	**P**		**10 22 59.2**	**+1.6**
PV23				IAmb	IAmb		10 23 01.8		
	comp=Z,7.8nm,0.9s								
OGNE	**Ogallala**	**24.25**	**348**	P	**P**		**10 22 56.2**	**-1.6**
OGNE				IAmb	IAmb		10 23 02.0		
	comp=Z,14nm,0.8s								
CBX	**Cerro Bola**	**24.33**	**312**	P	**P**		**10 23 01.4**	**+2.7**
Q52A	**Bidwell**	**24.46**	**25**	P	**P**		**10 22 58.9**	**-0.6**
U59A	**Littleton**	**24.58**	**36**	P	**P**		**10 23 01.1**	**+0.4**
P51A	**Williamsport**	**24.59**	**23**	P	**P**		**10 23 00.9**	**+0.2**
O49A	**Covington**	**24.76**	**21**	P	**P**		**10 23 01.8**	**-0.5**
R55A	**Marlinton**	**24.84**	**30**	P	**P**		**10 23 02.5**	**-0.6**
R55A				IAmb	IAmb		10 23 05.0		
	comp=Z,12nm,0.8s								
PFO	**Pinyon Flats O**	**24.92**	**315**	LR	LR		10 32 57.3		
	comp=Z,66nm,18.9s,baz=324,slow=36								
MTPU	**Mount Pierson**	**25.37**	**328**	P	**P**		**10 23 08.4**	**+0.1**
PDAR	**Pinedale Array**	**28.10**	**338**	P	**P**		**10 23 34.3**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=154,slow=2.9,SNR=2.5								
	comp=Z,0.2nm,0.5s								
ELK	**Elko**	**28.96**	**328**	P	**P**		**10 23 42.5**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=187,slow=1.0,SNR=6.3								
	comp=Z,1.0nm,0.7s								
NV11	**Mina Array Sit**	**28.96**	**321**	P	**P**		**10 23 43.1**	**+2.9**
MDPB	**Devils Postpil**	**29.03**	**319**	P	**P**		**10 23 41.5**	**+0.6**
NVAR	**Mina Array Bea**	**29.05**	**321**	P	**P**		**10 23 44.6**	**+3.6**
	comp=Z,2.3nm,0.7s,baz=134,slow=9.1,SNR=26								
	comp=Z,2.3nm,0.7s								
NVAR	**Mina Array Bea**	**29.05**	**321**	P	**P**		**10 23 42.7**	**+1.6**
LHV	**Little Huntoon**	**29.06**	**321**	P	**P**		**10 23 44.8**	**+4.0**
SNOW	**Snow King Moun**	**29.15**	**337**	P	**P**		**10 23 44.4**	**+2.5**
SNOW				IAmb	IAmb		10 23 49.0		
	comp=Z,4.2nm,0.8s								
EMB	**Emerald Bay**	**30.49**	**320**	P	**P**		**10 23 54.1**	**+0.3**
EMB				IAmb	IAmb		10 23 58.2		
	comp=Z,3.8nm,0.9s								
HLID	**Hailey**	**30.73**	**332**	P	**P**		**10 23 57.5**	**+1.7**
WVOR	**Wild Horse Val**	**31.94**	**327**	P	**P**		**10 24 08.8**	**+2.4**
J08A	**Circle Bar Ran**	**32.51**	**328**	P	**P**		**10 24 14.2**	**+2.9**
J08A				IAmb	IAmb		10 24 14.7		
	comp=Z,7.1nm,0.8s								
SCHQ	**Schefferville**	**43.42**	**24**	P	**P**		**10 25 41.6**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=219,slow=9.9,SNR=2.3								
	comp=Z,2.5nm,0.8s								
DLBC	**Dease Lake**	**48.33**	**336**	P	**P**		**10 26 23.6**	**+2.4**
	comp=Z,3.0nm,1.0s,baz=5.0,slow=1.6,SNR=4.6								
	comp=Z,3.0nm,1.0s								
INK	**Inuvik**	**56.38**	**344**	P	**P**		**10 27 20.6**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=153,slow=7.6,SNR=5.3								
	comp=Z,2.7nm,0.6s								
ILAR	**Eielson Array**	**58.53**	**337**	P	**P**		**10 27 36.8**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=113,slow=4.5,SNR=5.0								
	comp=Z,0.6nm,0.9s								
PLCA	**Paso Flores**	**62.18**	**159**	P	**P**		**10 27 58.3**	**-2.4**
	comp=Z,0.7nm,0.7s,baz=11,slow=9.3,SNR=3.1								
	comp=Z,0.7nm,0.7s								
ARCES	**ARCESS Array B**	**84.04**	**18**	P	**P**		**10 30 09.7**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=305,slow=4.3,SNR=9.6								
	comp=Z,0.8nm,0.5s								
WRA	**Warramunga Arr**	**132.90**	**259**	PKP	**PKPdf**		**10 36 55.1**	**+1.3**	
	comp=Z,0.3nm,0.5s,baz=83,slow=2.5,SNR=10								

IDC ***27*** *10:19:39.3±5.2, 34.°02S×71.°60W, h0km, mb3.6/2, mbtmp3.6/4, ML3.6/2, MS3.4/3, Error ellipse: s-maj=176.3km s-min=22.4km az=93.0*
GUC ***27*** *10:19:40.2±0.7, 33.°99S×72.°18W, h14km±4km, ML3.7*
NEIC ***27*** *10:19:40.2±2.2, 33.°96S±0.°05×72.°2W±0.°1, h20km±4km, mb4.2/6, ML3.7(GUC), Error ellipse: s-maj=12.7km s-min=6.2km az=104.0*
ISC 27 10:19:39.9±1.4, 33.°98S±0.°03×72.°24W±0.°06, h23km±11km, n65, σ0°84/77, mb4.2/5, 2C-10D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.56**	**156**	**i**P		**Pb**	**10 19 51.1**	**-0.1**
BO03				*i* S		**Sb**	**10 19 58.5**	**-0.3**
BO03				IAML			10 19 59.5	
	comp=E,7μm,0.4s							
VA05	**Santo Domingo**	**0.61**	**58**			**Pb**	**10 19 52.3**	**+0.3**
VA05	**Santo Domingo**	**0.61**	**58**	i P		**Pb**	**10 19 52.2**	**+0.3**
VA05				*i* S		**Sb**	**10 20 00.4**	**+0.2**
VA05				IAML			10 20 02.7	
	comp=E,11μm,0.3s							
MT01	**Popeta**	**0.83**	**82**			**Pb**	**10 19 55.4**	**-0.3**
MT01	**Popeta**	**0.83**	**82**	i P		**Pb**	**10 19 55.3**	**-0.3**
MT01				*i* S		**Sb**	**10 20 06.2**	**-0.3**
MT01				IAML			10 20 07.9	
	comp=N,4μm,0.2s							
MT09	**Talagante**	**1.06**	**79**			**Pn**	**10 19 58.8**	**-0.7**
MT09	**Talagante**	**1.06**	**79**	i P		**Pn**	**10 19 58.9**	**-0.6**
MT09				*i* S		**Sn**	**10 20 13.5**	**-0.2**
MT09				IAML			10 20 17.4	
	comp=N,3μm,0.2s							
MT02	**Curacav**	**1.17**	**52**			**Pn**	**10 20 00.8**	**-0.1**
MT02	**Curacav**	**1.17**	**52**	i P		**Pn**	**10 20 00.7**	**-0.1**
MT02				*i* S		**Sn**	**10 20 15.8**	**-0.3**
MT02				IAML			10 20 19.5	
	comp=E,1μm,0.5s							
BO04	**La Punta**	**1.35**	**91**			**Pn**	**10 20 03.6**	**+0.1**
BO04	**La Punta**	**1.35**	**91**	i P		**Pn**	**10 20 03.5**	**+0.1**
BO04				*i* S		**Sb**	**10 20 21.8**	**+0.2**
BO04				IAML			10 20 27.5	
	comp=E,2μm,0.1s							
MT05	**Renca**	**1.38**	**65**			**Pn**	**10 20 04.2**	**+0.3**
MT05	**Renca**	**1.38**	**65**	*e*P		**Pn**	**10 20 04.2**	**+0.3**
MT05				*i* S		**Sb**	**10 20 22.3**	**-0.1**
MT05				IAML			10 20 36.6	
	comp=E,2μm,0.5s							
ROC1	**El Roble**	**1.43**	**46**			**Pn**	**10 20 05.4**	**+0.6**
ROCH	**El Roble**	**1.44**	**46**	i P		**Pn**	**10 20 05.3**	**+0.5**
ROCH				*e*P		**Pn**	**10 20 05.2**	**+0.5**
ROCH				*i* S		**Sb**	**10 20 24.2**	**+0.1**
ROCH				IAML			10 20 32.8	
	comp=N,2μm,0.7s							
ROCH				IAML			10 20 33.0	
	comp=N,3μm,0.6s							
BO02	**Sierra Bellavi**	**1.45**	**124**	Pn		**Pn**	**10 20 04.7**	**-0.1**
BO02	**Sierra Bellavi**	**1.45**	**124**	*e*P		**Pn**	**10 20 04.8**	**-0.1**
BO02				*i* S		**Sb**	**10 20 24.2**	**-0.2**
BO02				IAML			10 20 30.6	
	comp=E,5μm,0.5s							
MT03	**Universidad Ad**	**1.52**	**72**			**Pn**	**10 20 06.4**	**+0.5**
MT03	**Universidad Ad**	**1.52**	**72**	i P		**Pn**	**10 20 06.3**	**+0.5**
MT03				*i* S		**Sb**	**10 20 26.1**	**-0.3**
MT03				IAML			10 20 30.4	
	comp=N,3μm,0.4s							
PEL	**Peldehue**	**1.54**	**58**	Pn		**Pb**	**10 20 07.1**	**-0.7**
PEL	**Peldehue**	**1.54**	**58**	i P		**Pb**	**10 20 07.0**	**-0.8**
PEL				*i* S		**Sb**	**10 20 27.0**	**0.0**
PEL				IAML			10 20 33.6	
	comp=E,1μm,0.3s							
VA06	**Catapilco**	**1.62**	**29**			**Pn**	**10 20 07.2**	**+0.1**
VA06	**Catapilco**	**1.62**	**29**	*e*P		**Pn**	**10 20 07.0**	**0.0**
VA06				*i* S		**Sb**	**10 20 30.6**	**+1.5**
VA06				IAML			10 20 40.4	
	comp=E,2μm,0.2s							
LMEL	**Las Melosas**	**1.70**	**86**			**Pn**	**10 20 09.1**	**+0.8**
LMEL	**Las Melosas**	**1.70**	**86**	i P		**Pn**	**10 20 09.4**	**+1.1**
LMEL				*i* S		**Sb**	**10 20 31.1**	**-0.5**
LMEL				IAML			10 20 33.0	
	comp=N,2μm,0.3s							
FCH	**Farellones**	**1.75**	**69**	*i* P		**Pn**	**10 20 09.9**	**+0.7**
FCH				*i* S		**Sb**	**10 20 32.7**	**-0.6**
FCH				IAML			10 20 40.1	
	comp=E,1μm,0.4s							
VA03	**San Esteban**	**1.86**	**50**			**Pn**	**10 20 11.8**	**+1.2**
VA03	**San Esteban**	**1.86**	**50**	i P		**Pn**	**10 20 11.7**	**+1.2**
VA03				*i* S		**Sb**	**10 20 36.5**	**+0.2**
VA03				IAML			10 20 44.7	
	comp=E,2μm,0.5s							
ML02	**Panimavida**	**1.90**	**159**	Pn		**Pb**	**10 20 12.8**	**-1.1**
ML02	**Panimavida**	**1.90**	**159**	*e*P		**Pb**	**10 20 12.5**	**-1.4**
ML02				*i* S		**Sb**	**10 20 37.8**	**+0.5**
ML02				IAML			10 20 49.0	
	comp=E,1μm,0.5s							
CO02	**Combarbal**	**2.96**	**21**			**Pn**	**10 20 26.2**	**+0.5**
CO02	**Combarbal**	**2.96**	**21**	i P		**Pn**	**10 20 26.1**	**+0.5**
CO02				IAML			10 21 21.2	
	comp=E,751nm,0.2s							
CO06	**Fray Jorge**	**3.34**	**9**	Pn		**Pn**	**10 20 30.4**	**-0.3**
CO06	**Fray Jorge**	**3.34**	**9**	*e*P		**Pn**	**10 20 30.1**	**-0.6**
GO04	**Tololo Observa**	**3.99**	**18**			**Pn**	**10 20 40.2**	**+0.3**
CO01	**Juntas del Tor**	**4.39**	**25**			**Pn**	**10 20 46.8**	**+1.5**
LCO	**Las Campanas**	**5.13**	**15**	Pn		**Pn**	**10 20 55.2**	**-0.4**
LCO						**Pn**	**10 20 55.4**	**-0.2**
AC05	**El Transito**	**5.40**	**19**			**Pn**	**10 20 59.8**	**+0.7**
H03S1	**Juan Fernandez**	**5.54**	**270**	T		T	10 26 57.1	
	baz=90,SNR=418							
H03S3	**Juan Fernandez**	**5.55**	**270**	T		T	10 26 58.4	
	baz=90,SNR=291							
H03S2	**Juan Fernandez**	**5.56**	**270**	T		T	10 26 57.7	
	baz=90,SNR=320							
GO06	**Curarrehue**	**5.62**	**174**	Pn		**Pn**	**10 21 03.3**	**+1.1**
AC04	**Llanos de Chal**	**5.84**	**10**	Pn		**Pn**	**10 21 04.3**	**-0.8**
LR04	**Corral**	**5.96**	**189**	Pn		**Pn**	**10 21 07.5**	**+0.7**
AC06	**Mina Casimiro**	**6.80**	**14**	Pn		**Pn**	**10 21 18.2**	**-0.1**
PLCA	**Paso Flores**	**6.87**	**169**	Pn		**Pn**	**10 21 20.9**	**+1.6**
	comp=E,0.2nm,0.3s,baz=344,slow=14,SNR=9.4							
PLCA				Lg		Lg	10 23 12.8	
	comp=E,0.2nm,0.3s,baz=258,slow=21,SNR=2.1							
	comp=E,0.7nm,0.5s							
PLCA	**Paso Flores**	**6.87**	**169**	Pn		**Pn**	**10 21 21.1**	**+1.8**
AC02	**Maricunga**	**7.61**	**21**	Pn		**Pn**	**10 21 29.7**	**-0.2**
GO02	**Mina Guanaco**	**9.09**	**15**	Pn		**Pn**	**10 21 47.5**	**-2.4**
PB14	**IPOC Station P**	**9.46**	**10**	Pn		**Pn**	**10 21 52.5**	**-2.6**
PB06	**IPOC Station P**	**11.48**	**12**	Pn		**Pn**	**10 22 23.7**	**+1.2**
COYC	**Coyhaique**	**11.58**	**179**	Pn		**Pn**	**10 22 23.5**	**-0.2**
LVC	**Limon Verde**	**11.70**	**15**	LR		LR	10 27 08.9	
	comp=E,91nm,18.4s,baz=210,slow=39							
CPUP	**Villa Florida**	**14.97**	**63**	LR		LR	10 29 26.5	
	comp=E,62nm,20.9s,baz=240,slow=40							
LPAZ	**La Paz**	**18.00**	**13**	P		**P**	**10 23 50.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=183,slow=6.7,SNR=8.7							
	comp=E,2.0nm,0.7s							
LPAZ	**La Paz**	**18.00**	**13**			**P**	**10 23 50.6**	**+0.9**
SIV	**San Ignacio**	**20.55**	**32**	P		**P**	**10 24 17.6**	**+0.7**
	comp=E,1.1nm,0.6s,baz=206,slow=9.7,SNR=6.5							
	comp=E,1.1nm,0.6s							
ETMB	**Extrema**	**24.68**	**14**	P		**P**	**10 24 58.3**	**-0.9**
ETMB				IAmb		IAmb	10 25 02.7	
	comp=Z,3.4nm,0.9s							
BDFB	**Brasilia**	**28.46**	**56**	P		**P**	**10 25 31.5**	**-1.9**
BDFB				IAmb		IAmb	10 25 38.5	
	comp=Z,10nm,1.5s							
SNAA	**Sanae**	**51.66**	**158**	P		**P**	**10 28 46.0**	**+1.4**
SNAA				IAmb		IAmb	10 28 46.4	
	comp=Z,3.8nm,1.3s							
QSPA	**South Pole Qui**	**56.25**	**180**	P		**P**	**10 29 17.9**	**-0.4**
QSPA				IAmb		IAmb	10 29 25.0	
	comp=Z,3.8nm,1.2s							
TLIG	**Tlapa**	**57.07**	**330**	P		**P**	**10 29 25.3**	**+0.8**
TXAR	**Lajitas Array**	**69.64**	**331**	P		**P**	**10 30 46.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**84.36**	**70**	P		**P**	**10 32 10.8**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=250,slow=3.9,SNR=3.2							
	comp=Z,0.9nm,0.9s							
RAO	**Raoul Island**	**85.74**	**238**	LR		LR	11 01 38.0	
	comp=Z,133nm,21.2s,baz=243,slow=29							

IDC ***27*** *10:25:08.3±0.7, 51.°19N×177.°55W, h0km, mb4.2/25, mbtmp4.2/29, ML3.8/4, MS3.5/15, Error ellipse: s-maj=21.4km s-min=11.0km az=177.0*
AEIC ***27*** *10:25:09±3.4, 50.°77N±0.°06×177.°42W±0.°04, h18km±5km, Error ellipse: s-maj=9.0km s-min=3.8km az=170.0*
MOS ***27*** *10:25:11.5±1.1, 51.°18N×177.°52W, h36km, mb4.9/28, Error ellipse: s-maj=9.2km s-min=7.0km az=95.7*
NEIC ***27*** *10:25:12.8±2.9, 50.°97N±0.°06×177.°46W±0.°07, h40km±8km, mb4.3/134, ML4.3(AEIC), Error ellipse: s-maj=9.6km s-min=5.6km az=160.0*
ISC 27 10:25:12.5±0.4, 51.°03N±0.°06×177.°53W±0.°03, h32km, n483, σ1°37/485, mb4.4/93, MS3.5/12, 22C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.75**	**14**			**Pb**	**10 25 27.5**	**+0.3**
TAPA	**Tanaga Point A**	**0.81**	**347**			**Pb**	**10 25 28.3**	**+0.3**
KIWB	**Kanaga Island**	**0.86**	**16**			**Pb**	**10 25 29.1**	**+0.2**
KIWB	**Kanaga Island**	**0.86**	**16**			**Sb**	**10 25 43.6**	**+3.5**
TASE	**Tanaga Southea**	**0.87**	**339**			**Pb**	**10 25 29.4**	**+0.3**
KIKV	**Kanaga Island**	**0.88**	**15**			**Pb**	**10 25 29.5**	**+0.3**
KICM	**Kanaga Island**	**0.91**	**13**			**Pb**	**10 25 30.3**	**+0.5**
ADK	**Adak**	**1.00**	**31**			**Pn**	**10 25 30.3**	**0.0**
ADK	**Adak**	**1.00**	**31**			**Sb**	**10 25 45.8**	**+1.6**
GALAA	**Gareloi Lava P**	**1.07**	**314**			**Pb**	**10 25 32.3**	**-0.1**
GAEA	**Gareloi East**	**1.07**	**315**			**Pb**	**10 25 32.4**	**-0.1**
GANE	**Gareloi Northe**	**1.11**	**316**			**Pb**	**10 25 32.8**	**+1.0**
GASW	**Gareloi Southw**	**1.12**	**312**			**Pn**	**10 25 32.6**	**+0.7**
GSCK	**Great Sitkin C**	**1.30**	**40**			**Pn**	**10 25 34.5**	**+0.1**
GSTD	**Great Sitkin T**	**1.34**	**40**			**Pn**	**10 25 35.4**	**+0.4**
GSTD						**Sb**	**10 25 54.5**	**+0.6**
GSMY	**Great Sitkin M**	**1.37**	**42**			**Pn**	**10 25 35.4**	**+0.1**
GSTR	**Great Sitkin T**	**1.40**	**40**			**Pn**	**10 25 35.1**	**-0.7**
CERAA	**Semis' Rag'd T**	**1.95**	**298**			**Pn**	**10 25 44.3**	**+1.0**
CEPE	**Semis' Perret**	**2.00**	**299**			**Pn**	**10 25 45.3**	**+1.3**
CESW	**Semis' Southwe**	**2.02**	**297**			**Pn**	**10 25 44.9**	**+0.7**
AMKA	**Amchitka**	**2.02**	**281**			**Pn**	**10 25 43.7**	**-0.7**
AMKA	**Amchitka**	**2.02**	**281**			**Sn**	**10 26 10.8**	**+2.3**
CETU	**Semis' Tuman**	**2.08**	**298**			**Pn**	**10 25 46.3**	**+1.1**
CETU						**Sb**	**10 26 16.7**	**+1.6**
KOKL	**Mount Kliuchef**	**2.44**	**57**			**Pn**	**10 25 50.9**	**+0.7**
KOFP	**Korovin Flat P**	**2.47**	**58**			**Pn**	**10 25 51.0**	**+0.5**
KOSE	**Korovin Southe**	**2.53**	**57**			**Pn**	**10 25 52.3**	**+0.9**
LSSE	**Little Sitkin**	**2.60**	**292**			**Pn**	**10 25 53.8**	**+1.5**
LSPA	**Little Sitkin**	**2.61**	**292**			**Pn**	**10 25 53.1**	**+0.7**
LSPA						**Sb**	**10 26 27.7**	**-2.4**
CLES	**Cleveland East**	**5.05**	**66**	Pn		**Pn**	**10 26 27.9**	**+2.0**
CLCO	**Concord Point,**	**5.14**	**67**			**Pn**	**10 26 27.3**	**+0.1**
SHEM	**Shemya Is, Ala**	**5.46**	**291**	Pn		**Pn**	**10 26 31.7**	**+0.3**
	4.4nm,0.3s,baz=110,slow=2.7,SNR=4.2							
SHEM				LR		LR	10 28 27.3	
	comp=Z,232nm,20.6s,baz=125,slow=37							
	50nm,0.8s							
NIKH	**Nikolski High**	**5.70**	**67**	Pn		**Pn**	**10 26 36.6**	**+1.8**
NIKH	**Nikolski High**	**5.70**	**67**	P		**Pn**	**10 26 34.0**	**-0.8**
	baz=251							
MAPS	**Pakushin South**	**7.04**	**63**			**Pn**	**10 26 53.9**	**+0.6**
MNAT	**Makushin Natee**	**7.21**	**62**			**Pn**	**10 26 57.0**	**+1.4**
UNV	**Unalaska Valle**	**7.30**	**63**	Pn		**Pn**	**10 26 58.7**	**+1.9**
UNV	**Unalaska Valle**	**7.30**	**63**	P		**Pn**	**10 26 57.3**	**+0.5**
	baz=250							
SPIA	**Saint Paul Isl**	**7.49**	**32**			**Pn**	**10 27 02.1**	**+2.7**
AKUT	**Akutan**	**7.80**	**62**	Pn		**Pn**	**10 27 03.7**	**+0.1**
FALS	**False Pass**	**9.34**	**60**	P		**Pn**	**10 27 24.1**	**-0.5**
	baz=250							
SDPT	**Sand Point**	**11.10**	**60**	Pn		**Pn**	**10 27 48.3**	**-0.4**
SDPT	**Sand Point**	**11.10**	**60**	P		**Pn**	**10 27 49.2**	**+0.5**
	baz=253							
CNBA	**Chernabura Isl**	**11.46**	**64**	Pn		**Pn**	**10 27 54.3**	**+0.6**
CHNA	**Chernabura Isl**	**11.47**	**64**	P		**Pn**	**10 27 55.5**	**+1.7**
	baz=257							
S14K	**Fog Glacier**	**11.87**	**57**	P		**Pn**	**10 28 00.9**	**+1.5**
	baz=250							
O16K	**Kokwok River B**	**13.95**	**45**	P		**Pn**	**10 28 27.3**	**-0.4**
	baz=240							
N16K	**Nishlik Lake**	**14.12**	**41**	P		**Pn**	**10 28 29.0**	**-1.1**
	baz=235,SNR=6.9							
Q16K	**King Salmon**	**14.20**	**49**	P		**Pn**	**10 28 30.8**	**-0.3**
	baz=245							
P17K	**Kvichak River**	**14.52**	**48**	P		**Pn**	**10 28 35.9**	**+0.5**
	baz=244							
ANM	**Nome**	**14.99**	**21**	P		**Pn**	**10 28 39.8**	**-2.0**
	baz=210							
PEA0B	**Petropavlovsk-**	**15.36**	**287**	*i* P		**Pn**	**10 28 46.9**	**+0.3**
PETK	**Petropavlovsk-**	**15.36**	**287**	Pn		**Pn**	**10 28 47.1**	**+0.5**
	1.2nm,0.3s,baz=99,slow=13,SNR=3.1							
PETK				LR		LR	10 34 24.6	
	comp=Z,201nm,21.9s,baz=93,slow=36							
	3.5nm,0.5s							
O18K	**Koktuh Hills**	**15.37**	**46**			**Pn**	**10 28 45.3**	**-1.5**
O18K				IAmb		IAmb	10 29 08.8	
	comp=Z,14nm,0.8s							
O18K	**Koktuh Hills**	**15.37**	**46**	P		**Pn**	**10 28 46.6**	**-0.2**
	baz=244							
N18K	**Kilae Creek**	**15.45**	**43**			**Pn**	**10 28 46.9**	**-0.8**
**N18

comp=Z,12nm,0.6s
SEW Seward 18.16 49 P Pn 10 29 20.2 -1.5
baz=252
RC01 Rabbit Creek A 18.35 46 P 10 29 22.6 -1.4
RC01 Rabbit Creek A 18.35 46 P P 10 29 23.6 -0.4
baz=248
CAST Castle Rocks 18.37 38 P 10 29 24.2 -0.1
CAST Castle Rocks 18.37 38 P Pn 10 29 24.4 0.0
baz=239,SNR=8.2
M22K Willow 18.43 44 Pn 10 29 25.0 0.0
M22K IAmb IAmb 10 29 34.5
comp=Z,18nm,1.0s
M22K Willow 18.43 44 P P 10 29 23.9 -0.9
baz=246
CHUM Lake Minchumin 18.52 36 P P 10 29 23.6 -2.3
baz=237
CUT Chulitna 18.63 42 P 10 29 24.4 -2.7
CUT Chulitna 18.63 42 P Pn 10 29 27.4 -0.1
baz=244
PMR Palmer 18.80 45 P Pn 10 29 30.4 +0.8
baz=248
KTH Kantishna Hill 18.89 38 P Pn 10 29 30.4 -0.3
KTH IAmb IAmb 10 29 31.9
comp=Z,26nm,0.9s
PWL Port Wells 18.91 47 P P 10 29 29.3 -0.9
PWL Port Wells 18.91 47 P P 10 29 29.5 -0.7
baz=251
KNK Knik Glacier 19.04 46 P P 10 29 30.1 -1.5
KNK Knik Glacier 19.04 46 P Pn 10 29 32.1 -0.4
baz=249
TRF Thorofare Moun 19.09 39 P P 10 29 30.9 -1.4
TRF IAmb IAmb 10 29 50.5
comp=Z,16nm,0.8s
TRF Thorofare Moun 19.09 39 P P 10 29 31.8 -0.5
baz=241
BPAW Bear Paw Mtn. 19.14 37 P P 10 29 29.9 -2.8
BPAW IAmb IAmb 10 29 49.8
comp=Z,14nm,0.9s
BPAW Bear Paw Mtn. 19.14 37 P P 10 29 32.4 -0.2
baz=239,SNR=8.9
SML Sawmill 19.23 45 P P 10 29 30.3 -3.5
SML Sawmill 19.23 45 P P 10 29 33.7 0.0
baz=248
IMAR Indian Mountai 19.27 30 P P 10 29 32.2 -1.8
I21K Tanana 19.36 33 P P 10 29 33.2 -1.9
I21K IAmb IAmb 10 29 54.0
comp=Z,16nm,0.9s
I21K Tanana 19.36 33 P Pn 10 29 35.7 -0.6
baz=235,SNR=10.0
H21K Melozitna Rive 19.37 32 P P 10 29 33.1 -2.1
H21K IAmb IAmb 10 29 43.6
comp=Z,14nm,1.0s
H21K Melozitna Rive 19.37 32 P P 10 29 35.0 -0.1
baz=232,SNR=8.8
M23K Glacier View 19.50 45 P P 10 29 36.6 0.0
baz=249
GLI Glacier Island 19.50 48 P P 10 29 35.0 -1.6
GLI Glacier Island 19.50 48 P Pn 10 29 37.3 -0.7
baz=253
Q23K Middleton Isla 19.50 52 P P 10 29 34.8 -1.9
baz=258
WAT1 Susitna Watana 19.53 42 P P 10 29 35.8 -1.1
baz=246
RND Reindeer 19.65 40 P P 10 29 36.6 -1.6
RND IAmb IAmb 10 29 59.7
comp=Z,13nm,0.7s
RND Reindeer 19.65 40 P P 10 29 36.6 -1.6
RND pmax pmax
comp=Z,13nm,0.7s
G21K Allakaket 19.68 29 P Pn 10 29 39.5 -0.6
baz=229
SCM Sheep Creek Mo 19.69 45 P P 10 29 35.1 -3.7
SCM IAmb IAmb 10 29 57.9
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 19.69 45 P P 10 29 35.1 -3.7
SCM pmax pmax
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 19.69 45 P P 10 29 38.2 -0.5
baz=250
MLY Manley 19.72 35 P P 10 29 37.2 -1.8
MLY Manley 19.72 35 P P 10 29 39.1 +0.1
baz=237,SNR=9.9
BWN Browne 19.75 38 P P 10 29 37.7 -1.6
FID Port Fidalgo 19.75 49 P P 10 29 37.8 -1.6
FID IAmb IAmb 10 29 54.6
comp=Z,8.9nm,0.6s
MCK McKinley 19.76 39 P P 10 29 37.7 -1.7
MCK IAmb IAmb 10 29 49.3
comp=Z,11nm,0.8s
MCK McKinley 19.76 39 P P 10 29 37.7 -1.7
MCK pmax pmax
comp=Z,11nm,0.8s
MCK McKinley 19.76 39 P P 10 29 38.6 -0.8
baz=243
WAT6 Susitna Watana 19.77 43 P P 10 29 39.5 -0.3
baz=247
MA2 Magadan 19.80 308 LR LR 10 38 29.4
comp=Z,120nm,18.1s,baz=113,slow=41
H22K Ishtalitna Cre 19.98 32 P Pn 10 29 42.9 -0.8
baz=234,SNR=10
SEY Seymchan 20.04 318 P P 10 29 41.4 -1.0
comp=Z,0.3nm,0.3s,baz=128,slow=9.8,SNR=8.6
comp=Z,3.0nm,0.7s
EYAK Cordova Ski Ar 20.05 49 P P 10 29 43.3 +0.8
baz=255
NEA2 Nenana 20.11 37 P P 10 29 42.2 -1.0
NEA2 Nenana 20.11 37 P P 10 29 42.7 -0.5
baz=240
DHY Denali Highway 20.12 42 P P 10 29 41.8 -1.8
DHY Denali Highway 20.12 42 P P 10 29 43.0 -0.5
baz=246,SNR=17
F21K Alatna River 20.16 27 P P 10 29 43.0 -0.7
baz=228,SNR=11
KLU Klutina 20.22 47 P P 10 29 43.2 -1.3
KLU IAmb IAmb 10 30 05.1
comp=Z,15nm,1.0s
KLU Klutina 20.22 47 P Pn 10 29 46.4 -0.2
baz=252,SNR=6.8
M24K Tolsona, Glenn 20.29 45 P P 10 29 43.7 -1.6
M24K Tolsona, Glenn 20.29 45 P Pn 10 29 47.5 +0.1
baz=251
WRH Wood River Hil 20.42 38 P P 10 29 45.2 -1.4
G22K Bettles 20.56 30 P P 10 29 48.5 +0.5
baz=232
H23K Yukon River 20.57 33 P P 10 29 46.7 -1.5
H23K Yukon River 20.57 33 P P 10 29 48.9 +0.7
baz=237
MDM Murphy Dome 20.60 36 P P 10 29 48.8 +0.2
MDM IAmb IAmb 10 30 19.0
comp=Z,18nm,1.1s
CCB Clear Creek Bu 20.61 37 P P 10 29 47.1 -1.6
BMRM Bremner River 20.70 49 P P 10 29 48.2 -1.5
BMRM IAmb IAmb 10 30 29.8
comp=Z,14nm,1.0s
BMRM Bremner River 20.70 49 P P 10 29 50.3 +0.6
baz=256
TCOL CIGO, UAF Yank 20.70 37 P P 10 29 47.0 -2.6
TCOL CIGO, UAF Yank 20.70 37 P P 10 29 49.9 +0.3
baz=242
COLA College 20.70 37 P P 10 29 47.9 -1.7
COLA College 20.70 37 *i* P P 10 29 50.0 +0.4
COLA pmax pmax
comp=Z,6.0nm,0.7s
COLA College 20.70 37 P P 10 29 50.5 +0.9
baz=242
F22K John River 20.73 28 P P 10 29 49.4 -0.5
baz=229
HARP HAARP 20.84 45 P P 10 29 50.6 -0.5
baz=251
HDA Harding Lake 20.84 38 P P 10 29 50.7 -0.4
HDA Harding Lake 20.84 38 P P 10 29 50.8 -0.4
baz=244,SNR=7.0
N25K Chitina, Valde 20.86 47 P P 10 29 52.4 +0.9
N25K IAmb IAmb 10 30 07.9
comp=Z,9.6nm,0.7s
N25K Chitina, Valde 20.86 47 P P 10 29 52.4 +0.9
baz=254
PAX Paxson 20.89 43 P P 10 29 52.7 +0.9
PAX IAmb IAmb 10 30 09.0
comp=Z,23nm,1.3s
PAX Paxson 20.89 43 P P 10 29 52.7 +0.9
PAX pmax pmax
comp=Z,23nm,1.3s
PAX Paxson 20.89 43 P P 10 29 50.2 -1.6
baz=249
G23K Bananza Creek 20.90 31 P P 10 29 52.3 +0.5
baz=234
POKR Poker Plat Res 20.97 36 P Pn 10 29 54.1 -1.2
baz=242
IL31 21.02 38 P P 10 29 52.3 -0.8
ILAR Eielson Array 21.02 38 P P 10 29 51.5 -1.6
comp=Z,2.2nm,0.9s,baz=240,slow=9.1,SNR=14
comp=Z,2.2nm,0.9s
ILAR Eielson Array 21.02 38 P P 10 29 52.1 -1.0
ILAR Eielson Array 21.02 38 P P 10 29 52.1 -1.0
K24K Donnelly Dome 21.06 41 P P 10 29 52.8 -0.8
baz=247
COLD Coldfoot 21.15 30 P 10 29 54.7 +0.3
COLD IAmb IAmb 10 30 01.3
comp=Z,10nm,1.0s
COLD Coldfoot 21.15 30 P P 10 29 54.5 0.0
baz=233
H24K Noodor Dome 21.16 34 P P 10 29 54.8 +0.1
H24K Noodor Dome 21.16 34 P P 10 29 54.0 -0.6
baz=239,SNR=8.7
GLB Gilahina Butte 21.18 48 P P 10 29 54.2 -0.7
RIDG Independent Ri 21.42 41 P P 10 29 54.9 -2.6
RIDG IAmb IAmb 10 30 24.5
comp=Z,20nm,1.2s
RIDG Independent Ri 21.42 41 P P 10 29 57.8 +0.3
baz=248,SNR=8.0
MCARA McCarthy VSAT 21.54 48 P P 10 29 56.9 -1.7
MCARA IAmb IAmb 10 30 17.4
comp=Z,12nm,0.9s
MCARA McCarthy VSAT 21.54 48 P P 10 30 00.6 +2.0
baz=256
J25K Salcha River, 21.55 39 P P 10 29 57.4 -1.4
J25K IAmb IAmb 10 30 28.8
comp=Z,7.6nm,0.7s
J25K Salcha River, 21.55 39 P P 10 29 57.4 -1.4
baz=246
MENT Mentasta 21.64 44 P P 10 30 00.6 +0.9
DOT Dot Lake 21.72 42 P P 10 29 57.8 -2.9
DOT IAmb IAmb 10 30 02.5
comp=Z,15nm,0.8s
G24K Hadwenzjn Riv 21.74 33 P P 10 30 01.4 +0.6
baz=238,SNR=5.9
M26K Nabesna, AK 21.80 45 P P 10 30 01.6 +0.1
M26K IAmb IAmb 10 30 30.2
comp=Z,11nm,1.1s
M26K Nabesna, AK 21.80 45 P P 10 30 03.3 +1.8
baz=254
L26K Log Cabin Wild 21.82 44 P P 10 29 59.5 -2.2
L26K IAmb IAmb 10 30 16.9
comp=Z,11nm,0.9s
L26K Log Cabin Wild 21.82 44 P P 10 30 02.3 +0.6
baz=252,SNR=9.5
E23K Chandalar 21.83 28 P P 10 30 02.6 +0.8
baz=232
SCRK Sand Creek 21.86 41 P P 10 29 59.8 -2.4
SCRK IAmb IAmb 10 30 36.3
comp=Z,11nm,1.0s
SCRK Sand Creek 21.86 41 P P 10 29 60.0 -2.3
baz=249
PRP Porcupine Dome 21.87 36 P P 10 30 00.8 -1.5
PRP Porcupine Dome 21.87 36 P P 10 30 02.1 -0.2
baz=243
F24K Squaw Lake 22.05 30 P P 10 30 03.3 -0.9
baz=236,SNR=12
D23K Nanushuk River 22.10 26 P P 10 30 01.7 -2.9
baz=229
H25K Birch Creek 22.11 34 P P 10 30 04.9 +0.3
baz=241
E24K Your Creek 22.18 29 P P 10 30 05.5 -0.1
baz=234
TOLK Toolik Lake Re 22.20 27 P P 10 30 05.5 -0.2
TOLK IAmb IAmb 10 30 17.4
comp=Z,11nm,0.7s
TOLK Toolik Lake Re 22.20 27 P P 10 30 04.2 -1.6
baz=231,SNR=6.4
J26L Joseph Creek 22.22 40 P P 10 30 04.3 -1.7
J26L IAmb IAmb 10 30 15.1
comp=Z,7.4nm,0.6s
J26L Joseph Creek 22.22 40 P P 10 30 04.2 -1.9
baz=248
M27K Edge Creek, AK 22.30 46 P P 10 30 06.6 -0.3
M27K IAmb IAmb 10 30 26.2
comp=Z,7.9nm,0.8s
M27K Edge Creek, AK 22.30 46 P P 10 30 07.2 +0.3
baz=255
FYU Fort Yukon 22.45 34 P P 10 30 07.2 -1.2
FYU IAmb IAmb 10 30 45.7
comp=Z,15nm,1.2s
L27K Beaver Creek, 22.50 44 P P 10 30 09.5 +0.5
L27K Beaver Creek, 22.50 44 P P 10 30 07.9 -1.1
baz=254
BCAR Beaver Creek A 22.52 44 P P 10 30 09.3 +0.1
K27K Chicken 22.68 41 P P 10 30 10.1 -0.7
K27K IAmb IAmb 10 30 12.3
comp=Z,12nm,0.9s
K27K Chicken 22.68 41 P P 10 30 10.0 -0.8
baz=251
I26K Coal Creek Min 22.69 38 P P 10 30 09.5 -1.4
I26K Coal Creek Min 22.69 38 P P 10 30 08.1 -2.8
baz=247
C23K Itkillik River 22.70 24 P P 10 30 10.3 -0.7
baz=227
D24K Happy Valley 22.74 26 P P 10 30 10.3 -1.1
baz=231
F25K Christian Rive 22.82 31 P P 10 30 11.4 -0.9
baz=239
YUK3 Moose Creek 22.82 48 P P 10 30 11.5 -1.1
baz=258
E25K Arctic Village 23.12 30 P P 10 30 15.4 +0.1
baz=238
C24K Franklin Bluff 23.13 25 P P 10 30 13.5 -1.9
baz=230
G26K Porcupine Rive 23.14 34 P P 10 30 14.4 -1.1
baz=243,SNR=7.0
EGAK Eagle 23.29 40 P P 10 30 14.0 -3.1
EGAK IAmb IAmb 10 30 35.8
comp=Z,8.5nm,0.8s
EGAK Eagle 23.29 40 P P 10 30 16.1 -0.9
baz=251,SNR=6.5
F26K Sheenjek River 23.37 32 P P 10 30 16.8 -1.1
baz=237
I27K Kandik River 23.39 38 P P 10 30 16.9 -1.3
baz=248
D25K Kavik River 23.54 27 P P 10 30 17.4 -2.1
baz=234
H27K Steamboat Moun 23.66 36 P P 10 30 23.3 +2.5
baz=247
DAWY Dawson 23.82 42 P P 10 30 21.1 -1.1
DAWY Dawson 23.82 42 P P 10 30 20.9 -1.3
baz=254
G27K Doyon Strip 23.84 35 P P 10 30 24.2 +1.8
baz=246
M29M Somme Creek 23.87 46 P P 10 30 22.0 -0.8
baz=259
L29M L29M 24.15 45 P P 10 30 23.1 -2.2
baz=258
E27K Coleen River 24.45 32 P P 10 30 27.0 -1.0
baz=243
C27K Jago River 24.49 28 P P 10 30 26.8 -1.5
baz=238
K29M Barlow Dome 24.57 43 P P 10 30 28.5 -0.7
baz=257,SNR=13
I29M Ogilvie Camp, 24.62 40 P P 10 30 27.9 -1.7
I29M IAmb IAmb 10 30 29.6
comp=Z,9.1nm,0.7s
I29M Ogilvie Camp, 24.62 40 P P 10 30 28.3 -1.2
baz=253,SNR=10
O30N Mendenhall 24.78 51 P P 10 30 34.8 +3.8
baz=265
WHY Whitehorse 25.36 51 P P 10 30 38.2 +1.8
baz=266
YSS Yuzh-Sakhalins 26.15 277 *e* P P 10 30 44.5 +1.0
INK Inuvik 27.29 34 P P 10 30 52.1 -1.4
comp=Z,1.2nm,0.4s,baz=253,slow=11,SNR=7.7
comp=Z,1.2nm,0.4s
DLBC Dease Lake 27.89 56 LR LR 10 41 56.7
comp=Z,145nm,20.6s,baz=280,slow=36
YAK Yakutsk 30.25 312 *i* P P 10 31 18.6 -1.3
YAK pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 31.33 331 LR LR 10 45 15.2
comp=Z,101nm,19.9s,baz=181,slow=39
TIXI Tiksi 31.33 331 *i* P P 10 31 27.6 -1.8
TIXI pmax pmax
comp=Z,12nm,1.2s
KLR Kul'dur 32.05 287 P P 10 31 35.6 -0.3
comp=Z,13nm,0.6s,baz=71,slow=8.1,SNR=43
KLR LR LR 10 46 18.9
comp=Z,93nm,18.6s,baz=116,slow=40
comp=Z,13nm,0.6s
KLR Kul'dur 32.05 287 *ce* P P 10 31 36.1 +0.2
KLR pmax pmax
comp=Z,11nm,0.6s
ZEA Zeya 33.10 297 *e* P P 10 31 44.7 -0.4
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,30nm,1.3s
H11N2 WAKE ISLAND Hy 33.57 207 T T 11 08 19.0
baz=18,slow=76,SNR=32
JSD Sado 33.58 265 P P 10 31 49.5 +0.1
H11N3 WAKE ISLAND Hy 33.58 207 T T 11 08 27.9
baz=18,slow=76,SNR=39
H11N1 WAKE ISLAND Hy 33.59 207 T T 11 08 33.8
baz=18,slow=76,SNR=37
USRK Ussuriysk Ar. 34.14 279 P P 10 31 53.9 -0.3
comp=Z,0.9nm,0.5s,baz=54,slow=9.0,SNR=6.2
USRK PcP PcP 10 34 31.1 +0.4
comp=Z,1.9nm,0.9s,baz=44,slow=4.1,SNR=4.6
USRK LR LR 10 45 36.2
comp=Z,48nm,21.6s,baz=73,slow=36
comp=Z,0.9nm,0.5s
USRK Ussuriysk Ar. 34.14 279 P P 10 31 53.8 -0.4
MAJO Matsushiro 34.53 263 *i* P P 10 31 58.6 +0.9
MAJO pmax pmax
comp=Z,7.0nm,1.1s
MJAR Matsushiro Arr 34.53 263 P P 10 31 58.4 +0.7
comp=Z,1.5nm,0.7s,baz=57,slow=7.2,SNR=5.1
comp=Z,1.5nm,0.7s
H11S1 WAKE ISLAND Hy 34.79 207 T T 11 10 01.7
baz=18,slow=76,SNR=7.7
H11S2 WAKE ISLAND Hy 34.80 207 T T 11 10 00.5
baz=18,slow=76,SNR=5.1
H11S3 WAKE ISLAND Hy 34.80 207 T T 11 09 34.7
baz=18,slow=76,SNR=3.7
B08A Colville Reser 36.90 71 P 10 32 18.4 +0.5
H04A Detroit Lake 36.91 78 P P 10 32 16.0 -2.1
H04A IAmb IAmb 10 32 34.4
comp=Z,5.2nm,1.0s
K02D Willamette Mer 37.02 81 P P 10 32 19.8 +0.8
baz=302
I05D Terrebonne, OR 37.61 78 P P 10 32 25.8 +1.8
baz=300
HAWA Hanford 37.69 74 P P 10 32 24.3 -0.3
D08A Wollman Farm, 37.74 72 P P 10 32 26.3 +1.3
D08A IAmb IAmb 10 32 48.1
comp=Z,5.4nm,1.1s
C09A Chrisman Ranch 37.78 71 P P 10 32 26.1 +0.7
C09A IAmb IAmb 10 32 50.2
comp=Z,6.3nm,0.9s
NEW Newport 38.25 70 P P 10 32 29.8 +0.5
comp=Z,2.4nm,0.5s,baz=300,slow=6.9,SNR=13
comp=Z,2.4nm,0.5s
NEW Newport 38.25 70 P P 10 32 28.4 -1.0
NEW Newport 38.25 70 P P 10 32 30.0 +0.6
baz=297,SNR=6.1
EDM Edmonton 38.28 61 P P 10 32 27.5 -2.1
EDM Edmonton 38.28 61 P P 10 32 27.5 -2.1
EDM pmax pmax
comp=Z,19nm,0.7s
G08A Pilot Rock 38.58 75 P P 10 32 31.0 -1.3
G08A IAmb IAmb 10 32 49.6
comp=Z,3.8nm,1.1s
JCJ Chichijima 38.68 247 P P 10 32 32.7 -0.3
I07A Izee 38.87 77 P 10 32 36.3 +1.6
I07A IAmb IAmb 10 33 18.6
comp=Z,5.7nm,1.1s
HIA Hailar 39.16 293 P P 10 32 37.0 +0.1
HIA Hailar 39.16 293 P P 10 32 37.1 +0.1
HIA pmax pmax
comp=Z,17nm,0.9s
MOD Modoc Plateau 39.54 80 P P 10 32 41.9 +1.5
MOD IAmb IAmb 10 33 01.6
comp=Z,3.9nm,0.9s
WALA Waterton Lakes 39.77 67 P P 10 32 40.6 -1.6
WALA IAmb IAmb 10 32 52.4
comp=Z,5.6nm,0.8s
BMO Blue Mountains 39.81 75 P P 10 32 41.0 -1.5
BMO IAmb IAmb 10 32 60.0
comp=Z,4.6nm,1.2s
BMO Blue Mountains 39.81 75 P P 10 32 41.0 -1.5
BMO pmax pmax
comp=Z,5.0nm,1.2s
WVOR Wild Horse Val 40.29 79 P P 10 32 46.1 -0.4
WVOR IAmb IAmb 10 33 03.5
comp=Z,3.5nm,0.8s
WVOR Wild Horse Val 40.29 79 P P 10 32 46.1 -0.4
WVOR pmax pmax
comp=Z,3.0nm,0.9s
KSRS Korea Array 40.45 272 P P 10 32 48.7 +1.0
comp=Z,1.3nm,0.7s,baz=57,slow=8.2,SNR=5.9
KSRS LR LR 10 48 46.4
comp=Z,18nm,21.4s,baz=50,slow=35
comp=Z,1.3nm,0.7s
MSO Missoula 40.83 70 P P 10 32 51.5 +0.5
MSO IAmb IAmb 10 33 07.1
comp=Z,11nm,1.1s
MSO Missoula 40.83 70 P P 10 32 52.0 +1.0
baz=300
PAHR Pah Rah Range 41.37 83 P P 10 32 55.8 +0.4
PNTR Pine Nut 41.59 83 P P 10 32 58.4 +1.0
PNTR IAmb IAmb 10 33 15.3
comp=Z,5.9nm,0.7s
HLID Hailey 42.26 75 P P 10 33 00.8 -1.9
HLID IAmb IAmb 10 33 20.2
comp=Z,5.1nm,1.1s
HLID Hailey 42.26 75 P P 10 33 03.6 +0.8
baz=303
MCMT McKenzie Canyo 42.52 72 P P 10 33 05.5 +0.5
EGMT Eagleton 42.69 66 P P 10 33 07.5 +1.5
EGMT IAmb IAmb 10 33 46.7
comp=Z,9.0nm,0.9s
EGMT Eagleton 42.69 66 P P 10 33 06.8 +0.8
baz=300
NVAR Mina Array Bea 42.80 83 P P 10 33 08.5 +1.2
comp=Z,0.2nm,0.6s,baz=267,slow=6.9,SNR=2.4
NVAR PcP PcP 10 34 58.6 +0.6
comp=Z,0.4nm,0.7s,baz=299,slow=3.9,SNR=2.6
NVAR Mina Array Bea 42.80 83 P P 10 33 07.7 +0.4
BOZ Bozeman (W) 42.84 70 P P 10 33 07.5 +0.1
BOZ IAmb IAmb 10 33 23.7
comp=Z,10nm,1.1s
BOZ Bozeman (W) 42.84 70 P P 10 33 07.5 +0.1
BOZ pmax pmax
comp=Z,10.0nm,1.1s
BOZ Bozeman (W) 42.84 70 P P 10 33 08.2 +0.7
baz=302,SNR=6.8
ELK Elko 43.34 79 P P 10 33 12.3 +0.7
comp=Z,0.6nm,0.7s,baz=304,slow=10,SNR=4.1
comp=Z,0.6nm,0.7s
YHL Hebgen Lake 43.51 71 P P 10 33 12.8 -0.2
YMR Madison River 43.74 71 P P 10 33 13.0 -1.8
YMR IAmb IAmb 10 33 39.5
comp=Z,7.6nm,1.0s
YHH Holmes Hill 43.74 71 P P 10 33 14.1 -0.8
YHH IAmb IAmb 10 33 31.6
comp=Z,8.8nm,0.9s
LKWY Lake 44.13 71 P P 10 33 19.1 +1.2
LKWY Lake 44.13 71 P P 10 33 19.2 +1.2
LKWY pmax pmax
comp=Z,8.0nm,0.8s
IMW Indian Meadow 44.18 72 P P 10 33 17.6 -0.8
HVU Hansel Valley 44.26 76 P P 10 33 20.3 +1.4
HVU IAmb IAmb 10 33 38.9
comp=Z,3.4nm,0.9s
HVU Hansel Valley 44.26 76 P P 10 33 20.3 +1.4
HVU pmax pmax
comp=Z,3.0nm,0.9s
RLMT Red Lodge 44.50 70 P P 10 33 21.1 +0.2
RLMT Red Lodge 44.50 70 P P 10 33 22.6 +1.7
baz=303
R11A Troy Canyon, C 44.55 82 P P 10 33 22.3 +1.0
R11A Troy Canyon, C 44.55 82 P P 10 33 22.5 +1.2
baz=307
TPNV Topopah Spring 44.99 84 P P 10 33 25.3 +0.5
TPNV IAmb IAmb 10 33 44.3
comp=Z,4.1nm,0.9s
TPNV Topopah Spring 44.99 84 P P 10 33 25.3 +0.5
TPNV pmax pmax
comp=Z,4.0nm,0.9s
TPNV Topopah Spring 44.99 84 P P 10 33 25.3 +0.5
baz=308

NRIK	**Noril'sk**	**45.11**	**330**	P		**P**		**10 33 25.7**	**+0.6**
	comp=Z,3.5nm,0.6s,baz=88,slow=8.8,SNR=4.2								
	comp=Z,3.5nm,0.6s								
DUG	**Dugway, Tooele**	**45.16**	**78**	P		**P**		**10 33 27.1**	**+1.0**
DUG				IAmb		IAmb		10 34 03.8	
	comp=Z,5.6nm,1.0s								
DUG	**Dugway, Tooele**	**45.16**	**78**	P		**P**		**10 33 27.1**	**+1.0**
DUG				pmax		pmax			
	comp=Z,6.0nm,1.0s								
DUG	**Dugway, Tooele**	**45.16**	**78**	P		**P**		**10 33 27.6**	**+1.4**
	baz=306								
GWY	**Greenwater Val**	**45.20**	**85**	P		**P**		**10 33 24.7**	**-1.8**
LAO	**LASA Array**	**45.43**	**66**	P		**P**		**10 33 28.8**	**+0.7**
	baz=303								
PRN	**Pahroc Range**	**45.46**	**82**			**P**		**10 33 28.9**	**+0.4**
BW06	**Boulder Array**	**45.65**	**73**	P		**P**		**10 33 30.4**	**+0.4**
BW06	**Boulder Array**	**45.65**	**73**	P		**P**		**10 33 30.9**	**+0.8**
	baz=305,SNR=7.4								
PD31	**Pinedale Array**	**45.65**	**73**	P		**P**		**10 33 30.1**	**+0.1**
PDAR	**Pinedale Array**	**45.65**	**73**	P		**P**		**10 33 30.7**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=305,slow=3.9,SNR=33								
	comp=Z,4.2nm,0.7s								
PDAR	**Pinedale Array**	**45.65**	**73**			**P**		**10 33 30.4**	**+0.4**
GSC	**Goldstone, Bar**	**45.68**	**86**	P		**P**		**10 33 30.4**	**+0.2**
GSC				IAmb		IAmb		10 33 50.9	
	comp=Z,3.3nm,0.8s								
GSC	**Goldstone, Bar**	**45.68**	**86**	P		**P**		**10 33 30.4**	**+0.2**
GSC				pmax		pmax			
	comp=Z,3.0nm,0.8s								
GSC	**Goldstone, Bar**	**45.68**	**86**	P		**P**		**10 33 32.8**	**+2.6**
	baz=309								
HEC	**Hector,Ludlow**	**46.28**	**86**	P		**P**		**10 33 38.5**	**+3.6**
	baz=310								
RDMU	**Red Mountain**	**46.93**	**75**	P		**P**		**10 33 38.2**	**-1.9**
PFO	**Pinyon Flats O**	**46.99**	**87**	P		**P**		**10 33 44.1**	**+3.6**
	baz=311								
TPFO	**Pinon Flats**	**46.99**	**87**	P		**P**		**10 33 44.2**	**+3.6**
	baz=311								
BELC	**Belle Mtn. Jos**	**47.02**	**87**	P		**P**		**10 33 42.4**	**+1.6**
	baz=310								
ULN	**Ulaanbaatar**	**47.13**	**297**	P		**P**		**10 33 41.4**	**-0.1**
ULN	**Ulaanbaatar**	**47.13**	**297**	*ce*P		**P**		**10 33 42.1**	**+0.6**
ULN				pmax		pmax			
	comp=Z,9.0nm,0.7s								
SONM	**Songino Array**	**47.52**	**298**	P		**P**		**10 33 45.5**	**+1.0**
	comp=Z,8.3nm,0.9s,baz=53,slow=9.5,SNR=33								
	comp=Z,8.3nm,0.9s								
SONM	**Songino Array**	**47.52**	**298**	P		**P**		**10 33 44.3**	**-0.2**
K22A	**Casper**	**47.54**	**71**	P		**P**		**10 33 43.0**	**-1.8**
K22A				IAmb		IAmb		10 34 17.6	
	comp=Z,4.9nm,0.9s								
RWWY	**Rawlins**	**47.69**	**72**	P		**P**		**10 33 44.1**	**-2.0**
RWWY				IAmb		IAmb		10 33 52.2	
	comp=Z,4.6nm,0.8s								
O20A	**White River Ci**	**48.00**	**75**	P		**P**		**10 33 49.0**	**+0.6**
O20A	**White River Ci**	**48.00**	**75**	P		**P**		**10 33 48.2**	**-0.2**
	baz=307								
MDND	**Maddock**	**48.54**	**62**	P		**P**		**10 33 48.2**	**-4.0**
	baz=304								
HHC	**Hu-ho-hao-te**	**48.56**	**287**	*e*P		**P**		**10 33 54.5**	**+1.9**
HHC				pmax		pmax			
	comp=Z,28nm,0.8s								
HHC				pmax		pmax			
	comp=Z,190nm,5.3s								
PV11	**David Mesa, Pa**	**48.74**	**77**	P		**P**		**10 33 54.2**	**0.0**
HNS	**HongShan**	**48.76**	**281**	⇑P		**P**		**10 33 57.0**	**+3.0**
HNS				pmax		pmax			
	comp=Z,10.0nm,1.2s								
PV13	**Radium Mtn., P**	**48.86**	**77**	P		**P**		**10 33 55.2**	**+0.1**
NJ2	**Nanjing**	**49.63**	**273**	*e*P		**P**		**10 33 58.5**	**-2.2**
NJ2				pmax		pmax			
	comp=Z,18nm,0.5s								
AGMN	**Agassiz Nation**	**50.33**	**59**	P		**P**		**10 34 05.3**	**-0.6**
	baz=306								
SDCO	**Great Sand Dun**	**51.16**	**75**	P		**P**		**10 34 12.8**	**+0.2**
	baz=309								
KSCO	**Kaye Shedlock'**	**52.10**	**72**	P		**P**		**10 34 20.1**	**+0.7**
	baz=309								
T25A	**Trinidad**	**52.21**	**75**	P		**P**		**10 34 19.1**	**-1.3**
T25A	**Trinidad**	**52.21**	**75**	P		**P**		**10 34 22.5**	**+2.1**
	baz=310								
ANMO	**Albuquerque**	**52.38**	**79**	P		**P**		**10 34 19.9**	**-1.7**
ANMO				IAmb		IAmb		10 35 00.9	
	comp=Z,5.3nm,1.4s								
ANMO	**Albuquerque**	**52.38**	**79**	P		**P**		**10 34 19.9**	**-1.7**
ANMO				pmax		pmax			
	comp=Z,5.0nm,1.5s								
ANMO	**Albuquerque**	**52.38**	**79**	P		**P**		**10 34 21.6**	**0.0**
	baz=311								
LENM	**Lemitar**	**52.57**	**80**	P		**P**		**10 34 22.5**	**-0.5**
ECSD	**EROS Data Cent**	**52.66**	**64**	P		**P**		**10 34 22.7**	**-0.7**
ECSD	**EROS Data Cent**	**52.66**	**64**	P		**P**		**10 34 22.1**	**-1.3**
	baz=308								
EYMN	**Ely**	**52.89**	**57**	P		**P**		**10 34 26.6**	**+1.6**
	baz=308								
121A	**Cookes Peak, D**	**53.15**	**82**	P		**P**		**10 34 24.7**	**-2.7**
121A				IAmb		IAmb		10 34 48.5	
	comp=Z,2.4nm,0.8s								
CBKS	**Cedar Bluff**	**53.96**	**71**	P		**P**		**10 34 33.5**	**+0.5**
	baz=310								
ZALV	**Zalesovo Beam**	**54.85**	**314**	PcP		**PcP**		**10 35 40.7**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=27,slow=5.0,SNR=5.8								
ZALV				LR		LR		11 00 29.0	
	comp=Z,49nm,18.6s,baz=58,slow=39								
N35A	**Tabor**	**55.04**	**66**	P		**P**		**10 34 39.7**	**-1.1**
SCIA	**State Center**	**55.76**	**64**	P		**P**		**10 34 48.0**	**+2.1**
	baz=310								
DGZ	**Jazzator, Alta**	**56.38**	**309**	*i* P		**P**		**10 34 49.5**	**-0.9**
DGZ				pmax		pmax			
	comp=Z,2.0nm,1.0s								
GTA	**Gaotai**	**56.44**	**293**	⇓P		**P**		**10 34 52.0**	**+1.0**
GTA				pP		pP		10 34 55.3	-4.1
GTA				sP		sP		10 34 58.3	-4.4
GTA				pmax		pmax			
	comp=Z,13nm,1.2s								
N38A	**Joes South For**	**56.47**	**65**	P		**P**		**10 34 49.9**	**-1.2**
TX31	**Lajitas Ar. Si**	**57.91**	**82**	P		**P**		**10 35 01.7**	**+0.2**
TX32	**Lajitas Array**	**57.91**	**82**	P		**P**		**10 35 01.6**	**+0.1**
TX32				IAmb		IAmb		10 35 22.0	
	comp=Z,5.2nm,1.1s								
TXAR	**Lajitas Array**	**57.91**	**82**	P		**P**		**10 35 01.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=286,slow=3.8,SNR=4.1								
	comp=Z,0.4nm,0.6s								
TXAR	**Lajitas Array**	**57.91**	**82**	P		**P**		**10 35 02.0**	**+0.5**
TXAR	**Lajitas Array**	**57.91**	**82**	P		**P**		**10 35 02.0**	**+0.5**
P40A	**Paris**	**57.99**	**65**	P		**P**		**10 35 01.0**	**-0.8**
ABTX	**Abilene, Hawle**	**58.14**	**76**	P		**P**		**10 35 04.5**	**+1.6**
	baz=313								
TUL1	**Leonard**	**58.23**	**71**	P		**P**		**10 35 04.3**	**+0.8**
	baz=312								
HDIL	**Hopedale**	**58.87**	**63**	P		**P**		**10 35 07.7**	**-0.2**
	baz=312								
P43A	**Skaggs, Pawnee**	**59.36**	**64**	P		**P**		**10 35 11.1**	**-0.2**
KURK	**Kurchatov**	**59.84**	**314**	P		**P**		**10 35 13.8**	**-0.6**
KURK								10 36 01.0	
KURBB	**Kurchatov Arra**	**59.94**	**314**	P		**P**		**10 35 13.8**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=42,slow=6.5,SNR=10								
KURBB				PcP		**PcP**		**10 36 01.0**	**-0.1**
	comp=Z,0.6nm,0.2s,baz=43,slow=3.7,SNR=5.9								
	comp=Z,1.5nm,0.3s								
WMQ	**Urumqi**	**60.20**	**304**	*e*P		**P**		**10 35 19.5**	**+2.4**
SFIN	**Lafayette**	**60.21**	**62**	P		**P**		**10 35 16.9**	**-0.2**
	baz=313								
435B	**Jarrell**	**60.67**	**76**	P		**P**		**10 35 21.5**	**+1.0**
	baz=314								
MK31	**Makanchi Array**	**60.88**	**309**	*i* P		**P**		**10 35 20.9**	**-0.7**
MKAR	**Makanchi Array**	**60.88**	**309**	P		**P**		**10 35 20.5**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=49,slow=6.7,SNR=9.3								
MKAR				LR		LR		11 03 04.1	
	comp=Z,29nm,19.7s,baz=77,slow=38								
	comp=Z,0.6nm,0.3s								
O48B	**Farmland**	**61.37**	**61**	P		**P**		**10 35 23.7**	**-1.3**
	baz=314								
SADO	**Sadowa**	**61.40**	**53**	LR		LR		11 01 56.6	
	comp=Z,74nm,20.6s,baz=10.0,slow=36								
BVAR	**Borovoye Array**	**61.67**	**321**	P		**P**		**10 35 26.9**	**0.0**
	comp=Z,2.9nm,0.5s,baz=46,slow=6.6,SNR=16								
BVAR				LR		LR		11 05 00.2	
	comp=Z,62nm,18.7s,baz=56,slow=39								
	comp=Z,2.9nm,0.5s								
BRVK	**Borovoye**	**61.69**	**321**	*ce*P		**P**		**10 35 25.4**	**-1.6**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
WVT	**Waverly**	**62.75**	**66**	P		**P**		**10 35 36.1**	**+1.8**
	baz=315								
M53A	**WI Miller and**	**62.96**	**57**	P		**P**		**10 35 35.8**	**+0.1**
	baz=315								
ARU	**Arti**	**63.32**	**329**	*c i* P		**P**		**10 35 37.6**	**-0.2**
ARU				S		**S**		**10 44 09.6**	**+2.2**
ARU				SS		**SS**		**10 48 17.2**	**+4.0**
ARU				pmax		pmax			
	comp=Z,12nm,0.7s								
O53A	**New Philadelph**	**63.52**	**58**	P		**P**		**10 35 39.2**	**-0.2**
	baz=315								
PZH	**PanZhiHua**	**64.19**	**281**	P		**P**		**10 35 45.0**	**+0.8**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,100nm,4.9s								
KIRV	**Kirov**	**64.23**	**335**	*ce*P		**P**		**10 35 44.3**	**+0.6**
BINY	**Binghamton**	**64.84**	**54**	P		**P**		**10 35 47.3**	**-0.8**
	baz=317								
TZTN	**Tazewell**	**64.88**	**63**	P		**P**		**10 35 48.0**	**-0.4**
	baz=316								
SSPA	**Standing Stone**	**65.00**	**56**	P		**P**		**10 35 47.5**	**-1.5**
	baz=316								
FINES	**FINESS Array B**	**66.30**	**348**	P		**P**		**10 35 57.0**	**0.0**
	comp=Z,1.8nm,0.8s,baz=354,slow=16,SNR=4.3								
	comp=Z,1.8nm,0.8s								
PAL	**Palisades**	**66.78**	**53**	P		**P**		**10 35 59.8**	**-0.6**
	baz=318								
KMSC	**Kings Mountain**	**67.14**	**62**	P		**P**		**10 36 03.3**	**+0.4**
	baz=317,SNR=6.7								
AAK	**Ala-Archa**	**67.70**	**311**	P		**P**		**10 36 06.1**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=30,slow=5.4,SNR=5.9								
	comp=Z,2.2nm,0.4s								
NB2	**NORSAR Subarra**	**68.06**	**355**	P		**P**		**10 36 08.1**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=4.2,slow=6.2								
NOA	**NORSAR Array B**	**68.06**	**355**	P		**P**		**10 36 08.2**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=4.4,slow=6.3,SNR=5.6								
	comp=Z,2.4nm,0.9s								
AKTO	**Aktyubinsk**	**68.43**	**325**	P		**P**		**10 36 11.0**	**+0.2**
	comp=Z,28nm,0.6s,baz=49,slow=6.9,SNR=98								
AKTO				LR		LR		11 09 45.1	
	comp=Z,64nm,18.1s,baz=51,slow=39								
ABKAR	**Akbulak array**	**68.70**	**324**	P		**P**		**10 36 12.5**	**0.0**
VSU	**Vasula**	**69.08**	**347**	*i* P		**P**		**10 36 14.3**	**-0.3**
VSU				pmax		pmax			
	comp=Z,25nm,0.9s								
KKAR	**Karatay Array**	**69.21**	**313**	P		**P**		**10 36 15.4**	**-0.4**
KKAR	**Karatay Array**	**69.21**	**313**	P		**P**		**10 36 15.4**	**-0.4**
KKAR	**Karatay Array**	**69.21**	**313**	I/S		**P**		**10 36 15.2**	**-0.6**
	baz=6.0								
BELG	**Belogornoye**	**70.13**	**332**	*i* P		**P**		**10 36 20.5**	**-0.7**
BELG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
OBN	**Obninsk**	**70.47**	**340**	*e*P		**P**		**10 36 23.6**	**+0.3**
OBN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**71.85**	**277**	P		**P**		**10 36 32.4**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=26,slow=6.8,SNR=7.7								
	comp=Z,1.0nm,0.3s								
LPSR	**Galich'ya Gora**	**72.26**	**338**	*e*P		**P**		**10 36 33.3**	**-0.8**
LPSR				pmax		pmax			
	comp=Z,20nm,1.1s								
DWPF	**Disney Wildern**	**72.29**	**67**	P		**P**		**10 36 36.3**	**+1.6**
	baz=319								
MNK	**Minsk**	**72.71**	**345**	*i* P		**P**		**10 36 32.3**	**-4.5**
MNK				*i*				10 36 49.3	
MNK				*i*				10 39 13.9	
MNK				*i* PPP		PPP		10 40 58.5	
MNK				*i* S		**S**		**10 45 55.7**	**-3.8**
MNK				*i*				10 46 36.8	
MNK				*i* SS		**SS**		**10 50 36.5**	**-1.5**
MNK				pmax		pmax			
	comp=E,2.0nm,0.6s								
MNK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
MNK				MLR		MLR			
	comp=E,9.0nm,15.0s								
MNK				MLR		MLR			
	comp=Z,39nm,18.0s								
MNK				MLR		MLR			
	comp=N,1.0nm,21.0s								
MNK	**Minsk**	**72.71**	**345**	*i* P		**P**		**10 36 32.3**	**-4.5**
	comp=E,2.0nm,0.6s								
MNK				*i* P		**P**		**10 36 32.3**	**-4.5**
MNK				*i* P		**P**		**10 36 32.3**	**-4.5**
	comp=Z,7.0nm,0.6s,baz=196								
MNK				*i* PcP		**sP**		**10 36 49.4**	**+0.4**
MNK				*i* PP		**PP**		**10 39 14.0**	**-4.0**
MNK				*i* PPP		PPP		10 40 58.6	
MNK				*i* S		**S**		**10 45 55.8**	**-3.8**
MNK				*i* SS		**SS**		**10 50 36.5**	**-1.5**
MNK				*i* SSS		SSS		10 53 57.4	
MNK				*i* LQ		LQ		11 03 36.8	
MNK				*i* LR		LR		11 07 01.8	
MNK				*i* LRM		MLR		11 10 06.1	
	comp=E,9.0nm,14.8s								
MNK				*i* LRM		MLR		11 10 25.4	
	comp=Z,39nm,18.1s								
MNK				*i* LRM		MLR		11 10 44.1	
	comp=N,1.0nm,20.6s								
GUN	**Gumba**	**72.73**	**293**	*e*P		**P**		**10 36 39.2**	**+1.4**
	comp=N,25nm,0.5s								
JIRN	**Jiri**	**72.74**	**293**	*e*P		**P**		**10 36 38.9**	**+1.1**
	comp=N,28nm,0.8s								
VRH	**Novokhopyorsk**	**72.84**	**335**	*e*P		**P**		**10 36 36.1**	**-1.5**
VRH				pmax		pmax			
	comp=Z,20nm,0.7s								
RAMN	**Ramite**	**73.03**	**292**	*e*P		**P**		**10 36 40.0**	**+0.6**
	comp=Z,14nm,0.5s								
VORR	**Voronezh**	**73.05**	**337**	*e*P		**P**		**10 36 41.6**	**+2.8**
VORR				pmax		pmax			
	comp=Z,140nm,0.5s								
KKN	**Kakani**	**73.17**	**293**	*e*P		**P**		**10 36 41.7**	**+1.5**
PKI	**Pulchoki**	**73.26**	**293**	*e*P		**P**		**10 36 41.9**	**+1.0**
	comp=Z,26nm,0.9s								
PKIN	**Phulchoki**	**73.26**	**293**	*e*P		**P**		**10 36 41.7**	**+0.9**
	comp=Z,11nm,0.5s								
GKN	**Gorkha**	**73.38**	**294**	*e*P		**P**		**10 36 42.4**	**+1.0**
VSR	**Storozhevoye**	**73.48**	**337**	*e*P		**P**		**10 36 40.2**	**-1.2**
VSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
DANN	**Dangsing**	**73.62**	**295**	*e*P		**P**		**10 36 44.3**	**+1.3**
KOLN	**Koldanda**	**74.15**	**294**	*e*P		**P**		**10 36 46.0**	**0.0**
PYUN	**Piuthan**	**74.25**	**295**	*e*P		**P**		**10 36 47.3**	**+0.7**
	comp=Z,38nm,1.0s								
AKASG	**Malin Array Be**	**76.12**	**343**	P		**P**		**10 36 56.3**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=19,slow=5.9,SNR=15								
	comp=Z,2.3nm,0.5s								
AKBB	**Malin Array Si**	**76.12**	**343**	*ce*P		**P**		**10 36 55.8**	**-0.8**
CLL	**Collm**	**77.65**	**353**	*i* P		**P**		**10 37 05.1**	**-0.1**
CLL				pmax		pmax			
	comp=Z,6.0nm,1.2s								
CLL	**Collm**	**77.65**	**353**	*i* P		**P**		**10 37 05.1**	**-0.1**
	comp=Z,6.0nm,1.2s								
DPC	**Dobruska-Polom**	**78.31**	**351**	*e*P		**P**		**10 37 09.3**	**+0.3**
DPC	**Dobruska-Polom**	**78.31**	**351**	*e*P		**P**		**10 37 09.3**	**+0.3**
GEYT	**Alibeck**	**78.88**	**318**	LR		LR		11 15 23.4	
	comp=Z,61nm,19.9s,baz=315,slow=38								
KIV	**Kislovodsk**	**79.16**	**332**	*e*P		**P**		**10 37 13.1**	**-0.8**
KIV				pmax		pmax			
	comp=Z,13nm,1.0s								
KBZ	**Khabaz**	**79.30**	**331**	P		**P**		**10 37 14.9**	**+0.4**
	comp=Z,4.5nm,0.9s,baz=81,slow=1.2,SNR=8.5								
	comp=Z,4.5nm,0.9s								
SHA1	**Shidzhatmaz**	**79.36**	**332**	*i* P		**P**		**10 37 14.8**	**-0.4**
KHC	**Kasperske Hory**	**79.77**	**353**	*e*P		**P**		**10 37 17.0**	**0.0**
KHC	**Kasperske Hory**	**79.77**	**353**	*e*P		**P**		**10 37 17.0**	**0.0**
BURAR	**Bucovina Array**	**79.81**	**345**	⇑P		**P**		**10 37 18.2**	**+0.9**
ZEI	**Tsey**	**79.85**	**330**	*e*P		**P**		**10 37 17.1**	**-0.7**
ZEI				pmax		pmax			
	comp=Z,12nm,1.0s								
GERES	**GERESS Array B**	**80.04**	**352**	P		**P**		**10 37 18.6**	**0.0**
	comp=Z,1.2nm,0.7s,baz=0.0,slow=2.7,SNR=8.1								
	comp=Z,1.2nm,0.7s								
BIZ	**Bicaz**	**80.31**	**344**	⇑P		**P**		**10 37 21.2**	**+1.3**
TESR	**Tescani**	**80.62**	**343**	⇑P		**P**		**10 37 22.4**	**+0.8**
DRGR		**81.01**	**346**	⇑P		**P**		**10 37 23.8**	**0.0**
OZUR		**81.18**	**344**	⇑P		**P**		**10 37 25.9**	**+1.2**
VRI	**Vrincioaia**	**81.23**	**343**	⇑P		**P**		**10 37 25.3**	**+0.4**
COVR	**Voineasa-Covas**	**81.35**	**343**	⇑P		**P**		**10 37 27.0**	**+1.4**
TLCR		**81.48**	**342**	⇑P		**P**		**10 37 27.3**	**+1.1**
CFR	**Carcaliu**	**81.63**	**342**	⇑P		**P**		**10 37 28.0**	**+1.0**
MLR	**Muntele Rosu**	**81.74**	**344**	⇑P		**P**		**10 37 28.0**	**+0.3**
VOIR		**81.94**	**344**	⇑P		**P**		**10 37 30.5**	**+1.7**
ARR	**Arges**	**82.08**	**344**	⇑P		**P**		**10 37 31.1**	**+1.6**
BLKB	**Belogradchik**	**84.10**	**345**	⇑P		**P**		**10 37 40.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**84.89**	**233**	P		**P**		**10 37 44.2**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=174,slow=0.8,SNR=6.7								
	comp=Z,3.0nm,0.9s								
BRTR	**Keskin Array B**	**85.59**	**336**	P		**P**		**10 37 47.5**	**0.0**
	comp=Z,4.6nm,0.9s,baz=29,slow=2.8,SNR=15								
	comp=Z,4.6nm,0.9s								
BRTR	**Keskin Array B**	**85.59**	**336**	*i* P		**P**		**10 37 48.4**	**+0.8**
BRTR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
PDG	**Podgorica**	**85.78**	**348**	⇑P		**P**		**10 37 48.3**	**+0.1**
ESDC	**Sonseca Array**	**89.50**	**5**	P		**P**		**10 38 06.0**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=342,slow=4.9,SNR=10								
	comp=Z,1.8nm,0.8s								
PLCA	**Paso Flores**	**130.10**	**108**	PKP		**PKiKP**		**10 44 19.1**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=24,slow=3.3,SNR=3.2								
MAW	**Mawson**	**146.69**	**217**	PKPbc		**PKPab**		**10 44 50.5**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=58,slow=6.1,SNR=3.5								
BOSA	**Boshof**	**151.80**	**314**	PKPbc		**PKiKP**		**10 45 05.8**	**+1.7**
	comp=Z,2.8nm,0.8s,baz=33,slow=2.9,SNR=3.9								

NEIC ***27*** *10:25:45.2±2.4, 41°.81N±0°.04×126°.9W±0°.2, h10km±2km, ML2.8/48, Error ellipse: s-maj=21.6km s-min=4.5km az=256.0*

ANF ***27*** *10:25:50.1±2.0, 41°.95N×126°.31W, h0km, ML2.9/7, Error ellipse: s-maj=23.2km s-min=15.9km az=111.0*

ISC 27 10:25:45.8±3.1, 41°.82N±0°.06×126°.8W±0°.2, h10km, n42, σ1§27/44, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBO	**Bosley Butte**	**1.97**	**78**	Pn		**Pn**	**10 26 18.5**	**-0.8**
KBO				IAML			10 26 51.4	
	comp=N,89nm,3.2s							
KEBM	**Edson Butte**	**2.12**	**59**			**Pn**	**10 26 20.8**	**-0.6**
KEBM				IAML			10 26 46.7	
	comp=E,56nm,1.6s							
KEBM				IAML			10 26 50.4	
	comp=N,62nm,2.1s							
KSXB	**Camp Six Broad**	**2.19**	**89**			**Pn**	**10 26 21.8**	**-0.7**
KRMB	**Red Mountain**	**2.20**	**97**	Pn		**Pn**	**10 26 22.6**	**+0.2**
KRPM	**Rodgers**	**2.20**	**107**	Pn		**Pn**	**10 26 21.8**	**-0.7**
KRPM				IAML			10 26 41.0	
	comp=N,71nm,3.4s							
KRPM				IAML			10 26 43.4	
	comp=E,77nm,1.6s							
JCC	**Jacoby Creek,**	**2.32**	**115**	Pn		**Pn**	**10 26 23.0**	**-1.1**
L02F	**Cave Junction**	**2.44**	**82**	P		**Pn**	**10 26 25.0**	**-0.7**
	baz=266							
KMPM	**Mount Pierce**	**2.47**	**124**			**Pn**	**10 26 25.5**	**-0.7**
KMPM				IAML			10 27 01.6	
	comp=E,46nm,2.0s							
KMPM				IAML			10 27 59.5	
	comp=N,52nm,2.9s							
K02D	**Willamette Mer**	**2.49**	**68**	P		**Pn**	**10 26 25.7**	**-0.8**
	baz=250,SNR=35							
K02D				Sb		**Sn**	**10 26 57.0**	**-0.1**
	baz=250							
KHMM	**Horse Mountain**	**2.50**	**111**			**Pn**	**10 26 26.6**	**-0.1**
KHMM				IAML			10 27 03.3	
	comp=N,31nm,2.7s							
KHMM				IAML			10 27 04.3	
	comp=E,33nm,1.7s							
J01E	**Myrtle Point**	**2.52**	**57**			**Pn**	**10 26 25.7**	**-1.0**
J01E				IAML			10 27 38.0	
	comp=E,30nm,2.7s							
J01E	**Myrtle Point**	**2.52**	**57**	P		**Pn**	**10 26 25.3**	**-1.5**
	baz=236,SNR=32							
J01E				S		**Sn**	**10 26 55.3**	**-2.2**
	baz=236							
KMRM	**Mail Ridge**	**2.84**	**123**	Pn		**Pn**	**10 26 31.0**	**-0.3**
KMRM				IAML			10 27 03.2	
	comp=N,38nm,3.0s							
KMRM				IAML			10 27 32.5	
	comp=E,38nm,3.1s							
DBO	**Dodson Butte**	**2.94**	**63**	Pn		**Pn**	**10 26 32.8**	**0.0**
DBO				IAML			10 27 45.3	
	comp=N,22nm,4.1s							
HUMO	**Hull Mountain**	**2.97**	**73**			**Pn**	**10 26 32.9**	**-0.2**
YBH	**Yreka Blue Hor**	**3.07**	**90**			**Pn**	**10 26 35.5**	**+1.1**
I02E	**Swisshome, OR**	**3.16**	**43**	P		**Pn**	**10 26 35.0**	**-0.5**
	baz=221,SNR=19							
I03D	**Drain, OR**	**3.17**	**52**	P		**Pn**	**10 26 35.1**	**-0.6**
	baz=232,SN

148nm,0.4s,baz=206,slow=8.1,SNR=605
MSVF S **S** 10 33 10.5 +2.5
86nm,0.9s,baz=286,slow=22,SNR=5.7
MSVF Nonsavu 5.07 334 P **P** 10 31 53.6 +0.4
MSVF Nonsavu 5.07 334 P **P** 10 31 53.6 +0.4
MSVF Nonsavu 5.07 334 P **P** 10 31 53.9 +0.7
TAVE Taveuni 5.59 357 P **P** 10 31 58.9 +1.3
RIZ Raoul Island 7.06 168 P **P** 10 32 10.4 -0.2
RIZ S **S** 10 33 43.3 +3.2
RAO Raoul Island 7.07 168 P **P** 10 32 11.2 +0.5
2µm,0.4s,baz=137,slow=2.8,SNR=22
RAO S **S** 10 33 39.2 -1.0
668nm,0.5s,baz=282,slow=22,SNR=6.4
RAO Raoul Island 7.07 168 P **P** 10 32 11.1 +0.5
GLKZ Green Lake 7.08 168 P **P** 10 32 11.2 +0.5
GLKZ S **S** 10 33 41.6 +1.2
FUTU Fugatoga 8.10 10 P **P** 10 32 21.3 +0.5
NIUE Niue 9.63 72 P **P** 10 32 35.9 0.0
baz=9.6,SNR=43
NIUE Niue 9.63 72 **P** 10 32 35.9 0.0
NIUE Niue 9.63 72 P **P** 10 32 36.1 +0.2
AFI Afiamalu 11.20 43 P **P** 10 32 49.2 -2.8
52nm,0.3s,baz=56,slow=0.8,SNR=26
AFI S **S** 10 34 48.0 -7.8
442nm,0.7s,baz=43,slow=18,SNR=11
AFI Afiamalu 11.20 43 P **P** 10 32 49.0 -3.0
AFI Afiamalu 11.20 43 P **P** 10 32 49.0 -3.0
AFI Afiamalu 11.20 43 P **P** 10 32 49.2 -2.8
MARNC Mare, Loyalty 11.50 272 P **P** 10 32 54.8 0.0
PINNC Pines Island, 11.96 266 P **P** 10 32 59.3 -0.3
PINNC Pines Island, 11.96 266 P **P** 10 33 00.0 +0.4
RTV Rentapao 12.10 290 P **P** 10 33 01.1 0.0
LIFNC LIFOU 12.33 275 P **P** 10 33 01.8 -1.6
LIFNC LIFOU 12.33 275 P **P** 10 33 02.2 -1.1
DVP Devils Point 12.34 290 P **P** 10 33 03.5 0.0
YATNC Mamie plateau, 12.50 269 P **P** 10 33 05.4 +0.3
ONTNC Ouen Toro 12.89 267 P **P** 10 33 08.7 -0.5
ONTNC Ouen Toro 12.89 267 P **P** 10 33 09.7 +0.6
DZM Mont Dzumac 12.91 268 *e*Pn **P** 10 33 08.8 -0.7
153nm,0.8s
DZM *e*Sn S 10 35 40.5 +13
80nm,1.2s
DZM Mont Dzumac 12.91 268 P **P** 10 33 08.8 -0.7
52nm,0.5s,baz=67,slow=21,SNR=29
DZM Mont Dzumac 12.91 268 P **P** 10 33 08.1 -1.4
DZM Mont Dzumac 12.91 268 P **P** 10 33 08.7 -0.7
NOUC Port Laguerre 13.04 268 P **P** 10 33 10.1 -0.6
FUNA Funafuti 13.77 355 P **P** 10 33 16.2 -2.1
FUNA Funafuti 13.77 355 P **P** 10 33 16.2 -2.1
OUZ Omahuta 14.15 203 P **P** 10 33 23.4 +1.6
OUZ Omahuta 14.15 203 P **P** 10 33 22.6 +0.8
GRZ Great Barrier 14.52 196 P **P** 10 33 25.5 +0.1
WCZ Waipu Caves 14.55 200 P **P** 10 33 27.6 +1.9
KUZ Kuaotunu 14.93 195 P **P** 10 33 29.8 +0.3
KOUNC Koumac, New Ca 15.09 274 P **P** 10 33 29.5 -1.8
KOUNC Koumac, New Ca 15.09 274 P **P** 10 33 30.8 -0.5
WIAZ Waiheke Island 15.12 196 P **P** 10 33 33.1 +1.8
MXZ Matakaoa Point 15.29 186 P **P** 10 33 31.9 -1.1
WMGZ Waiomatatini S 15.54 186 P **P** 10 33 28.5 -6.9
HAZ Te Kaha 15.54 188 P **P** 10 33 29.3 -6.1
TGRZ Tauranga 15.76 192 P **P** 10 33 38.5 +1.0
OPRZ Ohinepanea 15.82 191 P **P** 10 33 38.7 +0.6
TOZ Tahuroa Road 15.92 194 P **P** 10 33 40.0 +0.9
KMRZ Kaimai 15.94 193 P **P** 10 33 40.6 +1.3
KARZ Kaharoa 16.05 192 P **P** 10 33 41.1 +0.8
OMRZ Omania 16.11 191 P **P** 10 33 41.4 +0.5
URZ Urewera 16.13 189 P **P** 10 33 38.6 -2.4
90nm,0.7s,baz=0.1,slow=2.8,SNR=46
URZ S **S** 10 36 21.8 -2.0
52nm,0.8s,baz=157,slow=21,SNR=9.3
RRRZ Republican Roa 16.30 191 P **P** 10 33 42.9 +0.2
HSRZ Hossack Road 16.33 192 P **P** 10 33 44.1 +1.3
GRRZ Galatos Road 16.39 192 P **P** 10 33 44.3 +0.9
HRRZ Handcock Road 16.40 191 P **P** 10 33 43.9 +0.4
MUGZ Murupara 16.40 190 P **P** 10 33 40.0 -3.5
MUGZ S **S** 10 36 23.9 -4.3
PRRZ Plateau Road 16.48 191 P **P** 10 33 43.5 -0.8
PRRZ S **S** 10 36 27.4 -2.2
RIGZ Rimuhau 16.48 187 P **P** 10 33 43.0 -1.3
RIGZ S **S** 10 36 26.9 -2.7
TLZ Tolley Road 16.49 194 P **P** 10 33 44.7 +1.4
RTZ Ruatahuna 16.50 189 P **P** 10 33 40.2 -4.3
RTZ S **S** 10 36 26.2 -3.8
WPRZ Whakapapatarin 16.55 192 P **P** 10 33 42.8 -2.1
ALRZ Allen Road 16.55 191 P **P** 10 33 44.8 -0.1
KUTZ Kaahu Road 16.58 193 P **P** 10 33 46.9 +1.8
SNGZ Shannon Statio 16.61 188 P **P** 10 33 43.8 -1.6
SNGZ S **S** 10 36 28.1 -3.6
PRGZ Paritu Road 16.68 187 P **P** 10 33 47.1 +1.0
MTHZ Maungataniwha 16.75 190 P **P** 10 33 46.5 -0.2
MTHZ S **S** 10 36 29.1 -4.9
RAHZ Arahi 16.78 189 P **P** 10 33 46.0 -0.9
RAHZ S **S** 10 36 30.4 -4.1
MRHZ Matea Rd 16.80 191 P **P** 10 33 46.3 -0.9
MRHZ S **S** 10 36 31.5 -3.4
KNZ Kokohu 16.81 187 P **P** 10 33 46.1 -1.0
KNZ S **S** 10 36 30.0 -4.8
WATZ Wairara 16.81 193 P **P** 10 33 48.1 +0.9
HIZ Hauiti 16.82 195 P **P** 10 33 48.9 +1.6
HIZ Hauiti 16.82 195 P **P** 10 33 49.3 +2.0
HIZ Hauiti 16.82 195 P **P** 10 33 49.2 +2.0
MHGZ Mahia Peninsul 16.91 187 P **P** 10 33 48.9 +0.9
WHHZ Waihua 16.92 188 P **P** 10 33 48.0 -0.2
WHHZ S **S** 10 36 32.7 -3.9
RATZ Rangitukua 16.96 192 P **P** 10 33 48.2 -0.4
BKZ Black Stump Fm 17.11 190 P **P** 10 33 49.2 -0.8
BKZ Black Stump Fm 17.11 190 P **P** 10 33 48.2 -1.8
BKZ S **S** 10 36 34.2 -5.8
BKZ Black Stump Fm 17.11 190 P **P** 10 33 48.0 -2.0
ARHZ Aropaoanui 17.13 189 P **P** 10 33 50.0 -0.1
NTVZ North Tongarir 17.20 192 P **P** 10 33 51.4 +0.6
TMVZ Te Maari 17.21 192 P **P** 10 33 50.4 -0.6
ETVZ East Tongariro 17.23 192 P **P** 10 33 50.5 -0.7
WTVZ West Tongariro 17.23 193 P **P** 10 33 50.6 -0.5
NNVZ North Ngauruho 17.24 193 P **P** 10 33 52.1 +0.8
OTVZ Oturere 17.26 192 P **P** 10 33 50.2 -0.9
OTVZ S **S** 10 36 42.5 -0.1
NGZ Ngauruhoe 17.29 193 P **P** 10 33 52.6 +0.9
SNVZ South Ngauruho 17.29 192 P **P** 10 33 51.3 -0.5
MCHZ McNeill Hill 17.35 190 P **P** 10 33 50.6 -1.5
MCHZ S **S** 10 36 40.8 -2.9
TUVZ Tukino 17.37 192 P **P** 10 33 51.6 -0.8
FWVZ Far West T-bar 17.38 193 P **P** 10 33 52.6 +0.1
KWHZ Kaweka Forest 17.38 190 P **P** 10 33 51.3 -1.1
KWHZ S **S** 10 36 38.2 -6.1
WHVZ Whangaehu Hut 17.39 193 P **P** 10 33 52.0 -0.8
WNVZ Wahianoa 17.43 192 P **P** 10 33 52.2 -0.9
PKVZ Pokaka 17.45 193 P **P** 10 33 52.9 -0.1
MOVZ Moawhango 17.48 192 P **P** 10 33 52.0 -1.4
MHEZ Mangahewa 17.48 196 P **P** 10 33 57.2 +3.9
BHHZ Black Hill Sta 17.50 191 P **P** 10 33 51.3 -2.2
MTVZ Mangateitei 17.52 193 P **P** 10 33 53.4 -0.2
KRHZ Kereru 17.60 190 P **P** 10 33 52.7 -1.7
KAHZ Kahuranaki 17.67 189 P **P** 10 33 54.3 -0.8
NEZ North Egmont 17.73 196 P **P** 10 33 59.0 +3.4
KHEZ Kahui Hut 17.77 196 P **P** 10 34 00.4 +4.4
NBEZ Newall Road No 17.78 197 P **P** 10 34 01.0 +5.0
LREZ Lake Rotokare 17.83 195 P **P** 10 33 58.7 +2.3
PNHZ Pukenui 17.89 191 P **P** 10 33 56.3 -0.8
PXZ Pawanui 17.90 189 P **P** 10 33 56.3 -0.8
NMEZ Namu Road 17.92 197 P **P** 10 34 00.8 +3.6
WAZ Wanganui 17.97 194 P **P** 10 33 58.2 +0.4
TSZ Takapari Road 18.07 191 P **P** 10 33 59.2 +0.4
PRHZ Porangahau 18.17 189 P **P** 10 33 59.1 -0.4
DVHZ Dannevirke 18.27 190 P **P** 10 34 00.0 -0.5
ANWZ Angora Road 18.38 189 P **P** 10 34 00.8 -0.6
POWZ Post Office Ro 18.43 191 P **P** 10 34 01.6 -0.4
BFZ Birch Farm 18.64 190 P **P** 10 34 03.2 -0.6
BFZ Birch Farm 18.64 190 P **P** 10 34 03.2 -0.6
HOWZ Holdsworth Sta 18.97 191 P **P** 10 34 05.3 -1.5
MSWZ Moikau Station 19.52 192 P **P** 10 34 11.4 -0.4
SNZO South Karori 19.53 193 P **P** 10 34 10.9 -1.0
WKZ Wanaka 24.31 200 P **P** 10 34 54.5 -0.2
TARA Tarawa 24.63 342 P **P** 10 34 57.2 -0.7
TARA Tarawa 24.63 342 P **P** 10 34 57.5 -0.4
WHZ Wether Hill Ro 25.60 200 P **P** 10 35 06.7 +0.6
ARMA Armidale 26.94 247 P **P** 10 35 19.3 +1.1
baz=27,SNR=51
ARMA Armidale 26.94 247 P **P** 10 35 18.8 +0.7
ARMA Armidale 26.94 247 P **P** 10 35 19.3 +1.1
EIDS Eidsvold 26.95 258 P **P** 10 35 18.2 0.0
baz=27,SNR=45
EIDS Eidsvold 26.95 258 P **P** 10 35 18.2 0.0
EIDS Eidsvold 26.95 258 P **P** 10 35 18.3 +0.1
RK1H Rockhampton Ha 27.54 262 P **P** 10 35 23.6 +0.2
SYDH Sydney Hard Ro 28.44 240 P **P** 10 35 32.1 +1.1
PAE Paea 28.58 86 *e*P **P** 10 35 33.6 +1.1
22nm,1.3s
PAE Paea 28.58 86 *e*T T 11 01 59.4
4.3nm,0.3s
PPT2 Papeete2 28.60 86 *e*P **P** 10 35 34.0 +1.2
120nm,1.2s
PPT2 Papeete2 28.60 86 *e*T T 11 02 10.8
3.4nm,0.3s
PPT Papeete 28.61 86 P **P** 10 35 32.7 -0.1
90nm,1.0s,baz=320,slow=2.5,SNR=5.3
90nm,1.0s
PPTF Pamatai, Papee 28.61 86 P **P** 10 35 34.1 +1.2
PPTF Pamatai, Papee 28.61 86 P **P** 10 35 31.9 -1.0
RMQ Roma 29.05 255 P **P** 10 35 37.4 +0.8
baz=29,SNR=95
RMQ Roma 29.05 255 P **P** 10 35 37.5 +1.0
CNB Canberra Magne 29.97 238 P **P** 10 35 45.4 +1.0
baz=30,SNR=93
CNB Canberra Magne 29.97 238 P **P** 10 35 45.3 +1.0
221nm,1.0s
CAN Canberra 30.25 238 P **P** 10 35 47.1 +0.3
CAN Canberra 30.25 238 P **P** 10 35 47.1 +0.3
CAN pmax pmax
comp=Z,146nm,1.0s
CAN Canberra 30.25 238 P **P** 10 35 47.4 +0.6
CAN Canberra 30.25 238 P **P** 10 35 47.5 +0.6
MILA Mila 30.68 234 P **P** 10 35 51.0 +0.6
baz=31,SNR=6.7
VAH Vaihoa 31.05 82 *e*P **P** 10 35 54.5 +0.7
comp=Z,119nm,1.0s
CTA Charters Tower 31.86 268 P **P** 10 36 00.5 -0.2
CTAO Charters Tower 31.86 268 P **P** 10 36 00.4 -0.2
CTAO Charters Tower 31.86 268 P **P** 10 36 00.4 -0.2
CTAO pmax pmax
comp=Z,123nm,0.8s
CTAO Charters Tower 31.86 268 P **P** 10 36 00.7 +0.1
CTAO Charters Tower 31.86 268 P **P** 10 36 00.5 -0.2
CTAO ScP **ScP** 10 41 25.3 +1.8
CMSA Cobar Meteorol 32.15 246 P **P** 10 36 03.2 +0.2
baz=32,SNR=204
CMSA Cobar Meteorol 32.15 246 P **P** 10 36 03.2 +0.2
KRVT Keravat (AS076 32.78 299 P **P** 10 36 07.7 -0.8
comp=Z,92nm,0.8s,baz=187,slow=2.3,SNR=14
comp=Z,92nm,0.8s
QLP Quilpie 33.11 255 P **P** 10 36 10.7 -0.5
baz=33,SNR=32
QLP Quilpie 33.11 255 P **P** 10 36 11.0 -0.1
TOO Toolangi 33.62 235 P **P** 10 36 15.6 +0.4
baz=34,SNR=94
TOO Toolangi 33.62 235 P **P** 10 36 15.7 +0.4
TOO Toolangi 33.62 235 P **P** 10 36 15.7 +0.4
TOO pmax pmax
comp=Z,249nm,1.2s
TOO Toolangi 33.62 235 P **P** 10 36 16.0 +0.7
CORO Coronation Par 33.77 228 P **P** 10 36 17.9 +1.4
MTSU Mount Surprise 34.04 270 P **P** 10 36 18.7 -0.4
baz=34,SNR=69
MTSU Mount Surprise 34.04 270 P **P** 10 36 18.8 -0.4
MLBS Spotswood, Mel 34.14 235 P **P** 10 36 21.5 +1.9
comp=Z,119nm,0.9s
MOO Moorlands 34.16 226 P **P** 10 36 20.3 +0.6
baz=34,SNR=11
MOO Moorlands 34.16 226 P **P** 10 36 20.3 +0.6
TAU Tasmania Unive 34.27 225 P **P** 10 36 21.0 +0.3
TAU Tasmania Unive 34.27 225 P **P** 10 36 21.0 +0.3
TAU pmax pmax
comp=Z,168nm,1.6s
TAU Tasmania Unive 34.27 225 P **P** 10 36 21.0 +0.3
TAU Tasmania Unive 34.27 225 P **P** 10 36 20.2 -0.5
PMG Port Moresby 34.35 287 P **P** 10 36 21.0 -0.6
comp=Z,185nm,0.9s,baz=99,slow=5.3,SNR=33
comp=Z,185nm,0.9s
PMG Port Moresby 34.35 287 P **P** 10 36 20.8 -0.9
PMG Port Moresby 34.35 287 *ce*P **P** 10 36 20.9 -0.8
PMG pmax pmax
comp=Z,231nm,1.0s
PMG Port Moresby 34.35 287 P **P** 10 36 21.1 -0.6
PMG Port Moresby 34.35 287 P **P** 10 36 21.2 -0.4
PMG Port Moresby 34.35 287 P **P** 10 36 20.9 -0.8
PMG ScP **ScP** 10 41 32.5 +0.1
GEXS Deakin Univers 34.71 235 P **P** 10 36 25.5 +1.2
BRAT Ballarat 34.80 236 P **P** 10 36 26.5 +1.4
STKA Stephens Creek 35.66 246 P **P** 10 36 32.6 +0.3
comp=Z,58nm,0.8s,baz=94,slow=11,SNR=83
STKA ScP **ScP** 10 41 37.6 +0.7
comp=Z,18nm,1.1s,baz=151,slow=2.8,SNR=6.3
comp=Z,58nm,0.8s
STKA Stephens Creek 35.66 246 P **P** 10 36 32.6 +0.3
baz=36,SNR=52
STKA Stephens Creek 35.66 246 P **P** 10 36 32.6 +0.3
STKA Stephens Creek 35.66 246 P **P** 10 36 32.7 +0.3
STKA pmax pmax
comp=Z,23nm,1.0s
STKA Stephens Creek 35.66 246 P **P** 10 36 32.6 +0.3
INKA Innaminka 36.21 253 P **P** 10 36 37.7 +0.8
ARPS Mount Arapiles 36.23 238 P **P** 10 36 36.9 -0.1
baz=36,SNR=36
ARPS Mount Arapiles 36.23 238 P **P** 10 36 37.1 +0.1
COEN Coen 36.24 277 P **P** 10 36 37.2 -0.2
baz=36,SNR=47
COEN Coen 36.24 277 **P** 10 36 36.4 -0.9
COEN IAmb IAmb 10 36 39.3
comp=Z,83nm,1.0s
COEN Coen 36.24 277 P **P** 10 36 37.3 -0.1
MANU Manus Island 37.88 298 P **P** 10 36 49.6 -1.2
QIS Mount Isa 37.92 265 P **P** 10 36 49.7 -1.3
baz=38,SNR=29
QIS Mount Isa 37.92 265 P **P** 10 36 50.1 -0.9
HTT Hallett 38.06 244 P **P** 10 36 51.9 -0.2
baz=38,SNR=38
HTT Hallett 38.06 244 P **P** 10 36 51.9 -0.2
LCRK Leigh Creek 38.45 249 P **P** 10 36 55.1 -0.1
TWOA Tennyson Woods 38.53 241 P **P** 10 36 55.5 -0.3
PTPS Port Pirie 38.81 244 P **P** 10 36 58.2 +0.2
WHYH Whyalla 39.15 245 P **P** 10 37 00.6 -0.1
BBOO Buckleboo 40.40 245 P **P** 10 37 10.2 -0.6
baz=40,SNR=133
BBOO Buckleboo 40.40 245 P **P** 10 37 10.1 -0.6
BBOO Buckleboo 40.40 245 P **P** 10 37 10.4 -0.4
OOD Oodnadatta 40.68 253 P **P** 10 37 13.7 +0.6
MULG Mulgathing 42.05 249 P **P** 10 37 23.4 -0.4
AS31 Alice Springs 42.66 259 P **P** 10 37 28.0 -0.8
AS31 IAmb IAmb 10 37 30.0
comp=Z,65nm,1.2s
ASAR Alice Springs 42.66 259 P **P** 10 37 28.1 -0.7
comp=Z,142nm,1.0s,baz=94,slow=9.1,SNR=627
ASAR PcP **PcP** 10 39 07.3 -0.2
comp=Z,5.5nm,0.5s,baz=105,slow=4.0,SNR=5.6
ASAR ScP **ScP** 10 42 05.2 +0.8
comp=Z,12nm,1.1s,baz=110,slow=4.3,SNR=12
ASAR S **S** 10 43 09.6 -1.9
comp=Z,1.5nm,0.8s,baz=90,slow=16,SNR=5.1
ASAR ScS **ScS** 10 46 28.1 +1.9
comp=Z,1.4nm,0.9s,baz=87,slow=6.3,SNR=5.0
comp=Z,142nm,1.0s
WR0 Warramunga Arr 42.70 264 P **P** 10 37 27.6 -1.5
WR0 IAmb IAmb 10 37 29.4
comp=Z,51nm,1.1s
WB0 Warramunga Arr 42.87 265 P **P** 10 37 29.0 -1.5
WB2 Warramunga Arr 42.88 264 P **P** 10 37 29.1 -1.3
WRAB Tennant Creek 42.88 264 P **P** 10 37 29.1 -1.4
WRAB IAmb IAmb 10 37 30.7
comp=Z,85nm,0.8s
WRAB Tennant Creek 42.88 264 P **P** 10 37 29.1 -1.4
WRAB pmax pmax
comp=Z,85nm,0.8s
WRAB Tennant Creek 42.88 264 P **P** 10 37 29.3 -1.2
WRAB Tennant Creek 42.88 264 JP **P** 10 37 29.1 -1.4
WRAB ScP **ScP** 10 42 07.2 +1.9
WRA Warramunga Arr 42.89 264 P **P** 10 37 29.2 -1.4
comp=Z,49nm,0.5s,baz=93,slow=8.2,SNR=582
WRA ScP **ScP** 10 42 06.4 +1.0
comp=Z,20nm,1.1s,baz=102,slow=4.2,SNR=20
WRA S **S** 10 43 10.0 -4.8
comp=Z,2.0nm,0.8s,baz=100,slow=14,SNR=6.2
comp=Z,49nm,0.5s
WRA Warramunga Arr 42.89 264 P **P** 10 37 29.1 -1.4
WRA Warramunga Arr 42.89 264 P **P** 10 37 29.1 -1.5
WRA pmax pmax
comp=Z,8.0nm,0.8s
GENI Genyem 43.67 291 P **P** 10 37 36.5 -0.2
comp=Z,181nm,0.9s
KDU Kakadu 46.52 274 P **P** 10 37 57.2 -1.2
baz=46,SNR=65
KDU Kakadu 46.52 274 P **P** 10 37 57.3 -1.1
FORT Forrest 47.20 248 P **P** 10 38 02.5 -0.9
baz=47,SNR=180
FORT Forrest 47.20 248 P **P** 10 38 02.5 -0.9
FORT Forrest 47.20 248 P **P** 10 38 02.6 -0.9
WRKA Warakurna 47.54 256 P **P** 10 38 05.3 -0.7
baz=48,SNR=465
WRKA Warakurna 47.54 256 P **P** 10 38 05.4 -0.7
KHLU Kahalu`u 47.67 31 P **P** 10 38 07.2 +0.1
MTN Manton Dam 47.71 273 P **P** 10 38 05.7 -1.6
baz=48,SNR=26
MTN Manton Dam 47.71 273 P **P** 10 38 05.8 -1.6
MTN IAmb IAmb 10 38 07.2
comp=Z,44nm,0.6s
MTN Manton Dam 47.71 273 P **P** 10 38 06.1 -1.3
HMH Humu'ula Sheep 47.88 31 P **P** 10 38 08.8 0.0
POHA Pohakuloa 47.99 31 P **P** 10 38 09.8 +0.3
POHA Pohakuloa 47.99 31 P **P** 10 38 09.6 0.0
POHA Pohakuloa 47.99 31 P **P** 10 38 09.1 -0.4
KEKH Kekaha 48.12 25 P **P** 10 38 10.0 -0.2
HPAH Hawaii Prepara 48.15 31 P **P** 10 38 10.7 +0.1
HON Honolulu 48.24 27 P **P** 10 38 11.1 0.0
HON Honolulu 48.24 27 P **P** 10 38 11.1 0.0
HON pmax pmax
comp=Z,315nm,0.8s
KIP Kipapa 48.32 27 P **P** 10 38 11.1 -0.6
KIP IAmb IAmb 10 38 13.7
comp=Z,84nm,0.8s
KIP Kipapa 48.32 27 *i*P **P** 10 38 11.8 +0.1
KIP pmax pmax
comp=Z,85nm,1.0s
KIP Kipapa 48.32 27 P **P** 10 38 10.9 -0.8
KIP Kipapa 48.32 27 P **P** 10 38 11.5 -0.2
HLK Haleakala 48.52 30 P **P** 10 38 13.1 -0.4
KHLH Kahului Airpor 48.56 29 P **P** 10 38 13.9 +0.5
KNRA Kununurra 49.06 268 P **P** 10 38 16.5 -0.9
baz=49,SNR=52
KNRA Kununurra 49.06 268 P **P** 10 38 16.5 -0.9
KNRA Kununurra 49.06 268 P **P** 10 38 16.7 -0.7
GUMO Guam 49.86 312 P **P** 10 38 22.7 -0.5
comp=Z,78nm,0.8s,baz=161,slow=11,SNR=5.6
comp=Z,78nm,0.8s
GUMO Guam 49.86 312 P **P** 10 38 22.6 -0.5
FAKI Fak Fak 50.48 285 P **P** 10 38 26.8 -1.0
FAKI IAmb IAmb 10 38 28.5
comp=Z,50nm,0.9s
FAKI Fak Fak 50.48 285 P **P** 10 38 26.7 -1.1
comp=Z,59nm,1.1s
DRV Dumont d'Urvil 51.14 199 P **P** 10 38 31.8 +0.1
DRV pP **pwP** 10 40 20.0 -2.2
FITZ Fitzroy Crossi 51.32 264 P **P** 10 38 33.2 -0.6
comp=Z,67nm,0.9s,baz=174,slow=0.9,SNR=103
comp=Z,67nm,0.9s
FITZ Fitzroy Crossi 51.32 264 P **P** 10 38 33.3 -0.6
baz=51,SNR=60
FITZ Fitzroy Crossi 51.32 264 P **P** 10 38 33.5 -0.3
FITZ IAmb IAmb 10 38 35.1
comp=Z,96nm,1.2s
FITZ Fitzroy Crossi 51.32 264 P **P** 10 38 33.5 -0.3
BNDI Bandanaira 51.90 282 P **P** 10 38 37.1 -1.0
SIJI Sorong 52.29 287 P **P** 10 38 40.1 -0.8
comp=Z,240nm,0.8s,baz=80,slow=6.3,SNR=66
comp=Z,240nm,0.8s
SOEI Soe 55.08 274 P **P** 10 39 00.7 0.0
SOEI Soe 55.08 274 P **P** 10 39 01.0 +0.3
BATI Baumata 55.48 273 P **P** 10 39 04.4 +1.1
comp=Z,63nm,0.6s,baz=161,slow=2.7,SNR=6.7
comp=Z,63nm,0.6s
PSA00 Pilbara Seismi 55.81 258 P **P** 10 39 03.9 -1.6
PSA00 IAmb IAmb 10 39 06.0
comp=Z,98nm,1.2s
PSA00 Pilbara Seismi 55.81 258 P **P** 10 39 04.5 -1.0
MEEK Meekatharra 55.91 252 P **P** 10 39 04.9 -1.3
baz=56,SNR=57
MEEK Meekatharra 55.91 252 P **P** 10 39 05.1 -1.1
comp=Z,79nm,0.9s
KLBR Kellerberrin 55.93 246 P **P** 10 39 05.5 -0.7
baz=56,SNR=25
KLBR Kellerberrin 55.93 246 P **P** 10 39 05.7 -0.5
comp=Z,248nm,1.1s
SBA Scott Base 55.97 183 P **P** 10 39 08.7 +3.1
SBA IAmb IAmb 10 39 09.9
comp=Z,71nm,1.1s
SBA Scott Base 55.97 183 P **P** 10 39 08.7 +3.1
SBA pmax pmax
comp=Z,71nm,1.1s
SBA Scott Base 55.97 183 P **P** 10 39 08.5 +2.9
SBA pP **pwP** 10 41 01.1 +3.4
VNDA Vanda 55.97 185 P **P** 10 39 07.7 +1.9
comp=Z,12nm,0.8s,baz=3.7,slow=8.0,SNR=86
comp=Z,12nm,0.8s
VNDA Vanda 55.97 185 P **P** 10 39 07.6 +1.9
VNDA Vanda 55.97 185 P **P** 10 39 07.6 +1.9
VNDA pmax pmax
comp=Z,63nm,1.7s
VNDA Vanda 55.97 185 JP **P** 10 39 07.6 +1.9
MBWA Marble Bar 56.00 259 P **P** 10 39 05.8 -1.0
MBWA IAmb IAmb 10 39 07.8
comp=Z,123nm,0.8s
MBWA Marble Bar 56.00 259 P **P** 10 39 06.0 -0.9
MBWA Marble Bar 56.00 259 P **P** 10 39 05.8 -1.0
NWAO Narrogin (SRO) 56.22 245 P **P** 10 39 07.8 -0.3
baz=56,SNR=24
NWAO P **P** 10 39 07.8 -0.3
baz=56,SNR=24
NWAO Narrogin (SRO) 56.22 245 P **P** 10 39 07.9 -0.3
NWAO IAmb IAmb 10 39 09.2
comp=Z,107nm,1.0s
NWAO Narrogin (SRO) 56.22 245 P **P** 10 39 07.9 -0.3
NWAO pmax pmax
comp=Z,107nm,1.0s
NWAO Narrogin (SRO) 56.22 245 P **P** 10 39 07.8 -0.3
NWAO Narrogin (SRO) 56.22 245 P **P** 10 39 07.5 -0.6
RKGY Rocky Gully 56.26 242 P **P** 10 39 08.7 +0.3
baz=56,SNR=9.3
SANI Sanana 56.48 283 P **P** 10 39 09.1 -1.1
TNTI Ternate 56.50 287 P **P** 10 39 09.8 -0.5
TNTI IAmb IAmb 10 39 11.4
comp=Z,84nm,1.0s
TNTI Ternate 56.50 287 P **P** 10 39 10.2 -0.1
comp=Z,89nm,1.0s
BLDU Ballidu 56.95 247 P **P** 10 39 12.3 -0.9
baz=57,SNR=105
BLDU Ballidu 56.95 247 P **P** 10 39 12.6 -0.6
MUN Mundaring 57.19 246 P **P** 10 39 14.2 -0.6
baz=57,SNR=8.9
MUN Mundaring 57.19 246 P **P** 10 39 14.3 -0.6
MORW Morawa 57.76 249 P **P** 10 39 18.0 -0.7
baz=58,SNR=62
MORW Morawa 57.76 249 P **P** 10 39 18.1 -0.7
MORW IAmb IAmb 10 39 19.6
comp=Z,138nm,1.1s
MORW Morawa 57.76 249 P **P** 10 39 18.2 -0.5
LUWI Luwuk 59.82 282 P **P** 10 39 32.0 -0.7
LUWI IAmb IAmb 10 39 33.7
comp=Z,91nm,0.9s
LUWI Luwuk 59.82 282 P **P** 10 39 32.7 0.0
CCD Concordia, Ant 60.33 194 JP **P** 10 39 36.6 +1.0
CCD pP **pwP** 10 41 31.5 +1.8
GIRL Giralia 60.63 256 P **P** 10 39 37.0 -1.0
baz=61,SNR=14
KAPI Kappang 60.97 277 P **P** 10 39 39.3 -1.1
comp=Z,9.6nm,0.4s,baz=132,slow=8.1,SNR=5.1
comp=Z,9.6nm,0.4s
KAPI Kappang 60.97 277 *i*P **P** 10 39 39.2 -1.1
KAPI pmax pmax
comp=Z,16nm,1.0s
KAPI Kappang 60.97 277 P **P** 10 39 40.5 +0.1
PLAI Plampang 61.40 272 P **P** 10 39 42.5 -0.7
CASY Casey 61.68 206 P **P** 10 39 44.0 0.0
CASY Casey 61.68 206 P **P** 10 39 43.6 -0.4
CASY pP **pP** 10 41 36.3 +1.1
TOLI2 Tolitoli 62.53 284 P **P** 10 39 48.7 -1.8
JAGI Jajag, Banyuwa 64.88 271 P **P** 10 40 03.2 -2.3
JAGI Jajag, Banyuwa 64.88 271 P **P** 10 40 04.0 -1.5
QSPA South Pole Qui 67.75 180 P **P** 10 40 23.6 +1.2
QSPA South Pole Qui 67.75 180 JP **P** 10 40 23.8 +1.4
QSPA pP **pwP** 10 42 21.2 +0.8
KKM Kota Kinabalu 68.79 286 P **P** 10 40 28.2 -1.4
KKM IAmb IAmb 10 40 30.5
comp=Z,44nm,0.6s

JOW	**Kunigami**	70.21	311	P		**P**		**10 40 37.6**	**0.0**		
	comp=Z,29nm,0.5s,baz=131,slow=25,SNR=7.4										
	comp=Z,29nm,0.5s										
MJAR	**Matsushiro Arr**	70.81	325	P		**P**		**10 40 40.2**	**-0.8**		
	comp=Z,4.8nm,0.8s,baz=159,slow=5.7,SNR=14										
	comp=Z,4.8nm,0.8s										
MAJO	**Matsushiro**	70.81	325	P		**P**		**10 40 40.8**	**-0.2**		
MAJO	**Matsushiro**	70.81	325	*i* P		**P**		**10 40 41.0**	**0.0**		
MAJO					pmax		pmax				
	comp=Z,7.0nm,0.9s										
MAJO	**Matsushiro**	70.81	325	P		**P**		**10 40 41.6**	**+0.6**		
	comp=Z,12nm,0.8s										
MJB9	**Matsu-Tunnel**	70.81	325	P		**P**		**10 40 40.7**	**-0.3**		
SBUM	**Sibu**	70.85	281	P		**P**		**10 40 41.1**	**-0.7**		
LEM	**Lembang**	71.52	270	P		**P**		**10 40 45.6**	**-0.2**		
	comp=Z,254nm,1.0s,baz=101,slow=6.0,SNR=21										
	comp=Z,254nm,1.0s										
JSD	**Sado**	71.91	326	P		**P**		**10 40 47.9**	**+0.6**		
JHS	**Saijyo**	72.53	321	P		**P**		**10 40 49.8**	**-1.2**		
JTM	**Tenmabayashi**	72.65	330	P		**P**		**10 40 51.9**	**+0.4**		
AMKA	**Amchitka**	73.39	359	P		**P**		**10 40 54.9**	**-0.6**		
KIWB	**Kanaga Island**	73.89	2	P		**P**		**10 40 57.9**	**-0.4**		
ADK	**Adak**	73.93	2	P		**P**		**10 40 57.7**	**-0.8**		
ADK					IAmb		IAmb	10 40 59.1			
	comp=Z,62nm,0.7s										
ADK	**Adak**	73.93	2	P		**P**		**10 40 57.7**	**-0.8**		
ADK					pmax		pmax				
	comp=Z,62nm,0.7s										
ADK	**Adak**	73.93	2	P		**P**		**10 40 57.8**	**-0.8**		
NIKH	**Nikolski High**	75.56	7	P		**P**		**10 41 06.8**	**-0.9**		
NIKH	**Nikolski High**	75.56	7	P		**P**		**10 41 06.5**	**-1.2**		
	baz=190,SNR=9.2										
UNV	**Unalaska Valle**	76.69	8	P		**P**		**10 41 12.6**	**-1.3**		
	baz=193										
YSS	**Yuzh-Sakhalins**	76.86	335	P		**P**		**10 41 15.0**	**+0.1**		
YSS	**Yuzh-Sakhalins**	76.86	335	*ce*P		**P**		**10 41 16.4**	**+1.4**		
YSS					pmax		pmax				
	comp=Z,52nm,2.5s										
KSRS	**Korea Array**	77.27	320	P		**P**		**10 41 18.5**	**+1.1**		
	comp=Z,2.0nm,0.7s,baz=144,slow=5.6,SNR=12										
KSRS				ScS		**ScS**		**10 50 46.8**	**+4.0**		
	comp=Z,0.4nm,0.5s,baz=132,slow=6.9,SNR=4.1										
PETK	**Petropavlovsk-**	77.66	346	P		**P**		**10 41 18.6**	**-0.6**		
	comp=Z,22nm,0.7s,baz=147,slow=5.5,SNR=20										
	comp=Z,22nm,0.7s										
PETK	**Petropavlovsk-**	77.66	346	P		**P**		**10 41 19.1**	**0.0**		
PETK	**Petropavlovsk-**	77.66	346	P		**P**		**10 41 19.1**	**0.0**		
BELA	**Belgrano 2**	77.95	173	P		**P**		**10 41 20.6**	**+0.1**		
BELA					IAmb		IAmb	10 41 21.7			
	comp=Z,56nm,1.1s										
MYKOM	**Kota Tinggi**	78.24	277	P		**P**		**10 41 23.0**	**-0.2**		
CHNA	**Chernabura Isl**	78.74	12	P		**P**		**10 41 24.1**	**-0.7**		
	baz=199										
SDPT	**Sand Point**	79.07	11	P		**P**		**10 41 25.7**	**-0.8**		
	baz=198										
MAW	**Mawson**	79.34	200	P		**P**		**10 41 28.9**	**+0.9**		
	comp=Z,18nm,0.8s,baz=126,slow=6.7,SNR=21										
	comp=Z,18nm,0.8s										
MAW	**Mawson**	79.34	200	P		**P**		**10 41 29.0**	**+1.0**		
	baz=79,SNR=11										
MAW	**Mawson**	79.34	200	P		**P**		**10 41 28.7**	**+0.7**		
MAW	**Mawson**	79.34	200	P		**P**		**10 41 28.7**	**+0.7**		
MAW					pmax		pmax				
	comp=Z,12nm,1.4s										
SPIA	**Saint Paul Isl**	79.58	5	P		**P**		**10 41 29.2**	**0.0**		
	baz=189										
USRK	**Ussuriysk Ar.**	79.64	327	P		**P**		**10 41 30.4**	**+0.5**		
	comp=Z,4.6nm,0.7s,baz=128,slow=2.5,SNR=9.9										
	comp=Z,4.6nm,0.7s										
USRK	**Ussuriysk Ar.**	79.64	327	P		**P**		**10 41 30.5**	**+0.6**		
USRK	**Ussuriysk Ar.**	79.64	327	P		**P**		**10 41 30.5**	**+0.6**		
NJ2	**Nanjing**	79.90	311	*e*P		**P**		**10 41 31.5**	**0.0**		
NJ2					pmax		pmax				
	comp=Z,15nm,0.5s										
SCZ2	**Santa Cruz Isl**	79.94	47	P		**P**		**10 41 33.6**	**+1.9**		
	baz=234,SNR=7.3										
TYV	**Tymovskoe**	80.10	337	*e*P		**P**		**10 41 33.6**	**+1.5**		
TYV					pmax		pmax				
	comp=Z,16nm,0.9s										
TYV					pmax		pmax				
	comp=Z,400nm,3.2s										
SCI2	**San Clemente I**	80.10	48	P		**P**		**10 41 34.5**	**+1.9**		
	baz=235										
S14K	**Fog Glacier**	80.12	11	P		**P**		**10 41 33.3**	**+1.1**		
	baz=199										
SBC	**Santa Barbara**	80.15	47	P		**P**		**10 41 34.7**	**+2.0**		
	baz=234										
PKM	**Mcpherson Peak**	80.34	46	P		**P**		**10 41 35.4**	**+1.4**		
	baz=234,SNR=18										
CHGN	**Chignik**	80.35	12	P		**P**		**10 41 32.8**	**-0.4**		
CHGN					IAmb		IAmb	10 41 34.6			
	comp=Z,54nm,0.8s										
CHGN	**Chignik**	80.35	12	P		**P**		**10 41 33.7**	**+0.4**		
	baz=200										
SAO	**San Andreas Ge**	80.38	44	P		**P**		**10 41 34.7**	**+0.7**		
SAO	**San Andreas Ge**	80.38	44	P		**P**		**10 41 34.7**	**+0.7**		
SAO					pmax		pmax				
	comp=Z,31nm,1.0s										
CIS	**Catalina Islan**	80.43	48	P		**P**		**10 41 35.0**	**+0.6**		
	baz=235,SNR=5.2										
SMMC	**Simmler**	80.47	46	P		**P**		**10 41 35.8**	**+1.3**		
	baz=234,SNR=14										
PMPB	**Monarch Peak**	80.47	45	P		**P**		**10 41 35.0**	**+0.5**		
PMPB					IAmb		IAmb	10 41 37.8			
	comp=Z,34nm,0.9s										
BBGB	**Big Mountain B**	80.53	44	P		**P**		**10 41 35.1**	**+0.2**		
BBGB					IAmb		IAmb	10 41 42.9			
	comp=Z,32nm,0.8s										
BCW	**Bitter Crk WRg**	80.64	46	P		**P**		**10 41 36.0**	**+0.6**		
BCW					IAmb		IAmb	10 41 38.9			
	comp=Z,61nm,1.0s										
FMP	**Fort Macarthur**	80.69	48	P		**P**		**10 41 36.7**	**+1.1**		
	baz=235										
HOPS	**Hopland Field**	80.73	41	P		**P**		**10 41 36.3**	**+0.6**		
HOPS					IAmb		IAmb	10 41 39.0			
	comp=Z,96nm,1.1s										
GDXM	**Geysers**	80.78	41	P		**P**		**10 41 37.7**	**+1.6**		
CCX	**Cicese**	80.80	50	P		**P**		**10 41 37.6**	**+1.4**		
KCPM	**Cahto Peak**	80.85	40	P		**P**		**10 41 37.6**	**+1.2**		
KCPM					IAmb		IAmb	10 41 40.0			
	comp=Z,84nm,1.0s										
OSI	**Osito Audit: C**	80.91	47	P		**P**		**10 41 37.9**	**+1.1**		
	baz=235										
DECC	**Green Verdugo**	80.97	47	P		**P**		**10 41 38.2**	**+1.1**		
	baz=235										
KMPM	**Mount Pierce**	80.99	40	P		**P**		**10 41 38.4**	**+1.2**		
PASC	**Pasadena Art C**	81.03	47	P		**P**		**10 41 38.4**	**+1.0**		
CBX	**Cerro Bola**	81.05	50	P		**P**		**10 41 38.6**	**+0.9**		
109C	**Camp Elliot, M**	81.06	49	P		**P**		**10 41 38.1**	**+0.6**		
109C					IAmb		IAmb	10 41 40.4			
	comp=Z,36nm,1.0s										
109C	**Camp Elliot, M**	81.06	49	P		**P**		**10 41 38.2**	**+0.6**		
	baz=236										
ARVC	**Arvin**	81.14	46	P		**P**		**10 41 39.0**	**+1.2**		
	baz=235,SNR=15										
MDJ	**Mudanjiang**	81.16	326	P		P		10 41 32.8	-5.0		
MDJ				S		**S**		**10 51 04.8**	**+3.7**		
MDJ					pmax		pmax				
	comp=Z,9.0nm,2.7s										
MDJ					pmax		pmax				
	comp=Z,250nm,4.7s										
MDJ	**Mudanjiang**	81.16	326	P		**P**		**10 41 37.4**	**-0.4**		
TKX	**Tecate**	81.23	50	P		**P**		**10 41 39.3**	**+0.8**		
BAR	**Barrett**	81.24	49	P		**P**		**10 41 39.4**	**+0.8**		
BAR					IAmb		IAmb	10 41 41.5			
	comp=Z,82nm,2.0s										
ELS	**Elsinore Mount**	81.25	48	P		**P**		**10 41 39.6**	**+1.0**		
VES	**Vestal, Richgr**	81.38	46	P		**P**		**10 41 39.4**	**+0.3**		
	baz=235,SNR=20										
MURC	**Murrieta**	81.39	48	P		**P**		**10 41 40.0**	**+0.7**		
	baz=236,SNR=13										
BFSC	**Mount Baldy Ra**	81.42	48	P		**P**		**10 41 40.3**	**+0.7**		
	baz=236,SNR=15										
SII	**Sitkinak Islan**	81.46	14	P		**P**		**10 41 40.1**	**+1.1**		
	baz=204										
KHMM	**Horse Mountain**	81.51	39	P		**P**		**10 41 42.0**	**+2.1**		
KHMM					IAmb		IAmb	10 41 43.6			
	comp=Z,95nm,0.9s										
MONP2	**Monument Peak**	81.54	49	P		**P**		**10 41 41.3**	**+1.1**		
	baz=237,SNR=55										
EDW2	**Edwards Air Fo**	81.56	47	P		**P**		**10 41 41.2**	**+1.1**		
	baz=236,SNR=48										
RMX	**La Rumorosa**	81.62	50	IAmb		IAmb		10 41 44.0			
	comp=Z,49nm,1.0s										
IKP	**In-Ko-Pah, Jac**	81.62	50	P		**P**		**10 41 41.6**	**+1.0**		
	baz=237,SNR=33										

ISA	**Isabella, Lake**	81.68	46	P		**P**		**10 41 41.8**	**+1.1**		
ISA					IAmb		IAmb	10 41 43.8			
	comp=Z,49nm,0.9s										
ISA	**Isabella, Lake**	81.68	46	P		**P**		**10 41 41.8**	**+1.1**		
ISA					pmax		pmax				
	comp=Z,49nm,0.9s										
ISA	**Isabella, Lake**	81.68	46	P		**P**		**10 41 41.7**	**+1.0**		
	baz=235,SNR=71										
SRIG	**Santa Rosalia**	81.69	56	P		**P**		**10 41 41.7**	**+0.8**		
SRIG					IAmb		IAmb	10 41 44.3			
	comp=Z,57nm,1.0s										
CCAC	**Calif City Air**	81.70	47	IAmb		IAmb		10 41 43.8			
	comp=Z,68nm,1.6s										
R16K	**Pilot Point**	81.70	12	P		**P**		**10 41 42.2**	**+2.1**		
	baz=201										
SLBS	**Sierra La Lagu**	81.72	60	P		**P**		**10 41 42.3**	**+1.0**		
YUH	**Yuha Desert**	81.75	50	P		**P**		**10 41 41.1**	**0.0**		
YUH					IAmb		IAmb	10 41 44.3			
	comp=Z,41nm,1.1s										
CMB	**Columbia Colle**	81.82	43	P		**P**		**10 41 42.3**	**+0.9**		
CMB					IAmb		IAmb	10 41 44.1			
	comp=Z,60nm,1.0s										
CMB	**Columbia Colle**	81.82	43	P		**P**		**10 41 42.3**	**+0.9**		
CMB					pmax		pmax				
	comp=Z,60nm,1.0s										
KRMB	**Red Mountain**	81.82	39	P		**P**		**10 41 43.0**	**+1.6**		
KRMB					IAmb		IAmb	10 41 44.7			
	comp=Z,59nm,0.9s										
IPM	**Ipoh**	81.88	278	P		**P**		**10 41 40.6**	**-1.6**		
IPM					IAmb		IAmb	10 41 43.4			
	comp=Z,44nm,0.8s										
IPM	**Ipoh**	81.88	278	P		**P**		**10 41 42.2**	**0.0**		
PFO	**Pinyon Flats O**	81.91	49	P		**P**		**10 41 42.0**	**0.0**		
	comp=Z,11nm,0.9s,baz=263,slow=3.3,SNR=16										
	comp=Z,11nm,0.9s										
PFO	**Pinyon Flats O**	81.91	49	P		**P**		**10 41 42.5**	**+0.5**		
PFO	**Pinyon Flats O**	81.91	49	*i* P		**P**		**10 41 42.5**	**+0.5**		
PFO					pmax		pmax				
	comp=Z,20nm,0.9s										
PFO	**Pinyon Flats O**	81.91	49	P		**P**		**10 41 43.1**	**+1.1**		
	baz=237,SNR=12										
TPFO	**Pinon Flats**	81.91	49	P		**P**		**10 41 43.0**	**+1.0**		
	baz=237,SNR=14										
BBRC	**Big Bear Solar**	81.94	48	P		**P**		**10 41 43.2**	**+0.9**		
	baz=236										
PMD	**Palm Desert**	81.98	49	P		**P**		**10 41 42.3**	**0.0**		
PMD					IAmb		IAmb	10 41 45.2			
	comp=Z,37nm,1.4s										
AFDM	**Forest Hills D**	82.00	42	P		**P**		**10 41 42.5**	**+0.2**		
AFDM					IAmb		IAmb	10 41 45.0			
	comp=Z,55nm,1.0s										
R17K	**Ugashik Creek**	82.00	12	P		**P**		**10 41 41.5**	**-0.3**		
	baz=202,SNR=9.8										
SWSC	**Sam W. Stewart**	82.00	50	P		**P**		**10 41 43.4**	**+1.1**		
	baz=237,SNR=26										
KSXB	**Camp Six Broad**	82.03	39	P		**P**		**10 41 43.6**	**+1.2**		
KSXB					IAmb		IAmb	10 41 46.0			
	comp=Z,84nm,0.9s										
ORV	**Oroville**	82.03	42	P		**P**		**10 41 43.1**	**+0.8**		
ORV					IAmb		IAmb	10 41 45.3			
	comp=Z,38nm,0.9s										
ORV	**Oroville**	82.03	42	P		**P**		**10 41 43.2**	**+0.8**		
ORV					pmax		pmax				
	comp=Z,38nm,1.0s										
CPBX	**Cerro Prieto**	82.07	50	IAmb		IAmb		10 41 48.3			
	comp=Z,43nm,0.7s										
LRMC	**Laurel Mtn Rad**	82.11	47	P		**P**		**10 41 43.6**	**+0.5**		
	baz=236,SNR=19										
RRX	**Edison Barstow**	82.23	47	P		**P**		**10 41 44.2**	**+0.7**		
	baz=236										
OHAK	**Old Harbor**	82.27	14	P		**P**		**10 41 43.1**	**+0.1**		
OHAK					IAmb		IAmb	10 41 45.0			
	comp=Z,59nm,1.1s										
OHAK	**Old Harbor**	82.27	14	P		**P**		**10 41 43.3**	**+0.2**		
	baz=205										
CWC	**Cottonwood Cre**	82.39	46	P		**P**		**10 41 45.4**	**+0.9**		
	baz=235										
L02F	**Cave Junction**	82.39	39	P		**P**		**10 41 45.4**	**+1.2**		
	baz=231,SNR=9.0										
MDPB	**Devils Postpil**	82.42	44	P		**P**		**10 41 45.7**	**+1.0**		
MDPB					IAmb		IAmb	10 41 47.6			
	comp=Z,49nm,0.9s										
KEBM	**Edson Butte**	82.44	38	IAmb		IAmb		10 41 48.0			
	comp=Z,64nm,1.0s										
BELC	**Belle Mtn. Jos**	82.44	49	P		**P**		**10 41 45.5**	**+0.8**		
	baz=237,SNR=43										
OMMB	**Old Mammoth Mi**	82.46	44	P		**P**		**10 41 45.9**	**+0.9**		
KULM	**Kulim**	82.54	279	P		**P**		**10 41 44.4**	**-1.1**		
EMB	**Emerald Bay**	82.56	43	P		**P**		**10 41 46.3**	**+1.0**		
EMB					IAmb		IAmb	10 41 48.1			
	comp=Z,86nm,1.4s										
MPMC	**Manual Prospec**	82.56	46	P		**P**		**10 41 46.4**	**+1.0**		
	baz=236,SNR=72										
MLAC	**Mammoth, Mammo**	82.57	44	P		**P**		**10 41 46.3**	**+0.8**		
	baz=235										
GSC	**Goldstone, Bar**	82.60	47	P		**P**		**10 41 46.3**	**+0.9**		
	baz=236										
BC3	**Big Chuckawall**	82.63	49	P		**P**		**10 41 46.6**	**+1.0**		
	baz=237,SNR=20										
TIN	**Tinemaha, Big**	82.64	45	P		**P**		**10 41 46.5**	**+0.9**		
	baz=235,SNR=10										
YBH	**Yreka Blue Hor**	82.65	39	P		**P**		**10 41 47.1**	**+1.6**		
YBH					IAmb		IAmb	10 41 48.9			
	comp=Z,43nm,0.9s										
YBH	**Yreka Blue Hor**	82.65	39	P		**P**		**10 41 47.1**	**+1.6**		
YBH					pmax		pmax				
	comp=Z,43nm,0.9s										
HEC	**Hector,Ludlow**	82.66	48	P		**P**		**10 41 46.7**	**+1.0**		
	baz=236,SNR=34										
WAKR	**Walker**	82.70	43	P		**P**		**10 41 47.4**	**+1.3**		
WAKR					IAmb		IAmb	10 41 49.2			
	comp=Z,55nm,1.0s										
K02D	**Willamette Mer**	82.70	38	P		**P**		**10 41 47.0**	**+1.2**		
	baz=231,SNR=10										
GLA	**Glamis**	82.75	50	P		**P**		**10 41 47.9**	**+1.7**		
GLA					IAmb		IAmb	10 41 49.8			
	comp=Z,82nm,1.0s										
GLA	**Glamis**	82.75	50	P		**P**		**10 41 47.9**	**+1.7**		
GLA					pmax		pmax				
	comp=Z,82nm,1.0s										
GLA	**Glamis**	82.75	50	P		**P**		**10 41 47.5**	**+1.3**		
	baz=238,SNR=22										
CN2	**Changchun**	82.84	323	*e*P		**P**		**10 41 45.5**	**-0.8**		
CN2				*ep*P		pP		10 43 46.5	-0.7		
CN2				*eS*		**S**		**10 51 15.3**	**-2.5**		
CN2					pmax		pmax				
	comp=Z,10.0nm,0.6s										
CN2					pmax		pmax				
	comp=Z,200nm,6.0s										
J01E	**Myrtle Point**	82.85	38	P		**P**		**10 41 47.9**	**+1.5**		
J01E					IAmb		IAmb	10 41 49.7			
	comp=Z,81nm,0.8s										
J01E	**Myrtle Point**	82.85	38	P		**P**		**10 41 47.4**	**+1.0**		
	baz=230,SNR=13										
Q16K	**King Salmon**	82.91	12	P		**P**		**10 41 46.0**	**-0.2**		
	baz=201,SNR=21										
BEKR	**Beckworth**	82.92	42	P		**P**		**10 41 48.0**	**+0.9**		
QSM	**Queen of Sheba**	82.93	47	P		**P**		**10 41 47.5**	**+0.5**		
PNTR	**Pine Nut**	82.94	43	P		**P**		**10 41 48.4**	**+1.1**		
KDAK	**Kodiak Island**	82.94	14	P		**P**		**10 41 46.3**	**-0.1**		
	comp=Z,22nm,1.0s,baz=295,slow=5.2,SNR=14										
	comp=Z,22nm,1.0s										
KDAK	**Kodiak Island**	82.94	14	P		**P**		**10 41 46.0**	**-0.5**		
KDAK					IAmb		IAmb	10 41 48.4			
	comp=Z,104nm,1.8s										
KDAK	**Kodiak Island**	82.94	14	*i* P		**P**		**10 41 47.3**	**+0.9**		
KDAK					pmax		pmax				
	comp=Z,5.0nm,0.5s										
KDAK	**Kodiak Island**	82.94	14	P		**P**		**10 41 46.4**	**-0.1**		
	baz=205										
PIX	**Pinacate**	82.95	52	P		**P**		**10 41 47.0**	**-0.1**		
DSP	**Deep Springs**	82.99	45	P		**P**		**10 41 48.4**	**+1.2**		
DSP					IAmb		IAmb	10 41 50.3			
	comp=Z,41nm,0.9s										
P16K	**Nushagak River**	83.00	11	P		**P**		**10 41 46.7**	**0.0**		
	baz=200,SNR=8.7										
VCNR	**Virginia City**	83.03	43	P		**P**		**10 41 48.3**	**+0.6**		
VCNR					IAmb		IAmb	10 41 50.6			
	comp=Z,35nm,1.0s										
HUMO	**Hull Mountain**	83.05	38	IAmb		IAmb		10 41 51.2			
	comp=Z,92nm,1.2s										
BNX	**BinXian**	83.06	326	⇑P		**P**		**10 41 47.0**	**-0.3**		
BNX					pmax		pmax				
	comp=Z,5.0nm,0.6s										
BNX					pmax		pmax				
	comp=Z,270nm,5.4s										

GMRC	**Granite Mounta**	83.10	48	P		**P**		**10 41 48.9**	**+0.9**		
	baz=237,SNR=26										
YERR	**Yerington**	83.10	43	IAmb		IAmb		10 41 50.8			
	comp=Z,49nm,0.8s										
IRM	**Iron Mountain**	83.12	49	P		**P**		**10 41 49.0**	**+1.0**		
	baz=237,SNR=40										
RPSI	**Rantau Prapat**	83.12	276	P		**P**		**10 41 47.0**	**-1.5**		
LCH	**Last Change Ra**	83.12	45	P		**P**		**10 41 48.8**	**+0.7**		
LHV	**Little Huntoon**	83.15	44	P		**P**		**10 41 49.3**	**+1.3**		
LHV					IAmb		IAmb	10 41 51.2			
	comp=Z,54nm,1.0s										
PSI	**Prapat**	83.16	276	P		**P**		**10 41 47.6**	**-1.2**		
	comp=Z,23nm,0.9s,baz=192,slow=6.9,SNR=7.7										
	comp=Z,23nm,0.9s										
PSI	**Prapat**	83.16	276	P		**P**		**10 41 47.0**	**-1.8**		
PSI					pmax		pmax				
	comp=Z,28nm,1.0s										
PSI	**Prapat**	83.16	276	P		**P**		**10 41 48.0**	**-0.8**		
	comp=Z,31nm,1.0s										
GRAC	**Grapevine Rang**	83.17	46	P		**P**		**10 41 49.2**	**+0.9**		
GRAC					IAmb		IAmb	10 41 51.5			
	comp=Z,60nm,0.9s										
GRAC	**Grapevine Rang**	83.17	46	P		**P**		**10 41 49.1**	**+0.9**		
	baz=236										
L04D	**Klamath Falls**	83.19	39	P		**P**		**10 41 48.9**	**+0.6**		
L04D	**Klamath Falls**	83.19	39	P		**P**		**10 41 49.2**	**+1.0**		
	baz=232,SNR=29										
DBO	**Dodson Butte**	83.21	38	P		**P**		**10 41 49.7**	**+1.4**		
DBO					IAmb		IAmb	10 41 51.7			
	comp=Z,52nm,0.9s										
FURC	**Furnace Creek,**	83.21	46	P		**P**		**10 41 49.3**	**+1.0**		
	baz=236,SNR=26										
TUQ	**Turquoise Moun**	83.28	47	P		**P**		**10 41 49.9**	**+1.0**		
	baz=237,SNR=37										
SHOC	**Shoshone, Teco**	83.29	47	P		**P**		**10 41 49.5**	**+0.7**		
	baz=236,SNR=22										
BLYC	**Blythe**	83.34	50	P		**P**		**10 41 50.5**	**+1.5**		
BLYC					IAmb		IAmb	10 41 52.4			
	comp=Z,42nm,1.0s										
KLR	**Kul'dur**	83.34	330	P		**P**		**10 41 49.0**	**+0.3**		
	comp=Z,3.3nm,0.8s,baz=327,slow=1.2,SNR=8.7										
	comp=Z,3.3nm,0.8s										
KLR	**Kul'dur**	83.34	330	*ce*P		**P**		**10 41 49.2**	**+0.5**		
KLR					pmax		pmax				
	comp=Z,9.0nm,2.5s										
RYN	**Ryan**	83.35	44	P		**P**		**10 41 50.0**	**+0.8**		
113A	**Mohawk Valley,**	83.36	51	P		**P**		**10 41 50.5**	**+1.4**		
113A					IAmb		IAmb	10 41 52.5			
	comp=Z,38nm,1.0s										
NVAR	**Mina Array Bea**	83.38	44	P		**P**		**10 41 50.1**	**+0.7**		
	comp=Z,31nm,0.9s,baz=224,slow=7.2,SNR=160										
NVAR				pP		**pwP**		**10 43 54.0**	**-0.5**		
	comp=Z,2.9nm,0.8s,baz=226,slow=9.4,SNR=6.8										
	comp=Z,31nm,0.9s										
NVAR	**Mina Array Bea**	83.38	44	P		**P**		**10 41 49.5**	**+0.1**		
PAHR	**Pah Rah Range**	83.44	42	P		**P**		**10 41 50.2**	**+0.6**		
PAHR					IAmb		IAmb	10 41 52.4			
	comp=Z,50nm,1.0s										
P17K	**Kvichak River**	83.44	12	P		**P**		**10 41 48.5**	**-0.4**		
	baz=202										
NV11	**Mina Array Sit**	83.47	44	P		**P**		**10 41 50.4**	**+0.6**		
NV11					IAmb		IAmb	10 41 52.6			
	comp=Z,39nm,0.9s										
I02E	**Swisshome, OR**	83.50	37	P		**P**		**10 41 51.0**	**+1.5**		
	baz=230										
O16K	**Kokwok River B**	83.51	11	P	

I05D	Terebonne, OR	85.05	38	P	P	10 41 58.4	+1.2		
	baz=232,SNR=20								
R11A	Troy Canyon, C	85.10	45	P	P	10 41 58.2	+0.4		
	baz=237,SNR=14								
BRLK	Bradley Lake	85.11	14	P	P	10 41 56.8	-0.3		
BRLK				IAmb	IAmb	10 41 58.7			
	comp=Z,66nm,1.0s								
BRSE	Bradley Lake S	85.13	14	P	P	10 41 56.9	-0.3		
	baz=207,SNR=30								
MA2	Magadan	85.15	345	P	P	10 41 57.1	-0.2		
	comp=Z,27nm,0.9s,baz=19,slow=18,SNR=3.7								
	comp=Z,27nm,0.9s								
E03A	Lebam	85.20	35	P	P	10 41 59.1	+1.3		
F04D	Rainier, OR	85.21	36	P	P	10 41 59.1	+1.2		
	baz=231								
BMN	Battle Mountai	85.21	43	P	P	10 41 58.7	+0.4		
BMN	Battle Mountai	85.21	43	P	P	10 41 58.7	+0.4		
BMN				pmax	pmax				
	comp=Z,23nm,0.9s								
N19K	Bonanza Creek	85.31	12	P	P	10 41 57.6	-0.6		
N19K				IAmb	IAmb	10 41 59.0			
	comp=Z,33nm,0.8s								
N19K	Bonanza Creek	85.31	12	P	P	10 41 56.8	-1.4		
	baz=203,SNR=18								
SVW2	Sparrevohn	85.37	11	P	P	10 41 58.0	-0.3		
WISH	Wishkah	85.46	35	IAmb	IAmb	10 42 02.1			
	comp=Z,52nm,0.9s								
HOOD	Mount Hood Mea	85.48	37	P	P	10 42 00.1	+0.7		
HOOD				IAmb	IAmb	10 42 02.2			
	comp=Z,38nm,0.9s								
WVOR	Wild Horse Val	85.49	40	P	P	10 42 00.5	+1.0		
WVOR				IAmb	IAmb	10 42 02.5			
	comp=Z,40nm,1.0s								
WVOR	Wild Horse Val	85.49	40	P	P	10 42 00.5	+1.0		
WVOR				pmax	pmax				
	comp=Z,40nm,1.0s								
DIB	Dawson Inlet,	85.57	26	IAmb	IAmb	10 42 01.9			
	comp=Z,34nm,0.9s								
NLWA	Neilton Lookou	85.58	34	P	P	10 42 00.8	+1.1		
NLWA				IAmb	IAmb	10 42 02.9			
	comp=Z,52nm,1.1s								
G05D	Wamic, OR	85.61	37	P	P	10 42 01.3	+1.4		
	baz=232,SNR=7.0								
HNS	HongShan	85.68	313	⇑P	P	10 42 02.3	+2.0		
HNS				pmax	pmax				
	comp=Z,13nm,0.7s								
SEW	Seward	85.75	15	IAmb	IAmb	10 42 01.4			
	comp=Z,33nm,0.9s								
SEW	Seward	85.75	15	P	P	10 41 59.6	-0.5		
	baz=208,SNR=10.0								
LYN	LuoYang	85.75	310	*e*P	P	10 42 00.5	-0.3		
LYN				pmax	pmax				
	comp=Z,10.0nm,0.8s								
COYC	Coyhaique	85.82	138	P	P	10 42 01.5	+0.5		
ENH	Enshi	85.83	305	P	P	10 42 01.3	0.0		
TROLL	Troll, Antarti	85.91	181	P	P	10 42 00.7	-0.4		
TROLL	Troll, Antarti	85.91	181	pP	pP	10 44 07.0	+3.5		
319A	Douglas	85.94	54	P	P	10 42 03.6	+1.6		
I07A	Izee	85.95	39	P	P	10 42 02.9	+1.2		
I07A				IAmb	IAmb	10 42 04.8			
	comp=Z,50nm,1.0s								
LCMT	Little Creek M	85.95	47	P	P	10 42 02.8	+0.9		
LCMT				IAmb	IAmb	10 42 04.8			
	comp=Z,25nm,0.9s								
O22K	Cooper Landing	86.02	14	P	P	10 42 01.0	-0.4		
O22K	Cooper Landing	86.02	14	P	P	10 42 00.9	-0.5		
	baz=208,SNR=13								
N20K	Mount Spurr	86.12	13	P	P	10 42 01.6	-0.4		
	baz=205,SNR=8.6								
SPCR	Spurr Chakacha	86.12	13	P	P	10 42 01.5	-0.5		
	baz=205								
J08A	Circle Bar Ran	86.12	40	P	P	10 42 03.6	+1.1		
J08A				IAmb	IAmb	10 42 05.5			
	comp=Z,74nm,1.2s								
SPU	Mount Spurr	86.14	13	P	P	10 42 00.8	-1.2		
BJI	Beijing	86.14	316	P	P	10 42 02.5	0.0		
BJI				pmax	pmax				
	comp=Z,9.0nm,0.7s								
CCUT	Cedar City	86.15	47	P	P	10 42 04.2	+1.3		
CCUT				IAmb	IAmb	10 42 06.2			
	comp=Z,27nm,1.0s								
SNAA	Sanae	86.23	179	P	P	10 42 01.7	-0.8		
SNAA	Sanae	86.23	179	pP	pP	10 44 07.4	+2.1		
SNAA	Sanae	86.23	179	P	P	10 42 01.6	-1.0		
SNAA	Sanae	86.23	179	P	P	10 42 01.6	-1.0		
SNAA				pmax	pmax				
	comp=Z,19nm,1.0s								
KNB	Kanab	86.24	47	P	P	10 42 03.5	+0.2		
KNB				IAmb	IAmb	10 42 06.5			
	comp=Z,38nm,1.2s								
KNB	Kanab	86.24	47	P	P	10 42 03.5	+0.2		
KNB				pmax	pmax				
	comp=Z,38nm,1.2s								
LON	Longmire	86.27	36	P	P	10 42 03.9	+0.8		
LON	Longmire	86.27	36	P	P	10 42 03.9	+0.8		
LON				pmax	pmax				
	comp=Z,18nm,1.0s								
SPR3	Spring Creek 3	86.28	45	P	P	10 42 03.6	0.0		
SPR3				IAmb	IAmb	10 42 05.9			
	comp=Z,20nm,1.1s								
U15A	North Rim	86.30	48	P	P	10 42 05.0	+1.3		
U15A				IAmb	IAmb	10 42 07.0			
	comp=Z,47nm,0.8s								
M19K	Big River Lodg	86.34	12	P	P	10 42 02.4	-0.5		
M19K	Big River Lodg	86.34	12	P	P	10 42 02.3	-0.5		
	baz=203								
PSUT	Pine Spring	86.34	46	P	P	10 42 03.7	-0.1		
SZCU	Shurtz Canyon	86.36	47	P	P	10 42 04.7	+0.8		
SZCU				IAmb	IAmb	10 42 07.1			
	comp=Z,28nm,1.1s								
VNA3	Neumayer Olymp	86.42	177	P	P	10 42 02.7	-0.7		
VNA3	Neumayer Olymp	86.42	177	pP	pP	10 44 08.5	+2.2		
D05A	Enumclaw	86.45	35	P	P	10 42 05.4	+1.6		
WUAZ	Wupatki	86.47	49	IAmb	IAmb	10 42 07.6			
	comp=Z,28nm,1.1s								
WUAZ	Wupatki	86.47	49	P	P	10 42 05.2	+0.8		
	baz=240								
L19K	White Mountain	86.51	11	IAmb	IAmb	10 42 05.7			
	comp=Z,54nm,0.9s								
L19K	White Mountain	86.51	11	P	P	10 42 03.7	-0.1		
	baz=203,SNR=34								
CBB	Campbell River	86.55	32	P	P	10 42 04.8	+0.7		
CBB				IAmb	IAmb	10 42 07.2			
	comp=Z,69nm,1.1s								
RC01	Rabbit Creek A	86.56	14	P	P	10 42 03.6	-0.3		
RC01				IAmb	IAmb	10 42 05.5			
	comp=Z,70nm,1.1s								
RC01	Rabbit Creek A	86.56	14	P	P	10 42 03.5	-0.5		
	baz=208,SNR=24								
M20K	Styx River	86.56	12	P	P	10 42 03.1	-1.0		
M20K	Styx River	86.56	12	P	P	10 42 02.9	-1.2		
	baz=204								
PGC	Sidney	86.61	33	P	P	10 42 05.5	+1.1		
ELK	Elko	86.64	43	P	P	10 42 05.9	+0.8		
ELK				IAmb	IAmb	10 42 07.7			
	comp=Z,25nm,1.1s								
ELK	Elko	86.64	43	P	P	10 42 05.9	+0.8		
ELK				pmax	pmax				
	comp=Z,25nm,1.1s								
HPIG		86.66	59	P	P	10 42 06.5	+1.0		
HPIG				IAmb	IAmb	10 42 08.5			
	comp=Z,25nm,0.9s								
SUA	Susitna One	86.67	13	P	P	10 42 04.0	-0.6		
SUA	Susitna One	86.67	13	P	P	10 42 04.0	-0.6		
	baz=207,SNR=38								
PWL	Port Wells	86.67	15	P	P	10 42 04.1	-0.4		
PWL	Port Wells	86.67	15	P	P	10 42 04.0	-0.6		
	baz=209,SNR=38								
BBB	Bella Bella	86.72	29	P	P	10 42 06.1	+1.2		
	comp=Z,38nm,0.9s,baz=281,slow=0.8,SNR=10								
	comp=Z,38nm,0.9s								
BBB	Bella Bella	86.72	29	P	P	10 42 06.0	+1.2		
BBB				IAmb	IAmb	10 42 07.3			
	comp=Z,38nm,0.8s								
HIN	Hinchinbrook I	86.72	16	P	P	10 42 04.3	-0.5		
HIN				IAmb	IAmb	10 42 06.3			
	comp=Z,51nm,1.1s								
F07A	Phinny Hill Vi	86.79	37	P	P	10 42 06.6	+1.2		
F07A				IAmb	IAmb	10 42 08.3			
	comp=Z,48nm,1.0s								
NVL	N'lazarevskaya	86.81	184	⇑*i*P	P	10 42 04.7	-0.5		
NVL				pmax	pmax				
	comp=Z,39nm,1.0s								
VNA2	Neumayer--Watz	86.84	177	P	P	10 42 04.8	-0.5		
VNA2	Neumayer--Watz	86.84	177	pP	pP	10 44 08.5	+0.1		
KAIM	Kayak Island	86.86	17	P	P	10 42 05.7	+0.3		
KAIM				IAmb	IAmb	10 42 07.3			
	comp=Z,38nm,0.9s								
KAIM	Kayak Island	86.86	17	P	P	10 42 05.3	-0.1		
	baz=212								
L20K	Farewell, AK	86.96	12	P	P	10 42 05.2	-0.6		
	baz=204,SNR=17								
SKT	Skwentna	86.97	13	P	P	10 42 04.8	-1.1		
	baz=206,SNR=15								
G08A	Pilot Rock	86.97	38	P	P	10 42 07.4	+0.9		
CRAG	Craig	86.99	24	P	P	10 42 05.7	-0.4		
	baz=222								
X18A	Snowflake	86.99	51	P	P	10 42 07.3	+0.4		
X18A				IAmb	IAmb	10 42 10.1			
	comp=Z,71nm,1.8s								
GLI	Glacier Island	86.99	15	P	P	10 42 05.7	-0.3		
GLI	Glacier Island	86.99	15	P	P	10 42 05.4	-0.6		
	baz=210,SNR=34								
TTA	Tatalina	87.00	11	P	P	10 42 05.7	-0.4		
	baz=202,SNR=11								
FID	Port Fidalgo	87.03	16	P	P	10 42 05.8	-0.4		
FID				IAmb	IAmb	10 42 07.6			
	comp=Z,42nm,1.0s								
EYAK	Cordova Ski Ar	87.04	16	P	P	10 42 05.9	-0.3		
EYAK				IAmb	IAmb	10 42 07.9			
	comp=Z,40nm,0.9s								
EYAK	Cordova Ski Ar	87.04	16	P	P	10 42 05.8	-0.4		
	baz=211,SNR=18								
M22K	Willow	87.06	14	IAmb	IAmb	10 42 07.6			
	comp=Z,54nm,0.8s								
M22K	Willow	87.06	14	P	P	10 42 05.8	-0.5		
	baz=207,SNR=30								
GRNB	Grenville Isla	87.08	27	IAmb	IAmb	10 42 09.7			
	comp=Z,48nm,1.0s								
VNA1	Neumayer--Stat	87.08	177	P	P	10 42 05.9	-0.5		
VNA1	Neumayer--Stat	87.08	177	pP	pP	10 44 12.1	+2.6		
LL02	Futaleuf	87.08	136	P	P	10 42 08.9	+1.8		
KNK	Knik Glacier	87.13	14	P	P	10 42 06.5	-0.2		
KNK				IAmb	IAmb	10 42 08.2			
	comp=Z,47nm,0.8s								
KNK	Knik Glacier	87.13	14	P	P	10 42 06.2	-0.5		
	baz=209,SNR=28								
PMR	Palmer	87.14	14	P	P	10 42 06.2	-0.4		
PMR				IAmb	IAmb	10 42 08.1			
	comp=Z,41nm,0.9s								
PMR	Palmer	87.14	14	P	P	10 42 06.3	-0.4		
PMR				pmax	pmax				
	comp=Z,41nm,0.9s								
PMR	Palmer	87.14	14	P	P	10 42 06.2	-0.4		
	baz=208,SNR=39								
RAGM	Ragged Mountai	87.18	17	P	P	10 42 06.7	-0.3		
RAGM				IAmb	IAmb	10 42 08.8			
	comp=Z,30nm,1.0s								
LTY	Liberty	87.20	36	IAmb	IAmb	10 42 09.9			
	comp=Z,43nm,0.9s								
MTPU	Mount Pierson	87.20	47	P	P	10 42 09.8	+1.7		
MTPU				IAmb	IAmb	10 42 11.2			
	comp=Z,19nm,0.9s								
HMT	Hamilton	87.25	17	P	P	10 42 07.3	0.0		
HMT				IAmb	IAmb	10 42 09.1			
	comp=Z,46nm,0.9s								
TCRU	Three Creeks R	87.32	46	P	P	10 42 09.8	+1.4		
GHO	Glory Hole Cre	87.34	14	P	P	10 42 07.6	-0.2		
ZAIG	Zacatecas	87.35	64	IAmb	IAmb	10 42 12.7			
	comp=Z,21nm,1.0s								
MVU	Marysvale	87.42	46	IAmb	IAmb	10 42 13.2			
	comp=Z,59nm,1.1s								
MSU	Marysvale	87.45	46	P	P	10 42 10.8	+1.8		
MSU	Marysvale	87.45	46	P	P	10 42 10.8	+1.8		
U33K	Whale Pass	87.47	24	P	P	10 42 09.3	+1.0		
	baz=222								
V35K	Ketchikan	87.47	25	P	P	10 42 09.3	+1.0		
	baz=224								
SNH	Sunshine Point	87.50	17	P	P	10 42 09.2	+0.8		
SML	Sawmill	87.51	14	IAmb	IAmb	10 42 19.3			
	comp=Z,26nm,1.0s								
SML	Sawmill	87.51	14	P	P	10 42 08.5	0.0		
	baz=209,SNR=14								
B06A	Marblemount	87.54	34	IAmb	IAmb	10 42 11.2			
	comp=Z,53nm,1.0s								
121A	Cookes Peak, D	87.61	53	IAmb	IAmb	10 42 13.5			
	comp=Z,21nm,1.1s								
121A	Cookes Peak, D	87.61	53	P	P	10 42 11.6	+1.8		
	baz=242								
121A	Cookes Peak, D	87.61	53	P	P	10 42 11.2	+1.3		
	baz=242								
CUT	Chulitna	87.61	13	P	P	10 42 08.3	-0.5		
CUT	Chulitna	87.61	13	P	P	10 42 07.9	-0.9		
	baz=207,SNR=26								
M23K	Glacier View	87.64	15	P	P	10 42 08.3	-0.8		
	baz=209,SNR=23								
PPLA	Pueypile	87.67	12	P	P	10 42 07.4	-1.9		
PPLA	Purkeypile	87.67	12	P	P	10 42 08.3	-1.0		
	baz=205,SNR=5.2								
BMO	Blue Mountains	87.67	39	IAmb	IAmb	10 42 12.3			
	comp=Z,20nm,0.9s								
BMRM	Bremner River	87.69	16	P	P	10 42 09.3	-0.1		
BMRM	Bremner River	87.69	16	P	P	10 42 09.2	-0.1		
	baz=212,SNR=25								
WAX	Waxell Ridge	87.72	17	P	P	10 42 10.1	+0.5		
K20K	Telida	87.73	11	P	P	10 42 09.1	-0.4		
K20K				IAmb	IAmb	10 42 11.0			
	comp=Z,34nm,0.9s								
K20K	Telida	87.73	11	P	P	10 42 09.1	-0.4		
	baz=204,SNR=27								
MFID	Camas Ranch	87.74	41	P	P	10 42 11.0	+0.9		
MESA	MESA	87.75	18	P	P	10 42 09.2	-0.6		
MESA	MESA	87.75	18	P	P	10 42 10.3	+0.5		
	baz=215,SNR=20								
SCM	Sheep Creek Mo	87.77	15	P	P	10 42 09.6	-0.1		
SCM	Sheep Creek Mo	87.77	15	P	P	10 42 09.6	-0.1		
SCM				pmax	pmax				
	comp=Z,111nm,0.7s								
SCM	Sheep Creek Mo	87.77	15	P	P	10 42 09.6	-0.1		
	baz=210,SNR=66								
KLU	Klutina	87.81	15	P	P	10 42 09.7	-0.2		
KLU				IAmb	IAmb	10 42 11.6			
	comp=Z,23nm,0.8s								
KLU	Klutina	87.81	15	P	P	10 42 09.6	-0.4		
	baz=211,SNR=18								
SEY	Seymchan	87.81	348	P	P	10 42 09.3	-0.4		
	comp=Z,12nm,0.7s,baz=148,slow=5.9,SNR=19								
	comp=Z,12nm,0.7s								
SEY	Seymchan	87.81	348	*ce*P	P	10 42 10.0	+0.2		
SEY				pmax	pmax				
	comp=Z,33nm,1.3s								
DUG	Dugway, Tooele	87.90	45	P	P	10 42 11.5	+0.5		
DUG	Dugway, Tooele	87.90	45	P	P	10 42 11.5	+0.5		
DUG				pmax	pmax				
	comp=Z,19nm,1.5s								
DUG	Dugway, Tooele	87.90	45	P	P	10 42 12.0	+1.0		
	baz=238,SNR=8.6								
S32K	Killisnoo	87.95	22	P	P	10 42 11.0	+0.5		
	baz=221								
YAH	Yahtse	87.96	18	P	P	10 42 11.3	+0.5		
TGL	Tana Glacier	87.99	17	IAmb	IAmb	10 42 12.8			
	comp=Z,50nm,1.0s								
WRAK	Wrangell Islan	87.99	24	P	P	10 42 11.5	+0.8		
	baz=223								
XAN	Xi'an	88.05	308	⇓P	P	10 42 12.0	+0.3		
XAN				pmax	pmax				
	comp=Z,15nm,1.0s								
TNA	Tin City	88.06	5	P	P	10 42 11.4	+0.5		
PNL	Peninsula	88.08	19	P	P	10 42 11.1	-0.1		
	baz=217,SNR=8.7								
BGU	Big Grassy Mou	88.15	44	P	P	10 42 12.7	+0.6		
E09A	Wood Farm, Sta	88.15	37	IAmb	IAmb	10 42 14.3			
	comp=Z,50nm,1.0s								
CAST	Castle Rocks	88.16	12	P	P	10 42 09.9	-1.5		
	baz=205,SNR=71								
PCA	Pinnacle	88.17	19	P	P	10 42 11.9	+0.2		
PCA				IAmb	IAmb	10 42 13.6			
	comp=Z,42nm,0.9s								
PINM	Pinnacle	88.17	19	P	P	10 42 11.3	-0.3		
	baz=216,SNR=9.1								
TABL	Table Mountain	88.20	18	P	P	10 42 12.5	+0.5		
KIDD	KIDD Seismic O	88.21	55	P	P	10 42 14.6	+2.0		
	baz=242								
N25K	Chitina, Valde	88.24	16	P	P	10 42 12.0	0.0		
N25K	Chitina, Valde	88.24	16	P	P	10 42 11.9	0.0		
	baz=212,SNR=36								
M24K	Tolsona, Glenn	88.28	15	P	P	10 42 12.4	+0.3		
M24K	Tolsona, Glenn	88.28	15	P	P	10 42 12.3	+0.2		
	baz=211,SNR=15								
GLB	Gilahina Butte	88.30	16	P	P	10 42 12.1	-0.1		
GLB				IAmb	IAmb	10 42 14.0			
	comp=Z,37nm,0.8s								
XLT	XiLinHaoTe	88.32	319	*e*P	P	10 42 16.0	+3.2		
XLT				sP	sP	10 45 08.3	-4.2		
XLT				SKS	SKSac	10 51 45.5	-1.9		
XLT				S	ScS	10 52 14.0	+0.2		
XLT				pmax	pmax				
	comp=Z,15nm,0.9s								
XLT				pmax	pmax				
	comp=Z,350nm,4.3s								
WAT6	Susitna Watana	88.32	14	P	P	10 42 12.0	-0.4		
	baz=209,SNR=33								
Q16A	Castle Valley	88.33	47	IAmb	IAmb	10 42 17.4			
	comp=Z,60nm,1.3s								
WAT1	Susitna Watana	88.36	14	P	P	10 42 11.8	-0.7		
	baz=209								
MCARA	McCarthy VSAT	88.46	17	P	P	10 42 13.0	+0.1		
MCARA	McCarthy VSAT	88.46	17	P	P	10 42 13.0	+0.1		
	baz=214,SNR=21								
J20K	Nowinta River	88.47	11	P	P	10 42 12.6	-0.3		
J20K				IAmb	IAmb	10 42 14.4			
	comp=Z,20nm,0.8s								
J20K	Nowinta River	88.47	11	P	P	10 42 12.2	-0.6		
	baz=204,SNR=16								
ZEA	Zeya	88.50	332	*e*P	P	10 42 14.3	+1.1		
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KTH	Kantishna Hill	88.51	12	P	P	10 42 11.7	-1.5		
CHUM	Lake Minchumin	88.54	12	P	P	10 42 11.8	-1.3		
	baz=205,SNR=23								
TRF	Thorofare Moun	88.55	13	P	P	10 42 12.4	-1.0		
TRF	Thorofare Moun	88.55	13	P	P	10 42 12.4	-1.0		
	baz=207,SNR=88								
LOGN	Logan Glacier	88.55	18	P	P	10 42 13.7	+0.2		
GCSA	Galena City Sc	88.56	10	P	P	10 42 13.1	-0.1		
	baz=201,SNR=14								
P29M	Windy Craggy	88.57	20	IAmb	IAmb	10 42 16.1			
	comp=Z,27nm,1.1s								
P29M	Windy Craggy	88.57	20	P	P	10 42 14.0	+0.5		
	baz=218,SNR=8.9								
CTG	Chitna Glacier	88.57	18	P	P	10 42 13.7	+0.1		
	baz=215								
PLID	Pearl Lake	88.57	39	P	P	10 42 14.5	+0.4		
PLID				IAmb	IAmb	10 42 16.6			
	comp=Z,56nm,1.4s								
CTGM	Chitina Glacie	88.57	18	P	P	10 42 13.9	+0.3		
R32K	Eaglecrest	88.58	22	P	P	10 42 14.2	+0.7		
	baz=221								
B08A	Colville Reser	88.58	35	P	P	10 42 14.0	+0.2		
MPU	Maple Canyon	88.58	45	IAmb	IAmb	10 42 17.2			
	comp=Z,26nm,1.1s								
TLIG	Tlapa	88.62	70	IAmb	IAmb	10 42 18.4			
	comp=Z,14nm,0.7s								
JIS	Juneau Island	88.63	22	P	P	10 42 15.0	+1.4		
JIS				IAmb	IAmb	10 42 16.2			
	comp=Z,22nm,1.1s								
LLLB	Lillooet	88.63	33	IAmb	IAmb	10 42 16.5			
	comp=Z,30nm,0.9s								
HLID	Hailey	88.69	41	P	P	10 42 15.5	+0.9		
HLID				IAmb	IAmb	10 42 17.6			
	comp=Z,30nm,0.9s								
HLID	Hailey	88.69	41	P	P	10 42 15.4	+0.8		
	baz=237,SNR=58								
BESE	Bessie Mountai	88.70	22	IAmb	IAmb	10 42 16.8			
	comp=Z,30nm,1.0s								
SPUT	South Promonto	88.72	44	P	P	10 42 16.1	+1.3		
O28M	Mount Upton	88.74	18	P	P	10 42 14.6	0.0		
	baz=216,SNR=30								
HARP	HAARP	88.77	15	P	P	10 42 14.3	0.0		
	baz=212,SNR=11								
CRAI	Chiangrai	88.79	292	P	P	10 42 15.7	+0.3		
RND	Reindeer	88.81	13	P	P	10 42 14.0	-0.5		
RND	Reindeer	88.81	13	P	P	10 42 14.0	-0.5		
RND				pmax	pmax				
	comp=Z,88nm,0.8s								
C09A	Chrisman Ranch	88.83	36	P	P	10 42 15.5	+0.6		
C09A				IAmb	IAmb	10 42 17.4			
	comp=Z,38nm,1.0s								
DHY	Denali Highway	88.84	14	IAmb	IAmb	10 42 16.2			
	comp=Z,20nm,1.2s								
DHY	Denali Highway	88.84	14	P	P	10 42 14.0	-0.8		
	baz=210,SNR=14								
O29M	Mount Kennedy	88.84	19	P	P	10 42 15.3	+0.4		
	baz=218,SNR=9.2								
KMI	Kunming	88.84	298	⇑P	P	10 42 17.3	+1.5		
KMI				pmax	pmax				
	comp=Z,13nm,0.5s								
CTU	Camp Tracy	88.86	45	P	P	10 42 16.0	+0.6		
CTU				IAmb	IAmb	10 42 18.1			
	comp=Z,42nm,1.0s								
SRU	San Rafael Swe	88.87	47	P	P	10 42 16.4	+0.9		
SRU	San Rafael Swe	88.87	47	P	P	10 42 16.4	+0.9		
SRU				pmax	pmax				
	comp=Z,56nm,0.6s								
PLBC	Pleasant Camp	88.87	20	P	P	10 42 15.4	+0.6		
	baz=220,SNR=13								
Y22A	Socorro	88.87	53	P	P	10 42 16.9	+1.2		
	baz=242								
P17A	Butcher Ranch,	88.90	46	P	P	10 42 16.5	+0.8		
Y22D	IRIS PASSCAL I	88.97	52	P	P	10 42 15.8	-0.3		
	baz=242								
Y22F	Passcal Instru	88.97	52	P	P	10 42 15.7	-0.4		
	baz=242								
BPAW	Bear Paw Mtn.	88.99	12	IAmb	IAmb	10 42 19.7			
	comp=Z,25nm,1.6s								
BPAW	Bear Paw Mtn.	88.99	12	P	P	10 42 13.5	-1.8		
	baz=206,SNR=7.6								
CRNM	Carthage	89.05	53	P	P	10 42 17.0	+0.5		
MCK	McKinley	89.08	13	P	P	10 42 15.0	-0.7		
	baz=208,SNR=26								
PLCA	Paso Flores	89.11	134	P	P	10 42 18.4	+1.8		
	comp=Z,3.8nm,0.9s,baz=248,slow=5.7,SNR=9.4								
	comp=Z,3.8nm,0.9s								
PLCA	Paso Flores	89.11	134	P	P	10 42 18.5	+1.8		
PLCA	Paso Flores	89.11	134	P	P	10 42 18

YUK6 **Outpost Mounta** 89.41 19 P P 10 42 17.6 0.0
baz=218,SNR=7.0
HWUT **Hardware Ranch** 89.44 44 IAmb IAmb 10 42 20.4
comp=Z,22nm,0.8s
CHTO **Chiang Mai** 89.45 290 P P 10 42 18.3 -0.2
CHTO **Chiang Mai** 89.45 290 P P 10 42 18.3 -0.2
CHTO pmax pmax
comp=Z,1.0nm,1.0s
CHTO **Chiang Mai** 89.45 290 P P 10 42 19.5 +1.0
YUK3 **Moose Creek** 89.48 17 P P 10 42 18.1 +0.2
baz=216,SNR=36
PV10 **Paradox Valley** 89.51 48 P P 10 42 20.2 +1.5
PV10 IAmb IAmb 10 42 20.9
comp=Z,80nm,1.9s
S34M **Telegraph Cree** 89.53 24 P P 10 42 18.6 +0.7
baz=224,SNR=20
HHC **Hu-ho-hao-te** 89.56 315 *e*P P 10 42 17.5 -1.1
HHC S S 10 52 27.0 +5.3
HHC pmax pmax
comp=Z,49nm,0.9s
HHC pmax pmax
comp=Z,260nm,5.9s
PV13 **Radium Mtn., P** 89.56 48 P P 10 42 19.3 +0.5
PV13 IAmb IAmb 10 42 21.3
comp=Z,17nm,1.1s
PV23 **Carpenter Ridg** 89.57 48 IAmb IAmb 10 42 21.5
comp=Z,22nm,0.9s
M27K **Edge Creek, AK** 89.57 17 P P 10 42 18.6 +0.4
M27K IAmb IAmb 10 42 21.9
comp=Z,35nm,1.1s
M27K **Edge Creek, AK** 89.57 17 P P 10 42 18.7 +0.4
baz=215,SNR=25
HYT **Haines Junctio** 89.58 19 P P 10 42 18.7 +0.5
HYT IAmb IAmb 10 42 20.6
comp=Z,16nm,1.1s
HYT **Haines Junctio** 89.58 19 P P 10 42 18.9 +0.6
baz=218,SNR=9.7
MENT **Mentasta** 89.59 16 P P 10 42 18.0 -0.1
MENT IAmb IAmb 10 42 20.0
comp=Z,17nm,0.8s
PV11 **David Mesa, Pa** 89.59 48 IAmb IAmb 10 42 21.5
comp=Z,18nm,1.1s
YUK4 **Talbot Arm** 89.65 18 P P 10 42 19.1 +0.5
baz=218,SNR=6.6
ANMO **Albuquerque** 89.71 52 P P 10 42 20.3 +0.8
ANMO IAmb IAmb 10 42 22.3
comp=Z,27nm,1.0s
ANMO **Albuquerque** 89.71 52 *c i* P P 10 42 20.9 +1.3
ANMO pmax pmax
comp=Z,31nm,1.1s
ANMO **Albuquerque** 89.71 52 P P 10 42 20.2 +0.6
baz=242
ANMO **Albuquerque** 89.71 52 P P 10 42 20.2 +0.6
baz=242
NEW **Newport** 89.73 36 P P 10 42 19.3 +0.2
comp=Z,4.8nm,0.8s,baz=226,slow=3.9,SNR=4.7
comp=Z,4.8nm,0.8s
NEW **Newport** 89.73 36 P P 10 42 19.1 0.0
baz=235,SNR=6.8
L26K **Log Cabin Wild** 89.75 16 IAmb IAmb 10 42 20.7
comp=Z,22nm,1.2s
L26K **Log Cabin Wild** 89.75 16 P P 10 42 18.9 0.0
baz=213,SNR=15
I21K **Tanana** 89.78 11 IAmb IAmb 10 42 20.2
comp=Z,35nm,0.9s
I21K **Tanana** 89.78 11 P P 10 42 18.2 -0.6
baz=206,SNR=25
NEA2 **Nenana** 89.81 13 P P 10 42 17.9 -1.1
NEA2 **Nenana** 89.81 13 P P 10 42 18.2 -0.9
baz=208,SNR=14
PV07 **Paradox Valley** 89.81 48 IAmb IAmb 10 42 22.4
comp=Z,17nm,1.1s
K24K **Donnelly Dome** 89.83 14 P P 10 42 19.1 -0.1
baz=211,SNR=21
P32M **Atlin** 89.85 21 P P 10 42 18.9 -0.6
baz=222
MLY **Manley** 89.87 12 IAmb IAmb 10 42 20.0
comp=Z,22nm,1.1s
MLY **Manley** 89.87 12 P P 10 42 18.1 -1.3
baz=207,SNR=16
PV15 **Paradox Valley** 89.88 48 IAmb IAmb 10 42 22.6
comp=Z,15nm,0.9s
Q32M **Nakina River** 89.88 22 P P 10 42 19.4 -0.3
baz=223,SNR=6.1
BVCY **Beaver Creek** 89.89 17 P P 10 42 19.6 +0.1
baz=216,SNR=9.9
WRH **Wood River Hil** 89.91 13 P P 10 42 18.7 -0.8
O30N **Mendenhall** 89.97 20 P P 10 42 20.3 +0.3
baz=220,SNR=11
RIDG **Independent Ri** 89.99 15 P P 10 42 19.5 -0.5
RIDG IAmb IAmb 10 42 21.5
comp=Z,23nm,1.0s
RIDG **Independent Ri** 89.99 15 P P 10 42 19.6 -0.4
baz=212,SNR=17
H21K **Melozitna Rive** 90.07 11 P P 10 42 20.0 -0.2
H21K IAmb IAmb 10 42 21.8
comp=Z,15nm,0.8s
H21K **Melozitna Rive** 90.07 11 P P 10 42 20.0 -0.2
baz=205,SNR=16
HDA **Harding Lake** 90.09 14 IAmb IAmb 10 42 22.4
comp=Z,26nm,1.0s
HDA **Harding Lake** 90.09 14 P P 10 42 20.0 -0.4
baz=210,SNR=27
DOT **Dot Lake** 90.10 15 IAmb IAmb 10 42 22.0
comp=Z,25nm,1.0s
CCB **Clear Creek Bu** 90.12 13 P P 10 42 19.4 -1.1
CCB IAmb IAmb 10 42 21.2
comp=Z,46nm,1.2s
L27K **Beaver Creek,** 90.17 16 P P 10 42 20.7 -0.1
L27K IAmb IAmb 10 42 22.6
comp=Z,14nm,1.0s
L27K **Beaver Creek,** 90.17 16 P P 10 42 20.9 0.0
baz=215,SNR=13
BCAR **Beaver Creek A** 90.18 16 P P 10 42 20.7 -0.2
N30M **Aishikik Lake** 90.20 19 P P 10 42 20.9 -0.1
baz=219
IMAR **Indian Mountai** 90.20 10 P P 10 42 20.6 -0.3
RDMU **Red Mountain** 90.23 46 IAmb IAmb 10 42 24.3
comp=Z,25nm,0.9s
PZH **PanZhiHua** 90.24 299 P P 10 42 23.3 +1.2
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,340nm,5.7s
WHY **Whitehorse** 90.27 20 P P 10 42 21.5 +0.1
baz=221,SNR=6.1
MDM **Murphy Dome** 90.31 13 P P 10 42 20.1 -1.3
MDM IAmb IAmb 10 42 22.1
comp=Z,28nm,0.9s
TCOL **CIGO, UAF Yank** 90.31 13 P P 10 42 20.3 -1.0
TCOL **CIGO, UAF Yank** 90.31 13 P P 10 42 20.3 -1.0
baz=209,SNR=14
COLA **College** 90.31 13 P P 10 42 20.4 -0.9
COLA **College** 90.31 13 *d i* P P 10 42 20.5 -0.8
COLA pmax pmax
comp=Z,23nm,0.7s
COLA **College** 90.31 13 P P 10 42 20.3 -1.0
baz=209
MCMT **McKenzie Canyo** 90.31 41 P P 10 42 23.2 +1.0
DLBC **Dease Lake** 90.31 24 P P 10 42 22.1 +0.4
comp=Z,9.0nm,0.9s,baz=238,slow=5.0,SNR=18
DLBC PP PP 10 46 06.3 -0.3
comp=Z,5.9nm,1.0s,baz=219,slow=19,SNR=7.2
comp=Z,9.0nm,0.9s
DLBC **Dease Lake** 90.31 24 P P 10 42 22.0 +0.4
DLBC **Dease Lake** 90.31 24 P P 10 42 22.2 +0.6
baz=225,SNR=7.2
AHID **Auburn Hatcher** 90.33 43 P P 10 42 22.9 +0.7
SCRK **Sand Creek** 90.40 15 P P 10 42 21.4 -0.5
SCRK IAmb IAmb 10 42 23.6
comp=Z,14nm,0.9s
SCRK **Sand Creek** 90.40 15 P P 10 42 21.7 -0.2
baz=213,SNR=23
IL31 90.42 13 P P 10 42 20.9 -0.9
ILAR **Eielson Array** 90.42 13 P P 10 42 20.7 -1.2
comp=Z,7.2nm,0.8s,baz=212,slow=5.3,SNR=44
comp=Z,7.2nm,0.8s
ILAR **Eielson Array** 90.42 13 P P 10 42 20.3 -1.6
ILAR **Eielson Array** 90.42 13 P P 10 42 20.3 -1.6
CD2 **Chengdu** 90.51 303 *e*P P 10 42 24.0 +0.8
H22K **Ishtalitna Cre** 90.53 11 P P 10 42 22.1 -0.3
baz=206,SNR=20
CLN7 **Carlsbad 7** 90.54 55 P P 10 42 23.5 +0.2
M29M **Somme Creek** 90.58 18 P P 10 42 22.7 -0.1
baz=218,SNR=20
POKR **Poker Plat Res** 90.61 13 P P 10 42 22.4 -0.4
baz=210
P33M **Teslin, Yukon** 90.61 21 P P 10 42 23.0 0.0
P33M **Teslin, Yukon** 90.61 21 P P 10 42 23.6 +0.6
baz=222,SNR=6.6
J25K **Salcha River,** 90.62 14 P P 10 42 22.1 -0.8
J25K IAmb IAmb 10 42 25.1
comp=Z,14nm,1.1s
J25K **Salcha River,** 90.62 14 P P 10 42 22.4 -0.5
baz=212,SNR=18
N31M **Braeburn, Yuko** 90.62 19 P P 10 42 23.1 +0.2
N31M **Braeburn, Yuko** 90.62 19 P P 10 42 23.6 +0.7
baz=220
R33M **Jennings River** 90.66 23 P P 10 42 24.7 +1.5
baz=224,SNR=6.0
BILL **Bilibino** 90.70 355 *ce* P P 10 42 23.8 +0.7
BILL pmax pmax
comp=Z,13nm,0.7s
MSO **Missoula** 90.73 39 P P 10 42 24.2 +0.3
baz=238
G21K **Allakaket** 90.73 10 P P 10 42 23.2 -0.1
baz=204
S22A **4UR Ranch, Cre** 90.75 49 P P 10 42 25.2 +0.7
S22A IAmb IAmb 10 42 27.3
comp=Z,21nm,1.1s
S22A **4UR Ranch, Cre** 90.75 49 P P 10 42 25.2 +0.7
baz=242
TPAW **Teton Pass** 90.79 43 P P 10 42 25.1 +0.6
TPAW IAmb IAmb 10 42 27.3
comp=Z,24nm,1.1s
H23K **Yukon River** 90.81 12 P P 10 42 23.5 -0.2
baz=208,SNR=5.4
FXWY **Fox Creek** 90.82 43 P P 10 42 24.7 +0.1
FXWY IAmb IAmb 10 42 28.2
comp=Z,12nm,1.0s
SNOW **Snow King Moun** 90.90 43 P P 10 42 25.6 +0.7
O20A **White River Ci** 90.90 47 P P 10 42 25.4 +0.4
O20A IAmb IAmb 10 42 27.4
comp=Z,22nm,0.8s
O20A **White River Ci** 90.90 47 P P 10 42 25.1 +0.2
baz=241,SNR=20
K27K **Chicken** 90.91 16 IAmb IAmb 10 42 26.3
comp=Z,13nm,0.9s
K27K **Chicken** 90.91 16 P P 10 42 24.4 +0.3
baz=214
J26L **Joseph Creek** 90.94 15 IAmb IAmb 10 42 26.6
comp=Z,36nm,1.1s
J26L **Joseph Creek** 90.94 15 P P 10 42 24.5 +0.1
baz=213,SNR=38
IMW **Indian Meadow** 91.01 42 P P 10 42 26.3 +0.9
IMW IAmb IAmb 10 42 28.3
comp=Z,30nm,1.1s
MOOW **Moose Ponds** 91.05 43 P P 10 42 26.1 +0.5
LOHW **Long Hollow** 91.07 43 P P 10 42 26.4 +0.7
LOHW IAmb IAmb 10 42 28.3
comp=Z,24nm,1.4s
QLMT **Earthquake Lak** 91.18 41 P P 10 42 27.7 +1.6
L29M **L29M** 91.20 18 P P 10 42 25.9 +0.3
baz=218,SNR=19
N32M **Quiet Lake** 91.22 21 P P 10 42 26.2 +0.5
baz=222
SMCO **Snowmass** 91.31 48 IAmb IAmb 10 42 29.6
comp=Z,15nm,0.9s
BW06 **Boulder Array** 91.32 44 IAmb IAmb 10 42 29.0
comp=Z,23nm,1.1s
BW06 **Boulder Array** 91.32 44 P P 10 42 26.9 +0.1
baz=241
PD31 **Pinedale Array** 91.32 44 P P 10 42 27.2 +0.3
PD31 IAmb IAmb 10 42 29.0
comp=Z,21nm,1.1s
PDAR **Pinedale Array** 91.32 44 P P 10 42 27.1 +0.2
comp=Z,16nm,1.0s,baz=207,slow=3.0,SNR=62
PDAR PP PP 10 46 12.7 -2.3
comp=Z,1.3nm,0.8s,baz=238,slow=5.1,SNR=5.3
comp=Z,16nm,1.0s
PDAR **Pinedale Array** 91.32 44 P P 10 42 26.8 -0.1
YHL **Hebgen Lake** 91.34 41 P P 10 42 27.2 +0.2
YHL IAmb IAmb 10 42 32.6
comp=Z,14nm,0.8s
PRP **Porcupine Dome** 91.36 14 P P 10 42 26.1 -0.3
PRP IAmb IAmb 10 42 28.1
comp=Z,14nm,1.2s
PRP **Porcupine Dome** 91.36 14 P P 10 42 26.1 -0.3
baz=211,SNR=10
YMR **Madison River** 91.38 42 IAmb IAmb 10 42 29.7
comp=Z,10nm,0.8s
F21K **Alatna River** 91.39 10 P P 10 42 26.8 +0.5
baz=204
G22K **Bettles** 91.44 11 P P 10 42 26.6 +0.1
baz=206
BOZ **Bozeman (W)** 91.45 41 P P 10 42 28.2 +0.9
BOZ IAmb IAmb 10 42 29.9
comp=Z,16nm,0.9s
BOZ **Bozeman (W)** 91.45 41 P P 10 42 28.2 +0.9
BOZ pmax pmax
comp=Z,16nm,1.0s
BOZ **Bozeman (W)** 91.45 41 P P 10 42 27.7 +0.5
baz=239,SNR=22
G23K **Bananza Creek** 91.51 11 P P 10 42 27.0 0.0
baz=207
M31M **Drury Creek, Y** 91.60 19 P P 10 42 27.8 +0.4
M31M **Drury Creek, Y** 91.60 19 P P 10 42 27.6 +0.3
baz=221,SNR=6.4
DAWY **Dawson** 91.62 17 P P 10 42 27.5 0.0
DAWY IAmb IAmb 10 42 29.2
comp=Z,12nm,0.7s
DAWY **Dawson** 91.62 17 P P 10 42 27.6 0.0
baz=217,SNR=18
LKWY **Lake** 91.68 42 IAmb IAmb 10 42 32.3
comp=Z,7.8nm,0.7s
SDCO **Great Sand Dun** 91.68 50 P P 10 42 29.1 +0.4
SDCO IAmb IAmb 10 42 31.0
comp=Z,13nm,0.9s
SDCO **Great Sand Dun** 91.68 50 P P 10 42 29.1 +0.4
baz=243
SDCO **Great Sand Dun** 91.68 50 P P 10 42 28.6 -0.1
baz=243
I26K **Coal Creek Min** 91.71 14 P P 10 42 27.7 -0.1
I26K **Coal Creek Min** 91.71 14 P P 10 42 28.4 +0.6
baz=214
EGAK **Eagle** 91.75 15 P P 10 42 27.9 -0.1
EGAK IAmb IAmb 10 42 29.6
comp=Z,18nm,0.8s
EGAK **Eagle** 91.75 15 P P 10 42 27.7 -0.3
baz=215,SNR=20
F22K **John River** 91.86 10 P P 10 42 28.5 0.0
baz=205
HRY **Holter Researc** 91.90 40 P P 10 42 29.8 +0.5
COLD **Coldfoot** 91.94 11 P P 10 42 29.0 +0.2
COLD **Coldfoot** 91.94 11 P P 10 42 29.1 +0.3
baz=207
FARO **Faro, Yukon** 91.94 20 P P 10 42 29.3 +0.3
FARO **Faro, Yukon** 91.94 20 P P 10 42 29.1 +0.1
baz=222,SNR=7.5
H25K **Birch Creek** 91.94 13 P P 10 42 29.0 +0.2
baz=211
K29M **Barlow Dome** 91.95 17 P P 10 42 29.3 +0.2
baz=218
G24K **Hadweenzic Riv** 91.98 12 P P 10 42 29.5 +0.4
baz=210
MSTX **Muleshoe** 92.00 54 P P 10 42 30.8 +0.7
MSTX IAmb IAmb 10 42 32.3
comp=Z,22nm,0.9s
MSTX **Muleshoe** 92.00 54 P P 10 42 30.9 +0.8
baz=244
MSTX **Muleshoe** 92.00 54 P P 10 42 30.3 +0.2
baz=244
T25A **Trinidad** 92.18 51 P P 10 42 31.0 +0.1
T25A IAmb IAmb 10 42 33.1
comp=Z,18nm,0.9s
T25A **Trinidad** 92.18 51 P P 10 42 31.4 +0.4
baz=244
MAYO **Mayo, Yukon** 92.21 18 P P 10 42 31.4 +1.2
MAYO **Mayo, Yukon** 92.21 18 P P 10 42 31.7 +1.5
baz=220,SNR=12
833A **Chaparral WMA,** 92.27 60 P P 10 42 32.8 +1.5
833A IAmb IAmb 10 42 34.0
comp=Z,28nm,0.9s
833A **Chaparral WMA,** 92.27 60 P P 10 42 32.3 +1.0
baz=246
833A **Chaparral WMA,** 92.27 60 P P 10 42 32.2 +1.0
baz=246,SNR=7.7
I27K **Kandik River** 92.32 15 P P 10 42 31.6 +0.9
baz=215
RWWY **Rawlins** 92.33 46 P P 10 42 30.8 -0.7
RWWY IAmb IAmb 10 42 32.7
comp=Z,23nm,1.1s
Q24A **Divide** 92.48 49 P P 10 42 32.6 +0.2
baz=243,SNR=6.1
ISCO **Idaho Springs** 92.53 48 P P 10 42 32.9 +0.3
ISCO **Idaho Springs** 92.53 48 P P 10 42 32.9 +0.3
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** 92.53 48 P P 10 42 33.1 +0.5
baz=243
ISCO **Idaho Springs** 92.53 48 P P 10 42 33.1 +0.5
baz=243,SNR=6.5
F24K **Squaw Lake** 92.62 12 P P 10 42 32.2 +0.2
baz=209
RLMT **Red Lodge** 92.65 42 P P 10 42 33.4 +0.5
RLMT **Red Lodge** 92.65 42 P P 10 42 33.5 +0.6
baz=241
WAPA **Wapiti River** 92.68 30 P P 10 42 33.1 +0.5
WAPA IAmb IAmb 10 42 33.9
comp=Z,16nm,1.1s
LZH **Lanzhou** 92.69 308 *e*P P 10 42 32.0 -1.2
LZH pmax pmax
comp=Z,19nm,1.5s
E23K **Chandalar** 92.79 11 P P 10 42 33.3 +0.5
baz=208
N23A **Red Feather La** 92.81 47 P P 10 42 34.5 +0.7
N23A IAmb IAmb 10 42 37.1
comp=Z,15nm,1.1s
N23A **Red Feather La** 92.81 47 P P 10 42 35.1 +1.3
baz=243,SNR=9.7
JCT **Junction City** 92.82 58 P P 10 42 33.8 0.0
JCT IAmb IAmb 10 42 35.8
comp=Z,7.4nm,0.8s
JCT **Junction City** 92.82 58 P P 10 42 33.8 0.0
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT **Junction City** 92.82 58 P P 10 42 34.1 +0.3
baz=246
JCT **Junction City** 92.82 58 P P 10 42 34.5 +0.7
baz=246
H27K **Steamboat Moun** 92.86 14 P P 10 42 33.9 +0.8
baz=215,SNR=7.3
MMPY **Sheldon Lake,** 92.89 20 P P 10 42 33.9 +0.6
baz=224
I29M **Ogilvie Camp,** 92.94 16 P P 10 42 32.8 -0.7
I29M IAmb IAmb 10 42 34.2
comp=Z,7.1nm,0.7s
I29M **Ogilvie Camp,** 92.94 16 P P 10 42 33.5 0.0
baz=218,SNR=10.0
G26K **Porcupine Rive** 92.95 13 P P 10 42 34.1 +0.6
baz=213
E24K **Your Creek** 93.00 11 P P 10 42 34.5 +0.8
baz=209
TGTN **Hyland Airport** 93.11 22 P P 10 42 35.6 +1.2
baz=226
F25K **Christian Rive** 93.12 12 P P 10 42 35.4 +1.1
baz=211
AMTX **Amarillo** 93.21 54 IAmb IAmb 10 43 32.5
comp=Z,31nm,1.8s
AMTX **Amarillo** 93.21 54 P P 10 42 36.5 +0.9
baz=245
AMTX **Amarillo** 93.21 54 P P 10 42 36.0 +0.4
baz=245
K22A **Casper** 93.23 45 IAmb IAmb 10 42 37.7
comp=Z,11nm,0.9s
YAK **Yakutsk** 93.24 339 P P 10 42 34.5 -0.3
comp=Z,5.3nm,0.3s,baz=19,slow=3.5,SNR=4.2
comp=Z,5.3nm,0.3s
YAK **Yakutsk** 93.24 339 *ce* P P 10 42 35.3 +0.4
YAK pmax pmax
comp=Z,18nm,0.8s
G27K **Doyon Strip** 93.31 14 P P 10 42 35.7 +0.5
baz=215
TOLK **Toolik Lake Re** 93.31 11 P P 10 42 35.5 +0.3
baz=208
D23K **Nanushuk River** 93.42 10 P P 10 42 36.4 +0.8
baz=207
F26K **Sheenjek River** 93.51 13 P P 10 42 36.9 +0.9
baz=213
E25K **Arctic Village** 93.59 12 P P 10 42 37.3 +0.9
baz=211
EGMT **Eagleton** 93.78 39 P P 10 42 38.0 +0.1
baz=241
ABTX **Abilene, Hawle** 93.82 56 P P 10 42 38.8 +0.5
ABTX IAmb IAmb 10 42 40.5
comp=Z,12nm,0.9s
ABTX **Abilene, Hawle** 93.82 56 P P 10 42 38.5 +0.2
baz=246
ABTX **Abilene, Hawle** 93.82 56 P P 10 42 38.3 -0.1
baz=246,SNR=6.8
D24K **Happy Valley** 93.89 11 P P 10 42 37.6 -0.1
baz=206
EPYK **Eagle Plains** 94.14 16 P P 10 42 38.5 -0.5
EPYK IAmb IAmb 10 42 39.9
comp=Z,10nm,0.8s
EPYK **Eagle Plains** 94.14 16 P P 10 42 38.7 -0.3
baz=219
KSCO **Kaye Shedlock'** 94.27 50 P P 10 42 40.8 +0.5
KSCO **Kaye Shedlock'** 94.27 50 P P 10 42 41.0 +0.7
baz=245
KSCO **Kaye Shedlock'** 94.27 50 P P 10 42 40.8 +0.5
baz=245,SNR=13
C24K **Franklin Bluff** 94.42 10 P P 10 42 40.9 +0.8
baz=209
E27K **Coleen River** 94.45 13 P P 10 42 40.7 +0.4
baz=215
G30M **tAoh Zraii Nji** 94.74 16 P P 10 42 41.1 -0.6
baz=220
C27K **Jago River** 95.23 12 P P 10 42 44.5 +0.7
baz=213
LAO **LASA Array** 95.27 41 P P 10 42 45.7 +1.1
LAO IAmb IAmb 10 42 47.4
comp=Z,18nm,1.1s
LAO **LASA Array** 95.27 41 P P 10 42 45.5 +0.9
baz=243
LAO **LASA Array** 95.27 41 P P 10 42 45.4 +0.9
baz=243
RSSD **Black Hills** 95.51 44 P P 10 42 45.8 -0.1
RSSD IAmb IAmb 10 42 47.6
comp=Z,13nm,1.0s
RSSD **Black Hills** 95.51 44 P P 10 42 45.8 -0.1
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD **Black Hills** 95.51 44 P P 10 42 46.5 +0.6
baz=244
RSSD **Black Hills** 95.51 44 P P 10 42 45.8 -0.1
baz=244
F31M **Tsiigehtchic** 95.72 16 P P 10 42 46.0 0.0
baz=222
INK **Inuvik** 96.42 16 P P 10 42 48.1 -1.0
comp=Z,5.9nm,0.8s,baz=208,slow=9.0,SNR=6.5
comp=Z,5.9nm,0.8s
INK **Inuvik** 96.42 16 P P 10 42 49.1 0.0
baz=222
DGMT **Dagmar** 97.28 40 P P 10 42 54.0 +0.5
DGMT **Dagmar** 97.28 40 P P 10 42 54.1 +0.6
baz=245
BGNE **Belgrade** 98.37 49 P P 10 42 58.8 +0.3
baz=248
KSU1 **Kansas State U** 98.60 51 P P 10 42 59.7 0.0
baz=248
TIXI **Tiksi** 100.12 345 *i* P Pdif 10 43 06.2 +0.7
ECSD **EROS Data Cent** 100.28 47 P Pdif 10 43 07.0 +0.1
baz=249
ZALV **Zalesovo Beam** 110.96 321 PKiKP PKiKP 10 47 48.2 -1.7
comp=Z,1.1nm,0.4s,baz=104,slow=1.5,SNR=4.5
MKAR **Makanchi Array** 111.34 313 PKiKP PKiKP 10 47 48.8 -2.1
comp=Z,0.9nm,0.5s,baz=214,slow=1.4,SNR=11
MKAR PKKPbc PKKPbc 10 58 47.7 -1.0
comp=Z,0.6nm,0.5s,baz=271,slow=2.6,SNR=6.3
MKAR **Makanchi Array** 111.34 313 *c i* PKiKP PKiKP 10 47 49.7 -1.2
MKAR pmax pmax
comp=Z,1.0nm,0.5s
KURK **Kurchatov** 114.30 317 *c i* PKiKP PKPdf 10 47 55.8 -0.5
KURK pmax pmax
comp=Z,3.0nm,1.0s
LONY **Lake Ozonia** 115.84 50 P PKiKP 10 47 59.7 +0.1
baz=264
PAL **Palisades** 115.89 54 P PKiKP 10 48 00.1 +0.4
baz=262
L61B **Northampton** 116.98 53 P PKiKP 10 48 02.3 +0.5
baz=264
LBNH **Lisbon** 117.70 51 P PKiKP 10 48 03.3 +0.2
baz=265
GAR **Garm** 118.96 303 PKPdf 10 48 04.8 -1.1
KK31 **Karatay Array** 119.19 308 PKPdf PKPdf 10 48 05.1 -0.9
KK31 **Karatay Array** 119.19 308 PKiKP PKPdf 10 48 05.1 -0.9
KKAR **Karatay Array** 119.19 308 PKPdf PKPdf 10 48 04.8 -1.2
KKAR **Karatay Array** 119.19 308 PKiKP PKPdf 10 48 04.8 -1.2
BDFB **Brasilia** 119.42 124 PKP PKPdf 10 48 06.7 -0.7
comp=Z,2.1nm,0.6s,baz=210,slow=9.3,SNR=3.6

KBL	**Kabul**	**119.42**	**298**	PKPdf	**PKPdf**	10 48 07.0	0.0
KBL	**Kabul**	**119.42**	**298**	PKIKP	**PKPdf**	10 48 07.0	0.0
BRVK	**Borovoye**	**119.55**	**319**	PKPdf	**PKPdf**	10 48 05.4	-1.0
BRVK	**Borovoye**	**119.55**	**319**	*c* PKIKP	**PKPdf**	10 48 05.4	-1.0
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
NEEM	**North Greenlan**	**119.65**	**11**	*i* P	**PKPdf**	10 48 05.3	-1.0
CHGR	**Chuyangaron**	**119.83**	**303**	PKPdf	**PKPdf**	10 48 06.4	-1.1
CHGR	**Chuyangaron**	**119.83**	**303**	PKIKP	**PKPdf**	10 48 06.4	-1.1
SPITS	**Spitsbergen Ar**	**123.58**	**356**	PKIKP	**PKiKP**	10 48 14.3	+0.5
SPB2	**Spitsbergen Ar**	**123.58**	**356**		**PKiKP**	10 48 13.8	0.0
BOSA	**Boshof**	**123.96**	**205**	PKP	**PKPdf**	10 48 15.6	-0.3
	comp=Z,1.4nm,0.5s,baz=191,slow=7.0,SNR=3.2						
SUMG	**Summit**	**125.27**	**13**		**PKiKP**	10 48 17.9	+0.2
SUMG	**Summit**	**125.27**	**13**	PKIKP	**PKiKP**	10 48 17.9	+0.2
SUMG	**Summit**	**125.27**	**13**	*i* P	**PKiKP**	10 48 17.9	+0.2
ARU	**Arti**	**125.82**	**324**	PKPdf	**PKPdf**	10 48 18.0	-0.3
ARU	**Arti**	**125.82**	**324**	*i* PKIKP	**PKPdf**	10 48 17.9	-0.4
ARU						10 50 20.0	
ARU						10 54 35.0	
ABKAR	**Akbulak array**	**126.34**	**315**	PKPdf	**PKPdf**	10 48 18.8	-0.7
DY2G	**Dye2**	**126.95**	**21**	*i* P	**PKPdf**	10 48 20.4	-0.1
ICESG	**Greenland Ices**	**127.37**	**17**	*i* P	**PKPdf**	10 48 20.8	-0.5
GEYT	**Alibeck**	**128.47**	**301**	PKP	**PKPdf**	10 48 24.1	0.0
	comp=Z,2.0nm,0.5s,baz=289,slow=4.5,SNR=4.0						
KIRV	**Kirov**	**129.77**	**329**	*c* PKIKP	**PKiKP**	10 48 26.4	-0.2
PRGR	**Permogore**	**130.03**	**334**	PKIKP	**PKPdf**	10 48 23.5	-2.6
PRGR				*e*		10 50 54.3	
PRGR				pmax	pmax		
	comp=Z,15nm,0.6s						
ARCES	**ARCESS Array B**	**130.42**	**349**	PKP	**PKPdf**	10 48 26.8	+0.1
	comp=Z,5.5nm,0.7s,baz=54,slow=1.4,SNR=15						
ARCES				SKPbc	**SKPbc**	**10 50 57.6**	**+0.2**
	comp=Z,41nm,1.0s,baz=28,slow=3.3,SNR=29						
ARCES	**ARCESS Array B**	**130.42**	**349**	PKPdf	**PKiKP**	10 48 27.4	-0.3
ARCES	**ARCESS Array B**	**130.42**	**349**	PKIKP	**PKiKP**	10 48 27.4	-0.3
KLMR	**Klimovskoe**	**132.91**	**335**	*e* PKIKP	**PKPdf**	10 48 29.7	-1.9
KLMR				*e*		10 51 03.4	
KLMR				pmax	pmax		
	comp=Z,14nm,1.4s						
KLMR	**Klimovskoe**	**132.91**	**335**	*e* PKPdf	**PKPdf**	10 48 29.7	-1.9
KLMR				AMP		10 48 34.3	
	comp=Z,14nm,1.4s						
KLMR				*e* PP	**PP**	**10 51 03.4**	**-2.3**
BELG	**Belogornoye**	**133.13**	**322**	*i* PKIKP	**PKPdf**	10 48 32.0	-0.2
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**137.06**	**342**	PKhKP	PKPpre	10 48 30.8	
	comp=Z,0.7nm,0.4s,baz=42,slow=5.2,SNR=7.4						
FINES				PKP	**PKPdf**	**10 48 39.9**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=104,slow=2.1,SNR=6.8						
FINES				SKPbc	**SKPbc**	**10 51 18.8**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=72,slow=6.2,SNR=9.3						
FINES	**FINESS Array B**	**137.06**	**342**	PKPdf	**PKPdf**	10 48 39.1	-0.2
FINES	**FINESS Array B**	**137.06**	**342**	PKIKP	**PKPdf**	10 48 39.1	-0.2
KMBO	**Kilima Mbogo**	**137.16**	**242**	PKP	**PKiKP**	10 48 42.9	-0.5
	comp=Z,1.5nm,0.4s,baz=258,slow=2.5,SNR=5.0						
KMBO				SKPbc	**SKPbc**	**10 51 22.4**	**+1.0**
	comp=Z,8.6nm,1.0s,baz=79,slow=2.8,SNR=11						
KMBO	**Kilima Mbogo**	**137.16**	**242**	*i* PKIKP	**PKPdf**	10 48 40.3	-1.0
OBN	**Obninsk**	**137.60**	**330**	*e* PKIKP	**PKPdf**	10 48 40.0	-0.5
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SHA1	**Shidzhatmaz**	**139.18**	**312**	*i* PKIKP	**PKPdf**	10 48 44.4	+0.3
VSU	**Vasula**	**139.24**	**339**	*i* PKIKP	**PKPdf**	10 48 41.8	-1.6
NB2	**NORSAR Subarra**	**140.58**	**352**	PKP	PKPpre	10 48 39.3	
	comp=Z,3.5nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**140.58**	**352**	PKP	**PKiKP**	10 48 47.6	-1.0
	comp=Z,1.2nm,0.5s,baz=13,slow=4.1,SNR=5.5						
NOA				SKPbc	**SKPbc**	**10 51 28.5**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=14,slow=4.3,SNR=6.7						
MNK	**Minsk**	**141.79**	**334**	*i* PKIKP	**PKiKP**	10 48 52.1	+0.9
MNK				*i*		10 51 04.8	
MNK				*i*		10 52 00.0	
MNK				*i*		10 52 05.0	
MNK				*i* PPP	PPP	10 55 18.9	
MNK				*i*		11 04 33.6	
MNK				*i* SS	SS	11 09 53.5	+6.7
MNK				*i* SSS	SSS	11 15 23.0	
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,15nm,0.6s						
MNK				MLR	MLR		
	comp=N,1.0nm,14.0s						
MNK				MLR	MLR		
	comp=E,7.0nm,19.0s						
MNK				MLR	MLR		
	comp=Z,34nm,17.0s						
MNK	**Minsk**	**141.79**	**334**	*i* PKP	**PKiKP**	10 48 52.1	+0.9
	comp=E,2.0nm,0.8s						
MNK				*i* PKP	**PKiKP**	10 48 52.1	+0.9
MNK				*i* PKP	**PKiKP**	10 48 52.1	+0.9
	comp=Z,15nm,0.6s,baz=224						
MNK				*i* pPKP	**pPKPdf**	**10 51 04.8**	**+4.5**
MNK				*i* sPKP		10 52 00.1	
MNK				*i* PP	**PP**	**10 52 05.0**	**+4.9**
MNK				*i* SKS	**SKSdf**	**10 55 10.3**	**+6.3**
MNK				*i* PPP	PPP	10 55 19.0	
MNK				*i* SKKS	**SKKSdf**	**11 04 33.6**	**+6.8**
MNK				*i* SS	**SS**	**11 09 53.6**	**+6.8**
MNK				*i* SSS	SSS	11 15 23.0	
MNK				*i* LRM	MLR	11 51 41.8	
	comp=N,1.0nm,14.2s						
MNK				*i* LRM	MLR	11 51 42.4	
	comp=E,7.0nm,19.3s						
MNK				*i* LRM	MLR	11 51 59.8	
	comp=Z,34nm,16.8s						
NACGM	**Naroch**	**141.93**	**335**	*e* PKP	**PKPdf**	**10 48 45.1**	**-3.2**
	comp=Z,16nm,0.9s						
ANN	**Anapa**	**142.31**	**315**	*i* PKHKP	PKPpre	10 48 45.8	
ANN				pmax	pmax		
	comp=Z,22nm,0.6s						
MBAR	**Mbarara**	**142.66**	**236**	PKPdf	**PKPdf**	10 48 49.1	-2.0
MBAR	**Mbarara**	**142.66**	**236**	PKIKP	**PKPdf**	10 48 49.1	-2.0
AKASG	**Malin Array Be**	**143.83**	**329**	PKP	PKPbc	10 48 49.6	-1.5
	comp=Z,8.7nm,0.4s,baz=42,slow=4.5,SNR=79						
AKASG				SKPbc	**SKPbc**	**10 51 36.5**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=45,slow=3.0,SNR=6.3						
AKBB	**Malin Array Si**	**143.83**	**329**		PKPbc	10 48 49.8	-1.3
AKBB	**Malin Array Si**	**143.83**	**329**	PKIKP	PKPbc	10 48 49.8	-1.2
GOET	**G??ttrup**	**144.73**	**352**	*i* P	**PKPdf**	**10 48 53.3**	**+0.2**
DIKM	**Dikmen**	**145.02**	**312**	⇓P	**PKPab**	10 48 55.7	-0.3
MUD	**Monsted U'grnd**	**145.30**	**351**	*i* P	**PKPab**	**10 48 56.0**	**-0.5**
BSD	**Bornholm Skovb**	**145.49**	**345**	*i* P	**PKPbc**	10 48 55.6	-0.3
BEL	**Belsk**	**146.58**	**337**	*e* PKPbc	**PKPbc**	**10 48 59.1**	**0.0**
LVV	**L'vov**	**146.84**	**332**	*e* PKIKP	**PKPbc**	**10 48 59.1**	**-0.7**
BRTR	**Keskin Array B**	**146.88**	**309**	PKPbc	**PKPbc**	**10 48 59.4**	**-1.2**
	comp=Z,6.1nm,0.9s,baz=132,slow=4.1,SNR=21						
BRTR				pPKPbc	pPKPab	10 51 12.3	+2.1
	comp=Z,0.8nm,0.6s,baz=66,slow=3.1,SNR=2.4						
BRTR	**Keskin Array B**	**146.88**	**309**	*c* PKP2	**PKPbc**	**10 48 59.9**	**-0.6**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ANTO	**Ankara**	**147.43**	**310**	⇑P	**PKPbc**	**10 49 01.7**	**-0.2**
ANTO	**Ankara**	**147.43**	**310**		**PKPbc**	**10 49 01.9**	**+0.1**
ANTO	**Ankara**	**147.43**	**310**	PKP2	**PKPbc**	**10 49 01.9**	**+0.1**
TLCR		**147.44**	**321**	⇓P	**PKPbc**	**10 49 01.7**	**+0.2**
TLCR		**147.44**	**321**	⇓PKP2	**PKPbc**	**10 49 01.7**	**+0.2**
BUR08	**Bucovina Ar. S**	**147.84**	**328**		**PKiKP**	10 49 03.5	-0.6
CFR	**Carcaliu**	**147.84**	**322**	⇑P	**PKPbc**	**10 49 01.9**	**-0.6**
CFR	**Carcaliu**	**147.84**	**322**	⇑PKP2	**PKPbc**	**10 49 01.9**	**-0.6**
TESR	**Tescani**	**147.84**	**325**	⇓P	**PKPbc**	**10 49 02.2**	**-0.4**
BURAR	**Bucovina Array**	**147.85**	**328**	⇑P	**PKPbc**	**10 49 03.0**	**+0.3**
BURAR	**Bucovina Array**	**147.85**	**328**	PKPdf	**PKPdf**	**10 48 58.0**	**-0.9**
BURAR				PKPbc	**PKPbc**	**10 49 03.3**	**+0.6**
BURAR				PKPab	**PKPab**	**10 49 08.4**	**+1.1**
BURAR	**Bucovina Array**	**147.85**	**328**	⇑PKP2	**PKPbc**	**10 49 03.0**	**+0.3**
BIZ	**Bicaz**	**147.85**	**326**	⇑P	**PKPbc**	**10 49 02.9**	**+0.3**
TPGR	**Topolog**	**147.86**	**321**	⇓P	**PKPbc**	**10 49 03.0**	**+0.3**
OJC	**Ojcow**	**148.26**	**336**	*e* PKPbc	**PKPbc**	**10 49 01.7**	**-1.8**
KOLS	**Kolonicke sedl**	**148.26**	**332**	*e* PKP2	**PKPbc**	**10 49 03.9**	**+0.3**
KOLS	**Kolonicke sedl**	**148.26**	**332**	*e* PKP	**PKPbc**	**10 49 03.9**	**+0.3**
UZH	**Uzhgorod**	**148.48**	**332**	*e* PKHKP	**PKPdf**	**10 49 01.1**	**+1.4**
UZH				*e*		10 49 10.1	
CSS	**Mathiatis**	**148.61**	**301**	PKPdf	**PKPdf**	**10 48 59.2**	**-1.2**
CSS					**PKPbc**	**10 49 04.2**	**-0.7**
CSS				PKPab	**PKPab**	**10 49 10.1**	**-0.7**
CRVS	**Cervenica-Dubn**	**148.63**	**333**	*e* PKP2	**PKPbc**	**10 49 04.6**	**+0.1**
CRVS	**Cervenica-Dubn**	**148.63**	**333**	*e* PKP	**PKPbc**	**10 49 04.6**	**+0.1**
NIE	**Niedzica**	**148.71**	**335**	*e* PKPbc	**PKiKP**	**10 49 05.4**	**-0.3**
DOPR	**Dopca**	**148.86**	**325**	⇑P	**PKPbc**	**10 49 02.9**	**-2.2**
MLR	**Muntele Rosu**	**148.87**	**324**	⇑P	**PKPdf**	**10 49 00.9**	**+0.3**
MLR	**Muntele Rosu**	**148.87**	**324**	PKPdf	**PKPdf**	**10 48 59.6**	**-1.0**
MLR	**Muntele Rosu**	**148.87**	**324**	⇑PKHKP	**PKPdf**	**10 49 00.9**	**+0.3**
KSP	**Ksiaz**	**148.94**	**340**	*e* PKPbc	**PKPbc**	**10 49 05.1**	**0.0**
BORA	**Eskisehir**	**149.07**	**311**	PKPbc	**PKPbc**	**10 49 05.1**	**-0.9**
SECR		**149.09**	**323**	⇓P	**PKPbc**	**10 49 05.4**	**-0.3**
OKC	**Ostrava-Krasne**	**149.18**	**337**	*e* PKP2	**PKiKP**	**10 49 06.7**	**+0.1**
OKC	**Ostrava-Krasne**	**149.18**	**337**	⇑*e* PKP	**PKiKP**	**10 49 06.7**	**+0.1**
OSTC	**Ostas**	**149.21**	**340**	⇑*e* PKP	**PKPbc**	**10 49 06.1**	**+0.3**
CHVC	**Chvalec**	**149.24**	**340**	⇑*e* PKP	**PKPbc**	**10 49 05.2**	**-0.7**
LANS	**Liptovska Anna**	**149.25**	**335**	*e* PKP2	**PKiKP**	**10 49 07.4**	**+0.6**
LANS	**Liptovska Anna**	**149.25**	**335**	*e* PKP	**PKiKP**	**10 49 07.4**	**+0.6**
CJR	**Cluj-Napoca**	**149.27**	**328**	⇑P	**PKPbc**	**10 49 06.2**	**+0.1**
CJR	**Cluj-Napoca**	**149.27**	**328**	⇑PKHKP	**PKPbc**	**10 49 06.2**	**+0.1**
UPC	**Upice**	**149.32**	**340**	*e* PKHKP	**PKPbc**	**10 49 05.7**	**-0.4**
UPC				*e*		10 49 12.8	
UPC	**Upice**	**149.32**	**340**	⇑*e* PKP	**PKPbc**	**10 49 05.7**	**-0.4**
UPC				*e* PKPAB	**PKPab**	**10 49 12.8**	**-0.3**
DPC	**Dobruska-Polom**	**149.36**	**340**	*e* PKHKP	**PKPbc**	**10 49 05.9**	**-0.3**
DPC	**Dobruska-Polom**	**149.36**	**340**	⇑*e* PKP	**PKPbc**	**10 49 05.9**	**-0.3**
VOIR		**149.39**	**325**	⇑P	**PKiKP**	**10 49 07.4**	**+0.1**
VOIR		**149.39**	**325**	⇑PKP2	**PKiKP**	**10 49 07.4**	**+0.1**
MORC	**Moravsky Berou**	**149.44**	**338**	⇑P	**PKPbc**	**10 49 06.5**	**+0.1**
MORC	**Moravsky Berou**	**149.44**	**338**		**PKPbc**	**10 49 05.9**	**-0.5**
MORC	**Moravsky Berou**	**149.44**	**338**	*e* PKP	**PKPbc**	**10 49 06.1**	**-0.3**
MORC				*e*		10 51 23.6	
MORC	**Moravsky Berou**	**149.44**	**338**	⇑PKHKP	**PKPbc**	**10 49 06.5**	**+0.1**
KRLC	**Kraliky**	**149.44**	**339**	*e* PKHKP	**PKPbc**	**10 49 06.2**	**-0.2**
KRLC	**Kraliky**	**149.44**	**339**	⇑*e* PKP	**PKPbc**	**10 49 06.2**	**-0.2**
CLL	**Collm**	**149.45**	**344**	PKPdf	**PKPdf**	**10 48 59.1**	**-2.0**
CLL					**PKPbc**	**10 49 05.8**	**-0.5**
CLL				PKPab	**PKPab**	**10 49 13.2**	**-0.4**
CLL	**Collm**	**149.45**	**344**	*i* PKHKP	**PKPbc**	**10 49 06.0**	**-0.3**
CLL				*i*		10 49 13.3	
CLL				pmax	pmax		
	comp=Z,68nm,0.8s						
CLL				pmax	pmax		
	comp=Z,30nm,0.9s						
CLL	**Collm**	**149.45**	**344**	*ex*	x	10 51 56.0	
CLL	**Collm**	**149.45**	**344**	*i* PKPbc	**PKPbc**	**10 49 06.0**	**-0.3**
	comp=Z,68nm,0.8s						
CLL	**Collm**	**149.45**	**344**	*i* PKPab	**PKPab**	**10 49 13.3**	**-0.3**
	comp=Z,30nm,0.9s						
CLL	**Collm**	**149.45**	**344**	*e* pPKPab	pPKPab	10 51 19.0	-0.5
CLL	**Collm**	**149.45**	**344**	*ex*	x	10 51 24.0	
CLL	**Collm**	**149.45**	**344**	*e* SKPdf	**SKPdf**	**10 51 41.0**	**-0.1**
BRG	**Berggiesshubel**	**149.60**	**343**	Amp		10 51 25.6	
	comp=Z,21nm,1.5s						
BRG	**Berggiesshubel**	**149.60**	**343**	*i* PKHKP	**PKPbc**	**10 49 06.7**	**0.0**
BRG				pmax	pmax		
	comp=Z,52nm,0.9s						
BRG				pmax	pmax		
	comp=Z,21nm,1.5s						
BRG	**Berggiesshubel**	**149.60**	**343**	*i* PKP	**PKPbc**	**10 49 06.8**	**0.0**
BRG	**Berggiesshubel**	**149.60**	**343**	Amp		10 49 10.6	
	comp=Z,52nm,0.9s						
BRG	**Berggiesshubel**	**149.60**	**343**	pPKP	pPKPab	10 51 24.7	+4.5
DRGR		**149.64**	**329**	⇑P	**PKPbc**	**10 49 06.6**	**-0.5**
DRGR		**149.64**	**329**	⇑PKHKP	**PKPbc**	**10 49 06.6**	**-0.5**
ARR	**Arges**	**149.65**	**325**	⇑P	**PKiKP**	**10 49 07.8**	**0.0**
MAUC	**Maruska**	**149.69**	**337**	⇑*e* PKP	**PKPbc**	**10 49 07.2**	**+0.2**
VYHS	**Vyhne**	**150.03**	**335**	*e* PKHKP	**PKPbc**	**10 49 07.7**	**-0.1**
VYHS				*e*		10 49 17.1	
VYHS	**Vyhne**	**150.03**	**335**	*e* PKP	**PKPbc**	**10 49 07.7**	**-0.1**
VYHS				*e*		10 49 17.1	
LOT	**Lotru**	**150.05**	**326**	⇑P	**PKPbc**	**10 49 07.1**	**-1.0**
PSZ	**Piszkesteto**	**150.06**	**333**	⇑P	**PKPbc**	**10 49 06.8**	**-1.2**
PSZ	**Piszkesteto**	**150.06**	**333**		**PKPbc**	**10 49 05.8**	**-2.2**
PSZ				PKPab	**PKPab**	**10 49 15.5**	**-0.9**
PSZ	**Piszkesteto**	**150.06**	**333**	PKP2	**PKPab**	**10 49 15.5**	**-0.9**
JAVC	**Velka Javorina**	**150.16**	**337**	*e* PKP	**PKiKP**	**10 49 09.0**	**+0.3**
JAVC				*e*		10 51 27.0	
VRAC	**Vranov**	**150.16**	**338**	⇑P	**PKiKP**	**10 49 08.9**	**+0.2**
VRAC	**Vranov**	**150.16**	**338**	*e* PKP	**PKPbc**	**10 49 07.7**	**-0.4**
VRAC				*e*		10 51 25.7	
VRAC	**Vranov**	**150.16**	**338**	⇑PKIKP	**PKiKP**	**10 49 08.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**150.22**	**341**	*e* PKIKP	**PKPbc**	**10 49 08.0**	**-0.2**
GOPC	**GO Pecny, Ondr**	**150.22**	**341**	⇑*e* PKP	**PKPbc**	**10 49 08.0**	**-0.2**
PRU	**Pruhonice**	**150.22**	**341**	*e* PKIKP	**PKPbc**	**10 49 07.8**	**-0.4**
PRU				*e*		10 49 16.0	
PRU	**Pruhonice**	**150.22**	**341**	⇑*e* PKP	**PKPbc**	**10 49 07.8**	**-0.4**
PRU				*e* PKPAB	**PKPab**	**10 49 16.0**	**-0.9**
KRUC	**Moravsky**	**150.44**	**338**	*e* PKP	**PKPbc**	**10 49 08.3**	**-0.4**
KRUC				*e*		10 51 26.2	
SIRR	**Siria**	**150.52**	**329**	⇑P	**PKPbc**	**10 49 08.9**	**-0.2**
NKC	**Novy Kostel**	**150.57**	**344**	*e* PKIKP	**PKiKP**	**10 49 09.8**	**+0.3**
NKC	**Novy Kostel**	**150.57**	**344**	⇑*e* PKP	**PKiKP**	**10 49 09.8**	**+0.3**
GZR	**Gura Zlata**	**150.60**	**327**	⇑P	**PKPbc**	**10 49 08.6**	**-0.7**
GZR	**Gura Zlata**	**150.60**	**327**	⇑PKIKP	**PKPbc**	**10 49 08.6**	**-0.7**
ELL	**Elmali**	**150.70**	**306**	PKPbc	**PKPbc**	**10 49 08.9**	**-0.9**
ELL	**Elmali**	**150.70**	**306**	PKIKP	**PKPbc**	**10 49 09.0**	**-0.9**
MODS	**Modra-Piesok**	**150.71**	**337**	*e* PKIKP	**PKiKP**	**10 49 09.8**	**0.0**
MODS	**Modra-Piesok**	**150.71**	**337**	*e* PKP	**PKiKP**	**10 49 09.8**	**0.0**
MODS				*e*		10 49 21.1	
BZS	**Buzias**	**151.02**	**328**	⇑P	**PKPbc**	**10 49 09.7**	**-0.5**
BZS	**Buzias**	**151.02**	**328**	⇑PKIKP	**PKPbc**	**10 49 09.7**	**-0.5**
AKAS	**Kas**	**151.12**	**305**	PKPdf	**PKPdf**	**10 49 01.6**	**-2.8**
AKAS					**PKPbc**	**10 49 09.1**	**-1.8**
AKAS				PKPab	**PKPab**	**10 49 18.8**	**-2.6**
HERR	**Herculane**	**151.14**	**326**	⇑P	**PKPbc**	**10 49 09.9**	**-0.5**
KHC	**Kasperske Hory**	**151.27**	**342**	PKPdf	**PKPdf**	**10 49 03.9**	**-0.2**
KHC				PKPbc	**PKPbc**	**10 49 10.5**	**-0.1**
KHC					**PKPab**	**10 49 21.2**	**-0.2**
KHC	**Kasperske Hory**	**151.27**	**342**	*e* PKIKP	**PKPdf**	**10 49 04.7**	**+0.6**
KHC				*e*		10 49 21.2	
KHC	**Kasperske Hory**	**151.27**	**342**	*e* PKPDF	**PKPdf**	**10 49 04.7**	**+0.6**
KHC				⇑*e* PKP	**PKPbc**	**10 49 10.0**	**-0.7**
KHC				*e* PKPAB	**PKPab**	**10 49 21.2**	**-0.2**
KHC				*ep* PKP	**pPKPbc**	**10 51 23.0**	**+1.3**
CKRC	**Cesky Krumlov**	**151.33**	**341**	⇑*e* PKP	**PKPdf**	**10 49 05.5**	**+1.3**
CKRC				*e* PKPAB	**PKPbc**	**10 49 10.4**	**-0.4**
GRA1	**Grafenberg Arr**	**151.38**	**345**	PKPdf	**PKPdf**	**10 49 04.2**	**0.0**
GRA1				PKPbc	**PKiKP**	**10 49 11.1**	**0.0**
GRA1				PKPab	**PKPab**	**10 49 22.2**	**+0.4**
GRF	**Grafenberg Arr**	**151.38**	**345**	PKIKP	**PKPdf**	**10 49 04.2**	**0.0**
GRF						10 49 22.2	
GRFO	**Grafenberg**	**151.38**	**345**	PKPdf	**PKPdf**	**10 49 05.2**	**+1.1**
GRFO				PKPbc	**PKiKP**	**10 49 11.9**	**+0.8**
GRFO				PKPab	**PKPab**	**10 49 21.5**	**-0.3**
MEM	**Membach**	**151.43**	**352**	*d* PKP	**PKPbc**	**10 49 10.9**	**0.0**
MEM				*d* PKPab	**PKPab**	**10 49 22.1**	**+0.2**
BTNL	**Ternell**	**151.43**	**352**	*d* PKP	**PKPbc**	**10 49 11.0**	**0.0**
GEC2	**GERESS Array S**	**151.49**	**341**		**PKPbc**	**10 49 11.0**	**-0.3**
GERES	**GERESS Array B**	**151.49**	**341**	PKP	**PKPdf**	**10 49 04.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=39,slow=5.1,SNR=4.0						
GERES				PKPbc	**PKPbc**	**10 49 10.9**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=48,slow=2.0,SNR=33						
GERES				pPKPbc	**pPKPbc**	**10 51 24.5**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=66,slow=2.4,SNR=3.4						
GERES	**GERESS Array B**	**151.49**	**341**		**PKPbc**	**10 49 10.5**	**-0.8**
GERES	**GERESS Array B**	**151.49**	**341**	PKIKP	**PKPbc**	**10 49 10.5**	**-0.8**
SOP	**Sopron**	**151.56**	**337**	PKP	**PKiKP**	**10 49 12.6**	**+1.0**
MDVR	**Moldovita**	**151.57**	**327**	⇑P	**PKPbc**	**10 49 10.9**	**-0.6**
CONA	**Conrad Observa**	**151.60**	**338**	*e* P	**PKPbc**	**10 49 11.2**	**-0.3**
	comp=Z,5.0nm,0.6s						
CONA				*e* P	**PKPab**	**10 49 24.0**	**+1.1**
	comp=Z,5.4nm,0.6s						
CONA				*e* P	**pPKPab**	**10 51 29.1**	**+0.6**
	comp=Z,18nm,1.2s						
MPLH	**Magyarpolny**	**151.61**	**335**	PKP	**PKiKP**	**10 49 12.7**	**+1.0**
RONA	**Rosalia, Austr**	**151.64**	**337**	*e* P	**PKPbc**	**10 49 11.0**	**-0.5**
	comp=Z,17nm,0.6s						
RONA				*e* P	**PKPab**	**10 49 25.0**	**+2.0**
	comp=Z,7.0nm,0.7s						
RONA				*e* P	**pPKPab**	**10 51 29.8**	**+1.1**
	comp=Z,6.9nm,1.0s						
RDO	**Rodhopi**	**151.70**	**317**		**PKPbc**	**10 49 11.0**	**-0.8**
BGES	**Gesves**	**151.75**	**354**	*d* PKPab	**PKPab**	**10 49 22.9**	**-0.4**
BLKB	**Belogradchik**	**151.86**	**324**	⇑P	**PKPbc**	**10 49 11.6**	**-0.5**
BMRD	**Maredsous**	**151.86**	**354**	*d* PKPdf	**PKPdf**	**10 49 05.6**	**+0.8**
BMRD				*d* PKP	**PKiKP**	**10 49 12.1**	**0.0**
BMRD				*d* PKPab	**PKPab**	**10 49 24.0**	**+0.3**
MORH	**Mrgy, Hungar**	**151.93**	**332**	⇑P	**PKPbc**	**10 49 11.6**	**-0.6**
MORH	**Mrgy, Hungar**	**151.93**	**332**	PKP	**PKPbc**	**10 49 08.6**	**-3.6**
RCHB	**Rochefort**	**151.96**	**353**	*d* PKP	**PKiKP**	**10 49 12.5**	**+0.2**
RCHB				*d* PKPab	**PKPab**	**10 49 23.8**	**-0.4**
DOU	**Dourbes**	**152.08**	**354**	*d* PKP	**PKiKP**	**10 49 13.0**	**+0.4**
DOU				*d* PKPab	**PKPab**	**10 49 24.8**	**+0.1**
MOA	**Molln**	**152.20**	**340**	*e* P	**PKPbc**	**10 49 12.6**	**-0.2**
	comp=Z,3.8nm,0.7s						
MOA				*e* P	**PKPab**	**10 49 26.6**	**+1.2**
	comp=Z,8.7nm,1.1s						
KOVH	**Kovagotottos**	**152.26**	**333**	PKP	**PKPbc**	**10 49 12.5**	**-0.4**
ARSA	**Arzberg**	**152.30**	**337**	*e* P	**PKiKP**	**10 49 13.3**	**+0.1**
	comp=Z,7.3nm,1.4s						
ARSA				*e* P	**PKPab**	**10 49 25.5**	**-0.3**
	comp=Z,2.5nm,0.6s						
WLF	**Walferdange**	**152.34**	**352**	*d* PKP	**PKiKP**	**10 49 13.2**	**+0.1**
BOVS	**Bovan**	**152.37**	**325**	⇑P	**PKPbc**	**10 49 11.4**	**-1.9**
BIOA	**Bad Ischl, Aus**	**152.54**	**340**	*e* P	**PKPbc**	**10 49 13.6**	**0.0**
	comp=Z,2.2nm,0.4s						
BIOA				*e* P	**PKPab**	**10 49 27.8**	**+1.0**
	comp=Z,23nm,1.0s						
BIOA				*e* P	**pPKPab**	**10 51 32.1**	**-0.2**
	comp=Z,10nm,1.3s						
DIVS	**Divibare**	**152.91**	**328**		**PKPbc**	**10 49 14.1**	**-0.4**
DIVS				PKPab	**PKPab**	**10 49 25.1**	**-3.5**
SOKA	**Soboth**	**152.96**	**337**	*e* P	**PKPbc**	**10 49 14.3**	**-0.2**
	comp=Z,4.1nm,0.7s						
SOKA				*e* P	**PKPab**	**10 49 29.9**	**+1.2**
	comp=Z,5.3nm,1.0s						
SOKA				*e* P	**pPKPab**	**10 51 33.1**	**-1.0**
	comp=Z,3.6nm,0.9s						
KBA	**Koelnbreinsper**	**153.18**	**340**	*e* P	**PKPbc**	**10 49 14.1**	**-1.0**
	comp=Z,3.0nm,1.0s						
KBA				*e* P	**PKPab**	**10 49 31.2**	**+1.5**
	comp=Z,7.9nm,0.7s						
KBA				*e* P	**pPKPab**	**10 51 31.8**	**-3.3**
	comp=Z,4.3nm,1.0s						
OBKA	**Obir**	**153.28**	**338**	*e* P	**PKiKP**	**10 49 15.4**	**+0.1**
	comp=Z,4.8nm,1.2s						
OBKA				*e* P	**pPKPab**	**10 51 34.7**	**-0.8**
	comp=Z,3.7nm,0.7s						
BFO	**Black Forest**	**153.28**	**348**		**PKPbc**	**10 49 14.7**	**-0.4**
BFO				PKPab	**PKPab**	**10 49 28.5**	**-

T1242 Castelluccio d 0.07 54 P Pg 10 31 08.5 -0.1
T1242 S Sg 10 31 10.2 -0.1
T1242 AML AML
comp=E,22150μm,0.4s
T1242 AML AML
comp=N,30000μm,1.6s
T1242 AML AML
comp=E,22150μm,0.4s
T1242 AML AML
comp=N,29950μm,1.6s
T1242 AML AML
comp=E,22200μm,0.4s
T1242 AML AML
comp=N,29950μm,1.6s
T1242 AML AML
comp=E,21850μm,0.4s
T1242 AML AML
comp=N,29450μm,1.6s
T1242 AML AML
comp=E,22200μm,0.4s
T1242 AML AML
comp=N,7216μm,1.6s
T1242 AML AML
comp=N,7173μm,1.6s
T1242 AML AML
comp=E,4122μm,0.8s
T1242 AML AML
comp=E,4117μm,0.8s
T1242 END
T1202 Accumoli, Fraz 0.11 141 P Pg 10 31 09.3 +0.3
T1202 S Sg 10 31 11.9 +0.9
T1216 Preci, Frazion 0.13 321 P Pg 10 31 09.8 +0.5
T1216 S Sg 10 31 12.3 +0.8
T1216 AML AML
comp=E,8455μm,1.0s
T1216 AML AML
comp=N,6395μm,1.3s
T1216 AML AML
comp=E,8460μm,1.0s
T1216 AML AML
comp=E,8465μm,1.0s
T1216 AML AML
comp=N,6400μm,1.3s
T1216 AML AML
comp=N,794μm,0.7s
T1216 AML AML
comp=E,697μm,0.5s
MC2 Monte Cornacci 0.13 20 P Pg 10 31 09.8 +0.4
MC2 S Sg 10 31 12.9 +1.2
T1217 Poggiodomo (PG 0.17 242 P Pg 10 31 10.1 +0.3
T1217 S Sg 10 31 13.8 +1.5
T1217 AML AML
comp=E,2560μm,1.5s
T1217 AML AML
comp=N,3985μm,1.3s
T1217 AML AML
comp=E,2565μm,1.5s
T1217 AML AML
comp=N,3975μm,1.4s
T1217 AML AML
comp=N,669μm,0.9s
T1217 AML AML
comp=E,458μm,1.3s
T1204 Amatrice, Fraz 0.18 129 P Pg 10 31 10.7 +0.6
T1204 S Sg 10 31 14.1 +1.2
T1204 AML AML
comp=E,3195μm,1.6s
T1204 AML AML
comp=N,2445μm,1.1s
T1204 AML AML
comp=E,3200μm,0.9s
T1204 AML AML
comp=N,2455μm,1.1s
T1204 AML AML
comp=E,3205μm,0.9s
T1204 AML AML
comp=N,2450μm,1.1s
T1204 AML AML
comp=E,702μm,1.1s
T1204 AML AML
comp=N,508μm,1.1s
FEMA Monte Fema 0.18 341 P Pg 10 31 10.8 +0.7
FEMA S Sg 10 31 14.3 +1.4
MMO1 Montemonaco 0.18 53 P Pg 10 31 10.5 +0.4
MMO1 S Sg 10 31 14.1 +1.2
T1215 Vallo di Nera, 0.19 274 P Pg 10 31 10.7 +0.4
T1215 S Sg 10 31 14.6 +1.5
T1215 AML AML
comp=E,1325μm,0.3s
T1215 AML AML
comp=N,1060μm,0.2s
T1215 AML AML
comp=E,1340μm,0.3s
T1215 AML AML
comp=N,1042μm,1.2s
T1215 AML AML
comp=E,1330μm,0.3s
T1215 AML AML
comp=N,1059μm,0.2s
T1215 AML AML
comp=E,1338μm,0.3s
T1215 AML AML
comp=N,1046μm,1.2s
T1215 AML AML
comp=N,292μm,0.3s
T1215 AML AML
comp=N,284μm,0.3s
T1215 AML AML
comp=E,305μm,0.3s
T1215 AML AML
comp=E,313μm,0.3s
LNSS Leonessa 0.20 199 P Pg 10 31 10.8 +0.4
LNSS S Sg 10 31 14.9 +1.6
LNSS AML AML
comp=E,3250μm,1.3s
LNSS AML AML
comp=N,4080μm,0.3s
LNSS AML AML
comp=E,675μm,1.5s
LNSS AML AML
comp=N,957μm,2.1s
T1241 Roccafluvione, 0.23 73 P Pg 10 31 11.6 +0.6
T1241 S Sg 10 31 15.9 +1.6
T1241 AML AML
comp=E,2860μm,0.7s
T1241 AML AML
comp=N,1820μm,0.7s
T1241 AML AML
comp=N,1820μm,0.7s
T1241 AML AML
comp=N,1710μm,0.7s
T1241 AML AML
comp=E,2825μm,0.7s
T1241 AML AML
comp=E,2860μm,0.7s
T1241 AML AML
comp=N,270μm,0.8s
T1241 AML AML
comp=E,562μm,0.8s
T1241 AML AML
comp=E,516μm,0.8s
T1241 AML AML
comp=N,353μm,7.8s
FDMO Fiordimonte 0.25 353 ⇑P Pg 10 31 11.9 +0.6
FDMO AML AML
comp=E,1052μm,1.5s
FDMO AML AML
comp=N,1320μm,0.2s
FDMO AML AML
comp=N,259μm,1.3s
FDMO AML AML
comp=E,314μm,1.3s
AM05 Amandola Campo 0.25 41 P Pg 10 31 12.2 +0.9
AM05 S Sg 10 31 16.5 +1.7
CESI CESI - Serrava 0.27 323 P Pg 10 31 12.2 +0.5
CESI AML AML
comp=E,1350μm,1.5s
CESI AML AML
comp=N,3060μm,0.4s
CESI AML AML
comp=E,317μm,2.2s
CESI AML AML
comp=N,570μm,1.0s
RM33 Pellescritta (0.29 167 ⇓P Pg 10 31 12.3 +0.3
RM33 AML AML
comp=E,1565μm,0.1s
RM33 AML AML
comp=N,1720μm,1.5s
RM33 AML AML
comp=E,1555μm,0.2s
RM33 AML AML
comp=N,1615μm,0.3s
RM33 AML AML
comp=E,1570μm,0.1s
RM33 AML AML
comp=N,1725μm,1.5s
RM33 AML AML
comp=E,316μm,0.6s
RM33 AML AML
comp=E,471μm,4.3s
RM33 AML AML
comp=N,430μm,4.0s
RM33 AML AML
comp=N,321μm,2.7s
CSP1 Cessapalombo 0.31 10 P Pg 10 31 13.1 +0.7
CSP1 AML AML
comp=E,1606μm,1.4s
CSP1 AML AML
comp=N,1285μm,1.6s
CSP1 AML AML
comp=E,1610μm,1.4s
CSP1 AML AML
comp=N,250μm,2.4s
CSP1 AML AML
comp=E,426μm,8.0s
GUMA Gualdo di Mace 0.31 29 ⇓P Pb 10 31 13.5 -0.4
GUMA AML AML
comp=N,3925μm,0.3s
GUMA AML AML
comp=N,5105μm,0.4s
GUMA AML AML
comp=E,3890μm,1.5s
GUMA AML AML
comp=N,3930μm,0.3s
GUMA AML AML
comp=E,3360μm,1.4s
GUMA AML AML
comp=N,5100μm,0.4s
GUMA AML AML
comp=E,715μm,0.5s
GUMA AML AML
comp=E,852μm,0.5s
GUMA AML AML
comp=N,1060μm,0.6s
GUMA AML AML
comp=N,772μm,4.1s
CAMP Campotosto 0.33 141 P Pg 10 31 13.1 +0.3
CAMP S Sb 10 31 18.4 -1.2
CAMP AML AML
comp=E,541μm,1.1s
CAMP AML AML
comp=E,540μm,1.1s
CAMP AML AML
comp=N,561μm,0.5s
CAMP AML AML
comp=E,109μm,0.3s
CAMP AML AML
comp=N,123μm,0.5s
T1246 Crognaleto (TE 0.34 127 P Pg 10 31 13.4 +0.4
T1246 S Sb 10 31 18.9 -1.0
TERO Teramo 0.39 115 P Pg 10 31 14.1 +0.2
TERO AML AML
comp=E,756μm,0.4s
TERO AML AML
comp=N,1058μm,1.2s
TERO AML AML
comp=E,199μm,3.2s
TERO AML AML
comp=N,190μm,0.3s
ASSB Assisi San Ben 0.43 306 ⇑P Pg 10 31 15.0 +0.3
ASSB AML AML
comp=E,536μm,0.4s
ASSB AML AML
comp=N,616μm,1.0s
ASSB AML AML
comp=E,56μm,0.3s
ASSB AML AML
comp=N,50μm,1.9s
OFFI Offida 0.43 70 ⇓P Pb 10 31 16.7 +0.8
OFFI AML AML
comp=E,1188μm,0.4s
OFFI AML AML
comp=N,1470μm,0.3s
OFFI AML AML
comp=E,1188μm,0.4s
OFFI AML AML
comp=E,241μm,0.3s
OFFI AML AML
comp=N,242μm,0.6s
CESX Cesi 0.44 246 S Sb 10 31 24.0 +1.2
GIGS Gran Sasso 0.47 136 P Pg 10 31 15.6 +0.2
GIGS AML AML
comp=E,148μm,0.2s
GIGS AML AML
comp=N,136μm,0.4s
GIGS AML AML
comp=N,136μm,0.4s
GIGS AML AML
comp=E,37μm,0.2s
GIGS AML AML
comp=N,27μm,0.5s
SNTG Esanatoglia 0.49 344 P Pb 10 31 16.4 -0.5
SNTG S Sb 10 31 26.0 +1.9
SNTG AML AML
comp=E,279μm,1.4s
SNTG AML AML
comp=N,282μm,0.7s
SNTG AML AML
comp=E,278μm,1.4s
SNTG AML AML
comp=N,281μm,0.7s
SNTG AML AML
comp=N,82μm,0.9s
SNTG AML AML
comp=E,63μm,2.0s
FIAM Fiamignano 0.52 181 ⇓P Pg 10 31 16.6 +0.3
FIAM AML AML
comp=E,298μm,0.9s
FIAM AML AML
comp=N,365μm,1.2s
FIAM AML AML
comp=N,107μm,0.5s
FIAM AML AML
comp=E,74μm,1.0s
ATCC AVT- Casa Cast 0.53 318 ⇑P Pg 10 31 17.1 +0.5
ATCC AML AML
comp=E,806μm,0.3s
ATCC AML AML
comp=N,536μm,0.3s
ATCC AML AML
comp=E,308μm,1.4s
ATCC AML AML
comp=N,329μm,0.2s
EL6 Elcito 0.54 358 ⇑P Pg 10 31 17.2 +0.5
EL6 S Sn 10 31 28.0 -1.3
EL6 AML AML
comp=E,588μm,1.2s
EL6 AML AML
comp=N,780μm,0.3s
CING Cingoli 0.59 5 S Sn 10 31 29.0 -1.4
FAGN Fagnano 0.62 147 S Sn 10 31 31.0 -0.2
VCEL Villa Celiera 0.66 127 P Pb 10 31 19.6 -0.2
VCEL AML AML
comp=N,568μm,1.5s
VCEL AML AML
comp=E,548μm,0.9s
VCEL AML AML
comp=E,148μm,3.9s
VCEL AML AML
comp=N,176μm,2.7s
ATFO Monte Foce - G 0.71 325 S Sn 10 31 34.0 +0.6
ARVD Arcevia 0.72 349 S Sb 10 31 32.0 +1.1
T0110 Collepietro 0.74 139 ⇓P Pg 10 31 20.7 +0.2
T0110 S Sn 10 31 34.0 -0.1
T0110 AML AML
comp=E,518μm,1.6s
T0110 AML AML
comp=N,439μm,0.5s
T0110 AML AML
comp=N,126μm,0.4s
T0110 AML AML
comp=E,92μm,0.4s
MPAG Monte Paganucc 0.88 342 ⇑P Pn 10 31 24.3 -0.5

*ROM **27** 10:31:19.0±0.1, 42°.780N±0°.003×13°.125E±0°.005, h10km, ML2.5/23, Error ellipse: s-maj=0.4km s-min=0.2km az=248.0*

ISC 27 10:31:19.2±0.8, 42°.77N±0°.02×13°.13E±0°.02, h6km±6km, n39, σ1s55/62, 8C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
NRCA	**Norcia**	**0.06**	**351**	P	**Pg**	**10 31 20.4**	**-0.5**
NRCA				S	**Sg**	**10 31 21.9**	**-0.2**
NRCA				AML	AML		
	comp=E,32200μm,1.0s						
NRCA				AML	AML		
	comp=N,17150μm,0.5s						
NRCA				AML	AML		
	comp=N,18050μm,0.5s						
NRCA				AML	AML		
	comp=E,35100μm,1.0s						
T1242	**Castelluccio d**	**0.08**	**46**	P	**Pg**	**10 31 21.1**	**0.0**
T1242				S	**Sg**	**10 31 22.9**	**+0.3**
T1242				AML	AML		
	comp=E,22150μm,0.4s						
T1242				AML	AML		
	comp=N,29950μm,1.6s						
T1242				AML	AML		
	comp=N,29450μm,1.6s						
T1242				AML	AML		
	comp=E,22200μm,0.4s						
T1242				AML	AML		
	comp=E,21850μm,0.4s						
T1242				AML	AML		
	comp=E,22200μm,0.4s						
T1242				AML	AML		
	comp=N,30000μm,1.6s						
T1202	**Accumoli, Fraz**	**0.10**	**134**	P	**Pg**	**10 31 22.1**	**+0.7**
T1202				S	**Sg**	**10 31 24.6**	**+1.5**
T1202				AML	AML		
	comp=E,9560μm,0.6s						
T1202				AML	AML		
	comp=N,13700μm,0.5s						
T1202				AML	AML		
	comp=E,9565μm,0.6s						
T1216	**Preci, Frazion**	**0.14**	**326**	P	**Pg**	**10 31 22.6**	**+0.4**
T1216				S	**Sg**	**10 31 25.0**	**+0.9**
T1216				AML	AML		
	comp=E,8455μm,1.0s						
T1216				AML	AML		
	comp=N,6395μm,1.3s						
T1216				AML	AML		
	comp=N,6400μm,1.3s						
T1216				AML	AML		
	comp=E,8465μm,1.0s						
T1216				AML	AML		
	comp=N,6400μm,1.3s						
MC2	**Monte Cornacci**	**0.15**	**19**	P	**Pg**	**10 31 22.8**	**+0.5**
MC2				S	**Sg**	**10 31 25.6**	**+1.2**
T1217	**Poggiodomo (PG**	**0.16**	**247**	P	**Pg**	**10 31 23.0**	**+0.6**
T1217				S	**Sg**	**10 31 26.0**	**+1.4**
T1217				AML	AML		
	comp=E,2565μm,1.5s						
T1217				AML	AML		
	comp=N,3970μm,1.3s						
T1217				AML	AML		
	comp=E,2560μm,1.5s						
T1204	**Amatrice, Fraz**	**0.17**	**125**	P	**Pg**	**10 31 23.5**	**+0.8**
T1204				S	**Sg**	**10 31 26.8**	**+1.7**
T1204				AML	AML		
	comp=E,3205μm,0.9s						
T1204				AML	AML		
	comp=E,3202μm,0.9s						
T1204				AML	AML		
	comp=N,2450μm,1.1s						
LNSS	**Leonessa**	**0.18**	**201**	P	**Pg**	**10 31 23.6**	**+0.8**
LNSS				S	**Sg**	**10 31 26.7**	**+1.3**
LNSS				AML	AML		
	comp=N,4080μm,0.3s						
LNSS				AML	AML		
	comp=E,3250μm,1.3s						
MMO1	**Montemonaco**	**0.19**	**49**	P	**Pg**	**10 31 23.5**	**+0.4**
MMO1				S	**Sg**	**10 31 26.8**	**+1.1**
T1215	**Vallo di Nera,**	**0.19**	**278**	P	**Pg**	**10 31 23.6**	**+0.6**
T1215				S	**Sg**	**10 31 27.1**	**+1.4**
T1215				AML	AML		
	comp=E,1325μm,0.3s						
T1215				AML	AML		
	comp=N,1060μm,0.2s						
T1215				AML	AML		
	comp=E,1340μm,0.3s						
T1215				AML	AML		
	comp=N,1042μm,1.2s						
T1215				AML	AML		
	comp=E,1330μm,0.3s						
T1215				AML	AML		
	comp=N,1059μm,0.2s						
T1215				AML	AML		
	comp=E,1325μm,0.3s						
FEMA	**Monte Fema**	**0.20**	**343**	P	**Pg**	**10 31 24.3**	**+1.1**
FEMA				S	**Sg**	**10 31 27.6**	**+1.8**
T1241	**Roccafluvione,**	**0.24**	**70**	P	**Pg**	**10 31 24.4**	**+0.5**
T1241				S	**Sg**	**10 31 28.7**	**+1.6**
T1241				AML	AML		
	comp=E,2860μm,0.7s						
T1241				AML	AML		
	comp=N,1820μm,0.7s						
T1241				AML	AML		
	comp=E,2825μm,0.7s						
T1241				AML	AML		
	comp=E,2860μm,0.7s						
T1241				AML	AML		
	comp=N,1820μm,0.7s						
T1241				AML	AML		
	comp=N,1710μm,0.7s						
AM05	**Amandola Campo**	**0.26**	**39**	P	**Pg**	**10 31 24.8**	**+0.5**
AM05				S	**Sg**	**10 31 29.0**	**+1.2**
FDMO	**Fiordimonte**	**0.26**	**354**	P	**Pb**	**10 31 25.2**	**-1.2**
FDMO				S	**Sb**	**10 31 29.7**	**-1.5**
FDMO				AML	AML		
	comp=E,1052μm,1.5s						
FDMO				AML	AML		
	comp=N,1320μm,0.2s						
RM33	**Pellescritta (**	**0.27**	**166**	P	**Pg**	**10 31 25.1**	**+0.6**
RM33				S	**Sb**	**10 31 29.8**	**-1.6**
RM33				AML	AML		
	comp=E,1565μm,0.1s						
RM33				AML	AML		
	comp=N,1725μm,1.5s						
RM33				AML	AML		
	comp=N,1610μm,0.3s						
RM33				AML	AML		
	comp=E,1565μm,0.2s						
RM33				AML	AML		
	comp=N,1725μm,1.6s						
RM33				AML	AML		
	comp=N,1615μm,0.3s						
RM33				AML	AML		
	comp=E,1555μm,0.2s						
CESI	**CESI - Serrava**	**0.28**	**325**	P	**Pg**	**10 31 25.0**	**+0.3**
CESI				S	**Sb**	**10 31 29.8**	**-2.0**
CESI				AML	AML		
	comp=E,1350μm,1.5s						
CESI				AML	AML		
	comp=N,3060μm,0.4s						
CAMP	**Campotosto**	**0.32**	**139**	P	**Pg**	**10 31 25.9**	**+0.5**
CAMP				S	**Sb**	**10 31 31.1**	**-1.6**
CSP1	**Cessapalombo**	**0.32**	**10**	P	**Pb**	**10 31 26.4**	**-1.1**
CSP1				S	**Sb**	**10 31 31.2**	**-1.8**
GUMA	**Gualdo di Mace**	**0.33**	**28**	P	**Pb**	**10 31 26.5**	**-1.0**
GUMA				S	**Sb**	**10 31 31.8**	**-1.2**
TERO	**Teramo**	**0.38**	**113**	P	**Pg**	**10 31 27.0**	**+0.3**
TERO				S	**Sb**	**10 31 33.0**	**-1.6**
TERO				AML	AML		
	comp=E,756μm,0.4s						
TERO				AML	AML		
	comp=N,1058μm,1.2s						
ASSB	**Assisi San Ben**	**0.44**	**308**	⇑P	**Pg**	**10 31 27.8**	**+0.2**
ASSB				AML	AML		
	comp=E,536μm,0.4s						
ASSB				AML	AML		
	comp=N,616μm,1.0s						
OFFI	**Offida**	**0.44**	**68**	⇓P	**Pb**	**10 31 29.6**	**+0.2**
OFFI				AML	AML		
	comp=E,1188μm,0.4s						
OFFI				AML	AML		
	comp=N,1470μm,0.3s						
GIGS	**Gran Sasso**	**0.46**	**135**	⇑P	**Pg**	**10 31 28.3**	**+0.3**

GIGS					AML	AML			
	comp=N,136μm,0.4s								
GIGS					AML	AML			
	comp=E,148μm,0.2s								
ATCC	**AVT- Casa Cast**	**0.55**	**319**	⇓P		**Pg**	**10 31 29.8**	**+0.1**	
ATCC					AML	AML			
	comp=N,536μm,0.3s								
ATCC					AML	AML			
	comp=E,806μm,0.3s								
ATCC					AML	AML			
	comp=N,536μm,0.3s								
VCEL	**Villa Celiera**	**0.65**	**126**	⇑P		**Pg**	**10 31 32.0**	**+0.4**	
VCEL					AML	AML			
	comp=E,548μm,0.9s								
VCEL					AML	AML			
	comp=N,568μm,1.5s								
MGAB	**Montegabbione**	**0.76**	**281**	⇑P		**Pn**	**10 31 36.5**	**+0.1**	
CERT	**Cerreto**	**0.83**	**187**	⇑P		**Pn**	**10 31 37.2**	**-0.3**	
CERT					AML	AML			
	comp=E,304μm,0.4s								
CERT					AML	AML			
	comp=N,162μm,0.3s								
PIEI	**Pieia**	**0.88**	**331**	⇑P		**Pb**	**10 31 36.2**	**-0.7**	
PIEI					AML	AML			
	comp=N,91μm,0.2s								
PIEI					AML	AML			
	comp=E,106μm,0.9s								
NARO	**Abbazia di Nar**	**0.93**	**335**	S		**Sn**	**10 31 52.0**	**-0.4**	
SENI	**Senigallia**	**0.93**	**5**	S		**Sb**	**10 31 50.0**	**-0.4**	
INTR	**Introdacqua**	**0.95**	**143**	⇑P		**Pg**	**10 31 36.8**	**-0.7**	
INTR					AML	AML			
	comp=N,230μm,1.3s								
INTR					AML	AML			
	comp=E,128μm,0.8s								
CAFI	**Castiglion Fio**	**1.02**	**304**	⇑P		**Pb**	**10 31 38.9**	**-0.3**	
CAFI					AML	AML			
	comp=E,74μm,0.7s								
CAFI					AML	AML			
	comp=N,80μm,0.6s								
LPEL	**Lama dei Pelig**	**1.07**	**133**	⇓P		**Pb**	**10 31 39.6**	**-0.4**	
LPEL					AML	AML			
	comp=N,106μm,0.7s								
LPEL					AML	AML			
	comp=E,149μm,0.8s								
DUGI	**Dugi Otok**	**1.86**	**48**	*e*Pn		**Pb**	**10 31 52.5**	**-1.1**	
MORI	**Morici**	**2.18**	**59**	*e*Pn		**Pg**	**10 31 59.7**	**-1.2**	
MORI				Sn		**Sb**	**10 32 25.9**	**-0.2**	
KIJV	**Kijevo**	**2.69**	**62**	*e*Pn		**Pb**	**10 32 05.1**	**-2.5**	
KIJV				Sn		**Sb**	**10 32 38.3**	**-2.6**	
LSTV	**Lastovo**	**2.77**	**89**	*e*Pn		**Pn**	**10 32 04.9**	**+0.8**	
RICI	**Ricice**	**3.02**	**75**	*i* Pn		**Pn**	**10 32 09.8**	**+2.3**	
RICI				Sn		**Sb**	**10 32 46.8**	**-3.6**	
MODS	**Modra-Piesok**	**6.31**	**26**	*e*SG		**Sg**	**10 34 49.0**	**+7.3**	
MODS				*e*			10 51 28.1		

WEL 27 10:33:24.5±0.7, 42°S±4°×17°2E±°, h6km±4km, M3.3/26, ML3.4/29, MLv3.3/26, Error ellipse: s-maj=0.0km s-min=0.0km az=128.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.19**	**57**	P	Pg	10 33 29.0	+0.7
DSZ				S	Sg	10 33 31.6	+0.9
INZ	**Inchbonnie**	**0.89**	**187**	P	Pg	10 33 41.6	+0.1
INZ				S	Sg	10 33 52.9	-0.2
MRNZ	**Matariki Terra**	**0.98**	**63**	P	Pg	10 33 43.1	-0.2
MRNZ				S	Sg	10 33 56.1	0.0
THZ	**Tophouse**	**0.98**	**86**	P	Pg	10 33 42.3	-1.1
LTZ	**Lake Taylor**	**1.06**	**152**	P	Pg	10 33 44.3	-0.6
QRZ	**Quartz Range**	**1.24**	**35**	P	Pg	10 33 47.5	-0.8
TKNZ	**Takaka Hill**	**1.31**	**52**	P	Pn	10 33 48.4	-1.0
WVZ	**Waitaha Valley**	**1.38**	**207**	P	Pn	10 33 50.0	-0.4
NNZ	**Nelson**	**1.48**	**65**	P	Pn	10 33 50.6	-1.1
OXZ	**Oxford**	**1.51**	**168**	P	Pn	10 33 51.2	-1.1
GVZ	**Greta Valley S**	**1.55**	**137**	P	Pn	10 33 52.0	-0.7
KHZ	**Kahutara**	**1.55**	**112**	P	Pn	10 33 52.2	-0.5
BSWZ	**Blackbirch Sta**	**1.71**	**86**	P	Pn	10 33 55.3	+0.3
GCSZ	**Gaunt Creek Bo**	**1.74**	**212**	P	Pn	10 33 56.1	+0.7
TUWZ	**Tuamarina**	**1.81**	**77**	P	Pn	10 33 56.2	0.0
RPZ	**Rata Peaks**	**1.91**	**192**	P	Pn	10 33 57.5	-0.2
RACZ	**Rakaia**	**1.92**	**168**	P	Pn	10 33 58.1	+0.3
CMWZ	**Cape Campbell**	**1.96**	**88**	P	Pn	10 33 59.2	+0.8
MQZ	**McQueen's Vall**	**2.02**	**158**	P	Pn	10 33 57.6	-1.5
DUWZ	**D'Urville Isla**	**2.04**	**60**	P	Pn	10 33 59.2	-0.3
WACZ	**Wakanui South**	**2.10**	**175**	P	Pn	10 33 59.6	-0.7
TCW	**Tory Channel**	**2.11**	**73**	P	Pn	10 34 00.5	+0.1
ARCZ	**Arundel**	**2.12**	**188**	P	Pn	10 33 59.9	-0.7
FOZ	**Fox Glacier**	**2.13**	**217**	P	Pn	10 34 00.2	-0.6
OKCZ	**Okains Bay**	**2.16**	**151**	P	Pn	10 34 00.7	-0.5
AKCZ	**Akaroa Harbour**	**2.24**	**155**	P	Pn	10 34 01.2	-1.0
WEL	**Wellington**	**2.45**	**78**	P	Pn	10 34 05.4	+0.3
TMZ	**Timaru**	**2.57**	**189**	P	Pn	10 34 05.8	-1.0
KIW	**Kapiti Island**	**2.68**	**70**	P	Pn	10 34 07.2	-1.1
CAW	**Cannon Point**	**2.71**	**75**	P	Pn	10 34 08.3	-0.4
LBZ	**Lake Benmore**	**2.74**	**202**	P	Pn	10 34 09.0	-0.1
PLWZ	**Palliser**	**2.75**	**85**	P	Pn	10 34 08.4	-0.9
MSWZ	**Moikau Station**	**2.77**	**82**	P	Pn	10 34 08.5	-1.1
PAWZ	**Paruwai Farm**	**2.91**	**82**	P	Pn	10 34 10.7	-0.7
JCZ	**Jackson Bay**	**3.03**	**222**	P	Pn	10 34 13.2	0.0
ODZ	**Otahua Downs**	**3.27**	**192**	P	Pn	10 34 15.1	-1.2
DREZ	**Durham Road**	**3.31**	**38**	P	Pn	10 34 14.8	-2.2
MSZ	**Milford Sound**	**3.89**	**222**	P	Pn	10 34 25.3	+0.3
WPRZ	**Whakapapatarin**	**4.82**	**48**	P	Pn	10 34 40.4	+2.7

ROM 27 10:34:25.2±0.1, 42°.781N±0°.003×13°.117E±0°.005, h9km, ML2.4/35, Error ellipse: s-maj=0.3km s-min=0.2km az=50.0

ISC 27 10:34:25.7±0.8, 42°.79N±0°.02×13°.11E±0°.02, h10km±4km, n48, σ0.68/78, 10C-21D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**2**	⇓P	**Pg**	**10 34 27.2**	**-0.5**
NRCA				S	**Sg**	**10 34 28.1**	**-1.1**
NRCA				AML	AML		
	comp=E,60650μm,0.5s						
NRCA				AML	AML		
	comp=N,29750μm,0.4s						
NRCA				AML	AML		
	comp=N,29700μm,0.4s						
NRCA				AML	AML		
	comp=E,60700μm,0.5s						
NRCA				AML	AML		
	comp=E,66300μm,0.5s						
NRCA				AML	AML		
	comp=N,30650μm,0.4s						
T1242	**Castelluccio d**	**0.08**	**59**	⇑P	**Pg**	**10 34 27.8**	**-0.4**
T1242				S	**Sg**	**10 34 29.0**	**-0.9**
T1242				AML	AML		
	comp=N,26450μm,1.6s						
T1242				AML	AML		
	comp=E,19100μm,0.3s						
T1242				AML	AML		
	comp=N,26450μm,1.6s						
T1242				AML	AML		
	comp=N,26300μm,1.6s						
T1242				AML	AML		
	comp=E,19300μm,0.3s						
T1202	**Accumoli, Fraz**	**0.12**	**136**	⇓P	**Pg**	**10 34 28.4**	**-0.2**
T1202				S	**Sg**	**10 34 30.8**	**+0.1**
T1202				AML	AML		
	comp=E,7260μm,1.3s						
T1202				AML	AML		
	comp=N,8695μm,0.3s						
T1202				AML	AML		
	comp=E,7255μm,1.3s						
T1202				AML	AML		
	comp=N,8690μm,0.3s						
T1216	**Preci, Frazion**	**0.12**	**326**	⇓P	**Pg**	**10 34 28.8**	**+0.1**
T1216				S	**Sg**	**10 34 30.7**	**0.0**
T1216				AML	AML		
	comp=E,8430μm,1.1s						
T1216				AML	AML		
	comp=E,8435μm,1.1s						
T1216				AML	AML		
	comp=N,6770μm,1.4s						
T1216				AML	AML		
	comp=E,8440μm,1.1s						
T1216				AML	AML		
	comp=N,6765μm,1.4s						
MC2	**Monte Cornacci**	**0.14**	**25**	⇑P	**Pg**	**10 34 29.0**	**0.0**
MC2				S	**Sg**	**10 34 31.9**	**+0.6**
T1217	**Poggiodomo (PG**	**0.15**	**240**	⇓P	**Pg**	**10 34 29.4**	**+0.3**
T1217				S	**Sg**	**10 34 31.6**	**0.0**
T1217				AML	AML		
	comp=N,3795μm,0.4s						
T1217				AML	AML		
	comp=E,2100μm,1.5s						
T1217				AML	AML		
	comp=N,3798μm,0.4s						
T1215	**Vallo di Nera,**	**0.18**	**274**	⇓P	**Pg**	**10 34 29.9**	**+0.3**
T1215				S	**Sg**	**10 34 33.3**	**+1.1**
T1215				AML	AML		
	comp=E,1485μm,0.3s						
T1215				AML	AML		
	comp=E,1510μm,0.3s						
T1215				AML	AML		
	comp=E,1485μm,0.3s						
T1215				AML	AML		
	comp=N,1745μm,0.1s						
T1215				AML	AML		
	comp=N,1710μm,0.2s						
T1215				AML	AML		
	comp=E,1510μm,0.3s						
T1204	**Amatrice, Fraz**	**0.19**	**127**	P	**Pg**	**10 34 29.8**	**+0.1**
T1204				S	**Sg**	**10 34 32.8**	**+0.2**
T1204				AML	AML		
	comp=E,2290μm,0.8s						
T1204				AML	AML		
	comp=N,1354μm,0.6s						
T1204				AML	AML		
	comp=E,2295μm,0.8s						
T1204				AML	AML		
	comp=N,1356μm,0.6s						
LNSS	**Leonessa**	**0.19**	**196**	⇓P	**Pg**	**10 34 29.9**	**+0.1**
LNSS				S	**Sg**	**10 34 33.0**	**+0.4**
LNSS				AML	AML		
	comp=N,3070μm,0.4s						
LNSS				AML	AML		
	comp=E,2405μm,0.4s						
LNSS				AML	AML		
	comp=N,3075μm,0.4s						
T1241	**Roccafluvione,**	**0.24**	**74**	⇑P	**Pg**	**10 34 30.8**	**+0.1**
T1241				S	**Sg**	**10 34 34.8**	**+0.7**
T1241				AML	AML		
	comp=E,2135μm,0.7s						
T1241				AML	AML		
	comp=N,1535μm,0.6s						
T1241				AML	AML		
	comp=E,2185μm,0.7s						
T1241				AML	AML		
	comp=N,1380μm,0.6s						
FDMO	**Fiordimonte**	**0.25**	**356**	⇓P	**Pg**	**10 34 31.0**	**+0.2**
FDMO				S	**Sb**	**10 34 35.4**	**+1.2**
FDMO				AML	AML		
	comp=N,1730μm,0.2s						
FDMO				AML	AML		
	comp=N,1735μm,0.2s						
FDMO				AML	AML		
	comp=E,1430μm,0.2s						
AM05	**Amandola Campo**	**0.26**	**43**	AML	AML		
	comp=E,1320μm,0.5s						
AM05				AML	AML		
	comp=E,333μm,0.4s						
AM05				AML	AML		
	comp=N,379μm,0.6s						
AM05				AML	AML		
	comp=N,1520μm,0.6s						
CESI	**CESI - Serrava**	**0.27**	**325**	⇓P	**Pg**	**10 34 31.4**	**+0.4**
CESI				S	**Sb**	**10 34 36.1**	**-1.1**
CESI				AML	AML		
	comp=N,3370μm,0.4s						
CESI				AML	AML		
	comp=E,1390μm,0.9s						
RM33	**Pellescritta (**	**0.29**	**165**	⇓P	**Pg**	**10 34 31.5**	**0.0**
RM33				S	**Sg**	**10 34 36.0**	**+0.6**
RM33				AML	AML		
	comp=E,788μm,0.2s						
RM33				AML	AML		
	comp=N,856μm,0.3s						
RM33				AML	AML		
	comp=N,856μm,0.3s						
RM33				AML	AML		
	comp=E,788μm,0.2s						
CSP1	**Cessapalombo**	**0.31**	**13**	⇑P	**Pg**	**10 34 32.2**	**+0.2**
CSP1				S	**Sb**	**10 34 37.3**	**-1.3**
CSP1				AML	AML		
	comp=E,1420μm,1.4s						
CSP1				AML	AML		
	comp=N,1238μm,0.5s						
CSP1				AML	AML		
	comp=E,1421μm,1.4s						
CSP1				AML	AML		
	comp=N,1236μm,0.5s						
GUMA	**Gualdo di Mace**	**0.32**	**31**	P	**Pb**	**10 34 32.5**	**-1.0**
GUMA				S	**Sb**	**10 34 38.1**	**-0.6**
GUMA				AML	AML		
	comp=E,3565μm,0.5s						
GUMA				AML	AML		
	comp=E,3260μm,0.5s						
GUMA				AML	AML		
	comp=N,4765μm,0.4s						
GUMA				AML	AML		
	comp=N,3695μm,0.3s						
ARRO	**Arrone**	**0.33**	**231**	P	**Pg**	**10 34 32.5**	**+0.2**
ARRO				S	**Sb**	**10 34 38.1**	**-0.9**
ARRO				AML	AML		
	comp=E,482μm,1.3s						
ARRO				AML	AML		
	comp=N,588μm,0.8s						
CAMP	**Campotosto**	**0.33**	**139**	⇓P	**Pg**	**10 34 32.2**	**-0.1**
CAMP				S	**Sg**	**10 34 37.2**	**+0.4**
CAMP				AML	AML		
	comp=N,420μm,0.5s						
CAMP				AML	AML		
	comp=E,516μm,1.1s						
TERO	**Teramo**	**0.40**	**114**	⇓P	**Pg**	**10 34 33.3**	**-0.2**
TERO				S	**Sg**	**10 34 39.1**	**+0.4**
TERO				AML	AML		
	comp=E,580μm,0.5s						
TERO				AML	AML		
	comp=N,686μm,0.4s						
ASSB	**Assisi San Ben**	**0.42**	**307**	⇓P	**Pg**	**10 34 34.1**	**+0.2**
ASSB				S	**Sb**	**10 34 40.9**	**-0.7**
ASSB				AML	AML		
	comp=E,634μm,0.4s						
ASSB				AML	AML		
	comp=N,586μm,0.5s						
OFFI	**Offida**	**0.45**	**71**	P	**Pb**	**10 34 35.4**	**-0.3**
OFFI				S	**Sb**	**10 34 42.8**	**+0.4**
OFFI				AML	AML		
	comp=N,1225μm,1.6s						
OFFI				AML	AML		
	comp=E,946μm,0.6s						
GIGS	**Gran Sasso**	**0.48**	**135**	⇑P	**Pg**	**10 34 34.7**	**-0.3**
GIGS				S	**Sg**	**10 34 41.5**	**+0.3**
GIGS				AML	AML		
	comp=N,87μm,1.6s						
GIGS				AML	AML		
	comp=E,106μm,1.6s						
SNTG	**Esanatoglia**	**0.48**	**345**	⇓P	**Pb**	**10 34 35.5**	**-0.8**
SNTG				AML	AML		
	comp=E,304μm,1.3s						
SNTG				AML	AML		
	comp=N,382μm,1.0s						
FIAM	**Fiamignano**	**0.52**	**180**	⇓P	**Pg**	**10 34 35.4**	**-0.3**
FIAM				S	**Sb**	**10 34 43.1**	**-1.4**
FIAM				AML	AML		
	comp=E,244μm,0.6s						
FIAM				AML	AML		
	comp=N,288μm,1.1s						
FIAM				AML	AML		
	comp=N,288μm,1.1s						
FIAM				AML	AML		
	comp=E,244μm,0.6s						
ATCC	**AVT- Casa Cast**	**0.53**	**319**	⇓P	**Pg**	**10 34 36.1**	**+0.2**
ATCC				AML	AML		
	comp=E,836μm,0.3s						
ATCC				AML	AML		
	comp=N,578μm,0.2s						
ATCC				AML	AML		
	comp=E,836μm,0.3s						
EL6	**Elcito**	**0.54**	**359**	⇑P	**Pg**	**10 34 36.3**	**+0.1**
EL6				S	**Sb**	**10 34 46.0**	**+0.8**
EL6				AML	AML		
	comp=E,658μm,1.3s						
EL6				AML	AML		
	comp=N,879μm,0.2s						
FOSV	**Fossato di Vic**	**0.57**	**333**	⇓P	**Pg**	**10 34 36.8**	**+0.1**
FOSV				S	**Sb**	**10 34 47.0**	**+1.1**
FOSV				AML	AML		
	comp=E,312μm,0.5s						
FOSV				AML	AML		
	comp=N,414μm,1.3s						
CING	**Cingoli**	**0.59**	**6**	⇓P	**Pb**	**10 34 38.0**	**-0.1**
CING				AML	AML		
	comp=N,202μm,0.5s						
CING				AML	AML		
	comp=E,216μm,0.7s						
MURB	**Monte Urbino**	**0.64**	**318**	P	**Pb**	**10 34 38.5**	**-0.5**
MURB				S	**Sn**	**10 34 50.0**	**-1.2**
MURB				AML	AML		
	comp=N,757μm,0.3s						
MURB				AML	AML		
	comp=E,1011μm,0.3s						
VCEL	**Villa Celiera**	**0.67**	**126**	⇑P	**Pb**	**10 34 38.7**	**-0.8**
VCEL				S	**Sb**	**10 34 49.0**	**+0.2**
VCEL				AML	AML		
	comp=E,443μm,0.6s						
VCEL				AML	AML		
	comp=N,428μm,1.4s						
VCEL				AML	AML		
	comp=E,444μm,0.6s						
VCEL				AML	AML		
	comp=N,428μm,1.4s						
PP3	**Marolino**	**0.69**	**32**	S	**Sn**	**10 34 52.0**	**-0.3**
ATFO	**Monte Foce - G**	**0.70**	**326**	⇓P	**Pb**	**10 34 39.5**	**-0.6**
ATFO				AML	AML		
	comp=N,259μm,0.2s						
ATFO				AML	AML		
	comp=N,258μm,0.2s						
ATFO				AML	AML		
	comp=E,238μm,0.8s						
ARVD	**Arcevia**	**0.72**	**350**	⇓P	**Pb**	**10 34 39.8**	**-0.5**
ARVD				S	**Sn**	**10 34 52.0**	**-1.1**
ARVD				AML	AML		
	comp=E,116μm,0.9s						
ARVD				AML	AML		
	comp=N,123μm,0.8s						
MGAB	**Montegabbione**	**0.75**	**280**	⇑P	**Pn**	**10 34 42.9**	**+0.6**
T0110	**Collepietro**	**0.75**	**138**	P	**Pg**	**10 34 39.6**	**-0.4**
T0110				S	**Sb**	**10 34 51.0**	**-0.1**
T0110				AML	AML		
	comp=N,324μm,0.5s						
T0110				AML	AML		
	comp=E,346μm,1.6s						
ATVO	**AVT- Monte Val**	**0.79**	**319**	⇑P	**Pg**	**10 34 40.6**	**-0.2**
ATVO				AML	AML		
	comp=E,109μm,0.4s						
ATVO				AML	AML		
	comp=N,109μm,0.4s						
ATVO				AML	AML		
	comp=N,109μm,0.4s						
ATVO				AML	AML		
	comp=E,108μm,0.4s						
PIEI	**Pieia**	**0.86**	**331**	P	**Pg**	**10 34 41.7**	**-0.5**
PIEI				AML	AML		
	comp=N,107μm,0.2s						
PIEI				AML	AML		
	comp=E,106μm,1.6s						
MPAG	**Monte Paganucc**	**0.88**	**343**	⇑P	**Pg**	**10 34 42.4**	**-0.2**
MPAG				AML	AML		
	comp=N,120μm,1.4s						
MPAG				AML	AML		
	comp=E,123μm,0.5s						
FSSB	**Fossombrone**	**0.94**	**345**	⇓P	**Pb**	**10 34 43.9**	**-0.1**
FSSB				S	**Sn**	**10 34 59.0**	**+0.6**
FSSB				AML	AML		
	comp=N,592μm,0.3s						
FSSB				AML	AML		
	comp=E,458μm,0.4s						
CAFI	**Castiglion Fio**	**1.00**	**303**	P	**Pb**	**10 34 44.9**	**-0.1**
CAFI				AML	AML		
	comp=N,80μm,0.7s						
CAFI				AML	AML		
	comp=E,75μm,0.7s						
PE3	**Peglio**	**1.01**	**334**	⇓P	**Pn**	**10 34 45.6**	**-0.3**
PE3				AML	AML		
	comp=E,23μm,0.0s						
PE3				AML	AML		
	comp=N,28μm,0.0s						
TOLF	**Tolfa**	**1.10**	**229**	S	**Sn**	**10 35 03.0**	**+0.7**
DUGI	**Dugi Otok**	**1.86**	**49**	*e*Pn	**Pb**	**10 34 59.3**	**-0.4**
MORI	**Morici**	**2.18**	**59**	*e*Pn	**Pb**	**10 35 05.6**	**+0.5**
MORI				Sn	**Sb**	**10 35 32.4**	**+0.2**
NVLJ	**Novalja**	**2.19**	**35**	*e*Pn	**Pn**	**10 35 02.6**	**+0.6**
NVLJ				Sn	**Sn**	**10 35 29.3**	**+0.2**
KIJV	**Kijevo**	**2.69**	**62**	*e*Pn	**Pb**	**10 35 11.8**	**-2.1**
LSTV	**Lastovo**	**2.78**	**89**	*e*Pn	**Pn**	**10 35 11.7**	**+1.4**
RICI	**Ricice**	**3.03**	**75**	*e*Pn	**Pn**	**10 35 15.2**	**+1.6**

SOME 27 10:35:05.6, 40°.80N×70°.50E, h0km
KRNET 27 10:35:12.2±0.1, 41°.11N×70°.20E, h10km, mb2.4

ISC 27 10:35:12.8±0.9, 41°.07N±0°.03×70°.21E±0°.04, h10km, n10, σ1.96/18, 10C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.73**	**290**	⇑*i*P	**Pg**	**10 35 25.7**	**-1.2**
TAS				⇑*i*S	**Sg**	**10 35 35.9**	**-0.6**
	baz=88						
TRKS	**Terek-Say**	**0.84**	**57**	⇑*i*P	**Pg**	**10 35 27.8**	**-1.2**
TRKS				⇑*i*S	**Sg**	**10 35 38.8**	**-1.1**
	baz=64						
IUG	**Iuzhnay**	**1.08**	**353**	*e*P	**Pn**	**10 35 33.1**	**-1.0**
IUG				*e*S	**Sn**	**10 35 54.8**	**+5.6**
	107nm,0.2s						
BTK	**Batken**	**1.12**	**155**	⇑*i*P	**Pb**	**10 35 34.0**	**-0.2**
BTK				⇑*i*S	**Sg**	**10 35 49.7**	**+1.0**
	baz=56						
DRK	**Karamyk**	**2.00**	**142**	⇓*i*P	**Pb**	**10 35 49.0**	**-0.5**
DRK				⇓*i*S	**Sb**	**10 36 16.1**	**+1.5**
	baz=42						
KK31	**Karatay Array**	**2.04**	**6**	Pn	**Pg**	**10 35 50.1**	**-1.8**
	1.4nm,0.3s,baz=193,slow=16,SNR=20						
KK31				⇑Sn	**Sg**	**10 36 19.2**	**+0.8**
	4.9nm,0.6s,baz=183,slow=24,SNR=9.1						
KKAR	**Karatay Array**	**2.04**	**6**	⇑*i*P	**Pb**	**10 35 48.7**	**-1.3**
	baz=6.0						
GAR	**Garm**	**2.07**	**178**	⇑*i*P	**Pb**	**10 35 50.1**	**-0.4**
GAR				⇑*i*S	**Sb**	**10 36 17.7**	**+1.3**
	baz=78						
MRKS	**Merke**	**2.81**	**52**	*e*P	**Pn**	**10 35 59.1**	**+1.3**
MRKS				*e*S	**Sb**	**10 36 38.7**	**+1.2**
	1.0nm,0.1s						
	3.8nm,0.5s						
KSH	**Kashi**	**4.68**	**108**	P	**Pn**	**10 36 20.8**	**-2.7**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						

ROM 27 10:35:13.2±0.1, 42°.798N±0°.006×13°.134E±0°.005, h9km, Md1.1/5, 1C-1D, Error ellipse: s-maj=0.7km s-min=0.4km az=9.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.04**	**338**	P	Pg	10 35 15.0	-0.1
NRCA				S	Sg	10 35 16.2	-0.3
NRCA				AML	AML		
	comp=E,2610μm,0.2s						
NRCA				AML	AML		
	comp=N,879μm,0.1s						
NRCA				END			
T1242	**Castelluccio d**	**0.06**	**59**	P	Pg	10 35 15.5	+0.1
T1242				S	Sg	10 35 17.2	+0.2
T1242				AML	AML		
	comp=E,694μm,1.3s						
T1242				AML	AML		
	comp=N,1044μm,1.6s						
T1242				AML	AML		
	comp=N,1039μm,1.6s						
T1242				END			
T1202	**Accumoli, Fraz**	**0.12**	**145**	P	Pg	10 35 16.3	+0.3
T1202				END			
MC2	**Monte Cornacci**	**0.12**	**20**	P	Pg	10 35 16.9	+0.7
MC2				END			

T1217	**Poggiodomo (PG**	**0.17**	**240**	P	Pg	10 35 17.3	+0.4
T1204	**Amatrice, Fraz**	**0.18**	**132**	P	Pg	10 35 17.6	+0.5
T1204				S	Sg	10 35 21.0	+1.3
T1204				END			
T1215	**Vallo di Nera,**	**0.20**	**271**	P	Pg	10 35 18.1	+0.8
T1215				S	Sg	10 35 21.5	+1.4
GUMA	**Gualdo di Mace**	**0.30**	**29** ⇓	P	Pb	10 35 22.1	+1.3
T1246	**Crognaleto (TE**	**0.34**	**129**	P	Pg	10 35 20.4	+0.4
T1246				S	Sb	10 35 25.9	-1.0
PE3	**Peglio**	**1.01**	**333** ⇑	P	Pb	10 35 33.0	+0.2
PE3				AML	AML		
	comp=E,23μm,0.0s						
PE3				AML	AML		
	comp=N,28μm,0.0s						

ROM 27 10:37:41.6±0.9, **42°.84N**±0°.09×**13°.24E**±0°.07, **h29**km±6km, **ML1.2/2, 1D, Error ellipse: s-maj=9.9km s-min=5.1km az=342.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.03**	**259**	P	Pb	10 37 46.3	-0.4
T1242				AML	AML		
	comp=E,272μm,0.1s						
T1242				AML	AML		
	comp=N,312μm,0.6s						
T1242				AML	AML		
	comp=E,272μm,0.1s						
MC2	**Monte Cornacci**	**0.09**	**334**	P	Pb	10 37 46.8	-0.2
MC2				S	Sb	10 37 50.6	-0.2
MMO1	**Montemonaco**	**0.09**	**44**	P	Pb	10 37 46.9	0.0
MMO1				S	Sb	10 37 51.3	+0.8
NRCA	**Norcia**	**0.09**	**269**	P	Pb	10 37 47.3	+0.4
NRCA				AML	AML		
	comp=E,320μm,0.2s						
NRCA				AML	AML		
	comp=N,346μm,0.1s						
T1202	**Accumoli, Fraz**	**0.13**	**186**	AML	AML		
T1202	comp=N,113μm,1.6s			AML	AML		
	comp=E,126μm,1.6s						
T1204	**Amatrice, Fraz**	**0.17**	**161** ⇓	P	Pn	10 37 52.6	+4.2
T1243	**Rocca Santa Ma**	**0.20**	**132**	S	Sb	10 37 57.0	+4.8
CSP1	**Cessapalombo**	**0.26**	**354**	P	Pn	10 37 52.8	+3.2
CSP1				S	Sn	10 37 56.8	+2.1

*IDC **27** 10:38:11.2±1.1, 20°.91N×144°.65E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=41.8km s-min=22.4km az=92.0*

ISC 27 10:38:16.4±1.0, **20°.9N**±0°.2×**144°.6E**±0°.3, **h35**km, **n13, σ0s80/7, mb3.8/7, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.94**	**93**	T	T	11 04 21.2	
	baz=280,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**20.95**	**89**	T	T	11 04 22.5	
	baz=277,slow=75,SNR=130						
H11S1	**WAKE ISLAND Hy**	**20.95**	**93**	T	T	11 04 22.1	
	baz=280,slow=75,SNR=42						
H11N2	**WAKE ISLAND Hy**	**20.95**	**89**	T	T	11 04 22.2	
	baz=277,slow=75,SNR=73						
H11S2	**WAKE ISLAND Hy**	**20.96**	**93**	T	T	11 04 22.7	
	baz=280,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**20.96**	**89**	T	T	11 04 23.4	
	baz=277,slow=75,SNR=80						
KSRS	**Korea Array**	**21.93**	**322**	P	**P**	**10 43 07.5**	**+0.7**
	2.8nm,0.9s,baz=146,slow=8.6,SNR=9.8						
	2.8nm,0.9s						
KLR	**Kul'dur**	**30.06**	**343**	P	**P**	**10 44 21.1**	**-1.2**
	1.7nm,0.7s,baz=169,slow=6.9,SNR=4.0						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**41.82**	**195**	P	**P**	**10 46 03.2**	**+0.2**
	0.6nm,0.7s,baz=14,slow=8.6,SNR=4.8						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**45.51**	**194**	P	**P**	**10 46 32.2**	**-0.5**
	0.5nm,0.8s,baz=7.3,slow=8.1,SNR=3.4						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**62.14**	**27**	P	**P**	**10 48 34.1**	**+0.4**
	0.7nm,0.9s,baz=256,slow=5.6,SNR=3.5						
	0.7nm,0.9s						
NVAR	**Mina Array Bea**	**82.60**	**52**	P	**P**	**10 50 36.6**	**0.0**
	0.8nm,0.9s,baz=276,slow=7.2,SNR=5.7						
	0.8nm,0.9s						
AKASG	**Malin Array Be**	**88.91**	**325**	P	**P**	**10 51 07.8**	**+0.6**
	0.7nm,0.6s,baz=42,slow=4.3,SNR=2.5						
	0.7nm,0.6s						

*NOU **27** 10:40:15.7, 32°.96S×176°.51W, h30km, mb4.9/29, South of Kermadec Islands*
*NEIC **27** 10:40:19.8±1.1, 32°.61S±0°.04×178°.01W±0°.10, h10km±1km, mb4.9/32, Error ellipse: s-maj=14.6km s-min=6.6km az=254.0*
*IDC **27** 10:40:21.5±0.8, 32°.44S×178°.17W, h0km, mb4.4/8, mbtmp4.5/13, ML4.9/4, MS4.3/40, Error ellipse: s-maj=24.0km s-min=18.7km az=107.0*
*WEL **27** 10:40:22.8±1.1, 32°.S±10°×17°.8W±3°.2, h33km, M4.9/13, mB5.2/7, ML5.3/13, MLv5.2/13, Mw(mB)4.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=107.3*
*GCMT **27** 10:40:28.2±0.4, 32°.49S±0°.03×177°.70W±0°.03, h18km±1km, MW5.0/73, Moment Tensor Solution. s24,c28; s73,c102; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.79±.23; Mθθ-0.10±.13; Mφφ-2.69±.16; Mrθ0.55±.33; Mrφ-0.98±.09; Mθφ2.42±.34; Best double couple: M○3.82100×10^16^ NP1:φs15.00000°, δ65.00000°, λ86.00000°. NP2: φs203.00000°, δ25.00000°, λ98.00000°. Principal axes: T 3.7130, Plg70.0000°, Azm277.0000°; N 0.2140, Plg3.0000°, Azm16.0000°; P -3.9300, Plg20.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 10:40:22.4±0.4, **32°.60S**±0°.04×**177°.88W**±0°.06, **h20**km, **n211, σ2s23/181, mb4.9/26, MS4.4/40, 1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.33**	**359**	P	**Pn**	**10 41 11.1**	**-2.2**
GLKZ				S	**Sn**	**10 41 48.0**	**-4.3**
RAO	**Raoul Island**	**3.34**	**359**	Pn	**Pn**	**10 41 13.0**	**-0.5**
	169nm,0.3s,baz=71,slow=22,SNR=4.8						
RAO				Sn	**Sn**	**10 41 50.9**	**-1.7**
	396nm,0.3s,baz=77,slow=23,SNR=6.9						
	394nm,0.3s						
RAO	**Raoul Island**	**3.34**	**359**	Pn	**Pn**	**10 41 12.2**	**-1.3**
RIZ	**Raoul Island**	**3.35**	**359**	P	**Pn**	**10 41 11.3**	**-2.2**
RIZ				S	**Sn**	**10 41 49.7**	**-3.1**
MXZ	**Matakaoa Point**	**5.85**	**211**	Pn	**Pn**	**10 41 45.0**	**-3.0**
MXZ	**Matakaoa Point**	**5.85**	**211**	P	**Pn**	**10 41 45.9**	**-2.1**
MXZ				S	**Sn**	**10 42 54.4**	**-0.1**
WMGZ	**Waiomatatini S**	**6.03**	**209**	P	**Pn**	**10 41 49.5**	**-0.9**
WMGZ				S	**Sn**	**10 42 59.9**	**+1.2**
HAZ	**Te Kaha**	**6.25**	**213**	P	**Pn**	**10 41 52.7**	**-0.7**
HAZ				S	**Sn**	**10 43 04.8**	**+0.6**
PUZ	**Puketiti**	**6.30**	**209**	P	**Pn**	**10 41 52.6**	**-1.6**
PUZ				S	**Sn**	**10 43 02.8**	**-2.9**
WSRZ	**White Island S**	**6.36**	**218**	P	Pn	10 42 01.4	+6.4
RUGZ	**Raukumara Rang**	**6.47**	**213**	P	**Pn**	**10 41 56.1**	**-0.4**
RUGZ				S	**Sn**	**10 43 10.0**	**+0.1**
TWGZ	**Tauwhareparae**	**6.51**	**210**	P	**Pn**	**10 41 56.3**	**-0.8**
TWGZ				S	**Sn**	**10 43 10.1**	**-0.6**
CNGZ	**Carnagh Statio**	**6.68**	**207**	P	**Pn**	**10 41 57.7**	**-1.6**
TKGZ	**Te Karaka**	**6.79**	**210**	P	**Pn**	**10 41 59.3**	**-1.5**
MWZ	**Matawai**	**6.84**	**212**	P	**Pn**	**10 41 59.4**	**-2.2**
URZ	**Urewera**	**6.97**	**215**	Pn	**Pn**	**10 42 03.4**	**+0.1**
	6.3nm,0.3s,baz=347,slow=3.0,SNR=37						
URZ				Sn	**Sn**	**10 43 17.9**	**-4.1**
	11nm,0.3s,baz=359,slow=1.9,SNR=14						
	32nm,0.5s						
URZ	**Urewera**	**6.97**	**215**	Pn	**Pn**	**10 42 02.1**	**-1.3**
URZ	**Urewera**	**6.97**	**215**	P	**Pn**	**10 42 01.9**	**-1.4**
URZ	**Urewera**	**6.97**	**215**	P	**Pn**	**10 42 02.8**	**-0.5**
RAGZ	**Rawiri**	**7.02**	**212**	P	**Pn**	**10 42 01.9**	**-2.2**
RIGZ	**Rimuhau**	**7.05**	**209**	P	**Pn**	**10 42 01.9**	**-2.5**
MKAZ	**Moumakai**	**7.27**	**230**	P	**Pn**	**10 42 06.2**	**-1.3**
OUZ	**Omahuta**	**7.55**	**247**	P	**Pn**	**10 42 15.3**	**+3.9**
HUTZ	**Huka**	**7.76**	**218**	P	Pn	10 41 59.0	-15
BKZ	**Black Stump Fm**	**7.98**	**213**	Pn	**Pn**	**10 42 15.2**	**-2.1**
OTVZ	**Oturere**	**8.38**	**217**	P	**Pn**	**10 42 20.7**	**-2.1**
BFZ	**Birch Farm**	**9.34**	**209**	Pn	**Pn**	**10 42 33.2**	**-2.7**
TUWZ	**Tuamarina**	**10.97**	**214**	Pn	**Pn**	**10 42 55.1**	**-3.0**
NNZ	**Nelson**	**11.08**	**217**	Pn	**Pn**	**10 42 57.3**	**-2.4**
QRZ	**Quartz Range**	**11.25**	**220**	P	**Pn**	**10 43 02.2**	**+0.2**
KHZ	**Kahutara**	**11.93**	**212**	P	**Pn**	**10 43 07.2**	**-4.0**
LTZ	**Lake Taylor**	**12.80**	**215**	Pn	**Pn**	**10 43 20.8**	**-2.4**
RPZ	**Rata Peaks**	**14.09**	**215**	Pn	**Pn**	**10 43 37.7**	**-3.1**
	1.6nm,0.3s,baz=75,slow=3.8,SNR=8.9						
RPZ				Sn	Sn	10 46 03.8	-13
	1.8nm,0.3s,baz=310,slow=23,SNR=10.0						
MSVF	**Nonsavu**	**15.26**	**345**	Pn	**Pn**	**10 43 54.7**	**-2.1**
	0.3nm,0.3s,baz=135,slow=14,SNR=6.5						
	16nm,1.0s						
MSVF	**Nonsavu**	**15.26**	**345**	Pn	**Pn**	**10 43 54.7**	**-2.1**
MSVF				lAmb	lAmb	10 43 57.3	
	comp=Z,41nm,1.2s						
MSVF	**Nonsavu**	**15.26**	**345**	P	**Pn**	**10 43 57.7**	**+0.9**
WKZ	**Wanaka**	**15.90**	**216**	Pn	**Pn**	**10 44 01.3**	**-3.6**
PINNC	**Pines Island,**	**16.36**	**304**	Pn	**Pn**	**10 44 07.5**	**-3.4**
PINNC				lAmb	lAmb	10 44 11.9	
	comp=Z,49nm,1.2s						
PINNC	**Pines Island,**	**16.36**	**304**	P	**P**	**10 44 18.3**	**+4.6**
MARNC	**Mare, Loyalty**	**16.72**	**308**	Pn	**Pn**	**10 44 13.0**	**-2.6**
YATNC	**Mamie plateau,**	**17.11**	**304**	P	**P**	**10 44 26.7**	**+4.7**
WHZ	**Wether Hill Ro**	**17.19**	**215**	Pn	**Pn**	**10 44 18.4**	**-2.9**
ONTNC	**Ouen Toro**	**17.26**	**303**	Pn	**Pn**	**10 44 18.3**	**-4.0**
ONTNC	**Ouen Toro**	**17.26**	**303**	P	**P**	**10 44 29.6**	**+5.9**
DCZ	**Deep Cove**	**17.29**	**218**	Pn	**Pn**	**10 44 19.2**	**-3.3**
DZM	**Mont Dzumac**	**17.42**	**303**	*e*P	**Pn**	**10 44 24.7**	**+0.3**
	comp=Z,112nm,1.4s						
DZM				*e*LR	LR	10 48 25.2	
	comp=Z,2μm,24.8s						
DZM	**Mont Dzumac**	**17.42**	**303**	P	**Pn**	**10 44 23.7**	**-0.7**
	comp=Z,8.7nm,1.2s,baz=323,slow=20,SNR=1.8						
DZM				LR	LR	10 50 01.3	
	comp=Z,2μm,18.1s,baz=192,slow=34						
DZM	**Mont Dzumac**	**17.42**	**303**	Pn	**Pn**	**10 44 20.8**	**-3.5**
DZM	**Mont Dzumac**	**17.42**	**303**	P	**P**	**10 44 30.7**	**+5.2**
NOUC	**Port Laguerre**	**17.50**	**303**	P	**P**	**10 44 30.2**	**+3.9**
AFI	**Afiamalu**	**19.42**	**18**	P	**Pn**	**10 44 48.3**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=256,slow=4.4,SNR=5.1						
	comp=Z,26nm,0.6s						
AFI	**Afiamalu**	**19.42**	**18**	P	**P**	**10 44 46.2**	**-1.4**
AFI				lAmb	lAmb	10 44 56.4	
	comp=Z,73nm,0.9s						
AFI	**Afiamalu**	**19.42**	**18**	P	P	10 44 39.9	-7.7
RAR	**Rarotonga**	**19.70**	**59**	LR	LR	10 52 38.5	
	comp=Z,711nm,18.3s,baz=234,slow=37						
RAR	**Rarotonga**	**19.70**	**59**	P	**P**	**10 44 49.9**	**-0.6**
KOUNC	**Koumac, New Ca**	**19.93**	**303**	P	**Pn**	**10 44 56.9**	**+2.1**
ARMA	**Armidale**	**26.05**	**267**	P	**P**	**10 45 51.0**	**-3.6**
ARMA				lAmb	lAmb	10 46 02.2	
	comp=Z,35nm,1.4s						
EIDS	**Eidsvold**	**28.03**	**277**	P	**P**	**10 46 13.3**	**+1.0**
	baz=28,SNR=4.1						
EIDS	**Eidsvold**	**28.03**	**277**	P	**P**	**10 46 10.1**	**-2.1**
EIDS				lAmb	lAmb	10 46 22.9	
	comp=Z,54nm,1.9s						
EIDS	**Eidsvold**	**28.03**	**277**	P	**P**	**10 46 14.3**	**+2.0**
PAE	**Paea**	**29.50**	**67**	*e*T	T	11 17 16.0	
	comp=Z,1.1nm,0.3s						
PPT2	**Papeete2**	**29.55**	**66**	*e*S	**S**	**10 51 21.6**	**+1.7**
	comp=Z,98nm,24.0s						
PPT2				*e*LR	LR	10 54 12.0	
	comp=Z,465nm,20.5s						
PPT	**Papeete**	**29.56**	**66**	LR	LR	10 57 06.4	
	comp=Z,626nm,18.3s,baz=208,slow=34						
RMQ	**Roma**	**29.58**	**273**	P	**P**	**10 46 27.7**	**+1.6**
	baz=30,SNR=9.4						
RMQ	**Roma**	**29.58**	**273**	P	**P**	**10 46 29.5**	**+3.4**
CMSA	**Cobar Meteorol**	**30.80**	**262**	P	**P**	**10 46 37.7**	**+0.9**
	baz=31,SNR=5.2						
CMSA	**Cobar Meteorol**	**30.80**	**262**	P	**P**	**10 46 39.4**	**+2.6**
QLP	**Quilpie**	**33.37**	**270**	P	**P**	**10 47 00.2**	**+0.9**
	baz=34,SNR=6.0						
QLP	**Quilpie**	**33.37**	**270**	P	**P**	**10 47 02.1**	**+2.7**
	comp=Z,27nm,1.6s						
STKA	**Stephens Creek**	**34.14**	**260**	P	**P**	**10 47 08.2**	**+2.1**
	comp=Z,1.5nm,0.6s,baz=114,slow=9.4,SNR=3.3						
STKA				LR	LR	11 00 58.6	
	comp=Z,1μm,18.1s,baz=85,slow=36						
	comp=Z,1.5nm,0.6s						
CTA	**Charters Tower**	**34.31**	**282**	LR	LR	11 00 39.2	
	comp=Z,716nm,18.1s,baz=94,slow=36						
CTA	**Charters Tower**	**34.31**	**282**	P	**P**	**10 47 09.9**	**+2.2**
CTAO	**Charters Tower**	**34.31**	**282**	P	**P**	**10 47 05.0**	**-2.7**
CTAO	**Charters Tower**	**34.31**	**282**	P	**P**	**10 47 09.8**	**+2.1**
INKA	**Innaminka**	**35.94**	**267**	P	**P**	**10 47 24.2**	**+2.6**
MTSU	**Mount Surprise**	**36.87**	**284**	P	**P**	**10 47 31.4**	**+1.7**
	baz=37,SNR=12						
LCRK	**Leigh Creek**	**37.30**	**261**	P	**P**	**10 47 34.5**	**+1.3**
	comp=Z,63nm,1.0s						
BBOO	**Buckleboo**	**38.52**	**257**	P	**P**	**10 47 40.9**	**-2.7**
BBOO				lAmb	lAmb	10 48 24.3	
	comp=Z,66nm,1.6s						
QIS	**Mount Isa**	**39.63**	**277**	P	**P**	**10 47 53.9**	**+1.0**
	baz=40,SNR=8.7						
QIS	**Mount Isa**	**39.63**	**277**	P	**P**	**10 47 54.1**	**+1.2**
KRVT	**Keravat (AS076**	**39.81**	**309**	P	**P**	**10 47 52.6**	**-1.8**
	comp=Z,80nm,0.7s,baz=68,slow=1.8,SNR=14						
COEN	**Coen**	**40.02**	**288**	P	**P**	**10 47 57.8**	**+1.6**
	baz=40,SNR=8.9						
COEN	**Coen**	**40.02**	**288**	P	**P**	**10 47 53.3**	**-2.9**
COEN				lAmb	lAmb	10 48 17.8	
	comp=Z,33nm,1.4s						
OOD	**Oodnadatta**	**40.18**	**264**	P	**P**	**10 47 58.9**	**+1.5**
MULG	**Mulgathing**	**40.80**	**260**	P	**P**	**10 48 02.8**	**+0.3**
TAOE	**Nuku Hiva Isla**	**42.12**	**64**	*e*S	**S**	**10 54 34.4**	**+2.0**
	comp=Z,130nm,24.1s						
TAOE				*e*LR	LR	10 59 59.9	
	comp=Z,265nm,21.4s						
AS31	**Alice Springs**	**43.14**	**269**	P	**P**	**10 48 18.7**	**-3.1**
ASAR	**Alice Springs**	**43.14**	**269**	P	**P**	**10 48 21.6**	**-0.1**
	comp=Z,5.5nm,0.4s,baz=110,slow=7.9,SNR=87						
	comp=Z,5.5nm,0.4s						
ASAR	**Alice Springs**	**43.14**	**269**	P	**P**	**10 48 18.0**	**-3.8**
WR0	**Warramunga Arr**	**44.15**	**274**	P	**P**	**10 48 20.8**	**-1.9**
WR0				lAmb	lAmb	10 48 31.1	
	comp=Z,24nm,1.1s						
WB2	**Warramunga Arr**	**44.32**	**274**	P	**P**	**10 48 28.2**	**-3.1**
WRAB	**Tennant Creek**	**44.32**	**274**	P	**P**	**10 48 28.7**	**-2.6**
WRAB	**Tennant Creek**	**44.32**	**274**	P	**P**	**10 48 31.2**	**-0.1**
WRA	**Warramunga Arr**	**44.33**	**274**	P	**P**	**10 48 30.9**	**-0.4**
	comp=Z,10nm,0.4s,baz=114,slow=7.7,SNR=266						
WRA				S	**S**	**10 55 08.0**	**+3.3**
	comp=Z,1.8nm,1.1s,baz=115,slow=15,SNR=5.5						
WRA				LR	LR	11 06 50.0	
	comp=Z,599nm,18.5s,baz=120,slow=36						
	comp=Z,10nm,0.4s						
WRA	**Warramunga Arr**	**44.33**	**274**	P	**P**	**10 48 28.4**	**-2.9**
WB0	**Warramunga Arr**	**44.36**	**275**	P	**P**	**10 48 28.9**	**-2.7**
FORT	**Forrest**	**45.62**	**257**	P	**P**	**10 48 41.3**	**-0.2**
	baz=46,SNR=12						
FORT	**Forrest**	**45.62**	**257**	P	**P**	**10 48 37.9**	**-3.6**
FORT	**Forrest**	**45.62**	**257**	P	**P**	**10 48 41.3**	**-0.2**
VNDA	**Vanda**	**45.92**	**186**	LR	LR	11 04 29.4	
	comp=Z,280nm,20.7s,baz=10,slow=31						
WRKA	**Warakurna**	**47.34**	**265**	P	**P**	**10 48 54.3**	**-0.8**
	baz=48,SNR=61						
WRKA	**Warakurna**	**47.34**	**265**	P	**P**	**10 48 54.5**	**-0.6**
KDU	**Kakadu**	**49.43**	**282**	P	**P**	**10 49 11.6**	**+0.3**
	baz=50,SNR=6.2						
KDU	**Kakadu**	**49.43**	**282**	P	**P**	**10 49 10.8**	**-0.4**
MTN	**Manton Dam**	**50.46**	**281**	P	**P**	**10 49 16.0**	**-3.1**
MTN				lAmb	lAmb	10 49 19.6	
	comp=Z,26nm,1.2s						
MTN	**Manton Dam**	**50.46**	**281**	P	**P**	**10 49 19.4**	**+0.3**
KNRA	**Kununurra**	**51.01**	**276**	P	**P**	**10 49 23.3**	**+0.2**
	baz=51,SNR=8.1						
KNRA	**Kununurra**	**51.01**	**276**	P	**P**	**10 49 20.0**	**-3.2**
KNRA				lAmb	lAmb	10 49 24.4	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.49**	**272**	P	**P**	**10 49 34.3**	**+0.1**
	baz=53,SNR=6.1						
FITZ	**Fitzroy Crossi**	**52.49**	**272**	P	**P**	**10 49 30.1**	**-4.2**
FITZ				lAmb	lAmb	10 49 36.0	
	comp=Z,28nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.49**	**272**	P	**P**	**10 49 34.5**	**+0.2**
CASY	**Casey**	**53.26**	**209**	P	**P**	**10 49 38.1**	**-1.0**
KLBR	**Kellerberrin**	**53.76**	**253**	P	**P**	**10 49 43.6**	**+0.1**
	baz=54,SNR=6.2						
MEEK	**Meekatharra**	**54.82**	**259**	P	**P**	**10 49 50.3**	**-1.1**
	baz=55,SNR=3.4						
FAKI	**Fak Fak**	**55.22**	**292**	P	**P**	**10 49 52.2**	**-2.1**
FAKI	**Fak Fak**	**55.22**	**292**	P	P	10 50 00.6	+6.3
PSA00	**Pilbara Seismi**	**55.84**	**265**	P	**P**	**10 49 55.5**	**-3.2**
PSA00				lAmb	lAmb	10 49 58.7	
	comp=Z,21nm,1.8s						
SIJI	**Sorong**	**57.26**	**293**	LR	LR	11 14 48.5	
	comp=Z,196nm,19.1s,baz=110,slow=36						
QSPA	**South Pole Qui**	**57.51**	**180**	P	**P**	**10 50 13.9**	**+3.8**
	comp=Z,3.2nm,0.9s,baz=318,slow=0.9,SNR=6.3						
QSPA				LR	LR	11 11 58.3	
	comp=Z,318nm,19.8s,baz=38,slow=33						
	comp=Z,3.2nm,0.9s						
QSPA	**South Pole Qui**	**57.51**	**180**	P	**P**	**10 50 09.4**	**-0.7**
QSPA				lAmb	lAmb	10 51 00.0	
	comp=Z,16nm,1.1s						
BATI	**Baumata**	**58.06**	**279**	LR	LR	11 15 50.3	
	comp=Z,382nm,18.5s,baz=148,slow=37						
GUMO	**Guam**	**58.13**	**316**	LR	LR	11 15 13.6	
	comp=Z,86nm,18.1s,baz=96,slow=36						
RPN	**Rapa Nui**	**58.77**	**104**	LR	LR	11 12 37.8	
	comp=Z,372nm,18.0s,baz=259,slow=33						
SANI	**Sanana**	**60.72**	**288**	P	**P**	**10 50 34.4**	**+1.6**
KAPI	**Kappang**	**64.12**	**281**	LR	LR	11 19 32.6	
	comp=Z,459nm,18.7s,baz=101,slow=37						
DAV	**Davao City (W)**	**66.66**	**296**	LR	LR	11 19 44.2	
	comp=Z,42nm,19.5s,baz=168,slow=36						
BELA	**Belgrano 2**	**67.59**	**172**	P	**P**	**10 51 16.6**	**-0.5**
PMSA	**Palmer Station**	**70.22**	**155**	LR	LR	11 17 53.4	
	comp=Z,168nm,19.2s,baz=241,slow=32						
MAW	**Mawson**	**70.29**	**201**	LR	LR	11 20 46.9	
	comp=Z,421nm,20.6s,baz=120,slow=34						
JCJ	**Chichijima**	**70.49**	**323**	LR	LR	11 19 30.6	
	comp=Z,66nm,19.6s,baz=116,slow=34						
LEM	**Lembang**	**73.31**	**273**	LR	LR	11 26 24.2	
	comp=Z,196nm,18.4s,baz=171,slow=38						
TROLL	**Troll, Antarti**	**75.68**	**180**	P	**P**	**10 52 08.2**	**+2.3**
SNAA	**Sanae**	**75.96**	**178**	P	**P**	**10 52 09.4**	**+1.9**
SNAA	**Sanae**	**75.96**	**178**	LR	LR	11 24 41.8	
	comp=Z,245nm,18.5s,baz=238,slow=35						
SNAA	**Sanae**	**75.96**	**178**	P	**P**	**10 52 08.0**	**+0.6**
SNAA				lAmb	lAmb	10 52 22.4	
	comp=Z,25nm,1.4s						
VNA3	**Neumayer Olymp**	**76.11**	**176**	P	**P**	**10 52 10.4**	**+2.2**
VNA2	**Neumayer--Watz**	**76.54**	**177**	P	**P**	**10 52 13.3**	**+2.6**
	baz=169,slow=5.8						
JHJ	**Hachijo jima 2**	**76.59**	**324**	LR	LR	11 21 05.8	
	comp=Z,91nm,21.5s,baz=110,slow=32						
VNA1	**Neumayer--Stat**	**76.77**	**176**	P	**P**	**10 52 14.5**	**+2.5**
MJAR	**Matsushiro Arr**	**80.11**	**325**	P	**P**	**10 52 32.3**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=155,slow=5.6,SNR=4.4						
MJAR				LR	LR	11 21 40.0	
	comp=Z,74nm,22.0s,baz=150,slow=31						
	comp=Z,0.8nm,0.5s						
PLCA	**Paso Flores**	**80.94**	**133**	LR	LR	11 21 50.6	
	comp=Z,222nm,18.8s,baz=234,slow=31						
PLCA	**Paso Flores**	**80.94**	**133**	P	**P**	**10 52 34.4**	**-1.1**
PLCA				lAmb	lAmb	10 53 39.2	
	comp=Z,24nm,1.6s						
LPIG	**La Paz**	**85.61**	**58**	LR	LR	11 25 34.5	
	comp=Z,342nm,18.2s,baz=229,slow=32						
PSI	**Prapat**	**85.77**	**276**	LR	LR	11 33 17.0	
	comp=Z,274nm,19.2s,baz=88,slow=37						
KSRS	**Korea Array**	**86.09**	**320**	P	**P**	**10 53 03.9**	**+2.3**
	comp=Z,1.1nm,0.8s,baz=137,slow=6.4,SNR=5.2						
KSRS				LR	LR	11 29 31.6	
	comp=Z,55nm,19.2s,baz=140,slow=34						
	comp=Z,1.1nm,0.8s						
NJ2	**Nanjing**	**87.75**	**311**	*e*P	**P**	**10 53 09.3**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PETK	**Petropavlovsk-**	**87.97**	**346**	LR	LR	11 30 09.5	
	comp=Z,106nm,19.4s,baz=151,slow=34						
CMB	**Columbia Colle**	**88.33**	**42**	P	**P**	**10 53 12.0**	**-0.5**
CMB				lAmb	lAmb	10 53 24.3	
	comp=Z,6.4nm,1.4s						
USRK	**Ussuriysk Ar.**	**89.05**	**326**	P	**P**	**10 53 17.3**	**+1.6**
	comp=Z,2.4nm,0.8s,baz=116,slow=4.4,SNR=7.4						
	comp=Z,2.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**89.05**	**326**	P	**P**	**10 53 16.3**	**+0.6**
YBH	**Yreka Blue Hor**	**89.70**	**38**	LR	LR	11 25 46.1	
	comp=Z,159nm,20.8s,baz=262,slow=30						
NVAR	**Mina Array Bea**	**89.78**	**43**	P	**P**	**10 53 22.4**	**+2.7**
	comp=Z,0.8nm,0.9s,baz=220,slow=6.9,SNR=8.0						
	comp=Z,0.8nm,0.9s						
MDJ	**Mudanjiang**	**90.50**	**325**	P	**P**	**10 53 24.5**	**+2.0**
MDJ	**Mudanjiang**	**90.50**	**325**	S	**S**	**11 04 17.8**	**+1.4**
MDJ	**Mudanjiang**	**90.50**	**325**

comp=Z,14nm,1.4s
CONA Conrad Observa 161.49 330 *e*P **PKPab 11 01 07.8 +1.8**
comp=Z,7.0nm,1.4s
GERES GERESS Array B 161.59 335 PKPab **PKPab 11 01 07.4 +0.9**
comp=Z,1.5nm,0.9s,baz=37,slow=3.3,SNR=8.1
ARSA Arzberg 162.16 329 *e*P **PKPab 11 01 10.8 +1.8**
comp=Z,2.4nm,0.6s
MOA Molln 162.21 332 *e*P **PKPab 11 01 11.1 +2.0**
comp=Z,5.5nm,1.4s
BIOA Bad Ischl, Aus 162.58 333 *e*P **PKPab 11 01 13.3 +2.6**
comp=Z,3.1nm,0.4s
SOKA Soboth 162.82 329 *e*P **PKPab 11 01 13.5 +1.6**
comp=Z,7.3nm,1.2s
KBA Koelnbreinsper 163.20 333 *e*P **PKPab 11 01 14.7 +1.1**
comp=Z,2.2nm,0.7s
WATA Walderalm 163.62 337 *e*P **PKPab 11 01 17.4 +2.0**
WTTA Wattenberg 163.66 336 *e*P **PKPab 11 01 16.9 +1.2**
comp=Z,5.3nm,0.9s
RETA Reutte 163.75 339 *e*P **PKPab 11 01 18.0 +2.1**
comp=Z,10nm,1.0s
MOTA Moosalm 163.76 338 *e*P **PKPab 11 01 17.6 +1.6**
comp=Z,14nm,2.0s
ABTA Abfaltersbach 163.79 334 *e*P **PKPab 11 01 17.4 +1.3**
comp=Z,5.4nm,1.0s
SQTA Sankt Quirin 163.84 337 *e*P **PKPab 11 01 14.9 -1.5**
comp=Z,2.4nm,0.6s
FETA Feichten 164.17 338 *e*P **PKPab 11 01 19.1 +1.2**
comp=Z,6.5nm,1.1s
DAVA Damuels 164.19 340 *e*P **PKPab 11 01 18.4 +0.5**
comp=Z,11nm,1.6s

ROM 27 10:46:23.9±0.0, 42.786N±0.002×13.128E±0.003, h10km, ML2.1/9, 2C-4D, Error ellipse: s-maj=0.2km s-min=0.2km az=248.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**348**	P	Pg	10 46 25.8	-0.2
NRCA				S	Sg	10 46 27.4	-0.1
NRCA				AML	AML		
	comp=E,9710μm,0.7s						
NRCA				AML	AML		
	comp=N,5715μm,0.1s						
NRCA				AML	AML		
	comp=E,9705μm,0.7s						
NRCA				AML	AML		
	comp=N,5710μm,0.1s						
NRCA				AML	AML		
	comp=N,5855μm,0.1s						
NRCA				AML	AML		
	comp=E,10505μm,0.7s						
T1242	**Castelluccio d**	**0.07**	**52** ⇑P	Pg		10 46 26.3	0.0
T1242				S	Sg	10 46 28.0	0.0
T1242				AML	AML		
	comp=E,3465μm,1.6s						
T1242				AML	AML		
	comp=N,4450μm,1.6s						
T1242				AML	AML		
	comp=E,3415μm,1.6s						
T1242				AML	AML		
	comp=N,4295μm,1.6s						
T1242				AML	AML		
	comp=E,3410μm,1.6s						
T1242				AML	AML		
	comp=N,4450μm,1.6s						
T1202	**Accumoli, Fraz**	**0.11**	**139**	P	Pg	10 46 27.0	+0.3
T1202				S	Sg	10 46 29.3	+0.6
T1202				AML	AML		
	comp=E,1680μm,0.6s						
T1202				AML	AML		
	comp=N,2480μm,0.2s						
T1202				AML	AML		
	comp=E,1685μm,0.6s						
T1202				AML	AML		
	comp=N,2475μm,0.2s						
T1216	**Preci, Frazion**	**0.13**	**323**	P	Pg	10 46 27.4	+0.4
T1216				S	Sg	10 46 29.9	+0.7
MC2	**Monte Cornacci**	**0.14**	**20**	P	Pg	10 46 27.6	+0.4
MC2				S	Sg	10 46 30.5	+1.0
T1217	**Poggiodomo (PG**	**0.16**	**243**	P	Pg	10 46 28.0	+0.5
T1217				S	Sg	10 46 30.9	+0.9
T1217				AML	AML		
	comp=E,375μm,0.7s						
T1217				AML	AML		
	comp=N,716μm,0.4s						
T1204	**Amatrice, Fraz**	**0.18**	**128**	P	Pg	10 46 28.4	+0.7
T1204				S	Sg	10 46 31.5	+1.0
FEMA	**Monte Fema**	**0.18**	**342**	P	Pb	10 46 28.7	-0.8
FEMA				S	Sg	10 46 32.2	+1.5
MMO1	**Montemonaco**	**0.18**	**52**	P	Pg	10 46 28.4	+0.5
MMO1				S	Sg	10 46 31.7	+1.1
T1215	**Vallo di Nera,**	**0.19**	**275**	P	Pg	10 46 28.5	+0.5
T1215				S	Sg	10 46 32.0	+1.2
LNSS	**Leonessa**	**0.19**	**200**	P	Pg	10 46 28.6	+0.6
LNSS				S	Sg	10 46 32.7	+1.8
LNSS				AML	AML		
	comp=E,508μm,1.5s						
LNSS				AML	AML		
	comp=N,726μm,0.2s						
T1241	**Roccafluvione,**	**0.23**	**72**	P	Pg	10 46 29.4	+0.7
T1241				S	Sg	10 46 33.5	+1.6
T1241				AML	AML		
	comp=N,262μm,0.7s						
T1241				AML	AML		
	comp=E,423μm,0.7s						
FDMO	**Fiordimonte**	**0.25**	**353**	P	Pg	10 46 29.7	+0.7
FDMO				S	Sb	10 46 33.9	-1.2
FDMO				AML	AML		
	comp=E,204μm,0.3s						
FDMO				AML	AML		
	comp=N,265μm,0.2s						
T1243	**Rocca Santa Ma**	**0.25**	**111**	P	Pg	10 46 29.7	+0.6
T1243				S	Sg	10 46 33.4	+0.9
AM05	**Amandola Campo**	**0.25**	**41**	P	Pg	10 46 29.8	+0.7
AM05				S	Sb	10 46 34.1	-0.9
CESI	**CESI - Serrava**	**0.27**	**323**	P	Pg	10 46 30.0	+0.5
CESI				S	Sb	10 46 34.7	-1.0
CESI				AML	AML		
	comp=N,541μm,0.5s						
CESI				AML	AML		
	comp=E,225μm,1.5s						
RM33	**Pellescritta (**	**0.28**	**167** ⇓P	Pg		10 46 30.1	+0.5
RM33				S	Sb	10 46 34.8	-1.2
RM33				AML	AML		
	comp=N,214μm,0.3s						
RM33				AML	AML		
	comp=E,258μm,0.1s						
CSP1	**Cessapalombo**	**0.31**	**10**	P	Pb	10 46 31.0	-0.6
CSP1				S	Sb	10 46 36.1	-0.7
CAMP	**Campotosto**	**0.33**	**140**	P	Pb	10 46 31.2	-0.6
CAMP				S	Sb	10 46 36.2	-1.0
T1246	**Crognaleto (TE**	**0.34**	**127**	P	Pg	10 46 31.1	+0.5
T1246				S	Sb	10 46 36.6	-0.9
T1247	**Pizzolo (AQ)**	**0.37**	**160**	P	Pg	10 46 31.6	+0.5
TERO	**Teramo**	**0.39**	**115**	P	Pg	10 46 31.9	+0.4
TERO				S	Sb	10 46 37.9	-0.9
TERO				AML	AML		
	comp=E,136μm,0.3s						
TERO				AML	AML		
	comp=N,141μm,0.5s						
ASSB	**Assisi San Ben**	**0.43**	**307**	P	Pg	10 46 32.7	+0.3
ASSB				AML	AML		
	comp=E,118μm,0.2s						
ASSB				AML	AML		
	comp=N,113μm,1.0s						
SNTG	**Esanatoglia**	**0.49**	**344**	P	Pb	10 46 34.1	-0.5
SNTG				AML	AML		
	comp=E,49μm,0.5s						
SNTG				AML	AML		
	comp=N,62μm,1.6s						
FIAM	**Fiamignano**	**0.52**	**181** ⇑P	Pg		10 46 34.1	+0.2
FIAM				AML	AML		
	comp=N,54μm,0.6s						
FIAM				AML	AML		
	comp=E,59μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.54**	**318** ⇓P	Pg		10 46 34.7	+0.4
ATCC				AML	AML		
	comp=E,135μm,0.3s						
ATCC				AML	AML		
	comp=N,105μm,1.5s						
EL6	**Elcito**	**0.54**	**358** ⇓P	Pb		10 46 35.6	0.0
EL6				S	Sb	10 46 45.0	+1.5
T0110	**Collepietro**	**0.74**	**139** ⇓P	Pb		10 46 38.6	-0.2
T0110				AML	AML		
	comp=E,79μm,1.6s						
T0110				AML	AML		
	comp=N,82μm,0.4s						
VVLD	**Villa Vallelon**	**0.98**	**158**	P	Pg	10 46 41.5	-1.3

*IDC **27** 11:03:49.9±0.8, 20.95N×144.70E, h0km, mb3.9/13, mbtmp3.8/14, ML2.6/1, Error ellipse: s-maj=25.9km s-min=18.5km az=77.0*
ISC 27 11:03:55.2±0.9, 20.9N±0.1×144.7E±0.2, h35km, n21, σ0s54/15, mb3.9/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.55**	**341**	Pn	**Pn**	**11 07 44.3**	**-0.3**
	baz=174,slow=13,SNR=2.0						
	0.6nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**20.86**	**93**	T	T	11 30 00.4	
	baz=280,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**20.87**	**89**	T	T	11 30 11.8	
	baz=277,slow=75,SNR=54						
H11N2	**WAKE ISLAND Hy**	**20.87**	**89**	T	T	11 30 02.8	
	baz=277,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**20.87**	**93**	T	T	11 30 00.8	
	baz=280,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**20.88**	**93**	T	T	11 30 01.5	
	baz=280,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**20.89**	**89**	T	T	11 30 12.8	
	baz=277,slow=75,SNR=55						
KSRS	**Korea Array**	**21.96**	**322**	P	**P**	**11 08 46.5**	**+0.6**
	4.3nm,0.9s,baz=146,slow=8.7,SNR=17						
	4.3nm,0.9s						
SONM	**Songino Array**	**40.81**	**320**	P	**P**	**11 11 33.9**	**+0.5**
	0.6nm,0.6s,baz=116,slow=6.6,SNR=2.9						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**41.86**	**195**	P	**P**	**11 11 42.5**	**+0.4**
	0.8nm,0.7s,baz=14,slow=8.7,SNR=14						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.02**	**275**	P	**P**	**11 11 51.5**	**-0.1**
	0.6nm,0.3s,baz=92,slow=5.4,SNR=1.0						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**45.55**	**194**	P	**P**	**11 12 11.4**	**-0.4**
	0.4nm,0.7s,baz=17,slow=6.9,SNR=4.7						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**55.67**	**322**	P	**P**	**11 13 27.9**	**+0.2**
	0.4nm,0.3s,baz=85,slow=3.5,SNR=1.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**56.23**	**313**	P	**P**	**11 13 32.2**	**+0.3**
	0.8nm,0.6s,baz=91,slow=8.6,SNR=7.3						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**59.03**	**317**	P	**P**	**11 13 51.1**	**-0.4**
	1.4nm,0.6s,baz=93,slow=7.4,SNR=18						
	1.4nm,0.6s						
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**11 14 11.6**	**-0.5**
	0.9nm,0.9s,baz=262,slow=5.5,SNR=7.0						
	0.9nm,0.9s						
BVAR	**Borovoye Array**	**64.15**	**320**	P	**P**	**11 14 26.1**	**0.0**
	0.8nm,0.5s,baz=101,slow=7.7,SNR=7.5						
	0.8nm,0.5s						
ARCES	**ARCESS Array B**	**80.08**	**342**	P	**P**	**11 16 01.1**	**0.0**
	0.8nm,0.6s,baz=69,slow=6.6,SNR=6.2						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**82.53**	**52**	P	**P**	**11 16 15.7**	**+0.8**
	1.4nm,0.9s,baz=273,slow=5.2,SNR=10						
	1.4nm,0.9s						
FINES	**FINESS Array B**	**84.46**	**335**	P	**P**	**11 16 22.9**	**-1.2**
	1.2nm,0.5s,baz=96,slow=3.8,SNR=6.6						
	1.2nm,0.5s						
LPAZ	**La Paz**	**148.60**	**87**	PKPbc	**PKPbc**	**11 23 40.1**	**0.0**
	1.0nm,0.6s,baz=315,slow=4.6,SNR=5.0						

*IDC **27** 11:11:45.8±0.8, 29.52N×51.53E, h0km, mb3.9/19, mbtmp3.9/25, ML3.7/6, MS3.0/3, Error ellipse: s-maj=19.0km s-min=14.6km az=3.0*
*TEH **27** 11:11:47.4, 29.63N×51.51E, h8km, ML4.2*
*NEIC **27** 11:11:47.4±2.2, 29.56N±0.06×51.52E±0.05, h10km±5km, mb4.1/25, mb_Lg4.2(TEH), Error ellipse: s-maj=9.6km s-min=5.5km az=162.0*
*DSN **27** 11:11:48.8±2.1, 29.50N×51.59E, h10km, ML3.9/11, Error ellipse: s-maj=30.7km s-min=9.5km az=13.0*
*OMAN **27** 11:11:53.1±0.2, 29.53N×51.67E, h145km±3km, mb4.7/20, ml4.1/1, Error ellipse: s-maj=4.6km s-min=2.7km az=340.0*
ISC 27 11:11:48.1±0.8, 29.64N±0.03×51.58E±0.04, h13km±4km, n202, σ1s76/232, mb4.2/37, 14C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	**Kazerun**	**0.05**	**106**	Pg	**Pg**	**11 11 50.4**	**-0.3**
KAZ1				Sg	**Sg**	**11 11 52.6**	**0.0**
KAZ1	**Kazerun**	**0.05**	**106**	*e*Pg	**Pg**	**11 11 50.5**	**-0.3**
SHI	**Shiraz**	**0.81**	**90**	Pg	**Pb**	**11 12 04.1**	**0.0**
SHI	**Shiraz**	**0.81**	**90**	*e*Pg	**Pb**	**11 12 04.3**	**+0.2**
AHBU	**AHRAM**	**0.81**	**198**	*e*Pg	**Pg**	**11 12 03.3**	**-0.5**
KLNJ	**Kolanjah**	**1.36**	**0**	*e*Pg	**Pn**	**11 12 13.2**	**+0.1**
KLNJ				*e*		11 12 39.6	
	comp=Z,36μm,0.5s						
QIR1	**Qir**	**1.73**	**132**	*e*Pg	**Pg**	**11 12 20.9**	**-0.3**
QIR1				*e*		11 12 49.9	
	comp=Z,54μm,1.1s						
JHRM	**Jahrom**	**2.08**	**122**	*e*Pn	**Pb**	**11 12 25.8**	**+0.1**
IRAM	**Ramesheh**	**2.27**	**17**	Pn	**Pb**	**11 12 28.1**	**-0.9**
IRAM	**Ramesheh**	**2.27**	**17**	*e*Pn	**Pb**	**11 12 28.1**	**-0.9**
IRAM				*e*		11 13 06.0	
	comp=Z,14μm,0.8s						
IBRJ	**Brojen**	**2.28**	**353**	Pn	**Pb**	**11 12 27.9**	**-1.3**
IBRJ	**Brojen**	**2.28**	**353**	*e*Pn	**Pb**	**11 12 27.9**	**-1.3**
IBRJ				*e*		11 13 10.4	
	comp=Z,9μm,0.7s						
LMD1	**Lamerd**	**2.68**	**148**	*e*		11 13 33.9	
	comp=Z,14μm,0.5s						
SHK1	**Shahrekord**	**2.75**	**348**	*e*Pn	**Pn**	**11 12 34.4**	**+2.4**
SHK1				*e*		11 13 30.3	
	comp=Z,4μm,0.7s						
IGAR	**Gharneh**	**2.78**	**8**	Pn	**Pn**	**11 12 35.1**	**+2.6**
IGAR	**Gharneh**	**2.78**	**8**	*e*Pn	**Pn**	**11 12 35.1**	**+2.6**
AMIS	**Naft Sefid**	**2.83**	**316**	*e*Pn	**Pn**	**11 12 34.7**	**+1.8**
AMIS				*e*		11 13 40.2	
	comp=Z,13μm,0.5s						
ISAD	**Sadrabad**	**2.90**	**38**	*e*Pn	**Pb**	**11 12 37.9**	**-1.9**
IPIR	**Pirpir**	**3.09**	**349**	Pn	**Pn**	**11 12 38.7**	**+1.9**
IPIR	**Pirpir**	**3.09**	**349**	*e*Pn	**Pn**	**11 12 39.2**	**+2.4**
IPIR				*e*		11 13 46.0	
	comp=Z,5μm,0.8s						
LAR1	**LAR**	**3.14**	**128**	*e*Pn	**Pn**	**11 12 39.2**	**+1.9**
IMEH	**Mehriz**	**3.14**	**56**	Pn	**Pb**	**11 12 41.1**	**-2.8**
IMEH	**Mehriz**	**3.14**	**56**	*e*Pn	**Pn**	**11 12 40.9**	**+3.4**
IMEH				*e*		11 13 46.2	
	comp=Z,7μm,1.7s						
IZEF	**Zefreh**	**3.31**	**11**	Pn	**Pn**	**11 12 42.3**	**+2.5**
IZEF	**Zefreh**	**3.31**	**11**	*e*Pn	**Pn**	**11 12 42.4**	**+2.6**
NASN	**Na'in**	**3.32**	**18**	*e*Pn	**Pn**	**11 12 42.8**	**+2.8**
ICHK	**Chekchek**	**3.55**	**42**	*e*Pn	**Pn**	**11 12 45.7**	**+2.6**
IKLH	**Kolahrood**	**3.67**	**360**	*e*Pn	**Pn**	**11 12 47.0**	**+2.3**
IKLH				*e*		11 13 56.7	
	comp=Z,2μm,0.9s						
YZKH	**Yazd**	**3.77**	**43**	*e*Pn	**Pn**	**11 12 49.4**	**+3.5**
SHMA	**Al-Shehemyia**	**3.81**	**188**	P	**Pn**	**11 12 48.8**	**+2.4**
SHMA				S	**Sn**	**11 13 33.4**	**+2.4**
IBAF	**Bafgh**	**3.95**	**59**	*e*Pn	**Pn**	**11 12 51.7**	**+3.2**
IBAF				*e*		11 13 07.7	
	comp=Z,2μm,0.8s						
ANAR	**Anarak**	**3.99**	**27**	*e*Pn	**Pn**	**11 12 51.8**	**+2.8**
QAMS	**Qamsar**	**4.09**	**358**	*e*Pn	**Pn**	**11 12 53.0**	**+2.5**
KHGB	**Koh Gabri**	**4.31**	**79**	*e*Pn	**Pn**	**11 12 56.6**	**+3.1**
KHGB				*e*		11 13 16.4	
	comp=Z,2μm,0.7s						
KHMZ	**Khomeyn**	**4.32**	**342**	*e*Pn	**Pn**	**11 12 55.2**	**+1.6**
KRSH	**Karshahi**	**4.34**	**6**	*e*Pn	**Pn**	**11 12 56.6**	**+2.7**
NGRK	**Negar Kerman**	**4.48**	**89**	Pn	**Pn**	**11 12 59.6**	**+3.6**
NGRK	**Negar Kerman**	**4.48**	**89**	*e*Pn	**Pn**	**11 12 59.1**	**+3.1**
NGRK				*e*		11 13 55.7	
	comp=Z,2μm,0.4s						
KRBR	**Kerman**	**4.51**	**84**	*e*Pn	**Pn**	**11 13 00.2**	**+3.8**
TVBK	**TV Kerman**	**4.51**	**84**	*e*Pn	**Pn**	**11 12 59.7**	**+3.3**
GENO	**Geno**	**4.61**	**118**	*e*Pn	**Pn**	**11 13 00.7**	**+3.1**
ISFB	**Sefidab**	**4.73**	**7**	*e*Pn	**Pn**	**11 13 01.6**	**+2.4**
JRN	**Qarnain Island**	**4.81**	**166**	P	**Pn**	**11 13 03.5**	**+3.3**
JRN				S	**Sn**	**11 13 57.8**	**+2.0**
GHVR	**GHOM**	**4.83**	**357**	*e*Pn	**Pn**	**11 13 02.4**	**+1.8**
IBND	**Bandar-abas**	**4.88**	**115**	*e*Pn	**Pn**	**11 13 03.6**	**+2.5**
SMRA	**Abu-Samra**	**4.92**	**188**	P	**Pn**	**11 13 03.6**	**+1.9**
SMRA				S	**Sn**	**11 14 00.5**	**+2.0**
IKFM	**Kafar-mosalman**	**5.02**	**321**	*e*Pn	**Pn**	**11 13 04.4**	**+1.4**
IDOB	**Doab**	**5.05**	**326**	*e*Pn	**Pn**	**11 13 06.3**	**+2.6**
ASAO	**Ashtian**	**5.07**	**345**	*e*Pn	**Pn**	**11 13 05.9**	**+1.9**
CHMN	**Cheshme madani**	**5.18**	**86**	*e*Pn	**Pn**	**11 13 08.5**	**+2.9**
CHMN				*e*		11 14 13.7	
	comp=Z,1μm,0.8s						
IQOM	**Qom**	**5.21**	**355**	*e*		11 13 17.1	
	comp=Z,1μm,0.4s						
IQOM				*e*Pn	**Pn**	**11 13 07.8**	**+2.0**
HSAM	**Samen**	**5.21**	**332**	*e*Pn	**Pn**	**11 13 07.8**	**+1.8**
IVRN	**Varamin**	**5.34**	**1**	*e*Pn	**Pn**	**11 13 10.3**	**+2.8**
SHME	**Shamm**	**5.39**	**130**	P	**Pn**	**11 13 08.6**	**+0.4**
SHME				S	**Sn**	**11 14 10.6**	**+0.5**
TPRV	**Parvadeh(Tabas**	**5.52**	**51**	*e*Pn	**Pn**	**11 13 13.2**	**+3.2**
HAGD	**Aghdareh**	**5.57**	**339**	*e*Pn	**Pn**	**11 13 13.2**	**+2.4**
HAGD				*e*		11 14 18.0	
	comp=Z,738nm,0.6s						
BANOM	**Banah**	**5.58**	**130**	P	**Pn**	**11 13 12.2**	**+1.4**
	SNR=13						
BANOM				S	**Sn**	**11 14 16.0**	**+1.2**
BANOM	**Banah**	**5.58**	**130**	P	**Pn**	**11 13 11.8**	**+1.0**
BANOM				S	**Sn**	**11 14 15.7**	**+0.8**
IKOM	**Komasi**	**5.70**	**324**	*e*Pn	**Pn**	**11 13 14.2**	**+1.7**
IKOM				*e*		11 15 1.5	
	comp=Z,994nm,0.8s						
MASF	**Masafi**	**5.88**	**135**	P	**Pn**	**11 13 15.2**	**+0.3**
MASF				S	**Sn**	**11 14 21.2**	**-1.1**
NAZ	**Nazwa, Dubai**	**5.88**	**141**	P	**Pn**	**11 13 17.1**	**+2.1**
NAZ				S	**Sn**	**11 14 23.3**	**+1.1**
NAZ	**Nazwa, Dubai**	**5.88**	**141**	P	**Pn**	**11 13 15.9**	**+0.9**
MSFE	**Esma-Masafi**	**5.89**	**135**	P	**Pn**	**11 13 14.2**	**-0.9**
MSFE				S	**Sn**	**11 14 21.1**	**-1.4**
IRAZ	**Razeghan**	**5.92**	**347**	*e*Pn	**Pn**	**11 13 18.6**	**+3.0**
IDMV	**Damavand**	**5.93**	**4**	*e*Pn	**Pn**	**11 13 18.5**	**+2.6**
DAMV	**Damavand**	**5.98**	**3**	*e*Pn	**Pn**	**11 13 18.5**	**+2.0**
ASUD	**Al Ashush, Dub**	**6.01**	**145**	P	**Pn**	**11 13 18.5**	**+1.9**
ASUD				S	**Sn**	**11 14 26.6**	**+1.4**
ASUD	**Al Ashush, Dub**	**6.01**	**145**	P	**Pn**	**11 13 17.2**	**+0.6**
KBAM	**BAM**	**6.01**	**93**	*e*Pn	**Pn**	**11 13 19.8**	**+3.0**
KBAM				*e*		11 14 35.6	
	comp=Z,2μm,0.9s						
FAQ	**Al Faqa, Dubai**	**6.04**	**143**	P	**Pn**	**11 13 18.5**	**+1.4**
FAQ				S	**Sn**	**11 14 24.9**	**-1.3**
FAQ	**Al Faqa, Dubai**	**6.04**	**143**	P	**Pn**	**11 13 15.7**	**-1.4**
TNSJ	**Nastanj**	**6.07**	**43**	*e*Pn	**Pn**	**11 13 20.4**	**+2.8**
TKDS	**Koohdasht(Taba**	**6.16**	**49**	*e*Pn	**Pn**	**11 13 22.1**	**+3.2**
TABS	**Tabas**	**6.18**	**48**	*e*Pn	**Pn**	**11 13 22.2**	**+3.0**
UOSS	**Minazif**	**6.23**	**138**		**Pn**	**11 13 18.4**	**-1.2**
UOSS	**Minazif**	**6.23**	**138**	P	**Pn**	**11 13 20.1**	**+0.4**
UOSS				S	**Sn**	**11 14 29.7**	**-1.0**
UOSS	**Minazif**	**6.23**	**138**	P	**Pn**	**11 13 19.0**	**-0.6**
CHTH	**Charan**	**6.26**	**357**	*e*Pn	**Pn**	**11 13 22.3**	**+1.9**
HATD	**Hatta, Dubai**	**6.28**	**139**	P	**Pn**	**11 13 21.5**	**+1.2**
HATD				S	**Sn**	**11 14 31.0**	**-0.9**
HATD	**Hatta, Dubai**	**6.28**	**139**	P	**Pn**	**11 13 18.2**	**-2.1**
ASHO	**Ashiyiah**	**6.34**	**140**	P	**Pn**	**11 13 22.6**	**+1.3**
	SNR=5.5						
ASHO				S	**Sn**	**11 14 30.5**	**-3.1**
ASHO	**Ashiyiah**	**6.34**	**140**	P	**Pn**	**11 13 21.7**	**+0.4**
SNGE	**Sanandaj**	**6.51**	**328**	*e*Pn	**Pn**	**11 13 25.4**	**+1.7**
ALNE	**Al Ain**	**6.69**	**145**	P	**Pn**	**11 13 27.9**	**+1.9**
ALNE				S	**Sn**	**11 14 42.9**	**+0.7**
ALNE	**Al Ain**	**6.69**	**145**	P	**Pn**	**11 13 26.9**	**+0.9**
IDHR	**Dehrash**	**6.70**	**320**	*e*Pn	**Pn**	**11 13 28.1**	**+1.8**
JASK	**Jask - Hormozg**	**6.72**	**123**	*e*Pn	**Pn**	**11 13 27.9**	**+1.5**
JASK	**Jask - Hormozg**	**6.72**	**123**	P	**Pn**	**11 13 27.7**	**+1.3**
JASK				S	**Sn**	**11 14 43.3**	**+0.6**
MZR	**Muzera**	**6.83**	**165**	P	**Pn**	**11 13 30.4**	**+2.5**
MZR				S	**Sn**	**11 14 45.7**	**+0.2**
MZR	**Muzera**	**6.83**	**165**	P	**Pn**	**11 13 29.0**	**+1.1**
BSRN	**Basiran**	**6.89**	**68**	*e*Pn	**Pn**	**11 13 32.2**	**+3.3**
SOHO	**SOHO**	**7.04**	**140**	P	**Pn**	**11 13 31.5**	**+0.7**
SOHO				S	**Sn**	**11 14 49.2**	**-1.6**
SOHO	**SOHO**	**7.04**	**140**	P	**Pn**	**11 13 28.7**	**-2.1**
IGLO	**Ghaloghah**	**7.10**	**15**	*e*Pn	**Pn**	**11 13 35.2**	**+3.4**
SHRO	**Shahrood**	**7.35**	**29**	*e*Pn	**Pn**	**11 13 37.8**	**+2.7**
AFRZ	**Afriz**	**7.38**	**57**	*e*Pn	**Pn**	**11 13 38.3**	**+2.7**
UMZA	**Um Al Zommool**	**7.61**	**154**	P	**Pn**	**11 13 39.7**	**+1.1**
UMZA				S	**Sn**	**11 15 01.6**	**-3.1**
ARQ	**Araqi**	**7.68**	**144**	P	**Pn**	**11 13 40.8**	**+1.2**
ARQ				S	**Sn**	**11 15 03.5**	**-3.0**
HOQ	**Hoqain**	**7.92**	**138**	P	**Pn**	**11 13 44.8**	**+1.9**
HOQ				S	**Sn**	**11 15 09.7**	**-2.7**
ZHSF	**Zahedan**	**8.00**	**88**	*e*Pn	**Pn**	**11 13 48.1**	**+3.9**
RAYN	**Ar Rayn**	**8.17**	**223**	Pn	**Pn**	**11 13 45.9**	**-0.4**
RAYN	**Ar Rayn**	**8.17**	**223**	P	**Pn**	**11 13 46.2**	**-0.2**
RAYN				S	**Sn**	**11 15 16.8**	**-1.8**
RAYN	**Ar Rayn**	**8.17**	**223**	P	**Pn**	**11 13 45.7**	**-0.7**
BIDO	**Bidbid**	**8.45**	**135**	P	**Pn**	**11 13 50.5**	**+0.3**
BIDO				S	**Sn**	**11 15 22.4**	**-3.0**
BSY	**Bisya**	**8.52**	**142**	P	**Pn**	**11 13 51.3**	**+0.2**
BSY				S	**Sn**	**11 15 25.7**	**-1.5**
SMDO	**Samad**	**8.75**	**137**	P	**Pn**	**11 13 55.1**	**+0.7**
	SNR=7.8						
SMDO				S	**Sn**	**11 15 31.1**	**-1.9**
MRVT	**Maraveh tapeh**	**8.84**	**24**	*e*Pn	**Pn**	**11 13 58.6**	**+3.1**
WSAR	**Wadi Sarin**	**8.97**	**134**	Pn	**Pn**	**11 13 57.2**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=307,slow=9.1,SNR=11						
WSAR					**Sn**	**11 15 36.9**	**-1.4**
	comp=Z,2.2nm,0.3s,baz=44,slow=12,SNR=4.9						
WSAR				LR	LR	11 18 13.0	
	comp=Z,77nm,20.5s,baz=352,slow=43						
	comp=Z,4.2nm,0.5s						
WSAR	**Wadi Sarin**	**8.97**	**134**	P	**Pn**	**11 13 57.5**	**+0.1**
WSAR				S	**Sn**	**11 15 35.2**	**-3.1**
JMDO	**Jabal Madar

AAK				IAmb	IAmb	11 16 59.2	
	comp=Z,8.5nm,1.4s						
BELG	**Belogornoye**	**22.92**	**354**	P	**P**	**11 16 52.7**	**+1.2**
	comp=Z,5.5nm,0.7s,baz=324,slow=4.4,SNR=3.2						
	comp=Z,5.5nm,0.7s						
BOOM	**Boomskoye usch**	**23.40**	**50**	P	**P**	**11 16 56.9**	**+0.1**
BOOM				IAmb	IAmb	11 17 12.9	
	comp=Z,5.4nm,1.0s						
TPGR	**Topolog**	**23.77**	**316**	⇑P	**P**	**11 17 02.0**	**+1.7**
TARG	**Taragay, Kyrgy**	**24.38**	**53**	P	**P**	**11 17 03.5**	**-2.8**
TARG				IAmb	IAmb	11 17 11.4	
	comp=Z,4.3nm,1.1s						
VRI	**Vrincioaia**	**25.32**	**317**	⇑P	**P**	**11 17 16.0**	**+1.6**
PLOR	**Plostina**	**25.36**	**317**	⇑P	**P**	**11 17 16.6**	**+1.9**
MLR	**Muntele Rosu**	**25.60**	**315**	⇑P	**P**	**11 17 18.3**	**+1.2**
MLR	**Muntele Rosu**	**25.60**	**315**	P	**P**	**11 17 17.3**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=115,slow=1.9,SNR=6.7						
	comp=Z,5.5nm,0.7s						
MLR	**Muntele Rosu**	**25.60**	**315**	P	**P**	**11 17 16.6**	**-0.5**
COVR	**Voinease-Covas**	**25.62**	**316**	⇑P	**P**	**11 17 18.4**	**+1.3**
TESR	**Tescani**	**25.70**	**318**	⇑P	**P**	**11 17 18.9**	**+1.1**
ITM	**Ithomi**	**25.80**	**295**	P	**P**	**11 17 17.1**	**-1.8**
LIT	**Litokhoron**	**25.95**	**302**	P	**P**	**11 17 18.7**	**-1.4**
VOIR		**26.13**	**314**	⇑P	**P**	**11 17 22.9**	**+1.0**
DOPR	**Dopca**	**26.18**	**316**	⇑P	**P**	**11 17 23.4**	**+1.2**
BIZ	**Bicaz**	**26.25**	**318**	⇑P	**P**	**11 17 24.2**	**+1.4**
ARR	**Arges**	**26.36**	**314**	⇑P	**P**	**11 17 24.8**	**+1.0**
AKASG	**Malin Array Be**	**26.91**	**328**	P	**P**	**11 17 28.0**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=141,slow=6.2,SNR=4.1						
	comp=Z,0.9nm,0.5s						
BURAR	**Bucovina Array**	**27.12**	**319**	⇑P	**P**	**11 17 32.5**	**+1.8**
BURAR	**Bucovina Array**	**27.12**	**319**	P	**P**	**11 17 30.6**	**-0.2**
BURAR				IAmb	IAmb	11 17 47.3	
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**27.14**	**25**	P	**P**	**11 17 29.9**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=227,slow=7.9,SNR=4.3						
	comp=Z,0.7nm,0.6s						
MDVR	**Moldovita**	**27.99**	**311**	⇑P	**P**	**11 17 39.1**	**+0.6**
DRGR		**28.20**	**315**	⇑P	**P**	**11 17 40.9**	**+0.5**
SIRR	**Siria**	**28.62**	**314**	⇑P	**P**	**11 17 45.1**	**+1.0**
KURBB	**Kurchatov Arra**	**29.12**	**36**	P	**P**	**11 17 49.5**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=235,slow=9.2,SNR=6.9						
	comp=Z,0.8nm,0.8s						
MK31	**Makanchi Array**	**29.33**	**46**	P	**P**	**11 17 51.6**	**+1.2**
MKAR	**Makanchi Array**	**29.33**	**46**	P	**P**	**11 17 51.9**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=230,slow=8.2,SNR=5.0						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**29.33**	**46**	P	**P**	**11 17 51.7**	**+1.3**
RONA	**Rosalia, Austr**	**32.56**	**314**	*e*P	**P**	**11 18 18.0**	**-0.9**
	comp=Z,2.8nm,0.8s						
ZAA0	**Zalesovo Array**	**34.18**	**35**	P	**P**	**11 18 33.8**	**+1.0**
ZAA0				IAmb	IAmb	11 18 39.2	
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**34.18**	**35**	P	**P**	**11 18 34.4**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=247,slow=9.4,SNR=9.1						
	comp=Z,1.7nm,0.5s						
ZALV	**Zalesovo Beam**	**34.18**	**35**	P	**P**	**11 18 33.9**	**+1.1**
KBA	**Koelnbreinsper**	**34.26**	**311**	*e*P	**P**	**11 18 34.2**	**+0.3**
	comp=Z,5.8nm,0.8s						
GERES	**GERESS Array B**	**34.58**	**314**	P	**P**	**11 18 36.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=115,slow=6.0,SNR=3.7						
	comp=Z,0.3nm,0.3s						
GERES	**GERESS Array B**	**34.58**	**314**	P	**P**	**11 18 36.5**	**0.0**
ABTA	**Abfaltersbach**	**34.71**	**310**	*e*P	**P**	**11 18 37.3**	**-0.4**
	comp=Z,3.5nm,0.7s						
KHC	**Kasperske Hory**	**34.76**	**315**	*e*P	**P**	**11 18 38.3**	**+0.3**
WTTA	**Wattenberg**	**35.43**	**311**	*e*P	**P**	**11 18 43.6**	**-0.3**
	comp=Z,6.5nm,0.6s						
WATA	**Walderalm**	**35.49**	**311**	*e*P	**P**	**11 18 44.0**	**-0.4**
	comp=Z,12nm,1.1s						
SQTA	**Sankt Quirin**	**35.70**	**311**	*e*P	**P**	**11 18 45.6**	**-0.6**
	comp=Z,8.0nm,0.6s						
MOTA	**Moosalm**	**35.80**	**311**	*e*P	**P**	**11 18 46.7**	**-0.5**
	comp=Z,5.8nm,0.7s						
CLL	**Collm**	**35.88**	**318**	*e*P	**P**	**11 18 48.0**	**+0.4**
CLL				*e*PP	**PP**	**11 20 11.0**	**+1.9**
CLL				*e*PPP	PPP	11 20 22.0	
CLL				*e*PPPP		11 20 32.0	
FETA	**Feichten**	**35.97**	**310**	*e*P	**P**	**11 18 48.1**	**-0.4**
	comp=Z,5.5nm,0.7s						
FIA1	**FINESS Array S**	**36.00**	**339**	P	**P**	**11 18 47.1**	**-1.3**
FINES	**FINESS Array B**	**36.00**	**339**	P	**P**	**11 18 49.3**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=154,slow=7.3,SNR=1.7						
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**36.00**	**339**	P	**P**	**11 18 47.7**	**-0.7**
RETA	**Reutte**	**36.06**	**311**	*e*P	**P**	**11 18 48.8**	**-0.5**
	comp=Z,3.3nm,0.5s						
DAVA	**Damuels**	**36.59**	**311**	*e*P	**P**	**11 18 53.1**	**-0.8**
	comp=Z,13nm,0.5s						
SENIN	**Lac Senin/Sane**	**38.13**	**308**	P	**P**	**11 19 06.3**	**-0.7**
SENIN				IAmb	IAmb	11 19 19.2	
	comp=Z,3.6nm,0.7s						
BNI	**Bardonecchia**	**38.36**	**306**	P	**P**	**11 19 08.3**	**-0.6**
BNI				IAmb	IAmb	11 19 09.1	
	comp=Z,5.3nm,0.8s						
HFS	**Hagfors**	**39.66**	**331**	P	**P**	**11 19 19.2**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=129,slow=12,SNR=8.5						
	comp=Z,1.1nm,0.5s						
ARCES	**ARCESS Array B**	**42.64**	**347**	P	**P**	**11 19 44.9**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=183,slow=9.7,SNR=2.2						
	comp=Z,2.1nm,0.9s						
SONM	**Songino Array**	**45.45**	**51**	P	**P**	**11 20 08.5**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=278,slow=10.0,SNR=2.3						
	comp=Z,0.3nm,0.5s						
TOA0	**Torodi Ar. Sit**	**48.88**	**261**	P	**P**	**11 20 33.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**48.88**	**261**	P	**P**	**11 20 33.6**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=58,slow=7.6,SNR=18						
	comp=Z,2.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**48.88**	**261**	P	**P**	**11 20 33.5**	**-0.3**
DBIC	**Dimbokro**	**57.67**	**258**	P	**P**	**11 21 37.9**	**-0.6**
	comp=Z,5.9nm,0.8s,baz=93,slow=4.6,SNR=4.7						
	comp=Z,5.9nm,0.8s						
KSRS	**Korea Array**	**62.51**	**61**	P	**P**	**11 22 11.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=280,slow=6.2,SNR=5.7						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**84.80**	**8**	P	**P**	**11 24 21.8**	**0.0**
	comp=Z,0.3nm,0.7s,baz=328,slow=4.7,SNR=3.1						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**93.64**	**111**	P	**P**	**11 25 03.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=315,slow=4.0,SNR=6.8						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**95.15**	**114**	P	**P**	**11 25 10.7**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=301,slow=4.7,SNR=17						
	comp=Z,0.3nm,0.5s						

*IDC **27** 11:44:14.2±2.4, 34°.43N×141°.66E, h0km, mb3.3/2, mbtmp3.2/4, ML2.6/2, Error ellipse: s-maj=41.1km s-min=28.0km az=53.0*
*JMA **27** 11:44:15.4±0.3, 34°.5N±0°.9×14°.2E±°, h28km±1km, MV2.7/31, FAR SE OFF BOSO PEN*

ISC 27 11:44:17.3±1.6, 34°.47N±0°.06×141°.6E±0°.1, h27km, n11, σ1$ 08/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.57**	**289**	P	**Pb**	**11 44 28.0**	**-0.4**
BSO3	**Boso 3**	**0.99**	**290**	P	**Pn**	**11 44 35.0**	**-0.1**
BSO4	**Boso 4**	**1.19**	**296**	P	**Pb**	**11 44 38.4**	**-0.8**
BSO4				*e*S	**Sn**	**11 44 53.8**	**+0.5**
JKUC	**kamogawauchiur**	**1.37**	**301**	P	**Pn**	**11 44 40.5**	**-0.1**
CHOJ	**Chosi**	**1.39**	**333**	P	**Pn**	**11 44 39.9**	**-0.9**
CHOJ				*e*S	**Sn**	**11 44 57.6**	**-0.7**
JMKN	**Mikurajimanish**	**1.79**	**252**	P	**Pn**	**11 44 46.5**	**+0.1**
JMKN				S	**Sn**	**11 45 09.3**	**+1.0**
JHJ	**Hachijo jima 2**	**2.05**	**229**	Pn	**Pn**	**11 44 49.6**	**-0.3**
	11nm,0.3s,baz=109,slow=23,SNR=11						
JHJ				Sn	**Sb**	**11 45 16.8**	**-2.0**
	19nm,0.3s,baz=256,slow=22,SNR=6.4						
	26nm,0.2s						
JYT	**Yasato**	**2.11**	**327**	*e*P	**Pn**	**11 44 51.0**	**+0.1**
MJAR	**Matsushiro Arr**	**3.48**	**307**	Pn	**Pn**	**11 45 10.0**	**+0.3**
	0.2nm,0.3s,baz=121,slow=8.6,SNR=12						
MJAR				Sn	**Sn**	**11 45 52.4**	**+2.5**
	0.1nm,0.3s,baz=133,slow=11,SNR=5.1						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**54.55**	**188**	P	**P**	**11 53 43.6**	**+0.5**
	0.3nm,0.7s,baz=5.4,slow=7.6,SNR=7.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**58.28**	**188**	P	**P**	**11 54 10.7**	**+1.0**
	0.2nm,0.7s,baz=1.9,slow=5.5,SNR=4.5						
	0.2nm,0.7s						

*SOME **27** 11:44:39.4, 38°.07N×72°.35E, h5km*
*IDC **27** 11:44:40.6±4.2, 36°.65N×71°.88E, h87km±37km, mb3.5/5, mbtmp3.7/11, MS2.8/1, Error ellipse: s-maj=37.3km s-min=15.6km az=163.0*

ISC 27 11:44:41.2±0.7, 36°.66N±0°.07×71°.90E±0°.07, h100km, n26, σ1$ 84/31, mb3.8/5, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**5.66**	**346**	*e*P	**Pn**	**11 46 05.7**	**+2.7**
	2.8nm,0.5s						
IUG				*e*S	**Sn**	**11 47 06.0**	**-0.7**
	37nm,0.4s						
MRKS	**Merke**	**6.16**	**9**	*e*P	**Pn**	**11 46 11.5**	**+1.8**
	2.9nm,0.4s						
MRKS				*e*S	**Sn**	**11 47 16.0**	**-2.7**
	19nm,0.6s						
AAK	**Ala-Archa**	**6.29**	**18**	P	**Pn**	**11 46 12.5**	**+0.9**
	3.1nm,0.5s,baz=189,slow=8.9,SNR=5.8						
AAK				S	**Sn**	**11 47 20.9**	**-1.1**
	9.7nm,0.7s,baz=333,slow=21,SNR=16						
KK31	**Karatay Array**	**6.52**	**351**	Pn	**Pn**	**11 46 16.2**	**+1.7**
	1.6nm,0.4s,baz=178,slow=13,SNR=23						
KK31				⇑Sn	**Sn**	**11 47 23.7**	**-3.7**
	2.3nm,0.5s,baz=180,slow=24,SNR=3.5						
KK31				⇑Lg	Lg	11 47 49.2	
	2.3nm,0.5s						
TKM2	**Tokmak 2**	**6.87**	**23**	⇑Pn	**Pn**	**11 46 20.8**	**+1.4**
	2.4nm,0.9s						
TKM2				⇓Sn	**Sn**	**11 47 35.7**	**-0.3**
	3.1nm,0.7s						
TKM2				⇓Lg	Lg	11 48 03.2	
	6.5nm,0.8s						
GEYT	**Alibeck**	**11.05**	**281**	P	**Pn**	**11 47 15.7**	**-0.5**
	2.7nm,0.4s,baz=108,slow=13,SNR=4.2						
GEYT				S	**Sn**	**11 49 14.1**	**-3.6**
	8.7nm,0.7s,baz=121,slow=14,SNR=7.9						
PYUN	**Piuthan**	**12.67**	**129**	*e*P	**Pn**	**11 47 35.7**	**-2.2**
	9.6nm,0.5s						
MKAR	**Makanchi Array**	**12.74**	**34**	P	**Pn**	**11 47 39.3**	**+0.8**
	0.4nm,0.8s,baz=224,slow=14,SNR=1.9						
DANN	**Dangsing**	**12.99**	**126**	*e*P	**Pn**	**11 47 40.2**	**-2.0**
KOLN	**Koldanda**	**13.28**	**129**	*e*P	**Pn**	**11 47 45.1**	**-0.9**
GKN	**Gorkha**	**13.79**	**125**	*e*P	**Pn**	**11 47 51.1**	**-1.5**
DMN	**Daman**	**14.36**	**125**	*e*P	**Pn**	**11 47 58.6**	**-1.4**
PKIN	**Phulchoki**	**14.58**	**125**	*e*P	**Pn**	**11 48 01.2**	**-1.6**
PKI	**Pulchoki**	**14.59**	**125**	*e*P	**Pn**	**11 48 01.3**	**-1.7**
GUN	**Gumba**	**14.68**	**122**	*e*P	**Pn**	**11 48 02.9**	**-1.3**
KURBB	**Kurchatov Arra**	**14.75**	**17**	P	**P**	**11 48 06.1**	**-1.8**
	0.6nm,0.6s,baz=207,slow=10,SNR=4.7						
JIRN	**Jiri**	**15.05**	**123**	*e*P	**Pn**	**11 48 06.7**	**-2.2**
RAMN	**Ramite**	**15.79**	**124**	*e*P	**Pn**	**11 48 17.1**	**-1.0**
	27nm,0.6s						
AKTO	**Aktyubinsk**	**17.01**	**328**	P	**P**	**11 48 34.3**	**+1.4**
	1.7nm,0.7s,baz=155,slow=12,SNR=4.9						
ZALV	**Zalesovo Beam**	**19.47**	**23**	P	**P**	**11 48 60.0**	**+0.1**
	1.3nm,0.6s,baz=218,slow=9.4,SNR=4.8						
GNI	**Garni**	**21.53**	**288**	LR	LR	12 00 23.3	
	comp=Z,23nm,19.7s,baz=121,slow=44						
SONM	**Songino Array**	**27.65**	**55**	P	**P**	**11 50 20.4**	**+0.9**
	1.8nm,0.8s,baz=250,slow=10,SNR=8.8						
	1.8nm,0.8s						
BRTR	**Keskin Array B**	**30.07**	**288**	P	**P**	**11 50 43.6**	**+2.5**
	1.1nm,0.6s,baz=107,slow=8.3,SNR=5.1						
	1.1nm,0.6s						
ESDC	**Sonseca Array**	**58.02**	**298**	P	**P**	**11 54 24.9**	**+1.3**
	1.0nm,0.8s,baz=63,slow=7.8,SNR=6.4						
	1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.44**	**269**	P	**P**	**11 55 19.5**	**-0.6**
	0.8nm,0.7s,baz=54,slow=6.1,SNR=8.2						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**81.47**	**123**	P	**P**	**11 56 48.5**	**+1.0**
	0.2nm,0.8s,baz=324,slow=4.9,SNR=1.8						
	0.2nm,0.8s						

*IDC **27** 12:09:28.5±1.9, 0°.08S×133°.16E, h0km, mb4.0/3, mbtmp3.9/6, ML3.8/3, Error ellipse: s-maj=42.9km s-min=26.6km az=66.0*
*DJA **27** 12:09:37.3±0.9, 1°.5S±10°×13°.3E±°, h10km, M4.1/6, mb4.5/5, MLv3.9/6*

ISC 27 12:09:35.6±1.2, 0°.41S±0°.09×132°.91E±0°.05, h32km, n19, σ2$ 58/23, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**1.68**	**131**	P	**Pb**	**12 10 05.7**	**-0.2**
RKPI				S	**Sb**	**12 10 29.0**	**+2.4**
SIJI	**Sorong**	**1.71**	**254**	Pn	**Pb**	**12 10 05.6**	**-0.8**
	92nm,0.3s,baz=240,slow=22,SNR=185						
SIJI				Sn	**Sb**	**12 10 28.2**	**+0.7**
	58nm,0.3s,baz=266,slow=22,SNR=14						
	245nm,0.3s						
SWI	**Sorong**	**1.71**	**255**	P	**Pb**	**12 10 05.8**	**-0.7**
SWI				S	**Sb**	**12 10 28.2**	**+0.6**
FAKI	**Fak Fak**	**2.58**	**195**	P	**Pn**	**12 10 16.9**	**+1.7**
FAKI				S	**Sn**	**12 10 47.2**	**+1.6**
FAKI	**Fak Fak**	**2.58**	**195**	P	**Pn**	**12 10 17.6**	**+2.4**
MSAI	**Masohi**	**4.94**	**234**	P	Pn	12 10 52.6	+5.0
LBMI	**Labuha**	**5.41**	**268**	P	**Pn**	**12 10 57.6**	**+3.4**
	0.1nm11nm,0.6s						
AAI	**Ambon**	**5.73**	**235**	P	**Pn**	**12 11 01.5**	**+3.0**
	0.2nm47nm,0.6s						
KDU	**Kakadu**	**12.21**	**182**	P	**Pn**	**12 12 26.8**	**-0.6**
MTN	**Manton Dam**	**12.48**	**188**	P	**Pn**	**12 12 29.7**	**-1.5**
KNRA	**Kununurra**	**15.72**	**195**	P	**Pn**	**12 13 13.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P	**P**	**12 13 54.1**	**-0.4**
	0.1nm,0.3s,baz=92,slow=22,SNR=9.1						
	1.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P	**Pn**	**12 13 56.3**	**+0.9**
WRAB	**Tennant Creek**	**19.46**	**176**	P	**Pn**	**12 14 01.7**	**+0.5**
WRA	**Warramunga Arr**	**19.47**	**176**	P	**P**	**12 13 59.9**	**0.0**
	0.3nm,0.3s,baz=354,slow=11,SNR=12						
WRA				S	**S**	**12 17 30.3**	**-8.0**
	0.7nm,0.7s,baz=357,slow=22,SNR=4.6						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**23.14**	**178**	P	**P**	**12 14 39.8**	**+0.4**
	2.1nm,0.4s,baz=356,slow=11,SNR=88						
	2.1nm,0.4s						
WRKA	**Warakurna**	**24.89**	**190**	P	**P**	**12 14 59.5**	**+3.7**
STKA	**Stephens Creek**	**32.36**	**166**	P	**P**	**12 16 03.0**	**+0.7**
	2.5nm,0.4s,baz=332,slow=10.0,SNR=7.2						
	2.5nm,0.4s						
KURBB	**Kurchatov Arra**	**68.56**	**326**	P	**P**	**12 20 31.9**	**-3.3**
	0.4nm,0.7s,baz=118,slow=7.3,SNR=2.7						
	0.4nm,0.7s						

IDC 27 12:14:04.2±1.2, 9°.24S×157°.90E, h0km, mb3.8/4, mbtmp3.9/5, ML4.6/1, MS3.0/4, Error ellipse: s-maj=43.0km s-min=21.7km az=174.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.03**	**96**	Pn	Pn	12 14 40.1	+0.4
	228nm,0.3s,baz=57,slow=16,SNR=8.5						
HNR				Sn	Sn	12 15 05.0	-0.7
	2um,0.3s,baz=163,slow=18,SNR=26						
	477nm,0.4s						
PMG	**Port Moresby**	**10.60**	**268**	LR	LR	12 20 32.9	
	comp=Z,101nm,18.7s,baz=90,slow=37						
DZM	**Mont Dzumac**	**15.17**	**148**	LR	LR	12 22 10.5	
	comp=Z,67nm,18.6s,baz=36,slow=32						
CTA	**Charters Tower**	**15.59**	**225**	LR	LR	12 23 11.4	
	comp=Z,20nm,19.6s,baz=82,slow=35						
WRA	**Warramunga Arr**	**25.13**	**242**	P	P	12 19 31.3	+0.1
	1.5nm,0.7s,baz=67,slow=9.4,SNR=8.0						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**27.05**	**235**	P	P	12 19 48.0	-0.6
	0.6nm,0.9s,baz=61,slow=10,SNR=4.4						
	0.6nm,0.9s						
STKA	**Stephens Creek**	**27.14**	**212**	LR	LR	12 31 14.1	
	comp=Z,35nm,19.0s,baz=210,slow=38						
MKAR	**Makanchi Array**	**86.98**	**318**	P	P	12 26 51.8	+0.3
	0.9nm,0.8s,baz=108,slow=4.9,SNR=6.0						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**87.64**	**326**	P	P	12 26 54.5	+0.1
	0.4nm,0.3s,baz=122,slow=7.0,SNR=1.7						
	0.4nm,0.3s						

*IDC **27** 12:20:09.2±1.3, 1°.00S×123°.73E, h0km, mb3.5/4, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=51.4km s-min=22.5km az=70.0*
*DJA **27** 12:20:11.0±0.3, 1°.5S±3°×12°.4E±°, h10km, M4.0/12, mb4.2/3, mB5.0/1, MLv4.0/12, Mw(mB)4.3/1*

ISC 27 12:20:09.9±0.8, 1°.31S±0°.05×123°.76E±0°.05, h10km, n20, σ2$ 20/22, mb3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.02**	**285**	P	**Pg**	**12 20 28.2**	**-1.3**
LUWI				S	**Sg**	**12 20 40.9**	**-1.9**
KMSI	**Cibinong**	**1.89**	**7**	P	**Pb**	**12 20 45.9**	**+1.4**
APSI	**Ampana**	**2.15**	**281**	P	**Pn**	**12 20 45.0**	**-0.7**
APSI				S	**Sb**	**12 21 14.3**	**-1.2**
SANI	**Sanana**	**2.35**	**108**	P	**Pn**	**12 20 47.3**	**-1.2**
MRSI	**Marisa**	**2.54**	**314**	P	**Pn**	**12 20 51.7**	**+0.5**
LBMI	**Labuha**	**3.80**	**80**	P	**Pn**	**12 21 10.7**	**+2.1**
NLAI	**Namlea**	**3.85**	**120**	P	**Pn**	**12 21 11.2**	**+2.0**
TTSI	**Tana Toraja**	**4.29**	**246**	P	**Pn**	**12 21 14.7**	**-0.6**
BBSI	**Bau Bau**	**4.31**	**196**	P	**Pn**	**12 21 14.7**	**-0.9**
BNSI	**Bone**	**4.76**	**230**	P	**Pb**	**12 21 33.7**	**+0.2**
SPSI	**Sidrap Palu**	**4.78**	**236**	P	**Pn**	**12 21 23.4**	**+1.5**
AAI	**Ambon**	**5.02**	**118**	P	**Pb**	**12 21 36.8**	**-1.1**
BKSI	**Bulukumba**	**5.39**	**222**	P	**Pn**	**12 21 30.0**	**-0.4**
	0.1nm19nm,0.6s						
KAPI	**Kappang**	**5.43**	**227**	Pn	**Pn**	**12 21 35.3**	**+4.3**
	3.4nm,0.3s,baz=45,slow=7.1,SNR=3.5						
	8.0nm,0.3s						
BSSI	**Bau Bau, Buton**	**5.80**	**214**	P	**Pn**	**12 21 36.3**	**+0.2**
BKB	**Balikpapan**	**6.86**	**270**	P	**Pn**	**12 21 55.0**	**+4.4**
WRA	**Warramunga Arr**	**21.21**	**151**	P	**P**	**12 24 59.1**	**+3.1**
	1.6nm,0.7s,baz=326,slow=11,SNR=17						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**24.30**	**157**	P	**P**	**12 25 31.8**	**+3.9**
	0.6nm,0.5s,baz=334,slow=8.4,SNR=19						
	0.6nm,0.5s						
SONM	**Songino Array**	**51.24**	**345**	P	**P**	**12 29 13.2**	**-0.7**
	0.4nm,0.4s,baz=164,slow=8.4,SNR=3.5						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.47**	**330**	P	**P**	**12 30 44.7**	**-1.9**
	0.1nm,0.3s,baz=134,slow=5.3,SNR=1.7						
	0.1nm,0.3s						

*NNC **27** 12:40:07.3±2.7, 40°.90N×76°.04E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=18.8km s-min=15.7km az=25.0*
*SOME **27** 12:40:08.5, 41°.07N×76°.05E, h0km*
*KRNET **27** 12:40:11.0±0.1, 41°.15N×76°.00E, h11km, mb2.6*

ISC 27 12:40:09.8±2.1, 41°.08N±0°.08×76°.02E±0°.04, h13km±12km, n28, σ1$ 26/47, 8C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.18**	**8**	⇑*i*P	**Pb**	**12 40 31.7**	**-0.4**
	baz=9.0						
ULHL				⇑*i*S	**Sn**	**12 40 47.9**	**-0.3**
	baz=9.0						
BOOM	**Boomskoye usch**	**1.41**	**358**	⇑*i*P	**Pg**	**12 40 36.6**	**-0.3**
	baz=58						
BOOM				⇑*i*S	**Sg**	**12 40 55.4**	**+0.1**
	baz=58						
TARG	**Taragay, Kyrgy**	**1.49**	**64**	⇓*i*P	**Pb**	**12 40 39.0**	**+1.4**
	baz=66						
TARG				⇓*i*S	**Sg**	**12 40 59.5**	**+1.6**
	baz=66						
UCH	**Uchtor**	**1.61**	**316**	⇑*i*P	**Pg**	**12 40 40.5**	**-0.2**
	baz=15						
UCH				⇑*i*S	**Sg**	**12 41 01.6**	**0.0**
	baz=15						
TKM2	**Tokmak 2**	**1.87**	**350**	⇑Pn	**Pb**	**12 40 43.9**	**0.0**
	1.5nm,0.8s						
TKM2				⇓Sn	**Sg**	**12 41 10.0**	**+0.1**
	1.4nm,0.2s						
AAK	**Ala-Archa**	**1.93**	**324**	⇓*i*P	**Pb**	**12 40 45.8**	**+0.9**
	baz=23						
AAK				⇓*i*S	**Sg**	**12 41 11.3**	**-0.5**
	baz=23						
MTBS	**Maitube**	**2.07**	**8**	*e*P	**Pg**	**12 40 48.6**	**-0.9**
	3.5nm,0.1s						
MTBS				*e*S	**Sg**	**12 41 17.5**	**+1.1**
	6.1nm,0.1s						
MTBS	**Maitube**	**2.07**	**8**	Pg	**Pg**	**12 40 48.6**	**-0.9**
	3.2nm,0.2s						
MTBS				Lg	Lg	12 41 17.5	
	6.1nm,0.3s						
TNSS	**Tian-Shan**	**2.08**	**19**	*e*P	**Pb**	**12 40 48.3**	**+0.7**
	3.2nm,0.1s						
T

BJI ***27*** *12:49:29.0±0.0,3˚.30S×146˚.10E,h10km,mb4.6/24, mB5.3/11,Ms4.9/4,Ms7 4.6/4*

NEIC ***27*** *12:49:30.6±1.1,3˚.22S±0˚.07×146˚.02E±0˚.10,h10km±1km, mb4.7/18,Error ellipse: s-maj=18.8km s-min=8.0km az=121.0*

DJA ***27*** *12:49:33.5±1.4,3˚S±4˚×14˚6E±˚,h28km±12km,M4.5/24, mB5.1/3,mb4.5/24,MLv4.4/5,Mw(mB)4.4/3*

IDC ***27*** *12:49:33.2±1.0,3˚.47S×145˚.73E,h0km,mb4.3/12, mbtmp4.4/15,ML4.4/2,MS3.6/29,Error ellipse: s-maj=32.9km s-min=14.6km az=95.0*

GCMT ***27*** *12:49:36.0±0.3,3˚.22S±0˚.02×145˚.98E±0˚.03,h24km±2km, MW4.8/73,Moment Tensor Solution. s10,c11; s73,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.39±.19; Mθθ0.18±.12; Mϕϕ0.20±.15; Mrθ0.08±.16; Mϕθ1.78±.07; Mϕr0.30±.17; Best double couple: M0 1.80600×10^16 NP1:ϕs180.00000°,δ89.00000°,λ-170.00000°. NP2: ϕs90.00000°,δ80.00000°,λ-1.00000°. Principal axes: T 2.0050, Plg6.0000°, Azm314.0000°; N -0.3980, Plg80.0000°, Azm185.0000°; P -1.6070, Plg8.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 12:49:33.3±0.6,3˚.27S±0˚.06×146˚.14E±0˚.09,h25km,n97, σ1ᵍ97/75,mb4.5/30,MS3.7/27,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.73**	**45**		**Pn**	**12 50 01.4**	**-0.5**
GENI	**Genyem**	**6.00**	**276**	P	**Pn**	**12 51 02.2**	**+1.7**
	0.3nm32nm,0.5s						
PMG	**Port Moresby**	**6.18**	**171**	Pn	**Pn**	**12 51 02.7**	**-0.3**
	35nm,1.0s,baz=236,slow=8.5,SNR=8.0						
PMG				LR	LR	12 53 13.1	
	comp=Z,270nm,21.9s,baz=354,slow=36						
PMG	**Port Moresby**	**6.18**	**171**	Pn	**Pn**	**12 51 03.0**	**0.0**
SMPI	**Sarmi**	**7.53**	**280**	P	**Pn**	**12 51 24.3**	**+2.8**
	0.1nm29nm,1.0s						
MMPI	**Merauke**	**7.70**	**228**	P	**Pn**	**12 51 24.8**	**+0.9**
	0.1nm17nm,0.7s						
COEN	**Coen**	**11.01**	**195**	Pn	**Pn**	**12 52 10.4**	**+1.0**
COEN	**Coen**	**11.01**	**195**	P	**Pn**	**12 52 10.4**	**+1.0**
FAKI	**Fak Fak**	**13.87**	**271**	Pn	**Pn**	**12 52 44.0**	**-4.4**
FAKI	**Fak Fak**	**13.87**	**271**	P	**Pn**	**12 52 50.8**	**+2.3**
	12nm,1.7s						
MTSU	**Mount Surprise**	**14.88**	**187**	P	**P**	**12 53 04.6**	**-3.1**
HNR	**Honiara**	**15.02**	**115**	LR	LR	12 57 59.4	
	comp=Z,3μm,21.8s,baz=290,slow=33						
SIJI	**Sorong**	**15.05**	**279**	LR	LR	12 59 34.6	
	comp=Z,75nm,18.1s,baz=90,slow=41						
SWI	**Sorong**	**15.06**	**279**	P	**P**	**12 53 07.2**	**-2.5**
	22nm,1.2s						
CTA	**Charters Tower**	**16.71**	**180**	Pn	**P**	**12 53 28.5**	**+0.4**
	0.5nm,0.3s,baz=345,slow=9.8,SNR=12						
CTA				LR	LR	13 00 05.7	
	comp=Z,306nm,18.1s,baz=4.5,slow=38 7.1nm,0.7s						
CTA	**Charters Tower**	**16.71**	**180**	P	**P**	**12 53 30.2**	**+2.1**
CTAO	**Charters Tower**	**16.71**	**180**		**Pn**	**12 53 24.8**	**-1.2**
CTAO	**Charters Tower**	**16.71**	**180**	P	**P**	**12 53 30.2**	**+2.1**
MTN	**Manton Dam**	**17.62**	**237**		**Pn**	**12 53 35.1**	**-2.2**
MTN				IAmb	IAmb	12 53 37.3	
	comp=Z,19nm,0.8s						
WB0	**Warramunga Arr**	**20.00**	**214**	P	**P**	**12 54 02.6**	**-1.6**
WB0				IAmb	IAmb	12 54 05.3	
	comp=Z,79nm,1.1s						
WR0	**Warramunga Arr**	**20.08**	**213**	P	**P**	**12 54 03.5**	**-1.5**
WR0				IAmb	IAmb	12 54 06.2	
	comp=Z,66nm,0.8s						
WRAB	**Tennant Creek**	**20.16**	**214**	P	**P**	**12 54 04.1**	**-1.9**
SANI	**Sanana**	**20.16**	**273**	P	Pn	12 54 08.4	+0.4
	comp=Z,13nm,0.9s						
WB2	**Warramunga Arr**	**20.17**	**214**	P	**P**	**12 54 04.8**	**-1.3**
WRA	**Warramunga Arr**	**20.18**	**214**	P	**P**	**12 54 05.5**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=36,slow=12,SNR=217						
WRA				LR	LR	13 03 12.8	
	comp=Z,105nm,18.3s,baz=11,slow=41 comp=Z,54nm,0.9s						
WRA	**Warramunga Arr**	**20.18**	**214**	P	**P**	**12 54 03.8**	**-2.4**
KNRA	**Kununurra**	**21.08**	**233**	P	**P**	**12 54 12.9**	**-3.1**
KNRA				IAmb	IAmb	12 54 23.9	
	comp=Z,56nm,0.7s						
KNRA	**Kununurra**	**21.08**	**233**	P	**P**	**12 54 14.7**	**-1.2**
EIDS	**Eidsvold**	**22.48**	**168**	P	**P**	**12 54 28.2**	**-2.7**
EIDS				IAmb	IAmb	12 54 40.4	
	comp=Z,15nm,1.1s						
SOEI	**Soe**	**22.65**	**252**	P	**P**	**12 54 28.1**	**-4.8**
SOEI				IAmb	IAmb	12 54 43.2	
	comp=Z,34nm,1.0s						
SOEI	**Soe**	**22.65**	**252**	P	**P**	**12 54 32.2**	**-0.8**
	comp=Z,73nm,1.0s						
DAV	**Davao City (W)**	**22.95**	**297**	LR	LR	13 04 10.9	
	comp=Z,46nm,18.3s,baz=59,slow=39						
BATI	**Baumata**	**23.34**	**252**	P	**P**	**12 54 39.4**	**-0.6**
	comp=Z,32nm,0.7s,baz=114,slow=5.8,SNR=5.8						
BATI				LR	LR	13 03 26.7	
	comp=Z,160nm,21.1s,baz=87,slow=36 comp=Z,32nm,0.7s						
BATI	**Baumata**	**23.34**	**252**	P	**P**	**12 54 40.1**	**+0.1**
	comp=Z,37nm,1.0s						
AS31	**Alice Springs**	**23.47**	**209**	P	**P**	**12 54 39.7**	**-1.5**
AS31				IAmb	IAmb	12 54 48.3	
	comp=Z,5.7nm,0.7s						
ASAR	**Alice Springs**	**23.47**	**209**	P	**P**	**12 54 40.3**	**-0.9**
	comp=Z,13nm,0.8s,baz=40,slow=8.6,SNR=121						
ASAR				LR	LR	13 04 49.6	
	comp=Z,245nm,20.5s,baz=29,slow=40 comp=Z,13nm,0.8s						
ASAR	**Alice Springs**	**23.47**	**209**	P	**P**	**12 54 40.1**	**-1.0**
APSI	**Ampana**	**24.58**	**275**	P	**P**	**12 54 54.4**	**+2.8**
	comp=Z,16nm,1.1s						
INKA	**Innaminka**	**24.87**	**191**	P	**P**	**12 54 57.4**	**+3.3**
FITZ	**Fitzroy Crossi**	**24.91**	**232**	P	**P**	**12 54 53.1**	**-1.4**
	comp=Z,31nm,0.9s,baz=1.6,slow=5.7,SNR=69						
FITZ				LR	LR	13 05 17.5	
	comp=Z,261nm,20.6s,baz=332,slow=39 comp=Z,31nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.91**	**232**	P	**P**	**12 54 52.4**	**-2.1**
FITZ				IAmb	IAmb	12 54 55.3	
	comp=Z,26nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.91**	**232**	P	**P**	**12 54 53.3**	**-1.2**
BNSI	**Bone**	**25.99**	**267**	P	**P**	**12 55 07.3**	**+2.9**
	comp=Z,27nm,1.3s						
BKSI	**Bulukumba**	**26.02**	**265**	P	**P**	**12 55 06.7**	**+2.0**
	comp=Z,18nm,1.3s						
TTSI	**Tana Toraja**	**26.28**	**270**	P	**P**	**12 55 09.1**	**+2.1**
	comp=Z,4μmcomp=Z,25nm,0.6s						
SPSI	**Sidrap Palu**	**26.32**	**268**	P	**P**	**12 55 07.6**	**+0.2**
	comp=Z,74nm,1.2s						
OOD	**Oodnadatta**	**26.35**	**201**	P	**P**	**12 55 09.0**	**+1.6**
DZM	**Mont Dzumac**	**27.16**	**135**	LR	LR	13 04 46.0	
	comp=Z,238nm,18.4s,baz=16,slow=33						
WRKA	**Warakurna**	**27.63**	**217**	P	**P**	**12 55 20.5**	**+1.4**
LCRK	**Leigh Creek**	**28.05**	**195**	P	**P**	**12 55 25.3**	**+2.6**
STKA	**Stephens Creek**	**28.77**	**188**	P	**P**	**12 55 31.5**	**+2.3**
	comp=Z,5.6nm,0.7s,baz=345,slow=10.0,SNR=10						
STKA				LR	LR	13 07 12.6	
	comp=Z,131nm,18.6s,baz=7.7,slow=37 comp=Z,5.6nm,0.7s						
STKA	**Stephens Creek**	**28.77**	**188**	P	**P**	**12 55 28.0**	**-1.2**
MULG	**Mulgathing**	**29.19**	**202**	P	**P**	**12 55 32.7**	**-0.2**
LHI	**Lord Howe Isla**	**30.62**	**158**	P	P	12 56 01.1	+16
BBOO	**Buckleboo**	**30.86**	**197**	P	**P**	**12 55 50.0**	**+2.3**
PSA00	**Pilbara Seismi**	**31.36**	**232**	P	**P**	**12 55 50.8**	**-1.4**
PSA00				IAmb	IAmb	12 55 56.9	
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**32.25**	**210**	P	**P**	**12 55 57.0**	**-2.9**
FORT	**Forrest**	**32.25**	**210**	P	**P**	**12 55 59.3**	**-0.6**
MSVF	**Nonsavu**	**34.42**	**117**	LR	LR	13 09 23.4	
	comp=Z,34nm,19.3s,baz=330,slow=34						
LEM	**Lembang**	**38.52**	**263**	LR	LR	13 13 55.2	
	comp=Z,42nm,20.4s,baz=59,slow=38						
NWAO	**Narrogin (SRO)**	**40.02**	**219**	LR	LR	13 14 49.8	
	comp=Z,270nm,20.0s,baz=246,slow=38						
NJ2	**Nanjing**	**43.65**	**326**	*eP*	**P**	**12 57 34.8**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
KSRS	**Korea Array**	**43.91**	**339**	P	**P**	**12 57 40.0**	**+2.0**
	comp=Z,2.5nm,0.9s,baz=158,slow=9.0,SNR=10						
KSRS				LR	LR	13 13 20.0	
	comp=Z,67nm,20.5s,baz=155,slow=32 comp=Z,2.5nm,0.9s						
KSAR	**Wonju Array Be**	**43.92**	**339**	P	P	12 57 32.8	-5.3
KS19	**Wonju Array Si**	**43.98**	**339**	P	**P**	**12 57 37.0**	**-1.6**
KS19				IAmb	IAmb	12 57 40.8	
	comp=Z,6.4nm,0.9s						
URZ	**Urewera**	**44.86**	**145**	LR	LR	13 14 09.9	
	comp=Z,101nm,18.2s,baz=39,slow=33						
RPZ	**Rata Peaks**	**45.92**	**155**	LR	LR	13 14 26.7	
	comp=Z,132nm,20.2s,baz=306,slow=32						
USRK	**Ussuriysk Ar.**	**48.94**	**347**	P	P	12 58 23.5	+6.1
	comp=Z,2.6nm,0.6s,baz=142,slow=7.2,SNR=4.0 comp=Z,2.6nm,0.6s						
MDJ	**Mudanjiang**	**49.92**	**345**	P	**P**	**12 58 22.5**	**-2.4**
MDJ				S	**S**	**13 05 32.3**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.9s						
MDJ				LR	LR		
	comp=Z,290nm,5.5s						
MDJ				LR	LR		
	comp=Z,380nm,6.2s						
MDJ				LR	LR		
	comp=Z,350nm,8.2s						
CMAR	**Chiang Mai Arr**	**51.23**	**297**	P	**P**	**12 58 38.0**	**+2.6**
	comp=Z,1.4nm,0.6s,baz=116,slow=6.1,SNR=10 comp=Z,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**51.23**	**297**	P	**P**	**12 58 33.2**	**-2.1**
PZH	**PanZhiHua**	**52.11**	**307**	P	**P**	**12 58 42.5**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,370nm,6.1s						
HHC	**Hu-ho-hao-te**	**54.08**	**328**	*eP*	**P**	**12 58 57.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,640nm,5.6s						
RAR	**Rarotonga**	**55.48**	**113**	LR	LR	13 20 23.2	
	comp=Z,19nm,21.6s,baz=266,slow=33						
LZH	**Lanzhou**	**55.60**	**319**	*eP*	**P**	**12 59 06.3**	**-1.0**
LZH				pP	pP	12 59 13.8	-0.6
LZH				sP	pwP	12 59 17.0	-0.3
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
PET	**Petropavlovsk**	**57.07**	**9**	P	**P**	**12 59 16.6**	**-0.6**
GTA	**Gaotai**	**60.11**	**320**	*eP*	**P**	**12 59 41.3**	**+2.4**
GTA				pP	pP	12 59 45.8	-0.2
GTA				sP	pwP	12 59 48.5	-0.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**61.62**	**331**	P	**P**	**12 59 51.3**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=143,slow=6.6,SNR=5.8 comp=Z,0.7nm,0.7s						
WMQ	**Urumqi**	**70.18**	**319**	*eP*	**P**	**13 00 43.0**	**-1.1**
WMQ				pmax	pmax		
	comp=Z,17nm,0.6s						
VNDA	**Vanda**	**74.67**	**176**	LR	LR	13 30 33.7	
	comp=Z,36nm,21.5s,baz=314,slow=33						
MKAR	**Makanchi Array**	**74.86**	**320**	P	P	13 01 16.4	+4.5
	comp=Z,0.7nm,0.7s,baz=103,slow=8.8,SNR=6.6 comp=Z,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**76.26**	**328**	P	**P**	**13 01 23.4**	**+3.7**
	comp=Z,1.1nm,0.7s,baz=108,slow=5.2,SNR=6.6						
ZALV				LR	LR	13 33 25.9	
	comp=Z,59nm,21.9s,baz=90,slow=34 comp=Z,1.1nm,0.7s						
AAK	**Ala-Archa**	**78.83**	**314**	LR	LR	13 38 58.2	
	comp=Z,35nm,18.1s,baz=102,slow=38						
NRIK	**Norilʹsk**	**82.43**	**342**	P	P	13 01 57.8	+4.7
	comp=Z,3.1nm,0.6s,baz=110,slow=2.4,SNR=3.7 comp=Z,3.1nm,0.6s						
ILAR	**Eielson Array**	**83.33**	**23**	P	P	13 02 03.8	+6.0
	comp=Z,0.5nm,0.6s,baz=253,slow=4.5,SNR=3.8 comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**84.07**	**324**	LR	LR	13 39 34.1	
	comp=Z,18nm,19.8s,baz=95,slow=36						
QSPA	**South Pole Qui**	**86.68**	**180**	LR	LR	13 39 07.9	
	comp=Z,38nm,22.0s,baz=344,slow=34						
QSPA	**South Pole Qui**	**86.68**	**180**	P	**P**	**13 02 15.1**	**+0.4**
INK	**Inuvik**	**89.45**	**22**	LR	LR	13 41 55.3	
	comp=Z,38nm,18.2s,baz=280,slow=35						
BBB	**Bella Bella**	**89.95**	**38**	LR	LR	13 34 34.9	
	comp=Z,55nm,21.9s,baz=270,slow=30						
GEYT	**Alibeck**	**90.42**	**308**	LR	LR	13 44 53.6	
	comp=Z,52nm,21.8s,baz=137,slow=37						
ARU	**Arti**	**91.36**	**326**	LR	LR	13 42 58.4	
	comp=Z,47nm,21.8s,baz=93,slow=35						
YBH	**Yreka Blue Hor**	**93.02**	**49**	LR	LR	13 36 17.9	
	comp=Z,63nm,21.1s,baz=294,slow=30						
KIRV	**Kirov**	**96.29**	**328**	LR	LR	13 46 29.1	
	comp=Z,112nm,21.3s,baz=97,slow=36						
PFO	**Pinyon Flats O**	**97.97**	**57**	LR	LR	13 39 40.8	
	comp=Z,40nm,20.8s,baz=276,slow=31						
MNK	**Minsk**	**108.77**	**327**	*i* P	**Pdif**	**13 03 54.8**	**-0.5**
	comp=E,2.0nm,0.9s						
MNK				*i* P	**Pdif**	**13 03 54.8**	**-0.5**
MNK				*i* P	**Pdif**	**13 03 54.8**	**-0.5**
	comp=Z,12nm,0.6s,baz=248						
MNK				*i* PP	**PP**	**13 08 24.8**	**-1.7**
MNK				*i* PPP	PPP	13 10 42.4	
MNK				*i* SKS	**SKSdf**	**13 15 08.2**	**-2.4**
MNK				*i* SS	**SS**	**13 23 41.0**	**-1.4**
MNK				*i* SSS	SSS	13 27 45.5	
MNK				*i* LQ	LQ	13 47 14.3	
MNK				*i* LR	LR	13 51 59.5	
MNK				*i* LRM	MLR	13 52 52.4	
	comp=E,10.0nm,21.9s						
MNK				*i* LRM	MLR	13 53 42.6	
	comp=N,1.0nm,19.3s						
MNK				*i* LRM	MLR	13 54 12.9	
	comp=Z,64nm,21.9s						
TORD	**Torodi Ar. Bea**	**143.51**	**288**	PKP	**PKPdf**	**13 09 08.0**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=80,slow=3.5,SNR=2.1						

NOU 27 12:58:40.2,21˚.47S×170˚.64E,h152km,MLv4.2/24, Southeast of Loyalty Islands,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.43**	**269**	P	Pn	12 59 19.9	-0.6
PINNC	**Pines Island,**	**3.17**	**248**	P	Pn	12 59 30.4	+0.6
LIFNC	**LIFOU**	**3.25**	**282**	P	Pn	12 59 29.7	-1.1
YATNC	**Mamie plateau,**	**3.53**	**260**	P	Pn	12 59 33.8	-0.7
ONTNC	**Ouen Toro**	**3.98**	**257**	P	Pn	12 59 40.7	+0.5
NOUC	**Port Laguerre**	**4.08**	**260**	P	Pn	12 59 41.7	+0.2
RTV	**Rentapao**	**4.21**	**330**	P	Pn	12 59 43.7	+0.4
DVP	**Devils Point**	**4.38**	**328**	P	Pn	12 59 45.0	-0.6
KOUNC	**Koumac, New Ca**	**6.01**	**278**	P	Pn	13 00 07.9	+0.9
CTA	**Charters Tower**	**22.84**	**269**	P	P	13 03 31.0	+0.6
CTAO	**Charters Tower**	**22.84**	**269**	P	P	13 03 31.1	+0.7
CMSA	**Cobar Meteorol**	**24.42**	**241**	P	P	13 03 45.4	+0.6
MTSU	**Mount Surprise**	**24.98**	**273**	P	P	13 03 50.3	+0.3
LCRK	**Leigh Creek**	**30.41**	**246**	P	P	13 04 38.2	0.0
OOD	**Oodnadatta**	**32.31**	**252**	P	P	13 04 55.4	+0.4
BBOO	**Buckleboo**	**32.64**	**242**	P	P	13 04 57.6	-0.2
WRAB	**Tennant Creek**	**33.94**	**266**	P	P	13 05 07.4	-1.8
MULG	**Mulgathing**	**33.95**	**247**	P	P	13 05 08.7	-0.4
WRKA	**Warakurna**	**38.95**	**256**	P	P	13 05 50.9	-0.8
FITZ	**Fitzroy Crossi**	**42.37**	**266**	P	P	13 06 19.4	-0.3
MEEK	**Meekatharra**	**47.53**	**253**	P	P	13 06 59.7	-0.8

NEIC ***27*** *13:04:07.0±0.7,38˚.28S±0˚.06×75˚.3W±0˚.2,h19km±6km, mb4.3/2,ML4.0(GUC),Error ellipse: s-maj=20.2km s-min=8.0km az=88.0*

GUC ***27*** *13:04:12.0±0.6,38˚.61S×75˚.03W,h20km±8km,ML4.0*

ISC 27 13:04:08.9±1.3,38˚.32S±0˚.07×75˚.2W±0˚.1,h35km,n35, σ1ᵍ19/39,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR04	**Corral**	**2.09**	**139**		**Pn**	**13 04 41.3**	**-0.1**
LR04	**Corral**	**2.09**	**139**	*eP*	**Pn**	**13 04 41.5**	**+0.1**
LR04				*eS*	**Sn**	**13 05 03.4**	**-2.8**
LR04				IAML		13 05 06.3	
	comp=N,3μm,0.3s						
LR02	**Universidad Au**	**2.13**	**135**	*eS*	**Sn**	**13 05 05.5**	**-1.8**
LR02				IAML		13 05 10.6	
	comp=N,3μm,0.5s						
BI05	**Punta Hualpn**	**2.25**	**46**	Pn	**Pn**	**13 04 43.6**	**-0.1**
LR03	**Panguipulli**	**2.59**	**121**		**Pn**	**13 04 49.2**	**+0.9**
LR03	**Panguipulli**	**2.59**	**121**	*eP*	**Pn**	**13 04 49.5**	**+1.2**
LR03				*eS*	**Sn**	**13 05 18.5**	**-0.2**
LR03				IAML		13 05 22.3	
	comp=N,1μm,0.8s						
GO06	**Curarrehue**	**3.18**	**114**		**Pn**	**13 04 57.7**	**+1.1**
GO06	**Curarrehue**	**3.18**	**114**	*eP*	**Pn**	**13 04 58.0**	**+1.4**
GO06				*eS*	**Sn**	**13 05 34.8**	**+1.4**
LL05	**Los Muermos**	**3.36**	**157**		**Pn**	**13 04 59.2**	**+0.4**
LL05	**Los Muermos**	**3.36**	**157**	*eP*	**Pn**	**13 04 59.8**	**+0.9**
LL05				IAML		13 05 38.9	
	comp=N,200nm,0.3s						
LL04	**Puerto Octay**	**3.37**	**141**		**Pn**	**13 04 59.6**	**+0.6**
LL04	**Puerto Octay**	**3.37**	**141**	*eP*	**Pn**	**13 04 59.9**	**+0.8**
LL04				*eS*	**Sn**	**13 05 35.4**	**-2.5**
LL03	**Petrohue**	**3.55**	**143**	*eS*	**Sn**	**13 05 40.0**	**-2.3**
LL03				IAML		13 05 50.2	
	comp=E,416nm,0.5s						
ML02	**Panimavida**	**3.97**	**51**		**Pn**	**13 05 06.8**	**-0.5**
PLCA	**Paso Flores**	**4.34**	**125**		**Pn**	**13 05 13.2**	**+0.8**
PLCA	**Paso Flores**	**4.34**	**125**	*eP*	**Pn**	**13 05 14.4**	**+2.0**
LL01	**San Ignacio de**	**4.58**	**153**	Pn	**Pn**	**13 05 16.3**	**+0.7**
LL01	**San Ignacio de**	**4.58**	**153**	*eP*	**Pn**	**13 05 16.4**	**+0.7**
BO02	**Sierra Bellavi**	**5.02**	**47**		**Pn**	**13 05 21.2**	**-0.6**
MT01	**Popeta**	**5.49**	**37**	Pn	**Pn**	**13 05 27.6**	**-0.6**
MT09	**Talagante**	**5.68**	**38**		**Pn**	**13 05 30.5**	**-0.5**
BO04	**La Punta**	**5.71**	**42**	Pn	**Pn**	**13 05 30.9**	**-0.3**
LMEL	**Las Melosas**	**6.03**	**44**		**Pn**	**13 05 35.8**	**-0.1**
MT02	**Curacav**	**6.04**	**34**		**Pn**	**13 05 34.4**	**-1.4**
ROC1	**El Roble**	**6.34**	**34**		**Pn**	**13 05 39.1**	**-0.9**
PEL	**Peldehue**	**6.35**	**37**	Pn	**Pn**	**13 05 40.0**	**0.0**
AY01	**Puyuhuapi**	**6.39**	**163**	Pn	**Pn**	**13 05 40.3**	**-0.2**
VA03	**San Esteban**	**6.72**	**36**		**Pn**	**13 05 44.8**	**-0.5**
CO02	**Combarbal**	**7.90**	**27**	Pn	**Pn**	**13 06 00.7**	**-0.7**
CO06	**Fray Jorge**	**8.18**	**22**	Pn	**Pn**	**13 06 03.9**	**-1.3**
GO04	**Tololo Observa**	**8.91**	**26**	Pn	**Pn**	**13 06 14.3**	**-1.1**
CO01	**Juntas del Tor**	**9.34**	**29**	Pn	**Pn**	**13 06 20.7**	**-0.6**
AC05	**El Transito**	**10.32**	**25**		**Pn**	**13 06 33.4**	**-1.1**
SNAA	**Sanae**	**48.61**	**156**	P	**P**	**13 12 49.0**	**+0.3**
SNAA				IAmb	IAmb	13 13 31.9	
	comp=Z,4.8nm,1.4s						
QSPA	**South Pole Qui**	**51.92**	**180**	P	**P**	**13 13 15.8**	**+1.9**
QSPA				IAmb	IAmb	13 13 27.9	
	comp=Z,4.8nm,1.4s						

IDC ***27*** *13:05:55.1±0.8,12˚.91N×144˚.39E,h0km,mb3.7/9, mbtmp3.7/9,MS3.3/6,Error ellipse: s-maj=25.7km s-min=14.1km az=117.0*

ISC 27 13:06:01.4±0.9,12˚.9N±0˚.1×144˚.5E±0˚.2,h50km,n21, σ1ᵍ06/12,mb3.6/9,MS3.1/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.75**	**30**	Pn	**Pn**	**13 06 14.1**	**-1.7**
	687nm,0.3s,baz=44,slow=2.5,SNR=444						
GUMO					Sn	**13 06 26.5**	**+0.2**
	934nm,0.3s,baz=17,slow=23,SNR=12						
JHJ	**Hachijo jima 2**	**20.55**	**349**	LR	LR	13 17 44.5	
	comp=Z,35nm,19.4s,baz=132,slow=34						
H11S3	**WAKE ISLAND Hy**	**22.07**	**73**	T	T	13 33 54.4	
	baz=258,slow=75,SNR=121						
H11S1	**WAKE ISLAND Hy**	**22.08**	**73**	T	T	13 33 53.7	
	baz=258,slow=75,SNR=97						
H11S2	**WAKE ISLAND Hy**	**22.08**	**73**	T	T	13 33 45.7	
	baz=258,slow=75,SNR=121						
PMG	**Port Moresby**	**22.35**	**173**	LR	LR	13 19 38.2	
	comp=Z,65nm,18.0s,baz=267,slow=37						
H11N1	**WAKE ISLAND Hy**	**22.52**	**70**	T	T	13 34 25.5	
	baz=255,slow=75,SNR=270						
H11N2	**WAKE ISLAND Hy**	**22.53**	**70**	T	T	13 34 29.7	
	baz=255,slow=75,SNR=212						
H11N3	**WAKE ISLAND Hy**	**22.54**	**70**	T	T	13 34 26.9	
	baz=255,slow=75,SNR=206						
MJAR	**Matsushiro Arr**	**24.17**	**348**	P	**P**	**13 11 13.8**	**+0.7**
	1.8nm,0.8s,baz=167,slow=9.1,SNR=5.7						
MJAR				LR	LR	13 20 09.3	
	comp=Z,66nm,18.3s,baz=177,slow=35 1.8nm,0.8s						
KSRS	**Korea Array**	**28.55**	**332**	P	**P**	**13 11 51.6**	**-0.9**
	0.6nm,0.5s,baz=152,slow=10,SNR=2.4						
KSRS				LR	LR	13 23 02.9	
	comp=Z,38nm,18.5s,baz=185,slow=36 0.6nm,0.5s						
WRA	**Warramunga Arr**	**34.16**	**197**	P	**P**	**13 12 40.8**	**-1.2**
	1.6nm,1.0s,baz=20,slow=9.4,SNR=7.3 1.6nm,1.0s						
KLR	**Kul'dur**	**37.69**	**346**	LR	LR	13 27 41.6	
	comp=Z,71nm,18.9s,baz=178,slow=35						
ASAR	**Alice Springs**	**37.82**	**196**	P	**P**	**13 13 13.1**	**-0.3**
	0.7nm,0.7s,baz=19,slow=10,SNR=12 0.7nm,0.7s						
PETK	**Petropavlovsk-**	**41.44**	**12**	LR	LR	13 27 28.5	
	comp=Z,43nm,21.4s,baz=209,slow=31						
CMAR	**Chiang Mai Arr**	**44.10**	**283**	P	**P**	**13 14 05.5**	**+0.3**
	0.4nm,0.5s,baz=77,slow=7.8,SNR=1.7 0.4nm,0.5s						
SONM	**Songino Array**	**47.05**	**325**	P	**P**	**13 14 29.1**	**+0.9**
	0.4nm,0.6s,baz=108,slow=4.7,SNR=2.1 0.4nm,0.6s						
MKAR	**Makanchi Array**	**61.70**	**316**	P	**P**	**13 16 14.2**	**-0.4**
	0.2nm,0.3s,baz=86,slow=8.3,SNR=1.9 0.2

SIJI	**Sorong**	**5.87**	**132**	P		**Pn**	**13 20 59.5**	**+0.2**
	42nm,0.3s,baz=116,slow=19,SNR=112								
SIJI				S		**Sn**	**13 22 03.5**	**-1.7**
	61nm,0.7s,baz=192,slow=22,SNR=8.9								
SIJI				LR		LR	13 23 29.0		
	comp=Z,772nm,20.9s,baz=268,slow=40								
PAGZ	**Pagadian**	**5.89**	**324**⇓	*eP*		**Pn**	**13 20 59.0**	**-0.4**
PAGZ				eS		**Sn**	**13 22 04.2**	**-1.4**
BUTP	**Butuan**	**5.99**	**348**⇑	*eP*		**Pn**	**13 21 03.4**	**+2.6**
BUTP				eS		**Sn**	**13 22 14.8**	**+6.6**
ZCP	**Zamboanga City**	**6.14**	**309**⇑	*eP*		**Pn**	**13 21 03.3**	**+0.5**
ZCP				eS		**Sn**	**13 22 09.5**	**-2.2**
NLAI	**Namlea**	**6.27**	**178**	P		**Pn**	**13 21 05.2**	**+0.6**
	0.4nm47nm,0.5s								
TOLI2	**Tolitoli**	**6.40**	**252**	Pn		**Pn**	**13 21 07.0**	**+0.6**
APSI	**Ampana**	**6.56**	**233**	P		**Pn**	**13 21 09.8**	**+1.2**
	1.0nm3µm339nm,1.3s								
MSAI	**Masohi**	**6.69**	**162**	P		**Pn**	**13 21 10.8**	**+0.4**
	0.0nm11nm,0.7s								
GLSP	**General Luna,**	**6.71**	**354**⇓	*eP*		**Pn**	**13 21 13.3**	**+2.6**
GLSP				eS		**Sn**	**13 22 26.2**	**+0.4**
AAI	**Ambon**	**6.84**	**169**	P		**Pn**	**13 21 12.9**	**+0.5**
	0.3nm1µm69nm,0.8s								
MPSI	**Mapaga**	**7.49**	**249**	P		**Pn**	**13 21 23.3**	**+2.0**
	0.5nm1µm97nm,0.8s								
FAKI	**Fak Fak**	**8.01**	**138**	Pn		**Pn**	**13 21 28.6**	**+0.1**
FAKI	**Fak Fak**	**8.01**	**138**	P		**Pn**	**13 21 29.0**	**+0.5**
	0.2nm618nm56nm,0.7s								
RKPI	**Ransiki, Papua**	**8.59**	**122**	P		**Pn**	**13 21 36.6**	**+0.1**
	77nm,0.8s								
MYLDM	**Lahad Datu**	**8.62**	**284**	Pn		**Pn**	**13 21 40.5**	**+3.7**
TTSI	**Tana Toraja**	**9.31**	**229**	P		**Pn**	**13 21 47.9**	**+1.6**
	712nm56nm,0.8s								
RCP	**Roxas**	**9.38**	**334**⇑	*eP*		**Pn**	**13 21 48.6**	**+1.4**
SPSI	**Sidrap Palu**	**9.97**	**226**	P		**Pn**	**13 21 56.5**	**+1.3**
	28nm,0.7s								
BNSI	**Bone**	**10.04**	**222**	P		**Pn**	**13 21 56.5**	**+0.2**
	20nm,0.8s								
BAKI	**Biak**	**10.14**	**115**	P		**Pn**	**13 21 57.7**	**0.0**
	2µm274nm,1.1s								
SRPI	**Serui, Papua**	**10.56**	**118**	P		**Pn**	**13 22 02.9**	**-0.5**
	47nm,0.5s								
BKSI	**Bulukumba**	**10.73**	**219**	P		**Pn**	**13 22 06.5**	**+0.9**
	19nm,0.5s								
KAPI	**Kappang**	**10.73**	**222**	P		**Pn**	**13 22 06.0**	**+0.3**
	9.6nm,0.4s,baz=50,slow=9.4,SNR=4.1								
KKM	**Kota Kinabalu**	**11.04**	**286**	Pn		**Pn**	**13 22 13.5**	**+3.5**
BSSI	**Bau Bau, Buton**	**11.16**	**215**	P		**Pn**	**13 22 13.4**	**+1.9**
	428nm31nm,0.5s								
LQP	**Lukban**	**12.18**	**335**⇓	*eP*		**Pn**	**13 22 26.2**	**+0.6**
MTKI	**Muara Teweh, K**	**12.63**	**252**	P		**Pn**	**13 22 32.8**	**+1.2**
	47nm,0.7s								
EDFI	**Ende, Flores**	**12.83**	**204**	P		**Pn**	**13 22 36.2**	**+1.8**
	241nm11nm,0.8s								
SMPI	**Sarmi**	**12.85**	**113**	P		**Pn**	**13 22 34.0**	**-0.5**
	47nm,0.7s								
GENI	**Genyem**	**14.42**	**113**	P		**Pn**	**13 22 54.9**	**-0.6**
	164nm,1.1s								
SBUM	**Sibu**	**14.66**	**268**	P		**P**	**13 23 03.6**	**+0.4**
PLAI	**Plampang**	**14.90**	**217**	P		**Pn**	**13 23 03.2**	**+1.4**
	1µm176nm,0.8s								
TWSI	**Taliwang, Sumb**	**15.39**	**220**	P		**Pn**	**13 23 09.5**	**+1.4**
	55nm,0.8s								
STKI	**Sintang**	**15.69**	**259**	P		**Pn**	**13 23 13.1**	**+1.3**
SRBI	**Singaraja**	**16.07**	**226**	P		**P**	**13 23 18.1**	**-0.8**
	47nm,0.8s								
MTN	**Manton Dam**	**16.36**	**165**			**Pn**	**13 23 17.6**	**-2.7**
JAGI	**Jajag, Banyuwa**	**17.11**	**228**			**Pn**	**13 23 29.5**	**0.0**
KNRA	**Kununurra**	**18.72**	**174**	P		**P**	**13 23 47.8**	**-0.3**
KNRA				IAmb		IAmb	13 23 54.2		
	comp=Z,33nm,0.6s								
UGM	**Wanagama**	**19.63**	**236**	P		**P**	**13 23 58.8**	**+0.7**
UGM				IAmb		IAmb	13 24 14.8		
	comp=Z,162nm,1.2s								
TWG	**Pinlang**	**20.43**	**344**	P		**P**	**13 24 04.7**	**-1.9**
GUMO	**Guam**	**20.62**	**59**	LR		LR	13 30 48.6		
	comp=Z,100nm,22.0s,baz=222,slow=33								
YULB	**Yu-li**	**20.91**	**345**	P		**P**	**13 24 08.9**	**-3.0**
FITZ	**Fitzroy Crossi**	**21.07**	**183**	P		**P**	**13 24 15.1**	**+1.6**
	comp=Z,4.9nm,0.4s,baz=1.6,slow=9.0,SNR=23								
	comp=Z,4.9nm,0.4s								
FITZ	**Fitzroy Crossi**	**21.07**	**183**	P		**P**	**13 24 12.1**	**-1.5**
MANU	**Manus Island**	**21.10**	**104**	P		**P**	**13 24 12.3**	**-1.6**
SSLB	**Suanglung**	**21.38**	**345**	P		**P**	**13 24 15.5**	**-1.4**
SSLB				IAmb		IAmb	13 24 17.0		
	comp=Z,47nm,0.7s								
LEM	**Lembang**	**21.60**	**243**	LR		LR	13 34 34.4		
	comp=Z,104nm,20.0s,baz=57,slow=42								
KNMB	**Chin-men Tao**	**22.80**	**340**	P		**P**	**13 24 30.9**	**-1.1**
COEN	**Coen**	**23.39**	**137**	P		**P**	**13 24 37.1**	**-0.8**
JOW	**Kunigami**	**23.67**	**3**	P		**P**	**13 24 41.0**	**+0.7**
	comp=Z,46nm,0.9s,baz=199,slow=9.1,SNR=4.3								
	comp=Z,46nm,0.9s								
PMG	**Port Moresby**	**23.70**	**122**	LR		LR	13 34 58.5		
	comp=Z,136nm,20.9s,baz=276,slow=39								
WB0	**Warramunga Arr**	**23.86**	**162**	P		**P**	**13 24 40.8**	**-1.4**
WRAB	**Tennant Creek**	**24.01**	**163**	P		**P**	**13 24 42.2**	**-1.2**
WRA	**Warramunga Arr**	**24.01**	**163**	P		**P**	**13 24 42.4**	**-1.1**
	comp=Z,9.4nm,0.4s,baz=340,slow=10,SNR=110								
WRA				S		**S**	**13 28 56.3**	**+0.3**
	comp=Z,4.4nm,1.0s,baz=347,slow=18,SNR=4.7								
WRA				LR		LR	13 34 19.2		
	comp=Z,87nm,19.2s,baz=360,slow=37								
	comp=Z,9.4nm,0.4s								
WB2	**Warramunga Arr**	**24.02**	**163**	P		**P**	**13 24 42.2**	**-1.3**
WB2				IAmb		IAmb	13 24 51.0		
	comp=Z,52nm,0.6s								
WR0	**Warramunga Arr**	**24.09**	**162**	P		**P**	**13 24 42.9**	**-1.3**
WR0				IAmb		IAmb	13 24 50.8		
	comp=Z,41nm,0.8s								
PSA00	**Pilbara Seismi**	**25.44**	**195**	P		**P**	**13 24 57.0**	**+0.5**
PSA00				IAmb		IAmb	13 25 18.0		
	comp=Z,46nm,1.1s								
KRVT	**Keravat (AS076**	**26.17**	**106**	P		**P**	**13 25 02.7**	**-0.5**
	comp=Z,26nm,0.7s,baz=52,slow=2.3,SNR=6.4								
KRVT				LR		LR	13 33 24.8		
	comp=Z,143nm,19.4s,baz=38,slow=32								
	comp=Z,26nm,0.7s								
KULM	**Kulim**	**26.25**	**276**	P		**P**	**13 25 03.5**	**-0.5**
AS31	**Alice Springs**	**27.44**	**166**	P		**P**	**13 25 13.4**	**-1.1**
ASAR	**Alice Springs**	**27.44**	**166**	P		**P**	**13 25 13.5**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=339,slow=6.3,SNR=32								
ASAR				S		**S**	**13 29 58.0**	**+7.6**
	comp=Z,1.2nm,0.9s,baz=347,slow=22,SNR=4.7								
ASAR				LR		LR	13 37 25.6		
	comp=Z,98nm,18.6s,baz=344,slow=39								
	comp=Z,2.3nm,0.6s								
PSI	**Prapat**	**27.92**	**270**	LR		LR	13 38 58.9		
	comp=Z,71nm,18.0s,baz=106,slow=42								
JCJ	**Chichijima**	**28.02**	**30**	LR		LR	13 35 24.5		
	comp=Z,33nm,20.2s,baz=118,slow=34								
JSU	**Suzuyama**	**28.49**	**6**	P		**P**	**13 25 22.1**	**-1.6**
NJ2	**Nanjing**	**29.80**	**346**	*eP*		P	13 25 41.3	+5.9
NJ2				pmax		pmax			
	comp=Z,18nm,0.6s								
CTA	**Charters Tower**	**29.86**	**141**	LR		LR	13 37 20.5		
	comp=Z,135nm,19.8s,baz=326,slow=36								
CRAI	**Chiangrai**	**30.97**	**305**	P		**P**	**13 25 45.7**	**-0.2**
CM31	**Chiang Mai Arr**	**31.34**	**301**	P		**P**	**13 25 48.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.34**	**301**	P		**P**	**13 25 49.3**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=119,slow=7.7,SNR=35								
CMAR				PcP		**PcP**	**13 28 42.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=124,slow=1.2,SNR=5.7								
CMAR				ScP		**ScP**	**13 32 21.1**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=124,slow=1.3,SNR=4.5								
CMAR				LR		LR	13 41 41.5		
	comp=Z,26nm,18.3s,baz=100,slow=42								
	comp=Z,5.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**31.34**	**301**	P		**P**	**13 25 48.9**	**-0.2**
CHTO	**Chiang Mai**	**31.50**	**302**	P		**P**	**13 25 50.1**	**-0.4**
CHTO	**Chiang Mai**	**31.50**	**302**	P		**P**	**13 25 50.4**	**-0.1**
CHTO				pP		**pP**	**13 26 05.0**	**-1.1**
CHTO				sP		**sP**	**13 26 12.3**	**-1.4**
ENH	**Enshi**	**31.67**	**330**	P		**P**	**13 25 51.3**	**-0.7**
ENH				IAmb		IAmb	13 25 54.4		
	comp=Z,14nm,0.8s								
KMI	**Kunming**	**31.95**	**316**	⇑P		**P**	**13 25 54.3**	**-0.4**
KMI				pmax		pmax			
	comp=Z,15nm,0.7s								
JHS	**Saijyo**	**32.29**	**10**	P		**P**	**13 25 57.6**	**+0.3**
JHS				IAmb		IAmb	13 25 59.6		
	comp=Z,20nm,1.0s								
INU	**Inuyama**	**33.47**	**15**	P		**P**	**13 26 07.5**	**-0.1**
INU				pP		**pP**	**13 26 23.1**	**-0.3**
PZH	**PanZhiHua**	**33.52**	**316**	P		**P**	**13 26 11.3**	**+3.0**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,260nm,4.9s								
FORT	**Forrest**	**33.68**	**178**	P		**P**	**13 26 08.6**	**-0.8**
KSAR	**Wonju Array Be**	**34.22**	**1**	P		**P**	**13 26 14.6**	**+0.5**
KSRS	**Korea Array**	**34.23**	**1**	P		**P**	**13 26 14.8**	**+0.7**
	comp=Z,6.5nm,0.6s,baz=177,slow=9.7,SNR=38								
KSRS				PcP		**PcP**	**13 28 50.9**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=182,slow=2.0,SNR=4.6								
KSRS				LR		LR	13 42 23.7		
	comp=Z,27nm,18.9s,baz=190,slow=40								
	comp=Z,6.5nm,0.6s								
KS19	**Wonju Array Si**	**34.28**	**1**	P		**P**	**13 26 14.8**	**+0.2**
KS19				IAmb		IAmb	13 26 25.6		
	comp=Z,50nm,1.8s								
MJAR	**Matsushiro Arr**	**34.91**	**16**	P		**P**	**13 26 20.0**	**0.0**
	comp=Z,2.5nm,0.8s,baz=185,slow=9.4,SNR=9.0								
MJAR				PcP		**PcP**	**13 28 52.7**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=159,slow=2.7,SNR=4.3								
MJAR				LR		LR	13 38 37.8		
	comp=Z,45nm,20.8s,baz=200,slow=33								
	comp=Z,2.5nm,0.8s								
XAN	**Xi'an**	**35.07**	**334**	⇑P		**P**	**13 26 20.5**	**-1.0**
XAN				pP		pP	13 26 34.8	-2.3
XAN				sP		sP	13 26 43.0	-1.7
XAN				pmax		pmax			
	comp=Z,25nm,0.8s								
XAN	**Xi'an**	**35.07**	**334**	P		**P**	**13 26 20.8**	**-0.7**
HNR	**Honiara**	**35.21**	**111**	LR		LR	13 41 31.1		
	comp=Z,846nm,19.8s,baz=230,slow=37								
CD2	**Chengdu**	**35.27**	**324**	*eP*		**P**	**13 26 24.0**	**+0.8**
HNS	**HongShan**	**35.95**	**343**	⇑P		**P**	**13 26 30.0**	**+1.1**
HNS				pmax		pmax			
	comp=Z,14nm,1.0s								
JSD	**Sado**	**36.33**	**15**	P		**P**	**13 26 30.9**	**-1.2**
BBOO	**Buckleboo**	**36.73**	**167**	P		**P**	**13 26 34.8**	**-0.9**
EIDS	**Eidsvold**	**36.74**	**142**	P		**P**	**13 26 34.4**	**-1.5**
EIDS				IAmb		IAmb	13 26 35.2		
	comp=Z,9.6nm,0.9s								
JMM	**Marumori**	**36.90**	**18**	P		**P**	**13 26 36.9**	**-0.1**
STKA	**Stephens Creek**	**37.46**	**159**	P		**P**	**13 26 41.4**	**-0.5**
	comp=Z,25nm,0.6s,baz=334,slow=8.9,SNR=66								
STKA				LR		LR	13 45 20.5		
	comp=Z,58nm,19.3s,baz=20,slow=41								
	comp=Z,25nm,0.6s								
STKA	**Stephens Creek**	**37.46**	**159**	P		**P**	**13 26 41.2**	**-0.6**
STKA				IAmb		IAmb	13 26 49.4		
	comp=Z,13nm,0.9s								
BJT	**Baijiatuan**	**38.04**	**347**	P		**P**	**13 26 47.3**	**+0.7**
BJT	**Baijiatuan**	**38.04**	**347**	P		**P**	**13 26 47.5**	**+0.9**
BJI	**Beijing**	**38.06**	**347**	P		**P**	**13 26 47.5**	**+0.7**
BJI				pmax		pmax			
	comp=Z,74nm,1.0s								
LZH	**Lanzhou**	**39.15**	**330**	*eP*		**P**	**13 26 56.5**	**+0.3**
LZH				pP		pP	13 27 09.8	-2.3
LZH				sP		sP	13 27 20.5	+1.0
LZH				pmax		pmax			
	comp=Z,36nm,1.1s								
HHC	**Hu-ho-hao-te**	**40.07**	**342**	*eP*		**P**	**13 27 06.0**	**+2.3**
HHC				pmax		pmax			
	comp=Z,23nm,0.7s								
HHC				pmax		pmax			
	comp=Z,310nm,6.0s								
CN2	**Changchun**	**40.58**	**358**	*eP*		**P**	**13 27 11.5**	**+3.8**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
ARMA	**Armidale**	**40.83**	**146**	P		**P**	**13 27 09.9**	**-0.3**
ARMA				IAmb		IAmb	13 27 50.0		
	comp=Z,76nm,1.9s								
USRK	**Ussuriysk Ar.**	**41.21**	**6**	P		**P**	**13 27 13.8**	**+0.9**
	comp=Z,15nm,0.8s,baz=177,slow=5.6,SNR=21								
	comp=Z,15nm,0.8s								
USRK	**Ussuriysk Ar.**	**41.21**	**6**	P		**P**	**13 27 13.6**	**+0.7**
MDJ	**Mudanjiang**	**41.44**	**3**	P		**P**	**13 27 15.8**	**+1.0**
MDJ				pP		pP	13 27 29.8	-1.2
MDJ				sP		sP	13 27 37.3	-1.2
MDJ				ScP		**ScP**	**13 32 57.3**	**+1.2**
MDJ				PcS		**PcS**	**13 33 05.0**	**+2.2**
MDJ				S		**S**	**13 33 26.5**	**+1.3**
MDJ				ScS		**ScS**	**13 37 14.5**	**+2.3**
MDJ				pmax		pmax			
	comp=Z,19nm,0.7s								
MDJ				pmax		pmax			
	comp=Z,300nm,5.9s								
MDJ				LR		LR			
	comp=Z,290nm,5.7s								
MDJ				LR		LR			
	comp=Z,280nm,5.0s								
MDJ				LR		LR			
	comp=Z,340nm,6.2s								
MDJ	**Mudanjiang**	**41.44**	**3**	P		**P**	**13 27 15.7**	**+0.9**
XLT	**XiLinHaoTe**	**41.77**	**348**	*eP*		**P**	**13 27 18.5**	**+0.9**
XLT				pP		pwP	13 27 35.0	-1.2
XLT				sP		sP	13 27 45.3	+4.1
XLT				S		**S**	**13 33 24.0**	**-6.2**
XLT				pmax		pmax			
	comp=Z,74nm,1.1s								
XLT				pmax		pmax			
	comp=Z,220nm,5.1s								
LSA	**Lhasa**	**42.99**	**312**	P		**P**	**13 27 27.6**	**-0.6**
LSA				IAmb		IAmb	13 27 29.8		
	comp=Z,20nm,0.8s								
LSA	**Lhasa**	**42.99**	**312**	P		**P**	**13 27 29.0**	**+0.8**
LSA				pmax		pmax			
	comp=Z,33nm,0.8s								
LSA	**Lhasa**	**42.99**	**312**	P		**P**	**13 27 28.9**	**+0.8**
LSA				pP		**pP**	**13 27 43.0**	**-1.3**
CAN	**Canberra**	**43.46**	**153**	P		**P**	**13 27 31.8**	**+0.4**
CAN				IAmb		IAmb	13 28 15.1		
	comp=Z,71nm,1.7s								
CAN	**Canberra**	**43.46**	**153**	P		**P**	**13 27 31.6**	**+0.2**
CAN				pP		**pP**	**13 27 47.2**	**-0.2**
CAN				sP		**sP**	**13 27 55.9**	**+1.1**
GTA	**Gaotai**	**43.74**	**329**	*eP*		**P**	**13 27 33.5**	**-0.2**
GTA				pP		pP	13 27 49.0	-0.8
GTA				sP		sP	13 27 56.0	-1.2
GTA				PcP		**PcP**	**13 29 21.3**	**+1.7**
GTA				pmax		pmax			
	comp=Z,9.0nm,0.9s								
GOMU	**GeErMu**	**44.30**	**322**	P		**P**	**13 27 38.8**	**+0.3**
GOMU				pmax		pmax			
	comp=Z,170nm,5.9s								
ODAN	**Odare**	**44.58**	**306**	*eP*		**P**	**13 27 40.1**	**-0.6**
	comp=Z,9.6nm,0.9s								
RAMN	**Ramite**	**45.25**	**306**	*eP*		**P**	**13 27 45.6**	**-0.5**
	comp=Z,97nm,0.9s								
JIRN	**Jiri**	**45.88**	**306**	*eP*		**P**	**13 27 51.0**	**-0.2**
	comp=Z,136nm,1.0s								
DZM	**Mont Dzumac**	**46.03**	**125**	P		**P**	**13 27 52.8**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=302,slow=19,SNR=1.6								
DZM				LR		LR	13 46 48.6		
	comp=Z,25nm,18.8s,baz=222,slow=36								
	comp=Z,2.9nm,0.7s								
PALK	**Pallekele**	**46.16**	**277**	LR		LR	13 50 26.9		
	comp=Z,22nm,18.4s,baz=187,slow=40								
KLR	**Kul'dur**	**46.18**	**4**	P		**P**	**13 27 53.1**	**+0.4**
	comp=Z,7.8nm,0.7s,baz=209,slow=5.1,SNR=17								
KLR				LR		LR	13 46 05.0		
	comp=Z,17nm,20.6s,baz=194,slow=34								
	comp=Z,7.8nm,0.7s								
GUN	**Gumba**	**46.24**	**306**	*eP*		**P**	**13 27 53.9**	**-0.1**
	comp=Z,154nm,0.7s								
HIA	**Hailar**	**46.43**	**354**	P		**P**	**13 27 55.5**	**+0.8**
HIA				IAmb		IAmb	13 27 59.0		
	comp=Z,21nm,1.1s								
PKI	**Pulchoki**	**46.48**	**306**	*eP*		**P**	**13 27 54.9**	**-1.0**
	comp=Z,34nm,0.7s								
PKIN	**Phulchoki**	**46.49**	**306**	*eP*		**P**	**13 27 55.0**	**-0.9**
	comp=Z,34nm,0.7s								
KKN	**Kakani**	**46.67**	**306**	*eP*		**P**	**13 27 56.5**	**-0.7**
	comp=Z,11nm,1.1s								
DMN	**Daman**	**46.74**	**306**	*eP*		**P**	**13 27 57.2**	**-0.6**
	comp=Z,81nm,0.9s								
GKN	**Gorkha**	**47.28**	**306**	*eP*		**P**	**13 28 01.2**	**-0.7**
	comp=Z,121nm,1.1s								
ULN	**Ulaanbaatar**	**47.79**	**342**	P		**P**	**13 28 05.8**	**+0.3**
ULN				IAmb		IAmb	13 28 07.6		
	comp=Z,21nm,0.8s								
ULN	**Ulaanbaatar**	**47.79**	**342**	P		**P**	**13 28 06.2**	**+0.7**
SONM	**Songino Array**	**47.97**	**341**	P		**P**	**13 28 07.7**	**+0.8**
	comp=Z,9.3nm,0.7s,baz=157,slow=8.5,SNR=42								
SONM				PcP		**PcP**	**13 29 35.1**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=160,slow=2.9,SNR=6.0								
SONM				LR		LR	13 49 10.8		
	comp=Z,61nm,20.8s,baz=149,slow=37								
	comp=Z,9.3nm,0.7s								
SONM	**Songino Array**	**47.97**	**341**	P		**P**	**13 28 07.2**	**+0.4**
SONM				IAmb		IAmb	13 28 08.8		
	comp=Z,11nm,0.8s								
KOLN	**Koldanda**	**48.02**	**305**	*eP*		**P**	**13 28 07.3**	**-0.5**
	comp=Z,19nm,0.8s								
DANN	**Dangsing**	**48.12**	**306**	*eP*		**P**	**13 28 08.2**	**-0.4**
	comp=Z,194nm,0.7s								
PYUN	**Piuthan**	**48.65**	**305**	*eP*		**P**	**13 28 12.2**	**-0.4**
	comp=Z,170nm,0.8s								
HYBB	**Hyderabad (bro**	**49.48**	**290**	*eP*		**P**	**13 28 17.5**	**-1.4**
WMQ	**Urumqi**	**53.35**	**325**	*eP*		**P**	**13 28 48.0**	**+0.6**
WMQ				pP		pP	13 29 03.0	-0.9
WMQ				pmax		pmax			
	comp=Z,24nm,0.9s								
MSVF	**Nonsavu**	**54.50**	**114**	P		**P**	**13 28 56.9**	**+0.7**
MSVF	**Nonsavu**	**54.50**	**114**	P		**P**	**13 28 57.2**	**+1.0**
PEA0B	**Petropavlovsk-**	**55.98**	**22**	P		**P**	**13 29 07.1**	**+0.9**
PETK	**Petropavlovsk-**	**55.98**	**22**	P		**P**	**13 29 07.1**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=182,slow=5.2,SNR=11								
	comp=Z,2.0nm,0.5s								
PETK	**Petropavlovsk-**	**55.98**	**22**	P		**P**	**13 29 06.6**	**+0.4**
ZSN	**Zaisan**	**57.14**	**327**	*eP*		**P**	**13 29 14.2**	**-0.4**
	baz=327								
SHLS	**Shalkode**	**57.95**	**321**	*eP*		**P**	**13 29 17.9**	**-2.5**
	baz=321								
MK31	**Makanchi Array**	**58.18**	**325**	P		**P**	**13 29 21.6**	**-0.3**
MK31				IAmb		IAmb	13 29 22.6		
	comp=Z,9.8nm,0.7s								
MKAR	**Makanchi Array**	**58.18**	**325**	P		**P**	**13 29 21.8**	**-0.1**
	comp=Z,15nm,0.6s,baz=122,slow=8.5,SNR=181								
MKAR				LR		LR	13 55 29.7		
	comp=Z,52nm,20.9s,baz=126,slow=37								
	comp=Z,15nm,0.6s								
MKAR	**Makanchi Array**	**58.18**	**325**	P		**P**	**13 29 21.6**	**-0.3**
UZB	**Uzynbulak**	**58.23**	**320**	*eP*		**P**	**13 29 21.7**	**-0.7**
	baz=320								
TARG	**Taragay, Kyrgy**	**58.34**	**318**	P		**P**	**13 29 23.1**	**-0.4**
MAKZ	**Makanchi**	**58.37**	**325**	P		**P**	**13 29 22.8**	**-0.4**
MAKZ				IAmb		IAmb	13 29 23.8		
	comp=Z,14nm,0.7s								
MAKZ	**Makanchi**	**58.37**	**325**	P		**P**	**13 29 22.9**	**-0.3**
MAKZ				sP		**pwP**	**13 29 44.5**	**+1.9**
SATY	**Saty**	**58.58**	**320**	*eP*		**P**	**13 29 24.3**	**-0.5**
	comp=Z,8.2nm,0.7s,baz=320								
KPKS	**Kokpek**	**58.60**	**321**	*eP*		**P**	**13 29 24.2**	**-0.7**
	comp=Z,6.2nm,0.6s,baz=320								
KSH	**Kashi**	**58.62**	**315**	P		**P**	**13 29 26.5**	**+1.3**
KSH				pmax		pmax			
	comp=Z,9.0nm,0.7s								
YAK	**Yakutsk**	**58.86**	**2**	P		**P**	**13 29 26.8**	**+0.5**
MA2	**Magadan**	**59.30**	**14**	LR		LR	13 55 02.9		
	comp=Z,11nm,19.9s,baz=180,slow=36								
NRN	**Naryn**	**59.42**	**317**	P		**P**	**13 29 30.3**	**-0.6**
NRN				IAmb		IAmb	13 29 31.5		
	comp=Z,4.8nm,0.6s								
MDOK	**Medeo**	**59.50**	**320**	*eP*		**P**	**13 29 30.3**	**-0.9**
	baz=320								
TNSS	**Tian-Shan**	**59.51**	**319**	*eP*		**P**	**13 29 31.3**	**-0.3**
	baz=319								
CHKK	**Chushkaly**	**59.86**	**320**	*eP*		**P**	**13 29 32.7**	**-0.9**
	baz=320								
KUU	**Kurty**	**60.30**	**320**	*eP*		**P**	**13 29 36.0**	**-0.5**
	comp=Z,15nm,0.7s,baz=320								
TKM2	**Tokmak 2**	**60.34**	**319**	P		**P**	**13 29 37.1**	**-0.1**
	SNR=11								
UCH	**Uchtor**	**60.76**	**318**	P		**P**	**13 29 40.7**	**+0.4**
	SNR=15								
AAK	**Ala-Archa**	**60.95**	**318**	P		**P**	**13 29 41.2**	**0.0**
	comp=Z,2.2nm,0.5s,baz=160,slow=5.0,SNR=6.3								
AAK				LR		LR	13 58 28.8		
	comp=Z,35nm,21.7s,baz=106,slow=38								
	comp=Z,2.2nm,0.5s								
AAK	**Ala-Archa**	**60.95**	**318**	P		**P**	**13 29 41.

RAYN				IAmb	IAmb	13 31 43.0	
	comp=Z,8.0nm,0.7s						
BELG	**Belogornoye**	**81.02**	**322**	P	**P**	**13 31 42.5**	**+0.2**
	comp=Z,36nm,0.9s,baz=168,slow=2.6,SNR=11						
	comp=Z,36nm,0.9s						
P18K	**Big Mountain,**	**81.20**	**30**	P	**P**	**13 31 43.0**	**-0.2**
	baz=261						
GCSA	**Galena City Sc**	**81.38**	**25**	P	**P**	**13 31 44.7**	**+0.8**
	baz=259						
TTA	**Tatalina**	**81.42**	**27**	P	**P**	**13 31 45.0**	**+0.7**
	baz=260						
L19K	**White Mountain**	**81.82**	**28**	P	**P**	**13 31 46.6**	**+0.2**
	baz=261						
OHAK	**Old Harbor**	**81.92**	**33**	P	**P**	**13 31 48.0**	**+1.0**
VOI	**Vohitsoka**	**81.96**	**248**	P	**P**	**13 31 48.4**	**+0.3**
M19K	**Big River Lodg**	**81.99**	**28**	P	**P**	**13 31 47.9**	**+0.6**
	baz=261						
L20K	**Farewell, AK**	**82.31**	**27**	P	**P**	**13 31 49.4**	**+0.4**
	baz=262						
K20K	**Telida**	**82.36**	**27**	P	**P**	**13 31 50.6**	**+1.4**
K20K	**Telida**	**82.36**	**27**	P	**P**	**13 31 50.1**	**+0.9**
	baz=262						
KDAK	**Kodiak Island**	**82.36**	**32**	LR	LR	14 02 34.5	
	comp=Z,15nm,21.5s,baz=255,slow=31						
KDAK	**Kodiak Island**	**82.36**	**32**	P	**P**	**13 31 50.3**	**+1.1**
KDAK				IAmb	IAmb	13 31 58.2	
	comp=Z,38nm,1.6s						
KDAK	**Kodiak Island**	**82.36**	**32**	P	**P**	**13 31 50.3**	**+1.1**
	baz=264						
J20K	**Nowinta River**	**82.44**	**26**	P	**P**	**13 31 50.3**	**+0.8**
J20K	**Nowinta River**	**82.44**	**26**	P	**P**	**13 31 51.2**	**+1.6**
	baz=261						
M20K	**Styx River**	**82.58**	**28**	P	**P**	**13 31 51.8**	**+1.3**
	baz=263						
VNDA	**Vanda**	**82.76**	**173**	P	**P**	**13 31 51.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=320,slow=7.4,SNR=5.8						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**82.76**	**173**	P	**P**	**13 31 51.4**	**+0.5**
IMAR	**Indian Mountai**	**82.88**	**24**	P	**P**	**13 31 53.1**	**+1.3**
G21K	**Allakaket**	**83.06**	**23**	P	**P**	**13 31 54.0**	**+1.3**
	baz=262						
ONI	**Oni**	**83.09**	**312**	P	**P**	**13 31 54.3**	**+0.8**
PPLA	**Purkeypile**	**83.14**	**27**	P	**P**	**13 31 54.4**	**+1.0**
PPLA				IAmb	IAmb	13 32 52.8	
	comp=Z,39nm,1.8s						
PPLA	**Purkeypile**	**83.14**	**27**	P	**P**	**13 31 54.1**	**+0.7**
	baz=263						
F21K	**Alatna River**	**83.17**	**23**	P	**P**	**13 31 54.7**	**+1.4**
	baz=262						
CHUM	**Lake Minchumin**	**83.20**	**26**	P	**P**	**13 31 55.0**	**+1.5**
	baz=263						
H21K	**Melozitna River**	**83.22**	**24**	P	**P**	**13 31 54.8**	**+1.2**
H21K	**Melozitna Rive**	**83.22**	**24**	P	**P**	**13 31 55.3**	**+1.7**
	baz=262						
CNPM	**China Poot**	**83.24**	**31**	P	**P**	**13 31 54.3**	**+0.4**
CNPM				IAmb	IAmb	13 32 28.6	
	comp=Z,8.4nm,1.0s						
CAST	**Castle Rocks**	**83.25**	**27**	P	**P**	**13 31 54.7**	**+0.9**
CAST	**Castle Rocks**	**83.25**	**27**	P	**P**	**13 31 55.0**	**+1.2**
	baz=263						
GEVA	**Gevas**	**83.26**	**308**	P	**P**	**13 31 54.2**	**-0.4**
SKT	**Skwentna**	**83.34**	**28**	P	**P**	**13 31 54.5**	**+0.2**
SKT				IAmb	IAmb	13 31 55.3	
	comp=Z,7.3nm,0.9s						
SKT	**Skwentna**	**83.34**	**28**	P	**P**	**13 31 55.0**	**+0.7**
	baz=264						
BRLK	**Bradley Lake**	**83.44**	**30**	P	**P**	**13 31 55.1**	**+0.2**
BRLK				IAmb	IAmb	13 32 41.2	
	comp=Z,12nm,1.2s						
I21K	**Tanana**	**83.50**	**25**	P	**P**	**13 31 56.5**	**+1.5**
	baz=263						
BRSE	**Bradley Lake S**	**83.51**	**30**	P	**P**	**13 31 56.4**	**+1.2**
	baz=265						
KBZ	**Khabaz**	**83.54**	**313**	P	**P**	**13 31 56.2**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=167,slow=5.8,SNR=7.2						
	comp=Z,2.9nm,0.7s						
SUA	**Susitna One**	**83.67**	**29**	P	**P**	**13 31 56.1**	**0.0**
SUA				IAmb	IAmb	13 31 57.7	
	comp=Z,12nm,0.9s						
SUA	**Susitna One**	**83.67**	**29**	P	**P**	**13 31 56.9**	**+0.8**
	baz=265						
F22K	**John River**	**83.71**	**22**	P	**P**	**13 31 57.3**	**+1.3**
	baz=263						
BPAW	**Bear Paw Mtn.**	**83.81**	**26**	P	**P**	**13 31 57.5**	**+0.8**
BPAW	**Bear Paw Mtn.**	**83.81**	**26**	P	**P**	**13 31 58.0**	**+1.3**
	baz=264						
H22K	**Ishtalitna Cre**	**83.83**	**24**	P	**P**	**13 31 58.5**	**+1.8**
	baz=264						
G22K	**Bettles**	**83.90**	**23**	P	**P**	**13 31 58.3**	**+1.3**
	baz=264						
E22K	**Anaktuvuk Pass**	**83.92**	**22**	P	**P**	**13 31 58.8**	**+1.6**
	baz=263						
M22K	**Willow**	**83.99**	**28**	P	**P**	**13 31 58.1**	**+0.5**
	baz=265						
MLY	**Manley**	**84.01**	**25**	P	**P**	**13 31 58.4**	**+0.7**
MLY	**Manley**	**84.01**	**25**	P	**P**	**13 31 58.6**	**+0.9**
	baz=264,SNR=5.3						
TRF	**Thorofare Moun**	**84.06**	**27**	P	**P**	**13 31 58.2**	**+0.1**
TRF				IAmb	IAmb	13 32 18.6	
	comp=Z,13nm,1.2s						
TRF	**Thorofare Moun**	**84.06**	**27**	P	**P**	**13 31 58.5**	**+0.4**
	baz=265						
O22K	**Cooper Landing**	**84.08**	**30**	P	**P**	**13 31 58.9**	**+0.8**
	baz=266						
RC01	**Rabbit Creek A**	**84.12**	**29**	P	**P**	**13 31 58.4**	**+0.1**
RC01				IAmb	IAmb	13 31 60.0	
	comp=Z,9.8nm,0.8s						
RC01	**Rabbit Creek A**	**84.12**	**29**	P	**P**	**13 31 59.3**	**+1.0**
	baz=266						
SEW	**Seward**	**84.19**	**30**	P	**P**	**13 31 58.9**	**+0.3**
SEW				IAmb	IAmb	13 32 00.6	
	comp=Z,11nm,1.0s						
SEW	**Seward**	**84.19**	**30**	P	**P**	**13 31 59.6**	**+1.1**
	baz=266						
D23K	**Nanushuk River**	**84.43**	**21**	P	**P**	**13 32 01.4**	**+1.8**
	baz=264						
COLD	**Coldfoot**	**84.44**	**23**	P	**P**	**13 32 01.0**	**+1.2**
COLD				IAmb	IAmb	13 32 02.8	
	comp=Z,8.9nm,1.1s						
COLD	**Coldfoot**	**84.44**	**23**	P	**P**	**13 32 01.5**	**+1.7**
	baz=265,SNR=5.6						
PMR	**Palmer**	**84.45**	**29**	P	**P**	**13 31 60.0**	**+0.1**
PMR				IAmb	IAmb	13 32 19.3	
	comp=Z,7.0nm,0.8s						
PMR	**Palmer**	**84.45**	**29**	P	**P**	**13 32 00.5**	**+0.6**
	baz=266,SNR=5.2						
G23K	**Bananza Creek**	**84.46**	**23**	P	**P**	**13 32 01.6**	**+1.7**
	baz=265,SNR=5.6						
C23K	**Itkillik River**	**84.55**	**20**	P	**P**	**13 32 01.8**	**+1.6**
	baz=264						
H23K	**Yukon River**	**84.58**	**24**	P	**P**	**13 32 02.1**	**+1.6**
H23K	**Yukon River**	**84.58**	**24**	P	**P**	**13 32 01.8**	**+1.3**
	baz=265						
MCK	**McKinley**	**84.68**	**26**	P	**P**	**13 32 02.1**	**+1.0**
	baz=266						
NEA2	**Nenana**	**84.68**	**26**	P	**P**	**13 32 02.5**	**+1.4**
	baz=266						
E23K	**Chandalar**	**84.73**	**22**	P	**P**	**13 32 02.9**	**+1.5**
	baz=265,SNR=6.4						
KNK	**Knik Glacier**	**84.76**	**29**	P	**P**	**13 32 02.2**	**+0.6**
	baz=267,SNR=6.1						
PWL	**Port Wells**	**84.79**	**29**	P	**P**	**13 32 02.2**	**+0.6**
PWL				IAmb	IAmb	13 32 03.8	
	comp=Z,13nm,0.9s						
PWL	**Port Wells**	**84.79**	**29**	P	**P**	**13 32 02.3**	**+0.6**
	baz=267,SNR=8.6						
WAT1	**Susitna Watana**	**84.80**	**27**	P	**P**	**13 32 02.5**	**+0.8**
	baz=267						
TOLK	**Toolik Lake Re**	**84.80**	**21**	P	**P**	**13 32 03.2**	**+1.6**
TOLK				IAmb	IAmb	13 32 04.2	
	comp=Z,13nm,1.1s						
TOLK	**Toolik Lake Re**	**84.80**	**21**	P	**P**	**13 32 02.6**	**+1.0**
	baz=265						
SML	**Sawmill**	**84.84**	**28**	P	**P**	**13 32 02.1**	**+0.2**
SML				IAmb	IAmb	13 32 21.4	
	comp=Z,12nm,0.9s						
SML	**Sawmill**	**84.84**	**28**	P	**P**	**13 32 02.1**	**+0.2**
	baz=267,SNR=5.7						
D24K	**Happy Valley**	**85.11**	**21**	P	**P**	**13 32 04.6**	**+1.5**
	baz=266						
M23K	**Glacier View**	**85.13**	**28**	P	**P**	**13 32 04.5**	**+1.1**
	baz=267						
WAT6	**Susitna Watana**	**85.16**	**28**	P	**P**	**13 32 04.8**	**+1.2**
	baz=267						
C24K	**Franklin Bluff**	**85.20**	**20**	P	**P**	**13 32 04.7**	**+1.2**
	baz=266						
H24K	**Noodor Dome**	**85.26**	**24**	P	**P**	**13 32 05.1**	**+1.1**
H24K				IAmb	IAmb	13 34 55.5	
	comp=Z,20nm,1.9s						
H24K	**Noodor Dome**	**85.26**	**24**	P	**P**	**13 32 05.2**	**+1.3**
	baz=267						
SCM	**Sheep Creek Mo**	**85.32**	**28**	P	**P**	**13 32 05.2**	**+0.8**
SCM				IAmb	IAmb	13 32 26.8	
	comp=Z,33nm,1.6s						
SCM	**Sheep Creek Mo**	**85.32**	**28**	P	**P**	**13 32 05.7**	**+1.4**
	baz=268						
DHY	**Denali Highway**	**85.35**	**27**	P	**P**	**13 32 05.7**	**+1.1**
	baz=268						
F24K	**Squaw Lake**	**85.35**	**23**	P	**P**	**13 32 05.9**	**+1.5**
	baz=267						
GLI	**Glacier Island**	**85.39**	**29**	P	**P**	**13 32 05.4**	**+0.7**
GLI				IAmb	IAmb	13 32 24.5	
	comp=Z,9.4nm,0.8s						
GLI	**Glacier Island**	**85.39**	**29**	P	**P**	**13 32 06.0**	**+1.3**
	baz=268						
G24K	**Hadweenzic Riv**	**85.47**	**23**	P	**P**	**13 32 06.2**	**+1.2**
	baz=267						
ILAR	**Eielson Array**	**85.63**	**25**	P	**P**	**13 32 06.8**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=254,slow=4.9,SNR=4.3						
ILAR				LR	LR	14 08 02.4	
	comp=Z,12nm,20.7s,baz=166,slow=34						
KLU	**Klutina**	**85.98**	**29**	P	**P**	**13 32 09.0**	**+1.3**
	baz=269						
KLMR	**Klimovskoe**	**86.05**	**331**	*e*P	**P**	**13 32 06.4**	**-1.5**
KLMR				AMP		13 32 10.9	
	comp=Z,27nm,1.4s						
F25K	**Christian Rive**	**86.22**	**23**	P	**P**	**13 32 09.8**	**+1.1**
	baz=269						
E25K	**Arctic Village**	**86.25**	**22**	P	**P**	**13 32 10.1**	**+1.3**
	baz=269						
J25K	**Salcha River,**	**86.28**	**26**	P	**P**	**13 32 10.7**	**+1.6**
	baz=269						
N25K	**Chitina, Valde**	**86.61**	**29**	P	**P**	**13 32 12.2**	**+1.4**
	baz=270						
BMAR	**Burn Mountain**	**86.62**	**23**	P	**P**	**13 32 12.0**	**+1.3**
F26K	**Sheenjek River**	**86.79**	**22**	P	**P**	**13 32 12.8**	**+1.4**
	baz=270						
G26K	**Porcupine Rive**	**86.94**	**23**	P	**P**	**13 32 13.5**	**+1.4**
	baz=271						
J26L	**Joseph Creek**	**87.06**	**26**	P	**P**	**13 32 12.8**	**-0.2**
J26L				IAmb	IAmb	13 34 02.9	
	comp=Z,12nm,1.9s						
J26L	**Joseph Creek**	**87.06**	**26**	P	**P**	**13 32 13.3**	**+0.4**
	baz=271						
K27K	**Chicken**	**87.72**	**26**	P	**P**	**13 32 15.8**	**-0.2**
	baz=272						
E27K	**Coleen River**	**87.74**	**22**	P	**P**	**13 32 15.2**	**-0.8**
	baz=272						
I27K	**Kandik River**	**87.85**	**25**	P	**P**	**13 32 17.7**	**+1.0**
	baz=273						
H27K	**Steamboat Moun**	**87.86**	**24**	P	**P**	**13 32 17.3**	**+0.6**
	baz=273						
L27K	**Beaver Creek,**	**87.87**	**27**	P	**P**	**13 32 17.4**	**+0.7**
	baz=272						
BCAR	**Beaver Creek A**	**87.89**	**27**	P	**P**	**13 32 17.2**	**+0.3**
EGAK	**Eagle**	**88.08**	**25**	P	**P**	**13 32 17.2**	**-0.5**
	baz=273						
CTG	**Chitna Glacier**	**88.20**	**29**	P	**P**	**13 32 19.5**	**+0.9**
	baz=273						
ASF	**Jabal al Asfar**	**88.37**	**302**	P	**P**	**13 32 21.8**	**+1.9**
	comp=Z,16nm,0.9s,baz=333,slow=0.1,SNR=16						
	comp=Z,16nm,0.9s						
M29M	**Somme Creek**	**89.46**	**28**	P	**P**	**13 32 25.4**	**+1.1**
	baz=276						
L29M	**L29M**	**89.55**	**27**	P	**P**	**13 32 26.2**	**+1.5**
	baz=276						
MMAI	**Mount Meron Ar**	**89.59**	**303**	P	**P**	**13 32 27.0**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=108,slow=11,SNR=4.1						
MMAI				LR	LR	14 19 15.7	
	comp=Z,9.8nm,18.8s,baz=148,slow=40						
	comp=Z,0.6nm,0.3s						
KMBO	**Kilima Mbogo**	**89.69**	**269**	P	**P**	**13 32 27.8**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=65,slow=5.5,SNR=6.3						
	comp=Z,1.6nm,0.5s						
EIL	**Elat**	**90.18**	**300**	P	**P**	**13 32 28.3**	**0.0**
	comp=Z,6.4nm,0.7s,baz=355,slow=3.4,SNR=4.2						
	comp=Z,6.4nm,0.7s						
BRTR	**Keskin Array B**	**90.56**	**310**	P	**P**	**13 32 30.1**	**0.0**
	comp=Z,4.0nm,0.8s,baz=111,slow=5.3,SNR=15						
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**90.56**	**310**	P	**P**	**13 32 29.5**	**-0.5**
ARCES	**ARCESS Array B**	**91.12**	**340**	P	**P**	**13 32 30.8**	**-1.0**
	comp=Z,6.5nm,0.7s,baz=78,slow=6.6,SNR=16						
	comp=Z,6.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**91.15**	**349**	LR	LR	14 18 45.1	
	comp=Z,26nm,19.2s,baz=46,slow=39						
SIT	**Sitka**	**91.69**	**33**	P	**P**	**13 32 35.8**	**+1.2**
	baz=278						
FARO	**Faro, Yukon**	**91.86**	**28**	P	**P**	**13 32 36.3**	**+0.9**
FARO				IAmb	IAmb	13 32 37.6	
	comp=Z,5.5nm,0.9s						
FARO	**Faro, Yukon**	**91.86**	**28**	P	**P**	**13 32 36.4**	**+0.9**
	baz=280						
N32M	**Quiet Lake**	**92.17**	**29**	P	**P**	**13 32 37.4**	**+0.5**
	baz=280						
FINES	**FINESS Array B**	**92.48**	**332**	P	**P**	**13 32 37.2**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=66,slow=6.5,SNR=5.7						
	comp=Z,1.4nm,0.7s						
AKASG	**Malin Array Be**	**92.50**	**321**	P	**P**	**13 32 37.8**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=70,slow=4.1,SNR=7.2						
	comp=Z,0.7nm,0.3s						
MNK	**Minsk**	**92.75**	**325**	*i* P	**P**	**13 32 36.3**	**-3.3**
	comp=E,4.0nm,0.8s						
MNK				*i* P	**P**	**13 32 36.3**	**-3.3**
MNK				*i* P	**P**	**13 32 36.3**	**-3.3**
	comp=Z,31nm,0.7s,baz=81						
MNK				*i* pP	**pP**	**13 32 58.0**	**+0.3**
MNK				*i* PP	**PP**	**13 36 19.1**	**-3.1**
MNK				*i* PPP	PPP	13 38 19.1	
MNK				*i* S	**SKSac**	**13 43 02.2**	**-5.3**
MNK				*i* sS	**ScS**	**13 43 41.4**	**+0.2**
MNK				*i* SS	**SS**	**13 49 50.7**	**-2.3**
MNK				*i* SSS	SSS	13 53 30.9	
MNK				*i* LR	LR	14 14 33.0	
MNK				*i* LRM	MLR	14 15 31.1	
	comp=E,36nm,18.1s						
MNK				*i* LRM	MLR	14 15 44.0	
	comp=N,1.0nm,19.3s						
MNK				*i* LRM	MLR	14 15 53.0	
	comp=Z,58nm,17.4s						
QSPA	**South Pole Qui**	**92.98**	**180**	P	**P**	**13 32 41.5**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=316,slow=1.9,SNR=5.5						
	comp=Z,1.4nm,0.9s						
DLBC	**Dease Lake**	**94.23**	**31**	LR	LR	14 14 41.5	
	comp=Z,14nm,20.4s,baz=252,slow=35						
TGTN	**Hyland Airport**	**94.35**	**28**	P	**P**	**13 32 48.1**	**+1.2**
	baz=284						
WTLY	**Watson Lake, Y**	**94.45**	**29**	P	**P**	**13 32 48.8**	**+1.4**
	baz=284						
MLR	**Muntele Rosu**	**95.48**	**316**	P	**P**	**13 32 53.9**	**+1.3**
	comp=Z,3.4nm,0.6s,baz=61,slow=12,SNR=4.3						
	comp=Z,3.4nm,0.6s						
BURAR	**Bucovina Array**	**95.59**	**318**	P	**P**	**13 32 52.7**	**-0.3**
BURAR				IAmb	IAmb	13 32 56.0	
	comp=Z,3.7nm,0.8s						
BUR08	**Bucovina Ar. S**	**95.60**	**318**	P	**P**	**13 32 53.4**	**+0.4**
BUR08				IAmb	IAmb	13 32 57.8	
	comp=Z,3.3nm,0.8s						
MBAR	**Mbarara**	**96.17**	**270**	LR	LR	14 18 25.1	
	comp=Z,25nm,18.4s,baz=115,slow=37						
NB2	**NORSAR Subarra**	**99.44**	**334**	P	**Pdif**	**13 33 08.3**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=65,slow=4.6						
NOA	**NORSAR Array B**	**99.44**	**334**	P	**Pdif**	**13 33 08.7**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=66,slow=4.5,SNR=5.6						
	comp=Z,1.9nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**110.73**	**53**	P	**PKiKP**	**13 38 01.0**	**+0.2**
	baz=288						
TXAR	**Lajitas Array**	**121.88**	**53**	PKP	**PKiKP**	**13 38 23.4**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=6.8,slow=1.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**123.27**	**288**	PKP	**PKiKP**	**13 38 25.4**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=56,slow=1.7,SNR=14						

DJA 27 14:02:53.8±0.7, 8°S±9'×11°8E±°, h202km±7km, M3.8/10, mb4.3/1, MLv3.6/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.55**	**154**	P	Pn	14 03 22.4	**+1.0**
PLAI				S	S	14 03 44.3	+1.4
TWSI	**Taliwang, Sumb**	**0.76**	**238**	P	Pn	14 03 23.4	+1.1
TWSI				S	S	14 03 45.8	+1.4
SRBI	**Singaraja**	**2.31**	**276**	P	Pn	14 03 36.1	+0.4
IGBI	**Denpasar**	**2.41**	**258**	P	Pn	14 03 37.0	+0.2
JAGI	**Jajag, Banyuwa**	**3.34**	**267**	P	Pn	14 03 47.4	-0.3
BSSI	**Bau Bau, Buton**	**3.65**	**54**	P	Pn	14 03 51.6	+0.2
KMMI	**Kalianget**	**3.75**	**290**	P	Pn	14 03 53.3	+0.7
BKSI	**Bulukumba**	**3.94**	**41**	P	Pn	14 03 55.2	+0.2
EDFI	**Ende, Flores**	**4.14**	**96**	P	Pn	14 03 57.3	-0.2
BNSI	**Bone**	**4.67**	**33**	P	Pn	14 04 04.2	+0.1
BWJI	**Bawean**	**5.43**	**297**	P	Pn	14 04 13.4	-0.4

DDA 27 14:13:22.1±0.0, 40.77N×31.96E, h19km±1km, ML1.2
ISK 27 14:13:23.9, 40.74N×31.75E, h20km, ML2.5/3

ISC 27 14:13:22.4±1.0, 40.75N±0.04×31.88E±0.07, h10km±12km, n8, σ0°33/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCAM	**Yenicaga**	**0.16**	**65**	P	**Pg**	**14 13 25.8**	**-0.1**
BCAM				*i* AML	AML	14 13 28.0	
	comp=N,82nm,0.3s						
BCAM				*i* AML	AML	14 13 28.0	
	comp=E,96nm,0.2s						
BCAM				S	**Sg**	**14 13 28.7**	**+0.3**
KIBS	**BOLU**	**0.33**	**183**	P	**Pg**	**14 13 28.8**	**-0.2**
KIBS				S	**Sb**	**14 13 35.6**	**-0.2**
KIBS				*i* AML	AML	14 13 36.0	
	comp=N,19nm,0.2s						
KIBS				*i* AML	AML	14 13 36.0	
	comp=E,24nm,0.3s						
YUVA	**Yuva-Kibriscik**	**0.39**	**202**	PG	**Pb**	**14 13 31.9**	**+0.5**
YUVA				SG	**Sb**	**14 13 37.7**	**+0.2**
DEVR	**Zonguldak/Devr**	**0.40**	**10**	P	**Pg**	**14 13 30.1**	**-0.1**
DEVR				S	**Sg**	**14 13 35.4**	**-0.1**
AUMIH	**MIHALICIK**	**0.93**	**199**	PG	**Pn**	**14 13 42.0**	**+0.3**
AUMIH				SG	**Sn**	**14 13 54.9**	**-0.3**
AUMIH	**MIHALICIK**	**0.93**	**199**	P	**Pb**	**14 13 40.8**	**+0.1**
AUMIH				S	**Sn**	**14 13 55.4**	**+0.3**
AUMIH				*i* AML	AML	14 14 00.0	
	comp=N,5.8nm,0.3s						
AUMIH				*i* AML	AML	14 14 00.0	
	comp=E,18nm,0.3s						
GULT	**Gulveren**	**1.08**	**254**	PG	**Pb**	**14 13 43.1**	**-0.2**
GULT				SG	**Sb**	**14 13 57.3**	**-0.3**
BRTR	**Keskin Array B**	**1.69**	**127**	PN	**Pg**	**14 13 54.4**	**-0.4**
BRTR				SN	**Sg**	**14 14 16.3**	**-0.5**

NEIC 27 14:17:38.0±0.5, 21.98S±0.05×68.75W±0.07, h109km±7km, Error ellipse: s-maj=8.9km s-min=7.1km az=98.0
GUC 27 14:17:38.4±0.7, 21.98S×68.68W, h106km±3km, ML3.5

ISC 27 14:17:37.6±1.0, 21.98S±0.03×68.73W±0.06, h113km±8km, n34, σ0°46/48, 8C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.51**	**291**		**Pn**	**14 17 54.9**	**-0.2**
PB09	**IPOC Station P**	**0.51**	**291**	↓*i*P	**Pn**	**14 17 55.3**	**+0.3**
PB09				*i* S	**Sn**	**14 18 08.4**	**+0.3**
PB09				IAML		14 18 10.2	
	comp=N,1μm,0.3s						
LVC	**Limon Verde**	**0.65**	**195**		**Pn**	**14 17 56.0**	**-0.3**
LVC	**Limon Verde**	**0.65**	**195**	*e*P	**Pn**	**14 17 56.1**	**-0.2**
LVC				*i* S	**Sn**	**14 18 09.7**	**-0.7**
PB06	**IPOC Station P**	**1.06**	**227**		**Pn**	**14 18 00.2**	**+0.3**
PB06	**IPOC Station P**	**1.06**	**227**	↑*i*P	**Pn**	**14 18 00.3**	**+0.4**
PB06				*i* S	**Sn**	**14 18 17.2**	**+0.5**
PB06				IAML		14 18 18.9	
	comp=N,867nm,0.2s						
AF01	**San Pedro de A**	**1.09**	**152**	Pn	**Pn**	**14 18 00.6**	**+0.3**
AF01	**San Pedro de A**	**1.09**	**152**	*e*P	**Pn**	**14 18 00.2**	**-0.2**
AF01				*i* S	**Sn**	**14 18 17.5**	**0.0**
AF01				IAML		14 18 35.7	
	comp=E,566nm,0.4s						
PB07	**IPOC Station P**	**1.10**	**283**		**Pn**	**14 18 00.3**	**0.0**
PB07	**IPOC Station P**	**1.10**	**283**	↑*i*P	**Pn**	**14 18 00.7**	**+0.4**
PB07				*i* S	**Sn**	**14 18 17.9**	**+0.4**
PB07				IAML		14 18 19.4	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.17**	**323**		**Pn**	**14 18 00.9**	**-0.1**
PB01	**IPOC Station P**	**1.17**	**323**	↑*i*P	**Pn**	**14 18 00.8**	**-0.1**
PB01				*i* S	**Sn**	**14 18 18.7**	**+0.2**
PB01				IAML		14 18 19.9	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**1.27**	**301**		**Pn**	**14 18 02.0**	**0.0**
PB02	**IPOC Station P**	**1.27**	**301**	↓*i*P	**Pn**	**14 18 02.2**	**+0.2**
PB02				*i* S	**Sn**	**14 18 20.5**	**0.0**
PB02				IAML		14 18 22.6	
	comp=N,1μm,0.1s						
PB04	**IPOC Station P**	**1.36**	**255**		**Pn**	**14 18 03.2**	**0.0**
PB04	**IPOC Station P**	**1.36**	**255**	↑*i*P	**Pn**	**14 18 03.4**	**+0.2**
PB04				*i* S	**Sn**	**14 18 22.7**	**+0.2**
PB04				IAML		14 18 25.3	
	comp=E,714nm,0.2s						
PB15	**IPOC Station P**	**1.40**	**209**		**Pn**	**14 18 03.7**	**0.0**
PB15	**IPOC Station P**	**1.40**	**209**	↓*i*P	**Pn**	**14 18 04.4**	**+0.7**
PB15				*i* S	**Sn**	**14 18 24.4**	**+0.9**
PB15				IAML		14 18 27.8	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**1.76**	**311**		**Pn**	**14 18 07.3**	**-0.5**
PATCX	**Punta Patache**	**1.76**	**311**	↑*i*P	**Pn**	**14 18 07.8**	**-0.1**
PATCX				*e*S	**Sn**	**14 18 30.8**	**0.0**
PATCX				IAML		14 18 37.5	
	comp=E,392nm,0.3s						
PB08	**IPOC Station P**	**1.87**	**348**	↑*i*P	**Pn**	**14 18 10.3**	**+0.8**
PB08				*i* S	**Sn**	**14 18 34.4**	**+0.7**
PB08				IAML		14 18 36.9	
	comp=E,176nm,0.3s		

0.7nm,0.3s,baz=318,slow=22,SNR=4.3
SIJI LR LR 14 22 56.9
comp=Z,287nm,21.6s,baz=260,slow=43
2.5nm,0.3s
APSI Ampana 5.79 240 P **Pn 14 20 27.8 +0.3**
0.2nm701nm54nm,0.5s
MPSI Mapaga 6.97 257 P **Pn 14 20 44.1 +0.4**
0.1nm20nm,0.7s
FAKI Fak Fak 7.39 131 Pn **Pn 14 20 50.6 +1.2**
TTSI Tana Toraja 8.48 234 P **Pn 14 21 04.1 -0.3**
1µm23nm,1.0s
MYLDM Lahad Datu 8.77 292 Pn **Pn 14 21 10.8 +2.5**
SPSI Sidrap Palu 9.09 230 P **Pn 14 21 13.3 +0.6**
10nm,1.0s
BNSI Bone 9.13 226 P **Pn 14 21 13.4 +0.2**
6.0nm,0.5s
BKSI Bulukumba 9.77 222 P **Pn 14 21 22.3 +0.2**
KKM Kota Kinabalu 11.20 291 Pn **Pn 14 21 44.0 +2.3**
SBUM Sibu 14.46 272 P **P 14 22 32.3 +0.5**
MTN Manton Dam 15.37 163 Pn **Pn 14 22 37.5 -0.4**
KNRA Kununurra 17.66 173 **Pn 14 23 05.4 -1.3**
FITZ Fitzroy Crossi 19.97 183 P **P 14 23 31.8 -0.8**
0.8nm,0.3s,baz=285,slow=18,SNR=6.3
2.4nm,0.9s
FITZ Fitzroy Crossi 19.97 183 P **P 14 23 31.4 -1.1**
LEM Lembang 20.94 245 LR LR 14 32 17.6
comp=Z,78nm,18.4s,baz=210,slow=39
GUMO Guam 21.37 56 LR LR 14 32 08.5
comp=Z,14nm,18.3s,baz=218,slow=37
WB0 Warramunga Arr 22.89 161 P **P 14 24 02.8 -1.2**
WB0 IAmb IAmb 14 24 09.0
comp=Z,9.9nm,0.8s
WRA Warramunga Arr 23.04 161 P **P 14 24 04.4 -1.1**
comp=Z,5.8nm,0.6s,baz=338,slow=10,SNR=74
comp=Z,5.8nm,0.6s
WRA Warramunga Arr 23.04 161 P **P 14 24 03.3 -2.1**
WB2 Warramunga Arr 23.04 161 P **P 14 24 04.6 -0.9**
WB2 IAmb IAmb 14 24 10.9
comp=Z,11nm,0.8s
WR0 Warramunga Arr 23.12 161 P **P 14 24 05.3 -1.0**
WR0 IAmb IAmb 14 24 07.5
comp=Z,16nm,1.4s
MBWA Marble Bar 23.98 196 P **P 14 24 12.8 -1.5**
MBWA IAmb IAmb 14 24 30.9
comp=Z,21nm,1.5s
AS31 Alice Springs 26.44 165 P **P 14 24 35.3 -1.4**
ASAR Alice Springs 26.44 165 P **P 14 24 35.9 -0.8**
comp=Z,0.9nm,0.5s,baz=187,slow=8.8,SNR=4.4
ASAR PcP **PcP 14 28 01.6 +0.2**
comp=Z,0.5nm,0.5s,baz=345,slow=2.5,SNR=6.4
comp=Z,0.9nm,0.5s
ASAR Alice Springs 26.44 165 P **P 14 24 35.2 -1.5**
CTA Charters Tower 29.14 140 LR LR 14 37 54.3
comp=Z,68nm,21.5s,baz=280,slow=39
CRAI Chiangrai 31.45 307 P **P 14 25 21.3 -0.1**
CMAR Chiang Mai Arr 31.75 303 LR LR 14 39 04.6
comp=Z,22nm,20.0s,baz=115,slow=38
MORW Morawa 32.51 198 P **P 14 25 30.0 -0.5**
FORT Forrest 32.60 178 P **P 14 25 31.2 0.0**
KSRS Korea Array 35.33 2 P **P 14 25 55.8 +0.9**
comp=Z,1.2nm,0.6s,baz=177,slow=9.4,SNR=6.6
comp=Z,1.2nm,0.6s
BBOO Buckleboo 35.72 166 P **P 14 25 57.2 -1.1**
MJAR Matsushiro Arr 36.01 16 P **P 14 25 59.5 -1.2**
comp=Z,0.9nm,0.6s,baz=187,slow=9.9,SNR=4.4
comp=Z,0.9nm,0.6s
EIDS Eidsvold 36.02 141 P **P 14 26 00.4 -0.6**
EIDS IAmb IAmb 14 26 35.2
comp=Z,10nm,1.4s
STKA Stephens Creek 36.52 158 P **P 14 26 05.2 +0.1**
comp=Z,1.4nm,0.6s,baz=341,slow=11,SNR=5.0
comp=Z,1.4nm,0.6s
JSD Sado 37.43 15 P **P 14 26 12.2 -0.5**
JSD IAmb IAmb 14 26 33.0
comp=Z,5.7nm,1.0s
USA0B Ussuriysk Arra 42.31 6 P **P 14 26 53.8 +0.6**
USA0B IAmb IAmb 14 26 54.6
comp=Z,8.4nm,0.8s
USRK Ussuriysk Ar. 42.31 6 P **P 14 26 53.9 +0.7**
YSS Yuzh-Sakhalins 46.94 15 P **P 14 27 30.9 +0.8**
SONM Songino Array 48.94 342 P **P 14 27 45.1 -0.6**
comp=Z,0.7nm,0.6s,baz=152,slow=9.3,SNR=4.2
comp=Z,0.7nm,0.6s
SONM Songino Array 48.94 342 P **P 14 27 46.4 +0.7**
PEA0B Petropavlovsk- 57.06 22 P **P 14 28 46.3 +0.9**
PETK Petropavlovsk- 57.06 22 P **P 14 28 46.0 +0.6**
comp=Z,3.7nm,0.9s,baz=186,slow=5.8,SNR=2.0
comp=Z,3.7nm,0.9s
PETK Petropavlovsk- 57.06 22 P **P 14 28 46.2 +0.8**
MK31 Makanchi Array 58.97 326 P **P 14 28 57.3 -1.6**
MKAR Makanchi Array 58.97 326 P **P 14 28 57.7 -1.1**
comp=Z,1.3nm,0.5s,baz=122,slow=8.2,SNR=21
comp=Z,1.3nm,0.5s
MKAR Makanchi Array 58.97 326 P **P 14 28 57.3 -1.6**
MAKZ Makanchi 59.15 326 P **P 14 28 58.6 -1.5**
MAKZ IAmb IAmb 14 28 59.1
comp=Z,3.8nm,0.7s
LBZ Lake Benmore 60.27 145 P **P 14 29 08.4 +0.6**
MA2 Magadan 60.41 14 LR LR 14 56 25.6
comp=Z,9.5nm,19.5s,baz=278,slow=37
ZALV Zalesovo Beam 62.12 333 LR LR 14 56 39.1
comp=Z,10nm,19.2s,baz=48,slow=36
GAR Garm 63.08 313 P **P 14 29 26.2 -0.8**
KURBB Kurchatov Arra 63.19 328 P **P 14 29 26.1 -1.2**
comp=Z,1.3nm,0.6s,baz=128,slow=6.1,SNR=19
comp=Z,1.3nm,0.6s
KURK Kurchatov 63.19 328 P **P 14 29 26.6 -0.7**
KURK IAmb IAmb 14 29 26.9
comp=Z,3.2nm,0.6s
CASY Casey 69.08 187 P **P 14 30 05.0 +0.2**
CASY IAmb IAmb 14 30 38.0
comp=Z,4.4nm,0.7s
ABKAR Akbulak array 73.47 321 P **P 14 30 30.6 -1.1**
AKTO Aktyubinsk 75.00 322 P **P 14 30 39.5 -1.1**
comp=Z,0.9nm,0.5s,baz=110,slow=12,SNR=4.5
AKTO LR LR 15 05 59.8
comp=Z,12nm,21.7s,baz=57,slow=38
comp=Z,0.9nm,0.5s
VNDA Vanda 81.70 173 P **P 14 31 17.3 +0.2**
comp=Z,1.0nm,0.8s,baz=311,slow=7.7,SNR=8.5
comp=Z,1.0nm,0.8s
L19K White Mountain 82.88 28 P **P 14 31 24.3 +0.7**
K20K Telida 83.42 26 P **P 14 31 28.1 +1.8**
K20K IAmb IAmb 14 31 49.2
comp=Z,5.6nm,1.2s
J20K Nowinta River 83.51 26 P **P 14 31 28.9 +2.1**
M20K Styx River 83.64 28 P **P 14 31 29.5 +2.0**
M20K IAmb IAmb 14 31 29.9
comp=Z,4.0nm,0.9s
IMAR Indian Mountai 83.96 24 P **P 14 31 30.3 +1.3**
CAST Castle Rocks 84.31 27 P **P 14 31 32.3 +1.5**
CAST IAmb IAmb 14 31 34.6
comp=Z,5.7nm,1.4s
SKT Skwentna 84.40 28 P **P 14 31 31.5 +0.2**
SKT IAmb IAmb 14 31 38.3
comp=Z,6.0nm,1.4s
SUA Susitna One 84.72 29 P **P 14 31 33.8 +0.8**
SUA IAmb IAmb 14 31 35.9
comp=Z,5.9nm,1.0s
MLY Manley 85.08 25 P **P 14 31 34.4 -0.3**
MLY IAmb IAmb 14 31 39.6
comp=Z,3.7nm,1.3s
ILAR Eielson Array 86.70 25 P **P 14 31 43.2 +0.5**
BCAR Beaver Creek A 88.95 27 P **P 14 31 54.5 +0.9**

IDC 27 14:23:55.6±381.0, 64°96N×40°35E, h0km, Error ellipse: s-maj=169.0km s-min=151.3km az=167.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**8.41**	**192**	*i*		15 19 46.6	
	0.1nm,8.7s,baz=5.1,slow=282,SNR=34						
I31KZ	**AKTYUBINSK INF**	**17.28**	**139**	*i*		16 05 20.0	
	baz=335,slow=321,SNR=4.4						
I46RU	**ZALESOVO INFRA**	**24.57**	**95**	*i*		16 49 50.0	
	0.1nm,1.2s,baz=317,slow=321,SNR=3.4						
I34MN	**SONGINO INFRAS**	**38.30**	**84**	*i*		18 23 10.0	
	baz=323,slow=334,SNR=2.1						
I53US	**FAIRBANKS INFR**	**50.32**	**5**	*i*		19 34 40.0	
	baz=355,slow=328,SNR=2.8						

*IDC **27** 14:36:27.7±2.2, 6°36S×147°85E, h0km, mb3.7/3, mbtmp3.7/6, ML3.6/2, MS2.9/1, Error ellipse: s-maj=47.5km s-min=27.6km az=136.0*

ISC 27 14:36:33.0±1.5, 6°4S±0°2×147°9E±0°2, h51km, n7, σ0°81/7, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.13**	**194**	Pn	**Pn**	**14 37 19.4**	**-0.5**
	10nm,0.4s,baz=38,slow=13,SNR=9.9						
PMG				Sn	**Sn**	**14 37 56.1**	**+0.1**
	2.6nm,0.3s,baz=22,slow=19,SNR=1.8						
KRVT	**Keravat (AS076**	**4.56**	**64**	Pn	**Pn**	**14 37 39.2**	**-0.3**
	1.9nm,0.3s,baz=27,slow=4.5,SNR=2.2						
	8.9nm,0.4s						
WRA	**Warramunga Arr**	**18.89**	**223**	P	**P**	**14 40 48.5**	**-0.9**
	0.2nm,0.3s,baz=50,slow=11,SNR=13						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**21.87**	**217**	P	**P**	**14 41 21.4**	**-0.3**
	0.8nm,0.5s,baz=50,slow=9.6,SNR=23						
	0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.68**	**240**	P	**P**	**14 41 49.9**	**+0.5**
	1.9nm,0.6s,baz=343,slow=1.7,SNR=6.2						
	1.9nm,0.6s						
STKA	**Stephens Creek**	**26.07**	**192**	P	**P**	**14 42 03.0**	**+1.0**
	0.7nm,0.4s,baz=336,slow=12,SNR=4.0						
	0.7nm,0.4s						
USRK	**Ussuriysk Ar.**	**52.34**	**346**	LR	LR	15 07 46.5	
	comp=Z,11nm,18.5s,baz=272,slow=36						

*MAN **27** 14:40:36.7, 12°62N×124°43E, h107km, mb4.5, ML3.4, MS3.2*

ISC 27 14:40:37.8±1.0, 12°69N±0°05×124°38E±0°07, h100km, n19, σ1°64/27, 7C-9D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.33**	**123**	*e*P	**Pn**	**14 40 53.4**	**+0.9**
CNP				*e*S	**Sn**	**14 41 05.7**	**+2.1**
MMPH	**Masbate**	**0.81**	**246**	*i*P	**Pn**	**14 40 56.5**	**+0.2**
PVCP	**Virac**	**0.93**	**346**	*e*P	**Pn**	**14 40 58.5**	**+1.0**
PVCP				*e*S	**Sn**	**14 41 14.8**	**+2.6**
SCSP	**San Jose Seism**	**1.27**	**319**	*e*P	**Pn**	**14 41 01.9**	**+0.6**
RCP	**Roxas**	**1.95**	**235**	*e*P	**Pn**	**14 41 10.3**	**+0.5**
JCNP	**Jose Panganiba**	**2.28**	**314**	*e*P	**Pn**	**14 41 14.4**	**+0.4**
JCNP				*e*S	**Sn**	**14 41 42.2**	**+0.5**
BOAC	**Boac**	**2.58**	**287**	*e*P	**Pn**	**14 41 20.1**	**+2.1**
BOAC				*e*S	**Sn**	**14 41 50.7**	**+1.7**
SCPH	**Surigao**	**3.09**	**159**	*i*P	**Pn**	**14 41 27.2**	**+2.4**
SCPH				*i* S	**Sn**	**14 42 02.3**	**+1.3**
LQP	**Lukban**	**3.10**	**297**	*e*P	**Pn**	**14 41 25.4**	**+0.2**
GLSP	**General Luna,**	**3.36**	**149**	*e*P	**Pn**	**14 41 27.8**	**-0.6**
GLSP				*e*S	**Sn**	**14 42 05.9**	**-1.6**
BALP	**Baler**	**4.07**	**318**	*e*P	**Pn**	**14 41 40.4**	**+2.5**
BALP				*e*S	**Sn**	**14 42 21.8**	**-2.8**
PCPH	**Palayan**	**4.28**	**312**	*e*P	**Pn**	**14 41 39.7**	**-1.1**
PALP	**Palanan**	**4.74**	**337**	*e*P	**Pn**	**14 41 48.1**	**+1.2**
PALP				*e*S	**Sn**	**14 42 38.0**	**-2.8**
BIPH	**Bislig**	**4.88**	**156**	*e*P	**Pn**	**14 41 47.8**	**-1.2**
CAUP	**Cauayan**	**4.90**	**330**	*e*P	**Pn**	**14 41 50.3**	**+1.2**
CAUP				*e*S	**Sn**	**14 42 44.3**	**-0.3**
SAMP	**Sagada Mountai**	**5.51**	**323**	*e*P	**Pn**	**14 41 59.0**	**+1.5**
WRA	**Warramunga Arr**	**33.88**	**163**	P	**P**	**14 47 09.6**	**-1.5**
	0.3nm,0.4s,baz=318,slow=13,SNR=19						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**37.32**	**166**	P	**P**	**14 47 40.0**	**-0.6**
	0.6nm,0.5s,baz=337,slow=7.0,SNR=25						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**48.99**	**322**				
	0.2nm,0.5s						

*IDC **27** 14:44:37.6±0.9, 19°91S×66°85W, h237km±18km, mb3.3/2, mbtmp3.8/5, Error ellipse: s-maj=34.3km s-min=9.8km az=102.0*

*NEIC **27** 14:44:38.2±1.4, 19°91S±0°09×66°9W±0°1, h245km±12km, mb4.0/7, Error ellipse: s-maj=18.3km s-min=11.7km az=110.0*

*SCB **27** 14:44:40.2±1.0, 19°98S×67°02W, h249km±3km, ML3.5/7, MW3.5, Error ellipse: s-maj=5.1km s-min=3.3km az=1.0*

ISC 27 14:44:38.0±0.8, 19°94S±0°05×66°99W±0°07, h241km, n49, σ1°54/53, mb4.0/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.82**	**136**	P	**Pn**	**14 45 20.8**	**+2.2**
MOCB				IAML		14 45 52.7	
	148nm,0.6s						
PB08	**IPOC Station P**	**2.05**	**264**	Pn	**Pn**	**14 45 22.5**	**+1.9**
GO01	**Chusmiza**	**2.10**	**277**	Pn	**Pn**	**14 45 22.8**	**+1.6**
GO01	**Chusmiza**	**2.10**	**277**	P	**Pn**	**14 45 23.3**	**+2.1**
PB01	**IPOC Station P**	**2.59**	**244**		**Pn**	**14 45 26.9**	**+1.3**
YJA	**Yavi**	**2.62**	**149**	P	**Pn**	**14 45 27.7**	**+1.4**
PB09	**IPOC Station P**	**2.81**	**228**		**Pn**	**14 45 29.9**	**+1.9**
PB16	**IPOC Station P**	**2.87**	**303**	Pn	**Pn**	**14 45 31.1**	**+1.9**
TA02	**Huaiquique**	**2.98**	**263**	Pn	**Pn**	**14 45 30.8**	**+1.1**
TA02	**Huaiquique**	**2.98**	**263**	P	**Pn**	**14 45 31.0**	**+1.4**
PB02	**IPOC Station P**	**3.05**	**243**	Pn	**Pn**	**14 45 31.7**	**+1.1**
PB02	**IPOC Station P**	**3.05**	**243**	P	**Pn**	**14 45 32.5**	**+1.9**
PB02				S	**S**	**14 46 09.5**	**-2.6**
PB02				IAML		14 46 12.8	
	365nm,0.3s						
TA01	**Diego Aracena**	**3.06**	**258**		**Pn**	**14 45 31.5**	**+0.9**
TA01	**Diego Aracena**	**3.06**	**258**	P	**Pn**	**14 45 32.0**	**+1.4**
PATCX	**Punta Patache**	**3.10**	**253**	Pn	**Pn**	**14 45 31.9**	**+0.8**
SOEJ	**Jacaque**	**3.16**	**339**	P	**Pn**	**14 45 34.8**	**+2.5**
LVC	**Limon Verde**	**3.21**	**214**	P	**Pn**	**14 45 34.4**	**+1.8**
	11nm,0.3s,baz=18,slow=9.0,SNR=54						
LVC				S	**S**	**14 46 16.2**	**+0.5**
	8.7nm,0.2s,baz=118,slow=22,SNR=16						
LVC	**Limon Verde**	**3.21**	**214**		**Pn**	**14 45 33.7**	**+1.1**
LVC	**Limon Verde**	**3.21**	**214**	P	**Pn**	**14 45 33.9**	**+1.3**
LVC				IAML		14 46 30.7	
	32nm,3.6s						
PB07	**IPOC Station P**	**3.25**	**236**		**Pn**	**14 45 34.5**	**+1.6**
BBOE	**La Paz, Chanca**	**3.25**	**343**	P	**Pn**	**14 45 35.2**	**+1.8**
BBOE				IAML		14 46 24.8	
	20nm,0.7s						
PB12	**IPOC Station P**	**3.42**	**292**		**Pn**	**14 45 35.1**	**+0.3**
AP01	**Chacalluta**	**3.54**	**296**	Pn	**Pn**	**14 45 36.8**	**+0.8**
BBOD	**La Paz, Gloria**	**3.62**	**335**	P	**Pn**	**14 45 39.2**	**+1.6**
BBOD				IAML		14 46 29.8	
	10nm,0.5s						
PB06	**IPOC Station P**	**3.66**	**221**		**Pn**	**14 45 39.2**	**+1.6**
PB06	**IPOC Station P**	**3.66**	**221**	P	**Pn**	**14 45 39.3**	**+1.7**
LPAZ	**La Paz**	**3.79**	**343**	P	**Pn**	**14 45 40.9**	**+1.3**
	3.1nm,0.4s,baz=102,slow=5.0,SNR=8.7						
LPAZ				S	**S**	**14 46 28.1**	**-0.2**
	10nm,0.9s,baz=299,slow=21,SNR=11						
LPAZ	**La Paz**	**3.79**	**343**		**Pn**	**14 45 41.1**	**+1.4**
PB04	**IPOC Station P**	**3.80**	**231**		**Pn**	**14 45 40.2**	**+1.0**
PB04	**IPOC Station P**	**3.80**	**231**	P	**Pn**	**14 45 40.7**	**+1.5**
PB04				S	**S**	**14 46 24.5**	**-3.1**
PB04				IAML		14 46 29.4	
	176nm,0.2s						
PB15	**IPOC Station P**	**3.99**	**215**	Pn	**Pn**	**14 45 42.4**	**+0.9**
PB15	**IPOC Station P**	**3.99**	**215**	P	**Pn**	**14 45 43.4**	**+1.9**
PB10	**IPOC Station P**	**4.87**	**222**	Pn	**Pn**	**14 45 53.6**	**+1.8**
GO02	**Mina Guanaco**	**5.73**	**204**		**Pn**	**14 46 03.3**	**+0.5**
GO02	**Mina Guanaco**	**5.73**	**204**	P	**Pn**	**14 46 03.8**	**+0.9**
GO02				IAML		14 47 15.8	
	47nm,0.3s						
SIV	**San Ignacio**	**6.86**	**56**	P	**Pn**	**14 46 15.2**	**-1.7**
	3.4nm,0.4s,baz=254,slow=8.2,SNR=18						
AC01	**Pan de Azucar**	**7.02**	**208**	Pn	**Pn**	**14 46 19.0**	**+0.1**
AC02	**Maricunga**	**7.14**	**196**	Pn	**Pn**	**14 46 21.2**	**+0.3**
GO04	**Tololo Observa**	**10.76**	**198**	Pn	**Pn**	**14 47 07.5**	**+1.0**
VA06	**Catapilco**	**13.15**	**196**	Pn	**Pn**	**14 47 36.1**	**+0.1**
ITAB	**Concordia**	**15.42**	**121**		**P**	**14 48 02.9**	**-0.2**
PLTB	**Pedras Altas**	**16.82**	**137**	P	**P**	**14 48 17.6**	**-0.8**
PLTB				IAmb	IAmb	14 48 42.5	
	comp=Z,7.1nm,1.3s						
GO06	**Curarrehue**	**19.96**	**190**	P	**P**	**14 48 52.0**	**-0.3**
GO06				IAmb	IAmb	14 49 08.5	
	comp=Z,5.8nm,1.4s						
PLCA	**Paso Flores**	**20.95**	**188**	P	**P**	**14 49 04.7**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=5.4,slow=11,SNR=5.8						
	comp=Z,1.1nm,0.5s						
PLCA	**Paso Flores**	**20.95**	**188**	P	**P**	**14 49 03.4**	**+0.7**
QSPA	**South Pole Qui**	**70.25**	**180**	P	**P**	**14 55 26.3**	**+1.4**
QSPA				IAmb	IAmb	14 55 54.9	
	comp=Z,9.5nm,1.5s						
TOA0	**Torodi Ar. Sit**	**75.13**	**70**	P	**P**	**14 55 52.0**	**-2.3**
TOA0				IAmb	IAmb	14 56 02.2	
	comp=Z,3.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**75.13**	**70**	P	**P**	**14 55 52.8**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=256,slow=5.6,SNR=13						
	comp=Z,1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**75.13**	**70**	P	**P**	**14 55 52.6**	**-1.7**
TORD				IAmb	IAmb	14 56 26.1	
	comp=Z,3.6nm,1.5s						

*DNK **27** 14:45:43.3±2.5, 60°01N×21°49E, h0km, ML2.0, Suspected explosion*

*BER **27** 14:45:43.7±1.1, 59°86N×21°64E, h0km, ML1.8, Suspected explosion*

*HEL **27** 14:45:44.6±0.1, 60°08N×21°41E, h0km, ML2.5, ML2.6(UPP), Explosion*

*IDC **27** 14:45:44.7±1.4, 60°13N×21°49E, h0km, mbtmp2.8/4, ML2.1/4, Error ellipse: s-maj=22.9km s-min=7.2km az=160.0*

*UPP **27** 14:45:44.2±0.8, 60°04N×21°35E, h0km, ML2.6, Suspected explosion*

ISC 27 14:45:42.3±0.7, 60°05N±0°03×21°42E±0°02, h0km, n60, σ1°73/89, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAL	**Aland**	**0.73**	**281**	P	**Pg**	**14 45 57.3**	**+1.1**
AAL				S	**Sg**	**14 46 06.9**	**+1.3**
AAL	**Aland**	**0.73**	**281**	*e*P	**Pg**	**14 45 57.3**	**+1.1**
AAL				*e*S	**Sg**	**14 46 06.8**	**+1.2**
RAF	**Rauma**	**0.99**	**10**	*e*P	**Pg**	**14 46 01.7**	**+0.4**
RAF	**Rauma**	**0.99**	**10**	*e*P	**Pg**	**14 46 01.5**	**+0.3**
RAF				*e*S	**Sg**	**14 46 14.6**	**+0.4**
NRTU	**Norrtaelje**	**1.46**	**256**	P	**Pn**	**14 46 10.2**	**+0.4**
NRTU				S	**Sg**	**14 46 30.3**	**+1.2**
NRTU	**Norrtaelje**	**1.46**	**256**	P	**Pn**	**14 46 10.2**	**+0.4**
NRTU				S	**Sg**	**14 46 30.3**	**+1.2**
NRTU	**Norrtaelje**	**1.46**	**256**	*e*P	**Pn**	**14 46 10.2**	**+0.4**
NRTU				*e*S	**Sg**	**14 46 30.3**	**+1.2**
MEF	**Metsahovi**	**1.50**	**82**	*e*P	**Pb**	**14 46 11.3**	**+0.4**
MEF				IAML		14 46 37.4	
	comp=Z,36nm,0.1s						
MEF	**Metsahovi**	**1.50**	**82**	*e*P	**Pg**	**14 46 11.2**	**+0.3**
MEF				*e*S	**Sg**	**14 46 30.4**	**+0.1**
FORU	**Forsmark**	**1.65**	**283**	P	**Pn**	**14 46 13.0**	**+0.5**
FORU				S	**Sn**	**14 46 34.9**	**+0.5**
FORU	**Forsmark**	**1.65**	**283**	P	**Pn**	**14 46 13.0**	**+0.5**
FORU				*S*	**Sn**	**14 46 34.9**	**+0.5**
FORU	**Forsmark**	**1.65**	**283**	*e*P	**Pn**	**14 46 13.0**	**+0.5**
FORU				*e*S	**Sn**	**14 46 34.9**	**+0.5**
NUR	**Nurmijrvi**	**1.67**	**73**	*e*P	**Pb**	**14 46 14.1**	**+0.3**
NUR				*e*S	**Sb**	**14 46 35.6**	**+0.2**
MTSE	**Matsula**	**1.81**	**137**	*e*P	**Pb**	**14 46 17.2**	**+0.9**
MTSE	**Matsula**	**1.81**	**137**	*e*P	**Pb**	**14 46 17.1**	**+0.9**
MTSE				*e*S	**Sg**	**14 46 41.1**	**+0.9**
UPP	**Uppsala**	**1.92**	**266**	P	**Pb**	**14 46 18.1**	**+0.1**
UPP	**Uppsala**	**1.92**	**266**	*e*P	**Pb**	**14 46 18.1**	**+0.1**
FIBU	**Brunna**	**2.05**	**268**	P	**Pn**	**14 46 20.0**	**+2.0**
FIBU	**Brunna**	**2.05**	**268**	P	**Pn**	**14 46 20.0**	**+2.0**
PVF	**Pernaja**	**2.27**	**75**	*e*PG	**Pb**	**14 46 24.7**	**+0.7**
PVF				*e*SG	**Sg**	**14 46 54.0**	**-1.0**
PVF				MSG		14 46 56.7	
	comp=Z,34nm,0.1s						
SLIT	**Slitere, Latvi**	**2.47**	**169**	*e*P	**Pn**	**14 46 26.0**	**+2.3**
SLIT				IAML		14 47 04.7	
	comp=Z,285nm,0.1s						
SLIT	**Slitere, Latvi**	**2.47**	**169**	*e*PB	**Pb**	**14 46 27.5**	**+0.1**
FIA0	**FINESS Array S**	**2.68**	**57**	*e*PB	**Pb**	**14 46 30.4**	**-0.6**
FIA0				*e*SB	**Sb**	**14 47 05.1**	**+0.7**
FIA0				MSG		14 47 06.9	
	comp=Z,20nm,0.2s						
FINES	**FINESS Array B**	**2.68**	**57**	Pn	**Pb**	**14 46 30.5**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=240,slow=14,SNR=120						
FINES				Lg	Lg	14 47 04.9	
	comp=Z,4.1nm,0.3s,baz=245,slow=25,SNR=26						
	comp=Z,4.1nm,0.2s						
KEF	**Keuruu**	**2.71**	**37**	*e*PB	**Pb**	**14 46 31.0**	**-0.5**
KEF				*e*SB	**Sb**	**14 47 06.0**	**+0.8**
KEF				MSG		14 47 08.2	
	comp=Z,10nm,0.1s						
VAF	**Ylistaro**	**3.06**	**11**	*e*PB	**Pb**	**14 46 36.4**	**-1.2**
VAF				*e*SB	**Sb**	**14 47 16.0**	**+0.6**
VJF	**Virojoki**	**3.09**	**78**	*e*S	**Sn**	**14 47 12.7**	**+2.9**
HEMU	**Hemsoen**	**3.10**	**330**	*e*P	**Pn**	**14 46 35.3**	**+2.9**
HEMU				*e*S	**Sn**	**14 47 12.8**	**+2.7**
VSU	**Vasula**	**3.16**	**118**	*e*P	**Pn**	**14 46 36.1**	**+3.0**
HFS	**Hagfors**	**3.87**	**275**	Pn	**Pn**	**14 46 44.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=87,slow=13,SNR=6.9						
HFS				Pg	**Pb**	**14 46 51.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=89,slow=15,SNR=24						
HFS				Lg	Lg	14 47 41.4	
	comp=Z,2.0nm,0.3s,baz=87,slow=30,SNR=12						
	comp=Z,1.4nm,0.7s						
PBUR	**Paburge**	**4.05**	**176**	*e*P	**Pn**	**14 46 46.1**	**+0.7**
PABE	**Paberze**	**4.76**	**162**	*e*P	**Pn**	**14 46 56.3**	**+1.2**
BLEU	**Blekinge**	**4.79**	**221**	*i* P	**Pn**	**14 46 57.8**	**+2.2**
BLEU				*i* S	**Sn**	**14 47 51.7**	**+0.1**
NC602	**NORSAR Array S**	**4.95**	**282**	*e*P	**Pn**	**14 46 59.7**	**+1.9**
NC602				*e*		14 48 16.6	
NC602				IAML		14 48 22.9	
	comp=Z,1.9nm,0.2s						
NC303	**NORSAR Array S**	**5.09**	**288**	*e*P	**Pn**	**14 47 01.0**	**+1.3**
NC303				IAML		14 48 23.1	
	comp=Z,3.1nm,0.3s						
NB201	**NORSAR Array S**	**5.10**	**286**	*e*P	**Pn**	**14 47 01.4**	**+1.5**
NB201				IAML		14 48 24.6	
	comp=Z,2.3nm,0.5s						
NOA	**NORSAR Array B**	**5.14**	**286**	Pn	**Pn**	**14 47 01.4**	**+1.0**
	baz=83,slow=15,SNR=4.4						
NOA				Lg	Lg	14 48 19.8	
	comp=Z,0.1nm,0.3s,baz=40,slow=6.3,SNR=5.1						
	comp=Z,0.1nm,0.4s						
NAO01	**NORSAR Array S**	**5.28**	**283**	*e*P	**Pn**	**14 47 04.0**	**+1.7**
STRU	**Stroemstad**	**5.31**	**263**	*i* P	**Pn**	**14 47 04.8**	**+2.1**
STRU				*i* S	**Sn**	**14 48 03.2**	**-1.3**
NBO00	**NORSAR Array S**	**5.35**	**285**	*e*P	**Pn**	**14 47 04.5**	**+1.2**
NBO00				IAML		14 48 39.2	
	comp=Z,2.2nm,0.4s						
DEL	**Delary**	**5.36**	**231**	*i* P	**Pn**	**14 47 05.0**	**+1.5**
DEL				*i* S	**Sn**	**14 48 04.8**	**-1.0**
DEL				IAML		14 48 08.9	
	comp=Z,0.7nm,0.1s						
NC204	**NORSAR Array S**	**5.38**	**288**	*e*P	**Pn**	**14 47 05.2**	**+1.3**
NC204				IAML		14 48 32.4	
	comp=Z,2.3nm,0.3s					

IDC ***27*** *14:48:18.7±1.7, 6°.69N×72°.82W, h162km±43km, mbtmp3.9/2, Error ellipse: s-maj=752.2km s-min=8.0km az=132.0*

RSNC ***27*** *14:48:19.7±1.1, 6°.82N×73°.15W, h146km±4km, ML3.1, Mw3.5, Fault plane solution: NP1:ϕs137.00000°, δ78.00000°, λ.98.00000°.*

ISC 27 14:48:19.0±1.1, 6.86N±0°.03×73°.10W±0°.04, h148km±7km, n30, σ1§61/52, 6C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**198**	⇑*i*	P		**Pn**	**14 48 39.3**	**-0.3**
BARC					*e*S		**Sn**	**14 48 54.4**	**-0.8**
BARC					IAML			14 48 56.4	
	comp=Z,292nm,0.3s								
PAMC	**Pamplona, Colo**	**0.62**	**39**	⇓*e*P			**Pn**	**14 48 42.1**	**+0.7**
PAMC				*e*S			**Sn**	**14 48 59.0**	**+0.5**
PAMC				IAML				14 49 01.4	
	comp=Z,334nm,0.3s								
BRRC	**Barranca, Sant**	**0.66**	**292**	⇑*i*P			**Pn**	**14 48 41.1**	**+0.1**
BRRC				*e*S			**Sn**	**14 48 57.9**	**+0.1**
BRRC				IAML				14 48 58.7	
	comp=Z,325nm,0.1s								
BRRC				⇑*e*				14 48 60.0	
RUSC	**La Rusia**	**0.96**	**179**	*e*P			**Pn**	**14 48 43.4**	**-0.5**
RUSC				*e*S			**Sn**	**14 49 01.7**	**-1.0**
RUSC				IAML				14 49 03.3	
	comp=Z,125nm,0.2s								
TAMC	**Tame, Arauca**	**1.36**	**108**	*e*P			**Pn**	**14 48 47.8**	**+0.7**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	⇑*e*P			**Pn**	**14 48 45.8**	**-1.5**
PTBC				*e*S			**Sn**	**14 49 07.0**	**-1.9**
PTBC				IAML				14 49 10.4	
	comp=Z,145nm,0.2s								
SPBC	**San Pablo de B**	**1.54**	**219**	*e*P			**Pn**	**14 48 48.3**	**-0.6**
SPBC				*e*S			**Sn**	**14 49 10.4**	**-1.6**
SPBC				IAML				14 49 16.9	
	comp=Z,259nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*e*P			**Pn**	**14 48 52.1**	**-0.3**
ZARC				*e*S			**Sn**	**14 49 17.9**	**-0.1**
ZARC				IAML				14 49 24.0	
	comp=Z,247nm,0.3s								
NORC	**Norcasia**	**2.18**	**234**	*e*P			**Pn**	**14 48 55.3**	**-0.9**
NORC				*e*S			**Sn**	**14 49 23.6**	**-1.3**
NORC				IAML				14 49 28.5	
	comp=Z,142nm,0.2s								
CHIC	**Chingaza**	**2.30**	**196**	*e*P			**Pn**	**14 48 57.9**	**-0.2**
CHIC				*e*S			**Sn**	**14 49 27.0**	**-1.1**
CHIC				IAML				14 49 30.3	
	comp=Z,46nm,0.4s								
ROSC	**El Rosal**	**2.34**	**211**	P			**Pn**	**14 49 00.2**	**+1.7**
	comp=Z,20nm,0.3s,baz=102,slow=14,SNR=5.7								
ROSC				S			**Sn**	**14 49 30.7**	**+1.7**
	comp=Z,186nm,0.5s,baz=209,slow=24,SNR=16								
ROSC	**El Rosal**	**2.34**	**211**	*e*P			**Pn**	**14 48 59.9**	**+1.4**
ROSC				*e*S			**Sn**	**14 49 30.1**	**+1.1**
ROSC				IAML				14 49 35.0	
	comp=Z,118nm,0.4s								
HELC	**Santa Helena**	**2.51**	**255**	*e*P			**Pn**	**14 49 01.8**	**+1.4**
HELC				*e*S			**Sn**	**14 49 30.7**	**-1.7**
HELC				IAML				14 49 37.5	
	comp=Z,93nm,0.4s								
UREC	**San Jos de Ur**	**2.58**	**290**	*e*P			**Pn**	**14 48 59.6**	**-1.3**
UREC				*e*S			**Sn**	**14 49 31.0**	**-2.4**
UREC				IAML				14 49 43.8	
	comp=Z,79nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.78**	**234**	*e*P			**Pn**	**14 49 03.7**	**-0.2**
GUY2C				*e*S			**Sn**	**14 49 38.4**	**-0.2**
GUY2C				IAML				14 49 45.7	
	comp=Z,118nm,0.5s								
VILC	**Villavicencio,**	**2.79**	**192**	*e*P			**Pn**	**14 49 03.6**	**-0.2**
VILC				*e*S			**Sn**	**14 49 37.6**	**-0.8**
VILC				IAML				14 49 47.2	
	comp=Z,63nm,0.4s								
PTGC	**Puerto Gaitan,**	**2.81**	**160**	*e*P			**Pn**	**14 49 02.8**	**-1.1**
PTGC				*e*S			**Sn**	**14 49 36.2**	**-2.5**
PTGC				IAML				14 49 41.1	
	comp=Z,42nm,0.3s								
CBOC	**Ciudad Bolivar**	**3.06**	**251**	*e*P			**Pn**	**14 49 07.8**	**+0.5**
CBOC				*e*S			**Sn**	**14 49 44.1**	**-0.4**
SDV	**Santo Domingo**	**3.17**	**50**	P			**Pn**	**14 49 09.0**	**+0.5**
	comp=Z,39nm,0.3s,baz=181,slow=1.8,SNR=26								
SDV				S			**Sn**	**14 49 45.6**	**-1.3**
	comp=Z,19nm,0.4s,baz=270,slow=14,SNR=6.9								
ARGC	**Ariguani, Magd**	**3.19**	**339**	*e*P			**Pn**	**14 49 10.5**	**+1.8**
ARGC				IAML				14 49 56.1	
	comp=Z,16nm,0.2s								
ANIL	**Santa Ana**	**3.29**	**224**	⇑*e*P			**Pn**	**14 49 11.0**	**+0.8**
ANIL				*e*S			**Sn**	**14 49 50.9**	**+1.0**
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P			**Pn**	**14 49 13.8**	**-0.9**
SJCC				*e*S			**Sn**	**14 49 54.8**	**-3.3**
SJCC				IAML				14 49 59.3	
	comp=Z,22nm,0.4s								
PLMC	**San Jos del P**	**3.72**	**239**	⇑*e*P			**Pn**	**14 49 15.4**	**-0.2**
PLMC				IAML				14 49 59.9	
	comp=Z,30nm,0.4s								
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	*e*P			**Pn**	**14 49 19.8**	**-1.4**
CRJC				*e*S			**Sn**	**14 50 06.3**	**-3.2**
CRJC				IAML				14 50 16.2	
	comp=Z,16nm,0.2s								
YOTC	**Yotoco, Valle**	**4.31**	**229**	*e*P			**Pn**	**14 49 22.5**	**-1.0**
MACC	**Macarena, Meta**	**4.74**	**189**	*e*P			**Pn**	**14 49 26.8**	**-2.2**
MACC				*e*S			**Sn**	**14 50 18.8**	**-4.8**
MACC				IAML				14 50 24.6	
	comp=Z,16nm,0.6s								
GARC	**Garzon, Huila**	**5.22**	**207**	⇓*e*P			**Pn**	**14 49 34.0**	**-1.6**
GARC				IAML				14 50 37.9	
	comp=Z,16nm,0.3s								
BBAC	**Balboa, Cauca**	**6.34**	**221**	⇓*e*P			**Pn**	**14 49 51.1**	**+0.6**
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc			**PKPdf**	**15 07 48.6**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=110,slow=3.6,SNR=6.1								
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc			**PKPdf**	**15 07 51.9**	**+3.5**
	comp=Z,0.2nm,0.4s,baz=108,slow=2.8,SNR=11								

IDC 27 15:29:23.8±1.4, 55°.03S×30°.89W, h0km, mb4.2/3, mbtmp4.3/3, Error ellipse: s-maj=59.2km s-min=31.7km az=55.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.54**	**155**	P	P	15 34 03.5	0.0
	1.4nm,0.9s,baz=301,slow=9.5,SNR=8.7						
	1.4nm,0.9s						
LPAZ	**La Paz**	**48.08**	**309**	P	P	15 38 05.7	-0.1
	2.2nm,0.6s,baz=177,slow=3.4,SNR=9.3						
	2.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.28**	**33**	P	P	15 40 56.8	0.0
	14nm,0.6s,baz=218,slow=4.3,SNR=2.3						
	14nm,0.6s						
ILAR	**Eielson Array**	**147.88**	**314**	PKPbc	PKPbc	15 49 08.6	-0.7
	0.8nm,0.7s,baz=126,slow=1.6,SNR=7.6						

IDC ***27*** *15:34:54.1±0.5, 35°.29S×78°.61E, h0km, mb4.4/20, mbtmp4.4/20, MS4.4/59, Error ellipse: s-maj=16.3km s-min=15.6km az=25.0*

NEIC ***27*** *15:34:55.7±0.9, 35°.20S±0°.08×78°.6E±0°.1, h10km±1km, mb4.9/27, Error ellipse: s-maj=20.1km s-min=7.2km az=125.0*

BJI ***27*** *15:34:55.9±0.0, 34°.79S×78°.27E, h5km, mb4.7/34, mB5.2/11, Ms4.9/7, Ms7 4.6/7*

GCMT ***27*** *15:34:59.7±0.2, 35°.20S±0°.01×78°.64E±0°.01, h14km±1km, MW5.2/128, Moment Tensor Solution. s66,c102; s128,c202; Duration: 1§0 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.14±.01; Mθθ=0.69±.01; Mϕϕ.82±.02; Mrθ0.16±.03; Mrϕ0.02±.01; Mθϕ0.02±.03; Best double couple: M0.77800×10¹⁷ NP1:ϕs225.00000°, δ80.00000°, λ-11.00000°. NP2:ϕs317.00000°, δ79.00000°, λ-170.00000°. Principal axes: T 0.8280, Plg1.0000°, Azm271.0000°; N -0.0990, Plg75.0000°, Azm5.0000°; P -0.7280, Plg15.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 15:34:56.6±0.4, 35°.28S±0°.08×78°.62E±0°.08, h14km, n120, σ1§50/74, mb4.8/40, MS4.5/64, 3C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.08**	**347**	T	T	16 09 55.4	
	baz=169,slow=76,SNR=873						
H08S1	**Diego Garcia H**	**28.08**	**347**	T	T	16 09 57.4	
	baz=169,slow=76,SNR=756						
H08S3	**Diego Garcia H**	**28.09**	**347**	T	T	16 09 56.8	
	baz=169,slow=76,SNR=1141						
H01W2	**Cape Leeuwin H**	**28.97**	**100**	T	T	16 11 07.4	
	baz=258,slow=74,SNR=239						
H01W3	**Cape Leeuwin H**	**28.97**	**100**	T	T	16 11 07.7	
	baz=258,slow=74,SNR=474						
H01W1	**Cape Leeuwin H**	**28.99**	**100**	T	T	16 11 08.6	
	baz=258,slow=74,SNR=410						
NWAO	**Narrogin (SRO)**	**31.93**	**97**	LR	LR	15 51 05.9	
	comp=Z,2μm,21.9s,baz=106,slow=30						
OPO	**Ambohidratompo**	**32.41**	**293**	LR	LR	15 51 30.5	
	comp=Z,417nm,19.9s,baz=3.0,slow=31						
MAW	**Mawson**	**33.60**	**191**	P	**P**	**15 41 36.2**	**+0.1**
	2.1nm,0.7s,baz=2.9,slow=13,SNR=2.5						
MAW				LR	LR	15 52 48.8	
	comp=Z,726nm,19.3s,baz=16,slow=32						
	2.1nm,0.7s						
PSA00	**Pilbara Seismi**	**38.47**	**80**	P	**P**	**15 42 17.6**	**-0.7**
PSA00				IAmb	IAmb	15 43 25.3	
	comp=Z,70nm,1.8s						
MBWA	**Marble Bar**	**38.58**	**80**	P	**P**	**15 42 18.6**	**-0.6**
LEM	**Lembang**	**38.88**	**50**	LR	LR	15 55 25.8	
	comp=Z,418nm,18.2s,baz=222,slow=32						
PALK	**Pallekele**	**42.37**	**3**	LR	LR	15 56 01.0	
	comp=Z,623nm,21.8s,baz=285,slow=30						
PSI	**Prapat**	**42.40**	**31**	LR	LR	15 56 53.9	
	comp=Z,609nm,19.3s,baz=201,slow=31						
FITZ	**Fitzroy Crossi**	**44.92**	**80**	LR	LR	16 00 24.8	
	comp=Z,613nm,18.1s,baz=240,slow=34						
FITZ	**Fitzroy Crossi**	**44.92**	**80**	P	**P**	**15 43 10.7**	**-0.5**
FITZ				IAmb	IAmb	15 43 14.4	
	comp=Z,24nm,1.3s						
BOSA	**Boshof**	**45.32**	**263**	P	**P**	**15 43 12.7**	**-1.7**
	comp=Z,5.5nm,0.9s,baz=139,slow=8.7,SNR=5.0						
BOSA				LR	LR	15 57 53.1	
	comp=Z,1μm,21.6s,baz=117,slow=30						
	comp=Z,5.5nm,0.9s						
MATP	**Matopo**	**46.25**	**275**	P	**P**	**15 43 20.4**	**-1.4**
	comp=Z,6.3nm,1.0s,baz=96,slow=7.4,SNR=4.9						
MATP				LR	LR	15 58 58.4	
	comp=Z,1μm,20.2s,baz=62,slow=31						
	comp=Z,6.3nm,1.0s						
LBTB	**Lobatse**	**46.51**	**268**	LR	LR	15 58 50.3	
	comp=Z,664nm,21.6s,baz=122,slow=31						
SUR	**Sutherland**	**47.52**	**256**	P	**P**	**15 43 31.4**	**-0.4**
	comp=Z,12nm,0.9s,baz=110,slow=12,SNR=2.8						
SUR				LR	LR	15 58 57.3	
	comp=Z,1μm,21.8s,baz=116,slow=30						
	comp=Z,12nm,0.9s						
BATI	**Baumata**	**47.91**	**70**	LR	LR	16 00 37.6	
	comp=Z,489nm,20.9s,baz=258,slow=32						
KAPI	**Kappang**	**48.41**	**61**	LR	LR	16 02 02.9	
	comp=Z,255nm,19.5s,baz=224,slow=34						
KNRA	**Kununurra**	**48.74**	**80**	P	**P**	**15 43 40.1**	**-0.9**
ASAR	**Alice Springs**	**48.95**	**92**	P	**P**	**15 43 42.1**	**-0.6**
	comp=Z,5.3nm,0.9s,baz=237,slow=7.1,SNR=46						
	comp=Z,5.3nm,0.9s						
ASAR	**Alice Springs**	**48.95**	**92**	P	**P**	**15 43 41.7**	**-1.0**
AS31	**Alice Springs**	**48.95**	**92**	P	**P**	**15 43 40.5**	**-2.2**
SBUM	**Sibu**	**48.97**	**47**	P	**P**	**15 43 42.9**	**+0.1**
SBUM				IAmb	IAmb	15 43 47.4	
	comp=Z,15nm,1.1s						
LSZ	**Lusaka**	**49.19**	**281**	LR	LR	16 01 56.5	
	comp=Z,918nm,18.3s,baz=122,slow=33						
WRA	**Warramunga Arr**	**51.06**	**88**	P	**P**	**15 43 58.1**	**-0.6**
	comp=Z,13nm,0.9s,baz=241,slow=7.7,SNR=64						
WRA				LR	LR	16 03 34.9	
	comp=Z,716nm,20.0s,baz=234,slow=34						
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**51.06**	**88**	P	**P**	**15 43 57.8**	**-0.9**
WB2	**Warramunga Arr**	**51.07**	**88**	P	**P**	**15 43 57.9**	**-0.9**
WRAB	**Tennant Creek**	**51.07**	**88**	P	**P**	**15 43 58.0**	**-0.8**
WB0	**Warramunga Arr**	**51.19**	**88**	P	**P**	**15 43 58.8**	**-0.9**
WB0				IAmb	IAmb	15 44 02.5	
	comp=Z,38nm,1.2s						
WR0	**Warramunga Arr**	**51.22**	**88**	P	**P**	**15 43 59.1**	**-0.8**
KMBO	**Kilima Mbogo**	**51.31**	**302**	P	**P**	**15 44 00.7**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=127,slow=7.9,SNR=5.3						
KMBO				LR	LR	16 02 30.1	
	comp=Z,225nm,19.4s,baz=92,slow=32						
	comp=Z,2.1nm,0.8s						
STKA	**Stephens Creek**	**51.80**	**105**	P	**P**	**15 44 03.4**	**-0.7**
	comp=Z,7.1nm,0.9s,baz=266,slow=7.2,SNR=9.5						
STKA				LR	LR	16 02 34.8	
	comp=Z,758nm,20.4s,baz=231,slow=32						
	comp=Z,7.1nm,0.9s						
STKA	**Stephens Creek**	**51.80**	**105**	P	**P**	**15 44 03.4**	**-0.7**
MTN	**Manton Dam**	**52.22**	**78**	P	**P**	**15 44 06.7**	**-0.7**
MTN				IAmb	IAmb	15 44 10.1	
	comp=Z,44nm,1.6s						
TROLL	**Troll, Antarti**	**52.58**	**202**	P	**P**	**15 44 11.2**	**+1.7**
SNAA	**Sanae**	**54.27**	**203**	P	**P**	**15 44 21.6**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=74,slow=7.4,SNR=2.5						
	comp=Z,0.8nm,0.9s						
VNDA	**Vanda**	**54.39**	**165**	P	**P**	**15 44 21.9**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=274,slow=9.6,SNR=9.7						
VNDA				LR	LR	16 05 40.7	
	comp=Z,456nm,18.7s,baz=272,slow=34						
	comp=Z,2.8nm,1.0s						
VNDA	**Vanda**	**54.39**	**165**	P	**P**	**15 44 22.6**	**0.0**
VNDA				IAmb	IAmb	15 44 29.6	
	comp=Z,7.3nm,1.1s						
QSPA	**South Pole Qui**	**54.87**	**180**	P	**P**	**15 44 26.3**	**0.0**
	comp=Z,14nm,1.0s,baz=280,slow=2.8,SNR=27						
QSPA				LR	LR	16 05 39.1	
	comp=Z,1μm,21.4s,baz=294,slow=34						
	comp=Z,14nm,1.0s						
QSPA	**South Pole Qui**	**54.87**	**180**	P	**P**	**15 44 26.2**	**-0.1**
QSPA				IAmb	IAmb	15 44 29.0	
	comp=Z,15nm,0.9s						
TSUM	**Tsumeb**	**55.78**	**270**	LR	LR	16 05 01.9	
	comp=Z,949nm,19.6s,baz=142,slow=32						
TSUM	**Tsumeb**	**55.78**	**270**	P	**P**	**15 44 32.9**	**-0.6**
TSUM				IAmb	IAmb	15 44 34.2	
	comp=Z,10nm,1.1s						
LODK	**Lodwar**	**55.90**	**304**	P	**P**	**15 44 33.7**	**-0.6**
MBAR	**Mbarara**	**56.31**	**297**	LR	LR	16 05 47.8	
	comp=Z,428nm,18.1s,baz=106,slow=33						
VNA3	**Neumayer Olymp**	**56.49**	**203**	P	**P**	**15 44 40.3**	**+2.5**
CMAR	**Chiang Mai Arr**	**56.82**	**23**	P	**P**	**15 44 39.5**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=210,slow=7.1,SNR=5.4						
CMAR				LR	LR	16 04 55.4	
	comp=Z,105nm,20.9s,baz=230,slow=32						
	comp=Z,1.6nm,0.3s						
ATD	**Arta Tunnel**	**57.56**	**317**	LR	LR	16 05 08.4	
	comp=Z,118nm,18.2s,baz=156,slow=32						
BRDH	**Bariadhala**	**58.95**	**14**	LR	LR	16 07 42.8	
	comp=Z,363nm,18.9s,baz=218,slow=33						
SWI	**Sorong**	**59.67**	**67**	P	**P**	**15 45 01.4**	**+0.7**
	comp=Z,22nm,1.1s						
SIJI	**Sorong**	**59.67**	**67**	LR	LR	16 08 07.0	
	comp=Z,234nm,21.7s,baz=234,slow=33						
BELA	**Belgrano 2**	**60.41**	**193**	P	**P**	**15 45 05.6**	**+0.6**
BELA				IAmb	IAmb	15 45 14.7	
	comp=Z,12nm,1.3s						
CTA	**Charters Tower**	**60.73**	**95**	LR	LR	16 09 02.6	
	comp=Z,1μm,20.6s,baz=244,slow=34						
DAV	**Davao City (W)**	**61.06**	**56**	LR	LR	16 08 33.6	
	comp=Z,183nm,21.7s,baz=179,slow=33						
WSAR	**Wadi Sarin**	**61.21**	**339**	LR	LR	16 05 33.5	
	comp=Z,405nm,21.1s,baz=155,slow=30						
KMI	**Kunming**	**64.27**	**24**	⇑P	P	15 45 36.3	+4.6
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	**PanZhiHua**	**65.23**	**23**	P	**P**	**15 45 39.3**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,180nm,5.3s						
RAYN	**Ar Rayn**	**66.38**	**327**	P	**P**	**15 45 44.0**	**-1.1**
RAYN				IAmb	IAmb	15 45 52.6	
	comp=Z,6.7nm,1.1s						
PMG	**Port Moresby**	**67.12**	**85**	P	**P**	**15 45 50.2**	**0.0**
	comp=Z,26nm,1.1s,baz=177,slow=5.0,SNR=3.3						
PMG				LR	LR	16 13 54.6	
	comp=Z,1μm,18.9s,baz=246,slow=35						
	comp=Z,26nm,1.1s						
KBL	**Kabul**	**70.04**	**352**	P	**P**	**15 46 06.8**	**-1.3**
KBL				IAmb	IAmb	15 46 10.4	
	comp=Z,13nm,1.1s						
KRVT	**Keravat (AS076**	**73.98**	**84**	LR	LR	16 18 43.0	
	comp=Z,611nm,18.9s,baz=13,slow=36						
KSH	**Kashi**	**74.47**	**358**	P	**P**	**15 46 30.5**	**-3.9**
KSH				pP	pP	15 46 36.3	-1.7
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN	**Xi'an**	**74.56**	**26**	⇑P	**P**	**15 46 34.0**	**-0.9**
XAN				pP	sP	15 46 39.0	-0.7
XAN				sP	pwP	15 46 41.0	-1.8
XAN				pmax	pmax		
	comp=Z,17nm,0.9s						
LZH	**Lanzhou**	**74.79**	**21**	*e*P	**P**	**15 46 37.3**	**+0.9**
LZH				pP	sP	15 46 42.0	+0.8
LZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
URZ	**Urewera**	**74.96**	**126**	LR	LR	16 14 15.7	
	comp=Z,213nm,19.2s,baz=329,slow=32						
GEYT	**Alibeck**	**75.29**	**343**	P	**P**	**15 46 40.3**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=224,slow=6.0,SNR=1.7						
GEYT				LR	LR	16 15 51.4	
	comp=Z,120nm,20.5s,baz=179,slow=33						
	comp=Z,0.9nm,0.5s						
DZM	**Mont Dzumac**	**75.90**	**107**	*e*S	**S**	**15 56 26.0**	**+0.4**
	comp=Z,100nm,30.9s						
DZM				*e*SS	**SS**	**16 01 19.6**	**+2.0**
	comp=Z,102nm,28.8s						
DZM				*e*LR	LR	16 10 06.2	
	comp=Z,694nm,23.7s						
DZM	**Mont Dzumac**	**75.90**	**107**	LR	LR	16 14 56.0	
	comp=Z,378nm,20.7s,baz=216,slow=32						
PMSA	**Palmer Station**	**76.07**	**196**	LR	LR	16 18 50.3	
	comp=Z,256nm,19.7s,baz=188,slow=35						
GTA	**Gaotai**	**76.86**	**17**	*e*P	**P**	**15 46 48.3**	**+0.2**
GTA				pP	sP	15 46 53.0	+0.1
GTA				sP	pwP	15 46 56.0	+0.1
GTA				pmax	pmax		
	comp=Z,81nm,7.6s						
GTA				LR	LR		
	comp=Z,170nm,21.1s						
GTA				LR	LR		
	comp=Z,200nm,23.6s						
GTA				LR	LR		
	comp=Z,280nm,24.7s						
NJ2	**Nanjing**	**76.90**	**34**	*e*P	**P**	**15 46 47.0**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HNR	**Honiara**	**77.56**	**93**	LR	LR	16 18 26.7	
	comp=Z,5μm,20.2s,baz=230,slow=34						
AAK	**Ala-Archa**	**77.64**	**357**	LR	LR	16 17 03.1	
	comp=Z,355nm,21.9s,baz=185,slow=33						
MMAI	**Mount Meron Ar**	**79.10**	**324**	LR	LR	16 16 31.3	
	comp=Z,82nm,21.9s,baz=120,slow=32						
WMQ	**Urumqi**	**79.16**	**7**	*e*P	**P**	**15 47 02.3**	**+1.6**
WMQ				LR	LR		
	comp=Z,440nm,20.1s						
WMQ				LR	LR		
	comp=Z,98nm,16.3s						
WMQ				LR	LR		
	comp=Z,350nm,23.5s						
HNS	**HongShan**	**79.70**	**28**	⇑P	P	15 47 09.0	+5.4
HNS				pmax	pmax		
	comp=Z,11nm,1.2s						
GNI	**Garni**	**81.30**	**334**	LR	LR	16 21 21.4	
	comp=Z,157nm,19.8s,baz=150,slow=34						
HHC	**Hu-ho-hao-te**	**81.59**	**25**	*e*P	**P**	**15 47 15.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,33nm,1.1s						
HHC				pmax	pmax		
	comp=Z,570nm,4.8s						
MK31	**Makanchi Array**	**81.77**	**3**	P	**P**	**15 47 14.0**	**-0.5**
MKAR	**Makanchi Array**	**81.77**	**3**	P	**P**	**15 47 14.4**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=167,slow=6.1,SNR=15						
MKAR				LR	LR	16 21 06.9	
	comp=Z,180nm,20.5s,baz=212,slow=34						
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**81.77**	**3**	P	**P**	**15 47 12.9**	**-1.7**
MAKZ	**Makanchi**	**81.77**	**2**	P	**P**	**15 47 14.2**	**-0.4**
KBZ	**Khabaz**	**85.10**	**335**	P	**P**	**15 47 31.6**	**0.0**
	comp=Z,1.2nm,0.5s,baz=340,slow=3.4,SNR=4.2						
KBZ				LR	LR	16 22 16.8	
	comp=Z,58nm,20.7s,baz=161,slow=33						
	comp=Z,1.2nm,0.5s						
BRTR	**Keskin Array B**	**85.40**	**327**	P	**P**	**15 47 32.9**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=157,slow=7.1,SNR=8.8						
BRTR				LR	LR	16 20 51.7	
	comp=Z,148nm,21.6s,baz=151,slow=32						
	comp=Z,2.1nm,0.8s						
BRTR	**Keskin Array B**	**85.40**	**327**	P	**P**	**15 47 32.4**	**-1.1**
BR131	**Keskin Array S**	**85.40**	**327**	P	**P**	**15 47 32.7**	**-0.8**
BR131				IAmb	IAmb	15 47 35.3	
	comp=Z,8.0nm,1.0s						
KURBB	**Kurchatov Arra**	**85.53**	**360**	LR	LR	16 24 09.4	
	comp=Z,198nm,19.2s,baz=158,slow=34						
KSRS	**Korea Array**	**85.62**	**37**	P	**P**	**15 47 34.5**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=215,slow=4.0,SNR=2.7						
KSRS				LR	LR	16 25 58.9	
	comp=Z,51nm,18.3s,baz=220,slow=36						
	comp=Z,0.8nm,0.9s						
KURK	**Kurchatov**	**85.63**	**360**	P	**P**	**15 47 32.7**	**-1.4**
ABKAR	**Akbulak array**	**85.79**	**348**	P	**P**	**15 47 34.1**	**-0.9**
SONM	**Songino Array**	**86.40**	**18**	P	**P**	**15 47 38.5**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=192,slow=6.2,SNR=16						
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**86.60**	**19**	P	**P**	**15 47 37.4**	**-1.9**
ULN				IAmb	IAmb	15 47 46.4	
	comp=Z,6.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**87.12**	**288**	LR	LR	16 23 43.8	
	comp=Z,799nm,21.5s,baz=177,slow=34						
AKTO	**Aktyubinsk**	**87.27**	**347**	LR	LR	16 23 29.0	
	comp=Z,92nm,21.5s,baz=157,slow=33						
MSVF	**Nonsavu**	**87.34**	**110**	LR	LR	16 19

comp=Z,4.1nm,0.9s,baz=290,slow=14,SNR=3.6
PDAR Pinedale Array 170.19 38 PKP **PKPdf 15 55 05.5 +1.5**
comp=Z,0.2nm,0.5s,baz=169,slow=12,SNR=4.7

---

*IDC **27** 15:35:51.5±2.3,6°.99N×73°.21W, h163km±23km, mbtmp4.4/3, Error ellipse: s-maj=117.1km s-min=8.0km az=132.0*
*RSNC **27** 15:35:53.0±1.0,6°.80N×73°.14W, h151km±4km, ML3.6, Mw3.8, Fault plane solution: NP1:ϕ=28.00000°, δ=41.00000°, λ=-162.00000°.*
ISC 27 15:35:51.3±1.0,6°.83N±0°.03×73°.12W±0°.04, h160km±6km, n40, σ1°.44/70, 5C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.24**	**196**	⇓*i*	*P*	**Pn**	**15 36 13.2**	**0.0**
BARC					*eS*	**Sn**	**15 36 28.5**	**-1.4**
BARC					IAML		15 36 32.0	
	comp=Z,973nm,0.6s							
BRRC	**Barranca, Sant**	**0.66**	**295**	⇓*i*	*P*	**Pn**	**15 36 15.2**	**+0.6**
BRRC					*eS*	**Sn**	**15 36 32.7**	**+0.3**
BRRC					IAML		15 36 35.7	
	comp=Z,485nm,0.3s							
PAMC	**Pamplona, Colo**	**0.66**	**39**	⇓*i*	*P*	**Pn**	**15 36 16.1**	**+0.9**
PAMC					*eS*	**Sn**	**15 36 33.5**	**0.0**
PAMC					IAML		15 36 35.6	
	comp=Z,891nm,0.5s							
RUSC	**La Rusia**	**0.93**	**178**	⇑*eP*		**Pn**	**15 36 17.1**	**+0.1**
RUSC					*eS*	**Sn**	**15 36 35.8**	**-1.0**
RUSC					IAML		15 36 37.1	
	comp=Z,460nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*eP*		**Pn**	**15 36 19.7**	**-0.6**
PTBC					*eS*	**Sn**	**15 36 40.8**	**-1.7**
PTBC					IAML		15 36 47.2	
	comp=Z,514nm,0.4s							
TAMC	**Tame, Arauca**	**1.37**	**106**	⇓*i*	*P*	**Pn**	**15 36 21.4**	**+1.0**
TAMC					*eS*	**Sn**	**15 36 42.7**	**0.0**
TAMC					IAML		15 36 44.5	
	comp=Z,259nm,0.5s							
OCAC	**Ocana**	**1.42**	**352**	*eP*		**Pn**	**15 36 21.5**	**+0.5**
OCAC					*eS*	**Sn**	**15 36 43.8**	**-0.1**
OCAC					IAML		15 36 48.3	
	comp=Z,1μm,0.4s							
SPBC	**San Pablo de B**	**1.51**	**219**	⇑*eP*		**Pn**	**15 36 22.0**	**+0.2**
SPBC					*eS*	**Sn**	**15 36 44.3**	**-1.0**
SPBC					IAML		15 36 51.4	
	comp=Z,911nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*eP*		**Pn**	**15 36 25.7**	**+0.3**
ZARC					*eS*	**Sn**	**15 36 51.2**	**-0.4**
ZARC					IAML		15 36 57.9	
	comp=Z,482nm,0.4s							
NORC	**Norcasia**	**2.15**	**234**	*eP*		**Pn**	**15 36 29.2**	**+0.3**
NORC					*eS*	**Sn**	**15 36 56.8**	**-1.0**
NORC					IAML		15 37 00.9	
	comp=Z,521nm,0.2s							
CHIC	**Chingaza**	**2.27**	**196**	⇑*eP*		**Pn**	**15 36 30.9**	**+0.3**
CHIC					*eS*	**Sn**	**15 37 01.1**	**+0.2**
CHIC					IAML		15 37 08.8	
	comp=Z,183nm,0.4s							
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**15 36 32.9**	**+1.8**
	comp=Z,228nm,0.3s,baz=312,slow=8.1,SNR=38							
ROSC					S	**Sn**	**15 37 04.5**	**+2.8**
	comp=Z,531nm,0.5s,baz=63,slow=15,SNR=8.2							
ROSC	**El Rosal**	**2.31**	**211**	⇑*eP*		**Pn**	**15 36 32.7**	**+1.6**
ROSC					*eS*	**Sn**	**15 37 05.8**	**+4.0**
ROSC					IAML		15 37 10.9	
	comp=Z,567nm,0.4s							
HELC	**Santa Helena**	**2.48**	**255**	*eP*		**Pn**	**15 36 33.9**	**+0.9**
HELC					*eS*	**Sn**	**15 37 03.3**	**-2.0**
HELC					IAML		15 37 11.4	
	comp=Z,160nm,0.2s							
UREC	**San Jos de Ur**	**2.57**	**291**	*eP*		**Pn**	**15 36 33.0**	**-0.7**
UREC					*eS*	**Sn**	**15 37 05.2**	**-1.4**
UREC					IAML		15 37 06.5	
	comp=Z,224nm,0.1s							
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*eP*		**Pn**	**15 36 38.0**	**+2.2**
LL1C					*eS*	**Sn**	**15 37 12.9**	**+2.7**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*eP*		**Pn**	**15 36 37.8**	**+1.3**
GUY2C					*eS*	**Sn**	**15 37 13.7**	**+2.5**
GUY2C					IAML		15 37 18.2	
	comp=Z,324nm,0.3s							
VILC	**Villavicencio,**	**2.76**	**192**	*eP*		**Pn**	**15 36 36.3**	**+0.1**
VILC					IAML		15 37 20.6	
	comp=Z,276nm,0.5s							
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇑*iP*		**Pn**	**15 36 36.1**	**-0.4**
PTGC					*eS*	**Sn**	**15 37 09.3**	**-2.2**
PTGC					IAML		15 37 14.3	
	comp=Z,201nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*eP*		**Pn**	**15 36 41.8**	**+2.1**
CBOC					*eS*	**Sn**	**15 37 17.4**	**+0.2**
CBOC					IAML		15 37 25.3	
	comp=Z,71nm,0.2s							
DBBC	**Dabeiba**	**3.08**	**274**	*eP*		**Pn**	**15 36 40.8**	**+0.6**
DBBC					*eS*	**Sn**	**15 37 15.9**	**-2.1**
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**15 36 42.6**	**+0.8**
	comp=Z,139nm,0.3s,baz=213,slow=3.4,SNR=96							
SDV					S	**Sn**	**15 37 20.7**	**-0.2**
	comp=Z,70nm,0.4s,baz=273,slow=21,SNR=16							
ARGC	**Ariguani, Magd**	**3.21**	**340**	*eP*		**Pn**	**15 36 43.4**	**+1.6**
ARGC					*eS*	**Sn**	**15 37 22.2**	**+1.2**
ARGC					IAML		15 37 33.2	
	comp=Z,80nm,0.3s							
ANIL	**Santa Ana**	**3.25**	**225**	*eP*		**Pn**	**15 36 43.9**	**+1.3**
ANIL					*eS*	**Sn**	**15 37 24.2**	**+1.9**
SJCC	**San Jacinto, C**	**3.67**	**326**	*eP*		**Pn**	**15 36 47.5**	**-0.1**
SJCC					*eS*	**Sn**	**15 37 28.8**	**-2.8**
SJCC					IAML		15 37 33.3	
	comp=Z,114nm,0.4s							
PLMC	**San Jos del P**	**3.69**	**239**	⇓*iP*		**Pn**	**15 36 48.7**	**+0.8**
PLMC					IAML		15 37 38.2	
	comp=Z,68nm,0.5s							
LCBC	**Los crdobas,**	**3.80**	**302**	*eP*		**Pn**	**15 36 48.4**	**-0.9**
LCBC					*eS*	**Sn**	**15 37 32.2**	**-2.2**
LCBC					IAML		15 37 41.2	
	comp=Z,91nm,0.3s							
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*eP*		**Pn**	**15 36 53.4**	**-0.8**
CRJC					*eS*	**Sn**	**15 37 42.3**	**-0.9**
CRJC					IAML		15 37 46.8	
	comp=Z,98nm,0.5s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*eP*		**Pn**	**15 36 55.8**	**+0.1**
GUVC	**San Jose del G**	**4.28**	**173**	*eP*		**Pn**	**15 36 54.8**	**-0.8**
GUVC					*eS*	**Sn**	**15 37 44.1**	**-1.6**
GUVC					IAML		15 37 48.7	
	comp=Z,72nm,0.4s							
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*		**Pn**	**15 36 58.6**	**+0.9**
SMRC					*eS*	**Sn**	**15 37 47.1**	**-2.4**
SMRC					IAML		15 37 47.4	
	comp=Z,62nm,0.2s							
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*		**Pn**	**15 36 59.8**	**-1.3**
MACC					*eS*	**Sn**	**15 37 52.6**	**-3.1**
MACC					IAML		15 37 57.5	
	comp=Z,34nm,0.4s							
URIC	**Uribia, Colomb**	**4.97**	**13**	*eP*		**Pn**	**15 37 03.7**	**-0.8**
URIC					IAML		15 38 17.6	
	comp=Z,16nm,0.4s							
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*		**Pn**	**15 37 07.3**	**-0.3**
GARC					IAML		15 38 05.8	
	comp=Z,50nm,0.2s							
POPC	**Popayan, Colom**	**5.54**	**220**	*eP*		**Pn**	**15 37 12.9**	**+0.5**
FLOC	**Florencia**	**5.79**	**206**	*eP*		**Pn**	**15 37 15.6**	**+0.1**
FLOC					IAML		15 38 31.2	
	comp=Z,9.6nm,0.5s							
BBAC	**Balboa, Cauca**	**6.30**	**221**	*eP*		**Pn**	**15 37 24.1**	**+1.6**
BBAC					*eS*	**Sn**	**15 38 32.4**	**-1.5**
BBAC					IAML		15 38 38.7	
	comp=Z,11nm,0.3s							
PCRV	**Puerto La Cruz**	**9.02**	**68**	P		**Pn**	**15 37 59.6**	**+1.3**
	comp=Z,3.1nm,0.3s,baz=242,slow=4.2,SNR=7.7							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	**15 55 21.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=118,slow=3.6,SNR=10							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**15 55 23.9**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=107,slow=2.7,SNR=14							

---

*IDC **27** 15:55:42.5±0.7,27°.32N×65°.65E, h0km, mb4.0/17, mbtmp3.9/20, ML3.6/3, MS3.6/7, Error ellipse: s-maj=16.4km s-min=15.1km az=14.0*
*MOS **27** 15:55:45.4±1.3,27°.29N×65°.58E, h27km, mb4.3/16, Error ellipse: s-maj=10.0km s-min=6.3km az=92.5*
*NEIC **27** 15:55:45.5±1.5,27°.3N±0°.1×65°.6E±0°.1, h24km±6km, mb4.1/11, Error ellipse: s-maj=23.3km s-min=9.8km az=134.0*
*DSN **27** 15:55:54.2±3.2,26°.28N×64°.92E, h10km, ML3.8/5, Error ellipse: s-maj=123.3km s-min=19.9km az=6.0*
*OMAN **27** 15:55:57.3±1.9,27°.01N×64°.74E, h15km±22km, mb5.5/16, ms2.9/10, Error ellipse: s-maj=27.3km s-min=22.7km az=59.0*
ISC 27 15:55:44.6±0.4,27°.28N±0°.05×65°.62E±0°.04, h18km, n129, σ2°.51/164, mb4.1/38, MS3.8/7, 5C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NGCH	**Negor - Chabah**	**4.46**	**246**	*P*		**Pn**	**15 56 53.0**	**+1.7**
	SNR=9.4							
BHUJ	**Bhuj**	**5.42**	**137**	*eP*		**Pn**	**15 57 06.2**	**+1.7**
BHUJ					*eS*	**Sn**	**15 58 06.1**	**-0.4**
BHUJ					IAML		15 58 13.0	
	comp=N,707nm,0.4s							
BHUJ					IAML		15 58 13.6	
	comp=E,826nm,0.4s							
JASK	**Jask - Hormozg**	**7.08**	**260**	*P*		**Pn**	**15 57 29.2**	**+1.8**
WSAR	**Wadi Sarin**	**7.50**	**239**	*Pn*		**Pn**	**15 57 32.9**	**-0.2**
	comp=E,1.4nm,0.3s,baz=112,slow=5.8,SNR=34							
WSAR					Sn	**Sn**	**15 58 50.7**	**-6.9**
	comp=E,1.4nm,0.3s,baz=16,slow=15,SNR=3.6							
	comp=E,4.9nm,0.4s							
WSAR	**Wadi Sarin**	**7.50**	**239**	*P*		**Pn**	**15 57 33.7**	**+0.6**
WSAR					*S*	**Sn**	**15 58 51.0**	**-6.7**
WBK	**Wadi Bani Khal**	**7.62**	**234**	*P*		**Pn**	**15 57 34.9**	**+0.2**
WBK					*S*	**Sn**	**15 58 56.0**	**-4.6**
THW	**Thamme Wali**	**7.64**	**43**	*P*		**Pn**	**15 57 33.2**	**-1.8**
THW					*S*	**Sn**	**15 58 59.0**	**-2.1**
HRA	**Herat**	**7.66**	**339**	*Pn*		**Pn**	**15 57 35.9**	**+0.5**
BIDO	**Bidbid**	**7.74**	**243**	*P*		**Pn**	**15 57 39.1**	**+2.7**
BIDO					*S*	**Sn**	**15 58 58.6**	**-5.0**
KBL	**Kabul**	**7.81**	**21**	*Pn*		**Pn**	**15 57 38.1**	**+0.6**
KBL	**Kabul**	**7.81**	**21**	*P*		**Pn**	**15 57 38.1**	**+0.6**
SMDO	**Samad**	**8.04**	**240**	*P*		**Pn**	**15 57 41.5**	**+0.9**
SMDO					*P*	**Pn**	**15 57 41.5**	**+0.9**
SMDO					*S*	**Sn**	**15 59 07.5**	**-3.8**
SMDO					*S*	**Sn**	**15 59 07.5**	**-3.8**
AJM	**Ajmer**	**8.10**	**94**	*eP*		**Pn**	**15 57 41.2**	**-0.1**
AJM					*eS*	**Sn**	**15 59 13.4**	**+0.9**
HOQ	**Hoqain**	**8.36**	**246**	*P*		**Pn**	**15 57 45.1**	**+0.2**
HOQ					*P*	**Pn**	**15 57 45.1**	**+0.2**
JMDO	**Jabal Madar**	**8.39**	**236**	*P*		**Pn**	**15 57 46.5**	**+1.1**
JMDO					*P*	**Pn**	**15 57 46.5**	**+1.1**
JMDO					*S*	**Sn**	**15 59 13.4**	**-6.3**
JMDO					*S*	**Sn**	**15 59 13.4**	**-6.3**
BANOM	**Banah**	**8.45**	**263**	*P*		**Pn**	**15 57 46.7**	**+0.6**
	SNR=23							
BANOM	**Banah**	**8.45**	**263**	*P*		**Pn**	**15 57 46.5**	**+0.3**
BANOM					*S*	**Sn**	**15 59 14.1**	**-7.1**
CEP	**Cherat**	**8.48**	**38**	*P*		**Pn**	**15 57 45.7**	**-0.9**
SHME	**Shamm**	**8.57**	**264**	*P*		**Pn**	**15 57 49.7**	**+2.0**
SHME					*P*	**Pn**	**15 57 49.7**	**+2.0**
SHME	**Shamm**	**8.57**	**264**	*P*		**Pn**	**15 57 49.3**	**+1.6**
SHME					*S*	**Sn**	**15 59 21.3**	**-2.7**
MASF	**Masafi**	**8.70**	**260**	*P*		**Pn**	**15 57 50.8**	**+1.2**
MASF					*P*	**Pn**	**15 57 50.8**	**+1.2**
MSFE	**Esma-Masafi**	**8.70**	**259**	*P*		**Pn**	**15 57 49.7**	**+0.1**
UOSS	**Minazif**	**8.78**	**257**			**Pn**	**15 57 49.8**	**-0.8**
UOSS	**Minazif**	**8.78**	**257**	*P*		**Pn**	**15 57 51.1**	**+0.5**
UOSS					*P*	**Pn**	**15 57 51.1**	**+0.5**
UOSS	**Minazif**	**8.78**	**257**	*P*		**Pn**	**15 57 48.6**	**-2.0**
BSY	**Bisya**	**8.87**	**241**	*P*		**Pn**	**15 57 55.0**	**+3.0**
	SNR=15							
BSY					*P*	**Pn**	**15 57 55.0**	**+3.0**
	SNR=15							
HATD	**Hatta, Dubai**	**8.88**	**256**	*P*		**Pn**	**15 57 52.2**	**+0.3**
HATD	**Hatta, Dubai**	**8.88**	**256**	*P*		**Pn**	**15 57 51.3**	**-0.7**
ASHO	**Ashiyiah**	**8.98**	**255**	*P*		**Pn**	**15 57 55.1**	**+1.6**
ASHO					*S*	**Sn**	**15 59 28.4**	**-5.8**
ASHO	**Ashiyiah**	**8.98**	**255**	*P*		**Pn**	**15 57 54.4**	**+0.9**
KHET	**Khetri**	**9.07**	**83**	*eP*		**Pn**	**15 57 53.2**	**-1.3**
KHET					*eS*	**Sn**	**15 59 33.6**	**-2.7**
ARQ	**Araqi**	**9.12**	**247**	*P*		**Pn**	**15 57 58.0**	**+2.6**
ARQ					*P*	**Pn**	**15 57 58.0**	**+2.6**
CHCP	**Chirah Chowk**	**9.16**	**44**	*P*		**Pn**	**15 57 56.5**	**+0.6**
NAZ	**Nazwa, Dubai**	**9.23**	**258**	*P*		**Pn**	**15 58 00.4**	**+3.5**
NAZ					*P*	**Pn**	**15 58 00.4**	**+3.5**
FAQ	**Al Faqa, Dubai**	**9.37**	**257**	*P*		**Pn**	**15 58 01.7**	**+3.0**
FAQ					*P*	**Pn**	**15 58 01.7**	**+3.0**
ALNE	**Al Ain**	**9.46**	**252**	*P*		**Pn**	**15 58 01.9**	**+1.8**
JMU	**Jammu**	**9.70**	**54**	*eP*		**Pn**	**15 58 01.6**	**-1.6**
JMU					*eS*	**Sn**	**15 59 44.3**	**-7.4**
THN	**Thein Dam**	**10.16**	**57**	*eP*		**Pn**	**15 58 09.2**	**-0.3**
THN					*eS*	**Sn**	**15 59 58.4**	**-4.5**
BHK	**Bhakra**	**10.28**	**64**	*eS*		**Sn**	**16 00 00.3**	**-5.8**
SMLA	**Simla**	**10.79**	**66**	*eP*		**Pn**	**15 58 17.1**	**-1.0**
SMLA					*eS*	**Sn**	**16 00 13.7**	**-4.8**
SMLA					IAML		16 00 17.7	
	comp=N,56nm,1.1s							
SMLA					IAML		16 00 24.7	
	comp=E,68nm,0.8s							
BHPL	**Bhopal**	**11.41**	**108**	*eP*		**Pn**	**15 58 25.1**	**-1.7**
GEYT	**Alibeck**	**12.35**	**331**	*Pn*		**Pn**	**15 58 38.8**	**-0.8**
	comp=E,0.2nm,0.3s,baz=169,slow=23,SNR=1.6							
GEYT					LR	LR	16 04 02.8	
	comp=E,177nm,18.8s,baz=148,slow=41							
	comp=E,0.7nm,0.5s							
PTH	**Pithoragarh**	**13.05**	**77**	*eP*		**Pn**	**15 58 46.9**	**-2.3**
PTH					*eS*	**Sn**	**16 01 05.8**	**-8.2**
KSH	**Kashi**	**14.94**	**33**	*Pn*		**Pn**	**15 59 10.5**	**-4.5**
KSH					*Sn*	*Sn*	16 01 40.5	-20
KSH					pmax	pmax		
	comp=E,7.4nm,0.7s							
KSH					smax	smax		
	comp=N,15nm,0.9s							
KSH					smax	smax		
	comp=E,21nm,1.1s							
KSH					LR	LR		
	comp=N,390nm,11.8s							
KSH					LR	LR		
	comp=E,460nm,12.7s							
PYUN	**Piuthan**	**15.41**	**83**	*eP*		**Pn**	**15 59 17.0**	**-4.4**
	comp=E,23nm,0.6s							
KOLN	**Koldanda**	**15.96**	**84**	*eP*		**Pn**	**15 59 23.7**	**-4.8**
DANN	**Dangsing**	**16.09**	**82**	*eP*		**Pn**	**15 59 27.1**	**-3.1**
	comp=E,73nm,0.8s							
KKAR	**Karatay Array**	**16.28**	**13**	*P*		**P**	**15 59 35.2**	**0.0**
KKAR	**Karatay Array**	**16.28**	**13**	*Pn*		**Pn**	**15 59 33.4**	**+1.1**
KKAR	**Karatay Array**	**16.28**	**13**	*P*		**P**	**15 59 35.2**	**0.0**
KKAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
NRN	**Naryn**	**16.50**	**28**	*P*		**P**	**15 59 38.1**	**+0.2**
NRN					IAmb	IAmb	16 00 02.0	
	comp=Z,11nm,1.5s							
NRN	**Naryn**	**16.50**	**28**	*P*		**P**	**15 59 38.1**	**+0.2**
NRN					pmax	pmax		
	comp=Z,11nm,1.5s							
GKN	**Gorkha**	**16.87**	**83**	*eP*		**Pn**	**15 59 36.5**	**-3.5**
	comp=Z,7.4nm,0.5s							
AAK	**Ala-Archa**	**16.94**	**23**	*Pn*		**Pn**	**15 59 39.7**	**-1.1**
	comp=E,0.4nm,0.3s,baz=231,slow=8.4,SNR=2.1							
AAK					LR	LR	16 07 06.6	
	comp=Z,86nm,21.8s,baz=212,slow=40							
	comp=Z,1.4nm,0.5s							
AAK	**Ala-Archa**	**16.94**	**23**	*i P*		**Pn**	**15 59 41.1**	**+0.3**
AAK					pmax	pmax		
	comp=Z,2.0nm,1.1s							
KKN	**Kakani**	**17.45**	**84**	*eP*		**Pn**	**15 59 42.9**	**-4.4**
PKIN	**Phulchoki**	**17.56**	**84**	*eP*		**Pn**	**15 59 44.6**	**-4.2**
	comp=Z,9.2nm,0.5s							
PKI	**Pulchoki**	**17.57**	**84**	*eP*		**Pn**	**15 59 44.5**	**-4.5**
	comp=Z,8.5nm,0.5s							
GUN	**Gumba**	**17.97**	**83**	*eP*		**Pn**	**15 59 50.4**	**-3.5**
	comp=Z,85nm,0.9s							
JIRN	**Jiri**	**18.26**	**84**	*eP*		**Pn**	**15 59 55.1**	**-2.4**
RAYN	**Ar Rayn**	**18.55**	**263**	*P*		**P**	**15 59 59.2**	**-1.3**
RAYN	**Ar Rayn**	**18.55**	**263**	*P*		**P**	**15 59 59.2**	**-1.3**
RAYN					pmax	pmax		
	comp=Z,5.0nm,1.0s							
RAMN	**Ramite**	**18.68**	**86**	*eP*		**P**	**15 59 59.2**	**-2.9**
	comp=Z,20nm,0.5s							
ODAN	**Odare**	**19.39**	**86**	*eP*		**Pn**	**16 00 11.4**	**+0.3**
	comp=Z,3.1nm,0.7s							
SEKA	**Sheki**	**20.56**	**317**	*P*		**P**	**16 00 22.8**	**+0.5**
GANJ	**Ganja**	**20.77**	**315**	*P*		**P**	**16 00 25.4**	**+0.8**
GNI	**Garni**	**21.53**	**312**	*P*		**P**	**16 00 33.9**	**+1.0**
	comp=Z,10nm,0.8s,baz=267,slow=18,SNR=4.9							
	comp=Z,10nm,0.8s							
GNI	**Garni**	**21.53**	**312**	*P*		**P**	**16 00 31.8**	**-1.1**
GNI					IAmb	IAmb	16 00 54.0	
	comp=Z,26nm,1.2s							
ABKAR	**Akbulak array**	**22.38**	**350**	*P*		**P**	**16 00 40.9**	**-0.8**
ABKAR					IAmb	IAmb	16 00 51.8	
	comp=Z,7.3nm,0.8s							
ABKAR	**Akbulak array**	**22.38**	**350**	*P*		**P**	**16 00 41.3**	**-0.4**
MAKZ	**Makanchi**	**23.37**	**29**	*P*		**P**	**16 00 51.2**	**-0.9**
MAKZ					IAmb	IAmb	16 00 59.5	
	comp=Z,7.2nm,1.1s							
MAKZ	**Makanchi**	**23.37**	**29**	*P*		**P**	**16 00 51.2**	**-0.9**
MAKZ					pmax	pmax		
	comp=Z,7.0nm,1.1s							
ZEI	**Tsey**	**23.47**	**317**	*eP*		**P**	**16 00 55.1**	**+1.7**
ZEI					pmax	pmax		
	comp=Z,3.0nm,0.7s							
MK31	**Makanchi Array**	**23.50**	**30**	*P*		**P**	**16 00 52.0**	**-1.4**
MK31					IAmb	IAmb	16 00 55.2	
	comp=Z,3.8nm,0.8s							
MK31	**Makanchi Array**	**23.50**	**30**	*i P*		**P**	**16 00 55.2**	**+1.8**
MKAR	**Makanchi Array**	**23.50**	**30**	*P*		**P**	**16 00 53.3**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=213,slow=9.4,SNR=36							
	comp=Z,3.7nm,0.8s							
MKAR	**Makanchi Array**	**23.50**	**30**	*P*		**P**	**16 00 52.9**	**-0.4**
AKTO	**Aktyubinsk**	**23.84**	**348**	*P*		**P**	**16 00 57.6**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=160,slow=8.4,SNR=2.2							
	comp=Z,1.2nm,0.6s							
WMQ	**Urumqi**	**24.28**	**41**	*eP*		**P**	**16 01 00.8**	**0.0**
WMQ					pP	sP	16 01 09.5	+0.3
WMQ					pmax	pmax		
	comp=Z,17nm,0.7s							
WMQ					LR	LR		
	comp=N,190nm,20.7s							
WMQ					LR	LR		
	comp=Z,330nm,23.5s							
KBZ	**Khabaz**	**24.61**	**318**	*P*		**P**	**16 01 05.7**	**+2.0**
	comp=Z,4.7nm,0.8s,baz=167,slow=6.4,SNR=7.9							
	comp=Z,4.7nm,0.8s							
SHA1	**Shidzhatmaz**	**24.76**	**318**	*i P*		**P**	**16 01 07.4**	**+2.0**
KIV	**Kislovodsk**	**24.86**	**318**	*eP*		**P**	**16 01 08.5**	**+2.3**
KIV					pmax	pmax		
	comp=Z,12nm,1.1s							
KURBB	**Kurchatov Arra**	**25.31**	**19**	*P*		**P**	**16 01 10.3**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=212,slow=8.9,SNR=16							
	comp=Z,3.2nm,0.8s							
KURK	**Kurchatov**	**25.41**	**19**	*P*		**P**	**16 01 11.1**	**+0.1**
KURK					IAmb	IAmb	16 01 12.9	
	comp=Z,3.9nm,0.8s							
KURK	**Kurchatov**	**25.41**	**19**	*ceP*		**P**	**16 01 11.1**	**+0.1**
KURK					pmax	pmax		
	comp=Z,5.0nm,1.0s							
BVAR	**Borovoye Array**	**25.96**	**7**	*P*		**P**	**16 01 16.9**	**+1.0**
	comp=Z,4.4nm,0.9s,baz=180,slow=7.4,SNR=14							
	comp=Z,4.4nm,0.9s							
BRVK	**Borovoye**	**25.98**	**6**	*i P*		**P**	**16 01 18.0**	**+1.9**
BRVK					pmax	pmax		
	comp=Z,7.0nm,0.9s							
DGZ	**Jazzator, Alta**	**27.96**	**31**	*i P*		**P**	**16 01 36.0**	**+1.9**
DGZ					pmax	pmax		
	comp=Z,2.0nm,1.0s							
ARU	**Arti**	**29.57**	**352**	*d iP*		**P**	**16 01 49.0**	**+0.9**
ARU					S	**S**	**16 06 43.7**	**+1.6**
ARU					pmax	pmax		
	comp=Z,10.0nm,2.0s							
ZALV	**Zalesovo Beam**	**30.17**	**23**	*P*		**P**	**16 01 52.6**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=219,slow=9.7,SNR=7.9							
	comp=Z,2.2nm,0.8s							
ZALV	**Zalesovo Beam**	**30.17**	**23**	*P*		**P**	**16 01 53.0**	**-0.5**
ZALV	**Zalesovo Beam**	**30.17**	**23**	*i P*		**P**	**16 01 54.2**	**+0.7**
ZALV					pmax	pmax		
	comp=Z,3.0nm,0.8s							
GTA	**Gaotai**	**30.84**	**58**	*eP*		**P**	**16 02 01.0**	**+1.2**
GTA					pP	sP	16 02 13.5	+5.3
GTA					sP	pP	16 02 17.8	+12
GTA					pmax	pmax		
	comp=Z,4.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**31.86**	**99**	*P*		**P**	**16 02 10.2**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=317,slow=8.3,SNR=5.2							
CMAR					LR	LR	16 18 49.8	
	comp=Z,42nm,18.6s,baz=295,slow=44							
	comp=Z,0.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.86**	**99**	*i P*		**P**	**16 02 13.3**	**+4.5**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
PZH	**PanZhiHua**	**32.16**	**83**	*P*		**P**	**16 02 12.5**	**+1.0**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.8s							
PZH					pmax	pmax		
	comp=Z,210nm,5.

KSRS	Korea Array	52.75	62	P		P		16 04 58.6	+0.2
	comp=Z,4.1nm,0.7s,baz=271,slow=7.2,SNR=17								
	comp=Z,4.1nm,0.7s								
KLR	Kul'dur	54.52	47	*ce*P		P		16 05 12.7	+1.4
KLR				pmax	pmax				
	comp=Z,9.0nm,2.5s								
ESDC	Sonseca Array	58.03	301	LR	LR			16 33 15.3	
	comp=Z,111nm,21.2s,baz=128,slow=39								
TORD	Torodi Ar. Bea	61.05	270	P		P		16 05 58.4	+0.8
	comp=Z,14nm,0.6s,baz=62,slow=5.9,SNR=5.0								
BOSA	Boshof	67.73	218	P		P		16 06 42.9	+1.7
	comp=Z,1.4nm,0.6s,baz=32,slow=3.0,SNR=4.3								
	comp=Z,1.4nm,0.6s								
BILL	Bilibino	68.87	23	*e*P		P		16 06 49.1	+1.4
BILL				pmax	pmax				
	comp=Z,5.0nm,1.3s								
PETK	Petropavlovsk-	69.86	40	LR	LR			16 39 33.3	
	comp=Z,77nm,18.7s,baz=236,slow=38								
WRA	Warramunga Arr	81.41	118	P		P		16 08 01.5	+0.7
	comp=Z,0.6nm,0.8s,baz=322,slow=4.6,SNR=8.9								
	comp=Z,0.6nm,0.8s								
WRA	Warramunga Arr	81.41	118	*i* P		P		16 08 02.5	+1.7
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ASAR	Alice Springs	83.11	121	P		P		16 08 10.1	+0.5
	comp=Z,0.4nm,0.6s,baz=304,slow=4.9,SNR=6.1								
	comp=Z,0.4nm,0.6s								
KDAK	Kodiak Island	89.41	19	LR	LR			16 53 24.1	
	comp=Z,62nm,19.6s,baz=293,slow=39								
STKA	Stephens Creek	93.22	124	LR	LR			16 57 46.3	
	comp=Z,30nm,18.0s,baz=208,slow=40								
CPUP	Villa Florida	129.46	257	PKP		PKiKP		16 14 54.0	+0.6
	comp=Z,2.3nm,0.5s,baz=296,slow=3.9,SNR=4.0								
CPUP	Villa Florida	129.46	257	PKIKP		PKiKP		16 14 54.0	+0.6

IDC ***27*** *16:09:44.3±2.5,26°.12S×178°.67E,h650km±64km,mb3.3/3, mbtmp4.3/7,Error ellipse: s-maj=77.3km s-min=25.9km az=73.0*

NEIC ***27*** *16:09:44.6±2.0,26°.3S±0°.2×178°.6E±0°.1,h625km±18km, mb4.3/21,Error ellipse: s-maj=23.5km s-min=16.1km az=184.0*

ISC 27 16:09:43.8±1.1,26°.35S±0°.10×178°.5E±0°.2,h600km,n43, σ1§43/42,mb4.3/12,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSVF	Nonsavu	8.59	357	P		P	16 11 49.1	+0.2
	4.3nm,0.6s,baz=223,slow=20,SNR=15							
MSVF	Nonsavu	8.59	357	P		P	16 11 49.7	+0.7
KUZ	Kuaotunu	10.62	192	P		P	16 12 12.6	+4.1
MXZ	Matakaoa Point	11.18	181	P		P	16 12 14.1	+0.1
WSRZ	White Island S	11.19	185	P		P	16 12 06.3	-7.8
WIZ	White Island	11.19	185	P		P	16 12 05.5	-8.7
HAZ	Te Kaha	11.38	183	P		P	16 12 16.8	+0.7
RUGZ	Raukumara Rang	11.60	183	P		P	16 12 19.4	+1.0
TOZ	Tahuroa Road	11.62	192	P		P	16 12 22.5	+4.1
PUZ	Puketiti	11.69	181	P		P	16 12 21.1	+2.0
DZM	Mont Dzumac	11.78	289	P		P	16 12 21.3	+0.9
	3.2nm,0.5s,baz=309,slow=22,SNR=6.4							
DZM	Mont Dzumac	11.78	289	P		P	16 12 22.3	+1.8
TWGZ	Tauwhareparae	11.80	182	P		P	16 12 21.0	+0.7
URZ	Urewera	11.93	185	P		P	16 12 23.4	+1.8
	5.6nm,0.4s,baz=353,slow=4.2,SNR=15							
URZ				S		S	16 14 30.2	-1.1
	3.0nm,0.5s,baz=275,slow=24,SNR=6.5							
URZ	Urewera	11.93	185	P		P	16 12 21.5	0.0
RIGZ	Rimuhau	12.33	183	P		P	16 12 26.0	+0.3
BKZ	Black Stump Fm	12.88	187	P		P	16 12 30.6	-0.7
QRZ	Quartz Range	15.26	197	P		P	16 12 56.1	+2.0
KHZ	Kahutara	16.53	193	P		P	16 13 06.8	+1.1
OXZ	Oxford	17.73	196			P	16 13 16.9	+0.2
OXZ				IAmb		IAmb	16 13 23.2	
	comp=Z,20nm,1.1s							
RPZ	Rata Peaks	18.34	197	P		P	16 13 23.7	+1.4
	comp=Z,4.8nm,0.5s,baz=42,slow=5.0,SNR=8.1							
ARMA	Armidale	23.94	254	P		P	16 14 13.3	+0.5
EIDS	Eidsvold	24.66	266	P		P	16 14 19.0	0.0
EIDS				IAmb		IAmb	16 14 20.1	
	comp=Z,5.5nm,0.7s							
TOO	Toolangi	30.00	240	P		P	16 15 06.3	+0.9
TOO				IAmb		IAmb	16 15 17.5	
	comp=Z,9.7nm,1.2s							
CTAO	Charters Tower	30.21	275	P		P	16 15 07.6	+0.1
STKA	Stephens Creek	32.58	251	P		P	16 15 27.7	+0.2
	comp=Z,1.5nm,0.4s,baz=102,slow=10,SNR=7.7							
	comp=Z,1.5nm,0.4s							
STKA	Stephens Creek	32.58	251	P		P	16 15 27.4	0.0
COEN	Coen	35.24	284	P		P	16 15 49.8	-0.1
COEN				IAmb		IAmb	16 16 11.0	
	comp=Z,20nm,1.4s							
BBOO	Buckleboo	37.26	250	P		P	16 16 05.2	-1.0
BBOO				IAmb		IAmb	16 16 16.1	
	comp=Z,20nm,1.4s							
AS31	Alice Springs	40.34	264	P		P	16 16 30.1	-1.0
ASAR	Alice Springs	40.34	264	P		P	16 16 30.4	-0.8
	comp=Z,4.1nm,0.5s,baz=92,slow=7.5,SNR=148							
	comp=Z,4.1nm,0.5s							
ASAR	Alice Springs	40.34	264	P		P	16 16 29.4	-1.7
WR0	Warramunga Arr	40.75	270	P		P	16 16 33.0	-1.3
WR0				IAmb		IAmb	16 16 34.0	
	comp=Z,11nm,1.3s							
WB2	Warramunga Arr	40.92	269	P		P	16 16 34.4	-1.3
WB2				IAmb		IAmb	16 16 34.9	
	comp=Z,5.7nm,0.5s							
WRAB	Tennant Creek	40.93	269	P		P	16 16 34.4	-1.4
WRAB				IAmb		IAmb	16 16 48.5	
	comp=Z,5.1nm,0.8s							
WRA	Warramunga Arr	40.93	269	P		P	16 16 34.6	-1.2
	comp=Z,3.3nm,0.4s,baz=104,slow=7.7,SNR=20							
	comp=Z,3.3nm,0.4s							
WRA	Warramunga Arr	40.93	269	P		P	16 16 34.3	-1.5
FORT	Forrest	44.20	252	P		P	16 16 59.6	-1.6
MBWA	Marble Bar	53.63	262	P		P	16 18 09.1	-1.6
MBWA				IAmb		IAmb	16 18 38.3	
	comp=Z,16nm,1.3s							
MORW	Morawa	54.77	252	P		P	16 18 17.3	-1.2
MORW				IAmb		IAmb	16 18 26.2	
	comp=Z,32nm,1.3s							
GIRL	Giralia	58.05	259	P		P	16 18 41.0	0.0
QSPA	South Pole Qui	63.74	180	P		P	16 19 18.6	+1.0
SNAA	Sanae	82.24	180	P		P	16 21 02.1	-0.9

IDC 27 16:12:48.0±2.4,7°.53S×130°.09E,h0km,mb3.4/1, mbtmp3.7/3,ML3.7/2,Error ellipse: s-maj=141.5km s-min=33.5km az=69.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	Warramunga Arr	13.01	162	Pn		Pn	16 15 52.5	-1.8
	0.3nm,0.3s,baz=344,slow=13,SNR=23							
WRA				Sn		Sn	16 18 08.3	-12
	0.6nm,0.3s,baz=332,slow=22,SNR=5.8							
	0.8nm,0.7s							
ASAR	Alice Springs	16.46	168	Pn		P	16 16 42.4	-1.0
	0.6nm,0.3s,baz=344,slow=11,SNR=32							
ASAR				Sn		Sn	16 19 28.8	-15
	0.1nm,0.3s,baz=346,slow=23,SNR=3.7							
	3.9nm,0.6s							
MKAR	Makanchi Array	68.71	327	P		P	16 23 53.6	0.0
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.3							
	0.2nm,0.5s							

DJA ***27*** *16:22:56.3±0.6,17°.4°×14°.6E±°,h469km±5km,M4.7/64, mB5.2/30,mb4.8/64,MLv5.3/1,Mw(mB)4.6/30*

NEIC ***27*** *16:22:56.5±1.3,17°.56N±0°.07×145°.62E±0°.10, h476km±5km,mb5.0/416,Error ellipse: s-maj=13.6km s-min=10.5km az=90.0*

MOS ***27*** *16:22:56.8±0.8,17°.58N×145°.53E,h498km,mb5.0/38, Error ellipse: s-maj=6.6km s-min=4.2km az=99.5*

BJI ***27*** *16:22:56.2±0.0,17°.61N×145°.83E,h497km,mb4.7/57, mB4.9/30*

IDC ***27*** *16:22:57.6±0.7,17°.52N×145°.58E,h495km±8km,mb4.3/48, mbtmp5.2/52,Error ellipse: s-maj=8.9km s-min=5.4km az=90.0*

ISC 27 16:22:57.4±0.4,17°.49N±0°.03×145°.60E±0°.04,h495km±3km, h496km:pP-P,n1318,σ0§92/1404,mb5.0/373,26C-18D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GUMO	Guam	3.94	190	P		P	16 24 13.7	-1.5
	760nm,0.6s,baz=141,slow=1.8,SNR=79							
GUMO				S		S	16 25 16.8	-1.6
	137nm,0.4s,baz=347,slow=13,SNR=7.2							
GUMO	Guam	3.94	190	P		P	16 24 13.6	-1.6
GUMO	Guam	3.94	190	P		P	16 24 13.6	-1.6
JCJ	Chichijima	10.07	342	P		P	16 25 15.3	-0.1
	99nm,0.5s,baz=105,slow=23,SNR=7.5							
JCJ	Chichijima	10.07	342	P		P	16 25 15.7	+0.3
PATS	Pohnpei	16.32	129	P		P	16 26 21.9	+0.3
JHJ2	Mitsune	16.40	343	P		P	16 26 22.2	-0.1
JHJ	Hachijo jima 2	16.42	342	P		P	16 26 22.1	-0.4
	79nm,0.3s,baz=243,slow=22,SNR=10							
JHJ				S		S	16 29 04.2	-7.1
	88nm,0.5s,baz=69,slow=23,SNR=3.1							
JOW	Kunigami	18.53	303	P		P	16 26 43.2	+0.3
	129nm,0.5s,baz=137,slow=10.0,SNR=40							
JOW	Kunigami	18.53	303			P	16 26 43.6	+0.8
JOW	Kunigami	18.53	303	P		P	16 26 43.9	+1.0
JYT	Yasato	19.27	347			P	16 26 48.9	-0.6
JMN	Monobe	19.29	329	P		P	16 26 49.8	0.0
INU	Inuyama	19.36	338			P	16 26 50.2	-0.1
INU	Inuyama	19.36	338	P		P	16 26 50.9	+0.5
JGF	Kuroka	19.47	339			P	16 26 51.3	-0.1
MANU	Manus Island	19.49	175	P		P	16 26 52.0	+0.1
JSU	Suzuyama	19.58	318	P		P	16 26 52.8	+0.3
MJAR	Matsushiro Arr	20.07	342	P		P	16 26 55.4	-1.5
	24nm,0.7s,baz=167,slow=9.3,SNR=77							
MJAR				S		S	16 30 10.4	-1.1
	3.7nm,0.7s,baz=119,slow=13,SNR=4.2							
	24nm,0.7s							
MAJO	Matsushiro	20.07	342			P	16 26 56.1	-0.8
MAJO	Matsushiro	20.07	342	P		P	16 26 56.1	-0.8
MAJO	Matsushiro	20.07	342	P		P	16 26 56.4	-0.5
MJB9	Matsu-Tunnel	20.08	342	P		P	16 26 56.1	-0.8
JHS	Saijyo	20.69	330			P	16 27 02.3	-0.2
JMM	Marumori	20.73	349	P		P	16 27 02.6	-0.2
JSD	Sado	21.46	344	P		P	16 27 08.8	-0.6
CGP	Cagayan de Oro	22.24	249	‖*e*P		P	16 27 16.2	-0.6
TBP	Tagbilaran	22.49	253	*e*P		P	16 27 19.4	+0.4
KCP	Kidapawan	22.56	245	‖*i*P		P	16 27 19.2	-0.5
RCP	Roxas	22.88	258	‖*e*P		P	16 27 22.8	+0.2
SWI	Sorong	23.07	219	P		P	16 27 23.5	-0.7
	3µm79nm,1.2s							
SIJI	Sorong	23.07	219	P		P	16 27 24.6	+0.3
	46nm,0.8s,baz=39,slow=8.8,SNR=32							
SIJI				ScP		ScP	16 33 46.7	0.0
	11nm,0.9s,baz=25,slow=3.7,SNR=6.3							
	46nm,0.8s							
LQP	Lukban	23.39	265	‖*e*P		P	16 27 27.9	+0.6
YULB	Yu-li	23.50	289	P		P	16 27 28.1	+0.2
JTM	Tenmabayashi	23.54	351	P		P	16 27 27.8	-0.3
PCPH	Palayan	23.57	269	‖*e*P		P	16 27 29.1	+0.5
TWG	Pinlang	23.61	287	P		P	16 27 28.7	-0.3
TATO	Taipei	23.65	292	P		P	16 27 29.9	+0.6
SSLB	Suanglung	23.88	289	P		P	16 27 31.1	-0.3
SSLB	Suanglung	23.88	289	P		P	16 27 32.2	+0.8
FAKI	Fak Fak	24.18	214	P		P	16 27 33.7	-0.4
TNTI	Ternate	24.45	229	P		P	16 27 36.3	-0.2
TNTI	Ternate	24.45	229	P		P	16 27 36.4	-0.2
	2µm17nm,0.7s							
TNTI	Ternate	24.45	229	P		P	16 27 36.3	-0.2
ERM	Erimo	24.53	356	P		P	16 27 37.4	+0.6
ERM	Erimo	24.53	356	P		P	16 27 37.4	+0.6
TJN	Taejon	24.78	323	*ce*P		P	16 27 39.4	+0.2
KSRS	Korea Array	25.24	325	P		P	16 27 43.1	-0.1
	9.2nm,0.6s,baz=144,slow=8.8,SNR=54							
KSRS				PcP		PcP	16 31 01.2	+1.0
	4.6nm,0.9s,baz=138,slow=2.5,SNR=9.4							
KSRS				ScP		ScP	16 33 51.8	-0.6
	3.6nm,0.9s,baz=136,slow=3.6,SNR=9.0							
	9.2nm,0.6s							
KSAR	Wonju Array Be	25.25	325	P		P	16 27 42.6	-0.8
KSAR						PcP	16 31 00.7	+0.4
KSAR	Wonju Array Be	25.25	325	P		P	16 27 42.6	-0.8
KS19	Wonju Array Si	25.31	325	P		P	16 27 42.2	-1.6
LBMI	Labuha	25.34	227	P		P	16 27 43.5	-0.9
	56nm,0.9s							
JEW	Eniwo	25.51	353	P		P	16 27 45.7	+0.1
KNMB	Chin-men Tao	26.31	290	P		P	16 27 53.0	+0.2
MSAI	Masohi	26.44	220	P		P	16 27 50.8	-3.4
	13nm,0.5s							
PMG	Port Moresby	26.77	177	P		P	16 27 57.7	+0.7
PMG	Port Moresby	26.77	177	P		P	16 27 57.7	+0.7
KMSI	Cibinong	27.11	234	P		P	16 27 57.6	-2.4
	109nm,0.7s							
AAI	Ambon	27.16	221	P		P	16 28 00.2	-0.3
	1µm157nm,0.8s							
PPR	Puerto Princes	27.19	257	‖*i*P		P	16 28 02.1	+1.4
SANI	Sanana	27.40	227	P		P	16 28 00.4	-2.2
	32nm,1.0s							
SANI	Sanana	27.40	227	P		P	16 28 01.2	-1.4
NLAI	Namlea	27.52	223	P		P	16 28 03.7	+0.1
	52nm,1.0s							
GTOI	Gorontalo	27.83	235	P		P	16 28 06.4	+0.1
	248nm12nm,0.9s							
NJ2	Nanjing	28.18	306	*e*P		P	16 28 10.5	+1.3
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
MRSI	Marisa	28.77	236	P		P	16 28 14.4	-0.2
	1µm115nm,1.1s							
USRK	Ussuriysk Ar.	28.99	340	P		P	16 28 16.5	+0.4
	12nm,0.7s,baz=151,slow=9.7,SNR=37							
USRK				PcP		PcP	16 31 09.3	+0.1
	3.5nm,0.8s,baz=148,slow=6.3,SNR=4.3							
	12nm,0.7s							
USA0B	Ussuriysk Arra	28.99	340	P		P	16 28 16.5	+0.4
USA0B	Ussuriysk Arra	28.99	340	P		P	16 28 16.5	+0.4
LUWI	Luwuk	29.07	233	P		P	16 28 15.9	-1.3
LUWI	Luwuk	29.07	233	P		P	16 28 15.8	-1.4
	2µm268nm,0.8s							
LUWI	Luwuk	29.07	233	P		P	16 28 16.8	-0.4
MYLDM	Lahad Datu	29.20	248	P		P	16 28 19.2	+0.8
YSS	Yuzh-Sakhalins	29.48	356	P		P	16 28 19.8	-0.5
YSS	Yuzh-Sakhalins	29.48	356	*ce*P		P	16 28 20.7	+0.4
YSS				pmax	pmax			
	comp=Z,64nm,1.3s							
YSS	Yuzh-Sakhalins	29.48	356	P		P	16 28 20.4	+0.1
APSI	Ampana	29.85	235	P		P	16 28 22.4	-1.6
	comp=Z,621nmcomp=Z,70nm,1.2s							
HKPS	Hong Kong Po S	29.93	284	P		P	16 28 25.9	+1.3
MDJ	Mudanjiang	30.20	337	P		P	16 28 27.0	+0.4
MDJ				pP		pP	16 29 52.0	+1.3
MDJ				sP		sP	16 30 45.0	-3.5
MDJ				S		S	16 32 51.0	+0.6
MDJ				PcS		PcS	16 34 58.5	+1.9
MDJ				pmax	pmax			
	comp=Z,420nm,3.5s							
MDJ	Mudanjiang	30.20	337	P		P	16 28 27.1	+0.4
MDJ	Mudanjiang	30.20	337	P		P	16 28 27.2	+0.5
MPSI	Mapaga	30.50	239	P		P	16 28 29.3	-0.3
	comp=Z,513nmcomp=Z,37nm,1.0s							
KKM	Kota Kinabalu	30.88	252	P		P	16 28 33.6	+0.5
KKM	Kota Kinabalu	30.88	252	P		P	16 28 33.8	+0.8
WHN	Wuhan	31.25	300	⇑P		P	16 28 37.0	+1.2
WHN				pmax	pmax			
	comp=Z,96nm,0.7s							
CN2	Changchun	31.27	331	*e*P		P	16 28 36.5	+0.7
CN2				PcP		PcP	16 31 15.0	-0.4
CN2				S		S	16 33 08.0	+1.1
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
COEN	Coen	31.34	185	P		P	16 28 37.4	+0.6
UGL	Uglegorsk	31.64	356	*e*P		P	16 28 38.3	-0.6
UGL				pmax	pmax			
	comp=Z,100nm,1.0s							
BNX	BinXian	31.99	336	⇑P		P	16 28 42.0	0.0
BNX				pmax	pmax			
	comp=Z,28nm,0.8s							
BNX				pmax	pmax			
	comp=Z,180nm,6.3s							
BBSI	Bau Bau	32.23	227	P		P	16 28 45.1	+0.7
	comp=Z,93nm,0.9s							
TTSI	Tana Toraja	32.61	234	P		P	16 28 48.3	+0.6
	comp=Z,1µmcomp=Z,109nm,0.9s							
KDU	Kakadu	32.67	204	P		P	16 28 48.3	+0.2
SMKI	Samarinda	33.15	240	P		P	16 28 53.9	+1.6
	comp=Z,6µmcomp=Z,370nm,0.9s							
SPSI	Sidrap Palu	33.23	232	P		P	16 28 53.2	+0.2
	comp=Z,1µmcomp=Z,140nm,0.8s							
BNSI	Bone	33.26	231	P		P	16 28 53.8	+0.5
	comp=Z,1µmcomp=Z,123nm,0.9s							
MTN	Manton Dam	33.35	206	P		P	16 28 53.8	-0.2
MTN				IAmb		IAmb	16 28 55.2	
	comp=Z,63nm,0.7s							
MTN	Manton Dam	33.35	206	P		P	16 28 54.3	+0.3
TYV	Tymovskoe	33.38	357	*e*P		P	16 28 54.0	+0.3
TYV				*e*S		S	16 33 45.4	+6.6
TYV				pmax	pmax			
	comp=Z,82nm,0.7s							
TYV				pmax	pmax			
	comp=Z,100nm,3.9s							
TYV				smax	smax			
	comp=N,300nm,3.8s							
TYV				smax	smax			
	comp=E,300nm,3.8s							
KLR	Kul'dur	33.59	344	P		P	16 28 55.3	-0.2
	comp=E,40nm,0.6s,baz=156,slow=7.2,SNR=171							
KLR				PcP		PcP	16 31 22.3	+0.5
	comp=E,17nm,0.6s,baz=165,slow=1.9,SNR=8.5							
	comp=E,40nm,0.6s							
KLR	Kul'dur	33.59	344	*ce*P		P	16 28 55.3	-0.2
KLR				pmax	pmax			
	comp=Z,42nm,0.7s							
HNS	HongShan	33.60	312	⇑P		P	16 28 58.3	+2.5
HNS				pmax	pmax			
	comp=Z,17nm,0.5s							
BKB	Balikpapan	33.87	240	P		P	16 28 59.4	+1.0
	comp=Z,150nm,1.0s							
BKB	Balikpapan	33.87	240	P		P	16 28 59.1	+0.7
BKSI	Bulukumba	33.87	230	P		P	16 28 58.9	+0.6
	comp=Z,999nmcomp=Z,87nm,0.9s							
KAPI	Kappang	33.93	231	P		P	16 28 58.7	-0.2
	comp=Z,59nm,0.6s,baz=59,slow=4.0,SNR=36							
	comp=Z,59nm,0.6s							
KAPI	Kappang	33.93	231	P		P	16 28 58.4	-0.6
KAPI	Kappang	33.93	231	*i* P		P	16 28 59.0	+0.1
KAPI				pmax	pmax			
	comp=E,65nm,0.9s							
KAPI	Kappang	33.93	231	P		P	16 28 59.7	+0.8
KAPI	Kappang	33.93	231	P		P	16 28 59.7	+0.8
KAPI	Kappang	33.93	231	P		P	16 28 59.7	+0.8
BJT	Baijiatuau	33.94	317	P		P	16 28 58.0	-0.6
BJT	Baijiatuau	33.94	317	P		P	16 28 58.0	-0.6
BJT				pmax	pmax			
	comp=Z,10.0nm,0.8s							
QIZ	Qiongzhong	33.95	278	P		P	16 29 00.4	+1.3
GRNR	Gornyy	34.00	350	‖*i*P		P	16 28 59.5	+0.5
GRNR				pmax	pmax			
	comp=E,10.0nm,0.6s							
GRNR				pmax	pmax			
	comp=N,20nm,0.7s							
GRNR				pmax	pmax			
	comp=Z,60nm,0.6s							
BSSI	Bau Bau, Buton	34.16	229	P		P	16 29 01.4	+0.6
	comp=Z,1µmcomp=Z,151nm,0.8s							
SKR	Severo-Kuril's	34.17	12	*e*P		P	16 29 00.6	+0.2
SKR				pmax	pmax			
	comp=Z,53nm,0.7s							
SKR				MLR	MLR			
	comp=Z,200nm,13.0s							
SOEI	Soe	34.31	220	P		P	16 29 00.8	-1.5
SOEI				IAmb		IAmb	16 29 13.7	
	comp=Z,61nm,0.8s							
SOEI	Soe	34.31	220	P		P	16 29 01.2	-1.0
	comp=Z,93nm,0.8s							
SOEI	Soe	34.31	220	P		P	16 29 01.5	-0.7
MMRI	Maumere	34.74	223	P		P	16 29 05.2	-0.5
MMRI	Maumere	34.74	223	P		P	16 29 05.9	+0.2
	comp=Z,1µmcomp=Z,117nm,0.9s							
MMRI	Maumere	34.74	223	P		P	16 29 05.8	+0.1
BATI	Baumata	35.03	220	P		P	16 29 07.5	-0.7
	comp=Z,84nm,0.6s,baz=75,slow=1.6,SNR=23							
	comp=Z,84nm,0.6s							
BATI	Baumata	35.03	220	P		P	16 29 07.5	-0.7
	comp=Z,62nm,0.7s							
EDFI	Ende, Flores	35.19	224	P		P	16 29 08.7	-0.9
	comp=Z,24nm,0.7s							
ENH	Enshi	35.23	298	P		P	16 29 10.1	+0.4
ENH				IAmb		IAmb	16 29 11.1	
	comp=Z,23nm,0.6s							
ENH	Enshi	35.23	298	P		P	16 29 10.6	+0.9
MTKI	Muara Teweh, K	35.35	242	P		P	16 29 11.5	+0.6
	comp=Z,78nm,0.9s							
MTSU	Mount Surprise	35.42	182	P		P	16 29 12.4	+1.0
SBUM	Sibu	36.01	249	P		P	16 29 17.1	+0.7
XLT	XiLinHaoTe	36.22	323	*e*P		P	16 29 18.3	+0.5
XLT				pP		pwP	16 30 49.3	+0.6
XLT				PcP		PcP	16 31 30.3	+0.4
XLT				sP		sP	16 31 38.3	-2.2
XLT				S		S	16 34 21.3	-0.9
XLT				PcS		PcS	16 35 18.5	+0.2
XLT				pmax	pmax			
	comp=Z,13nm,1.2s							
XLT				pmax	pmax			
	comp=Z,170nm,5.2s							
DLV	T Lat	36.27	266	P		P	16 29 19.7	+1.0
XAN	Xi'an	36.68	304	⇓P		P	16 29 22.0	+0.3
XAN				PcP		PcP	16 31 31.8	+0.4
XAN				S		S	16 34 28.3	-0.9
XAN				ScP		ScP	16 34 35.0	+4.1
XAN				PcS		PcS	16 35 23.0	+2.7
XAN				pmax	pmax			
	comp=Z,15nm,0.7s							
PEA0B	Petropavlovsk-	36.78	12	P		P	16 29 22.6	+0.4
PEA0B	Petropavlovsk-	36.78	12	P		P	16 29 22.6	+0.4
PEA0B				pmax	pmax			
	comp=Z,303nm,1.9s							
PETK	Petropavlovsk-	36.78	12	P		P	16 29 22.4	+0.2
	comp=Z,10nm,0.8s,baz=177,slow=6.1,SNR=12							
PETK				PcP		PcP	16 31 31.1	-0.1
	comp=Z,9.3nm,0.6s,baz=149,slow=3.1

WB2 Warramunga Arr 38.81 197 P **P** **16 29 39.5 +0.3**
WRA Warramunga Arr 38.81 197 P **P** **16 29 39.2 0.0**
comp=Z,9,8nm,0.6s,baz=17,slow=8.3,SNR=106
WRA PcP **PcP** **16 31 38.6 +0.4**
comp=Z,8.2nm,0.6s,baz=14,slow=3.5,SNR=14
WRA ScP **ScP** **16 34 39.2 +0.2**
comp=Z,11nm,0.8s,baz=16,slow=4.2,SNR=30
WRA S **S** **16 35 04.0 +3.1**
comp=Z,3.3nm,1.0s,baz=14,slow=14,SNR=5.8
comp=Z,9.8nm,0.6s
WRA Warramunga Arr 38.81 197 P **P** **16 29 39.6 +0.4**
WRA Warramunga Arr 38.81 197 P **P** **16 29 39.6 +0.4**
WRA pmax pmax
comp=Z,1.0nm,1.2s
ZEA Zeya 38.88 343 *de*P **P** **16 29 39.1 -0.2**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.7s
SRBI Singaraja 39.34 232 P **P** **16 29 44.2 +0.6**
comp=Z,104nm,0.8s
KMMI Kalianget 39.64 235 P **P** **16 29 47.0 +1.0**
comp=Z,3µmcomp=Z,74nm,0.9s
ABJI Asem Bagus 39.90 234 P **P** **16 29 48.7 +0.6**
comp=Z,82nm,0.8s
CD2 Chengdu 40.20 297 *e*P **P** **16 29 51.0 +0.6**
JAGI Jajag, Banyuwa 40.39 233 P **P** **16 29 50.7 -1.3**
JAGI IAmb IAmb 16 29 52.6
comp=Z,56nm,0.9s
JAGI Jajag, Banyuwa 40.39 233 P **P** **16 29 52.0 0.0**
comp=Z,78nm,0.8s
JAGI Jajag, Banyuwa 40.39 233 P **P** **16 29 51.0 -1.0**
FITZ Fitzroy Crossi 40.45 210 P **P** **16 29 53.2 +0.8**
comp=Z,14nm,0.4s,baz=360,slow=9.7,SNR=150
FITZ ScP **ScP** **16 34 45.3 -0.2**
comp=Z,4.5nm,0.9s,baz=171,slow=1.2,SNR=3.7
FITZ S **S** **16 35 23.8 -1.1**
comp=Z,8.2nm,0.9s,baz=180,slow=12,SNR=10.0
comp=Z,14nm,0.4s
FITZ Fitzroy Crossi 40.45 210 P **P** **16 29 53.0 +0.6**
FITZ Fitzroy Crossi 40.45 210 P **P** **16 29 53.3 +0.8**
KMI Kunming 40.51 288 ⇑P **P** **16 29 54.5 +1.3**
KMI PP **PP** **16 31 39.0 -1.8**
KMI PcP **PcP** **16 31 44.8 +0.8**
KMI pmax pmax
comp=Z,28nm,1.6s
LZH Lanzhou 41.25 305 *e*P **P** **16 30 01.3 +2.4**
LZH pmax pmax
comp=Z,30nm,1.4s
PZH PanZhiHua 41.48 290 P **P** **16 30 01.8 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,300nm,4.9s
SHEM Shemya Is, Ala 41.65 26 P **P** **16 30 02.8 +1.3**
comp=Z,78nm,0.6s,baz=81,slow=1.2,SNR=14
comp=Z,78nm,0.6s
SMY Shemya 41.65 26 P **P** **16 30 02.7 +1.2**
SMY Shemya 41.65 26 P **P** **16 30 02.7 +1.2**
SMY pmax pmax
comp=Z,101nm,0.7s
PWJI Pagerwojo 41.92 236 P **P** **16 30 04.3 0.0**
comp=Z,3µmcomp=Z,204nm,0.7s
MA2 Magadan 42.20 4 P **P** **16 30 06.1 +0.4**
MA2 Magadan 42.20 4 P **P** **16 30 06.1 +0.4**
MA2 pmax pmax
comp=Z,117nm,0.8s
MA2 Magadan 42.20 4 P **P** **16 30 06.4 +0.7**
comp=Z,180nm,0.8s
MA2 Magadan 42.20 4 P **P** **16 30 06.1 +0.4**
SMRI Semarang 42.44 238 P **P** **16 30 08.8 +0.5**
SMRI Semarang 42.44 238 P **P** **16 30 09.1 +0.7**
comp=Z,81nm,0.7s
SMRI Semarang 42.44 238 P **P** **16 30 10.4 +2.0**
comp=Z,82nm,0.8s
AS31 Alice Springs 42.47 196 P **P** **16 30 08.5 +0.1**
ASAR Alice Springs 42.47 196 P **P** **16 30 08.8 +0.3**
comp=Z,4.9nm,0.6s,baz=17,slow=8.4,SNR=75
ASAR PcP **PcP** **16 31 50.1 -0.1**
comp=Z,6.9nm,0.8s,baz=16,slow=3.5,SNR=15
ASAR ScP **ScP** **16 34 52.8 -0.8**
comp=Z,5.2nm,0.8s,baz=16,slow=4.2,SNR=18
ASAR S **S** **16 35 54.5 +0.4**
comp=Z,2.4nm,0.9s,baz=21,slow=20,SNR=11
ASAR P4KPbc 17 07 59.3
comp=Z,0.4nm,0.9s,baz=359,slow=5.0,SNR=6.1
comp=Z,4.9nm,0.6s
ASAR Alice Springs 42.47 196 P **P** **16 30 08.5 0.0**
ASAR Alice Springs 42.47 196 P **P** **16 30 08.5 0.0**
TPI Tanjungpandan 42.48 245 P **P** **16 30 09.5 +0.8**
comp=Z,521nmcomp=Z,53nm,1.0s
CRAI Chiangrai 42.79 281 P **P** **16 30 12.1 +1.0**
UGM Wanagama 42.88 237 P **P** **16 30 11.9 +0.1**
EIDS Eidsvold 42.94 173 P **P** **16 30 11.8 -0.2**
AMKA Amchitka 43.08 31 P **P** **16 30 13.8 +1.0**
TPRI Tanjung Pinang 43.60 252 P **P** **16 30 18.3 +0.8**
comp=Z,46nm,1.0s
ULN Ulaanbaatar 43.66 323 P **P** **16 30 18.2 +0.6**
ULN **PcP** **16 31 54.5 +0.4**
ULN Ulaanbaatar 43.66 323 *de*P **P** **16 30 18.3 +0.6**
ULN pmax pmax
comp=Z,23nm,1.3s
ULN Ulaanbaatar 43.66 323 P **P** **16 30 18.6 +1.0**
ULN Ulaanbaatar 43.66 323 P **P** **16 30 18.5 +0.8**
ULN ScP **ScP** **16 34 57.3 -1.0**
RMQ Roma 43.82 176 P **P** **16 30 19.4 +0.4**
comp=Z,8.3nm,0.9s
QLP Quilpie 43.83 182 P **P** **16 30 18.8 -0.2**
comp=Z,30nm,0.9s
MYKOM Kota Tinggi 43.87 254 P **P** **16 30 20.7 +1.1**
MYKOM IAmb IAmb 16 30 22.0
comp=Z,61nm,0.8s
SONM Songino Array 44.03 322 P **P** **16 30 21.2 +0.8**
comp=Z,9.6nm,0.7s,baz=131,slow=8.0,SNR=30
SONM PcP **pwP** **16 31 55.7 -0.1**
comp=Z,12nm,0.6s,baz=138,slow=4.0,SNR=13
SONM ScP **ScP** **16 34 57.8 -1.9**
comp=Z,2.2nm,0.7s,baz=153,slow=4.6,SNR=4.8
comp=Z,9.6nm,0.7s
SONM Songino Array 44.03 322 P **P** **16 30 20.9 +0.4**
SONM **PcP** **16 31 55.3 0.0**
SONM Songino Array 44.03 322 P **P** **16 30 20.9 +0.4**
SONM pmax pmax
comp=Z,14nm,0.8s
DSRI Dabo 44.15 250 P **P** **16 30 22.7 +0.9**
comp=Z,470nmcomp=Z,30nm,1.8s
CHTO Chiang Mai 44.26 279 P **P** **16 30 23.1 +0.6**
CHTO Chiang Mai 44.26 279 P **P** **16 30 23.2 +0.6**
CHTO pmax pmax
comp=Z,1.0nm,0.7s
CHTO Chiang Mai 44.26 279 P **P** **16 30 23.7 +1.2**
CHTO Chiang Mai 44.26 279 ⇑P **P** **16 30 23.5 +0.9**
CHTO ScP **ScP** **16 35 00.6 -0.5**
CM31 Chiang Mai Arr 44.29 279 P **P** **16 30 23.9 +1.0**
CM31 Chiang Mai Arr 44.29 279 P **P** **16 30 24.7 +1.8**
CMAR Chiang Mai Arr 44.29 279 P **P** **16 30 24.4 +1.5**
comp=Z,83nm,0.8s,baz=72,slow=6.3,SNR=433
CMAR ScP **ScP** **16 35 01.4 +0.1**
comp=Z,2.3nm,0.7s,baz=90,slow=2.5,SNR=5.6
CMAR S **S** **16 36 21.9 +1.4**
comp=Z,0.4nm,0.3s,baz=57,slow=16,SNR=4.7
comp=Z,83nm,0.8s
CMAR Chiang Mai Arr 44.29 279 P **P** **16 30 24.2 +1.3**
CMAR Chiang Mai Arr 44.29 279 *i* P **P** **16 30 24.3 +1.5**
CMAR pmax pmax
comp=Z,91nm,0.8s
DZM Mont Dzumac 44.30 152 P **P** **16 30 23.1 +0.3**
comp=Z,7.1nm,0.7s,baz=314,slow=6.6,SNR=14
DZM PcP **PcP** **16 31 57.8 +1.2**
comp=Z,12nm,0.8s,baz=50,slow=7.9,SNR=8.6
comp=Z,7.1nm,0.7s
LEM Lembang 44.63 240 P **P** **16 30 25.9 +0.3**
comp=Z,66nm,0.9s,baz=63,slow=6.9,SNR=13
comp=Z,66nm,0.9s
KIWB Kanaga Island 45.13 32 P **P** **16 30 29.6 +0.9**
INKA Innaminka 45.21 186 P **P** **16 30 30.2 +0.6**
GTA Gaotai 45.21 309 *e*P **P** **16 30 31.8 +2.0**
GTA PcP **pP** **16 32 00.5 -0.6**
GTA ScP **ScP** **16 35 04.0 -0.9**
GTA S **S** **16 36 32.8 -0.3**
GTA ScS **ScS** **16 39 30.8 -1.1**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,92nm,5.8s
ADK Adak 45.38 32 P **P** **16 30 31.3 +0.6**
ADK Adak 45.38 32 P **P** **16 30 31.3 +0.6**
ADK pmax pmax
comp=Z,93nm,0.7s
ADK Adak 45.38 32 P **P** **16 30 31.6 +0.9**
ADK Adak 45.38 32 P **P** **16 30 31.3 +0.6**
IPM Ipoh 45.50 259 P **P** **16 30 33.0 +0.8**
IPM IAmb IAmb 16 30 34.6
comp=Z,52nm,1.0s
IPM Ipoh 45.50 259 P **P** **16 30 33.8 +1.6**
JMBI JAMBI 45.50 250 P **P** **16 30 32.5 +0.4**
comp=Z,94nm,0.7s
KULM Kulim 45.58 260 P **P** **16 30 34.2 +1.5**
KULM IAmb IAmb 16 30 35.6
comp=Z,71nm,0.8s
SEY Seymchan 45.64 4 *de*P **P** **16 30 33.0 +0.5**
SEY pmax pmax
comp=Z,58nm,1.0s
GSTR Great Sitkin T 45.82 32 P **P** **16 30 34.8 +0.7**
BLSI Bandar Lampung 45.86 244 P **P** **16 30 35.7 +0.7**
comp=Z,100nm,0.6s
YAK Yakutsk 45.88 350 P **P** **16 30 34.0 -0.4**
comp=Z,114nm,0.7s,baz=226,slow=0.2,SNR=92
comp=Z,114nm,0.7s
YAK Yakutsk 45.88 350 P **P** **16 30 33.6 -0.7**
YAK Yakutsk 45.88 350 *d* iP **P** **16 30 33.8 -0.5**
YAK *e**PP **PcP** **16 32 00.1 -1.2**
YAK *e* 16 32 32.6
YAK *e*S **S** **16 36 42.2 +0.7**
YAK *e*SS **SS** **16 40 17.8 +3.6**
YAK pmax pmax
comp=Z,190nm,0.9s
YAK pmax pmax
comp=N,31nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=Z,40nm,2.1s
YAK pmax pmax
comp=N,53nm,2.3s
YAK pmax pmax
comp=E,63nm,2.3s
YAK smax smax
comp=E,22nm,1.1s
YAK smax smax
comp=N,100nm,2.4s
YAK Yakutsk 45.88 350 P **P** **16 30 33.9 -0.4**
KLI Kotabumi 45.95 245 P **P** **16 30 35.5 -0.1**
comp=N,180nm,0.8s
MBWA Marble Bar 46.03 214 P **P** **16 30 36.2 +0.3**
MBWA Marble Bar 46.03 214 P **P** **16 30 36.1 +0.1**
MBWA Marble Bar 46.03 214 P **P** **16 30 36.3 +0.3**
PSA00 Pilbara Seismi 46.30 214 P **P** **16 30 38.4 +0.3**
PSA00 Pilbara Seismi 46.30 214 P **P** **16 30 38.7 +0.5**
PSA00 IAmb IAmb 16 30 39.5
comp=Z,8.8nm,0.8s
PSA00 Pilbara Seismi 46.30 214 P **P** **16 30 38.8 +0.7**
BOD Bodaibo 46.58 337 *e*P **P** **16 30 39.7 0.0**
BOD pmax pmax
comp=Z,36nm,1.5s
KASI Kota Agung 46.59 244 P **P** **16 30 39.8 -0.6**
LWLI Liwa 46.71 245 P **P** **16 30 41.0 -0.5**
comp=Z,2µmcomp=Z,239nm,0.9s
ZAK Zakamensk 47.06 324 *e*P **P** **16 30 43.0 -0.6**
ZAK pmax pmax
comp=Z,16nm,1.1s
SDSI Sungai Dareh 47.19 252 P **P** **16 30 45.9 +0.9**
comp=Z,631nmcomp=Z,9.5nm,1.2s
KSI Kapahiang 47.34 248 P **P** **16 30 45.6 -0.7**
comp=Z,224nm,0.8s
MSVF Nonsavu 47.38 136 PcP **PcP** **16 32 08.6 +1.0**
comp=Z,12nm,1.0s,baz=219,slow=4.2,SNR=6.8
MASI Maura Laman, Be 47.42 249 P **P** **16 30 47.6 +0.8**
comp=Z,87nm,1.1s
KRJI Kerinci 47.65 250 P **P** **16 30 49.4 +0.8**
comp=Z,225nm,1.1s
ARMA Armidale 47.98 173 P **P** **16 30 52.1 +1.3**
PSI Prapat 48.05 258 P **P** **16 30 52.5 +0.9**
PSI pmax pmax
comp=Z,38nm,0.9s
PSI Prapat 48.05 258 P **P** **16 30 53.2 +1.6**
RPSI Rantau Prapat 48.08 258 P **P** **16 30 52.5 +0.7**
RPSI IAmb IAmb 16 30 53.9
comp=Z,38nm,0.9s
GOMU GeErMu 48.42 303 P **P** **16 30 56.5 +2.1**
GOMU PcP **PcP** **16 32 12.8 +1.2**
GOMU pmax pmax
comp=Z,9.0nm,0.9s
GOMU pmax pmax
comp=Z,76nm,5.4s
CMSA Cobar Meteorol 48.75 180 P **P** **16 30 57.1 +0.8**
MULG Mulgathing 48.78 193 P **P** **16 30 57.2 +0.6**
KCSI Kotacane, Aceh 48.87 259 P **P** **16 30 58.4 +0.7**
comp=Z,52nm,1.2s
MOY Mondy 48.94 325 *e*P **P** **16 30 58.0 +0.3**
MOY pmax pmax
comp=Z,18nm,1.7s
STKA Stephens Creek 49.24 184 P **P** **16 30 59.5 -0.5**
comp=Z,1.6nm,0.3s,baz=0.1,slow=9.1,SNR=7.0
comp=Z,1.6nm,0.3s
STKA Stephens Creek 49.24 184 *i* P **P** **16 31 00.0 0.0**
CLES Cleveland East 49.42 34 P **P** **16 31 01.3 +0.2**
CLES IAmb IAmb 16 31 02.1
comp=Z,220nm,0.6s
SISI Saibi 49.48 253 P **P** **16 31 02.9 +0.8**
comp=Z,78nm,0.7s
GSI Gunungsitoli 49.84 257 P **P** **16 31 05.2 +0.4**
GSI Gunungsitoli 49.84 257 P **P** **16 31 05.5 +0.7**
comp=Z,274nm,1.0s
GSI Gunungsitoli 49.84 257 P **P** **16 31 05.6 +0.7**
NIKH Nikolski High 50.05 34 P **P** **16 31 05.5 -0.2**
NIKH Nikolski High 50.05 34 P **P** **16 31 05.6 -0.2**
baz=243
GIRL Giralia 50.32 219 P **P** **16 31 09.8 +1.7**
SHL Shillong 50.33 289 P **P** **16 31 08.4 -0.1**
SHL Shillong 50.33 289 P **P** **16 31 08.4 -0.1**
SHL pmax pmax
comp=Z,44nm,1.0s
BBOO Buckleboo 50.84 190 P **P** **16 31 11.4 -0.4**
BBOO IAmb IAmb 16 31 14.9
comp=Z,112nm,1.9s
FORT Forrest 50.87 200 P **P** **16 31 12.5 +0.5**
LSA Lhasa 50.95 294 P **P** **16 31 15.5 +2.2**
LSA pmax pmax
comp=Z,46nm,0.7s
LSA Lhasa 50.95 294 P **P** **16 31 12.6 -0.7**
LSA Lhasa 50.95 294 *i* P **P** **16 31 15.6 +2.2**
SNR=6.9
SPIA Saint Paul Isl 51.43 29 P **P** **16 31 16.3 +0.5**
SPIA Saint Paul Isl 51.43 29 P **P** **16 31 15.9 +0.2**
baz=238
UNV Unalaska Vale 51.70 34 P **P** **16 31 17.4 -0.3**
UNV IAmb IAmb 16 31 18.9
comp=Z,53nm,0.8s
UNV Unalaska Valle 51.70 34 P **P** **16 31 17.7 -0.1**
baz=244
UNV Unalaska Valle 51.70 34 P **P** **16 31 17.6 -0.1**
AKUT Akutan 52.22 34 P **P** **16 31 20.9 -0.5**
BILL Bilibino 52.22 10 P **P** **16 31 21.3 +0.1**
BILL IAmb IAmb 16 31 22.6
comp=Z,108nm,1.1s
BILL Bilibino 52.22 10 *c* iP **P** **16 31 21.7 +0.4**
BILL *e* 16 33 27.8
BILL *e*S **S** **16 38 08.5 +0.4**
BILL pmax pmax
comp=Z,96µm,1.0s
BILL Bilibino 52.22 10 P **P** **16 31 21.6 +0.3**
CAN Canberra 52.62 177 P **P** **16 31 25.4 +0.7**
CAN Canberra 52.62 177 P **P** **16 31 25.4 +0.7**
CAN pmax pmax
comp=Z,71nm,1.7s
KIP Kipapa 53.08 76 *ce*P **P** **16 31 28.4 +0.2**
KIP pmax pmax
comp=Z,282nm,2.5s
FALS False Pass 53.76 34 P **P** **16 31 32.5 0.0**
FALS False Pass 53.76 34 P **P** **16 31 32.6 +0.1**
baz=247,SNR=6.3
FALS False Pass 53.76 34 P **P** **16 31 32.8 +0.3**
ODAN Odare 54.31 291 *e*P **P** **16 31 37.8 +0.6**
comp=Z,3.3nm,0.6s
ODAN Odare 54.31 291 *e*P **ScP** **16 35 43.2 -1.1**
comp=Z,6.1nm,1.4s
MORW Morawa 54.39 212 P **P** **16 31 37.2 -0.1**
MORW IAmb IAmb 16 32 23.1
comp=Z,125nm,1.8s
TOO Toolangi 54.77 180 P **P** **16 31 40.3 +0.5**
TOO Toolangi 54.77 180 P **P** **16 31 40.3 +0.5**
TOO pmax pmax
comp=Z,13nm,0.9s
RAMN Ramite 55.01 291 *e*P **P** **16 31 42.7 +0.6**
comp=Z,12nm,0.4s
RAMN Ramite 55.01 291 *e*P **ScP** **16 35 45.3 -2.1**
comp=Z,24nm,1.2s
WMQ Urumqi 55.03 312 *e*P **P** **16 31 43.3 +1.5**
WMQ pmax pmax
comp=Z,27nm,1.1s
TIXI Tiksi 55.05 354 P **P** **16 31 40.5 -0.8**
comp=Z,34nm,0.5s,baz=98,slow=22,SNR=19
comp=Z,34nm,0.5s
TIXI Tiksi 55.05 354 P **P** **16 31 40.4 -0.8**
TIXI IAmb IAmb 16 31 42.9
comp=Z,37nm,0.6s
TIXI Tiksi 55.05 354 *i* P **P** **16 31 41.4 +0.1**
TIXI pmax pmax
comp=Z,24nm,0.8s
TIXI Tiksi 55.05 354 P **P** **16 31 40.5 -0.8**
TIXI pP **pP** **16 33 16.3 -1.9**
KHLU Kahalu`u 55.28 78 P **P** **16 31 45.1 +1.1**
JIRN Jiri 55.34 292 *e*P **P** **16 31 45.5 +0.9**
comp=Z,47nm,0.6s
JIRN Jiri 55.34 292 *e*P **ScP** **16 35 47.2 -1.8**
SDPT Sand Point 55.52 34 P **P** **16 31 44.7 -0.1**
SDPT Sand Point 55.52 34 P **P** **16 31 44.9 +0.1**
baz=249,SNR=5.2
GUN Gumba 55.60 292 *e*P **P** **16 31 47.4 +1.0**
comp=Z,30nm,0.4s
GUN Gumba 55.60 292 *e*P **ScP** **16 35 48.7 -1.4**
comp=Z,50nm,1.0s
AIN Ainahou 55.72 78 P **P** **16 31 48.5 +1.5**
CNBA Chernabura Isl 55.81 35 P **P** **16 31 46.8 -0.1**
CHNA Chernabura Isl 55.82 35 P **P** **16 31 46.9 0.0**
baz=250
PKI Pulchoki 56.03 292 *e*P **P** **16 31 49.8 +0.4**
comp=Z,25nm,0.5s
PKI Pulchoki 56.03 292 *e*P **ScP** **16 35 50.2 -1.8**
comp=Z,40nm,1.1s
PKIN Phulchoki 56.05 292 *e*P **P** **16 31 49.7 +0.3**
comp=Z,27nm,0.4s
PKIN Phulchoki 56.05 292 *e*P **ScP** **16 35 49.7 -2.3**
comp=Z,45nm,1.2s
KKN Kakani 56.14 292 *e*P **P** **16 31 50.5 +0.6**
comp=Z,2.7nm,0.6s
KKN Kakani 56.14 292 *e*P **ScP** **16 35 51.0 -1.3**
comp=Z,5.1nm,1.1s
DMN Daman 56.30 292 *e*P **P** **16 31 51.8 +0.7**
comp=Z,19nm,0.4s
DMN Daman 56.30 292 *e*P **ScP** **16 35 51.5 -1.6**
comp=Z,46nm,1.2s
S14K Fog Glacier 56.33 33 P **P** **16 31 50.8 +0.2**
baz=250
DGZ Jazzator, Alta 56.36 318 *d* iP **P** **16 31 52.0 +1.0**
DGZ pmax pmax
comp=Z,24nm,0.7s
GKN Gorkha 56.69 292 *e*P **P** **16 31 54.3 +0.6**
comp=Z,16nm,0.3s
GKN Gorkha 56.69 292 *e*P **ScP** **16 35 52.7 -2.0**
CHGN Chignik 56.94 33 P **P** **16 31 54.9 +0.3**
CHGN Chignik 56.94 33 P **P** **16 31 54.7 +0.1**
baz=251
TNA Tin City 56.97 21 P **P** **16 31 55.0 +0.3**
TNA Tin City 56.97 21 P **P** **16 31 55.1 +0.3**
baz=236
NWAO Narrogin (SRO) 57.00 208 P **P** **16 31 55.6 +0.2**
comp=Z,8.7nm,0.9s,baz=239,slow=6.0,SNR=1.3
comp=Z,8.7nm,0.9s
NWAO Narrogin (SRO) 57.00 208 P **P** **16 31 55.5 +0.1**
NWAO IAmb IAmb 16 33 05.9
comp=Z,124nm,1.5s
NWAO Narrogin (SRO) 57.00 208 P **P** **16 31 55.5 +0.1**
NWAO pmax pmax
comp=Z,124nm,1.5s
ANM Nome 57.34 23 P **P** **16 31 57.5 +0.2**
ANM IAmb IAmb 16 31 58.5
comp=Z,34nm,0.7s
ANM Nome 57.34 23 P **P** **16 31 57.5 +0.2**
ANM pmax pmax
comp=Z,34nm,0.7s
ANM Nome 57.34 23 P **P** **16 31 57.9 +0.7**
baz=239
DANN Dangsing 57.45 293 *e*P **P** **16 31 59.8 +0.8**
comp=Z,59nm,0.5s
DANN Dangsing 57.45 293 *e*P **ScP** **16 35 55.8 -2.4**
comp=Z,28nm,0.9s
ZSN Zaisan 57.59 315 *e*P **P** **16 31 59.7 +0.4**
ZSN Zaisan 57.59 315 *e*P **P** **16 31 59.7 +0.4**
baz=316
KOLN Koldanda 57.62 292 *e*P **P** **16 32 00.6 +0.4**
comp=Z,2.1nm,0.7s
KOLN Koldanda 57.62 292 *e*P **ScP** **16 35 56.7 -2.2**
comp=Z,4.9nm,1.5s
P16K Nushagak River 58.08 30 P **P** **16 32 03.2 +0.8**
baz=250,SNR=22
PYUN Piuthan 58.14 293 *e*P **P** **16 32 04.1 +0.4**
comp=Z,16nm,0.5s
PYUN Piuthan 58.14 293 *e*P **ScP** **16 35 55.8 -5.4**
comp=Z,38nm,1.1s
O16K Kokwok River B 58.23 30 P **P** **16 32 04.1 +0.7**
baz=249,SNR=16
N16K Nishlik Lake 58.24 29 P **P** **16 32 04.6 +1.1**
baz=248,SNR=12
CHIR Chirikof Islan 58.28 35 P **P** **16 32 03.9 0.0**
CHIR Chirikof Islan 58.28 35 P **P** **16 32 04.4 +0.6**
baz=254
R17K Ugashik Creek 58.42 32 P **P** **16 32 04.1 -0.6**
baz=252,SNR=5.7
O17K Koliganek Bris 58.77 30 P **P** **16 32 07.8 +0.8**
baz=250,SNR=38
P17K Kvichak River 58.89 31 P **P** **16 32 07.9 +0.1**
baz=251
ZAA0 Zalesovo Array 58.91 323 P **P** **16 32 08.1 -0.1**
ZALV Zalesovo Beam 58.91 323 P **P** **16 32 08.0 -0.1**
comp=Z,10nm,0.4s,baz=115,slow=7.9,SNR=49
ZALV PcP **PcP** **16 32 50.6 -0.5**
comp=Z,16nm,0.6s,baz=118,slow=4.7,SNR=15
ZALV ScP **ScP** **16 36 01.6 -2.2**
comp=Z,2.4nm,0.6s,baz=127,slow=4.4,SNR=5.1
ZALV S **S** **16 39 36.3 +0.7**
comp=Z,1.8nm,0.8s,baz=104,slow=11,SNR=5.7
comp=Z,10nm,0.4s
ZALV Zalesovo Beam 58.91 323 P **P** **16 32 08.0 -0.1**
ZALV Zalesovo Beam 58.91 323 *i* P **P** **16 32 08.0 -0.1**
ZALV pmax pmax
comp=Z,11nm,0.4s
MK31 Makanchi Array 59.23 314 P **P** **16 32 11.3 +0.8**
MK31 Makanchi Array 59.23 314 P **P** **16 32 11.3 +0.8**
MK31 pmax pmax
comp=Z,17nm,0.7s
MKAR Makanchi Array 59.23 314 P **P** **16 32 11.2 +0.7**
comp=Z,25nm,0.7s,baz=92,slow=8.5,SNR=220
MKAR PcP **PcP** **16 32 52.1 -0.5**
comp=Z,11nm,0.7s,baz=90,slow=7.3,SNR=7.1
MKAR ScP **ScP** **16 36 04.0 -1.3**
comp=Z,4.4nm,0.7s,baz=92,slow=6.1,SNR=8.1
MKAR S **S** **16 39 40.6 +0.7**
comp=Z,1.0nm,0.6s,baz=86,slow=17,SNR=6.6
MKAR PKPPKP **P'P'df** **17 01 41.0 +5.1**
comp=Z,1.1nm,0.9s,baz=222,slow=1.6,SNR=6.3
comp=Z,25nm,0.7s
SII Sitkinak Islan 59.26 34 P **P** **16 32 11.1 +0.7**
SII Sitkinak Islan 59.26 34 P **P** **16 32 11.1 +0.7**
baz=254,SNR=6.8
SII Sitkinak Islan 59.26 34 P **P** **16 32 11.4 +1.0**
MAKZ Makanchi 59.45 314 P **P** **16 32 12.6 +0.7**
MAKZ IAmb IAmb 16 32 14.0
comp=Z,38nm,0.7s
MAKZ Makanchi 59.45 314 P **P** **16 32 12.6 +0.7**
MAKZ pmax pmax
comp=Z,38nm,0.7s
MAKZ Makanchi 59.45 314 P **P** **16 32 12.7 +0.8**
P18K Big Mountain, 59.54 31 P **P** **16 32 11.9 -0.4**
P18K Big Mountain, 59.54 31 P **P** **16 32 12.8 +0.5**
baz=252
N18K Kilae Creek 59.64 29 P **P** **16 32 13.3 +0.4**
N18K Kilae Creek 59.64 29 P **P** **16 32 13.7 +0.7**
baz=251,SNR=13
O18K Koktuh Hills 59.70 30 P **P** **16 32 13.7 +0.3**
O18K IAmb IAmb 16 32 15.0
comp=Z,60nm,0.7s
O18K Koktuh Hills 59.70 30 P **P** **16 32 13.8 +0.5**
baz=252,SNR=14
OHAK Old Harbor 59.91 33 P **P** **16 32 15.1 +0.4**

OHAK IAmb IAmb 16 32 16.1
comp=Z,45nm,0.9s
OHAK Old Harbor 59.91 33 P **P** **16 32 15.3 +0.6**
baz=255,SNR=6.6
SVW2 Sparrevohn 59.92 29 P **P** **16 32 15.3 +0.5**
Q19K Cape Douglas, 60.18 31 P **P** **16 32 15.5 -1.1**
Q19K IAmb IAmb 16 32 16.6
comp=Z,52nm,0.7s
Q19K Cape Douglas, 60.18 31 P **P** **16 32 16.0 -0.6**
baz=254,SNR=7.6
O19K Port Alsworth 60.23 30 P **P** **16 32 17.2 +0.4**
O19K IAmb IAmb 16 32 18.2
comp=Z,42nm,0.8s
O19K Port Alsworth 60.23 30 P **P** **16 32 17.2 +0.4**
baz=252,SNR=7.5
N19K Bonanza Creek 60.34 29 P **P** **16 32 18.4 +0.7**
N19K IAmb IAmb 16 32 19.6
comp=Z,52nm,0.7s
N19K Bonanza Creek 60.34 29 P **P** **16 32 18.7 +1.0**
baz=252,SNR=27
TTA Tatalina 60.37 27 P **P** **16 32 18.1 +0.3**
TTA Tatalina 60.37 27 P **P** **16 32 18.1 +0.3**
TTA pmax pmax
comp=Z,15nm,0.8s
TTA Tatalina 60.37 27 P **P** **16 32 18.2 +0.4**
baz=249,SNR=9.0
KDAK Kodiak Island 60.42 33 P **P** **16 32 18.4 +0.3**
comp=Z,14nm,0.5s,baz=274,slow=2.7,SNR=48
comp=Z,14nm,0.5s
KDAK Kodiak Island 60.42 33 P **P** **16 32 18.2 +0.1**
KDAK Kodiak Island 60.42 33 *d i* P **P** **16 32 18.2 +0.1**
KDAK pmax pmax
comp=Z,17nm,0.5s
KDAK Kodiak Island 60.42 33 P **P** **16 32 18.3 +0.3**
baz=255
KDAK Kodiak Island 60.42 33 P **P** **16 32 18.4 +0.3**
P19K Oil Pt 60.59 31 P **P** **16 32 18.6 -0.7**
P19K Oil Pt 60.59 31 P **P** **16 32 19.2 -0.1**
baz=254,SNR=16
L19K White Mountain 60.61 28 P **P** **16 32 19.6 +0.2**
L19K White Mountain 60.61 28 P **P** **16 32 20.0 +0.6**
baz=251,SNR=13
GCSA Galena City Sc 60.68 25 P **P** **16 32 19.7 0.0**
baz=247
Q20K Shuyak Island 60.73 32 P **P** **16 32 20.2 0.0**
baz=255,SNR=13
M19K Big River Lodg 60.73 28 P **P** **16 32 20.8 +0.6**
M19K Big River Lodg 60.73 28 P **P** **16 32 20.9 +0.8**
baz=251,SNR=11
ILSW Iliamna Southw 60.73 30 P **P** **16 32 19.2 -1.1**
ILSW IAmb IAmb 16 32 21.5
comp=Z,30nm,1.3s
SHLS Shalkode 60.91 310 *e*P **P** **16 32 20.0 -1.8**
SHLS Shalkode 60.91 310 *e*P **P** **16 32 20.1 -1.8**
baz=310
O20K Slope Mountain 61.01 30 P **P** **16 32 21.7 -0.4**
baz=254
RSO Redoubt South 61.05 30 P **P** **16 32 21.9 -0.6**
L20K Farewell, AK 61.14 27 P **P** **16 32 23.5 +0.7**
baz=252,SNR=12
UZB Uzynbulak 61.23 310 *e*P **P** **16 32 24.0 0.0**
UZB Uzynbulak 61.23 310 *e*P **P** **16 32 24.1 0.0**
baz=310
M20K Styx River 61.29 28 P **P** **16 32 24.8 +0.9**
M20K IAmb IAmb 16 32 25.9
comp=Z,28nm,0.8s
M20K Styx River 61.29 28 P **P** **16 32 24.9 +0.9**
baz=253,SNR=25
K20K Telida 61.34 27 P **P** **16 32 25.0 +0.8**
K20K IAmb IAmb 16 32 26.2
comp=Z,38nm,0.8s
K20K Telida 61.34 27 P **P** **16 32 25.2 +1.1**
baz=251,SNR=45
HOM Homer 61.37 31 P **P** **16 32 25.1 +0.7**
baz=255
KPKS Kokpek 61.50 310 *e*P **P** **16 32 25.7 +0.1**
KPKS Kokpek 61.50 310 *e*P **P** **16 32 25.8 +0.1**
baz=310
N20K Mount Spurr 61.51 29 P **P** **16 32 25.3 -0.1**
baz=254
SPCR Spurr Chakacha 61.51 29 P **P** **16 32 25.4 0.0**
baz=254
CNPM China Poot 61.54 31 P **P** **16 32 24.9 -0.6**
J20K Nowinta River 61.58 26 P **P** **16 32 26.3 +0.6**
J20K Nowinta River 61.58 26 P **P** **16 32 26.6 +1.0**
baz=250,SNR=35
SPU Mount Spurr 61.58 29 P **P** **16 32 25.4 -0.4**
SATY Saty 61.68 310 *e*P **P** **16 32 27.3 +0.4**
SATY Saty 61.68 310 *e*P **P** **16 32 27.4 +0.4**
baz=310
BRLK Bradley Lake 61.77 31 P **P** **16 32 26.2 -0.8**
TDK Taldyqorghan 61.77 312 *e*P **P** **16 32 27.8 +0.5**
TDK Taldyqorghan 61.77 312 *e*P **P** **16 32 27.9 +0.5**
baz=312
BRSE Bradley Lake S 61.83 31 P **P** **16 32 27.1 -0.4**
baz=256,SNR=18
PPLA Purkeypile 62.01 27 P **P** **16 32 28.9 +0.2**
PPLA IAmb IAmb 16 32 30.1
comp=Z,28nm,0.8s
PPLA Purkeypile 62.01 27 P **P** **16 32 29.2 +0.5**
baz=253,SNR=14
SKT Skwentna 62.04 28 P **P** **16 32 28.1 -0.7**
SKT IAmb IAmb 16 32 29.2
comp=Z,46nm,1.0s
SKT Skwentna 62.04 28 P **P** **16 32 28.3 -0.5**
baz=254,SNR=24
KURK Kurchatov 62.10 319 P **P** **16 32 29.2 -0.1**
KURK IAmb IAmb 16 32 30.5
comp=Z,50nm,0.8s
KURK Kurchatov 62.10 319 *ce*P **P** **16 32 29.4 +0.1**
KURK pmax pmax
comp=Z,46nm,0.7s
KURK Kurchatov 62.10 319 P **P** **16 32 29.7 +0.3**
KURK Kurchatov 62.10 319 ||P **P** **16 32 29.6 +0.3**
KURBB Kurchatov Arra 62.15 318 P **P** **16 32 29.9 +0.2**
comp=Z,93nm,0.6s,baz=98,slow=6.9,SNR=976
KURBB S **S** **16 40 14.8 -1.2**
comp=Z,4.1nm,1.1s,baz=96,slow=11,SNR=12
comp=Z,93nm,0.6s
KURBB Kurchatov Arra 62.15 318 P **P** **16 32 29.4 -0.2**
CAST Castle Rocks 62.21 27 P **P** **16 32 29.8 0.0**
CAST IAmb IAmb 16 32 31.2
comp=Z,56nm,0.8s
CAST Castle Rocks 62.21 27 P **P** **16 32 30.4 +0.5**
baz=253,SNR=65
CHUM Lake Minchumin 62.25 26 P **P** **16 32 30.7 +0.7**
baz=252,SNR=12
SUA Susitna One 62.26 29 P **P** **16 32 29.9 -0.4**
SUA IAmb IAmb 16 32 32.0
comp=Z,30nm,0.8s
SUA Susitna One 62.26 29 P **P** **16 32 29.9 -0.4**
baz=255,SNR=17
IMAR Indian Mountai 62.35 24 P **P** **16 32 30.7 0.0**
O22K Cooper Landing 62.51 30 P **P** **16 32 31.4 -0.4**
O22K Cooper Landing 62.51 30 P **P** **16 32 31.7 0.0**
baz=256,SNR=8.4
SEW Seward 62.55 31 P **P** **16 32 31.6 -0.4**
SEW IAmb IAmb 16 32 33.0
comp=Z,59nm,0.8s
SEW Seward 62.55 31 P **P** **16 32 32.0 -0.1**
baz=257,SNR=19
H21K Melozitna Rive 62.61 24 P **P** **16 32 32.5 +0.1**
H21K IAmb IAmb 16 32 34.1
comp=Z,28nm,0.8s
H21K Melozitna Rive 62.61 24 P **P** **16 32 33.0 +0.6**
baz=251,SNR=31
M22K Willow 62.63 29 P **P** **16 32 31.9 -0.6**
M22K IAmb IAmb 16 32 32.8
comp=Z,54nm,0.8s
M22K Willow 62.63 29 P **P** **16 32 31.9 -0.6**
baz=256,SNR=14
G21K Allakaket 62.63 23 P **P** **16 32 32.9 +0.4**
baz=250,SNR=20
RC01 Rabbit Creek A 62.64 30 P **P** **16 32 31.9 -0.7**
RC01 Rabbit Creek A 62.64 30 P **P** **16 32 32.4 -0.2**
baz=256,SNR=20
MDOK Medeo 62.68 310 *e*P **P** **16 32 34.0 +0.6**
MDOK Medeo 62.68 310 *e*P **P** **16 32 34.1 +0.6**
baz=310
NRIK Noril'sk 62.71 340 P **P** **16 32 32.9 0.0**
comp=Z,62nm,0.7s,baz=109,slow=8.0,SNR=72
comp=Z,62nm,0.7s
NRIK Noril'sk 62.71 340 P **P** **16 32 32.4 -0.5**
NRIK Noril'sk 62.71 340 *ce*P **P** **16 32 32.8 -0.1**
NRIK pmax pmax
comp=Z,74nm,1.0s

CUT Chulitna 62.73 28 P **P** **16 32 32.3 -0.9**
CUT IAmb IAmb 16 32 33.4
comp=Z,42nm,0.8s
CUT Chulitna 62.73 28 P **P** **16 32 32.6 -0.6**
baz=255,SNR=6.6
CHKK Chushkaly 62.74 311 *e*P **P** **16 32 33.4 -0.2**
CHKK Chushkaly 62.74 311 *e*P **P** **16 32 33.5 -0.2**
baz=311
KTH Kantishna Hill 62.75 27 P **P** **16 32 33.0 -0.4**
KTH IAmb IAmb 16 32 34.4
comp=Z,46nm,0.9s
TNSS Tian-Shan 62.75 310 *e*P **P** **16 32 34.9 +0.7**
TNSS Tian-Shan 62.75 310 *e*P **P** **16 32 34.9 +0.7**
baz=310
AAA Alma-Ata 62.78 310 *e*P **P** **16 32 34.0 0.0**
AAA Alma-Ata 62.78 310 *e*P **P** **16 32 34.0 0.0**
baz=310
I21K Tanana 62.79 25 P **P** **16 32 33.8 +0.3**
I21K IAmb IAmb 16 32 35.3
comp=Z,37nm,0.9s
I21K Tanana 62.79 25 P **P** **16 32 34.4 +0.9**
baz=252,SNR=27
URZ Urewera 62.85 152 P **P** **16 32 34.4 +0.1**
comp=Z,7.3nm,0.6s,baz=142,slow=0.1
comp=Z,7.3nm,0.6s
URZ Urewera 62.85 152 P **P** **16 32 34.1 -0.1**
URZ IAmb IAmb 16 32 51.2
comp=Z,62nm,1.5s
BPAW Bear Paw Mtn. 62.87 26 P **P** **16 32 33.9 -0.2**
BPAW IAmb IAmb 16 32 35.4
comp=Z,44nm,1.0s
BPAW Bear Paw Mtn. 62.87 26 P **P** **16 32 34.3 +0.1**
baz=254,SNR=34
F21K Alatna River 62.89 22 P **P** **16 32 34.4 +0.2**
baz=250,SNR=8.2
TRF Thorofare Moun 62.99 27 P **P** **16 32 34.5 -0.6**
TRF IAmb IAmb 16 32 35.6
comp=Z,33nm,0.9s
TRF Thorofare Moun 62.99 27 P **P** **16 32 34.6 -0.6**
baz=254,SNR=24
PMR Palmer 63.05 29 P **P** **16 32 34.7 -0.5**
PMR IAmb IAmb 16 32 35.6
comp=Z,45nm,0.7s
PMR Palmer 63.05 29 P **P** **16 32 34.7 -0.5**
PMR pmax pmax
comp=Z,45nm,0.7s
PMR Palmer 63.05 29 P **P** **16 32 34.8 -0.4**
baz=256,SNR=7.2
QRZ Quartz Range 63.18 157 P **P** **16 32 37.1 +0.8**
QRZ IAmb IAmb 16 32 38.1
comp=Z,41nm,0.8s
KUU Kurty 63.21 311 *e*P **P** **16 32 36.6 -0.1**
KUU pmax pmax
comp=Z,25nm,0.6s
KUU Kurty 63.21 311 *e*P **P** **16 32 36.6 -0.1**
comp=Z,25nm,0.6s,baz=311
MLY Manley 63.24 25 P **P** **16 32 36.5 -0.1**
MLY IAmb IAmb 16 32 38.0
comp=Z,40nm,0.9s
MLY Manley 63.24 25 P **P** **16 32 37.1 +0.5**
baz=253,SNR=53
H22K Ishtalitna Cre 63.24 24 P **P** **16 32 37.2 +0.7**
baz=252,SNR=12
PWL Port Wells 63.26 30 P **P** **16 32 36.6 -0.1**
PWL Port Wells 63.26 30 P **P** **16 32 36.8 +0.2**
baz=258,SNR=106
KNK Knik Glacier 63.32 29 P **P** **16 32 36.6 -0.4**
KNK Knik Glacier 63.32 29 P **P** **16 32 37.3 +0.2**
baz=257,SNR=38
BKZ Black Stump Fm 63.34 153 P **P** **16 32 37.1 -0.4**
BKZ IAmb IAmb 16 32 38.0
comp=Z,27nm,0.9s
BKZ Black Stump Fm 63.34 153 P **P** **16 32 37.9 +0.4**
comp=Z,139nm,1.5s
NRN Naryn 63.44 308 P **P** **16 32 38.9 +0.3**
NRN Naryn 63.44 308 P **P** **16 32 38.9 +0.3**
NRN pmax pmax
comp=Z,18nm,1.3s
F22K John River 63.46 22 P **P** **16 32 38.9 +1.0**
baz=251,SNR=23
SML Sawmill 63.47 29 P **P** **16 32 37.9 -0.2**
SML Sawmill 63.47 29 P **P** **16 32 38.1 0.0**
baz=257,SNR=59
BOOM Boomskoye usch 63.49 309 P **P** **16 32 39.4 +0.7**
BOOM Boomskoye usch 63.49 309 P **P** **16 32 39.4 +0.7**
BOOM pmax pmax
comp=Z,13nm,0.7s
KSH Kashi 63.49 306 P **P** **16 32 42.3 +3.6**
KSH pmax pmax
comp=Z,14nm,1.0s
G22K Bettles 63.52 23 P **P** **16 32 38.6 +0.5**
baz=252
P23K Montague Islan 63.53 31 P **P** **16 32 39.1 +0.7**
baz=259
BWN Browne 63.54 26 P **P** **16 32 38.0 -0.3**
WAT1 Susitna Watana 63.60 28 P **P** **16 32 38.3 -0.6**
baz=256
RND Reindeer 63.60 27 P **P** **16 32 38.0 -0.8**
RND IAmb IAmb 16 32 39.9
comp=Z,30nm,0.9s
RND Reindeer 63.60 27 P **P** **16 32 38.1 -0.8**
RND pmax pmax
comp=Z,30nm,0.9s
MCK McKinley 63.65 27 P **P** **16 32 38.7 -0.4**
MCK IAmb IAmb 16 32 39.7
comp=Z,48nm,1.4s
MCK McKinley 63.65 27 P **P** **16 32 38.7 -0.4**
MCK pmax pmax
comp=Z,47nm,1.4s
MCK McKinley 63.65 27 P **P** **16 32 38.6 -0.6**
baz=256,SNR=7.9
TKM2 Tokmak 2 63.74 310 P **P** **16 32 41.3 +1.0**
SNR=23
TKM2 Tokmak 2 63.74 310 P **P** **16 32 40.3 -0.1**
M23K Glacier View 63.74 29 P **P** **16 32 39.7 0.0**
baz=258,SNR=35
NEA2 Nenana 63.81 26 P **P** **16 32 39.6 -0.5**
NEA2 Nenana 63.81 26 P **P** **16 32 39.6 -0.5**
baz=255,SNR=23
NNZ Nelson 63.84 157 P **P** **16 32 40.2 -0.3**
GLI Glacier Island 63.85 30 P **P** **16 32 40.1 -0.3**
GLI IAmb IAmb 16 32 41.5
comp=Z,40nm,0.7s
GLI Glacier Island 63.85 30 P **P** **16 32 40.6 +0.1**
baz=259,SNR=12
WAT6 Susitna Watana 63.91 28 P **P** **16 32 40.9 -0.1**
baz=257,SNR=50
SCM Sheep Creek Mo 63.94 29 P **P** **16 32 40.7 -0.4**
SCM Sheep Creek Mo 63.94 29 P **P** **16 32 40.7 -0.4**
SCM pmax pmax
comp=Z,111nm,0.9s
SCM Sheep Creek Mo 63.94 29 P **P** **16 32 41.5 +0.4**
baz=258,SNR=41
H23K Yukon River 63.95 25 P **P** **16 32 41.2 +0.2**
H23K IAmb IAmb 16 32 42.7
comp=Z,31nm,0.9s
H23K Yukon River 63.95 25 P **P** **16 32 41.5 +0.5**
baz=254,SNR=36
Q23K Middleton Isla 63.95 32 P **P** **16 32 41.7 +0.6**
Q23K Middleton Isla 63.95 32 P **P** **16 32 41.9 +0.9**
baz=260
MID Middleton Isla 63.96 32 P **P** **16 32 41.7 +0.6**
MID Middleton Isla 63.96 32 P **P** **16 32 41.7 +0.6**
MID pmax pmax
comp=Z,81nm,0.8s
G23K Bananza Creek 64.01 24 P **P** **16 32 42.3 +0.8**
baz=253,SNR=28
HIN Hinchinbrook I 64.05 31 P **P** **16 32 41.9 +0.2**
HIN IAmb IAmb 16 32 43.1
comp=Z,52nm,0.8s
COLD Coldfoot 64.10 23 P **P** **16 32 42.2 +0.3**
COLD IAmb IAmb 16 32 43.8
comp=Z,33nm,0.8s
COLD Coldfoot 64.10 23 P **P** **16 32 42.7 +0.8**
baz=253,SNR=28
FID Port Fidalgo 64.13 30 P **P** **16 32 42.0 -0.2**
THZ Tophouse 64.14 158 P **P** **16 32 42.7 +0.2**
DHY Denali Highway 64.18 28 P **P** **16 32 42.2 -0.5**
DHY Denali Highway 64.18 28 P **P** **16 32 42.4 -0.3**
baz=257,SNR=22
WRH Wood River Hil 64.19 26 P **P** **16 32 41.7 -0.9**
WRH IAmb IAmb 16 32 42.8
comp=Z,28nm,0.9s
KBK Karagaybulak 64.22 309 P **P** **16 32 44.3 +0.9**
SNR=11
MDM Murphy Dome 64.25 26 P **P** **16 32 41.9 -1.1**

MDM IAmb IAmb 16 32 44.4
comp=Z,28nm,0.7s
CCB Clear Creek Bu 64.35 26 P **P** **16 32 42.5 -1.0**
COLA College 64.39 26 *i* P **P** **16 32 43.4 -0.3**
COLA pmax pmax
comp=Z,14nm,0.9s
SNZO South Karori 64.42 156 P **P** **16 32 43.5 -0.7**
EYAK Cordova Ski Ar 64.44 31 P **P** **16 32 44.4 +0.2**
EYAK IAmb IAmb 16 32 45.7
comp=Z,46nm,0.7s
EYAK Cordova Ski Ar 64.44 31 P **P** **16 32 44.7 +0.5**
baz=260,SNR=16
SGDS Sogindy 64.45 310 *e*P **P** **16 32 43.7 -0.9**
SGDS Sogindy 64.45 310 *e*P **P** **16 32 43.8 -0.9**
baz=310
D23K Nanushuk River 64.46 21 P **P** **16 32 45.4 +1.2**
baz=252,SNR=16
M24K Tolsona, Glenn 64.53 29 P **P** **16 32 44.7 -0.1**
M24K Tolsona, Glenn 64.53 29 P **P** **16 32 45.4 +0.6**
baz=259,SNR=9.9
KLU Klutina 64.53 30 P **P** **16 32 44.6 -0.3**
KLU IAmb IAmb 16 32 46.3
comp=Z,44nm,0.8s
KLU Klutina 64.53 30 P **P** **16 32 45.4 +0.6**
baz=260,SNR=42
DIV Divide 64.53 30 P **P** **16 32 44.6 -0.3**
DIV IAmb IAmb 16 32 46.4
comp=Z,74nm,1.2s
USP Ospenovka 64.54 310 P **P** **16 32 45.9 +0.6**
SNR=11
UCH Uchtor 64.55 309 P **P** **16 32 47.2 +1.4**
SNR=18
AAK Ala-Archa 64.55 309 P **P** **16 32 45.9 +0.4**
SNR=6.9
AAK Ala-Archa 64.55 309 P **P** **16 32 46.1 +0.6**
comp=Z,4.9nm,0.4s,baz=112,slow=5.0,SNR=12
comp=Z,4.9nm,0.4s
AAK Ala-Archa 64.55 309 P **P** **16 32 45.5 0.0**
AAK Ala-Archa 64.55 309 *ce*P **P** **16 32 46.3 +0.8**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 64.55 309 P **P** **16 32 46.1 +0.6**
AAK Ala-Archa 64.55 309 *i* P **P** **16 32 46.2 +0.6**
SNR=9.3
AAK Ala-Archa 64.55 309 P **P** **16 32 46.1 +0.6**
E23K Chandalar 64.56 22 P **P** **16 32 46.2 +1.3**
baz=253,SNR=37
H24K Noodor Dome 64.61 25 P **P** **16 32 45.1 -0.2**
H24K Noodor Dome 64.61 25 P **P** **16 32 45.8 +0.5**
baz=256,SNR=16
POKR Poker Plat Res 64.62 26 P **P** **16 32 44.6 -0.7**
POKR Poker Plat Res 64.62 26 P **P** **16 32 45.8 +0.5**
baz=256
HDA Harding Lake 64.66 26 P **P** **16 32 44.4 -1.1**
FOZ Fox Glacier 64.66 161 P **P** **16 32 46.1 +0.3**
FOZ IAmb IAmb 16 33 37.5
comp=Z,40nm,1.4s
MSWZ Moikau Station 64.73 156 P **P** **16 32 45.7 -0.5**
TOLK Toolik Lake Re 64.74 22 P **P** **16 32 46.5 +0.5**
TOLK IAmb IAmb 16 32 48.1
comp=Z,78nm,1.4s
TOLK Toolik Lake Re 64.74 22 P **P** **16 32 46.8 +0.7**
baz=253,SNR=14
C23K Itkillik River 64.76 20 P **P** **16 32 46.8 +0.7**
baz=251,SNR=16
IL31 64.77 26 P **P** **16 32 44.5 -1.7**
IL31 IAmb IAmb 16 32 46.0
comp=Z,52nm,1.2s
ILAR Eielson Array 64.77 26 P **P** **16 32 44.9 -1.3**
comp=Z,19nm,0.6s,baz=248,slow=6.0,SNR=120
ILAR PKPPKP **P'P'df** **17 01 31.4 +5.2**
comp=Z,0.6nm,0.9s,baz=51,slow=2.0,SNR=4.7
comp=Z,19nm,0.6s
ILAR Eielson Array 64.77 26 P **P** **16 32 44.5 -1.7**
ILAR Eielson Array 64.77 26 P **P** **16 32 44.5 -1.7**
LTZ Lake Taylor 64.81 159 P **P** **16 32 46.4 -0.4**
PLWZ Palliser 64.86 156 P **P** **16 32 46.7 -0.4**
BTLS Baital 64.86 312 *e*P **P** **16 32 46.6 -0.6**
BTLS Baital 64.86 312 *e*P **P** **16 32 46.7 -0.6**
baz=312
KHZ Kahutara 64.94 157 P **P** **16 32 46.4 -1.1**
RAGM Ragged Mountai 64.94 31 P **P** **16 32 47.3 -0.2**
RAGM IAmb IAmb 16 32 48.9
comp=Z,60nm,1.3s
E24K Your Creek 64.97 22 P **P** **16 32 48.3 +0.8**
baz=254,SNR=29
G24K Hadweenzic Riv 64.98 24 P **P** **16 32 48.2 +0.6**
baz=256,SNR=20
KAIM Kayak Island 65.00 31 P **P** **16 32 48.1 +0.3**
KAIM Kayak Island 65.00 31 P **P** **16 32 48.4 +0.6**
baz=262,SNR=6.1
PAX Paxson 65.01 28 P **P** **16 32 47.6 -0.3**
PAX IAmb IAmb 16 32 48.5
comp=Z,32nm,0.6s
PAX Paxson 65.01 28 P **P** **16 32 47.6 -0.3**
PAX pmax pmax
comp=Z,32nm,0.6s
PAX Paxson 65.01 28 P **P** **16 32 47.9 0.0**
baz=259,SNR=33
K24K Donnelly Dome 65.03 27 P **P** **16 32 47.5 -0.4**
baz=259,SNR=7.3
F24K Squaw Lake 65.04 23 P **P** **16 32 48.8 +0.9**
baz=255,SNR=22
HARP HAARP 65.05 29 P **P** **16 32 48.4 +0.4**
baz=260,SNR=27
BMRM Bremner River 65.07 30 P **P** **16 32 48.1 -0.1**
BMRM Bremner River 65.07 30 P **P** **16 32 48.5 +0.2**
baz=261,SNR=32
EKS2 Erkin-Say 65.08 309 P **P** **16 32 49.9 +1.1**
SNR=6.9
HMT Hamilton 65.14 31 P **P** **16 32 48.6 -0.1**
HMT IAmb IAmb 16 32 50.2
comp=Z,41nm,0.7s
D24K Happy Valley 65.15 21 P **P** **16 32 49.4 +0.8**
baz=253
AML Almayashu 65.16 309 P **P** **16 32 50.9 +1.3**
SNR=22
N25K Chitina, Valde 65.17 30 P **P** **16 32 49.0 +0.1**
N25K IAmb IAmb 16 32 50.1
comp=Z,25nm,0.7s
N25K Chitina, Valde 65.17 30 P **P** **16 32 49.3 +0.4**
baz=261,SNR=25
OXZ Oxford 65.21 159 P **P** **16 32 48.2 -1.0**
OXZ IAmb IAmb 16 32 48.8
comp=Z,21nm,0.8s
RPZ Rata Peaks 65.22 160 P **P** **16 32 48.4 -1.0**
RPZ IAmb IAmb 16 32 51.0
comp=Z,20nm,0.8s
SUCK Suckling Hills 65.34 31 P **P** **16 32 50.8 +0.9**
C24K Franklin Bluff 65.36 20 P **P** **16 32 50.4 +0.6**
baz=253
J25K Salcha River, 65.37 26 P **P** **16 32 48.7 -1.4**
J25K Salcha River, 65.37 26 P **P** **16 32 48.7 -1.4**
baz=259,SNR=28
BERG Berg Lake 65.42 31 P **P** **16 32 50.8 +0.3**
RIDG Independent Ri 65.43 27 P **P** **16 32 49.9 -0.6**
RIDG IAmb IAmb 16 32 51.4
comp=Z,50nm,0.9s
RIDG Independent Ri 65.43 27 P **P** **16 32 50.4 -0.1**
baz=260,SNR=38
PRP Porcupine Dome 65.49 25 P **P** **16 32 49.9 -1.0**
baz=258
GLB Gilahina Butte 65.52 30 P **P** **16 32 51.0 -0.1**
GLB IAmb IAmb 16 32 52.6
comp=Z,76nm,1.2s
H25K Birch Creek 65.53 24 P **P** **16 32 51.5 +0.6**
baz=257,SNR=22
LBZ Lake Benmore 65.55 161 P **P** **16 32 51.3 0.0**
DCZ Deep Cove 65.64 164 P **P** **16 32 52.0 +0.1**
DOT Dot Lake 65.76 27 P **P** **16 32 52.3 -0.2**
MENT Mentasta 65.79 28 P **P** **16 32 52.9 +0.1**
SNH Sunshine Point 65.82 31 P **P** **16 32 54.0 +1.0**
FYU Fort Yukon 65.83 24 P **P** **16 32 53.7 +0.9**
SCRK Sand Creek 65.84 27 P **P** **16 32 53.0 -0.2**
SCRK IAmb IAmb 16 32 54.1
comp=Z,45nm,1.1s
SCRK Sand Creek 65.84 27 P **P** **16 32 52.8 -0.3**
baz=260,SNR=32
WAX Waxell Ridge 65.85 31 P **P** **16 32 53.8 +0.6**
WAX IAmb IAmb 16 32 54.4
comp=Z,41nm,0.6s
BRZS Berezniki 65.85 317 *e*P **P** **16 32 52.7 -0.6**
BRZS Berezniki 65.85 317 *e*P **P** **16 32 52.7 -0.6**
baz=317
MCARA McCarthy VSAT 65.89 30 P **P** **16 32 53.9 +0.6**
MCARA McCarthy VSAT 65.89 30 P **P** **16 32 53.6 +0.3**

F25K Christian Rive 65.89 23 P P 16 32 54.4 +1.1
baz=262,SNR=16
baz=257,SNR=29
TGL Tana Glacier 65.90 31 P P 16 32 53.7 +0.2
TGL IAmb IAmb 16 32 55.0
comp=Z,37nm,1.0s
L26K Log Cabin Wild 65.97 28 P P 16 32 54.2 +0.3
L26K IAmb IAmb 16 32 55.2
comp=Z,27nm,0.8s
L26K Log Cabin Wild 65.97 28 P P 16 32 54.1 +0.2
baz=261,SNR=29
NIL Nilore 66.04 300 P P 16 32 55.3 +0.5
NIL IAmb IAmb 16 32 56.8
comp=Z,36nm,0.8s
NIL Nilore 66.04 300 P P 16 32 55.3 +0.5
NIL pmax pmax
comp=Z,36nm,0.8s
NIL Nilore 66.04 300 P P 16 32 55.9 +1.1
NIL Nilore 66.04 300 P P 16 32 55.8 +0.9
NIL pP pwP 16 34 38.2 -1.3
E25K Arctic Village 66.04 22 P P 16 32 55.0 +0.8
baz=257,SNR=14
D25K Kavik River 66.04 21 P P 16 32 55.0 +0.8
baz=256,SNR=21
M26K Nabesna, AK 66.04 29 P P 16 32 54.7 +0.3
M26K Nabesna, AK 66.04 29 P P 16 32 54.2 -0.1
baz=262,SNR=8.5
OTUK Ortayu 66.05 316 P P 16 32 54.0 -0.6
J26L Joseph Creek 66.12 27 P P 16 32 54.2 -0.6
J26L IAmb IAmb 16 32 55.8
comp=Z,93nm,1.5s
J26L Joseph Creek 66.12 27 P P 16 32 54.7 -0.1
baz=260,SNR=52
ISLE Juniper Island 66.12 31 P P 16 32 54.9 -0.1
ISLE IAmb IAmb 16 32 55.8
comp=Z,32nm,0.6s
WHZ Wether Hill Ro 66.25 163 P P 16 32 55.2 -0.5
WHZ IAmb IAmb 16 35 19.0
comp=Z,61nm,1.7s
BMAR Burnt Mountain 66.26 23 P P 16 32 56.2 +0.7
MESA MESA 66.26 31 P P 16 32 56.4 +0.5
MESA MESA 66.26 31 P P 16 32 56.7 +0.8
baz=264,SNR=11
YAH Yahtse 66.38 31 P P 16 32 57.3 +0.6
I26K Coal Creek Min 66.42 26 P P 16 32 55.5 -1.1
baz=260
G26K Porcupine Rive 66.47 24 P P 16 32 57.6 +0.8
baz=259,SNR=24
F26K Sheenjek River 66.47 23 P P 16 32 58.0 +1.1
baz=258,SNR=37
M27K Edge Creek, AK 66.55 29 P P 16 32 57.6 0.0
M27K IAmb IAmb 16 32 59.1
comp=Z,48nm,1.3s
M27K Edge Creek, AK 66.55 29 P P 16 32 57.9 +0.3
baz=263,SNR=17
CTG Chitna Glacier 66.65 31 P P 16 32 58.9 +0.7
baz=264
CTGM Chitina Glacie 66.65 31 P P 16 32 58.4 +0.2
L27K Beaver Creek, 66.66 28 P P 16 32 58.2 0.0
L27K IAmb IAmb 16 32 59.1
comp=Z,19nm,0.7s
L27K Beaver Creek, 66.66 28 P P 16 32 58.7 +0.5
baz=263,SNR=29
C26K Camden Bay 66.68 21 P P 16 32 59.5 +1.4
baz=257
BCAR Beaver Creek A 66.68 28 P P 16 32 58.2 -0.1
K27K Chicken 66.69 27 P P 16 32 58.9 +0.7
baz=262
TABL Table Mountain 66.69 31 P P 16 32 58.8 +0.2
LOGN Logan Glacier 66.80 31 P P 16 32 59.6 +0.4
LOGN IAmb IAmb 16 33 00.8
comp=Z,56nm,0.9s
C27K Jago River 67.03 21 P P 16 33 01.1 +0.9
baz=258,SNR=9.8
BVCY Beaver Creek 67.03 29 P P 16 33 00.8 +0.4
baz=264,SNR=16
PCA Pinnacle 67.10 32 P P 16 33 01.3 +0.4
PINM Pinnacle 67.10 32 P P 16 33 01.5 +0.6
baz=265,SNR=14
I27K Kandik River 67.11 26 P P 16 33 00.8 -0.1
baz=262,SNR=9.6
YUK3 Moose Creek 67.15 30 P P 16 33 02.0 +0.6
baz=264,SNR=35
EGAK Eagle 67.18 26 P P 16 33 00.8 -0.4
EGAK IAmb IAmb 16 33 03.4
comp=Z,40nm,1.5s
EGAK Eagle 67.18 26 P P 16 33 01.2 -0.1
baz=262,SNR=12
O28M Mount Upton 67.19 31 P P 16 33 02.7 +1.0
baz=265,SNR=42
H27K Steamboat Moun 67.23 25 P P 16 33 02.4 +0.7
baz=262,SNR=35
G27K Doyon Strip 67.27 24 P P 16 33 02.4 +0.5
baz=261,SNR=7.7
BVA0 Borovoye Array 67.34 321 *i* P P 16 33 02.0 -0.5
BVAR Borovoye Array 67.34 321 P P 16 33 02.7 +0.2
comp=Z,46nm,0.5s,baz=99,slow=7.5,SNR=443
BVAR PcP PcP 16 33 25.3 -0.6
comp=Z,11nm,0.5s,baz=100,slow=6.2,SNR=5.6
BVAR S S 16 41 16.0 -2.3
comp=Z,8.7nm,1.1s,baz=89,slow=6.4,SNR=17
comp=Z,46nm,0.5s
BCPM Bancas Point 67.40 32 P P 16 33 03.2 +0.5
BRVK Borovoye 67.41 321 P P 16 33 02.8 -0.1
BRVK IAmb IAmb 16 33 04.0
comp=Z,32nm,0.6s
BRVK Borovoye 67.41 321 *ce*P P 16 33 03.0 +0.2
BRVK pmax pmax
comp=Z,23nm,0.6s
BRVK Borovoye 67.41 321 P P 16 33 03.1 +0.2
BTK Batken 67.43 307 P P 16 33 03.4 -0.1
BTK Batken 67.43 307 P P 16 33 03.4 -0.1
BTK pmax pmax
comp=Z,14nm,1.4s
KK31 Karatay Array 67.46 310 P P 16 33 03.7 +0.2
KK31 IAmb IAmb 16 33 04.9
comp=Z,30nm,0.8s
KK31 Karatay Array 67.46 310 P P 16 33 03.7 +0.2
KK31 pmax pmax
comp=Z,30nm,0.9s
KKAR Karatay Array 67.46 310 P P 16 33 03.7 +0.2
KKAR IAmb IAmb 16 33 04.9
comp=Z,30nm,0.8s
KKAR Karatay Array 67.46 310 P P 16 33 03.6 +0.2
KKAR Karatay Array 67.46 310 P P 16 33 03.6 +0.2
KKAR pmax pmax
comp=Z,30nm,0.9s
PNL Peninsula 67.50 32 P P 16 33 04.0 +0.7
baz=266,SNR=6.9
E27K Coleen River 67.51 23 P P 16 33 04.1 +0.8
baz=261,SNR=11
DAWY Dawson 67.86 27 P P 16 33 06.0 +0.4
DAWY IAmb IAmb 16 33 07.2
comp=Z,27nm,0.9s
DAWY Dawson 67.86 27 P P 16 33 06.3 +0.8
baz=264,SNR=22
IUG luzhnay 67.88 309 *e*P P 16 33 06.5 +0.4
IUG luzhnay 67.88 309 *e*P P 16 33 06.5 +0.4
baz=309
O29M Mount Kennedy 67.95 31 P P 16 33 07.4 +1.1
baz=267,SNR=35
YUK4 Talbot Arm 67.98 30 P P 16 33 07.8 +1.3
baz=266,SNR=60
YUK6 Outpost Mounta 68.09 31 P P 16 33 08.4 +1.2
baz=267,SNR=20
M29M Somme Creek 68.14 29 P P 16 33 08.6 +1.2
baz=266,SNR=63
P29M Windy Craggy 68.34 32 P P 16 33 09.4 +0.9
P29M Windy Craggy 68.34 32 P P 16 33 09.6 +1.1
baz=268,SNR=36
L29M L29M 68.34 28 P P 16 33 09.7 +1.2
baz=266,SNR=52
J29M Klondike Camp 68.41 27 P P 16 33 09.8 +0.9
baz=265
I29M Ogilvie Camp, 68.45 26 P P 16 33 09.0 0.0
I29M IAmb IAmb 16 33 10.5
comp=Z,31nm,1.1s
I29M Ogilvie Camp, 68.45 26 P P 16 33 09.3 +0.3
baz=265,SNR=16
HYT Haines Junctio 68.50 31 P P 16 33 10.4 +0.8
HYT Haines Junctio 68.50 31 P P 16 33 11.0 +1.3
baz=267,SNR=71
K29M Barlow Dome 68.67 28 P P 16 33 11.4 +0.9
baz=266,SNR=33
N30M Aishikik Lake 68.73 30 P P 16 33 11.9 +1.0
baz=268,SNR=50

P30M Million Dollar 68.75 32 P P 16 33 12.5 +1.5
baz=268
CHGR Chuyangaron 68.84 305 P P 16 33 12.2 +0.2
CHGR Chuyangaron 68.84 305 P P 16 33 12.2 +0.2
CHGR pmax pmax
comp=Z,65nm,0.8s
PLBC Pleasant Camp 69.03 32 P P 16 33 13.7 +1.1
baz=269,SNR=39
EPYK Eagle Plains 69.18 25 P P 16 33 13.7 +0.2
EPYK IAmb IAmb 16 33 14.4
comp=Z,32nm,0.7s
EPYK Eagle Plains 69.18 25 P P 16 33 14.1 +0.6
baz=266,SNR=13
O30N Mendenhall 69.20 31 P P 16 33 14.5 +0.8
baz=269,SNR=14
N31M Braeburn, Yuko 69.36 30 P P 16 33 15.7 +1.0
N31M Braeburn, Yuko 69.36 30 P P 16 33 15.9 +1.2
baz=269,SNR=36
MAYO Mayo, Yukon 69.38 28 P P 16 33 15.7 +1.0
MAYO Mayo, Yukon 69.38 28 P P 16 33 15.9 +1.2
baz=268,SNR=8.7
KBL Kabul 69.40 301 P P 16 33 15.6 -0.1
KBL Kabul 69.40 301 P P 16 33 15.6 -0.1
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 69.40 301 P P 16 33 16.7 +1.1
SNR=5.3
G30M tAoh Zrali Nji 69.42 24 P P 16 33 15.0 +0.1
baz=266,SNR=13
SKAG Skagway 69.56 32 P P 16 33 16.6 +0.8
SKAG IAmb IAmb 16 33 17.9
comp=Z,38nm,1.1s
SKAG Skagway 69.56 32 P P 16 33 17.1 +1.3
baz=270,SNR=10.0
SIT Sitka 69.57 35 P P 16 33 16.6 +0.7
baz=271
WHY Whitehorse 69.79 31 P P 16 33 17.4 +0.1
WHY IAmb IAmb 16 33 19.4
comp=Z,28nm,0.8s
WHY Whitehorse 69.79 31 P P 16 33 18.4 +1.1
baz=270,SNR=18
BESE Bessie Mountai 69.81 33 P P 16 33 18.2 +0.7
BESE IAmb IAmb 16 33 19.4
comp=Z,37nm,0.9s
S32K Killisnoo 69.97 34 P P 16 33 18.8 +0.5
baz=271,SNR=6.0
R32K Eaglecrest 69.99 34 P P 16 33 19.6 +1.1
baz=271,SNR=11
M31M Drury Creek, Y 70.03 29 P P 16 33 19.1 +0.4
M31M IAmb IAmb 16 33 19.8
comp=Z,28nm,0.6s
M31M Drury Creek, Y 70.03 29 P P 16 33 19.0 +0.4
baz=270,SNR=34
JIS Juneau Island 70.06 34 P P 16 33 19.6 +0.8
JIS IAmb IAmb 16 33 20.8
comp=Z,70nm,1.2s
P32M Atlin 70.38 32 P P 16 33 21.7 +0.9
baz=271,SNR=12
F31M Tsiigehtchic 70.41 24 P P 16 33 20.6 -0.1
baz=268
INK Inuvik 70.51 23 P P 16 33 21.2 -0.1
INK IAmb IAmb 16 33 22.3
comp=Z,37nm,0.9s
INK Inuvik 70.51 23 P P 16 33 21.2 -0.1
INK pmax pmax
comp=Z,37nm,0.9s
INK Inuvik 70.51 23 P P 16 33 21.1 -0.1
baz=268,SNR=12
FARO Faro, Yukon 70.52 29 P P 16 33 21.8 +0.2
FARO Faro, Yukon 70.52 29 P P 16 33 22.1 +0.6
baz=271,SNR=14
N32M Quiet Lake 70.67 31 P P 16 33 23.1 +0.6
baz=271
P33M Teslin, Yukon 70.82 32 P P 16 33 24.1 +0.7
baz=272,SNR=16
U33K Whale Pass 70.82 36 P P 16 33 24.4 +1.1
baz=273
CRAG Craig 70.86 37 P P 16 33 24.5 +0.9
baz=273
Q32M Nakina River 71.14 33 P P 16 33 26.6 +1.1
baz=273,SNR=7.2
WRAK Wrangell Islan 71.24 36 P P 16 33 26.2 +0.5
WRAK IAmb IAmb 16 33 27.4
comp=Z,36nm,0.8s
WRAK Wrangell Islan 71.24 36 P P 16 33 26.8 +1.0
baz=273,SNR=8.8
DIB Dawson Inlet, 71.38 39 P P 16 33 26.9 +0.2
DIB IAmb IAmb 16 33 27.9
comp=Z,32nm,0.8s
MMPY Sheldon Lake, 71.48 29 P P 16 33 28.3 +1.1
baz=272,SNR=19
V35K Ketchikan 71.72 37 P P 16 33 29.3 +0.6
baz=274
R33M Jennings River 71.79 32 P P 16 33 30.2 +1.0
baz=274,SNR=34
S34M Telegraph Cree 71.80 34 P P 16 33 30.2 +1.1
baz=274,SNR=28
HG4B Hotspring 72.23 40 P P 16 33 31.8 0.0
HG4B IAmb IAmb 16 33 33.3
comp=Z,34nm,0.8s
DLBC Dease Lake 72.35 33 P P 16 33 32.9 +0.6
DLBC IAmb IAmb 16 33 34.6
comp=Z,57nm,0.8s
DLBC Dease Lake 72.35 33 P P 16 33 33.7 +1.3
baz=275,SNR=53
T35M Bob Quinn 72.35 35 P P 16 33 33.6 +1.2
baz=275,SNR=23
RUBB Prince Rupert 72.60 38 P P 16 33 34.1 +0.3
GRNB Grenville Isla 72.82 38 P P 16 33 35.5 +0.3
GRNB IAmb IAmb 16 33 37.0
comp=Z,51nm,1.2s
WTLY Watson Lake, Y 72.83 32 P P 16 33 35.9 +0.8
WTLY Watson Lake, Y 72.83 32 P P 16 33 36.0 +0.9
baz=275,SNR=44
TGTN Hyland Airport 72.96 30 P P 16 33 37.1 +1.3
baz=275,SNR=50
A36M Sachs Harbour 73.25 19 P P 16 33 37.2 0.0
A36M Sachs Harbour 73.25 19 P P 16 33 37.7 +0.5
baz=275,SNR=5.8
C36M Paulatuk 73.90 22 P P 16 33 40.6 -0.3
C36M Paulatuk 73.90 22 P P 16 33 40.9 0.0
baz=277
ARU Arti 73.99 325 P P 16 33 41.9 +0.1
comp=Z,36nm,0.5s,baz=93,slow=3.5,SNR=70
comp=Z,36nm,0.5s
ARU Arti 73.99 325 P P 16 33 41.6 -0.2
ARU IAmb IAmb 16 33 43.5
comp=Z,40nm,0.7s
ARU Arti 73.99 325 *d i*P P 16 33 41.8 +0.1
ARU S S 16 42 35.2 +1.6
ARU SS SS 16 47 29.6 -1.2
ARU pmax pmax
comp=Z,111nm,1.5s
BBB Bella Bella 74.13 40 P P 16 33 42.8 +0.2
BBB IAmb IAmb 16 33 44.2
comp=Z,38nm,0.8s
AB31 Akbulak array 74.16 317 *i* P P 16 33 42.4 -0.4
ABKAR Akbulak array 74.16 317 P P 16 33 42.3 -0.5
ABKAR Akbulak array 74.16 317 P P 16 33 42.3 -0.5
ABKAR IAmb IAmb 16 33 43.4
comp=Z,32nm,0.7s
WRGLY Wrigley 74.98 28 P P 16 33 48.1 +1.0
baz=279
AKTO Aktyubinsk 75.20 319 P P 16 33 48.4 -0.4
comp=Z,10nm,0.6s,baz=95,slow=7.8,SNR=51
comp=Z,10nm,0.6s
AKTO Aktyubinsk 75.20 319 P P 16 33 47.1 -1.6
FLDN Fort Liard 75.45 31 P P 16 33 50.8 +0.9
baz=280
OZB Mount Ozzard 76.31 43 P P 16 33 56.1 +1.1
GEYT Alibeck 77.53 306 P P 16 34 02.4 +0.6
comp=Z,8.8nm,0.7s,baz=48,slow=2.2,SNR=20
comp=Z,8.8nm,0.7s
GEYT Alibeck 77.53 306 P P 16 34 02.1 +0.2
GYA0B ALIBECK ARRAY 77.53 306 P P 16 34 02.2 +0.3
NLWA Neilton Lookou 77.69 44 P P 16 34 02.7 +0.2
NLWA IAmb IAmb 16 34 05.1
comp=Z,57nm,0.8s
PGC Sidney 77.70 43 P P 16 34 03.3 +0.9
PGC IAmb IAmb 16 34 04.4
comp=Z,30nm,0.7s
B04A Port Angeles 77.79 43 P P 16 34 03.0 0.0
B04A IAmb IAmb 16 34 05.5
comp=Z,60nm,0.8s
E03A Lebam 78.08 45 P P 16 34 05.2 +0.6
LLLB Lillooet 78.26 41 P P 16 34 06.1 +0.6

KEBM Edson Butte 78.36 49 P P 16 34 07.4 +1.1
KIRV Kirov 78.43 328 P P 16 34 06.5 +0.4
comp=Z,110nm,0.8s,baz=93,slow=2.1,SNR=37
comp=Z,110nm,0.8s
KIRV Kirov 78.43 328 *ce*P P 16 34 06.4 +0.2
I02E Swisshome, OR 78.43 47 P P 16 34 07.6 +1.1
I02E Swisshome, OR 78.43 47 P P 16 34 08.1 +1.6
baz=283,SNR=7.9
F04D Rainier, OR 78.56 45 P P 16 34 08.3 +1.1
baz=283
G03D McMinnville, O 78.58 46 P P 16 34 08.5 +1.1
G03D IAmb IAmb 16 34 09.5
comp=Z,53nm,0.8s
G03D McMinnville, O 78.58 46 P P 16 34 08.4 +1.1
baz=283
J01E Myrtle Point 78.59 48 P P 16 34 08.5 +1.1
J01E Myrtle Point 78.59 48 P P 16 34 08.6 +1.1
baz=283,SNR=11
WAPA Wapiti River 78.72 36 P P 16 34 08.0 0.0
I03D Drain, OR 78.88 48 P P 16 34 10.2 +1.3
baz=284,SNR=9.7
K02D Willamette Mer 78.88 49 P P 16 34 10.0 +0.9
baz=284,SNR=8.7
EUNU Eureka 78.93 8 P P 16 34 09.1 +0.5
EUNU IAmb IAmb 16 34 10.0
comp=Z,48nm,0.8s
KSXB Camp Six Broad 78.93 50 P P 16 34 10.0 +0.5
KRMB Red Mountain 78.98 50 P P 16 34 10.6 +0.9
D05A Enumclaw 78.98 44 P P 16 34 09.8 +0.3
D05A IAmb IAmb 16 34 12.9
comp=Z,39nm,0.9s
B06A Marblemount 79.00 43 P P 16 34 09.9 +0.4
BUCK Buck Mountain 79.01 47 P P 16 34 10.2 +0.5
HILA High Level 79.04 32 P P 16 34 09.5 0.0
DBO Dodson Butte 79.09 48 P P 16 34 10.9 +0.7
L02F Cave Junction 79.09 49 P P 16 34 11.2 +1.0
baz=284,SNR=5.4
YKA Yellowknife Ar 79.09 28 P P 16 34 09.7 0.0
comp=Z,30nm,0.7s,baz=287,slow=5.1,SNR=27
comp=Z,30nm,0.7s
YKA Yellowknife Ar 79.09 28 P P 16 34 09.1 -0.6
YKA Yellowknife Ar 79.09 28 *i* P P 16 34 09.6 0.0
YKA pmax pmax
comp=Z,29nm,0.8s
H04D Lebanon 79.11 47 P P 16 34 10.8 +0.6
H04D IAmb IAmb 16 34 12.5
comp=Z,59nm,1.1s
H04D Lebanon 79.11 47 P P 16 34 11.3 +1.2
baz=284,SNR=6.9
MANA Manning 79.17 34 P P 16 34 09.9 -0.3
LON Longmire 79.21 44 P P 16 34 11.0 +0.3
LON Longmire 79.21 44 P P 16 34 11.0 +0.3
LON pmax pmax
comp=Z,30nm,1.4s
KHMM Horse Mountain 79.27 51 P P 16 34 12.5 +1.2
KHMM IAmb IAmb 16 34 13.7
comp=Z,51nm,1.0s
HUMO Hull Mountain 79.41 49 P P 16 34 13.1 +1.2
PRGR Permogore 79.42 331 ⇑ *i*P P 16 34 11.2 -0.2
PRGR *e*S S 16 43 27.3 -3.9
PRGR pmax pmax
comp=Z,62nm,0.6s
H04A Detroit Lake 79.45 46 P P 16 34 12.1 +0.1
H04A IAmb IAmb 16 34 13.6
comp=Z,48nm,1.1s
I04A Tendick Farm, 79.51 47 P P 16 34 12.9 +0.5
baz=284,SNR=14
KCPM Cahto Peak 79.66 52 P P 16 34 14.0 +0.6
KCPM IAmb IAmb 16 34 15.1
comp=Z,33nm,0.6s
HOOD Mount Hood Mea 79.66 46 P P 16 34 13.1 -0.2
YBH Yreka Blue Hor 79.80 49 P P 16 34 14.3 +0.3
YBH IAmb IAmb 16 34 16.2
comp=Z,37nm,0.8s
YBH Yreka Blue Hor 79.80 49 P P 16 34 14.3 +0.3
YBH pmax pmax
comp=Z,37nm,0.9s
LTY Liberty 79.84 44 P P 16 34 13.7 -0.4
J04D Umpqua Nationa 79.86 48 P P 16 34 14.7 +0.3
J04D Umpqua Nationa 79.86 48 P P 16 34 15.3 +0.9
baz=284,SNR=15
G05D Wamic, OR 79.91 46 P P 16 34 15.2 +0.8
baz=285
L04D Klamath Falls 79.98 49 P P 16 34 15.3 +0.3
L04D IAmb IAmb 16 34 16.7
comp=Z,61nm,0.9s
L04D Klamath Falls 79.98 49 P P 16 34 15.7 +0.7
baz=284,SNR=10
I05D Terrebonne, OR 80.13 47 P P 16 34 16.3 +0.7
baz=285,SNR=5.9
K04D Chiloquin, OR 80.27 48 P P 16 34 17.4 +0.9
baz=285,SNR=5.5
SPA0 Spitsbergen Ar 80.34 351 *e*P P 16 34 15.8 -0.2
SPA0 IAmb IAmb 16 34 16.5
comp=Z,19nm,0.7s
SPB2 Spitsbergen Ar 80.34 351 P P 16 34 15.7 -0.3
SPB2 IAmb IAmb 16 34 16.1
comp=Z,58nm,1.4s
SPITS Spitsbergen Ar 80.34 351 P P 16 34 15.5 -0.5
comp=Z,9.2nm,0.5s,baz=93,slow=5.8,SNR=19
comp=Z,9.2nm,0.5s
B08A Colville Reser 80.42 42 P P 16 34 16.6 -0.5
B08A IAmb IAmb 16 34 18.5
comp=Z,56nm,1.2s
WBK Wadi Bani Khal 80.44 291 P P 16 34 16.3 -1.4
KBS Kingsbay 80.46 352 P P 16 34 16.5 -0.1
KBS IAmb IAmb 16 34 17.7
comp=Z,36nm,0.8s
KBS Kingsbay 80.46 352 P P 16 34 16.5 -0.1
KBS pmax pmax
comp=Z,36nm,0.8s
KBS Kingsbay 80.46 352 *i* P P 16 34 16.6 0.0
KBS Kingsbay 80.46 352 *e*P P 16 34 17.1 +0.4
KBS IAmb IAmb 16 34 17.4
comp=Z,34nm,0.8s
J05D Fort Rock, OR 80.47 48 P P 16 34 18.8 +1.2
baz=285,SNR=41
PINE Pine Mountain 80.54 47 P P 16 34 18.2 +0.2
JASK Jask - Hormozg 80.58 294 P P 16 34 19.5 +1.2
WSAR Wadi Sarin 80.58 291 P P 16 34 18.9 +0.5
RES Resolute Bay 80.61 14 P P 16 34 17.6 +0.2
RES IAmb IAmb 16 34 18.7
comp=Z,49nm,0.8s
RES Resolute Bay 80.61 14 P P 16 34 17.6 +0.2
RES pmax pmax
comp=Z,49nm,0.8s
NOR Nord 80.69 357 *i* P P 16 34 16.2 -1.5
NOR IAmb IAmb 16 34 19.7
comp=Z,12nm,1.0s
HAWA Hanford 80.82 44 P P 16 34 19.2 +0.1
K05A Summer Lake 80.86 48 P P 16 34 20.2 +0.6
K05A IAmb IAmb 16 34 21.7
comp=Z,58nm,0.9s
D08A Wollman Farm, 81.04 44 P P 16 34 20.6 +0.4
D08A IAmb IAmb 16 34 21.9
comp=Z,28nm,1.0s
BELG Belogornoye 81.09 322 P P 16 34 20.3 0.0
comp=Z,112nm,0.7s,baz=349,slow=0.8,SNR=60
comp=Z,112nm,0.7s
SMDO Samad 81.15 291 P P 16 34 22.0 +0.6
ORV Oroville 81.25 51 P P 16 34 21.4 -0.1
ORV IAmb IAmb 16 34 22.9
comp=Z,35nm,1.1s
ORV Oroville 81.25 51 P P 16 34 21.4 -0.1
ORV pmax pmax
comp=Z,35nm,1.1s
C09A Chrisman Ranch 81.26 43 P P 16 34 21.6 +0.3
C09A IAmb IAmb 16 34 22.8
comp=Z,78nm,1.6s
HSPB Hornsund (broa 81.26 350 *e*P P 16 34 21.1 +0.4
HSPB IAmb IAmb 16 34 26.2
comp=Z,42nm,0.9s
I07A Izee 81.47 47 P P 16 34 23.0 +0.3
MOD Modoc Plateau 81.50 49 P P 16 34 22.7 -0.2
MOD IAmb IAmb 16 34 24.6
comp=Z,31nm,0.9s
G08A Pilot Rock 81.51 45 P P 16 34 22.9 +0.1
LVZ Lovozero 81.52 339 P P 16 34 21.7 -0.7
LVZ IAmb IAmb 16 34 22.5
comp=Z,39nm,0.8s
LVZ Lovozero 81.52 339 P P 16 34 21.7 -0.7
LVZ pmax pmax
comp=Z,39nm,0.8s
HOQ Hoqain 81.66 292 P P 16 34 23.0 -0.9
E09A Wood Farm, Sta 81.71 44 P P 16 34 23.9 +0.2

E09A IAmb IAmb 16 34 25.3
comp=Z,25nm,0.8s
MHTO MHTO 81.77 289 P **P** **16 34 24.7 +0.2**
SNR=9.2
AFDM Forest Hills D 81.81 52 P **P** **16 34 24.3 -0.1**
NEW Newport 81.87 42 P **P** **16 34 24.2 -0.3**
NEW Newport 81.87 42 P **P** **16 34 24.2 -0.3**
NEW pmax pmax
comp=Z,18nm,0.9s
NEW Newport 81.87 42 P **P** **16 34 24.9 +0.4**
baz=287,SNR=14
BANOM Banah 81.93 295 P **P** **16 34 26.9 +1.6**
BANOM Banah 81.93 295 *i* P **P** **16 34 26.8 +1.5**
SNR=6.4
BSY Bisya 81.98 291 P **P** **16 34 26.0 +0.4**
BEKR Beckworth 82.01 51 P **P** **16 34 25.4 -0.2**
BEKR IAmb IAmb 16 34 27.0
comp=Z,55nm,0.8s
SHME Shamm 82.03 295 P **P** **16 34 27.1 +1.4**
SNR=6.0
SHME Shamm 82.03 295 *i* P **P** **16 34 26.9 +1.2**
SNR=5.9
SAO San Andreas Ge 82.04 54 P **P** **16 34 25.8 +0.2**
SAO San Andreas Ge 82.04 54 P **P** **16 34 25.8 +0.2**
SAO pmax pmax
comp=Z,16nm,1.2s
MASF Masafi 82.20 294 P **P** **16 34 27.6 +1.0**
SNR=6.1
MSFE Esma-Masafi 82.20 294 P **P** **16 34 27.7 +1.1**
UOSS Minazif 82.27 294 P **P** **16 34 27.2 +0.2**
UOSS IAmb IAmb 16 34 28.2
comp=Z,62nm,1.6s
UOSS Minazif 82.27 294 P **P** **16 34 27.2 +0.2**
UOSS Minazif 82.27 294 P **P** **16 34 27.6 +0.5**
HATD Hatta, Dubai 82.37 294 P **P** **16 34 28.3 +0.8**
SNR=6.1
HATD Hatta, Dubai 82.37 294 *i* P **P** **16 34 28.3 +0.8**
SNR=6.2
J08A Circle Bar Ran 82.39 47 P **P** **16 34 27.6 +0.2**
J08A IAmb IAmb 16 34 29.1
comp=Z,29nm,0.8s
BBGB Big Mountain B 82.40 54 P **P** **16 34 28.2 +0.6**
BBGB IAmb IAmb 16 34 29.6
comp=Z,31nm,1.0s
MPK Martis Peak 82.42 51 P **P** **16 34 27.9 +0.1**
PLTX Planet X, Gerl 82.43 50 P **P** **16 34 28.3 +0.7**
PLTX IAmb IAmb 16 34 29.0
comp=Z,30nm,0.7s
EMB Emerald Bay 82.45 52 P **P** **16 34 28.4 +0.5**
EMB IAmb IAmb 16 34 29.6
comp=Z,32nm,1.1s
KLMR Klimovskoe 82.47 332 *eP* **P** **16 34 24.6 -2.6**
KLMR pmax pmax
comp=Z,100nm,1.1s
KLMR Klimovskoe 82.47 332 *eP* **P** **16 34 24.6 -2.6**
KLMR AMP 16 34 27.5
comp=Z,100nm,1.1s
ASHO Ashiyiah 82.47 293 P **P** **16 34 28.5 +0.5**
SNR=6.7
ASHO Ashiyiah 82.47 293 *i* P **P** **16 34 28.6 +0.5**
SNR=6.6
F10A Beach Ranch, E 82.47 44 P **P** **16 34 27.9 +0.2**
CMB Columbia Colle 82.50 53 P **P** **16 34 28.2 +0.2**
CMB IAmb IAmb 16 34 29.6
comp=Z,28nm,0.8s
CMB Columbia Colle 82.50 53 P **P** **16 34 28.2 +0.2**
CMB pmax pmax
comp=Z,28nm,0.9s
WVOR Wild Horse Val 82.54 48 P **P** **16 34 28.4 +0.2**
WVOR Wild Horse Val 82.54 48 P **P** **16 34 28.4 +0.2**
WVOR pmax pmax
comp=Z,23nm,1.0s
EDM Edmonton 82.61 37 P **P** **16 34 28.2 +0.1**
EDM IAmb IAmb 16 34 29.5
comp=Z,102nm,1.5s
EDM Edmonton 82.61 37 P **P** **16 34 28.3 +0.1**
EDM pmax pmax
comp=Z,102nm,1.5s
PMPB Monarch Peak 82.69 54 P **P** **16 34 29.0 0.0**
VCNR Virginia City 82.70 51 P **P** **16 34 29.5 +0.4**
VCNR IAmb IAmb 16 34 30.9
comp=Z,25nm,0.8s
BMO Blue Mountains 82.75 45 P **P** **16 34 29.3 +0.1**
BMO IAmb IAmb 16 34 30.2
comp=Z,23nm,0.7s
BMO Blue Mountains 82.75 45 P **P** **16 34 29.3 +0.1**
BMO pmax pmax
comp=Z,23nm,0.7s
PAHR Pah Rah Range 82.78 51 P **P** **16 34 29.4 0.0**
PAHR IAmb IAmb 16 34 31.0
comp=Z,32nm,1.0s
PNTR Pine Nut 82.80 51 P **P** **16 34 29.9 +0.3**
FAQ Al Faqa, Dubai 82.86 294 P **P** **16 34 30.4 +0.5**
KEV Kevo 83.05 342 P **P** **16 34 29.4 -0.6**
KEV Kevo 83.05 342 P **P** **16 34 29.4 -0.6**
KEV pmax pmax
comp=Z,75nm,0.8s
WAKR Walker 83.08 52 P **P** **16 34 31.2 +0.1**
YERR Yerington 83.09 51 P **P** **16 34 31.4 +0.2**
YERR IAmb IAmb 16 34 32.8
comp=Z,36nm,0.8s
ASUD Al Ashush, Dub 83.12 294 P **P** **16 34 31.9 +0.6**
HAMF Hammerfest 83.49 343 *eP* **P** **16 34 31.2 -0.9**
PLID Pearl Lake 83.56 45 P **P** **16 34 33.0 -0.4**
PLID IAmb IAmb 16 34 34.2
comp=Z,24nm,0.8s
ARA0 ARCESS Array S 83.61 342 *eP* **P** **16 34 32.3 -0.5**
ARA0 IAmb IAmb 16 34 33.2
comp=Z,64nm,0.7s
ARCES ARCESS Array B 83.61 342 P **P** **16 34 32.2 -0.5**
comp=Z,53nm,0.7s,baz=73,slow=6.9,SNR=248
comp=Z,53nm,0.7s
ARCES ARCESS Array B 83.61 342 P **P** **16 34 32.4 -0.5**
ARCES ARCESS Array B 83.61 342 P **P** **16 34 32.4 -0.4**
ARCES pmax pmax
comp=Z,61nm,0.7s
MDPB Devils Postpil 83.61 53 P **P** **16 34 34.0 +0.2**
WALA Waterton Lakes 83.64 41 P **P** **16 34 34.0 +0.4**
OMMB Old Mammoth Mi 83.67 53 P **P** **16 34 34.1 -0.1**
RYN Ryan 83.73 52 P **P** **16 34 34.4 +0.1**
RYN IAmb IAmb 16 34 36.1
comp=Z,33nm,0.8s
UMZA Um Al Zommool 83.80 292 P **P** **16 34 34.5 -0.2**
PKM Mcpherson Peak 83.84 56 P **P** **16 34 35.7 +0.7**
baz=287,SNR=17
JTMT Jette 83.84 42 P **P** **16 34 34.4 -0.2**
JTMT IAmb IAmb 16 34 36.0
comp=Z,46nm,1.2s
LHV Little Huntoon 83.86 52 P **P** **16 34 35.2 +0.6**
LHV IAmb IAmb 16 34 38.4
comp=Z,25nm,0.9s
TULEG Thule 83.92 8 P **P** **16 34 34.8 +0.6**
TULEG Thule 83.92 8 *i* P **P** **16 34 35.0 +0.8**
KVN Kaiserville 83.92 51 P **P** **16 34 35.4 +0.1**
KVN IAmb IAmb 16 34 36.9
comp=Z,33nm,0.8s
KVN Kaiserville 83.92 51 P **P** **16 34 35.4 +0.1**
KVN pmax pmax
comp=Z,33nm,0.8s
NVAR Mina Array Bea 83.96 52 P **P** **16 34 36.2 +0.7**
comp=Z,34nm,0.7s,baz=263,slow=6.0,SNR=230
comp=Z,34nm,0.7s
NVAR Mina Array Bea 83.96 52 P **P** **16 34 35.8 +0.3**
NV11 Mina Array Sit 84.07 52 P **P** **16 34 36.1 +0.2**
NV11 IAmb IAmb 16 34 37.7
comp=Z,28nm,0.8s
BMN Battle Mountai 84.15 50 P **P** **16 34 36.7 +0.4**
BMN IAmb IAmb 16 34 38.2
comp=Z,59nm,1.7s
BMN Battle Mountai 84.15 50 P **P** **16 34 36.7 +0.4**
BMN pmax pmax
comp=Z,59nm,1.7s
MFID Camas Ranch 84.21 46 P **P** **16 34 36.6 +0.1**
MSO Missoula 84.36 43 P **P** **16 34 36.9 -0.3**
MSO Missoula 84.36 43 P **P** **16 34 37.0 -0.2**
baz=290,SNR=6.8
TIN Tinemaha, Big 84.42 53 P **P** **16 34 37.9 +0.2**
baz=288
DSP Deep Springs 84.53 53 P **P** **16 34 38.6 +0.7**
SNCC San Nicolas Is 84.55 57 P **P** **16 34 38.3 0.0**
SNCC IAmb IAmb 16 34 40.1
comp=Z,24nm,0.8s
SNCC San Nicolas Is 84.55 57 P **P** **16 34 38.8 +0.6**
baz=287
KTK1 Kautokeino 84.57 342 *eP* **P** **16 34 36.8 -0.8**

KTK1 IAmb IAmb 16 34 37.5
comp=Z,40nm,0.8s
ISA Isabella, Lake 84.66 54 P **P** **16 34 38.5 -0.3**
ISA Isabella, Lake 84.66 54 P **P** **16 34 38.5 -0.3**
ISA pmax pmax
comp=Z,15nm,1.6s
ISA Isabella, Lake 84.66 54 P **P** **16 34 38.8 0.0**
baz=288
CWC Cottonwood Cre 84.72 54 P **P** **16 34 39.3 +0.1**
NEEM North Greenlan 84.75 4 *i* P **P** **16 34 38.6 -0.2**
NEEM IAmb IAmb 16 34 39.2
comp=Z,30nm,0.6s
LCH Last Change Ra 84.81 53 P **P** **16 34 39.4 -0.2**
MZP Montezuma Peak 84.87 52 P **P** **16 34 40.1 0.0**
VRH Novokhopyorsk 84.94 322 *eP* **P** **16 34 37.5 -2.2**
VRH pmax pmax
comp=Z,20nm,0.6s
JETT Jettan, Norway 85.04 343 *eP* **P** **16 34 39.4 -0.5**
JETT IAmb IAmb 16 34 40.1
comp=Z,117nm,0.7s
GMN Gold Mountain 85.09 53 P **P** **16 34 41.0 -0.1**
GRAC Grapevine Rang 85.10 53 P **P** **16 34 40.9 0.0**
GRAC Grapevine Rang 85.10 53 P **P** **16 34 41.3 +0.4**
baz=288,SNR=7.9
HLID Hailey 85.13 46 P **P** **16 34 41.2 +0.1**
HLID IAmb IAmb 16 34 42.8
comp=Z,34nm,0.9s
HLID Hailey 85.13 46 P **P** **16 34 41.7 +0.6**
baz=290,SNR=51
MZR Muzera 85.21 292 P **P** **16 34 41.6 0.0**
MZR Muzera 85.21 292 *i* P **P** **16 34 42.7 +1.0**
SNR=8.1
EDW2 Edwards Air Fo 85.27 55 P **P** **16 34 42.4 +0.7**
baz=288,SNR=11
MPMC Manual Prospec 85.30 54 P **P** **16 34 42.4 +0.3**
baz=288,SNR=23
LRMC Laurel Mtn Rad 85.33 54 P **P** **16 34 42.7 +0.6**
baz=288,SNR=12
CIS Catalina Islan 85.39 57 P **P** **16 34 42.6 +0.2**
baz=288,SNR=5.2
TRO Tromso 85.39 344 *eP* **P** **16 34 40.7 -0.9**
TRO IAmb IAmb 16 34 41.4
comp=Z,51nm,0.8s
DMTO DMTO 85.41 287 P **P** **16 34 42.3 -0.4**
DAG Danmarks Havn 85.46 356 *i* P **P** **16 34 40.8 -1.0**
DAG IAmb IAmb 16 34 41.7
comp=Z,45nm,1.0s
ELK Elko 85.48 49 P **P** **16 34 43.0 +0.1**
ELK IAmb IAmb 16 34 44.7
comp=Z,43nm,0.9s
ELK Elko 85.48 49 P **P** **16 34 43.0 +0.1**
ELK pmax pmax
comp=Z,43nm,1.0s
FURC Furnace Creek, 85.65 53 P **P** **16 34 44.3 +0.8**
baz=288,SNR=13
LRM Limekiln Ridge 85.68 43 P **P** **16 34 43.6 -0.1**
WCT Wildcat Mounta 85.73 53 P **P** **16 34 44.0 0.0**
WCT IAmb IAmb 16 34 45.6
comp=Z,29nm,1.0s
BFSC Mount Baldy Ra 85.73 56 P **P** **16 34 44.4 +0.3**
baz=288
HRY Hotter Researc 85.77 42 P **P** **16 34 44.0 0.0**
QSM Queen of Sheba 85.80 54 P **P** **16 34 44.3 +0.1**
GWY Greenwater Val 85.89 53 P **P** **16 34 44.7 -0.1**
GWY IAmb IAmb 16 34 46.4
comp=Z,40nm,1.4s
DOK Doka 85.89 288 P **P** **16 34 44.9 -0.1**
TPNV Topopah Spring 85.96 53 P **P** **16 34 45.3 +0.1**
TPNV IAmb IAmb 16 34 46.9
comp=Z,35nm,0.9s
TPNV Topopah Spring 85.96 53 P **P** **16 34 45.3 +0.1**
TPNV pmax pmax
comp=Z,35nm,0.9s
TPNV Topopah Spring 85.96 53 P **P** **16 34 46.0 +0.7**
baz=289,SNR=40
LPSR Galich'ya Gora 86.00 324 *eP* **P** **16 34 41.9 -2.9**
LPSR pmax pmax
comp=Z,20nm,0.7s
R11A Troy Canyon, C 86.01 51 P **P** **16 34 45.6 +0.1**
R11A IAmb IAmb 16 34 47.4
comp=Z,47nm,1.3s
R11A Troy Canyon, C 86.01 51 P **P** **16 34 46.2 +0.8**
baz=289,SNR=50
GSC Goldstone, Bar 86.06 54 P **P** **16 34 46.0 +0.3**
baz=289
ELS Elsinore Mount 86.10 56 P **P** **16 34 45.9 +0.1**
ELS IAmb IAmb 16 34 47.1
comp=Z,36nm,1.8s
S11A Rachel 86.12 52 P **P** **16 34 46.1 +0.2**
S11A IAmb IAmb 16 34 47.8
comp=Z,46nm,0.9s
RBK Rabkut 86.15 287 P **P** **16 34 45.5 -0.8**
VORR Voronezh 86.21 323 *eP* **P** **16 34 45.0 -0.8**
VORR pmax pmax
comp=Z,40nm,0.4s
OBN Obninsk 86.23 327 P **P** **16 34 44.5 -1.3**
OBN IAmb IAmb 16 34 45.6
comp=Z,23nm,0.9s
OBN Obninsk 86.23 327*c i* P **P** **16 34 45.1 -0.7**
OBN *i* 16 38 16.2
OBN pmax pmax
comp=Z,43nm,1.7s
SHOC Shoshone, Teco 86.28 54 P **P** **16 34 47.3 +0.7**
baz=289,SNR=8.2
MURC Murrieta 86.29 56 P **P** **16 34 47.0 +0.3**
baz=288
BOZ Bozeman (W) 86.30 43 P **P** **16 34 46.7 +0.1**
BOZ Bozeman (W) 86.30 43 P **P** **16 34 46.7 +0.1**
BOZ pmax pmax
comp=Z,15nm,1.1s
BOZ Bozeman (W) 86.30 43 P **P** **16 34 47.2 +0.6**
baz=291,SNR=8.1
VSR Storozhevoye 86.42 323 *eP* **P** **16 34 44.5 -2.3**
VSR pmax pmax
comp=Z,20nm,0.8s
WHFO Wadi Hawf 86.42 288 P **P** **16 34 47.0 -0.6**
SHMA Al-Shehemyia 86.56 296 P **P** **16 34 48.7 +0.7**
ZEI Tsey 86.57 314 *eP* **P** **16 34 46.4 -1.7**
ZEI *e* 16 36 35.3
ZEI pmax pmax
comp=Z,16nm,0.9s
HEC Hector,Ludlow 86.58 55 P **P** **16 34 48.7 +0.6**
baz=289,SNR=15
109C Camp Elliot, M 86.59 57 P **P** **16 34 48.3 +0.2**
baz=289
EGMT Eagleton 86.59 41 P **P** **16 34 47.8 -0.2**
EGMT IAmb IAmb 16 36 45.2
comp=Z,20nm,0.8s
EGMT Eagleton 86.59 41 P **P** **16 34 47.7 -0.2**
baz=292
TUQ Turquoise Moun 86.70 54 P **P** **16 34 49.4 +0.7**
baz=289,SNR=26
QLMT Earthquake Lak 86.70 44 P **P** **16 34 49.0 +0.4**
PRN Pahroc Range 86.72 52 P **P** **16 34 48.8 +0.1**
PRN IAmb IAmb 16 34 50.8
comp=Z,32nm,1.0s
SPR3 Spring Creek 3 86.72 50 P **P** **16 34 49.3 +0.3**
SPR3 IAmb IAmb 16 34 51.0
comp=Z,39nm,1.1s
YHL Hebgen Lake 86.86 44 P **P** **16 34 50.1 +0.7**
YHL IAmb IAmb 16 34 51.8
comp=Z,24nm,0.9s
PFO Pinyon Flats O 86.87 56 P **P** **16 34 49.2 -0.4**
PFO IAmb IAmb 16 34 50.9
comp=Z,23nm,1.1s
PFO Pinyon Flats O 86.87 56*d i* P **P** **16 34 49.7 +0.2**
PFO pmax pmax
comp=Z,29nm,1.0s
PFO Pinyon Flats O 86.87 56 P **P** **16 34 49.8 +0.2**
baz=289,SNR=9.9
HVU Hansel Valley 86.88 47 P **P** **16 34 49.6 +0.1**
HVU IAmb IAmb 16 34 51.5
comp=Z,43nm,1.2s
HVU Hansel Valley 86.88 47 P **P** **16 34 49.6 +0.1**
HVU pmax pmax
comp=Z,43nm,1.2s
TPFO Pinon Flats 86.88 56 P **P** **16 34 49.9 +0.3**
baz=289,SNR=11
YHB Horse Butte 86.89 44 P **P** **16 34 50.1 +0.6**
YHB IAmb IAmb 16 34 51.9
comp=Z,23nm,0.9s
KBZ Khabaz 86.92 315 P **P** **16 34 48.1 -1.3**
comp=Z,20nm,0.9s,baz=116,slow=0.9,SNR=40
comp=Z,20nm,0.9s
KBZ Khabaz 86.92 315*ce* P **P** **16 34 47.8 -1.6**

KBZ pmax pmax
comp=Z,25nm,0.9s
PMD Palm Desert 86.93 56 P **P** **16 34 49.7 0.0**
PMD IAmb IAmb 16 34 51.0
comp=Z,18nm,0.9s
SHPR Sheep Range 86.94 53 P **P** **16 34 49.9 0.0**
ONI Oni 86.95 314 P **P** **16 34 49.5 -0.2**
ONI IAmb IAmb 16 34 51.4
comp=Z,20nm,0.9s
ONI Oni 86.95 314 P **P** **16 34 49.5 -0.2**
ONI pmax pmax
comp=Z,20nm,0.9s
KIV Kislovodsk 86.98 315 P **P** **16 34 48.7 -1.1**
KIV Kislovodsk 86.98 315 *eP* **P** **16 34 49.1 -0.7**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV Kislovodsk 86.98 315 P **P** **16 34 49.2 -0.7**
KIV Kislovodsk 86.98 315 *i* P **P** **16 34 49.0 -0.9**
SNR=6.0
BGU Big Grassy Mou 87.00 48 P **P** **16 34 49.9 -0.2**
BAR Barrett 87.00 57 P **P** **16 34 49.7 -0.4**
ABTO Aybut 87.02 287 P **P** **16 34 50.4 0.0**
SHA1 Shidzhatmaz 87.08 315*d i* P **P** **16 34 49.4 -1.1**
BELC Belle Mtn. Jos 87.11 55 P **P** **16 34 50.8 +0.1**
baz=289,SNR=16
GMRC Granite Mounta 87.12 55 P **P** **16 34 51.3 +0.6**
baz=289,SNR=22
CBX Cerro Bola 87.13 57 P **P** **16 34 50.8 0.0**
MONP2 Monument Peak 87.13 57 P **P** **16 34 51.3 +0.4**
baz=289,SNR=11
WTNK Soaring Height 87.15 53 P **P** **16 34 50.8 +0.1**
WTNK IAmb IAmb 16 34 52.6
comp=Z,12nm,0.8s
PSUT Pine Spring 87.23 51 P **P** **16 34 51.3 +0.1**
SPUT South Promonto 87.27 48 P **P** **16 34 51.4 0.0**
SPUT IAmb IAmb 16 34 53.2
comp=Z,41nm,1.2s
IMW Indian Meadow 87.38 45 P **P** **16 34 51.9 0.0**
IMW IAmb IAmb 16 34 54.2
comp=Z,38nm,1.6s
DUG Dugway, Tooele 87.41 49 P **P** **16 34 51.8 -0.2**
DUG Dugway, Tooele 87.41 49 P **P** **16 34 51.8 -0.2**
DUG pmax pmax
comp=Z,45nm,0.8s
DUG Dugway, Tooele 87.41 49 P **P** **16 34 52.5 +0.6**
baz=291,SNR=40
FXWY Fox Creek 87.41 45 P **P** **16 34 52.4 +0.3**
V12A Nelson 87.43 53 P **P** **16 34 52.4 +0.3**
V12A IAmb IAmb 16 34 54.1
comp=Z,39nm,0.8s
IKP In-Ko-Pah, Jac 87.46 57 P **P** **16 34 52.9 +0.7**
baz=289,SNR=5.4
RMX La Rumorosa 87.50 57 P **P** **16 34 53.3 +0.8**
TPAW Teton Pass 87.52 45 P **P** **16 34 52.7 +0.1**
STEI Steigen 87.53 343 *eP* **P** **16 34 51.1 -0.6**
STEI IAmb IAmb 16 34 51.7
comp=Z,80nm,0.7s
MOOW Moose Ponds 87.56 45 P **P** **16 34 52.4 -0.3**
YUH Yuha Desert 87.61 57 P **P** **16 34 52.8 -0.1**
YUH IAmb IAmb 16 34 54.5
comp=Z,27nm,1.4s
SWSC Sam W. Stewart 87.61 56 P **P** **16 34 53.3 +0.5**
baz=289
REDW Red Top Meadow 87.63 45 P **P** **16 34 53.6 +0.6**
REDW IAmb IAmb 16 35 37.6
comp=Z,13nm,0.5s
BC3 Big Chuckawall 87.65 56 P **P** **16 34 53.8 +0.6**
baz=290,SNR=19
AHID Auburn Hatcher 87.68 46 P **P** **16 34 53.3 +0.1**
AHID IAmb IAmb 16 35 23.1
comp=Z,17nm,0.9s
IRM Iron Mountain 87.73 55 P **P** **16 34 54.1 +0.7**
baz=290,SNR=13
HWUT Hardware Ranch 87.79 47 P **P** **16 34 54.1 +0.3**
HWUT IAmb IAmb 16 34 55.5
comp=Z,39nm,1.1s
ESJX Sierra Juarez 87.80 57 P **P** **16 34 54.3 +0.3**
LOF Lofoten 87.85 344 *eP* **P** **16 34 52.2 -1.0**
FAUS Fauske 87.90 343 *eP* **P** **16 34 52.8 -0.6**
FAUS IAmb IAmb 16 34 53.3
comp=Z,28nm,0.8s
CCUT Cedar City 87.93 51 P **P** **16 34 54.8 +0.2**
CCUT IAmb IAmb 16 34 56.8
comp=Z,57nm,1.5s
FIA1 FINESS Array S 87.93 335 P **P** **16 34 52.1 -1.6**
FIA0 FINESS Array S 87.94 335 P **P** **16 34 52.0 -1.7**
FIA0 FINESS Array S 87.94 335 P **P** **16 34 52.0 -1.7**
FINES FINESS Array B 87.94 335 P **P** **16 34 52.2 -1.5**
comp=Z,14nm,0.4s,baz=66,slow=4.5,SNR=196
comp=Z,14nm,0.4s
FINES FINESS Array B 87.94 335 P **P** **16 34 52.0 -1.7**
CTU Camp Tracy 87.99 48 P **P** **16 34 54.8 +0.1**
CTU IAmb IAmb 16 34 56.3
comp=Z,28nm,1.0s
NLU North Lily Min 88.02 49 P **P** **16 34 55.0 0.0**
NLU IAmb IAmb 16 34 56.6
comp=Z,29nm,0.9s
TCUT Toone Canyon 88.08 47 P **P** **16 34 55.3 +0.1**
TCUT IAmb IAmb 16 34 56.6
comp=Z,20nm,0.9s
SZCU Shurtz Canyon 88.12 51 P **P** **16 34 55.8 +0.4**
SZCU IAmb IAmb 16 34 57.4
comp=Z,23nm,1.2s
FFC Flin Flon 88.16 32 P **P** **16 34 54.8 -0.1**
FFC Flin Flon 88.16 32 P **P** **16 34 54.8 -0.1**
FFC pmax pmax
comp=Z,48nm,1.1s
LCMT Little Creek M 88.21 52 P **P** **16 34 56.2 +0.5**
LCMT IAmb IAmb 16 34 57.9
comp=Z,16nm,1.0s
JLU Jordanelle 88.23 48 P **P** **16 34 56.0 +0.1**
JLU IAmb IAmb 16 34 57.6
comp=Z,33nm,1.0s
TCRU Three Creeks R 88.24 50 P **P** **16 34 56.5 +0.4**
TCRU IAmb IAmb 16 34 58.0
comp=Z,16nm,0.8s
MPU Maple Canyon 88.32 49 P **P** **16 34 56.4 +0.1**
MPU IAmb IAmb 16 34 57.9
comp=Z,26nm,1.1s
GLA Glamis 88.35 56 P **P** **16 34 57.0 +0.6**
GLA Glamis 88.35 56 P **P** **16 34 57.0 +0.6**
GLA pmax pmax
comp=Z,31nm,0.8s
GLA Glamis 88.35 56 P **P** **16 34 57.3 +0.9**
baz=290,SNR=11
BLYC Blythe 88.35 55 P **P** **16 34 57.2 +0.9**
BLYC IAmb IAmb 16 34 58.1
comp=Z,17nm,0.8s
W13A Hualapai Mount 88.39 54 P **P** **16 34 56.8 +0.1**
W13A IAmb IAmb 16 34 58.6
comp=Z,19nm,0.9s
MVU Marysvale 88.45 50 P **P** **16 34 57.2 +0.2**
PDMCI Parker Dam,Lak 88.46 55 P **P** **16 34 57.7 +1.0**
baz=290,SNR=18
MSU Marysvale 88.47 50 P **P** **16 34 57.4 +0.3**
MSU Marysvale 88.47 50 P **P** **16 34 57.4 +0.3**
KNB Kanab 88.52 52 P **P** **16 34 57.6 +0.3**
KNB Kanab 88.52 52 P **P** **16 34 57.6 +0.3**
KNB pmax pmax
comp=Z,46nm,1.0s
MTPU Mount Pierson 88.63 51 P **P** **16 34 58.2 +0.2**
PDAR Pinedale Array 88.73 45 P **P** **16 34 58.1 -0.1**
comp=Z,1.8nm,0.4s,baz=202,slow=1.0,SNR=21
comp=Z,1.8nm,0.4s
TMUT Trail Mountain 88.89 49 P **P** **16 34 59.1 0.0**
TMUT IAmb IAmb 16 35 00.7
comp=Z,14nm,0.8s
MOR8 Moi Rana 88.98 342 *eP* **P** **16 34 56.8 -1.7**
MOR8 IAmb IAmb 16 34 57.2
comp=Z,27nm,0.9s
Q16A Castle Valley 89.05 49 P **P** **16 34 59.9 +0.1**
U15A North Rim 89.13 52 P **P** **16 35 00.6 +0.4**
U15A IAmb IAmb 16 35 02.4
comp=Z,34nm,1.1s
P17A Butcher Ranch, 89.16 49 P **P** **16 35 00.1 -0.1**
P17A IAmb IAmb 16 35 37.7
comp=Z,21nm,0.8s
113A Mohawk Valley, 89.28 56 P **P** **16 35 00.2 -0.4**
113A IAmb IAmb 16 35 02.3
comp=Z,19nm,1.0s
MEF Metsahovi 89.31 335 *eP* **P** **16 34 58.8 -1.4**
VSU Vasula 89.31 333*d i* P **P** **16 34 59.1 -1.1**
VSU pmax pmax
comp=Z,173nm,1.1s
VSU Vasula 89.31 333 *eP* **P** **16 34 59.2 -1.1**

LAO	LASA Array	89.33	41	P		P		16 35 01.1	+0.4
	baz=295								
SRU	San Rafael Swe	89.45	49	P		P		16 35 01.1	-0.5
SRU	San Rafael Swe	89.45	49	P		P		16 35 01.1	-0.5
SRU				pmax		pmax			
	comp=Z,42nm,0.7s								
P18A	Preston Nutter	89.45	48	P		P		16 35 01.6	-0.2
P18A				IAmb		IAmb		16 35 03.2	
	comp=Z,20nm,0.7s								
RDMU	Red Mountain	89.57	47	P		P		16 35 02.0	-0.1
DGMT	Dagmar	89.79	39	P		P		16 35 02.6	-0.2
DGMT	Dagmar	89.79	39	P		P		16 35 02.3	-0.4
	baz=296								
RAF	Rauma	89.88	336	*eP*		P		16 35 01.3	-1.5
SUMG	Summit	90.11	1	P		P		16 35 04.0	-0.2
SUMG				IAmb		IAmb		16 35 06.1	
	comp=Z,9.6nm,0.7s								
SUMG	Summit	90.11	1	P		P		16 35 04.0	-0.2
SUMG				pmax		pmax			
	comp=Z,10.0nm,0.7s								
SUMG	Summit	90.11	1	*i* P		P		16 35 04.0	-0.2
SUMG				IAmb		IAmb		16 35 07.8	
	comp=Z,31nm,1.5s								
WUAZ	Wupatki	90.16	53	P		P		16 35 05.3	+0.4
WUAZ				IAmb		IAmb		16 35 07.0	
	comp=Z,28nm,0.9s								
WUAZ	Wupatki	90.16	53	P		P		16 35 06.1	+1.2
	baz=292,SNR=23								
214A	Organ Pipe Nat	90.32	56	P		P		16 35 06.0	+0.5
214A				IAmb		IAmb		16 35 07.6	
	comp=Z,25nm,0.8s								
214A	Organ Pipe Nat	90.32	56	P		P		16 35 06.5	+1.0
	baz=291,SNR=7.5								
MTSE	Matsula	90.43	334	*eP*		P		16 35 04.3	-1.0
O20A	White River Ci	90.68	47	P		P		16 35 07.2	0.0
O20A				IAmb		IAmb		16 35 08.4	
	comp=Z,24nm,0.8s								
O20A	White River Ci	90.68	47	P		P		16 35 07.4	+0.1
	baz=294,SNR=6.0								
PV23	Carpenter Ridg	90.79	49	P		P		16 35 07.8	-0.1
PV10	Paradox Valley	90.80	49	P		P		16 35 07.9	-0.1
MARD	Mardin	90.82	310	P		P		16 35 06.7	-1.2
MARD				IAmb		IAmb		16 35 07.7	
	comp=Z,15nm,0.6s								
NSS	Namsos	90.88	342	*eP*		P		16 35 06.3	-1.1
MNK	Minsk	90.93	329	*i* P		P		16 35 08.3	+0.5
MNK				*i* *PP		pP		16 36 57.8	+0.7
MNK				*i*				16 38 52.5	
MNK				*i* PPP		PPP		16 40 55.2	
MNK				*i* S		SKSac		16 44 52.2	+0.3
MNK				*i* SS		SS		16 51 41.6	+2.8
MNK				*i* SSS		SSS		16 55 30.1	
MNK				pmax		pmax			
	comp=E,3.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,16nm,0.8s								
MNK				MLR		MLR			
	comp=E,3.0nm,14.0s								
MNK				MLR		MLR			
	comp=Z,52nm,17.0s								
MNK	Minsk	90.93	329	*i* P		P		16 35 08.3	+0.5
	comp=E,3.0nm,0.8s								
MNK				*i* P		P		16 35 08.3	+0.5
MNK				*i* P		P		16 35 08.3	+0.5
	comp=Z,16nm,0.8s,baz=238								
MNK				*i* pP		pP		16 36 57.9	+0.7
MNK				*i* PP		PP		16 38 52.6	+0.7
MNK				*i* PPP		PPP		16 40 55.2	
MNK				*i* S		SKSac		16 44 52.2	+0.3
MNK				*i* sS		sS		16 48 19.3	-19
MNK				*i* SS		SS		16 51 41.6	+2.8
MNK				*i* SSS		SSS		16 55 30.1	
MNK				*i* LRM		MLR		17 18 18.6	
	comp=E,3.0nm,14.1s								
MNK				*i* LRM		MLR		17 18 25.0	
MNK				*i* LRM		MLR		17 18 25.0	
	comp=Z,52nm,16.6s								
PV13	Radium Mtn., P	91.05	49	P		P		16 35 08.6	-0.4
PV13				IAmb		IAmb		16 35 10.2	
	comp=Z,26nm,0.9s								
PV07	Paradox Valley	91.06	49	P		P		16 35 08.7	-0.4
PV07				IAmb		IAmb		16 35 10.4	
	comp=Z,22nm,1.2s								
ISAL	Salakas	91.19	330	*eP*		P		16 35 08.7	-0.3
PV15	Paradox Valley	91.22	49	P		P		16 35 09.1	-0.8
PV15				IAmb		IAmb		16 35 11.1	
	comp=Z,22nm,1.0s								
NACGM	Naroch	91.25	330	*eP*		P		16 35 08.5	-0.8
	baz=57								
IIGN	Ignalina	91.27	330	*eP*		P		16 35 09.3	0.0
W18A	Petrified Fore	91.55	53	P		P		16 35 12.1	+0.8
	baz=293								
MVCO	Mesa Verde	91.66	50	P		P		16 35 11.3	-0.5
MVCO				IAmb		IAmb		16 35 13.5	
	comp=Z,13nm,0.9s								
MVCO	Mesa Verde	91.66	50	P		P		16 35 12.4	+0.5
	baz=294,SNR=5.3								
SLIT	Slitere, Latvi	91.73	333	*eP*		P		16 35 10.0	-1.4
N23A	Red Feather La	91.96	46	P		P		16 35 14.3	+1.1
	baz=295								
RAYN	Ar Rayn	92.00	295	P		P		16 35 12.1	-1.4
RAYN				IAmb		IAmb		16 35 13.3	
	comp=Z,8.7nm,0.8s								
RAYN	Ar Rayn	92.00	295	P		P		16 35 12.1	-1.4
RAYN				pmax		pmax			
	comp=Z,9.0nm,0.9s								
RAYN	Ar Rayn	92.00	295	P		P		16 35 12.7	-0.8
RAYN	Ar Rayn	92.00	295	*i* P		P		16 35 12.6	-0.9
	SNR=10								
PHWY	Pilot Hill	92.12	45	P		P		16 35 13.8	-0.2
PHWY				IAmb		IAmb		16 35 44.1	
	comp=Z,17nm,0.7s								
AKASG	Malin Array Be	92.24	325	P		P		16 35 12.0	-1.9
	comp=Z,1.2nm,0.5s,baz=54,slow=5.2,SNR=11								
AKASG				PKKPbc		PKKPbc		16 52 26.1	-1.8
	comp=Z,0.1nm,0.3s,baz=268,slow=1.8,SNR=4.2								
	comp=Z,1.2nm,0.5s								
AKASG	Malin Array Be	92.24	325	*i* P		P		16 35 11.6	-2.3
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
PABE	Paberze	92.24	331	P		P		16 35 13.0	-0.8
PABE	Paberze	92.24	331	*eP*		P		16 35 13.3	-0.5
S22A	4UR Ranch, Cre	92.65	49	P		P		16 35 16.7	+0.2
S22A				IAmb		IAmb		16 35 18.3	
	comp=Z,28nm,1.4s								
S22A	4UR Ranch, Cre	92.65	49	P		P		16 35 16.9	+0.4
	baz=294,SNR=20								
ISCO	Idaho Springs	92.66	47	P		P		16 35 16.9	+0.4
	baz=295,SNR=6.0								
PBUR	Paburge	92.86	332	*eP*		P		16 35 15.8	-0.8
Q24A	Divide	93.34	47	P		P		16 35 19.7	0.0
	baz=296								
NC405	NORSAR Array S	93.44	339	P		P		16 35 17.8	-1.5
ICESG	Greenland Ices	93.58	2	*i* P		P		16 35 19.0	-1.1
ICESG				IAmb		IAmb		16 35 19.6	
	comp=Z,12nm,0.7s								
DOMB	Dombas	93.61	341	*e*		P		16 35 24.2	+4.1
SDCO	Great Sand Dun	93.61	49	P		P		16 35 20.4	-0.5
SDCO	Great Sand Dun	93.61	49	P		P		16 35 20.9	0.0
	baz=295,SNR=10								
NC204	NORSAR Array S	93.64	340	P		P		16 35 18.8	-1.4
ULM	Lac du Bonnet	93.64	34	P		P		16 35 19.4	-1.0
	comp=Z,5.1nm,0.8s,baz=319,slow=8.2,SNR=3.6								
	comp=Z,5.1nm,0.8s								
NB2	NORSAR Subarra	93.67	340	P		P		16 35 18.8	-1.5
	comp=Z,3.1nm,0.6s,baz=44,slow=4.6								
NB2	NORSAR Subarra	93.67	340	P		P		16 35 18.8	-1.5
	baz=44,slow=4.6								
NOA	NORSAR Array B	93.67	340	P		P		16 35 18.7	-1.5
	comp=Z,5.0nm,0.7s,baz=45,slow=4.8,SNR=17								
NOA				PP		PP		16 39 11.7	-1.2
	comp=Z,3.4nm,1.1s,baz=44,slow=7.8,SNR=3.4								
	comp=Z,5.0nm,0.7s								
BNN	Bunyan	93.74	313	P		P		16 35 19.1	-2.1
LENM	Lemitar	94.01	52	P		P		16 35 23.1	+0.4
121A	Cookes Peak, D	94.05	54	P		P		16 35 23.5	+0.6
	baz=294								
ANMO	Albuquerque	94.08	52	P		P		16 35 23.3	+0.3
ANMO				IAmb		IAmb		16 35 24.6	
	comp=Z,13nm,1.4s								
ANMO	Albuquerque	94.08	52	P		P		16 35 23.3	+0.3
ANMO				pmax		pmax			
	comp=Z,13nm,1.4s								
ANMO	Albuquerque	94.08	52	P		P		16 35 23.6	+0.6
	baz=295								
T25A	Trinidad	94.65	49	P		P		16 35 25.8	+0.2
T25A				IAmb		IAmb		16 37 51.6	
	comp=Z,11nm,0.9s								
T25A	Trinidad	94.65	49	P		P		16 35 25.8	+0.2
	baz=296								
AGMN	Agassiz Nation	94.71	36	P		P		16 35 25.1	-0.2
	baz=303								
BR131	Keskin Array S	94.88	314	P		P		16 35 24.9	-1.5
BR131				IAmb		IAmb		16 35 25.9	
	comp=Z,11nm,1.1s								
BR131	Keskin Array S	94.88	314	P		P		16 35 24.9	-1.5
BR131				pmax		pmax			
	comp=Z,11nm,1.1s								
BRTR	Keskin Array B	94.88	314	P		P		16 35 25.0	-1.5
	comp=Z,4.3nm,0.9s,baz=96,slow=3.7,SNR=16								
	comp=Z,4.3nm,0.9s								
BRTR	Keskin Array B	94.88	314	P		P		16 35 24.6	-1.8
SKAR	Skarsla	94.88	340	*eP*		P		16 35 25.8	-0.1
SFJD	Kangerlussuaq	94.90	6	*i* P		P		16 35 24.7	-1.0
HYA	Hoyanger	95.17	342	*eP*		P		16 35 26.4	-0.5
VNDA	Vanda	95.29	176	P		P		16 35 26.6	-0.5
	comp=Z,1.6nm,1.1s,baz=340,slow=6.4,SNR=4.8								
	comp=Z,1.6nm,1.1s								
ASK	Askoy	96.00	341	*eP*		P		16 35 30.6	-0.2
ODD1	Odda	96.01	341	*eP*		P		16 35 29.7	-1.2
BUR08	Bucovina Ar. S	96.11	324	P		P		16 35 30.4	-1.4
BUR08				IAmb		IAmb		16 35 34.2	
	comp=Z,19nm,1.9s								
BSD	Bornholm Skovb	96.48	334	*i* P		P		16 35 31.0	-2.1
BSD				IAmb		IAmb		16 35 32.0	
	comp=Z,17nm,0.8s								
AMTX	Amarillo	97.64	50	P		P		16 35 39.0	+0.1
	baz=298								
TXAR	Lajitas Array	98.59	56	P		P		16 35 43.6	+0.3
	comp=Z,0.4nm,0.6s,baz=289,slow=3.8,SNR=6.3								
TXAR				PKKPbc		PKKPbc		16 52 11.2	+0.7
	comp=Z,0.5nm,0.8s,baz=123,slow=6.1,SNR=6.4								
TXAR				PKKPKP		P'P'df		17 00 20.0	-6.4
	comp=Z,2.9nm,1.2s,baz=147,slow=7.5,SNR=6.6								
	comp=Z,0.4nm,0.6s								
VYHS	Vyhne	99.03	327	*eP*		Pdif		16 35 43.9	-0.7
VYHS	Vyhne	99.03	327	*e*PDIFF		Pdif		16 35 43.9	-0.7
CLL	Collm	99.96	332	*eP*		Pdif		16 35 47.0	-1.7
CLL	Collm	99.96	332	*e*(Pdif)		Pdif		16 35 47.0	-1.7
CLL				*e*PP		PP		16 40 00.0	-0.7
JFWS	Jewell Farm	101.01	38	P		Pdif		16 35 53.3	-0.3
	baz=307								
JCT	Junction City	101.08	53	P		Pdif		16 35 53.9	-0.3
	baz=298								
KHC	Kasperske Hory	101.21	330	*e*PP		PP		16 40 10.2	0.0
GERES	GERESS Array B	101.35	330	P		Pdif		16 35 53.7	-1.4
	comp=Z,0.8nm,0.6s,baz=46,slow=5.8,SNR=7.0								
GERES				PP		PP		16 40 10.0	-1.3
	comp=Z,0.6nm,0.6s,baz=33,slow=10.0,SNR=4.5								
GERES				PKKPbc		PKKPbc		16 52 02.5	-1.1
	comp=Z,0.2nm,0.2s,baz=202,slow=1.4,SNR=5.4								
LRAL	Lakeview Retre	108.96	45	P		PKiKP		16 40 30.4	-0.3
	baz=307								
TZTN	Tazewell	109.00	40	P		PKiKP		16 40 30.8	+0.1
	baz=310								
SSPA	Standing Stone	109.46	34	P		PKiKP		16 40 31.4	0.0
	baz=316								
PBRG	Braganca	115.69	337	*e*PKPdf		PKPdf		16 40 43.1	-0.3
MVO	Moncorvo	116.36	337	*e*PKPdf		PKPdf		16 40 44.7	0.0
ESDC	Sonseca Array	116.43	334	PKP		PKPdf		16 40 44.8	0.0
	comp=Z,1.1nm,0.7s,baz=28,slow=2.6,SNR=7.6								
ESDC				PP		PP		16 41 58.1	-0.9
	comp=Z,4.0nm,0.9s,baz=33,slow=6.9,SNR=16								
ESDC				PKKPbc		PKKPab		16 51 21.4	-1.5
	comp=Z,1.7nm,0.9s,baz=206,slow=5.0,SNR=9.7								
ESDC	Sonseca Array	116.43	334	PKPdf		PKPdf		16 40 44.5	-0.3
POLO	Lamas de Olo	116.45	338	*e*PKPdf		PKPdf		16 40 44.7	-0.2
PVRL	Vila Real	116.51	338	*e*PKPdf		PKPdf		16 40 44.9	-0.1
MTE	Manteigas	117.22	337	*e*PKPdf		PKPdf		16 40 46.3	-0.1
PCBR	Castelo Branco	117.68	337	*e*PKPdf		PKiKP		16 40 47.3	+0.1
PMRV	Marv??o	118.01	337	*e*PKPdf		PKPdf		16 40 47.5	-0.4
PBAR	Barrancos	118.96	336	*e*PKPdf		PKPdf		16 40 49.6	-0.1
EVO	Evora	119.02	337	*e*PKPdf		PKiKP		16 40 50.0	+0.1
BELA	Belgrano 2	119.58	180	PKPdf		PKPdf		16 40 48.9	-0.8
PNCL	Nicolau / Gran	119.59	337	*e*PKPdf		PKiKP		16 40 51.0	0.0
PCVE	Castro Verde	119.82	336	*e*PKPdf		PKiKP		16 40 51.9	+0.4
TROLL	Troll, Antarti	121.40	193	PKPdf		PKPdf		16 40 53.5	0.0
SNAA	Sanae	122.73	191	PKPdf		PKPdf		16 40 55.4	-0.5
SNAA	Sanae	122.73	191	PKPdf		PKPdf		16 40 55.6	-0.3
SNAA	Sanae	122.73	191	*c i*PKIKP		PKPdf		16 40 55.8	-0.1
SNAA				pmax		pmax			
	comp=Z,15nm,2.5s								
VNA2	Neumayer--Watz	124.17	190	PKPdf		PKPdf		16 40 58.6	-0.1
	baz=128,slow=1.0								
VNA3	Neumayer Olymp	124.27	189	PKPdf		PKPdf		16 40 58.5	-0.4
VNA1	Neumayer--Stat	124.56	190	PKPdf		PKPdf		16 40 59.2	-0.1
PMPST	Porto Santo, M	126.83	341	*e*PKPdf		PKPdf		16 41 04.3	-0.7
PMPS	Porto Santo	126.85	341	*e*PKPdf		PKiKP		16 41 07.4	+1.9
PMSA	Palmer Station	128.71	164	*eP*		PKiKP		16 41 08.8	+0.7
TOA0	Torodi Ar. Sit	133.13	308	PKPdf		PKPdf		16 41 16.5	-0.8
TORD	Torodi Ar. Bea	133.13	308	PKP		PKPdf		16 41 17.1	-0.3
	comp=Z,22nm,0.8s,baz=66,slow=1.3,SNR=5.2								
TORD				SKPbc		SKPbc		16 43 57.1	-1.6
	comp=Z,4.7nm,0.7s,baz=29,slow=3.3,SNR=0.9								
SDV	Santo Domingo	135.63	57	PKPdf		PKPdf		16 41 21.2	-1.1
SDV	Santo Domingo	135.63	57	*eP*		PKPdf		16 41 21.9	-0.3
KOWA	Kowa	136.31	315	PKPdf		PKPdf		16 41 22.9	-0.3
BAUV	El Baul	137.63	54	PKPdf		PKPdf		16 41 25.1	-0.6
BIRV	Birongo	138.00	51			PKPdf		16 41 25.8	-0.6
LL04	Puerto Octay	139.89	134			PKPdf		16 41 29.6	+0.5
GO06	Curarrehue	141.08	132	PKPdf		PKPdf		16 41 31.3	-0.1
PLCA	Paso Flores	141.24	134	PKhKP		PKPpre		16 41 26.4	
	comp=Z,4.0nm,0.7s,baz=246,slow=3.0,SNR=13								
PLCA				SKPbc		SKPbc		16 44 20.9	-0.7
	comp=Z,1.8nm,0.8s,baz=58,slow=5.5,SNR=3.5								
PLCA	Paso Flores	141.24	134	*eP*		PKiKP		16 41 33.6	-0.9
DBIC	Dimbokro	142.21	307	PKhKP		PKPpre		16 41 30.4	
	comp=Z,17nm,0.4s,baz=65,slow=4.1,SNR=45								
KIC	Kosan Boka	142.31	306	*i*PKP1		PKPdf		16 41 30.7	-3.5
	comp=Z,22nm,0.5s								
TIC	Toumodi	142.35	307	*i*PKP1		PKPdf		16 41 31.1	-3.2
	comp=Z,17nm,0.6s								
LIC	Lamto	142.62	307	*e*PKP1		PKPdf		16 41 31.5	-3.2
	comp=Z,131nm,0.8s								
VA05	Santo Domingo	143.01	123			PKPbc		16 41 32.7	+0.1
VA01	Torpederas	143.16	122			PKPbc		16 41 33.5	+0.4
MT01	Popeta	143.24	124			PKPbc		16 41 34.1	+0.7
BO02	Sierra Bellavi	143.32	125	PKPdf		PKPbc		16 41 34.5	+0.8
MT09	Talagante	143.47	123			PKPbc		16 41 34.8	+0.5
MT02	Curacav	143.50	123			PKPbc		16 41 34.8	+0.6
VA06	Catapilco	143.56	121	PKPdf		PKPbc		16 41 34.7	+0.3
ROC1	El Roble	143.68	122			PKPbc		16 41 35.6	+0.5
BO04	La Punta	143.71	124	PKPdf		PKPdf		16 41 35.6	-0.5
CO06	Fray Jorge	143.74	118	PKPbc		PKPab		16 41 34.2	-0.7
MT05	Renca	143.78	123			PKPdf		16 41 36.1	-0.2
PEL	Peldehue	143.90	123			PKPab		16 41 35.8	+0.2
PEL	Peldehue	143.90	123	PKIKP		PKPab		16 41 35.8	+0.2
MBO	M'Bour	143.94	330	PKPdf		PKPdf		16 41 36.7	-0.2
GO04	Tololo Observa	144.55	118			PKPbc		16 41 37.6	-0.3
LCO	Las Campanas	144.87	116	PKPab		PKPab		16 41 39.6	0.0
LCO	Las Campanas	144.87	116	PKIKP		PKPab		16 41 39.7	0.0
CO01	Juntas del Tor	145.19	118			PKPbc		16 41 39.9	0.0
AC05	El Transito	145.27	116	PKPbc		PKPbc		16 41 40.2	+0.2
AC01	Pan de Azucar	145.40	111			PKPbc		16 41 40.3	0.0
AC06	Mina Casimiro	145.45	113	PKPbc		PKPbc		16 41 40.3	-0.1
PB14	IPOC Station P	145.73	108			PKPbc		16 41 41.2	-0.5
PB12	IPOC Station P	145.86	98			PKPbc		16 41 41.2	-0.7
ZON	Zonda	145.98	121			PKPbc		16 41 41.9	0.0
ZON	Zonda	145.98	121	PKP2		PKPbc		16 41 41.9	0.0
TA01	Diego Aracena	146.08	101			PKPbc		16 41 41.4	-1.0
TA01				PKPab		PKPab		16 41 43.4	-0.9
PB04	IPOC Station P	146.10	104			PKPdf		16 41 41.4	+0.7
PB04				PKPab		PKPbc		16 41 43.5	+0.9
PB02	IPOC Station P	146.35	102			PKPbc		16 41 42.2	-1.1
PB07	IPOC Station P	146.35	103			PKPdf		16 41 42.2	+1.1
GO02	Mina Guanaco	146.42	109			PKPbc		16 41 42.6	-1.0
AC02	Maricunga	146.61	112			PKPbc		16 41 43.3	-1.0
PB16	IPOC Station P	146.62	97			PKPdf		16 41 43.2	+1.1
PB06	IPOC Station P	146.62	105			PKPdf		16 41 42.7	+1.2
PB15	IPOC Station P	146.69	106			PKPdf		16 41 42.9	+1.2
PB01	IPOC Station P	146.73	102			PKPdf		16 41 42.7	+1.0
PB01				PKPab		PKPbc		16 41 45.0	+0.7
PB09	IPOC Station P	146.95	103			PKPbc		16 41 43.6	-1.3
GO01	Chusmiza	146.98	99			PKPdf		16 41 43.8	+1.2
PB08	IPOC Station P	147.03	100			PKPdf		16 41 43.7	+1.2
LVC	Limon Verde	147.23	105			PKPdf		16 41 44.3	+1.5
LVC	Limon Verde	147.23	105	PKIKP		PKPdf		16 41 44.3	+1.5
BOAV	Boa Vista	147.54	55	PKPbc		PKPbc		16 41 46.1	-0.4
BOAV	Boa Vista	147.54	55	*e*P		PKPdf		16 41 42.8	-0.3
LPAZ	La Paz	147.73	93	PKP		PKPdf		16 41 44.9	+0.8
	comp=Z,49nm,0.8s,baz=320,slow=2.9,SNR=65								
LPAZ				PKPbc		PKiKP		16 41 48.7	-0.5
	comp=Z,49nm,0.8s,baz=359,slow=3.9,SNR=48								
LPAZ	La Paz	147.73	93			PKPdf		16 41 45.0	+0.9
LPAZ	La Paz	147.73	93	PKIKP		PKPdf		16 41 45.0	+0.9
LPAZ	La Paz	147.73	93	*eP*		PKPdf		16 41 44.3	+0.2
ETMB	Extrema	148.20	80	PKPdf		PKPdf		16 41 43.3	-0.8
ETMB				PKPbc		PKPbc		16 41 47.3	-0.9
ETMB				PKPab		PKPab		16 41 51.8	-1.1
ETMB	Extrema	148.20	80	*eP*		PKPdf		16 41 43.7	-0.4
MACA	Manacapuru-AM	150.55	64	PKPdf		PKPdf		16 41 48.1	+0.1
MACA				PKPbc		PKPbc		16 41 53.5	-0.3
MACA	Manacapuru-AM	150.55	64	*eP*		PKPdf		16 41 47.0	-0.9
SAML	Samuel	150.76	77	PKPdf		PKPdf		16 41 48.0	-0.2
SAML				PKPbc		PKPbc		16 41 54.0	-0.3
SAML				PKPab		PKPab		16 42 02.9	-0.7
SAML	Samuel	150.76	77	PKIKP		PKPdf		16 41 48.0	-0.2
SAML								16 42 02.9	
VILB	Vilhena	154.71	83	*eP*		PKPdf		16 41 53.0	-0.9
MALB	Monte Alegre	155.05	54	*eP*		PKPdf		16 41 54.2	-0.2
ITTB	Itaituba	155.37	60	*eP*		PKPdf		16 41 54.2	-0.7
PTLB	Pontes e Lacer	156.20	89	PKPdf		PKPdf		16 41 55.8	0.0
PTLB	Pontes e Lacer	156.20	89	*eP*		PKPdf		16 41 55.1	-0.7
CPUP	Villa Florida	157.01	116	PKP		PKPdf		16 41 55.9	-0.7
	comp=Z,1.5nm,0.6s,baz=201,slow=2.4,SNR=4.1								
CPUP				PKPab		PKPab		16 42 31.1	+1.1
	comp=Z,5.5nm,0.8s,baz=252,slow=4.6,SNR=9.4								
CPUP	Villa Florida	157.01	116	*eP*		PKPdf		16 41 56.9	+0.3
NPGB	Novo Progresso	157.07	66	*eP*		PKPdf		16 41 56.3	-0.8
PLTB	Pedras Altas	157.54	133	PKPdf		PKPdf		16 41 57.1	0.0
PDRB	Porto dos Gac	157.62	78	*eP*		PKPdf		16 41 56.9	-0.8
CLDB	Colider	158.25	75	*eP*		PKPdf		16 41 58.8	+0.4
CPSB	Cacapava Do Su	158.41	130	*eP*		PKPdf		16 41 58.1	-0.1
SALV	Santo Antonio	159.54	89	*eP*		PKPdf		16 42 00.7	+0.9
AQDB	Aquidauana	159.64	102	*eP*		PKPdf		16 42 00.3	+0.4
TMAB	Tom-Au,PA,Br	159.83	43	*eP*		PKPdf		16 42 01.2	+0.9
CNLB	Canela	160.88	131	*eP*		PKPdf		16 42 01.0	-0.1
ITAB	Concordia	160.97	124	*eP*		PKPdf		16 42 01.9	+0.8
PTGB	Pitanga	162.03	117	*eP*		PKPdf		16 42 03.5	+1.1
TER01	Tubaro-SC	162.57	132	*eP*		PKPdf		16 42 04.1	+1.3
ROSB	Rosrio	162.64	34	*eP*		PKPdf		16 42 03.6	+0.4
SNDB	Serra Nova Dou	162.77	74	*eP*		PKPdf		16 42 04.2	+0.9
PCMB	Pacaembu	163.59	107	*eP*		PKPdf		16 42 04.9	+1.0
TIJ01	Guaruva-PR	164.34	122	*eP*		PKPdf		16 42 06.0	+1.4
SMTB	Santa Maria do	164.57	58	*eP*		PKPdf		16 42 05.9	+0.9
BB19B	Bebedouro	166.20	107	*eP*		PKPdf		16 42 07.7	+1.6
PET01	Itanhaem-SP	166.20	122	*eP*		PKPdf		16 42 07.1	+1.1
RCLB	Rio Claro- Sao	166.72	114	*eP*		PKPdf		16 42 07.5	+1.0
BDFB	Brasilia	166.82	84	PK

QLP	Quilpie	30.76	262	P		P	16 48 43.5	-0.3
MTSU	Mount Surprise	32.72	277	P		P	16 49 00.9	+0.5
STKA	Stephens Creek	32.76	251	P		P	16 49 00.7	+0.1
	comp=Z,3.4nm,0.5s,baz=94,slow=11,SNR=14							
	comp=Z,3.4nm,0.5s							
STKA	Stephens Creek	32.76	251	P		P	16 49 00.6	0.0
STKA	Stephens Creek	32.76	251	P		P	16 49 00.7	+0.1
RABL	Rabaul	33.52	306	P		P	16 49 06.2	-1.0
RABL				IAmb		IAmb	16 49 06.5	
	comp=Z,8.0nm,0.7s							
KRVT	Keravat (AS076	33.55	306	P		P	16 49 07.0	-0.3
	comp=Z,13nm,0.5s,baz=301,slow=3.0,SNR=5.6							
	comp=Z,13nm,0.5s							
INKA	Innaminka	33.72	259	P		P	16 49 09.4	+0.8
HTT	Hallett	35.03	249	P		P	16 49 19.3	-0.2
COEN	Coen	35.36	283	P		P	16 49 22.7	+0.4
COEN				IAmb		IAmb	16 50 01.3	
	comp=Z,20nm,1.4s							
COEN	Coen	35.36	283	P		P	16 49 22.9	+0.5
TWOA	Tennyson Woods	35.37	246	P		P	16 49 22.1	-0.1
LCRK	Leigh Creek	35.69	254	P		P	16 49 24.8	-0.1
QIS	Mount Isa	36.17	271	P		P	16 49 29.0	0.0
BBOO	Buckleboo	37.43	250	P		P	16 49 38.2	-0.8
BBOO	Buckleboo	37.43	250	P		P	16 49 38.3	-0.8
OOD	Oodnadatta	38.16	258	P		P	16 49 45.4	+0.5
MULG	Mulgathing	39.29	254	P		P	16 49 53.4	-0.5
AS31	Alice Springs	40.49	264	P		P	16 50 03.1	-0.5
ASAR	Alice Springs	40.49	264	P		P	16 50 03.4	-0.3
	comp=Z,7.0nm,0.5s,baz=94,slow=7.6,SNR=394							
	comp=Z,7.0nm,0.5s							
ASAR	Alice Springs	40.49	264	P		P	16 50 02.8	-0.8
WR0	Warramunga Arr	40.90	269	P		P	16 50 05.9	-1.0
WR0				IAmb		IAmb	16 50 07.0	
	comp=Z,14nm,1.1s							
WB2	Warramunga Arr	41.07	269	P		P	16 50 07.4	-0.8
WB2				IAmb		IAmb	16 50 08.4	
	comp=Z,12nm,0.8s							
WRAB	Tennant Creek	41.08	269	P		P	16 50 07.2	-1.0
WRAB				IAmb		IAmb	16 50 08.3	
	comp=Z,10nm,0.9s							
WRAB	Tennant Creek	41.08	269	P		P	16 50 07.5	-0.7
WRA	Warramunga Arr	41.08	269	P		P	16 50 07.7	-0.6
	comp=Z,7.0nm,0.4s,baz=103,slow=7.5,SNR=182							
	comp=Z,7.0nm,0.4s							
WRA	Warramunga Arr	41.08	269	P		P	16 50 07.3	-1.0
WB0	Warramunga Arr	41.09	270	P		P	16 50 07.4	-0.9
WB0				IAmb		IAmb	16 50 08.3	
	comp=Z,11nm,0.7s							
FORT	Forrest	44.38	252	P		P	16 50 32.7	-0.9
FORT	Forrest	44.38	252	P		P	16 50 32.6	-0.9
WRKA	Warakurna	45.17	260	P		P	16 50 39.2	-0.6
KDU	Kakadu	45.34	278	P		P	16 50 40.3	-0.8
MTN	Manton Dam	46.47	277	P		P	16 50 49.2	-0.4
KNRA	Kununurra	47.50	272	P		P	16 50 57.3	0.0
KNRA				IAmb		IAmb	16 50 58.6	
	comp=Z,15nm,0.7s							
KNRA	Kununurra	47.50	272	P		P	16 50 57.6	+0.3
FITZ	Fitzroy Crossi	49.47	268	P		P	16 51 11.5	-0.2
FITZ				IAmb		IAmb	16 51 12.7	
	comp=Z,5.1nm,0.6s							
FITZ	Fitzroy Crossi	49.47	268	P		P	16 51 11.8	+0.1
FAKI	Fak Fak	50.15	290	P		P	16 51 16.3	-0.4
FAKI				IAmb		IAmb	16 51 49.6	
	comp=Z,18nm,1.1s							
VNDA	Vanda	51.95	185	P		P	16 51 28.7	+0.1
	comp=Z,0.3nm,0.5s,baz=6.6,slow=8.7,SNR=8.1							
VNDA	Vanda	51.95	185	P		P	16 51 29.7	+1.1
MBWA	Marble Bar	53.79	262	P		P	16 51 41.5	-1.1
MBWA				IAmb		IAmb	16 51 44.5	
	comp=Z,20nm,1.5s							
BLDU	Ballidu	54.04	250	P		P	16 51 43.6	-0.6
MORW	Morawa	54.94	252	P		P	16 51 50.1	-0.3
MORW				IAmb		IAmb	16 51 51.4	
	comp=Z,48nm,1.4s							
MORW	Morawa	54.94	252	P		P	16 51 50.3	-0.2
MMRI	Maumere	56.15	277	P		P	16 51 56.4	-2.6
CASY	Casey	57.47	206	P		P	16 52 07.5	+0.5
PLAI	Plampang	60.05	275	P		P	16 52 25.2	+0.1
QSPA	South Pole Qui	63.84	180	P		P	16 52 50.5	+1.8
	comp=Z,4.3nm,0.5s,baz=13,slow=2.3,SNR=33							
	comp=Z,4.3nm,0.5s							
QSPA	South Pole Qui	63.84	180	P		P	16 52 50.9	+2.1
BELA	Belgrano 2	74.26	173	P		P	16 53 51.9	+1.5
TROLL	Troll, Antarti	81.97	181	P		P	16 54 33.4	+1.7
SNAA	Sanae	82.34	180	P		P	16 54 35.0	+1.5
SNAA	Sanae	82.34	180	P		P	16 54 34.9	+1.5
VNA3	Neumayer Olymp	82.60	177	P		P	16 54 36.5	+1.8
VNA2	Neumayer--Watz	83.00	178	P		P	16 54 38.8	+2.1
	baz=175,slow=6.1							
PZH	PanZhiHua	90.74	299	P		P	16 55 16.0	+1.9
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
HHC	Hu-ho-hao-te	91.22	316	*eP*		P	16 55 15.8	-0.2
HHC				pmax		pmax		
	comp=Z,39nm,0.8s							
HHC				pmax		pmax		
	comp=Z,450nm,6.2s							

VAO **27** *16:49:58.4±0.5,23.˙10S×70.˙54W,h10km,mb4.6*
NEIC **27** *16:49:58.2,23.˙11S×70.˙71W,h28km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.04; Mθθ-0.09; Mϕϕ-0.94; Mrθ-0.08; Mϕϕ0.32; Mϕr-0.56; Fault plane solution: M₀1.18000×10¹⁶ NP1:ϕs173.55000°, δ58.99000°,λ102.61000°. NP2:ϕs330.08000°,δ33.24000°, λ70.04000°. Principal axes: T 1.2006, Plg73.0000°, Azm115.0000°; N -0.0364, Plg11.0000°, Azm347.0000°; P -1.1642, Plg13.0000°, Azm254.0000°;*
NEIC **27** *16:49:59.4±1.7,23.˙09S±0.˙05×70.˙65W±0.˙08,h20km±4km, mb4.9/65,Mwr4.6/63,Mwr4.8(GUC) Error ellipse: s-maj=10.7km s-min=6.7km az=98.0*
IDC **27** *16:50:00.0±0.7,23.˙06S×70.˙54W,h26km±4km,mb4.2/14, mbtmp4.3/18,ML3.9/4,MS4.1/18,Error ellipse: s-maj=18.3km s-min=11.2km az=158.0*
GUC **27** *16:50:00.1±0.8,23.˙10S×70.˙60W,h36km±4km,ML4.6*

ISC 27 16:49:59.8±0.6,23.˙10S±0.˙03×70.˙59W±0.˙05,h26km±4km, n204,σ0.˙91/198,mb4.9/47,MS4.2/16,4C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PB10	IPOC Station P	0.42	176			Pb	16 50 08.8	0.0
PB10	IPOC Station P	0.42	176	↓*iP*		Pb	16 50 08.9	+0.1
PB10				*eS*		Sb	16 50 14.8	0.0
PB04	IPOC Station P	0.86	28	Pn		Pb	16 50 16.2	0.0
PB04	IPOC Station P	0.86	28	↓*iP*		Pb	16 50 16.2	0.0
PB04				*eS*		Sn	16 50 27.5	-0.7
PB04				IAML			16 50 31.4	
	comp=E,25μm,0.5s							
PB06	IPOC Station P	1.01	68	Pn		Pb	16 50 18.7	-0.1
PB06	IPOC Station P	1.01	68	↓*iP*		Pb	16 50 18.7	-0.1
PB06				*eS*		Sn	16 50 32.1	+0.2
PB15	IPOC Station P	1.03	96	Pn		Pb	16 50 19.4	+0.2
PB15	IPOC Station P	1.03	96	↓*iP*		Pb	16 50 19.2	+0.1
PB15				*eS*		Sn	16 50 32.7	+0.1
PB07	IPOC Station P	1.51	26	Pn		Pn	16 50 25.8	+0.4
PB07	IPOC Station P	1.51	26	↑*iP*		Pn	16 50 25.6	+0.2
PB07				*eS*		Sb	16 50 46.2	+0.2
PB07				IAML			16 50 49.6	
	comp=E,15μm,0.4s							
PB14	IPOC Station P	1.53	174	*eP*		Pn	16 50 25.6	-0.2
PB14				*eS*		Sn	16 50 44.0	-1.1
LVC	Limon Verde	1.62	73	Pg		Pb	16 50 28.6	-0.7
	comp=E,608nm,0.3s,baz=253,slow=12,SNR=311							
LVC				Lg		Lg	16 50 50.6	
	comp=E,917nm,0.3s,baz=138,slow=5.7,SNR=27							
LVC	Limon Verde	1.62	73	↓*iP*		Pb	16 50 29.0	-0.3
LVC				*eS*		Sb	16 50 49.4	0.0
PB09	IPOC Station P	1.79	44	↑*iP*		Pb	16 50 30.9	-1.2
PB09				*eS*		Sb	16 50 54.5	+0.2
PB09				IAML			16 50 59.1	
	comp=N,8μm,0.6s							
PB02	IPOC Station P	1.88	20	*eP*		Pn	16 50 30.5	+0.1
PB02				IAML			16 51 03.0	
	comp=E,11μm,0.4s							
GO02	Mina Guanaco	2.25	156	↑*iP*		Pn	16 50 37.5	+1.8
GO02				IAML			16 51 14.9	
	comp=E,14μm,0.8s							
PB01	IPOC Station P	2.28	27	*eP*		Pn	16 50 36.6	+0.6
PB01				IAML			16 51 18.0	
	comp=N,3μm,0.3s							
PATCX	Punta Patache	2.30	10			Pn	16 50 35.5	-0.7
PATCX	Punta Patache	2.30	10	*eP*		Pn	16 50 35.5	-0.7
PATCX				IAML			16 51 14.8	
	comp=E,2μm,0.3s							
TA01	Diego Aracena	2.54	9			Pn	16 50 38.5	-1.0
TA02	Huaiquique	2.84	9			Pn	16 50 42.3	-1.3
HMBC	Humberstone	2.88	13	*eP*		Pn	16 50 45.8	+1.6
HMBC				*eS*		Sn	16 51 19.4	+1.4
HMBC				IAML			16 51 42.0	
	comp=E,3μm,0.5s							
AC01	Pan de Azucar	3.04	180			Pn	16 50 45.0	-1.3
AC01	Pan de Azucar	3.04	180	*eP*		Pn	16 50 45.5	-0.8
AC01				IAML			16 51 39.3	
	comp=N,2μm,0.5s							
PB08	IPOC Station P	3.23	25	*eP*		Pn	16 50 50.5	+1.3
PB08				IAML			16 51 45.7	
	comp=N,2μm,0.5s							
AC02	Maricunga	3.95	161	↑*iP*		Pn	16 51 01.3	+2.0
AC06	Mina Casimiro	4.25	177			Pn	16 51 02.0	-1.0
AC06	Mina Casimiro	4.25	177	*eP*		Pn	16 51 02.1	-0.8
PB12	IPOC Station P	4.46	3	Pn		Pn	16 51 05.3	-0.7
AC04	Llanos de Chal	5.11	185	Pn		Pn	16 51 11.8	-3.0
AC05	El Transito	5.72	177			Pn	16 51 22.1	-1.3
CO01	Juntas del Tor	6.87	176			Pn	16 51 38.0	-1.1
LPAZ	La Paz	7.16	19	Pn		Pn	16 51 44.8	+1.4
	comp=N,1.1nm,0.3s,baz=206,slow=2.8,SNR=12							
LPAZ					LR	LR	16 54 46.9	
	comp=N,2μm,19.7s,baz=204,slow=40							
	comp=N,4.3nm,0.4s							
LPAZ	La Paz	7.16	19	Pn		Pn	16 51 45.0	+1.6
SIV	San Ignacio	11.41	53	Pn		Pn	16 52 39.0	-2.4
	comp=N,0.1nm,0.3s,baz=243,slow=12,SNR=13							
SIV					LR	LR	16 58 05.4	
	comp=N,2μm,20.9s,baz=256,slow=43							
	comp=N,6.3nm,0.7s							
CPUP	Villa Florida	12.47	108	Pn		Pn	16 52 54.8	-1.0
	comp=N,0.1nm,0.3s,baz=284,slow=11,SNR=8.4							
CPUP					LR	LR	16 58 11.5	
	comp=N,1μm,21.2s,baz=284,slow=40							
	comp=N,3.0nm,0.8s							
CPUP	Villa Florida	12.47	108			Pn	16 52 56.0	+0.3
CPUP	Villa Florida	12.47	108	*eP*		Pn	16 52 56.4	+0.7
H03N1	Juan Fernandez	12.64	214	T		T	17 06 07.9	
	baz=39,slow=72,SNR=1330							
H03N2	Juan Fernandez	12.65	214	T		T	17 06 02.6	
	baz=39,slow=72,SNR=1612							
H03N3	Juan Fernandez	12.66	214	T		T	17 05 55.3	
	baz=39,slow=72,SNR=1276							
PTLB	Pontes e Lacer	13.21	57	*eP*		Pn	16 53 07.3	+1.4
ANTJ	Antonio Joao (	13.52	88	*eP*		Pn	16 53 10.9	+0.8
ETMB	Extrema	13.85	18			Pn	16 53 12.0	-2.6
ETMB	Extrema	13.85	18	*eP*		Pn	16 53 15.1	+0.5
AQDB	Aquidauana	14.07	82	Pn		Pn	16 53 15.7	-1.9
AQDB	Aquidauana	14.07	82	*eP*		Pn	16 53 18.9	+1.3
ITQB	Itaqui	14.12	121	Pn		Pn	16 53 16.8	-1.4
ITQB	Itaqui	14.12	121	*eP*		Pn	16 53 17.6	-0.6
UNIS	Unistalda (Bra	15.15	116	*eP*		Pn	16 53 32.1	0.0
CZSB	Cruzeiro do Su	15.41	352	*eP*		Pn	16 53 36.9	+1.2
RODS	Rosario do Sul	15.52	121	*eP*		Pn	16 53 36.7	-0.3
CRSM	Crissiumal (Br	15.59	110	*eP*		Pn	16 53 37.8	-0.1
SALV	Santo Antonio	15.75	66	*eP*		Pn	16 53 39.6	-0.4
SAML	Samuel	15.76	28	Pn		Pn	16 53 39.0	-1.1
FRBT	Francisco Belt	16.20	104	*eP*		P	16 53 47.7	-1.2
TRCB	Terra Rica	16.54	92	*eP*		Pn	16 53 50.3	+0.1
ALGR	Alto Alegre (B	16.77	113	*eP*		Pn	16 53 51.5	-1.6
CPSB	Cacapava Do Su	16.95	119	*eP*		Pn	16 53 53.8	-1.4
PTGB	Pitanga	17.01	99	*eP*		P	16 53 56.9	-0.9
ITAB	Concordia	17.20	108	P		P	16 53 59.5	-0.4
ITAB	Concordia	17.20	108	*eP*		Pn	16 53 57.9	-0.6
PLTB	Pedras Altas	17.36	123	Pn		Pn	16 53 57.2	-3.2
PDRB	Portos Gac	17.45	51	*eP*		P	16 54 02.4	-0.3
PLCA	Paso Flores	17.59	180	P		Pn	16 54 03.6	+0.4
	comp=N,0.1nm,0.3s,baz=5.2,slow=13,SNR=7.4							
	comp=N,4.4nm,1.0s							
PLCA	Paso Flores	17.59	180	P		Pn	16 54 03.6	+0.4
PLCA	Paso Flores	17.59	180	*eP*		P	16 54 04.1	0.0
LL04	Puerto Octay	17.83	185	Pn		Pn	16 54 04.7	-1.4
PCMB	Pacaembu	17.94	89	*eP*		Pn	16 54 07.1	-0.5
CLDB	Colider	18.63	52	*eP*		P	16 54 15.2	-0.4
CNLB	Canela	18.75	113	*eP*		Pn	16 54 17.9	+0.4
TBTG	Tabatinga, AM	18.81	2	*eP*		Pn	16 54 19.3	+1.0
TER01	Tubaro-SC	20.05	110	*eP*		P	16 54 31.6	+0.5
BB19B	Bebedouro	20.54	89	*eP*		P	16 54 35.5	-1.0
RCLB	Rio Claro- Sao	21.27	93	*eP*		P	16 54 45.4	+0.9
PET01	Itanhaem-SP	21.38	98	*eP*		P	16 54 47.3	+1.8
SNDB	Serra Nova Dou	21.43	62	*eP*		P	16 54 45.9	-0.3
IPMB	Ipameri, GO	21.55	80	*eP*		P	16 54 47.0	-0.5
NPGB	Novo Progresso	21.66	45	*eP*		P	16 54 47.8	-0.9
VAO	Valinhos	21.73	94	*eP*		P	16 54 48.8	-0.6
MACA	Manacapuru-AM	22.01	27	P		P	16 54 51.0	-1.4
MACA				IAmb		IAmb	16 54 53.2	
	comp=Z,72nm,1.3s							
MACA	Manacapuru-AM	22.01	27	*eP*		P	16 54 52.2	-0.2
BDFB	Brasilia	22.53	75	P		P	16 54 57.3	-0.7
	comp=Z,9.5nm,0.8s,baz=251,slow=9.5,SNR=8.7							
BDFB					LR	LR	17 05 44.6	
	comp=Z,275nm,20.7s,baz=286,slow=42							
	comp=Z,9.5nm,0.8s							
BDFB	Brasilia	22.53	75	P		P	16 54 56.2	-1.8
BDFB	Brasilia	22.53	75	*eP*		P	16 54 57.4	-0.7
PARB	Paraibuna	22.94	96	*eP*		P	16 55 02.4	+0.1
PMNB	Patos De Minas	23.01	83	*eP*		P	16 55 03.6	+0.6
VAS01	Vassouras-RJ	25.05	93	*eP*		P	16 55 22.8	+0.6
DIAM	Diamantina, MG	25.61	84	*eP*		P	16 55 27.4	0.0
DUB01	Friburgo-RJ	26.05	93	*eP*		P	16 55 31.3	-0.1
JANB	Januaria	26.05	77	*eP*		P	16 55 30.8	-0.7
SMTB	Santa Maria do	26.19	61	*eP*		P	16 55 32.9	+0.3
MALB	Monte Alegre	26.39	39	*eP*		P	16 55 34.5	+0.1
SDBA	SAO DESIDERIO	26.62	71	*eP*		P	16 55 36.0	-0.5
CAM01	Campos-RJ	26.75	93	*eP*		P	16 55 37.8	+0.3
BOAV	Boa Vista	27.17	22	P		P	16 55 40.1	-1.2
BOAV				IAmb		IAmb	16 55 52.1	
	comp=Z,10.0nm,1.2s							
BOAV	Boa Vista	27.17	22	*eP*		P	16 55 42.0	+0.7
GUA01	Guaratinga, BA	29.63	83	*eP*		P	16 56 03.2	-0.1
CMC01	Camacan, BA	30.28	81	*eP*		P	16 56 09.6	+0.5
GDU01	Guandu, BA	30.81	78	*eP*		P	16 56 13.3	-0.5
SDV	Santo Domingo	31.78	360	LR		LR	17 11 00.4	
	comp=Z,212nm,18.8s,baz=257,slow=40							
BAUV	El Baul	31.94	5	P		P	16 56 22.9	-0.7
MDP	Montagnes des	33.06	34	P		P	16 56 33.7	+0.2
	comp=Z,9.8nm,1.0s,baz=236,slow=9.4,SNR=3.9							
MDP					LR	LR	17 12 35.0	
	comp=Z,193nm,20.3s,baz=243,slow=41							
	comp=Z,9.8nm,1.0s							
PCRV	Puerto La Cruz	33.58	11	LR		LR	17 12 32.4	
	comp=Z,491nm,18.3s,slow=40							
RCBR	Riachuelo	37.56	68	P		P	16 57 12.4	0.0
	comp=Z,26nm,0.8s,baz=18,slow=10,SNR=14							
RCBR					LR	LR	17 14 17.2	
	comp=Z,428nm,18.3s,baz=14,slow=39							
	comp=Z,26nm,0.8s							
RCBR	Riachuelo	37.56	68	P		P	16 57 12.8	+0.4
MLPR	Magueyes Islan	40.96	5	P		P	16 57 40.4	-0.1
MLPR				IAmb		IAmb	16 57 43.6	
	comp=Z,23nm,0.9s							
SJG	San Juan	41.18	6	P		P	16 57 40.4	-2.0
SJG				IAmb		IAmb	16 57 41.8	
	comp=Z,17nm,0.8s							
MTP	Monte Pirata	41.23	7	P		P	16 57 40.8	-2.0
MTP				IAmb		IAmb	16 57 42.1	
	comp=Z,33nm,1.4s							
H06E1	SOCORRO T-PHAS	57.31	313	T		T	18 01 45.3	
	SNR=60							
BELA	Belgrano 2	57.40	172	P		P	16 59 46.4	+0.7
BELA				IAmb		IAmb	17 00 02.3	
	comp=Z,20nm,1.7s							
GOGA	Godfrey	57.52	347	P		P	16 59 47.7	+0.8
GOGA				IAmb		IAmb	17 01 52.9	
	comp=Z,34nm,1.9s							
VNA3	Neumayer Olymp	59.08	161	P		P	16 59 58.3	+0.8
VNA1	Neumayer--Stat	59.32	160	P		P	17 00 00.2	+1.1
X48A	Hartselle	59.33	344	P		P	16 59 59.2	-0.4
W50A	Signal Mountai	59.63	346	P		P	17 00 01.1	-0.7
W50A				IAmb		IAmb	17 00 09.8	
	comp=Z,11nm,1.0s							
VNA2	Neumayer--Watz	59.68	160	P		P	17 00 02.3	+0.7
	baz=287,slow=8.3							
CPCT	Cooper Cave	59.70	347	P		P	17 00 01.3	-0.9
CPCT				IAmb		IAmb	17 00 10.3	
	comp=Z,14nm,1.2s							
TKL	Tuckaleechee C	59.75	348	P		P	17 00 01.9	-0.6
TKL				IAmb		IAmb	17 00 10.4	
	comp=Z,12nm,1.1s							
SWET	Sewanee	59.79	345	P		P	17 00 02.2	-0.6
SWET				IAmb		IAmb	17 00 03.5	
	comp=Z,12nm,1.1s							
V52A	Sevierville	59.90	348	P		P	17 00 03.2	-0.3
V52A				IAmb		IAmb	17 00 11.5	
	comp=Z,14nm,1.1s							
V51A	Loudon	60.01	347	P		P	17 00 04.6	+0.3
V51A				IAmb		IAmb	17 01 36.3	
	comp=Z,14nm,1.3s							
PLAL	Pickwick Lake	60.10	343	P		P	17 00 04.0	-0.8
PLAL				IAmb		IAmb	17 00 12.9	
	comp=Z,9.7nm,1.1s							
T59A	Double "B" Far	60.10	354	P		P	17 00 04.2	-0.7
T59A				IAmb		IAmb	17 00 06.9	
	comp=Z,16nm,1.2s							
U54A	Nelsons Funny	60.24	350	P		P	17 00 06.2	+0.4
U54A				IAmb		IAmb	17 00 07.2	
	comp=Z,17nm,1.1s							
WLAR	White Oak Lake	60.41	338	P		P	17 00 08.2	+1.3
V48A	Smith Brothers	60.50	345	P		P	17 00 07.4	-0.2
V48A				IAmb		IAmb	17 00 15.7	
	comp=Z,14nm,1.1s							
TXAR	Lajitas Array	61.08	327	P		P	17 00 11.5	-0.3
	comp=Z,1.1nm,1.0s,baz=140,slow=4.7,SNR=5.1							
	comp=Z,1.1nm,1.0s							
WVT	Waverly	61.12	344	P		P	17 00 11.1	-0.7
SNAA	Sanae	61.29	160	P		P	17 00 13.4	+0.7
SNAA	Sanae	61.29	160	P		P	17 00 12.8	+0.1
SNAA				IAmb		IAmb	17 00 14.5	
	comp=Z,9.8nm,1.0s							
MIAR	Mount Ida	61.34	338	P		P	17 00 13.3	0.0
MIAR				IAmb		IAmb	17 00 22.0	
	comp=Z,9.8nm,1.1s							
S54A	Dingess, Beckl	61.41	350	P		P	17 00 13.6	-0.1
S54A				IAmb		IAmb	17 00 22.1	
	comp=Z,17nm,1.1s							
WHAR	Wooly Hollow	61.60	340	P		P	17 00 14.9	-0.2
WHAR				IAmb		IAmb	17 00 23.5	
	comp=Z,13nm,1.2s							
T47A	Sharon Grove	61.76	345	P		P	17 00 15.6	-0.5
T47A				IAmb		IAmb	17 00 24.0	
	comp=Z,16nm,1.0s							
ABTX	Abilene, Hawle	61.97	332	P		P	17 00 17.2	-0.5
ABTX				IAmb		IAmb	17 00 26.5	
	comp=Z,18nm,1.2s							
TROLL	Troll, Antarti	63.01	161	P		P	17 00 25.1	+0.8
CCM	Cathedral Cave	63.85	342	P		P	17 00 29.6	-0.4
CCM				IAmb		IAmb	17 00 38.1	
	comp=Z,9.8nm,1.1s							
S39A	Bolivar	64.14	340	P		P	17 00 32.0	+0.1
S39A				IAmb		IAmb	17 00 40.4	
	comp=Z,11nm,1.1s							
OK047	Pawnee, Statio	64.18	337	P		P	17 00 32.6	+0.3
OK046	Pawnee Station	64.19	337	P		P	17 00 32.3	0.0
R40A	Maddies Statio	64.37	341	P		P	17 00 33.2	-0.2
R40A				IAmb		IAmb	17 00 41.6	
	comp=Z,15nm,1.0s							
BBTS	Babate	64.84	60	LR		LR	17 28 06.0	
	comp=Z,278nm,18.9s,baz=242,slow=35							
P43A	Skaggs, Pawnee	64.87	344	P		P	17 00 36.5	-0.2
P40A	Paris	65.45	342	P		P	17 00 40.1	-0.3
P40A				IAmb		IAmb	17 00 41.0	
	comp=Z,7.5nm,0.9s							
QSPA	South Pole Qui	67.10	180	P		P	17 00 52.0	+1.0
QSPA				IAmb		IAmb	17 00 52.8	
	comp=Z,6.9nm,0.8s							
CBKS	Cedar Bluff	67.37	336	P		P	17 00 53.6	+0.8
F64A	Sherman	68.66	2	P		P	17 01 01.7	+1.0
E62A	Clayton Lake	69.39	1	P		P	17 01 06.1	+0.8
WUAZ	Wupatki	69.93	325	P		P	17 01 10.2	+1.2
WUAZ				IAmb		IAmb	17 01 29.9	
	comp=Z,7.1nm,1.1s							
ECSD	EROS Data Cent	70.67	340	P		P	17 01 12.9	-0.3
ECSD				IAmb		IAmb	17 01 21.8	
	comp=Z,14nm,1.4s							
DBIC	Dimbokro	70.67	74	P		P	17 01 12.7	-1.2
	comp=Z,12nm,1.0s,baz=219,slow=6.4,SNR=4.1							
DBIC					LR	LR	17 32 08.6	
	comp=Z,122nm,18.3s,baz=260,slow=36							
	comp=Z,12nm,1.0s							
DBIC	Dimbokro	70.67	74	P		P	17 01 13.4	-0.4
SRU	San Rafael Swe	72.29	328	P		P	17 01 24

H11S2	**WAKE ISLAND Hyl**	**26.52**	**276**	T		T		19 28 18.9	
	baz=106,slow=75,SNR=391								
H11S1	**WAKE ISLAND Hyl**	**26.53**	**276**	T		T		19 28 17.1	
	baz=106,slow=75,SNR=215								
H11S3	**WAKE ISLAND Hyl**	**26.54**	**276**	T		T		19 28 20.4	
	baz=106,slow=75,SNR=309								
H11N3	**WAKE ISLAND Hyl**	**26.65**	**278**	T		T		19 28 28.0	
	baz=106,slow=75,SNR=153								
H11N2	**WAKE ISLAND Hyl**	**26.67**	**278**	T		T		19 28 30.2	
	baz=106,slow=75,SNR=155								
H11N1	**WAKE ISLAND Hyl**	**26.67**	**278**	T		T		19 28 29.2	
	baz=106,slow=75,SNR=94								
ASAR	**Alice Springs**	**127.78**	**209**	PKP		**PKPdf**		**17 09 03.4**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=126,slow=2.0,SNR=12								
ASAR				pPKP		**pPKPdf**		**17 09 11.1**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=132,slow=1.7,SNR=7.0								
WRA	**Warramunga Arr**	**130.79**	**212**	PKP		**PKPdf**		**17 09 09.5**	**-0.1**
	comp=Z,2.1nm,1.1s,baz=152,slow=1.7,SNR=6.9								
ZALV	**Zalesovo Beam**	**144.05**	**25**	PKP	PKPbc		17 09 31.1	+0.3	
	comp=Z,2.3nm,0.6s,baz=316,slow=4.1,SNR=14								
KSH	**Kashi**	**147.30**	**52**	PKPbc	**PKPbc**		**17 09 41.3**	**-0.1**	
MKAR	**Makanchi Array**	**147.83**	**36**	PKPbc	**PKPdf**		**17 09 40.6**	**+1.1**	
	comp=Z,4.0nm,0.7s,baz=264,slow=2.4,SNR=24								
MJAR	**Matsushiro Arr**	**151.77**	**305**	PKPbc	**PKPbc**		**17 09 51.3**	**-1.2**	
	comp=Z,1.7nm,0.6s,baz=85,slow=1.3,SNR=6.7								
SONM	**Songino Array**	**155.19**	**5**	PKP	**PKPdf**		**17 09 50.9**	**+0.1**	
	comp=Z,1.2nm,0.9s,baz=95,slow=1.6,SNR=6.1								
LZH	**Lanzhou**	**166.18**	**19**	ePKP	PKPdf		17 09 49.8	-13	
LZH				pPKP	pPKPdf		17 10 06.8	-5.1	
CMAR	**Chiang Mai Arr**	**169.17**	**113**	PKP	**PKPdf**		**17 10 06.2**	**+0.6**	
	comp=Z,0.8nm,0.9s,baz=237,slow=3.1,SNR=4.5								
CMAR				PKPab	**PKPab**		**17 11 17.9**	**+0.3**	
	comp=Z,0.7nm,0.9s,baz=230,slow=5.6,SNR=3.3								
PZH	**PanZhiHua**	**172.25**	**62**	PKP	**PKPdf**		**17 10 06.3**	**-0.8**	

SJA ***27*** *17:07:23.5±0.8,23˚.04S×70˚.85W,h15km,ML4.7,MW4.4*
IDC ***27*** *17:07:23.7±0.7,23˚.33S×70˚.61W,h0km,mb4.0/7,*
mbtmp4.1/11,ML4.0/4,MS3.8/15,Error ellipse:
s-maj=24.1km s-min=12.7km az=162.0
VAO ***27*** *17:07:26.4±0.3,23˚.12S×70˚.63W,h19km,mb4.6*
NEIC ***27*** *17:07:27.2±2.4,23˚.09S±0˚.03×70˚.70W±0˚.06,h25km±4km,*
mb4.7/25,Mwr4.4/53,Mwr4.6(GUC),Error ellipse:
s-maj=8.0km s-min=3.7km az=88.0
GUC ***27*** *17:07:28.0±0.7,23˚.09S×70˚.60W,h30km±1km,ML4.7*
NEIC ***27*** *17:07:28,23˚.09S×70˚.60W,h27km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.68;
Mθθ-0.33; Mφφ-3.34; Mrθ-0.05; Mrφ-0.57; Mθφ-3.30; Fault
plane solution: Ms4.86000×10¹⁵ NP1:φs184.09000°,
δ66.45000°, λ85.35000°. NP2:φs15.59000°,δ23.98000°,
λ100.53000°. Principal axes: T 4.9867, Plg68.0000°,
Azm85.0000°; N -0.2696, Plg4.0000°, Azm186.0000°; P
-4.7170, Plg21.0000°, Azm278.0000°:

ISC 27 17:07:24.2±1.0,23˚.09S±0˚.02×70˚.69W±0˚.04,h6km±6km,
n206,σ1ˢ40/212,mb4.7/19,MS3.8/10,9C-4D,Near coast
of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB10	**IPOC Station P**	**0.44**	**163**	Pg		**Pn**	**17 07 36.5**	**-0.5**
PB10						**Sb**	**17 07 42.7**	**+1.5**
PB10	**IPOC Station P**	**0.44**	**163**	⇑*iP*		**Pn**	**17 07 36.8**	**-0.2**
PB10				*iS*		**Sb**	**17 07 42.7**	**+1.5**
PB10	**IPOC Station P**	**0.44**	**163**	*eP*		**Pn**	**17 07 36.9**	**-0.2**
PB10				*eP*		Pb	17 07 40.2	+5.8
PB10				*eS*		**Sb**	**17 07 43.0**	**+1.8**
PB10				IAML			17 07 45.4	
	comp=Z,17μm,0.6s							
PB04	**IPOC Station P**	**0.91**	**34**			**Pn**	**17 07 43.9**	**+0.3**
PB04				Sn		**Sb**	**17 07 55.5**	**+0.7**
PB04	**IPOC Station P**	**0.91**	**34**	⇓*iP*		**Pn**	**17 07 44.0**	**+0.3**
PB04				*iS*		**Sb**	**17 07 55.8**	**+0.9**
PB04				IAML			17 07 59.1	
	comp=E,46μm,0.4s							
PB04	**IPOC Station P**	**0.91**	**34**	*eP*		**Pg**	**17 07 40.2**	**-1.4**
PB04				*eS*		**Sn**	**17 07 55.9**	**-1.2**
PB04				IAML			17 08 03.1	
	comp=Z,18μm,0.5s							
PB06	**IPOC Station P**	**1.10**	**70**			**Pn**	**17 07 46.4**	**+0.1**
PB06				Sn		**Sb**	**17 07 59.7**	**-0.8**
PB06	**IPOC Station P**	**1.10**	**70**	⇓*iP*		**Pn**	**17 07 46.5**	**+0.1**
PB06				*iS*		**Sb**	**17 08 00.1**	**-0.3**
PB06				IAML			17 08 02.2	
	comp=E,19μm,0.3s							
PB06	**IPOC Station P**	**1.10**	**70**	*eP*		**Pn**	**17 07 46.5**	**+0.1**
PB06				*eS*		**Sb**	**17 08 00.3**	**-0.2**
PB06				IAML			17 08 02.8	
	comp=Z,12μm,0.4s							
PB15	**IPOC Station P**	**1.13**	**96**			**Pb**	**17 07 46.4**	**+0.1**
PB15	**IPOC Station P**	**1.13**	**96**	⇓*iP*		**Pn**	**17 07 47.1**	**+0.4**
PB15				*iS*		**Sb**	**17 08 00.9**	**-0.4**
PB15	**IPOC Station P**	**1.13**	**96**	*eP*		**Pn**	**17 07 47.2**	**+0.4**
PB15				*eS*		**Sn**	**17 08 02.0**	**-0.7**
PB15				IAML			17 08 06.2	
	comp=Z,35μm,0.2s							
PB14	**IPOC Station P**	**1.55**	**170**	Pn		**Pb**	**17 07 53.5**	**0.0**
PB14				Sn		**Sn**	**17 08 11.9**	**-1.3**
PB14	**IPOC Station P**	**1.55**	**170**	⇑*iP*		**Pb**	**17 07 53.6**	**+0.1**
PB14				*iS*		**Sn**	**17 08 13.2**	**0.0**
PB14	**IPOC Station P**	**1.55**	**170**	*eP*		**Pb**	**17 07 53.6**	**+0.1**
PB14				*eS*		**Sg**	**17 08 14.8**	**+0.8**
PB14				IAML			17 08 19.1	
	comp=Z,4μm,0.5s							
PB07	**IPOC Station P**	**1.55**	**29**			**Pb**	**17 07 53.3**	**-0.1**
PB07				Sn		**Sn**	**17 08 12.8**	**-0.2**
PB07	**IPOC Station P**	**1.55**	**29**	⇑*iP*		**Pb**	**17 07 53.5**	**+0.1**
PB07				*iS*		**Sb**	**17 08 14.1**	**+0.8**
PB07				IAML			17 08 17.2	
	comp=E,28μm,0.5s							
PB07	**IPOC Station P**	**1.55**	**29**	*eP*		**Pb**	**17 07 53.6**	**+0.1**
PB07				*eS*		**Sg**	**17 08 14.5**	**+0.4**
PB07				IAML			17 08 16.0	
	comp=Z,15μm,0.4s							
LVC	**Limon Verde**	**1.71**	**74**	Pg		**Pb**	**17 07 56.7**	**+0.4**
	comp=Z,743nm,0.3s,baz=252,slow=12,SNR=2717							
LVC				Lg		Lg	17 08 18.2	
	comp=Z,2μm,0.3s,baz=66,slow=2.9,SNR=25							
LVC	**Limon Verde**	**1.71**	**74**	Pn		**Pb**	**17 07 56.6**	**+0.4**
LVC				Sn		**Sb**	**17 08 17.7**	**-0.5**
LVC	**Limon Verde**	**1.71**	**74**	⇓*iP*		**Pb**	**17 07 56.8**	**+0.4**
LVC				*iS*		**Sb**	**17 08 17.8**	**-0.5**
LVC	**Limon Verde**	**1.71**	**74**	*eP*		**Pb**	**17 07 56.9**	**+0.6**
LVC				*eS*		**Sb**	**17 08 18.2**	**0.0**
LVC	**Limon Verde**	**1.71**	**74**	*eP*		**Pb**	**17 07 56.6**	**+0.4**
PB09	**IPOC Station P**	**1.86**	**46**			**Pb**	**17 07 58.5**	**-0.2**
PB09	**IPOC Station P**	**1.86**	**46**	⇑*iP*		**Pb**	**17 07 58.8**	**+0.1**
PB09				*iS*		**Sb**	**17 08 22.6**	**+0.3**
PB09				IAML			17 08 26.6	
	comp=N,20μm,0.4s							
PB09	**IPOC Station P**	**1.86**	**46**	*eP*		**Pb**	**17 07 59.0**	**+0.3**
PB09				*eS*		**Sb**	**17 08 23.4**	**+1.1**
PB09				IAML			17 08 27.1	
	comp=Z,23μm,0.4s							
PB02	**IPOC Station P**	**1.91**	**23**			**Pn**	**17 07 58.2**	**+0.8**
PB02	**IPOC Station P**	**1.91**	**23**	*eP*		**Pb**	**17 08 00.4**	**+0.8**
PB02				*iS*		**Sb**	**17 08 24.9**	**+1.2**
PB02				IAML			17 08 30.5	
	comp=E,18μm,0.2s							
PB02	**IPOC Station P**	**1.91**	**23**	*eP*		Pn	17 07 52.7	-4.7
PB02				*eP*		**Pb**	**17 07 58.5**	**-1.0**
PB02				*eS*		**Sg**	**17 08 25.3**	**-0.3**
PB02				IAML			17 08 29.4	
	comp=Z,11μm,0.3s							
GO02	**Mina Guanaco**	**2.29**	**154**	Pn		**Pb**	**17 08 05.2**	**-0.9**
GO02	**Mina Guanaco**	**2.29**	**154**	⇑*iP*		**Pb**	**17 08 05.4**	**-0.8**
GO02				*iS*		**Sb**	**17 08 35.0**	**0.0**
GO02				IAML			17 08 41.9	
	comp=E,7μm,0.6s							
GO02	**Mina Guanaco**	**2.29**	**154**	*eP*		**Pb**	**17 08 05.4**	**-0.8**
GO02				*eS*		**Sg**	**17 08 38.6**	**+0.7**
PATCX	**Punta Patache**	**2.32**	**13**			**Pn**	**17 08 03.2**	**+0.3**
PATCX	**Punta Patache**	**2.32**	**13**	⇑*iP*		**Pn**	**17 08 03.3**	**+0.3**
PATCX				*iS*		**Sb**	**17 08 34.7**	**-0.6**
PATCX				IAML			17 08 45.9	
	comp=E,4μm,0.2s							
PATCX	**Punta Patache**	**2.32**	**13**	*eP*		**Pn**	**17 08 03.4**	**+0.5**
PATCX				*eS*		**Sn**	**17 08 28.7**	**-3.1**
PATCX				IAML			17 08 48.3	
	comp=Z,2μm,0.5s							
AF01	**San Pedro de A**	**2.32**	**87**	Pn		**Pb**	**17 08 06.9**	**+0.3**
AF01	**San Pedro de A**	**2.32**	**87**	⇑*iP*		**Pb**	**17 08 07.6**	**+1.0**
AF01				*iS*		**Sb**	**17 08 34.1**	**-1.5**
PB01	**IPOC Station P**	**2.33**	**29**			**Pn**	**17 08 04.2**	**+1.1**
PB01	**IPOC Station P**	**2.33**	**29**	*eP*		**Pn**	**17 08 04.6**	**+1.5**
PB01				*eS*		**Sb**	**17 08 34.1**	**-1.5**
PB01				IAML			17 08 41.3	
	comp=E,5μm,0.2s							
PB01	**IPOC Station P**	**2.33**	**29**	*eP*		**Pn**	**17 08 04.6**	**+1.5**
PB01				*eS*		**Sn**	**17 08 32.2**	**+0.1**
PB01				IAML			17 08 39.6	
	comp=Z,3μm,0.2s							
TA01	**Diego Aracena**	**2.56**	**11**	Pn		**Pn**	**17 08 06.3**	**+0.1**
TA01	**Diego Aracena**	**2.56**	**11**	*eP*		**Pn**	**17 08 06.4**	**+0.3**
TA01				*iS*		**Sb**	**17 08 40.8**	**-1.5**
TA01				IAML			17 08 49.8	
	comp=N,3μm,0.2s							
TA01	**Diego Aracena**	**2.56**	**11**	*eP*		**Pn**	**17 08 06.5**	**+0.3**
TA02	**Huaiquique**	**2.86**	**11**			**Pn**	**17 08 11.6**	**+1.3**
TA02	**Huaiquique**	**2.86**	**11**	IAML			17 09 07.3	
	comp=N,2μm,0.4s							
AC01	**Pan de Azucar**	**3.04**	**178**	Pn		**Pn**	**17 08 13.8**	**+0.9**
AC01	**Pan de Azucar**	**3.04**	**178**	*eP*		**Pn**	**17 08 13.4**	**+0.5**
AC01				*iS*		**Sb**	**17 08 53.1**	**-3.1**
AC01				IAML			17 09 09.0	
	comp=N,893nm,0.5s							
AC01	**Pan de Azucar**	**3.04**	**178**	*eP*		**Pn**	**17 08 13.2**	**+0.3**
AC01				*eP*		Pb	17 08 13.5	-5.3
AC01				*eS*		**Sb**	**17 08 55.2**	**-1.0**
PB08	**IPOC Station P**	**3.27**	**26**			**Pn**	**17 08 18.1**	**+1.7**
PB08	**IPOC Station P**	**3.27**	**26**	*eP*		**Pb**	**17 08 20.0**	**-2.8**
PB08				*iS*		**Sb**	**17 08 59.5**	**-3.5**
PB08				IAML			17 09 15.3	
	comp=N,2μm,0.3s							
PB08	**IPOC Station P**	**3.27**	**26**	*eP*		**Pn**	**17 08 18.0**	**+1.7**
PB08				*eS*		**Sb**	**17 09 01.7**	**-1.3**
PB08				IAML			17 09 12.2	
	comp=Z,4μm,1.0s							
GO01	**Chusmiza**	**3.68**	**23**			**Pn**	**17 08 23.4**	**+1.3**
GO01	**Chusmiza**	**3.68**	**23**	⇑*iP*		**Pn**	**17 08 26.0**	**+3.9**
GO01	**Chusmiza**	**3.68**	**23**	*eP*		Pn	17 08 13.2	-8.9
GO01				*eS*		**Sb**	**17 09 13.7**	**-1.4**
AC02	**Maricunga**	**3.99**	**159**	Pn		**Pn**	**17 08 29.2**	**+2.9**
AC02	**Maricunga**	**3.99**	**159**	⇑*iP*		**Pn**	**17 08 29.1**	**+2.8**
AC02				*iS*		**Sb**	**17 09 23.1**	**-0.7**
AC02	**Maricunga**	**3.99**	**159**	*eP*		**Pn**	**17 08 29.2**	**+2.9**
AC06	**Mina Casimiro**	**4.26**	**176**			**Pn**	**17 08 30.1**	**+0.5**
PB12	**IPOC Station P**	**4.47**	**4**	Pn		**Pn**	**17 08 33.1**	**+0.5**
PB12	**IPOC Station P**	**4.47**	**4**	*eP*		**Pn**	**17 08 33.6**	**+1.0**
PB12				*eS*		**Sb**	**17 09 41.2**	**+3.8**
AP01	**Chacalluta**	**4.71**	**4**	Pn		**Pn**	**17 08 37.6**	**+1.8**
PB16	**IPOC Station P**	**4.86**	**13**	Pn		**Pn**	**17 08 40.0**	**+1.6**
PB16	**IPOC Station P**	**4.86**	**13**	*eP*		**Pn**	**17 08 40.0**	**+1.6**
PB16				*eS*		**Sb**	**17 09 52.7**	**+3.6**
PB16				IAML			17 10 04.3	
	comp=Z,539nm,0.5s							
AC04	**Llanos de Chal**	**5.10**	**184**	Pn		**Pn**	**17 08 40.5**	**-0.7**
AC05	**El Transito**	**5.73**	**176**			**Pn**	**17 08 50.1**	**+0.2**
LCO	**Las Campanas**	**5.89**	**180**	Pn		**Pn**	**17 08 51.9**	**-0.4**
LCO						**Pn**	**17 08 54.5**	**+2.2**
CO01	**Juntas del Tor**	**6.88**	**176**			**Pn**	**17 09 06.4**	**+0.5**
LPAZ	**La Paz**	**7.19**	**20**	Pn		**Pn**	**17 09 14.1**	**+3.7**
	comp=Z,1.1nm,0.3s,baz=191,slow=9.1,SNR=16							
LPAZ				LR		LR	17 12 13.7	
	comp=Z,588nm,20.5s,baz=210,slow=39							
	comp=Z,6.7nm,0.6s							
LPAZ	**La Paz**	**7.19**	**20**	Pn		**Pn**	**17 09 13.4**	**+3.0**
CO06	**Fray Jorge**	**7.60**	**186**	Pn		**Pn**	**17 09 11.7**	**-3.8**
CO02	**Combarbal**	**8.08**	**182**	Pn		**Pn**	**17 09 19.3**	**-3.0**
ZON	**Zonda**	**8.61**	**168**	Pn		**Pn**	**17 09 29.2**	**-0.2**
VA06	**Catapilco**	**9.45**	**183**	Pn		**Pn**	**17 09 39.9**	**-0.9**
VA03	**San Esteban**	**9.64**	**179**			**Pn**	**17 09 39.0**	**-4.5**
ROC1	**El Roble**	**9.85**	**182**			**Pn**	**17 09 42.8**	**-3.8**
PEL	**Peldehue**	**10.01**	**180**			Pn	17 09 41.9	-6.7
MT02	**Curacav**	**10.14**	**182**			Pn	17 09 45.6	-4.6
MT09	**Talagante**	**10.65**	**181**			Pn	17 09 51.5	-6.0
LMEL	**Las Melosas**	**10.72**	**178**			Pn	17 09 51.5	-7.0
MT01	**Popeta**	**10.74**	**182**			Pn	17 09 52.8	-5.8
BO04	**La Punta**	**10.86**	**180**	Pn		Pn	17 09 53.7	-6.5
SIV	**San Ignacio**	**11.49**	**54**	Pn		**Pn**	**17 10 09.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=238,slow=9.4,SNR=30							
SIV				LR		LR	17 15 21.9	
	comp=Z,697nm,18.1s,baz=256,slow=41							
	comp=Z,19nm,0.6s							
BO02	**Sierra Bellavi**	**11.66**	**180**	Pn		Pn	17 10 03.5	-7.7
NNA	**Nana**	**12.50**	**331**	LR		LR	17 14 50.2	
	comp=Z,139nm,20.6s,baz=182,slow=35							
CPUP	**Villa Florida**	**12.57**	**108**	Pn		**Pn**	**17 10 22.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=287,slow=13,SNR=7.4							
CPUP				LR		LR	17 16 05.3	
	comp=Z,387nm,20.3s,baz=288,slow=42							
	comp=Z,2.9nm,0.8s							
CPUP	**Villa Florida**	**12.57**	**108**			Pn	17 10 13.7	-10
CPUP	**Villa Florida**	**12.57**	**108**	*eP*		**Pn**	**17 10 24.5**	**+0.9**
H03N1	**Juan Fernandez**	**12.59**	**213**	T		T	17 23 24.1	
	baz=39,slow=72,SNR=501							
H03N2	**Juan Fernandez**	**12.60**	**213**	T		T	17 23 24.1	
	baz=39,slow=72,SNR=509							
H03N3	**Juan Fernandez**	**12.61**	**213**	T		T	17 23 24.3	
	baz=39,slow=72,SNR=684							
H03S3	**Juan Fernandez**	**12.90**	**212**	T		T	17 23 40.2	
	baz=28							
H03S1	**Juan Fernandez**	**12.91**	**212**	T		T	17 23 41.2	
	baz=28,SNR=10							
H03S2	**Juan Fernandez**	**12.92**	**212**	T		T	17 23 42.8	
	baz=28,SNR=4.3							
PTLB	**Pontes e Lacer**	**13.29**	**57**	Pn		Pn	17 10 26.8	-6.7
PTLB	**Pontes e Lacer**	**13.29**	**57**	*eP*		**Pn**	**17 10 33.9**	**+0.4**
ANTJ	**Antonio Joao (**	**13.62**	**88**	*eP*		**Pn**	**17 10 38.3**	**+0.3**
ETMB	**Extrema**	**13.88**	**19**	Pn		Pn	17 10 31.8	-10
ETMB	**Extrema**	**13.88**	**19**	*eP*		**Pn**	**17 10 43.0**	**+1.4**
AQDB	**Aquidauana**	**14.17**	**82**	Pn		Pn	17 10 39.0	-6.5
AQDB	**Aquidauana**	**14.17**	**82**	*eP*		**Pn**	**17 10 46.9**	**+1.4**
VILB	**Vilhena**	**14.18**	**46**	Pn		Pn	17 10 40.8	-4.9
VILB	**Vilhena**	**14.18**	**46**	*eP*		**Pn**	**17 10 46.9**	**+1.2**
ITQB	**Itaqui**	**14.20**	**120**	*eP*		**Pn**	**17 10 46.0**	**+0.1**
UNIS	**Unistalda (Bra**	**15.24**	**116**	*eP*		**Pn**	**17 10 59.3**	**-0.7**
CZSB	**Cruzeiro do Su**	**15.40**	**352**	P		**Pn**	**17 11 02.7**	**+0.6**
CZSB				IAmb		IAmb	17 11 12.3	
	comp=Z,46nm,0.7s							
CZSB	**Cruzeiro do Su**	**15.40**	**352**	*eP*		**Pn**	**17 11 04.3**	**+2.1**
RODS	**Rosario do Sul**	**15.61**	**121**	*eP*		**Pn**	**17 11 04.1**	**-0.7**
SAML	**Samuel**	**15.80**	**28**	Pn		**Pn**	**17 11 05.8**	**-1.6**
SALV	**Santo Antonio**	**15.84**	**66**	*eP*		**Pn**	**17 11 07.1**	**-0.8**
GO06	**Curarrehue**	**16.45**	**182**	Pn		**Pn**	**17 11 13.3**	**-2.5**
TRCB	**Terra Rica**	**16.64**	**93**	P		**Pn**	**17 11 15.6**	**-2.6**
TRCB				IAmb		IAmb	17 11 34.8	
	comp=Z,39nm,0.5s							
TRCB	**Terra Rica**	**16.64**	**93**	*eP*		**Pn**	**17 11 17.3**	**-0.9**
ALGR	**Alto Alegre (B**	**16.87**	**113**	*eP*		**Pn**	**17 11 21.0**	**-0.1**
CPSB	**Cacapava Do Su**	**17.03**	**119**	*eP*		**Pn**	**17 11 23.0**	**0.0**
PTGB	**Pitanga**	**17.11**	**99**	*eP*		**P**	**17 11 25.3**	**-0.6**
PLTB	**Pedras Altas**	**17.44**	**123**	Pn		**Pn**	**17 11 24.7**	**-3.5**
PDRB	**Porto dos Gac**	**17.53**	**52**	*eP*		**P**	**17 11 30.5**	**-0.1**
PLCA	**Paso Flores**	**17.59**	**180**	P		**Pn**	**17 11 28.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=322,slow=8.0,SNR=4.6							
PLCA				LR		LR	17 18 16.5	
	comp=Z,242nm,19.2s,baz=359,slow=38							
	comp=Z,7.7nm,1.1s							
PLCA	**Paso Flores**	**17.59**	**180**			**Pn**	**17 11 26.6**	**-3.4**
PLCA	**Paso Flores**	**17.59**	**180**	*eP*		**Pn**	**17 11 30.6**	**+0.5**
PCMB	**Pacaembu**	**18.04**	**89**	*eP*		**Pn**	**17 11 34.4**	**-1.2**
CLDB	**Colider**	**18.70**	**52**	*eP*		**P**	**17 11 42.6**	**-0.9**
CNLB	**Canela**	**18.84**	**113**	*eP*		**Pn**	**17 11 45.5**	**+0.1**
TER01	**Tubaro-SC**	**20.14**	**110**	*eP*		**P**	**17 11 59.3**	**+0.1**
BB19B	**Bebedouro**	**20.64**	**89**	*eP*		**P**	**17 12 03.4**	**-1.2**
BOSC	**San Juan Bosco**	**21.22**	**338**	P		**P**	**17 12 09.2**	**-1.8**
PET01	**Itanhaem-SP**	**21.47**	**98**	*eP*		**P**	**17 12 15.1**	**+1.5**
SNDB	**Serra Nova Dou**	**21.52**	**62**	*eP*		**P**	**17 12 13.8**	**-0.4**
IPMB	**Ipameri, GO**	**21.65**	**81**	*eP*		**P**	**17 12 15.3**	**-0.2**
NPGB	**Novo Progresso**	**21.73**	**45**	*eP*		**P**	**17 12 15.8**	**-0.6**
VAO	**Valinhos**	**21.83**	**94**	*eP*		**P**	**17 12 17.0**	**-0.5**
MACA	**Manacapuru-AM**	**22.06**	**28**	P		**P**	**17 12 18.8**	**-1.1**
MACA				IAmb		IAmb	17 12 34.2	
	comp=Z,27nm,0.8s							
COYC	**Coyhaique**	**22.45**	**183**	P		**P**	**17 12 23.9**	**0.0**
COYC				IAmb		IAmb	17 12 44.6	
	comp=Z,28nm,1.1s							
BDFB	**Brasilia**	**22.62**	**75**	P		**P**	**17 12 24.6**	**-1.4**
	comp=Z,6.4nm,0.7s,baz=236,slow=15,SNR=7.4							
BDFB				LR		LR	17 22 28.0	
	comp=Z,293nm,18.1s,baz=311,slow=40							
	comp=Z,6.4nm,0.7s							
BDFB	**Brasilia**	**22.62**	**75**	P		**P**	**17 12 23.6**	**-2.5**
BDFB	**Brasilia**	**22.62**	**75**	*eP*		**P**	**17 12 25.0**	**-1.1**
PARB	**Paraibuna**	**23.04**	**96**	*eP*		**P**	**17 12 29.3**	**-1.1**
PMNB	**Patos De Minas**	**23.11**	**83**	*eP*		**P**	**17 12 31.3**	**+0.2**
ITTB	**Itaituba**	**23.57**	**40**	*eP*		**P**	**17 12 34.7**	**-1.0**
VAS01	**Vassouras-RJ**	**25.14**	**94**	*eP*		**P**	**17 12 50.1**	**-0.2**
DIAM	**Diamantina, MG**	**25.70**	**84**	*eP*		**P**	**17 12 54.9**	**-0.7**
DUB01	**Friburgo-RJ**	**26.15**	**93**	*eP*		**P**	**17 12 58.8**	**-0.7**
JANB	**Januaria**	**26.15**	**77**	*eP*		**P**	**17 12 58.5**	**-1.0**
SMTB	**Santa Maria do**	**26.27**	**61**	*eP*		**P**	**17 13 00.5**	**-0.1**
MALB	**Monte Alegre**	**26.45**	**39**	*eP*		**P**	**17 13 02.2**	**+0.1**
SDBA	**SAO DESIDERIO**	**26.71**	**71**	*eP*		**P**	**17 13 04.1**	**-0.5**
CAM01	**Campos-RJ**	**26.84**	**93**	*eP*		**P**	**17 13 05.6**	**0.0**
BOAV	**Boa Vista**	**27.20**	**23**	P		**P**	**17 13 08.8**	**-0.1**
BOAV				IAmb		IAmb	17 13 44.3	
	comp=Z,6.1nm,0.9s							
BOAV	**Boa Vista**	**27.20**	**23**	*eP*		**P**	**17 13 09.7**	**+0.8**
SJMB	**Sao Joao De Ma**	**27.88**	**87**	*eP*		**P**	**17 13 15.3**	**+0.3**
ROSC	**El Rosal**	**27.99**	**352**	LR		LR	17 25 01.5	
	comp=Z,144nm,19.2s,baz=222,slow=38							
RIB01	**Linhares ES**	**28.47**	**88**	*eP*		**P**	**17 13 19.2**	**-1.0**
NAN01	**Guarapari, ES**	**29.08**	**85**	*eP*		**P**	**17 13 24.8**	**-0.9**
GUA01	**Guaratinga, BA**	**29.73**	**83**	*eP*		**P**	**17 13 31.0**	**-0.5**
CMC01	**Camacan, BA**	**30.38**	**81**	*eP*		**P**	**17 13 35.9**	**-1.2**
GDU01	**Guandu, BA**	**30.90**	**78**	*eP*		**P**	**17 13 41.0**	**-0.8**
BAUV	**El Baul**	**31.94**	**5**			**P**	**17 13 50.8**	**-0.1**
MDP	**Montagnes des**	**33.11**	**34**	LR		LR	17 28 31.3	
	comp=Z,261nm,18.8s,baz=274,slow=38							
BIRV	**Birongo**	**33.64**	**8**	P		**P**	**17 14 05.9**	**+0.1**
RPN	**Rapa Nui**	**35.13**	**255**	LR		LR	17 24 58.0	
	comp=Z,94nm,18.2s,baz=111,slow=30							
RCBR	**Riachuelo**	**37.66**	**68**	LR		LR	17 31 44.3	
	comp=Z,185nm,19.7s,baz=350,slow=39							
RCBR	**Riachuelo**	**37.66**	**68**	P		**P**	**17 14 39.3**	**-1.2**
RCBR	**Riachuelo**	**37.66**	**68**	*eP*		**P**	**17 14 41.0**	**+0.6**
CRPR	**Cabo Rojo, PR**	**41.00**	**5**	P		**P**	**17 15 06.9**	**-1.2**
OBIP	**Obispado Ponce**	**41.08**	**6**	P		**P**	**17 15 06.5**	**-2.3**
OBIP				IAmb		IAmb	17 15 09.5	
	comp=Z,26nm,1.0s							
SJG	**San Juan**

PB06 *e*S **Sn** **17 16 00.7 -0.1**
PB06 IAML 17 16 02.5
comp=E,309nm,0.3s
HMBC Humberstone 1.70 309 ⇑ *i* P **Pn** **17 15 37.7 -0.1**
HMBC *e*S **Sn** **17 16 00.3 -0.6**
HMBC IAML 17 16 03.3
comp=N,596nm,0.4s
TA01 Diego Aracena 1.78 296 *i* P **Pn** **17 15 38.5 0.0**
TA01 *e*S **Sn** **17 16 02.1 -0.2**
GO01 Chusmiza 1.81 338 *i* P **Pn** **17 15 40.0 +0.6**
GO01 *e*S **Sn** **17 16 05.0 +1.3**
GO01 IAML 17 16 09.2
comp=E,390nm,0.1s
PB04 IPOC Station P 1.84 238 *e*P **Pn** **17 15 39.4 -0.1**
PB04 IAML 17 16 07.1
comp=N,260nm,0.2s
TA02 Huaiquique 1.89 304 *i* P **Pn** **17 15 39.9 0.0**
PB15 IPOC Station P 2.07 206 ⇑ *i* P **Pn** **17 15 42.5 +0.2**
PB15 *e*S **Sn** **17 16 09.7 +0.7**
PB10 IPOC Station P 2.89 221 *e*P **Pn** **17 15 52.7 +0.2**
PB12 IPOC Station P 3.23 327 *e*P **Pn** **17 15 56.6 -0.5**
PB12 IAML 17 16 46.5
comp=N,91nm,0.3s
LPAZ La Paz 5.05 4 P **Pn** **17 16 24.6 +3.0**
comp=N,0.6nm,0.3s,baz=188,slow=8.2,SNR=8.3
comp=N,2.3nm,0.4s
SIV San Ignacio 8.81 54 P **Pn** **17 17 08.4 -3.3**
comp=N,0.2nm,0.3s,baz=239,slow=11,SNR=22
comp=N,15nm,0.8s
TORD Torodi Ar. Bea 76.92 70 P **P** **17 26 46.0 -0.1**
comp=N,15nm,0.6s,baz=251,slow=5.4,SNR=5.1
comp=N,15nm,0.6s
ASAR Alice Springs 130.23 207 PKP **PKiKP** **17 34 04.9 +0.8**
comp=N,0.3nm,0.8s,baz=125,slow=1.5,SNR=7.5
WRA Warramunga Arr 133.29 210 PKP **PKPdf** **17 34 09.9 +0.8**
comp=N,0.2nm,0.7s,baz=156,slow=1.8,SNR=4.5
MKAR Makanchi Array 145.27 36 PKPbc **PKiKP** **17 34 32.0 -1.9**
comp=N,0.7nm,0.7s,baz=322,slow=3.3,SNR=6.3

*IDC **27** 17:28:02.0±0.8, 9°.78N×126°.35E, h0km, mb3.8/12, mbtmp3.9/12, MS3.3/7, Error ellipse: s-maj=40.7km s-min=14.3km az=76.0*
*MAN **27** 17:28:06.8, 9°.73N×126°.29E, h8km, mb4.7, ML3.6, MS3.5*
*NEIC **27** 17:28:13.2±2.2, 9°.6N±0°.1×126°.4E±0°.1, h76km±8km, mb4.4/43, Error ellipse: s-maj=19.1km s-min=15.0km az=79.0*
ISC 27 17:28:04.0±1.8, **9°.67N**±0°.03×**126°.39E**±0°.05, **h8**km±11km, **n104**, σ1s**84**/113, **mb4.4**/33, **MS3.4**/6, **12C-11D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.28**	**293**	⇑ *e*P		**Pb**		**17 28 12.1**	**+0.8**
GLSP				*e*S		**Sb**		**17 28 16.0**	**-0.2**
SCPH	**Surigao**	**0.90**	**277**	⇓ *i*P		**Pb**		**17 28 21.4**	**-0.3**
SCPH				*i* S		**Sg**		**17 28 32.3**	**-0.6**
BUTP	**Butuan**	**1.03**	**227**	⇓ *e*P		**Pb**		**17 28 24.4**	**+0.3**
BUTP				*e*S		**Sn**		**17 28 40.0**	**+0.7**
BIPH	**Bislig**	**1.48**	**181**	⇓ *i*P		**Pb**		**17 28 31.7**	**0.0**
BIPH				*i* S		**Sn**		**17 28 49.3**	**-1.1**
MSLP	**Maasin**	**1.58**	**287**	⇓ *e*P		**Pn**		**17 28 32.3**	**+0.1**
MSLP				*e*S		**Sg**		**17 28 54.0**	**-0.7**
CGP	**Cagayan de Oro**	**2.06**	**234**	⇑ *i*P		**Pn**		**17 28 39.9**	**+0.9**
CGP				*i* S		**Sn**		**17 29 05.0**	**+0.2**
BUKP	**Musuan**	**2.21**	**216**	⇑ *e*P		**Pb**		**17 28 44.1**	**-0.2**
BUKP				*e*S		**Sg**		**17 29 13.7**	**-1.4**
LLP	**Lapu-Lapu**	**2.47**	**285**	⇑ *i*P		**Pn**		**17 28 46.4**	**+1.8**
LLP				*i* S		**Sn**		**17 29 16.4**	**+1.5**
TBP	**Tagbilaran**	**2.49**	**271**	⇑ *e*P		**Pn**		**17 28 46.0**	**+1.1**
TBP				*i* S		**Sn**		**17 29 14.8**	**-0.7**
DAV	**Davao City (W)**	**2.71**	**197**	Pn		**Pb**		**17 28 51.6**	**-1.1**
	71nm,0.3s,baz=81,slow=19,SNR=2.5								
DAV					Sn	**Sb**		**17 29 25.8**	**-0.2**
	41nm,0.3s,baz=52,slow=21,SNR=5.8								
MATI	**Mati**	**2.71**	**183**	⇑ *e*P		**Pb**		**17 28 51.3**	**-1.5**
MATI				*e*S		**Sb**		**17 29 25.8**	**-0.3**
KCP	**Kidapawan**	**2.94**	**206**	⇑ *e*P		**Pb**		**17 28 54.9**	**-1.8**
KCP				*i* S		**Sb**		**17 29 30.2**	**-2.7**
SNPH	**Sibulan**	**3.13**	**264**	⇑ *e*P		**Pn**		**17 28 55.7**	**+2.1**
SNPH				*e*S		**Sn**		**17 29 32.9**	**+1.7**
DCPH	**Dipolog City**	**3.19**	**250**	⇓ *i*P		**Pb**		**17 28 57.7**	**-3.2**
DCPH				*i* S		**Sn**		**17 29 34.8**	**+2.1**
CTBH	**Cotabato--PC H**	**3.23**	**221**	⇑ *i*P		**Pn**		**17 28 57.7**	**+2.7**
CTBH				*i* S		**Sb**		**17 29 40.6**	**-0.5**
CNP	**Catarman**	**3.29**	**329**	⇓ *e*P		**Pn**		**17 28 57.8**	**+1.9**
CNP				*e*S		**Sn**		**17 29 37.4**	**+2.2**
PAGZ	**Pagadian**	**3.48**	**239**	⇓ *e*P		**Pn**		**17 29 01.5**	**+3.1**
PAGZ				*e*S		**Sn**		**17 29 38.9**	**-0.9**
DDMP	**Don Marcelino,**	**3.61**	**191**	⇓ *e*P		**Pb**		**17 29 04.7**	**-3.3**
DDMP				*e*S		**Sb**		**17 29 51.0**	**-1.0**
SKMP	**Bagumbayan, Su**	**3.63**	**210**	⇑ *e*P		**Pb**		**17 29 04.6**	**-3.7**
SKMP				*e*S		**Sn**		**17 29 44.5**	**+1.0**
CNOP	**Candoni, Negro**	**3.70**	**273**	⇑ *e*P		**Pn**		**17 29 03.4**	**+2.0**
CNOP				*e*S		**Sn**		**17 29 47.3**	**+2.0**
GSPH	**General Santos**	**3.84**	**202**	*e*P		**Pb**		**17 29 09.0**	**-3.0**
GUIM	**Jordan**	**3.86**	**285**	⇓ *e*P		**Pn**		**17 29 06.4**	**+2.7**
GUIM				*e*S		**Sn**		**17 29 52.4**	**+3.2**
RCP	**Roxas**	**4.04**	**298**	⇑ *e*P		**Pn**		**17 29 08.4**	**+2.2**
PVCP	**Virac**	**4.47**	**331**	⇓ *e*P		**Pn**		**17 29 15.6**	**+3.5**
PVCP				*e*S		**Sg**		**17 30 24.6**	**-3.2**
LQP	**Lukban**	**6.48**	**313**	*e*P		**Pn**		**17 29 42.8**	**+2.9**
BALP	**Baler**	**7.64**	**323**	⇓ *e*P		**Pn**		**17 29 59.4**	**+3.7**
BALP				*e*S		**Sn**		**17 31 18.2**	**-4.3**
TNTI	**Ternate**	**8.89**	**174**			Pn		17 30 18.0	+5.1
MYLDM	**Lahad Datu**	**9.01**	**241**	Pn		Pn		17 30 20.9	+6.5
LUWI	**Luwuk**	**11.24**	**199**	Pn		**Pn**		**17 30 49.2**	**+4.3**
SIJI	**Sorong**	**11.54**	**155**	Pn		**Pn**		**17 30 52.9**	**+3.7**
	0.8nm,0.3s,baz=285,slow=20,SNR=2.1								
FAKI	**Fak Fak**	**13.80**	**155**	Pn		**Pn**		**17 31 24.4**	**+4.3**
SBUM	**Sibu**	**15.80**	**244**	P		**P**		**17 31 54.4**	**+3.5**
KAPI	**Kappang**	**16.02**	**205**	LR		LR		17 39 28.6	
	comp=Z,66nm,18.1s,baz=351,slow=43								
SOEI	**Soe**	**19.41**	**186**	P		**Pn**		**17 32 34.5**	**+2.5**
SOEI				IAmb		IAmb		17 32 57.4	
	comp=Z,24nm,1.2s								
BATI	**Baumata**	**19.93**	**188**	P		**Pn**		**17 32 38.3**	**+0.2**
	comp=Z,8.4nm,0.4s,baz=291,slow=16,SNR=4.0								
BATI				LR		LR		17 41 26.1	
	comp=Z,57nm,18.7s,baz=271,slow=40								
	comp=Z,8.4nm,0.4s								
MTN	**Manton Dam**	**22.86**	**168**	P		**P**		**17 33 08.1**	**+0.2**
MTN				IAmb		IAmb		17 33 11.3	
	comp=Z,25nm,1.5s								
UGM	**Wanagama**	**23.55**	**223**	P		**P**		**17 33 18.8**	**+3.7**
KNRA	**Kununurra**	**25.29**	**175**	P		**P**		**17 33 31.3**	**+0.2**
KNRA				IAmb		IAmb		17 33 40.5	
	comp=Z,13nm,0.6s								
FITZ	**Fitzroy Crossi**	**27.60**	**182**	P		**P**		**17 33 52.5**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=358,slow=8.6,SNR=23								
FITZ				LR		LR		17 45 58.2	
	comp=Z,48nm,19.1s,baz=278,slow=39								
	comp=Z,1.3nm,0.3s								
FITZ	**Fitzroy Crossi**	**27.60**	**182**	P		**P**		**17 33 52.6**	**+0.6**
KSRS	**Korea Array**	**27.70**	**3**	P		**P**		**17 33 51.1**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=192,slow=9.5,SNR=1.9								
	comp=Z,0.4nm,0.5s								
CMAR	**Chiang Mai Arr**	**27.99**	**291**	P		**P**		**17 33 53.9**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=104,slow=5.7,SNR=1.4								
	comp=Z,0.2nm,0.6s								
MJAR	**Matsushiro Arr**	**28.82**	**20**	LR		LR		17 45 08.4	
	comp=Z,50nm,19.7s,baz=174,slow=36								
WB0	**Warramunga Arr**	**30.30**	**165**	P		**P**		**17 34 16.1**	**+0.2**
WB0				IAmb		IAmb		17 34 56.1	
	comp=Z,9.5nm,1.4s								
WRA	**Warramunga Arr**	**30.45**	**165**	P		**P**		**17 34 16.6**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=344,slow=8.4,SNR=18								
	comp=Z,0.4nm,0.4s								
WRA	**Warramunga Arr**	**30.45**	**165**	P		**P**		**17 34 16.4**	**-0.9**
WB2	**Warramunga Arr**	**30.45**	**165**	P		**P**		**17 34 17.7**	**+0.4**
WB2				IAmb		IAmb		17 34 39.5	
	comp=Z,13nm,1.5s								
WR0	**Warramunga Arr**	**30.52**	**165**	P		**P**		**17 34 17.5**	**-0.4**
WR0				IAmb		IAmb		17 34 43.0	
	comp=Z,6.6nm,1.3s								
PSA00	**Pilbara Seismi**	**31.71**	**192**	P		**P**		**17 34 27.6**	**-0.8**
PSA00				IAmb		IAmb		17 34 31.2	
	comp=Z,12nm,1.2s								
AS31	**Alice Springs**	**33.94**	**168**	P		**P**		**17 34 47.8**	**-0.1**
ASAR	**Alice Springs**	**33.94**	**168**	P		**P**		**17 34 48.0**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=348,slow=7.4,SNR=50								
	comp=Z,0.5nm,0.3s								
ASAR	**Alice Springs**	**33.94**	**168**	P		**P**		**17 34 47.0**	**-0.9**
USRK	**Ussuriysk Ar.**	**34.74**	**7**	LR		LR		17 48 43.9	
	comp=Z,36nm,19.1s,baz=150,slow=36								
HNR	**Honiara**	**38.42**	**119**	LR		LR		17 49 55.1	
	comp=Z,763nm,20.8s,baz=184,slow=34								
MORW	**Morawa**	**39.79**	**194**	P		**P**		**17 35 36.8**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**39.98**	**73**	T		T		18 18 26.2	
	baz=262,slow=75,SNR=127								
H11S1	**WAKE ISLAND Hy**	**39.99**	**73**	T		T		18 18 31.1	
	baz=262,slow=75,SNR=88								
H11S2	**WAKE ISLAND Hy**	**40.00**	**73**	T		T		18 18 27.3	
	baz=262,slow=75,SNR=103								
FORT	**Forrest**	**40.25**	**178**	P		**P**		**17 35 42.5**	**+1.0**
H11N1	**WAKE ISLAND Hy**	**40.33**	**71**	T		T		18 18 55.8	
	baz=263,slow=74,SNR=192								
H11N2	**WAKE ISLAND Hy**	**40.34**	**71**	T		T		18 18 55.3	
	baz=263,slow=74,SNR=140								
H11N3	**WAKE ISLAND Hy**	**40.35**	**71**	T		T		18 18 57.5	
	baz=263,slow=74,SNR=148								
BBOO	**Buckleboo**	**43.24**	**168**	P		**P**		**17 36 06.3**	**+0.4**
BBOO				IAmb		IAmb		17 36 20.5	
	comp=Z,21nm,1.2s								
NWAO	**Narrogin (SRO)**	**43.25**	**191**	P		**P**		**17 36 05.7**	**-0.3**
STKA	**Stephens Creek**	**43.80**	**161**	P		**P**		**17 36 10.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=6.6,slow=12,SNR=5.8								
	comp=Z,0.9nm,0.3s								
STKA	**Stephens Creek**	**43.80**	**161**	P		**P**		**17 36 10.8**	**+0.4**
TOO	**Toolangi**	**50.29**	**160**	P		**P**		**17 37 03.2**	**+2.1**
MKAR	**Makanchi Array**	**52.57**	**323**	P		**P**		**17 37 16.8**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=111,slow=8.5,SNR=6.7								
	comp=Z,0.6nm,0.6s								
ZALV	**Zalesovo Beam**	**55.20**	**331**	P		**P**		**17 37 34.2**	**-3.0**
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=1.7								
	comp=Z,0.3nm,0.4s								
AAK	**Ala-Archa**	**55.83**	**315**	LR		LR		18 02 31.1	
	comp=Z,61nm,18.8s,baz=62,slow=37								
KKAR	**Karatay Array**	**58.75**	**315**	P		**P**		**17 37 59.8**	**-2.8**
BVAR	**Borovoye Array**	**62.22**	**326**	LR		LR		18 07 08.5	
	comp=Z,75nm,20.3s,baz=303,slow=38								
ABKAR	**Akbulak array**	**67.40**	**319**	P		**P**		**17 38 57.5**	**-2.5**
MSEY	**Mahe Island**	**72.07**	**262**	P		**P**		**17 39 27.8**	**-1.7**
CNBA	**Chernabura Isl**	**72.95**	**36**	P		**P**		**17 39 31.3**	**-2.6**
N18K	**Kilae Creek**	**75.61**	**30**	P		**P**		**17 39 48.8**	**-0.5**
N18K				IAmb		IAmb		17 39 50.2	
	comp=Z,4.6nm,1.1s								
Q19K	**Cape Douglas,**	**76.60**	**32**	P		**P**		**17 39 52.2**	**-2.8**
IMAR	**Indian Mountai**	**77.10**	**24**	P		**P**		**17 39 57.5**	**-0.1**
KDAK	**Kodiak Island**	**77.10**	**33**	P		**P**		**17 39 58.2**	**+0.5**
H21K	**Melozitna Rive**	**77.46**	**25**	P		**P**		**17 40 00.8**	**+1.1**
H21K				IAmb		IAmb		17 40 43.7	
	comp=Z,4.9nm,1.5s								
CAST	**Castle Rocks**	**77.62**	**27**	P		**P**		**17 40 02.5**	**+1.8**
BPAW	**Bear Paw Mtn.**	**78.14**	**26**	P		**P**		**17 40 03.7**	**+0.2**
BPAW				IAmb		IAmb		17 40 06.1	
	comp=Z,6.8nm,1.4s								
SUA	**Susitna One**	**78.16**	**29**	P		**P**		**17 40 03.8**	**0.0**
SUA				IAmb		IAmb		17 40 09.0	
	comp=Z,13nm,1.4s								
MLY	**Manley**	**78.28**	**25**	P		**P**		**17 40 04.7**	**+0.3**
SML	**Sawmill**	**79.31**	**29**	P		**P**		**17 40 10.5**	**+0.4**
SML				IAmb		IAmb		17 40 49.3	
	comp=Z,4.9nm,1.0s								
PWL	**Port Wells**	**79.32**	**30**	P		**P**		**17 40 10.5**	**+0.4**
PWL				IAmb		IAmb		17 40 11.5	
	comp=Z,8.9nm,1.3s								
MDM	**Murphy Dome**	**79.35**	**26**	P		**P**		**17 40 11.5**	**+1.3**
MDM				IAmb		IAmb		17 40 24.3	
	comp=Z,5.8nm,1.4s								
CCB	**Clear Creek Bu**	**79.53**	**26**	P		**P**		**17 40 11.3**	**+0.2**
CCB				IAmb		IAmb		17 40 13.3	
	comp=Z,4.8nm,1.5s								
SCM	**Sheep Creek Mo**	**79.79**	**29**	P		**P**		**17 40 13.1**	**+0.4**
SCM				IAmb		IAmb		17 40 41.4	
	comp=Z,7.8nm,1.4s								
ILAR	**Eielson Array**	**79.92**	**26**	P		**P**		**17 40 12.6**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=229,slow=4.6,SNR=4.5								
	comp=Z,0.4nm,0.8s								
KLU	**Klutina**	**80.47**	**29**	P		**P**		**17 40 17.5**	**+1.1**
KLU				IAmb		IAmb		17 40 33.3	
	comp=Z,4.7nm,1.2s								
BMAR	**Burnt Mountain**	**80.77**	**23**	P		**P**		**17 40 19.5**	**+1.7**
RIDG	**Independent Ri**	**80.86**	**27**	P		**P**		**17 40 18.0**	**-0.4**
RIDG				IAmb		IAmb		17 40 19.4	
	comp=Z,7.3nm,1.2s								
DOT	**Dot Lake**	**81.21**	**27**	P		**P**		**17 40 20.5**	**+0.3**
J26L	**Joseph Creek**	**81.37**	**26**	P		**P**		**17 40 21.6**	**+0.4**
GLB	**Gilahina Butte**	**81.49**	**29**	P		**P**		**17 40 22.5**	**+0.7**
GLB				IAmb		IAmb		17 40 58.6	
	comp=Z,4.7nm,1.2s								
K27K	**Chicken**	**82.06**	**26**	P		**P**		**17 40 26.6**	**+1.9**
K27K				IAmb		IAmb		17 40 27.2	
	comp=Z,7.4nm,1.4s								
L27K	**Beaver Creek,**	**82.26**	**27**			**P**		**17 40 27.3**	**+1.5**
BCAR	**Beaver Creek A**	**82.28**	**27**	P		**P**		**17 40 27.1**	**+1.2**
EGAK	**Eagle**	**82.37**	**26**	P		**P**		**17 40 26.8**	**+0.5**
EGAK				IAmb		IAmb		17 40 49.0	
	comp=Z,9.7nm,1.5s								
YAH	**Yahtse,**	**82.59**	**30**	P		**P**		**17 40 27.4**	**-0.4**
TABL	**Table Mountain**	**82.88**	**30**	P		**P**		**17 40 30.6**	**+1.3**
TABL				IAmb		IAmb		17 40 46.6	
	comp=Z,8.1nm,1.0s								
ARCES	**ARCESS Array B**	**84.79**	**340**	P		**P**		**17 40 37.8**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=70,slow=5.2,SNR=9.2								
	comp=Z,0.5nm,0.4s								
FINES	**FINESS Array B**	**86.47**	**332**	P		**P**		**17 40 46.0**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=82,slow=4.2,SNR=16								
	comp=Z,0.8nm,0.4s								

MAN 27 17:39:48.2, 9°.75N×126°.41E, h25km, mb4.0, ML2.8, MS2.4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.28**	**278**	⇓ *e*P		Pb		17 39 55.4	+0.5
GLSP				*e*S		Sb		17 39 59.3	-0.2
SCPH	**Surigao**	**0.91**	**272**	*e*P		Pb		17 40 05.0	-0.2
SCPH				*i* S		Sb		17 40 15.6	-1.3
BUTP	**Butuan**	**1.09**	**225**	⇑ *e*P		Pn		17 40 07.9	-0.1
BUTP				*e*S		Sb		17 40 23.4	+1.0
BIPH	**Bislig**	**1.55**	**182**	⇑ *i*P		Pn		17 40 14.9	+0.6
BIPH				*i* S		Sn		17 40 33.4	-0.3
CGP	**Cagayan de Oro**	**2.12**	**233**	⇑ *e*P		Pn		17 40 22.8	+0.7
CGP				*e*S		Sn		17 40 48.2	+0.4

*IDC **27** 17:40:00.9±0.7, 20°.93N×144°.67E, h0km, mb4.0/12, mbtmp4.0/12, MS3.5/16, Error ellipse: s-maj=22.9km s-min=16.5km az=91.0*
*NEIC **27** 17:40:12.5±1.3, 20°.88N±0°.03×144°.5E±0°.2, h89km±9km, mb4.4/49, Error ellipse: s-maj=21.3km s-min=4.8km az=89.0*
ISC 27 17:40:13.1±0.6, **20°.87N**±0°.08×**144°.5E**±0°.1, **h100**km, **n90**, σ1s**80**/71, **mb4.3**/36, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.24**	**177**	LR		LR		17 44 02.1	
	comp=Z,176nm,19.6s,baz=2.5,slow=33								
GUMO	**Guam**	**7.24**	**177**	Pn		**Pn**		**17 41 55.6**	**-0.7**
JHS	**Saijyo**	**17.30**	**327**	P		**Pn**		**17 44 07.9**	**-0.5**
PATS	**Pohnpei**	**19.30**	**134**	P		**P**		**17 44 30.1**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**20.98**	**93**	T		T		18 06 11.8	
	baz=280,slow=75,SNR=166								
H11S1	**WAKE ISLAND Hy**	**20.99**	**93**	T		T		18 06 12.6	
	baz=280,slow=75,SNR=185								
H11N1	**WAKE ISLAND Hy**	**21.00**	**89**	T		T		18 06 12.9	
	baz=277,slow=75,SNR=411								
H11N2	**WAKE ISLAND Hy**	**21.00**	**89**	T		T		18 06 13.1	
	baz=277,slow=75,SNR=260								
H11S2	**WAKE ISLAND Hy**	**21.00**	**93**	T		T		18 06 13.2	
	baz=280,slow=75,SNR=189								
H11N3	**WAKE ISLAND Hy**	**21.01**	**89**	T		T		18 06 14.2	
	baz=277,slow=75,SNR=231								
KSRS	**Korea Array**	**21.94**	**322**	P		**P**		**17 44 58.0**	**-0.5**
	6.6nm,0.8s,baz=145,slow=8.9,SNR=27								
	6.6nm,0.8s								
KSAR	**Wonju Array Be**	**21.95**	**322**	P		**P**		**17 44 57.4**	**-1.3**
KS19	**Wonju Array Si**	**22.00**	**322**	P		**P**		**17 44 58.2**	**-1.0**
DAV	**Davao City (W)**	**22.91**	**236**	LR		LR		17 52 08.2	
	comp=Z,102nm,21.3s,baz=64,slow=32								
KLR	**Kul'dur**	**30.09**	**343**	LR		LR		17 57 56.7	
	comp=Z,46nm,18.2s,baz=120,slow=36								
PETK	**Petropavlovsk-**	**33.74**	**14**	LR		LR		17 58 44.8	
	comp=Z,51nm,20.3s,baz=174,slow=33								
MTN	**Manton Dam**	**36.00**	**203**	P		**P**		**17 47 04.6**	**-0.1**
SBUM	**Sibu**	**36.42**	**244**	P		**P**		**17 47 09.3**	**+1.0**
SBUM				IAmb		IAmb		17 47 19.7	
	comp=Z,7.6nm,1.4s								
BATI	**Baumata**	**37.08**	**216**	LR		LR		17 59 48.7	
	comp=Z,94nm,21.1s,baz=198,slow=32								
SHEM	**Shemya Is, Ala**	**39.12**	**28**	LR		LR		18 01 08.9	
	comp=Z,74nm,20.6s,baz=40,slow=32								
SONM	**Songino Array**	**40.78**	**320**	P		**P**		**17 47 44.2**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=141,slow=7.4,SNR=6.5								
	comp=Z,1.0nm,0.7s								
SONM	**Songino Array**	**40.78**	**320**	P		**P**		**17 47 44.3**	**-0.4**
WB0	**Warramunga Arr**	**41.59**	**194**	P		**P**		**17 47 50.4**	**-0.9**
WB0				IAmb		IAmb		17 47 57.8	
	comp=Z,9.7nm,1.2s								
WR0	**Warramunga Arr**	**41.74**	**194**	P		**P**		**17 47 51.7**	**-0.8**
WR0				IAmb		IAmb		17 48 20.6	
	comp=Z,8.8nm,1.4s								
WRAB	**Tennant Creek**	**41.76**	**194**	P		**P**		**17 47 52.5**	**-0.2**
WRAB				IAmb		IAmb		17 47 57.1	
	comp=Z,9.5nm,1.1s								
WB2	**Warramunga Arr**	**41.77**	**194**	P		**P**		**17 47 52.5**	**-0.3**
WB2				IAmb		IAmb		17 47 54.0	
	comp=Z,5.7nm,0.8s								
WRA	**Warramunga Arr**	**41.77**	**194**	P		**P**		**17 47 52.2**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=16,slow=8.6,SNR=35								
	comp=Z,2.1nm,0.7s								
WRA	**Warramunga Arr**	**41.77**	**194**	P		**P**		**17 47 52.3**	**-0.5**
YAK	**Yakutsk**	**42.40**	**350**	P		**P**		**17 47 55.4**	**-2.0**
CMAR	**Chiang Mai Arr**	**42.90**	**275**	P		**P**		**17 48 03.5**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=72,slow=5.9,SNR=7.5								
CMAR				LR		LR		18 06 23.7	
	comp=Z,17nm,18.4s,baz=130,slow=37								
	comp=Z,0.9nm,0.7s								
FITZ	**Fitzroy Crossi**	**42.93**	**207**	P		**P**		**17 48 03.1**	**+0.9**
	baz=358,slow=12								
FITZ	**Fitzroy Crossi**	**42.93**	**207**	P		**P**		**17 48 02.0**	**-0.2**
AS31	**Alice Springs**	**45.46**	**194**	P		**P**		**17 48 22.2**	**-0.2**
ASAR	**Alice Springs**	**45.46**	**194**	P		**P**		**17 48 22.1**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=15,slow=6.7,SNR=22								
	comp=Z,1.3nm,0.8s								
ASAR	**Alice Springs**	**45.46**	**194**	P		**P**		**17 48 21.5**	**-0.9**
TIXI	**Tiksi**	**51.61**	**354**	P		**P**		**17 49 10.6**	**+1.8**
ZALV	**Zalesovo Beam**	**55.65**	**322**	P		**P**		**17 49 37.6**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=111,slow=7.1,SNR=5.2								
	comp=Z,1.0nm,0.5s								
MK31	**Makanchi Array**	**56.19**	**313**	P		**P**		**17 49 42.3**	**-0.4**
MKAR	**Makanchi Array**	**56.19**	**313**	P		**P**		**17 49 43.0**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=92,slow=9.4,SNR=13								
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**56.19**	**313**	P		**P**		**17 49 42.9**	**+0.2**
MAKZ	**Makanchi**	**56.41**	**313**	P		**P**		**17 49 43.2**	**-1.1**
MAKZ				IAmb		IAmb		17 49 44.9	
	comp=Z,2.2nm,0.8s								
O18K	**Koktuh Hills**	**57.32**	**31**	P		**P**		**17 49 50.6**	**+0.2**
SVW2	**Sparrevohn**	**57.49**	**30**	P		**P**		**17 49 52.1**	**+0.5**
SVW2				IAmb		IAmb		17 49 54.1	
	comp=Z,8.2nm,1.4s								
KDAK	**Kodiak Island**	**58.17**	**34**	LR		LR		18 11 41.4	
	comp=Z,48nm,21.8s,baz=248,slow=33								
KURK	**Kurchatov**	**58.94**	**317**	P		**P**		**17 50 01.8**	**-0.1**
KURK				IAmb		IAmb		17 50 02.0	
	comp=Z,2.0nm,0.7s								
J20K	**Nowinta River**	**59.01**	**27**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.30**	**120**	PG	Pg	17 52 08.8	+0.3
DAT	**Datca**	**0.34**	**234**	PG	Pb	17 52 09.8	-0.4
YER	**Yerkesik**	**0.36**	**54**	PG	Pb	17 52 10.3	-0.3
YER				SG	Sb	17 52 15.7	-0.4
BODT	**Bodrum**	**0.51**	**286**	PG	Pg	17 52 12.5	+0.2
DALY	**Dalyan (Mula)**	**0.60**	**100**	PG	Pg	17 52 14.1	+0.1
ARG	**Arkhangelos**	**0.73**	**167**	PG	Pn	17 52 18.0	-0.2
GCAM	**G?zelcaml?**	**0.95**	**325**	PG	Pn	17 52 21.0	-0.2
AYDB	**Zeytinkoy-Aydi**	**1.02**	**359**	PG	Pn	17 52 22.3	-0.1
CAME	**Cameli-Denizli**	**1.11**	**89**	PN	Pg	17 52 24.4	+0.7

NEIC ***27*** *17:53:01.9±2.1,39.°04N±0.°02×22.°29E±0.°07, h10km±1km, mb4.2/4, ML3.7(THE), Error ellipse: s-maj=9.4km s-min=3.0km az=105.0*

PDG ***27*** *17:53:01.3±0.5,39.°02N×22.°22E, h13km, ML3.6/11, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*

ATH ***27*** *17:53:02.0, 39.°01N×22.°21E, h14km±1km, ML3.5/21, Error ellipse: s-maj=1.3km s-min=0.8km az=259.0*

THE ***27*** *17:53:02.3, 39.°00N×22.°17E, h13km, ML3.7/11, Error ellipse: s-maj=0.8km s-min=0.5km az=281.0*

IDC ***27*** *17:53:04.3±2.1, 38.°92N×22.°15E, h40km±21km, mb3.4/8, mbtmp3.6/12, ML3.6/4, Error ellipse: s-maj=24.6km s-min=16.8km az=39.0*

ISC 27 17:53:01.9±0.7, 38.°99N±0.°02×22.°19E±0.°02, h16km±4km, n209, σ1°17/258, mb3.8/9, 25C-17D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKR	**Makrakomi, Fth**	**0.05**	**297**	P	**Pg**	**17 53 05.0**	**0.0**
MAKR				S	**Sg**	**17 53 07.3**	**+0.4**
	521μm,0.2s						
MAKR	**Makrakomi, Fth**	**0.05**	**297**	P	**Pg**	**17 53 05.0**	**0.0**
MAKR				S	**Sg**	**17 53 07.2**	**+0.3**
MAKR				AML	AML	17 53 07.8	
MAKR				AML	AML	17 53 07.9	
EVR	**Evrytania**	**0.30**	**256**	P	**Pg**	**17 53 07.7**	**-0.7**
EVR	**Evrytania**	**0.30**	**256**	P	**Pg**	**17 53 07.8**	**-0.6**
EVR				S	**Sg**	**17 53 12.6**	**-0.3**
EVR				AML	AML	17 53 15.4	
	comp=N,8644μm,0.3s						
EVR				AML	AML	17 53 19.6	
	comp=E,16314μm,0.5s						
AXAR	**Agios Charalam**	**0.43**	**121**	P	**Pb**	**17 53 11.0**	**-0.2**
AXAR				S	**Sb**	**17 53 17.2**	**-0.3**
	comp=E,25μm,0.2s						
AXAR	**Agios Charalam**	**0.43**	**121**	P	**Pb**	**17 53 11.4**	**+0.2**
AXAR				AML	AML	17 53 20.5	
	comp=E,53911μm,0.3s						
AXAR				AML	AML	17 53 21.7	
	comp=N,44343μm,0.3s						
DLFA	**Delphi**	**0.57**	**155**	P	**Pg**	**17 53 12.9**	**-0.2**
DLFA				S	**Sb**	**17 53 21.1**	**-0.3**
DLFA				AML	AML	17 53 22.9	
	comp=N,21792μm,0.6s						
DLFA				AML	AML	17 53 24.2	
	comp=E,27588μm,0.4s						
SERG	**Sergoula**	**0.59**	**190**	P	**Pg**	**17 53 13.0**	**-0.5**
SERG				S	**Sb**	**17 53 22.5**	**+0.6**
	comp=E,16μm,0.3s						
SERG	**Sergoula**	**0.59**	**190**	P	**Pg**	**17 53 13.0**	**-0.5**
SERG				S	**Sg**	**17 53 21.3**	**0.0**
SERG				AML	AML	17 53 23.9	
	comp=N,27384μm,0.3s						
SERG				AML	AML	17 53 24.9	
	comp=E,51431μm,0.4s						
THL	**Klokotos Trika**	**0.59**	**347**	P	**Pg**	**17 53 13.1**	**-0.5**
THL	**Klokotos Trika**	**0.59**	**347**	P	**Pg**	**17 53 12.9**	**-0.7**
THL				AML	AML	17 53 23.7	
	comp=E,6290μm,0.4s						
THL				AML	AML	17 53 26.6	
	comp=N,5531μm,0.4s						
EFP	**Efpalio**	**0.60**	**201**	P	**Pg**	**17 53 13.4**	**-0.4**
EFP				S	**Sb**	**17 53 22.9**	**+0.5**
	comp=N,15μm,0.5s						
EFP	**Efpalio**	**0.60**	**201**	P	**Pg**	**17 53 13.5**	**-0.4**
EFP				S	**Sb**	**17 53 22.9**	**+0.5**
EFP				AML	AML	17 53 23.8	
	comp=N,25285μm,0.6s						
EFP				AML	AML	17 53 24.2	
	comp=E,31082μm,0.4s						
PVO	**Paravola**	**0.64**	**234**	P	**Pg**	**17 53 13.6**	**-0.8**
PVO	**Paravola**	**0.64**	**234**	P	**Pg**	**17 53 13.7**	**-0.8**
PVO				S	**Sb**	**17 53 24.1**	**+0.7**
LRSO	**Larissa Observ**	**0.70**	**13**	P	**Pg**	**17 53 15.4**	**-0.2**
LRSO				AML	AML	17 53 29.4	
	comp=N,12379μm,0.4s						
LRSO				AML	AML	17 53 29.6	
	comp=E,12859μm,0.4s						
LKR	**Lokris**	**0.72**	**118**	P	**Pg**	**17 53 15.1**	**-0.8**
LKR				S	**Sb**	**17 53 25.6**	**-0.1**
LKR				AML	AML	17 53 27.7	
	comp=N,8256μm,0.2s						
LKR				AML	AML	17 53 28.0	
	comp=E,13560μm,0.2s						
ALIK	**Aliki, Aigiali**	**0.73**	**185**	P	**Pg**	**17 53 16.0**	**-0.2**
ALIK				S	**Sn**	**17 53 27.8**	**-0.6**
LAKA	**Lakka**	**0.77**	**192**	P	**Pg**	**17 53 16.4**	**-0.5**
LAKA				S	**Sn**	**17 53 28.8**	**-0.6**
	comp=E,7μm,0.5s						
LAKA	**Lakka**	**0.77**	**192**	P	**Pg**	**17 53 16.4**	**-0.5**
LAKA				S	**Sb**	**17 53 27.7**	**+0.6**
LAKA				AML	AML	17 53 32.9	
	comp=E,16952μm,0.4s						
LAKA				AML	AML	17 53 34.5	
	comp=N,10789μm,0.4s						
NEO	**Neokhori**	**0.86**	**68**	P	**Pg**	**17 53 18.6**	**-0.1**
NEO				S	**Sn**	**17 53 31.5**	**-0.3**
	comp=N,4μm,0.4s						
NEO	**Neokhori**	**0.86**	**68**	P	**Pb**	**17 53 18.4**	**-0.2**
NEO				AML	AML	17 53 35.0	
	comp=N,8756μm,0.3s						
NEO				AML	AML	17 53 35.3	
	comp=E,6537μm,0.5s						
KLV	**Kalavryta, Ach**	**0.95**	**182**	P	**Pb**	**17 53 19.5**	**-0.5**
KLV				S	**Sn**	**17 53 34.3**	**+0.4**
	comp=E,2μm,0.5s						
KLV	**Kalavryta, Ach**	**0.95**	**182**	P	**Pg**	**17 53 20.1**	**-0.2**
KLV				S	**Sn**	**17 53 33.5**	**-0.4**
KLV				AML	AML	17 53 36.5	
	comp=N,3660μm,0.6s						
KLV				AML	AML	17 53 37.2	
	comp=E,3683μm,0.5s						
THAL	**Thalero**	**1.02**	**158**	P	**Pn**	**17 53 21.8**	**+0.2**
THAL	**Thalero**	**1.02**	**158**	P	**Pn**	**17 53 21.9**	**+0.3**
GUR	**Goura**	**1.06**	**173**	P	**Pn**	**17 53 22.1**	**-0.2**
RLS	**Riolos of Patr**	**1.09**	**211**	P	**Pn**	**17 53 22.5**	**-0.1**
RLS				S	**Sn**	**17 53 38.8**	**+1.5**
	comp=E,1μm,0.7s						
RLS	**Riolos of Patr**	**1.09**	**211**	P	**Pn**	**17 53 22.5**	**-0.1**
RLS				S	**Sn**	**17 53 38.5**	**+1.2**
RLS				AML	AML	17 53 40.3	
	comp=N,3648μm,0.9s						
RLS				AML	AML	17 53 40.8	
	comp=E,1740μm,0.6s						
DRO	**Drossia**	**1.10**	**200**	P	**Pb**	**17 53 22.4**	**-0.3**
DRO				S	**Sn**	**17 53 37.8**	**+0.1**
	comp=E,5μm,0.5s						
DRO	**Drossia**	**1.10**	**200**	P	**Pb**	**17 53 22.6**	**-0.1**
LIT	**Litokhoron**	**1.13**	**12**	P	**Pb**	**17 53 23.1**	**-0.1**
LIT				S	**Sg**	**17 53 39.2**	**+0.6**
	comp=E,2μm,0.4s						
LIT	**Litokhoron**	**1.13**	**12**	Pn	**Pb**	**17 53 22.4**	**-0.8**
LIT				Sn	**Sg**	**17 53 39.0**	**+0.4**
LIT	**Litokhoron**	**1.13**	**12**	P	**Pb**	**17 53 23.1**	**-0.1**
LIT				AML	AML	17 53 43.6	
	comp=N,6080μm,0.4s						
LIT				AML	AML	17 53 44.5	
	comp=E,3851μm,0.3s						
VIL2	**Platees**	**1.15**	**132**	P	**Pg**	**17 53 24.8**	**+0.6**
VIL2				AML	AML	17 53 48.1	
	comp=N,4672μm,0.4s						
VIL2				AML	AML	17 53 49.0	
	comp=E,6072μm,0.5s						
LOUT	**Loutraki**	**1.18**	**148**	P	**Pg**	**17 53 24.6**	**-0.1**
LOUT				AML	AML	17 53 46.8	
	comp=N,752μm,0.6s						
LOUT				AML	AML	17 53 51.3	
	comp=E,856μm,0.5s						
TSLK	**Tsoukalades, L**	**1.21**	**263**	P	**Pb**	**17 53 24.6**	**+0.2**
LKD2	**Lefkada island**	**1.21**	**261**	P	**Pn**	**17 53 24.4**	**+0.1**
LKD2	**Lefkada island**	**1.21**	**261**	P	**Pb**	**17 53 24.7**	**+0.2**
JAN	**Janina**	**1.23**	**303**	P	**Pn**	**17 53 24.5**	**-0.1**
JAN				AML	AML	17 53 47.1	
	comp=N,4749μm,0.6s						
JAN				AML	AML	17 53 49.3	
	comp=E,4674μm,0.6s						
EVGI	**Lefkada island**	**1.25**	**253**	P	**Pn**	**17 53 24.6**	**-0.2**
EVGI	**Lefkada island**	**1.25**	**253**	P	**Pn**	**17 53 24.7**	**-0.1**
ALNA	**Alonissos**	**1.32**	**83**	P	**Pn**	**17 53 25.9**	**-0.4**
KZN	**Kozani**	**1.35**	**346**	P	**Pn**	**17 53 26.1**	**-0.2**
KZN	**Kozani**	**1.35**	**346**	P	**Pn**	**17 53 26.7**	**+0.4**
FSK	**Fiskardo**	**1.38**	**248**	P	**Pb**	**17 53 27.3**	**0.0**
PENT	**Pentalofos**	**1.45**	**326**	P	**Pn**	**17 53 28.1**	**+0.5**
PAIG	**Paliouri**	**1.49**	**51**	P	**Pn**	**17 53 27.8**	**-0.2**
PAIG	**Paliouri**	**1.49**	**51**	P	**Pn**	**17 53 28.0**	**0.0**
PAIG				S	**Sn**	**17 53 46.7**	**-0.4**
PAIG				AML	AML	17 53 47.6	
	comp=E,1117μm,0.7s						
PAIG				AML	AML	17 53 47.7	
	comp=N,892μm,0.8s						
VLS	**Valsamata**	**1.49**	**238**	P	**Pn**	**17 53 28.4**	**+0.3**
PSDA	**Pessada-Kefalo**	**1.53**	**236**	P	**Pb**	**17 53 29.4**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.54**	**103**	P	**Pb**	**17 53 29.6**	**-0.4**
EPID	**Epidavros**	**1.56**	**152**	P	**Pb**	**17 53 30.0**	**-0.4**
KEF4	**Livadi, Kephal**	**1.56**	**243**	P	**Pb**	**17 53 30.3**	**-0.2**
ATH	**Athens Observa**	**1.57**	**130**	P	**Pb**	**17 53 30.4**	**-0.2**
ATH				S	**Sb**	**17 53 50.1**	**-0.2**
ATH				AML	AML	17 53 56.2	
	comp=N,2403μm,0.4s						
ATH				AML	AML	17 54 00.9	
	comp=E,2438μm,0.5s						
PTL	**Penteli**	**1.62**	**125**	P	**Pb**	**17 53 31.2**	**-0.2**
PTL				AML	AML	17 54 01.9	
	comp=E,1732μm,0.5s						
PTL				AML	AML	17 54 05.1	
	comp=N,1010μm,0.6s						
ATHU	**Athens Univers**	**1.62**	**129**	P	**Pb**	**17 53 31.1**	**-0.3**
ATHU				S	**Sb**	**17 53 51.2**	**-0.5**
ATHU				AML	AML	17 53 59.3	
	comp=N,1448μm,0.4s						
ATHU				AML	AML	17 53 59.5	
	comp=E,477μm,0.3s						
KEF3	**Kipouria, Keph**	**1.64**	**242**	P	**Pb**	**17 53 31.8**	**0.0**
LTHK	**Lithakia**	**1.66**	**220**	P	**Pb**	**17 53 32.6**	**+0.4**
NEST	**Nestorio**	**1.67**	**329**	P	**Pb**	**17 53 32.3**	**-0.1**
VLY	**Voula,Athens**	**1.70**	**132**	P	**Pb**	**17 53 32.1**	**-0.7**
VLY				S	**Sb**	**17 53 53.3**	**-0.6**
	comp=E,860nm,0.4s						
VLY	**Voula,Athens**	**1.70**	**132**	P	**Pb**	**17 53 32.1**	**-0.7**
HORT	**Hortiatis**	**1.75**	**23**	P	**Pn**	**17 53 31.3**	**-0.5**
HORT	**Hortiatis**	**1.75**	**23**	P	**Pn**	**17 53 31.3**	**-0.5**
KRND	**KRANIDI**	**1.78**	**154**	P	**Pb**	**17 53 33.1**	**-1.0**
KRND	**KRANIDI**	**1.78**	**154**	P	**Pb**	**17 53 33.1**	**-1.0**
ITM	**Ithomi**	**1.82**	**187**		**Pb**	**17 53 35.0**	**+0.1**
ITM	**Ithomi**	**1.82**	**187**	P	**Pb**	**17 53 35.2**	**+0.3**
SKY	**Skiros Island**	**1.85**	**93**	P	**Pn**	**17 53 33.9**	**+1.0**
KASA	**Kassiopi**	**1.90**	**294**	P	**Pb**	**17 53 36.8**	**+0.5**
OUR	**Ouranopolis**	**1.93**	**45**	P	**Pn**	**17 53 34.4**	**+0.3**
OUR	**Ouranopolis**	**1.93**	**45**	P	**Pn**	**17 53 34.4**	**+0.3**
KBN	**Korca**	**1.96**	**327**		**Pn**	**17 53 35.3**	**+0.8**
GRG	**Griva**	**1.97**	**5**	P	**Pn**	**17 53 34.6**	**-0.1**
KEK	**Kerkira**	**1.99**	**292**	Pn	**Pb**	**17 53 37.4**	**-0.3**
KEK	**Kerkira**	**1.99**	**292**	P	**Pb**	**17 53 37.9**	**+0.2**
SOH	**Sokhos**	**2.04**	**26**	P	**Pn**	**17 53 36.2**	**+0.6**
SOH	**Sokhos**	**2.04**	**26**	P	**Pn**	**17 53 36.3**	**+0.6**
KNT	**Kendrikon**	**2.23**	**14**	P	**Pn**	**17 53 38.8**	**+0.5**
KOKK	**Kokkinochori,**	**2.29**	**37**	P	**Pn**	**17 53 39.6**	**+0.5**
VAY	**Valandovo**	**2.34**	**7**	*i* Pn	**Pn**	**17 53 40.5**	**+0.7**
VAY				*i* Sn	**Sn**	**17 54 08.9**	**+0.6**
VLI	**Veliai**	**2.35**	**165**	P	**Pn**	**17 53 40.7**	**+0.9**
OHR	**Ohrid**	**2.37**	**334**	*i* Sn	**Sb**	**17 54 11.5**	**-1.8**
OHR	**Ohrid**	**2.37**	**334**	*i* Pn	**Pn**	**17 53 42.4**	**+2.1**
SRS	**Serrai**	**2.38**	**26**	P	**Pn**	**17 53 40.9**	**+0.6**
VLO	**Vlora**	**2.55**	**306**		**Pn**	**17 53 44.4**	**+1.9**
NVR	**Nevrokopi**	**2.68**	**28**	P	**Pn**	**17 53 45.2**	**+0.7**
KAVA	**Kavala**	**2.68**	**41**	P	**Pn**	**17 53 44.3**	**-0.2**
STIP	**Stip**	**2.70**	**360**	*i* Pn	**Pn**	**17 53 46.3**	**+1.6**
STIP				*i* Sn	**Sn**	**17 54 19.6**	**+2.6**
TIR	**Tirane**	**2.95**	**324**		**Pn**	**17 53 49.3**	**+1.1**
SKO	**Skopje**	**3.03**	**349**	*i* Pn	**Pn**	**17 53 50.2**	**+0.9**
SCTE	**Santa Cesarea**	**3.07**	**292**		**Pn**	**17 53 51.9**	**+2.0**
APE	**Apeiranthos**	**3.26**	**125**	⇓P	**Pn**	**17 53 54.4**	**+1.8**
APE				⇓S	**Sn**	**17 54 32.8**	**+1.8**
RDO	**Rodhopi**	**3.35**	**49**		**Pn**	**17 53 53.5**	**-0.1**
ALN	**Alexandroupoli**	**3.52**	**56**	Pn	**Pn**	**17 53 55.3**	**-0.7**
ULC	**Ulcinj**	**3.72**	**324**	⇑*i*Pn	**Pn**	**17 53 59.7**	**+0.9**
ULC				*i* Sn	**Sn**	**17 54 44.5**	**+2.2**
DRME	**Dracevica, Mon**	**3.93**	**325**	*e*Pn	**Pn**	**17 54 03.3**	**+1.7**
DRME	**Dracevica, Mon**	**3.93**	**325**	⇓*i*Pn	**Pn**	**17 54 03.5**	**+1.9**
DRME				*e*Sn	**Sn**	**17 54 49.4**	**+2.1**
PVY	**Plav**	**3.98**	**336**	⇓*i*Pn	**Pn**	**17 54 03.3**	**+0.9**
PVY				*i* Sn	**Sn**	**17 54 50.1**	**+1.4**
PDG	**Podgorica**	**4.09**	**328**	⇓P	**Pn**	**17 54 04.6**	**+0.8**
PDG				⇑S	**Sn**	**17 54 54.1**	**+2.7**
PDG	**Podgorica**	**4.09**	**328**	Pn	**Pn**	**17 54 04.4**	**+0.5**
TTG	**Podgorica**	**4.09**	**328**	⇓*i*Pn	**Pn**	**17 54 05.0**	**+1.1**
TTG				*e*Sn	**Sn**	**17 54 53.3**	**+1.9**
BUM	**Brajici-Budva**	**4.15**	**324**	⇑*i*Pn	**Pn**	**17 54 05.6**	**+0.9**
BUM				*e*Sn	**Sn**	**17 54 54.6**	**+1.7**
TIP	**Timpagrande**	**4.23**	**274**	⇑P	**Pn**	**17 54 06.1**	**+0.8**
TIP				⇓S	**Sn**	**17 54 55.9**	**+1.9**
TIP	**Timpagrande**	**4.23**	**274**		**Pn**	**17 54 07.4**	**+1.6**
IVA	**Berane**	**4.25**	**337**	⇑*i*Pn	**Pn**	**17 54 07.3**	**+1.2**
IVA				*e*Sn	**Sn**	**17 54 56.0**	**+0.6**
IDI	**Anoyia**	**4.28**	**149**	⇑P	**Pn**	**17 54 08.1**	**+1.6**
IDI	**Anoyia**	**4.28**	**149**	Pn	**Pn**	**17 54 05.8**	**-0.7**
	comp=E,1.4nm,0.3s,baz=48,slow=2.8,SNR=14						
IDI				Sn	**Sn**	**17 54 55.5**	**-0.7**
	comp=E,2.8nm,0.3s,baz=123,slow=20,SNR=2.1						
	comp=E,4.4nm,0.3s						
IDI	**Anoyia**	**4.28**	**149**	Pn	**Pn**	**17 54 06.6**	**+0.1**
CEME	**Cevo**	**4.33**	**326**	⇓*i*Pn	**Pn**	**17 54 08.4**	**+1.2**
CEME				*i* Sn	**Sn**	**17 54 58.7**	**+1.3**
KOME	**Kolasin**	**4.35**	**333**	⇑*i*Pn	**Pn**	**17 54 09.1**	**+1.6**
KOME				*e*Sn	**Sn**	**17 55 00.2**	**+2.2**
HCY	**Herceg Novi**	**4.45**	**322**	*e*Pn	**Pn**	**17 54 09.5**	**+0.8**
HCY	**Herceg Novi**	**4.45**	**322**	⇑*i*Pn	**Pn**	**17 54 10.1**	**+1.4**
HCY				*i* Sn	**Sn**	**17 55 02.0**	**+1.8**
NKME	**Niksic**	**4.50**	**328**	⇑*i*Pn	**Pn**	**17 54 10.5**	**+1.0**
NKME				*i* Sn	**Sn**	**17 55 03.2**	**+1.7**
MATE	**Matera**	**4.54**	**293**	⇑P	**Pn**	**17 54 10.0**	**+0.1**
BLKB	**Belogradchik**	**4.64**	**4**	⇑P	**Pn**	**17 54 12.4**	**+0.9**
BOVS	**Bovan**	**4.65**	**356**	⇓P	**Pn**	**17 54 11.6**	**+0.1**
BRY	**Bratogost**	**4.78**	**326**	*e*Pn	**Pn**	**17 54 14.2**	**+0.7**
BRY	**Bratogost**	**4.78**	**326**	⇓*i*Pn	**Pn**	**17 54 14.8**	**+1.3**
BRY				*i* Sn	**Sn**	**17 55 09.5**	**+0.8**
DBRK	**Dubrovnik**	**4.78**	**321**	*e*Pn	**Pn**	**17 54 12.9**	**-0.5**
UPM	**Unac-Piva**	**4.88**	**331**	*e*Pn	**Pn**	**17 54 17.1**	**+2.2**
UPM	**Unac-Piva**	**4.88**	**331**	⇑*i*Pn	**Pn**	**17 54 15.8**	**+0.9**
UPM				*i* Sn	**Sn**	**17 55 12.4**	**+1.2**
CEL	**Celeste**	**4.98**	**264**	Pn	**Pn**	**17 54 17.2**	**+1.1**
CUC	**Castrocucco**	**5.03**	**283**		**Pn**	**17 54 18.6**	**+1.8**
RUDO	**Rudo**	**5.09**	**336**	*e*Pn	**Pn**	**17 54 16.5**	**-1.0**
STON	**Ston**	**5.16**	**320**	*e*Pn	**Pn**	**17 54 16.7**	**-1.7**
STON	**Ston**	**5.16**	**320**	*e*Pn	**Pn**	**17 54 18.0**	**-0.4**
KARP	**Karpathos**	**5.25**	**129**	Pn	**Pn**	**17 54 21.6**	**+1.8**
BBLS	**Lazići**	**5.30**	**338**	*e*Pn	**Pn**	**17 54 21.4**	**+0.9**
DIVS	**Divibare**	**5.36**	**343**	Pn	**Pn**	**17 54 22.3**	**+0.9**
DIVS	**Divibare**	**5.36**	**343**	*e*Pn	**Pn**	**17 54 22.2**	**+0.9**
ARG	**Arkhangelos**	**5.47**	**119**	Pn	**Pn**	**17 54 22.8**	**0.0**
LSTV	**Lastovo**	**5.51**	**315**	*e*Pn	**Pn**	**17 54 23.4**	**+0.1**
SGRT	**San Giovanni R**	**5.64**	**301**		**Pn**	**17 54 25.9**	**+0.7**
MDVR	**Moldovita**	**5.80**	**357**	⇑P	**Pn**	**17 54 28.2**	**+0.9**
MDVR				⇑S	**Sn**	**17 55 35.7**	**+2.2**
MAKA	**Makarska**	**5.80**	**319**	*e*Pn	**Pn**	**17 54 27.3**	**0.0**
HERR	**Herculane**	**5.89**	**2**	⇑P	**Pn**	**17 54 29.0**	**+0.5**
RICI	**Ricice**	**5.89**	**321**	*e*Pn	**Pn**	**17 54 29.2**	**+0.6**
RICI				Sn	**Sn**	**17 55 32.8**	**-3.0**
TEKS	**Tekeris**	**5.90**	**341**	*e*Pn	**Pn**	**17 54 28.1**	**-0.6**
HVAR	**Hvar**	**6.02**	**316**	*e*Pn	**Pn**	**17 54 29.0**	**-1.4**
PAOL	**Paolisi**	**6.20**	**292**		**Pn**	**17 54 35.4**	**+2.6**
FRGS	**Fruska Gora**	**6.41**	**345**	⇑P	**Pn**	**17 54 36.3**	**+0.6**
FRGS	**Fruska Gora**	**6.41**	**345**	*e*Pn	**Pn**	**17 54 36.4**	**+0.7**
GZR	**Gura Zlata**	**6.41**	**4**	⇓P	**Pn**	**17 54 37.6**	**+1.8**
RAFF	**Raffo Rosso**	**6.42**	**256**	Pn	**Pn**	**17 54 35.5**	**-0.3**
ELL	**Elmali**	**6.50**	**108**	Pn	**Pn**	**17 54 36.2**	**-0.9**
LOT	**Lotru**	**6.56**	**10**	⇑P	**Pn**	**17 54 38.2**	**+0.4**
KIJV	**Kijevo**	**6.63**	**321**	*i* Pn	**Pn**	**17 54 38.9**	**+0.2**
BZS	**Buzias**	**6.63**	**357**	⇓P	**Pn**	**17 54 39.3**	**+0.6**
BZS				⇑S	**Sn**	**17 55 56.9**	**+2.9**
ZIRJ	**Zirje**	**6.78**	**316**	*e*Pn	**Pn**	**17 54 41.2**	**+0.5**
VOIR		**6.78**	**17**	⇓P	**Pn**	**17 54 42.0**	**+1.2**
BLY	**Banja Luka**	**6.86**	**329**	*e*Pn	**Pn**	**17 54 37.6**	**-4.2**
MORI	**Morici**	**6.89**	**317**	*e*Pn	**Pn**	**17 54 42.4**	**+0.2**
A050A	**Klekovaca**	**6.93**	**324**	*e*Pn	**Pn**	**17 54 43.4**	**+0.6**
MLR	**Muntele Rosu**	**7.07**	**22**	⇓P	**Pn**	**17 54 45.4**	**+0.6**
MLR	**Muntele Rosu**	**7.07**	**22**	Pn	**Pn**	**17 54 47.5**	**+2.7**
	comp=E,1.1nm,0.3s,baz=169,slow=16,SNR=7.6						
	comp=E,3.7nm,0.5s						
MLR	**Muntele Rosu**	**7.07**	**22**		**Pn**	**17 54 45.5**	**+0.6**
MDUB	**Mudurnu**	**7.10**	**75**	Pn	**Pn**	**17 54 43.1**	**-2.1**
TIRR	**Tirgusor**	**7.17**	**38**	Pn	**Pn**	**17 54 46.3**	**+0.1**
A051A	**Mrakovica**	**7.19**	**329**	*e*Pn	**Pn**	**17 54 46.4**	**0.0**
SIRR	**Siria**	**7.28**	**357**	⇓P	**Pn**	**17 54 48.6**	**+1.0**
DUGI	**Dugi Otok**	**7.32**	**315**	*e*Pn	**Pn**	**17 54 48.6**	**+0.5**
UDBI	**Udbina**	**7.32**	**321**	*e*Pn	**Pn**	**17 54 49.7**	**+1.5**
DOPR	**Dopca**	**7.36**	**18**	⇑P	**Pn**	**17 54 49.6**	**+0.8**
COVR	**Voineasa-Covas**	**7.46**	**22**	⇑P	**Pn**	**17 54 52.1**	**+1.9**
CAMP	**Campotosto**	**7.54**	**301**	Pn	**Pn**	**17 54 53.5**	**+2.2**
CFR	**Carcaliu**	**7.60**	**34**	⇓P	**Pn**	**17 54 53.3**	**+1.3**
PLOR	**Plostina**	**7.61**	**24**	⇑P	**Pn**	**17 54 54.6**	**+2.5**
VRI	**Vrincioaia**	**7.64**	**25**	⇑P	**Pn**	**17 54 54.0**	**+1.4**
MORH	**Mrgy, Hungar**	**7.68**	**341**	⇑P	**Pn**	**17 54 54.4**	**+1.4**
MORH	**Mrgy, Hungar**	**7.68**	**341**	P	**Pn**	**17 54 54.7**	**+1.7**
KOVH	**Kovagotottos**	**7.71**	**338**	P	**Pn**	**17 54 50.0**	**-3.5**
KOVH				S	**Sn**	**17 56 19.2**	**-1.1**
NVLJ	**Novalja**	**7.80**	**318**	*e*Pn	**Pn**	**17 54 54.3**	**-0.4**
DRQR		**7.81**	**3**	⇑P	**Pn**	**17 54 55.6**	**+0.7**
NRCA	**Norcia**	**7.87**	**302**		**Pn**	**17 54 56.1**	**+0.3**
FDMO	**Fiordimonte**	**7.98**	**303**		**Pn**	**17 54 57.8**	**+0.6**
BOJS	**Bojanci**	**8.29**	**324**	*e*Pn	**Pn**	**17 54 59.3**	**-2.2**
MURB	**Monte Urbino**	**8.45**	**303**	Pn	**Pn**	**17 55 04.1**	**+0.4**
CEY	**Cerknica**	**8.85**	**322**	*e*Pn	**Pn**	**17 55 08.6**	**-0.6**
BURAR	**Bucovina Array**	**8.90**	**13**	⇓P	**Pn**	**17 55 10.9**	**+1.1**
BURAR	**Bucovina Array**	**8.90**	**13**	Pn	**Pn**	**17 55 09.1**	**-0.8**
BR131	**Keskin Array S**	**8.90**	**82**	Pn	**Pn**	**17 55 07.4**	**-2.6**
BRTR	**Keskin Array B**	**8.90**	**82**	Pn	**Pn**	**17 55 11.9**	**+1.9**
	comp=E,0.2nm,0.3s,baz=262,slow=11,SNR=7.8						
	comp=E,0.7nm,0.4s						
BRTR	**Keskin Array B**	**8.90**	**82**	Pn	**Pn**	**17 55 07.6**	**-2.5**
BUR08	**Bucovina Ar. S**	**8.92**	**13**	Pn	**Pn**	**17 55 10.2**	**0.0**
PSZ	**Piszkesteto**	**9.08**	**350**	⇑P	**Pn**	**17 55 13.1**	**+0.8**
PSZ	**Piszkesteto**	**9.08**	**350**	Pn	**Pn**	**17 55 12.1**	**-0.2**
PSZ	**Piszkesteto**	**9.08**	**350**	P	**Pn**	**17 55 13.8**	**+1.5**
PSZ				S	**Sn**	**17 56 55.9**	**+1.7**
SABO	**M.te Sabotino**	**9.43**	**321**	Pn	**Pn**	**17 55 16.7**	**-0.4**
KECS	**Kecovo**	**9.57**	**353**	*e*PN	Pn	17 55 24.4	+5.4
VYHS	**Vyhne**	**9.80**	**347**	*e*PN	**Pn**	**17 55 24.7**	**+2.5**
VYHS				*e*SN	**Sn**	**17 57 07.7**	**-4.2**
CIMO	**Cimolais**	**10.24**	**319**	Pn	**Pn**	**17 55 27.1**	**-1.1**
GERES	**GERESS Array B**	**11.59**	**331**	Pn	**Pn**	**17 55 49.5**	**

SNAA Sanae 20.54 154 P **P** **18 03 21.8 -0.7**
SNAA Sanae 20.54 154 P **P** **18 03 22.0 -0.4**
3.0nm,0.9s,baz=312,slow=12,SNR=14
3.0nm,0.9s
SNAA Sanae 20.54 154 P **P** **18 03 21.1 -1.3**
TROLL Troll, Antarti 22.11 152 P **P** **18 03 40.2 +0.7**
BELA Belgrano 2 22.79 182 P **P** **18 03 45.3 -1.2**
TRQA Tornquist 26.73 297 P **P** **18 04 24.9 +1.2**
TRQA IAmb IAmb 18 04 35.7
comp=Z,12nm,1.4s
PLCA Paso Flores 29.42 283 LR LR 18 14 46.1
comp=Z,10nm,19.9s,baz=160,slow=33
CPUP Villa Florida 34.45 316 P **P** **18 05 31.6 -0.3**
comp=Z,1.0nm,0.4s,baz=151,slow=13,SNR=4.0
comp=Z,1.0nm,0.4s
QSPA South Pole Qui 35.04 180 P **P** **18 05 37.6 +0.8**
comp=Z,1.3nm,0.7s,baz=214,slow=2.8,SNR=8.3
QSPA LR LR 18 18 48.3
comp=Z,82nm,18.8s,baz=212,slow=34
comp=Z,1.3nm,0.7s
QSPA South Pole Qui 35.04 180 P **P** **18 05 35.4 -1.4**
QSPA IAmb IAmb 18 05 45.7
comp=Z,4.9nm,1.0s
PTLB Pontes e Lacer 45.03 321 P **P** **18 06 59.5 -0.4**
PTLB IAmb IAmb 18 07 04.0
comp=Z,6.1nm,1.1s
GO01 Chusmiza 45.43 306 P **P** **18 07 04.3 +0.7**
GO01 IAmb IAmb 18 07 07.6
comp=Z,5.4nm,0.9s
VNDA Vanda 47.27 184 P **P** **18 07 18.7 +1.8**
comp=Z,0.8nm,1.0s,baz=199,slow=9.8,SNR=2.3
VNDA LR LR 18 24 56.1
comp=Z,51nm,18.6s,baz=270,slow=33
comp=Z,0.8nm,1.0s
VNDA Vanda 47.27 184 P **P** **18 07 19.3 +2.4**
VNDA IAmb IAmb 18 07 34.3
comp=Z,4.2nm,1.4s
LPAZ La Paz 47.91 310 P **P** **18 07 22.9 -0.3**
comp=Z,3.6nm,0.6s,baz=161,slow=8.0,SNR=15
comp=Z,3.6nm,0.6s
LPAZ La Paz 47.91 310 P **P** **18 07 23.3 +0.1**
BOSA Boshof 48.21 81 LR LR 18 25 11.9
comp=Z,41nm,18.4s,baz=190,slow=33
BOSA Boshof 48.21 81 P **P** **18 07 23.5 -1.5**
LBTB Lobatse 51.19 78 P **P** **18 07 45.0 -2.6**
LBTB IAmb IAmb 18 07 49.4
comp=Z,7.7nm,1.1s
SAML Samuel 52.51 319 P **P** **18 07 55.7 -1.6**
SAML IAmb IAmb 18 07 59.5
comp=Z,3.8nm,0.8s
MDP Montagnes des 62.60 336 LR LR 18 36 36.7
comp=Z,44nm,18.3s,baz=114,slow=36
KOWA Kowa 73.23 28 LR LR 18 35 18.5
comp=Z,48nm,22.0s,baz=56,slow=30
TORD Torodi Ar. Bea 73.63 34 P **P** **18 10 17.8 +0.1**
comp=Z,15nm,0.6s,baz=191,slow=6.1,SNR=5.0
ESDC Sonseca Array 97.41 21 LR LR 18 51 55.5
comp=Z,48nm,18.8s,baz=150,slow=33
CMAR Chiang Mai Arr 127.67 114 PKP **PKPdf** **18 17 50.4 +0.9**
comp=Z,0.5nm,0.7s,baz=204,slow=2.0,SNR=3.1
ZALV Zalesovo Beam 144.23 65 PKP **PKPab** **18 18 17.2 +0.3**
comp=Z,0.5nm,0.5s,baz=241,slow=3.1,SNR=4.6
ILAR Eielson Array 147.73 313 PKPbc **PKPdf** **18 18 27.0 +2.3**
comp=Z,1.7nm,0.8s,baz=83,slow=1.8,SNR=11
SONM Songino Array 153.15 88 PKPbc **PKPbc** **18 18 41.4 +0.1**
comp=Z,0.7nm,0.7s,baz=286,slow=2.8,SNR=4.0

---

*IDC **27** 17:58:50.7±0.5,2°.35N×125°.85E,h0km,mb4.3/18,*
mbtmp4.2/19,ML3.6/1,MS3.1/7,Error ellipse:
s-maj=32.1km s-min=12.1km az=77.0
*DJA **27** 17:59:00.3±1.1,2°N±2°×12°6E±°,h34km±19km,M4.6/19,*
mb4.6/13,mBS.2/7,MLv4.6/19,Mw(mB)4.5/7
*NEIC **27** 17:59:01.0±2.2,2°.36N±0°.06×126°.31E±0°.09,h76km±7km,*
mb4.6/51,Error ellipse: s-maj=12.7km s-min=8.7km
az=76.0

ISC 27 17:59:02.6±0.3,2°.32N±0°.04×126°.19E±0°.06,h100km,n129,
σ1§86/139,mb4.4/43,4C-2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.51**	**334**	P	Pn	17 59 24.0	-5.0
SGSI				S	**Sn**	**17 59 42.2**	**-6.8**
TNTI	**Ternate**	**1.94**	**143**	Pn	**Pn**	**17 59 30.4**	**-4.0**
TNTI				Sn	**Sn**	**17 59 57.1**	**-1.6**
TNTI	**Ternate**	**1.94**	**143**	P	**Pn**	**17 59 31.8**	**-2.6**
TNTI				S	**Sn**	**17 59 56.7**	**-2.0**
TNTI	**Ternate**	**1.94**	**143**	P	**Pn**	**17 59 32.5**	**-1.9**
KMSI	**Cibinong**	**2.81**	**232**	P	**Pn**	**17 59 42.2**	**-3.6**
LBMI	**Labuha**	**3.22**	**156**	P	**Pn**	**17 59 50.0**	**-1.4**
GTOI	**Gorontalo**	**3.59**	**242**	P	**Pn**	**17 59 53.7**	**-2.6**
SANI	**Sanana**	**4.35**	**183**	P	**Pn**	**18 00 02.8**	**-3.8**
MRSI	**Marisa**	**4.63**	**247**	P	**Pn**	**18 00 08.2**	**-2.1**
DAV	**Davao City (W)**	**4.75**	**353**	Pn	**Pn**	**18 00 09.7**	**-2.4**
LUWI	**Luwuk**	**4.78**	**226**	Pn	**Pn**	**18 00 12.0**	**-0.4**
LUWI	**Luwuk**	**4.78**	**226**	P	**Pn**	**18 00 11.1**	**-1.3**
LUWI	**Luwuk**	**4.78**	**226**	P	**Pn**	**18 00 13.6**	**+1.2**
KCP	**Kidapawan**	**4.78**	**347**	↑*e*P	**Pn**	**18 00 10.0**	**-2.5**
KCP				*i* S	**Sn**	**18 01 06.9**	**+0.1**
CTBH	**Cotabato--PC H**	**5.24**	**338**	↑*i*P	**Pn**	**18 00 16.2**	**-2.4**
APSI	**Ampana**	**5.56**	**235**	P	**Pn**	**18 00 21.9**	**-1.1**
0.8nm1μm90nm,0.6s							
NLAI	**Namlea**	**5.60**	**171**	P	**Pn**	**18 00 21.0**	**-2.5**
0.9nm7μm100nm,0.5s							
BIPH	**Bislig**	**5.83**	**2**	↑*e*P	**Pn**	**18 00 24.1**	**-2.5**
BIPH				*e*S	**Sn**	**18 01 27.7**	**-4.3**
SIJI	**Sorong**	**5.99**	**122**	Pn	**Pn**	**18 00 24.9**	**-3.9**
1.4nm,0.3s,baz=297,slow=23,SNR=8.7							
SIJI				LR	LR	18 02 36.1	
comp=Z,122nm,20.1s,baz=285,slow=36							
2.8nm,0.3s							
ZCP	**Zamboanga City**	**6.15**	**318**	↑*e*P	**Pn**	**18 00 27.5**	**-3.5**
ZCP				*e*S	**Sn**	**18 01 33.1**	**-6.7**
MSAI	**Masohi**	**6.26**	**154**	P	**Pn**	**18 00 32.0**	**-0.5**
0.1nm418nm13nm,0.5s							
CGP	**Cagayan de Oro**	**6.27**	**346**	↓*e*P	**Pn**	**18 00 33.7**	**+1.0**
CGP				*e*S	**Sn**	**18 01 44.8**	**+1.9**
AAI	**Ambon**	**6.30**	**161**	P	**Pn**	**18 00 31.7**	**-1.3**
MPSI	**Mapaga**	**6.59**	**253**	P	**Pn**	**18 00 36.0**	**-1.0**
0.1nm25nm,0.6s							
BNDI	**Bandanaira**	**7.75**	**151**	P	**Pn**	**18 00 52.0**	**-0.7**
0.3nm61nm,0.9s							
FAKI	**Fak Fak**	**7.99**	**131**	Pn	**Pn**	**18 00 52.9**	**-3.1**
FAKI	**Fak Fak**	**7.99**	**131**	P	**Pn**	**18 00 55.6**	**-0.4**
MYLDM	**Lahad Datu**	**8.18**	**291**		**Pn**	**18 00 58.2**	**-0.4**
TTSI	**Tana Toraja**	**8.30**	**230**	P	**Pn**	**18 00 59.1**	**-1.2**
832nm38nm,1.0s							
BBSI	**Bau Bau**	**8.56**	**205**	P	**Pn**	**18 01 03.0**	**-0.8**
24nm,0.9s							
SPSI	**Sidrap Palu**	**8.95**	**226**	P	**Pn**	**18 01 08.1**	**-1.1**
17nm,1.0s							
KAPI	**Kappang**	**9.72**	**221**	LR	LR	18 05 25.0	
comp=Z,75nm,21.0s,baz=70,slow=41							
KAPI	**Kappang**	**9.72**	**221**	P	**Pn**	**18 01 20.0**	**+0.4**
BSSI	**Bau Bau, Buton**	**10.15**	**214**	P	**Pn**	**18 01 24.7**	**-0.8**
12nm,0.8s							
KKM	**Kota Kinabalu**	**10.61**	**291**		**Pn**	**18 01 31.1**	**-0.7**
EDFI	**Ende, Flores**	**11.88**	**202**	P	**Pn**	**18 01 48.5**	**-0.4**
SOEI	**Soe**	**12.15**	**189**	Pn	**Pn**	**18 01 53.4**	**+0.9**
SOEI	**Soe**	**12.15**	**189**	P	**Pn**	**18 01 52.3**	**-0.2**
SOEI	**Soe**	**12.15**	**189**	P	**Pn**	**18 01 52.6**	**+0.1**
PLAI	**Plampang**	**13.89**	**217**	P	**Pn**	**18 02 16.7**	**+1.4**
SBUM	**Sibu**	**13.96**	**271**		**P**	**18 02 22.2**	**+1.3**
MTN	**Manton Dam**	**15.85**	**162**	P	**Pn**	**18 02 37.9**	**-2.2**
MTN				IAmb	IAmb	18 02 39.0	
comp=Z,14nm,0.5s							
KNRA	**Kununurra**	**18.07**	**172**	P	**P**	**18 03 05.7**	**-0.6**
KNRA				IAmb	IAmb	18 03 46.5	
comp=Z,20nm,1.1s							
FITZ	**Fitzroy Crossi**	**20.30**	**182**	P	**P**	**18 03 28.9**	**-1.8**
comp=Z,1.8nm,0.5s,baz=355,slow=8.2,SNR=11							
comp=Z,1.8nm,0.5s							
FITZ	**Fitzroy Crossi**	**20.30**	**182**		**P**	**18 03 30.0**	**-0.6**
SBJI	**Serang**	**21.71**	**247**	P	P	18 03 58.5	+13
QIZ	**Qiongzhong**	**23.06**	**317**	P	**P**	**18 03 60.0**	**+0.3**
QIZ				IAmb	IAmb	18 04 07.5	
comp=Z,26nm,1.4s							
COEN	**Coen**	**23.35**	**134**	P	**P**	**18 04 02.2**	**-0.2**
WB0	**Warramunga Arr**	**23.38**	**160**	P	**P**	**18 04 02.3**	**-0.4**
WB0				IAmb	IAmb	18 04 04.0	
comp=Z,13nm,0.7s							
WB0					**S**	**18 08 09.2**	**+1.0**
WRAB	**Tennant Creek**	**23.52**	**160**	P	**P**	**18 04 03.6**	**-0.3**
WRAB				IAmb	IAmb	18 04 05.5	
comp=Z,18nm,1.0s							
WRAB					**S**	**18 08 10.4**	**0.0**
WRA Warramunga Arr 23.53 160 P **P** **18 04 04.0 -0.1**
comp=Z,13nm,0.8s,baz=334,slow=11,SNR=165
WRA S **S** **18 08 12.0 +1.5**
comp=Z,3.7nm,0.6s,baz=343,slow=17,SNR=14
comp=Z,13nm,0.8s
WRA Warramunga Arr 23.53 160 P **P** **18 04 03.3 -0.7**
WRA **S** **18 08 10.0 -0.5**
WB2 Warramunga Arr 23.53 160 P **P** **18 04 03.5 -0.6**
WB2 IAmb IAmb 18 04 05.6
comp=Z,15nm,0.8s
WB2 **S** **18 08 09.8 -0.8**
WR0 Warramunga Arr 23.61 160 P **P** **18 04 04.8 0.0**
WR0 IAmb IAmb 18 04 06.0
comp=Z,9.8nm,0.8s
WR0 **S** **18 08 12.7 +0.9**
UBPT Khong Chiam 24.15 303 P **P** **18 04 10.8 +1.2**
MBWA Marble Bar 24.18 195 P **P** **18 04 10.3 +0.5**
PSA00 Pilbara Seismi 24.55 194 P **P** **18 04 12.9 -0.3**
PSA00 IAmb IAmb 18 04 15.6
comp=Z,7.8nm,0.8s
PSA00 Pilbara Seismi 24.55 194 P **P** **18 04 12.7 -0.4**
PSA00 IAmb IAmb 18 04 15.9
comp=Z,3.3nm,0.8s
AS31 Alice Springs 26.90 164 P **P** **18 04 34.9 +0.4**
ASAR Alice Springs 26.90 164 P **P** **18 04 34.9 +0.4**
comp=Z,3.0nm,0.5s,baz=349,slow=12,SNR=91
ASAR PcP **PcP** **18 07 56.4 +1.9**
comp=Z,1.5nm,0.6s,baz=355,slow=2.3,SNR=8.4
ASAR S **S** **18 09 06.8 +2.6**
comp=Z,0.7nm,0.7s,baz=352,slow=23,SNR=5.5
comp=Z,3.0nm,0.5s
CMAR Chiang Mai Arr 31.14 303 LR LR 18 17 02.0
comp=Z,30nm,21.6s,baz=120,slow=35
JTU Tsushima 32.18 5 P **P** **18 05 24.0 +3.0**
MORW Morawa 32.69 197 P **P** **18 05 26.3 +0.7**
FORT Forrest 32.97 177 P **P** **18 05 27.9 0.0**
JHS Saijyo 33.14 10 P **P** **18 05 27.4 -2.1**
JHS IAmb IAmb 18 05 44.8
comp=Z,14nm,1.3s
JHJ Hachijo jima 2 33.18 21 LR LR 18 21 42.3
comp=Z,17nm,18.3s,baz=110,slow=41
JHJ2 Mitsune 33.19 21 P **P** **18 05 26.8 -3.0**
PZH PanZhiHua 33.59 318 P **P** **18 05 37.0 +3.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,280nm,5.5s
KSRS Korea Array 35.00 2 P **P** **18 05 46.2 +0.8**
comp=Z,2.6nm,0.8s,baz=180,slow=9.9,SNR=13
comp=Z,2.6nm,0.8s
KS19 Wonju Array Si 35.04 2 P **P** **18 05 45.9 0.0**
MAJO Matsushiro 35.82 17 P **P** **18 05 52.0 -0.6**
MAJO IAmb IAmb 18 05 52.6
comp=Z,4.7nm,0.7s
MJAR Matsushiro Arr 35.82 17 P **P** **18 05 51.9 -0.6**
comp=Z,3.2nm,0.8s,baz=192,slow=9.5,SNR=8.0
MJAR LR LR 18 24 53.9
comp=Z,22nm,18.1s,baz=166,slow=44
comp=Z,3.2nm,0.8s
MJB9 Matsu-Tunnel 35.82 17 P **P** **18 05 51.9 -0.7**
MJB9 IAmb IAmb 18 05 52.6
comp=Z,4.7nm,0.7s
BBOO Buckleboo 36.17 166 P **P** **18 05 56.4 +0.8**
BBOO IAmb IAmb 18 05 57.2
comp=Z,13nm,0.8s
STKA Stephens Creek 37.02 158 P **P** **18 06 03.6 +0.8**
comp=Z,3.0nm,0.3s,baz=327,slow=8.6,SNR=8.9
comp=Z,3.0nm,0.3s
STKA Stephens Creek 37.02 158 P **P** **18 06 03.8 +0.9**
JSD Sado 37.23 16 P **P** **18 06 03.4 -1.1**
JSD IAmb IAmb 18 06 04.7
comp=Z,6.8nm,0.7s
JMM Marumori 37.83 19 P **P** **18 06 09.5 0.0**
JMM IAmb IAmb 18 06 12.2
comp=Z,15nm,0.8s
LZH Lanzhou 39.45 331 *e*P P 18 06 29.8 +6.5
LZH pP pP 18 06 42.0 -3.8
LZH pmax pmax
comp=Z,19nm,1.4s
HHC Hu-ho-hao-te 40.57 343 *e*P **P** **18 06 36.5 +4.1**
HHC pmax pmax
comp=Z,45nm,0.9s
HHC pmax pmax
comp=Z,290nm,5.7s
ARMA Armidale 40.61 145 P **P** **18 06 33.0 0.0**
ARMA IAmb IAmb 18 07 08.9
comp=Z,27nm,1.4s
USRK Ussuriysk Ar. 42.02 6 P **P** **18 06 44.9 +0.8**
comp=Z,2.9nm,0.6s,baz=200,slow=7.0,SNR=5.0
comp=Z,2.9nm,0.6s
USRK Ussuriysk Ar. 42.02 6 P **P** **18 06 44.3 +0.2**
MDJ Mudanjiang 42.22 4 P **P** **18 06 44.0 -1.8**
MDJ Mudanjiang 42.22 4 P **P** **18 06 45.5 -0.3**
MDJ pP pP 18 07 01.5 -7.0
MDJ sP pwP 18 07 14.0 +3.1
MDJ ScP **ScP** **18 12 21.3 +1.5**
MDJ PcS **PcS** **18 12 28.3 -1.6**
MDJ S **S** **18 13 02.5 +3.8**
MDJ sS sS 18 13 34.8 -3.3
MDJ ScS **ScS** **18 16 39.0 +1.3**
MDJ pmax pmax
comp=Z,18nm,3.1s
MDJ pmax pmax
comp=Z,280nm,3.5s
MDJ LR LR
comp=N,340nm,4.2s
MDJ LR LR
comp=E,430nm,4.5s
MDJ LR LR
comp=Z,280nm,4.7s
H11S3 WAKE ISLAND Hy 42.80 65 T T 18 53 29.8
baz=252,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 42.81 65 T T 18 53 57.2
baz=252,slow=75,SNR=2.8
H11S2 WAKE ISLAND Hy 42.81 65 T T 18 53 55.4
baz=252,slow=75,SNR=16
TOO Toolangi 43.54 158 P **P** **18 06 56.3 -0.3**
TOO IAmb IAmb 18 06 59.1
comp=Z,10nm,1.2s
DZM Mont Dzumac 46.19 124 P **P** **18 07 15.3 -2.6**
DZM IAmb IAmb 18 07 34.5
comp=Z,18nm,1.4s
LIFNC LIFOU 46.30 122 P **P** **18 07 16.5 -2.1**
SONM Songino Array 48.46 342 P **P** **18 07 34.6 -0.5**
comp=Z,0.6nm,0.5s,baz=151,slow=9.5,SNR=5.2
SONM PcP **PcP** **18 09 00.9 +1.0**
comp=Z,0.8nm,0.7s,baz=164,slow=4.4,SNR=4.4
comp=Z,0.6nm,0.5s
SONM Songino Array 48.46 342 P **P** **18 07 33.9 -1.2**
WMQ Urumqi 53.57 326 *e*P **P** **18 08 16.5 +3.1**
PEA0B Petropavlovsk- 56.93 22 P **P** **18 08 36.1 -1.2**
PETK Petropavlovsk- 56.93 22 P **P** **18 08 37.9 +0.6**
comp=Z,3.8nm,0.7s,baz=198,slow=9.1,SNR=8.7
comp=Z,3.8nm,0.7s
PETK Petropavlovsk- 56.93 22 P **P** **18 08 36.2 -1.1**
MK31 Makanchi Array 58.40 326 P **P** **18 08 46.8 -1.0**
MKAR Makanchi Array 58.40 326 P **P** **18 08 46.7 -1.1**
comp=Z,0.9nm,0.3s,baz=120,slow=7.8,SNR=20
MKAR PcP **PcP** **18 09 38.2 +0.7**
comp=Z,1.3nm,0.7s,baz=117,slow=5.8,SNR=5.1
comp=Z,0.9nm,0.3s
MA2 Magadan 60.19 14 P **P** **18 08 59.6 -0.2**
LBZ Lake Benmore 60.84 145 P **P** **18 09 05.6 +1.1**
THZ Tophouse 60.94 141 P **P** **18 09 06.0 +0.7**
ZALV Zalesovo Beam 61.59 334 P **P** **18 09 08.7 -0.7**
comp=Z,0.4nm,0.4s,baz=165,slow=8.6,SNR=2.5
comp=Z,0.4nm,0.4s
BKZ Black Stump Fm 61.91 137 P **P** **18 09 11.6 -0.3**
KURK Kurchatov 62.63 328 P **P** **18 09 15.5 -1.0**
KURK IAmb IAmb 18 09 41.8
comp=Z,2.6nm,0.6s
NRIK Noril'sk 71.66 346 P **P** **18 10 13.6 +0.5**
comp=Z,8.1nm,0.6s,baz=126,slow=5.1,SNR=7.6
comp=Z,8.1nm,0.6s
NRIK Noril'sk 71.66 346 P **P** **18 10 13.3 +0.1**
NRIK IAmb IAmb 18 10 14.4
comp=Z,8.4nm,0.7s
ABKAR Akbulak array 72.89 321 P **P** **18 10 19.5 -1.4**
VNDA Vanda 82.11 173 P **P** **18 11 13.4 +1.8**
comp=Z,0.6nm,0.5s,baz=313,slow=6.7,SNR=9.2
comp=Z,0.6nm,0.5s
VNDA Vanda 82.11 173 P **P** **18 11 12.9 +1.3**
N19K Bonanza Creek 82.77 29 P **P** **18 11 18.1 +2.5**
N19K IAmb IAmb 18 11 19.4
comp=Z,5.6nm,0.8s
L19K White Mountain 82.80 28 P **P** **18 11 18.1 +2.5**
L19K IAmb IAmb 18 11 19.1
comp=Z,8.3nm,1.1s
M19K Big River Lodg 82.97 28 P **P** **18 11 19.3 +2.8**
M19K IAmb IAmb 18 11 19.7
comp=Z,4.5nm,0.8s
J20K Nowinta River 83.41 26 P **P** **18 11 21.3 +2.7**
J20K IAmb IAmb 18 11 22.2
comp=Z,3.9nm,0.9s
M20K Styx River 83.56 28 P **P** **18 11 21.7 +2.1**
M20K IAmb IAmb 18 11 23.0
comp=Z,7.2nm,0.8s
IMAR Indian Mountai 83.84 24 P **P** **18 11 22.9 +2.1**
SUA Susitna One 84.65 29 P **P** **18 11 26.6 +1.5**
SUA IAmb IAmb 18 11 27.5
comp=Z,9.0nm,0.8s
BPAW Bear Paw Mtn. 84.78 26 P **P** **18 11 27.2 +1.6**
BPAW IAmb IAmb 18 11 45.4
comp=Z,7.8nm,1.4s
MLY Manley 84.97 25 P **P** **18 11 28.7 +2.1**
PPT Papeete 85.20 108 LR LR 18 43 22.2
comp=Z,12nm,20.8s,baz=340,slow=31
PWL Port Wells 85.77 29 P **P** **18 11 32.3 +1.6**
PWL IAmb IAmb 18 11 33.2
comp=Z,5.2nm,0.6s
ILAR Eielson Array 86.60 25 P **P** **18 11 35.0 +0.4**
comp=Z,0.5nm,0.7s,baz=237,slow=5.3,SNR=6.4
comp=Z,0.5nm,0.7s
MMAI Mount Meron Ar 89.41 303 LR LR 18 59 03.9
comp=Z,27nm,18.1s,baz=106,slow=40
ARCES ARCESS Array B 91.57 340 P **P** **18 11 58.2 +0.2**
comp=Z,0.8nm,0.5s,baz=90,slow=7.3,SNR=9.6
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 92.64 321 P **P** **18 12 02.2 -0.9**
comp=Z,1.2nm,0.7s,baz=68,slow=4.6,SNR=4.3
comp=Z,1.2nm,0.7s
FINES FINESS Array B 92.81 332 P **P** **18 12 03.2 -0.5**
comp=Z,1.3nm,0.8s,baz=75,slow=6.3,SNR=8.6
comp=Z,1.3nm,0.8s
BURAR Bucovina Array 95.68 318 ⇓P **P** **18 12 17.6 +0.1**
HFS Hagfors 99.00 332 P **Pdif** **18 12 32.1 +0.2**
comp=Z,2.2nm,0.8s,baz=116,slow=3.4,SNR=4.7
comp=Z,2.2nm,0.8s
TORD Torodi Ar. Bea 122.83 287 PKP **PKiKP** **18 17 48.8 +0.5**
comp=Z,15nm,0.6s,baz=70,slow=2.5,SNR=5.1

---

*ISK **27** 18:11:13.1,37°.91N×29°.15E,h5km,ML3.9/32*
*DDA **27** 18:11:13.5±0.0,37°.93N×29°.12E,h7km±3km,MW4.0*
*GII **27** 18:11:13.7±0.0,38°.83N×30°.28E,h7km*
*IDC **27** 18:11:13.9±0.9,37°.92N×29°.16E,h0km,mb3.8/7,*
mbtmp3.9/16,ML3.6/9,MS2.9/3,Error ellipse:
s-maj=16.1km s-min=13.7km az=178.0
*THE **27** 18:11:14.2,37°.89N×29°.17E,h0km±6km,ML3.8/1,Error*
ellipse: s-maj=14.9km s-min=1.9km az=81.0

ISC 27 18:11:14.3±1.1,37°.94N±0°.02×29°.13E±0°.02,h3km±8km,
n132,σ1§31/166,mb3.8/8,9C-12D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APMY	**Acipayam-Deniz**	**0.48**	**163**	PG	**Pg**	**18 11 23.3**	**-0.3**
APMY				SG	**Sb**	**18 11 30.7**	**-2.3**
KHL	**Karahalli**	**0.49**	**39**	PG	**Pb**	**18 11 24.5**	**-1.2**
PASA	**Karahalli, USA**	**0.50**	**35**	P	**Pg**	**18 11 23.1**	**-0.7**
PASA				S	**Sg**	**18 11 31.1**	**+0.8**
TAVA	**DENIZLI_Tavas**	**0.50**	**200**	P	**Pg**	**18 11 23.1**	**-0.8**
TAVA				S	**Sg**	**18 11 30.8**	**+0.4**
MANT	**Manisa**	**0.71**	**321**	P	**Pg**	**18 11 27.8**	**-0.1**
MANT				S	**Sg**	**18 11 37.5**	**+0.3**
BASM	**Basmaki-Afyon**	**0.73**	**91**	PG	**Pg**	**18 11 27.8**	**-0.5**
BRDR	**BURDUR-Merkez**	**0.78**	**108**	P	**Pb**	**18 11 28.7**	**-1.7**
BRDR				S	**Sn**	**18 11 41.8**	**-2.6**
GOLH	**Golhisar**	**0.78**	**154**	P	**Pb**	**18 11 28.8**	**-1.7**
GOLH				S	**Sn**	**18 11 42.5**	**-1.9**
USAK	**Uak-Merkez**	**0.78**	**354**	P	**Pg**	**18 11 28.9**	**-0.3**
USAK				S	**Sg**	**18 11 39.3**	**-0.1**
CAEL	**Denizli, Camel**	**0.83**	**169**	P	**Pg**	**18 11 29.6**	**-0.6**
CAEL				S	**Sn**	**18 11 44.6**	**-1.1**
KZIL	**AFYON_Kizioren**	**0.86**	**68**	P	**Pg**	**18 11 30.0**	**-0.8**
KZIL				S	**Sn**	**18 11 46.3**	**-0.2**
MULA	**Mugla, Merkez-**	**0.94**	**224**	P	**Pg**	**18 11 31.3**	**-0.9**
MULA				S	**Sb**	**18 11 45.1**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**271**	PG	**Pg**	**18 11 32.7**	**-0.3**
CAME	**Cameli-Denizli**	**1.00**	**172**	PG	**Pg**	**18 11 32.3**	**-1.2**
AYDN	**Tasoluk**	**1.03**	**255**	P	**Pg**	**18 11 33.6**	**-0.4**
AYDN				S	**Sg**	**18 11 46.2**	**-0.4**
YER	**Yerkesik**	**1.05**	**220**	P	**Pg**	**18 11 33.4**	**-0.9**
YER	**Yerkesik**	**1.05**	**220**	PG	**Pg**	**18 11 33.6**	**-0.7**
YER				SG	**Sn**	**18 11 49.5**	**-1.5**
ISP	**Isparta**	**1.11**	**96**	PN	**Pg**	**18 11 34.6**	**-0.9**
GEDZ	**Gediz**	**1.13**	**11**	PN	**Pg**	**18 11 35.7**	**-0.2**
DEMI	**Demirci**	**1.15**	**344**	P	**Pg**	**18 11 35.5**	**-0.8**
DEMI				S	**Sg**	**18 11 50.7**	**-0.6**
SMAA	**Simav-Kutahya**	**1.17**	**354**	PN	**Pn**	**18 11 37.3**	**-0.2**
DALY	**Dalyan (Mula)**	**1.18**	**199**	PN	**Pb**	**18 11 36.5**	**-0.8**
GDZ	**Gediz**	**1.18**	**13**	P	**Pg**	**18 11 35.0**	**-2.0**
GDZ				S	**Sg**	**18 11 50.4**	**-1.9**
GOMA	**Golmarmara-Man**	**1.22**	**309**	PN	**Pn**	**18 11 38.5**	**+0.3**
AFYO	**Afyonkarahisar**	**1.25**	**47**	P	**Pg**	**18 11 37.3**	**-1.0**
AFYO				S	**Sn**	**18 11 57.6**	**+1.5**
BCK	**Bucak**	**1.25**	**112**	PN	**Pn**	**18 11 37.9**	**-0.8**
SHUT	**Suhut-Afyon**	**1.28**	**61**	PN	**Pg**	**18 11 38.0**	**-0.8**
BUCA	**Burdur, Bucak-**	**1.29**	**118**	P	**Pn**	**18 11 39.1**	**-0.1**
BUCA				S	**Sn**	**18 11 59.6**	**+2.7**
FETY	**Fethiye**	**1.30**	**182**	PN	**Pg**	**18 11 37.8**	**-1.4**
BAGO	**Egridir - ISPA**	**1.31**	**87**	P	**Pb**	**18 11 39.0**	**-0.6**
BAGO				S	**Sn**	**18 12 00.5**	**+2.9**
ELL	**Elmali**	**1.34**	**152**	PN	**Pb**	**18 11 39.8**	**-0.3**
TURN	**Turunc**	**1.36**	**212**	PN	**Pg**	**18 11 39.9**	**-0.4**
TURN	**Turunc**	**1.36**	**212**	P	**Pn**	**18 11 38.9**	**-1.1**
TURN				S	**Sn**	**18 11 59.8**	**+1.3**
AKHS	**Akhisar**	**1.40**	**313**	P	**Pn**	**18 11 39.3**	**-1.3**
AKHS				S	**Sb**	**18 11 59.3**	**+0.1**
GCAM	**G?zelcaml?**	**1.52**	**262**	PN	**Pb**	**18 11 42.9**	**-0.1**
GCAM	**G?zelcaml?**	**1.52**	**262**	P	**Pb**	**18 11 42.4**	**-0.7**
GCAM				S	**Sn**	**18 12 00.7**	**-1.8**
TVSB	**Tavsanli**	**1.53**	**10**	PN	**Pn**	**18 11 41.9**	**-0.7**
DDIM	**Aydin, Didim**	**1.57**	**253**	P	**Pb**	**18 11 43.3**	**-0.6**
DDIM				S	**Sg**	**18 12 06.8**	**+2.0**
ANTB	**Antalya**	**1.60**	**130**	PN	**Pb**	**18 11 43.4**	**-0.9**
ANDZ	**Kutahya, Merke**	**1.68**	**21**	P	**Pn**	**18 11 44.7**	**-0.4**
ANDZ				S	**Sb**	**18 12 06.8**	**-0.6**
BODT	**Bodrum**	**1.69**	**239**	P	**Pn**	**18 11 42.9**	**-1.7**
BODT				S	**Sb**	**18 12 07.2**	**-0.4**
BODT	**Bodrum**	**1.69**	**239**	PN	**Pn**	**18 11 44.2**	**-0.4**
YVAC	**Isparta, Yalva**	**1.70**	**78**	P	**Pb**	**18 11 44.9**	**-1.3**
YVAC				S	**Sg**	**18 12 13.8**	**+5.0**
BLCB	**Balcova**	**1.70**	**286**	PN	**Pb**	**18 11 45.9**	**-0.3**
DST	**Dursunbey**	**1.71**	**347**	PN	**Pb**	**18 11 46.1**	**-0.3**
DURS	**Dursunbey**	**1.74**	**343**	P	**Pb**	**18 11 47.0**	**+0.1**
DURS				S	**Sg**	**18 12 10.5**	**+0.4**
AKAS	**Kas**	**1.74**	**167**	PN	**Pb**	**18 11 45.9**	**-1.1**
AKAS	**Kas**	**1.74**	**167**	P	**Pb**	**18 11 46.0**	**-0.9**
AKAS				S	**Sg**	**18 12 14.3**	**+4.0**
DGB	**zmir**	**1.78**	**274**	P	**Pn**	**18 11 45.0**	**-0.8**
DGB				S	**Sg**	**18 12 12.0**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.81**	**323**	P	**Pn**	**18 11 45.6**	**-0.8**
STEP				S	**Sg**	**18 12 14.3**	**+1.8**
SMG	**Samos**	**1.83**	**264**	P	**Pn**	**18 11 45.6**	**-1.0**
ARG	**Ark

KIZT	Kizilcal	2.36	66	PN		Pb	18 11 55.1	-2.3	
SVRH	Sivrihisar-ESK	2.41	50	PN		Pn	18 11 55.1	+0.5	
AUSIV	SIVRIHISAR	2.41	51	PN		Pb	18 11 55.1	+0.4	
CHOS	Chios island	2.46	281	P		Pn	18 11 55.1	-0.3	
KONT	Konya--Tatoy	2.56	89	PN		Pn	18 11 56.8	+0.2	
LADK	Ladik-KONYA	2.57	83	PN		Pn	18 11 56.2	-0.6	
PRK	Paraskevi	2.59	301	P		Pn	18 11 57.8	+0.8	
HDMB	Hadim	2.84	109	PN		Pn	18 12 01.0	+0.3	
KARP	Karpathos	2.86	214	P		Pn	18 12 01.3	+0.5	
KARP	702nm,0.7s			S		Sn	18 12 34.3	-1.4	
KARP	Karpathos	2.86	214	PN		Pn	18 12 01.7	+0.9	
SIGR	SIGRI	2.86	297	P		Pn	18 12 00.2	-0.6	
EZN	Ezine	2.89	312	P		Pn	18 12 00.5	-0.6	
APE	Apeiranthos	2.99	254	⇑P		Pg	18 12 10.0	-1.5	
ANTO	Ankara	3.45	55	⇓P		Pn	18 12 09.6	+0.7	
ALN	Alexandroupoli	3.80	322	P		Pn	18 12 13.4	-0.2	
KDZE	Karadeniz Ereo	3.81	27	⇓P		Pb	18 12 20.4	-1.8	
BRTR	Keskin Array B	3.95	62	Pn		Pn	18 12 16.4	+0.5	
BRTR	1.5nm,0.3s,baz=238,slow=12,SNR=48 0.4nm,0.3s,baz=231,slow=15,SNR=4.3			Sn		Sn	18 13 02.7	0.0	
BRTR	comp=Z,213nm,19.1s,baz=266,slow=48 14nm,0.8s			LR		LR	18 14 22.2		
RDO	Rodhopi	4.24	320	P		Pn	18 12 19.6	-0.1	
IDI	Anoyia	4.32	233	⇑P		Pn	18 12 19.2	-1.5	
IDI	Anoyia	4.32	233	Pn		Pn	18 12 21.7	+0.9	
IDI	1.7nm,0.3s,baz=87,slow=8.3,SNR=12 comp=Z,114nm,21.8s,baz=92,slow=39 17nm,0.7s			LR		LR	18 14 04.2		
KDZ	Kurdzhali	4.68	324	*i* P		Pn	18 12 25.8	0.0	
RZN	Rozhen	5.06	319	*i* P		Pn	18 12 30.9	-0.2	
PLD	Plovdiv	5.37	322	*i* P		Pn	18 12 35.1	-0.1	
MMB	Musomniste	5.53	313	*i* P		Pn	18 12 35.7	-1.8	
RAZG	Razgrad	5.96	341	⇑P		Pb	18 12 52.0	-6.8	
DIKM	Dikmen	6.00	50	⇓P		Pg	18 13 03.9	-5.4	
STIP	Stip	6.53	307	*i* Pn		Pn	18 12 50.0	-1.1	
TIRR	Tirgusor	6.54	355	⇓P		Pn	18 12 53.0	+1.8	
TLBR	Topalu	6.65	353	⇓P		Pn	18 12 55.3	+2.5	
HNTI	Hanita	6.91	133	Pn		Pn	18 12 57.6	+1.2	
MMA0B	Mount Meron ar	7.09	132	Pn		Pn	18 12 58.5	-0.5	
MMAI	Mount Meron Ar 6.3nm,0.3s,baz=316,slow=12,SNR=27	7.09	132	Pn		Pn	18 12 58.4	-0.6	
MMAI	1.3nm,0.3s,baz=310,slow=28,SNR=1.9 9.3nm,0.4s			Sn		Sn	18 14 19.3	-0.9	
GEM	Giv'at Ha'Em	7.11	130	Pn		Pn	18 12 58.1	-1.1	
GEM				Sn		Sn	18 14 19.6	-0.9	
NATI	Neve Ativ	7.12	129	Pn		Pn	18 12 59.1	-0.2	
NATI				Sn		Sn	18 14 19.4	-1.3	
TLCR		7.25	358	⇓P		Pn	18 12 50.0	-11	
CFR	Carcaliu	7.27	354	⇓P		Pn	18 13 02.2	+0.9	
HMDT	Nahal Hemdat	7.72	135	Pn		Pn	18 13 07.1	-0.4	
HMDT				Sn		Sn	18 14 37.6	+2.1	
MLR	Muntele Rosu	7.91	344	⇑P		Pn	18 13 08.3	-1.9	
MLR	Muntele Rosu 0.4nm,0.3s,baz=211,slow=4.9,SNR=5.3 2.3nm,0.6s	7.91	344	Pn		Pn	18 13 11.7	+1.5	
BOVS	Bovan	8.00	318	⇓P		Pn	18 13 11.0	-0.4	
VARL	Varlezi	8.01	354	⇑P		Pn	18 13 19.1	+7.7	
VOIR		8.09	339	⇓P		Pn	18 13 13.8	+1.2	
PLOR	Plostina	8.12	348	⇑P		Pn	18 13 15.0	+2.0	
VRI	Vrincioaia	8.12	348	⇑P		Pn	18 13 13.7	+0.7	
DSI	Dead Sea	8.17	139	Pn		Pn	18 13 15.4	+1.7	
COVR	Voineasa-Covas	8.20	346	⇑P		Pn	18 13 13.7	-0.3	
ASF	Jabal al Asfar 0.5nm,0.3s,baz=336,slow=15,SNR=4.2 1.0nm,0.3s	8.58	130	Pn		Pn	18 13 21.1	+1.7	
PDG	Podgorica	8.79	304	⇓P		Pn	18 13 22.7	+0.6	
GZR	Gura Zlata	8.83	329	⇑P		Pn	18 13 19.6	-3.2	
BIZ	Bicaz	9.27	347	⇓P		Pn	18 13 32.5	+3.8	
EIL	Elat 0.5nm,0.3s,baz=339,slow=15,SNR=3.6 4.4nm,0.7s	9.56	148	Pn		Pn	18 13 33.5	+0.8	
TIP	Timpagrande	9.77	281	⇓P		Pn	18 13 36.8	+1.2	
KBZ	Khabaz baz=225,slow=7.7,SNR=3.4 2.8nm,1.1s	11.92	57	Pn		Pn	18 14 08.1	+3.1	
GERES	GERESS Array B 0.1nm,0.3s,baz=122,slow=14,SNR=7.6 0.6nm,0.7s	15.61	319	Pn		P	18 14 57.4	-2.1	
CLL	Collm comp=Z,7.0nm,1.4s	17.57	325	*e*P		P	18 15 21.0	0.0	
CLL				*ex*		x	18 15 45.0		
BELG	Belogornoye comp=Z,0.2nm,0.3s,baz=248,slow=2.1,SNR=5.9 comp=Z,14nm,1.0s	19.39	36	P		Pn	18 15 41.8	-0.3	
GEYT	Alibeck comp=Z,2.1nm,0.8s,baz=274,slow=12,SNR=5.3 comp=Z,2.1nm,0.8s	22.83	81	P		P	18 16 19.4	+0.9	
FINES	FINESS Array B comp=Z,3.0nm,0.9s,baz=177,slow=7.1,SNR=4.7 comp=Z,3.0nm,0.9s	23.61	356	P		P	18 16 27.1	+1.1	
AKTO	Aktyubinsk comp=Z,1.5nm,0.6s,baz=260,slow=13,SNR=5.0 comp=Z,1.5nm,0.6s	24.02	49	P		P	18 16 30.4	+0.2	
HFS	Hagfors comp=Z,5.7nm,0.9s,baz=128,slow=12,SNR=4.2 comp=Z,5.7nm,0.9s	24.29	341	P		P	18 16 32.9	+0.4	
ESDC	Sonseca Array comp=Z,0.3nm,0.4s,baz=74,slow=11,SNR=4.2 comp=Z,0.3nm,0.4s	25.77	284	P		P	18 16 46.4	+0.2	
ARU	Arti comp=Z,1.6nm,0.4s,baz=213,slow=10,SNR=4.9	26.92	37	P		P	18 16 57.3	+0.9	
ARU	comp=Z,30nm,19.4s,baz=194,slow=44 comp=Z,1.6nm,0.4s			LR		LR	18 30 44.9		
TORD	Torodi Ar. Bea comp=Z,16nm,0.6s,baz=25,slow=7.8,SNR=5.1	34.72	232	P		P	18 18 04.5	-1.0	
MKAR	Makanchi Array comp=Z,1.4nm,0.8s,baz=286,slow=6.2,SNR=7.0 comp=Z,1.4nm,0.8s	39.60	60	P		P	18 18 46.3	-0.5	

DDA ***27*** *18:18:24.6±0.0,38.31N×46.12E,h8km±2km,ML3.6*
NSSP ***27*** *18:18:27.3,38.42N×45.77E,h6km,Ms4.0*
TEH ***27*** *18:18:29.0,38.35N×45.71E,h5km,ML3.7*
IDC ***27*** *18:18:30.6±1.1,38.42N×45.75E,h0km,mb3.6/6,*
mbtmp3.5/12,ML3.1/6,MS3.0/5,Error ellipse:
s-maj=17.6km s-min=12.2km az=23.0
AZER ***27*** *18:18:30.1±0.1,38.54N×45.70E,h3km,Error ellipse:*
s-maj=2.0km s-min=0.9km az=227.0

ISC 27 18:18:30.1±1.1,38.43N±0.02×45.77E±0.02,h2km±9km,
n110,σ1s70/154,mb3.7/7,6C-8D,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ISHB	Shabestar	0.19	219	*e*Pg		Pg	18 18 30.7	-3.1
IMRD	Marand	0.29	349	*e*Pg		Pg	18 18 35.7	+0.1
ITBZ	Tabriz	0.35	124	*e*Pg		Pg	18 18 36.1	-0.8
ORD	Ordubad	0.53	19	*e*Pg		Pb	18 18 41.1	-1.1
ORD	Ordubad SNR=276	0.53	19	P		Pb	18 18 41.1	-1.1
ORD				S		Sb	18 18 50.0	-0.3
TAB1	Tabriz	0.58	131	*e*Pg		Pg	18 18 41.3	0.0
TVRZ	Varzaqan	0.71	84	*e*Pg		Pg	18 18 43.9	+0.2
NAX	Nakhchivan	0.77	344	*e*Pg		Pg	18 18 44.9	0.0
NAX	Nakhchivan SNR=160	0.77	344	P		Pg	18 18 44.8	0.0
NAX				S		Sb	18 18 56.6	-0.7
SBZ	Shahbuz	0.98	350	*e*Pg		Pg	18 18 48.5	-0.4
SBZ	Shahbuz SNR=759	0.98	350	P		Pg	18 18 48.4	-0.4
SBZ				S		Sn	18 19 03.2	-2.4
IHRS	Heris	1.00	96	*e*Pg		Pb	18 18 49.6	-0.8
IHRS	comp=Z,34μm,0.4s			*e*			18 19 07.8	
IBST	Bostanabad	1.15	129	*e*Pg		Pb	18 18 50.4	-2.4
MAKU	Maku	1.25	318	*e*Pg		Pn	18 18 51.9	-3.0
OZAP	Van, Ozalp-Mer	1.41	280	P		Pn	18 18 55.5	-1.6
OZAP				S		Sg	18 19 16.7	+1.2
OZAP	comp=Z,531nm,0.7s			*i* AML		AML	18 19 31.0	
YOVA	Hakkari_Yksek	1.44	235	*e*Pn		Pn	18 18 54.8	-2.7
YOVA	Hakkari_Yksek	1.44	235	P		Pn	18 18 54.8	-2.7
YOVA				S		Sg	18 19 19.0	+2.5
HYR	Heyderabad	1.47	331	*e*Pn		Pn	18 18 56.9	-0.8
HYR	Heyderabad SNR=175	1.47	331	P		Pn	18 18 57.0	-0.8
HYR				S		Sg	18 19 17.6	+0.2
QRD	Qoradiz	1.59	49	*e*Pn		Pg	18 19 00.5	0.0
QRD	SNR=57			P		Pg	18 19 00.5	0.0
QRD				S		Sg	18 19 23.0	+1.9
ISRB	Sarab	1.61	111	*e*Pg		Pb	18 19 00.3	-0.4
ISRB	comp=Z,10μm,0.6s			*e*			18 19 27.9	
IHSH	Hashtrud	1.63	133	*e*Pg		Pn	18 18 59.3	-0.9
IHSH				*e*Sg		Sg	18 19 21.8	-0.7
IHSH	comp=Z,11μm,0.4s			*e*			18 19 27.9	
MAHB	Mahabad	1.66	182	*e*Pg		Pn	18 18 58.2	-2.2
MAHB				*e*Sg		Sn	18 19 19.5	-2.9
MAHB	comp=Z,26μm,0.5s			*e*			18 19 21.5	
GRMI	Germi	1.70	77	*e*Pg		Pb	18 19 01.3	-1.0
NRKZ	NAREK	1.79	331	⇓*i*P		Pn	18 19 00.5	-1.7
NRKZ				⇑*i*S		Sb	18 19 25.5	-1.1
HAKT	HAKKARI	1.85	243	*e*Pn		Pn	18 19 02.2	-0.9
HAKT	HAKKARI	1.85	243	P		Pn	18 19 02.2	-0.9
HAKT				S		Sg	18 19 36.1	+6.6
TVAN	Van	1.86	274	*e*Pn		Pb	18 19 03.7	-1.2
TVAN	Van	1.86	274	P		Pb	18 19 03.7	-1.2
TVAN				S		Sg	18 19 32.0	+2.2
TVAN	comp=Z,318nm,0.6s			*i* AML		AML	18 19 37.0	
VANB	Van	1.88	276	*e*Pn		Pb	18 19 03.9	-1.3
GNI	Garni	1.89	335	Pn		Pb	18 19 05.0	-0.5
GNI	comp=Z,106nm,0.3s,baz=185,slow=3.4,SNR=342			Lg		Lg	18 19 32.9	
GNI	comp=Z,206nm,0.3s,baz=200,slow=24,SNR=17							
GNI	Garni	1.89	335	⇓*i*P		Pb	18 19 04.5	-1.0
GNI				⇓*i*S		Sg	18 19 31.8	+0.9
BLQ	Beylaqan	1.90	47	*e*Pn		Pg	18 19 05.7	-0.7
BLQ	Beylaqan SNR=64	1.90	47	P		Pg	18 19 05.8	-0.6
BLQ				S		Sg	18 19 32.5	+1.5
IGDI	IGDIR	1.95	318	*e*Pn		Pb	18 19 05.1	-1.3
IGDI	IGDIR	1.95	318	P		Pb	18 19 05.1	-1.3
IGDI				S		Sg	18 19 31.7	-0.9
TASB	TASBURUN-IGDIR	1.96	323	*e*Pn		Pb	18 19 05.6	-0.9
DYDN	Diyadin	1.97	305	*e*Pn		Pb	18 19 04.7	-2.0
DYDN	Diyadin	1.97	305	P		Pb	18 19 04.8	-2.0
DYDN				S		Sg	18 19 35.0	+1.8
DYDN	comp=Z,513nm,0.7s			*i* AML		AML	18 19 45.0	
DYDN	comp=Z,366nm,0.7s			*i* AML		AML	18 19 52.0	
AGDM	Agdam SNR=28	1.97	31	P		Pb	18 19 06.9	+0.1
AGDM				S		Sg	18 19 34.8	+1.4
YRD	Yardimli	1.99	75	*e*Pn		Pg	18 19 07.6	-0.7
YRD				*e*Pn		Pg	18 19 07.6	-0.7
YRD	Yardimli SNR=61	1.99	75	P		Pg	18 19 07.7	-0.7
YRD				S		Sg	18 19 39.2	+5.0
LRK	Lerik SNR=178	2.02	83	P		Pg	18 19 08.1	-0.8
LRK				S		Sg	18 19 37.7	+2.5
KAPZ	Kaputan	2.06	337	⇓*i*P		Pb	18 19 07.7	-0.7
KAPZ				⇑*i*S		Sg	18 19 36.4	0.0
CUKT	Cukurca	2.08	236	*e*Pn		Pn	18 19 05.9	-0.3
BRDA	Brd SNR=20	2.13	30	P		Pb	18 19 09.3	-0.1
BRDA				S		Sg	18 19 41.5	+2.9
GEVA	Gevas	2.14	268	*e*Pn		Pb	18 19 07.6	-2.0
GEVA	Gevas	2.14	268	P		Pb	18 19 07.6	-2.0
GEVA				S		Sg	18 19 39.5	+0.8
GLBA	Clilabad SNR=44	2.20	68	P		Pg	18 19 11.1	-1.2
GLBA				S		Sg	18 19 41.0	+0.2
GANJ	Ganja SNR=153	2.25	11	P		Pb	18 19 11.0	-0.6
GANJ				S		Sg	18 19 42.4	-0.1
VNNZ	Vanand	2.25	318	⇓*i*P		Pb	18 19 10.9	-0.7
VNNZ				⇑*i*S		Sg	18 19 42.8	+0.3
ARUZ	Aruch	2.26	325	⇓*i*P		Pb	18 19 11.0	-0.8
ARUZ				⇓*i*S		Sg	18 19 42.6	-0.2
AMBZ	Amberd	2.28	330	⇓*i*P		Pb	18 19 11.7	-0.4
AMBZ				⇑*i*S		Sg	18 19 43.4	+0.1
GDB	GEDABAY SNR=57	2.29	360	P		Pb	18 19 10.7	-1.5
GDB				S		Sg	18 19 42.1	-1.5
ZRD	Zardab SNR=8.9	2.37	38	P		Pb	18 19 13.1	-0.3
ZRD				S		Sg	18 19 45.7	-0.4
ASTR	Astara SNR=57	2.37	86	P		Pg	18 19 14.2	-1.4
ASTR				S		Sg	18 19 47.8	+1.4
LKRN	Lenkeran, Azer SNR=13	2.37	82	P		Pg	18 19 14.7	-0.9
LKRN				S		Sg	18 19 48.7	+2.3
GAS1	Astara - Iran	2.41	90	*e*Pn		Pb	18 19 13.1	-1.1
ADCV	BITLIS_Adilcev	2.42	280	P		Pb	18 19 12.1	-2.3
ADCV				S		Sg	18 19 50.7	+3.0
KOTA	Agri, Merkez-K	2.42	305	P		Pb	18 19 13.4	-1.1
KOTA				S		Sg	18 19 49.2	+1.4
MNGR	Mingechevir, A SNR=10.0	2.55	23	P		Pb	18 19 15.7	-0.8
MNGR				S		Sb	18 19 49.2	+0.8
PERV	Siirt/Pervari-	2.59	260	P		Pn	18 19 13.4	+0.2
QZX	Qazax, Azerbai SNR=85	2.64	353	P		Pb	18 19 16.0	-2.1
QZX				S		Sb	18 19 51.6	+0.5
KDMR	Kurdemir	2.69	43	S		Sg	18 19 54.5	-2.2
DIGO	Kars	2.71	318	P		Pg	18 19 20.9	-1.2
DIGO	comp=Z,261nm,0.6s			*i* AML		AML	18 20 19.0	
DIGO	comp=Z,208nm,0.8s			*i* AML		AML	18 20 23.0	
STE	Stepanavan	2.78	338	⇑*i*P		Pb	18 19 19.6	-1.1
STE				⇑*i*S		Sg	18 19 58.4	-1.2
BLIS	Bitlis-Merkez	2.87	271	P		Pn	18 19 18.1	+1.0
BLIS				S		Sg	18 20 05.7	+3.3
EATA	Eleskirt	2.92	300	P		Pb	18 19 22.6	-0.6
QBL	Gabala SNR=15	2.97	32	P		Pb	18 19 21.5	-2.4
QBL				S		Sb	18 20 00.9	+0.2
SEKA	Sheki SNR=29	2.98	21	P		Pb	18 19 22.3	-1.7
SEKA				S		Sb	18 20 02.5	+1.5
IML	Ismayilli SNR=5.7	3.00	38	P		Pb	18 19 22.6	-1.7
IML				S		Sb	18 20 01.8	+0.3
PQL	Pirkuli	3.21	42	P		Pb	18 19 25.2	-2.7
PQL				S		Sb	18 20 07.0	-0.5
GBS	Qobustan	3.23	48	P		Pb	18 19 26.5	-1.7
GBS				S		Sb	18 20 06.4	-1.7
ZKTA	Zakatala SNR=5.3	3.27	11	P		Pb	18 19 25.9	-3.0
ZKTA				S		Sb	18 20 07.8	-1.4
XNQ	Khinaliq	3.29	33	P		Pb	18 19 26.8	-2.5
XNQ				S		Sb	18 20 07.7	-2.2
MUSM	Mu-Merkez	3.35	276	P		Pb	18 19 31.3	+1.0
MUSM				S		Sg	18 20 29.8	+12
ATGJ	Altiaghaj	3.44	44	P		Pb	18 19 29.2	-2.7
ATGJ				S		Sb	18 20 13.8	-0.5
SIZA	Siyzn SNR=6.2	3.58	41	P		Pb	18 19 30.4	-3.7
SIZA				S		Sb	18 20 16.1	-1.9
QUBA	Quba, Azerbaij	3.59	35	P		Pb	18 19 30.0	-4.4
QUBA				S		Sb	18 20 14.8	-3.7
QSAR	Qusar	3.63	31	P		Pn	18 19 30.0	+2.7
QSAR				S		Sb	18 20 18.0	-1.5
JIR1	Jirandeh	3.63	117	*e*Pn		Pn	18 19 28.3	+0.7
IDHR	Dehrash	3.76	172	*e*Pn		Pn	18 19 28.5	-0.8
IDHR	comp=Z,2μm,0.5s			*e*			18 19 44.0	
QABG	Abgarm-Qazvin	4.08	131	*e*Pn		Pn	18 19 33.9	+0.1
IGZV	Ghazvin	4.09	119	*e*Pn		Pn	18 19 34.8	+0.9
QALM	Alamut, Qazvin	4.36	116	*e*Pn		Pn	18 19 37.7	0.0
IKOM	Komasi	4.47	161	*e*Pn		Pn	18 19 39.1	0.0
IRAZ	Razeghan comp=Z,432nm,0.6s	4.50	131	*e*Pn		Pn	18 19 40.4	+0.9
IRAZ				*e*			18 21 08.3	
HAGD	Aghdareh	4.51	142	*e*Pn		Pn	18 19 40.7	+1.1
HSAM	Samen	4.79	151	*e*Pn		Pn	18 19 43.4	-0.2
KBZ	Khabaz comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=1.7	5.72	339	Pn		Pn	18 19 58.6	+2.6
KBZ	comp=Z,80nm,21.6s,baz=170,slow=43 comp=Z,0.4nm,0.3s			LR		LR	18 22 34.9	
MRVT	Maraveh tapeh	8.18	92	*e*Pn		Pn	18 20 31.6	+1.7
BRTR	Keskin Array B	9.52	282	Pn		Pn	18 20 53.9	+5.4
	baz=61,slow=13,SNR=5.4 comp=Z,1.0nm,0.8s							
SBZV	Sabzevar	9.64	99	*e*Pn		Pn	18 20 52.1	+2.1
GEYT	Alibeck comp=Z,0.4nm,0.3s,baz=283,slow=10,SNR=3.8 comp=Z,1.1nm,0.3s	9.73	89	Pn		Pn	18 20 53.8	+2.6
EIL	Elat comp=Z,75nm,19.5s,baz=230,slow=40	12.52	229	LR		LR	18 26 43.7		
AKTO	Aktyubinsk comp=Z,0.3nm,0.3s,baz=225,slow=10.0,SNR=2.5 comp=Z,0.8nm,0.4s	14.82	32	Pn		Pn	18 22 01.1	+0.5	
AKASG	Malin Array Be comp=Z,0.4nm,0.3s,baz=124,slow=11,SNR=4.7 comp=Z,0.1nm,0.3s	16.97	322	Pn		P	18 22 29.8	-0.7	
OBN	Obninsk comp=Z,16nm,21.7s,baz=320,slow=38	17.81	343	LR		LR	18 29 50.5		
ARU	Arti baz=188,slow=7.3,SNR=6.7 comp=Z,1.6nm,0.4s	19.92	21	P		Pn	18 23 03.6	-0.9	
BVAR	Borovoye Array comp=Z,0.4nm,0.7s,baz=244,slow=9.1,SNR=5.3 comp=Z,0.4nm,0.7s	22.39	41	P		P	18 23 30.9	+1.3	
VAE	Valguarnera comp=Z,25nm,0.6s,baz=97,slow=2.8,SNR=6.0	24.69	278	P		P	18 23 51.7	-0.8	
GERES	GERESS Array B comp=Z,1.4nm,0.8s,baz=107,slow=9.1,SNR=10.0 comp=Z,1.4nm,0.8s	25.26	305	P		P	18 23 58.1	+0.4	
KHC	Kasperske Hory	25.40	305	*e*P		P	18 23 59.4	+0.5	
FINES	FINESS Array B comp=Z,1.5nm,0.8s,baz=210,slow=11,SNR=3.8 comp=Z,1.5nm,0.8s	26.08	338	P		P	18 24 07.3	+2.5	
KURBB	Kurchatov Arra comp=Z,0.4nm,0.2s,baz=261,slow=9.7,SNR=5.8 comp=Z,0.4nm,0.2s	26.12	52	P		P	18 24 06.4	+1.1	
MKAR	Makanchi Array comp=Z,0.3nm,0.7s,baz=262,slow=9.2,SNR=2.9 comp=Z,0.3nm,0.7s	27.94	61	P		P	18 24 23.5	+1.7	
NOA	NORSAR Array B comp=Z,25nm,18.6s,baz=55,slow=38	31.18	328	LR		LR	18 38 22.7		
MDT	Midelt comp=Z,89nm,18.3s,baz=174,slow=41	40.92	278	LR		LR	18 46 25.3		
CMAR	Chiang Mai Arr comp=Z,0.7nm,0.9s,baz=302,slow=9.8,SNR=6.1 comp=Z,0.7nm,0.9s	50.09	98	P		P	18 27 26.9	+0.1	

IDC ***27*** *19:01:04.8±4.0,12.17S×165.85E,h46km±32km,mb3.6/6,*
mbtmp3.8/7,ML3.5/1,MS3.3/5,Error ellipse: s-maj=42.2km
s-min=24.3km az=61.0

ISC 27 19:01:02.7±1.3,12.1S±0.1×166.0E±0.2,h30km,n12,
σ0s68/9,mb3.8/6,MS2.9/3,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	Honiara 497nm,0.4s,baz=251,slow=10,SNR=6.2	6.48	294	P		Pn	19 02 36.5	+0.4
HNR	348nm,0.4s,baz=190,slow=23,SNR=1.6			S		Sn	19 03 49.6	+0.5
HNR	comp=Z,2μm,19.0s,baz=122,slow=42			LR		LR	19 05 34.3	
DZM	Mont Dzumac 0.4nm,0.3s,baz=28,slow=3.3,SNR=6.9 2.5nm,0.6s	9.93	177	P		Pn	19 03 24.1	+0.6	
PMG	Port Moresby comp=Z,68nm,20.4s,baz=88,slow=35	18.67	276	LR		LR	19 11 48.5		
CTA	Charters Tower comp=Z,48nm,18.7s,baz=98,slow=33	20.52	245	LR		LR	19 12 13.9		
AFI	Afiamalu comp=Z,29nm,20.2s,baz=240,slow=30	21.76	97	LR		LR	19 12 06.7		
STKA	Stephens Creek comp=Z,54nm,18.1s,baz=181,slow=36	29.84	225	LR		LR	19 19 04.2		
WRA	Warramunga Arr 0.3nm,0.8s,baz=78,slow=7.5,SNR=1.7 0.3nm,0.8s	31.34	252	P		P	19 07 20.1	-0.8	
ASAR	Alice Springs 0.4nm,0.7s,baz=67,slow=9.2,SNR=6.6 0.4nm,0.7s	32.53	245	P		P	19 07 30.3	-1.0	
KSRS	Korea Array 1.0nm,0.9s,baz=152,slow=6.5,SNR=2.2 1.0nm,0.9s	60.86	326	P		P	19 11 12.0	-0.5	
SONM	Songino Array 0.4nm,0.5s,baz=108,slow=3.3,SNR=6.0 0.4nm,0.5s	79.64	324	P		P	19 13 07.7	+0.3	
MKAR	Makanchi Array 1.7nm,0.7s,baz=93,slow=6.5,SNR=15 1.7nm,0.7s	94.43	317	P		P	19 14 20.4	+0.4	
ZALV	Zalesovo Beam 0.2nm,0.2s,baz=139,slow=7.7,SNR=1.9 0.2nm,0.2s	94.53	324	P		P	19 14 20.1	-0.1	

IDC 27 19:10:49.5±2.4,1.67N×126.60E,h0km,mb3.2/3,
mbtmp3.3/3,Error ellipse: s-maj=198.2km
s-min=28.4km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.3nm,0.4s,baz=339,slow=11,SNR=4.6 0.3nm,0.4s	22.79	161	P		P	19 15 53.2	-0.7
ASAR	Alice Springs 0.2nm,0.6s,baz=348,slow=13,SNR=8.2 0.2nm,0.6s	26.17	165	P		P	19 16 26.4	+0.5
MKAR	Makanchi Array 0.3nm,0.7s,baz=125,slow=7.2,SNR=2.0 0.3nm,0.7s	59.17	326	P		P	19 20 52.2	-0.1

IDC ***27*** *19:15:59.5±1.6,53.78N×162.19E,h0km,mb3.4/3,*
mbtmp3.3/4,ML2.5/1,Error ellipse: s-maj=68.2km
s-min=25.5km az=160.0
KRSC ***27*** *19:16:04.1±0.7,54.48N×161.39E,h70km±11km,ML3.9*

ISC 27 19:16:06.4±0.9,54.48N±0.03×161.40E±0.04,h62km±8km,
n43,σ0s99/73,mb3.3/3,Near east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKZ	Mys Kozlova	0.20	69	*e*P		Pn	19 16 16.1	+0.1
M

SDLR				eS		Sn	19 17 00.1	+0.1	
KBG	**Krutoberegovo**	**1.93**	**22**	P		**Pn**	**19 16 36.0**	**-0.8**	
KBG				S		**Sn**	**19 17 01.9**	**+2.0**	
KRER	**Koryakskii**	**1.96**	**234**	*e*P		**Pn**	**19 16 37.8**	**+0.3**	
SMAR	**Somma**	**1.97**	**233**	*e*P		**Pn**	**19 16 37.7**	**+0.1**	
SMAR				eS		**Sn**	**19 17 01.2**	**-0.1**	
KRX	**Arik**	**1.98**	**236**	*e*P		**Pn**	**19 16 37.4**	**-0.3**	
KRX				eS		**Sn**	**19 17 00.9**	**-0.6**	
UGLR	**Uglovaya**	**1.99**	**231**	*e*P		**Pn**	**19 16 38.2**	**+0.4**	
UGLR				eS		**Sn**	**19 17 02.4**	**+0.7**	
AVH	**Avacha**	**2.00**	**233**	*e*P		**Pn**	**19 16 38.3**	**+0.5**	
AVH				eS		**Sn**	**19 17 02.6**	**+0.9**	
KOK	**Koryaka**	**2.03**	**235**	*e*P		**Pn**	**19 16 38.4**	**+0.1**	
SRDR	**Sredinnyy**	**2.08**	**333**	*e*P		**Pn**	**19 16 38.3**	**-0.6**	
SRDR				eS		**Sn**	**19 17 04.7**	**+1.0**	
BDR	**Baidarnaya**	**2.09**	**357**	*e*P		**Pn**	**19 16 39.4**	**+0.2**	
SMKR	**Semkarok**	**2.10**	**1**	*e*P		**Pn**	**19 16 39.9**	**+0.6**	
ESO	**Esso**	**2.12**	**314**	*e*P		**Pn**	**19 16 38.9**	**-0.6**	
ESO				eS		**Sn**	**19 17 03.0**	**-1.7**	
DALK	**Dalny**	**2.14**	**228**	*e*P		**Pn**	**19 16 39.9**	**+0.2**	
DALK				eS		**Sn**	**19 17 05.1**	**-0.1**	
SRKR	**Sorokina**	**2.18**	**357**	*e*P		**Pn**	**19 16 40.5**	**+0.2**	
GNL	**Ganaly**	**2.19**	**250**	*e*P		**Pn**	**19 16 40.7**	**+0.2**	
PET	**Petropavlovsk**	**2.19**	**229**	*e*P		**Pn**	**19 16 40.7**	**+0.3**	
PET				eS		**Sn**	**19 17 06.2**	**-0.2**	
KRMR	**Karymshinskiy**	**2.56**	**231**	*e*P		**Pn**	**19 16 44.4**	**-1.0**	
KRMR				eS		**Sn**	**19 17 15.6**	**+0.3**	
PETK	**Petropavlovsk-** 3.5nm,0.3s,baz=69,slow=18,SNR=103	**2.59**	**239**	Pn		**Pn**	**19 16 45.1**	**-0.8**	
PETK				Sn		**Sn**	**19 17 21.0**	**+4.8**	
	3.7nm,0.3s,baz=315,slow=16,SNR=6.2 7.4nm,0.3s								
RUS	**Russkaya**	**2.68**	**221**	*e*P		**Pn**	**19 16 46.7**	**-0.4**	
RUS				eS		**Sn**	**19 17 18.2**	**-0.2**	
BKI	**Bering**	**2.74**	**73**	eS		**Sn**	**19 17 18.3**	**-1.4**	
GRL	**Gorelyy**	**2.77**	**227**	*e*P		**Pn**	**19 16 49.4**	**+0.9**	
GRL				eS		**Sn**	**19 17 21.5**	**+0.7**	
MTVR	**Mutnovka**	**2.78**	**225**	*e*P		**Pn**	**19 16 49.2**	**+0.7**	
MTVR				eS		**Sn**	**19 17 21.6**	**+0.7**	
APC	**Apacha**	**2.97**	**240**	*e*P		**Pn**	**19 16 51.7**	**+0.7**	
ASAK	**Asacha**	**2.97**	**226**	*e*P		**Pn**	**19 16 52.2**	**+1.1**	
ASAK				eS		**Sn**	**19 17 27.7**	**+2.2**	
KDTR	**Khodutka, Kamc**	**3.34**	**218**	*e*P		**Pn**	**19 16 55.9**	**-0.2**	
KDTR				eS		**Sn**	**19 17 32.6**	**-2.0**	
SKR	**Severo-Kuril's**	**4.99**	**222**	P		**Pn**	**19 17 19.3**	**+0.7**	
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=298,slow=4.8,SNR=5.1 0.2nm,0.5s	**69.39**	**68**	P		**P**	**19 27 08.3**	**+0.7**	
WRA	**Warramunga Arr** 0.3nm,0.9s,baz=18,slow=5.8,SNR=1.5 0.3nm,0.9s	**77.67**	**206**	P		**P**	**19 27 55.1**	**-0.9**	
ASAR	**Alice Springs** 0.1nm,0.4s,baz=19,slow=5.9,SNR=1.4 0.1nm,0.4s	**81.35**	**205**	P		**P**	**19 28 15.2**	**-0.7**	

*IDC **27** 19:18:05.4±2.3,21˚.12N×145˚.67E,h0km,mb3.7/6, mbtmp3.7/6,MS3.8/3,Error ellipse: s-maj=98.0km s-min=24.1km az=81.0*

ISC 27 19:18:11.0±2.4,21˚.1N±0˚.2×145˚.5E±0˚.7,h35km,n15, σ0s30/6,mb3.5/6,MS3.9/3,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy** baz=275,slow=74,SNR=58	**20.09**	**90**	T	T	19 44 20.4	
H11N2	**WAKE ISLAND Hy** baz=275,slow=74,SNR=57	**20.09**	**90**	T	T	19 44 20.6	
H11S3	**WAKE ISLAND Hy** baz=282	**20.09**	**94**	T	T	19 44 19.3	
H11S1	**WAKE ISLAND Hy** baz=282	**20.10**	**94**	T	T	19 44 20.1	
H11N3	**WAKE ISLAND Hy** baz=275	**20.10**	**90**	T	T	19 44 21.6	
H11S2	**WAKE ISLAND Hy** baz=282	**20.11**	**94**	T	T	19 44 20.7	
KSRS	**Korea Array** 1.5nm,0.8s,baz=143,slow=8.6,SNR=5.8 1.5nm,0.8s	**22.33**	**321**	P	**P**	**19 23 05.7**	**-0.1**
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=15,slow=8.7,SNR=5.9 0.6nm,0.6s	**42.21**	**196**	P	**P**	**19 26 01.1**	**+0.3**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=16,slow=8.1,SNR=2.1 0.2nm,0.6s	**45.89**	**195**	P	**P**	**19 26 30.1**	**-0.2**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=95,slow=12,SNR=3.2 0.4nm,0.7s	**56.71**	**313**	P	**P**	**19 27 51.3**	**+0.1**
KDAK	**Kodiak Island** comp=Z,37nm,21.9s,baz=263,slow=33	**57.48**	**34**	LR	LR	19 49 35.8	
GEYT	**Alibeck** comp=Z,56nm,19.6s,baz=50,slow=38	**75.38**	**305**	LR	LR	20 06 28.4	
ARCES	**ARCESS Array B** 2.3nm,0.9s,baz=57,slow=6.7,SNR=4.0 2.3nm,0.9s	**80.18**	**342**	P	**P**	**19 30 17.6**	**+0.2**
FINES	**FINESS Array B** 2.6nm,1.0s,baz=25,slow=7.8,SNR=3.6 2.6nm,1.0s	**84.66**	**335**	P	**P**	**19 30 40.5**	**-0.3**
GERES	**GERESS Array B** comp=Z,80nm,19.1s,baz=36,slow=37	**98.21**	**330**	LR	LR	20 19 08.4	

MAN 27 19:18:34.4,5˚.95N×126˚.00E,h137km,mb4.4,ML3.2, MS3.0,1C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.32**	**298**↑	*e*P	Pn	19 18 54.3	+0.8
DDMP				eS	Sn	19 19 10.0	+2.1
MATI	**Mati**	**1.02**	**15**↓	*e*P	Pn	19 19 01.2	+3.0
MATI				eS	Sn	19 19 19.9	+3.6
GSPH	**General Santos**	**1.05**	**277**	*e*P	Pn	19 18 58.5	-0.1
GSPH				*i* S	Sn	19 19 17.2	+0.3
KCP	**Kidapawan**	**1.38**	**319**↓	*e*P	Pn	19 19 03.1	+1.3
KCP				*i* S	Sn	19 19 24.6	+1.8
SKMP	**Bagumbayan, Su**	**1.55**	**291**↓	*e*P	Pn	19 19 04.8	+1.2
SKMP				eS	Sn	19 19 27.1	+1.3
BUKP	**Musuan**	**2.13**	**334**↓	*e*P	Pn	19 19 13.4	+3.0
BUKP				eS	Sn	19 19 41.7	+3.6
BIPH	**Bislig**	**2.25**	**9**↓	*e*P	Pn	19 19 11.9	0.0
BIPH				eS	Sn	19 19 42.1	+1.5

*JMA **27** 19:22:22.2±0.4,34˚.1×141˚.2E±˚,h31km±1km,MV3.9/37, FAR SE OFF BOSO PEN*

*NIED **27** 19:22:22.2,34˚.44N×141˚.75E,h31km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.04; Mθθ-6.50; Mφφ4.46; Mrθ1.93; Mθφ5.42; Mφr-0.77; Fault plane solution: M0 7.90000×10¹⁵ NP1: φs338.00000°,δ82.00000°,λ-173.00000°. NP2: φs247.00000°,δ83.00000°,λ-8.00000°.*

*MOS **27** 19:22:22.2±1.6,34˚.71N×141˚.73E,h10km,mb4.6/16, MS4.0/7 Error ellipse: s-maj=9.9km s-min=5.6km az=108.5*

*BJI **27** 19:22:22.1±0.0,34˚.67N×141˚.66E,h10km,mb4.4/35, mB5.0/20,Ms4.7/22,Ms7 4.3/20*

*IDC **27** 19:22:23.3±0.5,34˚.55N×141˚.49E,h0km,mb4.1/22, mbtmp4.1/27,ML2.9/4,MS3.7/29,Error ellipse: s-maj=16.3km s-min=11.3km az=86.0*

*NEIC **27** 19:22:25.0±1.8,34˚.62N±0˚.04×141˚.72E±0˚.09,h21km±5km, mb4.6/49,Error ellipse: s-maj=11.2km s-min=5.5km az=107.0*

ISC 27 19:22:26.2±0.4,34˚.66N±0˚.04×141˚.67E±0˚.05,h27km,n209, σ1s86/201,mb4.5/70,MS4.0/41,3C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.57**	**270**	P	**Pb**	**19 22 35.1**	**-2.3**
BSO1				*e*K		19 22 38.6	
BSO3	**Boso 3**	**0.97**	**279**	P	**Pn**	**19 22 41.9**	**-1.9**
BSO3				eS	**Sn**	**19 22 56.2**	**-0.3**
BSO4	**Boso 4**	**1.15**	**287**	P	**Pn**	**19 22 45.1**	**-1.3**
KTR	**Katsuura**	**1.22**	**294**	P	**Pn**	**19 22 46.0**	**-1.5**
CHOJ	**Chosi**	**1.24**	**328**	P	**Pn**	**19 22 47.4**	**-0.3**
CHOJ				S	**Sb**	**19 23 06.0**	**+1.6**
JKUC	**kamogawauchiur**	**1.31**	**293**	P	**Pn**	**19 22 46.9**	**-1.8**
JKUC				eS	**Sb**	**19 23 05.4**	**-1.1**
JSMT	**Sammumatsuo**	**1.40**	**315**	P	**Pn**	**19 22 50.1**	**0.0**
JIM2	**Oshima 3**	**1.85**	**272**	P	**Pn**	**19 22 54.4**	**-1.8**
JMKN	**Mikurajimanish**	**1.89**	**247**	P	**Pn**	**19 22 54.2**	**-2.5**
JYT	**Yasato**	**1.98**	**323**	Pn	**Pn**	**19 22 57.7**	**-0.2**
JHJ2	**Mitsune**	**2.18**	**226**		**Pn**	**19 22 59.4**	**-1.4**
JHJ	**Hachijo jima 2** 164nm,0.3s,baz=347,slow=22,SNR=71	**2.20**	**226**	Pn	**Pn**	**19 22 59.5**	**-1.5**
JHJ				Sn	**Sn**	**19 23 25.8**	**-1.5**
	265nm,0.3s,baz=177,slow=23,SNR=18						
JOD2	**Odawara 2**	**2.21**	**287**	P	**Pn**	**19 22 59.7**	**-1.4**
JIZS	**Izushimoda**	**2.31**	**272**	P	**Pn**	**19 23 00.2**	**-2.2**
JMM	**Marumori**	**3.28**	**348**		**Pn**	**19 23 15.5**	**-0.3**
JMM				Sn	**Sn**	**19 23 52.9**	**-1.0**
MJAR	**Matsushiro Arr** 1.4nm,0.3s,baz=114,slow=7.6,SNR=74	**3.39**	**305**	Pn	**Pn**	**19 23 17.4**	**+0.1**
MJAR				Sn	**Sn**	**19 23 58.8**	**+2.0**
	1.3nm,0.3s,baz=121,slow=7.8,SNR=8.4 15nm,0.6s						
MAJO	**Matsushiro**	**3.39**	**305**	Pn	**Pn**	**19 23 17.4**	**0.0**
MAJO	**Matsushiro**	**3.39**	**305**	*i* P	**Pn**	**19 23 17.6**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.40**	**305**		**Pn**	**19 23 17.4**	**-0.1**
JGF	**Kuroka**	**3.66**	**286**	Pn	**Pn**	**19 23 20.4**	**-0.7**
INU	**Inuyama**	**3.88**	**282**		**Pn**	**19 23 23.6**	**-0.5**
JSD	**Sado**	**4.35**	**322**	Pn	**Pn**	**19 23 30.3**	**-0.2**
JTM	**Tenmabayashi**	**6.14**	**356**		**Pn**	**19 23 54.4**	**-0.7**
JMN	**Monobe**	**6.53**	**264**	Pn	**Pn**	**19 24 00.3**	**-0.1**
JHS	**Saijyo**	**7.05**	**275**	Pn	**Pn**	**19 24 07.3**	**-0.3**
ERM	**Erimo**	**7.44**	**9**		**Pn**	**19 24 10.9**	**-1.9**
ERM	**Erimo**	**7.44**	**9**	P	**Pn**	**19 24 11.0**	**-1.9**
JCJ	**Chichijima** 176nm,0.6s,baz=12,slow=5.5,SNR=8.1	**7.55**	**177**	Pn	**Pn**	**19 24 12.6**	**-2.0**
JCJ	**Chichijima**	**7.55**	**177**		**Pn**	**19 24 11.5**	**-3.0**
JEW	**Eniwo**	**8.17**	**359**	Pn	**Pn**	**19 24 20.3**	**-2.7**
NMR	**Nemuro--Hokkai**	**9.25**	**19**	*e*P	**Pn**	**19 24 34.8**	**-2.9**
RUSJ	**Misakicho**	**9.83**	**15**	*e*P	**Pn**	**19 24 43.5**	**-2.2**
RUSJ				eS	**Sn**	**19 26 27.8**	**-7.3**
YUK	**Yuzh-Kuril'sk**	**9.91**	**18**	*e*P	**Pn**	**19 24 43.9**	**-2.8**
YUK				eS	**Sn**	**19 26 29.1**	**-7.9**
YUK	comp=Z,43nm,0.2s			pmax	pmax		
YUK	comp=N,20nm,0.1s			pmax	pmax		
JTU	**Tsushima**	**10.12**	**273**	Pn	**Pn**	**19 24 49.5**	**-0.3**
KSRS	**Korea Array** comp=N,0.1nm,0.3s,baz=100,slow=14,SNR=6.8 comp=N,1.6nm,0.7s	**11.47**	**288**	Pn	**Pn**	**19 25 08.4**	**+0.2**
USA0B	**Ussuriysk Arra**	**12.11**	**325**	Pn	**Pn**	**19 25 12.5**	**-4.4**
USA0B	**Ussuriysk Arra**	**12.11**	**325**	P	**Pn**	**19 25 12.5**	**-4.4**
USRK	**Ussuriysk Ar.** comp=N,0.3nm,0.3s,baz=137,slow=12,SNR=4.4	**12.11**	**325**	Pn	**Pn**	**19 25 17.6**	**+0.8**
USRK	comp=N,305nm,19.8s,baz=129,slow=37 comp=N,1.4nm,0.5s			LR	LR	19 29 46.2	
USRK	**Ussuriysk Ar.**	**12.11**	**325**	Pn	**Pn**	**19 25 12.8**	**-4.1**
YSS	**Yuzh-Sakhalins**	**12.31**	**3**		**Pn**	**19 25 18.2**	**-1.3**
YSS	**Yuzh-Sakhalins**	**12.31**	**3**	*e*P	**Pn**	**19 25 18.3**	**-1.3**
YSS	comp=Z,50nm,1.0s			pmax	pmax		
YSS	comp=Z,900nm,17.0s			MLR	MLR		
UGL	**Uglegorsk**	**14.41**	**1**	*e*P	**P**	**19 25 57.5**	**+2.6**
UGL	comp=Z,40nm,1.2s			pmax	pmax		
CN2	**Changchun**	**15.52**	**311**	*e*P	**Pn**	**19 26 04.0**	**+0.9**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
TYV	**Tymovskoe**	**16.21**	**2**	*e*P	**P**	**19 26 17.0**	**+2.2**
TYV	comp=Z,22nm,1.1s			pmax	pmax		
TYV	comp=Z,400nm,3.4s			pmax	pmax		
TYV	comp=E,2μm,16.0s			MLR	MLR		
TYV	comp=Z,2μm,16.0s			MLR	MLR		
KLR	**Kul'dur** comp=Z,0.1nm,0.3s,baz=163,slow=14,SNR=2.2	**16.30**	**336**	Pn	**P**	**19 26 15.8**	**-0.1**
KLR	comp=Z,129nm,19.5s,baz=152,slow=36 comp=Z,0.9nm,0.6s			LR	LR	19 32 16.4	
OKH	**Okha**	**18.91**	**2**	*de*P	P	19 26 35.3	-9.3
OKH	comp=Z,500nm,19.0s			MLR	MLR		
OKH	comp=N,900nm,15.0s			MLR	MLR		
OKH	comp=E,900nm,17.0s			MLR	MLR		
SKR	**Severo-Kuril's**	**19.16**	**29**	*e*P	**P**	**19 26 44.4**	**-2.9**
SKR	comp=Z,29nm,1.4s			pmax	pmax		
NJ2	**Nanjing**	**19.23**	**269**	*e*P	**Pn**	**19 26 48.8**	**-0.6**
NJ2	comp=Z,9.0nm,0.5s			pmax	pmax		
GUMO	**Guam** comp=Z,65nm,0.9s,baz=315,slow=10.0,SNR=2.4 comp=Z,65nm,0.9s	**21.18**	**171**	P	**P**	**19 27 10.4**	**+0.9**
ZEA	**Zeya**	**21.62**	**336**	*e*P	**P**	**19 27 15.0**	**+1.0**
ZEA				*e*S	**S**	**19 31 06.3**	**-5.7**
ZEA	comp=E,10.0nm,1.1s			pmax	pmax		
ZEA	comp=N,10.0nm,0.7s			pmax	pmax		
ZEA	comp=Z,20nm,0.8s			pmax	pmax		
ZEA	comp=E,200nm,12.0s			MLR	MLR		
ZEA	comp=Z,4μm,12.0s			MLR	MLR		
ZEA	comp=N,200nm,14.0s			MLR	MLR		
ZEA	comp=Z,300nm,14.0s			MLR	MLR		
HHC	**Hu-ho-hao-te**	**24.52**	**294**	*e*P	**P**	**19 27 42.8**	**-0.7**
HHC	comp=Z,38nm,1.0s			pmax	pmax		
HHC	comp=Z,200nm,5.6s			pmax	pmax		
HHC	comp=Z,1μm,10.8s			LR	LR		
HHC	comp=Z,680nm,12.9s			LR	LR		
HHC	comp=Z,660nm,17.1s			LR	LR		
H11N2	**WAKE ISLAND Hy** baz=309,slow=75,SNR=58	**26.81**	**117**	T	T	19 56 12.0	
H11N1	**WAKE ISLAND Hy** baz=309,slow=75,SNR=57	**26.82**	**117**	T	T	19 56 15.7	
H11N3	**WAKE ISLAND Hy** baz=309,slow=75,SNR=46	**26.83**	**117**	T	T	19 56 16.5	
XAN	**Xi'an**	**26.99**	**278**	P	**P**	**19 28 10.8**	**+5.0**
XAN	comp=Z,6.0nm,1.0s			pmax	pmax		
XAN	comp=Z,1μm,14.4s			LR	LR		
XAN	comp=Z,810nm,17.2s			LR	LR		
XAN	comp=Z,920nm,14.4s			LR	LR		
H11S1	**WAKE ISLAND Hy** baz=313,slow=75,SNR=54	**27.45**	**119**	T	T	19 57 08.1	
H11S3	**WAKE ISLAND Hy** baz=313,slow=75,SNR=58	**27.45**	**119**	T	T	19 57 07.1	
H11S2	**WAKE ISLAND Hy** baz=313,slow=75,SNR=42	**27.47**	**119**	T	T	19 57 06.8	
YAK	**Yakutsk**	**28.43**	**348**	*i* P	**P**	**19 28 18.1**	**-0.2**
YAK	comp=Z,4.0nm,1.0s			pmax	pmax		
ULN	**Ulaanbaatar**	**28.92**	**308**	*i* P	**P**	**19 28 23.2**	**+0.1**
ULN	comp=Z,2.0nm,1.0s			pmax	pmax		
SHEM	**Shemya Is, Ala** comp=Z,60nm,20.1s,baz=278,slow=32	**29.24**	**42**	LR	LR	19 37 53.1	
SONM	**Songino Array** comp=Z,1.7nm,0.7s,baz=109,slow=8.8,SNR=8.9 comp=Z,1.7nm,0.7s	**29.34**	**307**	P	**P**	**19 28 27.6**	**+0.8**
SONM	**Songino Array**	**29.34**	**307**	P	**P**	**19 28 25.6**	**-1.2**
BOD	**Bodaibo**	**29.67**	**330**	*e*P	**P**	**19 28 29.7**	**+0.3**
BOD	comp=Z,11nm,1.3s			pmax	pmax		
LZH	**Lanzhou**	**30.75**	**284**	*e*P	**P**	**19 28 36.5**	**-3.0**
LZH				pP	pP	19 28 41.5	-4.5
LZH				sP	sP	19 28 46.5	-2.3
LZH	comp=Z,21nm,1.1s			pmax	pmax		
LZH	comp=Z,1μm,18.2s			LR	LR		
LZH	comp=Z,660nm,16.1s			LR	LR		
LZH	comp=Z,710nm,19.9s			LR	LR		
DAV	**Davao City (W)** comp=Z,97nm,21.4s,baz=56,slow=33	**31.21**	**212**	LR	LR	19 39 22.8	
GTA	**Gaotai**	**33.53**	**291**	*e*P	**P**	**19 29 03.8**	**+0.1**
GTA				pP	pP	19 29 10.5	+0.2
GTA				sP	pwP	19 29 15.3	-1.2
GTA	comp=Z,2.0nm,1.1s			pmax	pmax		
GTA	comp=Z,83nm,5.7s			pmax	pmax		
GTA	comp=Z,390nm,14.5s			LR	LR		
GTA	comp=Z,450nm,16.7s			LR	LR		
GTA	comp=Z,470nm,16.7s			LR	LR		
KMI	**Kunming**	**34.89**	**265**⇑	P	**P**	**19 29 17.5**	**+1.8**
KMI	comp=Z,6.0nm,0.6s			pmax	pmax		
KMI	comp=Z,740nm,16.0s			LR	LR		
KMI	comp=Z,390nm,18.2s			LR	LR		
KMI	comp=Z,540nm,14.8s			LR	LR		
PZH	**PanZhiHua**	**35.15**	**268**	P	**P**	**19 29 20.0**	**+2.2**
PZH	comp=Z,10.0nm,0.9s			pmax	pmax		
PZH	comp=Z,280nm,5.5s			pmax	pmax		
BILL	**Bilibino**	**36.25**	**15**	*e*P	**P**	**19 29 28.5**	**+1.9**
BILL	comp=Z,9.0nm,1.1s			pmax	pmax		
SIJI	**Sorong** comp=Z,9.0nm,0.8s,baz=35,slow=10,SNR=4.5	**36.66**	**198**	P	**P**	**19 29 30.2**	**-0.5**
SIJI	comp=Z,99nm,19.8s,baz=68,slow=32 comp=Z,9.0nm,0.8s			LR	LR	19 41 59.8	
TIXI	**Tiksi** comp=Z,102nm,19.6s,baz=181,slow=42	**37.67**	**353**	LR	LR	19 48 52.6	
GOMU	**GeErMu**	**37.93**	**286**	P	**P**	**19 29 42.8**	**+1.0**
GOMU	comp=Z,4.0nm,1.0s			pmax	pmax		
GOMU	comp=Z,110nm,5.9s			pmax	pmax		
GOMU	comp=Z,220nm,13.2s			LR	LR		
GOMU	comp=Z,200nm,12.5s			LR	LR		
GOMU	comp=Z,220nm,14.3s			LR	LR		
FAKI	**Fak Fak**	**38.42**	**195**	P	**P**	**19 29 44.6**	**-1.0**
FAKI	comp=Z,23nm,1.4s			IAmb	IAmb	19 30 01.9	
CHTO	**Chiang Mai**	**40.97**	**259**	P	**P**	**19 30 05.5**	**-1.4**
CHTO	**Chiang Mai**	**40.97**	**259**	P	**P**	**19 30 05.5**	**-1.4**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.7s,baz=47,slow=8.2,SNR=6.8	**41.16**	**258**	P	**P**	**19 30 07.5**	**-0.9**
CMAR	comp=Z,40nm,18.1s,baz=85,slow=36 comp=Z,0.8nm,0.7s			LR	LR	19 47 01.9	
DGZ	**Jazzator, Alta**	**41.98**	**308**	*i* P	**P**	**19 30 15.9**	**+0.9**
DGZ	comp=Z,19nm,1.0s			pmax	pmax		
WMQ	**Urumqi**	**42.14**	**299**	*e*P	**P**	**19 30 17.8**	**+1.5**
WMQ	comp=Z,630nm,17.5s			LR	LR		
WMQ	comp=Z,200nm,20.1s			LR	LR		
WMQ	comp=Z,200nm,19.9s			LR	LR		
ZAA0	**Zalesovo Array**	**43.69**	**314**	P	**P**	**19 30 27.0**	**-1.6**
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.6s,baz=90,slow=6.7,SNR=8.8	**43.69**	**314**	P	**P**	**19 30 28.6**	**0.0**
ZALV	comp=Z,0.9nm,0.6s,baz=97,slow=2.0,SNR=2.2 comp=Z,1.6nm,0.6s			PcP	**PcP**	**19 32 17.4**	**+2.2**
ZALV	**Zalesovo Beam**	**43.69**	**314**	P	**P**	**19 30 27.9**	**-0.7**
PMG	**Port Moresby** comp=Z,53nm,18.2s,baz=44,slow=39	**44.13**	**172**	LR	LR	19 51 16.1	
BRDH	**Bariadhala** comp=Z,235nm,18.7s,baz=90,slow=40	**45.08**	**268**	LR	LR	19 52 37.4	
NRIK	**Noril'sk** comp=Z,136nm,19.7s,baz=103,slow=40	**45.51**	**336**	LR	LR	19 52 22.2	
NRIK	**Noril'sk**	**45.51**	**336**	*i* P	**P**	**19 30 45.9**	**+3.0**
NRIK	comp=Z,4.0nm,1.0s			pmax	pmax		
MK31	**Makanchi Array**	**45.59**	**304**	P	**P**	**19 30 41.8**	**-2.1**
MK31	**Makanchi Array**	**45.59**	**304**	*i* P	**P**	**19 30 45.3**	**+1.4**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.7s,baz=88,slow=9.2,SNR=13 comp=Z,1.4nm,0.7s	**45.59**	**304**	P	**P**	**19 30 44.0**	**0.0**
MKAR	**Makanchi Array**	**45.59**	**304**	P	**P**	**19 30 42.7**	**-1.2**
MKAR	**Makanchi Array**	**45.59**	**304**	*i* P	**P**	**19 30 44.5**	**+0.6**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
MAKZ	**Makanchi**	**45.80**	**304**	P	**P**	**19 30 44.6**	**-1.0**
MAKZ	comp=Z,4.3nm,0.8s			IAmb	IAmb	19 31 12.7	
MAKZ	**Makanchi**	**45.80**	**304**	P	**P**	**19 30 44.6**	**-1.0**
MAKZ	comp=Z,4.0nm,0.9s			pmax	pmax		
ODAN	**Odare**	**46.82**	**276**	*e*P	**P**	**19 30 53.8**	**-0.3**
MMRI	**Maumere**	**46.83**	**207**	P	**P**	**19 30 52.8**	**-1.1**
HNR	**Honiara** comp=Z,2μm,21.2s,baz=11,slow=34	**47.14**	**155**	LR	LR	19 48 47.2	
SOEI	**Soe**	**47.15**	**204**	P	**P**	**19 30 55.3**	**-1.2**
RAMN	**Ramite** comp=Z,13nm,0.8s	**47.43**	**276**	*e*P	**P**	**19 30 58.6**	**-0.3**
JIRN	**Jiri** comp=Z,9.4nm,0.5s	**47.49**	**277**	*e*P	**P**	**19 30 59.5**	**0.0**
KURK	**Kurchatov**	**47.59**	**310**	P	**P**	**19 30 58.9**	**-0.5**
KURK	**Kurchatov**	**47.59**	**310**	*i* P	**P**	**19 30 58.9**	**-0.5**
KURK	comp=Z,9.0nm,0.8s			pmax	pmax		
GUN	**Gumba**	**47.65**	**278**	*e*P	**P**	**19 31 00.9**	**+0.3**
BATI	**Baumata** comp=Z,24nm,0.7s,baz=32,slow=5.8,SNR=8.0	**47.78**	**204**	P	**P**	**19 31 00.6**	**-0.6**
BATI	comp=Z,48nm,18.1s,baz=329,slow=41			LR	LR	19 54 37.4	
PKI	**Puloki**	**48.16**	**278**	*e*P	**P**	**19 31 03.9**	**-0.7**
PKIN	**Phulchoki**	**48.17**	**278**	*e*P	**P**	**19 31 04.2**	**-0.4**
KKN	**Kakani**	**48.18**	**278**	*e*P	**P**	**19 31 04.4**	**-0.2**
K20K	**Telida**	**48.18**	**33**	P	**P**	**19 31 02.4**	**-1.6**
K20K	comp=Z,9.6nm,1.4s			IAmb	IAmb	19 31 20.7	
J20K	**Nowinta River**	**48.23**	**32**	P	**P**	**19 31 03.5**	**-0.7**
J20K	comp=Z,9.9nm,1.3s			IAmb	IAmb	19 31 24.6	
MTN	**Manton Dam**	**48.29**	**194**	P	**P**	**19 31 04.7**	**-0.4**
DMN	**Daman**	**48.39**	**278**	*e*P	**P**	**19 31 06.2**	**-0.1**
GKN	**Gorkha**	**48.62**	**279**	*e*P	**P**	**19 31 07.3**	**-0.7**
KDAK	**Kodiak Island** comp=Z,3.6nm,0.8s,baz=146,slow=7.3,SNR=2.1 comp=Z,3.6nm,0.8s	**48.74**	**41**	P	**P**	**19 31 11.4**	**+3.2**
KDAK	**Kodiak Island**	**48.74**	**41**	P	**P**	**19 31 06.1**	**-2.1**
H21K	**Melozitna Rive**	**48.95**	**30**	P	**P**	**19 31 08.5**	**-1.2**
H21K	comp=Z,5.4nm,1.1s			IAmb	IAmb	19 31 20.8	
SPU	**Mount Spurr**	**49.01**	**36**	P	**P**	**19 31 08.1**	**-2.2**
CAST	**Castle Rocks**	**49.08**	**33**	P	**P**	**19 31 10.1**	**-0.7**
DANN	**Dangsing** comp=Z,19nm,0.7s	**49.20**	**279**	*e*P	**P**	**19 31 12.8**	**+0.2**
KOLN	**Koldanda**	**49.56**	**279**	*e*P	**P**	**19 31 15.7**	**+0.5**
SUA	**Susitna One**	**49.64**	**36**	P	**P**	**19 31 14.8**	**-0.4**
SUA	comp=Z,4.9nm,0.9s			IAmb	IAmb	19 31 39.3	
MLY	**Manley**	**49.76**	**31**	P	**P**	**19 31 14.9**	**-1.1**
MLY	comp=Z,4.5nm,1.1s			IAmb	IAmb	19 31 30.9	
PYUN	**Piuthan** comp=Z,16nm,0.7s	**49.93**	**280**	*e*P	**P**	**19 31 18.1**	**+0.1**
BWN	**Browne**	**50.27**	**32**	P	**P**	**19 31 21.2**	**+1

comp=Z,1.4nm,0.7s,baz=266,slow=5.9,SNR=11
comp=Z,1.4nm,0.7s
KNRA Kununurra 51.54 196 P **P** **19 31 29.3 -0.6**
KSH Kashi 51.60 296 P **P** **19 31 34.5 +4.1**
KSH sP pwP 19 31 45.0 +1.7
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH LR LR
comp=Z,320nm,14.4s
KSH LR LR
comp=Z,240nm,15.1s
KSH LR LR
comp=Z,300nm,15.1s
AAK Ala-Archa 51.83 300 *i* P **P** **19 31 33.2 +1.1**
AAK pmax pmax
comp=Z,1.0nm,0.8s
LEM Lembang 52.31 225 LR LR 19 52 51.7
comp=Z,56nm,20.4s,baz=279,slow=35
BMAR Burnt Mountain 52.32 28 P **P** **19 31 36.5 +1.3**
RIDG Independent Ri 52.32 33 P **P** **19 31 36.1 +0.9**
BVAR Borovoye Array 52.34 314 LR LR 19 56 04.8
comp=Z,116nm,18.0s,baz=74,slow=39
BRVK Borovoye 52.40 314 *i* P **P** **19 31 37.1 +1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BMRM Bremner River 52.63 36 P **P** **19 31 38.4 +0.8**
BMRM IAmb IAmb 19 32 12.6
comp=Z,12nm,1.2s
DOT Dot Lake 52.67 33 P **P** **19 31 38.2 +0.4**
SCRK Sand Creek 52.68 32 P **P** **19 31 39.5 +1.5**
J26L Joseph Creek 52.84 32 P **P** **19 31 40.3 +1.2**
M27K Edge Creek, AK 53.78 34 P **P** **19 31 45.8 -0.3**
M27K IAmb IAmb 19 32 18.7
comp=Z,9.9nm,1.4s
EGAK Eagle 53.85 31 P **P** **19 31 45.3 -1.1**
EGAK IAmb IAmb 19 32 09.7
comp=Z,6.9nm,1.4s
KK31 Karatay Array 54.52 302 P **P** **19 31 51.4 -0.3**
KK31 IAmb IAmb 19 32 17.0
comp=Z,6.3nm,1.1s
KK31 Karatay Array 54.52 302 P **P** **19 31 51.4 -0.3**
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KKAR Karatay Array 54.52 302 P **P** **19 31 51.4 -0.3**
KKAR IAmb IAmb 19 32 17.0
comp=Z,6.3nm,1.1s
KKAR Karatay Array 54.52 302 P **P** **19 31 50.8 -0.9**
KKAR Karatay Array 54.52 302 P **P** **19 31 51.4 -0.3**
KKAR pmax pmax
comp=Z,6.0nm,1.1s
WB0 Warramunga Arr 54.57 188 P **P** **19 31 51.1 -1.0**
CTA Charters Tower 54.62 175 LR LR 19 56 25.0
comp=Z,34nm,18.1s,baz=330,slow=35
FITZ Fitzroy Crossi 54.64 199 P **P** **19 31 53.2 +0.6**
comp=Z,6.4nm,0.7s,baz=1.4,slow=6.9,SNR=27
FITZ LR LR 19 54 53.3
comp=Z,44nm,18.5s,baz=278,slow=36
comp=Z,6.4nm,0.7s
FITZ Fitzroy Crossi 54.64 199 P **P** **19 31 52.6 0.0**
FITZ IAmb IAmb 19 31 54.8
comp=Z,5.7nm,0.7s
WRAB Tennant Creek 54.73 188 P **P** **19 31 52.9 -0.4**
WRAB IAmb IAmb 19 31 54.2
comp=Z,11nm,0.8s
WRAB Tennant Creek 54.73 188 *ce*P **P** **19 31 53.9 +0.6**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WR0 Warramunga Arr 54.74 188 P **P** **19 31 53.0 -0.4**
WR0 IAmb IAmb 19 31 54.2
comp=Z,10nm,0.8s
WB2 Warramunga Arr 54.74 188 P **P** **19 31 52.9 -0.5**
WRA Warramunga Arr 54.75 188 P **P** **19 31 53.3 -0.1**
comp=Z,8.2nm,0.7s,baz=3.9,slow=7.6,SNR=99
WRA LR LR 19 52 43.4
comp=Z,78nm,21.9s,baz=11,slow=33
comp=Z,8.2nm,0.7s
WRA Warramunga Arr 54.75 188 P **P** **19 31 52.4 -1.0**
NIL Nilore 55.59 290 P **P** **19 31 58.6 -1.0**
NIL IAmb IAmb 19 32 04.8
comp=Z,5.4nm,0.7s
NIL Nilore 55.59 290 P **P** **19 31 58.6 -1.0**
NIL pmax pmax
comp=Z,5.0nm,0.7s
CHGR Chuyangaron 56.90 297 P **P** **19 32 07.9 -1.0**
CHGR Chuyangaron 56.90 297 P **P** **19 32 07.9 -1.0**
CHGR pmax pmax
comp=Z,16nm,0.8s
JIS Juneau Island 58.22 38 P **P** **19 32 17.1 -0.6**
ARU Arti 58.29 320 P **P** **19 32 18.0 -0.2**
ARU IAmb IAmb 19 32 30.2
comp=Z,9.0nm,0.8s
ARU Arti 58.29 320 *c* *i*P **P** **19 32 19.2 +0.9**
ARU 19 34 25.8
ARU S **S** **19 40 23.8 +5.2**
ARU SS **SS** **19 44 11.9 +1.8**
ARU pmax pmax
comp=Z,15nm,2.0s
ARU MLR MLR
comp=Z,134nm,14.0s
AS31 Alice Springs 58.47 188 P **P** **19 32 18.7 -1.2**
ASAR Alice Springs 58.47 188 P **P** **19 32 20.3 +0.4**
comp=Z,3.9nm,0.8s,baz=15,slow=12,SNR=42
ASAR LR LR 19 55 55.6
comp=Z,90nm,21.6s,baz=348,slow=34
comp=Z,3.9nm,0.8s
ABKAR Akbulak array 59.65 311 P **P** **19 32 27.0 -0.8**
ABKAR Akbulak array 59.65 311 P **P** **19 32 27.3 -0.5**
ABKAR IAmb IAmb 19 32 39.5
comp=Z,4.9nm,0.7s
AKTO Aktyubinsk 60.43 313 LR LR 20 00 52.6
comp=Z,102nm,19.0s,baz=82,slow=38
DZM Mont Dzumac 61.13 154 LR LR 19 57 20.6
comp=Z,98nm,20.1s,baz=29,slow=34
MSVF Nonsavu 62.54 140 LR LR 19 54 33.7
comp=Z,40nm,20.4s,baz=329,slow=31
SPITS Spitsbergen Ar 62.89 349 LR LR 20 04 41.0
comp=Z,132nm,18.4s,baz=14,slow=40
GEYT Alibeck 65.19 300 P **P** **19 33 06.5 +1.3**
comp=Z,2.0nm,0.8s,baz=0.0,slow=1.5,SNR=3.7
comp=Z,2.0nm,0.8s
GEYT Alibeck 65.19 300 P **P** **19 33 03.6 -1.6**
GEYT IAmb IAmb 19 33 19.7
comp=Z,3.1nm,0.8s
BELG Belogornoye 65.69 318 LR LR 20 05 00.2
comp=Z,116nm,19.9s,baz=159,slow=39
STKA Stephens Creek 66.18 180 P **P** **19 33 11.9 +0.6**
comp=Z,1.6nm,0.8s,baz=0.0,slow=3.1,SNR=4.6
STKA LR LR 20 03 35.3
comp=Z,70nm,19.1s,baz=20,slow=37
comp=Z,1.6nm,0.8s
MAK Makhachkala 70.10 309 *e*P P 19 33 31.1 -4.8
MAK *e*S **S** **19 42 40.6 -4.6**
MAK pmax pmax
comp=Z,175nm,1.1s
MAK MLR MLR
comp=Z,221nm,15.0s
OBN Obninsk 70.13 324 *e*P **P** **19 33 36.3 +0.4**
OBN pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 71.01 333 P **P** **19 33 43.1 +1.9**
comp=Z,1.2nm,0.7s,baz=46,slow=10.0,SNR=2.5
comp=Z,1.2nm,0.7s
ZEI Tsey 72.48 310 *e*P **P** **19 33 52.1 +1.5**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 72.62 311 P **P** **19 33 51.8 +0.6**
comp=Z,3.5nm,0.9s,baz=27,slow=4.5,SNR=4.2
comp=Z,3.5nm,0.9s
KIV Kislovodsk 72.63 312 *e*P **P** **19 33 51.9 +0.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,65nm,18.0s
SHA1 Shidzhatmaz 72.76 311 *i* P **P** **19 33 54.6 +2.3**
MNK Minsk 74.58 326 *i* P **P** **19 33 59.0 -3.5**
MNK *i* 19 36 45.2
MNK *i* PPP PPP 19 38 30.6
MNK *i* S **S** **19 43 34.9 -1.2**
MNK *i* SS **SS** **19 48 22.5 +0.2**
MNK *i* SSS SSS 19 51 44.4
MNK pmax pmax
comp=Z,4.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK MLR MLR
comp=E,18nm,17.0s
MNK MLR MLR
comp=Z,74nm,18.0s
MNK Minsk 74.58 326 *i* P **P** **19 33 59.0 -3.5**
comp=E,1.0nm,0.8s
MNK *i* P **P** **19 33 59.0 -3.5**
MNK *i* P **P** **19 33 59.0 -3.5**
comp=Z,4.0nm,0.8s,baz=231
MNK *i* PP **PP** **19 36 45.3 -3.5**
MNK *i* PPP PPP 19 38 30.7
MNK *i* S **S** **19 43 34.9 -1.2**
MNK *i* SS **SS** **19 48 22.5 +0.2**
MNK *i* SSS SSS 19 51 44.4
MNK *i* LQ LQ 20 02 27.5
MNK *i* LR LR 20 07 28.2
MNK *i* LRM MLR 20 09 06.3
MNK *i* LRM MLR 20 09 41.6
comp=E,18nm,17.2s
MNK *i* LRM MLR 20 09 48.0
comp=Z,74nm,17.9s
NACGM Naroch 74.83 327 *e*P **P** **19 34 05.8 +2.0**
baz=51
NVAR Mina Array Bea 76.25 53 P **P** **19 34 15.0 +2.3**
comp=Z,0.8nm,0.8s,baz=299,slow=5.3,SNR=6.4
comp=Z,0.8nm,0.8s
AKASG Malin Array Be 76.31 323 P **P** **19 34 13.2 +0.7**
comp=Z,0.5nm,0.3s,baz=50,slow=5.8,SNR=6.2
comp=Z,0.5nm,0.3s
NOA NORSAR Array B 76.46 338 P **P** **19 34 14.4 +1.2**
comp=Z,1.0nm,0.7s,baz=75,slow=4.3,SNR=3.1
NOA LR LR 20 11 57.4
comp=Z,152nm,18.8s,baz=45,slow=39
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 79.18 45 P **P** **19 34 31.1 +2.2**
comp=Z,0.3nm,0.6s,baz=236,slow=2.7,SNR=4.3
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 80.59 312 P **P** **19 34 38.8 +2.2**
comp=Z,0.8nm,0.7s,baz=82,slow=3.3,SNR=4.8
comp=Z,0.8nm,0.7s
SRU San Rafael Swe 80.82 49 P **P** **19 34 37.5 -0.3**
SRU IAmb IAmb 19 34 52.8
comp=Z,8.2nm,0.8s
SRU San Rafael Swe 80.82 49 P **P** **19 34 37.5 -0.3**
SRU pmax pmax
comp=Z,8.0nm,0.8s
RAYN Ar Rayn 81.76 293 P **P** **19 34 43.2 +0.4**
RAYN IAmb IAmb 19 34 55.2
comp=Z,4.0nm,0.8s
RAYN Ar Rayn 81.76 293 P **P** **19 34 43.3 +0.4**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
PV13 Radium Mtn., P 82.45 49 P **P** **19 34 48.3 +1.8**
CLL Collm 83.26 330 *e*P **P** **19 34 52.0 +1.9**
CLL Collm 83.26 330 *e*P **P** **19 34 52.0 +1.9**
CLL *i* sP **sP** **19 35 01.5 +1.7**
CKRC Cesky Krumlov 84.59 328 *e*P P 19 35 04.6 +7.5
KHC Kasperske Hory 84.67 329 *e*P **P** **19 34 59.8 +2.3**
KHC Kasperske Hory 84.67 329 *e*P **P** **19 34 59.8 +2.3**
KHC *ex* x 19 35 09.5
GERES GERESS Array B 84.84 328 P **P** **19 34 59.5 +1.1**
comp=Z,0.1nm,0.4s,baz=38,slow=5.0,SNR=2.2
comp=Z,0.1nm,0.4s
SCHQ Schefferville 87.56 16 LR LR 20 16 45.7
comp=Z,44nm,20.9s,baz=56,slow=37
DAVOX Davos/Dischmat 88.07 329 LR LR 20 18 52.4
comp=Z,60nm,18.1s,baz=70,slow=38
TXAR Lajitas Array 91.40 53 P **P** **19 35 33.0 +2.9**
comp=Z,0.5nm,0.8s,baz=313,slow=5.3,SNR=4.3
comp=Z,0.5nm,0.8s
SADO Sadowa 92.70 28 LR LR 20 24 16.5
comp=Z,29nm,18.1s,baz=7.0,slow=40
KEST Kesra 97.03 323 LR LR 20 27 16.3
comp=Z,85nm,19.2s,baz=251,slow=40
ESDC Sonseca Array 99.51 334 LR LR 20 24 16.7
comp=Z,77nm,21.8s,baz=36,slow=37
LPAZ La Paz 147.64 63 PKPbc **PKiKP** **19 42 11.3 -0.2**
comp=Z,1.4nm,0.6s,baz=311,slow=2.1,SNR=5.4

MAN 27 19:41:01.4, 18.49N×121.87E, h4km, mb4.5, ML3.4, MS3.2, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Gonzaga**	**0.30**	**145**	*e*P	Pg	19 41 07.8	+0.7
SGCP				*e*S	Sg	19 41 11.7	+0.7
PALP	**Palanan**	**1.51**	**159**	*e*P	Pn	19 41 28.6	-0.6
PALP				*e*S	Sn	19 41 49.2	-0.2
SAMP	**Sagada Mountai**	**1.67**	**213**	*e*P	Pn	19 41 30.9	-0.6
SAMP				*e*S	Sn	19 41 51.4	-2.0
SMPP	**San Manuel, Pa**	**2.58**	**206**	*e*P	Pn	19 41 45.0	+0.9
SMPP				*e*S	Sn	19 42 17.5	+1.6
BALP	**Baler**	**2.74**	**186**	*e*P	Pn	19 41 46.3	+0.1
BALP				*e*S	Sn	19 42 17.8	-2.0
BOLP	**Bolinao**	**2.80**	**222**	*e*P	Pn	19 41 48.9	+1.9
BOLP				*e*S	Sn	19 42 22.0	+0.7

*JMA **27** 19:49:35.3±0.2, 43.3°N±0.7°×146.0°E±1.0, h52km±1km, MV2.5/31, OFF NEMURO PENINSULA*
*SKHL **27** 19:49:36.4±0.1, 43.30°N×146.10°E, h39km±6km, mb4.0/2*
ISC 27 19:49:35.1±1.8, 43.28N±0.07°×146.06E±0.07, h50km±10km, n13, σ0.63/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.24**	**289**	P	**Pn**	**19 49 44.0**	**+0.2**
NEM2				*e*S	**Sn**	**19 49 50.1**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.26**	**290**	*i* P	**Pn**	**19 49 44.0**	**+0.2**
NMR				*e*S	**Sn**	**19 49 49.7**	**-0.3**
JKHN	**Kushirohamanak**	**0.69**	**253**	P	**Pn**	**19 49 48.8**	**+0.2**
JKHN				*e*S	**Sn**	**19 49 58.5**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.76**	**349**	*e*P	**Pn**	**19 49 49.5**	**-0.2**
YUK				AMB	AMB	19 49 49.7	
	80nm,0.2s						
YUK				*e*S	**Sn**	**19 49 59.4**	**-0.9**
YUK				A	A	19 50 01.8	
	320nm,0.2s						
YUK				A	A	19 50 01.8	
	150nm,0.2s						
JNSB	**Nemuroshibetsu**	**0.91**	**303**	*e*P	**Pn**	**19 49 51.8**	**+0.1**
JNSB				*e*S	**Sn**	**19 50 03.7**	**0.0**
AKK	**Akkeshi**	**0.93**	**254**	*e*P	**Pn**	**19 49 51.8**	**-0.1**
JRA	**Rausu**	**0.94**	**314**	*e*P	**Pn**	**19 49 52.3**	**+0.2**
JRA				*e*S	**Sn**	**19 50 04.7**	**+0.2**
JNK	**Nakash**	**1.02**	**288**	*e*P	**Pn**	**19 49 53.0**	**-0.2**
JNK				*e*S	**Sn**	**19 50 05.6**	**-0.8**
JAK	**Akkeshi**	**1.04**	**254**	*e*P	**Pn**	**19 49 53.0**	**-0.4**
JAK				*e*S	**Sn**	**19 50 05.9**	**-0.9**
JAR	**Ashorobuto**	**1.67**	**271**	*e*P	**Pn**	**19 50 02.2**	**+0.3**
JAR				*e*S	**Sn**	**19 50 22.1**	**-0.1**
JOB	**Onbets**	**1.67**	**258**	*e*P	**Pn**	**19 50 02.4**	**+0.4**
JOB				*e*S	**Sn**	**19 50 22.1**	**-0.1**
JTKR	**Abashiri--Toko**	**1.71**	**294**	*e*P	**Pn**	**19 50 03.1**	**+0.7**
JTKR				*e*S	**Sn**	**19 50 23.4**	**+0.4**
KUR	**Kuril'sk**	**2.34**	**33**	*e*P	**Pn**	**19 50 12.4**	**+1.3**
KUR				AMB	AMB	19 50 14.5	
	30nm,0.5s						
KUR				*e*S	**Sn**	**19 50 36.9**	**-1.7**
KUR				A	A	19 50 42.2	
	30nm,0.5s						
KUR				A	A	19 50 42.2	
	30nm,0.5s						

*IDC **27** 20:04:18.6±0.8, 55.0°S×129.3°W, h0km, mb4.1/6, mbtmp4.1/6, MS3.8/29, Error ellipse: s-maj=32.9km s-min=23.6km az=140.0*
*NEIC **27** 20:04:19.9±1.8, 55.0°S±0.2°×129.0°W±0.3, h10km±1km, mb4.6/16, Error ellipse: s-maj=31.0km s-min=22.8km az=330.0*
*GCMT **27** 20:04:22.9±0.3, 55.19°S±0.03°×129.02W±0.03, h24km±2km, MW4.9/76, Moment Tensor Solution. s12,c12; s76,c93; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.26±.19; Mθθ 1.55±.17; Mϕϕ -1.29±.14; Mrθ 0.33±.32; Mϕθ 2.10±.09; Mrϕ 0.83±.31; Best double couple: Mo 2.68800×10^16 NP1: ϕs 198.00000°, δ89.00000°, λ-160.00000°. NP2: ϕs 107.00000°, δ70.00000°, λ-1.00000°. Principal axes: T 2.8200, Plg13.0000°, Azm331.0000°; N -0.2630, Plg70.0000°, Azm201.0000°; P -2.5570, Plg15.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 20:04:20.1±0.7, 55.0S±0.1×128.9W±0.1, h10km, n75, σ1.9/07/31, mb4.5/12, MS4.0/31, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**31.57**	**201**	P	**P**	**20 10 43.5**	**+1.5**
SBA				IAmb	IAmb	20 10 45.5	
	comp=Z,8.2nm,1.5s						
PMSA	**Palmer Station**	**32.48**	**134**	LR	LR	20 20 19.8	
	comp=Z,174nm,21.0s,baz=258,slow=29						
VNDA	**Vanda**	**32.59**	**202**	P	**P**	**20 10 51.5**	**+0.6**
VNDA				LR	LR	20 20 19.3	
	comp=Z,2.4nm,1.2s,baz=147,slow=7.5,SNR=3.9						
	comp=Z,116nm,20.6s,baz=106,slow=30						
	comp=Z,2.4nm,1.2s						
VNDA	**Vanda**	**32.59**	**202**	P	**P**	**20 10 51.6**	**+0.6**
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**20 11 13.4**	**-0.1**
	comp=Z,5.8nm,1.0s,baz=92,slow=6.6,SNR=11						
QSPA				LR	LR	20 24 14.4	
	comp=Z,306nm,18.5s,baz=82,slow=34						
	comp=Z,5.8nm,1.0s						
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**20 11 13.9**	**+0.4**
QSPA				IAmb	IAmb	20 11 15.1	
	comp=Z,7.3nm,1.1s						
BELA	**Belgrano 2**	**37.80**	**160**	P	**P**	**20 11 35.2**	**-0.7**
RPZ	**Rata Peaks**	**39.49**	**261**	LR	LR	20 24 41.0	
	comp=Z,164nm,19.9s,baz=117,slow=31						
URZ	**Urewera**	**39.57**	**272**	LR	LR	20 24 08.6	
	comp=Z,185nm,18.7s,baz=210,slow=30						
H03S2	**Juan Fernandez**	**40.44**	**79**	T	T	20 55 00.0	
	baz=221,SNR=165						
H03S1	**Juan Fernandez**	**40.44**	**80**	T	T	20 55 01.3	
	baz=221,SNR=181						
H03S3	**Juan Fernandez**	**40.45**	**79**	T	T	20 55 00.4	
	baz=221,SNR=202						
PPT2	**Papeete2**	**40.59**	**329**	*e*S	S	20 17 56.0	-13
	comp=Z,84nm,25.8s						
PPT2				*e*LR	LR	20 22 43.0	
	comp=Z,505nm,27.0s						
PPT	**Papeete**	**40.61**	**329**	LR	LR	20 25 31.0	
	comp=Z,124nm,18.5s,baz=182,slow=31						
H03N3	**Juan Fernandez**	**40.72**	**79**	T	T	20 55 21.6	
	baz=224,slow=72,SNR=704						
H03N2	**Juan Fernandez**	**40.72**	**79**	T	T	20 55 19.0	
	baz=224,slow=72,SNR=788						
H03N1	**Juan Fernandez**	**40.73**	**79**	T	T	20 55 17.9	
	baz=224,slow=72,SNR=820						
RAR	**Rarotonga**	**40.95**	**313**	LR	LR	20 26 27.1	
	comp=Z,43nm,19.5s,baz=148,slow=33						
VAH	**Vaihoa**	**42.28**	**333**	*e*T	T	20 56 53.2	
	comp=Z,61nm,0.3s						
TAOE	**Nuku Hiva Isla**	**46.92**	**345**	*e*LR	LR	20 25 46.0	
	comp=Z,334nm,25.5s						
VNA3	**Neumayer Olymp**	**46.94**	**157**	P	**P**	**20 12 49.4**	**-0.9**
VNA2	**Neumayer--Watz**	**47.68**	**158**	P	**P**	**20 12 55.1**	**-0.9**
	baz=235,slow=7.6						
VNA1	**Neumayer--Stat**	**47.69**	**157**	P	**P**	**20 12 55.5**	**-0.5**
GO04	**Tololo Observa**	**47.77**	**83**	P	**P**	**20 12 57.7**	**+0.2**
SNAA	**Sanae**	**48.05**	**160**	P	P	20 12 54.4	-4.6
SNAA	**Sanae**	**48.05**	**160**	LR	LR	20 32 27.4	
	comp=Z,163nm,19.4s,baz=248,slow=35						
SNAA	**Sanae**	**48.05**	**160**	P	**P**	**20 12 58.0**	**-1.0**
SNAA				IAmb	IAmb	20 13 06.2	
	comp=Z,7.1nm,1.5s						
AC01	**Pan de Azucar**	**50.95**	**80**	P	**P**	**20 13 21.0**	**-0.5**
CASY	**Casey**	**50.98**	**207**	P	**P**	**20 13 22.6**	**+1.4**
AFI	**Afiamalu**	**52.76**	**304**	LR	LR	20 29 38.1	
	comp=Z,40nm,20.0s,baz=192,slow=29						
MAW	**Mawson**	**57.35**	**185**	LR	LR	20 35 59.7	
	comp=Z,134nm,19.4s,baz=56,slow=33						
CPUP	**Villa Florida**	**58.41**	**92**	LR	LR	20 36 02.2	
	comp=Z,156nm,18.3s,baz=223,slow=32						
LPAZ	**La Paz**	**60.16**	**75**	P	**P**	**20 14 30.0**	**+1.4**
	comp=Z,4.2nm,1.0s,baz=204,slow=2.0,SNR=9.8						
	comp=Z,4.2nm,1.0s						
LPAZ	**La Paz**	**60.16**	**75**	P	**P**	**20 14 29.5**	**+0.9**
LPAZ				IAmb	IAmb	20 14 30.7	
	comp=Z,7.7nm,1.1s						
ATAH	**Atahualpa**	**62.36**	**60**	LR	LR	20 35 44.2	
	comp=Z,134nm,21.9s,baz=230,slow=30						
STKA	**Stephens Creek**	**64.26**	**251**	LR	LR	20 37 23.7	
	comp=Z,70nm,20.2s,baz=203,slow=31						
SIV	**San Ignacio**	**64.37**	**81**	LR	LR	20 39 50.0	
	comp=Z,36nm,18.9s,baz=225,slow=33						
SAML	**Samuel**	**68.90**	**75**	P	**P**	**20 15 24.7**	**-0.4**
SAML				IAmb	IAmb	20 15 25.7	
	comp=Z,4.9nm,1.1s						
CTA	**Charters Tower**	**70.84**	**262**	LR	LR	20 41 47.8	
	comp=Z,35nm,19.8s,baz=96,slow=32						
ROSC	**El Rosal**	**74.72**	**57**	LR	LR	20 45 31.5	
	comp=Z,93nm,18.1s,baz=45,slow=38						
AS31	**Alice Springs**	**74.89**	**250**	P	**P**	**20 16 01.5**	**+0.5**
ASAR	**Alice Springs**	**74.89**	**250**	P	**P**	**20 15 58.7**	**-2.3**
	comp=Z,1.9nm,1.1s,baz=152,slow=7.5,SNR=7.6						
ASAR				LR	LR	20 44 47.8	
	comp=Z,71nm,19.8s,baz=162,slow=32						
	comp=Z,1.9nm,1.1s						
ASAR	**Alice Springs**	**74.89**	**250**	P	**P**	**20 16 00.2**	**-0.8**
H01W1	**Cape Leeuwin H**	**75.43**	**229**	T	T	21 39 43.8	
	baz=147,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**75.44**	**229**	T	T	21 39 32.5	
	baz=147,slow=76,SNR=27						
H01W3	**Cape Leeuwin H**	**75.45**	**229**	T	T	21 39 53.2	
	baz=147,slow=76,SNR=24						
WB2	**Warramunga Arr**	**77.65**	**253**	P	**P**	**20 16 15.3**	**-1.4**
WRA	**Warramunga Arr**	**77.65**	**253**	P	**P**	**20 16 14.3**	**-2.3**
	comp=Z,1.5nm,0.9s,baz=143,slow=5.2,SNR=12						
WRA				LR	LR	20 46 15.1	
	comp=Z,73nm,19.9s,baz=186,slow=32						
	comp=Z,1.5nm,0.9s						
WRA	**Warramunga Arr**	**77.65**	**253**	P	**P**	**20 16 16.3**	**-0.4**
WRAB	**Tennant Creek**	**77.66**	**253**	P	**P**	**20 16 15.2**	**-1.5**
WRAB				IAmb	IAmb	20 16 28.3	
	comp=Z,7.7nm,1.1s						
WB0	**Warramunga Arr**	**77.77**	**253**	P	**P**	**20 16 15.6**	**-1.7**
WB0				IAmb	IAmb	20 16 30.2	
	comp=Z,15nm,1.4s						
LPIG	**La Paz**	**80.42**	**17**	LR	LR	20 43 08.1	
	comp=Z,47nm,21.0s,baz=334,slow=29						
FITZ	**Fitzroy Crossi**	**83.86**	**247**	LR	LR	20 48 36.9	
	comp=Z,68nm,21.5s,baz=172,slow=32						
FITZ	**Fitzroy Crossi**	**83.86**	**247**	P	**P**	**20 16 49.7**	**-0.2**
FITZ				IAmb	IAmb	20 16 56.0	
	comp=Z,5.8nm,1.1s						
TXAR	**Lajitas Array**	**86.79**	**22**	P	**P**	**20 17 04.5**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=190,slow=4.2,SNR=4.4						
	comp=Z,0.5nm,0.9s						
PFO	**Pinyon Flats O**	**88.94**	**10**	LR	LR	20 48 53.1	
	comp=Z,55nm,18.1s,baz=193,slow=30						
SUR	**Sutherland**	**89.13**	**155**	LR	LR	20 49 26.5	
	comp=Z,92nm,21.5s,baz=152,slow=30						
H11S2	**WAKE ISLAND Hy**	**91.23**	**301**	T	T	21 58 19.1	
	baz=148,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**91.24**	**301**	T	T	21 58 32.8	
	baz=148,slow=75,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**91.25**	**301**	T	T	21 58 20.1	
	baz=148,slow=75,SNR=8.5						
BATI	**Baumata**	**91.46**	**250**	LR	LR	20 54 54.4	
	comp=Z,63nm,20.2s,baz=188,slow=33						
H11N3	**WAKE ISLAND Hy**	**92.17**	**302**	T	T	21 59 37.1	
	baz=157,slow=80,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**92.18**	**302**	T	T	21 59 43.2	
	baz=157,slow=80,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**92.19**	**302**	T	T	21 59 47.1	
	baz=157,slow=80,SNR=6.5						
NVAR	**Mina Array Bea**	**93.55**	**8**	LR	LR	20 50 30.5	
	comp=Z,50nm,19.1s,baz=209,slow=30						
BOSA	**Boshof**	**93.78**	**157**	LR	LR	20 56 59.4	
	comp=Z,69nm,18.8s,baz=178,slow=34						
SIJI	**Sorong**	**94.91**	**261**	LR	LR	21 00 15.3	
	comp=Z,26nm,18.1s,baz=146,slow=36						
YBH	**Yreka Blue Hor**	**96.55**	**5**	LR	LR	20 53 07.0	
	comp=Z,63nm,18.6s,baz=187,slow=30						
KAPI	**Kappang**	**97.90**	**250**	LR	LR	20 59 30.0	
	comp=Z,42nm,19.5s,baz=152,slow=34						
PDAR	**Pinedale Array**	**98.82**	**14**	LR	LR	20 54 15.8	
	comp=Z,48nm,19.6s,baz=216,slow=30						
ILAR	**Eielson Array**	**120.28**	**351**	PKP	**PKiKP**	**20 23 09.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=189,slow=2.9,SNR=7.4						
SONM	**Songino Array**	**145.58**	**281**	PKPbc	**PKPab**	**20 23 58.6**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=127,slow=2.7,SNR=5.6						
GERES	**GERESS Array B**	**156.36**	**90**	PKP	**PKPdf**	**20 24 14.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=318,slow=1.8,SNR=3.8						
MKAR	**Makanchi Array**	**158.80**	**260**	PKPab	**PKPab**	**20 24 52.6**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=110,slow=6.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**160.47**	**281**	PKPab	**PKPab**	**20 25 01.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=139,slow=7.9,SNR=4.6						

INET ***27*** *20:38:59.8±0.6, 11°.69N×86°.05W, h183km±6km, MW4.1*
UCR ***27*** *20:39:00.1±1.4, 11°.72N×86°.08W, h175km±3km, ML4.8, MW5.0, mb4.9(NEIC)*
NEIC ***27*** *20:39:01.0±1.5, 11°.75N±0°.05×85°.96W±0°.07, h180km±6km, mb4.9/112, Error ellipse: s-maj=11.1km s-min=6.5km az=58.0*
SNET ***27*** *20:39:01.0±1.2, 11°.24N×86°.63W, h0km±145km, ML5.0, MW2.3*
IDC ***27*** *20:39:01.1±0.9, 11°.85N×85°.92W, h188km±6km, mb3.9/16, mbtmp4.5/19, Error ellipse: s-maj=17.5km s-min=9.6km az=40.0*
GCG ***27*** *20:39:06.6±0.6, 12°.17N×86°.67W, h271km±82km, MD4.8*
ISC 27 20:39:00.0±0.4, 11°.71N±0°.04×86°.04W±0°.04, h185km±3km, h186km: pP-P, n350, σ1s 01/402, mb4.9/70, 23C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASN	**Masaya**	**0.29**	**337**	*eP*		**Pn**	**20 39 24.0**	**-0.9**
WILN	**Americas 2**	**0.47**	**342**	*eP*		**Pn**	**20 39 24.9**	**-0.5**
MGAN	**Managua**	**0.48**	**334**	*eP*		**Pn**	**20 39 24.8**	**-0.5**
MGAN				*eP*		**Pn**	**20 39 24.8**	**-0.5**
APYN	**Apoyeque**	**0.60**	**329**	*eP*		**Pn**	**20 39 25.1**	**-0.8**
HUEN		**0.63**	**348**	*eP*		**Pn**	**20 39 25.8**	**-0.2**
BOAB	**BOACO BROADBAN**	**0.81**	**26**	*eP*		**Pn**	**20 39 26.8**	**-0.3**
BOAB				*eS*		**Sn**	**20 39 45.6**	**-2.5**
BOJB	**BOACO BROADBAN**	**0.81**	**26**	*eP*		**Pn**	**20 39 26.7**	**-0.3**
MOMN	**Momotombo**	**0.85**	**324**	*eP*		**Pn**	**20 39 26.6**	**-0.8**
ACON	**Acoyapa**	**0.88**	**73**				**20 39 27.3**	**-0.2**
ACON					Sn	**Sn**	**20 39 47.6**	**-1.0**
ACON	**Acoyapa**	**0.88**	**73**	*iP*		**Pn**	**20 39 27.1**	**-0.3**
ACON	**Acoyapa**	**0.88**	**73**	*eP*		**Pn**	**20 39 27.1**	**-0.3**
CNGN	**Cerro Negro**	**1.02**	**320**	Pn		**Pn**	**20 39 27.0**	**-1.5**
CNGN	**Cerro Negro**	**1.02**	**320**	*eP*		**Pn**	**20 39 26.9**	**-1.6**
BRAN	**Las Pilas**	**1.05**	**343**	*eP*		**Pn**	**20 39 25.1**	**-3.6**
BUAI	**Buenos Aires**	**1.08**	**140**	*iP*		**Pn**	**20 39 29.0**	**0.0**
BUAI				*eS*		**Sn**	**20 39 50.2**	**-1.1**
HZTE	**Horizontes, Gu**	**1.08**	**156**	Pn		**Pn**	**20 39 29.0**	**0.0**
HZTE				Sn		**Sn**	**20 39 51.3**	**-0.1**
HZTE	**Horizontes, Gu**	**1.08**	**156**	*iP*		**Pn**	**20 39 29.0**	**0.0**
HZTE				*eS*		**Sn**	**20 39 50.0**	**-1.3**
GB1A	**Borinquen Arri**	**1.09**	**145**	*iP*		**Pn**	**20 39 29.4**	**+0.3**
GB1A				*eS*		**Sn**	**20 39 51.2**	**-0.3**
GBS3	**Finca Las Img**	**1.09**	**148**	*eP*		**Pn**	**20 39 28.8**	**-0.2**
GBS3				*eS*		**Sn**	**20 39 49.7**	**-1.7**
BUEV	**Buena Vista**	**1.10**	**146**	*eP*		**Pn**	**20 39 29.1**	**-0.1**
BUEV				*eS*		**Sn**	**20 39 50.6**	**-1.1**
LAPC	**Finca la Perla**	**1.11**	**148**	*eP*		**Pn**	**20 39 28.7**	**-0.5**
LAPC				*eS*		**Sn**	**20 39 49.9**	**-1.9**
GPS1	**Guardaparques**	**1.15**	**144**	*iP*		**Pn**	**20 39 29.8**	**+0.3**
GPS1				*eS*		**Sn**	**20 39 52.1**	**-0.4**
GPS3	**Bodega del ICE**	**1.16**	**145**	*eP*		**Pn**	**20 39 29.4**	**-0.2**
GPS2	**Hotel Rincn d**	**1.17**	**145**	*eP*		**Pn**	**20 39 29.6**	**-0.1**
GPS2				*eS*		**Sn**	**20 39 51.8**	**-0.8**
TELN	**Telica**	**1.18**	**319**	*eP*		**Pn**	**20 39 30.0**	**+0.2**
MATN	**Matagalpa**	**1.21**	**5**	Pn		**Pn**	**20 39 30.1**	**0.0**
MATN				Sn		**Sn**	**20 39 52.6**	**-0.8**
MATN	**Matagalpa**	**1.21**	**5**	*eP*		**Pn**	**20 39 29.8**	**-0.2**
VMAR	**Armenia, Volca**	**1.27**	**135**	*eP*		**Pn**	**20 39 30.1**	**-0.4**
VMAR				*eS*		**Sn**	**20 39 53.5**	**-0.5**
GUAB	**Guayabo de Bag**	**1.27**	**142**	*iP*		**Pn**	**20 39 30.8**	**+0.2**
HORNC	**Hornillas**	**1.30**	**140**	*eP*		**Pn**	**20 39 31.0**	**+0.2**
HORNC				*eS*		**Sn**	**20 39 54.1**	**-0.5**
COLC	**Colonia**	**1.32**	**142**	*eP*		**Pn**	**20 39 31.1**	**+0.2**
COLC				*eS*		**Sn**	**20 39 55.0**	**+0.1**
CUI	**Cuipilapa**	**1.35**	**141**	*eP*		**Pn**	**20 39 31.3**	**+0.1**
CRIN	**San Cristobal**	**1.40**	**315**	Pn		**Pn**	**20 39 31.3**	**-0.3**
CRIN				Sn		**Sn**	**20 39 56.4**	**+0.4**
CRIN	**San Cristobal**	**1.40**	**315**	*iP*		**Pn**	**20 39 31.4**	**-0.3**
CRIN	**San Cristobal**	**1.40**	**315**	*eP*		**Pn**	**20 39 31.3**	**-0.3**
CRIN				*eS*		**Sn**	**20 39 56.0**	**0.0**
VERA	**Finca Concepci**	**1.43**	**127**	*iP*		**Pn**	**20 39 31.6**	**-0.2**
VERA				*eS*		**Sn**	**20 39 57.2**	**+0.9**
PTEN	**Parque Tenorio**	**1.43**	**134**	*iP*		**Pn**	**20 39 32.0**	**+0.1**
PTEN				*eS*		**Sn**	**20 39 55.5**	**-1.1**
ACAL	**Aguas Claras**	**1.45**	**137**	*eP*		**Pn**	**20 39 32.1**	**0.0**
ACAL				*eS*		**Sn**	**20 39 56.3**	**-0.7**
ORTG	**Ortega, Santa**	**1.46**	**157**				**20 39 32.0**	**-0.2**
ORTG				Sn		**Sn**	**20 39 55.0**	**-2.1**
SAJU	**San Juanillo,**	**1.67**	**169**	*iP*		**Pn**	**20 39 33.9**	**-0.2**
NICO	**Nicoya**	**1.67**	**160**	*iP*		**Pn**	**20 39 34.2**	**0.0**
DUNO	**Dulce Nombre,**	**1.71**	**162**				**20 39 34.6**	**+0.1**
DUNO				Sn		**Sn**	**20 39 59.0**	**-2.3**
DUNO	**Dulce Nombre,**	**1.71**	**162**	*iP*		**Pn**	**20 39 34.6**	**+0.1**
ESPN	**Las Esperanzas**	**1.76**	**74**			**Pn**	**20 39 34.9**	**-0.1**
ESPN	**Las Esperanzas**	**1.76**	**74**	*iP*		**Pn**	**20 39 35.0**	**0.0**
JTS	**Las Juntas de**	**1.77**	**143**	Pn		**Pn**	**20 39 34.9**	**-0.3**
JTS				Sn		**Sn**	**20 39 59.5**	**-2.9**
JTS	**Las Juntas de**	**1.77**	**143**	*eP*		**Pn**	**20 39 34.8**	**-0.3**
JTS	**Las Juntas de**	**1.77**	**143**	*eP*		**Pn**	**20 39 34.8**	**-0.3**
GRZA	**Playa Garza**	**1.83**	**168**	*eP*		**Pn**	**20 39 35.6**	**-0.1**
COVE	**Coope Vega, Sa**	**1.88**	**121**			**Pn**	**20 39 35.9**	**-0.4**
INDI	**Punta indio, G**	**1.91**	**164**	*iP*		**Pn**	**20 39 36.4**	**-0.2**
LAFE	**Finca La Fe, P**	**2.19**	**150**	*eP*		**Pn**	**20 39 39.7**	**0.0**
CRPO	**Crater poas**	**2.33**	**130**	*eP*		**Pn**	**20 39 41.7**	**+0.2**
CNCH	**Conchagua**	**2.34**	**312**	*eP*		**Pn**	**20 39 41.2**	**-0.1**
CNCH					IAML		20 40 19.4	
	comp=Z,15μm,0.3s							
CNCH	**Conchagua**	**2.34**	**312**	*eP*		**Pn**	**20 39 41.2**	**-0.1**
CNCH					IAML		20 40 19.4	
	comp=Z,15μm,0.3s							
LCND	**La Caada**	**2.41**	**311**	*eP*		**Pn**	**20 39 41.8**	**-0.1**
LCND					IAML		20 40 19.2	
	comp=Z,5μm,0.3s							
LCND	**La Caada**	**2.41**	**311**	*eP*		**Pn**	**20 39 41.8**	**-0.1**
LCND					IAML		20 40 19.2	
	comp=Z,5μm,0.3s							
RIFO	**Rio Frio, Sara**	**2.50**	**124**	*eP*		**Pn**	**20 39 42.5**	**-0.5**
HDC	**Heredia**	**2.54**	**132**			**Pn**	**20 39 44.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.62**	**333**			**Pn**	**20 39 45.0**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.62**	**333**	*eP*		**Pn**	**20 39 45.4**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.62**	**333**	*eP*		**Pn**	**20 39 45.4**	**+0.8**
OCM	**Ochomogo**	**2.72**	**131**	*eP*		**Pn**	**20 39 47.4**	**+1.5**
VSM	**San Miguel**	**2.77**	**308**	*eP*		**Pn**	**20 39 46.8**	**+0.3**
VSM	**San Miguel**	**2.77**	**308**	*eP*		**Pn**	**20 39 46.8**	**+0.3**
LCY	**Lacayo**	**2.78**	**308**	*eP*		**Pn**	**20 39 46.6**	**+0.1**
LCY				*eS*		**Sn**	**20 40 22.4**	**-0.3**
LCY	**Lacayo**	**2.78**	**308**	*eP*		**Pn**	**20 39 46.6**	**+0.1**
LCY				*eS*		**Sn**	**20 40 22.4**	**-0.3**
LCR2	**La Lucha 2**	**2.80**	**134**	*eP*		**Pn**	**20 39 47.7**	**+1.0**
PACA	**Pacayal**	**2.83**	**308**	*eP*		**Pn**	**20 39 46.9**	**-0.2**
PACA					IAML		20 40 28.8	
	comp=Z,38μm,0.3s							
PACA	**Pacayal**	**2.83**	**308**	*eP*		**Pn**	**20 39 46.9**	**-0.2**
PACA					IAML		20 40 28.8	
	comp=Z,38μm,0.3s							
RIMA	**Rio Macho**	**2.88**	**132**			**Pn**	**20 39 48.3**	**+0.6**
RIMA	**Rio Macho**	**2.88**	**132**	*eP*		**Pn**	**20 39 48.4**	**+0.6**
COEB	**Comit de Eme**	**3.01**	**306**	*eP*		**Pn**	**20 39 49.3**	**+0.1**
COEB					IAML		20 40 32.9	
	comp=Z,3μm,0.3s							
COEB	**Comit de Eme**	**3.01**	**306**	*eP*		**Pn**	**20 39 49.3**	**+0.1**
COEB					IAML		20 40 32.9	
	comp=Z,3μm,0.3s							
CDM	**Cerro de Muert**	**3.10**	**134**	*eP*		**Pn**	**20 39 51.8**	**+1.2**
PQSS	**Presa 15 de Se**	**3.11**	**308**	*eP*		**Pn**	**20 39 49.8**	**-0.4**
PQSS	**Presa 15 de Se**	**3.11**	**308**	*eP*		**Pn**	**20 39 49.8**	**-0.4**
MRVA	**Moravia de Chi**	**3.17**	**126**	*eP*		**Pn**	**20 39 53.2**	**+2.1**
EDDO	**Dominical**	**3.25**	**139**	*eP*		**Pn**	**20 39 53.3**	**+1.4**
PEZE	**Perez Zeledon,**	**3.28**	**135**			**Pn**	**20 39 53.3**	**+0.9**
SCLA	**Alcaldia de Sa**	**3.29**	**307**	*eP*		**Pn**	**20 39 53.0**	**+0.5**
SCLA	**Alcaldia de Sa**	**3.29**	**307**	*eP*		**Pn**	**20 39 53.0**	**+0.5**
SNVI	**San Vicente**	**3.32**	**305**	*eP*		**Pn**	**20 39 52.8**	**-0.2**
SNVI	**San Vicente**	**3.32**	**305**	*eP*		**Pn**	**20 39 52.8**	**-0.2**
COEG	**Centro de Oper**	**3.36**	**305**	*eP*		**Pn**	**20 39 53.5**	**+0.1**
COEG					IAML		20 40 50.0	
	comp=Z,2μm,0.3s							
COEG	**Centro de Oper**	**3.36**	**305**	*eP*		**Pn**	**20 39 53.5**	**+0.1**
COEG					IAML		20 40 50.0	
	comp=Z,2μm,0.3s							
PAVA	**Las Pavas**	**3.46**	**305**	*eP*		**Pn**	**20 39 54.9**	**+0.3**
PAVA					IAML		20 40 44.2	
	comp=Z,3μm,0.4s							
PAVA	**Las Pavas**	**3.46**	**305**	*eP*		**Pn**	**20 39 54.9**	**+0.3**
PAVA					IAML		20 40 44.2	
	comp=Z,3μm,0.4s							
SJTE	**Alcalda de S**	**3.46**	**303**	*eP*		**Pn**	**20 39 54.5**	**-0.2**
SJTE	**Alcalda de S**	**3.46**	**303**	*eP*		**Pn**	**20 39 54.5**	**-0.2**
P5NO	**Presa 5 de nov**	**3.49**	**311**	*eP*		**Pn**	**20 39 55.1**	**+0.2**
P5NO					IAML		20 39 56.6	
	comp=Z,1μm,0.5s							
LFRS	**El Faro**	**3.51**	**303**	*eP*		**Pn**	**20 39 55.8**	**+0.5**
LFRS	**El Faro**	**3.51**	**303**	*eP*		**Pn**	**20 39 55.8**	**+0.5**
SRBA	**San Rafael, Bu**	**3.61**	**133**			**Pn**	**20 39 57.5**	**+0.9**
SNET	**Serv Nac Est T**	**3.68**	**303**			**Pn**	**20 39 57.7**	**+0.2**
SNET	**Serv Nac Est T**	**3.68**	**303**	*eP*		**Pn**	**20 39 57.2**	**-0.2**
SNET					IAML		20 40 44.8	
	comp=Z,5μm,0.2s							
SNET	**Serv Nac Est T**	**3.68**	**303**	*eP*		**Pn**	**20 39 57.2**	**-0.2**
SNET					IAML		20 40 44.8	
	comp=Z,5μm,0.2s							
UEES	**Universidad Ev**	**3.71**	**303**	*eP*		**Pn**	**20 39 58.1**	**+0.4**
UEES	**Universidad Ev**	**3.71**	**303**	*eP*		**Pn**	**20 39 58.1**	**+0.4**
BOQS	**Boqueron**	**3.75**	**303**	*eP*		**Pn**	**20 39 59.0**	**+0.6**
BOQS				*eS*		**Sn**	**20 40 42.9**	**-1.2**
BOQS	**Boqueron**	**3.75**	**303**	*eP*		**Pn**	**20 39 59.0**	**+0.6**
BOQS				*eS*		**Sn**	**20 40 42.9**	**-1.2**
RGM0	**Gandoca**	**3.98**	**122**	Pn		**Pn**	**20 40 01.8**	**+0.8**
CEVE	**Cerro Verde**	**4.08**	**301**	*eP*		**Pn**	**20 40 03.0**	**+0.4**
CEVE	**Cerro Verde**	**4.08**	**301**	*eP*		**Pn**	**20 40 03.0**	**+0.4**
SBLS	**San Blas**	**4.09**	**302**	*eP*		**Pn**	**20 40 03.2**	**+0.6**
SBLS	**San Blas**	**4.09**	**302**	*eP*		**Pn**	**20 40 03.2**	**+0.6**
SNJE	**San Jose**	**4.09**	**302**	*eP*		**Pn**	**20 40 03.1**	**+0.4**
SNJE	**San Jose**	**4.09**	**302**	*eP*		**Pn**	**20 40 03.1**	**+0.4**
RTR	**El Retiro**	**4.14**	**302**	*eP*		**Pn**	**20 40 04.3**	**+1.1**
RTR	**El Retiro**	**4.14**	**302**	*eP*		**Pn**	**20 40 04.3**	**+1.1**
MTO3	**Montecristo**	**4.20**	**310**			**Pn**	**20 40 04.9**	**+0.9**
MTO3	**Montecristo**	**4.20**	**310**	*iP*		**Pn**	**20 40 05.0**	**+0.9**
MTO3	**Montecristo**	**4.20**	**310**	*eP*		**Pn**	**20 40 05.0**	**+0.9**
NUBE	**Las Nubes**	**4.25**	**301**	*eP*		**Pn**	**20 40 05.1**	**+0.4**
NUBE	**Las Nubes**	**4.25**	**301**	*eP*		**Pn**	**20 40 05.1**	**+0.4**
ESQI	**Esquipulas**	**4.29**	**312**			**Pn**	**20 40 06.6**	**+1.5**
ESQI	**Esquipulas**	**4.29**	**312**	*eP*		**Pn**	**20 40 06.4**	**+1.3**
BRU2	**Volcan**	**4.39**	**131**			**Pn**	**20 40 06.2**	**-0.2**
CDITO	**Canoas**	**4.41**	**135**			**Pn**	**20 40 06.6**	**0.0**
MRL	**Marmol**	**4.88**	**314**	*eP*		**Pn**	**20 40 15.3**	**+2.5**
NBG	**Las Nubes**	**5.08**	**305**	*eP*		**Pn**	**20 40 18.3**	**+2.9**
NBG				*eS*		**Sn**	**20 41 11.0**	**-3.6**
PCG	**Pacaya**	**5.19**	**301**	*eP*		**Pn**	**20 40 19.2**	**+2.3**
PCG				*eS*		**Sn**	**20 41 20.8**	**+3.6**
STG3	**Santiaguito 3,**	**6.16**	**300**	*eP*		**Pn**	**20 40 31.3**	**+1.9**
STG3				*eS*		**Sn**	**20 41 37.1**	**-2.7**
RTAL	**Retalhuleu**	**6.18**	**297**			**Pn**	**20 40 30.7**	**+1.2**
RTAL	**Retalhuleu**	**6.18**	**297**	*eP*		**Pn**	**20 40 30.6**	**+1.1**
HUEH	**Huehuetenango**	**6.41**	**305**			**Pn**	**20 40 34.0**	**+1.3**
BCIP	**Isla Barro Col**	**6.60**	**112**	Pn		**Pn**	**20 40 35.1**	**+0.1**
CCIG	**Comitan**	**7.46**	**308**			**Pn**	**20 40 46.9**	**+0.4**
TEIG	**Tepich**	**8.73**	**346**	Pn		**Pn**	**20 41 02.6**	**-0.3**
CMIG	**Matias Romero**	**10.10**	**303**	P		**Pn**	**20 41 21.0**	**+0.2**
	comp=Z,14nm,0.3s,baz=148,slow=9.4,SNR=40							
PAYG	**Puerto Ayora**	**13.01**	**199**			**P**	**20 42 03.0**	**+1.1**
GTBY	**Guantanamo Bay**	**13.30**	**51**	P		**Pn**	**20 42 03.0**	**+1.1**
TLIG	**Tlapa**	**13.44**	**297**	Pn		**P**	**20 42 05.8**	**-1.1**
ROSC	**El Rosal**	**13.45**	**120**	P		**Pn**	**20 42 05.5**	**+1.3**
	comp=Z,13nm,0.5s,baz=86,slow=6.3,SNR=13							
ROSC	**El Rosal**	**13.45**	**120**	P		**P**	**20 42 06.7**	**-0.5**
OTAV	**Otavalo**	**13.66**	**146**	P		**P**	**20 42 08.5**	**-1.2**
IMBA	**Imbabura, San**	**13.77**	**145**			**P**	**20 42 09.9**	**-0.9**
SLOR	**San Lorenzo -**	**14.45**	**148**	P		**P**	**20 42 17.6**	**-0.8**
061Z	**Ochoppi**	**14.89**	**18**	P		**P**	**20 42 23.1**	**+0.5**
PORT	**Chimborazo Vol**	**14.95**	**151**	P		**P**	**20 42 24.0**	**0.0**
SDV	**Santo Domingo**	**15.41**	**99**	P		**P**	**20 42 28.8**	**+0.1**
	comp=Z,50nm,0.8s,baz=278,slow=8.0,SNR=38							
SDV	**Santo Domingo**	**15.41**	**99**	P		**P**	**20 42 28.5**	**-0.3**
SDDR	**Presa de Saban**	**15.95**	**61**	P		**Pn**	**20 42 35.2**	**+0.7**
BOSC	**San Juan Bosco**	**16.56**	**153**	P		**Pn**	**20 42 44.2**	**+2.1**
SC01	**Santiago de lo**	**16.61**	**61**	P		**Pn**	**20 42 44.2**	**+1.7**
GRTK	**Grand Turk**	**17.27**	**54**	P		**Pn**	**20 42 50.4**	**0.0**
DR12	**Loma Pena Alta**	**17.53**	**64**	P		**P**	**20 42 45.3**	**-6.6**
656A	**Willston**	**17.87**	**10**	P		**Pn**	**20 42 56.6**	**-0.6**
BAUV	**El Baul**	**17.91**	**97**	P		**P**	**20 42 55.4**	**-0.7**
PCDR	**Punta Cana, DR**	**18.33**	**66**	P		**P**	**20 42 59.2**	**-1.3**
451A	**Vernon**	**18.81**	**1**	P		**Pn**	**20 43 09.6**	**+1.2**
CRPR	**Cabo Rojo, PR**	**19.32**	**69**	P		**P**	**20 43 11.9**	**+0.6**
PRSN	**Puerto Rico Se**	**19.35**	**68**	P		**P**	**20 43 11.0**	**-0.6**
MLPR	**Magueyes Islan**	**19.38**	**69**	P		**P**	**20 43 12.3**	**+0.5**
BRAL	**Brewton**	**19.38**	**357**	P		**Pn**	**20 43 13.7**	**-1.4**
BIRV	**Birongo**	**19.44**	**92**	P		**P**	**20 43 11.3**	**-1.3**
AGPR	**Aguadilla, PR**	**19.46**	**68**	P		**P**	**20 43 13.8**	**+1.1**
352A	**Blakely**	**19.70**	**3**	P		**P**	**20 43 16.7**	**+1.5**
AOPR	**Arecibo Observ**	**19.75**	**68**	P		**P**	**20 43 15.2**	**-0.6**
TIGA	**Tifton**	**19.76**	**6**	P		**P**	**20 43 16.7**	**+0.9**
OBIP	**Obispado Ponce**	**19.80**	**69**	P		**P**	**20 43 15.9**	**-0.5**
EMPR	**Esperanza - Ma**	**19.99**	**68**	P		**P**	**20 43 18.1**	**-0.3**
SJG	**San Juan**	**20.23**	**69**	P		**P**	**20 43 21.3**	**+0.3**
	comp=Z,45nm,0.7s,baz=269,slow=8.2,SNR=12							
	comp=Z,45nm,0.7s							
SJG	**San Juan**	**20.23**	**69**	P		**P**	**20 43 20.9**	**-0.1**
HKT	**Hockley**	**20.30**	**335**	P		**P**	**20 43 23.6**	**+2.0**
GCPR	**Guaynabo City**	**20.35**	**69**	P		**P**	**20 43 21.7**	**-0.6**
255A	**Hazlehurst**	**20.38**	**9**	P		**P**	**20 43 22.1**	**-0.4**
HUMP	**Col San Antoni**	**20.52**	**69**	P		**P**	**20 43 23.5**	**-0.6**
CBYP	**Canovanas**	**20.54**	**69**	P		**P**	**20 43 22.9**	**-1.5**
MTP	**Monte Pirata**	**20.78**	**70**	P		**P**	**20 43 26.4**	**-0.5**
152A	**Waverly Hall**	**20.89**	**3**	P		**P**	**20 43 28.2**	**+0.2**
154A	**Montrose**	**20.98**	**7**	P		**P**	**20 43 29.3**	**+0.6**
PCRV	**Puerto La Cruz**	**21.07**	**92**	P		**P**	**20 43 31.4**	**+1.4**
	comp=Z,45nm,0.6s,baz=249,slow=4.4,SNR=23							
	comp=Z,45nm,0.6s							
CUPR	**Culebra, Puert**	**21.08**	**69**	P		**P**	**20 43 30.3**	**+0.2**
LRAL	**Lakeview Retre**	**21.24**	**358**	P		**P**	**20 43 32.2**	**+0.6**
LRAL	**Lakeview Retre**	**21.24**	**358**	P		**P**	**20 43 32.3**	**+0.7**
	baz=177,SNR=7.0							
STVI	**Saint Thomas**	**21.39**	**69**	P		**P**	**20 43 32.2**	**-1.1**
CDVI	**St. Croix**	**21.42**	**71**	P		**P**	**20 43 33.9**	**+0.2**
Z47A	**Carrollton**	**21.47**	**355**	P		**P**	**20 43 34.0**	**0.0**
Z51A	**Franklin**	**21.52**	**2**	P		**P**	**20 43 34.9**	**+0.4**
GOGA	**Godfrey**	**21.73**	**6**	P		**P**	**20 43 36.4**	**-0.2**
GOGA	**Godfrey**	**21.73**	**6**	P		**P**	**20 43 37.3**	**+0.6**
	baz=187,SNR=10							
CSU	**Charleston Sou**	**21.87**	**14**	P		**P**	**20 43 38.7**	**+0.6**
Y52A	**Lilburn**	**22.12**	**4**	P		**P**	**20 43 40.6**	**0.0**
Y45A	**Yeager Farm, C**	**22.28**	**352**	P		**P**	**20 43 43.9**	**+1.8**
JCT	**Junction City**	**22.62**	**328**	P		**P**	**20 43 46.1**	**+0.8**
X48A	**Hartselle**	**22.65**	**358**	P		**P**	**20 43 45.3**	**-0.2**
HODGE	**Hodges**	**22.68**	**8**	P		**P**	**20 43 46.3**	**+0.6**
HODGE					IAmb	IAmb	20 43 47.7	
	comp=Z,28nm,0.5s							
FPAL	**Fort Paine**	**22.73**	**1**	P		**P**	**20 43 47.0**	**+0.8**
X51A	**Calhoun**	**22.77**	**3**	P		**P**	**20 43 46.9**	**+0.3**
Y58A	**Scranton**	**22.84**	**14**	P		**P**	**20 43 48.1**	**+0.9**
JSC	**Jenkinsville**	**22.88**	**10**	P		**P**	**20 43 48.6**	**+1.1**
JSC					pP	**pP**	**20 44 22.4**	**+0.9**
OXF	**Oxford**	**22.90**	**353**	P		**P**	**20 43 48.6**	**+0.9**
OXF					IAmb	IAmb	20 43 50.5	
	comp=Z,42nm,1.1s							
OXF	**Oxford**	**22.90**	**353**	P		**P**	**20 43 48.3**	**+0.6**
	baz=171							
SMRT	**St. Maarten**	**23.05**	**71**	P		**P**	**20 43 48.5**	**-0.8**
Y59A	**Loris**	**23.12**	**15**	P		**P**	**20 43 49.2**	**-0.5**
Y59A					IAmb	IAmb	20 43 53.2	
	comp=Z,30nm,0.7s							
PLAL	**Pickwick Lake**	**23.24**	**356**	P		**P**	**20 43 51.8**	**+1.1**
Y60A	**Bolivia**	**23.31**	**17**	P		**P**	**20 43 51.9**	**+0.5**
PAULI	**Pauline**	**23.32**	**9**	P		**P**	**20 43 52.7**	**+1.1**
PAULI					pP	**pP**	**20 44 27.4**	**+1.2**
BG3	**Lake Jocassee**	**23.35**	**6**	P		**P**	**20 43 52.3**	**+0.5**
BG3					IAmb	IAmb	20 43 54.5	
	comp=Z,27nm,0.9s							
BG3					pP	**pP**	**20 44 28.1**	**+1.7**
W52A	**Murphy**	**23.35**	**4**	P		**P**	**20 43 52.9**	**+1.0**
W52A					IAmb	IAmb	20 43 54.4	
	comp=Z,17nm,0.8s							
BIRD	**Birdtown, Kers**	**23.39**	**12**	P		**P**	**20 43 52.3**	**+0.2**
BIRD					IAmb	IAmb	20 43 54.4	
	comp=Z,27nm,0.6s							
BIRD						**pP**	**20 44 28.4**	**+1.5**
W50A	**Signal Mountai**	**23.39**	**1**	P		**P**	**20 43 52.7**	**+0.5**
W50A					IAmb	IAmb	20 43 55.5	
	comp=Z,26nm,0.7s							
W50A					pP	**pP**	**20 44 29.1**	**+2.1**
SWET	**Sewanee**	**23.40**	**0**	P		**P**	**20 43 52.9**	**+0.6**
SWET					IAmb	IAmb	20 43 55.3	
	comp=Z,36nm,1.1s							
UALR	**University of**	**23.66**	**347**	P		**P**	**20 43 54.4**	**-0.2**
UALR					IAmb	IAmb	20 43 56.9	
	comp=Z,14nm,0.8s							
CPCT	**Cooper Cave**	**23.67**	**3**	P		**P**	**20 43 56.1**	**+1.4**
CPCT					IAmb	IAmb	20 43 58.8	
	comp=Z,26nm,0.9s							
CPCT					pP	**pP**	**20 44 31.4**	**+1.4**
KMSC	**Kings Mountain**	**23.71**	**10**	P		**P**	**20 43 56.2**	**+1.1**
KMSC					IAmb	IAmb	20 43 57.7	
	comp=Z,31nm,0.8s							
KMSC					pP	**pP**	**20 44 29.5**	**-0.8**
KMSC	**Kings Mountain**	**23.71**	**10**	P		**P**	**20 43 56.4**	**+1.3**
	baz=191,SNR=8.7							
MIAR	**Mount Ida**	**23.74**	**344**	P		**P**	**20 43 55.4**	**0.0**
MIAR	**Mount Ida**	**23.74**	**344**	P		**P**	**20 43 55.3**	**0.0**
	baz=161							
GRGR	**Grenville**	**23.86**	**86**	P		**P**	**20 43 55.6**	**-1.1**
TKL	**Tuckaleechee C**	**23.93**	**5**	P		**P**	**20 43 57.1**	**+0.1**
	comp=Z,8.4nm,0.5s,baz=185,slow=11,SNR=16							
	comp=Z,8.4nm,0.5s							
TKL	**Tuckaleechee C**	**23.93**	**5**	P		**P**	**20 43 58.0**	**+0.9**
TKL					IAmb	IAmb	20 44 01.2	
	comp=Z,42nm,1.5s							
TKL					pP	**pP**	**20 44 34.0**	**+1.3**
V48A	**Smith Brothers**	**23.93**	**358**	P		**P**	**20 43 57.2**	**+0.1**
W57A	**Gilead**	**23.97**	**12**	P		**P**	**20 43 57.6**	**+0.2**
W57A					IAmb	IAmb	20 43 59.4	
	comp=Z,25nm,0.6s							
GDHS	**Morne Mazeau,**	**23.97**	**76**	P		**P**	**20 43 57.1**	**-0.6**
TXAR	**Lajitas Array**	**24.02**	**319**	P		**P**	**20 43 59.2**	**+1.1**
	comp=Z,5.3nm,0.6s,baz=153,slow=8.6,SNR=67							
TXAR					pP	**pP**	**20 44 36.2**	**+2.4**
	comp=Z,2.5nm,0.8s,ba

O53A	**New Philadelph**	**28.74**	**8**	P		**P**		**20 44 41.1**	**+0.9**
O53A	**New Philadelph**	**28.74**	**8**	P		**P**		**20 44 40.9**	**+0.8**
	baz=190,SNR=12								
HDIL	**Hopedale**	**28.87**	**355**	P		**P**		**20 44 41.8**	**+0.5**
	baz=173								
ETMB	**Extrema**	**29.08**	**137**	P		**P**		**20 44 43.4**	**0.0**
ETMB				IAmb		IAmb		20 44 44.7	
	comp=Z,43nm,0.6s								
MVL	**Millersville**	**29.45**	**15**	IAmb		IAmb		20 44 49.2	
	comp=Z,13nm,0.8s								
SSPA	**Standing Stone**	**29.69**	**13**	P		**P**		**20 44 49.4**	**+0.9**
SSPA				IAmb		IAmb		20 44 50.8	
	comp=Z,23nm,0.7s								
SSPA	**Standing Stone**	**29.69**	**13**	P		**P**		**20 44 50.1**	**+1.6**
	baz=196								
M53A	**WI Miller and**	**29.98**	**8**	P		**P**		**20 44 52.2**	**+1.1**
	baz=190,SNR=6.2								
N58A	**Sunbury**	**30.15**	**14**	IAmb		IAmb		20 44 54.9	
	comp=Z,22nm,0.8s								
M55A	**Ridgway**	**30.32**	**11**	IAmb		IAmb		20 44 56.0	
	comp=Z,25nm,1.1s								
M57A	**Sunshine Farm,**	**30.53**	**13**	P		**P**		**20 44 56.6**	**+0.8**
SAML	**Samuel**	**30.62**	**131**	P		**P**		**20 44 55.4**	**-1.7**
ERPA	**Erie**	**30.75**	**9**	P		**P**		**20 44 58.8**	**+1.0**
	baz=191								
PAL	**Palisades**	**31.07**	**18**	P		**P**		**20 45 02.5**	**+1.9**
	baz=203								
L56A	**Greenwood**	**31.20**	**12**	IAmb		IAmb		20 45 03.7	
	comp=Z,19nm,0.8s								
SDCO	**Great Sand Dun**	**31.24**	**329**	P		**P**		**20 45 03.8**	**+1.2**
	baz=141								
JFWS	**Jewell Farm**	**31.30**	**354**	IAmb		IAmb		20 45 03.4	
	comp=Z,15nm,0.8s								
JFWS	**Jewell Farm**	**31.30**	**354**	P		**P**		**20 45 02.9**	**+0.2**
	baz=172								
BINY	**Binghamton**	**31.61**	**14**	P		**P**		**20 45 06.4**	**+1.0**
	baz=199,SNR=7.2								
MMNY	**Mt. Morris Dam**	**31.70**	**11**	IAmb		IAmb		20 45 07.7	
	comp=Z,30nm,0.8s								
L59A	**Walton**	**31.84**	**16**	IAmb		IAmb		20 45 09.8	
	comp=Z,24nm,0.9s								
J56A	**Wolcott**	**32.44**	**13**	IAmb		IAmb		20 45 14.1	
	comp=Z,38nm,0.9s								
TRY	**Troy**	**32.72**	**17**	P		**P**		**20 45 16.1**	**+1.0**
TRY				IAmb		IAmb		20 45 17.6	
	comp=Z,35nm,1.0s								
J57A	**Williamstown**	**32.76**	**14**	IAmb		IAmb		20 45 16.9	
	comp=Z,22nm,0.9s								
L61B	**Northampton**	**32.76**	**18**	P		**P**		**20 45 16.4**	**+1.0**
	baz=204								
I37A	**Lemond, Waseca**	**32.81**	**350**	IAmb		IAmb		20 45 16.4	
	comp=Z,17nm,0.7s								
J58A	**Remsen**	**32.88**	**15**	IAmb		IAmb		20 45 17.8	
	comp=Z,19nm,0.6s								
ECSD	**EROS Data Cent**	**33.19**	**346**	P		**P**		**20 45 18.3**	**-0.8**
	baz=161								
SADO	**Sadowa**	**33.47**	**9**	IAmb		IAmb		20 45 22.4	
	comp=Z,21nm,0.8s								
MDP	**Montagnes des**	**33.66**	**98**	P		**P**		**20 45 23.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=278,slow=7.7,SNR=1.8								
	comp=Z,2.1nm,0.6s								
SPMN	**Marine on St.**	**33.89**	**351**	IAmb		IAmb		20 45 25.8	
	comp=Z,22nm,1.1s								
SPMN	**Marine on St.**	**33.89**	**351**	P		**P**		**20 45 24.8**	**-0.3**
	baz=168								
LONY	**Lake Ozonia**	**34.23**	**15**	P		**P**		**20 45 27.5**	**-0.6**
LONY				IAmb		IAmb		20 45 29.2	
	comp=Z,14nm,0.7s								
LONY	**Lake Ozonia**	**34.23**	**15**	P		**P**		**20 45 28.9**	**+0.8**
	baz=200,SNR=6.4								
LCMT	**Little Creek M**	**35.10**	**320**	P		**P**		**20 45 36.4**	**+0.6**
MTPU	**Mount Pierson**	**35.12**	**323**	P		**P**		**20 45 36.5**	**+0.3**
MTPU						**pP**		**20 46 15.5**	**+0.4**
PKME	**Peaks-Kenny Pk**	**36.37**	**20**	P		**P**		**20 45 47.7**	**+1.4**
	baz=208								
SIV	**San Ignacio**	**36.99**	**138**	P		**P**		**20 45 52.3**	**+0.3**
	comp=Z,15nm,0.6s,baz=310,slow=8.3,SNR=52								
	comp=Z,15nm,0.6s								
PDAR	**Pinedale Array**	**37.08**	**331**	P		**P**		**20 45 52.0**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=128,slow=9.4,SNR=6.3								
PDAR				pP		**pP**		**20 46 34.0**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=125,slow=11,SNR=4.4								
PDAR				ScP		**ScP**		**20 51 38.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=125,slow=5.6,SNR=4.4								
	comp=Z,0.7nm,0.7s								
LATQ	**La Tuque**	**37.27**	**15**	P		**P**		**20 45 53.8**	**-0.1**
LATQ				IAmb		IAmb		20 45 55.1	
	comp=Z,20nm,0.6s								
AGMN	**Agassiz Nation**	**37.38**	**349**	P		**P**		**20 45 54.4**	**-0.5**
	baz=164								
AHID	**Auburn Hatcher**	**37.83**	**329**	P		**P**		**20 45 58.8**	**-0.1**
AHID						**pP**		**20 46 37.3**	**-0.9**
NVAR	**Mina Array Bea**	**39.17**	**318**	P		**P**		**20 46 11.8**	**+1.6**
	comp=Z,2.4nm,0.6s,baz=132,slow=6.4,SNR=8.3								
NVAR				ScP		**ScP**		**20 51 47.6**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=150,slow=6.3,SNR=3.9								
	comp=Z,2.4nm,0.6s								
ULM	**Lac du Bonnet**	**39.27**	**350**	P		**P**		**20 46 09.0**	**-1.5**
	comp=Z,3.5nm,0.7s,baz=164,slow=8.0,SNR=3.0								
	comp=Z,3.5nm,0.7s								
DGMT	**Dagmar**	**39.65**	**341**	P		**P**		**20 46 15.2**	**+1.4**
	baz=151								
HLID	**Hailey**	**40.10**	**328**	P		**P**		**20 46 18.2**	**+0.5**
HLID	**Hailey**	**40.10**	**328**	P		**P**		**20 46 18.8**	**+1.1**
	baz=134								
BOZ	**Bozeman (W)**	**40.20**	**332**	P		**P**		**20 46 19.6**	**+1.2**
	baz=139								
EGMT	**Eagleton**	**41.28**	**336**	P		**P**		**20 46 28.5**	**+1.3**
	baz=143								
SCHQ	**Schefferville**	**45.60**	**15**	P		**P**		**20 47 00.9**	**-0.6**
	comp=Z,9.7nm,0.5s,baz=218,slow=6.2,SNR=31								
	comp=Z,9.7nm,0.5s								
PLCA	**Paso Flores**	**54.12**	**165**	P		**P**		**20 48 07.2**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=341,slow=6.0,SNR=4.1								
	comp=Z,0.8nm,0.5s								
SUMG	**Summit**	**66.96**	**14**	*i* P		**P**		**20 49 31.0**	**-1.7**
ILAR	**Eielson Array**	**67.25**	**336**	P		**P**		**20 49 33.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=129,slow=4.4,SNR=7.9								
	comp=Z,0.5nm,0.6s								
F26K	**Sheenjek River**	**67.42**	**339**	P		**P**		**20 49 36.5**	**+1.2**
	baz=116								
H24K	**Nodoli Dome**	**68.03**	**337**	P		**P**		**20 49 40.3**	**+1.2**
	baz=111								
G24K	**Hadweenzic Riv**	**68.20**	**338**	P		**P**		**20 49 40.0**	**-0.1**
	baz=112								
BPAW	**Bear Paw Mtn.**	**68.69**	**335**	P		**P**		**20 49 42.6**	**-0.6**
	baz=108								
PPLA	**Purkeypile**	**68.86**	**333**	P		**P**		**20 49 43.2**	**-1.3**
	baz=106								
MLY	**Manley**	**68.88**	**336**	P		**P**		**20 49 43.6**	**-0.8**
	baz=108								
CAST	**Castle Rocks**	**68.96**	**334**	P		**P**		**20 49 44.5**	**-0.5**
	baz=106								
M20K	**Styx River**	**69.01**	**332**	P		**P**		**20 49 44.8**	**-0.6**
	baz=105								
L20K	**Farewell, AK**	**69.50**	**333**	P		**P**		**20 49 47.1**	**-1.2**
	baz=104								
M19K	**Big River Lodg**	**69.59**	**332**	P		**P**		**20 49 48.1**	**-0.7**
	baz=104								
J20K	**Nowinta River**	**70.05**	**334**	P		**P**		**20 49 50.4**	**-1.1**
	baz=105								
G21K	**Allakaket**	**70.42**	**337**	P		**P**		**20 49 53.7**	**0.0**
	baz=106								
F21K	**Alatna River**	**70.61**	**338**	P		**P**		**20 49 54.8**	**-0.1**
	baz=106								
UNV	**Unalaska Valle**	**75.01**	**323**	P		**P**		**20 50 18.5**	**-2.5**
	baz=91								
ESDC	**Sonseca Array**	**76.55**	**52**	P		**P**		**20 50 29.4**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=279,slow=5.4,SNR=14								
ESDC				pP		**pP**		**20 51 14.7**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=276,slow=5.8,SNR=3.3								
	comp=Z,1.3nm,0.6s								
TORD	**Torodi Ar. Bea**	**85.22**	**78**	P		**P**		**20 51 15.7**	**-0.7**
	comp=Z,15nm,0.6s,baz=289,slow=4.4,SNR=5.1								
	comp=Z,15nm,0.6s								
ARCES	**ARCESS Array B**	**86.42**	**19**	P		**P**		**20 51 20.0**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=5.7,slow=2.4,SNR=4.5								
ARCES				pP		**pP**		**20 52 06.4**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=276,slow=3.5,SNR=2.2								
	comp=Z,1.5nm,0.7s								
GERES	**GERESS Array B**	**87.59**	**41**	P		**P**		**20 51 27.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=90,slow=1.3,SNR=3.6								
	comp=Z,0.2nm,0.4s								
STKA	**Stephens Creek**	**131.88**	**238**	PKP		**PKiKP**		**20 57 52.2**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=27,slow=4.1,SNR=5.7								
ASAR	**Alice Springs**	**140.27**	**247**	PKhKP		PKPpre		20 58 02.0	
	comp=Z,0.7nm,0.6s,baz=115,slow=3.4,SNR=14								
ASAR				PKP		**PKPdf**		**20 58 08.6**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=103,slow=1.8,SNR=22								
ASAR				SKPbc		**SKPbc**		**21 01 27.1**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=108,slow=2.9,SNR=16								
WRA	**Warramunga Arr**	**140.39**	**253**	PKhKP		PKPpre		20 58 02.1	
	comp=Z,0.5nm,0.4s,baz=90,slow=3.7,SNR=30								
WRA				PKP		**PKPdf**		**20 58 09.0**	**+1.1**
	comp=Z,1.8nm,0.5s,baz=92,slow=2.4,SNR=16								
WRA				SKPbc		**SKPbc**		**21 01 27.5**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=91,slow=3.2,SNR=18								
PZH	**PanZhiHua**	**141.27**	**349**	PKP		**PKPdf**		**20 58 09.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**149.62**	**351**	PKP		**PKPdf**		**20 58 22.2**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=344,slow=2.3,SNR=2.5								
CMAR				PKPbc		**PKPbc**		**20 58 28.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=316,slow=3.8,SNR=3.2								

IDC 27 20:40:09.1±3.4, 32.52S×178.39W, h0km, mb3.5/2, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=75.9km s-min=38.4km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.81**	**211**	Pn		Pn		20 41 50.4	+0.2
	0.2nm,0.3s,baz=199,slow=21,SNR=0.8								
URZ				Sn		Sn		20 43 08.7	+0.3
	0.8nm,0.3s,baz=279,slow=23,SNR=6.0								
	7.6nm,1.0s								
ASAR	**Alice Springs**	**42.71**	**269**	P		P		20 48 07.7	-0.4
	0.3nm,0.6s,baz=110,slow=8.0,SNR=5.0								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**43.89**	**275**	P		P		20 48 17.8	+0.1
	0.4nm,0.4s,baz=113,slow=7.5,SNR=18								
	0.4nm,0.4s								
FINES	**FINESS Array B**	**147.00**	**339**	PKPbc		PKPbc		20 59 52.1	-0.9
	2.0nm,0.9s,baz=35,slow=5.1,SNR=2.5								

IDC 27 20:51:02.6±1.1, 39.58N×75.38E, h0km, mb3.5/5, mbtmp3.5/9, ML2.7/3, Error ellipse: s-maj=24.2km s-min=15.5km az=85.0
KRNET 27 20:51:06.1±0.1, 39.77N×75.55E, mb4.1
NNC 27 20:51:06.0±2.3, 39.90N×75.49E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=18.5km s-min=14.5km az=155.0
SOME 27 20:51:06.1, 39.93N×75.47E, h10km
ISC 27 20:51:04.0±1.5, 39.84N±0.04×75.45E±0.03, h3km±11km, n100, σ1§88/134, mb3.5/5, 25C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.65**	**14**	⇑*e*P		**Pg**		**20 51 37.2**	**+1.6**
NRN	baz=11			⇑*i*S		**Sg**		**20 51 59.4**	**+2.4**
	baz=11								
OHH	**Osh**	**2.16**	**289**	⇑*e*P		**Pg**		**20 51 45.6**	**+0.3**
OHH	baz=90			⇑*e*S		**Sg**		**20 52 14.5**	**+1.3**
	baz=90								
ARLS	**Aral**	**2.20**	**337**	⇑*e*P		**Pg**		**20 51 45.8**	**-0.3**
ARLS	baz=36			⇑*e*S		**Sg**		**20 52 15.4**	**+0.9**
	baz=36								
ULHL	**Ulahol**	**2.48**	**14**	P		**Pg**		**20 51 50.5**	**-1.0**
	SNR=31								
ULHL	**Ulahol**	**2.48**	**14**	⇑*e*P		**Pb**		**20 51 49.7**	**+0.4**
ULHL	baz=12			⇑*e*S		**Sb**		**20 52 21.2**	**+0.8**
	baz=12								
UCH	**Uchtor**	**2.49**	**344**	P		**Pg**		**20 51 50.7**	**-1.0**
	SNR=222								
UCH	**Uchtor**	**2.49**	**344**	⇑*e*P		**Pb**		**20 51 50.4**	**+0.7**
UCH	baz=43			⇑*e*S		**Sg**		**20 52 22.9**	**-1.2**
	baz=43								
AML	**Almayashu**	**2.65**	**330**	P		**Pb**		**20 51 52.6**	**+0.2**
	SNR=48								
BOOM	**Boomskoye usch**	**2.68**	**8**	⇓*e*P		**Pb**		**20 51 52.6**	**0.0**
BOOM	baz=6.0			⇓*e*S		**Sb**		**20 52 26.2**	**+0.2**
	baz=6.0								
KBK	**Karagaybulak**	**2.84**	**352**	P		**Pb**		**20 51 56.0**	**+0.6**
	SNR=73								
KBK	**Karagaybulak**	**2.84**	**352**	⇓*e*P		**Pb**		**20 51 55.0**	**-0.5**
KBK	baz=51			⇓*e*S		**Sb**		**20 52 30.8**	**0.0**
	baz=51								
AAK	**Ala-Archa**	**2.89**	**346**	P		**Pb**		**20 51 56.6**	**+0.4**
	SNR=88								
AAK	**Ala-Archa**	**2.89**	**346**	Pn		**Pb**		**20 51 56.7**	**+0.4**
	61nm,0.3s,baz=145,slow=7.0,SNR=171								
AAK				Sn		**Sg**		**20 52 35.4**	**-1.4**
	8.4nm,0.3s,baz=31,slow=18,SNR=4.6								
AAK	**Ala-Archa**	**2.89**	**346**	⇑*e*P		**Pb**		**20 51 55.8**	**-0.5**
	baz=45								
AAK				⇑*e*S		**Sb**		**20 52 32.1**	**0.0**
	baz=45								
FRU1	**Bishkek**	**3.04**	**348**	⇓*e*P		**Pb**		**20 51 58.1**	**-0.6**
	baz=47								
FRU1				⇓*e*S		**Sb**		**20 52 35.7**	**-0.5**
	baz=47								
TKM2	**Tokmak 2**	**3.08**	**2**	P		**Pb**		**20 51 59.4**	**-0.2**
	SNR=71								
TKM2	**Tokmak 2**	**3.08**	**2**	⇑Pn		**Pb**		**20 51 59.3**	**-0.2**
TKM2	23nm,0.3s			⇑Lg		Lg		20 52 44.6	
	102nm,0.4s								
TKM2	**Tokmak 2**	**3.08**	**2**	⇓*e*P		**Pb**		**20 51 58.4**	**-1.2**
TKM2	baz=1.0			⇓*e*S		**Sb**		**20 52 36.1**	**-1.6**
	baz=1.0								
EKS2	**Erkin-Say**	**3.09**	**336**	P		**Pb**		**20 51 59.2**	**-0.5**
	SNR=27								
CHMS	**Chumysh**	**3.20**	**351**	P		**Pb**		**20 52 00.9**	**-0.7**
	SNR=78								
KST	**Kastek**	**3.23**	**7**	*e*P		**Pg**		**20 52 06.4**	**+0.6**
	51nm,0.3s								
KST				*e*S		**Sg**		**20 52 49.5**	**+1.9**
	236nm,0.7s								
KST	**Kastek**	**3.23**	**7**	Pg		**Pb**		**20 52 01.3**	**-0.7**
	41nm,0.4s								
KST				Lg		Lg		20 52 49.5	
	236nm,0.7s								
MRKS	**Merke**	**3.35**	**331**	*e*P		**Pg**		**20 52 08.2**	**0.0**
	18nm,0.5s								
MRKS				*e*S		**Sg**		**20 52 52.4**	**+0.6**
	72nm,0.8s								
MRKS	**Merke**	**3.35**	**331**	Pg		**Pb**		**20 52 02.5**	**-1.7**
	44nm,0.2s								
MRKS				Lg		Lg		20 52 51.7	
	72nm,0.8s								
MTBS	**Maitube**	**3.37**	**12**	*e*P		**Pg**		**20 52 08.2**	**-0.4**
	16nm,0.4s								
MTBS				*e*S		**Sg**		**20 52 53.1**	**+0.9**
	80nm,0.3s								
ANVS	**Anan'yevo**	**3.38**	**29**	⇑*e*P		**Pb**		**20 52 02.0**	**-2.7**
	baz=27								
ANVS				⇑*e*S		**Sb**		**20 52 42.5**	**-3.8**
	baz=27								
TNSS	**Tian-Shan**	**3.39**	**19**	*e*P		**Pg**		**20 52 08.5**	**-0.4**
	51nm,0.4s								
TNSS				*e*S		**Sg**		**20 52 53.2**	**+0.3**
	38nm,0.8s								
TNSS	**Tian-Shan**	**3.39**	**19**	Pg		**Pb**		**20 52 03.6**	**-1.3**
	44nm,0.6s								
TNSS				Lg		Lg		20 52 53.2	
	38nm,0.8s								
DGS	**Degeres**	**3.41**	**4**	*e*P		**Pg**		**20 52 09.2**	**-0.2**
	29nm,0.4s								
DGS				*e*S		**Sg**		**20 52 54.6**	**+1.1**
	103nm,0.4s								
DGS	**Degeres**	**3.41**	**4**	Pg		**Pb**		**20 52 03.8**	**-1.4**
	90nm,0.6s								
DGS				Lg		Lg		20 52 53.7	
	103nm,0.4s								
USP	**Ospenovka**	**3.50**	**349**	P		**Pb**		**20 52 04.5**	**-2.1**
	SNR=35								
MDOK	**Medeo**	**3.53**	**19**	*e*P		**Pg**		**20 52 10.8**	**-0.9**
	16nm,0.4s								
MDOK				*e*S		**Sg**		**20 52 57.2**	**-0.2**
	98nm,0.9s								
MDOK	**Medeo**	**3.53**	**19**	Pn		**Pb**		**20 52 05.3**	**-1.9**
	15nm,0.9s								
MDOK				Pg		**Pb**		**20 52 06.3**	**-1.0**
	12nm,0.5s								
MDOK				Lg		Lg		20 52 57.6	
	124nm,0.7s								
MDOK				Lg		Lg		20 52 58.0	
	98nm,0.9s								
AAA	**Alma-Ata**	**3.54**	**18**	*e*P		**Pg**		**20 52 12.3**	**+0.4**
	68nm,0.3s								
AAA				*e*S		**Sg**		**20 52 59.6**	**+1.8**
	326nm,0.9s								
AAA	**Alma-Ata**	**3.54**	**18**	Pg		**Pb**		**20 52 07.1**	**-0.2**
	20nm,0.6s								
AAA				Lg		Lg		20 52 59.6	
	326nm,0.9s								
KNDC	**Almaty**	**3.56**	**18**	⇑Pn		**Pb**		**20 52 06.2**	**-1.5**
	32nm,0.4s								
KNDC				⇑Lg		Lg		20 52 59.8	
	378nm,0.6s								
KOTS	**Kotyrbulak**	**3.62**	**20**	*e*P		**Pg**		**20 52 12.7**	**-0.6**
	2.2nm,0.4s								
KOTS				*e*S		**Sg**		**20 53 01.3**	**+1.2**
	564nm,1.2s								
KOTS	**Kotyrbulak**	**3.62**	**20**	Pg		**Pb**		**20 52 08.1**	**-0.6**
	4.3nm,0.6s								
KOTS				Lg		Lg		20 53 01.3	
	564nm,1.2s								
SGDS	**Sogindy**	**3.67**	**351**	*e*P		**Pg**		**20 52 13.9**	**-0.3**
	12nm,0.4s								
SGDS				*e*S		**Sg**		**20 53 03.0**	**+1.4**
	64nm,0.5s								
SGDS	**Sogindy**	**3.67**	**351**	Pg		**Pb**		**20 52 09.1**	**-0.3**
	9.4nm,0.5s								
SGDS				Lg		Lg		20 53 03.0	
	64nm,0.5s								
KRBS	**Karabastau**	**3.86**	**2**	*e*P		**Pg**		**20 52 17.1**	**-0.8**
	22nm,0.5s								
KRBS				*e*S		**Sg**		**20 53 07.6**	**-0.3**
	39nm,0.6s								
KRBS	**Karabastau**	**3.86**	**2**	Pg		**Pb**		**20 52 12.0**	**-0.8**
	22nm,0.5s								
KRBS				Lg		Lg		20 53 07.6	
	39nm,0.6s								
SATY	**Saty**	**3.91**	**34**	*e*P		**Pg**		**20 52 17.6**	**-1.3**
	24nm,0.8s								
SATY				*e*S		**Sg**		**20 53 09.7**	**+0.1**
	42nm,0.8s								
SATY	**Saty**	**3.91**	**34**	Pg		**Pb**		**20 52 12.5**	**-1.2**
	24nm,0.8s								
SATY				Lg		Lg		20 53 08.5	
	42nm,0.8s								
ZHN	**Zhinishke**	**4.01**	**33**	*e*P		**Pg**		**20 52 19.9**	**-0.9**
	11nm,0.3s								
ZHN				*e*S		**Sg**		**20 53 13.0**	**+0.2**
	48nm,0.4s								
ZHN	**Zhinishke**	**4.01**	**33**	Pg		**Pb**		**20 52 15.2**	**-0.2**
	9.3nm,0.3s								
ZHN				Lg		Lg		20 53 13.0	
	48nm,0.4s								
KUU	**Kurty**	**4.11**	**9**	*e*P		**Pg**		**20 52 22.1**	**-0.5**
	8.8nm,0.4s								
KUU				*e*S		**Sg**		**20 53 16.1**	**+0.2**
	53nm,0.7s								
KUU	**Kurty**	**4.11**	**9**	Pg		**Pb**		**20 52 17.1**	**+0.2**
	8.8nm,0.4s								
KUU				Lg		Lg		20 53 16.1	
	53nm,0.7s								
CHKK	**Chushkaly**	**4.17**	**15**	*e*P		**Pg**		**20 52 22.9**	**-1.0**
	29nm,0.9s								
CHKK				*e*S		**Sg**		**20 53 17.7**	**-0.4**
	80nm,0.4s								
CHKK	**Chushkaly**	**4.17**	**15**	Pg		**Pb**		**20 52 18.1**	**0.0**
	29nm,0.9s								
CHKK				Lg		Lg		20 53 17.7	
	80nm,0.4s								
KURS	**Kuram**	**4.18**	**28**	*e*P		**Pg**		**20 52 23.5**	**-0.5**
	14nm,0.6s								
KURS				*e*S		**Sg**		**20 53 19.3**	**+1.2**
	25nm,1.0s								
KURS	**Kuram**	**4.18**	**28**	Pg		**Pb**		**20 52 18.6**	**+0.5**
	7.2nm,0.7s								
KURS				Lg		Lg		20 53 19.3	
	25nm,1.0s								
UZB	**Uzynbulak**	**4.26**	**38**	*e*P		**Pg**		**20 52 23.7**	**-1.8**
	6.3nm,0.7s								
UZB				*e*S		**Sg**		**20 53 19.8**	**-0.9**
	21nm,1.0s								
UZB	**Uzynbulak**	**4.26**	**38**	Pg		**Pb**		**20 52 19.7**	**+0.2**
	6.3nm,0.7s								
UZB				Lg		Lg		20 53 21.0	
	21nm,1.0s								
KPKS	**Kokpek**	**4.36**	**33**	*e*P		**Pg**		**20 52 25.0**	**-2.5**
	16nm,0.5s								
KPKS				*e*S		**Sg**		**20 53 22.2**	**-1.8**
	56nm,0.6s								
KPKS	**Kokpek**	**4.36**	**33**	Pg		**Pb**		**20 52 20.3**	**-1.0**
	5.7nm,0.4s								
KPKS				Lg		Lg		20 53 22.2	
	56nm,0.6s								
SHLS	**Shalkode**	**4.48**	**41**	*e*P		**Pg**		**20 52 32.8**	**+3.0**
	11nm,0.8s								
SHLS				*e*S		**Sg**		**20 53 34.5**	**+6.7**
	29nm,0.9s								
SHLS	**Shalkode**	**4.48**	**41**	Pg		**Pg**		**20 52 27.6**	**-2.2**
	11nm,0.8s								
SHLS				Lg		Lg		20 53 34.5	
	29nm,0.9s								
PDGK	**Podgornoye**	**4.62**	**40**	⇓Pn		**Pn**		**20 52 19.3**	**+4.5**
	12nm,0.6s								
PDGK				⇑Lg		Lg		20 53 34.2	
	56nm,0.9s								
IUG	**Iuzhnay**	**4.71**	**301**	*e*P		**Pg**		**20 52 32.8**	**-1.3**
	120nm,0.5s								
IUG		

OTUK				⇑Lg		Lg		20 55 40.1	
	15nm,1.1s								
KURBB	**Kurchatov Arra**	**11.00**	**10**	Pn		**Pn**		**20 53 43.7**	**+1.6**
	baz=194,slow=12,SNR=2.7								
KURBB				Lg		Lg		20 56 52.3	
	0.1nm,0.3s,baz=206,slow=29,SNR=4.2								
	0.1nm,0.2s								
KURBB	**Kurchatov Arra**	**11.00**	**10**	⇑Lg		Lg		20 56 54.4	
	26nm,1.2s								
KURK	**Kurchatov**	**11.10**	**11**	⇑Lg		Lg		20 56 55.8	
	12nm,1.1s								
PYUN	**Piuthan**	**13.26**	**150**	*e*P		**Pn**		**20 54 10.1**	**-3.3**
	9.0nm,0.3s								
DANN	**Dangsing**	**13.36**	**147**	*e*P		**Pn**		**20 54 11.3**	**-3.5**
	11nm,0.4s								
BVAR	**Borovoye Array**	**13.64**	**347**	Lg		Lg		20 58 23.1	
	0.2nm,0.3s,baz=154,slow=24,SNR=4.4								
KOLN	**Koldanda**	**13.80**	**148**	*e*P		**Pn**		**20 54 17.5**	**-3.2**
GKN	**Gorkha**	**14.04**	**144**	*e*P		**Pn**		**20 54 20.6**	**-3.4**
	11nm,0.3s								
KKN	**Kakani**	**14.52**	**143**	*e*P		**Pn**		**20 54 27.7**	**-2.8**
	2.3nm,0.5s								
DMN	**Daman**	**14.59**	**144**	*e*P		**Pn**		**20 54 28.4**	**-3.2**
PKIN	**Phulchoki**	**14.75**	**143**	*e*P		**Pn**		**20 54 29.8**	**-4.0**
PKI	**Pulchoki**	**14.76**	**143**	*e*P		**Pn**		**20 54 30.6**	**-3.4**
JIRN	**Jiri**	**15.06**	**141**	*e*P		**Pn**		**20 54 35.0**	**-3.0**
ZALV	**Zalesovo Beam**	**15.48**	**21**	Pn		**Pn**		**20 54 43.7**	**+0.6**
	0.2nm,0.3s,baz=194,slow=12,SNR=5.4								
	0.9nm,0.6s								
RAMN	**Ramite**	**15.85**	**141**	*e*P		**Pn**		**20 54 43.5**	**-4.8**
ODAN	**Odare**	**16.32**	**139**	*e*P		**Pn**		**20 54 50.9**	**-3.4**
	1.5nm,0.5s								
ARU	**Arti**	**19.97**	**332**	P		**Pn**		**20 55 38.7**	**-0.2**
	0.6nm,0.3s,baz=109,slow=4.8,SNR=3.4								
	0.6nm,0.3s								
FINES	**FINESS Array B**	**36.83**	**323**	P		**P**		**20 58 12.7**	**-0.2**
	0.7nm,0.7s,baz=81,slow=8.6,SNR=1.0								
	0.7nm,0.7s								
ARCES	**ARCESS Array B**	**39.51**	**335**	P		**P**		**20 58 35.5**	**+0.1**
	0.6nm,0.5s,baz=99,slow=7.6,SNR=9.0								
	0.6nm,0.5s								
TORD	**Torodi Ar. Bea**	**69.27**	**270**	P		**P**		**21 02 11.6**	**-1.1**
	15nm,0.6s,baz=50,slow=4.5,SNR=5.1								
WRA	**Warramunga Arr**	**80.91**	**125**	P		**P**		**21 03 18.5**	**-1.2**
	0.3nm,0.7s,baz=328,slow=4.9,SNR=2.7								
	0.3nm,0.7s								
ASAR	**Alice Springs**	**83.41**	**128**	P		**P**		**21 03 31.5**	**-1.3**
	0.5nm,1.0s,baz=316,slow=5.2,SNR=1.8								
	0.5nm,1.0s								

KRSC 27 20:51:17.2±1.6, 54.60N×167.30E, h6km±15km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
BKI	**Bering**	**0.98**	**309**	*e*P		Pg	20 51 35.9		-0.1
BKI				*e*S		Sb	20 51 49.5		-0.2
MKZ	**Mys Kozlova**	**3.24**	**271**	*e*P		Pn	20 52 10.3		+1.7
MKZ				*e*S		Sn	20 52 49.7		+2.3
TUMR	**Tumrok**	**4.18**	**282**	P		Pn	20 52 25.8		+4.2
TUMR				S		Sb	20 53 16.7		-5.3
SDLR	**Sedlovina**	**5.14**	**259**	*e*P		Pn	20 52 39.4		+4.5
SMAR	**Somma**	**5.20**	**259**	*e*P		Pn	20 52 39.2		+3.5
AVH	**Avacha**	**5.23**	**259**	*e*P		Pn	20 52 40.8		+4.8
KRX	**Arik**	**5.25**	**260**	*e*P		Pn	20 52 40.3		+3.9
KOK	**Koryaka**	**5.28**	**259**	*e*P		Pn	20 52 41.4		+4.7
GNL	**Ganaly**	**5.58**	**264**	*e*P		Pn	20 52 44.6		+3.8
KRMR	**Karymshinskiy**	**5.73**	**256**	P		Pn	20 52 48.0		+5.3

ROM 27 20:53:41.2±0.1, 42.758N±0.004×13.181E±0.004, h14km, ML0.6/2, Error ellipse: s-maj=0.3km s-min=0.1km az=199.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
T1202	**Accumoli, Fraz**	**0.06**	**149**	P		Pg	20 53 44.3		+0.2
T1202				S		Sg	20 53 46.3		+0.3
T1202				AML		AML			
	comp=E,47μm,0.1s								
T1202				AML		AML			
	comp=N,130μm,0.1s								
T1242	**Castelluccio d**	**0.07**	**14**	P		Pg	20 53 44.4		+0.2
T1242				S		Sg	20 53 46.5		+0.2
T1242				AML		AML			
	comp=E,31μm,0.3s								
T1242				AML		AML			
	comp=N,62μm,1.3s								
T1242				AML		AML			
	comp=E,103μm,0.3s								
T1242				AML		AML			
	comp=N,380μm,0.5s								
T1242				AML		AML			
	comp=E,31μm,0.3s								
T1242				AML		AML			
	comp=N,57μm,0.3s								
NRCA	**Norcia**	**0.09**	**327**	P		Pg	20 53 44.5		+0.1
NRCA				S		Sg	20 53 46.4		0.0
NRCA				AML		AML			
	comp=E,488μm,0.1s								
NRCA				AML		AML			
	comp=N,322μm,1.0s								
NRCA				AML		AML			
	comp=E,43μm,0.2s								
NRCA				AML		AML			
	comp=N,62μm,1.0s								
T1204	**Amatrice, Fraz**	**0.13**	**129**	P		Pg	20 53 45.2		+0.4
T1204				S		Sg	20 53 47.7		+0.4
MMO1	**Montemonaco**	**0.18**	**37**	P		Pg	20 53 45.7		+0.3
MMO1				S		Sb	20 53 49.2		-0.7
T1216	**Preci, Frazion**	**0.18**	**318**	P		Pb	20 53 46.0		-0.4
T1216				S		Sb	20 53 49.1		-0.7
T1243	**Rocca Santa Ma**	**0.21**	**107**	P		Pg	20 53 46.3		+0.4
T1243				S		Sg	20 53 49.7		+0.6
T1215	**Vallo di Nera,**	**0.23**	**281**	P		Pg	20 53 46.7		+0.3
T1215				S		Sg	20 53 50.5		+0.7
T1215				AML		AML			
	comp=E,54μm,1.6s								
T1215				AML		AML			
	comp=N,78μm,1.6s								
TERO	**Teramo**	**0.34**	**113**	P		Pg	20 53 48.4		+0.2
TERO				S		Sg	20 53 53.5		+0.6

*TIR **27** 20:56:58.7, 35.85N×26.97E, h79km±9km, Ml5.2*
*ATH **27** 20:57:05.1, 36.33N×27.58E, h89km, Mw5.1, Moment Tensor Solution. s9 Moment tensor: Mrr1.65; Mθθ-0.97; Mφφ-0.69; Mrθ1.33; Mrφ3.95; Mθφ2.82; Fault plane solution: NP1:ϕs96.00000°, δ56.00000°, λ22.00000°. NP2: ϕs353.00000°, δ72.00000°, λ143.00000°.*
*LDG **27** 20:57:06.8, 36.41N×27.64E, h98km*
*BJI **27** 20:57:07.0±0.0, 36.40N×27.60E, h90km, mb4.8/57, mB5.2/36, Ms4.7/8, Ms7 4.4/8*
*PDG **27** 20:57:07.1±0.7, 36.26N×27.70E, h96km±1km, MD5.2/1, ML5.3/12, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*
*ISK **27** 20:57:07.5, 36.37N×27.59E, h87km, ML5.3/21*
*NEIC **27** 20:57:07.7, 36.35N×27.64E, h74km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.58; Mθθ-1.57; Mφφ-2.01; Mrθ3.89; Mθφ5.92; Mφr1.64; Fault plane solution: M07.90000×10¹⁶ NP1:ϕs352.32000°, δ53.88000°, λ151.73000°. NP2:ϕs99.92000°, δ67.51000°, λ39.65000°. Principal axes: T 7.8726, Plg43.0000°, Azm321.0000°; N 0.0635, Plg45.0000°, Azm125.0000°; P -7.9361, Plg8.0000°, Azm223.0000°;*
*GCMT **27** 20:57:08.1±0.2, 36.25N±0.01×27.52E±0.01, h100km±1km, MW5.2/125, Moment Tensor Solution. s86,c116; s125,c215; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr3.08±.13; Mθθ-1.01±.15; Mφφ-2.07±.14; Mrθ2.40±.10; Mrφ6.46±.14; Mθr1.90±.10; Best double couple: M07.61500×10¹⁶ NP1:ϕs99.00000°, δ66.00000°, λ29.00000°. NP2:ϕs356.00000°, δ64.00000°, λ153.00000°. Principal axes: T 7.2030, Plg37.0000°, Azm318.0000°; N 0.8230, Plg53.0000°, Azm135.0000°; P -8.0270, Plg1.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MED_RC **27** 20:57:08.0±0.2, 36.21N×27.51E, h100km±2km, MW5.2/28, Moment Tensor Solution. Body waves: s8,c8;Mantle waves: s28,c43; Duration: 1s5 Moment tensor: Scale 10¹⁶Nm; Mrr3.00±.13; Mθθ-0.39±.15; Mφφ-2.61±.14; Mrθ1.67±.10; Mφφ5.56±.14; Mθr2.29±.10; Best double couple: M06.81000×10¹⁶ NP1:ϕs358.00000°, δ67.00000°, λ147.00000°. NP2:ϕs103.00000°, δ60.00000°, λ27.00000°. Principal axes: T 6.4100, Plg39.0000°, Azm318.0000°; N 0.8200, Plg51.0000°, Azm147.0000°; P -7.2200, Plg4.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*IDC **27** 20:57:08.1±0.4, 36.46N×27.50E, h83km±3km, mb4.8/38, mbtmp5.1/49, MS3.9/65 Error ellipse: s-maj=8.9km s-min=5.6km az=147.0*
*NEIC **27** 20:57:08.1±1.9, 36.39N±0.05×27.61E±0.05, h85km±3km, mb5.5/521, Mwr5.2/19, Mww5.1, ML5.4(ISK), ML5.2(THE), Error ellipse: s-maj=6.8km s-min=5.5km az=167.0*
*HLW **27** 20:57:09.6, 36.05N×27.78E, h25km±24km, Md4.7, Ml6.1*
*DDA **27** 20:57:09.4±0.0, 36.41N×27.60E, h51km±4km, MW5.2*
*MOS **27** 20:57:09.3±0.9, 36.46N×27.62E, h109km, mb5.3/19, Error ellipse: s-maj=4.3km s-min=2.5km az=93.3*
*THE **27** 20:57:09.6, 36.38N×27.61E, h87km±1km, ML5.3/17, Error ellipse: s-maj=1.4km s-min=0.5km az=56.0*
*GII **27** 20:57:11.0±0.4, 36.13N×28.10E, h50km, mb5.2/3, MD5.4/3, Mm5.2/4*
*NEIC **27** 20:57:11, 36.25N×27.62E, h70km, Moment Tensor Solution. Duration: 8s0 Moment tensor: Scale 10¹⁶Nm; Mrr4.16; Mθθ-2.12; Mφφ-2.04; Mrθ1.26; Mθφ4.48; Mφr2.19; Fault plane solution: M06.28000×10¹⁶ NP1: ϕs105.00000°, δ51.00000°, λ43.00000°. NP2: ϕs344.00000°, δ58.00000°, λ132.00000°. Principal axes: T 5.8996, Plg55.0000°, Azm311.0000°; N 0.7041, Plg35.0000°, Azm138.0000°; P -6.6037, Plg4.0000°, Azm46.0000°;*
ISC 27 20:57:08.3±0.2, 36.40N±0.02×27.61E±0.02, h88km±1km, h88km:pP-P, n2082, σ1946/2197, mb5.4/443, 173C-110D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
NIS1	**Nisyros Isl.**	**0.40**	**301**	P		**Pn**	**20 57 22.1**		**0.0**
NIS1				S		**Sn**	**20 57 31.8**		**-0.5**
	219μm,0.7s								
NIS1	**Nisyros Isl.**	**0.40**	**301**	P		**Pn**	**20 57 21.1**		**-1.0**
NIS1				S		**Sn**	**20 57 31.9**		**-0.5**
NIS1				AML		AML	20 57 40.5		
NIS1				AML		AML	20 57 42.0		
NISR	**Nisiros**	**0.44**	**299**	P		**Pn**	**20 57 22.5**		**+0.2**
NISR	**Nisiros**	**0.44**	**299**	P		**Pn**	**20 57 22.2**		**-0.1**
NISR				S		**Sn**	**20 57 33.0**		**+0.2**
NISR				AML		AML	20 57 37.3		
	comp=N,92894μm,0.5s								
NISR				AML		AML	20 57 40.2		
ARG	**Arkhangelos**	**0.46**	**113**	P		**Pn**	**20 57 22.6**		**+0.1**
ARG				S		**Sn**	**20 57 32.5**		**-0.5**
	comp=N,466μm,0.5s								
ARG	**Arkhangelos**	**0.46**	**113**	PG		**Pn**	**20 57 22.7**		**+0.2**
ARG				SG		**Sn**	**20 57 32.7**		**-0.3**
ARG	**Arkhangelos**	**0.46**	**113**			**Pn**	**20 57 22.6**		**+0.2**
ARG				Sn		**Sn**	**20 57 32.5**		**-0.5**
ARG	**Arkhangelos**	**0.46**	**113**	⇑P		**Pn**	**20 57 21.2**		**-1.2**
ARG	**Arkhangelos**	**0.46**	**113**	P		**Pn**	**20 57 21.4**		**-1.1**
ARG				S		**Sn**	**20 57 32.5**		**-0.5**
ARG				AML		AML	20 57 33.3		
ARG				AML		AML	20 57 33.9		
KOSK	**Kos Island**	**0.62**	**305**	P		**Pn**	**20 57 24.2**		**+0.4**
KOSK				S		**Sn**	**20 57 35.6**		**+0.4**
KOSK	**Kos Island**	**0.62**	**305**	PG		**Pn**	**20 57 24.1**		**+0.3**
KOSK				SG		**Sn**	**20 57 35.7**		**+0.4**
KOSK	**Kos Island**	**0.62**	**305**	P		**Pn**	**20 57 23.0**		**-0.8**
KOSK				S		**Sn**	**20 57 35.7**		**+0.4**
KOSK				AML		AML	20 57 37.9		
KOSK				AML		AML	20 57 40.7		
TURN	**Turunc**	**0.64**	**54**	PG		**Pn**	**20 57 24.1**		**+0.1**
TURN				SG		**Sn**	**20 57 35.4**		**-0.2**
TURN	**Turunc**	**0.64**	**54**	P		**Pn**	**20 57 24.1**		**+0.1**
TURN				S		**Sn**	**20 57 30.1**		**-5.5**
BODT	**Bodrum**	**0.70**	**340**	P		**Pn**	**20 57 24.0**		**-0.7**
BODT				S		**Sn**	**20 57 36.1**		**-0.8**
BODT	**Bodrum**	**0.70**	**340**	PG		**Pn**	**20 57 24.0**		**-0.7**
BODT	**Bodrum**	**0.70**	**340**	P		**Pn**	**20 57 24.0**		**-0.7**
BODT				S		**Sn**	**20 57 36.0**		**-0.8**
YER	**Yerkesik**	**0.92**	**36**	P		**Pn**	**20 57 27.5**		**+0.6**
YER				S		**Sn**	**20 57 40.8**		**-0.1**
YER	**Yerkesik**	**0.92**	**36**	PG		**Pn**	**20 57 27.6**		**+0.6**
YER	**Yerkesik**	**0.92**	**36**	P		**Pn**	**20 57 27.6**		**+0.6**
YER				S		**Sn**	**20 57 40.9**		**0.0**
KARP	**Karpathos**	**0.92**	**203**	PG		**Pn**	**20 57 26.6**		**-0.4**
KARP				SG		**Sn**	**20 57 39.9**		**-1.1**
KARP	**Karpathos**	**0.92**	**203**			**Pn**	**20 57 26.4**		**-0.6**
KARP				Sn		**Sn**	**20 57 39.5**		**-1.4**
KARP	**Karpathos**	**0.92**	**203**	P		**Pn**	**20 57 25.5**		**-1.5**
KARP				S		**Sn**	**20 57 39.4**		**-1.6**
KARP				AML		AML	20 57 41.3		
KARP				AML		AML	20 57 41.5		
DALY	**Dalyan (Mula)**	**0.94**	**63**	PG		**Pn**	**20 57 28.1**		**+1.0**
MULA	**Mugla, Merkez-**	**1.03**	**34**	P		**Pn**	**20 57 29.0**		**+0.7**
MULA				S		**Sn**	**20 57 43.2**		**0.0**
DDIM	**Aydin, Didim**	**1.10**	**345**	P		**Pn**	**20 57 29.9**		**+0.9**
DDIM				S		**Sn**	**20 57 45.3**		**+0.9**
FETY	**Fethiye**	**1.21**	**78**	PN		**Pn**	**20 57 29.7**		**-0.7**
AYDN	**Tasoluk**	**1.28**	**10**	P		**Pn**	**20 57 32.1**		**+0.9**
AYDN				S		**Sn**	**20 57 47.8**		**-0.7**
GCAM	**G?zelcaml?**	**1.33**	**347**	PN		**Pn**	**20 57 32.6**		**+0.8**
GCAM	**G?zelcaml?**	**1.33**	**347**	P		**Pn**	**20 57 32.7**		**+0.8**
GCAM				S		**Sn**	**20 57 49.7**		**+0.1**
SMG	**Samos**	**1.45**	**335**	P		**Pn**	**20 57 33.8**		**+0.5**
SMG				S		**Sn**	**20 57 52.6**		**+0.5**
	comp=N,39μm,0.9s								
SMG	**Samos**	**1.45**	**335**	P		**Pn**	**20 57 33.6**		**+0.3**
SMG				AML		AML	20 57 53.0		
	comp=N,75052μm,1.2s								
SMG				AML		AML	20 57 53.1		
	comp=E,80802μm,0.7s								
CAME	**Cameli-Denizli**	**1.47**	**68**	PN		**Pn**	**20 57 34.5**		**+0.8**
TAVA	**DENIZLI_Tavas**	**1.50**	**44**	P		**Pn**	**20 57 34.6**		**+0.6**
TAVA				S		**Sn**	**20 57 54.4**		**+1.0**
CAEL	**Denizli, Camel**	**1.56**	**62**	P		**Pn**	**20 57 35.8**		**+1.0**
CAEL				S		**Sn**	**20 57 55.6**		**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**8**	PN		**Pn**	**20 57 35.6**		**+0.7**
KSL	**Kastellorizon**	**1.62**	**98**	P		**Pn**	**20 57 35.7**		**+0.3**
KSL				S		**Sn**	**20 57 55.1**		**-0.9**
	comp=E,155μm,0.5s								
KSL	**Kastellorizon**	**1.62**	**98**	P		**Pn**	**20 57 35.4**		**0.0**
KSL				AML		AML	20 57 56.2		
KSL				AML		AML	20 57 56.6		
AKAS	**Kas**	**1.62**	**95**	PN		**Pn**	**20 57 34.8**		**-0.9**
AKAS	**Kas**	**1.62**	**95**			**Pn**	**20 57 34.6**		**-1.0**
AKAS				Sn		**Sn**	**20 57 53.3**		**-3.0**
AKAS	**Kas**	**1.62**	**95**	P		**Pn**	**20 57 34.7**		**-0.9**
AKAS				S		**Sn**	**20 57 53.9**		**-2.5**
ZKR	**Zakros**	**1.71**	**222**	P		**Pn**	**20 57 37.1**		**+0.5**
ZKR				S		**Sn**	**20 57 57.2**		**-0.9**
	comp=E,37μm,0.7s								
ZKR	**Zakros**	**1.71**	**222**	PN		**Pn**	**20 57 37.1**		**+0.5**
ZKR	**Zakros**	**1.71**	**222**	P		**Pn**	**20 57 36.9**		**+0.3**
ZKR				AML		AML	20 57 59.9		
	comp=N,44286μm,0.7s								
ZKR				AML		AML	20 58 00.3		
STIA	**Sitia Lasithi**	**1.71**	**226**	P		**Pn**	**20 57 36.9**		**+0.2**
STIA	**Sitia Lasithi**	**1.71**	**226**	P		**Pn**	**20 57 36.8**		**+0.1**
STIA				AML		AML	20 57 57.9		
	comp=E,77431μm,0.8s								
STIA				AML		AML	20 58 00.3		
	comp=N,98407μm,0.5s								
THR8	**Santorini-Mono**	**1.72**	**271**	P		**Pn**	**20 57 37.3**		**+0.6**
APMY	**Acipayam-Deniz**	**1.73**	**51**	PN		**Pn**	**20 57 37.6**		**+0.6**
SANT	**Santorini**	**1.73**	**270**	P		**Pn**	**20 57 37.5**		**+0.6**
SANT				S		**Sn**	**20 57 58.6**		**-0.1**
	comp=N,24μm,0.7s								
SANT	**Santorini**	**1.73**	**270**	PN		**Pn**	**20 57 37.7**		**+0.8**
SANT	**Santorini**	**1.73**	**270**	Pn		**Pn**	**20 57 37.4**		**+0.6**
SANT				Sn		**Sn**	**20 57 57.2**		**-1.5**
SANT	**Santorini**	**1.73**	**270**	P		**Pn**	**20 57 37.6**		**+0.6**
SANT				S		**Sn**	**20 57 57.5**		**-1.2**
DGB	**zmir**	**1.75**	**341**	P		**Pn**	**20 57 37.8**		**+0.6**
DGB				S		**Sn**	**20 57 58.8**		**-0.2**
SFIR	**Foira Santorin**	**1.76**	**271**	P		**Pn**	**20 57 38.0**		**+0.8**
SFIR				S		**Sn**	**20 57 59.7**		**+0.5**
	comp=N,98μm,0.8s								
THT2	**Imerovigli**	**1.76**	**272**	PN		**Pn**	**20 57 38.2**		**+0.9**
CMBO	**Columbo, Santo**	**1.77**	**273**	P		**Pn**	**20 57 38.3**		**+0.8**
CMBO				S		**Sn**	**20 57 59.2**		**-0.4**
	comp=N,88μm,0.6s								
CMBO	**Columbo, Santo**	**1.77**	**273**	P		**Pn**	**20 57 38.1**		**+0.6**
CMBO				AML		AML	20 58 00.1		
CMBO				AML		AML	20 58 03.0		
GOLH	**Golhisar**	**1.78**	**61**	P		**Pn**	**20 57 39.0**		**+1.3**
GOLH				S		**Sn**	**20 58 01.1**		**+1.2**
APE	**Apeiranthos**	**1.80**	**293**	P		**Pn**	**20 57 38.8**		**+1.0**
APE				S		**Sn**	**20 57 59.8**		**-0.4**
	comp=N,19μm,0.8s								
APE	**Apeiranthos**	**1.80**	**293**	PN		**Pn**	**20 57 38.2**		**+0.4**
APE	**Apeiranthos**	**1.80**	**293**	*d*P		**Pn**	**20 57 38.6**		**+0.8**
APE	**Apeiranthos**	**1.80**	**293**	P		**Pn**	**20 57 38.8**		**+1.0**
APE				S		**Sn**	**20 58 00.1**		**-0.1**
APE	**Apeiranthos**	**1.80**	**293**	P		**Pn**	**20 57 38.6**		**+0.8**
APE				AML		AML	20 58 01.8		
	comp=E,45516μm,0.8s								
APE				AML		AML	20 58 02.1		
	comp=N,30804μm,0.7s								
THR9	**Santorini-Faro**	**1.81**	**269**	P		**Pn**	**20 57 38.6**		**+0.6**
SAP3	**Santorini-Thir**	**1.82**	**272**	P		**Pn**	**20 57 38.9**		**+0.8**
ELL	**Elmali**	**1.89**	**79**	PN		**Pn**	**20 57 39.9**		**+0.9**
ELL	**Elmali**	**1.89**	**79**	Pn		**Pn**	**20 57 39.4**		**+0.4**
ELL				Sn		**Sn**	**20 58 00.8**		**-1.7**
ELL	**Elmali**	**1.89**	**79**	⇓P		**Pn**	**20 57 40.0**		**+0.9**
BLCB	**Balcova**	**2.03**	**347**	P		**Pn**	**20 57 41.5**		**+0.7**
BLCB				S		**Sn**	**20 58 05.9**		**+0.2**
BLCB	**Balcova**	**2.03**	**347**	PN		**Pn**	**20 57 41.6**		**+0.7**
ZEYE	**Izmir, Urla-Ze**	**2.04**	**335**	P		**Pn**	**20 57 41.5**		**+0.6**
ZEYE				S		**Sn**	**20 58 06.0**		**+0.2**
FRMA	**Ierapetra Chan**	**2.06**	**228**	P		**Pn**	**20 57 40.8**		**-0.3**
FRMA	**Ierapetra Chan**	**2.06**	**228**	P		**Pn**	**20 57 40.5**		**-0.6**
FRMA				AML		AML	20 58 07.4		
	comp=E,63752μm,0.8s								
FRMA				AML		AML	20 58 11.5		
	comp=N,77748μm,0.6s								
URLA	**Izmir**	**2.12**	**338**	PN		**Pn**	**20 57 42.4**		**+0.4**
URLA	**Izmir**	**2.12**	**338**	P		**Pn**	**20 57 41.7**		**-0.3**
URLA				S		**Sn**	**20 58 07.2**		**-0.5**
MANT	**Manisa**	**2.22**	**20**	P		**Pn**	**20 57 44.2**		**+0.6**
MANT				Sn		**Sn**	**20 58 08.0**		**-2.5**
MANT	**Manisa**	**2.22**	**20**	P		**Pn**	**20 57 44.3**		**+0.8**
MANT				S		**Sn**	**20 58 08.2**		**-2.2**
HRKL	**Herakleio**	**2.31**	**243**	P		**Pn**	**20 57 44.3**		**-0.1**
HRKL	**Herakleio**	**2.31**	**243**	PN		**Pn**	**20 57 44.6**		**+0.2**
HRKL	**Herakleio**	**2.31**	**243**	P		**Pn**	**20 57 44.3**		**-0.1**
HRKL				AML		AML	20 58 21.1		
HRKL				AML		AML	20 58 22.3		
GOMA	**Golmarmara-Man**	**2.32**	**6**	PN		**Pn**	**20 57 45.1**		**+0.5**
IACM	**Heraklion**	**2.33**	**243**	P		**Pn**	**20 57 44.8**		**0.0**
IACM	**Heraklion**	**2.33**	**243**	P		**Pn**	**20 57 44.3**		**-0.5**
IACM				AML		AML	20 58 14.6		
IACM				AML		AML	20 58 14.8		
CHOS	**Chios island**	**2.34**	**329**	P		**Pn**	**20 57 46.1**		**+1.1**
CHOS				S		**Sn**	**20 58 13.4**		**+0.4**
	comp=N,10μm,0.8s								
CHOS	**Chios island**	**2.34**	**329**	PN		**Pn**	**20 57 45.9**		**+0.9**
CHOS	**Chios island**	**2.34**	**329**	P		**Pn**	**20 57 45.2**		**+0.3**
CHOS				AML		AML	20 58 18.4		
	comp=E,21501μm,1.1s								
CHOS				AML		AML	20 58 24.0		
	comp=N,16579μm,0.7s								
BRDR	**BURDUR-Merkez**	**2.35**	**56**	P		**Pn**	**20 57 46.0**		**+0.9**
BRDR				S		**Sn**	**20 58 13.2**		**-0.2**
KHL	**Karahalli**	**2.46**	**38**	PN		**Pn**	**20 57 47.8**		**+1.3**
PASA	**Karahalli, USA**	**2.46**	**37**	P		**Pn**	**20 57 47.2**		**+0.7**
PASA				S		**Sn**	**20 58 10.2**		**-5.7**
IDI	**Anoyia**	**2.47**	**244**	P		**Pn**	**20 57 46.5**		**-0.2**
	comp=N,5μm,0.4s,baz=358,slow=5.1,SNR=3587								
IDI				S		**Sn**	**20 58 14.4**		**-1.7**
	comp=N,6μm,0.4s,baz=108,slow=20,SNR=12								
IDI				LR		LR	20 58 37.3		
	comp=N,3μm,18.7s,baz=18,slow=37								
IDI	**Anoyia**	**2.47**	**244**	P		**Pn**	**20 57 46.5**		**-0.2**
IDI				S		**Sn**	**20 58 16.0**		**-0.1**
	comp=N,23μm,0.5s								
IDI	**Anoyia**	**2.47**	**244**	PN		**Pn**	**20 57 46.5**		**-0.2**
IDI	**Anoyia**	**2.47**	**244**	Pn		**Pn**	**20 57 46.1**		**-0.6**
IDI				Sn		**Sn**	**20 58 13.0**		**-3.2**
IDI	**Anoyia**	**2.47**	**244**	⇑P		**Pn**	**20 57 45.9**		**-0.8**
BASM	**Basmaki-Afyon**	**2.47**	**51**	PN		**Pn**	**20 57 47.0**		**+0.2**
AKHS	**Akhisar**	**2.48**	**4**	P		**Pn**	**20 57 47.4**		**+0.5**
AKHS				S		**Sn**	**20 58 12.2**		**-4.2**
AKS	**Akhisar**	**2.48**	**4**	PN		**Pn**	**20 57 47.2**		**+0.4**
ANTB	**Antalya**	**2.50**	**78**	PN		**Pn**	**20 57 49.4**		**+2.4**
BUCA	**Burdur, Bucak-**	**2.54**	**68**	P		**Pn**	**20 57 49.1**		**+1.4**
BUCA				S		**Sn**	**20 58 18.9**		**+1.0**
USAK	**Uak-Merkez**	**2.57**	**25**	P		**Pn**	**20 57 49.0**		**+1.0**
USAK				S		**Sn**	**20 58 12.7**		**-5.8**
MHLO	**Agia Marina, M**

KYMI	Kymi, Euboea I	3.57	310	P		Pn	20 58 03.0	+1.6
ANDZ	Kutahya, Merke	3.60	30	P		Pn	20 58 03.1	+1.2
DOGA	KONYA_Doganhis	3.66	61	P		Pn	20 58 04.0	+1.1
DOGA				S		Sn	20 58 45.2	+0.1
KTHA	Kythira Island	3.67	269	P		Pn	20 58 03.7	+0.9
KRND	KRANIDI	3.70	287	P		Pn	20 58 05.2	+1.9
KRND				S		Sn	20 58 44.3	-1.5
	comp=N,7μm,1.2s							
KTHR	Kythira	3.72	269	P		Pn	20 58 04.4	+0.9
VLI	Veliai	3.77	276	P		Pn	20 58 05.6	+1.4
VLI				S		Sn	20 58 46.2	-1.3
	comp=N,7μm,0.6s							
EPID	Epidavros	3.79	290	P		Pn	20 58 06.4	+1.9
GAZI	Gazipasa	3.81	91	P		Pn	20 58 03.5	-1.1
GAZI				S		Sn	20 58 43.2	-5.2
LIA	Limnos Island	3.98	332	P		Pn	20 58 08.5	+1.5
LOUT	Loutraki	4.02	295	P		Pn	20 58 09.7	+2.1
KMER	Konya-Meram	4.05	69	P		Pn	20 58 09.3	+1.3
KMER				S		Sn	20 58 54.7	+0.3
BORA	Eskisehir	4.14	32	Pn		Pn	20 58 10.3	+1.0
ERMK	Ermenek	4.28	85	P		Pn	20 58 12.2	+0.9
ERMK				S		Sn	20 58 59.3	-0.9
LKR	Lokris	4.30	303	P		Pn	20 58 12.3	+1.0
KKBE	Karaman, Kazim	4.36	78	P		Pn	20 58 12.9	+0.7
KKBE				S		Sn	20 59 01.6	-0.4
TRIP	Tripoli	4.42	286	P		Pn	20 58 10.3	-2.7
NEO	Neokhori	4.52	311	P		Pn	20 58 16.7	+2.3
XOR	Xorichti	4.58	312	P		Pn	20 58 17.2	+2.0
AXAR	Agios Charalam	4.58	303	P		Pn	20 58 17.8	+2.6
ITM	Ithomi	4.62	281	P		Pn	20 58 18.8	+3.0
ITM				S		Sn	20 59 08.5	+0.3
ITM	Ithomi	4.62	281			Pn	20 58 17.9	+2.2
KLV	Kalavryta, Ach	4.65	292	P		Pn	20 58 18.7	+2.5
KLV				S		Sn	20 59 09.5	+0.5
ALN	Alexandroupoli	4.66	345	P		Pn	20 58 17.6	+1.4
ALN	Alexandroupoli	4.66	345	Pn		Pn	20 58 17.1	+1.0
ALN	Alexandroupoli	4.66	345	P		Pn	20 58 17.1	+1.0
ALN	Alexandroupoli	4.66	345	⇓P		Pn	20 58 17.5	+1.4
PAIG	Paliouri	4.69	320	P		Pn	20 58 18.6	+2.0
ALIK	Aliki, Aigiali	4.76	295	P		Pn	20 58 20.4	+2.9
THAS	Thassos island	4.77	333	P		Pn	20 58 18.1	+0.4
SERG	Sergoula	4.85	296	P		Pn	20 58 21.4	+2.5
CSS	Mathiatis	4.88	105	Pn		Pn	20 58 17.5	-1.7
CSS	Mathiatis	4.88	105	Pn		Pn	20 58 16.6	-2.6
MDUB	Mudurnu	4.95	34			Pn	20 58 20.9	+0.6
MDUB	Mudurnu	4.95	34	⇓P		Pn	20 58 21.0	+0.8
DRO	Drossia	4.96	290	P		Pn	20 58 23.2	+2.9
EFP	Efpalio	4.97	296	P		Pn	20 58 23.2	+2.8
RDO	Rodhopi	5.01	342			Pn	20 58 22.2	+1.2
RDO	Rodhopi	5.01	342	⇑P		Pn	20 58 22.6	+1.7
MAKR	Makrakomi, Fth	5.07	303	P		Pn	20 58 25.0	+3.2
EVR	Evrytania	5.24	300	P		Pn	20 58 27.2	+3.0
SLUM	Salum	5.28	203	P		Pn	20 58 23.5	-1.2
	baz=206							
BR231	Keskin MP Arra	5.33	48	Pn		Pn	20 58 26.6	+1.1
ANTO	Ankara	5.36	48	⇓P		Pn	20 58 27.9	+2.1
ANTO	Ankara	5.36	48	Pn		Pn	20 58 27.6	+1.7
ANTO	Ankara	5.36	48	⇓P		Pn	20 58 27.9	+2.1
THL	Klokotos Trika	5.43	307	P		Pn	20 58 29.4	+2.7
LIT	Litokhoron	5.46	314	P		Pn	20 58 29.5	+2.3
LIT	Litokhoron	5.46	314	Pn		Pn	20 58 29.5	+2.3
LIT	Litokhoron	5.46	314	P		Pn	20 58 29.5	+2.3
LIT	Litokhoron	5.46	314	⇑P		Pn	20 58 29.7	+2.5
THE	Thessaloniki	5.58	321	P		Pn	20 58 31.7	+3.0
	baz=328							
NVR	Nevrokopi	5.74	331	P		Pn	20 58 33.0	+2.0
KDZE	Karadeniz Ereo	5.75	30	⇓P		Pn	20 58 32.5	+1.4
BRTR	Keskin Array B	5.80	53	P		Pn	20 58 33.0	+1.0
	comp=N,715nm,0.6s,baz=221,slow=14,SNR=3805							
BRTR				S		Sn	20 59 37.6	+0.5
	comp=N,335nm,1.0s,baz=223,slow=23,SNR=6.7							
BRTR				LR		LR	21 01 32.6	
	comp=N,3μm,21.4s,baz=254,slow=45							
BRTR				ScP		ScP	21 08 53.2	+0.3
	comp=N,2.1nm,0.8s,baz=180,slow=2.2,SNR=6.6							
BRTR				PKiKP		PKiKP	21 13 31.1	-0.2
	comp=N,1.1nm,0.7s,baz=294,slow=0.3,SNR=4.5							
BRTR	Keskin Array B	5.80	53	Pn		Pn	20 58 32.7	+0.8
BR131	Keskin Array S	5.80	53	Pn		Pn	20 58 32.9	+1.0
BR131	Keskin Array S	5.80	53	*d*	*iP*	Pn	20 58 32.9	+1.0
LKD2	Lefkada island	6.01	295	P		Pn	20 58 37.6	+2.9
LKD2	Lefkada island	6.01	295	P		Pn	20 58 37.2	+2.5
	baz=303							
LKD2				S		Sn	20 59 43.3	+1.3
	baz=303							
KNT	Kendrikon	6.01	324	P		Pn	20 58 37.7	+3.1
KEF4	Livadi, Kephal	6.02	290	P		Pn	20 58 36.5	+1.8
KZN	Kozani	6.02	312	P		Pn	20 58 38.0	+3.2
DMLN	Damoulianata-K	6.05	290	P		Pn	20 58 36.8	+1.6
KEF3	Kipouria, Keph	6.06	289	P		Pn	20 58 36.1	+0.8
KPRO	Kipourio	6.07	308	P		Pn	20 58 38.8	+3.4
JAN	Janina	6.25	303	P		Pn	20 58 40.6	+2.7
VAY	Valandovo	6.29	323	*i*	P	Pn	20 58 41.1	+2.7
NEST	Nestorio	6.53	310	P		Pn	20 58 45.6	+3.9
LSK	Leskovik	6.66	306	P		Pn	20 58 47.2	+3.6
LSK	Leskovik	6.66	306	P		Pn	20 58 47.7	+4.1
	baz=313							
LSK				S		Sn	21 00 06.9	+8.9
	baz=313							
LSK				AMP				
	comp=N,6.0nm,0.8s,baz=313							
ILGA	Ilgaz	6.66	44			Pn	20 58 44.9	+1.2
STIP	Stip	6.76	323	*i*	P	Pn	20 58 46.6	+1.8
KBN	Korca	6.81	310	P		Pn	20 58 49.3	+3.7
KBN	Korca	6.81	310			Pn	20 58 48.8	+3.2
KBN	Korca	6.81	310	P		Pn	20 58 48.8	+3.2
KBN	Korca	6.81	310	P		Pn	20 58 50.1	+4.5
	baz=317							
KBN				S		Sn	21 00 13.7	+12
	baz=317							
KBN				AMP				
	comp=N,2.5nm,0.9s,baz=317							
SRN	Sarande	6.93	302	P		Pn	20 58 49.7	+2.6
	baz=309							
SRN				S		Sn	21 00 06.5	+2.1
	baz=309							
SRN				AMP				
	comp=E,2.5nm,1.1s,baz=309							
BEYL	Beirut	6.94	109	*eP*		Pn	20 58 45.5	-1.7
BNN	Bunyan	6.98	67			Pn	20 58 47.8	-0.2
BNN	Bunyan	6.98	67	⇓P		Pn	20 58 48.4	+0.4
KEK	Kerkira	6.99	301			Pn	20 58 49.1	+1.1
KEK	Kerkira	6.99	301	⇑P		Pn	20 58 49.9	+1.9
BHL	Bhannes	7.05	108	*eP*		Pn	20 58 46.0	-2.9
HNTI	Hanita	7.05	116	Pn		Pn	20 58 45.7	-3.2
HNTI				Sn		Sn	20 59 59.9	-7.6
DQRL	Deir Qamar	7.06	110	*eP*		Pn	20 58 46.8	-2.3
OHR	Ohrid	7.10	314	*i*	P	Pn	20 58 53.5	+4.0
HWQ	Hawqa	7.14	105	*eP*		Pn	20 58 48.5	-1.6
OFRI	`Ofer	7.16	120	Pn		Pn	20 58 46.8	-3.6
OFRI				Sn		Sn	21 00 02.1	-8.1
HNAT	Natroun	7.20	159	P		Pn	20 58 49.2	-1.8
	baz=158							
HNAT				S		Sn	21 00 01.0	-10
	baz=158							
RAZG	Razgrad	7.21	354	⇓P		Pn	20 58 52.6	+1.7
QRWL	Qaraoun	7.21	111	*eP*		Pn	20 58 48.8	-2.4
BLGI	Bet Lehem HaGe	7.25	118	Pn		Pn	20 58 48.4	-3.1
BLGI				Sn		Sn	21 00 04.0	-8.2
MMA0B	Mount Meron ar	7.25	115	Pn		Pn	20 58 48.8	-2.9
MMA0B				Sn		Sn	21 00 05.0	-7.5
MMAI	Mount Meron Ar	7.25	115	P		Pn	20 58 48.9	-2.8
	comp=E,284nm,0.4s,baz=293,slow=11,SNR=434							
MMAI				S		Sn	21 00 07.0	-5.5
	comp=E,369nm,0.5s,baz=298,slow=3.5,SNR=11							
MMAI				LR		LR	21 02 59.1	
	comp=E,366nm,19.3s,baz=172,slow=48							
SKO	Skopje	7.34	321	*i*	P	Pn	20 58 55.9	+3.1
SHBL	Chebaa	7.35	112	*eP*		Pn	20 58 51.0	-2.0
GEM	Giv'at Ha'Em	7.35	113	Pn		Pn	20 58 50.2	-2.7
GEM				Sn		Sn	21 00 07.2	-7.6
RCY	Rachaya	7.35	111	*eP*		Pn	20 58 50.8	-2.3
KOT	Kottamia	7.36	150	P		Pn	20 58 51.1	-2.0
	baz=149							
SWA2		7.36	195	P		Pn	20 58 51.3	-1.7
	baz=197							
NATI	Neve Ativ	7.38	113	Pn		Pn	20 58 50.6	-2.7
SLTI	Sal'it	7.42	122	Pn		Pn	20 58 50.1	-3.7
SLTI				Sn		Sn	21 00 08.4	-8.0
HHAG	Hagoal	7.45	148	P		Pn	20 58 52.2	-2.1
	baz=148							
MANR	Mangalia	7.45	5	⇓P		Pn	20 58 55.2	+1.0
BZK	Bozkurt	7.45	40	⇑P		Pn	20 58 54.8	+0.5
BZK	Bozkurt	7.45	40			Pn	20 58 54.2	0.0
BZK	Bozkurt	7.45	40	⇓P		Pn	20 58 54.3	+0.1
HSAF	As Saff	7.53	153	P		Pn	20 58 53.4	-2.0
	baz=152							
VLO	Vlora	7.55	305			Pn	20 58 57.8	+2.2
VLO	Vlora	7.55	305	P		Pn	20 58 57.8	+2.2
VLO	Vlora	7.55	305	P		Pn	20 58 58.0	+2.4
	baz=311							
KSHT	Keshet	7.57	114	Pn		Pn	20 58 53.6	-2.4
MMLI	Mount Malkishu	7.57	119	Pn		Pn	20 58 52.7	-3.3
SALP	Salfit	7.62	122	Pn		Pn	20 58 53.1	-3.6
GLL	Jalalah	7.62	152	P		Pn	20 58 54.8	-2.0
	baz=151							
RYAN	Fayoum	7.63	162	P		Pn	20 58 54.3	-2.5
	baz=162							
PHP	Peshkopia	7.68	316	P		Pn	20 59 00.5	+3.1
	baz=321							
PHP				AMP				
	comp=N,1.1nm,1.5s,baz=321							
ICOR	Ion Corvin	7.71	1	⇑P		Pn	20 58 59.0	+1.3
HMDT	Nahal Hemdat	7.75	120	Pn		Pn	20 58 55.1	-3.2
HMDT				Sn		Sn	21 00 16.6	-7.8
AMAZ	Amatzia	7.77	127	Pn		Pn	20 58 55.4	-3.3
MFTR	Murfatlar	7.80	4	⇑P		Pn	20 59 00.1	+1.2
TIR	Tirane	7.80	312	⇑P		Pn	20 59 00.9	+1.9
TIR	Tirane	7.80	312			Pn	20 59 00.7	+1.7
TIR	Tirane	7.80	312	⇑P		Pn	20 59 00.9	+1.9
TIR	Tirane	7.80	312	P		Pn	20 59 01.7	+2.7
	baz=317							
TIR				AMP				
	comp=N,1.4nm,0.9s,baz=317							
TIR	Tirane	7.80	312	⇑P		Pn	20 59 02.0	+3.0
RASA	Rasa	7.82	358	⇑P		Pn	20 59 00.7	+1.6
SUZ	Suez	7.87	145	P		Pn	20 58 57.8	-2.2
	baz=144							
KZIT	Kziot	7.88	132	Pn		Pn	20 58 57.2	-2.9
KZIT				Sn		Sn	21 00 19.6	-8.0
SGRR	Singureni	7.92	351	⇓P		Pn	20 59 01.9	+1.4
DIKM	Dikmen	7.93	46	⇑P		Pn	20 59 01.7	+0.9
CVDA	Cernavoda	7.93	2	⇑P		Pn	20 59 01.7	+1.0
COPA	Copaceanca	7.94	347	⇑P		Pn	20 59 03.0	+2.1
VLAD	Vladila	7.98	343	⇓P		Pn	20 59 02.9	+1.6
YTIR	Yattir	8.01	127	Pn		Pn	20 58 59.5	-2.5
YTIR				Sn		Sn	21 00 23.1	-8.0
DSI	Dead Sea	8.05	124	Pn		Pn	20 58 59.8	-2.7
SCTE	Santa Cesarea	8.07	300			Pn	20 59 02.8	+0.1
TIRR	Tirgusor	8.07	4	⇑P		Pn	20 59 03.3	+0.5
TIRR	Tirgusor	8.07	4			Pn	20 59 03.2	+0.5
TIRR	Tirgusor	8.07	4	⇑P		Pn	20 59 03.3	+0.5
LEHL	Lehliu	8.09	356	⇑P		Pn	20 59 04.8	+1.9
TLBR	Topalu	8.14	2	⇓P		Pn	20 59 05.0	+1.9
BLKB	Belogradchik	8.15	334	⇑P		Pn	20 59 05.3	+1.6
AMRR	Amara	8.21	359	⇓P		Pn	20 59 06.5	+2.0
AMRR	Amara	8.21	359	⇓P		Pn	20 59 06.5	+2.0
ZAF	Zafarana	8.22	148	P		Pn	20 59 03.0	-1.8
	baz=147							
BAIL	Bailesti	8.28	338	⇓P		Pn	20 59 07.2	+1.7
ZNM	Zenema	8.29	146	P		Pn	20 59 03.9	-1.7
	baz=145							
HARR	Harsova	8.29	2	⇓P		Pn	20 59 06.1	+0.5
HARR	Harsova	8.29	2	⇓P		Pn	20 59 06.1	+0.5
SULR		8.34	353	⇓P		Pn	20 59 08.0	+1.8
BCI	Bajram Curri	8.34	318	P		Pn	20 59 10.0	+3.6
	baz=323							
BCI				AMP				
	comp=E,1.8nm,0.6s,baz=323							
GHAJ	Ghor Haditha	8.34	125			Pn	20 59 05.0	-1.4
GHAJ	Ghor Haditha	8.34	125	Pn		Pn	20 59 03.0	-3.5
DAMI2	DAM2	8.35	126	Pn		Pn	20 59 03.6	-2.9
NBNS	Bani Suef	8.35	157	P		Pn	20 59 04.2	-2.4
	baz=157							
NBNS				S		Sn	21 00 27.6	-12
	baz=157							
HUMR	Humele	8.36	347	⇓P		Pn	20 59 08.0	+1.3
JURR	Jurilovca	8.41	6	⇓P		Pn	20 59 08.6	+1.3
TPGR	Topolog	8.47	4	⇑P		Pn	20 59 09.1	+1.0
PGOR	Pogoanele	8.51	357	⇓P		Pn	20 59 10.9	+2.2
BOVS	Bovan	8.53	330	⇓P		Pn	20 59 10.2	+1.3
ULC	Ulcinj	8.54	313	*i*	Pn	Pn	20 59 10.5	+1.3
ULC				*e*	Sn	Sn	21 00 44.5	+0.7
PVY	Plav	8.55	319	⇓*i*	Pn	Pn	20 59 12.4	+3.0
PVY				*e*	Sn	Sn	21 00 45.0	+0.8
ZFRI	Zfri	8.60	131	Pn		Pn	20 59 06.5	-3.4
PRNI	Paran	8.64	132	Pn		Pn	20 59 07.5	-3.0
PRNI				Sn		Sn	21 00 39.1	-7.1
PUNG	Punghina	8.64	337	⇑P		Pn	20 59 11.4	+1.0
KRMI	Paran Flat	8.64	134	Pn		Pn	20 59 07.0	-3.6
STFAR	Stefanesti-Arg	8.69	347	⇓P		Pn	20 59 12.4	+1.2
SECR		8.71	353	⇑P		Pn	20 59 12.8	+1.4
DRME	Dracevica, Mon	8.72	314	⇑*i*	Pn	Pn	20 59 13.3	+1.8
DRME	Dracevica, Mon	8.72	314	⇑*i*	Pn	Pn	20 59 13.3	+1.8
DRME				*e*	Sn	Sn	21 00 47.7	-0.3
ISR	Istrita	8.75	355	⇓P		Pn	20 59 13.1	+1.1
ISR	Istrita	8.75	355	⇓P		Pn	20 59 13.1	+1.1
ASF	Jabal al Asfar	8.77	116	P		Pn	20 59 10.5	-1.8
	comp=E,68nm,0.4s,baz=310,slow=6.0,SNR=56							
ASF				S		Sn	21 00 45.3	-4.2
	comp=E,264nm,0.7s,baz=316,slow=22,SNR=6.7							
CFR	Carcaliu	8.78	2	⇓P		Pn	20 59 12.9	+0.6
CFR	Carcaliu	8.78	2	⇓P		Pn	20 59 12.9	+0.6
IVA	Berane	8.78	320	⇑*i*	Pn	Pn	20 59 15.2	+2.7
IVA				*e*	Sn	Sn	21 00 50.3	+0.6
TLCR		8.83	6	⇑P		Pn	20 59 14.1	+1.1
TLCR		8.83	6	⇑P		Pn	20 59 14.1	+1.1
PDG	Podgorica	8.83	316	⇑P		Pn	20 59 15.1	+2.0
PDG	Podgorica	8.83	316			Pn	20 59 14.8	+1.8
PDG	Podgorica	8.83	316	⇑P		Pn	20 59 15.0	+2.0
TTG	Podgorica	8.83	316	⇑*i*	Pn	Pn	20 59 15.1	+2.0
TTG				*e*	Sn	Sn	21 00 51.4	+0.6
HRFI	Mount Harif	8.89	133	Pn		Pn	20 59 10.9	-3.0
HRFI				Sn		Sn	21 00 44.0	-8.3
SRE	Strehaia	8.91	339	⇑P		Pn	20 59 15.4	+1.4
BUM	Brajici-Budva	8.96	314	⇑*i*	Pn	Pn	20 59 16.3	+1.5
BUM				*e*	Sn	Sn	21 00 54.3	+0.3
KOME	Kolasin	8.97	318	⇑*i*	Pn	Pn	20 59 18.5	+3.5
KOME				*e*	Sn	Sn	21 00 54.3	0.0
GRER		8.99	357	⇑P		Pn	20 59 17.4	+2.3
MBRI	Mt Berech	8.99	135	Pn		Pn	20 59 12.5	-2.9
TIP	Timpagrande	9.02	291	⇑P		Pn	20 59 15.4	-0.3
TIP	Timpagrande	9.02	291			Pn	20 59 14.4	-1.4
TIP	Timpagrande	9.02	291	⇑P		Pn	20 59 14.7	-1.1
TIP				⇑S		Sn	21 00 50.6	-5.0
MTUR	Matau	9.03	348	⇓P		Pn	20 59 18.1	+2.3
MTUR	Matau	9.03	348	⇓P		Pn	20 59 18.1	+2.3
GIUM	Giurgiulesti	9.09	3	⇑P		Pn	20 59 18.9	+2.4
SCHL	Schela	9.10	1	⇓P		Pn	20 59 18.6	+2.1
CEME	Cevo	9.10	315	⇑*i*	Pn	Pn	20 59 18.2	+1.5
CEME				*e*	Sn	Sn	21 00 57.7	+0.3
EIL	Elat	9.11	135	P		Pn	20 59 14.3	-2.6
	comp=E,250nm,0.5s,baz=283,slow=1.5,SNR=196							
EIL				S		Sn	21 00 47.5	-10
	comp=E,887nm,0.5s,baz=212,slow=11,SNR=13							
EIL	Elat	9.11	135	Pn		Pn	20 59 13.4	-3.5
DJES	Djerdap	9.12	336	⇓P		Pn	20 59 17.9	+1.0
TAMRE	El Minia	9.13	161	P		Pn	20 59 14.8	-2.4
	baz=161							
MLR	Muntele Rosu	9.17	353	⇓P		Pn	20 59 20.7	+2.9
MLR	Muntele Rosu	9.17	353	P		Pn	20 59 19.5	+1.8
	comp=E,95nm,0.9s,baz=173,slow=5.9,SNR=148							
MLR				LR		LR	21 03 31.9	
	comp=E,660nm,18.8s,baz=178,slow=42							
MLR	Muntele Rosu	9.17	353			Pn	20 59 19.1	+1.4
MLR	Muntele Rosu	9.17	353	⇓P		Pn	20 59 20.7	+2.9
SLCR	Slobozia Conac	9.18	1	⇑P		Pn	20 59 19.0	+1.2
TATR	Tatarca	9.20	2	⇑P		Pn	20 59 19.2	+1.2
GRB	Gharib	9.21	150	P		Pn	20 59 15.8	-2.5
	baz=150							
NKME	Niksic	9.22	316	⇑*i*	Pn	Pn	20 59 20.2	+1.8
NKME				*e*	Sn	Sn	21 00 59.9	-0.4
VOIR		9.23	349	⇑P		Pn	20 59 20.0	+1.4
VOIR		9.23	349	⇑P		Pn	20 59 20.0	+1.4
ARR	Arges	9.24	347	⇑P		Pn	20 59 20.4	+1.8
HFRF	Wahat Farafira	9.24	176	P		Pn	20 59 16.8	-1.9
	baz=176							
SCTR	Scanteiesti	9.27	2	⇓P		Pn	20 59 20.5	+1.5
HCY	Herceg Novi	9.28	313	⇑*i*	Pn	Pn	20 59 19.6	+0.4
HCY	Herceg Novi	9.28	313	⇑*i*	Pn	Pn	20 59 19.7	+0.5
HCY				*e*	Sn	Sn	21 01 02.2	+0.4
HERR	Herculane	9.34	337	⇑P		Pn	20 59 20.5	+0.5
ODBI	Odobesti	9.37	358	⇓P		Pn	20 59 22.0	+1.7
PLE	Pljevlja	9.37	320	⇑*i*	Pn	Pn	20 59 23.7	+3.2
PLE				*e*	Sn	Sn	21 01 05.0	+1.0
VLDR	Vladesti	9.44	2	⇑P		Pn	20 59 23.6	+2.2
PANC	Panciu	9.47	358	⇑P		Pn	20 59 24.1	+2.4
PLOR	Plostina	9.47	356	⇑P		Pn	20 59 24.2	+2.4
VRI	Vrincioaia	9.48	356	⇓P		Pn	20 59 23.2	+1.3
VRI	Vrincioaia	9.48	356	⇓P		Pn	20 59 23.2	+1.3
LOT	Lotru	9.49	343	⇓P		Pn	20 59 23.6	+1.4
MDVR	Moldovita	9.49	334	⇓P		Pn	20 59 23.2	+1.1
VARL	Varlezi	9.49	1	⇓P		Pn	20 59 24.2	+2.2
COVR	Voineasa-Covas	9.50	354	⇓P		Pn	20 59 24.4	+2.3
CEL	Celeste	9.51	285			Pn	20 59 21.3	-1.1
CEL	Celeste	9.51	285	⇑P		Pn	20 59 21.7	-0.7
HKAT	Jabal Katrina	9.52	144	P		Pn	20 59 20.2	-2.6
	baz=143							
UPM	Unac-Piva	9.54	318	⇑*i*	Pn	Pn	20 59 25.4	+2.6
UPM	Unac-Piva	9.54	318	⇑*i*	Pn	Pn	20 59 25.5	+2.6
UPM				*e*	Sn	Sn	21 01 08.4	+0.2
MATE	Matera	9.54	300	⇓P		Pn	20 59 21.9	-0.7
BRY	Bratogost	9.54	316	⇑*i*	Pn	Pn	20 59 24.1	+1.3
BRY	Bratogost	9.54	316	⇑*i*	Pn	Pn	20 59 24.2	+1.4
BRY				*e*	Sn	Sn	21 01 08.3	0.0
ASUT		9.58	158	P		Pn	20 59 21.2	-2.2
	baz=158							
RUDO	Rudo	9.58	321	*e*	Pn	Pn	20 59 25.2	+1.9
DBRK	Dubrovnik	9.62	314	*e*	Pn	Pn	20 59 22.7	-1.1
DIVS	Divibare	9.64	325			Pn	20 59 25.9	+1.7
DIVS	Divibare	9.64	325	⇑*i*	Pn	Pn	20 59 26.2	+2.1
DIVS	Divibare	9.64	325	⇑P		Pn	20 59 26.2	+2.1
GHRR		9.65	359	⇓P		Pn	20 59 26.4	+2.2
GZR	Gura Zlata	9.70	339	⇑P		Pn	20 59 25.7	+0.8
GZR	Gura Zlata	9.70	339	⇑P		Pn	20 59 25.7	+0.8
DOPR	Dopca	9.71	351	⇑P		Pn	20 59 26.1	+1.1
BBLS	Lazići	9.74	322	⇑*i*	Pn	Pn	20 59 28.2	+2.6
OZUR		9.79	353	⇓P		Pn	20 59 27.6	+1.5
BIR	Birlad	9.86	0	⇑P		Pn	20 59 27.2	+0.2
BIR	Birlad	9.86	0	⇑P		Pn	20 59 27.2	+0.2
SIM	Simferopol'	9.87	28	*eP*		Pn	20 59 28.2	+1.1
SIM				*eS*		Sn	21 01 13.1	-2.9
SIM				pmax	pmax			
	comp=Z,637nm,0.9s							
SIM				smax	smax			
	comp=N,293nm,1.1s							
SIM				smax	smax			
	comp=E,610nm,1.3s							
CUC	Castrocucco	9.95	295			Pn	20 59 27.1	-1.2
STON	Ston	10.00	313	⇑*i*	Pn	Pn	20 59 27.5	-1.5
STON	Ston	10.00	313	*e*	Pn	Pn	20 59 27.4	-1.5
MDB	Medias	10.03	347	⇑P		Pn	20 59 30.5	+1.1
MDB	Medias	10.03	347	⇑P		Pn	20 59 30.5	+1.1
DEV	Deva	10.12	341	⇑P		Pn	20 59 32.0	+1.5
DEV	Deva	10.12	341	⇑P		Pn	20 59 32.0	+1.5
TESR	Tescani	10.13	356	⇑P		Pn	20 59 31.4	+0.7
TEKS	Tekeris	10.20	325	⇑*i*	Pn	Pn	20 59 32.8	+1.1
BANR	Banloc	10.22	333	⇓P	

PSZ Piszkesteto 12.85 336 ⇑P Pn 21 00 09.3 +1.8
PSZ Piszkesteto 12.85 336 Pn 21 00 08.2 +0.7
PSZ Piszkesteto 12.85 336 ⇑P Pn 21 00 09.3 +1.8
PSZ Piszkesteto 12.85 336 P Pn 21 00 08.4 +1.0
NRCA Norcia 12.88 304 Pn 21 00 06.6 -1.4
CSKK Cskako 12.97 331 P Pn 21 00 10.4 +1.3
OZLJ Ozalj 12.98 319 *e*Pn Pn 21 00 08.5 -0.6
FDMO Fiordimonte 12.99 305 Pn 21 00 08.6 -0.7
BOJS Bojanci 13.02 318 ⇑*i*Pn Pn 21 00 09.3 -0.4
BOJS Bojanci 13.02 318 *i* Pn Pn 21 00 09.3 -0.4
BOJS *i* P P 21 00 14.9 -1.9
MPLH Magyarpolny 13.11 328 P Pn 21 00 12.1 +1.2
CRES Cresnjev 13.12 320 *i* Pn Pn 21 00 10.7 -0.4
CRES *i* P P 21 00 16.0 -1.9
KOLS Kolonicke sedl 13.12 344 *e*P Pn 21 00 12.8 +1.7
KOLS Kolonicke sedl 13.12 344 *e*P Pn 21 00 12.8 +1.7
KOLS *e* 21 00 20.2
CESX Cesi 13.15 303 Pn 21 00 12.6 +1.1
KECS Kecovo 13.16 339 *e*P P 21 00 20.7 +2.3
KECS Kecovo 13.16 339 *e* P 21 00 20.7 +2.3
CRVS Cervenica-Dubn 13.28 342 *e*P Pn 21 00 14.4 +1.2
CRVS Cervenica-Dubn 13.28 342 *e*P Pn 21 00 14.4 +1.2
CRVS *es* S 21 02 50.9 -6.7
SRO Srobarova 13.32 332 *e*P Pn 21 00 15.1 +1.5
SRO Srobarova 13.32 332 *e*P Pn 21 00 15.1 +1.5
SRO *e* 21 00 22.2
SMRN Sveta Marina 13.35 314 *i* Pn Pn 21 00 12.9 -1.2
EGYH Egyhazaskeszo 13.39 328 P Pn 21 00 16.1 +1.5
MURB Monte Urbino 13.46 305 Pn 21 00 14.5 -1.1
NEY Neytrino 13.47 55*d* *i*P Pn 21 00 16.5 +0.6
MGAB Montegabbione 13.59 303 ⇑P Pn 21 00 17.6 +0.4
CEY Cerknica 13.62 317 ⇑*i*Pn Pn 21 00 16.9 -0.7
SHA1 Shidzhatmaz 13.65 53 *i* P Pn 21 00 18.5 +0.3
LVV L'vov 13.66 350 *e*P Pn 21 00 19.0 +0.8
LVV pmax pmax
comp=Z,260nm,1.6s
LATE Laterza 13.68 302 Pn 21 00 18.5 +0.1
VYHS Vyhne 13.70 335 *e*P Pn 21 00 19.2 +0.6
VYHS *e*S Sn 21 02 56.7 +7.5
VYHS Vyhne 13.70 335 *e*P Pn 21 00 19.2 +0.6
VYHS *e* 21 00 25.9
VYHS *es* Sn 21 02 56.7 +7.5
ONI Oni 13.70 58 Pn 21 00 18.6 -0.1
ONI Oni 13.70 58 P Pn 21 00 18.7 -0.1
SKDS Skadanscina 13.73 316 ⇑*i*Pn Pn 21 00 17.7 -1.4
LJIJ Ljubljana 13.76 318 *i* Pn Pn 21 00 18.9 -0.6
LJU *i* P P 21 00 23.4 -1.6
LJU *i* 21 00 26.7
KIV Kislovodsk 13.77 52 ⇑P Pn 21 00 20.2 +0.5
KIV Kislovodsk 13.77 52 Pn 21 00 20.1 +0.5
KIV Kislovodsk 13.77 52 *e*P Pn 21 00 20.5 +0.8
KIV *e*S Sn 21 02 52.9 +1.9
KIV pmax pmax
comp=Z,97nm,1.1s
KIV MLR MLR
comp=Z,155nm,12.0s
KIV Kislovodsk 13.77 52 *i* P Pn 21 00 19.5 -0.2
SNR=21
KIV Kislovodsk 13.77 52 ⇓P Pn 21 00 20.4 +0.7
KVAR Kislovodsk Arr 13.77 52 P Pn 21 00 20.1 +0.3
comp=Z,3.9nm,1.0s,baz=259,slow=12,SNR=3.2
KBZ Khabaz 13.80 53 P Pn 21 00 21.2 +1.3
comp=Z,11nm,0.8s,baz=250,slow=11,SNR=18
SOKA Soboth 13.91 321 *e*Pn Pn 21 00 21.4 -0.2
comp=Z,92nm,0.8s,SNR=199
SOKA *e*P PcP 21 05 37.7 +0.8
comp=Z,4.4nm,0.6s
SOKA *e*S ScP 21 09 03.3 +0.9
comp=Z,7.6nm,1.0s
SOP Sopron 13.93 327 P Pn 21 00 22.4 +0.8
TRI Trieste 13.97 316 Pn 21 00 20.2 -1.9
TRI Trieste 13.97 316 P Pn 21 00 20.2 -1.9
TRI Trieste 13.97 316 ⇑P Pn 21 00 21.7 -0.4
GNI Garni 13.97 69 P Pn 21 00 24.1 +1.7
comp=Z,60nm,1.0s,baz=288,slow=5.1,SNR=32
GNI Garni 13.97 69 Pn 21 00 23.3 +0.9
GNI Garni 13.97 69 P Pn 21 00 23.7 +1.3
GNI Garni 13.97 69 ⇓P Pn 21 00 24.1 +1.7
OBKA Obir 14.05 320 ⇑*i*Pn Pn 21 00 24.7 +1.4
OBKA Obir 14.05 320 *e*Pn Pn 21 00 25.0 +1.8
comp=Z,31nm,0.7s,SNR=63
OBKA *e*S ScP 21 09 03.2 +0.5
comp=Z,5.7nm,1.1s
RONA Rosalia, Austr 14.06 327 *e*Pn Pn 21 00 23.9 +0.6
comp=Z,28nm,0.8s,SNR=56
RONA *e*P PcP 21 05 36.9 -0.1
comp=Z,3.3nm,0.6s
RONA *e*S ScP 21 09 01.9 -0.7
comp=Z,8.5nm,1.7s
NIE Niedzica 14.06 340 *e*P P 21 00 27.8 -0.6
NIE *e*S S 21 03 10.0 -3.5
LANS Liptovska Anna 14.06 338 *e*P P 21 00 31.4 +3.0
LANS Liptovska Anna 14.06 338 *e* P 21 00 31.4 +3.0
ARSA Arzberg 14.08 324 *i* Pn Pn 21 00 23.7 +0.1
comp=Z,23nm,0.4s,SNR=141
ARSA *e*P PcP 21 05 37.2 +0.3
comp=Z,5.0nm,0.7s
ARSA *e*S ScP 21 09 02.5 -0.1
comp=Z,4.9nm,0.9s
ARSA Arzberg 14.08 324 ⇑P Pn 21 00 25.0 +1.4
ZEI Tsey 14.08 58 *e*P Pn 21 00 24.0 +0.1
ZEI pmax pmax
comp=Z,200nm,1.2s
ZST Bratislava 14.10 330 *e*P Pn 21 00 25.0 +1.1
ZST Bratislava 14.10 330 *e*P Pn 21 00 25.0 +1.1
ZST *e* 21 00 30.5
MODS Modra-Piesok 14.18 331 *e*P Pn 21 00 25.3 +0.4
MODS Modra-Piesok 14.18 331 *e*P Pn 21 00 25.2 +0.4
MODS *e* 21 00 31.2
SABO M.te Sabotino 14.22 317 Pn 21 00 25.5 0.0
SMOL Smolenice 14.23 331 *e*P P 21 00 27.9 -2.3
AK05 Malin Array Si 14.26 4 Pn Pn 21 00 24.9 -1.0
AKASG Malin Array Be 14.35 4 P Pn 21 00 27.9 +0.9
comp=Z,17nm,0.7s,baz=196,slow=12,SNR=50
AKASG LR LR 21 06 42.5
comp=Z,108nm,20.6s,baz=197,slow=40
AKASG ScP ScP 21 09 02.1 -0.9
comp=Z,5.2nm,0.7s,baz=223,slow=0.8,SNR=11
AKASG Malin Array Be 14.35 4 Pn 21 00 25.9 -1.1
AKBB Malin Array Si 14.35 4 Pn Pn 21 00 25.8 -1.2
AKBB Malin Array Si 14.35 4 *ce*P Pn 21 00 28.9 +1.9
CASP Castiglione de 14.39 301 Pn 21 00 27.6 -0.1
OSSC Osservatorio P 14.41 305 Pn 21 00 27.6 -0.3
CONA Conrad Observa 14.42 327 *e*Pn Pn 21 00 28.4 +0.3
comp=Z,57nm,0.7s,SNR=45
JAVC Velka Javorina 14.42 333 *e*PN Pn 21 00 28.8 +0.7
JAVC *e* 21 00 35.0
JAVC *e*SCP ScP 21 09 03.5 +0.2
PRED Cave del Predi 14.53 318 Pn 21 00 28.4 -1.0
GOF Gofitskoye 14.54 49 ⇑*e*P Pn 21 00 30.3 +0.8
GOF pmax pmax
comp=Z,48nm,1.2s
MYKA Terra Mystica 14.60 319 *e*Pn Pn 21 00 30.7 +0.3
comp=Z,88nm,0.6s,SNR=55
MYKA *e*P PcP 21 05 39.0 +1.2
comp=Z,6.4nm,0.7s
MYKA *e*S ScP 21 09 03.4 -0.3
comp=Z,1.8nm,0.5s
PTCC Patocco-Chiusa 14.62 318 ⇑P Pn 21 00 29.6 -1.0
KEST Kesra 14.79 273 P Pn 21 00 33.0 +0.1
comp=Z,34nm,0.5s,baz=50,slow=9.4,SNR=50
KEST S Sn 21 03 06.5 -9.2
comp=Z,14nm,0.4s,baz=263,slow=22,SNR=9.1
KEST LR LR 21 06 52.9
comp=Z,300nm,19.8s,baz=358,slow=40
KEST Kesra 14.79 273 Pn Pn 21 00 32.2 -0.7
MAUC Maruska 14.79 334 *e*P P 21 00 36.6 +0.1
MAUC *ex* x 21 00 38.9
MAUC AMS AMS 21 03 20.0
comp=Z,1μm,11.3s
STAL STALIGIAL 14.89 316 Pn 21 00 33.0 -1.0
CLUD Cludinico 14.91 317 Pn 21 00 33.0 -1.3
OJC Ojcow 14.93 340 *e*P P 21 00 37.8 -0.2
OJC *e*S S 21 03 30.1 -1.0
OJC Ojcow 14.93 340 Pn 21 00 33.9 -0.6
OJC Ojcow 14.93 340 P Pn 21 00 33.9 -0.6
OJC Ojcow 14.93 340 ⇑P P 21 00 37.7 -0.2
ZCCA Zocca 14.94 307 Pn 21 00 34.9 +0.2
TEOL Teolo 14.99 312 Pn 21 00 34.5 -0.9
KBA Koelnbreinsper 15.05 320 *e*Pn Pn 21 00 36.4 +0.2
comp=Z,196nm,0.6s,SNR=176
KBA *e*P PcP 21 05 38.2 -0.3
comp=Z,5.7nm,0.6s
KBA *e*S ScP 21 09 04.4 -0.1
comp=Z,4.0nm,0.7s
KBA Koelnbreinsper 15.05 320 ⇓P Pn 21 00 36.8 +0.6
CIMO Cimolais 15.07 316 Pn 21 00 35.9 -0.5
KRUC Moravsky 15.08 331 *e*PN Pn 21 00 36.9 +0.5
KRUC *e* 21 00 40.9
KRUC *e*SCP ScP 21 09 03.8 -0.5
OKC Ostrava-Krasne 15.09 336 *e*P P 21 00 39.0 -0.7
OKC MLR MLR
comp=Z,700nm,16.3s
OKC Ostrava-Krasne 15.09 336 *e*P P 21 00 39.0 -0.7
OKC *ex* x 21 00 42.7
OKC AMS AMS 21 03 40.0
comp=Z,700nm,16.3s
MOA Molln 15.10 323 *e*Pn Pn 21 00 37.9 +1.2
comp=Z,102nm,0.8s,SNR=94
MOA *e*P PcP 21 05 37.5 -0.9
comp=Z,1.5nm,0.4s
VRAC Vranov 15.20 332 ⇑P P 21 00 39.6 -1.3
VRAC Vranov 15.20 332 P Pn 21 00 38.2 +0.3
comp=Z,149nm,0.9s,baz=138,slow=10.0,SNR=151
VRAC ScP ScP 21 09 05.1 +0.6
comp=Z,4.0nm,0.7s,baz=136,slow=4.8,SNR=3.7
VRAC Vranov 15.20 332 *e*PN Pn 21 00 38.9 +1.0
VRAC *e* 21 00 42.6
VRAC *e*SCP ScP 21 09 04.6 0.0
MORC Moravsky Berou 15.24 334 ⇓P P 21 00 40.4 -1.0
MORC Moravsky Berou 15.24 334 Pn 21 00 38.1 -0.4
MORC Moravsky Berou 15.24 334 *e*PN Pn 21 00 38.8 +0.3
MORC *e* 21 00 43.3
MORC *e*SCP ScP 21 09 04.1 -0.6
MORC Moravsky Berou 15.24 334 ⇓P P 21 00 40.4 -1.0
VLC Villacollemand 15.24 306 Pn 21 00 37.7 -0.9
VLC Villacollemand 15.24 306 ⇑P Pn 21 00 37.6 -0.9
ABTA Abfaltersbach 15.29 317 *e*Pn Pn 21 00 39.4 +0.2
comp=Z,202nm,0.6s,SNR=219
ABTA *e*S ScP 21 09 03.5 -1.3
comp=Z,4.1nm,0.9s
BIOA Bad Ischl, Aus 15.30 322 *i* Pn Pn 21 00 39.8 +0.6
comp=Z,66nm,0.5s,SNR=103
CTI Castel Tesino 15.37 314 Pn 21 00 39.7 -0.6
CTI Castel Tesino 15.37 314 P Pn 21 00 39.7 -0.6
GROC Groznyy 15.53 58 *e*P Pn 21 00 43.4 +1.2
GROC *e*S Sn 21 03 35.6 +2.1
GROC pmax pmax
comp=Z,457nm,1.3s
PRMA PARMA 15.55 308 Pn 21 00 42.6 +0.2
PGF Pioggiola 15.61 299 *e*P Pn 21 00 43.6 +0.3
TREC Trest 15.63 329 *e*P P 21 00 45.3 -0.4
TREC Trest 15.63 329 *e*P P 21 00 45.3 -0.4
TREC *ex* x 21 00 47.0
KRLC Kraliky 15.76 334 *e*P P 21 00 47.2 0.0
KRLC MLR MLR
comp=Z,600nm,19.0s
KRLC Kraliky 15.76 334 *e*P P 21 00 47.2 0.0
KRLC *ex* x 21 00 50.4
KRLC AMS AMS 21 04 00.0
comp=Z,600nm,19.0s
CKRC Cesky Krumlov 15.78 326 *e*P P 21 00 47.3 -0.1
CKRC *ex* x 21 00 49.8
SALO Salr 15.82 311 Pn 21 00 45.3 -0.5
SALO Salr 15.82 311 ⇑P Pn 21 00 45.8 0.0
MSSA Maissana 15.87 305 Pn 21 00 46.0 -0.6
GEC2 GERESS Array S 16.07 325 P P 21 00 50.0 -0.8
GERES GERESS Array B 16.07 325 P Pn 21 00 49.5 +0.4
comp=Z,220nm,0.8s,baz=137,slow=12,SNR=328
GERES PcP PcP 21 05 39.2 -0.7
comp=Z,2.0nm,0.5s,baz=146,slow=2.0,SNR=4.1
GERES LR LR 21 07 17.8
comp=Z,370nm,21.0s,baz=130,slow=38
GERES ScP ScP 21 09 05.7 -0.6
comp=Z,7.2nm,0.9s,baz=146,slow=2.6,SNR=16
GERES GERESS Array B 16.07 325 P Pn 21 00 49.2 +0.2
WTTA Wattenberg 16.08 317 *e*Pn P 21 00 50.4 -0.5
comp=Z,197nm,0.9s,SNR=175
WTTA *e*P PcP 21 05 40.5 +0.5
comp=Z,8.3nm,0.7s
WTTA *e*S ScP 21 09 06.7 +0.2
comp=Z,5.9nm,0.7s
DPC Dobruska-Polom 16.15 333 *e*P P 21 00 51.8 +0.2
DPC MLR MLR
comp=Z,600nm,26.6s
DPC Dobruska-Polom 16.15 333 *e*P P 21 00 51.8 +0.2
DPC *ex* x 21 00 54.0
DPC AMS AMS 21 05 30.0
comp=Z,600nm,26.6s
WATA Walderalm 16.15 318 *e*Pn P 21 00 51.3 -0.4
comp=Z,299nm,0.9s,SNR=195
WATA *e*S ScP 21 09 05.9 -0.7
comp=Z,7.0nm,0.8s
BEL Belsk 16.18 345 *e*P P 21 00 53.9 +2.2
BEL *e*S S 21 03 57.0 +0.3
BEL Belsk 16.18 345 ⇑P P 21 00 52.9 +1.2
SQTA Sankt Quirin 16.29 317 *e*Pn P 21 00 53.0 -0.1
comp=Z,249nm,0.5s,SNR=231
SQTA *i* P PcP 21 05 40.8 +0.5
comp=Z,6.8nm,0.7s
SQTA *e*S ScP 21 09 06.3 -0.5
comp=Z,11nm,0.9s,SNR=5.9
KHC Kasperske Hory 16.34 326 P P 21 00 53.2 -0.4
KHC Kasperske Hory 16.34 326 *e*P P 21 00 54.1 +0.5
KHC MLR MLR
comp=Z,1μm,32.6s
KHC Kasperske Hory 16.34 326 *e*P P 21 00 54.1 +0.5
KHC *ex* x 21 00 56.0
KHC *ex* x 21 01 05.5
KHC AMS AMS 21 05 40.0
comp=Z,1μm,32.6s
KHC Kasperske Hory 16.34 326 ⇑P P 21 00 53.7 +0.1
OSTC Ostas 16.36 333 *e*P P 21 00 54.3 +0.5
OSTC *ex* x 21 00 57.1
UPC Upice 16.39 333 *e*P P 21 00 54.4 +0.2
UPC MLR MLR
comp=Z,1μm,33.7s
UPC Upice 16.39 333 *e*P P 21 00 54.4 +0.2
UPC AMS AMS 21 05 40.0
comp=Z,1μm,33.7s
GOPC GO Pecny, Ondr 16.40 329 *e*P P 21 00 53.8 -0.4
GOPC MLR MLR
comp=Z,800nm,32.3s
GOPC GO Pecny, Ondr 16.40 329 *e*P P 21 00 53.8 -0.4
GOPC *ex* x 21 00 56.0
GOPC AMS AMS 21 05 40.0
comp=Z,800nm,32.3s
MOTA Moosalm 16.42 317 *e*Pn P 21 00 55.2 +0.6
comp=Z,210nm,0.8s,SNR=113
MOTA *e*S ScP 21 09 06.5 -0.7
comp=Z,13nm,1.0s,SNR=6.2
FETA Feichten 16.44 315 *e*Pn P 21 00 55.1 +0.2
comp=Z,512nm,0.7s,SNR=570
FETA *e*P PcP 21 05 34.6 -6.0
comp=Z,7.2nm,0.9s
FETA *e*S ScP 21 09 06.9 -0.2
comp=Z,13nm,1.0s
CHVC Chvalec 16.44 333 *e*P P 21 00 55.4 +0.6
CHVC AMS AMS 21 05 40.0
comp=Z,900nm,37.2s
FUORN Ofenpass-Fuorn 16.49 314 P P 21 00 55.1 -0.5
PRU Pruhonice 16.55 329 *e*P P 21 00 55.7 -0.3
PRU MLR MLR
comp=Z,500nm,7.7s
PRU Pruhonice 16.55 329 *e*P P 21 00 55.7 -0.3
PRU *ex* x 21 00 58.2
PRU AMS AMS 21 07 20.0
comp=Z,500nm,7.7s
KSP Ksiaz 16.57 334 *e*P P 21 00 56.5 +0.4
KSP *e*S S 21 04 03.9 -0.9
KSP Ksiaz 16.57 334 ⇑P P 21 00 56.4 +0.2
MAK Makhachkala 16.64 61 *e*P Pn 21 00 53.0 -3.0
MAK *e*S Sn 21 03 56.7 -3.7
MAK pmax pmax
comp=Z,369nm,0.9s
MAK MLR MLR
comp=Z,144nm,12.0s
RETA Reutte 16.69 317 *e*Pn P 21 00 58.1 +0.6
comp=Z,105nm,0.6s,SNR=82
RETA *e*P PcP 21 05 41.3 +0.5
comp=Z,5.2nm,0.7s
RETA *e*S ScP 21 09 06.8 -0.8
comp=Z,3.3nm,0.7s,SNR=5.4
DAVOX Davos/Dischmat 16.80 314 P P 21 00 58.6 -0.3
comp=Z,95nm,0.6s,baz=131,slow=12,SNR=134
DAVOX ScP ScP 21 09 07.9 0.0
comp=Z,4.9nm,0.6s,baz=92,slow=1.2,SNR=7.6
DAVOX LR LR 21 09 11.2
comp=Z,468nm,19.7s,baz=125,slow=43
CKFL Kef-Lekhel 16.82 276 P P 21 00 59.2 +0.1
TUE Stuetta 16.95 312 P P 21 01 00.4 -0.2
TUE Stuetta 16.95 312 ⇑P P 21 01 01.7 +1.1
PVCC Panska Ves 16.96 330 *e*P P 21 01 01.2 +0.7
PVCC MLR MLR
comp=Z,400nm,19.0s
PVCC Panska Ves 16.96 330 *e*P P 21 01 01.2 +0.7
PVCC AMS AMS 21 07 40.0
comp=Z,400nm,19.0s
VSR Storozhevoye 16.97 26 *e*P Pn 21 00 59.7 -0.3
VSR pmax pmax
comp=Z,180nm,0.9s
CASM Ain Smara 17.02 276 P P 21 01 01.3 0.0
DAVA Damuels 17.07 315 *e*Pn P 21 01 02.6 +0.8
comp=Z,149nm,0.4s,SNR=158
DAVA *e*P PcP 21 05 42.1 +0.5
comp=Z,6.5nm,0.6s
DAVA *e*S ScP 21 09 08.0 -0.5
comp=Z,5.5nm,0.6s,SNR=4.7
DAVA Damuels 17.07 315 ⇑P P 21 01 02.6 +0.8
SBF Sospel 17.11 302 *e*P Pn 21 01 01.5 -0.3
CTEI Djebel Teioual 17.11 275 P P 21 01 02.8 +0.4
MONC Moncucco Torin 17.22 306 ⇑P Pn 21 01 03.1 0.0
VORR Voronezh 17.36 25 ⇓*i*P P 21 01 05.3 +0.4
VORR S S 21 04 19.2 -1.3
VORR pmax pmax
comp=Z,209nm,1.9s
DFRA Djebel Bou Aff 17.48 277 P Pn 21 01 07.7 +1.2
BRG Berggiesshubel 17.48 330 ⇑*i*P Pn 21 01 07.3 +1.1
BRG Amp 21 01 09.8
comp=Z,283nm,1.0s
BRG Berggiesshubel 17.48 330 S S 21 04 23.0 +0.2
BRG ⇑PP 21 05 42.5
BRG Amp 21 05 43.6
comp=Z,9.3nm,1.0s
BRG ⇑SP ScP 21 09 09.0 0.0
BRG Amp 21 09 10.6
comp=Z,7.9nm,1.1s
BRG Amp 21 09 31.0
comp=E,0.2nm,7.6s
BRG Amp 21 09 35.0
comp=Z,0.5nm,9.3s
BRG Amp 21 09 38.0
comp=N,0.3nm,7.2s
BRG Berggiesshubel 17.48 330 ⇑*i*P Pn 21 01 07.3 +1.1
BRG S S 21 04 23.0 +0.2
BRG pmax pmax
comp=Z,283nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=E,184nm,7.6s
BRG MLR MLR
comp=Z,540nm,9.3s
BRG MLR MLR
comp=N,285nm,7.3s
LMR La Mourre 17.59 300 *e*P P 21 01 06.4 -1.0
NKC Novy Kostel 17.64 326 *e*P Pn 21 01 08.6 +0.4
NKC MLR MLR
comp=Z,500nm,18.0s
NKC Novy Kostel 17.64 326 *e*P Pn 21 01 08.6 +0.4
NKC *ex* x 21 01 09.3
NKC AMS AMS 21 10 00.0
comp=Z,500nm,18.0s
GRA1 Grafenberg Arr 17.83 323 P P 21 01 10.3 +0.2
GRF Grafenberg Arr 17.83 323 P P 21 01 10.3 +0.2
GRFO Grafenberg 17.83 323 P P 21 01 10.1 0.0
GRFO Grafenberg 17.83 323 P P 21 01 10.1 0.0
MBDF Montbardon 17.85 304 *e*P P 21 01 10.0 -0.4
MBDF *e*Sn Sn 21 04 16.3 -13
comp=Z,26nm,0.9s
SET Setif 17.90 276 P Pn 21 01 13.0 +1.5
VRH Novokhopyorsk 17.92 30 *e*P P 21 01 10.8 -0.1
VRH pmax pmax
comp=Z,140nm,0.7s
BNI Bardonecchia 18.03 305 P P 21 01 12.1 -0.2
BNI Bardonecchia 18.03 305 P P 21 01 12.1 -0.2
BNI Bardonecchia 18.03 305 ⇑P P 21 01 12.2 -0.2
LPSR Galich'ya Gora 18.06 23 *e*P Pn 21 01 13.1 -0.1
LPSR pmax pmax
comp=Z,240nm,0.6s
MNK Minsk 18.11 1 *i* P P 21 01 12.2 -0.8
MNK *i* S Sn 21 04 35.6 +0.2
MNK pmax pmax
comp=Z,342nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK MLR MLR
comp=Z,95nm,16.0s
MNK MLR MLR
comp=E,7.0nm,11.0s
MNK Minsk 18.11 1 *i* P P 21 01 12.2 -0.8
comp=E,10.0nm,0.9s
MNK *i* P P 21 01 12.2 -0.8
MNK *i* P P 21 01 12.2 -0.8
comp=Z,342nm,0.9s,baz=183
MNK *i* pP pP 21 01 27.5 -2.5
MNK *i* S Sn 21 04 35.6 +0.2
MNK *i* sS sS 21 05 00.8 -2.3
MNK *i* LQ LQ 21 06 44.4
MNK *i* LR LR 21 08 37.7
MNK *i* LRM MLR 21 09 26.6
MNK *i* LRM MLR 21 09 31.1
comp=Z,95nm,16.1s
MNK *i* LRM MLR 21 09 46.4
comp=E,7.0nm,11.0s
MRWI Hamdab 18.12 166 *i* P Pn 21 01 14.7 +0.4
MRWI *i* 21 01 17.5
baz=359,slow=6.9
MRWI *i* S Sn 21 04 37.2 +0.8
LPG La Plagne 18.15 306 *e*P Pn 21 01 14.3 -0.3
LPG *e*Sn S 21 04 29.9 -6.7
comp=E,68nm,1.0s
SENIN Lac Senin/Sane 18.16 310 P P 21 01 14.1 +0.2
LPL La Plagne 18.17 307 *e*P Pn 21 01 14.7 -0.1
LPL *e*Sn S 21 04 28.5 -8.4
comp=E,90nm,1.2s
CLL Collm 18.20 330 P Pn 21 01 14.6 -0.3
CLL Collm 18.20 330 *i* P Pn 21 01 15.1 +0.2
CLL *e*S Sn 21 04 39.0 +1.4
CLL pmax pmax
comp=Z,466nm,0.8s
CLL pmax pmax
comp=Z,12nm,0.9s
CLL Collm 18.20 330 *i* P Pn 21 01 15.1 +0.2
comp=Z,466nm,0.8s
CLL *i* x x 21 01 18.6
CLL *e*Plp 21 01 20.0
comp=Z,200nm,24.2s
CLL *i* pP pP 21 01 27.5 -3.4
CLL *es*P sP 21 01 42.0 0.0
CLL *e*S Sn 21 04 39.0 +1.4
CLL *es*S sS 21 05 00.0 -5.0
CLL *i* PcP PcP 21 05 43.4 +0.4
comp=Z,12nm,0.9s
CLL *ex* x 21 05 45.0
CLL *ex* x 21 06 03.0
CLL *ex* x 21 08 30.0
CLL *i* ScP ScP 21 09 09.1 -1.4
comp=Z,9.0nm,1.0s
CLL *e*PcS PcS 21 09 19.0 -0.4
CLL *e*ScS ScS 21 12 42.0 -9.0
CLL *ex* x 21 13 28.0
STU Stuttgart 18.29 318 P P 21 01 15.0 -0.1
STU Stuttgart 18.29 318 P P 21 01 15.0 -0.1
GKP Gorka Klasztor 18.37 340 *e*P Pn 21 01 16.8 -0.1
GKP *e*S Sn 21 04 42.8 +1.1
GKP Gorka Klasztor 18.37 340 *e*P Pn 21 01 17.7 +0.8
SMRF Simiane la Rot 18.42 301 *e*P P 21 01 16.7 +0.1
RUSF Rustrel 18.48 301 ⇑P Pn 21 01 20.0 +1.7
ORIF Oris-en-Rattie 18.51 304 *e*P P 21 01 17.6 0.0
BFO Black Forest 18.52 316 P P 21 01 17.8 +0.2
BFO Black Forest 18.52 316 P P 21 01 17.8 +0.2
BFO Black Forest 18.52 316 ⇑P Pn 21 01 18.4 -0.4
NACGM Naroch 18.52 359 *i* P P 21 01 17.3 -0.2
baz=177
MAHO Mahon 18.67 288 P P 21 01 18.1 -1.2
RUE Ruedersdorf 18.81 333 *e*P P 21 01 21.0 +0.3
IIGN Ignalina 18.98 358 *e*P P 21 01 22.9 +0.4
IIGN IAmb IAmb 21 01 26.9

comp=Z,59nm,1.0s
CABF La Chapelle 19.02 309 *e*P **P 21 01 23.2 0.0**
HINF Hinteralfeld 19.10 313 *e*P **P 21 01 23.9 -0.1**
ECH Echery 19.12 314 P **P 21 01 24.1 -0.1**
ECH Echery 19.12 314 P **P 21 01 24.1 -0.1**
ECH Echery 19.12 314 ⇓P **P 21 01 24.8 +0.5**
CDF Champ du Feu 19.15 315 *e*P **P 21 01 25.3 +0.7**
ISAL Salakas 19.20 357 *e*P **P 21 01 25.5 +0.6**
ISAL IAmb IAmb 21 01 29.1
comp=Z,31nm,0.7s
PABE Paberze 19.27 354 P **P 21 01 24.8 -0.9**
PABE Paberze 19.27 354 *e*P **P 21 01 25.8 +0.1**
VIVF Saint-Julien-l 19.30 303 *e*P **P 21 01 25.7 -0.5**
HAU Haudompre 19.49 313 *e*P **P 21 01 29.1 +0.9**
SSB Saint Sauveur 19.52 304 P **P 21 01 27.7 -0.9**
SSB Saint Sauveur 19.52 304 P **P 21 01 27.7 -0.9**
SSB Saint Sauveur 19.52 304 ⇑P **P 21 01 27.8 -0.9**
LASF Ste Croix 19.64 300 *e*P **P 21 01 29.2 -0.7**
OBN Obninsk 19.70 15 ⇑P **P 21 01 30.6 +0.3**
OBN Obninsk 19.70 15 P **P 21 01 31.0 +0.6**
comp=Z,92nm,0.6s,baz=155,slow=0.7,SNR=84
OBN S **S 21 05 05.6 -2.1**
comp=Z,14nm,1.0s,baz=225,slow=23,SNR=7.5
OBN Obninsk 19.70 15 P **P 21 01 30.5 +0.1**
OBN S **21 05 06.2 -1.4**
OBN Obninsk 19.70 15*c*e P **P 21 01 30.9 +0.6**
OBN *i* S **S 21 05 04.7 -3.0**
OBN pmax pmax
comp=Z,285nm,0.6s
OBN MLR MLR
comp=Z,334nm,24.0s
OBN Obninsk 19.70 15 ⇑P **P 21 01 31.0 +0.6**
VSVD Vaisvydziai 19.75 354 *e*P **P 21 01 31.2 +0.4**
PBUR Paburge 20.01 351 *e*P **P 21 01 33.6 -0.1**
RAYN Ar Rayn 20.09 125 P **P 21 01 34.5 -0.4**
RAYN Ar Rayn 20.09 125 P **P 21 01 34.5 -0.4**
RAYN Ar Rayn 20.09 125 P Pn 21 01 37.4 -0.1
RAYN Ar Rayn 20.09 125 ⇓P Pn 21 01 37.9 +0.4
PAGF Fort de Pagny 20.12 314 *e*P **P 21 01 35.1 +0.1**
baz=126
SFTF Sexfontaines 20.36 312 *e*P **P 21 01 38.1 +0.5**
baz=120
WLF Walferdange 20.44 317 P **P 21 01 38.9 +0.4**
WLF Walferdange 20.44 317 P **P 21 01 38.9 +0.4**
WLF Walferdange 20.44 317 *d*P **P 21 01 39.1 +0.6**
comp=Z,145nm,0.9s
SMF Signal de Mont 20.45 307 *e*P **P 21 01 38.6 -0.1**
MEZF Maizieres J'vi 20.49 313 *e*P **P 21 01 39.2 +0.2**
baz=123
SAVF Savonnieres en 20.50 314 *e*P **P 21 01 39.0 -0.1**
baz=117
MOS Moscow 20.52 16 *e*P **P 21 01 38.5 -0.7**
MOS *e*S **S 21 05 20.3 -3.3**
MOS *e* 21 12 55.4
MOS pmax pmax
comp=Z,303nm,1.0s
MOS pmax pmax
comp=Z,300nm,1.0s
MOS smax smax
comp=E,500nm,2.2s
MOS smax smax
comp=N,1μm,3.7s
MTLF Montolieu 20.64 297 *e*P **P 21 01 40.4 -0.2**
BSD Bornholm Skovb 20.64 339 *e*P **P 21 01 39.6 -1.0**
BSD Bornholm Skovb 20.64 339 *i* P **P 21 01 39.1 -1.5**
BSD IAmb IAmb 21 01 40.2
comp=Z,119nm,0.8s
BSD Bornholm Skovb 20.64 339 ⇑P **P 21 01 39.1 -1.5**
RGN Rugen 20.66 336 P **P 21 01 40.6 0.0**
LOR Lormes 20.68 309 *e*P **P 21 01 40.9 -0.2**
baz=119
AVF Avril sur Loir 20.82 307 *e*P **P 21 01 42.4 -0.2**
SSF Saint Saulge 20.82 308 *e*P **P 21 01 42.7 +0.1**
BHOU Houvegnez 20.90 319 *b*P **P 21 01 43.7 +0.3**
comp=Z,54nm,0.9s
BTNL Ternell 20.96 319 *d*P **P 21 01 44.3 +0.2**
MEM Membach 21.04 319 *d*P **P 21 01 45.2 +0.3**
comp=Z,167nm,0.6s
BGF Bois d'Agland 21.07 306 *e*P **P 21 01 45.2 0.0**
CAF Calviac 21.10 302 *e*P **P 21 01 45.8 +0.2**
ECHA Ech Chlef 21.14 277 P **P 21 01 47.3 +1.2**
RCHB Rochefort 21.21 317 *d*P **P 21 01 46.9 +0.2**
BSTI Sart Tilman 21.26 319 *d*P **P 21 01 47.8 +0.6**
comp=Z,34nm,0.7s
BCLA Clavier 21.31 318 *b*P **P 21 01 47.9 +0.1**
comp=Z,137nm,1.0s
BCLA *d*x x 21 01 51.0
BEBN Eben Emael 21.32 319 *d*P **P 21 01 48.2 +0.4**
comp=Z,103nm,0.9s
BEBN *d*x x 21 01 51.7
BELG Belogornoye 21.34 35 P **P 21 01 48.5 +0.4**
comp=Z,216nm,0.8s,baz=340,slow=0.9,SNR=40
BELG S **S 21 05 39.2 -0.8**
comp=Z,26nm,1.1s,baz=128,slow=23,SNR=6.7
BELG ScP **ScP 21 09 17.4 -0.3**
comp=Z,17nm,0.7s,baz=231,slow=0.4,SNR=5.3
comp=Z,216nm,0.8s
EANR 'Ain N'Sour 21.38 277 P **P 21 01 48.4 -0.4**
TCF Toulx Ste Croi 21.39 305 *e*P **P 21 01 48.6 -0.1**
GIVF Givet 21.41 317 *e*P **P 21 01 48.5 -0.3**
BGES Gesves 21.41 318 *b*P **P 21 01 49.1 +0.3**
HYF Humbligny 21.45 308 *e*P **P 21 01 49.2 -0.1**
JAWL J.Aulia 21.52 167 *i* P **P 21 01 52.1 +1.8**
JAWL *i* 21 01 52.7
baz=320,slow=14
JAWL *i* S **S 21 05 46.6 +2.5**
LUNU Lund 21.52 338 *i* P **P 21 01 49.0 -1.0**
DOU Dourbes 21.53 317 *b*P **P 21 01 49.7 -0.4**
comp=Z,128nm,0.7s
SLIT Slitere, Latvi 21.53 352 *e*P **P 21 01 51.3 +1.3**
BMRD Maredsous 21.54 317 *b*P **P 21 01 49.7 -0.5**
comp=Z,89nm,0.8s
RJF Les Rejaudoux 21.57 302 *e*P **P 21 01 50.4 -0.2**
BAIF Baives 21.73 316 *e*P **P 21 01 51.9 -0.3**
COP Copenhagen 21.89 337 *i* P **P 21 01 53.3 -0.5**
COP IAmb IAmb 21 01 56.2
comp=Z,589nm,0.8s
EPF Esparros 21.94 296 *e*P **P 21 01 52.8 -1.8**
CLF Chambon-Foret 21.97 310 P **P 21 01 54.5 -0.3**
CLF Chambon-Foret 21.97 310 ⇑P **P 21 01 55.1 +0.3**
LFF La Frestale 22.02 301 *e*P **P 21 01 54.8 -0.5**
VSU Vasula 22.08 359 *e*P **P 21 01 56.1 +0.2**
VSU pmax pmax
comp=Z,124nm,0.7s
VSU Vasula 22.08 359 *e*P **P 21 01 55.8 -0.1**
DEL Delary 22.12 340 *i* P **P 21 01 54.0 -2.3**
MTSE Matsula 22.47 355 *e*P **P 21 01 58.9 -1.1**
ODJA Bouhanifia 22.49 276 P **P 21 02 02.0 +1.4**
ETSF Etsaut 22.57 295 *e*P **P 21 02 00.4 -1.0**
CART Cartagena 22.85 282 P **P 21 02 01.7 -2.4**
CART S **S 21 06 04.2 -2.5**
CART Cartagena 22.85 282 P **P 21 02 03.1 -1.1**
CART Cartagena 22.85 282 P **P 21 02 03.8 -0.4**
MFF Saint Martin d 23.04 305 *e*P **P 21 02 05.5 -0.5**
SJPF Ste Jean 23.09 296 *e*P **P 21 02 05.3 -1.2**
TAM Tamanrasset 23.43 241 P P 21 02 01.3 -8.7
TAM Tamanrasset 23.43 241 P P 21 02 01.3 -8.7
PUL Pulkovo 23.46 3*c*e P **P 21 02 09.9 +0.2**
PUL pmax pmax
comp=Z,257nm,0.7s
MUD Monsted U'grnd 23.60 334 *i* P **P 21 02 11.0 0.0**
MUD IAmb IAmb 21 02 12.8
comp=Z,191nm,0.9s
MUD Monsted U'grnd 23.60 334 ⇓P **P 21 02 10.9 0.0**
LDF La Druitiere 23.66 310 *e*P **P 21 02 10.7 -0.9**
MEF Metsahovi 23.93 356 *e*P **P 21 02 13.7 -0.1**
OVD Ostervraa, Den 23.94 336 *i* P **P 21 02 14.4 +0.5**
OVD IAmb IAmb 21 02 15.9
comp=Z,867nm,1.2s
FLN La Foliniere 23.94 310 *e*P **P 21 02 13.2 -0.9**
baz=112
ELSH Elham, Standar 23.97 316 *e*P **P 21 02 14.4 +0.1**
ELSH IAmb IAmb 21 02 17.0
comp=Z,541nm,0.8s
GOET G??ttrup 24.04 335 *i* P **P 21 02 15.5 +0.7**
GOET IAmb IAmb 21 02 17.4
comp=Z,326nm,0.9s
GRR Gorron 24.05 309 *e*P **P 21 02 14.5 -0.6**
FIGM Figuig 24.19 268 P **P 21 02 18.0 +1.3**
HMNX Herstmonceux 24.29 315 *e*P **P 21 02 15.1 -2.1**
HMNX IAmb IAmb 21 02 17.6
comp=Z,785nm,0.8s
GEYT Alibeck 24.32 77 P **P 21 02 18.8 +1.1**
comp=Z,85nm,0.7s,baz=264,slow=8.6,SNR=117
GEYT PcP **PcP 21 05 56.6 +1.4**
comp=Z,3.8nm,0.5s,baz=228,slow=3.7,SNR=2.7
comp=Z,85nm,0.7s
GEYT Alibeck 24.32 77 P **P 21 02 18.4 +0.7**
GYA0B ALIBECK ARRAY 24.32 77 P **P 21 02 17.4 -0.3**
TAF Taforalt 24.42 275 P **P 21 02 20.3 +1.6**
UCM Universidad Co 24.44 289 P **P 21 02 24.8 +6.0**
UCM S **S 21 06 41.7 +9.1**
ELMS Elmsett, Ipswi 24.50 318 *e*P **P 21 02 18.4 -0.7**
ELMS IAmb IAmb 21 02 21.4
comp=Z,420nm,0.7s
JBK JBK 24.65 274 P **P 21 02 23.0 +2.1**
WMELI Melilla 24.74 277 P **P 21 02 20.1 -1.4**
WMELI S **S 21 06 44.5 +7.1**
GOG Mont Gurugu 24.80 276 P **P 21 02 24.0 +1.8**
RAF Rauma 24.92 353 *e*P **P 21 02 22.5 -0.4**
WACR West Acre 25.00 319 *e*P **P 21 02 23.1 -0.7**
WACR IAmb IAmb 21 02 26.3
comp=Z,324nm,0.7s
ESBB Sonseca Array 25.01 287 P **P 21 02 24.1 0.0**
ESBB IAmb IAmb 21 02 26.4
comp=Z,117nm,0.7s
ESDC Sonseca Array 25.01 287 P **P 21 02 24.4 +0.3**
comp=Z,114nm,0.6s,baz=81,slow=9.4,SNR=444
ESDC ScP **ScP 21 09 28.4 +0.5**
comp=Z,5.7nm,0.9s,baz=52,slow=2.5,SNR=17
ESDC LR LR 21 13 08.1
comp=Z,136nm,18.1s,baz=97,slow=38
comp=Z,114nm,0.6s
ESDC Sonseca Array 25.01 287 IAmb IAmb 21 02 26.4
comp=Z,120nm,0.7s
JQE Queens East 25.05 310 *e*P **P 21 02 22.9 -1.3**
JDG Jersey Dam (Ga 25.06 310 *e*P **P 21 02 22.3 -2.0**
VALR Valaam 25.07 4*c i*P **P 21 02 23.7 -0.5**
VALR pmax pmax
comp=Z,72nm,0.9s
SGMF Saint Gilles 25.08 308 *e*P **P 21 02 23.7 -0.8**
FINES FINESS Array B 25.09 358 P **P 21 02 23.8 -0.6**
comp=Z,49nm,0.6s,baz=161,slow=12,SNR=191
FINES PcP **PcP 21 05 55.7 -0.7**
comp=Z,15nm,0.5s,baz=131,slow=3.1,SNR=12
FINES ScP **ScP 21 09 27.2 -0.3**
comp=Z,2.9nm,0.5s,baz=163,slow=2.7,SNR=6.6
FINES PKiKP **PKiKP 21 13 36.9 -0.1**
comp=Z,1.7nm,0.7s,baz=38,slow=3.4,SNR=4.8
comp=Z,49nm,0.6s
FINES FINESS Array B 25.09 358 P **P 21 02 23.4 -0.9**
JLP Les Platons 25.11 310 *e*P **P 21 02 23.5 -1.2**
JSA Saint Aubin 25.13 310 *e*P **P 21 02 24.0 -0.9**
JSA IAmb IAmb 21 02 25.3
comp=Z,877nm,1.0s
JSA Saint Aubin 25.13 310 ⇑P **P 21 02 24.0 -0.9**
JVM Valle D.L. Mar 25.16 310 *e*P **P 21 02 24.4 -0.8**
HOMB Homborsund 25.25 336 *i* P **P 21 02 25.0 -0.8**
HOMB Homborsund 25.25 336 *e*P **P 21 02 25.1 -0.7**
HOMB IAmb IAmb 21 02 25.6
comp=Z,85nm,0.6s
PAB San Pablo 25.32 287 P **P 21 02 26.1 -0.7**
PAB IAmb IAmb 21 02 29.5
comp=Z,137nm,0.9s
PAB San Pablo 25.32 287 P **P 21 02 26.1 -0.7**
PAB pmax pmax
comp=Z,137nm,1.0s
PAB San Pablo 25.32 287 P **P 21 02 27.3 +0.4**
PAB San Pablo 25.32 287 ⇑P **P 21 02 27.1 +0.2**
QUIF Quistinic 25.38 307 *e*P **P 21 02 26.3 -0.9**
HFS Hagfors 25.39 344 P **P 21 02 26.8 -0.3**
comp=Z,198nm,0.8s,baz=152,slow=10,SNR=168
HFS PcP **PcP 21 05 56.4 -0.7**
comp=Z,7.0nm,0.6s,baz=158,slow=4.3,SNR=4.3
HFS LR LR 21 13 04.2
comp=Z,318nm,19.3s,baz=154,slow=38
comp=Z,198nm,0.8s
PALE Palemas 25.55 277 P **P 21 02 31.1 +2.1**
ROSF Rostrenen 25.57 307 *e*P **P 21 02 27.6 -1.3**
ROSF Rostrenen 25.57 307 *e*P **P 21 02 27.6 -1.3**
KLMR Klimovskoe 25.63 14*c i*P **P 21 02 29.0 -0.2**
KLMR *e**PP **pP 21 02 47.5 -1.5**
KLMR *e*S **S 21 06 48.3 -2.5**
KLMR pmax pmax
comp=Z,169nm,0.9s
KLMR MLR MLR
comp=Z,247nm,13.0s
KLMR Klimovskoe 25.63 14⇑ *i*P **P 21 02 29.1 -0.2**
KLMR ⇑ *i*P **P 21 02 29.1 -0.2**
KLMR ⇑ *i*P **P 21 02 29.1 -0.2**
KLMR AMP 21 02 32.8
comp=Z,169nm,0.9s
KLMR *e*pP **pP 21 02 47.5 -1.5**
KLMR *e*S **S 21 06 48.4 -2.4**
KLMR *e*S **S 21 06 48.4 -2.4**
KLMR LR LR 21 10 20.9
KLMR AMP 21 13 58.9
comp=Z,247nm,12.9s
SNART Snartemo 25.73 335 *i* P **P 21 02 30.0 -0.3**
SNART Snartemo 25.73 335 *e*P **P 21 02 30.3 +0.1**
SNART IAmb IAmb 21 02 31.4
comp=Z,355nm,1.1s
SWN1 Swindon 25.78 315 *e*P **P 21 02 30.4 -0.4**
SWN1 IAmb IAmb 21 02 33.2
comp=Z,836nm,0.8s
PVLZ Peæn de 25.85 277 P P 21 02 23.4 -8.2
PVLZ S **S 21 06 48.9 -6.1**
AKTO Aktyubinsk 25.95 48 P **P 21 02 32.7 +0.4**
comp=Z,22nm,0.7s,baz=253,slow=9.0,SNR=52
AKTO ScP **ScP 21 09 30.1 -0.2**
comp=Z,4.6nm,0.7s,baz=202,slow=6.4,SNR=4.7
AKTO LR LR 21 17 49.1
comp=Z,123nm,19.0s,baz=251,slow=48
comp=Z,22nm,0.7s
OSL Oslo 25.95 340 *e*P **P 21 02 32.0 -0.2**
OSL IAmb IAmb 21 02 32.1
comp=Z,125nm,0.9s
KONO Kongsberg 26.02 339 P **P 21 02 32.2 -0.7**
KONO IAmb IAmb 21 02 35.5
comp=Z,203nm,1.1s
KONO Kongsberg 26.02 339 *e*P **P 21 02 32.9 0.0**
KONO pmax pmax
comp=Z,170nm,1.3s
KONO Kongsberg 26.02 339 *e*P **P 21 02 32.3 -0.7**
KONO Kongsberg 26.02 339 ⇓P **P 21 02 32.2 -0.7**
MZR Muzera 26.04 114 *i* P **P 21 02 34.8 +1.3**
SNR=8.0
STRD Stroud 26.10 315 *e*P **P 21 02 32.6 -1.0**
STRD IAmb IAmb 21 02 37.2
comp=Z,544nm,0.8s
SHME Shamm 26.41 105 P **P 21 02 35.6 -1.1**
KIRV Kirov 26.41 26 P **P 21 02 36.3 0.0**
comp=Z,16nm,0.6s,baz=90,slow=1.1,SNR=6.4
KIRV LR LR 21 15 04.2
comp=Z,156nm,18.2s,baz=235,slow=41
comp=Z,16nm,0.6s
KIRV Kirov 26.41 26*c*e P **P 21 02 36.5 +0.2**
NC602 NORSAR Array S 26.43 342 IAmb IAmb 21 02 40.8
comp=Z,131nm,0.9s
NC602 NORSAR Array S 26.43 342 *e*P **P 21 02 35.7 -0.8**
MONM Monmouth 26.48 315 *e*P **P 21 02 36.0 -1.1**
MONM IAmb IAmb 21 02 39.6
comp=Z,243nm,0.8s
CEU Ceuta 26.57 279 P **P 21 02 36.3 -1.7**
CEU S **S 21 07 12.6 +6.4**
NAZ Nazwa, Dubai 26.58 107 P **P 21 02 39.2 +0.9**
BANOM Banah 26.59 105 P **P 21 02 39.0 +0.6**
SMIR Smir Dam 26.61 278 P **P 21 02 39.2 +0.8**
DYA Yadsworthy 26.62 312 *e*P **P 21 02 37.0 -1.4**
DYA IAmb IAmb 21 02 38.1
comp=Z,157nm,0.7s
LCRM LCR 26.65 274 P **P 21 02 41.0 +2.0**
MCH1 Michaelchurch 26.66 315 *e*P **P 21 02 37.5 -1.2**
MCH1 IAmb IAmb 21 02 41.3
comp=Z,97nm,0.8s
MDT Midelt 26.69 272 P **P 21 02 39.6 +0.3**
comp=Z,44nm,0.9s,baz=87,slow=10,SNR=36
MDT LR LR 21 15 07.4
comp=Z,206nm,21.3s,baz=90,slow=41
comp=Z,44nm,0.9s
MDT Midelt 26.69 272 P **P 21 02 40.7 +1.4**
STNC Stoke 26.69 318 *e*P **P 21 02 38.4 -0.5**
CHEFC Chefchaouen 26.70 277 P **P 21 02 40.1 +0.8**
NC405 NORSAR Array S 26.71 343 IAmb IAmb 21 02 39.0
comp=Z,120nm,0.7s
ABKAR Akbulak array 26.75 51 P **P 21 02 39.1 -0.5**
ABKAR Akbulak array 26.75 51 ⇑P **P 21 02 40.0 +0.4**
NB201 NORSAR Array S 26.76 342 IAmb IAmb 21 02 39.9
comp=Z,113nm,0.8s
MSFE Esma-Masafi 26.77 106 P **P 21 02 40.7 +0.6**
NB2 NORSAR Subarra 26.77 342 P **P 21 02 38.5 -1.2**
comp=Z,61nm,0.9s,baz=150,slow=9.3
NB2 NORSAR Subarra 26.77 342 P **P 21 02 38.5 -1.2**
baz=150,slow=9.3
NOA NORSAR Array B 26.77 342 P **P 21 02 38.5 -1.2**
comp=Z,25nm,0.8s,baz=143,slow=8.7,SNR=155
NOA PcP **PcP 21 06 00.2 -0.2**
comp=Z,9.1nm,0.7s,baz=131,slow=2.7,SNR=6.4
NOA LR LR 21 14 33.6
comp=Z,189nm,18.6s,baz=160,slow=39
comp=Z,25nm,0.8s
HLM1 Long Mynd 26.81 317 *e*P **P 21 02 38.1 -1.9**
HLM1 IAmb IAmb 21 02 40.2
comp=Z,165nm,1.0s
BLS5 Blasjo 26.82 336 *e*P **P 21 02 39.8 -0.3**
BLS5 IAmb IAmb 21 02 40.3
comp=Z,162nm,0.6s
NC303 NORSAR Array S 26.89 343 IAmb IAmb 21 02 40.7
comp=Z,59nm,0.6s
IFR Ifrane 26.91 274 P **P 21 02 42.0 +0.7**
IFR S **S 21 07 15.1 +3.0**
UOSS Minazif 27.02 107 P **P 21 02 41.5 -0.7**
UOSS Minazif 27.02 107 P **P 21 02 39.9 -2.3**
UOSS Minazif 27.02 107 ⇓P **P 21 02 45.9 +3.7**
HATD Hatta, Dubai 27.03 107 P **P 21 02 42.6 +0.3**
ASHO Ashiyiah 27.05 108 P **P 21 02 42.0 -0.5**
PBRG Braganca 27.08 292 *e*P **P 21 02 42.6 0.0**
comp=Z,203nm,1.2s
NC204 NORSAR Array S 27.09 342 IAmb IAmb 21 02 42.6
comp=Z,136nm,1.0s
ODD1 Odda 27.14 337 *e*P **P 21 02 42.9 -0.1**
FOEL Foel Wylfa 27.14 317 *e*P **P 21 02 41.2 -1.8**
FOEL IAmb IAmb 21 02 42.9
comp=Z,110nm,0.9s
HTL Hartland 27.15 313 *e*P **P 21 02 42.3 -0.8**
SKAR Skarslia 27.24 339 *e*P **P 21 02 44.0 0.0**
SKAR IAmb IAmb 21 02 45.2
comp=Z,53nm,0.8s
MVO Moncorvo 27.30 291 *e*P **P 21 02 45.0 +0.3**
comp=Z,179nm,0.9s
CCA1 Carmenellis 27.33 311 *e*P **P 21 02 43.4 -1.4**
CCA1 IAmb IAmb 21 02 44.6
comp=Z,150nm,0.8s
EDMD Edmundbyers 27.39 322 *e*P **P 21 02 43.2 -2.0**
PBAR Barrancos 27.53 284 *e*P **P 21 02 46.6 0.0**
comp=Z,196nm,1.4s
RSBS Rosebush, Pemb 27.64 314 *e*P **P 21 02 46.3 -1.2**
RSBS IAmb IAmb 21 02 47.4
comp=Z,126nm,1.0s
PMRV Marv?2o 27.67 287 *e*P **P 21 02 47.6 -0.3**
comp=Z,140nm,1.3s
PRGR Permogore 27.69 19⇑ *i*P **P 21 02 47.6 -0.2**
PRGR *e**PP **pP 21 03 08.1 +0.5**
PRGR *e*S **S 21 07 22.2 -1.1**
PRGR pmax pmax
comp=Z,108nm,0.9s
PCBR Castelo Branco 27.71 288 *e*P **P 21 02 48.1 -0.1**
comp=Z,233nm,1.2s
MTE Manteigas 27.72 289 *e*P **P 21 02 48.7 +0.3**
comp=Z,213nm,1.6s
MTE Manteigas 27.72 289 P **P 21 02 47.5 -0.9**
MTE IAmb IAmb 21 02 50.3
comp=Z,151nm,0.8s
PVRL Vila Real 27.82 291 *e*P **P 21 02 50.0 +0.8**
comp=Z,73nm,1.2s
POLO Lamas de Olo 27.87 291 *e*P **P 21 02 50.2 +0.4**
comp=Z,85nm,0.9s
PESTR Estremoz 27.88 286 *e*P **P 21 02 49.5 -0.3**
comp=Z,160nm,1.0s
PESTR Estremoz 27.88 286 P **P 21 02 48.9 -0.9**
PESTR Estremoz 27.88 286 P **P 21 02 49.6 -0.3**
PESTR Estremoz 27.88 286 ⇑P **P 21 02 49.4 -0.3**
BER Bergen 27.92 336 *e*P **P 21 02 49.7 -0.1**
PVIS Viseu 27.97 290 *e*P **P 21 02 51.3 +0.7**
comp=Z,187nm,1.1s
ASK Askoy 28.04 336 *e*P **P 21 02 50.0 -0.9**
ASK IAmb IAmb 21 02 51.0
comp=Z,148nm,0.7s
PCAB Cabril 28.04 292 *e*P **P 21 02 51.9 +0.7**
comp=Z,148nm,1.4s
WPS Cemaes, Angles 28.06 317 *e*P **P 21 02 50.0 -1.2**
WPS IAmb IAmb 21 02 55.0
comp=Z,83nm,1.2s
DOMB Dombas 28.17 341 *e*P **P 21 02 52.7 +0.6**
DOMB IAmb IAmb 21 02 54.2
comp=Z,118nm,0.9s
PVAQ Vaqueiros 28.17 283 *e*P **P 21 02 52.1 -0.2**
comp=Z,216nm,1.6s
PVAQ Vaqueiros 28.17 283 P **P 21 02 52.1 -0.2**
PVAQ IAmb IAmb 21 02 53.3
comp=Z,145nm,1.3s
PVAQ Vaqueiros 28.17 283 P **P 21 02 52.3 -0.1**
PVAQ Vaqueiros 28.17 283 ⇑P **P 21 02 52.2 -0.1**
PBEJ Beja 28.20 284 *e*P **P 21 02 52.7 +0.1**
comp=Z,214nm,1.5s
PGAV Gavieira, Arco 28.22 292 *e*P **P 21 02 53.6 +0.7**
comp=Z,134nm,1.1s
EKA Eskdalemuir Ar 28.24 322 P **P 21 02 51.4 -1.4**
comp=Z,25nm,0.5s,baz=121,slow=9.5,SNR=39
EKA PcP **PcP 21 06 04.0 0.0**
comp=Z,10nm,0.6s,baz=112,slow=2.5,SNR=9.2
EKA ScP **ScP 21 09 36.3 -0.7**
comp=Z,7.6nm,0.7s,baz=119,slow=4.6,SNR=12
EKA LR LR 21 15 31.9
comp=Z,172nm,18.5s,baz=148,slow=39
comp=Z,25nm,0.5s
EVO Evora 28.25 285 *e*P **P 21 02 53.0 0.0**
comp=Z,78nm,1.7s
ESK Eskdalemuir 28.25 322 *e*P **P 21 02 51.1 -1.8**
ESK Eskdalemuir 28.25 322 P **P 21 02 51.6 -1.3**
ESK IAmb IAmb 21 02 58.9
comp=Z,284nm,1.9s
ESK Eskdalemuir 28.25 322 P **P 21 02 51.6 -1.3**
ESK pmax pmax
comp=Z,284nm,1.9s
ESK Eskdalemuir 28.25 322 ⇓P **P 21 02 52.0 -0.9**
HYA Hoyanger 28.25 338 *e*P **P 21 02 52.9 +0.1**
HYA IAmb IAmb 21 02 53.3
comp=Z,79nm,1.1s
ATD Arta Tunnel 28.33 147 LR LR 21 14 18.9
comp=Z,79nm,21.1s,baz=344,slow=36
PMTG Montargil 28.35 286 *e*P **P 21 02 53.6 -0.4**
comp=Z,130nm,1.1s
PCVE Castro Verde 28.39 283 *e*P **P 21 02 54.3 0.0**
comp=Z,85nm,1.7s
COI Coimbra 28.40 289 IAmb IAmb 21 02 56.4
comp=Z,131nm,0.8s
EBL Broad Law 28.40 323 *e*P **P 21 02 52.5 -1.7**
IOMK Kirk Michael 28.46 319 *e*P **P 21 02 53.5 -1.3**
IOMK IAmb IAmb 21 02 55.9
comp=Z,303nm,1.3s
PCAS Casmilo, Conde 28.47 288 *e*P **P 21 02 55.3 +0.2**
comp=Z,147nm,1.6s
WIM Isle of Man 28.47 319 *e*P **P 21 02 53.6 -1.2**
PTO Porto 28.49 291 *e*P **P 21 02 56.3 +1.2**
comp=Z,203nm,1.1s
MESJ Messejana 28.50 284 *e*P **P 21 02 55.0 -0.3**
MESJ IAmb IAmb 21 02 55.9
comp=Z,62nm,0.6s
MESJ Messejana 28.50 284 *e*P **P 21 02 55.4 +0.1**
comp=Z,96nm,1.3s
MESJ Messejana 28.50 284 *e*P **P 21 02 55.0 -0.3**
MESJ Messejana 28.50 284 ⇑P **P 21 02 55.4 +0.1**
SUE Sulen 28.61 337 *e*P **P 21 02 56.3 +0.3**
SUE IAmb IAmb 21 02 56.8
comp=Z,93nm,0.8s
NEWG New Galloway 28.67 321 *e*P **P 21 02 54.9 -1.7**
PNCL Nicolau / Gran 28.70 284 *e*P **P 21 02 57.3 +0.2**
comp=Z,120nm,1.1s
PSBE So Bento 28.75 287 *e*P **P 21 02 57.6 +0.1**
comp=Z,88nm,1.6s
AVE Averroes 28.81 274 IAmb IAmb 21 03 04.2
comp=Z,77nm,0.6s
AKN Aaknes 28.83 340 *e*P **P 21 02 58.4 +0.4**
PACT Alcochete 28.86 286 *e*P **P 21 02 59.1 +0.7**
comp=Z,490nm,1.2s
ARU Arti 28.88 36 P **P 21 02 59.2 +0.7**
comp=Z,3.2nm,0.3s,baz=358,slow=23,SNR=11
ARU ScP **ScP 21 09 38.3 -0.8**
comp=Z,6.5nm,0.5s,baz=228,slow=23,SNR=4.6
ARU LR LR 21 16 27.7
comp=Z,207nm,18.6s,baz=217,slow=40
comp=Z,3.2nm,0.3s
ARU Arti 28.88 36 P **P 21 02 58.1 -0.3**

ARU	**Arti**	**28.88**	**36**	*d*	iP		**P**	**21 02 59.1**	**+0.7**
ARU					*PP		**pP**	**21 03 19.7**	**+1.2**
ARU								21 04 01.2	
ARU								21 06 05.1	
ARU						S	**S**	**21 07 43.7**	**+1.5**
ARU	comp=Z,16nm,1.2s					pmax	pmax		
ARU	**Arti**	**28.88**	**36**		⇑P		**P**	**21 02 59.2**	**+0.7**
TBLU	**Trondheim**	**28.91**	**344**		*e*P		**P**	**21 02 58.5**	**-0.1**
TBLU	comp=Z,50nm,0.8s					IAmb	IAmb	21 02 59.4	
PTEO	**Sao Teotonio**	**28.94**	**283**		*e*P		**P**	**21 02 59.3**	**+0.1**
	comp=Z,221nm,1.3s								
FOO	**Floro**	**28.94**	**338**		*e*P		**P**	**21 02 58.5**	**-0.4**
IWEX	**Carrickbyrne,**	**28.96**	**314**		*e*P		**P**	**21 02 57.6**	**-1.6**
MOL	**Molde**	**29.00**	**341**		*e*P		**P**	**21 02 59.1**	**-0.3**
MOL	comp=Z,127nm,0.9s					IAmb	IAmb	21 02 59.5	
PFVI	**Vila Bisbo**	**29.09**	**282**		*e*P		**P**	**21 03 00.6**	**+0.2**
PFVI	**Vila Bisbo**	**29.09**	**282**		P		**P**	**21 03 00.7**	**+0.2**
LIS	**Lisbon**	**29.11**	**286**		*e*P		**P**	**21 03 00.3**	**-0.3**
LIS	comp=Z,158nm,0.8s					IAmb	IAmb	21 03 03.2	
LIS	**Lisbon**	**29.11**	**286**		*e*P		**P**	**21 03 01.9**	**+1.2**
	comp=Z,350nm,1.1s								
LIS	**Lisbon**	**29.11**	**286**		*e*P		**P**	**21 03 00.3**	**-0.3**
PMST	**Lisbon--Monsan**	**29.13**	**286**		*e*P		**P**	**21 03 01.7**	**+0.8**
	comp=Z,272nm,1.3s								
FURI	**Furi**	**29.17**	**157**		P		**P**	**21 03 00.3**	**-1.4**
PMAFR	**Mafra**	**29.18**	**286**		*e*P		**P**	**21 03 01.8**	**+0.5**
	comp=Z,184nm,1.3s								
INVG	**Invergeldie, C**	**29.21**	**323**		*e*P		**P**	**21 02 59.8**	**-1.6**
NSS	**Namsos**	**29.70**	**346**		*e*P		**P**	**21 03 05.2**	**-0.4**
NSS	comp=Z,32nm,0.7s					IAmb	IAmb	21 03 09.2	
WSAR	**Wadi Sarin**	**29.80**	**107**		P		**P**	**21 03 07.8**	**+0.8**
	comp=Z,5.3nm,0.8s,baz=316,slow=14,SNR=4.1								
WSAR						LR	LR	21 19 55.9	
	comp=Z,219nm,18.8s,baz=316,slow=46								
	comp=Z,5.3nm,0.8s								
LRW	**Lerwick**	**30.07**	**331**		⇓P		**P**	**21 03 08.2**	**-0.7**
MOR8	**Moi Rana**	**30.79**	**350**		*e*P		**P**	**21 03 15.1**	**-0.1**
MOR8	comp=Z,38nm,0.9s					IAmb	IAmb	21 03 15.8	
KONS	**Konsvik**	**31.30**	**349**		*e*P		**P**	**21 03 19.7**	**+0.1**
APA	**Apatity**	**31.39**	**4**	⇓	iP		**P**	**21 03 19.7**	**-0.8**
APA					*i* *PP		**sP**	**21 03 54.0**	**+3.2**
APA					*i*			21 04 21.9	
APA					*i* S		**S**	**21 08 19.0**	**-2.3**
APA	comp=Z,24nm,0.7s					pmax	pmax		
APA						MLR	MLR		
	comp=Z,400nm,14.0s								
LVZ	**Lovozero**	**31.80**	**5**		P		**P**	**21 03 23.4**	**-0.7**
LVZ	**Lovozero**	**31.80**	**5**	*ce*	P		**P**	**21 03 24.0**	**-0.1**
LVZ	comp=Z,29nm,0.8s					pmax	pmax		
LVZ	**Lovozero**	**31.80**	**5**		P		**P**	**21 03 23.6**	**-0.5**
FAUS	**Fauske**	**31.82**	**351**		*e*P		**P**	**21 03 23.9**	**-0.3**
FAUS	comp=Z,53nm,1.0s					IAmb	IAmb	21 03 24.6	
STEI	**Steigen**	**32.35**	**351**		*e*P		**P**	**21 03 28.6**	**-0.2**
STEI	comp=Z,106nm,0.8s					IAmb	IAmb	21 03 29.7	
KTK1	**Kautokeino**	**32.76**	**357**		*e*P		**P**	**21 03 31.9**	**-0.6**
KTK1	comp=Z,37nm,0.6s					IAmb	IAmb	21 03 32.1	
TOA0	**Torodi Ar. Sit**	**32.81**	**232**		P		**P**	**21 03 33.6**	**+0.1**
TOA0	comp=Z,64nm,1.0s					IAmb	IAmb	21 03 55.8	
TORD	**Torodi Ar. Bea**	**32.81**	**232**		P		**P**	**21 03 33.6**	**+0.1**
	comp=Z,34nm,0.6s,baz=52,slow=11,SNR=8.3								
TORD						LR	LR	21 18 25.0	
	comp=Z,190nm,18.5s,baz=5.5,slow=39								
	comp=Z,34nm,0.6s								
TORD	**Torodi Ar. Bea**	**32.81**	**232**			IAmb	IAmb	21 03 55.7	
	comp=Z,57nm,0.9s								
IUG	**Iuzhnay**	**33.08**	**67**		*e*P		**P**	**21 03 35.5**	**-0.2**
IUG	**Iuzhnay**	**33.08**	**67**		*e*P		**P**	**21 03 35.5**	**-0.2**
	baz=67								
ARA0	**ARCESS Array S**	**33.21**	**359**		*e*P		**P**	**21 03 35.8**	**-0.6**
ARCES	**ARCESS Array B**	**33.21**	**359**		P		**P**	**21 03 35.8**	**-0.7**
	comp=Z,32nm,0.7s,baz=173,slow=8.4,SNR=165								
ARCES						ScP	**ScP**	**21 09 51.5**	**-1.8**
	comp=Z,4.6nm,0.8s,baz=202,slow=1.3,SNR=5.3								
	comp=Z,32nm,0.7s								
ARCES	**ARCESS Array B**	**33.21**	**359**			IAmb	IAmb	21 03 36.8	
	comp=Z,42nm,0.8s								
KKAR	**Karatay Array**	**33.38**	**65**		P		**P**	**21 03 37.6**	**-0.5**
KKAR	**Karatay Array**	**33.38**	**65**		P		**P**	**21 03 37.6**	**-0.5**
KKAR	comp=Z,18nm,0.9s					pmax	pmax		
KKAR	**Karatay Array**	**33.38**	**65**	⇓	P		**P**	**21 03 38.7**	**+0.6**
KEV	**Kevo**	**33.42**	**360**		P		**P**	**21 03 37.4**	**-0.7**
KEV	**Kevo**	**33.42**	**360**		P		**P**	**21 03 37.4**	**-0.7**
KEV	comp=Z,30nm,1.1s					pmax	pmax		
KEV	**Kevo**	**33.42**	**360**	⇓	P		**P**	**21 03 38.0**	**-0.1**
KEV	**Kevo**	**33.42**	**360**		P		**P**	**21 03 37.7**	**-0.5**
KEV						ScP	**ScP**	**21 09 52.0**	**-1.9**
JETT	**Jettan, Norway**	**33.45**	**355**		*e*P		**P**	**21 03 38.0**	**-0.5**
LODK	**Lodwar**	**33.59**	**166**		P		**P**	**21 03 40.5**	**+0.3**
KBL	**Kabul**	**33.62**	**81**		P		**P**	**21 03 41.8**	**+1.2**
KBL							**pP**	**21 04 02.6**	**+1.9**
TRO	**Tromso**	**33.63**	**355**		*e*P		**P**	**21 03 39.2**	**-0.7**
TRO	comp=Z,31nm,0.6s					IAmb	IAmb	21 03 40.6	
DZA	**Taraz**	**33.99**	**65**		*e*P		**P**	**21 03 43.6**	**+0.1**
DZA	comp=Z,8.0nm,0.9s					pmax	pmax		
DZA	**Taraz**	**33.99**	**65**		*e*P		**P**	**21 03 43.6**	**+0.1**
	comp=Z,7.6nm,0.9s,baz=65								
BRVK	**Borovoye**	**34.00**	**47**		P		**P**	**21 03 43.6**	**+0.2**
BRVK	**Borovoye**	**34.00**	**47**	*ce*	P		**P**	**21 03 43.6**	**+0.2**
BRVK	comp=Z,7.0nm,1.0s					pmax	pmax		
BVAR	**Borovoye Array**	**34.05**	**47**		P		**P**	**21 03 45.2**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=224,slow=6.2,SNR=10								
BVAR						LR	LR	21 21 06.5	
	comp=Z,218nm,20.1s,baz=249,slow=42								
HAMF	**Hammerfest**	**34.37**	**358**		*e*P		**P**	**21 03 45.8**	**-0.6**
BRZS	**Berezniki**	**35.01**	**53**		*e*P		**P**	**21 03 52.2**	**0.0**
BRZS	**Berezniki**	**35.01**	**53**		*e*P		**P**	**21 03 52.2**	**0.0**
	baz=53								
KOWA	**Kowa**	**35.67**	**241**		P		**P**	**21 03 58.6**	**+0.5**
	comp=Z,9.2nm,0.5s,baz=30,slow=8.9,SNR=24								
KOWA						PcP	**PcP**	**21 06 25.6**	**+0.8**
	comp=Z,13nm,0.8s,baz=45,slow=6.4,SNR=2.7								
	comp=Z,9.2nm,0.5s								
KOWA	**Kowa**	**35.67**	**241**		P		**P**	**21 03 57.7**	**-0.4**
KOWA	**Kowa**	**35.67**	**241**		P		**P**	**21 03 58.7**	**+0.5**
KOWA	**Kowa**	**35.67**	**241**	⇓	P		**P**	**21 03 58.8**	**+0.6**
KOWA	**Kowa**	**35.67**	**241**		P		**P**	**21 03 58.6**	**+0.5**
KOWA					P		**pP**	**21 04 19.6**	**-1.2**
KOWA					P		**sP**	**21 04 30.4**	**+2.7**
KOWA					P		ScP	**ScP**	**21 10 04.0**	**+1.0**
EKS2	**Erkin-Say**	**35.80**	**65**		P		**P**	**21 04 00.6**	**+1.4**
	SNR=14								
BTLS	**Baital**	**35.82**	**61**		*e*P		**P**	**21 03 59.4**	**+0.2**
BTLS	**Baital**	**35.82**	**61**		*e*P		**P**	**21 03 59.5**	**+0.2**
	baz=61								
PMPST	**Porto Santo, M**	**36.03**	**278**		*e*P		**P**	**21 04 02.6**	**+1.5**
PMPS	**Porto Santo**	**36.04**	**278**		*e*P		**P**	**21 04 02.6**	**+1.5**
USP	**Ospenovka**	**36.27**	**64**		P		**P**	**21 04 03.4**	**+0.3**
	SNR=7.8								
AAK	**Ala-Archa**	**36.33**	**65**		P		**P**	**21 04 05.3**	**+1.5**
	SNR=9.8								
AAK	**Ala-Archa**	**36.33**	**65**		LR		LR	21 22 57.2	
	comp=Z,118nm,18.2s,baz=288,slow=43								
AAK	**Ala-Archa**	**36.33**	**65**		P		**P**	**21 04 04.6**	**+0.8**
AAK	**Ala-Archa**	**36.33**	**65**	*ce*	P		**P**	**21 04 05.1**	**+1.4**
AAK	comp=Z,22nm,1.3s					pmax	pmax		
AAK	**Ala-Archa**	**36.33**	**65**	*i*	P		**P**	**21 04 05.3**	**+1.5**
	SNR=15								
AAK	**Ala-Archa**	**36.33**	**65**	⇓	P		**P**	**21 04 05.2**	**+1.4**
AAK	**Ala-Archa**	**36.33**	**65**		P		**P**	**21 04 05.2**	**+1.4**
AAK					pP		**pP**	**21 04 27.0**	**+2.9**
AAK					ScP		**ScP**	**21 10 05.8**	**+0.6**
SGDS	**Sogindy**	**36.35**	**64**		*e*P		**P**	**21 04 03.4**	**-0.4**
SGDS	**Sogindy**	**36.35**	**64**		*e*P		**P**	**21 04 03.4**	**-0.4**
	baz=64								
UCH	**Uchtor**	**36.39**	**66**		P		**P**	**21 04 06.1**	**+1.4**
	SNR=6.2								
CHMS	**Chumysh**	**36.48**	**65**		P		**P**	**21 04 06.1**	**+1.2**
	SNR=9.4								
PMAR	**Madeira**	**36.60**	**278**		*e*P		**P**	**21 04 08.0**	**+1.8**
	comp=Z,354nm,1.7s								
KBK	**Karagaybulak**	**36.66**	**65**		P		P	21 03 56.7	-10
	SNR=7.1								
MBAR	**Mbarara**	**36.93**	**175**		P		**P**	**21 04 10.7**	**+1.7**
	comp=Z,6.6nm,1.0s,baz=328,slow=7.2,SNR=8.8								
MBAR						pP	**pP**	**21 04 29.3**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=322,slow=9.9,SNR=5.1								
MBAR						LR	LR	21 20 09.9	
	comp=Z,274nm,18.5s,baz=344,slow=37								
	comp=Z,6.6nm,1.0s								
MBAR	**Mbarara**	**36.93**	**175**		P		**P**	**21 04 09.3**	**+0.3**
MBAR	**Mbarara**	**36.93**	**175**	⇑	P		**P**	**21 04 11.0**	**+1.9**
MBAR	**Mbarara**	**36.93**	**175**		P		**P**	**21 04 10.5**	**+1.5**
MBAR						pP	**pP**	**21 04 30.0**	**+0.5**
MBAR						sP	**sP**	**21 04 41.8**	**+2.3**
MBAR						ScP	**ScP**	**21 10 08.9**	**+1.2**
TKM2	**Tokmak 2**	**37.11**	**65**		P		**P**	**21 04 11.7**	**+1.3**
	SNR=8.7								
NIL	**Nilore**	**37.22**	**80**		P		**P**	**21 04 11.8**	**+0.5**
NIL	comp=Z,62nm,0.9s					IAmb	IAmb	21 04 13.8	
NIL	**Nilore**	**37.22**	**80**		P		**P**	**21 04 11.8**	**+0.5**
NIL	comp=Z,62nm,0.9s					pmax	pmax		
NIL	**Nilore**	**37.22**	**80**	⇓	P		**P**	**21 04 12.8**	**+1.5**
NIL	**Nilore**	**37.22**	**80**		P		**P**	**21 04 12.8**	**+1.5**
NIL						pP	**pP**	**21 04 32.2**	**+0.7**
NIL						ScP	**ScP**	**21 10 09.6**	**+1.1**
KUU	**Kurty**	**37.54**	**63**	*e*	P		**P**	**21 04 14.2**	**+0.4**
KUU	comp=Z,15nm,0.8s					pmax	pmax		
KUU	**Kurty**	**37.54**	**63**	*e*	P		**P**	**21 04 14.2**	**+0.4**
	comp=Z,15nm,0.8s,baz=63								
MACI	**Morro de la Ar**	**37.89**	**271**		P		**P**	**21 04 18.3**	**+1.2**
KSH	**Kashi**	**37.90**	**70**		P		**P**	**21 04 17.0**	**-0.1**
KSH						sP	sP	21 04 44.5	-3.0
KSH						ScP	**ScP**	**21 10 11.3**	**+0.2**
KSH	comp=Z,8.0nm,0.9s					pmax	pmax		
CHKK	**Chushkaly**	**38.01**	**63**	*e*	P		**P**	**21 04 18.1**	**+0.3**
CHKK	**Chushkaly**	**38.01**	**63**	*e*	P		**P**	**21 04 18.2**	**+0.3**
	baz=63								
MDOK	**Medeo**	**38.13**	**64**	*e*	P		**P**	**21 04 19.4**	**+0.4**
MDOK						*e*S	**S**	**21 10 06.8**	**+1.0**
MDOK	**Medeo**	**38.13**	**64**	*e*	P		**P**	**21 04 19.4**	**+0.4**
	baz=64								
MDOK						*e*S	**S**	**21 10 06.8**	**+1.0**
	baz=64								
KMBO	**Kilima Mbogo**	**38.40**	**164**		PcP		**PcP**	**21 06 35.8**	**+2.3**
	comp=Z,3.2nm,0.7s,baz=26,slow=7.3,SNR=4.6								
KMBO						LR	LR	21 20 40.5	
	comp=Z,265nm,19.1s,baz=273,slow=37								
KMBO	**Kilima Mbogo**	**38.40**	**164**		P		**P**	**21 04 21.7**	**+0.2**
KMBO	**Kilima Mbogo**	**38.40**	**164**		P		**P**	**21 04 21.7**	**+0.2**
KMBO	comp=Z,8.0nm,1.3s					pmax	pmax		
BJO1	**Bjornoya**	**38.41**	**356**		*e*P		**P**	**21 04 20.3**	**-0.4**
KURBB	**Kurchatov Arra**	**38.80**	**52**		P		**P**	**21 04 25.1**	**+0.9**
	comp=Z,14nm,0.6s,baz=276,slow=8.8,SNR=104								
KURBB						PP	**PnPn**	**21 05 56.7**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=275,slow=9.5,SNR=4.2								
KURBB						PcP	**PcP**	**21 06 34.8**	**+1.0**
	comp=Z,18nm,0.7s,baz=269,slow=3.9,SNR=9.4								
	comp=Z,14nm,0.6s								
JMU	**Jammu**	**38.82**	**81**	*e*	P		**P**	**21 04 23.9**	**-0.8**
KURK	**Kurchatov**	**38.85**	**52**		P		**P**	**21 04 25.0**	**+0.3**
KURK	comp=Z,58nm,0.8s					IAmb	IAmb	21 04 55.9	
KURK	**Kurchatov**	**38.85**	**52**		P		**P**	**21 04 25.2**	**+0.5**
KURK								21 06 34.8	
KURK	**Kurchatov**	**38.85**	**52**	⇑	P		**P**	**21 04 25.5**	**+0.8**
KURK	**Kurchatov**	**38.85**	**52**		P		**P**	**21 04 25.5**	**+0.8**
KURK						pP	**pP**	**21 04 45.8**	**+0.5**
KURK						sP	**sP**	**21 04 54.4**	**-1.0**
TARG	**Taragay, Kyrgy**	**38.89**	**66**				**ScP**	**21 10 14.8**	**-0.3**
TDK	**Taldyqorghan**	**38.91**	**61**	*e*	P		**P**	**21 04 25.4**	**+0.1**
TDK	**Taldyqorghan**	**38.91**	**61**	*e*	P		**P**	**21 04 25.4**	**+0.1**
	baz=61								
SATY	**Saty**	**39.13**	**64**	*e*	P		**P**	**21 04 28.2**	**+0.9**
SATY	comp=Z,12nm,0.8s					pmax	pmax		
SATY	**Saty**	**39.13**	**64**	*e*	S		sP	21 04 55.2	-2.7
	comp=Z,26nm,0.5s								
SATY	**Saty**	**39.13**	**64**	*e*	P		**P**	**21 04 28.2**	**+0.9**
	comp=Z,12nm,0.8s,baz=64								
SATY	**Saty**	**39.13**	**64**	*e*	P		**P**	**21 04 28.6**	**+1.2**
	comp=Z,26nm,0.3s								
ZHN	**Zhinishke**	**39.14**	**64**	*e*	S		sP	21 04 57.5	-0.5
	comp=Z,18nm,0.3s								
ZHN	**Zhinishke**	**39.14**	**64**	*e*	P		**P**	**21 04 30.3**	**+2.9**
	comp=Z,3.5nm,0.2s								
KPKS	**Kokpek**	**39.28**	**63**	*e*	P		**P**	**21 04 28.6**	**+0.1**
KPKS	**Kokpek**	**39.28**	**63**	*e*	P		**P**	**21 04 28.6**	**+0.1**
	baz=63								
THN	**Thein Dam**	**39.57**	**81**	*e*	P		**P**	**21 04 32.9**	**+2.0**
UZB	**Uzunbulak**	**39.57**	**64**	*e*	P		**P**	**21 04 31.1**	**+0.1**
UZB	**Uzunbulak**	**39.57**	**64**	*e*	S		sP	21 04 59.4	-2.2
	comp=Z,15nm,0.4s								
UZB	**Uzunbulak**	**39.57**	**64**	*e*	P		**P**	**21 04 31.1**	**+0.1**
	baz=64								
UZB	**Uzunbulak**	**39.57**	**64**	*e*	P		**P**	**21 04 31.4**	**+0.4**
	comp=Z,2.8nm,0.4s								
KIBK	**Kibwezi**	**39.75**	**164**		P		**P**	**21 04 32.1**	**-0.5**
SHLS	**Shalkode**	**39.89**	**64**	*e*	P		**P**	**21 04 36.5**	**+2.9**
SHLS	**Shalkode**	**39.89**	**64**	*e*	S		sP	21 05 08.9	+4.8
	comp=Z,13nm,0.4s								
SHLS	**Shalkode**	**39.89**	**64**	*e*	P		**P**	**21 04 36.5**	**+2.9**
	baz=64								
SHLS	**Shalkode**	**39.89**	**64**	*e*	P		**P**	**21 04 36.9**	**+3.3**
	comp=Z,7.0nm,0.5s								
HOPEN	**Hopen**	**40.23**	**359**	*e*	P		**P**	**21 04 35.9**	**+0.2**
BORG	**Borgarnes**	**40.44**	**330**		P		**P**	**21 04 37.7**	**0.0**
	comp=Z,80nm,0.9s,baz=128,slow=7.0,SNR=28								
BORG						LR	LR	21 22 28.0	
	comp=Z,133nm,21.8s,baz=114,slow=38								
	comp=Z,80nm,0.9s								
BORG	**Borgarnes**	**40.44**	**330**		P		**P**	**21 04 38.9**	**+1.2**
BORG	**Borgarnes**	**40.44**	**330**		P		**P**	**21 04 38.9**	**+1.2**
BORG	comp=Z,96nm,0.9s					pmax	pmax		
BORG	**Borgarnes**	**40.44**	**330**	⇓	P		**P**	**21 04 39.1**	**+1.4**
BORG	**Borgarnes**	**40.44**	**330**		P		**P**	**21 04 38.4**	**+0.7**
BORG						sP	**sP**	**21 05 09.5**	**+1.1**
BHK	**Bhakra**	**40.47**	**82**	*e*	P		**P**	**21 04 39.2**	**+0.7**
AJM	**Ajmer**	**40.99**	**90**	*e*	P		**P**	**21 04 44.2**	**+1.5**
SMLA	**Simla**	**41.18**	**82**	*e*	P		**P**	**21 04 44.8**	**+0.6**
SMLA	comp=Z,42nm,1.1s					IAmb	IAmb	21 04 46.4	
MAKZ	**Makanchi**	**41.22**	**58**		P		**P**	**21 04 43.3**	**-1.1**
MAKZ	**Makanchi**	**41.22**	**58**		P		**P**	**21 04 43.3**	**-1.1**
MAKZ	comp=Z,13nm,0.9s					pmax	pmax		
MAKZ	**Makanchi**	**41.22**	**58**	⇓	P		**P**	**21 04 45.3**	**+0.9**
MAKZ	**Makanchi**	**41.22**	**58**		P		**P**	**21 04 45.2**	**+0.9**
MAKZ						pP	**pP**	**21 05 05.5**	**+0.3**
MAKZ						ScP	**ScP**	**21 10 23.3**	**-0.4**
MK31	**Makanchi Array**	**41.43**	**58**	*d*	iP		**P**	**21 04 46.9**	**+0.7**
MKAR	**Makanchi Array**	**41.43**	**58**		P		**P**	**21 04 47.0**	**+0.9**
	comp=Z,10.0nm,0.6s,baz=270,slow=8.5,SNR=133								
MKAR						PcP	**PcP**	**21 06 43.0**	**+0.5**
	comp=Z,10nm,0.7s,baz=280,slow=3.8,SNR=2.9								
MKAR						ScP	**ScP**	**21 10 24.1**	**-0.4**
	comp=Z,5.7nm,0.7s,baz=274,slow=1.8,SNR=14								
MKAR						LR	LR	21 25 44.5	
	comp=Z,133nm,19.0s,baz=292,slow=41								
	comp=Z,10.0nm,0.6s								
PSMN	**Pico do Norte,**	**41.78**	**287**		*e*P		**P**	**21 04 50.3**	**+1.2**
	comp=Z,161nm,1.8s								
PGRON	**Lagoa das Cont**	**41.81**	**288**		*e*P		**P**	**21 04 50.0**	**+0.6**
PSMA	**Santa Maria**	**41.83**	**287**		*e*P		**P**	**21 04 50.0**	**+0.5**
	comp=Z,188nm,1.5s								
DBIC	**Dimbokro**	**41.90**	**233**		P		**P**	**21 04 50.0**	**-0.1**
	comp=Z,5.4nm,0.4s,baz=51,slow=7.7,SNR=14								
DBIC						pP	**pP**	**21 05 10.2**	**-0.3**
	comp=Z,18nm,0.5s,baz=58,slow=6.0,SNR=6.3								
	comp=Z,5.4nm,0.4s								
DBIC	**Dimbokro**	**41.90**	**233**		P		**P**	**21 04 50.0**	**-0.1**
DBIC						pP	**pP**	**21 05 11.2**	**+0.6**
CMLA	**Cha da Macela**	**41.93**	**288**		P		**P**	**21 04 50.3**	**0.0**
CMLA	**Cha da Macela**	**41.93**	**288**		P		**P**	**21 04 50.3**	**0.0**
CMLA	comp=Z,78nm,0.6s					pmax	pmax		
TIC	**Toumodi**	**42.02**	**233**	⇑	*e*P		**P**	**21 04 51.4**	**+0.2**
	comp=Z,19nm,0.7s								
PDA	**Ponta Delgada**	**42.04**	**288**		*e*P		**P**	**21 04 53.0**	**+1.8**
	comp=Z,242nm,1.3s								
KIC	**Kosan Boka**	**42.05**	**233**	⇑	*e*P		**P**	**21 04 51.3**	**-0.2**
	comp=Z,19nm,0.6s								
PSET	**Sete Cidades**	**42.07**	**289**		*e*P		**P**	**21 04 51.5**	**+0.1**
	comp=Z,121nm,0.8s								
SPA0	**Spitsbergen Ar**	**42.16**	**357**		*e*P		**P**	**21 04 51.6**	**0.0**
SPITS	**Spitsbergen Ar**	**42.16**	**357**		P		**P**	**21 04 51.3**	**-0.3**
	comp=Z,12nm,0.5s,baz=138,slow=10,SNR=28								
SPITS						PcP	**PcP**	**21 06 44.5**	**+0.2**
	comp=Z,5.3nm,0.5s,baz=139,slow=5.5,SNR=4.2								
SPITS						LR	LR	21 23 22.8	
	comp=Z,132nm,21.2s,baz=144,slow=37								
	comp=Z,12nm,0.5s								
LIC	**Lamto**	**42.34**	**233**	⇓	*e*P		**P**	**21 04 53.8**	**0.0**
	comp=Z,41nm,0.7s								
ZALV	**Zalesovo Beam**	**42.71**	**47**		P		**P**	**21 04 56.8**	**+0.4**
	comp=Z,8.0nm,0.5s,baz=267,slow=8.7,SNR=44								
ZALV						S	**S**	**21 11 12.8**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=255,slow=12,SNR=3.7								
ZALV						LR	LR	21 26 39.0	
	comp=Z,120nm,18.1s,baz=268,slow=41								
	comp=Z,8.0nm,0.5s								
SCO	**Scoresbysund**	**42.92**	**338**		P		**P**	**21 04 57.4**	**-0.4**
SCO	**Scoresbysund**	**42.92**	**338**		P		**P**	**21 04 57.4**	**-0.4**
SCO	comp=Z,106nm,0.7s					pmax	pmax		
SCO	**Scoresbysund**	**42.92**	**338**	*i*	P		**P**	**21 04 58.6**	**+0.8**
SCO	comp=Z,103nm,0.7s					IAmb	IAmb	21 04 59.5	
SCO	**Scoresbysund**	**42.92**	**338**	⇑	P		**P**	**21 04 58.4**	**+0.6**
PAGU	**Agualva, Azore**	**42.94**	**290**		*e*P		**P**	**21 05 00.4**	**+2.0**
	comp=Z,192nm,0.9s								
ZSN	**Zaisan**	**43.11**	**57**		*e*P		**P**	**21 05 00.8**	**+1.1**
ZSN					*e*S		**S**	**21 11 21.1**	**+1.8**
ZSN	**Zaisan**	**43.11**	**57**		*e*P		**P**	**21 05 00.8**	**+1.1**
	baz=57								
ZSN					*e*S		**S**	**21 11 21.2**	**+1.8**
	baz=57								
KBS	**Kingsbay**	**43.13**	**356**		P		**P**	**21 04 59.2**	**-0.2**
KBS	comp=Z,107nm,1.2s					IAmb	IAmb	21 05 00.6	
KBS	**Kingsbay**	**43.13**	**356**		P		**P**	**21 04 59.2**	**-0.2**
KBS	comp=Z,107nm,1.2s					pmax	pmax		
KBS	**Kingsbay**	**43.13**	**356**	*i*	P		**P**	**21 04 59.3**	**-0.1**
KBS	**Kingsbay**	**43.13**	**356**	*e*	P		**P**	**21 04 59.5**	**+0.1**
KBS	**Kingsbay**	**43.13**	**356**		P		**P**	**21 04 59.5**	**+0.1**
KBS						ScP	**ScP**	**21 10 33.5**	**+2.8**
PTH	**Pithoragarh**	**44.21**	**83**	*e*	P		**P**	**21 05 08.6**	**-0.4**
LGTI	**Lohaghat**	**44.27**	**83**	*e*	P		**P**	**21 05 07.3**	**-2.0**
DGZ	**Jazzator, Alta**	**44.55**	**53**	*i*	P		**P**	**21 05 12.1**	**+0.7**
DGZ	comp=Z,12nm,1.2s					pmax	pmax		
BHPL	**Bhopal**	**44.71**	**93**	*e*	P		**P**	**21 05 13.7**	**+0.8**
BHPL	comp=Z,35nm,0.5s					IAmb	IAmb	21 05 34.0	
BBTS	**Babate**	**44.85**	**253**		LR		LR	21 26 37.9	
	comp=Z,162nm,19.8s,baz=57,slow=40								
DAG	**Danmarks Havn**	**45.30**	**346**	*i*	P		**P**	**21 05 16.4**	**-0.4**
DAG	comp=Z,51nm,0.9s					IAmb	IAmb	21 05 17.1	
SOEG	**Soedalen**	**45.30**	**333**	*i*	P		**P**	**21 05 17.3**	**+0.4**
SOEG	comp=Z,78nm,0.7s					IAmb	IAmb	21 05 17.9	
SOEG	**Soedalen**	**45.30**	**333**	⇓	P		**P**	**21 05 17.4**	**+0.6**
WMQ	**Urumqi**	**45.66**	**61**	*e*	P		**P**	**21 05 22.0**	**+1.8**
W

GOMU GeErMu 53.12 69 P **P** 21 06 19.0 +1.6
GOMU pP pP 21 06 39.0 +0.1
GOMU sP sP 21 06 48.5 -0.2
GOMU pmax pmax
comp=Z,3.0nm,0.5s
GOMU pmax pmax
comp=Z,59nm,4.4s
NUUK Nuuk 53.38 328 *i* P **P** **21 06 16.8 -1.6**
NUUK IAmb IAmb 21 06 17.4
comp=Z,39nm,0.8s
NUUK Nuuk 53.38 328 ⇓P **P** **21 06 17.4 -1.0**
DHUB DHUBRI 53.54 82 *eP* **P** **21 06 18.8 -1.3**
ALE Alert 54.14 351 P **P** **21 06 23.4 -0.3**
ZAK Zakamensk 54.43 50 *eP* **P** **21 06 27.5 +1.1**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
GTA Gaotai 55.63 63 ⇑P **P** **21 06 36.0 +0.7**
GTA pP pP 21 06 55.5 -1.5
GTA sP sP 21 07 04.5 -2.3
GTA ScP **ScP** **21 11 25.3 +0.5**
GTA S **S** **21 14 15.0 +0.3**
GTA ScS **ScS** **21 16 16.3 +0.1**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,150nm,7.0s
ZIRO ZIRO 55.93 79 *eP* **P** **21 06 38.1 +0.5**
ITAN ITANAGAR 56.00 79 *eP* **P** **21 06 36.9 -1.0**
TSUM Tsumeb 56.10 191 LR LR 21 32 49.6
comp=Z,372nm,19.6s,baz=329,slow=38
TSUM Tsumeb 56.10 191 *eP* **P** **21 06 42.3 +3.6**
BLWY Bulawayo 56.24 179 *eP* **P** **21 06 41.8 +2.1**
PALK Pallekele 56.30 108 LR LR 21 33 56.6
comp=Z,106nm,18.3s,baz=53,slow=39
TULEG Thule 56.41 344 P **P** **21 06 38.9 -1.2**
KOHI KOHIMA 56.96 81 *eP* **P** **21 06 48.3 +3.3**
MOKO MOKOCHONG 57.01 80 *eP* **P** **21 06 44.9 -0.4**
SONM Songino Array 57.16 52 P **P** **21 06 47.0 +1.0**
comp=Z,3.8nm,0.5s,baz=291,slow=7.5,SNR=34
SONM pP **pP** **21 07 08.5 +0.7**
comp=Z,6.0nm,0.5s,baz=285,slow=8.1,SNR=9.2
SONM ScP **ScP** **21 11 30.9 -0.5**
comp=Z,1.4nm,0.8s,baz=264,slow=5.1,SNR=4.6
comp=Z,3.8nm,0.5s
SONM Songino Array 57.16 52 P **P** **21 06 47.0 +1.0**
ULN Ulaanbaatar 57.57 52 P **P** **21 06 48.3 -0.6**
ULN Ulaanbaatar 57.57 52 P **P** **21 06 48.3 -0.6**
ULN pmax pmax
comp=Z,12nm,0.9s
ULN Ulaanbaatar 57.57 52 ⇑P **P** **21 06 50.3 +1.4**
ULN Ulaanbaatar 57.57 52 P **P** **21 06 50.1 +1.2**
ULN pP **pP** **21 07 12.3 +1.6**
LKP Lekhapani 57.59 78 *eP* **P** **21 06 48.3 -0.9**
OPO Ambohidratompo 57.72 158 LR LR 21 32 33.2
comp=Z,165nm,19.5s,baz=197,slow=37
BOD Bodaibo 58.25 39 *eP* **P** **21 06 53.4 +0.1**
BOD pmax pmax
comp=Z,35nm,0.9s
EUNU Eureka 58.35 349 P **P** **21 06 53.4 -0.4**
EUNU Eureka 58.35 349 ⇑P **P** **21 06 53.8 0.0**
EUNU ⇑P **P** **21 06 53.8 0.0**
MUSN Musina, Limpop 58.41 178 *eP* **P** **21 06 57.4 +2.6**
TIXI Tiksi 59.30 21 *i* P **P** **21 06 59.2 -1.2**
TIXI pmax pmax
comp=Z,16nm,0.9s
WIN Windhoek 59.48 191 *eP* **P** **21 07 03.5 +1.1**
WIN IAmb IAmb 21 07 31.0
comp=Z,9.0nm,1.2s
MOPA Mopani 59.70 176 *eP* **P** **21 07 06.5 +2.9**
LZH Lanzhou 59.87 65 *eP* **P** **21 07 06.5 +1.4**
LZH pmax pmax
comp=Z,19nm,1.2s
DRLN Deer Lake 60.57 311 P **P** **21 07 08.1 -1.3**
DRLN Deer Lake 60.57 311 ⇑P **P** **21 07 08.2 -1.3**
FRB Frobisher Bay 60.61 330 LR LR 21 36 09.0
comp=Z,56nm,19.4s,baz=16,slow=39
FRB Frobisher Bay 60.61 330 ⇑P **P** **21 07 08.7 -0.7**
FRB ⇑P **P** **21 07 08.7 -0.7**
LBTB Lobatse 61.11 182 LR LR 21 34 56.1
comp=Z,152nm,18.1s,baz=4.5,slow=37
LBTB Lobatse 61.11 182 P **P** **21 07 15.5 +2.2**
LBTB pP **pP** **21 07 35.1 -0.2**
SLR Silverton 61.80 179 *eP* **P** **21 07 18.6 +0.6**
SLR IAmb IAmb 21 07 45.6
comp=Z,636nm,3.2s
KSR Koster 61.92 181 *eP* **P** **21 07 20.9 +2.0**
KSR IAmb IAmb 21 07 54.1
comp=Z,339nm,2.9s
CD2 Chengdu 62.10 71 P **P** **21 07 21.3 +1.2**
CD2 pmax pmax
comp=Z,20nm,0.7s
CRLN Carolina, Mapu 62.10 178 *eP* **P** **21 07 22.3 +2.2**
CRLN IAmb IAmb 21 07 44.1
comp=Z,19nm,0.9s
MMAL MMAL 62.20 176 *eP* **P** **21 07 23.2 +2.5**
MMAL IAmb IAmb 21 07 44.5
comp=Z,36nm,0.8s
PZH PanZhiHua 62.62 76 P **P** **21 07 24.8 +1.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,170nm,4.9s
RES Resolute Bay 62.98 345 LR LR 21 36 44.1
comp=Z,49nm,18.8s,baz=18,slow=38
RES Resolute Bay 62.98 345 P **P** **21 07 25.2 +0.1**
RES IAmb IAmb 21 07 26.2
comp=Z,42nm,0.8s
RES Resolute Bay 62.98 345 P **P** **21 07 25.2 +0.1**
RES pmax pmax
comp=Z,42nm,0.9s
PRYS Parys 62.98 180 *eP* **P** **21 07 26.7 +0.8**
PRYS IAmb IAmb 21 07 54.2
comp=Z,5.2nm,0.8s
SWZ Schweizer 63.28 182 *eP* **P** **21 07 29.0 +1.2**
SWZ IAmb IAmb 21 07 53.5
comp=Z,33nm,1.3s
POGA Pongola 63.52 176 *eP* **P** **21 07 31.7 +2.4**
POGA IAmb IAmb 21 08 13.0
comp=Z,601nm,3.1s
SCHQ Schefferville 63.53 320 P **P** **21 07 28.2 -0.9**
comp=Z,64nm,0.6s,baz=60,slow=5.7,SNR=115
SCHQ LR LR 21 35 45.5
comp=Z,66nm,18.3s,baz=60,slow=36
comp=Z,64nm,0.6s
AUSN Aus 63.64 191 *eP* **P** **21 07 31.8 +1.6**
AUSN IAmb IAmb 21 08 21.0
comp=Z,28nm,1.4s
YAK Yakutsk 63.80 31 LR LR 21 39 05.7
comp=Z,96nm,19.4s,baz=269,slow=40
YAK Yakutsk 63.80 31 P **P** **21 07 30.0 -0.7**
YAK IAmb IAmb 21 07 31.3
comp=Z,33nm,0.8s
YAK Yakutsk 63.80 31 *eP* **P** **21 07 30.4 -0.4**
YAK *e* 21 08 04.9
YAK *e* 21 09 54.0
YAK *eS* **S** **21 15 58.5 -0.1**
YAK *e'SS* **pS** **21 16 22.1 -2.7**
YAK *e* 21 17 07.3
YAK *eSS* **SS** **21 20 11.8 +4.5**
YAK pmax pmax
comp=Z,25nm,0.7s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,72nm,2.5s
YAK pmax pmax
comp=N,82nm,2.7s
YAK pmax pmax
comp=E,34nm,2.5s
YAK smax smax
comp=E,89nm,2.5s
YAK smax smax
comp=N,87nm,2.5s
YAK Yakutsk 63.80 31 ⇓P **P** **21 07 30.7 -0.1**
YAK Yakutsk 63.80 31 P **P** **21 07 30.4 -0.4**
NWCL Newcastle 63.83 178 *eP* **P** **21 07 33.2 +1.8**
NWCL IAmb IAmb 21 08 07.8
comp=Z,331nm,2.5s
KMI Kunming 64.08 77 ⇑P **P** **21 07 33.3 -0.2**
KMI pP pP 21 07 56.0 +0.3
KMI pmax pmax
comp=Z,9.0nm,1.1s
SNKL Senekal, Frees 64.33 180 *eP* **P** **21 07 37.6 +2.8**
SNKL IAmb IAmb 21 08 03.9
comp=Z,39nm,0.9s
CMAR Chiang Mai Arr 64.47 85 P **P** **21 07 36.1 +0.3**
comp=Z,2.2nm,0.8s,baz=298,slow=7.6,SNR=13
CMAR pP **pP** **21 07 57.0 -1.0**
comp=Z,6.1nm,0.8s,baz=300,slow=8.4,SNR=8.3
CMAR LR LR 21 39 38.8
comp=Z,40nm,20.8s,baz=280,slow=40
comp=Z,2.2nm,0.8s
XAN Xi'an 64.51 65 P **P** **21 07 37.8 +1.8**
XAN pP pP 21 07 57.3 -0.8
XAN sP sP 21 08 05.3 -2.5
XAN PcP **PcP** **21 08 12.0 +2.5**
XAN pmax pmax
comp=Z,6.0nm,1.2s
ARMS Ukamas 64.52 188 *eP* **P** **21 07 37.5 +1.6**
ARMS IAmb IAmb 21 08 47.6
comp=Z,2μm,5.6s
BOSA Boshof 64.70 182 P **P** **21 07 37.9 +0.7**
comp=Z,1.9nm,0.3s,baz=6.2,slow=5.6,SNR=20
BOSA pP **pP** **21 07 58.0 -1.3**
comp=Z,12nm,0.9s,baz=24,slow=9.5,SNR=6.5
BOSA LR LR 21 35 45.3
comp=Z,134nm,19.2s,baz=7.0,slow=36
comp=Z,1.9nm,0.3s
BOSA Boshof 64.70 182 P **P** **21 07 38.3 +1.1**
BOSA pP **pP** **21 07 59.2 -0.1**
XLT XiLinHaoTe 64.93 53 *eP* **P** **21 07 39.5 +0.9**
XLT pP pP 21 08 00.8 0.0
XLT sP sP 21 08 10.0 -0.4
XLT PcP **PcP** **21 08 12.5 +1.4**
XLT S **S** **21 16 16.0 +2.7**
XLT sS sS 21 16 55.5 +3.7
XLT pmax pmax
comp=Z,18nm,1.3s
XLT pmax pmax
comp=Z,160nm,4.1s
HAL Halifax 66.32 309 P **P** **21 07 47.4 0.0**
HAL Halifax 66.32 309 P **P** **21 07 47.4 0.0**
HAL pmax pmax
comp=Z,850nm,1.9s
GYA Guiyang 66.48 74 ⇓P **P** **21 07 49.5 +0.7**
GYA pmax pmax
comp=Z,9.0nm,0.9s
ZEA Zeya 66.74 40 *eP* **P** **21 07 51.5 +1.6**
ZEA *e* 21 08 13.7
ZEA pmax pmax
comp=Z,10.0nm,1.2s
BJI Beijing 66.79 57 P **P** **21 07 50.5 0.0**
BJI pP **pP** **21 08 13.5 +0.7**
BJI PcP **PcP** **21 08 18.0 -0.7**
BJI sP **sP** **21 08 25.8 +3.4**
BJI pmax pmax
comp=Z,17nm,0.9s
BJT Baijiatuau 66.80 57 P **P** **21 07 51.6 +1.1**
BJT pP **pP** **21 08 13.6 +0.8**
BJT sP **sP** **21 08 22.6 +0.1**
LYN LuoYang 66.85 63 *eP* **P** **21 07 52.0 +1.1**
HNS HongShan 67.06 60 ⇓P **P** **21 07 53.8 +1.6**
HNS pmax pmax
comp=Z,13nm,0.9s
CVNA Calvinia 67.92 187 *eP* **P** **21 08 00.7 +3.1**
CVNA IAmb IAmb 21 08 25.6
comp=Z,2μm,3.8s
FRAZ Fraserburg 68.22 186 *eP* **P** **21 08 03.4 +4.0**
FRAZ IAmb IAmb 21 08 34.1
comp=Z,500nm,2.5s
GRAF Camdeboo Natio 68.38 183 *eP* **P** **21 08 00.8 +0.3**
GRAF IAmb IAmb 21 08 32.9
comp=Z,3μm,4.5s
E63A Oxbow 68.41 312 P **P** **21 08 01.0 +0.5**
baz=60,SNR=22
E63A P **P** **21 08 01.0 +0.5**
baz=60,SNR=22
D62A Allapoint, All 68.44 313 P **P** **21 08 01.5 +0.8**
baz=59,SNR=46
D62A P **P** **21 08 01.5 +0.8**
baz=59,SNR=46
G65A Princeton 68.50 311 IAmb IAmb 21 08 02.6
comp=Z,105nm,1.2s
G65A Princeton 68.50 311 P **P** **21 08 01.6 +0.5**
baz=60,SNR=7.0
G65A P **P** **21 08 01.6 +0.5**
baz=60,SNR=7.0
GRAN Grantham 68.53 185 *eP* **P** **21 08 03.7 +2.3**
GRAN IAmb IAmb 21 08 38.0
comp=Z,14nm,0.9s
F64A Sherman 68.65 312 P **P** **21 08 02.6 +0.6**
baz=59,SNR=9.7
F64A P **P** **21 08 02.6 +0.6**
baz=59,SNR=9.7
EMMW East Machias 68.69 310 P **P** **21 08 02.6 +0.4**
baz=60,SNR=7.6
SUR Sutherland 68.72 186 LR LR 21 38 23.2
comp=Z,23nm,22.0s,baz=3.5,slow=36
E62A Clayton Lake 68.96 313 P **P** **21 08 04.5 +0.5**
baz=59,SNR=32
E62A P **P** **21 08 04.5 +0.5**
baz=59,SNR=32
F63A Nahmakanta, Br 69.18 312 IAmb IAmb 21 08 07.0
comp=Z,87nm,1.2s
F63A Nahmakanta, Br 69.18 312 P **P** **21 08 05.9 +0.5**
baz=59,SNR=12
F63A P **P** **21 08 05.9 +0.5**
baz=59,SNR=12
PKME Peaks-Kenny Pk 69.52 312 P **P** **21 08 07.8 +0.4**
PKME IAmb IAmb 21 08 09.3
comp=Z,99nm,1.3s
PKME Peaks-Kenny Pk 69.52 312 P **P** **21 08 08.0 +0.6**
baz=59,SNR=9.1
PKME Peaks-Kenny Pk 69.52 312 P **P** **21 08 08.1 +0.6**
baz=59
F62A Pittston Farm, 69.60 312 P **P** **21 08 08.6 +0.6**
baz=58,SNR=10
F62A P **P** **21 08 08.6 +0.6**
baz=58,SNR=10
WVL Waterville 70.11 311 P **P** **21 08 10.9 -0.2**
baz=58
A36M Sachs Harbour 70.24 351 P **P** **21 08 11.4 +0.1**
baz=23,SNR=6.7
G62A West of Eustis 70.29 312 IAmb IAmb 21 08 14.3
comp=Z,117nm,1.6s
G62A West of Eustis 70.29 312 P **P** **21 08 13.2 +1.0**
baz=58,SNR=6.9
G62A P **P** **21 08 13.2 +1.0**
baz=58,SNR=6.9
SNY Shenyang 70.74 52 ⇑P **P** **21 08 16.0 +1.1**
SNY pmax pmax
comp=Z,40nm,0.8s
CN2 Changchun 70.87 49 *eP* **P** **21 08 15.0 -0.7**
CN2 *es*P sP 21 08 48.5 +0.7
CN2 S **S** **21 17 19.5 -4.4**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
I63A Otisfield 70.94 311 P **P** **21 08 16.0 -0.1**
I63A IAmb IAmb 21 08 17.4
comp=Z,34nm,0.8s
I63A Otisfield 70.94 311 P **P** **21 08 17.0 +0.8**
baz=58,SNR=6.5
I63A P **P** **21 08 17.0 +0.8**
baz=58,SNR=6.5
BNX BinXian 71.00 47 ⇑P **P** **21 08 16.5 0.0**
BNX pmax pmax
comp=Z,16nm,0.6s
BNX pmax pmax
comp=Z,110nm,3.5s
H62A Milan 71.01 312 IAmb IAmb 21 08 18.3
comp=Z,115nm,1.2s
H62A Milan 71.01 312 P **P** **21 08 17.4 +0.9**
baz=57,SNR=12
H62A P **P** **21 08 17.4 +0.9**
baz=57,SNR=12
BILL Bilibino 71.36 15 *eP* **P** **21 08 19.0 +0.7**
BILL *e* 21 10 58.6
BILL *eS* **S** **21 17 30.2 +1.3**
BILL pmax pmax
comp=Z,30nm,1.1s
I62A Tamworth 71.50 311 P **P** **21 08 20.8 +1.3**
baz=57,SNR=8.7
I62A P **P** **21 08 20.8 +1.3**
baz=57,SNR=8.7
KLR Kul'dur 71.52 42 LR LR 21 46 16.7
comp=Z,84nm,18.6s,baz=306,slow=41
KLR Kul'dur 71.52 42 *i* P **P** **21 08 19.4 -0.2**
KLR pmax pmax
comp=Z,20nm,1.1s
UNH University of 71.63 310 P **P** **21 08 21.3 +1.0**
baz=57
LBNH Lisbon 71.66 312 IAmb IAmb 21 08 22.8
comp=Z,76nm,1.1s
LBNH Lisbon 71.66 312 P **P** **21 08 21.9 +1.4**
baz=57,SNR=11
LBNH Lisbon 71.66 312 P **P** **21 08 21.6 +1.2**
baz=57
MNTQ Montreal, Queb 71.97 313 IAmb IAmb 21 08 24.1
comp=Z,122nm,1.2s
VT1 Waterbury 72.10 312 IAmb IAmb 21 08 25.3
comp=Z,60nm,1.1s
VT1 Waterbury 72.10 312 P **P** **21 08 24.4 +1.3**
baz=56,SNR=7.1
TRQ Mont Tremblant 72.11 315 P **P** **21 08 22.8 -0.4**
TRQ IAmb IAmb 21 08 24.7
comp=Z,99nm,1.2s
HNH Hanover 72.17 311 P **P** **21 08 25.0 +1.5**
baz=56,SNR=16
BCX Boston College 72.23 310 IAmb IAmb 21 08 25.7
comp=Z,87nm,1.2s
L64A Middleborough 72.24 309 IAmb IAmb 21 08 26.0
comp=Z,90nm,1.2s
L64A Middleborough 72.24 309 P **P** **21 08 24.8 +0.8**
baz=57
L64A P **P** **21 08 24.8 +0.8**
baz=57
WES Weston 72.30 310 IAmb IAmb 21 08 25.7
comp=Z,45nm,0.8s
FRNY Flat Rock 72.32 313 IAmb IAmb 21 08 25.9
comp=Z,118nm,1.4s
FRNY Flat Rock 72.32 313 P **P** **21 08 24.9 +0.6**
baz=56,SNR=23
HRV Adam Dziewonsk 72.38 310 P **P** **21 08 25.3 +0.5**
HRV IAmb IAmb 21 08 26.8
comp=Z,76nm,1.4s
HRV Adam Dziewonsk 72.38 310 P **P** **21 08 25.3 +0.5**
HRV pmax pmax
comp=Z,76nm,1.4s
HRV Adam Dziewonsk 72.38 310 P **P** **21 08 25.7 +1.0**
baz=57,SNR=5.6
HRV Adam Dziewonsk 72.38 310 P **P** **21 08 25.6 +0.8**
baz=57
MCVT Middlebury Col 72.45 312 P **P** **21 08 26.6 +1.3**
baz=56,SNR=20
C36M Paulatuk 72.52 350 P **P** **21 08 24.4 -0.7**
baz=24
J61A Chester 72.53 311 IAmb IAmb 21 08 28.0
comp=Z,118nm,1.4s
J61A Chester 72.53 311 P **P** **21 08 27.1 +1.5**
baz=56,SNR=9.5
J61A P **P** **21 08 27.1 +1.5**
baz=56,SNR=9.5
A21K Barrow 72.54 1 P **P** **21 08 25.6 +0.4**
baz=356
RCBR Riachuelo 72.63 249 LR LR 21 40 03.2
comp=Z,97nm,20.4s,baz=186,slow=36
RCBR Riachuelo 72.63 249 P **P** **21 08 28.4 +1.7**
RCBR IAmb IAmb 21 08 29.0
comp=Z,45nm,1.1s
RCBR Riachuelo 72.63 249 P **P** **21 08 28.4 +1.7**
RCBR pmax pmax
comp=Z,45nm,1.2s
K62A Royalston 72.71 310 IAmb IAmb 21 08 29.2
comp=Z,71nm,1.2s
K62A Royalston 72.71 310 P **P** **21 08 28.2 +1.5**
baz=56,SNR=5.4
K62A P **P** **21 08 28.2 +1.5**
baz=56,SNR=5.4
NJ2 Nanjing 72.72 63 *eP* **P** **21 08 25.8 -1.2**
NJ2 pmax pmax
comp=Z,30nm,0.5s
BMNY Brushton-Moira 72.86 313 P **P** **21 08 28.0 +0.5**
baz=56,SNR=11
LONY Lake Ozonia 73.03 313 P **P** **21 08 28.7 +0.1**
LONY IAmb IAmb 21 08 30.4
comp=Z,106nm,1.2s
LONY Lake Ozonia 73.03 313 P **P** **21 08 29.3 +0.7**
baz=56,SNR=19
L61B Northampton 73.10 310 P **P** **21 08 30.3 +1.2**
baz=56,SNR=5.9
L61B Northampton 73.10 310 P **P** **21 08 30.3 +1.2**
baz=56,SNR=5.9
ACCN Adirondack Com 73.18 312 IAmb IAmb 21 08 31.7
comp=Z,120nm,1.4s
ACCN Adirondack Com 73.18 312 P **P** **21 08 30.8 +1.2**
baz=56,SNR=18
NCB Newcomb 73.18 312 IAmb IAmb 21 08 32.5
comp=Z,54nm,1.4s
NCB Newcomb 73.18 312 P **P** **21 08 30.4 +0.9**
baz=56
UCCT U. Connecticut 73.19 310 IAmb IAmb 21 08 31.6
comp=Z,33nm,0.8s
M63A Gales Ferry 73.29 309 IAmb IAmb 21 08 33.4
comp=Z,41nm,0.8s
PSI Prapat 73.33 99 P **P** **21 08 29.8 -1.2**
PSI pmax pmax
comp=Z,41nm,1.1s
RPSI Rantau Prapat 73.40 99 P **P** **21 08 29.8 -1.4**
MA2 Magadan 73.50 26 LR LR 21 45 05.7
comp=Z,70nm,19.2s,baz=310,slow=39
MA2 Magadan 73.50 26 P **P** **21 08 31.6 +0.5**
MA2 IAmb IAmb 21 08 33.0
comp=Z,57nm,0.8s
MA2 Magadan 73.50 26 P **P** **21 08 31.6 +0.5**
MA2 pmax pmax
comp=Z,57nm,0.8s
J59A Piesco 73.64 312 IAmb IAmb 21 08 34.3
comp=Z,92nm,1.3s
J59A Piesco 73.64 312 P **P** **21 08 33.4 +1.1**
baz=55,SNR=12
J59A P **P** **21 08 33.4 +1.1**
baz=55,SNR=12
C26K Camden Bay 73.85 357 P **P** **21 08 33.9 +0.9**
baz=6.3
KSCT Kent School, K 74.00 310 IAmb IAmb 21 08 36.3
comp=Z,42nm,1.0s
HCNY Howe Caverns 74.01 311 P **P** **21 08 35.9 +1.5**
baz=55,SNR=14
WCNY West Carthage 74.02 313 P **P** **21 08 35.5 +1.0**
baz=55,SNR=27
C23K Itkillik River 74.07 359 P **P** **21 08 35.7 +1.4**
baz=1.5,SNR=29
C27K Jago River 74.09 357 P **P** **21 08 35.1 +0.7**
baz=7.3,SNR=19
C24K Franklin Bluff 74.16 359 P **P** **21 08 35.5 +0.8**
baz=3.1
J58A Remsen 74.16 312 IAmb IAmb 21 08 37.5
comp=Z,132nm,1.4s
J58A Remsen 74.16 312 P **P** **21 08 36.4 +1.1**
baz=55,SNR=14
J58A P **P** **21 08 36.4 +1.1**
baz=55,SNR=14
NPNY Mohonk Preserv 74.39 310 P **P** **21 08 37.5 +0.8**
baz=55,SNR=5.1
D25K Kavik River 74.50 358 P **P** **21 08 37.4 +0.6**
baz=5.0,SNR=27
USRK Ussuriysk Ar. 74.56 46 P **P** **21 08 37.7 +0.2**
comp=Z,28nm,0.8s,baz=291,slow=5.0,SNR=27
USRK pP **pP** **21 08 59.3 -0.9**
comp=Z,14nm,0.6s,baz=290,slow=5.2,SNR=4.8
USRK LR LR 21 44 37.4
comp=Z,62nm,18.6s,baz=327,slow=38
comp=Z,28nm,0.8s
J57A Williamstown 74.56 313 IAmb IAmb 21 08 39.4
comp=Z,60nm,1.1s
J57A Williamstown 74.56 313 P **P** **21 08 38.5 +1.0**
baz=54,SNR=9.5
J57A P **P** **21 08 38.5 +1.0**
baz=54,SNR=9.5
INK Inuvik 74.66 353 P **P** **21 08 37.0 -0.6**
comp=Z,19nm,0.6s,baz=8.1,slow=5.1,SNR=23
INK LR LR 21 45 33.2
comp=Z,51nm,18.9s,baz=357,slow=39
comp=Z,19nm,0.6s
INK Inuvik 74.66 353 P **P** **21 08 36.1 -1.6**
INK IAmb IAmb 21 08 38.9
comp=Z,62nm,1.2s
INK Inuvik 74.66 353 P **P** **21 08 37.0 -0.6**
baz=16,SNR=14
PAL Palisades 74.67 310 P **P** **21 08 38.7 +0.5**
baz=55
L59A Walton 74.69 311 IAmb IAmb 21 08 40.0
comp=Z,64nm,0.8s
L59A Walton 74.69 311 P **P** **21 08 39.6 +1.2**
baz=55,SNR=17

L59A P P 21 08 39.6 +1.2
baz=55,SNR=17
D24K Happy Valley 74.73 359 P P 21 08 39.0 +0.9
baz=3.0
FOR Fordham 74.74 310 P P 21 08 39.5 +0.8
baz=55
PECO Prince Edward 74.84 314 IAmb IAmb 21 08 40.4
comp=Z,36nm,0.8s
DELO Deloro Mine 74.86 314 IAmb IAmb 21 08 41.1
comp=Z,44nm,0.9s
D23K Nanushuk River 74.94 359 P P 21 08 40.4 +1.1
baz=1.4
ODNJ Ogdensburg 75.06 310 IAmb IAmb 21 08 42.2
comp=Z,45nm,1.1s
ODNJ Ogdensburg 75.06 310 P P 21 08 41.4 +0.9
baz=55,SNR=8.3
J56A Wolcott 75.14 313 P P 21 08 41.9 +0.9
baz=54,SNR=11
J56A P P 21 08 41.9 +0.9
baz=54,SNR=11
TOLK Toolik Lake Re 75.25 359 P P 21 08 42.1 +0.9
baz=2.4,SNR=17
BINY Binghamton 75.26 312 IAmb IAmb 21 08 43.6
comp=Z,110nm,1.4s
BINY Binghamton 75.26 312 P P 21 08 42.6 +1.0
baz=54,SNR=9.4
BINY Binghamton 75.26 312 P P 21 08 42.4 +0.8
baz=54,SNR=9.4
K57A Scipio Center 75.26 312 P P 21 08 41.4 -0.2
K57A Scipio Center 75.26 312 P P 21 08 42.6 +1.0
baz=54,SNR=9.1
BRNJ Basking Ridge 75.27 310 IAmb IAmb 21 08 43.0
comp=Z,35nm,0.8s
BRNJ Basking Ridge 75.27 310 P P 21 08 42.6 +1.0
baz=54
E27K Coleen River 75.42 356 P P 21 08 42.5 +0.4
baz=9.0,SNR=35
KSPA Keystone Colle 75.50 311 IAmb IAmb 21 08 44.4
comp=Z,39nm,0.8s
KSPA Keystone Colle 75.50 311 P P 21 08 44.0 +1.0
baz=54,SNR=7.8
F31M Tsiigehtchic 75.52 353 P P 21 08 42.2 -0.3
baz=16,SNR=25
PANJ Princeton 75.53 310 P P 21 08 44.1 +0.9
baz=54,SNR=7.5
SADO Sadowa 75.58 315 LR LR 21 41 16.4
comp=Z,55nm,19.2s,baz=22,slow=35
SADO Sadowa 75.58 315 IAmb IAmb 21 08 44.3
comp=Z,39nm,0.8s
E25K Arctic Village 75.67 357 P P 21 08 44.2 +0.7
baz=5.7,SNR=35
J55A Hilton 75.71 313 IAmb IAmb 21 08 46.0
comp=Z,102nm,1.4s
J55A Hilton 75.71 313 P P 21 08 44.8 +0.6
baz=53
J55A P P 21 08 44.8 +0.6
baz=53
E22K Anaktuvuk Pass 75.78 360 P P 21 08 45.0 +0.8
baz=0.5
E24K Your Creek 75.80 358 P P 21 08 45.0 +0.7
baz=3.3
E23K Chandalar 75.84 359 P P 21 08 45.5 +0.9
baz=2.3,SNR=42
KSRS Korea Array 75.95 54 P P 21 08 46.2 +0.6
comp=Z,18nm,0.8s,baz=304,slow=4.9,SNR=64
KSRS pP pP 21 09 07.2 -1.3
comp=Z,6.6nm,0.6s,baz=309,slow=4.4,SNR=4.9
KSRS LR LR 21 46 10.8
comp=Z,117nm,20.8s,baz=305,slow=39
comp=Z,18nm,0.8s
TUPA Temple Univers 75.95 310 P P 21 08 46.5 +0.9
baz=54,SNR=9.8
F26K Sheenjek River 76.04 357 P P 21 08 46.6 +1.0
baz=6.9,SNR=34
MMNY Mt. Morris Dam 76.09 313 P P 21 08 45.8 -0.5
MMNY IAmb IAmb 21 08 47.9
comp=Z,88nm,1.1s
MEDO Medina 76.15 314 IAmb IAmb 21 08 48.2
comp=Z,64nm,0.8s
J54A Appleton 76.19 314 IAmb IAmb 21 08 48.5
comp=Z,60nm,0.9s
J54A Appleton 76.19 314 P P 21 08 47.4 +0.5
baz=53
J54A P P 21 08 47.4 +0.5
baz=53
F25K Christian Rive 76.20 357 P P 21 08 47.7 +1.1
baz=5.6,SNR=30
G30M tAoh Zraii Nji 76.20 354 P P 21 08 46.2 -0.4
baz=13,SNR=20
L56A Greenwood 76.24 312 IAmb IAmb 21 08 48.4
comp=Z,58nm,0.8s
L56A Greenwood 76.24 312 P P 21 08 48.0 +0.7
baz=53,SNR=18
L56A P P 21 08 48.0 +0.7
baz=53,SNR=18
PSUB Penn St. - Bra 76.26 310 P P 21 08 47.4 +0.1
baz=54
F24K Squaw Lake 76.35 358 P P 21 08 48.6 +1.2
baz=3.8,SNR=51
F22K John River 76.41 360 P P 21 08 48.8 +1.0
baz=0.2
M57A Sunshine Farm, 76.45 311 IAmb IAmb 21 08 49.7
comp=Z,37nm,0.7s
M57A Sunshine Farm, 76.45 311 P P 21 08 49.3 +0.9
baz=53,SNR=12
M57A P P 21 08 49.3 +0.9
baz=53,SNR=12
N58A Sunbury 76.50 311 IAmb IAmb 21 08 49.8
comp=Z,42nm,0.8s
N58A Sunbury 76.50 311 P P 21 08 49.4 +0.7
baz=53,SNR=10.0
N58A P P 21 08 49.4 +0.7
baz=53,SNR=10.0
COLD Coldfoot 76.68 359 IAmb IAmb 21 08 50.9
comp=Z,129nm,1.5s
COLD Coldfoot 76.68 359 P P 21 08 49.8 +0.5
baz=1.8,SNR=34
WVNY West Valley, N 76.69 313 IAmb IAmb 21 08 51.4
comp=Z,39nm,0.8s
WVNY West Valley, N 76.69 313 P P 21 08 50.4 +0.6
baz=53,SNR=10
F21K Alatna River 76.70 0 P P 21 08 50.3 +0.9
baz=359,SNR=54
G26K Porcupine Rive 76.76 357 P P 21 08 50.9 +1.2
baz=7.1,SNR=51
MVL Millersville 76.77 310 IAmb IAmb 21 08 52.0
comp=Z,51nm,1.1s
G27K Doyon Strip 76.79 356 P P 21 08 50.6 +0.7
baz=8.9,SNR=58
EPYK Eagle Plains 76.85 354 P P 21 08 49.7 -0.6
baz=13,SNR=20
YKA Yellowknife Ar 76.87 343 P P 21 08 49.6 -0.7
comp=Z,13nm,0.9s,baz=37,slow=5.2,SNR=11
comp=Z,13nm,0.9s
PAGS Pennsylvania G 76.87 310 IAmb IAmb 21 08 51.4
comp=Z,28nm,0.7s
G22K Bettles 77.00 360 P P 21 08 51.4 +0.4
baz=0.8
ROSB Rosrio 77.12 257 eP P 21 08 52.1 -0.4
G24K Hadweenzic Riv 77.16 358 P P 21 08 52.8 +0.9
baz=4.1,SNR=31
G23K Bananza Creek 77.20 359 P P 21 08 53.1 +0.9
baz=2.0,SNR=43
FYU Fort Yukon 77.21 357 P P 21 08 52.7 +0.5
SSPA Standing Stone 77.33 311 P P 21 08 53.3 -0.1
SSPA Standing Stone 77.33 311 P P 21 08 54.0 +0.6
baz=53,SNR=8.4
SSPA Standing Stone 77.33 311 P P 21 08 53.9 +0.6
baz=53
H27K Steamboat Moun 77.35 356 P P 21 08 53.9 +0.8
baz=9.0,SNR=63
M55A Ridgway 77.36 312 IAmb IAmb 21 08 54.6
comp=Z,53nm,0.7s
M55A Ridgway 77.36 312 P P 21 08 54.2 +0.6
baz=52,SNR=21
M55A P P 21 08 54.2 +0.6
baz=52,SNR=21
G21K Allakaket 77.41 0 P P 21 08 53.9 +0.6
baz=359,SNR=53
E46A Sault Ste Mari 77.42 319 P P 21 08 54.2 +0.4
baz=50,SNR=20
SDMD Soldier's Deli 77.43 310 P P 21 08 54.5 +0.5
baz=53,SNR=9.6
H25K Birch Creek 77.53 357 P P 21 08 55.1 +1.1
baz=5.4,SNR=40
PSDB Penn State Uni 77.56 312 P P 21 08 55.0 +0.3
baz=52
ERPA Erie 77.68 313 P P 21 08 55.5 +0.2
baz=52
ERPA Erie 77.68 313 P P 21 08 55.6 +0.3
baz=52
I29M Ogilvie Camp, 77.98 354 IAmb IAmb 21 08 57.2
comp=Z,58nm,0.6s
I29M Ogilvie Camp, 77.98 354 P P 21 08 56.3 -0.3
baz=12,SNR=46
I27K Kandik River 77.98 355 P P 21 08 57.0 +0.4
baz=8.9,SNR=33
H24K Nodor Dome 78.03 358 P P 21 08 57.4 +0.5
baz=3.7,SNR=28
H22K Ishtalitna Cre 78.03 360 P P 21 08 58.1 +1.3
baz=0.8,SNR=54
WRGLY Wrigley 78.05 347 P P 21 08 57.3 +0.3
baz=24
H23K Yukon River 78.08 359 P P 21 08 58.3 +1.2
baz=2.4,SNR=66
P57A Homestead Farm 78.11 310 IAmb IAmb 21 08 58.7
comp=Z,35nm,0.7s
P57A Homestead Farm 78.11 310 P P 21 08 58.3 +0.6
baz=52,SNR=13
P57A P P 21 08 58.3 +0.6
baz=52,SNR=13
H21K Melozitna Rive 78.27 0 IAmb IAmb 21 09 01.4
comp=Z,133nm,1.4s
H21K Melozitna Rive 78.27 0 P P 21 08 59.3 +1.1
baz=360,SNR=44
PRP Porcupine Dome 78.27 357 IAmb IAmb 21 09 00.1
comp=Z,100nm,1.6s
PRP Porcupine Dome 78.27 357 P P 21 08 58.8 +0.5
baz=5.7,SNR=14
CBN Corbin Frederi 78.49 309 P P 21 09 00.1 +0.3
baz=53
M53A WI Miller and 78.51 313 P P 21 08 59.8 0.0
baz=51
GLMI Grayling 78.58 318 P P 21 09 00.8 +0.5
baz=52
UPAO U. Pittsburgh 78.71 312 P P 21 09 01.2 +0.2
baz=52
YSS Yuzh-Sakhalins 78.72 39 eP P 21 09 01.4 +0.5
YSS pmax pmax
comp=Z,60nm,0.9s
T60A Surry 78.73 308 P P 21 09 01.9 +0.7
baz=53
T60A P P 21 09 01.9 +0.7
baz=53
POKR Poker Plat Res 78.74 358 P P 21 09 01.0 +0.3
POKR IAmb IAmb 21 09 02.3
comp=Z,58nm,0.8s
POKR Poker Plat Res 78.74 358 P P 21 09 01.3 +0.6
baz=4.1,SNR=18
I21K Tanana 78.75 360 IAmb IAmb 21 09 02.8
comp=Z,42nm,0.8s
I21K Tanana 78.75 360 P P 21 09 01.7 +1.0
baz=0.4,SNR=18
I23K Minto, Yukon-K 78.76 359 P P 21 09 01.5 +0.7
baz=2.5
EGAK Eagle 78.77 355 P P 21 09 00.3 -0.6
EGAK Eagle 78.77 355 P P 21 09 00.8 -0.1
baz=9.2,SNR=26
E43A Lone Tree Farm 78.83 320 P P 21 09 01.6 +0.1
baz=48,SNR=5.9
ANM Nome 78.85 6 P P 21 09 01.2 -0.1
baz=349
J29M Klondike Camp 78.86 354 IAmb IAmb 21 10 52.1
comp=Z,12nm,0.8s
J29M Klondike Camp 78.86 354 P P 21 09 00.7 -0.8
baz=12
MLY Manley 78.89 359 IAmb IAmb 21 09 04.3
comp=Z,39nm,0.7s
MLY Manley 78.89 359 P P 21 09 02.2 +0.6
baz=1.4,SNR=68
MDM Murphy Dome 78.92 358 IAmb IAmb 21 09 04.1
comp=Z,96nm,1.2s
R58B Mineral 78.95 309 P P 21 09 02.0 -0.3
R58B Mineral 78.95 309 P P 21 09 02.6 +0.3
baz=52,SNR=10
R58B P P 21 09 02.6 +0.3
baz=52,SNR=10
COLA College 79.00 358 P P 21 09 02.2 +0.1
baz=3.7
N53A Lisbon 79.00 313 IAmb IAmb 21 09 03.4
comp=Z,33nm,0.8s
N53A Lisbon 79.00 313 P P 21 09 02.5 0.0
baz=51,SNR=5.7
N53A P P 21 09 02.5 0.0
baz=51,SNR=5.7
TCOL CIGO, UAF Yank 79.00 358 P P 21 09 02.3 +0.2
baz=3.7
G45A Suttons Bay 79.00 318 P P 21 09 02.3 -0.3
baz=49
G45A P P 21 09 02.3 -0.3
baz=49
IL31 79.07 358 IAmb IAmb 21 09 03.6
comp=Z,84nm,1.6s
ILAR Eielson Array 79.07 358 P P 21 09 02.2 -0.3
comp=Z,12nm,0.6s,baz=344,slow=3.8,SNR=95
ILAR PKKPbc PKKPbc 21 27 53.1 -0.7
comp=Z,0.5nm,0.6s,baz=201,slow=1.2,SNR=4.0
ILAR LR LR 21 46 21.2
comp=Z,31nm,18.3s,baz=22,slow=37
comp=Z,12nm,0.6s
Q56A Snyder Ridge, 79.10 311 IAmb IAmb 21 09 04.5
comp=Z,58nm,0.8s
Q56A Snyder Ridge, 79.10 311 P P 21 09 03.6 +0.4
baz=52,SNR=19
Q56A P P 21 09 03.6 +0.4
baz=52,SNR=19
O54A Avella 79.11 312 P P 21 09 03.6 +0.4
baz=51
O54A P P 21 09 03.6 +0.4
baz=51
MCWV Mont Chateau 79.12 311 P P 21 09 03.6 +0.4
MCWV IAmb IAmb 21 09 04.3
comp=Z,53nm,0.7s
MCWV Mont Chateau 79.12 311 P P 21 09 04.0 +0.8
baz=52
MCWV Mont Chateau 79.12 311 P P 21 09 03.7 +0.4
baz=52
MDP Montagnes des 79.14 268 LR LR 21 44 03.6
comp=Z,39nm,18.7s,baz=38,slow=36
J25K Salcha River, 79.17 357 P P 21 09 02.9 -0.3
baz=5.8,SNR=17
J26L Joseph Creek 79.19 356 IAmb IAmb 21 09 04.7
comp=Z,30nm,0.6s
J26L Joseph Creek 79.19 356 P P 21 09 03.2 -0.1
baz=7.2,SNR=49
CCB Clear Creek Bu 79.22 358 IAmb IAmb 21 09 04.2
comp=Z,137nm,1.8s
NEA2 Nenana 79.31 359 P P 21 09 02.9 -1.0
NEA2 IAmb IAmb 21 09 06.0
comp=Z,128nm,1.8s
NEA2 Nenana 79.31 359 P P 21 09 03.8 0.0
baz=2.7,SNR=26
DAWY Dawson 79.34 354 IAmb IAmb 21 09 06.2
comp=Z,51nm,0.8s
DAWY Dawson 79.34 354 P P 21 09 04.3 +0.2
baz=11,SNR=58
T59A Double "B" Far 79.35 308 P P 21 09 04.4 -0.1
baz=52,SNR=6.9
T59A P P 21 09 04.4 -0.1
baz=52,SNR=6.9
K29M Barlow Dome 79.40 353 P P 21 09 04.7 +0.2
baz=12,SNR=19
HDA Harding Lake 79.44 358 P P 21 09 04.0 -0.6
HDA IAmb IAmb 21 09 05.3
comp=Z,64nm,0.7s
HDA Harding Lake 79.44 358 P P 21 09 04.2 -0.3
baz=4.5,SNR=48
MAYO Mayo, Yukon 79.48 353 P P 21 09 05.1 +0.3
baz=14,SNR=10
O53A New Philadelph 79.57 313 IAmb IAmb 21 09 07.1
comp=Z,42nm,0.9s
O53A New Philadelph 79.57 313 P P 21 09 06.2 +0.5
baz=51,SNR=9.7
K27K Chicken 79.57 355 P P 21 09 05.8 +0.6
baz=8.5
AAM Ann Arbor 79.68 315 P P 21 09 06.3 0.0
baz=50
J47A Sunmer 79.73 317 IAmb IAmb 21 09 07.7
comp=Z,80nm,0.8s
J47A Sunmer 79.73 317 P P 21 09 06.3 -0.2
baz=49,SNR=5.5
J47A P P 21 09 06.3 -0.2
baz=49,SNR=5.5
SCRK Sand Creek 79.74 356 P P 21 09 06.4 0.0
SCRK Sand Creek 79.74 356 P P 21 09 06.8 +0.5
baz=6.9,SNR=33
S57A Dark Hollow, R 79.75 309 P P 21 09 07.0 +0.2
baz=52,SNR=5.1
S57A P P 21 09 07.0 +0.2
baz=52,SNR=5.1
J20K Nowinta River 79.75 1 P P 21 09 07.0 +0.7
baz=359,SNR=50
F42A Maple Grove Fa 79.83 320 P P 21 09 07.0 0.0
F42A IAmb IAmb 21 09 08.0
comp=Z,116nm,1.2s
N51A Ashland 79.83 314 IAmb IAmb 21 09 08.1
comp=Z,104nm,1.4s
BPAW Bear Paw Mtn. 79.83 359 IAmb IAmb 21 09 07.4
comp=Z,40nm,0.8s
BPAW Bear Paw Mtn. 79.83 359 P P 21 09 06.5 -0.2
baz=1.2,SNR=50
MMPY Sheldon Lake, 79.87 350 P P 21 09 08.3 +1.3
baz=17,SNR=31
TMAB Tom-Au,PA,Br 79.93 260 eP P 21 09 07.9 -0.1
K24K Donnelly Dome 80.00 357 P P 21 09 07.7 +0.1
baz=5.4,SNR=43
EYMN Ely 80.00 323 IAmb IAmb 21 09 08.5
comp=Z,92nm,1.4s
EYMN Ely 80.00 323 P P 21 09 07.5 -0.4
baz=46
EYMN Ely 80.00 323 P P 21 09 07.3 -0.6
baz=46
RIDG Independent Ri 80.02 357 P P 21 09 07.9 +0.1
baz=6.2,SNR=38
O52A Adamsville 80.02 313 IAmb IAmb 21 09 09.3
comp=Z,64nm,0.9s
O52A Adamsville 80.02 313 P P 21 09 08.4 +0.3
baz=50,SNR=13
O52A P P 21 09 08.4 +0.3
baz=50,SNR=13
CHUM Lake Minchumin 80.06 360 P P 21 09 08.2 +0.4
baz=0.1,SNR=26
DOT Dot Lake 80.07 356 IAmb IAmb 21 09 09.5
comp=Z,33nm,0.7s
COWI Conover 80.11 321 P P 21 09 08.3 -0.3
baz=47
Q54A Coxs Mills 80.14 311 P P 21 09 08.4 -0.4
baz=51,SNR=7.0
Q54A P P 21 09 08.4 -0.4
baz=51,SNR=7.0
R55A Marlinton 80.14 310 P P 21 09 08.7 -0.2
R55A IAmb IAmb 21 09 09.8
comp=Z,30nm,0.7s
R55A Marlinton 80.14 310 P P 21 09 09.4 +0.5
baz=51,SNR=12
R55A P P 21 09 09.4 +0.5
baz=51,SNR=12
P53A Whipple 80.16 312 IAmb IAmb 21 09 09.9
comp=Z,56nm,0.7s
P53A Whipple 80.16 312 P P 21 09 09.5 +0.6
baz=51,SNR=14
P53A P P 21 09 09.5 +0.6
baz=51,SNR=14
MCK McKinley 80.17 358 IAmb IAmb 21 09 09.3
comp=Z,51nm,1.0s
MCK McKinley 80.17 358 P P 21 09 08.0 -0.5
baz=2.8,SNR=11
L29M L29M 80.17 353 P P 21 09 09.0 +0.4
baz=12,SNR=22
L48A N Adams 80.35 315 IAmb IAmb 21 09 10.3
comp=Z,51nm,0.8s
L48A N Adams 80.35 315 P P 21 09 09.9 0.0
baz=49,SNR=6.1
L48A P P 21 09 09.9 0.0
baz=49,SNR=6.1
ULM Lac du Bonnet 80.37 327 P P 21 09 08.8 -1.0
comp=Z,37nm,0.6s,baz=58,slow=6.1,SNR=38
comp=Z,37nm,0.6s
ULM Lac du Bonnet 80.37 327 IAmb IAmb 21 09 10.0
comp=Z,98nm,1.1s
KTH Kantishna Hill 80.38 359 P P 21 09 08.5 -1.2
T57A Hurt 80.41 309 P P 21 09 10.7 +0.4
baz=51,SNR=13
T57A P P 21 09 10.7 +0.4
baz=51,SNR=13
TGTN Hyland Airport 80.46 349 P P 21 09 11.3 +1.1
baz=20,SNR=17
TRF Thorofare Moun 80.48 359 IAmb IAmb 21 09 11.2
comp=Z,35nm,0.9s
TRF Thorofare Moun 80.48 359 P P 21 09 09.7 -0.6
baz=1.7,SNR=32
BIM Bigot 80.49 281 P P 21 09 11.3 +0.3
P52A Corning 80.51 313 IAmb IAmb 21 09 11.7
comp=Z,49nm,1.0s
P52A Corning 80.51 313 P P 21 09 10.6 -0.1
baz=50,SNR=7.4
H43A Windswept, Lux 80.51 319 P P 21 09 10.9 +0.2
baz=48,SNR=5.7
GDU01 Guandu, BA 80.51 245 eP P 21 09 11.1 0.0
FARO Faro, Yukon 80.52 351 IAmb IAmb 21 09 13.2
comp=Z,68nm,1.5s
FARO Faro, Yukon 80.52 351 P P 21 09 11.1 +0.6
baz=16,SNR=10
L27K Beaver Creek, 80.52 355 IAmb IAmb 21 09 12.1
comp=Z,151nm,1.8s
L27K Beaver Creek, 80.52 355 P P 21 09 11.1 +0.7
baz=8.6,SNR=30
CAST Castle Rocks 80.52 360 IAmb IAmb 21 09 11.6
comp=Z,43nm,0.8s
CAST Castle Rocks 80.52 360 P P 21 09 09.8 -0.7
baz=0.3,SNR=47
K20K Telida 80.57 1 IAmb IAmb 21 09 12.1
comp=Z,35nm,0.8s
K20K Telida 80.57 1 P P 21 09 11.2 +0.5
baz=359,SNR=32
CNNC Cliffs of the 80.62 307 P P 21 09 11.4 0.0
baz=52
ACSO Alum Creek Sta 80.62 313 IAmb IAmb 21 09 12.4
comp=Z,52nm,1.0s
ACSO Alum Creek Sta 80.62 313 P P 21 09 11.5 +0.1
baz=50,SNR=7.6
ACSO Alum Creek Sta 80.62 313 P P 21 09 11.2 -0.2
baz=50,SNR=7.6
L26K Log Cabin Wild 80.65 356 P P 21 09 10.8 -0.4
L26K Log Cabin Wild 80.65 356 P P 21 09 11.8 +0.6
baz=7.4,SNR=31
M31M Drury Creek, Y 80.67 352 IAmb IAmb 21 09 12.9
comp=Z,147nm,1.7s
M31M Drury Creek, Y 80.67 352 P P 21 09 11.8 +0.5
baz=15,SNR=18
B35A Bob, Littlefor 80.77 325 IAmb IAmb 21 09 12.3
comp=Z,31nm,0.8s
B35A Bob, Littlefor 80.77 325 P P 21 09 11.3 -0.7
baz=44,SNR=9.4
DHY Denali Highway 80.78 358 P P 21 09 11.2 -0.8
DHY IAmb IAmb 21 09 14.4
comp=Z,51nm,0.6s
DHY Denali Highway 80.78 358 P P 21 09 11.9 -0.1
baz=4.1,SNR=85
FLDN Fort Liard 80.81 346 P P 21 09 13.0 +1.1
baz=23
PAX Paxson 80.82 357 P P 21 09 11.5 -0.6
baz=5.7,SNR=11
M29M Somme Creek 80.86 353 P P 21 09 13.2 +0.8
baz=11,SNR=115
N49A Columbus Grove 80.88 315 IAmb IAmb 21 09 13.1
comp=Z,52nm,0.7s
N49A Columbus Grove 80.88 315 P P 21 09 12.6 -0.1
baz=49,SNR=12
N49A P P 21 09 12.6 -0.1
baz=49,SNR=12
PETK Petropavlovsk- 80.90 28 P P 21 09 11.4 -1.2
comp=Z,17nm,1.1s,baz=235,slow=7.0,SNR=8.0
PETK LR LR 21 47 27.0
comp=Z,79nm,21.5s,baz=299,slow=37
comp=Z,17nm,1.1s
TTA Tatalina 80.97 2 P P 21 09 13.3 +0.4
TTA Tatalina 80.97 2 P P 21 09 13.3 +0.4
TTA pmax pmax
comp=Z,14nm,0.7s
TTA Tatalina 80.97 2 P P 21 09 13.4 +0.4
baz=357,SNR=19
E38A The Farm, Brul 80.97 322 P P 21 09 12.0 -1.1
baz=45
BLA Blacksburg 81.00 310 P P 21 09 13.5 0.0
baz=51
BLA Blacksburg 81.00 310 P P 21 09 13.4 -0.1
baz=51
Q52A Bidwell 81.02 312 IAmb IAmb 21 09 14.0
comp=Z,43nm,0.7s
Q52A Bidwell 81.02 312 P P 21 09 13.3 -0.2
baz=50,SNR=8.8
Q52A P P 21 09 13.3 -0.2
baz=50,SNR=8.8
PPLA Purkeypile 81.05 360 IAmb IAmb 21 09 14.6

	comp=Z,65nm,0.8s								
PPLA	**Purkeypile**	**81.05**	**360**	P	**P**	**21 09 13.7**	**+0.4**
	baz=0.2,SNR=46								
V58A	**Windy Hill, Pi**	**81.06**	**308**	P	**P**	**21 09 14.0**	**+0.2**
	baz=51,SNR=5.7								
V58A				P	**P**	**21 09 14.0**	**+0.2**
	baz=51,SNR=5.7								
WAT1	**Susitna Watana**	**81.06**	**358**	P	**P**	**21 09 12.4**	**-1.0**
	baz=3.1								
BVCY	**Beaver Creek**	**81.09**	**355**	P	**P**	**21 09 14.2**	**+0.8**
	baz=9.4,SNR=12								
P51A	**Williamsport**	**81.15**	**313**	P	**P**	**21 09 14.2**	**0.0**
	baz=50								
P51A				P	**P**	**21 09 14.2**	**0.0**
	baz=50								
S54A	**Dingess, Beckl**	**81.18**	**311**	IAmb	IAmb	21 09 35.8	
	comp=Z,37nm,0.9s								
S54A	**Dingess, Beckl**	**81.18**	**311**	P	**P**	**21 09 14.3**	**-0.2**
	baz=50,SNR=5.9								
S54A				P	**P**	**21 09 14.3**	**-0.2**
	baz=50,SNR=5.9								
M27K	**Edge Creek, AK**	**81.22**	**355**	IAmb	IAmb	21 09 17.1	
	comp=Z,127nm,1.7s								
M27K	**Edge Creek, AK**	**81.22**	**355**	P	**P**	**21 09 14.9**	**+0.6**
	baz=8.6,SNR=26								
G40A	**Rib Lake**	**81.23**	**321**	P	**P**	**21 09 14.0**	**-0.5**
G40A				IAmb	IAmb	21 09 15.2	
	comp=Z,115nm,1.3s								
G40A	**Rib Lake**	**81.23**	**321**	P	**P**	**21 09 14.4**	**-0.1**
	baz=46,SNR=13								
R53A	**Hurricane**	**81.23**	**311**	P	**P**	**21 09 15.1**	**+0.4**
	baz=50,SNR=18								
R53A				P	**P**	**21 09 15.1**	**+0.4**
	baz=50,SNR=18								
M26K	**Nabesna, AK**	**81.25**	**356**	IAmb	IAmb	21 09 15.8	
	comp=Z,104nm,1.6s								
M26K	**Nabesna, AK**	**81.25**	**356**	P	**P**	**21 09 14.7**	**+0.3**
	baz=7.7,SNR=25								
WAT6	**Susitna Watana**	**81.29**	**358**	P	**P**	**21 09 14.5**	**-0.2**
	baz=3.8,SNR=42								
HARP	**HAARP**	**81.37**	**357**	P	**P**	**21 09 15.1**	**+0.1**
	baz=5.9,SNR=8.8								
O49A	**Covington**	**81.44**	**314**	IAmb	IAmb	21 09 16.0	
	comp=Z,56nm,0.6s								
O49A	**Covington**	**81.44**	**314**	P	**P**	**21 09 15.6**	**-0.1**
	baz=49,SNR=13								
O49A				P	**P**	**21 09 15.6**	**-0.1**
	baz=49,SNR=13								
L20K	**Farewell, AK**	**81.46**	**1**	P	**P**	**21 09 15.2**	**-0.2**
	baz=359,SNR=18								
I42A	**Draeger Farm,**	**81.50**	**319**	IAmb	IAmb	21 09 16.7	
	comp=Z,99nm,1.2s								
I42A	**Draeger Farm,**	**81.50**	**319**	P	**P**	**21 09 15.9**	**-0.1**
	baz=47,SNR=6.7								
U56A	**King**	**81.52**	**309**	IAmb	IAmb	21 09 17.5	
	comp=Z,57nm,1.1s								
U56A	**King**	**81.52**	**309**	P	**P**	**21 09 16.8**	**+0.6**
	baz=51,SNR=7.9								
U56A				P	**P**	**21 09 16.8**	**+0.6**
	baz=51,SNR=7.9								
CUT	**Chulitna**	**81.52**	**359**	P	**P**	**21 09 14.7**	**-1.0**
	baz=1.8,SNR=8.2								
N32M	**Quiet Lake**	**81.52**	**351**	P	**P**	**21 09 15.7**	**-0.1**
	baz=16								
N31M	**Braeburn, Yuko**	**81.53**	**352**	P	**P**	**21 09 15.4**	**-0.4**
	baz=14,SNR=12								
CMC01	**Camacan, BA**	**81.54**	**244**	*e*P	**P**	**21 09 15.3**	**-1.2**
Q51A	**Peebles**	**81.62**	**313**	IAmb	IAmb	21 09 17.7	
	comp=Z,74nm,1.1s								
Q51A	**Peebles**	**81.62**	**313**	P	**P**	**21 09 16.1**	**-0.6**
	baz=50,SNR=12								
Q51A				P	**P**	**21 09 16.1**	**-0.6**
	baz=50,SNR=12								
YUK3	**Moose Creek**	**81.69**	**354**	P	**P**	**21 09 17.2**	**+0.3**
	baz=9.7,SNR=48								
N30M	**Aishikik Lake**	**81.69**	**353**	P	**P**	**21 09 16.7**	**0.0**
	baz=12,SNR=20								
M24K	**Tolsona, Glenn**	**81.71**	**357**	IAmb	IAmb	21 09 19.2	
	comp=Z,55nm,0.9s								
M24K	**Tolsona, Glenn**	**81.71**	**357**	P	**P**	**21 09 17.2**	**+0.4**
	baz=5.1,SNR=8.6								
L19K	**White Mountain**	**81.74**	**1**	P	**P**	**21 09 17.2**	**+0.4**
L19K				IAmb	IAmb	21 09 18.5	
	comp=Z,36nm,0.9s								
L19K	**White Mountain**	**81.74**	**1**	P	**P**	**21 09 17.3**	**+0.4**
	baz=358,SNR=23								
N47A	**Urbana**	**81.77**	**315**	IAmb	IAmb	21 09 17.9	
	comp=Z,82nm,0.9s								
N47A	**Urbana**	**81.77**	**315**	P	**P**	**21 09 17.1**	**-0.3**
	baz=48,SNR=11								
N47A				P	**P**	**21 09 17.1**	**-0.3**
	baz=48,SNR=11								
AGMN	**Agassiz Nation**	**81.80**	**326**	P	**P**	**21 09 16.8**	**-0.6**
	baz=43,SNR=8.9								
AGMN	**Agassiz Nation**	**81.80**	**326**	P	**P**	**21 09 16.5**	**-0.9**
	baz=43,SNR=8.9								
O48B	**Farmland**	**81.87**	**315**	P	**P**	**21 09 17.7**	**-0.3**
	baz=49,SNR=8.1								
O48B	**Farmland**	**81.87**	**315**	P	**P**	**21 09 17.4**	**-0.6**
	baz=49,SNR=8.1								
WTLY	**Watson Lake, Y**	**81.89**	**348**	P	**P**	**21 09 18.3**	**+0.5**
	baz=19								
JTM	**Tenmabayashi**	**81.92**	**45**	P	**P**	**21 09 17.9**	**-0.3**
YUK4	**Talbot Arm**	**81.96**	**353**	P	**P**	**21 09 18.1**	**-0.2**
	baz=11,SNR=21								
SKT	**Skwentna**	**81.96**	**360**	IAmb	IAmb	21 09 18.2	
	comp=Z,45nm,0.8s								
SKT	**Skwentna**	**81.96**	**360**	P	**P**	**21 09 17.3**	**-0.8**
	baz=0.7,SNR=63								
K43A	**Burlington**	**82.00**	**318**	IAmb	IAmb	21 09 19.6	
	comp=Z,85nm,0.9s								
K43A	**Burlington**	**82.00**	**318**	P	**P**	**21 09 19.1**	**+0.5**
	baz=47								
W57A	**Gilead**	**82.02**	**308**	P	**P**	**21 09 18.9**	**0.0**
	baz=51,SNR=7.1								
W57A				P	**P**	**21 09 18.9**	**0.0**
	baz=51,SNR=7.1								
SCM	**Sheep Creek Mo**	**82.03**	**358**	IAmb	IAmb	21 09 20.0	
	comp=Z,95nm,1.1s								
SCM	**Sheep Creek Mo**	**82.03**	**358**	P	**P**	**21 09 18.8**	**+0.3**
	baz=4.1,SNR=32								
M19K	**Big River Lodg**	**82.03**	**1**	P	**P**	**21 09 18.7**	**+0.3**
	baz=358,SNR=15								
M20K	**Styx River**	**82.06**	**0**	IAmb	IAmb	21 09 19.4	
	comp=Z,38nm,0.8s								
M20K	**Styx River**	**82.06**	**0**	P	**P**	**21 09 18.6**	**-0.1**
	baz=359								
CBYP	**Canovanas**	**82.08**	**287**	P	**P**	**21 09 19.2**	**-0.3**
M23K	**Glacier View**	**82.08**	**358**	P	**P**	**21 09 18.8**	**+0.1**
	baz=3.8,SNR=30								
SML	**Sawmill**	**82.08**	**358**	IAmb	IAmb	21 09 21.7	
	comp=Z,116nm,1.4s								
SML	**Sawmill**	**82.08**	**358**	P	**P**	**21 09 18.6**	**-0.2**
	baz=3.3,SNR=32								
P49A	**Miami Univ. Ec**	**82.09**	**314**	P	**P**	**21 09 18.2**	**-1.0**
	baz=49,SNR=6.5								
P49A	**Miami Univ. Ec**	**82.09**	**314**	P	**P**	**21 09 18.4**	**-0.8**
	baz=49,SNR=6.5								
L44A	**Lake County Fo**	**82.13**	**317**	IAmb	IAmb	21 09 19.6	
	comp=Z,74nm,0.9s								
L44A	**Lake County Fo**	**82.13**	**317**	P	**P**	**21 09 18.8**	**-0.5**
	baz=47								
N25K	**Chitina, Valde**	**82.14**	**356**	IAmb	IAmb	21 09 20.9	
	comp=Z,27nm,0.7s								
N25K	**Chitina, Valde**	**82.14**	**356**	P	**P**	**21 09 19.0**	**-0.1**
	baz=6.3,SNR=26								
HUMP	**Col San Antoni**	**82.15**	**287**	P	**P**	**21 09 19.9**	**+0.1**
HUMP				IAmb	IAmb	21 09 21.5	
	comp=Z,72nm,0.8s								
SKR	**Severo-Kuril's**	**82.17**	**30**	*e*P	P	21 09 06.5	-13
SKR				pmax	pmax		
	comp=Z,55nm,1.3s								
SKR				MLR	MLR		
	comp=Z,200nm,16.0s								
M22K	**Willow**	**82.18**	**359**	IAmb	IAmb	21 09 20.1	
	comp=Z,67nm,1.0s								
M22K	**Willow**	**82.18**	**359**	P	**P**	**21 09 18.9**	**-0.2**
	baz=1.9,SNR=9.7								
WHY	**Whitehorse**	**82.23**	**351**	P	**P**	**21 09 19.0**	**-0.6**
	baz=14								
GCPR	**Guaynabo City**	**82.23**	**287**	P	**P**	**21 09 20.0**	**-0.2**
O30N	**Mendenhall**	**82.26**	**352**	P	**P**	**21 09 19.4**	**-0.3**
	baz=13,SNR=12								
MCARA	**McCarthy VSAT**	**82.27**	**355**	P	**P**	**21 09 20.0**	**+0.3**
	baz=7.6,SNR=11								
U54A	**Nelsons Funny**	**82.30**	**310**	IAmb	IAmb	21 09 21.4	
	comp=Z,58nm,0.7s								
U54A	**Nelsons Funny**	**82.30**	**310**	P	**P**	**21 09 20.7**	**+0.3**
	baz=50,SNR=16								
U54A				P	**P**	**21 09 20.7**	**+0.3**
	baz=50,SNR=16								
KLU	**Klutina**	**82.31**	**357**	P	**P**	**21 09 20.1**	**+0.1**
	baz=5.3,SNR=17								
PMR	**Palmer**	**82.32**	**358**	IAmb	IAmb	21 09 21.0	
	comp=Z,59nm,1.1s								
PMR	**Palmer**	**82.32**	**358**	P	**P**	**21 09 19.7**	**-0.2**
	baz=2.7,SNR=10.0								
GRGR	**Grenville**	**82.32**	**279**	P	**P**	**21 09 20.7**	**-0.1**
YUK6	**Outpost Mounta**	**82.33**	**353**	P	**P**	**21 09 20.8**	**+0.5**
	baz=11,SNR=12								
V55A	**Taylorsville**	**82.35**	**309**	P	**P**	**21 09 21.0**	**+0.4**
	baz=50,SNR=8.8								
V55A				P	**P**	**21 09 21.0**	**+0.4**
	baz=50,SNR=8.8								
HYT	**Haines Junctio**	**82.36**	**353**	P	**P**	**21 09 20.2**	**-0.1**
HYT				IAmb	IAmb	21 09 22.8	
	comp=Z,171nm,1.8s								
HYT	**Haines Junctio**	**82.36**	**353**	P	**P**	**21 09 20.5**	**+0.2**
	baz=12,SNR=20								
I40A	**Norwalk**	**82.40**	**320**	IAmb	IAmb	21 09 21.6	
	comp=Z,140nm,1.4s								
I40A	**Norwalk**	**82.40**	**320**	P	**P**	**21 09 20.6**	**-0.1**
	baz=46,SNR=7.0								
P33M	**Teslin, Yukon**	**82.40**	**350**	IAmb	IAmb	21 09 21.7	
	comp=Z,100nm,1.8s								
P33M	**Teslin, Yukon**	**82.40**	**350**	P	**P**	**21 09 20.3**	**-0.2**
	baz=16,SNR=18								
F36A	**Milaca**	**82.46**	**323**	IAmb	IAmb	21 09 21.2	
	comp=Z,67nm,0.8s								
F36A	**Milaca**	**82.46**	**323**	P	**P**	**21 09 20.4**	**-0.6**
	baz=44,SNR=43								
SUA	**Susitna One**	**82.47**	**359**	P	**P**	**21 09 20.9**	**0.0**
	baz=1.4,SNR=72								
KNK	**Knik Glacier**	**82.48**	**358**	IAmb	IAmb	21 09 22.1	
	comp=Z,62nm,0.8s								
KNK	**Knik Glacier**	**82.48**	**358**	P	**P**	**21 09 21.1**	**+0.3**
	baz=3.2,SNR=36								
P48A	**Milroy**	**82.55**	**314**	IAmb	IAmb	21 09 22.0	
	comp=Z,43nm,1.0s								
P48A	**Milroy**	**82.55**	**314**	P	**P**	**21 09 21.1**	**-0.4**
	baz=48,SNR=7.7								
P48A				P	**P**	**21 09 21.1**	**-0.4**
	baz=48,SNR=7.7								
GUA01	**Guaratinga, BA**	**82.55**	**243**	*e*P	**P**	**21 09 21.6**	**-0.2**
CTG	**Chitna Glacier**	**82.56**	**355**	P	**P**	**21 09 21.5**	**+0.2**
	baz=9.0								
SPMN	**Marine on St.**	**82.57**	**322**	IAmb	IAmb	21 09 22.2	
	comp=Z,70nm,0.9s								
SPMN	**Marine on St.**	**82.57**	**322**	P	**P**	**21 09 20.8**	**-0.7**
	baz=44,SNR=11								
SPMN	**Marine on St.**	**82.57**	**322**	P	**P**	**21 09 21.0**	**-0.5**
	baz=44,SNR=11								
BIRD	**Birdtown, Kers**	**82.64**	**308**	P	**P**	**21 09 22.4**	**+0.4**
	baz=50,SNR=5.0								
O28M	**Mount Upton**	**82.66**	**354**	P	**P**	**21 09 22.4**	**+0.3**
	baz=9.9,SNR=19								
S51A	**Beattyville**	**82.67**	**312**	P	**P**	**21 09 22.5**	**+0.3**
	baz=49,SNR=5.7								
S51A				P	**P**	**21 09 22.5**	**+0.3**
	baz=49,SNR=5.7								
R50A	**Paris**	**82.68**	**313**	P	**P**	**21 09 21.3**	**-1.0**
	baz=49,SNR=9.8								
R50A				P	**P**	**21 09 21.3**	**-1.0**
	baz=49,SNR=9.8								
AOPR	**Arecibo Observ**	**82.73**	**287**	P	**P**	**21 09 22.3**	**-0.5**
AOPR				IAmb	IAmb	21 09 24.1	
	comp=Z,52nm,0.9s								
M44A	**Midewin, Midew**	**82.74**	**317**	P	**P**	**21 09 22.0**	**-0.5**
M44A				IAmb	IAmb	21 09 23.2	
	comp=Z,96nm,1.2s								
N20K	**Mount Spurr**	**82.75**	**360**	P	**P**	**21 09 21.4**	**-0.8**
	baz=0.2,SNR=6.1								
SPCR	**Spur Chakacha**	**82.75**	**360**	P	**P**	**21 09 21.5**	**-0.8**
	baz=0.2								
CELP	**Cerrillos**	**82.75**	**287**	P	**P**	**21 09 22.4**	**-0.5**
CELP				IAmb	IAmb	21 09 24.3	
	comp=Z,41nm,0.8s								
BMRM	**Bremner River**	**82.77**	**356**	IAmb	IAmb	21 09 24.3	
	comp=Z,76nm,1.4s								
BMRM	**Bremner River**	**82.77**	**356**	P	**P**	**21 09 22.1**	**-0.3**
	baz=6.3,SNR=13								
OBIP	**Obispado Ponce**	**82.79**	**287**	IAmb	IAmb	21 09 23.6	
	comp=Z,49nm,0.8s								
SVW2	**Sparrevohn**	**82.82**	**2**	P	**P**	**21 09 22.8**	**+0.3**
SVW2				IAmb	IAmb	21 09 24.0	
	comp=Z,35nm,0.8s								
RC01	**Rabbit Creek A**	**82.83**	**359**	IAmb	IAmb	21 09 23.7	
	comp=Z,77nm,0.8s								
RC01	**Rabbit Creek A**	**82.83**	**359**	P	**P**	**21 09 22.6**	**0.0**
	baz=2.2,SNR=31								
KMSC	**Kings Mountain**	**82.88**	**309**	P	**P**	**21 09 22.4**	**-1.0**
	baz=50,SNR=8.5								
KMSC	**Kings Mountain**	**82.88**	**309**	P	**P**	**21 09 23.4**	**+0.1**
	baz=50,SNR=8.5								
JFWS	**Jewell Farm**	**82.88**	**319**	P	**P**	**21 09 22.4**	**-0.8**
	baz=46,SNR=8.4								
JFWS	**Jewell Farm**	**82.88**	**319**	P	**P**	**21 09 22.5**	**-0.7**
	baz=46,SNR=8.4								
SFIN	**Lafayette**	**82.89**	**316**	P	**P**	**21 09 22.7**	**-0.6**
	baz=48								
R33M	**Jennings River**	**82.92**	**349**	P	**P**	**21 09 24.2**	**+1.0**
	baz=17,SNR=39								
GLI	**Glacier Island**	**82.97**	**357**	IAmb	IAmb	21 09 24.4	
	comp=Z,42nm,0.9s								
GLI	**Glacier Island**	**82.97**	**357**	P	**P**	**21 09 23.3**	**-0.1**
	baz=4.3,SNR=7.1								
O29M	**Mount Kennedy**	**82.98**	**353**	P	**P**	**21 09 23.5**	**0.0**
	baz=11,SNR=17								
P30M	**Million Dollar**	**82.99**	**352**	P	**P**	**21 09 23.7**	**+0.2**
	baz=12								
ISLE	**Juniper Island**	**83.00**	**355**	IAmb	IAmb	21 09 24.6	
	comp=Z,170nm,1.9s								
MAJO	**Matsushiro**	**83.01**	**49**	P	**P**	**21 09 22.4**	**-1.6**
MAJO	**Matsushiro**	**83.01**	**49**	P	**P**	**21 09 22.4**	**-1.6**
MJAR	**Matsushiro Arr**	**83.02**	**49**	P	**P**	**21 09 24.1**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=315,slow=5.2,SNR=17								
MJAR				LR	LR	21 49 44.4	
	comp=Z,76nm,19.0s,baz=316,slow=38								
	comp=Z,5.6nm,0.7s								
PWL	**Port Wells**	**83.03**	**358**	IAmb	IAmb	21 09 24.7	
	comp=Z,36nm,0.8s								
PWL	**Port Wells**	**83.03**	**358**	P	**P**	**21 09 23.7**	**0.0**
	baz=3.3,SNR=19								
FID	**Port Fidalgo**	**83.08**	**357**	P	**P**	**21 09 24.3**	**+0.5**
P32M	**Atlin**	**83.12**	**351**	P	**P**	**21 09 23.5**	**-0.7**
	baz=15,SNR=12								
N19K	**Bonanza Creek**	**83.12**	**1**	IAmb	IAmb	21 09 25.6	
	comp=Z,39nm,0.8s								
N19K	**Bonanza Creek**	**83.12**	**1**	P	**P**	**21 09 24.3**	**+0.1**
	baz=358,SNR=20								
MLPR	**Magueyes Islan**	**83.17**	**287**	IAmb	IAmb	21 09 27.6	
	comp=Z,45nm,0.8s								
CAPN	**Captain Cook N**	**83.18**	**359**	P	**P**	**21 09 25.3**	**+1.0**
	baz=1.0								
R49A	**Shelbyville**	**83.18**	**313**	IAmb	IAmb	21 09 25.4	
	comp=Z,43nm,0.8s								
R49A	**Shelbyville**	**83.18**	**313**	P	**P**	**21 09 24.9**	**+0.1**
	baz=48,SNR=15								
R49A				P	**P**	**21 09 24.9**	**+0.1**
	baz=48,SNR=15								
WAX	**Waxell Ridge**	**83.18**	**355**	IAmb	IAmb	21 09 27.0	
	comp=Z,119nm,1.5s								
L42A	**Oliver, Polo**	**83.20**	**318**	P	**P**	**21 09 24.8**	**-0.1**
	baz=46,SNR=6.9								
N18K	**Kilae Creek**	**83.23**	**2**	IAmb	IAmb	21 09 26.4	
	comp=Z,34nm,0.9s								
N18K	**Kilae Creek**	**83.23**	**2**	P	**P**	**21 09 25.4**	**+0.8**
	baz=357,SNR=21								
EYAK	**Cordova Ski Ar**	**83.25**	**357**	IAmb	IAmb	21 09 26.4	
	comp=Z,44nm,0.9s								
EYAK	**Cordova Ski Ar**	**83.25**	**357**	P	**P**	**21 09 25.2**	**+0.5**
	baz=5.4,SNR=11								
N16K	**Nishlik Lake**	**83.33**	**3**	P	**P**	**21 09 26.0**	**+0.8**
	baz=355,SNR=10								
PCA	**Pinnacle**	**83.33**	**354**	IAmb	IAmb	21 09 26.8	
	comp=Z,54nm,0.8s								
PINM	**Pinnacle**	**83.33**	**354**	P	**P**	**21 09 25.7**	**+0.4**
	baz=9.8,SNR=12								
TZTN	**Tazewell**	**83.35**	**311**	IAmb	IAmb	21 09 27.3	
	comp=Z,64nm,1.4s								
TZTN	**Tazewell**	**83.35**	**311**	P	**P**	**21 09 26.2**	**+0.5**
	baz=49,SNR=6.7								
TZTN	**Tazewell**	**83.35**	**311**	P	**P**	**21 09 26.0**	**+0.2**
	baz=49,SNR=6.7								
RAGM	**Ragged Mountai**	**83.36**	**356**	IAmb	IAmb	21 10 24.2	
	comp=Z,70nm,0.9s								
JSC	**Jenkinsville**	**83.38**	**308**	P	**P**	**21 09 26.2**	**+0.3**
	baz=50,SNR=8.4								
MESA	**MESA**	**83.39**	**355**	IAmb	IAmb	21 09 35.1	
	comp=Z,75nm,1.4s								
MESA	**MESA**	**83.39**	**355**	P	**P**	**21 09 26.2**	**+0.5**
	baz=8.5								
PAULI	**Pauline**	**83.39**	**309**	IAmb	IAmb	21 09 27.1	
	comp=Z,30nm,0.9s								
PAULI	**Pauline**	**83.39**	**309**	P	**P**	**21 09 25.9**	**0.0**
	baz=50,SNR=6.4								
NHSC	**New Hope**	**83.43**	**306**	P	**P**	**21 09 26.5**	**+0.3**
	baz=50								
O22K	**Cooper Landing**	**83.44**	**359**	P	**P**	**21 09 25.7**	**0.0**
	baz=2.2								
SKAG	**Skagway**	**83.45**	**351**	P	**P**	**21 09 25.6**	**-0.1**
	baz=14,SNR=6.1								
V53A	**Saluda**	**83.47**	**310**	P	**P**	**21 09 26.3**	**-0.2**
	baz=50,SNR=9.3								
V53A				P	**P**	**21 09 26.3**	**-0.2**
	baz=50,SNR=9.3								
P46A	**Rosedale**	**83.47**	**315**	P	**P**	**21 09 25.8**	**-0.5**
	baz=47,SNR=5.6								
SMTB	**Santa Maria do**	**83.49**	**254**	*e*P	**P**	**21 09 26.7**	**-0.1**
Q32M	**Nakina River**	**83.53**	**350**	P	**P**	**21 09 27.1**	**+0.6**
	baz=16,SNR=11								
BGLC	**Bering Glacier**	**83.54**	**355**	P	**P**	**21 09 25.7**	**-0.4**
	baz=7.4								
P29M	**Windy Craggy**	**83.56**	**353**	IAmb	IAmb	21 09 28.6	
	comp=Z,22nm,0.7s								
P29M	**Windy Craggy**	**83.56**	**353**	P	**P**	**21 09 26.4**	**0.0**
	baz=12,SNR=13								
PLBC	**Pleasant Camp**	**83.58**	**352**	P	**P**	**21 09 27.1**	**+0.6**
	baz=13,SNR=6.6								
NAN01	**Guarapari, ES**	**83.61**	**242**	*e*P	**P**	**21 09 27.5**	**+0.3**
SDBA	**SAO DESIDERIO**	**83.64**	**250**	*e*P	**P**	**21 09 28.6**	**+1.1**
PNL	**Peninsula**	**83.68**	**353**	P	**P**	**21 09 27.2**	**+0.2**
	baz=10								
DLBC	**Dease Lake**	**83.68**	**348**	LR	LR	21 49 47.2	
	comp=Z,78nm,18.8s,baz=56,slow=38								
DLBC	**Dease Lake**	**83.68**	**348**	P	**P**	**21 09 27.8**	**+0.7**
	baz=18,SNR=6.7								
JMM	**Marumori**	**83.70**	**47**	P	**P**	**21 09 26.7**	**-0.8**
I37A	**Lemond, Waseca**	**83.73**	**322**	P	**P**	**21 09 26.9**	**-0.6**
I37B	**Waseca**	**83.73**	**322**	P	**P**	**21 09 27.5**	**0.0**
	baz=44,SNR=26								
MDND	**Maddock**	**83.80**	**327**	P	**P**	**21 09 27.3**	**-0.5**
	baz=40,SNR=6.8								
MDND	**Maddock**	**83.80**	**327**	P	**P**	**21 09 27.1**	**-0.8**
	baz=40,SNR=6.8								
KAIM	**Kayak Island**	**83.80**	**356**	IAmb	IAmb	21 09 29.4	
	comp=Z,66nm,0.8s								
KAIM	**Kayak Island**	**83.80**	**356**	P	**P**	**21 09 28.1**	**+0.5**
	baz=6.5								
F33A	**5 Mile Ranch,**	**83.81**	**324**	P	**P**	**21 09 27.1**	**-0.8**
	baz=42,SNR=8.9								
SEW	**Seward**	**83.82**	**359**	IAmb	IAmb	21 09 28.7	
	comp=Z,49nm,0.9s								
SEW	**Seward**	**83.82**	**359**	P	**P**	**21 09 27.6**	**0.0**
	baz=2.4,SNR=15								
O44A	**Mansfield**	**83.82**	**316**	P	**P**	**21 09 28.1**	**+0.1**
	baz=47,SNR=5.8								
T50A	**Nancy**	**83.82**	**312**	IAmb	IAmb	21 09 29.1	
	comp=Z,47nm,0.7s								
T50A	**Nancy**	**83.82**	**312**	P	**P**	**21 09 28.5**	**+0.3**
	baz=48								
T50A				P	**P**	**21 09 28.5**	**+0.3**
	baz=48								
V52A	**Sevierville**	**83.84**	**310**	IAmb	IAmb	21 09 28.9	
	comp=Z,34nm,0.6s								
V52A	**Sevierville**	**83.84**	**310**	P	**P**	**21 09 28.5**	**+0.3**
	baz=49,SNR=18								
P23K	**Montague Islan**	**83.87**	**357**	P	**P**	**21 09 28.1**	**+0.2**
	baz=4.1								
O20K	**Slope Mountain**	**83.87**	**0**	P	**P**	**21 09 27.1**	**-0.9**
	baz=360,SNR=5.6								
WCI	**Wyandotte Cave**	**83.88**	**314**	P	**P**	**21 09 27.8**	**-0.6**
WCI				IAmb	IAmb	21 09 29.5	
	comp=Z,55nm,1.1s								
WCI	**Wyandotte Cave**	**83.88**	**314**	P	**P**	**21 09 27.8**	**-0.6**
WCI				pmax	pmax		
	comp=Z,55nm,1.1s								
WCI	**Wyandotte Cave**	**83.88**	**314**	P	**P**	**21 09 28.5**	**+0.2**
	baz=48,SNR=9.5								
WCI	**Wyandotte Cave**	**83.88**	**314**	P	**P**	**21 09 28.4**	**0.0**
	baz=48								
ILSW	**Iliamna Southw**	**83.97**	**0**	IAmb	IAmb	21 09 29.8	
	comp=Z,10nm,0.8s								
CASEE	**Lake Jocassee**	**83.98**	**309**	P	**P**	**21 09 29.4**	**+0.4**
	baz=49,SNR=5.9								
L40A	**Anamosa**	**83.99**	**319**	P	**P**	**21 09 28.6**	**-0.3**
	baz=45,SNR=41								
HDIL	**Hopedale**	**84.00**	**317**	P	**P**	**21 09 28.7**	**-0.3**
	baz=46								
HDIL	**Hopedale**	**84.00**	**317**	P	**P**	**21 09 28.8**	**-0.1**
	baz=46								
HODGE	**Hodges**	**84.05**	**308**	P	**P**	**21 09 29.6**	**+0.2**
	baz=50								
TKL	**Tuckaleechee C**	**84.07**	**310**	LR	LR	21 48 27.9	
	comp=Z,46nm,18.2s,baz=22,slow=37								
TKL	**Tuckaleechee C**	**84.07**	**310**	I

Q19K **Cape Douglas,** 85.02 1 P P 21 09 34.2 +0.4
baz=359
T35M **Bob Quinn** 85.11 348 P P 21 09 35.0 +0.7
baz=18,SNR=6.6
SCIA **State Center** 85.15 320 P P 21 09 34.2 -0.5
baz=44
SCIA **State Center** 85.15 320 P P 21 09 34.2 -0.5
baz=44
T47A **Sharon Grove** 85.19 313 P P 21 09 34.3 -0.7
T47A IAmb IAmb 21 09 35.8
comp=Z,72nm,1.1s
T47A **Sharon Grove** 85.19 313 P P 21 09 34.8 -0.2
baz=47,SNR=11
Q16K **King Salmon** 85.21 2 P P 21 09 34.5 -0.2
baz=357,SNR=5.2
DGMT **Dagmar** 85.23 330 P P 21 09 34.9 -0.2
baz=37,SNR=12
DGMT **Dagmar** 85.23 330 P P 21 09 35.0 -0.1
baz=37,SNR=12
E28A **Huff** 85.25 327 P P 21 09 35.0 -0.2
baz=39,SNR=12
S32K **Killisnoo** 85.29 350 P P 21 09 35.7 +0.7
baz=14
W50A **Signal Mountai** 85.31 311 P P 21 09 36.2 +0.5
baz=48,SNR=24
CLTN **Cedars of Leba** 85.33 312 IAmb IAmb 21 09 36.8
comp=Z,33nm,0.8s
GOGA **Godfrey** 85.34 308 P P 21 09 36.4 +0.5
baz=49,SNR=18
GOGA **Godfrey** 85.34 308 P P 21 09 36.2 +0.3
baz=49,SNR=18
Q20K **Shuyak Island** 85.35 360 P P 21 09 35.1 -0.3
baz=0.0,SNR=5.8
Y52A **Lilburn** 85.42 309 IAmb IAmb 21 09 37.4
comp=Z,41nm,0.7s
Y52A **Lilburn** 85.42 309 P P 21 09 37.0 +0.8
baz=49,SNR=14
Y52A P P 21 09 37.0 +0.8
baz=49,SNR=14
X51A **Calhoun** 85.45 310 P P 21 09 36.9 +0.5
baz=48,SNR=13
X51A P P 21 09 36.9 +0.5
baz=48,SNR=13
ECSD **EROS Data Cent** 85.52 323 P P 21 09 36.1 -0.4
baz=42,SNR=43
SPIA **Saint Paul Isl** 85.57 10 P P 21 09 36.6 +0.1
baz=346
255A **Hazlehurst** 85.68 307 P P 21 09 38.2 +0.7
baz=49
SIT **Sitka** 85.79 351 P P 21 09 37.9 +0.3
baz=14
ALF01 **Guarapari-ES** 85.86 241 eP P 21 09 37.7 -0.7
SLM **Saint Louis** 85.86 316 P P 21 09 38.0 -0.3
SLM **Saint Louis** 85.86 316 P P 21 09 38.0 -0.3
SLM pmax pmax
comp=Z,239nm,1.5s
SLM **Saint Louis** 85.86 316 P P 21 09 38.4 +0.1
baz=46
V48A **Smith Brothers** 85.86 312 P P 21 09 37.5 -0.9
baz=47,SNR=7.8
S44A **Carbondale** 85.95 315 P P 21 09 38.0 -0.8
baz=46,SNR=20
N38A **Joes South For** 85.96 319 P P 21 09 38.4 -0.4
baz=44,SNR=16
WRAK **Wrangell Islan** 85.98 349 IAmb IAmb 21 09 40.2
comp=Z,24nm,0.8s
WRAK **Wrangell Islan** 85.98 349 P P 21 09 39.0 +0.5
baz=16,SNR=6.6
LEM **Lembang** 86.03 101 LR LR 21 53 36.1
comp=Z,36nm,18.1s,baz=15,slow=39
SUSD **Miller** 86.10 325 P P 21 09 39.0 -0.5
baz=40
KDAK **Kodiak Island** 86.18 0 LR LR 21 50 59.5
comp=Z,41nm,20.7s,baz=36,slow=38
KDAK **Kodiak Island** 86.18 0 P P 21 09 39.3 -0.2
KDAK IAmb IAmb 21 09 40.8
comp=Z,53nm,0.9s
KDAK **Kodiak Island** 86.18 0 P P 21 09 39.3 -0.2
KDAK pmax pmax
comp=Z,53nm,0.9s
KDAK **Kodiak Island** 86.18 0 P P 21 09 39.7 +0.2
baz=360
WVT **Waverly** 86.20 313 P P 21 09 38.5 -1.6
WVT IAmb IAmb 21 09 39.6
comp=Z,25nm,0.6s
WVT **Waverly** 86.20 313 P P 21 09 38.5 -1.6
WVT pmax pmax
comp=Z,25nm,0.6s
WVT **Waverly** 86.20 313 P P 21 09 39.2 -0.8
baz=47,SNR=16
WVT **Waverly** 86.20 313 P P 21 09 39.2 -0.8
baz=47
P40A **Paris** 86.23 318 P P 21 09 39.8 -0.3
baz=44,SNR=22
U33K **Whale Pass** 86.40 349 P P 21 09 41.0 +0.5
baz=16
FVM **French Village** 86.42 316 P P 21 09 41.1 0.0
baz=45,SNR=6.4
CGM3 **Cape Girardeau** 86.46 315 IAmb IAmb 21 09 41.6
comp=Z,34nm,0.9s
DIAM **Diamantina, MG** 86.46 244 eP P 21 09 42.0 +0.4
Z51A **Franklin** 86.48 309 IAmb IAmb 21 09 42.8
comp=Z,46nm,0.8s
Z51A **Franklin** 86.48 309 P P 21 09 42.0 +0.5
baz=48,SNR=8.3
SHEM **Shemya Is, Ala** 86.57 20 LR LR 21 54 37.4
comp=Z,28nm,18.5s,baz=252,slow=40
152A **Waverly Hall** 86.62 309 P P 21 09 42.6 +0.4
baz=48,SNR=48
TIGA **Tifton** 86.71 307 P P 21 09 43.3 +0.7
baz=49,SNR=7.0
TIGA **Tifton** 86.71 307 P P 21 09 42.8 +0.1
baz=49,SNR=7.0
L34A **Svendsen Farm,** 86.72 322 P P 21 09 41.3 -1.2
baz=42,SNR=5.8
OHAK **Old Harbor** 86.74 0 IAmb IAmb 21 09 43.5
comp=Z,48nm,0.9s
OHAK **Old Harbor** 86.74 0 P P 21 09 42.5 +0.3
baz=359,SNR=11
CCM **Cathedral Cave** 86.83 316 P P 21 09 42.7 -0.4
CCM **Cathedral Cave** 86.83 316 P P 21 09 42.7 -0.4
CCM pmax pmax
comp=Z,115nm,0.7s
CCM **Cathedral Cave** 86.83 316 P P 21 09 43.2 +0.1
baz=45,SNR=74
CCM **Cathedral Cave** 86.83 316 P P 21 09 43.1 +0.1
baz=45
X48A **Hartselle** 86.87 311 IAmb IAmb 21 09 43.8
comp=Z,20nm,0.7s
X48A **Hartselle** 86.87 311 P P 21 09 43.0 -0.4
baz=47,SNR=14
Y49A **Blount Mountai** 86.88 310 IAmb IAmb 21 09 43.9
comp=Z,23nm,0.8s
Y49A **Blount Mountai** 86.88 310 P P 21 09 43.5 +0.1
baz=48,SNR=12
V35K **Ketchikan** 86.92 348 P P 21 09 43.5 +0.4
baz=17
BIRV **Birongo** 86.96 281 IAmb IAmb 21 09 45.7
comp=Z,25nm,1.0s
P38A **Dawn** 86.96 319 IAmb IAmb 21 09 44.5
comp=Z,42nm,1.1s
P38A **Dawn** 86.96 319 P P 21 09 43.6 -0.1
baz=44,SNR=7.2
CRAG **Craig** 87.02 349 P P 21 09 44.0 +0.4
baz=15
BOAV **Boa Vista** 87.08 271 P P 21 09 45.2 +0.5
BOAV IAmb IAmb 21 09 46.7
comp=Z,59nm,1.4s
BOAV **Boa Vista** 87.08 271 eP P 21 09 45.6 +0.9
PLAL **Pickwick Lake** 87.13 312 IAmb IAmb 21 09 44.7
comp=Z,34nm,1.0s
ITTB **Itaituba** 87.21 263 eP P 21 09 46.5 +1.2
R40A **Maddies Statio** 87.23 317 P P 21 09 45.2 +0.2
baz=44,SNR=58
CAM01 **Campos-RJ** 87.30 240 eP P 21 09 46.5 +1.1
656A **Willston** 87.38 305 P P 21 09 46.6 +0.8
baz=49,SNR=8.0
SII **Sitkinak Islan** 87.39 1 P P 21 09 45.8 +0.4
baz=359
DWPF **Disney Wildern** 87.45 303 P P 21 09 46.2 0.0
DWPF **Disney Wildern** 87.45 303 P P 21 09 47.2 +0.9
baz=50
DWPF **Disney Wildern** 87.45 303 P P 21 09 46.9 +0.6
baz=50
S14K **Fog Glacier** 87.48 4 P P 21 09 46.3 +0.3
baz=354
LAO **LASA Array** 87.48 330 P P 21 09 46.4 +0.3
baz=36,SNR=22
LAO **LASA Array** 87.48 330 P P 21 09 46.7 +0.5
baz=36,SNR=22
CHGN **Chignik** 87.52 3 P P 21 09 45.1 -0.9
baz=355
352A **Blakely** 87.54 308 P P 21 09 47.0 +0.3
baz=48
EGMT **Eagleton** 87.74 333 P P 21 09 47.4 0.0
baz=33,SNR=30
LRAL **Lakeview Retre** 87.80 310 IAmb IAmb 21 09 48.2
comp=Z,32nm,0.6s
LRAL **Lakeview Retre** 87.80 310 P P 21 09 47.8 0.0
baz=47,SNR=16
LRAL **Lakeview Retre** 87.80 310 P P 21 09 47.7 -0.1
baz=47,SNR=16
DUB01 **Friburgo-RJ** 87.97 241 eP P 21 09 48.8 +0.1
BDFB **Brasilia** 88.01 249 P P 21 09 51.1 +2.0
comp=Z,36nm,0.7s,baz=61,slow=5.5,SNR=57
comp=Z,36nm,0.7s
BDFB **Brasilia** 88.01 249 IAmb IAmb 21 09 51.9
comp=Z,37nm,0.7s
BDFB **Brasilia** 88.01 249 eP P 21 09 49.1 0.0
BGNE **Belgrade** 88.01 322 P P 21 09 48.5 -0.2
baz=41,SNR=5.5
MGMO **Mountain Grove** 88.04 316 P P 21 09 48.8 -0.2
GRNB **Grenville Isla** 88.05 347 IAmb IAmb 21 09 51.4
comp=Z,32nm,1.2s
S39A **Bolivar** 88.24 317 P P 21 09 49.6 -0.2
baz=44,SNR=6.9
OXF **Oxford** 88.25 313 P P 21 09 48.6 -1.3
baz=46
SNDB **Serra Nova Dou** 88.27 254 eP P 21 09 50.3 +0.1
WALA **Waterton Lakes** 88.31 336 IAmb IAmb 21 09 50.3
comp=Z,43nm,1.4s
SDPT **Sand Point** 88.35 5 P P 21 09 49.1 -0.9
baz=354
NPGB **Novo Progresso** 88.50 260 eP P 21 09 51.9 +0.5
RSSD **Black Hills** 88.64 327 P P 21 09 51.4 -0.5
RSSD IAmb IAmb 21 09 52.8
comp=Z,25nm,1.0s
RSSD **Black Hills** 88.64 327 P P 21 09 51.4 -0.5
RSSD pmax pmax
comp=Z,25nm,1.0s
RSSD **Black Hills** 88.64 327 P P 21 09 51.9 0.0
baz=37,SNR=12
RSSD **Black Hills** 88.64 327 P P 21 09 51.4 -0.5
baz=37
PMNB **Patos De Minas** 88.64 246 eP P 21 09 52.1 +0.1
FCAR **Ozark Folk Cen** 88.86 315 IAmb IAmb 21 09 52.9
comp=Z,19nm,0.7s
KSU1 **Kansas State U** 88.96 320 IAmb IAmb 21 09 53.6
comp=Z,33nm,0.9s
KSU1 **Kansas State U** 88.96 320 P P 21 09 52.5 -0.7
baz=42
WHAR **Wooly Hollow** 89.38 315 P P 21 09 54.6 -0.6
WHAR IAmb IAmb 21 09 56.7
comp=Z,20nm,0.7s
JTMT **Jette** 89.57 335 IAmb IAmb 21 09 57.1
comp=Z,33nm,0.8s
HHAR **Hobbs** 89.60 316 IAmb IAmb 21 09 56.6
comp=Z,24nm,0.8s
HHAR **Hobbs** 89.60 316 P P 21 09 55.8 -0.5
baz=43
MAN01 **Angra dos Reis** 89.60 241 eP P 21 09 56.5 +0.1
IPMB **Ipameri, GO** 89.61 247 eP P 21 09 56.4 -0.1
U38A **Gravette** 89.73 317 P P 21 09 56.5 -0.4
baz=43,SNR=12
NIKH **Nikolski High** 89.85 10 P P 21 09 55.8 -1.3
baz=347
RLMT **Red Lodge** 89.98 331 P P 21 09 58.4 +0.2
baz=33,SNR=6.4
NEW **Newport** 90.03 337 LR LR 21 53 27.9
comp=Z,56nm,18.6s,baz=18,slow=38
NEW **Newport** 90.03 337 IAmb IAmb 21 09 59.2
comp=Z,61nm,1.6s
NEW **Newport** 90.03 337 P P 21 09 57.8 -0.3
baz=28,SNR=6.2
OGNE **Ogallala** 90.24 324 IAmb IAmb 21 09 59.9
comp=Z,38nm,0.8s
OGNE **Ogallala** 90.24 324 P P 21 09 58.7 -0.5
baz=38,SNR=7.3
OGNE **Ogallala** 90.24 324 P P 21 09 58.9 -0.4
baz=38,SNR=7.3
MSO **Missoula** 90.25 335 IAmb IAmb 21 09 59.7
comp=Z,27nm,1.4s
MSO **Missoula** 90.25 335 P P 21 09 58.5 -0.7
baz=30
RLO **Rose Lookout** 90.28 317 P P 21 09 58.7 -0.8
RLO IAmb IAmb 21 09 59.8
comp=Z,35nm,0.8s
BOZ **Bozeman (W)** 90.48 333 IAmb IAmb 21 10 01.4
comp=Z,26nm,0.7s
BOZ **Bozeman (W)** 90.48 333 P P 21 10 00.6 +0.2
baz=32,SNR=29
T35A **Sooner Cattle** 90.53 318 IAmb IAmb 21 10 00.8
comp=Z,29nm,1.1s
T35B **Sooner Cattle** 90.53 318 P P 21 10 00.4 -0.2
baz=42,SNR=6.4
MIAR **Mount Ida** 90.65 315 P P 21 10 01.6 +0.4
baz=44,SNR=18
MIAR **Mount Ida** 90.65 315 P P 21 10 01.3 +0.1
baz=44,SNR=18
CBKS **Cedar Bluff** 90.78 322 IAmb IAmb 21 10 02.1
comp=Z,39nm,1.1s
CBKS **Cedar Bluff** 90.78 322 P P 21 10 00.9 -0.8
baz=40
C09A **Chrisman Ranch** 90.80 338 IAmb IAmb 21 10 02.5
comp=Z,28nm,0.7s
KS20 **Mayfield South** 90.85 319 IAmb IAmb 21 10 02.7
comp=Z,32nm,0.9s
YHH **Holmes Hill** 90.87 332 P P 21 10 02.3 -0.2
TUL1 **Leonard** 90.89 317 P P 21 10 01.6 -0.7
baz=42,SNR=5.7
TUL1 **Leonard** 90.89 317 P P 21 10 01.8 -0.5
baz=42,SNR=5.7
K22A **Casper** 90.89 328 IAmb IAmb 21 10 02.2
comp=Z,27nm,1.1s
K22A **Casper** 90.89 328 P P 21 10 01.4 -1.0
baz=35,SNR=6.5
K22A **Casper** 90.89 328 P P 21 10 01.1 -1.3
baz=35,SNR=6.5
YHL **Hebgen Lake** 90.94 332 IAmb IAmb 21 10 04.2
comp=Z,22nm,0.8s
YMR **Madison River** 91.02 332 IAmb IAmb 21 10 04.7
comp=Z,27nm,0.9s
YHB **Hoe Butte** 91.03 332 IAmb IAmb 21 10 04.6
comp=Z,22nm,0.9s
PARB **Paraibuna** 91.07 242 eP P 21 10 03.8 +0.6
OK044 **Pawnee Station** 91.09 318 P 21 10 02.8 -0.4
CLDB **Colider** 91.13 257 eP P 21 10 04.7 +1.1
OK046 **Pawnee Station** 91.13 318 IAmb IAmb 21 10 04.3
comp=Z,37nm,1.0s
OK048 **Pawnee Station** 91.14 318 IAmb IAmb 21 10 04.4
comp=Z,32nm,1.0s
OK050 **Pawnee Station** 91.17 318 IAmb IAmb 21 10 04.5
comp=Z,27nm,1.0s
QUOK **Quay** 91.19 318 IAmb IAmb 21 10 04.5
comp=Z,110nm,1.6s
KAN10 **Anthony SW Sta** 91.22 320 IAmb IAmb 21 10 04.0
comp=Z,35nm,1.4s
KAN14 **Manchester OK** 91.28 319 IAmb IAmb 21 13 11.8
comp=Z,17nm,1.0s
YPP **Pitchstone Pla** 91.29 332 IAmb IAmb 21 10 07.8
comp=Z,42nm,1.6s
OK034 **N. Norfolk Rd.** 91.32 318 P 21 10 03.1 -1.1
DEOK **Depew** 91.33 318 IAmb IAmb 21 10 05.2
comp=Z,112nm,1.4s
OK049 **E0420 Rd and N** 91.34 319 IAmb IAmb 21 10 05.1
comp=Z,40nm,1.2s
SDV **Santo Domingo** 91.35 282 LR LR 21 50 07.5
comp=Z,27nm,18.5s,baz=58,slow=35
SDV **Santo Domingo** 91.35 282 P P 21 10 04.5 -0.4
SDV IAmb IAmb 21 10 06.0
comp=Z,30nm,0.8s
SDV **Santo Domingo** 91.35 282 eP P 21 10 05.1 +0.1
CROK **Carrier** 91.63 319 IAmb IAmb 21 10 06.1
comp=Z,38nm,1.2s
X37A **Clayton** 91.63 316 P P 21 10 05.8 +0.1
baz=42,SNR=13
BB19B **Bebedouro** 91.75 245 eP P 21 10 06.7 +0.3
JCJ **Chichijima** 91.81 54 LR LR 21 55 09.2
comp=Z,88nm,21.1s,baz=84,slow=38
VAO **Valinhos** 91.82 243 eP P 21 10 06.9 +0.1
RCLB **Rio Claro- Sao** 91.86 243 eP P 21 10 07.2 +0.3
E09A **Wood Farm, Sta** 91.91 337 P P 21 10 05.4 -1.4
E09A IAmb IAmb 21 10 07.1
comp=Z,54nm,1.8s
RWWY **Rawlins** 91.97 328 IAmb IAmb 21 10 06.7
comp=Z,23nm,1.1s
TPAW **Teton Pass** 92.01 331 IAmb IAmb 21 10 08.7
comp=Z,14nm,0.8s
KSCO **Kaye Shedlock'** 92.04 323 P P 21 10 07.4 -0.4
baz=38
BW06 **Boulder Array** 92.06 330 P P 21 10 06.2 -1.7
BW06 **Boulder Array** 92.06 330 P P 21 10 06.4 -1.5
baz=33,SNR=11
PDAR **Pinedale Array** 92.06 330 P P 21 10 06.4 -1.5
comp=Z,4.5nm,0.7s,baz=61,slow=4.8,SNR=39
comp=Z,4.5nm,0.7s
N23A **Red Feather La** 92.07 327 IAmb IAmb 21 10 08.6
comp=Z,27nm,0.9s
N23A **Red Feather La** 92.07 327 P P 21 10 07.5 -0.5
baz=36,SNR=6.3
PDRB **Porto dos Gac** 92.30 257 eP P 21 10 09.4 +0.4
HAWA **Hanford** 92.44 338 IAmb IAmb 21 10 10.2
comp=Z,20nm,0.8s
AHID **Auburn Hatcher** 92.68 331 IAmb IAmb 21 10 10.8
comp=Z,12nm,0.8s
ELIS **Ellis County** 92.71 320 IAmb IAmb 21 10 11.5
comp=Z,37nm,1.1s
LON **Longmire** 92.79 339 P P 21 10 09.7 -1.2
LON **Longmire** 92.79 339 P P 21 10 09.7 -1.2
LON pmax pmax
comp=Z,6.0nm,0.8s
ISCO **Idaho Springs** 92.81 326 IAmb IAmb 21 10 11.9
comp=Z,11nm,0.8s
ISCO **Idaho Springs** 92.81 326 P P 21 10 11.1 -0.4
baz=36,SNR=12
ISCO **Idaho Springs** 92.81 326 P P 21 10 10.8 -0.7
baz=36,SNR=12
PET01 **Itanhaem-SP** 92.85 242 eP P 21 10 11.6 +0.2
BMO **Blue Mountains** 93.11 336 P P 21 10 10.8 -1.6
BMO IAmb IAmb 21 10 12.0
comp=Z,14nm,0.8s
BMO **Blue Mountains** 93.11 336 P P 21 10 10.9 -1.6
BMO pmax pmax
comp=Z,14nm,0.8s
HLID **Hailey** 93.24 333 P P 21 10 12.6 -0.7
baz=30,SNR=6.7
Q24A **Divide** 93.27 325 IAmb IAmb 21 10 13.9
comp=Z,25nm,1.4s
Q24A **Divide** 93.27 325 P P 21 10 12.7 -0.9
baz=36
NATX **Nacogdoches** 93.29 314 P P 21 10 13.6 +0.2
baz=43
WMOK **Wichita Mounta** 93.39 318 IAmb IAmb 21 10 14.5
comp=Z,23nm,1.2s
WMOK **Wichita Mounta** 93.39 318 P P 21 10 13.3 -0.6
baz=40,SNR=16
WMOK **Wichita Mounta** 93.39 318 P P 21 10 13.3 -0.6
baz=40,SNR=16
O20A **White River Ci** 93.70 328 IAmb IAmb 21 10 17.7
comp=Z,16nm,1.1s
O20A **White River Ci** 93.70 328 P P 21 10 14.4 -1.0
baz=34
HWUT **Hardware Ranch** 93.84 331 P P 21 10 14.9 -1.1
HWUT IAmb IAmb 21 10 16.2
comp=Z,22nm,0.8s
MFID **Camas Ranch** 93.88 334 IAmb IAmb 21 10 16.9
comp=Z,17nm,0.9s
RDMU **Red Mountain** 93.90 329 P P 21 10 15.2 -1.2
RDMU IAmb IAmb 21 10 16.3
comp=Z,17nm,0.8s
SALV **Santo Antonio** 94.03 253 eP P 21 10 17.1 +0.2
HOOD **Mount Hood Mea** 94.04 339 IAmb IAmb 21 11 06.3
comp=Z,13nm,0.6s
PCMB **Pacaembu** 94.09 246 eP P 21 10 17.4 +0.3
HVU **Hansel Valley** 94.17 331 IAmb IAmb 21 10 18.1
comp=Z,14nm,0.9s
T25A **Trinidad** 94.38 323 IAmb IAmb 21 10 19.1
comp=Z,24nm,1.0s
T25A **Trinidad** 94.38 323 P P 21 10 18.0 -0.7
baz=37,SNR=9.5
SDCO **Great Sand Dun** 94.41 325 IAmb IAmb 21 10 18.9
comp=Z,14nm,1.1s
SDCO **Great Sand Dun** 94.41 325 P P 21 10 17.6 -1.3
baz=36,SNR=14
SDCO **Great Sand Dun** 94.41 325 P P 21 10 17.9 -1.0
baz=36,SNR=14
G03D **McMinnville, O** 94.60 340 P P 21 10 18.9 -0.3
baz=23
JLU **Jordanelle** 94.65 330 P P 21 10 19.0 -0.9
JLU IAmb IAmb 21 10 20.1
comp=Z,11nm,0.8s
KAPI **Kappang** 94.67 93 LR LR 21 59 32.6
comp=Z,20nm,19.8s,baz=299,slow=40
WHTX **Lake Whitney,** 94.72 316 P P 21 10 20.1 +0.1
baz=41
AMTX **Amarillo** 94.80 320 P P 21 10 19.3 -1.1
baz=39
J08A **Circle Bar Ran** 94.83 336 P P 21 10 19.1 -1.3
BGU **Big Grassy Mou** 95.00 331 IAmb IAmb 21 10 22.1
comp=Z,15nm,1.3s
S22A **4UR Ranch, Cre** 95.03 325 IAmb IAmb 21 10 22.2
comp=Z,11nm,1.0s
S22A **4UR Ranch, Cre** 95.03 325 P P 21 10 21.0 -0.7
baz=35,SNR=9.3
PINE **Pine Mountain** 95.22 338 IAmb IAmb 21 10 24.1
comp=Z,17nm,0.8s
PV15 **Paradox Valley** 95.28 327 IAmb IAmb 21 10 22.8
comp=Z,11nm,0.8s
PV23 **Carpenter Ridg** 95.42 327 P P 21 10 22.4 -1.1
PV23 IAmb IAmb 21 10 23.6
comp=Z,16nm,0.8s
ABTX **Abilene, Hawle** 95.46 318 P P 21 10 23.0 -0.4
baz=40
SRU **San Rafael Swe** 95.52 329 IAmb IAmb 21 10 23.3
comp=Z,12nm,0.7s
DUG **Dugway, Tooele** 95.54 331 P P 21 10 23.1 -0.7
baz=31,SNR=5.7
I04A **Tendick Farm,** 95.66 339 P P 21 10 23.3 -0.8
baz=24
J05D **Fort Rock, OR** 95.77 338 P P 21 10 25.1 +0.3
baz=25,SNR=10
I03D **Drain, OR** 96.02 339 P P 21 10 25.4 -0.3
baz=23
MSTX **Muleshoe** 96.07 320 P P 21 10 25.0 -1.3
baz=38
J04D **Umpqua Nationa** 96.08 338 P P 21 10 25.7 -0.6
baz=24
PTLB **Pontes e Lacer** 96.44 256 IAmb IAmb 21 10 33.0
comp=Z,4.5nm,0.8s
PTLB **Pontes e Lacer** 96.44 256 eP P 21 10 28.4 +0.5
PTGB **Pitanga** 96.55 244 eP P 21 10 28.2 -0.2
J01E **Myrtle Point** 96.68 339 P P 21 10 28.2 -0.5
baz=23
ROSC **El Rosal** 96.70 281 LR LR 21 54 08.4
comp=Z,40nm,18.7s,baz=64,slow=35
MSU **Marysvale** 96.72 329 P P 21 10 29.1 -0.2
MSU **Marysvale** 96.72 329 P P 21 10 29.1 -0.2
AQDB **Aquidauana** 96.73 250 eP P 21 10 29.1 -0.1
K02D **Willamette Mer** 97.03 339 P P 21 10 29.8 -0.7
baz=23
L04D **Klamath Falls** 97.07 338 P P 21 10 29.9 -0.8
baz=24
ANMO **Albuquerque** 97.13 323 LR LR 21 54 01.1
comp=Z,46nm,21.8s,baz=42,slow=35
ANMO **Albuquerque** 97.13 323 P P 21 10 30.9 -0.2
baz=36
JCT **Junction City** 97.18 316 P P 21 10 30.9 -0.4
baz=40
PSUT **Pine Spring** 97.38 330 P P 21 10 31.8 -0.4
L02F **Cave Junction** 97.53 339 P P 21 10 32.1 -0.5
baz=23
YBH **Yreka Blue Hor** 97.63 338 LR LR 21 56 31.6
comp=Z,37nm,18.3s,baz=5.5,slow=36
PKCU **Pink Cliffs** 97.68 329 IAmb IAmb 21 10 34.6
comp=Z,10.0nm,0.7s
R11A **Troy Canyon, C** 98.21 332 P P 21 10 35.1 -0.8
baz=29
833A **Chaparral WMA,** 98.58 315 P P 21 10 37.2 -0.3
baz=40
WUAZ **Wupatki** 98.91 327 P P 21 10 38.4 -0.7
WUAZ IAmb IAmb 21 10 39.9
comp=Z,8.7nm,0.9s
WUAZ **Wupatki** 98.91 327 P P 21 10 38.6 -0.5
baz=32
NVAR **Mina Array Bea** 99.15 334 P Pdif 21 10 39.8 -0.4
comp=Z,3.8nm,0.7s,baz=39,slow=4.3,SNR=8.8
NVAR PP PP 21 14 42.9 +0.3
comp=Z,2.6nm,1.0s,baz=38,slow=5.1,SNR=6.8
NVAR PKKPbc PKKPbc 21 27 05.3 +1.0
comp=Z,0.8nm,0.7s,baz=208,slow=6.1,SNR=5.7
NVAR LR LR 21 59 26.6
comp=Z,63nm,18.6s,baz=28,slow=38

	comp=Z,3.8nm,0.7s						
NVAR	**Mina Array Bea**	**99.15 334**	P	**Pdif**	**21 10 39.2**	**-1.0**	
121A	**Cookes Peak, D**	**99.73 323**	P	**Pdif**	**21 10 43.0**	**+0.1**	
	baz=35						
TX31	**Lajitas Ar. Si**	**100.18 318**	P	**Pdif**	**21 10 44.7**	**-0.1**	
	baz=38,SNR=7.4						
TXAR	**Lajitas Array**	**100.18 318**	P	**Pdif**	**21 10 44.5**	**-0.3**	
	comp=Z,2.9nm,0.9s,baz=58,slow=4.2,SNR=20						
TXAR			PP	**PP**	**21 14 49.2**	**-1.4**	
	comp=Z,0.8nm,0.8s,baz=48,slow=6.4,SNR=5.0						
CWC	**Cottonwood Cre**	**100.83 332**	P	**Pdif**	**21 10 47.6**	**-0.1**	
	baz=28						
MPMC	**Manual Prospec**	**100.95 332**	P	**Pdif**	**21 10 48.2**	**0.0**	
	baz=28						
PDMCI	**Parker Dam,Lak**	**101.13 329**	P	**Pdif**	**21 10 49.0**	**+0.2**	
	baz=30						
GMRC	**Granite Mounta**	**101.34 330**	P	**Pdif**	**21 10 49.9**	**0.0**	
	baz=29						
ISA	**Isabella, Lake**	**101.67 332**	P	**Pdif**	**21 10 51.2**	**-0.1**	
	baz=27						
IRM	**Iron Mountain**	**101.68 329**	P	**Pdif**	**21 10 51.8**	**+0.5**	
	baz=30						
EDW2	**Edwards Air Fo**	**102.18 332**	P	**Pdif**	**21 10 53.6**	**0.0**	
	baz=28						
PFO	**Pinyon Flats O**	**102.69 330**	P	**Pdif**	**21 10 55.6**	**-0.3**	
	baz=29						
TPFO	**Pinon Flats**	**102.69 330**	P	**Pdif**	**21 10 55.6**	**-0.3**	
	baz=29						
WRA	**Warramunga Arr**	**114.76 97**	PKP	PKPdf	21 15 38.8	-0.2	
	comp=Z,3.4nm,0.8s,baz=313,slow=1.6,SNR=36						
WRA			PKKPbc	**PKKPbc**	**21 26 17.1**	**+1.8**	
	comp=Z,0.7nm,0.8s,baz=124,slow=3.1,SNR=6.6						
AS31	**Alice Springs**	**116.32 101**	PKPdf	**PKPdf**	**21 15 41.4**	**-0.5**	
ASAR	**Alice Springs**	**116.32 101**	PKP	**PKPdf**	**21 15 41.9**	**0.0**	
	comp=Z,4.5nm,0.7s,baz=317,slow=1.3,SNR=64						
ASAR			pPKP	pPKPdf	21 16 03.6	-2.5	
	comp=Z,2.5nm,0.7s,baz=315,slow=1.1,SNR=5.2						
ASAR			PKKPbc	**PKKPbc**	**21 26 10.1**	**0.0**	
	comp=Z,0.7nm,0.5s,baz=124,slow=3.9,SNR=8.3						
ASAR	**Alice Springs**	**116.32 101**	PKPdf	**PKPdf**	**21 15 41.4**	**-0.5**	
PLCA	**Paso Flores**	**118.10 239**	PKP	**PKiKP**	**21 15 45.1**	**+0.2**	
	comp=Z,3.8nm,0.9s,baz=78,slow=3.1,SNR=5.5						
BELA	**Belgrano 2**	**119.87 192**	PKPdf	**PKPdf**	**21 15 46.9**	**-0.2**	
CTA	**Charters Tower**	**124.42 91**	PKP	**PKiKP**	**21 15 58.3**	**+0.4**	
	baz=266,slow=2.9						
STKA	**Stephens Creek**	**126.13 106**	PKP	**PKiKP**	**21 16 01.0**	**+0.1**	
	comp=Z,1.1nm,1.0s,baz=9.3,slow=3.9,SNR=11						
STKA	**Stephens Creek**	**126.13 106**	PKPdf	**PKPdf**	**21 15 59.3**	**-1.2**	
QSPA	**South Pole Qui**	**126.25 180**		**PKPdf**	**21 15 59.2**	**-0.5**	
VNDA	**Vanda**	**134.36 167**	PKP	**PKPdf**	**21 16 14.2**	**-0.6**	
	comp=Z,0.7nm,0.8s,baz=302,slow=5.1,SNR=3.9						
MSVF	**Nonsavu**	**147.97 62**	PKPbc	**PKiKP**	**21 16 45.2**	**-0.6**	
	comp=Z,42nm,0.8s,baz=230,slow=2.5,SNR=23						
PYZ	**Puysegur Point**	**148.05 121**	PKPdf	**PKPdf**	**21 16 40.0**	**0.0**	
PYZ				**PKPbc**	**21 16 44.1**	**+0.8**	
DCZ	**Deep Cove**	**148.41 119**		**PKPbc**	**21 16 44.8**	**+0.5**	
JCZ	**Jackson Bay**	**149.61 117**	P	**PKiKP**	**21 16 48.0**	**-0.5**	
FOZ	**Fox Glacier**	**150.37 116**	P	**PKiKP**	**21 16 50.2**	**+0.4**	
LBZ	**Lake Benmore**	**150.61 117**	P	**PKiKP**	**21 16 50.8**	**+0.4**	
GCSZ	**Gaunt Creek Bo**	**150.74 115**	P	**PKiKP**	**21 16 51.2**	**+0.5**	
ODZ	**Otahua Downs**	**150.89 119**	P	**PKiKP**	**21 16 52.1**	**+1.2**	
WVZ	**Waitaha Valley**	**151.05 115**	P	**PKiKP**	**21 16 51.2**	**-0.1**	
TMZ	**Timaru**	**151.19 117**	P	**PKiKP**	**21 16 52.1**	**+0.5**	
RPZ	**Rata Peaks**	**151.26 116**	PKPbc	**PKiKP**	**21 16 52.3**	**+0.5**	
	comp=Z,45nm,0.7s,baz=250,slow=2.3,SNR=22						
ARCZ	**Arundel**	**151.34 117**	P	**PKiKP**	**21 16 53.4**	**+1.5**	
INZ	**Inchbonnie**	**151.57 114**	P	**PKPbc**	**21 16 51.7**	**-0.3**	
DSZ	**Denniston Nort**	**151.83 112**	P	**PKPbc**	**21 16 52.2**	**-0.5**	
OXZ	**Oxford**	**151.99 115**	PKPdf	**PKPdf**	**21 16 44.1**	**-2.2**	
OXZ			PKPbc	**PKiKP**	**21 16 53.2**	**0.0**	
OXZ	**Oxford**	**151.99 115**	P	**PKPbc**	**21 16 52.0**	**-0.9**	
LTZ	**Lake Taylor**	**152.18 114**	P	**PKiKP**	**21 16 53.9**	**+0.2**	
MQZ	**McQueen's Vall**	**152.42 116**	P	**PKiKP**	**21 16 54.5**	**+0.4**	
THZ	**Tophouse**	**152.66 112**	P	**PKPbc**	**21 16 54.2**	**-0.4**	
GVZ	**Greta Valley S**	**152.73 115**	P	**PKiKP**	**21 16 55.6**	**+0.7**	
KHZ	**Kahutara**	**153.12 113**	P	**PKiKP**	**21 16 56.1**	**+0.5**	
URZ	**Urewera**	**155.73 104**	PKPab	**PKPab**	**21 17 18.4**	**-0.3**	
	comp=Z,13nm,0.9s,baz=156,slow=7.3,SNR=3.0						

ROM 27 20:59:49.8±0.1,42°68.5′N±0.′007×13°27.9′E±0.′009, h12km±1km, Md0.9/3, Error ellipse: s-maj=0.8km s-min=0.1km az=26.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.03**	**107**	P	Pg	20 59 52.6	+0.5
T1204				S	Sg	20 59 53.9	0.0
T1204				END			
T1202	**Accumoli, Fraz**	**0.04**	**295**	P	Pg	20 59 52.6	+0.4
T1202				S	Sg	20 59 54.4	+0.4
T1202				END			
SMA1	**SAN MARTINO**	**0.07**	**142**	P	Pg	20 59 52.8	+0.4
SMA1				S	Sg	20 59 54.0	-0.3
SMA1				AML	AML		
	comp=E,476μm,0.6s						
SMA1				AML	AML		
	comp=N,482μm,1.2s						
SMA1				END			
T1243	**Rocca Santa Ma**	**0.13**	**85**	P	Pb	20 59 53.7	-0.5
T1243				S	Sg	20 59 56.1	+0.6
T1242	**Castelluccio d**	**0.15**	**339**	AML	AML		
	comp=E,675μm,0.7s						
T1242				AML	AML		
	comp=N,456μm,0.5s						
T1242				AML	AML		
	comp=N,462μm,0.5s						
T1242				AML	AML		
	comp=E,608μm,0.7s						
T1242				AML	AML		
	comp=N,480μm,0.9s						
CAMP	**Campotosto**	**0.18**	**147**	P	Pg	20 59 54.3	+0.5
CAMP				S	Sg	20 59 56.8	+0.1
CAMP				AML	AML		
	comp=E,294μm,1.5s						
CAMP				AML	AML		
	comp=N,300μm,0.9s						
RM33	**Pellescritta (**	**0.18**	**195**	P	Pg	20 59 54.5	+0.6
RM33				S	Sg	20 59 57.7	+0.9
RM33				AML	AML		
	comp=E,314μm,0.9s						
RM33				AML	AML		
	comp=N,325μm,1.1s						
RM33				AML	AML		
	comp=E,276μm,0.8s						
RM33				AML	AML		
	comp=N,237μm,1.1s						
RM33				AML	AML		
	comp=E,478μm,0.9s						
RM33				AML	AML		
	comp=N,322μm,0.7s						
NRCA	**Norcia**	**0.19**	**321**	P	Pg	20 59 54.3	+0.2
NRCA				S	Sg	20 59 57.4	+0.4
NRCA				AML	AML		
	comp=E,378μm,0.8s						
NRCA				AML	AML		
	comp=N,256μm,0.7s						
T1241	**Roccafluvione,**	**0.20**	**33**	AML	AML		
	comp=N,394μm,1.1s						
T1241				AML	AML		
	comp=E,372μm,0.6s						
MC2	**Monte Cornacci**	**0.24**	**344**	P	Pg	20 59 55.0	+0.1
TERO	**Teramo**	**0.25**	**104**	P	Pg	20 59 55.6	+0.6
TERO				S	Sg	20 59 59.4	+0.9
TERO				AML	AML		
	comp=E,298μm,1.0s						
TERO				AML	AML		
	comp=N,319μm,0.6s						
TERO				AML	AML		
	comp=N,348μm,1.0s						

*NOU **27** 21:14:06.9, 20°19.9′S×168°21.2′E, h0km, MLv3.8/11, Loyalty Islands*
*IDC **27** 21:14:10.9±11.0, 20°13.5′S×167°16.2′E, h0km, mb3.6/3, mbtmp3.5/4, ML2.8/1, MS2.8/1, Error ellipse: s-maj=190.5km s-min=39.5km az=90.0*
ISC 27 21:14:06.8±1.4, 20°29.5′S±0.′07×168°3.6′E±0.′1, h10km, n13, σ1§40/14, mb3.8/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**1.08**	**243**	P	**Pg**	**21 14 27.1**	**-0.6**
MARNC	**Mare, Loyalty**	**1.21**	**191**	P	**Pn**	**21 14 29.6**	**-0.2**
YATNC	**Mamie plateau,**	**2.18**	**216**	P	**Pn**	**21 14 44.3**	**+1.1**
PINNC	**Pines Island,**	**2.44**	**198**	P	**Pb**	**21 14 49.4**	**-1.4**
DZM	**Mont Dzumac**	**2.46**	**224**	Pn	**Pn**	**21 14 47.8**	**+0.6**
	2.4nm,0.3s,baz=99,slow=8.9,SNR=65						
DZM				Sn	**Sn**	**21 15 17.3**	**-0.1**
	29nm,0.3s,baz=276,slow=20,SNR=21						
DZM				LR	LR	21 15 46.2	
	comp=Z,173nm,18.1s,baz=44,slow=43						
	6.3nm,0.3s						
DZM	**Mont Dzumac**	**2.46**	**224**	P	**Pn**	**21 14 48.2**	**+1.0**
RTV	**Rentapao**	**2.49**	**3**	P	**Pn**	**21 14 48.0**	**+0.6**
DVP	**Devils Point**	**2.55**	**358**	P	**Pn**	**21 14 47.6**	**-0.7**
NOUC	**Port Laguerre**	**2.58**	**225**	P	**Pb**	**21 14 51.0**	**-2.1**
ONTNC	**Quen Toro**	**2.63**	**220**	P	**Pb**	**21 14 52.3**	**-1.8**
STKA	**Stephens Creek**	**26.52**	**239**	P	**P**	**21 19 47.5**	**+2.7**
	1.5nm,0.7s,baz=66,slow=12,SNR=1.5						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**31.84**	**265**	P	**P**	**21 20 32.2**	**+0.1**
	0.2nm,0.5s,baz=90,slow=8.5,SNR=4.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**32.00**	**258**	P	**P**	**21 20 34.5**	**+0.9**
	0.9nm,0.7s,baz=87,slow=9.0,SNR=11						
	0.9nm,0.7s						

*NEIC **27** 21:15:11.6±1.4, 17°.85S±0°.07×178°.6W±0°.1, h560km±9km, mb4.1/18, Error ellipse: s-maj=20.3km s-min=8.1km az=68.0*
*IDC **27** 21:15:14.0±2.8, 17°.69S×178°.96W, h568km±18km, mb3.4/6, mbtmp4.3/7, Error ellipse: s-maj=71.3km s-min=31.9km az=142.0*
ISC 27 21:15:10.8±0.7, 17°.8S±0°.2×178°.6W±0°.1, h550km, n35, σ0§86/35, mb4.1/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.17**	**271**	P	**P**	**21 16 29.7**	**+2.6**
	20nm,0.6s,baz=95,slow=4.1,SNR=33						
MSVF	**Nonsavu**	**3.17**	**271**	P	**P**	**21 16 29.1**	**+2.0**
NIUE	**Niue**	**8.34**	**100**	P	**P**	**21 17 11.6**	**-0.4**
THZ	**Tophouse**	**24.92**	**195**	P	**P**	**21 19 51.0**	**+0.2**
THZ				IAmb	IAmb	21 20 07.2	
	comp=Z,9.0nm,1.0s						
EIDS	**Eidsvold**	**29.10**	**250**	P	**P**	**21 20 27.4**	**-0.2**
EIDS				IAmb	IAmb	21 20 46.9	
	comp=Z,4.0nm,0.9s						
MLZ	**Mavora Lakes**	**29.60**	**199**	P	**P**	**21 20 32.1**	**+0.5**
ARMA	**Armidale**	**29.80**	**240**	P	**P**	**21 20 34.1**	**+0.3**
CTA	**Charters Tower**	**33.26**	**260**	P	**P**	**21 21 03.0**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=113,slow=12,SNR=2.3						
	comp=Z,2.1nm,0.7s						
CTAO	**Charters Tower**	**33.26**	**260**	P	**P**	**21 21 02.4**	**-0.9**
CTAO				IAmb	IAmb	21 21 11.7	
	comp=Z,8.2nm,1.1s						
COEN	**Coen**	**36.90**	**270**	P	**P**	**21 21 33.5**	**-0.1**
COEN				IAmb	IAmb	21 21 37.9	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**21 21 46.8**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=93,slow=13,SNR=6.0						
	comp=Z,2.5nm,0.5s						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**21 21 46.9**	**+0.6**
BBOO	**Buckleboo**	**43.26**	**241**	P	**P**	**21 22 24.2**	**-0.1**
WR0	**Warramunga Arr**	**44.26**	**259**	P	**P**	**21 22 31.8**	**-0.3**
WB0	**Warramunga Arr**	**44.41**	**260**	P	**P**	**21 22 32.7**	**-0.7**
WB0				IAmb	IAmb	21 22 33.2	
	comp=Z,4.4nm,1.0s						
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**21 22 32.4**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=97,slow=6.9,SNR=45						
	comp=Z,1.4nm,0.6s						
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**21 22 32.4**	**-1.2**
AS31	**Alice Springs**	**44.62**	**254**	P	**P**	**21 22 34.6**	**-0.3**
AS31				IAmb	IAmb	21 22 35.3	
	comp=Z,4.4nm,0.7s						
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**21 22 34.8**	**-0.1**
	comp=Z,16nm,0.6s,baz=89,slow=8.2,SNR=168						
	comp=Z,16nm,0.6s						
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**21 22 33.9**	**-1.0**
FORT	**Forrest**	**49.85**	**245**	P	**P**	**21 23 13.0**	**-1.1**
KNRA	**Kununurra**	**50.30**	**264**	P	**P**	**21 23 16.9**	**-0.6**
KNRA				IAmb	IAmb	21 23 35.4	
	comp=Z,20nm,1.4s						
SIJI	**Sorong**	**52.02**	**283**	P	**P**	**21 23 29.3**	**-0.8**
	comp=Z,12nm,0.8s,baz=135,slow=8.0,SNR=4.4						
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.84**	**261**	P	**P**	**21 23 35.9**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=154,slow=2.3,SNR=1.9						
	comp=Z,1.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.84**	**261**	P	**P**	**21 23 35.0**	**-0.9**
PSA00	**Pilbara Seismi**	**57.73**	**255**	P	**P**	**21 24 08.8**	**-1.0**
MBWA	**Marble Bar**	**57.90**	**256**	P	**P**	**21 24 10.1**	**-0.8**
MBWA				IAmb	IAmb	21 24 36.1	
	comp=Z,25nm,1.4s						
BELA	**Belgrano 2**	**82.26**	**173**	P	**P**	**21 26 34.4**	**0.0**
BELA				IAmb	IAmb	21 26 45.2	
	comp=Z,3.9nm,1.5s						
SKT	**Skwentna**	**82.41**	**13**	P	**P**	**21 26 35.3**	**+0.1**
SKT				IAmb	IAmb	21 26 58.0	
	comp=Z,3.2nm,1.3s						
BUR08	**Bucovina Ar. S**	**144.44**	**332**	PKPbc	**PKPdf**	**21 33 45.3**	**+0.5**
BURAR	**Bucovina Array**	**144.46**	**332**	PKPbc	**PKPdf**	**21 33 45.6**	**+0.7**
BRTR	**Keskin Array B**	**144.59**	**315**	PKP	**PKPdf**	**21 33 46.1**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=34,slow=3.3,SNR=3.9						
BRTR	**Keskin Array B**	**144.59**	**315**	PKPbc	**PKPdf**	**21 33 44.8**	**-0.7**
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPbc**	**21 33 53.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=29,slow=3.0,SNR=4.1						
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPbc**	**21 33 53.2**	**-0.2**

*IDC **27** 21:17:00.4±1.3, 11°.56S×165°.15E, h0km, mb4.0/5, mbtmp4.0/6, ML3.8/1, MS3.2/4, Error ellipse: s-maj=50.2km s-min=24.0km az=141.0*
ISC 27 21:17:05.4±1.1, 11°.7S±0°.2×165°.1E±0°.2, h34km, n10, σ0§47/6, mb4.0/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.58**	**293**	LR	LR	21 20 50.7	
	comp=Z,1μm,18.6s,baz=111,slow=42						
DZM	**Mont Dzumac**	**10.40**	**173**	Pn	**Pn**	**21 19 32.4**	**+0.1**
	0.8nm,0.3s,baz=15,slow=19,SNR=2.1						
	3.0nm,0.5s						
PMG	**Port Moresby**	**17.83**	**276**	LR	LR	21 27 41.6	
	comp=Z,30nm,19.0s,baz=78,slow=36						
CTA	**Charters Tower**	**19.98**	**243**	P	**Pn**	**21 21 37.1**	**+0.2**
	5.1nm,0.8s,baz=54,slow=10,SNR=5.3						
	5.1nm,0.8s						
AFI	**Afiamalu**	**22.61**	**98**	LR	LR	21 29 59.3	
	comp=Z,34nm,18.5s,baz=22,slow=34						
STKA	**Stephens Creek**	**29.57**	**224**	LR	LR	21 34 18.6	
	comp=Z,54nm,18.9s,baz=66,slow=35						
WRA	**Warramunga Arr**	**30.71**	**251**	P	**P**	**21 23 17.9**	**+0.4**
	3.4nm,0.9s,baz=80,slow=9.5,SNR=16						
	3.4nm,0.9s						
ASAR	**Alice Springs**	**31.98**	**244**	P	**P**	**21 23 27.9**	**-0.7**
	1.3nm,0.9s,baz=70,slow=10,SNR=4.8						
	1.3nm,0.9s						
ILAR	**Eielson Array**	**84.30**	**19**	P	**P**	**21 29 33.5**	**0.0**
	0.7nm,0.5s,baz=240,slow=5.2,SNR=6.8						
	0.7nm,0.5s						
NVAR	**Mina Array Bea**	**86.89**	**50**	P	**P**	**21 29 47.2**	**0.0**
	0.7nm,0.7s,baz=230,slow=6.2,SNR=5.7						
	0.7nm,0.7s						

*IDC **27** 21:23:35.9±0.8, 29°.10S×61°.01E, h0km, mb3.8/9, mbtmp3.8/10, ML4.2/1, MS3.5/2, Error ellipse: s-maj=28.1km s-min=21.9km az=52.0*
*NEIC **27** 21:23:37.5±1.8, 29°.1S±0°.1×61°.0E±0°.1, h10km±1km, mb4.2/7, Error ellipse: s-maj=24.7km s-min=16.2km az=224.0*
ISC 27 21:23:37.6±0.7, 29°.1S±0°.1×61°.1E±0°.1, h10km, n34, σ1§03/26, mb4.0/13, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.23**	**327**	Pn	**Pn**	**21 25 49.2**	**-1.7**
VOI	**Vohitsoka**	**14.72**	**296**	Pn	**Pn**	**21 27 06.2**	**+0.2**
ABPO	**Ambohimpanom**	**16.10**	**305**		**Pn**	**21 27 26.9**	**+2.5**
OPO	**Ambohidratompo**	**16.43**	**306**	Pn	**Pn**	**21 27 29.6**	**+1.1**
	0.1nm,0.3s,baz=110,slow=17,SNR=2.6						
OPO				Sn	Sn	21 30 19.2	-12
	0.1nm,0.3s,baz=288,slow=18,SNR=7.8						
	1.6nm,0.4s						
H08S1	**Diego Garcia H**	**23.87**	**29**	T	T	21 53 35.9	
	baz=207						
H08S2	**Diego Garcia H**	**23.88**	**29**	T	T	21 53 39.2	
H08S3	**Diego Garcia H**	**23.89**	**29**	T	T	21 53 59.8	
	baz=207,SNR=3.5						
KMBO	**Kilima Mbogo**	**35.88**	**316**	LR	LR	21 43 06.1	
	comp=Z,75nm,18.4s,baz=90,slow=33						
H01W2	**Cape Leeuwin H**	**44.96**	**112**	T	T	22 19 52.4	
	baz=261,slow=75,SNR=3.4						
H01W3	**Cape Leeuwin H**	**44.96**	**112**	T	T	22 19 32.5	
	baz=261,slow=75,SNR=3.6						
H01W1	**Cape Leeuwin H**	**44.98**	**112**	T	T	22 19 34.2	
	baz=261,slow=75,SNR=4.3						
SNAA	**Sanae**	**54.52**	**200**	P	**P**	**21 33 06.1**	**+0.8**
	0.7nm,0.9s,baz=59,slow=5.9,SNR=1.7						
	0.7nm,0.9s						
SNAA	**Sanae**	**54.52**	**200**	P	**P**	**21 33 04.7**	**-0.6**
SNAA				IAmb	IAmb	21 33 32.0	
	comp=Z,2.9nm,1.2s						
FITZ	**Fitzroy Crossi**	**59.56**	**95**	LR	LR	21 57 17.3	
	comp=Z,35nm,18.1s,baz=298,slow=34						
CMAR	**Chiang Mai Arr**	**59.76**	**42**	P	**P**	**21 33 44.6**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=235,slow=7.5,SNR=5.8						
	comp=Z,0.5nm,0.4s						
VNDA	**Vanda**	**64.14**	**166**	P	**P**	**21 34 10.5**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=287,slow=11,SNR=2.0						
	comp=Z,0.5nm,0.8s						
VNDA	**Vanda**	**64.14**	**166**	P	**P**	**21 34 11.0**	**-0.7**
VNDA				IAmb	IAmb	21 34 22.9	
	comp=Z,2.6nm,1.4s						
ASAR	**Alice Springs**	**64.55**	**104**	P	**P**	**21 34 15.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=243,slow=5.9,SNR=12						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**64.55**	**104**	P	**P**	**21 34 14.6**	**-0.7**
WRA	**Warramunga Arr**	**66.37**	**100**	P	**P**	**21 34 26.7**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=244,slow=6.1,SNR=4.4						
	comp=Z,0.9nm,0.9s						
WB2	**Warramunga Arr**	**66.38**	**100**	P	**P**	**21 34 27.2**	**0.0**
TOA0	**Torodi Ar. Sit**	**71.02**	**298**	P	**P**	**21 34 55.5**	**-0.5**
TOA0				IAmb	IAmb	21 35 13.8	
	comp=Z,7.9nm,1.5s						
TORD	**Torodi Ar. Bea**	**71.02**	**298**	P	**P**	**21 34 55.1**	**-0.9**
	comp=Z,15nm,0.6s,baz=144,slow=5.1,SNR=5.1						
KKAR	**Karatay Array**	**72.34**	**7**	P	**P**	**21 35 04.2**	**+0.8**
KKAR	**Karatay Array**	**72.34**	**7**	P	**P**	**21 35 04.7**	**+1.3**
KKAR				IAmb	IAmb	21 35 05.9	
	comp=Z,2.4nm,1.1s						
BRTR	**Keskin Array B**	**73.05**	**338**	P	**P**	**21 35 07.4**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=123,slow=6.5,SNR=4.2						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**77.91**	**15**	P	**P**	**21 35 34.4**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=188,slow=2.5,SNR=6.5						
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**77.91**	**15**	P	**P**	**21 35 35.3**	**-0.1**
ABKAR	**Akbulak array**	**77.98**	**359**	P	**P**	**21 35 35.3**	**-0.4**
ABKAR	**Akbulak array**	**77.98**	**359**	P	**P**	**21 35 34.8**	**-0.9**
ABKAR				IAmb	IAmb	21 35 39.7	
	comp=Z,3.0nm,1.2s						
AKASG	**Malin Array Be**	**84.27**	**340**	P	**P**	**21 36 08.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=146,slow=4.5,SNR=2.3						
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**85.20**	**14**	P	**P**	**21 36 14.4**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=158,slow=4.3,SNR=4.9						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**85.20**	**14**	P	**P**	**21 36 14.3**	**+0.5**
PDAR	**Pinedale Array**	**164.38**	**334**	PKP	**PKPdf**	**21 43 42.8**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=151,slow=3.4,SNR=3.9						

*IDC **27** 21:42:45.7±0.7, 29°.23S×61°.04E, h0km, mb4.0/11, mbtmp4.1/12, ML4.2/1, MS3.5/14, Error ellipse: s-maj=24.2km s-min=19.3km az=55.0*
*NEIC **27** 21:42:47.5±1.0, 29°.2S±0°.1×60°.92E±0°.04, h10km±1km, mb4.6/21, Error ellipse: s-maj=18.0km s-min=5.5km az=183.0*
ISC 27 21:42:47.4±0.6, 29°.2S±0°.1×61°.0E±0°.1, h10km, n68, σ0§57/50, mb4.4/22, MS3.5/14, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.27**	**328**	Pn	**Pn**	**21 44 59.2**	**-2.0**
VOI	**Vohitsoka**	**14.68**	**296**	Pn	**Pn**	**21 46 14.8**	**-0.5**
ABPO	**Ambohimpanom**	**16.09**	**306**		**Pn**	**21 46 34.6**	**+0.7**
OPO	**Ambohidratompo**	**16.41**	**307**	Pn	**P**	**21 46 40.1**	**-0.8**
	0.1nm,0.3s,baz=109,slow=18,SNR=2.4						
OPO				Sn	Sn	21 49 27.7	-13
	0.2nm,0.3s,baz=18,slow=18,SNR=11						
	1.6nm,0.3s						
H08S1	**Diego Carcia H**	**24.01**	**29**	T	T	22 13 10.0	
	baz=204,slow=76,SNR=4.8						
H08S2	**Diego Garcia H**	**24.02**	**29**	T	T	22 13 06.8	
	baz=204,slow=76,SNR=4.4						
H08S3	**Diego Garcia H**	**24.03**	**29**	T	T	22 13 04.8	
	baz=204,slow=76,SNR=6.3						
LBTB	**Lobatse**	**31.67**	**269**	LR	LR	21 59 16.9	
	comp=Z,72nm,19.3s,baz=130,slow=31						
SUR	**Sutherland**	**34.50**	**254**	LR	LR	22 00 28.0	
	comp=Z,55nm,21.1s,baz=128,slow=31						
KMBO	**Kilima Mbogo**	**35.89**	**317**	LR	LR	22 03 42.8	
	comp=Z,80n

TOA0	**Torodi Ar. Sit**	**70.98**	**298**	P	**P**	**21 54 05.9**	**+0.3**
TOA0				IAmb	IAmb	21 54 07.8	
	comp=Z,6.9nm,1.2s						
TORD	**Torodi Ar. Bea**	**70.98**	**298**	P	**P**	**21 54 06.1**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=119,slow=4.9,SNR=16						
KK31	**Karatay Array**	**72.46**	**7**	P	**P**	**21 54 14.4**	**+0.6**
KK31				IAmb	IAmb	21 54 16.2	
	comp=Z,8.3nm,1.4s						
KKAR	**Karatay Array**	**72.46**	**7**	P	**P**	**21 54 14.0**	**+0.2**
AAK	**Ala-Archa**	**72.54**	**10**	P	**P**	**21 54 15.1**	**+0.6**
AAK				IAmb	IAmb	21 54 16.6	
	comp=Z,7.8nm,1.3s						
BRTR	**Keskin Array B**	**73.11**	**338**	P	**P**	**21 54 17.8**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=160,slow=8.3,SNR=9.6						
	comp=Z,1.5nm,0.8s						
BR131	**Keskin Array S**	**73.11**	**338**	P	**P**	**21 54 17.7**	**-0.3**
BR131				IAmb	IAmb	21 54 18.5	
	comp=Z,3.5nm,0.9s						
KBZ	**Khabaz**	**74.41**	**347**	LR	LR	22 25 34.2	
	comp=Z,34nm,20.6s,baz=162,slow=34						
KOWA	**Kowa**	**76.25**	**295**	P	**P**	**21 54 37.4**	**+0.8**
MKAR	**Makanchi Array**	**78.03**	**15**	P	**P**	**21 54 46.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=188,slow=4.9,SNR=14						
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**78.03**	**15**	P	**P**	**21 54 46.0**	**0.0**
ABKAR	**Akbulak array**	**78.08**	**359**	P	**P**	**21 54 46.2**	**+0.1**
ABKAR	**Akbulak array**	**78.08**	**359**	P	**P**	**21 54 46.0**	**0.0**
ABKAR				IAmb	IAmb	21 54 47.2	
	comp=Z,4.6nm,0.9s						
AKTO	**Aktyubinsk**	**79.30**	**358**	LR	LR	22 26 56.5	
	comp=Z,28nm,19.1s,baz=192,slow=33						
KURK	**Kurchatov**	**81.06**	**11**	P	**P**	**21 55 02.7**	**+0.5**
KURK				IAmb	IAmb	21 55 03.7	
	comp=Z,4.7nm,1.1s						
BURAR	**Bucovina Array**	**82.92**	**337**	P	**P**	**21 55 12.9**	**+0.6**
AKASG	**Malin Array Be**	**84.33**	**340**	P	**P**	**21 55 18.9**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=160,slow=4.6,SNR=5.1						
	comp=Z,0.5nm,0.4s						
ARU	**Arti**	**85.28**	**359**	P	**P**	**21 55 24.6**	**+0.7**
ARU				IAmb	IAmb	21 55 24.9	
	comp=Z,4.1nm,0.9s						
ZAA0	**Zalesovo Array**	**85.32**	**14**	P	**P**	**21 55 24.2**	**0.0**
ZAA0				IAmb	IAmb	21 55 25.6	
	comp=Z,3.9nm,0.9s						
ZALV	**Zalesovo Beam**	**85.32**	**14**	P	**P**	**21 55 23.9**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=216,slow=4.8,SNR=11						
ZALV				LR	LR	22 29 52.0	
	comp=Z,19nm,18.3s,baz=58,slow=33						
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**85.32**	**14**	P	**P**	**21 55 24.0**	**-0.2**
SONM	**Songino Array**	**86.84**	**29**	P	**P**	**21 55 32.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=188,slow=9.6,SNR=4.7						
	comp=Z,0.5nm,0.8s						
SONM	**Songino Array**	**86.84**	**29**	P	**P**	**21 55 32.1**	**0.0**
ESDC	**Sonseca Array**	**91.27**	**316**	P	**P**	**21 55 54.8**	**+1.7**
	comp=Z,1.9nm,0.9s,baz=96,slow=3.4,SNR=8.4						
	comp=Z,1.9nm,0.9s						
PDAR	**Pinedale Array**	**164.43**	**333**	PKP	**PKPdf**	**22 02 51.4**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=177,slow=3.0,SNR=6.4						

WEL ***27*** *21:53:36.5±1.3,33°S×8°×17°8W×2°4,h33km,M5.0/5, mB4.7/2,ML5.3/5,MLv5.0/5,Mw(mB)4.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=108.1*
NEIC ***27*** *21:53:36.9±0.6,33.0S±0.1×177.8W±0.2,h10km±2km, mb4.5/14, Error ellipse: s-maj=23.7km s-min=20.1km az=76.0*
IDC ***27*** *21:53:37.1±1.5,32.65S×178.02W,h0km,mb4.3/4, mbtmp4.2/6,ML4.6/2,MS3.6/6, Error ellipse: s-maj=43.4km s-min=26.7km az=138.0*

ISC 27 21:53:36.3±1.0,32.61S±0.06×177.7W±0.1,h21km,n48, σ2s05/48,mb4.6/9,MS3.8/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.34**	**356**	P	**Pn**	**21 54 26.1**	**-1.3**
GLKZ				S	**Sn**	**21 55 03.4**	**-3.0**
MXZ	**Matakaoa Point**	**5.94**	**213**	P	**Pn**	**21 55 03.2**	**+0.2**
MXZ				S	**Sn**	**21 56 09.0**	**-1.5**
WMGZ	**Waiomatatini S**	**6.11**	**211**	S	**Sn**	**21 56 15.6**	**+1.1**
PKGZ	**Pakihiroa**	**6.31**	**212**	P	**Pn**	**21 55 09.2**	**+1.0**
PKGZ				S	**Sn**	**21 56 22.3**	**+2.6**
URZ	**Urewera**	**7.07**	**216**	Pn	**Pn**	**21 55 19.0**	**+0.6**
	1.7nm,0.3s,baz=65,slow=7.3,SNR=7.2						
URZ				Sn	**Sn**	**21 56 38.0**	**-0.2**
	13nm,0.3s,baz=301,slow=17,SNR=15						
	4.7nm,0.3s						
URZ	**Urewera**	**7.07**	**216**	Pn	**Pn**	**21 55 16.1**	**-2.3**
MTHZ	**Maungataniwha**	**7.66**	**214**	P	**Pn**	**21 55 28.8**	**+2.0**
MTHZ				S	**Sn**	**21 56 53.8**	**+0.9**
WHHZ	**Waihua**	**7.67**	**211**	S	**Sn**	**21 56 48.1**	**-4.8**
ARHZ	**Aropaoanui**	**7.92**	**212**	P	**Pn**	**21 55 27.5**	**-2.8**
ARHZ				S	**Sn**	**21 57 01.4**	**+2.1**
BKZ	**Black Stump Fm**	**8.08**	**214**	Pn	**Pn**	**21 55 27.7**	**-4.7**
BKZ	**Black Stump Fm**	**8.08**	**214**	P	**Pn**	**21 55 32.0**	**-0.4**
BKZ				S	**Sn**	**21 57 04.0**	**+0.9**
MCHZ	**McNeill Hill**	**8.21**	**212**	S	**Sn**	**21 57 05.1**	**-1.1**
KWHZ	**Kaweka Forest**	**8.31**	**213**	S	**Sn**	**21 57 08.0**	**-0.9**
KAHZ	**Kahuranaki**	**8.41**	**210**	S	**Sn**	**21 57 11.7**	**+0.2**
ETVZ	**East Tongariro**	**8.44**	**218**	P	**Pn**	**21 55 33.3**	**-4.2**
ETVZ				S	**Sn**	**21 57 11.7**	**-0.5**
OTVZ	**Oturere**	**8.48**	**218**	P	**Pn**	**21 55 33.7**	**-4.4**
OTVZ				S	**Sn**	**21 57 13.5**	**+0.2**
KRHZ	**Kereru**	**8.51**	**213**	S	**Sn**	**21 57 11.0**	**-2.9**
BHHZ	**Black Hill Sta**	**8.54**	**215**	S	**Sn**	**21 57 12.5**	**-1.9**
RPZ	**Rata Peaks**	**14.18**	**215**	Sn	Sn	21 59 20.6	-12
	0.6nm,0.3s,baz=153,slow=24,SNR=1.9						
MSVF	**Nonsavu**	**15.31**	**344**	Pn	**Pn**	**21 57 12.7**	**+1.4**
	0.3nm,0.3s,baz=137,slow=12,SNR=3.9						
	2.2nm,0.6s						
DZM	**Mont Dzumac**	**17.57**	**303**		**Pn**	**21 57 39.2**	**-0.8**
DZM				IAmb	IAmb	21 57 48.9	
	comp=Z,26nm,1.5s						
KOUNC	**Koumac, New Ca**	**20.08**	**302**	P	Pn	21 58 11.3	+1.0
KOUNC				IAmb	IAmb	21 58 39.6	
	comp=Z,17nm,1.1s						
EIDS	**Eidsvold**	**28.20**	**277**	P	**P**	**21 59 27.9**	**+0.2**
EIDS				IAmb	IAmb	21 59 42.8	
	comp=Z,6.2nm,1.0s						
STKA	**Stephens Creek**	**34.31**	**260**	LR	LR	22 13 38.0	
	comp=Z,96nm,19.0s,baz=295,slow=35						
STKA	**Stephens Creek**	**34.31**	**260**	P	**P**	**22 00 21.6**	**+0.2**
CTA	**Charters Tower**	**34.48**	**282**	P	**P**	**22 00 25.5**	**+2.5**
	comp=Z,4.8nm,0.6s,baz=117,slow=9.2,SNR=11						
	comp=Z,4.8nm,0.6s						
CTAO	**Charters Tower**	**34.48**	**282**	P	**P**	**22 00 25.0**	**+2.0**
CTAO				IAmb	IAmb	22 00 39.6	
	comp=Z,4.8nm,0.7s						
BBOO	**Buckleboo**	**38.69**	**257**	P	**P**	**22 00 58.8**	**+0.1**
AS31	**Alice Springs**	**43.31**	**269**	P	**P**	**22 01 37.5**	**+0.5**
ASAR	**Alice Springs**	**43.32**	**269**	P	**P**	**22 01 38.4**	**+1.4**
	comp=Z,2.9nm,0.6s,baz=108,slow=7.6,SNR=31						
	comp=Z,2.9nm,0.6s						
ASAR	**Alice Springs**	**43.32**	**269**	P	**P**	**22 01 37.8**	**+0.9**
WR0	**Warramunga Arr**	**44.33**	**274**	P	**P**	**22 01 45.7**	**+0.7**
WR0				IAmb	IAmb	22 02 12.2	
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**44.50**	**274**	P	**P**	**22 01 47.5**	**+1.0**
	comp=Z,3.8nm,0.4s,baz=114,slow=7.7,SNR=55						
	comp=Z,3.8nm,0.4s						
WRA	**Warramunga Arr**	**44.50**	**274**	P	**P**	**22 01 47.2**	**+0.7**
FORT	**Forrest**	**45.79**	**257**	P	**P**	**22 01 56.8**	**+0.2**
MTN	**Manton Dam**	**50.63**	**281**	P	**P**	**22 02 35.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**52.67**	**271**	LR	LR	22 24 44.0	
	comp=Z,81nm,18.3s,baz=250,slow=36						
FITZ	**Fitzroy Crossi**	**52.67**	**271**	P	**P**	**22 02 49.9**	**+0.6**
FITZ				IAmb	IAmb	22 03 07.4	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**57.51**	**180**	P	**P**	**22 03 20.8**	**-3.1**
QSPA				IAmb	IAmb	22 03 49.2	
	comp=Z,8.6nm,1.1s						
KAPI	**Kappang**	**64.29**	**281**	LR	LR	22 31 08.5	
	comp=Z,34nm,20.6s,baz=120,slow=35						
SNAA	**Sanae**	**75.95**	**178**	P	**P**	**22 05 23.0**	**+1.8**
SNAA				IAmb	IAmb	22 05 52.1	
	comp=Z,8.2nm,1.3s						
PFO	**Pinyon Flats O**	**87.50**	**47**	LR	LR	22 37 27.7	
	comp=Z,37nm,20.2s,baz=197,slow=30						
NVAR	**Mina Array Bea**	**89.67**	**43**	P	P	22 06 38.6	+5.7
	comp=Z,0.2nm,0.5s,baz=214,slow=9.3,SNR=2.3						
	comp=Z,0.2nm,0.5s						
LVC	**Limon Verde**	**92.62**	**119**	LR	LR	22 44 49.9	
	comp=Z,28nm,18.1s,baz=206,slow=33						
ELK	**Elko**	**92.97**	**42**	LR	LR	22 45 55.9	
	comp=Z,28nm,18.4s,baz=236,slow=34						
KBZ	**Khabaz**	**146.54**	**301**	PKPbc	**PKiKP**	**22 13 18.9**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=141,slow=3.4,SNR=4.5						
FINES	**FINESS Array B**	**147.31**	**339**	PKPbc	**PKiKP**	**22 13 20.4**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=82,slow=4.0,SNR=12						
BRTR	**Keskin Array B**	**153.84**	**295**	PKPbc	**PKiKP**	**22 13 38.0**	**+3.8**
	comp=Z,0.5nm,0.6s,baz=159,slow=5.7,SNR=4.3						

WEL ***27*** *21:56:42.0±1.1,33°S×8°×17°8W×2°1,h33km,M4.8/4, mB5.1/2,ML5.2/4,MLv4.8/4,Mw(mB)4.4/2, Error ellipse: s-maj=0.0km s-min=0.0km az=109.1*
IDC ***27*** *21:56:41.3±2.4,32.63S×178.06W,h0km,mb4.2/3, mbtmp4.1/4,ML3.3/1, Error ellipse: s-maj=56.1km s-min=35.3km az=124.0*
NEIC ***27*** *21:56:43.5±1.2,32.5S×178.2W±0.2,h10km±2km, mb4.4/13, Error ellipse: s-maj=23.6km s-min=20.2km az=86.0*

ISC 27 21:56:43.5±1.0,32.52S±0.07×178.1W±0.2,h20km,n48, σ2s17/57,mb4.3/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.25**	**3**	P	**Pn**	**21 57 32.6**	**-0.8**
GLKZ				S	**Sn**	**21 58 07.4**	**-4.0**
MXZ	**Matakaoa Point**	**5.82**	**209**	S	**Sn**	**21 59 12.9**	**-2.0**
WMGZ	**Waiomatatini S**	**6.00**	**207**	P	**Pn**	**21 58 10.8**	**-0.4**
WMGZ				S	**Sn**	**21 59 19.7**	**+0.4**
PKGZ	**Pakihiroa**	**6.20**	**209**	P	**Pn**	**21 58 12.5**	**-1.4**
PKGZ				S	**Sn**	**21 59 24.8**	**+0.6**
HAZ	**Te Kaha**	**6.21**	**212**	S	**Sn**	**21 59 26.5**	**+2.1**
RUGZ	**Raukumara Rang**	**6.43**	**211**	P	**Pn**	**21 58 15.9**	**-1.3**
RUGZ				S	**Sn**	**21 59 32.4**	**+2.4**
URZ	**Urewera**	**6.92**	**213**	Pn	**Pn**	**21 58 23.7**	**-0.2**
	0.6nm,0.3s,baz=125,slow=22,SNR=0.5						
URZ				Sn	**Sn**	**21 59 41.7**	**-0.3**
	15nm,0.3s,baz=342,slow=18,SNR=13						
	4.8nm,0.5s						
URZ	**Urewera**	**6.92**	**213**	Pn	**Pn**	**21 58 24.5**	**+0.6**
BKZ	**Black Stump Fm**	**7.94**	**212**	Pn	**Pn**	**21 58 38.8**	**+0.9**
BKZ	**Black Stump Fm**	**7.94**	**212**	P	**Pn**	**21 58 37.9**	**0.0**
BKZ				S	**Sn**	**22 00 06.3**	**-0.9**
MCHZ	**McNeill Hill**	**8.09**	**210**	S	**Sn**	**22 00 09.6**	**-1.0**
KWHZ	**Kaweka Forest**	**8.19**	**211**	S	**Sn**	**22 00 12.0**	**-1.2**
ETVZ	**East Tongariro**	**8.29**	**215**	P	**Pn**	**21 58 42.8**	**+0.2**
ETVZ				S	**Sn**	**22 00 15.5**	**-0.2**
OTVZ	**Oturere**	**8.33**	**215**	S	**Sn**	**22 00 17.5**	**+0.7**
NGZ	**Ngauruhoe**	**8.37**	**216**	S	**Sn**	**22 00 15.7**	**-2.1**
KRHZ	**Kereru**	**8.39**	**211**	S	**Sn**	**22 00 15.9**	**-2.2**
BHHZ	**Black Hill Sta**	**8.40**	**212**	P	**Pn**	**21 58 42.0**	**-2.2**
BHHZ				S	**Sn**	**22 00 19.1**	**+0.7**
MOVZ	**Moawhango**	**8.48**	**214**	P	**Pn**	**21 58 42.0**	**-3.2**
MOVZ				S	**Sn**	**22 00 18.0**	**-2.3**
PNHZ	**Pukenui**	**8.69**	**210**	S	**Sn**	**22 00 22.7**	**-2.7**
WPHZ	**Waipukurau**	**8.71**	**209**	S	**Sn**	**22 00 24.2**	**-1.9**
PRHZ	**Porangahau**	**8.81**	**207**	S	**Sn**	**22 00 26.8**	**-1.7**
DVHZ	**Dannevirke**	**9.02**	**209**	S	**Sn**	**22 00 29.0**	**-4.7**
POWZ	**Post Office Ro**	**9.27**	**210**	S	**Sn**	**22 00 36.0**	**-3.7**
BFZ	**Birch Farm**	**9.32**	**207**	P	**Pn**	**21 58 53.9**	**-2.8**
BFZ				S	**Sn**	**22 00 36.4**	**-4.5**
PRWZ	**Pori Road**	**9.32**	**209**	S	**Sn**	**22 00 37.1**	**-3.9**
TIWZ	**Tintock**	**9.54**	**209**	S	**Sn**	**22 00 41.7**	**-4.7**
MRZ	**Mangatainoka R**	**9.57**	**210**	S	**Sn**	**22 00 41.7**	**-5.5**
TMWZ	**Te Maipa**	**9.82**	**208**	S	**Sn**	**22 00 48.9**	**-4.4**
RPZ	**Rata Peaks**	**14.04**	**214**	Sn	Sn	22 02 24.8	-12
	0.8nm,0.3s,baz=217,slow=23,SNR=2.1						
DZM	**Mont Dzumac**	**17.20**	**303**	Pn	**Pn**	**22 00 42.0**	**-0.7**
EIDS	**Eidsvold**	**27.81**	**277**	P	**P**	**22 02 33.0**	**+1.5**
EIDS				IAmb	IAmb	22 02 47.0	
	comp=Z,5.3nm,0.9s						
CTA	**Charters Tower**	**34.09**	**282**	P	**P**	**22 03 28.8**	**+1.9**
	comp=Z,2.8nm,0.5s,baz=118,slow=10,SNR=6.0						
	comp=Z,2.8nm,0.5s						
CTAO	**Charters Tower**	**34.09**	**282**	P	**P**	**22 03 27.6**	**+0.7**
CTAO				IAmb	IAmb	22 03 42.3	
	comp=Z,7.9nm,1.1s						
AS31	**Alice Springs**	**42.93**	**269**	P	**P**	**22 04 40.8**	**-0.5**
ASAR	**Alice Springs**	**42.93**	**269**	P	**P**	**22 04 42.3**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=108,slow=7.7,SNR=8.7						
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**42.93**	**269**	P	**P**	**22 04 41.0**	**-0.2**
WR0	**Warramunga Arr**	**43.94**	**274**	P	**P**	**22 04 49.4**	**+0.1**
WR0				IAmb	IAmb	22 05 11.6	
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	**44.11**	**274**	P	**P**	**22 04 51.7**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=116,slow=7.4,SNR=18						
	comp=Z,2.2nm,0.5s						
WRA	**Warramunga Arr**	**44.11**	**274**	P	**P**	**22 04 50.3**	**-0.4**
WB0	**Warramunga Arr**	**44.15**	**275**	P	**P**	**22 04 51.6**	**+0.6**
FORT	**Forrest**	**45.44**	**257**	P	**P**	**22 05 01.7**	**+0.5**
VNDA	**Vanda**	**45.98**	**186**	P	**P**	**22 05 06.9**	**+2.0**
VNDA				IAmb	IAmb	22 05 33.3	
	comp=Z,2.9nm,1.2s						
MTN	**Manton Dam**	**50.24**	**281**	P	**P**	**22 05 39.0**	**+0.4**
MTN				IAmb	IAmb	22 05 40.2	
	comp=Z,5.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.28**	**272**	P	**P**	**22 05 54.5**	**+0.7**
CASY	**Casey**	**53.23**	**209**	P	**P**	**22 06 01.4**	**+1.2**
CASY				IAmb	IAmb	22 06 28.3	
	comp=Z,6.1nm,1.0s						
SNAA	**Sanae**	**76.05**	**178**	P	**P**	**22 08 29.3**	**+0.2**
SNAA				IAmb	IAmb	22 08 53.7	
	comp=Z,4.6nm,1.0s						
FINES	**FINESS Array B**	**147.08**	**339**	PKPbc	**PKPbc**	**22 16 24.5**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=65,slow=2.1,SNR=7.7						
BRTR	**Keskin Array B**	**153.45**	**295**	PKPbc	**PKiKP**	**22 16 42.6**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=100,slow=1.8,SNR=2.3						

IDC 27 22:01:35.5±2.0,46.93N×155.87E,h0km,mb3.6/4, mbtmp3.5/5,ML2.5/1,Error ellipse: s-maj=45.8km s-min=34.1km az=177.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.30**	**10**	Pn	Pn	22 03 08.1	-1.4
	0.5nm,0.3s,baz=181,slow=12,SNR=9.1						
PETK				Sn	Sn	22 04 24.9	+2.8
	0.2nm,0.3s,baz=259,slow=26,SNR=0.9						
	1.5nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**29.71**	**159**	T	T	22 38 41.0	
	baz=346,slow=74,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**29.72**	**159**	T	T	22 38 44.4	
	baz=346,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.73**	**159**	T	T	22 38 43.7	
	baz=346,slow=74,SNR=13						
ZALV	**Zalesovo Beam**	**44.03**	**306**	P	P	22 09 43.8	-0.7
	0.2nm,0.3s,baz=65,slow=10,SNR=1.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**48.53**	**298**	P	P	22 10 19.7	-0.4
	0.3nm,0.8s,baz=64,slow=7.9,SNR=1.9						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**64.67**	**336**	P	P	22 12 15.3	+0.8
	0.8nm,0.6s,baz=34,slow=10,SNR=7.9						
	0.8nm,0.6s						
TXAR	**Lajitas Array**	**75.75**	**62**	P	P	22 13 23.1	0.0
	0.3nm,0.5s,baz=298,slow=5.8,SNR=6.4						
	0.3nm,0.5s						

IDC 27 22:04:43.7±8.1,30.94S×179.13W,h0km,mb3.5/2, mbtmp3.5/2,Error ellipse: s-maj=339.0km s-min=61.3km az=157.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.11**	**268**	P	P	22 12 37.9	0.0
	0.3nm,0.5s,baz=112,slow=8.1,SNR=2.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.15**	**273**	P	P	22 12 46.0	-0.3
	0.6nm,0.6s,baz=114,slow=7.6,SNR=4.6						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**145.31**	**339**	PKPbc	PKPbc	22 24 21.7	-0.8
	2.2nm,0.9s,baz=54,slow=4.9,SNR=5.6						

IDC 27 22:40:44.8±3.3,30.86S×179.36W,h254km±33km, mb3.0/2,mbtmp3.8/4,Error ellipse: s-maj=45.7km s-min=27.4km az=107.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.93**	**201**	P	Pn	22 42 37.0	-0.1
	2.8nm,0.3s,baz=354,slow=3.8,SNR=31						
URZ				S	S	22 44 08.1	+0.5
	7.9nm,0.4s,baz=193,slow=23,SNR=9.9						
MSVF	**Nonsavu**	**13.28**	**349**	P	Pn	22 43 44.3	+0.1
	4.1nm,0.5s,baz=153,slow=7.8,SNR=9.4						
ASAR	**Alice Springs**	**41.91**	**268**	P	P	22 48 10.9	0.0
	0.3nm,0.5s,baz=116,slow=8.5,SNR=4.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**42.95**	**273**	P	P	22 48 18.9	-0.2
	0.6nm,0.4s,baz=110,slow=8.1,SNR=29						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**145.16**	**339**	PKPbc	PKPdf	22 59 50.5	-0.7
	0.9nm,0.5s,baz=45,slow=2.4,SNR=6.3						

NEIC ***27*** *23:59:16.5±1.0,34.82S±0.10×178.5W±0.1,h10km±1km, mb4.4/9, Error ellipse: s-maj=19.9km s-min=10.1km az=138.0*
IDC ***27*** *23:59:16.1±3.2,34.62S×178.70W,h0km,mb3.9/2, mbtmp4.0/4,ML3.8/2,MS3.2/3, Error ellipse: s-maj=72.7km s-min=39.6km az=118.0*
WEL ***27*** *23:59:23.0±0.8,34°S±10°×18°0W±2°2,h33km,M4.4/7, mB4.7/4,ML4.8/8,MLv4.5/7,Mw(mB)3.9/4, Error ellipse: s-maj=0.0km s-min=0.0km az=113.8*

ISC 27 23:59:17.5±1.3,34.81S±0.09×178.7W±0.2,h10km,n44, σ1s95/49,mb4.3/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.65**	**220**	Pn	**Pn**	**00 00 14.9**	**+0.8**
MXZ	**Matakaoa Point**	**3.65**	**220**	P	**Pn**	**00 00 17.7**	**+3.6**
MXZ				S	**Sn**	**00 00 58.6**	**+1.4**
WMGZ	**Waiomatatini S**	**3.79**	**217**	P	**Pn**	**00 00 17.7**	**+1.7**
WMGZ				S	**Sn**	**00 01 00.3**	**-0.4**
PKGZ	**Pakihiroa**	**4.02**	**219**	P	**Pn**	**00 00 21.0**	**+1.9**
PKGZ				S	**Sn**	**00 01 07.8**	**+1.5**
PUZ	**Puketiti**	**4.07**	**216**	P	**Pn**	**00 00 21.0**	**+1.2**
PUZ				S	**Sn**	**00 01 09.5**	**+2.0**
RUGZ	**Raukumara Rang**	**4.29**	**222**	P	**Pn**	**00 00 26.0**	**+3.1**
RUGZ				S	**Sn**	**00 01 15.3**	**+2.3**
URZ	**Urewera**	**4.81**	**223**	Pn	**Pn**	**00 00 32.6**	**+2.6**
	3.6nm,0.3s,baz=28,slow=15,SNR=14						
URZ				Sn	**Sn**	**00 01 25.9**	**+0.1**
	21nm,0.3s,baz=318,slow=17,SNR=16						
	7.3nm,0.3s						
URZ	**Urewera**	**4.81**	**223**	Pn	**Pn**	**00 00 30.7**	**+0.7**
GLKZ	**Green Lake**	**5.57**	**7**	S	**Sn**	**00 01 42.1**	**-2.4**
RAO	**Raoul Island**	**5.58**	**7**		**Pn**	**00 00 39.3**	**-1.3**
BKZ	**Black Stump Fm**	**5.80**	**220**	Pn	**Pn**	**00 00 44.5**	**+0.9**
MCHZ	**McNeill Hill**	**5.90**	**217**	P	**Pn**	**00 00 43.8**	**-1.2**
MCHZ				S	**Sn**	**00 01 52.1**	**-0.5**
KWHZ	**Kaweka Forest**	**6.02**	**219**	P	**Pn**	**00 00 50.4**	**+3.6**
KWHZ				S	**Sn**	**00 01 52.1**	**-3.7**
ETVZ	**East Tongariro**	**6.21**	**224**	P	**Pn**	**00 00 51.2**	**+1.9**
ETVZ				S	**Sn**	**00 01 57.1**	**-3.3**
KRHZ	**Kereru**	**6.22**	**218**	P	Pn	00 00 47.1	-2.3
KRHZ				S	**Sn**	**00 01 58.4**	**-2.1**
NGZ	**Ngauruhoe**	**6.30**	**225**	P	Pn	00 00 47.1	-3.5
NGZ				S	**Sn**	**00 01 59.6**	**-3.1**
PNHZ	**Pukenui**	**6.51**	**217**	P	Pn	00 00 51.2	-2.2
PNHZ				S	**Sn**	**00 02 02.2**	**-4.8**
WPHZ	**Waipukurau**	**6.51**	**215**	P	Pn	00 00 48.7	-4.6
WPHZ				S	**Sn**	**00 02 05.3**	**-2.3**
DVHZ	**Dannevirke**	**6.82**	**215**	S	**Sn**	**00 02 11.9**	**-3.4**
BFZ	**Birch Farm**	**7.09**	**213**	Pn	**Pn**	**00 01 01.0**	**-0.3**
BFZ	**Birch Farm**	**7.09**	**213**	P	**Pn**	**00 01 00.2**	**-1.1**
BFZ				S	Sn	00 02 12.8	-9.1
PRWZ	**Pori Road**	**7.12**	**215**	S	Sn	00 02 14.3	-8.2
MSWZ	**Moikau Station**	**8.13**	**214**	Pn	**Pn**	**00 01 15.0**	**-0.5**
THZ	**Tophouse**	**9.56**	**221**	Pn	**Pn**	**00 01 35.9**	**+0.6**
MQZ	**McQueen's Vall**	**11.11**	**214**	Pn	**Pn**	**00 01 55.2**	**-1.3**
RPZ	**Rata Peaks**	**11.90**	**219**	Pn	**Pn**	**00 02 07.6**	**+0.3**
	0.6nm,0.3s,baz=103,slow=13,SNR=1.4						
RPZ				Sn	Sn	00 04 07.8	-

comp=E,90nm,0.1s
PMR Palmer 1.42 67 Pn **Pn 00 15 14.4 -0.2**
PMR IAML 00 15 34.1
comp=E,75nm,0.1s
PMR IAML 00 15 34.9
comp=N,78nm,0.3s
HOM Homer 1.43 175 Pn **Pn 00 15 15.8 +1.0**
M19K Big River Lodg 1.46 306 Pn **Pn 00 15 16.2 +1.0**
O19K Port Alsworth 1.49 235 Pn **Pn 00 15 15.8 +0.3**
O19K IAML 00 15 41.9
comp=N,44nm,0.5s
O19K IAML 00 15 44.5
comp=E,47nm,0.5s
SEW Seward 1.54 128 Pn **Pn 00 15 16.2 +0.1**
P19K Oil Pt 1.58 206 Pn **Pn 00 15 17.5 +0.9**
P19K IAML 00 15 41.9
comp=N,37nm,0.2s
P19K IAML 00 15 44.2
comp=E,55nm,0.6s
GHO Glory Hole Cre 1.58 62 Pn **Pn 00 15 17.1 +0.4**
GHO IAML 00 15 38.0
comp=E,98nm,0.3s
GHO IAML 00 15 39.5
comp=N,73nm,0.4s
CNPM China Poot 1.59 168 Pn **Pn 00 15 17.4 +0.7**
CNPM IAML 00 15 38.9
comp=N,67nm,0.3s
CNPM IAML 00 15 39.8
comp=E,78nm,0.6s
KNK Knik Glacier 1.69 77 Pn **Pn 00 15 18.0 +0.1**
KNK IAML 00 15 41.5
comp=N,84nm,0.3s
PWL Port Wells 1.74 96 Pn **Pn 00 15 18.4 -0.2**
PWL IAML 00 15 41.7
comp=E,63nm,0.2s
SVW2 Sparrevohn 1.80 272 Pn **Pn 00 15 19.4 +0.1**
L19K White Mountain 1.80 309 Pn **Pn 00 15 20.3 +0.9**
PPLA Purkeypile 1.83 356 Pn **Pn 00 15 20.4 +0.4**
SML Sawmill 1.86 65 Pn **Pn 00 15 20.6 +0.5**
SML IAML 00 15 43.8
comp=N,37nm,0.3s
SML IAML 00 15 49.2
comp=E,32nm,1.0s
N18K Kilae Creek 2.00 260 Pn **Pn 00 15 22.4 +0.4**
O18K Koktuh Hills 2.05 235 Pn **Pn 00 15 23.2 +0.6**
SCM Sheep Creek Mo 2.31 69 Pn **Pn 00 15 26.6 +0.6**
SCM IAML 00 15 55.7
comp=N,32nm,0.3s
SCM IAML 00 15 56.0
comp=E,47nm,0.3s
GLI Glacier Island 2.34 93 Pn **Pn 00 15 24.8 -1.5**
GLI IAML 00 15 54.2
comp=N,43nm,0.4s
CAST Castle Rocks 2.35 358 Pn **Pn 00 15 26.8 +0.2**
P18K Big Mountain, 2.38 226 Pn **Pn 00 15 27.5 +0.7**
TRF Thorofare Moun 2.50 17 Pn **Pn 00 15 28.7 +0.2**
TRF IAML 00 16 03.7
comp=N,16nm,0.4s
TRF IAML 00 16 07.8
comp=E,15nm,1.7s
K20K Telida 2.51 337 Pn **Pn 00 15 28.8 +0.2**
KTH Kantishna Hill 2.53 10 Pn **Pn 00 15 29.9 +1.1**
FID Port Fidalgo 2.66 95 Pn **Pn 00 15 28.8 -1.7**
FID IAML 00 16 02.6
comp=N,39nm,0.4s
HIN Hinchinbrook I 2.73 102 Pn **Pn 00 15 30.1 -1.3**
HIN IAML 00 16 05.1
comp=N,19nm,1.0s
HIN IAML 00 16 12.6
comp=E,26nm,2.5s
RND Reindeer 2.73 30 Pn **Pn 00 15 32.1 +0.5**
KLU Klutina 2.91 79 Pn **Pn 00 15 33.3 -0.5**
KLU IAML 00 16 08.8
comp=E,24nm,0.2s
M24K Tolsona, Glenn 2.92 67 Pn **Pn 00 15 34.8 +0.8**
DHY Denali Highway 2.92 45 Pn **Pn 00 15 34.7 +0.6**
DHY IAML 00 16 09.5
comp=N,20nm,0.3s
DHY IAML 00 16 10.8
comp=E,18nm,0.3s
DIV Divide 2.97 86 Pn **Pn 00 15 34.1 -0.5**
MCK McKinley 3.00 26 Pn **Pn 00 15 35.5 +0.5**
MCK IAML 00 16 24.8
comp=N,9.6nm,2.5s
BPAW Bear Paw Mtn. 3.06 7 Pn **Pn 00 15 35.9 0.0**
J20K Nowinta River 3.29 342 Pn **Pn 00 15 39.0 +0.3**
BWN Browne 3.30 19 Pn **Pn 00 15 39.3 +0.3**
KDAK Kodiak Island 3.32 187 Pn **Pn 00 15 38.8 -0.4**
comp=N,0.4nm,0.3s,baz=31,slow=5.9,SNR=12
KDAK Sn **Sn 00 16 17.0 -0.9**
comp=N,0.4nm,0.3s,baz=6.3,slow=18,SNR=6.2
comp=N,1.6nm,0.3s
KDAK Kodiak Island 3.32 187 Pn **Pn 00 15 38.9 -0.4**
KDAK IAML 00 16 07.8
comp=N,19nm,2.5s
KDAK IAML 00 16 54.9
comp=N,18nm,3.8s
BMRM Bremner River 3.54 89 Pn **Pn 00 15 42.6 +0.3**
PAX Paxson 3.57 55 Pn **Pn 00 15 43.6 +1.0**
NEA2 Nenana 3.76 19 Pn **Pn 00 15 45.8 +0.7**
NEA2 IAML 00 17 06.7
comp=N,8.4nm,4.0s
NEA2 IAML 00 17 08.5
comp=E,7.4nm,3.6s
WRH Wood River Hil 3.83 25 Pn **Pn 00 15 46.2 +0.1**
WRH IAML 00 16 28.9
comp=E,7.0nm,3.9s
WRH IAML 00 17 44.7
comp=N,4.9nm,3.7s
GLB Gilahina Butte 3.92 81 Pn **Pn 00 15 47.2 -0.1**
GLB IAML 00 16 32.7
comp=N,13nm,0.3s
GLB IAML 00 16 32.9
comp=E,9.6nm,0.4s
OHAK Old Harbor 3.93 191 Pn **Pn 00 15 48.0 +0.5**
MLY Manley 4.00 7 Pn **Pn 00 15 49.5 +1.0**
MLY IAML 00 16 32.0
comp=E,4.4nm,4.5s
MLY IAML 00 18 02.1
comp=N,5.5nm,4.2s
CCB Clear Creek Bu 4.04 26 Pn **Pn 00 15 48.9 0.0**
CCB IAML 00 17 04.8
comp=E,4.9nm,3.8s
CCB IAML 00 18 35.8
comp=N,4.3nm,4.5s
HDA Harding Lake 4.04 32 Pn **Pn 00 15 49.7 +0.7**
HDA IAML 00 16 36.8
comp=N,7.8nm,1.2s
HDA IAML 00 16 37.7
comp=E,7.5nm,0.5s
RIDG Independent Ri 4.22 48 Pn **Pn 00 15 52.9 +1.4**
RIDG IAML 00 16 52.8
comp=N,9.5nm,1.2s
MDM Murphy Dome 4.24 22 Pn **Pn 00 15 52.5 +0.9**
MDM IAML 00 16 45.0
comp=E,6.1nm,3.3s
MDM IAML 00 18 40.0
comp=N,5.1nm,4.4s
IL31 4.36 29 Pn **Pn 00 15 53.2 +0.1**
ILAR Eielson Array 4.36 29 Pn **Pn 00 15 53.2 0.0**
comp=N,1.0nm,0.3s,baz=215,slow=14,SNR=31
ILAR Sn **Sn 00 16 41.0 -1.7**
comp=N,0.2nm,0.3s,baz=203,slow=15,SNR=1.8
comp=N,1.5nm,0.3s
TGL Tana Glacier 4.43 90 Pn **Pn 00 15 53.6 -0.7**
DOT Dot Lake 4.46 51 Pn **Pn 00 15 55.6 +1.0**
L26K Log Cabin Wild 4.47 60 Pn **Pn 00 15 56.1 +1.4**
L26K IAML 00 17 08.0
comp=N,6.6nm,0.4s
L26K IAML 00 17 12.0
comp=E,5.7nm,1.5s
WAX Waxell Ridge 4.47 94 Pn **Pn 00 15 55.3 +0.5**
H21K Melozitna River 4.62 355 Pn **Pn 00 15 57.1 +0.4**
H21K IAML 00 18 04.1
comp=E,6.4nm,2.9s
H21K IAML 00 18 08.9
comp=N,8.2nm,3.0s
J25K Salcha River, 4.64 37 Pn **Pn 00 15 58.1 +1.0**
J25K IAML 00 16 48.9
comp=N,6.4nm,2.7s
J25K IAML 00 17 03.8
comp=E,5.2nm,2.5s
SCRK Sand Creek 4.67 48 Pn **Pn 00 15 57.8 +0.3**
SCRK IAML 00 16 57.8
comp=E,5.3nm,2.9s
SCRK IAML 00 17 33.6
comp=N,5.4nm,3.9s
H23K Yukon River 4.88 11 Pn **Pn 00 16 02.0 +1.7**
H23K IAML 00 17 27.3
comp=E,5.7nm,3.0s
H23K IAML 00 19 05.8
comp=N,6.4nm,4.5s
M27K Edge Creek, AK 4.93 71 Pn **Pn 00 16 03.1 +2.0**
MESA MESA 4.97 96 Pn **Pn 00 16 02.9 +1.2**
IMAR Indian Mountai 5.00 351 Pn **Pn 00 16 01.9 0.0**
H24K Noodor Dome 5.11 19 Pn **Pn 00 16 04.8 +1.5**
H24K IAML 00 19 10.8
comp=E,5.5nm,3.6s
J26L Joseph Creek 5.14 44 Pn **Pn 00 16 04.8 +1.0**
J26L IAML 00 17 29.1
comp=E,5.3nm,3.0s
BCAR Beaver Creek A 5.15 63 Pn **Pn 00 16 05.4 +1.4**
PRP Porcupine Dome 5.30 30 Pn **Pn 00 16 06.8 +0.8**
PRP IAML 00 17 33.9
comp=E,4.8nm,4.0s
PRP IAML 00 18 48.2
comp=N,4.7nm,3.6s
LOGN Logan Glacier 5.31 88 Pn **Pn 00 16 07.8 +1.5**
K27K Chicken 5.42 53 Pn **Pn 00 16 08.6 +1.1**
EGAK Eagle 6.14 48 Pn **Pn 00 16 17.7 +0.3**
BMAR Burnt Mountain 7.12 23 Pn **Pn 00 16 31.1 +0.5**
NVAR Mina Array Bea 30.79 122 P P 00 21 02.7 +7.6
comp=N,0.2nm,0.6s,baz=318,slow=4.9,SNR=1.7
comp=N,0.2nm,0.6s
PDAR Pinedale Array 31.14 107 P P 00 21 05.5 +7.3
comp=N,0.1nm,0.6s,baz=304,slow=5.3,SNR=1.4
comp=N,0.1nm,0.6s

*GUC **28** 00:15:31.6±0.8, 19°.32S×69°.37W, h100km±3km, ML3.6*
*VAO **28** 00:15:33.7±0.3, 19°.32S×68°.96W, h118km, mb3.7*
*IDC **28** 00:15:34.1±7.9, 19°.11S×69°.27W, h148km±56km, mb3.2/1, mbtmp3.5/2, MS3.3/1, Error ellipse: s-maj=84.2km s-min=70.6km az=55.0*

ISC 28 00:15:29.9±0.7, 19°.35S±0°.03×69°.38W±0°.06, h112km±7km, n41, σ0s97/53, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.37**	**151**	*i*P		**Pn**		**00 15 47.1**	**+0.2**
GO01				*i* S		**Sn**		**00 15 59.3**	**-0.3**
GO01				IAML				00 16 01.7	
	comp=E,5μm,0.1s								
PB08	**IPOC Station P**	**0.82**	**165**	*i*P		**Pn**		**00 15 50.7**	**+0.7**
PB08				*i* S		**Sn**		**00 16 05.8**	**+0.7**
PB08				IAML				00 16 06.5	
	comp=E,2μm,0.2s								
PB16	**IPOC Station P**	**1.01**	**353**	*i*P		**Pn**		**00 15 52.8**	**+0.7**
PB16				*i* S		**Sn**		**00 16 08.9**	**+0.2**
PB16				IAML				00 16 10.0	
	comp=E,956nm,0.2s								
PB12	**IPOC Station P**	**1.15**	**309**	*i*P		**Pn**		**00 15 53.1**	**0.0**
PB12				*i* S		**Sn**		**00 16 09.8**	**-0.7**
PB12				IAML				00 16 10.7	
	comp=E,3μm,0.3s								
TA02	**Huaiquique**	**1.16**	**217**	*e*P		**Pn**		**00 15 53.5**	**+0.5**
TA02				*i* S		**Sn**		**00 16 10.4**	**0.0**
TA02				IAML				00 16 12.2	
	comp=N,2μm,0.1s								
AP01	**Chacalluta**	**1.33**	**317**	*e*P		**Pn**		**00 15 55.4**	**+0.5**
AP01				*i* S		**Sn**		**00 16 13.9**	**+0.2**
AP01				IAML				00 16 14.5	
	comp=E,3μm,0.8s								
TA01	**Diego Aracena**	**1.43**	**212**	*i*P		**Pn**		**00 15 56.1**	**+0.1**
TA01				*i* S		**Sn**		**00 16 15.6**	**-0.2**
TA01				IAML				00 16 17.1	
	comp=E,602nm,0.3s								
PATCX	**Punta Patache**	**1.64**	**206**	*e*P		**Pn**		**00 15 59.0**	**+0.3**
PATCX				*i* S		**Sn**		**00 16 20.1**	**-0.4**
PATCX				IAML				00 16 29.0	
	comp=E,360nm,0.2s								
PB01	**IPOC Station P**	**1.69**	**183**	*i*P		**Pn**		**00 16 00.4**	**+1.1**
PB01				*i* S		**Sn**		**00 16 22.5**	**+0.8**
PB01				IAML				00 16 23.6	
	comp=N,679nm,0.3s								
PB02	**IPOC Station P**	**2.02**	**194**	*e*P		**Pn**		**00 16 04.3**	**+0.8**
PB02				*i* S		**Sn**		**00 16 29.6**	**+0.6**
PB02				IAML				00 16 39.2	
	comp=E,503nm,0.3s								
PB07	**IPOC Station P**	**2.42**	**191**	*e*P		**Pn**		**00 16 10.1**	**+1.5**
PB07				IAML				00 16 47.8	
	comp=E,267nm,0.4s								
PB09	**IPOC Station P**	**2.44**	**177**	*e*P		**Pn**		**00 16 10.1**	**+1.2**
PB09				IAML				00 16 44.2	
	comp=E,153nm,0.4s								
PB04	**IPOC Station P**	**3.06**	**193**	*e*P		**Pn**		**00 16 17.7**	**+0.8**
PB04				IAML				00 17 14.2	
	comp=N,127nm,0.4s								
LPAZ	**La Paz**	**3.27**	**22**	P		**Pn**		**00 16 22.3**	**+2.1**
	comp=N,3.1nm,0.4s,baz=203,slow=16,SNR=17								
LPAZ				S		**Sn**		**00 16 59.8**	**+1.0**
	comp=N,2.1nm,0.4s,baz=212,slow=19,SNR=1.7								
LPAZ	**La Paz**	**3.27**	**22**	*e*P		**Pn**		**00 16 21.7**	**+1.5**
LVC	**Limon Verde**	**3.28**	**172**	*e*P		**Pn**		**00 16 21.2**	**+1.1**
LVC				*i* S		**Sn**		**00 16 59.4**	**+0.7**
LVC	**Limon Verde**	**3.28**	**172**	*e*P		**Pn**		**00 16 22.6**	**+2.5**
PB06	**IPOC Station P**	**3.35**	**183**	*e*P		**Pn**		**00 16 22.0**	**+1.2**
PB06				*i* S		**Sn**		**00 16 58.0**	**-2.1**
PB06				IAML				00 17 05.3	
	comp=E,88nm,0.3s								
ETMB	**Extrema**	**9.96**	**18**	*e*P		**Pn**		**00 17 51.3**	**+1.3**
PTLB	**Pontes e Lacer**	**10.52**	**70**	*e*P		**Pn**		**00 17 55.6**	**-2.1**
VILB	**Vilhena**	**10.87**	**56**	*e*P		**Pn**		**00 18 01.7**	**-0.8**
ANTJ	**Antonio Joao (**	**12.80**	**104**	*e*P		**Pn**		**00 18 25.7**	**-2.2**
CLDB	**Colider**	**15.58**	**59**	*e*P		**Pn**		**00 19 04.2**	**+0.7**
ALGR	**Alto Alegre (B**	**17.64**	**125**	*e*P		**P**		**00 19 27.9**	**-0.1**
ITAB	**Concordia**	**17.68**	**120**	*e*P		**Pn**		**00 19 28.6**	**-0.5**
CPSB	**Cacapava Do Su**	**18.16**	**130**	*e*P		**P**		**00 19 33.7**	**0.0**
MACA	**Manacapuru-AM**	**18.19**	**29**	*e*P		**P**		**00 19 34.1**	**-0.1**
NPGB	**Novo Progresso**	**18.31**	**50**	*e*P		**P**		**00 19 34.5**	**-1.0**
SNDB	**Serra Nova Dou**	**18.89**	**70**	*e*P		**P**		**00 19 41.5**	**-0.3**
CNLB	**Canela**	**19.56**	**124**	*e*P		**P**		**00 19 48.7**	**-0.4**
BB19B	**Bebedouro**	**19.65**	**99**	*e*P		**P**		**00 19 49.9**	**-0.2**
IPMB	**Ipameri, GO**	**20.11**	**90**	*e*P		**P**		**00 19 55.1**	**0.0**
BDFB	**Brasilia**	**20.71**	**83**	P		**P**		**00 20 01.6**	**0.0**
	comp=E,1.4nm,0.5s,baz=275,slow=12,SNR=4.0								
	comp=E,1.4nm,0.5s								
PMNB	**Patos De Minas**	**21.72**	**92**	*e*P		**P**		**00 20 12.0**	**-0.4**
MALB	**Monte Alegre**	**22.83**	**42**	*e*P		**P**		**00 20 23.8**	**+0.1**
BOAV	**Boa Vista**	**23.29**	**23**	*e*P		**P**		**00 20 28.5**	**+0.4**
SMTB	**Santa Maria do**	**23.54**	**67**	*e*P		**P**		**00 20 30.4**	**+0.1**
JANB	**Januaria**	**24.32**	**84**	*e*P		**P**		**00 20 37.0**	**-0.4**
DIAM	**Diamantina, MG**	**24.36**	**92**	*e*P		**P**		**00 20 38.2**	**+0.4**
TXAR	**Lajitas Array**	**58.62**	**325**	LR		LR		00 49 10.6	
	comp=E,25nm,19.4s,baz=12,slow=34								
TORD	**Torodi Ar. Bea**	**77.07**	**71**	P		**P**		**00 27 10.6**	**-0.7**
	comp=E,0.4nm,0.4s,baz=250,slow=5.3,SNR=2.7								

*NEIC **28** 00:36:26.8±1.1, 56°.38N±0°.04×158°.93W±0°.08, h18km±9km, Error ellipse: s-maj=7.2km s-min=5.5km az=137.0*

AEIC 28 00:36:26±0.7, 56°.39N±0°.04×158°.99W±0°.05, h13km±6km, ML2.6, ML2.9/26(NEIC), Error ellipse: s-maj=6.6km s-min=1.2km az=147.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.33**	**106**				Pg	00 36 32.7	-0.1
CHGN						Sg	Sg	00 36 37.9	+0.6
VNFG	**Fog Glacier, M**	**0.33**	**251**				Pg	00 36 32.8	0.0
ANPB	**Aniakchak Plen**	**0.57**	**43**				Pg	00 36 37.1	0.0
ANPK	**Aniakchak Peak**	**0.66**	**46**				Pg	00 36 39.0	+0.2
SDPT	**Sand Point**	**1.34**	**219**				Pn	00 36 50.4	0.0
R16K	**Pilot Point**	**1.41**	**33**				Pn	00 36 51.1	-0.2
CNBA	**Chernabura Isl**	**1.61**	**192**	Pn		Pn		00 36 54.1	0.0
CNBA				IAML				00 37 20.9	
	comp=N,107nm,0.6s								
CNBA				IAML				00 37 21.1	
	comp=E,106nm,0.7s								
R17K	**Ugashik Creek**	**1.89**	**48**				Pn	00 36 57.7	-0.2
PN7A	**Pavlof North-7**	**1.95**	**242**				Pn	00 36 59.0	+0.2
CHIR	**Chirikof Islan**	**1.97**	**106**	Pn		Pn		00 37 00.2	+1.2
CHIR				IAML				00 37 23.0	
	comp=E,108nm,2.9s								
CNTC	**Contact Creek**	**2.52**	**41**				Pn	00 37 06.2	-0.4
ANCK	**Angle Creek**	**2.62**	**45**				Pn	00 37 08.2	+0.2
SII	**Sitkinak Islan**	**2.67**	**84**	Pn		Pn		00 37 08.6	0.0
P16K	**Nushagak River**	**2.70**	**11**				Pn	00 37 08.3	-0.7
KAHC	**Katmai Hardscr**	**3.12**	**42**				Pn	00 37 15.2	+0.3
P17K	**Kvichak River**	**3.12**	**25**				Pn	00 37 15.6	+0.7
OHAK	**Old Harbor**	**3.24**	**73**	Pn		Pn		00 37 18.1	+1.7
OHAK				IAML				00 37 39.9	
	comp=E,22nm,2.8s								
OHAK				IAML				00 38 06.9	
	comp=N,23nm,3.3s								
O16K	**Kokwok River B**	**3.25**	**8**				Pn	00 37 16.2	-0.3
O17K	**Koliganek Bris**	**3.54**	**16**				Pn	00 37 20.6	+0.1
P18K	**Big Mountain,**	**3.62**	**32**	Pn		Pn		00 37 21.5	-0.2
KDAK	**Kodiak Island**	**3.76**	**66**			Pn		00 37 25.4	+1.8
KDAK				IAML				00 38 02.7	
	comp=N,16nm,3.0s								
KDAK				IAML				00 38 51.8	
	comp=N,19nm,3.2s								
KDAK	**Kodiak Island**	**3.76**	**66**	Pn		Pn		00 37 25.0	+1.4
O18K	**Koktuh Hills**	**4.01**	**28**	Pn		Pn		00 37 26.6	-0.4
O18K				IAML				00 38 32.2	
	comp=E,15nm,2.2s								
O18K				IAML				00 38 36.9	
	comp=N,19nm,0.7s								
N16K	**Nishlik Lake**	**4.09**	**2**				Pn	00 37 28.2	0.0
N18K	**Kilae Creek**	**4.59**	**19**	Pn		Pn		00 37 35.3	+0.3
N18K				IAML				00 38 53.6	
	comp=E,12nm,2.0s								
N18K				IAML				00 39 47.9	
	comp=N,10nm,2.9s								
ILSW	**Iliamna Southw**	**4.75**	**38**	Pn		Pn		00 37 37.3	0.0
ILSW				IAML				00 39 14.2	
	comp=E,7.8nm,1.3s								
ILSW				IAML				00 39 46.6	
	comp=N,8.4nm,3.3s								
N19K	**Bonanza Creek**	**5.02**	**26**	Pn		Pn		00 37 41.4	+0.5
SVW2	**Sparrevohn**	**5.04**	**19**	Pn		Pn		00 37 41.4	+0.2
SVW2				IAML				00 39 23.1	
	comp=N,7.8nm,0.9s								
M19K	**Big River Lodg**	**6.01**	**21**	Pn		Pn		00 37 54.5	0.0
L19K	**White Mountain**	**6.18**	**18**	Pn		Pn		00 37 57.1	+0.3
M20K	**Styx River**	**6.27**	**26**	Pn		Pn		00 37 59.1	+0.9

*IDC **28** 00:55:14.3±1.3, 55°.17S×31°.77W, h0km, mb4.2/5, mbtmp4.2/5, MS3.3/2, Error ellipse: s-maj=56.8km s-min=27.3km az=48.0*
*NEIC **28** 00:55:16.3±1.9, 55°.1S±0°.1×31°.9W±0°.1, h10km±1km, mb4.5/22, Error ellipse: s-maj=17.5km s-min=12.9km az=167.0*

ISC 28 00:55:16.3±0.6, 54°.98S±0°.09×31°.92W±0°.09, h10km, n43, σ1s51/34, mb4.5/16, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.75**	**283**				**Pn**	**00 56 00.3**	**-0.1**
ESPZ	**Base Esperanza**	**15.27**	**226**	Pn		**Pn**		**00 58 49.1**	**-2.5**
PMSA	**Palmer Station**	**18.65**	**225**	LR		LR		01 06 18.9	
	comp=Z,59nm,18.6s,baz=89,slow=36								
VNA1	**Neumayer--Stat**	**18.85**	**156**	P		Pn		00 59 47.7	+11
VNA3	**Neumayer Olymp**	**18.96**	**158**	P		**Pn**		**00 59 39.6**	**+1.8**
VNA2	**Neumayer--Watz**	**19.25**	**156**	P		**Pn**		**00 59 45.8**	**+4.4**
	baz=316,slow=8.2								
SNAA	**Sanae**	**20.85**	**154**	P		Pn		00 59 58.2	-2.2
SNAA	**Sanae**	**20.85**	**154**	P		**P**		**00 59 56.3**	**-1.6**
TROLL	**Troll, Antarti**	**22.43**	**153**	P		**P**		**01 00 16.2**	**+1.3**
MG05	**Puerto Natales**	**24.22**	**261**	P		**P**		**01 00 33.5**	**+0.6**
GO09	**Cerro Castillo**	**24.29**	**262**	P		**P**		**01 00 33.2**	**-0.3**
PLTB	**Pedras Altas**	**27.83**	**318**	P		**P**		**01 01 07.0**	**+1.4**
PLTB				IAmb		IAmb		01 01 09.8	
	comp=Z,13nm,1.4s								
AY01	**Puyuhuapi**	**28.00**	**275**	P		**P**		**01 01 06.8**	**-0.2**
AY01				IAmb		IAmb		01 01 27.8	
	comp=Z,10nm,1.1s								
LL01	**San Ignacio de**	**29.12**	**279**	P		**P**		**01 01 17.7**	**+0.6**
PLCA	**Paso Flores**	**29.15**	**283**	LR		LR		01 13 06.1	
	comp=Z,84nm,18.5s,baz=152,slow=37								
CPUP	**Villa Florida**	**34.13**	**317**	P		**P**		**01 02 01.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=154,slow=9.6,SNR=3.8								
	comp=Z,1.2nm,0.6s								
CPUP	**Villa Florida**	**34.13**	**317**	P		**P**		**01 02 00.8**	**-0.4**
MT09	**Talagante**	**34.42**	**292**	P		**P**		**01 02 03.6**	**-0.2**
MT09				IAmb		IAmb		01 02 19.1	
	comp=Z,4.6nm,0.9s								
MT02	**Curacav**	**34.89**	**292**	P		**P**		**01 02 07.8**	**+0.1**
QSPA	**South Pole Qui**	**35.28**	**180**	P		**P**		**01 02 12.1**	**+1.1**
QSPA				IAmb		IAmb		01 02 30.9	
	comp=Z,6.3nm,1.4s								
CO01	**Juntas del Tor**	**36.92**	**297**	P		**P**		**01 02 25.8**	**+0.3**
GO04	**Tololo Observa**	**37.13**	**296**	P		**P**		**01 02 25.9**	**-1.3**
GO04				IAmb		IAmb		01 02 48.8	
	comp=Z,15nm,1.4s								
AC05	**El Transito**	**37.94**	**298**	P		**P**		**01 02 34.4**	**+0.5**
AC05				IAmb		IAmb		01 02 36.3	
	comp=Z,4.4nm,0.9s								
GO02	**Mina Guanaco**	**40.62**	**302**	P		**P**		**01 02 58.5**	**+1.9**
GO02				IAmb		IAmb		01 03 08.8	
	comp=Z,15nm,1.4s								
BDFB	**Brasilia**	**41.19**	**336**	P		**P**		**01 03 00.4**	**-0.7**
	comp=Z,2nm,0.5s,baz=206,slow=8.0,SNR=3.3								
	comp=Z,1.2nm,0.5s								
MAW	**Mawson**	**42.58**	**146**	P		**P**		**01 03 08.5**	**-3.3**
	comp=Z,2.2nm,0.6s,baz=346,slow=8.3,SNR=2.1								
	comp=Z,2.2nm,0.6s								
MAW	**Mawson**	**42.58**	**146**	P		**P**		**01 03 09.8**	**-2.0**
PB01	**IPOC Station P**	**44.07**	**305**	P		**P**		**01 03 25.5**	**+1.1**
PB01				IAmb		IAmb		01 03 27.9	
	comp=Z,8.6nm,1.2s								
PTLB	**Pontes e Lacer**	**44.71**	**321**	P		**P**		**01 03 30.1**	**+0.6**
PTLB				IAmb		IAmb		01 03 38.5	
	comp=Z,3.1nm,1.0s								
LPAZ	**La Paz**	**47.59**	**310**	P		**P**		**01 03 54.9**	**+2.0**
	comp=Z,1.1nm,0.6s,baz=146,slow=7.3,SNR=5.2								
	comp=Z,1.1nm,0.6s								
LPAZ	**La Paz**	**47.59**	**310**	P		**P**		**01 03 54.7**	**+1.8**
LPAZ				IAmb		IAmb		01 04 03.9	
	comp=Z,3.8nm,1.1s								
H10S2	**ASCENSION HYDR**	**47.91**	**23**	T		T		01 56 03.4	
	baz=27,slow=74,SNR=3.1								
H10S3	**ASCENSION HYDR**	**47.91**	**23**	T		T		01 56 01.9	
	baz=193,slow=74,SNR=8.5								
BOSA	**Boshof**	**48.39**	**81**	P		**P**		**01 03 57.7**	**-0.7**
H10N1	**ASCENSION HYDR**	**49.02**	**23**	T		T		01 57 27.7	
	baz=192,slow=76,SNR=19								
H10N3	**ASCENSION HYDR**	**49.02**	**23**	T		T		01 57 27.6	
	baz=192,slow=76,SNR=21								
H10N2	**ASCENSION HYDR**	**49.04**	**23**	T		T		01 57 29.6	
	baz=192,slow=76,SNR=18								
LBTB	**Lobatse**	**51.35**	**78**	P		**P**		**01 04 20.7**	**-0.3**
LBTB				IAmb		IAmb		01 04 47.0	
	comp=Z,20nm,1.5s								
BOAV	**Boa Vista**	**61.85**	**327**	P		**P**		**01 05 34.8**	**-0.7**
BOAV				IAmb		IAmb		01 05 54.7	
	comp=Z,5.3nm,1.3s								
TOA0	**Torodi Ar. Sit**	**73.56**	**34**	P		**P**		**01 06 48.4**	**-0.9**
TOA0				IAmb		IAmb		01 06 56.2	
	comp=Z,5.4nm,1.2s								
TORD	**Torodi Ar. Bea**	**73.56**	**34**	P		**P**		**01 06 50.1**	**+0.8**
	comp=Z,8.6nm,0.4s,baz=196,slow=6.9,SNR=5.1								
	comp=Z,8.6nm,0.4s								
ZALV	**Zalesovo Beam**	**144.33**	**65**	PKP		**PKPdf**		**01 14 51.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=224,slow=4.0,SNR=4.3								
ILAR	**Eielson Array**	**147.41**	**314**	PKPbc		**PKPbc**		**01 14 59.2**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=103,slow=1.4,SNR=7.4								

*IDC **28** 01:05:48.5±1.5, 33°.10N×115°.80W, h0km, mbtmp3.0/5, ML3.1/5, Error ellipse: s-maj=19.5km s-min=7.9km az=30.0*
*ANF **28** 01:05:50.4±0.1, 33°.30N×115°.72W, h21km±2km, ML3.7/24, Error ellipse: s-maj=1.3km s-min=1.1km az=139.0*
*PAS **28** 01:05:51.2±2.1,

WEMD					Sb	01 06 02.8	+0.4	
SUP	**Superstition M**	0.35	193		Pg	01 05 58.1	-0.1	
SWSC	**Sam W. Stewart**	0.36	189		Pg	01 05 58.3	0.0	
SWSC	**Sam W. Stewart**	0.36	189	P	Pg	01 05 58.3	0.0	
	baz=12,SNR=1000							
CTW	**Cottonwood Mou**	0.39	343		Pb	01 05 59.1	-0.5	
CTW					Sb	01 06 04.7	-0.7	
HAY	**Hayfield**	0.41	6		Pb	01 05 59.3	-0.6	
CTCC	**Cactus City**	0.41	329		Pb	01 05 59.6	-0.3	
CTCC					Sb	01 06 06.0	-0.1	
BC3	**Big Chuckawall**	0.42	33		Pb	01 05 59.3	-0.9	
BC3					Sb	01 06 05.4	-1.0	
BC3	**Big Chuckawall**	0.42	33	P	Pb	01 05 59.2	-0.9	
	baz=211,SNR=1000							
BC3				S	Sb	01 06 05.3	-1.1	
	baz=211							
IMPE	**Imperial**	0.42	160		Pb	01 05 59.8	-0.3	
IMPE					Sb	01 06 07.7	+1.5	
COK2	**Cook Ranch 2**	0.45	180		Pb	01 06 00.4	-0.1	
COK2					Sb	01 06 07.5	+0.6	
SLH	**Sleepy Hollow**	0.45	256		Pb	01 06 00.4	-0.2	
SLH					Sb	01 06 07.3	+0.2	
CRR	**Carrizo Plain**	0.46	206		Pg	01 06 00.1	0.0	
CRR					Sg	01 06 06.7	+0.4	
SNR	**Schaffner Ranc**	0.50	150		Pb	01 06 01.0	-0.4	
SNR					Sb	01 06 09.5	+1.0	
WESC	**Westside Schoo**	0.54	180		Pb	01 06 01.8	-0.3	
WESC					Sb	01 06 10.4	+0.7	
DREC	**Desert Rsrch C**	0.55	154		Pb	01 06 02.1	-0.1	
DREC					Sb	01 06 11.8	+1.9	
BORC	**Borrego Spring**	0.57	267		Pb	01 06 02.4	-0.3	
BORC					Sg	01 06 10.0	+0.1	
PMD	**Palm Desert**	0.64	303		Pg	01 06 03.1	-0.4	
PMD				Sg	Sg	01 06 11.6	-0.5	
PMD				IAML		01 06 13.3		
	comp=E,2μm,0.3s							
PMD				IAML		01 06 13.6		
	comp=N,3μm,0.4s							
SGL	**Mount Signal**	0.65	180		Pg	01 06 03.1	-0.6	
SGL					Sg	01 06 12.2	-0.2	
COA	**Coachella**	0.67	130		Pg	01 06 03.8	-0.3	
COA					Sb	01 06 14.5	+1.1	
YUH	**Yuha Desert**	0.67	194		Pg	01 06 03.5	-0.6	
YUH				Sg	Sg	01 06 12.8	-0.2	
I57US	**PINON FLAT INF**	0.68	297	Pg	Pb	01 06 04.3	-0.2	
	baz=116,slow=35							
I57US				*i*		01 08 50.0		
	comp=N,0.1nm,0.5s,baz=109,slow=321,SNR=2.3							
XPFO	**Pion Flat**	0.68	297		Pg	01 06 03.9	-0.4	
XPFO					Sb	01 06 13.5	-0.3	
PFO	**Pinyon Flats O**	0.68	297	Pg	Pg	01 06 03.9	-0.4	
	comp=N,283nm,0.3s,baz=130,slow=14,SNR=1295							
PFO				Lg	Lg	01 06 13.6		
	comp=N,982nm,0.3s,baz=219,slow=22,SNR=28							
PFO	**Pinyon Flats O**	0.68	297		Pg	01 06 03.9	-0.4	
PFO				Sg	Sg	01 06 13.2	-0.2	
PFO				IAML		01 06 14.9		
	comp=N,4μm,0.5s							
PFO				IAML		01 06 14.9		
	comp=N,3μm,0.4s							
PFO	**Pinyon Flats O**	0.68	297	P	Pg	01 06 03.9	-0.4	
	baz=116,SNR=1000							
PFO				S	Sb	01 06 13.4	-0.5	
	baz=116							
MONP2	**Monument Peak**	0.71	235		Pg	01 06 04.6	-0.2	
MONP2					Sg	01 06 14.2	-0.1	
MONP2	**Monument Peak**	0.71	235	P	Pg	01 06 04.6	-0.2	
	baz=56,SNR=1000							
MONP2				S	Sg	01 06 14.1	-0.1	
	baz=56							
UABX	**UABC, Campus M**	0.71	160	Pg	Pg	01 06 04.3	-0.5	
UABX				Sg	Sg	01 06 13.8	-0.4	
UABX				IAML		01 06 17.1		
	comp=E,5μm,0.9s							
UABX				IAML		01 06 24.9		
	comp=N,5μm,0.6s							
RUN	**Ruthven**	0.71	117		Pg	01 06 04.1	-0.8	
IKP	**In-Ko-Pah, Jac**	0.72	206		Pg	01 06 04.6	-0.5	
IKP					Sg	01 06 14.4	-0.3	
IKP	**In-Ko-Pah, Jac**	0.72	206	P	Pg	01 06 04.6	-0.5	
	baz=27,SNR=1000							
IKP				S	Sg	01 06 14.3	-0.3	
	baz=27							
BELC	**Belle Mtn. Jos**	0.73	342		Pb	01 06 05.3	-0.2	
BELC					Sb	01 06 15.3	-0.1	
BELC	**Belle Mtn. Jos**	0.73	342	P	Pb	01 06 05.2	-0.2	
	baz=161,SNR=1000							
BELC				S	Sb	01 06 15.2	-0.1	
	baz=161							
FRD	**Ford Ranch, An**	0.75	285		Pb	01 06 05.6	-0.2	
FRD					Sb	01 06 15.7	-0.2	
FRD	**Ford Ranch, An**	0.75	285		Pb	01 06 05.6	-0.2	
FRD					Sb	01 06 15.8	0.0	
RMX	**La Rumorosa**	0.76	203		Pg	01 06 05.3	-0.4	
RMX				Sg	Sg	01 06 16.0	+0.2	
RMX				IAML		01 06 24.7		
	comp=E,2μm,0.7s							
JUEM	**Julian Eagle M**	0.76	253		Pb	01 06 05.7	-0.2	
JUEM					Sb	01 06 16.1	0.0	
MATG	**Mataguay Scout**	0.77	263		Pg	01 06 05.8	-0.3	
MATG					Sb	01 06 16.4	-0.1	
SNDA	**J Saunders Pla**	0.78	289		Pb	01 06 06.0	-0.2	
SNDA					Sb	01 06 17.3	+0.6	
DNR	**Dunn Ranch,Anz**	0.80	290		Pb	01 06 06.4	-0.2	
DNR					Sb	01 06 17.8	+0.6	
GLA	**Glamis**	0.80	108		Pn	01 06 15.8	+8.1	
GLA	**Glamis**	0.80	108	Sg	Sg	01 06 16.1	-0.9	
GLA				IAML		01 06 18.6		
	comp=E,9μm,0.6s							
GLA				IAML		01 06 18.9		
	comp=N,4μm,0.6s							
GLA	**Glamis**	0.80	108	Pg	Pg	01 06 05.7	-0.8	
GLA	**Glamis**	0.80	108	P	Pg	01 06 05.5	-0.9	
	baz=289,SNR=1000							
GLA				S	Sg	01 06 16.3	-0.8	
	baz=289							
BZNA	**Buzz No.'s Pla**	0.81	284		Pb	01 06 06.5	-0.1	
BZNA					Sb	01 06 17.6	+0.2	
EMSC	**East Mesa**	0.84	132		Pg	01 06 06.4	-0.9	
EW2	**E Wide Canyon**	0.85	319		Pg	01 06 06.8	-0.7	
EW2					Sb	01 06 18.8	+0.1	
GVDA	**Garner Valley**	0.87	295		Pg	01 06 07.4	-0.4	
GVDA					Sb	01 06 19.1	-0.1	
CRY	**Cary Ranch**	0.88	288		Pg	01 06 07.6	-0.5	
CRY					Sb	01 06 19.6	+0.1	
BLAC	**Blackrock camp**	0.94	325		Pg	01 06 08.3	-0.9	
DEVC	**Devers**	0.95	312		Pb	01 06 08.8	-0.3	
PLM	**Palomar**	0.95	273		Pg	01 06 08.6	-0.8	
PLM					Sb	01 06 21.9	+0.4	
CPBX	**Cerro Prieto**	0.95	158		Pg	01 06 07.1	-2.3	
CPBX				IAML		01 06 34.1		
	comp=N,2μm,0.7s							
IRM	**Iron Mountain**	0.98	30		Pb	01 06 09.3	-0.4	
IRM	**Iron Mountain**	0.98	30	P	Pg	01 06 08.9	-1.1	
	baz=209,SNR=1000							
BAR	**Barrett**	1.00	232	Pg	Pb	01 06 08.9	-1.1	
BAR				Sg	Sb	01 06 22.3	-0.7	
BAR				IAML		01 06 23.9		
	comp=E,1μm,0.3s							
TKX	**Tecate**	1.04	225		Pb	01 06 09.4	-1.2	
TKX				Sg	Sb	01 06 23.2	-0.8	
DPP	**Dos Picos Cty**	1.06	254		Pb	01 06 09.9	-1.0	
DPP					Sb	01 06 24.2	-0.3	
POB	**Polly Butte**	1.07	291		Pb	01 06 10.1	-1.0	
POB					Sg	01 06 25.4	-0.1	
BLYC	**Blythe**	1.10	66		Pb	01 06 10.5	-1.2	
BLYC	**Blythe**	1.10	66		Pb	01 06 11.0	-0.6	
BLYC				Sg	Sb	01 06 25.4	-0.5	
BLYC				IAML		01 06 27.5		
	comp=N,2μm,0.8s							
BLYC				IAML		01 06 31.7		
	comp=E,2μm,0.6s							
DUZA	**Dulzura**	1.12	232		Pb	01 06 10.9	-1.1	
DGR	**Domenigoni Val**	1.12	288		Pb	01 06 10.8	-1.2	
BACC	**Bachelor Mtn.**	1.14	286		Pb	01 06 11.0	-1.3	
HMTC	**Hemet**	1.14	291		Pb	01 06 11.1	-1.2	
GUVIX	**Guadalupe Vict**	1.14	151	Pg	Pg	01 06 15.1	+2.2	
GUVIX				IAML		01 06 45.3		
	comp=E,2μm,0.7s							
SDRC	**San Diego Road**	1.16	241		Pb	01 06 11.3	-1.4	
109C	**Camp Elliot, M**	1.22	251		Pn	01 06 12.2	-1.2	
109C				Sg	Sb	01 06 28.4	-0.9	
109C	**Camp Elliot, M**	1.22	251	P	Pn	01 06 12.4	-1.1	
	baz=70,SNR=214							
109C				S	Sb	01 06 28.4	-0.9	
	baz=70							
CPE	**Camp Elliot**	1.22	251		Pn	01 06 12.4	-1.1	
MURC	**Murrieta**	1.26	284	P	Pn	01 06 12.8	-1.2	
	baz=103,SNR=232							
CBX	**Cerro Bola**	1.26	219		Pn	01 06 13.2	-0.9	
CBX				Sg	Sb	01 06 29.4	-1.1	
CBX				IAML		01 06 32.9		
	comp=E,1μm,0.6s							
CBX				IAML		01 06 48.0		
	comp=N,1μm,0.7s							
GORC	**Green Oak Ranc**	1.26	264		Pn	01 06 12.9	-1.1	
ESJX	**Sierra Juarez**	1.31	188		Pn	01 06 13.4	-1.3	
ESJX				IAML		01 06 38.6		
	comp=E,846nm,0.5s							
PEC	**Perris**	1.33	297		Pn	01 06 14.0	-0.9	
CFT	**Crafton Hills**	1.36	303		Pn	01 06 15.2	-0.3	
DANC	**Danby, Needles**	1.36	12		Pg	01 06 16.2	-1.0	
TJX	**Tijuana**	1.36	235	Pn	Pn	01 06 14.8	-0.5	
BBRC	**Big Bear Solar**	1.38	314		Pn	01 06 15.3	-0.4	
BBRC	**Big Bear Solar**	1.38	314	P	Pn	01 06 15.1	-0.7	
	baz=134,SNR=38							
BBRC				Sb	Sn	01 06 34.3	+0.4	
	baz=134							
SIL	**Silver Peak**	1.39	319		Pn	01 06 15.6	-0.2	
SVD	**Seven Oaks Dam**	1.39	306		Pn	01 06 15.5	-0.4	
SME	**Santa Rosa Min**	1.45	291		Pn	01 06 15.7	-0.9	
ELS	**Elsinore Mount**	1.46	284	Pn	Pn	01 06 15.5	-1.2	
ELS				IAML		01 06 38.5		
	comp=E,855nm,0.7s							
GMRC	**Granite Mounta**	1.48	2	P	Pn	01 06 15.9	-1.2	
	baz=182							
HEC	**Hector,Ludlow**	1.60	342	P	Pn	01 06 17.5	-1.3	
	baz=161							
CCX	**Cicese**	1.63	209	Pn	Pn	01 06 19.0	-0.1	
CCX				IAML		01 06 43.2		
	comp=E,1μm,0.5s							
CCX				IAML		01 06 43.2		
	comp=N,783nm,0.4s							
CSP	**Cedar Springs**	1.68	307		Pn	01 06 19.8	0.0	
SS2	**San Sevaine**	1.73	302		Pn	01 06 20.1	-0.2	
113A	**Mohawk Valley,**	1.73	107	Pn	Pn	01 06 19.1	-1.3	
BFSC	**Mount Baldy Ra**	1.86	301	P	Pn	01 06 21.6	-0.7	
	baz=120,SNR=56							
BFSC				Sb	Sb	01 06 48.6	+0.9	
	baz=120							
PSRC	**Puddingstone R**	1.90	295		Pn	01 06 23.3	+0.5	
HOLC	**Holcomb Ridge**	2.10	304		Pn	01 06 25.5	-0.2	
JNH	**Juniper Hills**	2.17	302		Pn	01 06 26.6	0.0	
FMP	**Fort Macarthur**	2.18	282	Sb	Sb	01 06 58.4	+1.5	
	baz=100							
GSC	**Goldstone, Bar**	2.18	336	Pn	Pn	01 06 27.6	+0.8	
GSC				IAML		01 07 08.8		
	comp=E,455nm,1.1s							
GSC				IAML		01 07 09.2		
	comp=N,322nm,0.8s							
PASC	**Pasadena Art C**	2.22	294		Pn	01 06 27.5	+0.3	
PASC	**Pasadena Art C**	2.22	294		Pn	01 06 28.0	+0.8	
PASC				IAML		01 07 04.6		
	comp=N,344nm,0.8s							
PASC				IAML		01 07 12.7		
	comp=E,237nm,0.7s							
CIS	**Catalina Islan**	2.25	273	Pb	Pb	01 06 31.2	0.0	
	baz=92							
CIS				Sb	Sb	01 07 00.2	+1.3	
	baz=92							
W13A	**Hualapai Mount**	2.36	40	Pn	Pn	01 06 29.4	+0.2	
Y14A	**Wickenburg**	2.36	74		Pn	01 06 29.5	+0.4	
DECC	**Green Verdugo**	2.37	294	Sb	Sb	01 07 04.0	+1.8	
	baz=113							
SCI2	**San Clemente I**	2.38	263	Sb	Sb	01 07 03.3	+0.6	
	baz=82							
EDW2	**Edwards Air Fo**	2.45	311	P	Pn	01 06 29.5	-0.8	
	baz=129							
EDW2				Sb	Sb	01 07 06.5	+1.8	
	baz=129							
V12A	**Nelson**	2.53	16	Pn	Pn	01 06 33.1	+1.6	
PIX	**Pinacate**	2.59	132	Pn	Pn	01 06 30.1	-2.2	
CCAC	**Calif City Air**	2.64	315	Pn	Pn	01 06 32.9	-0.2	
CCAC				IAML		01 07 38.5		
	comp=E,406nm,1.4s							
214A	**Organ Pipe Nat**	2.81	118	Pn	Pn	01 06 33.6	-1.7	
214A				IAML		01 07 33.6		
	comp=E,188nm,1.5s							
214A	**Organ Pipe Nat**	2.81	118	P	Pn	01 06 33.6	-1.7	
	baz=300,SNR=14							
OSI	**Osito Audit: C**	2.81	299	Sb	Sb	01 07 17.5	+2.4	
	baz=117							
QSM	**Queen of Sheba**	2.82	341	Pn	Pn	01 06 36.0	+0.6	
GWY	**Greenwater Val**	2.98	345	Pn	Pn	01 06 38.3	+0.6	
MPMC	**Manual Prospec**	3.11	333	P	Pn	01 06 38.7	-0.8	
	baz=152,SNR=6.2							
ARVC	**Arvin**	3.15	306	P	Pn	01 06 39.3	-0.6	
	baz=124							
SHPR	**Sheep Range**	3.23	8	Pn	Pn	01 06 42.5	+1.3	
ISA	**Isabella, Lake**	3.27	317	Pn	Pn	01 06 42.3	+0.6	
BCW	**Bitter Crk WRg**	3.46	299	Pn	Pn	01 06 46.9	+2.6	
TPNV	**Topopah Spring**	3.66	353	Pn	Pn	01 06 48.5	+1.4	
TPNV				IAML		01 07 58.3		
	comp=E,93nm,1.1s							
GRAC	**Grapevine Rang**	3.92	340	Pn	Pn	01 06 52.8	+2.2	
GRAC				IAML		01 08 06.9		
	comp=N,98nm,1.4s							
GRAC				IAML		01 08 18.6		
	comp=E,94nm,0.8s							
PRN	**Pahroc Range**	4.13	8	Pn	Pn	01 06 54.7	+1.1	
GMN	**Gold Mountain**	4.18	343	Pn	Pn	01 06 55.7	+1.4	
U15A	**North Rim**	4.21	41	Pn	Pn	01 06 56.3	+1.5	
LCH	**Last Change Ra**	4.22	339	Pn	Pn	01 06 54.9	+0.1	
LCMT	**Little Creek M**	4.22	28	Pn	Pn	01 06 55.9	+1.0	
WUAZ	**Wupatki**	4.23	57	Pn	Pn	01 06 56.6	+1.7	
WUAZ				IAML		01 08 29.6		
	comp=E,107nm,1.2s							
TUC	**Tucson**	4.28	102	Pn	Pn	01 06 55.5	-0.1	
TUC	**Tucson**	4.28	102	P	Pn	01 06 54.2	-1.4	
	baz=285							
KNB	**Kanab**	4.41	32	Pn	Pn	01 06 58.7	+1.3	
DSP	**Deep Springs**	4.45	336	Pn	Pn	01 06 59.8	+2.0	
MZP	**Montezuma Peak**	4.59	343	Pn	Pn	01 07 00.9	+0.9	
CCUT	**Cedar City**	4.66	24	Pn	Pn	01 07 01.7	+0.8	
SZCU	**Shurtz Canyon**	4.80	26	Pn	Pn	01 07 06.2	+3.4	
X18A	**Snowflake**	4.96	74	Pn	Pn	01 07 05.5	+0.5	
PKCU	**Pink Cliffs**	4.99	33	Pn	Pn	01 07 08.7	+3.1	
PMPB	**Monarch Peak**	5.08	306	Pn	Pn	01 07 07.0	+0.4	
W18A	**Petrified Fore**	5.29	68	Pn	Pn	01 07 10.6	+1.1	
PSUT	**Pine Spring**	5.44	16	Pn	Pn	01 07 12.7	+1.1	
BBGB	**Big Mountain B**	5.45	308	Pn	Pn	01 07 11.4	-0.2	
NV11	**Mina Array Sit**	5.48	340	Pn	Pn	01 07 14.4	+2.3	
NVAR	**Mina Array Bea**	5.53	339	Pn	Pn	01 07 13.5	+0.7	
	comp=E,0.2nm,0.3s,baz=162,slow=15,SNR=4.0							
NVAR				Lg	Lg	01 08 46.4		
	baz=159,slow=36							
	comp=E,0.2nm,0.4s							
NVAR	**Mina Array Bea**	5.53	339	Pn	Pn	01 07 14.5	+1.7	
MTPU	**Mount Pierson**	5.54	30	Pn	Pn	01 07 15.6	+2.4	
RYN	**Ryan**	5.78	338	Pn	Pn	01 07 17.8	+1.6	
319A	**Douglas**	5.79	108	Pn	Pn	01 07 15.9	-0.4	
SPR3	**Spring Creek 3**	5.80	11	Pn	Pn	01 07 16.0	-0.6	
SAO	**San Andreas Ge**	5.82	308	Pn	Pn	01 07 17.8	+1.1	
MVU	**Marysvale**	5.92	28	Pn	Pn	01 07 19.6	+1.3	
KVN	**Kaiserville**	6.05	342	Pn	Pn	01 07 20.8	+0.8	
CMB	**Columbia Colle**	6.05	323	Pn	Pn	01 07 21.4	+1.5	
YERR	**Yerington**	6.34	334	Pn	Pn	01 07 24.9	+0.9	
Q16A	**Castle Valley**	6.71	32	Pn	Pn	01 07 30.1	+1.1	
121A	**Cookes Peak, D**	6.73	94	Pn	Pn	01 07 29.9	+0.7	
121A	**Cookes Peak, D**	6.73	94	P	Pn	01 07 29.0	-0.2	
	baz=279							
VCNR	**Virginia City**	6.77	333	Pn	Pn	01 07 29.6	-0.2	
SBM	**South Baldy**	7.16	82	Pn	Pn	01 07 37.7	+2.3	
LEMM	**Lemitar**	7.35	81	Pn	Pn	01 07 38.3	+0.5	
P17A	**Butcher Ranch,**	7.36	32	Pn	Pn	01 07 37.2	-0.7	
ELK	**Elko**	7.44	3	Pn	Pn	01 07 41.9	+2.8	
	baz=183,slow=18,SNR=1.6							
ELK				Lg	Lg	01 09 50.9		
	comp=E,0.2nm,0.3s,baz=168,slow=9.3,SNR=2.7							
	comp=E,0.3nm,0.3s							
ANMO	**Albuquerque**	7.86	75	Pn	Pn	01 07 45.9	+1.1	
	comp=E,0.1nm,0.3s,baz=265,slow=10,SNR=2.1							
ANMO				Pg		01 08 14.5		
	comp=E,0.4nm,0.3s,baz=260,slow=11,SNR=5.6							
ANMO				Lg	Lg	01 09 55.6		
	comp=E,0.2nm,0.3s,baz=345,slow=20,SNR=3.1							
	comp=E,0.4nm,0.4s							
BGU	**Big Grassy Mou**	7.91	15	Pn	Pn	01 07 44.9	-0.5	
PDAR	**Pinedale Array**	10.62	25	Pn	Pn	01 08 28.4	+5.6	
	baz=200,slow=12,SNR=7.8							
PDAR				Lg	Lg	01 11 33.3		
	baz=206,slow=31							
	comp=E,0.8nm,0.8s							
TXAR	**Lajitas Array**	11.05	108	Pn	Pn	01 08 29.7	+1.2	
	comp=E,0.1nm,0.3s,baz=291,slow=12,SNR=8.9							
TXAR				Lg	Lg	01 11 36.5		
	comp=E,0.1nm,0.3s,baz=294,slow=28,SNR=4.4							
	comp=E,0.2nm,0.3s							

*TAP **28** 01:10:50.8,24°.81N×122°.30E,h8km,ML3.2,C*
*JMA **28** 01:10:52.0±0.1,25°.N±2°.×122°.4E±0°.7,h43km,MV2.6/7,*
TAIWAN REGION
ISC 28 01:10:50.6±1.2,24°.82N±0°.03×122°.36E±0°.02,h10km±9km,
n52,σ0°.75/76,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	0.38	299	*i* P		**Pb**	**01 10 58.5**	**-1.0**
	baz=304							
TWB1				S		**Sg**	**01 11 03.6**	**+0.3**
	baz=304							
NTC	**Toucheng**	0.48	274	*i* P		**Pb**	**01 11 00.3**	**-0.9**
	baz=274							
TIPB	**Shuangxi**	0.51	287	*i* P		**Pb**	**01 11 00.8**	**-0.9**
	baz=288							
SXI1	**Grass Mountain**	0.51	302	P		**Pb**	**01 11 02.3**	**+0.5**
	baz=305							
ILA	**Ilan**	0.56	264	*e*S		**Sb**	**01 11 10.4**	**-0.1**
	baz=252							
NWF	**Wu-fen Shan**	0.58	295	*i* P		**Pb**	**01 11 03.4**	**+0.5**
	baz=298							
NWF				*i* S		**Sb**	**01 11 11.2**	**-0.1**
	baz=298							
WFSB	**Wu-fen Shan**	0.58	295	P		**Pb**	**01 11 03.5**	**+0.6**
	baz=297							
TNOU	**National Taiwa**	0.62	302	P		**Pg**	**01 11 02.0**	**-0.7**
	baz=305							
TNOU				S		**Sb**	**01 11 12.2**	**-0.2**
	baz=305							
TWE	**Neicheng**	0.64	261	*i* P		**Pg**	**01 11 02.4**	**-0.6**
	baz=249							
TWE				S		**Sg**	**01 11 11.5**	**+0.2**
	baz=249							
JYNG	**Yonagunijimaku**	0.65	125	P		**Pb**	**01 11 04.7**	**+0.6**
JYNG				*e*S		**Sb**	**01 11 14.2**	**+0.9**
YOJ	**Yonaguni jima**	0.69	121	P		**Pb**	**01 11 05.2**	**+0.4**
	baz=118							
YOJ				S		**Sb**	**01 11 15.3**	**+0.8**
	baz=118							
YOJ	**Yonaguni jima**	0.69	121	P		**Pb**	**01 11 05.4**	**+0.6**
YOJ				*e*S		**Sb**	**01 11 14.8**	**+0.3**
FUSB	**Fushanzhiwuyua**	0.70	265	P		**Pg**	**01 11 04.0**	**-0.2**
	baz=265							
FUSB				S		**Sb**	**01 11 14.1**	**-0.7**
	baz=265							
EHP	**Heping Village**	0.76	228	P		**Pg**	**01 11 05.2**	**-0.1**
	baz=235							
EHP				S		**Sg**	**01 11 15.2**	**0.0**
	baz=235							
NHDH	**Xindian Distri**	0.77	281	*i* P		**Pn**	**01 11 06.9**	**-0.6**
	baz=273							
NHDH				*i* S		**Sb**	**01 11 17.1**	**+0.5**
	baz=273							
YM01	**YM01**	0.78	294	P		**Pn**	**01 11 06.9**	**-0.9**
	baz=296							
LATG	**Datong**	0.81	249	P		**Pg**	**01 11 06.1**	**-0.1**
	baz=256							
LATG				S		**Sb**	**01 11 17.4**	**-0.5**
	baz=256							
TWY	**Chenhua**	0.82	303	*i* P		**Pn**	**01 11 07.9**	**-0.4**
	baz=306							
TWY				*i* S		**Sn**	**01 11 19.4**	**-1.1**
	baz=306							
PCYT	**Pengchaiyu**	0.84	342	P		**Pn**	**01 11 08.8**	**+0.2**
	baz=347							
PCYT				S		**Sn**	**01 11 21.4**	**+0.4**
	baz=347							
NTST	**Danshui**	0.89	293	*e*P		**Pn**	**01 11 09.4**	**+0.1**
	baz=294							
TWS1	**Kuangyinshan**	0.90	288	P		**Pn**	**01 11 08.8**	**-0.5**
	baz=289							
TWD	**Chiawan**	1.01	223	*i* P		**Pb**	**01 11 10.0**	**-0.3**
	baz=229							
TWD				S		**Sg**	**01 11 23.2**	**-0.1**
	baz=229							
NFF	**Wufeng Townshi**	1.14	261	P		**Pg**	**01 11 12.1**	**-0.5**
	baz=248							
NFF				S		**Sb**	**01 11 27.4**	**0.0**
	baz=248							
FUSS	**Fushou**	1.17	241	*i* P		**Pg**	**01 11 12.6**	**-0.5**
	baz=239							
FUSS				*i* S		**Sg**	**01 11 27.7**	**-0.5**
	baz=239							
LIOB	**Emei**

*IDC **28** 01:13:01.0±1.7,33°.17N×115°.70W,h0km,mbtmp2.7/4, ML3.1/4,Error ellipse: s-maj=25.2km s-min=8.8km az=25.0*
*ANF **28** 01:13:03.0±0.1,33°.30N×115°.72W,h24km±2km,ML3.5/20, Error ellipse: s-maj=1.7km s-min=1.2km az=134.0*
*PAS **28** 01:13:03.7±2.8,33°.299N±0°.010×115°.71W±0°.01, h7km±5km,ML3.5/321,ML3.4/42(NEIC),Error ellipse: s-maj=1.8km s-min=1.4km az=62.0*
*NEIC **28** 01:13:03.9±2.9,33°.295N±0°.010×115°.74W±0°.01, h1km±7km, Error ellipse: s-maj=1.8km s-min=1.4km az=62.0*

ISC 28 01:13:03.7±0.9,**33°.30N**±0°.01×**115°.73W**±0°.02,**h18**km±3km, **n126**,σ1§00/159,**Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.20**	**203**		**Sg**	**01 13 12.6**	**+0.7**
SALN	**Salton City**	**0.21**	**265**		**Pg**	**01 13 08.7**	**-0.1**
SALN					**Sb**	**01 13 11.8**	**-0.5**
WEMD	**Westmorland, C**	**0.29**	**154**		**Pg**	**01 13 10.0**	**0.0**
WEMD					**Sb**	**01 13 15.7**	**+1.0**
SUP	**Superstition M**	**0.35**	**193**		**Pg**	**01 13 10.8**	**-0.4**
SWSC	**Sam W. Stewart** baz=13,SNR=102	**0.36**	**189**	P	**Pg**	**01 13 10.8**	**-0.4**
CTW	**Cottonwood Mou**	**0.40**	**343**		**Sg**	**01 13 17.2**	**-0.3**
HAY	**Hayfield**	**0.41**	**6**		**Sg**	**01 13 17.7**	**-0.2**
CTCC	**Cactus City**	**0.42**	**329**		**Sb**	**01 13 18.4**	**-0.2**
IMPE	**Imperial**	**0.42**	**160**		**Pg**	**01 13 12.4**	**+0.1**
BC3	**Big Chuckawall**	**0.42**	**33**		**Sg**	**01 13 17.6**	**-0.7**
BC3	**Big Chuckawall** baz=211,SNR=74	**0.42**	**33**	P	**Pg**	**01 13 11.7**	**-0.8**
BC3				S	**Sg**	**01 13 17.8**	**-0.6**
	baz=211						
COK2	**Cook Ranch 2**	**0.45**	**180**		**Pb**	**01 13 12.9**	**-0.1**
COK2					**Sb**	**01 13 20.1**	**+0.7**
SLH	**Sleepy Hollow**	**0.45**	**256**		**Sb**	**01 13 19.9**	**+0.4**
CRR	**Carrizo Plain**	**0.46**	**206**		**Sg**	**01 13 19.3**	**+0.1**
SNR	**Schaffner Ranc**	**0.50**	**150**		**Pg**	**01 13 13.5**	**-0.2**
WESC	**Westside Schoo**	**0.54**	**180**		**Pg**	**01 13 14.3**	**-0.2**
WESC					**Sb**	**01 13 22.6**	**+0.7**
DREC	**Desert Rsrch C**	**0.55**	**154**		**Pg**	**01 13 14.3**	**-0.3**
DREC					**Sn**	**01 13 24.4**	**-0.8**
BORC	**Borrego Spring**	**0.58**	**267**		**Sb**	**01 13 22.9**	**-0.1**
PMD	**Palm Desert**	**0.64**	**303**	Pg	**Pb**	**01 13 15.5**	**-0.9**
PMD				Sg	**Sb**	**01 13 24.2**	**-0.8**
PMD				IAML		01 13 26.2	
	comp=N,2μm,0.4s						
PMD				IAML		01 13 26.5	
	comp=E,1μm,0.4s						
SGL	**Mount Signal**	**0.65**	**180**		**Pb**	**01 13 15.6**	**-0.8**
YUH	**Yuha Desert**	**0.67**	**194**	Pg	**Pb**	**01 13 16.0**	**-0.8**
YUH				Sg	**Sb**	**01 13 25.2**	**-0.5**
YUH				IAML		01 13 26.7	
	comp=E,1μm,1.1s						
COA	**Coachella**	**0.67**	**130**		**Sg**	**01 13 26.5**	**+0.6**
XPFO	**Pion Flat**	**0.68**	**297**		**Pb**	**01 13 16.4**	**-0.6**
XPFO					**Sg**	**01 13 26.3**	**0.0**
PFO	**Pinyon Flats O** comp=E,104nm,0.3s,baz=124,slow=15,SNR=22	**0.68**	**297**	Pg	**Pb**	**01 13 16.5**	**-0.7**
PFO				Lg	Lg	01 13 26.5	
	comp=E,228nm,0.3s,baz=198,slow=19,SNR=37						
PFO	**Pinyon Flats O**	**0.68**	**297**	Pg	**Pb**	**01 13 16.4**	**-0.7**
PFO				Sg	**Sb**	**01 13 25.8**	**-0.6**
PFO				IAML		01 13 27.5	
	comp=E,2μm,0.5s						
PFO				IAML		01 13 27.6	
	comp=E,1μm,0.4s						
PFO	**Pinyon Flats O**	**0.68**	**297**		**Sb**	**01 13 25.9**	**-0.4**
PFO	**Pinyon Flats O** baz=116,SNR=48	**0.68**	**297**	P	**Pb**	**01 13 16.5**	**-0.7**
PFO				S	**Sb**	**01 13 26.1**	**-0.2**
	baz=116						
MONP2	**Monument Peak**	**0.71**	**235**		**Pb**	**01 13 17.3**	**-0.3**
MONP2					**Sb**	**01 13 26.7**	**-0.4**
MONP2	**Monument Peak** baz=56,SNR=46	**0.71**	**235**	P	**Pb**	**01 13 17.2**	**-0.3**
MONP2				S	**Sb**	**01 13 26.9**	**-0.2**
	baz=56						
RUN	**Ruthven**	**0.71**	**117**		**Pb**	**01 13 16.8**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**0.72**	**206**		**Pb**	**01 13 17.1**	**-0.7**
IKP					**Sb**	**01 13 27.0**	**-0.4**
IKP	**In-Ko-Pah, Jac** baz=28,SNR=38	**0.72**	**206**	P	**Pb**	**01 13 17.1**	**-0.7**
IKP				S	**Sb**	**01 13 26.9**	**-0.4**
	baz=28						
BELC	**Belle Mtn. Jos**	**0.73**	**342**		**Sb**	**01 13 27.7**	**-0.1**
BELC	**Belle Mtn. Jos** baz=161,SNR=72	**0.73**	**342**	P	**Pb**	**01 13 17.7**	**-0.3**
BELC				S	**Sb**	**01 13 27.4**	**-0.4**
	baz=161						
FRD	**Ford Ranch, An**	**0.75**	**285**		**Sb**	**01 13 28.6**	**+0.2**
FRD	**Ford Ranch, An**	**0.75**	**285**		**Sb**	**01 13 28.8**	**+0.5**
RMX	**La Rumorosa**	**0.75**	**203**		**Pb**	**01 13 18.1**	**-0.3**
RMX	**La Rumorosa**	**0.75**	**203**		**Pb**	**01 13 18.2**	**-0.2**
RMX				Sg	**Sg**	**01 13 28.7**	**+0.2**
RMX				IAML		01 13 36.2	
	comp=E,854nm,0.8s						
RMX				IAML		01 13 36.5	
	comp=N,464nm,0.6s						
JUEM	**Julian Eagle M**	**0.76**	**254**		**Sg**	**01 13 28.6**	**0.0**
SNDA	**J Saunders Pla**	**0.78**	**289**		**Sb**	**01 13 29.8**	**+0.6**
DNR	**Dunn Ranch,Anz**	**0.80**	**290**		**Sb**	**01 13 30.1**	**+0.5**
GLA	**Glamis**	**0.80**	**108**	Pg	**Pb**	**01 13 18.4**	**-0.6**
GLA					**Sb**	**01 13 28.4**	**-1.2**
GLA	**Glamis** baz=289,SNR=111	**0.80**	**108**	P	**Pb**	**01 13 18.1**	**-1.0**
GLA				S	**Sb**	**01 13 29.1**	**-0.4**
	baz=289						
BZNA	**Buzz No.'s Pla**	**0.81**	**284**		**Sb**	**01 13 30.2**	**+0.4**
EMSC	**East Mesa**	**0.84**	**132**		**Pb**	**01 13 18.6**	**-1.1**
EW2	**E Wide Canyon**	**0.85**	**319**		**Sb**	**01 13 31.6**	**+0.4**
GVDA	**Garner Valley**	**0.87**	**295**		**Pb**	**01 13 19.9**	**-0.4**
GVDA					**Sb**	**01 13 31.6**	**-0.1**
CRY	**Cary Ranch**	**0.88**	**288**		**Pb**	**01 13 20.2**	**-0.3**
CRY					**Sb**	**01 13 32.2**	**+0.2**
BLAC	**Blackrock camp**	**0.94**	**325**		**Sb**	**01 13 34.2**	**+0.4**
CPBX	**Cerro Prieto**	**0.95**	**158**	Pg	**Pb**	**01 13 21.3**	**-0.3**
CPBX				IAML		01 13 52.7	
	comp=N,834nm,1.0s						
PLM	**Palomar**	**0.95**	**274**		**Sg**	**01 13 34.2**	**-0.5**
DEVC	**Devers**	**0.95**	**312**		**Pb**	**01 13 21.3**	**-0.3**
DEVC					**Sb**	**01 13 33.9**	**0.0**
IRM	**Iron Mountain**	**0.98**	**30**		**Sb**	**01 13 34.7**	**-0.2**
IRM	**Iron Mountain** baz=209	**0.98**	**30**	P	**Pb**	**01 13 21.7**	**-0.5**
IRM				S	**Sb**	**01 13 34.8**	**-0.2**
	baz=209						
BAR	**Barrett**	**1.00**	**232**	Pg	**Pb**	**01 13 21.9**	**-0.6**
BAR				Sg	**Sb**	**01 13 34.9**	**-0.5**
BAR				IAML		01 13 38.1	
	comp=N,776nm,0.8s						
TKX	**Tecate**	**1.04**	**226**	Pg	**Pb**	**01 13 22.3**	**-0.8**
TKX				Sg	**Sb**	**01 13 36.6**	**+0.2**
TKX				IAML		01 13 37.2	
	comp=N,1μm,0.3s						
TKX				IAML		01 13 37.2	
	comp=E,958nm,0.2s						
DPP	**Dos Picos Cty**	**1.06**	**254**		**Sb**	**01 13 36.8**	**-0.2**
POB	**Polly Butte**	**1.07**	**292**		**Sn**	**01 13 38.0**	**-0.4**
BLYC	**Blythe**	**1.10**	**66**	Pg	**Pn**	**01 13 23.8**	**-0.5**
BLYC				Sg	**Sb**	**01 13 38.1**	**-0.2**
DUZA	**Dulzura**	**1.12**	**232**		**Pn**	**01 13 23.6**	**-0.9**
DUZA					**Sb**	**01 13 38.3**	**-0.4**
GTM	**Goat Mountain**	**1.12**	**333**		**Pn**	**01 13 23.7**	**-0.9**
GTM					**Sg**	**01 13 39.8**	**-0.3**
DGR	**Domenigoni Val**	**1.12**	**288**		**Pn**	**01 13 23.5**	**-1.1**
GUVIX	**Guadalupe Vict**	**1.14**	**151**	Pg	**Pg**	**01 13 25.4**	**-0.3**
GUVIX				IAML		01 13 50.8	
	comp=E,1μm,0.6s						
GUVIX				IAML		01 13 54.9	
	comp=N,1μm,1.2s						
BACC	**Bachelor Mtn.**	**1.14**	**286**		**Pn**	**01 13 23.7**	**-1.1**
SDRC	**San Diego Road**	**1.16**	**241**		**Pn**	**01 13 25.0**	**-0.1**
SDRC					**Sb**	**01 13 39.3**	**-0.7**
OLP	**Otay Lakes Par**	**1.22**	**236**		**Sb**	**01 13 41.0**	**-0.7**
109C	**Camp Elliot, M**	**1.22**	**251**		**Pb**	**01 13 26.3**	**0.0**
109C				IAML		01 13 43.2	
	comp=E,695nm,0.5s						
109C	**Camp Elliot, M** baz=70	**1.22**	**251**	P	**Pn**	**01 13 25.2**	**-0.7**
109C				S	**Sb**	**01 13 40.8**	**-0.9**
	baz=70						
CPE	**Camp Elliot**	**1.22**	**251**		**Sb**	**01 13 41.1**	**-0.6**
CBX	**Cerro Bola**	**1.26**	**219**	Pn	**Pn**	**01 13 25.9**	**-0.6**
CBX				IAML		01 13 45.2	
	comp=E,667nm,0.8s						
MURC	**Murrieta** baz=103	**1.26**	**284**	P	**Pn**	**01 13 25.4**	**-1.1**
GORC	**Green Oak Ranc**	**1.26**	**264**		**Pn**	**01 13 25.7**	**-0.7**
ESJX	**Sierra Juarez**	**1.30**	**188**	Pn	**Pn**	**01 13 26.4**	**-0.7**
TJX	**Tijuana**	**1.36**	**235**	Pn	**Pb**	**01 13 29.1**	**+0.4**
DANC	**Danby, Needles**	**1.37**	**12**		**Pb**	**01 13 28.6**	**-0.1**
BBRC	**Big Bear Solar** baz=133	**1.38**	**314**	S	**Sn**	**01 13 44.9**	**-1.3**
SIL	**Silver Peak**	**1.39**	**319**		**Pn**	**01 13 28.4**	**+0.1**
SVD	**Seven Oaks Dam**	**1.40**	**306**		**Pn**	**01 13 28.0**	**-0.3**
ELS	**Elsinore Mount**	**1.46**	**284**	Pn	**Pb**	**01 13 30.3**	**-0.1**
ELS				IAML		01 13 51.2	
	comp=E,390nm,0.8s						
ELS				IAML		01 13 56.5	
	comp=N,510nm,0.8s						
GMRC	**Granite Mounta**	**1.48**	**2**		**Pn**	**01 13 28.9**	**-0.7**
GMRC	**Granite Mounta** baz=182	**1.48**	**2**	Pb	**Pn**	**01 13 30.0**	**+0.3**
GMRC				S	**Sn**	**01 13 47.6**	**-1.0**
	baz=182						
HEC	**Hector,Ludlow**	**1.61**	**342**		**Pb**	**01 13 33.4**	**+0.5**
HEC	**Hector,Ludlow** baz=161	**1.61**	**342**	S	**Sn**	**01 13 50.5**	**-1.1**
CCX	**Cicese**	**1.63**	**209**	Pn	**Pn**	**01 13 32.2**	**+0.7**
CCX				IAML		01 14 02.0	
	comp=N,311nm,0.9s						
CCX				IAML		01 14 02.1	
	comp=E,418nm,0.9s						
PDMCI	**Parker Dam,Lak** baz=233	**1.66**	**52**	S	**Sn**	**01 13 51.5**	**-1.3**
NEE2	**Needles Airpor**	**1.73**	**32**		**Pb**	**01 13 34.1**	**-0.9**
NEE2	**Needles Airpor** baz=212	**1.73**	**32**	Sb	**Sb**	**01 13 57.1**	**+0.7**
113A	**Mohawk Valley,**	**1.73**	**107**	Pn	**Pb**	**01 13 34.4**	**-0.6**
BFSC	**Mount Baldy Ra** baz=120	**1.86**	**301**	P	**Pn**	**01 13 34.2**	**-0.6**
BFSC				Sb	**Sb**	**01 14 01.4**	**+1.2**
	baz=120						
FMP	**Fort Macarthur** baz=100	**2.18**	**282**	Sb	**Sb**	**01 14 10.3**	**+1.0**
PASC	**Pasadena Art C**	**2.22**	**294**	Pn	**Pb**	**01 13 42.2**	**-1.1**
CIS	**Catalina Islan** baz=92	**2.25**	**273**	Pb	**Pb**	**01 13 43.6**	**-0.1**
CIS				Sb	**Sb**	**01 14 12.2**	**+0.9**
	baz=92						
EDW2	**Edwards Air Fo** baz=129	**2.45**	**311**	Sb	**Sb**	**01 14 18.8**	**+1.6**
214A	**Organ Pipe Nat**	**2.80**	**118**	Pn	**Pn**	**01 13 46.7**	**-1.0**
214A				IAML		01 14 39.8	
	comp=N,123nm,0.9s						
214A				IAML		01 14 46.1	
	comp=E,104nm,1.1s						
214A	**Organ Pipe Nat** baz=300	**2.80**	**118**	P	**Pn**	**01 13 46.1**	**-1.6**
AMDNV	**Amargosa**	**3.18**	**352**		**Pg**	**01 14 03.4**	**-1.2**
FURC	**Furnace Creek,**	**3.29**	**344**		**Pg**	**01 14 09.3**	**+2.4**
SDH	**Striped Hills**	**3.38**	**352**		**Pg**	**01 14 06.6**	**-1.8**
CPY	**CP-1**	**3.63**	**356**		**Pg**	**01 14 12.1**	**-1.2**
GRAC	**Grapevine Rang**	**3.92**	**340**	Pn	**Pn**	**01 14 05.2**	**+2.2**
GRAC				IAML		01 15 19.4	
	comp=N,73nm,1.4s						
GRAC				IAML		01 15 22.2	
	comp=E,62nm,1.0s						
PRN	**Pahroc Range**	**4.14**	**8**	Pn	**Pn**	**01 14 08.0**	**+1.9**
GMN	**Gold Mountain**	**4.18**	**343**	Pn	**Pn**	**01 14 07.3**	**+0.5**
U15A	**North Rim**	**4.21**	**41**	Pn	**Pn**	**01 14 08.4**	**+1.1**
LCH	**Last Change Ra**	**4.22**	**339**	Pn	**Pn**	**01 14 07.5**	**+0.2**
LCMT	**Little Creek M**	**4.23**	**28**	Pn	**Pn**	**01 14 09.3**	**+2.0**
WUAZ	**Wupatki**	**4.23**	**57**	Pn	**Pn**	**01 14 09.2**	**+1.8**
TUC	**Tucson**	**4.28**	**102**	Pn	**Pn**	**01 14 07.7**	**-0.3**
TUC				IAML		01 15 27.1	
	comp=E,32nm,1.2s						
KNB	**Kanab**	**4.41**	**32**	Pn	**Pn**	**01 14 12.2**	**+2.3**
PAGB	**Antelope Grade**	**4.45**	**304**	Pn	**Pn**	**01 14 11.0**	**+0.7**
DSP	**Deep Springs**	**4.45**	**336**	Pn	**Pn**	**01 14 10.8**	**+0.5**
CCUT	**Cedar City**	**4.66**	**24**	Pn	**Pn**	**01 14 16.0**	**+2.6**
SZCU	**Shurtz Canyon**	**4.80**	**26**	Pn	**Pn**	**01 14 18.4**	**+3.1**
X18A	**Snowflake**	**4.96**	**74**	Pn	**Pn**	**01 14 18.1**	**+0.7**
PMPB	**Monarch Peak**	**5.09**	**306**	Pn	**Pn**	**01 14 21.2**	**+2.1**
NVAR	**Mina Array Bea** comp=E,0.1nm,0.3s,baz=155,slow=13,SNR=0.9	**5.53**	**339**	Pn	**Pn**	**01 14 26.2**	**+0.9**
NVAR				Pg	**Pb**	**01 14 38.1**	**-1.7**
	comp=E,0.2nm,0.3s,baz=161,slow=11,SNR=3.8						
NVAR				Lg	Lg	01 16 01.8	
	baz=153,slow=28 comp=E,0.3nm,0.6s						
SPR3	**Spring Creek 3**	**5.80**	**11**	Pn	**Pn**	**01 14 28.7**	**-0.4**
YERR	**Yerington**	**6.34**	**334**	Pn	**Pn**	**01 14 37.2**	**+0.7**
PNTR	**Pine Nut**	**6.57**	**333**	Pn	**Pn**	**01 14 41.9**	**+2.3**
121A	**Cookes Peak, D**	**6.73**	**94**	Pn	**Pn**	**01 14 42.8**	**+1.1**
MVCO	**Mesa Verde**	**7.09**	**55**	Pn	**Pn**	**01 14 48.6**	**+1.9**
SBM	**South Baldy**	**7.16**	**82**	Pn	**Pn**	**01 14 51.7**	**+3.8**
LENM	**Lemitar**	**7.35**	**81**	Pn	**Pn**	**01 14 50.1**	**-0.2**
ELK	**Elko** baz=96,slow=18	**7.44**	**3**	Lg	Lg	01 16 54.9	
ANMO	**Albuquerque** comp=E,0.1nm,0.3s,baz=288,slow=19,SNR=1.6	**7.86**	**75**	Pn	**Pn**	**01 14 58.6**	**+1.3**
ANMO				Lg	Lg	01 17 06.3	
	comp=E,0.1nm,0.3s,baz=349,slow=21,SNR=2.3 comp=E,0.3nm,0.3s						
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=204,slow=13,SNR=4.4 comp=E,0.3nm,0.6s	**10.63**	**25**	Pn	**Pn**	**01 15 39.2**	**+3.9**
TXAR	**Lajitas Array** baz=289,slow=12,SNR=2.1	**11.05**	**108**	Pn	**Pn**	**01 15 41.4**	**+0.5**
TXAR				Lg	Lg	01 18 45.2	
	baz=295,slow=16,SNR=1.6 comp=E,0.1nm,0.5s						

*CNRM **28** 01:14:18.8,35°.62N×3°.57W,h17km,ml2.7*
*MDD **28** 01:14:20.4±0.3,35°.59N×3°.62W,h0km, mb_Lg2.6/15, Error ellipse: s-maj=2.5km s-min=2.2km az=5.0*
*SFS **28** 01:14:20.0,35°.57N×3°.60W,h13km,ML2.8,ALBORAN SUR*
*INMG **28** 01:14:21.4±1.6,35°.62N×3°.55W,h15km±10km,ML2.1, Error ellipse: s-maj=9.2km s-min=3.6km az=75.0*

ISC 28 01:14:20.8±1.1,**35°.52N**±0°.02×**3°.61W**±0°.02,**h22**km±5km, **n53**,σ1§59/96,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.40**	**222**	P	**Pb**	**01 14 28.5**	**-0.7**
PALE				S	**Sb**	**01 14 35.2**	**+0.3**
WMELI	**Melilla**	**0.57**	**110**	P	**Pb**	**01 14 32.1**	**-0.1**
WMELI				S	**Sb**	**01 14 40.0**	**+0.2**
EMEL	**Melilla**	**0.57**	**112**	Pg	**Pb**	**01 14 32.2**	**0.0**
EMEL				Sg	**Sb**	**01 14 40.2**	**+0.3**
PVLZ	**Peæn de**	**0.66**	**239**	P	**Pb**	**01 14 33.3**	**-0.4**
PVLZ				S	**Sb**	**01 14 40.9**	**-1.6**
CHAS	**Isla Isabel II**	**1.02**	**109**	P	**Pn**	**01 14 38.9**	**-0.9**
CHAS				S	**Sb**	**01 14 52.1**	**-0.5**
AKLM	**AKL**	**1.02**	**192**	P	**Pn**	**01 14 40.1**	**+0.1**
AKLM				S	**Sb**	**01 14 52.8**	**-0.1**
TAF	**Taforalt**	**1.20**	**125**	P	**Pn**	**01 14 42.3**	**0.0**
TAF				S	**Sn**	**01 14 57.0**	**-1.1**
ELGU	**Los Guajares,**	**1.35**	**359**	Pg	**Pn**	**01 14 43.7**	**-0.8**
ELGU				Sg	**Sn**	**01 15 00.8**	**-0.9**
ELGU				*i* Vmb_Lg		01 15 06.0	
EMAL	**Malaga-Limoner**	**1.41**	**332**	P	**Pn**	**01 14 45.0**	**-0.2**
EMAL				S	**Sn**	**01 14 60.0**	**-3.1**
EMIJ	**Mijas**	**1.41**	**318**	Pg	**Pn**	**01 14 44.8**	**-0.4**
EMIJ				Sg	**Sn**	**01 15 02.1**	**-1.0**
EMIJ				*i* Vmb_Lg		01 15 08.7	
JBK	**JBK**	**1.46**	**144**	P	**Pn**	**01 14 45.3**	**-0.6**
JBK				S	**Sb**	**01 15 07.1**	**+1.7**
CHEFC	**Chefchaouen**	**1.48**	**254**	P	**Pn**	**01 14 46.8**	**+0.7**
CHEFC				S	**Sb**	**01 15 07.8**	**+1.9**
CEU	**Ceuta**	**1.49**	**285**	P	**Pn**	**01 14 45.3**	**-0.9**
CEU				S	**Sn**	**01 15 00.5**	**-4.5**
EBER	**Berja**	**1.50**	**23**	Pg	**Pn**	**01 14 46.0**	**-0.5**
EBER				Sg	**Sn**	**01 15 05.4**	**-0.1**
EBER				*i* Vmb_Lg		01 15 13.7	
EGOR	**Sierra Gorda,**	**1.64**	**346**	Pg	**Pn**	**01 14 48.7**	**+0.1**
EGOR				Sg	**Sb**	**01 15 11.1**	**+0.3**
EGOR				*i* Vmb_Lg		01 15 20.2	
ENIJ	**Nijar**	**1.84**	**37**	Pn	**Pn**	**01 14 50.1**	**-1.0**
ENIJ				Sn	**Sn**	**01 15 11.5**	**-2.3**
ENIJ				*i* Vmb_Lg		01 15 21.9	
LCRM	**LCR**	**2.10**	**210**	P	**Pn**	**01 14 55.5**	**+0.7**
LCRM				S	**Sb**	**01 15 26.6**	**+2.7**
ESPR	**Espera**	**2.27**	**307**	Pg	**Pn**	**01 14 59.6**	**+2.6**
ESPR				Sn	**Sn**	**01 15 24.4**	**+0.2**
ESPR				Sg	**Sb**	**01 15 29.9**	**+1.4**
ESPR				*i* Vmb_Lg		01 15 35.0	
EQES	**Quesada**	**2.32**	**11**	Pg	**Pn**	**01 15 00.3**	**+2.4**
EQES				Sn	**Sn**	**01 15 24.4**	**-1.5**
EQES				Sg	**Sb**	**01 15 29.2**	**-1.2**
EQES				*i* Vmb_Lg		01 15 30.9	
IFR	**Ifrane**	**2.35**	**213**	P	**Pn**	**01 14 58.6**	**+0.2**
IFR				S	**Sn**	**01 15 26.3**	**-0.4**
EADA	**Adamuz**	**2.76**	**344**	Pn	**Pn**	**01 15 06.1**	**+2.3**
EADA				Sn	**Sn**	**01 15 37.4**	**+0.9**
EADA				*i* Vmb_Lg		01 15 48.0	
MD31	**MD31**	**2.81**	**200**	P	**Pn**	**01 15 05.2**	**+0.7**
MD31				S	**Sn**	**01 15 39.3**	**+1.6**
EZAR	**Zarzadilla de**	**2.81**	**33**	Pn	**Pn**	**01 15 04.4**	**-0.2**
EZAR				Sn	**Sn**	**01 15 36.5**	**-1.3**
MDT	**Midelt**	**2.82**	**197**	P	**Pn**	**01 15 04.5**	**-0.2**
MDT				S	**Sn**	**01 15 38.2**	**+0.2**
ECAB	**El Cabril**	**2.94**	**331**	Pn	**Pn**	**01 15 06.4**	**+0.2**
ECAB				Sn	**Sn**	**01 15 42.1**	**+1.2**
ECAB				*i* Vmb_Lg		01 15 55.4	
EMUR	**La Murta**	**3.00**	**39**	Pn	**Pn**	**01 15 08.3**	**+1.2**
EMUR				*i* Vmb_Lg		01 15 45.8	
ZHG	**ZHG**	**3.25**	**231**	P	**Pn**	**01 15 10.8**	**+0.3**
ZHG				S	**Sb**	**01 15 55.8**	**-1.1**
ETOB	**Tobarra**	**3.53**	**27**	Pn	**Pn**	**01 15 16.1**	**+1.7**
ETOB				Sn	**Sn**	**01 15 56.8**	**+1.2**
EGRO	**El Granado**	**3.72**	**304**	Pn	**Pn**	**01 15 16.8**	**0.0**
EGRO				Sn	**Sn**	**01 15 58.1**	**-1.9**
EGRO				*i* Vmb_Lg		01 15 59.6	
PVAQ	**Vaqueiros**	**3.81**	**301**	*e*Pn	**Pn**	**01 15 18.7**	**+0.5**
PVAQ				*e*Sn	**Sn**	**01 16 01.2**	**-1.1**
PVAQ				A	A	01 16 09.2	
	3.3nm,0.6s						
PVAQ	**Vaqueiros**	**3.81**	**301**	P	**Pn**	**01 15 17.6**	**-0.6**
PVAQ				S	**Sn**	**01 15 58.8**	**-3.5**
PBAR	**Barrancos**	**3.82**	**315**	*e*Pn	**Pn**	**01 15 17.9**	**-0.5**
PBAR				*e*Sn	**Sn**	**01 16 02.3**	**-0.4**
PBAR				A	A	01 16 06.1	
	2.3nm,0.4s						
PAB	**San Pablo**	**4.07**	**352**	Pn	**Pn**	**01 15 23.7**	**+2.0**
PAB				Sn	**Sn**	**01 16 08.2**	**-0.6**
PCVE	**Castro Verde**	**4.15**	**302**	*e*Pn	**Pn**	**01 15 25.9**	**+3.1**
PCVE				*e*Sn	**Sn**	**01 16 09.2**	**-1.4**
PCVE				A	A	01 16 12.3	
	2.3nm,0.5s						
EBAD	**Badajoz**	**4.23**	**321**	Pn	**Pn**	**01 15 24.4**	**+0.5**
EBAD				Sn	**Sn**	**01 16 10.0**	**-2.6**
EBAD				*i* Vmb_Lg		01 16 16.6	
MESJ	**Messejana**	**4.37**	**303**	*e*Pn	**Pn**	**01 15 27.1**	**+1.2**
MESJ				*e*Sn	**Sn**	**01 16 15.9**	**-0.3**
MESJ				A	A	01 16 24.3	
	2.9nm,0.6s						
MORF	**Marmelete**	**4.44**	**295**	*e*Pn	**Pn**	**01 15 27.5**	**+0.6**
MORF				*e*Sn	**Sn**	**01 16 16.7**	**-1.3**
PFVI	**Vila Bisbo**	**4.51**	**292**	*e*Sn	**Sn**	**01 16 19.1**	**-0.5**
PTEO	**Sao Teotonio**	**4.59**	**298**	*e*Pn	**Pn**	**01 15 31.9**	**+3.0**
PESTR	**Estremoz**	**4.62**	**318**	*e*Pn	**Pn**	**01 15 30.7**	**+1.4**
PESTR	**Estremoz**	**4.62**	**318**	P	**Pn**	**01 15 29.2**	**-0.1**
PESTR				S	**Sn**	**01 16 18.7**	**-3.5**
EVO	**Evora**	**4.64**	**312**	P	**Pn**	**01 15 31.5**	**+2.0**
EVO				S	**Sn**	**01 16 20.2**	**-2.5**
EVO	**Evora**	**4.64**	**312**	*e*Pn	**Pn**	**01 15 31.5**	**+2.0**
EVO				*e*Sn	**Sn**	**01 16 20.7**	**-2.0**
PNCL	**Nicolau / Gran**	**4.72**	**305**	*e*Pn	**Pn**	**01 15 31.0**	**+0.3**
PNCL				*e*Sn	**Sn**	**01 16 23.3**	**-1.5**
UCM	**Universidad Co**	**4.79**	**3**	P	**Pn**	**01 15 33.5**	**+1.8**
PMRV	**Marv??o**	**4.93**	**324**	*e*Pn	**Pn**	**01 15 33.2**	**-0.4**
EPLA	**Plasencia**	**4.95**	**337**	Pn	**Pn**	**01 15 37.5**	**+3.7**
PMTG	**Montargil**	**5.11**	**315**	*e*Pn	**Pn**	**01 15 37.4**	**+1.3**
PMTG				*e*Sn	**Sn**	**01 16 33.2**	**-1.2**
EIBI	**Ibiza**	**5.28**	**47**	Pn	**Pn**	**01 15 38.4**	**+0.1**
PCBR	**Castelo Branco**	**5.30**	**326**	*e*Pn	**Pn**	**01 15 41.1**	**+2.5**
ETOR	**Torete**	**5.43**	**13**	Pn	**Pn**	**01 15 42.7**	**+2.1**
PSBE	**So Bento**	**5.74**	**316**	*e*Pn	**Pn**	**01 15 47.2**	**+2.5**
MVO	**Moncorvo**	**6.25**	**336**	*e*Pn	**Pn**	**01 15 54.4**	**+2.7**

IDC 28 01:17:46.3±0.2,**21°.69S×69°.40W,h0km,mb3.3**/1, **mbtmp3.4**/2,**ML3.6**/1,**MS2.8**/1,**Error ellipse: s-maj=70.8km s-min=52.2km az=35.0,Northern Chile**

| Code | Station Name | Δ° | AZ° |

*JMA **28** 01:25:30.0±0.0, 35.˚4N±0.˚1× 133.˚8E±0.˚1, h13km, MV3.7/20, EASTERN TOTTORI PREF*
JMA Felt II J1 at EASTERN TOTTORI PREF .
ISC 28 01:25:29.5±0.8, **35.˚37N**±0.˚05× **133.˚82E**±0.˚03, **h16**km±5km, **n11**, σ0ˢ**60**/19, **8D**, **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKR	**Kurayoshi**	**0.01**	**328**	P	**Pg**	**01 25 32.2**	**0.0**
JKR				S	**Sg**	**01 25 33.8**	**-0.3**
JAD	**Aida**	**0.52**	**147**	⇓P	**Pb**	**01 25 40.3**	**+0.1**
JAD				⇓S	**Sb**	**01 25 47.6**	**+0.1**
JNM	**Ikuma**	**0.66**	**281**	⇓P	**Pb**	**01 25 42.8**	**+0.1**
JNM				⇓S	**Sb**	**01 25 51.9**	**+0.3**
JHS	**Saijyo**	**0.69**	**237**	P	**Pg**	**01 25 43.2**	**+0.2**
JHS				S	**Sb**	**01 25 52.9**	**+0.4**
JKSM	**Kasumi**	**0.72**	**72**	⇓P	**Pb**	**01 25 43.3**	**-0.4**
JKSM				⇓S	**Sb**	**01 25 52.5**	**-0.8**
JISK	**Izumosakaura**	**0.81**	**279**	⇓P	**Pg**	**01 25 45.0**	**-0.2**
JISK				⇓S	**Sg**	**01 25 55.8**	**0.0**
JKS	**Kasai**	**0.92**	**115**	P	**Pg**	**01 25 47.3**	**-0.1**
MJAR	**Matsushiro Arr**	**3.74**	**71**	Pn	**Pn**	**01 26 27.8**	**+1.1**
	0.2nm,0.3s,baz=255,slow=13,SNR=3.0						
MJAR				Pg	**Pb**	**01 26 36.5**	**+1.2**
	0.2nm,0.3s,baz=256,slow=13,SNR=6.7						
MJAR				Lg	Lg	01 27 29.4	
	0.3nm,0.3s,baz=256,slow=10,SNR=4.2 1.7nm,0.3s						
KSRS	**Korea Array**	**5.19**	**295**	Pn	**Pn**	**01 26 46.9**	**+0.3**
	1.1nm,0.3s,baz=109,slow=15,SNR=5.0						
KSRS				Sn	**Sn**	**01 27 45.9**	**-0.2**
	0.8nm,0.3s,baz=111,slow=24,SNR=4.1 2.5nm,0.3s						
SONM	**Songino Array**	**23.85**	**310**	P	**P**	**01 30 42.1**	**-0.1**
	0.3nm,0.4s,baz=108,slow=9.5,SNR=3.0 0.3nm,0.4s						
WRA	**Warramunga Arr**	**55.01**	**179**	P	**P**	**01 34 59.3**	**-1.0**
	0.3nm,0.8s,baz=355,slow=7.7,SNR=1.6 0.3nm,0.8s						

*IDC **28** 01:31:10.8±1.6, 35.˚17N× 133.˚80E, h0km, mb3.5/2, mbtmp3.4/4, ML2.9/2, MS2.8/4, Error ellipse: s-maj=32.6km s-min=18.7km az=171.0*
*NIED **28** 01:31:13.5, 35.˚41N× 133.˚83E, h13km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.54; $M_{\theta\theta}$6.78; $M_{\phi\phi}$-7.32; $M_{r\theta}$0.75; $M_{\theta\phi}$-5.72; $M_{\phi r}$-1.05; Fault plane solution: $M_0$9.18000×10^{14} NP1:ϕ_s64.00000°, δ82.00000°, λ178.00000°. NP2:ϕ_s155.00000°, δ88.00000°, λ8.00000°.*
*JMA **28** 01:31:13.5±0.0, 35.˚4N±0.˚1× 133.˚8E±0.˚1, h13km, MV3.9/20, EASTERN TOTTORI PREF*
JMA Felt III J1 at EASTERN TOTTORI PREF .
ISC 28 01:31:13.5±0.9, **35.˚35N**±0.˚07× **133.˚79E**±0.˚04, **h14**km±5km, **n10**, σ1ˢ**12**/13, **MS2.7**/3, **2D**, **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKR	**Kurayoshi**	**0.04**	**42**	P	**Pg**	**01 31 15.7**	**-0.4**
JKR				S	**Sg**	**01 31 17.3**	**-0.6**
JAD	**Aida**	**0.51**	**143**	P	**Pg**	**01 31 23.9**	**+0.2**
JAD				S	**Sg**	**01 31 31.2**	**+0.7**
JNM	**Ikuma**	**0.64**	**283**	⇓P	**Pg**	**01 31 26.2**	**+0.3**
JNM				⇓S	**Sg**	**01 31 35.5**	**+1.0**
MJAR	**Matsushiro Arr**	**3.78**	**70**	Pn	**Pn**	**01 32 12.2**	**+0.9**
	0.2nm,0.3s,baz=254,slow=12,SNR=6.9						
MJAR				Pg	**Pb**	**01 32 21.1**	**+1.2**
	0.3nm,0.3s,baz=246,slow=18,SNR=4.3						
MJAR				Sn	**Sn**	**01 32 54.1**	**-1.4**
	0.3nm,0.3s,baz=128,slow=28,SNR=7.1						
MJAR				Lg	Lg	01 33 12.8	
	0.7nm,0.3s,baz=260,slow=17,SNR=6.1 1.5nm,0.4s						
KSRS	**Korea Array**	**5.18**	**296**	Pn	**Pn**	**01 32 30.6**	**+0.1**
	1.7nm,0.3s,baz=109,slow=14,SNR=7.1						
KSRS				Sn	**Sn**	**01 33 29.2**	**-0.8**
	1.7nm,0.3s,baz=113,slow=24,SNR=5.0						
KSRS				LR	LR	01 34 36.8	
	comp=Z,53nm,18.8s,baz=120,slow=39 3.9nm,0.3s						
SONM	**Songino Array**	**23.85**	**310**	P	**P**	**01 36 27.1**	**+0.7**
	1.2nm,0.7s,baz=115,slow=8.6,SNR=5.7 1.2nm,0.7s						
GUMO	**Guam**	**23.86**	**152**	LR	LR	01 43 39.9	
	comp=Z,23nm,19.0s,baz=136,slow=32						
CMAR	**Chiang Mai Arr**	**35.11**	**251**	LR	LR	01 53 55.6	
	comp=Z,16nm,21.7s,baz=215,slow=39						
AAK	**Ala-Archa**	**45.83**	**298**	LR	LR	01 57 57.7	
	comp=Z,25nm,19.5s,baz=95,slow=35						
WRA	**Warramunga Arr**	**54.99**	**179**	P	**P**	**01 40 42.5**	**-1.9**
	0.4nm,0.7s,baz=351,slow=7.5,SNR=2.6 0.4nm,0.7s						

*ATH **28** 02:13:11.9, 35.˚54N× 23.˚27E, h61km±3km, ML2.5/4, Error ellipse: s-maj=8.9km s-min=2.1km az=49.0*
*THE **28** 02:13:12.0, 35.˚33N× 23.˚07E, h41km±6km, ML2.5/5, Error ellipse: s-maj=6.4km s-min=1.0km az=70.0*
ISC 28 02:13:11.9±2.5, **35.˚37N**±0.˚10× **23.˚1E**±0.˚1, **h29**km±18km, **n13**, σ0ˢ**83**/22, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.53**	**104**	P	**Pb**	**02 13 21.8**	**-1.0**
KNDR				S	**Sb**	**02 13 30.0**	**-0.1**
	428nm,0.5s						
ANKY	**Antikythira Is**	**0.54**	**21**	P	**Pb**	**02 13 22.4**	**-0.5**
ANKY				S	**Sb**	**02 13 32.2**	**+1.8**
	672nm,0.4s						
ANKY	**Antikythira Is**	**0.54**	**21**	P	**Pb**	**02 13 22.3**	**-0.6**
ANKY				S	**Sb**	**02 13 30.8**	**+0.4**
ANKY				AML	AML	02 13 33.3	
	comp=N,1607μm,0.4s						
ANKY				AML	AML	02 13 35.6	
	comp=E,1076μm,0.5s						
RODP	**Rodopos**	**0.60**	**71**	P	**Pb**	**02 13 24.1**	**+0.1**
RODP				S	**Sb**	**02 13 33.0**	**+0.8**
	comp=E,110nm,0.4s						
IMMV	**Iera Moni Meta**	**0.76**	**83**	P	**Pb**	**02 13 25.9**	**-0.7**
IMMV				S	**Sb**	**02 13 36.6**	**0.0**
	comp=E,500nm,0.6s						
IMMV	**Iera Moni Meta**	**0.76**	**83**	P	**Pb**	**02 13 25.7**	**-0.9**
IMMV				S	**Sb**	**02 13 36.8**	**+0.2**
IMMV				AML	AML	02 13 40.0	
	comp=E,986μm,0.7s						
IMMV				AML	AML	02 13 40.5	
	comp=N,781μm,0.7s						
KTHA	**Kythira Island**	**0.89**	**0**	P	**Pn**	**02 13 28.5**	**0.0**
KTHA				S	**Sb**	**02 13 40.7**	**+0.4**
KTHA	**Kythira Island**	**0.89**	**0**	P	**Pn**	**02 13 28.5**	**0.0**
KTHA				S	**Sb**	**02 13 39.6**	**-0.6**
KTHA				AML	AML	02 13 43.4	
	comp=E,693μm,0.6s						
KTHA				AML	AML	02 13 48.8	
	comp=N,296μm,0.8s						
KTHR	**Kythira**	**0.89**	**357**	P	**Pn**	**02 13 28.2**	**-0.4**
KTHR				S	**Sb**	**02 13 41.0**	**+0.6**
	comp=N,322nm,0.5s						
GVD	**Gavdhos**	**0.99**	**122**	P	**Pn**	**02 13 31.6**	**+1.6**
GVD				AML	AML	02 13 44.3	
	comp=N,338μm,0.4s						
GVD				AML	AML	02 13 52.6	
	comp=E,373μm,0.5s						
VLI	**Velíai**	**1.35**	**356**	P	**Pn**	**02 13 34.7**	**-0.2**
IDI	**Anoyia**	**1.50**	**93**	P	**Pn**	**02 13 36.2**	**-0.8**
KRND	**KRANIDI**	**2.01**	**2**	P	**Pn**	**02 13 44.9**	**+0.9**

*ANF **28** 02:33:49.6±0.1, 33.˚29N× 115.˚73W, h21km±2km, ML3.2/18, Error ellipse: s-maj=1.5km s-min=1.3km az=124.0*
*NEIC **28** 02:33:49.9±1.7, 33.˚29N±0.˚01× 115.˚74W±0.˚02, h18km±1km, Error ellipse: s-maj=2.1km s-min=1.9km az=77.0*
*PAS **28** 02:33:50.3±2.0, 33.˚297N±0.˚009× 115.˚72W±0.˚01, h7km±4km, ML3.3/267, ML3.1/44(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=82.0*
ISC 28 02:33:49.7±0.9, **33.˚28N**±0.˚01× **115.˚74W**±0.˚01, **h15**km±8km, **n135**, σ0ˢ**79**/188, **Southern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERRC	**Elmore Ranch**	**0.17**	**204**		**Pb**	**02 33 55.0**	**+0.4**
ERRC					**Sb**	**02 33 59.0**	**+1.1**
SALN	**Salton City**	**0.21**	**271**		**Pb**	**02 33 55.3**	**0.0**
SALN					**Sb**	**02 33 59.1**	**+0.2**
WEMD	**Westmorland, C**	**0.27**	**151**		**Pb**	**02 33 56.6**	**+0.3**
SUP	**Superstition M**	**0.33**	**193**		**Pb**	**02 33 57.2**	**0.0**
SWSC	**Sam W. Stewart**	**0.33**	**189**		**Pb**	**02 33 57.4**	**0.0**
SWSC	**Sam W. Stewart**	**0.33**	**189**	P	**Pb**	**02 33 57.4**	**0.0**
	baz=11,SNR=533						
SWSC				S	**Sb**	**02 34 02.2**	**-0.3**
	baz=11						
IMPE	**Imperial**	**0.40**	**158**		**Pb**	**02 33 58.9**	**+0.4**
CTW	**Cottonwood Mou**	**0.42**	**344**		**Pg**	**02 33 58.2**	**+0.1**
CTW					**Sg**	**02 34 03.6**	**-0.2**
COK2	**Cook Ranch 2**	**0.42**	**179**		**Pg**	**02 33 59.5**	**+0.6**
HAY	**Hayfield**	**0.43**	**6**		**Pg**	**02 33 58.4**	**0.0**
HAY					**Sg**	**02 34 04.5**	**+0.1**
CRR	**Carrizo Plain**	**0.43**	**207**		**Pb**	**02 33 59.2**	**+0.1**
CRR					**Sb**	**02 34 05.8**	**+0.4**
CTCC	**Cactus City**	**0.43**	**331**		**Pg**	**02 33 58.8**	**+0.3**
CTCC					**Sb**	**02 34 05.0**	**-0.5**
SLH	**Sleepy Hollow**	**0.44**	**259**		**Pb**	**02 33 59.4**	**+0.2**
BC3	**Big Chuckawall**	**0.45**	**32**		**Pg**	**02 33 58.4**	**-0.3**
BC3					**Sg**	**02 34 04.2**	**-0.6**
BC3	**Big Chuckawall**	**0.45**	**32**	P	**Pg**	**02 33 58.4**	**-0.3**
	baz=212,SNR=311						
BC3				S	**Sg**	**02 34 04.2**	**-0.6**
	baz=212						
SNR	**Schaffner Ranc**	**0.48**	**149**		**Pb**	**02 33 59.8**	**-0.1**
WESC	**Westside Schoo**	**0.52**	**179**		**Pb**	**02 34 00.8**	**+0.4**
DREC	**Desert Rsrch C**	**0.53**	**152**		**Pb**	**02 34 01.2**	**+0.6**
DREC					**Sn**	**02 34 10.9**	**-0.4**
BORC	**Borrego Spring**	**0.57**	**269**		**Pb**	**02 34 01.3**	**-0.1**
BORC					**Sb**	**02 34 09.0**	**-0.4**
SGL	**Mount Signal**	**0.62**	**179**		**Pg**	**02 34 02.2**	**+0.2**
YUH	**Yuha Desert**	**0.65**	**194**	Pg	**Pg**	**02 34 02.5**	**+0.2**
YUH				Sg	**Sb**	**02 34 11.6**	**+0.1**
YUH				IAML		02 34 13.0	
	comp=E,691nm,0.9s						
PMD	**Palm Desert**	**0.65**	**305**		**Pg**	**02 34 02.0**	**-0.5**
PMD				Sg	**Sg**	**02 34 10.5**	**-0.6**
PMD				IAML		02 34 12.6	
	comp=N,1μm,0.3s						
PMD				IAML		02 34 12.8	
	comp=E,750nm,0.1s						
COA	**Coachella**	**0.66**	**128**		**Pg**	**02 34 02.9**	**+0.3**
COA					**Sn**	**02 34 13.4**	**-1.2**
XPFO	**Pion Flat**	**0.69**	**299**		**Pg**	**02 34 03.1**	**0.0**
XPFO					**Sb**	**02 34 12.6**	**-0.2**
MONP2	**Monument Peak**	**0.69**	**237**		**Pb**	**02 34 03.8**	**+0.2**
MONP2					**Sb**	**02 34 13.1**	**+0.1**
MONP2	**Monument Peak**	**0.69**	**237**	P	**Pb**	**02 34 03.7**	**+0.1**
	baz=55,SNR=211						
MONP2				S	**Sb**	**02 34 13.1**	**+0.1**
	baz=55						
PFO	**Pinyon Flats O**	**0.69**	**299**	Pg	**Pg**	**02 34 02.9**	**-0.4**
PFO				Sg	**Sg**	**02 34 12.1**	**-0.4**
PFO				IAML		02 34 13.9	
	comp=E,1μm,0.5s						
PFO	**Pinyon Flats O**	**0.69**	**299**		**Pg**	**02 34 03.0**	**-0.3**
PFO					**Sb**	**02 34 12.7**	**-0.3**
PFO	**Pinyon Flats O**	**0.69**	**299**	P	**Pg**	**02 34 03.0**	**-0.3**
	baz=117,SNR=345						
PFO				S	**Sb**	**02 34 12.6**	**-0.3**
	baz=117						
IKP	**In-Ko-Pah, Jac**	**0.70**	**207**		**Pb**	**02 34 03.6**	**0.0**
IKP					**Sb**	**02 34 13.5**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**0.70**	**207**	P	**Pb**	**02 34 03.6**	**0.0**
	baz=27,SNR=122						
IKP				S	**Sb**	**02 34 13.5**	**+0.4**
	baz=27						
RUN	**Ruthven**	**0.71**	**115**		**Pg**	**02 34 03.4**	**-0.1**
RUN					**Sg**	**02 34 13.0**	**+0.2**
RMX	**La Rumorosa**	**0.73**	**203**	Pg	**Pb**	**02 34 04.6**	**+0.3**
RMX				Sg	**Sb**	**02 34 14.9**	**+0.9**
RMX				IAML		02 34 22.6	
	comp=E,692nm,0.8s						
JUEM	**Julian Eagle M**	**0.75**	**255**		**Pb**	**02 34 04.7**	**+0.2**
JUEM					**Sb**	**02 34 15.3**	**+0.7**
BELC	**Belle Mtn. Jos**	**0.76**	**343**		**Pg**	**02 34 04.4**	**-0.1**
BELC					**Sg**	**02 34 14.2**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.76**	**343**	P	**Pg**	**02 34 04.3**	**-0.1**
	baz=162,SNR=478						
BELC				S	**Sg**	**02 34 14.0**	**-0.5**
	baz=162						
FRD	**Ford Ranch, An**	**0.76**	**287**		**Pb**	**02 34 04.6**	**0.0**
FRD					**Sg**	**02 34 15.0**	**+0.5**
FRD	**Ford Ranch, An**	**0.76**	**287**		**Pb**	**02 34 04.6**	**0.0**
FRD					**Sg**	**02 34 15.3**	**+0.8**
MATG	**Mataguay Scout**	**0.77**	**265**		**Pb**	**02 34 04.8**	**0.0**
MATG					**Sb**	**02 34 15.3**	**+0.2**
SNDA	**J Saunders Pla**	**0.78**	**291**		**Pg**	**02 34 05.0**	**+0.1**
SNDA					**Sg**	**02 34 18.3**	**+1.0**
GLA	**Glamis**	**0.80**	**106**	Pg	**Pb**	**02 34 04.9**	**-0.4**
GLA				Sg	**Sb**	**02 34 15.5**	**-0.4**
GLA	**Glamis**	**0.80**	**106**	P	**Pb**	**02 34 05.0**	**-0.4**
	baz=288,SNR=222						
GLA				S	**Sb**	**02 34 15.7**	**-0.2**
	baz=288						
DNR	**Dunn Ranch,Anz**	**0.80**	**291**		**Pg**	**02 34 05.4**	**+0.1**
DNR					**Sb**	**02 34 17.1**	**+0.9**
BZNA	**Buzz No.'s Pla**	**0.81**	**286**		**Pg**	**02 34 05.6**	**+0.1**
BZNA					**Sg**	**02 34 16.8**	**+0.7**
EMSC	**East Mesa**	**0.83**	**130**		**Pb**	**02 34 05.4**	**-0.4**
EW2	**E Wide Canyon**	**0.87**	**320**		**Pb**	**02 34 05.8**	**-0.7**
EW2					**Sg**	**02 34 18.1**	**+0.1**
GVDA	**Garner Valley**	**0.88**	**297**		**Pg**	**02 34 06.4**	**-0.4**
GVDA					**Sg**	**02 34 18.5**	**+0.2**
CRY	**Cary Ranch**	**0.89**	**289**		**Pb**	**02 34 06.8**	**0.0**
CRY					**Sg**	**02 34 19.0**	**+0.4**
CPBX	**Cerro Prieto**	**0.93**	**157**		**Pb**	**02 34 06.4**	**-1.1**
CPBX				IAML		02 34 32.7	
	comp=N,668nm,0.4s						
CPBX				IAML		02 34 41.3	
	comp=E,750nm,0.7s						
PLM	**Palomar**	**0.94**	**275**		**Pb**	**02 34 07.7**	**-0.3**
PLM					**Sg**	**02 34 21.0**	**+0.5**
BLAC	**Blackrock camp**	**0.96**	**326**		**Pb**	**02 34 07.3**	**-0.9**
DEVC	**Devers**	**0.96**	**313**		**Pb**	**02 34 07.7**	**-0.5**
BAR	**Barrett**	**0.98**	**233**		**Pb**	**02 34 08.1**	**-0.4**
BAR	**Barrett**	**0.98**	**233**		**Sb**	**02 34 21.4**	**0.0**
BAR	**Barrett**	**0.98**	**233**		**Pg**	**02 34 08.9**	**+0.1**
BAR	**Barrett**	**0.98**	**233**		**Sg**	**02 34 21.9**	**+0.2**
BAR				IAML		02 34 23.2	
	comp=N,561nm,0.2s						
BAR				IAML		02 34 23.3	
	comp=E,319nm,0.1s						
IRM	**Iron Mountain**	**1.01**	**29**		**Pb**	**02 34 08.4**	**-0.5**
IRM					**Sg**	**02 34 21.4**	**-1.1**
IRM	**Iron Mountain**	**1.01**	**29**	P	**Pb**	**02 34 08.4**	**-0.5**
	baz=209,SNR=193						
IRM				S	**Sb**	**02 34 21.5**	**-0.5**
	baz=209						
TKX	**Tecate**	**1.02**	**226**		**Pb**	**02 34 08.6**	**-0.4**
TKX				Sg	**Sn**	**02 34 23.2**	**-0.3**
DPP	**Dos Picos Cty**	**1.05**	**255**		**Pb**	**02 34 09.0**	**-0.6**
DPP					**Sb**	**02 34 23.2**	**+0.1**
POB	**Polly Butte**	**1.07**	**293**		**Pb**	**02 34 09.4**	**-0.7**
POB					**Sg**	**02 34 24.4**	**-0.1**
DUZA	**Dulzura**	**1.10**	**233**		**Pb**	**02 34 10.3**	**-0.1**
DUZA					**Sb**	**02 34 25.0**	**+0.4**
BLYC	**Blythe**	**1.12**	**65**		**Pb**	**02 34 10.2**	**-0.5**
BLYC	**Blythe**	**1.12**	**65**		**Sb**	**02 34 24.6**	**-0.5**
BLYC	**Blythe**	**1.12**	**65**		**Pb**	**02 34 10.3**	**-0.4**
BLYC	**Blythe**	**1.12**	**65**		**Sb**	**02 34 24.8**	**-0.4**
BLYC				IAML		02 34 26.1	
	comp=N,918nm,0.5s						
BLYC				IAML		02 34 26.2	
	comp=E,621nm,0.3s						
DGR	**Domenigoni Val**	**1.13**	**290**		**Pb**	**02 34 10.0**	**-1.0**
GTM	**Goat Mountain**	**1.14**	**333**		**Pb**	**02 34 10.1**	**-1.1**
GTM					**Sn**	**02 34 26.5**	**-0.2**
BACC	**Bachelor Mtn.**	**1.14**	**287**		**Pn**	**02 34 10.4**	**-0.8**
HMTC	**Hemet**	**1.14**	**293**		**Pn**	**02 34 10.1**	**-1.1**
HMTC					**Sb**	**02 34 26.1**	**+0.2**
SDRC	**San Diego Road**	**1.15**	**242**		**Pb**	**02 34 11.5**	**+0.3**
SDRC					**Sb**	**02 34 25.6**	**-0.3**
OLP	**Otay Lakes Par**	**1.20**	**237**		**Pb**	**02 34 12.4**	**+0.2**
109C	**Camp Elliot, M**	**1.21**	**252**		**Pn**	**02 34 11.4**	**-0.7**
109C					**Sg**	**02 34 27.5**	**-0.3**
109C				IAML		02 34 30.0	
	comp=E,492nm,0.2s						
109C	**Camp Elliot, M**	**1.21**	**252**	P	**Pn**	**02 34 11.4**	**-0.7**
	baz=70,SNR=66						
109C				S	**Sb**	**02 34 27.3**	**-0.5**
	baz=70						
CPE	**Camp Elliot**	**1.21**	**252**		**Pn**	**02 34 11.4**	**-0.7**
CPE					**Sb**	**02 34 27.5**	**-0.3**
BBSC	**Beaumont Base**	**1.22**	**302**		**Sg**	**02 34 29.0**	**-0.2**
CBX	**Cerro Bola**	**1.24**	**219**		**Pn**	**02 34 12.5**	**-0.1**
CBX				IAML		02 34 31.6	
	comp=E,442nm,0.6s						
GORC	**Green Oak Ranc**	**1.26**	**265**		**Pn**	**02 34 12.0**	**-0.8**
GORC					**Sb**	**02 34 28.5**	**-0.6**
MURC	**Murrieta**	**1.26**	**285**		**Pn**	**02 34 12.2**	**-0.7**
MURC	**Murrieta**	**1.26**	**285**	P	**Pn**	**02 34 12.1**	**-0.7**
	baz=103,SNR=84						
ESJX	**Sierra Juarez**	**1.28**	**188**		**Pn**	**02 34 12.8**	**-0.4**
TJX	**Tijuana**	**1.35**	**236**	Pn	**Pg**	**02 34 15.4**	**-0.2**
DANC	**Danby, Needles**	**1.39**	**12**		**Pb**	**02 34 15.4**	**-0.1**
BBRC	**Big Bear Solar**	**1.39**	**315**	Sb	**Sb**	**02 34 33.9**	**+0.6**
	baz=134						
SIL	**Silver Peak**	**1.40**	**320**		**Pn**	**02 34 14.8**	**-0.2**
SVD	**Seven Oaks Dam**	**1.41**	**307**		**Pn**	**02 34 14.5**	**-0.3**
SME	**Santa Rosa Min**	**1.46**	**292**		**Pn**	**02 34 14.7**	**-0.9**
ELS	**Elsinore Mount**	**1.46**	**285**		**Pn**	**02 34 14.7**	**-0.9**
ELS	**Elsinore Mount**	**1.46**	**285**		**Pn**	**02 34 15.0**	**-0.6**
ELS				IAML		02 34 43.1	
	comp=N,215nm,0.8s						
ELS				IAML		02 34 43.1	
	comp=E,245nm,0.7s						
GMRC	**Granite Mounta**	**1.51**	**2**		**Pn**	**02 34 16.7**	**+0.4**
GMRC	**Granite Mounta**	**1.51**	**2**	Sb	**Sb**	**02 34 36.8**	**+0.4**
	baz=182						
CCX	**Cicese**	**1.61**	**209**	Pn	**Pb**	**02 34 18.4**	**-0.7**
CCX				IAML		02 34 43.6	
	comp=E,229nm,0.7s						
CCX				IAML		02 34 48.4	
	comp=N,159nm,0.8s						
HEC	**Hector,Ludlow**	**1.63**	**342**		**Pb**	**02 34 20.0**	**+0.5**
PDMCI	**Parker Dam,Lak**	**1.68**	**52**	S	**Sn**	**02 34 38.8**	**-1.0**
	baz=233						
CSP	**Cedar Springs**	**1.69**	**308**		**Pn**	**02 34 18.9**	**0.0**
113A	**Mohawk Valley,**	**1.73**	**106**	Pn	**Pn**	**02 34 19.7**	**+0.5**
NEE2	**Needles Airpor**	**1.75**	**32**	Sb	**Sb**	**02 34 44.0**	**+0.5**
	baz=212						
BFSC	**Mount Baldy Ra**	**1.87**	**302**	P	**Pn**	**02 34 20.7**	**-0.6**
	baz=120						
SSK	**Sunset Peak**	**1.88**	**300**		**Pn**	**02 34 21.2**	**-0.3**
DSCC	**Desert Studies**	**1.89**	**351**		**Pb**	**02 34 22.6**	**-1.3**
RRX	**Edison Barstow**	**1.91**	**327**	Sb	**Sb**	**02 34 49.2**	**+1.3**
	baz=146						
JNH	**Juniper Hills**	**2.18**	**303**		**Pn**	**02 34 25.9**	**+0.3**
HYS	**Haystack Butte**	**2.20**	**317**		**Pb**	**02 34 27.7**	**-1.5**
GSC	**Goldstone, Bar**	**2.21**	**337**	Pn	**Pn**	**02 34 27.1**	**+1.2**
GSC				IAML		02 35 06.3	
	comp=N,105nm,1.1s						
GSC				IAML		02 35 09.2	
	comp=E,142nm,0.8s						
PASC	**Pasadena Art C**	**2.23**	**294**	Pn	**Pn**	**02 34 27.5**	**+1.3**
Y14A	**Wickenburg**	**2.37**	**73**	Pn	**Pn**	**02 34 29.3**	**+1.1**
EDW2	**Edwards Air Fo**	**2.46**	**311**	P	**Pn**	**02 34 28.4**	**-1.1**
	baz=129						
EDW2				Sb	**Sb**	**02 35 05.5**	**+1.5**
	baz=129						
V12A	**Nelson**	**2.55**	**16**	Pn	**Pn**	**02 34 31.9**	**+1.2**
PIX	**Pinacate**	**2.58**	**131**	Pn	**Pn**	**02 34 29.1**	**-1.7**
214A	**Organ Pipe Nat**	**2.80**	**117**	Pn	**Pn**	**02 34 33.2**	**-0.8**
214A				IAML		02 35 20.7	
	comp=N,55nm,0.5s						
214A				IAML		02 35 27.7	
	comp=E,53nm,0.5s						
214A	**Organ Pipe Nat**	**2.80**	**117**	P	**Pn**	**02 34 33.1**	**-0.8**
	baz=300						
QSM	**Queen of Sheba**	**2.84**	**341**	Pn	**Pn**	**02 34 35.5**	**+0.9**
WTNK	**Soaring Height**	**2.97**	**11**	Pn	**Pn**	**02 34 37.9**	**+1.6**
GWY	**Greenwater Val**	**3.00**	**345**	Pn	**Pn**	**02 34 38.3**	**+1.3**
SHPR	**Sheep Range**	**3.26**	**8**	Pn	**Pn**	**02 34 41.6**	**+1.2**
TPNV	**Topopah Spring**	**3.69**	**354**	Pn	**Pn**	**02 34 48.1**	**+1.8**
TPNV				IAML		02 35 52.8	
	comp=E,41nm,0.7s						
TPNV				IAML		02 36 00.8	
	comp=E,28nm,1.1s						
PRN	**Pahroc Range**	**4.16**	**8**	Pn	**Pn**	**02 34 55.1**	**+2.3**
GMN	**Gold Mountain**	**4.20**	**343**	Pn	**Pn**	**02 34 54.2**	**+0.7**
U15A	**North Rim**	**4.23**	**41**	Pn	**Pn**	**02 34 55.9**	**+2.0**
LCH	**Last Change Ra**	**4.25**	**339**	Pn	**Pn**	**02 34 55.9**	**+1.9**
LCMT	**Little Creek M**	**4.25**	**28**	Pn	**Pn**	**02 34 56.0**	**+2.0**
TUC	**Tucson**	**4.28**	**102**	Pn	**Pn**	**02 34 53.8**	**-0.7**
KNB	**Kanab**	**4.43**	**32**	Pn	**Pn**	**02 34 58.8**	**+2.2**
DSP	**Deep Springs**	**4.47**	**337**	Pn	**Pn**	**02 34 57.9**	**+0.9**
CCUT	**Cedar City**	**4.69**	**24**	Pn	**Pn**	**02 35 02.1**	**+2.0**
SZCU	**Shurtz Canyon**	**4.82**	**26**	Pn	**Pn**	**02 35 03.5**	**+1.5**
X18A	**Snowflake**	**4.97**	**74**	Pn	**Pn**	**02 35 05.6**	**+1.6**
R11A	**Troy Canyon, C**	**5.06**	**1**	Pn	**Pn**	**02 35 07.0**	**+1.7**
MDPB	**Devils Postpil**	**5.13**	**329**	Pn	**Pn**	**02 35 08.1**	**+1.8**
W18A	**Petrified Fore

comp=Z,0.9nm,0.7s
QSPA South Pole Qui 79.14 180 P P 02 54 34.7 +1.3
QSPA IAmb IAmb 02 54 35.3
comp=Z,2.2nm,1.1s
ILAR Eielson Array 84.75 20 P P 02 55 02.8 +0.2
comp=Z,0.4nm,0.8s,baz=252,slow=4.3,SNR=2.6
comp=Z,0.4nm,0.8s
NVAR Mina Array Bea 89.21 51 P P 02 55 26.9 +1.7
comp=Z,0.3nm,0.6s,baz=221,slow=6.1,SNR=3.9
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 90.47 318 P P 02 55 29.4 -1.2
comp=Z,0.5nm,0.6s,baz=92,slow=7.4,SNR=3.1
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 90.47 318 P P 02 55 29.7 -0.9
PDAR Pinedale Array 96.60 48 P P 02 55 59.5 +0.2
comp=Z,0.3nm,0.8s,baz=242,slow=4.9,SNR=2.3
comp=Z,0.3nm,0.8s
SNAA Sanae 96.97 185 P P 02 56 00.3 +0.2

IDC 28 02:44:53.7±6.8, 59.65S×153.50E, h0km, mb3.8/2, mbtmp3.6/3, ML2.7/1, Error ellipse: s-maj=489.5km s-min=34.2km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	18.17	174	P	Pn	02 49 07.0	0.0
	baz=328,slow=13,SNR=3.6						
	0.6nm,0.9s						
H01W1	Cape Leeuwin H	35.58	296	T	T	03 28 12.9	
	baz=147,slow=75,SNR=12						
H01W2	Cape Leeuwin H	35.58	296	T	T	03 28 16.6	
	baz=147,slow=75,SNR=19						
H01W3	Cape Leeuwin H	35.59	296	T	T	03 28 16.9	
	baz=147,slow=75,SNR=15						
ASAR	Alice Springs	38.52	330	P	P	02 52 17.9	+0.2
	1.2nm,0.7s,baz=163,slow=9.7,SNR=10						
	1.2nm,0.7s						
WRA	Warramunga Arr	41.99	333	P	P	02 52 45.9	-0.5
	0.8nm,0.7s,baz=164,slow=6.7,SNR=6.3						
	0.8nm,0.7s						

IDC 28 02:49:38.7±0.8, 5.05S×151.12E, h181km±12km, mb3.2/3, mbtmp3.8/4, Error ellipse: s-maj=123.0km s-min=13.6km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.16	51	P	Pn	02 50 08.0	+0.2
	296nm,0.4s,baz=238,slow=2.4,SNR=32						
KRVT				S	Sn	02 50 30.2	0.0
	213nm,0.6s,baz=111,slow=20,SNR=6.5						
PMG	Port Moresby	5.85	222	P	Pn	02 51 04.0	+0.2
	58nm,0.5s,baz=42,slow=7.9,SNR=26						
PMG				S	Sn	02 52 12.4	+1.5
	20nm,0.3s,baz=128,slow=16,SNR=4.4						
WRA	Warramunga Arr	22.05	226	P	P	02 54 18.8	-0.3
	1.6nm,0.4s,baz=51,slow=10.0,SNR=19						
	1.6nm,0.4s						
ASAR	Alice Springs	24.86	220	P	P	02 54 44.7	-0.1
	1.9nm,0.8s,baz=55,slow=9.0,SNR=17						
	1.9nm,0.8s						
ILAR	Eielson Array	83.02	22	P	P	03 01 43.4	+0.1
	0.1nm,0.7s,baz=226,slow=5.8,SNR=1.2						
	0.1nm,0.7s						

CNRM 28 02:50:58.8, 30.25N×14.29W, h10km, ml3.6
MDD 28 02:51:01.9±0.9, 29.71N×14.31W, h0km, mb_Lg3.6/14, Error ellipse: s-maj=8.9km s-min=4.0km az=11.0
INMG 28 02:51:03.4±2.1, 29.92N×14.26W, h10km, ML3.0, Error ellipse: s-maj=4.2km s-min=2.3km az=109.0

ISC 28 02:50:54.8±1.6, 30.08N±0.03×14.28W±0.04, h26km±15km, n40, σ2s04/56, 4C, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFAM	Famara	1.15	145	⇑P	Pb	02 51 17.5	+1.4
EFAM				S	Sn	02 51 28.0	-2.1
EFAM				*i* Vmb_Lg		02 51 30.2	
CFUE	Fuerteventura	1.46	168	⇑P	Pb	02 51 21.5	+0.2
CFUE				S	Sn	02 51 35.7	-2.0
CFTV	Fuerteventura	1.67	174	⇑P	Pb	02 51 24.2	-0.7
CFTV				S	Sn	02 51 40.2	-2.8
CGIN	Giniginamar, F	1.88	175	⇑P	Pb	02 51 27.2	-1.2
CGIN				S	Sn	02 51 45.4	-2.6
CGIN				*i* Vmb_Lg		02 51 47.0	
GGC	Guia, Gran Can	2.29	212	P	Pb	02 51 33.9	-1.5
GGC				S	Sn	02 51 57.3	-0.9
GGC				*i* Vmb_Lg		02 51 59.5	
EOSO	Osorio	2.29	209	P	Pn	02 51 33.4	+2.4
EOSO				S	Sn	02 51 57.0	-1.4
EOSO				*i* Vmb_Lg		02 51 59.5	
CGUI	Guimar, Teneri	2.58	228	P	Pn	02 51 37.9	+2.9
CGUI				S	Sn	02 52 04.7	-0.8
CGUI				*i* Vmb_Lg		02 52 07.0	
MACI	Morro de la Ar	2.67	227	P	Pn	02 51 39.1	+2.8
MACI				S	Sn	02 52 06.6	-1.4
MACI				*i* Vmb_Lg		02 52 09.7	
CRAJ	Montana Rajada	2.72	229	P	Pb	02 51 40.7	-2.3
CRAJ				S	Sn	02 52 08.0	-1.2
CRAJ				*i* Vmb_Lg		02 52 12.8	
CCAN	Las Canadas	2.75	228	P	Pn	02 51 40.3	+2.7
CCAN				S	Sn	02 52 07.7	-2.4
CCAN				*i* Vmb_Lg		02 52 12.2	
CBOL	Buenavista del	2.84	232	P	Pn	02 51 41.5	+2.9
CBOL				S	Sn	02 52 11.3	-0.8
CBOL				*i* Vmb_Lg		02 52 13.5	
EGOM	La Gomera	3.20	234	P	Pn	02 51 46.2	+2.8
EGOM				S	Sn	02 52 19.4	-1.3
EGOM				*i* Vmb_Lg		02 52 21.0	
FUL	Funchal	3.40	320	*e*P	Pb	02 51 54.0	-0.4
FUL				*e*S	Sn	02 52 29.1	+3.5
FUL				A	A	02 52 35.4	
	60nm,0.1s						
EHIG	Higuera	3.44	245	S	Sn	02 52 25.5	-1.2
EHIG				*i* Vmb_Lg		02 52 31.1	
PMPS	Porto Santo	3.45	330	*e*P	Pb	02 51 52.8	-2.4
PMPS				*e*S	Sn	02 52 29.1	+2.3
PMPS				A	A	02 52 36.0	
	33nm,0.3s						
PMPST	Porto Santo, M	3.47	330	*e*P	Pb	02 51 52.8	-2.7
PMPST				*e*S	Sn	02 52 29.9	+2.6
PMPST				A	A	02 52 36.3	
	34nm,0.4s						
TBT	Taburiente	3.47	247	P	Pb	02 51 53.5	-2.0
TBT				S	Sn	02 52 24.8	-2.6
TBT				*i* Vmb_Lg		02 52 34.1	
PMAR	Madeira	3.47	320	*e*P	Pb	02 51 55.0	-0.7
PMAR				*e*S	Sn	02 52 30.9	+3.3
PMAR				A	A	02 52 35.9	
	78nm,0.2s						
PMAR	Madeira	3.47	320	P	Pb	02 51 53.7	-1.9
PMAR				S	Sn	02 52 30.9	+3.3
PMOZ	Porto Moniz, M	3.70	318	*e*P	Pb	02 51 58.7	-0.9
PMOZ				*e*S	Sn	02 52 36.0	+2.7
PMOZ				A	A	02 52 44.4	
	54nm,0.5s						
PMOZ	Porto Moniz, M	3.70	318	S	Sn	02 52 34.9	+1.7
CCUM	Cumbre, El Hie	4.03	236	P	Pn	02 52 00.3	+5.5
CCUM				S	Sn	02 52 40.6	-0.7
CCUM				*i* Vmb_Lg		02 52 44.9	
CMCL	Mercadel, El H	4.04	235	P	Pn	02 51 58.9	+3.7
CMCL				S	Sn	02 52 41.6	0.0
CJUL	El Julan, El H	4.08	236	P	Pn	02 51 58.6	+2.9
CJUL				S	Sn	02 52 43.7	+1.2
CJUL				*i* Vmb_Lg		02 52 46.9	
TTIG	Tnine Tigouga,	5.07	83	P	Pn	02 52 12.4	+3.1
OUK	Oukaimeden	5.64	77	P	Pn	02 52 21.9	+4.6
MD31	MD31	8.59	69	P	Pn	02 53 02.4	+4.8
MORF	Marmelete	8.60	32	*e*P	Pn	02 53 04.0	+6.4
MORF				S	Sn	02 54 32.8	-0.9
MORF				A	A	02 54 35.4	
	2.3nm,0.2s						
MDT	Midelt	8.70	69	P	Pn	02 53 04.4	+5.3
PTEO	Sao Teotonio	8.76	30	S	Sn	02 54 37.1	-0.6
PVAQ	Vaqueiros	9.12	35	*e*P	Pn	02 53 10.4	+5.7
PVAQ				S	Sn	02 54 45.9	-0.6
PVAQ				A	A	02 55 01.3	
	2.4nm,0.7s						
PCVE	Castro Verde	9.14	33	S	Sn	02 54 46.4	-0.7
PCVE				A	A	02 54 56.3	
	2.8nm,0.5s						
MESJ	Messejana	9.23	31	S	Sn	02 54 48.6	-0.6
MESJ				A	A	02 55 06.7	
	2.8nm,0.5s						
PNCL	Nicolau / Gran	9.32	29	*e*P	Pn	02 53 13.6	+6.1
PNCL				S	Sn	02 54 50.2	-1.2
PNCL				A	A	02 54 51.2	
	2.2nm,0.6s						
AKLM	AKL	9.86	61	P	Pn	02 53 20.9	+6.0
EVO	Evora	9.89	30	S	Sn	02 55 03.9	-1.6
EVO				A	A	02 55 18.1	
	2.0nm,0.8s						
PBAR	Barrancos	10.05	35	*e*P	Pn	02 53 23.0	+5.5
PBAR				S	Sn	02 55 09.2	-0.3
PBAR				A	A	02 55 10.2	
	2.2nm,0.5s						
PMTG	Montargil	10.26	27	*e*P	Pn	02 53 27.9	+7.6
PMTG				S	Sn	02 55 14.7	+0.3
PESTR	Estremoz	10.36	30	S	Sn	02 55 15.5	-1.3
PMRV	Marv??o	10.91	29	S	Sn	02 55 29.2	-1.2

NOU 28 02:51:04.7, 15.24S×167.45E, h91km, MLv4.3/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	2.57	164	P	Pn	02 51 45.1	+0.6
RTV	Rentapao	2.71	160	P	Pn	02 51 47.3	+1.0
LIFNC	LIFOU	5.51	182	P	Pn	02 52 23.6	-0.7
	60nm,0.6s						
KOUNC	Koumac, New Ca	6.08	209	P	Pn	02 52 32.3	+0.2
MARNC	Mare, Loyalty	6.23	175	P	Pn	02 52 32.2	-1.9
YATNC	Mamie plateau,	6.80	184	P	Pn	02 52 39.8	-2.1
DZM	Mont Dzumac	6.86	188	P	Pn	02 52 42.2	-0.6
NOUC	Port Laguerre	6.91	189	P	Pn	02 52 45.3	+1.9
OUENC	Ouen Island, N	7.16	185	P	Pn	02 52 48.3	+1.5
	27nm,0.8s						

IDC 28 02:55:05.9±1.1, 9.42S×111.85E, h0km, mb4.2/12, mbtmp4.1/13, ML3.6/1, MS3.8/2, Error ellipse: s-maj=37.8km s-min=17.0km az=52.0
DJA 28 02:55:08.6±0.4, 10.3S×11.2E±, h10km, M4.0/13, mb4.1/4, mB5.4/1, MLv4.0/13, Mw(mB)4.9/1
NEIC 28 02:55:09.2±1.1, 9.76S±0.05×111.71E±0.06, h34km±7km, mb4.3/12, Error ellipse: s-maj=10.9km s-min=3.3km az=133.0

ISC 28 02:55:09.1±0.6, 9.86S±0.07×111.69E±0.06, h35km, n59, σ1s79/58, mb4.3/18, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	1.73	343	P	Pn	02 55 34.6	-2.1
PCJI				S	Sn	02 55 56.8	-0.8
PWJI	Pagerwojo	1.83	4	P	Pn	02 55 36.7	-1.4
PWJI				S	Sn	02 56 00.7	+0.6
UGM	Wanagama	2.25	329	P	Pn	02 55 42.8	-1.1
UGM	Wanagama	2.25	329	P	Pn	02 55 43.5	-0.5
UGM				S	Sn	02 56 11.3	+0.7
YOGI	Yogyakarta	2.45	326	P	Pn	02 55 46.9	+0.2
NGJI	Ngawi	2.49	355	P	Pn	02 55 49.0	+1.9
JAGI	Jajag, Banyuwa	2.80	61	Pn	Pn	02 55 50.4	-1.0
JAGI	Jajag, Banyuwa	2.80	61	P	Pn	02 55 51.7	+0.3
SMRI	Semarang	3.05	336	Pn	Pn	02 55 53.8	-1.1
SMRI	Semarang	3.05	336	P	Pn	02 55 56.6	+1.6
ABJI	Asem Bagus	3.25	51	P	Pn	02 55 59.5	+1.9
KMMI	Kalianget	3.59	39	P	Pn	02 56 02.0	-0.3
SRBI	Singaraja	3.90	63	P	Pn	02 56 09.0	+2.4
CNJI	Cibinong	5.17	299	P	Pn	02 56 24.6	+0.5
	0.5nm4µm108nm,1.4s						
TWSI	Taliwang, Sumb	5.25	78	P	Pn	02 56 26.9	+1.8
	0.1nm30nm,0.7s						
XMIS	Christmas Isla	5.97	264	Pn	Pn	02 56 35.4	+0.2
PLAI	Plampang	6.09	81	P	Pn	02 56 38.8	+2.0
	0.4nm105nm,1.0s						
SBJI	Serang	6.64	304	P	Pn	02 56 47.4	+3.1
BBKI	Banjar Baru	7.08	26	P	Pn	02 56 59.1	+8.7
GIRL	Giralia	12.94	169	Pn	Pn	02 58 12.0	+1.3
SDSI	Sungai Dareh	13.52	310	P	P	02 58 28.3	+1.1
MBWA	Marble Bar	13.64	146	Pn	Pn	02 58 20.2	0.0
PSA00	Pilbara Seismi	14.04	147	Pn	Pn	02 58 25.9	+0.3
GTOI	Gorontalo	15.35	48	P	P	02 58 49.1	+1.5
FITZ	Fitzroy Crossi	15.81	123	Pn	Pn	02 58 49.7	+0.4
	0.2nm,0.3s,baz=0.3,slow=9.0,SNR=2.0						
FITZ				Sn	Sn	03 01 36.2	-7.3
	0.1nm,0.3s,baz=0.3,slow=15,SNR=1.9						
	1.1nm,0.6s						
FITZ	Fitzroy Crossi	15.81	123	Pn	Pn	02 58 49.7	+0.4
TNTI	Ternate	18.84	57		P	02 59 26.3	0.0
MTN	Manton Dam	19.29	101	P	P	02 59 31.2	0.0
MTN				IAmb	IAmb	02 59 41.1	
	comp=Z,8.9nm,0.9s						
WB0	Warramunga Arr	24.03	117		P	03 00 21.4	+0.3
WB0				IAmb	IAmb	03 01 03.9	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	24.04	117	P	P	03 00 23.1	+1.9
	comp=Z,1.9nm,0.8s,baz=293,slow=12,SNR=23						
WRA				PcP	PcP	03 04 05.4	+2.9
	comp=Z,0.5nm,1.0s,baz=292,slow=1.2,SNR=2.3						
	comp=Z,1.9nm,0.8s						
WRA	Warramunga Arr	24.04	117		P	03 00 21.7	+0.5
WB2	Warramunga Arr	24.05	117		P	03 00 20.5	-0.8
WB2				IAmb	IAmb	03 00 26.5	
	comp=Z,11nm,1.2s						
WR0	Warramunga Arr	24.23	117	P	P	03 00 25.9	+3.0
ASAR	Alice Springs	25.26	126	P	P	03 00 35.8	+3.5
	comp=Z,2.0nm,0.7s,baz=302,slow=9.2,SNR=21						
ASAR				PcP	PcP	03 04 08.7	+3.5
	comp=Z,0.4nm,0.6s,baz=285,slow=2.2,SNR=4.7						
	comp=Z,2.0nm,0.7s						
CMAR	Chiang Mai Arr	30.82	336	P	P	03 01 22.4	+0.5
	comp=Z,0.9nm,0.3s,baz=173,slow=8.0,SNR=1.3						
	comp=Z,0.9nm,0.3s						
H08S2	Diego Garcia H	38.79	270	T	T	03 44 11.0	
	baz=94,slow=75,SNR=56						
H08S3	Diego Garcia H	38.80	270	T	T	03 44 11.5	
	baz=94,slow=75,SNR=52						
H08S1	Diego Carcia H	38.81	270	T	T	03 44 12.3	
	baz=94,slow=75,SNR=19						
XAN	Xi'an	43.74	357	P	P	03 03 10.8	-0.4
XAN				pP	pP	03 03 19.0	-2.1
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KSRS	Korea Array	49.47	17	P	P	03 03 55.8	-0.2
	comp=Z,3.9nm,0.7s,baz=203,slow=8.9,SNR=9.9						
	comp=Z,3.9nm,0.7s						
GTA	Gaotai	50.25	348	*e*P	P	03 04 03.0	+1.0
GTA				sP	pP	03 04 11.0	-0.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MAJO	Matsushiro	52.47	27		P	03 04 16.7	-1.9
MAJO				IAmb	IAmb	03 04 19.6	
	comp=Z,4.0nm,0.8s						
MJAR	Matsushiro Arr	52.47	27	P	P	03 04 16.1	-2.5
	comp=Z,3.3nm,0.8s,baz=195,slow=7.6,SNR=7.3						
	comp=Z,3.3nm,0.8s						
DZM	Mont Dzumac	53.77	110	LR	LR	03 27 14.0	
	comp=Z,39nm,20.0s,baz=62,slow=36						
USRK	Ussuriysk Ar.	56.87	17	P	P	03 04 48.9	-1.4
	comp=Z,5.9nm,0.9s,baz=204,slow=4.2,SNR=6.2						
	comp=Z,5.9nm,0.9s						
USRK	Ussuriysk Ar.	56.87	17	P	P	03 04 48.0	-2.3
ULN	Ulaanbaatar	57.62	356	P	P	03 04 54.9	-0.8
ULN				IAmb	IAmb	03 04 57.3	
	comp=Z,3.3nm,0.8s						
SONM	Songino Array	57.63	356	P	P	03 04 54.7	-1.1
	comp=Z,2.3nm,0.7s,baz=172,slow=7.7,SNR=10						
	comp=Z,2.3nm,0.7s						
SONM	Songino Array	57.63	356	P	P	03 04 54.8	-1.1
SONM				IAmb	IAmb	03 04 56.6	
	comp=Z,2.7nm,0.8s						
MK31	Makanchi Array	62.21	338	P	P	03 05 26.9	-0.3
MKAR	Makanchi Array	62.21	338	P	P	03 05 26.8	-0.4
	comp=Z,2.1nm,0.5s,baz=146,slow=7.7,SNR=17						
	comp=Z,2.1nm,0.5s						
MKAR	Makanchi Array	62.21	338	P	P	03 05 25.7	-1.5
ZALV	Zalesovo Beam	67.52	343	P	P	03 06 01.0	-0.5
	comp=Z,0.8nm,0.3s,baz=181,slow=8.6,SNR=2.3						
	comp=Z,0.8nm,0.3s						
PETK	Petropavlovsk-	73.93	27	P	P	03 06 39.8	-0.8
	comp=Z,1.6nm,0.8s,baz=158,slow=4.3,SNR=4.6						
	comp=Z,1.6nm,0.8s						
ABKAR	Akbulak array	74.26	328	P	P	03 06 42.0	-0.6
KBZ	Khabaz	81.88	317	P	P	03 07 25.7	+0.7
	comp=Z,1.7nm,0.9s,baz=180,slow=4.0,SNR=4.2						
	comp=Z,1.7nm,0.9s						
BRTR	Keskin Array B	87.19	311	P	P	03 07 53.1	+1.0
	comp=Z,0.8nm,0.7s,baz=130,slow=5.5,SNR=6.3						
	comp=Z,0.8nm,0.7s						
MLR	Muntele Rosu	93.98	315	LR	LR	03 58 36.4	
	comp=Z,91nm,18.1s,baz=310,slow=41						
TXAR	Lajitas Array	141.69	55	PKhKP	PKPpre	03 14 35.3	
	comp=Z,0.2nm,0.7s,baz=240,slow=7.1,SNR=1.9						

IDC 28 03:15:00.2±1.9, 9.52S×111.77E, h0km, mb3.9/7, mbtmp3.9/8, ML3.5/1, Error ellipse: s-maj=63.6km s-min=19.7km az=56.0
DJA 28 03:15:03.1±0.8, 10.5S±6.6×11.2E±, h10km, M3.6/7, MLv3.6/7

ISC 28 03:15:04.3±1.1, 9.75S±0.1×111.62E±0.09, h35km, n20, σ1s13/18, mb4.0/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	1.57	344	P	Pn	03 15 28.4	-1.3
PCJI				S	Sn	03 15 50.1	+1.3
PWJI	Pagerwojo	1.69	6	P	Pn	03 15 30.9	-0.4
UGM	Wanagama	2.09	329	P	Pn	03 15 37.7	+0.8
YOGI	Yogyakarta	2.29	325	P	Pn	03 15 40.4	+0.7
NGJI	Ngawi	2.33	356	Pg	Pn	03 15 45.4	+5.2
JAGI	Jajag, Banyuwa	2.79	64	P	Pn	03 15 47.3	+0.8
SMRI	Semarang	2.89	336	P	Pn	03 15 49.0	+1.1
ABJI	Asem Bagus	3.21	54	P	Pn	03 15 53.0	+0.7
SRBI	Singaraja	3.90	66	P	Pn	03 16 02.8	+1.0
FITZ	Fitzroy Crossi	15.95	123	Pn	Pn	03 18 44.0	-2.2
	0.1nm,0.3s,baz=5.7,slow=10,SNR=1.7						
FITZ				Sn	Sn	03 21 29.8	-12
	0.1nm,0.3s,baz=184,slow=4.2,SNR=3.0						
	0.7nm,0.4s						
WRA	Warramunga Arr	24.17	117	P	P	03 20 18.1	+0.5
	0.7nm,0.6s,baz=292,slow=11,SNR=15						
WRA				PcP	PcP	03 23 59.8	+1.8
	1.4nm,1.3s,baz=283,slow=1.8,SNR=1.5						
	0.7nm,0.6s						
ASAR	Alice Springs	25.40	126	P	P	03 20 29.7	+0.8
	1.0nm,0.7s,baz=302,slow=9.3,SNR=12						
	1.0nm,0.7s						
H08S2	Diego Garcia H	38.72	270	T	T	04 04 03.6	
	baz=94,slow=75,SNR=22						
H08S3	Diego Garcia H	38.73	270	T	T	04 04 05.3	
	baz=94,slow=75,SNR=19						
H08S1	Diego Carcia H	38.74	270	T	T	04 04 05.0	
	baz=94,slow=75,SNR=13						
KSRS	Korea Array	49.34	17	P	P	03 23 50.2	0.0
	1.9nm,0.8s,baz=208,slow=7.3,SNR=5.1						
	1.9nm,0.8s						
MJAR	Matsushiro Arr	52.36	27	P	P	03 24 11.6	-1.4
	1.7nm,0.8s,baz=203,slow=7.7,SNR=4.0						
	1.7nm,0.8s						
USRK	Ussuriysk Ar.	56.75	17	P	P	03 24 44.3	-0.4
	2.1nm,0.8s,baz=197,slow=9.0,SNR=4.5						
	2.1nm,0.8s						
SONM	Songino Array	57.48	356	P	P	03 24 49.8	-0.1
	0.9nm,0.7s,baz=188,slow=5.4,SNR=3.1						
	0.9nm,0.7s						
MKAR	Makanchi Array	62.05	338	P	P	03 25 21.4	0.0
	0.7nm,0.3s,baz=152,slow=7.4,SNR=15						
	0.7nm,0.3s						

IDC 28 03:34:00.7±2.2, 9.50S×111.79E, h0km, mb3.7/5, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=82.4km s-min=20.8km az=53.0
DJA 28 03:34:03.3±0.8, 10.5S±5.7×11.2E±, h10km, M3.4/6, MLv3.4/6

ISC 28 03:34:04.8±1.2, 9.75S±0.1×111.66E±0.09, h35km, n15, σ0s89/14, mb3.9/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	Pacitan	1.58	342	P	Pn	03 34 30.4	0.0
PCJI				S	Sn	03 34 49.7	+0.1
PWJI	Pagerwojo	1.69	5	P	Pn	03 34 31.2	-0.6
PWJI				S	Sn	03 34 52.7	+0.5
UGM	Wanagama	2.11	328	P	Pn	03 34 38.5	+0.8
YOGI	Yogyakarta	2.32	324	P	Pn	03 34 40.9	+0.4
JAGI	Jajag, Banyuwa	2.75	64	P	Pn	03 34 47.2	+0.7
ABJI	Asem Bagus	3.18	53	P	Pn	03 34 52.7	+0.4
FITZ	Fitzroy Crossi	15.92	123	Pn	Pn	03 37 44.5	-1.7
	0.1nm,0.3s,baz=180,slow=20,SNR=2.6						
	1.7nm,0.9s						
WRA	Warramunga Arr	24.14	117	P	P	03 39 18.3	+0.5
	0.9nm,0.8s,baz=292,slow=11,SNR=13						
	0.9nm,0.8s						
ASAR	Alice Springs	25.37	126	P	P	03 39 30.7	+1.7
	1.1nm,0.7s,baz=301,slow=9.2,SNR=12						
	1.1nm,0.7s						
H08S2	Diego Garcia H	38.76	270	T	T	04 23 06.1	
	baz=94						
H08S3	Diego Garcia H	38.77	270	T	T	04 23 05.0	
	baz=94						
H08S1	Diego Carcia H	38.78	270	T	T	04 23 08.4	
	baz=94						
KSRS	Korea Array	49.33	17	P	P	03 42 50.9	+0.3
	1.2nm,0.8s,baz=206,slow=8.1,SNR=2.7						
	1.2nm,0.8s						
SONM	Songino Array	57.48	356	P	P	03 43 50.0	-0.5
	0.7nm,0.7s,baz=188,slow=9.0,SNR=3.8						
	0.7nm,0.7s						
MKAR	Makanchi Array	62.06	338	P	P	03 44 21.4	-0.4
	0.5nm,0.4s,baz=159,slow=6.8,SNR=8.0						
	0.5nm,0.4s						

VIE 28 03:52:54.8±0.7, 51.54N×16.20E, h0km, mb2.3/3, ml2.7/2, Error ellipse: s-maj=7.7km s-min=3.5km az=54.0 76 km NW of Wroclaw Suspected Mining induced.
PRU 28 03:52:56.1±0.0, 51.48N×16.11E, h0km

ISC 28 03:52:54.6±1.2, 51.54N±0.05×16.16E±0.03, h0km, n26, σ0s67/51, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	173	*e*Pg	Pg	03 53 08.5	+0.4
KSP				*e*		03 53 15.6	
KSP				*e*Sg	Sg	03 53 17.2	+0.1
CHVC	Chvalec	0.96	184	*e*PG	Pg	03 53 13.3	+0.4
CHVC				*e*SG	Sg	03 53 25.5	+0.2
	comp=Z,29nm,0.4s						
OSTC	Ostas	0.99	178	*e*PG	Pg	03 53 13.9	+0.5
OSTC				*e*SG	Sg	03 53 26.5	+0.3
	comp=Z,34nm,0.4s						
UPC	Upice	1.04	185	*e*PG	Pg	03 53 14.6	+0.1
UPC				*e*SG	Sg	03 53 28.0	+0.1
	comp=Z,55nm,0.4s						
DPC	Dobruska-Polom	1.20	175	*e*PG	Pg	03 53 17.3	-0.2
DPC				*e*SG	Sg	03 53 32.2	-0.8
	comp=Z,17nm,0.6s						
PVCC	Panska Ves	1

NKC	**Novy Kostel**	**2.69**	**242**	*e*PG	**Pg**	**03 53 45.9**	**-0.2**
NKC				*e*SG	**Sg**	**03 54 20.7**	**-0.2**
	comp=Z,33nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**03 53 42.2**	**-0.1**
KHC				*e*PG	**Pb**	**03 53 48.4**	**+0.8**
KHC				*e*SN	**Sn**	**03 54 17.0**	**-1.2**
KHC				*e*SG	**Sg**	**03 54 26.6**	**-1.9**
	comp=Z,11nm,0.6s						
CKRC	**Cesky Krumlov**	**2.97**	**204**	*e*PN	**Pn**	**03 53 43.9**	**+0.9**
CKRC				*e*PG	**Pb**	**03 53 49.1**	**+0.7**
CKRC				*e*SG	**Sb**	**03 54 26.6**	**+1.4**
	comp=Z,8.1nm,0.3s						
MODS	**Modra-Piesok**	**3.25**	**167**	*e*PG	**Pg**	**03 53 56.9**	**0.0**
MODS				*e*SG	**Sb**	**03 54 33.8**	**+0.5**
NIE	**Niedzica**	**3.39**	**127**	*e*P	**Pg**	**03 53 59.2**	**-0.4**
NIE				*e*S	**Sg**	**03 54 43.7**	**+0.2**
VYHS	**Vyhne**	**3.51**	**149**	*e*PG	**Pg**	**03 54 01.5**	**-0.2**
VYHS				*e*SG	**Sg**	**03 54 45.2**	**-1.9**
CONA	**Conrad Observa**	**3.62**	**183**	*e*Pn	**Pn**	**03 53 52.2**	**+0.3**
	comp=Z,0.6nm,0.3s						
MOA	**Molln**	**3.89**	**199**	*e*Pn	**Pn**	**03 53 56.1**	**+0.4**
	comp=Z,0.7nm,0.3s						

*VIE **28** 03:57:10.0±0.4,46°.65N×9°.99E,h10km±4km,mb1.1/1, ml1.1/2,Error ellipse: s-maj=1.6km s-min=1.5km az=103.0 21 km SE of Davos*

ZUR 28 03:57:10.5,46°.66N×10°.00E,h5km±2km,MLh1.0/4,2C-1D, Error ellipse: s-maj=5.3km s-min=1.3km az=41.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZER	**Zernez**	**0.08**	**58**	Sg	Sg	03 57 13.9	+0.2
DAVOX	**Davos/Dischmat**	**0.15**	**326**	⇓Pg	Pg	03 57 13.9	+0.3
DAVOX				Sg	Sg	03 57 16.2	+0.5
SCEL	**Celerina**	**0.18**	**214**	⇑Pg	Pg	03 57 14.3	+0.2
FUORN	**Ofenpass-Fuorn**	**0.18**	**101**	⇑Pg	Pg	03 57 14.5	+0.3
FETA	**Feichten** 1.1nm,0.1s	**0.62**	**54**	*i* Pg	Pg	03 57 22.0	-0.4
FETA	0.7nm,0.1s			*e*Sg	Sg	03 57 30.3	-0.2
DAVA	**Damuels** 0.2nm,0.1s	**0.64**	**353**	*e*Pg	Pg	03 57 22.9	+0.2
DAVA	1.2nm,0.1s			*e*Sg	Sg	03 57 32.0	+1.0

ROM 28 03:57:45.5±0.0,42°.895N±0°.002×13°.226E±0°.004, h10km,ML1.5/9,Error ellipse: s-maj=0.3km s-min=0.2km az=60.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.03**	**304**	P	Pg	03 57 47.5	-0.1
MC2				S	Sg	03 57 48.5	-0.5
T1242	**Castelluccio d**	**0.07**	**194**	P	Pg	03 57 48.1	+0.3
T1242				S	Sg	03 57 49.8	+0.3
T1242	comp=E,371µm,0.6s			AML	AML		
T1242	comp=N,541µm,1.3s			AML	AML		
T1242	comp=E,326µm,0.5s			AML	AML		
T1242	comp=N,528µm,0.3s			AML	AML		
T1242	comp=E,326µm,0.5s			AML	AML		
MMO1	**Montemonaco**	**0.07**	**86**	P	Pg	03 57 48.1	+0.3
MMO1				S	Sg	03 57 49.6	+0.2
NRCA	**Norcia**	**0.10**	**233**	P	Pg	03 57 48.7	+0.5
NRCA				S	Sg	03 57 50.7	+0.7
NRCA	comp=E,818µm,0.6s			AML	AML		
NRCA	comp=N,1191µm,0.1s			AML	AML		
NRCA	comp=E,816µm,0.6s			AML	AML		
NRCA	comp=N,1188µm,0.1s			AML	AML		
NRCA	comp=E,866µm,0.6s			AML	AML		
NRCA	comp=N,1250µm,0.1s			AML	AML		
AM05	**Amandola Campo**	**0.12**	**48**	P	Pg	03 57 49.1	+0.6
AM05	comp=E,482µm,0.9s			AML	AML		
AM05	comp=N,833µm,0.1s			AML	AML		
FEMA	**Monte Fema**	**0.15**	**297**	P	Pg	03 57 49.5	+0.6
T1216	**Preci, Frazion**	**0.15**	**269**	P	Pg	03 57 49.5	+0.6
T1216				S	Sg	03 57 52.3	+1.0
T1241	**Roccafluvione,**	**0.15**	**104**	P	Pg	03 57 49.6	+0.6
T1241				S	Sg	03 57 52.4	+1.0
T1241	comp=E,124µm,1.5s			AML	AML		
T1241	comp=E,123µm,1.5s			AML	AML		
T1241	comp=N,153µm,0.2s			AML	AML		
FDMO	**Fiordimonte**	**0.17**	**324**	P	Pg	03 57 49.8	+0.5
GUMA	**Gualdo di Mace**	**0.19**	**25**	P	Pg	03 57 49.9	+0.4
GUMA				S	Sg	03 57 53.9	+1.7
T1202	**Accumoli, Fraz**	**0.19**	**180**	P	Pg	03 57 50.5	+0.9
T1202				S	Sg	03 57 54.1	+1.7
T1202	comp=N,254µm,1.6s			AML	AML		
T1202	comp=E,257µm,1.6s			AML	AML		
CSP1	**Cessapalombo**	**0.20**	**355**	P	Pg	03 57 50.2	+0.5
CSP1				S	Sg	03 57 53.8	+1.1
T1204	**Amatrice, Fraz**	**0.23**	**163**	P	Pg	03 57 51.0	+0.7
T1243	**Rocca Santa Ma**	**0.26**	**140**	P	Pg	03 57 51.4	+0.6
T1243				S	Sb	03 57 55.8	-1.1
CESI	**CESI - Serrava**	**0.26**	**295**	P	Pg	03 57 51.5	+0.6
CESI				S	Sb	03 57 56.1	-0.9
CESI	comp=E,126µm,1.2s			AML	AML		
CESI	comp=N,196µm,0.5s			AML	AML		
SMA1	**SAN MARTINO**	**0.28**	**163**	P	Pg	03 57 51.8	+0.6
SMA1				S	Sb	03 57 56.2	-1.3
T1215	**Vallo di Nera,**	**0.28**	**251**	P	Pg	03 57 51.8	+0.6
T1217	**Poggiodomo (PG**	**0.28**	**230**	P	Pg	03 57 51.9	+0.6
T1217				S	Sb	03 57 56.8	-0.9
LNSS	**Leonessa**	**0.32**	**205**	P	Pg	03 57 52.7	+0.7
LNSS	comp=N,216µm,0.4s			AML	AML		
LNSS	comp=E,333µm,0.3s			AML	AML		
OFFI	**Offida**	**0.34**	**83**	P	Pb	03 57 53.6	-0.2
T1246	**Crognaleto (TE**	**0.37**	**148**	P	Pg	03 57 53.3	+0.5
T1246				S	Sb	03 57 59.5	-0.7
CAMP	**Campotosto**	**0.38**	**159**	P	Pg	03 57 53.8	+0.7
CAMP	comp=N,38µm,0.8s			AML	AML		
CAMP	comp=E,40µm,1.0s			AML	AML		
RM33	**Pellescritta (**	**0.39**	**181**	P	Pb	03 57 54.0	-0.6
TERO	**Teramo**	**0.39**	**134**	P	Pg	03 57 53.7	+0.5
TERO	comp=E,64µm,0.3s			AML	AML		
TERO	comp=N,98µm,0.2s			AML	AML		
SNTG	**Esanatoglia**	**0.42**	**330**	P	Pg	03 57 54.2	+0.5
EL6	**Elcito**	**0.44**	**348**	P	Pg	03 57 54.8	+0.5
T1247	**Pizzolo (AQ)**	**0.46**	**173**	P	Pg	03 57 54.6	+0.2
CING	**Cingoli**	**0.48**	**357**	P	Pg	03 57 55.3	+0.3
GIGS	**Gran Sasso**	**0.51**	**150**	P	Pg	03 57 55.5	0.0
GIGS	comp=E,25µm,1.6s			AML	AML		
GIGS	comp=N,17µm,1.6s			AML	AML		
SSFR	**Montelago di S**	**0.63**	**329**	P	Pb	03 57 58.5	-0.3
SSFR	comp=N,70µm,0.2s			AML	AML		
SSFR	comp=E,76µm,1.6s			AML	AML		
ARVD	**Arcevia**	**0.64**	**341**	P	Pg	03 57 58.3	+0.4
PIEI	**Pieia**	**0.82**	**322**	P	Pg	03 58 00.9	-0.4

*MAN **28** 04:01:46.2,6°.62N×126°.66E,h32km,mb5.1,ML4.0,MS4.1*
*IDC **28** 04:01:46.6±1.8,6°.70N×126°.70E,h68km±14km,mb3.9/16, mbtmp4.3/19,MS3.2/10,Error ellipse: s-maj=26.0km s-min=9.6km az=64.0*
*DJA **28** 04:01:47.1±0.5,7°.N±4°.×12°.7E±°.,h70km±5km,M4.9/26, mb4.8/26,mB5.3/9,MLv5.1/10,Mw(mB)4.7/9,MwMwp5.4/1, Mwp5.6/1*
*NEIC **28** 04:01:48.5±1.9,6°.58N±0°.02×126°.53E±0°.08,h72km±11km, mb4.4/12,Error ellipse: s-maj=11.0km s-min=2.0km az=97.0*

ISC 28 04:01:47.9±0.8,6°.50N±0°.04×126°.54E±0°.06,h72km±7km, n110,σ1s77/121,mb4.2/21,4C-16D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.53**	**328**	⇓*e*P	**Pn**	**04 01 57.9**	**-3.3**
MATI				*e*S	**Sn**	**04 02 06.0**	**-4.9**
DDMP	**Don Marcelino,**	**0.91**	**245**	⇓*e*P	**Pn**	**04 02 04.9**	**-0.5**
DDMP				*e*S	**Sn**	**04 02 19.4**	**+0.9**
DAV	**Davao City (W)** 4µm,0.3s,baz=113,slow=1.7,SNR=142	**1.11**	**301**	P	**Pn**	**04 02 07.5**	**-0.4**
DAV	2µm,0.5s,baz=74,slow=23,SNR=15			S	**Sn**	**04 02 22.7**	**-0.2**
DAV	**Davao City (W)**	**1.11**	**301**		**Pn**	**04 02 07.0**	**-0.9**
DAV				Sn	**Sn**	**04 02 23.1**	**+0.2**
KCP	**Kidapawan**	**1.53**	**290**	⇓*i*P	**Pn**	**04 02 12.2**	**-1.2**
KCP				*i* S	**Sn**	**04 02 32.6**	**+0.1**
GSPH	**General Santos**	**1.63**	**256**	*i* P	**Pn**	**04 02 13.0**	**-1.8**
GSPH				*i* S	**Sn**	**04 02 32.5**	**-2.7**
BIPH	**Bislig**	**1.69**	**354**	⇓*e*P	**Pn**	**04 02 12.3**	**-3.2**
BIPH				*i* S	**Sn**	**04 02 32.2**	**-4.0**
SKMP	**Bagumbayan, Su**	**1.98**	**271**	⇓*e*P	**Pn**	**04 02 18.9**	**-0.5**
SKMP				*e*S	**Sn**	**04 02 46.5**	**+3.1**
BUKP	**Musuan**	**2.01**	**313**	⇓*i*P	**Pn**	**04 02 18.9**	**-0.9**
BUKP				*i* S	**Sn**	**04 02 44.9**	**+0.8**
CTBH	**Cotabato--PC H**	**2.39**	**288**	⇑*i*P	**Pn**	**04 02 23.6**	**-1.2**
BUTP	**Butuan**	**2.62**	**340**	⇓*e*P	**Pn**	**04 02 29.7**	**+1.7**
BUTP				*e*S	**Sn**	**04 03 05.9**	**+7.1**
CGP	**Cagayan de Oro**	**2.67**	**317**	⇓*e*P	**Pn**	**04 02 28.3**	**-0.4**
CGP				*e*S	**Sn**	**04 02 59.7**	**-0.4**
SGSI	**Sangihe**	**2.97**	**200**	P	**Pn**	**04 02 34.2**	**+1.4**
SGSI				S	**Sn**	**04 03 10.5**	**+3.2**
GLSP	**General Luna,**	**3.29**	**353**	⇓*e*P	**Pn**	**04 02 39.8**	**+2.6**
GLSP				*e*S	**Sn**	**04 03 17.7**	**+2.5**
PAGZ	**Pagadian**	**3.41**	**293**	⇓*e*P	**Pn**	**04 02 38.8**	**+0.1**
SCPH	**Surigao**	**3.43**	**342**	*e*P	**Pn**	**04 02 41.4**	**+2.4**
SCPH				*i* S	**Sn**	**04 03 19.3**	**+0.9**
DCPH	**Dipolog City**	**3.78**	**303**	⇑*e*P	**Pn**	**04 02 46.2**	**+2.4**
GHBP	**Garcia Hernand**	**3.81**	**325**	⇓*i*P	**Pn**	**04 02 44.3**	**+0.1**
GHBP				*i* S	**Sn**	**04 03 28.5**	**+0.7**
LSIP	**Lazi, Siquijor**	**3.89**	**312**	⇑*e*P	**Pn**	**04 02 45.3**	**0.0**
MSLP	**Maasin**	**3.98**	**335**	⇓*e*P	**Pn**	**04 02 46.6**	**+0.1**
MSLP				*e*S	**Sn**	**04 03 33.0**	**+1.1**
TBP	**Tagbilaran**	**4.14**	**320**	⇓*e*P	**Pn**	**04 02 47.5**	**-1.1**
TBP				*i* S	**Sn**	**04 03 35.7**	**-0.2**
TABP	**Talibon, Bohol**	**4.19**	**329**	⇓*i*P	**Pn**	**04 02 48.4**	**-0.9**
TABP				*i* S	**Sn**	**04 03 36.2**	**-0.9**
LLP	**Lapu-Lapu**	**4.57**	**326**	*e*P	**Pn**	**04 02 54.3**	**-0.3**
LLP				*e*S	**Sn**	**04 03 46.1**	**-0.4**
TNTI	**Ternate**	**5.75**	**172**	Pn	**Pn**	**04 03 13.1**	**+2.4**
TNTI				Sn	**Sn**	**04 04 16.8**	**+1.5**
TNTI	**Ternate** 0.5nm2µm94nm,0.9s	**5.75**	**172**	P	**Pn**	**04 03 12.7**	**+2.0**
TNTI	**Ternate**	**5.75**	**172**	P	Pn	04 03 15.6	+4.9
CNP	**Catarman**	**6.26**	**343**	⇓*e*P	**Pn**	**04 03 20.7**	**+3.0**
RCP	**Roxas**	**6.27**	**324**	⇓*e*P	**Pn**	**04 03 18.0**	**+0.1**
KMSI	**Bobinong** 0.9nm218nm,0.6s	**6.41**	**204**	P	**Pn**	**04 03 21.1**	**+1.3**
GTOI	**Gorontalo** 1.1nm3µm341nm,0.7s	**6.80**	**211**	P	**Pn**	**04 03 25.2**	**+0.1**
LBMI	**Labuha** 0.4nm63nm,0.7s	**7.15**	**172**	P	**Pn**	**04 03 31.4**	**+1.5**
MRSI	**Marisa** 1.2nm4µm309nm,0.8s	**7.54**	**218**	P	**Pn**	**04 03 37.1**	**+1.9**
TOLI2	**Tolitoli**	**7.85**	**227**	Pn	**Pn**	**04 03 37.9**	**-1.5**
LUWI	**Luwuk**	**8.38**	**207**	Pn	**Pn**	**04 03 49.8**	**+3.1**
LUWI	**Luwuk** 4µm239nm,1.1s	**8.38**	**207**	P	**Pn**	**04 03 48.9**	**+2.2**
LUWI	**Luwuk**	**8.38**	**207**	P	Pn	04 03 51.9	+5.2
SANI	**Sanana** 2µm87nm,1.0s	**8.51**	**184**	P	**Pn**	**04 03 47.6**	**-0.8**
SANI	**Sanana**	**8.51**	**184**	P	**Pn**	**04 03 48.3**	**-0.1**
SWI	**Sorong** 57nm,0.7s	**8.70**	**147**	P	**Pn**	**04 03 50.9**	**-0.1**
SIJI	**Sorong** 28nm,0.4s,baz=317,slow=18,SNR=18	**8.71**	**147**	P	**Pn**	**04 03 51.5**	**+0.3**
SIJI	4.7nm,0.5s,baz=343,slow=19,SNR=1.1			S	**Sn**	**04 05 22.8**	**-5.1**
SIJI	comp=Z,81nm,20.4s,baz=68,slow=40			LR	LR	04 07 40.2	
APSI	**Ampana** 1µm131nm,0.7s	**8.83**	**214**	P	**Pn**	**04 03 54.7**	**+1.8**
MPSI	**Mapaga** 20nm,0.7s	**9.02**	**228**	P	**Pn**	**04 03 55.2**	**-0.2**
NLAI	**Namlea** 40nm,0.7s	**9.69**	**177**	P	**Pn**	**04 04 04.5**	**-0.1**
FAKI	**Fak Fak**	**10.95**	**148**	Pn	**Pn**	**04 04 23.2**	**+1.3**
FAKI	**Fak Fak** 23nm,0.8s	**10.95**	**148**	P	**Pn**	**04 04 23.4**	**+1.5**
FAKI	**Fak Fak**	**10.95**	**148**	P	**Pn**	**04 04 24.6**	**+2.7**
TTSI	**Tana Toraja** 99nm,1.2s	**11.61**	**215**	P	**Pn**	**04 04 32.3**	**+1.4**
SPSI	**Sidrap Palu** 27nm,1.2s	**12.40**	**213**	P	**Pn**	**04 04 43.5**	**+1.9**
BBSI	**Bau Bau** 6µm68nm,1.0s	**12.55**	**198**	P	**Pn**	**04 04 44.8**	**+1.2**
BNSI	**Bone** 31nm,1.4s	**12.59**	**211**	P	**Pn**	**04 04 46.7**	**+2.6**
KAPI	**Kappang** 24nm,0.8s,baz=17,slow=9.5,SNR=16	**13.29**	**211**	P	**Pn**	**04 04 55.4**	**+1.8**
KAPI	comp=Z,47nm,19.5s,baz=66,slow=36			LR	LR	04 09 58.9	
KAPI	**Kappang**	**13.29**	**211**	Pn	**Pn**	**04 04 54.9**	**+1.3**
BKSI	**Bulukumba** 15nm,0.9s	**13.37**	**209**	P	**Pn**	**04 04 56.9**	**+2.2**
BBKI	**Banjar Baru**	**15.31**	**230**	P	**Pn**	**04 05 21.0**	**+1.1**
EDFI	**Ende, Flores** 13nm,0.6s	**15.90**	**198**	P	**P**	**04 05 28.9**	**-1.0**
BATI	**Baumata** 37nm,0.4s,baz=349,slow=19,SNR=8.4	**16.84**	**190**	P	**P**	**04 05 40.5**	**+0.3**
BATI	**Baumata** 37nm,0.5s	**16.84**	**190**	P	**P**	**04 05 40.6**	**+0.4**
PLAI	**Plampang** 29nm,1.0s	**17.55**	**210**	P	**P**	**04 05 48.1**	**0.0**
PLAI	**Plampang**	**17.55**	**210**	P	**P**	**04 05 50.1**	**+2.0**
TWSI	**Taliwang, Sumb** 22nm,1.1s	**17.94**	**213**	P	**Pn**	**04 05 52.6**	**0.0**
SRBI	**Singaraja** 27nm,0.9s	**18.37**	**218**	P	**Pn**	**04 05 58.4**	**+0.6**
KMMI	**Kalianget** 33nm,0.8s	**18.40**	**223**	P	**P**	**04 05 57.1**	**-0.3**
MTN	**Manton Dam**	**19.75**	**167**	P	**Pn**	**04 06 13.8**	**-0.4**
MTN	comp=Z,12nm,0.6s			IAmb	IAmb	04 06 45.0	
KNRA	**Kununurra**	**22.14**	**174**	P	**P**	**04 06 39.4**	**+1.6**
FITZ	**Fitzroy Crossi** comp=Z,11nm,0.9s,baz=4.5,slow=9.1,SNR=18	**24.45**	**182**	P	**P**	**04 07 01.2**	**+1.1**
FITZ	**Fitzroy Crossi** comp=Z,11nm,0.9s	**24.45**	**182**	P	**P**	**04 07 01.2**	**+1.1**
FITZ				IAmb	IAmb	04 07 08.2	
FITZ	**Fitzroy Crossi** comp=Z,13nm,0.8s	**24.45**	**182**	P	**P**	**04 07 01.1**	**+0.9**
WB0	**Warramunga Arr**	**27.22**	**164**	P	**P**	**04 07 25.8**	**+0.5**
WB0	comp=Z,8.3nm,0.9s			IAmb	IAmb	04 07 35.3	
WRA	**Warramunga Arr** comp=Z,1.8nm,0.6s,baz=344,slow=10,SNR=12	**27.37**	**164**	P	**P**	**04 07 26.3**	**-0.3**
WRA	comp=Z,0.6nm,0.5s,baz=343,slow=2.7,SNR=3.2			PcP	**PcP**	**04 10 43.9**	**-0.4**
WRA	comp=Z,0.4nm,0.5s,baz=351,slow=3.0,SNR=7.7			ScP	**ScP**	**04 14 18.6**	**0.0**
WB2	**Warramunga Arr** comp=Z,1.8nm,0.6s	**27.37**	**164**	P	**P**	**04 07 26.7**	**+0.1**
WB2	comp=Z,14nm,1.2s			IAmb	IAmb	04 08 01.9	
PSI	**Prapat** comp=Z,39nm,21.2s,baz=86,slow=36	**27.76**	**264**	LR	LR	04 18 46.1	
MBWA	**Marble Bar**	**28.29**	**194**	P	**P**	**04 07 34.3**	**-0.4**
MBWA	comp=Z,14nm,1.1s			IAmb	IAmb	04 07 42.2	
MBWA	**Marble Bar**	**28.29**	**194**	P	**P**	**04 07 35.2**	**+0.5**
PSA00	**Pilbara Seismi**	**28.66**	**193**	P	**P**	**04 07 38.5**	**+0.5**
PSA00	**Pilbara Seismi**	**28.66**	**193**	P	**P**	**04 07 37.4**	**-0.7**
PSA00	comp=Z,11nm,1.2s			IAmb	IAmb	04 07 38.8	
PSA00	**Pilbara Seismi**	**28.66**	**193**	P	**P**	**04 07 38.1**	**+0.1**
	comp=Z,25nm,0.9s						
CMAR	**Chiang Mai Arr** comp=Z,28nm,18.2s,baz=295,slow=39	**29.40**	**296**	LR	LR	04 20 47.7	
QIS	**Mount Isa**	**29.80**	**155**	P	**P**	**04 07 49.8**	**+1.6**
AS31	**Alice Springs**	**30.83**	**167**	P	**P**	**04 07 57.7**	**+0.4**
ASAR	**Alice Springs** comp=Z,2.1nm,0.4s,baz=341,slow=7.4,SNR=34	**30.83**	**167**	P	**P**	**04 07 57.9**	**+0.6**
ASAR	comp=Z,0.9nm,0.4s,baz=349,slow=2.4,SNR=7.1			PcP	**PcP**	**04 10 52.8**	**-0.2**
ASAR	comp=Z,0.4nm,0.6s,baz=345,slow=2.7,SNR=3.3			ScP	**ScP**	**04 14 29.1**	**-0.5**
WRKA	**Warakurna** comp=Z,2.1nm,0.4s	**31.39**	**177**	P	**P**	**04 08 03.9**	**+1.7**
MJAR	**Matsushiro Arr** comp=Z,17nm,21.6s,baz=195,slow=36	**31.75**	**18**	LR	LR	04 20 43.4	
XAN	**Xi'an**	**31.89**	**332**	⇑P	**P**	**04 08 11.0**	**+4.5**
XAN				pP	pP	04 08 15.8	-7.9
XAN	comp=Z,8.0nm,0.7s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,15nm,0.5s,baz=315,slow=19,SNR=20 comp=Z,15nm,0.5s	**40.19**	**192**	P	**P**	**04 09 18.6**	**+1.2**
STKA	**Stephens Creek** comp=Z,5.1nm,0.5s,baz=337,slow=9.8,SNR=15 comp=Z,5.1nm,0.5s	**40.77**	**160**	P	**P**	**04 09 22.4**	**+0.3**
H11S3	**WAKE ISLAND Hy** baz=257,slow=75,SNR=17	**40.87**	**69**	T	T	04 53 34.5	
H11S1	**WAKE ISLAND Hy** baz=257,slow=75,SNR=8.8	**40.88**	**69**	T	T	04 53 28.2	
H11S2	**WAKE ISLAND Hy** baz=257,slow=75,SNR=9.8	**40.88**	**69**	T	T	04 53 28.4	
H11N1	**WAKE ISLAND Hy** baz=265,slow=75	**41.31**	**68**	T	T	04 53 56.2	
H11N2	**WAKE ISLAND Hy** baz=265,slow=75	**41.32**	**67**	T	T	04 54 13.8	
H11N3	**WAKE ISLAND Hy** baz=265,slow=75	**41.33**	**68**	T	T	04 53 59.4	
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=157,slow=4.1,SNR=1.7 comp=Z,0.5nm,0.5s	**44.64**	**341**	P	**P**	**04 09 52.1**	**-1.3**
MK31	**Makanchi Array**	**55.20**	**324**	P	**P**	**04 11 13.0**	**-0.4**
MKAR	**Makanchi Array** comp=Z,1.5nm,0.4s,baz=116,slow=6.5,SNR=17	**55.20**	**324**	P	**P**	**04 11 11.1**	**-2.3**
MKAR	comp=Z,1.4nm,0.7s,baz=132,slow=2.9,SNR=4.6			PcP	**PcP**	**04 12 13.1**	**-0.6**
MKAR	comp=Z,29nm,18.7s,baz=76,slow=39 comp=Z,1.5nm,0.4s			LR	LR	04 37 39.0	
MA2	**Magadan** comp=Z,15nm,20.1s,baz=130,slow=36	**56.09**	**15**	LR	LR	04 35 03.8	
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.4s,baz=115,slow=6.5,SNR=1.6 comp=Z,0.8nm,0.4s	**58.06**	**332**	P	**P**	**04 11 32.1**	**-1.3**
KURK	**Kurchatov**	**59.33**	**327**	P	**P**	**04 11 41.7**	**-0.6**
BVAR	**Borovoye Array** comp=Z,0.9nm,0.5s,baz=123,slow=7.1,SNR=5.8 comp=Z,0.9nm,0.5s	**64.92**	**326**	P	**P**	**04 12 19.5**	**-0.3**
ABKAR	**Akbulak array**	**69.91**	**320**	P	**P**	**04 12 51.2**	**-0.1**
AKTO	**Aktyubinsk** comp=Z,1.2nm,0.6s,baz=95,slow=11,SNR=3.5 comp=Z,1.2nm,0.6s	**71.39**	**321**	P	**P**	**04 12 59.7**	**-0.7**
KDAK	**Kodiak Island** comp=Z,18nm,21.6s,baz=202,slow=31	**79.67**	**33**	LR	LR	04 43 04.6	
KBZ	**Khabaz** comp=Z,54nm,18.2s,baz=330,slow=38	**80.96**	**313**	LR	LR	04 53 27.8	
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=251,slow=5.2,SNR=8.2 comp=Z,0.4nm,0.6s	**82.70**	**26**	P	**P**	**04 14 00.7**	**-2.8**
VNDA	**Vanda** comp=Z,0.6nm,0.6s,baz=317,slow=6.5,SNR=4.2 comp=Z,0.6nm,0.6s	**86.18**	**173**	P	**P**	**04 14 20.9**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,1.0nm,0.5s,baz=90,slow=5.4,SNR=7.9 comp=Z,1.0nm,0.5s	**87.80**	**340**	P	**P**	**04 14 27.3**	**-1.6**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.8s,baz=96,slow=5.8,SNR=4.0 comp=Z,0.9nm,0.8s	**88.12**	**310**	P	**P**	**04 14 29.6**	**-1.6**
FINES	**FINESS Array B** comp=Z,1.1nm,0.5s,baz=90,slow=4.2,SNR=7.3 comp=Z,1.1nm,0.5s	**89.32**	**332**	P	**P**	**04 14 34.5**	**-1.6**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.7s,baz=68,slow=4.3,SNR=4.4 comp=Z,1.1nm,0.7s	**89.64**	**321**	P	**P**	**04 14 36.4**	**-1.4**
NOA	**NORSAR Array B** comp=Z,24nm,18.3s,baz=270,slow=40	**96.24**	**334**	LR	LR	05 05 34.2	
TXAR	**Lajitas Array** comp=Z,0.3nm,0.9s,baz=258,slow=1.7,SNR=2.1	**120.03**	**51**	PKP	**PKPdf**	**04 20 30.6**	**-0.6**

MAN 28 04:02:46.5,13°.80N×120°.66E,h131km,mb4.0,ML2.7, MS2.3,2C-4D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.41**	**136**	⇓*e*P	Pn	04 03 06.0	+0.7
PGP				*i* S	Sn	04 03 21.6	+2.1
LUBP	**Lubang**	**0.41**	**262**	⇓*e*P	Pn	04 03 06.8	+1.6
LUBP				*e*S	Sn	04 03 21.9	+2.5
LUBP	**Lubang**	**0.41**	**262**	⇑*i*P	Pn	04 03 06.9	+1.7
LUBP				*i* S	Sn	04 03 17.7	-1.6
MACP	**Maragondon, Ca**	**0.47**	**6**	⇓*e*P	Pn	04 03 06.9	+1.3
MACP				*e*S	Sn	04 03 23.3	+3.3
SJMP	**San Jose**	**1.40**	**161**	⇓*e*P	Pn	04 03 14.8	+1.1
SJMP				*e*S	Sn	04 03 36.2	+2.0
BUSP	**Coron**	**1.84**	**194**	⇓*e*P	Pn	04 03 19.5	+0.9
BUSP				*e*S	Sn	04 03 44.6	+1.4

*KRNET **28** 04:20:29.3±0.1,41°.16N×69°.56E,h18km,mb2.5*
ISC 28 04:20:29.1±1.3,41°.06N±0°.06×69°.50E±0°.06,h10km,n5, σ2s22/10,7C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent** baz=12	**0.30**	**330**	⇓*e*P	**Pg**	**04 20 34.7**	**-0.6**
TAS	baz=12			⇓*e*S	**Sg**	**04 20 38.7**	**-0.7**
TRKS	**Terek-Say** baz=75	**1.32**	**69**	⇑*e*P	**Pn**	**04 20 52.7**	**-1.2**
TRKS	baz=75			⇑*e*S	**Sg**	**04 21 09.5**	**-2.3**
BTK	**Batken** baz=38	**1.42**	**134**	⇑*e*P	**Pb**	**04 20 56.3**	**+0.5**
BTK	baz=38			⇑*e*S	**Sb**	**04 21 15.6**	**+1.6**
ARK	**Arkit** baz=70	**2.00**	**68**	⇑*e*P	**Pb**	**04 21 04.3**	**-1.3**
ARK	baz=70			⇑*e*S	**Sb**	**04 21 29.3**	**-1.2**
KK31	**Karatay Array** 1.2nm,0.5s,baz=196,slow=15,SNR=15	**2.17**	**20**	⇑Pn	**Pg**	**04 21 13.2**	**+2.3**
KK31	1.4nm,0.3s,baz=198,slow=22,SNR=13			⇓Sn	**Sg**	**04 21 43.0**	**+4.0**

*IDC **28** 04:33:07.0±3.8,13°.32N×92°.92W,h0km,mb3.6/5, mbtmp3.6/7,ML3.3/2,MS3.4/1,Error ellipse: s-maj=67.3km s-min=50.5km az=21.0*
*GCG **28** 04:33:13.8±0.6,14°.11N×92°.05W,h53km±7km,MD3.8*
**ISC 28 04:33:15.0±1.8,14°.1N±0°.2×92°.05W±0°

0.6nm,0.7s,baz=141,slow=2.2,SNR=2.4
0.6nm,0.7s
NVAR Mina Array Bea 33.58 321 P P 04 39 50.3 0.0
0.4nm,0.6s,baz=126,slow=9.0,SNR=4.6
0.4nm,0.6s
ILAR Eielson Array 62.75 337 P P 04 43 35.2 +0.8
0.4nm,0.7s,baz=107,slow=5.3,SNR=5.7
0.4nm,0.7s

IDC 28 04:42:17.6±2.0, 2°47′N×125°26′E, h0km, mb3.6/4, mbtmp3.6/4, MS3.2/2, Error ellipse: s-maj=185.9km s-min=27.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.99**	**159**	P	P	04 47 33.7	-0.4
	0.6nm,0.5s,baz=338,slow=11,SNR=9.3						
	0.6nm,0.5s						
JOW	**Kunigami**	**24.40**	**7**	LR	LR	04 55 40.9	
	comp=Z,69nm,20.6s,baz=112,slow=33						
ASAR	**Alice Springs**	**27.31**	**163**	P	P	04 48 05.2	+1.0
	0.2nm,0.3s,baz=331,slow=9.6,SNR=1.8						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**37.51**	**157**	P	P	04 49 33.3	-0.1
	3.2nm,1.0s,baz=325,slow=16,SNR=3.0						
	3.2nm,1.0s						
SONM	**Songino Array**	**48.04**	**343**	LR	LR	05 11 55.5	
	comp=Z,19nm,18.4s,baz=232,slow=37						
MKAR	**Makanchi Array**	**57.77**	**326**	P	P	04 52 10.1	-0.5
	0.2nm,0.5s,baz=128,slow=7.9,SNR=1.6						
	0.2nm,0.5s						

*IDC **28** 04:53:28.6±0.6, 45°.15N×147°.05E, h0km, mb4.0/15, mbtmp4.0/15, MS3.1/5, Error ellipse: s-maj=21.3km s-min=16.5km az=147.0*
*JMA **28** 04:53:30.8±0.3, 45°.1N±1°×14°.7E±°, h15km, MV3.8/16, NEAR ETOROFU ISLAND*
*NIED **28** 04:53:30.8, 45°.03N×147°.11E, h15km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.85; Mθθ-0.59; Mφφ-0.26; Mrθ 0.32; Mrφ-0.44; Mθφ 0.51; Fault plane solution: M0 1.06000×10^15 NP1: φs249.00000°, δs30.00000°, λ113.00000°. NP2: φs42.00000°, δs62.00000°, λ77.00000°.*
*MOS **28** 04:53:31.7±1.1, 45°.10N×147°.24E, h34km, mb4.5/5 Error ellipse: s-maj=13.6km s-min=9.2km az=75.4*
MOS Felt (III) at Kuril'sk.
*SKHL **28** 04:53:32.4±0.0, 45°.20N×147°.20E, h40km±2km, mb5.2/3*
*NEIC **28** 04:53:35.0±1.0, 45°.1N±0°.1×147°.0E±0°.2, h48km±7km, mb4.5/12, Error ellipse: s-maj=22.7km s-min=14.6km az=115.0*

ISC 28 04:53:31.9±0.7, 45°09′N±0°05′×147°23′E±0°04, h24km±5km, n82, σ1°43/89, mb4.2/24, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.48**	**72**	*i* P	**Pb**	**04 53 41.3**	**-0.4**
KUR				*i* S	**Sb**	**04 53 48.0**	**-0.4**
KUR				pmax	pmax		
	comp=N,204nm,0.2s						
KUR				pmax	pmax		
	comp=Z,930nm,0.2s						
KUR				pmax	pmax		
	comp=E,491nm,0.1s						
KUR				smax	smax		
	comp=N,6μm,0.2s						
KUR				smax	smax		
	comp=E,4μm,0.2s						
KUR	**Kuril'sk**	**0.48**	**72**	*i* P	**Pb**	**04 53 41.3**	**-0.4**
KUR				AMB	AMB	04 53 42.6	
	comp=E,930nm,0.2s						
KUR				*i* S	**Sb**	**04 53 48.0**	**-0.4**
KUR				A	A	04 53 48.4	
	comp=E,6μm,0.2s						
KUR				A	A	04 53 48.4	
	comp=E,4μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**223**	*e*PN	**Pb**	**04 53 56.9**	**-1.0**
YUK				*i* S	**Sb**	**04 54 14.2**	**-1.6**
YUK				pmax	pmax		
	comp=E,198nm,0.2s						
YUK				pmax	pmax		
	comp=Z,544nm,0.2s						
YUK				pmax	pmax		
	comp=N,114nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.43**	**223**	*e*P	**Pb**	**04 53 57.0**	**-1.0**
YUK				AMB	AMB	04 54 01.2	
	comp=E,540nm,0.2s						
YUK				*i* S	**Sb**	**04 54 15.5**	**-0.3**
YUK				A	A	04 54 17.3	
	comp=E,2μm,0.3s						
YUK				A	A	04 54 17.3	
	comp=E,1μm,0.3s						
RUSJ	**Misakicho**	**1.72**	**236**	*i*PN	**Pn**	**04 54 00.2**	**-0.1**
RUSJ				*e*S	**Sb**	**04 54 22.8**	**-1.2**
JRA	**Rausu**	**1.89**	**233**	*e*S	**Sn**	**04 54 24.0**	**-1.7**
NEM2	**Nemuro 2**	**2.02**	**212**	*e*P	**Pn**	**04 54 03.4**	**-1.1**
NEM2				*e*S	**Sn**	**04 54 27.7**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.03**	**213**	*i*PN	**Pn**	**04 54 03.7**	**-0.8**
NMR				*i* S	**Sn**	**04 54 29.2**	**+0.2**
NMR	**Nemuro--Hokkai**	**2.03**	**213**	*i* P	**Pn**	**04 54 03.7**	**-0.8**
NMR				*i* S	**Sn**	**04 54 29.2**	**+0.2**
JNSB	**Nemuroshibetsu**	**2.06**	**231**	*e*P	**Pn**	**04 54 04.1**	**-0.9**
JNK	**Nakash**	**2.34**	**231**	*e*P	**Pn**	**04 54 08.3**	**-0.6**
JKHN	**Kushirohamanak**	**2.50**	**217**	*e*S	**Sn**	**04 54 41.0**	**+0.4**
JTKR	**Abashiri--Toko**	**2.62**	**246**	*e*P	**Pn**	**04 54 11.9**	**-0.8**
JTKR				*e*S	**Sn**	**04 54 42.2**	**-1.5**
AKK	**Akkeshi**	**2.69**	**221**	*e*P	**Pn**	**04 54 15.6**	**+2.0**
JAK	**Akkeshi**	**2.77**	**222**	*e*P	**Pn**	**04 54 14.0**	**-0.8**
JMP	**Maruseppu**	**2.97**	**250**	*e*P	**Pn**	**04 54 17.4**	**-0.1**
JMP				*e*S	**Sn**	**04 54 51.0**	**-1.3**
JKK2	**Kamakawa 2**	**3.43**	**251**	*e*P	**Pn**	**04 54 24.1**	**+0.3**
JKK2				*e*S	**Sn**	**04 55 03.3**	**-0.3**
YSS	**Yuzh-Sakhalins**	**3.63**	**303**	*e*PN	**Pn**	**04 54 25.2**	**-1.4**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS	**Yuzh-Sakhalins**	**3.63**	**303**	*e*P	**Pn**	**04 54 25.2**	**-1.4**
YSS				*e*S	**Sn**	**04 55 07.4**	**-1.2**
ERM	**Erimo**	**4.26**	**225**	Pn	**Pn**	**04 54 36.2**	**+1.0**
ERM	**Erimo**	**4.26**	**225**	PN	**Pn**	**04 54 36.3**	**+1.0**
JTM	**Tenmabayashi**	**6.24**	**229**	Pn	**Pn**	**04 55 00.8**	**-1.5**
SKR	**Severo-Kuril's**	**8.19**	**44**	*e*P	**Pn**	**04 55 26.6**	**-2.5**
SKR				AMB	AMB	04 55 27.2	
	comp=Z,100nm,0.7s						
SKR				*e*S	**Sn**	**04 56 54.4**	**-6.3**
SKR				A	A	04 56 55.3	
	comp=Z,90nm,0.2s						
SKR				A	A	04 56 55.3	
	comp=Z,130nm,0.2s						
USRK	**Ussuriysk Ar.**	**10.90**	**271**	LR	LR	05 00 17.1	
	comp=Z,60nm,21.3s,baz=129,slow=38						
KLR	**Kul'dur**	**11.32**	**297**	LR	LR	05 00 38.7	
	comp=Z,42nm,19.0s,baz=27,slow=38						
KLR	**Kul'dur**	**11.32**	**297**	*i* PN	Pn	04 56 15.9	+3.9
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	**Kul'dur**	**11.32**	**297**	*e*P	**Pn**	**04 56 12.9**	**+0.9**
KBG	**Krutoberegovo**	**14.83**	**36**	*e*P	**Pn**	**04 56 56.5**	**-3.4**
ZEA	**Zeya**	**15.57**	**311**	*e*P	**P**	**04 57 18.9**	**+5.1**
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK	**Yakutsk**	**19.80**	**335**	LR	LR	05 05 15.7	
	comp=Z,44nm,18.5s,baz=89,slow=36						
YAK	**Yakutsk**	**19.80**	**335**	*e*P	**Pn**	**04 58 02.7**	**+0.9**
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.5s						
YAK	**Yakutsk**	**19.80**	**335**	*e*P	**Pn**	**04 58 02.7**	**+0.9**
BILL	**Bilibino**	**25.06**	**17**	*e*P	**P**	**04 58 55.0**	**+1.0**
BILL				*PP	**sP**	**04 59 06.0**	**-0.4**
BILL				*SP	**pwP**	**04 59 06.0**	**+2.8**
BILL				*e*		04 59 49.9	
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
BILL	**Bilibino**	**25.06**	**17**	*e*P	**P**	**04 58 55.0**	**+1.0**
TIK	**Tiksi**	**28.05**	**348**	*e*P	**P**	**04 59 21.1**	**+0.3**
TIXI	**Tiksi**	**28.06**	**348**	*i* P	**P**	**04 59 21.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,18nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**30.09**	**141**	T	T	05 30 35.7	
	baz=333,slow=75,SNR=88						
H11N1	**WAKE ISLAND Hy**	**30.10**	**141**	T	T	05 30 36.9	
	baz=333,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy**	**30.11**	**141**	T	T	05 30 37.2	
	baz=333,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**31.08**	**142**	T	T	05 31 48.0	
	baz=333,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**31.09**	**142**	T	T	05 31 54.6	
	baz=333,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**31.10**	**142**	T	T	05 31 49.2	
	baz=333,slow=76,SNR=46						
TNA	**Tin City**	**31.70**	**34**	P	**P**	**04 59 53.9**	**+0.6**
SDPT	**Sand Point**	**34.23**	**53**	P	**P**	**05 00 16.8**	**+1.4**
SVW2	**Sparrevohn**	**36.55**	**43**	P	**P**	**05 00 36.3**	**+1.0**
SVW2				IAmb	IAmb	05 00 38.6	
	comp=Z,9.6nm,1.4s						
J20K	**Nowinta River**	**37.25**	**38**	P	**P**	**05 00 42.7**	**+1.5**
J20K				IAmb	IAmb	05 00 43.7	
	comp=Z,3.8nm,0.8s						
K20K	**Telida**	**37.26**	**40**	P	**P**	**05 00 42.9**	**+1.6**
K20K				IAmb	IAmb	05 00 45.6	
	comp=Z,7.8nm,1.4s						
IMAR	**Indian Mountai**	**37.51**	**35**	P	**P**	**05 00 44.1**	**+0.7**
CAST	**Castle Rocks**	**38.15**	**39**	P	**P**	**05 00 50.3**	**+1.4**
CAST				IAmb	IAmb	05 00 51.7	
	comp=Z,4.1nm,0.9s						
I21K	**Tanana**	**38.21**	**37**	P	**P**	**05 00 50.4**	**+1.1**
ILAR	**Eielson Array**	**40.38**	**37**	P	**P**	**05 01 07.8**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=270,slow=7.0,SNR=14						
	comp=Z,2.4nm,0.9s						
ILAR	**Eielson Array**	**40.38**	**37**	*e*P	**P**	**05 01 08.2**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**44.02**	**296**	P	**P**	**05 01 37.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=68,slow=11,SNR=4.0						
MKAR				PcP	**PcP**	**05 03 22.3**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=65,slow=3.8,SNR=4.0						
MKAR				LR	LR	05 21 14.2	
	comp=Z,52nm,18.3s,baz=337,slow=38						
	comp=Z,0.7nm,0.8s						
KURK	**Kurchatov**	**44.84**	**303**	P	**P**	**05 01 44.1**	**+0.3**
KURK						05 03 25.9	
KURK	**Kurchatov**	**44.84**	**303**	*e*P	**P**	**05 01 44.1**	**+0.3**
KURBB	**Kurchatov Arra**	**44.92**	**303**	P	**P**	**05 01 44.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=72,slow=9.0,SNR=5.2						
KURBB				PcP	**PcP**	**05 03 25.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=77,slow=3.6,SNR=7.0						
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**47.97**	**253**	P	**P**	**05 02 09.8**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=40,slow=7.1,SNR=6.9						
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**47.97**	**253**	*i* P	**P**	**05 02 10.3**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	**53.41**	**316**	*i* P	**P**	**05 02 47.6**	**-1.7**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PMG	**Port Moresby**	**54.24**	**180**	P	**P**	**05 02 54.8**	**-0.9**
PMG	**Port Moresby**	**54.24**	**180**	P	**P**	**05 02 54.8**	**-0.9**
PMG				pmax	pmax		
	comp=Z,36nm,1.4s						
ABKAR	**Akbulak array**	**56.27**	**308**	P	**P**	**05 03 10.3**	**+0.2**
NEW	**Newport**	**61.41**	**49**	P	**P**	**05 03 47.2**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=299,slow=10,SNR=1.9						
	comp=Z,0.6nm,0.5s						
YBH	**Yreka Blue Hor**	**62.13**	**58**	P	**P**	**05 03 53.2**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=312,slow=6.1,SNR=2.0						
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**63.71**	**333**	P	**P**	**05 03 59.9**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=42,slow=9.3,SNR=3.8						
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**63.71**	**333**	*i* P	**P**	**05 04 00.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LRM	**Limekiln Ridge**	**65.43**	**49**	P	**P**	**05 04 13.7**	**+0.9**
WB0	**Warramunga Arr**	**65.59**	**193**	P	**P**	**05 04 12.8**	**-0.8**
WB0				IAmb	IAmb	05 04 14.9	
	comp=Z,8.2nm,1.1s						
WB2	**Warramunga Arr**	**65.77**	**193**	P	**P**	**05 04 14.9**	**+0.2**
WB2				IAmb	IAmb	05 04 56.5	
	comp=Z,6.2nm,1.3s						
WRA	**Warramunga Arr**	**65.77**	**193**	P	**P**	**05 04 14.7**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=11,slow=6.7,SNR=14						
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**65.77**	**193**	P	**P**	**05 04 14.0**	**-0.8**
WRA	**Warramunga Arr**	**65.77**	**193**	*e*P	**P**	**05 04 16.0**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
NVAR	**Mina Array Bea**	**66.83**	**58**	P	**P**	**05 04 23.4**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=297,slow=6.7,SNR=10						
	comp=Z,1.2nm,0.8s						
NOA	**NORSAR Array B**	**68.38**	**339**	P	**P**	**05 04 29.5**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=32,slow=6.4,SNR=2.3						
NOA				LR	LR	05 36 58.2	
	comp=Z,20nm,18.7s,baz=255,slow=38						
	comp=Z,1.2nm,0.8s						
KBZ	**Khabaz**	**68.96**	**311**	P	**P**	**05 04 35.4**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=49,slow=17,SNR=3.8						
	comp=Z,0.8nm,0.4s						
PDAR	**Pinedale Array**	**69.01**	**50**	P	**P**	**05 04 36.5**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=315,slow=0.4,SNR=11						
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**69.49**	**193**	P	**P**	**05 04 39.0**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=15,slow=5.0,SNR=6.2						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**69.49**	**193**	P	**P**	**05 04 39.0**	**+0.7**
ULM	**Lac du Bonnet**	**70.40**	**37**	P	**P**	**05 04 43.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=342,slow=3.2,SNR=2.2						
	comp=Z,1.7nm,0.6s						
AKASG	**Malin Array Be**	**70.54**	**323**	P	**P**	**05 04 42.7**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=52,slow=1.5,SNR=4.1						
	comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**70.54**	**323**	*i* P	**P**	**05 04 44.5**	**+0.1**
PLCA	**Paso Flores**	**152.16**	**94**	PKPbc	**PKiKP**	**05 13 26.0**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=315,slow=2.9,SNR=5.8						

*IDC **28** 05:01:50.0±1.3, 28°.00N×111°.75W, h0km, mb4.0/2, mbtmp3.8/9, ML3.5/7, MS3.4/22, Error ellipse: s-maj=17.5km s-min=10.0km az=33.0*
*MEX **28** 05:01:49.1±0.7, 27°.93N×112°.02W, h5km, MD4.1*
*NEIC **28** 05:01:52.2±2.9, 28°.05N±0°.06×111°.46W±0°.05, h10km±2km, mb4.0/23, Md4.1/12(MEX), Error ellipse: s-maj=10.8km s-min=7.3km az=162.0*

ISC 28 05:01:48.6±1.5, 27°93′N±0°06×111°90′W±0°04, h3km±13km, n98, σ2°27/76, MS3.5/14, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.68**	**207**	*e*P	**Pg**	**05 02 00.6**	**-1.1**
SRIG				*e*S	**Sg**	**05 02 09.9**	**-0.7**
GUYB	**Guaymas**	**0.91**	**92**	*e*P	**Pg**	**05 02 05.3**	**-0.7**
GUYB				*e*S	**Sg**	**05 02 19.6**	**+1.9**
HSIG		**1.37**	**37**		**Pn**	**05 02 12.2**	**-2.3**
HSIG		**1.37**	**37**	*e*P	**Pn**	**05 02 12.0**	**-2.6**
HSIG				*e*S	**Sb**	**05 02 31.1**	**-1.6**
BAHB	**Baha de los**	**1.78**	**305**	*e*P	**Pn**	**05 02 15.6**	**-4.7**
BAHB				*e*S	**Sn**	**05 02 37.0**	**-6.4**
NE80	**Navojoa**	**2.58**	**113**		**Pn**	**05 02 29.4**	**-1.8**
NE80					**Sn**	**05 03 01.0**	**-2.1**
LAPR	**La Primavera**	**2.58**	**352**	*e*P	**Pn**	**05 02 29.4**	**-1.9**
LAPR				*e*S	**Sn**	**05 03 01.0**	**-2.3**
NZIG	**Nacozari, Sono**	**3.18**	**40**		**Pn**	**05 02 38.5**	**-1.1**
NZIG					**Sn**	**05 03 18.7**	**+0.6**
NZIG	**Nacozari, Sono**	**3.18**	**40**	*e*P	**Pn**	**05 02 38.5**	**-1.1**
NZIG				*e*S	**Sn**	**05 03 18.7**	**+0.6**
LPIG	**La Paz**	**4.07**	**159**	Pn	**Pn**	**05 02 54.3**	**+2.5**
	8.0nm,0.3s,baz=26,slow=18,SNR=2.6						
LPIG				Lg	Lg	05 03 59.6	
	8.7nm,0.3s,baz=246,slow=20,SNR=2.2						
LPIG				LR	LR	05 04 18.7	
	comp=Z,286nm,21.7s,baz=298,slow=36						
	7.6nm,0.4s						
214A	**Organ Pipe Nat**	**4.09**	**349**	Pn	**Pn**	**05 02 50.5**	**-1.5**
319A	**Douglas**	**4.12**	**33**	Pn	**Pn**	**05 02 51.1**	**-1.4**
TUC	**Tucson**	**4.47**	**12**	Pn	**Pn**	**05 02 56.3**	**-1.0**
SLBS	**Sierra La Lagu**	**4.58**	**157**		**Pn**	**05 02 59.7**	**+0.9**
113A	**Mohawk Valley,**	**5.08**	**342**	Pn	**Pn**	**05 03 04.5**	**-1.1**
ESJX	**Sierra Juarez**	**5.37**	**320**		**Pn**	**05 03 13.3**	**+3.6**
GLA	**Glamis**	**5.69**	**334**		**Pn**	**05 03 12.8**	**-1.3**
121A	**Cookes Peak, D**	**5.80**	**37**	Pn	**Pn**	**05 03 15.4**	**-0.3**
YUH	**Yuha Desert**	**5.85**	**324**		**Pn**	**05 03 18.7**	**+2.6**
RMX	**La Rumorosa**	**5.89**	**323**		**Pn**	**05 03 17.2**	**+0.3**
CBX	**Cerro Bola**	**6.01**	**318**		Pn	05 03 23.1	+4.6
CBX	**Cerro Bola**	**6.01**	**318**	*i* P	**Pn**	**05 03 21.8**	**+3.3**
Y14A	**Wickenburg**	**6.06**	**351**	Pn	**Pn**	**05 03 18.6**	**-0.5**
BLYC	**Blythe**	**6.22**	**339**		**Pn**	**05 03 20.9**	**-0.4**
PMD	**Palm Desert**	**6.88**	**327**	Pn	**Pn**	**05 03 34.1**	**+3.8**
PFO	**Pinyon Flats O**	**6.89**	**326**	Pn	**Pn**	**05 03 32.4**	**+1.8**
	0.1nm,0.3s,baz=150,slow=7.5,SNR=3.1						
PFO				Lg	Lg	05 05 32.8	
	0.2nm,0.3s,baz=142,slow=6.2,SNR=8.5						
PFO				LR	LR	05 06 01.4	
	comp=Z,369nm,20.0s,baz=146,slow=36						
	1.2nm,0.6s						
TX31	**Lajitas Ar. Si**	**7.36**	**77**	Pn	**Pn**	**05 03 37.0**	**-0.1**
TX32	**Lajitas Array**	**7.36**	**77**		**Pn**	**05 03 37.2**	**+0.1**
TXAR	**Lajitas Array**	**7.37**	**77**	Pn	**Pn**	**05 03 37.3**	**+0.2**
	1.0nm,0.3s,baz=247,slow=13,SNR=163						
TXAR				Sn	**Sn**	**05 04 59.9**	**-1.4**
	0.3nm,0.3s,baz=256,slow=23,SNR=1.8						
TXAR				Lg	Lg	05 05 40.2	
	1.1nm,0.3s,baz=253,slow=31,SNR=5.2						
TXAR				LR	LR	05 06 39.7	
	comp=Z,471nm,20.2s,baz=254,slow=40						
	1.2nm,0.2s						
TXAR	**Lajitas Array**	**7.37**	**77**		**Pn**	**05 03 36.7**	**-0.4**
W18A	**Petrified Fore**	**7.40**	**14**	Pn	**Pn**	**05 03 36.5**	**-1.1**
ELS	**Elsinore Mount**	**7.42**	**321**		**Pn**	**05 03 41.9**	**+4.1**
CRNM	**Carthage**	**7.46**	**35**		**Pn**	**05 03 39.8**	**+1.3**
LENM	**Lemitar**	**7.51**	**33**		**Pn**	**05 03 36.9**	**-2.2**
WUAZ	**Wupatki**	**7.57**	**3**		**Pn**	**05 03 41.0**	**+1.0**
BNM	**Barren Site**	**7.67**	**35**		**Pn**	**05 03 41.0**	**-0.4**
V12A	**Nelson**	**8.17**	**343**		**Pn**	**05 03 47.0**	**-1.0**
ANMO	**Albuquerque**	**8.39**	**32**	Pn	**Pn**	**05 03 52.2**	**+0.9**
	0.6nm,0.3s,baz=220,slow=16,SNR=19						
ANMO				Lg	Lg	05 06 09.7	
	0.5nm,0.3s,baz=169,slow=16,SNR=2.0						
ANMO				LR	LR	05 07 19.2	
	comp=Z,88nm,20.6s,baz=179,slow=40						
	2.4nm,0.5s						
ANMO	**Albuquerque**	**8.39**	**32**		**Pn**	**05 03 51.0**	**-0.3**
SHPR	**Sheep Range**	**8.98**	**343**	Pn	**Pn**	**05 03 59.8**	**+0.5**
BCW	**Bitter Crk WRg**	**9.48**	**319**		Pn	05 04 11.4	+5.3
PKCU	**Pink Cliffs**	**9.49**	**358**		**Pn**	**05 04 08.4**	**+1.9**
ISA	**Isabella, Lake**	**9.52**	**326**		Pn	05 04 12.1	+5.4
CCUT	**Cedar City**	**9.67**	**353**	Pn	**Pn**	**05 04 11.3**	**+2.5**
MVCO	**Mesa Verde**	**9.68**	**16**	Pn	**Pn**	**05 04 10.0**	**+1.0**
SZCU	**Shurtz Canyon**	**9.69**	**354**		**Pn**	**05 04 10.2**	**+1.1**
WCT	**Wildcat Mounta**	**9.70**	**337**		**Pn**	**05 04 12.2**	**+3.2**
TPNV	**Topopah Spring**	**9.71**	**339**		**Pn**	**05 04 11.7**	**+2.4**
PRN	**Pahroc Range**	**9.81**	**345**	Pn	**Pn**	**05 04 12.2**	**+1.5**
MTPU	**Mount Pierson**	**10.08**	**359**		**Pn**	**05 04 17.6**	**+2.9**
GMN	**Gold Mountain**	**10.38**	**336**		**Pn**	**05 04 23.0**	**+4.5**
PV13	**Radium Mtn., P**	**10.52**	**13**		**Pn**	**05 04 22.5**	**+2.0**
MVU	**Marysvale**	**10.54**	**359**		**Pn**	**05 04 24.6**	**+3.7**
PV11	**David Mesa, Pa**	**10.64**	**13**		**Pn**	**05 04 20.6**	**-1.5**
PV23	**Carpenter Ridg**	**10.76**	**12**		**Pn**	**05 04 26.2**	**+2.4**
PV07	**Paradox Valley**	**10.82**	**14**	Pn	**Pn**	**05 04 24.4**	**-0.2**
Q16A	**Castle Valley**	**10.97**	**3**		**Pn**	**05 04 28.6**	**+2.0**
TPH	**Tonopah**	**11.05**	**338**		**Pn**	**05 04 28.6**	**+0.8**
SPR3	**Spring Creek 3**	**11.22**	**350**	Pn	**Pn**	**05 04 33.2**	**+3.1**
TMUT	**Trail Mountain**	**11.35**	**3**		**Pn**	**05 04 34.6**	**+2.7**
OMMB	**Old Mammoth Mi**	**11.35**	**330**		**Pn**	**05 04 36.0**	**+4.1**
P17A	**Butcher Ranch,**	**11.55**	**4**		**Pn**	**05 04 35.9**	**+1.3**
NVAR	**Mina Array Bea**	**11.76**	**335**	Pn	**Pn**	**05 04 40.6**	**+3.2**
	baz=160,slow=13,SNR=12						
NVAR				Lg	Lg	05 08 04.0	
	baz=168,slow=23,SNR=1.7						
NVAR				LR	LR	05 08 54.7	
	comp=Z,151nm,18.3s,baz=148,slow=36						
	0.6nm,0.7s						
ELK	**Elko**	**13.07**	**349**	Pn	**Pn**	**05 04 58.5**	**+3.1**
	0.2nm,0.3s,baz=163,slow=13,SNR=28						
ELK				Lg	Lg	05 08 41.2	
	0.1nm,0.3s,baz=96,slow=19,SNR=2.1						
ELK				LR	LR	05 10 10.4	
	comp=Z,178nm,20.5s,baz=167,slow=38						
	8.9nm,0.9s						
PDAR	**Pinedale Array**	**14.92**	**7**	Pn	**P**	**05 05 24.9**	**-1.6**
	0.1nm,0.3s,baz=179,slow=9.9,SNR=2.9						
PDAR				Lg	Lg	05 09 36.2	
	baz=179,slow=26,SNR=1.8						
PDAR				LR	LR	05 10 32.2	
	comp=Z,111nm,19.7s,baz=199,slow=35						
	2.2nm,0.9s						
REDW	**Red Top Meadow**	**15.42**	**3**	IAmb	IAmb	05 05 46.6	
	comp=Z,6.0nm,0.9s						
WVOR	**Wild Horse Val**	**15.47**	**341**	IAmb	IAmb	05 05 39.4	
	comp=Z,7.4nm,1.1s						
SNOW	**Snow King Moun**	**15.52**	**3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**18.00**	**352**	LR	LR	05 22 08.5	
	comp=Z,80nm,19.6s,baz=190,slow=33						
ATD	**Arta Tunnel**	**19.23**	**290**	LR	LR	05 23 14.7	
	comp=Z,51nm,18.0s,baz=118,slow=34						
PALK	**Pallekele**	**19.42**	**83**	LR	LR	05 22 24.4	
	comp=Z,161nm,21.2s,baz=8.2,slow=31						
KMBO	**Kilima Mbogo**	**24.82**	**256**	LR	LR	05 26 53.2	
	comp=Z,99nm,19.9s,baz=60,slow=35						
MBAR	**Mbarara**	**31.04**	**260**	LR	LR	05 31 52.3	
	comp=Z,68nm,18.4s,baz=70,slow=38						
BRDH	**Bariadhala**	**34.04**	**57**	LR	LR	05 32 51.6	
	comp=Z,181nm,18.9s,baz=266,slow=36						
EIL	**Elat**	**34.70**	**317**	LR	LR	05 32 41.9	
	comp=Z,83nm,18.6s,baz=34,slow=35						
PSI	**Prapat**	**37.65**	**92**	LR	LR	05 32 14.9	
	comp=Z,104nm,18.2s,baz=296,slow=32						
LSZ	**Lusaka**	**38.63**	**238**	LR	LR	05 34 01.4	
	comp=Z,116nm,18.5s,baz=79,slow=34						
AAK	**Ala-Archa**	**38.98**	**16**	LR	LR	05 35 28.1	
	comp=Z,98nm,21.6s,baz=228,slow=36						
CMAR	**Chiang Mai Arr**	**39.02**	**67**	P	**P**	**05 19 49.8**	**+0.4**
	2.3nm,0.3s,baz=246,slow=6.8,SNR=1.1						
CMAR				LR	LR	05 34 29.5	
	comp=Z,34nm,21.2s,baz=250,slow=34 2.3nm,0.3s						
BRTR	**Keskin Array B**	**42.35**	**328**	P	**P**	**05 20 17.0**	**+0.2**
	1.5nm,0.8s,baz=144,slow=8.2,SNR=6.0						
BRTR				LR	LR	05 39 47.9	
	comp=Z,48nm,18.1s,baz=275,slow=39 1.5nm,0.8s						
AKTO	**Aktyubinsk**	**45.05**	**357**	LR	LR	05 39 10.2	
	comp=Z,52nm,21.1s,baz=255,slow=36						
MKAR	**Makanchi Array**	**45.14**	**20**	LR	LR	05 39 28.7	
	comp=Z,50nm,21.3s,baz=248,slow=36						
LBTB	**Lobatse**	**45.95**	**227**	LR	LR	05 36 12.9	
	comp=Z,121nm,21.6s,baz=45,slow=31						
KURBB	**Kurchatov Arra**	**47.42**	**15**	LR	LR	05 41 35.6	
	comp=Z,59nm,19.2s,baz=210,slow=37						
BVAR	**Borovoye Array**	**48.15**	**7**	LR	LR	05 43 57.1	
	comp=Z,56nm,18.2s,baz=227,slow=39						
BOSA	**Boshof**	**48.36**	**224**	LR	LR	05 39 32.9	
	comp=Z,86nm,19.1s,baz=13,slow=34						
TSUM	**Tsumeb**	**49.42**	**239**	LR	LR	05 40 30.4	
	comp=Z,72nm,20.1s,baz=356,slow=34						
ZALV	**Zalesovo Beam**	**52.14**	**17**	LR	LR	05 43 53.5	
	comp=Z,66nm,18.8s,baz=264,slow=36						
SONM	**Songino Array**	**57.23**	**35**	P	**P**	**05 22 09.6**	**-0.4**
	0.8nm,0.7s,baz=223,slow=7.7,SNR=4.1						
SONM				LR	LR	05 45 55.7	
	comp=Z,54nm,21.9s,baz=260,slow=35 0.8nm,0.7s						
KAPI	**Kappang**	**59.31**	**99**	LR	LR	05 44 21.4	
	comp=Z,15nm,21.9s,baz=273,slow=32						
ESDC	**Sonseca Array**	**67.63**	**311**	P	**P**	**05 23 19.6**	**0.0**
	1.2nm,0.9s,baz=86,slow=5.7,SNR=7.0 1.2nm,0.9s						
KSRS	**Korea Array**	**68.31**	**52**	LR	LR	05 54 45.3	
	comp=Z,28nm,18.7s,baz=240,slow=37						
KLR	**Kul'dur**	**73.29**	**40**	LR	LR	05 56 18.5	
	comp=Z,56nm,21.4s,baz=279,slow=36						
WRA	**Warramunga Arr**	**76.03**	**112**	P	**P**	**05 24 10.0**	**-0.4**
	2.2nm,1.0s,baz=290,slow=5.2,SNR=8.9 2.2nm,1.0s						
ASAR	**Alice Springs**	**76.37**	**116**	P	**P**	**05 24 12.6**	**+0.2**
	1.1nm,0.8s,baz=276,slow=5.3,SNR=6.0 1.1nm,0.8s						
MJAR	**Matsushiro Arr**	**76.37**	**54**	LR	LR	06 01 45.6	
	comp=Z,14nm,18.4s,baz=219,slow=39						
STKA	**Stephens Creek**	**84.61**	**123**	LR	LR	05 58 29.9	
	comp=Z,43nm,19.7s,baz=211,slow=33						
PETK	**Petropavlovsk-**	**89.65**	**37**	LR	LR	06 08 09.2	
	comp=Z,25nm,18.0s,baz=247,slow=37						
RCBR	**Riachuelo**	**97.63**	**265**	LR	LR	06 07 53.3	
	comp=Z,40nm,18.6s,baz=304,slow=34						

*IDC **28** 05:21:32.0±4.6,27°.53N×111°.88W,h0km,mbtmp3.1/5, ML3.3/5,Error ellipse: s-maj=58.4km s-min=16.5km az=19.0*
*MEX **28** 05:21:33.8±0.7,27°.93N×111°.99W,h2km±14km,MD3.9*
ISC 28 05:21:32.7±1.1,27°.84N±0°.06×112°.01W±0°.05,h10km,n11, σ2ˢ29/15,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.56**	**202**	*i* P	**Pn**	**05 21 45.8**	**-0.9**
SRIG				*e*S	**Sb**	**05 21 55.1**	**+2.4**
GUYB	**Guaymas**	**1.00**	**87**	*e*P	**Pg**	**05 21 50.4**	**-1.6**
GUYB				*e*S	**Sg**	**05 22 04.0**	**-1.1**
HSIG		**1.50**	**38**	*e*P	**Pn**	**05 21 57.7**	**-1.9**
HSIG				*e*S	**Sn**	**05 22 17.0**	**-2.2**
BAHB	**Baha de los**	**1.76**	**309**	*e*P	Pn	05 22 00.7	-2.4
BAHB				*i* S	**Sn**	**05 22 22.9**	**-2.7**
LAPR	**La Primavera**	**2.66**	**354**	*e*P	**Pn**	**05 22 14.3**	**-1.3**
LAPR				*e*S	**Sn**	**05 22 49.0**	**+1.0**
NZIG	**Nacozari, Sono**	**3.31**	**40**	*e*P	**Pn**	**05 22 23.3**	**-1.4**
NZIG				*e*S	**Sn**	**05 23 02.5**	**-1.6**
TXAR	**Lajitas Array**	**7.48**	**77**	Pn	**Pn**	**05 23 23.0**	**+1.1**
	0.2nm,0.3s,baz=247,slow=13,SNR=19						
TXAR				Sn	**Sn**	**05 24 46.9**	**-0.1**
	0.1nm,0.3s,baz=253,slow=31,SNR=2.2						
TXAR				Lg	Lg	05 25 25.9	
	0.4nm,0.3s,baz=252,slow=32,SNR=7.0 0.2nm,0.3s						
ANMO	**Albuquerque**	**8.52**	**32**	Pn	**Pn**	**05 23 40.4**	**+4.1**
	0.1nm,0.3s,baz=222,slow=14,SNR=1.7						
ANMO				Lg	Lg	05 25 58.9	
	0.1nm,0.3s,baz=304,slow=16,SNR=2.0 0.3nm,0.4s						
NVAR	**Mina Array Bea**	**11.80**	**335**	Pn	Pn	05 24 28.6	+7.3
	baz=153,slow=16,SNR=2.4 0.2nm,0.7s						
ELK	**Elko**	**13.14**	**349**	Pn	Pn	05 24 46.2	+6.7
	baz=167,slow=14,SNR=4.3 0.9nm,0.9s						
PDAR	**Pinedale Array**	**15.02**	**7**	Pn	**P**	**05 25 14.1**	**+3.3**
	baz=177,slow=10,SNR=11 1.0nm,0.8s						

*IDC **28** 05:28:06.8±1.0,34°.48N×141°.64E,h0km,mb3.5/6, mbtmp3.5/8,ML2.6/2,MS3.3/2,Error ellipse: s-maj=25.4km s-min=20.0km az=108.0*
*JMA **28** 05:28:07.7±0.7,34°.N±2°.×14°.2E±°,h24km,MV2.7/19,FAR SE OFF BOSO PEN*
ISC 28 05:28:10.9±0.9,34°.48N±0°.07×141°.50E±0°.09,h27km,n21, σ0ˢ98/15,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.47**	**292**	P	**Pb**	**05 28 18.9**	**-1.3**
BSO3	**Boso 3**	**0.88**	**292**	P	**Pn**	**05 28 26.3**	**-0.9**
BSO4	**Boso 4**	**1.09**	**298**	P	**Pn**	**05 28 29.7**	**-0.5**
JKUC	**kamogawauchiur**	**1.27**	**303**	P	**Pn**	**05 28 31.9**	**-0.9**
JMKN	**Mikurajimanish**	**1.69**	**250**	P	**Pn**	**05 28 38.0**	**-0.5**
JHJ	**Hachijo jima 2**	**1.97**	**227**	Pn	**Pn**	**05 28 42.8**	**+0.3**
	14nm,0.3s,baz=48,slow=18,SNR=3.3						
JHJ				Sn	**Sb**	**05 29 10.4**	**+0.3**
	26nm,0.3s,baz=46,slow=18,SNR=4.6 179nm,0.9s						
MJAR	**Matsushiro Arr**	**3.38**	**308**	Pn	**Pn**	**05 29 02.9**	**+0.9**
	0.2nm,0.3s,baz=126,slow=14,SNR=1.7						
MJAR				Sn	**Sn**	**05 29 43.5**	**+2.3**
	0.2nm,0.3s,baz=126,slow=13,SNR=5.0 1.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**12.18**	**326**	LR	LR	05 35 48.4	
	comp=Z,47nm,19.6s,baz=187,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.86**	**117**	T	T	06 01 54.5	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**26.87**	**117**	T	T	06 01 58.2	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**26.88**	**117**	T	T	06 01 55.6	
	baz=317						
H11S3	**WAKE ISLAND Hy**	**27.49**	**119**	T	T	06 02 50.1	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**27.49**	**119**	T	T	06 02 54.1	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**27.50**	**119**	T	T	06 02 54.1	
	baz=314						
KURBB	**Kurchatov Arra**	**47.66**	**310**	P	**P**	**05 36 44.2**	**-0.5**
	0.6nm,0.8s,baz=88,slow=7.1,SNR=4.0 0.6nm,0.8s						
ILAR	**Eielson Array**	**51.62**	**31**	P	**P**	**05 37 14.5**	**-0.2**
	0.4nm,0.7s,baz=267,slow=6.1,SNR=3.2 0.4nm,0.7s						
WRA	**Warramunga Arr**	**54.55**	**188**	P	**P**	**05 37 36.5**	**-0.1**
	0.6nm,0.6s,baz=2.2,slow=7.6,SNR=11 0.6nm,0.6s						
ASAR	**Alice Springs**	**58.27**	**188**	P	**P**	**05 38 03.4**	**+0.3**
	0.3nm,0.5s,baz=12,slow=10,SNR=2.3 0.3nm,0.5s						
KVAR	**Kislovodsk Arr**	**72.64**	**312**	LR	LR	06 14 35.2	
	comp=Z,58nm,18.1s,baz=280,slow=38						
AKASG	**Malin Array Be**	**76.36**	**323**	P	**P**	**05 39 58.4**	**+0.9**
	0.2nm,0.4s,baz=59,slow=0.5,SNR=1.0 0.2nm,0.4s						
NVAR	**Mina Array Bea**	**76.47**	**53**	P	**P**	**05 39 58.4**	**-0.2**
	0.2nm,0.5s,baz=297,slow=7.4,SNR=4.5 0.2nm,0.5s						

*IDC **28** 06:02:12.9±1.6,23°.88S×115°.17W,h0km,mb3.6/4, mbtmp3.6/4,MS3.6/29,Error ellipse: s-maj=56.4km s-min=29.6km az=43.0*
ISC 28 06:02:14.4±1.5,24°.0S±0°.3×115°.2W±0°.3,h10km,n45, σ1ˢ59/6,mb3.6/4,MS3.7/30,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.14**	**122**	LR	LR	06 05 32.7	
	comp=Z,660nm,20.7s,baz=350,slow=32						
TAOE	**Nuku Hiva Isla**	**28.21**	**298**	*e*LR	LR	06 14 41.4	
	comp=Z,381nm,24.7s						
PPT2	**Papeete2**	**32.74**	**275**	*e*LR	LR	06 16 55.9	
	comp=Z,278nm,28.5s						
PPT	**Papeete**	**32.75**	**275**	LR	LR	06 17 23.6	
	comp=Z,118nm,19.0s,baz=108,slow=28						
H03N2	**Juan Fernandez**	**33.01**	**115**	T	T	06 44 07.7	
	baz=281,slow=75,SNR=239						
H03N3	**Juan Fernandez**	**33.02**	**115**	T	T	06 43 55.6	
	baz=281,slow=75,SNR=272						
H03N1	**Juan Fernandez**	**33.03**	**115**	T	T	06 43 55.5	
	baz=281,slow=75,SNR=318						
NNA	**Nana**	**38.21**	**79**	LR	LR	06 21 05.4	
	comp=Z,121nm,19.8s,baz=246,slow=30						
ATAH	**Atahualpa**	**39.00**	**71**	LR	LR	06 22 11.2	
	comp=Z,77nm,19.0s,baz=243,slow=31						
PLCA	**Paso Flores**	**40.77**	**125**	P	**P**	**06 09 55.4**	**-0.5**
	0.9nm,0.7s,baz=270,slow=8.1,SNR=3.5						
PLCA				LR	LR	06 22 32.6	
	comp=Z,153nm,21.1s,baz=272,slow=30 0.9nm,0.7s						
RAR	**Rarotonga**	**41.16**	**265**	LR	LR	06 22 08.4	
	comp=Z,56nm,18.5s,baz=138,slow=29						
LVC	**Limon Verde**	**42.36**	**98**	LR	LR	06 23 22.5	
	comp=Z,100nm,19.2s,baz=258,slow=30						
LPAZ	**La Paz**	**44.65**	**89**	P	**P**	**06 10 29.1**	**+0.9**
	2.2nm,0.7s,baz=273,slow=5.7,SNR=13						
LPAZ				LR	LR	06 24 44.3	
	comp=Z,111nm,21.8s,baz=268,slow=30 2.2nm,0.7s						
CMIG	**Matias Romero**	**45.34**	**28**	LR	LR	06 23 37.4	
	comp=Z,30nm,19.0s,baz=204,slow=28						
LPIG	**La Paz**	**48.00**	**6**	LR	LR	06 26 08.1	
	comp=Z,61nm,20.1s,baz=199,slow=30						
CPUP	**Villa Florida**	**52.03**	**106**	LR	LR	06 29 11.2	
	comp=Z,85nm,20.5s,baz=248,slow=31						
TXAR	**Lajitas Array**	**54.18**	**12**	LR	LR	06 30 56.7	
	comp=Z,36nm,18.1s,baz=106,slow=32						
AFI	**Afiamalu**	**54.18**	**270**	LR	LR	06 28 14.0	
	comp=Z,106nm,18.0s,baz=114,slow=29						
PFO	**Pinyon Flats O**	**57.26**	**359**	LR	LR	06 32 15.9	
	comp=Z,46nm,18.4s,baz=33,slow=32						
ANMO	**Albuquerque**	**59.15**	**8**	LR	LR	06 34 00.0	
	comp=Z,34nm,18.1s,baz=183,slow=32						
NVAR	**Mina Array Bea**	**62.12**	**357**	P	**P**	**06 12 37.2**	**+1.4**
	0.2nm,0.5s,baz=179,slow=8.5,SNR=2.6 0.2nm,0.5s						
MSVF	**Nonsavu**	**62.24**	**262**	LR	LR	06 35 41.5	
	comp=Z,24nm,18.3s,baz=168,slow=32						
RPZ	**Rata Peaks**	**62.41**	**232**	LR	LR	06 33 35.8	
	comp=Z,66nm,19.9s,baz=95,slow=30						
SJG	**San Juan**	**63.51**	**53**	LR	LR	06 35 42.1	
	comp=Z,26nm,21.6s,baz=128,slow=32						
VNDA	**Vanda**	**65.27**	**194**	LR	LR	06 33 26.5	
	comp=Z,62nm,21.1s,baz=97,slow=29						
QSPA	**South Pole Qui**	**66.20**	**180**	LR	LR	06 37 51.8	
	comp=Z,38nm,18.8s,baz=112,slow=32						
PDAR	**Pinedale Array**	**66.58**	**4**	P	**P**	**06 13 02.9**	**-2.1**
	0.2nm,0.6s,baz=178,slow=8.9,SNR=3.9 0.2nm,0.6s						
MDP	**Montagnes des**	**67.36**	**73**	LR	LR	06 38 58.5	
	comp=Z,36nm,20.6s,baz=164,slow=33						
DZM	**Mont Dzumac**	**71.25**	**254**	*e*LR	LR	06 34 53.0	
	comp=Z,114nm,26.2s						
DZM	**Mont Dzumac**	**71.25**	**254**	LR	LR	06 35 33.9	
	comp=Z,54nm,20.5s,baz=37,slow=28						
NEW	**Newport**	**71.90**	**359**	LR	LR	06 39 26.9	
	comp=Z,50nm,18.6s,baz=144,slow=31						
SADO	**Sadowa**	**75.89**	**26**	LR	LR	06 45 18.8	
	comp=Z,52nm,18.2s,baz=15,slow=34						
RCBR	**Riachuelo**	**77.85**	**91**	LR	LR	06 45 30.7	
	comp=Z,34nm,18.5s,baz=316,slow=33						
H11S2	**WAKE ISLAND Hy**	**87.06**	**292**	T	T	07 50 47.4	
	baz=118,slow=75,SNR=184						
H11S1	**WAKE ISLAND Hy**	**87.08**	**292**	T	T	07 50 46.5	
	baz=118,slow=75,SNR=148						
H11S3	**WAKE ISLAND Hy**	**87.08**	**292**	T	T	07 50 50.3	
	baz=118,slow=75,SNR=125						
H11N3	**WAKE ISLAND Hy**	**87.43**	**293**	T	T	07 51 18.0	
	baz=112,slow=73						
H11N1	**WAKE ISLAND Hy**	**87.45**	**293**	T	T	07 51 23.6	
	baz=112,slow=73						
H11N2	**WAKE ISLAND Hy**	**87.45**	**293**	T	T	07 51 20.9	
	baz=112,slow=73						
MAW	**Mawson**	**88.71**	**179**	LR	LR	06 51 14.2	
	comp=Z,31nm,18.4s,baz=186,slow=33						
PMG	**Port Moresby**	**93.16**	**258**	LR	LR	06 50 44.9	
	comp=Z,39nm,18.8s,baz=80,slow=31						
SHEM	**Shemya Is, Ala**	**97.87**	**325**	LR	LR	06 58 21.6	
	comp=Z,16nm,18.3s,baz=88,slow=34						
ASAR	**Alice Springs**	**97.97**	**240**	LR	LR	06 55 34.4	
	comp=Z,42nm,19.5s,baz=141,slow=33						
ZALV	**Zalesovo Beam**	**146.50**	**339**	PKPbc	**PKPdf**	**06 21 54.1**	**-0.1**
	1.3nm,0.6s,baz=38,slow=2.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**147.80**	**267**	PKPbc	**PKPbc**	**06 22 00.8**	**+0.4**
	0.8nm,0.3s,baz=85,slow=1.0,SNR=1.0						

IDC 28 06:05:47.1±2.5,54°.28N×86°.15E,h0km,mbtmp2.9/2, ML2.7/2,Error ellipse: s-maj=19.7km s-min=12.1km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.85**	**247**	*i*		06 11 10.0	
	baz=68,slow=326,SNR=5.3						
ZALV	**Zalesovo Beam**	**0.85**	**247**	Pg	Pg	06 06 02.3	-1.1
	1.6nm,0.3s,baz=64,slow=17,SNR=12						
ZALV				Lg	Lg	06 06 15.4	
	2.8nm,0.3s,baz=65,slow=31,SNR=6.9						
KURBB	**Kurchatov Arra**	**5.92**	**235**	Pn	Pn	06 07 17.3	+1.2
	0.1nm,0.3s,baz=51,slow=13,SNR=7.5						
KURBB				Lg	Lg	06 08 57.6	
	baz=45,slow=33,SNR=2.0 0.3nm,0.2s						
MKAR	**Makanchi Array**	**7.89**	**200**	Pn	Pn	06 07 43.8	+0.7
	0.2nm,0.3s,baz=22,slow=13,SNR=9.0 0.3nm,0.3s						

*ISK **28** 06:26:48.7,37°.05N×28°.94E,h8km,ML2.8/10*
*DDA **28** 06:26:49.4±0.0,37°.07N±28°.93E,h7km±4km,ML2.5*
ISC 28 06:26:49.1±1.1,37°.08N±0°.02×28°.94E±0°.02,h4km±10km, n21,σ1ˢ08/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAEL	**Denizli, Camel**	**0.31**	**82**	P	**Pg**	**06 26 55.4**	**+0.3**
CAEL				S	**Sb**	**06 27 01.2**	**-1.5**
CAME	**Cameli-Denizli**	**0.32**	**116**	PG	**Pg**	**06 26 55.1**	**-0.2**
CAME				SG	**Sg**	**06 27 00.6**	**+1.0**
DALY	**Dalyan (Mula)**	**0.35**	**221**	PG	**Pg**	**06 26 56.0**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.38**	**357**	P	**Pg**	**06 26 56.3**	**-0.2**
TAVA				S	**Sg**	**06 27 02.6**	**+1.1**
FETY	**Fethiye**	**0.46**	**166**	PG	**Pg**	**06 26 57.3**	**-0.7**
FETY				SG	**Sg**	**06 27 03.7**	**-0.3**
APMY	**Acipayam-Deniz**	**0.48**	**37**	PG	**Pg**	**06 26 58.4**	**0.0**
APMY				SG	**Sb**	**06 27 07.3**	**-0.5**
GOLH	**Golhisar**	**0.52**	**73**	P	**Pg**	**06 26 59.0**	**-0.1**
GOLH				S	**Sb**	**06 27 08.3**	**-0.5**
MULA	**Mugla, Merkez-**	**0.52**	**289**	P	**Pg**	**06 26 59.9**	**+0.7**
MULA				S	**Sb**	**06 27 08.4**	**-0.5**
YER	**Yerkesik**	**0.53**	**276**	PG	**Pg**	**06 26 59.6**	**+0.4**
TURN	**Turunc**	**0.64**	**241**	PG	**Pg**	**06 27 01.5**	**+0.2**
TURN	**Turunc**	**0.64**	**241**	P	**Pb**	**06 27 02.4**	**-0.4**
TURN				S	**Sb**	**06 27 11.2**	**-0.9**
AKAS	**Kas**	**1.00**	**148**	PG	**Pg**	**06 27 07.9**	**-0.4**
AKAS	**Kas**	**1.00**	**148**	P	**Pg**	**06 27 08.1**	**-0.3**
AKAS				S	**Sn**	**06 27 29.3**	**+4.6**
AKAS				*i* AML	AML	06 27 32.0	
	comp=N,296nm,0.6s						
AKAS				*i* AML	AML	06 27 33.0	
	comp=E,144nm,0.6s						
AYDN	**Tasoluk**	**1.02**	**305**	P	**Pg**	**06 27 08.6**	**-0.1**
AYDN				S	**Sn**	**06 27 24.7**	**-0.5**
AYDN				*i* AML	AML	06 27 28.0	
	comp=N,113nm,0.4s						
AYDN				*i* AML	AML	06 27 28.0	
	comp=E,113nm,0.3s						
BRDR	**BURDUR-Merkez**	**1.08**	**55**	P	**Pb**	**06 27 10.4**	**0.0**
BRDR				S	**Sn**	**06 27 26.1**	**-0.6**
BRDR				*i* AML	AML	06 27 34.0	
	comp=E,83nm,0.7s						
ARG	**Arkhangelos**	**1.08**	**217**	PG	**Pg**	**06 27 09.5**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**316**	PN	**Pg**	**06 27 12.2**	**+0.1**
BODT	**Bodrum**	**1.30**	**270**	PN	**Pn**	**06 27 13.6**	**-0.5**
PASA	**Karahalli, USA**	**1.33**	**19**	P	**Pn**	**06 27 14.5**	**-0.2**
PASA				S	**Sn**	**06 27 34.7**	**+1.7**
MANT	**Manisa**	**1.44**	**348**	P	**Pn**	**06 27 14.7**	**-1.5**
MANT				S	**Sg**	**06 27 35.8**	**+0.4**
GCAM	**G?zelcaml?**	**1.49**	**295**	PN	**Pn**	**06 27 16.7**	**0.0**

MAN 28 06:43:55.4,9°.85N×123°.87E,h4km,mb3.7,ML2.5,MS2.0, 3C-4D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.16**	**183**	⇓*i*P	Pg	06 43 59.3	+0.8
TBP				*i* S	Sg	06 44 02.4	+1.8
LLP	**Lapu-Lapu**	**0.47**	**12**	⇓*i*P	Pg	06 44 05.2	+0.6
LLP				*i* S	Sb	06 44 12.4	-1.3
GHBP	**Garcia Hernand**	**0.50**	**116**	⇑*e*P	Pg	06 44 05.7	+0.7
GHBP				*e*S	Sb	06 44 13.1	-1.2
TABP	**Talibon, Bohol**	**0.52**	**62**	⇑*i*P	Pg	06 44 05.5	+0.1
TABP				*i* S	Sg	06 44 13.2	+1.1
LSIP	**Lazi, Siquijor**	**0.75**	**198**	⇑*e*P	Pg	06 44 09.9	0.0
MSLP	**Maasin**	**1.01**	**74**	⇓*e*P	Pg	06 44 15.2	+0.2
MSLP				*e*S	Sn	06 44 30.9	-0.3
CNP	**Catarman**	**2.76**	**16**	⇓*e*P	Pn	06 44 40.4	0.0
CNP				*e*S	Sn	06 44 49.6	-25

IDC 28 06:48:50.6±2.5,53°.60N×86°.85E,h0km,mbtmp2.8/2, ML2.3/2,Error ellipse: s-maj=22.8km s-min=13.8km az=75.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**287**	*i*		06 57 30.0	
	baz=104,slow=325,SNR=8.9						
ZALV	**Zalesovo Beam**	**1.25**	**287**	Pg	Pg	06 49 13.3	-1.3
	1.0nm,0.3s,baz=107,slow=16,SNR=11						
ZALV				Lg	Lg	06 49 31.4	
	1.2nm,0.3s,baz=108,slow=28,SNR=10.0						
ZALV				Rg	Rg	06 49 38.6	
	4.6nm,0.7s,baz=101,slow=35,SNR=3.7						
KURBB	**Kurchatov Arra**	**5.93**	**243**	Pn	Pn	06 50 20.9	+1.3
	baz=59,slow=14,SNR=5.1						
KURBB				Lg	Lg	06 51 57.3	
	baz=55,slow=32,SNR=2.4 0.8nm,0.7s						
MKAR	**Makanchi Array**	**7.41**	**205**	Pn	Pn	06 50 41.3	+1.3
	0.1nm,0.3s,baz=27,slow=14,SNR=6.2						
MKAR				Lg	Lg	06 52 44.6	
	baz=29,slow=39,SNR=6.1 0.3nm,0.3s						

*ISK **28** 07:04:02.7,37°.16N×28°.31E,h16km,ML2.5/12*
*DDA **28** 07:04:03.0±0.0,37°.15N±28°.32E,h15km±1km,ML2.1*
ISC 28 07:04:03.4±0.8,37°.15N±0°.03×28°.33E±0°.03,h15km±5km, n22,σ0ˢ90/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.04**	**246**	PG	**Pg**	**07 04 06.3**	**0.0**
YER				SG	**Sg**	**07 04 08.4**	**+0.2**
MULA	**Mugla, Merkez-**	**0.10**	**357**	P	**Pb**	**07 04 06.9**	**-0.2**
MULA				*i* AML	AML	07 04 09.0	
	comp=N,456nm,0.4s						
MULA				S	**Sb**	**07 04 09.1**	**-0.6**
MULA				*i* AML	AML	07 04 10.0	
	comp=E,812nm,0.1s						
TURN	**Turunc**	**0.38**	**190**	PG	**Pg**	**07 04 10.6**	**-0.5**
TURN				SG	**Sb**	**07 04 16.9**	**-0.6**
TURN	**Turunc**	**0.38**	**190**	P	**Pg**	**07 04 10.6**	**-0.5**
TURN				S	**Sb**	**07 04 17.1**	**-0.3**
DALY	**Dalyan (Mula)**	**0.42**	**142**	PG	**Pb**	**07 04 11.9**	**-0.6**
DALY				SG	**Sb**	**07 04 18.6**	**-0.1**
TAVA	**DENIZLI_Tavas**	**0.56**	**56**	P	**Pb**	**07 04 14.3**	**-0.6**
TAVA				S	**Sg**	**07 04 21.7**	**-0.3**
AYDN	**Tasoluk**	**0.62**	**325**	P	**Pb**	**07 04 15.8**	**-0.2**
AYDN				S	**Sb**	**07 04 24.1**	**-0.5**
AYDN				*i* AML	AML	07 04 25.0	
	comp=N,118nm,0.2s						
AYDN				*i* AML	AML	07 04 27.0	
	comp=E,84nm,0.3s						
FETY	**Fethiye**	**0.80**	**130**	PG	**Pb**	**07 04 18.8**	**-0.1**
FETY				SG	**Sn**	**07 04 30.6**	**-1.0**
BODT	**Bodrum**	**0.82**	**264**	PG	**Pg**	**07 04 18.5**	**-0.8**
BODT				SG	**Sb**	**07 04 30.2**	**+0.1**
APMY

ZALV				Lg		Lg	07 10 00.7		
	4.0nm,0.3s,baz=92,slow=26,SNR=12								
	1.0nm,0.4s								
KURK	**Kurchatov**	**8.00**	**252**	⇑Pn		**Pn**	**07 10 07.1**	**0.0**	
	7.8nm,0.8s								
KURK				⇑Sn		**Sn**	**07 11 41.5**	**+3.2**	
	29nm,1.1s								
KURK				⇑Lg		Lg	07 12 24.3		
	93nm,0.9s								
KURBB	**Kurchatov Arra**	**8.10**	**252**	Pn		**Pn**	**07 10 08.2**	**-0.1**	
	0.2nm,0.3s,baz=65,slow=14,SNR=21								
KURBB				Sn		**Sn**	**07 11 38.4**	**-2.2**	
	baz=64,slow=26,SNR=4.3								
KURBB				Lg		Lg	07 12 27.9		
	0.1nm,0.3s,baz=68,slow=33,SNR=6.6								
	6.5nm,0.8s								
KURBB	**Kurchatov Arra**	**8.10**	**252**	⇓Pn		**Pn**	**07 10 08.3**	**-0.1**	
	7.4nm,0.6s								
KURBB				⇑Sn		**Sn**	**07 11 39.8**	**-0.7**	
	63nm,0.8s								
KURBB				⇑Lg		Lg	07 12 23.6		
	48nm,0.8s								
MK31	**Makanchi Array**	**8.83**	**221**	Pn		**Pn**	**07 10 18.8**	**+0.3**	
	1.3nm,0.7s,baz=40,slow=14,SNR=9.6								
MK31				⇑Sn		**Sn**	**07 11 57.3**	**-1.4**	
	5.3nm,0.7s,baz=47,slow=22,SNR=4.5								
MK31				⇑Lg		Lg	07 12 44.0		
	50nm,1.2s,baz=38,slow=27,SNR=4.8								
MKAR	**Makanchi Array**	**8.83**	**221**	Pn		**Pn**	**07 10 18.4**	**0.0**	
	0.3nm,0.3s,baz=40,slow=14,SNR=13								
MKAR				Sn		**Sn**	**07 11 57.8**	**-0.8**	
	0.2nm,0.3s,baz=34,slow=16,SNR=5.7								
MKAR				Lg		Lg	07 12 45.2		
	0.3nm,0.3s,baz=35,slow=28,SNR=6.3								
	1.5nm,0.6s								
MAKZ	**Makanchi**	**8.94**	**222**	⇓Pn		**Pn**	**07 10 20.2**	**+0.2**	
	4.1nm,1.2s								
MAKZ				⇑Sn		**Sn**	**07 12 01.9**	**+0.6**	
	7.4nm,0.8s								
MAKZ				⇑Lg		Lg	07 12 47.7		
	31nm,1.2s								
SONM	**Songino Array**	**11.61**	**115**	Lg		Lg	07 14 04.7		
	0.5nm,0.3s,baz=304,slow=30,SNR=8.8								
OTUK	**Ortayu**	**12.79**	**252**	⇑Pn		**Pn**	**07 11 14.8**	**+2.2**	
	3.4nm,1.2s								
OTUK				⇓Sn		**Sn**	**07 13 35.9**	**+0.3**	
	3.5nm,0.8s								
OTUK				⇓Lg		Lg	07 14 55.3		
	26nm,1.3s								
PDGK	**Podgornoye**	**12.82**	**220**	⇑Lg		Lg	07 14 48.9		
	7.6nm,0.9s								
TKM2	**Tokmak 2**	**14.76**	**228**	⇑Lg		Lg	07 15 52.8		
	10nm,1.1s								
AAK	**Ala-Archa**	**15.48**	**230**	Lg		Lg	07 16 17.9		
	0.3nm,0.3s,baz=152,slow=23,SNR=4.3								

*BJI **28** 07:17:28.0±0.0,36°.70N×21°.80E,h10km,mb4.9/47, mB5.1/24,Ms4.6/6,Ms7 4.3/7*

*PDG **28** 07:17:32.5±1.5,36°.70N×21°.82E,h10km±3km,MD4.7/9, ML4.7/12,Error ellipse: s-maj=3.1km s-min=4.1km az=0.0*

*IDC **28** 07:17:34.1±1.2,36°.91N×22°.06E,h33km±9km,mb4.5/41, mbtmp4.7/53,ML4.6/11,MS3.9/75,Error ellipse: s-maj=7.8km s-min=7.4km az=104.0*

*ATH **28** 07:17:34.2,36°.73N×21°.87E,h56km,Mw4.7,Moment Tensor Solution. s10 Moment tensor: Mrr=0.21; Mθθ-0.37; Mϕϕ 0.58; Mrθ-0.26; Mrϕ-1.47; Mθϕ-0.03; Fault plane solution: NP1:ϕs99.00000°,δ86.00000°, λ-170.00000°. NP2:ϕs9.00000°,δ80.00000°,λ-4.00000°.*

*MED_RC **28** 07:17:34.0±0.4,36°.60N×21°.84E,h30km±1km,MW4.9/19, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s19,c29; Duration: 1s1 Moment tensor: Scale 10^16Nm; Mrr-0.47±.18; Mθθ-0.80±.11; Mϕϕ 1.27±.11; Mrθ 0.67±.11; Mθϕ-2.21±.08; Mϕr-0.76±.11; Best double couple: M◎2.60000×10^16 NP1:ϕs102.00000°,δ83.00000°, λ164.00000°. NP2:ϕs194.00000°,δ74.00000°,λ8.00000°. Principal axes: T 2.9700, Plg16.0000°, Azm57.0000°; N -0.7400, Plg73.0000°, Azm258.0000°; P -2.2200, Plg6.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

*MOS **28** 07:17:35.1±1.0,36°.92N×21°.96E,h56km,mb5.2/23 Error ellipse: s-maj=5.1km s-min=3.1km az=83.4*

*NEIC **28** 07:17:35.8±1.7,36°.77N±0°.07×21°.91E±0°.07,h47km±7km, mb5.0/159,ML5.0(ATH),Error ellipse: s-maj=10.0km s-min=7.9km az=188.0*

*HLW **28** 07:17:36.2,36°.72N×22°.71E,h25km±38km,Md4.8,Ml5.3*

*ISK **28** 07:17:36.5,36°.86N×22°.16E,h31km,ML4.9/35*

*THE **28** 07:17:36.2,36°.67N×21°.81E,h37km±3km,ML5.0/6,Error ellipse: s-maj=3.6km s-min=1.1km az=17.0*

*GCMT **28** 07:17:37.8±0.3,36°.67N±0°.02×21°.70E±0°.02,h28km±1km, MW4.9/84,Moment Tensor Solution. s20,c23; s84,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.45±.15; Mθθ-0.32±.12; Mϕϕ 0.76±.11; Mrθ 0.71±.18; Mθϕ-2.50±.09; Mϕr-1.62±.20; Best double couple: M◎3.00100×10^16 NP1:ϕs185.00000°,δ86.00000°,λ30.00000°. NP2: ϕs93.00000°,δ61.00000°,λ175.00000°. Principal axes: T 3.5250, Plg23.0000°, Azm53.0000°; N -1.0470, Plg60.0000°, Azm192.0000°; P -2.4770, Plg17.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*TIR **28** 07:17:37.2,37°.01N×21°.02E,h136km±6km,Ml5.1*

*GII **28** 07:17:41.5±0.0,36°.11N×22°.72E,h20km,mb4.9/3, MD4.8/3*

ISC 28 07:17:35.4±0.3,36°.78N±0°.03×21°.97E±0°.03,h37km, h36km:pP-P,n863,σ2s19/872,mb4.9/166,MS4.0/66, 77C-67D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PYL	**PYLOS**	**0.22**	**303**	P		**Pn**	**07 17 42.8**	**-1.5**
PYL				S		**Sn**	**07 17 49.1**	**-3.8**
	316μm,0.5s							
ITM	**Ithomi**	**0.40**	**355**	P		**Pn**	**07 17 45.8**	**+1.3**
ITM				S		**Sn**	**07 17 54.3**	**+2.9**
	173μm,0.4s							
ITM	**Ithomi**	**0.40**	**355**	PG		**Pn**	**07 17 45.8**	**+1.3**
ITM				SG		**Sn**	**07 17 52.8**	**+1.4**
ITM	**Ithomi**	**0.40**	**355**			**Pn**	**07 17 45.8**	**+1.3**
ITM	**Ithomi**	**0.40**	**355**	⇓P		**Pn**	**07 17 45.8**	**+1.3**
ITM	**Ithomi**	**0.40**	**355**	P		**Pn**	**07 17 45.9**	**+1.4**
ITM				S		**Sn**	**07 17 54.1**	**+2.7**
ITM				AML		AML	07 17 58.2	
ITM				AML		AML	07 17 58.3	
VLI	**Veliai**	**0.78**	**94**	P		**Pn**	**07 17 51.7**	**+1.8**
VLI				S		**Sn**	**07 18 04.0**	**+3.7**
	88μm,0.6s							
VLI	**Veliai**	**0.78**	**94**	P		**Pn**	**07 17 51.9**	**+2.0**
VLI				AML		AML	07 18 09.8	
VLI				AML		AML	07 18 11.5	
MNVA	**Monemvasia**	**0.86**	**96**	P		**Pn**	**07 17 53.2**	**+2.2**
MNVA				AML		AML	07 18 08.2	
MNVA				AML		AML	07 18 09.0	
KTHR	**Kythira**	**0.98**	**121**	P		**Pn**	**07 17 54.1**	**+1.5**
KTHR				S		**Sn**	**07 18 09.0**	**+3.7**
	61μm,0.5s							
KTHR	**Kythira**	**0.98**	**121**	P		**Pn**	**07 17 54.1**	**+1.5**
KTHA	**Kythira Island**	**1.02**	**120**	P		**Pn**	**07 17 54.9**	**+1.7**
KTHA				S		**Sn**	**07 18 09.6**	**+3.3**
	68μm,0.6s							
KTHA	**Kythira Island**	**1.02**	**120**	PG		**Pn**	**07 17 54.9**	**+1.7**
KTHA	**Kythira Island**	**1.02**	**120**	P		**Pn**	**07 17 55.0**	**+1.8**
KTHA				AML		AML	07 18 13.1	
KTHA				AML		AML	07 18 13.6	
KRND	**KRANIDI**	**1.12**	**57**	P		**Pn**	**07 17 56.6**	**+2.0**
KRND				S		**Sn**	**07 18 15.8**	**+7.1**
	31μm,0.5s							
KRND	**KRANIDI**	**1.12**	**57**	P		**Pn**	**07 17 56.5**	**+2.0**
KRND				AML		AML	07 18 18.8	
	comp=N,81550μm,0.9s							
KRND				AML		AML	07 18 19.0	
	comp=E,52520μm,0.7s							
DRO	**Drossia**	**1.19**	**350**	P		**Pn**	**07 17 57.8**	**+2.2**
DRO	**Drossia**	**1.19**	**350**	P		**Pn**	**07 17 57.6**	**+2.1**
DRO				AML		AML	07 18 24.3	
DRO				AML		AML	07 18 27.0	
EPID	**Epidavros**	**1.24**	**47**	P		**Pn**	**07 17 58.2**	**+2.0**
EPID	**Epidavros**	**1.24**	**47**	P		**Pn**	**07 17 58.6**	**+2.4**
KLV	**Kalavryta, Ach**	**1.27**	**6**	P		**Pn**	**07 17 59.3**	**+2.6**
KLV	**Kalavryta, Ach**	**1.27**	**6**	P		**Pn**	**07 17 59.4**	**+2.7**
KLV				AML		AML	07 18 25.4	
KLV				AML		AML	07 18 27.6	
LTHK	**Lithakia**	**1.30**	**316**	P		**Pn**	**07 17 57.1**	**+0.1**
LTHK	**Lithakia**	**1.30**	**316**	P		**Pn**	**07 17 57.3**	**+0.3**
LTHK				AML		AML	07 18 31.6	
	comp=N,61516μm,0.5s							
LTHK				AML		AML	07 18 37.2	
	comp=E,73286μm,0.7s							
RLS	**Riolos of Patr**	**1.34**	**343**	P		**Pn**	**07 17 59.8**	**+2.2**
RLS	**Riolos of Patr**	**1.34**	**343**	P		**Pn**	**07 18 00.0**	**+2.5**
RLS				AML		AML	07 18 28.1	
	comp=N,85798μm,0.7s							
RLS				AML		AML	07 18 36.7	
	comp=E,33611μm,0.7s							
THAL	**Thalero**	**1.37**	**23**	P		**Pn**	**07 18 00.2**	**+2.2**
ANKY	**Antikythira Is**	**1.41**	**130**	P		**Pn**	**07 18 00.5**	**+2.0**
ANKY	**Antikythira Is**	**1.41**	**130**	P		**Pn**	**07 18 00.5**	**+2.0**
LOUT	**Loutraki**	**1.45**	**33**	P		**Pn**	**07 18 00.8**	**+1.7**
LAKA	**Lakka**	**1.46**	**0**	P		**Pn**	**07 18 02.5**	**+3.2**
SERG	**Sergoula**	**1.64**	**2**	P		**Pn**	**07 18 04.9**	**+3.2**
EFP	**Efpalio**	**1.65**	**358**	P		**Pn**	**07 18 05.1**	**+3.3**
PSDA	**Pessada-Kefalo**	**1.73**	**321**	P		**Pn**	**07 18 03.3**	**+0.4**
VILL	**Villia**	**1.75**	**37**	P		**Pn**	**07 18 04.6**	**+1.4**
VIL2	**Platees**	**1.77**	**35**	P		**Pn**	**07 18 05.3**	**+1.8**
VLS	**Valsamata**	**1.78**	**322**	P		**Pn**	**07 18 04.1**	**+0.5**
PVO	**Paravola**	**1.87**	**349**	P		**Pn**	**07 18 08.1**	**+3.3**
KEF4	**Livadi, Kephal**	**1.92**	**321**	P		**Pn**	**07 18 06.0**	**+0.5**
DMLN	**Damoulianata-K**	**1.93**	**319**	P		**Pn**	**07 18 06.0**	**+0.3**
MHLO	**Agia Marina, M**	**1.96**	**92**	P		**Pn**	**07 18 07.1**	**+1.1**
FSK	**Fiskardo**	**2.02**	**327**	P		**Pn**	**07 18 08.7**	**+1.8**
AXAR	**Agios Charalam**	**2.06**	**15**	P		**Pn**	**07 18 09.6**	**+2.1**
KNDR	**Palaiochora Ch**	**2.08**	**137**	P		**Pn**	**07 18 08.1**	**+0.4**
KNDR	**Palaiochora Ch**	**2.08**	**137**	PN		**Pn**	**07 18 08.6**	**+0.9**
IMMV	**Iera Moni Meta**	**2.09**	**128**	P		**Pn**	**07 18 09.4**	**+1.5**
IMMV	**Iera Moni Meta**	**2.09**	**128**	PN		**Pn**	**07 18 09.4**	**+1.5**
EVGI	**Lefkada island**	**2.12**	**331**	P		**Pn**	**07 18 09.6**	**+1.4**
DRAG	**Dragano-Lefkad**	**2.20**	**330**	P		**Pn**	**07 18 11.4**	**+2.0**
MAKR	**Makrakomi, Fth**	**2.24**	**3**	P		**Pn**	**07 18 13.4**	**+3.5**
LKD2	**Lefkada island**	**2.26**	**333**	P		**Pn**	**07 18 11.5**	**+1.2**
LKD2	**Lefkada island**	**2.26**	**333**	P		**Pn**	**07 18 11.3**	**+1.0**
	baz=352							
LKD2				S		**Sn**	**07 18 36.9**	**0.0**
	baz=352							
TSLK	**Tsoukalades, L**	**2.29**	**333**	P		**Pn**	**07 18 12.9**	**+2.2**
PRNS	**Prines Rethymn**	**2.49**	**124**	P		**Pn**	**07 18 14.2**	**+0.9**
GVDS	**Gavdos**	**2.59**	**138**	P		**Pn**	**07 18 14.7**	**0.0**
GVDS	**Gavdos**	**2.59**	**138**	PN		**Pn**	**07 18 15.9**	**+1.2**
GVD	**Gavdhos**	**2.59**	**138**	PN		**Pn**	**07 18 16.5**	**+1.8**
IDI	**Anoyia**	**2.79**	**121**	⇑P		**Pn**	**07 18 18.1**	**+0.5**
IDI	**Anoyia**	**2.79**	**121**	Pn		**Pn**	**07 18 17.3**	**-0.3**
	comp=E,51nm,0.3s,baz=312,slow=16,SNR=140							
IDI				Sn		**Sn**	**07 18 51.0**	**+0.9**
	comp=E,263nm,0.3s,baz=257,slow=11,SNR=7.7							
IDI				Lg		Lg	07 19 02.3	
	comp=E,188nm,0.3s,baz=51,slow=17,SNR=6.2							
	comp=E,176nm,0.4s							
IDI	**Anoyia**	**2.79**	**121**	PN		**Pn**	**07 18 18.5**	**+0.9**
IDI	**Anoyia**	**2.79**	**121**			**Pn**	**07 18 17.6**	**0.0**
IDI	**Anoyia**	**2.79**	**121**	⇑P		**Pn**	**07 18 17.3**	**-0.3**
THT2	**Imerovigli**	**2.80**	**96**	PN		**Pn**	**07 18 18.1**	**+0.5**
SANT	**Santorini**	**2.84**	**97**	PN		**Pn**	**07 18 18.8**	**+0.6**
SANT	**Santorini**	**2.84**	**97**			**Pn**	**07 18 19.5**	**+1.3**
APE	**Apeiranthos**	**2.87**	**83**	⇑P		**Pn**	**07 18 19.5**	**+0.9**
APE	**Apeiranthos**	**2.87**	**83**	PN		**Pn**	**07 18 19.2**	**+0.6**
APE	**Apeiranthos**	**2.87**	**83**	*i* P		**Pn**	**07 18 19.3**	**+0.6**
APE	**Apeiranthos**	**2.87**	**83**	Pn		**Pn**	**07 18 19.8**	**+1.2**
HRKL	**Herakleio**	**2.93**	**119**	PN		**Pn**	**07 18 20.6**	**+1.2**
LIT	**Litokhoron**	**3.34**	**7**			**Pn**	**07 18 25.3**	**+0.2**
LIT	**Litokhoron**	**3.34**	**7**	P		**Pn**	**07 18 25.3**	**+0.2**
LIT	**Litokhoron**	**3.34**	**7**	⇑P		**Pn**	**07 18 26.4**	**+1.3**
KEK	**Kerkira**	**3.39**	**330**			**Pn**	**07 18 26.4**	**+0.7**
KEK	**Kerkira**	**3.39**	**330**	⇓P		**Pn**	**07 18 26.1**	**+0.3**
SRN	**Sarande**	**3.46**	**334**	P		**Pn**	**07 18 28.2**	**+1.4**
	baz=345							
SRN				S		**Sn**	**07 19 05.8**	**-0.7**
	baz=345							
SRN				AMP				
	comp=N,3.8nm,0.6s,baz=345							
LSK	**Leskovik**	**3.54**	**343**	P		**Pn**	**07 18 29.9**	**+2.1**
	baz=355							
LSK				S		**Sn**	**07 19 10.9**	**+2.5**
	baz=355							
LSK				AMP				
	comp=N,20nm,0.9s,baz=355							
CHOS	**Chios island**	**3.62**	**62**	PN		**Pn**	**07 18 29.9**	**+0.9**
ZKR	**Zakros**	**3.82**	**114**	PN		**Pn**	**07 18 33.4**	**+1.7**
OUR	**Ouranopolis**	**3.89**	**23**	PN		**Pn**	**07 18 34.1**	**+1.6**
HORT	**Hortiatis**	**3.92**	**13**	PN		**Pn**	**07 18 34.7**	**+1.7**
THE	**Thessaloniki**	**3.93**	**11**	P		Pn	07 18 39.6	+6.5
	baz=22							
THE				S		Sn	07 19 29.1	+11
	baz=22							
KBN	**Korca**	**3.95**	**347**			**Pn**	**07 18 35.9**	**+2.4**
KBN	**Korca**	**3.95**	**347**	P		**Pn**	**07 18 35.9**	**+2.4**
KBN	**Korca**	**3.95**	**347**	P		**Pn**	**07 18 36.7**	**+3.2**
	baz=358							
KBN				S		**Sn**	**07 19 20.6**	**+2.0**
	baz=358							
KBN				AMP				
	comp=N,8.5nm,1.0s,baz=358							
URLA	**Izmir**	**4.00**	**65**	PN		**Pn**	**07 18 34.6**	**+0.4**
KOSK	**Kos Island**	**4.02**	**89**	PN		**Pn**	**07 18 35.9**	**+1.5**
VLO	**Vlora**	**4.16**	**333**			**Pn**	**07 18 36.8**	**+0.5**
VLO	**Vlora**	**4.16**	**333**	P		**Pn**	**07 18 36.8**	**+0.5**
VLO	**Vlora**	**4.16**	**333**	P		**Pn**	**07 18 37.4**	**+1.1**
	baz=342							
VLO				S		**Sn**	**07 19 21.8**	**-1.9**
	baz=342							
GRG	**Griva**	**4.19**	**4**	PN		**Pn**	**07 18 38.9**	**+2.2**
NIS1	**Nisyros Isl.**	**4.19**	**91**	PN		**Pn**	**07 18 38.1**	**+1.3**
SCTE	**Santa Cesarea**	**4.29**	**321**			**Pn**	**07 18 38.0**	**-0.1**
SCTE	**Santa Cesarea**	**4.29**	**321**	P		**Pn**	**07 18 38.0**	**-0.1**
	baz=328							
BODT	**Bodrum**	**4.29**	**85**	PN		**Pn**	**07 18 39.3**	**+1.2**
GCAM	**G?zelcaml?**	**4.30**	**76**	PN		**Pn**	**07 18 39.8**	**+1.6**
BLCB	**Balcova**	**4.34**	**67**	PN		**Pn**	**07 18 39.6**	**+0.9**
KARP	**Karpathos**	**4.38**	**105**	PN		**Pn**	**07 18 41.2**	**+1.9**
KARP	**Karpathos**	**4.38**	**105**			**Pn**	**07 18 40.4**	**+1.1**
OHR	**Ohrid**	**4.42**	**348**	*i* Pn		**Pn**	**07 18 42.0**	**+2.0**
BOZC	**Bozcaada**	**4.43**	**45**	PN		**Pn**	**07 18 40.7**	**+0.6**
KNT	**Kendrikon**	**4.44**	**9**	PN		**Pn**	**07 18 42.1**	**+1.9**
DKL	**Dikili**	**4.52**	**58**	PN		**Pn**	**07 18 41.9**	**+0.6**
DKL	**Dikili**	**4.52**	**58**	⇑P		**Pn**	**07 18 44.9**	**+3.6**
VAY	**Valandovo**	**4.56**	**6**	*i* Pn		**Pn**	**07 18 43.8**	**+2.0**
EZN	**Ezine**	**4.58**	**47**	PN		**Pn**	**07 18 43.2**	**+1.1**
GADA	**Gvkgeada**	**4.59**	**41**	PN		**Pn**	**07 18 43.9**	**+1.6**
TIP	**Timpagrande**	**4.76**	**302**	⇓P		**Pn**	**07 18 43.7**	**-1.0**
TIP	**Timpagrande**	**4.76**	**302**			**Pn**	**07 18 43.7**	**-1.0**
TIP	**Timpagrande**	**4.76**	**302**	⇓P		**Pn**	**07 18 43.6**	**-1.0**
TIR	**Tirane**	**4.85**	**341**	⇑P		**Pn**	**07 18 47.1**	**+1.3**
TIR	**Tirane**	**4.85**	**341**			**Pn**	**07 18 46.4**	**+0.6**
TIR	**Tirane**	**4.85**	**341**	P		**Pn**	**07 18 46.4**	**+0.6**
TIR	**Tirane**	**4.85**	**341**	P		**Pn**	**07 18 47.2**	**+1.5**
	baz=349							
TIR				S		**Sn**	**07 19 43.1**	**+2.5**
	baz=349							
TIR	**Tirane**	**4.85**	**341**	⇓P		**Pn**	**07 18 46.6**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**4.86**	**74**	PN		**Pn**	**07 18 47.5**	**+1.4**
STIP	**Stip**	**4.91**	**2**	*i* Pn		**Pn**	**07 18 48.9**	**+2.2**
ARG	**Arkhangelos**	**4.99**	**95**	PN		**Pn**	**07 18 49.9**	**+2.2**
ARG	**Arkhangelos**	**4.99**	**95**			**Pn**	**07 18 49.4**	**+1.7**
ARG	**Arkhangelos**	**4.99**	**95**	P		**Pn**	**07 18 49.4**	**+1.7**
ARG	**Arkhangelos**	**4.99**	**95**	⇑P		**Pn**	**07 18 49.6**	**+1.9**
MMB	**Musomiste**	**5.00**	**15**	*e*P		Pn	07 18 53.2	+5.4
TURN	**Turunc**	**5.04**	**88**	PN		**Pn**	**07 18 50.3**	**+1.9**
PHP	**Peshkopia**	**5.04**	**347**	P		**Pn**	**07 18 50.1**	**+1.6**
	baz=355							
PHP				S		**Sn**	**07 19 49.7**	**+4.2**
	baz=355							
CEL	**Celeste**	**5.05**	**289**			**Pn**	**07 18 47.8**	**-0.8**
CEL	**Celeste**	**5.05**	**289**	⇓P		**Pn**	**07 18 47.9**	**-0.7**
GELI	**Tayfur-Gelibol**	**5.05**	**43**	PN		**Pn**	**07 18 49.6**	**+1.0**
YER	**Yerkesik**	**5.07**	**84**	PN		**Pn**	**07 18 50.8**	**+1.9**
KKB	**Krupnik**	**5.16**	**9**	*e*P		**Pn**	**07 18 53.4**	**+3.4**
RDO	**Rodhopi**	**5.17**	**31**	PN		**Pn**	**07 18 51.8**	**+1.6**
RDO	**Rodhopi**	**5.17**	**31**			**Pn**	**07 18 50.8**	**+0.6**
RDO	**Rodhopi**	**5.17**	**31**	⇑P		**Pn**	**07 18 50.9**	**+0.6**
ALN	**Alexandroupoli**	**5.20**	**36**	PN		**Pn**	**07 18 52.0**	**+1.4**
ALN	**Alexandroupoli**	**5.20**	**36**			**Pn**	**07 18 50.8**	**+0.2**
ALN	**Alexandroupoli**	**5.20**	**36**	P		**Pn**	**07 18 50.8**	**+0.2**
SKO	**Skopje**	**5.20**	**356**	*i* Pn		**Pn**	**07 18 51.9**	**+1.2**
RZN	**Rozhen**	**5.35**	**23**	*e*P		**Pn**	**07 18 50.2**	**-2.6**
DALY	**Dalyan (Mula)**	**5.36**	**88**	PN		**Pn**	**07 18 54.8**	**+2.0**
NOCI	**Noci**	**5.54**	**318**	P		**Pn**	**07 18 54.9**	**-0.4**
	baz=323							
KDZ	**Kurdzhali**	**5.55**	**28**	*e*P		**Pn**	**07 18 55.7**	**+0.2**
ULC	**Ulcinj**	**5.59**	**339**	*e*Pn		**Pn**	**07 18 55.7**	**-0.3**
ULC				*i* Sn		**Sn**	**07 19 56.5**	**-2.5**
RKY	**Sarkoy-Tekirda**	**5.64**	**45**	PN		**Pn**	**07 18 58.1**	**+1.4**
MATE	**Matera**	**5.65**	**315**	⇑P		**Pn**	**07 18 55.6**	**-1.1**
PLD	**Plovdiv**	**5.72**	**21**	*e*P		Pn	07 19 04.9	+7.1
BCI	**Bajram Curri**	**5.77**	**346**	P		**Pn**	**07 18 59.9**	**+1.4**
	baz=353							
CUC	**Castrocucco**	**5.80**	**305**				**07 18 59.3**	**+0.4**
DRME	**Dracevica, Mon**	**5.82**	**339**	*i* Pn		**Pn**	**07 18 58.9**	**-0.2**
DRME	**Dracevica, Mon**	**5.82**	**339**	*i* Pn		**Pn**	**07 18 58.8**	**-0.3**
DRME				*i* Sn		**Sn**	**07 20 02.4**	**-2.1**
MRMT	**Marmara Adasi**	**5.83**	**47**	PN		**Pn**	**07 19 01.1**	**+1.8**
VTS	**Vitosha**	**5.91**	**9**	*e*P		**Pn**	**07 19 02.8**	**+2.2**
SLUM	**Salum**	**5.92**	**152**	P		**Pn**	**07 18 59.6**	**-0.8**
	baz=157							
SLUM				S		Sn	07 19 57.7	-9.3
	baz=157							
BUM	**Brajici-Budva**	**6.01**	**338**	⇓*i* Pn		**Pn**	**07 19 01.0**	**-0.7**
BUM				*i* Sn		**Sn**	**07 20 06.4**	**-2.8**
PVY	**Plav**	**6.01**	**346**	⇑*i* Pn		**Pn**	**07 19 02.9**	**+1.0**
PVY				*i* Sn		**Sn**	**07 20 07.3**	**-2.2**
PDG	**Podgorica**	**6.02**	**340**	⇑P		**Pn**	**07 19 01.8**	**0.0**
PDG	**Podgorica**	**6.02**	**340**			**Pn**	**07 19 01.1**	**-0.7**
TTG	**Podgorica**	**6.02**	**340**	*i* Pn		**Pn**	**07 19 01.2**	**-0.7**
TTG				*i* Sn		**Sn**	**07 20 07.4**	**-2.1**
VAE	**Valguarnera**	**6.08**	**279**	Pn		**Pn**	**07 19 01.8**	**-1.0**
	comp=N,17nm,0.3s,baz=94,slow=4.4,SNR=6.9							
VAE				Sn		**Sn**	**07 20 06.0**	**-5.0**
	comp=N,69nm,0.3s,baz=292,slow=4.2,SNR=6.0							
VAE				LR		LR	07 21 24.1	
	comp=N,834nm,18.3s,baz=126,slow=37							
	comp=N,43nm,0.4s							
WDD	**Wied Dalam**	**6.08**	**263**			**Pn**	**07 19 01.2**	**-1.6**
RAFF	**Raffo Rosso**	**6.11**	**276**			**Pn**	**07 19 01.6**	**-1.4**
AKAS	**Kas**	**6.17**	**93**			**Pn**	**07 19 05.7**	**+1.6**
CEME	**Cevo**	**6.22**	**339**	⇓*i* Pn		**Pn**	**07 19 03.9**	**-0.8**
CEME				*e*Sn		**Sn**	**07 20 11.8**	**-2.8**
HCY	**Herceg Novi**	**6.27**	**336**	⇓*i* Pn		**Pn**	**07 19 03.8**	**-1.4**
HCY	**Herceg Novi**	**6.27**	**336**	⇑*i* Pn		**Pn**	**07 19 04.0**	**-1.2**
HCY				*i* Sn		**Sn**	**07 20 09.9**	**-5.6**
EDRB	**Edirne**	**6.27**	**35**	PN		**Pn**	**07 19 07.5**	**+2.2**
IVA	**Berane**	**6.29**	**346**	⇓*i* Pn		**Pn**	**07 19 06.4**	**+0.7**
IVA				*i* Sn		**Sn**	**07 20 13.7**	**-2.6**
KOME	**Kolasin**	**6.35**	**343**	⇓*i* Pn		**Pn**	**07 19 06.8**	**+0.3**
KOME				*i* Sn		**Sn**	**07 20 15.0**	**-2.8**
NKME	**Niksic**	**6.42**	**340**	⇑*i* Pn		**Pn**	**07 19 06.8**	**-0.6**
NKME				*i* Sn		**Sn**	**07 20 16.4**	**-2.9**
DBRK	**Dubrovnik**	**6.58**	**335**	*e*Pn		**Pn**	**07 19 06.8**	**-2.8**
DBRK				Sn		**Sn**	**07 20 16.0**	**-7.2**
ARMT	**Armutlu**	**6.58**	**53**	PN		**Pn**	**07 19 11.4**	**+1.8**
SLVT	**Silivri**	**6.58**	**46**	PN		**Pn**	**07 19 12.1**	**+2.5**
BRY	**Bratogost**	**6.66**	**338**	⇓*i* Pn		**Pn**	**07 19 09.2**	**-1.6**
BRY	**Bratogost**	**6.66

A250A Rusevo Krmpots 9.86 329 *e*Pn **Pn** **07 19 52.9 -1.7**
DRGR 10.02 3 ⇑P **Pn** **07 19 58.3 +1.5**
BOJS Bojanci 10.08 332 ⇓*i*Pn **Pn** **07 19 55.8 -1.7**
BOJS Bojanci 10.08 332 ⇓*i*Pn **Pn** **07 19 55.9 -1.6**
BOJS *e*Sn **Sn** **07 21 41.7 -7.5**
BOJS IAML 07 21 45.8
comp=Z,150nm,0.5s
OZLJ Ozalj 10.09 333 *e*Pn **Pn** **07 19 55.5 -2.2**
SMRN Sveta Marina 10.15 327 *e*Pn **Pn** **07 19 56.1 -2.3**
HMYD Mayadein 10.15 131 P **Pn** **07 19 55.4 -3.2**
baz=133
VLDR Vladesti 10.15 25 ⇑P **Pn** **07 20 00.8 +2.3**
HNAT Natroun 10.16 132 P **Pn** **07 19 55.3 -3.3**
baz=134
HNAT S Sn **07 21 47.0 -6.6** 07 21 36.8 -14
baz=134
PTJ Puntijarka 10.17 336 *e*Pn **Pn** **07 19 55.8 -3.1**
KALN Kalnik 10.22 338 *e*Pn **Pn** **07 19 56.3 -3.2**
BRJN Brijuni 10.23 325 *e*Pn **Pn** **07 19 57.8 -1.7**
RIY Rijeka 10.24 329 *e*Pn **Pn** **07 19 57.8 -1.8**
KEST Kesra 10.25 268 Pn **Pn** **07 19 58.6 -1.4**
comp=Z,1.4nm,0.3s,baz=58,slow=14,SNR=9.4
KEST Sn **Sn** **07 21 47.0 -6.6**
comp=Z,2.1nm,0.3s,baz=229,slow=21,SNR=7.0
KEST LR LR 07 24 23.8
comp=Z,608nm,21.2s,baz=31,slow=40
comp=Z,18nm,0.8s
KEST Kesra 10.25 268 **Pn** **07 19 59.8 -0.2**
CRES Cresnjev 10.28 334 *i* Pn **Pn** **07 19 58.2 -2.0**
TESR Tescani 10.34 18 ⇑P **Pn** **07 20 04.3 +3.3**
LOBO Lobor 10.36 337 *e*Pn **Pn** **07 19 59.0 -2.3**
RYAN Fayoum 10.37 135 P **Pn** **07 19 58.4 -3.1**
baz=138
A253A Karojba, Istri 10.50 327 *i* Pn **Pn** **07 20 01.0 -2.2**
TIH Tihany 10.56 345 P **Pn** **07 20 00.6 -3.5**
CEY Cerknica 10.60 330 ⇓*i*Pn **Pn** **07 20 02.8 -1.8**
BIZ Bicaz 10.61 16 ⇑P **Pn** **07 20 08.0 +3.3**
SKDS Skadanscina 10.61 328 ⇓*i*Pn **Pn** **07 20 02.1 -2.7**
PDKS Podkum 10.64 333 *i* Pn **Pn** **07 20 03.5 -1.8**
HSAF As Saff 10.74 129 P **Pn** **07 20 03.0 -3.7**
baz=131
LJU Ljubljana 10.81 331 *e*Pn **Pn** **07 20 05.6 -1.9**
GLL Jalalah 10.86 129 P **Pn** **07 20 04.4 -3.9**
baz=130
MPLH Magyarpolny 10.89 344 P **Pn** **07 20 07.0 -1.6**
BUD Budapest 10.92 349 P **Pn** **07 20 08.1 -0.9**
CSKK Cskako 10.93 347 P **Pn** **07 20 08.9 -0.2**
PERS Pernice 11.10 335 ⇓*i*Pn **Pn** **07 20 09.2 -2.3**
PERS *e*Sn Sn **07 22 05.3 -8.9**
SOKA Soboth 11.16 335 *i* Pn **Pn** **07 20 10.1 -2.3**
comp=Z,45nm,0.4s,SNR=74
SOKA *e*Sn Sn **07 22 06.9 -9.0**
comp=Z,43nm,0.6s
OBKA Obir 11.19 333 ⇓*i*Pn **Pn** **07 20 10.3 -2.5**
OBKA Obir 11.19 333 *e*Pn **Pn** **07 20 11.2 -1.6**
comp=Z,20nm,0.2s,SNR=34
OBKA *e*Sn **Sn** **07 22 11.6 -5.0**
comp=Z,156nm,0.8s
PSZ Piszkesteto 11.24 353 P **Pn** **07 20 11.9 -1.5**
NBNS Bani Suef 11.30 133 P **Pn** **07 20 10.8 -3.5**
baz=135
TRPA Tarpa 11.35 2 P **Pn** **07 20 15.4 +0.5**
SUZ Suez 11.41 124 P **Pn** **07 20 11.9 -4.0**
baz=126
OFRI `Ofer 11.48 107 Pn **Pn** **07 20 14.4 -2.5**
OFRI Sn **07 22 13.1 -11**
VLC Villacollemand 11.49 313 ⇑P **Pn** **07 20 17.3 +0.5**
ARSA Arzberg 11.51 337 *i* Pn **Pn** **07 20 15.0 -2.1**
comp=Z,47nm,0.6s,SNR=27
ARSA *e*Sn **Sn** **07 22 18.6 -5.6**
comp=Z,15nm,0.6s
ARSA Arzberg 11.51 337 ⇑P **Pn** **07 20 14.9 -2.1**
PTCC Patocco-Chiusa 11.57 329 ⇓P **Pn** **07 20 15.4 -2.6**
PTCC ⇓S **Sn** **07 22 20.7 -5.2**
SOP Sopron 11.61 342 P **Pn** **07 20 17.3 -1.1**
MYKA Terra Mystica 11.64 330 *e*Pn **Pn** **07 20 17.2 -1.7**
comp=Z,7.8nm,0.4s
MYKA *e*Sn **Sn** **07 22 22.0 -5.5**
comp=Z,43nm,0.7s
MMAI Mount Meron Ar 11.65 105 Pn **Pn** **07 20 16.6 -2.5**
comp=Z,6.6nm,0.3s,baz=300,slow=12,SNR=7.6
MMAI Sn Sn **07 22 17.8 -10**
comp=Z,13nm,0.3s,baz=303,slow=22,SNR=6.4
MMAI LR LR 07 26 12.8
comp=Z,204nm,18.7s,baz=190,slow=45
comp=Z,2.2nm,0.3s
RONA Rosalia, Austr 11.69 341 *e*Pn **Pn** **07 20 17.1 -2.5**
comp=Z,21nm,0.5s,SNR=18
RONA *e*Sn **Sn** **07 22 23.3 -5.4**
comp=Z,12nm,0.4s
KECS Kecovo 11.75 355 *e*P **Pn** **07 20 20.1 -0.2**
KECS *e* 07 22 24.0
KECS Kecovo 11.75 355 *e*PN **Pn** **07 20 20.1 -0.2**
KECS Kecovo 11.75 355 *e*SN **Sn** **07 22 24.0 -6.1**
GEM Giv'at Ha'Em 11.78 104 Sn Sn **07 22 21.7 -9.3**
NATI Neve Ativ 11.82 103 Pn **Pn** **07 20 18.4 -2.9**
NATI Sn Sn **07 22 22.7 -9.2**
UZH Uzhgorod 11.85 1 *e*P Pn **07 20 25.8 +4.1**
UZH *i* S **Sn** **07 22 38.4 +5.9**
UZH MLR MLR
comp=N,800nm,10.0s
UZH MLR MLR
comp=E,200nm,10.0s
UZH MLR MLR
comp=Z,80nm,10.0s
KZIT Kziot 11.87 116 Pn **Pn** **07 20 17.9 -4.2**
KZIT Sn Sn **07 22 21.2 -12**
SALP Salfit 11.88 109 Pn **Pn** **07 20 19.4 -2.9**
AMAZ Amatzia 11.93 112 Pn **Pn** **07 20 19.8 -3.1**
AMAZ Sn Sn **07 22 24.5 -10**
VYHS Vyhne 11.93 350 *e*P **Pn** **07 20 21.5 -1.4**
VYHS *e* 07 22 27.4
VYHS Vyhne 11.93 350 *e*PN **Pn** **07 20 21.5 -1.4**
VYHS Vyhne 11.93 350 *e*SN **Sn** **07 22 27.4 -7.2**
VYHS *e*LG Lg 07 22 34.3
ZST Bratislava 11.96 344 *e*P **Pn** **07 20 22.4 -0.8**
ZST *e* 07 22 27.5
ZST Bratislava 11.96 344 *e*PN **Pn** **07 20 22.4 -0.8**
ZST *e*PG 07 21 24.8
ZST *e*SN **Sn** **07 22 27.5 -7.7**
ZST *e*SG 07 24 02.2
CONA Conrad Observa 12.02 340 *e*Pn **Pn** **07 20 24.1 0.0**
comp=Z,15nm,0.7s,SNR=8.7
CONA *e*Sn **Sn** **07 22 30.0 -6.9**
comp=Z,10nm,0.5s
HMDT Nahal Hemdat 12.05 108 Pn **Pn** **07 20 21.9 -2.7**
HMDT Sn Sn **07 22 28.3 -9.4**
MODS Modra-Piesok 12.09 345 *e*P **Pn** **07 20 23.5 -1.5**
MODS *e* 07 22 30.9
MODS Modra-Piesok 12.09 345 *e*PN **Pn** **07 20 23.5 -1.5**
MODS *e*PG P 07 21 22.3 +45
MODS *e*SN **Sn** **07 22 30.9 -7.6**
MSSA Maissana 12.09 312 Pn **Pn** **07 20 23.4 -1.7**
KBA Koelnbreinsper 12.12 331 *i* Pn **Pn** **07 20 23.9 -1.7**
comp=Z,20nm,0.4s,SNR=24
KBA *e*Sn Sn **07 22 30.9 -8.6**
comp=Z,23nm,0.4s
KBA Koelnbreinsper 12.12 331 ⇑P **Pn** **07 20 23.7 -1.9**
CRVS Cervenica-Dubn 12.12 358 *e*P **Pn** **07 20 25.5 0.0**
CRVS *e* 07 22 39.6
CRVS Cervenica-Dubn 12.12 358 *e*PN **Pn** **07 20 25.5 0.0**
CRVS *e*PG P 07 21 30.7 +53
CRVS *e*SN **Sn** **07 22 39.6 +0.3**
UJAP Al Uja 12.14 109 Pn **Pn** **07 20 23.6 -2.1**
KOLS Kolonicke sedl 12.15 1 *e*P **Pn** **07 20 26.8 +1.0**
KOLS Kolonicke sedl 12.15 1 *e*PN **Pn** **07 20 26.8 -1.7**
YTIR Yattir 12.16 113 Pn **Pn** **07 20 22.8 -3.3**
YTIR Sn Sn **07 22 29.0 -11**
SMOL Smolenice 12.19 346 *e*P **Pn** **07 20 24.8 -1.6**
ABTA Abfaltersbach 12.20 328 *e*Pn **Pn** **07 20 24.6 -2.0**
comp=Z,39nm,0.6s,SNR=28
ABTA *e*Sn Sn **07 22 32.6 -8.7**
comp=Z,69nm,0.6s
DSI Dead Sea 12.26 111 Pn **Pn** **07 20 24.2 -3.2**
DSI Sn Sn **07 22 32.1 -11**
SIM Simferopol' 12.29 45 *e*P P **07 20 33.7 -5.7**
SIM pmax pmax
comp=Z,89nm,0.9s
SIM MLR MLR
comp=N,236nm,18.3s
SALO Salr 12.33 319 Pn **Pn** **07 20 26.3 -2.1**
SALO Salr 12.33 319 ⇓P **Pn** **07 20 26.9 -1.4**
MOA Molln 12.44 335 *e*Pn **Pn** **07 20 28.1 -1.7**
comp=N,36nm,0.5s,SNR=26
MOA *e*Sn **Sn** **07 22 39.8 -7.2**
comp=N,18nm,0.4s
JAVC Velka Javorina 12.48 347 *e*PN **Pn** **07 20 28.2 -2.1**
DAMI2 DAM2 12.50 113 Pn **Pn** **07 20 27.5 -3.1**
LANS Liptovska Anna 12.50 352 *e*P **Pn** **07 20 32.7 +2.1**
LANS *e* 07 22 43.3
LANS Liptovska Anna 12.50 352 *e*PN **Pn** **07 20 32.7 +2.1**
LANS Liptovska Anna 12.50 352 *e*SN **Sn** **07 22 43.3 -5.2**
BIOA Bad Ischl, Aus 12.52 333 *i* Pn **Pn** **07 20 29.0 -1.9**
comp=N,29nm,0.3s,SNR=34
BIOA *e*Sn **Sn** **07 22 44.2 -4.8**
comp=N,42nm,0.4s
KRMI Paran Flat 12.55 118 Pn **Pn** **07 20 27.2 -4.2**
KRMI Sn Sn 07 22 37.1 -13
PRNI Paran 12.61 117 Pn **Pn** **07 20 28.1 -4.2**
NIE Niedzica 12.69 355 *e*P **Pn** **07 20 34.6 +1.3**
HRFI Mount Harif 12.81 118 Pn **Pn** **07 20 31.8 -3.2**
HRFI Sn Sn 07 22 45.5 -11
MBRI Mt Berech 12.87 119 Pn **Pn** **07 20 31.4 -4.4**
KRUC Moravsky 12.93 343 *e*PN **Pn** **07 20 34.2 -2.3**
MAUC Maruska 12.94 348 *e*P **Pn** **07 20 34.6 -2.0**
EIL Elat 12.97 119 Pn **Pn** **07 20 32.5 -4.6**
comp=N,3.1nm,0.3s,baz=306,slow=8.7,SNR=12
EIL Sn Sn 07 22 46.8 -13
comp=N,8.5nm,0.3s,baz=166,slow=9.9,SNR=8.2
EIL LR LR 07 27 30.3
comp=N,309nm,20.7s,baz=263,slow=46
EIL Elat 12.97 119 Pn **Pn** **07 20 33.1 -4.0**
EIL Sn Sn 07 22 47.8 -12
WTTA Wattenberg 12.98 327 *e*Pn **Pn** **07 20 36.4 -0.9**
comp=N,32nm,0.4s,SNR=39
WATA Walderalm 13.06 327 *e*Pn **Pn** **07 20 37.5 -0.9**
comp=N,82nm,0.5s,SNR=46
WATA *e*Sn **Sn** **07 22 55.8 -6.5**
comp=N,74nm,0.7s
LVV L'vov 13.12 6 *e*P **Pn** **07 20 38.1 -1.0**
VRAC Vranov 13.12 344 Pn **Pn** **07 20 36.8 -2.2**
comp=N,0.9nm,0.3s,baz=171,slow=12,SNR=17
VRAC Sn **Sn** **07 22 58.0 -5.6**
comp=N,0.5nm,0.3s,baz=237,slow=11,SNR=1.4
VRAC LR LR 07 27 15.4
comp=N,368nm,21.0s,baz=168,slow=45
comp=N,18nm,0.8s
VRAC Vranov 13.12 344 *e*PN **Pn** **07 20 36.6 -2.5**
SQTA Sankt Quirin 13.14 326 *e*Pn **Pn** **07 20 39.2 -0.2**
comp=N,34nm,0.5s,SNR=25
SQTA *e*Sn **Sn** **07 22 58.1 -6.1**
comp=N,47nm,0.5s
ASF Jabal al Asfar 13.14 106 Pn **Pn** **07 20 37.1 -2.4**
comp=N,3.1nm,0.3s,baz=290,slow=4.4,SNR=16
ASF Sn **Sn** **07 22 55.8 -8.6**
comp=N,0.9nm,0.3s,baz=12,slow=10,SNR=1.8
comp=N,2.6nm,0.3s
FUORN Ofenpass-Fuorn 13.15 322 **Pn** **07 20 39.4 -0.3**
FETA Feichten 13.21 324 *e*Pn **Pn** **07 20 39.7 -0.7**
comp=N,17nm,0.6s,SNR=12
FETA *e*Sn **Sn** **07 22 58.7 -7.3**
comp=N,12nm,0.4s
CKRC Cesky Krumlov 13.28 337 *e*P **Pn** **07 20 39.8 -1.4**
CKRC *ex* x 07 20 50.1
MOTA Moosalm 13.28 326 *i* Pn **Pn** **07 20 40.8 -0.6**
comp=N,134nm,0.7s,SNR=60
MOTA *e*Sn **Sn** **07 23 01.7 -6.0**
comp=N,62nm,0.8s
OKC Ostrava-Krasne 13.35 349 *e*P **Pn** **07 20 41.8 -0.3**
OKC Ostrava-Krasne 13.35 349 *e*P **Pn** **07 20 41.8 -0.3**
MORC Moravsky Berou 13.38 348 *e*PN **Pn** **07 20 40.4 -2.3**
DAVOX Davos/Dischmat 13.45 322 Pn **Pn** **07 20 43.7 0.0**
comp=N,6.8nm,0.3s,baz=147,slow=18,SNR=24
DAVOX Sn Sn 07 23 00.6 -11
comp=N,2.3nm,0.3s,baz=156,slow=20,SNR=2.4
DAVOX LR LR 07 26 38.3
comp=N,517nm,20.1s,baz=114,slow=41
comp=N,25nm,0.5s
GERES GERESS Array B 13.49 336 Pn **Pn** **07 20 41.6 -2.6**
comp=N,7.6nm,0.3s,baz=154,slow=13,SNR=79
GERES Sn Sn 07 23 04.3 -8.4
comp=N,4.4nm,0.3s,baz=147,slow=24,SNR=10
GERES LR LR 07 27 47.8
comp=N,460nm,18.9s,baz=146,slow=46
comp=N,15nm,0.5s
TUE Stuetta 13.51 320 **Pn** **07 20 44.1 -0.4**
TUE Stuetta 13.51 320 ⇑P **Pn** **07 20 44.9 +0.3**
TUE ⇑S **Sn** **07 23 05.8 -7.6**
OJC Ojcow 13.53 354 *e*P **Pn** **07 20 41.6 -3.0**
RETA Reutte 13.54 326 *e*Pn **Pn** **07 20 43.9 -0.9**
comp=N,13nm,0.4s,SNR=13
RETA *e*Sn **Sn** **07 23 08.8 -5.1**
comp=N,38nm,0.6s
KHC Kasperske Hory 13.78 336 *e*P **Pn** **07 20 45.6 -2.5**
KHC *e*S Sn 07 23 11.4 -8.3
KHC Kasperske Hory 13.78 336 *e*P **Pn** **07 20 45.6 -2.5**
KHC *ex* x 07 20 55.5
KHC *e*S Sn 07 23 11.4 -8.3
KHC Kasperske Hory 13.78 336 ⇓P **Pn** **07 20 45.4 -2.7**
DAVA Damuels 13.80 323 *e*Pn **Pn** **07 20 49.0 +0.5**
comp=N,8.3nm,0.4s,SNR=15
DAVA Damuels 13.80 323 ⇑P **Pn** **07 20 49.3 +0.8**
KRLC Kraliky 13.81 346 *e*P **Pn** **07 20 48.0 -0.5**
KRLC *e*S **Sn** **07 23 13.1 -7.4**
KRLC Kraliky 13.81 346 *e*P **Pn** **07 20 48.0 -0.5**
KRLC *ex* x 07 20 57.2
KRLC *e*S **Sn** **07 23 13.1 -7.4**
GOPC GO Pecny, Ondr 14.12 341 *e*P **Pn** **07 20 50.6 -2.1**
GOPC GO Pecny, Ondr 14.12 341 *e*P **Pn** **07 20 50.6 -2.1**
GOPC *ex* x 07 20 59.5
DPC Dobruska-Polom 14.16 345 *e*P **Pn** **07 20 51.5 -1.8**
DPC Dobruska-Polom 14.16 345 *e*P **Pn** **07 20 51.5 -1.8**
DPC *ex* x 07 20 59.3
ANN Anapa 14.18 51 *e*P **P** **07 20 58.7 -1.7**
ANN pmax pmax
comp=E,30nm,0.6s
ANN pmax pmax
comp=N,60nm,0.8s
ANN pmax pmax
comp=Z,151nm,0.8s
ANN MLR MLR
comp=Z,226nm,12.0s
BNI Bardonecchia 14.20 310 **Pn** **07 20 52.3 -1.6**
BNI Bardonecchia 14.20 310 P **Pn** **07 20 52.3 -1.6**
BNI Bardonecchia 14.20 310 ⇓P **Pn** **07 20 55.6 +1.7**
PRU Pruhonice 14.26 340 *e*P **Pn** **07 20 53.1 -1.4**
PRU MLR MLR
comp=Z,700nm,13.6s
PRU Pruhonice 14.26 340 *e*P **Pn** **07 20 53.1 -1.4**
PRU *ex* x 07 21 01.0
PRU AMS AMS 07 27 30.0
comp=Z,700nm,13.6s
UPC Upice 14.38 345 *e*P **Pn** **07 20 55.0 -1.2**
UPC Upice 14.38 345 *e*P **Pn** **07 20 55.0 -1.2**
UPC *ex* x 07 21 03.1
OSTC Ostas 14.38 345 *e*P **Pn** **07 20 54.7 -1.6**
OSTC *ex* x 07 21 03.1
CHVC Chvalec 14.45 345 *e*P **Pn** **07 20 55.9 -1.2**
KSP Ksiaz 14.64 346 *e*P **Pn** **07 20 58.9 -0.8**
KSP *e*pP **P** **07 21 06.1 +0.6**
KSP Ksiaz 14.64 346 ⇓P **Pn** **07 21 00.2 +0.5**
PVCC Panska Ves 14.74 341 *e*P **Pn** **07 20 59.5 -1.6**
PVCC Panska Ves 14.74 341 *e*P **Pn** **07 20 59.5 -1.6**
AKASG Malin Array Be 14.86 18 Pn **Pn** **07 21 00.8 -1.9**
comp=Z,2.2nm,0.3s,baz=208,slow=12,SNR=12
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 14.86 18 **Pn** **07 21 01.7 -1.0**
AKASG Malin Array Be 14.86 18 P **Pn** **07 21 01.7 -1.0**
AKBB Malin Array Si 14.86 18 **Pn** **07 21 02.3 -0.4**
AKBB Malin Array Si 14.86 18 P **Pn** **07 21 02.3 -0.4**
MARD Mardin 15.03 82 Pn **Pn** **07 21 05.1 -0.1**
GRFO Grafenberg 15.08 332 **Pn** **07 21 03.9 -1.6**
GRFO IAmb IAmb 07 21 12.0
comp=Z,141nm,1.2s
GRFO Grafenberg 15.08 332 P **Pn** **07 21 03.9 -1.6**
GRFO pmax pmax
comp=Z,141nm,1.2s
GRA1 Grafenberg Arr 15.08 332 IAmb IAmb 07 21 12.1
comp=Z,168nm,1.3s
BEL Belsk 15.08 357 *e*P **P** **07 21 11.8 +1.4**
NKC Novy Kostel 15.10 336 *e*P **Pn** **07 21 04.2 -1.7**
NKC Novy Kostel 15.10 336 *e*P **Pn** **07 21 04.2 -1.7**
SOC Sochi 15.16 58 *e*P **P** **07 21 09.5 -1.8**
SOC pmax pmax
comp=Z,29nm,0.7s
SOC MLR MLR
comp=Z,69nm,13.0s

STU Stuttgart 15.19 326 IAmb IAmb 07 21 06.9
comp=Z,62nm,0.8s
BRG Berggiesshubel 15.22 340 *i* P **Pn** **07 21 05.5 -2.0**
BRG Amp 07 21 07.6
comp=Z,16nm,1.1s
BRG *ex* x 07 21 12.5
BRG Amp 07 21 13.6
comp=Z,36nm,0.8s
BRG *ex* x 07 21 30.3
BRG Amp 07 21 31.5
comp=Z,20nm,0.7s
BRG Amp 07 28 24.0
comp=Z,0.7nm,9.7s
BRG Amp 07 28 26.0
comp=E,0.4nm,6.6s
BRG Amp 07 28 35.0
comp=N,0.5nm,6.3s
BRG Berggiesshubel 15.22 340 *i* P **Pn** **07 21 05.4 -2.0**
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,36nm,0.8s
BRG pmax pmax
comp=Z,20nm,0.7s
BRG MLR MLR
comp=Z,657nm,9.7s
BRG MLR MLR
comp=E,355nm,6.6s
BRG MLR MLR
comp=N,514nm,6.3s
BFO Black Forest 15.28 323 **Pn** **07 21 06.8 -1.5**
BFO Black Forest 15.28 323 *e*P **Pn** **07 21 06.8 -1.5**
BFO Black Forest 15.28 323 ⇑P **Pn** **07 21 07.4 -0.8**
VSLR Vesyoloye 15.33 59 *de*P **Pn** **07 21 08.6 -0.4**
SSB Saint Sauveur 15.63 308 ⇓P **Pn** **07 21 11.7 -1.2**
CLL Collm 15.87 339 IAmb IAmb 07 21 20.9
comp=Z,78nm,1.0s
CLL Collm 15.87 339 *i* P **Pn** **07 21 15.2 -0.7**
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 15.87 339 *i* P **Pn** **07 21 15.2 -0.7**
comp=Z,15nm,1.1s
CLL *i* x x 07 21 19.0
comp=Z,108nm,1.2s
CLL *es*P **pP** **07 21 30.0 +1.1**
CLL *ex* x 07 21 36.0
CLL *ex* x 07 24 47.0
CLL LmV 07 30 00.0
comp=Z,300nm,19.8s
RUE Ruedersdorf 16.73 342 *e*P **P** **07 21 28.0 -0.6**
GKP Gorka Klasztor 16.82 350 *e*P **Pn** **07 21 28.7 +0.9**
NEY Neytrino 17.14 61 ⇑*e*P **P** **07 21 34.9 +1.4**
SHA1 Shidzhatmaz 17.23 60 *c i*P **P** **07 21 34.6 +0.1**
WLF Walferdange 17.24 323 P **P** **07 21 34.2 -0.1**
WLF IAmb IAmb 07 21 37.8
comp=Z,106nm,1.2s
WLF Walferdange 17.24 323 P **P** **07 21 34.2 -0.1**
WLF pmax pmax
comp=Z,106nm,1.2s
WLF Walferdange 17.24 323 *d*P **P** **07 21 36.4 +2.1**
comp=Z,36nm,1.2s
KIV Kislovodsk 17.31 59 **Pn** **07 21 34.0 -0.2**
KIV Kislovodsk 17.31 59 *e*P **P** **07 21 35.4 +0.1**
KIV *e*S **S** **07 24 50.8 -2.7**
KIV pmax pmax
comp=Z,54nm,1.1s
KIV MLR MLR
comp=Z,165nm,14.0s
KIV Kislovodsk 17.31 59 P **P** **07 21 34.9 -0.4**
KVAR Kislovodsk Arr 17.32 59 Pn **P** **07 21 35.3 -0.1**
baz=252,slow=20
KVAR LR LR 07 28 49.2
comp=Z,254nm,21.2s,baz=7.0,slow=39
comp=Z,9.7nm,0.8s
KBZ Khabaz 17.39 60 Pn **P** **07 21 36.4 +0.3**
comp=Z,2.2nm,0.3s,baz=266,slow=7.1,SNR=48
KBZ LR LR 07 29 56.8
comp=Z,386nm,19.7s,baz=260,slow=43
comp=Z,32nm,0.7s
KBZ Khabaz 17.39 60 *ce*P **P** **07 21 36.5 +0.5**
ONI Oni 17.51 64 P **Pn** **07 21 36.7 +0.1**
ONI Oni 17.51 64 P **Pn** **07 21 36.7 +0.1**
ONI pmax pmax
comp=Z,36nm,1.1s
BHOU Houvegnez 17.78 325 *d*P **P** **07 21 40.9 +0.6**
comp=Z,16nm,0.9s
ZEI Tsey 17.87 64 *e*P **Pn** **07 21 40.5 -0.7**
ZEI pmax pmax
comp=Z,103nm,1.0s
BTNL Ternell 17.88 325 *d*P **P** **07 21 42.0 +0.5**
comp=Z,30nm,1.2s
GOF Gofitskoye 17.91 56 ⇑*e*P **Pn** **07 21 41.3 -0.2**
MEM Membach 17.96 325 *d*P **P** **07 21 43.2 +1.0**
comp=Z,30nm,1.1s
RCHB Rochefort 18.01 323 *d*P **P** **07 21 43.3 +0.5**
GNI Garni 18.14 72 Pn **P** **07 21 45.2 +0.7**
comp=Z,15nm,0.7s,baz=130,slow=3.7,SNR=11
GNI LR LR 07 30 12.0
comp=Z,529nm,18.5s,baz=275,slow=42
GNI Garni 18.14 72 P **P** **07 21 44.6 +0.1**
GNI Garni 18.14 72 P **Pn** **07 21 43.5 -0.9**
BCLA Clavier 18.15 324 *d*P **P** **07 21 46.8 +2.4**
MNK Minsk 18.19 11 *i* P **P** **07 21 41.8 -2.9**
MNK *i* S **Sn** **07 25 03.9 -2.6**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=Z,585nm,16.0s
MNK MLR MLR
comp=E,17nm,16.0s
MNK Minsk 18.19 11 *i* P **P** **07 21 41.9 -2.9**
comp=E,2.0nm,0.9s
MNK *i* P **P** **07 21 41.9 -2.9**
MNK *i* P **P** **07 21 41.9 -2.9**
comp=Z,15nm,0.9s,baz=196
MNK *i* PP **pP** **07 21 54.4 0.0**
MNK *i* S **Sn** **07 25 04.0 -2.6**
MNK *i* SS **SnSn** **07 25 20.0 -0.5**
MNK *i* LQ LQ 07 27 10.4
MNK *i* LR LR 07 28 23.8
MNK *i* LRM MLR 07 29 37.4
comp=Z,585nm,15.5s
MNK *i* LRM MLR 07 30 08.4
comp=E,17nm,15.6s
MNK *i* LRM MLR 07 30 33.1
BGES Gesves 18.23 324 *d*P **Pn** **07 21 46.6 +1.3**
DOU Dourbes 18.28 322 *d*P **Pn** **07 21 46.2 +0.3**
comp=Z,128nm,1.0s
BMRD Maredsous 18.33 323 *d*P **Pn** **07 21 47.5 +1.0**
comp=Z,67nm,1.1s
CLF Chambon-Foret 18.33 314 IAmb IAmb 07 21 48.3
comp=Z,114nm,1.3s
NACGM Naroch 18.43 9 ⇓*e*P **P** **07 21 46.6 -0.7**
baz=195
PABE Paberze 18.78 4 P **P** **07 21 50.2 -1.0**
PABE IAmb IAmb 07 22 03.6
comp=Z,91nm,0.7s
PABE Paberze 18.78 4 *e*P **P** **07 21 50.7 -0.5**
IIGN Ignalina 18.80 8 *e*P **P** **07 21 51.5 0.0**
IIGN IAmb IAmb 07 22 05.0
comp=Z,29nm,0.6s
VSR Storozhevoye 18.94 35 *e*P **P** **07 21 51.4 -1.6**
VSR pmax pmax
comp=Z,20nm,0.5s
BSD Bornholm Skovb 18.97 347 *e*P **P** **07 21 52.5 -0.8**
BSD Bornholm Skovb 18.97 347 *i* P **P** **07 21 51.0 -2.2**
BSD *i* P **P** **07 21 51.0 -2.2**
BSD *i* P **P** **07 21 51.0 -2.2**
BSD *i* P **P** **07 21 51.0 -2.2**
BSD IAmb IAmb 07 21 53.1
comp=Z,218nm,1.4s
ISAL Salakas 19.01 7 *e*P **P** **07 21 53.3 -0.5**
ISAL IAmb IAmb 07 22 05.3
comp=Z,17nm,0.7s
VSVD Vaisvydziai 19.25 3 *e*P **P** **07 21 55.9 -0.5**
VORR Voronezh 19.27 34 *e*P **P** **07 21 54.4 -2.2**
VORR pmax pmax
comp=Z,190nm,0.4s
GROC Groznyy 19.32 63 *e*P **P** **07 21 57.3 +0.1**
GROC pmax pmax
comp=Z,487nm,1.4s
LUNU Lund 19.73 346 *i* P **P** **07 22 01.0 -0.6**
LUNU *i* P **P** **07 22 01.0 -0.6**

LPSR **Galich'ya Gora** 19.81 32 *e*P P 07 22 01.2 -1.3
LPSR *e*S **S** 07 25 41.8 -1.7
LPSR pmax pmax
comp=Z,90nm,0.6s
LPSR smax smax
comp=N,270nm,1.5s
BLEU Blekinge 19.97 350 *i* P P 07 22 02.2 -2.0
COP Copenhagen 19.99 344 *i* P P 07 22 04.2 -0.2
VRH Novokhopyorsk 20.15 38 *e*P P 07 22 05.6 -0.6
VRH *e*S **S** 07 25 47.3 -3.0
VRH pmax pmax
comp=Z,210nm,0.6s
VRH smax smax
comp=N,460nm,1.0s
BJUU Bjuv 20.23 345 *i* P P 07 22 06.5 -0.6
DEL Delary 20.44 347 *i* P P 07 22 08.0 -1.3
DEL *i* P P 07 22 08.0 -1.3
MAK Makhachkala 20.51 65 *e*P P 07 22 05.7 -4.5
MAK *e* 07 22 27.8
MAK *e*S **S** 07 25 53.9 -3.6
MAK *e*SS **SnSn** 07 26 18.2 +0.8
MAK pmax pmax
comp=Z,355nm,1.1s
MAK MLR MLR
comp=Z,124nm,16.0s
ESBB Sonseca Array 20.55 286 P P 07 22 10.0 -0.8
ESDC Sonseca Array 20.56 286 P P 07 22 09.5 -1.3
comp=Z,12nm,0.8s,baz=79,slow=10,SNR=51
ESDC LR LR 07 31 13.0
comp=Z,168nm,18.1s,baz=99,slow=40
comp=Z,12nm,0.8s
PAB San Pablo 20.85 286 P P 07 22 13.4 -0.7
PAB San Pablo 20.85 286 P P 07 22 13.4 -0.7
PAB pmax pmax
comp=Z,44nm,1.7s
PAB San Pablo 20.85 286 ⇑P P 07 22 13.5 -0.5
OBN Obninsk 20.88 24 P P 07 22 12.3 -1.8
comp=Z,12nm,0.3s,baz=213,slow=23,SNR=7.8
OBN S **S** 07 26 01.4 -3.2
comp=Z,8.6nm,0.4s,baz=216,slow=23,SNR=7.0
OBN LR LR 07 30 38.4
comp=Z,105nm,20.9s,baz=210,slow=38
comp=Z,12nm,0.3s
OBN Obninsk 20.88 24 ⇓*i*P P 07 22 11.7 -2.4
OBN *e* 07 22 31.3
OBN *e*PPP PPP 07 22 40.4
OBN *i* S **S** 07 26 01.0 -3.7
OBN pmax pmax
comp=Z,110nm,1.3s
OBN MLR MLR
comp=Z,449nm,21.0s
FABU Falkenberg 21.16 346 *i* P P 07 22 16.5 -0.6
MUD Monsted U'grnd 21.49 340 *e*P P 07 22 22.7 +2.1
MUD IAmb IAmb 07 22 23.6
comp=Z,73nm,1.0s
ONAU Onsala 21.69 345 *i* P P 07 22 24.0 +1.3
MOS Moscow 21.74 24 *e*P P 07 22 19.2 -4.1
MOS *e* 07 22 42.1
MOS *e*S **S** 07 26 18.3 -3.3
MOS *e* 07 26 42.6
MOS *e* 07 33 36.0
MOS pmax pmax
comp=Z,134nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.9s
VSU Vasula 21.92 7*c*e P P 07 22 25.0 -0.2
VSU pmax pmax
comp=Z,112nm,0.8s
VSU Vasula 21.92 7 *e*P P 07 22 25.6 +0.4
MTSE Matsula 21.98 3 *e*P P 07 22 25.4 -0.4
GOET G??ttrup 21.98 341 *i* P P 07 22 25.4 -0.5
GOET IAmb IAmb 07 22 27.4
comp=Z,347nm,1.4s
MDT Midelt 22.15 268 P P 07 22 27.6 -0.4
comp=Z,4.1nm,0.8s,baz=81,slow=12,SNR=7.0
MDT LR LR 07 32 48.3
comp=Z,166nm,19.3s,baz=85,slow=41
comp=Z,4.1nm,0.8s
PBRG Braganca 22.73 292 *e*P P 07 22 32.2 -1.9
comp=Z,31nm,1.7s
MVO Moncorvo 22.91 290 *e*P P 07 22 34.2 -1.9
comp=Z,37nm,1.2s
MVO *e*S **S** 07 26 46.8 +3.4
PBAR Barrancos 23.03 282 *e*P P 07 22 36.7 -0.5
comp=Z,50nm,1.3s
PMRV Marv??o 23.21 286 *e*P P 07 22 36.9 -2.1
comp=Z,34nm,1.7s
HOMB Homborsund 23.26 342 *i* P P 07 22 38.0 -1.2
HOMB *i* P P 07 22 38.0 -1.2
PCBR Castelo Branco 23.26 287 *e*P P 07 22 36.6 -2.9
comp=Z,29nm,1.5s
MCH1 Michaelchurch 23.29 319 ⇓P P 07 22 38.2 -1.4
MTE Manteigas 23.30 288 *e*P P 07 22 40.2 +0.3
comp=Z,38nm,1.2s
MTE *e*S **S** 07 26 54.2 +4.4
STRU Stroemstad 23.36 346 *i* P P 07 22 37.4 -2.8
PESTR Estremoz 23.40 284 *e*P P 07 22 39.3 -1.6
comp=Z,37nm,1.2s
PESTR Estremoz 23.40 284 P P 07 22 37.9 -3.0
PESTR IAmb IAmb 07 22 40.3
comp=Z,70nm,2.0s
PVRL Vila Real 23.44 290 *e*P P 07 22 39.9 -1.3
comp=Z,34nm,1.8s
POLO Lamas de Olo 23.50 290 *e*P P 07 22 42.5 +0.6
MEF Metsahovi 23.51 3 *e*P P 07 22 40.5 -1.1
PVIS Viseu 23.57 289 *e*P P 07 22 42.0 -0.5
comp=Z,48nm,1.5s
PVAQ Vaqueiros 23.65 281 *e*P P 07 22 42.3 -1.0
comp=Z,79nm,1.6s
PVAQ *e*S **S** 07 27 00.5 +5.1
PVAQ Vaqueiros 23.65 281 IAmb IAmb 07 22 52.6
comp=Z,53nm,1.6s
PVAQ Vaqueiros 23.65 281 ⇑P P 07 22 42.5 -0.8
SNART Snartemo 23.66 340 *i* P P 07 22 42.0 -1.1
SNART *i* P P 07 22 42.0 -1.1
SNART Snartemo 23.66 340 *e*P P 07 22 43.6 +0.5
SNART IAmb IAmb 07 22 44.2
comp=Z,114nm,1.0s
PCAB Cabril 23.68 291 *e*P P 07 22 42.7 -0.9
PBEJ Beja 23.69 282 *e*P P 07 22 41.9 -1.8
comp=Z,52nm,1.7s
EVO Evora 23.76 283 *e*P P 07 22 44.4 +0.1
comp=Z,32nm,1.6s
BELG Belogornoye 23.85 41 P P 07 22 43.1 -1.9
comp=Z,147nm,0.6s,baz=253,slow=0.6,SNR=58
BELG S **S** 07 26 55.7 -2.5
comp=Z,33nm,1.0s,baz=212,slow=19,SNR=7.3
BELG LR LR 07 33 21.5
comp=Z,317nm,19.9s,baz=311,slow=40
PCVE Castro Verde 23.87 281 *e*P P 07 22 46.1 +0.7
comp=Z,72nm,2.0s
PGAV Gavieira, Arco 23.87 292 *e*P P 07 22 47.5 +2.0
PGAV *e*S **S** 07 27 04.4 +5.3
PMTG Montargil 23.88 285 *e*P P 07 22 42.9 -2.5
comp=Z,27nm,1.3s
HFS Hagfors 23.97 350 P P 07 22 44.2 -1.8
comp=Z,20nm,0.5s,baz=155,slow=11,SNR=113
HFS S **S** 07 26 56.7 -3.4
comp=Z,11nm,0.9s,baz=143,slow=16,SNR=3.8
HFS LR LR 07 34 51.7
comp=Z,108nm,20.4s,baz=164,slow=44
comp=Z,20nm,0.5s
MESJ Messejana 23.99 282 *e*P P 07 22 45.8 -0.6
MESJ IAmb IAmb 07 22 46.3
comp=Z,25nm,0.9s
MESJ *e*S **S** 07 27 03.0 +2.2
MESJ Messejana 23.99 282 *e*P P 07 22 45.7 -0.7
comp=Z,60nm,1.9s
MESJ Messejana 23.99 282 *e*P P 07 22 45.8 -0.6
MESJ *e*S **S** 07 27 03.0 +2.2
MESJ Messejana 23.99 282 ⇓P P 07 22 46.0 -0.4
PCAS Casmilo, Conde 24.04 287 *e*P P 07 22 47.8 +0.9
RAYN Ar Rayn 24.18 117 P P 07 22 49.0 +0.6
RAYN Ar Rayn 24.18 117 P P 07 22 49.0 +0.6
RAYN pmax pmax
comp=Z,28nm,1.2s
RAYN Ar Rayn 24.18 117 P P 07 22 47.1 -1.3
RAYN Ar Rayn 24.18 117 ⇑p P 07 22 57.3 +8.9
PNCL Nicolau / Gran 24.20 282 *e*P P 07 22 47.2 -1.2
KONO Kongsberg 24.25 345⇑*e*P P 07 22 47.2 -1.3
KONO pmax pmax
comp=Z,61nm,1.3s
KONO Kongsberg 24.25 345 *e*P P 07 22 46.8 -1.8
RAF Rauma 24.27 360 *e*P P 07 22 46.4 -2.4
OSL Oslo 24.28 346 *e*P P 07 22 47.5 -1.3
OSL IAmb IAmb 07 22 48.0
comp=Z,147nm,1.2s
PTEO Sao Teotonio 24.42 281 *e*P P 07 22 50.2 -0.2
BLS5 Blasjo 24.79 341 *e*P P 07 22 53.9 +0.3
BLS5 IAmb IAmb 07 22 54.7
comp=Z,327nm,1.6s
FINES FINESS Array B 24.82 5 P P 07 22 52.6 -1.2
comp=Z,12nm,0.6s,baz=169,slow=9.9,SNR=45
FINES S **S** 07 27 11.2 -2.5
comp=Z,15nm,1.1s,baz=189,slow=18,SNR=3.3
FINES LR LR 07 33 44.9
comp=Z,423nm,19.5s,baz=212,slow=39
comp=Z,12nm,0.6s
FINES FINESS Array B 24.82 5 P P 07 22 52.9 -0.9
FINES FINESS Array B 24.82 5 P P 07 22 52.9 -0.9
FIA1 FINESS Array S 24.82 5 P P 07 22 53.3 -0.5
NC602 NORSAR Array S 24.88 348 *e*P P 07 22 53.0 -1.4
NC405 NORSAR Array S 25.21 348 P P 07 22 55.5 -1.8
NB201 NORSAR Array S 25.22 348 P P 07 22 56.0 -1.4
NB2 NORSAR Subarra 25.22 348 P P 07 22 56.2 -1.3
comp=Z,24nm,0.8s,baz=156,slow=9.3
NB2 NORSAR Subarra 25.22 348 P P 07 22 56.2 -1.3
baz=156,slow=9.3
NOA NORSAR Array B 25.22 348 P P 07 22 56.2 -1.3
comp=Z,20nm,0.9s,baz=156,slow=9.1,SNR=46
NOA LR LR 07 35 17.5
comp=Z,205nm,19.2s,baz=165,slow=42
comp=Z,20nm,0.9s
EKA Eskdalemuir Ar 25.23 325 P P 07 22 56.5 -1.0
comp=Z,48nm,0.7s,baz=126,slow=9.1,SNR=58
EKA LR LR 07 33 35.8
comp=Z,234nm,18.6s,baz=108,slow=38
comp=Z,48nm,0.7s
VALR Valaam 25.24 10*de*P P 07 22 56.2 -1.3
VALR pmax pmax
comp=Z,37nm,0.8s
ESK Eskdalemuir 25.25 325 P P 07 22 56.7 -1.0
ESK Eskdalemuir 25.25 325 P P 07 22 56.7 -1.0
ESK pmax pmax
comp=Z,54nm,0.8s
ESK Eskdalemuir 25.25 325 ⇑P P 07 22 57.0 -0.7
NC303 NORSAR Array S 25.37 348 IAmb IAmb 07 23 01.2
comp=Z,46nm,1.1s
SKAR Skarslia 25.46 344 *e*P P 07 23 00.2 +0.6
SKAR IAmb IAmb 07 23 01.9
comp=Z,17nm,0.8s
ASK Askoy 26.03 341 *e*P P 07 23 05.7 +1.0
HYA Hoyanger 26.37 343 *e*P P 07 23 09.6 +1.8
DOMB Dombas 26.54 346 *e*P P 07 23 09.4 0.0
DOMB IAmb IAmb 07 23 11.9
comp=Z,32nm,0.7s
KLMR Klimovskoe 26.55 19 *e*P P 07 23 09.6 +0.2
KLMR pmax pmax
comp=Z,176nm,1.9s
KLMR Klimovskoe 26.55 19 *e*P P 07 23 09.6 +0.2
KLMR AMP 07 23 21.3
comp=Z,176nm,1.9s
AKN Aaknes 27.08 345 *e*P P 07 23 13.1 -1.2
KIRV Kirov 28.23 31 P P 07 23 22.8 -1.7
comp=Z,32nm,0.5s,baz=224,slow=4.2,SNR=7.8
KIRV S **S** 07 28 00.1 -7.5
comp=Z,30nm,0.8s,baz=105,slow=23,SNR=16
KIRV LR LR 07 36 05.6
comp=Z,184nm,19.1s,baz=233,slow=40
comp=Z,32nm,0.5s
NSS Namsos 28.43 351 *e*P P 07 23 25.1 -1.0
NSS IAmb IAmb 07 23 27.6
comp=Z,18nm,0.8s
GEYT Alibeck 28.65 77 P P 07 23 27.6 -0.9
comp=Z,12nm,0.5s,baz=268,slow=9.7,SNR=21
GEYT LR LR 07 37 55.4
comp=Z,136nm,18.7s,baz=326,slow=43
comp=Z,12nm,0.5s
GYA0 ALIBECK ARRAY 28.65 77 P P 07 23 27.3 -1.2
GYA0B ALIBECK ARRAY 28.65 77 IAmb IAmb 07 23 45.2
comp=Z,16nm,0.6s
PRGR Permogore 28.96 23 *e*P P 07 23 34.0 +3.1
PRGR *e* 07 26 33.0
PRGR *e*S **S** 07 28 12.0 -7.0
PRGR pmax pmax
comp=Z,60nm,1.2s
AKTO Aktyubinsk 29.14 51 P P 07 23 31.0 -1.7
comp=Z,7.3nm,0.5s,baz=262,slow=12,SNR=23
AKTO LR LR 07 37 53.8
comp=Z,264nm,20.0s,baz=248,slow=42
comp=Z,7.3nm,0.5s
TOA0 Torodi Ar. Sit 29.73 223 P P 07 23 36.8 -1.4
TORD Torodi Ar. Bea 29.73 223 P P 07 23 36.9 -1.3
comp=Z,15nm,0.6s,baz=44,slow=11,SNR=5.2
TORD LR LR 07 37 30.3
comp=Z,62nm,20.0s,baz=259,slow=40
comp=Z,15nm,0.6s
MOR8 Moi Rana 29.76 354 *e*P P 07 23 39.9 +1.8
AB31 Akbulak array 30.11 53 *e*P P 07 23 39.5 -1.8
ABKAR Akbulak array 30.11 53 P P 07 23 39.7 -1.7
ABKAR Akbulak array 30.11 53 P P 07 23 39.9 -1.4
ABKAR IAmb IAmb 07 24 34.3
comp=Z,8.6nm,0.8s
ABKAR Akbulak array 30.11 53 ⇑P P 07 23 39.6 -1.7
KONS Konsvik 30.20 353 *e*P P 07 23 41.1 -0.7
FAUS Fauske 30.89 355 *e*P P 07 23 48.5 +0.6
SHME Shamm 30.91 100 P P 07 23 46.8 -1.8
ASUD Al Ashush, Dub 30.98 104 P P 07 23 46.6 -2.6
BANOM Banah 31.10 101 P P 07 23 49.0 -1.3
ARU Arti 31.37 40 P P 07 23 50.4 -2.0
comp=Z,22nm,0.5s
ARU LR LR 07 37 42.3
comp=Z,256nm,21.8s,baz=234,slow=39
comp=Z,22nm,0.5s
ARU Arti 31.37 40 P P 07 23 50.7 -1.7
ARU Arti 31.37 40*c* iP P 07 23 50.5 -1.8
ARU S **S** 07 28 59.8 +2.8
ARU SS **SnSn** 07 30 38.1 -4.3
ARU pmax pmax
comp=Z,22nm,0.6s
ARU Arti 31.37 40 P P 07 23 51.0 -1.3
ATD Arta Tunnel 31.39 138 P P 07 23 54.3 +1.3
comp=Z,2.7nm,0.3s,baz=282,slow=20,SNR=1.5
comp=Z,2.7nm,0.3s
STEI Steigen 31.43 355 *e*P P 07 23 51.9 -0.8
UOSS Minazif 31.50 102 P P 07 23 52.9 -1.0
UOSS IAmb IAmb 07 24 16.3
comp=Z,17nm,0.9s
UOSS Minazif 31.50 102 P P 07 23 52.3 -1.5
UOSS Minazif 31.50 102 ⇑P P 07 23 53.3 -0.6
UOSS Minazif 31.50 102 P P 07 23 53.0 -0.9
UOSS pP **pP** 07 24 03.3 -0.9
HATD Hatta, Dubai 31.51 102 P P 07 23 53.2 -0.7
APA Apatity 31.52 8⇓*i*P P 07 23 59.3 +5.8
APA pmax pmax
comp=Z,13nm,0.7s
APA MLR MLR
comp=Z,700nm,13.0s
ASHO Ashiyiah 31.52 103 P P 07 23 50.6 -3.4
KOWA Kowa 32.08 233 P P 07 23 58.9 0.0
comp=Z,3.8nm,0.6s,baz=43,slow=7.8,SNR=8.1
KOWA LR LR 07 37 16.2
comp=Z,238nm,21.3s,baz=301,slow=37
comp=Z,3.8nm,0.6s
KOWA Kowa 32.08 233 P P 07 23 59.0 0.0
KOWA IAmb IAmb 07 24 12.7
comp=Z,9.5nm,0.6s
KOWA Kowa 32.08 233 P P 07 23 59.9 +1.0
KOWA pP **sP** 07 24 11.8 -0.5
SOHO SOHO 32.17 103 P P 07 23 58.0 -1.7
KTK1 Kautokeino 32.30 1 *e*P P 07 24 01.2 +0.9
HRA Herat 32.68 82 P P 07 24 03.7 -0.6
HRA IAmb IAmb 07 24 04.3
comp=Z,17nm,1.0s
ARA0 ARCESS Array S 32.87 2 *e*P P 07 24 04.7 -0.7
ARCES ARCESS Array B 32.87 2 P P 07 24 04.2 -1.2
comp=Z,6.4nm,0.7s,baz=186,slow=9.0,SNR=22
ARCES S **S** 07 29 15.9 -4.2
comp=Z,3.8nm,0.9s,baz=190,slow=11,SNR=4.3
ARCES LR LR 07 38 45.5
comp=Z,226nm,19.5s,baz=175,slow=39
comp=Z,6.4nm,0.7s
ARCES ARCESS Array B 32.87 2 IAmb IAmb 07 24 19.8
comp=Z,36nm,1.3s
KEV Kevo 33.15 3 P P 07 24 06.8 -1.0
WSAR Wadi Sarin 34.28 103 LR LR 07 40 39.3
comp=Z,94nm,21.2s,baz=297,slow=40
LODK Lodwar 35.41 156 P P 07 24 28.6 +0.7
LODK IAmb IAmb 07 24 31.3
comp=Z,20nm,1.4s
IUG luzhnay 37.10 67 *e*P P 07 24 40.9 -1.3
BRVK Borovoye 37.10 48 P P 07 24 41.1 -0.9
BRVK Borovoye 37.10 48 P P 07 24 41.1 -0.9
BRVK pmax pmax
comp=Z,31nm,0.7s
BRVK Borovoye 37.10 48 ⇑P P 07 24 40.7 -1.2
BRVK Borovoye 37.10 48 P P 07 24 41.0 -0.9
BVA0 Borovoye Array 37.16 48 *i* P P 07 24 41.5 -1.0
BVAR Borovoye Array 37.16 48 P P 07 24 41.5 -0.9
comp=Z,14nm,0.6s,baz=273,slow=5.8,SNR=108
BVAR LR LR 07 41 42.6
comp=Z,127nm,19.6s,baz=249,slow=39
comp=Z,14nm,0.6s
KK31 Karatay Array 37.33 65 *e*P P 07 24 43.1 -0.9
KKAR Karatay Array 37.33 65 ⇑P P 07 24 43.0 -1.0
JMIC Jan Mayen 37.81 344 P P 07 24 45.9 -1.9
comp=Z,67nm,0.4s,baz=139,slow=6.3,SNR=3.0
BORG Borgarnes 37.89 331 P P 07 24 49.6 +1.1
comp=Z,8.1nm,0.6s,baz=96,slow=1.4,SNR=7.4
BORG LR LR 07 41 25.2
comp=Z,104nm,19.6s,baz=136,slow=38
BORG Borgarnes 37.89 331 P P 07 24 50.4 +1.9
KBL Kabul 38.02 79 P P 07 24 49.7 -0.5
KBL IAmb IAmb 07 24 50.4
comp=Z,15nm,0.7s
KBL Kabul 38.02 79 P P 07 24 49.7 -0.5
KBL pmax pmax
comp=Z,15nm,0.7s
BTK Batken 38.03 70 IAmb IAmb 07 24 49.9
comp=Z,13nm,0.9s
MBAR Mbarara 38.07 166 P P 07 24 50.7 0.0
comp=Z,3.7nm,0.2s,baz=0.0,slow=20,SNR=1.6
MBAR LR LR 07 42 20.0
comp=Z,180nm,19.1s,baz=338,slow=39
comp=Z,3.7nm,0.2s
OTUK Ortayu 38.21 56 P P 07 24 49.5 -2.0
BRZS Berezniki 38.42 54 *e*P P 07 24 50.5 -2.7
DBIC Dimbokro 38.70 226 P P 07 24 55.0 -0.8
comp=Z,4.0nm,0.7s,baz=44,slow=8.4,SNR=6.5
DBIC LR LR 07 40 53.7
comp=Z,103nm,21.9s,baz=38,slow=36
comp=Z,4.0nm,0.7s
DBIC Dimbokro 38.70 226 P P 07 24 53.4 -2.3
DBIC IAmb IAmb 07 25 09.9
comp=Z,26nm,1.0s
DBIC Dimbokro 38.70 226 ⇑P P 07 24 55.0 -0.8
DBIC Dimbokro 38.70 226 P P 07 24 53.5 -2.3
DBIC pP **pP** 07 25 04.6 -1.6
DBIC sP **sP** 07 25 09.3 +0.1
TIC Toumodi 38.81 226⇓*e*P P 07 25 01.8 +5.0
comp=Z,9.9nm,0.3s
KIC Kosan Boka 38.88 225⇑*e*P P 07 24 57.8 +0.4
comp=Z,10.0nm,0.5s
DRK Karamyk 38.89 70 IAmb IAmb 07 24 58.7
comp=Z,16nm,0.6s
LIC Lamto 39.16 226⇑*e*P P 07 25 00.2 +0.6
comp=Z,38nm,0.6s
BTLS Baital 39.62 61 *e*P P 07 25 01.5 -1.8
EKS2 Erkin-Say 39.76 65 P P 07 25 04.3 -0.4
SNR=27
AML Almayashu 39.79 66 P P 07 25 05.0 -0.3
SNR=7.6
AAK Ala-Archa 40.29 65 P P 07 25 08.4 -0.6
SNR=14
AAK Ala-Archa 40.29 65 P P 07 25 08.2 -0.8
comp=Z,22nm,0.9s,baz=218,slow=6.4,SNR=23
AAK S **S** 07 31 10.8 -3.3
comp=Z,0.8nm,0.3s,baz=221,slow=20,SNR=3.9
comp=Z,22nm,0.9s
AAK Ala-Archa 40.29 65 P P 07 25 08.5 -0.6
AAK IAmb IAmb 07 25 11.3
comp=Z,26nm,1.1s
AAK Ala-Archa 40.29 65 P P 07 25 07.8 -1.2
AAK Ala-Archa 40.29 65 ⇑P P 07 25 08.3 -0.8
AAK ⇓P P 07 25 08.5 -0.6
AAK Ala-Archa 40.29 65 P P 07 25 08.2 -0.8
KMBO Kilima Mbogo 40.30 156 P P 07 25 09.9 +0.5
comp=Z,1.8nm,0.4s,baz=318,slow=10,SNR=3.0
KMBO LR LR 07 44 28.6
comp=Z,112nm,18.9s,baz=77,slow=40
comp=Z,1.8nm,0.4s
KMBO Kilima Mbogo 40.30 156⇓*e*P P 07 25 10.2 +0.8
UCH Uchtor 40.38 66 P P 07 25 09.1 -1.0
SNR=10.0
CHMS Chumysh 40.41 64 P P 07 25 09.1 -0.9
SNR=7.8
KBK Karagaybulak 40.62 65 P P 07 25 11.2 -0.6
SNR=7.2
BBTS Babate 40.71 248 LR LR 07 44 09.5
comp=Z,653nm,19.1s,baz=55,slow=39
TKM2 Tokmak 2 41.04 64 P P 07 25 14.3 -1.0
SNR=12
TKM2 Tokmak 2 41.04 64 P P 07 25 13.3 -2.0
BOOM Boomskoye usch 41.37 65 IAmb IAmb 07 25 38.6
comp=Z,14nm,0.7s
SPITS Spitsbergen Ar 41.58 358 P P 07 25 18.9 -0.1
comp=Z,6.4nm,0.7s,baz=161,slow=11,SNR=20
SPITS LR LR 07 45 17.7
comp=Z,302nm,19.2s,baz=144,slow=40
comp=Z,6.4nm,0.7s
NIL Nilore 41.61 79 P P 07 25 19.6 -0.3
NIL Nilore 41.61 79 P P 07 25 19.6 -0.3
NIL pmax pmax
comp=Z,58nm,1.0s
NIL Nilore 41.61 79 P P 07 25 19.6 -0.3
NRN Naryn 41.62 66 IAmb IAmb 07 25 20.6
comp=Z,42nm,1.2s
ULHL Ulahol 41.63 65 P P 07 25 19.9 -0.2
SNR=19
KSH Kashi 42.03 69 P P 07 25 21.3 -2.0
KSH pmax pmax
comp=Z,14nm,0.9s
MDOK Medeo 42.04 64 P P 07 25 22.3 -1.2
KURBB Kurchatov Arra 42.15 52 P P 07 25 21.9 -2.1
comp=Z,20nm,0.7s,baz=275,slow=8.5,SNR=63
KURBB ScP **ScP** 07 31 02.7 -2.7
comp=Z,0.6nm,0.3s,baz=279,slow=4.8,SNR=4.4
KURBB S **S** 07 31 37.1 -4.0
comp=Z,0.4nm,0.6s,baz=286,slow=17,SNR=4.9
KURBB LR LR 07 47 15.8
comp=Z,206nm,19.2s,baz=242,slow=42
comp=Z,20nm,0.7s
KURBB Kurchatov Arra 42.15 52 P P 07 25 22.1 -1.9
KURK Kurchatov 42.20 52 P P 07 25 22.9 -1.6
KURK IAmb IAmb 07 25 23.7
comp=Z,25nm,1.0s
KURK Kurchatov 42.20 52 P P 07 25 21.9 -2.5
KURK S **S** 07 31 37.2 -4.7
KURK Kurchatov 42.20 52 ⇑P P 07 25 22.8 -1.6
KURK ⇑P P 07 25 22.9 -1.6
KURK Kurchatov 42.20 52 P P 07 25 22.8 -1.6
ARXS Arharly 42.41 62 *e*P P 07 25 24.1 -2.3
KBS Kingsbay 42.46 357⇓*e*P P 07 25 25.7 -0.5
KBS pmax pmax
comp=Z,17nm,1.1s
KBS Kingsbay 42.46 357 P P 07 25 28.6 +2.4
TARG Taragay, Kyrgy 42.88 66 IAmb IAmb 07 25 30.7
comp=Z,36nm,1.4s
PDGK Podgornoye 43.76 63 P P 07 25 35.6 -1.7
MAKZ Makanchi 44.85 58 P P 07 25 44.2 -1.6
MAKZ Makanchi 44.85 58 P P 07 25 44.3 -1.6
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 44.85 58 ⇓P P 07 25 44.5 -1.4
MAKZ Makanchi 44.85 58 P P 07 25 44.3 -1.6
MK31 Makanchi Array 45.07 57 IAmb IAmb 07 25 46.7
comp=Z,11nm,0.6s
MK31 Makanchi Array 45.07 57 *e*P P 07 25 45.9 -1.7
MKAR Makanchi Array 45.07 57 P P 07 25 45.9 -1.7
comp=Z,12nm,0.4s,baz=270,slow=7.6,SNR=160
MKAR ScP **ScP** 07 31 13.9 -3.5
comp=Z,0.6nm,0.7s,baz=262,slow=3.7,SNR=4.5
MKAR LR LR 07 47 34.2
comp=Z,95nm,20.6s,baz=274,slow=40
comp=Z,12nm,0.4s
ZALV Zalesovo Beam 45.78 47 P P 07 25 51.1 -1.9
comp=Z,24nm,0.3s,baz=268,slow=8.4,SNR=84
ZALV S **S** 07 32 28.0 -6.0
comp=Z,0.6nm,0.4s,baz=282,slow=41,SNR=2.2
ZALV LR LR 07 46 29.4
comp=Z,127nm,20.0s,baz=270,slow=38
comp=Z,24nm,0.3s
NRIK Noril'sk 47.54 26 P P 07 26 06.0 -0.6
comp=Z,4.1nm,0.4s,baz=246,slow=2.5,SNR=8.1
NRIK LR LR 07 48 04.1
comp=Z,191nm,19.8s,baz=255,slow=39
comp=Z,4.1nm,0.4s

NRIK	**Noril'sk**	**47.54**	**26**	P	**P**	**07 26 06.2**	**-0.4**	
NRIK				IAmb	IAmb	07 26 23.5		
	comp=Z,13nm,0.9s							
NRIK	**Noril'sk**	**47.54**	**26**	P	**P**	**07 26 06.2**	**-0.4**	
NRIK				pmax	pmax			
	comp=Z,13nm,1.0s							
DGZ	**Jazzator, Alta**	**47.94**	**53***c iP*		**P**	**07 26 08.6**	**-1.6**	
DGZ				pmax	pmax			
	comp=Z,5.0nm,0.8s							
WMQ	**Urumqi**	**49.44**	**60** *eP*	P	P	07 26 25.8	+4.1	
WMQ				pmax	pmax			
	comp=Z,18nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,96nm,4.3s							
WMQ				LR	LR			
	comp=Z,310nm,19.7s							
WMQ				LR	LR			
	comp=Z,280nm,18.5s							
PYUN	**Piuthan**	**51.47**	**81** *eP*		**P**	**07 26 36.3**	**-1.1**	
	comp=Z,44nm,0.6s							
DANN	**Dangsing**	**51.97**	**80** *eP*		**P**	**07 26 40.3**	**-1.0**	
	comp=Z,107nm,0.6s							
KOLN	**Koldanda**	**52.10**	**81** *eP*		**P**	**07 26 40.4**	**-1.7**	
	comp=Z,9.5nm,1.2s							
LSZ	**Lusaka**	**52.10**	**172**	P	**P**	**07 26 41.8**	**-0.1**	
	comp=Z,2.2nm,0.5s,baz=350,slow=6.1,SNR=3.4							
LSZ				LR	LR	07 51 01.7		
	comp=Z,145nm,20.1s,baz=338,slow=38							
	comp=Z,2.2nm,0.5s							
GKN	**Gorkha**	**52.81**	**80** *eP*		**P**	**07 26 45.8**	**-1.6**	
	comp=Z,34nm,0.4s							
ALE	**Alert**	**53.03**	**351**	P	**P**	**07 26 48.0**	**-0.1**	
ALE				pP	**sP**	**07 27 01.4**	**-2.3**	
ALE				sP	**pP**	**07 27 05.7**	**+6.7**	
HYBB	**Hyderabad (bro**	**53.16**	**95** *eP*		**P**	**07 26 48.6**	**-1.3**	
DMN	**Daman**	**53.36**	**81** *eP*		**P**	**07 26 50.4**	**-1.1**	
	comp=Z,44nm,0.4s							
PKIN	**Phulchoki**	**53.61**	**80** *eP*		**P**	**07 26 51.7**	**-1.6**	
	comp=Z,19nm,0.5s							
PKI	**Pulchoki**	**53.62**	**80** *eP*		**P**	**07 26 51.7**	**-1.8**	
GUN	**Gumba**	**53.84**	**80** *eP*		**P**	**07 26 53.7**	**-1.4**	
JIRN	**Jiri**	**54.20**	**80** *eP*		**P**	**07 26 56.3**	**-1.5**	
	comp=Z,26nm,0.5s							
RAMN	**Ramite**	**54.84**	**81** *eP*		**P**	**07 27 00.4**	**-1.9**	
	comp=Z,46nm,0.8s							
ODAN	**Odare**	**55.51**	**80** *eP*		**P**	**07 27 05.1**	**-2.0**	
	comp=Z,2.1nm,0.6s							
TAPN	**Taplejung**	**55.54**	**80** *eP*		**P**	**07 27 05.8**	**-1.6**	
TSUM	**Tsumeb**	**55.83**	**185**	P	**P**	**07 27 09.8**	**+0.6**	
	comp=Z,2.5nm,0.7s,baz=40,slow=7.9,SNR=1.9							
TSUM				LR	LR	07 53 03.5		
	comp=Z,165nm,19.1s,baz=334,slow=38							
	comp=Z,2.5nm,0.7s							
LSA	**Lhasa**	**57.17**	**75**	IAmb	IAmb	07 27 37.2		
	comp=Z,14nm,0.7s							
LSA	**Lhasa**	**57.17**	**75**	P	**P**	**07 27 17.5**	**-1.7**	
GOMU	**GeErMu**	**57.17**	**67**	P	**P**	**07 27 17.3**	**-1.7**	
GOMU				pmax	pmax			
	comp=Z,5.0nm,0.5s							
GOMU				pmax	pmax			
	comp=Z,85nm,5.2s							
ZAK	**Zakamensk**	**57.62**	**49** *eP*		**P**	**07 27 20.5**	**-1.1**	
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
GTA	**Gaotai**	**59.48**	**62** *eP*		**P**	**07 27 33.8**	**-1.0**	
GTA				sP	pP	07 27 47.0	+1.2	
GTA				pmax	pmax			
	comp=Z,11nm,1.2s							
SCHQ	**Schefferville**	**60.27**	**318**	P	**P**	**07 27 39.6**	**-0.2**	
	comp=Z,13nm,0.6s,baz=62,slow=5.9,SNR=38							
	comp=Z,13nm,0.6s							
SCHQ	**Schefferville**	**60.27**	**318**	P	**P**	**07 27 39.1**	**-0.7**	
SONM	**Songino Array**	**60.46**	**50**	P	**P**	**07 27 39.1**	**-2.2**	
	comp=Z,2.2nm,0.3s,baz=289,slow=9.0,SNR=5.8							
SONM				LR	LR	07 57 53.6		
	comp=Z,92nm,18.4s,baz=163,slow=40							
	comp=Z,2.2nm,0.3s							
TIXI	**Tiksi**	**60.56**	**20**	LR	LR	07 57 36.0		
	comp=Z,290nm,18.9s,baz=186,slow=40							
BOD	**Bodaibo**	**60.77**	**38** *eP*		**P**	**07 27 40.2**	**-2.9**	
BOD				pmax	pmax			
	comp=Z,15nm,0.8s							
ULN	**Ulaanbaatar**	**60.85**	**50**	P	**P**	**07 27 42.5**	**-1.6**	
ULN				IAmb	IAmb	07 27 57.5		
	comp=Z,10nm,1.0s							
ULN	**Ulaanbaatar**	**60.85**	**50***ceP*		**P**	**07 27 42.5**	**-1.6**	
ULN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ULN	**Ulaanbaatar**	**60.85**	**50**	P	**P**	**07 27 42.7**	**-1.4**	
BRDH	**Bariadhala**	**60.91**	**82**	LR	LR	07 59 37.8		
	comp=Z,66nm,20.4s,baz=276,slow=42							
LBTB	**Lobatse**	**61.55**	**176**	LR	LR	07 56 17.8		
	comp=Z,136nm,21.5s,baz=356,slow=38							
LZH	**Lanzhou**	**63.80**	**63** *eP*		**P**	**07 28 03.5**	**-0.5**	
LZH				pP	pP	07 28 09.0	-6.2	
LZH				sP	sP	07 28 12.3	-7.6	
LZH				pmax	pmax			
	comp=Z,28nm,1.4s							
BOSA	**Boshof**	**65.12**	**177**	P	**P**	**07 28 12.0**	**-0.4**	
	comp=Z,4.3nm,0.6s,baz=9.1,slow=7.3,SNR=13							
BOSA				LR	LR	08 01 29.7		
	comp=Z,124nm,18.6s,baz=5.5,slow=40							
	comp=Z,4.3nm,0.6s							
BOSA	**Boshof**	**65.12**	**177**	P	**P**	**07 28 12.0**	**-0.4**	
YAK	**Yakutsk**	**65.76**	**30**	LR	LR	08 01 44.3		
	comp=Z,94nm,18.0s,baz=269,slow=40							
YAK	**Yakutsk**	**65.76**	**30** *eP*		**P**	**07 28 15.1**	**-1.0**	
YAK				pmax	pmax			
	comp=Z,12nm,0.9s							
CD2	**Chengdu**	**66.22**	**68** *eP*		**P**	**07 28 19.3**	**-0.3**	
HHC	**Hu-ho-hao-te**	**66.88**	**56** *eP*		**P**	**07 28 25.8**	**+2.0**	
HHC				pmax	pmax			
	comp=Z,22nm,0.8s							
HHC				pmax	pmax			
	comp=Z,340nm,5.0s							
PZH	**PanZhiHua**	**66.90**	**73**	P	**P**	**07 28 23.3**	**-0.9**	
PZH				pmax	pmax			
	comp=Z,20nm,1.4s							
PZH				pmax	pmax			
	comp=Z,210nm,4.9s							
XLT	**XiLinHaoTe**	**68.27**	**51** *eP*		P	07 28 27.8	-4.7	
XLT				pP	pP	07 28 32.8	-11	
XLT				sP	sP	07 28 35.5	-13	
XLT				pmax	pmax			
	comp=Z,12nm,0.5s							
XLT				pmax	pmax			
	comp=Z,92nm,3.5s							
KMI	**Kunming**	**68.38**	**74** ⇑P		P	07 28 38.5	+4.9	
KMI				pmax	pmax			
	comp=Z,10.0nm,0.7s							
XAN	**Xi'an**	**68.43**	**63** ⇑P		**P**	**07 28 32.3**	**-1.3**	
XAN				pP	pP	07 28 42.5	-2.2	
XAN				sP	sP	07 28 46.8	-2.8	
XAN				pmax	pmax			
	comp=Z,17nm,1.4s							
TRQ	**Mont Tremblant**	**68.55**	**312**	IAmb	IAmb	07 28 35.2		
	comp=Z,12nm,0.8s							
RCBR	**Riachuelo**	**68.61**	**245**	LR	LR	07 58 13.3		
	comp=Z,228nm,20.0s,baz=180,slow=36							
SUR	**Sutherland**	**68.81**	**181**	LR	LR	08 01 22.5		
	comp=Z,198nm,19.3s,baz=1.5,slow=38							
CMAR	**Chiang Mai Arr**	**68.94**	**82**	P	**P**	**07 28 35.6**	**-1.3**	
	comp=Z,2.3nm,0.5s,baz=302,slow=7.7,SNR=8.1							
CMAR				LR	LR	08 05 29.1		
	comp=Z,34nm,18.8s,baz=300,slow=42							
	comp=Z,2.3nm,0.5s							
CRAI	**Chiangrai**	**69.12**	**80**	P	**P**	**07 28 36.9**	**-1.2**	
CRAI				IAmb	IAmb	07 29 00.0		
	comp=Z,13nm,0.7s							
VLDQ	**Val d'Or**	**69.25**	**315**	IAmb	IAmb	07 28 40.6		
	comp=Z,20nm,0.9s							
LONY	**Lake Ozonia**	**69.40**	**311**	IAmb	IAmb	07 29 07.1		
	comp=Z,19nm,1.2s							
LONY	**Lake Ozonia**	**69.40**	**311**	P	**P**	**07 28 40.4**	**+0.9**	
	baz=58							
HNS	**HongShan**	**70.73**	**57** ⇓P		**P**	**07 28 47.0**	**-0.7**	
HNS				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BINY	**Binghamton**	**71.56**	**309**	P	**P**	**07 28 53.9**	**+1.3**	
	baz=57							
SADO	**Sadowa**	**72.05**	**313**	LR	LR	08 00 17.6		
	comp=Z,83nm,18.3s,baz=36,slow=36							
SEY	**Seymchan**	**73.02**	**21**⇑ *eP*		**P**	**07 29 00.9**	**-0.1**	
SEY				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SSPA	**Standing Stone**	**73.61**	**309**	P	**P**	**07 29 04.1**	**-0.8**	
SSPA				IAmb	IAmb	07 29 25.4		
	comp=Z,16nm,1.1s							
SSPA	**Standing Stone**	**73.61**	**309**	P	**P**	**07 29 05.4**	**+0.6**	
	baz=56							
INK	**Inuvik**	**73.63**	**351**	P	**P**	**07 29 04.0**	**-0.4**	
	comp=Z,1.9nm,0.8s,baz=23,slow=5.4,SNR=7.7							
	comp=Z,1.9nm,0.8s							
M55A	**Ridgway**	**73.69**	**310**	IAmb	IAmb	07 29 18.8		
	comp=Z,19nm,0.9s							
CN2	**Changchun**	**74.00**	**47** *eP*		**P**	**07 29 06.0**	**-1.0**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KLR	**Kul'dur**	**74.21**	**40**	LR	LR	08 04 16.9		
	comp=Z,80nm,19.6s,baz=343,slow=38							
KLR	**Kul'dur**	**74.21**	**40***deP*		**P**	**07 29 07.3**	**-0.9**	
KLR				pmax	pmax			
	comp=Z,8.0nm,1.7s							
F31M	**Tsiigehtchic**	**74.48**	**351**	P	**P**	**07 29 09.4**	**0.0**	
	baz=20							
E27K	**Coleen River**	**74.63**	**354**	P	**P**	**07 29 10.6**	**+0.3**	
	baz=14							
MDP	**Montagnes des**	**74.64**	**265**	LR	LR	08 01 56.2		
	comp=Z,58nm,19.0s,baz=40,slow=36							
M53A	**WI Miller and**	**74.88**	**311**	P	**P**	**07 29 12.7**	**+0.5**	
	baz=54							
YKA	**Yellowknife Ar**	**75.09**	**341**	LR	LR	08 04 41.6		
	comp=Z,50nm,18.8s,baz=295,slow=38							
Q56A	**Snyder Ridge,**	**75.35**	**308**	IAmb	IAmb	07 29 27.8		
	comp=Z,17nm,0.8s							
MCWV	**Mont Chateau**	**75.40**	**309**	IAmb	IAmb	07 29 27.9		
	comp=Z,17nm,0.8s							
MCWV	**Mont Chateau**	**75.40**	**309**	P	**P**	**07 29 16.1**	**+0.8**	
	baz=54							
EPYK	**Eagle Plains**	**75.88**	**351**	P	**P**	**07 29 18.0**	**+0.4**	
	baz=18							
O53A	**New Philadelph**	**75.91**	**310**	P	**P**	**07 29 18.9**	**+0.8**	
	baz=54							
G27K	**Doyon Strip**	**75.98**	**353**	P	**P**	**07 29 18.8**	**+0.6**	
	baz=14							
G22K	**Bettles**	**76.50**	**357**	P	**P**	**07 29 21.7**	**+0.7**	
	baz=5.4							
NJ2	**Nanjing**	**76.52**	**60** *eP*		**P**	**07 29 23.5**	**+1.8**	
NJ2				pmax	pmax			
	comp=Z,14nm,0.6s							
H27K	**Steamboat Moun**	**76.53**	**353**	P	**P**	**07 29 22.2**	**+0.9**	
	baz=14							
G23K	**Bananza Creek**	**76.65**	**357**	P	**P**	**07 29 22.8**	**+0.8**	
	baz=6.6							
FFC	**Flin Flon**	**76.97**	**330**	P	**P**	**07 29 23.7**	**-0.2**	
FFC				IAmb	IAmb	07 29 59.5		
	comp=Z,10nm,0.9s							
FFC	**Flin Flon**	**76.97**	**330**	P	**P**	**07 29 23.7**	**-0.2**	
FFC				pmax	pmax			
	comp=Z,10.0nm,1.0s							
G21K	**Allakaket**	**76.97**	**358**	P	**P**	**07 29 24.8**	**+1.1**	
	baz=8.8							
I29M	**Ogilvie Camp,**	**77.03**	**352**	IAmb	IAmb	07 29 46.1		
	comp=Z,13nm,0.8s							
I29M	**Ogilvie Camp,**	**77.03**	**352**	P	**P**	**07 29 24.2**	**+0.1**	
	baz=16							
USRK	**Ussuriysk Ar.**	**77.50**	**44**	P	**P**	**07 29 24.7**	**-2.4**	
	comp=Z,3.2nm,0.5s,baz=289,slow=4.0,SNR=7.4							
	comp=Z,3.2nm,0.5s							
ULM	**Lac du Bonnet**	**77.51**	**324**	P	**P**	**07 29 26.1**	**-0.9**	
	comp=Z,3.7nm,0.6s,baz=20,slow=8.7,SNR=5.0							
ULM				LR	LR	08 05 02.0		
	comp=Z,53nm,18.6s,baz=360,slow=37							
	comp=Z,3.7nm,0.6s							
ULM	**Lac du Bonnet**	**77.51**	**324**	IAmb	IAmb	07 29 39.3		
	comp=Z,13nm,0.9s							
H21K	**Melozitna Rive**	**77.81**	**358**	P	**P**	**07 29 28.9**	**+0.5**	
H21K				IAmb	IAmb	07 29 50.0		
	comp=Z,13nm,1.1s							
H21K	**Melozitna Rive**	**77.81**	**358**	P	**P**	**07 29 29.8**	**+1.3**	
	baz=4.3							
ILAR	**Eielson Array**	**78.41**	**355**	P	**P**	**07 29 30.7**	**-1.0**	
	comp=Z,0.8nm,0.9s,baz=354,slow=3.0,SNR=8.0							
ILAR				LR	LR	08 07 59.0		
	comp=Z,58nm,18.2s,baz=9.5,slow=39							
	comp=Z,0.8nm,0.9s							
DAWY	**Dawson**	**78.41**	**352**	IAmb	IAmb	07 29 54.8		
	comp=Z,11nm,1.0s							
DAWY	**Dawson**	**78.41**	**352**	P	**P**	**07 29 32.3**	**+0.5**	
	baz=15							
J26L	**Joseph Creek**	**78.41**	**354**	P	**P**	**07 29 32.1**	**+0.2**	
	baz=12							
NEA2	**Nenana**	**78.72**	**356**	P	**P**	**07 29 34.3**	**+0.9**	
	baz=7.3							
K27K	**Chicken**	**78.73**	**353**	IAmb	IAmb	07 29 57.1		
	comp=Z,17nm,1.1s							
K27K	**Chicken**	**78.73**	**353**	P	**P**	**07 29 34.6**	**+1.1**	
	baz=13							
HDA	**Harding Lake**	**78.77**	**355**	P	**P**	**07 29 33.8**	**+0.1**	
	baz=9.1							
WRH	**Wood River Hil**	**78.78**	**356**	IAmb	IAmb	07 30 19.5		
	comp=Z,9.5nm,0.9s							
SCRK	**Sand Creek**	**78.97**	**354**	IAmb	IAmb	07 29 57.6		
	comp=Z,16nm,1.5s							
BPAW	**Bear Paw Mtn.**	**79.30**	**357**	P	**P**	**07 29 37.2**	**+0.5**	
	baz=5.8							
KSRS	**Korea Array**	**79.32**	**51**	P	**P**	**07 29 36.1**	**-1.0**	
	comp=Z,6.5nm,0.6s,baz=309,slow=4.5,SNR=14							
KSRS				LR	LR	08 08 39.6		
	comp=Z,74nm,20.5s,baz=335,slow=39							
	comp=Z,6.5nm,0.6s							
J20K	**Nowinta River**	**79.33**	**358**	P	**P**	**07 29 37.6**	**+0.8**	
	baz=3.2							
MCK	**McKinley**	**79.57**	**356**	P	**P**	**07 29 38.0**	**-0.1**	
	baz=7.4							
BLO	**Bloomington**	**79.80**	**311**	IAmb	IAmb	07 29 52.3		
	comp=Z,20nm,0.8s							
L26K	**Log Cabin Wild**	**79.84**	**353**	P	**P**	**07 29 40.3**	**+0.7**	
	baz=12							
M29M	**Somme Creek**	**79.87**	**351**	P	**P**	**07 29 40.9**	**+1.0**	
	baz=16							
TRF	**Thorofare Moun**	**79.92**	**356**	P	**P**	**07 29 40.4**	**+0.2**	
	baz=6.3							
CAST	**Castle Rocks**	**80.03**	**357**	P	**P**	**07 29 41.5**	**+0.9**	
	baz=4.9							
PAX	**Paxson**	**80.08**	**354**	P	**P**	**07 29 38.9**	**-2.1**	
	baz=10							
DHY	**Denali Highway**	**80.12**	**355**	P	**P**	**07 29 41.5**	**+0.2**	
	baz=8.7							
WCI	**Wyandotte Cave**	**80.26**	**311**	P	**P**	**07 29 42.9**	**+0.5**	
	baz=51							
TKL	**Tuckaleechee C**	**80.30**	**307**	LR	LR	08 05 51.0		
	comp=Z,63nm,18.8s,baz=59,slow=36							
WTLY	**Watson Lake, Y**	**80.50**	**346**	P	**P**	**07 29 44.3**	**+1.0**	
	baz=23							
I37A	**Lemond, Waseca**	**80.53**	**319**	IAmb	IAmb	07 29 56.0		
	comp=Z,21nm,0.9s							
PPLA	**Purkeypile**	**80.56**	**357**	P	**P**	**07 29 43.8**	**+0.2**	
	baz=4.8							
WAT6	**Susitna Watana**	**80.64**	**355**	P	**P**	**07 29 43.9**	**-0.2**	
	baz=8.4							
CPCT	**Cooper Cave**	**80.90**	**308**	IAmb	IAmb	07 29 58.2		
	comp=Z,11nm,1.0s							
U49A	**Red Boiling Sp**	**81.03**	**309**	IAmb	IAmb	07 29 58.6		
	comp=Z,15nm,0.9s							
YSS	**Yuzh-Sakhalins**	**81.21**	**37** *eP*		**P**	**07 29 46.4**	**-0.8**	
YSS				pmax	pmax			
	comp=Z,20nm,1.1s							
L19K	**White Mountain**	**81.35**	**358**	P	**P**	**07 29 48.0**	**+0.3**	
L19K				IAmb	IAmb	07 30 08.8		
	comp=Z,19nm,1.1s							
SML	**Sawmill**	**81.44**	**355**	P	**P**	**07 29 48.4**	**+0.1**	
	baz=7.9							
SKT	**Skwentna**	**81.45**	**357**	P	**P**	**07 29 48.4**	**+0.1**	
	baz=5.3							
T47A	**Sharon Grove**	**81.55**	**310**	IAmb	IAmb	07 30 01.7		
	comp=Z,15nm,0.8s							
W50A	**Signal Mountai**	**81.56**	**308**	IAmb	IAmb	07 30 01.8		
	comp=Z,14nm,1.0s							
Y52A	**Lilburn**	**81.60**	**306**	IAmb	IAmb	07 30 02.3		
	comp=Z,11nm,0.8s							
RC01	**Rabbit Creek A**	**82.25**	**356**	IAmb	IAmb	07 30 31.1		
	comp=Z,13nm,1.0s							
RC01	**Rabbit Creek A**	**82.25**	**356**	P	**P**	**07 29 52.7**	**+0.3**	
	baz=6.7							
DLBC	**Dease Lake**	**82.29**	**346**	LR	LR	08 09 18.3		
	comp=Z,81nm,18.3s,baz=304,slow=38							
EDM	**Edmonton**	**82.36**	**335**	IAmb	IAmb	07 30 09.6		
	comp=Z,13nm,1.0s							
ECSD	**EROS Data Cent**	**82.40**	**320**	P	**P**	**07 29 53.9**	**+0.3**	
	baz=45							
WAPA	**Wapiti River**	**82.57**	**339**	IAmb	IAmb	07 30 14.0		
	comp=Z,17nm,1.1s							
PETK	**Petropavlovsk-**	**82.59**	**25**	LR	LR	08 11 44.7		
	comp=Z,70nm,18.0s,baz=322,slow=39							
SUSD	**Miller**	**83.08**	**322**	P	**P**	**07 29 57.6**	**+0.5**	
	baz=44							
X48A	**Hartselle**	**83.14**	**308**	IAmb	IAmb	07 30 09.5		
	comp=Z,14nm,0.8s							
CCM	**Cathedral Cave**	**83.33**	**313**	P	**P**	**07 29 57.0**	**-1.4**	
CCM				IAmb	IAmb	07 30 10.6		
	comp=Z,8.4nm,0.8s							
CCM	**Cathedral Cave**	**83.33**	**313**	P	**P**	**07 29 57.1**	**-1.4**	
CCM				pmax	pmax			
	comp=Z,8.0nm,0.8s							
CCM	**Cathedral Cave**	**83.33**	**313**	P	**P**	**07 29 58.6**	**+0.1**	
	baz=48							
O18K	**Koktuh Hills**	**83.69**	**359**	P	**P**	**07 30 01.2**	**+1.3**	
	baz=2.3							
R40A	**Maddies Statio**	**83.77**	**314**	IAmb	IAmb	07 30 13.5		
	comp=Z,16nm,0.8s							
BDFB	**Brasilia**	**83.97**	**246**	P	**P**	**07 30 02.5**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=77,slow=9.8,SNR=1.3							
BDFB				LR	LR	08 07 21.7		
	comp=Z,305nm,20.0s,baz=108,slow=36							
	comp=Z,0.7nm,0.6s							
LRAL	**Lakeview Retre**	**84.02**	**307**	IAmb	IAmb	07 30 14.2		
	comp=Z,12nm,0.9s							
LRAL	**Lakeview Retre**	**84.02**	**307**	P	**P**	**07 30 02.4**	**+0.4**	
	baz=50							
MGMO	**Mountain Grove**	**84.54**	**313**	IAmb	IAmb	07 30 17.4		
	comp=Z,11nm,0.9s							
OXF	**Oxford**	**84.58**	**309**	P	**P**	**07 30 04.7**	**-0.2**	
	baz=49							
LAO	**LASA Array**	**84.80**	**327**	IAmb	IAmb	07 30 34.6		
	comp=Z,18nm,1.1s							
LAO	**LASA Array**	**84.80**	**327**	P	**P**	**07 30 07.0**	**+1.1**	
	baz=39							
BGNE	**Belgrade**	**84.85**	**319**	P	**P**	**07 30 07.2**	**+1.0**	
	baz=44							
EGMT	**Eagleton**	**85.23**	**330**	P	**P**	**07 30 08.8**	**+0.8**	
	baz=37							
FCAR	**Ozark Folk Cen**	**85.31**	**312**	IAmb	IAmb	07 30 20.7		
	comp=Z,10nm,0.8s							
KSU1	**Kansas State U**	**85.67**	**317**	P	**P**	**07 30 10.9**	**+0.6**	
	baz=45							
KDAK	**Kodiak Island**	**85.69**	**357**	LR	LR	08 09 43.4		
	comp=Z,48nm,21.7s,baz=36,slow=37							
WHAR	**Wooly Hollow**	**85.81**	**312**	IAmb	IAmb	07 30 23.3		
	comp=Z,13nm,1.0s							
WALA	**Waterton Lakes**	**86.00**	**333**	IAmb	IAmb	07 30 40.8		
	comp=Z,13nm,1.1s							
HHAR	**Hobbs**	**86.11**	**313**	IAmb	IAmb	07 30 24.6		
	comp=Z,8.2nm,0.9s							
MJAR	**Matsushiro Arr**	**86.13**	**46**	P	**P**	**07 30 10.2**	**-2.4**	
	comp=Z,2.5nm,0.5s,baz=303,slow=5.6,SNR=5.2							
MJAR				LR	LR	08 13 05.6		
	comp=Z,76nm,18.3s,baz=332,slow=39							
	comp=Z,2.5nm,0.5s							
MIAR	**Mount Ida**	**87.09**	**312**	IAmb	IAmb	07 30 30.6		
	comp=Z,9.7nm,0.8s							
MIAR	**Mount Ida**	**87.09**	**312**	P	**P**	**07 30 18.3**	**+0.9**	
	baz=46							
T35A	**Sooner Cattle**	**87.15**	**315**	P	**P**	**07 30 17.2**	**-0.4**	
SHEM	**Shemya Is, Ala**	**87.62**	**17**	LR	LR	08 14 22.6		
	comp=Z,46nm,18.1s,baz=57,slow=39							
BBB	**Bella Bella**	**87.63**	**342**	LR	LR	08 11 06.1		
	comp=Z,60nm,18.5s,baz=30,slow=37							
NEW	**Newport**	**87.82**	**334**	LR	LR	08 10 48.9		
	comp=Z,71nm,20.5s,baz=28,slow=36							
NEW	**Newport**	**87.82**	**334**	IAmb	IAmb	07 30 21.8		
	comp=Z,6.5nm,0.8s							
NEW	**Newport**	**87.82**	**334**	P	**P**	**07 30 20.9**	**+0.3**	
	baz=32							
MSO	**Missoula**	**87.85**	**331**	P	**P**	**07 30 20.8**	**-0.2**	
	baz=34							
BOZ	**Bozeman (W)**	**87.95**	**329**	P	**P**	**07 30 22.2**	**+0.7**	
	baz=36							
K22A	**Casper**	**88.07**	**325**	IAmb	IAmb	07 30 50.4		
	comp=Z,12nm,1.1s							
K22A	**Casper**	**88.07**	**325**	P	**P**	**07 30 21.9**	**-0.2**	
	baz=39							
LKWY	**Lake**	**88.27**	**328**	IAmb	IAmb	07 30 56.2		
	comp=Z,7.1nm,0.9s							
YMR	**Madison River**	**88.43**	**328**	IAmb	IAmb	07 31 01.1		
	comp=Z,20nm,1.7s							
PHWY	**Pilot Hill**	**88.61**	**323**	IAmb	IAmb	07 31 04.0		
	comp=Z,12nm,1.1s							
C09A	**Chrisman Ranch**	**88.62**	**334**	IAmb	IAmb	07 30 58.3		
	comp=Z,8.3nm,0.8s							
YPP	**Pitchstone Pla**	**88.68**	**328**	IAmb	IAmb	07 30 59.3		
	comp=Z,9.8nm,1.2s							
SNOW	**Snow King Moun**	**89.31**	**328**	IAmb	IAmb	07 30 43.9		
	comp=Z,11nm,1.6s							
BW06	**Boulder Array**	**89.35**	**327**	IAmb	IAmb	07 30 39.6		
	comp=Z,6.5nm,1.2s							
BW06	**Boulder Array**	**89.35**	**327**	P	**P**	**07 30 27.9**	**-0.4**	
	baz=37							
PDAR	**Pinedale Array**	**89.35**	**327**	P	**P**	**07 30 25.9**	**-2.4**	
	comp=Z,0.7nm,0.7s,baz=57,slow=5.5,SNR=8.1							
PDAR				LR	LR	08 12 15.9		
	comp=Z,61nm,20.2s,baz=36,slow=37							
	comp=Z,0.7nm,0.7s							
ISCO	**Idaho Springs**	**89.84**	**322**	P	**P**	**07 30 31.1**	**+0.4**	
	baz=39							
WMOK	**Wichita Mounta**	**90.00**	**315**	IAmb	IAmb	07 30 44.2		
	comp=Z,6.5nm,0.9s							
NIKH	**Nikolski High**	**90.12**	**7**	P	**P**	**07 30 32.2**	**

MLAZ	**Malazgirt-MUS**	**0.81**	**290**	PG	**Pg**	**07 31 04.1**	**+0.1**
AGRB	**Hanur-Agry**	**0.82**	**329**	PG	**Pg**	**07 31 04.1**	**-0.1**
AGRB				SG	**Sg**	**07 31 15.2**	**+0.4**
IGDI	**IGDIR**	**1.08**	**23**	P	**Pg**	**07 31 09.1**	**-0.2**
IGDI				S	**Sn**	**07 31 26.2**	**+0.2**
BLIS	**Bitlis-Merkez**	**1.20**	**248**	P	**Pg**	**07 31 11.3**	**-0.2**
BLIS				S	**Sb**	**07 31 27.2**	**-0.6**
BLIS				*i* AML	AML	07 31 29.0	
	comp=N,89nm,0.3s						
BLIS				*i* AML	AML	07 31 31.0	
	comp=E,91nm,0.3s						
GURO	**Guroymak-BITLI**	**1.22**	**255**	PN	**Pb**	**07 31 11.4**	**-0.8**
GURO				SN	**Sn**	**07 31 28.6**	**-0.8**
EATA	**Eleskirt**	**1.27**	**321**	P	**Pg**	**07 31 13.1**	**+0.2**
EATA				S	**Sn**	**07 31 32.7**	**+1.5**
EATA				*i* AML	AML	07 31 35.0	
	comp=N,43nm,0.4s						
HAKT	**HAKKARI**	**1.32**	**174**	P	**Pb**	**07 31 13.7**	**-0.3**
GNI	**Garni**	**1.58**	**36**	PN	**Pn**	**07 31 16.6**	**-0.9**
CUKT	**Cukurca**	**1.62**	**178**	PN	**Pn**	**07 31 18.2**	**+0.1**
VRTB	**Varto-Mus**	**1.64**	**281**	PN	**Pn**	**07 31 17.7**	**-0.6**
HOMI	**Horasan**	**1.72**	**313**	P	**Pb**	**07 31 20.9**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.97**	**249**	PN	**Pn**	**07 31 22.6**	**-0.1**
MAZI	**Mazidag**	**2.81**	**241**	PN	**Pn**	**07 31 34.6**	**+0.2**

IDC 28 07:34:05.2±445.0, 57.92N×53.65E, h0km, Error ellipse: s-maj=194.4km s-min=147.9km az=133.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.96**	**159**	*i*		08 27 00.0	
	baz=341,slow=326,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**17.82**	**89**	*i*		09 16 00.0	
	baz=297,slow=321,SNR=1.3						
I34MN	**SONGINO INFRAS**	**32.61**	**85**	*i*		10 51 40.0	
	baz=312,slow=326,SNR=0.7						
I45RU	**USSURIYSK INFR**	**48.30**	**71**	*i*		12 30 10.0	
	baz=311,slow=320,SNR=1.6						
I53US	**FAIRBANKS INFR**	**56.44**	**11**	*i*		13 23 30.0	
	baz=352,slow=331,SNR=1.1						

*JMA **28** 07:34:29.3±0.5, 36°N±2°×12°9E±°, h24km, MV3.3/8, S KOREAN PENINSULA REG*
*KMA **28** 07:34:30.8±0.4, 35.76N×129.18E, h13km±4km, Error ellipse: s-maj=2.5km s-min=2.0km az=176.0*
*KEA **28** 07:34:34.0, 35.93N×129.08E, h19km, ML3.5/1*

ISC 28 07:34:27.2±0.9, 35.84N±0.05×129.25E±0.05, h10km, n11, σ1s41/17, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOCB	**Yeongcheon**	**0.28**	**300**	P	**Pn**	**07 34 36.8**	**-0.6**
	SNR=96						
YOCB				S	**Sb**	**07 34 41.0**	**+1.9**
KSPHA	**Pohang**	**0.37**	**15**	P	**Pn**	**07 34 39.8**	**+1.2**
	SNR=152						
KSPHA				P	**Pn**	**07 34 39.8**	**+1.2**
	SNR=152						
KSDAU	**Deagu-acc**	**0.52**	**276**	P	**Pn**	**07 34 40.1**	**-0.5**
	SNR=65						
MIYA	**Miryang-si**	**0.54**	**230**	P	**Pb**	**07 34 39.6**	**+0.9**
	SNR=15						
JTU	**Tsushima**	**1.31**	**175**	P	**Pg**	**07 34 53.0**	**+0.6**
JTU				S	**Sn**	**07 35 09.8**	**+0.6**
JTSM	**Tsushimamitsus**	**1.50**	**176**	P	**Pb**	**07 34 55.6**	**+0.5**
JTSM				S	**Sb**	**07 35 15.2**	**+1.1**
JHGM	**Hagimishima**	**1.87**	**124**	*eP*	**Pg**	**07 35 02.3**	**-0.8**
JHGM				*eS*	**Sb**	**07 35 24.8**	**-0.1**
JII	**Iki**	**2.07**	**169**	*eP*	**Pb**	**07 35 03.9**	**-1.0**
HJU	**Haeju**	**3.58**	**309**	Pg	**Pg**	**07 35 36.5**	**+0.6**
HJU				Sg	**Sg**	**07 36 21.0**	**-1.2**
HJU				AML	AML		
	comp=N,239nm,0.7s						
HJU				AML	AML		
	comp=E,119nm,0.5s						
HJU				AML	AML		
	comp=Z,91nm,0.4s						
SRW	**Sariwon**	**3.86**	**315**	Sg	**Sg**	**07 36 29.3**	**-1.8**
SUJ	**Sinuiju**	**5.68**	**320**	Sg	**Sg**	**07 37 26.1**	**-3.3**

MAN 28 08:15:18.4, 6.78N×126.59E, h20km, mb4.6, ML3.4, MS3.3, 5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.37**	**297**	*eP*	Pn	08 15 27.7	-0.9
MATI				*eS*	Sn	08 15 35.7	+0.5
DDMP	**Don Marcelino,**	**1.10**	**233**	*eP*	Pn	08 15 37.3	-1.3
DDMP				*eS*	Sn	08 15 53.3	+0.1
BIPH	**Bislig**	**1.42**	**351**	*eP*	Pn	08 15 42.5	-0.6
BIPH				*eS*	Sb	08 16 01.9	+0.1
KCP	**Kidapawan**	**1.50**	**279**	*eP*	Pb	08 15 45.7	0.0
KCP				*i* S	Sb	08 16 05.9	+1.6
BUKP	**Musuan**	**1.87**	**306**	*eP*	Pb	08 15 53.4	+1.5
BUKP				*eS*	Sb	08 16 25.6	+11

*IDC **28** 08:44:20.3±2.2, 8.65N×126.36E, h0km, mb3.6/3, mbtmp3.6/3, MS2.7/1, Error ellipse: s-maj=212.3km s-min=26.8km az=67.0*
*MAN **28** 08:44:27.2, 8.72N×126.48E, h19km, mb4.9, ML3.8, MS3.8*

ISC 28 08:44:25.3±1.5, 8.65N±0.03×126.56E±0.07, h33km±11km, n22, σ2s25/31, mb3.5/3, 3C-9D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.50**	**203**	*eP*	**Pn**	**08 44 38.0**	**+1.7**
BIPH				*eS*	**Sn**	**08 44 45.8**	**+2.0**
BUTP	**Butuan**	**0.98**	**289**	*eP*	**Pn**	**08 44 44.1**	**+1.4**
BUTP				*eS*	**Sn**	**08 44 57.3**	**+1.9**
GLSP	**General Luna,**	**1.20**	**339**	*eP*	**Pb**	**08 44 46.3**	**-1.3**
GLSP				*eS*	**Sn**	**08 45 01.3**	**+0.2**
SCPH	**Surigao**	**1.54**	**317**	*eP*	**Pb**	**08 44 52.9**	**-0.3**
SCPH				*eS*	**Sn**	**08 45 08.9**	**-0.5**
BUKP	**Musuan**	**1.67**	**243**	*eP*	**Pb**	**08 44 55.8**	**+0.4**
BUKP				*eS*	**Sn**	**08 45 05.5**	**-7.1**
MATI	**Mati**	**1.72**	**190**	*eP*	**Pn**	**08 44 52.2**	**-0.8**
DAV	**Davao City (W)**	**1.84**	**212**	LR	LR	08 45 32.1	
	comp=Z,66nm,21.3s,baz=348,slow=41						
CGP	**Cagayan de Oro**	**1.85**	**264**	*eP*	**Pb**	**08 44 56.9**	**-1.6**
CGP				*eS*	**Sn**	**08 45 18.5**	**+1.4**
KCP	**Kidapawan**	**2.18**	**222**	*eP*	**Pb**	**08 45 03.1**	**-1.1**
KCP				*i* S	**Sb**	**08 45 28.5**	**-2.4**
GHBP	**Garcia Hernand**	**2.41**	**294**	*eP*	**Pn**	**08 45 04.3**	**+1.8**
GHBP				*eS*	**Sn**	**08 45 31.6**	**+0.7**
TABP	**Talibon, Bohol**	**2.62**	**303**	*eP*	**Pb**	**08 45 08.3**	**-3.3**
TABP				*eS*	**Sn**	**08 45 34.0**	**-2.0**
DDMP	**Don Marcelino,**	**2.67**	**198**	*eP*	**Pb**	**08 45 11.1**	**-1.2**
DDMP				*eS*	**Sb**	**08 45 49.5**	**+4.8**
TBP	**Tagbilaran**	**2.85**	**291**	*eP*	**Pn**	**08 45 10.5**	**+2.0**
TBP				*eS*	**Sn**	**08 45 42.6**	**+0.7**
DCPH	**Dipolog City**	**3.17**	**269**	*eP*	**Pn**	**08 45 15.9**	**+3.0**
DCPH				*eS*	**Sn**	**08 45 49.0**	**-0.6**
RCP	**Roxas**	**4.74**	**308**	*eP*	**Pb**	**08 45 47.1**	**-0.5**
KSRS	**Korea Array**	**28.70**	**2**	LR	LR	09 03 43.2	
	comp=Z,13nm,18.3s,baz=205,slow=40						
WRA	**Warramunga Arr**	**29.43**	**165**	P	**P**	**08 50 26.0**	**-0.1**
	0.4nm,0.6s,baz=346,slow=9.3,SNR=5.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**32.91**	**168**	P	**P**	**08 50 57.1**	**+0.3**
	0.3nm,0.3s,baz=343,slow=7.4,SNR=8.0						
ASAR				PcP	**PcP**	**08 53 41.2**	**+0.2**
	0.4nm,0.8s,baz=354,slow=1.9,SNR=2.6						
	0.3nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.13**	**72**	T	T	09 35 01.6	
	baz=262,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	**40.15**	**72**	T	T	09 35 03.5	
	baz=262,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**40.15**	**72**	T	T	09 35 03.2	
	baz=262,slow=75,SNR=29						
MKAR	**Makanchi Array**	**53.48**	**323**	P	**P**	**08 53 42.0**	**-0.5**
	0.3nm,0.5s,baz=113,slow=7.6,SNR=2.3						
MKAR				PcP	**PcP**	**08 54 48.0**	**-1.3**
	0.4nm,0.7s,baz=108,slow=4.7,SNR=2.2						
	0.3nm,0.5s						

*IDC **28** 08:55:39.0±1.6, 23.23S×175.93W, h0km, mb4.0/4, mbtmp4.1/6, ML3.9/2, MS2.9/4, Error ellipse: s-maj=60.0km s-min=27.8km az=143.0*

ISC 28 08:55:39.9±0.9, 23.23S±0.2×175.7W±0.1, h10km, n11, σ1s30/9, mb4.1/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.06**	**23**	Pn	**Pn**	**08 58 04.8**	**+0.3**
	0.9nm,0.3s,baz=310,slow=21,SNR=1.3						
AFI				Sn	Sn	08 59 46.4	-11
	1.3nm,0.3s,baz=92,slow=19,SNR=1.9						
AFI				LR	LR	09 01 33.5	
	comp=Z,38nm,21.3s,baz=142,slow=35						
	5.2nm,0.5s						
RAR	**Rarotonga**	**14.93**	**85**	Pn	**Pn**	**08 59 10.2**	**-0.9**
	1.0nm,0.3s,baz=41,slow=2.4,SNR=2.3						
RAR				Sn	Sn	09 01 39.7	-17
	1.3nm,0.3s,baz=6.3,slow=20,SNR=1.6						
URZ	**Urewera**	**16.12**	**201**	Pn	**Pn**	**08 59 27.2**	**+0.6**
	0.6nm,0.3s,baz=38,slow=21,SNR=1.5						
URZ				Sn	Sn	09 02 06.8	-19
	0.5nm,0.3s,baz=44,slow=22,SNR=1.6						
	8.1nm,0.9s						
DZM	**Mont Dzumac**	**16.49**	**271**	LR	LR	09 03 24.7	
	comp=Z,34nm,20.4s,baz=44,slow=28						
PPT	**Papeete**	**25.15**	**82**	LR	LR	09 10 14.7	
	comp=Z,15nm,19.3s,baz=216,slow=35						
ASAR	**Alice Springs**	**45.99**	**259**	P	**P**	**09 04 02.9**	**-0.8**
	0.7nm,0.4s,baz=93,slow=8.8,SNR=9.6						
ASAR				PcP	**PcP**	**09 05 40.4**	**0.0**
	0.3nm,0.6s,baz=113,slow=4.0,SNR=1.9						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**46.35**	**264**	P	**P**	**09 04 04.8**	**-1.7**
	0.8nm,0.3s,baz=100,slow=8.3,SNR=49						
	0.8nm,0.3s						
BATI	**Baumata**	**59.09**	**272**	LR	LR	09 29 37.9	
	comp=Z,42nm,18.5s,baz=170,slow=35						
TXAR	**Lajitas Array**	**86.82**	**56**	P	**P**	**09 08 25.5**	**+0.6**
	0.3nm,0.8s,baz=219,slow=8.1,SNR=2.8						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.01**	**289**	P	**P**	**09 08 56.0**	**+1.9**
	1.6nm,0.3s,baz=129,slow=3.6,SNR=8.6						
	1.6nm,0.3s						
AKASG	**Malin Array Be**	**146.46**	**331**	PKPbc	**PKPab**	**09 15 20.7**	**-1.3**
	0.8nm,0.5s,baz=51,slow=2.8,SNR=1.9						

ATH 28 09:09:29.2, 38.18N×23.40E, h9km±3km, ML2.1/1, Error ellipse: s-maj=3.2km s-min=1.0km az=240.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIL2	**Platees**	**0.11**	**289**	P	Pg	09 09 31.3	-0.5
VIL2				S	Sg	09 09 32.6	-1.0
VIL2				AML	AML	09 09 33.2	
	comp=E,4332μm,0.1s						
VIL2				AML	AML	09 09 33.6	
	comp=N,4290μm,0.1s						
ATH	**Athens Observa**	**0.33**	**129**	P	Pg	09 09 35.5	-0.1
ATHU	**Athens Univers**	**0.37**	**124**	P	Pg	09 09 36.6	0.0
LOUT	**Loutraki**	**0.38**	**240**	P	Pg	09 09 36.6	-0.2
LOUT				S	Sg	09 09 42.2	+0.4
VLY	**Voula,Athens**	**0.45**	**136**	P	Pg	09 09 38.1	0.0
VLY				S	Sg	09 09 44.0	0.0
LKR	**Lokris**	**0.57**	**327**	P	Pg	09 09 39.1	-1.1
LKR				S	Sg	09 09 48.1	+0.5
EPID	**Epidavros**	**0.60**	**201**	P	Pg	09 09 40.5	-0.4
KYMI	**Kymi, Euboea I**	**0.72**	**50**	P	Pg	09 09 43.0	-0.1
AXAR	**Agios Charalam**	**0.82**	**316**	P	Pg	09 09 44.9	-0.2

*DDA **28** 09:10:06.8±0.0, 37.93N×29.13E, h8km±3km, MW4.0*
*ISK **28** 09:10:06.6, 37.92N×29.12E, h8km, ML4.1/57*
*MOS **28** 09:10:07.3±0.9, 37.95N×29.13E, h10km, mb4.3/7, Error ellipse: s-maj=7.6km s-min=4.1km az=84.2*
*GII **28** 09:10:08.8±0.0, 37.74N×28.96E, h20km, Mm4.3/2*
*NEIC **28** 09:10:08.8±1.1, 37.94N±0.02×29.19E±0.07, h10km±2km, mb4.2/8, ML4.1(ISK), Error ellipse: s-maj=9.2km s-min=3.0km az=92.0*
*THE **28** 09:10:10.2, 37.97N×29.08E, h8km±4km, ML4.0/4, Error ellipse: s-maj=5.9km s-min=1.4km az=49.0*
*IDC **28** 09:10:10.2±2.8, 37.91N×29.14E, h25km±20km, mb4.0/11, mbtmp4.1/22, ML3.8/11, MS3.1/14, Error ellipse: s-maj=13.7km s-min=11.3km az=166.0*

ISC 28 09:10:08.0±1.0, 37.94N±0.02×29.11E±0.02, h10km±6km, n254, σ1s51/302, mb4.1/24, MS3.4/6, 48C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.49**	**162**	PG	**Pg**	**09 10 34.7**	**-0.9**
APMY				SG	**Sb**	**09 10 24.3**	**-1.7**
TAVA	**DENIZLI_Tavas**	**0.50**	**198**	P	**Pg**	**09 10 16.4**	**-1.4**
TAVA				S	**Sg**	**09 10 24.1**	**-0.2**
PASA	**Karahalli, USA**	**0.51**	**36**	P	**Pg**	**09 10 16.5**	**-1.4**
PASA				S	**Sg**	**09 10 23.8**	**-0.9**
MANT	**Manisa**	**0.70**	**322**		**Pb**	**09 10 21.7**	**-0.9**
MANT	**Manisa**	**0.70**	**322**	P	**Pg**	**09 10 21.2**	**-0.5**
MANT				S	**Sg**	**09 10 30.6**	**-0.3**
USAK	**Uak-Merkez**	**0.78**	**355**	P	**Pg**	**09 10 22.3**	**-0.8**
USAK				S	**Sg**	**09 10 32.5**	**-0.8**
GOLH	**Golhisar**	**0.79**	**153**	P	**Pg**	**09 10 22.0**	**-1.2**
GOLH				S	**Sn**	**09 10 35.3**	**-1.9**
BRDR	**BURDUR-Merkez**	**0.79**	**107**	P	**Pg**	**09 10 22.0**	**-1.3**
BRDR				S	**Sn**	**09 10 38.5**	**+1.3**
CAEL	**Denizli, Camel**	**0.83**	**168**	P	**Pg**	**09 10 22.9**	**-1.1**
CAEL				S	**Sn**	**09 10 38.2**	**-0.1**
KZIL	**AFYON_Kizioren**	**0.87**	**68**	P	**Pg**	**09 10 23.3**	**-1.6**
KZIL				S	**Sn**	**09 10 40.9**	**+1.6**
MULA	**Mugla, Merkez-**	**0.93**	**223**	P	**Pg**	**09 10 24.6**	**-1.3**
MULA				S	**Sb**	**09 10 38.0**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**271**	PG	**Pg**	**09 10 25.6**	**-1.0**
AYDN	**Tasoluk**	**1.01**	**255**	P	**Pb**	**09 10 26.8**	**-0.9**
AYDN				S	**Sn**	**09 10 42.3**	**-0.4**
YER	**Yerkesik**	**1.04**	**220**	PG	**Pg**	**09 10 26.9**	**-1.1**
YER				SG	**Sb**	**09 10 41.3**	**-0.5**
ISP	**Isparta**	**1.12**	**95**	PN	**Pg**	**09 10 27.9**	**-1.7**
ISP	**Isparta**	**1.12**	**95**	Pg	**Pb**	**09 10 28.4**	**-1.2**
ISP	**Isparta**	**1.12**	**95**	P	**Pb**	**09 10 28.4**	**-1.2**
GEDZ	**Gediz**	**1.13**	**12**	PN	**Pg**	**09 10 28.6**	**-1.2**
GEDZ				SN	**Sn**	**09 10 45.5**	**-0.1**
DEMI	**Demirci**	**1.15**	**344**	P	**Pb**	**09 10 29.1**	**-0.9**
DEMI				S	**Sg**	**09 10 44.0**	**-1.0**
DALY	**Dalyan (Mula)**	**1.18**	**198**	PN	**Pg**	**09 10 29.2**	**-1.4**
GDZ	**Gediz**	**1.19**	**14**	P	**Pg**	**09 10 29.2**	**-2.6**
GDZ				S	**Sn**	**09 10 45.9**	**-1.2**
AFYO	**Afyonkarahisar**	**1.26**	**47**	P	**Pn**	**09 10 30.6**	**-1.2**
AFYO				S	**Sn**	**09 10 50.6**	**+1.7**
BCK	**Bucak**	**1.27**	**112**	PN	**Pg**	**09 10 31.0**	**-1.3**
SHUT	**Suhut-Afyon**	**1.29**	**61**	PN	**Pg**	**09 10 31.4**	**-1.4**
FETY	**Fethiye**	**1.30**	**181**	PN	**Pn**	**09 10 31.1**	**-1.2**
BUCA	**Burdur, Bucak-**	**1.30**	**117**	P	**Pg**	**09 10 32.4**	**-0.6**
BUCA				S	**Sn**	**09 10 55.3**	**+5.5**
BAGO	**Egridir - ISPA**	**1.33**	**87**	P	**Pn**	**09 10 30.3**	**-2.4**
BAGO				S	**Sn**	**09 10 53.1**	**+2.6**
ELL	**Elmali**	**1.35**	**152**	PN	**Pn**	**09 10 31.9**	**-1.1**
ELL	**Elmali**	**1.35**	**152**		**Pg**	**09 10 32.6**	**-1.3**
ELL	**Elmali**	**1.35**	**152**	P	**Pg**	**09 10 32.6**	**-1.3**
TURN	**Turunc**	**1.35**	**211**	PN	**Pn**	**09 10 32.1**	**-0.8**
TURN	**Turunc**	**1.35**	**211**	P	**Pn**	**09 10 31.9**	**-1.1**
TURN				S	**Sg**	**09 10 52.1**	**+0.7**
AKHS	**Akhisar**	**1.39**	**313**	P	**Pn**	**09 10 32.7**	**-0.8**
AKHS				S	**Sg**	**09 10 54.4**	**+1.7**
GCAM	**G?zelcaml?**	**1.51**	**262**	PN	**Pn**	**09 10 34.6**	**-0.5**
GCAM	**G?zelcaml?**	**1.51**	**262**	P	**Pn**	**09 10 34.3**	**-0.8**
GCAM				S	**Sg**	**09 11 00.6**	**+4.1**
TVSB	**Tavsanli**	**1.53**	**10**	PN	**Pn**	**09 10 34.4**	**-1.2**
DDIM	**Aydin, Didim**	**1.56**	**253**	P	**Pb**	**09 10 35.7**	**-1.2**
DDIM				S	**Sg**	**09 11 01.3**	**+3.1**
ANTB	**Antalya**	**1.61**	**130**	PN	**Pn**	**09 10 35.6**	**-0.9**
BODT	**Bodrum**	**1.68**	**239**	P	**Pb**	**09 10 38.4**	**-0.6**
BODT				S	**Sg**	**09 11 00.8**	**-1.2**
BODT	**Bodrum**	**1.68**	**239**	PN	**Pn**	**09 10 36.9**	**-0.6**
ANDZ	**Kutahya, Merke**	**1.69**	**21**	P	**Pn**	**09 10 37.4**	**-0.3**
ANDZ				S	**Sg**	**09 11 02.2**	**-0.1**
BLCB	**Balcova**	**1.69**	**286**	P	**Pn**	**09 10 37.6**	**0.0**
BLCB				S	**Sb**	**09 11 00.2**	**-0.4**
BLCB	**Balcova**	**1.69**	**286**	PN	**Pn**	**09 10 37.4**	**-0.2**
YVAC	**Isparta, Yalva**	**1.71**	**78**	P	**Pb**	**09 10 38.2**	**-1.5**
YVAC				S	**Sg**	**09 11 07.4**	**+4.3**
DURS	**Dursunbey**	**1.73**	**344**	P	**Pn**	**09 10 37.9**	**-0.4**
DURS				S	**Sg**	**09 11 05.2**	**+1.3**
AKAS	**Kas**	**1.75**	**167**	PN	**Pn**	**09 10 37.9**	**-0.6**
AKAS	**Kas**	**1.75**	**167**		**Pb**	**09 10 38.9**	**-1.3**
AKAS	**Kas**	**1.75**	**167**	P	**Pb**	**09 10 38.6**	**-1.7**
AKAS				S	**Sg**	**09 11 07.7**	**+3.5**
DGB	**zmir**	**1.76**	**274**	P	**Pn**	**09 10 38.0**	**-0.6**
DGB				S	**Sg**	**09 11 06.2**	**+1.4**
STEP	**BALIKESIR_Sava**	**1.80**	**323**	P	**Pn**	**09 10 39.0**	**-0.3**
STEP				S	**Sg**	**09 11 07.9**	**+1.9**
SMG	**Samos**	**1.81**	**263**	P	**Pn**	**09 10 38.9**	**-0.5**
SMG				S	**Sb**	**09 11 02.8**	**-1.4**
	1μm,0.5s						
KSL	**Kastellorizon**	**1.82**	**168**	P	**Pg**	**09 10 41.2**	**-1.8**
KSL				S	**Sb**	**09 11 04.2**	**-0.2**
	2μm,0.9s						
ARG	**Arkhangelos**	**1.89**	**205**	P	**Pb**	**09 10 42.1**	**-0.5**
ARG				S	**Sb**	**09 11 05.9**	**-0.4**
	3μm,0.8s						
ARG	**Arkhangelos**	**1.89**	**205**	PN	**Pn**	**09 10 40.1**	**-0.3**
ARG	**Arkhangelos**	**1.89**	**205**		**Pb**	**09 10 41.9**	**-0.7**
ARG	**Arkhangelos**	**1.89**	**205**	P	**Pb**	**09 10 41.9**	**-0.7**
ZEDA	**zmir-Bergama**	**1.90**	**303**	P	**Pn**	**09 10 40.2**	**-0.3**
ZEDA				S	**Sg**	**09 11 10.2**	**+1.1**
DOGA	**KONYA_Doganhis**	**2.03**	**84**	P	**Pn**	**09 10 41.7**	**-0.7**
DOGA				S	**Sg**	**09 11 15.0**	**+1.8**
URLA	**Izmir**	**2.03**	**283**	PN	**Pb**	**09 10 42.9**	**-2.1**
URLA	**Izmir**	**2.03**	**283**	P	**Pb**	**09 10 44.3**	**-0.7**
URLA				S	**Sg**	**09 11 14.7**	**+1.5**
NIS1	**Nisyros Isl.**	**2.04**	**230**	P	**Pb**	**09 10 43.2**	**-2.0**
NIS1				S	**Sn**	**09 11 08.2**	**+0.3**
	9μm,0.7s						
NIS1	**Nisyros Isl.**	**2.04**	**230**	PN	**Pn**	**09 10 41.4**	**-1.0**
DKL	**Dikili**	**2.07**	**304**	PN	**Pn**	**09 10 42.9**	**+0.1**
KOSK	**Kos Island**	**2.07**	**236**	PN	**Pn**	**09 10 42.2**	**-0.6**
ZEYE	**Izmir, Urla-Ze**	**2.08**	**279**	P	**Pn**	**09 10 42.6**	**-0.4**
ZEYE				S	**Sg**	**09 11 15.2**	**+0.3**
CIFT	**Cifteler, Eski**	**2.09**	**46**	PN	**Pn**	**09 10 42.9**	**-0.3**
BALY	**Balya**	**2.14**	**328**	P	**Pn**	**09 10 43.5**	**-0.5**
BALY				S	**Sg**	**09 11 18.4**	**+1.4**
SEDI	**Konya, Seydise**	**2.15**	**102**	P	**Pb**	**09 10 44.7**	**-2.5**
SEDI				S	**Sg**	**09 11 21.5**	**+4.3**
BORA	**Eskisehir**	**2.20**	**28**		**Pn**	**09 10 45.0**	**+0.2**
CAVI	**Cavuskoy**	**2.33**	**14**	PN	**Pn**	**09 10 46.4**	**-0.1**
KIZT	**Kizilcal**	**2.37**	**66**	PN	**Pn**	**09 10 46.6**	**-0.5**
SRCK	**Saricakaya, Es**	**2.41**	**29**	PN	**Pn**	**09 10 47.7**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.42**	**51**	PN	**Pn**	**09 10 46.9**	**-0.8**
MDNY	**Mudanya-Bursa**	**2.43**	**356**	PN	**Pn**	**09 10 48.0**	**+0.1**
CHOS	**Chios island**	**2.45**	**281**	P	**Pn**	**09 10 48.7**	**+0.5**
CHOS	**Chios island**	**2.45**	**281**	PN	**Pn**	**09 10 48.4**	**+0.2**
GEMT	**Gemlik**	**2.49**	**1**	PN	**Pn**	**09 10 49.2**	**+0.5**
ADVT	**Abdulvahap**	**2.54**	**11**	PN	**Pn**	**09 10 49.8**	**+0.5**
KONT	**Konya--Tatoy**	**2.57**	**89**	PN	**Pn**	**09 10 49.8**	**0.0**
PRK	**Paraskevi**	**2.58**	**301**	P	**Pn**	**09 10 50.9**	**+1.0**
LADK	**Ladik-KONYA**	**2.58**	**83**	PN	**Pn**	**09 10 49.6**	**-0.4**
EDC	**Edincik**	**2.59**	**338**	PN	**Pn**	**09 10 50.6**	**+0.5**
ARMT	**Armutlu**	**2.63**	**356**	PN	**Pn**	**09 10 50.9**	**+0.3**
GULT	**Gulveren**	**2.72**	**23**	PN	**Pn**	**09 10 52.3**	**+0.4**
SIGR	**SIGRI**	**2.85**	**297**	P	**Pn**	**09 10 53.6**	**0.0**
SIGR	**SIGRI**	**2.85**	**297**	PN	**Pn**	**09 10 53.3**	**-0.3**
KARP	**Karpathos**	**2.85**	**214**	PN	**Pn**	**09 10 53.6**	**-0.1**
KARP	**Karpathos**	**2.85**	**214**		**Pn**	**09 10 54.9**	**+1.2**
HDMB	**Hadim**	**2.86**	**109**	PN	**Pn**	**09 10 53.6**	**-0.3**
EZIN	**Ezine**	**2.88**	**312**	PN	**Pn**	**09 10 54.1**	**+0.2**
MRMT	**Marmara Adasi**	**2.91**	**337**	PN	**Pn**	**09 10 55.3**	**+0.8**
HRT	**Hereke**	**2.91**	**8**	PN	**Pn**	**09 10 54.9**	**+0.4**
SAUV	**Serdivan-Sakar**	**2.95**	**18**	PN	**Pn**	**09 10 55.5**	**+0.5**
APE	**Apeiranthos**	**2.98**	**254**	⇑P	**Pn**	**09 10 56.2**	**+0.9**
APE	**Apeiranthos**	**2.98**	**254**	⇑*eP*	**Pn**	**09 10 57.0**	**+1.6**
MDUB	**Mudurnu**	**3.00**	**32**	PN	**Pn**	**09 10 55.6**	**-0.2**
MDUB	**Mudurnu**	**3.00**	**32**		**Pn**	**09 10 57.1**	**+1.3**
CHBY	**Cihanbeyli**	**3.04**	**77**	PN	**Pn**	**09 10 56.2**	**-0.1**
BOZC	**Bozcaada**	**3.05**	**309**	PN	**Pn**	**09 10 56.6**	**+0.3**
GAZI	**Gazipasa**	**3.08**	**123**	PN	**Pn**	**09 10 56.8**	**+0.1**
KAVV	**Kandilli-Istan**	**3.12**	**359**	PN	**Pn**	**09 10 57.9**	**+0.6**
ISK	**Istanbul-Kandi**	**3.12**	**359**	PN	**Pn**	**09 10 58.1**	**+0.8**
RKY	**Sarkoy-Tekirda**	**3.13**	**332**

MLR	**Muntele Rosu**	**7.91**	**344**	Pn		**Pn**	**09 12 06.1**	**+2.9**
	comp=E,0.5nm,0.3s,baz=170,slow=17,SNR=5.4							
MLR				Lg		Lg	09 14 25.0	
	comp=E,0.2nm,0.3s,baz=140,slow=23,SNR=1.0							
MLR				LR		LR	09 15 03.4	
	comp=E,142nm,18.1s,baz=188,slow=37							
	comp=E,3.6nm,0.6s							
MLR	**Muntele Rosu**	**7.91**	**344**			**Pn**	**09 12 05.9**	**+2.7**
SIM	**Simferopol'**	**7.95**	**27**	*e*P		Pn	09 12 10.4	+6.8
SIM				S		**Sn**	**09 13 35.2**	**+1.7**
SIM				S		Sb	09 13 44.4	-16
SIM				pmax	pmax			
	comp=Z,24nm,1.1s							
SIM				smax	smax			
	comp=E,74nm,1.2s							
SIM				smax	smax			
	comp=E,49nm,1.1s							
BOVS	**Bovan**	**7.99**	**318**	⇑P		**Pn**	**09 12 04.6**	**+0.4**
VOIR		**8.08**	**339**	⇑P		**Pn**	**09 12 07.8**	**+2.3**
VOIR		**8.08**	**339**	⇑P		**Pn**	**09 12 07.8**	**+2.3**
PLOR	**Plostina**	**8.12**	**348**	⇑P		**Pn**	**09 12 07.9**	**+2.0**
PLOR	**Plostina**	**8.12**	**348**	⇑P		**Pn**	**09 12 07.9**	**+2.0**
VRI	**Vrincioaia**	**8.12**	**348**	⇑P		**Pn**	**09 12 08.3**	**+2.4**
VRI	**Vrincioaia**	**8.12**	**348**	⇑P		**Pn**	**09 12 08.3**	**+2.4**
ARR	**Arges**	**8.14**	**337**	⇑P		Pn	09 12 12.7	+6.4
DSI	**Dead Sea**	**8.18**	**139**	Pn		**Pn**	**09 12 05.6**	**-1.2**
DSI				Sn		**Sn**	**09 13 37.4**	**-1.9**
COVR	**Voineasa-Covas**	**8.19**	**346**	⇑P		**Pn**	**09 12 08.0**	**+1.1**
SUDU	**Sudak**	**8.23**	**31**	*e*P		**Pn**	**09 12 09.0**	**+1.5**
SUDU				Pm			09 12 15.8	
	comp=Z,7.0nm,0.4s							
SUDU				*e*S		**Sn**	**09 13 39.8**	**-0.7**
SUDU				Sm			09 13 45.1	
	comp=N,8.0nm,0.4s							
SUDU				Sm			09 13 45.1	
	comp=E,7.0nm,0.4s							
SUDU	**Sudak**	**8.23**	**31**	*e*P		**Pn**	**09 12 09.0**	**+1.5**
SUDU				*e*S		**Sn**	**09 13 39.8**	**-0.7**
DOPR	**Dopca**	**8.49**	**342**	⇑P		**Pn**	**09 12 12.2**	**+1.2**
HERR	**Herculane**	**8.57**	**326**	⇑P		**Pn**	**09 12 13.3**	**+1.2**
ASF	**Jabal al Asfar**	**8.59**	**130**	Pn		**Pn**	**09 12 13.7**	**+1.2**
	comp=E,0.6nm,0.3s,baz=349,slow=13,SNR=6.8							
ASF				Sn		**Sn**	**09 13 52.5**	**+2.9**
	comp=E,0.2nm,0.3s,baz=147,slow=20,SNR=1.4							
	comp=E,4.1nm,0.6s							
TESR	**Tescani**	**8.76**	**349**	⇑P		**Pn**	**09 12 17.2**	**+2.5**
GZR	**Gura Zlata**	**8.83**	**330**	⇑P		**Pn**	**09 12 17.6**	**+1.9**
MILM	**Milestii Mici**	**8.98**	**359**	⇑P		**Pn**	**09 12 20.0**	**+2.3**
MILM	**Milestii Mici**	**8.98**	**359**	⇑P		**Pn**	**09 12 20.0**	**+2.3**
PRNI	**Paran**	**9.00**	**145**	Pn		**Pn**	**09 12 17.5**	**-0.6**
HRFI	**Mount Harif**	**9.29**	**146**	Pn		**Pn**	**09 12 21.1**	**-0.9**
HRFI				Sn		**Sn**	**09 14 02.6**	**-4.0**
MBRI	**Mt Berech**	**9.44**	**148**	Pn		**Pn**	**09 12 22.3**	**-1.9**
EIL	**Elat**	**9.57**	**148**	Pn		**Pn**	**09 12 25.3**	**-0.5**
	comp=E,1.2nm,0.3s,baz=308,slow=12,SNR=5.5							
EIL				Sn		**Sn**	**09 14 07.7**	**-5.8**
	comp=E,0.5nm,0.3s,baz=143,slow=20,SNR=1.3							
EIL				LR		LR	09 16 20.9	
	comp=E,57nm,20.2s,baz=233,slow=39							
	comp=E,9.9nm,0.5s							
TIP	**Timpagrande**	**9.76**	**281**	⇑P		**Pn**	**09 12 29.5**	**+1.1**
TIP	**Timpagrande**	**9.76**	**281**	Pn		**Pn**	**09 12 29.6**	**+1.1**
SOC	**Sochi**	**9.82**	**52**	*e*P		**Pn**	**09 12 26.1**	**-3.2**
SOC				*e*SS		Sn	09 14 30.6	+11
SOC				MLR		MLR		
	comp=Z,88nm,20.0s							
DRGR		**10.03**	**334**	⇑P		**Pn**	**09 12 33.2**	**+1.0**
DRGR		**10.03**	**334**	⇑P		**Pn**	**09 12 33.2**	**+1.0**
BURAR	**Bucovina Array**	**10.08**	**345**	⇑P		**Pn**	**09 12 35.9**	**+2.9**
BURAR	**Bucovina Array**	**10.08**	**345**	⇑P		**Pn**	**09 12 35.9**	**+2.9**
KIV	**Kislovodsk**	**11.89**	**55**			**Pn**	**09 12 59.5**	**+1.8**
KIV	**Kislovodsk**	**11.89**	**55**	*e*P		**Pn**	**09 12 57.6**	**-0.1**
KIV				pmax	pmax			
	comp=Z,18nm,1.1s							
KIV				MLR	MLR			
	comp=Z,26nm,10.0s							
KBZ	**Khabaz**	**11.93**	**57**	Pn		Pn	09 13 02.4	+4.3
	comp=Z,0.1nm,0.3s,baz=289,slow=5.6,SNR=4.4							
KBZ				LR		LR	09 18 07.4	
	comp=Z,84nm,19.7s,baz=202,slow=40							
	comp=Z,2.9nm,0.8s							
ZEI	**Tsey**	**12.27**	**62**	*e*P		Pn	09 13 07.3	+4.3
ZEI				pmax	pmax			
	comp=Z,6.0nm,1.2s							
GNI	**Garni**	**12.35**	**75**	LR		LR	09 17 39.1	
	comp=Z,41nm,18.2s,baz=298,slow=36							
AKASG	**Malin Array Be**	**12.76**	**0**	Pn		**Pn**	**09 13 08.5**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=173,slow=11,SNR=5.6							
AKASG				LR		LR	09 18 45.8	
	comp=Z,44nm,21.4s,baz=210,slow=40							
	comp=Z,0.4nm,0.4s							
AKASG	**Malin Array Be**	**12.76**	**0**	*i* P		**Pn**	**09 13 11.8**	**+2.4**
AKBB	**Malin Array Si**	**12.76**	**0**	⇑*e*P		**Pn**	**09 13 12.6**	**+3.2**
MORC	**Moravsky Berou**	**14.46**	**329**	Pn		**Pn**	**09 13 34.4**	**+1.7**
MORC	**Moravsky Berou**	**14.46**	**329**	P		**Pn**	**09 13 34.4**	**+1.7**
VSR	**Storozhevoye**	**15.06**	**25**	*e*P		**Pn**	**09 13 39.5**	**-1.3**
VSR				pmax	pmax			
	comp=Z,10.0nm,1.3s							
VORR	**Voronezh**	**15.47**	**24**	*e*P		**Pn**	**09 13 44.3**	**-1.8**
VORR				pmax	pmax			
	comp=Z,40nm,0.4s							
GERES	**GERESS Array B**	**15.60**	**319**	Pn		**Pn**	**09 13 48.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=116,slow=9.0,SNR=1.8							
	comp=Z,0.3nm,0.2s							
KEST	**Kesra**	**15.98**	**268**	Pn		**P**	**09 13 55.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=2.9							
	comp=Z,4.1nm,0.6s							
VRH	**Novokhopyorsk**	**15.99**	**30**	*e*P		**Pn**	**09 13 51.9**	**-1.0**
VRH				pmax	pmax			
	comp=Z,10.0nm,1.2s							
LPSR	**Galich'ya Gora**	**16.18**	**22**	*e*P		**Pn**	**09 13 55.4**	**0.0**
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
OBN	**Obninsk**	**17.91**	**14**	⇓*e*P		**P**	**09 14 17.7**	**+0.1**
OBN				pmax	pmax			
	comp=Z,8.0nm,0.7s							
OBN				MLR	MLR			
	comp=Z,101nm,16.0s							
BFO	**Black Forest**	**18.33**	**311**	P		**P**	**09 14 23.2**	**+0.9**
BFO	**Black Forest**	**18.33**	**311**	P		**P**	**09 14 23.2**	**+0.9**
BFO				pmax	pmax			
	comp=Z,14nm,1.5s							
BELG	**Belogornoye**	**19.39**	**36**	P		**Pn**	**09 14 34.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=207,slow=3.3,SNR=11							
	comp=Z,32nm,0.9s							
CLF	**Chambon-Foret**	**21.98**	**306**	P		**P**	**09 15 02.9**	**+1.0**
CLF				IAmb		IAmb	09 15 15.4	
	comp=Z,27nm,1.3s							
GEYT	**Alibeck**	**22.84**	**81**	P		**P**	**09 15 11.6**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=277,slow=12,SNR=7.1							
	comp=Z,3.5nm,0.6s							
GEYT	**Alibeck**	**22.84**	**81**	P		**P**	**09 15 10.7**	**-0.6**
GEYT				IAmb		IAmb	09 15 14.7	
	comp=Z,10nm,1.3s							
FINES	**FINESS Array B**	**23.61**	**356**	P		**P**	**09 15 19.5**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=171,slow=9.8,SNR=5.1							
	comp=Z,4.6nm,0.9s							
FINES	**FINESS Array B**	**23.61**	**356**	P		**P**	**09 15 19.6**	**+0.8**
FINES	**FINESS Array B**	**23.61**	**356**	P		**P**	**09 15 19.6**	**+0.8**
KLMR	**Klimovskoe**	**23.86**	**13**	*e*P		**P**	**09 15 21.0**	**-0.2**
KLMR				pmax	pmax			
	comp=Z,27nm,2.1s							
KLMR	**Klimovskoe**	**23.86**	**13**	*e*P		**P**	**09 15 21.1**	**-0.2**
KLMR				AMP			09 15 32.5	
	comp=Z,27nm,2.1s							
AKTO	**Aktyubinsk**	**24.03**	**49**	P		**P**	**09 15 23.4**	**+0.3**
	comp=Z,4.8nm,0.9s,baz=245,slow=11,SNR=11							
AKTO				LR		LR	09 27 44.4	
	comp=Z,31nm,19.9s,baz=269,slow=44							
	comp=Z,4.8nm,0.9s							
HFS	**Hagfors**	**24.28**	**341**	LR		LR	09 25 43.2	
	comp=Z,112nm,18.3s,baz=312,slow=38							
ABKAR	**Akbulak array**	**24.86**	**53**	P		**P**	**09 15 29.9**	**-0.7**
NB2	**NORSAR Subarra**	**25.71**	**340**	P		**P**	**09 15 38.1**	**-0.1**
	comp=Z,4.6nm,0.9s,baz=144,slow=9.3							
NOA	**NORSAR Array B**	**25.71**	**340**	P		**P**	**09 15 38.5**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=146,slow=8.8,SNR=4.3							
NOA				LR		LR	09 27 35.6	
	comp=Z,52nm,18.7s,baz=275,slow=41							
	comp=Z,2.0nm,0.9s							
ESDC	**Sonseca Array**	**25.75**	**284**	P		**P**	**09 15 39.0**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=69,slow=9.3,SNR=7.0							
	comp=Z,1.7nm,1.0s							
PRGR	**Permogore**	**25.85**	**18**	*e*P		**P**	**09 15 40.7**	**+1.3**
PRGR				pmax	pmax			
	comp=Z,11nm,0.5s							
ARU	**Arti**	**26.93**	**37**	P		**P**	**09 15 49.5**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=274,slow=7.7,SNR=4.0							
	comp=Z,2.1nm,0.3s							
ARU	**Arti**	**26.93**	**37**	*c i* P		**P**	**09 15 44.5**	**-4.7**
ARU				S		**S**	**09 20 19.6**	**-6.4**
ARU				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PVAQ	**Vaqueiros**	**29.04**	**280**	P		**P**	**09 16 09.4**	**+1.2**
BVAR	**Borovoye Array**	**32.13**	**49**	LR		LR	09 31 27.3	
	comp=Z,77nm,18.2s,baz=254,slow=40							
AAK	**Ala-Archa**	**34.62**	**68**	⇑*e*P		**P**	**09 16 58.4**	**+1.0**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
TOA0	**Torodi Ar. Sit**	**34.71**	**232**	P		**P**	**09 16 58.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**34.71**	**232**	P		**P**	**09 16 57.9**	**-0.3**
	comp=Z,11nm,0.4s,baz=37,slow=9.0,SNR=25							
	comp=Z,11nm,0.4s							
KURK	**Kurchatov**	**36.97**	**54**	P		**P**	**09 17 17.9**	**+0.6**
KURK				IAmb		IAmb	09 17 19.7	
	comp=Z,4.1nm,1.1s							
KURK	**Kurchatov**	**36.97**	**54**	*ce*P		**P**	**09 17 18.2**	**+0.9**
KURK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MK31	**Makanchi Array**	**39.61**	**60**	P		**P**	**09 17 39.4**	**-0.2**
MK31				IAmb		IAmb	09 17 42.0	
	comp=Z,4.5nm,1.1s							
MK31	**Makanchi Array**	**39.61**	**60**	*ce*P		**P**	**09 17 40.3**	**+0.7**
MKAR	**Makanchi Array**	**39.61**	**60**	P		**P**	**09 17 40.3**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=272,slow=8.1,SNR=16							
	comp=Z,2.8nm,0.8s							
MKAR	**Makanchi Array**	**39.61**	**60**	P		**P**	**09 17 39.3**	**-0.3**
ZAA0	**Zalesovo Array**	**40.79**	**48**	P		**P**	**09 17 49.3**	**+0.1**
ZALV	**Zalesovo Beam**	**40.79**	**48**	P		**P**	**09 17 48.4**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=276,slow=15,SNR=4.2							
ZALV				LR		LR	09 38 04.2	
	comp=Z,45nm,19.5s,baz=14,slow=41							
	comp=Z,0.7nm,0.3s							
ZALV	**Zalesovo Beam**	**40.79**	**48**	P		**P**	**09 17 49.3**	**+0.1**
ZALV	**Zalesovo Beam**	**40.79**	**48**	P		**P**	**09 17 49.3**	**+0.1**
KBS	**Kingsbay**	**41.69**	**355**	⇑*e*P		**P**	**09 17 57.8**	**+1.4**
KBS				pmax	pmax			
	comp=Z,25nm,1.4s							
DGZ	**Jazzator, Alta**	**42.67**	**55**	⇑*e*P		**P**	**09 18 05.4**	**+0.5**
DGZ				pmax	pmax			
	comp=Z,2.0nm,1.0s							
DBIC	**Dimbokro**	**43.78**	**233**	P		**P**	**09 18 13.6**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=63,slow=6.8,SNR=2.3							
	comp=Z,4.2nm,0.9s							
WMQ	**Urumqi**	**43.88**	**63**	*e*P		**P**	**09 18 15.8**	**+1.1**
WMQ				pmax	pmax			
	comp=Z,11nm,0.7s							
NRIK	**Noril'sk**	**44.01**	**26**	*ce*P		**P**	**09 18 16.2**	**+1.0**
NRIK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ULN	**Ulaanbaatar**	**55.68**	**53**	⇓*e*P		**P**	**09 19 44.9**	**+0.4**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.9s							
PZH	**PanZhiHua**	**61.10**	**78**	P		**P**	**09 20 24.0**	**+1.3**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,90nm,5.6s							
HHC	**Hu-ho-hao-te**	**61.47**	**59**	*e*P		**P**	**09 20 25.0**	**+0.1**
HHC				pmax	pmax			
	comp=Z,24nm,0.8s							
HHC				pmax	pmax			
	comp=Z,170nm,4.8s							
LEM	**Lembang**	**85.17**	**102**	LR		LR	10 06 49.1	
	comp=Z,17nm,18.6s,baz=24,slow=40							
PDAR	**Pinedale Array**	**91.32**	**331**	P		**P**	**09 23 14.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=46,slow=5.2,SNR=2.7							
	comp=Z,0.4nm,0.8s							

HEL 28 09:14:51.0±0.2, 64°.89N×20°.24E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURU	**Burvik**	**0.58**	**122**	PG	Pg	09 15 01.6	-0.5
BURU				SG	Sg	09 15 09.0	-0.5
UMAU	**Umeaa**	**1.03**	**169**	PN	Pn	09 15 12.2	-0.4
UMAU				SN	Sn	09 15 26.8	-0.9
KALU	**Kalix**	**1.63**	**52**	PG	Pn	09 15 20.2	-0.7
KALU				SN	Sn	09 15 42.3	-0.3
OBF0	**Syolatti, Pyha**	**1.76**	**101**	PG	Pn	09 15 22.6	-0.1
OBF0				SN	Sn	09 15 45.6	-0.3
ERTU	**Ertsjaerv**	**1.86**	**25**	PG	Pn	09 15 24.4	+0.4
	baz=205						
ERTU				SG	Sn	09 15 48.4	+0.2
OUF	**Merijarvi**	**2.01**	**103**	PG	Pn	09 15 27.1	+1.0
OUF				MSG		09 15 50.6	
	comp=Z,0.7nm,0.2s						
OUF				SG	Sn	09 15 51.9	+0.1
OBF4	**Vikkela, Lumij**	**2.08**	**90**	PB	Pn	09 15 27.3	+0.2
TOF	**Tornio**	**2.08**	**53**	PG	Pn	09 15 28.1	+1.0
TOF				MSG		09 15 52.9	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sn	09 15 53.9	+0.2
RAF	**Rauma**	**3.94**	**169**	SG	Sb	09 16 50.9	+1.4
KU6	**Riekki**	**4.19**	**70**	SG	Sb	09 16 59.4	+2.9

IDC 28 09:31:13.4±3.4, 32°.39S×178°.52W, h0km, mb3.6/2, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=73.5km s-min=47.3km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.86**	**210**	Pn	Pn	09 32 53.8	-1.4
	0.7nm,0.3s,baz=5.2,slow=2.8,SNR=13						
URZ				Sn	Sn	09 34 09.5	-4.5
	2.3nm,0.3s,baz=198,slow=18,SNR=8.5						
	2.7nm,0.4s						
ASAR	**Alice Springs**	**42.60**	**269**	P	P	09 39 11.6	0.0
	0.3nm,0.4s,baz=111,slow=7.9,SNR=7.3						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**43.77**	**274**	P	P	09 39 21.1	+0.1
	0.6nm,0.4s,baz=112,slow=8.0,SNR=19						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**146.84**	**339**	PKPbc	PKPbc	09 50 56.1	-0.8
	1.9nm,0.8s,baz=44,slow=4.2,SNR=1.5						

*IDC **28** 09:35:59.5±1.9, 26°.83N×143°.68E, h0km, mb3.7/4, mbtmp3.9/6, ML3.4/2, MS3.3/2, Error ellipse: s-maj=38.5km s-min=25.5km az=61.0*
*JMA **28** 09:36:02.9±0.1, 27°.3N±0°.5×143°.8E±0°.5, h65km, MV4.0/10, NEAR CHICHIJIMA ISLAND*
ISC 28 09:36:04.1±1.5, 27°.12N±0°.09×143°.8E±0°.1, h35km, n18, σ1 s 72/13, mb3.8/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.46**	**269**	P	**Pn**	**09 36 27.2**	**-0.7**
JCJ	**Chichijima**	**1.46**	**269**	Pn	**Pn**	**09 36 26.0**	**-2.0**
	5.4nm,0.3s,baz=73,slow=19,SNR=1.6						
JCJ				Sn	**Sn**	**09 36 44.9**	**-0.9**
	78nm,0.3s,baz=280,slow=23,SNR=18						
JHH2	**Haha-jima-NKT2**	**1.55**	**252**	*e*P	**Pn**	**09 36 28.9**	**-0.3**
JHH2				*e*S	**Sn**	**09 36 48.2**	**+0.1**
JHJ	**Hachijo jima 2**	**6.92**	**331**	Pn	**Pn**	**09 37 43.8**	**+0.8**
	3.9nm,0.3s,baz=83,slow=19,SNR=1.7						
JHJ				Sn	**Sn**	**09 38 58.0**	**-2.6**
	3.7nm,0.3s,baz=78,slow=22,SNR=0.9						
	90nm,0.9s						
JHO	**Hitachi**	**9.86**	**345**	*e*P	**Pn**	**09 38 21.8**	**-1.4**
MJAR	**Matsushiro Arr**	**10.53**	**334**	Pn	**Pn**	**09 38 33.1**	**+0.6**
	0.2nm,0.3s,baz=148,slow=11,SNR=7.9						
	1.0nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**22.39**	**104**	T	T	10 03 57.2	
	baz=291						
H11N1	**WAKE ISLAND Hy**	**22.39**	**104**	T	T	10 03 57.9	
	baz=291						
H11N3	**WAKE ISLAND Hy**	**22.41**	**104**	T	T	10 03 59.9	
	baz=291						
H11S3	**WAKE ISLAND Hy**	**22.73**	**107**	T	T	10 04 21.5	
	baz=294						
H11S1	**WAKE ISLAND Hy**	**22.73**	**107**	T	T	10 04 22.0	
	baz=294						
H11S2	**WAKE ISLAND Hy**	**22.75**	**107**	T	T	10 04 22.6	
	baz=294						
SONM	**Songino Array**	**35.71**	**315**	P	**P**	**09 43 01.5**	**+2.1**
	0.5nm,0.6s,baz=106,slow=9.2,SNR=1.6						
	0.5nm,0.6s						
BATI	**Baumata**	**41.95**	**210**	LR	LR	10 01 45.6	
	comp=Z,47nm,18.2s,baz=68,slow=37						
WRA	**Warramunga Arr**	**47.68**	**192**	P	**P**	**09 44 35.0**	**-2.2**
	1.0nm,0.9s,baz=13,slow=8.3,SNR=4.8						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**51.39**	**192**	LR	LR	10 05 00.2	
	comp=Z,31nm,22.0s,baz=308,slow=34						
MKAR	**Makanchi Array**	**51.58**	**310**	P	**P**	**09 45 08.3**	**+1.5**
	0.4nm,0.4s,baz=93,slow=7.7,SNR=4.5						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**54.06**	**314**	P	**P**	**09 45 26.7**	**+1.7**
	0.5nm,0.3s,baz=94,slow=8.1,SNR=5.1						
	0.5nm,0.3s						

*BJI **28** 09:38:07.4±0.0, 24°.23N×123°.07E, h91km, mb4.7/59, mB4.8/28*
*IDC **28** 09:38:12.8±0.8, 24°.54N×122°.79E, h99km±7km, mb4.2/28, mbtmp4.5/30, MS3.5/22, Error ellipse: s-maj=14.5km s-min=8.9km az=69.0*
*NEIC **28** 09:38:12.6±1.4, 24°.48N±0°.07×122°.70E±0°.07, h95km±5km, mb4.8/64, ML4.2(TAP), Error ellipse: s-maj=10.6km s-min=8.8km az=137.0*
*TAP **28** 09:38:12.0, 24°.45N×122°.75E, h97km, ML5.5, B*
*NIED **28** 09:38:12.4, 24°.49N×122°.70E, h91km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.27; $M_{\theta\theta}$0.56; $M_{\phi\phi}$0.71; $M_{r\theta}$0.01; $M_{\theta\phi}$1.62; $M_{\phi r}$-0.55; Fault plane solution: $M_0$1.94000×10^{16} NP1: ϕ_s254.00000°, δ48.00000°, λ-43.00000°. NP2:ϕ_s16.00000°, δ59.00000°, λ-129.00000°.*
*JMA **28** 09:38:12.4±0.1, 24°.N±2°×122°.7E±0°.5, h91km±1km, MD4.9/14, MW5.0/14, NW OFF ISHIGAKIJIMA IS*
JMA Felt II J1 at NW OFF ISHIGAKIJIMA IS .
*GCMT **28** 09:38:13.6±0.3, 24°.47N±0°.02×122°.65E±0°.02, h105km±3km, MW4.9/97, Moment Tensor Solution. s26,c30; s97,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.09±.10; $M_{\theta\theta}$-0.72±.11; $M_{\phi\phi}$0.81±.10; $M_{r\theta}$2.03±.06; $M_{\theta\phi}$1.77±.09; $M_{\phi r}$-0.93±.07; Best double couple: $M_0$2.73500×10^{16} NP1:ϕ_s260.00000°, δ80.00000°, λ-39.00000°. NP2:ϕ_s357.00000°, δ51.00000°, λ-168.00000°. Principal axes: T 2.0950, Plg19.0000°, Azm314.0000°; N 1.2790, Plg50.0000°, Azm68.0000°; P -3.3750, Plg34.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 09:38:12.5±0.3, 24°.45N±0°.02×122°.72E±0°.02, h96km±2km, h97km:pP-P, n388, σ1 s 33/522, mb4.8/84, 28C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.21**	**91**	*i* P	**Pn**	**09 38 25.8**	**-0.5**
JYNG				S	**Sn**	**09 38 35.4**	**-1.1**
JYNG	**Yonagunijimaku**	**0.21**	**91**	A	A	09 38 25.8	
	comp=E,96nm,0.8s,comp=E,166nm,2.3s						
YOJ	**Yonaguni jima**	**0.27**	**88**		**Pn**	**09 38 26.0**	**-0.4**
YOJ	**Yonaguni jima**	**0.27**	**88**	⇓*i* P	**Pn**	**09 38 26.1**	**-0.4**
	baz=84						
YOJ				*i* S	**Sn**	**09 38 35.9**	**-1.1**
	baz=84						
YOJ	**Yonaguni jima**	**0.27**	**88**	*i* P	**Pn**	**09 38 26.1**	**-0.4**
YOJ				S	**Sn**	**09 38 35.8**	**-1.1**
YOJ	**Yonaguni jima**	**0.27**	**88**	A	A	09 38 26.1	
	comp=E,77nm,0.9s,comp=E,145nm,2.7s						
TWB1	**Santiao Chiao**	**0.86**	**310**	*i* P	**Pn**	**09 38 31.3**	**+0.1**
	baz=309						
TWB1				S	**Sn**	**09 38 44.0**	**-1.2**
	baz=309						
EHP	**Heping Village**	**0.90**	**261**	*i* P	**Pn**	**09 38 31.5**	**-0.1**
	baz=262						
EHP				*e*S	**Sn**	**09 38 46.0**	**+0.1**
	baz=262						
NTC	**Toucheng**	**0.90**	**297**	⇑*i* P	**Pn**	**09 38 31.6**	**+0.1**
	baz=296						
NTC				*i* S	**Sn**	**09 38 44.9**	**-0.9**
	baz=296						
NDS	**Dongshan**	**0.93**	**281**	*e*P	Pn	09 38 28.2	-3.6
	baz=281						
NDS				*e*S	**Sn**	**09 38 42.0**	**-4.4**
	baz=281						
ILA	**Ilan**	**0.93**	**290**	*i* P	**Pn**	**09 38 32.1**	**+0.2**
	baz=289						
ILA				*e*S	**Sn**	**09 38 46.0**	**-0.5**
	baz=289						
IRIF	**Iriomote-Funau**	**0.93**	**97**	*i* P	**Pn**	**09 38 31.8**	**-0.1**
IRIF				S	**Sn**	**09 38 45.6**	**-0.9**
IRIF	**Iriomote-Funau**	**0.93**	**97**	A	A	09 38 31.8	
	comp=E,132nm,0.5s,comp=E,229nm,0.8s						
TIPB	**Shuangxi**	**0.96**	**303**	*i* P	**Pn**	**09 38 32.2**	**0.0**
	baz=302						
TIPB				*e*S	**Sn**	**09 38 46.0**	**-1.1**
	baz=302						
TWE	**Neicheng**	**0.99**	**286**	P	**Pn**	**09 38 32.5**	**0.0**
	baz=286						
TWE				*e*S	**Sn**	**09 38 47.0**	**-0.5**

baz=298
TATO Taipei 1.23 295 *e*P Pn 09 38 35.3 0.0
baz=295
TATO *e*S Sn 09 38 51.4 -1.1
baz=295
YHNB Yeheng 1.24 280 Pn 09 38 36.0 +0.6
YHNB Yeheng 1.24 280 *e*P Pn 09 38 35.8 +0.3
baz=280
YHNB *e*S Sn 09 38 52.4 -0.4
baz=280
TAP Taipei 1.24 298 P Pn 09 38 35.7 +0.2
baz=298
TAP *e*S Sn 09 38 52.3 -0.5
baz=298
YM01 YM01 1.25 304 P Pn 09 38 35.9 +0.3
baz=303
YM01 *e*S Sn 09 38 52.5 -0.4
baz=303
NSK Sanguang 1.25 280 *e*P Pn 09 38 34.9 -0.7
baz=280
NSK *e*S Sn 09 38 52.0 -1.1
baz=280
BACT New Taipei Cit 1.28 295 *e*P Pn 09 38 36.2 +0.4
baz=295
BACT *e*S Sn 09 38 53.2 -0.3
baz=295
TWY Chenhua 1.30 309 *e*P Pn 09 38 36.8 +0.6
baz=308
TWY *e*S Sn 09 38 54.9 +0.9
baz=308
JIJ Ishigaki jima 1.30 94 *i* P Pn 09 38 36.1 -0.1
JIJ S Sn 09 38 52.5 -1.5
JIJ Ishigaki jima 1.30 94 A A 09 38 36.1
comp=E,55nm,0.4s,comp=E,70nm,1.1s
TEGC Jichi Village 1.30 236 *e*P Pn 09 38 35.8 -0.4
baz=236
TEGC *e*S Sn 09 38 53.8 -0.2
baz=236
ANP Anpu 1.31 304 *e*P Pn 09 38 36.4 +0.1
baz=303
ANP *e*S Sn 09 38 53.5 -0.8
baz=303
PCYT Pengchaiyu 1.31 334 *i* P Pn 09 38 37.2 +1.0
baz=333
PCYT *e*S Sn 09 38 55.6 +1.5
baz=333
NSM Shimen 1.32 309 *e*P Pn 09 38 37.4 +1.1
baz=308
ESL Shilin 1.33 242 *e*P Pn 09 38 35.7 -0.8
baz=242
ESL *e*S Sn 09 38 54.0 -0.7
baz=242
TWS1 Kuangyinshan 1.34 299 P Pn 09 38 37.0 +0.4
baz=298
TWS1 *e*S Sn 09 38 54.8 -0.1
baz=298
NTST Danshui 1.35 302 *e*P Pn 09 38 37.2 +0.4
baz=301
NTST *e*S Sn 09 38 55.4 +0.3
baz=301
FUSS Fushou 1.36 262 ⇑P Pn 09 38 37.2 +0.1
baz=262
FUSS *e*S Sn 09 38 55.3 -0.3
baz=262
WHF Hehuan Shan 1.36 257 *e*P Pn 09 38 37.1 -0.2
baz=257
WHF *e*S Sn 09 38 55.3 -0.6
baz=257
NTY Taoyuan 1.40 293 *e*P Pn 09 38 37.9 +0.6
baz=293
NTY *e*S Sn 09 38 56.4 +0.4
baz=293
EGFH Guangfu 1.41 237 ⇑P Pn 09 38 36.8 -0.7
baz=237
EGFH *e*S Sn 09 38 55.6 -0.8
baz=237
TWT Tachien 1.42 262 *e*P Pn 09 38 38.5 +0.7
baz=262
TWT *e*S Sn 09 38 56.7 -0.1
baz=262
TDCB Techi 1.43 262 *e*P Pn 09 38 38.4 +0.5
baz=262
TDCB *e*S Sn 09 38 56.5 -0.6
baz=262
CHGB Renai 1.46 255 ⇑P Pn 09 38 38.4 +0.1
baz=255
CHGB *e*S Sn 09 38 57.5 -0.3
baz=255
NFF Wufeng Townshi 1.47 277⇑*e*P Pn 09 38 37.8 -0.4
baz=277
NFF *e*S Sn 09 38 56.7 -1.0
baz=277
NCU National Centr 1.48 291 *e*P Pn 09 38 39.0 +0.7
baz=290
NCU *e*S Sn 09 38 58.7 +0.8
baz=290
OWD Renai 1.49 251 ⇑P Pn 09 38 38.4 -0.2
baz=251
OWD *e*S Sn 09 38 57.2 -1.1
baz=251
NJD Zhudong 1.51 281 *e*P Pn 09 38 39.7 +1.1
baz=281
NJD *e*S Sn 09 38 59.4 +0.9
baz=281
WUSB Renai 1.53 253⇑*e*P Pn 09 38 39.2 +0.2
baz=253
WUSB *e*S Sn 09 38 58.5 -0.7
baz=253
LIOB Emei 1.56 277 *e*P Pn 09 38 39.9 +0.6
baz=277
LIOB *e*S Sn 09 39 00.2 +0.6
baz=277
NSTT Nanjuang 1.57 277 *e*P Pn 09 38 40.0 +0.6
baz=277
NSTT *e*S Sn 09 39 00.3 +0.4
baz=277
HSN1 Hsinchu 1.58 282 *e*P Pn 09 38 40.3 +0.7
baz=282
HSN1 *e*S Sn 09 39 00.7 +0.7
baz=282
EHY Hungye 1.58 234 *e*P Pn 09 38 38.8 -0.8
baz=234
EHY *e*S Sn 09 38 59.0 -1.3
baz=234
VWDT VWDT 1.60 244⇑*e*P Pn 09 38 40.0 +0.2
baz=245
VWDT *e*S Sn 09 38 59.8 -0.7
baz=245
SBCB Hsinchu 1.61 282⇑*e*P Pn 09 38 40.6 +0.7
baz=282
SBCB *e*S Sn 09 39 00.8 0.0
baz=282
NHW Xinwu Township 1.61 290 *e*P Pn 09 38 40.8 +0.8
baz=290
NHW *e*S Sn 09 39 01.6 +0.8
baz=290
ECBN Changbin 1.62 226 *e*P Pn 09 38 38.6 -1.4
baz=227
ECBN *e*S Sn 09 38 59.0 -1.9
baz=227
WHP Taichung City 1.62 264 *e*P Pn 09 38 41.4 +1.2
baz=264
WHP *e*S Sn 09 39 02.1 +0.9
baz=264
HSN Hsinchu 1.63 283 *e*P Pn 09 38 40.4 +0.3
baz=284
HSN *e*S Sn 09 39 01.1 -0.1
baz=284
WPL Puli Township 1.66 255 *e*P Pn 09 38 41.2 +0.5
baz=255
WPL *e*S Sn 09 39 02.6 +0.6
baz=255
YULB Yu-li 1.67 231 Pn Pn 09 38 39.7 -1.0
YULB Yu-li 1.67 231⇑*e*P Pn 09 38 40.2 -0.6
baz=232
YULB *e*S Sn 09 39 01.2 -1.1
baz=232
DPDB Guoxing 1.69 256 *e*P Pn 09 38 41.7 +0.7
baz=256
DPDB *e*S Sn 09 39 03.0 +0.4
baz=256
EYUL Yuli 1.69 230⇑*e*P Pn 09 38 40.7 -0.2
baz=230
EYUL *e*S Sn 09 39 02.5 0.0
baz=230
WCS Beigang Elemen 1.69 257 *e*P Pn 09 38 40.9 -0.1
baz=257
WCS *e*S Sn 09 39 02.3 -0.3
baz=257
NJN Zhunan 1.69 278 *e*P Pn 09 38 41.7 +0.7
baz=278
NJN *e*S Sn 09 39 03.2 +0.5
baz=278
TWF1 Yuli 1.70 230⇑*e*P Pn 09 38 40.6 -0.5
baz=231
TWF1 *e*S Sn 09 39 01.7 -1.1
baz=231
SSLB Suanglung 1.74 248 Pn Pn 09 38 41.4 -0.2
SSLB Suanglung 1.74 248⇑*e*P Pn 09 38 41.8 +0.1
baz=248
SSLB *e*S Sn 09 39 03.0 -0.8
baz=248
SMLT Sun Moon Lake 1.75 251⇑*e*P Pn 09 38 42.3 +0.4
baz=252
SMLT *e*S Sn 09 39 04.5 +0.3
baz=252
NMLH Miaoli 1.75 273 *e*P Pn 09 38 42.5 +0.8
baz=273
NMLH *e*S Sn 09 39 04.1 0.0
baz=273
NSY Sanyi 1.78 269 *e*P Pn 09 38 43.1 +1.0
baz=269
NSY *e*S Sn 09 39 04.6 -0.1
baz=269
TYC Yuchr 1.78 253 *e*P Pn 09 38 42.7 +0.5
baz=253
TYC *e*S Sn 09 39 05.7 +1.0
baz=253
FULB Fuli 1.80 226⇑*e*P Pn 09 38 41.7 -0.8
baz=227
FULB *e*S Sn 09 39 04.1 -1.1
baz=227
JTJ Tarama 1.82 84 P Pn 09 38 42.7 +0.1
JTJ S Sn 09 39 04.2 -1.3
JTJ Tarama 1.82 84 A A 09 38 42.7
comp=E,43nm,2.1s,comp=E,28nm,1.8s
CHKT Chengkung 1.83 223 *e*P Pn 09 38 41.2 -1.5
baz=223
CHKT *e*S Sn 09 39 03.1 -2.6
baz=223
YUS Yu-Shan 1.88 240 *e*P Pn 09 38 44.2 +0.3
baz=240
YUS *e*S Sn 09 39 07.0 -0.5
baz=240
TCU Taichung 1.89 261 *e*P Pn 09 38 44.2 +0.7
baz=261
TCU *e*S Sn 09 39 08.0 +1.0
baz=261
WWF Wufeng 1.89 258 *e*P Pn 09 38 43.7 +0.2
baz=258
WWF *e*S Sn 09 39 07.6 +0.6
baz=258
WDJ Dajia District 1.89 267 *e*P Pn 09 38 44.3 +0.7
baz=267
WDJ *e*S Sn 09 39 08.2 +0.9
baz=267
WJS Zhushan 1.92 251⇑*e*P Pn 09 38 45.4 +1.5
baz=251
WJS *e*S Sn 09 39 10.0 +2.1
baz=251
ECS Chishang 1.93 226 *e*P Pn 09 38 43.9 -0.1
baz=226
ECS *e*S Sn 09 39 08.3 +0.3
baz=226
WNT1 Nantou City 1.94 254 *e*P Pn 09 38 45.7 +1.6
baz=254
WNT1 *e*S Sn 09 39 10.8 +2.6
baz=254
WNT Mingjian 1.94 253 *e*P Pn 09 38 45.4 +1.2
baz=253
WNT *e*S Sn 09 39 10.5 +2.2
baz=253
EDH Donghe 1.96 222 *e*P Pn 09 38 43.5 -1.0
baz=222
EDH *e*S Sn 09 39 06.4 -2.4
baz=222
ALS Alishan 1.98 242⇑*e*P Pn 09 38 45.7 +0.7
baz=242
ALS *e*S Sn 09 39 10.7 +0.9
baz=242
WCHH Zhanghua 2.00 260 *e*P Pn 09 38 45.7 +0.7
baz=260
WCHH *e*S Sn 09 39 10.5 +0.7
baz=260
WYL Yuanlin Townsh 2.01 256 *e*P Pn 09 38 46.2 +1.1
baz=256
WYL *e*S Sn 09 39 11.4 +1.5
baz=256
LDUT Ludao 2.11 213⇑*e*P Pn 09 38 45.3 -1.1
baz=214
LDUT *e*S Sn 09 39 09.4 -2.8
baz=214
WGK Gukeng 2.11 249 *e*P Pn 09 38 47.8 +1.4
baz=249
WGK *e*S Sn 09 39 14.5 +2.2
baz=249
WDLH Douliu 2.13 250 *e*P Pn 09 38 47.9 +1.2
baz=250
WDLH *e*S Sn 09 39 15.2 +2.5
baz=250
WRL Guolierlin Hig 2.21 256 *e*P Pn 09 38 47.0 -0.6
baz=256
WRL *e*S Sn 09 39 13.3 -1.1
baz=256
TWGBT Beinan 2.21 223 *e*P Pn 09 38 47.1 -0.7
baz=223
TWGBT *e*S Sn 09 39 13.7 -1.0
baz=223
TWG Pinlang 2.22 223 Pn 09 38 46.9 -0.9
TWG Pinlang 2.22 223 *e*P Pn 09 38 46.9 -0.9
baz=223
TWG *e*S Sn 09 39 13.8 -0.9
baz=223
TTN Taitung 2.22 221 *e*P Pn 09 38 46.8 -1.1
baz=221
TTN *e*S Sn 09 39 14.6 -0.2
baz=221
JIRB Irabujima 2.27 80 P Pn 09 38 48.5 0.0
JIRB S Sn 09 39 14.6 -1.3
CHY Chiayi 2.30 246 *e*P Pn 09 38 49.9 +1.0
baz=246
CHY *e*S Sn 09 39 18.3 +1.6
baz=246
JIKM Ikemajima 2.35 78 P Pn 09 38 49.2 -0.3
JIKM S Sn 09 39 16.9 -1.0
CHN1 Nanshi 2.37 238 *e*P Pn 09 38 51.2 +1.4
baz=238
CHN1 *e*S Sn 09 39 19.6 +1.2
baz=238
WMLT Mailiao 2.37 255 *e*P Pn 09 38 50.6 +0.9
baz=255
WMLT *e*S Sn 09 39 19.2 +0.9
baz=255
SNST Tainan City 2.37 239 *e*P Pn 09 38 51.0 +1.1
baz=239
SNST *e*S Sn 09 39 20.2 +1.7
baz=239
JMJ Miyako jima 2 2.37 81 P Pn 09 38 50.7 +0.9
baz=81
JMJ *e*S Sn 09 39 18.2 -0.3
baz=81
SGST Jiashian 2.38 235 *e*P Pn 09 38 50.4 +0.4
baz=236
SGST *e*S Sn 09 39 20.2 +1.5
baz=236
JMJ2 Miyako jima3 2.40 83 P Pn 09 38 50.7 +0.6
JMJ2 S Sn 09 39 18.0 -0.9
WSF Szhu 2.42 251 *e*P Pn 09 38 51.4 +0.9
baz=251
WSF *e*S Sn 09 39 20.6 +1.1
baz=251
ECL Taimali 2.46 222 *e*P Pn 09 38 50.0 -1.0
baz=222
ECL *e*S Sn 09 39 18.7 -1.7
baz=222
JOGS Gusukube 2.47 82 P Pn 09 38 52.0 +0.9
JOGS S Sn 09 39 20.1 -0.6
CHN3 Shinhua 2.55 238 *e*P Pn 09 38 54.2 +2.0
baz=238
CHN3 *e*S Sn 09 39 26.0 +3.3
baz=238
SSD Sandimen 2.56 229 *e*P Pn 09 38 53.2 +0.9
baz=229
SSD *e*S Sn 09 39 24.3 +1.5
baz=229
SCST Cishan 2.57 233 *e*P Pn 09 38 54.3 +1.9
baz=233
SCST *e*S Sn 09 39 24.9 +1.9
baz=233
TSMG Majia 2.58 228 *e*P Pn 09 38 53.3 +0.7
baz=228
TSMG *e*S Sn 09 39 22.2 -1.0
baz=228
LAY Lan-yu 2.63 204 *e*P Pn 09 38 52.1 -1.2
baz=205
LAY *e*S Sn 09 39 19.7 -4.9
baz=205
MASBT Mashibuluo 2.65 227 *e*P Pn 09 38 54.2 +0.7
baz=227
MASBT *e*S Sn 09 39 24.4 -0.5
baz=227
LYUB Lan-yu 2.65 203 *e*P Pn 09 38 52.2 -1.4
baz=204
LYUB *e*S Sn 09 39 20.4 -4.7
baz=204
SGLT Jiouru 2.67 230 *e*P Pn 09 38 56.1 +2.4
baz=230
EAST Anshuo 2.68 220 *e*P Pn 09 38 53.3 -0.7
baz=220
EAST *e*S Sn 09 39 24.5 -1.3
baz=220
TAWH Dawu Township 2.69 219 *e*P Pn 09 38 52.5 -1.6
baz=219
TAWH *e*S Sn 09 39 23.3 -2.7
baz=219
TSPT Pingtung City 2.70 229 *e*P Pn 09 38 56.8 +2.7
baz=230
TSCK Chigu Township 2.74 242 *e*P Pn 09 38 54.5 -0.2
baz=242
TSCK *e*S Sn 09 39 26.7 -0.4
baz=242
SLIU Shizi 2.84 219 *e*P Pn 09 38 55.9 -0.2
baz=219
SLIU *e*S Sn 09 39 27.8 -1.8
baz=219
VWUC VWUC 3.02 281 *e*P Pn 09 38 58.3 -0.1
baz=280
VWUC *e*S Sn 09 39 31.1 -2.7
baz=280
PNG Penghu 3.02 254 *e*P Pn 09 38 58.0 -0.5
baz=253
PNG *e*S Sn 09 39 32.5 -1.4
baz=253
MATB Ma-tsu 3.02 305 *e*P Pn 09 38 58.6 +0.1
baz=303
MATB *e*S Sn 09 39 33.3 -0.6
baz=303
PHUB P'eng-hu 3.02 253 *e*P Pn 09 38 58.1 -0.4
baz=252
PHUB *e*S Sn 09 39 32.0 -1.9
baz=252
HEN Hengchun 3.04 217 *e*P Pn 09 38 59.5 +0.7
baz=217
TSEB Hengchuen, Pin 3.04 214 *e*P Pn 09 38 59.8 +1.0
baz=215
TSEB *e*S Sn 09 39 34.9 +0.5
baz=215
MSUT Lienchiang 3.05 305 *e*P Pn 09 38 58.7 -0.1
baz=304
MSUT *e*S Sn 09 39 33.7 -0.9
baz=304
PTMZ Houxiangcun 3.32 281 *e*P Pn 09 39 02.3 -0.2
baz=280
PTMZ *e*S Sn 09 39 38.4 -2.7
baz=280
XPSS Dashiqiu 3.36 318 *e*P Pn 09 39 02.8 -0.2
baz=317
LYJJ Jianjiangzhen 3.39 309 *e*P Pn 09 39 03.3 -0.1
baz=308
LYJJ *e*S Sn 09 39 41.9 -0.8
baz=308
MHZQ Yeshan 3.72 297 *e*P Pn 09 39 08.1 +0.3
baz=296
MHZQ *e*S Sn 09 39 49.3 -1.3
baz=296
QZH Quanzhou 3.78 278⇑*i*P Pn 09 39 08.5 -0.2
QZH S Sn 09 39 49.3 -2.9
QZH smax smax
comp=N,1μm,0.7s
QZH smax smax
comp=E,590nm,0.7s
KNM Kinmen 3.90 270 *e*P Pn 09 39 11.5 +1.2
baz=269
KNM *e*S Sn 09 39 54.6 -0.5
baz=269
KNMB Chin-men Tao 3.94 271 Pn Pn 09 39 10.1 -0.7
AXDP Jialang 4.34 277 *e*P Pn 09 39 16.3 +0.1
baz=276
AXDP *e*S Sn 09 40 03.1 -2.6
baz=276
ZPLA Ao Xicun 4.56 264 *e*P Pn 09 39 18.9 -0.4
baz=264
ZPLA *e*S Sn 09 40 08.1 -3.0
baz=264
DSXP Dongshan 4.89 262 *e*P Pn 09 39 23.4 -0.4
baz=261
DSXP *e*S Sn 09 40 15.3 -3.8
baz=261
SXFK Yanhouchang 4.98 294 *e*P Pn 09 39 25.1 +0.2
baz=293
CICP Calayan Island 5.29 193‖*e*P Pn 09 39 29.2 +0.1
CICP *e*S Sn 09 40 22.8 -6.1
JOW Kunigami 5.55 64 P Pn 09 39 31.0 -1.7
272nm,0.3s,baz=196,slow=10,SNR=329
JOW S Sn 09 40 29.5 -5.6
194nm,0.3s,baz=111,slow=24,SNR=9.4
JOW LR LR 09 41 55.5
comp=Z,598nm,18.6s,baz=36,slow=41
JOW Kunigami 5.55 64 Pn Pn 09 39 31.1 -1.5
JOW Kunigami 5.55 64 *e*P Pn 09 39 31.0 -1.7
baz=64
JOW *e*S Sn 09 40 31.0 -4.1
baz=64
PACPP Pamplona Cagay 6.10 192‖*i*P Pn 09 39 40.5 +0.4
PACPP *i*S Sn 09 40 44.0 -4.6
APYP Conner 6.70 192‖*e*P Pn 09 39 49.0 +0.6
APYP *e*S Sn 09 40 50.6 -13
NJ2 Nanjing 8.30 337 *e*P Pn 09 40 10.3 +0.3
NJ2 S Sn 09 41 39.5 -2.6
NJ2 sS 09 41 42.3
NJ2 pmax pmax
comp=Z,73nm,0.8s
NJ2 smax smax
comp=N,170nm,2.0s
NJ2 smax smax
comp=E,210nm,2.0s
GZH Guangzhou 8.69 263 *e*P Pn 09 40 10.5 -4.9
CNSH ChangSha 9.53 295 ⇑P Pn 09 40 27.5 +0.7
CNSH S Sn 09 42 17.3 +5.2
CNSH smax smax
comp=N,280nm,0.9s
CNSH smax smax
comp=E,220nm,1.0s
WHN Wuhan 9.59 311 *e*P Pn 09 40 34.0 +6.4
WHN S Sn 09 42 17.5 +4.0
JSU Suzuyama 9.80 43 Pn Pn 09 40 30.1 -0.4
LQP Lukban 10.35 186‖*e*P Pn 09 40 36.2 -2.1
JTU Tsushima 11.60 29 Pn Pn 09 40 56.8 +2.0
TIA Tai'an 12.67 339 P Pn 09 41 12.8 +3.6
TIA pmax pmax
comp=Z,18nm,1.3s
TIA pmax pmax
comp=Z,410nm,4.2s
TIA LR LR
comp=E,830nm,5.7s
TIA LR LR
comp=Z,340nm,4.9s
ENH Enshi 13.10 299 Pn Pn 09 41 12.5 -2.4
LYN LuoYang 13.44 321 ⇑*i*P Pn 09 41 19.5 +0.2
LYN pmax pmax
comp=Z,30nm,1.8s
KSAR Wonju Array Be 13.68 18 Pn 09 41 21.7 -0.7
KSRS Korea Array 13.70 18 P Pn 09 41 23.6 +0.9
15nm,0.5s,baz=193,slow=11,SNR=32
KSRS LR LR 09 47 24.7
comp=Z,156nm,19.0s,baz=200,slow=41
KS19 Wonju Array Si 13.73 18 Pn Pn 09 41 22.1 -1.0
JHS Saijyo 13.85 38 Pn 09 41 20.9 -3.7
TABP Talibon, Bohol 14.37 174‖*e*P P 09 41 33.9 -1.7
HNS HongShan 14.61 334 ⇑P Pn 09 41 36.5 +2.1
HNS pP P 09 41 44.8 +6.7
HNS S Sn 09 44 19.5 +4.2
HNS pmax pmax

HNS LR LR
comp=N,670nm,9.9s
HNS LR LR
comp=E,360nm,9.1s
HNS LR LR
comp=Z,370nm,10.2s
GYA Guiyang 14.64 281 ⇓P **P 09 41 42.3 +3.6**
GYA S **Sn 09 44 22.5 +6.1**
GYA pmax pmax
comp=Z,67nm,0.8s
GYA pmax pmax
comp=Z,500nm,4.6s
GYA LR LR
comp=N,520nm,5.2s
GYA LR LR
comp=E,330nm,4.0s
GYA LR LR
comp=Z,280nm,4.4s
GHBP Garcia Hernand 14.82 174⇑ *e*P **P 09 41 42.9 +2.3**
XAN Xi'an 15.35 312 ⇓P **P 09 41 47.0 +0.5**
XAN pP pP 09 42 00.5 -4.0
XAN sP sP 09 42 14.0 -2.7
XAN S **Sn 09 44 35.3 +1.8**
XAN pmax pmax
comp=Z,48nm,1.3s
XAN LR LR
comp=Z,810nm,15.1s
XAN LR LR
comp=Z,360nm,8.3s
XAN LR LR
comp=Z,420nm,14.4s
TIY Taiyuan 15.87 329 *e*P **P 09 41 55.0 +2.8**
TIY pmax pmax
comp=Z,51nm,0.5s
TIY LR LR
comp=Z,430nm,7.6s
TIY LR LR
comp=Z,390nm,7.6s
TIY LR LR
comp=Z,160nm,10.9s
BJT Baijiatuau 16.47 342 Pn 09 41 55.8 -1.9
BJI Beijing 16.49 342 P **P 09 42 00.8 +1.9**
BJI S **Sn 09 45 03.0 +2.4**
BJI pmax pmax
comp=Z,18nm,0.8s
BJI pmax pmax
comp=Z,250nm,6.8s
BUKP Musuan 16.63 172⇓ *e*P **P 09 42 04.1 +3.3**
JHJ Hachijo jima 2 17.26 56 LR LR 09 48 06.2
comp=Z,78nm,18.7s,baz=108,slow=35
DAV Davao City (W) 17.50 171 LR LR 09 49 56.2
comp=Z,99nm,18.3s,baz=343,slow=40
MAJO Matsushiro 17.95 44 P **P 09 42 14.2 -1.0**
MJAR Matsushiro Arr 17.95 44 P **P 09 42 13.7 -1.5**
comp=Z,1.9nm,0.7s,baz=242,slow=12,SNR=5.5
MJAR LR LR 09 49 42.5
comp=Z,185nm,18.7s,baz=222,slow=39
MJB9 Matsu-Tunnel 17.95 44 P **P 09 42 14.0 -1.1**
KMI Kunming 18.15 276⇑P **Pn 09 42 21.0 +2.4**
KMI pmax pmax
comp=Z,17nm,0.8s
HHC Hu-ho-hao-te 18.82 333 *e*P **P 09 42 25.3 +0.5**
HHC S **S 09 45 53.0 -0.8**
HHC pmax pmax
comp=Z,63nm,1.1s
HHC pmax pmax
comp=Z,490nm,5.2s
PZH PanZhiHua 19.05 281 P **Pn 09 42 29.8 +0.7**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,180nm,3.8s
KKM Kota Kinabalu 19.34 200 P **Pn 09 42 32.0 -0.6**
CN2 Changchun 19.43 6 *e*P **Pn 09 42 32.5 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MYLDM Lahad Datu 19.59 193 P 09 42 33.3 +0.2
LZH Lanzhou 19.96 310 *e*P **Pn 09 42 39.3 -0.5**
LZH pP pP 09 42 57.0 +1.4
LZH sP sP 09 43 11.0 +3.1
LZH pmax pmax
comp=Z,71nm,1.4s
XLT XiLinHaoTe 20.15 346 *e*P **P 09 42 39.3 +0.2**
XLT pP pP 09 42 58.8 +1.5
XLT sP sP 09 43 09.3 -0.1
XLT S **S 09 46 21.3 +1.3**
XLT sS sS 09 46 51.8 +1.6
XLT SS SnSn 09 46 57.3 +12
XLT pmax pmax
comp=Z,30nm,0.9s
XLT pmax pmax
comp=Z,290nm,4.4s
JMM Marumori 20.40 45 P **P 09 42 39.3 -2.4**
USRK Ussuriysk Ar. 21.11 19 P **P 09 42 47.7 -1.5**
comp=Z,3.5nm,0.6s,baz=207,slow=9.2,SNR=14
comp=Z,3.5nm,0.6s
CMAR Chiang Mai Arr 22.90 260 P **P 09 43 10.4 +2.0**
comp=Z,0.9nm,0.4s,baz=64,slow=7.9,SNR=9.1
CMAR LR LR 09 52 41.9
comp=Z,160nm,20.3s,baz=75,slow=38
comp=Z,0.9nm,0.4s
CMAR Chiang Mai Arr 22.90 260 P **P 09 43 08.0 -0.3**
TOLI2 Tolitoli 23.28 185 P **P 09 43 10.2 -1.7**
GUMO Guam 23.53 113 LR LR 09 52 05.4
comp=Z,33nm,18.2s,baz=328,slow=35
GTOI Gorontalo 23.68 179 P **P 09 43 14.9 -0.7**
comp=Z,1µmcomp=Z,107nm,1.2s
MRSI Marisa 23.85 182 P **P 09 43 16.9 -0.1**
comp=Z,1µmcomp=Z,73nm,0.8s
TNTI Ternate 23.97 168 P **P 09 43 18.5 +0.4**
TNTI Ternate 23.97 168 P **P 09 43 19.6 +1.4**
comp=Z,2µmcomp=Z,68nm,1.2s
SBUM Sibu 24.11 206 P **P 09 43 19.4 0.0**
MPSI Mapaga 24.13 187 P **P 09 43 19.5 -0.1**
GTA Gaotai 24.40 313 *e*P **P 09 43 22.0 -0.1**
GTA pmax pmax
comp=Z,23nm,1.2s
APSI Ampana 25.23 183 P **P 09 43 30.7 +1.1**
comp=Z,1µmcomp=Z,93nm,1.3s
LUWI Luwuk 25.34 180 P **P 09 43 31.2 +0.6**
comp=Z,83nm,0.8s
LBMI Labuha 25.37 169 P **P 09 43 31.4 +0.5**
comp=Z,49nm,0.9s
KLR Kul'dur 25.73 14 P **P 09 43 33.9 +0.1**
comp=Z,1.7nm,0.5s,baz=203,slow=10,SNR=7.1
comp=Z,1.7nm,0.5s
MTKI Muara Teweh, K 26.36 198 P **P 09 43 41.5 +1.7**
ULN Ulaanbaatar 26.46 336 P **P 09 43 40.0 -0.7**
SANI Sanana 26.54 173 P **P 09 43 41.5 +0.1**
comp=Z,755nmcomp=Z,48nm,0.8s
STKI Sintang 26.58 206 P **P 09 43 43.4 +1.6**
comp=Z,9µmcomp=Z,21nm,0.5s
GOMU GeErMu 26.68 303 P **P 09 43 45.0 +2.0**
GOMU sP sP 09 44 12.3 -3.3
GOMU pmax pmax
comp=Z,4.0nm,0.6s
GOMU pmax pmax
comp=Z,87nm,6.1s
SONM Songino Array 26.69 335 P **P 09 43 42.1 -0.5**
comp=Z,16nm,0.7s,baz=150,slow=9.5,SNR=67
SONM pP **pP 09 44 05.3 +1.6**
comp=Z,7.6nm,1.0s,baz=150,slow=10,SNR=3.8
SONM ScP **ScP 09 50 34.4 -0.9**
comp=Z,0.3nm,0.4s,baz=170,slow=2.5,SNR=4.4
SONM LR LR 09 54 51.5
comp=Z,126nm,18.5s,baz=131,slow=38
comp=Z,16nm,0.7s
NLAI Namlea 27.85 171 P **P 09 43 54.2 +1.0**
comp=Z,49nm,1.0s
BRDH Bariadhala 28.51 273 LR LR 09 56 22.0
comp=Z,135nm,19.2s,baz=92,slow=38
LSA Lhasa 28.53 288 P **P 09 44 00.6 +0.8**
LSA IAmb IAmb 09 44 02.4
comp=Z,15nm,0.8s
FAKI Fak Fak 28.74 160 P **P 09 44 00.6 -0.5**
FAKI IAmb IAmb 09 44 02.3
comp=Z,42nm,1.2s
FAKI Fak Fak 28.74 160 P **P 09 44 01.0 -0.1**
comp=Z,32nm,1.3s
PSI Prapat 31.47 231 LR LR 09 57 37.0
comp=Z,87nm,18.6s,baz=46,slow=37
TAPN Taplejung 31.56 283 *e*P **P 09 44 27.9 +1.6**
comp=Z,16nm,0.6s
ODAN Odare 31.87 282 *e*P **P 09 44 30.3 +1.3**
RAMN Ramite 32.57 282 *e*P **P 09 44 36.4 +1.3**

comp=Z,22nm,0.7s
MMRI Maumere 32.89 181 P **P 09 44 37.1 -0.5**
MMRI Maumere 32.89 181 P **P 09 44 38.0 +0.4**
JIRN Jiri 32.89 284 *e*P **P 09 44 39.3 +1.2**
comp=Z,27nm,0.8s
EDFI Ende, Flores 33.02 182 P **P 09 44 38.2 -0.6**
comp=Z,373nmcomp=Z,34nm,1.5s
GUN Gumba 33.16 284 *e*P **P 09 44 41.5 +1.2**
comp=Z,21nm,0.7s
PKI Pulchoki 33.59 283 *e*P **P 09 44 44.7 +0.6**
PKIN Phulchoki 33.60 283 *e*P **P 09 44 44.6 +0.5**
comp=Z,8.1nm,0.4s
KKN Kakani 33.69 284 *e*P **P 09 44 45.3 +0.5**
comp=Z,4.1nm,0.9s
DMN Daman 33.86 284 *e*P **P 09 44 47.4 +1.1**
MASI Maura Aman, Be 33.89 219 P **P 09 44 48.5 +2.1**
comp=Z,104nm,2.6s
GKN Gorkha 34.25 284 *e*P **P 09 44 50.2 +0.6**
comp=Z,18nm,0.5s
BATI Banata 34.46 178 P **P 09 44 49.9 -1.3**
comp=Z,35nm,0.6s,baz=284,slow=4.7,SNR=4.3
comp=Z,35nm,0.6s
WMQ Urumqi 34.49 313 *e*P **P 09 44 52.3 +1.0**
WMQ sP sP 09 45 25.0 +1.0
WMQ pmax pmax
comp=Z,16nm,0.7s
DANN Dangsing 35.01 285 *e*P **P 09 44 57.2 +0.9**
comp=Z,22nm,0.6s
KOLN Koldanda 35.18 284 *e*P **P 09 44 58.5 +0.8**
PYUN Piuthan 35.70 285 *e*P **P 09 45 03.1 +1.0**
comp=Z,39nm,0.9s
YAK Yakutsk 37.86 5 LR LR 10 00 49.8
comp=Z,77nm,21.8s,baz=247,slow=36
MTN Manton Dam 37.97 167 P **P 09 45 20.1 -1.0**
PETK Petropavlovsk- 38.87 33 LR LR 10 01 42.3
comp=Z,76nm,20.8s,baz=231,slow=36
MK31 Makanchi Array 39.12 315 P **P 09 45 30.0 -0.6**
MKAR Makanchi Array 39.12 315 P **P 09 45 30.4 -0.2**
comp=Z,7.3nm,0.7s,baz=100,slow=11,SNR=38
MKAR PcP **PcP 09 47 37.9 -0.5**
comp=Z,1.4nm,0.6s,baz=100,slow=3.2,SNR=4.2
comp=Z,7.3nm,0.7s
MKAR Makanchi Array 39.12 315 P **P 09 45 30.3 -0.3**
MAKZ Makanchi 39.33 315 P **P 09 45 31.9 -0.4**
MAKZ IAmb IAmb 09 45 33.1
comp=Z,14nm,0.9s
MA2 Magadan 40.21 22 LR LR 10 03 56.3
comp=Z,70nm,18.6s,baz=224,slow=38
KNRA Kunumura 40.32 171 P **P 09 45 39.9 -0.8**
ZAA0 Zalesovo Array 40.79 326 P **P 09 45 42.4 -1.7**
ZAA0 IAmb IAmb 09 45 43.6
comp=Z,10nm,0.6s
ZALV Zalesovo Beam 40.79 326 P **P 09 45 42.9 -1.2**
comp=Z,11nm,0.6s,baz=109,slow=8.2,SNR=25
ZALV pP **pP 09 46 07.0 +0.9**
comp=Z,2.0nm,0.6s,baz=142,slow=7.5,SNR=1.4
ZALV PcP **PcP 09 47 43.0 -0.5**
comp=Z,1.5nm,0.4s,baz=109,slow=3.4,SNR=2.8
ZALV LR LR 10 02 35.1
comp=Z,62nm,18.4s,baz=90,slow=36
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 40.79 326 P **P 09 45 42.7 -1.4**
TARG Taragay, Kyrgy 40.88 306 P **P 09 45 45.3 -0.4**
KSH Kashi 41.93 303 P **P 09 45 57.8 +3.9**
KSH pmax pmax
comp=Z,13nm,1.1s
FITZ Fitzroy Crossi 42.39 176 P **P 09 45 57.2 -0.3**
comp=Z,14nm,0.4s,baz=2.0,slow=7.4,SNR=73
comp=Z,14nm,0.4s
FITZ Fitzroy Crossi 42.39 176 P **P 09 45 57.3 -0.3**
KURK Kurchatov 42.79 319 P **P 09 45 59.1 -1.5**
KURK IAmb IAmb 09 46 00.8
comp=Z,16nm,1.1s
KURK Kurchatov 42.79 319 P **P 09 45 59.5 -1.1**
KURK sP **sP 09 46 38.1 +4.5**
KURBB Kurchatov Arra 42.81 319 P **P 09 45 59.5 -1.2**
comp=Z,5.6nm,0.8s,baz=108,slow=8.0,SNR=28
KURBB ScP **ScP 09 51 33.3 +0.7**
comp=Z,0.4nm,0.2s,baz=106,slow=3.0,SNR=2.1
comp=Z,5.6nm,0.8s
COEN Coen 43.09 150 P **P 09 46 04.1 +0.8**
COEN IAmb IAmb 09 46 05.4
comp=Z,25nm,0.9s
AAK Ala-Archa 43.46 307 P **P 09 46 06.9 +0.6**
comp=Z,2.4nm,0.5s,baz=120,slow=4.9,SNR=7.7
comp=Z,2.4nm,0.5s
AAK Ala-Archa 43.46 307 P **P 09 46 06.6 +0.3**
AAK Ala-Archa 43.46 307 P **P 09 46 07.2 +0.9**
PALK Pallekele 43.65 254 LR LR 10 06 04.6
comp=Z,36nm,18.0s,baz=166,slow=38
NIL Nilore 43.85 294 P **P 09 46 09.6 +0.2**
NIL IAmb IAmb 09 46 10.9
comp=Z,19nm,0.8s
NIL Nilore 43.85 294 P **P 09 46 10.0 +0.6**
WB0 Warramunga Arr 45.40 164 P **P 09 46 21.5 -0.2**
MBWA Marble Bar 45.43 184 P **P 09 46 21.2 -0.7**
MBWA IAmb IAmb 09 46 22.5
comp=Z,34nm,1.2s
MBWA Marble Bar 45.43 184 P **P 09 46 20.6 -1.3**
MBWA sP **sP 09 46 58.6 +4.7**
WRAB Tennant Creek 45.55 165 P **P 09 46 22.7 -0.1**
WRAB Tennant Creek 45.55 165 P **P 09 46 23.3 +0.4**
WRA Warramunga Arr 45.56 165 P **P 09 46 23.2 +0.3**
comp=Z,34nm,0.8s,baz=346,slow=8.7,SNR=106
comp=Z,34nm,0.8s
WRA Warramunga Arr 45.56 165 P **P 09 46 22.3 -0.7**
WB2 Warramunga Arr 45.56 165 P **P 09 46 22.7 -0.2**
WR0 Warramunga Arr 45.62 164 P **P 09 46 23.5 +0.1**
PSA00 Pilbara Seismi 45.84 184 P **P 09 46 24.6 -0.4**
KK31 Karatay Array 46.42 307 P **P 09 46 30.1 +0.5**
KK31 IAmb IAmb 09 48 03.7
comp=Z,23nm,1.9s
KKAR Karatay Array 46.42 307 P **P 09 46 30.3 +0.7**
KKAR Karatay Array 46.42 307 P **P 09 46 30.1 +0.5**
KKAR IAmb IAmb 09 48 03.7
comp=Z,23nm,1.9s
CHGR Chuyangaron 47.16 301 IAmb IAmb 09 46 36.7
comp=Z,9.7nm,0.6s
KBL Kabul 47.31 295 P **P 09 46 37.2 +0.3**
KBL IAmb IAmb 09 46 38.9
comp=Z,25nm,1.0s
TIXI Tiksi 47.35 3 LR LR 10 08 46.7
comp=Z,85nm,19.5s,baz=181,slow=39
SHEM Shuya Is, Ala 47.73 40 LR LR 10 07 41.1
comp=Z,26nm,20.8s,baz=298,slow=37
BVAR Borovoye Array 48.35 320 P **P 09 46 44.0 -0.4**
comp=Z,3.4nm,0.5s,baz=105,slow=7.8,SNR=18
BVAR PcP **PcP 09 48 09.3 -0.2**
comp=Z,3.0nm,0.8s,baz=148,slow=3.7,SNR=7.2
BVAR ScP **ScP 09 51 54.1 -1.5**
comp=Z,1.2nm,0.8s,baz=100,slow=6.0,SNR=5.6
BVAR LR LR 10 07 51.4
comp=Z,64nm,19.8s,baz=85,slow=37
comp=Z,3.4nm,0.5s
BRVK Borovoye 48.43 320 P **P 09 46 44.0 -1.0**
BRVK IAmb IAmb 09 46 45.3
comp=Z,9.2nm,0.9s
AS31 Alice Springs 49.05 166 P **P 09 46 50.2 +0.2**
AS31 IAmb IAmb 09 46 54.0
comp=Z,4.6nm,0.3s
ASAR Alice Springs 49.05 166 P **P 09 46 50.8 +0.7**
comp=Z,6.0nm,0.4s,baz=348,slow=7.4,SNR=85
comp=Z,6.0nm,0.4s
ASAR Alice Springs 49.05 166 P **P 09 46 50.1 +0.1**
NRIK Noril'sk 49.51 344 P **P 09 46 51.0 -1.9**
comp=Z,11nm,0.9s,baz=112,slow=8.4,SNR=9.1
comp=Z,11nm,0.9s
NRIK Noril'sk 49.51 344 P **P 09 46 51.0 -1.9**
NRIK IAmb IAmb 09 46 52.2
comp=Z,9.1nm,0.8s
CTA Charters Tower 49.85 151 P **P 09 46 57.3 +1.2**
comp=Z,12nm,1.0s,baz=345,slow=8.6,SNR=8.2
CTA LR LR 10 10 53.7
comp=Z,23nm,18.1s,baz=338,slow=39
comp=Z,12nm,1.0s
CTAO Charters Tower 49.85 151 P **P 09 46 57.4 +1.2**
CTAO IAmb IAmb 09 46 58.5
comp=Z,14nm,1.0s
CTAO Charters Tower 49.85 151 P **P 09 46 57.0 +0.9**
CTAO pP **pwP 09 47 24.4 +1.8**
HRA Herat 52.92 296 P **P 09 47 19.7 +0.4**
HRA IAmb IAmb 09 47 20.8
comp=Z,18nm,1.7s
ABKAR Akbulak array 54.26 314 P **P 09 47 28.0 -0.5**
ABKAR IAmb IAmb 09 47 29.2
comp=Z,7.4nm,0.7s

ARU Arti 55.74 323 P **P 09 47 37.8 -1.2**
ARU IAmb IAmb 09 47 38.8
comp=Z,10nm,1.0s
GEYT Alibeck 55.87 300 P **P 09 47 41.6 +1.3**
comp=Z,3.4nm,0.4s,baz=90,slow=3.0,SNR=8.3
comp=Z,3.4nm,0.4s
GEYT Alibeck 55.87 300 IAmb IAmb 09 47 42.5
comp=Z,26nm,1.5s
STKA Stephens Creek 58.85 161 P **P 09 48 01.8 +0.7**
comp=Z,5.2nm,0.9s,baz=355,slow=8.4,SNR=7.3
comp=Z,5.2nm,0.9s
DZM Mont Dzumac 62.80 134 *e*LR LR 10 07 17.0
comp=Z,107nm,26.5s
KLMR Klimovskoe 65.68 328 *e*P **P 09 48 43.9 -2.5**
KLMR AMP 09 48 47.8
comp=Z,22nm,1.3s
KLMR *e*PcP **PcP 09 49 15.3 -1.8**
KBZ Khabaz 66.40 309 P **P 09 48 51.1 -0.2**
comp=Z,1.7nm,0.4s,baz=99,slow=9.1,SNR=3.9
comp=Z,1.7nm,0.4s
KDAK Kodiak Island 66.88 35 LR LR 10 17 56.2
comp=Z,27nm,21.0s,baz=271,slow=36
MDM Murphy Dome 67.73 27 P **P 09 48 59.5 0.0**
RND Reindeer 67.74 29 P **P 09 48 59.2 -0.4**
RND IAmb IAmb 09 49 00.7
comp=Z,33nm,2.0s
PMR Palmer 67.94 31 P **P 09 49 00.1 -0.7**
SEW Seward 68.07 33 P **P 09 49 01.8 +0.3**
SML Sawmill 68.27 31 P **P 09 49 03.3 +0.3**
SML IAmb IAmb 09 49 55.6
comp=Z,24nm,1.7s
ILAR Eielson Array 68.33 27 P **P 09 49 02.6 -0.5**
comp=Z,0.3nm,0.4s,baz=265,slow=4.7,SNR=9.6
ILAR LR LR 10 21 01.3
comp=Z,27nm,18.9s,baz=280,slow=38
comp=Z,0.3nm,0.4s
ILAR Eielson Array 68.33 27 P **P 09 49 02.9 -0.3**
PWL Port Wells 68.46 32 P **P 09 49 03.2 -0.9**
BMAR Burnt Mountain 68.71 24 P **P 09 49 06.4 +0.9**
SCM Sheep Creek Mo 68.73 31 P **P 09 49 06.0 +0.2**
SCM IAmb IAmb 09 49 07.5
comp=Z,14nm,1.2s
RIDG Independent Ri 69.42 28 P **P 09 49 09.6 -0.5**
RIDG IAmb IAmb 09 49 34.4
comp=Z,22nm,1.6s
MARD Mardin 69.49 303 P **P 09 49 10.9 -0.1**
MARD IAmb IAmb 09 49 12.3
comp=Z,13nm,0.8s
SPA0 Spitsbergen Ar 69.52 348 *e*P **P 09 49 10.0 -0.4**
RAYN Ar Rayn 69.60 287 P **P 09 49 12.0 +0.2**
J26L Joseph Creek 69.79 27 P **P 09 49 12.6 +0.3**
ARA0 ARCESS Array S 69.81 338 *e*P **P 09 49 12.1 -0.1**
ARA0 IAmb IAmb 09 49 13.0
comp=Z,13nm,1.0s
ARCES ARCESS Array B 69.81 338 P **P 09 49 11.7 -0.5**
comp=Z,3.4nm,0.7s,baz=59,slow=6.7,SNR=16
comp=Z,3.4nm,0.7s
GLB Gilahina Butte 70.46 31 P **P 09 49 16.0 -0.4**
M26K Nabesna, AK 70.58 30 P **P 09 49 17.0 -0.1**
M26K IAmb IAmb 09 50 09.1
comp=Z,26nm,1.9s
KTK1 Kautokeino 70.73 338 *e*P **P 09 49 16.7 -1.1**
KTK1 IAmb IAmb 09 49 18.4
comp=Z,160nm,2.2s
BCAR Beaver Creek A 70.93 29 P **P 09 49 19.5 +0.2**
M27K Edge Creek, AK 71.09 29 P **P 09 49 20.3 -0.1**
JETT Jettan, Norway 71.51 339 *e*P **P 09 49 22.0 -0.6**
DAWY Dawson 71.66 27 P **P 09 49 24.3 +0.7**
FINES FINESS Array B 71.92 330 P **P 09 49 24.5 -0.6**
comp=Z,5.8nm,0.5s,baz=56,slow=5.7,SNR=58
comp=Z,5.8nm,0.5s
INK Inuvik 72.45 22 P **P 09 49 27.6 -0.5**
comp=Z,3.8nm,0.9s,baz=287,slow=5.5,SNR=11
comp=Z,3.8nm,0.9s
AKASG Malin Array Be 73.60 319 P **P 09 49 34.2 -1.0**
comp=Z,1.4nm,0.4s,baz=59,slow=6.0,SNR=8.9
comp=Z,1.4nm,0.4s
STEI Steigen 73.88 338 *e*P **P 09 49 35.4 -1.2**
STEI IAmb IAmb 09 49 35.5
comp=Z,87nm,1.6s
FAUS Fauske 74.09 337 *e*P **P 09 49 37.0 -0.8**
BRTR Keskin Array B 74.14 307 P **P 09 49 38.7 -0.1**
comp=Z,3.1nm,0.8s,baz=103,slow=5.3,SNR=11
BRTR pP **pP 09 50 03.6 +0.4**
comp=Z,1.5nm,0.9s,baz=72,slow=4.0,SNR=3.7
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 74.14 307 P **P 09 49 39.0 +0.2**
LOF Lofoten 74.36 338 *e*P **P 09 49 38.7 -0.6**
FARO Faro, Yukon 74.88 28 P **P 09 49 43.1 +0.6**
FARO IAmb IAmb 09 49 44.0
comp=Z,15nm,1.4s
MOR8 Moi Rana 74.93 336 *e*P **P 09 49 40.9 -1.8**
KONS Konsvik 75.25 337 *e*P **P 09 49 44.3 -0.3**
NSS Namsos 76.61 335 *e*P **P 09 49 51.0 -1.3**
TBLU Trondheim 77.90 335 *e*P **P 09 49 57.8 -1.7**
NC405 NORSAR Array S 78.39 332 P **P 09 50 01.7 -0.6**
NB201 NORSAR Array S 78.60 332 P **P 09 50 02.7 -0.8**
NB2 NORSAR Subarra 78.64 332 P **P 09 50 03.3 -0.4**
comp=Z,2.1nm,0.4s,baz=52,slow=6.2
NOA NORSAR Array B 78.64 332 P **P 09 50 02.9 -0.8**
baz=52,slow=6.2
comp=Z,3.1nm,0.5s,baz=53,slow=5.8,SNR=12
comp=Z,3.1nm,0.5s
NC602 NORSAR Array S 78.65 332 *e*P **P 09 50 02.9 -0.8**
DOMB Dombas 79.00 334 *e*P **P 09 50 05.0 -0.7**
MOL Molde 79.32 335 *e*P **P 09 50 06.7 -0.6**
OSL Oslo 79.41 332 *e*P **P 09 50 07.4 -0.4**
KONO Kongsberg 80.04 332 *e*P **P 09 50 10.8 -0.5**
HYA Hoyanger 80.63 334 *e*P **P 09 50 13.9 -0.5**
FOO Floro 80.84 335 *e*P **P 09 50 14.4 -1.1**
KRLC Kraliky 81.16 321 *e*P **P 09 50 18.5 +0.9**
YKA Yellowknife Ar 82.18 23 P **P 09 50 22.3 -0.3**
comp=Z,1.7nm,0.6s,baz=306,slow=5.1,SNR=2.0
comp=Z,1.7nm,0.6s
SUMG Summit 82.38 354 P **P 09 50 23.6 -0.4**
SUMG Summit 82.38 354 *i* P **P 09 50 22.0 -1.9**
RONA Rosalia, Austr 82.56 319 *e*P **P 09 50 25.0 +0.1**
comp=Z,2.5nm,0.7s
CLL Collm 82.67 323 *i* P **P 09 50 25.2 -0.2**
CONA Conrad Observa 82.71 320 *e*P **P 09 50 25.9 +0.1**
comp=Z,7.1nm,1.4s
CKRC Cesky Krumlov 83.18 321 *e*P **P 09 50 29.1 +1.0**
KHC Kasperske Hory 83.44 321 *e*P **P 09 50 29.1 -0.4**
GERES GERESS Array B 83.52 321 P **P 09 50 29.8 -0.1**
comp=Z,2.6nm,0.8s,baz=64,slow=4.6,SNR=16
comp=Z,2.6nm,0.8s
GERES GERESS Array B 83.52 321 P **P 09 50 30.0 0.0**
GROS Grobnik 83.62 318 *i* P **P 09 50 29.9 -0.6**
MOA Molln 83.68 320 *e*P **P 09 50 31.1 +0.4**
comp=Z,4.7nm,0.6s
SOKA Soboth 83.80 319 *e*P **P 09 50 31.0 -0.4**
comp=Z,3.7nm,0.7s
PDKS Podkum 84.12 318 *e*P **P 09 50 32.2 -0.8**
OBKA Obir 84.18 319 *e*P **P 09 50 33.5 +0.1**
comp=Z,2.5nm,0.4s
CRNS Crni Vrh 84.56 318 *i* P **P 09 50 34.3 -0.9**
KBA Koelnbreinsper 84.61 320 *e*P **P 09 50 34.9 -0.7**
comp=Z,6.3nm,1.2s
WAPA Wapiti River 84.75 31 P **P 09 50 35.6 -0.4**
WAPA IAmb IAmb 09 50 37.6
comp=Z,27nm,1.4s
ABTA Abfaltersbach 85.27 320 *e*P **P 09 50 37.6 -1.2**
comp=Z,5.7nm,0.9s
WTTA Wattenberg 85.52 320 *e*P **P 09 50 39.4 -0.7**
comp=Z,4.7nm,0.8s
MOTA Moosalm 85.78 321 *e*P **P 09 50 40.7 -0.7**
comp=Z,4.1nm,1.0s
SQTA Sankt Quirin 85.79 321 *e*P **P 09 50 41.0 -0.4**
comp=Z,6.8nm,0.9s
BRLDA Berland Lookou 86.26 31 P **P 09 50 43.3 -0.3**
LTY Liberty 88.67 38 P **P 09 50 55.2 0.0**
LTY IAmb IAmb 09 50 56.8
comp=Z,12nm,1.4s
B08A Colville Reser 88.75 36 P **P 09 50 55.6 +0.1**
B08A IAmb IAmb 09 50 58.0
comp=Z,10nm,1.0s
CASY Casey 90.92 185 P **P 09 51 05.0 +0.2**
CASY IAmb IAmb 09 51 06.4
comp=Z,6.2nm,1.1s
FRB Frobisher Bay 91.65 5 LR LR 10 36 03.9
comp=Z,15nm,18.0s,baz=4.0,slow=38
FFC Flin Flon 92.32 24 P **P 09 51 11.4 -0.5**
PPT2 Papeete2 95.10 107 *e*LR LR 10 22 15.4
comp=Z,77nm,30.2s
NVAR Mina Array Bea 95.28 44 P **P 09 51 26.7 +0.5**

comp=Z,0.5nm,0.6s,baz=276,slow=4.8,SNR=7.1
comp=Z,0.5nm,0.6s

*IDC **28** 09:41:15.9±0.6,6°.88S×12°.37W,h0km,mb4.4/22, mbtmp4.4/23,ML3.7/1,MS4.1/59,Error ellipse: s-maj=15.7km s-min=12.8km az=159.0*
*NEIC **28** 09:41:17.5±2.5,6°.93S±0°.08×12°.59W±0°.07,h10km±1km, mb5.0/87,Error ellipse: s-maj=14.5km s-min=11.9km az=155.0*
*GCMT **28** 09:41:22.5±0.2,6°.81S±0°.01×12°.43W±0°.01,h20km, MW5.1/136,Moment Tensor Solution. s57,c72; s136,c197; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.47±.12; Mθθ-2.54±.12; Mϕϕ3.00±.13; Mrθ0.76±.21; Mrϕ4.21±.10; Mθϕ0.20±.23; Best double couple: M≥5.10200×10^16 NP1:ϕs253.00000°,δ88.00000°, λ-9.00000°. NP2:ϕs343.00000°,δ81.00000°, λ-178.00000°. Principal axes: T 5.3190, Plg5.0000°, Azm299.0000°; N -0.4440, Plg81.0000°, Azm64.0000°; P -4.8850, Plg7.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 09:41:17.4±0.4,6°.91S±0°.07×12°.45W±0°.06,h10km,n214, σ1§81/117,mb4.9/79,MS4.1/60,18C-1D,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**2.15**	**242**	Pn	**Pn**	**09 41 49.5**	**-3.7**
H10N2	**ASCENSION HYDR**	**2.21**	**246**	T	T	09 44 02.8	
	baz=69,slow=74,SNR=6749						
H10N1	**ASCENSION HYDR**	**2.21**	**245**	T	T	09 44 05.9	
	baz=69,slow=74						
H10N3	**ASCENSION HYDR**	**2.23**	**245**	T	T	09 44 04.0	
	baz=69,slow=74,SNR=4884						
H10S2	**ASCENSION HYDR**	**2.97**	**227**	T	T	09 45 01.6	
	baz=172,slow=74,SNR=188						
H10S3	**ASCENSION HYDR**	**2.98**	**227**	T	T	09 45 03.3	
	baz=48,slow=74,SNR=138						
SHEL	**Horse Pasture**	**11.14**	**144**	Pn	**Pn**	**09 43 56.0**	**-0.8**
LIC	**Lamto**	**15.01**	**30**⇓*eP*		**Pn**	**09 44 52.5**	**+2.8**
	92nm,1.1s						
KIC	**Kosan Boka**	**15.27**	**30**⇓*eP*		**Pn**	**09 44 52.3**	**-0.9**
	29nm,1.1s						
TIC	**Toumodi**	**15.37**	**29**⇑*iP*		**Pn**	**09 44 50.4**	**-4.2**
	63nm,0.7s						
DBIC	**Dimbokro**	**15.48**	**29**	Pn	**Pn**	**09 44 54.9**	**-1.1**
	0.3nm,0.3s,baz=220,slow=12,SNR=5.7						
DBIC				LR	LR	09 49 36.2	
	comp=Z,607nm,18.7s,baz=184,slow=32						
	9.6nm,0.9s						
DBIC	**Dimbokro**	**15.48**	**29**	Pn	**Pn**	**09 44 54.6**	**-1.3**
BBTS	**Babate**	**21.81**	**349**	P	**P**	**09 46 09.8**	**-0.1**
	22nm,0.4s,baz=158,slow=17,SNR=1.9						
BBTS				LR	LR	09 52 57.8	
	comp=Z,462nm,20.7s,baz=169,slow=32						
	22nm,0.4s						
KOWA	**Kowa**	**22.86**	**21**	P	**P**	**09 46 20.3**	**-0.9**
	16nm,0.8s,baz=205,slow=9.1,SNR=12						
KOWA				LR	LR	09 54 06.3	
	comp=Z,626nm,21.0s,baz=124,slow=34						
	16nm,0.8s						
KOWA	**Kowa**	**22.86**	**21**	P	**P**	**09 46 20.5**	**-0.6**
RCBR	**Riachuelo**	**23.33**	**271**	P	**P**	**09 46 28.5**	**+2.5**
	9.3nm,0.8s,baz=86,slow=16,SNR=2.3						
RCBR				S	**S**	**09 50 42.9**	**+3.8**
	10nm,1.0s,baz=311,slow=20,SNR=1.7						
RCBR				LR	LR	09 53 17.3	
	comp=Z,272nm,20.6s,baz=238,slow=31						
	9.3nm,0.8s						
RCBR	**Riachuelo**	**23.33**	**271**	P	**P**	**09 46 24.4**	**-1.7**
TOA0	**Torodi Ar. Sit**	**24.39**	**35**	P	**P**	**09 46 34.9**	**-1.2**
TOA0				IAmb	IAmb	09 46 43.0	
	comp=Z,35nm,1.0s						
TORD	**Torodi Ar. Bea**	**24.39**	**35**	P	**P**	**09 46 34.4**	**-1.7**
	comp=Z,23nm,0.6s,baz=213,slow=10,SNR=6.9						
TORD				LR	LR	09 55 06.3	
	comp=Z,583nm,19.2s,baz=206,slow=34						
	comp=Z,23nm,0.6s						
GDU01	**Guandu, BA**	**27.51**	**254**	*eP*	**P**	**09 47 06.7**	**+2.3**
CMC01	**Camacan, BA**	**27.82**	**250**	*eP*	**P**	**09 47 10.7**	**+3.5**
TSUM	**Tsumeb**	**31.64**	**116**	LR	LR	09 57 43.5	
	comp=Z,704nm,21.8s,baz=324,slow=31						
ROSB	**Rosrio**	**31.80**	**276**	*eP*	**P**	**09 47 42.5**	**0.0**
SMTB	**Santa Maria do**	**34.85**	**264**	*eP*	**P**	**09 48 09.7**	**+0.5**
BDFB	**Brasilia**	**35.89**	**253**	P	**P**	**09 48 18.4**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=44,slow=10,SNR=4.3						
	comp=Z,2.0nm,0.5s						
BDFB	**Brasilia**	**35.89**	**253**	P	**P**	**09 48 15.3**	**-2.8**
BDFB	**Brasilia**	**35.89**	**253**	*eP*	**P**	**09 48 21.2**	**+3.1**
BB19B	**Bebedouro**	**37.61**	**244**	*eP*	**P**	**09 48 36.0**	**+3.3**
SNDB	**Serra Nova Dou**	**38.62**	**260**	*eP*	**P**	**09 48 41.5**	**+0.2**
SUR	**Sutherland**	**39.99**	**134**	LR	LR	10 01 08.8	
	comp=Z,604nm,21.6s,baz=298,slow=30						
MDT	**Midelt**	**40.20**	**10**	LR	LR	10 04 46.5	
	comp=Z,591nm,19.5s,baz=202,slow=35						
PCMB	**Pacaembu**	**40.21**	**245**	*eP*	**P**	**09 48 57.5**	**+3.1**
LBTB	**Lobatse**	**40.57**	**121**	LR	LR	10 03 08.5	
	comp=Z,404nm,21.4s,baz=290,slow=32						
LSZ	**Lusaka**	**40.68**	**105**	P	**P**	**09 48 58.8**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=274,slow=18,SNR=4.4						
LSZ				LR	LR	10 03 08.6	
	comp=Z,304nm,20.8s,baz=304,slow=32						
	comp=Z,1.8nm,0.3s						
LSZ	**Lusaka**	**40.68**	**105**	P	**P**	**09 48 59.1**	**+0.6**
LSZ				IAmb	IAmb	09 49 02.5	
	comp=Z,53nm,1.9s						
C2SB	**Chapadao do Su**	**40.99**	**249**	*eP*	P	09 49 06.6	+5.6
BOSA	**Boshof**	**41.62**	**126**	P	**P**	**09 49 05.1**	**-1.1**
	comp=Z,5.4nm,0.9s,baz=333,slow=6.6,SNR=4.4						
BOSA				LR	LR	10 03 47.8	
	comp=Z,352nm,18.8s,baz=283,slow=32						
	comp=Z,5.4nm,0.9s						
BOSA	**Boshof**	**41.62**	**126**	P	**P**	**09 49 05.5**	**-0.7**
BOSA				IAmb	IAmb	09 50 18.3	
	comp=Z,98nm,2.0s						
PTGB	**Pitanga**	**41.81**	**240**	*eP*	P	09 49 11.9	+4.1
MDP	**Montagnes des**	**41.85**	**286**	LR	LR	10 03 09.7	
	comp=Z,152nm,21.8s,baz=90,slow=31						
MATP	**Matopo**	**41.86**	**113**	P	**P**	**09 49 07.0**	**-1.2**
	comp=Z,6.2nm,0.7s,baz=278,slow=7.3,SNR=12						
	comp=Z,6.2nm,0.7s						
MALB	**Monte Alegre**	**41.97**	**275**	*eP*	**P**	**09 49 09.2**	**+0.1**
NPGB	**Novo Progresso**	**42.58**	**267**	*eP*	**P**	**09 49 13.8**	**-0.3**
ITTB	**Itaituba**	**43.13**	**271**	*eP*	**P**	**09 49 18.9**	**+0.3**
SALV	**Santo Antonio**	**43.24**	**254**	*eP*	**P**	**09 49 23.0**	**+3.6**
MBAR	**Mbarara**	**43.53**	**84**	LR	LR	10 06 08.0	
	comp=Z,594nm,18.7s,baz=238,slow=34						
MBAR	**Mbarara**	**43.53**	**84**	P	**P**	**09 49 23.5**	**+1.6**
PDRB	**Porto dos Gac**	**43.91**	**260**	*eP*	**P**	**09 49 25.3**	**+0.4**
AQDB	**Aquidauana**	**43.98**	**248**	*eP*	**P**	**09 49 28.9**	**+3.6**
PTLB	**Pontes e Lacer**	**46.49**	**255**	P	**P**	**09 49 42.8**	**-2.5**
PTLB				IAmb	IAmb	09 49 54.0	
	comp=Z,23nm,1.9s						
CPUP	**Villa Florida**	**46.83**	**240**	LR	LR	10 05 58.4	
	comp=Z,221nm,21.3s,baz=78,slow=32						
ESDC	**Sonseca Array**	**47.01**	**9**	P	**P**	**09 49 49.0**	**0.0**
	comp=Z,3.2nm,1.3s,baz=190,slow=6.5,SNR=4.8						
ESDC				LR	LR	10 08 58.0	
	comp=Z,235nm,21.5s,baz=148,slow=35						
	comp=Z,3.2nm,1.3s						
KEST	**Kesra**	**47.12**	**24**	P	**P**	**09 49 50.9**	**+1.0**
	comp=Z,6.9nm,0.8s,baz=205,slow=8.1,SNR=4.3						
KEST				LR	LR	10 09 57.1	
	comp=Z,412nm,19.8s,baz=219,slow=37						
	comp=Z,6.9nm,0.8s						
KEST	**Kesra**	**47.12**	**24**	P	**P**	**09 49 49.0**	**-1.0**
MACA	**Manacapuru-AM**	**48.17**	**272**	P	**P**	**09 49 57.3**	**-1.1**
MACA				IAmb	IAmb	09 49 59.5	
	comp=Z,7.8nm,0.9s						
MACA	**Manacapuru-AM**	**48.17**	**272**	*eP*	**P**	**09 49 59.1**	**+0.7**
LODK	**Lodwar**	**48.82**	**79**	P	**P**	**09 50 02.5**	**-1.0**
BOAV	**Boa Vista**	**48.86**	**279**	P	**P**	**09 50 02.9**	**-0.8**
BOAV				IAmb	IAmb	09 50 05.0	
	comp=Z,9.7nm,0.7s						
BOAV	**Boa Vista**	**48.86**	**279**	*eP*	**P**	**09 50 04.3**	**+0.5**
KMBO	**Kilima Mbogo**	**49.89**	**86**	LR	LR	10 09 19.8	
	comp=Z,186nm,18.4s,baz=273,slow=34						
VAE	**Valguarnera**	**50.79**	**28**	LR	LR	10 11 41.8	
	comp=Z,142nm,19.2s,baz=156,slow=36						
ETMB	**Extrema**	**53.22**	**263**	P	**P**	**09 50 37.1**	**+0.6**
ETMB				IAmb	IAmb	09 50 37.9	
	comp=Z,9.5nm,1.1s						
ETMB	**Extrema**	**53.22**	**263**	*eP*	**P**	**09 50 36.9**	**+0.4**
PCRV	**Puerto La Cruz**	**54.67**	**288**	LR	LR	10 09 42.1	
	comp=Z,144nm,21.3s,slow=31						
IDI	**Anoyia**	**54.76**	**37**	LR	LR	10 16 10.9	
	comp=Z,137nm,19.0s,baz=254,slow=38						
MURB	**Monte Urbino**	**54.84**	**22**	P	**P**	**09 50 46.6**	**-1.3**
VLC	**Villacollemand**	**54.86**	**20**	P	**P**	**09 50 46.6**	**-1.4**
FDMO	**Fiordimonte**	**54.87**	**23**	P	**P**	**09 50 46.8**	**-1.3**
FDMO				IAmb	IAmb	09 51 00.3	
	comp=Z,16nm,0.9s						
LPAZ	**La Paz**	**55.18**	**255**	P	**P**	**09 50 51.4**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=110,slow=5.9,SNR=5.7						
LPAZ				LR	LR	10 13 24.1	
	comp=Z,129nm,21.4s,baz=91,slow=35						
	comp=Z,2.1nm,1.0s						
LPAZ	**La Paz**	**55.18**	**255**	P	**P**	**09 50 49.7**	**-1.9**
LPAZ	**La Paz**	**55.18**	**255**	*eP*	**P**	**09 50 53.8**	**+2.2**
LVC	**Limon Verde**	**56.45**	**248**	LR	LR	10 14 47.3	
	comp=Z,116nm,18.5s,baz=92,slow=36						
PDG	**Podgorica**	**56.98**	**28**	⇑P	P	09 51 10.7	+7.5
DAVOX	**Davos/Dischmat**	**57.02**	**18**	LR	LR	10 16 28.1	
	comp=Z,278nm,18.3s,baz=258,slow=37						
TBTG	**Tabatinga, AM**	**57.22**	**269**	*eP*	**P**	**09 51 06.2**	**+0.8**
PB07	**IPOC Station P**	**57.25**	**249**	P	**P**	**09 51 06.0**	**+0.2**
PB07				IAmb	IAmb	09 51 11.1	
	comp=Z,10.0nm,0.8s						
GO02	**Mina Guanaco**	**57.40**	**245**	P	**P**	**09 51 08.0**	**+1.1**
GO02				IAmb	IAmb	09 51 17.1	
	comp=Z,16nm,0.8s						
DAVA	**Damuels**	**57.48**	**18**	*eP*	**P**	**09 51 11.0**	**+4.1**
	comp=Z,13nm,0.9s						
FETA	**Feichten**	**57.51**	**19**	*eP*	P	09 51 12.5	+5.5
	comp=Z,13nm,1.1s						
BAUV	**El Baul**	**57.59**	**285**	P	**P**	**09 51 08.6**	**+0.5**
SQTA	**Sankt Quirin**	**57.83**	**19**	*eP*	P	09 51 15.1	+5.8
	comp=Z,14nm,0.7s						
ABTA	**Abfaltersbach**	**57.85**	**20**	*eP*	**P**	**09 51 13.9**	**+4.6**
	comp=Z,13nm,0.7s						
MOTA	**Moosalm**	**57.91**	**19**	*eP*	P	09 51 15.6	+5.8
	comp=Z,19nm,1.0s						
RETA	**Reutte**	**57.93**	**18**	*eP*	P	09 51 15.4	+5.5
	comp=Z,15nm,1.2s						
ATD	**Arta Tunnel**	**57.98**	**72**	LR	LR	10 13 58.3	
	comp=Z,137nm,19.1s,baz=191,slow=34						
WTTA	**Wattenberg**	**58.01**	**19**	*eP*	P	09 51 16.5	+5.9
	comp=Z,27nm,1.1s						
WATA	**Walderalm**	**58.05**	**19**	*eP*	P	09 51 16.6	+5.8
	comp=Z,9.5nm,0.8s						
EIL	**Elat**	**58.27**	**49**	LR	LR	10 17 25.7	
	comp=Z,143nm,18.1s,baz=233,slow=37						
KBA	**Kronbreinsper**	**58.42**	**20**	*eP*	**P**	**09 51 16.6**	**+3.1**
	comp=Z,5.4nm,0.8s						
SJG	**San Juan**	**58.52**	**296**	LR	LR	10 10 31.2	
	comp=Z,113nm,21.5s,baz=88,slow=30						
CO01	**Juntas del Tor**	**58.63**	**239**	P	**P**	**09 51 13.9**	**-1.5**
CO01				IAmb	IAmb	09 51 27.8	
	comp=Z,9.6nm,0.9s						
SOKA	**Soboth**	**58.69**	**22**	*eP*	**P**	**09 51 19.1**	**+3.9**
	comp=Z,11nm,1.1s						
BIOA	**Bad Ischl, Aus**	**59.05**	**20**	*eP*	**P**	**09 51 21.8**	**+4.1**
	comp=Z,6.4nm,0.8s						
ARSA	**Arzberg**	**59.35**	**22**	*eP*	**P**	**09 51 23.7**	**+4.0**
	comp=Z,4.0nm,0.6s						
FRGS	**Fruska Gora**	**59.37**	**26**	⇑P	P	09 51 26.1	+6.2
MOA	**Molln**	**59.41**	**21**	*eP*	**P**	**09 51 24.3**	**+4.2**
	comp=Z,11nm,0.9s						
BLKB	**Belogradchik**	**59.50**	**29**	⇑P	P	09 51 28.0	+7.1
RONA	**Rosalia, Austr**	**60.01**	**22**	*eP*	P	09 51 29.4	+5.1
	comp=Z,16nm,1.6s						
CONA	**Conrad Observa**	**60.04**	**22**	*eP*	P	09 51 29.8	+5.2
	comp=Z,13nm,1.0s						
GERES	**GERESS Array B**	**60.07**	**20**	P	**P**	**09 51 24.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=185,slow=6.8,SNR=2.6						
	comp=Z,1.0nm,0.8s						
SDV	**Santo Domingo**	**60.07**	**284**	LR	LR	10 14 44.7	
	comp=Z,134nm,21.7s,baz=88,slow=33						
HERR	**Herculane**	**60.33**	**28**	⇑P	P	09 51 33.6	+7.1
MMAI	**Mount Meron Ar**	**60.34**	**46**	LR	LR	10 17 46.6	
	comp=Z,33nm,21.4s,baz=114,slow=36						
GZR	**Gura Zlata**	**60.88**	**28**	⇑P	P	09 51 36.9	+6.5
VRAC	**Vranov**	**61.47**	**21**	⇑P	P	09 51 40.9	+6.8
VRAC	**Vranov**	**61.47**	**21**	LR	LR	10 17 46.1	
	comp=Z,144nm,19.4s,baz=219,slow=36						
PLCA	**Paso Flores**	**61.55**	**227**	LR	LR	10 15 15.2	
	comp=Z,72nm,19.5s,baz=84,slow=33						
PSZ	**Piszkesteto**	**61.59**	**24**	⇑P	P	09 51 41.9	+6.8
ARR	**Arges**	**61.74**	**29**	⇑P	P	09 51 41.9	+5.8
DRGR		**61.91**	**27**	⇑P	P	09 51 42.9	+5.6
MORC	**Moravsky Berou**	**62.20**	**21**	⇑P	P	09 51 45.4	+6.3
MLR	**Muntele Rosu**	**62.46**	**30**	⇑P	P	09 51 47.3	+6.2
MLR	**Muntele Rosu**	**62.46**	**30**	LR	LR	10 19 28.4	
	comp=Z,206nm,20.3s,baz=243,slow=37						
MLR	**Muntele Rosu**	**62.46**	**30**	P	**P**	**09 51 40.4**	**-0.7**
MLR				IAmb	IAmb	09 51 58.8	
	comp=Z,20nm,1.2s						
EKA	**Eskdalemuir Ar**	**62.50**	**6**	LR	LR	10 18 22.6	
	comp=Z,227nm,18.3s,baz=182,slow=36						
DOPR	**Dopca**	**62.54**	**29**	⇑P	P	09 51 48.4	+6.9
ROSC	**El Rosal**	**62.84**	**279**	P	**P**	**09 51 45.4**	**+0.8**
	comp=Z,4.9nm,0.3s,baz=64,slow=8.7,SNR=5.3						
ROSC				LR	LR	10 17 11.5	
	comp=Z,286nm,20.1s,baz=72,slow=34						
	comp=Z,4.9nm,0.3s						
COVR	**Voineasa-Covas**	**62.84**	**29**	⇑P	P	09 51 49.4	+5.9
TRPA	**Tarpa**	**62.86**	**26**	⇑P	P	09 51 49.6	+6.1
BRTR	**Keskin Array B**	**62.94**	**39**	P	**P**	**09 51 45.0**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=232,slow=4.7,SNR=2.8						
BRTR				LR	LR	10 19 33.3	
	comp=Z,112nm,20.8s,baz=226,slow=36						
	comp=Z,1.3nm,0.8s						
BRTR	**Keskin Array B**	**62.94**	**39**	P	**P**	**09 51 43.7**	**-0.7**
LL02	**Futaleuf**	**63.18**	**225**	P	**P**	**09 51 46.1**	**+0.2**
LL02				IAmb	IAmb	09 51 53.4	
	comp=Z,19nm,1.4s						
BIZ	**Bicaz**	**63.58**	**28**	⇑P	P	09 51 54.6	+6.3
NNA	**Nana**	**63.60**	**260**	LR	LR	10 19 08.2	
	comp=Z,102nm,19.0s,baz=78,slow=36						
BURAR	**Bucovina Array**	**63.66**	**27**	⇑P	P	09 51 55.6	+6.6
BURAR	**Bucovina Array**	**63.66**	**27**	P	**P**	**09 51 47.9**	**-1.1**
VNA1	**Neumayer--Stat**	**63.72**	**178**	P	**P**	**09 51 50.2**	**+1.4**
VNA2	**Neumayer--Watz**	**64.02**	**178**	P	**P**	**09 51 49.6**	**-1.3**
	baz=353,slow=8.2						
VNA3	**Neumayer Olymp**	**64.28**	**179**	P	**P**	**09 51 55.0**	**+2.4**
SNAA	**Sanae**	**64.97**	**177**	P	**P**	**09 51 59.9**	**+2.7**
SNAA	**Sanae**	**64.97**	**177**	P	**P**	**09 51 57.6**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=336,slow=5.9,SNR=22						
SNAA				LR	LR	10 13 29.0	
	comp=Z,92nm,22.0s,baz=38,slow=30						
	comp=Z,5.5nm,0.9s						
SNAA	**Sanae**	**64.97**	**177**	P	**P**	**09 52 00.1**	**+2.9**
SNAA				IAmb	IAmb	09 52 02.1	
	comp=Z,8.4nm,1.0s						
ATAH	**Atahualpa**	**65.39**	**265**	LR	LR	10 20 36.4	
	comp=Z,133nm,18.0s,baz=96,slow=36						
TROLL	**Troll, Antarti**	**65.69**	**175**	P	**P**	**09 52 01.9**	**0.0**
BOSC	**San Juan Bosco**	**65.85**	**270**	P	**P**	**09 52 02.5**	**-1.6**
BOSC				IAmb	IAmb	09 52 32.2	
	comp=Z,8.7nm,1.0s						
DEL	**Delary**	**66.77**	**16**	*i* P	**P**	**09 52 07.0**	**-1.8**
AKASG	**Malin Array Be**	**67.71**	**27**	P	**P**	**09 52 13.9**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=228,slow=6.7,SNR=13						
	comp=Z,2.2nm,0.6s						
AKBB	**Malin Array Si**	**67.71**	**27**	P	**P**	**09 52 13.8**	**-1.2**
PMSA	**Palmer Station**	**68.14**	**201**	LR	LR	10 13 54.4	
	comp=Z,133nm,21.1s,baz=30,slow=29						
HFS	**Hagfors**	**69.97**	**14**	LR	LR	10 25 30.0	
	comp=Z,94nm,18.8s,baz=200,slow=38						
NB2	**NORSAR Subarra**	**70.24**	**12**	P	P	09 52 37.8	+7.3
	comp=Z,5.0nm,0.9s,baz=206,slow=6.5						
BELA	**Belgrano 2**	**71.87**	**185**	P	**P**	**09 52 40.8**	**+0.7**
BELA				IAmb	IAmb	09 52 45.3	
	comp=Z,16nm,1.4s						
UOSS	**Minazif**	**73.87**	**62**	P	**P**	**09 52 52.6**	**-0.4**
UOSS				IAmb	IAmb	09 53 03.8	
	comp=Z,20nm,1.1s						
FINES	**FINESS Array B**	**74.43**	**18**	P	**P**	**09 52 54.6**	**-0.8**
	comp=Z,5.3nm,1.0s,baz=224,slow=3.8,SNR=2.9						
	comp=Z,5.3nm,1.0s						
U59A	**Littleton**	**74.70**	**310**	IAmb	IAmb	09 52 59.1	
	comp=Z,15nm,1.1s						
SCHQ	**Schefferville**	**76.29**	**331**	P	**P**	**09 53 05.5**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=135,slow=5.7,SNR=1.7						
SCHQ				LR	LR	10 21 37.8	
	comp=Z,74nm,19.3s,baz=233,slow=32						
	comp=Z,2.1nm,0.8s						
TRQ	**Mont Tremblant**	**76.32**	**321**	P	**P**	**09 53 06.6**	**-0.2**
TRQ				IAmb	IAmb	09 53 18.2	
	comp=Z,18nm,0.8s						
Q56A	**Snyder Ridge,**	**76.68**	**313**	IAmb	IAmb	09 53 21.1	
	comp=Z,12nm,0.8s						
KMSC	**Kings Mountain**	**77.02**	**308**	IAmb	IAmb	09 53 22.7	
	comp=Z,12nm,0.9s						
U54A	**Nelsons Funny**	**77.82**	**310**	IAmb	IAmb	09 53 27.6	
	comp=Z,19nm,1.0s						
S54A	**Dingess, Beckl**	**77.84**	**311**	IAmb	IAmb	09 53 26.7	
	comp=Z,10nm,0.8s						
MAW	**Mawson**	**78.06**	**158**	LR	LR	10 19 31.1	
	comp=Z,118nm,19.4s,baz=294,slow=29						
BG3	**Lake Jocassee**	**78.22**	**308**	P	**P**	**09 53 17.2**	**-0.4**
BG3				IAmb	IAmb	09 53 31.6	
	comp=Z,14nm,0.9s						
V53A	**Saluda**	**78.33**	**308**	P	**P**	**09 53 16.6**	**-1.7**
SFJD	**Kangerlussuaq**	**78.65**	**346**	LR	LR	10 24 04.6	
	comp=Z,37nm,20.3s,baz=138,slow=33						
SADO	**Sadowa**	**78.70**	**318**	LR	LR	10 22 38.0	
	comp=Z,96nm,19.4s,baz=62,slow=32						
Y52A	**Lilburn**	**78.79**	**306**	IAmb	IAmb	09 53 22.7	
	comp=Z,9.0nm,0.8s						
Q52A	**Bidwell**	**78.92**	**312**	IAmb	IAmb	09 53 33.0	
	comp=Z,20nm,0.9s						
O52A	**Adamsville**	**78.97**	**313**	IAmb	IAmb	09 53 35.2	
	comp=Z,19nm,0.9s						
W52A	**Murphy**	**79.03**	**308**	IAmb	IAmb	09 53 33.6	
	comp=Z,10.0nm,0.8s						
TKL	**Tuckaleechee C**	**79.07**	**308**	LR	LR	10 21 11.3	
	comp=Z,110nm,20.4s,baz=110,slow=30						
TKL	**Tuckaleechee C**	**79.07**	**308**	P	**P**	**09 53 21.7**	**-0.6**
GEYT	**Alibeck**	**79.17**	**49**	LR	LR	10 29 12.8	
	comp=Z,76nm,18.6s,baz=312,slow=36						
S51A	**Beattyville**	**79.51**	**310**	IAmb	IAmb	09 53 36.1	
	comp=Z,15nm,0.8s						
V51A	**Loudon**	**79.56**	**308**	IAmb	IAmb	09 53 38.5	
	comp=Z,14nm,0.9s						
Q51A	**Peebles**	**79.74**	**312**	IAmb	IAmb	09 53 38.9	
	comp=Z,12nm,0.8s						
ACSO	**Alum Creek Sta**	**79.84**	**313**	P	**P**	**09 53 25.3**	**-1.0**
ACSO				IAmb	IAmb	09 53 37.8	
	comp=Z,21nm,0.9s						
T50A	**Nancy**	**80.28**	**309**	IAmb	IAmb	09 53 40.0	
	comp=Z,11nm,0.8s						
ARCES	**ARCESS Array B**	**80.60**	**13**	P	**P**	**09 53 30.9**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=242,slow=6.9,SNR=1.3						
	comp=Z,1.2nm,0.8s						
Y49A	**Mount Mountai**	**80.68**	**306**	IAmb	IAmb	09 53 31.1	
	comp=Z,28nm,1.5s						
U49A	**Red Boiling Sp**	**80.87**	**309**	P	**P**	**09 53 30.9**	**-1.1**
U49A				IAmb	IAmb	09 53 44.8	
	comp=Z,20nm,1.4s						
LRAL	**Lakeview Retre**	**80.94**	**305**	P	**P**	**09 53 32.0**	**-0.5**
KIRV	**Kirov**	**81.76**	**28**	LR	LR	10 32 25.9	
	comp=Z,184nm,19.1s,baz=255,slow=38						
WVT	**Waverly**	**82.37**	**308**	P	**P**	**09 53 38.5**	**-1.5**
WVT				IAmb	IAmb	09 53 51.0	
	comp=Z,13nm,1.1s						
AKTO	**Aktyubinsk**	**83.09**	**37**	LR	LR	10 33 22.2	
	comp=Z,35nm,22.0s,baz=262,slow=38						
QSPA	**South Pole Qui**	**83.20**	**180**	LR	LR	10 26 55.1	
	comp=Z,41nm,18.5s,baz=208,slow=33						
QSPA	**South Pole Qui**	**83.20**	**180**	P	**P**	**09 53 43.3**	**-0.5**
QSPA				IAmb	IAmb	09 53 48.9	
	comp=Z,8.6nm,0.9s						
W45A	**Hickory Valley**	**83.21**	**307**	P	**P**	**09 53 43.5**	**-0.8**
OLIL	**Olney**	**83.22**	**310**	P	**P**	**09 53 43.1**	**-1.2**
CGM3	**Cape Girardeau**	**84.08**	**309**	IAmb	IAmb	09 53 58.6	
	comp=Z,5.7nm,0.9s						
CMIG	**Matias Romero**	**84.83**	**288**	LR	LR	10 27 04.0	
	comp=Z,56nm,21.8s,baz=98,slow=32						
LCAR	**Lake Charles**	**84.98**	**307**	P	**P**	**09 53 51.4**	**-1.9**
LCAR				IAmb	IAmb	09 54 02.2	
	comp=Z,7.1nm,1.0s						
CCAR	**Cane Creek**	**85.03**	**305**	P	**P**	**09 53 51.1**	**-2.5**
CCM	**Cathedral Cave**	**85.47**	**309**	P	**P**	**09 53 54.6**	**-1.2**
WLAR	**White Oak Lake**	**86.08**	**304**	P	**P**	**09 53 58.2**	**-0.6**
R40A	**Maddies Statio**	**86.31**	**309**	IAmb	IA

MATI				*e*S	Sg	10 11 21.7	+1.3	
DDMP	**Don Marcelino,**	**0.99**	**243**	⇓*e*P	Pb	10 11 23.6	-0.3	
DDMP				*e*S	Sn	10 11 39.3	-0.3	
KCP	**Kidapawan**	**1.56**	**287**	⇓*e*P	Pn	10 11 31.9	-1.0	
KCP				*i* S	Sn	10 11 51.9	-1.9	
BIPH	**Bislig**	**1.63**	**352**	⇓*i*P	Pn	10 11 29.0	-4.8	
BIPH				*i* S	Sn	10 11 44.9	-11	
CGP	**Cagayan de Oro**	**2.67**	**315**	⇓*e*P	Pn	10 11 48.4	+0.4	
CGP				*e*S	Sn	10 12 20.6	-0.4	

IDC 28 10:13:49.7±3.0, 6°41N×127°12E, *h*0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=242.2km s-min=28.6km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.13**	**165**	P	P	10 19 34.7	0.0
	0.3nm,0.9s,baz=345,slow=9.6,SNR=1.0						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**30.62**	**168**	P	P	10 20 05.7	0.0
	0.4nm,0.9s,baz=347,slow=7.7,SNR=2.2						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**55.61**	**324**	P	P	10 23 27.2	-0.1
	0.3nm,0.3s,baz=124,slow=6.8,SNR=5.5						
	0.3nm,0.3s						

*IDC **28** 10:21:47.0±2.3, 7°20S×130°15E, h107km±27km, mb3.7/1, mbtmp4.0/6, Error ellipse: s-maj=40.5km s-min=21.5km az=93.0*
ISC 28 10:21:45.0±0.9, 7°26S±0°06×130°2E±0°1, *h*100km, n6, σ4§21/11, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.44**	**9**	P	**Pn**	**10 23 18.5**	**+1.1**
	5.4nm,0.2s,baz=209,slow=19,SNR=18						
SIJI				S	**Sn**	**10 24 23.1**	**-6.3**
	7.7nm,0.2s,baz=215,slow=22,SNR=1.8						
BATI	**Baumata**	**7.10**	**245**	P	**Pn**	**10 23 29.4**	**+3.1**
	15nm,0.3s,baz=30,slow=4.8,SNR=2.3						
BATI				S	**Sn**	**10 24 42.1**	**-3.4**
	25nm,0.5s,baz=287,slow=19,SNR=5.9						
FITZ	**Fitzroy Crossi**	**11.65**	**202**	P	**Pn**	**10 24 28.8**	**+0.6**
	2.2nm,0.3s,baz=0.3,slow=13,SNR=47						
FITZ				S	**Sn**	**10 26 31.6**	**-4.7**
	2.0nm,0.3s,baz=179,slow=21,SNR=3.3						
WRA	**Warramunga Arr**	**13.23**	**163**	P	**Pn**	**10 24 51.4**	**+2.4**
	0.8nm,0.3s,baz=345,slow=13,SNR=31						
WRA				S	**Sn**	**10 27 11.3**	**-3.3**
	4.1nm,0.6s,baz=334,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.69**	**168**	P	**P**	**10 25 37.3**	**+3.6**
	0.7nm,0.5s,baz=346,slow=9.6,SNR=14						
ASAR				S	**Sn**	**10 28 33.2**	**-5.2**
	0.9nm,0.6s,baz=345,slow=26,SNR=8.9						
MKAR	**Makanchi Array**	**68.56**	**327**	P	**P**	**10 32 37.7**	**+0.7**
	0.8nm,0.5s,baz=124,slow=7.7,SNR=8.8						
	0.8nm,0.5s						

*SOME **28** 10:38:53.5, 43°.65N×69°.63E*
*NNC **28** 10:38:54.5±1.4, 43°.42N×69°.53E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=7.2km s-min=5.0km az=106.0, Suspected Mining explosion.*
ISC 28 10:38:58.8±2.0, 43°.3N±0°.2×69°.8E±0°.1, *h*0km, n6, σ0§24/7, 1C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.57**	**111**	P	**Pg**	**10 39 09.7**	**-0.1**
	5.9nm,0.3s,baz=291,slow=16,SNR=100						
KK31				S	**Sb**	**10 39 20.6**	**+0.2**
	16nm,0.5s,baz=295,slow=29,SNR=58						
BTLS	**Baital**	**3.52**	**59**	Pg	**Pb**	**10 40 02.0**	**0.0**
	3.6nm,0.5s						
BTLS				Lg	Lg	10 40 52.1	
	4.3nm,0.7s						
KRBS	**Karabastau**	**4.31**	**83**	Pg	**Pb**	**10 40 15.0**	**-0.4**
	1.7nm,0.6s						
KRBS				Lg	Lg	10 41 13.8	
	5.3nm,0.3s						
DGS	**Degeres**	**4.38**	**89**	Pg	**Pb**	**10 40 16.8**	**+0.2**
	3.3nm,0.6s						
DGS				Lg	Lg	10 41 16.7	
	9.5nm,0.6s						
KUU	**Kurty**	**4.80**	**81**	Pg	**Pb**	**10 40 23.9**	**+0.2**
	1.6nm,0.4s						
KUU				Lg	Lg	10 41 29.1	
	5.8nm,0.5s						
AKTO	**Aktyubinsk**	**10.74**	**316**	⇓Pn	**Pn**	**10 41 33.8**	**0.0**
	2.2nm,0.7s						
AKTO				⇑Sn	Pg	10 42 04.7	
	4.7nm,0.6s						

*SOME **28** 10:50:11.5, 44°.30N×84°.40E, h10km*
*NNC **28** 10:50:15.4±2.5, 44°.05N×84°.15E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=22.0km s-min=9.8km az=129.0*
ISC 28 10:50:09.7±2.6, 44°2N±0°.1×84°.5E±0°.1, *h*10km, n13, σ2§75/19, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.03**	**330**	⇑Pn	**Pb**	**10 51 04.6**	**+0.9**
	0.3nm,0.3s,baz=147,slow=15,SNR=17						
MK31				⇓Lg	Lg	10 51 49.8	
	0.8nm,0.3s,baz=144,slow=29,SNR=4.4						
KTMS	**Ketmen**	**3.12**	**257**	*e*P	**Pb**	**10 51 07.5**	**+2.1**
	2.1nm,0.3s						
KTMS				*e*S	**Sg**	**10 51 46.5**	**-3.3**
	8.9nm,0.5s						
KTMS	**Ketmen**	**3.12**	**257**	Pg	**Pb**	**10 51 07.5**	**+2.1**
	2.1nm,0.3s						
KTMS				Lg	Lg	10 51 46.5	
	8.9nm,0.5s						
MAKZ	**Makanchi**	**3.16**	**326**	⇑Pn	**Pb**	**10 51 06.6**	**+0.7**
	1.7nm,0.9s						
MAKZ				⇓Lg	Lg	10 51 56.1	
	1.6nm,0.6s						
ZSN	**Zaisan**	**3.25**	**4**	*e*P	**Pg**	**10 51 11.0**	**-1.1**
	3.0nm,0.3s						
ZSN				*e*S	**Sg**	**10 51 52.2**	**-2.0**
	2.8nm,0.2s						
DJR	**Jarkent**	**3.41**	**274**	*e*P	**Pg**	**10 51 14.2**	**-0.8**
	3.2nm,0.4s						
DJR				*e*S	**Sg**	**10 51 58.0**	**-1.0**
	9.3nm,0.4s						
DJR	**Jarkent**	**3.41**	**274**	Pg	**Pg**	**10 51 14.1**	**-0.8**
	3.2nm,0.4s						
DJR				Lg	Lg	10 51 58.0	
	9.3nm,0.4s						
PDGK	**Podgornoye**	**3.75**	**258**	⇓Pg	**Pb**	**10 51 17.4**	**+1.3**
	0.6nm,0.4s						
PDGK				⇓Lg	Lg	10 52 00.7	
	5.3nm,0.6s						
SHLS	**Shalkode**	**3.82**	**256**	*e*P	**Pb**	**10 51 14.1**	**-3.2**
	5.1nm,0.3s						
SHLS				*e*S	**Sn**	**10 51 57.8**	**+4.0**
	12nm,0.4s						
SHLS	**Shalkode**	**3.82**	**256**	Pg	**Pb**	**10 51 14.1**	**-3.2**
	5.1nm,0.3s						
SHLS				Lg	Lg	10 51 57.8	
	12nm,0.6s						
KPKS	**Kokpek**	**4.29**	**262**	*e*P	**Pb**	**10 51 27.9**	**+2.6**
	3.9nm,0.3s						
KPKS				*e*S	**Sb**	**10 52 21.6**	**+4.4**
	6.6nm,0.3s						
ARXS	**Arharly**	**4.82**	**272**	*e*P	**Pg**	**10 51 39.2**	**-2.8**
	2.3nm,0.3s						
ARXS				*e*S	**Sg**	**10 52 40.8**	**-3.5**
	4.9nm,0.4s						
ARXS	**Arharly**	**4.82**	**272**	Pg	**Pg**	**10 51 39.2**	**-2.8**
	2.3nm,0.3s						
ARXS				Lg	Lg	10 52 40.8	
	4.9nm,0.4s						

*IDC **28** 11:01:12.0±1.1, 29°.04S×61°.39E, h0km, mb3.7/4, mbtmp3.7/5, ML4.2/1, MS3.4/2, Error ellipse: s-maj=40.7km s-min=27.3km az=24.0*
ISC 28 11:01:13.9±1.0, 29°.1S±0°.2×61°.4E±0°.2, *h*11km, n14, σ1§52/6, mb4.0/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**16.64**	**306**	Pn	**Pn**	**11 05 07.7**	**+0.2**
	0.1nm,0.3s,baz=110,slow=16,SNR=3.1						
OPO					Sn	Sn	11 07 56.8	-16
	0.1nm,0.3s,baz=264,slow=18,SNR=3.2						
	2.2nm,0.5s						
H08S1	**Diego Carcia H**	**23.72**	**28**	T	T	11 31 29.2	
	baz=204						
H08S2	**Diego Garcia H**	**23.73**	**28**	T	T	11 31 33.5	
	baz=204						
H08S3	**Diego Garcia H**	**23.74**	**28**	T	T	11 31 41.2	
	baz=204						
BOSA	**Boshof**	**31.57**	**262**	LR	LR	11 17 22.6	
	comp=Z,56nm,18.5s,baz=191,slow=31						
H01W2	**Cape Leeuwin H**	**44.70**	**112**	T	T	11 57 33.0	
	baz=265						
H01W3	**Cape Leeuwin H**	**44.71**	**112**	T	T	11 57 31.9	
	baz=265						
H01W1	**Cape Leeuwin H**	**44.72**	**112**	T	T	11 57 36.2	
	baz=265						
SNAA	**Sanae**	**54.63**	**200**	P	**P**	**11 10 42.6**	**+0.4**
	0.7nm,0.9s,baz=63,slow=11,SNR=1.8						
	0.7nm,0.9s						
BATI	**Baumata**	**60.93**	**86**	LR	LR	11 34 56.6	
	comp=Z,38nm,18.5s,baz=172,slow=33						
ASAR	**Alice Springs**	**64.28**	**104**	P	**P**	**11 11 47.8**	**-1.9**
	0.9nm,0.9s,baz=242,slow=7.2,SNR=5.8						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**66.09**	**100**	P	**P**	**11 12 03.1**	**+1.7**
	1.0nm,1.0s,baz=250,slow=5.8,SNR=4.1						
	1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**71.26**	**297**	P	**P**	**11 12 33.0**	**-0.6**
	15nm,0.6s,baz=112,slow=6.4,SNR=5.1						
MKAR	**Makanchi Array**	**77.83**	**15**	P	**P**	**11 13 11.3**	**+0.3**
	0.4nm,0.8s,baz=181,slow=5.8,SNR=1.9						
	0.4nm,0.8s						

*NORS **28** 11:05:26.2±0.0, 42°.20N×46°.58E, h3km, MPVA3.7*
ISC 28 11:05:26.9±2.2, 42°.31N±0°.05×46°.6E±0°.1, *h*16km±12km, n10, σ1§59/16, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.52**	**206**	P	**Pg**	**11 05 36.9**	**-0.3**
LGD				S	**Sg**	**11 05 43.3**	**-0.9**
DVE	**Vedeno**	**0.72**	**335**	*e*Pg	**Pn**	**11 05 42.1**	**-0.4**
DVE				*e*Sg	**Sn**	**11 05 53.4**	**+0.2**
DDFL	**Dedoflistskaro**	**0.92**	**201**	P	**Pn**	**11 05 47.5**	**+2.3**
SHTL	**Shatili**	**1.09**	**289**	P	**Pb**	**11 05 45.3**	**-2.1**
SHTL				S	**Sb**	**11 05 58.6**	**-2.8**
DGRG	**David-gareji**	**1.22**	**226**	P	**Pg**	**11 05 50.2**	**-0.3**
KMGR	**Komgaron**	**1.45**	**302**	*e*Pg	**Pg**	**11 05 55.3**	**+0.5**
KMGR				*e*Sg	**Sg**	**11 06 16.2**	**+2.6**
PNSH	**Pansheti**	**1.47**	**284**	P	**Pn**	**11 05 52.6**	**-0.2**
LACR	**Lac**	**1.74**	**288**	*e*Pg	**Pb**	**11 05 58.4**	**-0.1**
LACR				*e*Sg	**Sg**	**11 06 23.6**	**+0.6**
ALIG	**Mtskhetisjvari**	**2.16**	**266**	P	**Pb**	**11 06 04.7**	**-1.0**
DIGR	**Digorskoe uzhe**	**2.27**	**286**	*e*Pn	**Pb**	**11 06 07.8**	**+0.3**
DIGR				*e*Sn	**Sb**	**11 06 37.1**	**+1.6**

*PAS **28** 11:18:18.2±2.9, 32°.10N±0°.03×115°.08W±0°.04, h27km±6km, Error ellipse: s-maj=5.2km s-min=4.6km az=112.0*
*NEIC **28** 11:18:18.4±2.5, 32°.09N±0°.02×115°.14W±0°.02, h13km±4km, Error ellipse: s-maj=2.9km s-min=2.4km az=115.0*
*ANF **28** 11:18:18.3±0.6, 32°.15N×115°.12W, h27km±4km, ML2.7/13, Error ellipse: s-maj=3.9km s-min=2.6km az=170.0*
*ECX **28** 11:18:19.5±0.7, 32°.09N×115°.17W, h11km±3km, MD3.1, ML3.3*
*MEX **28** 11:18:19.2±0.4, 32°.15N×114°.99W, h33km±9km, MD3.3*
ISC 28 11:18:18.2±0.9, 32°.09N±0°.02×115°.18W±0°.02, h18km±3km, n84, σ1§03/114, 8C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RHX	**Rio Hardy**	**0.10**	**298**	⇑*i*P	**Pg**	**11 18 21.8**	**0.0**
RHX				*i* S	**Sg**	**11 18 24.0**	**-0.3**
RITX	**Riito Sonora**	**0.20**	**67**	⇑*i*P	**Pg**	**11 18 23.1**	**0.0**
RITX				*i* S	**Sg**	**11 18 26.8**	**+0.3**
GUVIX	**Guadalupe Vict**	**0.23**	**22**		**Pb**	**11 18 24.0**	**+0.2**
GUVIX					**Sg**	**11 18 28.3**	**+1.0**
MBIG	**Mexicali**	**0.32**	**357**	*e*P	**Pg**	**11 18 25.3**	**+0.3**
MBIG				*e*P	**Pb**	**11 18 25.6**	**+0.2**
MBIG				*e*S	**Sb**	**11 18 31.0**	**+0.8**
MBIG				*e*S	**Sg**	**11 18 31.2**	**+1.5**
MBIG	**Mexicali**	**0.32**	**357**	*e*P	**Pb**	**11 18 25.8**	**+0.4**
CPBX	**Cerro Prieto**	**0.35**	**342**		**Pb**	**11 18 26.1**	**+0.2**
CPBX	**Cerro Prieto**	**0.35**	**342**	*e*P	**Pb**	**11 18 26.2**	**+0.3**
CPBX				*e*S	**Sb**	**11 18 31.3**	**+0.2**
CPBX				IAML		11 18 36.7	
	comp=N,7μm,0.3s						
CPBX				⇑*e*		11 18 36.7	
CPBX				*e*		11 18 36.8	
CPBX				IAML		11 18 36.8	
	comp=E,10μm,0.3s						
CTLX	**Tlaxcala, TLX**	**0.39**	**4**	*e*P	**Pg**	**11 18 26.0**	**-0.2**
CTLX				IAML		11 18 33.1	
	comp=N,2μm,0.3s						
CTLX				⇑*e*		11 18 33.1	
CTLX				⇓*e*		11 18 34.9	
CTLX				IAML		11 18 34.9	
	comp=E,3μm,0.3s						
YUCAX	**Ej. Yucatɲn**	**0.52**	**8**	⇓*i*P	**Pb**	**11 18 29.0**	**+0.3**
YUCAX				⇓*e*		11 18 38.3	
YUCAX				IAML		11 18 38.3	
	comp=N,2μm,0.2s						
YUCAX				⇑*e*		11 18 44.9	
YUCAX				IAML		11 18 44.9	
	comp=E,2μm,0.3s						
SLRCX	**San Luis Rio C**	**0.55**	**47**		**Pb**	**11 18 29.4**	**+0.2**
SLRCX					**Sb**	**11 18 36.7**	**0.0**
UABX	**UABC, Campus M**	**0.59**	**338**		**Pb**	**11 18 30.6**	**+0.7**
UABX	**UABC, Campus M**	**0.59**	**338**	IAML		11 18 40.8	
	comp=N,3μm,0.2s						
UABX				⇓*e*		11 18 40.8	
UABX				⇑*e*		11 18 40.8	
UABX				IAML		11 18 40.8	
	comp=E,3μm,0.5s						
ECBX	**El Chinero**	**0.62**	**170**	*e*P	**Pb**	**11 18 30.5**	**0.0**
ECBX				*e*S	**Sg**	**11 18 39.3**	**+0.5**
ECBX				IAML		11 18 40.2	
	comp=N,2μm,0.2s						
ECBX				⇓*e*		11 18 40.2	
ECBX				⇑*e*		11 18 40.6	
ECBX				IAML		11 18 40.6	
	comp=E,1μm,0.3s						
ESJX	**Sierra Juarez**	**0.66**	**263**		**Pg**	**11 18 31.9**	**+0.7**
ESJX				IAML		11 18 42.2	
	comp=N,1μm,0.1s						
ESJX				IAML		11 18 42.5	
	comp=E,1μm,0.2s						
EMSC	**East Mesa**	**0.67**	**14**		**Pb**	**11 18 31.0**	**-0.3**
EMSC					**Sb**	**11 18 40.2**	**-0.1**
EMSC	**East Mesa**	**0.67**	**14**	*e*P	**Pb**	**11 18 31.0**	**-0.3**
SGL	**Mount Signal**	**0.73**	**321**		**Pg**	**11 18 32.5**	**+0.1**
SGL	**Mount Signal**	**0.73**	**321**	*e*P	**Pg**	**11 18 32.5**	**+0.1**
SJX	**San Joaquin**	**0.74**	**244**	⇑*e*P	**Pb**	**11 18 31.9**	**-0.5**
SJX				*e*S	**Sb**	**11 18 41.1**	**-1.1**
DREC	**Desert Rsrch C**	**0.75**	**343**		**Pb**	**11 18 32.8**	**+0.1**
DREC					**Sn**	**11 18 44.3**	**-0.4**
DREC	**Desert Rsrch C**	**0.75**	**343**	*e*P	**Pb**	**11 18 32.8**	**+0.1**
COA	**Coachella**	**0.78**	**4**		**Pb**	**11 18 32.4**	**-0.7**
COA					**Sg**	**11 18 43.8**	**+0.1**
COA	**Coachella**	**0.78**	**4**	⇓*i*P	**Pb**	**11 18 32.4**	**-0.7**
SNR	**Schaffner Ranc**	**0.80**	**344**		**Pb**	**11 18 33.2**	**-0.4**
WESC	**Westside Schoo**	**0.82**	**325**		**Pg**	**11 18 34.3**	**+0.2**
WESC					**Sn**	**11 18 46.5**	**+0.1**
WESC	**Westside Schoo**	**0.82**	**325**	*e*P	**Pg**	**11 18 34.3**	**+0.2**
YUH	**Yuha Desert**	**0.84**	**312**		**Pb**	**11 18 33.8**	**-0.5**
YUH					**Sg**	**11 18 46.0**	**+0.3**
YUH	**Yuha Desert**	**0.84**	**312**	IAML		11 18 46.7	
	comp=N,304nm,0.1s						
YUH				IAML		11 18 46.8	
	comp=E,335nm,0.1s						
YUH2	**Yuha Desert**	**0.84**	**312**	*e*P	**Pb**	**11 18 33.7**	**-0.5**
IMPE	**Imperial**	**0.87**	**338**		**Pb**	**11 18 34.5**	**-0.3**
IMPE					**Sn**	**11 18 49.5**	**+1.7**
RUN	**Ruthven**	**0.90**	**11**		**Pb**	**11 18 33.9**	**-1.3**
RUN					**Sb**	**11 18 45.3**	**-1.6**
RMX	**La Rumorosa**	**0.92**	**304**		**Pb**	**11 18 34.5**	**-1.1**
RMX					**Sb**	**11 18 46.5**	**-1.1**
RMX				IAML		11 18 47.3	
	comp=N,1μm,0.3s						
RMX				IAML		11 18 47.3	
	comp=E,808nm,0.3s						
RMX	**La Rumorosa**	**0.92**	**304**	*e*P	**Pb**	**11 18 34.5**	**-1.1**
SB						**11 18 46.4**	**-1.1**
RMX				*e*S		11 18 47.4	
RMX				⇓*e*		11 18 47.4	
RMX				IAML			
	comp=N,1μm,0.4s						
RMX				IAML		11 18 47.4	
	comp=E,770nm,0.2s						
RMX				⇓*e*		11 18 47.4	
IKP	**In-Ko-Pah, Jac**	**0.97**	**306**	P	**Pb**	**11 18 35.9**	**-0.5**
	baz=122,SNR=68						
IKP				S	**Sg**	**11 18 49.6**	**-0.2**
	baz=122						
IKP	**In-Ko-Pah, Jac**	**0.97**	**306**	*e*P	**Pb**	**11 18 36.0**	**-0.4**
IKP				*e*S	**Sg**	**11 18 49.6**	**-0.2**
SWSC	**Sam W. Stewart**	**1.00**	**329**	P	**Pb**	**11 18 35.6**	**-1.4**
	baz=144,SNR=25						
SWSC				S	**Sb**	**11 18 49.7**	**-0.1**
	baz=144						
GLA	**Glamis**	**1.01**	**17**		**Pb**	**11 18 35.6**	**-1.5**
GLA				IAML		11 18 50.5	
	comp=N,422nm,0.3s						
GLA				IAML		11 18 51.0	
	comp=E,512nm,0.3s						
GLA	**Glamis**	**1.01**	**17**	P	**Pb**	**11 18 35.6**	**-1.5**
	baz=192,SNR=49						
GLA				S	**Sb**	**11 18 48.5**	**-1.6**
	baz=192						
SPIG	**San Pedro Mart**	**1.07**	**193**	*e*P	**Pb**	**11 18 37.9**	**-0.4**
SPIG				*i* S	**Sb**	**11 18 51.7**	**-0.4**
SFX	**San Felipe**	**1.08**	**165**	Pg	**Pb**	**11 18 38.2**	**-0.2**
SFX					**Sn**	**11 18 53.0**	**0.0**
SFX				IAML		11 18 54.1	
	comp=N,367nm,0.2s						
SFX				IAML		11 19 01.6	
	comp=E,215nm,0.5s						
SFX	**San Felipe**	**1.08**	**165**	*e*P	**Pb**	**11 18 38.2**	**-0.2**
CBX	**Cerro Bola**	**1.28**	**281**		**Pn**	**11 18 41.2**	**-0.1**
CBX				IAML		11 19 00.6	
	comp=N,425nm,0.4s						
CBX				IAML		11 19 00.7	
	comp=E,370nm,0.3s						
CBX	**Cerro Bola**	**1.28**	**281**	*e*P	**Pn**	**11 18 41.1**	**-0.1**
CBX				*e*S	**Sn**	**11 18 58.2**	**+0.2**
CBX	**Cerro Bola**	**1.28**	**281**	*e*P	**Pn**	**11 18 41.5**	**+0.3**
CBX				*e*S	**Sg**	**11 18 59.7**	**+0.1**
CCX	**Cicese**	**1.28**	**261**		**Pn**	**11 18 41.6**	**+0.4**
CCX				IAML		11 19 01.0	
	comp=E,380nm,0.3s						
CCX				IAML		11 19 02.0	
	comp=N,296nm,0.2s						
TKX	**Tecate**	**1.30**	**292**		**Pg**	**11 18 43.0**	**-0.3**
TJIG	**Tijuana**	**1.31**	**286**	*e*P	**Pn**	**11 18 41.4**	**-0.2**
TJIG				*e*S	**Sn**	**11 18 58.6**	**-0.1**
MONP2	**Monument Peak**	**1.32**	**308**	P	**Pn**	**11 18 41.2**	**-0.7**
	baz=125,SNR=75						
MONP2				Sb	**Sb**	**11 19 00.2**	**+0.9**
	baz=125						
MONP2	**Monument Peak**	**1.32**	**308**	*e*P	**Pb**	**11 18 42.9**	**+0.3**
113A	**Mohawk Valley,**	**1.38**	**60**		**Pn**	**11 18 41.1**	**-1.4**
113A				IAML		11 19 07.9	
	comp=N,200nm,0.4s						
113A				IAML		11 19 08.3	
	comp=E,111nm,0.5s						
BAR	**Barrett**	**1.39**	**295**	Pn	**Pb**	**11 18 44.5**	**+0.8**
BAR				IAML		11 19 03.1	
	comp=E,594nm,0.3s						
BAR	**Barrett**	**1.39**	**295**	*e*P	**Pn**	**11 18 42.8**	**0.0**
BAR				*e*S	**Sg**	**11 19 02.6**	**-0.6**
PPXB	**Puerto Peasco**	**1.52**	**119**	*e*P	**Pn**	**11 18 42.1**	**-2.3**
PPXB				*e*S	**Sb**	**11 19 04.5**	**-0.1**
PIX	**Pinacate**	**1.56**	**109**		**Pb**	**11 18 47.0**	**+0.6**
PIX	**Pinacate**	**1.56**	**109**	*e*P	**Pn**	**11 18 42.8**	**-2.2**
BC3	**Big Chuckawall**	**1.58**	**352**	P	**Pn**	**11 18 44.2**	**-1.2**
	baz=168,SNR=21						
BC3				S	**Sn**	**11 19 03.5**	**-1.9**
	baz=168						
SDRC	**San Diego Road**	**1.62**	**294**	*e*P	**Pn**	**11 18 46.9**	**+1.0**
SDRC				IAML		11 19 09.8	
	comp=N,308nm,0.3s						
SDRC				*e*		11 19 09.8	
SDRC				IAML		11 19 09.9	
	comp=E,235nm,0.2s						
SDRC				⇓*e*		11 19 09.9	
TJX	**Tijuana**	**1.64**	**285**	Pn	**Pb**	**11 18 48.2**	**+0.3**
TJX				IAML		11 19 15.1	
	comp=N,309nm,1.0s						
TJX				IAML		11 19 20.4	
	comp=E,283nm,0.6s						
BLYC	**Blythe**	**1.75**	**18**		**Pb**	**11 18 49.6**	**-0.1**
109C	**Camp Elliot, M**	**1.81**	**297**		**Pn**	**11 18 49.7**	**+1.2**
109C	**Camp Elliot, M**	**1.81**	**297**	Pb	**Pb**	**11 18 51.2**	**+0.4**
	baz=114						
PMD	**Palm Desert**	**1.85**	**327**		**Pn**	**11 18 47.9**	**-1.2**
PMD				IAML		11 19 17.9	
	comp=N,28nm,0.3s						
PMD				IAML		11 19 21.2	
	comp=E,37nm,0.4s						
TPFO	**Pinon Flats**	**1.86**	**325**	P	**Pn**	**11 18 48.2**	**-1.0**
	baz=142,SNR=10						
PFO	**Pinyon Flats O**	**1.86**	**325**	Pn	**Pn**	**11 18 48.2**	**-1.0**
PFO	**Pinyon Flats O**	**1.86**	**325**	P	**Pn**	**11 18 48.3**	**-1.0**
	baz=142,SNR=7.2						
214A	**Organ Pipe Nat**	**2.02**	**93**	Pn	**Pn**	**11 18 49.4**	**-1.9**
214A	**Organ Pipe Nat**	**2.02**	**93**	*e*P	**Pn**	**11 18 49.5**	**-1.9**
214A	**Organ Pipe Nat**	**2.02**	**93**	P	**Pn**	**11 18 49.4**	**-1.9**
	baz=275,SNR=35						
BELC	**Belle Mtn. Jos**	**2.03**	**340**	P	**Pn**	**11 18 50.5**	**-1.1**
	baz=158						
IRM	**Iron Mountain**	**2.06**	**1**	P	**Pn**	**11 18 50.8**	**-1.2**
	baz=178						
GMRC	**Granite Mounta**	**2.72**	**352**	P	**Pn**	**11 18 59.9**	**-1.2**
	baz=170,SNR=7.5						
W13A	**Hualapai Mount**	**3.19**	**19**		**Pn**	**11 19 07.8**	**+0.1**
V12A	**Nelson**	**3.64**	**4**		**Pn**	**11 19 15.0**	**+1.3**
TUC	**Tucson**	**3.73**	**85**		**Pn**	**11 19 13.1**	**-1.9**
TUC				IAML		11 20 22.5	
	comp=E,12nm,0.7s						
TUC	**Tucson**	**3.73**	**85**	P	**Pn**	**11 19 12.8**	**-2.2**
	baz=268						
SHPR	**Sheep Range**	**4.41**	**0**	Pn	**Pn**	**11 19 25.9**	**+1.6**
U15A	**North Rim**	**4.95**	**28**		**Pn**	**11 19 33.7**	**+1.9**
KNB	**Kanab**	**5.29**	**21**		**Pn**	**11 19 38.4**	**+1.9**
PRN	**Pahroc Range**

TSUM	**Tsumeb**	**40.73**	**274**	LR	LR	11 53 20.4	
	comp=Z,61nm,20.5s,baz=152,slow=33						
ATD	**Arta Tunnel**	**44.20**	**334**	LR	LR	11 54 14.2	
	comp=Z,60nm,20.6s,baz=31,slow=32						
H01W2	**Cape Leeuwin H**	**44.86**	**111**	T	T	12 26 57.8	
	baz=261,slow=75,SNR=6.2						
H01W3	**Cape Leeuwin H**	**44.87**	**111**	T	T	12 26 58.1	
	baz=261,slow=75,SNR=5.5						
H01W1	**Cape Leeuwin H**	**44.88**	**111**	T	T	12 26 58.7	
	baz=261,slow=75,SNR=7.5						
WSAR	**Wadi Sarin**	**52.23**	**357**	LR	LR	11 57 48.5	
	comp=Z,26nm,21.8s,baz=200,slow=31						
SNAA	**Sanae**	**54.38**	**200**	P	**P**	**11 40 27.5**	**-0.3**
	0.8nm,0.8s,baz=66,slow=6.3,SNR=8.3						
	0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.85**	**42**	P	**P**	**11 41 07.6**	**+0.5**
	0.5nm,0.3s,baz=222,slow=8.2,SNR=4.8						
	0.5nm,0.3s						
VNDA	**Vanda**	**63.97**	**166**	P	**P**	**11 41 35.2**	**+1.2**
	0.6nm,0.8s,baz=281,slow=9.9,SNR=2.6						
VNDA				LR	LR	12 07 02.8	
	comp=Z,43nm,18.5s,baz=252,slow=34						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**64.47**	**104**	P	**P**	**11 41 36.4**	**-1.9**
	1.1nm,0.7s,baz=240,slow=6.2,SNR=7.5						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**66.30**	**100**	P	**P**	**11 41 49.6**	**-0.5**
	1.4nm,0.9s,baz=246,slow=5.8,SNR=4.8						
	1.4nm,0.9s						
GNI	**Garni**	**70.69**	**347**	LR	LR	12 11 27.7	
	comp=Z,21nm,19.6s,baz=296,slow=34						
TORD	**Torodi Ar. Bea**	**71.13**	**298**	P	**P**	**11 42 20.7**	**+0.5**
	16nm,0.6s,baz=121,slow=4.0,SNR=5.0						
BRTR	**Keskin Array B**	**73.22**	**338**	P	**P**	**11 42 31.3**	**-1.0**
	0.8nm,0.6s,baz=132,slow=6.8,SNR=4.0						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**78.06**	**15**	P	**P**	**11 43 01.1**	**+1.4**
	0.8nm,0.8s,baz=185,slow=6.1,SNR=4.3						
	0.8nm,0.8s						
CPUP	**Villa Florida**	**99.16**	**233**	LR	LR	12 21 40.1	
	comp=Z,19nm,19.3s,baz=214,slow=31						
ULM	**Lac du Bonnet**	**152.75**	**327**	PKPbc	**PKPbc**	**11 50 57.1**	**-0.8**
	3.6nm,0.7s,baz=338,slow=2.6,SNR=4.1						
PDAR	**Pinedale Array**	**164.54**	**333**	PKP	**PKPdf**	**11 51 05.7**	**+0.3**
	0.8nm,1.0s,baz=111,slow=3.3,SNR=4.5						

*IDC **28** 11:42:30.2±1.0,29.92N×138.86E,h398km±11km,mb3.0/8, mbtmp3.8/9,Error ellipse: s-maj=34.7km s-min=12.8km az=108.0*
*JMA **28** 11:42:32.0±0.6,30.N±4.×14.0E±.,h430km,MV3.6/22, NEAR TORISHIMA IS*
ISC 28 11:42:30.6±0.9,**29.91N**±0.08×**139.2E**±0.1,**h400**km,**n19,** σ1§**43**/22,**mb3.3**/8,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.23**	**9**	P	**Pn**	**11 43 37.5**	**+1.8**
JHJ2				S	**S**	**11 44 28.7**	**+0.3**
JHJ	**Hachijo jima 2**	**3.24**	**9**	P	**Pn**	**11 43 37.1**	**+1.4**
	51nm,0.3s,baz=72,slow=22,SNR=12						
JHJ				S	**S**	**11 44 28.5**	**0.0**
	63nm,0.3s,baz=259,slow=24,SNR=6.4						
JCJ	**Chichijima**	**3.84**	**136**	S	**S**	**11 44 37.4**	**-1.1**
	131nm,0.3s,baz=294,slow=23,SNR=11						
JIE	**Ise**	**4.95**	**335**	P	**Pn**	**11 43 54.9**	**+2.9**
BSO1	**Boso 1**	**4.96**	**17**	P	**Pn**	**11 43 52.9**	**+1.3**
BSO3	**Boso 3**	**5.00**	**12**	P	**Pn**	**11 43 53.0**	**+0.7**
JHU	**Hanno**	**5.92**	**1**	P	**Pn**	**11 44 02.7**	**+0.4**
JHU				S	**S**	**11 45 13.9**	**-3.2**
JRY	**Ryogami san**	**6.09**	**358**	P	**Pn**	**11 44 04.9**	**+0.7**
JYT	**Yasato**	**6.35**	**7**	P	**Pn**	**11 44 06.4**	**-0.6**
JAG	**Ashikaga**	**6.50**	**2**	P	**Pn**	**11 44 08.0**	**-0.6**
JHO	**Hitachi**	**6.78**	**9**	P	**Pn**	**11 44 11.5**	**-0.2**
MKAR	**Makanchi Array**	**46.68**	**308**	P	**P**	**11 50 19.1**	**-2.1**
	0.3nm,0.5s,baz=82,slow=10,SNR=3.1						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**49.79**	**186**	P	**P**	**11 50 43.9**	**-0.8**
	0.4nm,0.2s,baz=0.5,slow=7.8,SNR=31						
	0.4nm,0.2s						
ASAR	**Alice Springs**	**53.51**	**186**	P	**P**	**11 51 11.5**	**-0.5**
	0.2nm,0.6s,baz=22,slow=11,SNR=8.6						
	0.2nm,0.6s						
KDAK	**Kodiak Island**	**53.73**	**38**	P	**P**	**11 51 14.0**	**+1.0**
	3.6nm,1.0s,baz=269,slow=1.5,SNR=14						
	3.6nm,1.0s						
ILAR	**Eielson Array**	**56.54**	**30**	P	**P**	**11 51 32.6**	**-0.1**
	0.4nm,0.8s,baz=278,slow=7.3,SNR=2.7						
	0.4nm,0.8s						
INK	**Inuvik**	**61.58**	**25**	P	**P**	**11 52 07.0**	**+0.2**
	2.8nm,1.0s,baz=302,slow=8.2,SNR=9.2						
	2.8nm,1.0s						
NVAR	**Mina Array Bea**	**80.81**	**51**	P	**P**	**11 54 03.2**	**+1.7**
	0.5nm,0.7s,baz=289,slow=6.5,SNR=5.9						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**95.96**	**51**	P	**P**	**11 55 14.5**	**+0.8**
	0.2nm,0.7s,baz=308,slow=4.4,SNR=2.6						
	0.2nm,0.7s						

*IDC **28** 11:44:27.5±2.5,23.63S×179.91W,h528km±28km,mb3.6/6, mbtmp4.6/7,Error ellipse: s-maj=37.1km s-min=23.3km az=153.0*
*NEIC **28** 11:44:28.6±1.4,23.82S±0.07×180.0W±0.1,h526km±14km, mb4.4/24,Error ellipse: s-maj=20.5km s-min=8.4km az=109.0*
ISC 28 11:44:27.6±0.7,**23.79S**±0.09×**179.99W**±0.09,**h518**km, **n41**,σ1§**19**/41,**mb4.3**/17,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.30**	**343**	P	**P**	**11 46 07.0**	**-0.8**
	1.7nm,0.4s,baz=244,slow=23,SNR=6.5						
MSVF	**Nonsavu**	**6.30**	**343**	P	**P**	**11 46 07.2**	**-0.5**
NIUE	**Niue**	**10.47**	**65**	P	**P**	**11 46 50.6**	**+0.4**
MARNC	**Mare, Loyalty**	**11.30**	**279**	P	**P**	**11 46 59.8**	**+1.0**
LIFNC	**LIFOU**	**12.20**	**282**	P	**P**	**11 47 08.2**	**0.0**
AFI	**Afiamalu**	**12.52**	**40**	P	P	11 47 02.8	-9.0
	8.1nm,0.7s,baz=230,slow=17,SNR=1.8						
AFI				S	S	11 49 08.4	-19
	7.7nm,0.7s,baz=235,slow=19,SNR=1.5						
OUZ	**Omahuta**	**12.68**	**205**	P	**P**	**11 47 14.1**	**+1.0**
URZ	**Urewera**	**14.64**	**189**	P	**P**	**11 47 33.6**	**0.0**
	6.3nm,0.4s,baz=4.9,slow=4.1,SNR=2.5						
URZ				S	**S**	**11 50 03.0**	**-3.9**
	4.6nm,0.8s,baz=252,slow=13,SNR=1.4						
TUWZ	**Tuamarina**	**18.31**	**195**	P	**P**	**11 48 10.4**	**+0.7**
OXZ	**Oxford**	**20.57**	**197**	P	**P**	**11 48 32.6**	**+2.4**
OXZ				IAmb	IAmb	11 48 34.9	
	comp=Z,8.7nm,0.8s						
ARMA	**Armidale**	**26.07**	**249**	P	**P**	**11 49 21.9**	**+2.2**
ARMA				IAmb	IAmb	11 49 22.3	
	comp=Z,13nm,1.1s						
EIDS	**Eidsvold**	**26.34**	**261**	P	**P**	**11 49 23.4**	**+1.4**
EIDS				IAmb	IAmb	11 49 23.6	
	comp=Z,5.6nm,0.6s						
CAN	**Canberra**	**29.21**	**240**	P	**P**	**11 49 48.5**	**+1.5**
CTA	**Charters Tower**	**31.49**	**270**	P	**P**	**11 50 07.7**	**+0.8**
	comp=Z,15nm,0.3s,baz=95,slow=11,SNR=73						
	comp=Z,15nm,0.3s						
CTAO	**Charters Tower**	**31.49**	**270**	P	**P**	**11 50 07.8**	**+1.0**
TOO	**Toolangi**	**32.52**	**237**	P	**P**	**11 50 16.8**	**+1.4**
TOO				IAmb	IAmb	11 50 39.9	
	comp=Z,15nm,1.1s						
TAU	**Tasmania Unive**	**33.02**	**227**	P	**P**	**11 50 20.4**	**+0.8**
STKA	**Stephens Creek**	**34.77**	**248**	P	**P**	**11 50 34.2**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=60,slow=8.1,SNR=4.1						
	comp=Z,1.8nm,0.5s						
STKA	**Stephens Creek**	**34.77**	**248**	P	**P**	**11 50 34.7**	**+0.2**
COEN	**Coen**	**36.11**	**279**	P	**P**	**11 50 45.4**	**-0.4**
COEN				IAmb	IAmb	11 50 46.8	
	comp=Z,13nm,1.3s						
BBOO	**Buckleboo**	**39.50**	**247**	P	**P**	**11 51 13.0**	**-0.3**
AS31	**Alice Springs**	**42.06**	**260**	P	**P**	**11 51 34.0**	**0.0**
ASAR	**Alice Springs**	**42.06**	**260**	P	**P**	**11 51 33.9**	**0.0**
	comp=Z,5.0nm,0.7s,baz=96,slow=7.4,SNR=77						
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**42.06**	**260**	P	**P**	**11 51 33.4**	**-0.5**
WR0	**Warramunga Arr**	**42.24**	**266**	P	**P**	**11 51 34.6**	**-0.7**
WB2	**Warramunga Arr**	**42.41**	**266**	P	**P**	**11 51 36.2**	**-0.5**
WB2				IAmb	IAmb	11 51 36.8	
	comp=Z,6.3nm,0.7s						
WB0	**Warramunga Arr**	**42.42**	**266**	P	**P**	**11 51 36.2**	**-0.5**
WB0				IAmb	IAmb	11 51 37.0	
	comp=Z,8.5nm,0.6s						
WRAB	**Tennant Creek**	**42.42**	**266**	P	**P**	**11 51 35.8**	**-0.9**
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**11 51 36.0**	**-0.8**
	comp=Z,6.5nm,0.5s,baz=91,slow=8.3,SNR=214						
	comp=Z,6.5nm,0.5s						
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**11 51 35.3**	**-1.5**
FORT	**Forrest**	**46.36**	**249**	P	**P**	**11 52 05.8**	**-1.2**
KNRA	**Kununurra**	**48.70**	**270**	P	**P**	**11 52 24.3**	**-0.4**
KNRA				IAmb	IAmb	11 52 53.0	
	comp=Z,23nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.85**	**266**	P	**P**	**11 52 40.7**	**+0.2**
SIJI	**Sorong**	**52.41**	**288**	P	**P**	**11 52 50.9**	**-1.0**
	comp=Z,9.3nm,0.6s,baz=130,slow=22,SNR=5.3						
	comp=Z,9.3nm,0.6s						
PSA00	**Pilbara Seismi**	**55.20**	**260**	P	**P**	**11 53 10.6**	**-0.9**
PSA00				IAmb	IAmb	11 53 21.0	
	comp=Z,23nm,1.3s						
MBWA	**Marble Bar**	**55.40**	**260**	P	**P**	**11 53 12.3**	**-0.7**
MBWA				IAmb	IAmb	11 53 24.8	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**56.92**	**250**	P	**P**	**11 53 23.2**	**-0.2**
MORW				IAmb	IAmb	11 53 42.5	
	comp=Z,23nm,1.2s						
CASY	**Casey**	**60.22**	**206**	P	**P**	**11 53 44.7**	**-0.2**
QSPA	**South Pole Qui**	**66.30**	**180**	P	**P**	**11 54 24.8**	**+0.7**
PMSA	**Palmer Station**	**79.01**	**157**	P	**P**	**11 55 39.2**	**+2.0**
PMSA				IAmb	IAmb	11 56 02.4	
	comp=Z,29nm,1.2s						
TXAR	**Lajitas Array**	**90.36**	**58**	P	**P**	**11 56 32.2**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=215,slow=5.8,SNR=5.7						
	comp=Z,0.4nm,0.7s						

*IDC **28** 12:01:46.8±0.9,1.93S×140.59E,h0km,mb4.0/8, mbtmp4.0/9,ML4.0/1,MS3.4/18,Error ellipse: s-maj=34.3km s-min=19.1km az=92.0*
*NEIC **28** 12:01:49.3±1.0,1.92S±0.06×140.4E±0.2,h10km±2km, mb4.2/18,Error ellipse: s-maj=33.5km s-min=6.6km az=105.0*
*DJA **28** 12:01:53.7±0.9,2.S±7.×14.0E±.,h16km±5km,M3.9/7, mB5.6/1,mb4.5/7,MLv3.6/3,Mw(mB)5.1/1*
ISC 28 12:01:48.5±0.7,**1.92S**±0.07×**140.4E**±0.1,**h10**km,**n50,** σ0§**68**/36,**mb4.2**/12,**MS3.4**/14,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.72**	**202**	P	**Pg**	**12 02 02.1**	**-0.4**
SMPI	**Sarmi**	**1.73**	**268**	P	**Pb**	**12 02 20.2**	**-0.2**
WAMI	**Wamena**	**2.61**	**221**	Pg	**Pb**	**12 02 35.8**	**+0.4**
PMG	**Port Moresby**	**10.00**	**138**	LR	LR	12 08 28.4	
	comp=Z,122nm,21.8s,baz=286,slow=41						
MTN	**Manton Dam**	**14.24**	**220**		**Pn**	**12 05 08.9**	**-1.5**
GUMO	**Guam**	**16.02**	**16**	LR	LR	12 12 04.6	
	comp=Z,74nm,18.4s,baz=192,slow=39						
SOEI	**Soe**	**17.86**	**244**	P	**P**	**12 05 58.9**	**+0.8**
	39nm,1.2s						
KNRA	**Kununurra**	**17.88**	**219**		**Pn**	**12 05 57.6**	**+0.1**
KNRA				IAmb	IAmb	12 06 23.8	
	comp=Z,18nm,1.2s						
WB0	**Warramunga Arr**	**18.70**	**198**	P	**P**	**12 06 06.8**	**-0.4**
WR0	**Warramunga Arr**	**18.84**	**197**	P	**Pn**	**12 06 09.6**	**+0.4**
WR0				IAmb	IAmb	12 06 25.1	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**18.87**	**198**	P	**P**	**12 06 08.9**	**-0.2**
WB2	**Warramunga Arr**	**18.88**	**198**		**P**	**12 06 09.0**	**-0.1**
WB2				IAmb	IAmb	12 06 33.5	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**18.88**	**198**	P	**P**	**12 06 08.8**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=20,slow=11,SNR=27						
WRA				S	Sn	12 09 26.8	-14
	comp=Z,1.0nm,0.9s,baz=20,slow=22,SNR=3.5						
WRA				LR	LR	12 14 16.1	
	comp=Z,178nm,19.1s,baz=6.0,slow=40						
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**18.88**	**198**	P	**P**	**12 06 07.6**	**-1.6**
CTA	**Charters Tower**	**18.93**	**163**	LR	LR	12 14 01.1	
	comp=Z,96nm,20.2s,baz=335,slow=39						
FITZ	**Fitzroy Crossi**	**21.67**	**221**	P	**P**	**12 06 40.0**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=359,slow=4.9,SNR=15						
FITZ				LR	LR	12 15 52.6	
	comp=Z,98nm,20.1s,baz=300,slow=39						
	comp=Z,2.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.67**	**221**	P	**P**	**12 06 39.9**	**+0.4**
AS31	**Alice Springs**	**22.53**	**196**		**P**	**12 06 48.5**	**-0.3**
AS31				IAmb	IAmb	12 06 51.2	
	comp=Z,3.1nm,0.5s						
ASAR	**Alice Springs**	**22.53**	**196**	P	**P**	**12 06 48.5**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=27,slow=11,SNR=64						
ASAR				LR	LR	12 15 54.7	
	comp=Z,210nm,19.5s,baz=16,slow=38						
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**22.53**	**196**	P	**P**	**12 06 48.3**	**-0.4**
EIDS	**Eidsvold**	**25.47**	**157**	P	**P**	**12 07 17.2**	**+0.3**
STKA	**Stephens Creek**	**29.82**	**178**	P	**P**	**12 07 55.2**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=354,slow=13,SNR=3.5						
STKA				LR	LR	12 21 32.4	
	comp=Z,229nm,19.9s,baz=19,slow=40						
	comp=Z,2.7nm,0.9s						
STKA	**Stephens Creek**	**29.82**	**178**	P	**P**	**12 07 55.1**	**-0.7**
STKA				IAmb	IAmb	12 08 18.4	
	comp=Z,3.8nm,1.4s						
FORT	**Forrest**	**31.01**	**201**	P	**P**	**12 08 06.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**37.77**	**213**	LR	LR	12 26 07.0	
	comp=Z,120nm,19.4s,baz=43,slow=39						
MJAR	**Matsushiro Arr**	**38.32**	**357**	LR	LR	12 22 46.4	
	comp=Z,23nm,19.6s,baz=172,slow=33						
KSRS	**Korea Array**	**40.86**	**345**	LR	LR	12 24 39.8	
	comp=Z,34nm,21.2s,baz=150,slow=34						
TAU	**Tasmania Unive**	**41.28**	**172**	P	**P**	**12 09 34.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**45.57**	**298**	P	**P**	**12 10 09.7**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=113,slow=4.9,SNR=4.7						
	comp=Z,0.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**46.53**	**352**	LR	LR	12 26 11.2	
	comp=Z,61nm,21.3s,baz=140,slow=32						
RPZ	**Rata Peaks**	**49.72**	**151**	LR	LR	12 32 32.7	
	comp=Z,28nm,18.1s,baz=294,slow=37						
KLR	**Kul'dur**	**51.50**	**353**	LR	LR	12 30 17.9	
	comp=Z,25nm,18.8s,baz=163,slow=33						
PETK	**Petropavlovsk-**	**56.71**	**12**	LR	LR	12 33 21.8	
	comp=Z,17nm,21.2s,baz=224,slow=33						
SONM	**Songino Array**	**57.76**	**334**	LR	LR	12 35 37.2	
	comp=Z,32nm,20.3s,baz=88,slow=35						
SHEM	**Shemya Is, Ala**	**61.34**	**23**	LR	LR	12 33 37.4	
	comp=Z,31nm,20.4s,baz=108,slow=31						
YAK	**Yakutsk**	**64.30**	**354**	LR	LR	12 37 44.1	
	comp=Z,15nm,20.4s,baz=264,slow=34						
MK31	**Makanchi Array**	**70.23**	**322**	P	**P**	**12 13 02.0**	**+0.1**
MK31				IAmb	IAmb	12 13 03.7	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**70.23**	**322**	P	**P**	**12 13 03.0**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=108,slow=7.8,SNR=11						
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**70.23**	**322**	P	**P**	**12 13 02.3**	**+0.4**
MAKZ	**Makanchi**	**70.43**	**322**	P	**P**	**12 13 03.7**	**+0.6**
MAKZ				IAmb	IAmb	12 13 05.5	
	comp=Z,5.8nm,1.1s						
VNDA	**Vanda**	**76.42**	**175**	P	**P**	**12 13 37.9**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=7.5,slow=2.9,SNR=6.9						
	comp=Z,1.3nm,0.8s						
VNDA	**Vanda**	**76.42**	**175**	P	**P**	**12 13 38.3**	**+0.5**
VNDA				IAmb	IAmb	12 13 45.8	
	comp=Z,2.7nm,0.8s						
CHGR	**Chuyangaron**	**76.68**	**310**	P	**P**	**12 13 40.5**	**+0.4**
KK31	**Karatay Array**	**76.79**	**315**	P	**P**	**12 13 40.4**	**-0.2**
KK31				IAmb	IAmb	12 14 02.2	
	comp=Z,3.4nm,1.2s						
KKAR	**Karatay Array**	**76.79**	**315**	P	**P**	**12 13 40.0**	**-0.5**
ILAR	**Eielson Array**	**84.40**	**24**	P	**P**	**12 14 19.1**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=254,slow=5.0,SNR=10						
	comp=Z,1.1nm,0.8s						
ABKAR	**Akbulak array**	**85.24**	**320**	P	**P**	**12 14 25.4**	**-0.1**
ABKAR				IAmb	IAmb	12 14 26.7	
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**88.02**	**180**	LR	LR	12 54 13.1	
	comp=Z,25nm,19.4s,baz=3.5,slow=36						
NVAR	**Mina Array Bea**	**100.01**	**51**	P	**Pdif**	**12 15 34.7**	**0.0**
	comp=Z,0.1nm,0.4s,baz=260,slow=8.9,SNR=3.7						
	comp=Z,0.1nm,0.4s						
CPUP	**Villa Florida**	**147.09**	**150**	PKPbc	**PKPbc**	**12 21 33.0**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=228,slow=3.1,SNR=5.1						

*JMA **28** 12:10:33.0±0.3,36.N±1.×12.9E±., h4km,MV2.9/7,S KOREAN PENINSULA REG*
*KMA **28** 12:10:34.5±0.1,35.77N×129.17E,h14km±1km,Error ellipse: s-maj=1.2km s-min=0.7km az=25.0*
ISC 28 12:10:33.2±1.4,**35.80N**±0.08×**129.20E**±0.08,**h10**km,**n6,** σ0§**51**/9,**South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDAG	**Daegu**	**0.25**	**263**	P	**Pb**	**12 10 39.5**	**-0.4**
	SNR=386						
YOCB	**Yeongcheon**	**0.27**	**311**	P	**Pb**	**12 10 40.3**	**0.0**
	SNR=35						
JTU	**Tsushima**	**1.28**	**173**	*e*P	**Pn**	**12 10 56.8**	**-0.4**
JTU				*e*S	**Sb**	**12 11 13.7**	**-0.3**
JTSM	**Tsushimamitsus**	**1.47**	**174**	P	**Pn**	**12 11 00.2**	**+0.5**
JTSM				S	**Sn**	**12 11 19.3**	**+0.3**
JHGM	**Hagimishima**	**1.88**	**122**	*e*P	**Pn**	**12 11 05.3**	**-0.2**
JHGM				*e*S	**Sn**	**12 11 29.2**	**0.0**
JII	**Iki**	**2.05**	**168**	*e*P	**Pn**	**12 11 08.6**	**+0.9**

*GCMT **28** 12:50:30.2±0.2,20.86N±0.02×144.64E±0.02,h12km, MW4.9/109,Moment Tensor Solution. s34,c40; s109,c162; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.89±.06; Mθθ1.06±.06; Mϕϕ1.83±.06; Mrθ0.12±.25; Mθϕ-1.35±.05; Mϕr0.86±.23; Best double couple: M₀2.99500×10¹⁶ NP1:ϕs154.00000°,δ52.00000°, λ-76.00000°. NP2:ϕs312.00000°,δ40.00000°, λ-107.00000°. Principal axes: T 2.9150, Plg6.0000°, Azm234.0000°; N 0.1610, Plg11.0000°, Azm325.0000°; P -3.0750, Plg77.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **28** 12:50:32.0±0.0,21.11N×144.57E,h41km,mb4.6/41, mB5.1/21,Ms4.4/15,Ms7 4.1/17*
*MOS **28** 12:50:32.4±1.3,20.91N×144.53E,h51km,mb5.0/30, MS4.2/4,Error ellipse: s-maj=13.8km s-min=6.3km az=116.0*
*IDC **28** 12:50:34.8±2.5,20.91N×144.68E,h63km±23km,mb4.2/23, mbtmp4.5/26,MS3.9/76,Error ellipse: s-maj=17.2km s-min=10.3km az=77.0*
*NEIC **28** 12:50:34.2±1.5,20.98N±0.08×144.6E±0.1,h46km±7km, mb5.0/195,Error ellipse: s-maj=18.6km s-min=10.9km az=85.0*
ISC 28 12:50:33.5±0.5,**20.92N**±0.04×**144.55E**±0.07,**h45**km±4km, **h46**km:**pP-P**,**n462,** σ1§**03**/328,**mb5.0**/149,**MS4.0**/83, **13C-9D**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.52**	**341**	P	**Pn**	**12 52 08.5**	**+1.6**
	44nm,0.4s,baz=322,slow=22,SNR=1.7						
JCJ				S	**Sn**	**12 53 16.5**	**-3.4**
	38nm,0.2s,baz=283,slow=22,SNR=2.0						
GUMO	**Guam**	**7.29**	**178**	P	**Pn**	**12 52 18.5**	**+0.9**
	91nm,0.9s,baz=252,slow=11,SNR=3.3						
GUMO				S	**Sn**	**12 53 40.4**	**+1.2**
	30nm,0.5s,baz=220,slow=20,SNR=1.0						
GUMO				LR	LR	12 54 27.9	
	comp=Z,2μm,19.1s,baz=10,slow=32						
JHJ	**Hachijo jima 2**	**12.87**	**342**	LR	LR	12 58 30.3	
	comp=Z,536nm,18.0s,baz=90,slow=37						
JYT	**Yasato**	**15.72**	**347**	Pn	**Pn**	**12 54 11.4**	**-0.4**
INU	**Inuyama**	**15.83**	**337**		**Pn**	**12 54 12.7**	**-0.5**
JOW	**Kunigami**	**16.00**	**295**	LR	LR	12 59 50.5	
	comp=Z,436nm,18.7s,baz=132,slow=34						
JOW	**Kunigami**	**16.00**	**295**	P	**P**	**12 54 18.9**	**+0.5**
JOW				IAmb	IAmb	12 54 24.0	
	comp=Z,210nm,1.6s						
JSU	**Suzuyama**	**16.45**	**313**	P	**P**	**12 54 23.1**	**-0.2**
MJAR	**Matsushiro Arr**	**16.52**	**342**	P	**Pn**	**12 54 21.9**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=161,slow=9.6,SNR=7.6						
MJAR				LR	LR	13 00 43.3	
	comp=Z,175nm,18.1s,baz=129,slow=37						
MAJO	**Matsushiro**	**16.52**	**342**	P	**P**	**12 54 23.2**	**-1.0**
MAJO	**Matsushiro**	**16.52**	**342**	P	**P**	**12 54 23.2**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,56nm,1.8s						
MJB9	**Matsu-Tunnel**	**16.53**	**342**	P	**Pn**	**12 54 22.7**	**+0.6**
JMM	**Marumori**	**17.20**	**350**	P	**Pn**	**12 54 30.4**	**-0.1**
JSD	**Sado**	**17.91**	**344**		**Pn**	**12 54 38.5**	**-0.7**
YOJ	**Yonaguni jima**	**20.18**	**284**	P	Pn	12 55 06.3	-0.2
YOJ	**Yonaguni jima**	**20.18**	**284**	P	Pn	12 55 06.3	-0.2
YOJ				pmax	pmax		
	comp=Z,246nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**20.98**	**93**	T	T	13 16 38.7	
	baz=280,slow=75,SNR=334						
H11N1	**WAKE ISLAND Hy**	**20.99**	**89**	T	T	13 16 38.7	
	baz=277,slow=75,SNR=831						
H11N2	**WAKE ISLAND Hy**	**20.99**	**89**	T	T	13 16 39.0	
	baz=277,slow=75,SNR=637						
H11S1	**WAKE ISLAND Hy**	**20.99**	**93**	T	T	13 16 37.7	
	baz=280,slow=75,SNR=340						
H11S2	**WAKE ISLAND Hy**	**21.00**	**93**	T	T	13 16 40.9	
	baz=280

PET	**Petropavlovsk**	**33.84**	**15**	*eP*	P	**P**	12 57 19.3	+7.9	
PET				*eS*	**S**	**S**	**13 02 39.4**	**+7.1**	
PET				MLR	MLR				
	comp=Z,300nm,12.0s								
PET				MLR	MLR				
	comp=Z,600nm,12.0s								
HHC	**Hu-ho-hao-te**	**34.29**	**313**	*eP*	**P**	**P**	**12 57 17.8**	**+2.1**	
HHC				pmax	pmax				
	comp=Z,13nm,0.7s								
HHC				pmax	pmax				
	comp=Z,290nm,4.7s								
HHC				LR	LR				
	comp=Z,350nm,11.4s								
HHC				LR	LR				
	comp=Z,290nm,12.1s								
HHC				LR	LR				
	comp=Z,390nm,12.7s								
COEN	**Coen**	**34.68**	**182**	P	**P**	**P**	**12 57 18.8**	**-0.3**	
ZEA	**Zeya**	**35.33**	**342**	*eP*	**P**	**P**	**12 57 23.8**	**-0.5**	
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.5s								
KAPI	**Kappang**	**35.44**	**226**	LR	LR	LR	13 11 05.0		
	comp=Z,162nm,19.8s,baz=68,slow=35								
MTN	**Manton Dam**	**36.05**	**203**	P	**P**	**P**	**12 57 30.3**	**-0.5**	
MTN				IAmb	IAmb	IAmb	12 57 35.0		
	comp=Z,18nm,1.2s								
SBUM	**Sibu**	**36.45**	**244**	P	**P**	**P**	**12 57 35.5**	**+1.2**	
SBUM				IAmb	IAmb	IAmb	12 57 37.7		
	comp=Z,31nm,1.4s								
BATI	**Baumata**	**37.12**	**216**	LR	LR	LR	13 10 37.1		
	comp=Z,250nm,19.6s,baz=36,slow=32								
UBPT	**Khong Chiam**	**37.50**	**268**	P	**P**	**P**	**12 57 45.1**	**+1.8**	
UBPT				IAmb	IAmb	IAmb	12 57 48.2		
	comp=Z,46nm,1.6s								
CD2	**Chengdu**	**37.83**	**294**	*eP*	**P**	**P**	**12 57 46.0**	**0.0**	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
MA2	**Magadan**	**38.87**	**5**	LR	LR	LR	13 12 18.0		
	comp=Z,77nm,22.0s,baz=192,slow=34								
SHEM	**Shemya Is, Ala**	**39.07**	**28**	LR	LR	LR	13 11 04.2		
	comp=Z,515nm,21.5s,baz=266,slow=32								
PZH	**PanZhiHua**	**39.45**	**287**	P	**P**	**P**	**12 57 59.5**	**-0.2**	
PZH				S	**S**	**S**	**13 03 59.5**	**+0.7**	
PZH				pmax	pmax				
	comp=Z,20nm,0.9s								
PZH				pmax	pmax				
	comp=Z,120nm,5.2s								
PZH				LR	LR				
	comp=Z,310nm,15.1s								
PZH				LR	LR				
	comp=Z,510nm,16.0s								
PZH				LR	LR				
	comp=Z,760nm,19.1s								
ULN	**Ulaanbaatar**	**40.37**	**321**	P	**P**	**P**	**12 58 06.4**	**-0.7**	
ULN	**Ulaanbaatar**	**40.37**	**321⇑**	*eP*	**P**	**P**	**12 58 07.3**	**+0.2**	
ULN				pmax	pmax				
	comp=Z,19nm,2.5s								
SONM	**Songino Array**	**40.74**	**320**	P	**P**	**P**	**12 58 10.1**	**-0.1**	
	comp=Z,3.7nm,0.9s,baz=132,slow=8.1,SNR=13								
SONM				LR	LR	LR	13 16 32.9		
	comp=Z,132nm,18.1s,baz=99,slow=38								
	comp=Z,3.7nm,0.9s								
CTA	**Charters Tower**	**40.79**	**178**	LR	LR	LR	13 12 45.2		
	comp=Z,126nm,20.4s,baz=342,slow=33								
WB0	**Warramunga Arr**	**41.64**	**194**	P	**P**	**P**	**12 58 17.3**	**-0.3**	
WB0				IAmb	IAmb	IAmb	12 58 19.2		
	comp=Z,39nm,1.2s								
WRAB	**Tennant Creek**	**41.81**	**194**	*ceP*	**P**	**P**	**12 58 19.3**	**+0.3**	
WRAB				pmax	pmax				
	comp=Z,66nm,1.7s								
WRAB	**Tennant Creek**	**41.81**	**194**	P	**P**	**P**	**12 58 18.4**	**-0.6**	
WRAB				sP	**sP**	**sP**	**12 58 35.8**	**+0.1**	
WRA	**Warramunga Arr**	**41.82**	**194**	P	**P**	**P**	**12 58 18.8**	**-0.3**	
	comp=Z,17nm,1.1s,baz=18,slow=8.6,SNR=45								
WRA				LR	LR	LR	13 14 31.9		
	comp=Z,355nm,21.4s,baz=6.0,slow=34								
	comp=Z,17nm,1.1s								
WRA	**Warramunga Arr**	**41.82**	**194**	P	**P**	**P**	**12 58 19.2**	**+0.1**	
WRA	**Warramunga Arr**	**41.82**	**194**	P	**P**	**P**	**12 58 19.2**	**+0.1**	
WRA				pmax	pmax				
	comp=Z,4.0nm,1.4s								
YAK	**Yakutsk**	**42.35**	**350**	LR	LR	LR	13 17 42.0		
	comp=Z,52nm,21.0s,baz=89,slow=38								
YAK	**Yakutsk**	**42.35**	**350**	P	**P**	**P**	**12 58 22.5**	**-0.4**	
YAK	**Yakutsk**	**42.35**	**350**	*ceP*	**P**	**P**	**12 58 22.8**	**-0.1**	
YAK				pmax	pmax				
	comp=Z,35nm,0.8s								
YAK	**Yakutsk**	**42.35**	**350**	P	**P**	**P**	**12 58 22.9**	**-0.1**	
GTA	**Gaotai**	**42.36**	**306**	*eP*	**P**	**P**	**12 58 23.5**	**0.0**	
GTA				pP	pP	pP	12 58 36.0	+0.9	
GTA				sP	sP	sP	12 58 40.5	+0.4	
GTA				pmax	pmax				
	comp=Z,7.0nm,1.9s								
GTA				pmax	pmax				
	comp=Z,140nm,6.5s								
GTA				LR	LR				
	comp=Z,280nm,16.4s								
GTA				LR	LR				
	comp=Z,140nm,17.8s								
GTA				LR	LR				
	comp=Z,120nm,18.2s								
CHTO	**Chiang Mai**	**42.83**	**275**	P	**P**	**P**	**12 58 27.7**	**+0.2**	
CHTO	**Chiang Mai**	**42.83**	**275**	P	**P**	**P**	**12 58 27.7**	**+0.2**	
CM31	**Chiang Mai Arr**	**42.90**	**275**	P	**P**	**P**	**12 58 29.4**	**+1.3**	
CM31				IAmb	IAmb	IAmb	12 58 32.5		
	comp=Z,50nm,1.8s								
CMAR	**Chiang Mai Arr**	**42.90**	**275**	P	**P**	**P**	**12 58 30.0**	**+2.0**	
	comp=Z,3.0nm,0.7s,baz=88,slow=5.0,SNR=19								
CMAR				LR	LR	LR	13 16 21.6		
	comp=Z,114nm,19.1s,baz=85,slow=36								
	comp=Z,3.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**42.90**	**275**	P	**P**	**P**	**12 58 29.6**	**+1.6**	
CMAR	**Chiang Mai Arr**	**42.90**	**275**	*ceP*	**P**	**P**	**12 58 30.5**	**+2.5**	
CMAR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
FITZ	**Fitzroy Crossi**	**42.98**	**207**	LR	LR	LR	13 14 32.2		
	comp=Z,54nm,21.4s,baz=78,slow=33								
ZAK	**Zakamensk**	**43.73**	**322**	*eP*	**P**	**P**	**12 58 33.7**	**-0.8**	
ZAK				pmax	pmax				
	comp=Z,8.0nm,1.8s								
AS31	**Alice Springs**	**45.51**	**194**	P	**P**	**P**	**12 58 48.9**	**+0.2**	
ASAR	**Alice Springs**	**45.51**	**194**	P	**P**	**P**	**12 58 48.0**	**-0.7**	
	comp=Z,4.6nm,0.9s,baz=16,slow=7.9,SNR=34								
ASAR				LR	LR	LR	13 16 37.6		
	comp=Z,248nm,21.6s,baz=6.0,slow=34								
	comp=Z,4.6nm,0.9s								
ASAR	**Alice Springs**	**45.51**	**194**	P	**P**	**P**	**12 58 48.3**	**-0.5**	
ASAR	**Alice Springs**	**45.51**	**194**	P	**P**	**P**	**12 58 48.3**	**-0.5**	
LEM	**Lembang**	**45.56**	**237**	LR	LR	LR	13 19 27.3		
	comp=Z,153nm,19.2s,baz=29,slow=38								
GOMU	**GeErMu**	**45.77**	**301**	P	**P**	**P**	**12 58 52.5**	**+1.3**	
GOMU				pmax	pmax				
	comp=Z,9.0nm,0.8s								
GOMU				pmax	pmax				
	comp=Z,100nm,3.8s								
DZM	**Mont Dzumac**	**47.78**	**152**	*eLR*	LR	LR	13 12 43.0		
	comp=Z,365nm,25.1s								
DZM	**Mont Dzumac**	**47.78**	**152**	LR	LR	LR	13 16 59.0		
	comp=Z,156nm,21.5s,baz=32,slow=33								
NIKH	**Nikolski High**	**47.84**	**36**	P	**P**	**P**	**12 59 06.6**	**0.0**	
	baz=246								
PSI	**Prapat**	**47.91**	**254**	LR	LR	LR	13 16 46.2		
	comp=Z,86nm,22.0s,baz=66,slow=33								
MBWA	**Marble Bar**	**48.34**	**212**	P	**P**	**P**	**12 59 11.4**	**+0.5**	
BRDH	**Bariadhala**	**48.94**	**282**	LR	LR	LR	13 21 54.1		
	comp=Z,120nm,19.5s,baz=90,slow=38								
BILL	**Bilibino**	**49.04**	**11⇓**	*eP*	**P**	**P**	**12 59 17.2**	**+1.5**	
BILL				*e*PP	**pwP**	**pwP**	**12 59 29.5**	**-1.0**	
BILL				*e*SP	**sP**	**sP**	**12 59 34.5**	**+2.0**	
BILL				pmax	pmax				
	comp=Z,123nm,3.5s								
BILL				MLR	MLR				
	comp=Z,200nm,17.0s								
MSVF	**Nonsavu**	**50.54**	**137**	P	**P**	**P**	**12 59 26.9**	**-0.9**	
	comp=Z,7.5nm,1.0s,baz=246,slow=6.9,SNR=4.8								
MSVF				LR	LR	LR	13 19 43.2		
	comp=Z,78nm,18.9s,baz=338,slow=35								
	comp=Z,7.5nm,1.0s								
MSVF	**Nonsavu**	**50.54**	**137⇓**	*eP*	**P**	**P**	**12 59 26.7**	**-1.1**	
MSVF				pmax	pmax				
	comp=Z,92nm,4.4s								
WMQ	**Urumqi**	**52.05**	**310**	*eP*	**P**	**P**	**12 59 38.8**	**-0.1**	
WMQ				pmax	pmax				
	comp=Z,24nm,1.3s								
WMQ				LR	LR				
	comp=Z,120nm,23.1s								
STKA	**Stephens Creek**	**52.57**	**183**	P	**P**	**P**	**12 59 41.0**	**-1.6**	
	comp=Z,7.5nm,1.1s,baz=11,slow=5.2,SNR=3.3								
STKA				LR	LR		13 23 34.3		
	comp=Z,165nm,18.2s,baz=10,slow=38								
	comp=Z,7.5nm,1.1s								
DGZ	**Jazzator, Alta**	**53.16**	**317**	*diP*	**P**	**P**	**12 59 47.2**	**+0.1**	
DGZ				*i* *PP	**pwP**	**pwP**	**13 00 00.7**	**-2.0**	
DGZ				pmax	pmax				
	comp=Z,10.0nm,1.0s								
AFI	**Afiamalu**	**55.12**	**125**	LR	LR	LR	13 19 07.3		
	comp=Z,88nm,20.8s,baz=312,slow=31								
ZALV	**Zalesovo Beam**	**55.61**	**322**	P	**P**	**P**	**13 00 03.6**	**-0.9**	
	comp=Z,3.1nm,0.7s,baz=102,slow=6.5,SNR=14								
ZALV				LR	LR	LR	13 23 24.8		
	comp=Z,78nm,21.4s,baz=77,slow=35								
	comp=Z,3.1nm,0.7s								
ZALV	**Zalesovo Beam**	**55.61**	**322**	P	**P**	**P**	**13 00 03.3**	**-1.2**	
ZALV	**Zalesovo Beam**	**55.61**	**322**	*i* P	**P**	**P**	**13 00 03.7**	**-0.9**	
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MK31	**Makanchi Array**	**56.16**	**313**	P	**P**	**P**	**13 00 09.0**	**+0.3**	
MK31	**Makanchi Array**	**56.16**	**313**	P	**P**	**P**	**13 00 09.0**	**+0.3**	
MK31				pmax	pmax				
	comp=Z,8.0nm,1.1s								
MKAR	**Makanchi Array**	**56.16**	**313**	P	**P**	**P**	**13 00 08.5**	**-0.2**	
	comp=Z,2.5nm,0.6s,baz=92,slow=8.5,SNR=26								
MKAR				LR	LR	LR	13 24 36.1		
	comp=Z,76nm,20.5s,baz=88,slow=36								
	comp=Z,2.5nm,0.6s								
MKAR	**Makanchi Array**	**56.16**	**313**	P	**P**	**P**	**13 00 08.7**	**0.0**	
MKAR	**Makanchi Array**	**56.16**	**313**	P	**P**	**P**	**13 00 08.7**	**0.0**	
O17K	**Koliganek Bris**	**56.34**	**31**	P	**P**	**P**	**13 00 09.6**	**-0.1**	
	baz=253								
MAKZ	**Makanchi**	**56.37**	**313**	P	**P**	**P**	**13 00 09.2**	**-1.0**	
MAKZ	**Makanchi**	**56.37**	**313**	P	**P**	**P**	**13 00 09.3**	**-0.9**	
MAKZ	**Makanchi**	**56.37**	**313**	P	**P**	**P**	**13 00 10.2**	**-0.1**	
SII	**Sitkinak Islan**	**57.02**	**35**	P	**P**	**P**	**13 00 14.2**	**-0.4**	
	baz=258								
Q18K	**Katmai Hardscr**	**57.07**	**33**	P	**P**	**P**	**13 00 14.3**	**-0.8**	
	baz=256								
O18K	**Koktuh Hills**	**57.28**	**31**	P	**P**	**P**	**13 00 16.2**	**-0.2**	
	baz=255								
PDGK	**Podgornoye**	**57.97**	**309**	P	**P**	**P**	**13 00 21.4**	**-0.3**	
L19K	**White Mountain**	**58.08**	**29**	P	**P**	**P**	**13 00 22.3**	**+0.3**	
	baz=254								
KDAK	**Kodiak Island**	**58.12**	**34**	LR	LR	LR	13 22 06.7		
	comp=Z,349nm,21.9s,baz=253,slow=33								
M19K	**Big River Lodg**	**58.21**	**29**	P	**P**	**P**	**13 00 22.9**	**0.0**	
	baz=254								
Q20K	**Shuyak Island**	**58.39**	**33**	P	**P**	**P**	**13 00 24.1**	**0.0**	
	baz=258								
K20K	**Telida**	**58.76**	**28**	P	**P**	**P**	**13 00 26.7**	**0.0**	
K20K				IAmb	IAmb	IAmb	13 00 29.9		
	comp=Z,20nm,1.4s								
K20K	**Telida**	**58.76**	**28**	P	**P**	**P**	**13 00 27.0**	**+0.3**	
	baz=254								
M20K	**Styx River**	**58.78**	**29**	P	**P**	**P**	**13 00 26.9**	**-0.1**	
	baz=256								
KURK	**Kurchatov**	**58.91**	**317**	P	**P**	**P**	**13 00 27.1**	**-0.8**	
KURK	**Kurchatov**	**58.91**	**317**	*de*P	**P**	**P**	**13 00 27.2**	**-0.8**	
KURK				pmax	pmax				
	comp=Z,26nm,1.7s								
KURK	**Kurchatov**	**58.91**	**317**	P	**P**	**P**	**13 00 27.1**	**-0.8**	
KURBB	**Kurchatov Arra**	**58.96**	**317**	LR	LR	LR	13 25 41.2		
	comp=Z,61nm,21.8s,baz=75,slow=36								
KURBB	**Kurchatov Arra**	**58.96**	**317**	P	**P**	**P**	**13 00 27.7**	**-0.6**	
J20K	**Nowinta River**	**58.96**	**27**	P	**P**	**P**	**13 00 28.5**	**+0.5**	
J20K				IAmb	IAmb	IAmb	13 00 31.3		
	comp=Z,22nm,1.4s								
J20K	**Nowinta River**	**58.96**	**27**	P	**P**	**P**	**13 00 28.9**	**+0.8**	
	baz=253								
NRIK	**Noril'sk**	**59.16**	**340**	P	**P**	**P**	**13 00 28.1**	**-1.3**	
	comp=Z,1.9nm,0.3s,baz=123,slow=6.7,SNR=4.7								
NRIK				LR	LR	LR	13 26 17.0		
	comp=Z,82nm,20.9s,baz=116,slow=36								
	comp=Z,1.9nm,0.3s								
NRIK	**Noril'sk**	**59.16**	**340⇑**	*eP*	**P**	**P**	**13 00 29.1**	**-0.3**	
NRIK				pmax	pmax				
	comp=Z,11nm,1.5s								
PPLA	**Purkeypile**	**59.46**	**28**	P	**P**	**P**	**13 00 31.8**	**+0.1**	
PPLA	**Purkeypile**	**59.46**	**28**	P	**P**	**P**	**13 00 31.2**	**-0.5**	
	baz=256								
SKT	**Skwentna**	**59.54**	**29**	P	**P**	**P**	**13 00 31.6**	**-0.5**	
	baz=257								
NWAO	**Narrogin (SRO)**	**59.56**	**207**	LR	LR	LR	13 26 15.2		
	comp=Z,93nm,19.8s,baz=110,slow=36								
CAST	**Castle Rocks**	**59.63**	**28**	IAmb	IAmb	IAmb	13 00 35.4		
	comp=Z,15nm,1.2s								
CAST	**Castle Rocks**	**59.63**	**28**	P	**P**	**P**	**13 00 33.1**	**+0.3**	
	baz=256								
G21K	**Allakaket**	**59.91**	**24**	P	**P**	**P**	**13 00 34.7**	**+0.2**	
	baz=252								
H21K	**Melozitna Rive**	**59.93**	**25**	P	**P**	**P**	**13 00 35.0**	**+0.2**	
	baz=254								
I21K	**Tanana**	**60.13**	**26**	P	**P**	**P**	**13 00 36.2**	**0.0**	
	baz=255								
M22K	**Willow**	**60.15**	**30**	P	**P**	**P**	**13 00 35.6**	**-0.7**	
	baz=258								
SEW	**Seward**	**60.15**	**32**	P	**P**	**P**	**13 00 36.2**	**-0.1**	
	baz=260								
KTH	**Kantishna Hill**	**60.17**	**28**	P	**P**	**P**	**13 00 36.1**	**-0.4**	
KTH				IAmb	IAmb	IAmb	13 00 38.6		
	comp=Z,10nm,1.0s								
RC01	**Rabbit Creek A**	**60.20**	**31**	P	**P**	**P**	**13 00 35.7**	**-1.0**	
	baz=259								
CUT	**Chulitna**	**60.21**	**29**	P	**P**	**P**	**13 00 35.9**	**-0.8**	
	baz=258								
BPAW	**Bear Paw Mtn.**	**60.27**	**27**	IAmb	IAmb	IAmb	13 00 40.2		
	comp=Z,22nm,1.5s								
BPAW	**Bear Paw Mtn.**	**60.27**	**27**	P	**P**	**P**	**13 00 37.4**	**+0.2**	
	baz=256								
TRF	**Thorofare Moun**	**60.43**	**28**	P	**P**	**P**	**13 00 37.6**	**-0.8**	
	baz=257								
PMR	**Palmer**	**60.58**	**30**	IAmb	IAmb	IAmb	13 00 39.9		
	comp=Z,18nm,1.4s								
PMR	**Palmer**	**60.58**	**30**	P	**P**	**P**	**13 00 38.6**	**-0.5**	
	baz=259								
MLY	**Manley**	**60.60**	**26**	IAmb	IAmb	IAmb	13 00 42.1		
	comp=Z,18nm,1.4s								
MLY	**Manley**	**60.60**	**26**	P	**P**	**P**	**13 00 39.8**	**+0.4**	
	baz=256								
F22K	**John River**	**60.70**	**23**	P	**P**	**P**	**13 00 40.1**	**+0.1**	
	baz=253								
KSH	**Kashi**	**60.72**	**304**	P	**P**	**P**	**13 00 44.5**	**+3.8**	
KSH				pmax	pmax				
	comp=Z,8.0nm,0.9s								
G22K	**Bettles**	**60.79**	**24**	P	**P**	**P**	**13 00 40.8**	**+0.3**	
	baz=254								
PWL	**Port Wells**	**60.83**	**31**	IAmb	IAmb	IAmb	13 00 42.0		
	comp=Z,21nm,1.4s								
PWL	**Port Wells**	**60.83**	**31**	P	**P**	**P**	**13 00 41.0**	**0.0**	
	baz=261								
KNK	**Knik Glacier**	**60.86**	**30**	P	**P**	**P**	**13 00 41.1**	**-0.1**	
	baz=260								
SML	**Sawmill**	**60.99**	**30**	P	**P**	**P**	**13 00 41.5**	**-0.6**	
	baz=260								
WAT1	**Susitna Watana**	**61.07**	**29**	P	**P**	**P**	**13 00 42.0**	**-0.7**	
	baz=259								
MCK	**McKinley**	**61.08**	**28**	IAmb	IAmb	IAmb	13 01 14.7		
	comp=Z,20nm,1.5s								
MCK	**McKinley**	**61.08**	**28**	P	**P**	**P**	**13 00 42.6**	**-0.1**	
	baz=258								
I23K	**Minto, Yukon-K**	**61.20**	**26**	P	**P**	**P**	**13 00 43.8**	**+0.5**	
	baz=257								
NEA2	**Nenana**	**61.20**	**27**	IAmb	IAmb	IAmb	13 00 59.6		
	comp=Z,24nm,2.0s								
NEA2	**Nenana**	**61.20**	**27**	P	**P**	**P**	**13 00 42.9**	**-0.5**	
	baz=258								
H23K	**Yukon River**	**61.28**	**25**	P	**P**	**P**	**13 00 44.3**	**+0.3**	
	baz=257								
G23K	**Bananza Creek**	**61.30**	**24**	P	**P**	**P**	**13 00 44.2**	**+0.1**	
	baz=256								
COLD	**Coldfoot**	**61.36**	**24**	P	**P**	**P**	**13 00 44.4**	**0.0**	
COLD	**Coldfoot**	**61.36**	**24**	P	**P**	**P**	**13 00 44.5**	**0.0**	
	baz=255								
WAT6	**Susitna Watana**	**61.40**	**29**	P	**P**	**P**	**13 00 44.6**	**-0.3**	
	baz=260								
GLI	**Glacier Island**	**61.43**	**31**	P	**P**	**P**	**13 00 44.6**	**-0.4**	
	baz=262								
SCM	**Sheep Creek Mo**	**61.46**	**30**	P	**P**	**P**	**13 00 45.2**	**-0.2**	
	baz=261,SNR=5.7								
AAK	**Ala-Archa**	**61.65**	**308**	LR	LR	LR	13 30 24.8		
	comp=Z,87nm,18.3s,baz=98,slow=39								
AAK	**Ala-Archa**	**61.65**	**308⇑**	*eP*	**P**	**P**	**13 00 47.9**	**+0.9**	
AAK				pmax	pmax				
	comp=Z,7.0nm,1.7s								
DHY	**Denali Highway**	**61.65**	**29**	P	**P**	**P**	**13 00 46.2**	**-0.5**	
	baz=260								
D23K	**Nanushuk River**	**61.65**	**22**	P	**P**	**P**	**13 00 46.8**	**+0.4**	
	baz=254								
CCB	**Clear Creek Bu**	**61.74**	**27**	IAmb	IAmb	IAmb	13 00 48.6		
	comp=Z,30nm,2.0s								
E23K	**Chandalar**	**61.79**	**23**	P	**P**	**P**	**13 00 47.4**	**-0.1**	
	baz=256								
C23K	**Itkillik River**	**61.92**	**21**	P	**P**	**P**	**13 00 48.6**	**+0.4**	
	baz=254								
TOLK	**Toolik Lake Re**	**61.95**	**22**	P	**P**	**P**	**13 00 48.5**	**0.0**	
	baz=255								
EYAK	**Cordova Ski Ar**	**62.04**	**32**	P	**P**	**P**	**13 00 49.4**	**+0.3**	
	baz=263								
HDA	**Harding Lake**	**62.06**	**27**	P	**P**	**P**	**13 00 48.0**	**-1.3**	
	baz=260								
KLU	**Klutina**	**62.08**	**31**	P	**P**	**P**	**13 00 50.0**	**+0.5**	
	baz=262								
ILAR	**Eielson Array**	**62.15**	**27**	P	**P**	**P**	**13 00 48.5**	**-1.4**	
	comp=Z,2.7nm,0.9s,baz=256,slow=6.0,SNR=15								
ILAR				LR	LR		13 25 19.4		
	comp=Z,246nm,22.0s,baz=258,slow=34								
	comp=Z,2.7nm,0.9s								
E24K	**Your Creek**	**62.20**	**23**	P	**P**	**P**	**13 00 50.5**	**+0.3**	
	baz=257								
G24K	**Hadweenzic Riv**	**62.28**	**25**	P	**P**	**P**	**13 00 50.8**	**+0.1**	
	baz=258								
F24K	**Squaw Lake**	**62.30**	**24**	P	**P**	**P**	**13 00 50.6**	**-0.3**	
	baz=257								
D24K	**Happy Valley**	**62.34**	**22**	P	**P**	**P**	**13 00 51.4**	**+0.4**	
	baz=256								
K24K	**Donnelly Dome**	**62.47**	**28**	P	**P**	**P**	**13 00 51.8**	**-0.2**	
	baz=261								
PAX	**Paxson**	**62.49**	**29**	IAmb	IAmb	IAmb	13 00 53.7		
	comp=Z,17nm,1.5s								
PAX	**Paxson**	**62.49**	**29**	P	**P**	**P**	**13 00 52.0**	**-0.3**	
	baz=262								
HARP	**HAARP**	**62.56**	**30**	P	**P**	**P**	**13 00 52.4**	**-0.2**	
	baz=263								
KAIM	**Kayak Island**	**62.63**	**32**	P	**P**	**P**	**13 00 53.4**	**+0.3**	
	baz=265								
BMRM	**Bremner River**	**62.65**	**31**	IAmb	IAmb	IAmb	13 01 09.4		
	comp=Z,10nm,1.1s								
BMRM	**Bremner River**	**62.65**	**31**	P	**P**	**P**	**13 00 53.3**	**+0.1**	
	baz=264								
N25K	**Chitina, Valde**	**62.72**	**31**	P	**P**	**P**	**13 00 54.0**	**+0.3**	
	baz=264								
J25K	**Salcha River,**	**62.77**	**27**	P	**P**	**P**	**13 00 53.4**	**-0.7**	
	baz=261								
H25K	**Birch Creek**	**62.85**	**25**	P	**P**	**P**	**13 00 54.4**	**-0.1**	
	baz=260								
RIDG	**Independent Ri**	**62.87**	**28**	P	**P**	**P**	**13 00 54.5**	**-0.2**	
	baz=262								
PALK	**Pallekele**	**63.03**	**268**	LR	LR	LR	13 27 15.1		
	comp=Z,94nm,19.2s,baz=171,slow=35								
GLB	**Gilahina Butte**	**63.08**	**31**	IAmb	IAmb	IAmb	13 00 57.8		
	comp=Z,23nm,1.4s								
FYU	**Fort Yukon**	**63.14**	**25**	P	**P**	**P**	**13 00 56.8**	**+0.5**	
F25K	**Christian Rive**	**63.16**	**24**	P	**P**	**P**	**13 00 56.0**	**-0.5**	
	baz=260								
DOT	**Dot Lake**	**63.21**	**28**	IAmb	IAmb	IAmb	13 00 58.0		
	comp=Z,20nm,1.6s								
SCRK	**Sand Creek**	**63.28**	**28**	P	**P**	**P**	**13 00 57.4**	**-0.2**	
SCRK				IAmb	IAmb	IAmb	13 00 58.5		
	comp=Z,30nm,1.7s								
SCRK	**Sand Creek**	**63.28**	**28**	P	**P**	**P**	**13 00 57.1**	**-0.5**	
	baz=263								
E25K	**Arctic Village**	**63.28**	**23**	P	**P**	**P**	**13 00 57.7**	**+0.3**	
	baz=259								
MCARA	**McCarthy VSAT**	**63.45**	**31**	P	**P**	**P**	**13 00 58.6**	**+0.1**	
	baz=265								
J26L	**Joseph Creek**	**63.53**	**27**	IAmb	IAmb	IAmb	13 01 13.7		
	comp=Z,19nm,1.4s								
J26L	**Joseph Creek**	**63.53**	**27**	P	**P**	**P**	**13 00 59.3**	**+0.2**	
	baz=263								
M26K	**Nabesna, AK**	**63.56**	**30**	P	**P**	**P**	**13 00 59.2**	**-0.1**	
	baz=265								
F26K	**Sheenjek River**	**63.74**	**24**	P	**P**	**P**	**13 01 00.4**	**+0.1**	
	baz=261								
G26K	**Porcupine Rive**	**63.77**	**25**	P	**P**	**P**	**13 01 01.2**	**+0.7**	
	baz=262								
M27K	**Edge Creek, AK**	**64.07**	**30**	IAmb	IAmb	IAmb	13 01 04.5		
	comp=Z,19nm,1.6s								
M27K	**Edge Creek, AK**	**64.07**	**30**	P	**P**	**P**	**13 01 03.0**	**+0.2**	
	baz=266								
BVAR	**Borovoye Array**	**64.08**	**320**	LR	LR	LR	13 30 27.1		
	comp=Z,84nm,18.7s,baz

O30N	**Mendenhall** baz=272	**66.80**	**32**	P	**P**	**13 01 20.8**	**+0.4**
MAYO	**Mayo, Yukon** baz=270	**66.85**	**29**	P	**P**	**13 01 21.2**	**+0.7**
N31M	**Braeburn, Yuko** comp=Z,22nm,1.5s	**66.93**	**31**	IAmb	IAmb	13 01 23.4	
N31M	**Braeburn, Yuko** baz=272	**66.93**	**31**	P	**P**	**13 01 21.3**	**+0.1**
WHY	**Whitehorse** baz=273	**67.40**	**32**	P	**P**	**13 01 23.8**	**-0.4**
M31M	**Drury Creek, Y** baz=272	**67.57**	**30**	P	**P**	**13 01 25.1**	**-0.1**
R32K	**Eaglecrest** baz=274	**67.72**	**34**	P	**P**	**13 01 26.4**	**+0.2**
INK	**Inuvik** comp=Z,4.9nm,1.0s,baz=268,slow=11,SNR=3.5	**67.77**	**23**	P	**P**	**13 01 23.9**	**-2.4**
INK	comp=Z,101nm,21.2s,baz=270,slow=35 comp=Z,4.9nm,1.0s			LR	LR	13 30 19.8	
INK	**Inuvik** baz=271	**67.77**	**23**	P	**P**	**13 01 26.1**	**-0.1**
FARO	**Faro, Yukon** comp=Z,17nm,1.5s	**68.05**	**30**	IAmb	IAmb	13 01 29.9	
FARO	**Faro, Yukon** baz=273	**68.05**	**30**	P	**P**	**13 01 28.1**	**-0.1**
N32M	**Quiet Lake** baz=274	**68.25**	**31**	P	**P**	**13 01 29.9**	**+0.4**
P33M	**Teslin, Yukon** baz=275	**68.45**	**32**	P	**P**	**13 01 30.8**	**0.0**
RAR	**Rarotonga** comp=Z,68nm,21.6s,baz=293,slow=30	**68.65**	**124**	LR	LR	13 24 36.0	
MMPY	**Sheldon Lake,** baz=275	**68.99**	**30**	P	**P**	**13 01 34.5**	**+0.4**
WRAK	**Wrangell Islan** baz=276	**69.06**	**36**	P	**P**	**13 01 34.6**	**+0.1**
S34M	**Telegraph Cree** baz=277	**69.54**	**35**	P	**P**	**13 01 38.0**	**+0.6**
DLBC	**Dease Lake** comp=Z,86nm,22.0s,baz=286,slow=34	**70.06**	**34**	LR	LR	13 29 42.4	
DLBC	**Dease Lake** comp=Z,32nm,1.7s	**70.06**	**34**	IAmb	IAmb	13 01 43.0	
DLBC	**Dease Lake** baz=278	**70.06**	**34**	P	**P**	**13 01 41.2**	**+0.5**
WTLY	**Watson Lake, Y** baz=278	**70.46**	**32**	P	**P**	**13 01 43.6**	**+0.5**
TGTN	**Hyland Airport** baz=278	**70.52**	**31**	P	**P**	**13 01 44.1**	**+0.6**
ARU	**Arti** comp=Z,63nm,18.7s,baz=113,slow=37	**70.64**	**324**	LR	LR	13 34 04.7	
ARU ARU	**Arti**	**70.64**	**324**	*d i* P	**P**	**13 01 43.3** 13 04 17.3	**-0.9**
ARU				S	**S**	**13 10 54.6**	**-0.2**
ARU				SS	**SS**	**13 15 20.2**	**-6.4**
ARU	comp=Z,13nm,1.8s			pmax	pmax		
AB31	**Akbulak array**	**70.99**	**316**	*i* P	**P**	**13 01 45.8**	**-0.7**
ABKAR	**Akbulak array**	**70.99**	**316**	P	**P**	**13 01 46.0**	**-0.5**
ABKAR	**Akbulak array** comp=Z,6.9nm,0.7s	**70.99**	**316**	IAmb	IAmb	13 01 47.2	
AKTO	**Aktyubinsk** comp=Z,70nm,18.3s,baz=83,slow=38	**72.00**	**318**	LR	LR	13 35 38.1	
BBB	**Bella Bella** comp=Z,161nm,22.0s,baz=273,slow=30	**72.16**	**40**	LR	LR	13 26 29.8	
GEYT	**Alibeck** comp=Z,1.7nm,0.4s,baz=23,slow=8.0,SNR=4.8	**74.73**	**305**	P	**P**	**13 02 08.1**	**-0.9**
GEYT				LR	LR	13 38 35.6	
KIRV	**Kirov** comp=Z,40nm,20.3s,baz=136,slow=38 comp=Z,1.7nm,0.4s	**75.02**	**327**	*e* P	**P**	**13 02 10.9**	**+0.8**
PPT	**Papeete**	**75.05**	**116**	LR	LR	13 27 18.5	
PPT2	**Papeete2** comp=Z,193nm,21.2s,baz=318,slow=29 comp=Z,400nm,24.2s	**75.06**	**116**	*e* LR	LR	13 25 21.5	
LLLB	**Lillooet** comp=Z,32nm,1.7s	**76.32**	**41**	IAmb	IAmb	13 02 19.9	
YKA	**Yellowknife Ar** comp=Z,5.3nm,0.8s,baz=287,slow=5.1,SNR=3.8	**76.55**	**28**	P	**P**	**13 02 18.5**	**-0.2**
YKA	comp=Z,152nm,20.4s,baz=288,slow=36 comp=Z,5.3nm,0.8s			LR	LR	13 36 20.1	
SPITS	**Spitsbergen Ar** comp=Z,29nm,21.6s,baz=354,slow=36	**76.81**	**350**	LR	LR	13 37 11.8	
RES	**Resolute Bay** comp=Z,49nm,21.7s,baz=348,slow=36	**77.53**	**14**	LR	LR	13 37 01.7	
BELG	**Belogornoye** comp=Z,72nm,20.0s,baz=146,slow=37	**77.79**	**322**	LR	LR	13 38 38.6	
BELG BELG	**Belogornoye** comp=Z,3.0nm,0.9s	**77.79**	**322**	*ce* P	**P**	**13 02 26.3**	**+0.4**
H04A	**Detroit Lake** comp=Z,19nm,1.3s	**77.84**	**47**	IAmb	IAmb	13 02 28.9	
HOOD	**Mount Hood Mea** comp=Z,31nm,1.5s	**78.01**	**46**	IAmb	IAmb	13 02 29.6	
YBH	**Yreka Blue Hor** comp=Z,124nm,21.4s,baz=293,slow=30	**78.35**	**50**	LR	LR	13 30 22.1	
WSAR	**Wadi Sarin** comp=Z,42nm,18.9s,baz=124,slow=38	**78.43**	**291**	LR	LR	13 40 08.8	
APA APA	**Apatity** comp=Z,7.0nm,0.7s	**78.56**	**339**	*i* P	**P**	**13 02 26.6**	**-3.3**
J05D	**Fort Rock, OR** baz=288	**78.92**	**48**	P	**P**	**13 02 33.2**	**+0.6**
PINE	**Pine Mountain** comp=Z,35nm,1.4s	**78.96**	**47**	IAmb	IAmb	13 02 35.1	
KLMR KLMR	**Klimovskoe** comp=Z,20nm,1.6s	**79.00**	**331**	*e* P	**P**	**13 02 30.0**	**-2.4**
KLMR KLMR	**Klimovskoe** comp=Z,20nm,1.6s	**79.00**	**331**	*e* P AMP	**P**	**13 02 30.0** 13 02 33.9	**-2.4**
HAWA	**Hanford** comp=Z,23nm,1.5s	**79.08**	**45**	IAmb	IAmb	13 02 35.3	
D08A	**Wollman Farm,** comp=Z,23nm,1.7s	**79.26**	**44**	IAmb	IAmb	13 02 43.3	
C09A	**Chrisman Ranch** comp=Z,40nm,1.9s	**79.43**	**43**	IAmb	IAmb	13 02 36.8	
TAOE	**Nuku Hiva Isla** comp=Z,204nm,23.6s	**79.63**	**104**	*e* LR	LR	13 27 28.2	
E09A	**Wood Farm, Sta** comp=Z,29nm,1.7s	**79.95**	**44**	IAmb	IAmb	13 02 40.6	
NEW	**Newport** comp=Z,314nm,21.9s,baz=300,slow=30	**80.01**	**42**	LR	LR	13 31 10.4	
NEW	**Newport** comp=Z,23nm,1.6s	**80.01**	**42**	IAmb	IAmb	13 02 40.7	
NEW	**Newport** baz=290	**80.01**	**42**	P	**P**	**13 02 38.8**	**+0.5**
ARCES	**ARCESS Array B** comp=Z,3.6nm,0.6s,baz=74,slow=7.7,SNR=16	**80.06**	**342**	P	**P**	**13 02 37.3**	**-0.8**
ARCES	comp=Z,44nm,21.3s,baz=95,slow=38 comp=Z,3.6nm,0.6s			LR	LR	13 40 47.9	
ARCES	**ARCESS Array B**	**80.06**	**342**	P	**P**	**13 02 37.6**	**-0.5**
ARCES ARCES	**ARCESS Array B** comp=Z,69nm,1.9s	**80.06**	**342**	P pmax	**P** pmax	**13 02 37.6**	**-0.5**
BEKR	**Beckworth** comp=Z,22nm,1.4s	**80.64**	**51**	IAmb	IAmb	13 02 43.4	
WVOR	**Wild Horse Val** comp=Z,37nm,1.9s	**81.00**	**48**	IAmb	IAmb	13 02 45.7	
BMO	**Blue Mountains** comp=Z,23nm,1.4s	**81.07**	**45**	IAmb	IAmb	13 02 45.8	
CMB	**Columbia Colle** comp=Z,20nm,1.4s	**81.22**	**53**	IAmb	IAmb	13 02 46.6	
PNTR	**Pine Nut** comp=Z,19nm,1.4s	**81.45**	**52**	IAmb	IAmb	13 02 48.4	
VRH VRH	**Novokhopyorsk** comp=Z,8.0nm,0.5s	**81.64**	**322**	*e* P pmax	**P** pmax	**13 02 43.2**	**-3.6**
WALA	**Waterton Lakes** comp=Z,25nm,1.5s	**81.70**	**41**	IAmb	IAmb	13 02 49.6	
YERR	**Yerington** comp=Z,20nm,1.3s	**81.75**	**52**	IAmb	IAmb	13 02 49.7	
WAKR WAKR	**Walker** comp=Z,28nm,2.0s	**81.77**	**52**	P IAmb	**P** IAmb	**13 02 47.7** 13 02 53.3	**-0.3**
RYN	**Ryan** comp=Z,23nm,1.6s	**82.40**	**52**	IAmb	IAmb	13 02 53.1	
LHV	**Little Huntoon** comp=Z,15nm,1.2s	**82.54**	**52**	IAmb	IAmb	13 02 54.1	
MFID	**Camas Ranch** comp=Z,26nm,1.4s	**82.58**	**46**	IAmb	IAmb	13 02 53.9	
NVAR	**Mina Array Bea** comp=Z,2.5nm,0.7s,baz=272,slow=5.5,SNR=20	**82.63**	**52**	P	**P**	**13 02 53.0**	**+0.4**
NVAR	comp=Z,252nm,21.7s,baz=274,slow=30 comp=Z,2.5nm,0.7s			LR	LR	13 32 10.0	
LPSR LPSR	**Galich'ya Gora**	**82.66**	**324**	*e* P pmax	**P** pmax	**13 02 51.2**	**-1.0**
PKM	**Mcpherson Peak** baz=290,SNR=6.4	**82.73**	**56**	P	**P**	**13 02 53.5**	**+0.3**
NV11	**Mina Array Sit** comp=Z,14nm,1.2s	**82.74**	**52**	IAmb	IAmb	13 02 54.8	
OBN	**Obninsk** comp=Z,22nm,18.6s,baz=8.5,slow=37	**82.83**	**327**	LR	LR	13 41 46.4	
OBN OBN	**Obninsk** comp=Z,12nm,0.4s	**82.83**	**327**	*e* P pmax	**P** pmax	**13 02 54.3**	**+1.3**
OBN	comp=Z,88nm,15.0s			MLR	MLR		
VORR VORR	**Voronezh** comp=Z,60nm,0.3s	**82.89**	**323**	*e* P pmax	**P** pmax	**13 02 54.7**	**+1.3**
DSP	**Deep Springs** comp=Z,25nm,1.4s	**83.25**	**53**	IAmb	IAmb	13 02 57.6	
ARVC	**Arvin** baz=291	**83.40**	**55**	P	**P**	**13 02 56.5**	**+0.1**
HLID	**Hailey** baz=293,SNR=5.1	**83.48**	**46**	P	**P**	**13 02 56.6**	**-0.2**
ISA	**Isabella, Lake** baz=291	**83.48**	**54**	P	**P**	**13 02 56.3**	**-0.6**
CWC	**Cottonwood Cre** baz=291	**83.50**	**54**	P	**P**	**13 02 56.8**	**-0.3**
ZEI ZEI	**Tsey** comp=Z,12nm,1.3s	**83.50**	**313**	*e* P pmax	**P** pmax	**13 02 54.9**	**-2.1**
LCH	**Last Change Ra** comp=Z,22nm,1.6s	**83.54**	**53**	IAmb	IAmb	13 02 58.8	
KBZ	**Khabaz** comp=Z,5.3nm,0.9s,baz=113,slow=5.3,SNR=6.8	**83.82**	**314**	P	**P**	**13 02 58.8**	**+0.4**
KBZ	comp=Z,58nm,18.4s,baz=54,slow=39 comp=Z,5.3nm,0.9s			LR	LR	13 45 20.0	
KBZ KBZ	**Khabaz** comp=Z,5.0nm,0.9s	**83.82**	**314**	*e* P pmax	**P** pmax	**13 03 00.3**	**+2.0**
GRAC	**Grapevine Rang** baz=292	**83.84**	**53**	P	**P**	**13 02 58.6**	**-0.1**
ONI	**Oni**	**83.89**	**313**	P	**P**	**13 02 58.8**	**0.0**
ONI ONI	**Oni** comp=Z,66nm,1.8s	**83.89**	**313**	P pmax	**P** pmax	**13 02 58.8**	**0.0**
ELK	**Elko** comp=Z,152nm,20.5s,baz=316,slow=32	**83.98**	**49**	LR	LR	13 35 24.8	
MPMC	**Manual Prospec** baz=292,SNR=12	**84.09**	**54**	P	**P**	**13 03 00.1**	**0.0**
EDW2	**Edwards Air Fo** baz=291,SNR=6.4	**84.13**	**55**	P	**P**	**13 03 00.1**	**-0.1**
LRMC	**Laurel Mtn Rad** baz=292,SNR=7.2	**84.15**	**54**	P	**P**	**13 03 00.3**	**-0.1**
SCI2	**San Clemente I** baz=291	**84.39**	**57**	P	**P**	**13 03 01.7**	**+0.2**
FURC	**Furnace Creek,** baz=292,SNR=6.6	**84.41**	**53**	P	**P**	**13 03 01.7**	**+0.3**
FINES	**FINESS Array B** comp=Z,3.8nm,0.6s,baz=100,slow=6.4,SNR=19	**84.42**	**335**	P	**P**	**13 02 59.7**	**-1.3**
FINES	comp=Z,34nm,18.7s,baz=60,slow=37 comp=Z,3.8nm,0.6s			LR	LR	13 42 22.6	
WCT	**Wildcat Mounta** comp=Z,15nm,1.3s	**84.46**	**53**	IAmb	IAmb	13 03 03.4	
BOZ	**Bozeman (W)** comp=Z,21nm,1.8s	**84.50**	**43**	IAmb	IAmb	13 03 03.5	
BOZ	**Bozeman (W)** baz=294,SNR=5.8	**84.50**	**43**	P	**P**	**13 03 01.7**	**-0.3**
QSM	**Queen of Sheba** comp=Z,16nm,1.2s	**84.59**	**54**	IAmb	IAmb	13 03 03.9	
BFSC	**Mount Baldy Ra** baz=292	**84.62**	**56**	P	**P**	**13 03 02.4**	**-0.4**
R11A	**Troy Canyon, C** comp=Z,29nm,1.6s	**84.64**	**51**	IAmb	IAmb	13 03 04.7	
R11A	**Troy Canyon, C** baz=292,SNR=13	**84.64**	**51**	P	**P**	**13 03 02.8**	**-0.1**
EGMT	**Eagleton** baz=295	**84.65**	**40**	P	**P**	**13 03 02.4**	**-0.2**
GWY	**Greenwater Val** comp=Z,20nm,1.3s	**84.66**	**53**	IAmb	IAmb	13 03 04.3	
TPNV	**Topopah Spring** comp=Z,30nm,1.6s	**84.69**	**53**	IAmb	IAmb	13 03 04.7	
TPNV	**Topopah Spring** baz=292,SNR=10	**84.69**	**53**	P	**P**	**13 03 03.3**	**+0.2**
GSC	**Goldstone, Bar** comp=Z,15nm,1.4s	**84.88**	**54**	IAmb	IAmb	13 03 05.5	
GSC	**Goldstone, Bar** baz=292	**84.88**	**54**	P	**P**	**13 03 03.7**	**-0.4**
SHOC	**Shoshone, Teco** baz=292,SNR=5.2	**85.06**	**54**	P	**P**	**13 03 04.4**	**-0.4**
SPR3	**Spring Creek 3** comp=Z,19nm,1.4s	**85.30**	**50**	IAmb	IAmb	13 03 08.2	
YMR	**Madison River**	**85.31**	**44**	P	**P**	**13 03 06.6**	**+0.4**
YHH	**Hot Hill** comp=Z,21nm,1.5s	**85.33**	**44**	IAmb	IAmb	13 03 08.6	
HEC	**Hector,Ludlow** baz=292	**85.42**	**55**	P	**P**	**13 03 06.5**	**-0.3**
BGU	**Big Grassy Mou** comp=Z,19nm,1.8s	**85.46**	**48**	IAmb	IAmb	13 03 08.6	
YNR	**Norris Junctio**	**85.47**	**44**	P	**P**	**13 03 08.0**	**+0.9**
TUQ	**Turquoise Moun** baz=292,SNR=8.8	**85.50**	**54**	P	**P**	**13 03 07.0**	**-0.2**
YPP	**Pitchstone Pla** comp=Z,20nm,1.9s	**85.58**	**44**	IAmb	IAmb	13 03 10.6	
SHPR	**Sheep Range** comp=Z,13nm,1.6s	**85.66**	**53**	IAmb	IAmb	13 03 10.0	
H17A H17A	**Grant Village** comp=Z,15nm,1.2s	**85.68**	**44**	P IAmb	**P** IAmb	**13 03 08.0** 13 03 11.7	**-0.1**
H17A	**Grant Village** baz=295	**85.68**	**44**	P	**P**	**13 03 09.7**	**+1.6**
PFO	**Pinyon Flats O** comp=Z,75nm,18.6s,baz=294,slow=33	**85.78**	**56**	LR	LR	13 37 31.4	
PFO PFO	**Pinyon Flats O** comp=Z,10nm,1.2s	**85.78**	**56**	P IAmb	**P** IAmb	**13 03 07.6** 13 03 09.8	**-1.0**
PFO PFO	**Pinyon Flats O** comp=Z,18nm,1.4s	**85.78**	**56**	*e* P pmax	**P** pmax	**13 03 08.6**	**0.0**
PFO	**Pinyon Flats O** baz=292	**85.78**	**56**	P	**P**	**13 03 08.2**	**-0.4**
TPFO	**Pinon Flats** baz=292,SNR=5.3	**85.79**	**56**	P	**P**	**13 03 08.4**	**-0.2**
YMP	**Mirror Lake Pl**	**85.80**	**44**	P	**P**	**13 03 09.2**	**+0.4**
FFC	**Flin Flon**	**85.81**	**32**	P	**P**	**13 03 08.0**	**-0.1**
FFC FFC	**Flin Flon** comp=Z,27nm,1.4s	**85.81**	**32**	P pmax	**P** pmax	**13 03 08.0**	**-0.1**
PSUT	**Pine Spring** comp=Z,14nm,1.2s	**85.83**	**50**	IAmb	IAmb	13 03 10.2	
PMD	**Palm Desert** comp=Z,9.7nm,1.1s	**85.83**	**56**	IAmb	IAmb	13 03 09.7	
DUG	**Dugway, Tooele** baz=294,SNR=9.8	**85.90**	**49**	P	**P**	**13 03 09.4**	**+0.3**
GMRC	**Granite Mounta** baz=293,SNR=5.3	**85.95**	**54**	P	**P**	**13 03 09.3**	**-0.1**
BELC	**Belle Mtn. Jos** baz=292	**85.99**	**55**	P	**P**	**13 03 09.1**	**-0.6**
MONP2	**Monument Peak** baz=292,SNR=6.5	**86.08**	**56**	P	**P**	**13 03 10.0**	**-0.2**
V12A	**Nelson** comp=Z,13nm,1.1s	**86.19**	**53**	IAmb	IAmb	13 03 12.3	
RLMT	**Red Lodge** comp=Z,12nm,1.3s	**86.21**	**43**	IAmb	IAmb	13 03 13.9	
RLMT	**Red Lodge** baz=296	**86.21**	**43**	P	**P**	**13 03 11.0**	**+0.4**
IKP	**In-Ko-Pah, Jac** baz=293	**86.42**	**57**	P	**P**	**13 03 11.5**	**-0.1**
RMX	**La Rumorosa** comp=Z,21nm,1.6s	**86.46**	**57**	IAmb	IAmb	13 03 13.5	
TCUT	**Toone Canyon** comp=Z,12nm,1.2s	**86.50**	**47**	IAmb	IAmb	13 03 13.5	
NLU	**North Lily Min** comp=Z,15nm,1.3s	**86.52**	**49**	IAmb	IAmb	13 03 13.7	
BC3	**Big Chuckawall** baz=293,SNR=7.5	**86.54**	**55**	P	**P**	**13 03 12.5**	**+0.2**
YUH	**Yuha Desert** comp=Z,14nm,1.5s	**86.56**	**56**	IAmb	IAmb	13 03 13.5	
IRM	**Iron Mountain** baz=293,SNR=5.8	**86.58**	**55**	P	**P**	**13 03 12.7**	**+0.2**
MPU	**Maple Canyon** comp=Z,10nm,1.2s	**86.80**	**48**	IAmb	IAmb	13 03 15.0	
LCMT	**Little Creek M** comp=Z,13nm,1.2s	**86.88**	**52**	IAmb	IAmb	13 03 15.8	
BW06	**Boulder Array** baz=296	**87.04**	**45**	P	**P**	**13 03 14.5**	**-0.2**
PDAR PDAR	**Pinedale Array** comp=Z,1.0nm,0.9s,baz=255,slow=2.9,SNR=6.3	**87.04**	**45**	P LR	**P** LR	**13 03 14.4** 13 35 58.2	**-0.4**
	comp=Z,196nm,21.5s,baz=323,slow=31 comp=Z,1.0nm,0.9s						
GLA	**Glamis** comp=Z,14nm,1.3s	**87.26**	**56**	IAmb	IAmb	13 03 17.3	
GLA	**Glamis** baz=293	**87.26**	**56**	P	**P**	**13 03 16.0**	**+0.2**
PDMCI	**Parker Dam,Lak** baz=294	**87.29**	**54**	P	**P**	**13 03 16.1**	**+0.3**
U15A	**North Rim** comp=Z,9.8nm,1.2s	**87.81**	**52**	IAmb	IAmb	13 03 20.4	
SRU	**San Rafael Swe** comp=Z,15nm,1.4s	**87.96**	**49**	IAmb	IAmb	13 03 20.4	
RDMU	**Red Mountain** comp=Z,19nm,1.4s	**87.99**	**47**	IAmb	IAmb	13 03 20.8	
113A	**Mohawk Valley,** comp=Z,16nm,1.4s	**88.19**	**56**	IAmb	IAmb	13 03 21.5	
WUAZ	**Wupatki** baz=295	**88.87**	**52**	P	**P**	**13 03 22.6**	**-0.9**
AKASG	**Malin Array Be**	**88.87**	**325**	*i* P	**P**	**13 03 20.8**	**-2.2**
O20A	**White River Ci** baz=297	**89.09**	**47**	P	**P**	**13 03 23.3**	**-1.3**
214A	**Organ Pipe Nat** baz=294	**89.25**	**56**	P	**P**	**13 03 25.1**	**-0.1**
PV23	**Carpenter Ridg** comp=Z,9.7nm,1.0s	**89.31**	**49**	IAmb	IAmb	13 03 26.3	
HFS	**Hagfors** comp=Z,71nm,18.1s,baz=30,slow=39	**89.93**	**338**	LR	LR	13 49 17.4	
NOA	**NORSAR Array B** comp=Z,25nm,20.2s,baz=265,slow=38	**90.12**	**339**	LR	LR	13 47 45.4	
MVCO	**Mesa Verde** baz=297	**90.23**	**50**	P	**P**	**13 03 29.3**	**-0.6**
N23A	**Red Feather La** baz=298	**90.30**	**46**	P	**P**	**13 03 29.9**	**-0.4**
TUC TUC	**Tucson** comp=Z,13nm,1.4s	**90.67**	**55**	P IAmb	**P** IAmb	**13 03 32.3** 13 03 34.0	**+0.4**
TUC TUC	**Tucson** comp=Z,13nm,1.5s	**90.67**	**55**	P pmax	**P** pmax	**13 03 32.3**	**+0.4**
TUC	**Tucson** baz=295	**90.67**	**55**	P	**P**	**13 03 32.2**	**+0.4**
ISCO	**Idaho Springs** baz=298	**91.04**	**46**	P	**P**	**13 03 34.0**	**+0.3**
S22A	**4UR Ranch, Cre** comp=Z,13nm,1.5s	**91.17**	**49**	IAmb	IAmb	13 03 36.1	
S22A	**4UR Ranch, Cre** baz=298	**91.17**	**49**	P	**P**	**13 03 34.5**	**+0.1**
ULM	**Lac du Bonnet** comp=Z,228nm,21.3s,baz=297,slow=34	**91.38**	**34**	LR	LR	13 42 50.9	
FRB	**Frobisher Bay** comp=Z,53nm,21.8s,baz=356,slow=36	**91.74**	**14**	LR	LR	13 46 26.1	
BR131	**Keskin Array S**	**91.80**	**314**	*e* P	**P**	**13 03 37.4**	**+0.4**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.8s,baz=83,slow=3.9,SNR=4.1 comp=Z,1.3nm,0.8s	**91.80**	**314**	P	**P**	**13 03 35.8**	**-1.3**
BRTR BRTR	**Keskin Array B** comp=Z,2.0nm,0.9s	**91.80**	**314**	*i* P pmax	**P** pmax	**13 03 38.4**	**+1.4**
SDCO	**Great Sand Dun** baz=299	**92.09**	**48**	P	**P**	**13 03 38.4**	**-0.3**
ANMO ANMO	**Albuquerque** comp=Z,9.0nm,1.4s	**92.73**	**51**	P IAmb	**P** IAmb	**13 03 41.0** 13 03 43.1	**-0.5**
ANMO ANMO	**Albuquerque** comp=Z,6.0nm,1.3s	**92.73**	**51**	*e* P pmax	**P** pmax	**13 03 42.3**	**+0.8**
ANMO	**Albuquerque** baz=298	**92.73**	**51**	P	**P**	**13 03 40.9**	**-0.7**
121A 121A	**Cookes Peak, D** comp=Z,9.2nm,1.1s	**92.85**	**54**	P IAmb	**P** IAmb	**13 03 41.7** 13 03 44.4	**-0.4**
MMAI	**Mount Meron Ar** comp=Z,32nm,18.5s,baz=146,slow=39	**93.73**	**307**	LR	LR	13 51 18.0	
LPIG	**La Paz** comp=Z,128nm,19.1s,baz=286,slow=32	**94.54**	**62**	LR	LR	13 40 31.2	
EIL	**Elat** comp=Z,31nm,18.4s,baz=249,slow=39	**95.63**	**305**	LR	LR	13 53 20.6	
VRAC	**Vranov** comp=Z,43nm,18.6s,baz=26,slow=36	**96.20**	**329**	LR	LR	13 49 04.4	
ATD	**Arta Tunnel** comp=Z,24nm,22.0s,baz=70,slow=33	**96.62**	**285**	LR	LR	13 43 24.0	
TXAR TXAR	**Lajitas Array** comp=Z,0.3nm,0.9s,baz=287,slow=3.7,SNR=3.9 comp=Z,80nm,18.6s,baz=310,slow=33 comp=Z,0.3nm,0.9s	**97.47**	**55**	P LR	Pdif LR	13 04 03.5 13 44 49.3	+0.3
VNDA	**Vanda** comp=Z,32nm,21.4s,baz=340,slow=32	**98.76**	**176**	LR	LR	13 42 39.5	
SCHQ	**Schefferville** comp=Z,58nm,20.9s,baz=320,slow=36	**99.92**	**18**	LR	LR	13 50 25.6	
TORD	**Torodi Ar. Bea** comp=Z,15nm,0.6s,baz=316,slow=0.4,SNR=5.1	**130.22**	**310**	PKP	**PKPdf**	**13 09 39.1**	**-0.6**
H03S2	**Juan Fernandez** baz=261,SNR=15	**139.59**	**118**	T	T	15 44 58.4	
H03S3	**Juan Fernandez** baz=261,SNR=15	**139.61**	**118**	T	T	15 44 57.3	
H03S1	**Juan Fernandez** baz=261,SNR=17	**139.61**	**118**	T	T	15 44 58.8	
H03N2	**Juan Fernandez** baz=267,slow=74,SNR=18	**139.63**	**117**	T	T	15 44 52.9	
H03N3	**Juan Fernandez** baz=267,slow=74,SNR=20	**139.64**	**117**	T	T	15 44 54.2	
H03N1	**Juan Fernandez** baz=267,slow=74,SNR=23	**139.65**	**117**	T	T	15 44 53.9	
PLCA	**Paso Flores** comp=Z,4.6nm,1.2s,baz=242,slow=10,SNR=2.9	**144.29**	**132**	PKP	**PKPab**	**13 10 01.4**	**-1.5**
LPAZ	**La Paz** comp=Z,7.1nm,1.0s,baz=325,slow=4.6,SNR=20	**148.72**	**87**	PKPbc	**PKPdf**	**13 10 14.7**	**+1.0**

REN **28** *12:57:33.8±0.7,37°54'N±0'.02×118°84'W±0'.02,h10km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=192.0*
NCEDC **28** *12:57:34.2±0.8,37°55'N±0'.02×118°83'W±0'.02,h9km±3km, ML3.1/12, ML2.9/18(REN),ML2.7/48(NEIC), Error ellipse: s-maj=3.3km s-min=1.6km az=213.0*
ANF **28** *12:57:34.2±0.2,37°50'N×118°81'W,h0km,ML3.0/12, Error ellipse: s-maj=2.3km s-min=1.3km az=82.0*
NEIC **28** *12:57:34.5±1.1,37°56'N±0'.01×118°80'W±0'.02,h6km±4km, Error ellipse: s-maj=2.1km s-min=2.0km az=159.0*

ISC 28 12:57:34.5±0.8,37°55'N±0'.02×118°83'W±0'.02,h10km±5km, n119,σ0s77/129,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time ISC	h m s	Res ISC
MCVM	**Convict Lake**	**0.04**	**357**			**Pg**	**12 57 36.3**	**-0.5**
MLAC	**Mammoth, Mammo**	**0.08**	**355**			**Pg**	**12 57 36.9**	**-0.3**
MLAC						**Sg**	**12 57 39.1**	**0.0**
MLAC	**Mammoth, Mammo** baz=178	**0.08**	**355**	P		**Pg**	**12 57 36.9**	**-0.3**
MLAC				S		**Sg**	**12 57 39.0**	**-0.1**
MDRNC	**Doe Ridge**	**0.09**	**355**			**Pg**	**12 57 37.0**	**-0.2**
MLCM	**Laurel Creek C**	**0.10**	**312**			**Pg**	**12 57 36.9**	**-0.4**
MGPM	**Gravel Pit**	**0.10**	**322**			**Pg**	**12 57 37.1**	**-0.3**
RCCR	**Rock Creek Can**	**0.10**	**127**			**Pg**	**12 57 37.1**	**-0.4**
MCBM	**Casa Benchmark**	**0.11**	**330**			**Pg**	**12 57 37.3**	**-0.2**
MCBM						**Sg**	**12 57 39.5**	**-0.2**
MCSM	**Casa Diablo Ho**	**0.12**	**329**			**Pg**	**12 57 37.5**	**-0.2**
MEMM	**East Mammoth H**	**0.15**	**323**			**Pg**	**12 57 37.9**	**-0.2**
OMMB	**Old Mammoth Mi**	**0.15**	**295**			**Pg**	**12 57 37.6**	**-0.5**
OMMB						**Sg**	**12 57 39.9**	**-0.9**
OMMB	comp=E,4μm,0.3s			IAML			12 57 40.1	
OMMB	comp=N,3μm,0.3s			IAML			12 57 40.1	
ORC	**Owens River**	**0.16**	**57**			**Pg**	**12 57 38.0**	**-0.2**
MMLB	**Mammoth Lakes**	**0.17**	**312**			**Pg**	**12 57 38.1**	**-0.2**
MMPM	**Mammoth Pass**	**0.17**	**291**			**Pg**	**12 57 38.0**	**-0.4**
MLIM	**Lincoln Peak**	**0.18**	**300**			**Pg**	**12 57 38.3**	**-0.2**
MMSM	**Mammoth Summit**	**0.18**	**297**			**Pg**	**12 57 38.4**	**-0.3**
MDYM	**Dry Creek**	**0.18**	**307**			**Pg**	**12 57 38.5**	**-0.2**
MDYM						**Sg**	**12 57 41.7**	**+0.2**
MRDM	**Red Cones**	**0.19**	**285**			**Pg**	**12 57 38.4**	**-0.4**
MINS	**Minaret Summit**	**0.21**	**300**			**Pg**	**12 57 38.7**	**-0.4**
MDPB	**Devils Postpil**	**0.22**	**293**			**Pg**	**12 57 38.8**	**-0.4**
MDPB						**Sg**	**12 57 41.7**	**-0.7**
MDCM	**Deadman Creek**	**0.23**	**313**			**Pg**	**12 57 39.1**	**-0.4**
BENR	**Benton**	**0.26**	**50**			**Pg**	**12 57 39.6**	**-0.4**
MRCM	**Red Rock Canyo**	**0.28**	**64**			**Pg**	**12 57 40.1**	**-0.2**
MGNR	**McGee Canyon**	**0.28**	**21**			**Pg**	**12 57 39.6**	**-0.7**
MTUM	**Tungsten Hills**	**0.28**	**133**			**Pg**	**12 57 40.2**	**-0.1**
MCDM	**Chidago Canyon**	**0.30**	**90**			**Pg**	**12 57 40.8**	**+0.1**
MFBM	**Five Bridges**	**0.34**	**110**			**Pg**	**12 57 41.5**	**+0.2**
MLNR	**Milner Canyon**	**0.39**	**83**			**Pg**	**12 57 42.1**	**-0.1**
BCKR	**Birch Creek**	**0.39**	**67**			**Pg**	**12 57 42.1**	**-0.1**

KCC	**Kaiser Creek**	0.45	240		Pg	12 57 42.8	-0.5
KCC					Sg	12 57 48.8	-0.6
POCCA	**Poleta Canyon**	0.47	113		Pg	12 57 43.6	-0.2
LUL	**Lundy Lake**	0.58	331		Pg	12 57 45.3	-0.5
TIN	**Tinemaha, Big**	0.69	136		Pg	12 57 47.6	-0.2
TIN	**Tinemaha, Big**	0.69	136		Sg	12 57 57.1	+0.4
TIN	**Tinemaha, Big**	0.69	136	P	Pg	12 57 47.6	-0.2
	baz=316						
TIN				S	Sg	12 57 57.3	+0.5
	baz=316						
DSP	**Deep Springs**	0.70	104		Pg	12 57 47.6	-0.5
DSP					Sg	12 57 57.2	-0.1
DSP				IAML		12 57 59.8	
	comp=E,257nm,0.5s						
LHV	**Little Huntoon**	0.75	20		Pg	12 57 48.6	-0.3
LHV	**Little Huntoon**	0.75	20	Pg	Pg	12 57 48.5	-0.4
LHV	**Little Huntoon**	0.75	20	IAML		12 58 01.6	
	comp=N,455nm,0.4s						
LHV				IAML		12 58 04.0	
	comp=E,335nm,0.4s						
NV08	**Mina Array Sit**	0.94	25		Pg	12 57 52.1	-0.6
NV09	**Mina Array Sit**	0.97	23		Pg	12 57 52.5	-0.6
NVAR	**Mina Array Bea**	0.97	25		Pg	12 57 52.7	-0.5
LCH	**Last Change Ra**	0.99	108		Pg	12 57 53.2	-0.4
LCH				IAML		12 58 06.5	
	comp=N,306nm,0.4s						
LCH				IAML		12 58 08.6	
	comp=E,327nm,0.2s						
MBUM	**Mount Bullion**	0.99	271		Pg	12 57 52.5	-1.1
NV11	**Mina Array Sit**	1.03	31		Pg	12 57 53.8	-0.6
WAKR	**Walker**	1.07	333		Pg	12 57 54.7	-0.4
RYN	**Ryan**	1.10	12		Pg	12 57 55.2	-0.6
RYN				IAML		12 58 10.7	
	comp=E,214nm,0.3s						
RYN				IAML		12 58 10.9	
	comp=N,253nm,0.3s						
MZP	**Montezuma Peak**	1.16	82		Pg	12 57 56.4	-0.3
MZP				IAML		12 58 16.1	
	comp=E,127nm,0.4s						
CWC	**Cottonwood Cre**	1.26	151		Pg	12 57 57.4	-1.2
CWC	**Cottonwood Cre**	1.26	151	P	Pg	12 57 57.4	-1.2
	baz=332						
CWC				S	Sg	12 58 13.8	-1.2
	baz=332						
GMN	**Gold Mountain**	1.27	101		Pg	12 57 58.2	-0.7
GMN				IAML		12 58 18.6	
	comp=N,132nm,0.7s						
GMN				IAML		12 58 18.9	
	comp=E,128nm,0.7s						
MRHM	**Rocky Hill**	1.28	190		Pn	12 57 57.4	-1.0
MYLM	**Yosemite Lake**	1.28	263		Pn	12 57 57.8	-0.6
RCTC	**Rector, Farmer**	1.28	195		Pn	12 57 57.8	-0.6
GRAC	**Grapevine Rang**	1.29	115		Pn	12 57 58.9	+0.3
GRAC	**Grapevine Rang**	1.29	115	P	Pn	12 57 58.7	+0.2
	baz=296						
CGO	**Cerro Gordo**	1.29	140		Pg	12 57 57.9	-1.3
VOG	**Valley Oaks Go**	1.30	200		Pn	12 57 58.3	-0.4
VOG	**Valley Oaks Go**	1.30	200	P	Pn	12 57 58.2	-0.4
	baz=20						
VOG				S	Sb	12 58 15.8	0.0
	baz=20						
CMB	**Columbia Colle**	1.33	292	Pn	Pn	12 57 58.1	-1.0
SPG2	**Springville 2**	1.35	178		Pn	12 57 58.9	-0.5
TPH	**Tonopah**	1.38	67		Pn	12 57 59.3	-0.6
WLHM	**Little Horse**	1.45	163		Pn	12 58 00.9	-0.1
YERR	**Yerington**	1.47	347		Pn	12 58 01.4	+0.1
MCUB	**Copperopolis B**	1.48	287		Pn	12 58 00.6	-0.6
SGV	**South Grapevin**	1.54	111		Pn	12 58 02.4	+0.3
KVN	**Kaiserville**	1.61	21		Pn	12 58 03.0	-0.1
KVN	**Kaiserville**	1.61	21	IAML		12 58 27.4	
	comp=E,88nm,0.5s						
KVN				IAML		12 58 28.7	
	comp=N,72nm,0.5s						
PNTR	**Pine Nut**	1.66	339		Pn	12 58 04.2	+0.4
PNTR	**Pine Nut**	1.66	339	IAML		12 58 11.5	
	comp=E,64nm,0.6s						
PNTR				IAML		12 58 31.8	
	comp=N,52nm,0.7s						
PDRM	**Domengine Ranc**	1.73	226		Pn	12 58 05.7	+1.1
WCSM	**Coso Springs S**	1.74	150		Pb	12 58 06.6	0.0
EMB	**Emerald Bay**	1.74	325		Pn	12 58 05.8	+0.8
EMB	**Emerald Bay**	1.74	325	IAML		12 58 43.7	
	comp=N,82nm,0.4s						
EMB				IAML		12 58 46.3	
	comp=E,92nm,0.3s						
PARM	**Anticline Ridg**	1.78	224		Pn	12 58 06.5	+1.2
BMSM	**Mercy Hot Spri**	1.81	241		Pn	12 58 06.7	+1.0
WASM	**Alta Sierra Ca**	1.82	173		Pn	12 58 07.5	+1.5
SCKWR	**San Luis Creek**	1.82	259		Pn	12 58 07.4	+1.5
MPMC	**Manual Prospec**	1.83	144	Pb	Pb	12 58 07.8	-0.5
	baz=325						
WNMM	**Nine Mile Cany**	1.86	156		Pb	12 58 08.1	-0.3
VCNR	**Virginia City**	1.86	340		Pb	12 58 09.1	+0.4
VCNR	**Virginia City**	1.86	340	IAML		12 58 16.2	
	comp=E,37nm,0.7s						
VCNR				IAML		12 58 36.2	
	comp=N,45nm,0.5s						
ISA	**Isabella, Lake**	1.90	171		Pb	12 58 08.9	-0.4
ISA	**Isabella, Lake**	1.90	171	Pb	Pb	12 58 09.0	-0.3
	baz=352						
ISA				S	Sb	12 58 33.4	+0.3
	baz=352						
PJUM	**Juniper Ridge**	1.94	228		Pn	12 58 08.7	+1.2
SLD	**San Luis Dam**	1.97	257		Pn	12 58 09.2	+1.3
BAVM	**Antelope Valle**	1.98	244		Pn	12 58 09.2	+1.2
CMPM	**Mikes Peak**	1.99	265		Pn	12 58 09.4	+1.2
HPCM	**Pacheco Lake**	2.01	257		Pn	12 58 09.7	+1.2
CTM	**Castle Mountai**	2.02	217		Pn	12 58 10.1	+1.4
COSM	**Mount Oso**	2.03	270		Pn	12 58 10.1	+1.3
TNK	**Tinkers Knob**	2.04	328		Pg	12 58 12.8	-0.9
PSMM	**Smith Mountain**	2.05	224		Pn	12 58 10.0	+1.0
PSRM	**Scobie Ranch**	2.05	215		Pn	12 58 10.1	+1.1
PHFM	**Heflinger Ranc**	2.09	218		Pn	12 58 10.5	+0.9
PMRM	**Maxey Ranch**	2.09	213		Pn	12 58 10.6	+1.0
PSTM	**Stockdale Moun**	2.11	220		Pn	12 58 10.9	+1.1
GHC	**Gold Hill**	2.11	216		Pn	12 58 10.4	+0.7
PKD	**Bear Valley Ra**	2.11	221		Pn	12 58 10.7	+0.8
PSNM	**Stone Corral**	2.12	214		Pn	12 58 10.6	+0.7
PHPM	**Hope Ranch**	2.12	223		Pn	12 58 11.0	+1.1
CMMM	**Mount Mocho**	2.12	268		Pn	12 58 11.3	+1.2
PVCM	**Vineyard Canyo**	2.12	221		Pn	12 58 11.1	+1.0
BVL	**Bear Valley**	2.13	244		Pn	12 58 11.2	+1.1
TPNV	**Topopah Spring**	2.14	105	Pn	Pn	12 58 10.3	0.0
TPNV				IAML		12 58 47.9	
	comp=N,58nm,0.9s						
TPNV				IAML		12 58 53.4	
	comp=N,64nm,0.7s						
SDH	**Striped Hills**	2.18	114		Pn	12 58 11.5	+0.6
GWY	**Greenwater Val**	2.20	128		Pn	12 58 10.8	-0.4
GWY				IAML		12 58 50.2	
	comp=E,31nm,0.4s						
SAO	**San Andreas Ge**	2.23	250		Pn	12 58 12.8	+1.2
LRMC	**Laurel Mtn Rad**	2.26	156	Pb	Pb	12 58 15.4	0.0
	baz=336						
LRMC				Sb	Sb	12 58 45.3	+1.8
	baz=336						
BJCM	**Johnson Can.**	2.28	245		Pn	12 58 13.4	+1.2
CPY	**CP-1**	2.29	105		Pn	12 58 12.7	+0.2
AMDNV	**Amargosa**	2.31	117		Pn	12 58 13.0	+0.5
CRGC	**Crocker Grade**	2.41	198		Pb	12 58 16.8	-1.2
ARVC	**Arvin**	2.42	180	Pb	Pb	12 58 17.5	-0.5
	baz=360						
ARVC				S	Sb	12 58 48.3	+0.5
	baz=360						
SMMC	**Simmler**	2.42	203	P	Pn	12 58 15.1	+1.0
	baz=22						
R11A	**Troy Canyon, C**	2.68	72	Pb	Pb	12 58 22.8	+0.1
	baz=254						
R11A				Sb	Sg	12 58 59.0	-1.7
	baz=254						
EDW2	**Edwards Air Fo**	2.75	166	Sb	Sb	12 58 59.8	+2.4
	baz=346						
FLSC	**Flash Two Peak**	2.95	150		Pn	12 58 22.2	+0.7
PRN	**Pahroc Range**	3.01	92		Pn	12 58 22.0	-0.3

*JMA **28** 13:14:17.3±0.6, 34°N±1°×14°2E±°, h26km±2km, MV3.4/29, FAR SE OFF BOSO PEN*
*IDC **28** 13:14:24.3±2.3, 34°.40N×141°.55E, h52km±20km, mb3.7/16, mbtmp3.9/19, ML3.0/3, Error ellipse: s-maj=18.2km s-min=9.3km az=88.0*
ISC 28 13:14:20.9±0.6, 34°.36N±0°.05×141°.63E±0°.06, h27km, n29, σ0°90/39, mb3.9/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	0.61	299	P		Pb	13 14 32.2	-0.5
BSO3	**Boso 3**	1.02	296	P		Pb	13 14 39.1	-0.7
BSO4	**Boso 4**	1.23	301	P		Pb	13 14 42.6	-0.9
JKUC	**kamogawauchiur**	1.42	305	P		Pn	13 14 44.8	-0.2
JKUC				S		Sb	13 15 04.9	+0.5
CHOJ	**Chosi**	1.48	335	P		Pn	13 14 44.7	-1.1
JMKN	**Mikurajimanish**	1.75	255	P		Pn	13 14 48.8	-0.7
JMKN				S		Sb	13 15 12.9	-1.0
JHJ2	**Mitsune**	1.96	231	P		Pn	13 14 53.2	+0.9
JHJ2				S		Sb	13 15 18.8	-1.0
JHJ	**Hachijo jima 2**	1.97	232	P		Pn	13 14 53.1	+0.5
	134nm,0.3s,baz=47,slow=19,SNR=34							
JHJ				S		Sb	13 15 18.7	-1.6
	233nm,0.4s,baz=45,slow=19,SNR=12							
JOD2	**Odawara 2**	2.27	294	P		Pn	13 14 56.1	-0.6
JOD2				S		Sn	13 15 25.4	+1.5
MJAR	**Matsushiro Arr**	3.54	309	P		Pn	13 15 14.3	+0.2
	1.4nm,0.3s,baz=139,slow=10,SNR=51							
MJAR				S		Sn	13 15 55.5	+0.4
	10.0nm,0.7s,baz=146,slow=13,SNR=5.9 12nm,0.5s							
KSRS	**Korea Array**	11.53	289	P		Pn	13 17 06.6	+2.8
	0.1nm,0.3s,baz=95,slow=14,SNR=2.6 2.0nm,0.8s							
KLR	**Kul'dur**	16.56	337	P		Pn	13 18 10.8	-0.3
	0.1nm,0.3s,baz=144,slow=8.7,SNR=4.5 0.9nm,0.6s							
SONM	**Songino Array**	29.49	308	P		P	13 20 23.5	+0.6
	1.9nm,1.0s,baz=108,slow=8.2,SNR=4.9 1.9nm,1.0s							
CMAR	**Chiang Mai Arr**	41.06	258	P		P	13 22 01.4	-0.9
	1.1nm,0.6s,baz=48,slow=7.5,SNR=11 1.1nm,0.6s							
ZALV	**Zalesovo Beam**	43.87	314	P		P	13 22 24.4	-0.4
	0.8nm,0.4s,baz=90,slow=8.3,SNR=5.8							
ZALV				PcP		PcP	13 24 10.6	0.0
	0.6nm,0.3s,baz=119,slow=3.4,SNR=2.6 0.9nm,0.4s							
MKAR	**Makanchi Array**	45.73	304	P		P	13 22 40.2	+0.5
	0.8nm,0.5s,baz=92,slow=9.9,SNR=6.6 0.8nm,0.5s							
KURBB	**Kurchatov Arra**	47.81	310	P		P	13 22 55.4	-0.5
	2.6nm,0.6s,baz=86,slow=7.6,SNR=27 2.6nm,0.6s							
KURBB				PcP		PcP	13 24 23.5	-0.9
	0.4nm,0.6s,baz=94,slow=4.1,SNR=1.8 2.6nm,0.6s							
ILAR	**Eielson Array**	51.67	31	P		P	13 23 25.8	+0.8
	0.9nm,0.8s,baz=267,slow=6.2,SNR=9.4 0.9nm,0.8s							
BVAR	**Borovoye Array**	52.52	314	P		P	13 23 31.6	0.0
	0.5nm,0.4s,baz=64,slow=6.8,SNR=5.1							
BVAR				PcP		PcP	13 24 41.5	-0.2
	0.8nm,0.6s,baz=85,slow=5.0,SNR=4.7 0.5nm,0.4s							
WRA	**Warramunga Arr**	54.45	188	P		P	13 23 45.8	-0.2
	1.1nm,0.4s,baz=0.8,slow=7.5,SNR=27 1.1nm,0.4s							
ASAR	**Alice Springs**	58.17	188	P		P	13 24 13.1	+0.6
	0.8nm,0.7s,baz=14,slow=12,SNR=12							
ASAR				PcP		PcP	13 25 03.9	+0.1
	0.4nm,0.6s,baz=360,slow=5.6,SNR=1.7 0.8nm,0.7s							
ARU	**Arti**	58.49	320	P		P	13 24 14.2	-0.2
	2.7nm,0.2s,baz=119,slow=19,SNR=4.7 2.7nm,0.2s							
AKTO	**Aktyubinsk**	60.61	313	P		P	13 24 28.4	-0.6
	2.3nm,0.7s,baz=80,slow=14,SNR=6.7 2.3nm,0.7s							
NVAR	**Mina Array Bea**	76.46	53	P		P	13 26 09.1	+0.5
	0.6nm,0.7s,baz=290,slow=5.4,SNR=7.6 0.6nm,0.7s							
NOA	**NORSAR Array B**	76.72	338	P		P	13 26 08.1	-1.2
	1.4nm,0.8s,baz=39,slow=5.8,SNR=3.4 1.4nm,0.8s							
PDAR	**Pinedale Array**	79.42	45	P		P	13 26 25.8	+0.8
	0.7nm,0.8s,baz=0.0,slow=1.5,SNR=5.8 0.7nm,0.8s							
BRTR	**Keskin Array B**	80.76	312	P		P	13 26 33.1	+0.9
	1.4nm,0.8s,baz=56,slow=5.9,SNR=3.7 1.4nm,0.8s							
TXAR	**Lajitas Array**	91.61	53	P		P	13 27 25.7	-0.2
	0.6nm,1.0s,baz=312,slow=3.8,SNR=4.9 0.6nm,1.0s							
LPAZ	**La Paz**	147.81	63	PKPbc		PKPab	13 34 05.8	-1.3
	0.9nm,0.5s,baz=324,slow=1.9,SNR=4.8							

*IDC **28** 13:31:06.0±2.0, 18°.69N×145°.68E, h195km±20km, mb3.4/10, mbtmp4.0/12, MS3.1/1, Error ellipse: s-maj=23.5km s-min=12.6km az=87.0*
*NEIC **28** 13:31:07.1±1.1, 18°.63N±0°.09×145°.5E±0°.1, h194km±6km, mb4.2/35, Error ellipse: s-maj=17.8km s-min=13.7km az=94.0*
ISC 28 13:31:06.7±0.6, 18°.65N±0°.06×145°.5E±0°.1, h200km, n52, σ0°75/52, mb4.0/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	5.07	186	P		Pn	13 32 22.2	+0.2
	64nm,0.3s,baz=60,slow=20,SNR=15							
GUMO				S		Sn	13 33 21.5	+0.1
	41nm,0.3s,baz=17,slow=20,SNR=1.2							
GUMO	**Guam**	5.07	186	Pn		Pn	13 32 21.8	-0.3
JYT	**Yasato**	18.11	346	P		Pn	13 35 04.9	-1.1
JYT				IAmb		IAmb	13 35 07.3	
	comp=E,10nm,0.7s							
JMN	**Monobe**	18.23	328	P		P	13 35 05.2	+0.1
JMN				IAmb		IAmb	13 35 23.3	
	comp=E,14nm,1.1s							
INU	**Inuyama**	18.24	337	P		P	13 35 05.6	+0.6
INU				IAmb		IAmb	13 35 21.3	
	comp=E,12nm,1.1s							
MJAR	**Matsushiro Arr**	18.93	342	P		P	13 35 13.3	+0.7
	comp=Z,1.0nm,0.4s,baz=165,slow=9.7,SNR=7.5							
MAJO	**Matsushiro**	18.93	342	P		Pn	13 35 15.4	-0.2
MAJO				IAmb		IAmb	13 35 18.5	
	comp=E,6.5nm,0.9s							
MJB9	**Matsu-Tunnel**	18.93	342	P		Pn	13 35 14.3	-1.4
MJB9				IAmb		IAmb	13 35 18.4	
	comp=E,6.1nm,0.9s							
JMM	**Marumori**	19.57	349	P		P	13 35 20.8	+1.4
JMM				IAmb		IAmb	13 35 29.0	
	comp=Z,9.9nm,0.8s							
JSD	**Sado**	20.31	343	P		Pn	13 35 29.5	-2.8
JSD				IAmb		IAmb	13 35 32.1	
	comp=Z,13nm,1.1s							
KSRS	**Korea Array**	24.22	324	P		P	13 36 05.6	+0.5
	comp=Z,1.0nm,0.7s,baz=146,slow=9.0,SNR=3.3 comp=Z,1.0nm,0.7s							
KLR	**Kul'dur**	32.45	343	P		P	13 37 18.0	0.0
	comp=Z,0.7nm,0.3s,baz=155,slow=17,SNR=1.9 comp=Z,0.7nm,0.3s							
COEN	**Coen**	32.48	184	P		P	13 37 18.2	-0.4
MTN	**Manton Dam**	34.33	205	P		P	13 37 34.4	-0.3
MTN				IAmb		IAmb	13 37 47.7	
	comp=Z,5.8nm,1.1s							
ENH	**Enshi**	34.58	296	P		P	13 37 35.8	-1.0
WB0	**Warramunga Arr**	39.69	196	P		P	13 38 20.0	+0.3
WRA	**Warramunga Arr**	39.88	196	P		P	13 38 21.3	+0.1
	comp=Z,0.5nm,0.3s,baz=18,slow=8.6,SNR=20 comp=Z,0.5nm,0.3s							
WRA	**Warramunga Arr**	39.88	196	P		P	13 38 22.3	+1.1
FITZ	**Fitzroy Crossi**	41.39	209	P		P	13 38 33.5	-0.1
AS31	**Alice Springs**	43.54	195	P		P	13 38 51.9	+0.9
ASAR	**Alice Springs**	43.55	195	P		P	13 38 52.4	+1.4
	comp=Z,0.3nm,0.4s,baz=14,slow=7.2,SNR=11							
ASAR				LR		LR	13 57 40.3	
	comp=Z,22nm,18.5s,baz=162,slow=36 comp=Z,0.3nm,0.4s							
ASAR	**Alice Springs**	43.55	195	P		P	13 38 51.6	+0.6
DZM	**Mont Dzumac**	45.38	152	P		P	13 39 05.1	-0.5
DZM				IAmb		IAmb	13 39 05.1	
	comp=E,6.1nm,0.9s							
UNV	**Unalaska Valle**	50.83	35	P		P	13 39 47.3	+0.6
UNV				IAmb		IAmb	13 40 07.3	
	comp=Z,16nm,1.2s							
AKUT	**Akutan**	51.34	35	P		P	13 39 51.1	+0.6
FALS	**False Pass**	52.88	34	P		P	13 40 02.1	+0.2
SDPT	**Sand Point**	54.64	35	P		P	13 40 14.7	+0.1
CHIR	**Chirikof Islan**	57.41	35	P		P	13 40 35.2	+1.0
MKAR	**Makanchi Array**	58.33	314	P		P	13 40 41.8	+0.9
	comp=Z,0.5nm,0.5s,baz=89,slow=7.8,SNR=6.1 comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	58.33	314	P		P	13 40 42.4	+1.5
SII	**Sitkinak Islan**	58.38	34	P		P	13 40 41.4	+0.4
N18K	**Kilae Creek**	58.70	29	P		P	13 40 44.0	+0.8
N18K				IAmb		IAmb	13 40 52.0	
	comp=Z,6.1nm,1.1s							
OHAK	**Old Harbor**	59.02	34	P		P	13 40 45.9	+0.6
N19K	**Bonanza Creek**	59.40	30	P		P	13 40 48.5	+0.5
N19K				IAmb		IAmb	13 40 50.8	
	comp=Z,3.3nm,0.9s							
CNPM	**China Poot**	60.62	32	P		P	13 40 56.0	-0.3
CNPM				IAmb		IAmb	13 41 05.6	
	comp=Z,7.9nm,1.1s							
BRLK	**Bradley Lake**	60.85	31	P		P	13 40 57.3	-0.5
BRLK				IAmb		IAmb	13 40 58.1	
	comp=Z,3.1nm,0.7s							
KURBB	**Kurchatov Arra**	61.20	318	P		P	13 41 00.9	+0.6
	comp=Z,0.5nm,0.4s,baz=98,slow=6.7,SNR=2.5 comp=Z,0.5nm,0.4s							
CAST	**Castle Rocks**	61.24	27	P		P	13 41 00.7	+0.3
CAST				IAmb		IAmb	13 41 01.9	
	comp=Z,2.8nm,0.8s							
RC01	**Rabbit Creek A**	61.71	30	P		P	13 41 03.4	-0.1
TRF	**Thorofare Moun**	62.03	27	P		P	13 41 05.5	-0.3
TRF				IAmb		IAmb	13 41 06.8	
	comp=Z,4.3nm,1.1s							
ILAR	**Eielson Array**	63.79	26	P		P	13 41 15.5	-1.7
	comp=Z,1.0nm,0.6s,baz=254,slow=4.9,SNR=11 comp=Z,1.0nm,0.6s							
KK31	**Karatay Array**	66.62	310	P		P	13 41 36.5	+0.6
KK31				IAmb		IAmb	13 41 46.8	
	comp=Z,3.1nm,0.9s							
KKAR	**Karatay Array**	66.62	310	P		P	13 41 36.6	+0.8
BEKR	**Beckworth**	81.39	51	P		P	13 43 01.7	0.0
BEKR				IAmb		IAmb	13 43 02.8	
	comp=Z,3.0nm,0.8s							
PNTR	**Pine Nut**	82.18	52	P		P	13 43 06.0	+0.1
PNTR				IAmb		IAmb	13 43 08.1	
	comp=Z,5.0nm,0.7s							
KVN	**Kaiserville**	83.31	51	P		P	13 43 11.4	-0.2
NVAR	**Mina Array Bea**	83.35	52	P		P	13 43 11.7	-0.2
	comp=Z,2.2nm,0.7s,baz=267,slow=5.5,SNR=26 comp=Z,2.2nm,0.7s							
NVAR	**Mina Array Bea**	83.35	52	P		P	13 43 12.1	+0.2
GMN	**Gold Mountain**	84.50	53	P		P	13 43 17.5	-0.2
FINES	**FINESS Array B**	86.83	335	P		P	13 43 26.5	-1.8
	comp=Z,3.9nm,0.9s,baz=43,slow=3.9,SNR=5.5 comp=Z,3.9nm,0.9s							
PDAR	**Pinedale Array**	88.02	45	P		P	13 43 34.1	-0.6
	comp=Z,0.3nm,0.4s,baz=154,slow=0.7,SNR=8.7 comp=Z,0.3nm,0.4s							
LPAZ	**La Paz**	147.91	91	PKPbc		PKPdf	13 50 27.3	+0.7
	comp=Z,1.4nm,0.4s,baz=312,slow=4.1,SNR=5.7							

*SOME **28** 13:40:01.6, 44°.38N×74°.32E*
NNC 28 13:40:01.9±0.5, 44°.44N×74°.32E, h0km, mb3.1, mpv2.8, 1C, Error ellipse: s-maj=4.9km s-min=3.1km az=47.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BTLS	**Baital**	0.63	342	P		Pg	13 40 14.3	+0.3
	1.7nm,0.1s							
BTLS				S		Sg	13 40 23.1	+0.8
	9.1nm,0.3s							
KRBS	**Karabastau**	1.23	127	P		Pg	13 40 24.4	-1.0
	1.2nm,0.2s							
KRBS				S		Sg	13 40 40.3	-1.0
	3.0nm,0.2s							
KUU	**Kurty**	1.55	110	P		Pn	13 40 30.4	-0.4
	3.1nm,0.2s							
KUU				S		Sn	13 40 50.6	-1.1
	24nm,0.8s							
DGS	**Degeres**	1.59	138	P		Pn	13 40 31.8	+0.3
	4.8nm,0.3s							
DGS				S		Sg	13 40 53.5	+0.4
	25nm,0.7s							
KST	**Kastek**	1.83	139	P		Pb	13 40 36.0	-0.4
	3.9nm,0.4s							
KST				S		Sb	13 41 00.3	+0.3
	7.1nm,0.9s							
KTBS	**Karatobe**	1.85	112	P		Pb	13 40 36.1	-0.5
	5.6nm,0.7s							
KTBS				S		Sb	13 41 00.5	+0.1
	13nm,0.3s							
MRKS	**Merke**	1.87	206	P		Pn	13 40 35.7	+0.4
	0.9nm,0.2s							
MRKS				S		Sn	13 40 59.9	+0.3
	7.6nm,0.3s							
CHKK	**Chushkaly**	2.01	106	Pg		Pb	13 40 38.7	-0.6
	2.3nm,0.3s							
CHKK				Lg		Lg	13 41 05.1	
	11nm,0.3s							
MTBS	**Maitube**	2.01	130	Pg		Pb	13 40 38.7	-0.7
	4.3nm,0.2s							
MTBS				Lg		Lg	13 41 05.4	
	8.5nm,0.3s							
TNSS	**Tian-Shan**	2.36	125	Pg		Pb	13 40 45.4	-0.2
	2.7nm,0.4s							
TNSS				Lg		Lg	13 41 16.6	
	4.3nm,0.4s							
ARXS	**Arharly**	2.53	94	Pg		Pb	13 40 47.7	-0.5
ARXS				Lg		Lg	13 41 20.5	
BLB	**Baldybastay**	3.01	95	Pg		Pb	13 40 55.9	-0.5
	0.8nm,0.1s							
BLB				Lg		Lg	13 41 34.5	
	8.5nm,0.5s							
KK31	**Karatay Array**	3.07	245	⇑Pg		Pb	13 40 57.0	-0.3
	0.4nm,0.5s,baz=233,slow=50,SNR=4.2							

IDC 28 13:54:44.0±1.9, 5°.66N×122°.02E, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/1, Error ellipse: s-maj=236.4km s-min=26.4km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	28.18	155	P		P	14 00 37.6	-0.9
	0.2nm,0.3s,baz=332,slow=11,SNR=15 0.2nm,0.3s							
ASAR	**Alice Springs**

WRA			S	**S**	**14 17 25.1**	**+0.1**
	0.8nm,0.8s,baz=319,slow=24,SNR=3.7					
WRA			ScP	**ScP**	**14 22 20.2**	**-0.4**
	0.5nm,1.0s,baz=315,slow=2.3,SNR=2.0					
WRAB	**Tennant Creek**	**16.07 139**	P	**Pn**	**14 14 29.8**	**-0.7**
WRKA	**Warakurna**	**17.66 165**	P	**Pn**	**14 14 48.1**	**-1.1**
ASAR	**Alice Springs**	**18.68 148**	P	**Pn**	**14 15 01.4**	**+0.2**
	1.1nm,0.5s,baz=328,slow=13,SNR=20					
ASAR			S	**S**	**14 18 22.1**	**+5.1**
	0.6nm,0.7s,baz=328,slow=23,SNR=5.4					
ASAR			ScP	**ScP**	**14 22 25.9**	**-0.2**
	0.3nm,0.7s,baz=346,slow=2.1,SNR=4.4					
MEEK	**Meekatharra**	**19.09 193**	P	**Pn**	**14 15 04.1**	**-1.8**
QIS	**Mount Isa**	**20.20 130**	P	**P**	**14 15 14.8**	**+0.9**
	9.4nm,2.2s					
STKA	**Stephens Creek**	**29.31 147**	P	**P**	**14 16 41.5**	**+4.3**
	2.9nm,0.8s,baz=306,slow=8.3,SNR=4.6					
	2.9nm,0.8s					
MKAR	**Makanchi Array**	**65.53 330**	P	**P**	**14 21 14.8**	**+0.5**
	0.2nm,0.5s,baz=128,slow=8.7,SNR=1.8					
	0.2nm,0.5s					

*DJA **28** 15:18:08.2±0.3,1°S±3°×12°3E±°, h10km,M3.9/14,mb4.1/5, MLv3.8/14*
*IDC **28** 15:18:14.7±2.9,0.°75S×123.°31E,h62km±31km,mb2.9/3, mbtmp3.5/5,ML3.9/2,MS2.6/1,Error ellipse: s-maj=27.6km s-min=16.5km az=158.0*
ISC 28 15:18:13.0±1.0,0.°65S±0.°07×123.°29E±0.°05,h54km,n20, σ2s20/22,mb3.0/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LUWI	**Luwuk**	**0.65**	**233**	P		**Pn**	**15 18 21.8**	**-4.4**
GTOI	**Gorontalo**	**1.31**	**348**	P		**Pn**	**15 18 33.9**	**-1.1**
KMSI	**Cibinong**	**1.40**	**30**	P		**Pn**	**15 18 32.1**	**-4.1**
APSI	**Ampana**	**1.66**	**261**	P		**Pn**	**15 18 39.8**	**+0.1**
MRSI	**Marisa**	**1.75**	**310**	P		**Pn**	**15 18 37.9**	**-3.1**
SANI	**Sanana**	**3.04**	**117**	P		**Pn**	**15 18 54.4**	**-4.1**
TTSI	**Tana Toraja**	**4.20**	**236**	P		**Pn**	**15 19 13.9**	**-0.7**
LBMI	**Labuha**	**4.21**	**90**	P		**Pn**	**15 19 12.0**	**-2.7**
NLAI	**Namlea**	**4.59**	**124**	P		**Pn**	**15 19 18.2**	**-1.7**
SPSI	**Sidrap Palu**	**4.82**	**227**	P		**Pn**	**15 19 22.8**	**-0.2**
BBSI	**Bau Bau**	**4.86**	**188**	P		**Pn**	**15 19 22.0**	**-1.5**
BNSI	**Bone**	**4.90**	**220**	P		**Pn**	**15 19 22.8**	**-1.3**
	0.1nm25nm,1.3s							
KAPI	**Kappang**	**5.59**	**219**	P		**Pn**	**15 19 34.0**	**+0.4**
	5.6nm,0.3s,baz=32,slow=7.0,SNR=9.7							
KAPI				S		**Sn**	**15 20 37.5**	**+0.9**
	5.6nm,0.3s,baz=356,slow=24,SNR=5.5							
KAPI				LR		LR	15 21 59.7	
	comp=Z,56nm,19.5s,baz=132,slow=41							
	16nm,0.4s							
BKSI	**Bulukumba**	**5.61**	**214**	P		**Pn**	**15 19 33.4**	**-0.5**
	0.1nm15nm,0.7s							
BSSI	**Bau Bau, Buton**	**6.13**	**207**	P		**Pn**	**15 19 40.9**	**-0.1**
	0.1nm18nm,0.9s							
SIJI	**Sorong**	**7.98**	**92**	P		**Pn**	**15 20 07.8**	**+1.4**
	1.2nm,0.3s,baz=255,slow=12,SNR=5.9							
SIJI				S		**Sn**	**15 21 37.8**	**+2.5**
	5.0nm,0.8s,baz=272,slow=23,SNR=2.6							
	5.0nm,0.5s							
EDFI	**Ende, Flores**	**8.20**	**191**	P		**Pn**	**15 20 08.4**	**-1.1**
WRA	**Warramunga Arr**	**22.01**	**151**	P		**P**	**15 23 02.1**	**-0.9**
	0.5nm,0.8s,baz=333,slow=10,SNR=8.9							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**25.09**	**157**	P		**P**	**15 23 33.5**	**+0.7**
	0.3nm,0.6s,baz=346,slow=14,SNR=5.6							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**59.31**	**328**	P		**P**	**15 28 10.7**	**+1.3**
	0.2nm,0.4s,baz=134,slow=7.7,SNR=2.7							
	0.2nm,0.4s							

*NCEDC **28** 15:26:51.4±2.0,37.°336N±0.°010×121.°70W±0.°01, h8km±1km,Mwr3.3/4,ML3.1/56(NEIC),Error ellipse: s-maj=1.6km s-min=1.4km az=64.0*
*NEIC **28** 15:26:51.3,37.°33N×121.°70W,h8km,Moment Tensor Solution. Moment tensor: Scale 10^13Nm; Mrr0.19; Mθθ-8.25; Mφφ8.06; Mrθ-0.75; Mrφ4.08; Mθφ2.10; Fault plane solution: Mo9.39000×10^13 NP1:φs327.95000°, δ87.06000°,λ166.51000°. NP2:φs58.66000°,δ76.53000°, λ3.03000°. Principal axes: T 9.4058, Plg12.0000°, Azm283.0000°; N -0.0356, Plg76.0000°, Azm136.0000°; P -9.3701, Plg7.0000°, Azm14.0000°;*
NEIC 28 15:26:51.5±1.3,37.°33N±0.°01×121.°717W±0.°009, h17km±1km Error ellipse: s-maj=1.6km s-min=0.8km az=204.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
C059	**Quail Canyon R**	**0.05**	**289**			Pg	15 26 53.5	-1.1
C072	**Blauer Lane Sa**	**0.05**	**217**			Pg	15 26 53.8	-0.8
C072						Sg	15 26 56.1	-0.6
MHC	**Mount Hamilton**	**0.06**	**77**			Pg	15 26 54.8	-0.1
CCOB	**Coe Ranch Numb**	**0.08**	**153**			Pg	15 26 53.9	-1.0
C041	**El Campo Drive**	**0.10**	**299**			Pg	15 26 54.4	-0.6
C054	**Valleyhaven Wa**	**0.10**	**237**			Pg	15 26 54.6	-0.4
SCCB	**Santa Clara Co**	**0.12**	**251**			Pg	15 26 54.8	-0.4
C016	**Longford Drive**	**0.14**	**300**			Pg	15 26 55.4	-0.1
CALM	**Calaveras Res.**	**0.14**	**332**			Pg	15 26 54.6	-0.9
ARN	**Arnold Ranch**	**0.15**	**82**			Pg	15 26 54.4	-1.3
CMLM	**Mount Lewis**	**0.15**	**19**			Pg	15 26 54.9	-1.0
AMC	**Almaden**	**0.20**	**212**			Pg	15 26 56.1	-0.2
CMMM	**Mount Mocho**	**0.22**	**54**			Pg	15 26 55.8	-0.9
JJOM	**Saint Joseph's**	**0.24**	**240**			Pg	15 26 56.9	-0.1
C017	**S Grimmer Bl F**	**0.24**	**317**			Pg	15 26 57.0	0.0
C050	**Festivo Court**	**0.26**	**320**			Pg	15 26 57.1	-0.2
C001	**Firth Court Fr**	**0.26**	**318**			Pg	15 26 57.2	-0.1
JSGM	**Saratoga Golf**	**0.27**	**260**			Pb	15 26 57.9	-0.1
WENL	**Wente Vineyard**	**0.30**	**354**			Pg	15 26 57.7	-0.2
JSJM	**St Joseph**	**0.30**	**271**			Pb	15 26 58.3	-0.2
CVLM	**Vallecito**	**0.31**	**342**			Pg	15 26 58.1	-0.1
C015	**Bright Common**	**0.32**	**316**			Pg	15 26 58.1	-0.2
CMPM	**Mikes Peak**	**0.32**	**84**			Pg	15 26 57.6	-0.7
JTGM	**Trout Gulch Ro**	**0.33**	**203**			Pb	15 26 59.1	+0.2
COSM	**Mount Oso**	**0.33**	**56**			Pg	15 26 57.9	-0.6
JSCM	**Stevens Creek**	**0.33**	**263**			Pg	15 26 58.5	0.0
C048	**Posada Way Fre**	**0.33**	**319**			Pg	15 26 58.3	-0.2
C002	**Farnham Drive**	**0.34**	**312**			Pg	15 26 58.4	-0.3
CNIC	**Niles Canyon**	**0.34**	**325**			Pg	15 26 58.5	-0.2
JBMM	**Black Mountain**	**0.35**	**269**			Pg	15 26 58.9	0.0
JRGM	**Rodeo Gulch Ro**	**0.35**	**214**			Pg	15 26 59.1	+0.3
CDC	**Canada Road**	**0.35**	**148**			Pg	15 26 59.1	+0.2
HCAM	**Canada Road**	**0.35**	**148**			Pg	15 26 59.0	+0.1
CCYM	**Coyote Hills**	**0.37**	**307**			Pg	15 26 59.2	0.0
JSFB	**Stanford Teles**	**0.37**	**282**			Pg	15 26 59.2	0.0
JFP	**Foothills Park**	**0.38**	**275**			Pg	15 26 59.3	0.0
CYD1	**Coyote D'meter**	**0.38**	**308**			Pg	15 26 59.0	-0.4
CSR	**Chase Ranch**	**0.38**	**164**			Pg	15 26 59.3	-0.2
JBNB	**Ben Lomond Mou**	**0.41**	**240**			Pg	15 26 59.9	0.0
JELB	**Ellicott, Sant**	**0.41**	**192**			Pb	15 27 00.3	0.0
CDOM	**Doolan Road**	**0.41**	**347**			Pb	15 27 00.5	+0.1
JRSC	**Jasper Ridge**	**0.42**	**281**			Pg	15 26 59.8	-0.3
HFEM	**San Felipe**	**0.43**	**144**			Pg	15 26 59.7	-0.5
HCOM	**Corn Cob Canyo**	**0.44**	**179**			Pb	15 27 00.7	-0.2
HPCM	**Pacheco Lake**	**0.44**	**127**			Pg	15 26 60.0	-0.5
OCR	**O'Connell Ranc**	**0.44**	**158**			Pg	15 27 01.8	+0.9
ANZ	**Anzar Road**	**0.45**	**167**			Pb	15 27 00.9	-0.2
C055	**Cottonwood Ave**	**0.45**	**317**			Pg	15 27 00.6	-0.1
PACP	**Pacheco Peak**	**0.47**	**133**			Pg	15 27 00.5	-0.5
SLD	**San Luis Dam**	**0.47**	**122**			Pg	15 27 00.4	-0.6
C003	**Cottage Court**	**0.48**	**323**			Pg	15 27 01.1	0.0
JHPM	**Huddart Park**	**0.48**	**284**			Pg	15 27 01.1	-0.1
C071	**Via Corta San**	**0.48**	**317**			Pg	15 27 01.3	+0.1
CMOB	**Morgan Territo**	**0.49**	**352**			Pb	15 27 01.9	+0.1
CBSNC	**Byron Hot Spri**	**0.49**	**7**			Pb	15 27 01.8	0.0
CLCB	**Lake Chabot**	**0.49**	**326**			Pg	15 27 01.5	0.0
HBTM	**San Juan Bauti**	**0.49**	**164**			Pb	15 27 01.8	0.0
BGH	**Bear Gulch**	**0.50**	**272**			Pg	15 27 01.6	+0.2
HTUM	**Tustin Road**	**0.50**	**173**			Pg	15 27 01.7	+0.1
CSLM	**San Leandro Hi**	**0.51**	**321**			Pg	15 27 01.5	-0.2
SCKWR	**San Luis Creek**	**0.54**	**105**			Pg	15 27 02.2	0.0
HJGM	**San Juan Grade**	**0.54**	**168**			Pb	15 27 02.5	-0.1
HSFM	**Saint Francis**	**0.54**	**161**			Pb	15 27 03.0	+0.3
JCPM	**Coyote Point**	**0.55**	**299**			Pg	15 27 02.0	-0.4
HLTM	**Lone Tree Road**	**0.55**	**143**			Pg	15 27 01.8	-0.6
JCHM	**Cahill Ridge**	**0.56**	**290**			Pg	15 27 02.1	-0.5
BGC	**Bolinger Road**	**0.56**	**331**			Pb	15 27 03.1	+0.1
CRHM	**Round Hill Res**	**0.57**	**338**			Pb	15 27 03.6	+0.4
C051	**Centre Court A**	**0.59**	**315**			Pg	15 27 03.0	-0.2
SMCB	**Saint Mary's C**	**0.60**	**329**			Pb	15 27 03.5	-0.1
FRP	**Fremont Peak**	**0.60**	**162**			Pg	15 27 03.5	+0.1
CRPB	**Russellman Par**	**0.60**	**346**			Pb	15 27 03.6	-0.1
SAO	**San Andreas Ge**	**0.60**	**159**		Pg	Pb	15 27 03.7	+0.1
SAO	**San Andreas Ge**	**0.60**	**159**			Sb	15 27 12.6	+0.6
BSLM	**Silva Ranch**	**0.62**	**152**			Pb	15 27 04.1	+0.1
BVYM	**Vineyard**	**0.63**	**157**			Pb	15 27 04.3	+0.2
BDM	**Black Diamond**	**0.64**	**349**			Pg	15 27 04.2	+0.1
C028	**Eucalyptus Rd**	**0.67**	**321**			Pb	15 27 05.0	+0.2
JMGM	**Milagra Ridge**	**0.68**	**297**			Pg	15 27 04.1	-0.7
BSRM	**Salinas Radio**	**0.68**	**166**			Pg	15 27 04.6	-0.3
BKS	**Berkeley--Byer**	**0.69**	**323**			Pg	15 27 04.8	-0.2
CVPM	**Vollmer Peak**	**0.69**	**324**			Pb	15 27 05.1	0.0
BL67	**Building 67, L**	**0.69**	**322**			Pg	15 27 05.2	0.0
VAK	**Adit at Lawren**	**0.69**	**323**			Pb	15 27 05.5	+0.3
BRK	**Berkeley--Havi**	**0.69**	**322**			Pg	15 27 05.1	-0.1
BHRM	**Hodges Ranch**	**0.70**	**149**			Pg	15 27 05.1	-0.1
CYBM	**Yerba Buena Is**	**0.70**	**314**			Pg	15 27 04.8	-0.6
CTAM	**Taylor**	**0.74**	**341**			Pb	15 27 06.1	+0.1
HMOM	**Monterey**	**0.74**	**193**			Pb	15 27 05.8	-0.2
BLRM	**Lewis Ranch**	**0.75**	**152**			Pg	15 27 06.8	+0.6
JPRM	**Presidio of Sa**	**0.76**	**308**			Pb	15 27 05.8	-0.5
BJOM	**Mount Johnson**	**0.77**	**155**			Pb	15 27 06.3	-0.2
CPIM	**Pinole Ridge**	**0.77**	**329**			Pg	15 27 06.7	+0.2
SCZ	**Santa Cruz**	**0.77**	**161**			Pb	15 27 06.0	-0.6
CSPM	**San Pablo Ridg**	**0.79**	**323**			Pg	15 27 07.1	+0.2
HERB	**Hercules**	**0.81**	**328**			Pg	15 27 07.5	+0.2
BJCM	**Johnson Can.**	**0.82**	**161**			Pb	15 27 06.8	-0.6
CPMM	**Point Molate**	**0.83**	**319**			Pb	15 27 07.1	-0.4
BVL	**Bear Valley**	**0.86**	**151**			Pb	15 27 08.2	+0.1
BAVM	**Antelope Valle**	**0.88**	**141**			Pb	15 27 07.8	-0.5
BBGB	**Big Mountain B**	**0.92**	**144**		Pg	Pb	15 27 08.9	-0.3
BPIM	**Pinnacles**	**0.94**	**152**			Pb	15 27 08.8	-0.7
HAST	**Hastings Reser**	**0.95**	**172**			Pb	15 27 09.3	-0.3
BSMM	**Soledad Missio**	**0.97**	**166**			Pb	15 27 09.6	-0.4
BSGM	**Shirttail Gulc**	**0.98**	**158**			Pb	15 27 09.4	-0.8
BMSM	**Mercy Hot Spri**	**1.00**	**132**			Pb	15 27 09.9	-0.6
SNT	**Sears Point**	**1.03**	**326**			Pb	15 27 10.5	-0.5
MYLM	**Yosemite Lake**	**1.03**	**87**			Pb	15 27 10.2	-0.8
LRV	**Little Rabbit**	**1.06**	**148**			Pb	15 27 11.1	-0.4
MCUB	**Copperopolis B**	**1.08**	**53**			Pb	15 27 11.1	-0.8
FARB	**Farallon Islan**	**1.09**	**290**			Pb	15 27 10.6	-1.3
BPOM	**Post Ranch**	**1.10**	**182**			Pb	15 27 11.2	-0.9
NOLM	**Olema**	**1.11**	**310**			Pb	15 27 11.7	-0.6
NBRB	**Beebe Ranch Br**	**1.14**	**325**			Pn	15 27 12.1	-0.7
BAPM	**Anderson Peak**	**1.15**	**177**			Pb	15 27 13.2	+0.1
CVS	**Carmenet Viney**	**1.17**	**330**			Pn	15 27 12.5	-0.8
NAPC	**Atlas Peak**	**1.19**	**339**			Pn	15 27 12.5	-1.0
MCCM	**Marconi Confer**	**1.23**	**312**			Pn	15 27 13.6	-0.5
MCCM					IAML		15 27 36.2	
	comp=N,327nm,1.4s							
MCCM					IAML		15 27 36.6	
	comp=E,302nm,0.8s							
CMB	**Columbia Colle**	**1.27**	**56**	Pn		Pn	15 27 14.2	-0.5
CMB					IAML		15 27 32.2	
	comp=E,287nm,1.0s							
CMB					IAML		15 27 32.8	
	comp=N,501nm,1.2s							
NTYM	**Taylor**	**1.30**	**325**			Pn	15 27 14.3	-0.6
PCCM	**Crazy Canyon**	**1.31**	**160**			Pn	15 27 14.8	-0.6
MBUM	**Mount Bullion**	**1.33**	**79**			Pn	15 27 14.8	-0.6
PMPB	**Monarch Peak**	**1.33**	**146**	Pn		Pn	15 27 15.0	-0.5
NBPM	**Berryessa Peak**	**1.39**	**344**			Pn	15 27 15.9	-0.3
PJUM	**Juniper Ridge**	**1.42**	**140**			Pn	15 27 16.0	-0.7
PAPM	**Alder Peak**	**1.44**	**168**			Pn	15 27 16.3	-0.7
PPTM	**Peach Tree Val**	**1.46**	**146**			Pn	15 27 17.0	-0.1
PSAM	**San Ardo**	**1.46**	**153**			Pn	15 27 16.4	-0.8
PDRM	**Domengine Ranc**	**1.47**	**132**			Pn	15 27 16.9	-0.4
MHDM	**Hidden Dam**	**1.47**	**98**			Pn	15 27 16.3	-1.0
PARM	**Anticline Ridg**	**1.54**	**134**			Pn	15 27 18.2	-0.1
MMIM	**Miami Mountain**	**1.57**	**86**			Pn	15 27 18.8	-0.1
NMTM	**Middletown**	**1.58**	**339**			Pn	15 27 19.2	+0.3
PHSB	**Hesperia Broad**	**1.59**	**160**			Pn	15 27 18.4	-0.7
GAXM	**Alexander Vall**	**1.61**	**330**			Pn	15 27 18.1	-1.1
PHPM	**Hope Ranch**	**1.61**	**146**			Pn	15 27 18.7	-0.6
PKD	**Bear Valley Ra**	**1.67**	**145**			Pn	15 27 19.5	-0.7
PANM	**San Antonio Re**	**1.68**	**157**			Pn	15 27 20.4	+0.2
PVCM	**Vineyard Canyo**	**1.69**	**146**			Pn	15 27 20.0	-0.5
PSTM	**Stockdale Moun**	**1.70**	**145**			Pn	15 27 20.0	-0.6
PHCM	**Hearst Castle**	**1.70**	**164**			Pn	15 27 19.9	-0.7
GDXM	**Geysers**	**1.71**	**330**	Pn		Pn	15 27 20.1	-0.5
PPO	**Portuguese Can**	**1.71**	**148**			Pn	15 27 20.2	-0.4
AFDM	**Forest Hills D**	**1.72**	**20**	Pn		Pn	15 27 20.1	-0.7
CTM	**Castle Mountai**	**1.78**	**141**			Pn	15 27 22.5	+0.7
PHFM	**Heflinger Ranc**	**1.79**	**143**			Pn	15 27 21.4	-0.4
PWKM	**Work Ranch**	**1.79**	**147**			Pn	15 27 21.5	-0.3
RAMR	**Ramage Ranch**	**1.82**	**158**			Pn	15 27 21.8	-0.4
PCMM	**Cholame Hills**	**1.85**	**145**			Pn	15 27 22.3	-0.3
GHC	**Gold Hill**	**1.85**	**143**			Pn	15 27 22.6	0.0
PCBM	**Cambria**	**1.88**	**163**			Pn	15 27 21.8	-1.2
BLDC	**Black Mountain**	**1.91**	**160**			Pn	15 27 23.1	-0.3
BLDC	**Black Mountain**	**1.91**	**160**			Pn	15 27 23.2	-0.2
PKLM	**Kerr Lake**	**1.91**	**144**			Pn	15 27 23.5	+0.2
KCC	**Kaiser Creek**	**1.91**	**89**			Pn	15 27 24.7	+1.2
TCH	**Shandon**	**1.95**	**147**			Pn	15 27 23.9	-0.1
ARDC	**Alexander Ranc**	**1.95**	**162**			Pn	15 27 23.2	-0.8
HOPS	**Hopland Field**	**1.98**	**328**	Pn		Pn	15 27 23.8	-0.5
HOPS					IAML		15 28 09.2	
	comp=E,89nm,1.5s							
GHLM	**Highland Sprin**	**1.99**	**329**			Pn	15 27 24.2	-0.4
TRAM	**Private Proper**	**2.02**	**144**			Pn	15 27 25.0	+0.1
EMB	**Emerald Bay**	**2.08**	**37**	Pn		Pb	15 27 27.6	-1.4
EMB					IAML		15 27 59.7	
	comp=N,200nm,0.6s							
PTAM	**Tassajara Cree**	**2.10**	**157**			Pn	15 27 25.8	-0.2
MDPB	**Devils Postpil**	**2.12**	**81**	Pn		Pn	15 27 27.8	+1.3
MDPB					IAML		15 27 57.6	
	comp=E,198nm,0.6s							
MRDM	**Red Cones**	**2.13**	**82**			Pn	15 27 28.2	+1.5
LUL	**Lundy Lake**	**2.14**	**69**			Pb	15 27 28.6	-1.5
MINS	**Minaret Summit**	**2.14**	**80**			Pb	15 27 28.5	-1.6
WAKR	**Walker**	**2.15**	**56**	Pn		Pb	15 27 29.1	-1.1
MMPM	**Mammoth Pass**	**2.16**	**82**			Pb	15 27 28.9	-1.5
MMSM	**Mammoth Summit**	**2.16**	**81**			Pn	15 27 28.7	+1.6
MDCM	**Deadman Creek**	**2.16**	**79**			Pn	15 27 28.6	+1.5
MLIM	**Lincoln Peak**	**2.17**	**81**			Pb	15 27 29.3	-1.3
MDYM	**Dry Creek**	**2.18**	**80**			Pb	15 27 29.4	-1.3
OMMB	**Old Mammoth Mi**	**2.18**	**82**	Pn		Pn	15 27 28.6	+1.3
OMMB					IAML		15 28 03.3	
	comp=N,90nm,1.0s							
TSCS	**Shell Creek So**	**2.18**	**149**			Pn	15 27 26.4	-0.8
TRAY	**Twisselman Ran**	**2.19**	**144**			Pn	15 27 27.2	0.0
VPLC	**Valencia Peak**	**2.19**	**162**			Pn	15 27 26.7	-0.6
MMLB	**Mammoth Lakes**	**2.20**	**81**			Pb	15 27 29.8	-1.3
MCCR	**Mono Craters**	**2.22**	**74**			Pn	15 27 29.2	+1.4
DPD	**Davis Peak**	**2.22**	**160**			Pn	15 27 27.2	-0.5
ORV	**Oroville**	**2.23**	**4**	Pn		Pn	15 27 28.0	+0.2
MEMM	**East Mammoth H**	**2.23**	**80**			Pb	15 27 30.4	-1.3
MLCM	**Laurel Creek C**	**2.25**	**82**			Pb	15 27 30.3	-1.6
MGPM	**Gravel Pit**	**2.26**	**82**			Pb	15 27 30.8	-1.3
MCSM	**Casa Diablo Ho**	**2.26**	**81**			Pb	15 27 30.6	-1.5
TNK	**Tinkers Knob**	**2.26**	**31**			Pb	15 27 30.7	-1.4
MCBM	**Casa Benchmark**	**2.27**	**81**			Pb	15 27 30.9	-1.3
KPK	**Kanaka Peak**	**2.27**	**8**			Pn	15 27 29.6	+1.2
MCVM	**Convict Lake**	**2.31**	**83**			Pb	15 27 31.3	-1.7
MDRNC	**Doe Ridge**	**2.31**	**81**			Pb	15 27 31.7	-1.3
OGOM	**Van Goodin Ran**	**2.32**	**2**			Pn	15 27 27.9	-1.1
MRHM	**Rocky Hill**	**2.35**	**115**			Pn	15 27 29.5	0.0
MPK	**Martis Peak**	**2.37**	**34**	Pn		Pn	15 27 31.7	+1.7
RCCR	**Rock Creek Can**	**2.39**	**85**			Pn	15 27 32.0	+1.8
SMMC	**Simmler**	**2.44**	**145**			Pn	15 27 31.0	+0.2
MGNR	**McGee Canyon**	**2.45**	**78**			Pb	15 27 34.0	-1.3
ORC	**Owens River**	**2.45**	**82**			Pb	15 27 33.7	-1.7
WMD		**2.45**	**86**			Pn	15 27 32.7	+1.9
BCH	**Branch Mountai**	**2.51**	**148**			Pn	15 27 31.1	-0.7
MTUM	**Tungsten Hills**	**2.51**	**88**			Pn	15 27 33.9	+2.0
CARC	**Carrizo Plain**	**2.52**	**143**			Pn	15 27 31.7	-0.1
VCNR	**Virginia City**	**2.55**	**39**	Pn		Pn	15 27 34.0	+1.6
VCNR					IAML		15 28 14.0	
	comp=N,133nm,0.9s							
BHPR	**Bishop**	**2.58**	**90**			Pn	15 27 33.3	+0.5
MRCM	**Red Rock Canyo**	**2.58**	**81**			Pn	15 27 35.5	-2.0
VES	**Vestal, Richgr**	**2.59**	**124**			Pn	15 27 33.9	+1.3
HCK	**Huntoon Valley**	**2.59**	**72**			Pb	15 27 35.2	-2.3
BABR	**Babbit Peak**	**2.60**	**29**			Pb	15 27 35.6	-2.4
LOY	**Loyalton**	**2.60**	**26**			Pn	15 27 34.9	+1.8
MCDM	**Chidago Canyon**	**2.62**	**84**			Pb	15 27 35.7	-2.4
MFBM	**Five Bridges**	**2.62**	**87**			Pb	15 27 36.5	-1.6
CRGC	**Crocker Grade**	**2.63**	**142**			Pn	15 27 34.3	+0.9
BEKR	**Beckworth**	**2.75**	**22**	Pn		Pn	15 27 36.4	+1.3
BEKR					IAML		15 28 18.5	
	comp=E,55nm,0.7s							
RYN	**Ryan**	**2.84**	**62**	Pn		Pn	15 27 37.9	+1.6
RYN					IAML		15 28 24.1	
	comp=E,67nm,0.8s							
RYN					IAML		15 28 25.9	
	comp=N,57nm,0.6s							
LTCM	**Tuscan Springs**	**2.89**	**354**			Pn	15 27 39.8	+2.9
NVAR	**Mina Array Bea**	**2.92**	**67**	Pn		Pn	15 27 38.5	+1.0
WASM	**Alta Sierra Ca**	**3.00**	**121**			Pn	15 27 39.3	+0.8
BCW	**Bitter Crk WRg**	**3.03**	**141**	Pn		Pn	15 27 39.8	+1.0
BCW					IAML		15 28 51.6	
	comp=E,58nm,0.8s							
BCW					IAML		15 28 51.9	
	comp=N,56nm,1.1s							
ISA	**Isabella, Lake**	**3.10**	**121**	Pn		Pn	15 27 39.4	-0.4
ISA					IAML		15 28 35.4	
	comp=E,32nm,0.5s							
ISA					IAML		15 28 37.7	
	comp=N,31nm,0.7s							
LBPM	**Beegum Peak**	**3.12**	**343**			Pn	15 27 39.8	-0.3
KVN	**Kaiserville**	**3.33**	**58**	Pn		Pn	15 27 44.6	+1.6
KVN					IAML		15 28 37.8	
	comp=E,38nm,0.8s							
KVN					IAML		15 28 38.5	
	comp=N,56nm,1.0s							
GRAC	**Grapevine Rang**	**3.49**	**94**	Pn		Pn	15 27 46.4	+1.2
GMN	**Gold Mountain**	**3.55**	**89**	Pn		Pn	15 27 48.0	+1.8
GMN					IAML		15 28 44.7	
	comp=N,33nm,1.0s							
GMN					IAML		15 28 48.0	
	comp=E,29nm,0.7s							
CCAC	**Calif City Air**	**3.70**	**125**	Pn		Pn	15 27 48.7	+0.7
CCAC					IAML		15 29 07.5	
	comp=E,44nm,1.3s							
CCAC					IAML		15 29 20.4	
	comp=N,44nm,1.2s							
QSM	**Queen of Sheba**	**4.13**	**108**	Pn		Pn	15 27 53.8	-0.1
QSM					IAML		15 29 12.8	
	comp=N,15nm,1.4s							

KRVT **Keravat (AS076 15.74 295** P **P** **16 19 48.9 +0.2**
28nm,0.8s,baz=146,slow=1.3,SNR=6.3
KRVT S **S** **16 22 44.2 -2.0**
20nm,0.7s,baz=29,slow=23,SNR=1.6
KRVT LR LR 16 26 13.5
comp=Z,246nm,19.4s,baz=268,slow=38
PMG Port Moresby 18.95 274 P **Pn** **16 20 25.5 -0.6**
39nm,0.8s,baz=64,slow=7.9,SNR=12
PMG LR LR 16 27 14.6
comp=Z,478nm,18.4s,baz=95,slow=35
PMG Port Moresby 18.95 274 P **P** **16 20 25.0 +1.0**
PMG Port Moresby 18.95 274 P **Pn** **16 20 25.4 -0.7**
PMG Port Moresby 18.95 274 P **Pn** **16 20 25.5 -0.6**
RK1H Rockhampton Ha 19.35 229 P **Pn** **16 20 30.3 -0.4**
PATS Pohnpei 19.63 336 P **P** **16 20 31.9 +0.5**
baz=20,SNR=12
PATS Pohnpei 19.63 336 P **P** **16 20 30.8 -0.6**
PATS Pohnpei 19.63 336 P **P** **16 20 31.3 -0.1**
EIDS Eidsvold 20.17 224 P Pn 16 20 39.1 -1.2
baz=20,SNR=138
EIDS Eidsvold 20.17 224 P **P** **16 20 38.5 +1.4**
EIDS Eidsvold 20.17 224 P Pn 16 20 39.3 -1.0
MANU Manus Island 20.91 294 P **P** **16 20 43.3 -1.9**
CTA Charters Tower 21.23 243 P **P** **16 20 49.6 +1.0**
79nm,0.9s,baz=70,slow=11,SNR=56
CTA LR LR 16 27 31.7
comp=Z,139nm,18.7s,baz=90,slow=32
79nm,0.9s
CTA Charters Tower 21.23 243 P **P** **16 20 49.7 +1.0**
CTAO Charters Tower 21.23 243 P **P** **16 20 49.2 +0.5**
CTAO Charters Tower 21.23 243 P **P** **16 20 49.8 +1.2**
LHI Lord Howe Isla 21.30 197 P **P** **16 20 50.5 +1.4**
baz=22,SNR=3.3
AFI Afiamalu 21.53 99 P **P** **16 20 52.4 +0.4**
24nm,0.9s,baz=210,slow=2.8,SNR=6.0
24nm,0.9s
AFI Afiamalu 21.53 99 P **P** **16 20 51.2 -0.7**
MTSU Mount Surprise 22.37 250 P **P** **16 21 01.1 +0.6**
baz=22,SNR=194
MTSU Mount Surprise 22.37 250 P **P** **16 21 01.5 +1.0**
RMQ Roma 22.48 225 P **P** **16 21 02.7 +1.1**
baz=23,SNR=57
RMQ Roma 22.48 225 P **P** **16 21 02.6 +1.1**
COEN Coen 22.76 261 P **P** **16 21 04.7 +0.3**
baz=23,SNR=86
COEN Coen 22.76 261 P **P** **16 21 04.3 0.0**
COEN Coen 22.76 261 P **P** **16 21 04.7 +0.3**
ARMA Armidale 23.49 213 P **P** **16 21 12.9 +1.9**
baz=24,SNR=48
ARMA Armidale 23.49 213 P **P** **16 21 10.5 -0.5**
ARMA Armidale 23.49 213 P **P** **16 21 12.9 +1.9**
OUZ Omahuta 24.80 166 P **P** **16 21 22.9 +0.3**
OUZ IAmb IAmb 16 21 35.2
comp=Z,50nm,1.5s
QLP Quilpie 25.83 231 P **P** **16 21 33.2 +1.0**
baz=26,SNR=31
QLP Quilpie 25.83 231 P **P** **16 21 33.6 +1.4**
QIS Mount Isa 27.30 247 P **P** **16 21 45.8 +0.3**
baz=27,SNR=12
QIS Mount Isa 27.30 247 P **P** **16 21 46.8 +1.3**
CMSA Cobar Meteorol 27.80 220 P **P** **16 21 50.4 +0.7**
baz=28,SNR=26
CMSA Cobar Meteorol 27.80 220 P **P** **16 21 50.5 +0.7**
HIZ Hauiti 28.23 166 P **P** **16 21 54.5 +0.9**
HIZ Hauiti 28.23 166 P **P** **16 21 54.6 +1.1**
CNB Canberra Magne 28.52 210 P **P** **16 21 57.3 +1.1**
baz=29,SNR=16
CNB Canberra Magne 28.52 210 P **P** **16 21 57.2 +1.0**
URZ Urewera 28.61 162 P **P** **16 21 57.1 +0.3**
comp=Z,10nm,0.6s,baz=290,slow=1.0,SNR=9.3
comp=Z,10nm,0.6s
URZ Urewera 28.61 162 P **P** **16 21 57.2 +0.3**
SMPI Sarmi 28.90 286 P **P** **16 21 59.8 +0.1**
comp=Z,22nm,1.0s
INKA Innaminka 29.09 232 P **P** **16 22 02.4 +1.1**
BKZ Black Stump Fm 29.27 164 P **P** **16 22 02.8 0.0**
BKZ Black Stump Fm 29.27 164 P **P** **16 22 02.8 0.0**
H11S2 WAKE ISLAND Hy 29.52 1 T T 16 53 02.3
baz=182,slow=76,SNR=19
H11S3 WAKE ISLAND Hy 29.52 1 T T 16 52 51.6
baz=182,slow=76,SNR=30
H11S1 WAKE ISLAND Hy 29.54 1 T T 16 52 58.5
baz=182,slow=76,SNR=20
QRZ Quartz Range 30.00 171 P **P** **16 22 10.4 +1.3**
BFZ Birch Farm 30.63 165 P **P** **16 22 14.0 -0.7**
STKA Stephens Creek 30.72 224 P **P** **16 22 16.9 +1.3**
comp=Z,40nm,0.7s,baz=44,slow=8.5,SNR=43
comp=Z,40nm,0.7s
STKA Stephens Creek 30.72 224 P **P** **16 22 17.1 +1.4**
baz=31,SNR=24
STKA Stephens Creek 30.72 224 P **P** **16 22 14.8 -0.8**
STKA IAmb IAmb 16 22 17.9
comp=Z,10nm,0.8s
STKA Stephens Creek 30.72 224 P **P** **16 22 16.9 +1.3**
H11N1 WAKE ISLAND Hy 30.74 1 T T 16 54 29.6
baz=182,slow=76,SNR=19
H11N3 WAKE ISLAND Hy 30.74 1 T T 16 54 23.8
baz=182,slow=76,SNR=11
H11N2 WAKE ISLAND Hy 30.75 1 T T 16 54 27.3
baz=182,slow=76,SNR=11
TUWZ Tuamarina 30.83 169 P **P** **16 22 16.2 -0.2**
SNZO South Karori 30.87 168 P **P** **16 22 16.6 -0.2**
THZ Tophouse 30.97 170 P **P** **16 22 17.7 -0.1**
MSWZ Moikau Station 31.09 167 P **P** **16 22 17.5 -1.2**
PLWZ Palliser 31.24 167 P **P** **16 22 18.5 -1.6**
KHZ Kahutara 31.72 170 P **P** **16 22 24.3 +0.1**
WR0 Warramunga Arr 31.78 250 P **P** **16 22 24.2 -1.0**
LTZ Lake Taylor 31.87 172 P **P** **16 22 24.8 -0.8**
WB0 Warramunga Arr 31.88 251 P **P** **16 22 25.4 -0.6**
WRAB Tennant Creek 31.95 250 P **P** **16 22 25.2 -1.4**
WRAB Tennant Creek 31.95 250 P **P** **16 22 26.6 0.0**
WRAB Tennant Creek 31.95 250 P **P** **16 22 26.1 -0.6**
WB2 Warramunga Arr 31.96 250 P **P** **16 22 25.8 -0.8**
WRA Warramunga Arr 31.97 250 P **P** **16 22 26.8 +0.1**
comp=Z,63nm,0.7s,baz=83,slow=9.0,SNR=465
WRA PcP **PcP** **16 25 14.4 +0.5**
comp=Z,2.3nm,0.8s,baz=74,slow=3.0,SNR=4.0
WRA LR LR 16 33 57.3
comp=Z,176nm,19.2s,baz=72,slow=33
WRA Warramunga Arr 31.97 250 P **P** **16 22 24.9 -1.9**
TOO Toolangi 32.23 212 P **P** **16 22 30.0 +1.2**
baz=32,SNR=5.3
TOO Toolangi 32.23 212 P **P** **16 22 29.0 +0.2**
TOO IAmb IAmb 16 22 30.8
comp=Z,19nm,0.8s
FOZ Fox Glacier 32.34 175 P **P** **16 22 29.9 +0.2**
LCRK Leigh Creek 32.36 230 P **P** **16 22 30.3 +0.3**
OXZ Oxford 32.38 172 P **P** **16 22 28.8 -1.1**
GUMO Guam 32.56 319 LR LR 16 34 59.1
comp=Z,54nm,21.5s,baz=154,slow=35
RPZ Rata Peaks 32.64 174 P **P** **16 22 32.2 -0.1**
comp=Z,45nm,0.8s,baz=128,slow=6.4,SNR=24
comp=Z,45nm,0.8s
RPZ Rata Peaks 32.64 174 P **P** **16 22 32.5 +0.1**
RPZ Rata Peaks 32.64 174 P **P** **16 22 32.4 +0.1**
OOD Oodnadatta 33.13 236 P **P** **16 22 37.1 +0.4**
KDU Kakadu 33.15 264 P **P** **16 22 36.9 -0.1**
baz=33,SNR=27
KDU Kakadu 33.15 264 P **P** **16 22 36.8 -0.2**
LBZ Lake Benmore 33.22 175 P **P** **16 22 36.2 -1.2**
LBZ IAmb IAmb 16 22 38.9
comp=Z,26nm,0.8s
AS31 Alice Springs 33.23 244 P **P** **16 22 36.4 -1.3**
AS31 IAmb IAmb 16 22 38.0
comp=Z,9.3nm,0.9s
ASAR Alice Springs 33.23 244 P **P** **16 22 37.3 -0.5**
comp=Z,28nm,0.8s,baz=65,slow=10,SNR=221
ASAR pP **pP** **16 23 06.5 +2.6**
comp=Z,8.2nm,0.7s,baz=73,slow=9.5,SNR=4.1
ASAR PcP **PcP** **16 25 17.1 -0.3**
comp=Z,3.1nm,0.9s,baz=77,slow=3.7,SNR=4.8
ASAR LR LR 16 34 26.2
comp=Z,64nm,20.6s,baz=110,slow=33
comp=Z,28nm,0.8s
ASAR Alice Springs 33.23 244 P **P** **16 22 36.9 -0.9**
HTT Hallett 33.45 224 P **P** **16 22 40.5 +1.0**
baz=34,SNR=15
HTT Hallett 33.45 224 P **P** **16 22 40.6 +1.0**
ARPS Mount Arapiles 33.69 217 P **P** **16 22 41.7 +0.2**
ODZ Otahua Downs 33.91 175 P **P** **16 22 43.5 +0.2**
DCZ Deep Cove 34.14 179 P **P** **16 22 45.3 +0.1**
DCZ IAmb IAmb 16 22 47.1
comp=Z,32nm,1.3s
WHYH Whyalla 34.17 226 P **P** **16 22 46.5 +0.8**
MTN Manton Dam 34.45 264 P **P** **16 22 48.2 -0.2**
baz=34,SNR=16
MTN Manton Dam 34.45 264 P **P** **16 22 47.6 -0.7**
MTN Manton Dam 34.45 264 P **P** **16 22 48.9 +0.6**
TWOA Tennyson Woods 34.62 222 P **P** **16 22 50.6 +1.1**
FAKI Fak Fak 34.78 281 P **P** **16 22 52.2 +1.0**
BBOO Buckleboo 35.14 228 P **P** **16 22 55.0 +0.9**
baz=35,SNR=29
BBOO Buckleboo 35.14 228 P **P** **16 22 54.1 0.0**
BBOO Buckleboo 35.14 228 P **P** **16 22 54.9 +0.9**
MOO Moorlands 35.31 205 P **P** **16 22 56.5 +1.1**
MULG Mulgathing 35.46 233 P **P** **16 22 56.8 0.0**
SIJI Sorong 36.30 284 LR LR 16 37 29.4
comp=Z,95nm,21.7s,baz=62,slow=35
SWI Sorong 36.31 284 P **P** **16 23 04.1 -0.2**
comp=Z,18nm,0.7s
BNDI Bandanaira 36.66 278 P **P** **16 23 07.3 0.0**
comp=Z,9µmcomp=Z,262nm,1.0s
KNRA Kununurra 36.77 259 P **P** **16 23 08.5 +0.3**
baz=37,SNR=52
KNRA Kununurra 36.77 259 P **P** **16 23 07.4 -0.8**
KNRA Kununurra 36.77 259 P **P** **16 23 08.5 +0.3**
AAI Ambon 38.51 278 P **P** **16 23 23.2 +0.3**
comp=Z,21nm,1.1s
WRKA Warakurna 38.53 244 P **P** **16 23 22.8 -0.1**
baz=39,SNR=24
WRKA Warakurna 38.53 244 P **P** **16 23 22.8 -0.1**
NLAI Namlea 39.68 278 P **P** **16 23 33.1 +0.5**
comp=Z,39nm,1.0s
FITZ Fitzroy Crossi 39.89 255 LR LR 16 40 22.4
comp=Z,88nm,18.2s,baz=271,slow=36
FITZ Fitzroy Crossi 39.89 255 P **P** **16 23 34.5 +0.2**
baz=40,SNR=174
FITZ Fitzroy Crossi 39.89 255 P **P** **16 23 34.3 0.0**
FITZ Fitzroy Crossi 39.89 255 P **P** **16 23 34.6 +0.3**
LBMI Labuha 39.97 283 P **P** **16 23 35.6 +0.6**
comp=Z,669nmcomp=Z,36nm,0.9s
FORT Forrest 40.42 235 P **P** **16 23 39.3 +0.9**
baz=40,SNR=10
FORT Forrest 40.42 235 P **P** **16 23 37.6 -0.9**
FORT Forrest 40.42 235 P **P** **16 23 39.1 +0.6**
TNTI Ternate 40.52 285 P **P** **16 23 39.3 -0.2**
TNTI IAmb IAmb 16 23 45.5
comp=Z,17nm,1.0s
SANI Sanana 41.04 280 P **P** **16 23 43.2 -0.6**
comp=Z,19nm,0.7s
BATI Baumata 41.91 267 LR LR 16 42 04.4
comp=Z,132nm,19.2s,baz=110,slow=37
BATI Baumata 41.91 267 P **P** **16 23 52.1 +1.2**
comp=Z,32nm,1.1s
PPT2 Papeete2 43.10 104 eLR LR 16 36 10.8
comp=Z,233nm,28.5s
MMRI Maumere 43.48 269 P **P** **16 24 02.9 -0.7**
MMRI Maumere 43.48 269 P **P** **16 24 03.2 -0.4**
comp=Z,50nm,1.1s
EDFI Ende, Flores 44.00 269 P **P** **16 24 07.0 -0.9**
comp=Z,12nm,1.2s
LUWI Luwuk 44.41 280 P **P** **16 24 09.8 -1.1**
LUWI Luwuk 44.41 280 P **P** **16 24 11.4 +0.4**
comp=Z,43nm,1.2s
GTOI Gorontalo 44.63 282 P **P** **16 24 13.5 +0.8**
comp=Z,6.3nm,0.9s
APSI Ampana 45.53 280 P **P** **16 24 20.4 +0.6**
comp=Z,20nm,0.9s
PSA00 Pilbara Seismi 45.62 251 P **P** **16 24 20.9 +0.4**
PSA00 Pilbara Seismi 45.62 251 P **P** **16 24 20.4 0.0**
PSA00 IAmb IAmb 16 24 22.5
comp=Z,64nm,1.0s
PSA00 Pilbara Seismi 45.62 251 P **P** **16 24 21.5 +1.0**
MBWA Marble Bar 45.69 251 P **P** **16 24 21.5 +0.5**
MBWA Marble Bar 45.69 251 P **P** **16 24 21.9 +0.9**
MBWA Marble Bar 45.69 251 P **P** **16 24 21.9 +0.9**
MBWA pP **pP** **16 24 47.5 -1.6**
MBWA sP **pwP** **16 25 01.1 +4.5**
BNSI Bone 46.25 275 P **P** **16 24 26.1 +0.6**
comp=Z,40nm,0.8s
KAPI Kappang 46.48 274 LR LR 16 47 04.9
comp=Z,46nm,18.2s,baz=88,slow=40
KAPI Kappang 46.48 274 P **P** **16 24 27.5 +0.2**
KAPI IAmb IAmb 16 24 28.5
comp=Z,17nm,0.8s
MEEK Meekatharra 47.39 244 P **P** **16 24 34.0 -0.2**
baz=48,SNR=19
MEEK Meekatharra 47.39 244 P **P** **16 24 35.1 +0.8**
MPSI Mapaga 47.54 281 P **P** **16 24 34.6 -0.9**
comp=Z,13nm,0.8s
PLAI Plampang 47.83 268 P **P** **16 24 37.4 -0.4**
TWSI Taliwang, Sumb 48.72 268 P **P** **16 24 44.3 -0.3**
comp=Z,15nm,0.8s
KLBR Kellerberrin 49.10 238 P **P** **16 24 47.3 0.0**
baz=49,SNR=19
KLBR Kellerberrin 49.10 238 P **P** **16 24 47.5 +0.2**
BLDU Ballidu 49.77 239 P **P** **16 24 52.5 +0.2**
baz=50,SNR=11
BLDU Ballidu 49.77 239 P **P** **16 24 52.7 +0.3**
NWAO Narrogin (SRO) 49.85 236 LR LR 16 44 59.3
comp=Z,176nm,19.8s,baz=262,slow=35
NWAO Narrogin (SRO) 49.85 236 P **P** **16 24 53.4 +0.4**
baz=50,SNR=13
NWAO P **P** **16 24 53.4 +0.4**
baz=50,SNR=13
NWAO Narrogin (SRO) 49.85 236 P **P** **16 24 52.9 -0.1**
NWAO Narrogin (SRO) 49.85 236 P **P** **16 24 53.4 +0.4**
NWAO Narrogin (SRO) 49.85 236 P **P** **16 24 52.6 -0.3**
MORW Morawa 50.05 241 P **P** **16 24 54.0 -0.5**
baz=50,SNR=6.2
MORW Morawa 50.05 241 P **P** **16 24 54.4 -0.1**
MORW Morawa 50.05 241 P **P** **16 24 54.9 +0.4**
MYLDM Lahad Datu 50.31 286 P **P** **16 24 57.1 +0.5**
MUN Mundaring 50.48 238 P **P** **16 24 56.8 -0.9**
baz=51,SNR=8.3
MUN Mundaring 50.48 238 P **P** **16 24 58.0 +0.3**
JAGI Jajag, Banyuwa 51.43 268 P **P** **16 25 03.7 -1.3**
JAGI Jajag, Banyuwa 51.43 268 P **P** **16 25 04.0 -1.1**
comp=Z,59nm,0.9s
JAGI Jajag, Banyuwa 51.43 268 P **P** **16 25 03.8 -1.3**
KKM Kota Kinabalu 52.74 286 P **P** **16 25 14.5 -0.3**
KKM Kota Kinabalu 52.74 286 P **P** **16 25 14.9 +0.1**
MJAR Matsushiro Arr 54.38 332 P **P** **16 25 24.6 -1.7**
comp=Z,1.1nm,0.5s,baz=166,slow=7.4,SNR=4.4
comp=Z,1.1nm,0.5s
PCJI Pacitan 54.39 268 P **P** **16 25 27.0 +0.2**
comp=Z,80nm,1.0s
UGM Wanagama 55.07 268 P **P** **16 25 31.7 0.0**
STKI Sintang 55.63 278 P **P** **16 25 36.5 +0.8**
comp=Z,9.2nm,0.6s
LEM Lembang 58.08 269 LR LR 16 54 34.6
comp=Z,26nm,18.7s,baz=64,slow=40
LEM Lembang 58.08 269 P **P** **16 25 53.4 +0.2**
comp=Z,42nm,0.7s
DRV Dumont d'Urvil 58.16 192 P **P** **16 25 52.7 +0.1**
DRV pP **pP** **16 26 21.0 -1.9**
SBJI Serang 59.65 269 P **P** **16 25 59.2 -4.6**
comp=Z,7µmcomp=Z,393nm,1.0s
KSRS Korea Array 60.34 325 P **P** **16 26 07.5 -0.6**
comp=Z,1.1nm,0.7s,baz=139,slow=7.2,SNR=4.3
comp=Z,1.1nm,0.7s
PPBI Pangkal Pinang 60.36 274 P **P** **16 26 08.8 +0.1**
comp=Z,23µmcomp=Z,8.5nm,0.9s
USRK Ussuriysk Ar. 63.36 333 P **P** **16 26 28.5 +0.4**
comp=Z,5.0nm,1.1s,baz=145,slow=7.0,SNR=7.0
comp=Z,5.0nm,1.1s
USRK Ussuriysk Ar. 63.36 333 P **P** **16 26 26.8 -1.3**
PETK Petropavlovsk- 64.49 354 P **P** **16 26 35.5 +0.1**
comp=Z,5.1nm,0.9s,baz=177,slow=8.7,SNR=1.8
comp=Z,5.1nm,0.9s
BKNI Bangkinang 65.86 275 P **P** **16 26 45.2 +0.2**
CN2 Changchun 66.18 329 eP **P** **16 26 43.5 -3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
VNDA Vanda 66.34 181 P **P** **16 26 47.4 +0.4**
comp=Z,2.6nm,0.7s,baz=352,slow=7.5,SNR=16
comp=Z,2.6nm,0.7s
VNDA Vanda 66.34 181 P **P** **16 26 46.8 -0.1**
VNDA Vanda 66.34 181 P **P** **16 26 47.4 +0.4**
VNDA pP **PcP** **16 27 16.8 +0.9**
CASY Casey 66.43 201 P **P** **16 26 47.0 -0.7**
CASY Casey 66.43 201 P **P** **16 26 47.3 -0.5**
CASY pP **PcP** **16 27 15.3 -1.0**
SBA Scott Base 66.63 180 P **P** **16 26 50.3 +1.5**
SBA IAmb IAmb 16 26 51.5
comp=Z,13nm,0.9s
SBA Scott Base 66.63 180 P **P** **16 26 50.4 +1.5**
SBA pP **pP** **16 27 19.8 -0.2**
LYN LuoYang 68.38 314 eP **P** **16 27 02.8 +2.3**
BJI Beijing 68.97 321 P **P** **16 27 04.8 +0.7**
BJI pmax pmax
comp=Z,7.0nm,1.0s
GSI Gunungsitoli 69.45 276 P **P** **16 27 06.8 -0.8**
GSI Gunungsitoli 69.45 276 P **P** **16 27 06.8 -0.8**
comp=Z,35nm,0.7s
XAN Xi'an 70.66 312 ⇑P **P** **16 27 15.3 +0.7**
XAN pP pP 16 27 46.3 -0.3
XAN sP sP 16 27 59.3 -1.3
XAN pmax pmax
comp=Z,12nm,0.9s
XLT XiLinHaoTe 71.34 324 eP **P** **16 27 19.0 +0.5**
XLT pP pP 16 27 51.8 +1.1
XLT sP sP 16 28 04.5 -0.2
XLT pmax pmax
comp=Z,13nm,1.1s
XLT pmax pmax
comp=Z,160nm,3.7s
CHNA Chernabura Isl 71.78 20 P **P** **16 27 20.0 -0.8**
baz=215
HHC Hu-ho-hao-te 72.33 319 eP **P** **16 27 28.0 +3.4**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,160nm,6.0s
HHC LR LR
comp=Z,370nm,14.0s
HHC LR LR
comp=Z,550nm,14.0s
HHC LR LR
comp=Z,570nm,15.9s
CM31 Chiang Mai Arr 72.71 293 P **P** **16 27 26.9 -0.2**
CMAR Chiang Mai Arr 72.71 293 P **P** **16 27 28.0 +0.9**
comp=Z,6.8nm,1.1s,baz=115,slow=4.0,SNR=19
CMAR pP **pP** **16 27 56.5 -2.7**
comp=Z,2.0nm,0.8s,baz=123,slow=4.3,SNR=3.6
comp=Z,6.8nm,1.1s
CMAR Chiang Mai Arr 72.71 293 P **P** **16 27 27.2 +0.1**
CHTO Chiang Mai 72.82 294 P **P** **16 27 27.8 0.0**
PZH PanZhiHua 73.05 302 P P 16 27 33.8 +4.6
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,150nm,4.7s
LZH Lanzhou 75.30 312 eP **P** **16 27 44.3 +2.2**
LZH pP pP 16 28 12.5 -1.8
LZH sP sP 16 28 28.0 -0.2
LZH pmax pmax
comp=Z,25nm,1.2s
Q17K Contact Creek 75.77 20 P **P** **16 27 42.6 -1.6**
baz=218
Q16K King Salmon 75.84 19 P **P** **16 27 43.2 -1.2**
baz=218
OHAK Old Harbor 75.85 21 P **P** **16 27 43.7 -0.7**
baz=221
Q18K Katmai Hardscr 76.36 20 P **P** **16 27 47.0 -0.5**
baz=219
O17K Koliganek Bris 76.58 18 P **P** **16 27 47.9 -0.7**
baz=217
N16K Nishlik Lake 76.66 17 P **P** **16 27 48.3 -0.7**
baz=215
P18K Big Mountain, 76.86 19 IAmb IAmb 16 27 50.1
comp=Z,17nm,0.7s
P18K Big Mountain, 76.86 19 P **P** **16 27 49.1 -1.2**
baz=219
Q19K Cape Douglas, 77.03 20 P **P** **16 27 50.0 -1.2**
baz=220
O18K Koktuh Hills 77.23 19 P **P** **16 27 51.5 -0.8**
baz=219
P19K Oil Pt 77.72 20 P **P** **16 27 54.3 -0.7**
baz=221
SVW2 Sparrevohn 78.09 18 P **P** **16 27 56.9 -0.2**
SVW2 IAmb IAmb 16 27 58.5
comp=Z,13nm,1.1s
N19K Bonanza Creek 78.21 18 P **P** **16 27 57.5 -0.3**
baz=219
O20K Slope Mountain 78.24 20 P **P** **16 27 57.7 -0.2**
baz=221
BRLK Bradley Lake 78.59 21 P **P** **16 27 59.1 -0.7**
BRLK IAmb IAmb 16 28 00.5
comp=Z,12nm,0.8s
BRSE Bradley Lake S 78.62 21 P **P** **16 27 59.4 -0.5**
baz=223
ULN Ulaanbaatar 78.77 324 P **P** **16 28 01.5 +0.3**
QSPA South Pole Qui 78.79 180 P **P** **16 28 00.6 -0.4**
M19K Big River Lodg 79.08 18 IAmb IAmb 16 28 40.6
comp=Z,51nm,1.9s
M19K Big River Lodg 79.08 18 P **P** **16 28 02.0 -0.5**
baz=219
SONM Songino Array 79.14 324 P **P** **16 28 02.6 -0.6**
comp=Z,0.8nm,0.5s,baz=139,slow=5.9,SNR=9.1
SONM pP **pP** **16 28 36.0 0.0**
comp=Z,1.5nm,0.8s,baz=141,slow=4.7,SNR=4.3
comp=Z,0.8nm,0.5s
L19K White Mountain 79.16 17 P **P** **16 28 02.6 -0.3**
L19K IAmb IAmb 16 28 04.0
comp=Z,8.5nm,0.8s
L19K White Mountain 79.16 17 P **P** **16 28 02.7 -0.1**
baz=219
M20K Styx River 79.45 18 P **P** **16 28 03.6 -0.9**
baz=220
GTA Gaotai 79.59 314 ⇑P **P** **16 28 07.0 +1.2**
GTA pP pP 16 28 36.8 -1.7
GTA sP sP 16 28 52.0 -0.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
L20K Farewell, AK 79.68 18 P **P** **16 28 05.0 -0.7**
baz=220
PWL Port Wells 80.26 21 IAmb IAmb 16 28 09.6
comp=Z,20nm,1.2s
PWL Port Wells 80.26 21 P **P** **16 28 07.9 -0.9**
baz=225
KNK Knik Glacier 80.61 20 P **P** **16 28 10.1 -0.6**
KNK IAmb IAmb 16 28 21.8
comp=Z,20nm,0.8s
J20K Nowinta River 80.92 16 P **P** **16 28 11.7 -0.6**
baz=219
CAST Castle Rocks 80.93 18 P **P** **16 28 11.1 -1.2**
CAST IAmb IAmb 16 28 14.7
comp=Z,10nm,0.8s
CAST Castle Rocks 80.93 18 P **P** **16 28 11.5 -0.8**
baz=221,SNR=7.3
SML Sawmill 80.94 20 IAmb IAmb 16 28 13.5
comp=Z,14nm,1.2s
SML Sawmill 80.94 20 P **P** **16 28 11.6 -0.8**
baz=225
EYAK Cordova Ski Ar 80.97 22 P **P** **16 28 12.3 -0.2**
baz=227
KAIM Kayak Island 81.05 23 P **P** **16 28 12.9 0.0**
baz=229
CHUM Lake Minchumin 81.22 17 P **P** **16 28 13.8 0.0**
baz=221
SCM Sheep Creek Mo 81.30 20 IAmb IAmb 16 28 16.4
comp=Z,13nm,0.9s
SCM Sheep Creek Mo 81.30 20 P **P** **16 28 14.0 -0.3**
baz=226,SNR=6.5
DIV Divide 81.35 21 IAmb IAmb 16 28 15.6
comp=Z,17nm,0.7s
HMT Hamilton 81.38 22 P **P** **16 28 14.8 0.0**
HMT IAmb IAmb 16 28 16.8
comp=Z,9.9nm,0.9s
TRF Thorofare Moun 81.50 18 IAmb IAmb 16 29 51.6
comp=Z,34nm,1.9s
TRF Thorofare Moun 81.50 18 P **P** **16 28 15.0 -0.5**
baz=223
WAT1 Susitna Watana 81.59 19 P **P** **16 28 15.8 0.0**
baz=225
BERG Berg Lake 81.62 23 P **P** **16 28 16.1 0.0**
BERG IAmb IAmb 16 28 17.7
comp=Z,21nm,0.9s
BMRM Bremner River 81.67 22 P **P** **16 28 16.2 -0.1**
baz=228
WAT6 Susitna Watana 81.68 20 P **P** **16 28 15.7 -0.8**
baz=225,SNR=7.1
M24K Tolsona, Glenn 81.88 20 IAmb IAmb 16 28 19.1
comp=Z,26nm,0.9s
M24K Tolsona, Glenn 81.88 20 P **P** **16 28 17.2 -0.2**
baz=227,SNR=7.6
WAX Waxell Ridge 81.98 23 IAmb IAmb 16 28 18.9
comp=Z,8.9nm,0.6s
N25K Chitina, Valde 82.09 21 IAmb IAmb 16 28 19.4
comp=Z,10nm,0.7s
N25K Chitina, Valde 82.09 21 P **P** **16 28 18.3 -0.3**
baz=228,SNR=13
MCK McKinley 82.12 18 P **P** **16 28 17.4 -1.2**
MCK IAmb IAmb 16 28 20.4
comp=Z,21nm,1.3s
MCK McKinley 82.12 18 P **P** **16 28 18.5 -0.1**

baz=224
DHY Denali Highway 82.15 19 P P 16 28 17.1 -1.8
DHY IAmb IAmb 16 28 57.4
comp=Z,20nm,1.6s
DHY Denali Highway 82.15 19 P P 16 28 19.1 +0.1
baz=226
MESA MESA 82.16 23 IAmb IAmb 16 28 25.8
comp=Z,17nm,0.8s
MESA MESA 82.16 23 P P 16 28 18.9 -0.1
baz=231
GLB Gilahina Butte 82.27 22 IAmb IAmb 16 28 20.0
comp=Z,7.7nm,0.8s
ISLE Juniper Island 82.28 23 IAmb IAmb 16 28 20.2
comp=Z,9.6nm,0.9s
I21K Tanana 82.29 16 IAmb IAmb 16 28 20.9
comp=Z,15nm,1.2s
I21K Tanana 82.29 16 P P 16 28 20.0 +0.6
baz=221
HARP HAARP 82.43 21 P P 16 28 20.9 +0.7
baz=228
MCARA McCarthy VSAT 82.52 22 P P 16 28 20.1 -0.5
MCARA McCarthy VSAT 82.52 22 P P 16 28 20.5 -0.2
baz=230
MLY Manley 82.53 17 P P 16 28 20.5 -0.3
baz=222
TABL Table Mountain 82.63 23 IAmb IAmb 16 28 22.8
comp=Z,19nm,1.1s
NEA2 Nenana 82.70 18 P P 16 28 21.4 -0.2
baz=224
PAX Paxson 82.71 20 P P 16 28 21.7 0.0
baz=227
PINM Pinnacle 82.77 24 P P 16 28 22.1 0.0
baz=232
CTG Chitna Glacier 82.89 23 P P 16 28 22.5 -0.3
baz=231
CTGM Chitina Glacie 82.89 23 P P 16 28 22.5 -0.3
CTGM IAmb IAmb 16 28 24.1
comp=Z,18nm,0.9s
G21K Allakaket 82.91 15 P P 16 28 22.4 -0.2
baz=220
WRH Wood River Hil 82.91 18 IAmb IAmb 16 28 23.4
comp=Z,8.5nm,0.8s
LOGN Logan Glacier 82.93 23 IAmb IAmb 16 28 24.2
comp=Z,11nm,1.0s
H22K Ishtalitna Cre 83.00 16 P P 16 28 23.2 +0.1
baz=222
I23K Minto, Yukon-K 83.02 17 P P 16 28 23.6 +0.5
baz=224
SIT Sitka 83.14 28 P P 16 28 23.7 -0.2
baz=237
K24K Donnelly Dome 83.17 19 P P 16 28 24.2 +0.1
baz=227,SNR=5.6
M26K Nabesna, AK 83.19 21 IAmb IAmb 16 28 25.4
comp=Z,15nm,0.9s
M26K Nabesna, AK 83.19 21 P P 16 28 24.3 +0.1
baz=230,SNR=20
O28M Mount Upton 83.21 23 P P 16 28 23.8 -0.8
baz=232
MDM Murphy Dome 83.21 18 IAmb IAmb 16 28 24.8
comp=Z,8.5nm,0.8s
HDA Harding Lake 83.22 19 P P 16 28 24.1 -0.1
baz=226,SNR=21
TCOL CIGO, UAF Yank 83.26 18 IAmb IAmb 16 28 25.4
comp=Z,18nm,0.8s
TCOL CIGO, UAF Yank 83.26 18 P P 16 28 24.1 -0.3
baz=225
COLA College 83.27 18 P P 16 28 24.2 -0.2
COLA IAmb IAmb 16 28 25.5
comp=Z,18nm,0.8s
COLA College 83.27 18 P P 16 28 23.9 -0.5
baz=225
MENT Mentasta 83.28 21 IAmb IAmb 16 28 26.1
comp=Z,11nm,1.1s
J01E Myrtle Point 83.28 44 P P 16 28 24.8 -0.2
baz=248
K02D Willamette Mer 83.29 44 P P 16 28 25.3 +0.1
baz=248
RIDG Independent Ri 83.44 20 IAmb IAmb 16 28 27.2
comp=Z,21nm,1.0s
RIDG Independent Ri 83.44 20 P P 16 28 24.6 -0.8
baz=228,SNR=13
H23K Yukon River 83.45 17 P P 16 28 24.9 -0.6
baz=223,SNR=5.1
F21K Alatna River 83.46 15 P P 16 28 25.2 -0.2
baz=220
L26K Log Cabin Wild 83.47 21 IAmb IAmb 16 28 27.1
comp=Z,15nm,1.0s
L26K Log Cabin Wild 83.47 21 P P 16 28 25.4 -0.2
baz=229
IL31 83.49 18 P P 16 28 24.2 -1.3
ILAR Eielson Array 83.49 18 P P 16 28 25.1 -0.5
comp=Z,3.5nm,0.6s,baz=237,slow=6.0,SNR=34
ILAR pP **pP 16 28 58.1 -0.2**
comp=Z,1.7nm,0.7s,baz=246,slow=5.8,SNR=3.1
comp=Z,3.5nm,0.6s
P29M Windy Craggy 83.52 25 P P 16 28 25.5 -0.5
baz=235
M27K Edge Creek, AK 83.56 22 IAmb IAmb 16 28 27.8
comp=Z,12nm,0.9s
M27K Edge Creek, AK 83.56 22 P P 16 28 25.8 -0.4
baz=231,SNR=11
POKR Poker Plat Res 83.56 18 P P 16 28 25.4 -0.6
baz=225
O29M Mount Kennedy 83.57 24 P P 16 28 25.6 -0.7
baz=234
YBH Yreka Blue Hor 83.60 45 P P 16 28 27.4 +0.6
YBH IAmb IAmb 16 28 29.2
comp=Z,11nm,1.1s
DOT Dot Lake 83.64 20 IAmb IAmb 16 28 27.6
comp=Z,19nm,0.9s
YUK3 Moose Creek 83.72 23 P P 16 28 26.5 -0.6
baz=232
G22K Bettles 83.73 15 P P 16 28 27.1 +0.3
baz=221
J25K Salcha River, 83.86 19 IAmb IAmb 16 28 28.6
comp=Z,15nm,0.8s
J25K Salcha River, 83.86 19 P P 16 28 27.6 0.0
baz=227,SNR=26
SCRK Sand Creek 83.88 20 IAmb IAmb 16 28 29.1
comp=Z,21nm,1.0s
SCRK Sand Creek 83.88 20 P P 16 28 27.9 +0.2
baz=229,SNR=22
BVCY Beaver Creek 83.97 22 P P 16 28 28.8 +0.6
baz=232
G23K Bananza Creek 83.97 16 P P 16 28 28.1 +0.1
baz=223
PLBC Pleasant Camp 84.00 26 P P 16 28 28.1 -0.2
baz=236
F22K John River 84.00 15 P P 16 28 28.8 +0.6
baz=221
CMB Columbia Colle 84.01 50 IAmb IAmb 16 29 00.7
comp=Z,7.3nm,0.6s
V35K Ketchikan 84.02 31 P P 16 28 28.4 -0.1
baz=241
L27K Beaver Creek, 84.03 21 P P 16 28 28.9 +0.4
baz=231,SNR=10
BCAR Beaver Creek A 84.04 21 P P 16 28 28.3 -0.2
P30M Million Dollar 84.12 25 P P 16 28 29.3 +0.3
baz=236
YUK4 Talbot Arm 84.16 23 P P 16 28 29.9 +0.5
baz=234
R32K Eaglecrest 84.16 27 P P 16 28 29.4 +0.3
baz=238
WRAK Wrangell Islan 84.20 29 P P 16 28 29.8 +0.4
baz=240
HYT Haines Junctio 84.30 24 P P 16 28 29.8 -0.1
baz=235
COLD Coldfoot 84.30 16 P P 16 28 30.0 +0.3
baz=223
J26L Joseph Creek 84.36 19 P P 16 28 30.3 +0.1
baz=229,SNR=7.2
SKAG Skagway 84.44 26 P P 16 28 30.7 +0.2
baz=237
K27K Chicken 84.55 20 P P 16 28 31.8 +0.8
baz=230
BEKR Beckworth 84.63 48 P P 16 28 31.1 -1.1
G24K Hadweenzic Riv 84.67 17 P P 16 28 31.6 +0.1
baz=225,SNR=5.1
N30M Aishikik Lake 84.83 24 P P 16 28 32.2 -0.4
baz=235
O30N Mendenhall 84.84 25 P P 16 28 32.7 0.0
baz=236
H25K Birch Creek 84.85 18 P P 16 28 32.6 +0.2
baz=227
WAKR Walker 84.87 49 P P 16 28 33.6 +0.1
WAKR IAmb IAmb 16 29 05.5
comp=Z,6.4nm,0.6s
M29M Somme Creek 84.87 23 P P 16 28 32.7 -0.1
baz=234
I26K Coal Creek Min 85.02 19 IAmb IAmb 16 28 34.9
comp=Z,14nm,0.9s
I26K Coal Creek Min 85.02 19 P P 16 28 33.9 +0.6
baz=229
E23K Chandalar 85.07 15 P P 16 28 34.2 +0.6
baz=223
F24K Segaw Lake 85.14 16 P P 16 28 34.4 +0.5
baz=225
J05D Fort Rock, OR 85.17 44 P P 16 28 34.4 -0.4
baz=250
P32M Atlin 85.20 26 P P 16 28 34.7 +0.2
baz=238
LRMC Laurel Mtn Rad 85.28 53 P P 16 28 35.0 -0.5
baz=253
EGAK Eagle 85.34 20 P P 16 28 34.6 -0.3
EGAK IAmb IAmb 16 28 36.4
comp=Z,14nm,0.8s
EGAK Eagle 85.34 20 P P 16 28 35.4 +0.5
baz=231,SNR=13
N31M Braeburn, Yuko 85.37 24 P P 16 28 35.5 +0.4
baz=236
L29M L29M 85.39 22 P P 16 28 35.4 +0.1
baz=234
D23K Nanushuk River 85.47 14 P P 16 28 36.5 +1.0
baz=222
DAWY Dawson 85.50 21 IAmb IAmb 16 28 37.2
comp=Z,7.2nm,0.9s
DAWY Dawson 85.50 21 P P 16 28 36.0 +0.2
baz=233,SNR=6.1
TOLK Toolik Lake Re 85.50 15 P P 16 28 36.1 +0.4
baz=223
Q32M Nakina River 85.52 27 P P 16 28 36.0 -0.2
baz=240
S34M Telegraph Cree 85.52 28 P P 16 28 36.0 +0.1
baz=241
MONP2 Monument Peak 85.54 55 P P 16 28 36.8 -0.2
baz=254
NVAR Mina Array Bea 85.69 50 P P 16 28 37.5 0.0
comp=Z,3.2nm,0.8s,baz=237,slow=7.8,SNR=13
NVAR pP **pP 16 29 10.6 +0.3**
comp=Z,4.6nm,1.0s,baz=227,slow=7.7,SNR=3.1
comp=Z,3.2nm,0.8s
I27K Kandik River 85.71 19 P P 16 28 36.9 0.0
baz=231,SNR=5.6
F25K Christian Rive 85.81 17 P P 16 28 37.0 -0.3
baz=227
G26K Porcupine Rive 85.91 18 P P 16 28 37.8 +0.2
baz=229,SNR=20
P33M Teslin, Yukon 85.92 26 P P 16 28 37.9 0.0
baz=239
BMAR Burnt Mountain 86.00 17 P P 16 28 39.0 +0.8
KVN Kaiserville 86.03 49 P P 16 28 38.4 -0.9
K29M Barlow Dome 86.04 22 P P 16 28 38.1 -0.5
baz=235
D24K Happy Valley 86.06 15 P P 16 28 38.9 +0.4
baz=224
H27K Steamboat Moun 86.13 19 P P 16 28 39.2 +0.3
baz=231
C23K Itkillik River 86.14 14 P P 16 28 39.2 +0.5
baz=222
BELC Belle Mtn. Jos 86.19 54 P P 16 28 39.3 -0.7
baz=254
E25K Arctic Village 86.19 16 P P 16 28 39.6 +0.5
baz=227
R33M Jennings River 86.32 27 P P 16 28 39.9 -0.2
baz=241
G27K Doyon Strip 86.46 18 P P 16 28 40.9 +0.4
baz=231,SNR=5.0
C24K Franklin Bluff 86.50 14 P P 16 28 41.1 +0.6
baz=224
I29M Ogilvie Camp, 86.65 20 IAmb IAmb 16 28 42.6
comp=Z,8.4nm,0.8s
I29M Ogilvie Camp, 86.65 20 P P 16 28 41.7 +0.3
baz=234
IRM Iron Mountain 86.91 54 P P 16 28 43.1 -0.3
baz=254
J08A Circle Bar Ran 87.09 45 P P 16 28 43.4 -0.7
E27K Coleen River 87.35 17 P P 16 28 45.2 +0.5
baz=231
G08A Pilot Rock 87.38 43 P P 16 28 45.3 -0.2
C26K Camden Bay 87.59 15 P P 16 28 46.6 +0.9
baz=224
C27K Jago River 87.70 16 P P 16 28 47.5 +1.1
baz=229
R11A Troy Canyon, C 87.71 50 P P 16 28 47.4 +0.1
baz=254
PDMCI Parker Dam,Lak 87.75 55 P P 16 28 47.7 +0.3
baz=255
EPYK Eagle Plains 87.77 20 P P 16 28 47.1 +0.3
baz=235
214A Organ Pipe Nat 88.24 57 P P 16 28 50.0 +0.2
baz=256
SPR3 Spring Creek 3 88.83 50 P P 16 28 52.3 -0.5
SPR3 IAmb IAmb 16 29 24.2
comp=Z,8.8nm,1.4s
KNB Kanab 89.48 52 IAmb IAmb 16 30 02.7
comp=Z,22nm,1.7s
WMQ Urumqi 89.62 315 eP P 16 28 56.5 +0.5
WMQ pP pP 16 29 27.5 -1.6
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ LR LR
comp=Z,360nm,19.9s
WMQ LR LR
comp=Z,500nm,16.3s
WMQ LR LR
comp=Z,250nm,18.5s
U15A North Rim 89.75 53 IAmb IAmb 16 28 59.2
comp=Z,7.3nm,0.8s
HLID Hailey 89.98 46 P P 16 28 57.4 -0.4
HLID Hailey 89.98 46 P P 16 28 58.7 +0.8
baz=254
TUC Tucson 89.99 57 P P 16 28 57.6 -0.5
TUC Tucson 89.99 57 P P 16 28 58.5 +0.4
baz=257
MTPU Mount Pierson 90.22 51 IAmb IAmb 16 29 01.9
comp=Z,5.5nm,0.8s
WUAZ Wupatki 90.25 54 P P 16 28 59.4 +0.1
WUAZ IAmb IAmb 16 29 01.3
comp=Z,4.7nm,0.8s
WUAZ Wupatki 90.25 54 P P 16 28 59.2 -0.1
baz=256
DUG Dugway, Tooele 90.27 49 P P 16 28 59.5 +0.3
baz=256
BGU Big Grassy Mou 90.30 48 P P 16 28 59.4 +0.1
MVU Marysvale 90.31 51 P P 16 28 59.8 +0.1
HVU Hansel Valley 90.69 48 IAmb IAmb 16 29 32.9
comp=Z,11nm,1.3s
NLU North Lily Min 90.76 50 IAmb IAmb 16 29 03.4
comp=Z,3.9nm,0.8s
BOZ Bozeman (W) 92.42 44 P P 16 29 09.7 +0.6
baz=256
121A Cookes Peak, D 92.52 57 P P 16 29 10.2 +0.4
baz=258
PV23 Carpenter Ridg 92.75 52 P P 16 29 10.7 -0.3
PDAR Pinedale Array 93.24 47 P P 16 29 14.2 +1.1
comp=Z,0.5nm,0.7s,baz=236,slow=1.6,SNR=5.1
comp=Z,0.5nm,0.7s
C36M Paulatuk 93.40 19 P P 16 29 13.6 +0.8
baz=247
ZALV Zelewo Beam 94.03 324 P P 16 29 15.9 -0.2
comp=Z,1.3nm,0.6s,baz=115,slow=4.5,SNR=8.3
ZALV pP **pP 16 29 48.5 -0.9**
comp=Z,1.6nm,0.7s,baz=108,slow=4.8,SNR=4.0
comp=Z,1.3nm,0.6s
MKAR Makanchi Array 94.04 317 P P 16 29 16.2 -0.1
comp=Z,2.5nm,0.7s,baz=88,slow=6.8,SNR=9.2
MKAR pP **pP 16 29 48.8 -0.7**
comp=Z,3.0nm,0.8s,baz=96,slow=7.8,SNR=4.9
comp=Z,2.5nm,0.7s
MKAR Makanchi Array 94.04 317 P P 16 29 15.5 -0.8
EGMT Eagleton 94.21 42 P P 16 29 17.6 +0.5
baz=258
TXAR Lajitas Array 95.41 61 P P 16 29 23.1 0.0
comp=Z,0.4nm,0.7s,baz=224,slow=5.2,SNR=7.2
comp=Z,0.4nm,0.7s
ARCES ARCESS Array B 116.64 346 PKP PKPdf 16 34 40.2 -0.8
comp=Z,1.6nm,0.7s,baz=46,slow=3.5,SNR=4.1
FINES FINESS Array B 122.14 339 PKP PKPdf 16 34 51.1 -0.7
comp=Z,5.7nm,1.1s,baz=270,slow=1.9,SNR=6.1
NOA NORSAR Array B 127.01 345 PKP PKPdf 16 35 00.8 -0.5
comp=Z,1.4nm,0.8s,baz=337,slow=1.9,SNR=3.8
KEST Kesra 147.90 323 PKPbc PKPbc 16 35 43.4 +0.1
comp=Z,4.1nm,0.8s,baz=315,slow=4.3,SNR=2.8
ESDC Sonseca Array 150.37 345 PKPbc PKiKP 16 35 49.6 -0.4
comp=Z,0.9nm,0.8s,baz=354,slow=2.0,SNR=7.4
ESDC pPKPbc **pPKPdf 16 36 24.2 +5.5**
comp=Z,0.6nm,0.6s,baz=22,slow=3.2,SNR=2.1
TORD Torodi Ar. Bea 164.86 279 PKPab PKPab 16 36 58.7 -0.5
comp=Z,15nm,0.6s,baz=82,slow=5.5,SNR=5.1

TRN 28 16:18:56.2, 10°.23N×60°.38W, h76km, MD3.6, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**1.07**	**352**	*eP*		Pn 16 19 15.8	-0.2
TOSP				*eS*		Sn 16 19 30.2	-0.4
TRN	**Trinidad (W)**	**1.09**	**292**	*eP*		Pn 16 19 16.6	+0.5
TRN				*eS*		Sn 16 19 30.7	-0.2
GRFF	**Grenada Fort F**	**2.24**	**324**	*eP*		Pn 16 19 32.2	+0.9
GRGR	**Grenville**	**2.26**	**327**	*eP*		Pn 16 19 32.5	+0.9
GRGR				*eS*		Sn 16 19 58.5	-0.1
SVB	**Belmont**	**3.14**	**344**	*eP*		Pn 16 19 44.7	+1.3
SVB				*eS*		Sn 16 20 17.8	-2.1
MCLT	**Moule a Chique**	**3.50**	**351**	*eP*		Pn 16 19 48.1	-0.3
MCLT				*eS*		Sn 16 20 27.2	-1.4
BAUV	**El Baul**	**7.66**	**261**	*eP*		Pn 16 20 44.9	-0.3
BAUV	**El Baul**	**7.66**	**261**	*eS*		Sn 16 22 05.3	-5.2

*NEIC **28** 16:24:46.0±1.5, 18°.4S±0°.2×178°.7W±0°.1, h614km±11km, mb4.2/15, Error ellipse: s-maj=28.3km s-min=13.8km az=171.0*
*IDC **28** 16:24:45.2±2.1, 17°.88S×178°.60W, h627km±20km, mb3.1/7, mbtmp4.1/8, Error ellipse: s-maj=63.4km s-min=25.6km az=157.0*

ISC 28 16:24:45.0±0.7, 18°.4S±0°.2×178°.8W±0°.1, h600km, n31, σ1s33/34, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.12**	**282**	P		**P 16 26 07.7**	**+2.7**
	25nm,0.8s,baz=116,slow=1.9,SNR=27						
MSVF	**Nonsavu**	**3.12**	**282**	P		**P 16 26 06.5**	**+1.5**
AFI	**Afiamalu**	**8.05**	**57**	P		**P 16 26 47.2**	**+2.1**
NIUE	**Niue**	**8.38**	**96**			**P 16 26 48.5**	**+0.4**
EIDS	**Eidsvold**	**28.80**	**251**			**P 16 29 57.3**	**+0.8**
EIDS					IAmb	IAmb 16 30 37.5	
	comp=Z,14nm,1.4s						
CTA	**Charters Tower**	**33.05**	**261**	P		**P 16 30 33.5**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=103,slow=8.5,SNR=1.5						
	comp=Z,2.4nm,0.7s						
CTAO	**Charters Tower**	**33.05**	**261**	P		**P 16 30 32.6**	**-0.2**
COEN	**Coen**	**36.79**	**271**	P		**P 16 31 04.6**	**+0.7**
COEN					IAmb	IAmb 16 31 05.4	
	comp=Z,6.4nm,0.7s						
STKA	**Stephens Creek**	**38.11**	**242**	P		**P 16 31 16.2**	**+1.8**
	comp=Z,3.2nm,0.7s,baz=84,slow=10,SNR=4.6						
	comp=Z,3.2nm,0.7s						
STKA	**Stephens Creek**	**38.11**	**242**	P		**P 16 31 14.8**	**+0.4**
STKA					IAmb	IAmb 16 31 34.5	
	comp=Z,4.2nm,1.4s						
BBOO	**Buckleboo**	**42.88**	**241**	P		**P 16 31 51.8**	**-0.4**
WR0	**Warramunga Arr**	**44.04**	**260**	P		**P 16 32 00.7**	**-0.6**
WR0					IAmb	IAmb 16 32 30.8	
	comp=Z,7.2nm,1.2s						
WB0	**Warramunga Arr**	**44.20**	**260**	P		**P 16 32 02.0**	**-0.5**
WB0					IAmb	IAmb 16 32 20.2	
	comp=Z,11nm,1.5s						
WB0				PcP	**PcP**	**16 33 31.8**	**-2.1**
WB2	**Warramunga Arr**	**44.22**	**260**	P		**P 16 32 02.4**	**-0.3**
WB2					IAmb	IAmb 16 32 42.3	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**44.22**	**260**	P		**P 16 32 01.5**	**-1.3**
WRAB					IAmb	IAmb 16 32 36.5	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**44.23**	**260**	P		**P 16 32 02.6**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=94,slow=7.4,SNR=45						
	comp=Z,1.3nm,0.4s						
WRA	**Warramunga Arr**	**44.23**	**260**	P		**P 16 32 02.5**	**-0.3**
WRA				PcP	**PcP**	**16 33 31.9**	**-2.0**
AS31	**Alice Springs**	**44.35**	**255**	P		**P 16 32 04.2**	**+0.5**
ASAR	**Alice Springs**	**44.35**	**255**	P		**P 16 32 04.2**	**+0.5**
	comp=Z,5.8nm,0.5s,baz=86,slow=8.7,SNR=94						
ASAR				PcP	**PcP**	**16 33 32.4**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=102,slow=3.7,SNR=4.3						
	comp=Z,5.8nm,0.5s						
ASAR	**Alice Springs**	**44.35**	**255**	P		**P 16 32 03.7**	**0.0**
ASAR				PcP	**PcP**	**16 33 32.4**	**-2.0**
KNRA	**Kununurra**	**50.12**	**265**	P		**P 16 32 47.7**	**+0.8**
SIJI	**Sorong**	**52.04**	**284**	P		**P 16 32 59.4**	**-1.3**
	comp=Z,5.0nm,0.6s,baz=119,slow=13,SNR=5.4						
	comp=Z,5.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.63**	**261**	P		**P 16 33 04.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=180,slow=14,SNR=1.2						
	comp=Z,0.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.63**	**261**	P		**P 16 33 04.6**	**-0.3**
FITZ					IAmb	IAmb 16 33 23.6	
	comp=Z,12nm,1.5s						
MBWA	**Marble Bar**	**57.64**	**256**	P		**P 16 33 39.0**	**-0.6**
MBWA					IAmb	IAmb 16 34 01.5	
	comp=Z,15nm,1.2s						
SBA	**Scott Base**	**59.91**	**184**			**P 16 33 54.8**	**+1.1**
QSPA	**South Pole Qui**	**71.65**	**180**	P		**P 16 35 06.7**	**-0.3**
TXAR	**Lajitas Array**	**86.53**	**58**	P		P 16 36 21.9	-4.1
	comp=Z,0.3nm,0.7s,baz=226,slow=4.7,SNR=4.7						
	comp=Z,0.3nm,0.7s						
HRA	**Herat**	**123.86**	**299**	PKPdf		**PKPdf 16 42 34.4**	**-2.1**
FINES	**FINESS Array B**	**133.57**	**344**	PKPdf		**PKPdf 16 42 51.3**	**-2.5**
BRTR	**Keskin Array B**	**144.90**	**314**	PKPbc		**PKPdf 16 43 13.8**	**-1.4**

*KRNET **28** 16:26:34.0±0.1, 41°.91N×72°.63E, h17km, mb2.2*
*SOME **28** 16:26:37.1, 41°.73N×72°.55E, h10km*
*NNC **28** 16:26:38.5±0.7, 41°.79N×72°.59E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=6.4km s-min=2.4km az=168.0*

ISC 28 16:26:36.6±1.3, 41°.82N±0°.06×72°.55E±0°.03, h4km±11km, n15, σ0s75/26, 4C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.44**	**268**	⇑*eP*		**Pg 16 26 43.9**	**-1.2**
	baz=58						
ARK				⇑*eS*		**Sg 16 26 50.9**	**+0.1**
	baz=58						
MRKS	**Merke**	**1.06**	**28**	*eP*		**Pn 16 26 58.5**	**+0.2**
	1.1nm,0.1s						
MRKS				*eS*		**Sn 16 27 13.5**	**-0.1**
	16nm,0.1s						
MRKS	**Merke**	**1.06**	**28**	P		**Pn 16 26 58.5**	**+0.2**
	1.1nm,0.1s						
MRKS				S		**Sn 16 27 13.5**	**-0.1**
	16nm,0.1s						
TRKS	**Terek-Say**	**1.09**	**255**	⇑*eP*		**Pg 16 26 56.3**	**-1.3**
	baz=48						
TRKS				⇑*eS*		**Sg 16 27 12.4**	**+0.6**
	baz=48						
IUG	**Iuzhnay**	**1.91**	**281**	*eP*		**Pg 16 27 13.6**	**+0.5**
	50nm,0.4s						
IUG				*eS*		**Sg 16 27 39.3**	**+1.4**
	31nm,0.3s						
IUG	**Iuzhnay**	**1.91**	**281**	Pg		**Pg 16 27 13.6**	**+0.5**
	50nm,0.4s						
IUG				Lg		Lg 16 27 39.3	
	31nm,0.3s						
KK31	**Karatay Array**	**1.98**	**311**	Pn		**Pb 16 27 13.8**	**+0.5**
	0.4nm,0.3s,baz=131,slow=17,SNR=17						
KK31				⇓Sn		**Sg 16 27 41.2**	**+0.9**
	1.7nm,0.3s,baz=129,slow=25,SNR=12						
KKAR	**Karatay Array**	**1.98**	**311**	⇓*eP*		**Pn 16 27 09.7**	**-1.3**
	baz=8.0						
KKAR				⇓*eS*		**Sn 16 27 36.1**	**-0.2**
	baz=8.0						
BTK	**Batken**	**2.19**	**217**	⇓*eP*		**Pn 16 27 14.5**	**+0.6**
	baz=17						
BTK				⇓*eS*		**Sb 16 27 44.0**	**-0.4**
	baz=17						
DGS	**Degeres**	**2.77**	**58**	*eP*		**Pg 16 27 29.7**	**-0.1**
	1.6nm,0.4s						
DGS				*eS*		**Sg 16 28 06.5**	**+0.7**
	5.5nm,0.6s						
DGS	**Degeres**	**2.77**	**58**	Pg		**Pg 16 27 29.7**	**-0.1**
	1.6nm,0.4s						
DGS				Lg		Lg 16 28 06.5	
	5.5nm,0.6s						
KST	**Kastek**	**2.81**	**63**	*eP*		**Pg 16 27 30.2**	**-0.2**
	1.6nm,0.3s						
KST				*eS*		**Sg 16 28 07.5**	**+0.6**
	7.7nm,0.7s						
KST	**Kastek**	**2.81**	**63**	Pg		**Pg 16 27 30.2**	**-0.2**
	1.6nm,0.3s						
KST				Lg		Lg 16 28 07.4	

7.7nm,0.7s
KRBS Karabastau 2.97 50 *e*P **Pg 16 27 32.5 -1.0**
1.2nm,0.5s
KRBS *e*S **Sg 16 28 11.6 -0.4**
2.6nm,0.3s
KRBS Karabastau 2.97 50 Pg **Pg 16 27 32.5 -1.0**
1.2nm,0.5s
KRBS Lg Lg 16 28 11.6
2.6nm,0.3s

---

*NEIC **28** 16:31:28.8±1.8,20˚.74S±0˚.10×173˚.76W±0˚.06,h10km± 1km, mb4.8/36, Error ellipse: s-maj=17.9km s-min=7.1km az=154.0*
*BJI **28** 16:31:28.3±0.0,21˚.17S×173˚.84W,h12km,mb4.9/13, Ms4.9/1, Ms7 4.6/1*
*IDC **28** 16:31:29.2±0.7,20˚.78S×173˚.96W,h0km,mb4.4/15, mbtmp4.4/18,ML4.3/3,MS4.2/6, Error ellipse: s-maj=24.0km s-min=15.9km az=125.0*
*NOU **28** 16:31:33.5,20˚.88S×173˚.33W,h67km,mb5.0/18, Tonga Islands*

ISC 28 16:31:29.2±0.4,20˚.89S±0˚.08×173˚.72W±0˚.07,h10km, n134,σ1§78/127,mb4.8/38,MS4.1/5,5C-10D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.00**	**64**	Pn	**Pn**	**16 32 27.1**	**-3.5**
NIUE	**Niue**	**4.00**	**64**	P	**Pn**	**16 32 28.2**	**-2.4**
AFI	**Afiamalu**	**7.18**	**15**	Pn	**Pn**	**16 33 13.7**	**-0.7**
	5.7nm,0.3s,baz=169,slow=3.8,SNR=6.5						
	30nm,0.6s						
AFI	**Afiamalu**	**7.18**	**15**	Pn	**Pn**	**16 33 12.6**	**-1.9**
AFI	**Afiamalu**	**7.18**	**15**	P	**Pn**	**16 33 14.1**	**-0.3**
MSVF	**Nonsavu**	**8.38**	**291**	Pn	Pn	16 33 36.9	+6.0
	1.3nm,0.3s,baz=127,slow=13,SNR=62						
MSVF				LR	LR	16 36 26.5	
	comp=Z,887nm,19.7s,baz=128,slow=37						
MSVF	**Nonsavu**	**8.38**	**291**	Pn	Pn	16 33 36.6	+5.7
MSVF	**Nonsavu**	**8.38**	**291**	P	Pn	16 33 37.2	+6.3
RAR	**Rarotonga**	**13.03**	**94**	LR	LR	16 38 58.0	
	comp=Z,412nm,18.0s,baz=270,slow=34						
RAR	**Rarotonga**	**13.03**	**94**	Pn	**Pn**	**16 34 31.4**	**-3.2**
MARNC	**Mare, Loyalty**	**17.03**	**265**		**Pn**	**16 35 27.7**	**+0.1**
LIFNC	**LIFOU**	**17.80**	**267**		**Pn**	**16 35 36.6**	**-0.6**
LIFNC				IAmb	IAmb	16 35 45.5	
	comp=Z,63nm,1.0s						
DZM	**Mont Dzumac**	**18.50**	**263**	P	**Pn**	**16 35 46.0**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=83,slow=19,SNR=10						
	comp=Z,8.0nm,0.7s						
URZ	**Urewera**	**19.04**	**203**	P	**Pn**	**16 35 52.8**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=83,slow=4.6,SNR=8.6						
	comp=Z,33nm,0.9s						
URZ	**Urewera**	**19.04**	**203**	P	**P**	**16 35 52.2**	**+0.7**
BKZ	**Black Stump Fm**	**20.07**	**203**	P	**P**	**16 36 02.4**	**-0.5**
HIZ	**Hauiti**	**20.14**	**207**	P	**P**	**16 36 04.4**	**+0.8**
KOUNC	**Koumac, New Ca**	**20.57**	**267**	P	**P**	**16 36 08.4**	**0.0**
KOUNC				IAmb	IAmb	16 36 31.9	
	comp=Z,40nm,1.2s						
KOUNC	**Koumac, New Ca**	**20.57**	**267**	P	Pn	16 36 11.1	+0.5
PPT2	**Papeete2**	**23.03**	**86**	*e*P	P	16 36 26.8	-8.0
	comp=Z,180nm,26.0s						
PPT2				*e*LR	LR	16 41 47.0	
	comp=Z,232nm,21.2s						
PPT	**Papeete**	**23.03**	**86**	LR	LR	16 44 03.1	
	comp=Z,274nm,18.8s,baz=256,slow=32						
OXZ	**Oxford**	**25.35**	**205**	P	**P**	**16 36 55.6**	**-0.8**
OXZ				IAmb	IAmb	16 37 06.0	
	comp=Z,21nm,0.9s						
RPZ	**Rata Peaks**	**26.06**	**206**	P	**P**	**16 37 05.2**	**+2.4**
	comp=Z,13nm,0.9s,baz=219,slow=1.4,SNR=6.3						
	comp=Z,13nm,0.9s						
FOZ	**Fox Glacier**	**26.43**	**208**	P	**P**	**16 37 06.5**	**+0.3**
HNR	**Honiara**	**27.80**	**290**	LR	LR	16 47 24.1	
	comp=Z,2μm,18.1s,baz=130,slow=35						
RMQ	**Roma**	**34.72**	**253**	P	**P**	**16 38 20.1**	**+0.4**
CTAO	**Charters Tower**	**37.43**	**264**	P	**P**	**16 38 42.7**	**-0.3**
CTAO				IAmb	IAmb	16 39 02.8	
	comp=Z,15nm,1.2s						
CMSA	**Cobar Meteorol**	**37.74**	**245**	P	**P**	**16 38 45.6**	**+0.2**
QLP	**Quilpie**	**38.78**	**253**	P	**P**	**16 38 54.2**	**0.0**
STKA	**Stephens Creek**	**41.24**	**245**	P	**P**	**16 39 13.5**	**-1.2**
	comp=Z,6.8nm,1.0s,baz=41,slow=9.5,SNR=3.6						
STKA				LR	LR	16 55 01.7	
	comp=Z,248nm,18.0s,baz=210,slow=34						
	comp=Z,6.8nm,1.0s						
STKA	**Stephens Creek**	**41.24**	**245**	P	**P**	**16 39 13.4**	**-1.2**
COEN	**Coen**	**41.60**	**272**	P	**P**	**16 39 15.3**	**-2.5**
COEN				IAmb	IAmb	16 39 20.1	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**41.60**	**272**	P	**P**	**16 39 16.8**	**-1.0**
MANU	**Manus Island**	**42.29**	**291**	P	**P**	**16 39 21.9**	**-1.6**
MANU				IAmb	IAmb	16 39 45.8	
	comp=Z,18nm,1.4s						
OOD	**Oodnadatta**	**46.34**	**251**	P	**P**	**16 39 55.5**	**-0.3**
WR0	**Warramunga Arr**	**48.32**	**261**	P	**P**	**16 40 08.9**	**-2.4**
WR0				IAmb	IAmb	16 40 31.8	
	comp=Z,7.7nm,1.1s						
AS31	**Alice Springs**	**48.33**	**256**	P	**P**	**16 40 08.9**	**-2.4**
ASAR	**Alice Springs**	**48.33**	**256**	P	**P**	**16 40 09.6**	**-1.7**
	comp=Z,12nm,1.0s,baz=88,slow=8.7,SNR=42						
	comp=Z,12nm,1.0s						
ASAR	**Alice Springs**	**48.33**	**256**	P	**P**	**16 40 09.0**	**-2.3**
WB0	**Warramunga Arr**	**48.49**	**262**	P	**P**	**16 40 10.7**	**-1.9**
WB0				IAmb	IAmb	16 40 37.6	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**48.50**	**261**	P	**P**	**16 40 09.9**	**-2.8**
WB2				IAmb	IAmb	16 40 18.1	
	comp=Z,7.1nm,0.9s						
WRAB	**Tennant Creek**	**48.50**	**261**	P	**P**	**16 40 10.4**	**-2.3**
WRAB				IAmb	IAmb	16 40 13.5	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**48.51**	**261**	P	**P**	**16 40 10.3**	**-2.4**
	comp=Z,3.0nm,0.7s,baz=99,slow=5.0,SNR=25						
WRA	**Warramunga Arr**	**48.51**	**261**	P	**P**	**16 40 10.5**	**-2.2**
FORT	**Forrest**	**52.82**	**247**	P	**P**	**16 40 42.6**	**-2.5**
KNRA	**Kununurra**	**54.62**	**265**	P	**P**	**16 40 57.2**	**-1.4**
KNRA				IAmb	IAmb	16 41 23.4	
	comp=Z,26nm,1.4s						
FITZ	**Fitzroy Crossi**	**56.94**	**262**	P	**P**	**16 41 13.7**	**-1.5**
	comp=Z,4.8nm,1.1s,baz=339,slow=2.7,SNR=7.0						
	comp=Z,4.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**56.94**	**262**	P	**P**	**16 41 13.5**	**-1.6**
FITZ				IAmb	IAmb	16 41 17.2	
	comp=Z,15nm,1.4s						
SIJI	**Sorong**	**57.22**	**283**	P	**P**	**16 41 16.0**	**-1.2**
	comp=Z,37nm,1.0s,baz=68,slow=6.3,SNR=18						
	comp=Z,37nm,1.0s						
SBA	**Scott Base**	**57.79**	**185**	P	**P**	**16 41 21.5**	**+1.3**
SBA				IAmb	IAmb	16 41 40.2	
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**57.92**	**186**	P	**P**	**16 41 24.0**	**+2.9**
	comp=Z,1.7nm,1.0s,baz=7.1,slow=5.5,SNR=7.2						
	comp=Z,1.7nm,1.0s						
VNDA	**Vanda**	**57.92**	**186**	P	**P**	**16 41 22.5**	**+1.4**
SOEI	**Soe**	**60.51**	**270**	P	**P**	**16 41 39.5**	**-0.7**
SOEI	**Soe**	**60.51**	**270**	P	**P**	**16 41 40.4**	**+0.2**
TNTI	**Ternate**	**61.44**	**283**	P	**P**	**16 41 44.3**	**-2.1**
TNTI	**Ternate**	**61.44**	**283**	P	**P**	**16 41 46.5**	**+0.1**
	comp=Z,43nm,1.0s						
PSA00	**Pilbara Seismi**	**61.47**	**256**	P	**P**	**16 41 45.5**	**-1.0**
PSA00				IAmb	IAmb	16 41 47.8	
	comp=Z,11nm,1.2s						
SANI	**Sanana**	**61.59**	**279**	P	**P**	**16 41 46.3**	**-1.1**
	comp=Z,25nm,1.1s						
MBWA	**Marble Bar**	**61.67**	**257**	P	**P**	**16 41 46.9**	**-1.0**
NWAO	**Narrogin (SRO)**	**61.77**	**243**	P	**P**	**16 41 47.3**	**-1.1**
MORW	**Morawa**	**63.38**	**247**	P	**P**	**16 41 57.7**	**-1.5**
LUWI	**Luwuk**	**64.94**	**279**	P	**P**	**16 42 07.0**	**-2.6**
LUWI	**Luwuk**	**64.94**	**279**	P	**P**	**16 42 10.4**	**+0.7**
	comp=Z,47nm,1.1s						
CASY	**Casey**	**65.34**	**206**	P	**P**	**16 42 11.8**	**+0.5**
CASY				IAmb	IAmb	16 42 26.2	
	comp=Z,17nm,1.5s						
QSPA	**South Pole Qui**	**69.19**	**180**	P	**P**	**16 42 36.2**	**+0.3**
QSPA				IAmb	IAmb	16 42 54.5	
	comp=Z,12nm,1.0s						
MJAR	**Matsushiro Arr**	**72.95**	**321**	P	**P**	**16 42 59.1**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=164,slow=5.1,SNR=4.6						
	comp=Z,1.6nm,0.7s						
MPMC	**Manual Prospec**	**77.67**	**44**	P	**P**	**16 43 29.6**	**+3.2**
	baz=233						
GMN	**Gold Mountain**	**78.57**	**43**	P	**P**	**16 43 30.7**	**-0.8**
NVAR	**Mina Array Bea**	**78.61**	**41**	P	**P**	**16 43 34.4**	**+2.7**
	comp=Z,2.4nm,0.7s,baz=225,slow=9.1,SNR=24						
	comp=Z,2.4nm,0.7s						
BELA	**Belgrano 2**	**78.64**	**172**	P	**P**	**16 43 31.8**	**+0.9**
BELA				IAmb	IAmb	16 43 44.3	
	comp=Z,14nm,1.4s						
KSRS	**Korea Array**	**79.87**	**317**	P	**P**	**16 43 39.8**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=121,slow=8.9,SNR=4.2						
	comp=Z,1.5nm,0.9s						
USRK	**Usuriysk Ar.**	**81.58**	**324**	P	**P**	**16 43 48.3**	**+1.1**
	comp=Z,2.6nm,1.0s,baz=220,slow=5.0,SNR=4.4						
	comp=Z,2.6nm,1.0s						
MAW	**Mawson**	**82.53**	**199**	P	**P**	**16 43 54.0**	**+2.1**
	comp=Z,2.6nm,0.7s,baz=112,slow=7.1,SNR=3.8						
	comp=Z,2.6nm,0.7s						
TXAR	**Lajitas Array**	**83.93**	**56**	P	**P**	**16 44 02.3**	**+2.4**
	comp=Z,0.6nm,0.8s,baz=211,slow=7.0,SNR=5.9						
	comp=Z,0.6nm,0.8s						
HLID	**Hailey**	**84.06**	**39**	P	**P**	**16 44 02.9**	**+2.5**
	baz=234						
TRF	**Thorofare Moun**	**86.05**	**10**	P	**P**	**16 44 11.5**	**+1.7**
	baz=202						
J20K	**Nowinta River**	**86.14**	**8**	P	**P**	**16 44 12.8**	**+2.7**
	baz=198						
MCK	**McKinley**	**86.54**	**11**	P	**P**	**16 44 11.4**	**-0.7**
MCK				IAmb	IAmb	16 44 18.3	
	comp=Z,14nm,1.2s						
MCK	**McKinley**	**86.54**	**11**	P	**P**	**16 44 14.3**	**+2.2**
	baz=203						
YUK3	**Moose Creek**	**86.56**	**15**	P	**P**	**16 44 15.1**	**+2.6**
	baz=211						
M27K	**Edge Creek, AK**	**86.73**	**14**	P	**P**	**16 44 15.7**	**+2.5**
	baz=210						
K24K	**Donnelly Dome**	**87.19**	**12**	P	**P**	**16 44 18.3**	**+3.0**
	baz=206						
SCRK	**Sand Creek**	**87.70**	**13**	P	**P**	**16 44 20.3**	**+2.4**
	baz=208						
ILAR	**Eielson Array**	**87.86**	**11**	P	**P**	**16 44 19.4**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=207,slow=5.8,SNR=5.7						
	comp=Z,0.9nm,0.8s						
J26L	**Joseph Creek**	**88.25**	**13**	P	**P**	**16 44 23.5**	**+3.1**
	baz=208						
PSI	**Prapat**	**88.52**	**274**	P	**P**	**16 44 23.6**	**+0.7**
	comp=Z,7.5nm,0.7s,baz=226,slow=9.8,SNR=4.2						
	comp=Z,7.5nm,0.7s						
DAWY	**Dawson**	**88.78**	**14**	P	**P**	**16 44 26.0**	**+3.2**
	baz=212						
K29M	**Barlow Dome**	**89.04**	**15**	P	**P**	**16 44 27.6**	**+3.4**
	baz=213						
GYA	**Guiyang**	**90.34**	**298**	⇓P	**P**	**16 44 31.0**	**-0.2**
GYA				pmax	pmax		
	comp=Z,18nm,0.9s						
XAN	**Xi'an**	**91.58**	**306**	⇓P	**P**	**16 44 38.0**	**+1.4**
XAN				pP	pwP	16 44 43.5	-2.7
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
G30M	**tAoh Zraii Nji**	**91.95**	**14**	P	**P**	**16 44 40.2**	**+2.6**
	baz=215						
HHC	**Hu-ho-hao-te**	**92.52**	**313**	*e*P	**P**	**16 44 41.5**	**+0.6**
HHC				pmax	pmax		
	comp=Z,24nm,1.1s						
CMAR	**Chiang Mai Arr**	**94.03**	**288**	P	**P**	**16 44 50.3**	**+2.1**
	comp=Z,1.6nm,0.9s,baz=94,slow=3.1,SNR=9.2						
	comp=Z,1.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**94.03**	**288**	P	**P**	**16 44 46.5**	**-1.7**
CHTO	**Chiang Mai**	**94.15**	**288**	P	**P**	**16 44 46.4**	**-2.4**
CD2	**Chengdu**	**94.39**	**301**	*e*P	**P**	**16 44 50.0**	**+0.3**
PZH	**PanZhiHua**	**94.44**	**297**	P	**P**	**16 44 51.8**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YKA	**Yellowknife Ar**	**95.22**	**24**	LR	LR	17 23 29.6	
	comp=Z,372nm,18.9s,baz=158,slow=33						
CCM	**Cathedral Cave**	**96.94**	**52**	P	**P**	**16 44 59.1**	**-2.0**
WMQ	**Urumqi**	**110.22**	**310**	*e*PKP	**PKiKP**	**16 50 01.3**	**-0.3**
AKASG	**Malin Array Be**	**145.19**	**334**	PKPbc	**PKPdf**	**16 51 07.5**	**+0.5**
	comp=Z,8.3nm,0.8s,baz=40,slow=4.3,SNR=29						
CLL	**Collm**	**149.18**	**352**	*e*PKPdf	**PKPbc**	**16 51 15.0**	**-2.8**
CLL				*e*PKPbc	**pPKPbc**	**16 51 19.0**	**-0.2**
	comp=Z,8.0nm,0.9s						
CLL				*e*PKPab	**pPKPab**	**16 51 23.0**	**-0.4**
CLL				*ex*	x	16 51 33.0	
BURAR	**Bucovina Array**	**149.25**	**335**	⇓P	**PKPab**	**16 51 21.4**	**-1.3**
OSTC	**Ostas**	**149.37**	**348**	*e*PKP	**PKiKP**	**16 51 19.9**	**+0.4**
CHVC	**Chvalec**	**149.37**	**348**	*e*PKP	**PKPab**	**16 51 21.3**	**-1.7**
BIZ	**Bicaz**	**149.42**	**333**	⇑P	**PKPab**	**16 51 21.1**	**-2.3**
BRG	**Berggiesshubel**	**149.47**	**350**	*e*PKP	**PKPab**	**16 51 20.7**	**-2.7**
BRG				Amp		16 51 21.7	
	comp=Z,4.7nm,0.7s						
BRG				*ex*	x	16 51 24.2	
BRG				Amp		16 51 25.2	
	comp=Z,12nm,1.2s						
DPC	**Dobruska-Polom**	**149.54**	**347**	*e*PKP	**PKiKP**	**16 51 20.5**	**+0.6**
KRLC	**Kraliky**	**149.70**	**347**	*e*PKP	**PKiKP**	**16 51 21.4**	**+1.1**
CFR	**Carcaliu**	**149.81**	**328**	⇓P	**PKiKP**	**16 51 21.4**	**+0.8**
MORC	**Moravsky Berou**	**149.81**	**345**	⇓P	**PKPab**	**16 51 21.9**	**-3.0**
MORC	**Moravsky Berou**	**149.81**	**345**	*e*PKP	**PKiKP**	**16 51 21.3**	**+0.8**
TRPA	**Tarpa**	**149.82**	**338**	⇓P	**PKiKP**	**16 51 21.1**	**+0.6**
TPGR	**Topolog**	**149.90**	**328**	⇑P	**PKiKP**	**16 51 21.7**	**+0.9**
BRTR	**Keskin Array B**	**150.01**	**315**	PKPbc	**PKiKP**	**16 51 21.6**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=129,slow=3.1,SNR=13						
MAUC	**Maruska**	**150.12**	**345**	*e*PKP	**PKiKP**	**16 51 22.2**	**+1.1**
PRU	**Pruhonice**	**150.23**	**349**	*e*PKP	**PKiKP**	**16 51 22.5**	**+1.2**
VRAC	**Vranov**	**150.47**	**346**	*e*PKP	**PKiKP**	**16 51 23.0**	**+1.2**
DOPR	**Dopca**	**150.49**	**332**	⇑P	**PKiKP**	**16 51 23.2**	**+1.2**
MLR	**Muntele Rosu**	**150.61**	**331**	⇑P	**PKiKP**	**16 51 23.1**	**+0.7**
JAVC	**Velka Javorina**	**150.63**	**345**	*e*PKP	**PKiKP**	**16 51 23.6**	**+1.4**
KRUC	**Moravsky**	**150.74**	**346**	*e*PKP	**PKiKP**	**16 51 22.9**	**+0.5**
DRGR		**150.90**	**336**	⇑P	**PKiKP**	**16 51 24.6**	**+1.7**
VOIR		**151.05**	**332**	⇓P	**PKiKP**	**16 51 24.6**	**+1.4**
KHC	**Kasperske Hory**	**151.22**	**350**	*e*PKP	**PKiKP**	**16 51 24.8**	**+1.4**
KHC				*ex*	x	16 51 34.5	
ARR	**Arges**	**151.28**	**332**	⇓P	**PKiKP**	**16 51 25.6**	**+1.9**
CKRC	**Cesky Krumlov**	**151.39**	**349**	*e*PKP	**PKiKP**	**16 51 25.4**	**+1.6**
GERES	**GERESS Array B**	**151.47**	**350**	PKPbc	**PKiKP**	**16 51 24.9**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=54,slow=3.4,SNR=11						
CONA	**Conrad Observa**	**151.93**	**346**	*e*P	**PKiKP**	**16 51 26.6**	**+1.6**
	comp=Z,5.6nm,0.9s						
RONA	**Rosalia, Austr**	**152.05**	**345**	*e*P	**PKiKP**	**16 51 26.7**	**+1.6**
	comp=Z,4.0nm,0.7s						
HERR	**Herculane**	**152.60**	**335**	⇓P	**PKiKP**	**16 51 27.7**	**+1.3**
MORH	**Mrgy, Hungar**	**152.78**	**341**	⇓P	**PKiKP**	**16 51 28.0**	**+1.4**
DAVA	**Damuels**	**153.50**	**354**	*e*P	**PKPab**	**16 51 46.2**	**+5.7**
	comp=Z,12nm,1.7s						
ABTA	**Abfaltersbach**	**153.71**	**350**	*e*P	**PKiKP**	**16 51 29.2**	**+0.5**
	comp=Z,4.8nm,1.0s						

---

*IDC **28** 16:32:52.5±0.6,44˚.11N×148˚.28E,h0km,mb4.5/26, mbtmp4.5/31,ML4.2/5,MS3.8/22, Error ellipse: s-maj=16.2km s-min=11.8km az=144.0*
*BJI **28** 16:32:55.4±0.0,44˚.06N×148˚.46E,h44km,mb4.7/52, mB4.9/30,Ms4.3/26,Ms7 4.1/26*
*SKHL **28** 16:32:56.3±0.5,44˚.00N×148˚.50E,h45km±3km,mb5.5/4*
*MOS **28** 16:32:56.6±0.9,44˚.08N×148˚.38E,h42km,mb5.1/15, MS3.4/4, Error ellipse: s-maj=7.8km s-min=5.5km az=107.9*
*NIED **28** 16:32:56.4,43˚.81N×148˚.09E,h0km,MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.16; $M_{\theta\theta}$4.15; $M_{\phi\phi}$-6.31; $M_{r\theta}$3.15; $M_{r\phi}$2.44; $M_{\theta\phi}$3.66; Fault plane solution: $M_0$7.76000×10^{15} NP1: ϕ_s128.00000°,δ49.00000°,λ16.00000°. NP2:ϕ_s27.00000°, δ78.00000°,λ138.00000°.*
*JMA **28** 16:32:56.4±0.3,44˚.N±1˚×14˚.8E±˚,h0km,MD4.8/38, MV5.2/38, SE OFF ETOROFU*
JMA Felt I J1 at SE OFF ETOROFU .
*NEIC **28** 16:32:56.1±2.0,43˚.97N±0˚.09×148˚.5E±0˚.1,h32km±5km, mb4.8/135, Error ellipse: s-maj=14.7km s-min=10.2km az=135.0*

ISC 28 16:32:57.6±0.5,44˚.07N±0˚.05×148˚.36E±0˚.04,h40km±3km, h40km:pP-P,n567,σ1§21/544,mb4.8/143,MS4.1/29, 41C-40D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.22**	**343**	*c* iPN	**Pn**	**16 33 18.4**	**+0.3**
KUR				*i* S	**Sn**	**16 33 33.9**	**+0.5**
KUR				pmax	pmax		
	comp=N,3μm,0.4s						
KUR				pmax	pmax		
	comp=E,2μm,0.4s						
KUR				pmax	pmax		
	comp=Z,5μm,0.4s						
KUR				smax	smax		
	comp=N,33μm,2.1s						
KUR				smax	smax		
	comp=E,24μm,2.1s						
KUR				smax	smax		
	comp=N,12μm,0.7s						
KUR				smax	smax		
	comp=E,7μm,0.7s						
KUR	**Kuril'sk**	**1.22**	**343**	*i* P	**Pn**	**16 33 18.5**	**+0.3**
KUR				AMB	AMB	16 33 20.5	
	comp=E,5μm,0.4s						
KUR				*i* S	**Sn**	**16 33 34.9**	**+1.5**
KUR				A	A	16 33 37.9	
	comp=E,33μm,2.1s						
KUR				A	A	16 33 37.9	
	comp=E,24μm,2.1s						
KUR				A	A	16 33 38.7	
	comp=E,12μm,0.5s						
KUR				A	A	16 33 38.7	
	comp=E,7μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.80**	**270**	*d* iPN	**Pn**	**16 33 25.7**	**-0.5**
YUK				*e*S	**Sn**	**16 33 47.1**	**-0.7**
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,870nm,0.1s						
YUK				smax	smax		
	comp=N,6μm,0.2s						
YUK				smax	smax		
	comp=E,12μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.80**	**270**	*i* P	**Pn**	**16 33 25.7**	**-0.5**
YUK				AMB	AMB	16 33 29.4	
	comp=E,3μm,0.3s						
YUK				*e*S	**Sn**	**16 33 47.4**	**-0.4**
YUK				A	A	16 33 52.9	
	comp=E,6μm,0.4s						
YUK				A	A	16 33 52.9	
	comp=E,12μm,0.4s						
NEM2	**Nemuro 2**	**2.03**	**251**	P	**Pn**	**16 33 28.3**	**-0.9**
NEM2				*e*S	**Sn**	**16 33 51.7**	**-1.6**
NMR	**Nemuro--Hokkai**	**2.04**	**251**	⇓ iPN	**Pn**	**16 33 28.3**	**-1.1**
NMR				*e*S	**Sn**	**16 33 54.1**	**+0.6**
NMR	**Nemuro--Hokkai**	**2.04**	**251**	*i* P	**Pn**	**16 33 28.8**	**-0.6**
NMR				*e*S	**Sn**	**16 33 53.7**	**+0.2**
RUSJ	**Misakicho**	**2.25**	**272**	⇓ iPN	**Pn**	**16 33 32.9**	**+0.6**
RUSJ				*e*S	**Sn**	**16 34 00.5**	**+1.8**
JRA	**Rausu**	**2.34**	**268**	*e*P	**Pn**	**16 33 34.1**	**+0.5**
JRA				*e*S	**Sn**	**16 34 02.0**	**+0.9**
JRA	**Rausu**	**2.34**	**268**	A	A	16 33 34.1	
	comp=E,9.0nm,1.5s,comp=E,10.0nm,1.5s						
JNSB	**Nemuroshibetsu**	**2.44**	**264**	*e*P	**Pn**	**16 33 35.4**	**+0.4**
JNSB	**Nemuroshibetsu**	**2.44**	**264**	A	A	16 33 35.4	
	comp=E,8.0nm,1.2s,comp=E,11nm,1.4s						
JKHN	**Kushirohamanak**	**2.53**	**248**	*e*P	**Pn**	**16 33 35.7**	**-0.5**
JKHN	**Kushirohamanak**	**2.53**	**248**	A	A	16 33 35.7	
	comp=E,8.0nm,1.7s,comp=E,7.0nm,1.3s						
JNK	**Nakash**	**2.68**	**261**	*e*P	**Pn**	**16 33 38.3**	**0.0**
JNK				*e*S	**Sn**	**16 34 08.9**	**-0.6**
JNK	**Nakash**	**2.68**	**261**	A	A	16 33 38.3	
	comp=E,4.0nm,0.9s,comp=E,4.0nm,1.7s						
JAK	**Akkeshi**	**2.87**	**249**	*e*P	**Pn**	**16 33 40.5**	**-0.4**
JAK				*e*S	**Sn**	**16 34 12.4**	**-1.8**
JAK	**Akkeshi**	**2.87**	**249**	A	A	16 33 40.5	
	comp=E,8.0nm,0.9s,comp=E,6.0nm,1.2s						
JTKR	**Abashiri--Toko**	**3.21**	**270**	*e*P	**Pn**	**16 33 46.5**	**+1.0**
JAR	**Ashorobuto**	**3.42**	**259**	*e*P	**Pn**	**16 33 49.0**	**+0.6**
JAR				*e*S	**Sn**	**16 34 29.0**	**+1.3**
JAR	**Ashorobuto**	**3.42**	**259**	A	A	16 33 49.0	
	comp=E,7.0nm,0.4s,comp=E,5.0nm,1.9s						
JOB	**Onbets**	**3.50**	**252**	*e*P	**Pn**	**16 33 49.6**	**+0.2**
JOB				*e*S	**Sn**	**16 34 30.1**	**+0.5**
JMP	**Maruseppu**	**3.61**	**271**	*e*P	**Pn**	**16 33 52.3**	**+1.3**
JCH	**Churui**	**3.93**	**250**	*e*P	**Pn**	**16 33 55.7**	**+0.3**
JCH				*e*S	**Sn**	**16 34 39.4**	**-0.8**
JCH	**Churui**	**3.93**	**250**	A	A	16 33 55.7	
	comp=E,2.0nm,0.6s,comp=E,5.0nm,1.3s						
JKK2	**Kamakawa 2**	**4.06**	**269**	*e*P	**Pn**	**16 33 59.0**	**+1.8**
JSE	**Soyaes**	**4.23**	**284**	*e*P	**Pn**	**16 34 01.1**	**+1.7**
ERM	**Erimo**	**4.33**	**243**	Pn	**Pn**	**16 34 02.1**	**+1.2**
ERM	**Erimo**	**4.33**	**243**	*d* iPN	**Pn**	**16 34 02.5**	**+1.5**
ERM				pmax	pmax		
	comp=Z,245nm,0.6s						
JNBK	**Urakawa-nobuka**	**4.48**	**248**	*e*P	**Pn**	**16 34 02.9**	**0.0**
JNBK	**Urakawa-nobuka**	**4.48**	**248**	A	A	16 34 02.9	
	comp=Z,9.0nm,1.0s,comp=Z,6.0nm,0.6s						
JAB	**Ashibetsu**	**4.48**	**265**	A	A	16 34 04.4	
	comp=Z,4.0nm,2.3s,comp=Z,2.0nm,2.9s						
JSS	**Shosan**	**4.69**	**276**	*e*P	**Pn**	**16

comp=Z,0.4nm,0.3s,baz=28,slow=14,SNR=34
MJAR Sn **Sn** **16 37 31.3 +2.2**
comp=Z,0.1nm,0.3s,baz=114,slow=28,SNR=1.4
comp=Z,7.9nm,0.6s
MJB9 Matsu-Tunnel 10.79 229 Pn **Pn** **16 35 27.6 -2.0**
MAJO Matsushiro 10.79 229 Pn **Pn** **16 35 27.6 -2.0**
MAJO Matsushiro 10.79 229*ce*PN **Pn** **16 35 29.0 -0.6**
PEA0B Petropavlovsk- 10.95 31 Pn **Pn** **16 35 31.2 -0.3**
PEA0B Petropavlovsk- 10.95 31⇑*e*PN **Pn** **16 35 32.7 +1.1**
PETK Petropavlovsk- 10.95 31 Pn **Pn** **16 35 32.8 +1.3**
comp=Z,1.4nm,0.3s,baz=210,slow=14,SNR=22
PETK LR LR 16 39 39.8
comp=Z,465nm,21.9s,baz=219,slow=37
PETK Petropavlovsk- 10.95 31 Pn **Pn** **16 35 30.6 -0.9**
PETK Petropavlovsk- 10.95 31 PN **Pn** **16 35 30.6 -0.9**
PET Petropavlovsk 11.25 34 Pn **Pn** **16 35 33.3 -2.3**
PET Petropavlovsk 11.25 34⇑*e*PN **Pn** **16 35 36.3 +0.7**
PET Petropavlovsk 11.25 34 *eP* **Pn** **16 35 36.3 +0.7**
USRK Ussuriysk Ar. 11.77 276 Pn **Pn** **16 35 44.6 +1.7**
comp=Z,0.2nm,0.3s,baz=85,slow=15,SNR=5.8
USRK LR LR 16 40 26.2
comp=Z,550nm,18.6s,baz=82,slow=39
KLR Kul'dur 12.52 300 Pn **Pn** **16 35 54.7 +1.6**
comp=Z,0.1nm,0.3s,baz=117,slow=17,SNR=5.7
KLR LR LR 16 41 07.1
comp=Z,442nm,19.3s,baz=112,slow=40
KLR Kul'dur 12.52 300⇑*e*PN **Pn** **16 35 55.1 +2.0**
KLR pmax pmax
comp=Z,6.0nm,0.8s
KLR Kul'dur 12.52 300 *eP* **Pn** **16 35 54.6 +1.5**
JHJ Hachijo jima 2 12.82 214 Pn **Pn** **16 35 56.2 -1.1**
comp=Z,5.3nm,0.3s,baz=58,slow=19,SNR=1.9
JHJ Sn Sn 16 38 06.4 -12
comp=Z,11nm,0.3s,baz=218,slow=19,SNR=1.4
comp=Z,122nm,0.9s
MA2 Magadan 15.60 5 Pn **Pn** **16 36 34.8 +0.4**
comp=Z,0.5nm,0.3s,baz=149,slow=12,SNR=2.1
MA2 LR LR 16 42 37.0
comp=Z,270nm,18.4s,baz=192,slow=38
comp=Z,8.4nm,0.7s
MA2 Magadan 15.60 5 Pn **Pn** **16 36 34.8 +0.4**
MA2 IAmb IAmb 16 36 41.3
comp=Z,132nm,1.9s
KSRS Korea Array 16.82 254 Pn **Pn** **16 36 50.3 +0.3**
comp=Z,0.2nm,0.3s,baz=65,slow=12,SNR=6.4
comp=Z,5.6nm,1.0s
KS19 Wonju Array Si 16.83 254 Pn **Pn** **16 36 49.9 -0.3**
ZEA Zeya 16.86 312 *eP* **P** **16 36 52.8 +0.7**
ZEA *eS* **Sn** **16 39 50.8 -5.7**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA smax smax
comp=N,100nm,15.4s
ZEA MLR MLR
comp=E,200nm,13.0s
ZEA Zeya 16.86 312 *eP* **Pn** **16 36 49.1 -1.3**
JCJ Chichijima 17.66 198 LR LR 16 42 31.8
comp=E,97nm,20.8s,baz=270,slow=33
SEY Seymchan 19.04 6 P **P** **16 37 15.7 -0.4**
comp=E,0.4nm,0.3s,baz=188,slow=9.2,SNR=14
comp=E,16nm,0.9s
SHEM Shemya Is, Ala 19.07 54 LR LR 16 45 39.7
comp=E,108nm,19.2s,baz=211,slow=40
YAK Yakutsk 21.06 335 P **P** **16 37 36.0 -2.0**
comp=E,10nm,0.5s,baz=128,slow=3.0,SNR=12
YAK LR LR 16 46 08.4
comp=E,339nm,20.0s,baz=93,slow=38
comp=E,10nm,0.5s
YAK Yakutsk 21.06 335 P **P** **16 37 34.9 -3.1**
YAK IAmb IAmb 16 37 45.1
comp=Z,46nm,0.8s
YAK Yakutsk 21.06 335 *eP* **P** **16 37 35.6 -2.3**
YAK *e* 16 37 55.3
YAK *e*S **S** **16 41 30.6 +0.7**
YAK *e**SS **sS** **16 41 43.2 -1.5**
YAK *e*SS **SnSn** **16 41 58.0 +5.2**
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK smax smax
comp=E,63nm,2.7s
YAK smax smax
comp=N,35nm,1.5s
YAK MLR MLR
comp=Z,411nm,22.0s
YAK MLR MLR
comp=N,264nm,20.0s
YAK MLR MLR
comp=E,135nm,20.0s
XLT XiLinHaoTe 23.15 281 *eP* **P** **16 38 01.3 +0.9**
XLT pP pP 16 38 12.3 +1.7
XLT sP sP 16 38 17.3 +1.7
XLT S **S** **16 42 01.5 -7.5**
XLT pmax pmax
comp=E,14nm,0.9s
XLT pmax pmax
comp=E,62nm,3.9s
XLT LR LR
comp=E,43nm,18.2s
XLT LR LR
comp=E,340nm,14.9s
XLT LR LR
comp=E,400nm,16.2s
JOW Kunigami 23.64 230 LR LR 16 47 19.6
comp=E,181nm,21.2s,baz=148,slow=37
BJI Beijing 24.15 272 P **P** **16 38 10.3 +0.5**
BJI sP **sP** **16 38 27.3 +2.0**
BJI S **S** **16 42 22.5 -2.4**
BJI pmax pmax
comp=E,10.0nm,0.7s
BJI LR LR
comp=E,60nm,16.5s
BJI LR LR
comp=E,240nm,15.7s
BJI LR LR
comp=E,350nm,16.7s
BJT Baijiatuan 24.16 272 P **P** **16 38 10.1 +0.2**
BJT Baijiatuan 24.16 272 P **P** **16 38 10.1 +0.2**
BJT pmax pmax
comp=Z,10.0nm,0.7s
TIA Tai'an 25.03 262 P **P** **16 38 18.8 +1.0**
TIA pmax pmax
comp=Z,10.0nm,0.6s
NJ2 Nanjing 26.01 253 *eP* **P** **16 38 26.8 +0.1**
NJ2 pmax pmax
comp=Z,13nm,0.6s
HNS HongShan 26.23 267 ⇑P **P** **16 38 30.3 +1.6**
HNS S **S** **16 43 03.0 +4.9**
HNS pmax pmax
comp=Z,10.0nm,0.8s
HNS LR LR
comp=Z,430nm,10.6s
HNS LR LR
comp=Z,280nm,11.4s
HHC Hu-ho-hao-te 27.19 276 *eP* **P** **16 38 38.5 +1.0**
HHC S **S** **16 43 14.0 +0.5**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.4s
HHC LR LR
comp=Z,350nm,10.8s
HHC LR LR
comp=Z,410nm,11.4s
HHC LR LR
comp=Z,540nm,14.0s
ULN Ulaanbaatar 28.71 292 P **P** **16 38 50.1 -1.0**
ULN Ulaanbaatar 28.71 292*de*P **P** **16 38 51.7 +0.7**
ULN pmax pmax
comp=Z,8.0nm,2.5s
ULN Ulaanbaatar 28.71 292 *eP* **P** **16 38 51.7 +0.7**
H11N2 WAKE ISLAND Hy 28.79 142 T T 17 09 38.4
baz=332,slow=76,SNR=1067
H11N1 WAKE ISLAND Hy 28.80 142 T T 17 09 39.4
baz=332,slow=76,SNR=1065
H11N3 WAKE ISLAND Hy 28.80 142 T T 17 09 39.8
baz=332,slow=76,SNR=1416
SONM Songino Array 29.16 292 P **P** **16 38 54.9 -0.1**
comp=Z,2.2nm,0.5s,baz=80,slow=8.6,SNR=12
SONM LR LR 16 51 37.2
comp=Z,301nm,20.2s,baz=87,slow=39
comp=Z,2.2nm,0.5s
SONM Songino Array 29.16 292 P **P** **16 38 55.1 +0.1**
SONM Songino Array 29.16 292 P **P** **16 38 55.1 +0.1**
SONM pmax pmax
comp=Z,7.0nm,1.4s
TIXI Tiksi 29.23 347 LR LR 16 51 51.5
comp=Z,123nm,18.5s,baz=180,slow=39
NIKH Nikolski High 29.31 57 P **P** **16 38 57.3 +1.2**
baz=270
H11S1 WAKE ISLAND Hy 29.78 143 T T 17 10 48.9
baz=333,slow=76,SNR=2962
H11S3 WAKE ISLAND Hy 29.78 143 T T 17 10 46.4
baz=333,slow=76,SNR=2071
H11S2 WAKE ISLAND Hy 29.80 143 T T 17 10 47.3
baz=333,slow=76,SNR=1893
GUMO Guam 30.52 187 LR LR 16 50 20.8
comp=Z,77nm,19.8s,baz=41,slow=34
XAN Xi'an 31.96 265 P **P** **16 39 22.5 +2.8**
XAN pP pP 16 39 32.8 +2.2
XAN pmax pmax
comp=Z,4.0nm,1.0s
FALS False Pass 32.52 53 P **P** **16 39 24.2 -0.1**
baz=271
LZH Lanzhou 34.64 272 *eP* **P** **16 39 44.5 +1.3**
LZH pP sP 16 40 00.0 +1.2
LZH pmax pmax
comp=Z,28nm,1.1s
LZH LR LR
comp=Z,350nm,14.4s
LZH LR LR
comp=Z,340nm,15.5s
LZH LR LR
comp=Z,340nm,15.8s
N16K Nishlik Lake 35.15 43 P **P** **16 39 48.8 +1.7**
baz=266
GTA Gaotai 36.10 280 *eP* **P** **16 39 56.0 +0.3**
GTA pP sP 16 40 09.5 -2.1
GTA sP pP 16 40 13.3 +6.5
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,5.1s
GTA LR LR
comp=Z,120nm,15.3s
GTA LR LR
comp=Z,200nm,13.4s
GTA LR LR
comp=Z,250nm,14.5s
R17K Ugashik Creek 36.36 48 P **P** **16 39 58.3 +0.9**
baz=272
N18K Kilae Creek 36.58 43 P **P** **16 39 59.3 -0.1**
N18K IAmb IAmb 16 40 19.1
comp=Z,23nm,1.4s
N18K Kilae Creek 36.58 43 P **P** **16 40 00.6 +1.3**
baz=269
Q17K Contact Creek 36.60 47 P **P** **16 40 00.2 +0.5**
baz=272
CHIR Chirikof Islan 36.91 51 P **P** **16 40 01.0 -1.2**
P18K Big Mountain, 36.91 45 P **P** **16 40 02.1 -0.1**
baz=271
O18K Koktuh Hills 36.91 44 P **P** **16 40 01.9 -0.3**
baz=270
N19K Bonanza Creek 37.27 43 P **P** **16 40 05.8 +0.5**
baz=270
K20K Telida 37.53 39 P **P** **16 40 08.1 +0.6**
baz=267
J20K Nowinta River 37.55 37 P **P** **16 40 08.3 +0.8**
J20K IAmb IAmb 16 40 10.3
comp=Z,12nm,0.9s
J20K Nowinta River 37.55 37 P **P** **16 40 08.1 +0.6**
baz=266,SNR=6.2
L20K Farewell, AK 37.59 40 P **P** **16 40 08.3 +0.5**
baz=268
SII Sitkinak Islan 37.64 50 P **P** **16 40 08.3 -0.1**
A21K Barrow 37.88 25 P **P** **16 40 11.3 +1.1**
baz=254
IMAR Indian Mountai 37.88 34 P **P** **16 40 10.7 +0.3**
M20K Styx River 37.93 41 P **P** **16 40 11.0 +0.1**
baz=269
G21K Allakaket 38.04 34 P **P** **16 40 12.1 +0.4**
baz=263,SNR=6.6
OHAK Old Harbor 38.06 49 P **P** **16 40 09.8 -2.1**
OHAK IAmb IAmb 16 40 20.1
comp=Z,14nm,1.1s
F21K Alatna River 38.14 32 P **P** **16 40 12.9 +0.4**
baz=262
H21K Melozitna Rive 38.24 35 P **P** **16 40 13.8 +0.5**
H21K IAmb IAmb 16 40 15.9
comp=Z,12nm,0.9s
H21K Melozitna Rive 38.24 35 P **P** **16 40 13.8 +0.5**
baz=265,SNR=6.9
CHUM Lake Minchumin 38.34 38 P **P** **16 40 13.6 -0.6**
baz=268
PPLA Purkeypile 38.37 39 P **P** **16 40 13.7 -0.9**
PPLA IAmb IAmb 16 40 19.1
comp=Z,41nm,1.5s
PPLA Purkeypile 38.37 39 P **P** **16 40 14.3 -0.4**
baz=269
KDAK Kodiak Island 38.38 48 P **P** **16 40 14.9 +0.3**
comp=Z,8.5nm,0.6s,baz=305,slow=3.6,SNR=16
comp=Z,8.5nm,0.6s
KDAK Kodiak Island 38.38 48 P **P** **16 40 12.0 -2.6**
KDAK IAmb IAmb 16 40 15.8
comp=Z,11nm,0.8s
KDAK Kodiak Island 38.38 48*de*P **P** **16 40 14.9 +0.3**
KDAK pmax pmax
comp=Z,15nm,0.9s
KDAK Kodiak Island 38.38 48 P **P** **16 40 14.6 0.0**
baz=275
KDAK Kodiak Island 38.38 48 P **P** **16 40 15.0 +0.3**
Q20K Shuyak Island 38.41 46 P **P** **16 40 14.5 -0.3**
baz=274
CAST Castle Rocks 38.43 39 P **P** **16 40 15.0 0.0**
CAST IAmb IAmb 16 40 19.1
comp=Z,40nm,1.9s
CAST Castle Rocks 38.43 39 P **P** **16 40 14.4 -0.6**
baz=268,SNR=5.8
I21K Tanana 38.55 36 IAmb IAmb 16 40 18.8
comp=Z,15nm,1.1s
I21K Tanana 38.55 36 P **P** **16 40 15.9 0.0**
baz=266
F22K John River 38.67 32 P **P** **16 40 17.1 +0.1**
baz=263
H22K Ishtalitna Cre 38.85 35 P **P** **16 40 18.5 +0.1**
baz=266
G22K Bettles 38.88 33 P **P** **16 40 18.6 -0.1**
baz=265
BPAW Bear Paw Mtn. 38.93 38 P **P** **16 40 18.6 -0.6**
baz=269
CNPM China Poot 38.94 45 P **P** **16 40 18.4 -0.9**
CNPM IAmb IAmb 16 41 05.8
comp=Z,29nm,1.3s
KTH Kantishna Hill 38.95 38 P **P** **16 40 18.7 -0.7**
KTH IAmb IAmb 16 40 22.5
comp=Z,16nm,1.0s
MLY Manley 39.07 36 P **P** **16 40 19.7 -0.6**
MLY IAmb IAmb 16 40 23.2
comp=Z,44nm,1.8s
MLY Manley 39.07 36 P **P** **16 40 20.6 +0.2**
baz=268
BRSE Bradley Lake S 39.17 44 P **P** **16 40 21.8 +0.6**
baz=274
TRF Thorofare Moun 39.24 39 P **P** **16 40 22.6 +0.7**
TRF Thorofare Moun 39.24 39 P **P** **16 40 22.2 +0.3**
baz=270
NRIK Noril'sk 39.40 331 LR LR 16 57 30.3
comp=Z,137nm,20.5s,baz=99,slow=38
COLD Coldfoot 39.41 33 P **P** **16 40 22.6 -0.5**
COLD Coldfoot 39.41 33 P **P** **16 40 23.8 +0.7**
baz=265,SNR=5.3
G23K Bananza Creek 39.44 33 P **P** **16 40 24.0 +0.5**
baz=266,SNR=6.9
C23K Itkillik River 39.54 28 P **P** **16 40 25.5 +1.4**
baz=262
RC01 Rabbit Creek A 39.58 42 P **P** **16 40 25.2 +0.6**
baz=273
H23K Yukon River 39.60 35 P **P** **16 40 24.8 +0.1**
H23K IAmb IAmb 16 40 27.7
comp=Z,15nm,0.9s
H23K Yukon River 39.60 35 P **P** **16 40 25.3 +0.6**
baz=268,SNR=7.7
I23K Minto, Yukon-K 39.66 36 P **P** **16 40 26.2 +1.1**
baz=269,SNR=7.3
E23K Chandalar 39.70 31 P **P** **16 40 26.1 +0.5**
baz=265,SNR=7.5
TOLK Toolik Lake Re 39.77 30 P **P** **16 40 27.2 +1.1**
baz=264
NEA2 Nenana 39.77 37 P **P** **16 40 27.0 +0.8**
baz=270,SNR=6.9
SEW Seward 39.79 44 P **P** **16 40 26.8 +0.5**
baz=275
MCK McKinley 39.84 38 P **P** **16 40 26.5 -0.3**
MCK McKinley 39.84 38 P **P** **16 40 26.5 -0.3**
MCK pmax pmax
comp=Z,12nm,1.2s
MCK McKinley 39.84 38 P **P** **16 40 27.9 +1.1**
baz=271
RND Reindeer 39.88 39 IAmb IAmb 16 40 29.1
comp=Z,22nm,1.4s
WAT1 Susitna Watana 40.04 40 P **P** **16 40 29.1 +0.6**
baz=272
D24K Happy Valley 40.09 30 P **P** **16 40 29.2 +0.5**
baz=264
E24K Your Creek 40.12 31 P **P** **16 40 29.9 +0.9**
baz=266,SNR=7.2
MDM Murphy Dome 40.13 36 P **P** **16 40 29.9 +0.7**
KNK Knik Glacier 40.17 42 P **P** **16 40 29.9 +0.3**
baz=274
C24K Franklin Bluff 40.18 29 P **P** **16 40 30.0 +0.6**
baz=264
SML Sawmill 40.20 41 IAmb IAmb 16 40 40.3
comp=Z,34nm,1.5s
SML Sawmill 40.20 41 P **P** **16 40 30.3 +0.4**
baz=274,SNR=5.6
PWL Port Wells 40.28 43 P **P** **16 40 30.7 +0.3**
baz=275
H24K Noodor Dome 40.28 35 P **P** **16 40 31.5 +1.1**
baz=269,SNR=7.7
TCOL CIGO, UAF Yank 40.29 36 P **P** **16 40 31.7 +1.3**
baz=270
COLA College 40.30 36 P **P** **16 40 30.4 0.0**
COLA College 40.30 36*ce*P **P** **16 40 31.5 +1.1**
COLA pmax pmax
comp=Z,7.0nm,0.3s
COLA College 40.30 36 P **P** **16 40 32.1 +1.7**
baz=270
COLA College 40.30 36 P **P** **16 40 31.3 +0.9**
CCB Clear Creek Bu 40.32 37 IAmb IAmb 16 40 33.0
comp=Z,24nm,1.8s
F24K Squaw Lake 40.32 32 P **P** **16 40 31.8 +1.1**
baz=267,SNR=7.2
G24K Hadweenzic Riv 40.46 33 P **P** **16 40 33.2 +1.4**
baz=269,SNR=8.7
POKR Poker Plat Res 40.47 36 P **P** **16 40 33.4 +1.5**
baz=271,SNR=5.9
DHY Denali Highway 40.57 39 P **P** **16 40 33.6 +0.7**
baz=273
HDA Harding Lake 40.70 37 P **P** **16 40 33.5 -0.3**
HDA IAmb IAmb 16 40 35.4
comp=Z,18nm,1.3s
HDA Harding Lake 40.70 37 P **P** **16 40 34.2 +0.4**
baz=272,SNR=7.5
QIZ Qiongzhong 40.70 245 P **P** **16 40 33.3 -1.0**
QIZ S **S** **16 46 41.0 -0.8**
QIZ LR LR
comp=Z,230nm,4.5s
QIZ LR LR
comp=Z,250nm,12.0s
ILAR Eielson Array 40.71 36 P **P** **16 40 34.9 +1.0**
comp=Z,5.3nm,0.8s,baz=265,slow=6.7,SNR=31
comp=Z,5.3nm,0.8s
ILAR Eielson Array 40.71 36 P **P** **16 40 34.2 +0.3**
P23K Montague Islan 40.83 44 P **P** **16 40 35.3 +0.4**
baz=277
GLI Glacier Island 40.88 42 P **P** **16 40 35.9 +0.6**
baz=276
DGZ Jazzator, Alta 41.02 300⇑*e*P **P** **16 40 38.5 +1.7**
DGZ pmax pmax
comp=Z,5.0nm,1.2s
GOMU GeErMu 41.06 278 *e*P **P** **16 40 38.5 +0.9**
GOMU S **S** **16 46 47.8 +0.1**
GOMU pmax pmax
comp=Z,7.0nm,0.8s
GOMU pmax pmax
comp=Z,51nm,5.2s
GOMU LR LR
comp=Z,170nm,18.8s
GOMU LR LR
comp=Z,240nm,18.8s
GOMU LR LR
comp=Z,250nm,16.9s
H25K Birch Creek 41.12 34 P **P** **16 40 38.8 +1.6**
baz=271,SNR=6.9
F25K Christian Rive 41.18 32 P **P** **16 40 39.5 +1.7**
baz=269
M24K Tolsona, Glenn 41.20 41 P **P** **16 40 38.6 +0.6**
M24K IAmb IAmb 16 40 40.8
comp=Z,14nm,0.7s
M24K Tolsona, Glenn 41.20 41 P **P** **16 40 39.4 +1.4**
baz=275,SNR=5.8
E25K Arctic Village 41.22 31 P **P** **16 40 39.3 +1.2**
baz=269
K24K Donnelly Dome 41.24 38 P **P** **16 40 38.9 +0.6**
baz=274
PRP Porcupine Dome 41.26 35 P **P** **16 40 39.8 +1.3**
baz=272
PZH PanZhiHua 41.30 261 P **P** **16 40 40.5 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,5.5s
FYU Fort Yukon 41.35 34 P **P** **16 40 39.9 +0.8**
FYU IAmb IAmb 16 40 42.4
comp=Z,24nm,1.0s
J25K Salcha River, 41.37 37 P **P** **16 40 39.0 -0.4**
J25K Salcha River, 41.37 37 P **P** **16 40 40.0 +0.6**
baz=273
KLU Klutina 41.38 41 IAmb IAmb 16 40 45.6
comp=Z,7.7nm,0.4s
KLU Klutina 41.38 41 P **P** **16 40 40.5 +1.0**
baz=276
KMI Kunming 41.44 258 ⇓P **P** **16 40 41.8 +1.2**
KMI sP sP 16 40 58.5 +2.2
KMI pmax pmax
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 41.51 307 P **P** **16 40 40.9 +0.4**
comp=Z,0.8nm,0.3s,baz=96,slow=6.7,SNR=5.8
ZALV PcP **PcP** **16 42 38.1 +0.7**
comp=Z,3.6nm,0.6s,baz=91,slow=2.9,SNR=13
ZALV LR LR 16 58 58.8
comp=Z,88nm,18.8s,baz=68,slow=38
comp=Z,0.8nm,0.3s
ZALV Zalesovo Beam 41.51 307 P **P** **16 40 40.1 -0.4**
EYAK Cordova Ski Ar 41.57 43 P **P** **16 40 41.8 +0.8**
baz=277
HARP HAARP 41.64 40 P **P** **16 40 42.4 +0.8**
baz=276
RIDG Independent Ri 41.66 38 P **P** **16 40 42.6 +0.8**
baz=274
F26K Sheenjek River 41.76 32 P **P** **16 40 44.1 +1.6**
baz=271,SNR=6.4
G26K Porcupine Rive 41.91 33 P **P** **16 40 45.2 +1.4**
baz=272,SNR=10.0
C27K Jago River 41.92 29 P **P** **16 40 44.8 +1.1**
baz=269
N25K Chitina, Valde 41.99 41 P **P** **16 40 45.5 +0.9**
baz=277
SCRK Sand Creek 42.02 38 P **P** **16 40 43.9 -0.9**
SCRK Sand Creek 42.02 38 P **P** **16 40 45.7 +0.9**
baz=275,SNR=11
BMRM Bremner River 42.07 42 P **P** **16 40 46.4 +1.2**
baz=278
J26L Joseph Creek 42.15 37 P **P** **16 40 46.6 +0.8**
baz=275
L26K Log Cabin Wild 42.40 39 P **P** **16 40 48.8 +1.0**
baz=276
BERG Berg Lake 42.60 43 P **P** **16 40 46.8 -2.6**
BERG IAmb IAmb 16 40 49.2
comp=Z,17nm,0.7s
M26K Nabesna, AK 42.64 40 IAmb IAmb 16 40 53.0
comp=Z,47nm,1.9s
M26K Nabesna, AK 42.64 40 P **P** **16 40 50.5 +0.7**
baz=278,SNR=7.8
E27K Coleen River 42.70 31 P **P** **16 40 51.0 +0.8**
baz=272
G27K Doyon Strip 42.76 33 P **P** **16 40 52.1 +1.4**
baz=274
MCARA McCarthy VSAT 42.77 41 P **P** **16 40 52.3 +1.5**
baz=278
WMQ Urumqi 42.79 292 *eP* **P** **16 40 50.5 -0.8**
WMQ pP pP 16 41 02.8 +0.4
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ LR LR
comp=Z,300nm,19.7s

WMQ LR LR
comp=Z,590nm,18.7s
WMQ LR LR
comp=Z,240nm,18.7s
K27K Chicken 42.85 37 P **P** **16 40 52.8 +1.4**
baz=276
BGLC Bering Glacier 42.85 43 P **P** **16 40 52.6 +1.2**
baz=280
H27K Steamboat Moun 42.86 34 P **P** **16 40 53.1 +1.6**
baz=275,SNR=15
I27K Kandik River 42.88 35 P **P** **16 40 53.2 +1.5**
baz=275
WAX Waxell Ridge 43.01 43 P **P** **16 40 52.2 -0.6**
WAX IAmb IAmb 16 40 55.3
comp=Z,12nm,0.8s
L27K Beaver Creek, 43.08 39 IAmb IAmb 16 40 57.7
comp=Z,32nm,1.6s
L27K Beaver Creek, 43.08 39 P **P** **16 40 54.0 +0.6**
baz=278,SNR=14
EGAK Eagle 43.16 36 IAmb IAmb 16 40 55.8
comp=Z,18nm,1.1s
EGAK Eagle 43.16 36 P **P** **16 40 54.8 +0.9**
baz=276,SNR=11
M27K Edge Creek, AK 43.16 40 P **P** **16 40 54.9 +0.8**
baz=278
ISLE Juniper Island 43.23 42 IAmb IAmb 16 40 59.5
comp=Z,16nm,1.3s
MESA MESA 43.50 43 P **P** **16 40 57.6 +0.7**
baz=281
YAH Yahtse 43.56 43 IAmb IAmb 16 41 00.4
comp=Z,11nm,0.9s
CTG Chitna Glacier 43.65 42 P **P** **16 40 59.5 +1.5**
baz=280
CTGM Chitina Glacie 43.65 42 P **P** **16 40 57.3 -0.7**
TABL Table Mountain 43.84 42 IAmb IAmb 16 42 18.1
comp=Z,27nm,1.6s
YUK3 Moose Creek 43.92 40 P **P** **16 41 01.5 +1.2**
baz=280
DAWY Dawson 44.01 37 P **P** **16 41 02.1 +1.3**
baz=279
O28M Mount Upton 44.24 42 P **P** **16 41 04.3 +1.3**
baz=281
I29M Ogilvie Camp, 44.28 35 P **P** **16 41 03.2 +0.3**
I29M IAmb IAmb 16 41 05.6
comp=Z,19nm,0.9s
I29M Ogilvie Camp, 44.28 35 P **P** **16 41 05.0 +2.1**
baz=278,SNR=9.1
PCA Pinnacle 44.34 43 P **P** **16 41 02.8 -0.8**
PCA IAmb IAmb 16 41 22.6
comp=Z,16nm,0.7s
M29M Somme Creek 44.71 39 P **P** **16 41 08.3 +1.8**
baz=281
L29M L29M 44.73 38 P **P** **16 41 08.3 +1.7**
baz=281
EPYK Eagle Plains 44.77 34 P **P** **16 41 08.3 +1.5**
baz=279,SNR=12
YUK4 Talbot Arm 44.85 41 P **P** **16 41 09.3 +1.6**
baz=282
K29M Barlow Dome 44.87 37 P **P** **16 41 09.2 +1.5**
baz=280,SNR=6.5
G30M tAoh Zraii Nji 44.87 33 P **P** **16 41 09.0 +1.4**
baz=278,SNR=7.0
MK31 Makanchi Array 45.21 298 IAmb IAmb 16 41 12.1
comp=Z,10nm,0.8s
MK31 Makanchi Array 45.21 298 *d* iP **P** **16 41 11.0 +0.4**
MKAR Makanchi Array 45.21 298 P **P** **16 41 10.7 +0.1**
comp=Z,10nm,0.8s,baz=76,slow=8.4,SNR=40
MKAR PcP **PcP** **16 42 50.9 +0.7**
comp=Z,2.1nm,0.6s,baz=61,slow=4.0,SNR=4.0
MKAR LR LR 17 01 33.0
comp=Z,364nm,18.0s,baz=78,slow=38
comp=Z,10nm,0.8s
MKAR Makanchi Array 45.21 298 P **P** **16 41 10.2 -0.4**
MAKZ Makanchi 45.41 298 P **P** **16 41 11.9 -0.2**
MAKZ IAmb IAmb 16 41 13.7
comp=Z,9.1nm,0.8s
MAKZ Makanchi 45.41 298 P **P** **16 41 11.9 -0.2**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 45.41 298 P **P** **16 41 12.7 +0.6**
HYT Haines Junctio 45.51 41 IAmb IAmb 16 41 16.4
comp=Z,16nm,0.9s
HYT Haines Junctio 45.51 41 P **P** **16 41 14.1 +1.2**
baz=283,SNR=13
N30M Aishikik Lake 45.56 40 P **P** **16 41 14.3 +1.2**
baz=283
INK Inuvik 45.68 31 P **P** **16 41 15.2 +1.3**
comp=Z,7.5nm,0.7s,baz=275,slow=8.0,SNR=9.5
comp=Z,7.5nm,0.7s
INK Inuvik 45.68 31 IAmb IAmb 16 41 16.4
comp=Z,10nm,0.9s
INK Inuvik 45.68 31 P **P** **16 41 14.6 +0.7**
baz=279
P29M Windy Craggy 45.69 43 IAmb IAmb 16 41 17.7
comp=Z,19nm,0.9s
P29M Windy Craggy 45.69 43 P **P** **16 41 15.0 +0.8**
baz=284,SNR=10
F31M Tsiigehtchic 45.75 32 P **P** **16 41 15.6 +1.2**
baz=280
P30M Million Dollar 45.94 42 P **P** **16 41 18.3 +2.1**
baz=284
KURK Kurchatov 46.08 304 P **P** **16 41 16.3 -0.9**
KURK IAmb IAmb 16 41 18.3
comp=Z,7.5nm,0.7s
KURK PcP **PcP** **16 42 53.1 +0.1**
KURK Kurchatov 46.08 304 P **P** **16 41 17.8 +0.5**
KURK 16 42 53.8
KURK Kurchatov 46.08 304 *eP* **P** **16 41 17.8 +0.5**
KURK Kurchatov 46.08 304 P **P** **16 41 17.5 +0.2**
KURK pP **pP** **16 41 28.6 -0.1**
N31M Braeburn, Yuko 46.16 40 IAmb IAmb 16 41 39.0
comp=Z,23nm,1.5s
N31M Braeburn, Yuko 46.16 40 P **P** **16 41 19.5 +1.6**
baz=284
KURBB Kurchatov Arra 46.16 304 P **P** **16 41 17.8 -0.2**
comp=Z,2.8nm,0.3s,baz=72,slow=8.7,SNR=29
KURBB PcP **PcP** **16 42 53.8 +0.5**
comp=Z,2.1nm,0.6s,baz=71,slow=3.5,SNR=10
KURBB LR LR 17 01 47.4
comp=Z,110nm,19.6s,baz=71,slow=38
comp=Z,2.8nm,0.3s
O30N Mendenhall 46.20 41 P **P** **16 41 19.1 +0.9**
baz=284
PLBC Pleasant Camp 46.41 43 P **P** **16 41 20.4 +0.6**
baz=286
M31M Drury Creek, Y 46.62 39 P **P** **16 41 22.1 +0.6**
baz=284
FARO Faro, Yukon 47.08 39 P **P** **16 41 26.4 +1.3**
FARO IAmb IAmb 16 41 48.3
comp=Z,22nm,1.9s
FARO Faro, Yukon 47.08 39 P **P** **16 41 26.2 +1.1**
baz=285
SIJI Sorong 47.28 204 LR LR 17 04 08.0
comp=Z,48nm,18.1s,baz=110,slow=40
P32M Atlin 47.66 42 P **P** **16 41 30.2 +0.6**
baz=287
R32K Eaglecrest 47.67 44 P **P** **16 41 31.0 +1.3**
baz=288
A36M Sachs Harbour 47.71 25 P **P** **16 41 30.6 +0.8**
baz=283
MMPY Sheldon Lake, 47.91 38 P **P** **16 41 32.6 +1.1**
baz=287
P33M Teslin, Yukon 47.91 41 IAmb IAmb 16 41 34.8
comp=Z,8.7nm,1.0s
P33M Teslin, Yukon 47.91 41 P **P** **16 41 32.4 +0.9**
baz=288,SNR=6.9
CHTO Chiang Mai 48.21 255 P **P** **16 41 33.6 -0.8**
CHTO Chiang Mai 48.21 255 P **P** **16 41 33.6 -0.8**
CHTO Chiang Mai 48.21 255 P **P** **16 41 35.9 +1.5**
CHTO sP **sP** **16 41 51.5 +1.3**
CMAR Chiang Mai Arr 48.46 254 P **P** **16 41 37.1 +0.9**
comp=Z,1.5nm,0.8s,baz=42,slow=7.4,SNR=13
CMAR LR LR 17 04 14.4
comp=Z,154nm,18.9s,baz=45,slow=39
comp=Z,1.5nm,0.8s
CMAR Chiang Mai Arr 48.46 254 *i* P **P** **16 41 37.5 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
R33M Jennings River 49.06 42 P **P** **16 41 40.4 0.0**
baz=290
S34M Telegraph Cree 49.49 44 P **P** **16 41 45.1 +1.5**
baz=291
WTLY Watson Lake, Y 49.84 41 P **P** **16 41 47.3 +1.0**
baz=290
DLBC Dease Lake 49.85 43 P **P** **16 41 47.7 +1.3**
baz=291
BVAR Borovoye Array 49.98 310 LR LR 17 05 06.1

comp=Z,159nm,18.4s,baz=69,slow=39
BRVK Borovoye 50.02 310 ⇑*eP* **P** **16 41 47.7 0.0**
BRVK Borovoye 50.02 310 *eP* **P** **16 41 48.2 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 50.02 310 *eP* **P** **16 41 48.2 +0.5**
JIRN Jiri 51.79 273 *eP* **P** **16 42 02.8 +1.0**
comp=Z,18nm,0.5s
GUN Gumba 51.87 274 *eP* **P** **16 42 03.3 +0.9**
comp=Z,26nm,0.5s
RAMN Ramite 51.91 272 *eP* **P** **16 42 02.8 +0.2**
comp=Z,40nm,0.5s
AAK Ala-Archa 52.01 296 LR LR 17 05 38.2
comp=Z,89nm,20.4s,baz=88,slow=38
AAK Ala-Archa 52.01 296 P **P** **16 42 02.0 -1.0**
AAK IAmb IAmb 16 42 04.4
comp=Z,9.0nm,0.6s
AAK Ala-Archa 52.01 296 *de*P **P** **16 42 03.7 +0.7**
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 52.01 296 *eP* **P** **16 42 03.7 +0.7**
AAK Ala-Archa 52.01 296 P **P** **16 42 03.3 +0.2**
KKN Kakani 52.37 274 *eP* **P** **16 42 06.5 +0.5**
PKI Pulchoki 52.41 274 *eP* **P** **16 42 06.9 +0.5**
comp=Z,9.2nm,0.5s
PKIN Phulchoki 52.41 274 *eP* **P** **16 42 06.6 +0.3**
comp=Z,11nm,0.5s
KSH Kashi 52.56 292 P **P** **16 42 11.8 +4.7**
KSH pmax pmax
comp=Z,11nm,0.7s
KSH LR LR
comp=Z,780nm,17.2s
KSH LR LR
comp=Z,520nm,19.2s
KSH LR LR
comp=Z,330nm,13.7s
DMN Daman 52.60 274 *eP* **P** **16 42 08.6 +0.9**
comp=Z,22nm,0.4s
GKN Gorkha 52.71 275 *eP* **P** **16 42 08.8 +0.4**
comp=Z,16nm,0.5s
ALE Alert 52.72 5 P **P** **16 42 06.1 -1.4**
ALE pP **pP** **16 42 17.2 -1.6**
ALE sP **sP** **16 42 22.2 -1.2**
DANN Dangsing 53.14 276 *eP* **P** **16 42 12.8 +1.1**
KOLN Koldanda 53.59 275 *eP* **P** **16 42 15.7 +0.8**
PYUN Piuthan 53.83 276 *eP* **P** **16 42 17.2 +0.5**
comp=Z,13nm,0.4s
KK31 Karatay Array 54.34 298 P **P** **16 42 19.0 -1.0**
KK31 IAmb IAmb 16 42 21.4
comp=Z,13nm,0.8s
KK31 Karatay Array 54.34 298 P **P** **16 42 19.0 -1.0**
KK31 pmax pmax
comp=Z,13nm,0.8s
RES Resolute Bay 54.41 17 P **P** **16 42 20.6 +0.6**
comp=Z,7.1nm,0.8s,baz=328,slow=6.3,SNR=7.1
comp=Z,7.1nm,0.8s
ARU Arti 54.71 317 LR LR 17 08 08.0
comp=Z,158nm,18.8s,baz=92,slow=39
ARU Arti 54.71 317 P **P** **16 42 21.3 -1.1**
ARU IAmb IAmb 16 42 25.3
comp=Z,14nm,1.3s
ARU Arti 54.71 317 *d* iP **P** **16 42 22.6 +0.2**
ARU 16 43 22.5
ARU S **S** **16 49 59.5 -0.1**
ARU SS **SS** **16 53 41.0 -1.2**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 54.71 317 *eP* **P** **16 42 22.6 +0.2**
ARU Arti 54.71 317 P **P** **16 42 22.6 +0.2**
YKA Yellowknife Ar 55.05 34 P **P** **16 42 25.7 +0.9**
comp=Z,2.4nm,0.6s,baz=301,slow=6.9,SNR=2.3
comp=Z,2.4nm,0.6s
DRK Karamyk 55.35 294 P **P** **16 42 27.5 -0.2**
DRK IAmb IAmb 16 42 33.2
comp=Z,9.6nm,0.6s
BTK Batken 55.69 295 IAmb IAmb 16 42 31.1
comp=Z,20nm,1.2s
GAR Garm 56.58 294 P **P** **16 42 36.1 -0.2**
CHGR Chuyangaron 57.53 294 P **P** **16 42 42.8 -0.2**
CHGR Chuyangaron 57.53 294 P **P** **16 42 42.8 -0.2**
CHGR pmax pmax
comp=Z,50nm,0.6s
NIL Nilore 57.53 287 P **P** **16 42 43.0 0.0**
NIL Nilore 57.53 287 P **P** **16 42 43.0 0.0**
NIL pmax pmax
comp=Z,23nm,0.9s
NIL Nilore 57.53 287 P **P** **16 42 44.2 +1.2**
NIL sP **sP** **16 42 59.8 +0.5**
ABKAR Akbulak array 57.54 309 P **P** **16 42 42.4 -0.4**
KIRV Kirov 57.88 322 *de*P **P** **16 42 45.2 +0.3**
AKTO Aktyubinsk 57.99 311 LR LR 17 09 37.8
comp=Z,82nm,18.4s,baz=69,slow=38
ARCES ARCESS Array B 59.25 340 P **P** **16 42 54.0 -0.4**
comp=Z,3.1nm,0.9s,baz=46,slow=8.7,SNR=3.5
comp=Z,3.1nm,0.9s
ARCES ARCESS Array B 59.25 340 P **P** **16 42 54.0 -0.4**
KBL Kabul 59.90 290 P **P** **16 42 58.7 -1.0**
KBL Kabul 59.90 290 P **P** **16 42 58.7 -1.0**
KBL pmax pmax
comp=Z,19nm,1.1s
NEW Newport 61.46 49 P **P** **16 43 10.3 +0.4**
baz=305
HRA Herat 64.53 294 P **P** **16 43 30.6 0.0**
HRA IAmb IAmb 16 43 32.4
comp=Z,6.2nm,0.7s
WB0 Warramunga Arr 64.80 195 P **P** **16 43 31.5 -0.6**
FFC Flin Flon 64.92 37 P **P** **16 43 32.0 -0.6**
FFC Flin Flon 64.92 37 P **P** **16 43 32.0 -0.6**
FFC pmax pmax
comp=Z,40nm,2.0s
WR0 Warramunga Arr 64.96 194 P **P** **16 43 32.7 -0.4**
WRAB Tennant Creek 64.97 195 P **P** **16 43 33.5 +0.2**
WRAB IAmb IAmb 16 45 15.1
comp=Z,20nm,1.5s
WRAB Tennant Creek 64.97 195 P **P** **16 43 33.5 +0.2**
WRAB pmax pmax
comp=Z,20nm,1.5s
FIA1 FINESS Array S 64.98 333 P **P** **16 43 31.9 -0.9**
WRA Warramunga Arr 64.98 195 P **P** **16 43 33.3 0.0**
comp=Z,1.1nm,0.7s,baz=9.1,slow=6.6,SNR=5.4
comp=Z,1.1nm,0.7s
WRA Warramunga Arr 64.98 195 P **P** **16 43 33.3 0.0**
WRA Warramunga Arr 64.98 195 *i* P **P** **16 43 36.7 +3.4**
WRA pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 64.98 333 P **P** **16 43 32.1 -0.8**
comp=Z,6.1nm,0.5s,baz=39,slow=7.5,SNR=64
comp=Z,6.1nm,0.5s
FINES FINESS Array B 64.98 333 P **P** **16 43 31.5 -1.4**
GEYT Alibeck 65.05 299 P **P** **16 43 34.4 +0.6**
comp=Z,10nm,0.7s,baz=2.9,slow=3.0,SNR=26
comp=Z,10nm,0.7s
GEYT Alibeck 65.05 299 IAmb IAmb 16 43 35.7
comp=Z,12nm,0.8s
GYA0B ALIBECK ARRAY 65.05 299 P **P** **16 43 32.8 -1.0**
GYA0B IAmb IAmb 16 43 35.6
comp=Z,11nm,0.8s
PAHR Pah Rah Range 65.22 58 P **P** **16 43 34.6 -0.4**
LRM Limekiln Ridge 65.48 49 P **P** **16 43 35.2 -1.5**
OBN Obninsk 65.57 324 ⇑*eP* **P** **16 43 38.5 +1.7**
OBN *SP **sP** **16 43 53.0 -0.2**
OBN *SS **sS** **16 52 39.0 +0.5**
OBN SSS SSS 16 59 29.0
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN MLR MLR
comp=Z,124nm,16.0s
OBN Obninsk 65.57 324 *eP* **P** **16 43 38.5 +1.7**
BOZ Bozeman (W) 66.07 49 P **P** **16 43 40.8 +0.4**
baz=309
NVAR Mina Array Bea 66.66 59 P **P** **16 43 45.8 +1.4**
comp=Z,2.7nm,0.9s,baz=298,slow=7.0,SNR=7.4
comp=Z,2.7nm,0.9s
H17A Grant Village 67.41 50 P **P** **16 43 49.5 +0.4**
baz=310
CWC Cottonwood Cre 68.05 60 P **P** **16 43 54.0 +0.9**
baz=309
GRAC Grapevine Rang 68.14 59 P **P** **16 43 54.6 +1.0**
baz=309
R11A Troy Canyon, C 68.38 57 P **P** **16 43 55.5 +0.4**
baz=310
MPMC Manual Prospec 68.66 60 P **P** **16 43 57.2 +0.2**
baz=309
ASAR Alice Springs 68.70 194 P **P** **16 43 57.8 +0.8**
comp=Z,0.7nm,0.7s,baz=14,slow=7.3,SNR=12
comp=Z,0.7nm,0.7s

TPNV Topopah Spring 68.86 59 P **P** **16 43 58.1 0.0**
baz=310
BW06 Boulder Array 69.03 50 P **P** **16 43 58.5 -0.8**
baz=311
PDAR Pinedale Array 69.03 50 P **P** **16 43 60.0 +0.7**
comp=Z,0.7nm,0.8s,baz=270,slow=1.5,SNR=6.4
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 69.03 50 P **P** **16 43 59.1 -0.2**
EDW2 Edwards Air Fo 69.09 61 P **P** **16 43 59.2 -0.3**
baz=310
NC303 NORSAR Array S 69.42 339 P **P** **16 44 01.1 +0.1**
NB2 NORSAR Subarra 69.62 339 P **P** **16 44 01.7 -0.6**
comp=Z,7.9nm,0.7s,baz=32,slow=6.5
NOA NORSAR Array B 69.62 339 P **P** **16 44 02.1 -0.2**
comp=Z,5.2nm,0.7s,baz=31,slow=6.6,SNR=19
comp=Z,5.2nm,0.7s
TUQ Turquoise Moun 70.03 60 P **P** **16 44 05.7 +0.3**
baz=310
KIV Kislovodsk 70.20 312 ⇓P **P** **16 44 06.9 +0.7**
KIV Kislovodsk 70.20 312 P **P** **16 44 06.3 +0.1**
KIV Kislovodsk 70.20 312 *eP* **P** **16 44 07.4 +1.2**
KIV pmax pmax
comp=Z,42nm,1.1s
KIV MLR MLR
comp=Z,103nm,17.0s
KIV Kislovodsk 70.20 312 *eP* **P** **16 44 07.4 +1.2**
KIV Kislovodsk 70.20 312 P **P** **16 44 07.7 +1.4**
KBZ Khabaz 70.24 312 P **P** **16 44 07.5 +1.2**
comp=Z,20nm,0.8s,baz=60,slow=4.1,SNR=39
KBZ LR LR 17 20 03.3
comp=Z,155nm,18.6s,baz=21,slow=40
comp=Z,20nm,0.8s
ZEI Tsey 70.33 311 *eP* **P** **16 44 05.9 -1.3**
ZEI pmax pmax
comp=Z,18nm,1.0s
RDMU Red Mountain 70.47 52 IAmb IAmb 16 44 10.3
comp=Z,7.9nm,1.0s
ONI Oni 70.71 311 IAmb IAmb 16 44 12.1
comp=Z,13nm,0.8s
P18A Preston Nutter 70.71 53 P **P** **16 44 08.6 -1.1**
ULM Lac du Bonnet 70.71 38 LR LR 17 19 32.9
comp=Z,1μm,18.1s,baz=158,slow=40
IRM Iron Mountain 71.35 60 P **P** **16 44 12.8 -0.6**
baz=311
GNI Garni 71.64 308 *de*P **P** **16 44 17.2 +2.1**
GNI pmax pmax
comp=Z,11nm,1.0s
GNI Garni 71.64 308 P P 16 44 22.5 +7.4
AKASG Malin Array Be 71.84 324 P **P** **16 44 15.6 -0.3**
comp=Z,10nm,0.7s,baz=39,slow=6.3,SNR=46
comp=Z,10nm,0.7s
AKASG Malin Array Be 71.84 324 P **P** **16 44 15.5 -0.3**
AKASG IAmb IAmb 16 44 16.7
comp=Z,9.6nm,1.1s
AKASG Malin Array Be 71.84 324 *i* P **P** **16 44 15.6 -0.3**
AKASG pmax pmax
comp=Z,11nm,0.7s
AKBB Malin Array Si 71.84 324 P **P** **16 44 15.2 -0.6**
AKBB Malin Array Si 71.84 324 *d* iP **P** **16 44 15.6 -0.3**
GURO Guroymak-BITLI 74.26 309 P **P** **16 44 31.2 +0.6**
GURO IAmb IAmb 16 44 33.2
comp=Z,11nm,0.7s
214A Organ Pipe Nat 74.27 61 P **P** **16 44 30.4 -0.3**
baz=312
UOSS Minazif 74.57 290 P **P** **16 44 31.9 -0.5**
UOSS IAmb IAmb 16 44 33.6
comp=Z,8.9nm,0.8s
LVV L'vov 74.65 326 *eP* **P** **16 44 32.5 0.0**
SDCO Great Sand Dun 74.71 52 P **P** **16 44 31.5 -1.9**
baz=314
ECSD EROS Data Cent 75.14 43 P **P** **16 44 34.3 -1.1**
baz=317
BUR08 Bucovina Ar. S 75.88 324 P **P** **16 44 39.3 -0.4**
BUR08 IAmb IAmb 16 44 41.5
comp=Z,15nm,0.9s
BURAR Bucovina Array 75.89 324 ⇑P **P** **16 44 40.5 +0.7**
BIZ Bicaz 76.04 323 ⇓P **P** **16 44 41.5 +0.9**
TESR Tescani 76.14 323 ⇓P **P** **16 44 41.5 +0.4**
UZH Uzhgorod 76.28 326 *eP* **P** **16 44 42.7 +0.8**
UZH *i* 16 44 49.2
CRVS Cervenica-Dubn 76.39 327 *eP* **P** **16 44 43.1 +0.5**
CRVS pmax pmax
comp=Z,16nm,0.9s
CRVS Cervenica-Dubn 76.39 327 *eP* **P** **16 44 43.0 +0.5**
PANC Panciu 76.41 322 ⇑P **P** **16 44 44.4 +1.7**
CFR Carcaliu 76.51 321 ⇑P **P** **16 44 44.0 +0.8**
CFR Carcaliu 76.51 321 ⇑P **P** **16 44 44.0 +0.8**
ODBI Odobesti 76.54 322 ⇑P **P** **16 44 44.8 +1.4**
TRPA Tarpa 76.59 326 ⇓P **P** **16 44 44.8 +1.2**
VRI Vrincioaia 76.61 322 ⇑P **P** **16 44 45.4 +1.6**
VRI Vrincioaia 76.61 322 ⇑P **P** **16 44 45.4 +1.6**
TPGR Topolog 76.62 321 ⇑P **P** **16 44 44.4 +0.5**
PLOR Plostina 76.65 322 ⇓P **P** **16 44 45.0 +0.9**
PLOR Plostina 76.65 322 ⇓P **P** **16 44 45.0 +0.9**
OZUR 76.84 323 ⇑P **P** **16 44 46.9 +1.8**
COVR Voineasa-Covas 76.85 323 ⇓P **P** **16 44 46.0 +0.8**
TIRR Tirgusor 76.93 320 ⇑P **P** **16 44 46.5 +0.9**
TIRR Tirgusor 76.93 320 ⇑P **P** **16 44 46.5 +0.9**
LANS Liptovska Anna 76.96 328 *eP* **P** **16 44 47.0 +1.2**
LANS pmax pmax
comp=Z,13nm,1.0s
LANS Liptovska Anna 76.96 328 *eP* **P** **16 44 47.0 +1.2**
HARR Harsova 76.97 321 ⇓P **P** **16 44 47.3 +1.5**
HARR Harsova 76.97 321 ⇓P **P** **16 44 47.3 +1.5**
OSTC Ostas 76.98 331 *eP* **P** **16 44 46.5 +0.7**
121A Cookes Peak, D 76.99 57 P **P** **16 44 45.7 -0.7**
baz=314
CHVC Chvalec 77.01 331 *eP* **P** **16 44 47.1 +1.1**
SCHQ Schefferville 77.02 20 P **P** **16 44 47.0 +1.0**
comp=Z,5.3nm,0.9s,baz=24,slow=5.1,SNR=4.9
comp=Z,5.3nm,0.9s
TLBR Topalu 77.03 321 ⇑P **P** **16 44 46.9 +0.8**
DOPR Dopca 77.11 323 ⇑P **P** **16 44 48.5 +1.9**
KECS Kecovo 77.11 327 *eP* **P** **16 44 48.6 +2.0**
KECS pmax pmax
comp=Z,20nm,0.9s
KECS Kecovo 77.11 327 *eP* **P** **16 44 48.6 +2.0**
DPC Dobruska-Polom 77.11 331 *eP* **P** **16 44 47.3 +0.7**
DPC Dobruska-Polom 77.11 331 *eP* **P** **16 44 47.3 +0.7**
MORC Moravsky Berou 77.16 330 ⇓P **P** **16 44 47.9 +1.0**
MORC Moravsky Berou 77.16 330 IAmb IAmb 16 44 48.6
comp=Z,16nm,0.9s
MORC Moravsky Berou 77.16 330 *eP* **P** **16 44 47.0 +0.1**
MORC Moravsky Berou 77.16 330 ⇓P **P** **16 44 47.9 +1.0**
KRLC Kraliky 77.18 330 *eP* **P** **16 44 47.6 +0.6**
KRLC Kraliky 77.18 330 *eP* **P** **16 44 47.6 +0.6**
MLR Muntele Rosu 77.24 322 ⇑P **P** **16 44 48.1 +0.6**
MLR ⇓P **P** **16 44 48.7 +1.2**
MLR Muntele Rosu 77.24 322 P **P** **16 44 47.1 -0.5**
MLR IAmb IAmb 16 44 49.8
comp=Z,9.2nm,0.7s
MLR Muntele Rosu 77.24 322 ⇓P **P** **16 44 48.7 +1.2**
TSMN Mangalia Port- 77.35 320 ⇑P P 16 44 33.7 -14
MAUC Maruska 77.39 329 *eP* **P** **16 44 49.5 +1.3**
CLL Collm 77.43 333 *i* P **P** **16 44 47.8 -0.5**
CLL pmax pmax
comp=Z,28nm,0.8s
CLL Collm 77.43 333 *i* P **P** **16 44 47.8 -0.5**
comp=Z,28nm,0.8s
BRG Berggiesshubel 77.49 332 *eP* **P** **16 44 49.1 +0.4**
BRG Amp 16 44 49.9
comp=Z,11nm,1.1s
BRG Berggiesshubel 77.49 332 *eP* **P** **16 44 49.0 +0.4**
BRG pmax pmax
comp=Z,11nm,1.1s
DRGR 77.59 325 ⇑P **P** **16 44 50.3 +0.9**
DRGR 77.59 325 ⇑P **P** **16 44 50.3 +0.9**
VOIR 77.67 323 ⇑P **P** **16 44 50.5 +0.6**
VOIR 77.67 323 ⇑P **P** **16 44 50.5 +0.6**
VYHS Vyhne 77.74 328 *eP* **P** **16 44 50.9 +0.8**
VYHS pmax pmax
comp=Z,12nm,1.1s
VYHS Vyhne 77.74 328 *eP* **P** **16 44 50.9 +0.8**
PSZ Piszkesteto 77.80 327 ⇑P **P** **16 44 52.2 +1.7**
PSZ Piszkesteto 77.80 327 IAmb IAmb 16 44 52.5
comp=Z,11nm,0.9s
PSZ Piszkesteto 77.80 327 ⇑P **P** **16 44 52.2 +1.7**
JAVC Velka Javorina 77.87 329 *eP* **P** **16 44 52.2 +1.3**
VRAC Vranov 77.89 330 ⇓P **P** **16 44 52.0 +1.1**
VRAC Vranov 77.89 330 *eP* **P** **16 44 51.4 +0.5**
VRAC Vranov 77.89 330 ⇓P **P** **16 44 52.0 +1.1**
BR131 Keskin Array S 77.95 314 P **P** **16 44 52.1 +0.5**
BR131 IAmb IAmb 16 44 53.4
comp=Z,7.1nm,0.8s

BR131	**Keskin Array S**	**77.95**	**314**	P	**P**	**16 44 52.1**	**+0.5**
BR131				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRTR	**Keskin Array B**	**77.95**	**314**	P	**P**	**16 44 52.5**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=91,slow=4.2,SNR=17						
	comp=Z,3.5nm,0.7s						
GOPC	**GO Pecny, Ondr**	**78.02**	**331**	*e*P	**P**	**16 44 52.8**	**+1.2**
GOPC	**GO Pecny, Ondr**	**78.02**	**331**	*e*P	**P**	**16 44 52.8**	**+1.2**
PRU	**Pruhonice**	**78.04**	**332**	*e*P	**P**	**16 44 52.1**	**+0.4**
PRU	**Pruhonice**	**78.04**	**332**	*e*P	**P**	**16 44 52.1**	**+0.4**
KRUC	**Moravsky**	**78.17**	**330**	*e*P	**P**	**16 44 52.8**	**+0.3**
LOT	**Lotru**	**78.22**	**324**	⇑P	**P**	**16 44 54.0**	**+1.0**
SMOL	**Smolenice**	**78.25**	**329**	*e*P	**P**	**16 44 54.2**	**+1.3**
SMOL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ANTO	**Ankara**	**78.28**	**315**	P	**P**	**16 44 53.5**	**+0.1**
ANTO	**Ankara**	**78.28**	**315**	P	**P**	**16 44 53.5**	**+0.1**
ANTO				pmax	pmax		
	comp=Z,15nm,0.7s						
MODS	**Modra-Piesok**	**78.42**	**329**	*e*P	**P**	**16 44 55.4**	**+1.5**
MODS				pmax	pmax		
	comp=Z,29nm,1.1s						
MODS	**Modra-Piesok**	**78.42**	**329**	*e*P	**P**	**16 44 55.4**	**+1.5**
SIRR	**Siria**	**78.44**	**325**	⇑P	**P**	**16 44 55.1**	**+1.1**
GZR	**Gura Zlata**	**78.68**	**324**	⇑P	**P**	**16 44 56.1**	**+0.7**
GZR	**Gura Zlata**	**78.68**	**324**	⇑P	**P**	**16 44 56.1**	**+0.7**
KHC	**Kasperske Hory**	**79.10**	**332**	IAmb	IAmb	16 44 59.3	
	comp=Z,15nm,0.8s						
KHC	**Kasperske Hory**	**79.10**	**332**	*e*P	**P**	**16 44 58.1**	**+0.5**
KHC	**Kasperske Hory**	**79.10**	**332**	*e*P	**P**	**16 44 58.1**	**+0.5**
CKRC	**Cesky Krumlov**	**79.11**	**331**	*e*P	**P**	**16 44 58.3**	**+0.6**
HERR	**Herculane**	**79.25**	**324**	⇓P	**P**	**16 44 58.5**	**+0.1**
GERES	**GERESS Array B**	**79.30**	**331**	P	**P**	**16 44 59.4**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=34,slow=5.0,SNR=20						
	comp=Z,4.9nm,0.9s						
GERES	**GERESS Array B**	**79.30**	**331**	P	**P**	**16 44 58.1**	**-0.7**
CONA	**Conrad Observa**	**79.31**	**330**	*i* P	**P**	**16 45 00.2**	**+1.3**
	comp=Z,14nm,1.2s,SNR=6.3						
RONA	**Rosalia, Austr**	**79.35**	**329**	*i* P	**P**	**16 45 00.5**	**+1.5**
	comp=Z,18nm,1.3s,SNR=7.1						
GRFO	**Grafenberg**	**79.40**	**333**	P	**P**	**16 44 59.3**	**+0.1**
GRFO	**Grafenberg**	**79.40**	**333**	P	**P**	**16 44 59.3**	**+0.1**
GRFO				pmax	pmax		
	comp=Z,27nm,0.9s						
BORA	**Eskisehir**	**79.45**	**316**	IAmb	IAmb	16 45 01.8	
	comp=Z,6.9nm,0.7s						
MDVR	**Moldovita**	**79.62**	**324**	⇑P	**P**	**16 45 00.1**	**-0.5**
MORH	**Mrgy, Hungar**	**79.69**	**327**	⇓P	**P**	**16 45 01.2**	**+0.4**
MOA	**Molln**	**79.95**	**331**	*e*P	**P**	**16 45 03.6**	**+1.3**
	comp=Z,4.7nm,0.8s						
ARSA	**Arzberg**	**80.01**	**330**	*e*P	**P**	**16 45 02.7**	**+0.1**
	comp=Z,3.8nm,0.8s						
FRGS	**Fruska Gora**	**80.10**	**326**	⇑P	**P**	**16 44 59.8**	**-3.3**
BLKB	**Belogradchik**	**80.15**	**323**	⇑P	**P**	**16 45 03.7**	**+0.3**
MEM	**Membach**	**80.18**	**337**	*d*P	**P**	**16 45 03.5**	**+0.1**
BIOA	**Bad Ischl, Aus**	**80.31**	**331**	*e*P	**P**	**16 45 05.3**	**+1.1**
	comp=Z,13nm,1.0s						
BCLA	**Clavier**	**80.55**	**337**	κP	**P**	**16 45 05.7**	**+0.3**
	comp=Z,8.0nm,0.9s						
BCLA				*d*sP	**sP**	**16 45 21.7**	**-0.2**
BOVS	**Bovan**	**80.55**	**324**	⇑P	**P**	**16 45 05.5**	**0.0**
BGES	**Gesves**	**80.64**	**337**	*d*P	**P**	**16 45 06.2**	**+0.3**
	comp=Z,8.8nm,0.9s						
SOKA	**Soboth**	**80.67**	**329**	*i* P	**P**	**16 45 06.9**	**+0.7**
	comp=Z,10nm,0.8s,SNR=10						
PERS	**Pernice**	**80.68**	**329**	*e*P	**P**	**16 45 05.7**	**-0.5**
GROS	**Grobnik**	**80.68**	**329**	*i* P	**P**	**16 45 06.1**	**-0.2**
VTS	**Vitosha**	**80.71**	**322**	⇓P	**P**	**16 45 07.8**	**+1.2**
VTS	**Vitosha**	**80.71**	**322**	IAmb	IAmb	16 45 08.4	
	comp=Z,18nm,1.1s						
VTS	**Vitosha**	**80.71**	**322**	⇓P	**P**	**16 45 07.8**	**+1.2**
BMRD	**Maredsous**	**80.80**	**337**	*d*P	**P**	**16 45 06.4**	**-0.3**
	comp=Z,10nm,0.9s						
RCHB	**Rochefort**	**80.81**	**337**	*d*P	**P**	**16 45 06.8**	**0.0**
	comp=Z,6.2nm,1.1s						
RDO	**Rodhopi**	**80.84**	**320**	IAmb	IAmb	16 45 08.9	
	comp=Z,13nm,0.9s						
DIVS	**Divibare**	**80.89**	**325**	P	**P**	**16 45 06.8**	**-0.7**
DIVS				IAmb	IAmb	16 45 08.4	
	comp=Z,5.6nm,0.8s						
KBA	**Koelnbreinsper**	**80.94**	**331**	*e*P	**P**	**16 45 09.3**	**+1.5**
	comp=Z,7.2nm,0.7s						
OBKA	**Obir**	**80.99**	**330**	*e*P	**P**	**16 45 08.3**	**+0.3**
	comp=Z,3.3nm,0.7s						
PDKS	**Podkum**	**81.21**	**329**	*i* P	**P**	**16 45 08.5**	**-0.6**
WATA	**Walderalm**	**81.33**	**332**	*e*P	**P**	**16 45 10.9**	**+1.1**
	comp=Z,20nm,1.3s						
WTTA	**Wattenberg**	**81.37**	**332**	*i* P	**P**	**16 45 11.1**	**+1.0**
	comp=Z,12nm,1.0s,SNR=5.3						
RETA	**Reutte**	**81.47**	**332**	*e*P	**P**	**16 45 11.4**	**+0.9**
	comp=Z,14nm,1.2s						
MOTA	**Moosalm**	**81.48**	**332**	*i* P	**P**	**16 45 11.4**	**+0.8**
	comp=Z,20nm,1.0s,SNR=6.5						
ABTA	**Abfaltersbach**	**81.51**	**331**	*e*P	**P**	**16 45 10.7**	**-0.1**
	comp=Z,3.7nm,1.2s						
BFO	**Black Forest**	**81.52**	**334**	P	**P**	**16 45 10.0**	**-0.6**
BFO				IAmb	IAmb	16 45 11.9	
	comp=Z,14nm,1.2s						
BFO	**Black Forest**	**81.52**	**334**	P	**P**	**16 45 10.0**	**-0.6**
BFO				pmax	pmax		
	comp=Z,14nm,1.2s						
SQTA	**Sankt Quirin**	**81.55**	**332**	*e*P	**P**	**16 45 11.8**	**+0.9**
	comp=Z,7.0nm,0.8s						
TX32	**Lajitas Array**	**81.74**	**57**	IAmb	IAmb	16 45 15.1	
	comp=Z,27nm,2.0s						
TXAR	**Lajitas Array**	**81.74**	**57**	P	**P**	**16 45 13.3**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=296,slow=4.0,SNR=17						
	comp=Z,2.0nm,0.6s						
TXAR	**Lajitas Array**	**81.74**	**57**	P	**P**	**16 45 10.6**	**-1.6**
STAL	**STALIGIAL**	**81.86**	**331**	IAmb	IAmb	16 45 17.0	
	comp=Z,6.4nm,0.8s						
FETA	**Feichten**	**81.89**	**332**	*e*P	**P**	**16 45 13.4**	**+0.6**
	comp=Z,6.9nm,1.1s						
DAVA	**Damuels**	**81.94**	**333**	*e*P	**P**	**16 45 13.5**	**+0.5**
	comp=Z,9.3nm,0.9s						
RAYN	**Ar Rayn**	**82.66**	**296**	P	**P**	**16 45 16.4**	**-0.7**
RAYN	**Ar Rayn**	**82.66**	**296**	⇓P	**P**	**16 45 18.2**	**+1.2**
P46A	**Rosedale**	**82.80**	**40**	P	**P**	**16 45 15.5**	**-2.0**
SENIN	**Lac Senin/Sane**	**83.58**	**334**	IAmb	IAmb	16 45 23.0	
	comp=Z,5.0nm,0.8s						
MIAR	**Mount Ida**	**83.61**	**47**	P	**P**	**16 45 20.7**	**-1.0**
	baz=320						
CAMP	**Campotosto**	**84.81**	**328**	P	**P**	**16 45 27.7**	**-0.2**
OXF	**Oxford**	**85.79**	**44**	P	**P**	**16 45 31.5**	**-1.2**
	baz=322						
ESDC	**Sonseca Array**	**92.98**	**339**	P	**P**	**16 46 07.4**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=0.5,slow=4.8,SNR=6.6						
	comp=Z,0.9nm,0.7s						
RCBR	**Riachuelo**	**141.73**	**7**	*e*P	**PKiKP**	**16 52 27.4**	**-0.6**
H03N2	**Juan Fernandez**	**142.09**	**90**	T	T	19 31 02.3	
	baz=304,slow=77,SNR=12						
H03N3	**Juan Fernandez**	**142.10**	**90**	T	T	19 31 06.3	
	baz=304,slow=77,SNR=9.7						
H03N1	**Juan Fernandez**	**142.10**	**90**	T	T	19 31 33.0	
	baz=304,slow=77,SNR=102						
SMTB	**Santa Maria do**	**142.28**	**26**	*e*P	**PKiKP**	**16 52 29.5**	**+0.4**
BDFB	**Brasilia**	**148.43**	**31**	PKPbc	**PKPbc**	**16 52 40.8**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=97,slow=4.2,SNR=3.2						

*NEIC **28** 16:48:55.4, 12°.43N×86°.53W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.17; $M_{\theta\theta}$=-1.31; $M_{\phi\phi}$ 1.49; $M_{r\theta}$0.49; $M_{\theta\phi}$-0.24; $M_{r\phi}$0.39; Fault plane solution: M_o1.56000×10^{17} NP1:ϕ_s311.54000°, δ66.15000°, λ-173.00000°. NP2:ϕ_s218.70000°, δ83.60000°, λ-24.01000°. Principal axes: T 1.5800, Plg12.0000°, Azm267.0000°; N -0.0451, Plg65.0000°, Azm25.0000°; P -1.5348, Plg21.0000°, Azm173.0000°;*

*INET **28** 16:48:55.6±0.9, 12°.48N×86°.60W, h3km±2km, MW5.4, Fault plane solution: NP1:ϕ_s67.00000°, δ90.00000°, λ18.00000°.*

*IDC **28** 16:48:55.6±0.6, 12°.40N×86°.65W, h0km, mb4.7/26, mbtmp4.7/28, ML3.6/2, MS5.0/31, Error ellipse: s-maj=15.8km s-min=10.5km az=43.0*

*BJI **28** 16:48:55.0±0.0, 12°.30N×86°.60W, h15km, mB5.6/4, Ms5.6/13, Ms7 5.3/14*

*UCR **28** 16:48:55.5±1.7, 12°.44N×86°.56W, h1km±4km, mb5.5(NEIC)*

*NEIC **28** 16:48:55.6±1.6, 12°.44N±0°.05×86°.52W±0°.06, h8km±2km, mb5.1/198, Ms_20 5.2/251, Mwb5.4/55, Mww5.5, Md5.4(SNET), Error ellipse: s-maj=9.0km s-min=6.5km az=223.0*

*SNET **28** 16:48:56.2±1.6, 12°.34N×86°.57W, h10km, ML5.4*

*GCMT **28** 16:48:59.5±0.1, 12°.45N±0°.01×86°.67W±0°.01, h12km, MW5.4/156, Moment Tensor Solution. s118,c199; s156,c310; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.71±.02; $M_{\theta\theta}$-1.14±.02; $M_{\phi\phi}$1.85±.02; $M_{r\theta}$0.14±.05; $M_{\theta\phi}$-0.83±.02; $M_{r\phi}$0.10±.05; Best double couple: M_o1.72800×10^{17} NP1:ϕ_s210.00000°, δ82.00000°, λ-10.00000°. NP2:ϕ_s301.00000°, δ80.00000°, λ-171.00000°. Principal axes: T 2.0650, Plg1.0000°, Azm256.0000°; N -0.6690, Plg77.0000°, Azm351.0000°; P -1.3920, Plg13.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 16:49:02, 12°.52N×86°.55W, h12km, Moment Tensor Solution. Duration: 14s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.74; $M_{\theta\theta}$-1.40; $M_{\phi\phi}$2.13; $M_{r\theta}$-0.61; $M_{\theta\phi}$-0.69; $M_{r\phi}$0.20; Fault plane solution: M_o2.10000×10^{17} NP1:ϕ_s31.00000°, δ66.00000°, λ-16.00000°. NP2:ϕ_s128.00000°, δ75.00000°, λ-155.00000°. Principal axes: T 2.2949, Plg6.0000°, Azm258.0000°; N -0.4710, Plg61.0000°, Azm157.0000°; P -1.8239, Plg28.0000°, Azm352.0000°;*

ISC 28 16:48:55.8±0.3, **12°.28N**±0°.03×**86°.66W**±0°.02, **h10km**, **n897**, σ1**9**97/765, **mb5.0**/131, **MS5.2**/174, **11C-6D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOMN	**Momotombo**	**0.17**	**43**	*e*P		**Pg**	**16 48 58.0**	**-1.5**
MOMN				*e*S		**Sg**	**16 48 59.0**	**-3.0**
CNGN	**Cerro Negro**	**0.22**	**350**	Pg		**Pg**	**16 48 57.6**	**-2.8**
CNGN	**Cerro Negro**	**0.22**	**350**	*e*P		**Pg**	**16 48 57.6**	**-2.8**
APYN	**Apoyeque**	**0.31**	**99**	*e*P		**Pb**	**16 49 02.4**	**-0.9**
TELN	**Telica**	**0.36**	**332**	⇑*e*P		**Pg**	**16 49 01.7**	**-1.3**
MGAN	**Managua**	**0.42**	**109**	*e*P		**Pn**	**16 49 05.3**	**-2.6**
MGAN				*e*P		**Pb**	**16 49 05.5**	**+0.1**
CRUN	**El Crucero**	**0.46**	**130**	*e*P		Pn	16 49 15.8	+7.2
WILN	**Americas 2**	**0.48**	**105**	⇑*e*P		**Pb**	**16 49 05.7**	**-0.5**
WILN				AMPN			16 49 06.6	
	comp=Z,53μm,0.9s							
WILN				AMSN			16 49 15.4	
	comp=N,517μm,0.4s							
HUEN		**0.48**	**83**	⇑*e*P		**Pb**	**16 49 04.9**	**-1.4**
BRAN	**Las Pilas**	**0.53**	**35**	*e*P		**Pg**	**16 49 03.8**	**-2.3**
CRIN	**San Cristobal**	**0.56**	**317**	Pg		**Pg**	**16 49 05.5**	**-1.2**
CRIN	**San Cristobal**	**0.56**	**317**	⇑*e*P		**Pg**	**16 49 05.6**	**-1.2**
MASN	**Masaya**	**0.58**	**121**	⇑*e*P		**Pn**	**16 49 07.9**	**-2.2**
MATN	**Matagalpa**	**0.96**	**48**			**Pg**	**16 49 10.9**	**-3.4**
MATN	**Matagalpa**	**0.96**	**48**	⇑*e*P		**Pg**	**16 49 11.0**	**-3.4**
MATN				AMPN			16 49 11.9	
	comp=Z,398μm,0.4s							
MATN				AMSN			16 49 23.5	
	comp=E,2668μm,0.3s							
BOAB	**BOACO BROADBAN**	**0.98**	**80**			**Pg**	**16 49 12.4**	**-2.3**
BOAB	**BOACO BROADBAN**	**0.98**	**80**	*e*P		**Pg**	**16 49 12.6**	**-2.1**
BOAB				AMPN			16 49 15.7	
	comp=Z,630μm,0.6s							
BOAB				AMSN			16 49 27.8	
	comp=N,1250μm,0.7s							
ACON	**Acoyapa**	**1.48**	**102**			**Pn**	**16 49 21.1**	**-1.4**
ACON	**Acoyapa**	**1.48**	**102**	*e*P		**Pn**	**16 49 21.3**	**-1.2**
ACON	**Acoyapa**	**1.48**	**102**	⇑*e*P		**Pn**	**16 49 21.3**	**-1.2**
ACON				AMPN			16 49 27.9	
	comp=Z,434μm,0.7s							
ACON				AMSN			16 49 44.5	
	comp=N,1320μm,1.9s							
CNCH	**Conchagua**	**1.51**	**311**	*e*P		**Pn**	**16 49 22.4**	**-0.6**
CNCH				*e*S		**Sg**	**16 49 44.1**	**-0.4**
CNCH	**Conchagua**	**1.51**	**311**	*e*P		**Pn**	**16 49 22.2**	**-0.8**
CNCH				*e*P		**Pn**	**16 49 22.4**	**-0.6**
CNCH				*e*S		**Sg**	**16 49 44.1**	**-0.4**
LCND	**La Caada**	**1.58**	**310**	*e*P		**Pn**	**16 49 22.7**	**-1.1**
LCND				*e*S		**Sg**	**16 49 45.8**	**-0.7**
LCND	**La Caada**	**1.58**	**310**	*e*P		**Pn**	**16 49 22.7**	**-1.1**
LCND				*e*S		**Sg**	**16 49 45.8**	**-0.7**
TGUH	**Tegucigalpa,Un**	**1.86**	**341**	Pn		**Pn**	**16 49 26.3**	**-1.5**
TGUH	**Tegucigalpa,Un**	**1.86**	**341**	*e*P		**Pn**	**16 49 27.1**	**-0.7**
TGUH	**Tegucigalpa,Un**	**1.86**	**341**	*e*P		**Pn**	**16 49 27.1**	**-0.7**
TGUH	**Tegucigalpa,Un**	**1.86**	**341**	⇑*e*P		**Pn**	**16 49 26.5**	**-1.3**
HZTE	**Horizontes, Gu**	**1.88**	**146**	Pn		**Pb**	**16 49 28.5**	**-1.6**
HZTE	**Horizontes, Gu**	**1.88**	**146**	*e*P		**Pb**	**16 49 29.1**	**-1.0**
HZTE	**Horizontes, Gu**	**1.88**	**146**	*e*P		**Pb**	**16 49 28.8**	**-1.4**
GBS3	**Finca Las Img**	**1.90**	**142**	*e*P		**Pb**	**16 49 29.1**	**-1.5**
BUAI	**Buenos Aires**	**1.91**	**137**	*e*P		**Pb**	**16 49 28.7**	**-2.0**
GB1A	**Borinquen Arri**	**1.91**	**140**	*e*P		**Pb**	**16 49 30.0**	**-0.8**
BUEV	**Buena Vista**	**1.92**	**140**	*e*P		**Pb**	**16 49 29.3**	**-1.6**
LAPC	**Finca la Perla**	**1.93**	**141**	*e*P		**Pb**	**16 49 29.3**	**-1.7**
VSM	**San Miguel**	**1.94**	**306**	*e*P		**Pb**	**16 49 29.3**	**-2.2**
VSM	**San Miguel**	**1.94**	**306**	*e*P		**Pb**	**16 49 29.3**	**-2.2**
LCY	**Lacayo**	**1.96**	**306**	*e*P		**Pb**	**16 49 30.1**	**-1.5**
LCY	**Lacayo**	**1.96**	**306**	*e*P		**Pb**	**16 49 30.1**	**-1.5**
GPS1	**Guardaparques**	**1.97**	**139**	*e*P		**Pb**	**16 49 30.9**	**-0.9**
GPS3	**Bodega del ICE**	**1.98**	**140**	*e*P		**Pb**	**16 49 31.2**	**-0.7**
GPS2	**Hotel Rincn d**	**1.99**	**140**	*e*P		**Pb**	**16 49 31.4**	**-0.7**
PACA	**Pacayal**	**2.01**	**306**	*e*P		**Pb**	**16 49 30.3**	**-2.2**
PACA				*e*S		**Sg**	**16 49 58.5**	**-1.8**
PACA	**Pacayal**	**2.01**	**306**	*e*P		**Pb**	**16 49 30.3**	**-2.2**
PACA				*e*S		**Sg**	**16 49 58.5**	**-1.8**
PACA	**Pacayal**	**2.01**	**306**	⇑*e*P		**Pn**	**16 49 29.1**	**-0.8**
LIM1	**Limonal**	**2.09**	**139**	*e*P		**Pb**	**16 49 32.3**	**-1.5**
VMAR	**Armenia, Volca**	**2.10**	**134**	*e*P		**Pb**	**16 49 31.9**	**-2.1**
GUAB	**Guayabo de Bag**	**2.10**	**138**	*e*P		**Pb**	**16 49 33.0**	**-1.0**
HORNC	**Hornillas**	**2.13**	**137**	*e*P		**Pb**	**16 49 32.6**	**-1.9**
COLC	**Colonia**	**2.15**	**138**	*e*P		**Pb**	**16 49 33.5**	**-1.3**
CUI	**Cuipilapa**	**2.18**	**138**	*e*P		**Pb**	**16 49 33.5**	**-1.9**
COEB	**Comit de Eme**	**2.19**	**304**	*e*P		**Pb**	**16 49 33.1**	**-2.4**
COEB				*e*S		**Sb**	**16 50 02.1**	**-0.7**
COEB	**Comit de Eme**	**2.19**	**304**	*e*P		**Pb**	**16 49 33.1**	**-2.4**
COEB				*e*S		**Sb**	**16 50 02.1**	**-0.7**
ORTG	**Ortega, Santa**	**2.24**	**148**			**Pb**	**16 49 33.9**	**-2.6**
ORTG	**Ortega, Santa**	**2.24**	**148**	*e*P		**Pb**	**16 49 34.4**	**-2.1**
VERA	**Finca Concepci**	**2.26**	**129**	*e*P		**Pb**	**16 49 33.8**	**-2.8**
PTEN	**Parque Tenorio**	**2.26**	**133**	⇓*e*P		**Pn**	**16 49 33.1**	**-0.2**
ACAL	**Aguas Claras**	**2.28**	**136**	*e*P		**Pb**	**16 49 35.4**	**-1.7**
PQSS	**Presa 15 de Se**	**2.28**	**306**	*e*P		**Pb**	**16 49 35.1**	**-2.0**
PQSS	**Presa 15 de Se**	**2.28**	**306**	*e*P		**Pb**	**16 49 35.1**	**-2.0**
ESPN	**Las Esperanzas**	**2.31**	**92**	Pn		**Pn**	**16 49 32.6**	**-1.2**
ESPN	**Las Esperanzas**	**2.31**	**92**	⇑*e*P		**Pn**	**16 49 33.4**	**-0.4**
SAJU	**San Juanillo,**	**2.39**	**157**	*e*P		**Pb**	**16 49 36.9**	**-2.0**
SCLA	**Alcaldia de Sa**	**2.46**	**305**	*e*P		**Pb**	**16 49 37.6**	**-2.5**
SCLA	**Alcaldia de Sa**	**2.46**	**305**	*e*P		**Pb**	**16 49 37.6**	**-2.5**
DUNO	**Dulce Nombre,**	**2.47**	**152**	Pn		**Pb**	**16 49 38.0**	**-2.3**
DUNO	**Dulce Nombre,**	**2.47**	**152**	⇓*e*P		**Pb**	**16 49 38.5**	**-1.8**
SNVI	**San Vicente**	**2.50**	**302**	*e*P		**Pb**	**16 49 38.1**	**-2.9**
SNVI	**San Vicente**	**2.50**	**302**	*e*P		**Pb**	**16 49 38.1**	**-2.9**
COEG	**Centro de Oper**	**2.54**	**302**	*e*P		**Pn**	**16 49 38.1**	**+0.9**
COEG	**Centro de Oper**	**2.54**	**302**	*e*P		**Pn**	**16 49 38.1**	**+0.9**
JTS	**Las Juntas de**	**2.59**	**140**	Pn		**Pn**	**16 49 38.4**	**+0.6**
JTS	**Las Juntas de**	**2.59**	**140**	*e*P		**Pn**	**16 49 38.6**	**+0.8**
JTS	**Las Juntas de**	**2.59**	**140**	*e*P		**Pn**	**16 49 38.5**	**+0.7**
PAVA	**Las Pavas**	**2.64**	**303**	*e*S		**Sb**	**16 50 14.2**	**-1.5**
PAVA	**Las Pavas**	**2.64**	**303**	*e*S		**Sb**	**16 50 14.2**	**-1.5**
SJTE	**Alcalda de S**	**2.64**	**300**	*e*P		**Pn**	**16 49 39.8**	**+1.2**
SJTE				*e*S		**Sb**	**16 50 14.5**	**-1.4**
SJTE	**Alcalda de S**	**2.64**	**300**	*e*P		**Pn**	**16 49 39.8**	**+1.2**
SJTE				*e*S		**Sb**	**16 50 14.5**	**-1.4**
INDI	**Punta indio, G**	**2.66**	**155**	*e*P		**Pb**	**16 49 40.6**	**-2.9**
FORC	**Fortuna**	**2.66**	**133**	*e*P		**Pb**	**16 49 40.3**	**-3.2**
LFRS	**El Faro**	**2.69**	**300**	*e*P		**Pn**	**16 49 39.9**	**+0.6**
LFRS	**El Faro**	**2.69**	**300**	*e*P		**Pn**	**16 49 39.9**	**+0.6**
COVE	**Coope Vega, Sa**	**2.70**	**125**	Pn		**Pn**	**16 49 39.3**	**0.0**
COVE	**Coope Vega, Sa**	**2.70**	**125**	*e*P		**Pn**	**16 49 38.7**	**-0.6**
SNET	**Serv Nac Est T**	**2.87**	**299**			**Pn**	**16 49 42.8**	**+1.2**
SNET	**Serv Nac Est T**	**2.87**	**299**	*e*P		**Pn**	**16 49 42.0**	**+0.4**
SNET				*e*S		**Sb**	**16 50 19.1**	**-3.3**
SNET	**Serv Nac Est T**	**2.87**	**299**	*e*P		**Pn**	**16 49 42.0**	**+0.4**
SNET				*e*S		**Sb**	**16 50 19.1**	**-3.3**
SNET	**Serv Nac Est T**	**2.87**	**299**	⇑*e*P		**Pn**	**16 49 42.3**	**+0.6**
BOQS	**Boqueron**	**2.93**	**300**	*e*P		**Pb**	**16 49 44.8**	**-3.5**
BOQS	**Boqueron**	**2.93**	**300**	*e*P		**Pb**	**16 49 44.8**	**-3.5**
LAFE	**Finca La Fe, P**	**3.00**	**145**	*e*P		**Pb**	**16 49 45.2**	**-4.1**
LAFE	**Finca La Fe, P**	**3.00**	**145**	⇓*e*P		**Pb**	**16 49 45.5**	**-3.8**
SNJE	**San Jose**	**3.28**	**299**	*e*P		**Pn**	**16 49 49.0**	**+1.6**
SNJE	**San Jose**	**3.28**	**299**	*e*P		**Pn**	**16 49 49.0**	**+1.6**
RTR	**El Retiro**	**3.32**	**299**	*e*P		**Pn**	**16 49 49.5**	**+1.5**
RTR	**El Retiro**	**3.32**	**299**	*e*P		**Pn**	**16 49 49.5**	**+1.5**
HDC3	**Heredia 3**	**3.37**	**132**	⇓*e*P		**Pn**	**16 49 49.4**	**+0.7**
ESQI	**Esquipulas**	**3.46**	**311**			**Pn**	**16 49 49.5**	**-0.3**
LCR2	**La Lucha 2**	**3.63**	**134**	*e*P		**Pn**	**16 49 52.6**	**+0.4**
RIMA	**Rio Macho**	**3.71**	**132**			**Pn**	**16 49 54.0**	**+0.6**
RIMA	**Rio Macho**	**3.71**	**132**	*e*P		Pb	16 49 56.3	-5.3
RIMA	**Rio Macho**	**3.71**	**132**	⇓*e*P		**Pn**	**16 49 54.0**	**+0.6**
BATAN	**Batan**	**3.88**	**124**	Pn		**Pn**	**16 49 56.2**	**+0.6**
CDM	**Cerro de Muert**	**3.93**	**133**	*e*P		**Pn**	**16 49 57.5**	**+1.0**
MRL	**Marmol**	**4.05**	**314**	*e*P		**Pb**	**16 50 03.9**	**-3.4**
MRL				*e*S		**Sg**	**16 51 01.1**	**-4.8**
EDDO	**Dominical**	**4.08**	**137**	*e*P		**Pn**	**16 50 01.4**	**+3.2**
PEZE	**Perez Zeledon,**	**4.11**	**134**	*e*P		**Pn**	**16 49 59.5**	**+0.8**
NBG	**Las Nubes**	**4.26**	**303**	*e*P		Pb	16 50 05.0	-5.9
PCG	**Pacaya**	**4.38**	**299**	*e*P		Pn	16 50 06.5	+4.0
SRBA	**San Rafael, Bu**	**4.44**	**133**	*e*P		**Pn**	**16 50 04.5**	**+1.2**
FUG	**Fuego 3**	**4.61**	**298**	*e*P		**Pn**	**16 50 08.5**	**+2.9**
BRU2	**Volcan**	**5.22**	**131**	Pn		**Pn**	**16 50 15.4**	**+1.3**
BRU2	**Volcan**	**5.22**	**131**	⇓*e*P		**Pn**	**16 50 15.9**	**+1.9**
STG3	**Santiaguito 3,**	**5.35**	**297**	*e*P		**Pn**	**16 50 18.5**	**+2.5**
RTAL	**Retalhuleu**	**5.38**	**295**	Pn		**Pn**	**16 50 15.5**	**-0.7**
BCIP	**Isla Barro Col**	**7.38**	**114**	Pn		**Pn**	**16 50 40.8**	**-2.9**
CMIG	**Matias Romero**	**9.28**	**302**	Pn		**Pn**	**16 51 11.9**	**+2.2**
	comp=N,2.5nm,0.3s,baz=116,slow=10,SNR=23							
CMIG				Sn		**Sn**	**16 52 56.4**	**+2.1**
	baz=16,slow=22 comp=N,15nm,0.5s							
MTDJ	**Mount Denham**	**10.60**	**55**	*e*P		**Pn**	**16 51 28.1**	**+0.2**
SOR	**Soroa**	**11.02**	**18**	*e*P		**Pn**	**16 51 34.3**	**+0.8**
TLIG	**Tlapa**	**12.65**	**296**	Pn		**Pn**	**16 51 57.6**	**+1.6**
RCC	**Rio Carpintero**	**13.02**	**53**	*e*P		**Pn**	**16 52 00.3**	**-0.7**
RCC				IAMs_20		IAMs_20	16 56 58.5	
	comp=N,9μm,12.8s							
RCC				IAMs_20		IAMs_20	16 57 04.6	
	comp=E,14μm,18.2s							
HLGC	**Holguin**	**13.28**	**48**	*e*P		Pn	16 51 59.3	-5.1
HLGC				*e*S		Sn	16 54 40.1	+7.8
ROSC	**El Rosal**	**14.26**	**120**

HAW S Sn 16 57 46.8 -4.1
baz=193
NHSC New Hope 21.56 15 P P 16 53 44.7 -0.7
baz=197
Y52A Lilburn 21.61 6 P P 16 53 47.5 +1.5
baz=187,SNR=17
Y52A P **P 16 53 47.5 +1.5**
baz=187,SNR=17
Y52A S Sn 16 57 54.1 -0.1
baz=187
Y52A S Sn 16 57 54.1 -0.1
baz=187
Y45A Yeager Farm, C 21.64 353 P P 16 53 49.2 +2.9
baz=172
Y45A S Sn 16 57 51.9 -3.0
baz=172
PCRV Puerto La Cruz 21.70 93 P P 16 53 49.5 +2.3
comp=Z,45nm,1.0s,baz=288,slow=5.6,SNR=16
comp=Z,45nm,1.0s
JCT Junction City 21.82 328 P P 16 53 47.1 -1.2
JCT Junction City 21.82 328 P P 16 53 48.7 +0.4
baz=143
JCT S **S 16 57 52.9 +3.2**
baz=143
JCT Junction City 21.82 328 P P 16 53 47.5 -0.8
baz=143
WHTX Lake Whitney, 21.99 335 IAmb IAmb 16 53 57.6
comp=Z,106nm,1.0s
WHTX Lake Whitney, 21.99 335 P P 16 53 51.1 +1.1
baz=150,SNR=17
WHTX S **S 16 57 50.9 -2.0**
baz=150
WHTX Lake Whitney, 21.99 335 P P 16 53 49.8 -0.2
baz=150,SNR=17
CCAR Cane Creek 22.04 349 S Sn 16 57 58.1 -6.1
baz=166
X48A Hartselle 22.07 359 P P 16 53 52.7 +1.8
baz=179,SNR=9.0
X48A S **S 16 57 58.1 +3.7**
baz=179
Z38A Mt. Pleasant 22.23 341 IAmb IAmb 16 53 58.9
comp=Z,72nm,0.8s
Z38A Mt. Pleasant 22.23 341 P P 16 53 54.7 +2.1
baz=158,SNR=7.3
Z38A S **S 16 57 59.0 +1.6**
baz=158
X51A Calhoun 22.24 4 P P 16 53 54.5 +1.8
baz=184,SNR=12
X51A P **P 16 53 54.5 +1.8**
baz=184,SNR=12
X51A S Sn 16 58 02.9 -6.4
baz=184
X51A S Sn 16 58 02.9 -6.4
baz=184
OXF Oxford 22.27 354 P P 16 53 54.2 +1.1
baz=173,SNR=6.6
OXF S Sn 16 58 06.7 -3.2
baz=173
OXF Oxford 22.27 354 P P 16 53 53.7 +0.6
baz=173,SNR=6.6
JSC Jenkinsville 22.45 12 P P 16 53 56.5 +1.6
baz=194,SNR=7.4
Y58A Scranton 22.45 15 S Sn 16 58 07.4 -6.7
baz=198
Y58A S Sn 16 58 07.4 -6.7
baz=198
PLAL Pickwick Lake 22.64 357 P P 16 53 56.1 -0.9
PLAL IAmb IAmb 16 54 02.9
comp=Z,59nm,1.1s
W52A Murphy 22.84 6 P P 16 54 01.2 +2.0
baz=187,SNR=9.5
W52A S **S 16 58 14.1 +5.3**
baz=187
W50A Signal Mountai 22.85 3 P P 16 54 00.9 +1.7
baz=183,SNR=15
W50A S **S 16 58 10.0 +1.1**
baz=183
CASEE Lake Jocassee 22.86 8 P P 16 54 01.0 +1.6
baz=189,SNR=19
PAULI Pauline 22.86 10 P P 16 54 00.7 +1.3
baz=192
BIRD Birdtown, Kers 22.96 13 P P 16 54 02.4 +2.0
baz=195
BIRD S **S 16 58 17.1 +6.3**
baz=195
UALR University of 22.98 348 IAmb IAmb 16 54 07.0
comp=Z,39nm,0.8s
HPIG 23.04 312 P P 16 54 00.0 -1.5
HPIG IAmb IAmb 16 54 07.1
comp=Z,61nm,1.2s
MIAR Mount Ida 23.04 345 IAmb IAmb 16 54 09.0
comp=Z,33nm,0.8s
MIAR Mount Ida 23.04 345 P P 16 54 02.6 +1.4
baz=162,SNR=25
MIAR S **S 16 58 14.8 +2.7**
baz=162
MIAR Mount Ida 23.04 345 P P 16 54 01.3 +0.1
baz=162,SNR=25
Z35A Perchaven, San 23.08 337 P P 16 54 03.7 +2.0
baz=152,SNR=8.5
Z35A S **S 16 58 17.0 +4.1**
baz=152
X58A Rowland 23.15 16 S S 16 58 17.9 +4.0
baz=198
X58A S **S 16 58 17.9 +4.0**
baz=198
TXAR Lajitas Array 23.20 320 P P 16 54 02.9 -0.2
comp=Z,10nm,0.7s,baz=140,slow=9.9,SNR=44
comp=Z,10nm,0.7s
TXAR Lajitas Array 23.20 320 P P 16 54 02.1 -0.9
TX31 Lajitas Ar. Si 23.20 320 P P 16 54 02.8 -0.3
baz=133,SNR=52
TX31 S **S 16 58 18.7 +3.6**
baz=133
TX32 Lajitas Array 23.20 320 IAmb IAmb 16 54 08.7
comp=Z,50nm,1.1s
KMSC Kings Mountain 23.27 11 P P 16 54 06.2 +2.7
baz=193,SNR=13
KMSC S **S 16 58 22.1 +6.2**
baz=193
KMSC Kings Mountain 23.27 11 P P 16 54 03.7 +0.2
baz=193,SNR=13
TBTG Tabatinga, AM 23.34 134 *e*P **P 16 54 04.7 +0.2**
V48A Smith Brothers 23.36 360 IAmb IAmb 16 54 11.4
comp=Z,82nm,0.9s
V48A Smith Brothers 23.36 360 P P 16 54 05.9 +1.5
baz=179,SNR=22
V48A S **S 16 58 21.1 +3.8**
baz=179
TKL Tuckaleechee C 23.42 6 P P 16 54 07.1 +2.0
comp=Z,28nm,1.0s,baz=181,slow=8.2,SNR=12
TKL LR LR 17 03 08.5
comp=Z,2µm,18.2s,baz=176,slow=37
comp=Z,28nm,1.0s
TKL Tuckaleechee C 23.42 6 P P 16 54 07.4 +2.3
baz=187,SNR=24
TKL S **S 16 58 23.6 +5.2**
baz=187
SMRT St. Maarten 23.46 73 IAMs_20 IAMs_20 17 03 36.1
comp=Z,6µm,20.0s
WHAR Wooly Hollow 23.47 348 IAmb IAmb 16 54 11.1
comp=Z,34nm,0.9s
ABTX Abilene, Hawle 23.49 332 IAmb IAmb 16 54 10.0
comp=Z,108nm,1.2s
ABTX Abilene, Hawle 23.49 332 P P 16 54 04.9 -0.9
baz=146,SNR=18
ABTX S **S 16 58 18.7 -1.0**
baz=146
ABTX Abilene, Hawle 23.49 332 P P 16 54 05.5 -0.4
baz=146,SNR=18
V51A Loudon 23.51 5 P P 16 54 04.7 -1.3
baz=185,SNR=26
V51A S **S 16 58 24.6 +4.8**
baz=185
V53A Saluda 23.54 8 P P 16 54 04.3 -2.0
baz=189,SNR=22
V53A P **P 16 54 04.3 -2.0**
baz=189,SNR=22
V53A S **S 16 58 25.8 +5.3**
baz=189
V53A S **S 16 58 25.8 +5.3**
baz=189
W57A Gilead 23.56 14 S S 16 58 26.0 +5.4
baz=196
W57A S **S 16 58 26.0 +5.4**
baz=196
X37A Clayton 23.58 342 P P 16 54 07.8 +1.1
baz=158,SNR=23
X37A S **S 16 58 18.1 -2.8**
baz=158
V52A Sevierville 23.62 6 P P 16 54 08.0 +1.0
baz=187,SNR=8.1
LOOK Love County 23.64 338 IAmb IAmb 16 54 14.4
comp=Z,103nm,0.8s
WVT Waverly 23.77 358 P P 16 54 07.5 -0.9
WVT IAmb IAmb 16 54 12.5
comp=Z,145nm,1.6s
WVT Waverly 23.77 358 P P 16 54 08.9 +0.5
baz=177,SNR=19
WVT S **S 16 58 25.7 +1.8**
baz=177
WVT Waverly 23.77 358 P P 16 54 08.2 -0.2
baz=177
V55A Taylorsville 23.98 11 P P 16 54 12.1 +1.7
baz=193,SNR=10
V55A P **P 16 54 12.1 +1.7**
baz=193,SNR=10
V55A S **S 16 58 30.2 +2.9**
baz=193
V55A S **S 16 58 30.2 +2.9**
baz=193
LCAR Lake Charles 24.03 351 S S 16 58 28.7 +0.6
baz=169
U49A Red Boiling Sp 24.14 2 P P 16 54 11.4 -0.6
U49A Red Boiling Sp 24.14 2 P P 16 54 13.1 +1.1
baz=182,SNR=23
U49A S **S 16 58 33.5 +3.6**
baz=182
CNNC Cliffs of the 24.20 18 P P 16 54 12.4 -0.2
baz=201
CZSB Cruzeiro do Su 24.24 144 P P 16 54 13.3 +0.1
CZSB IAmb IAmb 16 54 42.1
comp=Z,65nm,1.1s
TZTN Tazewell 24.32 6 P P 16 54 15.3 +1.6
baz=187
TZTN S **S 16 58 37.0 +4.2**
baz=187
TZTN Tazewell 24.32 6 P P 16 54 13.9 +0.3
baz=187,SNR=15
V58A Windy Hill, Pi 24.38 15 P P 16 54 13.7 -0.6
baz=198,SNR=22
V58A P **P 16 54 13.7 -0.6**
baz=198,SNR=22
U54A Nelsons Funny 24.52 9 P P 16 54 16.7 +1.0
baz=191,SNR=7.9
U54A P **P 16 54 16.7 +1.0**
baz=191,SNR=7.9
U54A S **S 16 58 42.1 +5.8**
baz=191
U54A S **S 16 58 42.1 +5.8**
baz=191
T47A Sharon Grove 24.60 359 P P 16 54 16.8 +0.6
baz=179,SNR=38
T47A S **S 16 58 40.0 +2.6**
baz=179
ANWB Willy Bob 24.61 74 IAMs_20 IAMs_20 17 04 12.5
comp=Z,6µm,20.0s
U56A King 24.62 12 S S 16 58 39.8 +2.2
baz=195
U56A S **S 16 58 39.8 +2.2**
baz=195
T50A Nancy 24.69 3 IAmb IAmb 16 54 24.1
comp=Z,38nm,0.9s
T50A Nancy 24.69 3 P P 16 54 18.1 +1.1
baz=184
T50A P **P 16 54 18.1 +1.1**
baz=184
T50A S **S 16 58 43.7 +5.0**
baz=184
T50A S **S 16 58 43.7 +5.0**
baz=184
HHAR Hobbs 24.78 346 P P 16 54 19.8 +1.9
baz=162
SLBS Sierra La Lagu 24.84 300 P P 16 54 19.0 +0.4
SLBS IAmb IAmb 16 54 23.4
comp=Z,53nm,1.2s
SLBS Sierra La Lagu 24.84 300 IAMs_20 IAMs_20 17 03 22.5
comp=Z,9µm,20.0s
WMOK Wichita Mounta 24.92 336 IAmb IAmb 16 54 23.6
comp=Z,75nm,1.1s
WMOK Wichita Mounta 24.92 336 P P 16 54 19.0 -0.2
baz=150,SNR=47
WMOK S **S 16 58 42.1 -0.5**
baz=150
WMOK Wichita Mounta 24.92 336 P P 16 54 18.1 -1.0
baz=150,SNR=47
TUL1 Leonard 24.93 342 P P 16 54 20.7 +1.5
baz=158
TUL1 S **S 16 58 39.9 -2.7**
baz=158
TUL1 Leonard 24.93 342 P P 16 54 19.9 +0.7
baz=158
DEOK Depew 25.09 341 IAmb IAmb 16 54 28.1
comp=Z,47nm,1.0s
BCOK Bluff Creek, N 25.29 339 IAmb IAmb 16 54 28.4
comp=Z,229nm,1.6s
LPIG La Paz 25.31 301 LR LR 17 03 47.9
comp=Z,7µm,21.3s,baz=118,slow=35
S51A Beattyville 25.40 6 P P 16 54 24.5 +1.1
baz=187,SNR=11
S51A P **P 16 54 24.5 +1.1**
baz=187,SNR=11
S51A S **S 16 58 53.4 +3.3**
baz=187
S51A S **S 16 58 53.4 +3.3**
baz=187
S44A Carbondale 25.41 355 IAmb IAmb 16 54 30.5
comp=Z,46nm,0.8s
S44A Carbondale 25.41 355 P P 16 54 24.4 +0.9
baz=174,SNR=6.0
SIUC Southern Illin 25.43 355 IAmb IAmb 16 54 30.7
comp=Z,56nm,0.8s
BLA Blacksburg 25.45 12 P P 16 54 23.4 -0.5
baz=194
QUOK Quay 25.45 341 IAmb IAmb 16 54 29.7
comp=Z,76nm,1.0s
T57A Hurt 25.49 14 P P 16 54 25.8 +1.6
baz=197,SNR=7.5
T57A P **P 16 54 25.8 +1.6**
baz=197,SNR=7.5
T57A S **S 16 58 58.5 +6.9**
baz=197
T57A S **S 16 58 58.5 +6.9**
baz=197
CSTR Hydro, Custer 25.68 337 IAmb IAmb 16 54 31.8
comp=Z,39nm,1.5s
FVM French Village 25.82 353 S S 16 58 54.1 -2.6
baz=171
WCI Wyandotte Cave 25.84 1 P P 16 54 26.8 -0.7
WCI Wyandotte Cave 25.84 1 P P 16 54 28.1 +0.7
baz=180,SNR=9.6
WCI S **S 16 58 60.0 +2.9**
baz=180
WCI Wyandotte Cave 25.84 1 P P 16 54 26.9 -0.5
baz=180
S54A Dingess, Beckl 25.86 10 P P 16 54 28.8 +1.2
baz=192,SNR=5.7
S54A P **P 16 54 28.8 +1.2**
baz=192,SNR=5.7
S54A S **S 16 59 02.6 +5.1**
baz=192
S54A S **S 16 59 02.6 +5.1**
baz=192
T59A Double "B" Far 25.91 17 P P 16 54 28.0 0.0
baz=200
T59A P **P 16 54 28.0 0.0**
baz=200
T59A S **S 16 59 04.8 +6.7**
baz=200
T59A S **S 16 59 04.8 +6.7**
baz=200
R49A Shelbyville 25.94 3 IAmb IAmb 16 54 32.6
comp=Z,83nm,1.3s
R49A Shelbyville 25.94 3 P P 16 54 29.3 +1.0
baz=183,SNR=5.7
R49A P **P 16 54 29.3 +1.0**
baz=183,SNR=5.7
R49A S **S 16 59 01.2 +2.6**
baz=183
R49A S **S 16 59 01.2 +2.6**
baz=183
R50A Paris 25.98 4 P P 16 54 30.5 +1.8
baz=185,SNR=6.1
R50A P **P 16 54 30.5 +1.8**
baz=185,SNR=6.1
R50A S **S 16 59 00.7 +1.5**
baz=185
R50A S **S 16 59 00.7 +1.5**
baz=185
CCM Cathedral Cave 25.99 352 P P 16 54 26.4 -2.4
CCM IAmb IAmb 16 54 33.4
comp=Z,32nm,1.0s
CCM Cathedral Cave 25.99 352 P P 16 54 29.0 +0.3
baz=169,SNR=7.7
CCM S **S 16 59 00.2 +0.7**
baz=169
CCM Cathedral Cave 25.99 352 P P 16 54 28.7 -0.1
baz=169
S39A Bolivar 26.00 348 IAmb IAmb 16 54 34.0
comp=Z,42nm,0.8s
S39A Bolivar 26.00 348 P P 16 54 29.1 +0.3
baz=165,SNR=20
NNA Nana 26.01 158 LR LR 17 03 32.9
comp=Z,2µm,21.8s,baz=350,slow=34
T35A Sooner Cattle 26.08 342 IAmb IAmb 16 54 37.7
comp=Z,52nm,1.2s
MSTX Muleshoe 26.11 328 P P 16 54 29.9 -0.1
baz=142,SNR=72
MSTX S **S 16 59 08.9 +7.1**
baz=142
MSTX Muleshoe 26.11 328 P P 16 54 29.5 -0.6
baz=142,SNR=72
R53A Hurricane 26.28 8 S S 16 59 07.5 +3.5
baz=190
R53A S **S 16 59 07.5 +3.5**
baz=190
S57A Dark Hollow, R 26.29 14 P P 16 54 32.6 +1.1
baz=197,SNR=7.1
S57A P **P 16 54 32.6 +1.1**
baz=197,SNR=7.1
AMTX Amarillo 26.31 331 P P 16 54 31.8 0.0
baz=145,SNR=31
AMTX S S 16 59 16.5 +12
baz=145
AMTX Amarillo 26.31 331 P P 16 54 30.9 -0.9
baz=145
ELIS Ellis County 26.33 336 IAmb IAmb 16 54 38.1
comp=Z,341nm,1.6s
R40A Maddies Statio 26.38 350 P P 16 54 32.2 -0.1
baz=167,SNR=7.4
U32A Winter Ranch, 26.45 337 S S 16 59 18.3 +12
baz=152
R55A Marlinton 26.54 12 P P 16 54 36.0 +2.1
baz=194,SNR=6.8
R55A P **P 16 54 36.0 +2.1**
baz=194,SNR=6.8
R55A S **S 16 59 16.6 +8.3**
baz=194
R55A S **S 16 59 16.6 +8.3**
baz=194
Q44A Meyer Farm, Va 26.59 356 IAmb IAmb 16 54 40.5
comp=Z,48nm,1.1s
NOKA Waynoka 26.64 338 IAmb IAmb 16 54 38.3
comp=Z,535nm,1.8s
R58B Mineral 26.75 16 S S 16 59 17.5 +6.1
baz=199
R58B S **S 16 59 17.5 +6.1**
baz=199
Q51A Peebles 26.80 6 P P 16 54 37.6 +1.5
baz=187,SNR=29
Q51A P **P 16 54 37.6 +1.5**
baz=187,SNR=29
Q51A S **S 16 59 16.6 +4.4**
baz=187
Q51A S **S 16 59 16.6 +4.4**
baz=187
Q52A Bidwell 26.86 8 P P 16 54 38.1 +1.5
baz=189,SNR=5.3
Q52A P **P 16 54 38.1 +1.5**
baz=189,SNR=5.3
Q52A S **S 16 59 18.5 +5.3**
baz=189
Q52A S **S 16 59 18.5 +5.3**
baz=189
P48A Milroy 27.09 2 S S 16 59 18.3 +1.5
baz=182
P48A S **S 16 59 18.3 +1.5**
baz=182
Q54A Coxs Mills 27.09 10 S S 16 59 19.6 +2.8
baz=192
Q54A S **S 16 59 19.6 +2.8**
baz=192
CBN Corbin Frederi 27.11 16 IAMs_20 IAMs_20 17 05 17.9
comp=Z,5µm,18.0s
CBN Corbin Frederi 27.11 16 P P 16 54 38.0 -0.9
baz=200
P49A Miami Univ. Ec 27.20 3 IAmb IAmb 16 55 03.0
comp=Z,71nm,1.5s
P49A Miami Univ. Ec 27.20 3 S S 16 59 20.3 +1.8
baz=184
P49A Miami Univ. Ec 27.20 3 P P 16 54 39.2 -0.5
baz=184
Q56A Snyder Ridge, 27.46 13 P P 16 54 44.1 +2.0
baz=196
Q56A P **P 16 54 44.1 +2.0**
baz=196
Q56A S **S 16 59 30.4 +7.6**
baz=196
Q56A S **S 16 59 30.4 +7.6**
baz=196
P53A Whipple 27.49 9 P P 16 54 43.0 +0.7
baz=191,SNR=7.1
P53A P **P 16 54 43.0 +0.7**
baz=191,SNR=7.1
P52A Corning 27.54 8 P P 16 54 42.6 -0.1
baz=189,SNR=10
BOAV Boa Vista 27.69 109 P P 16 54 43.7 -0.7
BOAV IAmb IAmb 16 54 49.7
comp=Z,41nm,1.4s
BOAV Boa Vista 27.69 109 *e*P **P 16 54 44.6 +0.2**
O44A Mansfield 27.81 357 S S 16 59 28.7 +0.7
baz=176
O49A Covington 27.87 4 P P 16 54 46.6 +1.0
baz=185,SNR=5.7
O49A P **P 16 54 46.6 +1.0**
baz=185,SNR=5.7
O49A S **S 16 59 31.4 +2.3**
baz=185
O49A S **S 16 59 31.4 +2.3**
baz=185
O48B Farmland 27.90 2 P P 16 54 46.4 +0.5
baz=183
O48B S **S 16 59 30.5 +1.0**
baz=183
O48B Farmland 27.90 2 P P 16 54 46.2 +0.3
baz=183
MCWV Mont Chateau 27.93 11 P P 16 54 46.3 +0.1
baz=194
121A Cookes Peak, D 27.96 320 P P 16 54 46.8 0.0
121A IAmb IAmb 16 54 55.1
comp=Z,76nm,1.4s
121A Cookes Peak, D 27.96 320 P P 16 54 48.3 +1.5
baz=131,SNR=19
121A S **S 16 59 31.7 +0.7**
baz=131
121A Cookes Peak, D 27.96 320 P P 16 54 47.1 +0.3
baz=131,SNR=19
SFIN Lafayette 27.99 359 S S 16 59 30.3 -0.6
baz=179
SFIN Lafayette 27.99 359 P P 16 54 46.3 -0.5
baz=179
ACSO Alum Creek Sta 28.03 6 P P 16 54 47.5 +0.4
baz=187,SNR=9.3
ACSO Alum Creek Sta 28.03 6 P P 16 54 46.7 -0.4
baz=187,SNR=9.3
KSU1 Kansas State U 28.13 343 P P 16 54 47.0 -1.1
baz=159
HDIL Hopedale 28.26 356 P P 16 54 48.2 -1.0
baz=174
O53A New Philadelph 28.27 9 P P 16 54 48.9 -0.3
baz=191,SNR=6.5
Y22D IRIS PASSCAL I 28.48 323 P P 16 54 50.8 -0.6
baz=134
N47A Urbana 28.50 2 S S 16 59 38.4 -0.6
baz=182
N47A S **S 16 59 38.4 -0.6**
baz=182
N49A Columbus Grove 28.61 4 P P 16 54 53.2 +1.0
baz=185,SNR=6.9
N49A P **P 16 54 53.2 +1.0**
baz=185,SNR=6.9
N49A S **S 16 59 41.7 +1.0**
baz=185
N49A S **S 16 59 41.7 +1.0**

baz=185
ANMO Albuquerque 28.84 325 P P 16 54 55.8 +1.2
comp=Z,7.9nm,0.9s,baz=142,slow=11,SNR=16
ANMO LR LR 17 08 55.9
comp=Z,775nm,20.6s,baz=150,slow=42
comp=Z,7.9nm,0.9s
ANMO Albuquerque 28.84 325 P P 16 54 52.9 -1.7
ANMO Albuquerque 28.84 325 P P 16 54 56.0 +1.3
baz=136,SNR=14
ANMO Albuquerque 28.84 325 P P 16 54 54.2 -0.4
baz=136
CBKS Cedar Bluff 28.87 339 IAmb IAmb 16 55 58.8
comp=Z,55nm,1.5s
CBKS Cedar Bluff 28.87 339 S **S 16 59 43.4 -1.6**
baz=152
CBKS Cedar Bluff 28.87 339 P P 16 54 55.3 +0.6
baz=152
SSPA Standing Stone 29.28 14 P P 16 54 58.9 +0.7
baz=198,SNR=8.0
SSPA Standing Stone 29.28 14 P P 16 54 58.6 +0.4
baz=198
T25A Trinidad 29.43 330 P P 16 55 00.2 +0.3
baz=142,SNR=12
M53A WI Miller and 29.51 9 P P 16 55 00.6 +0.3
baz=192
TUC Tucson 29.80 316 P P 16 55 04.7 +1.7
baz=126
L44A Lake County Fo 29.80 358 P P 16 55 03.3 +0.4
baz=177
ETMB Extrema 29.91 136 P P 16 55 03.5 -0.6
ETMB IAmb IAmb 16 55 06.0
comp=Z,22nm,0.7s
ETMB Extrema 29.91 136 *e*P **P 16 55 03.8 -0.3**
L40A Anamosa 29.93 353 P P 16 55 03.4 -0.6
L40A IAmb IAmb 16 55 19.4
comp=Z,20nm,1.0s
AAM Ann Arbor 30.02 4 P P 16 55 07.1 +2.3
baz=186
MACA Manacapuru-AM 30.03 119 P P 16 55 04.3 -0.9
MACA IAmb IAmb 16 55 10.2
comp=Z,178nm,1.4s
MACA Manacapuru-AM 30.03 119 *e*P **P 16 55 05.0 -0.2**
SCIA State Center 30.06 350 P P 16 55 06.4 +1.3
baz=167
M57A Sunshine Farm, 30.12 14 P P 16 55 07.5 +1.8
baz=199,SNR=7.5
M57A P **P 16 55 07.5 +1.8**
baz=199,SNR=7.5
KSCO Kaye Shedlock' 30.16 335 P P 16 55 07.3 +1.1
baz=147
ERPA Erie 30.29 10 P P 16 55 07.7 +0.6
baz=193
SDCO Great Sand Dun 30.44 330 IAmb IAmb 16 55 14.9
comp=Z,24nm,1.1s
SDCO Great Sand Dun 30.44 330 P P 16 55 10.3 +1.4
baz=141,SNR=31
SDCO Great Sand Dun 30.44 330 P P 16 55 09.1 +0.1
baz=141,SNR=31
JFWS Jewell Farm 30.68 355 P P 16 55 11.5 +0.9
baz=173
PAL Palisades 30.72 19 IAMs_20 IAMs_20 17 08 19.4
comp=Z,5µm,19.0s
L56A Greenwood 30.78 13 P P 16 55 12.8 +1.2
baz=197
L56A P **P 16 55 12.8 +1.2**
baz=197
W18A Petrified Fore 30.89 321 P P 16 55 13.3 +0.5
baz=132
214A Organ Pipe Nat 31.01 313 P P 16 55 14.5 +0.8
baz=123
S22A 4UR Ranch, Cre 31.11 328 IAmb IAmb 16 55 20.8
comp=Z,26nm,1.1s
S22A 4UR Ranch, Cre 31.11 328 P P 16 55 14.9 0.0
baz=139,SNR=22
BINY Binghamton 31.22 15 P P 16 55 16.4 +1.0
baz=200,SNR=6.5
BINY Binghamton 31.22 15 P P 16 55 16.1 +0.7
baz=200,SNR=6.5
Q24A Divide 31.24 332 P P 16 55 17.2 +1.2
baz=143
SAML Samuel 31.45 131 P P 16 55 15.8 -1.9
OGNE Ogallala 31.58 337 P P 16 55 20.0 +1.3
baz=150,SNR=7.0
OGNE Ogallala 31.58 337 P P 16 55 18.9 +0.2
baz=150,SNR=7.0
MVCO Mesa Verde 31.61 325 P P 16 55 19.2 0.0
baz=136
J56A Wolcott 32.02 14 P P 16 55 23.8 +1.4
baz=198,SNR=6.2
J56A P **P 16 55 23.8 +1.4**
baz=198,SNR=6.2
WUAZ Wupatki 32.16 320 P P 16 55 23.9 -0.1
baz=130,SNR=8.0
PV13 Radium Mtn., P 32.47 326 IAmb IAmb 16 55 32.6
comp=Z,26nm,1.0s
J58A Remsen 32.49 16 P P 16 55 27.5 +0.9
baz=201
J58A P **P 16 55 27.5 +0.9**
baz=201
ECSD EROS Data Cent 32.49 347 IAmb IAmb 16 55 37.7
comp=Z,19nm,1.0s
ECSD EROS Data Cent 32.49 347 P P 16 55 27.1 +0.5
baz=161
ECSD EROS Data Cent 32.49 347 P P 16 55 26.6 0.0
baz=161
PV11 David Mesa, Pa 32.60 326 P P 16 55 26.5 -1.3
PV11 IAmb IAmb 16 55 34.4
comp=Z,22nm,0.8s
PV23 Carpenter Ridg 32.79 327 IAmb IAmb 16 55 35.2
comp=Z,29nm,1.0s
HRV Adam Dziewonsk 32.85 21 IAMs_20 IAMs_20 17 09 52.6
comp=Z,4µm,18.0s
HRV Adam Dziewonsk 32.85 21 P P 16 55 29.6 -0.1
baz=208
SADO Sadowa 33.01 10 P P 16 55 32.2 +1.2
comp=Z,14nm,0.7s,baz=244,slow=5.4,SNR=10
SADO LR LR 17 08 50.5
comp=Z,2µm,19.6s,baz=186,slow=36
comp=Z,14nm,0.7s
GLA Glamis 33.03 313 P P 16 55 31.4 0.0
baz=122
N23A Red Feather La 33.15 333 P P 16 55 32.2 -0.4
baz=144
PDMCI Parker Dam,Lak 33.24 316 P P 16 55 33.5 +0.2
baz=124,SNR=5.9
SPMN Marine on St. 33.25 352 P P 16 55 33.2 +0.1
baz=169
O20A White River Ci 33.64 329 P P 16 55 37.2 +0.3
baz=139,SNR=9.1
SWSC Sam W. Stewart 33.67 312 P P 16 55 36.8 -0.2
baz=121
SUSD Miller 33.74 344 P P 16 55 37.7 +0.3
baz=158
IKP In-Ko-Pah, Jac 33.75 312 P P 16 55 37.9 +0.1
baz=120
LPAZ La Paz 33.79 147 P P 16 55 42.4 +3.6
comp=Z,0.6nm,0.4s,baz=249,slow=7.6,SNR=4.6
LPAZ LR LR 17 10 35.5
comp=Z,3µm,18.7s,baz=322,slow=38
comp=Z,0.6nm,0.4s
BC3 Big Chuckawall 33.79 314 P P 16 55 38.5 +0.3
baz=122
IRM Iron Mountain 33.85 315 P P 16 55 38.8 +0.3
baz=123
LONY Lake Ozonia 33.85 16 P P 16 55 38.4 0.0
baz=201,SNR=8.6
F36A Milaca 33.97 351 P P 16 55 39.8 +0.4
baz=168,SNR=8.8
PKCU Pink Cliffs 33.98 322 P P 16 55 39.5 -0.5
KNB Kanab 34.02 321 IAmb IAmb 16 55 47.4
comp=Z,28nm,1.1s
BMNY Brushton-Moira 34.07 16 P P 16 55 41.5 +1.2
baz=201,SNR=8.3
MONP2 Monument Peak 34.09 312 P P 16 55 41.6 +0.7
baz=120
LBNH Lisbon 34.27 19 IAMs_20 IAMs_20 17 09 39.3
comp=Z,3µm,19.0s
LBNH Lisbon 34.27 19 P P 16 55 41.4 -0.7
baz=206
P18A Preston Nutter 34.30 327 IAmb IAmb 16 55 46.4
comp=Z,30nm,1.3s
MDP Montagnes des 34.35 99 LR LR 17 11 06.5
comp=Z,3µm,18.4s,baz=282,slow=39
BELC Belle Mtn. Jos 34.36 314 P P 16 55 42.3 -0.8
baz=122
P17A Butcher Ranch, 34.46 326 P P 16 55 43.4 -0.5
TPFO Pinon Flats 34.48 313 P P 16 55 43.2 -1.0
baz=121

PFO Pinyon Flats O 34.49 313 IAMs_20 IAMs_20 17 11 20.6
comp=Z,4µm,19.0s
PFO Pinyon Flats O 34.49 313 P P 16 55 43.1 -1.1
baz=121
GMRC Granite Mounta 34.55 315 P P 16 55 44.5 -0.3
baz=123,SNR=9.5
109C Camp Elliot, M 34.59 311 IAMs_20 IAMs_20 17 09 53.7
comp=Z,4µm,21.0s
TMUT Trail Mountain 34.59 325 IAmb IAmb 16 55 49.9
comp=Z,51nm,1.6s
RDMU Red Mountain 34.64 329 IAmb IAmb 16 55 50.9
comp=Z,46nm,1.5s
K22A Casper 34.83 334 IAmb IAmb 16 55 52.7
comp=Z,32nm,1.0s
K22A Casper 34.83 334 P P 16 55 48.0 +0.9
baz=144,SNR=10.0
K22A Casper 34.83 334 P P 16 55 47.0 -0.1
baz=144,SNR=10.0
ITTB Itaituba 34.91 116 *e*P **P 16 55 46.3 -1.6**
HEC Hector,Ludlow 35.04 315 P P 16 55 48.5 -0.5
baz=122
RSSD Black Hills 35.07 338 P P 16 55 48.5 -0.7
RSSD IAmb IAmb 16 55 56.0
comp=Z,24nm,0.9s
RSSD Black Hills 35.07 338 P P 16 55 50.4 +1.1
baz=149,SNR=15
RSSD Black Hills 35.07 338 P P 16 55 48.9 -0.3
baz=149
TUQ Turquoise Moun 35.09 316 P P 16 55 49.3 -0.1
baz=124
MALB Monte Alegre 35.11 111 *e*P **P 16 55 50.2 +0.5**
MPU Maple Canyon 35.33 326 IAmb IAmb 16 55 55.9
comp=Z,36nm,1.2s
NLU North Lily Min 35.53 325 IAmb IAmb 16 55 58.0
comp=Z,68nm,1.9s
BFSC Mount Baldy Ra 35.66 313 P P 16 55 54.8 +0.4
baz=120
EYMN Ely 35.78 354 P P 16 55 55.2 +0.1
baz=172
CIS Catalina Islan 35.80 311 P P 16 55 55.2 -0.3
baz=118
PASC Pasadena Art C 36.01 312 IAMs_20 IAMs_20 17 12 18.0
comp=Z,4µm,18.0s
PKME Peaks-Kenny Pk 36.06 21 IAMs_20 IAMs_20 17 10 16.5
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 36.06 21 P P 16 55 58.1 +0.7
baz=210
DUG Dugway, Tooele 36.11 325 P P 16 55 58.5 +0.4
baz=133
TPNV Topopah Spring 36.16 318 P P 16 55 59.1 +0.4
baz=125,SNR=20
E28A Huff 36.18 344 P P 16 55 59.4 +0.9
baz=156,SNR=5.6
SPR3 Spring Creek 3 36.20 322 P P 16 55 57.9 -1.3
SPR3 IAmb IAmb 16 56 03.6
comp=Z,26nm,1.1s
EDW2 Edwards Air Fo 36.23 314 P P 16 55 58.3 -0.8
baz=120
PDAR Pinedale Array 36.29 331 P P 16 56 00.0 +0.3
comp=Z,12nm,0.8s,baz=131,slow=9.5,SNR=35
comp=Z,12nm,0.8s
BW06 Boulder Array 36.29 331 P P 16 55 58.6 -1.1
baz=140,SNR=22
FURC Furnace Creek, 36.29 317 P P 16 55 59.1 -0.5
baz=124
VILB Vilhena 36.30 133 IAmb IAmb 16 56 01.2
comp=Z,74nm,1.4s
VILB Vilhena 36.30 133 *e*P **P 16 55 59.6 -0.2**
LRMC Laurel Mtn Rad 36.32 315 P P 16 55 59.1 -0.9
baz=122
MPMC Manual Prospec 36.49 316 P P 16 56 00.4 -1.1
baz=122
R11A Troy Canyon, C 36.56 320 P P 16 56 01.7 -0.4
baz=127,SNR=18
NPGB Novo Progresso 36.57 120 *e*P **P 16 56 00.8 -1.4**
SPUT South Promonto 36.68 327 IAmb IAmb 16 56 10.0
comp=Z,29nm,1.2s
AGMN Agassiz Nation 36.72 350 P P 16 56 01.7 -1.4
baz=165
GRAC Grapevine Rang 36.92 317 P P 16 56 05.2 +0.2
baz=124
ARVC Arvin 36.94 313 P P 16 56 05.1 -0.1
baz=120
ISA Isabella, Lake 36.96 314 P P 16 56 04.7 -0.7
baz=121
SCZ2 Santa Cruz Isl 36.98 311 P P 16 56 04.4 -1.1
baz=118
AHID Auburn Hatcher 37.03 330 P P 16 56 05.0 -1.1
AHID IAmb IAmb 16 56 11.2
comp=Z,55nm,0.9s
MDND Maddock 37.07 346 P P 16 56 04.7 -1.4
baz=158
CWC Cottonwood Cre 37.10 316 P P 16 56 05.3 -1.4
baz=122
HVU Hansel Valley 37.18 327 IAmb IAmb 16 56 13.8
comp=Z,27nm,0.9s
SBC Santa Barbara 37.24 312 P P 16 56 07.4 -0.4
baz=118
VES Vestal, Richgr 37.48 314 P P 16 56 08.7 -1.0
baz=120
PKM Mcpherson Peak 37.53 312 P P 16 56 09.7 -0.7
baz=118
TIN Tinemaa, Big 37.53 317 P P 16 56 09.7 -0.5
baz=123
PB07 IPOC Station P 37.59 154 IAmb IAmb 16 56 35.1
comp=Z,32nm,1.1s
ELK Elko 37.86 324 IAMs_20 IAMs_20 17 14 42.6
comp=Z,3µm,21.0s
SMMC Simmler 37.87 313 P P 16 56 13.0 0.0
baz=119
VOG Valley Oaks Go 37.93 315 P P 16 56 12.5 -1.0
baz=120
PB09 IPOC Station P 37.94 153 IAmb IAmb 16 56 38.3
comp=Z,31nm,1.1s
RLMT Red Lodge 37.99 334 IAmb IAmb 16 56 19.3
comp=Z,40nm,1.2s
RLMT Red Lodge 37.99 334 P P 16 56 13.1 -1.1
baz=142,SNR=21
H17A Grant Village 38.01 332 P P 16 56 15.0 +0.6
baz=140,SNR=7.9
PDRB Porto dos Gac 38.03 127 *e*P **P 16 56 13.2 -1.4**
LAO LASA Array 38.06 338 IAmb IAmb 16 56 18.5
comp=Z,61nm,1.2s
LAO LASA Array 38.06 338 P P 16 56 15.3 +0.7
baz=148,SNR=12
LAO LASA Array 38.06 338 P P 16 56 14.5 0.0
baz=148,SNR=12
NV11 Mina Array Sit 38.24 318 P P 16 56 16.1 -0.3
NV11 IAmb IAmb 16 56 23.7
comp=Z,54nm,1.6s
CLDB Colider 38.32 126 *e*P **P 16 55 19.5 -1.2**
NVAR Mina Array Bea 38.34 318 P P 16 56 18.1 +0.9
comp=Z,15nm,0.9s,baz=122,slow=6.0,SNR=23
comp=Z,15nm,0.9s
YHH Holmes Hill 38.44 332 IAmb IAmb 16 56 22.6
comp=Z,41nm,1.4s
ULM Lac du Bonnet 38.61 351 P P 16 56 20.0 +1.0
comp=Z,11nm,0.7s,baz=162,slow=9.3,SNR=9.0
comp=Z,11nm,0.7s
PTLB Pontes e Lacer 38.75 135 P P 16 56 19.6 -0.9
PTLB IAmb IAmb 16 56 25.5
comp=Z,43nm,1.8s
PTLB Pontes e Lacer 38.75 135 *e*P **P 16 56 20.8 +0.2**
LVC Limon Verde 38.80 153 P P 16 56 24.0 +2.7
comp=Z,4.2nm,0.7s,baz=344,slow=8.0,SNR=3.1
comp=Z,4.2nm,0.7s
LVC Limon Verde 38.80 153 *e*P **P 16 56 21.1 -0.2**
BMN Battle Mountai 38.83 322 IAmb IAmb 16 56 26.2
comp=Z,38nm,1.1s
DGMT Dagmar 38.92 341 P P 16 56 22.6 +0.8
baz=152,SNR=13
DGMT Dagmar 38.92 341 P P 16 56 21.5 -0.2
baz=152,SNR=13
HLID Hailey 39.29 328 IAMs_20 IAMs_20 17 15 16.2
comp=Z,3µm,21.0s
HLID Hailey 39.29 328 P P 16 56 24.6 -0.5
baz=134,SNR=19
BOZ Bozeman (W) 39.41 332 P P 16 56 25.5 -0.5
baz=139,SNR=29
MFID Camas Ranch 39.95 326 IAMs_20 IAMs_20 17 15 06.6
comp=Z,3µm,20.0s
LRM Limekiln Ridge 39.96 332 P P 16 56 30.0 -0.7
EGMT Eagleton 40.52 336 IAmb IAmb 16 56 40.5
comp=Z,61nm,1.1s
EGMT Eagleton 40.52 336 P P 16 56 34.7 -0.4
baz=144
GO02 Mina Guanaco 40.77 156 P P 16 56 38.1 +0.4
WVOR Wild Horse Val 40.90 323 IAmb IAmb 16 56 44.4
comp=Z,43nm,0.9s
WVOR IAMs_20 IAMs_20 17 16 14.2
comp=Z,3µm,20.0s
TMAB Tom-Au,PA,Br 40.98 108 *e*P **P 16 56 38.8 -0.4**
ORV Oroville 41.04 318 IAMs_20 IAMs_20 17 16 49.8
comp=Z,3µm,19.0s
MCCM Marconi Confer 41.26 315 IAMs_20 IAMs_20 17 15 27.8
comp=Z,3µm,18.0s
MSO Missoula 41.40 332 IAmb IAmb 16 56 46.3
comp=Z,51nm,1.4s
MSO Missoula 41.40 332 P P 16 56 41.7 -0.7
baz=137,SNR=14
SALV Santo Antonio 41.51 132 *e*P **P 16 56 43.0 -0.4**
MOD Modoc Plateau 41.58 321 IAMs_20 IAMs_20 17 17 13.3
comp=Z,3µm,20.0s
BMO Blue Mountains 41.70 327 IAMs_20 IAMs_20 17 17 10.9
comp=Z,3µm,21.0s
F10A Beach Ranch, E 42.41 328 IAmb IAmb 16 57 00.4
comp=Z,22nm,0.9s
AC02 Maricunga 42.45 157 P P 16 56 51.7 0.0
G08A Pilot Rock 42.87 326 P P 16 56 53.7 -0.8
K04D Chiloquin, OR 42.87 321 P P 16 56 53.9 -0.6
baz=124
J05D Fort Rock, OR 42.94 323 P P 16 56 54.6 -0.4
baz=125
L04D Klamath Falls 42.99 321 P P 16 56 54.2 -1.2
baz=123
WALA Waterton Lakes 43.05 334 IAmb IAmb 16 57 01.2
comp=Z,29nm,1.1s
E09A Wood Farm, Sta 43.24 328 IAmb IAmb 16 57 01.7
comp=Z,31nm,1.3s
JCC Jacoby Creek, 43.35 318 IAMs_20 IAMs_20 17 17 24.8
comp=Z,3µm,18.0s
J04D Umpqua Nationa 43.44 322 P P 16 56 58.4 -0.7
baz=124,SNR=5.0
HUMO Hull Mountain 43.60 321 IAMs_20 IAMs_20 17 18 35.2
comp=Z,3µm,20.0s
I05D Terrebonne, OR 43.62 324 P P 16 56 59.9 -0.5
baz=126
L02F Cave Junction 43.73 320 P P 16 57 01.1 -0.2
baz=122
HAWA Hanford 43.88 327 IAmb IAmb 16 57 07.0
comp=Z,22nm,0.9s
HAWA IAMs_20 IAMs_20 17 18 35.8
comp=Z,2µm,20.0s
NEW Newport 43.93 331 P P 16 57 02.0 -0.9
baz=134
I04A Tendick Farm, 43.93 322 P P 16 57 02.2 -0.8
baz=124
D08A Wollman Farm, 44.00 328 P P 16 57 02.3 -1.1
D08A IAmb IAmb 16 57 08.3
comp=Z,35nm,0.9s
FFC Flin Flon 44.03 347 P P 16 57 01.6 -1.8
FFC IAmb IAmb 16 57 08.6
comp=Z,19nm,0.8s
K02D Willamette Mer 44.09 320 P P 16 57 03.1 -1.2
baz=122
G05D Wamic, OR 44.14 325 P P 16 57 03.8 -0.9
baz=127,SNR=6.7
SMTB Santa Maria do 44.15 117 *e*P **P 16 57 04.5 -0.5**
H04A Detroit Lake 44.31 324 P P 16 57 05.2 -0.8
H04A IAmb IAmb 16 57 10.8
comp=Z,23nm,0.9s
I03D Drain, OR 44.44 322 P P 16 57 05.8 -1.1
baz=123
H04D Lebanon 44.54 323 P P 16 57 06.5 -1.3
baz=125
AQDB Aquidauana 44.57 137 P P 16 57 06.7 -1.6
AQDB Aquidauana 44.57 137 *e*P **P 16 57 07.3 -1.0**
ROSB Rosrio 44.87 107 *e*P **P 16 57 09.5 -1.3**
COR Corvallis 44.91 323 IAMs_20 IAMs_20 17 17 54.5
comp=Z,3µm,20.0s
RPN Rapa Nui 44.94 209 LR LR 17 11 45.2
comp=Z,1µm,18.3s,baz=34,slow=30
I02E Swisshome, OR 44.97 322 P P 16 57 10.2 -0.9
baz=123
LTY Liberty 45.04 327 IAmb IAmb 16 57 16.7
comp=Z,22nm,1.1s
SCHQ Schefferville 45.22 16 P P 16 57 13.6 +0.6
comp=Z,15nm,1.0s,baz=216,slow=7.6,SNR=12
SCHQ LR LR 17 16 26.0
comp=Z,2µm,18.7s,baz=206,slow=37
comp=Z,15nm,1.0s
G03D McMinnville, O 45.24 324 P P 16 57 12.0 -1.3
baz=125
C2SB Chapadao do Su 45.43 132 *e*P **P 16 57 14.8 -0.3**
CO03 El Pedregal 45.54 161 P P 16 57 15.9 0.0
CO03 IAmb IAmb 16 57 37.2
comp=Z,52nm,1.8s
F04D Rainier, OR 45.60 325 P P 16 57 15.9 -0.3
baz=126
NLWA Neilton Lookou 46.84 326 IAMs_20 IAMs_20 17 19 27.2
comp=Z,3µm,19.0s
BDFB Brasilia 47.25 125 P P 16 57 31.8 +2.2
comp=Z,3.1nm,0.6s,baz=220,slow=9.6,SNR=5.2
BDFB LR LR 17 19 02.1
comp=Z,2µm,18.5s,baz=302,slow=38
comp=Z,3.1nm,0.6s
BDFB Brasilia 47.25 125 *e*P **P 16 57 29.3 -0.3**
CPUP Villa Florida 47.82 144 *e*P **P 16 57 33.5 -0.3**
SDBA SAO DESIDERIO 48.15 119 *e*P **P 16 57 36.1 -0.5**
TRCB Terra Rica 48.23 136 *e*P **P 16 57 37.3 +0.2**
PCMB Pacaembu 48.39 134 *e*P **P 16 57 38.2 -0.1**
IPMB Ipameri, GO 48.42 128 *e*P **P 16 57 37.9 -0.7**
WAPA Wapiti River 49.80 336 IAmb IAmb 16 57 51.7
comp=Z,38nm,1.1s
PTGB Pitanga 49.92 138 *e*P **P 16 57 50.6 +0.5**
JANB Januaria 49.96 122 *e*P **P 16 57 50.3 -0.2**
BB19B Bebedouro 50.02 131 *e*P **P 16 57 50.6 -0.2**
PMNB Patos De Minas 50.11 127 *e*P **P 16 57 51.2 -0.5**
RCBR Riachuelo 53.57 107 LR LR 17 22 50.2
comp=Z,3µm,19.6s,baz=88,slow=38
CNLB Canela 53.89 141 *e*P **P 16 58 19.8 +0.2**
YKA Yellowknife Ar 53.98 344 P P 16 58 19.9 +0.3
comp=Z,13nm,0.9s,baz=139,slow=7.7,SNR=11
comp=Z,13nm,0.9s
PLCA Paso Flores 54.82 165 P P 16 58 27.4 +1.2
comp=Z,9.4nm,0.9s,baz=336,slow=9.3,SNR=12
PLCA LR LR 17 17 02.3
comp=Z,507nm,20.7s,baz=1.0,slow=31
comp=Z,9.4nm,0.9s
PLCA Paso Flores 54.82 165 P P 16 58 26.5 +0.5
PLCA IAmb IAmb 16 58 32.8
comp=Z,19nm,1.1s
PLCA Paso Flores 54.82 165 *e*P **P 16 58 26.6 +0.5**
DUB01 Friburgo-RJ 55.25 128 *e*P **P 16 58 29.3 -0.3**
V35K Ketchikan 55.34 331 P P 16 58 30.1 +0.4
baz=123
T35M Bob Quinn 55.63 333 P P 16 58 31.4 -0.4
baz=125
CRAG Craig 56.14 330 P P 16 58 35.3 -0.1
baz=121
WRAK Wrangell Islan 56.28 331 IAMs_20 IAMs_20 17 27 11.4
comp=Z,2µm,19.0s
WRAK Wrangell Islan 56.28 331 P P 16 58 35.8 -0.5
baz=123
DLBC Dease Lake 56.39 334 IAmb IAmb 16 58 43.1
comp=Z,17nm,0.8s
DLBC Dease Lake 56.39 334 P P 16 58 35.7 -1.6
baz=126,SNR=16
S34M Telegraph Cree 56.56 333 P P 16 58 37.8 -0.5
baz=125
WTLY Watson Lake, Y 56.91 336 IAmb IAmb 16 58 45.8
comp=Z,14nm,0.9s
WTLY Watson Lake, Y 56.91 336 P P 16 58 40.1 -0.7
baz=128
WRGLY Wrigley 57.12 341 P P 16 58 41.2 -1.0
baz=136
TAOE Nuku Hiva Isla 57.16 251 *e*S **S 17 06 40.6 +1.3**
comp=Z,1µm,25.1s
TAOE *e*LR LR 17 15 27.8
comp=Z,2µm,23.1s
R33M Jennings River 57.35 335 P P 16 58 43.3 -0.9
baz=126
TGTN Hyland Airport 57.61 338 P P 16 58 44.7 -1.1
baz=130
Q32M Nakina River 57.65 334 P P 16 58 46.4 +0.1
baz=124,SNR=5.9
S32K Killisnoo 57.87 332 P P 16 58 47.5 -0.1
baz=121
SIT Sitka 58.01 331 P P 16 58 48.3 -0.3
baz=120
JIS Juneau Island 58.21 333 IAMs_20 IAMs_20 17 28 28.2
comp=Z,2µm,21.0s
R32K Eaglecrest 58.27 333 P P 16 58 49.8 -0.6
baz=121
P33M Teslin, Yukon 58.59 335 IAMs_20 IAMs_20 17 27 41.8

	comp=Z,2µm,20.0s							
P33M	**Teslin, Yukon**	**58.59**	**335**	P	**P**	**16 58 52.3**	**-0.5**	
	baz=124							
P32M	**Atlin**	**58.62**	**334**	P	**P**	**16 58 51.5**	**-1.5**	
	baz=123							
SKAG	**Skagway**	**59.25**	**333**	P	**P**	**16 58 56.9**	**-0.2**	
	baz=121							
MMPY	**Sheldon Lake,**	**59.39**	**338**	P	**P**	**16 58 57.7**	**-0.6**	
	baz=127,SNR=10							
SFJD	**Kangerlussuaq**	**59.67**	**16**	P	**P**	**16 59 01.2**	**+1.3**	
	comp=Z,9.2nm,0.9s,baz=215,slow=8.4,SNR=3.9							
SFJD				LR	LR	17 24 57.5		
	comp=Z,2µm,18.1s,baz=220,slow=36							
	comp=Z,9.2nm,0.9s							
WHY	**Whitehorse**	**59.69**	**335**	P	**P**	**16 58 59.8**	**-0.6**	
	baz=122							
PLBC	**Pleasant Camp**	**59.70**	**333**	P	**P**	**16 58 59.4**	**-0.9**	
	baz=120							
O30N	**Mendenhall**	**60.25**	**335**	P	**P**	**16 59 03.5**	**-0.7**	
	baz=121,SNR=5.4							
P30M	**Million Dollar**	**60.29**	**334**	P	**P**	**16 59 03.9**	**-0.6**	
	baz=120							
M31M	**Drury Creek, Y**	**60.34**	**336**	IAMs_20	IAMs_20	17 27 52.9		
	comp=Z,2µm,22.0s							
M31M	**Drury Creek, Y**	**60.34**	**336**	P	**P**	**16 59 04.1**	**-0.6**	
	baz=124							
P29M	**Windy Craggy**	**60.39**	**333**	P	**P**	**16 59 05.0**	**-0.1**	
	baz=119							
N31M	**Braeburn, Yuko**	**60.50**	**335**	P	**P**	**16 59 04.7**	**-1.1**	
	baz=122							
HYT	**Haines Junctio**	**60.88**	**334**	P	**P**	**16 59 07.8**	**-0.8**	
HYT	**Haines Junctio**	**60.88**	**334**	P	**P**	**16 59 06.6**	**-1.9**	
	baz=120							
N30M	**Aishikik Lake**	**61.02**	**335**	P	**P**	**16 59 07.6**	**-1.8**	
	baz=120							
O29M	**Mount Kennedy**	**61.09**	**333**	P	**P**	**16 59 09.1**	**-0.9**	
	baz=118							
PNL	**Peninsula**	**61.15**	**333**	P	**P**	**16 59 10.3**	**0.0**	
	baz=117							
ILULI	**Ilulissat**	**61.23**	**14**	IAMs_20	IAMs_20	17 25 56.2		
	comp=Z,2µm,18.0s							
YUK6	**Outpost Mounta**	**61.30**	**334**	P	**P**	**16 59 10.4**	**-1.1**	
	baz=119							
BCPM	**Bancas Point**	**61.39**	**333**	IAMs_20	IAMs_20	17 30 49.4		
	comp=Z,2µm,20.0s							
YUK4	**Talbot Arm**	**61.62**	**334**	P	**P**	**16 59 13.4**	**-0.3**	
	baz=119							
MAYO	**Mayo, Yukon**	**61.68**	**337**	P	**P**	**16 59 14.4**	**+0.6**	
	baz=123							
PINM	**Pinnacle**	**61.73**	**333**	P	**P**	**16 59 13.9**	**-0.4**	
	baz=116							
C36M	**Paulatuk**	**61.77**	**346**	P	**P**	**16 59 14.3**	**+0.1**	
	baz=138							
O28M	**Mount Upton**	**62.01**	**333**	P	**P**	**16 59 15.9**	**-0.5**	
	baz=117							
M29M	**Somme Creek**	**62.08**	**336**	P	**P**	**16 59 16.0**	**-0.7**	
	baz=120,SNR=17							
L29M	**L29M**	**62.28**	**336**	P	**P**	**16 59 17.2**	**-0.7**	
	baz=120							
K29M	**Barlow Dome**	**62.42**	**337**	P	**P**	**16 59 18.2**	**-0.7**	
	baz=121							
MESA	**MESA**	**62.53**	**332**	P	**P**	**16 59 18.8**	**-1.0**	
	baz=115							
YUK3	**Moose Creek**	**62.59**	**334**	P	**P**	**16 59 18.9**	**-1.2**	
	baz=117							
CTG	**Chitna Glacier**	**62.60**	**333**	P	**P**	**16 59 18.7**	**-1.5**	
	baz=116							
ISLE	**Juniper Island**	**62.89**	**333**	IAMs_20	IAMs_20	17 28 54.0		
	comp=Z,2µm,21.0s							
SNH	**Sunshine Point**	**62.94**	**332**	IAMs_20	IAMs_20	17 28 03.1		
	comp=Z,2µm,19.0s							
J29M	**Klondike Camp**	**63.00**	**338**	IAMs_20	IAMs_20	17 29 03.4		
	comp=Z,2µm,21.0s							
BVCY	**Beaver Creek**	**63.05**	**335**	P	**P**	**16 59 22.4**	**-0.6**	
	baz=117							
TGL	**Tana Glacier**	**63.17**	**333**	IAMs_20	IAMs_20	17 29 11.4		
	comp=Z,2µm,21.0s							
DAWY	**Dawson**	**63.25**	**337**	P	**P**	**16 59 23.6**	**-0.7**	
	baz=119							
SUCK	**Suckling Hills**	**63.32**	**332**	IAMs_20	IAMs_20	17 28 13.6		
	comp=Z,1µm,19.0s							
BERG	**Berg Lake**	**63.42**	**332**	IAMs_20	IAMs_20	17 30 58.8		
	comp=Z,1µm,20.0s							
M27K	**Edge Creek, AK**	**63.45**	**335**	IAmb	IAmb	16 59 27.1		
	comp=Z,14nm,1.4s							
M27K	**Edge Creek, AK**	**63.45**	**335**	P	**P**	**16 59 24.8**	**-0.9**	
	baz=116							
EPYK	**Eagle Plains**	**63.49**	**340**	IAmb	IAmb	16 59 29.5		
	comp=Z,23nm,1.1s							
EPYK				IAMs_20	IAMs_20	17 30 19.1		
	comp=Z,1µm,19.0s							
EPYK	**Eagle Plains**	**63.49**	**340**	P	**P**	**16 59 24.9**	**-0.9**	
	baz=123							
I29M	**Ogilvie Camp,**	**63.50**	**338**	IAmb	IAmb	16 59 30.6		
	comp=Z,8.2nm,0.9s							
I29M				IAMs_20	IAMs_20	17 32 12.4		
	comp=Z,1µm,22.0s							
I29M	**Ogilvie Camp,**	**63.50**	**338**	P	**P**	**16 59 25.1**	**-0.9**	
	baz=121							
MCARA	**McCarthy VSAT**	**63.52**	**333**	P	**P**	**16 59 25.3**	**-0.8**	
	baz=114							
KAIM	**Kayak Island**	**63.56**	**332**	IAMs_20	IAMs_20	17 27 45.0		
	comp=Z,2µm,21.0s							
KAIM	**Kayak Island**	**63.56**	**332**	P	**P**	**16 59 25.6**	**-0.8**	
	baz=112							
INK	**Inuvik**	**63.60**	**342**	P	**P**	**16 59 25.5**	**-1.0**	
INK	**Inuvik**	**63.60**	**342**	P	**P**	**16 59 25.7**	**-0.7**	
	baz=127							
HMT	**Hamilton**	**63.65**	**332**	IAMs_20	IAMs_20	17 28 16.0		
	comp=Z,1µm,19.0s							
G30M	**tAoh Zraii Nji**	**63.66**	**340**	P	**P**	**16 59 26.5**	**-0.5**	
	baz=124							
BCAR	**Beaver Creek A**	**63.73**	**335**	P	**P**	**16 59 26.1**	**-1.4**	
L27K	**Beaver Creek,**	**63.74**	**335**	IAmb	IAmb	16 59 33.3		
	comp=Z,10nm,1.1s							
L27K	**Beaver Creek,**	**63.74**	**335**	P	**P**	**16 59 27.3**	**-0.2**	
	baz=116,SNR=11							
RAGM	**Ragged Mountai**	**63.86**	**332**	IAMs_20	IAMs_20	17 29 02.8		
	comp=Z,1µm,21.0s							
GLB	**Gilahina Butte**	**63.89**	**333**	IAMs_20	IAMs_20	17 32 27.4		
	comp=Z,2µm,20.0s							
M26K	**Nabesna, AK**	**63.94**	**334**	P	**P**	**16 59 28.2**	**-0.7**	
	baz=115							
A36M	**Sachs Harbour**	**63.99**	**348**	IAMs_20	IAMs_20	17 31 50.5		
	comp=Z,2µm,19.0s							
A36M	**Sachs Harbour**	**63.99**	**348**	P	**P**	**16 59 28.7**	**-0.3**	
	baz=137							
BMRM	**Bremner River**	**64.05**	**333**	P	**P**	**16 59 29.3**	**-0.4**	
	baz=113							
EGAK	**Eagle**	**64.27**	**337**	IAmb	IAmb	16 59 36.0		
	comp=Z,8.9nm,1.1s							
EGAK				IAMs_20	IAMs_20	17 32 16.9		
	comp=Z,1µm,19.0s							
EGAK	**Eagle**	**64.27**	**337**	P	**P**	**16 59 30.8**	**-0.2**	
	baz=118							
K27K	**Chicken**	**64.28**	**336**	P	**P**	**16 59 31.1**	**0.0**	
	baz=116							
Q23K	**Middleton Isla**	**64.29**	**331**	P	**P**	**16 59 31.0**	**-0.2**	
	baz=110							
N25K	**Chitina, Valde**	**64.30**	**333**	P	**P**	**16 59 29.8**	**-1.6**	
N25K				IAmb	IAmb	16 59 36.7		
	comp=Z,7.9nm,0.8s							
N25K				IAMs_20	IAMs_20	17 32 18.2		
	comp=Z,1µm,20.0s							
N25K	**Chitina, Valde**	**64.30**	**333**	P	**P**	**16 59 30.5**	**-0.9**	
	baz=113							
EYAK	**Cordova Ski Ar**	**64.41**	**332**	IAmb	IAmb	16 59 37.5		
	comp=Z,8.1nm,1.0s							
EYAK	**Cordova Ski Ar**	**64.41**	**332**	P	**P**	**16 59 31.1**	**-0.8**	
	baz=111							
HIN	**Hinchinbrook I**	**64.70**	**332**	IAMs_20	IAMs_20	17 31 27.2		
	comp=Z,2µm,20.0s							
FID	**Port Fidalgo**	**64.82**	**332**	IAMs_20	IAMs_20	17 30 16.4		
	comp=Z,1µm,21.0s							
I27K	**Kandik River**	**64.83**	**338**	P	**P**	**16 59 33.5**	**-1.2**	
	baz=118							
KLU	**Klutina**	**64.84**	**333**	IAmb	IAmb	16 59 39.9		
	comp=Z,10nm,0.9s							
KLU				IAMs_20	IAMs_20	17 29 22.6		
	comp=Z,1µm,21.0s							
KLU	**Klutina**	**64.84**	**333**	P	**P**	**16 59 33.4**	**-1.4**	
	baz=112,SNR=5.4							
HARP	**HAARP**	**64.85**	**334**	P	**P**	**16 59 33.6**	**-1.3**	
	baz=113							
DOT	**Dot Lake**	**64.90**	**335**	IAmb	IAmb	16 59 37.0		
	comp=Z,31nm,1.7s							
SCRK	**Sand Creek**	**65.01**	**336**	P	**P**	**16 59 34.8**	**-1.1**	
	baz=115,SNR=5.5							
J26L	**Joseph Creek**	**65.07**	**336**	IAMs_20	IAMs_20	17 32 54.9		
	comp=Z,2µm,20.0s							
J26L	**Joseph Creek**	**65.07**	**336**	P	**P**	**16 59 35.1**	**-1.2**	
	baz=115,SNR=14							
H27K	**Steamboat Moun**	**65.09**	**339**	P	**P**	**16 59 35.8**	**-0.6**	
	baz=118,SNR=21							
GLI	**Glacier Island**	**65.15**	**332**	IAMs_20	IAMs_20	17 30 10.9		
	comp=Z,1µm,22.0s							
GLI	**Glacier Island**	**65.15**	**332**	P	**P**	**16 59 35.7**	**-1.1**	
	baz=110							
M24K	**Tolsona, Glenn**	**65.18**	**333**	IAMs_20	IAMs_20	17 32 55.6		
	comp=Z,2µm,18.0s							
M24K	**Tolsona, Glenn**	**65.18**	**333**	P	**P**	**16 59 37.0**	**-0.1**	
	baz=112							
PAX	**Paxson**	**65.21**	**334**	P	**P**	**16 59 36.6**	**-0.6**	
PAX	**Paxson**	**65.21**	**334**	P	**P**	**16 59 37.7**	**+0.5**	
	baz=113							
RIDG	**Independent Ri**	**65.26**	**335**	IAmb	IAmb	16 59 43.3		
	comp=Z,14nm,1.0s							
RIDG	**Independent Ri**	**65.26**	**335**	P	**P**	**16 59 38.0**	**+0.5**	
	baz=114							
I26K	**Coal Creek Min**	**65.26**	**337**	IAmb	IAmb	16 59 45.6		
	comp=Z,10nm,0.8s							
I26K				IAMs_20	IAMs_20	17 30 22.2		
	comp=Z,1µm,18.0s							
G27K	**Doyon Strip**	**65.41**	**339**	P	**P**	**16 59 39.3**	**+0.9**	
	baz=118							
SCM	**Sheep Creek Mo**	**65.59**	**333**	IAMs_20	IAMs_20	17 29 22.4		
	comp=Z,1µm,21.0s							
SCM	**Sheep Creek Mo**	**65.59**	**333**	P	**P**	**16 59 40.0**	**+0.3**	
	baz=110							
K24K	**Donnelly Dome**	**65.67**	**335**	P	**P**	**16 59 40.4**	**+0.3**	
	baz=113							
PWL	**Port Wells**	**65.71**	**332**	IAMs_20	IAMs_20	17 32 15.8		
	comp=Z,2µm,21.0s							
PWL	**Port Wells**	**65.71**	**332**	P	**P**	**16 59 40.7**	**+0.2**	
	baz=109							
M23K	**Glacier View**	**65.75**	**333**	P	**P**	**16 59 40.8**	**+0.1**	
	baz=110							
J25K	**Salcha River,**	**65.82**	**336**	IAmb	IAmb	16 59 46.9		
	comp=Z,12nm,0.9s							
J25K	**Salcha River,**	**65.82**	**336**	P	**P**	**16 59 41.1**	**-0.1**	
	baz=114,SNR=15							
KNK	**Knik Glacier**	**65.95**	**332**	IAMs_20	IAMs_20	17 30 50.1		
	comp=Z,2µm,22.0s							
KNK	**Knik Glacier**	**65.95**	**332**	P	**P**	**16 59 41.6**	**-0.4**	
	baz=109							
SEW	**Seward**	**66.00**	**331**	P	**P**	**16 59 42.6**	**+0.4**	
	baz=108							
SML	**Sawmill**	**66.03**	**333**	IAMs_20	IAMs_20	17 32 30.0		
	comp=Z,1µm,21.0s							
SML	**Sawmill**	**66.03**	**333**	P	**P**	**16 59 42.6**	**0.0**	
	baz=110							
WAT6	**Susitna Watana**	**66.04**	**334**	P	**P**	**16 59 42.5**	**-0.2**	
	baz=119							
E27K	**Coleen River**	**66.05**	**340**	P	**P**	**16 59 42.5**	**0.0**	
	baz=119							
DHY	**Denali Highway**	**66.06**	**334**	P	**P**	**16 59 42.9**	**+0.1**	
	baz=111							
G26K	**Porcupine Rive**	**66.22**	**339**	P	**P**	**16 59 43.4**	**-0.2**	
	baz=116							
O22K	**Cooper Landing**	**66.24**	**331**	IAMs_20	IAMs_20	17 34 05.6		
	comp=Z,1µm,19.0s							
PMOZ	**Porto Moniz, M**	**66.25**	**59**	*e*LR	LR	17 20 19.5		
	comp=Z,818nm,18.0s							
PRP	**Porcupine Dome**	**66.25**	**337**	P	**P**	**16 59 43.8**	**-0.2**	
	baz=114							
HDA	**Harding Lake**	**66.37**	**336**	IAmb	IAmb	16 59 49.9		
	comp=Z,29nm,1.5s							
HDA	**Harding Lake**	**66.37**	**336**	P	**P**	**16 59 44.5**	**-0.1**	
	baz=112,SNR=6.5							
RC01	**Rabbit Creek A**	**66.44**	**332**	IAMs_20	IAMs_20	17 32 57.9		
	comp=Z,1µm,21.0s							
RC01	**Rabbit Creek A**	**66.44**	**332**	P	**P**	**16 59 44.4**	**-0.6**	
	baz=108							
WAT1	**Susitna Watana**	**66.47**	**334**	P	**P**	**16 59 45.6**	**+0.2**	
	baz=110							
IL31		**66.49**	**336**	P	**P**	**16 59 44.0**	**-1.2**	
IL31				IAmb	IAmb	16 59 50.7		
	comp=Z,9.4nm,0.9s							
ILAR	**Eielson Array**	**66.49**	**336**	P	**P**	**16 59 45.5**	**+0.2**	
	comp=Z,6.6nm,1.0s,baz=115,slow=4.8,SNR=23							
	comp=Z,6.6nm,1.0s							
BRSE	**Bradley Lake S**	**66.51**	**330**	P	**P**	**16 59 46.2**	**+0.6**	
	baz=106							
SUMG	**Summit**	**66.56**	**14**	P	**P**	**16 59 45.1**	**-1.1**	
FYU	**Fort Yukon**	**66.57**	**338**	IAMs_20	IAMs_20	17 33 33.6		
	comp=Z,1µm,20.0s							
BRLK	**Bradley Lake**	**66.58**	**330**	IAMs_20	IAMs_20	17 30 42.2		
	comp=Z,1µm,20.0s							
H25K	**Birch Creek**	**66.67**	**338**	P	**P**	**16 59 46.5**	**0.0**	
	baz=114							
F26K	**Sheenjek River**	**66.68**	**339**	P	**P**	**16 59 46.7**	**+0.2**	
	baz=116							
CNPM	**China Poot**	**66.69**	**330**	IAMs_20	IAMs_20	17 31 01.8		
	comp=Z,1µm,20.0s							
BMAR	**Burnt Mountain**	**66.71**	**339**	P	**P**	**16 59 47.0**	**+0.2**	
RND	**Reindeer**	**66.80**	**334**	IAMs_20	IAMs_20	17 32 27.3		
	comp=Z,1µm,18.0s							
CCB	**Clear Creek Bu**	**66.81**	**336**	IAmb	IAmb	16 59 48.4		
	comp=Z,26nm,1.8s							
POKR	**Poker Flat Res**	**66.83**	**336**	P	**P**	**16 59 47.9**	**+0.3**	
	baz=112							
WRH	**Wood River Hil**	**66.86**	**336**	IAMs_20	IAMs_20	17 31 13.6		
	comp=Z,2µm,21.0s							
KDAK	**Kodiak Island**	**66.92**	**328**	IAMs_20	IAMs_20	17 31 30.1		
	comp=Z,1µm,21.0s							
KDAK	**Kodiak Island**	**66.92**	**328**	P	**P**	**16 59 48.2**	**0.0**	
	baz=104							
HOM	**Homer**	**66.92**	**330**	IAMs_20	IAMs_20	17 31 01.1		
	comp=Z,1µm,20.0s							
MCK	**McKinley**	**66.94**	**335**	IAmb	IAmb	16 59 58.3		
	comp=Z,11nm,0.9s							
MCK				IAMs_20	IAMs_20	17 31 06.0		
	comp=Z,1µm,19.0s							
SUA	**Susitna One**	**67.01**	**332**	IAMs_20	IAMs_20	17 33 18.1		
	comp=Z,1µm,20.0s							
SUA	**Susitna One**	**67.01**	**332**	P	**P**	**16 59 48.4**	**-0.5**	
	baz=107							
Q20K	**Shuyak Island**	**67.02**	**329**	P	**P**	**16 59 48.2**	**-0.6**	
	baz=104							
CUT	**Chulitna**	**67.08**	**333**	IAMs_20	IAMs_20	17 33 55.8		
	comp=Z,1µm,18.0s							
F25K	**Christian Rive**	**67.15**	**339**	P	**P**	**16 59 49.2**	**-0.4**	
	baz=114,SNR=8.7							
OHAK	**Old Harbor**	**67.15**	**327**	P	**P**	**16 59 49.2**	**-0.4**	
	baz=103							
H24K	**Noodor Dome**	**67.27**	**337**	P	**P**	**16 59 49.8**	**-0.6**	
	baz=112							
NEA2	**Nenana**	**67.30**	**336**	IAMs_20	IAMs_20	17 30 52.0		
	comp=Z,1µm,22.0s							
NEA2	**Nenana**	**67.30**	**336**	P	**P**	**16 59 50.1**	**-0.4**	
	baz=110							
BWN	**Browne**	**67.31**	**335**	IAMs_20	IAMs_20	17 34 45.9		
	comp=Z,2µm,19.0s							
E25K	**Arctic Village**	**67.35**	**340**	P	**P**	**16 59 50.8**	**0.0**	
	baz=115							
C27K	**Jago River**	**67.41**	**341**	P	**P**	**16 59 50.6**	**-0.6**	
	baz=117							
TRF	**Thorofare Moun**	**67.42**	**334**	IAmb	IAmb	17 00 00.4		
	comp=Z,19nm,0.9s							
TRF				IAMs_20	IAMs_20	17 30 28.7		
	comp=Z,2µm,22.0s							
TRF	**Thorofare Moun**	**67.42**	**334**	P	**P**	**16 59 51.0**	**-0.6**	
	baz=108,SNR=8.6							
G24K	**Hadweenzic Riv**	**67.45**	**338**	P	**P**	**16 59 51.2**	**-0.3**	
	baz=112							
SII	**Sitkinak Islan**	**67.49**	**326**	IAMs_20	IAMs_20	17 30 36.4		
	comp=Z,1µm,19.0s							
SKT	**Skwentna**	**67.52**	**332**	IAMs_20	IAMs_20	17 31 48.5		
	comp=Z,1µm,22.0s							
SKT	**Skwentna**	**67.52**	**332**	P	**P**	**16 59 51.3**	**-0.7**	
	baz=106							
I23K	**Minto, Yukon-K**	**67.60**	**336**	IAMs_20	IAMs_20	17 34 14.3		
	comp=Z,2µm,20.0s							
I23K	**Minto, Yukon-K**	**67.60**	**336**	P	**P**	**16 59 52.2**	**-0.2**	
	baz=110,SNR=5.7							
N20K	**Mount Spurr**	**67.61**	**332**	P	**P**	**16 59 51.5**	**-1.1**	
	baz=106							
P19K	**Oil Pt**	**67.70**	**330**	IAMs_20	IAMs_20	17 33 57.6		
	comp=Z,992nm,19.0s							
KTH	**Kantishna Hill**	**67.72**	**334**	IAMs_20	IAMs_20	17 29 46.7		
	comp=Z,2µm,22.0s							
Q19K	**Cape Douglas,**	**67.73**	**329**	IAMs_20	IAMs_20	17 30 15.5		
	comp=Z,1µm,21.0s							
H23K	**Yukon River**	**67.91**	**337**	P	**P**	**16 59 53.9**	**-0.5**	
	baz=110							
F24K	**Squaw Lake**	**67.91**	**339**	P	**P**	**16 59 54.0**	**-0.4**	
	baz=112							
BPAW	**Bear Paw Mtn.**	**67.92**	**335**	P	**P**	**16 59 53.0**	**-1.5**	
BPAW				IAmb	IAmb	17 00 01.3		
	comp=Z,12nm,0.8s							
BPAW				IAMs_20	IAMs_20	17 30 14.8		
	comp=Z,1µm,21.0s							
BPAW	**Bear Paw Mtn.**	**67.92**	**335**	P	**P**	**16 59 55.4**	**+0.9**	
	baz=108							
MLY	**Manley**	**68.12**	**336**	IAmb	IAmb	17 00 00.3		
	comp=Z,12nm,0.8s							
MLY				IAMs_20	IAMs_20	17 34 38.9		
	comp=Z,1µm,20.0s							
MLY	**Manley**	**68.12**	**336**	P	**P**	**16 59 56.0**	**+0.3**	
	baz=108							
D25K	**Kavik River**	**68.12**	**341**	P	**P**	**16 59 55.9**	**+0.3**	
	baz=114							
CHIR	**Chirikof Islan**	**68.13**	**325**	IAMs_20	IAMs_20	17 30 16.5		
	comp=Z,1µm,20.0s							
CAST	**Castle Rocks**	**68.18**	**334**	IAmb	IAmb	17 00 00.1		
	comp=Z,11nm,1.0s							
CAST				IAMs_20	IAMs_20	17 31 58.8		
	comp=Z,1µm,19.0s							
CAST	**Castle Rocks**	**68.18**	**334**	P	**P**	**16 59 56.3**	**+0.2**	
	baz=107							
M20K	**Styx River**	**68.22**	**332**	IAMs_20	IAMs_20	17 35 19.1		
	comp=Z,1µm,19.0s							
M20K	**Styx River**	**68.22**	**332**	P	**P**	**16 59 56.0**	**-0.5**	
	baz=105							
E24K	**Your Creek**	**68.33**	**339**	P	**P**	**16 59 56.3**	**-0.8**	
	baz=112							
O19K	**Port Alsworth**	**68.36**	**330**	IAMs_20	IAMs_20	17 31 56.1		
	comp=Z,1µm,20.0s							
G23K	**Bananza Creek**	**68.40**	**338**	P	**P**	**16 59 57.6**	**+0.1**	
	baz=110							
BORG	**Borgarnes**	**68.53**	**25**	LR	LR	17 27 50.6		
	comp=Z,1µm,20.3s,baz=254,slow=34							
N19K	**Bonanza Creek**	**68.59**	**331**	IAMs_20	IAMs_20	17 32 17.9		
	comp=Z,1µm,20.0s							
N19K	**Bonanza Creek**	**68.59**	**331**	P	**P**	**16 59 59.1**	**+0.3**	
	baz=103							
P18K	**Big Mountain,**	**68.63**	**329**	IAMs_20	IAMs_20	17 30 54.3		
	comp=Z,1µm,20.0s							
COLD	**Coldfoot**	**68.64**	**338**	P	**P**	**16 59 59.1**	**+0.2**	
	baz=110							
H22K	**Ishtalitna Cre**	**68.64**	**336**	P	**P**	**17 00 00.1**	**+1.1**	
	baz=108							
I21K	**Tanana**	**68.66**	**336**	IAMs_20	IAMs_20	17 34 56.3		
	comp=Z,2µm,18.0s							
I21K	**Tanana**	**68.66**	**336**	P	**P**	**16 59 59.6**	**+0.6**	
	baz=107							
L20K	**Farewell, AK**	**68.72**	**333**	P	**P**	**16 59 59.9**	**+0.4**	
	baz=104							
E23K	**Chandalar**	**68.72**	**339**	P	**P**	**16 59 59.8**	**+0.3**	
	baz=111							
O18K	**Koktuh Hills**	**68.72**	**330**	IAMs_20	IAMs_20	17 34 28.6		
	comp=Z,1µm,19.0s							
Q17K	**Contact Creek**	**68.74**	**328**	P	**P**	**17 00 00.5**	**+0.7**	
	baz=101							
M19K	**Big River Lodg**	**68.81**	**332**	IAMs_20	IAMs_20	17 35 19.5		
	comp=Z,1µm,18.0s							
M19K	**Big River Lodg**	**68.81**	**332**	P	**P**	**17 00 00.6**	**+0.5**	
	baz=104							
PPT	**Papeete**	**68.83**	**246**	LR	LR	17 23 19.8		
	comp=Z,1µm,19.3s,baz=56,slow=30							
PPT2	**Papeete2**	**68.84**	**246**	*e*P	**P**	**17 00 03.1**	**+2.0**	
	comp=Z,45nm,22.0s							
PPT2				*e*S	**S**	**17 09 07.0**	**+1.4**	
	comp=Z,556nm,24.5s							
PPT2				*e*SS	**SS**	**17 13 33.5**	**+2.5**	
	comp=Z,414nm,23.2s							
PPT2				*e*LR	LR	17 20 52.7		
	comp=Z,4µm,26.5s							
D24K	**Happy Valley**	**68.86**	**340**	P	**P**	**16 59 59.5**	**-0.7**	
	baz=112							
R17K	**Ugashik Creek**	**68.88**	**327**	P	**P**	**17 00 01.1**	**+0.5**	
	baz=100							
TOLK	**Toolik Lake Re**	**68.92**	**340**	IAMs_20	IAMs_20	17 35 40.6		
	comp=Z,1µm,20.0s							
TOLK	**Toolik Lake Re**	**68.92**	**340**	P	**P**	**17 00 00.9**	**+0.2**	
	baz=111							
K20K	**Telida**	**69.03**	**334**	IAMs_20	IAMs_20	17 32 44.2		
	comp=Z,1µm,19.0s							
K20K	**Telida**	**69.03**	**334**	P	**P**	**17 00 02.2**	**+0.8**	
	baz=105							
L19K	**White Mountain**	**69.08**	**332**	IAMs_20	IAMs_20	17 32 22.9		
	comp=Z,1µm,19.0s							
H21K	**Melozitna Rive**	**69.13**	**336**	IAMs_20	IAMs_20	17 35 20.5		
	comp=Z,1µm,19.0s							
H21K	**Melozitna Rive**	**69.13**	**336**	P	**P**	**17 00 02.6**	**+0.5**	
	baz=107							
N18K	**Kilae Creek**	**69.23**	**331**	IAMs_20	IAMs_20	17 32 24.0		
	comp=Z,1µm,20.0s							
J20K	**Nowinta River**	**69.27**	**334**	IAMs_20	IAMs_20	17 31 44.3		
	comp=Z,1µm,22.0s							
J20K	**Nowinta River**	**69.27**	**334**	P	**P**	**17 00 03.3**	**+0.4**	
	baz=105							
D23K	**Nanushuk River**	**69.41**	**340**	P	**P**	**17 00 04.2**	**+0.5**	
	baz=110							
F22K	**John River**	**69.46**	**338**	P	**P**	**17 00 04.2**	**+0.2**	
	baz=108							
O17K	**Koliganek Bris**	**69.64**	**329**	P	**P**	**17 00 05.8**	**+0.6**	
	baz=101							
G21K	**Allakaket**	**69.66**	**337**	P	**P**	**17 00 05.2**	**-0.1**	
	baz=106							
C23K	**Itkillik River**	**69.69**	**341**	P	**P**	**17 00 06.7**	**+1.4**	
	baz=110							
F21K	**Alatna River**	**69.85**	**338**	P	**P**	**17 00 06.6**	**+0.2**	
	baz=107,SNR=7.6							
O16K	**Kokuck River B**	**70.11**	**329**	P	**P**	**17 00 09.1**	**+1.0**	
	baz=100							
CNBA	**Chernabura Isl**	**70.22**	**324**	IAMs_20	IAMs_20	17 29 29.0		
	comp=Z,1µm,20.0s							
GCSA	**Galena City Sc**	**70.56**	**335**	P	**P**	**17 00 12.1

PESTR	**Estremoz**	**73.93**	**53**	*e*P		**P**	**17 00 30.7**	**-0.8**
	comp=Z,44nm,1.7s							
PESTR				*i* LQ		LQ	17 00 35.5	
PCBR	**Castelo Branco**	**73.97**	**52**	*e*P		**P**	**17 00 31.2**	**-0.5**
	comp=Z,52nm,1.8s							
PCBR				*i* LQ		LQ	17 00 35.6	
PMRV	**Marv??o**	**74.06**	**52**	*e*P		**P**	**17 00 31.4**	**-0.8**
	comp=Z,67nm,1.8s							
PMRV				*i* LQ		LQ	17 00 36.7	
PMRV				*e*S		**S**	**17 10 07.4**	**+2.2**
PMRV	**Marv??o**	**74.06**	**52**	*e*LR		LR	17 23 53.9	
	comp=Z,1µm,20.0s							
ANM	**Nome**	**74.14**	**334**	IAMs_20	IAMs_20		17 32 17.3	
	comp=Z,1µm,22.0s							
MVO	**Moncorvo**	**74.25**	**51**	*e*P		**P**	**17 00 33.5**	**+0.1**
	comp=Z,42nm,1.8s							
MVO				*i* LQ		LQ	17 00 36.5	
MVO				*e*S		**S**	**17 10 12.0**	**+4.5**
MVO	**Moncorvo**	**74.25**	**51**	*e*LQ		LQ	17 20 37.0	
MVO				*e*LR		LR	17 24 19.4	
	comp=Z,861nm,20.0s							
PBAR	**Barrancos**	**74.40**	**54**	*e*P		**P**	**17 00 35.4**	**+1.2**
PBAR				*i* LQ		LQ	17 00 38.3	
PBRG	**Braganca**	**74.44**	**50**	*i* LQ		LQ	17 00 37.6	
PBRG				A		A	17 00 42.5	
	comp=Z,46nm,1.7s							
AVE	**Averroes**	**74.44**	**59**	IAMs_20	IAMs_20		17 33 37.4	
	comp=Z,1µm,18.0s							
EKA	**Eskdalemuir Ar**	**76.31**	**36**	LR		LR	17 28 54.3	
	comp=Z,814nm,19.9s,baz=262,slow=32							
PAB	**San Pablo**	**76.40**	**52**	IAMs_20	IAMs_20		17 30 31.6	
	comp=Z,1µm,20.0s							
ESDC	**Sonseca Array**	**76.68**	**52**	P		**P**	**17 00 47.6**	**+0.2**
	comp=Z,9.6nm,0.8s,baz=284,slow=5.7,SNR=25							
	comp=Z,9.6nm,0.8s							
ESDC	**Sonseca Array**	**76.68**	**52**	P		**P**	**17 00 46.0**	**-1.4**
PMSA	**Palmer Station**	**78.72**	**170**	LR		LR	17 31 22.0	
	comp=Z,370nm,18.9s,baz=352,slow=32							
RAR	**Rarotonga**	**79.11**	**245**	LR		LR	17 27 43.7	
	comp=Z,980nm,18.0s,baz=65,slow=29							
KOWA	**Kowa**	**79.99**	**77**	P		**P**	**17 01 04.2**	**-1.8**
KOWA				IAmb	IAmb		17 01 06.6	
	comp=Z,49nm,1.8s							
KOWA				IAMs_20	IAMs_20		17 30 02.2	
	comp=Z,1µm,22.0s							
DBIC	**Dimbokro**	**80.63**	**85**	P		**P**	**17 01 10.2**	**+0.7**
	comp=Z,6.2nm,0.9s,baz=310,slow=9.8,SNR=4.6							
	comp=Z,6.2nm,0.9s							
SPITS	**Spitsbergen Ar**	**80.71**	**12**	LR		LR	17 36 45.6	
	comp=Z,719nm,18.5s,baz=250,slow=36							
MAHO	**Mahon**	**82.94**	**51**	IAMs_20	IAMs_20		17 34 05.7	
	comp=Z,1µm,20.0s							
NOA	**NORSAR Array B**	**83.14**	**29**	P		**P**	**17 01 21.5**	**-0.3**
	comp=Z,7.0nm,1.0s,baz=284,slow=5.1,SNR=9.4							
NOA				LR		LR	17 35 20.3	
	comp=Z,649nm,20.3s,baz=270,slow=34							
	comp=Z,7.0nm,1.0s							
BNI	**Bardonecchia**	**83.76**	**45**	IAMs_20	IAMs_20		17 35 50.8	
	comp=Z,1µm,21.0s							
HFS	**Hagfors**	**84.54**	**30**	LR		LR	17 36 01.1	
	comp=Z,742nm,18.4s,baz=276,slow=34							
STU	**Stuttgart**	**84.69**	**41**	IAMs_20	IAMs_20		17 37 09.2	
	comp=Z,959nm,20.0s							
TUE	**Stuetta**	**85.29**	**44**	IAMs_20	IAMs_20		17 32 22.3	
	comp=Z,968nm,22.0s							
DAVA	**Damuels**	**85.47**	**43**	*e*P		**P**	**17 01 36.1**	**+1.9**
	comp=Z,8.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**85.69**	**78**	P		**P**	**17 01 37.0**	**+1.3**
	comp=Z,15nm,0.6s,baz=287,slow=5.9,SNR=7.0							
	comp=Z,15nm,0.6s							
SHEM	**Shemya Is, Ala**	**85.85**	**323**	LR		LR	17 40 37.8	
	comp=Z,347nm,20.3s,baz=90,slow=36							
RETA	**Reutte**	**86.00**	**42**	*e*P		**P**	**17 01 36.5**	**-0.2**
	comp=Z,13nm,1.1s							
ARCES	**ARCESS Array B**	**86.09**	**19**	P		**P**	**17 01 38.2**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=307,slow=2.4,SNR=6.1							
ARCES				LR		LR	17 38 12.1	
	comp=Z,429nm,20.2s,baz=294,slow=34							
	comp=Z,2.4nm,0.7s							
FETA	**Feichten**	**86.09**	**43**	*e*P		**P**	**17 01 36.6**	**-0.6**
	comp=Z,15nm,2.2s							
MOTA	**Moosalm**	**86.26**	**42**	*e*P		**P**	**17 01 40.5**	**+2.4**
	comp=Z,6.0nm,1.0s							
NKC	**Novy Kostel**	**86.41**	**39**	*e*P		**P**	**17 01 40.7**	**+2.1**
NKC				AMS		AMS	17 34 30.0	
	comp=Z,1µm,21.4s							
CLL	**Collm**	**86.47**	**38**	*i* P		**P**	**17 01 40.4**	**+1.6**
	comp=Z,10.0nm,1.1s							
CLL				*i* x		x	17 01 49.3	
CLL				*e*S		**S**	**17 12 11.0**	**-4.1**
CLL				*e*SS		**SS**	**17 17 48.0**	**-6.7**
CLL				LmH			17 34 00.0	
	comp=Z,800nm,21.2s							
CLL				LmV			17 35 00.0	
	comp=Z,800nm,20.2s							
BRG	**Berggiesshubel**	**87.16**	**39**	*e*P		**P**	**17 01 45.2**	**+3.1**
BRG				Amp			17 01 48.8	
	comp=Z,5.2nm,1.0s							
BRG				Amp			17 45 03.0	
	comp=Z,1.0nm,19.6s							
BRG				Amp			17 45 04.0	
	comp=N,0.5nm,21.1s							
BRG				Amp			17 45 06.0	
	comp=E,0.7nm,19.7s							
ABTA	**Abfaltersbach**	**87.34**	**43**	*e*P		**P**	**17 01 43.0**	**-0.2**
	comp=E,8.0nm,1.2s							
KHC	**Kasperske Hory**	**87.40**	**40**	*e*P		**P**	**17 01 45.9**	**+2.4**
KHC				AMS		AMS	17 37 20.0	
	comp=E,2µm,19.0s							
GERES	**GERESS Array B**	**87.56**	**41**	P		**P**	**17 01 46.0**	**+1.7**
	comp=E,0.8nm,0.6s,baz=284,slow=1.1,SNR=9.4							
	comp=E,0.8nm,0.6s							
PVCC	**Panska Ves**	**87.64**	**39**	AMS		AMS	17 42 50.0	
	comp=E,1µm,19.5s							
KEST	**Kesra**	**87.72**	**54**	P		**P**	**17 01 46.5**	**+1.1**
	comp=E,8.5nm,1.0s,baz=256,slow=8.3,SNR=4.6							
	comp=E,8.5nm,1.0s							
PRU	**Pruhonice**	**87.77**	**39**	AMS		AMS	17 37 10.0	
	comp=E,2µm,20.1s							
GOPC	**GO Pecny, Ondr**	**87.94**	**39**	AMS		AMS	17 37 20.0	
	comp=E,2µm,21.5s							
CKRC	**Cesky Krumlov**	**87.95**	**40**	AMS		AMS	17 38 50.0	
	comp=E,1µm,18.3s							
AFI	**Afiamalu**	**88.27**	**255**	LR		LR	17 32 56.0	
	comp=E,689nm,19.8s,baz=79,slow=30							
UPC	**Upice**	**88.52**	**39**	AMS		AMS	17 44 20.0	
	comp=E,1µm,17.7s							
CHVC	**Chvalec**	**88.52**	**38**	AMS		AMS	17 44 20.0	
	comp=E,900nm,18.0s							
OSTC	**Ostas**	**88.63**	**38**	AMS		AMS	17 44 20.0	
	comp=E,900nm,21.6s							
DPC	**Dobruska-Polom**	**88.76**	**39**	*e*P		**P**	**17 01 49.7**	**-0.2**
DPC				AMS		AMS	17 43 10.0	
	comp=E,1µm,19.9s							
AQU	**L'Aquila**	**89.12**	**47**	IAMs_20	IAMs_20		17 38 36.0	
	comp=Z,847nm,20.0s							
KRLC	**Kraliky**	**89.12**	**39**	AMS		AMS	17 44 20.0	
	comp=Z,1µm,17.0s							
FINES	**FINESS Array B**	**89.78**	**26**	P		**P**	**17 01 55.6**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=267,slow=8.4,SNR=4.2							
	comp=Z,3.7nm,0.9s							
MAUC	**Maruska**	**89.99**	**39**	AMS		AMS	17 38 20.0	
	comp=Z,2µm,15.9s							
OKC	**Ostrava-Krasne**	**90.04**	**39**	AMS		AMS	17 38 40.0	
	comp=Z,1µm,17.8s							
PSZ	**Piszkesteto**	**91.77**	**40**	IAMs_20	IAMs_20		17 41 25.4	
	comp=Z,1µm,20.0s							
CEL	**Celeste**	**92.11**	**50**	IAMs_20	IAMs_20		17 42 55.2	
	comp=Z,699nm,20.0s							
TIXI	**Tiksi**	**92.95**	**349**	IAMs_20	IAMs_20		17 51 09.9	
	comp=Z,987nm,20.0s							
NACGM	**Naroch**	**92.98**	**32**	PP		PP	17 05 49.1	-2.5
	baz=297							
PDG	**Podgorica**	**93.23**	**45**	IAMs_20	IAMs_20		17 43 01.6	
	comp=Z,639nm,19.0s							
PETK	**Petropavlovsk-**	**94.95**	**327**	LR		LR	17 46 42.7	
	comp=Z,219nm,20.8s,baz=58,slow=36							
MSVF	**Nonsavu**	**98.62**	**254**	LR		LR	17 38 18.0	
	comp=Z,956nm,20.2s,baz=74,slow=30							
IDI	**Anoyia**	**99.91**	**51**	LR		LR	17 43 37.6	
	comp=Z,306nm,21.8s,baz=305,slow=33							
YAK	**Yakutsk**	**100.65**	**343**	IAMs_20	IAMs_20		17 55 54.5	
	comp=Z,800nm,20.0s							
YSS	**Yuzh-Sakhalins**	**106.36**	**327**	IAMs_20	IAMs_20		18 01 35.0	
	comp=Z,728nm,20.0s							
DZM	**Mont Dzumac**	**110.03**	**251**	*e*LR		LR	17 39 58.0	
	comp=Z,808nm,23.1s							
BRVK	**Borovoye**	**111.98**	**15**	IAMs_20	IAMs_20		18 01 20.5	
	comp=Z,719nm,20.0s							
MDJ	**Mudanjiang**	**114.52**	**332**	IAMs_20	IAMs_20		18 03 53.9	
	comp=Z,549nm,20.0s							
HNR	**Honiara**	**114.67**	**265**	IAMs_20	IAMs_20		17 48 41.2	
	comp=Z,513nm,20.0s							
ULN	**Ulaanbaatar**	**118.89**	**349**	IAMs_20	IAMs_20		18 05 51.4	
	comp=Z,566nm,20.0s							
MAKZ	**Makanchi**	**120.30**	**9**	IAMs_20	IAMs_20		18 00 12.6	
	comp=Z,618nm,22.0s							
XLT	**XiLinHaoTe**	**120.37**	**341**	*e*PKP		**PKiKP**	**17 07 48.0**	**+0.1**
XLT				LR		LR		
	comp=Z,57nm,19.3s							
XLT				LR		LR		
	comp=Z,480nm,18.8s							
XLT				LR		LR		
	comp=Z,830nm,19.4s							
FURI	**Furi**	**121.74**	**71**	IAMs_20	IAMs_20		17 59 33.0	
	comp=Z,608nm,20.0s							
BJT	**Baijiatuan**	**123.81**	**339**	IAMs_20	IAMs_20		18 10 17.0	
	comp=Z,624nm,20.0s							
WMQ	**Urumqi**	**123.93**	**5**	*e*PKP		**PKiKP**	**17 07 54.0**	**-0.9**
WMQ				LR		LR		
	comp=Z,630nm,20.9s							
WMQ				LR		LR		
	comp=Z,590nm,22.9s							
WMQ				LR		LR		
	comp=Z,520nm,20.9s							
HHC	**Hu-ho-hao-te**	**124.51**	**343**	*e*PKP		**PKiKP**	**17 07 58.5**	**+2.3**
HHC				LR		LR		
	comp=Z,930nm,17.8s							
HHC				LR		LR		
	comp=Z,490nm,17.1s							
HHC				LR		LR		
	comp=Z,830nm,16.5s							
UOSS	**Minazif**	**128.22**	**44**	IAMs_20	IAMs_20		18 06 23.7	
	comp=Z,480nm,21.0s							
NJ2	**Nanjing**	**129.60**	**332**	*e*PKP		**PKiKP**	**17 08 05.0**	**-1.4**
LZH	**Lanzhou**	**130.88**	**349**	*e*PKP		**PKiKP**	**17 08 09.5**	**+0.3**
LZH				LR		LR		
	comp=Z,720nm,17.0s							
LZH				LR		LR		
	comp=Z,710nm,15.5s							
LZH				LR		LR		
	comp=Z,630nm,20.8s							
STKA	**Stephens Creek**	**131.66**	**238**	PKP		**PKiKP**	**17 08 09.9**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=133,slow=1.6,SNR=8.5							
CD2	**Chengdu**	**135.90**	**347**	PKP		**PKPdf**	**17 08 16.3**	**-1.4**
LSA	**Lhasa**	**138.21**	**3**	IAMs_20	IAMs_20		18 11 50.6	
	comp=Z,414nm,21.0s							
ASAR	**Alice Springs**	**139.92**	**248**	PKhKP	PKPpre		17 08 17.8	
	comp=Z,1.1nm,0.6s,baz=113,slow=3.7,SNR=13							
ASAR				PKP		**PKiKP**	**17 08 26.3**	**-1.3**
	comp=Z,3.9nm,0.7s,baz=98,slow=1.9,SNR=13							
WB2	**Warramunga Arr**	**139.95**	**254**	PKPpre	PKPpre		17 08 17.8	
WRA	**Warramunga Arr**	**139.97**	**254**	PKhKP	PKPpre		17 08 20.2	
	comp=Z,1.5nm,0.7s,baz=91,slow=2.7,SNR=18							
WRA				PKP		**PKiKP**	**17 08 26.3**	**-1.4**
	comp=Z,4.9nm,0.6s,baz=91,slow=2.1,SNR=17							
WRA	**Warramunga Arr**	**139.97**	**254**	PKPpre	PKPpre		17 08 18.1	
FAKI	**Fak Fak**	**140.38**	**280**	IAMs_20	IAMs_20		17 59 15.2	
	comp=Z,571nm,22.0s							
PZH	**PanZhiHua**	**140.59**	**348**	PKP		**PKPdf**	**17 08 24.3**	**-2.2**
PZH				PP		**PP**	**17 11 21.8**	**-2.1**
PZH				AMB		AMB		
	comp=Z,130nm,6.1s							
PZH				LR		LR		
	comp=Z,300nm,21.6s							
PZH				LR		LR		
	comp=Z,330nm,20.8s							
PZH				LR		LR		
	comp=Z,480nm,21.1s							
QIZ	**Qiongzhong**	**144.89**	**332**	IAMs_20	IAMs_20		18 21 17.2	
	comp=Z,341nm,19.0s							
QIZ	**Qiongzhong**	**144.89**	**332**	PKP	PKPbc		17 08 32.0	-1.2
QIZ				PP	**PP**		**17 11 49.3**	**-0.9**
QIZ				SS	SS		17 30 40.3	+1.5
QIZ				LR	LR			
	comp=Z,410nm,18.6s							
QIZ				LR	LR			
	comp=Z,420nm,23.7s							
FITZ	**Fitzroy Crossi**	**148.33**	**255**			**PKPbc**	**17 08 40.6**	**-2.7**
CMAR	**Chiang Mai Arr**	**148.96**	**350**	PKPbc		**PKiKP**	**17 08 45.1**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=334,slow=3.4,SNR=9.7							
CMAR	**Chiang Mai Arr**	**148.96**	**350**	PKPdf		**PKPdf**	**17 08 39.9**	**-1.1**
KKM	**Kota Kinabalu**	**150.87**	**307**	IAMs_20	IAMs_20		18 07 17.1	
	comp=Z,314nm,21.0s							
SBUM	**Sibu**	**156.21**	**307**	IAMs_20	IAMs_20		18 33 20.6	
	comp=Z,370nm,22.0s							

*UCR **28** 16:50:45.6±1.6, 12°.46N×86°.60W, h5^{km}±4^{km}, ML4.6, MW4.7, mb4.8(NEIC)*

*INET **28** 16:50:45.1±0.7, 12°.47N×86°.63W, h5^{km}±1^{km}, MW4.6, Fault plane solution: NP1,φ$_s$67.00000°, δ90.00000°, λ18.00000°.*

*IDC **28** 16:50:46.7±2.3, 12°.78N×86°.47W, h0^{km}, mb4.5/11, mbtmp4.5/12, ML3.9/1, Error ellipse: s-maj=69.8km s-min=19.7km az=23.0*

*NEIC **28** 16:50:46.4±1.6, 12°.44N±0°.04×86°.56W±0°.04, h10^{km}±1^{km}, mb4.8/67, Error ellipse: s-maj=8.2km s-min=5.8km az=145.0*

*SNET **28** 16:50:46.3±1.2, 12°.82N×86°.43W, h10^{km}, ML4.7*

ISC 28 16:50:45.1±1.0, **12°.43N**±0°.04×**86°.61W**±0°.03, **h6**^{km}±6^{km}, **n144**, σ0**93**/149, **mb4.7**/45, **1C**, **Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOMN	**Momotombo**	**0.07**	**105**	*e*P		**Pg**	**Pg**	**16 50 48.1**	**+1.2**
CNGN	**Cerro Negro**	**0.12**	**310**	Pg		**Pg**	**Pg**	**16 50 46.7**	**-0.9**
CNGN	**Cerro Negro**	**0.12**	**310**	*e*P		**Pg**	**Pg**	**16 50 46.9**	**-0.7**
TELN	**Telica**	**0.28**	**309**	*e*P		**Pg**	**Pg**	**16 50 50.7**	**0.0**
TELN				*e*P		**Pb**	**Pb**	**16 50 51.5**	**-1.2**
APYN	**Apoyeque**	**0.32**	**127**	*e*P		**Pb**	**Pb**	**16 50 52.0**	**-1.2**
BRAN	**Las Pilas**	**0.39**	**41**	*e*P		**Pb**	**Pb**	**16 50 53.8**	**-0.7**
HUEN		**0.43**	**102**	*e*P		**Pb**	**Pb**	**16 50 55.0**	**-0.3**
CRIN	**San Cristobal**	**0.51**	**302**	Pg		**Pg**	**Pg**	**16 50 54.6**	**-0.4**
CRUN	**El Crucero**	**0.53**	**146**	*e*P		**Pg**	**Pg**	**16 50 55.0**	**-0.4**
MASN	**Masaya**	**0.62**	**134**	*e*P		**Pb**	**Pb**	**16 50 57.9**	**-0.6**
MATN	**Matagalpa**	**0.83**	**53**	Pg		**Pb**	**Pb**	**16 51 00.7**	**-1.4**
MATN	**Matagalpa**	**0.83**	**53**	*e*P		**Pb**	**Pb**	**16 51 00.8**	**-1.4**
MATN	**Matagalpa**	**0.83**	**53**	*e*P		**Pb**	**Pb**	**16 51 00.8**	**-1.4**
BOAB	**BOACO BROADBAN**	**0.92**	**88**	Pg		**Pb**	**Pb**	**16 51 02.4**	**-1.2**
BOAB	**BOACO BROADBAN**	**0.92**	**88**	*e*P		**Pb**	**Pb**	**16 51 02.5**	**-1.0**
CNCH	**Conchagua**	**1.47**	**305**	*e*P		**Pn**	**Pn**	**16 51 11.3**	**-0.9**
CNCH				*e*S		**Sg**	**Sg**	**16 51 32.7**	**+0.4**
CNCH	**Conchagua**	**1.47**	**305**	*e*P		**Pn**	**Pn**	**16 51 11.3**	**-0.9**
CNCH				*e*S		**Sg**	**Sg**	**16 51 32.7**	**+0.4**
ACON	**Acoyapa**	**1.47**	**108**	Pn		**Pn**	**Pn**	**16 51 10.9**	**-1.4**
ACON	**Acoyapa**	**1.47**	**108**	*e*P		**Pn**	**Pn**	**16 51 11.3**	**-0.9**
LCND	**La Caada**	**1.53**	**305**	*e*P		**Pn**	**Pn**	**16 51 11.9**	**-1.1**
LCND				IAML				16 51 16.6	
	comp=Z,17µm,0.4s								
LCND				*e*S		**Sn**	**Sn**	**16 51 32.9**	**-0.4**
LCND	**La Caada**	**1.53**	**305**	*e*P		**Pn**	**Pn**	**16 51 11.9**	**-1.1**
LCND				IAML				16 51 16.6	
	comp=Z,17µm,0.4s								
LCND				*e*S		**Sn**	**Sn**	**16 51 32.9**	**-0.4**
TGUH	**Tegucigalpa,Un**	**1.75**	**338**	Pn		**Pn**	**Pn**	**16 51 16.1**	**0.0**
PACA	**Pacayal**	**1.97**	**302**	*e*P		**Pn**	**Pn**	**16 51 20.3**	**+1.1**
PACA	**Pacayal**	**1.97**	**302**	*e*P		**Pn**	**Pn**	**16 51 20.3**	**+1.1**
HZTE	**Horizontes, Gu**	**1.97**	**150**	*e*P		**Pn**	**Pn**	**16 51 19.1**	**0.0**
BUEV	**Buena Vista**	**2.00**	**144**	*e*P		**Pn**	**Pn**	**16 51 19.8**	**+0.2**
BUEV				*e*S		**Sb**	**Sb**	**16 51 45.8**	**-1.5**
LAPC	**Finca la Perla**	**2.01**	**145**	*e*P		**Pn**	**Pn**	**16 51 19.9**	**+0.2**
GPS3	**Bodega del ICE**	**2.06**	**144**	*e*P		**Pn**	**Pn**	**16 51 20.7**	**+0.3**
GPS2	**Hotel Rincn d**	**2.07**	**143**	*e*P		**Pn**	**Pn**	**16 51 21.0**	**+0.4**
COEB	**Comit de Eme**	**2.16**	**300**	*e*P		**Pn**	**Pn**	**16 51 22.8**	**+1.0**
COEB				IAML				16 51 30.3	
	comp=Z,4µm,0.4s								
COEB				*e*S		**Sn**	**Sn**	**16 51 50.3**	**+1.4**
COEB	**Comit de Eme**	**2.16**	**300**	*e*P		**Pn**	**Pn**	**16 51 22.8**	**+1.0**
COEB				IAML				16 51 30.3	
	comp=Z,4µm,0.4s								
COEB				*e*S		**Sn**	**Sn**	**16 51 50.3**	**+1.4**
GUAB	**Guayabo de Bag**	**2.18**	**142**	*e*P		**Pn**	**Pn**	**16 51 22.0**	**0.0**
HORNC	**Hornillas**	**2.20**	**140**	*e*P		**Pn**	**Pn**	**16 51 22.4**	**0.0**
COLC	**Colonia**	**2.23**	**142**	*e*P		**Pn**	**Pn**	**16 51 23.3**	**+0.6**
CUI	**Cuipilapa**	**2.26**	**141**	*e*P		**Pn**	**Pn**	**16 51 24.1**	**+1.0**
CUI				*e*S		**Sb**	**Sb**	**16 51 52.6**	**-2.0**
ESPN	**Las Esperanzas**	**2.27**	**96**	*e*P		**Pb**	**Pb**	**16 51 23.8**	**-2.7**
ORTG	**Ortega, Santa**	**2.34**	**151**	Pn		**Pn**	**Pn**	**16 51 24.0**	**-0.2**
ORTG	**Ortega, Santa**	**2.34**	**151**	*e*P		**Pn**	**Pn**	**16 51 25.0**	**+0.7**
ACAL	**Aguas Claras**	**2.35**	**139**	*e*P		**Pb**	**Pb**	**16 51 25.8**	**-2.3**

SAJU	**San Juanillo,**	**2.50**	**159**	*e*P		**Pn**	**16 51 26.8**	**+0.3**
NICO	**Nicoya**	**2.55**	**153**	*e*P		**Pn**	**16 51 28.1**	**+1.1**
DUNO	**Dulce Nombre,**	**2.58**	**155**	Pn		**Pn**	**16 51 27.1**	**-0.4**
DUNO	**Dulce Nombre,**	**2.58**	**155**	*e*P		**Pn**	**16 51 29.1**	**+1.6**
GRZA	**Playa Garza**	**2.67**	**159**	*e*P		**Pn**	**16 51 29.1**	**+0.4**
JTS	**Las Juntas de**	**2.67**	**142**	Pn		**Pn**	**16 51 28.4**	**-0.4**
JTS	**Las Juntas de**	**2.67**	**142**	*e*P		**Pn**	**16 51 29.2**	**+0.4**
SNET	**Serv Nac Est T**	**2.85**	**296**	Pn		**Pn**	**16 51 31.4**	**+0.2**
LAFE	**Finca La Fe, P**	**3.09**	**147**	*e*P		**Pn**	**16 51 35.8**	**+1.3**
OCM	**Ochomogo**	**3.62**	**134**	*e*P		**Pn**	**16 51 44.5**	**+2.6**
RIMA	**Rio Macho**	**3.77**	**134**	Pn		**Pn**	**16 51 45.4**	**+1.3**
RIMA	**Rio Macho**	**3.77**	**134**	*e*P		**Pn**	**16 51 45.8**	**+1.7**
CMIG	**Matias Romero**	**9.25**	**301**	Pn		**Pn**	**16 53 00.5**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=200,slow=14,SNR=1.5							
CMIG					Sn	**Sn**	**16 54 46.4**	**+2.6**
	baz=49,slow=14							
	comp=Z,32nm,0.8s							
ROSC	**El Rosal**	**14.29**	**121**	Pn		**P**	**16 54 17.0**	**+1.0**
	comp=Z,2.1nm,0.3s,baz=24,slow=6.6,SNR=4.7							
PORT	**Chimborazo Vol**	**15.84**	**150**	P		**P**	**16 54 33.8**	**+0.4**
BAUV	**El Baul**	**18.57**	**99**	P		**Pn**	**16 55 03.8**	**+0.6**
BAUV				IAmb		IAmb	16 55 06.9	
	comp=Z,96nm,1.5s							
BIRV	**Birongo**	**20.03**	**93**	P		**Pn**	**16 55 19.6**	**-1.1**
Y49A	**Blount Mountai**	**21.34**	**0**	P		**P**	**16 55 34.3**	**+1.2**
Y52A	**Lilburn**	**21.47**	**6**	P		**P**	**16 55 35.9**	**+1.4**
Y52A				IAmb		IAmb	16 55 38.9	
	comp=Z,51nm,1.1s							
PCRV	**Puerto La Cruz**	**21.66**	**94**	P		**P**	**16 55 39.2**	**+2.4**
	comp=Z,9.3nm,0.5s,baz=44,slow=5.8,SNR=3.8							
	comp=Z,9.3nm,0.5s							
OXF	**Oxford**	**22.13**	**354**	P		**P**	**16 55 41.7**	**+0.1**
W50A	**Signal Mountai**	**22.70**	**3**	P		**P**	**16 55 49.3**	**+1.5**
W50A				IAmb		IAmb	16 55 51.7	
	comp=Z,25nm,0.9s							
MIAR	**Mount Ida**	**22.91**	**345**	P		**P**	**16 55 50.7**	**+0.8**
MIAR				IAmb		IAmb	16 56 14.1	
	comp=Z,28nm,1.2s							
CPCT	**Cooper Cave**	**23.00**	**4**	P		**P**	**16 55 51.5**	**+0.7**
CPCT				IAmb		IAmb	16 55 56.5	
	comp=Z,51nm,1.4s							
TXAR	**Lajitas Array**	**23.12**	**319**	P		**P**	**16 55 53.3**	**+1.1**
	comp=Z,9.0nm,1.0s,baz=142,slow=9.4,SNR=4.5							
	comp=Z,9.0nm,1.0s							
TXAR	**Lajitas Array**	**23.12**	**319**	P		**P**	**16 55 52.2**	**-0.1**
TX31	**Lajitas Ar. Si**	**23.12**	**319**	P		**P**	**16 55 53.0**	**+0.7**
TX31				IAmb		IAmb	16 56 10.5	
	comp=Z,41nm,1.1s							
TX32	**Lajitas Array**	**23.12**	**319**	P		**P**	**16 55 53.0**	**+0.7**
CLTN	**Cedars of Leba**	**23.56**	**1**	P		**P**	**16 55 56.7**	**+0.2**
U49A	**Red Boiling Sp**	**24.00**	**2**	P		**P**	**16 56 01.4**	**+0.7**
U49A				IAmb		IAmb	16 56 04.4	
	comp=Z,25nm,0.9s							
T47A	**Sharon Grove**	**24.46**	**359**	P		**P**	**16 56 05.3**	**+0.3**
SLBS	**Sierra La Lagu**	**24.81**	**300**	P		**P**	**16 56 09.2**	**+0.9**
SLBS				IAmb		IAmb	16 56 25.9	
	comp=Z,52nm,1.6s							
T57A	**Hurt**	**25.34**	**14**	P		**P**	**16 56 14.3**	**+1.4**
T57A				IAmb		IAmb	16 56 16.2	
	comp=Z,16nm,0.9s							
MSTX	**Muleshoe**	**26.02**	**328**	P		**P**	**16 56 19.2**	**-0.1**
**N

	comp=Z,8.6nm,0.8s						
IL31		**66.38**	**336**	P	**P**	**17 01 34.9**	**+0.2**
IL31				IAmb	IAmb	17 01 36.8	
	comp=Z,7.8nm,1.0s						
ILAR	**Eielson Array**	**66.38**	**336**	P	**P**	**17 01 35.0**	**+0.2**
	comp=Z,5.3nm,1.0s,baz=114,slow=4.0,SNR=6.2						
	comp=Z,5.3nm,1.0s						
ILAR	**Eielson Array**	**66.38**	**336**	P	**P**	**17 01 34.6**	**-0.1**
BMAR	**Burnt Mountain**	**66.60**	**339**	P	**P**	**17 01 36.5**	**+0.4**
RND	**Reindeer**	**66.69**	**334**	P	**P**	**17 01 37.1**	**+0.2**
CCB	**Clear Creek Bu**	**66.70**	**336**	P	**P**	**17 01 36.4**	**-0.4**
CCB				IAmb	IAmb	17 01 40.7	
	comp=Z,6.3nm,1.2s						
TRF	**Thorofare Moun**	**67.32**	**334**	P	**P**	**17 01 41.4**	**+0.5**
TRF				IAmb	IAmb	17 01 41.9	
	comp=Z,9.4nm,1.0s						
I23K	**Minto, Yukon-K**	**67.49**	**336**	P	**P**	**17 01 41.7**	**-0.1**
M20K	**Styx River**	**68.12**	**332**	P	**P**	**17 01 45.3**	**-0.6**
M20K				IAmb	IAmb	17 03 14.2	
	comp=Z,19nm,1.6s						
J20K	**Nowinta River**	**69.17**	**334**	P	**P**	**17 01 51.5**	**-0.8**
ESDC	**Sonseca Array**	**76.56**	**52**	P	**P**	**17 02 36.7**	**-0.1**
	comp=Z,3.5nm,1.1s,baz=276,slow=5.0,SNR=4.0						
	comp=Z,3.5nm,1.1s						
ESDC	**Sonseca Array**	**76.56**	**52**	P	**P**	**17 02 36.2**	**-0.5**
NOA	**NORSAR Array B**	**82.99**	**29**	P	**P**	**17 03 11.7**	**+0.5**
	comp=Z,4.0nm,1.1s,baz=280,slow=5.2,SNR=3.8						
	comp=Z,4.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**85.61**	**78**	P	**P**	**17 03 26.9**	**+1.5**
	comp=Z,15nm,0.6s,baz=289,slow=6.2,SNR=5.0						
	comp=Z,15nm,0.6s						
ARCES	**ARCESS Array B**	**85.94**	**19**	P	**P**	**17 03 26.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=316,slow=6.3,SNR=1.8						
	comp=Z,1.3nm,0.7s						
ASAR	**Alice Springs**	**140.02**	**248**	PKhKP	PKPpre	17 10 07.1	
	comp=Z,0.8nm,0.9s,baz=107,slow=3.8,SNR=4.2						
WRA	**Warramunga Arr**	**140.05**	**254**	PKhKP	PKPpre	17 10 14.4	
	comp=Z,1.2nm,0.6s,baz=90,slow=2.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**148.83**	**350**	PKPbc	**PKPab**	**17 10 36.8**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=335,slow=4.0,SNR=2.1						
H01W1	**Cape Leeuwin H**	**150.76**	**217**	T	T	19 58 49.8	
	baz=137,slow=75,SNR=28						
H01W2	**Cape Leeuwin H**	**150.77**	**217**	T	T	19 58 51.0	
	baz=137,slow=75,SNR=28						
H01W3	**Cape Leeuwin H**	**150.78**	**217**	T	T	19 58 52.4	
	baz=137,slow=75,SNR=26						

RSPR 28 16:54:49.2, 19°.00N×64°.82W, h6km±15km, 6C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJVI	**Gifft Hill Sch**	**0.66**	**176**	⇑*e*P		Pg		16 55 01.4	-0.5
SJVI	**Gifft Hill Sch**	**0.66**	**176**	*e*S		Sg		16 55 11.1	+0.5
SJVI	**Gifft Hill Sch**	**0.66**	**176**	⇓*e*P		Pg		16 55 01.5	-0.4
SJVI	**Gifft Hill Sch**	**0.66**	**176**	*e*S		Sg		16 55 11.2	+0.7
CUPR	**Culebra, Puert**	**0.82**	**213**	⇑*e*P		Pg		16 55 03.3	-1.6
CUPR	**Culebra, Puert**	**0.82**	**213**	*e*S		Sg		16 55 15.4	-0.1
CUPR	**Culebra, Puert**	**0.82**	**213**	⇑*e*P		Pg		16 55 03.5	-1.4
CUPR	**Culebra, Puert**	**0.82**	**213**	*e*S		Sg		16 55 15.3	-0.1
MTP	**Monte Pirata**	**1.14**	**218**	⇑*e*P		Pg		16 55 09.8	-1.1
MTP	**Monte Pirata**	**1.14**	**218**	*e*S		Sg		16 55 23.5	-2.3
MTP	**Monte Pirata**	**1.14**	**218**	⇓*e*P		Pg		16 55 08.8	-2.2
MTP	**Monte Pirata**	**1.14**	**218**	⇓*e*P		Pg		16 55 08.8	-2.2
MTP	**Monte Pirata**	**1.14**	**218**	⇓*e*P		Pg		16 55 09.8	-1.1
MTP				*e*S		Sg		16 55 23.2	-2.5
MTP				*e*S		Sb		16 55 23.5	-2.7

*ATH **28** 16:56:15.5, 41°.27N×19°.59E, h10km±31km, ML2.3/4, Error ellipse: s-maj=31.6km s-min=1.9km az=0.0*
*SKO **28** 16:56:16.8, 41°.13N×19°.48E, h0km*
*TIR **28** 16:56:18.6, 41°.21N×19°.66E, h21km, Md3.1*
*PDG **28** 16:56:18.3±0.4, 41°.25N×19°.65E, h15km, ML2.7/12, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*

ISC 28 16:56:16.4±1.1, 41°.18N±0°.02×19°.50E±0°.02, h6km±9km, n49, σ1s08/81, 14C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.32**	**58**	⇓P		**Pg**		**16 56 22.9**	**+0.1**
TIR				⇑S		**Sg**		**16 56 27.9**	**+0.9**
TIR	**Tirane**	**0.32**	**58**	⇓*i*Pg		**Pg**		**16 56 22.8**	**+0.1**
TIR				*i* Sg		**Sg**		**16 56 28.1**	**+1.1**
TIR	**Tirane**	**0.32**	**58**	P		**Pg**		**16 56 23.0**	**+0.3**
	baz=48								
TIR				S		**Sg**		**16 56 28.3**	**+1.3**
	baz=48								
VLO	**Vlora**	**0.71**	**181**	P		**Pn**		**16 56 33.9**	**+1.0**
	baz=190								
VLO				S		**Sn**		**16 56 45.7**	**+1.7**
	baz=190								
ULC	**Ulcinj**	**0.81**	**346**	*i* Pg		**Pb**		**16 56 32.6**	**-0.3**
ULC	**Ulcinj**	**0.81**	**346**	⇓*i*Pg		**Pb**		**16 56 32.7**	**-0.3**
ULC				*e*Sg		**Sn**		**16 56 44.9**	**-1.8**
PHP	**Peshkopia**	**0.87**	**54**	P		**Pg**		**16 56 31.6**	**-1.5**
	baz=50								
PHP				S		**Sg**		**16 56 44.6**	**+0.2**
	baz=50								
OHR	**Ohrid**	**0.98**	**93**	*i* Pg		**Pg**		**16 56 34.0**	**-1.3**
OHR				*i* Sg		**Sb**		**16 56 49.2**	**+0.2**
DRME	**Dracevica, Mon**	**1.04**	**347**	⇓*i*Pg		**Pn**		**16 56 36.9**	**-0.6**
DRME				*i* Sg		**Sn**		**16 56 52.7**	**+0.4**
KBN	**Korca**	**1.12**	**119**	P		**Pn**		**16 56 38.8**	**+0.2**
	baz=124								
KBN				S		**Sn**		**16 56 55.4**	**+1.0**
	baz=124								
BUM	**Brajici-Budva**	**1.21**	**338**	⇑*i*Pg		**Pn**		**16 56 40.1**	**+0.1**
BUM				*i* Sg		**Sn**		**16 56 59.2**	**+2.5**
BCI	**Bajram Curri**	**1.26**	**19**	P		**Pg**		**16 56 41.0**	**+0.4**
	baz=14								
BCI				S		**Sn**		**16 56 58.5**	**+0.6**
	baz=14								
PDG	**Podgorica**	**1.27**	**352**	⇑P		**Pg**		**16 56 41.2**	**+0.5**
PDG				⇑S		**Sn**		**16 56 59.9**	**+2.0**
PDG	**Podgorica**	**1.27**	**352**	*i* Pg		**Pg**		**16 56 41.4**	**+0.7**
PDG				*i* Sg		**Sn**		**16 57 00.4**	**+2.5**
TTG	**Podgorica**	**1.27**	**352**	⇑*i*Pg		**Pg**		**16 56 40.6**	**-0.1**
TTG				*e*Sg		**Sn**		**16 56 59.9**	**+2.0**
LSK	**Leskovik**	**1.32**	**141**	P		**Pg**		**16 56 41.5**	**-0.3**
	baz=145								
LSK				S		**Sn**		**16 57 01.2**	**+1.8**
	baz=145								
SRN	**Sarande**	**1.35**	**164**	P		**Pg**		**16 56 42.6**	**+0.4**
	baz=168								
SRN				S		**Sn**		**16 57 01.7**	**+1.8**
	baz=168								
SCTE	**Santa Cesarea**	**1.36**	**216**	P		**Pg**		**16 56 41.9**	**-0.4**
SCTE				S		**Sn**		**16 57 02.2**	**+2.1**
SCTE				AML		AML		16 57 03.3	
	comp=N,111μm,0.4s								
SCTE				AML		AML		16 57 04.1	
	comp=E,138μm,0.5s								
NEST	**Nestorio**	**1.40**	**122**	P		**Pn**		**16 56 41.5**	**-1.0**
NEST				S		**Sb**		**16 57 00.0**	**-1.0**
NEST				AML		AML		16 57 03.9	
	comp=N,139μm,0.4s								
NEST				AML		AML		16 57 05.7	
	comp=E,197μm,0.3s								
CEME	**Cevo**	**1.44**	**342**	⇓*i*Pg		**Pg**		**16 56 43.2**	**-0.8**
CEME				*e*Sg		**Sg**		**16 57 04.9**	**+2.3**
PVY	**Plav**	**1.46**	**13**	⇑*i*Pg		**Pb**		**16 56 43.4**	**-0.6**
PVY				*e*Sg		**Sg**		**16 57 03.8**	**+0.5**
KASA	**Kassiopi**	**1.47**	**167**	P		**Pg**		**16 56 43.7**	**-0.8**
KASA				S		**Sg**		**16 57 03.3**	**-0.1**
HCY	**Herceg Novi**	**1.48**	**330**	⇑*i*Pg		**Pg**		**16 56 45.1**	**+0.4**
HCY				*e*Sg		**Sg**		**16 57 06.6**	**+2.7**
KEK	**Kerkira**	**1.48**	**171**	P		**Pb**		**16 56 43.0**	**-1.2**
KEK				S		**Sg**		**16 57 04.8**	**+0.9**
KEK				AML		AML		16 57 13.3	
	comp=E,207μm,0.5s								
KEK				AML		AML		16 57 16.2	
	comp=N,210μm,0.7s								
PENT	**Pentalofos**	**1.58**	**128**	P		**Pb**		**16 56 45.0**	**-1.1**
PENT				S		**Sn**		**16 57 05.3**	**-0.5**
NKME	**Niksic**	**1.64**	**346**	⇑*i*Pn		**Pg**		**16 56 46.8**	**-1.1**
NKME				*e*Sn		**Sg**		**16 57 09.8**	**+0.6**
KOME	**Kolasin**	**1.67**	**0**	⇓*i*Pn		**Pg**		**16 56 47.3**	**-1.2**
KOME				*e*Sn		**Sg**		**16 57 10.5**	**+0.3**
IVA	**Berane**	**1.72**	**10**	⇓Pn		**Pb**		**16 56 47.7**	**-0.7**
IVA				*e*Sn		**Sg**		**16 57 10.4**	**-1.3**
DBRK	**Dubrovnik**	**1.80**	**326**	*e*Pn		**Pn**		**16 56 46.7**	**-1.3**
BRY	**Bratogost**	**1.87**	**338**	⇑*i*Pn		**Pb**		**16 56 50.3**	**-0.7**
BRY				*i* Sn		**Sg**		**16 57 15.9**	**-0.6**
KZN	**Kozani**	**1.93**	**116**	P		**Pn**		**16 56 50.3**	**+0.5**
KZN				S		**Sn**		**16 57 14.4**	**0.0**
KZN				AML		AML		16 57 21.0	
	comp=N,87μm,0.4s								
KZN				AML		AML		16 57 23.2	
	comp=E,85μm,0.3s								
UPM	**Unac-Piva**	**2.07**	**348**	⇑*i*Pn		**Pb**		**16 56 53.0**	**-1.5**
UPM				*e*Sn		**Sb**		**16 57 20.3**	**-0.3**
STON	**Ston**	**2.16**	**322**	*e*Pn		**Pn**		**16 56 51.4**	**-1.5**
GRG	**Griva**	**2.20**	**95**	P		**Pn**		**16 56 53.2**	**-0.3**
LSTV	**Lastovo**	**2.52**	**310**	*e*Pn		**Pn**		**16 56 57.3**	**-0.5**
TIP	**Timpagrande**	**2.90**	**227**	⇑P		**Pn**		**16 57 02.8**	**-0.3**
RICI	**Ricice**	**2.91**	**324**	*e*Pn		**Pn**		**16 57 02.8**	**-0.4**
RICI				Sn		**Sn**		**16 57 38.0**	**-0.5**
HVAR	**Hvar**	**3.03**	**312**	*e*Pn		**Pn**		**16 57 03.7**	**-1.1**
VTS	**Vitosha**	**3.13**	**61**	⇑P		**Pn**		**16 57 06.9**	**+0.4**
BLKB	**Belogradchik**	**3.39**	**43**	⇑P		**Pn**		**16 57 09.5**	**-0.3**
KIJV	**Kijevo**	**3.64**	**322**	*e*Pn		**Pn**		**16 57 13.4**	**+0.2**
KIJV				Sn		**Sn**		**16 57 55.8**	**-0.6**
ZIRJ	**Zirje**	**3.78**	**312**	*e*Pn		**Pn**		**16 57 14.2**	**-0.9**
MORI	**Morici**	**3.89**	**315**	*e*Pn		**Pn**		**16 57 16.8**	**+0.2**
MDVR	**Moldovita**	**3.95**	**23**	⇓P		**Pn**		**16 57 17.6**	**0.0**
HERR	**Herculane**	**4.27**	**29**	⇓P		**Pn**		**16 57 23.0**	**+1.1**
DUGI	**Dugi Otok**	**4.32**	**312**	*e*Pn		**Pn**		**16 57 22.7**	**0.0**
NVLJ	**Novalja**	**4.80**	**316**	*e*Pn		**Pn**		**16 57 28.9**	**-0.2**
GZR	**Gura Zlata**	**4.84**	**28**	⇓P		**Pn**		**16 57 31.2**	**+1.3**
LOT	**Lotru**	**5.28**	**35**	⇑P		**Pn**		**16 57 36.8**	**+0.9**

*IDC **28** 17:11:18.9±1.2, 44°.43N×83°.73E, h0km, mb3.6/2, mbtmp3.7/5, ML3.0/3, MS3.3/1, Error ellipse: s-maj=26.0km s-min=11.1km az=64.0*
*SOME **28** 17:11:20.9, 44°.47N×83°.28E, h15km*
*NNC **28** 17:11:22.3±1.0, 44°.43N×83°.35E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=9.6km s-min=3.2km az=127.0*

ISC 28 17:11:20.4±1.0, 44°.41N±0°.04×83°.36E±0°.05, h10km, n53, σ2s19/80, 12C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.38**	**247**	*e*P		**Pg**		**17 12 05.8**	**-0.2**
	16nm,0.3s								
KTMS				*e*S		**Sg**		**17 12 38.4**	**+1.6**
	267nm,0.2s								
MK31	**Makanchi Array**	**2.50**	**343**	⇑Pn		**Pb**		**17 12 04.0**	**-1.5**
	0.7nm,0.4s,baz=157,slow=14,SNR=606								
MK31				⇑Pg		**Pg**		**17 12 07.6**	**-0.8**
	16nm,0.4s								
MK31				⇑Lg		Lg		17 12 40.6	
	169nm,0.4s,baz=161,slow=29,SNR=29								
MKAR	**Makanchi Array**	**2.50**	**343**	Pn		**Pb**		**17 12 03.9**	**-1.6**
	7.4nm,0.3s,baz=152,slow=15,SNR=115								
MKAR				Pg		**Pg**		**17 12 08.0**	**-0.4**
	17nm,0.3s,baz=155,slow=17,SNR=69								
MKAR				Lg		Lg		17 12 40.7	
	95nm,0.3s,baz=160,slow=30,SNR=43								
	23nm,0.4s								
DJR	**Jarkent**	**2.56**	**270**	*e*P		**Pg**		**17 12 09.9**	**+0.3**
	9.9nm,0.2s								
DJR				*e*S		**Sg**		**17 12 44.9**	**+2.1**
	143nm,0.2s								
MAKZ	**Makanchi**	**2.59**	**338**	⇑Pn		**Pb**		**17 12 05.0**	**-2.0**
	9.9nm,1.4s								
MAKZ				⇓Pg		**Pg**		**17 12 09.5**	**-0.6**
	20nm,0.4s								
MAKZ				⇑Lg		Lg		17 12 43.1	
	64nm,0.5s								
SHLS	**Shalkode**	**3.09**	**248**	*e*P		**Pb**		**17 12 13.3**	**-2.2**
	34nm,0.3s								
SHLS				*e*S		**Sb**		**17 12 50.6**	**-2.7**
	477nm,0.3s								
SHLS	**Shalkode**	**3.09**	**248**	Pg		**Pb**		**17 12 13.3**	**-2.2**
	34nm,0.3s								
SHLS				Lg		Lg		17 12 50.6	
	457nm,0.5s								
ZSN	**Zaisan**	**3.22**	**18**	*e*P		**Pb**		**17 12 19.3**	**+1.6**
	38nm,0.1s								
ZSN				*e*S		**Sg**		**17 13 01.7**	**-2.1**
	356nm,0.4s								
ZSN	**Zaisan**	**3.22**	**18**	Pg		**Pb**		**17 12 19.3**	**+1.6**
	38nm,0.2s								
ZSN				Lg		Lg		17 13 01.7	
	345nm,0.6s								
UZB	**Uzunbulak**	**3.39**	**250**	*e*P		**Pb**		**17 12 22.8**	**+2.2**
	4.9nm,0.2s								
UZB				*e*S		**Sg**		**17 13 07.3**	**-1.8**
	84nm,0.4s								
UZB	**Uzunbulak**	**3.39**	**250**	Pg		**Pb**		**17 12 22.8**	**+2.2**
	4.9nm,0.2s								
UZB				Lg		Lg		17 13 07.3	
	84nm,0.4s								
KPKS	**Kokpek**	**3.51**	**256**	*e*P		**Pg**		**17 12 24.9**	**-2.7**
	14nm,0.2s								
KPKS				*e*S		**Sg**		**17 13 11.5**	**-1.6**
	253nm,0.3s								
KPKS	**Kokpek**	**3.51**	**256**	Pg		**Pg**		**17 12 26.4**	**-1.2**
	57nm,0.6s								
KPKS				Lg		Lg		17 13 11.4	
	244nm,0.4s								
BLB	**Baldybastay**	**3.52**	**267**	*e*P		**Pg**		**17 12 26.6**	**-1.3**
	16nm,0.2s								
BLB				*e*S		**Sg**		**17 13 13.8**	**+0.2**
	208nm,0.2s								
BLB	**Baldybastay**	**3.52**	**267**	Pg		**Pg**		**17 12 26.6**	**-1.3**
	16nm,0.3s								
BLB				Lg		Lg		17 13 13.8	
	197nm,0.2s								
TDK	**Taldyqorghan**	**3.58**	**281**	*e*P		**Pg**		**17 12 29.1**	**0.0**
	50nm,0.2s								
TDK				*e*S		**Sg**		**17 13 18.5**	**+3.0**
	109nm,0.4s								
TDK	**Taldyqorghan**	**3.58**	**281**	Pg		**Pg**		**17 12 29.1**	**0.0**
	50nm,0.2s								
TDK				Lg		Lg		17 13 18.5	
	109nm,0.4s								
ZHN	**Zhinishke**	**3.78**	**253**	*e*P		**Pb**		**17 12 29.8**	**+2.5**
	14nm,0.1s								
ZHN				*e*S		**Sg**		**17 13 19.1**	**-2.6**
	66nm,0.2s								
SATY	**Saty**	**3.84**	**251**	*e*P		**Pb**		**17 12 30.4**	**+2.2**
	23nm,0.3s								
SATY				*e*S		**Sg**		**17 13 20.9**	**-2.7**
	60nm,0.4s								
SATY	**Saty**	**3.84**	**251**	Pg		**Pg**		**17 12 31.3**	**-2.6**
	23nm,0.3s								
SATY				Lg		Lg		17 13 20.9	
	60nm,0.4s								
KURS	**Kuram**	**3.86**	**258**	*e*P		**Pg**		**17 12 35.2**	**+0.8**
	15nm,0.4s								
KURS				*e*S		**Sg**		**17 13 29.2**	**+4.8**
	56nm,0.5s								
ARXS	**Arharly**	**3.98**	**269**	*e*P		**Pg**		**17 12 34.1**	**-2.5**
	7.5nm,0.4s								
ARXS				*e*S		**Sg**		**17 13 27.0**	**-1.2**
	96nm,0.4s								
KOTS	**Kotyrbulak**	**4.67**	**258**	*e*P		**Pg**		**17 12 48.5**	**-1.4**
	2.6nm,0.6s								
KOTS				*e*S		**Sg**		**17 13 51.5**	**+1.1**
	120nm,0.4s								
KOTS	**Kotyrbulak**	**4.67**	**258**	Pg		**Pg**		**17 12 49.0**	**-0.9**
	2.6nm,0.6s								
KOTS				Lg		Lg		17 13 51.5	
	141nm,0.5s								
MDOK	**Medeo**	**4.74**	**257**	*e*P		**Pg**		**17 12 49.7**	**-1.5**
	11nm,0.5s								
MDOK				*e*S		**Sg**		**17 13 53.9**	**+1.4**
	58nm,0.4s								
MDOK	**Medeo**	**4.74**	**257**	⇓Pn		**Pn**		**17 12 35.5**	**+3.4**
	1.6nm,0.5s								
MDOK				Pg		**Pg**		**17 12 50.1**	**-1.1**
	9.7nm,0.6s								
MDOK				Pg		**Pg**		**17 12 50.2**	**-1.0**
	10nm,0.7s								
MDOK				⇑Lg		Lg		17 13 53.8	
	78nm,1.0s								
MDOK				Lg		Lg		17 13 53.9	
	52nm,0.8s								
KNDC	**Almaty**	**4.78**	**258**	⇑Pg		**Pg**		**17 12 51.0**	**-0.9**
	20nm,0.6s								
KNDC				⇑Lg		Lg		17 13 57.4	
	76nm,0.6s								
AAA	**Alma-Ata**	**4.82**	**258**	*e*P		**Pg**		**17 12 52.3**	**-0.3**
	18nm,0.2s								
AAA				*e*S		**Sg**		**17 13 57.7**	**+2.6**
	62nm,0.4s								
TNSS	**Tian-Shan**	**4.85**	**256**	*e*P		**Pg**		**17 12 51.0**	**-2.3**
	4.3nm,0.3s								
TNSS				*e*S		**Sg**		**17 13 55.7**	**-0.4**
	5.4nm,0.5s								
TNSS	**Tian-Shan**	**4.85**	**256**	Pg		**Pg**		**17 12 51.0**	**-2.3**
	4.3nm,0.3s								
TNSS				Lg		Lg		17 13 55.7	
	5.4nm,0.5s								
KTBS	**Karatobe**	**4.87**	**264**	*e*P		**Pg**		**17 12 50.3**	**-3.3**
	3.8nm,0.5s								
KTBS				*e*S		**Sg**		**17 13 54.9**	**-1.7**
	114nm,0.6s								
KTBS	**Karatobe**	**4.87**	**264**	Pg		**Pg**		**17 12 50.9**	**-2.7**
	3.8nm,0.5s								
KTBS				Lg		Lg		17 13 54.9	
	114nm,0.6s								
KUU	**Kurty**	**5.08**	**267**	*e*P		**Pg**		**17 12 54.8**	**-2.9**
	2.6nm,0.2s								
KUU				*e*S		**Sg**		**17 14 01.5**	**-1.9**
	34nm,0.3s								
KUU	**Kurty**	**5.08**	**267**	Pg		**Pg**		**17 12 54.8**	**-2.9**
	4.0nm,0.3s								
KUU				Lg		Lg		17 14 01.5	
	48nm,0.3s								
MTBS	**Maitube**	**5.18**	**258**	*e*P		**Pg**		**17 12 57.2**	**-2.4**
	3.7nm,0.2s								
MTBS				*e*S		**Sg**		**17 14 05.9**	**-0.8**
	38nm,0.4s								
MTBS	**Maitube**	**5.18**	**258**	Pg		**Pg**		**17 12 57.6**	**-2.1**
	3.7nm,0.2s								
MTBS				Lg		Lg		17 14 05.9	
	38nm,0.4s								
KST	**Kastek**	**5.53**	**258**	*e*P		**Pg**		**17 13 03.4**	**-2.9**
	14nm,0.4s								
KST				*e*S		**Sg**		**17 14 16.5**	**-1.5**
	49nm,0.4s								
KST	**Kastek**	**5.53**	**258**	Pg		**Pg**		**17 13 03.4**	**-2.9**
	12nm,0.5s								
KST				Lg		Lg		17 14 16.5	
	47nm,0.6s								
KRBS	**Karabastau**	**5.59**	**265**	*e*P		**Pg**		**17 13 03.1**	**-4.2**
	2.0nm,0.2s								
KRBS				*e*S		**Sg**		**17 14 16.4**	**-3.3**
	21nm,0.3s								
KRBS	**Karabastau**	**5.59**	**265**	Pg		**Pg**		**17 13 04.7**	**-2.7**
	2.0nm,0.1s								
KRBS				Lg		Lg		17 14 16.5	
	21nm,0.6s								
DGS	**Degeres**	**5.61**	**261**	*e*P		**Pg**		**17 13 04.3**	**-3.6**
	10nm,0.2s								
DGS				*e*S		**Sg**		**17 14 18.7**	**-1.9**
	46nm,0.4s								
DGS	**Degeres**	**5.61**	**261**	Pg		**Pg**		**17 13 06.1**	**-1.8**
	9.1nm,0.5s								
DGS				Lg		Lg		17 14 18.7	
	46nm,0.4s								
SEM	**Semipalatinsk**	**6.37**	**342**	*e*P		**Pg**		17 13 17.1	-5.2
	52nm,0.5s								
SEM				*e*S		**Sg**		**17 14 40.9**	**-3.8**
	40nm,0.3s								
AAK	**Ala-Archa**	**6.69**	**258**	Pg		**Pg**		**17 13 26.5**	**-1.9**
	0.8nm,0.3s,baz=117,slow=5.2,SNR=15								
AAK				Lg		Lg		17 14 52.9	
	0.9nm,0.3s,baz=210,slow=23,SNR=7.0								
KURBB	**Kurchatov Arra**	**7.03**	**334**	Pn		**Pn**		**17 13 04.9**	**+1.6**
	baz=147,slow=12,SNR=2.9								
KURBB				Pg		**Pb**		**17 13 24.7**	**+2.2**
	0.1nm,0.3s,baz=149,slow=12,SNR=3.2								
KURBB				Sn		**Sn**		**17 14 26.0**	**+2.8**
	0.3nm,0.3s,baz=228,slow=16,SNR=5.1								
KURBB				Lg		Lg		17 15 04.7	
	0.6nm,0.3s,baz=156,slow=30,SNR=6.7								
	0.7nm,0.2s								
KURBB	**Kurchatov Arra**	**7.03**	**334**	⇓Lg		Lg		17 15 03.1	
	50nm,0.7s								
KURK	**Kurchatov**	**7.08**	**335**	⇑Lg		Lg		17 15 05.3	
	28nm,0.7s								
KK31	**Karatay Array**	**9.39**	**267**	⇓Lg		Lg		17 16 23.0	
	3.3nm,0.7s,baz=78,slow=28,SNR=5.2								
ZAA0	**Zalesovo Array**	**9.60**	**5**	⇑Pn		**Pn**		**17 13 38.1**	**-0.5**
	0.4nm,0.4s								
ZAA0				⇑Sn		**Sn**		**17 15 31.1**	**+4.8**
	0.4nm,0.3s								
ZAA0				⇑Lg		Lg		17 16 27.0	
	1.4nm,0.8s								
ZALV	**Zalesovo Beam**	**9.60**	**5**	Pn		**Pn**		**17 13 38.1**	**-0.4**
	1.6nm,0.3s,baz=186,slow=14,SNR=25								
ZALV				Sn		**Sn**		**17 15 25.5**	**-0.9**
	0.8nm,0.3s,baz=172,slow=26,SNR=5.4								
ZALV				Lg		Lg		17 16 22.7	
	0.2nm,0.3s,baz=197,slow=28,SNR=2.7								
	5.8nm,0.4s								
BVAR	**Borovoye Array**	**12.14**	**320**	Lg		Lg		17 17 49.1	

MPSI	**Mapaga**	**2.15 271**	P		**Pn**	**18 21 54.1**	**-2.1**
TTSI	**Tana Toraja**	**4.01 214**	P		**Pn**	**18 22 17.5**	**-0.6**
SGKI	**Sangatta, Kali**	**4.52 259**	P		**Pn**	**18 22 22.4**	**-2.1**
SANI	**Sanana**	**4.59 121**	P		**Pn**	**18 22 22.9**	**-2.5**
SANI	**Sanana**	**4.59 121**	P		**Pn**	**18 22 23.1**	**-2.3**
SPSI	**Sidrap Palu**	**4.82 208**	P		**Pn**	**18 22 28.1**	**-0.2**
BNSI	**Bone**	**5.07 202**	P		**Pn**	**18 22 31.5**	**0.0**
	0.1nm37nm,0.8s						
TNTI	**Ternate**	**5.34 85**	Pn		**Pn**	**18 22 34.6**	**-0.4**
TNTI	**Ternate**	**5.34 85**	P		**Pn**	**18 22 34.1**	**-0.9**
	0.2nm14nm,0.9s						
TNTI	**Ternate**	**5.34 85**	P		**Pn**	**18 22 34.6**	**-0.4**
LBMI	**Labuha**	**5.54 100**	P		**Pn**	**18 22 35.8**	**-1.8**
	0.4nm13nm,0.8s						
KAPI	**Kappang**	**5.76 203**	Pn		**Pn**	**18 22 37.7**	**-2.7**
BKSI	**Bulukumba**	**5.92 199**	P		**Pn**	**18 22 42.6**	**+0.2**
	0.1nm16nm,1.0s						
MYLDM	**Lahad Datu**	**5.99 324**			**Pn**	**18 22 42.3**	**-1.1**
NLAI	**Namlea**	**6.16 125**	P		**Pn**	**18 22 45.2**	**-0.4**
KKM	**Kota Kinabalu**	**8.14 314**			**Pn**	**18 23 09.9**	**-1.5**
KKM	**Kota Kinabalu**	**8.14 314**	P		Pn	18 23 20.3	+8.8
	16nm,1.3s						
SIJI	**Sorong**	**9.30 97**	P		**Pn**	**18 23 29.2**	**+2.8**
	3.5nm,0.6s,baz=259,slow=16,SNR=2.6						
FAKI	**Fak Fak**	**10.69 108**	Pn		**Pn**	**18 23 45.2**	**+0.8**
FAKI	**Fak Fak**	**10.69 108**	P		**Pn**	**18 23 45.3**	**+0.8**
FAKI	**Fak Fak**	**10.69 108**	P		**Pn**	**18 23 45.3**	**+0.8**
MTN	**Manton Dam**	**15.88 146**	P		**Pn**	**18 24 50.1**	**+0.9**
MTN	**Manton Dam**	**15.88 146**	P		**P**	**18 24 47.7**	**-1.2**
KNRA	**Kununurra**	**17.22 158**	P		**P**	**18 25 04.2**	**+0.6**
KNRA			IAmb		IAmb	18 25 23.0	
	comp=Z,26nm,1.2s						
KNRA	**Kununurra**	**17.22 158**	P		**Pn**	**18 25 04.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.63 169**	P		**P**	**18 25 19.3**	**+0.3**
	comp=Z,3.2nm,0.5s,baz=351,slow=7.4,SNR=26						
FITZ	**Fitzroy Crossi**	**18.63 169**	P		**P**	**18 25 19.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.63 169**	P		**P**	**18 25 19.3**	**+0.3**
WB0	**Warramunga Arr**	**23.34 149**	P		**P**	**18 26 05.5**	**-1.3**
WB0			IAmb		IAmb	18 26 08.4	
	comp=Z,5.6nm,0.7s						
WRAB	**Tennant Creek**	**23.46 150**	P		**P**	**18 26 07.0**	**-0.8**
WRAB			IAmb		IAmb	18 26 40.7	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**23.46 150**	P		**P**	**18 26 08.1**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=326,slow=11,SNR=34						
WRA			PcP		**PcP**	**18 29 48.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=314,slow=2.5,SNR=2.8						
	comp=Z,4.4nm,0.7s						
WRA	**Warramunga Arr**	**23.46 150**	P		**P**	**18 26 06.8**	**-1.0**
WB2	**Warramunga Arr**	**23.46 150**	P		**P**	**18 26 08.4**	**+0.5**
WB2			IAmb		IAmb	18 26 46.5	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**23.57 149**	P		**P**	**18 26 08.6**	**-0.3**
WR0			IAmb		IAmb	18 26 11.1	
	comp=Z,10nm,0.9s						
WRKA	**Warakurna**	**25.91 167**	P		**P**	**18 26 30.7**	**+0.6**
AS31	**Alice Springs**	**26.47 155**	P		**P**	**18 26 34.8**	**-0.3**
AS31			IAmb		IAmb	18 27 01.3	
	comp=Z,5.6nm,1.4s						
ASAR	**Alice Springs**	**26.47 155**	P		**P**	**18 26 35.7**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=344,slow=14,SNR=52						
ASAR			pP		**pP**	**18 27 14.9**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=335,slow=7.6,SNR=4.9						
ASAR			PcP		**PcP**	**18 29 55.4**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=344,slow=2.0,SNR=9.8						
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**26.47 155**	P		**P**	**18 26 34.6**	**-0.5**
MORW	**Morawa**	**29.77 191**	P		**P**	**18 27 04.0**	**-0.3**
STKA	**Stephens Creek**	**36.98 152**	P		**P**	**18 28 07.8**	**+1.3**
	comp=Z,3.9nm,0.4s,baz=321,slow=8.1,SNR=7.9						
	comp=Z,3.9nm,0.4s						
STKA	**Stephens Creek**	**36.98 152**	P		**P**	**18 28 07.4**	**+0.9**
CAN	**Canberra**	**43.46 147**	P		**P**	**18 29 01.8**	**+2.1**
SONM	**Songino Array**	**49.25 346**	P		**P**	**18 29 46.2**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=164,slow=8.5,SNR=4.4						
	comp=Z,1.1nm,0.6s						
MK31	**Makanchi Array**	**57.85 329**	P		**P**	**18 30 48.5**	**+1.5**
MK31			IAmb		IAmb	18 31 05.2	
	comp=Z,9.2nm,1.4s						
MKAR	**Makanchi Array**	**57.85 329**	P		**P**	**18 30 48.5**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=128,slow=8.7,SNR=22						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**57.85 329**	P		**P**	**18 30 48.3**	**+1.3**
ZALV	**Zalesovo Beam**	**61.64 336**	P		**P**	**18 31 15.9**	**+3.3**
	comp=Z,0.4nm,0.3s,baz=127,slow=8.5,SNR=2.3						
	comp=Z,0.4nm,0.3s						
VNDA	**Vanda**	**80.69 172**	P		**P**	**18 33 07.1**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=321,slow=7.1,SNR=5.0						
	comp=Z,0.3nm,0.5s						

*SOME **28** 18:46:23.3, 44.˝40N×83.˝25E, h15km*
*NNC **28** 18:46:26.0±1.5, 44.˝46N×83.˝20E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=13.4km s-min=4.5km az=126.0
ISC 28 18:46:22.1±1.6, 44.˝36N±0.˝07×83.˝35E±0.˝07, h10km, n41,
σ1s99/60, 2C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.35**	**248**	*eP*		**Pg**		**18 47 08.2**	**+1.1**
	4.3nm,0.3s								
KTMS				*eS*		**Sg**		**18 47 40.3**	**+2.7**
	80nm,0.2s								
MK31	**Makanchi Array**	**2.54**	**343**	⇓Pg		**Pg**		**18 47 10.0**	**-0.8**
	2.0nm,0.3s,baz=158,slow=14,SNR=172								
MK31				⇑Lg		Lg		18 47 42.9	
	27nm,0.3s,baz=161,slow=29,SNR=25								
DJR	**Jarkent**	**2.55**	**271**	*eP*		**Pb**		**18 47 09.3**	**+1.4**
	1.7nm,0.2s								
DJR				*eS*		**Sg**		**18 47 42.6**	**-1.4**
	38nm,0.3s								
MAKZ	**Makanchi**	**2.63**	**339**	⇓Pg		**Pg**		**18 47 11.7**	**-0.7**
	2.7nm,0.3s								
MAKZ				⇓Lg		Lg		18 47 45.2	
	18nm,0.5s								
KNOS	**Konyrlen**	**2.99**	**271**	*eP*		**Pg**		**18 47 20.1**	**+0.8**
KNOS				*eS*		**Sg**		**18 48 00.0**	**+2.0**
SHLS	**Shalkode**	**3.06**	**248**	*eP*		**Pb**		**18 47 15.7**	**-1.0**
	6.6nm,0.1s								
SHLS				*eS*		**Sb**		**18 47 52.6**	**-1.5**
	125nm,0.3s								
ZSN	**Zaisan**	**3.27**	**18**	*eP*		**Pb**		**18 47 22.1**	**+2.0**
	8.2nm,0.1s								
ZSN				*eS*		**Sg**		**18 48 04.2**	**-2.7**
	72nm,0.4s								
ZSN	**Zaisan**	**3.27**	**18**	Pg		**Pb**		**18 47 22.1**	**+2.0**
	8.2nm,0.1s								
ZSN				Lg		Lg		18 48 04.2	
	66nm,0.6s								
UZB	**Uzynbulak**	**3.36**	**250**	*eP*		**Pg**		**18 47 24.8**	**-1.6**
	2.5nm,0.2s								
UZB				*eS*		**Sg**		**18 48 08.6**	**-1.4**
	18nm,0.4s								
UZB	**Uzynbulak**	**3.36**	**250**	Pg		**Pg**		**18 47 24.8**	**-1.6**
	2.5nm,0.2s								
UZB				Lg		Lg		18 48 08.6	
	18nm,0.4s								
KPKS	**Kokpek**	**3.49**	**257**	*eP*		**Pg**		**18 47 27.4**	**-1.4**
	7.5nm,0.2s								
KPKS				*eS*		**Sg**		**18 48 13.7**	**-0.3**
	75nm,0.2s								
KPKS	**Kokpek**	**3.49**	**257**	Pg		**Pg**		**18 47 27.4**	**-1.4**
	9.7nm,0.4s								
KPKS				Lg		Lg		18 48 13.7	
	71nm,0.2s								
BLB	**Baldybastay**	**3.51**	**267**	*eP*		**Pg**		**18 47 28.8**	**-0.5**
	3.0nm,0.1s								
BLB				*eS*		**Sg**		**18 48 15.2**	**+0.5**
	74nm,0.2s								
BLB	**Baldybastay**	**3.51**	**267**	Pg		**Pg**		**18 47 29.6**	**+0.3**
	6.7nm,0.2s								
BLB				Lg		Lg		18 48 15.2	
	74nm,0.2s								
TDK	**Taldyqorghan**	**3.58**	**282**	*eP*		**Pg**		**18 47 30.6**	**-0.1**
	5.3nm,0.2s								
TDK				*eS*		**Sg**		**18 48 18.1**	**+1.1**
	36nm,0.3s								
TDK	**Taldyqorghan**	**3.58**	**282**	Pg		**Pg**		**18 47 30.6**	**-0.1**
	5.3nm,0.2s								
TDK				Lg		Lg		18 48 18.1	
	36nm,0.3s								
ZHN	**Zhinishke**	**3.75**	**253**	*eP*		**Pg**		**18 47 33.1**	**-0.8**
	11nm,0.1s								
ZHN				*eS*		**Sg**		**18 48 22.9**	**+0.4**
	29nm,0.1s								
ZHN	**Zhinishke**	**3.75**	**253**	Pg		**Pg**		**18 47 33.1**	**-0.8**
	8.7nm,0.1s								
ZHN				Lg		Lg		18 48 22.9	
	22nm,0.2s								
SATY	**Saty**	**3.81**	**252**	*eP*		**Pb**		**18 47 30.4**	**+1.0**
	1.3nm,0.1s								
SATY				*eS*		**Sb**		**18 48 18.0**	**+2.3**
	11nm,0.1s								
KURS	**Kuram**	**3.84**	**259**	*eP*		**Pg**		**18 47 34.7**	**-0.9**
	1.0nm,0.2s								
KURS				*eS*		**Sg**		**18 48 24.8**	**-0.5**
	9.3nm,0.1s								
KURS	**Kuram**	**3.84**	**259**	Pg		**Pg**		**18 47 34.7**	**-0.9**
	0.8nm,0.2s								
KURS				Lg		Lg		18 48 24.8	
	9.0nm,0.4s								
ARXS	**Arharly**	**3.97**	**270**	*eP*		**Pg**		**18 47 37.3**	**-0.7**
	2.0nm,0.3s								
ARXS				*eS*		**Sg**		**18 48 29.6**	**+0.2**
	27nm,0.2s								
ARXS	**Arharly**	**3.97**	**270**	Pg		**Pg**		**18 47 37.7**	**-0.3**
	2.2nm,0.2s								
ARXS				Lg		Lg		18 48 29.6	
	27nm,0.2s								
KOTS	**Kotyrbulak**	**4.65**	**258**	*eP*		**Pg**		**18 47 49.3**	**-1.8**
	0.3nm,0.2s								
KOTS				*eS*		**Sg**		**18 48 50.5**	**-0.8**
	18nm,0.2s								
KOTS	**Kotyrbulak**	**4.65**	**258**	Pg		**Pg**		**18 47 50.1**	**-1.0**
	0.3nm,0.2s								
KOTS				Lg		Lg		18 48 50.5	
	21nm,0.5s								
MDOK	**Medeo**	**4.72**	**257**	*eP*		**Pg**		**18 47 52.1**	**-0.3**
	2.0nm,0.3s								
MDOK				*eS*		**Sg**		**18 48 55.4**	**+1.9**
	13nm,0.5s								
MDOK	**Medeo**	**4.72**	**257**	Pg		**Pg**		**18 47 55.7**	**+3.3**
	2.9nm,0.7s								
MDOK				⇑Lg		Lg		18 48 56.0	
	18nm,1.0s								
TNSS	**Tian-Shan**	**4.83**	**256**	*eP*		**Pb**		**18 47 50.4**	**+3.5**
	2.2nm,0.3s								
TNSS				*eS*		**Sg**		**18 48 51.8**	**-5.2**
	2.9nm,0.3s								
TNSS	**Tian-Shan**	**4.83**	**256**	Pg		**Pb**		**18 47 50.4**	**+3.5**
	1.3nm,0.2s								
TNSS				Lg		Lg		18 48 51.8	
	2.9nm,0.3s								
KTBS	**Karatobe**	**4.85**	**265**	*eP*		**Pg**		**18 47 51.9**	**-3.0**
	1.6nm,0.2s								
KTBS				*eS*		**Sg**		**18 48 54.9**	**-2.8**
	29nm,0.2s								
KTBS	**Karatobe**	**4.85**	**265**	Pg		**Pg**		**18 47 52.5**	**-2.4**
	1.5nm,0.2s								
KTBS				Lg		Lg		18 48 54.9	
	29nm,0.4s								
KUU	**Kurty**	**5.07**	**267**	*eP*		**Pg**		**18 47 55.8**	**-3.2**
	0.9nm,0.4s								
KUU				*eS*		**Sg**		**18 49 01.5**	**-3.1**
	5.9nm,0.1s								
KUU	**Kurty**	**5.07**	**267**	Pg		**Pg**		**18 47 55.8**	**-3.2**
	1.1nm,0.2s								
KUU				Lg		Lg		18 49 01.5	
	7.1nm,0.3s								
KST	**Kastek**	**5.51**	**259**	*eP*		**Pg**		**18 48 05.1**	**-2.5**
	2.0nm,0.4s								
KST				*eS*		**Sg**		**18 49 17.8**	**-1.2**
	13nm,0.4s								
KST	**Kastek**	**5.51**	**259**	Pg		**Pg**		**18 48 06.3**	**-1.3**
	4.1nm,0.6s								
KST				Lg		Lg		18 49 17.8	
	12nm,0.4s								
KRBS	**Karabastau**	**5.57**	**266**	*eP*		**Pg**		**18 48 06.6**	**-2.2**
	0.7nm,0.3s								
KRBS				*eS*		**Sg**		**18 49 19.7**	**-1.2**
	5.1nm,0.5s								
KRBS	**Karabastau**	**5.57**	**266**	Pg		**Pg**		**18 48 06.8**	**-1.9**
	0.7nm,0.3s								
KRBS				Lg		Lg		18 49 19.7	
	5.1nm,0.5s								
DGS	**Degeres**	**5.59**	**261**	*eP*		**Pg**		**18 48 06.0**	**-3.2**
	1.5nm,0.3s								
DGS				*eS*		**Sg**		**18 49 19.0**	**-2.7**
	13nm,0.4s								
DGS	**Degeres**	**5.59**	**261**	Pg		**Pg**		**18 48 06.9**	**-2.3**
	1.5nm,0.3s								
DGS				Lg		Lg		18 49 19.0	
	13nm,0.4s								
KURBB	**Kurchatov Arra**	**7.06**	**334**	⇓Lg		Lg		18 50 09.6	
	11nm,0.8s								
KURK	**Kurchatov**	**7.12**	**335**	⇓Lg		Lg		18 50 07.3	
	4.7nm,0.7s								

*IDC **28** 18:48:14.9±1.5, 3.˝34S×129.˝52E, h0km, mb3.8/2,*
mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=42.5km
s-min=22.2km az=96.0
*DJA **28** 18:48:15.8±0.3, 3.˝5S×12.˝9E±.˚, h10km, M3.8/10, mb4.3/1,*
mB4.5/1, MLv3.5/10, Mw(mB)3.7/1
ISC 28 18:48:15.9±0.9, 3.˝30S±0.˝06×129.˝40E±0.˝05, h10km, n13,
σ0s77/14, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.47**	**264**	P		**Pg**		**18 48 24.8**	**-0.3**
AAI	**Ambon**	**1.26**	**252**	P		**Pn**		**18 48 38.1**	**-1.5**
BNDI	**Bandanaira**	**1.32**	**157**	P		**Pn**		**18 48 40.9**	**+0.5**
NLAI	**Namlea**	**2.29**	**271**	P		**Pn**		**18 48 54.7**	**+0.9**
FAKI	**Fak Fak**	**2.87**	**83**	P		**Pn**		**18 49 01.6**	**-0.3**
SIJI	**Sorong**	**3.05**	**38**	Pn		**Pn**		**18 49 04.2**	**-0.1**
	7.5nm,0.3s,baz=258,slow=12,SNR=55								
SIJI						Sn		**18 49 40.9**	**-0.1**
	3.0nm,0.3s,baz=64,slow=20,SNR=11								
	22nm,0.3s								
LBMI	**Labuha**	**3.25**	**324**	P		**Pn**		**18 49 06.6**	**-0.4**
SANI	**Sanana**	**3.62**	**290**	P		**Pn**		**18 49 11.8**	**-0.3**
RKPI	**Ransiki, Papua**	**5.10**	**70**	P		**Pn**		**18 49 32.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**15.16**	**194**	Pn		**Pn**		**18 51 50.9**	**+0.5**
	0.1nm,0.3s,baz=0.4,slow=12,SNR=1.7								
	1.3nm,0.8s								
WRA	**Warramunga Arr**	**17.23**	**164**	Pn		**Pn**		**18 52 16.4**	**-0.6**
	0.1nm,0.3s,baz=347,slow=12,SNR=6.4								
WRA						Sn	Sn	18 55 17.9	-11
	baz=352,slow=23,SNR=2.7								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**20.71**	**168**	P		**P**		**18 52 56.0**	**-0.6**
	6.1nm,0.9s,baz=347,slow=10,SNR=28								
	6.1nm,0.9s								
MKAR	**Makanchi Array**	**64.83**	**326**	P		**P**		**18 58 56.4**	**+1.2**
	0.4nm,0.5s,baz=119,slow=9.3,SNR=6.4								
	0.4nm,0.5s								

IDC 28 19:09:20.1±2.4, 21.˝32N×143.˝59E, h0km, mb3.5/4,
mbtmp3.5/4, MS2.7/1, Error ellipse: s-maj=202.6km
s-min=26.1km az=112.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**22.44**	**233**	LR		LR	LR	19 24 57.6	
	comp=Z,19nm,18.1s,baz=186,slow=42								
WRA	**Warramunga Arr**	**41.99**	**193**	P		P		19 17 13.3	+0.1
	0.4nm,0.7s,baz=14,slow=8.5,SNR=7.5								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**45.70**	**192**	P		P		19 17 42.6	-0.4
	0.3nm,0.7s,baz=16,slow=7.9,SNR=2.3								
	0.3nm,0.7s								
ILAR	**Eielson Array**	**62.20**	**27**	P		P		19 19 43.5	+0.3
	0.3nm,0.4s,baz=270,slow=6.2,SNR=4.2								
	0.3nm,0.4s								
NVAR	**Mina Array Bea**	**83.08**	**52**	P		P		19 21 47.9	-0.3
	0.5nm,0.7s,baz=264,slow=4.5,SNR=4.4								
	0.5nm,0.7s								

IDC 28 19:37:03.5±2.5, 9.˝12S×112.˝24E, h0km, mb3.5/3,
mbtmp3.5/3, Error ellipse: s-maj=127.8km
s-min=27.2km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.91**	**119**	P		P	P	19 42 19.5	+0.2
	0.8nm,0.8s,baz=293,slow=11,SNR=12								
	0.8nm,0.8s								
ASAR	**Alice Springs**	**25.26**	**128**	P		P		19 42 31.6	-0.1
	0.8nm,0.7s,baz=303,slow=8.7,SNR=8.3								
	0.8nm,0.7s								
H08S2	**Diego Garcia H**	**39.34**	**269**	T		T		20 25 33.8	
	baz=96,slow=75,SNR=12								
H08S3	**Diego Garcia H**	**39.35**	**269**	T		T		20 25 35.3	
	baz=96,slow=75,SNR=12								
H08S1	**Diego Garcia H**	**39.36**	**269**	T		T		20 25 35.2	
	baz=96,slow=75,SNR=8.7								
MKAR	**Makanchi Array**	**61.74**	**337**	P		P		19 47 23.7	-0.1
	0.5nm,0.8s,baz=152,slow=7.8,SNR=4.4								
	0.5nm,0.8s								

IDC 28 19:42:11.0±3.5, 2.˝09S×138.˝99E, h0km, mb3.6/3,
mbtmp3.6/4, ML3.8/1, MS3.0/1, Error ellipse:
s-maj=120.9km s-min=26.6km az=89.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.82**	**279**	LR		LR	LR	19 47 18.3	
	comp=Z,97nm,18.4s,baz=87,slow=39								
WRA	**Warramunga Arr**	**18.32**	**194**	P		P	Pn	19 46 26.5	-0.2
	0.3nm,0.3s,baz=17,slow=12,SNR=8.7								
WRA				S		S	Sn	19 49 36.5	-15
	0.5nm,0.5s,baz=12,slow=23,SNR=3.1								
	0.9nm,0.7s								
FITZ	**Fitzroy Crossi**	**20.61**	**219**	P		P	P	19 46 52.0	0.0
	2.5nm,1.0s,baz=360,slow=7.5,SNR=2.0								
FITZ				S		S	S	19 50 24.2	-19
	1.2nm,0.7s,baz=360,slow=17,SNR=1.9								
	2.5nm,1.0s								
ASAR	**Alice Springs**	**22.01**	**193**	P		P	P	19 47 07.3	+0.3
	1.2nm,0.7s,baz=18,slow=11,SNR=14								
ASAR				S		S	S	19 51 04.6	-6.3
	2.3nm,1.1s,baz=9.5,slow=23,SNR=5.5								
	1.2nm,0.7s								
MKAR	**Makanchi Array**	**69.47**	**322**	P		P	P	19 53 21.2	-0.1
	0.6nm,0.6s,baz=105,slow=7.7,SNR=7.8								
	0.6nm,0.6s								

*CNRM **28** 19:50:03.8, 35.˝64N×7.˝45W, h66km, ml2.8*
*IGIL **28** 19:50:05.8, 35.˝82N×7.˝42W, h32km, ML2.7*
*MDD **28** 19:50:05.5±0.4, 35.˝81N×7.˝42W, h31km, mb_Lg3.4/33,*
Error ellipse: s-maj=3.4km s-min=2.2km az=24.0
*SFS **28** 19:50:05.0, 35.˝80N×7.˝40W, h32km, ML3.5, GOLFO DE CADIZ*
*INMG **28** 19:50:06.8±1.6, 35.˝84N×7.˝40W, h30km±11km, ML2.8,*
Error ellipse: s-maj=7.2km s-min=3.1km az=22.0
*LDG **28** 19:50:08.4±0.4, 36.˝23N×7.˝14W, h30km, Ml3.2/6, Error*
ellipse: s-maj=8.3km s-min=4.1km az=14.0
ISC 28 19:50:03.5±1.1, 35.˝82N±0.˝04×7.˝37W±0.˝03, h35km, n105,
σ2s11/178, 2C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFARO	**Faro**	**1.29**	**340**	*eS*		**Sn**		**19 50 42.2**	**+1.2**
PFARO						A	A	19 50 45.7	
	408nm,0.5s								
PTAV	**Tavira**	**1.32**	**350**	*eS*		**Sn**		**19 50 43.4**	**+1.4**
PTAV						A	A	19 50 52.3	
	404nm,0.6s								
PALBU	**Albufeira**	**1.46**	**331**	*eS*		**Sn**		**19 50 45.8**	**+0.5**
PALBU						A	A	19 50 53.0	
	260nm,0.5s								
PBDV	**Barranco-do-Ve**	**1.49**	**343**	*eP*		**Pn**		**19 50 28.0**	**+0.1**
PBDV				*eS*		**Sn**		**19 50 45.0**	**-1.2**
PBDV						A	A	19 50 47.4	
	60nm,0.3s								
PVAQ	**Vaqueiros**	**1.61**	**350**	*eP*		**Pn**		**19 50 30.9**	**+1.5**
PVAQ				*eS*		**Sn**		**19 50 49.0**	**0.0**
PVAQ						A	A	19 50 50.9	
	211nm,0.4s								
PVAQ	**Vaqueiros**	**1.61**	**350**	P		**Sn**		**19 50 48.3**	**-0.7**
PVAQ	**Vaqueiros**	**1.61**	**350**	P		**Pn**		**19 50 30.1**	**+0.7**
PVAQ				S		**Sn**		**19 50 54.8**	**+5.8**
ESPR	**Espera**	**1.61**	**49**	P		**Pn**		**19 50 31.5**	**+2.0**
ESPR				S		**Sn**		**19 50 50.3**	**+1.2**
ESPR				*i*	Vmb_Lg			19 50 52.8	
PPOR	**Portimao**	**1.61**	**325**	*eS*		**Sn**		**19 50 49.8**	**+0.7**
SMIR	**Smir Dam**	**1.62**	**94**	P		**Pn**		**19 50 32.2**	**+2.6**
SMIR	**Smir Dam**	**1.62**	**94**	P		**Pn**		**19 50 32.3**	**+2.6**
SMIR				S		**Sn**		**19 50 51.7**	**+2.3**
PLAGO	**Lagos**	**1.66**	**321**	*eS*		**Sn**		**19 50 51.0**	**+0.8**
EJIF	**Jimena Fronter**	**1.67**	**67**	P		**Pn**		**19 50 33.2**	**+3.0**
EJIF				S		**Sn**		**19 50 51.6**	**+1.2**
EGRO	**El Granado**	**1.72**	**357**	P		**Pn**		**19 50 32.6**	**+1.7**
EGRO				S		**Sn**		**19 50 52.0**	**+0.4**
EGRO				*i*	Vmb_Lg			19 50 53.4	
PFVI	**Vila Bisbo**	**1.76**	**319**	*ePn*		**Pn**		**19 50 32.6**	**+1.1**
PFVI				*eSn*		**Sn**		**19 50 52.5**	**-0.2**
PFVI						A	A	19 50 56.8	
	29nm,0.2s								
PFVI	**Vila Bisbo**	**1.76**	**319**	P		**Pn**		**19 50 32.8**	**+1.3**
PFVI				S		**Sn**		**19 50 56.4**	**+3.7**
MORF	**Marmelete**	**1.81**	**326**	*eP*		**Pn**		**19 50 33.2**	**+1.0**
MORF				*eS*		**Sn**		**19 50 53.0**	**-0.9**
MORF				IAML				19 50 55.9	
	comp=N,73nm,0.1s								
MORF	**Marmelete**	**1.81**	**326**	⇓*ePn*		**Pn**		**19 50 33.2**	**+1.0**
MORF				*eSn*		**Sn**		**19 50 53.7**	**-0.3**
MORF						A	A	19 50 58.9	
	comp=N,58nm,0.

AKLM	**AKL**	**3.16**	**113**	P		**Pn**	**19 50 50.1**	**-0.7**
AKLM				S		**Sn**	**19 51 24.9**	**-2.4**
PACT	**Alcochete**	**3.17**	**339**⇑	*e*Pn		**Pn**	**19 50 53.0**	**+2.1**
PACT				*e*Sn		**Sn**	**19 51 27.3**	**-0.1**
PACT				A		A	19 51 34.9	
	comp=N,20nm,0.7s							
ELGU	**Los Guajares,**	**3.20**	**70**	P		**Pn**	**19 50 52.5**	**+1.1**
ELGU				S		**Sn**	**19 51 27.8**	**-0.5**
ELGU				*i* Vmb_Lg			19 51 35.7	
EADA	**Adamuz**	**3.24**	**43**	P		**Pn**	**19 50 53.4**	**+1.4**
EADA				S		**Sn**	**19 51 29.6**	**+0.3**
EADA				*i* Vmb_Lg			19 51 32.1	
PMST	**Lisbon--Monsan**	**3.25**	**334**	*e*Pn		**Pn**	**19 50 54.4**	**+2.3**
PMST				*e*Sn		**Sn**	**19 51 30.0**	**+0.5**
PMST				A		A	19 51 30.9	
	comp=N,22nm,0.6s							
PMTG	**Montargil**	**3.32**	**348**	*e*Pn		**Pn**	**19 50 54.5**	**+1.6**
PMTG				*e*Sn		**Sn**	**19 51 30.3**	**-0.8**
PMTG				A		A	19 51 33.5	
	comp=N,16nm,0.1s							
SRHM	**Skhour des Reh**	**3.37**	**188**	P		**Pn**	**19 50 54.9**	**+1.2**
SRHM				S		**Sn**	**19 51 35.2**	**+2.8**
EQUE	**Quentar**	**3.46**	**65**	P		**Pn**	**19 50 57.7**	**+2.7**
EQUE				S		**Sn**	**19 51 34.4**	**-0.3**
EQUE				*i* Vmb_Lg			19 51 39.7	
PMAFR	**Mafra**	**3.48**	**335**⇑	*e*Pn		**Pn**	**19 50 56.9**	**+1.7**
PMAFR				*e*Sn		**Sn**	**19 51 34.4**	**-0.8**
PMAFR				A		A	19 51 36.7	
	comp=N,35nm,0.2s							
PMRV	**Marv??o**	**3.60**	**360**	*e*Pn		**Pn**	**19 50 58.6**	**+1.7**
PMRV				*e*Sn		**Sn**	**19 51 37.2**	**-1.1**
PMRV				A		A	19 51 39.6	
	comp=N,14nm,0.2s							
GOG	**Mont Gurugu**	**3.62**	**98**	P		**Pn**	**19 50 58.2**	**+1.0**
GOG				S		**Sn**	**19 51 39.5**	**+0.8**
MD31	**MD31**	**3.65**	**143**	P		**Pn**	**19 50 58.2**	**+0.5**
MD31				S		**Sn**	**19 51 37.7**	**-1.8**
MDT	**Midelt**	**3.77**	**142**	P		**Pn**	**19 51 00.6**	**+1.3**
MDT				S		**Sn**	**19 51 40.4**	**-2.0**
EBER	**Berja**	**3.77**	**72**	P		**Pn**	**19 51 08.8**	**+1.4**
EBER				S		**Sn**	**19 51 42.0**	**-0.7**
EBER				*i* Vmb_Lg			19 51 45.0	
PSBE	**So Bento**	**3.86**	**343**	*e*Pn		**Pn**	**19 51 02.3**	**+1.9**
PSBE				*e*Sn		**Sn**	**19 51 44.9**	**+0.3**
PSBE				A		A	19 52 06.2	
	comp=N,13nm,0.7s							
EQES	**Quesada**	**3.98**	**59**	P		**Pn**	**19 51 04.3**	**+2.1**
EQES				S		**Sn**	**19 51 46.4**	**-1.2**
EQES				*i* Vmb_Lg			19 51 51.1	
PCBR	**Castelo Branco**	**4.02**	**359**	*e*Pn		**Pn**	**19 51 04.5**	**+1.9**
PCBR				*e*Sn		**Sn**	**19 51 47.2**	**-1.2**
PCBR				A		A	19 51 49.9	
	comp=N,14nm,0.5s							
TAF	**Taforalt**	**4.18**	**102**	P		Pn	19 51 03.0	-1.9
TAF	**Taforalt**	**4.18**	**102**	P		**Pn**	**19 51 06.0**	**+1.2**
TAF				S		**Sn**	**19 51 53.2**	**+0.8**
JBK	**JBK**	**4.21**	**109**	P		**Pn**	**19 51 05.9**	**+0.5**
JBK				S		**Sn**	**19 51 51.4**	**-2.0**
PCAS	**Casmilo, Conde**	**4.32**	**348**	*e*Pn		**Pn**	**19 51 08.5**	**+1.7**
PCAS				*e*Sn		**Sn**	**19 51 55.9**	**0.0**
PCAS				A		A	19 52 22.2	
	comp=N,6.8nm,0.8s							
EPLA	**Plasencia**	**4.36**	**13**	P		**Pn**	**19 51 08.4**	**+1.1**
EPLA				S		**Sn**	**19 51 55.6**	**-1.3**
EPLA				*i* Vmb_Lg			19 51 57.3	
PAB	**San Pablo**	**4.43**	**32**	P		**Pn**	**19 51 10.0**	**+1.7**
PAB				S		**Sn**	**19 51 56.4**	**-2.2**
PAB				*i* Vmb_Lg			19 51 58.2	
EAH	**EAH**	**4.55**	**205**	P		**Pn**	**19 51 10.2**	**+0.3**
EAH	**EAH**	**4.55**	**205**	P		**Pn**	**19 51 09.7**	**-0.2**
EAH				S		**Sn**	**19 51 58.3**	**-3.2**
MTE	**Manteigas**	**4.58**	**358**	*e*Pn		**Pn**	**19 51 12.2**	**+1.9**
MTE				*e*Sn		**Sn**	**19 52 01.0**	**-1.3**
MTE				A		A	19 52 06.0	
	comp=N,12nm,0.5s							
OUK	**Oukaimeden**	**4.62**	**185**	P		**Pn**	**19 51 11.6**	**+0.4**
OUK				S		**Sn**	**19 51 60.0**	**-3.7**
ESDC	**Sonseca Array**	**4.70**	**34**	S		**Sn**	**19 52 03.7**	**-1.7**
ESDC				*i* Vmb_Lg			19 52 05.0	
PVIS	**Viseu**	**4.91**	**355**	*e*Pn		**Pn**	**19 51 16.7**	**+1.8**
PVIS				*e*Sn		**Sn**	**19 52 09.5**	**-0.9**
EMUR	**La Murta**	**5.32**	**66**	S		**Sn**	**19 52 18.6**	**-1.9**
TTIG	**Tnine Tigouga,**	**5.33**	**190**	P		Pn	19 51 18.0	-2.8
TTIG	**Tnine Tigouga,**	**5.33**	**190**	P		Pn	19 51 18.0	-2.8
TTIG				S		**Sn**	**19 52 16.8**	**-4.3**
MVO	**Moncorvo**	**5.35**	**3**	*e*Pn		**Pn**	**19 52 22.6**	**+1.7**
MVO				*e*Sn		**Sn**	**19 52 18.8**	**-2.4**
MVO				A		A	19 52 22.1	
	comp=N,15nm,0.3s							
PTO	**Porto**	**5.40**	**350**	*e*Sn		**Sn**	**19 52 20.4**	**-2.0**
ETOB	**Tobarra**	**5.44**	**57**	P		**Pn**	**19 51 23.5**	**+1.4**
ETOB				S		**Sn**	**19 52 21.5**	**-2.0**
ETOB				*i* Vmb_Lg			19 52 23.6	
GUD	**Guadarrama**	**5.44**	**27**	P		**Pn**	**19 51 23.5**	**+1.2**
GUD				S		**Sn**	**19 52 21.3**	**-2.4**
GUD				*i* Vmb_Lg			19 52 25.4	
PVRL	**Vila Real**	**5.46**	**357**	*e*Sn		**Sn**	**19 52 21.1**	**-2.8**
PVRL				A		A	19 52 25.7	
	comp=N,13nm,0.1s							
UCM	**Universidad Co**	**5.54**	**35**	P		**Pn**	**19 51 26.0**	**+2.4**
UCM				S		**Sn**	**19 52 23.4**	**-2.6**
POLO	**Lamas de Olo**	**5.56**	**357**	*e*Pn		**Pn**	**19 51 25.5**	**+1.7**
POLO				*e*Sn		**Sn**	**19 52 24.1**	**-2.4**
POLO				A		A	19 52 27.1	
	comp=N,3.9nm,0.3s							
PCAB	**Cabril**	**5.91**	**355**	*e*Pn		**Pn**	**19 51 30.6**	**+2.0**
PCAB				*e*Sn		**Sn**	**19 52 31.1**	**-3.9**
PCAB				A		A	19 52 36.0	
	comp=N,10nm,0.1s							
PBRG	**Braganca**	**6.00**	**5**	*e*Pn		**Pn**	**19 51 31.8**	**+2.0**
PBRG				*e*Sn		**Sn**	**19 52 35.0**	**-2.3**
PBRG				A		A	19 52 37.1	
	comp=N,5.2nm,0.1s							
ELOB	**Lobios**	**6.07**	**355**	P		**Pn**	**19 51 32.1**	**+1.3**
ELOB				S		**Sn**	**19 52 36.5**	**-2.5**
ELOB				*i* Vmb_Lg			19 52 39.9	
ECAL	**Calabor**	**6.13**	**4**	P		**Pn**	**19 51 33.7**	**+2.0**
ECAL				S		**Sn**	**19 52 38.0**	**-2.7**
ECAL				*i* Vmb_Lg			19 53 33.1	
PGAV	**Gavieira, Arco**	**6.18**	**354**	*e*Pn		**Pn**	**19 51 34.1**	**+1.7**
PGAV				*e*Sn		**Sn**	**19 52 39.3**	**-2.5**
PGAV				A		A	19 52 42.5	
	comp=N,6.2nm,0.5s							
ECHE	**Chera**	**6.32**	**52**	P		**Pn**	**19 51 35.9**	**+1.6**
ECHE				S		**Sn**	**19 52 42.6**	**-2.7**
ECHE				*i* Vmb_Lg			19 55 19.2	
EZAM	**Zamans**	**6.41**	**351**	P		**Pn**	**19 51 36.9**	**+1.5**
EZAM				*i* Vmb_Lg			19 52 53.0	
ETOR	**Torete**	**6.51**	**38**	P		**Pn**	**19 51 39.3**	**+2.4**
ETOR				S		**Sn**	**19 52 46.3**	**-3.7**
ETOR				*i* Vmb_Lg			19 52 52.0	
EAGO	**Agolada(Pontev**	**7.00**	**356**	P		**Pn**	**19 51 45.2**	**+1.7**
EAGO				S		**Sn**	**19 52 57.9**	**-4.0**
EAGO				*i* Vmb_Lg			19 53 02.3	
EMOS	**Mosqueruela**	**7.08**	**48**	P		**Pn**	**19 51 46.1**	**+1.2**
EMOS				S		**Sn**	**19 53 00.7**	**-3.5**
EMOS				*i* Vmb_Lg			19 53 10.4	
EMAZ	**Mazaricos**	**7.23**	**351**	P		**Pn**	**19 51 48.6**	**+1.9**
EMAZ				S		**Sn**	**19 53 03.3**	**-4.3**
EMAZ				*i* Vmb_Lg			19 53 06.7	
EPON	**Pontenova**	**7.50**	**1**	S		**Sn**	**19 53 09.9**	**-4.4**
EARI	**Arriondas**	**7.66**	**12**	S		**Sn**	**19 53 13.3**	**-4.8**
ERTA	**Horta de San J**	**7.93**	**47**	P		**Pn**	**19 51 58.6**	**+2.3**
ERTA				S		**Sn**	**19 53 20.4**	**-4.4**
ERTA				*i* Vmb_Lg			19 53 59.7	
ELAN	**Lanestosa**	**8.00**	**21**	P		**Pn**	**19 51 59.1**	**+1.8**
ELAN				S		**Sn**	**19 53 21.8**	**-4.8**
ELAN				*i* Vmb_Lg			19 53 29.7	
TANT	**Tantan**	**8.08**	**205**	P		Pn	19 51 56.0	-2.4
TANT				S		**Sn**	**19 53 23.5**	**-5.1**
EORO	**Oroz-Betelu**	**8.48**	**32**	P		**Pn**	**19 52 05.7**	**+1.8**
EORO				*i* Vmb_Lg			19 53 29.2	
EORO				S		**Sn**	**19 53 33.8**	**-4.6**
EALK	**Alkurruntz**	**8.67**	**30**	P		**Pn**	**19 52 08.0**	**+1.6**
EALK				S		**Sn**	**19 53 38.4**	**-4.6**
EALK				*i* Vmb_Lg			19 53 42.6	
SJPF	**Ste Jean**	**8.70**	**31**	*e*P		**Pn**	**19 52 10.0**	**+3.2**
SJPF				*e*Sn		Sn	19 53 29.6	-14
	comp=N,3.2nm,0.4s							
ETSF	**Etsaut**	**8.82**	**35**	*e*P		**Pn**	**19 52 10.3**	**+1.7**
ETSF				*e*Sn		Sn	19 53 32.8	-14
	comp=N,2.0nm,0.4s							
ECHI	**Chisagues Biel**	**9.01**	**38**	P		**Pn**	**19 52 13.2**	**+2.0**
ECHI				S		**Sn**	**19 53 47.7**	**-3.7**
EPF	**Esparros**	**9.35**	**37**	*e*P		**Pn**	**19 52 18.4**	**+2.6**
EPF				*e*Sn		Sn	19 53 45.4	-14
	comp=N,1.7nm,0.3s							
MTLF	**Montolieu**	**10.54**	**42**	*e*Pn		Pn	19 52 30.0	-2.1
MTLF	**Montolieu**	**10.54**	**42**	*e*P		**Pn**	**19 52 35.5**	**+3.4**
MTLF				*e*Sn		Sn	19 54 14.6	-14
	comp=N,0.8nm,0.4s							
LFF	**La Frestale**	**11.01**	**32**	*e*Sn		Sn	19 54 25.1	-15
	comp=N,1.3nm,0.3s							
MFF	**Saint Martin d**	**12.06**	**25**	*e*P		**Pn**	**19 52 54.9**	**+2.0**

*IDC **28** 20:36:48.7±4.9,30°.53N×141°.78E,h0km,mb3.8/7, mbtmp3.8/8,ML2.8/1,MS2.9/2,Error ellipse: s-maj=112.8km s-min=70.2km az=94.0*
*JMA **28** 20:36:55.0±0.4,31°.2N±°,×14°.3E±°,h148km,MV3.2/19, FAR E OFF IZU ISLANDS*
ISC 28 20:36:53.6±1.9,31°.0N±0°.1×142°.6E±0°.3,h37km,n18, σ1§38/19,mb3.8/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.90**	**340**	*e*P	**Pn**		**20 37 52.0**	**+1.7**
BSO1				*e*S	**Sn**		**20 38 35.8**	**+1.2**
BSO2	**Boso 2**	**4.05**	**338**	*e*S	**Sn**		**20 38 40.4**	**+1.6**
JOD2	**Odawara 2**	**5.17**	**327**	*e*P	**Pn**		**20 38 09.7**	**+1.4**
JHU	**Hanno**	**5.58**	**331**	*e*P	**Pn**		**20 38 14.6**	**+0.6**
JHU				*e*S	**Sn**		**20 39 17.2**	**+0.4**
JHO	**Hitachi**	**5.85**	**344**	*e*P	**Pn**		**20 38 18.2**	**+0.4**
JRY	**Ryogami san**	**5.88**	**330**	*e*P	**Pn**		**20 38 18.6**	**+0.4**
JAG	**Ashikaga**	**6.01**	**335**	*e*P	**Pn**		**20 38 20.1**	**+0.1**
JFK	**Kawauchi**	**6.52**	**348**	*e*S	**Sn**		**20 39 36.9**	**-3.2**
MJAR	**Matsushiro Arr**	**6.62**	**328**	Pn	**Pn**		**20 38 28.5**	**+0.2**
	0.2nm,0.3s,baz=158,slow=11,SNR=17							
MJAR				Sn	**Sn**		**20 39 41.5**	**-1.1**
	0.1nm,0.3s,baz=160,slow=18,SNR=4.9							
	4.4nm,0.7s							
KSRS	**Korea Array**	**13.72**	**302**	LR	LR		20 45 07.8	
	comp=Z,41nm,18.4s,baz=120,slow=37							
KLR	**Kul'dur**	**19.98**	**339**	P	**Pn**		**20 41 23.8**	**-0.7**
	0.7nm,0.3s,baz=132,slow=19,SNR=2.0							
	0.7nm,0.3s							
SONM	**Songino Array**	**32.26**	**312**	LR	LR		20 55 09.8	
	comp=Z,26nm,18.6s,baz=50,slow=34							
ZALV	**Zalesovo Beam**	**46.83**	**317**	P	**P**		**20 45 19.8**	**+0.2**
	0.3nm,0.3s,baz=99,slow=7.4,SNR=2.0							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**48.33**	**307**	P	**P**		**20 45 29.1**	**-2.4**
	0.6nm,0.7s,baz=99,slow=9.2,SNR=5.8							
	0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**50.62**	**312**	P	**P**		**20 45 48.1**	**-0.7**
	0.7nm,0.6s,baz=86,slow=7.5,SNR=11							
	0.7nm,0.6s							
BVAR	**Borovoye Array**	**55.45**	**316**	P	**P**		**20 46 24.1**	**-0.3**
	0.3nm,0.5s,baz=79,slow=7.7,SNR=4.6							
	0.3nm,0.5s							
ARU	**Arti**	**61.59**	**321**	P	**P**		**20 47 06.9**	**-0.1**
	2.1nm,0.5s,baz=74,slow=8.5,SNR=6.4							
	2.1nm,0.5s							
FINES	**FINESS Array B**	**74.62**	**334**	P	**P**		**20 48 30.3**	**+1.7**
	2.3nm,1.0s,baz=39,slow=5.3,SNR=3.5							
	2.3nm,1.0s							

*BJI **28** 20:36:57.6±0.0,21°.69S×179°.08W,h574km,mb4.7/31, mB5.0/14*
*IDC **28** 20:37:00.9±0.9,21°.74S×179°.43W,h589km±9km,mb3.9/20, mbtmp4.8/22,Error ellipse: s-maj=13.4km s-min=9.9km az=89.0*
*NOU **28** 20:37:00.4,21°.89S×179°.24W,h596km,mb5.0/77,Fiji Islands Region*
*NEIC **28** 20:37:01.3±1.5,21°.85S±0°.10×179°.4W±0°.1,h588km±5km, mb4.6/133,Error ellipse: s-maj=15.3km s-min=13.7km az=73.0*
ISC 28 20:37:00.5±0.3,21°.87S±0°.05×179°.34W±0°.05,h592km, n480,σ1§13/505,mb4.6/113,30C-16D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.79**	**329**	P	**P**		**20 38 32.0**	**+0.6**
	568nm,0.5s,baz=177,slow=5.3,SNR=1363							
MSVF				S	**S**		**20 39 44.9**	**-0.6**
	63nm,0.9s,baz=339,slow=21,SNR=0.8							
MSVF	**Nonsavu**	**4.79**	**329**	P	**P**		**20 38 31.8**	**+0.4**
MSVF	**Nonsavu**	**4.79**	**329**	P	**P**		**20 38 32.2**	**+0.8**
RAO	**Raoul Island**	**7.46**	**170**	P	P		20 38 48.4	-5.9
	216nm,0.3s,baz=48,slow=20,SNR=3.0							
RAO				S	**S**		**20 40 25.5**	**-2.1**
	422nm,0.5s,baz=82,slow=21,SNR=2.6							
RAO	**Raoul Island**	**7.46**	**170**	P	**P**		**20 38 53.9**	**-0.4**
RAO	**Raoul Island**	**7.46**	**170**	P	**P**		**20 38 54.0**	**-0.3**
NIUE	**Niue**	**9.25**	**74**	P	**P**		**20 39 11.5**	**-0.2**
	baz=9.2,SNR=11							
NIUE	**Niue**	**9.25**	**74**	P	**P**		**20 39 11.4**	**-0.2**
NIUE	**Niue**	**9.25**	**74**	P	**P**		**20 39 11.5**	**-0.2**
AFI	**Afiamalu**	**10.70**	**44**	S	**S**		**20 41 19.8**	**-6.2**
	24nm,0.3s,baz=149,slow=23,SNR=5.7							
AFI	**Afiamalu**	**10.70**	**44**	P	**P**		**20 39 23.4**	**-2.9**
MARNC	**Mare, Loyalty**	**11.75**	**270**	P	**P**		**20 39 36.6**	**0.0**
MARNC	**Mare, Loyalty**	**11.75**	**270**	P	**P**		**20 39 36.4**	**-0.2**
	2.5nm,0.6s							
RTV	**Rentapao**	**12.20**	**287**	P	**P**		**20 39 42.8**	**+1.5**
	85nm,0.6s							
PINNC	**Pines Island,**	**12.26**	**264**	P	**P**		**20 39 42.1**	**+0.3**
DVP	**Devils Point**	**12.44**	**287**	P	**P**		**20 39 45.2**	**+1.5**
	365nm,0.7s							
LIFNC	**LIFOU**	**12.55**	**273**	P	**P**		**20 39 43.6**	**-1.2**
LIFNC	**LIFOU**	**12.55**	**273**	P	**P**		**20 39 45.5**	**+0.7**
YATNC	**Mamie plateau,**	**12.78**	**267**	P	**P**		**20 39 47.1**	**0.0**
ONTNC	**Ouen Toro**	**13.18**	**265**		**P**		**20 39 50.6**	**-0.5**
DZM	**Mont Dzumac**	**13.19**	**266**	*e*P	**P**		**20 39 49.9**	**-1.5**
	83nm,0.8s							
DZM				*e*S	**S**		**20 42 07.2**	**-4.7**
	328nm,25.8s							
DZM	**Mont Dzumac**	**13.19**	**266**	P	**P**		**20 39 50.9**	**-0.5**
	47nm,0.6s,baz=84,slow=18,SNR=46							
OUZ	**Omahuta**	**14.67**	**203**	P	**P**		**20 40 06.8**	**+1.2**
OUZ	**Omahuta**	**14.67**	**203**	P	**P**		**20 40 05.6**	**0.0**
KOUNC	**Koumac, New Ca**	**15.32**	**272**	P	**P**		**20 40 13.1**	**+1.2**
URZ	**Urewera**	**16.62**	**190**	P	**P**		**20 40 20.8**	**-2.8**
	7.6nm,0.3s,baz=339,slow=3.0,SNR=10							
URZ				S	**S**		**20 43 01.8**	**-7.2**
	10nm,0.5s,baz=115,slow=23,SNR=14							
URZ	**Urewera**	**16.62**	**190**	P	**P**		**20 40 20.5**	**-3.1**
URZ				IAmb	IAmb		20 40 23.1	
	comp=Z,17nm,0.8s							
URZ	**Urewera**	**16.62**	**190**	P	**P**		**20 40 21.9**	**-1.7**
BKZ	**Black Stump Fm**	**17.61**	**191**	P	**P**		**20 40 30.9**	**-1.8**
BKZ				IAmb	IAmb		20 40 49.2	
	comp=Z,33nm,1.4s							
BKZ	**Black Stump Fm**	**17.61**	**191**	P	**P**		**20 40 31.5**	**-1.2**
RAR	**Rarotonga**	**18.22**	**92**	P	**P**		**20 40 35.3**	**-3.2**
	comp=Z,23nm,0.9s,baz=349,slow=19,SNR=3.7							
BFZ	**Birch Farm**	**19.12**	**190**	P	**P**		**20 40 45.5**	**-0.9**
BFZ	**Birch Farm**	**19.12**	**190**	P	**P**		**20 40 46.3**	**-0.1**
QRZ	**Quartz Range**	**20.11**	**198**	P	**P**		**20 40 56.1**	**+0.7**
QRZ	**Quartz Range**	**20.11**	**198**	P	**P**		**20 40 56.2**	**+0.8**
TUWZ	**Tuamarina**	**20.31**	**195**	P	**P**		**20 40 58.7**	**+1.6**
BSWZ	**Blackbirch Sta**	**20.59**	**195**	P	**P**		**20 40 59.6**	**-0.1**
THZ	**Tophouse**	**20.88**	**196**	P	**P**		**20 41 02.6**	**+0.3**
THZ				IAmb	IAmb		20 41 43.8	
	comp=Z,19nm,1.1s							
KHZ	**Kahutara**	**21.34**	**195**	P	**P**		**20 41 04.8**	**-1.5**
KHZ	**Kahutara**	**21.34**	**195**	P	**P**		**20 41 05.2**	**-1.1**
FOZ	**Fox Glacier**	**23.41**	**200**	P	**P**		**20 41 24.9**	**+0.2**
FOZ				IAmb	IAmb		20 41 27.4	
	comp=Z,11nm,0.9s							
TARA	**Tarawa**	**24.29**	**341**	P	**P**		**20 41 33.0**	**+0.1**
WKZ	**Wanaka**	**24.82**	**200**	P	**P**		**20 41 37.3**	**0.0**
MLZ	**Mavora Lakes**	**25.59**	**201**	P	**P**		**20 41 44.7**	**+0.6**
MLZ				IAmb	IAmb		20 42 00.3	
	comp=Z,7.3nm,0.9s							
WHZ	**Wether Hill Ro**	**26.11**	**200**	P	**P**		**20 41 49.9**	**+1.3**
WHZ				IAmb	IAmb		20 42 09.2	
	comp=Z,23nm,1.2s							
EIDS	**Eidsvold**	**27.29**	**257**	P	**P**		**20 41 59.6**	**+0.3**
	baz=27,SNR=38							
EIDS	**Eidsvold**	**27.29**	**257**	P	**P**		**20 41 59.6**	**+0.3**
EIDS	**Eidsvold**	**27.29**	**257**	P	**P**		**20 41 59.6**	**+0.3**
ARMA	**Armidale**	**27.35**	**246**	P	**P**		**20 42 01.4**	**+1.6**
	baz=27,SNR=24							
ARMA	**Armidale**	**27.35**	**246**	P	**P**		**20 42 01.5**	**+1.6**
ARMA	**Armidale**	**27.35**	**246**	P	**P**		**20 42 01.3**	**+1.4**
RK1H	**Rockhampton Ha**	**27.86**	**261**	P	**P**		**20 42 04.8**	**+0.6**
SYDH	**Sydney Hard Ro**	**28.88**	**239**	P	**P**		**20 42 14.6**	**+1.7**
RMQ	**Roma**	**29.42**	**255**	P	**P**		**20 42 19.0**	**+1.4**
	baz=29,SNR=30							
RMQ	**Roma**	**29.42**	**255**	P	**P**		**20 42 19.1**	**+1.4**
CNB	**Canberra Magne**	**30.43**	**237**	P	**P**		**20 42 27.6**	**+1.3**
	baz=30,SNR=43							
CNB	**Canberra Magne**	**30.43**	**237**	P	**P**		**20 42 27.8**	**+1.5**
CAN	**Canberra**	**30.71**	**237**	P	**P**		**20 42 29.1**	**+0.3**
CAN				IAmb	IAmb		20 42 31.2	
	comp=Z,26nm,0.9s							
CTA	**Charters Tower**	**32.13**	**267**	P	**P**		**20 42 41.1**	**+0.1**
CTAO	**Charters Tower**	**32.13**	**267**	P	**P**		**20 42 41.3**	**+0.3**
CTAO	**Charters Tower**	**32.13**	**267**	P	**P**		**20 42 41.1**	**+0.1**
CMSA	**Cobar Meteorol**	**32.57**	**245**	P	**P**		**20 42 45.2**	**+0.7**
	baz=33,SNR=42							
CMSA	**Cobar Meteorol**	**32.57**	**245**	P	**P**		**20 42 45.2**	**+0.7**
QLP	**Quilpie**	**33.47**	**255**	P	**P**		**20 42 52.5**	**+0.4**
	baz=34,SNR=7.3							
TOO	**Toolangi**	**34.08**	**235**	P	**P**		**20 42 58.0**	**+0.9**
	baz=34,SNR=22							
TOO	**Toolangi**	**34.08**	**235**	P	**P**		**20 42 58.0**	**+0.9**
TOO	**Toolangi**	**34.08**	**235**	P	**P**		**20 42 58.0**	**+0.9**
MTSU	**Mount Surprise**	**34.30**	**270**	P	**P**		**20 42 59.4**	**+0.2**
	baz=34,SNR=40							
MTSU	**Mount Surprise**	**34.30**	**270**	P	**P**		**20 42 59.4**	**+0.2**
PMG	**Port Moresby**	**34.47**	**286**	P	**P**		**20 43 00.6**	**+0.1**
PMG	**Port Moresby**	**34.47**	**286**	P	**P**		**20 43 00.7**	**+0.1**
PMG	**Port Moresby**	**34.47**	**286**	P	**P**		**20 43 00.6**	**+0.1**
PATS	**Pohnpei**	**35.97**	**320**	P	**P**		**20 43 12.9**	**0.0**
STKA	**Stephens Creek**	**36.07**	**246**	P	**P**		**20 43 14.5**	**+0.8**
	comp=Z,32nm,0.5s,baz=93,slow=11,SNR=59							
	comp=Z,32nm,0.5s							
STKA	**Stephens Creek**	**36.07**	**246**	P	**P**		**20 43 14.3**	**+0.7**
	baz=36,SNR=54							
STKA	**Stephens Creek**	**36.07**	**246**	P	**P**		**20 43 14.4**	**+0.7**
STKA				IAmb	IAmb		20 43 14.9	
	comp=Z,7.3nm,0.6s							
STKA	**Stephens Creek**	**36.07**	**246**	P	**P**		**20 43 14.5**	**+0.8**
COEN	**Coen**	**36.45**	**276**	P	**P**		**20 43 17.0**	**+0.1**
	baz=36,SNR=45							
COEN	**Coen**	**36.45**	**276**	P	**P**		**20 43 17.3**	**+0.3**
COEN	**Coen**	**36.45**	**276**	P	**P**		**20 43 17.5**	**+0.6**
INKA	**Innaminka**	**36.58**	**253**	P	**P**		**20 43 19.2**	**+1.3**
MANU	**Manus Island**	**37.90**	**297**	P	**P**		**20 43 27.9**	**-0.8**
MANU				IAmb	IAmb		20 43 29.1	
	comp=Z,12nm,0.7s							
QIS	**Mount Isa**	**38.21**	**264**	P	**P**		**20 43 30.7**	**-0.5**
	baz=38,SNR=11							
QIS	**Mount Isa**	**38.21**	**264**	P	**P**		**20 43 31.0**	**-0.3**
HTT	**Hallett**	**38.49**	**243**	P	**P**		**20 43 33.8**	**+0.4**
	baz=38,SNR=12							
HTT	**Hallett**	**38.49**	**243**	P	**P**		**20 43 34.0**	**+0.6**
LCRK	**Leigh Creek**	**38.86**	**248**	P	**P**		**20 43 36.8**	**+0.5**
TWOA	**Tennyson Woods**	**38.98**	**241**	P	**P**		**20 43 37.5**	**+0.3**
WHYH	**Whyalla**	**39.57**	**244**	P	**P**		**20 43 42.6**	**+0.6**
BBOO	**Buckleboo**	**40.82**	**245**	P	**P**		**20 43 52.1**	**+0.1**
	baz=41,SNR=15							
BBOO	**Buckleboo**	**40.82**	**245**	P	**P**		**20 43 52.0**	**0.0**
OOD	**Oodnadatta**	**41.06**	**252**	P	**P**		**20 43 55.1**	**+1.2**
MULG	**Mulgathing**	**42.45**	**249**	P	**P**		**20 44 04.8**	**+0.1**
AS31	**Alice Springs**	**43.00**	**258**	P	**P**		**20 44 08.9**	**-0.3**
AS31				IAmb	IAmb		20 44 09.9	

VNDA ScP **ScP** **20 49 39.4 +1.6**
comp=Z,0.5nm,0.6s,baz=4.2,slow=5.7,SNR=2.4
comp=Z,3.3nm,0.7s
VNDA Vanda 56.44 185 P **P** **20 45 48.5 +2.0**
TNTI Ternate 56.62 286 P **P** **20 45 48.5 -0.2**
TNTI IAmb IAmb 20 45 49.5
comp=Z,60nm,1.0s
TNTI Ternate 56.62 286 P **P** **20 45 48.5 -0.2**
comp=Z,660nmcomp=Z,60nm,1.0s
SANI Sanana 56.63 283 P **P** **20 45 47.7 -1.2**
comp=Z,504nmcomp=Z,56nm,1.0s
SANI Sanana 56.63 283 P **P** **20 45 48.5 -0.4**
NWAO Narrogin (SRO) 56.64 244 P **P** **20 45 48.9 +0.2**
baz=57,SNR=6.9
NWAO P **P** **20 45 48.9 +0.2**
baz=57,SNR=6.9
NWAO Narrogin (SRO) 56.64 244 P **P** **20 45 48.8 +0.2**
BLDU Ballidu 57.36 247 P **P** **20 45 53.3 -0.3**
baz=57,SNR=46
BLDU Ballidu 57.36 247 P **P** **20 45 53.3 -0.3**
MMRI Maumere 57.57 274 P **P** **20 45 54.1 -1.2**
MMRI Maumere 57.57 274 P **P** **20 45 55.0 -0.2**
MUN Mundaring 57.61 245 P **P** **20 45 55.5 +0.2**
baz=58,SNR=7.9
MUN Mundaring 57.61 245 P **P** **20 45 55.6 +0.3**
EDFI Ende, Flores 58.04 273 P **P** **20 45 58.1 -0.4**
comp=Z,474nmcomp=Z,43nm,0.9s
MORW Morawa 58.16 249 P **P** **20 45 58.8 -0.2**
baz=58,SNR=6.0
MORW Morawa 58.16 249 P **P** **20 45 58.1 -0.9**
MORW IAmb IAmb 20 45 59.3
comp=Z,16nm,0.6s
MORW Morawa 58.16 249 P **P** **20 45 58.7 -0.3**
BBSI Bau Bau 58.40 277 P **P** **20 46 00.7 -0.1**
comp=Z,22nm,1.0s
LUWI Luwuk 59.97 282 P **P** **20 46 10.7 -0.6**
LUWI IAmb IAmb 20 46 12.4
comp=Z,61nm,1.0s
LUWI Luwuk 59.97 282 P **P** **20 46 11.1 -0.2**
comp=Z,704nmcomp=Z,68nm,1.0s
GTOI Gorontalo 60.46 284 P **P** **20 46 14.5 0.0**
comp=Z,192nmcomp=Z,21nm,0.9s
BKSI Bulukumba 60.72 276 P **P** **20 46 15.5 -0.7**
comp=Z,32nm,0.8s
GIRL Giralia 60.99 256 P **P** **20 46 19.0 +1.2**
baz=61,SNR=6.1
GIRL Giralia 60.99 256 P **P** **20 46 18.9 +1.0**
APSI Ampana 61.05 282 P **P** **20 46 18.6 +0.2**
comp=Z,45nm,0.9s
BNSI Bone 61.08 277 P **P** **20 46 18.4 -0.2**
comp=Z,28nm,0.8s
KAPI Kappang 61.17 276 P **P** **20 46 18.8 -0.5**
KAPI IAmb IAmb 20 46 36.3
comp=Z,12nm,0.9s
MRSI Marisa 61.36 283 P **P** **20 46 18.8 -1.6**
comp=Z,20nm,0.6s
SPSI Sidrap Palu 61.56 278 P **P** **20 46 20.3 -1.4**
comp=Z,31nm,0.9s
PLAI Plampang 61.64 272 P **P** **20 46 21.6 -0.7**
comp=Z,1jumcomp=Z,102nm,0.9s
PLAI Plampang 61.64 272 P **P** **20 46 22.0 -0.3**
TWSI Taliwang, Sumb 62.50 271 P **P** **20 46 26.8 -1.0**
comp=Z,51nm,0.9s
IGBI Denpasar 64.09 271 P **P** **20 46 37.2 -0.7**
comp=Z,89nm,0.6s
SRBI Singaraja 64.28 271 P **P** **20 46 38.9 -0.2**
comp=Z,68nm,0.9s
JAGI Jajag, Banyuwa 65.13 271 P **P** **20 46 42.9 -1.6**
JAGI Jajag, Banyuwa 65.13 271 P **P** **20 46 43.0 -1.6**
JAGI Jajag, Banyuwa 65.13 271 P **P** **20 46 43.5 -1.0**
MYLDM Lahad Datu 66.49 286 P **P** **20 46 54.5 +1.6**
MYLDM IAmb IAmb 20 47 16.5
comp=Z,43nm,1.5s
JHJ2 Mitsune 67.14 323 P **P** **20 46 57.1 +0.6**
JHJ Hachijo jima 2 67.17 323 P **P** **20 46 57.0 +0.3**
comp=Z,55nm,0.5s,baz=231,slow=23,SNR=6.4
QSPA South Pole Qui 68.20 180 P **P** **20 47 04.3 +1.7**
comp=Z,21nm,0.8s,baz=350,slow=0.5,SNR=111
comp=Z,21nm,0.8s
QSPA South Pole Qui 68.20 180 P **P** **20 47 04.0 +1.4**
QSPA IAmb IAmb 20 47 05.3
comp=Z,27nm,0.9s
UGM Wanagama 68.69 270 P **P** **20 47 06.1 -0.3**
KKM Kota Kinabalu 68.91 286 P **P** **20 47 06.9 -0.9**
KKM Kota Kinabalu 68.91 286 P **P** **20 47 08.0 +0.2**
JYT Yasato 69.30 326 P **P** **20 47 09.5 +0.1**
JYT IAmb IAmb 20 47 10.2
comp=Z,19nm,0.7s
JOW Kunigami 70.10 311 P **P** **20 47 14.9 +0.4**
comp=Z,30nm,0.7s,baz=201,slow=8.0,SNR=5.5
comp=Z,30nm,0.7s
JOW Kunigami 70.10 311 P **P** **20 47 15.5 +1.0**
JMM Marumori 70.25 327 P **P** **20 47 15.2 +0.1**
JMM IAmb IAmb 20 47 16.3
comp=Z,26nm,1.0s
MJAR Matsushiro Arr 70.58 325 P **P** **20 47 16.9 -0.2**
comp=Z,11nm,0.7s,baz=159,slow=6.0,SNR=27
comp=Z,11nm,0.7s
MAJO Matsushiro 70.58 325 P **P** **20 47 17.0 -0.1**
MAJO IAmb IAmb 20 47 17.9
comp=Z,17nm,0.8s
MJB9 Matsu-Tunnel 70.59 325 P **P** **20 47 17.0 -0.2**
MJB9 IAmb IAmb 20 47 17.9
comp=Z,17nm,0.8s
SBUM Sibu 71.01 281 P **P** **20 47 20.3 +0.2**
SBUM IAmb IAmb 20 47 21.5
comp=Z,9.6nm,1.0s
ADK Adak 73.47 2 P **P** **20 47 33.0 -0.3**
ADK IAmb IAmb 20 47 33.6
comp=Z,23nm,0.6s
ADK Adak 73.47 2 P **P** **20 47 33.3 0.0**
SSLB Suanglung 73.70 305 P **P** **20 47 34.0 -1.3**
SSLB Suanglung 73.70 305 P **P** **20 47 34.7 -0.7**
JEW Eniwo 73.83 331 P **P** **20 47 36.4 +0.8**
YSS Yuzh-Sakhalins 76.57 334 P **P** **20 47 51.4 +0.7**
YSS IAmb IAmb 20 47 53.1
comp=Z,41nm,1.4s
KSRS Korea Array 77.09 319 P **P** **20 47 53.5 -0.3**
comp=Z,1.8nm,0.6s,baz=148,slow=5.8,SNR=5.4
comp=Z,1.8nm,0.6s
KSAR Wonju Array Be 77.11 319 P **P** **20 47 54.9 +1.0**
PETK Petropavlovsk- 77.28 346 P **P** **20 47 53.2 -1.3**
comp=Z,14nm,0.7s,baz=134,slow=4.3,SNR=12
comp=Z,14nm,0.7s
PETK Petropavlovsk- 77.28 346 P **P** **20 47 53.8 -0.7**
BELA Belgrano 2 78.36 173 P **P** **20 48 00.5 +0.4**
BELA IAmb IAmb 20 48 01.5
comp=Z,21nm,1.0s
MYKOM Kota Tinggi 78.44 277 P **P** **20 48 01.4 -0.2**
MYKOM IAmb IAmb 20 48 03.2
comp=Z,27nm,1.5s
USRK Ussuriysk Ar. 79.40 327 P **P** **20 48 07.0 +1.0**
comp=Z,6.5nm,0.8s,baz=165,slow=5.6,SNR=8.8
comp=Z,6.5nm,0.8s
USRK Ussuriysk Ar. 79.40 327 P **P** **20 48 07.0 +1.0**
ESJX Sierra Juarez 80.90 50 P **P** **20 48 15.8 +1.5**
BFSC Mount Baldy Ra 80.93 48 P **P** **20 48 15.9 +1.5**
baz=236
MONP2 Monument Peak 81.05 49 P **P** **20 48 16.8 +1.7**
baz=237
EDW2 Edwards Air Fo 81.06 47 P **P** **20 48 16.5 +1.6**
baz=236
IKP In-Ko-Pah, Jac 81.14 50 P **P** **20 48 17.0 +1.6**
baz=237
ISA Isabella, Lake 81.18 46 P **P** **20 48 16.9 +1.3**
ISA Isabella, Lake 81.18 46 P **P** **20 48 17.1 +1.5**
baz=235
YUH Yuha Desert 81.27 50 P **P** **20 48 17.3 +1.3**
CMB Columbia Colle 81.31 43 P **P** **20 48 17.2 +1.1**
AFDM Forest Hills D 81.49 42 P **P** **20 48 18.0 +1.0**
CWC Cottonwood Cre 81.89 46 P **P** **20 48 20.6 +1.3**
baz=235
MDPB Devils Postpil 81.92 44 P **P** **20 48 20.7 +1.2**
BELC Belle Mtn. Jos 81.95 49 P **P** **20 48 21.2 +1.6**
baz=237
MPMC Manual Prospec 82.07 46 P **P** **20 48 21.5 +1.3**
baz=236
IPM Ipoh 82.07 278 P **P** **20 48 20.7 +0.2**
IPM Ipoh 82.07 278 P **P** **20 48 21.0 +0.5**
GSC Goldstone, Bar 82.11 47 P **P** **20 48 21.6 +1.3**
BC3 Big Chuckawall 82.14 49 P **P** **20 48 22.2 +1.7**
baz=237
Q17K Contact Creek 82.18 12 P **P** **20 48 20.0 -0.1**
baz=202
WAKR Walker 82.19 43 P **P** **20 48 22.5 +1.7**
WAKR IAmb IAmb 20 48 23.4
comp=Z,24nm,1.5s
BEKR Beckworth 82.42 42 P **P** **20 48 23.1 +1.2**
QSM Queen of Sheba 82.43 47 P **P** **20 48 23.1 +1.2**
PNTR Pine Nut 82.43 43 P **P** **20 48 23.6 +1.6**
PNTR IAmb IAmb 20 48 24.9
comp=Z,15nm,0.7s
DSP Deep Springs 82.49 45 P **P** **20 48 23.9 +1.9**
YERR Yerington 82.60 43 P **P** **20 48 24.0 +1.2**
YERR IAmb IAmb 20 48 25.0
comp=Z,8.1nm,0.7s
GMRC Granite Mounta 82.61 48 P **P** **20 48 24.3 +1.5**
baz=237
LCH Last Change Ra 82.62 45 P **P** **20 48 23.7 +0.8**
CN2 Changchun 82.63 323 *e*P **P** **20 48 23.0 +0.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
IRM Iron Mountain 82.63 49 P **P** **20 48 24.5 +1.6**
baz=237
LHV Little Huntoon 82.64 44 P **P** **20 48 24.7 +1.9**
GRAC Grapevine Rang 82.67 45 P **P** **20 48 23.1 +0.1**
GRAC IAmb IAmb 20 48 25.7
comp=Z,8.6nm,0.7s
GWY Greenwater Val 82.69 46 P **P** **20 48 23.9 +0.6**
Q18K Katmai Hardscr 82.71 13 P **P** **20 48 22.8 +0.1**
baz=203
BNX BinXian 82.83 326 ⇑P **P** **20 48 24.0 +0.5**
BNX pmax pmax
comp=Z,11nm,0.6s
BNX pmax pmax
comp=Z,190nm,4.1s
113A Mohawk Valley, 82.87 51 P **P** **20 48 25.5 +1.5**
NVAR Mina Array Bea 82.88 44 P **P** **20 48 25.3 +1.1**
comp=Z,3.3nm,0.8s,baz=226,slow=8.6,SNR=19
comp=Z,3.3nm,0.8s
NVAR Mina Array Bea 82.88 44 P **P** **20 48 25.6 +1.3**
GMN Gold Mountain 82.92 45 P **P** **20 48 25.6 +1.1**
NV11 Mina Array Sit 82.97 44 P **P** **20 48 25.5 +0.8**
KLR Kul'dur 83.08 330 P **P** **20 48 24.9 +0.3**
comp=Z,4.8nm,0.8s,baz=46,slow=0.5,SNR=12
comp=Z,4.8nm,0.8s
214A Organ Pipe Nat 83.14 52 P **P** **20 48 27.2 +1.7**
214A Organ Pipe Nat 83.14 52 P **P** **20 48 27.4 +1.9**
baz=239
TIA Tai'an 83.28 313 P **P** **20 48 27.0 +1.0**
TIA pmax pmax
comp=Z,17nm,0.8s
RPSI Rantau Prapat 83.33 276 P **P** **20 48 26.1 -0.6**
RPSI IAmb IAmb 20 48 27.3
comp=Z,20nm,0.9s
KVN Kaiserville 83.36 43 P **P** **20 48 27.4 +0.8**
TPH Tonopah 83.38 45 P **P** **20 48 27.8 +1.0**
TPH IAmb IAmb 20 48 28.9
comp=Z,26nm,1.0s
TPNV Topopah Spring 83.39 46 P **P** **20 48 27.7 +0.9**
TPNV Topopah Spring 83.39 46 P **P** **20 48 28.2 +1.4**
baz=236
PDMCI Parker Dam,Lak 83.41 49 P **P** **20 48 28.2 +1.5**
baz=238
J04D Umpqua Nationa 83.42 38 P **P** **20 48 28.2 +1.4**
J04D IAmb IAmb 20 48 29.5
comp=Z,16nm,0.8s
J04D Umpqua Nationa 83.42 38 P **P** **20 48 28.7 +1.9**
baz=232
I04A Tendick Farm, 83.59 38 P **P** **20 48 28.8 +1.4**
baz=232
O18K Koktuh Hills 83.79 12 P **P** **20 48 28.3 +0.3**
baz=202
J05D Fort Rock, OR 83.95 39 P **P** **20 48 31.5 +2.2**
baz=232
GSI Gunungsitoli 84.06 274 P **P** **20 48 30.0 -0.4**
PINE Pine Mountain 84.43 38 P **P** **20 48 33.5 +1.7**
PINE IAmb IAmb 20 48 34.6
comp=Z,22nm,1.4s
PRN Pahroc Range 84.44 46 P **P** **20 48 33.3 +1.4**
TUC Tucson 84.81 52 P **P** **20 48 34.8 +1.1**
TUC Tucson 84.81 52 P **P** **20 48 35.9 +2.2**
baz=240
SRIT Nakonsritamara 84.96 281 P **P** **20 48 35.9 +1.1**
SRIT IAmb IAmb 20 48 37.5
comp=Z,22nm,0.7s
319A Douglas 85.47 54 P **P** **20 48 38.5 +1.6**
319A IAmb IAmb 20 48 40.2
comp=Z,17nm,1.0s
HNS HongShan 85.55 313 ⇑P **P** **20 48 38.8 +1.8**
HNS pmax pmax
comp=Z,12nm,0.7s
J08A Circle Bar Ran 85.61 40 P **P** **20 48 38.2 +0.8**
J08A IAmb IAmb 20 48 39.9
comp=Z,11nm,1.3s
LYN LuoYang 85.65 310 ⇑*i*P P 20 48 31.0 -6.6
CCUT Cedar City 85.66 47 P **P** **20 48 39.4 +1.5**
ENH Enshi 85.78 305 P **P** **20 48 38.8 +0.4**
ENH IAmb IAmb 20 48 40.3
comp=Z,24nm,0.9s
U15A North Rim 85.81 48 P **P** **20 48 40.1 +1.4**
U15A IAmb IAmb 20 48 41.4
comp=Z,6.8nm,0.7s
PSUT Pine Spring 85.84 46 P **P** **20 48 39.6 +0.9**
SZCU Shurtz Canyon 85.86 47 P **P** **20 48 39.4 +0.6**
COYC Coyhaique 85.99 138 P **P** **20 48 40.3 +1.2**
BJI Beijing 85.99 316 P **P** **20 48 40.0 +1.0**
BJI pmax pmax
comp=Z,10.0nm,0.7s
L19K White Mountain 86.01 11 P **P** **20 48 39.7 +1.0**
baz=203
ELK Elko 86.13 43 P **P** **20 48 40.8 +0.8**
SUA Susitna One 86.17 13 P **P** **20 48 39.7 +0.1**
baz=206
PWL Port Wells 86.17 15 P **P** **20 48 39.4 -0.1**
baz=209
GYA Guiyang 86.24 300 ⇓P **P** **20 48 41.5 +0.7**
GYA pmax pmax
comp=Z,19nm,1.1s
TROLL Troll, Antarti 86.36 181 P **P** **20 48 40.6 0.0**
G08A Pilot Rock 86.46 38 P **P** **20 48 42.5 +1.1**
G08A IAmb IAmb 20 48 43.8
comp=Z,6.5nm,1.1s
GLI Glacier Island 86.49 15 P **P** **20 48 41.0 +0.1**
GLI IAmb IAmb 20 48 41.7
comp=Z,7.1nm,0.7s
GLI Glacier Island 86.49 15 P **P** **20 48 40.8 -0.1**
baz=210
KNK Knik Glacier 86.63 14 P **P** **20 48 42.2 +0.6**
baz=208
SNAA Sanae 86.68 179 P **P** **20 48 41.6 -0.2**
SNAA Sanae 86.68 179 P **P** **20 48 41.7 -0.2**
comp=Z,1.1nm,0.5s,baz=200,slow=11,SNR=16
comp=Z,1.1nm,0.5s
MTPU Mount Pierson 86.71 47 P **P** **20 48 44.9 +1.9**
VNA3 Neumayer Olymp 86.86 177 P **P** **20 48 42.5 -0.2**
LL02 Futaleuf 87.23 136 P **P** **20 48 46.7 +1.7**
LL02 IAmb IAmb 20 48 48.7
comp=Z,12nm,0.9s
SCM Sheep Creek Mo 87.26 15 P **P** **20 48 44.9 +0.3**
baz=210
VNA2 Neumayer--Watz 87.28 177 P **P** **20 48 44.8 +0.1**
baz=184,slow=4.3
SEY Seymchan 87.43 347 P **P** **20 48 45.3 +0.1**
comp=Z,5.3nm,0.6s,baz=159,slow=5.0,SNR=14
comp=Z,5.3nm,0.6s
VNA1 Neumayer--Stat 87.52 177 P **P** **20 48 46.0 +0.2**
CAST Castle Rocks 87.67 12 P **P** **20 48 45.2 -1.2**
CAST IAmb IAmb 20 48 46.1
comp=Z,6.1nm,0.8s
CAST Castle Rocks 87.67 12 P **P** **20 48 45.9 -0.6**
baz=205
WAT6 Susitna Watana 87.82 14 P **P** **20 48 47.7 +0.4**
baz=209
XAN Xi'an 87.97 308 ⇓P **P** **20 48 49.8 +1.2**
XAN pmax pmax
comp=Z,14nm,1.0s
TMUT Trail Mountain 88.00 46 P **P** **20 48 49.5 +0.5**
TMUT IAmb IAmb 20 48 51.7
comp=Z,6.1nm,0.9s
TRF Thorofare Moun 88.05 13 P **P** **20 48 47.9 -0.5**
TRF IAmb IAmb 20 48 49.0
comp=Z,6.8nm,0.7s
TRF Thorofare Moun 88.05 13 P **P** **20 48 47.7 -0.7**
baz=207
B08A Colville Reser 88.07 35 P **P** **20 48 48.9 +0.2**
B08A IAmb IAmb 20 48 50.3
comp=Z,4.6nm,0.8s
HLID Hailey 88.18 41 P **P** **20 48 50.8 +1.3**
HLID IAmb IAmb 20 48 52.0
comp=Z,4.2nm,0.9s
HLID Hailey 88.18 41 P **P** **20 48 51.1 +1.6**
baz=237
SPUT South Promonto 88.22 44 P **P** **20 48 50.9 +1.1**
SPUT IAmb IAmb 20 48 52.6
comp=Z,5.1nm,1.0s
HVU Hansel Valley 88.26 43 P **P** **20 48 50.6 +0.7**
HVU IAmb IAmb 20 48 53.3
comp=Z,3.7nm,0.8s
RND Reindeer 88.31 13 P **P** **20 48 49.2 -0.3**
RND IAmb IAmb 20 48 50.3
comp=Z,5.7nm,0.8s
SRU San Rafael Swe 88.37 47 P **P** **20 48 50.9 +0.4**
SRU IAmb IAmb 20 48 52.7
comp=Z,6.0nm,1.0s
TCUT Toone Canyon 88.80 44 P **P** **20 48 53.4 +0.9**
TCUT IAmb IAmb 20 48 54.9
comp=Z,9.5nm,0.7s
P18A Preston Nutter 88.81 46 P **P** **20 48 52.5 -0.2**
P18A IAmb IAmb 20 48 55.0
comp=Z,6.4nm,1.2s
TX31 Lajitas Ar. Si 88.84 58 P **P** **20 48 54.6 +1.8**
TX32 Lajitas Array 88.84 58 P **P** **20 48 54.4 +1.5**
TX32 IAmb IAmb 20 48 55.8
comp=Z,9.0nm,1.1s
TXAR Lajitas Array 88.84 58 P **P** **20 48 54.7 +1.9**
comp=Z,4.3nm,0.9s,baz=215,slow=5.9,SNR=42
comp=Z,4.3nm,0.9s
TXAR Lajitas Array 88.84 58 P **P** **20 48 54.4 +1.5**
HWUT Hardware Ranch 88.94 44 P **P** **20 48 53.8 +0.7**
HWUT IAmb IAmb 20 48 54.7
comp=Z,4.0nm,0.7s
GO06 Curarrehue 89.16 133 P **P** **20 48 55.9 +1.6**
GO06 IAmb IAmb 20 48 56.9
comp=Z,7.7nm,0.9s
ANMO Albuquerque 89.23 52 P **P** **20 48 55.5 +0.8**
ANMO IAmb IAmb 20 48 56.8
comp=Z,5.0nm,1.0s
ANMO Albuquerque 89.23 52 P **P** **20 48 55.7 +1.0**
baz=242
PLCA Paso Flores 89.24 134 P **P** **20 48 56.4 +1.8**
comp=Z,6.0nm,0.9s,baz=235,slow=5.5,SNR=12
comp=Z,6.0nm,0.9s
PLCA Paso Flores 89.24 134 P **P** **20 48 55.9 +1.4**
PLCA IAmb IAmb 20 48 57.3
comp=Z,7.4nm,0.9s
CM31 Chiang Mai Arr 89.40 290 P **P** **20 48 57.3 +1.8**
CMAR Chiang Mai Arr 89.40 290 P **P** **20 48 57.2 +1.7**
HHC Hu-ho-hao-te 89.42 315 *e*P **P** **20 48 59.8 +4.6**
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,220nm,5.3s
CHTO Chiang Mai 89.53 290 P **P** **20 48 57.1 +1.0**
CHTO Chiang Mai 89.53 290 P **P** **20 48 57.4 +1.3**
ILAR Eielson Array 89.92 13 P **P** **20 48 56.4 -0.5**
comp=Z,0.6nm,0.6s,baz=221,slow=4.4,SNR=7.5
comp=Z,0.6nm,0.6s
J25K Salcha River, 90.12 14 P **P** **20 48 58.3 +0.4**
baz=211
PZH PanZhiHua 90.25 298 P **P** **20 48 57.8 -1.6**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,110nm,4.6s
S22A 4UR Ranch, Cre 90.26 49 P **P** **20 49 00.5 +1.0**
S22A IAmb IAmb 20 49 01.9
comp=Z,3.7nm,1.1s
BW06 Boulder Array 90.81 44 P **P** **20 49 02.2 +0.4**
BW06 IAmb IAmb 20 49 18.4
comp=Z,11nm,1.1s
PD31 Pinedale Array 90.81 44 P **P** **20 49 02.5 +0.6**
PDAR Pinedale Array 90.81 44 P **P** **20 49 02.2 +0.4**
comp=Z,1.5nm,0.8s,baz=214,slow=5.0,SNR=11
comp=Z,1.5nm,0.8s
PDAR Pinedale Array 90.81 44 P **P** **20 49 02.0 +0.2**
BOZ Bozeman (W) 90.94 41 P **P** **20 49 03.2 +1.0**
BOZ Bozeman (W) 90.94 41 P **P** **20 49 03.7 +1.5**
baz=239
SDCO Great Sand Dun 91.19 50 P **P** **20 49 05.3 +1.5**
baz=243
MT01 Popeta 91.98 128 P **P** **20 49 08.2 +1.0**
LZH Lanzhou 92.61 308 *e*P **P** **20 49 11.5 +1.4**
LZH pP pP 20 51 15.0 -2.4
LZH pmax pmax
comp=Z,20nm,1.4s
YAK Yakutsk 92.92 338 P **P** **20 49 10.1 -0.5**
comp=Z,8.6nm,0.7s,baz=133,slow=3.2,SNR=7.8
comp=Z,8.6nm,0.7s
YAK Yakutsk 92.92 338 P **P** **20 49 10.0 -0.6**
SONM Songino Array 95.96 319 P **P** **20 49 24.5 -0.5**
comp=Z,0.3nm,0.7s,baz=132,slow=3.2,SNR=2.2
comp=Z,0.3nm,0.7s
GTA Gaotai 96.87 310 *e*P **P** **20 49 31.5 +2.2**
ZALV Zalesovo Beam 110.77 321 PKiKP **PKiKP** **20 54 25.3 -1.3**
comp=Z,0.7nm,0.5s,baz=81,slow=0.9,SNR=4.9
MKAR Makanchi Array 111.22 313 Pdiff **Pdif** **20 50 34.4 +1.5**
comp=Z,0.7nm,0.8s,baz=96,slow=7.4,SNR=4.2
MKAR PKiKP **PKiKP** **20 54 26.4 -1.3**
comp=Z,0.3nm,0.4s,baz=71,slow=3.9,SNR=8.1
MKAR PKKPbc **PKKPbc** **21 05 26.1 -0.2**
comp=Z,1.2nm,0.8s,baz=282,slow=5.6,SNR=6.9
KURBB Kurchatov Arra 114.19 317 PKP PKPdf 20 54 32.0 -1.1
comp=Z,0.6nm,0.5s,baz=67,slow=2.4,SNR=2.0
KURBB PKKPab **PKKPab** **21 05 24.6 +1.5**
comp=Z,0.3nm,0.7s,baz=283,slow=5.4,SNR=6.1
KK31 Karatay Array 119.11 308 PKPdf **PKPdf** **20 54 42.3 -0.7**
KKAR Karatay Array 119.11 308 PKPdf **PKPdf** **20 54 42.3 -0.7**
BVAR Borovoye Array 119.31 319 PKP **PKPdf** **20 54 42.5 -0.5**
comp=Z,2.3nm,0.4s,baz=116,slow=1.9,SNR=43
ARU Arti 125.60 325 PKP **PKPdf** **20 54 55.1 +0.1**
comp=Z,4.1nm,0.4s,baz=94,slow=2.4,SNR=13
AKTO Aktyubinsk 127.24 317 PKP **PKPdf** **20 54 58.6 +0.4**
comp=Z,0.6nm,0.5s,baz=82,slow=16,SNR=3.8
GEYT Alibeck 128.45 302 PKP **PKPdf** **20 55 01.1 0.0**
comp=Z,1.7nm,0.6s,baz=230,slow=3.6,SNR=5.0
GEYT SKPbc SKiKP 20 57 26.9 -15
comp=Z,2.0nm,0.7s,baz=151,slow=3.4,SNR=5.9
KIRV Kirov 129.51 329 SKPbc SKPbc 20 57 30.1 +0.4
comp=Z,30nm,0.8s,baz=233,slow=1.3,SNR=11
ARCES ARCESS Array B 130.03 349 PKP **PKPdf** **20 55 02.5 -0.6**
comp=Z,2.5nm,0.6s,baz=48,slow=1.8,SNR=11
ARCES SKPbc **SKPab** **20 57 32.8 +1.2**
comp=Z,10nm,1.0s,baz=39,slow=5.8,SNR=7.9
BELG Belogornoye 132.93 322 PKP **PKPdf** **20 55 09.2 +0.3**
comp=Z,8.2nm,0.6s,baz=84,slow=10,SNR=8.1
BELG SKPbc **SKPbc** **20 57 42.5 +0.6**
comp=Z,24nm,0.9s,baz=77,slow=2.7,SNR=12
FINES FINESS Array B 136.71 342 PKhKP PKPpre 20 55 03.1
comp=Z,6.4nm,1.1s,baz=54,slow=3.3,SNR=7.0
FINES PKP **PKPdf** **20 55 16.7 +1.0**
comp=Z,1.7nm,0.5s,baz=90,slow=1.4,SNR=9.7
FINES SKPbc **SKPbc** **20 57 54.0 +0.5**
comp=Z,7.4nm,1.0s,baz=44,slow=4.2,SNR=5.4
KMBO Kilima Mbogo 137.59 242 SKPbc **SKPbc** **20 57 59.3 +1.3**
comp=Z,2.9nm,1.0s,baz=170,slow=7.3,SNR=4.7
KBZ Khabaz 138.91 312 SKPbc **SKPbc** **20 58 00.4 +0.2**
comp=Z,1.4nm,0.7s,baz=164,slow=4.2,SNR=2.1
NB2 NORSAR Subarra 140.17 352 PKP **PKPdf** **20 55 15.5 -6.7**
comp=Z,0.7nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B 140.17 352 PKhKP PKPpre 20 55 14.8
comp=Z,0.4nm,0.5s,baz=20,slow=1.0,SNR=5.8
NOA SKPbc **SKPbc** **20 58 03.9 +0.7**
comp=Z,0.7nm,0.6s,baz=16,slow=4.5,SNR=3.5
LODK Lodwar 141.65 246 PKPdf **PKPdf** **20 55 22.9 -3.4**
MBAR Mbarara 143.12 237 PKPdf PKPbc 20 55 28.1 +0.7
AKASG Malin Array Be 143.57 329 PKP PKPab 20 55 26.6 -0.7
comp=Z,7.8nm,0.3s,baz=42,slow=4.5,SNR=91
AKASG SKPbc **SKPbc** **20 58 11.9 +0.1**
comp=Z,1.4nm,0.7s,baz=49,slow=2.6,SNR=8.9
AKBB Malin Array Si 143.57 329 PKPab 20 55 26.5 -0.9
BNN Bunyan 145.50 307 PKPdf **PKPbc** **20 55 32.6 +0.2**
BEL Belsk 146.26 337 *e*PKPbc **PKPbc** **20 55 35.9 +0.6**
BR131 Keskin Array S 146.79 310 **PKPbc** **20 55 36.9 -0.5**
BRTR Keskin Array B 146.79 310 PKPbc **PKPbc** **20 55 37.1 -0.3**
comp=Z,6.2nm,0.7s,baz=136,slow=4.6,SNR=34
BRTR Keskin Array B 146.79 310 **PKPbc** **20 55 36.9 -0.5**
TLCR 147.25 322 ⇑P **PKPbc** **20 55 38.3 +0.1**
VLDR Vladesti 147.26 323 ⇓P **PKPbc** **20 55 38.6 +0.4**
VARL Varlezi 147.36 324 ⇓P **PKPbc** **20 55 39.1 +0.7**
SCTR Scanteiesti 147.42 323 ⇑P **PKPbc** **20 55 39.6 +1.0**
GHRR 147.50 324 ⇑P **PKiKP** **20 55 40.1 -0.2**
BUR08 Bucovina Ar. S 147.59 328 **PKPbc** **20 55 39.6 +0.5**
BURAR Bucovina Array 147.60 328 ⇑P **PKPbc** **20 55 39.7 +0.6**
BURAR Bucovina Array 147.60 328 **PKPbc** **20 55 39.8 +0.6**
TESR Tescani 147.62 326 ⇑P **PKPbc** **20 55 39.0 -0.1**
BIZ Bicaz 147.62 327 ⇑P **PKiKP** **20 55 40.5 -0.1**
CFR Carcaliu 147.64 322 ⇓P **PKPbc** **20 55 39.2 0.0**

TPGR	Topolog	147.67	322	⇓P	PKPbc	20 55 39.4	+0.1
OJC	Ojcow	147.94	337	*e*PKPbc	PKPbc	20 55 38.7	-1.1
OJC	Ojcow	147.94	337	*e*	PKPbc	20 55 38.2	-1.6
VRI	Vrincioaia	147.99	325	⇓P	PKPbc	20 55 39.8	-0.3
HARR	Harsova	148.04	322	⇑P	PKPbc	20 55 40.6	+0.4
TLBR	Topalu	148.06	322	⇑P	PKPbc	20 55 40.1	-0.1
MDUB	Mudurnu	148.19	313		PKPbc	20 55 40.0	-0.9
CRVS	Cervenica-Dubn	148.35	333	*e*	PKPab	20 55 46.8	+0.4
CRVS	Cervenica-Dubn	148.35	333	*e*PKP	PKPbc	20 55 41.3	+0.4
NIE	Niedzica	148.41	335	*e*PKPbc	PKiKP	20 55 42.0	-0.2
TRPA	Tarpa	148.47	331	⇓P	PKPbc	20 55 41.8	+0.7
TRPA	Tarpa	148.47	331	PKP	PKPbc	20 55 41.5	+0.3
CSS	Mathiatis	148.59	302		PKPbc	20 55 41.0	-0.9
KSP	Ksiaz	148.60	341	*e*PKPab	PKPab	20 55 48.1	+0.8
KSP	Ksiaz	148.60	341	*e*PKPbc	PKPbc	20 55 42.0	+0.6
DOPR	Dopca	148.63	326	⇓P	PKiKP	20 55 42.6	-0.1
MLR	Muntele Rosu	148.65	325	⇑P	PKPbc	20 55 42.3	+0.4
MLR	Muntele Rosu	148.65	325		PKPbc	20 55 42.0	+0.1
OKC	Ostrava-Krasne	148.86	338	⇑*e*PKP	PKPbc	20 55 42.5	+0.4
OSTC	Ostas	148.87	341	⇑*e*PKP	PKiKP	20 55 43.1	0.0
OSTC				*e*PKPAB	PKPab	20 55 49.6	+1.1
SECR		148.88	324	⇑P	PKPbc	20 55 42.5	+0.2
LANS	Liptovska Anna	148.94	336	*e*PKP	PKiKP	20 55 43.8	+0.5
LANS				*e*		20 55 49.2	
BORA	Eskisehir	148.96	312		PKPbc	20 55 42.8	0.0
CJR	Cluj-Napoca	149.02	329	⇓P	PKPbc	20 55 43.0	+0.4
DPC	Dobruska-Polom	149.02	340	⇑*e*PKP	PKiKP	20 55 43.4	0.0
DPC				*e*PKPAB	PKPab	20 55 50.2	+1.0
KECS	Kecovo	149.08	334	*e*PKP	PKiKP	20 55 43.9	+0.4
KECS				*e*		20 55 49.8	
CLL	Collm	149.08	345		PKPbc	20 55 42.6	+0.1
CLL	Collm	149.08	345	*e*(pPKPab)		20 58 04.0	
CLL	Collm	149.08	345	*i* PKPbc	PKPbc	20 55 42.6	+0.1
	comp=Z,111nm,0.6s						
CLL	Collm	149.08	345	*i* PKPab	PKPab	20 55 49.1	-0.2
	comp=Z,10.0nm,0.8s						
KRLC	Kraliky	149.11	340	⇑*e*PKP	PKPbc	20 55 43.4	+0.7
MORC	Moravsky Berou	149.12	338	⇓P	PKPbc	20 55 43.5	+0.7
MORC	Moravsky Berou	149.12	338		PKPbc	20 55 43.1	+0.3
MORC	Moravsky Berou	149.12	338	*e*PKP	PKPbc	20 55 43.0	+0.3
VOIR		149.16	325	⇑P	PKiKP	20 55 43.8	-0.1
BRG	Berggiesshubel	149.24	343	*i* PKP	PKPbc	20 55 43.5	+0.6
BRG				Amp		20 55 44.4	
	comp=Z,8.1nm,0.7s						
BRG				*i* x	x	20 55 50.5	
BRG				Amp		20 55 51.0	
	comp=Z,9.9nm,0.9s						
MAUC	Maruska	149.37	338	⇑*e*PKP	PKiKP	20 55 44.3	+0.2
PVCC	Panska Ves	149.38	342	⇑*e*PKP	PKiKP	20 55 44.2	+0.1
DRGR		149.39	330	⇑P	PKPbc	20 55 43.5	0.0
ARR	Arges	149.43	326	⇓P	PKiKP	20 55 44.4	0.0
VYHS	Vyhne	149.72	336	*e*PKP	PKPbc	20 55 44.8	+0.6
VYHS				*e*		20 55 52.5	
LOT	Lotru	149.82	327	⇑P	PKPbc	20 55 44.5	-0.2
VRAC	Vranov	149.84	339	*e*PKP	PKPbc	20 55 44.8	+0.4
VRAC				*e*		20 55 53.3	
JAVC	Velka Javorina	149.85	337	*e*PKP	PKiKP	20 55 46.1	+0.9
GOPC	GO Pecny, Ondr	149.87	342	⇑*e*PKP	PKPbc	20 55 45.0	+0.5
PRU	Pruhonice	149.87	342	⇑*e*PKP	PKPbc	20 55 44.8	+0.3
PRU				*e*PKPAB	PKPab	20 55 53.3	+0.6
KRUC	Moravsky	150.12	339	*e*PKP	PKPbc	20 55 45.4	+0.3
KRUC				*e*		20 55 54.3	
NKC	Novy Kostel	150.21	345	⇑*e*PKP	PKPbc	20 55 45.8	+0.5
SIRR	Siria	150.26	330	⇑P	PKiKP	20 55 46.2	+0.1
GZR	Gura Zlata	150.36	328	⇓P	PKPbc	20 55 45.7	-0.2
MODS	Modra-Piesok	150.40	337	*e*PKP	PKiKP	20 55 46.7	+0.4
MODS				*e*		20 55 56.1	
ELL	Elmali	150.64	307		PKPbc	20 55 46.8	-0.1
BZS	Buzias	150.76	329	⇑P	PKPbc	20 55 46.4	-0.3
HERR	Herculane	150.90	327	⇓P	PKPbc	20 55 47.0	0.0
KHC	Kasperske Hory	150.92	342		PKPbc	20 55 46.8	-0.1
KHC	Kasperske Hory	150.92	342	⇑*e*PKP	PKPbc	20 55 47.3	+0.3
KHC				*e*PKPAB	PKPab	20 55 57.7	+0.6
CKRC	Cesky Krumlov	150.99	341	⇑*e*PKP	PKPbc	20 55 47.6	+0.5
GEC2	GERESS Array S	151.14	342		PKPbc	20 55 47.7	+0.1
GERES	GERESS Array B	151.14	342	PKPbc	PKPbc	20 55 47.7	+0.1
	comp=Z,2.3nm,0.5s,baz=22,slow=1.9,SNR=14						
GERES				PKPab	PKPab	20 55 57.1	-1.1
	comp=Z,1.3nm,0.6s,baz=38,slow=6.8,SNR=5.1						
GERES				pPKPbc	pPKPbc	20 58 02.1	-0.9
	comp=Z,0.2nm,0.5s,baz=22,slow=5.4,SNR=2.2						
GERES	GERESS Array B	151.14	342		PKPbc	20 55 47.3	-0.3
CONA	Conrad Observa	151.27	338	*e*P	PKPbc	20 55 48.2	+0.3
	comp=Z,3.9nm,0.7s						
CONA				*e*P	PKPab	20 55 59.9	+1.2
	comp=Z,3.8nm,0.6s						
RONA	Rosalia, Austr	151.32	338	*e*P	PKPbc	20 55 48.3	+0.3
	comp=Z,5.5nm,0.4s						
RONA				*e*P	PKPab	20 55 60.0	+1.1
	comp=Z,2.2nm,0.5s						
RDO	Rodhopi	151.54	318		PKPbc	20 55 48.3	-0.3
BLKB	Belogradchik	151.64	325	⇓P	PKPbc	20 55 48.8	0.0
MOA	Molln	151.86	340	*e*P	PKPbc	20 55 49.1	0.0
	comp=Z,0.6nm,0.3s						
MOA				*e*P	PKPab	20 56 01.8	+0.7
	comp=Z,1.4nm,0.5s						
FRGS	Fruska Gora	151.95	330	⇑P	PKPbc	20 55 49.4	0.0
KOVH	Kovagotottos	151.97	334	PKP	PKPbc	20 55 49.3	-0.1
ARSA	Arzberg	151.97	338	*e*P	PKiKP	20 55 50.8	+1.2
	comp=Z,3.5nm,0.8s						
ARSA				*e*P	PKPab	20 56 01.0	-0.6
	comp=Z,3.1nm,0.7s						
VTS	Vitosha	152.00	323		PKPbc	20 55 48.5	-1.2
VTS				PKPab	PKPab	20 56 03.0	+0.8
BOVS	Bovan	152.14	326	⇓P	PKPbc	20 55 49.1	-0.7
BIOA	Bad Ischl, Aus	152.20	341	*e*P	PKPab	20 56 03.8	+1.2
	comp=Z,3.4nm,0.3s						
OBKA	Obir	152.95	339	*e*P	PKPab	20 56 06.4	+0.5
	comp=Z,3.0nm,0.6s						
WATA	Walderalm	153.11	343	*e*P	PKPbc	20 55 51.7	-0.3
	comp=Z,1.4nm,0.4s						
WATA				*e*P	PKPab	20 56 07.1	+0.5
	comp=Z,2.1nm,0.5s						
MYKA	Terra Mystica	153.14	340	*e*P	PKPbc	20 55 51.2	-0.8
	comp=Z,1.8nm,0.3s						
MYKA				*e*P	PKPab	20 56 06.6	-0.1
	comp=Z,5.0nm,0.7s						
WTTA	Wattenberg	153.16	343	*e*P	PKPbc	20 55 52.2	0.0
	comp=Z,2.3nm,0.3s						
WTTA				*e*P	PKPab	20 56 07.0	+0.1
RETA	Reutte	153.17	345	*e*P	PKPab	20 56 07.2	+0.4
	comp=Z,1.0nm,0.3s						
MOTA	Moosalm	153.22	344	*e*P	PKPab	20 56 07.1	0.0
	comp=Z,1.6nm,0.5s						
SQTA	Sankt Quirin	153.31	344	*e*P	PKPbc	20 55 52.3	-0.1
	comp=Z,1.7nm,0.5s						
SQTA				*e*P	PKPab	20 56 07.9	+0.4
	comp=Z,2.3nm,0.7s						
ABTA	Abfaltersbach	153.38	342	*e*P	PKPbc	20 55 52.0	-0.6
	comp=Z,1.9nm,0.4s						
ABTA				*e*P	PKPab	20 56 07.8	+0.1
	comp=Z,3.2nm,0.4s						
CLUD	Cludinico	153.53	341	PKPab	PKPab	20 56 07.7	-0.6
DAVA	Damuels	153.57	346	*e*P	PKPab	20 56 09.0	+0.4
	comp=Z,1.2nm,0.3s						
FETA	Feichten	153.62	344	*e*P	PKPbc	20 55 53.3	+0.1
	comp=Z,0.9nm,0.5s						
STAL	STALIGIAL	153.76	341		PKPab	20 56 08.5	-0.8
LIT	Litokhoron	154.03	319	PKPab	PKPab	20 56 10.3	-0.4
KBN	Korca	154.69	322		PKPab	20 56 13.9	+0.3
FDMO	Fiordimonte	156.48	337		PKPab	20 56 21.7	+0.6
NRCA	Norcia	156.65	336		PKPdf	20 55 48.0	-0.9
DBIC	Dimbokro	163.98	160	PKPab	PKPab	20 56 55.2	+0.7
	comp=Z,3.1nm,0.6s,baz=229,slow=5.7,SNR=4.7						
KEST	Kesra	164.24	333	PKPab	PKPab	20 56 55.6	+0.2
	comp=Z,5.2nm,0.8s,baz=347,slow=5.5,SNR=4.7						
TORD	Torodi Ar. Bea	171.27	187	PKPab	PKPab	20 57 26.8	+0.1
	comp=Z,15nm,0.6s,baz=162,slow=5.5,SNR=5.1						

TAP 28 20:42:29.7,23°.59N×121°.47E,h27km±1km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EGFH	Guangfu	0.09	334	*i* P		Pb	20 42 35.4	+0.7
	baz=334							
EGFH				*i* S		Sb	20 42 38.9	+0.9
	baz=334							
TEGC	Jichi Village	0.14	29	P		Pb	20 42 34.8	-0.2
	baz=32							
EHY	Hungye	0.16	238	*i* P		Pb	20 42 35.8	+0.6
	baz=235							
EHY				*i* S		Sb	20 42 39.7	+0.7
	baz=235							
ESL	Shilin	0.22	352	P		Pb	20 42 36.3	+0.3
	baz=353							
ESL				*i* S		Sb	20 42 40.3	+0.1
	baz=353							
YULB	Yu-li	0.25	218	P		Pb	20 42 36.7	+0.4
	baz=218							
YULB				S		Sb	20 42 41.5	+0.7
	baz=218							
ECBN	Changbin	0.27	183	*e*S		Sn	20 42 42.6	-0.6
	baz=183							
EYUL	Yuli	0.28	209	*e*P		Pn	20 42 37.8	-0.2
	baz=209							
EYUL				*e*S		Sb	20 42 42.2	+0.9
	baz=209							
TWF1	Yuli	0.28	213	P		Pb	20 42 36.8	0.0
	baz=211							
TWF1				*i* S		Sb	20 42 42.0	+0.5
	baz=211							
TEYL	Yanliau Villag	0.30	23	*e*P		Pn	20 42 38.5	+0.1
	baz=21							
TEYL				*e*S		Sn	20 42 45.1	+1.2
	baz=21							
VWDT	VWDT	0.34	298	P		Pn	20 42 38.6	-0.2
	baz=298							
VWDT				S		Sn	20 42 44.3	-0.6
	baz=298							
HWA	Hwalien	0.40	18	*e*P		Pn	20 42 39.2	-0.6
	baz=19							
HWA				*e*S		Sb	20 42 44.5	0.0
	baz=19							
OWD	Renai	0.45	324	*e*P		Pn	20 42 40.2	-0.3
	baz=323							
OWD				*e*S		Sb	20 42 46.1	+0.2
	baz=323							
YUS	Yu-Shan	0.48	258	*i* P		Pn	20 42 41.4	+0.1
	baz=257							
YUS				*i* S		Sn	20 42 48.2	-0.9
	baz=257							
TWD	Chiawan	0.50	14	*e*P		Pn	20 42 40.8	-0.3
	baz=14							
TWD				*e*S		Sn	20 42 48.9	+0.1
	baz=14							
WUSB	Renai	0.51	321	*e*S		Sb	20 42 48.0	+0.5
	baz=321							
CHGB	Renai	0.54	330	*e*P		Pb	20 42 40.3	-0.5
	baz=330							
CHGB				*e*S		Sb	20 42 48.5	+0.1
	baz=330							
WHF	Hehuan Shan	0.58	341	*e*S		Sb	20 42 49.7	-0.1
	baz=342							
ALS	Alishan	0.61	263	*e*P		Pb	20 42 42.5	+0.4
	baz=262							
ALS				*e*S		Sb	20 42 50.1	-0.4
	baz=262							
TYC	Yuchr	0.64	299	*e*P		Pn	20 42 43.2	+0.2
	baz=299							
TYC				*e*S		Sb	20 42 50.6	-0.4
	baz=299							

JMA 28 20:42:53.2±0.1, 23°.9N±0°.5×122°.9E±0°.7, h20km±3km, MV1.9/7, NEAR ISHIGAKIJIMA ISLAND, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.52	6	P		Pb	20 43 03.3	-0.3
JYNG				S		Sb	20 43 10.5	-0.2
YOJ	Yonaguni jima	0.53	12	P		Pb	20 43 03.8	-0.1
YOJ				S		Sb	20 43 11.2	-0.1
HATJ	Hateruma jima	0.85	82	P		Pb	20 43 09.0	-0.3
HATJ				S		Sb	20 43 20.1	-0.2
IRIF	Iriomote-Funau	0.86	63	P		Pb	20 43 09.5	-0.1
IRIF				S		Sb	20 43 20.5	-0.3
JKRS	Kuro-shima	1.07	73	P		Pb	20 43 12.8	-0.2
JKRS				S		Sb	20 43 26.6	0.0
JIJ	Ishigaki jima	1.22	69	P		Pn	20 43 15.4	+0.2
JIJ				S		Sb	20 43 31.0	-0.1

IDC 28 20:45:36.4±2.2, 28°.17S×178°.66W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=70.3km s-min=20.3km az=45.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.26	149	Pn		Pb	20 46 00.9	-0.2
	479nm,0.3s,baz=60,slow=3.4,SNR=16							
RAO				Sn		Sn	20 46 21.0	+2.1
	766nm,0.3s,baz=98,slow=23,SNR=23							
ASAR	Alice Springs	42.69	265	P		P	20 53 35.4	+0.1
	0.4nm,0.6s,baz=93,slow=7.4,SNR=1.8							
	0.4nm,0.6s							
WRA	Warramunga Arr	43.47	270	P		P	20 53 41.2	-0.5
	0.5nm,0.7s,baz=112,slow=6.5,SNR=2.2							
	0.5nm,0.7s							
AKASG	Malin Array Be	149.17	325	PKPbc		PKPbc	21 05 26.2	-0.3
	0.3nm,0.3s,baz=45,slow=4.2,SNR=4.5							

ROM 28 20:52:51.3±0.1, 42°.725N±0°.003×13°.150E±0°.005, h11km, ML1.3/7, 4C-4D, Error ellipse: s-maj=0.3km s-min=0.3km az=139.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.11	347	⇓P		Pg	20 52 54.6	+0.3
NRCA				AML		AML		
	comp=N,206μm,1.5s							
NRCA				AML		AML		
	comp=E,250μm,0.9s							
T1242	Castelluccio d	0.11	21	⇓P		Pg	20 52 54.6	+0.3
T1242				S		Sg	20 52 57.0	+0.5
T1242				AML		AML		
	comp=E,258μm,0.5s							
T1242				AML		AML		
	comp=N,360μm,0.4s							
T1242				AML		AML		
	comp=E,258μm,0.5s							
T1204	Amatrice, Fraz	0.13	111	⇑P		Pg	20 52 54.9	+0.3
LNSS	Leonessa	0.15	214	P		Pg	20 52 55.1	+0.3
LNSS				S		Sg	20 52 58.0	+0.9
LNSS				AML		AML		
	comp=E,292μm,1.6s							
LNSS				AML		AML		
	comp=N,185μm,0.7s							
T1217	Poggiodomo (PG	0.16	266	P		Pg	20 52 55.7	+0.7
SMA1	SAN MARTINO	0.17	124	⇑P		Pg	20 52 55.7	+0.6
SMA1				S		Sg	20 52 58.8	+1.1
SMA1				AML		AML		
	comp=E,674μm,0.3s							
SMA1				AML		AML		
	comp=N,520μm,0.3s							
T1216	Preci, Frazion	0.19	330	⇑P		Pb	20 52 56.8	-0.1
MMO1	Montemonaco	0.22	37	⇓P		Pg	20 52 56.6	+0.6
MMO1				S		Sg	20 53 00.5	+1.4
T1243	Rocca Santa Ma	0.22	97	P		Pg	20 52 56.3	+0.3
T1241	Roccafluvione,	0.25	57	P		Pg	20 52 57.1	+0.6
T1241				S		Sg	20 53 01.1	+1.2
T1241				AML		AML		
	comp=E,75μm,0.7s							
T1241				AML		AML		
	comp=E,75μm,0.7s							
T1241				AML		AML		
	comp=N,90μm,0.7s							
CAMP	Campotosto	0.27	134	⇓P		Pg	20 52 57.5	+0.6
CAMP				AML		AML		
	comp=E,54μm,0.8s							
CAMP				AML		AML		
	comp=N,55μm,1.2s							
FDMO	Fiordimonte	0.32	352	P		Pg	20 52 57.9	+0.2
FDMO				AML		AML		
	comp=N,26μm,0.9s							
FDMO				AML		AML		
	comp=N,26μm,0.9s							
FDMO				AML		AML		
	comp=E,23μm,0.5s							
TERO	Teramo	0.35	107	⇑P		Pg	20 52 58.6	+0.3
TERO				AML		AML		
	comp=E,50μm,0.5s							
TERO				AML		AML		
	comp=N,79μm,0.8s							
CSP1	Cessapalombo	0.37	6	P		Pb	20 52 59.5	-0.5

IDC 28 21:07:44.5±0.9, 0°.92S×120°.45E, h0km, mb3.6/6, mbtmp3.9/9, ML3.9/3, MS3.3/8, Error ellipse: s-maj=42.4km s-min=16.6km az=63.0

DJA 28 21:07:46.2±1.6, 1°.S×3°.x12°.0E±°, h12km±14km, M4.4/16, mb4.5/5, mB5.6/1, MLv4.3/16, Mw(mB)5.0/1

NEIC 28 21:07:47.4±1.7, 0°.96S±0°.07×120°.46E±0°.06, h10km±1km, mb3.9/7, Error ellipse: s-maj=12.3km s-min=10.6km az=198.0

ISC 28 21:07:46.3±0.6, 0°.92S±0°.05×120°.39E±0°.05, h10km, n42, σ1§38/39, mb3.8/9, MS3.2/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.26	90	P		Pg	21 08 10.5	-0.1
MPSI	Mapaga	1.34	339	P		Pn	21 08 08.7	-2.4
MRSI	Marisa	2.08	48	P		Pn	21 08 18.4	-2.9
TTSI	Tana Toraja	2.19	195	P		Pn	21 08 22.5	-0.2
LUWI	Luwuk	2.39	93	Pn		Pn	21 08 26.1	+0.6
LUWI	Luwuk	2.39	93	P		Pn	21 08 26.4	+0.9
GTOI	Gorontalo	3.04	60	P		Pn	21 08 34.8	+0.3
SPSI	Sidrap Palu	3.09	192	P		Pn	21 08 35.4	+0.3
SMKI	Samarinda	3.21	278	P		Pn	21 08 34.8	-2.1
BNSI	Bone	3.47	185	P		Pn	21 08 41.5	+1.1
BKB	Balikpapan	3.51	264	Pn		Pn	21 08 43.1	+2.3
BKB	Balikpapan	3.51	264	P		Pn	21 08 38.9	-2.0
KMSI	Cibinong	3.89	68	P		Pn	21 08 47.3	+1.1
KAPI	Kappang	4.12	189	Pn		Pn	21 08 49.0	-0.3
	7.0nm,0.3s,baz=328,slow=6.9,SNR=23							
KAPI				Sn		Sn	21 09 35.7	-1.8
	2.1nm,0.3s,baz=25,slow=19,SNR=4.8							
KAPI				LR		LR	21 10 39.3	
	comp=Z,892nm,18.7s,baz=347,slow=42							
	31nm,0.5s							
KAPI	Kappang	4.12	189			Pn	21 08 50.1	+0.8
BKSI	Bulukumba	4.38	183	P		Pn	21 08 53.4	+0.5
BBSI	Bau Bau	5.03	154	P		Pn	21 09 03.5	+1.6
	0.4nm5μm56nm,1.0s							
BSSI	Bau Bau, Buton	5.19	179	P		Pn	21 09 03.1	-1.0
	0.2nm40nm,0.6s							
SANI	Sanana	5.71	101	P		Pn	21 09 11.4	+0.2
	0.1nm24nm,0.7s							
MYLDM	Lahad Datu	6.35	343			Pn	21 09 22.0	+2.0
DAV	Davao City (W)	9.48	33	LR		LR	21 13 58.3	
	comp=Z,231nm,20.7s,baz=170,slow=40							
BATI	Baumata	9.78	161	Pn		Pn	21 10 07.2	0.0
	1.1nm,0.3s,baz=36,slow=19,SNR=2.4							
	18nm,0.7s							
SIJI	Sorong	10.88	90	Pn		Pn	21 10 22.9	+0.7
	0.6nm,0.3s,baz=232,slow=23,SNR=2.8							
SIJI				LR		LR	21 15 18.3	
	comp=Z,56nm,19.9s,baz=258,slow=42							
	9.1nm,0.8s							
FITZ	Fitzroy Crossi	17.83	163			Pn	21 11 54.7	0.0
FITZ					IAmb	IAmb	21 12 01.3	
	comp=Z,5.0nm,1.3s							
WB0	Warramunga Arr	23.21	145	P		P	21 12 51.6	-2.1
WB0					IAmb	IAmb	21 13 18.0	
	comp=Z,6.9nm,1.2s							
WRA	Warramunga Arr	23.32	145	P		P	21 12 53.0	-1.8
	comp=Z,3.1nm,0.9s,baz=329,slow=10,SNR=14							
	comp=Z,3.1nm,0.9s							
WRA	Warramunga Arr	23.32	145	P		P	21 12 52.2	-2.6
AS31	Alice Springs	26.14	151	P		P	21 13 20.9	0.0
AS31					IAmb	IAmb	21 13 31.2	
	comp=Z,1.5nm,0.9s							
ASAR	Alice Springs	26.14	151	P		P	21 13 21.3	+0.4
	comp=Z,1.7nm,0.8s,baz=342,slow=14,SNR=19							
ASAR				PcP		PcP	21 16 46.9	-1.4
	comp=Z,0.5nm,0.7s,baz=345,slow=2.5,SNR=4.6							
ASAR				LR		LR	21 25 09.7	
	comp=Z,120nm,18.1s,baz=172,slow=40							
	comp=Z,1.7nm,0.8s							
PMG	Port Moresby	27.94	108	LR		LR	21 26 31.6	
	comp=Z,62nm,18.3s,baz=216,slow=40							
CMAR	Chiang Mai Arr	28.56	313	P		P	21 13 44.7	+2.1
	comp=Z,0.2nm,0.3s,baz=133,slow=8.9,SNR=1.7							
	comp=Z,0.2nm,0.3s							
CTA	Charters Tower	31.67	129	LR		LR	21 29 41.5	
	comp=Z,71nm,18.6s,baz=259,slow=42							
KSRS	Korea Array	38.81	10	LR		LR	21 31 23.3	
	comp=Z,20nm,20.7s,baz=205,slow=37							
MJAR	Matsushiro Arr	40.79	22	LR		LR	21 30 50.8	
	comp=Z,34nm,20.5s,baz=195,slow=34							
BJT	Baijiatuan	40.93	355	P		P	21 15 29.0	+0.1
SONM	Songino Array	50.07	348	P		P	21 16 41.3	-0.2
	comp=Z,0.4nm,0.6s,baz=173,slow=6.5,SNR=2.8							
	comp=Z,0.4nm,0.6s							
SONM	Songino Array	50.07	348			P	21 16 41.7	+0.2
SONM					IAmb	IAmb	21 17 05.6	
	comp=Z,1.4nm,1.2s							
MKAR	Makanchi Array	58.06	330	P		P	21 17 39.1	-0.6
	comp=Z,0.4nm,0.6s,baz=129,slow=11,SNR=4.0							
	comp=Z,0.4nm,0.6s							
MKAR	Makanchi Array	58.06	330	P		P	21 17 40.5	+0.8
KBL	Kabul	59.56	312	P		P	21 17 51.8	+1.2
KBL					IAmb	IAmb	21 17 53.2	
	comp=Z,3.4nm,0.9s							
ZALV	Zalesovo Beam	62.10	337	P		P	21 18 06.3	-0.9
	comp=Z,0.3nm,0.3s,baz=138,slow=6.6,SNR=2.1							
	comp=Z,0.3nm,0.3s							
ABKAR	Akbulak array	71.88	323	P		P	21 19 08.7	-0.9

SKHL 28 21:12:10.5±0.2, 44°.00N×148°.40E, h40km±5km, mb4.4/2

JMA 28 21:12:10.1±0.5, 44°.N±2°.x14°.8E±°, h0km, MV3.5/14, SE OFF ETOROFU

ISC 28 21:12:10.4±4.2, 44°.1N±0°.1×148°.0E±0°.1, h9km±22km, n10, σ1§06/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.14	355	*e*P		Pb	21 12 31.4	-0.8
KUR				AMB		AMB	21 12 32.0	
	70nm,0.2s							
KUR				*e*S		Sb	21 12 46.9	-0.2
KUR				A		A	21 12 48.0	
	90nm,0.3s							
KUR				A		A	21 12 48.0	
	80nm,0.3s						

LVC					Sn	**Sn**	**21 15 16.6 +0.8**
LVC	**Limon Verde**	**1.37**	**326**	⇓*i*	P	**Pn**	**21 14 55.9 +0.8**
LVC				*i*	S	**Sn**	**21 15 16.2 +0.5**
LVC	**Limon Verde**	**1.37**	**326**	*e*	P	**Pn**	**21 14 56.0 +0.8**
PB15	**IPOC Station P**	**1.39**	**293**			**Pn**	**21 14 55.8 +0.7**
PB15					Sn	**Sn**	**21 15 16.0 +0.2**
PB15	**IPOC Station P**	**1.39**	**293**	⇑*i*	P	**Pn**	**21 14 55.9 +0.7**
PB15				*i*	S	**Sn**	**21 15 16.0 +0.2**
PB15					IAML		21 15 19.1
	comp=E,9µm,0.4s						
PB06	**IPOC Station P**	**1.72**	**307**			**Pn**	**21 14 59.6 +0.7**
PB06					Sn	**Sn**	**21 15 22.4 -0.1**
PB06	**IPOC Station P**	**1.72**	**307**	⇑*i*	P	**Pn**	**21 14 59.6 +0.7**
PB06				*i*	S	**Sn**	**21 15 22.5 +0.1**
PB06					IAML		21 15 26.7
	comp=N,2µm,0.2s						
GO02	**Mina Guanaco**	**1.97**	**224**		Pn	**Pn**	**21 15 02.6 +0.7**
GO02					Sn	**Sn**	**21 15 28.5 +0.6**
GO02	**Mina Guanaco**	**1.97**	**224**	⇑*i*	P	**Pn**	**21 15 02.8 +0.8**
GO02				*i*	S	**Sn**	**21 15 28.5 +0.6**
GO02					IAML		21 15 32.5
	comp=E,2µm,0.2s						
PB09	**IPOC Station P**	**2.22**	**331**			**Pn**	**21 15 06.3 +1.4**
PB09					Sn	**Sn**	**21 15 34.9 +1.7**
PB09	**IPOC Station P**	**2.22**	**331**	⇑*i*	P	**Pn**	**21 15 06.5 +1.5**
PB09				*i*	S	**Sn**	**21 15 34.4 +1.2**
PB10	**IPOC Station P**	**2.28**	**275**		Pn	**Pn**	**21 15 06.0 +0.5**
PB10	**IPOC Station P**	**2.28**	**275**	⇑*i*	P	**Pn**	**21 15 05.8 +0.3**
PB10				*e*	S	**Sn**	**21 15 34.0 -0.3**
PB14	**IPOC Station P**	**2.30**	**247**		Pn	**Pn**	**21 15 06.0 0.0**
PB04	**IPOC Station P**	**2.37**	**306**			**Pn**	**21 15 07.2 +0.3**
PB04	**IPOC Station P**	**2.37**	**306**	⇑*i*	P	**Pn**	**21 15 07.1 +0.3**
PB04				*i*	S	**Sn**	**21 15 36.3 -0.3**
PB04					IAML		21 15 43.6
	comp=N,548nm,0.2s						
PB07	**IPOC Station P**	**2.62**	**320**			**Pn**	**21 15 10.3 +0.4**
PB07	**IPOC Station P**	**2.62**	**320**	⇓*i*	P	**Pn**	**21 15 10.5 +0.6**
PB07				*i*	S	**Sn**	**21 15 41.1 -1.0**
PB07					IAML		21 15 47.7
	comp=E,492nm,0.4s						
PB02	**IPOC Station P**	**2.94**	**325**			**Pn**	**21 15 14.5 +0.4**
PB02	**IPOC Station P**	**2.94**	**325**	*e*	P	**Pn**	**21 15 14.2 +0.1**
PB02					IAML		21 15 59.1
	comp=E,749nm,0.3s						
PB01	**IPOC Station P**	**2.99**	**334**			**Pn**	**21 15 15.1 +0.4**
PB01	**IPOC Station P**	**2.99**	**334**	*e*	P	**Pn**	**21 15 15.3 +0.6**
PB01				*i*	S	**Sn**	**21 15 47.7 -3.0**
PB01					IAML		21 15 53.4
	comp=E,369nm,0.3s						
AC02	**Maricunga**	**3.22**	**197**		Pn	**Pn**	**21 15 18.9 +1.0**
AC01	**Pan de Azucar**	**3.31**	**223**		Pn	**Pn**	**21 15 18.1 -0.6**
PATCX	**Punta Patache**	**3.49**	**326**			**Pn**	**21 15 21.5 +0.3**
TA01	**Diego Aracena**	**3.72**	**328**		Pn	**Pn**	**21 15 25.6 +1.5**
PB08	**IPOC Station P**	**3.73**	**344**		Pn	**Pn**	**21 15 25.3 +0.8**
PB08	**IPOC Station P**	**3.73**	**344**	⇑*i*	P	**Pn**	**21 15 25.8 +1.2**
PB08					IAML		21 16 16.1
	comp=E,68nm,0.1s						
TA02	**Huaiquique**	**3.95**	**331**			**Pn**	**21 15 27.9 +0.7**
AC06	**Mina Casimiro**	**4.14**	**209**			**Pn**	**21 15 27.9 -1.7**
GO01	**Chusmiza**	**4.19**	**345**			**Pn**	**21 15 31.0 +0.2**
AC04	**Llanos de Chal**	**5.19**	**211**			**Pn**	**21 15 41.1 -2.6**
AC05	**El Transito**	**5.43**	**201**			**Pn**	**21 15 45.5 -1.5**
PB16	**IPOC Station P**	**5.55**	**346**			**Pn**	**21 15 48.9 -0.2**
CO01	**Juntas del Tor**	**6.46**	**196**			**Pn**	**21 16 00.1 -0.8**
LPAZ	**La Paz**	**7.42**	**360**		P	**Pn**	**21 16 14.9 +0.6**
	comp=E,2.1nm,0.4s,baz=145,slow=5.8,SNR=11						
CO03	**El Pedregal**	**7.43**	**198**			**Pn**	**21 16 11.1 -2.8**
SIV	**San Ignacio**	**10.15**	**42**		P	**Pn**	**21 16 47.3 -3.1**
	comp=E,10.0nm,0.5s,baz=226,slow=13,SNR=36						
SIV					S	Sn	21 18 32.0 -11
	comp=E,0.7nm,0.5s,baz=170,slow=18,SNR=1.1						
PTLB	**Pontes e Lacer**	**11.79**	**47**			**Pn**	**21 17 10.1 -2.1**
PTLB	**Pontes e Lacer**	**11.79**	**47**	*e*	P	**Pn**	**21 17 10.4 -1.8**
VILB	**Vilhena**	**13.08**	**36**			**Pn**	**21 17 27.1 -1.8**
VILB	**Vilhena**	**13.08**	**36**	*e*	P	**Pn**	**21 17 27.0 -2.0**
CRSM	**Crissiumal (Br**	**13.20**	**109**	*e*	P	**Pn**	**21 17 32.1 +1.7**
FRBT	**Francisco Belt**	**13.81**	**102**	*e*	P	**Pn**	**21 17 39.5 +1.1**
ITAB	**Concordia**	**14.81**	**107**			**Pn**	**21 17 51.3 +0.4**
ITAB	**Concordia**	**14.81**	**107**	*e*	P	**P**	**21 17 53.9 +0.5**
TRQA	**Tornquist**	**15.18**	**161**			**P**	**21 17 57.1 -0.4**
TRQA					IAmb	IAmb	21 17 59.5
	comp=E,5.6nm,0.7s						
GO06	**Curarrehue**	**16.05**	**190**		Pn	**Pn**	**21 18 06.0 -0.3**
GO06					IAmb	IAmb	21 18 20.3
	comp=Z,13nm,1.4s						
PDRB	**Porto dos Gac**	**16.19**	**44**	*e*	P	**Pn**	**21 18 06.2 -1.9**
PLCA	**Paso Flores**	**17.06**	**186**		P	**Pn**	**21 18 18.5 -0.1**
PLCA	**Paso Flores**	**17.06**	**186**	*e*	P	Pn	21 18 26.4 +7.8
CLDB	**Colider**	**17.34**	**44**	*e*	P	**P**	**21 18 20.3 -1.3**
LL04	**Puerto Octay**	**17.49**	**191**		P	**P**	**21 18 22.6 -0.3**
LL04					IAmb	IAmb	21 18 29.0
	comp=Z,18nm,1.4s						
BB19B	**Bebedouro**	**18.27**	**85**	*e*	P	**Pn**	**21 18 32.2 -1.1**
VALI	**Valinhos**	**19.40**	**92**	*e*	P	**P**	**21 18 43.9 -0.1**
IPMB	**Ipameri, GO**	**19.42**	**77**	*e*	P	**P**	**21 18 44.6 +0.4**
SNDB	**Serra Nova Dou**	**19.78**	**57**	*e*	P	**P**	**21 18 47.1 -1.0**
BDFB	**Brasilia**	**20.52**	**71**		P	**P**	**21 18 55.9 -0.3**
	σ=Z,7.8nm,0.6s,baz=243,slow=10,SNR=12						
	comp=Z,7.8nm,0.6s						
BDFB	**Brasilia**	**20.52**	**71**		P	**P**	**21 18 55.9 -0.3**
BDFB					IAmb	IAmb	21 18 56.8
	comp=Z,13nm,1.1s						
BDFB	**Brasilia**	**20.52**	**71**	*e*	P	**P**	**21 18 56.1 -0.1**
PARB	**Paraibuna**	**20.59**	**93**	*e*	P	**P**	**21 18 57.1 +0.2**
NPGB	**Novo Progresso**	**20.62**	**38**	*e*	P	**P**	**21 18 55.6 -1.4**
PMNB	**Patos De Minas**	**20.83**	**80**	*e*	P	**P**	**21 19 00.6 +1.1**
ITTB	**Itaituba**	**22.65**	**34**	*e*	P	**P**	**21 19 16.6 -1.7**
SMTB	**Santa Maria do**	**24.56**	**56**	*e*	P	**P**	**21 19 36.4 +0.6**
SDBA	**SAO DESIDERIO**	**24.71**	**67**	*e*	P	**P**	**21 19 36.0 -1.3**
PRPB	**Parauapebas**	**24.78**	**48**	*e*	P	**P**	**21 19 37.8 0.0**
MALB	**Monte Alegre**	**25.55**	**34**	*e*	P	**P**	**21 19 44.4 -0.4**
RIB01	**Linhares ES**	**26.11**	**86**	*e*	P	**P**	**21 19 50.1 +0.3**
BOAV	**Boa Vista**	**27.01**	**17**		P	**P**	**21 19 58.3 +0.5**
BOAV					IAmb	IAmb	21 20 00.5
	comp=Z,3.4nm,1.0s						
BOAV	**Boa Vista**	**27.01**	**17**	*e*	P	**P**	**21 19 58.0 +0.1**
CMC01	**Camacan, BA**	**28.13**	**78**	*e*	P	**P**	**21 20 08.4 +0.5**
GDU01	**Guandu, BA**	**28.72**	**75**	*e*	P	**P**	**21 20 13.0 -0.2**
DBIC	**Dimbokro**	**68.66**	**72**		P	**P**	**21 25 18.4 +0.8**
	comp=Z,4.6nm,0.8s,baz=227,slow=6.4,SNR=4.0						
	comp=Z,4.6nm,0.8s						
DBIC	**Dimbokro**	**68.66**	**72**		P	**P**	**21 25 18.6 +0.9**
KOWA	**Kowa**	**73.23**	**65**		P	**P**	**21 25 46.1 +1.0**
KOWA					IAmb	IAmb	21 25 47.8
	comp=Z,7.1nm,1.4s						
TOA0	**Torodi Ar. Sit**	**77.40**	**69**		P	**P**	**21 26 10.0 +1.0**
TORD	**Torodi Ar. Bea**	**77.40**	**69**		P	**P**	**21 26 10.0 +1.0**
	comp=Z,15nm,0.6s,baz=254,slow=5.3,SNR=5.2						
	comp=Z,15nm,0.6s						
BOSA	**Boshof**	**81.72**	**118**		P	**P**	**21 26 33.6 +1.1**
	comp=Z,7.1nm,1.1s,baz=191,slow=5.2,SNR=2.9						
	comp=Z,7.1nm,1.1s						
ZALV	**Zalesovo Beam**	**143.63**	**27**		PKP	**PKPdf**	**21 33 46.8 -0.2**
	comp=Z,0.8nm,0.6s,baz=309,slow=3.0,SNR=5.0						
MKAR	**Makanchi Array**	**146.95**	**39**		PKPbc	**PKPbc**	**21 33 55.3 +0.2**
	comp=Z,1.5nm,0.7s,baz=310,slow=3.5,SNR=11						
PZH	**PanZhiHua**	**170.38**	**71**		PKP	**PKPdf**	**21 34 20.5 -0.5**

IDC ***28*** *21:36:28.7±0.6,29°.59N×101°.96E,h0km,mb4.2/20, mbtmp4.2/22,ML4.0/1,MS3.6/30,Error ellipse: s-maj=18.8km s-min=12.5km az=43.0*

MOS ***28*** *21:36:29.9±1.0,29°.53N×101°.96E,h16km,mb4.5/12,Error ellipse: s-maj=8.9km s-min=6.0km az=111.4*

BJI ***28*** *21:36:30.2±0.0,29°.58N×101°.88E,h10km,mb4.4/32, mB4.7/17,ML4.0/24,Ms4.4/38,Ms7 4.1/37*

NEIC ***28*** *21:36:32.0±1.3,29°.64N±0°.08×101°.96E±0°.08,h10km±1km, mb4.5/43,ML4.2(BJI),Error ellipse: s-maj=13.4km s-min=12.1km az=347.0*

ISC 28 21:36:31.0±0.3,29°.60N±0°.03×102°.04E±0°.04,h10km,n160, σ1s51/155,mb4.4/57,MS3.6/30,10C-8D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.98**	**48**	Pn	**Pn**	**21 37 06.0**	**+1.4**
CD2				Sg	**Sb**	**21 37 34.0**	**+2.0**
CD2				smax	smax		
	comp=N,8µm,0.6s						
CD2				smax	smax		
	comp=E,5µm,0.5s						
PZH	**PanZhiHua**	**3.09**	**185**	Pg	**Pn**	**21 37 20.5**	**+0.5**
PZH				Sg	**Sb**	**21 38 04.0**	**-0.1**
PZH				smax	smax		
	comp=N,940nm,1.3s						
PZH				smax	smax		
	comp=E,1µm,1.0s						
PZH				LR	LR		
	comp=N,3µm,7.0s						
PZH				LR	LR		
	comp=E,8µm,8.0s						
PZH				LR	LR		
	comp=Z,3µm,7.1s						
KMI	**Kunming**	**4.50**	**172**	⇑Pn	**Pn**	**21 37 42.5**	**+3.0**
KMI				Sn	**Sn**	**21 38 36.0**	**+4.0**
KMI				smax	smax		
	comp=N,260nm,1.6s						
KMI				smax	smax		
	comp=E,280nm,1.2s						
KMI				LR	LR		
	comp=N,3µm,6.2s						
KMI				LR	LR		
	comp=E,2µm,4.7s						
KMI				LR	LR		
	comp=Z,2µm,5.8s						
GYA	**Guiyang**	**5.15**	**126**	⇑Pn	**Pn**	**21 37 49.5**	**+1.2**
GYA				Pg	**Pg**	**21 38 07.5**	**-2.1**
GYA				Sn	**Sn**	**21 38 46.3**	**-1.5**
GYA				Sg	**Sg**	**21 39 13.5**	**-2.9**
GYA				smax	smax		
	comp=N,170nm,0.6s						
GYA				smax	smax		
	comp=E,160nm,0.8s						
GYA				LR	LR		
	comp=N,3µm,8.4s						
GYA				LR	LR		
	comp=E,2µm,8.1s						
GYA				LR	LR		
	comp=Z,2µm,9.0s						
ENH	**Enshi**	**6.50**	**82**	Pn	**Pn**	**21 38 08.3**	**+1.6**
LZH	**Lanzhou**	**6.65**	**13**	Pn	**Pn**	**21 38 12.3**	**+3.4**
LZH				smax	smax		
	comp=N,66nm,1.4s						
LZH				smax	smax		
	comp=E,76nm,1.5s						
LZH				LR	LR		
	comp=N,4µm,6.7s						
LZH				LR	LR		
	comp=E,2µm,7.7s						
LZH				LR	LR		
	comp=Z,4µm,8.1s						
XAN	**Xi'an**	**7.34**	**51**	Pn	**Pn**	**21 38 19.5**	**+1.2**
XAN				Sn	**Sn**	**21 39 46.3**	**+4.5**
XAN				Sg	**Sg**	**21 40 24.5**	**-2.2**
XAN				smax	smax		
	comp=N,340nm,1.2s						
XAN				smax	smax		
	comp=E,360nm,1.1s						
XAN				LR	LR		
	comp=N,3µm,7.7s						
XAN				LR	LR		
	comp=E,1µm,6.7s						
XAN				LR	LR		
	comp=Z,1µm,12.7s						
MND	**Mandalay**	**9.24**	**217**	Pn	**Pn**	**21 38 45.6**	**+1.2**
LSA	**Lhasa**	**9.47**	**273**	Pn	**Pn**	**21 38 47.1**	**-0.9**
LSA	**Lhasa**	**9.47**	**273**	P	**Pn**	**21 38 47.0**	**-0.9**
LSA				LR	LR		
	comp=N,200nm,6.8s						
LSA				LR	LR		
	comp=E,460nm,6.1s						
LSA				LR	LR		
	comp=Z,430nm,5.7s						
LSA	**Lhasa**	**9.47**	**273**	P	**Pn**	**21 38 47.1**	**-0.9**
CNSH	**ChangSha**	**9.65**	**96**	⇑P	**Pn**	**21 38 50.0**	**0.0**
CNSH				smax	smax		
	comp=N,220nm,0.8s						
CNSH				smax	smax		
	comp=E,150nm,0.7s						
GTA	**Gaotai**	**9.96**	**350**	*e*P	**Pn**	**21 38 56.0**	**+1.7**
GTA				pP		21 39 01.5	
GTA				sP		21 39 04.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				LR	LR		
	comp=N,950nm,7.6s						
GTA				LR	LR		
	comp=E,850nm,8.0s						
GTA				LR	LR		
	comp=Z,940nm,8.7s						
LYN	**LuoYang**	**10.13**	**58**	⇓*i*P	**Pn**	**21 38 55.3**	**-1.2**
LYN				PP	**PnPn**	**21 39 02.3**	**-1.9**
LYN				S	**Sn**	**21 40 43.8**	**-6.4**
LYN				LR	LR		
	comp=N,3µm,7.4s						
LYN				LR	LR		
	comp=E,2µm,7.1s						
LYN				LR	LR		
	comp=Z,800nm,13.1s						
WHN	**Wuhan**	**10.71**	**82**	⇓P	**Pn**	**21 39 07.3**	**+2.9**
WHN				LR	LR		
	comp=Z,2µm,5.5s						
WHN				LR	LR		
	comp=Z,2µm,6.4s						
CHTO	**Chiang Mai**	**11.10**	**195**	Pn	**Pn**	**21 39 10.6**	**+0.7**
CHTO	**Chiang Mai**	**11.10**	**195**	P	**Pn**	**21 39 10.6**	**+0.7**
CM31	**Chiang Mai Arr**	**11.44**	**195**	Pn	**Pn**	**21 39 15.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.44**	**195**	Pn	**Pn**	**21 39 14.9**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=9.2,slow=13,SNR=8.8						
CMAR				LR	LR	21 43 58.5	
	comp=Z,468nm,20.7s,baz=10.0,slow=39						
CMAR	**Chiang Mai Arr**	**11.44**	**195**	P	**Pn**	**21 39 15.0**	**+0.4**
BRDH	**Bariadhala**	**11.60**	**236**	LR	LR	21 44 21.0	
	comp=Z,300nm,19.6s,baz=55,slow=41						
QIZ	**Qiongzhong**	**12.70**	**144**	P	**Pn**	**21 39 33.5**	**+1.8**
QIZ				S	**Sn**	**21 41 57.5**	**+4.3**
QIZ				pmax	pmax		
	comp=Z,33nm,1.4s						
QIZ				LR	LR		
	comp=Z,770nm,8.1s						
QIZ				LR	LR		
	comp=Z,960nm,10.1s						
QIZ				LR	LR		
	comp=Z,780nm,10.8s						
HNS	**HongShan**	**13.12**	**50**	⇓P	**P**	**21 39 50.0**	**+2.4**
HNS				S	**S**	**21 42 25.5**	**-3.0**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HNS				LR	LR		
	comp=N,840nm,12.2s						
HNS				LR	LR		
	comp=E,690nm,10.4s						
HNS				LR	LR		
	comp=Z,490nm,15.3s						
HHC	**Hu-ho-hao-te**	**13.65**	**32**	*e*P	**Pn**	**21 39 46.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,34nm,0.5s						
HHC				LR	LR		
	comp=Z,390nm,7.6s						
HHC				LR	LR		
	comp=Z,590nm,7.6s						
HHC				LR	LR		
	comp=Z,530nm,8.6s						
TIA	**Tai'an**	**14.28**	**59**	P	**P**	**21 40 03.5**	**+3.0**
TIA				pmax	pmax		
	comp=Z,11nm,0.9s						
TIA				pmax	pmax		
	comp=Z,100nm,3.9s						
TIA				LR	LR		
	comp=N,570nm,6.4s						
TIA				LR	LR		
	comp=E,640nm,7.8s						
TIA				LR	LR		
	comp=Z,650nm,11.4s						
UBPT	**Khong Chiam**	**14.60**	**167**	Pn	**Pn**	**21 39 59.5**	**+1.8**
BJT	**Baijiatuan**	**15.56**	**44**	Pn	**Pn**	**21 40 11.9**	**+1.5**
BJT	**Baijiatuan**	**15.56**	**44**	P	**Pn**	**21 40 11.9**	**+1.5**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ	**Urumqi**	**18.23**	**325**	*e*P	**P**	**21 40 46.5**	**+2.2**
WMQ				LR	LR		
	comp=Z,560nm,15.7s						
WMQ				LR	LR		
	comp=Z,750nm,10.5s						
WMQ				LR	LR		
	comp=Z,130nm,13.9s						
SONM	**Songino Array**	**18.52**	**9**	P	**Pn**	**21 40 48.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=188,slow=10,SNR=30						
SONM				LR	LR	21 48 37.1	
	comp=Z,766nm,20.6s,baz=188,slow=39						
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**18.52**	**9**	P	**Pn**	**21 40 48.5**	**+0.8**
SONM	**Songino Array**	**18.52**	**9**	P	**Pn**	**21 40 48.5**	**+0.8**
SONM				pmax	pmax		
	comp=Z,18nm,1.0s						
ULN	**Ulaanbaatar**	**18.65**	**11**	P	**Pn**	**21 40 49.7**	**+0.4**
ULN	**Ulaanbaatar**	**18.65**	**11**	*de*P	**Pn**	**21 40 50.4**	**+1.1**
ULN				pmax	pmax		
	comp=Z,29nm,1.7s						
PBA	**Port Blair**	**19.84**	**208**	P	**Pn**	**21 41 02.0**	**-1.6**
ZAK	**Zakamensk**	**20.78**	**2**	*e*P	**P**	**21 41 12.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,17nm,1.1s						
KNGR	**Kungurtug, Tuv**	**21.26**	**352**	⇓*e*P	**P**	**21 41 18.1**	**+0.7**
KNGR				pmax	pmax		
	comp=Z,14nm,1.0s						
KS19	**Wonju Array Si**	**22.88**	**63**	P	**P**	**21 41 35.6**	**+0.9**
KS19				IAmb	IAmb	21 41 37.8	
	comp=Z,27nm,1.0s						
KSAR	**Wonju Array Be**	**22.88**	**63**	P	**P**	**21 41 36.4**	**+1.7**
KSAR	**Wonju Array Be**	**22.88**	**63**	P	**P**	**21 41 36.4**	**+1.7**
KSRS	**Korea Array**	**22.91**	**63**	P	**P**	**21 41 35.4**	**+0.4**
	comp=Z,8.4nm,0.7s,baz=253,slow=9.9,SNR=19						
KSRS				LR	LR	21 51 40.5	
	comp=Z,131nm,19.3s,baz=255,slow=40						
	comp=Z,8.4nm,0.7s						
DGZ	**Jazzator, Alta**	**22.93**	**335**	*de*P	**P**	**21 41 35.9**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TARG	**Taragay, Kyrgy**	**23.03**	**308**	P	**P**	**21 41 35.5**	**-1.1**
TARG				IAmb	IAmb	21 41 43.9	
	comp=Z,22nm,1.3s						
TARG	**Taragay, Kyrgy**	**23.03**	**308**	P	**P**	**21 41 35.5**	**-1.1**
TARG				pmax	pmax		
	comp=Z,22nm,1.3s						
MK31	**Makanchi Array**	**23.04**	**324**	P	**P**	**21 41 35.5**	**-0.8**
MK31	**Makanchi Array**	**23.04**	**324**	P	**P**	**21 41 35.5**	**-0.8**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MKAR	**Makanchi Array**	**23.04**	**324**	P	**P**	**21 41 36.0**	**-0.3**
	comp=Z,13nm,1.3s,baz=133,slow=12,SNR=14						
	comp=Z,13nm,1.3s						
MKAR	**Makanchi Array**	**23.04**	**324**	P	**P**	**21 41 34.8**	**-1.5**
MAKZ	**Makanchi**	**23.21**	**323**	P	**P**	**21 41 38.2**	**+0.2**
MAKZ	**Makanchi**	**23.21**	**323**	P	**P**	**21 41 38.2**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
JOW	**Kunigami**	**23.27**	**90**	P	**P**	**21 41 37.9**	**-0.9**
	comp=Z,15nm,0.7s,baz=323,slow=20,SNR=1.9						
JOW				LR	LR	21 51 02.2	
	comp=Z,131nm,19.1s,baz=54,slow=37						
	comp=Z,15nm,0.7s						
CN2	**Changchun**	**23.42**	**46**	*e*P	**P**	**21 41 41.3**	**+1.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				LR	LR		
	comp=Z,100nm,9.0s						
CN2				LR	LR		
	comp=Z,100nm,9.0s						
CN2				LR	LR		
	comp=Z,100nm,10.0s						
KSH	**Kashi**	**23.56**	**302**	P	**P**	**21 41 45.5**	**+3.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KSH				LR	LR		
	comp=Z,230nm,10.3s						
KSH				LR	LR		
	comp=Z,180nm,12.0s						
KSH				LR	LR		
	comp=Z,240nm,14.4s						
HIA	**Hailar**	**23.83**	**30**	P	**P**	**21 41 44.8**	**+0.7**
HIA				IAmb	IAmb	21 42 04.6	
	comp=Z,14nm,1.2s						
HIA	**Hailar**	**23.83**	**30**	*de*P	**P**	**21 41 46.0**	**+1.9**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NRN	**Naryn**	**24.16**	**306**	P	**P**	**21 41 47.9**	**+0.1**
NRN	**Naryn**	**24.16**	**306**	P	**P**	**21 41 47.9**	**+0.1**
NRN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
NIL	**Nilore**	**24.80**	**287**	P	**P**	**21 41 51.9**	**-1.4**
NIL				IAmb	IAmb	21 42 11.4	
	comp=Z,12nm,0.9s						
NIL	**Nilore**	**24.80**	**287**	P	**P**	**21 41 51.9**	**-1.4**
NIL				pmax	pmax		
	comp=Z,13nm,1.0s						
AAK	**Ala-Archa**	**25.65**	**308**	P	**P**	**21 41 59.5**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=108,slow=10,SNR=3.7						
AAK				LR	LR	21 53 16.9	
	comp=Z,83nm,20.0s,baz=80,slow=39						
	comp=Z,0.5nm,0.3s						
AAK	**Ala-Archa**	**25.65**	**308**	P	**P**	**21 42 01.0**	**0.0**
AAK				IAmb	IAmb	21 42 32.6	
	comp=Z,7.5nm,1.3s						
AAK	**Ala-Archa**	**25.65**	**308**	P	**P**	**21 42 01.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
DRK	**Karamyk**	**26.68**	**300**	P	**P**	**21 42 10.8**	**+0.3**
DRK				IAmb	IAmb	21 42 21.0	
	comp=Z,6.4nm,0.7s						
PSI	**Prapat**	**26.81**	**187**	LR	LR	21 53 32.8	
	comp=Z,92nm,18.4s,baz=338,slow=38						
ZAA0	**Zalesovo Array**	**27.36**	**338**	P	**P**	**21 42 15.1**	**-1.1**
ZALV	**Zalesovo Beam**	**27.36**	**338**	P	**P**	**21 42 14.2**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=161,slow=6.3,SNR=8.4						
ZALV				LR	LR	21 53 48.3	
	comp=Z,97nm,19.9s,baz=170,slow=38						
	comp=Z,1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**27.36**	**338**	*i* P	**P**	**21 42 15.3**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**27.43**	**327**	P	**P**	**21 42 15.6**	**-1.2**
	comp=Z,2.2nm,0.2s,baz=133,slow=10,SNR=5.8						
	comp=Z,2.2nm,0.2s						
KURK	**Kurchatov**	**27.45**	**327**	⇑*e*P	**P**	**21 42 18.4**	**+1.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BTK	**Batken**	**27.54**	**301**	P	**P**	**21 42 17.8**	**-0.2**
BTK	**Batken**	**27.54**	**301**	P	**P**	**21 42 17.8**	**-0.2**
BTK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GAR	**Garm**	**27.72**	**298**	P	**P**	**21 42 19.5**	**-0.2**
GAR				IAmb	IAmb	21 42 24.9	
	comp=Z,12nm,1.1s						
USRK	**Ussuriysk Ar.**	**27.85**	**50**	LR	LR	21 53 37.9	
	comp=Z,107nm,18.7s,baz=242,slow=37						
KBL	**Kabul**	**28.31**	**289**	P	**P**	**21 42 24.5**	**-0.6**
KBL	

GEYT LR LR 22 02 09.1
comp=Z,101nm,21.3s,baz=81,slow=42
comp=Z,5.8nm,0.9s
GEYT Alibeck 37.17 295 P **P** **21 43 42.3 +0.1**
GEYT IAmb IAmb 21 43 45.2
comp=Z,9.2nm,1.0s
GYA0B ALIBECK ARRAY 37.17 295 P **P** **21 43 42.1 -0.1**
GYA0B IAmb IAmb 21 43 45.2
comp=Z,6.3nm,0.9s
ABKAR Akbulak array 37.38 314 P **P** **21 43 44.6 +0.8**
AKTO Aktyubinsk 38.90 315 LR LR 22 01 10.1
comp=Z,85nm,18.7s,baz=108,slow=38
ARU Arti 40.56 324 P **P** **21 44 10.9 +0.6**
ARU Arti 40.56 324*c i* P **P** **21 44 06.8 -3.5**
ARU PPP PPP 21 46 11.3
ARU S **S** **21 50 21.7 +2.2**
ARU pmax pmax
comp=Z,7.0nm,1.1s
NRIK Noril'sk 40.65 352 P **P** **21 44 09.7 -1.2**
comp=Z,4.5nm,0.8s,baz=157,slow=5.7,SNR=4.4
NRIK LR LR 22 01 44.2
comp=Z,148nm,19.3s,baz=138,slow=37
comp=Z,4.5nm,0.8s
NRIK Noril'sk 40.65 352 P **P** **21 44 11.0 +0.1**
NRIK IAmb IAmb 21 44 12.2
comp=Z,6.6nm,0.9s
NRIK Noril'sk 40.65 352 P **P** **21 44 11.0 +0.1**
NRIK pmax pmax
comp=Z,7.0nm,1.0s
SIJI Sorong 41.19 132 LR LR 22 00 42.6
comp=Z,21nm,20.0s,baz=44,slow=35
MA2 Magadan 44.33 33 LR LR 22 04 58.1
comp=Z,85nm,18.7s,baz=252,slow=38
TIXI Tiksi 44.58 12 LR LR 22 04 30.5
comp=Z,256nm,18.5s,baz=184,slow=38
SEY Seymchan 46.27 29⇓*eP* **P** **21 44 57.2 +0.9**
SEY pmax pmax
comp=Z,29nm,2.5s
GNI Garni 47.45 299 LR LR 22 06 04.8
comp=Z,41nm,19.3s,baz=79,slow=38
ZEI Tsey 47.85 303 *eP* **P** **21 45 09.7 +0.5**
ZEI pmax pmax
comp=Z,6.0nm,1.4s
KIV Kislovodsk 48.66 304 P **P** **21 45 15.5 +0.2**
KIV Kislovodsk 48.66 304 *eP* **P** **21 45 16.3 +1.0**
KIV pmax pmax
comp=Z,16nm,1.0s
KLMR Klimovskoe 51.30 326 *eP* **P** **21 45 31.8 -3.2**
KLMR pmax pmax
comp=Z,26nm,2.4s
KLMR Klimovskoe 51.30 326 *eP* **P** **21 45 31.8 -3.2**
KLMR AMP 21 45 41.1
comp=Z,26nm,2.4s
KNRA Kununurra 51.88 147 P **P** **21 45 39.8 0.0**
OBN Obninsk 52.41 319⇓*iP* **P** **21 45 44.0 +0.7**
OBN *e* 21 46 56.2
OBN PPP PPP 21 48 50.0
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,123nm,15.0s
FITZ Fitzroy Crossi 52.60 151 P **P** **21 45 44.8 -0.3**
FITZ IAmb IAmb 21 46 23.1
comp=Z,5.5nm,1.2s
BR131 Keskin Array S 55.94 300⇑*eP* **P** **21 46 09.3 -0.2**
BRTR Keskin Array B 55.94 300 P **P** **21 46 08.5 -1.0**
comp=Z,1.1nm,0.8s,baz=34,slow=4.8,SNR=4.9
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 55.94 300 P **P** **21 46 09.4 -0.2**
BRTR Keskin Array B 55.94 300 *iP* **P** **21 46 10.3 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MMAI Mount Meron Ar 56.17 292 LR LR 22 13 26.1
comp=Z,57nm,20.4s,baz=116,slow=40
SHEM Shemya Is, Ala 56.41 44 LR LR 22 13 24.8
comp=Z,34nm,18.1s,baz=108,slow=39
AKASG Malin Array Be 57.12 314 P **P** **21 46 15.6 -1.9**
comp=Z,2.3nm,0.9s,baz=74,slow=5.9,SNR=6.5
comp=Z,2.3nm,0.9s
AKASG Malin Array Be 57.12 314 *iP* **P** **21 46 16.7 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 57.12 314⇑*eP* **P** **21 46 15.9 -1.6**
EIL Elat 57.51 288 LR LR 22 15 10.8
comp=Z,58nm,20.1s,baz=202,slow=40
FINES FINESS Array B 57.83 327 P **P** **21 46 21.7 -0.7**
comp=Z,1.6nm,0.7s,baz=47,slow=12,SNR=1.9
comp=Z,1.6nm,0.7s
FINES FINESS Array B 57.83 327 P **P** **21 46 22.9 +0.5**
FINES FINESS Array B 57.83 327 P **P** **21 46 22.9 +0.5**
ARCES ARCESS Array B 57.90 336 P **P** **21 46 21.9 -0.9**
comp=Z,1.7nm,0.8s,baz=81,slow=5.6,SNR=3.6
ARCES LR LR 22 15 43.5
comp=Z,55nm,18.2s,baz=165,slow=41
comp=Z,1.7nm,0.8s
WRAB Tennant Creek 58.27 144⇑*eP* **P** **21 46 25.6 -0.4**
WRAB pmax pmax
comp=Z,11nm,0.6s
WRA Warramunga Arr 58.27 144 P **P** **21 46 25.1 -0.9**
comp=Z,9.0nm,0.7s,baz=333,slow=7.8,SNR=52
comp=Z,9.0nm,0.7s
WRA Warramunga Arr 58.27 144 *iP* **P** **21 46 25.1 -0.9**
WRA pmax pmax
comp=Z,7.0nm,0.5s
COEN Coen 58.73 132 P **P** **21 46 29.9 +0.6**
SPITS Spitsbergen Ar 60.37 346 LR LR 22 16 36.0
comp=Z,104nm,18.6s,baz=76,slow=40
AS31 Alice Springs 61.18 146 P **P** **21 46 46.7 +0.7**
AS31 IAmb IAmb 21 47 13.0
comp=Z,5.2nm,1.4s
ASAR Alice Springs 61.18 146 P **P** **21 46 45.5 -0.5**
comp=Z,2.6nm,0.5s,baz=328,slow=6.9,SNR=23
comp=Z,2.6nm,0.5s
ASAR Alice Springs 61.18 146 P **P** **21 46 46.5 +0.5**
ASAR Alice Springs 61.18 146 P **P** **21 46 46.5 +0.5**
NWAO Narrogin (SRO) 63.83 166 P **P** **21 47 05.0 +1.5**
NWAO Narrogin (SRO) 63.83 166 P **P** **21 47 05.0 +1.5**
NWAO pmax pmax
comp=Z,45nm,1.4s
NB2 NORSAR Subarra 64.96 328 P **P** **21 47 10.0 -0.7**
comp=Z,0.9nm,0.6s,baz=86,slow=6.9
NOA NORSAR Array B 64.96 328 P **P** **21 47 09.4 -1.3**
comp=Z,1.7nm,0.9s,baz=74,slow=6.5,SNR=3.7
comp=Z,1.7nm,0.9s
CTAO Charters Tower 65.23 134 P **P** **21 47 13.6 +0.6**
CTAO Charters Tower 65.23 134 P **P** **21 47 13.6 +0.6**
CTAO pmax pmax
comp=Z,16nm,1.2s
GERES GERESS Array B 67.32 314 P **P** **21 47 24.8 -1.3**
comp=Z,0.7nm,0.7s,baz=348,slow=5.7,SNR=5.2
comp=Z,0.7nm,0.7s
IMAR Indian Mountai 68.85 25 P **P** **21 47 35.7 +0.4**
J20K Nowinta River 69.47 27 P **P** **21 47 39.9 +0.7**
J20K IAmb IAmb 21 47 50.2
comp=Z,7.9nm,1.2s
L19K White Mountain 70.04 29 P **P** **21 47 43.6 +0.8**
L19K IAmb IAmb 21 47 59.0
comp=Z,5.0nm,1.2s
TRF Thorofare Moun 71.33 27 P **P** **21 47 51.0 +0.2**
TRF IAmb IAmb 21 48 30.8
comp=Z,5.7nm,1.3s
BMAR Burnt Mountain 71.34 22 P **P** **21 47 50.6 -0.1**
STKA Stephens Creek 71.76 145 P **P** **21 47 53.5 0.0**
comp=Z,3.0nm,0.7s,baz=332,slow=9.1,SNR=3.5
comp=Z,3.0nm,0.7s
STKA Stephens Creek 71.76 145 P **P** **21 47 53.8 +0.3**
STKA IAmb IAmb 21 48 13.9
comp=Z,5.5nm,1.4s
STKA Stephens Creek 71.76 145 P **P** **21 47 53.8 +0.3**
STKA pmax pmax
comp=Z,6.0nm,1.5s
ILAR Eielson Array 71.96 25 P **P** **21 47 54.4 +0.1**
comp=Z,0.3nm,0.4s,baz=283,slow=5.7,SNR=4.6
ILAR LR LR 22 24 06.4
comp=Z,45nm,18.2s,baz=294,slow=40
comp=Z,0.3nm,0.4s
SUA Susitna One 72.11 29 P **P** **21 47 55.0 -0.4**
EIDS Eidsvold 72.12 134 P **P** **21 47 56.1 +0.3**
SML Sawmill 72.93 28 P **P** **21 48 00.7 +0.4**
KDAK Kodiak Island 73.07 33 LR LR 22 25 10.1
comp=Z,61nm,19.4s,baz=278,slow=40
PWL Port Wells 73.42 29 P **P** **21 48 03.6 +0.5**
PWL IAmb IAmb 21 48 05.1
comp=Z,4.3nm,1.0s
KLU Klutina 74.08 28 P **P** **21 48 08.0 +0.9**
KLU IAmb IAmb 21 48 09.6
comp=Z,4.4nm,0.8s
BCAR Beaver Creek A 74.78 25 P **P** **21 48 11.7 +0.6**
GLB Gilahina Butte 74.95 27 P **P** **21 48 11.6 -0.4**
GLB IAmb IAmb 21 48 16.9
comp=Z,6.3nm,1.3s
DLBC Dease Lake 82.17 25 LR LR 22 30 50.5
comp=Z,76nm,18.1s,baz=277,slow=40
YKA Yellowknife Ar 83.64 16 LR LR 22 33 57.2
comp=Z,18nm,18.4s,baz=281,slow=41
TORD Torodi Ar. Bea 92.36 286 P **P** **21 49 41.2 -1.1**
comp=Z,15nm,0.6s,baz=35,slow=5.3,SNR=5.1

*IDC **28** 22:02:48.1±2.8,6.°99N×127.°34E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=202.8km s-min=28.9km az=66.0*
*MAN **28** 22:02:57.4,6.°66N×126.°55E,h28km,mb4.2, ML3.1, MS2.8*
ISC 28 22:02:55.2±1.3,6.°52N±0.°09×126.°7E±0.°1,h35km,n9,
σ1f44/12,mb3.3/3,5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.26**	**296**	LR	LR	22 04 12.4	
	comp=Z,64nm,19.3s,baz=77,slow=48						
KCP	**Kidapawan**	**1.69**	**287**⇓*iP*		**Pn**	**22 03 22.2**	**0.0**
KCP				*i*	S	**Sn**	**22 03 41.8**	**-1.0**
BIPH	**Bislig**	**1.69**	**348**⇓*iP*		**Pn**	**22 03 22.5**	**+0.2**
BIPH				*eS*	**Sn**	**22 03 42.2**	**-0.6**
BUKP	**Musuan**	**2.13**	**310**⇓*eP*		**Pn**	**22 03 28.9**	**+0.6**
BUKP				*eS*	**Sn**	**22 03 53.8**	**+0.3**
CGP	**Cagayan de Oro**	**2.78**	**314**⇓*eP*		**Pn**	**22 03 40.3**	**+3.1**
CGP				*eS*	**Sn**	**22 04 09.6**	**-0.1**
TABP	**Talibon, Bohol**	**4.26**	**327**⇓*iP*		**Pn**	**22 03 58.9**	**+1.3**
WRA	**Warramunga Arr**	**27.34**	**164**	P	**P**	**22 08 38.3**	**+1.2**
	0.3nm,0.5s,baz=346,slow=10,SNR=1.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**30.81**	**167**	P	**P**	**22 09 08.2**	**+0.4**
	0.2nm,0.3s,baz=339,slow=8.1,SNR=4.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**55.29**	**324**	P	**P**	**22 12 23.2**	**-2.0**
	0.2nm,0.4s,baz=114,slow=6.7,SNR=4.7						
	0.2nm,0.4s						

*IDC **28** 22:03:33.5±2.1, 15.°97S×174.°65W,h0km,mb3.8/7, mbtmp3.8/7,MS3.8/24,Error ellipse: s-maj=132.5km s-min=23.7km az=153.0*
ISC 28 22:03:35.1±1.9,15.°8S±0.°7×174.°5W±0.°4,h10km,n37,
σ2s04/9,mb4.0/7,MS3.9/21,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.17**	**55**	Pn	**Pn**	**22 04 23.7**	**-1.4**
	9.6nm,0.3s,baz=132,slow=15,SNR=15						
AFI				Sn	**Sn**	**22 05 01.1**	**-1.9**
	3.5nm,0.3s,baz=323,slow=20,SNR=1.6						
AFI				LR	LR	22 05 35.6	
	comp=Z,1μm,18.7s,baz=260,slow=35						
MSVF	**Nonsavu**	**7.45**	**254**	LR	LR	22 07 44.6	
	comp=Z,2μm,18.2s,baz=23,slow=35						
RAO	**Raoul Island**	**13.81**	**193**	LR	LR	22 10 46.7	
	comp=Z,243nm,19.7s,baz=346,slow=32						
RAR	**Rarotonga**	**14.95**	**114**	LR	LR	22 11 21.2	
	comp=Z,275nm,20.9s,baz=306,slow=31						
DZM	**Mont Dzumac**	**19.13**	**248**	eLR	LR	22 12 35.2	
	comp=Z,846nm,25.9s						
DZM	**Mont Dzumac**	**19.13**	**248**	LR	LR	22 13 59.5	
	comp=Z,428nm,19.5s,baz=58,slow=33						
PPT	**Papeete**	**23.90**	**98**	LR	LR	22 16 53.9	
	comp=Z,39nm,19.8s,baz=227,slow=33						
PPT2	**Papeete2**	**23.90**	**98**	eLR	LR	22 14 36.0	
	comp=Z,43nm,22.5s						
RPZ	**Rata Peaks**	**30.49**	**201**	LR	LR	22 21 05.1	
	comp=Z,240nm,20.3s,baz=34,slow=35						
TAOE	**Nuku Hiva Isla**	**34.17**	**83**	eLR	LR	22 19 17.3	
	comp=Z,302nm,26.5s						
CTA	**Charters Tower**	**37.58**	**257**	LR	LR	22 22 54.5	
	comp=Z,190nm,21.8s,baz=84,slow=31						
H11S2	**WAKE ISLAND Hy**	**38.75**	**331**	T	T	22 51 45.1	
	baz=149,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**38.77**	**331**	T	T	22 51 45.0	
	baz=149,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**38.77**	**331**	T	T	22 51 46.5	
	baz=149,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**39.72**	**332**	T	T	22 52 48.9	
	baz=152,slow=76,SNR=72						
H11N1	**WAKE ISLAND Hy**	**39.73**	**332**	T	T	22 52 46.1	
	baz=152,slow=76,SNR=118						
H11N2	**WAKE ISLAND Hy**	**39.74**	**332**	T	T	22 52 50.6	
	baz=152,slow=76,SNR=85						
STKA	**Stephens Creek**	**42.98**	**240**	LR	LR	22 26 48.4	
	comp=Z,116nm,20.9s,baz=187,slow=33						
WRA	**Warramunga Arr**	**48.78**	**257**	P	**P**	**22 12 18.5**	**-2.2**
	1.1nm,1.1s,baz=91,slow=7.5,SNR=3.2						
WRA				LR	LR	22 30 16.3	
	comp=Z,118nm,21.1s,baz=123,slow=33						
	1.1nm,1.1s						
ASAR	**Alice Springs**	**49.04**	**252**	P	**P**	**22 12 20.6**	**-2.1**
	1.0nm,0.7s,baz=86,slow=7.9,SNR=8.6						
ASAR				LR	LR	22 30 51.5	
	comp=Z,262nm,21.9s,baz=146,slow=34						
	1.0nm,0.7s						
SIJI	**Sorong**	**55.52**	**280**	LR	LR	22 35 46.6	
	comp=Z,80nm,20.6s,baz=39,slow=35						
FITZ	**Fitzroy Crossi**	**57.15**	**258**	LR	LR	22 35 14.1	
	comp=Z,119nm,20.4s,baz=148,slow=33						
JCJ	**Chichijima**	**59.87**	**315**	LR	LR	22 35 23.6	
	comp=Z,146nm,19.3s,baz=124,slow=32						
DAV	**Davao City (W)**	**63.55**	**286**	LR	LR	22 39 06.7	
	comp=Z,37nm,21.8s,baz=92,slow=34						
NWAO	**Narrogin (SRO)**	**63.56**	**241**	LR	LR	22 39 28.9	
	comp=Z,192nm,19.9s,baz=322,slow=34						
MJAR	**Matsushiro Arr**	**68.55**	**320**	LR	LR	22 38 50.0	
	comp=Z,94nm,20.9s,baz=128,slow=31						
SHEM	**Shemya Is, Ala**	**68.91**	**353**	LR	LR	22 37 24.7	
	comp=Z,78nm,21.8s,baz=350,slow=29						
JOW	**Kunigami**	**69.87**	**307**	LR	LR	22 38 23.7	
	comp=Z,103nm,21.7s,baz=126,slow=30						
PETK	**Petropavlovsk-**	**72.66**	**343**	LR	LR	22 40 42.8	
	comp=Z,46nm,21.7s,baz=146,slow=31						
NVAR	**Mina Array Bea**	**75.27**	**42**	P	**P**	**22 15 21.0**	**+2.3**
	2.2nm,0.8s,baz=229,slow=7.9,SNR=12						
	2.2nm,0.8s						
KSRS	**Korea Array**	**75.70**	**316**	LR	LR	22 45 38.2	
	comp=Z,38nm,19.4s,baz=110,slow=33						
USRK	**Ussuriysk Ar.**	**77.06**	**324**	LR	LR	22 43 04.5	
	comp=Z,149nm,21.5s,baz=88,slow=31						
MA2	**Magadan**	**80.19**	**343**	LR	LR	22 44 32.1	
	comp=Z,77nm,20.5s,baz=126,slow=31						
TXAR	**Lajitas Array**	**81.65**	**56**	P	**P**	**22 15 55.6**	**+1.6**
	0.1nm,0.3s,baz=232,slow=4.4,SNR=2.3						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**82.98**	**12**	P	**P**	**22 16 00.8**	**+0.8**
	0.2nm,0.6s,baz=229,slow=5.9,SNR=1.9						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**83.20**	**42**	P	**P**	**22 16 03.1**	**+1.2**
	1.2nm,0.9s,baz=226,slow=2.8,SNR=7.1						
	1.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**91.76**	**289**	P	**P**	**22 16 44.2**	**+0.5**
	0.4nm,0.5s,baz=120,slow=1.5,SNR=1.5						
CMAR				LR	LR	22 52 36.3	
	comp=Z,28nm,22.0s,baz=125,slow=32						
	0.4nm,0.5s						

UPP 28 22:08:21.5±0.1,67.°19N×20.°65E,h0km,ML2.3,
Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**206**	P	Pg	22 08 23.2	+0.3
DUNU				S	Sg	22 08 24.2	+0.4
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	22 08 32.7	-0.1
RATU	**Laukkuluspa**	**0.76**	**328**	P	Pg	22 08 35.8	-0.2
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	22 08 36.2	-0.2
SALU	**Saltoluokta**	**0.85**	**284**	P	Pg	22 08 37.5	-0.4
NIKU	**Nikkaluokta**	**0.92**	**319**	P	Pg	22 08 38.9	-0.3

*IDC **28** 22:09:04.3±7.5,5.°35S×146.°65E,h108km±81km,mb3.5/4, mbtmp3.8/6,ML3.9/1,Error ellipse: s-maj=70.4km s-min=29.0km az=140.0*
ISC 28 22:09:05.8±1.3,5.°4S±0.°1×146.°6E±0.°2,h123km,n6,
σ1f31/7,mb3.5/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.02**	**172**	P	**Pn**	**22 10 06.5**	**+0.9**
	15nm,0.4s,baz=326,slow=14,SNR=2.7						
PMG				S	**Sn**	**22 10 50.7**	**-1.4**
	11nm,0.3s,baz=347,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**18.75**	**218**	P	**Pn**	**22 13 16.0**	**-1.1**
	0.4nm,0.3s,baz=38,slow=12,SNR=18						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**21.90**	**213**	P	**P**	**22 13 50.6**	**+1.4**
	1.2nm,0.7s,baz=45,slow=7.6,SNR=6.5						
	1.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.06**	**237**	P	**P**	**22 14 10.2**	**+0.5**
	5.2nm,0.4s,baz=360,slow=6.0,SNR=24						
	5.2nm,0.4s						
MKAR	**Makanchi Array**	**76.79**	**321**	P	**P**	**22 20 43.1**	**-0.9**
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.2						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**85.09**	**23**	P	**P**	**22 21 27.8**	**+0.2**
	0.5nm,0.6s,baz=253,slow=4.9,SNR=5.2						
	0.5nm,0.6s						

HEL 28 22:09:18.0±0.1,67.°17N×20.°62E,h0km,ML1.0,
ML1.3(UPP),Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.80**	**352**	*i* P	Pg	22 09 32.1	-1.1
KUA				*i* S	Sg	22 09 42.9	-0.7
PAJU	**Pajala**	**0.98**	**97**	*e*P	Pg	22 09 35.5	-1.4
	baz=280						
PAJU				*e*SB	Sg	22 09 49.4	-0.2
LANU	**Lannavaara**	**1.03**	**30**	*e*P	Pg	22 09 36.4	-1.3
KOVU	**Salmi**	**1.07**	**351**	*e*P	Pg	22 09 37.3	-1.3
KLF	**Kolari**	**1.30**	**86**	*e*PN	Pg	22 09 42.9	0.0
HEF	**Hetta**	**1.70**	**41**	*e*PG	Pn	22 09 48.5	-0.3
HEF				MSG		22 10 08.9	
	comp=Z,0.5nm,0.2s						
HEF				*e*SN	Sn	22 10 11.5	+0.2
KALU	**Kalix**	**1.71**	**139**	*e*PN	Pn	22 09 48.9	-0.1
SJUU	**Sjulsmark**	**1.71**	**166**	*e*P	Pn	22 09 48.3	-0.8
TOF	**Tornio**	**1.84**	**125**	*e*PG	Pn	22 09 51.2	+0.5
	baz=305						
TOF				MSG		22 10 13.3	
	comp=Z,1.3nm,0.2s						
TOF				*e*SN	Sb	22 10 16.2	+0.3
KIF	**Kilpisjarvi**	**1.85**	**2**	*e*PG	Pb	22 09 51.9	-0.7
	baz=185						
KIF				MSG		22 10 14.4	
	comp=Z,0.7nm,0.2s						
KIF				*e*SG	Sg	22 10 16.9	-0.3
LILU	**Lilltraesk**	**1.92**	**190**	*e*P	Pn	22 09 51.8	-0.1

*IDC **28** 22:12:10.7±0.5,0.°07N×17.°80W,h0km,mb4.3/23, mbtmp4.4/27,ML4.9/4,MS4.1/72,Error ellipse: s-maj=15.7km s-min=13.1km az=117.0*
*MOS **28** 22:12:10.7±0.9,0.°05N×17.°81W,h10km,mb4.9/5,Error ellipse: s-maj=12.7km s-min=6.4km az=53.9*
*NEIC **28** 22:12:13.0±1.0,0.°02N±0.°08×17.°82W±0.°09,h10km±1km, mb5.0/115,Error ellipse: s-maj=14.7km s-min=12.9km az=255.0*
*GCMT **28** 22:12:16.0±0.2,0.°20N±0.°01×17.°83W±0.°01,h14km±1km, MW5.0/123,Moment Tensor Solution. s51,c65; s123,c183; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.10; $M_{\theta\theta}$1.67±.11; $M_{\phi\phi}$-1.60±.10; $M_{r\theta}$-0.27±.20; $M_{\theta\phi}$-4.05±.10; $M_{r\phi}$0.04±.19; Best double couple: M_o4.37600×10^{16} NP1:ϕ_s259.00000°,δ89.00000°, λ177.00000°. NP2:ϕ_s349.00000°,δ87.00000°,λ1.00000°. Principal axes: T 4.4160, Plg3.0000°, Azm214.0000°; N -0.0820, Plg86.0000°, Azm61.0000°; P -4.3360, Plg2.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 22:12:12.3±0.3,0.°05N±0.°06×17.°77W±0.°06,h10km,n341,
σ1f34/287,mb4.8/105,MS4.2/71,6C-9D,North of
Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**8.48**	**157**	Pn	**Pn**	**22 14 13.3**	**-1.8**
	baz=341,slow=13						
H10N2				T	T	22 23 20.2	
	baz=340,slow=74,SNR=5306						
H10N3	**ASCENSION HYDR**	**8.49**	**157**	Pn	**Pn**	**22 14 13.1**	**-2.1**
	baz=341,slow=13						
H10N3				T	T	22 23 23.9	
	baz=340,slow=74,SNR=5520						
H10N1	**ASCENSION HYDR**	**8.50**	**157**	Pn	**Pn**	**22 14 13.3**	**-2.0**
	baz=341,slow=13						
H10N1				T	T	22 23 24.9	
	baz=340,slow=74						
ASCN	**Ascension**	**8.63**	**157**	Pn	**Pn**	**22 14 15.6**	**-1.8**
H10S3	**ASCENSION HYDR**	**9.46**	**161**	Pn	**Pn**	**22 14 28.3**	**-0.3**
	baz=8.2,slow=74						
H10S3				T	T	22 24 41.8	
	baz=238,slow=74,SNR=1858						
H10S2	**ASCENSION HYDR**	**9.47**	**161**	Pn	**Pn**	**22 14 27.3**	**-1.5**
	baz=212,slow=74						
H10S2				T	T	22 24 39.2	
	baz=342,slow=74,SNR=319						
LIC	**Lamto**	**14.12**	**64**	*e*P	**Pn**	**22 15 31.2**	**-1.4**
	35nm,0.5s						
MBO	**M'Bour**	**14.28**	**3**	Pn	**Pn**	**22 15 33.3**	**-1.3**
TIC	**Toumodi**	**14.31**	**63**	*e*P	**Pn**	**22 15 34.1**	**-1.2**
	37nm,0.4s						
KIC	**Kosan Boka**	**14.44**	**64**	*e*P	**Pn**	**22 15 34.0**	**-3.0**
	104nm,0.3s						
DBIC	**Dimbokro**	**14.47**	**63**	Pn	**Pn**	**22 15 35.2**	**-2.2**
	20nm,0.3s,baz=262,slow=13,SNR=156						
DBIC					Sn	**Sn**	22 18 02.8	-15
	2.2nm,0.3s,baz=156,slow=18,SNR=2.7						
DBIC				LR	LR	22 20 01.6	
	comp=Z,1μm,20.4s,baz=243,slow=32						
	44nm,0.3s						
BBTS	**Babate**	**14.57**	**5**	Pn	**Pn**	**22 15 36.6**	**-2.2**
	7.3nm,0.3s,baz=324,slow=22,SNR=32						
BBTS					Sn	**Sn**	22 18 05.8	-15
	11nm,0.3s,baz=147,slow=23,SNR=3.3						
BBTS				LR	LR	22 20 45.6	
	comp=Z,2μm,18.0s,baz=216,slow=35						
	50nm,0.6s						
SACV	**Santiago Islan**	**15.91**	**339**	Pn	**Pn**	**22 15 52.7**	**-3.8**
SACV				IAmb	IAmb	22 15 54.5	
	comp=Z,137nm,1.8s						
RCBR	**Riachuelo**	**19.01**	**252**	Pn	**P**	**22 16 33.8**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=226,slow=12,SNR=9.2						
RCBR				S	Sn	22 19 49.4	-19
	comp=Z,14nm,1.1s,baz=74,slow=7.4,SNR=1.9						
RCBR				LR	LR	22 21 54.6	
	comp=Z,221nm,19.9s,baz=219,slow=31						
	comp=Z,2.9nm,0.3s						
RCBR	**Riachuelo**	**19.01**	**252**	P	**P**	**22 16 33.6**	**-1.0**
KOWA	**Kowa**	**19.78**	**43**	P	**P**	**22 16 42.4**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=219,slow=9.3,SNR=39						
KOWA				S	S	22 20 09.6	-16
	comp=Z,17nm,0.7s,baz=183,slow=17,SNR=3.2						
KOWA				LR	LR	22 23 53.0	
	comp=Z,1μm,18.8s,baz=298,slow=36						
	comp=Z,56nm,0.8s						
KOWA	**Kowa**	**19.78**	**43**		**P**	**22 16 42.2**	**-0.8**
KOWA				IAmb	IAmb	22 16 55.3	
	comp=Z,78nm,0.8s						
TOA0	**Torodi Ar. Sit**	**23.28**	**55**	P	**P**	**22 17 18.5**	**-1.9**
TORD	**Torodi Ar. Bea**	**23.28**	**55**	P	**P**	**22 17 19.3**	**-1.1**
	comp=Z,35nm,0.9s,baz=247,slow=11,SNR=10						
TORD				S	**S**	**22 21 28.5**	**-4.5**
	comp=Z,15nm,0.6s,baz=246,slow=20,SNR=4.3						
TORD				LR	LR	22 25 38.9	
	comp=Z,1μm,18.5s,baz=212,slow=35						
	comp=Z,35nm,0.9s						
TORD	**Torodi Ar. Bea**	**23.28**	**55**	P	**P**	**22 17 18.9**	**-1.5**
TAM	**Tamanrasset**	**32.02**	**44**	P	**P**	**22 18 39.3**	**0.0**
TAM				IAmb	IAmb	22 18 45.7	
	comp=Z,29nm,1.6s						
TAM	**Tamanrasset**	**32.02**	**44**	P	**P**	**22 18 39.3**	**0.0**
TAM				pmax	pmax		
	comp=Z,29nm,1.6s						
BDFB	**Brasilia**	**33.68**	**241**	LR	LR	22 30 45.0	
	comp=Z,230nm,19.8s,baz=108,slow=33						

TSUM Tsumeb 39.60 121 LR LR 22 32 39.5
comp=Z,384nm,21.9s,baz=330,slow=31
PAB San Pablo 41.18 16 P **P** **22 19 58.1 +0.9**
PAB San Pablo 41.18 16 P **P** **22 19 58.1 +0.9**
PAB pmax pmax
comp=Z,21nm,1.4s
MTE Manteigas 41.23 12 P **P** **22 19 58.8 +1.2**
ESDC Sonseca Array 41.41 16 P **P** **22 19 58.4 -0.6**
comp=Z,2.2nm,1.1s,baz=198,slow=7.8,SNR=6.4
ESDC LR LR 22 37 51.0
comp=Z,245nm,19.0s,baz=194,slow=37
comp=Z,2.2nm,1.1s
ESDC Sonseca Array 41.41 16 P **P** **22 20 00.0 +0.9**
BOAV Boa Vista 42.80 273 P **P** **22 20 10.2 -0.5**
BOAV IAmb IAmb 22 20 13.5
comp=Z,24nm,1.4s
MACA Manacapuru-AM 43.01 265 P **P** **22 20 12.9 +0.5**
MACA IAmb IAmb 22 21 03.1
comp=Z,10nm,1.0s
KEST Kesra 43.56 33 P **P** **22 20 17.8 +1.1**
comp=Z,7.0nm,0.9s,baz=157,slow=7.7,SNR=5.5
KEST LR LR 22 39 56.5
comp=Z,1µm,19.1s,baz=182,slow=38
comp=Z,7.0nm,0.9s
KEST Kesra 43.56 33 P **P** **22 20 16.9 +0.2**
PTLB Pontes e Lacer 43.65 247 P **P** **22 20 18.2 +0.6**
PTLB IAmb IAmb 22 20 23.4
comp=Z,5.0nm,1.3s
VILB Vilhena 43.99 251 P **P** **22 20 20.5 +0.1**
VILB IAmb IAmb 22 20 39.8
comp=Z,6.6nm,0.9s
SIV San Ignacio 45.59 247 P **P** **22 20 32.7 -0.5**
comp=Z,0.7nm,0.6s,baz=60,slow=19,SNR=4.7
SIV LR LR 22 38 12.7
comp=Z,340nm,20.1s,baz=96,slow=34
comp=Z,0.7nm,0.6s
CPUP Villa Florida 46.25 232 LR LR 22 39 02.2
comp=Z,298nm,18.1s,baz=68,slow=35
CLTB Caltabellotta 47.03 34 P **P** **22 20 45.4 +1.2**
VAE Valguarnera 47.64 35 LR LR 22 43 22.4
comp=Z,662nm,18.0s,baz=150,slow=39
PCRV Puerto La Cruz 47.68 284 LR LR 22 39 10.7
comp=Z,162nm,21.6s,slow=34
LSZ Lusaka 47.88 111 P **P** **22 20 52.1 +0.8**
comp=Z,2.9nm,0.3s,baz=302,slow=4.3,SNR=7.0
LSZ LR LR 22 37 33.6
comp=Z,280nm,21.8s,baz=292,slow=32
comp=Z,2.9nm,0.3s
LSZ Lusaka 47.88 111 P **P** **22 20 51.6 +0.4**
LSZ IAmb IAmb 22 20 56.3
comp=Z,15nm,1.2s
MBAR Mbarara 48.52 91 LR LR 22 39 23.1
comp=Z,139nm,18.3s,baz=260,slow=34
MBAR Mbarara 48.52 91 P **P** **22 20 57.1 +0.9**
MBAR IAmb IAmb 22 21 02.2
comp=Z,15nm,1.0s
MBAR Mbarara 48.52 91 P **P** **22 20 57.1 +0.9**
MBAR pmax pmax
comp=Z,15nm,1.0s
SUR Sutherland 48.63 135 P **P** **22 20 57.7 +0.9**
comp=Z,7.0nm,0.8s,baz=262,slow=12,SNR=1.9
SUR LR LR 22 36 47.3
comp=Z,289nm,21.4s,baz=298,slow=30
comp=Z,7.0nm,0.8s
SUR Sutherland 48.63 135 P **P** **22 20 57.3 +0.5**
LBTB Lobatse 48.76 124 LR LR 22 38 12.6
comp=Z,243nm,21.2s,baz=286,slow=32
LBTB Lobatse 48.76 124 P **P** **22 20 58.0 +0.1**
LBTB IAmb IAmb 22 22 13.5
comp=Z,30nm,1.6s
LBTB Lobatse 48.76 124 P **P** **22 20 58.0 +0.1**
LBTB pmax pmax
comp=Z,30nm,1.6s
CEL Celeste 49.03 35 P **P** **22 20 59.3 -0.3**
ETMB Extrema 49.18 257 P **P** **22 21 00.6 -0.6**
ETMB IAmb IAmb 22 21 13.6
comp=Z,14nm,1.5s
BIRV Birongo 49.31 284 P **P** **22 21 01.5 -0.6**
BIRV IAmb IAmb 22 21 02.9
comp=Z,16nm,0.9s
BNI Bardonecchia 49.77 23 P **P** **22 21 06.8 +1.5**
BNI Bardonecchia 49.77 23 P **P** **22 21 06.8 +1.5**
BNI pmax pmax
comp=Z,11nm,1.1s
LATE Laterza 50.02 28 P **P** **22 21 07.9 +0.8**
LATE IAmb IAmb 22 21 15.4
comp=Z,23nm,1.1s
BOSA Boshof 50.03 128 P **P** **22 21 06.8 -0.8**
comp=Z,5.2nm,1.0s,baz=313,slow=7.4,SNR=7.3
BOSA LR LR 22 38 05.1
comp=Z,156nm,21.7s,baz=288,slow=31
comp=Z,5.2nm,1.0s
BOSA Boshof 50.03 128 P **P** **22 21 06.8 -0.8**
BOSA IAmb IAmb 22 22 15.4
comp=Z,38nm,1.6s
TIP Timpagrande 50.15 35 P **P** **22 21 08.3 +0.1**
TIP IAmb IAmb 22 21 14.2
comp=Z,20nm,1.0s
CESX Cesi 50.39 29 P **P** **22 21 10.0 +0.2**
CESX IAmb IAmb 22 21 22.2
comp=Z,15nm,1.2s
OSSC Osservatorio P 50.46 27 P **P** **22 21 10.8 +0.4**
OSSC IAmb IAmb 22 21 27.5
comp=Z,34nm,1.8s
VLC Villacollemand 50.57 26 P **P** **22 21 11.7 +0.4**
VLC IAmb IAmb 22 21 29.0
comp=Z,15nm,1.2s
CBYP Canovanas 50.58 294 P **P** **22 21 11.0 -0.7**
CBYP IAmb IAmb 22 21 11.6
comp=Z,20nm,0.9s
CAMP Campotosto 50.74 30 P **P** **22 21 12.9 +0.2**
SJG San Juan 50.80 293 LR LR 22 37 57.9
comp=Z,247nm,21.5s,baz=88,slow=30
BAUV El Baul 50.83 281 P **P** **22 21 13.7 0.0**
MURB Monte Urbino 50.85 28 P **P** **22 21 13.9 +0.5**
FDMO Fiordimonte 50.95 29 P **P** **22 21 14.7 +0.5**
FDMO IAmb IAmb 22 21 47.6
comp=Z,18nm,1.0s
PRMA PARMA 51.02 26 P **P** **22 21 14.4 -0.1**
ITM Ithomi 52.05 40 P **P** **22 21 22.8 +0.3**
ITM IAmb IAmb 22 21 36.1
comp=Z,20nm,0.9s
TEOL Teolo 52.08 26 P **P** **22 21 22.8 +0.3**
TEOL IAmb IAmb 22 22 02.7
comp=Z,11nm,0.9s
LPAZ La Paz 52.23 249 P **P** **22 21 25.2 +0.4**
comp=Z,1.3nm,0.9s,baz=48,slow=6.7,SNR=4.7
LPAZ LR LR 22 41 38.0
comp=Z,120nm,21.8s,baz=93,slow=34
comp=Z,1.3nm,0.9s
LPAZ La Paz 52.23 249 P **P** **22 21 23.6 -1.3**
DAVOX Davos/Dischmat 52.46 24 LR LR 22 43 23.4
comp=Z,228nm,21.6s,baz=236,slow=36
CTI Castel Tesino 52.61 26 P **P** **22 21 26.5 -0.1**
CTI Castel Tesino 52.61 26 P **P** **22 21 26.5 -0.1**
CTI pmax pmax
comp=Z,10.0nm,1.1s
DAVA Damuels 52.87 23 *eP* **P** **22 21 29.3 +0.8**
comp=Z,12nm,1.2s
IDI Anoyia 52.98 44 LR LR 22 46 24.6
comp=Z,138nm,18.3s,baz=236,slow=39
IDI Anoyia 52.98 44 P **P** **22 21 30.4 +0.9**
FETA Feichten 53.00 24 *eP* **P** **22 21 30.1 +0.6**
comp=Z,7.6nm,1.0s
BFO Black Forest 53.14 22 P **P** **22 21 30.1 -0.2**
BFO IAmb IAmb 22 21 43.0
comp=Z,16nm,1.3s
BFO Black Forest 53.14 22 P **P** **22 21 30.1 -0.2**
BFO pmax pmax
comp=Z,16nm,1.3s
CIMO Cimolais 53.16 26 P **P** **22 21 30.8 +0.2**
CIMO IAmb IAmb 22 21 43.1
comp=Z,17nm,1.6s
LODK Lodwar 53.21 86 P **P** **22 21 31.6 +0.1**
STAL STALIGIAL 53.24 26 P **P** **22 21 30.3 -0.8**
STAL IAmb IAmb 22 22 12.7
comp=Z,15nm,1.4s
TRI Trieste 53.29 27 P **P** **22 21 31.9 +0.5**
TRI IAmb IAmb 22 21 36.5
comp=Z,16nm,0.9s
TRI Trieste 53.29 27 P **P** **22 21 31.9 +0.5**
TRI pmax pmax
comp=Z,16nm,0.9s
SQTA Sankt Quirin 53.35 24 *eP* **P** **22 21 32.7 +0.6**
comp=Z,13nm,1.2s
SDV Santo Domingo 53.36 281 P **P** **22 21 33.0 +0.2**
comp=Z,3.3nm,0.5s,baz=34,slow=3.6,SNR=1.6
SDV LR LR 22 42 33.4
comp=Z,146nm,20.4s,baz=106,slow=34
comp=Z,3.3nm,0.5s
RETA Reutte 53.39 24 *eP* **P** **22 21 32.9 +0.7**
comp=Z,7.1nm,1.1s
MOTA Moosalm 53.41 24 *eP* **P** **22 21 32.7 +0.1**
comp=Z,11nm,1.4s
SABO M.te Sabotino 53.42 27 P **P** **22 21 32.7 +0.2**
SABO IAmb IAmb 22 21 46.7
comp=Z,58nm,1.9s
KBN Korca 53.44 36 P **P** **22 21 33.1 +0.4**
KBN IAmb IAmb 22 21 39.6
comp=Z,20nm,1.2s
KBN Korca 53.44 36 P **P** **22 21 33.1 +0.4**
KBN pmax pmax
comp=Z,20nm,1.2s
CLUD Cludinico 53.47 26 P **P** **22 21 32.9 +0.2**
CLUD IAmb IAmb 22 21 50.2
comp=Z,19nm,1.3s
ABTA Abfaltersbach 53.53 26 *eP* **P** **22 21 35.1 +1.8**
comp=Z,9.9nm,1.1s
WTTA Wattenberg 53.57 25 *eP* **P** **22 21 35.0 +1.3**
comp=Z,6.8nm,1.1s
WATA Walderalm 53.60 24 *eP* **P** **22 21 37.8 +4.0**
comp=Z,8.2nm,1.2s
PDG Podgorica 53.73 34 ⇓P **P** **22 21 36.5 +1.8**
PDG Podgorica 53.73 34 P **P** **22 21 35.5 +0.7**
PDG IAmb IAmb 22 21 41.3
comp=Z,14nm,1.0s
PRED Cave del Predi 53.76 26 P **P** **22 21 35.7 +0.8**
MYKA Terra Mystica 53.93 26 *eP* **P** **22 21 38.6 +2.4**
comp=Z,7.0nm,1.1s
LIT Litokhoron 54.14 38 P **P** **22 21 37.9 +0.1**
LIT Litokhoron 54.14 38 P **P** **22 21 37.9 +0.1**
KBA Koelnbreinsper 54.15 26 *eP* **P** **22 21 42.2 +4.3**
comp=Z,6.5nm,0.9s
OBKA Obir 54.25 27 *eP* **P** **22 21 40.7 +2.1**
comp=Z,2.1nm,0.6s
LVC Limon Verde 54.58 242 LR LR 22 44 46.8
comp=Z,65nm,20.1s,baz=22,slow=36
SOKA Soboth 54.60 27 *eP* **P** **22 21 42.9 +1.8**
comp=Z,7.7nm,1.1s
BIOA Bad Ischl, Aus 54.75 26 *eP* **P** **22 21 45.7 +3.6**
comp=Z,7.7nm,1.2s
KMBO Kilima Mbogo 55.03 91 P **P** **22 21 46.5 +1.4**
comp=Z,4.0nm,0.9s,baz=255,slow=12,SNR=5.4
KMBO LR LR 22 42 05.2
comp=Z,190nm,21.5s,baz=291,slow=33
comp=Z,4.0nm,0.9s
MOA Molln 55.14 26 *eP* **P** **22 21 44.8 -0.1**
comp=Z,8.5nm,1.3s
DIVS Divibare 55.24 32 P **P** **22 21 46.8 +1.0**
DIVS IAmb IAmb 22 21 59.2
comp=Z,17nm,1.3s
KOVH Kovagotottos 55.63 30 P **P** **22 21 46.3 -2.2**
GEC2 GERESS Array S 55.67 25 P **P** **22 21 49.1 +0.3**
GEC2 IAmb IAmb 22 22 00.7
comp=Z,40nm,2.0s
GERES GERESS Array B 55.67 25 P **P** **22 21 47.6 -1.2**
comp=Z,0.4nm,0.4s,baz=201,slow=5.2,SNR=2.7
comp=Z,0.4nm,0.4s
GERES GERESS Array B 55.67 25 P **P** **22 21 49.0 +0.2**
GERES GERESS Array B 55.67 25 P **P** **22 21 49.0 +0.2**
SDDR Presa de Saban 55.74 293 P **P** **22 21 49.9 +0.1**
KHC Kasperske Hory 55.84 24 P **P** **22 21 50.2 +0.2**
KHC Kasperske Hory 55.84 24 *eP* **P** **22 21 50.4 +0.4**
KHC Kasperske Hory 55.84 24 *eP* **P** **22 21 50.4 +0.4**
KHC *ex* x 22 23 20.5
FROS Fruska Gora 55.86 31 P **P** **22 21 51.8 +1.7**
BOVS Bovan 55.88 34 ⇓P **P** **22 21 51.0 +0.7**
CKRC Cesky Krumlov 55.90 25 *eP* **P** **22 21 51.0 +0.6**
CONA Conrad Observa 55.91 27 *eP* **P** **22 21 51.8 +1.2**
comp=Z,5.6nm,1.3s
RONA Rosalia, Austr 55.93 27 *eP* **P** **22 21 51.8 +1.1**
comp=Z,9.9nm,1.1s
GO02 Mina Guanaco 55.95 239 P **P** **22 21 50.6 -1.0**
GO02 IAmb IAmb 22 22 07.0
comp=Z,17nm,1.0s
MORH Mrgy, Hungar 55.99 30 P **P** **22 21 54.6 +3.6**
AC02 Maricunga 56.11 237 P **P** **22 21 52.3 -0.6**
AC02 IAmb IAmb 22 22 12.9
comp=Z,15nm,1.4s
VTS Vitosha 56.11 36 ⇓P **P** **22 21 53.6 +1.4**
VTS Vitosha 56.11 36 P **P** **22 21 52.4 +0.2**
VTS IAmb IAmb 22 22 05.7
comp=Z,19nm,1.2s
VTS Vitosha 56.11 36 P **P** **22 21 52.4 +0.2**
VTS pmax pmax
comp=Z,19nm,1.2s
MPLH Magyarpolny 56.13 28 P **P** **22 21 52.7 +0.7**
EKA Eskdalemuir Ar 56.39 10 LR LR 22 46 18.5
comp=Z,132nm,18.1s,baz=184,slow=36
BLKB Bedgradchik 56.41 34 ⇓P **P** **22 21 54.0 -0.2**
MDVR Moldovita 56.62 33 ⇓P **P** **22 21 56.8 +1.2**
RDO Rodhopi 56.63 38 P **P** **22 21 56.4 +0.7**
ZST Bratislava 56.67 27 *eP* **P** **22 21 58.4 +2.6**
ZST Bratislava 56.67 27 *eP* **P** **22 21 58.4 +2.6**
ROSC El Rosal 56.67 276 LR LR 22 44 52.7
comp=Z,238nm,18.6s,baz=66,slow=35
ROSC El Rosal 56.67 276 P **P** **22 21 56.0 -1.0**
ROSC El Rosal 56.67 276 P **P** **22 21 56.0 -1.0**
ROSC pmax pmax
comp=Z,60nm,1.8s
ALN Alexandroupoli 56.80 39 P **P** **22 21 58.2 +1.3**
ALN IAmb IAmb 22 22 20.3
comp=Z,10nm,1.1s
ALN Alexandroupoli 56.80 39 P **P** **22 21 58.2 +1.3**
ALN pmax pmax
comp=Z,10.0nm,1.1s
MODS Modra-Piesok 56.88 27 *eP* **P** **22 21 59.5 +2.1**
MODS pmax pmax
comp=Z,142nm,2.5s
MODS Modra-Piesok 56.88 27 *eP* **P** **22 21 59.5 +2.1**
GOPC GO Pecny, Ondr 56.94 25 *eP* **P** **22 21 58.2 +0.4**
GOPC GO Pecny, Ondr 56.94 25 *eP* **P** **22 21 58.2 +0.4**
SRO Srobarova 56.95 28 *eP* **P** **22 22 00.0 +2.1**
SRO Srobarova 56.95 28 *eP* **P** **22 22 00.0 +2.1**
KRUC Moravsky 56.99 26 *eP* **P** **22 21 58.8 +0.7**
HERR Herculane 57.07 33 ⇓P **P** **22 22 00.5 +1.7**
BZS Buzias 57.11 32 ⇓P **P** **22 22 00.5 +1.4**
MANT Manisa 57.16 43 P **P** **22 22 00.1 +0.3**
ELL Elmali 57.23 45 P **P** **22 22 01.2 +1.0**
ELL Elmali 57.23 45 P **P** **22 22 01.2 +1.0**
ELL pmax pmax
comp=Z,44nm,0.8s
VRAC Vranov 57.26 26 LR LR 22 46 57.7
comp=Z,134nm,19.2s,baz=222,slow=36
VRAC Vranov 57.26 26 *eP* **P** **22 22 00.5 +0.5**
CLL Colim 57.32 22 *eS* **S** **22 30 02.0 +5.3**
CLL *eSSSS* 22 36 36.0
CLL LmV 22 51 00.0
comp=Z,200nm,18.2s
BRG Berggiesshubel 57.34 23 *eP* **P** **22 22 01.8 +1.1**
BRG Amp 22 22 07.4
comp=Z,8.5nm,1.2s
BRG Berggiesshubel 57.34 23 *eP* **P** **22 22 01.7 +1.1**
BRG pmax pmax
comp=Z,9.0nm,1.2s
JAVC Velka Javorina 57.41 27 *eP* **P** **22 22 01.3 +0.1**
SIRR Siria 57.56 31 ⇑P **P** **22 22 03.4 +1.1**
GZR Gura Zlata 57.59 33 ⇓P **P** **22 22 03.4 +0.9**
VYHS Vyhne 57.69 28 *eP* **P** **22 22 03.6 +0.5**
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS Vyhne 57.69 28 *eP* **P** **22 22 03.6 +0.5**
PSZ Piszkesteto 57.79 29 P **P** **22 22 03.8 -0.1**
PSZ IAmb IAmb 22 22 16.1
comp=Z,29nm,1.6s
PSZ Piszkesteto 57.79 29 P **P** **22 22 03.8 -0.1**
PSZ pmax pmax
comp=Z,29nm,1.6s
PSZ Piszkesteto 57.79 29 P **P** **22 22 03.2 -0.6**
MAUC Maruska 57.85 27 *eP* **P** **22 22 08.2 +4.0**
DPC Dobruska-Polom 57.92 25 *eP* **P** **22 22 04.9 +0.2**
DPC Dobruska-Polom 57.92 25 *eP* **P** **22 22 04.9 +0.2**
MORC Moravsky Berou 58.02 26 P **P** **22 22 05.8 +0.3**
MORC Moravsky Berou 58.02 26 *eP* **P** **22 22 06.2 +0.7**
MORC Moravsky Berou 58.02 26 P **P** **22 22 05.8 +0.3**
MORC pmax pmax
comp=Z,9.0nm,1.1s
EIL Elat 58.16 55 LR LR 22 48 33.0
comp=Z,244nm,18.2s,baz=231,slow=38
HUMR Humele 58.28 35 P **P** **22 22 08.7 +1.4**
KECS Kecovo 58.46 29 *eP* **P** **22 22 10.6 +2.1**
KECS Kecovo 58.46 29 *eP* **P** **22 22 10.6 +2.1**
ARR Arges 58.59 34 ⇑P **P** **22 22 10.3 +0.7**
BORA Eskisehir 59.13 42 P **P** **22 22 14.3 +0.9**
BORA IAmb IAmb 22 22 18.1
comp=Z,8.3nm,0.9s
CRVS Cervenica-Dubn 59.22 29 *eP* **P** **22 22 15.5 +1.7**
CRVS pmax pmax
comp=Z,13nm,1.4s
CRVS Cervenica-Dubn 59.22 29 *eP* **P** **22 22 15.5 +1.7**
TRPA Tarpa 59.24 30 ⇑P **P** **22 22 14.8 +1.0**
TRPA Tarpa 59.24 30 P **P** **22 22 14.5 +0.6**
OJC Ojcow 59.35 27 P **P** **22 22 15.2 +0.5**
OJC IAmb IAmb 22 22 53.1
comp=Z,15nm,1.2s
OJC Ojcow 59.35 27 P **P** **22 22 15.2 +0.5**
OJC pmax pmax
comp=Z,15nm,1.2s
DOPR Dopca 59.38 34 ⇑P **P** **22 22 16.1 +1.1**
MLR Muntele Rosu 59.41 34 P **P** **22 22 15.2 -0.1**
MLR Muntele Rosu 59.41 34 P **P** **22 22 15.2 -0.1**
MLR pmax pmax
comp=Z,30nm,1.3s
UZH Uzhgorod 59.45 30 ⇑*iP* **P** **22 22 12.1 -3.2**
UZH *i* 22 22 16.3
UZH *i* 22 22 19.8
OZUR 59.68 34 ⇓P **P** **22 22 18.3 +1.3**
MMAI Mount Meron Ar 59.73 51 LR LR 22 50 04.2
comp=Z,246nm,18.9s,baz=128,slow=38
NNA Nana 59.82 256 LR LR 22 46 24.3
comp=Z,193nm,21.1s,baz=72,slow=34
MDUB Mudurnu 59.91 42 P **P** **22 22 18.5 -0.3**
PLOR Plostina 60.02 34 ⇑P **P** **22 22 20.9 +1.5**
BURAR Bucovina Array 60.30 32 P **P** **22 22 21.0 -0.4**
BUR08 Bucovina Ar. S 60.31 32 P **P** **22 22 21.8 +0.3**
BUR08 IAmb IAmb 22 22 34.0
comp=Z,28nm,1.5s
BR231 Keskin MP Arra 60.68 43 P **P** **22 22 24.4 +0.3**
BR231 IAmb IAmb 22 22 38.5
comp=Z,19nm,1.1s
ANTO Ankara 60.70 43 P **P** **22 22 24.8 +0.5**
ANTO IAmb IAmb 22 22 37.4
comp=Z,12nm,0.8s
ANTO Ankara 60.70 43 P **P** **22 22 24.8 +0.5**
ANTO pmax pmax
comp=Z,12nm,0.9s
BOSC San Juan Bosco 60.77 266 P **P** **22 22 24.6 -0.7**
BOSC IAmb IAmb 22 22 30.1
comp=Z,7.2nm,0.7s
ATAH Atahualpa 60.87 262 LR LR 22 48 04.6
comp=Z,234nm,18.8s,baz=92,slow=35
LVV L'vov 61.09 30 *eP* **P** **22 22 30.2 +3.6**
BR131 Keskin Array S 61.21 43 P **P** **22 22 27.9 +0.1**
BR131 Keskin Array S 61.21 43 P **P** **22 22 27.9 +0.1**
BR131 pmax pmax
comp=Z,56nm,1.8s
BRTR Keskin Array B 61.21 43 P **P** **22 22 28.7 +0.9**
comp=Z,4.3nm,0.8s,baz=237,slow=5.8,SNR=17
BRTR LR LR 22 51 54.2
comp=Z,171nm,18.9s,baz=228,slow=39
comp=Z,4.3nm,0.8s
BRTR Keskin Array B 61.21 43 P **P** **22 22 28.3 +0.5**
BNN Bunyan 62.38 45 P **P** **22 22 35.1 -0.5**
PLCA Paso Flores 62.67 223 LR LR 22 47 05.5
comp=Z,183nm,20.5s,baz=62,slow=33
BATG Bathurst New B 63.02 325 P **P** **22 22 39.7 +0.1**
AKASG Malin Array Be 64.26 31 P **P** **22 22 46.9 -0.8**
comp=Z,3.5nm,0.8s,baz=234,slow=6.6,SNR=13
AKASG LR LR 22 52 35.4
comp=Z,167nm,18.2s,baz=226,slow=38
comp=Z,3.5nm,0.8s
AKASG Malin Array Be 64.26 31 P **P** **22 22 46.7 -1.0**
AKBB Malin Array Si 64.26 31 P **P** **22 22 46.9 -0.8**
AKBB Malin Array Si 64.26 31 P **P** **22 22 46.9 -0.8**
AKBB pmax pmax
comp=Z,47nm,1.6s
HFS Hagfors 64.69 17 LR LR 22 52 43.1
comp=Z,214nm,18.8s,baz=214,slow=38
NB2 NORSAR Subarra 64.76 15 P P 22 23 02.6 +12
comp=Z,1.3nm,0.8s,baz=212,slow=6.5
NOA NORSAR Array B 64.76 15 P **P** **22 22 51.9 +1.1**
comp=Z,0.7nm,0.7s,baz=193,slow=5.5,SNR=2.8
NOA LR LR 22 51 33.9
comp=Z,149nm,21.4s,baz=205,slow=36
comp=Z,0.7nm,0.7s
MARD Mardin 65.39 48 P **P** **22 22 55.3 -0.3**
RAYN Ar Rayn 65.60 64 P **P** **22 22 57.3 +0.2**
RAYN IAmb IAmb 22 23 10.3
comp=Z,15nm,1.5s
RAYN Ar Rayn 65.60 64 P **P** **22 22 57.3 +0.2**
RAYN pmax pmax
comp=Z,15nm,1.5s
GURO Guroymak-BITLI 66.74 48 P **P** **22 23 04.8 +0.6**
GURO IAmb IAmb 22 23 26.8
comp=Z,13nm,0.9s
SCHQ Schefferville 67.68 332 LR LR 22 47 47.8
comp=Z,127nm,21.1s,baz=178,slow=32
HODGE Hodges 69.06 307 P **P** **22 23 18.7 0.0**
HODGE IAmb IAmb 22 23 24.7
comp=Z,24nm,1.5s
KIV Kislovodsk 69.11 42 P **P** **22 23 19.7 +0.8**
KIV IAmb IAmb 22 23 41.2
comp=Z,12nm,1.1s
KIV Kislovodsk 69.11 42 *eP* P 22 23 28.2 +9.3
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,80nm,17.0s
ONI Oni 69.14 44 P **P** **22 23 19.5 +0.3**
ONI IAmb IAmb 22 23 32.6
comp=Z,10nm,1.0s
ONI Oni 69.14 44 P **P** **22 23 19.5 +0.3**
ONI pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 69.17 43 P **P** **22 23 19.8 +0.6**
comp=Z,6.7nm,0.9s,baz=213,slow=3.6,SNR=5.5
KBZ LR LR 22 55 47.1
comp=Z,96nm,20.0s,baz=263,slow=38
comp=Z,6.7nm,0.9s
GNI Garni 69.25 47 P **P** **22 23 21.0 +1.0**
GNI IAmb IAmb 22 23 39.1
comp=Z,18nm,1.2s
GNI Garni 69.25 47 P **P** **22 23 21.0 +1.0**
GNI pmax pmax
comp=Z,18nm,1.3s
FINES FINESS Array B 69.68 21 P **P** **22 23 22.1 +0.1**
comp=Z,4.0nm,0.7s,baz=202,slow=3.9,SNR=13
FINES LR LR 22 54 00.2
comp=Z,196nm,20.5s,baz=242,slow=36
comp=Z,4.0nm,0.7s
FINES FINESS Array B 69.68 21 P **P** **22 23 22.6 +0.6**
FINES FINESS Array B 69.68 21 P **P** **22 23 22.6 +0.6**
FIA1 FINESS Array S 69.68 21 P **P** **22 23 22.4 +0.4**
SADO Sadowa 70.01 318 LR LR 22 47 23.7
comp=Z,168nm,22.0s,baz=163,slow=30
VORR Voronezh 70.12 34 *eP* **P** **22 23 22.8 -2.1**
VORR pmax pmax
comp=Z,20nm,0.5s
OBN Obninsk 70.39 30 LR LR 22 56 59.5
comp=Z,53nm,18.8s,baz=189,slow=38
P52A Corning 70.45 312 P **P** **22 23 28.8 +1.7**
baz=107
TKL Tuckaleechee C 70.63 308 LR LR 22 47 38.1
comp=Z,118nm,21.4s,baz=116,slow=30
SFJD Kangerlussuaq 70.67 347 LR LR 22 48 11.2
comp=Z,81nm,19.2s,baz=155,slow=31
VNA2 Neumayer--Watz 71.18 176 P **P** **22 23 31.2 +0.2**
baz=340,slow=5.8
MOS Moscow 71.23 29 *eP* P 22 23 39.5 +8.0
X51A Calhoun 71.23 307 P **P** **22 23 32.5 +0.4**
VNA3 Neumayer Olymp 71.37 177 P **P** **22 23 35.9 +3.7**
W50A Signal Mountai 71.74 307 P **P** **22 23 35.0 -0.1**
W50A IAmb IAmb 22 23 36.8
comp=Z,13nm,1.1s
SNAA Sanae 72.25 175 P **P** **22 23 37.9 +0.4**
SNAA Sanae 72.25 175 P **P** **22 23 37.7 +0.2**
comp=Z,2.6nm,0.8s,baz=337,slow=5.4,SNR=7.6
comp=Z,2.6nm,0.8s
SNAA Sanae 72.25 175 P **P** **22 23 38.0 +0.4**
SNAA Sanae 72.25 175 P **P** **22 23 38.0 +0.5**
SNAA pmax pmax
comp=Z,8.0nm,1.2s
X48A Hartselle 72.97 306 P **P** **22 23 41.8 -0.7**
TROLL Troll, Antarti 73.10 174 P **P** **22 23 42.3 -0.4**
SUMG Summit 73.58 354 P **P** **22 23 46.3 +0.5**
SUMG Summit 73.58 354 P **P** **22 23 46.3 +0.5**

SUMG pmax pmax
comp=Z,47nm,2.0s
SUMG Summit 73.58 354 *i* P **P** **22 23 48.0 +2.2**
FRB Frobisher Bay 73.62 339 LR LR 22 50 56.3
comp=Z,57nm,18.5s,baz=359,slow=32
WVT Waverly 73.94 308 P **P** **22 23 48.4 +0.3**
baz=102
KLMR Klimovskoe 74.62 25 *eP* **P** **22 23 53.8 +2.2**
KLMR pmax pmax
comp=Z,39nm,1.8s
KLMR Klimovskoe 74.62 25 *e* **P** **22 23 53.8 +2.2**
KLMR AMP 22 24 04.6
comp=Z,39nm,1.8s
ARCES ARCESS Array B 75.12 14 P **P** **22 23 53.3 -1.1**
comp=Z,1.4nm,0.8s,baz=223,slow=6.2,SNR=1.9
ARCES LR LR 22 57 19.8
comp=Z,94nm,19.7s,baz=318,slow=36
comp=Z,1.4nm,0.8s
BELG Belogornoye 75.18 35 LR LR 23 00 08.1
comp=Z,108nm,18.8s,baz=307,slow=38
L44A Lake County Fo 75.34 314 P **P** **22 23 55.1 -1.0**
baz=104
UOSS Minazif 75.47 64 P **P** **22 23 57.1 -0.1**
UOSS IAmb IAmb 22 24 19.2
comp=Z,14nm,0.8s
CCM Cathedral Cave 76.99 309 P **P** **22 24 05.3 -0.4**
baz=100
WSAR Wadi Sarin 77.49 66 LR LR 22 59 17.3
comp=Z,96nm,19.3s,baz=291,slow=36
MGMO Mountain Grove 77.64 308 P **P** **22 24 08.3 -1.0**
MGMO IAmb IAmb 22 24 10.0
comp=Z,13nm,1.1s
WLAR White Oak Lake 77.79 304 P **P** **22 24 10.0 -0.1**
KIRV Kirov 78.24 30 LR LR 23 01 13.1
comp=Z,128nm,18.5s,baz=261,slow=38
BELA Belgrano 2 78.37 184 P **P** **22 24 13.1 +0.5**
NATX Nacogdoches 78.83 302 P **P** **22 24 15.3 -0.7**
NATX IAmb IAmb 22 24 29.8
comp=Z,16nm,0.8s
GEYT Alibeck 78.86 51 P **P** **22 24 15.2 -0.9**
comp=Z,1.4nm,0.9s,baz=264,slow=9.7,SNR=2.2
GEYT LR LR 23 02 05.5
comp=Z,108nm,19.0s,baz=303,slow=38
comp=Z,1.4nm,0.9s
GEYT Alibeck 78.86 51 P **P** **22 24 15.7 -0.4**
GYA0B ALIBECK ARRAY 78.86 51 P **P** **22 24 16.3 +0.2**
SPITS Spitsbergen Ar 80.13 7 LR LR 22 54 50.2
comp=Z,63nm,21.3s,baz=180,slow=32
AKTO Aktyubinsk 80.93 39 LR LR 23 04 30.4
comp=Z,58nm,19.6s,baz=300,slow=39
435B Jarrell 81.22 301 P **P** **22 24 28.9 -0.1**
WHTX Lake Whitney, 81.22 302 P **P** **22 24 28.2 -0.7**
HRA Herat 81.73 55 P **P** **22 24 31.2 -0.6**
HRA IAmb IAmb 22 24 43.8
comp=Z,14nm,1.5s
ECSD EROS Data Cent 81.90 314 P **P** **22 24 31.8 -0.6**
ECSD IAmb IAmb 22 24 33.5
comp=Z,28nm,1.7s
ECSD EROS Data Cent 81.90 314 P **P** **22 24 32.1 -0.2**
baz=98
ABKAR Akbulak array 81.95 40 P **P** **22 24 32.8 +0.3**
ABKAR Akbulak array 81.95 40 P **P** **22 24 32.6 +0.1**
ARU Arti 82.42 33 LR LR 23 03 53.2
comp=Z,190nm,18.2s,baz=245,slow=38
ARU Arti 82.42 33 P **P** **22 24 34.9 +0.2**
ARU IAmb IAmb 22 24 48.5
comp=Z,10.0nm,1.1s
ARU Arti 82.42 33 P **P** **22 24 35.6 +0.9**
WMOK Wichita Mounta 82.58 305 P **P** **22 24 35.9 -0.2**
WMOK Wichita Mounta 82.58 305 P **P** **22 24 35.9 -0.2**
WMOK pmax pmax
comp=Z,9.0nm,1.3s
WMOK Wichita Mounta 82.58 305 P **P** **22 24 35.8 -0.3**
baz=95
ABTX Abilene, Hawle 83.12 303 P **P** **22 24 38.5 -0.5**
ABTX IAmb IAmb 22 24 43.6
comp=Z,13nm,1.2s
ABTX Abilene, Hawle 83.12 303 P **P** **22 24 39.4 +0.4**
baz=94
OGNE Ogallala 85.62 311 P **P** **22 24 51.5 0.0**
MSTX Muleshoe 85.82 304 P **P** **22 24 52.9 +0.2**
MSTX Muleshoe 85.82 304 P **P** **22 24 52.9 +0.2**
baz=93
TX32 Lajitas Array 86.39 299 P **P** **22 24 54.8 -0.9**
TX32 IAmb IAmb 22 25 09.8
comp=Z,7.8nm,1.2s
TXAR Lajitas Array 86.39 299 P **P** **22 24 56.1 +0.5**
comp=Z,1.8nm,0.8s,baz=115,slow=5.7,SNR=12
TXAR LR LR 23 00 54.4
comp=Z,57nm,18.4s,baz=63,slow=34
comp=Z,1.8nm,0.8s
TXAR Lajitas Array 86.39 299 P **P** **22 24 55.4 -0.2**
MAW Mawson 86.47 158 LR LR 22 54 43.9
comp=Z,96nm,21.5s,baz=241,slow=30
RES Resolute Bay 86.56 345 LR LR 22 57 17.4
comp=Z,46nm,20.5s,baz=88,slow=31
Q24A Divide 87.92 309 P **P** **22 25 03.6 +0.5**
baz=92
HPIG 88.10 297 P **P** **22 25 03.8 -0.3**
HPIG IAmb IAmb 22 25 16.8
comp=Z,4.3nm,0.9s
SDCO Great Sand Dun 88.17 308 P **P** **22 25 04.3 0.0**
SDCO IAmb IAmb 22 25 16.8
comp=Z,11nm,1.4s
ISCO Idaho Springs 88.31 310 P **P** **22 25 05.3 +0.4**
ISCO IAmb IAmb 22 25 19.2
comp=Z,17nm,1.6s
ISCO Idaho Springs 88.31 310 P **P** **22 25 05.3 +0.4**
ISCO pmax pmax
comp=Z,17nm,1.7s
ISCO Idaho Springs 88.31 310 P **P** **22 25 06.1 +1.2**
baz=91
GAR Garm 88.48 51 P **P** **22 25 05.5 0.0**
KK31 Karatay Array 88.71 47 P **P** **22 25 06.8 +0.4**
KK31 IAmb IAmb 22 25 21.2
comp=Z,15nm,1.9s
KK31 Karatay Array 88.71 47 P **P** **22 25 06.8 +0.4**
KK31 pmax pmax
comp=Z,15nm,2.0s
KKAR Karatay Array 88.71 47 P **P** **22 25 06.3 -0.1**
KKAR Karatay Array 88.71 47 P **P** **22 25 06.3 -0.1**
BVAR Borovoye Array 88.85 37 LR LR 23 06 55.0
comp=Z,143nm,21.3s,baz=273,slow=37
BTK Batken 88.89 50 P **P** **22 25 08.3 +1.0**
BTK IAmb IAmb 22 25 31.6
comp=Z,6.1nm,1.1s
BTK Batken 88.89 50 P **P** **22 25 08.4 +1.0**
BTK pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 88.89 305 LR LR 23 00 15.4
comp=Z,220nm,19.9s,baz=94,slow=32
QSPA South Pole Qui 90.12 180 P **P** **22 25 13.8 +1.2**
QSPA IAmb IAmb 22 25 25.8
comp=Z,8.8nm,1.1s
PDAR Pinedale Array 91.28 313 P **P** **22 25 17.1 -1.6**
comp=Z,0.4nm,0.9s,baz=101,slow=4.7,SNR=2.4
PDAR LR LR 23 00 14.6
comp=Z,152nm,21.7s,baz=100,slow=32
comp=Z,0.4nm,0.9s
AAK Ala-Archa 91.64 48 LR LR 23 11 38.1
comp=Z,98nm,20.1s,baz=302,slow=39
LPIG La Paz 92.30 294 LR LR 23 00 55.7
comp=Z,36nm,21.1s,baz=39,slow=32
KSH Kashi 92.87 51 P **P** **22 25 27.8 +1.8**
KSH sP pwP 22 25 38.3 +2.9
KSH pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 93.12 333 P **P** **22 25 25.4 -1.0**
comp=Z,1.8nm,0.8s,baz=44,slow=6.2,SNR=1.7
YKA LR LR 23 02 59.9
comp=Z,109nm,20.5s,baz=97,slow=33
comp=Z,1.8nm,0.8s
KURBB Kurchatov Arra 93.97 39 LR LR 23 13 50.4
comp=Z,105nm,18.0s,baz=279,slow=39
NRIK Noril'sk 95.34 20 LR LR 23 11 03.0
comp=Z,94nm,19.6s,baz=284,slow=37
ELK Elko 95.63 311 LR LR 23 03 38.1
comp=Z,159nm,20.1s,baz=81,slow=32
NEW Newport 96.20 318 LR LR 23 07 09.9
comp=Z,136nm,18.1s,baz=86,slow=34
MKAR Makanchi Array 96.86 43 LR LR 23 15 43.1
comp=Z,77nm,18.5s,baz=308,slow=39
PFO Pinyon Flats O 97.21 304 LR LR 23 03 12.7
comp=Z,76nm,20.8s,baz=84,slow=32
ZALV Zalesovo Beam 97.37 36 LR LR 23 13 58.6
comp=Z,152nm,18.1s,baz=261,slow=38

NVAR Mina Array Bea 98.22 309 LR LR 23 07 59.7
comp=Z,76nm,19.0s,baz=88,slow=34
PALK Pallekele 98.40 83 LR LR 23 06 52.4
comp=Z,61nm,19.0s,baz=13,slow=33
WMQ Urumqi 101.10 45 *eP* **Pdif** **22 26 04.8 +1.8**
PZH PanZhiHua 116.18 60 PKP **PKPdf** **22 30 57.0 +0.1**
CD2 Chengdu 116.68 55 PKP **PKPdf** **22 30 57.3 -0.4**
HHC Hu-ho-hao-te 118.71 42 *eP* **PKPdf** **22 30 57.5 -3.9**
XLT XiLinHaoTe 120.02 37 *eP*KP **PKPdf** **22 31 03.3 -0.5**
XLT XiLinHaoTe 120.02 37 SS SS 22 48 59.0 +5.1
TAOE Nuku Hiva Isla 121.96 260 *eS* **SKSdf** **22 38 28.9 +7.9**
comp=Z,448nm,26.4s
PPT2 Papeete2 129.50 247 *e*LR LR 23 12 13.2
comp=Z,65nm,24.5s
ASAR Alice Springs 143.85 132 PKP PKPab 22 31 46.6 +0.7
comp=Z,1.5nm,1.0s,baz=224,slow=2.9,SNR=8.4
WRA Warramunga Arr 146.28 128 PKPbc **PKPdf** **22 31 53.4 +0.2**
comp=Z,1.3nm,0.8s,baz=235,slow=2.6,SNR=8.8
DZM Mont Dzumac 157.73 190 *e*LR LR 23 25 15.9
comp=Z,139nm,29.8s

INMG ***28*** *22:13:26.5±1.1, 36°.90N×12°.42W, h10km, ML2.0, Error ellipse: s-maj=7.5km s-min=6.9km az=165.0*
MDD 28 22:13:21.3±1.3, 36°.78N×12°.50W, h30km, Mb4.0/5, M_mb3.3/5, 5C, Error ellipse: s-maj=17.8km s-min=9.9km az=164.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.96**	**82**	*e*Pn	Pn	22 14 05.7	-0.6
PFVI				*e*Sn	Sn	22 14 36.6	-4.2
PTEO	**Sao Teotonio**	**3.11**	**75**	*e*Pn	Pn	22 14 08.2	-0.1
PTEO				*e*Sn	Sn	22 14 39.6	-4.9
MORF	**Marmelete**	**3.12**	**79**	*e*Pn	Pn	22 14 08.6	+0.1
PNCL	**Nicolau / Gran**	**3.43**	**66**	*e*Pn	Pn	22 14 13.0	+0.3
PNCL				*e*Sn	Sn	22 14 47.0	-5.3
PNCL				A	A	22 14 55.5	
	1.6nm,0.4s						
PACT	**Alcochete**	**3.52**	**55**	*e*Pn	Pn	22 14 13.9	0.0
MESJ	**Messejana**	**3.57**	**72**	*e*Pn	Pn	22 14 15.2	+0.5
MESJ				*e*Sn	Sn	22 14 51.0	-4.8
MESJ				A	A	22 15 02.0	
	3.4nm,0.7s						
PCVE	**Castro Verde**	**3.66**	**75**	*e*Pn	Pn	22 14 16.5	+0.6
PCVE				*e*Sn	Sn	22 14 52.2	-5.8
PCVE				A	A	22 14 59.0	
	3.9nm,0.7s						
PVAQ	**Vaqueiros**	**3.87**	**79**	*e*Pn	Pn	22 14 19.1	+0.3
PVAQ				*e*Sn	Sn	22 14 58.5	-4.8
PVAQ				A	A	22 15 02.4	
	4.7nm,0.6s						
PBEJ	**Beja**	**3.89**	**70**	*e*Pn	Pn	22 14 19.2	+0.1
PBEJ				*e*Sn	Sn	22 14 58.6	-5.2
PSBE	**So Bento**	**4.00**	**46**	*e*Pn	Pn	22 14 20.3	-0.2
EGRO	**El Granado**	**4.08**	**78**	P	Pn	22 14 21.2	-0.4
EGRO				⇑*i*Vmb_V		22 14 22.3	
	157nm,SNR=0.9						
EGRO				S	Sn	22 15 04.1	-4.2
PMTG	**Montargil**	**4.08**	**55**	*e*Pn	Pn	22 14 21.0	-0.6
PESTR	**Estremoz**	**4.41**	**60**	*e*Pn	Pn	22 14 25.8	-0.4
PBAR	**Barrancos**	**4.56**	**71**	*e*Pn	Pn	22 14 28.2	-0.1
PBAR				*e*Sn	Sn	22 15 14.6	-5.6
PBAR				A	A	22 15 19.7	
	5.6nm,0.7s						
EMIN	**Mina Concepcio**	**4.75**	**76**	P	Pn	22 14 29.8	-1.1
EMIN				⇑*i*Vmb_V		22 14 32.3	
	99nm,SNR=0.8						
EMIN				S	Sn	22 15 19.6	-5.3
EBAD	**Badajoz**	**4.77**	**64**	P	Pn	22 14 29.8	-1.3
EBAD				⇑*i*Vmb_V		22 14 33.5	
	120nm,SNR=0.9						
PMRV	**Marv??o**	**4.82**	**55**	*e*Pn	Pn	22 14 31.4	-0.4
PMRV				*e*Sn	Sn	22 15 19.9	-6.7
PMRV				A	A	22 15 33.5	
	1.4nm,0.6s						
ECAB	**El Cabril**	**5.78**	**75**	P	Pn	22 14 43.5	-1.6
ECAB				⇑*i*Vmb_V		22 14 45.3	
	90nm,SNR=1.0						
ECAB				S	Sn	22 15 44.7	-5.7
EADA	**Adamuz**	**6.45**	**75**	P	Pn	22 14 52.9	-1.3
EADA				⇑*i*Vmb_V		22 14 54.8	
	58nm,SNR=0.8						
EADA				S	Sn	22 15 58.9	-8.0

IDC ***28*** *22:28:02.4±1.7, 0°.83S×120°.63E, h0km, mb3.4/3, mbtmp3.6/4, ML4.0/1, MS3.2/2, Error ellipse: s-maj=72.2km s-min=27.2km az=65.0*
DJA ***28*** *22:28:04.5±0.4, 1°.5S×12°.0E±°, h10km, M4.0/12, mb4.3/1, MLv3.8/12*
ISC 28 22:28:03.4±1.1, 0°.88S±0°.05×120°.23E±0°.08, h10km, n15, σ1§69/15, mb3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.26**	**345**	P	**Pn**	**22 28 26.7**	**-0.4**
APSI	**Ampana**	**1.42**	**91**	P	**Pn**	**22 28 29.1**	**-0.2**
MRSI	**Marisa**	**2.18**	**52**	P	**Pn**	**22 28 40.5**	**+0.7**
TTSI	**Tana Toraja**	**2.19**	**191**	P	**Pn**	**22 28 41.2**	**+1.4**
LUWI	**Luwuk**	**2.55**	**94**	P	**Pn**	**22 28 48.7**	**+1.9**
SPSI	**Sidrap Palu**	**3.09**	**189**	P	**Pn**	**22 28 53.6**	**+1.2**
GTOI	**Gorontalo**	**3.16**	**62**	P	**Pn**	**22 28 53.8**	**+0.5**
BNSI	**Bone**	**3.50**	**182**	P	**Pn**	**22 28 59.6**	**+1.7**
KAPI	**Kappang**	**4.13**	**187**	Pn	**Pn**	**22 29 07.5**	**+0.9**
	8.9nm,0.3s,baz=317,slow=9.3,SNR=5.7						
KAPI				Sn	**Sn**	**22 29 51.3**	**-3.7**
	0.7nm,0.3s,baz=185,slow=21,SNR=4.3						
KAPI				LR	LR	22 30 56.5	
	comp=Z,146nm,18.7s,baz=309,slow=41						
	22nm,0.4s						
BKSI	**Bulukumba**	**4.41**	**181**	P	**Pn**	**22 29 11.5**	**+1.0**
BSSI	**Bau Bau, Buton**	**5.23**	**177**	P	**Pn**	**22 29 22.0**	**+0.2**
WRA	**Warramunga Arr**	**23.44**	**145**	P	**P**	**22 33 11.0**	**-2.1**
	1.2nm,0.8s,baz=326,slow=10.0,SNR=4.6						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**26.25**	**151**	P	**P**	**22 33 38.7**	**-0.2**
	0.7nm,0.6s,baz=342,slow=15,SNR=6.7						
	0.7nm,0.6s						
KRVT	**Keravat (AS076**	**31.94**	**97**	LR	LR	22 48 55.3	
	comp=Z,97nm,20.9s,baz=236,slow=40						
MKAR	**Makanchi Array**	**57.95**	**330**	P	**P**	**22 37 57.8**	**+1.8**
	0.2nm,0.7s,baz=124,slow=7.7,SNR=2.1						
	0.2nm,0.7s						

SOME ***28*** *23:15:19.6, 39°.23N×73°.23E, h10km*
KRNET ***28*** *23:15:27.8±0.1, 39°.45N×73°.56E, mb3.0*
ISC 28 23:15:30.2±1.8, 39°.60N±0°.06×73°.37E±0°.05, h2km±13km, n14, σ1§49/28, 12C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.02**	**334**	⇑*i*P	**Pg**	**23 15 50.7**	**+0.9**
	baz=31						
OHH				⇑*i*S	**Sn**	**23 16 07.3**	**+0.6**
	baz=31						
DRK	**Karamyk**	**1.22**	**265**	⇑*i*P	**Pb**	**23 15 53.1**	**-1.0**
	baz=72						
DRK				⇑*e*S	**Sn**	**23 16 11.7**	**-0.1**
	baz=72						
BTK	**Batken**	**2.01**	**284**	⇑*i*P	**Pb**	**23 16 06.7**	**-0.9**
	baz=87						
BTK				⇑*e*S	**Sg**	**23 16 35.0**	**+0.1**
	baz=87						
ARK	**Arkit**	**2.44**	**335**	⇑*e*P	**Pb**	**23 16 12.9**	**-2.0**
	baz=33						
ARK				⇑*i*S	**Sb**	**23 16 45.8**	**+0.3**
	baz=33						
GAR	**Garm**	**2.44**	**257**	⇑*e*P	**Pn**	**23 16 11.8**	**+0.6**
	baz=61						
GAR				⇑*e*S	**Sb**	**23 16 43.7**	**-1.8**
	baz=61						
TRKS	**Terek-Say**	**2.57**	**319**	⇑*i*P	**Pn**	**23 16 13.8**	**+0.8**
	baz=19						
TRKS				⇑*i*S	**Sb**	**23 16 47.7**	**-1.5**
	baz=19						
MRKS	**Merke**	**3.14**	**358**	*e*P	**Pb**	**23 16 24.6**	**-2.3**
	1.2nm,0.1s						
MRKS				*e*S	**Sg**	**23 17 11.9**	**+0.7**
	11nm,0.4s						
CHGR	**Chuyangaron**	**3.41**	**255**	⇓*i*P	**Pn**	**23 16 25.1**	**+0.6**
	baz=58						
CHGR				⇓*i*S	**Sn**	**23 17 06.7**	**+1.2**
	baz=58						

IUG Iuzhnay 3.58 316 *e*P **Pb** **23 16 33.1 -1.3**
64nm,0.3s
IUG *e*S **Sg** **23 17 26.6 +1.2**
16nm,0.8s
DGS Degeres 4.06 26 *e*P **Pb** **23 16 41.5 -1.1**
2.0nm,0.3s
DGS *e*S **Sg** **23 17 40.9 +0.3**
6.5nm,0.3s
KK31 Karatay Array 4.11 329 Pn **Pn** **23 16 37.5 +3.5**
0.4nm,0.4s,baz=133,slow=13,SNR=16
KK31 ⇓Sn **Sb** **23 17 30.8 -2.5**
1.0nm,0.5s
KK31 ⇓Lg Lg 23 17 46.5
3.1nm,0.6s,baz=135,slow=31,SNR=5.3
KRBS Karabastau 4.44 22 *e*P **Pb** **23 16 47.3 -1.7**
0.4nm,0.2s
KRBS *e*S **Sg** **23 17 50.9 -1.9**
3.2nm,0.3s
KOTS Kotyrbulak 4.59 37 *e*P **Pb** **23 16 51.5 -0.1**
0.5nm,0.7s
KOTS *e*S **Sg** **23 17 58.4 +0.6**
15nm,0.3s
KTBS Karatobe 4.80 30 *e*P **Pb** **23 16 54.5 -0.5**
0.7nm,0.3s
KTBS *e*S **Sg** **23 18 02.9 -1.5**
8.1nm,0.3s

IDC ***28*** *23:25:08.6±2.0, 8°.51S×124°.73E, h0km, mb3.6/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=52.7km s-min=27.7km az=75.0*
ISC 28 23:25:12.2±1.5, 8.7S±0°.1×124°.6E±0°.1, h20km, n5, σ1§87/6, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.76**	**211**	Pn	**Pn**	**23 25 43.8**	**+2.2**
	9.2nm,0.3s,baz=298,slow=7.2,SNR=1.6						
BATI				Sn	**Sn**	**23 26 01.7**	**-1.9**
	35nm,0.3s,baz=84,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**9.41**	**174**	Pn	**Pn**	**23 27 26.4**	**-0.3**
	0.2nm,0.3s,baz=18,slow=8.9,SNR=8.7						
FITZ				Sn	Sn	23 29 01.4	-11
	1.9nm,0.3s,baz=180,slow=5.2,SNR=16						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**14.64**	**141**	Pn	**Pn**	**23 28 39.0**	**+0.7**
	0.3nm,0.3s,baz=316,slow=12,SNR=18						
WRA				Sn	Sn	23 31 09.3	-11
	0.5nm,0.3s,baz=319,slow=25,SNR=10						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**17.36**	**150**	P	**P**	**23 29 13.8**	**-1.0**
	0.2nm,0.3s,baz=328,slow=13,SNR=5.4						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**66.83**	**330**	P	**P**	**23 36 01.8**	**-0.9**
	0.6nm,0.9s,baz=116,slow=7.7,SNR=2.6						
	0.6nm,0.9s						

UPP ***28*** *23:35:24.9±0.4, 67°.84N×20°.18E, h3km±5km, ML2.5, Explosion*
IDC ***28*** *23:35:25.0±1.2, 67°.83N×20°.55E, h0km, mbtmp3.0/4, ML2.2/4, Error ellipse: s-maj=18.7km s-min=7.0km az=120.0*
HEL ***28*** *23:35:25.0±0.1, 67°.83N×20°.22E, h0km, ML2.1, ML2.5(UPP), Explosion*
ISC 28 23:35:24.4±0.7, 67°.83N±0°.02×20°.21E±0°.02, h0km, n37, σ1§43/53, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.23**	**269**	P	**Pg**	**23 35 29.0**	**+0.2**
RATU				S	**Sg**	**23 35 32.1**	**+0.2**
RATU	**Laukkuluspa**	**0.23**	**269**	*i* P	**Pg**	**23 35 29.0**	**+0.2**
RATU				*i* S	**Sg**	**23 35 32.1**	**+0.2**
KOVU	**Salmi**	**0.40**	**357**	P	**Pg**	**23 35 32.1**	**+0.1**
KOVU				S	**Sg**	**23 35 37.4**	**+0.2**
KOVU	**Salmi**	**0.40**	**357**	*i* P	**Pg**	**23 35 32.1**	**+0.1**
KOVU				*i* S	**Sg**	**23 35 37.4**	**+0.2**
NIKU	**Nikkaluokta**	**0.45**	**276**	P	**Pg**	**23 35 33.0**	**+0.1**
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	**Pg**	**23 35 33.0**	**+0.1**
LANU	**Lannavaara**	**0.71**	**71**	P	**Pg**	**23 35 38.0**	**+0.1**
LANU	**Lannavaara**	**0.71**	**71**	*e*P	**Pg**	**23 35 37.9**	**+0.1**
LANU				*e*S	**Sg**	**23 35 47.4**	**+0.3**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**23 35 38.5**	**+0.3**
DUNU	**Dundret**	**0.72**	**169**	*i* P	**Pg**	**23 35 38.5**	**+0.3**
MASU	**Masugnsbyn**	**0.78**	**118**	P	**Pg**	**23 35 39.5**	**+0.2**
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	**Pg**	**23 35 39.5**	**+0.2**
SALU	**Saltoluokta**	**0.79**	**236**	P	**Pg**	**23 35 39.5**	**0.0**
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	**Pg**	**23 35 39.5**	**0.0**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**23 35 47.7**	**+0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PB	**Pg**	**23 35 47.5**	**+0.1**
KIF				MSG		23 36 03.1	
	comp=Z,21nm,0.2s						
KIF				*e*SB	**Sb**	**23 36 04.0**	**-0.1**
PAJU	**Pajala**	**1.38**	**124**	P	**Pg**	**23 35 50.1**	**-0.7**
PAJU	**Pajala**	**1.38**	**124**	*e*PG	**Pg**	**23 35 49.9**	**-0.8**
	baz=304						
PAJU				*e*SB	**Sg**	**23 36 08.7**	**+0.1**
HEF	**Hetta**	**1.42**	**64**	*e*PG	**Pn**	**23 35 50.8**	**-0.6**
HEF				MSG		23 36 08.1	
	comp=Z,11nm,0.2s						
KLF	**Kolari**	**1.56**	**111**	*e*PG	**Pn**	**23 35 53.3**	**0.0**
	baz=297						
KLF				*e*SN	**Sg**	**23 36 14.8**	**+0.4**
KTK1	**Kautokeino**	**1.64**	**42**	*e*PG	**Pn**	**23 35 54.4**	**0.0**
KTK1				*e*SN	**Sg**	**23 36 18.8**	**+2.0**
TRO	**Tromso**	**1.87**	**346**	*e*PN	**Pn**	**23 35 58.3**	**+0.7**
TRO				*e*SG	**Sb**	**23 36 22.9**	**-0.4**
KALU	**Kalix**	**2.33**	**146**	*e*PB	**Pn**	**23 36 05.4**	**+1.5**
	baz=329						
TOF	**Tornio**	**2.39**	**135**	*e*PB	**Pb**	**23 36 06.7**	**-1.4**
TOF				MSG		23 36 34.2	
	comp=Z,10nm,0.2s						
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	**Pn**	**23 36 06.8**	**+1.3**
SGF				*e*SG	**Sb**	**23 36 40.6**	**+0.7**
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	**Pn**	**23 36 09.4**	**+2.2**
	baz=304						
RNF				*e*SG	**Sb**	**23 36 43.1**	**-0.2**
ARCES	**ARCESS Array B**	**2.59**	**46**	Pn	**Pn**	**23 36 08.2**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=226,slow=15,SNR=11						
ARCES				Lg	Lg	23 36 41.8	
	comp=Z,1.2nm,0.3s,baz=228,slow=26,SNR=9.1						
	comp=Z,1.4nm,0.3s						
KEV	**Kevo**	**3.14**	**49**	*e*P	**Pn**	**23 36 15.9**	**+0.9**
KEV	**Kevo**	**3.14**	**49**	*e*PB	**Pb**	**23 36 19.7**	**-1.3**
KEV				*e*S	**Sn**	**23 36 54.8**	**+1.7**
KEV				MSG		23 36 57.8	
	comp=Z,5.5nm,0.2s						
BURU	**Burvik**	**3.29**	**171**	*e*P	**Pn**	**23 36 19.7**	**+2.6**
	baz=354						
VRF	**Varrio**	**3.57**	**87**	*e*PB	**Pb**	**23 36 24.8**	**-3.5**
VRF				*e*SG	**Sb**	**23 37 15.0**	**+2.8**
UMAU	**Umeaa**	**3.97**	**177**	*e*P	**Pn**	**23 36 28.6**	**+2.3**
	baz=353						
KU6	**Riekki**	**4.22**	**111**	*e*PG	**Pb**	**23 36 40.6**	**+1.2**
	baz=296						
HUSU	**Husum**	**4.52**	**186**	*e*PG	**Pb**	**23 36 45.9**	**+1.4**
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**23 37 08.6**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=345,slow=16,SNR=4.3						
FINES				Sn	**Sn**	**23 38 23.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=347,slow=21,SNR=1.7						
FINES				Lg	Lg	23 38 58.7	
	comp=Z,0.2nm,0.3s,baz=349,slow=26,SNR=2.8						
	comp=Z,0.9nm,0.5s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**23 37 19.1**	**-0.4**
	baz=24,slow=11,SNR=1.7						
NOA				Lg	Lg	23 39 28.2	
	baz=22,slow=20,SNR=1.9						
	comp=Z,0.5nm,0.8s						
HFS	**Hagfors**	**8.23**	**203**	Pn	**Pn**	**23 37 24.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=24,slow=14,SNR=1.2						
HFS				Sn	**Sn**	**23 38 52.7**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=14,slow=24,SNR=1.6						
HFS				Lg	Lg	23 39 43.3	
	comp=Z,0.2nm,0.3s,baz=23,slow=27,SNR=1.8						
	comp=Z,1.1nm,0.5s						

SKHL ***28*** *23:38:55.5±0.4, 44°.80N×150°.40E, h36km±3km, mb4.5/3*
JMA ***28*** *23:38:57.3±0.5, 45°N±3°×150°E±°, h125km, MV3.6/12, SE OFF ETOROFU*
ISC 28 23:38:56.1±4.1, 44°.8N±0°.1×150°.3E±0°.2, h35km, n16, σ1§09/23, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.80**	**286**	*eP*	**Pn**	**23 39 24.0**	**-0.7**
KUR				AMB	AMB	23 39 24.5	
	90nm,0.3s						
KUR				*eS*	**Sn**	**23 39 45.1**	**-1.2**
KUR				A	A	23 39 46.2	
	890nm,0.5s						
KUR				A	A	23 39 46.2	
	750nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.27**	**259**	*eP*	**Pn**	**23 39 45.4**	**+0.6**
YUK				AMB	AMB	23 39 46.4	
	140nm,0.4s						
YUK				*eS*	**Sn**	**23 40 22.7**	**+0.2**
YUK				A	A	23 40 26.9	
	230nm,0.6s						
YUK				A	A	23 40 26.9	
	260nm,0.6s						
NEM2	**Nemuro 2**	**3.57**	**249**	*eP*	**Pn**	**23 39 50.2**	**+1.2**
NEM2				*eS*	**Sn**	**23 40 30.3**	**+0.4**
JRA	**Rausu**	**3.81**	**260**	*eP*	**Pn**	**23 39 53.5**	**+1.3**
JNK	**Nakash**	**4.19**	**256**	*eP*	**Pn**	**23 39 58.5**	**+1.1**
JNK				*eS*	**Sn**	**23 40 46.0**	**+0.9**
AKK	**Akkeshi**	**4.32**	**248**	*eP*	**Pn**	**23 39 59.7**	**+0.5**
JAK	**Akkeshi**	**4.42**	**249**	*eP*	**Pn**	**23 40 01.4**	**+0.7**
JAK				*eS*	**Sn**	**23 40 50.7**	**-0.2**
JTKR	**Abashiri--Toko**	**4.66**	**263**	*eP*	**Pn**	**23 40 04.2**	**+0.3**
JAR	**Ashorobuto**	**4.94**	**255**	*eP*	**Pn**	**23 40 08.8**	**+1.0**
JAR				*eS*	**Sn**	**23 41 04.5**	**+0.9**
JOB	**Onbets**	**5.04**	**251**	*eS*	**Sn**	**23 41 05.8**	**-0.3**
JCH	**Churui**	**5.47**	**249**	*eP*	**Pn**	**23 40 15.8**	**+0.7**
JCH				*eS*	**Sn**	**23 41 15.2**	**-1.6**
JKK2	**Kamakawa 2**	**5.50**	**263**	*eP*	**Pn**	**23 40 15.7**	**+0.2**
YSS	**Yuzh-Sakhalins**	**5.72**	**295**	*eP*	**Pn**	**23 40 19.2**	**+0.7**
YSS				AMB	AMB	23 40 19.7	
	20nm,0.3s						
JNBK	**Urakawa-nobuka**	**6.03**	**248**	*eP*	**Pn**	**23 40 23.3**	**+0.6**
JANG	**Nango**	**7.83**	**239**	*eP*	**Pn**	**23 40 47.1**	**-0.3**
JTH	**Tanohata**	**7.89**	**235**	*eS*	**Sn**	**23 42 13.2**	**-3.1**

BJI ***28*** *23:49:28.9±0.0, 15°.77N×147°.67E, h5km, mb4.8/45, mB5.0/19, Ms4.4/5, Ms7 4.1/5*

DJA ***28*** *23:49:32.1±0.4, 16°.N±5°×14°.8E±°, h10km, M4.8/13, mb4.9/13, mB5.3/2, MLv4.7/1, Mw(mB)4.8/2, MwMwp5.5/1, Mwp5.6/1*

IDC ***28*** *23:49:32.8±0.7, 15°.94N×147°.26E, h0km, mb4.5/27, mbtmp4.5/28, ML4.1/1, MS3.6/21, Error ellipse: s-maj=19.2km s-min=13.9km az=104.0*

MOS ***28*** *23:49:33.1±0.8, 15°.87N×147°.32E, h18km, mb5.1/26, Error ellipse: s-maj=11.9km s-min=7.1km az=121.9*

NEIC ***28*** *23:49:34.1±1.1, 15°.85N±0°.10×147°.41E±0°.08, h10km±1km, mb5.0/81, Error ellipse: s-maj=16.8km s-min=11.2km az=156.0*

ISC 28 23:49:37.9±0.5, 15°.82N±0°.06×147°.35E±0°.09, h38km, n246, σ1§24/232, mb4.9/97, MS3.6/25, 6C-6D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.27**	**227**	Pn	**Pn**	**23 50 27.1**	**+0.5**
	18nm,0.3s,baz=24,slow=19,SNR=2.1						
GUMO				Sn	**Sn**	**23 51 07.8**	**+3.5**
	53nm,0.3s,baz=11,slow=24,SNR=8.1						
GUMO				LR	LR	23 51 48.3	
	comp=Z,1μm,19.2s,baz=71,slow=41						
	42nm,0.3s						
GUMO	**Guam**	**3.27**	**227**	Pn	**Pn**	**23 50 25.9**	**-0.6**
GUMO	**Guam**	**3.27**	**227**	P	**Pn**	**23 50 26.0**	**-0.6**
PATS	**Pohnpei**	**13.97**	**129**	Pn	Pn	23 52 49.0	-4.4
H11S3	**WAKE ISLAND Hy 18.67**	**79**		T	T	00 13 09.2	
	baz=263,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy 18.68**	**79**		T	T	00 13 03.5	
	baz=263,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hy 18.69**	**79**		T	T	00 13 00.1	
	baz=263,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy 19.01**	**75**		T	T	00 13 21.1	
	baz=260,slow=75,SNR=7.0						
H11N2	**WAKE ISLAND Hy 19.02**	**75**		T	T	00 13 20.1	
	baz=260,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy 19.03**	**75**		T	T	00 13 22.5	
	baz=260,slow=75,SNR=8.1						
JOW	**Kunigami**	**20.84**	**305**	P	**P**	**23 54 15.7**	**-0.8**
	10nm,0.5s,baz=142,slow=12,SNR=5.6						
JOW				LR	LR	00 01 12.8	
	comp=Z,243nm,21.4s,baz=121,slow=34						
	10nm,0.5s						
JOW	**Kunigami**	**20.84**	**305**	P	**P**	**23 54 16.0**	**-0.4**
JOW				IAmb	IAmb	23 54 26.3	
	comp=Z,62nm,1.3s						
JYT	**Yasato**	**21.30**	**344**	P	**P**	**23 54 19.8**	**-1.4**
JYT				IAmb	IAmb	23 54 23.3	
	comp=Z,51nm,0.9s						
MJAR	**Matsushiro Arr**	**22.18**	**340**	P	**P**	**23 54 30.7**	**0.0**
	comp=Z,4.2nm,0.6s,baz=166,slow=9.6,SNR=9.5						
	comp=Z,4.2nm,0.6s						
MAJO	**Matsushiro**	**22.18**	**340**	P	**P**	**23 54 29.2**	**-1.6**
MAJO	**Matsushiro**	**22.18**	**340**	P	**P**	**23 54 29.2**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,19nm,0.8s						
MJB9	**Matsu-Tunnel**	**22.18**	**340**	P	**P**	**23 54 29.5**	**-1.3**
JMM	**Marumori**	**22.71**	**346**	P	**P**	**23 54 35.7**	**-0.7**
JMM				IAmb	IAmb	23 54 42.6	
	comp=Z,26nm,0.7s						
SIJI	**Sorong**	**22.97**	**225**	P	**P**	**23 54 40.1**	**+0.9**
	comp=Z,6.2nm,0.3s,baz=23,slow=11,SNR=7.3						
SIJI				LR	LR	00 03 06.5	
	comp=Z,149nm,19.5s,baz=197,slow=35						
	comp=Z,6.2nm,0.3s						
DAV	**Davao City (W)**	**23.02**	**250**	LR	LR	00 02 34.5	
	comp=Z,100nm,21.3s,baz=146,slow=34						
JSD	**Sado**	**23.54**	**342**	P	**P**	**23 54 43.9**	**-0.7**
JSD				IAmb	IAmb	23 54 48.0	
	comp=Z,72nm,1.2s						
FAKI	**Fak Fak**	**23.87**	**220**	P	**P**	**23 54 47.7**	**-0.3**
FAKI				IAmb	IAmb	23 54 58.7	
	comp=Z,51nm,1.1s						
FAKI	**Fak Fak**	**23.87**	**220**	P	**P**	**23 54 48.5**	**+0.5**
	comp=Z,50nm,1.1s						
YULB	**Yu-li**	**25.64**	**291**	P	**P**	**23 55 03.5**	**-0.6**
YULB				IAmb	IAmb	23 55 17.0	
	comp=Z,83nm,1.6s						
YHNB	**Yeheng**	**25.87**	**294**	P	**P**	**23 55 06.4**	**+0.1**
KSRS	**Korea Array**	**27.56**	**325**	P	**P**	**23 55 19.2**	**-2.0**
	comp=Z,3.6nm,0.6s,baz=144,slow=8.7,SNR=9.7						
KSRS				LR	LR	00 05 08.3	
	comp=Z,175nm,21.0s,baz=135,slow=34						
	comp=Z,3.6nm,0.6s						
LUWI	**Luwuk**	**29.50**	**238**	P	**P**	**23 55 36.3**	**-2.5**
NJ2	**Nanjing**	**30.51**	**307**	*eP*	**P**	**23 55 44.5**	**-3.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**31.14**	**338**	P	**P**	**23 55 53.0**	**0.0**
	comp=Z,3.5nm,0.8s,baz=184,slow=7.6,SNR=4.5						
	comp=Z,3.5nm,0.8s						
MPSI	**Mapaga**	**31.15**	**243**	P	**P**	**23 55 52.5**	**-0.9**
	comp=Z,6.6nm,0.8s						
YSS	**Yuzh-Sakhalins**	**31.27**	**354**	P	**P**	**23 55 53.5**	**-0.5**
YSS				IAmb	IAmb	23 56 00.7	
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**31.27**	**354**	*eP*	**P**	**23 55 54.3**	**+0.2**
YSS				*eS*	**S**	**00 01 00.5**	**+2.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
SOEI	**Soe**	**34.18**	**223**	P	**P**	**23 56 19.7**	**-0.2**
SOEI				IAmb	IAmb	23 56 50.2	
	comp=Z,15nm,0.8s						
KAPI	**Kappang**	**34.28**	**235**	LR	LR	00 08 29.2	
	comp=Z,47nm,20.6s,baz=62,slow=33						
BATI	**Baumata**	**34.91**	**224**	LR	LR	00 09 27.7	
	comp=Z,48nm,21.3s,baz=53,slow=34						
KLR	**Kul'dur**	**35.67**	**342**	LR	LR	00 10 27.6	
	comp=Z,65nm,20.9s,baz=134,slow=35						
KLR	**Kul'dur**	**35.67**	**342**	*deP*	**P**	**23 56 31.9**	**-0.4**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SBUM	**Sibu**	**37.05**	**253**	P	**P**	**23 56 45.3**	**+0.7**
ENH	**Enshi**	**37.50**	**299**	P	**P**	**23 56 47.6**	**-0.6**
ENH				IAmb	IAmb	23 56 55.4	
	comp=Z,44nm,1.5s						
WB0	**Warramunga Arr**	**37.59**	**200**	P	**P**	**23 56 48.5**	**-0.5**
WRA	**Warramunga Arr**	**37.77**	**200**	P	**P**	**23 56 50.6**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=22,slow=9.4,SNR=10						
WRA				PcP	**PcP**	**23 59 07.9**	**+0.9**
	comp=Z,0.8nm,1.0s,baz=16,slow=3.3,SNR=1.7						
WRA				LR	LR	00 15 47.2	
	comp=Z,98nm,18.1s,baz=104,slow=42						
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**37.77**	**200**	P	**P**	**23 56 49.4**	**-1.1**
WRA	**Warramunga Arr**	**37.77**	**200**	P	**P**	**23 56 49.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.5s						
PETK	**Petropavlovsk-**	**38.09**	**10**	LR	LR	00 17 26.6	
	comp=Z,96nm,18.2s,baz=211,slow=44						
XAN	**Xi'an**	**38.99**	**305**	⇑P	**P**	**23 56 59.8**	**-1.0**
XAN				pP	pP	23 57 05.8	-4.4
XAN				sP	sP	23 57 10.5	-3.8
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GYA	**Guiyang**	**39.24**	**293**	⇓P	**P**	**23 57 04.0**	**+0.9**
GYA				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC	**Hu-ho-hao-te**	**39.74**	**316**	*eP*	**P**	**23 57 08.5**	**+1.5**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.6s						
FITZ	**Fitzroy Crossi**	**39.92**	**213**	LR	LR	00 15 01.7	
	comp=Z,55nn,18.3s,baz=278,slow=38						
HIA	**Hailar**	**40.22**	**332**	*deP*	**P**	**23 57 10.0**	**-0.8**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ASAR	**Alice Springs**	**41.39**	**199**	P	**P**	**23 57 21.1**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=27,slow=6.8,SNR=4.4						
	comp=Z,0.7nm,0.8s						
DZM	**Mont Dzumac**	**42.05**	**153**	*e*LR	LR	00 09 00.3	
	comp=Z,130nm,22.1s						
PWJI	**Pagerwojo**	**42.43**	**239**	P	**P**	**23 57 29.9**	**+0.6**
	comp=Z,39nm,0.7s						
SHEM	**Shemya Is, Ala**	**42.45**	**24**	LR	LR	00 12 09.9	
	comp=Z,71nm,21.6s,baz=313,slow=32						
CD2	**Chengdu**	**42.46**	**299**	*eP*	**P**	**23 57 30.0**	**+0.6**
LZH	**Lanzhou**	**43.58**	**306**	*eP*	**P**	**23 57 39.3**	**+0.7**
LZH				pP	pP	23 57 44.3	-3.8
LZH				sP	sP	23 57 47.5	-4.5
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
PZH	**PanZhiHua**	**43.63**	**292**	P	**P**	**23 57 39.5**	**+0.4**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,4.3s						
MBWA	**Marble Bar**	**45.66**	**217**	P	**P**	**23 57 54.3**	**-0.8**
PSA00	**Pilbara Seismi**	**45.92**	**217**	P	**P**	**23 57 56.4**	**-0.7**
PSA00				IAmb	IAmb	23 58 05.6	
	comp=Z,29nm,1.7s						
ULN	**Ulaanbaatar**	**45.99**	**323**	P	**P**	**23 57 57.4**	**-0.2**
ULN				IAmb	IAmb	23 57 59.0	
	comp=Z,20nm,1.6s						
ULN	**Ulaanbaatar**	**45.99**	**323**	P	**P**	**23 57 57.4**	**-0.2**
ULN				pmax	pmax		
	comp=Z,20nm,1.6s						
CHTO	**Chiang Mai**	**46.20**	**281**	P	**P**	**23 57 59.1**	**-0.3**
CHTO	**Chiang Mai**	**46.20**	**281**	P	**P**	**23 57 59.1**	**-0.3**
CM31	**Chiang Mai Arr**	**46.22**	**281**	P	**P**	**23 58 00.0**	**+0.3**
CM31				IAmb	IAmb	23 58 00.8	
	comp=Z,10nm,0.7s						
CMAR	**Chiang Mai Arr**	**46.22**	**281**	P	**P**	**23 58 00.2**	**+0.6**
	comp=Z,6.7nm,0.7s,baz=77,slow=6.4,SNR=36						
CMAR				PcP	**PcP**	**23 59 35.0**	**0.0**
	comp=Z,0.8nm,0.3s,baz=98,slow=2.6,SNR=4.3						
CMAR				LR	LR	00 17 45.7	
	comp=Z,36nm,19.3s,baz=270,slow=37						
	comp=Z,6.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**46.22**	**281**	P	**P**	**23 57 59.5**	**-0.2**
SONM	**Songino Array**	**46.36**	**322**	P	**P**	**23 57 59.9**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=137,slow=8.0,SNR=13						
SONM				PcP	**PcP**	**23 59 35.5**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=90,slow=4.3,SNR=1.5						
SONM				LR	LR	00 17 02.2	
	comp=Z,112nm,20.7s,baz=112,slow=36						
SONM	**Songino Array**	**46.36**	**322**	P	**P**	**23 58 00.2**	**-0.3**
SONM	**Songino Array**	**46.36**	**322**	P	**P**	**23 58 00.2**	**-0.3**
SONM				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KULM	**Kulim**	**46.98**	**262**	P	**P**	**23 58 04.8**	**-0.8**
GTA	**Gaotai**	**47.56**	**309**	*eP*	P	23 58 16.0	+6.0
GTA				pP	pP	23 58 19.3	-0.3
GTA				sP	sP	23 58 22.3	-1.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA	**Gaotai**	**47.56**	**309**	*eP*	**P**	**23 58 05.5**	**-4.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				LR	LR		
	comp=Z,72nm,13.5s						
GTA				LR	LR		
	comp=Z,110nm,15.6s						
GTA				LR	LR		
	comp=Z,110nm,18.5s						
STKA	**Stephens Creek**	**47.75**	**187**	P	**P**	**23 58 11.7**	**+0.4**
STKA	**Stephens Creek**	**47.75**	**187**	P	**P**	**23 58 11.7**	**+0.4**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.6s						
YAK	**Yakutsk**	**47.83**	**349**	*deP*	**P**	**23 58 12.9**	**+1.4**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s						
PSI	**Prapat**	**49.37**	**260**	P	**P**	**23 58 23.6**	**-0.6**
PSI				pmax	pmax		
	comp=Z,11nm,0.8s						
ZAK	**Zakamensk**	**49.38**	**324**	*eP*	**P**	**23 58 22.2**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
RPSI	**Rantau Prapat**	**49.40**	**260**	P	**P**	**23 58 23.6**	**-0.7**
RPSI				IAmb	IAmb	23 58 32.6	
	comp=Z,11nm,0.8s						
AFI	**Afiamalu**	**50.06**	**124**	LR	LR	00 17 18.7	
	comp=Z,32nn,18.8s,baz=32,slow=33						
GOMU	**GeErMu**	**50.73**	**304**	P	**P**	**23 58 35.8**	**+1.2**
GOMU				pmax	pmax		
	comp=Z,13nm,0.8s						
GOMU				pmax	pmax		
	comp=Z,88nm,5.3s						
GSI	**Gunungsitoli**	**51.12**	**259**	P	**P**	**23 58 36.4**	**-1.0**
BRDH	**Bariadhala**	**52.78**	**287**	LR	LR	00 21 56.8	
	comp=Z,140nn,19.9s,baz=292,slow=37						
LSA	**Lhasa**	**53.16**	**295**	P	**P**	**23 58 53.7**	**+0.8**
LSA				IAmb	IAmb	23 58 55.1	
	comp=Z,13nm,0.7s						
LSA	**Lhasa**	**53.16**	**295**	P	**P**	**23 58 54.0**	**+1.1**
LSA				pmax	pmax		
	comp=Z,21nm,0.7s						
LSA	**Lhasa**	**53.16**	**295**	P	**P**	**23 58 53.7**	**+0.8**
LSA				pmax	pmax		
	comp=Z,13nm,0.7s						
MORW	**Morawa**	**53.91**	**214**	P	**P**	**23 58 58.7**	**+1.0**
TAPN	**Taplejung**	**56.18**	**293**	*eP*	**P**	**23 59 15.1**	**+0.5**
ODAN	**Odare**	**56.48**	**292**	*eP*	**P**	**23 59 16.5**	**-0.2**
	comp=Z,9.9nm,1.6s						
RAMN	**Ramite**	**57.18**	**292**	*eP*	**P**	**23 59 21.8**	**+0.1**
WMQ	**Urumqi**	**57.38**	**312**	*eP*	**P**	**23 59 23.3**	**+0.7**
WMQ				pP	pP	23 59 30.0	-2.5
WMQ				pmax	pmax		
	comp=Z,18nm,1.1s						
JIRN	**Jiri**	**57.52**	**293**	*eP*	**P**	**23 59 24.9**	**+0.7**
	comp=Z,48nm,0.9s						
GUN	**Gumba**	**57.79**	**293**	*eP*	**P**	**23 59 26.8**	**+0.7**
	comp=Z,30nm,0.7s						
PKI	**Pulchoki**	**58.21**	**293**	*eP*	**P**	**23 59 29.0**	**-0.1**
	comp=Z,12nm,0.5s						
PKIN	**Phulchoki**	**58.23**	**293**	*eP*	**P**	**23 59 29.0**	**-0.1**
	comp=Z,14nm,0.5s						
KKN	**Kakani**	**58.32**	**293**	*eP*	**P**	**23 59 30.1**	**+0.4**
	comp=Z,5.0nm,1.2s						
DMN	**Daman**	**58.48**	**293**	*eP*	**P**	**23 59 31.1**	**+0.3**
	comp=Z,20nm,0.6s						
DGZ	**Jazzator, Alta**	**58.71**	**319**	*diP*	**P**	**23 59 32.3**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GKN	**Gorkha**	**58.88**	**293**	*eP*	**P**	**23 59 33.8**	**+0.3**
	comp=Z,39nm,0.7s						
DANN	**Dangsing**	**59.64**	**294**	*eP*	**P**	**23 59 39.4**	**+0.5**
	comp=Z,69nm,0.7s						
KOLN	**Koldanda**	**59.81**	**293**	*eP*	**P**	**23 59 40.4**	**+0.4**
	comp=Z,4.7nm,1.0s						
N18K	**Kilae Creek**	**60.29**	**28**	P	**P**	**23 59 42.4**	**-0.1**
PYUN	**Piuthan**	**60.33**	**294**	*eP*	**P**	**23 59 43.7**	**+0.1**
	comp=Z,45nm,0.9s						
SVW2	**Sparrevohn**	**60.59**	**28**	P	**P**	**23 59 43.9**	**-0.6**
SVW2				IAmb	IAmb	23 59 54.9	
	comp=Z,20nm,1.5s						
KDAK	**Kodiak Island**	**60.91**	**32**	LR	LR	00 25 13.7	
	comp=Z,26nm,19.3s,baz=243,slow=35						
N19K	**Bonanza Creek**	**60.98**	**28**	P	**P**	**23 59 46.5**	**-0.7**
N19K				IAmb	IAmb	00 00 14.7	
	comp=Z,20nm,1.4s						
ZAA0	**Zalesovo Array**	**61.24**	**323**	P	**P**	**23 59 48.4**	**-0.7**
ZALV	**Zalesovo Beam**	**61.24**	**323**	P	**P**	**23 59 48.2**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=100,slow=6.2,SNR=14						
ZALV				PcP	**PcP**	**00 00 31.0**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=123,slow=3.6,SNR=4.8						
	comp=Z,1.9nm,0.5s						
MK31	**Makanchi Array**	**61.59**	**315**	P	**P**	**23 59 51.6**	**+0.1**
MK31				IAmb	IAmb	23 59 52.6	
	comp=Z,8.8nm,1.0s						
MK31	**Makanchi Array**	**61.59**	**315**	P	**P**	**23 59 51.6**	**+0.1**
MK31				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MKAR	**Makanchi Array**	**61.59**	**315**	P	**P**	**23 59 51.6**	**0.0**
	comp=Z,8.6nm,0.9s,baz=96,slow=8.1,SNR=42						
	comp=Z,8.6nm,0.9s						
MAKZ	**Makanchi**	**61.80**	**315**	P	**P**	**23 59 53.2**	**+0.2**
MAKZ				IAmb	IAmb	23 59 54.1	
	comp=Z,16nm,1.0s						
MAKZ	**Makanchi**	**61.80**	**315**	P	**P**	**23 59 53.2**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,16nm,1.0s						
J20K	**Nowinta River**	**62.36**	**25**	P	**P**	**23 59 56.7**	**+0.3**
J20K				IAmb	IAmb	00 00 23.7	
	comp=Z,15nm,1.2s						
CAST	**Castle Rocks**	**62.95**	**26**	P	**P**	**00 00 00.5**	**+0.1**
CAST				IAmb	IAmb	00 00 04.8	
	comp=Z,5.2nm,0.8s						
CAST	**Castle Rocks**	**62.95**	**26**	P	**P**	**00 00 01.8**	**+1.5**
	baz=250						
IMAR	**Indian Mountai**	**63.21**	**23**	P	**P**	**00 00 02.7**	**+0.7**
PWL	**Port Wells**	**63.87**	**29**	P	**P**	**00 00 05.2**	**-1.2**
PWL				IAmb	IAmb	00 00 12.9	
	comp=Z,12nm,0.8s						
PWL	**Port Wells**	**63.87**	**29**	P	**P**	**00 00 07.9**	**+1.5**
	baz=255						
KNK	**Knik Glacier**	**63.95**	**29**	P	**P**	**00 00 08.0**	**+1.0**
	baz=255						
SML	**Sawmill**	**64.11**	**28**	P	**P**	**00 00 08.3**	**+0.2**
SML				IAmb	IAmb	00 00 39.8	
	comp=Z,12nm,1.0s						
SML	**Sawmill**	**64.11**	**28**	P	**P**	**00 00 08.9**	**+0.8**
	baz=255						
KURK	**Kurchatov**	**64.46**	**319**	P	**P**	**00 00 09.9**	**-0.5**
KURK	**Kurchatov**	**64.46**	**319**	P	**P**	**00 00 09.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,46nm,1.0s						
GLI	**Glacier Island**	**64.46**	**30**	P	**P**	**00 00 10.4**	**+0.1**
GLI				IAmb	IAmb	00 00 22.7	
	comp=Z,7.1nm,1.0s						
GLI	**Glacier Island**	**64.46**	**30**	P	**P**	**00 00 11.3**	**+1.0**
	baz=256						
KURBB	**Kurchatov Arra**	**64.50**	**319**	P	**P**	**00 00 10.4**	**-0.3**
	comp=Z,54nm,0.9s,baz=98,slow=6.7,SNR=258						
SCM	**Sheep Creek Mo**	**64.58**	**29**	P	**P**	**00 00 10.6**	**-0.6**
SCM				IAmb	IAmb	00 00 23.8	
	comp=Z,25nm,1.3s						
SCM	**Sheep Creek Mo**	**64.58**	**29**	P	**P**	**00 00 10.6**	**-0.6**
SCM				pmax	pmax		
	comp=Z,25nm,1.3s						
SCM	**Sheep Creek Mo**	**64.58**	**29**	P	**P**	**00 00 12.6**	**+1.4**
	baz=256						
WAT6	**Susitna Watana**	**64.59**	**28**	P	**P**	**00 00 11.7**	**+0.4**
	baz=255						
I23K	**Minto, Yukon-K**	**64.63**	**25**	P	**P**	**00 00 11.8**	**+0.5**
I23K				IAmb	IAmb	00 00 15.9	
	comp=Z,16nm,1.6s						
FID	**Port Fidalgo**	**64.72**	**30**	P	**P**	**00 00 11.9**	**-0.1**
FID				IAmb	IAmb	00 00 18.0	
	comp=Z,6.4nm,0.8s						
NRIK	**Noril'sk**	**64.83**	**340**	P	**P**	**00 00 12.4**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=132,slow=7.9,SNR=4.7						
	comp=Z,2.8nm,0.5s						
NRIK	**Noril'sk**	**64.83**	**340**	P	**P**	**00 00 12.6**	**0.0**
NRIK	**Noril'sk**	**64.83**	**340**	P	**P**	**00 00 12.6**	**0.0**
NRIK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DHY	**Denali Highway**	**64.88**	**27**	P	**P**	**00 00 14.7**	**+1.5**
	baz=255						
COLD	**Coldfoot**	**64.98**	**22**	P	**P**	**00 00 15.5**	**+1.9**
	baz=250						
EYAK	**Cordova Ski Ar**	**65.03**	**30**	P	**P**	**00 00 14.9**	**+0.9**
	baz=258						
MDM	**Murphy Dome**	**65.03**	**25**	P	**P**	**00 00 14.7**	**+0.7**
MDM				IAmb	IAmb	00 00 21.0	
	comp=Z,24nm,1.8s						
ILAR	**Eielson Array**	**65.53**	**25**	P	**P**	**00 00 16.4**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=253,slow=4.5,SNR=9.7						
ILAR				LR	LR	00 26 05.8	
	comp=Z,44nm,21.2s,baz=274,slow=34						
	comp=Z,1.1nm,0.6s						
ILAR	**Eielson Array**	**65.53**	**25**	P	**P**	**00 00 17.0**	**-0.2**
ILAR	**Eielson Array**	**65.53**	**25**	P	**P**	**00 00 17.0**	**-0.2**
HYBB	**Hyderabad (bro**	**65.60**	**282**	*eP*	**P**	**00 00 19.3**	**+0.7**
PAX	**Paxson**	**65.69**	**28**	P	**P**	**00 00 18.7**	**+0.3**
PAX	**Paxson**	**65.69**	**28**	P	**P**	**00 00 18.7**	**+0.3**
PAX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PAX	**Paxson**	**65.69**	**28**	P	**P**	**00 00 18.4**	**0.0**
	baz=257						
HARP	**HAARP**	**65.71**	**28**	P	**P**	**00 00 19.9**	**+1.5**
	baz=257						
NRN	**Naryn**	**65.79**	**309**	P	**P**	**00 00 19.8**	**+0.1**
NRN				IAmb	IAmb	00 00 20.9

HYT	Haines Junctio	69.08	30	P		P		00 00 40.9	+1.0
HYT	Haines Junctio	69.08	30	P		P		00 00 41.7	+1.8
	baz=265								
P30M	Million Dollar	69.29	31	P		P		00 00 43.3	+2.2
	baz=266								
K29M	Barlow Dome	69.37	27	P		P		00 00 43.3	+1.6
	baz=264								
PLBC	Pleasant Camp	69.54	32	P		P		00 00 44.2	+1.6
	baz=266								
BVAR	Borovoye Array	69.69	321	P		P		00 00 43.5	-0.2
	comp=Z,8.8nm,0.7s,baz=93,slow=7.7,SNR=58								
	comp=Z,8.8nm,0.7s								
BRVK	Borovoye	69.75	321	P		P		00 00 43.7	-0.3
BRVK				IAmb		IAmb		00 00 44.7	
	comp=Z,15nm,0.9s								
BRVK	Borovoye	69.75	321	P		P		00 00 43.7	-0.3
BRVK				pmax		pmax			
	comp=Z,15nm,0.9s								
BTK	Batken	69.77	307	P		P		00 00 44.0	-0.5
BTK	Batken	69.77	307	P		P		00 00 44.0	-0.5
BTK				pmax		pmax			
	comp=Z,8.0nm,1.3s								
KK31	Karatay Array	69.81	311	P		P		00 00 44.4	-0.3
KK31				IAmb		IAmb		00 00 45.6	
	comp=Z,12nm,0.9s								
KK31	Karatay Array	69.81	311	P		P		00 00 44.4	-0.3
KK31				pmax		pmax			
	comp=Z,13nm,0.9s								
KKAR	Karatay Array	69.81	311	P		P		00 00 44.4	-0.2
KKAR	Karatay Array	69.81	311	P		P		00 00 44.4	-0.2
N31M	Braeburn, Yuko	69.96	30	P		P		00 00 47.2	+2.0
	baz=266								
GAR	Garm	70.23	306	P		P		00 00 47.0	-0.5
PPT2	Papeete2	70.47	116	*e*LR		LR		00 22 09.9	
	comp=Z,77nm,25.0s								
CHGR	Chuyangaron	71.16	306	P		P		00 00 52.8	-0.3
CHGR	Chuyangaron	71.16	306	P		P		00 00 52.8	-0.3
CHGR				pmax		pmax			
	comp=Z,59nm,1.1s								
INK	Inuvik	71.39	23	P		P		00 00 54.3	+0.6
	comp=Z,1.7nm,0.7s,baz=249,slow=6.2,SNR=4.3								
	comp=Z,1.7nm,0.7s								
INK	Inuvik	71.39	23	P		P		00 00 54.0	+0.3
INK				IAmb		IAmb		00 01 19.0	
	comp=Z,11nm,1.2s								
INK	Inuvik	71.39	23	P		P		00 00 54.0	+0.3
INK				pmax		pmax			
	comp=Z,11nm,1.2s								
KBL	Kabul	71.70	302	P		P		00 00 56.0	-0.5
KBL				IAmb		IAmb		00 01 03.1	
	comp=Z,7.1nm,0.8s								
KBL	Kabul	71.70	302	P		P		00 00 56.0	-0.5
KBL				pmax		pmax			
	comp=Z,7.0nm,0.9s								
BBB	Bella Bella	74.34	40	LR		LR		00 26 15.7	
	comp=Z,43nm,20.4s,baz=289,slow=30								
ARU	Arti	76.31	325	P		P		00 01 22.4	-0.3
	comp=Z,14nm,0.6s,baz=129,slow=3.6,SNR=27								
ARU				LR		LR		00 35 57.4	
	comp=Z,89nm,18.7s,baz=100,slow=37								
	comp=Z,14nm,0.6s								
ARU	Arti	76.31	325	P		P		00 01 22.5	-0.3
ARU				IAmb		IAmb		00 01 23.3	
	comp=Z,14nm,0.7s								
ARU	Arti	76.31	325	*c i*P		P		00 01 22.3	-0.4
ARU				S		S		00 11 09.7	+5.0
ARU				SS		SS		00 16 02.9	+4.1
ARU				pmax		pmax			
	comp=Z,14nm,0.7s								
ABKAR	Akbulak array	76.51	318	P		P		00 01 23.5	-0.6
ABKAR				IAmb		IAmb		00 01 24.3	
	comp=Z,11nm,0.7s								
ABKAR	Akbulak array	76.51	318	P		P		00 01 23.4	-0.6
HRA	Herat	77.27	302	P		P		00 01 28.4	-0.5
AKTO	Aktyubinsk	77.55	319	P		P		00 01 29.3	-0.6
	comp=Z,3.6nm,0.6s,baz=83,slow=7.1,SNR=8.8								
AKTO				LR		LR		00 36 26.4	
	comp=Z,49nm,19.1s,baz=102,slow=36								
	comp=Z,3.6nm,0.6s								
YKA	Yellowknife Ar	79.78	28	P		P		00 01 41.9	0.0
	comp=Z,2.7nm,0.9s,baz=280,slow=5.5,SNR=4.5								
	comp=Z,2.7nm,0.9s								
GEYT	Alibeck	79.86	307	P		P		00 01 43.3	+0.4
	comp=Z,7.6nm,0.9s,baz=328,slow=2.3,SNR=13								
	comp=Z,7.6nm,0.9s								
GEYT	Alibeck	79.86	307	P		P		00 01 42.8	-0.1
GYA0B	ALIBECK ARRAY	79.86	307	P		P		00 01 42.6	-0.3
GYA0B				IAmb		IAmb		00 01 48.3	
	comp=Z,10nm,0.9s								
KIRV	Kirov	80.72	328	*de*P		P		00 01 47.3	+0.3
PRGR	Permogore	81.68	332	*e*P		P		00 01 49.4	-2.6
PRGR				pmax		pmax			
	comp=Z,6.0nm,0.6s								
SPITS	Spitsbergen Ar	82.24	351	P		P		00 01 54.9	+0.1
SPITS				pmax		pmax			
	comp=Z,42nm,1.3s								
NVAR	Mina Array Bea	83.66	52	P		P		00 02 05.9	+2.7
	comp=Z,1.3nm,0.8s,baz=279,slow=7.2,SNR=2.5								
	comp=Z,1.3nm,0.8s								
KLMR	Klimovskoe	84.72	332	*e*P		P		00 02 05.1	-2.6
KLMR				pmax		pmax			
	comp=Z,24nm,1.2s								
KLMR	Klimovskoe	84.72	332	*e*P		P		00 02 05.2	-2.5
KLMR				AMP				00 02 08.6	
	comp=Z,24nm,1.2s								
KEV	Kevo	85.14	342	P		P		00 02 09.8	+0.2
KEV	Kevo	85.14	342	P		P		00 02 09.8	+0.2
KEV				pmax		pmax			
	comp=Z,23nm,1.0s								
ARA0	ARCESS Array S	85.69	343	*e*P		P		00 02 13.3	+0.8
ARA0				IAmb		IAmb		00 02 13.7	
	comp=Z,22nm,0.8s								
ARCES	ARCESS Array B	85.69	343	P		P		00 02 12.8	+0.3
	comp=Z,12nm,0.6s,baz=53,slow=6.0,SNR=35								
	comp=Z,12nm,0.6s								
ARCES	ARCESS Array B	85.69	343	P		P		00 02 12.6	+0.1
ARCES	ARCESS Array B	85.69	343	P		P		00 02 12.6	+0.1
ARCES				pmax		pmax			
	comp=Z,17nm,0.8s								
LRM	Limekiln Ridge	85.73	44	P		P		00 02 13.3	-0.2
BOZ	Bozeman (W)	86.35	44	P		P		00 02 18.2	+1.8
	baz=289								
JETT	Jettan, Norway	87.11	344	*e*P		P		00 02 20.0	+0.6
DUG	Dugway, Tooele	87.24	49	P		P		00 02 20.7	-0.2
DUG	Dugway, Tooele	87.24	49	P		P		00 02 20.7	-0.2
DUG				pmax		pmax			
	comp=Z,4.0nm,1.1s								
IMW	Indian Meadow	87.37	45	P		P		00 02 21.7	+0.1
TRO	Tromso	87.45	344	*e*P		P		00 02 21.0	0.0
TRO				IAmb		IAmb		00 02 21.7	
	comp=Z,12nm,0.8s								
VORR	Voronezh	88.54	324	*e*P		P		00 02 25.1	-1.5
VORR				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PDAR	Pinedale Array	88.70	46	P		P		00 02 29.6	+1.7
	comp=Z,0.4nm,0.8s,baz=270,slow=1.8,SNR=2.8								
	comp=Z,0.4nm,0.8s								
ZEI	Tsey	88.93	314	*e*P		P		00 02 24.9	-4.0
ZEI				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KBZ	Khabaz	89.28	315	P		P		00 02 29.5	-0.7
	comp=Z,6.7nm,0.9s,baz=81,slow=5.2,SNR=8.8								
	comp=Z,6.7nm,0.9s								
STEI	Steigen	89.60	344	*e*P		P		00 02 31.1	-0.1
STEI				IAmb		IAmb		00 02 31.2	
	comp=Z,21nm,1.0s								
FAUS	Fauske	89.97	343	*e*P		P		00 02 32.6	-0.4
FAUS				IAmb		IAmb		00 02 37.5	
	comp=Z,15nm,1.0s								
FINES	FINESS Array B	90.14	336	P		P		00 02 33.1	-0.7
	comp=Z,3.1nm,0.5s,baz=70,slow=4.5,SNR=48								
	comp=Z,3.1nm,0.5s								
MOR8	Moi Rana	91.07	343	*e*P		P		00 02 37.2	-0.9
MNK	Minsk	93.21	329	*i*P		P		00 02 52.4	+4.1
MNK				*i*S		SKSac		00 13 26.6	+7.1
MNK				pmax		pmax			
	comp=Z,14nm,1.6s								
MNK				pmax		pmax			
	comp=E,4.0nm,1.6s								
MNK				MLR		MLR			
	comp=Z,89nm,15.0s								
MNK				MLR		MLR			
	comp=E,26nm,25.0s								
NB2	NORSAR Subarra	95.80	340	P		P		00 02 59.0	-1.1
	comp=Z,0.7nm,0.7s,baz=47,slow=4.6								
NB2	NORSAR Subarra	95.80	340	P		P		00 02 59.0	-1.1
	baz=47,slow=4.6								
NOA	NORSAR Array B	95.80	340	P		P		00 02 59.1	-0.9
	comp=Z,1.5nm,0.9s,baz=45,slow=4.8,SNR=4.2								
	comp=Z,1.5nm,0.9s								
BRTR	Keskin Array B	97.24	315	P		P		00 03 06.0	-1.2
	comp=Z,1.0nm,0.9s,baz=37,slow=6.4,SNR=4.0								
	comp=Z,1.0nm,0.9s								
BRTR	Keskin Array B	97.24	315	*i* P		Pdif		00 03 07.3	0.0
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
DBIC	Dimbokro	144.54	307	PKP		PKPbc		00 09 10.1	+0.2
	comp=Z,11nm,0.6s,baz=58,slow=4.0,SNR=34								
KIC	Kosan Boka	144.65	306	⇑*e*PKP1		PKPab		00 09 10.2	0.0
	comp=Z,15nm,0.5s								
TIC	Toumodi	144.68	307	⇑*e*PKP1		PKPab		00 09 10.2	-0.1
	comp=Z,8.9nm,0.4s								
LIC	Lamto	144.95	307	⇑*e*PKP1		PKPab		00 09 10.9	-0.4
	comp=Z,63nm,0.6s								
LPAZ	La Paz	145.93	96	PKPbc		PKiKP		00 09 17.3	-1.2
	comp=Z,2.2nm,0.8s,baz=273,slow=5.9,SNR=4.9								

*SFS **28** 23:52:03.0, 35˚.50N×3˚.50W, ML2.5, ALBORAN SUR*
*CNRM **28** 23:52:04.5, 35˚.51N×3˚.56W, h22km, ml1.9*
*MDD **28** 23:52:04.3±0.4, 35˚.57N×3˚.59W, h0km, mb_Lg2.3/7, Error ellipse: s-maj=3.5km s-min=2.9km az=39.0*

ISC 28 23:52:03.5±1.2, 35˚.52N±0˚.03×3˚.57W±0˚.03, h11km±10km, n24, σ1°11/45, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.43	224	P		Pg		23 52 12.7	+0.7
PALE				S		Sb		23 52 19.2	-0.4
WMELI	Melilla	0.55	112	P		Pb		23 52 15.9	+0.7
WMELI				S		Sb		23 52 23.6	+0.6
EMEL	Melilla	0.55	114	Pg		Pb		23 52 15.9	+0.7
EMEL				Sg		Sb		23 52 23.5	+0.4
PVLZ	Peæn de	0.69	240	P		Pb		23 52 18.1	+0.5
PVLZ				S		Sg		23 52 24.7	-1.3
CHAS	Isla Isabel II	0.99	110	P		Pg		23 52 22.4	-0.3
CHAS				S		Sg		23 52 35.2	-0.4
AKLM	AKL	1.04	193	P		Pg		23 52 24.0	+0.4
AKLM				S		Sg		23 52 35.7	-1.4
TAF	Taforalt	1.18	126	P		Pb		23 52 26.0	0.0
TAF				S		Sb		23 52 41.1	-0.4
ELGU	Los Guajares,	1.34	358	Pg		Pn		23 52 26.8	-1.5
ELGU				Sg		Sb		23 52 44.4	-1.6
ELGU				*i* Vmb_Lg				23 52 49.6	
EMAL	Malaga-Limoner	1.42	331	P		Pn		23 52 28.8	-0.4
EMAL				S		Sn		23 52 47.4	-0.5
EMIJ	Mijas	1.42	317	Pg		Pn		23 52 29.0	-0.4
EMIJ				Sg		Sn		23 52 46.1	-2.0
EMIJ				*i* Vmb_Lg				23 52 52.9	
JBK	JBK	1.45	145	P		Pn		23 52 29.4	-0.4
JBK				S		Sn		23 52 46.8	-2.1
EBER	Berja	1.48	22	Pg		Pn		23 52 30.1	-0.1
EBER				Sn		Sn		23 52 48.6	-1.1
EBER				*i* Vmb_Lg				23 52 54.8	
SMIR	Smir Dam	1.48	277	P		Pn		23 52 30.6	+0.4
SMIR				S		Sn		23 52 49.5	0.0
EGOR	Sierra Gorda,	1.64	345	Pg		Pn		23 52 32.8	+0.3
EGOR				Sn		Sn		23 52 53.7	+0.1
EGOR				*i* Vmb_Lg				23 53 01.9	
EQES	Quesada	2.31	10	Pn		Pn		23 52 43.3	+1.6
EQES				Sn		Sn		23 53 09.9	-0.2
EQES				*i* Vmb_Lg				23 53 17.2	
EADA	Adamuz	2.76	343	Pn		Pn		23 52 49.8	+2.0
EADA				Sn		Sn		23 53 20.4	-0.6
MD31	MD31	2.83	201	P		Pn		23 52 49.4	+0.7
MD31				S		Sn		23 53 23.2	+0.4
MDT	Midelt	2.84	198	P		Pn		23 52 49.5	+0.6
MDT				S		Sn		23 53 22.9	-0.2
ECAB	El Cabril	2.95	330	Pn		Pn		23 52 49.8	-0.5
ECAB				Sn		Sn		23 53 25.8	+0.1
ETOB	Tobarra	3.51	27	Pn		Pn		23 52 59.8	+1.7
ETOB				Sn		Sn		23 53 40.3	+0.6
EGRO	El Granado	3.73	304	Pn		Pn		23 53 01.9	+0.7
EGRO				Sn		Sn		23 53 43.1	-1.9
PVAQ	Vaqueiros	3.83	301	*e*Pn		Pn		23 53 05.5	+3.0
PBAR	Barrancos	3.84	315	*e*Pn		Pn		23 53 03.3	+0.8
PAB	San Pablo	4.06	352	Pn		Pn		23 53 07.3	+1.5

*NNC **28** 23:59:32.5±1.3, 41˚.61N×83˚.74E, h6km±5km, mb3.9, mpv3.6, Error ellipse: s-maj=10.2km s-min=6.5km az=163.0*
*SOME **28** 23:59:34.2, 41˚.62N×83˚.55E, h0km*

ISC 28 23:59:32.8±2.4, 41˚.6N±0˚.1×83˚.74E±0˚.07, h10km, n38, σ2°95/61, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	3.10	307	*e*P		Pb		00 00 28.2	0.0
KTMS	7.1nm,0.2s			*e*S		Sb		00 01 07.3	+1.1
	12nm,0.2s								
KTMS	Ketmen	3.10	307	Pg		Pb		00 00 28.6	+0.4
KTMS	14nm,0.6s			Lg		Lg		00 01 11.4	
	21nm,0.3s								
SHLS	Shalkode	3.53	297	*e*P		Pb		00 00 31.6	-3.7
SHLS	10nm,0.4s			*e*S		Sb		00 01 13.9	-4.4
	40nm,0.2s								
SHLS	Shalkode	3.53	297	Pg		Pn		00 00 30.6	+2.8
SHLS	18nm,0.3s			Lg		Lg		00 01 14.9	
	62nm,0.3s								
PDGK	Podgornoye	3.58	300	⇑Pn		Pn		00 00 29.2	+0.7
PDGK	4.8nm,0.8s			⇑Pg		Pg		00 00 38.7	-2.8
	13nm,0.7s								
PDGK				⇑Sn		Sn		00 01 12.0	+0.9
	16nm,0.6s								
PDGK				⇓Lg		Lg		00 01 27.1	
	39nm,0.7s								
UZB	Uzynbulak	3.82	295	*e*P		Pb		00 00 42.0	+1.6
UZB	6.0nm,0.2s			*e*S		Sb		00 01 30.6	+3.9
	27nm,0.3s								
UZB	Uzynbulak	3.82	295	Pg		Pb		00 00 41.0	+0.7
UZB	8.6nm,0.5s			Lg		Lg		00 01 32.6	
	27nm,0.5s								
DJR	Jarkent	3.98	314	*e*P		Pg		00 00 47.1	-1.9
DJR	3.0nm,0.2s			*e*S		Sg		00 01 40.0	-0.5
	12nm,0.3s								
DJR	Jarkent	3.98	314	Pg		Pb		00 00 44.4	+1.4
DJR	6.7nm,0.5s			Lg		Lg		00 01 38.6	
	13nm,0.8s								
KPKS	Kokpek	4.17	298	*e*P		Pb		00 00 48.8	+2.4
KPKS	7.7nm,0.2s			*e*S		Sg		00 01 42.8	-3.9
	51nm,0.2s								
KPKS	Kokpek	4.17	298	Pg		Pb		00 00 47.3	+0.9
KPKS	10nm,0.4s			Lg		Lg		00 01 43.2	
	51nm,0.4s								
SATY	Saty	4.21	292	*e*P		Pg		00 00 50.8	-2.7
SATY	9.9nm,0.3s			*e*S		Sg		00 01 45.6	-2.5
	22nm,0.3s								
SATY	Saty	4.21	292	Pg		Pb		00 00 48.2	+1.1
SATY	9.9nm,0.5s			Lg		Lg		00 01 44.9	
	28nm,0.5s								
ZHN	Zhinishke	4.23	293	*e*P		Pb		00 00 49.4	+2.0
ZHN	12nm,0.1s			*e*S		Sb		00 01 43.1	+4.7
	21nm,0.1s								
ZHN	Zhinishke	4.23	293	Pg		Pb		00 00 48.7	+1.4
ZHN	15nm,0.2s			Lg		Lg		00 01 46.0	
	27nm,0.3s								
KURS	Kuram	4.52	296	*e*P		Pg		00 00 58.8	-0.7
KURS	9.2nm,0.4s			*e*S		Sg		00 01 59.5	+1.4
	9.0nm,0.4s								
KURS	Kuram	4.52	296	Pg		Pb		00 00 53.9	+1.6
KURS	9.2nm,0.6s			Lg		Lg		00 01 55.0	
	9.0nm,0.5s								
ARXS	Arharly	5.06	303	*e*P		Pg		00 01 07.3	-2.5
ARXS	5.8nm,0.4s			*e*S		Sg		00 02 14.6	-0.8
	13nm,0.2s								
ARXS	Arharly	5.06	303	Pg		Pg		00 01 06.1	-3.6
	5.9nm,0.5s								
ARXS				Lg		Lg		00 02 16.2	
	13nm,0.8s								
KOTS	Kotyrbulak	5.17	290	*e*P		Pg		00 01 07.8	-3.9
	1.6nm,0.3s								
KOTS				*e*S		Sg		00 02 15.8	-2.9
	25nm,0.3s								
KOTS	Kotyrbulak	5.17	290	Pg		Pg		00 01 07.9	-3.9
	1.5nm,0.5s								
KOTS				Lg		Lg		00 02 19.1	
	31nm,0.6s								
MDOK	Medeo	5.19	290	*e*P		Pb		00 01 07.3	+3.5
	5.6nm,0.5s								
MDOK				*e*S		Sg		00 02 14.7	-4.8
	11nm,0.3s								
MDOK	Medeo	5.19	290	Pg		Pg		00 01 08.6	-3.7
	4.6nm,0.5s								
MDOK				Lg		Lg		00 02 20.1	
	12nm,0.9s								
TNSS	Tian-Shan	5.24	288	*e*P		Pg		00 01 11.7	-1.3
	3.4nm,0.4s								
TNSS				*e*S		Sg		00 02 21.6	+0.7
	5.6nm,0.4s								
TNSS	Tian-Shan	5.24	288	Pg		Pg		00 01 09.3	-3.8
	4.2nm,0.7s								
TNSS				Lg		Lg		00 02 21.4	
	5.6nm,0.7s								
MK31	Makanchi Array	5.29	349	Pn		Pn		00 00 51.5	-0.3
	1.5nm,0.6s,baz=33,slow=30,SNR=20								
MK31				⇑Pg		Pb		00 01 07.9	+2.7
	1.4nm,0.7s,baz=171,slow=15,SNR=6.7								
MK31				⇓Sn		Sn		00 01 54.5	+1.7
	2.9nm,0.5s,baz=183,slow=26,SNR=4.8								
MK31				⇓Lg		Lg		00 02 20.4	
	14nm,0.6s,baz=169,slow=27,SNR=4.8								
MAKZ	Makanchi	5.35	347	⇓Pn		Pn		00 00 52.9	+0.2
	1.2nm,0.8s								
MAKZ				⇑Pg		Pb		00 01 08.4	+2.0
	4.6nm,1.1s								
MAKZ				⇑Sn		Sn		00 01 56.1	+1.8
	4.2nm,0.6s								
MAKZ				⇓Lg		Lg		00 02 24.0	
	14nm,0.7s								
CHKK	Chushkaly	5.46	297	*e*P		Pg		00 01 13.1	-4.1
	2.0nm,0.3s								
CHKK				*e*S		Sg		00 02 23.9	-4.0
	9.6nm,0.2s								
CHKK	Chushkaly	5.46	297	Pg		Pg		00 01 13.4	-3.8
	3.1nm,0.3s								
CHKK				Lg		Lg		00 02 28.6	
	9.2nm,0.4s								
KTBS	Karatobe	5.61	294	*e*P		Pb		00 01 13.6	+2.7
	1.8nm,0.5s								
KTBS				*e*S		Sb		00 02 25.0	+6.7
	22nm,0.3s								
KTBS	Karatobe	5.61	294	Pg		Pg		00 01 16.6	-3.6
	4.2nm,0.6s								
KTBS				Lg		Lg		00 02 33.7	
	20nm,0.5s								
ZSN	Zaisan	5.89	7	*e*P		Pg		00 01 22.9	-2.8
	3.9nm,0.5s								
ZSN				*e*S		Sg		00 02 40.6	-1.3
	10nm,0.4s								
ZSN	Zaisan	5.89	7	Pg		Pg		00 01 21.1	-4.6
	2.8nm,0.4s								
ZSN				Lg		Lg		00 02 41.9	
	20nm,0.9s								
KUU	Kurty	5.91	295	Pg		Pg		00 01 22.2	-3.7
	6.6nm,0.1s								
KUU				Lg		Lg		00 02 43.6	
	9.6nm,0.2s								
DGS	Degeres	6.12	288	*e*P		Pg		00 01 27.0	-3.0
	2.8nm,0.3s								
DGS				*e*S		Sg		00 02 48.4	-0.8
	9.9nm,0.5s								
DGS	Degeres	6.12	288	Pg		Pg		00 01 25.6	-4.4
	4.3nm,0.5s								
DGS				Lg		Lg		00 02 48.9	
	8.0nm,0.3s								
KRBS	Karabastau	6.30	292	*e*P		Pg		00 01 30.5	-3.0
	1.6nm,0.2s								
KRBS				*e*S		Sg		00 02 53.5	-1.6
	4.4nm,0.3s								
KRBS	Karabastau	6.30	292	Pg		Pg		00 01 29.2	-4.2
	1.6nm,0.3s								
KRBS				Lg		Lg		00 02 55.6	
	4.3nm,0.3s								

*VAO **29** 00:05:20.9±0.6, 21˚.26S×68˚.20W, h101km, mb4.0*
*GUC **29** 00:05:23.0±0.8, 21˚.68S×68˚.25W, h136km±7km, ML3.7*

ISC 29 00:05:21.7±0.8, 21˚.66S±0˚.04×68˚.33W±0˚.08, h149km±10km, n31, σ0°74/45, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.86	261	⇑*i*P		Pn		00 05 46.0	+0.6
PB09				IAML				00 06 09.2	
	comp=E,163nm,0.3s								
LVC	Limon Verde	1.09	210	*e*P		Pn		00 05 47.0	-0.5
LVC				*i* S		Sn		00 06 06.3	-1.1
LVC	Limon Verde	1.09	210	*e*P		Pn		00 05 47.6	0.0
PB01	IPOC Station P	1.25	299	⇑*i*P		Pn		00 05 49.0	+0.3
PB01				*i* S		Sn		00 06 08.8	-0.6
PB01				IAML				00 06 09.9	
	comp=N,2μm,0.3s								
AF01	San Pedro de A	1.29	174	*e*P		Pn		00 05 49.1	-0.3
PB07	IPOC Station P	1.45	267	⇑*i*P		Pn		00 05 51.4	+0.5
PB07				*i* S		Sn		00 06 13.2	+0.1
PB07				IAML				00 06 14.0	
	comp=N,1μm,0.5s								
PB02	IPOC Station P	1.50	283	⇑*i*P		Pn		00 05 51.8	+0.5
PB02				*i* S		Sn		00 06 13.9	0.0
PB02				IAML				00 06 14.7	
	comp=N,1μm,0.2s								
PB06	IPOC Station P	1.55	228	⇑*i*P		Pn		00 05 52.5	+0.6
PB06				*i* S		Sn		00 06 15.2	+0.1
PB06				IAML				00 06 16.7	
	comp=E,599nm,0.4s								
PB08	IPOC Station P	1.70	333	⇑*i*P		Pn		00 05 54.8	+1.0
PB08				*i* S		Sn		00 06 18.8	+0.5
PB08				IAML				00 06 21.7	
	comp=N,617nm,0.5s								
PB04	IPOC Station P	1.82	248	⇑*i*P		Pn		00 05 55.4	+0.5
PB04				*i* S		Sn		00 06 20.0	-0.3
PB04				IAML				00 06 21.9	
	comp=E,507nm,0.5s							

SMTB	**Santa Maria do**	**23.67**	**61**	*e*P		**P**	**00 10 20.2**	**+0.4**
MALB	**Monte Alegre**	**23.98**	**37**	*e*P		**P**	**00 10 22.6**	**+0.1**

NEIC ***29*** *00:10:30.5±0.9, 40˚.50N±0˚.04×112˚.14W±0˚.07, h0km±2km, ML2.2/64, Error ellipse: s-maj=8.6km s-min=6.7km az=79.0*

IDC ***29*** *00:10:31.9±1.5, 41˚.44N×112˚.90W, h0km, mbtmp2.6/1, ML3.3/1, Error ellipse: s-maj=37.1km s-min=8.6km az=146.0*

ISC 29 00:10:30.3±1.0**, 40˚.52N**±0˚.03×**112˚.15W**±0˚.03**, h0km, n36, σ0.53/35, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTU	**Camp Tracy**	**0.35**	**60**	Pg	**Pg**	**00 10 37.2**	**+0.2**
JLU	**Jordanelle**	**0.54**	**81**		**Pg**	**00 10 41.1**	**+0.4**
NLU	**North Lily Min**	**0.56**	**174**	Pg	**Pg**	**00 10 41.4**	**+0.3**
NLU				IAML		00 10 49.6	
	comp=E,105nm,0.5s						
NLU				IAML		00 11 00.3	
	comp=N,150nm,1.8s						
DUG	**Dugway, Tooele**	**0.60**	**238**	Pg	**Pg**	**00 10 41.6**	**-0.2**
DUG				IAML		00 10 52.9	
	comp=N,86nm,0.7s						
DUG				IAML		00 10 56.8	
	comp=N,134nm,0.9s						
MPU	**Maple Canyon**	**0.64**	**141**		**Pg**	**00 10 42.7**	**+0.1**
BGU	**Big Grassy Mou**	**0.78**	**302**		**Pg**	**00 10 45.3**	**0.0**
SPUT	**South Promonto**	**0.82**	**344**		**Pg**	**00 10 45.6**	**-0.4**
TCUT	**Toone Canyon**	**0.82**	**43**		**Pg**	**00 10 46.5**	**+0.4**
HWUT	**Hardware Ranch**	**1.18**	**22**	Pg	**Pg**	**00 10 52.9**	**0.0**
HWUT				IAML		00 11 11.6	
	comp=N,49nm,0.5s						
HWUT				IAML		00 11 16.8	
	comp=N,35nm,0.7s						
HVU	**Hansel Valley**	**1.35**	**340**	Pg	**Pg**	**00 10 55.2**	**-0.9**
HVU				IAML		00 11 03.0	
	comp=N,45nm,0.4s						
HVU				IAML		00 11 16.6	
	comp=E,41nm,0.4s						
TMUT	**Trail Mountain**	**1.42**	**149**		**Pg**	**00 10 57.1**	**-0.4**
TMUT				IAML		00 11 24.2	
	comp=N,60nm,0.9s						
P17A	**Butcher Ranch,**	**1.51**	**133**		**Pn**	**00 10 57.9**	**-0.8**
P17A				IAML		00 11 22.1	
	comp=E,29nm,0.9s						
P17A				IAML		00 11 23.8	
	comp=N,38nm,1.8s						
P18A	**Preston Nutter**	**1.71**	**121**		**Pn**	**00 11 01.6**	**-0.1**
Q16A	**Castle Valley**	**1.77**	**154**		**Pn**	**00 11 02.4**	**0.0**
Q16A				IAML		00 11 29.5	
	comp=N,27nm,1.5s						
Q16A				IAML		00 11 30.0	
	comp=E,16nm,1.4s						
SRU	**San Rafael Swe**	**1.88**	**138**		**Pn**	**00 11 03.7**	**-0.2**
SRU				IAML		00 11 38.5	
	comp=E,22nm,0.9s						
SRU				IAML		00 11 39.0	
	comp=N,20nm,0.8s						
TCRU	**Three Creeks R**	**1.92**	**187**		**Pn**	**00 11 05.0**	**+0.6**
TCRU				IAML		00 11 14.4	
	comp=E,27nm,0.5s						
RDMU	**Red Mountain**	**1.97**	**88**		**Pn**	**00 11 05.5**	**+0.4**
MSU	**Marysvale**	**2.00**	**181**		**Pn**	**00 11 05.2**	**-0.4**
MVU	**Marysvale**	**2.01**	**181**		**Pn**	**00 11 05.5**	**-0.3**
SPR3	**Spring Creek 3**	**2.26**	**229**		**Pn**	**00 11 09.5**	**+0.3**
SPR3				IAML		00 11 49.2	
	comp=E,12nm,0.8s						
SPR3				IAML		00 11 51.4	
	comp=N,20nm,1.1s						
PSUT	**Pine Spring**	**2.38**	**214**		**Pn**	**00 11 10.2**	**-0.6**
PSUT				IAML		00 11 54.0	
	comp=E,23nm,1.2s						
PSUT				IAML		00 12 00.8	
	comp=N,14nm,0.8s						
AHID	**Auburn Hatcher**	**2.38**	**19**		**Pn**	**00 11 10.9**	**+0.1**
MTPU	**Mount Pierson**	**2.47**	**181**		**Pn**	**00 11 12.2**	**0.0**
ECR	**Eagle Creek**	**2.60**	**13**	Pn	**Pn**	**00 11 13.2**	**-0.6**
PDAR	**Pinedale Array**	**2.97**	**40**	Pg	**Pb**	**00 11 23.4**	**-0.9**
PDAR				Lg	Lg	00 12 02.4	
	comp=N,1.9nm,0.3s,baz=225,slow=16,SNR=26						
	comp=N,1.7nm,0.3s,baz=270,slow=25,SNR=7.5						
REDW	**Red Top Meadow**	**3.00**	**18**		**Pn**	**00 11 19.4**	**0.0**
SZCU	**Shurtz Canyon**	**3.01**	**194**		**Pn**	**00 11 18.1**	**-1.3**
SZCU				IAML		00 11 38.9	
	comp=N,6.2nm,0.3s						
SZCU				IAML		00 11 40.1	
	comp=E,7.4nm,0.3s						
TPAW	**Teton Pass**	**3.10**	**16**		**Pn**	**00 11 21.2**	**+0.4**
TPAW				IAML		00 11 50.2	
	comp=E,10nm,3.8s						
TPAW				IAML		00 12 23.4	
	comp=E,9.6nm,2.6s						
FXWY	**Fox Creek**	**3.23**	**15**		**Pn**	**00 11 23.2**	**+0.7**
FXWY				IAML		00 12 23.6	
	comp=E,5.1nm,3.4s						
FXWY				IAML		00 13 25.8	
	comp=E,6.2nm,4.3s						
LOHW	**Long Hollow**	**3.30**	**20**		**Pn**	**00 11 23.7**	**+0.3**
LOHW				IAML		00 12 22.3	
	comp=E,9.5nm,2.7s						
LOHW				IAML		00 12 42.5	
	comp=E,8.5nm,3.1s						
HLID	**Hailey**	**3.48**	**332**	Pn	**Pn**	**00 11 26.1**	**+0.2**
HLID				IAML		00 12 39.8	
	comp=E,3.6nm,3.9s						
HLID				IAML		00 12 46.9	
	comp=E,4.0nm,4.3s						
IMW	**Indian Meadow**	**3.50**	**15**	Pn	**Pn**	**00 11 26.6**	**+0.4**
IMW				IAML		00 11 59.3	
	comp=E,6.2nm,2.0s						
PV13	**Radium Mtn., P**	**3.50**	**131**		**Pn**	**00 11 25.8**	**-0.4**
YPP	**Pitchstone Pla**	**3.88**	**14**		**Pn**	**00 11 32.2**	**+0.7**
NVAR	**Mina Array Bea**	**5.20**	**248**	Pg	**Pb**	**00 12 03.3**	**+1.2**
	comp=E,0.3nm,0.3s,baz=25,slow=15,SNR=2.3						
NVAR				Lg	Lg	00 13 12.5	
	comp=E,0.1nm,0.3s,baz=42,slow=35,SNR=1.3						
TXAR	**Lajitas Array**	**13.14**	**145**	Pn	P	00 13 57.0	+8.3
	baz=320,slow=9.4,SNR=1.6						
	comp=E,0.1nm,0.5s						

IDC ***29*** *00:21:07.6±0.5, 35˚.60S×104˚.03W, h0km, mb4.8/13, mbtmp4.8/14, ML4.7/1, MS4.7/43, Error ellipse: s-maj=17.7km s-min=15.1km az=110.0*

MOS ***29*** *00:21:08.2±1.3, 35˚.46S×103˚.85W, h10km, mb5.2/32, Error ellipse: s-maj=11.7km s-min=7.7km az=89.1*

NEIC ***29*** *00:21:09.5±1.5, 35˚.60S±0˚.09×103˚.9W±0˚.1, h10km±1km, mb5.2/208, Mwc5.5(GCMT), Error ellipse: s-maj=16.2km s-min=14.5km az=247.0*

BJI ***29*** *00:21:11.0±0.0, 35˚.50S×103˚.90W, h20km, mB5.6/6, Ms5.3/8, Ms7 5.1/9*

GCMT ***29*** *00:21:12.5±0.1, 35˚.66S±0˚.01×104˚.07W±0˚.01, h17km, MW5.4/157, Moment Tensor Solution. s131,c226; s157,c303; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr~0.19±.02; Mθθ~0.41±.02; Mϕϕ0.59±.02; Mrθ0.08±.05; Mϕr~1.52±.02; Mθr~0.47±.05; Best double couple: M0 1.66400×10^17 NP1:ϕs189.00000°, δ88.00000°, λ15.00000°. NP2:ϕs99.00000°, δ75.00000°, λ178.00000°. Principal axes: T 1.7870, Plg12.0000°, Azm55.0000°; N -0.2470, Plg75.0000°, Azm197.0000°; P -1.5410, Plg9.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *00:21:13, 35˚.70S×104˚.09W, h19km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17 Nm; Mrr~0.26; Mθθ~0.48; Mϕϕ0.74; Mrθ0.06; Mϕϕ~1.78; Mθr~0.43; Fault plane solution: M0 1.95000×10^17 NP1:ϕs99.00000°, δ78.00000°, λ179.00000°. NP2:ϕs189.00000°, δ89.00000°, λ12.00000°. Principal axes: T 2.0762, Plg9.0000°, Azm55.0000°; N -0.2963, Plg78.0000°, Azm195.0000°; P -1.7799, Plg8.0000°, Azm324.0000°;*

ISC 29 00:21:09.1±0.2**, 35˚.54S**±0˚.06×**103˚.92W**±0˚.05**, h10km, n580, σ0.95/565, mb5.2**/125**, MS4.7**/47**, 12C-8D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.57**	**330**	Pn	**Pn**	**00 23 28.8**	**+1.8**
	6.8nm,0.3s,baz=141,slow=6.8,SNR=16						
RPN				Sn	**Sn**	**00 25 09.4**	**-5.3**
	4.5nm,0.3s,baz=170,slow=21,SNR=1.1						
RPN				LR	LR	00 26 09.0	
	comp=Z,9μm,19.3s,baz=108,slow=31						
	218nm,0.7s						
RPN	**Rapa Nui**	**9.57**	**330**		**Pn**	**00 23 28.1**	**+1.1**
VA02	**Isla de Pascua**	**9.59**	**329**		**Pn**	**00 23 28.6**	**+1.5**
H03S2	**Juan Fernandez**	**20.61**	**93**	T	T	00 47 27.4	
	baz=263						
H03S1	**Juan Fernandez**	**20.62**	**93**	T	T	00 47 12.3	
	baz=263						
H03S3	**Juan Fernandez**	**20.62**	**93**	T	T	00 47 27.7	
	baz=263						
H03N2	**Juan Fernandez**	**20.69**	**91**	T	T	00 47 20.8	
	baz=248,slow=72,SNR=63						
H03N3	**Juan Fernandez**	**20.69**	**91**	T	T	00 47 28.1	
	baz=248,slow=72,SNR=48						
H03N1	**Juan Fernandez**	**20.70**	**91**	T	T	00 47 23.5	
	baz=248,slow=72,SNR=52						
LL05	**Los Muermos**	**24.47**	**113**	P	**P**	**00 26 29.2**	**+1.0**
LL07	**Hotel Espejo d**	**24.60**	**116**	P	**P**	**00 26 31.0**	**+1.6**
PTCN	**Pitcairn Islan**	**24.82**	**288**	P	**P**	**00 26 32.8**	**+1.2**
LL04	**Puerto Octay**	**25.25**	**112**	P	**P**	**00 26 35.1**	**-0.1**
LL04				IAmb	IAmb	00 26 46.7	
	comp=Z,66nm,1.2s						
LL03	**Petrohue**	**25.26**	**112**	P	**P**	**00 26 35.5**	**+0.1**
AY01	**Puyuhuapi**	**25.43**	**120**	P	**P**	**00 26 37.0**	**+0.2**
LL02	**Futaleuf**	**25.83**	**117**	P	**P**	**00 26 41.0**	**+0.5**
LL02				IAmb	IAmb	00 26 46.9	
	comp=Z,98nm,1.5s						
GO06	**Curarrehue**	**25.96**	**109**	P	**P**	**00 26 41.7**	**-0.1**
GO06				IAmb	IAmb	00 26 54.2	
	comp=Z,128nm,2.0s						
COYC	**Coyhaique**	**26.03**	**122**	P	**P**	**00 26 42.2**	**-0.1**
COYC				IAmb	IAmb	00 26 49.7	
	comp=Z,78nm,1.3s						
GO05	**Huala**	**26.06**	**98**	P	**P**	**00 26 42.2**	**-0.6**
GO05				IAmb	IAmb	00 26 47.0	
	comp=Z,77nm,1.1s						
ML02	**Panimavida**	**26.35**	**100**	P	**P**	**00 26 45.0**	**-0.2**
ML02				IAmb	IAmb	00 26 47.5	
	comp=Z,130nm,1.2s						
VA05	**Santo Domingo**	**26.60**	**95**	P	**P**	**00 26 47.2**	**-0.4**
VA05				IAmb	IAmb	00 26 49.7	
	comp=Z,148nm,1.6s						
PLCA	**Paso Flores**	**26.65**	**111**	P	**P**	**00 26 49.5**	**+1.4**
	comp=Z,6.3nm,0.8s,baz=270,slow=11,SNR=9.3						
	comp=Z,6.3nm,0.8s						
PLCA	**Paso Flores**	**26.65**	**111**	P	**P**	**00 26 48.6**	**+0.5**
PLCA	**Paso Flores**	**26.65**	**111**	*e*P	**P**	**00 26 49.5**	**+1.4**
BO02	**Sierra Bellavi**	**27.03**	**98**	P	**P**	**00 26 51.9**	**+0.3**
BO02				IAmb	IAmb	00 27 08.6	
	comp=Z,52nm,1.1s						
MT09	**Talagante**	**27.08**	**96**	P	**P**	**00 26 52.2**	**+0.2**
VA06	**Catapilco**	**27.12**	**93**	P	**P**	**00 26 52.5**	**+0.2**
VA06				IAmb	IAmb	00 26 54.4	
	comp=Z,82nm,1.4s						
BO04	**La Punta**	**27.34**	**97**	P	**P**	**00 26 54.2**	**0.0**
BO04				IAmb	IAmb	00 27 16.2	
	comp=Z,40nm,1.1s						
MT05	**Renca**	**27.37**	**95**	P	**P**	**00 26 54.9**	**+0.3**
MT05				IAmb	IAmb	00 27 05.5	
	comp=Z,47nm,1.0s						
CO06	**Fray Jorge**	**27.40**	**89**	P	**P**	**00 26 55.1**	**+0.3**
CO06				IAmb	IAmb	00 26 57.1	
	comp=Z,116nm,1.7s						
PEL	**Peldehue**	**27.47**	**95**	P	**P**	**00 26 55.0**	**-0.5**
PEL				IAmb	IAmb	00 26 57.3	
	comp=Z,42nm,1.1s						
PEL	**Peldehue**	**27.47**	**95**	P	**P**	**00 26 55.0**	**-0.5**
PEL				pmax	pmax		
	comp=Z,42nm,1.1s						
MT03	**Universidad Ad**	**27.53**	**96**	P	**P**	**00 26 55.7**	**-0.4**
MT03				IAmb	IAmb	00 26 58.3	
	comp=Z,44nm,1.1s						
GO09	**Cerro Castillo**	**27.54**	**135**	P	**P**	**00 26 56.7**	**+0.9**
MG05	**Puerto Natales**	**27.60**	**136**	P	**P**	**00 26 56.6**	**+0.2**
MG05				IAmb	IAmb	00 27 00.3	
	comp=Z,56nm,1.1s						
VA03	**San Esteban**	**27.68**	**94**	P	**P**	**00 26 57.7**	**+0.3**
VA03				IAmb	IAmb	00 26 59.4	
	comp=Z,58nm,1.1s						
LMEL	**Las Melosas**	**27.70**	**96**	P	**P**	**00 26 58.2**	**+0.6**
LMEL				IAmb	IAmb	00 27 00.3	
	comp=Z,76nm,1.1s						
CO02	**Combarbal**	**27.75**	**91**	P	**P**	**00 26 58.2**	**+0.1**
CO02				IAmb	IAmb	00 27 00.2	
	comp=Z,52nm,1.1s						
CO03	**El Pedregal**	**28.12**	**90**	P	**P**	**00 27 01.2**	**-0.1**
GO04	**Tololo Observa**	**28.25**	**89**	P	**P**	**00 27 02.5**	**-0.1**
CO01	**Juntas del Tor**	**28.89**	**89**	P	**P**	**00 27 08.4**	**0.0**
RTLS	**Leoncito**	**28.96**	**93**	*i* P	**P**	**00 27 09.8**	**+0.6**
AAGR	**Agrelo**	**29.00**	**95**	*i* P	**P**	**00 27 11.1**	**+1.9**
ASAL	**Salagasta**	**29.12**	**94**	*i* P	**P**	**00 27 12.0**	**+1.8**
AROD	**Rodeo**	**29.33**	**89**	*i* P	**P**	**00 27 13.8**	**+1.4**
ACCO	**Cerro Coronel**	**29.52**	**90**	*i* P	**P**	**00 27 15.4**	**+1.3**
ZON	**Zonda**	**29.54**	**92**	P	**P**	**00 27 14.4**	**+0.5**
ZON				IAmb	IAmb	00 27 16.6	
	comp=Z,99nm,1.3s						
ZON	**Zonda**	**29.54**	**92**	P	**P**	**00 27 14.4**	**+0.5**
ZON				pmax	pmax		
	comp=Z,99nm,1.3s						
RKT	**Rikitea**	**29.64**	**286**	*e*T	T	00 57 49.9	
	comp=Z,4.5nm,0.3s						
AC01	**Pan de Azucar**	**29.98**	**81**	P	**P**	**00 27 17.6**	**-0.2**
PB14	**IPOC Station P**	**30.84**	**79**	P	**P**	**00 27 24.4**	**-1.4**
PB14				IAmb	IAmb	00 27 27.7	
	comp=Z,81nm,1.7s						
AC02	**Maricunga**	**30.87**	**83**	P	**P**	**00 27 26.6**	**+0.3**
USHA	**Ushuaia**	**31.11**	**139**	LR	LR	00 36 58.6	
	comp=Z,3μm,20.5s,baz=290,slow=31						
GO02	**Mina Guanaco**	**31.24**	**80**	P	**P**	**00 27 29.5**	**+0.2**
GO02				IAmb	IAmb	00 27 31.6	
	comp=Z,90nm,1.6s						
ACHE	**Chepes**	**31.30**	**93**	*i* P	**P**	**00 27 30.4**	**+0.8**
ACLC	**CERRO LA CRUZ**	**31.64**	**89**	*i* P	**P**	**00 27 33.4**	**+0.7**
MRA	**San Martin**	**31.70**	**96**	*i* P	**P**	**00 27 33.6**	**+0.5**
PB15	**IPOC Station P**	**32.27**	**77**	P	**P**	**00 27 38.8**	**+0.5**
PB15				IAmb	IAmb	00 27 40.2	
	comp=Z,46nm,1.0s						
PB06	**IPOC Station P**	**32.45**	**76**	P	**P**	**00 27 39.7**	**0.0**
PB06				IAmb	IAmb	00 27 41.2	
	comp=Z,28nm,0.9s						
PB07	**IPOC Station P**	**32.71**	**74**	P	**P**	**00 27 42.6**	**+0.5**
PB02	**IPOC Station P**	**32.92**	**74**	P	**P**	**00 27 44.2**	**+0.3**
PB02				IAmb	IAmb	00 27 46.7	
	comp=Z,85nm,1.4s						
CYA	**Choya**	**32.94**	**88**	*i* P	**P**	**00 27 44.6**	**+0.7**
LVC	**Limon Verde**	**33.02**	**77**	LR	LR	00 37 43.6	
	comp=Z,1μm,18.1s,baz=248,slow=30						
LVC	**Limon Verde**	**33.02**	**77**	P	**P**	**00 27 45.3**	**+0.3**
LVC				IAmb	IAmb	00 27 48.0	
	comp=Z,43nm,1.1s						
LVC	**Limon Verde**	**33.02**	**77**	P	**P**	**00 27 45.3**	**+0.3**
LVC				pmax	pmax		
	comp=Z,43nm,1.2s						
LVC	**Limon Verde**	**33.02**	**77**	*e*P	**P**	**00 27 45.6**	**+0.6**
PB09	**IPOC Station P**	**33.18**	**75**	P	**P**	**00 27 46.3**	**+0.1**
TRQA	**Tornquist**	**33.47**	**107**	P	**P**	**00 27 48.8**	**+0.3**
TRQA	**Tornquist**	**33.47**	**107**	P	**P**	**00 27 48.8**	**+0.3**
TRQA				pmax	pmax		
	comp=Z,13nm,1.1s						
NNA	**Nana**	**33.90**	**53**	LR	LR	00 38 22.9	
	comp=Z,5μm,19.3s,baz=234,slow=30						
NNA	**Nana**	**33.90**	**53**	⇓ *e*P	**P**	**00 27 52.4**	**0.0**
NNA				pmax	pmax		
	comp=Z,33nm,1.1s						
PB12	**IPOC Station P**	**34.12**	**69**	P	**P**	**00 27 54.6**	**+0.3**
PB08	**IPOC Station P**	**34.15**	**73**	P	**P**	**00 27 55.4**	**+0.6**
PB08				IAmb	IAmb	00 27 57.6	
	comp=Z,56nm,1.2s						
GO01	**Chusmiza**	**34.38**	**72**	P	**P**	**00 27 57.5**	**+0.5**
GO01				IAmb	IAmb	00 27 58.8	
	comp=Z,20nm,0.8s						
PB16	**IPOC Station P**	**34.91**	**70**	P	**P**	**00 28 02.0**	**+0.3**
EFI	**East Falkland**	**36.25**	**131**	⇑ *e*P	**P**	**00 28 14.4**	**+2.2**
EFI				pmax	pmax		
	comp=Z,41nm,1.2s						
ATAH	**Atahualpa**	**36.70**	**46**	P	**P**	**00 28 18.1**	**+1.3**
	comp=Z,18nm,1.0s,baz=221,slow=4.3,SNR=12						
ATAH				LR	LR	00 39 37.1	
	comp=Z,2μm,19.9s,baz=228,slow=30						
	comp=Z,18nm,1.0s						
LPAZ	**La Paz**	**37.19**	**68**	P	**P**	**00 28 22.6**	**+1.4**
	comp=Z,42nm,1.2s,baz=238,slow=5.1,SNR=53						
LPAZ				LR	LR	00 40 38.1	
	comp=Z,938nm,18.2s,baz=246,slow=31						
	comp=Z,42nm,1.2s						
LPAZ	**La Paz**	**37.19**	**68**	P	**P**	**00 28 21.6**	**+0.3**
LPAZ				IAmb	IAmb	00 28 24.4	
	comp=Z,94nm,1.5s						
LPAZ	**La Paz**	**37.19**	**68**	*e*P	**P**	**00 28 22.8**	**+1.6**
PMSA	**Palmer Station**	**37.72**	**153**	LR	LR	00 39 49.9	
	comp=Z,2μm,19.8s,baz=296,slow=30						
MCRA	**Macar, Loja**	**38.10**	**41**	P	**P**	**00 28 28.2**	**-0.1**
ARNL	**Arenillas**	**38.73**	**40**	P	**P**	**00 28 33.6**	**+0.1**
CZSB	**Cruzeiro do Su**	**39.77**	**53**	P	**P**	**00 28 42.1**	**-0.2**
CZSB				IAmb	IAmb	00 28 44.0	
	comp=Z,39nm,1.0s						
CZSB	**Cruzeiro do Su**	**39.77**	**53**	*e*P	**P**	**00 28 43.0**	**+0.7**
BOSC	**San Juan Bosco**	**39.90**	**42**	P	**P**	**00 28 43.9**	**+0.3**
BOSC				IAmb	IAmb	00 28 44.7	
	comp=Z,48nm,0.8s						
ITQB	**Itaqui**	**39.97**	**95**	P	**P**	**00 28 44.0**	**+0.2**
ITQB				IAmb	IAmb	00 28 45.5	
	comp=Z,110nm,1.2s						
ITQB	**Itaqui**	**39.97**	**95**	*e*P	**P**	**00 28 44.5**	**+0.7**
COHC	**Cochancay**	**40.07**	**40**	P	**P**	**00 28 45.1**	**+0.3**
CPUP	**Villa Florida**	**40.69**	**90**	P	**P**	**00 28 49.6**	**-0.2**
	comp=Z,11nm,1.1s,baz=254,slow=9.7,SNR=13						
CPUP				LR	LR	00 43 44.7	
	comp=Z,749nm,19.6s,baz=252,slow=33						
	comp=Z,11nm,1.1s						
CPUP	**Villa Florida**	**40.69**	**90**	P	**P**	**00 28 49.3**	**-0.5**
CPUP				IAmb	IAmb	00 28 50.9	
	comp=Z,69nm,1.9s						
CPUP	**Villa Florida**	**40.69**	**90**	*e*P	**P**	**00 28 50.6**	**+0.8**
CHSH	**Refugio Sur-Vo**	**41.09**	**40**	P	**P**	**00 28 54.3**	**+0.4**
CHSH				IAmb	IAmb	00 28 56.8	
	comp=Z,280nm,1.9s						
PORT	**Chimborazo Vol**	**41.17**	**40**	P	**P**	**00 28 55.3**	**+0.8**
PLTB	**Pedras Altas**	**41.69**	**100**	P	**P**	**00 28 57.9**	**-0.2**
PLTB				IAmb	IAmb	00 28 59.5	
	comp=Z,89nm,1.4s						
PLTB	**Pedras Altas**	**41.69**	**100**	*e*P	**P**	**00 28 58.5**	**+0.5**
SLOR	**San Lorenzo -**	**41.94**	**40**	P	**P**	**00 29 01.6**	**+1.0**
SLOR				IAmb	IAmb	00 29 03.6	
	comp=Z,60nm,1.7s						
CPSB	**Cacapava Do Su**	**42.28**	**98**	*e*P	**P**	**00 29 02.8**	**-0.1**
TAOE	**Nuku Hiva Isla**	**42.38**	**300**	*e*S	**S**	**00 35 27.5**	**+2.0**
	comp=Z,377nm,25.2s						
TAOE				*e*LR	LR	00 40 49.0	
	comp=Z,2μm,24.1s						
ETMB	**Extrema**	**42.78**	**63**	P	**P**	**00 29 06.4**	**-0.6**
ETMB				IAmb	IAmb	00 29 10.2	
	comp=Z,38nm,1.7s						
ETMB	**Extrema**	**42.78**	**63**	*e*P	**P**	**00 29 06.8**	**-0.3**
OTAV	**Otavalo**	**42.78**	**39**	P	**P**	**00 29 07.2**	**-0.3**
OTAV				IAmb	IAmb	00 29 10.0	
	comp=Z,84nm,1.8s						
OTAV	**Otavalo**	**42.78**	**39**	P	**P**	**00 29 07.2**	**-0.3**
OTAV				pmax	pmax		
	comp=Z,84nm,1.8s						
MEH	**Mehetia**	**42.79**	**282**	*e*T	T	01 14 15.2	
	comp=Z,35nm,0.2s						
SIV	**San Ignacio**	**42.81**	**74**	LR	LR	00 44 22.8	
	comp=Z,584nm,21.9s,baz=256,slow=32						
IMBA	**Imbabura, San**	**42.94**	**40**	P	**P**	**00 29 09.6**	**+0.7**
IMBA				IAmb	IAmb	00 29 11.8	
	comp=Z,59nm,0.7s						
TULM	**Tulcn-Chalpat**	**43.53**	**40**	P	**P**	**00 29 13.8**	**+0.2**
TULM				IAmb	IAmb	00 29 23.3	
	comp=Z,36nm,1.1s						
TIAR	**Tiarei**	**43.98**	**282**	*e*T	T	01 15 49.5	
	comp=Z,3.7nm,0.3s						
PPT2	**Papeete2**	**44.15**	**282**	*e*S	**S**	**00 35 53.6**	**+2.2**
	comp=Z,116nm,25.2s						
PPT2				*e*SS	**SS**	**00 39 12.2**	**+3.2**
	comp=Z,4μm,34.8s						
PPT2				*e*LR	LR	00 41 37.7	
	comp=Z,612nm,22.5s						
PPT	**Papeete**	**44.16**	**282**	LR	LR	00 42 42.7	
	comp=Z,749nm,18.4s,baz=105,slow=29						
TBTG	**Tabatinga, AM**	**44.25**	**53**	P	**P**	**00 29 17.7**	**-1.2**
TBTG				IAmb	IAmb	00 29 21.0	
	comp=Z,52nm,1.3s						
TBTG	**Tabatinga, AM**	**44.25**	**53**	*e*P	**P**	**00 29 17.7**	**-1.2**
ITAB	**Concordia**	**44.55**	**94**	P	**P**	**00 29 21.2**	**0.0**
ITAB				IAmb	IAmb	00 29 22.5	
	comp=Z,70nm,1.4s						
ITAB	**Concordia**	**44.55**	**94**	*e*P	**P**	**00 29 21.7**	**+0.5**
PTLB	**Pontes e Lacer**	**44.65**	**75**	P	**P**	**00 29 21.9**	**-0.2**
PTLB				IAmb	IAmb	00 29 23.5	
	comp=Z,30nm,1.1s						
PTLB	**Pontes e Lacer**	**44.65**	**75**	*e*P	**P**	**00 29 22.3**	**+0.2**
AQDB	**Aquidauana**	**44.70**	**84**	P	**P**	**00 29 22.1**	**-0.4**
AQDB				IAmb	IAmb	00 29 23.8	
	comp=Z,65nm,1.1s						
AQDB	**Aquidauana**	**44.70**	**84**	*e*P	**P**	**00 29 22.9**	**+0.4**
CNLB	**Canela**	**44.77**	**98**	*e*P	**P**	**00 29 25.1**	**+2.0**
VILB	**Vilhena**	**45.29**	**71**	P	**P**	**00 29 26.9**	**-0.3**
VILB				IAmb	IAmb	00 29 28.8	
	comp=Z,62nm,1.1s						
VILB	**Vilhena**	**45.29**	**71**	*e*P	**P**	**00 29 27.8**	**+0.6**
TRCB	**Terra Rica**	**46.08**	**88**	P	**P**	**00 29 33.1**	**-0.4**
TRCB	**Terra Rica**	**46.08**	**88**	*e*P	**P**	**00 29 33.6**	**+0.1**
TER01	**Tubaro-SC**	**46.47**	**97**	*e*P	**P**	**00 29 36.6**	**+0.2**
SALV	**Santo Antonio**	**47.13**	**78**	*e*P	**P**	**00 29 42.1**	**+0.5**
PCMB	**Pacaembu**	**47.76**	**88**	*e*P	**P**	**00 29 46.7**	**+0.1**
C2SB	**Chapadao do Su**	**47.89**	**84**	*e*P	**P**	**00 29 48.5**	**+0.9**
TIJ01	**Guaruva-PR**	**47.90**	**94**	*e*P	**P**	**00 29 47.3**	**-

MAN01 **Angra dos Reis** 53.11 93 *eP* P 00 30 28.8 +1.7
PMNB **Patos De Minas** 53.21 87 *eP* P 00 30 28.5 +0.6
BDFB **Brasilia** 53.45 83 P P 00 30 30.2 +0.5
comp=Z,12nm,0.8s,baz=239,slow=8.6,SNR=19
BDFB LR LR 00 52 02.6
comp=Z,968nm,18.4s,baz=233,slow=35
comp=Z,12nm,0.8s
BDFB **Brasilia** 53.45 83 P P 00 30 29.0 -0.7
BDFB IAmb IAmb 00 30 31.2
comp=Z,77nm,1.6s
BDFB **Brasilia** 53.45 83 *eP* P 00 30 29.4 -0.3
VAS01 **Vassouras-RJ** 53.81 93 *eP* P 00 30 33.1 +0.8
PETF **Flores** 53.84 17 P P 00 30 32.5 +0.2
PETF IAmb IAmb 00 30 59.3
comp=Z,18nm,0.8s
ITTB **Itaituba** 54.12 67 *eP* P 00 30 33.7 -0.9
SDV **Santo Domingo** 54.20 42 LR LR 00 50 38.7
comp=Z,600nm,20.9s,baz=219,slow=33
SDV **Santo Domingo** 54.20 42 P P 00 30 33.7 -1.6
SDV IAmb IAmb 00 30 34.8
comp=Z,17nm,0.8s
SDV **Santo Domingo** 54.20 42 *eP* P 00 30 34.0 -1.2
QSPA **South Pole Qui** 54.67 180 P P 00 30 37.3 -0.7
comp=Z,26nm,0.8s,baz=96,slow=10,SNR=57
QSPA LR LR 00 51 18.7
comp=Z,259nm,19.8s,baz=114,slow=33
comp=Z,26nm,0.8s
QSPA **South Pole Qui** 54.67 180 P P 00 30 37.8 -0.2
QSPA IAmb IAmb 00 30 41.0
comp=Z,36nm,0.9s
BOAV **Boa Vista** 55.38 57 P P 00 30 42.5 -1.1
BOAV IAmb IAmb 00 30 43.6
comp=Z,8.7nm,1.0s
BOAV **Boa Vista** 55.38 57 *eP* P 00 30 43.1 -0.5
SBA **Scott Base** 55.42 195 P P 00 30 43.6 +0.6
SBA **Scott Base** 55.42 195 P P 00 30 43.7 +0.6
SBA pmax pmax
comp=Z,16nm,1.1s
DIAM **Diamantina, MG** 55.59 89 *eP* P 00 30 45.6 +0.3
BAUV **El Baul** 55.70 44 P P 00 30 45.1 -0.7
VNDA **Vanda** 56.52 195 P P 00 30 50.4 -0.5
comp=Z,4.9nm,1.1s,baz=97,slow=6.3,SNR=11
VNDA LR LR 00 50 42.1
comp=Z,633nm,18.2s,baz=96,slow=31
comp=Z,4.9nm,1.1s
VNDA **Vanda** 56.52 195 P P 00 30 51.3 +0.4
VNDA **Vanda** 56.52 195 P P 00 30 51.3 +0.4
VNDA pmax pmax
comp=Z,9.0nm,1.2s
JANB **Januaria** 56.77 85 *eP* P 00 30 53.8 +0.2
MALB **Monte Alegre** 56.88 65 *eP* P 00 30 54.7 +0.3
TEIG **Tepich** 57.41 17 P P 00 30 57.3 -0.5
TEIG IAmb IAmb 00 31 02.7
comp=Z,17nm,0.8s
SJMB **Sao Joao De Ma** 57.41 91 *eP* P 00 30 59.6 +1.5
PRPB **Parauapebas** 57.50 73 *eP* P 00 30 58.7 -0.1
SMTB **Santa Maria do** 57.63 77 *eP* P 00 31 00.2 +0.5
SDBA **SAO DESIDERIO** 57.74 82 *eP* P 00 31 01.4 +0.9
RIB01 **Linhares ES** 57.75 92 *eP* P 00 31 00.8 +0.3
BIRV **Birongo** 57.95 45 P P 00 31 00.8 -1.1
BIRV IAmb IAmb 00 31 12.9
comp=Z,20nm,0.9s
ZAIG **Zacatecas** 58.00 1 P P 00 31 02.5 +0.2
VNA3 **Neumayer Olymp** 58.13 158 P P 00 31 01.4 -1.0
PCRV **Puerto La Cruz** 58.67 47 LR LR 00 54 10.7
comp=Z,2µm,19.6s,slow=34
NAN01 **Guarapari, ES** 58.71 90 *eP* P 00 31 07.2 0.0
VNA1 **Neumayer--Stat** 58.75 157 P P 00 31 05.9 -0.8
VNA2 **Neumayer--Watz** 58.94 158 P P 00 31 07.0 -1.0
baz=263,slow=6.6
SLBS **Sierra La Lagu** 59.17 354 P P 00 31 11.2 +0.9
SLBS IAmb IAmb 00 31 23.6
comp=Z,13nm,1.0s
GUA01 **Guaratinga, BA** 59.63 89 *eP* P 00 31 14.2 +0.6
SNAA **Sanae** 60.05 159 P P 00 31 14.2 -1.6
SNAA **Sanae** 60.05 159 LR LR 00 54 23.6
comp=Z,531nm,18.1s,baz=242,slow=33
SNAA **Sanae** 60.05 159 P P 00 31 14.4 -1.3
SNAA IAmb IAmb 00 31 18.2
comp=Z,39nm,1.3s
SNAA **Sanae** 60.05 159 *de*P P 00 31 14.9 -0.9
SNAA pmax pmax
comp=Z,22nm,1.2s
CMC01 **Camacan, BA** 60.51 88 *eP* P 00 31 20.6 +1.0
SOR **Soroa** 61.30 22 P P 00 31 24.9 +0.1
SOR IAmb IAmb 00 31 33.9
comp=Z,16nm,0.7s
SOR **Soroa** 61.30 22 P P 00 31 24.9 +0.1
SOR pmax pmax
comp=Z,16nm,0.7s
URZ **Urewera** 61.34 242 LR LR 00 51 22.7
comp=Z,1µm,21.3s,baz=194,slow=30
GDU01 **Guandu, BA** 61.34 87 *eP* P 00 31 25.8 +0.5
BKZ **Black Stump Fm** 61.41 241 P P 00 31 25.2 -0.3
TROLL **Troll, Antarti** 61.43 160 P P 00 31 24.2 -1.1
RAO **Raoul Island** 61.46 253 LR LR 00 51 17.2
comp=Z,444nm,21.1s,baz=134,slow=30
HPIG 62.16 358 P P 00 31 30.8 +0.1
HPIG IAmb IAmb 00 31 54.1
comp=Z,39nm,1.6s
MDP **Montagnes des** 62.80 61 LR LR 00 56 08.6
comp=Z,2µm,19.8s,baz=222,slow=33
THZ **Tophouse** 62.84 237 P P 00 31 35.0 -0.1
HIZ **Hauiti** 62.84 241 P P 00 31 34.5 -0.6
SRIG **Santa Rosalia** 63.01 352 P P 00 31 36.6 +0.5
SC01 **Santiago de lo** 63.07 35 P P 00 31 37.0 +0.3
RPZ **Rata Peaks** 63.27 234 LR LR 00 52 25.1
comp=Z,1µm,20.9s,baz=70,slow=30
RPZ **Rata Peaks** 63.27 234 P P 00 31 37.9 0.0
LBZ **Lake Benmore** 63.57 233 P P 00 31 39.6 -0.2
CRPR **Cabo Rojo, PR** 63.66 40 P P 00 31 40.2 -0.4
MLPR **Magueyes Islan** 63.67 40 P P 00 31 39.9 -0.8
ROSB **Rosrio** 63.97 74 *eP* P 00 31 42.9 +0.1
AFI **Afiamalu** 64.11 271 LR LR 00 52 48.5
comp=Z,182nm,20.4s,baz=134,slow=30
WKZ **Wanaka** 64.14 232 P P 00 31 43.2 -0.4
SJG **San Juan** 64.25 40 LR LR 00 58 36.1
comp=Z,467nm,18.2s,baz=245,slow=35
SJG **San Juan** 64.25 40 P P 00 31 42.7 -1.8
SJG **San Juan** 64.25 40 P P 00 31 42.7 -1.8
SJG pmax pmax
comp=Z,47nm,0.9s
MLZ **Mavora Lakes** 64.48 231 P P 00 31 45.7 -0.2
TX32 **Lajitas Array** 64.52 0 P P 00 31 46.4 +0.2
TXAR **Lajitas Array** 64.52 0 P P 00 31 46.6 +0.5
comp=Z,2.6nm,0.6s,baz=185,slow=8.8,SNR=30
TXAR LR LR 00 54 38.5
comp=Z,329nm,18.6s,baz=173,slow=31
comp=Z,2.6nm,0.6s
TX31 **Lajitas Ar. Si** 64.53 0 P P 00 31 47.1 +0.9
baz=180,SNR=9.1
HSIG 64.55 353 P P 00 31 46.9 +0.6
NVL **N'lazarevskaya** 64.63 161 *eP* P 00 31 45.1 -1.2
NVL pmax pmax
comp=Z,29nm,1.0s
NVL MLR MLR
comp=Z,479nm,18.0s
HKT **Hockley** 65.58 8 P P 00 31 53.5 +0.7
HKT IAmb IAmb 00 32 03.7
comp=Z,46nm,1.9s
HKT **Hockley** 65.58 8 *eP* P 00 31 53.9 +1.1
HKT pmax pmax
comp=Z,4.0nm,2.0s
JCT **Junction City** 65.78 4 P P 00 31 54.2 0.0
JCT **Junction City** 65.78 4 P P 00 31 54.2 0.0
JCT pmax pmax
comp=Z,58nm,1.7s
JCT **Junction City** 65.78 4 P P 00 31 54.8 +0.5
baz=184
319A **Douglas** 66.75 355 P P 00 32 00.8 +0.2
319A IAmb IAmb 00 32 26.5
comp=Z,28nm,1.4s
PIX **Pinacate** 67.34 351 P P 00 32 04.2 +0.1
342A **Flagon Creek P** 67.44 11 P P 00 32 05.2 +0.5
342A IAmb IAmb 00 32 15.8
comp=Z,25nm,0.8s
WHTX **Lake Whitney,** 67.45 6 P P 00 32 05.1 +0.3
WHTX **Lake Whitney,** 67.45 6 P P 00 32 05.3 +0.5
baz=186
NATX **Nacogdoches** 67.50 9 P P 00 32 05.9 +0.7
214A **Organ Pipe Nat** 67.66 352 P P 00 32 06.8 +0.6
214A **Organ Pipe Nat** 67.66 352 P P 00 32 07.0 +0.8
baz=172
TUC **Tucson** 67.80 354 P P 00 32 07.0 -0.1
TUC **Tucson** 67.80 354 P P 00 32 07.0 -0.1

TUC pmax pmax
comp=Z,11nm,1.2s
TUC **Tucson** 67.80 354 P P 00 32 07.8 +0.7
baz=174
121A **Cookes Peak, D** 67.81 356 P P 00 32 07.9 +0.6
121A IAmb IAmb 00 32 28.8
comp=Z,14nm,1.2s
ABTX **Abilene, Hawle** 67.92 4 P P 00 32 07.5 -0.3
ABTX IAmb IAmb 00 32 17.6
comp=Z,27nm,1.2s
ABTX **Abilene, Hawle** 67.92 4 P P 00 32 08.2 +0.3
baz=184
ESJX **Sierra Juarez** 68.13 349 P P 00 32 09.4 +0.1
CBX **Cerro Bola** 68.55 348 P P 00 32 11.5 -0.4
113A **Mohawk Valley,** 68.57 351 P P 00 32 10.8 -1.1
113A IAmb IAmb 00 32 36.8
comp=Z,24nm,1.7s
RMX **La Rumorosa** 68.73 349 P P 00 32 12.6 -0.5
YUH **Yuha Desert** 68.75 349 P P 00 32 12.6 -0.5
YUH IAmb IAmb 00 32 38.7
comp=Z,16nm,1.2s
RCBR **Riachuelo** 68.77 82 LR LR 01 01 00.4
comp=Z,341nm,18.4s,baz=14,slow=35
TKX **Tecate** 68.79 349 P P 00 32 13.1 -0.2
IKP **In-Ko-Pah, Jac** 68.79 349 P P 00 32 14.3 +1.0
baz=169
Z35A **Perchaven, San** 68.79 6 P P 00 32 12.7 -0.5
250A **Grady** 69.17 16 P P 00 32 16.7 +1.0
baz=195
109C **Camp Elliot, M** 69.18 348 P P 00 32 16.3 +0.7
109C IAmb IAmb 00 32 41.3
comp=Z,28nm,1.4s
WLAR **White Oak Lake** 69.60 10 P P 00 32 18.0 -0.2
WLAR IAmb IAmb 00 32 27.4
comp=Z,15nm,0.9s
PFO **Pinyon Flats O** 69.78 349 LR LR 00 55 31.9
comp=Z,219nm,20.3s,baz=164,slow=30
PFO **Pinyon Flats O** 69.78 349 P P 00 32 19.9 +0.4
PFO **Pinyon Flats O** 69.78 349 *eP* P 00 32 20.6 +1.0
PFO pmax pmax
comp=Z,5.0nm,1.0s
Z47A **Carrollton** 69.97 14 P P 00 32 21.5 +1.0
baz=194
LRAL **Lakeview Retre** 70.03 15 P P 00 32 21.0 +0.1
LRAL IAmb IAmb 00 32 29.1
comp=Z,13nm,0.9s
LRAL **Lakeview Retre** 70.03 15 P P 00 32 21.5 +0.6
baz=194,SNR=7.9
LRAL **Lakeview Retre** 70.03 15 P P 00 32 21.6 +0.7
baz=194
255A **Hazlehurst** 70.06 19 P P 00 32 21.3 +0.2
baz=198
AMTX **Amarillo** 70.09 2 P P 00 32 21.4 +0.1
AMTX IAmb IAmb 00 32 32.0
comp=Z,23nm,0.9s
AMTX **Amarillo** 70.09 2 P P 00 32 21.6 +0.3
baz=182
AMTX **Amarillo** 70.09 2 P P 00 32 21.8 +0.5
baz=182
BELC **Belle Mtn. Jos** 70.09 349 P P 00 32 22.5 +1.0
baz=170
IRM **Iron Mountain** 70.12 350 P P 00 32 22.3 +0.8
baz=170
PDMCI **Parker Dam,Lak** 70.13 351 P P 00 32 22.3 +0.8
baz=171
ANMO **Albuquerque** 70.16 358 P P 00 32 21.8 -0.2
ANMO **Albuquerque** 70.16 358 *eP* P 00 32 22.5 +0.6
ANMO pmax pmax
comp=Z,6.0nm,1.7s
ANMO **Albuquerque** 70.16 358 P P 00 32 22.8 +0.9
baz=178
ANMO **Albuquerque** 70.16 358 P P 00 32 22.9 +0.9
baz=178
152A **Waverly Hall** 70.20 17 P P 00 32 22.5 +0.5
baz=196,SNR=7.9
X37A **Clayton** 70.22 7 P P 00 32 22.3 +0.3
X37A IAmb IAmb 00 32 31.3
comp=Z,20nm,1.2s
MSVF **Nonsavu** 70.35 262 LR LR 00 55 47.4
comp=Z,483nm,21.8s,baz=140,slow=30
MSVF **Nonsavu** 70.35 262 P P 00 32 23.1 -0.3
MSVF **Nonsavu** 70.35 262 *ce*P P 00 32 24.5 +1.1
MSVF pmax pmax
comp=Z,34nm,1.2s
MIAR **Mount Ida** 70.39 9 P P 00 32 23.2 +0.1
MIAR IAmb IAmb 00 32 32.2
comp=Z,29nm,1.6s
MIAR **Mount Ida** 70.39 9 P P 00 32 23.2 +0.1
MIAR pmax pmax
comp=Z,29nm,1.7s
154A **Montrose** 70.55 19 P P 00 32 25.3 +1.2
baz=198
GMRC **Granite Mounta** 70.81 350 P P 00 32 26.0 +0.1
baz=170
Y49A **Blount Mountai** 70.95 15 P P 00 32 26.7 +0.2
baz=195
WUAZ **Wupatki** 71.03 354 P P 00 32 27.6 +0.4
WUAZ **Wupatki** 71.03 354 P P 00 32 27.9 +0.7
baz=174
GOGA **Godfrey** 71.21 18 P P 00 32 28.6 +0.5
baz=197,SNR=5.5
GOGA **Godfrey** 71.21 18 P P 00 32 28.1 0.0
baz=197
EDW2 **Edwards Air Fo** 71.28 348 P P 00 32 29.0 +0.4
baz=168
X48A **Hartselle** 71.39 15 P P 00 32 29.7 +0.5
baz=194,SNR=7.8
TUL1 **Leonard** 71.48 7 P 00 32 29.9 +0.1
TUL1 IAmb IAmb 00 32 39.3
comp=Z,30nm,1.1s
TUL1 **Leonard** 71.48 7 P P 00 32 30.2 +0.5
baz=187
TUL1 **Leonard** 71.48 7 P P 00 32 29.4 -0.3
baz=187
TUQ **Turquoise Moun** 71.49 350 P P 00 32 30.9 +1.0
baz=170
GSC **Goldstone, Bar** 71.49 349 P P 00 32 30.8 +0.9
baz=169
Y52A **Lilburn** 71.50 17 P P 00 32 30.3 +0.5
baz=197
Y52A P P 00 32 30.3 +0.5
baz=197
PKM **Mcpherson Peak** 71.62 346 P P 00 32 31.7 +0.9
baz=166
V12A **Nelson** 71.63 351 P P 00 32 30.5 -0.2
HAW **Hawthorne Fire** 71.65 20 P P 00 32 31.2 +0.4
baz=199,SNR=5.4
FPAL **Fort Paine** 71.78 16 P P 00 32 31.6 +0.1
LRMC **Laurel Mtn Rad** 71.81 348 P P 00 32 32.7 +0.8
baz=168
NHSC **New Hope** 71.82 21 P P 00 32 32.6 +0.9
NHSC **New Hope** 71.82 21 P P 00 32 32.8 +1.1
baz=200,SNR=5.6
NHSC **New Hope** 71.82 21 P P 00 32 31.9 +0.2
baz=200
X51A **Calhoun** 71.98 16 P P 00 32 33.6 +0.9
baz=196
X51A P P 00 32 33.6 +0.9
baz=196
HHAR **Hobbs** 72.05 8 P P 00 32 33.4 +0.2
baz=188
ISA **Isabella, Lake** 72.12 348 P P 00 32 34.1 +0.5
baz=168
U38A **Gravette** 72.16 8 P P 00 32 34.1 +0.4
baz=188,SNR=5.8
HODGE **Hodges** 72.30 19 P P 00 32 35.3 +0.7
baz=198
T25A **Trinidad** 72.31 360 P P 00 32 36.2 +1.3
T25A **Trinidad** 72.31 360 P P 00 32 36.0 +1.1
baz=180
MPMC **Manual Prospec** 72.34 348 P P 00 32 35.9 +0.8
baz=168
T35B **Sooner Cattle** 72.41 6 P P 00 32 36.3 +1.0
baz=186
W50A **Signal Mountai** 72.48 16 P P 00 32 35.6 -0.2
baz=196
MVCO **Mesa Verde** 72.50 356 P P 00 32 36.4 +0.3
MVCO IAmb IAmb 00 32 58.8
comp=Z,26nm,1.1s
MVCO **Mesa Verde** 72.50 356 P P 00 32 36.9 +0.8
baz=176
PAGB **Antelope Grade** 72.52 346 P P 00 32 36.5 +0.5
PAGB IAmb IAmb 00 33 02.5
comp=Z,36nm,1.2s
KAN08 **Anthony NE Sta** 72.61 5 P P 00 32 37.3 +0.8
KAN08 IAmb IAmb 00 32 46.8
comp=Z,18nm,0.9s

JSC **Jenkinsville** 72.61 20 P P 00 32 36.7 +0.2
baz=199,SNR=5.5
V48A **Smith Brothers** 72.68 15 P P 00 32 36.9 0.0
baz=194,SNR=8.1
W52A **Murphy** 72.70 17 P P 00 32 37.8 +0.7
baz=197
Y58A **Scranton** 72.71 21 P P 00 32 37.8 +0.7
baz=200
Y58A P P 00 32 37.8 +0.7
baz=200
CWC **Cottonwood Cre** 72.81 348 P P 00 32 38.7 +0.9
baz=168
CASEE **Lake Jocassee** 72.85 18 P P 00 32 38.6 +0.7
baz=198,SNR=6.7
WVT **Waverly** 72.86 14 P P 00 32 37.0 -0.8
WVT **Waverly** 72.86 14 P P 00 32 37.1 -0.8
WVT pmax pmax
comp=Z,10.0nm,0.9s
WVT **Waverly** 72.86 14 P P 00 32 37.7 -0.2
baz=194
SDCO **Great Sand Dun** 72.93 359 P P 00 32 38.2 -0.5
SDCO **Great Sand Dun** 72.93 359 P P 00 32 39.5 +0.8
baz=179
S22A **4UR Ranch, Cre** 72.96 358 P P 00 32 38.7 -0.2
S22A **4UR Ranch, Cre** 72.96 358 P P 00 32 40.0 +1.1
baz=178
PAULI **Pauline** 72.97 19 P P 00 32 39.1 +0.4
baz=199,SNR=6.9
TPNV **Topopah Spring** 73.02 350 P P 00 32 39.2 +0.1
TPNV IAmb IAmb 00 33 05.3
comp=Z,19nm,1.2s
TPNV **Topopah Spring** 73.02 350 P P 00 32 39.2 +0.1
TPNV pmax pmax
comp=Z,19nm,1.3s
TPNV **Topopah Spring** 73.02 350 P P 00 32 40.4 +1.3
baz=170
CLTN **Cedars of Leba** 73.12 15 P P 00 32 39.0 -0.5
CLTN IAmb IAmb 00 32 49.4
comp=Z,29nm,1.4s
T42A **Van Buren** 73.18 11 P P 00 32 39.8 0.0
baz=191
GRAC **Grapevine Rang** 73.24 349 P P 00 32 41.4 +1.2
baz=169
TKL **Tuckaleechee C** 73.28 17 LR LR 01 01 24.6
comp=Z,247nm,20.7s,baz=196,slow=33
TKL **Tuckaleechee C** 73.28 17 P P 00 32 40.3 -0.2
TKL **Tuckaleechee C** 73.28 17 P P 00 32 40.3 -0.2
TKL pmax pmax
comp=Z,8.0nm,0.8s
TKL **Tuckaleechee C** 73.28 17 P P 00 32 40.2 -0.2
baz=197
V51A **Loudon** 73.28 17 P P 00 32 40.4 0.0
baz=196
KMSC **Kings Mountain** 73.41 19 P P 00 32 41.3 +0.1
KMSC IAmb IAmb 00 32 42.6
comp=Z,24nm,1.2s
KMSC **Kings Mountain** 73.41 19 P P 00 32 41.6 +0.4
baz=199
KMSC **Kings Mountain** 73.41 19 P P 00 32 41.4 +0.1
baz=199
V52A **Sevierville** 73.50 17 P P 00 32 41.8 +0.1
baz=197
S39A **Bolivar** 73.52 9 P P 00 32 42.8 +1.0
baz=189
V53A **Saluda** 73.52 18 P P 00 32 42.3 +0.3
baz=198,SNR=12
V53A P P 00 32 42.3 +0.3
baz=198,SNR=12
PV15 **Paradox Valley** 73.63 356 P P 00 32 42.6 -0.2
PV15 IAmb IAmb 00 32 59.4
comp=Z,15nm,0.9s
U49A **Red Boiling Sp** 73.64 15 P P 00 32 42.6 0.0
baz=195,SNR=20
W57A **Gilead** 73.78 20 P P 00 32 43.5 +0.1
baz=200,SNR=5.2
W57A P P 00 32 43.5 +0.1
baz=200,SNR=5.2
T47A **Sharon Grove** 73.83 14 P P 00 32 43.9 +0.3
baz=194
MVU **Marysvale** 74.07 353 P P 00 32 46.1 +0.8
MVU IAmb IAmb 00 33 05.8
comp=Z,49nm,1.3s
CBKS **Cedar Bluff** 74.08 3 P P 00 32 45.9 +0.8
CBKS IAmb IAmb 00 32 56.1
comp=Z,21nm,1.0s
CBKS **Cedar Bluff** 74.08 3 P P 00 32 45.9 +0.8
CBKS pmax pmax
comp=Z,21nm,1.0s
V55A **Taylorsville** 74.11 19 P P 00 32 44.9 -0.4
baz=199
V55A P P 00 32 44.9 -0.4
baz=199
CCM **Cathedral Cave** 74.16 10 P P 00 32 45.5 0.0
CCM IAmb IAmb 00 32 56.2
comp=Z,22nm,1.0s
CCM **Cathedral Cave** 74.16 10 P P 00 32 45.5 0.0
CCM pmax pmax
comp=Z,22nm,1.0s
CCM **Cathedral Cave** 74.16 10 P P 00 32 46.2 +0.7
baz=191,SNR=5.9
CCM **Cathedral Cave** 74.16 10 P P 00 32 45.7 +0.2
baz=191
TZTN **Tazewell** 74.17 17 P P 00 32 45.6 0.0
TZTN IAmb IAmb 00 32 56.1
comp=Z,18nm,1.0s
TZTN **Tazewell** 74.17 17 P P 00 32 46.0 +0.3
baz=197,SNR=5.7
TZTN **Tazewell** 74.17 17 P P 00 32 46.9 +1.2
baz=197
R11A **Troy Canyon, C** 74.31 350 P P 00 32 47.5 +0.8
baz=170
T50A **Nancy** 74.33 16 P P 00 32 46.6 0.0
baz=196
T50A P P 00 32 46.6 0.0
baz=196
SMCO **Snowmass** 74.40 358 P P 00 32 48.0 +0.6
NV11 **Mina Array Sit** 74.77 348 P P 00 32 49.8 +0.5
NV11 IAmb IAmb 00 33 15.3
comp=Z,29nm,1.2s
CMB **Columbia Colle** 74.78 347 P P 00 32 49.4 +0.2
CMB IAmb IAmb 00 33 07.8
comp=Z,17nm,1.1s
CMB **Columbia Colle** 74.78 347 P P 00 32 49.4 +0.2
CMB pmax pmax
comp=Z,17nm,1.1s
NVAR **Mina Array Bea** 74.79 348 P P 00 32 50.2 +0.7
comp=Z,7.7nm,0.8s,baz=177,slow=8.0,SNR=28
NVAR LR LR 00 58 37.3
comp=Z,265nm,20.8s,baz=144,slow=30
comp=Z,7.7nm,0.8s
NVAR **Mina Array Bea** 74.79 348 P P 00 32 50.0 +0.5
ISCO **Idaho Springs** 74.98 359 P P 00 32 50.5 -0.2
ISCO IAmb IAmb 00 33 13.9
comp=Z,31nm,2.0s
ISCO **Idaho Springs** 74.98 359 P P 00 32 50.5 -0.2
ISCO pmax pmax
comp=Z,31nm,2.0s
CASY **Casey** 75.10 194 P P 00 32 49.9 -0.9
WCI **Wyandotte Cave** 75.19 14 P P 00 32 50.9 -0.6
WCI IAmb IAmb 00 33 00.2
comp=Z,15nm,0.8s
WCI **Wyandotte Cave** 75.19 14 P P 00 32 50.9 -0.6
WCI pmax pmax
comp=Z,15nm,0.8s
WCI **Wyandotte Cave** 75.19 14 P P 00 32 51.1 -0.4
baz=195
WCI **Wyandotte Cave** 75.19 14 P P 00 32 50.9 -0.6
baz=195
S51A **Beattyville** 75.21 17 P P 00 32 52.1 +0.4
baz=197
S51A P P 00 32 52.1 +0.4
baz=197
OLIL **Olney** 75.34 13 P P 00 32 52.9 +0.5
baz=193
Q44A **Meyer Farm, Va** 75.34 12 P P 00 32 52.9 +0.5
baz=192
O20A **White River Ci** 75.41 357 P P 00 32 53.5 +0.5
O20A IAmb IAmb 00 34 34.0
comp=Z,18nm,1.2s
AFDM **Forest Hills D** 75.77 346 P P 00 32 55.2 +0.3
AFDM IAmb IAmb 00 33 13.3
comp=Z,16nm,1.1s
DUG **Dugway, Tooele** 75.80 353 P P 00 32 55.4 +0.2
DUG **Dugway, Tooele** 75.80 353 P P 00 32 55.4 +0.2
DUG pmax pmax
comp=Z,8.0nm,0.7s
DUG **Dugway, Tooele** 75.80 353 P P 00 32 56.3 +1.1

baz=172
PINNC Pines Island, 76.16 252 P P 00 32 57.2 -0.5
MARNC Mare, Loyalty 76.32 253 P P 00 32 58.1 -0.5
BMN Battle Mountai 76.58 350 P P 00 32 59.5 -0.1
BMN Battle Mountai 76.58 350 P P 00 32 59.5 -0.1
BMN pmax pmax
comp=Z,13nm,1.0s
ELK Elko 76.62 351 LR LR 01 00 27.4
comp=Z,229nm,18.1s,baz=170,slow=31
ELK Elko 76.62 351 P P 00 32 59.8 -0.1
ELK Elko 76.62 351 P P 00 32 59.8 -0.1
ELK pmax pmax
comp=Z,4.0nm,1.0s
MAW Mawson 76.69 175 P P 00 32 59.6 -0.2
comp=Z,8.7nm,1.0s,baz=204,slow=10.0,SNR=6.4
MAW LR LR 01 02 48.7
comp=Z,256nm,21.5s,baz=180,slow=33
comp=Z,8.7nm,1.0s
MAW Mawson 76.69 175 P P 00 33 00.4 +0.6
MAW Mawson 76.69 175 P P 00 33 00.4 +0.6
MAW pmax pmax
comp=Z,3.0nm,1.1s
OUENC Ouen Island, N 76.74 252 P P 00 33 00.2 -0.7
RWWY Rawlins 76.91 357 P P 00 33 02.6 +1.0
ONTNC Ouen Toro 77.10 252 P P 00 33 02.3 -0.7
DZM Mont Dzumac 77.24 252 eS S 00 42 54.2 +0.3
comp=Z,326nm,25.9s
DZM eSS SS 00 47 54.0 +2.6
comp=Z,206nm,29.8s
DZM eLR LR 00 56 57.8
comp=Z,2µm,27.9s
DZM Mont Dzumac 77.24 252 LR LR 00 58 53.3
comp=Z,606nm,21.3s,baz=160,slow=29
LIFNC LIFOU 77.32 254 P P 00 33 03.5 -0.7
O49A Covington 77.48 15 P P 00 33 04.6 +0.1
baz=196
O49A P P 00 33 04.6 +0.1
baz=196
O52A Adamsville 77.98 17 P P 00 33 07.6 +0.3
baz=198
O52A P P 00 33 07.6 +0.3
baz=198
BW06 Boulder Array 78.10 356 P P 00 33 08.3 +0.1
baz=175
PD31 Pinedale Array 78.10 356 P P 00 33 07.9 -0.4
PDAR Pinedale Array 78.10 356 P P 00 33 08.1 -0.1
comp=Z,4.0nm,0.7s,baz=154,slow=6.3,SNR=17
comp=Z,4.0nm,0.7s
PDAR Pinedale Array 78.10 356 P P 00 33 07.8 -0.4
O53A New Philadelph 78.26 18 P P 00 33 08.0 -0.8
O53A IAmb IAmb 00 33 18.3
comp=Z,24nm,0.8s
O53A New Philadelph 78.26 18 P P 00 33 09.1 +0.2
baz=199
MOD Modoc Plateau 78.52 348 P P 00 33 10.7 +0.3
MOD IAmb IAmb 00 33 19.3
comp=Z,54nm,1.8s
WVOR Wild Horse Val 78.76 349 P P 00 33 11.7 0.0
WVOR Wild Horse Val 78.76 349 P P 00 33 11.7 0.0
WVOR pmax pmax
comp=Z,15nm,1.2s
YBH Yreka Blue Hor 78.80 346 LR LR 01 00 06.1
comp=Z,391nm,21.8s,baz=162,slow=30
ECSD EROS Data Cent 79.17 5 P P 00 33 14.1 +0.3
ECSD EROS Data Cent 79.17 5 P P 00 33 14.2 +0.4
baz=186
ECSD EROS Data Cent 79.17 5 P P 00 33 14.1 +0.3
baz=186
L04D Klamath Falls 79.19 346 P P 00 33 14.3 +0.2
baz=165
RSSD Black Hills 79.28 360 P P 00 33 14.5 -0.1
RSSD Black Hills 79.28 360 P P 00 33 14.5 -0.1
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD Black Hills 79.28 360 P P 00 33 15.2 +0.6
baz=180
RSSD Black Hills 79.28 360 P P 00 33 15.3 +0.6
baz=180
HLID Hailey 79.30 352 P P 00 33 15.0 +0.3
HLID IAmb IAmb 00 33 37.5
comp=Z,25nm,1.1s
HLID Hailey 79.30 352 P P 00 33 15.1 +0.4
baz=171
K05A Summer Lake 79.42 347 P P 00 33 15.2 -0.1
K05A IAmb IAmb 00 33 22.4
comp=Z,37nm,1.3s
SSPA Standing Stone 79.49 20 P P 00 33 15.9 +0.3
HUMO Hull Mountain 79.69 346 P P 00 33 17.4 +0.7
KOUNC Koumac, New Ca 79.75 252 P P 00 33 16.1 -1.5
BCYI Bear Canyon 79.94 353 P P 00 33 18.3 +0.1
J05D Fort Rock, OR 80.02 347 P P 00 33 19.6 +1.0
baz=166
YHH Holmes Hill 80.20 355 P P 00 33 20.7 +1.0
QLMT Earthquake Lak 80.28 355 P P 00 33 19.1 -0.9
RLMT Red Lodge 80.43 356 P P 00 33 21.0 +0.1
BOZ Bozeman (W) 81.06 355 P P 00 33 23.8 -0.3
BOZ Bozeman (W) 81.06 355 P P 00 33 23.8 -0.3
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 81.06 355 P P 00 33 24.8 +0.7
baz=174
F36A Milaca 81.56 7 P P 00 33 26.8 +0.3
baz=188
LAO LASA Array 81.88 358 P P 00 33 29.0 +0.7
LAO IAmb IAmb 00 33 50.0
comp=Z,32nm,1.3s
LAO LASA Array 81.88 358 P P 00 33 30.2 +1.9
baz=178
HRY Holter Researc 82.18 355 P P 00 33 30.0 0.0
HAWA Hanford 82.76 349 P P 00 33 33.0 +0.1
HAWA IAmb IAmb 00 33 41.4
comp=Z,36nm,1.8s
SADO Sadowa 83.03 18 LR LR 01 07 00.2
comp=Z,334nm,19.4s,baz=174,slow=33
SADO Sadowa 83.03 18 P P 00 33 35.0 +0.7
SADO IAmb IAmb 00 33 42.9
comp=Z,23nm,0.9s
ARMA Armidale 83.36 237 P P 00 33 37.2 +0.5
ARMA IAmb IAmb 00 33 38.6
comp=Z,31nm,1.1s
LONY Lake Ozonia 84.10 21 P P 00 33 39.2 -0.6
LONY IAmb IAmb 00 33 46.4
comp=Z,23nm,1.1s
LONY Lake Ozonia 84.10 21 P P 00 33 39.2 -0.6
baz=204
NEW Newport 84.26 351 LR LR 01 04 29.4
comp=Z,112nm,20.1s,baz=174,slow=31
NEW Newport 84.26 351 P P 00 33 40.7 +0.1
NEW IAmb IAmb 00 34 02.0
comp=Z,12nm,1.1s
NEW Newport 84.26 351 P P 00 33 40.7 +0.1
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 84.26 351 P P 00 33 41.1 +0.5
baz=169
WALA Waterton Lakes 84.69 353 P P 00 33 43.3 +0.5
WALA IAmb IAmb 00 34 15.2
comp=Z,28nm,1.6s
EIDS Eidsvold 86.81 241 P P 00 33 53.8 -0.2
EDM Edmonton 88.77 354 P P 00 34 02.1 -0.4
EDM IAmb IAmb 00 34 12.2
comp=Z,45nm,1.7s
EDM Edmonton 88.77 354 P P 00 34 02.1 -0.4
EDM pmax pmax
comp=Z,45nm,1.7s
STKA Stephens Creek 89.06 231 LR LR 01 05 52.6
comp=Z,844nm,21.0s,baz=101,slow=30
HNR Honiara 89.53 259 LR LR 01 08 30.5
comp=Z,2µm,19.3s,baz=148,slow=32
BBB Bella Bella 89.88 345 LR LR 01 09 11.9
comp=Z,82nm,18.1s,baz=146,slow=32
BBTS Babate 96.29 77 LR LR 01 14 20.1
comp=Z,461nm,19.9s,baz=234,slow=33
YKA Yellowknife Ar 98.07 355 LR LR 01 12 53.6
comp=Z,222nm,22.0s,baz=163,slow=32
ASAR Alice Springs 99.63 232 P Pdif 00 34 52.7 -0.5
comp=Z,0.4nm,0.5s,baz=136,slow=3.5,SNR=4.4
ASAR LR LR 01 13 34.5
comp=Z,871nm,19.9s,baz=138,slow=32
comp=Z,0.4nm,0.5s
H11S2 WAKE ISLAND Hyl 00.02 285 T T 02 26 04.4
baz=126,slow=74,SNR=5.8
H11S1 WAKE ISLAND Hyl 00.03 286 T T 02 26 11.1
baz=126,slow=74,SNR=3.6
H11S3 WAKE ISLAND Hyl 00.04 285 T T 02 26 05.6
baz=126,slow=74,SNR=3.0

H01W1 Cape Leeuwin H 101.44 211 T T 02 29 06.9
baz=148,slow=76,SNR=29
H01W2 Cape Leeuwin H 101.44 211 T T 02 28 51.1
baz=148,slow=34,SNR=34
H01W3 Cape Leeuwin H 101.45 211 T T 02 29 00.3
baz=148,slow=76,SNR=28
WRA Warramunga Arr 101.98 235 P Pdif 00 35 02.9 -0.8
comp=Z,0.9nm,0.9s,baz=139,slow=4.2,SNR=3.7
ESDC Sonseca Array 118.47 60 PKP PKiKP 00 39 58.5 +1.6
comp=Z,0.7nm,0.6s,baz=273,slow=1.9,SNR=3.8
BILL Bilibino 122.35 334 ePKIKP PKPdf 00 40 01.9 -1.5
BILL e 00 41 44.5
BILL pmax pmax
comp=Z,7.0nm,1.1s
SEY Seymchan 127.08 326 i PKIKP PKiKP 00 40 13.6 +0.5
MAJO Matsushiro 130.55 290 i PKIKP PKPdf 00 40 20.4 +0.3
FETA Feichten 130.90 55 eP PKPdf 00 40 21.0 +0.4
comp=Z,2.2nm,0.9s
MOTA Moosalm 131.21 55 eP PKPdf 00 40 21.4 +0.2
comp=Z,12nm,1.6s
SQTA Sankt Quirin 131.26 55 eP PKPdf 00 40 21.1 -0.1
comp=Z,3.6nm,0.7s
WATA Walderalm 131.52 55 eP PKiKP 00 40 23.0 +0.3
comp=Z,6.6nm,1.6s
WTTA Wattenberg 131.55 55 eP PKiKP 00 40 23.5 +0.7
comp=Z,6.4nm,1.2s
CLL Collm 133.02 50 i PKIKP PKiKP 00 40 27.0 +1.6
CLL i 00 40 33.2
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 133.02 50 i PKPdf PKiKP 00 40 27.0 +1.6
comp=Z,4.0nm,0.8s
CLL i x x 00 40 33.2
CLL ePP PP 00 42 58.0 +7.3
CLL Lm MLR 01 29 00.0
comp=N,200nm,19.8s
CLL Lm MLR 01 29 00.0
comp=E,400nm,20.5s
GERES GERESS Array B 133.17 53 PKP PKiKP 00 40 26.7 +0.7
comp=E,1.3nm,0.8s,baz=254,slow=0.7,SNR=6.4
CONA Conrad Observa 134.48 55 eP PKiKP 00 40 30.0 +1.4
comp=E,0.4nm,0.3s
ARCES ARCESS Array B 136.37 23 PKP PKPdf 00 40 30.4 +0.5
comp=E,3.7nm,0.9s,baz=273,slow=1.5,SNR=2.6
VYHS Vyhne 136.51 54 ePKIKP PKPdf 00 40 31.6 +0.7
VYHS Vyhne 136.51 54 ePKP PKPdf 00 40 31.6 +0.7
YAK Yakutsk 137.60 326 i PKIKP PKiKP 00 40 34.4 +0.1
KLR Kul'dur 137.60 307 i PKIKP PKiKP 00 40 38.0 +3.2
UZH Uzhgorod 138.82 54 ePKIKP PKPdf 00 40 32.6 -2.5
UZH i 00 40 39.7
FINES FINESS Array B 139.41 34 PKhKP PKPpre 00 40 29.2
comp=E,3.2nm,1.0s,baz=170,slow=15,SNR=2.7
FINES PKP PKPdf 00 40 36.2 +0.4
comp=E,2.5nm,0.8s,baz=304,slow=3.2,SNR=5.9
BUR08 Bucovina Ar. S 140.74 56 PKPdf PKPdf 00 40 37.8 -1.0
CN2 Changchun 141.60 298 ePKP PKPdf 00 40 37.8 -2.5
MNK Minsk 141.91 45 i PKIKP PKPdf 00 40 40.3 -0.2
MNK i SS SS 01 02 16.6 -2.0
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,13nm,1.0s
MNK MLR MLR
comp=E,35nm,18.0s
MNK MLR MLR
comp=Z,262nm,21.0s
MNK Minsk 141.91 45 i PKP PKPdf 00 40 40.3 -0.2
comp=E,3.0nm,1.0s
MNK i PKP PKPdf 00 40 40.3 -0.2
MNK i PKP PKPdf 00 40 40.3 -0.2
comp=Z,13nm,1.0s,baz=280
MNK i PP PP 00 43 37.2 -8.8
MNK i SKP 00 43 57.1
MNK i PKS PKSdf 00 44 12.5 -3.5
MNK i SS SS 01 02 16.7 -2.0
MNK i LR LR 01 34 03.4
MNK i LRM MLR 01 41 49.2
comp=E,35nm,18.1s
MNK i LRM MLR 01 42 01.0
comp=Z,262nm,20.5s
ELL Elmali 142.97 74 PKPdf PKPdf 00 40 40.7 -2.5
ELL Elmali 142.97 74 PKIKP PKPdf 00 40 40.7 -2.5
AKASG Malin Array Be 143.25 51 PKhKP PKPpre 00 40 38.2
comp=Z,0.3nm,0.3s,baz=281,slow=2.7,SNR=10
AKASG PKP PKPdf 00 40 43.4 +0.4
comp=Z,2.1nm,0.6s,baz=282,slow=3.2,SNR=8.5
AKASG Malin Array Be 143.25 51 c iPKIKP PKiKP 00 40 45.5 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 143.25 51 i PKIKP PKPdf 00 40 44.6 +1.6
NJ2 Nanjing 144.49 277 ePKP PKPdf 00 40 46.5 +0.7
CSS Mathiatis 145.28 78 PKPbc 00 40 46.5 -0.3
HIA Hailar 145.46 307 PKPdf 00 40 45.2 -1.8
HIA Hailar 145.46 307 ePKP2 PKPdf 00 40 45.7 -1.2
NRIK Noril'sk 145.55 353 PKPbc PKPdf 00 40 46.2 -0.3
comp=Z,10nm,0.7s,baz=19,slow=3.4,SNR=11
NRIK Noril'sk 145.55 353 PKPdf PKPdf 00 40 45.7 -0.7
NRIK Noril'sk 145.55 353 dePKIKP PKPdf 00 40 46.5 +0.1
KLMR Klimovskoe 145.61 31 ePKP2 PKPdf 00 40 43.9 -2.8
KLMR pmax pmax
comp=Z,86nm,1.3s
KLMR Klimovskoe 145.61 31 ePKPdf PKPdf 00 40 44.0 -2.8
KLMR AMP 00 40 49.2
comp=Z,86nm,1.3s
ANTO Ankara 145.73 70 PKPdf PKPdf 00 40 46.5 -1.3
ANTO Ankara 145.73 70 PKP2 PKPdf 00 40 46.5 -1.3
BR131 Keskin Array S 146.36 70 PKPdf 00 40 48.2 -0.7
BR131 Keskin Array S 146.36 70 c iPKP2 PKPdf 00 40 48.8 -0.1
BRTR Keskin Array B 146.36 70 PKPbc PKPdf 00 40 49.2 +0.2
comp=Z,18nm,1.1s,baz=241,slow=3.0,SNR=41
BRTR Keskin Array B 146.36 70 PKPdf PKPdf 00 40 48.4 -0.5
BOD Bodaibo 146.42 324 ePKIKP PKPdf 00 40 47.7 -0.5
BOD pmax pmax
comp=Z,40nm,1.5s
ILGA Ilgaz 146.54 68 PKPdf 00 40 48.9 -0.5
OBN Obninsk 146.62 42 dePKIKP PKPdf 00 40 48.4 -0.2
OBN ePPP PPP 00 47 30.2
OBN pmax pmax
comp=Z,48nm,1.1s
TIA Tai'an 146.91 283 PKPbc PKPdf 00 40 49.5 -0.3
SIM Simferopol' 146.93 60 ePKP2 PKPdf 00 40 50.5 +1.0
SIM pmax pmax
comp=Z,42nm,1.3s
MOS Moscow 146.97 40 i PKP2 PKPbc 00 40 50.4 -0.8
MOS pmax pmax
comp=Z,53nm,1.3s
PRGR Permogore 147.58 27 ePKP2 PKPbc 00 40 51.7 -1.0
PRGR pmax pmax
comp=Z,40nm,0.9s
BNN Bunyan 147.96 72 PKPdf PKPdf 00 40 51.4 -0.2
BJI Beijing 148.19 290 PKPbc PKPdf 00 40 52.0 +0.2
BJI pPKP PKPbc 00 40 55.3 +0.2
BJT Baijiatuau 148.19 290 PKPdf 00 40 52.4 +0.6
BJT Baijiatuau 148.19 290 PKIKP PKPdf 00 40 52.4 +0.6
XLT XiLinHaoTe 148.37 298 ePKPbc PKPbc 00 40 54.0 -1.6
XLT PKPab sPKPab 00 41 02.3 +0.6
LPSR Galich'ya Gora 148.76 45 ePKIKP PKPdf 00 40 52.9 +0.6
LPSR pmax pmax
comp=Z,90nm,1.5s
HNS HongShan 149.03 285 PKPbc PKPbc 00 40 56.5 -0.8
VORR Voronezh 149.21 47 ePKP2 PKPbc 00 40 56.3 -1.0
VORR pmax pmax
comp=Z,10.0nm,0.4s
ANN Anapa 149.29 61 i PKP2 PKPbc 00 40 56.9 -0.8
ANN pmax pmax
comp=Z,95nm,1.8s
VSR Storozhevoye 149.31 48 ePKIKP PKPbc 00 40 55.5 -2.1
VSR pmax pmax
comp=Z,30nm,1.4s
LYN LuoYang 150.30 279 i PKPbc PKPbc 00 40 58.5 -2.0
VRH Novokhopyorsk 150.85 47 ePKIKP PKPbc 00 41 00.2 -1.1
VRH pmax pmax
comp=Z,40nm,0.7s
RAYN Ar Rayn 150.94 106 PKPdf 00 40 57.4 +0.6
RAYN Ar Rayn 150.94 106 PKIKP PKPdf 00 40 57.4 +0.6
KIRV Kirov 151.00 29 iePKIKP PKPdf 00 40 56.2 +0.6
ENH Enshi 151.55 269 PKPbc 00 41 02.2 -1.4
MARD Mardin 151.63 76 PKPdf 00 40 56.9 -0.6
HHC Hu-ho-hao-te 151.74 292 ePKPbc PKPdf 00 40 56.5 -1.0
XAN Xi'an 153.06 276 PKPbc PKPbc 00 41 05.0 -2.0
KIV Kislovodsk 153.12 62 PKPbc 00 41 05.0 -1.8
KIV PKPab PKPab 00 41 19.1 +0.6
KIV Kislovodsk 153.12 62 ePKIKP PKPdf 00 40 58.9 -0.6
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 153.30 62 PKPbc PKPbc 00 41 05.8 -1.3
comp=Z,5.5nm,0.9s,baz=270,slow=2.0,SNR=6.7
CMAR Chiang Mai Arr 153.56 236 PKP PKPdf 00 41 00.4 -0.4
comp=Z,0.8nm,0.3s,baz=240,slow=1.6,SNR=9.7
CMAR PKPbc PKiKP 00 41 08.8 +0.2
comp=Z,1.8nm,0.3s,baz=223,slow=1.6,SNR=5.8
CMAR PKPab PKPab 00 41 20.6 -0.3
comp=Z,3.2nm,0.7s,baz=158,slow=3.1,SNR=7.4
ULN Ulaanbaatar 153.99 308 PKPdf PKPdf 00 40 59.9 -0.8
ULN PKPbc 00 41 06.9 -1.8
ULN Ulaanbaatar 153.99 308 PKIKP PKPdf 00 40 59.9 -0.8
ULN 00 41 06.9
ZEI Tsey 154.13 64 i PKIKP PKPdf 00 41 01.8 +0.7
ZEI pmax pmax
comp=Z,9.0nm,1.3s
SONM Songino Array 154.42 308 PKP PKPdf 00 41 00.5 -0.7
comp=Z,1.4nm,0.8s,baz=92,slow=3.3,SNR=8.3
SONM PKPbc PKPbc 00 41 09.2 -0.4
comp=Z,4.7nm,1.0s,baz=94,slow=0.9,SNR=4.0
SONM PKPab PKPab 00 41 22.4 -1.5
comp=Z,4.2nm,1.0s,baz=56,slow=4.3,SNR=5.9
SONM Songino Array 154.42 308 PKPdf PKPdf 00 40 59.7 -1.6
SONM PKPbc PKPbc 00 41 08.5 -1.0
PCHI Peechi 155.11 181 eP PKPab 00 41 38.6 +11
PCHI ex x 00 50 25.0
PCHI ex x 01 54 02.0
ZAK Zakamensk 155.36 315 ePKIKP PKPdf 00 41 02.0 -0.4
ZAK pmax pmax
comp=Z,8.0nm,1.4s
ARU Arti 155.95 24 i PKIKP PKPdf 00 41 04.8 +2.0
PZH PanZhiHua 156.29 255 PKP PKPdf 00 41 06.0 +1.6
CD2 Chengdu 156.43 267 PKP PKPdf 00 41 04.5 +0.1
LZH Lanzhou 157.50 280 PKP PKPdf 00 41 01.0 -4.7
LZH pPKP sPKPdf 00 41 11.0 +2.4
LZH PKPab PKPab 00 41 37.0 -0.6
ZAA0 Zalesovo Array 160.60 344 PKPdf PKPdf 00 41 06.3 -2.2
ZALV Zalesovo Beam 160.60 344 PKP PKPdf 00 41 07.5 -1.1
comp=Z,2.5nm,0.9s,baz=17,slow=1.5,SNR=12
ZALV Zalesovo Beam 160.60 344 PKPdf PKPdf 00 41 05.8 -2.7
GTA Gaotai 160.79 289 ePKP PKPdf 00 41 10.0 +0.6
GTA PKPab PKPab 00 41 52.3 +0.6
ABKAR Akbulak array 161.89 36 PKPdf PKPdf 00 41 08.9 -1.1
ABKAR PKPab PKPab 00 41 55.8 -0.1
BRVK Borovoye 162.01 11 PKPdf PKPdf 00 41 09.5 -0.5
BRVK PKPab PKPab 00 41 56.5 +0.2
BRVK Borovoye 162.01 11 PKP2 PKPab 00 41 56.5 +0.2
BRVK 01 41 09.5
GEYT Alibeck 165.39 75 PKP PKPdf 00 41 14.9 +1.1
comp=Z,3.1nm,0.8s,baz=281,slow=2.3,SNR=6.2
MK31 Makanchi Array 167.82 339 PKPdf 00 41 13.4 -1.9
MK31 Makanchi Array 167.82 339 PKIKP PKPdf 00 41 13.4 -1.9
MKAR Makanchi Array 167.82 339 PKP PKPdf 00 41 15.7 +0.3
comp=Z,1.4nm,0.9s,baz=8.5,slow=2.5,SNR=7.0
MKAR Makanchi Array 167.82 339 PKPdf 00 41 13.3 -2.0
WMQ Urumqi 167.82 316 ePKP PKPdf 00 41 16.3 +0.8
WMQ LR LR
comp=Z,180nm,20.1s
WMQ LR LR
comp=Z,250nm,21.7s
WMQ LR LR
comp=Z,280nm,21.7s
CHGR Chuyangaron 173.65 59 PKPdf PKPdf 00 41 18.7 -0.1
CHGR PKPab PKPab 00 42 47.4 -1.0
CHGR Chuyangaron 173.65 59 PKIKP PKPdf 00 41 18.7 -0.1
CHGR 00 42 47.4
GAR Garm 174.25 51 PKPdf 00 41 17.3 -1.7
GAR PKPab 00 42 50.4 -0.7
KSH Kashi 176.03 1 PKP PKPdf 00 41 21.5 +2.0

*MAN **29** 00:45:57.8, 8.7°19N×123.2°12E, h9km, mb5.0, ML3.9, MS3.9*
MAN INTENSITY III - SINDANGAN, ZAMBOANGA DEL NORTE; INTENSITY II - PAGADIAN CITY & MIDSALIP, ZAMBOANGA DEL SUR; INTENSITY I - POLANCO, ZAMBOANGA DEL NORTE; ZAMBOANGA CITY.
*IDC **29** 00:45:59.1±0.9, 7.56N×122.80E, h0km, mb4.0/9, mbtmp4.0/10, ML4.3/1, MS4.3/5, Error ellipse: s-maj=29.5km s-min=15.9km az=58.0*
*NEIC **29** 00:46:03.3±1.4, 7.8N±0.1×123.25E±0.05, h22km±7km, mb4.4/10, Error ellipse: s-maj=14.7km s-min=6.3km az=174.0*
ISC 29 00:45:57.4±1.5, 8.21N±0.03×123.19E±0.04, h19km±4km, n47, σ2s07/41, mb4.2/14, MS4.3/5, 6C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.41	23	i P	Pn	00 46 07.9	-0.4
DCPH				i S	Sb	00 46 16.0	+3.9
LSIP	Lazi, Siquijor	1.02	25	e P	Pn	00 46 17.6	+0.9
LSIP				i S	Sb	00 46 29.3	-0.2
CTBH	Cotabato--PC H	1.43	133	i P	Pn	00 46 22.5	+0.1
CTBH				i S	Sb	00 46 42.3	+0.9
CGP	Cagayan de Oro	1.51	80	e P	Pn	00 46 24.4	+0.9
CGP				i S	Sn	00 46 44.4	+1.8
TBP	Tagbilaran	1.62	24	eP	Pn	00 46 24.9	-0.1
TBP				i S	Sg	00 46 49.4	-0.4
ZCP	Zamboanga City	1.68	221	i P	Pn	00 46 26.3	+0.5
ZCP				i S	Sb	00 46 48.5	-0.1
GHBP	Garcia Hernand	1.80	38	i P	Pb	00 46 29.5	-0.4
GHBP				i S	Sn	00 46 46.0	-4.0
TABP	Talibon, Bohol	2.19	31	e P	Pn	00 46 35.0	+2.2
TABP				i S	Sn	00 46 59.5	+0.2
KCP	Kidapawan	2.23	122	e P	Pn	00 46 35.5	+2.1
KCP				i S	Sb	00 47 05.2	+0.8
LLP	Lapu-Lapu	2.23	20	eP	Pb	00 46 36.4	-0.9
LLP				eS	Sb	00 47 04.5	0.0
DAV	Davao City (W)	2.62	115	Pn	Pb	00 46 44.3	+0.4
	48nm,0.3s,baz=206,slow=2.6,SNR=6.0						
DAV				Sn	Sg	00 47 21.2	-0.6
	80nm,0.3s,baz=240,slow=23,SNR=7.1						
DAV				LR	LR	00 48 02.5	
	comp=Z,178nm,19.9s,baz=282,slow=44						
	255nm,0.4s						
DAV	Davao City (W)	2.62	115	Pn	Pn	00 46 39.8	+1.0
GSPH	General Santos	2.73	140	e P	Pb	00 46 45.4	-0.4
BIPH	Bislig	3.14	90	i P	Pb	00 46 50.3	-2.3
BIPH				i S	Sg	00 47 38.4	0.0
CDOP	Cateel, Davao	3.24	97	e P	Pn	00 46 50.5	+3.1
CDOP				i S	Sn	00 47 18.4	-7.1
RCP	Roxas	3.36	353	e P	Pn	00 46 52.7	+3.7
RCP				eS	Sb	00 47 33.9	-3.1
MYLDM	Lahad Datu	5.54	237	Pn	Pn	00 47 19.1	+0.2
TOLI2	Tolitoli	7.44	199		Pn	00 47 42.3	-2.8
LUWI	Luwuk	9.20	183		Pn	00 48 08.3	-0.8
UBPT	Khong Chiam	18.71	294		Pn	00 50 22.9	+7.4
KNRA	Kununurra	24.36	167	P	P	00 51 14.9	+0.4
KNRA				IAmb	IAmb	00 51 22.5	
	comp=Z,26nm,1.4s						
CMAR	Chiang Mai Arr	25.67	296	P	P	00 51 29.6	+3.2
	comp=Z,1.7nm,0.3s,baz=14,slow=30,SNR=4.2						
	comp=Z,1.7nm,0.3s						
CMAR	Chiang Mai Arr	25.67	296	P	P	00 51 35.5	+9.1
FITZ	Fitzroy Crossi	26.25	175	P	P	00 51 31.9	+0.4
	comp=Z,2.6nm,0.7s,baz=359,slow=7.2,SNR=5.8						
	comp=Z,2.6nm,0.7s						
FITZ	Fitzroy Crossi	26.25	175	P	P	00 51 31.4	-0.2
FITZ				IAmb	IAmb	00 51 44.8	
	comp=Z,9.8nm,1.4s						
WB0	Warramunga Arr	29.91	158	P	P	00 52 04.8	+0.5
WB0				IAmb	IAmb	00 52 30.5	
	comp=Z,13nm,1.5s						
WRA	Warramunga Arr	30.05	159	P	P	00 52 05.0	-0.5
	comp=Z,1.3nm,1.0s,baz=336,slow=8.9,SNR=5.1						
	comp=Z,1.3nm,1.0s						
ASAR	Alice Springs	33.36	162	P	P	00 52 35.0	+0.3
	comp=Z,1.0nm,0.7s,baz=342,slow=6.7,SNR=9.8						
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	33.36	162	P	P	00 52 35.1	+0.4
NWAO	Narrogin (SRO)	41.29	188	LR	LR	01 10 46.1	
	comp=Z,368nm,21.6s,baz=304,slow=37						
SONM	Songino Array	41.99	343	P	P	00 53 54.9	+7.4
	comp=Z,0.4nm,0.5s,baz=161,slow=9.2,SNR=2.0						
	comp=Z,0.4nm,0.5s						
MKAR	Makanchi Array	51.90	325	P	P	00 55 12.7	+7.8
	comp=Z,0.4nm,0.6s,baz=127,slow=8.3,SNR=3.6						
	comp=Z,0.4nm,0.6s						
NIL	Nilore	52.44	306	P	P	00 55 16.6	+7.5
NIL				IAmb	IAmb	00 55 18.5	
	comp=Z,8.3nm,0.9s						
PETK	Petropavlovsk-	52.78	25	P	P	00 55 22.4	+11
	comp=Z,9.3nm,1.0s,baz=246,slow=3.4,SNR=2.7						
	comp=Z,9.3nm,1.0s						

ZALV	**Zalesovo Beam**	**55.03**	**333**	P	P	00 55 35.6	+7.9
	comp=Z,0.3nm,0.2s,baz=150,slow=6.0,SNR=2.2						
	comp=Z,0.3nm,0.2s						
KURBB	**Kurchatov Arra**	**56.10**	**327**	P	P	00 55 42.4	+7.0
	comp=Z,1.2nm,0.2s,baz=122,slow=7.7,SNR=2.2						
	comp=Z,1.2nm,0.2s						
GAR	**Garm**	**56.33**	**312**	P	P	00 55 44.5	+7.0
CHGR	**Chuyangaron**	**57.08**	**311**	P	P	00 55 50.5	+7.7
KK31	**Karatay Array**	**57.58**	**316**	P	P	00 55 53.6	+7.5
KK31				IAmb	IAmb	00 56 00.2	
	comp=Z,3.1nm,1.4s						
KKAR	**Karatay Array**	**57.58**	**316**	P	P	00 55 53.6	+7.5
HRA	**Herat**	**61.49**	**305**	P	P	00 56 20.9	+7.4
HRA				IAmb	IAmb	00 56 22.4	
	comp=Z,2.3nm,0.7s						
BMAR	**Burnt Mountain**	**83.34**	**23**	P	P	00 58 29.0	+6.0
BRTR	**Keskin Array B**	**84.48**	**309**	LR	LR	01 42 24.3	
	comp=Z,136nm,20.7s,baz=250,slow=40						
ARCES	**ARCESS Array B**	**85.06**	**340**	LR	LR	01 39 22.5	
	comp=Z,113nm,20.6s,baz=296,slow=38						
AKASG	**Malin Array Be**	**86.22**	**321**	LR	LR	01 38 46.7	
	comp=Z,247nm,21.7s,baz=233,slow=37						
FINES	**FINESS Array B**	**86.25**	**331**	LR	LR	01 40 47.5	
	comp=Z,166nm,18.0s,baz=262,slow=38						
BURAR	**Bucovina Array**	**89.34**	**318**	P	P	00 58 59.8	+6.8

*SNET **29** 00:48:04.3±1.0, 13°.40N×90°.69W, h13km±6km, ML3.4*
*GCG **29** 00:48:10.9±0.3, 14°.24N×90°.92W, h52km±14km, MD3.8*
ISC 29 00:48:02.7±2.2, 13°.5N±0°.1×90°.87W±0°.09, h21km±7km, n22, σ0°53/30, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.91**	**16**	*e*P	**Pb**	**00 48 20.2**	**+0.2**
FUG	**Fuego 3**	**0.93**	**2**	*e*P	**Pb**	**00 48 20.3**	**0.0**
NUBE	**Las Nubes**	**1.13**	**70**	*e*P	**Pn**	**00 48 22.5**	**-0.9**
NUBE				*e*S	**Sb**	**00 48 37.1**	**-0.7**
LOAL	**Lomas de Alarc**	**1.16**	**65**	*e*P	**Pn**	**00 48 23.5**	**-0.3**
LOAL				*e*S	**Sb**	**00 48 38.7**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.17**	**64**	*e*P	**Pn**	**00 48 23.2**	**-0.7**
SLOZ				*e*S	**Sb**	**00 48 39.0**	**0.0**
NBG	**Las Nubes**	**1.18**	**25**	*e*P	**Pb**	**00 48 25.1**	**+0.6**
RTR	**El Retiro**	**1.25**	**72**	*e*P	**Pn**	**00 48 24.9**	**-0.2**
RTR				*e*S	**Sn**	**00 48 40.8**	**-0.6**
CEVE	**Cerro Verde**	**1.25**	**75**	*e*P	**Pn**	**00 48 24.8**	**-0.4**
CEVE				*e*S	**Sn**	**00 48 41.2**	**-0.3**
CEVE				IAML		00 48 44.0	
	comp=Z,2μm,0.2s						
SBLS	**San Blas**	**1.25**	**75**	*e*P	**Pn**	**00 48 24.7**	**-0.6**
SNJE	**San Jose**	**1.28**	**74**	*e*P	**Pn**	**00 48 25.1**	**-0.5**
STG3	**Santiaguito 3,**	**1.37**	**330**	*e*P	**Pn**	**00 48 26.5**	**-0.4**
PMON	**Piamonte**	**1.52**	**82**	*e*P	**Pn**	**00 48 28.8**	**-0.1**
PMON				*e*S	**Sn**	**00 48 47.8**	**-0.3**
BOQS	**Boqueron**	**1.56**	**82**	*e*P	**Pn**	**00 48 29.6**	**+0.2**
BOQS				*e*S	**Sn**	**00 48 48.7**	**-0.4**
LFRS	**El Faro**	**1.76**	**86**	*e*P	**Pn**	**00 48 32.4**	**+0.3**
LFRS				*e*S	**Sn**	**00 48 53.5**	**-0.5**
ESQI	**Esquipulas**	**1.81**	**55**	*e*P	**Pn**	**00 48 33.4**	**+0.6**
SJTE	**Alcalda de S**	**1.81**	**87**	*e*P	**Pn**	**00 48 33.0**	**+0.2**
SJTE				IAML		00 48 59.6	
	comp=Z,179nm,0.2s						
PAVA	**Las Pavas**	**1.89**	**84**	*e*P	**Pn**	**00 48 34.0**	**+0.2**
PAVA				IAML		00 49 07.7	
	comp=Z,154nm,0.3s						
MRL	**Marmol**	**1.94**	**36**	*e*P	**Pn**	**00 48 35.8**	**+1.2**
SCLA	**Alcaldia de Sa**	**2.09**	**85**	*e*P	**Pn**	**00 48 37.1**	**+0.5**
PACA	**Pacayal**	**2.48**	**91**	*e*P	**Pn**	**00 48 42.4**	**+0.4**
PACA				IAML		00 49 18.2	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**2.90**	**94**	*e*P	**Pn**	**00 48 48.1**	**+0.4**
LCND				IAML		00 49 29.9	
	comp=Z,120nm,0.3s						
CNCH	**Conchagua**	**2.96**	**94**	*e*P	**Pn**	**00 48 49.4**	**+0.8**

*ISK **29** 01:17:34.2, 39°.57N×24°.15E, h3km, ML4.0/24*
*DDA **29** 01:17:35.0±0.0, 39°.67N×24°.05E, h10km±35km, MW4.0*
*PDG **29** 01:17:35.4±0.6, 39°.57N×24°.18E, h10km, ML3.7/10, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*THE **29** 01:17:36.2, 39°.56N×24°.14E, h5km±1km, ML4.0/14, Error ellipse: s-maj=1.2km s-min=0.6km az=109.0*
*IDC **29** 01:17:36.6±0.8, 39°.57N×24°.34E, h0km, mb3.8/7, mbtmp3.7/17, ML3.6/10, Error ellipse: s-maj=13.1km s-min=11.3km az=99.0*
*NEIC **29** 01:17:36.7±2.4, 39°.63N±0°.05×24°.07E±0°.06, h24km±9km, Error ellipse: s-maj=7.6km s-min=6.9km az=169.0*
*ATH **29** 01:17:36.1, 39°.53N×24°.10E, h30km±4km, ML4.0/24, Error ellipse: s-maj=4.1km s-min=0.8km az=292.0*
*SOF **29** 01:17:37.0, 39°.67N×24°.21E, h20km, MD3.6*
ISC 29 01:17:36.0±1.1, 39°.56N±0°.02×24°.15E±0°.02, h1km±8km, n289, σ1§44/335, mb4.0/10, 19C-30D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	**Alonissos**	**0.46**	**208**	P	**Pg**	**01 17 44.9**	**+0.1**
ALNA				S	**Sg**	**01 17 50.8**	**0.0**
ALNA				AML	AML	01 17 53.5	
	comp=E,61761μm,0.5s						
ALNA				AML	AML	01 17 54.1	
	comp=N,58229μm,0.4s						
PAIG	**Paliouri**	**0.52**	**316**	P	**Pb**	**01 17 47.0**	**-0.8**
PAIG	**Paliouri**	**0.52**	**316**	P	**Pb**	**01 17 46.8**	**-1.0**
PAIG				S	**Sb**	**01 17 54.5**	**-1.3**
PAIG				AML	AML	01 17 56.1	
	comp=N,45938μm,0.5s						
PAIG				AML	AML	01 17 58.2	
	comp=E,30992μm,0.5s						
EFSA	**Agios Efstrati**	**0.65**	**91**	P	**Pb**	**01 17 49.5**	**-0.6**
EFSA				S	**Sb**	**01 17 58.0**	**-1.7**
EFSA				AML	AML	01 18 00.4	
	comp=E,26895μm,0.6s						
EFSA				AML	AML	01 18 03.1	
	comp=N,23813μm,0.5s						
SKY	**Skiros Island**	**0.75**	**155**	P	**Pg**	**01 17 51.0**	**+0.7**
SKY				S	**Sg**	**01 18 00.5**	**+0.6**
	comp=N,28μm,0.2s						
SKY	**Skiros Island**	**0.75**	**155**	P	**Pg**	**01 17 51.0**	**+0.7**
SKY				S	**Sg**	**01 18 00.3**	**+0.4**
SKY				AML	AML	01 18 03.1	
	comp=E,55436μm,0.2s						
SKY				AML	AML	01 18 04.8	
	comp=N,56904μm,0.3s						
NEO	**Neokhori**	**0.76**	**251**	P	**Pg**	**01 17 50.5**	**0.0**
NEO				S	**Sb**	**01 18 01.6**	**-1.2**
	comp=N,20μm,0.4s						
NEO	**Neokhori**	**0.76**	**251**	P	**Pg**	**01 17 50.6**	**+0.2**
NEO				S	**Sg**	**01 17 58.9**	**-1.3**
NEO				AML	AML	01 18 02.9	
	comp=N,40889μm,0.5s						
NEO				AML	AML	01 18 03.5	
	comp=E,37081μm,0.3s						
XOR	**Xorichti**	**0.76**	**256**	P	**Pg**	**01 17 50.2**	**-0.4**
XOR				S	**Sg**	**01 18 00.7**	**+0.2**
XOR				AML	AML	01 18 03.7	
	comp=N,40368μm,0.6s						
XOR				AML	AML	01 18 03.9	
	comp=E,25466μm,0.7s						
OUR	**Ouranopolis**	**0.79**	**351**	P	**Pb**	**01 17 51.6**	**-0.8**
OUR	**Ouranopolis**	**0.79**	**351**	P	**Pb**	**01 17 51.6**	**-0.8**
LIA	**Limnos Island**	**0.87**	**67**	P	**Pb**	**01 17 53.1**	**-0.7**
LIA				S	**Sb**	**01 18 05.5**	**-0.5**
	comp=E,9μm,0.7s						
LIA	**Limnos Island**	**0.87**	**67**	P	**Pb**	**01 17 53.2**	**-0.6**
LIA				S	**Sb**	**01 18 05.1**	**-0.9**
LIA				AML	AML	01 18 07.1	
	comp=N,20093μm,0.5s						
LIA				AML	AML	01 18 07.4	
	comp=E,16145μm,0.9s						
KYMI	**Kymi, Euboea I**	**0.92**	**182**	P	**Pg**	**01 17 53.8**	**+0.2**
KYMI				S	**Sb**	**01 18 07.0**	**-0.5**
	comp=E,9μm,0.6s						
KYMI	**Kymi, Euboea I**	**0.92**	**182**	P	**Pg**	**01 17 53.7**	**0.0**
KYMI				S	**Sg**	**01 18 04.7**	**-0.9**
KYMI				AML	AML	01 18 10.5	
	comp=E,19853μm,0.8s						
KYMI				AML	AML	01 18 11.7	
	comp=N,16140μm,0.5s						
THAS	**Thassos island**	**1.14**	**23**	P	**Pb**	**01 17 55.6**	**-2.8**
THAS				S	**Sn**	**01 18 13.2**	**-2.0**
	comp=N,3μm,0.4s						
KOKK	**Kokkinochori,**	**1.27**	**355**	P	**Pn**	**01 17 59.1**	**-1.7**
KOKK	**Kokkinochori,**	**1.27**	**355**	P	**Pn**	**01 17 59.2**	**-1.7**
LKR	**Lokris**	**1.27**	**225**	P	**Pn**	**01 17 58.4**	**-2.4**
LKR				S	**Sb**	**01 18 17.0**	**-0.5**
	comp=N,4μm,0.6s						
LKR	**Lokris**	**1.27**	**225**	P	**Pn**	**01 17 58.4**	**-2.4**
LKR				S	**Sb**	**01 18 14.1**	**-3.4**
LKR				AML	AML	01 18 19.1	
	comp=N,7043μm,0.3s						
LKR				AML	AML	01 18 19.4	
	comp=E,7112μm,0.3s						
HORT	**Hortiatis**	**1.31**	**323**	P	**Pn**	**01 18 00.1**	**-1.5**
HORT				S	**Sg**	**01 18 19.4**	**+1.2**
	comp=E,2μm,0.7s						
HORT	**Hortiatis**	**1.31**	**323**	PN	**Pn**	**01 18 00.0**	**-1.5**
HORT				SN	**Sg**	**01 18 18.9**	**+0.7**
HORT	**Hortiatis**	**1.31**	**323**	P	**Pn**	**01 18 00.4**	**-1.1**
HORT				AML	AML	01 18 20.6	
	comp=N,3254μm,0.4s						
HORT				AML	AML	01 18 23.0	
	comp=E,6072μm,1.0s						
LRSO	**Larissa Observ**	**1.36**	**275**	P	**Pn**	**01 18 00.6**	**-1.5**
LRSO	**Larissa Observ**	**1.36**	**275**	P	**Pn**	**01 18 00.7**	**-1.3**
SIGR	**SIGRI**	**1.37**	**104**	P	**Pn**	**01 18 01.1**	**-1.1**
SIGR				S	**Sg**	**01 18 22.1**	**+2.2**
	comp=E,4μm,0.8s						
SIGR	**SIGRI**	**1.37**	**104**	PN	**Pn**	**01 18 01.2**	**-1.0**
SIGR				SN	**Sg**	**01 18 20.1**	**+0.2**
SIGR	**SIGRI**	**1.37**	**104**	P	**Pn**	**01 18 01.1**	**-1.1**
SIGR				AML	AML	01 18 24.2	
	comp=E,9828μm,0.7s						
SIGR				AML	AML	01 18 24.8	
	comp=N,7160μm,0.9s						
LIT	**Litokhoron**	**1.39**	**294**	P	**Pn**	**01 18 01.0**	**-1.5**
LIT	**Litokhoron**	**1.39**	**294**		**Pn**	**01 18 00.5**	**-2.0**
LIT	**Litokhoron**	**1.39**	**294**	P	**Pn**	**01 18 00.7**	**-1.8**
KVLA	**Kavala**	**1.39**	**8**	P	**Pn**	**01 18 00.2**	**-2.3**
AXAR	**Agios Charalam**	**1.40**	**236**	P	**Pn**	**01 18 01.9**	**-0.7**
AXAR	**Agios Charalam**	**1.40**	**236**	P	**Pn**	**01 18 01.4**	**-1.2**
AXAR				AML	AML	01 18 30.4	
	comp=E,11821μm,0.8s						
AXAR				AML	AML	01 18 42.2	
	comp=N,11641μm,1.0s						
SMTH	**Samothraki Isl**	**1.40**	**49**	P	**Pn**	**01 18 00.5**	**-2.2**
SMTH	**Samothraki Isl**	**1.40**	**49**	P	**Pn**	**01 18 00.5**	**-2.2**
SMTH				AML	AML	01 18 23.4	
	comp=E,2633μm,0.7s						
SMTH				AML	AML	01 18 24.1	
	comp=N,2120μm,0.4s						
SOH	**Sokhos**	**1.40**	**335**	P	**Pn**	**01 18 01.5**	**-1.2**
SOH				S	**Sg**	**01 18 22.1**	**+1.1**
	comp=N,2μm,0.5s						
SOH	**Sokhos**	**1.40**	**335**	P	**Pn**	**01 18 01.6**	**-1.2**
SOH				AML	AML	01 18 24.3	
	comp=E,7602μm,0.6s						
SOH				AML	AML	01 18 32.3	
	comp=N,4160μm,0.5s						
THE	**Thessaloniki**	**1.41**	**320**	P	**Pn**	**01 18 01.6**	**-1.1**
THE	**Thessaloniki**	**1.41**	**320**	P	**Pn**	**01 18 01.6**	**-1.1**
THE				AML	AML	01 18 24.3	
	comp=E,2292μm,0.5s						
THE				AML	AML	01 18 24.5	
	comp=N,2385μm,0.8s						
KAVA	**Kavala**	**1.47**	**11**	P	**Pn**	**01 18 01.5**	**-2.0**
KAVA	**Kavala**	**1.47**	**11**	P	**Pn**	**01 18 01.6**	**-1.9**
GADA	**Gvkgeada**	**1.49**	**64**	PN	**Pn**	**01 18 02.4**	**-1.5**
GADA				SN	**Sg**	**01 18 23.3**	**-0.5**
GOKA	**anakkale-Gk**	**1.50**	**64**	P	**Pn**	**01 18 02.1**	**-1.8**
GOKA				S	**Sg**	**01 18 26.4**	**+2.3**
GOKA				*i* AML	AML	01 18 29.0	
	comp=N,5μm,0.5s						
GOKA				*i* AML	AML	01 19 02.0	
	comp=N,1.1nm,2.1s						
BOZC	**Bozcaada**	**1.50**	**78**	PN	**Pn**	**01 18 02.7**	**-1.3**
BOZC				SN	**Sg**	**01 18 23.7**	**-0.4**
BOZC	**Bozcaada**	**1.50**	**78**	P	**Pn**	**01 18 02.3**	**-1.6**
BOZC				S	**Sb**	**01 18 23.1**	**-1.0**
BOZC				*i* AML	AML	01 18 25.0	
	comp=N,2μm,0.6s						
BOZC				*i* AML	AML	01 18 26.0	
	comp=N,900nm,1.0s						
PSRA	**Psara**	**1.50**	**132**	P	**Pn**	**01 18 03.1**	**-0.8**
PSRA				AML	AML	01 18 29.0	
	comp=E,5777μm,0.4s						
PSRA				AML	AML	01 18 30.9	
	comp=N,6814μm,0.5s						
VIL2	**Platees**	**1.51**	**207**	P	**Pn**	**01 18 03.3**	**-0.8**
VIL2				AML	AML	01 18 29.3	
	comp=E,14276μm,0.7s						
VIL2				AML	AML	01 18 29.9	
	comp=N,8154μm,0.4s						
PTL	**Penteli**	**1.52**	**188**	P	**Pn**	**01 18 03.3**	**-1.0**
PTL	**Penteli**	**1.52**	**188**	P	**Pn**	**01 18 03.3**	**-1.0**
PTL				AML	AML	01 18 31.7	
	comp=E,5198μm,0.8s						
PTL				AML	AML	01 18 37.7	
	comp=N,5197μm,0.9s						
GPNR	**Gulpinar-Canak**	**1.54**	**93**	PN	**Pn**	**01 18 03.6**	**-0.9**
KOCA	**Canakkale, Ayv**	**1.54**	**91**	P	**Pn**	**01 18 03.8**	**-0.8**
KOCA				S	**Sn**	**01 18 22.1**	**-3.1**
KOCA				*i* AML	AML	01 18 30.0	
	comp=N,1μm,0.5s						
KOCA				*i* AML	AML	01 18 33.0	
	comp=N,1μm,0.8s						
ATHU	**Athens Univers**	**1.61**	**190**	P	**Pn**	**01 18 04.5**	**-1.1**
ATHU	**Athens Univers**	**1.61**	**190**	P	**Pn**	**01 18 04.4**	**-1.1**
SRS	**Serrai**	**1.62**	**345**	P	**Pn**	**01 18 04.0**	**-1.6**
SRS	**Serrai**	**1.62**	**345**	P	**Pn**	**01 18 04.1**	**-1.6**
ATH	**Athens Observa**	**1.62**	**192**	P	**Pn**	**01 18 04.6**	**-1.0**
ATH				S	**Sn**	**01 18 24.5**	**-2.6**
	comp=N,5μm,0.6s						
ATH	**Athens Observa**	**1.62**	**192**	P	**Pn**	**01 18 04.6**	**-1.0**
ATH				S	**Sn**	**01 18 24.0**	**-3.0**
ATH				AML	AML	01 18 33.3	
	comp=E,10441μm,0.6s						
ATH				AML	AML	01 18 33.7	
	comp=N,10371μm,0.6s						
ECEA	**Canakkale, Ece**	**1.64**	**72**	P	**Pg**	**01 18 07.2**	**-0.1**
ECEA				S	**Sb**	**01 18 27.2**	**-0.9**
THL	**Klokotos Trika**	**1.65**	**271**	P	**Pn**	**01 18 04.5**	**-1.5**
THL	**Klokotos Trika**	**1.65**	**271**	P	**Pn**	**01 18 04.6**	**-1.4**
MAKR	**Makrakomi, Fth**	**1.66**	**252**	P	**Pn**	**01 18 05.1**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.66**	**252**	P	**Pn**	**01 18 05.4**	**-0.8**
MAKR				S	**Sn**	**01 18 25.0**	**-3.1**
MAKR				AML	AML	01 18 37.3	
	comp=N,9463μm,0.5s						
MAKR				AML	AML	01 18 45.0	
	comp=E,7056μm,0.7s						
PRK	**Paraskevi**	**1.68**	**100**	P	**Pb**	**01 18 06.7**	**-0.9**
PRK				S	**Sg**	**01 18 29.9**	**+0.1**
	comp=E,5μm,0.8s						
PRK	**Paraskevi**	**1.68**	**100**	P	**Pb**	**01 18 06.4**	**-1.2**
DLFA	**Delphi**	**1.68**	**231**	P	**Pn**	**01 18 04.7**	**-1.8**
EZN	**Ezine**	**1.70**	**80**	PN	**Pn**	**01 18 05.7**	**-1.1**
VLY	**Voula,Athens**	**1.72**	**189**	P	**Pn**	**01 18 06.0**	**-1.0**
VLY	**Voula,Athens**	**1.72**	**189**	P	**Pn**	**01 18 06.0**	**-1.0**
VLY				AML	AML	01 18 34.2	
	comp=N,10344μm,0.6s						
VLY				AML	AML	01 18 37.2	
	comp=E,12600μm,0.4s						
NVR	**Nevrokopi**	**1.81**	**353**	P	**Pn**	**01 18 06.4**	**-1.8**
LOUT	**Loutraki**	**1.81**	**211**	P	**Pn**	**01 18 07.1**	**-1.2**
LOUT	**Loutraki**	**1.81**	**211**	P	**Pn**	**01 18 07.3**	**-1.1**
BAYC	**CANAKKALE_Bayr**	**1.86**	**84**	P	**Pn**	**01 18 08.1**	**-0.9**
BAYC				S	**Sn**	**01 18 30.0**	**-3.1**
BAYC				*i* AML	AML	01 18 37.0	
	comp=E,332nm,0.6s						
BAYC				*i* AML	AML	01 18 37.0	
	comp=E,459nm,0.5s						
KNT	**Kendrikon**	**1.87**	**330**	P	**Pn**	**01 18 07.8**	**-1.3**
KNT				S	**Sb**	**01 18 33.4**	**-1.3**
	comp=E,872nm,0.6s						
KNT	**Kendrikon**	**1.87**	**330**	PN	**Pn**	**01 18 08.1**	**-1.0**
KNT	**Kendrikon**	**1.87**	**330**	P	**Pn**	**01 18 08.0**	**-1.0**
CHOS	**Chios island**	**1.89**	**128**	P	**Pn**	**01 18 08.9**	**-0.5**
CHOS				S	**Sn**	**01 18 33.1**	**-0.9**
	comp=E,3μm,0.6s						
CHOS	**Chios island**	**1.89**	**128**	PN	**Pn**	**01 18 08.7**	**-0.8**
CHOS	**Chios island**	**1.89**	**128**	P	**Pn**	**01 18 08.9**	**-0.5**
CHOS				AML	AML	01 18 42.9	
	comp=N,5129μm,0.6s						
CHOS				AML	AML	01 18 42.9	
	comp=E,5130μm,0.5s						
THAL	**Thalero**	**1.91**	**218**	P	**Pn**	**01 18 08.5**	**-1.1**
THAL				AML	AML	01 18 49.9	
	comp=E,11950μm,0.8s						
THAL				AML	AML	01 18 51.5	
	comp=N,7559μm,1.0s						
RDO	**Rodhopi**	**1.91**	**33**	P	**Pn**	**01 18 07.9**	**-1.7**
RDO	**Rodhopi**	**1.91**	**33**	PN	**Pn**	**01 18 07.9**	**-1.7**
RDO	**Rodhopi**	**1.91**	**33**		**Pn**	**01 18 07.5**	**-2.1**
CAVK	**Edirne/Enez-Ca**	**1.92**	**53**	P	**Pn**	**01 18 07.9**	**-1.9**
CAVK				S	**Sn**	**01 18 33.3**	**-1.2**
CAVK				*i* AML	AML	01 18 40.0	
	comp=N,1μm,0.9s						
CAVK				*i* AML	AML	01 18 48.0	
	comp=N,1μm,0.9s						
EVR	**Evrytania**	**1.92**	**251**	P	**Pn**	**01 18 09.0**	**-0.9**
EVR	**Evrytania**	**1.92**	**251**	P	**Pn**	**01 18 08.9**	**-1.1**
GRG	**Griva**	**1.93**	**317**	P	**Pn**	**01 18 09.6**	**-0.4**
KZN	**Kozani**	**1.97**	**293**	P	**Pn**	**01 18 09.7**	**-0.9**
KZN	**Kozani**	**1.97**	**293**	P	**Pn**	**01 18 09.7**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.98**	**64**	PN	**Pn**	**01 18 09.2**	**-1.3**
ALN	**Alexandroupoli**	**1.98**	**47**	P	**Pn**	**01 18 08.6**	**-1.9**
ALN	**Alexandroupoli**	**1.98**	**47**	PN	**Pn**	**01 18 08.7**	**-1.8**
ALN	**Alexandroupoli**	**1.98**	**47**	Pn	**Pn**	**01 18 08.2**	**-2.4**
AYVA	**Ayvalik**	**1.99**	**96**	P	**Pn**	**01 18 10.2**	**-0.5**
AYVA				*i* AML	AML	01 18 42.0	
	comp=N,742nm,0.8s						
AYVA				*i* AML	AML	01 18 44.0	
	comp=N,681nm,0.9s						
SERG	**Sergoula**	**1.99**	**236**	P	**Pn**	**01 18 09.9**	**-0.8**
ALIK	**Aliki, Aigiali**	**2.05**	**231**	P	**Pn**	**01 18 11.2**	**-0.3**
MMB	**Musomiste**	**2.06**	**351**	*i* P	**Pn**	**01 18 09.5**	**-2.2**
EFP	**Efpalio**	**2.08**	**238**	P	**Pn**	**01 18 11.2**	**-0.8**
EFP	**Efpalio**	**2.08**	**238**	P	**Pn**	**01 18 11.1**	**-0.8**
EPID	**Epidavros**	**2.10**	**203**	P	**Pn**	**01 18 11.1**	**-1.2**
EPID	**Epidavros**	**2.10**	**203**	P	**Pn**	**01 18 11.1**	**-1.2**
VAY	**Valandovo**	**2.13**	**326**	*i* Pn	**Pn**	**01 18 12.0**	**-0.7**
LAKA	**Lakka**	**2.14**	**233**	P	**Pn**	**01 18 11.9**	**-0.9**
LAKA				AML	AML	01 18 58.3	
	comp=E,4430μm,0.8s						
LAKA				AML	AML	01 18 59.1	
	comp=N,4098μm,1.5s						
KLV	**Kalavryta, Ach**	**2.17**	**227**	P	**Pn**	**01 18 12.2**	**-1.1**
RZN	**Rozhen**	**2.17**	**11**	*i* P	**Pn**	**01 18 12.4**	**-1.0**
DKL	**Dikili**	**2.19**	**102**	PN	**Pn**	**01 18 12.7**	**-0.8**
PVO	**Paravola**	**2.25**	**246**	P	**Pn**	**01 18 13.8**	**-0.4**
PVO	**Paravola**	**2.25**	**246**	P	**Pn**	**01 18 13.7**	**-0.6**
ZEYE	**Izmir, Urla-Ze**	**2.26**	**125**	P	**Pn**	**01 18 12.4**	**-2.0**
BUHA	**Balikesir, Bur**	**2.27**	**90**	P	**Pn**	**01 18 14.3**	**-0.3**
BUHA				S	**Sb**	**01 18 44.0**	**-2.2**
BUHA				*i* AML	AML	01 18 56.0	
	comp=N,630nm,0.9s						
BUHA				*i* AML	AML	01 18 58.0	
	comp=N,548nm,0.6s						
KDZ	**Kurdzhali**	**2.30**	**24**	PN	**Pn**	**01 18 13.1**	**-2.0**
KDZ	**Kurdzhali**	**2.30**	**24**	*i* P	**Pn**	**01 18 12.8**	**-2.3**
KRND	**KRANIDI**	**2.31**	**200**	P	**Pn**	**01 18 13.8**	**-1.3**
KESN	**Edirne-Kesan**	**2.32**	**56**	P	**Pn**	**01 18 13.7**	**-1.9**
KESN				*i* AML	AML	01 18 51.0	
	comp=N,775nm,0.7s						
KESN				*i* AML	AML	01 18 53.0	
	comp=N,493nm,0.4s						
ZEDA	**zmir-Bergama**	**2.35**	**104**	P	**Pn**	**01 18 15.5**	**-0.2**
ZEDA				*i* AML	AML	01 18 55.0	
	comp=N,272nm,0.9s						
ZEDA				*i* AML	AML	01 19 04.0	
	comp=N,253nm,0.7s						
KKB	**Krupnik**	**2.44**	**341**	*i* P	**Pn**	**01 18 15.9**	**-1.1**
UKOP	**Uzunkopru-Edir**	**2.46**	**50**	PN	**Pn**	**01 18 16.4**	**-0.9**
DRO	**Drossia**	**2.49**	**231**	P	**Pn**	**01 18 17.0**	**-0.6**
BLCB	**Balcova**	**2.54**	**116**	PN	**Pn**	**01 18 18.1**	**-0.2**
JAN	**Janina**	**2.55**	**273**	P	**Pb**	**01 18 20.8**	**-1.7**
RLS	**Riolos of Patr**	**2.57**	**235**	P	**Pn**	**01 18 18.8**	**+0.1**
PLD	**Plovdiv**	**2.58**	**9**	PN	**Pn**	**01 18 18.7**	**-0.2**
PLD	**Plovdiv**	**2.58**	**9**	*i* P	**Pn**	**01 18 18.5**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.58**	**63**	PN	**Pn**	**01 18 18.2**	**-0.8**
SART	**Tekirdag**	**2.59**	**63**	P	**Pn**	**01 18 17.2**	**-1.8**
SART				S	**Sb**	**01 18 55.6**	**+0.1**
SART				*i* AML	AML	01 19 09.0	
	comp=N,441nm,1.0s						
SART				*i* AML	AML	01 19 22.0	
	comp=N,379nm,0.9s						
STIP	**Stip**	**2.60**	**326**	*i* Pn	**Pn**	**01 18 17.9**	**-1.3**
DGB	**zmir**	**2.61**	**124**	P	**Pn**	**01 18 19.2**	**-0.1**
DGB				*i* AML	AML	01 19 07.0	
	comp=N,294nm,1.0s						
DGB				*i* AML	AML	01 19 11.0	
	comp=N,306nm,1.0s						
BALY	**Balya**	**2.69**	**85**	P	**Pn**	**01 18 18.1**	**-2.3**
BALY				*i* AML	AML	01 19 05.0	
	comp=N,465nm,0.7s						
BALY				*i* AML	AML	01 19 09.0	
	comp=N,285nm,0.6s						
KNL	**Balıkesir**	**2.70**	**74**	P	**Pn**	**01 18 19.3**	**-1.1**
KNL				*i* AML	AML	01 19 03.0	
	comp=N,1μm,0.8s						
KNL				*i* AML	AML	01 19 03.0	
	comp=N,789nm,0.7s						
DIM	**Dimitrovgrad**	**2.70**	**22**	*i* P	**Pn**	**01 18 19.6**	**-1.0**
APE	**Apeiran

BODT	**Bodrum**	3.52	134	PN	Pn	01 18 30.9	-0.9
PHP	**Peshkopia**	3.53	308	P	Pn	01 18 32.4	+0.4
DEMI	**Demirci**	3.58	97	P	Pn	01 18 33.1	+0.4
DEMI				*i* AML	AML	01 19 43.0	
	comp=N,143nm,1.6s						
DEMI				*i* AML	AML	01 19 45.0	
	comp=N,134nm,0.9s						
MANT	**Manisa**	3.60	106		Pn	01 18 32.7	-0.4
MANT	**Manisa**	3.60	106	P	Pn	01 18 32.9	-0.2
MANT				*i* AML	AML	01 19 41.0	
	comp=N,48nm,0.7s						
MANT				*i* AML	AML	01 19 42.0	
	comp=N,49nm,0.6s						
VLO	**Vlora**	3.69	286	Pn	Pn	01 18 32.0	-2.0
TIR	**Tirane**	3.72	300	Pn	Pn	01 18 30.7	-3.9
USAK	**Uak-Merkez**	3.88	101	P	Pn	01 18 37.0	+0.2
USAK				*i* AML	AML	01 19 59.0	
	comp=N,39nm,1.2s						
USAK				*i* AML	AML	01 20 29.0	
	comp=N,44nm,3.2s						
ULDT	**Uludag**	3.88	80	P	Pn	01 18 36.2	-0.8
ULDT				*i* AML	AML	01 19 47.0	
	comp=N,217nm,0.8s						
ULDT				*i* AML	AML	01 19 54.0	
	comp=N,142nm,1.1s						
SZH	**Strazhica**	3.94	19	*i* P	Pn	01 18 36.7	-0.9
IGD	**Bursa**	3.95	78	P	Pn	01 18 36.2	-1.5
IGD				*i* AML	AML	01 19 43.0	
	comp=N,85nm,1.0s						
IGD				*i* AML	AML	01 20 12.0	
	comp=N,58nm,1.0s						
IMMV	**Iera Moni Meta**	4.09	182	P	Pn	01 18 39.3	-0.3
GDZ	**Gediz**	4.16	95	P	Pn	01 18 40.0	-0.7
GDZ				*i* AML	AML	01 20 07.0	
	comp=N,75nm,1.0s						
GDZ				*i* AML	AML	01 20 11.0	
	comp=N,41nm,1.0s						
ZIMR		4.20	12	⇓P	Pn	01 18 40.7	-0.3
BLKB	**Belogradchik**	4.21	345	⇑P	Pn	01 18 41.2	-0.1
IDI	**Anoyia**	4.30	172	⇓P	Pn	01 18 42.2	-0.4
IDI	**Anoyia**	4.30	172	Pn	Pn	01 18 42.0	-0.6
	comp=N,9.6nm,0.3s,baz=300,slow=1.4,SNR=55						
IDI				Sn	Sn	01 19 34.1	+0.7
	comp=N,4.4nm,0.3s,baz=93,slow=18,SNR=1.4						
IDI				Lg	Lg	01 19 53.3	
	comp=N,6.4nm,0.3s,baz=93,slow=22,SNR=2.6						
	comp=N,40nm,0.5s						
IDI	**Anoyia**	4.30	172	P	Pn	01 18 41.9	-0.6
IDI	**Anoyia**	4.30	172	Pn	Pn	01 18 42.6	+0.1
RAZG	**Razgrad**	4.38	23	⇓P	Pn	01 18 43.1	-0.6
PVY	**Plav**	4.38	315	⇑Pn	Pn	01 18 43.6	-0.2
PVY				*i* Sn	Sn	01 19 34.8	-0.8
ULC	**Ulcinj**	4.43	304	⇓*i*Pn	Pn	01 18 44.3	0.0
ULC				*e*Sn	Sn	01 19 36.8	+0.2
DRME	**Dracevica, Mon**	4.59	307	⇓*i*Pn	Pn	01 18 46.3	-0.2
DRME				*i* Sn	Sn	01 19 39.7	-0.7
IVA	**Berane**	4.61	317	⇓*i*Pn	Pn	01 18 46.7	-0.1
IVA				*i* Sn	Sn	01 19 40.8	-0.3
PDG	**Podgorica**	4.68	309	⇑P	Pn	01 18 48.6	+0.9
PDG	**Podgorica**	4.68	309	Pn	Pn	01 18 45.4	-2.4
TTG	**Podgorica**	4.68	309	⇑*i*Pn	Pn	01 18 48.0	+0.3
TTG				*i* Sn	Sn	01 19 42.7	0.0
KOME	**Kolasin**	4.80	315	⇑*i*Pn	Pn	01 18 49.3	-0.1
KOME				*e*Sn	Sn	01 19 45.2	-0.5
BUM	**Brajici-Budva**	4.83	306	⇓*i*Pn	Pn	01 18 49.9	0.0
BUM				*e*Sn	Sn	01 19 46.0	-0.5
BORA	**Eskisehir**	4.88	84		Pn	01 18 47.5	-3.0
CEME	**Cevo**	4.95	309	⇑*i*Pn	Pn	01 18 51.8	+0.3
HUMR	**Humele**	5.01	7	⇑P	Pn	01 18 51.5	-0.7
HCY	**Herceg Novi**	5.16	306	*e*Pn	Pn	01 18 54.7	+0.4
HCY				*e*Sn	Sn	01 19 53.8	-0.7
ICOR	**Ion Corvin**	5.31	30	⇓P	Pn	01 18 56.0	-0.3
UPM	**Unac-Piva**	5.37	314	*e*Pn	Pn	01 18 58.1	+0.8
UPM				*e*Sn	Sn	01 19 58.7	-1.2
BRY	**Bratogost**	5.39	310	⇑*i*Pn	Pn	01 18 57.4	-0.2
BRY				*e*Sn	Sn	01 19 59.4	-0.9
AKAS	**Kas**	5.45	126		Pn	01 18 55.7	-2.6
HERR	**Herculane**	5.47	347	⇑P	Pn	01 18 59.4	+0.8
DBRK	**Dubrovnik**	5.50	306	*e*Pn	Pn	01 18 57.8	-1.2
DIVS	**Divibare**	5.50	327	Pn	Pn	01 18 56.2	-2.8
MDVR	**Moldovita**	5.53	342	⇑P	Pn	01 18 58.5	-0.9
MFTR	**Murfatlar**	5.61	33	⇓P	Pn	01 18 59.4	-1.1
TIP	**Timpagrande**	5.74	269	⇓P	Pn	01 19 02.7	+0.4
TIP	**Timpagrande**	5.74	269	Pn	Pn	01 19 01.5	-0.8
TLBR	**Topalu**	5.77	29	⇓P	Pn	01 19 02.1	-0.5
ARR	**Arges**	5.82	3	⇓P	Pn	01 19 02.8	-0.6
TIRR	**Tirgusor**	5.84	32	⇓P	Pn	01 19 02.9	-0.7
TIRR	**Tirgusor**	5.84	32	Pn	Pn	01 19 01.0	-2.6
HARR	**Harsova**	5.85	28	⇓P	Pn	01 19 03.1	-0.7
STON	**Ston**	5.88	306	*e*Pn	Pn	01 19 04.0	-0.2
LOT	**Lotru**	5.89	357	⇓P	Pn	01 19 03.8	-0.7
VOIR		5.92	6	⇓P	Pn	01 19 04.3	-0.5
GZR	**Gura Zlata**	5.92	351	⇓P	Pn	01 19 05.6	+0.8
MLR	**Muntele Rosu**	6.08	12	⇑P	Pn	01 19 07.6	+0.6
MLR	**Muntele Rosu**	6.08	12	Pn	Pn	01 19 07.4	+0.3
	comp=N,1.7nm,0.3s,baz=195,slow=7.2,SNR=14						
MLR				Sn	Sn	01 20 13.6	-3.7
	baz=223,slow=14						
MLR				Lg	Lg	01 20 47.8	
	comp=N,0.6nm,0.3s,baz=127,slow=20,SNR=3.7						
	comp=N,12nm,0.5s						
MLR	**Muntele Rosu**	6.08	12	PN	Pn	01 19 07.9	+0.9
MLR	**Muntele Rosu**	6.08	12	Pn	Pn	01 19 05.2	-1.8
BISRR	**Bisoca**	6.28	17	⇑P	Pn	01 19 10.5	+0.7
BZS	**Buzias**	6.34	344	⇑P	Pn	01 19 10.0	-0.5
LSTV	**Lastovo**	6.34	303	*e*Pn	Pn	01 19 10.5	0.0
CFR	**Carcaliu**	6.35	26	⇑P	Pn	01 19 09.6	-1.0
CUC	**Castrocucco**	6.43	277	Pn	Pn	01 19 08.3	-3.6
FRGS	**Fruska Gora**	6.45	332	⇓P	Pn	01 19 13.6	+1.5
COVR	**Voineasa-Covas**	6.47	13	⇑P	Pn	01 19 12.4	+0.1
DOPR	**Dopca**	6.47	8	⇓P	Pn	01 19 12.4	+0.1
MAKA	**Makarska**	6.53	307	*e*Pn	Pn	01 19 12.8	-0.2
PLOR	**Plostina**	6.55	16	⇓P	Pn	01 19 14.0	+0.4
RICI	**Ricice**	6.57	309	*e*Pn	Pn	01 19 13.7	0.0
MDB	**Medias**	6.58	1	⇓P	Pn	01 19 14.2	+0.3
VRI	**Vrincioaia**	6.59	16	⇑P	Pn	01 19 14.3	+0.4
TLCR		6.60	30	⇓P	Pn	01 19 13.1	-1.0
OZUR		6.65	10	⇑P	Pn	01 19 15.2	+0.4
HVAR	**Hvar**	6.83	304	*e*Pn	Pn	01 19 16.0	-1.2
VARL	**Varlezi**	6.90	22	⇓P	Pn	01 19 19.1	+0.9
VLDR	**Vladesti**	6.92	23	⇓P	Pn	01 19 18.6	+0.2
SIRR	**Siria**	6.95	346	⇓P	Pn	01 19 18.2	-0.7
TESR	**Tescani**	7.19	14	⇓P	Pn	01 19 21.8	-0.3
KIJV	**Kijevo**	7.29	310	*e*Pn	Pn	01 19 23.8	+0.1
BR131	**Keskin Array S**	7.33	86		Pn	01 19 23.0	-1.2
BRTR	**Keskin Array B**	7.33	86	Pn	Pn	01 19 23.7	-0.5
	comp=N,0.3nm,0.3s,baz=262,slow=11,SNR=14						
BRTR				Sn	Sn	01 20 43.6	-4.5
	comp=N,0.1nm,0.3s,baz=279,slow=19,SNR=0.9						
BRTR				Lg	Lg	01 21 25.4	
	baz=273,slow=24						
	comp=N,0.9nm,0.6s						
BRTR	**Keskin Array B**	7.33	86	Pn	Pn	01 19 22.9	-1.3
PAOL	**Paolisi**	7.47	284		Pn	01 19 22.0	-4.1
BIZ	**Bicaz**	7.52	10	⇓P	Pn	01 19 26.9	+0.2
ARCR	**ARCALIA**	7.53	1	⇑P	Pn	01 19 26.5	-0.3
ZIRJ	**Zirje**	7.57	305	*e*Pn	Pn	01 19 26.5	-0.9
MORI	**Morici**	7.64	307	*e*Pn	Pn	01 19 27.9	-0.4
MORH	**Mrgy, Hungar**	7.78	331	⇑P	Pn	01 19 29.7	-0.6
MORH	**Mrgy, Hungar**	7.78	331	P	Pn	01 19 29.0	-1.3
KOVH	**Kovagotottos**	7.89	328	P	Pn	01 19 31.3	-0.5
VAE	**Valguarnera**	7.91	258	Pn	Pn	01 19 37.0	+4.9
	comp=N,1.2nm,0.3s,baz=103,slow=10,SNR=2.1						
VAE				Sn	Sn	01 21 04.5	+2.2
	comp=N,1.1nm,0.3s,baz=98,slow=18,SNR=2.0						
	comp=N,7.7nm,0.7s						
RAFF	**Raffo Rosso**	8.03	256	Pn	Pn	01 19 32.0	-1.7
BURAR	**Bucovina Array**	8.09	5	⇓P	Pn	01 19 34.9	+0.2
DUGI	**Dugi Otok**	8.11	306	*e*Pn	Pn	01 19 34.3	-0.5
BUR08	**Bucovina Ar. S**	8.12	5	Pn	Pn	01 19 31.1	-4.0
NVLJ	**Novalja**	8.52	309	*e*Pn	Pn	01 19 39.1	-1.3
CAMP	**Campotosto**	8.64	294	Pn	Pn	01 19 38.6	-3.6
TRPA	**Tarpa**	8.65	353	P	Pn	01 19 44.6	+2.5
MPLH	**Magyarpolny**	9.00	330	P	Pn	01 19 48.3	+1.3
VYHS	**Vyhne**	9.72	339	*e*PN	Pn	01 20 01.6	+4.8
ARSA	**Arzberg**	9.92	324	*e*Pn	Pn	01 20 04.0	+4.4
	comp=N,1.5nm,0.3s						
CONA	**Conrad Observa**	10.29	327	*e*Pn	Pn	01 20 06.6	+1.9
	comp=N,0.7nm,0.4s						
ABTA	**Abfaltersbach**	11.12	314	*e*Pn	Pn	01 20 18.0	+1.8
	comp=N,0.5nm,0.3s						
MMAI	**Mount Meron Ar**	11.18	122	Pn	Pn	01 20 16.9	-0.1
	comp=N,1.1nm,0.3s,baz=304,slow=12,SNR=9.8						
	comp=N,0.6nm,0.3s						
AKASG	**Malin Array Be**	11.70	16	Pn	Pn	01 20 22.6	-1.3
	comp=N,0.6nm,0.3s,baz=200,slow=14,SNR=1.7						
	comp=N,0.6nm,0.4s						
GERES	**GERESS Array B**	11.92	325	Pn	Pn	01 20 30.5	+3.5
	comp=N,0.1nm,0.3s,baz=138,slow=25,SNR=2.0						
	comp=N,0.4nm,0.6s						
KHC	**Kasperske Hory**	12.19	325	*e*PN	Pn	01 20 33.0	+2.3
FETA	**Feichten**	12.29	312	*e*Pn	Pn	01 20 36.9	+4.7
	comp=N,0.7nm,0.6s						
KEST	**Kesra**	12.34	257	Pn	Pn	01 20 36.7	+3.9
	comp=N,0.1nm,0.3s,baz=90,slow=9.1,SNR=2.0						
	comp=N,3.1nm,0.9s						
DAVOX	**Davos/Dischmat**	12.66	309	Pn	Pn	01 20 39.9	+2.6
	baz=131,slow=19,SNR=2.0						
	comp=N,0.8nm,0.6s						
EIL	**Elat**	13.27	135	Pn	Pn	01 20 45.6	+0.1
	comp=N,0.6nm,0.3s,baz=328,slow=16,SNR=2.1						
	comp=N,2.2nm,0.5s						
ESDC	**Sonseca Array**	21.62	279	P	P	01 22 29.7	+2.2
	comp=N,0.7nm,0.8s,baz=78,slow=10,SNR=4.4						
	comp=N,0.7nm,0.8s						
NOA	**NORSAR Array B**	22.95	344	P	P	01 22 41.1	-0.4
	comp=N,1.5nm,0.9s,baz=159,slow=7.6,SNR=3.2						
	comp=N,1.5nm,0.9s						
GEYT	**Alibeck**	26.46	83	P	P	01 23 15.7	+1.2
	comp=N,0.7nm,0.3s,baz=316,slow=12,SNR=2.1						
	comp=N,0.7nm,0.3s						
TOA0	**Torodi Ar. Sit**	32.93	223	P	P	01 24 07.9	-4.1
TOA0				IAmb	IAmb	01 24 28.7	
	comp=Z,6.0nm,1.4s						
TORD	**Torodi Ar. Bea**	32.93	223	P	P	01 24 11.8	-0.2
	comp=Z,15nm,0.6s,baz=34,slow=9.1,SNR=5.2						
MKAR	**Makanchi Array**	42.16	60	P	P	01 25 29.9	-0.1
	comp=Z,0.5nm,0.5s,baz=272,slow=8.0,SNR=7.7						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	42.16	60	P	P	01 25 29.1	-0.9
ZAA0	**Zalesovo Array**	42.66	50	P	P	01 25 28.4	-5.4
ZAA0				IAmb	IAmb	01 25 34.9	
	comp=Z,3.7nm,0.9s						
ZALV	**Zalesovo Beam**	42.66	50	P	P	01 25 33.3	-0.5
	comp=Z,3.0nm,0.7s,baz=273,slow=9.1,SNR=15						
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	42.66	50	P	P	01 25 31.0	-2.9
SONM	**Songino Array**	57.39	52	P	P	01 27 26.1	+0.2
	comp=Z,0.3nm,0.5s,baz=336,slow=6.3,SNR=2.2						
	comp=Z,0.3nm,0.5s						
BDFB	**Brasilia**	86.66	247	P	P	01 30 23.9	+2.3
	comp=Z,1.5nm,0.5s,baz=61,slow=10,SNR=3.2						
	comp=Z,1.5nm,0.5s						

BJI ***29*** *01:22:31.2±0.0,2˚.26S×140˚.67E, h5km, mb4.8/33, mB5.0/16, Ms4.6/8, Ms7 4.3/8*
IDC ***29*** *01:22:34.1±0.6,2˚.00S×140˚.53E, h0km, mb4.4/16, mbtmp4.5/21, ML4.2/5, MS3.9/15, Error ellipse: s-maj=19.5km s-min=11.3km az=89.0*
NEIC ***29*** *01:22:35.4±1.6,2˚.0S±0˚.1×140˚.59E±0˚.09, h10km±1km, mb4.7/45, Error ellipse: s-maj=19.2km s-min=15.5km az=21.0*
DJA ***29*** *01:22:43.2±0.6,2˚S±5˚×14˚0E±˚, h37km±5km, M4.6/23, mB5.2/7, mb4.6/23, MLv4.6/6, Mw(mB)4.6/7*
ISC 29 01:22:38.9±0.4, 2˚.08S±0˚.05×140˚.56E±0˚.06, h35km, n120, σ1°39/113, **mb4.7**/43, **MS4.0**/12, **2C-1D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	0.64	217	P	Pn	01 22 51.8	+0.4
SMPI	**Sarmi**	1.85	273	P	Pn	01 23 07.5	-0.6
WAMI	**Wamena**	2.57	226	P	Pn	01 23 19.6	+1.6
SRPI	**Serui, Papua**	4.32	273	P	Pn	01 23 44.6	+2.5
BAKI	**Biak**	4.54	281	P	Pn	01 23 45.3	+0.2
RKPI	**Ransiki, Papua**	6.40	275	P	Pn	01 24 12.1	+1.4
	0.3nm4µm31nm,0.8s						
FAKI	**Fak Fak**	8.34	264	P	Pn	01 24 37.2	-0.2
	0.1nm43nm,0.8s						
SIJI	**Sorong**	9.37	277	Pn	Pn	01 24 50.5	-0.9
	0.2nm,0.3s,baz=87,slow=19,SNR=1.6						
SIJI				Sn	Sn	01 26 36.5	+0.9
	1.5nm,0.3s,baz=158,slow=19,SNR=1.6						
SIJI				LR	LR	01 28 50.5	
	comp=Z,285nm,20.0s,baz=320,slow=40						
	4.8nm,0.4s						
PMG	**Port Moresby**	9.80	138	LR	LR	01 29 19.6	
	comp=Z,584nm,21.0s,baz=302,slow=41						
KRVT	**Keravat (AS076**	11.66	101	Pn	Pn	01 25 20.8	-2.1
	3.5nm,0.3s,baz=264,slow=9.2,SNR=1.4						
	20nm,0.5s						
TNTI	**Ternate**	13.49	282	Pn	Pn	01 25 44.5	-3.3
TNTI	**Ternate**	13.49	282	P	Pn	01 25 48.5	+0.6
NLAI	**Namlea**	13.49	265	P	Pn	01 25 48.3	+0.4
	3µm21nm,1.2s						
MTN	**Manton Dam**	14.19	221	P	P	01 26 04.8	+0.4
SANI	**Sanana**	14.56	270	P	Pn	01 26 00.9	-1.6
	691nm15nm,1.0s						
GUMO	**Guam**	16.15	15	LR	LR	01 32 37.4	
	comp=Z,252nm,18.2s,baz=175,slow=38						
DAV	**Davao City (W)**	17.50	301	LR	LR	01 33 38.3	
	comp=Z,136nm,19.3s,baz=154,slow=38						
GTOI	**Gorontalo**	17.75	279	P	P	01 26 45.1	+1.1
	20nm,1.3s						
LUWI	**Luwuk**	17.81	273	Pn	Pn	01 26 42.4	-1.7
LUWI				IAmb	IAmb	01 27 03.5	
	comp=Z,119nm,1.2s						
LUWI	**Luwuk**	17.81	273	P	Pn	01 26 42.1	-2.0
	comp=Z,77nm,0.9s						
KNRA	**Kununurra**	17.82	220	Pn	Pn	01 26 41.9	-2.4
SOEI	**Soe**	17.89	244		Pn	01 26 45.1	-0.2
SOEI	**Soe**	17.89	244	P	Pn	01 26 46.2	+0.9
	comp=Z,112nm,0.8s						
BBSI	**Bau Bau**	18.26	259	P	Pn	01 26 50.8	+1.1
	comp=Z,6µmcomp=Z,43nm,1.2s						
WB0	**Warramunga Arr**	18.58	199	P	P	01 26 52.3	-0.8
BATI	**Baumata**	18.62	244	P	P	01 26 54.5	+0.8
	comp=Z,5.5nm,0.3s,baz=83,slow=2.3,SNR=7.5						
	comp=Z,68nm,0.6s						
BATI	**Baumata**	18.62	244	P	Pn	01 26 54.8	+0.7
	comp=Z,51nm,0.8s						
WR0	**Warramunga Arr**	18.71	198	P	P	01 26 55.6	+1.1
CTA	**Charters Tower**	18.74	163	P	Pn	01 26 57.0	+1.6
	comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=2.5						
CTA				LR	LR	01 35 00.6	
	comp=Z,307nm,21.1s,baz=10,slow=40						
	comp=Z,5.2nm,1.0s						
WRAB	**Tennant Creek**	18.75	198	P	P	01 26 56.1	+1.2
WB2	**Warramunga Arr**	18.76	198	P	P	01 26 55.8	+0.8
WRA	**Warramunga Arr**	18.76	198	P	P	01 26 56.2	+1.1
	comp=Z,0.8nm,0.3s,baz=15,slow=11,SNR=46						
WRA				S	Sn	01 30 17.5	-7.3
	comp=Z,5.4nm,0.9s,baz=20,slow=24,SNR=5.5						
WRA				LR	LR	01 34 52.1	
	comp=Z,806nm,19.2s,baz=22,slow=39						
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	18.76	198	P	P	01 26 56.1	+1.1
MRSI	**Marisa**	18.79	278	P	P	01 26 55.9	+0.5
	comp=Z,33nm,0.8s						
APSI	**Ampana**	18.94	273	P	Pn	01 26 58.1	+0.2
	comp=Z,552nmcomp=Z,44nm,1.1s						
EDFI	**Ende, Flores**	19.91	250	P	P	01 27 06.8	-1.0
	comp=Z,7.8nm,0.7s						
TOLI2	**Tolitoli**	20.02	279		P	01 27 07.5	-1.4
TOLI2				IAmb	IAmb	01 27 10.6	
	comp=Z,23nm,0.9s						
BNSI	**Bone**	20.55	263	P	P	01 27 15.8	+1.2
	comp=Z,631nmcomp=Z,17nm,0.5s						
BKSI	**Bulukumba**	20.64	260	P	P	01 27 16.4	+0.8
	comp=Z,20nm,0.7s						
TTSI	**Tana Toraja**	20.74	267	P	Pn	01 27 19.3	+0.1
	comp=Z,62nm,1.0s						
MPSI	**Mapaga**	20.79	276	P	P	01 27 17.9	+0.6
	comp=Z,485nmcomp=Z,35nm,0.9s						
SPSI	**Sidrap Palu**	20.84	264	P	P	01 27 18.7	+0.9
	comp=Z,28nm,1.3s						
FITZ	**Fitzroy Crossi**	21.62	222	P	P	01 27 26.3	+0.1
	comp=Z,16nm,0.8s,baz=3.5,slow=8.4,SNR=25						
FITZ				S	S	01 31 21.0	-2.9
	comp=Z,3.9nm,0.8s,baz=180,slow=12,SNR=3.2						
FITZ				LR	LR	01 36 51.1	
	comp=Z,272nm,18.0s,baz=315,slow=40						
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	21.62	222	P	P	01 27 26.1	0.0
AS31	**Alice Springs**	22.40	196	P	P	01 27 36.6	+2.1
ASAR	**Alice Springs**	22.40	196	P	P	01 27 35.3	+0.8
	comp=Z,4.4nm,0.5s,baz=28,slow=10,SNR=51						
ASAR				S	S	01 31 41.6	+2.9
	comp=Z,4.4nm,0.9s,baz=19,slow=18,SNR=5.2						
ASAR				LR	LR	01 37 16.6	
	comp=Z,603nm,20.9s,baz=359,slow=39						
	comp=Z,4.4nm,0.5s						
ASAR	**Alice Springs**	22.40	196	P	P	01 27 35.9	+1.3
MYLDM	**Lahad Datu**	23.18	288	P	P	01 27 42.1	-0.7
EIDS	**Eidsvold**	25.28	157	P	P	01 28 02.5	+0.4
SBUM	**Sibu**	28.68	279	P	P	01 28 31.2	-1.7
SBUM				IAmb	IAmb	01 28 35.5	
	comp=Z,16nm,1.1s						
JCJ	**Chichijima**	29.05	3	LR	LR	01 37 39.6	
	comp=Z,131nm,19.0s,baz=180,slow=31						
STKA	**Stephens Creek**	29.65	178	P	P	01 28 41.6	+0.4
	comp=Z,4.6nm,0.8s,baz=347,slow=13,SNR=3.3						
	comp=Z,4.6nm,0.8s						
JOW	**Kunigami**	31.09	338	LR	LR	01 40 26.6	
	comp=Z,184nm,18.9s,baz=124,slow=35						
H11N1	**WAKE ISLAND Hy**	33.73	49	T	T	02 05 18.9	
	baz=233						
H11N2	**WAKE ISLAND Hy**	33.74	49	T	T	02 05 05.9	
	baz=233						
H11N3	**WAKE ISLAND Hy**	33.75	49	T	T	02 05 17.5	
	baz=233						
JHJ	**Hachijo jima 2**	35.02	359	LR	LR	01 40 16.6	
	comp=Z,344nm,21.9s,baz=105,slow=30						
NJ2	**Nanjing**	39.70	331	*e*P	P	01 30 08.0	+0.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSRS	**Korea Array**	41.05	345	LR	LR	01 45 17.9	
	comp=Z,102nm,20.4s,baz=180,slow=33						
RPSI	**Rantau Prapat**	41.89	276	P	P	01 30 25.4	-0.9
LYN	**LuoYang**	44.98	327	*e*P	P	01 30 50.5	-0.4
CMAR	**Chiang Mai Arr**	45.75	298	P	P	01 30 57.5	+0.3
	comp=Z,1.6nm,0.3s,baz=115,slow=6.7,SNR=11						
CMAR				PcP	PcP	01 32 36.0	+1.3
	comp=Z,0.8nm,0.3s,baz=86,slow=4.6,SNR=1.7						
	comp=Z,1.6nm,0.3s						
HNS	**HongShan**	46.02	331	⇑P	P	01 31 06.5	+7.5
XAN	**Xi'an**	46.65	323	⇓P	P	01 31 03.8	-0.4
XAN				pP	pP	01 31 08.5	-5.1
XAN				sP	sP	01 31 11.0	-6.4
XAN				pmax	pmax		
	comp=Z,16nm,1.4s						
USRK	**Ussuriysk Ar.**	46.71	352	P	P	01 31 04.0	-0.4
	comp=Z,2.3nm,0.7s,baz=197,slow=14,SNR=2.7						
USRK				LR	LR	01 47 29.9	
	comp=Z,243nm,21.5s,baz=150,slow=32						
	comp=Z,2.3nm,0.7s						
PZH	**PanZhiHua**	47.02	310	P	P	01 31 07.0	-0.3
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
BNX	**BinXian**	49.02	348	⇑P	P	01 31 21.8	-0.5
BNX				pmax	pmax		
	comp=Z,14nm,1.1s						
BNX				pmax	pmax		
	comp=Z,160nm,3.9s						
HHC	**Hu-ho-hao-te**	50.24	331	*e*P	P	01 31 34.5	+2.7
HHC				pmax	pmax		
	comp=Z,26nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,7.1s						
LZH	**Lanzhou**	51.12	322	*e*P	P	01 31 39.8	+1.3
LZH				pP	pP	01 31 44.0	-4.1
LZH				sP	sP	01 31 47.5	-4.3
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
KLR	**Kul'dur**	51.67	353	LR	LR	01 51 04.0	
	comp=Z,138nm,20.9s,baz=142,slow=33						
GTA	**Gaotai**	55.69	322	*e*P	P	01 32 12.8	+0.8
GTA				pP	pP	01 32 16.3	-5.3
GTA				sP	sP	01 32 19.3	-6.1
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
GTA				pmax	pmax		
	comp=Z,93nm,4.8s						
GTA				LR	LR		
	comp=Z,160nm,18.2s

comp=Z,5.7nm,0.9s
DIV Divide 83.99 28 P **P** **01 35 04.9 -0.6**
DIV IAmb IAmb 01 35 07.3
comp=Z,7.5nm,1.0s
CCB Clear Creek Bu 84.09 24 P **P** **01 35 04.8 -1.0**
CCB IAmb IAmb 01 35 07.6
comp=Z,5.6nm,1.0s
ILAR Eielson Array 84.50 24 P **P** **01 35 06.7 -1.2**
comp=Z,1.6nm,0.7s,baz=254,slow=4.9,SNR=13
comp=Z,1.6nm,0.7s
GEYT Alibeck 85.30 308 P **P** **01 35 13.6 +1.0**
comp=Z,7.7nm,1.0s,baz=46,slow=4.2,SNR=12
comp=Z,7.7nm,1.0s
GEYT Alibeck 85.30 308 P **P** **01 35 12.7 +0.1**
DOT Dot Lake 85.40 26 P **P** **01 35 12.5 0.0**
DOT IAmb IAmb 01 35 13.4
comp=Z,4.5nm,1.0s
ABKAR Akbulak array 85.44 320 P **P** **01 35 12.4 -0.5**
ABKAR IAmb IAmb 01 35 14.1
comp=Z,6.2nm,0.7s
CTGM Chitina Glacie 86.05 29 P **P** **01 35 16.4 +0.5**
CTGM IAmb IAmb 01 35 17.6
comp=Z,8.7nm,0.9s
M27K Edge Creek, AK 86.08 27 P **P** **01 35 16.8 +0.8**
M27K IAmb IAmb 01 35 17.6
comp=Z,5.5nm,0.8s
L27K Beaver Creek, 86.25 26 P **P** **01 35 16.7 0.0**
L27K IAmb IAmb 01 35 30.7
comp=Z,6.7nm,1.3s
AKTO Aktyubinsk 86.83 321 P **P** **01 35 18.8 -1.0**
comp=Z,1.7nm,0.7s,baz=96,slow=7.8,SNR=4.6
comp=Z,1.7nm,0.7s
ARU Arti 87.29 327 P **P** **01 35 20.7 -1.2**
comp=Z,1.4nm,0.5s,baz=90,slow=5.1,SNR=3.4
comp=Z,1.4nm,0.5s
DAWY Dawson 87.51 26 P **P** **01 35 23.4 +0.5**
DAWY IAmb IAmb 01 35 24.0
comp=Z,8.0nm,1.2s
QSPA South Pole Qui 87.86 180 P **P** **01 35 25.2 +0.6**
HYT Haines Junctio 87.87 29 P **P** **01 35 23.6 -1.2**
HYT IAmb IAmb 01 35 26.3
comp=Z,5.2nm,1.0s
I29M Ogilvie Camp, 88.18 24 P **P** **01 35 25.6 -0.4**
NVAR Mina Array Bea 100.02 51 P **Pdif** **01 36 21.9 +0.7**
comp=Z,0.4nm,0.7s,baz=265,slow=5.0,SNR=4.3
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 137.84 287 PKP **PKiKP** **01 42 02.3 -0.4**
comp=Z,15nm,0.6s,baz=92,slow=2.0,SNR=5.1
DBIC Dimbokro 145.22 279 PKPbc **PKPdf** **01 42 14.5 +0.5**
comp=Z,9.2nm,0.7s,baz=83,slow=4.2,SNR=9.6
LPAZ La Paz 146.29 124 PKPbc **PKPab** **01 42 19.3 +0.8**
comp=Z,5.3nm,0.8s,baz=236,slow=5.4,SNR=21
CPUP Villa Florida 146.88 150 PKPbc **PKPab** **01 42 19.4 -0.2**
comp=Z,11nm,0.9s,baz=225,slow=4.7,SNR=18

---

*BJI **29** 01:34:00.0±0.0, 30.°30S×177.°60W, h10km, mb5.2/28, mB5.9/18, Ms5.2/8, Ms7 4.9/9*
*NEIC **29** 01:34:02.8, 30.°29S×177.°74W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.92; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-0.44; $M_{r\theta}$0.16; $M_{\theta\phi}$-0.68; $M_{r\phi}$0.56; Fault plane solution: $M_0$1.20000×10^{17} NP1:ϕ_s244.42000°, δ34.82000°, λ119.59000°. NP2:ϕ_s29.75000°, δ60.23000°, λ71.05000°. Principal axes: T 1.1264, Plg69.0000°, Azm261.0000°; N 0.1315, Plg16.0000°, Azm39.0000°; P -1.2579, Plg13.0000°, Azm133.0000°;*
*NEIC **29** 01:34:03.7±1.8, 30.°29S±0.°05×177.°65W±0.°10, h17km±1km, mb5.4/249, Mwb5.3/21 Error ellipse: s-maj=12.1km s-min=7.0km az=90.0*
*MOS **29** 01:34:03.2±0.8, 30.°28S×177.°84W, h23km, mb5.6/34, MS4.9/5, Error ellipse: s-maj=10.4km s-min=8.0km az=99.8*
*IDC **29** 01:34:07.5±1.2, 30.°14S×177.°85W, h43km±9km, mb4.8/22, mbtmp5.0/23, ML5.4/1, MS4.7/53, Error ellipse: s-maj=12.7km s-min=10.9km az=74.0*
*NOU **29** 01:34:07.6, 30.°58S×177.°16W, h72km, mb5.6/82, Kermadec Islands, New Zealand*
*GCMT **29** 01:34:08.7±0.1, 30.°25S±0.°01×177.°54W±0.°01, h38km, MW5.4/139, Moment Tensor Solution. s139,c234; s138,c231; Duration: 1ł3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.50±.03; $M_{\theta\theta}$-0.06±.02; $M_{\phi\phi}$-1.44±.02; $M_{r\theta}$0.09±.02; $M_{\theta\phi}$-0.47±.02; $M_{r\phi}$0.92±.02; Best double couple: $M_0$1.79700×10^{17} NP1:ϕ_s11.00000°, δ60.00000°, λ84.00000°. NP2:ϕ_s203.00000°, δ30.00000°, λ101.00000°. Principal axes: T 1.7650, Plg74.0000°, Azm265.0000°; N 0.0630, Plg5.0000°, Azm14.0000°; P -1.8300, Plg15.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 01:34:04.2±0.7, 30.°37S±0.°04×177.°71W±0.°05, h25km±4km, n1077, σ1ł57/1003, mb5.4/206, MS4.8/62, 39C-35D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.11**	**350**	P	**Pn**	**01 34 23.3**	**-1.0**
GLKZ				S	**Sb**	**01 34 34.4**	**-4.5**
RAO	**Raoul Island**	**1.12**	**351**	P	**Pn**	**01 34 23.4**	**-1.1**
	18μm,0.2s,baz=197,slow=5.0,SNR=109						
RAO				S	**Sb**	**01 34 35.9**	**-3.3**
	69μm,0.3s,baz=61,slow=19,SNR=15						
RAO				LR	LR	01 34 49.0	
	comp=Z,41μm,19.9s,baz=16,slow=47						
RAO	**Raoul Island**	**1.12**	**351**	Pn	**Pn**	**01 34 23.3**	**-1.1**
RAO				Sg	**Sb**	**01 34 36.9**	**-2.3**
RIZ	**Raoul Island**	**1.13**	**350**	P	**Pn**	**01 34 23.3**	**-1.3**
RIZ				S	**Sb**	**01 34 36.7**	**-2.8**
MXZ	**Matakaoa Point**	**7.90**	**204**	Pn	**Pn**	**01 35 57.7**	**+0.1**
MXZ	**Matakaoa Point**	**7.90**	**204**	P	**Pn**	**01 35 54.3**	**-3.3**
MXZ				S	**Sn**	**01 37 24.2**	**-2.0**
WMGZ	**Waiomatatini S**	**8.10**	**202**	P	**Pn**	**01 35 58.5**	**-1.7**
GRZ	**Great Barrier**	**8.19**	**222**	P	Pn	01 36 07.7	+6.2
HAZ	**Te Kaha**	**8.27**	**206**	P	**Pn**	**01 36 00.9**	**-1.6**
PKGZ	**Pakihiroa**	**8.28**	**204**	P	**Pn**	**01 36 00.5**	**-2.2**
PUZ	**Puketiti**	**8.38**	**202**	P	**Pn**	**01 36 01.1**	**-3.0**
RUGZ	**Raukumara Rang**	**8.49**	**206**	P	**Pn**	**01 36 03.4**	**-2.3**
RUGZ				S	**Sn**	**01 37 40.7**	**-0.1**
CNGZ	**Carnagh Statio**	**8.77**	**202**	P	**Pn**	**01 36 06.8**	**-2.6**
CNGZ				S	**Sn**	**01 37 43.4**	**-4.1**
OUZ	**Omahuta**	**8.77**	**234**	Pn	**Pn**	**01 36 10.2**	**+0.7**
OUZ	**Omahuta**	**8.77**	**234**	P	Pn	01 36 17.5	+8.0
OPRZ	**Ohinepanea**	**8.84**	**211**	P	**Pn**	**01 36 08.5**	**-2.0**
OPRZ				S	**Sn**	**01 37 50.3**	**+1.0**
TKGZ	**Te Karaka**	**8.85**	**203**	P	**Pn**	**01 36 09.3**	**-1.2**
TKGZ				S	**Sn**	**01 37 46.8**	**-2.6**
MWZ	**Matawai**	**8.87**	**205**	P	**Pn**	**01 36 07.7**	**-3.1**
MWZ				S	**Sn**	**01 37 48.2**	**-1.8**
URZ	**Urewera**	**8.96**	**207**	P	**Pn**	**01 36 08.7**	**-3.4**
	10nm,0.3s,baz=343,slow=4.6,SNR=19						
URZ				S	**Sn**	**01 37 50.1**	**-2.1**
	333nm,0.7s,baz=258,slow=22,SNR=9.0						
URZ	**Urewera**	**8.96**	**207**	P	**Pn**	**01 36 09.7**	**-2.4**
URZ				S	**Sn**	**01 37 49.0**	**-3.2**
RAGZ	**Rawiri**	**9.05**	**205**	P	**Pn**	**01 36 12.1**	**-1.3**
RIGZ	**Rimuhau**	**9.12**	**203**	P	**Pn**	**01 36 11.9**	**-2.4**
RIGZ				S	**Sn**	**01 37 53.3**	**-2.8**
RTZ	**Ruatahuna**	**9.32**	**207**	P	**Pn**	**01 36 14.3**	**-2.8**
RTZ				S	**Sn**	**01 37 55.5**	**-5.7**
KNZ	**Kokohu**	**9.43**	**202**	P	**Pn**	**01 36 15.0**	**-3.6**
KNZ				S	**Sn**	**01 37 59.4**	**-4.4**
MHGZ	**Mahia Peninsul**	**9.48**	**201**	P	**Pn**	**01 36 16.9**	**-2.2**
MHGZ				S	**Sn**	**01 37 59.9**	**-4.9**
RAHZ	**Arahi**	**9.54**	**205**	P	**Pn**	**01 36 18.8**	**-1.3**
RAHZ				S	**Sn**	**01 38 03.4**	**-3.2**
TLZ	**Tolley Road**	**9.71**	**213**	P	Pn	01 36 30.1	+7.7
NMHZ	**Naumai**	**9.81**	**206**	P	**Pn**	**01 36 21.1**	**-2.7**
NMHZ				S	**Sn**	**01 38 11.0**	**-2.1**
ARHZ	**Aropaoanui**	**9.88**	**205**	P	**Pn**	**01 36 22.5**	**-2.2**
ARHZ				S	**Sn**	**01 38 11.5**	**-3.4**
BKZ	**Black Stump Fm**	**9.99**	**207**	Pn	**Pn**	**01 36 21.8**	**-4.5**
BKZ	**Black Stump Fm**	**9.99**	**207**	P	Pn	**01 36 22.9**	**-3.3**
BKZ				S	**Sn**	**01 38 14.3**	**-3.3**
MCHZ	**McNeill Hill**	**10.15**	**205**	P	**Pn**	**01 36 27.5**	**-0.9**
MCHZ				S	**Sn**	**01 38 18.3**	**-3.1**
HIZ	**Hauiti**	**10.18**	**215**	P	Pn	01 36 35.6	+6.8
NTVZ	**North Tongarir**	**10.27**	**210**	P	**Pn**	**01 36 30.3**	**+0.2**
TMVZ	**Te Maari**	**10.27**	**210**	P	**Pn**	**01 36 29.4**	**-0.8**
ETVZ	**East Tongariro**	**10.28**	**210**	P	**Pn**	**01 36 31.3**	**+1.0**
OTVZ	**Oturere**	**10.33**	**210**	P	**Pn**	**01 36 33.7**	**+2.8**

KAHZ	**Kahuranaki**	**10.40**	**204**	P	**Pn**	**01 36 29.6 -2.2**
BHHZ	**Black Hill Sta**	**10.44**	**208**	P	**Pn**	**01 36 36.0 +3.7**
KRHZ	**Kereru**	**10.45**	**206**	P	**Pn**	**01 36 29.3 -3.2**
FWVZ	**Far West T-bar**	**10.45**	**210**	P	**Pn**	**01 36 34.8 +2.0**
MOVZ	**Moawhango**	**10.49**	**209**	P	**Pn**	**01 36 33.1 0.0**
PXZ	**Pawanui**	**10.61**	**203**	P	**Pn**	**01 36 33.5 -1.2**
PNHZ	**Pukenui**	**10.75**	**206**	P	**Pn**	**01 36 32.9 -3.7**
PRHZ	**Porangahau**	**10.90**	**204**	P	**Pn**	**01 36 34.6 -4.0**
DVHZ	**Dannevirke**	**11.10**	**205**	P	**Pn**	**01 36 39.5 -1.8**
TMWZ	**Te Maipa**	**11.91**	**204**	P	**Pn**	**01 36 48.1 -4.3**
LKBA	**Tubou, Lakemba**	**12.12**	**355**	P	P	01 37 02.6 -5.3
MSWZ	**Moikau Station**	**12.41**	**205**		**Pn**	**01 36 55.6 -3.7**
DUWZ	**D'Urville Isla**	**12.44**	**211**	P	**Pn**	**01 36 58.3 -1.4**
TUWZ	**Tuamarina**	**12.94**	**209**		Pn	01 36 59.4 -7.2
NNZ	**Nelson**	**13.01**	**211**	P	**Pn**	**01 37 07.1 -0.4**
TKNZ	**Takaka Hill**	**13.06**	**213**	P	**Pn**	**01 37 06.6 -1.6**
QRZ	**Quartz Range**	**13.11**	**215**	P	**Pn**	**01 37 11.1 +2.3**
MSVF	**Nonsavu**	**13.16**	**342**	P	**Pn**	**01 37 09.9 +0.3**
	0.8nm,0.3s,baz=154,slow=10,SNR=20					
MSVF				LR	LR	01 41 29.6
	comp=Z,7μm,19.4s,baz=178,slow=34 22nm,0.8s					
MSVF	**Nonsavu**	**13.16**	**342**	Pn	**Pn**	**01 37 08.6 -1.1**
MSVF	**Nonsavu**	**13.16**	**342**	*e*P	**Pn**	**01 37 10.8 +1.1**
MSVF				pmax	pmax	
	comp=Z,25nm,0.8s					
MSVF	**Nonsavu**	**13.16**	**342**	P	**Pn**	**01 37 11.5 +1.8**
BSWZ	**Blackbirch Sta**	**13.21**	**209**	P	**Pn**	**01 37 08.8 -1.3**
NIUE	**Niue**	**13.27**	**34**	P	Pn	01 37 06.1 -5.0
	baz=13,SNR=15					
NIUE				S	Sn	01 39 17.2 -21
	baz=13					
NIUE	**Niue**	**13.27**	**34**	Pn	Pn	01 37 04.5 -6.7
NIUE	**Niue**	**13.27**	**34**	P	**Pn**	**01 37 07.5 -3.7**
THZ	**Tophouse**	**13.66**	**211**	Pn	**Pn**	**01 37 13.4 -3.0**
THZ	**Tophouse**	**13.66**	**211**	P	**Pn**	**01 37 13.6 -2.9**
KHZ	**Kahutara**	**13.93**	**208**	Pn	**Pn**	**01 37 16.9 -3.0**
KHZ	**Kahutara**	**13.93**	**208**	P	**Pn**	**01 37 17.0 -3.0**
GVZ	**Greta Valley S**	**14.59**	**208**	P	**Pn**	**01 37 30.0 +0.9**
LTZ	**Lake Taylor**	**14.76**	**210**	Pn	Pn	01 37 26.4 -5.0
AMCZ	**Amberley**	**14.92**	**208**	P	**Pn**	**01 37 32.4 -1.2**
INZ	**Inchbonnie**	**15.09**	**212**	P	**Pn**	**01 37 34.8 -0.9**
OXZ	**Oxford**	**15.30**	**209**	Pn	**Pn**	**01 37 37.3 -1.3**
OXZ				IAmb	IAmb	01 37 41.8
	comp=Z,101nm,0.8s					
OXZ	**Oxford**	**15.30**	**209**	P	**Pn**	**01 37 39.1 +0.5**
PINNC	**Pines Island,**	**15.36**	**297**	Pn	**Pn**	**01 37 39.7 +0.3**
PINNC	**Pines Island,**	**15.36**	**297**	P	**P**	**01 37 47.0 +3.1**
MQZ	**McQueen's Vall**	**15.36**	**207**	Pn	**Pn**	**01 37 35.0 -4.3**
MARNC	**Mare, Loyalty**	**15.57**	**301**	Pn	**Pn**	**01 37 41.4 -0.8**
MARNC	**Mare, Loyalty**	**15.57**	**301**	P	**P**	**01 37 50.2 +3.9**
OUENC	**Ouen Island, N**	**15.94**	**296**	P	**P**	**01 37 55.0 +4.7**
RPZ	**Rata Peaks**	**16.04**	**211**	P	**Pn**	**01 37 45.2 -2.9**
	comp=Z,46nm,0.7s,baz=38,slow=1.0,SNR=22					
RPZ				S	Sn	01 40 30.6 -15
	comp=Z,19nm,0.5s,baz=340,slow=17,SNR=2.9					
RPZ	**Rata Peaks**	**16.04**	**211**	Pn	**Pn**	**01 37 45.3 -2.8**
RPZ	**Rata Peaks**	**16.04**	**211**	P	**Pn**	**01 37 45.5 -2.6**
RPZ	**Rata Peaks**	**16.04**	**211**	P	**P**	**01 37 49.1 +1.0**
YATNC	**Mamie plateau,**	**16.09**	**297**	P	**P**	**01 37 55.1 +3.0**
ONTNC	**Ouen Toro**	**16.30**	**296**	Pn	**Pn**	**01 37 51.2 -0.3**
ONTNC	**Ouen Toro**	**16.30**	**296**	P	**P**	**01 37 58.8 +4.5**
DZM	**Mont Dzumac**	**16.43**	**296**	*e*Pn	**P**	**01 37 56.0 +0.1**
	comp=Z,545nm,0.9s					
DZM				*e*LR	LR	01 41 39.5
	comp=Z,13μm,24.8s					
DZM	**Mont Dzumac**	**16.43**	**296**	P	**P**	**01 37 58.6 +2.7**
	comp=Z,36nm,0.6s,baz=139,slow=13,SNR=38					
DZM				LR	LR	01 43 03.1
	comp=Z,7μm,19.0s,baz=124,slow=33					
FOZ	**Fox Glacier**	**16.47**	**214**	P	**Pn**	**01 37 49.7 -3.9**
LIFNC	**LIFOU**	**16.58**	**302**		**Pn**	**01 37 53.6 -1.6**
LIFNC	**LIFOU**	**16.58**	**302**	P	**P**	**01 38 00.7 +3.2**
LBZ	**Lake Benmore**	**16.95**	**211**	Pn	**Pn**	**01 37 55.2 -4.5**
LBZ	**Lake Benmore**	**16.95**	**211**	P	**Pn**	**01 37 59.1 -0.7**
AFI	**Afiamalu**	**17.27**	**20**	P	**Pn**	**01 37 58.7 -5.1**
	comp=Z,41nm,0.7s,baz=201,slow=8.6,SNR=2.7					
AFI				S	Sn	01 40 56.2 -19
	comp=Z,43nm,0.4s,baz=158,slow=19,SNR=3.2					
AFI	**Afiamalu**	**17.27**	**20**	P	**Pn**	**01 38 00.5 -3.4**
AFI	**Afiamalu**	**17.27**	**20**	P	**Pn**	**01 38 00.5 -3.4**
AFI				pmax	pmax	
	comp=Z,91nm,0.9s					
AFI	**Afiamalu**	**17.27**	**20**	P	**P**	**01 38 06.6 +1.4**
ODZ	**Otahua Downs**	**17.28**	**209**	P	**P**	**01 38 04.9 -0.2**
ODZ	**Otahua Downs**	**17.28**	**209**	P	**Pn**	**01 38 02.4 -1.4**
ODZ	**Otahua Downs**	**17.28**	**209**	P	**Pn**	**01 38 03.9 +0.1**
RTV	**Rentapao**	**17.78**	**312**	P	**P**	**01 38 16.0 +5.2**
WKZ	**Wanaka**	**17.82**	**212**	P	**Pn**	**01 38 07.0 -3.6**
DVP	**Devils Point**	**17.98**	**311**	P	**P**	**01 38 19.5 +6.5**
RAR	**Rarotonga**	**18.53**	**65**	P	**P**	**01 38 15.4 -3.5**
	comp=Z,48nm,0.8s,baz=236,slow=3.6,SNR=12					
RAR				S	Sn	01 41 27.0 -19
	comp=Z,15nm,0.4s,baz=132,slow=16,SNR=4.6					
RAR				LR	LR	01 43 41.9
	comp=Z,2μm,21.1s,baz=244,slow=31					
RAR	**Rarotonga**	**18.53**	**65**	P	**P**	**01 38 16.8 -2.1**
RAR	**Rarotonga**	**18.53**	**65**	P	**P**	**01 38 16.8 -2.1**
RAR				pmax	pmax	
	comp=Z,60nm,0.8s					
RAR	**Rarotonga**	**18.53**	**65**	P	**P**	**01 38 17.5 -1.5**
MLZ	**Mavora Lakes**	**18.65**	**213**	P	**P**	**01 38 17.0 -3.2**
KOUNC	**Koumac, New Ca**	**18.95**	**297**		**P**	**01 38 21.7 -1.9**
KOUNC				IAmb	IAmb	01 38 33.8
	comp=Z,210nm,0.9s					
KOUNC	**Koumac, New Ca**	**18.95**	**297**	P	**Pn**	**01 38 29.6 +5.2**
WHZ	**Wether Hill Ro**	**19.12**	**212**	P	**P**	**01 38 22.9 -2.5**
DCZ	**Deep Cove**	**19.18**	**214**	P	**P**	**01 38 23.3 -2.7**
LHI	**Lord Howe Isla**	**19.95**	**261**	P	**Pn**	**01 38 38.0 +1.7**
	baz=20,SNR=5.7					
LHI	**Lord Howe Isla**	**19.95**	**261**	P	**P**	**01 38 35.1 +0.5**
LHI	**Lord Howe Isla**	**19.95**	**261**	P	**Pn**	**01 38 40.5 +4.2**
ARMA	**Armidale**	**26.41**	**262**	P	**P**	**01 39 40.7 +1.6**
	baz=27,SNR=8.9					
ARMA	**Armidale**	**26.41**	**262**	P	**P**	**01 39 40.2 +1.1**
ARMA				IAmb	IAmb	01 39 43.6
	comp=Z,67nm,0.8s					
ARMA	**Armidale**	**26.41**	**262**	P	**P**	**01 39 42.7 +3.6**
RIV	**Riverview**	**26.55**	**254**	P	**P**	**01 39 40.3 +0.1**
	baz=27,SNR=5.0					
MGCD	**Mangrove Creek**	**26.61**	**256**	P	**P**	**01 39 44.0 +3.3**
	baz=27,SNR=23					
MGCD	**Mangrove Creek**	**26.61**	**256**	P	**P**	**01 39 45.0 +4.3**
EIDS	**Eidsvold**	**27.98**	**273**	P	**P**	**01 39 55.2 +2.1**
	baz=28,SNR=42					
EIDS	**Eidsvold**	**27.98**	**273**	P	**P**	**01 39 53.7 +0.5**
EIDS	**Eidsvold**	**27.98**	**273**	P	**P**	**01 39 55.6 +2.4**
CNB	**Canberra Magne**	**28.02**	**251**	P	**P**	**01 39 56.8 +3.3**
	baz=28,SNR=11					
CNB	**Canberra Magne**	**28.02**	**251**	P	**P**	**01 39 56.7 +3.2**
MILA	**Mila**	**28.26**	**247**	P	**P**	**01 39 58.9 +3.3**
	baz=29,SNR=19					
CAN	**Canberra**	**28.32**	**251**	P	**P**	**01 39 56.7 +0.5**
CAN	**Canberra**	**28.32**	**251**	P	**P**	**01 39 56.7 +0.5**
CAN				pmax	pmax	
	comp=Z,132nm,0.8s					
PPT2	**Papeete2**	**28.59**	**70**	*e*S	**S**	**01 44 48.0 +2.2**
	comp=Z,888nm,26.5s					
PPT2				*e*LR	LR	01 47 16.9
	comp=Z,6μm,26.2s					
PPT2	**Papeete2**	**28.59**	**70**	*e*T	T	02 09 50.4
	comp=Z,25nm,0.3s					
PPT	**Papeete**	**28.60**	**70**	LR	LR	01 48 22.2
	comp=Z,1μm,21.6s,baz=240,slow=30					
RK1H	**Rockhampton Ha**	**29.14**	**276**	P	**P**	**01 40 05.6 +2.2**
	comp=Z,252nm,0.7s					
HNR	**Honiara**	**29.47**	**310**	LR	LR	01 50 00.5
	comp=Z,17μm,21.5s,baz=152,slow=33					
RMQ	**Roma**	**29.68**	**269**	P	**P**	**01 40 11.3 +3.1**
	baz=30,SNR=90					
RMQ	**Roma**	**29.68**	**269**	P	**P**	**01 40 11.6 +3.4**
MOO	**Moorlands**	**30.50**	**237**	P	**P**	**01 40 17.2 +1.9**
	baz=31,SNR=3.7					
TOO	**Toolangi**	**31.21**	**247**	P	**P**	**01 40 24.1 +2.4**
	baz=32,SNR=32					
TOO	**Toolangi**	**31.21**	**247**	P	**P**	**01 40 22.1 +0.4**
TOO	**Toolangi**	**31.21**	**247**	P	**P**	**01 40 22.1 +0.4**
TOO				pmax	pmax	
	comp=Z,148nm,1.2s					
TOO	**Toolangi**	**31.21**	**247**	P	**P**	**01 40 24.1 +2.4**
CMSA	**Cobar Meteorol**	**31.32**	**258**	P	**P**	**01 40 25.6 +2.9**
	baz=32,SNR=11					
VAH	**Vaihoa**	**31.43**	**68**	*e*T	T	02 13 17.7
	comp=Z,39nm,0.2s					

QLP	**Quilpie**	**33.56**	**267**	P	**P**	**01 40 44.4 +2.0**
	baz=34,SNR=7.4					
QLP	**Quilpie**	**33.56**	**267**	P	**P**	**01 40 44.5 +2.1**
CTA	**Charters Tower**	**34.04**	**279**	LR	LR	01 53 19.6
	comp=Z,3μm,18.2s,baz=110,slow=34					
CTA	**Charters Tower**	**34.04**	**279**	P	**P**	**01 40 48.6 +2.0**
CTAO	**Charters Tower**	**34.04**	**279**	P	**P**	**01 40 47.1 +0.5**
CTAO	**Charters Tower**	**34.04**	**279**	P	**P**	**01 40 47.1 +0.5**
CTAO				pmax	pmax	
	comp=Z,332nm,0.7s					
CTAO	**Charters Tower**	**34.04**	**279**	P	**P**	**01 40 48.7 +2.1**
ARPS	**Mount Arapiles**	**34.12**	**248**	P	**P**	**01 40 49.3 +2.3**
	baz=34,SNR=29					
ARPS	**Mount Arapiles**	**34.12**	**248**	P	**P**	**01 40 49.6 +2.5**
STKA	**Stephens Creek**	**34.73**	**257**	P	**P**	**01 40 54.2 +1.8**
	comp=Z,121nm,0.7s,baz=94,slow=9.6,SNR=83					
STKA				LR	LR	01 54 12.1
	comp=Z,2μm,18.1s,baz=95,slow=35 comp=Z,121nm,0.7s					
STKA	**Stephens Creek**	**34.73**	**257**	P	**P**	**01 40 54.6 +2.2**
	baz=35,SNR=70					
STKA	**Stephens Creek**	**34.73**	**257**	P	**P**	**01 40 52.8 +0.4**
STKA				IAmb	IAmb	01 40 56.5
	comp=Z,38nm,0.9s					
STKA	**Stephens Creek**	**34.73**	**257**	P	**P**	**01 40 55.0 +2.5**
INKA	**Innaminka**	**36.27**	**264**	P	**P**	**01 41 08.1 +2.4**
MTSU	**Mount Surprise**	**36.53**	**281**	P	**P**	**01 41 09.9 +1.8**
	baz=37,SNR=121					
MTSU	**Mount Surprise**	**36.53**	**281**	P	**P**	**01 41 10.0 +1.9**
HTT	**Hallett**	**36.75**	**254**	P	**P**	**01 41 11.9 +2.0**
	baz=37,SNR=65					
HTT	**Hallett**	**36.75**	**254**	P	**P**	**01 41 12.3 +2.4**
PTPS	**Port Pirie**	**37.56**	**254**	P	**P**	**01 41 19.2 +2.6**
	comp=Z,952nm,0.7s					
LCRK	**Leigh Creek**	**37.83**	**258**	P	**P**	**01 41 20.4 +1.4**
WHYH	**Whyalla**	**37.93**	**254**	P	**P**	**01 41 21.8 +2.1**
	comp=Z,402nm,0.7s					
PMG	**Port Moresby**	**38.82**	**295**	LR	LR	01 54 55.2
	comp=Z,2μm,20.9s,baz=134,slow=32					
PMG	**Port Moresby**	**38.82**	**295**	P	**P**	**01 41 27.1 -0.3**
PMG	**Port Moresby**	**38.82**	**295**	*c* i P	**P**	**01 41 28.2 +0.8**
PMG				pmax	pmax	
	comp=Z,43nm,1.1s					
PMG	**Port Moresby**	**38.82**	**295**	P	**P**	**01 41 30.3 +2.9**
PMG	**Port Moresby**	**38.82**	**295**	P	**P**	**01 41 30.1 +2.7**
BBOO	**Buckleboo**	**39.22**	**254**	P	**P**	**01 41 32.1 +1.4**
	baz=40,SNR=41					
BBOO	**Buckleboo**	**39.22**	**254**	P	**P**	**01 41 31.3 +0.7**
BBOO	**Buckleboo**	**39.22**	**254**	P	**P**	**01 41 31.8 +1.2**
COEN	**Coen**	**39.50**	**286**	P	**P**	**01 41 34.6 +1.5**
	baz=40,SNR=42					
COEN	**Coen**	**39.50**	**286**	P	**P**	**01 41 33.2 0.0**
COEN				IAmb	IAmb	01 41 36.0
	comp=Z,94nm,1.1s					
COEN	**Coen**	**39.50**	**286**	P	**P**	**01 41 35.3 +2.2**
QIS	**Mount Isa**	**39.56**	**274**	P	**P**	**01 41 34.7 +1.0**
	baz=40,SNR=26					
QIS	**Mount Isa**	**39.56**	**274**	P	**P**	**01 41 35.4 +1.8**
OOD	**Oodnadatta**	**40.59**	**262**	P	**P**	**01 41 43.9 +1.9**
TAOE	**Nuku Hiva Isla**	**41.06**	**67**	*e*S	**S**	**01 47 59.9 +2.2**
	comp=Z,751nm,26.4s					
TAOE				*e*LR	LR	01 53 03.0
	comp=Z,3μm,24.5s					
MULG	**Mulgathing**	**41.38**	**257**	P	**P**	**01 41 49.5 +1.0**
AS31	**Alice Springs**	**43.36**	**267**	P	**P**	**01 42 04.7 -0.1**
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**01 42 04.5 -0.3**
	comp=Z,48nm,0.7s,baz=102,slow=7.5,SNR=211					
ASAR				PcP	**PcP**	**01 43 53.2 -0.1**
	comp=Z,5.2nm,0.8s,baz=116,slow=4.1,SNR=1.8					
ASAR				ScP	**ScP**	**01 47 41.8 -1.3**
	comp=Z,3.7nm,0.8s,baz=111,slow=4.1,SNR=6.4					
ASAR				S	**S**	**01 48 29.6 -1.8**
	comp=Z,0.8nm,0.8s,baz=112,slow=14,SNR=1.6					
ASAR				LR	LR	01 59 54.9
	comp=Z,4μm,18.1s,baz=114,slow=36 comp=Z,48nm,0.7s					
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**01 42 04.7 -0.1**
WR0	**Warramunga Arr**	**44.17**	**272**	P	**P**	**01 42 11.2 -0.1**
WB2	**Warramunga Arr**	**44.34**	**272**	P	**P**	**01 42 12.2 -0.4**
	baz=45					
WB2	**Warramunga Arr**	**44.34**	**272**	P	**P**	**01 42 12.5 -0.2**
WRAB	**Tennant Creek**	**44.34**	**272**	P	**P**	**01 42 12.4 -0.2**
WRAB	**Tennant Creek**	**44.34**	**272**	*c* i P	**P**	**01 42 12.6 -0.1

GUMO	Guam	56.63	315	LR	LR			02 05 14.8	
	comp=Z,611nm,21.1s,baz=120,slow=33								
MORW	Morawa	56.78	253	P	P			01 43 45.7	-0.8
	baz=57,SNR=4.4								
MSAI	Masohi	57.04	287	P	P			01 43 47.2	-1.3
	comp=Z,11nm,0.6s								
AAI	Ambon	57.46	286	P	P			01 43 49.5	-2.0
	comp=Z,2µmcomp=Z,46nm,0.7s								
SOEI	Soe	57.60	278	P	P			01 43 53.2	+0.6
SOEI	Soe	57.60	278	P	P			01 43 53.6	+1.0
	comp=Z,59nm,0.9s								
SOEI	Soe	57.60	278	P	P			01 43 54.4	+1.8
BATI	Baumata	57.90	277	LR	LR			02 09 27.7	
	comp=Z,4µm,18.3s,baz=145,slow=37								
BATI	Baumata	57.90	277	P	P			01 43 55.8	+1.2
	comp=Z,41nm,0.7s								
NLAI	Namlea	58.61	286	P	P			01 43 58.9	-0.6
	comp=Z,4µmcomp=Z,22nm,0.6s								
RPN	Rapa Nui	59.20	105	LR	LR			02 02 58.8	
	comp=Z,756nm,21.1s,baz=283,slow=29								
QSPA	South Pole Qui	59.74	180	P	P			01 44 09.5	+2.7
	comp=Z,31nm,0.9s,baz=35,slow=5.1,SNR=67								
QSPA				LR	LR			02 09 06.5	
	comp=Z,323nm,18.1s,baz=40,slow=35								
	comp=Z,31nm,0.9s								
QSPA	South Pole Qui	59.74	180	P	P			01 44 09.0	+2.1
LBMI	Labuha	59.74	289	P	P			01 44 07.2	-0.2
	comp=Z,35nm,0.7s								
MMRI	Maumere	59.89	278	P	P			01 44 07.9	-0.5
	comp=Z,53nm,1.2s								
MMRI	Maumere	59.89	278	P	P			01 44 09.4	+1.0
SANI	Sanana	60.19	287	P	P			01 44 08.9	-1.6
	comp=Z,1µmcomp=Z,50nm,0.6s								
SANI	Sanana	60.19	287	P	P			01 44 11.7	+1.2
EDFI	Ende, Flores	60.30	278	P	P			01 44 10.0	-1.4
	comp=Z,14nm,0.7s								
GIRL	Giralia	60.60	260	P	P			01 44 13.5	+0.3
	baz=61,SNR=13								
TNTI	Ternate	60.67	290	P	P			01 44 12.9	-0.8
	comp=Z,27nm,0.5s								
BKSI	Bulukumba	63.38	280	P	P			01 44 30.4	-1.5
	comp=Z,15nm,0.7s								
LUWI	Luwuk	63.42	286	P	P			01 44 31.8	-0.4
	comp=Z,4µmcomp=Z,84nm,1.0s								
LUWI	Luwuk	63.42	286	P	P			01 44 32.0	-0.2
	comp=Z,82nm,1.1s								
PLAI	Plampang	63.63	275	P	P			01 44 32.4	-1.2
	comp=Z,962nmcomp=Z,61nm,0.7s								
PLAI	Plampang	63.63	275	P	P			01 44 33.3	-0.3
KAPI	Kappang	63.85	280	LR	LR			02 12 51.3	
	comp=Z,576nm,18.3s,baz=138,slow=36								
KAPI	Kappang	63.85	280	P	P			01 44 33.3	-1.7
KAPI	Kappang	63.85	280	*de*P	P			01 44 34.9	-0.2
KAPI				pmax	pmax				
	comp=Z,20nm,1.5s								
KAPI	Kappang	63.85	280	P	P			01 44 36.6	+1.5
BNSI	Bone	63.87	281	P	P			01 44 34.5	-0.7
	comp=Z,13nm,1.3s								
GTOI	Gorontalo	64.16	287	P	P			01 44 35.9	-1.1
	comp=Z,3µmcomp=Z,267nmcomp=Z,28nm,0.6s								
SPSI	Sidrap Palu	64.38	281	P	P			01 44 36.4	-2.1
	comp=Z,17nm,0.7s								
APSI	Ampana	64.43	285	P	P			01 44 38.1	-0.8
	comp=Z,34nm,1.0s								
TWSI	Taliwang, Sumb	64.44	275	P	P			01 44 38.1	-0.8
	comp=Z,19nm,0.7s								
TTSI	Tana Toraja	64.82	282	P	P			01 44 40.3	-1.1
	comp=Z,22nm,0.8s								
MRSI	Marisa	64.95	286	P	P			01 44 39.6	-2.7
	comp=Z,20nm,0.8s								
DAV	Davao City (W)	65.84	295	LR	LR			02 13 15.5	
	comp=Z,77nm,19.1s,baz=123,slow=36								
IGBI	Denpasar	65.90	274	P	P			01 44 47.9	-0.5
	comp=Z,124nm,0.7s								
SRBI	Singaraja	66.20	275	P	P			01 44 48.1	-2.2
	comp=Z,49nm,0.8s								
TOLI2	Tolitoli	66.27	286	P	P			01 44 49.1	-1.6
TOLI2	Tolitoli	66.27	286	P	P			01 44 51.5	+0.8
MPSI	Mapaga	66.57	285	P	P			01 44 50.5	-2.2
	comp=Z,401nmcomp=Z,28nm,1.0s								
JAGI	Jajag, Banyuwa	66.92	274	P	P			01 44 54.5	-0.5
JAGI				IAmb	IAmb			01 44 59.4	
	comp=Z,29nm,0.9s								
JAGI	Jajag, Banyuwa	66.92	274	P	P			01 44 52.8	-2.2
	comp=Z,3µmcomp=Z,34nm,0.6s								
JAGI	Jajag, Banyuwa	66.92	274	P	P			01 44 55.9	+0.9
KMMI	Kalianget	67.78	275	P	P			01 44 59.6	-0.8
	comp=Z,60nm,1.2s								
JCJ	Chichijima	68.81	322	LR	LR			02 09 49.9	
	comp=Z,471nm,20.9s,baz=148,slow=31								
PWJI	Pagerwojo	69.17	273	P	P			01 45 08.4	-0.7
	comp=Z,64nm,0.7s								
PCJI	Pacitan	69.62	272	P	P			01 45 11.5	-0.4
	comp=Z,224nm,0.7s								
BELA	Belgrano 2	69.78	172	P	P			01 45 12.7	+0.8
BELA				IAmb	IAmb			01 45 14.0	
	comp=Z,42nm,1.0s								
PMSA	Palmer Station	72.19	156	LR	LR			02 13 42.6	
	comp=Z,473nm,18.3s,baz=235,slow=33								
MAW	Mawson	72.43	200	P	P			01 45 29.6	+1.6
	comp=Z,32nm,0.8s,baz=136,slow=8.3,SNR=31								
MAW				LR	LR			02 16 04.8	
	comp=Z,793nm,20.8s,baz=118,slow=35								
	comp=Z,32nm,0.8s								
MAW	Mawson	72.43	200	P	P			01 45 30.0	+2.0
	baz=72,SNR=25								
MAW	Mawson	72.43	200	P	P			01 45 29.7	+1.7
MAW	Mawson	72.43	200	P	P			01 45 29.7	+1.7
MAW				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KKM	Kota Kinabalu	72.79	288	P	P			01 45 29.1	-2.1
KKM	Kota Kinabalu	72.79	288	P	P			01 45 30.8	-0.3
	comp=Z,66nm,0.7s								
LEM	Lembang	73.37	272	LR	LR			02 19 20.4	
	comp=Z,832nm,19.5s,baz=116,slow=37								
LEM	Lembang	73.37	272	P	P			01 45 34.4	-0.3
	comp=Z,63nm,1.0s								
STKI	Sintang	73.53	280	P	P			01 45 35.3	-0.2
	comp=Z,20nm,0.7s								
SBUM	Sibu	74.16	282	P	P			01 45 37.6	-1.6
KASI	Kota Agung	76.70	271	P	P			01 45 52.2	-1.6
	comp=Z,64nm,1.0s								
JOW	Kunigami	76.83	312	LR	LR			02 15 17.1	
	comp=Z,402nm,21.4s,baz=262,slow=32								
PPBI	Pangkal Pinang	76.97	275	P	P			01 45 54.1	-1.1
SNAA	Sanae	78.18	178	P	P			01 46 02.0	+0.8
SNAA	Sanae	78.18	178	PcP	PcP			01 46 09.6	-1.0
SNAA	Sanae	78.18	178	LR	LR			02 19 24.6	
	comp=Z,259nm,19.0s,baz=232,slow=35								
SNAA	Sanae	78.18	178	P	P			01 46 02.0	+0.8
SNAA				IAmb	IAmb			01 46 10.8	
	comp=Z,32nm,0.8s								
SNAA	Sanae	78.18	178	P	P			01 46 02.0	+0.8
SNAA				pmax	pmax				
	comp=Z,32nm,0.8s								
VNA3	Neumayer Olymp	78.32	176	P	P			01 46 02.6	+0.7
MJAR	Matsushiro Arr	78.36	325	P	P			01 46 01.7	-0.7
	comp=Z,9.9nm,0.8s,baz=160,slow=6.1,SNR=19								
MJAR				LR	LR			02 20 58.0	
	comp=Z,98nm,18.3s,baz=143,slow=36								
	comp=Z,9.9nm,0.8s								
MAJO	Matsushiro	78.36	325	P	P			01 46 01.6	-0.9
MAJO				IAmb	IAmb			01 46 18.4	
	comp=Z,22nm,0.9s								
MAJO	Matsushiro	78.36	325	*ce*P	P			01 46 02.1	-0.4
MAJO				pmax	pmax				
	comp=Z,15nm,0.9s								
MAJO	Matsushiro	78.36	325	P	P			01 46 02.5	0.0
MJB9	Matsu-Tunnel	78.36	325	P	P			01 46 01.3	-1.2
MJB9				IAmb	IAmb			01 46 18.4	
	comp=Z,21nm,0.9s								
VNA2	Neumayer--Watz	78.76	177	P	P			01 46 05.3	+1.1
	baz=175,slow=5.2								
VNA2	Neumayer--Watz	78.76	177	PcP	PcP			01 46 13.1	0.0
JSU	Suzuyama	78.78	317	P	P			01 46 04.7	-0.2
COYC	Coyhaique	78.78	136	P	P			01 46 06.4	+1.5
COYC				IAmb	IAmb			01 46 37.1	
	comp=Z,36nm,1.0s								
NVL	N'lazarevskaya	78.92	183	*e*P	P			01 46 06.1	+1.0
NVL				*e*S	S			01 55 54.3	-7.4
NVL				pmax	pmax				
	comp=Z,39nm,0.9s								
NVL				MLR	MLR				
	comp=Z,384nm,20.0s								
VNA1	Neumayer--Stat	78.99	176	P	P			01 46 06.6	+1.1
VNA1	Neumayer--Stat	78.99	176	PcP	PcP			01 46 14.4	+0.4
AY01	Puyuhuapi	79.05	135	P	P			01 46 08.1	+1.7
SSLB	Suanglung	79.75	305	P	P			01 46 08.6	-1.8
SSLB	Suanglung	79.75	305	P	P			01 46 08.8	-1.6
JHS	Saijyo	79.82	321	P	P			01 46 10.2	-0.4
MASI	Maura Aman, Be	79.84	272	P	P			01 46 09.3	-1.9
	comp=Z,90nm,1.1s								
LL02	Futaleuf	80.20	134	P	P			01 46 13.7	+1.1
H03S2	Juan Fernandez	80.27	123	T	T			03 15 30.4	
	baz=239								
H03S1	Juan Fernandez	80.28	123	T	T			03 15 31.3	
	baz=239								
H03S3	Juan Fernandez	80.29	123	T	T			03 15 30.1	
	baz=239								
JTM	Tenmabayashi	80.43	330	P	P			01 46 13.5	-0.1
JTM				IAmb	IAmb			01 46 30.6	
	comp=Z,38nm,0.9s								
H03N3	Juan Fernandez	80.47	123	T	T			03 15 53.8	
	baz=241,slow=72,SNR=54								
H03N2	Juan Fernandez	80.47	123	T	T			03 15 43.0	
	baz=241,slow=72,SNR=93								
H03N1	Juan Fernandez	80.48	123	T	T			03 15 39.6	
	baz=241,slow=72,SNR=110								
AMKA	Amchitka	81.43	358	P	P			01 46 18.6	-0.1
KIWB	Kanaga Island	81.87	0	P	P			01 46 21.1	+0.2
ADK	Adak	81.90	1	P	P			01 46 21.1	0.0
ADK	Adak	81.90	1	P	P			01 46 21.1	0.0
ADK				pmax	pmax				
	comp=Z,161nm,0.7s								
ADK	Adak	81.90	1	P	P			01 46 20.9	-0.2
PLCA	Paso Flores	82.35	133	P	P			01 46 26.0	+1.8
	comp=Z,11nm,1.1s,baz=222,slow=5.6,SNR=7.9								
PLCA				LR	LR			02 14 13.2	
	comp=Z,729nm,21.8s,baz=248,slow=29								
	comp=Z,11nm,1.1s								
PLCA	Paso Flores	82.35	133	P	P			01 46 25.5	+1.3
DLV	T Lat	82.39	289	P	P			01 46 25.6	+0.8
	comp=Z,74nm,0.7s								
EFI	East Falkland	82.68	147	*e*P	P			01 46 26.3	+0.7
EFI				pmax	pmax				
	comp=Z,23nm,1.0s								
SHEM	Shemya Is, Ala	83.05	355	LR	LR			02 20 26.2	
	comp=Z,669nm,19.0s,baz=160,slow=34								
NIKH	Nikolski High	83.34	5	P	P			01 46 28.7	+0.1
NIKH	Nikolski High	83.34	5	P	P			01 46 28.4	-0.2
	baz=188								
TJN	Taejon	84.04	318	*e*P	P			01 46 34.3	+1.7
SCI2	San Clemente I	84.27	46	P	P			01 46 34.8	+0.9
	baz=228								
SCZ2	Santa Cruz Isl	84.27	45	P	P			01 46 35.0	+1.1
	baz=227								
LPIG	La Paz	84.30	58	LR	LR			02 19 16.4	
	comp=Z,618nm,18.2s,baz=238,slow=32								
SLBS	Sisira La Lagu	84.32	59	P	P			01 46 35.6	+1.1
UNV	Unalaska Valle	84.42	7	P	P			01 46 33.7	-0.4
UNV	Unalaska Valle	84.42	7	P	P			01 46 34.0	-0.1
	baz=190								
KSRS	Korea Array	84.48	319	P	P			01 46 34.5	-0.4
	comp=Z,4.1nm,0.6s,baz=141,slow=6.8,SNR=12								
KSRS				LR	LR			02 22 06.9	
	comp=Z,182nm,19.4s,baz=125,slow=34								
	comp=Z,4.1nm,0.6s								
IPM	Ipoh	84.73	278	P	P			01 46 34.9	-1.8
IPM	Ipoh	84.73	278	P	P			01 46 36.5	-0.2
PKM	Mcpherson Peak	84.77	44	P	P			01 46 38.1	+1.5
	baz=227								
AKUT	Akutan	84.78	7	P	P			01 46 36.2	+0.3
YSS	Yuzh-Sakhalins	84.83	334	P	P			01 46 36.5	+0.1
YSS	Yuzh-Sakhalins	84.83	334	*ce*P	P			01 46 36.9	+0.6
YSS				*e*				01 56 59.7	
YSS				*e*S	S			01 57 04.4	+1.6
YSS				pmax	pmax				
	comp=Z,200nm,7.4s								
YSS				pmax	pmax				
	comp=Z,50nm,0.8s								
YSS				MLR	MLR				
	comp=Z,500nm,19.0s								
YSS				MLR	MLR				
	comp=N,300nm,18.0s								
YSS	Yuzh-Sakhalins	84.83	334	P	P			01 46 38.6	+2.3
SMMC	Simmler	84.95	44	P	P			01 46 38.7	+1.4
	baz=227								
CBX	Cerro Bola	85.03	48	P	P			01 46 37.8	-0.1
PMPB	Monarch Peak	85.08	43	P	P			01 46 38.4	+0.3
PMPB				IAmb	IAmb			01 46 56.9	
	comp=Z,33nm,1.0s								
BAR	Barrett	85.26	48	P	P			01 46 38.8	-0.1
BAR				IAmb	IAmb			01 46 56.9	
	comp=Z,36nm,1.5s								
ESJX	Sierra Juarez	85.29	49	P	P			01 46 40.2	+0.9
ESJX				IAmb	IAmb			01 46 58.3	
	comp=Z,16nm,1.0s								
ELS	Elsinore Mount	85.41	47	P	P			01 46 39.7	0.0
ELS				IAmb	IAmb			01 46 58.5	
	comp=Z,31nm,1.1s								
BO02	Sierra Bellavi	85.49	128	P	P			01 46 40.8	+0.4
BO02				IAmb	IAmb			01 47 06.5	
	comp=Z,34nm,1.3s								
ARVC	Arvin	85.52	45	P	P			01 46 40.9	+0.7
	baz=228								
MURC	Murrieta	85.53	47	P	P			01 46 41.4	+1.1
	baz=229,SNR=5.8								
MONP2	Monument Peak	85.56	48	P	P			01 46 42.3	+1.7
	baz=229,SNR=11								
RMX	La Rumorosa	85.59	48	P	P			01 46 41.3	+0.6
RMX				IAmb	IAmb			01 46 59.6	
	comp=Z,27nm,1.1s								
IKP	In-Ko-Pah, Jac	85.60	48	P	P			01 46 42.3	+1.6
	baz=230,SNR=9.4								
RPSI	Rantau Prapat	85.63	276	P	P			01 46 39.2	-2.0
RPSI				IAmb	IAmb			01 46 41.6	
	comp=Z,22nm,1.0s								
BFSC	Mount Baldy Ra	85.66	46	P	P			01 46 41.7	+0.7
	baz=229,SNR=7.1								
PSI	Prapat	85.68	276	LR	LR			02 25 23.5	
	comp=Z,788nm,21.5s,baz=136,slow=36								
PSI	Prapat	85.68	276	P	P			01 46 39.2	-2.4
PSI				pmax	pmax				
	comp=Z,21nm,1.0s								
PSI	Prapat	85.68	276	P	P			01 46 41.3	-0.3
	comp=Z,25nm,1.0s								
MT01	Popeta	85.69	127	P	P			01 46 42.2	+1.0
MT01				IAmb	IAmb			01 47 04.3	
	comp=Z,34nm,1.1s								
YUH	Yuha Desert	85.72	48	P	P			01 46 41.2	0.0
YUH				IAmb	IAmb			01 47 00.0	
	comp=Z,29nm,1.2s								
PEA0B	Petropavlovsk-	85.84	345	*de*P	P			01 46 41.7	+0.4
PETK	Petropavlovsk-	85.84	345	P	P			01 46 40.8	-0.5
	comp=Z,38nm,0.7s,baz=159,slow=8.9,SNR=29								
PETK				LR	LR			02 18 30.0	
	comp=Z,340nm,21.4s,baz=159,slow=31								
	comp=Z,38nm,0.7s								
PETK	Petropavlovsk-	85.84	345	P	P			01 46 41.3	0.0
PETK	Petropavlovsk-	85.84	345	P	P			01 46 41.3	0.0
VES	Vestal, Richgr	85.85	44	P	P			01 46 42.5	+0.7
	baz=228								
EDW2	Edwards Air Fo	85.87	45	P	P			01 46 43.1	+1.2
	baz=228,SNR=13								
MT09	Talagante	85.92	127	P	P			01 46 43.4	+0.9
MT09				IAmb	IAmb			01 46 47.1	
	comp=Z,41nm,1.2s								
SWSC	Sam W. Stewart	85.99	48	P	P			01 46 43.7	+1.2
	baz=230								
PFO	Pinyon Flats O	86.00	47	LR	LR			02 17 52.2	
	comp=Z,371nm,20.7s,baz=246,slow=30								
PFO	Pinyon Flats O	86.00	47	P	P			01 46 42.7	0.0
PFO				IAmb	IAmb			01 47 05.2	
	comp=Z,18nm,1.1s								
PFO	Pinyon Flats O	86.00	47	*e*P	P			01 46 44.4	+1.7
PFO				pmax	pmax				
	comp=Z,14nm,0.9s								
PFO	Pinyon Flats O	86.00	47	P	P			01 46 44.1	+1.3
	baz=229,SNR=7.7								
TPFO	Pinon Flats	86.00	47	P	P			01 46 43.9	+1.2
	baz=229,SNR=7.0								
PMD	Palm Desert	86.07	47	P	P			01 46 43.5	+0.6
PMD				IAmb	IAmb			01 47 01.7	
	comp=Z,20nm,1.1s								
GSI	Gunungsitoli	86.09	274	P	P			01 46 41.9	-1.6
GSI	Gunungsitoli	86.09	274	P	P			01 46 43.4	-0.1
	comp=Z,114nm,0.8s								
GSI	Gunungsitoli	86.09	274	P	P			01 46 45.2	+1.7
	comp=Z,113nm,0.8s								
ISA	Isabella, Lake	86.10	45	P	P			01 46 44.0	+1.0
ISA	Isabella, Lake	86.10	45	P	P			01 46 44.1	+1.0
ISA				pmax	pmax				
	comp=Z,132nm,1.8s								
ISA	Isabella, Lake	86.10	45	P	P			01 46 44.4	+1.3
	baz=228,SNR=18								
MT02	Curacav	86.10	126	P	P			01 46 43.8	+0.5
MT02				IAmb	IAmb			01 46 52.0	
	comp=Z,20nm,1.1s								
KMPM	Mount Pierce	86.17	38	P	P			01 46 43.9	+0.6
CNBA	Chernabura Isl	86.26	10	P	P			01 46 44.1	+0.8
CNBA				IAmb	IAmb			01 46 50.1	
	comp=Z,29nm,0.8s								
CHNA	Chernabura Isl	86.27	10	P	P			01 46 45.3	+2.0
	baz=196								
MT05	Renca	86.30	127	P	P			01 46 44.8	+0.4
NJ2	Nanjing	86.41	310	*e*P	P			01 46 46.3	+1.7
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								
LMEL	Las Melosas	86.42	127	P	P			01 46 45.5	+0.5
LMEL				IAmb	IAmb			01 46 52.1	
	comp=Z,34nm,1.3s								
LRMC	Laurel Mtn Rad	86.46	45	P	P			01 46 46.4	+1.4
	baz=228,SNR=17								
PEL	Peldehue	86.48	127	P	P			01 46 46.1	+0.8
PEL				IAmb	IAmb			01 46 49.5	
	comp=Z,43nm,1.2s								
PEL	Peldehue	86.48	127	P	P			01 46 46.1	+0.8
PEL				pmax	pmax				
	comp=Z,43nm,1.2s								
RRX	Edison Barstow	86.48	46	P	P			01 46 46.1	+1.2
	baz=229								
BELC	Belle Mtn. Jos	86.54	47	P	P			01 46 47.2	+1.8
	baz=230,SNR=17								
CMB	Columbia Colle	86.57	42	P	P			01 46 45.9	+0.6
CMB				IAmb	IAmb			01 47 01.9	
	comp=Z,20nm,1.1s								
CMB	Columbia Colle	86.57	42	P	P			01 46 45.9	+0.6
CMB				pmax	pmax				
	comp=Z,20nm,1.1s								
SDPT	Sand Point	86.64	10	P	P			01 46 44.9	-0.2
SDPT	Sand Point	86.64	10	P	P			01 46 45.4	+0.3
	baz=195								
PIX	Pinacate	86.64	50	P	P			01 46 46.5	+0.7
PIX				IAmb	IAmb			01 47 04.3	
	comp=Z,18nm,1.0s								
UBPT	Khong Chiam	86.65	290	P	P			01 46 45.8	-0.3
UBPT				IAmb	IAmb			01 46 47.8	
	comp=Z,16nm,0.7s								
BC3	Big Chuckawall	86.67	48	P	P			01 46 47.6	+1.7
	baz=230,SNR=12								
GLA	Glamis	86.68	48	P	P			01 46 46.8	+0.8
GLA				IAmb	IAmb			01 47 05.2	
	comp=Z,28nm,1.0s								
GLA	Glamis	86.68	48	P	P			01 46 46.8	+0.8
GLA				pmax	pmax				
	comp=Z,28nm,1.0s								
GLA	Glamis	86.68	48	P	P			01 46 47.6	+1.6
	baz=230,SNR=6.2								
HSIG		86.79	54	P	P			01 46 45.8	-0.8
HSIG				IAmb	IAmb			01 47 05.0	
	comp=Z,19nm,1.1s								
CWC	Cottonwood Cre	86.85	44	P	P			01 46 48.2	+1.3
	baz=228								
AFDM	Forest Hills D	86.86	41	P	P			01 46 47.4	+0.7
AFDM				IAmb	IAmb			01 47 03.3	
	comp=Z,27nm,1.3s								
HEC	Hector,Ludlow	86.87	46	P	P			01 46 48.2	+1.3
	baz=229								
GSC	Goldstone, Bar	86.88	46	P	P			01 46 46.7	-0.3
GSC	Goldstone, Bar	86.88	46	P	P			01 46 46.7	-0.3
GSC				pmax	pmax				
	comp=Z,46nm,1.3s								
GSC	Goldstone, Bar	86.88	46	P	P			01 46 48.1	+1.1
	baz=229,SNR=17								
MPMC	Manual Prospec	86.96	45	P	P			01 46 48.5	+1.0
	baz=229,SNR=16								
ORV	Oroville	86.98	40	P	P			01 46 47.4	+0.1
ORV				IAmb	IAmb			01 47 05.5	
	comp=Z,37nm,1.5s								
ORV	Oroville	86.98	40	P	P			01 46 47.4	+0.1
ORV				pmax	pmax				
	comp=Z,37nm,1.5s								
KCSI	Kotacane, Aceh	87.04	276	P	P			01 46 46.3	-1.9
MDPB	Devils Postpil	87.06	43	P	P			01 46 47.6	-0.4
MDPB				IAmb	IAmb			01 47 07.2	
	comp=Z,42nm,1.5s								
OMMB	Old Mammoth Mi	87.09	43	P	P			01 46 48.9	+0.7
OMMB				IAmb	IAmb			01 47 06.8	
	comp=Z,40nm,1.5s								
TIN	Tinemaha, Big	87.17	44	P	P			01 46 49.7	+1.4
	baz=228								
IRM	Iron Mountain	87.19	47	P	P			01 46 50.3	+1.9
	baz=230,SNR=19								
113A	Mohawk Valley,	87.20	49	P	P			01 46 49.5	+1.1
113A				IAmb	IAmb			01 47 07.5	
	comp=Z,18nm,1.1s								
GMRC	Granite Mounta	87.26	47	P	P			01 46 50.5	+1.7
	baz=230,SNR=5.8								
USA0B	Ussuriysk Arra	87.27	326	P	P			01 46 48.8	+0.3
USA0B				IAmb	IAmb			01 46 55.8	
	comp=Z,18nm,0.9s								
USA0B	Ussuriysk Arra	87.27	326	P	P			01 46 48.8	+0.3
USA0B				pmax	pmax				
	comp=Z,18nm,0.9s								
USRK	Ussuriysk Ar.	87.27	326	P	P			01 46 48.5	0.0
	comp=Z,11nm,0.7s,baz=92,slow=5.4,SNR=8.6								
USRK				LR	LR			02 20 14.2	
	comp=Z,261nm,21.7s,baz=134,slow=32								
	comp=Z,11nm,0.7s						

baz=197
CHIR Chirikof Islan 87.89 12 P **P 01 46 52.6 +1.5**
baz=199
NEE2 Needles Airpor 87.91 47 P **P 01 46 53.2 +1.4**
baz=230
GMN Gold Mountain 87.91 44 P **P 01 46 52.5 +0.4**
GMN IAmb IAmb 01 47 09.8
comp=Z,25nm,1.4s
PDMCI Parker Dam,Lak 87.92 48 P **P 01 46 53.8 +1.9**
baz=231,SNR=9.8
WCT Wildcat Mounta 87.96 45 P **P 01 46 51.7 -0.5**
K02D Willamette Mer 88.03 37 P **P 01 46 54.2 +1.8**
baz=224
NVAR Mina Array Bea 88.04 43 P **P 01 46 53.6 +0.9**
comp=Z,8.6nm,0.8s,baz=222,slow=8.3,SNR=74
NVAR PKKP **PKKPbc 02 04 38.2 -0.6**
comp=Z,0.7nm,0.6s,baz=103,slow=3.1,SNR=7.7
NVAR PKPPKP **P'P'df 02 12 47.3 +5.0**
comp=Z,0.9nm,0.8s,baz=56,slow=3.7,SNR=5.3
NVAR LR LR 02 23 31.6
comp=Z,576nm,18.0s,baz=266,slow=34
comp=Z,8.6nm,0.8s
NVAR Mina Array Bea 88.04 43 P **P 01 46 52.9 +0.2**
RYN Ryan 88.05 42 P **P 01 46 52.6 0.0**
NV11 Mina Array Sit 88.13 43 P **P 01 46 53.5 +0.5**
NV11 IAmb IAmb 01 47 11.3
comp=Z,15nm,1.0s
J01E Myrtle Point 88.23 36 P **P 01 46 54.4 +1.3**
baz=224
PAHR Pah Rah Range 88.28 41 P **P 01 46 54.1 +0.5**
PAHR IAmb IAmb 01 47 11.7
comp=Z,12nm,0.9s
TPNV Topopah Spring 88.30 45 P **P 01 46 54.0 +0.2**
TPNV IAmb IAmb 01 47 12.1
comp=Z,21nm,1.1s
TPNV Topopah Spring 88.30 45 P **P 01 46 54.0 +0.2**
TPNV pmax pmax
comp=Z,21nm,1.1s
TPNV Topopah Spring 88.30 45 P **P 01 46 55.5 +1.7**
baz=229,SNR=14
V12A Nelson 88.37 46 P **P 01 46 55.0 +0.9**
L04D Klamath Falls 88.41 38 P **P 01 46 54.6 +0.4**
L04D IAmb IAmb 01 47 12.4
comp=Z,27nm,1.0s
L04D Klamath Falls 88.41 38 P **P 01 46 55.3 +1.2**
baz=225
TPH Tonopah 88.45 43 P **P 01 46 54.9 +0.4**
TPH Tonopah 88.45 43 P **P 01 46 54.9 +0.4**
TPH pmax pmax
comp=Z,168nm,1.2s
WTNK Soaring Height 88.57 46 P **P 01 46 55.6 +0.6**
WTNK IAmb IAmb 01 47 13.9
comp=Z,7.8nm,1.1s
KVN Kaiserville 88.58 42 P **P 01 46 55.1 0.0**
KVN IAmb IAmb 01 47 13.2
comp=Z,14nm,0.9s
KVN Kaiserville 88.58 42 P **P 01 46 55.1 0.0**
KVN pmax pmax
comp=Z,14nm,0.9s
W13A Hualapai Mount 88.58 47 P **P 01 46 54.8 -0.5**
W13A IAmb IAmb 01 47 14.3
comp=Z,19nm,1.1s
SHPR Sheep Range 88.68 46 P **P 01 46 56.2 +0.5**
MDJ Mudanjiang 88.74 325 P **P 01 46 55.3 -0.2**
MDJ pmax pmax
comp=Z,11nm,2.5s
MDJ pmax pmax
comp=Z,400nm,6.7s
ZON Zonda 88.78 126 P **P 01 46 55.9 -0.4**
ZON Zonda 88.78 126 P **P 01 46 55.9 -0.4**
ZON pmax pmax
comp=Z,60nm,1.8s
SII Sitkinak Islan 88.86 13 P **P 01 46 58.5 +2.8**
baz=200
TUC Tucson 88.89 51 P **P 01 46 57.7 +1.0**
TUC IAmb IAmb 01 47 15.6
comp=Z,28nm,1.1s
TUC Tucson 88.89 51 P **P 01 46 57.7 +1.0**
TUC pmax pmax
comp=Z,28nm,1.2s
TUC Tucson 88.89 51 P **P 01 46 58.2 +1.6**
baz=233
I03D Drain, OR 88.91 36 P **P 01 46 58.9 +2.6**
baz=225
S11A Rachel 89.05 44 P **P 01 46 56.6 -0.7**
S11A IAmb IAmb 01 47 36.4
comp=Z,31nm,1.3s
AC05 El Transito 89.19 123 P **P 01 46 58.1 -0.3**
AC05 IAmb IAmb 01 47 10.0
comp=Z,21nm,1.1s
J04D Umpqua Nationa 89.23 37 P **P 01 46 57.9 -0.2**
J04D Umpqua Nationa 89.23 37 P **P 01 46 59.1 +1.0**
baz=225
MOD Modoc Plateau 89.26 39 P **P 01 46 58.8 +0.6**
MOD IAmb IAmb 01 47 14.1
comp=Z,20nm,1.1s
PRN Pahroc Range 89.32 45 P **P 01 46 57.9 -0.7**
HPIG 89.36 58 P **P 01 46 57.4 -1.7**
319A Douglas 89.36 53 P **P 01 46 58.6 -0.3**
319A IAmb IAmb 01 47 18.2
comp=Z,22nm,0.9s
I04A Tendick Farm, 89.46 37 P **P 01 47 00.3 +1.3**
baz=225
R17K Ugashik Creek 89.49 11 P **P 01 46 60.0 +1.3**
baz=198
K05A Summer Lake 89.51 38 P **P 01 46 59.4 0.0**
R11A Troy Canyon, C 89.60 44 P **P 01 46 59.5 -0.5**
R11A Troy Canyon, C 89.60 44 P **P 01 47 00.8 +0.9**
baz=230
OHAK Old Harbor 89.66 13 P **P 01 46 59.7 +0.2**
OHAK Old Harbor 89.66 13 P **P 01 47 00.5 +1.1**
baz=201
J05D Fort Rock, OR 89.72 38 P **P 01 47 01.6 +1.3**
baz=226
H04D Lebanon 89.81 36 P **P 01 47 02.0 +1.5**
baz=225
BMN Battle Mountai 90.00 42 P **P 01 47 01.6 -0.1**
BMN IAmb IAmb 01 47 19.1
comp=Z,54nm,1.7s
BMN Battle Mountai 90.00 42 P **P 01 47 01.6 -0.1**
BMN pmax pmax
comp=Z,54nm,1.7s
TIA Tai'an 90.13 313 ⇓P **P 01 47 02.8 +0.6**
TIA pmax pmax
comp=Z,14nm,0.8s
Q17K Contact Creek 90.17 11 P **P 01 47 02.0 0.0**
baz=199
H04A Detroit Lake 90.20 36 P **P 01 47 03.0 +0.6**
H04A IAmb IAmb 01 47 23.3
comp=Z,27nm,0.9s
CN2 Changchun 90.27 323 *e*P **P 01 47 05.3 +2.6**
CN2 *es*P sP 01 47 12.0 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KDAK Kodiak Island 90.32 13 P **P 01 47 02.6 +0.1**
comp=Z,6.0nm,0.9s,baz=202,slow=19,SNR=4.2
comp=Z,6.0nm,0.9s
GRNR Gornyy 90.37 333 ⇑*i*P **P 01 47 03.8 +0.8**
GRNR pmax pmax
comp=Z,20nm,0.9s
I05D Terrebonne, OR 90.39 37 P **P 01 47 04.2 +0.8**
baz=226
Q16K King Salmon 90.43 11 P **P 01 47 03.9 +0.9**
baz=198
CCUT Cedar City 90.45 46 IAmb IAmb 01 47 26.8
comp=Z,16nm,1.2s
WUAZ Wupatki 90.45 48 P **P 01 47 05.4 +1.4**
baz=232
KNB Kanab 90.45 46 IAmb IAmb 01 47 21.6
comp=Z,33nm,1.2s
WVOR Wild Horse Val 90.53 39 IAmb IAmb 01 47 22.5
comp=Z,44nm,1.9s
BNX BinXian 90.62 325 ⇓P **P 01 47 04.0 -0.3**
BNX pmax pmax
comp=Z,13nm,1.0s
BNX pmax pmax
comp=Z,210nm,4.7s
SZCU Shurtz Canyon 90.65 46 IAmb IAmb 01 47 23.4
comp=Z,56nm,2.0s
Q18K Katmai Hardscr 90.68 12 P **P 01 47 04.8 +0.5**
baz=199
SPR3 Spring Creek 3 90.77 44 IAmb IAmb 01 47 23.5
comp=Z,8.6nm,1.0s
F04D Rainier, OR 90.77 35 P **P 01 47 07.2 +2.3**
baz=225
X18A Snowflake 90.79 50 IAmb IAmb 01 47 24.8
comp=Z,17nm,1.0s
HOOD Mount Hood Mea 90.92 36 IAmb IAmb 01 47 23.9
comp=Z,19nm,0.8s
P17K Kvichak River 90.96 11 P **P 01 47 07.0 +1.6**
baz=198
G05D Wamic, OR 91.03 36 P **P 01 47 07.8 +1.6**
baz=226
PKCU Pink Cliffs 91.04 46 IAmb IAmb 01 47 30.8
comp=Z,32nm,1.2s
121A Cookes Peak, D 91.06 53 IAmb IAmb 01 48 01.9
comp=Z,17nm,1.2s
121A Cookes Peak, D 91.06 53 P **P 01 47 08.5 +1.6**
baz=234
121A Cookes Peak, D 91.06 53 P **P 01 47 08.2 +1.3**
baz=234
Q20K Shuyak Island 91.13 13 P **P 01 47 09.0 +2.8**
baz=202
KLR Kul'dur 91.13 330 LR LR 02 24 53.0
comp=Z,335nm,19.5s,baz=150,slow=34
KLR Kul'dur 91.13 330⇑*e*P **P 01 47 06.7 +0.1**
KLR pmax pmax
comp=Z,14nm,0.9s
I07A Izee 91.18 38 IAmb IAmb 01 47 25.4
comp=Z,16nm,1.0s
Q19K Cape Douglas, 91.19 12 P **P 01 47 07.4 +0.8**
baz=201
J08A Circle Bar Ran 91.24 39 IAmb IAmb 01 47 24.1
comp=Z,28nm,1.3s
ELK Elko 91.35 42 LR LR 02 24 51.0
comp=Z,427nm,18.1s,baz=247,slow=33
P18K Big Mountain, 91.35 11 IAmb IAmb 01 47 08.7
comp=Z,18nm,0.8s
O17K Koliganek Bris 91.41 10 P **P 01 47 08.4 +0.9**
baz=198
MTPU Mount Pierson 91.49 46 IAmb IAmb 01 47 27.0
comp=Z,26nm,1.2s
GO02 Mina Guanaco 91.77 120 P **P 01 47 10.8 +0.1**
O18K Koktuh Hills 91.79 11 P **P 01 47 09.9 +0.6**
baz=199
N16K Nishlik Lake 91.83 9 P **P 01 47 10.3 +0.7**
baz=196
TX31 Lajitas Ar. Si 92.16 57 IAmb IAmb 01 47 30.1
comp=Z,17nm,1.1s
TX31 Lajitas Ar. Si 92.16 57 P **P 01 47 13.2 +1.2**
baz=236
TXAR Lajitas Array 92.16 57 P **P 01 47 12.9 +1.0**
comp=Z,2.0nm,0.9s,baz=214,slow=6.2,SNR=22
TXAR PKKP **PKKPbc 02 04 28.8 +1.0**
comp=Z,0.3nm,0.6s,baz=79,slow=3.1,SNR=4.6
TXAR LR LR 02 24 20.9
comp=Z,294nm,18.3s,baz=236,slow=33
comp=Z,2.0nm,0.9s
LYN LuoYang 92.17 309⇑*i*P **P 01 47 11.0 -0.8**
O19K Port Aylsworth 92.26 11 P **P 01 47 11.9 +0.4**
baz=200
G08A Pilot Rock 92.28 37 IAmb IAmb 01 47 28.8
comp=Z,24nm,1.1s
HNS HongShan 92.39 313⇑P **P 01 47 13.0 +0.3**
HNS pmax pmax
comp=Z,16nm,1.3s
DUG Dugway, Tooele 92.43 44 IAmb IAmb 01 47 31.1
comp=Z,25nm,1.9s
DUG Dugway, Tooele 92.43 44 P **P 01 47 13.7 +0.7**
baz=232
BRSE Bradley Lake S 92.50 13 P **P 01 47 13.3 +0.6**
baz=203
CMIG Matias Romero 92.50 72 LR LR 02 18 41.4
comp=Z,198nm,21.7s,baz=246,slow=29
HAWA Hanford 92.73 36 IAmb IAmb 01 47 32.2
comp=Z,23nm,1.2s
MFID Camas Ranch 92.73 40 IAmb IAmb 01 47 30.8
comp=Z,19nm,1.2s
LTY Liberty 92.75 35 IAmb IAmb 01 47 41.5
comp=Z,17nm,1.6s
TMUT Trail Mountain 92.86 45 IAmb IAmb 01 47 34.1
comp=Z,12nm,1.1s
BMO Blue Mountains 92.86 38 IAmb IAmb 01 47 31.2
comp=Z,35nm,1.9s
BBB Bella Bella 92.95 28 P **P 01 47 16.0 +1.2**
comp=Z,8.0nm,0.8s,baz=205,slow=3.3,SNR=4.6
BBB LR LR 02 25 07.8
comp=Z,283nm,18.4s,baz=232,slow=33
comp=Z,8.0nm,0.8s
BBB Bella Bella 92.95 28 IAmb IAmb 01 47 30.9
comp=Z,23nm,1.2s
BJI Beijing 93.08 315 P **P 01 47 15.0 -0.8**
BJI pP **pP 01 47 20.8 -1.8**
BJI pmax pmax
comp=Z,7.0nm,1.5s
SRU San Rafael Swe 93.17 46 IAmb IAmb 01 47 38.4
comp=Z,9.8nm,1.0s
NNA Nana 93.19 106 LR LR 02 19 29.5
comp=Z,385nm,21.4s,baz=252,slow=29
MVCO Mesa Verde 93.32 48 P **P 01 47 17.8 +0.5**
baz=234
MA2 Magadan 93.33 345 P **P 01 47 15.9 -0.5**
comp=Z,13nm,0.7s,baz=133,slow=5.4,SNR=5.7
MA2 LR LR 02 24 13.1
comp=Z,560nm,21.9s,baz=154,slow=32
comp=Z,13nm,0.7s
SPUT South Promonto 93.34 43 IAmb IAmb 01 47 33.9
comp=Z,16nm,1.0s
ANMO Albuquerque 93.36 51 LR LR 02 25 36.1
comp=Z,266nm,18.1s,baz=248,slow=33
ANMO Albuquerque 93.36 51 P **P 01 47 17.8 +0.3**
ANMO Albuquerque 93.36 51⇑*e*P **P 01 47 18.6 +1.1**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 93.36 51 P **P 01 47 18.3 +0.8**
baz=235
ANMO Albuquerque 93.36 51 P **P 01 47 18.1 +0.6**
baz=235
HVU Hansel Valley 93.44 43 IAmb IAmb 01 47 34.3
comp=Z,23nm,1.2s
D08A Wollman Farm, 93.49 36 IAmb IAmb 01 47 19.3
comp=Z,9.1nm,0.7s
E09A Wood Farm, Sta 93.52 37 IAmb IAmb 01 47 35.3
comp=Z,17nm,1.2s
HLID Hailey 93.62 41 P **P 01 47 20.0 +1.5**
baz=231
CMAR Chiang Mai Arr 93.63 289 P **P 01 47 19.3 +0.4**
comp=Z,1.3nm,0.3s,baz=140,slow=3.9,SNR=13
CMAR PP **PP 01 51 01.2 -2.9**
comp=Z,0.7nm,0.3s,baz=136,slow=5.2,SNR=4.0
CMAR PKKPbc **PKKPbc 02 04 24.6 +1.2**
comp=Z,0.6nm,0.3s,baz=289,slow=6.6,SNR=4.1
CMAR LR LR 02 30 16.2
comp=Z,73nm,19.7s,baz=135,slow=36
comp=Z,1.3nm,0.3s
F10A Beach Ranch, E 93.64 37 IAmb IAmb 01 47 35.6
comp=Z,12nm,0.8s
PLID Pearl Lake 93.72 39 IAmb IAmb 01 47 36.5
comp=Z,17nm,1.1s
LVC Limon Verde 93.73 119 LR LR 02 19 42.8
comp=Z,427nm,22.0s,baz=262,slow=29
M19K Big River Lodg 93.86 11 P **P 01 47 19.5 +0.7**
baz=200
PWL Port Wells 94.01 14 IAmb IAmb 01 47 38.9
comp=Z,18nm,1.2s
PWL Port Wells 94.01 14 P **P 01 47 20.0 +0.4**
baz=205
L19K White Mountain 94.05 11 IAmb IAmb 01 47 38.3
comp=Z,28nm,1.3s
L19K White Mountain 94.05 11 P **P 01 47 20.6 +0.9**
baz=200
SUA Susitna One 94.09 13 IAmb IAmb 01 47 37.9
comp=Z,13nm,0.9s
SUA Susitna One 94.09 13 P **P 01 47 20.7 +0.6**
baz=203
XAN Xi'an 94.29 307 P P 01 47 26.5 +4.9
XAN sP pwP 01 47 35.8 +2.9
XAN pmax pmax
comp=Z,7.0nm,0.5s
XAN LR LR
comp=Z,360nm,18.6s
GLI Glacier Island 94.29 14 IAmb IAmb 01 47 31.8
comp=Z,12nm,0.8s
GLI Glacier Island 94.29 14 P **P 01 47 21.3 +0.4**
baz=206
EYAK Cordova Ski Ar 94.30 15 P **P 01 47 21.5 +0.6**
baz=207
ATAH Atahualpa 94.40 101 LR LR 02 19 37.3
comp=Z,330nm,21.8s,baz=245,slow=29
KNK Knik Glacier 94.49 14 P **P 01 47 22.7 +0.9**
baz=205
TTA Tatalina 94.58 10 P **P 01 47 24.6 +2.4**
baz=199
S22A 4UR Ranch, Cre 94.72 49 P **P 01 47 24.9 +1.1**
baz=235
SML Sawmill 94.87 14 P **P 01 47 25.8 +2.2**
baz=205
BMRM Bremner River 94.93 16 IAmb IAmb 01 47 54.3
comp=Z,9.4nm,0.8s
BMRM Bremner River 94.93 16 P **P 01 47 23.9 0.0**
baz=208
M23K Glacier View 94.98 14 P **P 01 47 24.1 0.0**
baz=206
AHID Auburn Hatcher 95.03 43 IAmb IAmb 01 47 44.8
comp=Z,10nm,0.9s
KLU Klutina 95.10 15 P **P 01 47 25.0 +0.4**
baz=207
SCM Sheep Creek Mo 95.10 14 IAmb IAmb 01 47 43.1
comp=Z,14nm,0.9s
SCM Sheep Creek Mo 95.10 14 P **P 01 47 24.9 +0.3**
baz=206
O20A White River Ci 95.19 46 P **P 01 47 25.7 -0.1**
baz=234
NEW Newport 95.20 36 P **P 01 47 25.4 0.0**
comp=Z,1.2nm,0.9s,baz=243,slow=6.8,SNR=2.0
NEW LR LR 02 26 54.6
comp=Z,428nm,18.0s,baz=218,slow=33
comp=Z,1.2nm,0.9s
PINM Pinnacle 95.25 18 P **P 01 47 26.6 +1.2**
baz=212
K20K Telida 95.28 10 P **P 01 47 25.4 0.0**
baz=200
MSTX Muleshoe 95.34 54 IAmb IAmb 01 47 44.1
comp=Z,8.8nm,0.8s
MSTX Muleshoe 95.34 54 P **P 01 47 27.0 +0.5**
baz=237
MSTX Muleshoe 95.34 54 P **P 01 47 26.9 +0.3**
baz=237
R32K Eaglecrest 95.40 21 P **P 01 47 26.6 +0.6**
baz=216
N25K Chitina, Valde 95.50 15 P **P 01 47 27.2 +0.7**
baz=208
PZH PanZhiHua 95.51 297 P **P 01 47 29.5 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,160nm,4.7s
P29M Windy Craggy 95.55 19 P **P 01 47 27.7 +1.0**
baz=214
TPAW Teton Pass 95.55 42 IAmb IAmb 01 47 48.9
comp=Z,24nm,1.7s
SDCO Great Sand Dun 95.58 49 P **P 01 47 28.1 +0.4**
baz=236
M24K Tolsona, Glenn 95.59 14 P **P 01 47 27.9 +1.1**
baz=207
SNOW Snow King Moun 95.65 42 IAmb IAmb 01 47 44.4
comp=Z,9.4nm,0.8s
CAST Castle Rocks 95.66 11 P **P 01 47 26.3 -0.8**
baz=202
MCARA McCarthy VSAT 95.67 16 P **P 01 47 27.8 +0.7**
baz=210
WAT6 Susitna Watana 95.69 13 P **P 01 47 27.7 +0.3**
baz=206
CTG Chitna Glacier 95.72 17 P **P 01 47 28.4 +0.8**
baz=211
BARN Barnard Glacie 95.72 17 IAmb IAmb 01 47 33.4
comp=Z,33nm,1.8s
WAT1 Susitna Watana 95.76 13 P **P 01 47 28.7 +1.1**
baz=205
IMW Indian Meadow 95.80 42 IAmb IAmb 01 47 45.2
comp=Z,11nm,1.1s
LOHW Long Hollow 95.83 42 IAmb IAmb 01 47 45.8
comp=Z,23nm,1.6s
O28M Mount Upton 95.84 17 P **P 01 47 28.9 +0.6**
baz=212
MSO Missoula 95.93 38 P **P 01 47 26.0 -2.9**
baz=231
BW06 Boulder Array 95.94 43 P **P 01 47 28.4 -0.7**
baz=234
PDAR Pinedale Array 95.94 43 P **P 01 47 29.9 +0.8**
comp=Z,1.6nm,0.9s,baz=214,slow=3.4,SNR=9.0
PDAR PKKP **PKKPbc 02 04 18.3 -0.2**
comp=Z,2.9nm,0.7s,baz=80,slow=4.1,SNR=23
PDAR LR LR 02 28 17.0
comp=Z,324nm,18.1s,baz=238,slow=34
comp=Z,1.6nm,0.9s
SEY Seymchan 96.00 347 P **P 01 47 28.2 -0.4**
comp=Z,10nm,0.7s,baz=142,slow=5.4,SNR=18
SEY LR LR 02 27 37.9
comp=Z,453nm,19.5s,baz=152,slow=34
comp=Z,10nm,0.7s
SEY Seymchan 96.00 347⇓*e*P **P 01 47 28.5 -0.1**
SEY pmax pmax
comp=Z,12nm,0.9s
TRF Thorofare Moun 96.00 12 IAmb IAmb 01 47 45.8
comp=Z,11nm,0.9s
TRF Thorofare Moun 96.00 12 P **P 01 47 28.7 -0.2**
baz=204
J20K Nowinta River 96.04 10 P **P 01 47 27.7 -1.1**
baz=200
SKAG Skagway 96.11 20 P **P 01 47 28.9 -0.3**
baz=216
DHY Denali Highway 96.22 13 P **P 01 47 30.9 +1.0**
baz=206
RND Reindeer 96.23 13 IAmb IAmb 01 47 35.2
comp=Z,13nm,0.8s
YHL Hebgen Lake 96.24 41 IAmb IAmb 01 47 48.5
comp=Z,24nm,1.5s
CD2 Chengdu 96.28 302 *e*P **P 01 47 32.5 +1.7**
YHH Holmes Hill 96.39 41 IAmb IAmb 01 47 49.3
comp=Z,20nm,1.5s
HHC Hu-ho-hao-te 96.39 314 *e*P **P 01 47 32.8 +1.7**
HHC pmax pmax
comp=Z,33nm,0.6s
HHC pmax pmax
comp=Z,160nm,5.8s
HHC LR LR
comp=Z,310nm,18.8s
HHC LR LR
comp=Z,480nm,19.2s
HHC LR LR
comp=Z,970nm,23.1s
BOZ Bozeman (W) 96.44 40 IAmb IAmb 01 47 48.6
comp=Z,24nm,1.6s
BOZ Bozeman (W) 96.44 40 P **P 01 47 32.6 +1.3**
baz=233
MCK McKinley 96.51 12 IAmb IAmb 01 47 50.2
comp=Z,12nm,1.1s
MCK McKinley 96.51 12 P **P 01 47 32.2 +1.2**
baz=205
PAX Paxson 96.51 14 P **P 01 47 31.6 +0.5**
baz=208
M26K Nabesna, AK 96.56 15 P **P 01 47 31.8 +0.5**
baz=210
AMTX Amarillo 96.59 53 P **P 01 47 33.0 +0.8**
baz=238
YUK3 Moose Creek 96.63 17 P **P 01 47 32.4 +0.5**
baz=212
YUK4 Talbot Arm 96.73 18 P **P 01 47 33.4 +1.1**
baz=213
M27K Edge Creek, AK 96.78 16 IAmb IAmb 01 47 56.1
comp=Z,10.0nm,1.1s
M27K Edge Creek, AK 96.78 16 P **P 01 47 33.4 +1.0**
baz=211
ABTX Abilene, Hawle 96.84 56 P **P 01 47 33.1 -0.1**
baz=238
DLBC Dease Lake 96.99 23 LR LR 02 26 08.3
comp=Z,223nm,20.2s,baz=253,slow=32
L26K Log Cabin Wild 97.03 15 P Pdif 01 47 34.7 +1.3
baz=209
BVCY Beaver Creek 97.08 16 P Pdif 01 47 35.3 +1.6
baz=211
RIDG Independent Ri 97.33 14 IAmb IAmb 01 47 51.6
comp=Z,16nm,1.6s
RIDG Independent Ri 97.33 14 P Pdif 01 47 34.9 +0.1
baz=208
MLY Manley 97.38 11 P Pdif 01 47 36.9 +1.9
baz=203
L27K Beaver Creek, 97.40 16 P Pdif 01 47 36.0 +0.9
baz=211
RLMT Red Lodge 97.49 42 P Pdif 01 47 36.3 +0.1
baz=234
HDA Harding Lake 97.50 13 IAmb IAmb 01 47 41.6
comp=Z,4.9nm,0.6s
HDA Harding Lake 97.50 13 P **P 01 47 35.1 -0.3**
baz=206
M29M Somme Creek 97.70 17 P Pdif 01 47 37.4 +0.8
baz=214
SCRK Sand Creek 97.72 14 P Pdif 01 47 37.2 +0.6
baz=209
COLA College 97.75 12⇑*e*P Pdif 01 47 38.2 +1.7
COLA pmax pmax

	comp=Z,4.0nm,0.8s							
MDM	**Murphy Dome**	**97.75**	**12**	IAmb	IAmb	01 47 55.6		
	comp=Z,8.8nm,1.2s							
IL31		**97.84**	**13**	IAmb	IAmb	01 47 56.4		
	comp=Z,5.5nm,0.8s							
ILAR	**Eielson Array**	**97.84**	**13**	P	**P**	**01 47 36.5**	**-0.4**	
	comp=Z,1.3nm,0.8s,baz=219,slow=5.3,SNR=14							
ILAR				PP	**PP**	**01 51 37.0**	**+1.1**	
	comp=Z,1.5nm,0.9s,baz=220,slow=7.2,SNR=5.3							
ILAR				PKKP	**PKKPdf**	**02 04 18.1**	**+1.0**	
	comp=Z,0.7nm,0.6s,baz=34,slow=2.9,SNR=7.5							
ILAR				LR	LR	02 31 41.2		
	comp=Z,58nm,18.0s,baz=209,slow=35							
	comp=Z,1.3nm,0.8s							
LPAZ	**La Paz**	**97.93**	**114**	P	Pdif	01 47 41.2	+1.8	
	comp=Z,1.5nm,0.6s,baz=235,slow=12,SNR=7.7							
LPAZ				LR	LR	02 22 59.0		
	comp=Z,267nm,21.5s,baz=226,slow=30							
	comp=Z,1.5nm,0.6s							
J25K	**Salcha River,**	**97.99**	**13**	P	**P**	**01 47 37.5**	**-0.2**	
	baz=208							
POKR	**Poker Plat Res**	**98.05**	**12**	P	Pdif	01 47 38.9	+1.0	
	baz=206							
H22K	**Ishtalitna Cre**	**98.08**	**11**	P	Pdif	01 47 38.6	+0.6	
	baz=203							
K27K	**Chicken**	**98.18**	**15**	P	Pdif	01 47 39.5	+1.0	
	baz=211							
J26L	**Joseph Creek**	**98.27**	**14**	IAmb	IAmb	01 47 55.9		
	comp=Z,12nm,1.0s							
J26L	**Joseph Creek**	**98.27**	**14**	P	Pdif	01 47 39.5	+0.5	
	baz=209							
G21K	**Allakaket**	**98.33**	**10**	P	Pdif	01 47 40.6	+1.5	
	baz=201							
L29M	**L29M**	**98.34**	**17**	P	Pdif	01 47 40.9	+1.6	
	baz=214							
DAWY	**Dawson**	**98.83**	**16**	IAmb	IAmb	01 48 52.9		
	comp=Z,22nm,2.0s							
DAWY	**Dawson**	**98.83**	**16**	P	Pdif	01 47 42.9	+1.5	
	baz=213							
BILL	**Bilibino**	**98.83**	**354**	*e*P	**P**	**01 47 40.4**	**-0.9**	
BILL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BILL				MLR	MLR			
	comp=Z,263nm,18.0s							
F21K	**Alatna River**	**99.00**	**9**	P	Pdif	01 47 44.4	+2.3	
	baz=201							
G22K	**Bettles**	**99.01**	**10**	P	Pdif	01 47 43.8	+1.8	
	baz=203							
EGAK	**Eagle**	**99.03**	**15**	P	**Pdif**	**01 47 43.5**	**+1.2**	
	baz=211							
I26K	**Coal Creek Min**	**99.06**	**14**	P	**Pdif**	**01 47 43.5**	**+1.1**	
	baz=210							
K29M	**Barlow Dome**	**99.11**	**17**	P	**Pdif**	**01 47 43.8**	**+1.0**	
	baz=214							
CPUP	**Villa Florida**	**99.81**	**128**	PKKPbc	PKKPbc	02 04 05.2	-1.1	
	comp=Z,1.5nm,0.8s,baz=0.0,slow=2.0,SNR=4.2							
RSSD	**Black Hills**	**100.02**	**45**	P	**Pdif**	**01 47 47.9**	**+0.4**	
	baz=237							
RSSD	**Black Hills**	**100.02**	**45**	P	**Pdif**	**01 47 48.0**	**+0.4**	
	baz=237							
F24K	**Squaw Lake**	**100.13**	**11**	P	**Pdif**	**01 47 48.7**	**+1.5**	
	baz=206							
I29M	**Ogilvie Camp,**	**100.18**	**16**	P	**Pdif**	**01 47 50.1**	**+2.7**	
	baz=214							
E23K	**Chandalar**	**100.34**	**10**	P	**Pdif**	**01 47 50.2**	**+2.0**	
	baz=204							
G27K	**Doyon Strip**	**100.67**	**14**	P	**Pdif**	**01 47 50.9**	**+1.4**	
	baz=211							
SONM	**Songino Array**	**103.28**	**318**	Pdiff	**Pdif**	**01 47 60.0**	**-1.8**	
	comp=Z,0.2nm,0.3s,baz=133,slow=6.1,SNR=1.8							
YKA	**Yellowknife Ar**	**105.31**	**25**	PKKPab	PKKPab	02 04 06.0	+1.2	
	comp=Z,2.5nm,0.8s,baz=41,slow=4.9,SNR=4.4							
RAMN	**Ramite**	**107.65**	**291**	*e*P	**PKiKP**	**01 52 29.3**	**-0.5**	
	comp=Z,19nm,0.7s							
JIRN	**Jiri**	**108.29**	**292**	*e*P	**PKiKP**	**01 52 30.8**	**-0.3**	
	comp=Z,19nm,0.6s							
GUN	**Gumba**	**108.64**	**292**	*e*P	**PKiKP**	**01 52 31.1**	**-0.7**	
PKI	**Pulchoki**	**108.88**	**291**	*e*P	**PKiKP**	**01 52 31.0**	**-1.2**	
	comp=Z,15nm,0.7s							
PKIN	**Phulchoki**	**108.89**	**291**	*e*P	**PKiKP**	**01 52 31.6**	**-0.5**	
	comp=Z,13nm,0.6s							
DMN	**Daman**	**109.14**	**291**	*e*P	**PKiKP**	**01 52 32.0**	**-0.6**	
GKN	**Gorkha**	**109.68**	**291**	*e*P	**PKiKP**	**01 52 32.1**	**-1.4**	
KOLN	**Koldanda**	**110.42**	**291**	*e*Pg	**PKiKP**	**01 52 33.5**	**-1.4**	
DANN	**Dangsing**	**110.53**	**291**	*e*P	**PKiKP**	**01 52 34.4**	**-0.8**	
	comp=Z,27nm,0.6s							
PYUN	**Piuthan**	**111.04**	**291**	*e*P	**PKiKP**	**01 52 34.7**	**-1.4**	
	comp=Z,16nm,0.7s							
WMQ	**Urumqi**	**113.40**	**308**	*e*PKP	**PKiKP**	**01 52 41.3**	**+1.4**	
WMQ				LR	LR			
	comp=Z,280nm,20.7s							
ZSN	**Zaisan**	**116.44**	**311**	*e*PKIKP	**PKPdf**	**01 52 44.9**	**-0.7**	
ZSN	**Zaisan**	**116.44**	**311**	*e*PKP	**PKPdf**	**01 52 44.9**	**-0.7**	
	baz=311							
BOSA	**Boshof**	**117.39**	**203**	PKP	**PKPdf**	**01 52 47.7**	**-0.6**	
	comp=Z,2.0nm,0.8s,baz=165,slow=4.7,SNR=1.4							
MK31	**Makanchi Array**	**117.94**	**310**	*i* PKIKP	**PKPdf**	**01 52 47.0**	**-1.5**	
MKAR	**Makanchi Array**	**117.94**	**310**	PKP	**PKPdf**	**01 52 47.1**	**-1.4**	
	comp=Z,8.4nm,0.7s,baz=103,slow=0.7,SNR=69							
MKAR				PKKPbc	**PKKPbc**	**02 03 09.7**	**+0.5**	
	comp=Z,0.5nm,0.6s,baz=274,slow=5.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**118.17**	**318**	PKP	**PKPdf**	**01 52 47.2**	**-1.5**	
	comp=Z,8.4nm,0.7s,baz=147,slow=1.6,SNR=31							
SHLS	**Shalkode**	**118.90**	**305**	*e*PKIKP	**PKPdf**	**01 52 49.1**	**-1.5**	
SHLS	**Shalkode**	**118.90**	**305**	*e*PKP	**PKPdf**	**01 52 49.2**	**-1.5**	
	baz=306							
PDGK	**Podgornoye**	**118.92**	**306**	PKIKP	**PKPdf**	**01 52 49.2**	**-1.5**	
UZB	**Uzynbulak**	**119.20**	**305**	*e*PKIKP	**PKPdf**	**01 52 50.5**	**-0.7**	
UZB	**Uzynbulak**	**119.20**	**305**	*e*PKP	**PKPdf**	**01 52 50.6**	**-0.7**	
	baz=305							
KPKS	**Kokpek**	**119.53**	**306**	*i* PKIKP	**PKPdf**	**01 52 50.9**	**-0.8**	
KPKS	**Kokpek**	**119.53**	**306**	*i* PKP	**PKPdf**	**01 52 50.9**	**-0.8**	
	baz=306							
SATY	**Saty**	**119.62**	**305**	*i* PKIKP	**PKPdf**	**01 52 51.2**	**-0.8**	
SATY	**Saty**	**119.62**	**305**	*i* PKP	**PKPdf**	**01 52 51.3**	**-0.8**	
	baz=305							
NRIK	**Noril'sk**	**119.71**	**336**	PKP	**PKPdf**	**01 52 50.6**	**-0.6**	
	comp=Z,8.5nm,0.7s,baz=111,slow=2.4,SNR=11							
NRIK	**Noril'sk**	**119.71**	**336**	PKPdf	**PKPdf**	**01 52 50.8**	**-0.4**	
NRIK	**Noril'sk**	**119.71**	**336**	PKIKP	**PKPdf**	**01 52 50.8**	**-0.4**	
TDK	**Taldyqorghan**	**120.11**	**307**	*e*PKIKP	**PKPdf**	**01 52 51.4**	**-1.3**	
TDK	**Taldyqorghan**	**120.11**	**307**	*e*PKP	**PKPdf**	**01 52 51.5**	**-1.3**	
	baz=307							
KSH	**Kashi**	**120.44**	**301**	PKP	**PKiKP**	**01 52 54.5**	**+0.7**	
MDOK	**Medeo**	**120.61**	**305**	*i* PKIKP	**PKPdf**	**01 52 53.0**	**-0.9**	
MDOK	**Medeo**	**120.61**	**305**	*i* PKP	**PKPdf**	**01 52 53.0**	**-0.9**	
	baz=305							
CHKK	**Chushkaly**	**120.82**	**306**	*e*PKIKP	**PKPdf**	**01 52 52.6**	**-1.5**	
CHKK	**Chushkaly**	**120.82**	**306**	*e*PKP	**PKPdf**	**01 52 52.7**	**-1.5**	
	baz=306							
KURK	**Kurchatov**	**121.21**	**314**	PKPdf	**PKPdf**	**01 52 53.8**	**-0.8**	
KURK	**Kurchatov**	**121.21**	**314**	PKIKP	**PKPdf**	**01 52 53.8**	**-0.8**	
KURBB	**Kurchatov Arra**	**121.25**	**314**	PKIKP	PKPdf	01 52 45.1	-10	
KUU	**Kurty**	**121.28**	**306**	*i* PKIKP	**PKPdf**	**01 52 53.8**	**-1.2**	
KUU	**Kurty**	**121.28**	**306**	*i* PKP	**PKPdf**	**01 52 53.8**	**-1.2**	
	baz=306							
AAK	**Ala-Archa**	**122.30**	**304**	PKPdf	**PKPdf**	**01 52 57.0**	**-0.3**	
AAK	**Ala-Archa**	**122.30**	**304**	PKIKP	**PKPdf**	**01 52 57.0**	**-0.3**	
AAK	**Ala-Archa**	**122.30**	**304**	*i* PKPdf	**PKPdf**	**01 52 56.9**	**-0.3**	
	SNR=21							
SGDS	**Sogindy**	**122.39**	**305**	*i* PKIKP	**PKPdf**	**01 52 56.4**	**-0.8**	
SGDS	**Sogindy**	**122.39**	**305**	*i* PKP	**PKPdf**	**01 52 56.4**	**-0.8**	
	baz=305							
BTLS	**Baital**	**123.13**	**306**	*i* PKIKP	**PKPdf**	**01 52 57.8**	**-0.7**	
BTLS	**Baital**	**123.13**	**306**	*i* PKP	**PKPdf**	**01 52 57.8**	**-0.7**	
	baz=306							
KBL	**Kabul**	**124.44**	**293**	PKPdf	**PKiKP**	**01 53 01.9**	**0.0**	
KBL	**Kabul**	**124.44**	**293**	PKIKP	**PKiKP**	**01 53 01.9**	**0.0**	
DZA	**Taraz**	**124.63**	**303**	*e*PKIKP	**PKPdf**	**01 53 00.7**	**-0.8**	
DZA	**Taraz**	**124.63**	**303**	*e*PKP	**PKPdf**	**01 53 00.7**	**-0.8**	
	baz=304							
OTUK	**Ortayu**	**124.84**	**310**	PKIKP	**PKPdf**	**01 53 01.0**	**-0.7**	
BRZS	**Berezniki**	**124.85**	**312**	*i* PKIKP	**PKPdf**	**01 53 00.4**	**-1.2**	
BRZS	**Berezniki**	**124.85**	**312**	*i* PKP	**PKPdf**	**01 53 00.4**	**-1.2**	
	baz=312							
KK31	**Karatay Array**	**125.26**	**304**	PKIKP	**PKPdf**	**01 53 02.1**	**-0.6**	
IUG	**luzhnay**	**125.43**	**302**	*e*PKIKP	**PKPdf**	**01 53 02.8**	**-0.3**	
IUG	**luzhnay**	**125.43**	**302**	*e*PKP	**PKPdf**	**01 53 02.9**	**-0.3**	
	baz=302							
SCHQ	**Schefferville**	**126.05**	**42**	PKP	**PKPdf**	**01 53 03.3**	**-0.5**	
	comp=Z,6.9nm,1.0s,baz=305,slow=2.3,SNR=5.2							
BRVK	**Borovoye**	**126.62**	**316**	PKPdf	**PKPdf**	**01 53 04.9**	**0.0**	
BRVK	**Borovoye**	**126.62**	**316**	PKIKP	**PKPdf**	**01 53 04.9**	**0.0**	
NEEM	**North Greenlan**	**127.13**	**13**	*i* P	**PKPdf**	**01 53 05.6**	**0.0**	
UPNV	**Upernavik**	**127.95**	**19**	*i* P	**PKiKP**	**01 53 07.3**	**-0.2**	
LSZ	**Lusaka**	**128.22**	**212**		**PKPdf**	**01 53 09.3**	**0.0**	
LSZ	**Lusaka**	**128.22**	**212**	PKIKP	**PKPdf**	**01 53 09.3**	**0.0**	
ILULI	**Ilulissat**	**130.83**	**22**	*i* P	**PKPdf**	**01 53 11.5**	**-0.9**	
SPA0	**Spitsbergen Ar**	**131.69**	**356**	*e*PKPdf	**PKPdf**	**01 53 14.2**	**+0.2**	
SPA0				IAmb	IAmb	01 53 14.5		
	comp=Z,16nm,0.8s							
UOSS	**Minazif**	**132.31**	**277**	PKPdf	**PKPdf**	**01 53 16.0**	**-0.6**	
UOSS	**Minazif**	**132.31**	**277**	PKPdf	**PKPdf**	**01 53 15.3**	**-1.3**	
HATD	**Hatta, Dubai**	**132.33**	**277**	*i* PKPdf	**PKPdf**	**01 53 15.9**	**-0.7**	
	SNR=9.0							
ASHO	**Ashiyiah**	**132.35**	**277**	PKPdf	**PKPdf**	**01 53 16.3**	**-0.5**	
MSFE	**Esma-Masafi**	**132.48**	**278**	PKPdf	**PKPdf**	**01 53 15.8**	**-1.2**	
SUMG	**Summit**	**132.60**	**15**	*i* P	**PKPdf**	**01 53 16.0**	**-0.3**	
FAQ	**Al Faqa, Dubai**	**132.77**	**277**	PKPdf	**PKPdf**	**01 53 16.3**	**-1.2**	
NAZ	**Nazwa, Dubai**	**132.79**	**277**	PKPdf	**PKPdf**	**01 53 17.0**	**-0.6**	
AB31	**Akbulak array**	**133.08**	**311**	*i* PKIKP	**PKPdf**	**01 53 17.1**	**-0.2**	
ARU	**Arti**	**133.22**	**321**	PKPdf	**PKPdf**	**01 53 16.8**	**-0.6**	
ARU	**Arti**	**133.22**	**321**	*i* PKIKP	**PKPdf**	**01 53 16.8**	**-0.6**	
ARU						01 55 41.4		
GEYT	**Alibeck**	**133.77**	**295**	PKhKP	PKPpre	01 53 14.0		
	comp=Z,2.9nm,0.8s,baz=279,slow=3.9,SNR=4.7							
GEYT				PKP	**PKPdf**	**01 53 18.8**	**-0.3**	
	comp=Z,12nm,0.7s,baz=236,slow=2.7,SNR=20							
GEYT				SKPbc	**SKPbc**	**01 56 44.7**	**-1.7**	
	comp=Z,9.6nm,1.0s,baz=126,slow=2.0,SNR=7.4							
MZR	**Muzera**	**133.99**	**274**	*i* PKPdf	**PKPdf**	**01 53 19.8**	**-0.1**	
	SNR=5.5							
KMBO	**Kilima Mbogo**	**134.30**	**233**	PKP	**PKiKP**	**01 53 22.4**	**0.0**	
	comp=Z,5.9nm,0.9s,baz=74,slow=4.5,SNR=14							
KMBO				SKPbc	**SKPbc**	**01 56 50.8**	**+1.6**	
	comp=Z,7.9nm,0.9s,baz=135,slow=2.9,SNR=11							
KMBO	**Kilima Mbogo**	**134.30**	**233**	⇑*i* PKIKP	**PKiKP**	**01 53 22.7**	**+0.3**	
KMBO	**Kilima Mbogo**	**134.30**	**233**	*i* PKiKP	**PKiKP**	**01 53 23.0**	**+0.6**	
	SNR=6.6							
ICESG	**Greenland Ices**	**134.45**	**20**	*i* P	**PKPdf**	**01 53 19.1**	**-0.7**	
NRS	**Narsarsuaq**	**136.21**	**31**	*i* P	**PKiKP**	**01 53 27.8**	**+3.4**	
ISOG	**Isortoq, Green**	**136.70**	**24**	*i* P	**PKiKP**	**01 53 27.7**	**+2.4**	
KIRV	**Kirov**	**137.43**	**325**	⇑*e*PKIKP	**PKPdf**	**01 53 24.6**	**-0.5**	
PRGR	**Permogore**	**137.91**	**331**	*e*PKIKP	**PKPdf**	**01 53 24.2**	**-1.7**	
PRGR				pmax	pmax			
	comp=Z,14nm,0.8s							
ARA0	**ARCESS Array S**	**138.61**	**348**	*e*	PKPdf	01 53 19.1	-7.9	
ARA0				IAmb	IAmb	01 53 23.8		
	comp=Z,235nm,2.7s							
ARCES	**ARCESS Array B**	**138.61**	**348**	PKhKP	PKPpre	01 53 18.9		
	comp=Z,6.5nm,0.7s,baz=43,slow=1.9,SNR=16							
ARCES				PKP	**PKPdf**	**01 53 25.7**	**-1.3**	
	comp=Z,8.6nm,0.7s,baz=54,slow=1.6,SNR=6.0							
KTK1	**Kautokeino**	**139.47**	**349**	*e*PKPdf	**PKPdf**	**01 53 28.8**	**+0.2**	
KTK1				IAmb	IAmb	01 53 36.9		
	comp=Z,133nm,2.3s							
TRO	**Tromso**	**139.56**	**351**	*e*	**PKPdf**	**01 53 23.5**	**-5.2**	
TRO				*e*PKPdf	**PKiKP**	**01 53 29.6**	**-1.4**	
TRO				IAmb	IAmb	01 53 30.8		
	comp=Z,11nm,0.8s							
BELG	**Belogornoye**	**140.34**	**317**	*de*PKIKP	**PKPdf**	**01 53 30.2**	**-0.4**	
KLMR	**Klimovskoe**	**140.85**	**332**	*e*PKIKP	**PKPdf**	**01 53 27.0**	**-4.3**	
KLMR				*e*		01 56 27.7		
KLMR				pmax	pmax			
	comp=Z,35nm,0.9s							
KLMR				MLR	MLR			
	comp=Z,356nm,12.0s							
KLMR	**Klimovskoe**	**140.85**	**332**	*e*PKPdf	**PKPdf**	**01 53 27.0**	**-4.3**	
KLMR				AMP		01 53 33.7		
	comp=Z,35nm,0.9s							
KLMR				*e*PP	**PP**	**01 56 27.8**	**-4.2**	
KLMR				LR	LR	02 47 05.4		
KLMR				AMP		02 52 48.9		
	comp=Z,356nm,11.7s							
RAYN	**Ar Rayn**	**141.06**	**271**		PKPpre	01 53 26.0		
RAYN	**Ar Rayn**	**141.06**	**271**	PKHKP	PKPpre	01 53 26.0		
RAYN	**Ar Rayn**	**141.06**	**271**	PKPdf	**PKPdf**	**01 53 26.4**	**-6.5**	
STEI	**Steigen**	**141.63**	**352**	*e*PKPdf	**PKPdf**	**01 53 32.3**	**-0.2**	
MAK	**Makhachkala**	**142.05**	**302**	*e*P	**Pdif**	**01 50 45.8**	**-8.3**	
MAK				*i*		01 53 32.3		
MAK				*e*		01 56 36.2		
MAK				pmax	pmax			
	comp=Z,186nm,0.9s							
FAUS	**Fauske**	**142.15**	**352**	*e*PKPdf	**PKPdf**	**01 53 31.4**	**-2.1**	
FAUS				IAmb	IAmb	01 53 43.3		
	comp=Z,14nm,0.7s							
MOR8	**Moi Rana**	**143.41**	**352**	*e*PKPdf	PKPbc	01 53 33.6	+0.6	
VRH	**Novokhopyorsk**	**144.19**	**317**	*e*PKIKP	**PKPab**	**01 53 35.0**	**-0.3**	
VRH				pmax	pmax			
	comp=Z,30nm,0.7s							
GNI	**Garni**	**144.28**	**298**	PKPdf	**PKPab**	**01 53 36.2**	**-0.1**	
GNI	**Garni**	**144.28**	**298**	PKIKP	**PKPab**	**01 53 36.2**	**-0.1**	
GNI	**Garni**	**144.28**	**298**	PKPdf	PKPbc	01 53 37.0	+0.4	
MOS	**Moscow**	**144.45**	**326**	*e*PKIKP	**PKPab**	**01 53 34.9**	**-1.2**	
MOS				pmax	pmax			
	comp=Z,51nm,0.9s							
TASB	**TASBURUN-IGDIR**	**144.67**	**297**	*e*P	**PKPab**	**01 53 37.7**	**+0.1**	
ZEI	**Tsey**	**144.70**	**302**	*i* PKIKP	**PKPab**	**01 53 37.1**	**-0.7**	
ZEI				pmax	pmax			
	comp=Z,26nm,0.7s							
CLDR	**Caldiran**	**144.95**	**296**	*e*P	**PKPab**	**01 53 38.1**	**-0.8**	
GOF	**Gofitskoye**	**144.97**	**306**	⇑*e*PKIKP	**PKPab**	**01 53 37.5**	**-0.9**	
GOF				pmax	pmax			
	comp=Z,57nm,0.6s							
ONI	**Oni**	**145.05**	**302**	*e*P	**PKPab**	**01 53 39.1**	**+0.2**	
PUL	**Pulkovo**	**145.07**	**335**	*ce*PKIKP	**PKPbc**	**01 53 37.6**	**-0.6**	
PUL				pmax	pmax			
	comp=Z,270nm,0.7s							
AKH	**Akhalkalaki**	**145.14**	**300**	*e*P	**PKPab**	**01 53 39.5**	**+0.1**	
FINES	**FINESS Array B**	**145.20**	**340**	PKP	**PKPbc**	**01 53 37.9**	**-0.8**	
	comp=Z,178nm,0.7s,baz=55,slow=3.4,SNR=572							
CUKT	**Cukurca**	**145.20**	**293**	*e*P	**PKPbc**	**01 53 38.2**	**-1.4**	
LPSR	**Galich'ya Gora**	**145.25**	**320**	*e*PKIKP	**PKPbc**	**01 53 38.3**	**-0.7**	
LPSR				pmax	pmax			
	comp=Z,90nm,0.8s							
NSS	**Namsos**	**145.28**	**353**	*e*PKPbc	**PKPbc**	**01 53 38.2**	**-0.6**	
NSS				IAmb	IAmb	01 53 39.3		
	comp=Z,161nm,1.0s							
OBN	**Obninsk**	**145.29**	**325**		**PKPbc**	**01 53 38.1**	**-0.9**	
OBN	**Obninsk**	**145.29**	**325**	*c* iPKIKP	**PKPbc**	**01 53 38.4**	**-0.7**	
OBN				*e*		01 56 59.5		
OBN				*e*PPP	PPP	02 00 11.6		
OBN				pmax	pmax			
	comp=Z,332nm,1.7s							
KBZ	**Khabaz**	**145.30**	**304**	PKPbc	**PKPbc**	**01 53 39.4**	**-0.1**	
	comp=Z,16nm,0.8s,baz=148,slow=2.1,SNR=26							
VANB	**Van**	**145.37**	**295**	*e*P	**PKiKP**	**01 53 43.7**	**-0.4**	
KIV	**Kislovodsk**	**145.42**	**304**	⇓P	**PKPbc**	**01 53 40.0**	**-0.1**	
KIV	**Kislovodsk**	**145.42**	**304**	*e*P	**PKPbc**	**01 53 38.9**	**-1.1**	
KIV	**Kislovodsk**	**145.42**	**304**		**PKPbc**	**01 53 39.3**	**-0.8**	
KIV	**Kislovodsk**	**145.42**	**304**	⇓PKIKP	**PKPbc**	**01 53 40.0**	**-0.1**	
KIV	**Kislovodsk**	**145.42**	**304**	*i* PKPbc	**PKPbc**	**01 53 39.9**	**-0.1**	
	SNR=12							
VORR	**Voronezh**	**145.47**	**319**	*i* PKIKP	**PKPdf**	**01 53 39.3**	**-0.4**	
VORR				pmax	pmax			
	comp=Z,176nm,1.1s							
NEY	**Neytrino**	**145.50**	**303**	*de*PKIKP	**PKPab**	**01 53 41.0**	**+0.3**	
KARS	**Kars**	**145.52**	**299**	*e*P	**PKPdf**	**01 53 40.5**	**+0.1**	
AGRB	**Hanur-Agry**	**145.65**	**297**	*e*P	**PKPdf**	**01 53 40.9**	**+0.2**	
VSR	**Storozhevoye**	**145.68**	**318**	*e*PKP2	**PKPdf**	**01 53 39.2**	**-0.9**	
VSR				pmax	pmax			
	comp=Z,100nm,0.6s							
AKDM	**Akdamar-Van**	**145.70**	**295**	*e*P	**PKPdf**	**01 53 40.9**	**+0.1**	
SENK	**Senkaya-Erzuru**	**146.08**	**299**	*e*P	**PKPdf**	**01 53 41.6**	**+0.2**	
GURO	**Guroymak-BITLI**	**146.44**	**295**	*e*P	**PKPdf**	**01 53 42.2**	**+0.2**	
KOPR	**Koprukoy-ERZUR**	**146.50**	**298**	*e*P	**PKPbc**	**01 53 43.9**	**+0.3**	
MEF	**Metsahovi**	**146.68**	**340**	*e*P	**PKPdf**	**01 53 41.4**	**0.0**	
TBLU	**Trondheim**	**146.71**	**353**	*e*PKPdf	**PKPdf**	**01 53 41.5**	**0.0**	
TBLU				IAmb	IAmb	01 53 43.5		
	comp=Z,40nm,0.8s							
RAF	**Rauma**	**146.73**	**343**	*e*P	**PKPdf**	**01 53 41.5**	**0.0**	
VRTB	**Varto-Mus**	**146.86**	**296**	*e*P	**PKPdf**	**01 53 43.4**	**+0.7**	
SVAN	**Silvan-Diyarba**	**147.10**	**294**	*e*P	**PKPdf**	**01 53 42.6**	**-0.4**	
VSU	**Vasula**	**147.30**	**336**	*c* iPKP2	**PKPbc**	**01 53 44.3**	**-0.7**	
VSU	**Vasula**	**147.30**	**336**	*e*P	**PKPdf**	**01 53 43.7**	**+1.1**	
VSLR	**Vesyoloye**	**147.40**	**304**	*ce*PKP2	**PKPbc**	**01 53 45.3**	**-0.5**	
BNGB	**Bingl**	**147.47**	**296**	*e*P	**PKPdf**	**01 53 43.6**	**-0.1**	
MOL	**Molde**	**147.60**	**355**	*e*PKPdf	**PKPdf**	**01 53 44.2**	**+1.2**	
MAZI	**Mazidag**	**147.72**	**293**	*e*P	**PKPbc**	**01 53 46.8**	**-0.2**	
BAYT	**Aydıntepe-Bayb**	**147.77**	**299**	*e*P	**PKPbc**	**01 53 47.9**	**+0.8**	
DYBB	**Diyarbakir**	**147.95**	**294**	*e*P	**PKPbc**	**01 53 47.8**	**+0.3**	
KTUT	**Trabzon**	**147.98**	**300**	*e*P	**PKPbc**	**01 53 47.4**	**0.0**	
DOMB	**Dombas**	**148.01**	**354**	*e*PKPbc	**PKPbc**	**01 53 46.3**	**-0.5**	
DOMB				IAmb	IAmb	01 53 46.6		
	comp=Z,30nm,0.8s							
AKN	**Aaknes**	**148.03**	**356**	*e*PKPbc	**PKPbc**	**01 53 47.1**	**+0.2**	
AKN				IAmb	IAmb	01 53 48.1		
	comp=Z,76nm,0.9s							
MTSE	**Matsula**	**148.06**	**339**	*e*P	**PKPbc**	**01 53 46.0**	**-1.0**	
PTK	**Pertek**	**148.48**	**296**	*e*P	**PKPbc**	**01 53 49.9**	**+0.8**	
FOO	**Floro**	**148.71**	**357**	*e*PKPbc	**PKPbc**	**01 53 48.5**	**-0.1**	
FOO				IAmb	IAmb	01 53 49.5		
	comp=Z,48nm,0.8s							
NB2	**NORSAR Subarra**	**148.75**	**352**	PKP	**PKPbc**	**01 53 48.1**	**-0.8**	
	comp=Z,53nm,0.9s,baz=13,slow=2.8							
NB2	**NORSAR Subarra**	**148.75**	**352**	PKP	**PKPbc**	**01 53 48.1**	**-0.8**	
	baz=13,slow=2.8							
NOA	**NORSAR Array B**	**148.75**	**352**	PKPbc	**PKPbc**	**01 53 48.1**	**-0.8**	
	comp=Z,24nm,0.8s,baz=14,slow=4.4,SNR=62							
ANN	**Anapa**	**148.91**	**307**	*i* PKP2	**PKPbc**	**01 53 49.2**	**-0.5**	
ANN				pmax	pmax			
	comp=Z,101nm,0.8s							
NC602	**NORSAR Array S**	**149.01**	**351**	*e*PKPbc	**PKPbc**	**01 53 48.9**	**-0.6**	
NC602				IAmb	IAmb	01 53 49.9		
	comp=Z,46nm,1.0s							
URFA	**Urfa**	**149.01**	**293**	*e*P	**PKPdf**	**01 53 45.6**	**-0.6**	
HYA	**Hoyanger**	**149.09**	**356**	*e*PKPbc	**PKPbc**	**01 53 49.3**	**-0.3**	
SUE	**Sulen**	**149.26**	**358**	*e*PKPdf	**PKPdf**	**01 53 47.3**	**+1.6**	
SUE				IAmb	IAmb	01 53 51.0		
	comp=Z,68nm,0.8s							
ARPR	**Arapgir-MALATY**	**149.28**	**296**	*e*P	**PKiKP**	**01 53 52.0**	**-0.2**	
SKAR	**Skarslia**	**149.42**	**354**	*e*PKPbc	**PKPbc**	**01 53 50.1**	**-0.4**	
SKAR				IAmb	IAmb	01 53 50.9		
	comp=Z,62nm,0.9s							
ISAL	**Salakas**	**149.66**	**333**	*e*P	**PKPbc**	**01 53 51.1**	**-0.1**	
MNK	**Minsk**	**149.68**	**330**	*i* PKHKP	PKPpre	01 53 49.5		
MNK				*i*		01 57 24.5		
MNK				*i*		02 00 50.9		
MNK

CFR	**Carcaliu**	**154.92**	**313**	⇓P	**PKPbc**	**01 54 02.9**	**-0.5**
CFR	**Carcaliu**	**154.92**	**313**	⇓PKIKP	**PKPbc**	**01 54 02.9**	**-0.5**
GHRR		**154.95**	**316**	⇑P	**PKiKP**	**01 54 04.3**	**+0.9**
TESR	**Tescani**	**155.17**	**317**	⇓P	PKPdf	01 54 03.9	+8.8
BORA	**Eskisehir**	**155.17**	**300**	*e*P	PKPdf	01 54 03.7	+8.3
BIZ	**Bicaz**	**155.25**	**319**	⇑P	PKPdf	01 54 04.6	+9.4
TLBR	**Topalu**	**155.26**	**312**	⇓P	PKPdf	01 54 04.7	+9.5
HARR	**Harsova**	**155.27**	**312**	⇑P	PKPdf	01 54 04.0	+8.8
HARR	**Harsova**	**155.27**	**312**	⇑PKIKP	PKPdf	01 54 04.0	+8.8
BURAR	**Bucovina Array**	**155.36**	**321**	⇑P	PKPdf	01 54 04.8	+9.4
BURAR	**Bucovina Array**	**155.36**	**321**	⇑PKIKP	PKPdf	01 54 04.8	+9.4
VRI	**Vrincioaia**	**155.46**	**316**	⇑P	PKPdf	01 54 04.7	+9.2
DBIC	**Dimbokro**	**155.49**	**163**	PKP	**PKPdf**	**01 53 57.2**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=197,slow=11,SNR=1.5						
DBIC				PKPab	**PKPab**	**01 54 23.4**	**+1.5**
	comp=Z,8.4nm,0.7s,baz=188,slow=4.0,SNR=4.6						
TVSB	**Tavsanli**	**156.02**	**300**	*e*P	PKPdf	01 54 04.8	+8.3
DOPR	**Dopca**	**156.20**	**317**	⇑P	PKPdf	01 54 06.6	+10
OJC	**Ojcow**	**156.20**	**331**	*e*PKPdf	**PKPdf**	**01 53 54.9**	**-1.4**
UZH	**Uzhgorod**	**156.23**	**326**	*e*PKIKP	**PKPdf**	**01 54 02.3**	**+6.0**
UZH				*e*		01 54 06.5	
UZH				*e*		01 54 09.7	
CRVS	**Cervenica-Dubn**	**156.44**	**327**	*e*PKP	PKPdf	01 54 07.5	+11
CRVS				*e*		01 54 24.6	
TRPA	**Tarpa**	**156.44**	**325**	⇓P	PKPdf	01 54 05.7	+9.1
NIE	**Niedzica**	**156.59**	**329**	*e*PKPdf	**PKPdf**	**01 53 56.1**	**-0.7**
NIE				*e*PKPab	PKPab	01 54 16.8	-9.1
CAME	**Cameli-Denizli**	**156.62**	**294**	*e*P	PKPdf	01 54 07.3	+10
ARR	**Arges**	**156.97**	**317**	⇑P	**PKPdf**	**01 53 58.3**	**+0.8**
KSP	**Ksiaz**	**157.02**	**337**	*e*PKPdf	PKPdf	01 54 07.8	+11
KSP				*e*PKPab	**PKPab**	**01 54 27.5**	**-0.1**
LANS	**Liptovska Anna**	**157.15**	**330**	*e*PKP2	**PKPab**	**01 54 29.6**	**+1.3**
OSTC	**Ostas**	**157.29**	**337**	*e*PKPDF	**PKPdf**	**01 53 56.7**	**-1.0**
OSTC				⇑*e*PKP	**sPKPdf**	**01 54 07.4**	**+0.3**
OSTC				*e*PKPAB	**PKPab**	**01 54 29.2**	**+0.4**
CHVC	**Chvalec**	**157.32**	**337**	*e*PKPAB	**PKPab**	**01 54 28.1**	**-0.9**
UPC	**Upice**	**157.40**	**337**	*e*PKPAB	**PKPab**	**01 54 29.3**	**0.0**
DPC	**Dobruska-Polom**	**157.43**	**336**	*e*PKPDF	**PKPdf**	**01 53 57.3**	**-0.6**
DPC				⇑*e*PKP	**sPKPdf**	**01 54 13.3**	**+6.0**
DPC				*e*PKPAB	**PKPab**	**01 54 29.4**	**-0.1**
MORC	**Moravsky Berou**	**157.45**	**334**	*e*PKP	**PKPdf**	**01 53 56.2**	**-1.8**
MORC				*e*		01 54 29.3	
KRLC	**Kraliky**	**157.49**	**335**	*e*PKPDF	**PKPdf**	**01 53 58.0**	**0.0**
KRLC				*e*PKPAB	**PKPab**	**01 54 28.9**	**-0.9**
CLL	**Collm**	**157.61**	**342**	⇓*e*PKIKP	PKPdf	01 54 09.0	+11
CLL				pmax	pmax		
	comp=Z,33nm,0.9s						
CLL	**Collm**	**157.61**	**342**	*e*(PKPdif)		01 54 09.0	
CLL				⇓*i*PKPab	**PKPab**	**01 54 29.9**	**-0.2**
	comp=Z,33nm,0.9s						
CLL				*e*PP	**PP**	**01 58 10.0**	**+1.0**
CLL				*e*PPS	PPS	02 11 30.0	
CLL				Lm	MLR	03 03 00.0	
	comp=N,300nm,21.1s						
CLL				Lm	MLR	03 03 00.0	
	comp=E,300nm,18.4s						
MAUC	**Maruska**	**157.67**	**333**	⇑*e*PKP	PKPdf	01 54 09.4	+11
BRG	**Berggiesshubel**	**157.74**	**340**	*e*PKP	**PKPdf**	**01 53 58.0**	**-0.2**
BRG				Amp		01 54 03.1	
	comp=Z,5.2nm,1.2s						
BRG				*i* x	x	01 54 30.7	
BRG				Amp		01 54 31.3	
	comp=Z,30nm,0.8s						
BRG				*i* x	x	01 54 35.5	
BRG				Amp		01 54 35.8	
	comp=Z,15nm,0.9s						
BRG				*ex*	x	01 59 35.3	
BRG				Amp		01 59 37.2	
	comp=Z,3.0nm,0.9s						
BRG	**Berggiesshubel**	**157.74**	**340**	*e*PKIKP	**PKPdf**	**01 53 58.0**	**-0.2**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRG				pmax	pmax		
	comp=Z,30nm,0.8s						
BRG				pmax	pmax		
	comp=Z,15nm,0.9s						
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PVCC	**Panska Ves**	**157.85**	**339**	*e*PKPDF	**PKPdf**	**01 53 58.6**	**+0.2**
PVCC				*e*PKPAB	**PKPab**	**01 54 29.6**	**-1.6**
VYHS	**Vyhne**	**157.92**	**330**	*e*PKIKP	**PKPdf**	**01 53 58.4**	**-0.1**
VYHS				*e*		01 54 31.2	
VYHS	**Vyhne**	**157.92**	**330**	*e*PKP	**PKPdf**	**01 53 58.4**	**-0.1**
VYHS				*e*		01 54 31.2	
JAVC	**Velka Javorina**	**158.13**	**332**	*e*PKP	**PKPdf**	**01 53 58.6**	**-0.3**
JAVC				*e*		01 54 33.0	
VRAC	**Vranov**	**158.19**	**334**	*e*PKP	**PKPdf**	**01 53 58.4**	**-0.5**
VRAC				*e*		01 54 32.5	
GOPC	**GO Pecny, Ondr**	**158.32**	**338**	*e*PKPAB	**PKPab**	**01 54 33.1**	**-0.2**
PRU	**Pruhonice**	**158.33**	**338**	⇑*e*PKP	PKPdf	01 54 10.2	+11
PRU				*e*PKPAB	**PKPab**	**01 54 32.1**	**-1.2**
KRUC	**Moravsky**	**158.47**	**334**	*e*PKP	**PKPdf**	**01 53 58.7**	**-0.5**
KRUC				*e*		01 54 33.5	
SMOL	**Smolenice**	**158.50**	**332**	*e*PKP2	**PKPab**	**01 54 34.7**	**+0.6**
BZS	**Buzias**	**158.55**	**321**	⇓P	**PKPdf**	**01 53 59.0**	**-0.4**
BZS	**Buzias**	**158.55**	**321**	⇓PKIKP	**PKPdf**	**01 53 59.0**	**-0.4**
TREC	**Trest**	**158.61**	**336**	*e*PKPAB	**PKPab**	**01 54 33.9**	**-0.7**
MODS	**Modra-Piesok**	**158.68**	**332**	*e*PKIKP	**PKPdf**	**01 54 02.4**	**+2.9**
MODS				*e*		01 54 33.8	
MODS	**Modra-Piesok**	**158.68**	**332**	*e*PKP	**PKPdf**	**01 54 02.3**	**+2.8**
MODS				*e*		01 54 33.8	
NKC	**Novy Kostel**	**158.74**	**342**	⇑*e*PKP	PKPdf	01 54 14.1	+15
NKC				*e*PKPAB	**PKPab**	**01 54 34.7**	**-0.4**
CSKK	**Cskako**	**159.03**	**328**	PKP	**PKPdf**	**01 54 00.2**	**+0.3**
BLKB	**Belogradchik**	**159.09**	**315**	⇓P	**PKPdf**	**01 54 00.2**	**+0.1**
VTS	**Vitosha**	**159.25**	**312**	PKPab	**PKPab**	**01 54 37.4**	**-0.4**
VTS	**Vitosha**	**159.25**	**312**	PKP2	**PKPab**	**01 54 37.4**	**-0.4**
KHC	**Kasperske Hory**	**159.39**	**339**	PKPab	**PKPab**	**01 54 38.0**	**0.0**
KHC	**Kasperske Hory**	**159.39**	**339**	PKP2	**PKPab**	**01 54 38.0**	**0.0**
KHC	**Kasperske Hory**	**159.39**	**339**	*e*PKPDF	**PKPdf**	**01 53 58.9**	**-1.4**
KHC				*e*PKPAB	**PKPab**	**01 54 37.6**	**-0.4**
KHC				*ex*	x	01 54 50.0	
CKRC	**Cesky Krumlov**	**159.42**	**337**	*e*PKPDF	**PKPdf**	**01 53 59.1**	**-1.2**
CKRC				*e*PKPAB	**PKPab**	**01 54 37.4**	**-0.7**
BEBN	**Eben Emael**	**159.43**	**354**	*d*PKP	**PKPab**	**01 54 37.6**	**-0.4**
MPLH	**Magyarpolny**	**159.50**	**329**	PKP	**PKPdf**	**01 54 00.5**	**+0.1**
GRFO	**Grafenberg**	**159.55**	**343**	PKPab	**PKPab**	**01 54 37.9**	**-0.7**
GRFO	**Grafenberg**	**159.55**	**343**	PKP2	**PKPab**	**01 54 37.9**	**-0.7**
MEM	**Membach**	**159.59**	**353**	*d*PKP	**PKPab**	**01 54 38.0**	**-0.6**
BTNL	**Ternell**	**159.60**	**353**	*d*PKP	**PKPab**	**01 54 38.3**	**-0.5**
GERES	**GERESS Array B**	**159.60**	**338**	PKP	**PKPdf**	**01 54 00.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=46,slow=4.2,SNR=3.9						
GERES				PKPab	**PKPab**	**01 54 38.6**	**-0.3**
	comp=Z,4.7nm,0.7s,baz=38,slow=5.0,SNR=12						
CONA	**Conrad Observa**	**159.60**	**333**	*e*P	**PKPab**	**01 54 39.1**	**0.0**
	comp=Z,9.3nm,0.9s						
RONA	**Rosalia, Austr**	**159.61**	**332**	*e*P	**PKPdf**	**01 54 07.0**	**+6.3**
	comp=Z,6.3nm,1.6s						
RONA				*e*P	**PKPab**	**01 54 38.8**	**-0.2**
	comp=Z,9.7nm,0.9s						
MORH	**Mrgy, Hungar**	**159.69**	**326**	⇑P	**PKPdf**	**01 53 59.8**	**-0.9**
MORH	**Mrgy, Hungar**	**159.69**	**326**	PKP	**PKPdf**	**01 53 59.9**	**-0.7**
BCLA	**Clavier**	**159.84**	**354**	*d*PKP	**PKPab**	**01 54 39.1**	**-0.7**
BHOU	**Houvegnez**	**159.84**	**353**	*d*PKP	**PKPab**	**01 54 39.8**	**0.0**
BGES	**Gesves**	**159.89**	**355**	*d*PKP	**PKPab**	**01 54 39.3**	**-0.7**
BMRD	**Maredsous**	**160.00**	**355**	*d*PKP	**PKPab**	**01 54 40.0**	**-0.5**
KOVH	**Kovagotottos**	**160.04**	**326**	PKP	**PKPdf**	**01 54 00.5**	**-0.6**
RCHB	**Rochefort**	**160.11**	**354**	*d*PKP	**PKPab**	**01 54 40.3**	**-0.6**
DOU	**Dourbes**	**160.22**	**356**	*d*PKP	**PKPab**	**01 54 40.9**	**-0.6**
MOA	**Molln**	**160.26**	**336**	*e*P	**PKPab**	**01 54 41.8**	**0.0**
	comp=Z,14nm,1.4s						
WLF	**Walferdange**	**160.50**	**352**	*d*PKP	**PKPab**	**01 54 42.2**	**-0.5**
BIOA	**Bad Ischl, Aus**	**160.62**	**336**	*i* P	**PKPab**	**01 54 43.6**	**+0.2**
	comp=Z,15nm,0.9s,SNR=7.4						
SOKA	**Soboth**	**160.95**	**332**	*e*P	**PKPab**	**01 54 44.5**	**-0.4**
	comp=Z,5.5nm,0.6s						
KBA	**Koelnbreinsper**	**161.25**	**336**	*e*P	**PKPab**	**01 54 47.2**	**+0.9**
	comp=Z,11nm,0.6s						
OBKA	**Obir**	**161.28**	**333**	*e*P	**PKPab**	**01 54 44.9**	**-1.5**
	comp=Z,3.7nm,0.8s						
BFO	**Black Forest**	**161.47**	**347**	PKPab	**PKPab**	**01 54 45.5**	**-1.5**
BFO	**Black Forest**	**161.47**	**347**	PKP2	**PKPab**	**01 54 45.5**	**-1.5**
MYKA	**Terra Mystica**	**161.52**	**335**	*e*P	**PKPab**	**01 54 46.4**	**-1.0**
	comp=Z,13nm,0.8s						
WATA	**Walderalm**	**161.60**	**340**	*i* P	**PKPab**	**01 54 47.6**	**-0.2**
	comp=Z,16nm,0.7s,SNR=6.3						
WTTA	**Wattenberg**	**161.65**	**339**	*i* P	**PKPab**	**01 54 47.8**	**-0.3**
	comp=Z,26nm,0.7s,SNR=5.8						
RETA	**Reutte**	**161.70**	**341**	*i* P	**PKPab**	**01 54 47.9**	**-0.2**
	comp=Z,32nm,0.9s,SNR=12						
MOTA	**Moosalm**	**161.73**	**341**	*i* P	**PKPab**	**01 54 48.1**	**-0.3**
	comp=Z,44nm,1.0s,SNR=8.6						
SQTA	**Sankt Quirin**	**161.81**	**340**	*i* P	**PKPab**	**01 54 48.5**	**-0.2**
	comp=Z,29nm,0.9s,SNR=9.9						
ABTA	**Abfaltersbach**	**161.82**	**337**	*e*P	**PKPdf**	**01 54 02.8**	**-0.3**
	comp=Z,3.6nm,1.0s						
ABTA				*e*P	**PKPab**	**01 54 47.7**	**-1.1**
	comp=Z,15nm,0.8s						
DAVA	**Damuels**	**162.12**	**343**	*i* P	**PKPab**	**01 54 49.9**	**-0.1**
	comp=Z,29nm,0.8s,SNR=9.5						
FETA	**Feichten**	**162.13**	**341**	*e*P	**PKPdf**	**01 54 02.4**	**-1.1**
	comp=Z,4.2nm,1.0s						
FETA				*i* P	**PKPab**	**01 54 50.3**	**+0.2**
	comp=Z,20nm,1.4s,SNR=5.1						
CLF	**Chambon-Foret**	**162.36**	**0**		**PKPab**	**01 54 51.1**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**162.63**	**341**	PKPab	**PKPab**	**01 54 51.8**	**-0.6**
TOA0	**Torodi Ar. Sit**	**162.86**	**178**		**PKPdf**	**01 54 05.1**	**+0.2**
TOA0				PKPab	**PKPab**	**01 54 53.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**162.86**	**178**	PKP	**PKPdf**	**01 54 05.2**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=336,slow=0.8,SNR=6.5						
TORD				PKPab	**PKPab**	**01 54 55.0**	**+1.2**
	comp=Z,30nm,0.8s,baz=214,slow=2.0,SNR=6.1						
KOWA	**Kowa**	**163.17**	**158**	PKP	**PKPdf**	**01 54 05.3**	**+0.1**
	comp=Z,8.4nm,1.1s,baz=249,slow=5.6,SNR=9.6						
KOWA				PKPab	**PKPab**	**01 54 56.6**	**+1.4**
	comp=Z,3.3nm,0.6s,baz=241,slow=2.9,SNR=4.1						
KOWA	**Kowa**	**163.17**	**158**		**PKPdf**	**01 54 05.4**	**+0.2**
TEOL	**Teolo**	**163.32**	**336**	PKPdf	**PKPdf**	**01 54 03.7**	**-0.8**
BNI	**Bardonecchia**	**164.94**	**348**	PKPab	**PKPab**	**01 55 00.8**	**-1.6**
BNI	**Bardonecchia**	**164.94**	**348**	PKP2	**PKPab**	**01 55 00.9**	**-1.6**
PCAB	**Cabril**	**165.95**	**34**	*e*PKPdf	**PKPdf**	**01 54 08.0**	**+1.0**
POLO	**Lamas de Olo**	**166.32**	**34**	*e*PKPdf	**PKPdf**	**01 54 11.3**	**+3.9**
POLO	**Lamas de Olo**	**166.32**	**34**	*e*PKPab	**PKPab**	**01 55 09.0**	**+0.3**
PVRL	**Vila Real**	**166.43**	**34**	*e*PKPdf	**PKPdf**	**01 54 08.5**	**+1.1**
PBRG	**Braganca**	**166.46**	**30**	*e*PKPab	**PKPab**	**01 55 09.1**	**-0.1**
MVO	**Moncorvo**	**166.84**	**32**	*e*PKPdf	**PKPdf**	**01 54 08.8**	**+1.0**
MVO	**Moncorvo**	**166.84**	**32**	*e*PKPab	**PKPab**	**01 55 11.1**	**+0.1**
PCAS	**Casmilo, Conde**	**166.93**	**39**	*e*PKPdf	**PKPdf**	**01 54 10.1**	**+2.3**
MTE	**Manteigas**	**167.18**	**36**	*e*PKPdf	**PKPdf**	**01 54 10.6**	**+2.6**
MTE	**Manteigas**	**167.18**	**36**	*e*PKPab	**PKPab**	**01 55 12.8**	**+0.3**
PCBR	**Castelo Branco**	**167.63**	**38**	*e*PKPdf	**PKPdf**	**01 54 09.2**	**+0.9**
PMRV	**Marv??o**	**167.97**	**39**	*e*PKPdf	**PKPdf**	**01 54 09.3**	**+0.7**
PMRV	**Marv??o**	**167.97**	**39**	*e*PKPab	**PKPab**	**01 55 16.0**	**0.0**
PNCL	**Nicolau / Gran**	**168.18**	**46**	*e*PKPdf	**PKPdf**	**01 54 09.9**	**+1.2**
EVO	**Evora**	**168.23**	**43**	*e*PKPdf	**PKPdf**	**01 54 06.3**	**-2.4**
PBEJ	**Beja**	**168.64**	**45**	*e*PKPdf	**PKPdf**	**01 54 09.6**	**+0.6**
PBAR	**Barrancos**	**169.04**	**42**	*e*PKPdf	**PKPdf**	**01 54 10.6**	**+1.3**
ESDC	**Sonseca Array**	**169.40**	**27**	PKP	**PKPdf**	**01 54 10.0**	**+0.5**
	comp=Z,3.1nm,1.1s,baz=320,slow=2.3,SNR=8.3						
ESDC				PKPab	**PKPab**	**01 55 21.3**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=326,slow=4.3,SNR=4.5						
KEST	**Kesra**	**172.02**	**314**	PKPab	**PKPab**	**01 55 33.8**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=282,slow=9.2,SNR=2.2						
MDT	**Midelt**	**173.63**	**66**	PKP	**PKPdf**	**01 54 13.1**	**+1.2**
	baz=260,slow=6.1						

THE 29 01:51:16.8, 38.52N×20.59E, h10km±1km, ML1.0/2, Error ellipse: s-maj=2.1km s-min=0.4km az=107.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.07**	**197**	P	Pg	01 51 19.1	+0.1
FSK				S	Sg	01 51 20.5	-0.1
	228nm,0.2s						
EVGI	**Lefkada island**	**0.11**	**29**	P	Pg	01 51 19.5	-0.1
EVGI				S	Sg	01 51 21.8	+0.2
	75nm,0.1s						
DRAG	**Dragano-Lefkad**	**0.16**	**357**	P	Pg	01 51 20.1	-0.3
DRAG				S	Sg	01 51 23.0	+0.1
LKD2	**Lefkada island**	**0.27**	**12**	P	Pg	01 51 22.1	-0.2
LKD2				S	Sg	01 51 26.5	+0.5
KEF4	**Livadi, Kephal**	**0.29**	**206**	P	Pg	01 51 22.4	-0.3
KEF4				S	Sg	01 51 27.5	+0.8

*NEIC **29** 02:09:57.6±1.3, 5.6N±0.1×120.4E±0.3, h15km±7km, mb4.3/13, Error ellipse: s-maj=49.0km s-min=14.6km az=82.0*
*IDC **29** 02:11:08.0±18.0, 2.57N×121.75E, h529km±269km, mb3.0/5, mbtmp4.0/5, Error ellipse: s-maj=145.8km s-min=41.9km az=53.0*
ISC 29 02:09:52.4±2.1, 5.6N±0.1×119.5E±0.5, h10km, n21, σ2s05/21, mb4.2/11, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**21.66**	**148**	P	**P**	**02 14 47.8**	**+4.4**
KNRA	**Kununurra**	**23.03**	**157**	P	**P**	**02 14 59.8**	**+1.9**
KNRA				IAmb	IAmb	02 15 00.9	
	comp=Z,5.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.30**	**166**	P	**P**	**02 15 13.3**	**+3.1**
	comp=Z,2.4nm,1.1s,baz=360,slow=6.8,SNR=1.5						
	comp=Z,2.4nm,1.1s						
MBWA	**Marble Bar**	**26.57**	**179**	P	**P**	**02 15 26.9**	**-3.8**
MBWA				IAmb	IAmb	02 15 32.5	
	comp=Z,7.8nm,0.9s						
PSA00	**Pilbara Seismi**	**26.98**	**179**	P	**P**	**02 15 38.5**	**+4.0**
PSA00				IAmb	IAmb	02 15 51.9	
	comp=Z,5.9nm,0.9s						
WB0	**Warramunga Arr**	**29.15**	**150**	P	**P**	**02 15 53.8**	**-0.2**
WRAB	**Tennant Creek**	**29.27**	**150**	P	**P**	**02 15 54.9**	**-0.1**
WRAB				IAmb	IAmb	02 15 55.6	
	comp=Z,4.2nm,0.5s						
WRA	**Warramunga Arr**	**29.27**	**150**	P	**P**	**02 15 54.9**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=334,slow=9.5,SNR=88						
	comp=Z,2.8nm,0.4s						
WRA	**Warramunga Arr**	**29.27**	**150**	P	**P**	**02 15 53.4**	**-1.7**
WB2	**Warramunga Arr**	**29.28**	**150**	P	**P**	**02 15 54.6**	**-0.5**
WR0	**Warramunga Arr**	**29.39**	**150**	P	**P**	**02 15 55.5**	**-0.6**
WR0				IAmb	IAmb	02 15 56.4	
	comp=Z,3.8nm,0.9s						
AS31	**Alice Springs**	**32.30**	**155**	P	**P**	**02 16 22.6**	**+0.8**
ASAR	**Alice Springs**	**32.30**	**155**	P	**P**	**02 16 21.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=326,slow=7.6,SNR=12						
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**32.30**	**155**	P	**P**	**02 16 22.4**	**+0.7**
ERM	**Erimo**	**41.97**	**27**	P	**P**	**02 17 43.1**	**-0.4**
STKA	**Stephens Creek**	**42.80**	**152**	P	**P**	**02 17 49.8**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=344,slow=9.8,SNR=5.0						
	comp=Z,1.7nm,0.4s						
STKA	**Stephens Creek**	**42.80**	**152**	P	**P**	**02 17 49.5**	**-1.0**
EIDS	**Eidsvold**	**43.47**	**136**	P	**P**	**02 17 54.5**	**-1.5**
EIDS				IAmb	IAmb	02 18 13.9	
	comp=Z,5.3nm,1.1s						
YSS	**Yuzh-Sakhalins**	**45.85**	**22**	P	**P**	**02 18 15.9**	**+1.2**
ARMA	**Armidale**	**47.22**	**141**	P	**P**	**02 18 26.8**	**+0.9**
ARMA				IAmb	IAmb	02 18 35.0	
	comp=Z,2.2nm,0.9s						
BKZ	**Black Stump Fm**	**68.88**	**136**	P	**P**	**02 20 56.4**	**-1.2**

*IDC **29** 02:39:56.4±7.8, 50.39N×149.89E, h498km±73km, mb2.8/7, mbtmp3.8/8, Error ellipse: s-maj=82.6km s-min=18.8km az=175.0*
ISC 29 02:39:56.5±2.0, 50.4N±0.3×149.9E±0.2, h500km, n8, σ0s64/8, mb3.3/7, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	**Seymchan**	**12.67**	**5**	P	**P**	**02 42 42.1**	**+0.3**
	3.7nm,0.4s,baz=181,slow=12,SNR=9.6						
ILAR	**Eielson Array**	**35.16**	**42**	P	**P**	**02 46 06.8**	**-0.4**
	0.4nm,0.7s,baz=265,slow=8.7,SNR=8.0						
	0.4nm,0.7s						
INK	**Inuvik**	**39.81**	**34**	P	**P**	**02 46 44.9**	**-0.3**
	1.1nm,0.5s,baz=287,slow=6.5,SNR=7.5						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**43.46**	**293**	P	**P**	**02 47 14.3**	**-0.2**
	0.5nm,0.6s,baz=63,slow=7.5,SNR=4.7						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**46.95**	**306**	P	**P**	**02 47 41.3**	**+0.2**
	0.7nm,0.6s,baz=55,slow=11,SNR=3.1						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**59.84**	**332**	P	**P**	**02 49 12.5**	**-0.1**
	3.4nm,0.9s,baz=40,slow=7.5,SNR=7.7						
	3.4nm,0.9s						
PDAR	**Pinedale Array**	**64.33**	**53**	P	**P**	**02 49 41.8**	**-0.7**
	0.3nm,0.5s,baz=62,slow=2.1,SNR=3.5						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**77.53**	**59**	P	**P**	**02 51 01.4**	**+1.0**
	0.2nm,0.8s,baz=265,slow=4.4,SNR=2.9						
	0.2nm,0.8s						

*IDC **29** 02:44:59.8±2.0, 5.96S×150.77E, h49km±20km, mb3.6/4, mbtmp4.0/6, ML2.8/2, Error ellipse: s-maj=98.4km s-min=14.2km az=132.0*
ISC 29 02:44:58.7±1.8, 6.3S±0.3×151.2E±0.4, h50km, n7, σ0s78/9, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.17**	**21**	P	**Pn**	**02 45 31.9**	**-0.5**
	26nm,0.3s,baz=322,slow=0.7,SNR=18						
KRVT				S	**Sn**	**02 45 59.2**	**+1.1**
	321nm,0.3s,baz=234,slow=22,SNR=31						
	51nm,0.3s						
PMG	**Port Moresby**	**5.06**	**233**	P	**Pn**	**02 46 13.0**	**+0.9**
	6.5nm,0.3s,baz=46,slow=10,SNR=5.6						
PMG				S	**Sn**	**02 47 08.4**	**-0.8**
	8.5nm,0.4s,baz=209,slow=19,SNR=1.6						
	14nm,0.3s						
WRA	**Warramunga Arr**	**21.26**	**229**	P	**P**	**02 49 40.6**	**-0.4**
	2.7nm,0.8s,baz=52,slow=11,SNR=22						
	2.7nm,0.8s						
ASAR	**Alice Springs**	**23.97**	**222**	P	**P**	**02 50 09.1**	**+0.3**
	1.3nm,0.6s,baz=58,slow=9.0,SNR=16						
	1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.56**	**243**	P	**P**	**02 50 40.7**	**-0.5**
	2.0nm,0.6s,baz=359,slow=5.4,SNR=8.6						
	2.0nm,0.6s						
ILAR	**Eielson Array**	**84.16**	**22**	P	**P**	**02 57 24.3**	**0.0**
	0.7nm,0.6s,baz=249,slow=5.2,SNR=16						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.25**	**285**	PKPbc	**PKPbc**	**03 04 42.8**	**-0.2**
	15nm,0.6s,baz=71,slow=2.5,SNR=5.1						

*GUC **29** 02:46:15.9±0.6, 23.38S×69.11W, h98km±3km, ML3.5*
*VAO **29** 02:46:16.5±1.2, 23.21S×69.14W, h98km±5km, mb4.0*
*IDC **29** 02:46:18.1±1.9, 23.09S×68.81W, h96km±13km, mb4.1/2, mbtmp4.2/4, Error ellipse: s-maj=46.0km s-min=25.2km az=178.0*
ISC 29 02:46:16.1±0.8, 23.36S±0.04×69.11W±0.05, h95km±7km, n45, σ0s96/53, 5C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.36**	**294**	⇑*i* P	**Pn**	**02 46 30.7**	**-0.1**
PB15				*i* S	**Sn**	**02 46 41.8**	**+0.1**
LVC	**Limon Verde**	**0.77**	**14**	P	**Pn**	**02 46 33.9**	**-0.3**
	166nm,0.3s,baz=164,slow=9.4,SNR=1535						
LVC				S	**Sn**	**02 46 47.2**	**-0.4**
	819nm,0.3s,baz=205,slow=23,SNR=163						
LVC	**Limon Verde**	**0.77**	**14**	⇓*i* P	**Pn**	**02 46 33.6**	**-0.6**
LVC				*i* S	**Sn**	**02 46 47.1**	**-0.5**
LVC	**Limon Verde**	**0.77**	**14**	*e*P	**Pn**	**02 46 34.0**	**-0.1**
PB06	**IPOC Station P**	**0.78**	**327**	⇑*i* P	**Pn**	**02 46 34.2**	**+0.2**
PB06				*i* S	**Sn**	**02 46 47.6**	**+0.2**
PB06				IAML		02 46 48.6	
	comp=E,4μm,0.5s						
AF01	**San Pedro de A**	**0.95**	**65**	⇓*i* P	**Pn**	**02 46 35.9**	**0.0

TRKS				⇓*i*S		**Sn**	**02 54 10.9**	**+0.3**
	baz=17								
MRKS	**Merke**	**3.15**	**356**	*e*P		**Pb**	**02 53 51.2**	**+0.6**
	9.8nm,0.3s								
MRKS				*e*S		**Sb**	**02 54 32.0**	**+2.5**
	32nm,0.5s								
MRKS	**Merke**	**3.15**	**356**	Pg		**Pb**	**02 53 51.2**	**+0.6**
	9.8nm,0.3s								
MRKS				Lg		Lg	02 54 32.0		
	32nm,0.5s								
IUG	**luzhnay**	**3.68**	**315**	*e*P		**Pb**	**02 53 57.8**	**-1.8**
	2.3nm,0.1s								
IUG				*e*S		**Sb**	**02 54 43.1**	**-1.6**
	28nm,0.3s								
IUG	**luzhnay**	**3.68**	**315**	Pg		**Pb**	**02 53 57.8**	**-1.8**
	92nm,0.4s								
IUG				Lg		Lg	02 54 43.8		
	28nm,0.3s								
KST	**Kastek**	**3.89**	**27**	*e*P		**Pg**	**02 54 07.5**	**-1.0**
	3.6nm,0.4s								
KST				*e*S		**Sg**	**02 55 00.1**	**+1.2**
	18nm,0.8s								
KST	**Kastek**	**3.89**	**27**	Pg		**Pg**	**02 54 07.5**	**-1.0**
	3.6nm,0.4s								
KST				Lg		Lg	02 55 00.2		
	18nm,0.8s								
DGS	**Degeres**	**4.01**	**24**	*e*P		**Pg**	**02 54 09.2**	**-1.4**
	4.8nm,0.3s								
DGS				*e*S		**Sg**	**02 55 03.2**	**+0.7**
	16nm,0.7s								
DGS	**Degeres**	**4.01**	**24**	Pg		**Pg**	**02 54 09.2**	**-1.4**
	4.8nm,0.3s								
DGS				Lg		Lg	02 55 03.2		
	16nm,0.7s								
KK31	**Karatay Array**	**4.18**	**328**	⇓Pn		**Pb**	**02 54 03.3**	**-4.7**
	0.4nm,0.3s,baz=131,slow=13,SNR=8.4								
KK31				⇑Pg		**Pg**	**02 54 13.3**	**-0.6**
	2.0nm,0.5s,baz=139,slow=14,SNR=7.5								
KK31				⇓Sn		**Sb**	**02 54 53.3**	**-5.7**
	1.5nm,0.3s,baz=137,slow=26,SNR=3.6								
KK31				⇑Lg		Lg	02 55 08.8		
	3.6nm,0.5s,baz=144,slow=30,SNR=3.6								
TNSS	**Tian-Shan**	**4.29**	**36**	*e*P		**Pg**	**02 54 15.7**	**-0.3**
	3.9nm,0.4s								
TNSS				*e*S		**Sg**	**02 55 14.1**	**+2.6**
	7.1nm,0.7s								
TNSS	**Tian-Shan**	**4.29**	**36**	Pg		**Pg**	**02 54 15.7**	**-0.3**
	3.9nm,0.4s								
TNSS				Lg		Lg	02 55 14.1		
	7.1nm,0.7s								
KRBS	**Karabastau**	**4.39**	**21**	*e*P		**Pg**	**02 54 17.0**	**-1.1**
	2.8nm,0.2s								
KRBS				*e*S		**Sg**	**02 55 16.6**	**+1.7**
	9.1nm,0.6s								
KRBS	**Karabastau**	**4.39**	**21**	Pg		**Pg**	**02 54 17.0**	**-1.1**
	2.8nm,0.2s								
KRBS				Lg		Lg	02 55 16.6		
	9.1nm,0.6s								
MDOK	**Medeo**	**4.43**	**35**	*e*P		**Pg**	**02 54 17.3**	**-1.5**
	4.3nm,0.3s								
MDOK				*e*S		**Sg**	**02 55 17.0**	**+0.9**
	7.3nm,0.5s								
MDOK	**Medeo**	**4.43**	**35**	Pg		**Pg**	**02 54 17.3**	**-1.5**
	4.3nm,0.3s								
MDOK				Lg		Lg	02 55 17.0		
	7.3nm,0.5s								
KOTS	**Kotyrbulak**	**4.52**	**35**	*e*P		**Pg**	**02 54 19.2**	**-1.1**
	0.7nm,0.4s								
KOTS				*e*S		**Sg**	**02 55 20.4**	**+1.5**
	16nm,0.3s								
KOTS	**Kotyrbulak**	**4.52**	**35**	Pg		**Pg**	**02 54 19.2**	**-1.1**
	0.7nm,0.4s								
KOTS				Lg		Lg	02 55 20.3		
	16nm,0.3s								
KTBS	**Karatobe**	**4.74**	**29**	*e*P		**Pg**	**02 54 23.2**	**-1.3**
	3.1nm,0.3s								
KTBS				*e*S		**Sg**	**02 55 27.2**	**+1.3**
	16nm,0.5s								
KTBS	**Karatobe**	**4.74**	**29**	Pg		**Pg**	**02 54 23.2**	**-1.3**
	3.1nm,0.3s								
KTBS				Lg		Lg	02 55 27.2		
	16nm,0.5s								
KUU	**Kurty**	**4.77**	**25**	*e*P		**Pg**	**02 54 23.5**	**-1.8**
	2.2nm,0.3s								
KUU				⇑*i*S		**Sg**	**02 55 27.8**	**+0.6**
	9.1nm,0.3s								
KUU	**Kurty**	**4.77**	**25**	Pg		**Pg**	**02 54 23.5**	**-1.8**
	2.2nm,0.3s								
KUU				Lg		Lg	02 55 27.8		
	9.1nm,0.3s								
CHKK	**Chushkaly**	**4.97**	**30**	*e*P		**Pg**	**02 54 27.6**	**-1.5**
	2.2nm,0.4s								
CHKK				*e*S		**Sg**	**02 55 34.1**	**+0.7**
	8.7nm,0.6s								
BTLS	**Baital**	**5.45**	**4**	*e*P		**Pg**	**02 54 35.6**	**-2.6**
	0.9nm,0.2s								
BTLS				*e*S		**Sg**	**02 55 48.0**	**-0.9**
	3.0nm,0.5s								
KPKS	**Kokpek**	**5.46**	**43**	*e*P		**Pg**	**02 54 38.5**	**0.0**
	1.9nm,0.3s								
KPKS				*e*S		**Sg**	**02 55 53.2**	**+4.0**
	5.1nm,0.3s								
KPKS	**Kokpek**	**5.46**	**43**	Pg		**Pg**	**02 54 38.5**	**0.0**
	1.9nm,0.3s								
KPKS				Lg		Lg	02 55 53.2		
	5.1nm,0.3s								
ARXS	**Arharly**	**5.61**	**33**	*e*P		**Pg**	**02 54 41.5**	**+0.2**
	4.5nm,0.4s								
ARXS				*e*S		**Sg**	**02 55 58.8**	**+4.8**
	8.0nm,0.6s								
ARXS	**Arharly**	**5.61**	**33**	Pg		**Pg**	**02 54 41.5**	**+0.2**
	4.5nm,0.4s								
ARXS				Lg		Lg	02 55 58.7		
	8.0nm,0.6s								

*IDC **29** 02:58:39.9±1.3,2°.53S×140°.85E,h0km,mb3.5/5, mbtmp3.6/6,ML3.4/1,MS3.0/1,Error ellipse: s-maj=55.8km s-min=24.2km az=102.0*

ISC 29 02:58:44.5±1.2,2°.6S±0°.2×140°.9E±0°.4,h31km,n7,σ1§01/6, mb3.6/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.42**	**200**	P	**Pn**	**03 02 57.9**	**+0.3**
	0.1nm,0.3s,baz=16,slow=12,SNR=10						
	1.6nm,0.8s						
KAPI	**Kappang**	**21.21**	**263**	LR	LR	03 12 03.4	
	comp=Z,42nm,20.4s,baz=228,slow=38						
FITZ	**Fitzroy Crossi**	**21.48**	**223**	P	**P**	**03 03 29.5**	**-1.2**
	2.2nm,0.9s,baz=38,slow=0.4,SNR=3.6						
	2.2nm,0.9s						
ASAR	**Alice Springs**	**22.04**	**197**	P	**P**	**03 03 37.1**	**+0.4**
	0.8nm,0.5s,baz=27,slow=12,SNR=10						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**71.00**	**322**	P	**P**	**03 10 00.1**	**+0.8**
	0.5nm,0.8s,baz=100,slow=6.7,SNR=3.9						
	0.5nm,0.8s						
VNDA	**Vanda**	**75.75**	**175**	P	**P**	**03 10 27.0**	**+0.3**
	0.5nm,0.8s,baz=335,slow=3.9,SNR=4.1						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**84.81**	**24**	P	**P**	**03 11 14.9**	**-0.8**
	0.3nm,0.8s,baz=265,slow=6.4,SNR=4.1						
	0.3nm,0.8s						

IDC 29 03:13:15.1±1.3,12°.79N×145°.27E,h0km,mb3.5/4, mbtmp3.5/4,MS3.3/4,Error ellipse: s-maj=44.8km s-min=16.7km az=80.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.88**	**334**	LR	LR	03 13 30.6	
	comp=Z,48nm,20.9s,baz=164,slow=18						
GUMO				Pn	Pn	03 13 35.9	+1.1
	218nm,0.3s,baz=280,slow=5.7,SNR=41						
GUMO				Sn	Sn	03 13 47.3	-1.0
	702nm,0.3s,baz=344,slow=20,SNR=43						
DAV	**Davao City (W)**	**20.20**	**256**	LR	LR	03 25 50.0	
	comp=Z,38nm,20.9s,baz=74,slow=37						
CTA	**Charters Tower**	**32.69**	**178**	LR	LR	03 32 32.6	
	comp=Z,78nm,18.4s,baz=260,slow=35						
WRA	**Warramunga Arr**	**34.26**	**198**	P	P	03 20 03.9	+0.7
	0.9nm,0.9s,baz=20,slow=9.6,SNR=4.4						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**37.90**	**197**	P	P	03 20 33.0	-1.3
	0.3nm,0.7s,baz=17,slow=10,SNR=1.6						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.88**	**283**	LR	LR	03 40 58.0	
	comp=Z,16nm,18.6s,baz=295,slow=37						
MKAR	**Makanchi Array**	**62.33**	**316**	P	P	03 23 39.0	-0.4
	0.2nm,0.5s,baz=93,slow=8.8,SNR=2.0						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**69.12**	**25**	P	P	03 24 22.7	-0.2
	0.5nm,0.6s,baz=257,slow=6.2,SNR=6.1						
	0.5nm,0.6s						
BBB	**Bella Bella**	**77.95**	**39**	LR	LR	03 56 55.5	
	comp=Z,30nm,19.1s,baz=58,slow=34						

*IDC **29** 03:21:59.8±1.7,27°.42N×128°.48E,h42km±15km,mb3.7/13, mbtmp3.9/14,ML3.4/1,MS3.3/5,Error ellipse: s-maj=33.3km s-min=16.8km az=79.0*
*JMA **29** 03:22:00.3±0.1,27°.4N±0°.5×128°.6E±0°.8,h43km,MV3.9/23, NEAR OKINAWAJIMA ISLAND*
JMA Felt III J1 at NEAR OKINAWAJIMA ISLAND .
*NEIC **29** 03:22:00.1±0.9,27°.41N±0°.08×128°.6E±0°.1,h45km±9km, mb4.6/15,Error ellipse: s-maj=18.2km s-min=8.2km az=122.0*
*NIED **29** 03:22:00.3,27°.41N×128°.64E,h43km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.77; Mθθ-0.43; Mφφ-0.34; Mrθ0.54; Mθφ-0.54; Mφr0.12; Fault plane solution: M₀1.02000×10¹⁵ NP1: φs209.00000°,δ33.00000°,λ58.00000°. NP2:φs65.00000°, δ62.00000°,λ109.00000°.*

ISC 29 03:21:59.6±0.8,27°.35N±0°.04×128°.70E±0°.05,h45km±6km, n67,σ1§06/72,mb4.2/22,MS3.3/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.12**	**274**	P	**Pn**	**03 22 07.1**	**+0.3**
JOKE				S	**Sn**	**03 22 11.8**	**-0.2**
JYRO	**Yoronjima**	**0.40**	**215**	P	**Pn**	**03 22 10.1**	**+0.8**
JYRO				S	**Sn**	**03 22 16.6**	**+0.5**
JTK	**Tokunoshima**	**0.48**	**27**	P	**Pn**	**03 22 10.6**	**+0.3**
JTK				S	**Sn**	**03 22 17.6**	**-0.4**
JOW	**Kunigami**	**0.65**	**216**	P	**Pn**	**03 22 13.2**	**+0.8**
	1μm,0.3s,baz=84,slow=20,SNR=2065						
JOW				S	**Sn**	**03 22 22.4**	**+0.8**
	3μm,0.3s,baz=53,slow=20,SNR=124						
JOW	**Kunigami**	**0.65**	**216**	P	**Pn**	**03 22 13.2**	**+0.8**
JOW				*e*S	**Sn**	**03 22 22.7**	**+1.1**
JIH	**Iheya**	**0.73**	**244**	P	**Pn**	**03 22 13.9**	**+0.4**
JIH				S	**Sn**	**03 22 23.6**	**+0.1**
JAMN	**Amaminishikomi**	**0.98**	**25**	*i* P	**Pn**	**03 22 17.1**	**+0.2**
JAMN				*e*S	**Sn**	**03 22 29.9**	**+0.3**
JNTH	**Nagotoyohara**	**1.03**	**216**	P	**Pn**	**03 22 19.0**	**+1.5**
JNTH				S	**Sn**	**03 22 32.5**	**+1.6**
JAM	**Amami Oshima**	**1.32**	**37**	*i* P	**Pn**	**03 22 22.6**	**+1.1**
JAM				*e*S	**Sn**	**03 22 39.8**	**+1.8**
JZK	**Kikaishima**	**1.48**	**49**	P	**Pn**	**03 22 25.7**	**+2.0**
JZK				S	**Sn**	**03 22 45.2**	**+3.5**
JAGN	**Aguni-jima**	**1.51**	**240**	P	**Pn**	**03 22 25.1**	**+1.0**
JTAJ	**Takarajima**	**1.85**	**14**	*i* P	**Pn**	**03 22 28.7**	**-0.1**
JTAJ				*e*S	**Sn**	**03 22 49.7**	**-1.2**
JKE	**Kume jima 2**	**2.00**	**240**	P	**Pn**	**03 22 31.6**	**+0.8**
JNN	**Nakanoshima**	**2.68**	**22**	P	**Pn**	**03 22 40.6**	**+0.3**
JKDJ	**Kitadaitoujima**	**2.71**	**120**	P	**Pn**	**03 22 40.6**	**0.0**
JKDJ				*e*S	**Sn**	**03 23 11.2**	**-1.0**
JMZ	**Minamidaito 2**	**2.72**	**124**	P	**Pn**	**03 22 40.6**	**-0.2**
JMZ				*e*S	**Sn**	**03 23 10.4**	**-2.1**
JYAK	**Yakushimahirau**	**3.28**	**28**	*e*P	**Pn**	**03 22 48.8**	**+0.4**
JYAK				S	**Sn**	**03 23 26.9**	**+0.7**
JMTN	**Minamitane**	**3.59**	**32**	P	**Pn**	**03 22 53.9**	**+1.2**
JMTN				*e*S	**Sn**	**03 23 34.8**	**+0.9**
YHNB	**Yeheng**	**7.11**	**250**	Pn	**Pn**	**03 23 40.8**	**-0.3**
NACB	**Ninganchiao**	**7.15**	**245**	Pn	**Pn**	**03 23 43.0**	**+1.4**
JMN	**Monobe**	**7.76**	**34**	Pn	**Pn**	**03 23 50.7**	**+0.7**
YULB	**Yu-li**	**7.77**	**241**	Pn	**Pn**	**03 23 47.5**	**-2.7**
SSLB	**Suanglung**	**7.85**	**245**	Pn	**Pn**	**03 23 49.4**	**-1.8**
KSRS	**Korea Array**	**10.09**	**356**	P	**Pn**	**03 24 22.5**	**+0.7**
	0.3nm,0.3s,baz=170,slow=15,SNR=2.3						
KSRS				LR	LR	03 28 08.9	
	comp=Z,56nm,21.6s,baz=165,slow=37						
	1.4nm,0.8s						
DAV	**Davao City (W)**	**20.39**	**189**	LR	LR	03 34 34.4	
	comp=Z,35nm,19.8s,baz=10.0,slow=37						
KLR	**Kul'dur**	**21.97**	**5**	LR	LR	03 34 43.7	
	comp=Z,63nm,18.4s,baz=308,slow=35						
SONM	**Songino Array**	**26.86**	**326**	P	**P**	**03 27 35.8**	**-0.2**
	0.8nm,0.8s,baz=144,slow=10.0,SNR=1.9						
	0.8nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.72**	**94**	T	T	04 06 36.3	
	baz=290,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**35.72**	**94**	T	T	04 06 36.3	
	baz=290,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**35.74**	**94**	T	T	04 06 40.3	
	baz=290,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**35.96**	**96**	T	T	04 06 58.9	
	baz=292,slow=75,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**35.97**	**96**	T	T	04 07 00.4	
	baz=292,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**35.98**	**96**	T	T	04 06 58.7	
	baz=292,slow=75,SNR=12						
KRVT	**Keravat (AS076**	**38.70**	**141**	LR	LR	03 41 35.2	
	comp=Z,80nm,21.8s,baz=251,slow=30						
MKAR	**Makanchi Array**	**41.11**	**311**	P	**P**	**03 29 38.4**	**-0.8**
	0.3nm,0.5s,baz=91,slow=12,SNR=4.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**41.62**	**322**	P	**P**	**03 29 42.8**	**-0.3**
	0.5nm,0.3s,baz=96,slow=8.1,SNR=2.8						
	0.5nm,0.3s						
KURK	**Kurchatov**	**44.30**	**316**	P	**P**	**03 30 04.2**	**-0.7**
KURBB	**Kurchatov Arra**	**44.34**	**316**	P	**P**	**03 30 04.5**	**-0.7**
	2.4nm,0.4s,baz=101,slow=9.0,SNR=5.9						
	2.4nm,0.4s						
WB0	**Warramunga Arr**	**47.16**	**173**	P	**P**	**03 30 28.6**	**+0.8**
WB0				IAmb	IAmb	03 30 47.6	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**47.33**	**173**	P	**P**	**03 30 30.4**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=354,slow=8.3,SNR=5.5						
	comp=Z,0.4nm,0.5s						
WB2	**Warramunga Arr**	**47.33**	**173**	P	**P**	**03 30 29.2**	**+0.2**
WB2				IAmb	IAmb	03 31 01.1	
	comp=Z,18nm,1.5s						
KK31	**Karatay Array**	**49.12**	**305**	P	**P**	**03 30 43.3**	**+0.6**
KKAR	**Karatay Array**	**49.12**	**305**	P	**P**	**03 30 43.3**	**+0.6**
KKAR	**Karatay Array**	**49.12**	**305**	P	**P**	**03 30 43.4**	**+0.7**
KKAR				IAmb	IAmb	03 30 44.3	
	comp=Z,2.4nm,1.1s						
ASAR	**Alice Springs**	**50.97**	**174**	P	**P**	**03 30 59.4**	**+2.5**
	comp=Z,0.4nm,0.9s,baz=6.1,slow=15,SNR=1.9						
	comp=Z,0.4nm,0.9s						
ABKAR	**Akbulak array**	**56.19**	**313**	P	**P**	**03 31 34.7**	**-0.2**
ABKAR				IAmb	IAmb	03 31 35.8	
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**56.19**	**313**	P	**P**	**03 31 34.6**	**-0.3**
SUA	**Susitna One**	**61.90**	**32**	P	**P**	**03 32 14.8**	**+0.5**
SUA				IAmb	IAmb	03 32 22.9	
	comp=Z,5.6nm,1.2s						
RND	**Reindeer**	**62.56**	**30**	P	**P**	**03 32 18.5**	**-0.2**
RND				IAmb	IAmb	03 32 22.0	
	comp=Z,3.6nm,0.9s						
ILAR	**Eielson Array**	**63.25**	**29**	P	**P**	**03 32 23.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=274,slow=7.1,SNR=5.6						
	comp=Z,0.5nm,0.7s						
SCM	**Sheep Creek Mo**	**63.47**	**32**	P	**P**	**03 32 24.8**	**0.0**
SCM				IAmb	IAmb	03 32 38.8	
	comp=Z,2.8nm,0.6s						
BELG	**Belogornoye**	**63.53**	**317**	LR	LR	04 01 56.0	
	comp=Z,84nm,18.0s,baz=135,slow=38						
FID	**Port Fidalgo**	**64.05**	**33**	P	**P**	**03 32 28.0**	**-0.5**
J26L	**Joseph Creek**	**64.71**	**29**	P	**P**	**03 32 32.5**	**-0.3**
J26L				IAmb	IAmb	03 32 36.8	
	comp=Z,7.5nm,1.0s						
M26K	**Nabesna, AK**	**65.37**	**31**	P	**P**	**03 32 37.5**	**+0.4**
M26K				IAmb	IAmb	03 32 39.5	
	comp=Z,5.7nm,1.1s						
KBZ	**Khabaz**	**68.78**	**309**	P	**P**	**03 32 58.1**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=356,slow=7.6,SNR=4.1						
	comp=Z,2.9nm,0.8s						
FINES	**FINESS Array B**	**72.10**	**330**	P	**P**	**03 33 18.5**	**-0.5**
	comp=Z,7.2nm,1.1s,baz=66,slow=5.1,SNR=15						
	comp=Z,7.2nm,1.1s						
AKASG	**Malin Array Be**	**74.95**	**319**	P	**P**	**03 33 34.4**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=56,slow=7.3,SNR=4.9						
	comp=Z,0.8nm,0.5s						
BRTR	**Keskin Array B**	**76.68**	**308**	P	**P**	**03 33 46.0**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=103,slow=5.5,SNR=8.3						
	comp=Z,1.6nm,0.8s						
BRTR	**Keskin Array B**	**76.68**	**308**	P	**P**	**03 33 45.6**	**-0.6**
NC405	**NORSAR Array S**	**78.25**	**334**	P	**P**	**03 33 54.2**	**-0.2**
NB201	**NORSAR Array S**	**78.46**	**334**	P	**P**	**03 33 55.4**	**-0.2**
NB2	**NORSAR Subarra**	**78.49**	**334**	P	**P**	**03 33 55.2**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=52,slow=6.2						
NOA	**NORSAR Array B**	**78.49**	**334**	P	**P**	**03 33 53.9**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=51,slow=5.6,SNR=6.5						
	comp=Z,1.8nm,0.8s						
BUR08	**Bucovina Ar. S**	**78.68**	**318**	P	**P**	**03 33 56.8**	**-0.4**
BUR08				IAmb	IAmb	03 34 23.7	
	comp=Z,4.7nm,1.3s						
BURAR	**Bucovina Array**	**78.68**	**318**	P	**P**	**03 33 57.4**	**+0.2**
GERES	**GERESS Array B**	**84.56**	**323**	P	**P**	**03 34 28.7**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=58,slow=7.4,SNR=2.5						
	comp=Z,0.5nm,0.7s						

*RSNC **29** 03:26:38.0±0.6,11°.67N×71°.67W,h58km±7km,ML2.5*
*FUNV **29** 03:26:40.5,11°.47N×71°.56W,h16km,MW3.1*

ISC 29 03:26:38.5±1.4,11°.55N±0°.07×71°.63W±0°.03,h32km±14km, n17,σ1§16/30,1C-1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.39**	**293**	⇓*i* P	**Pb**	**03 26 47.4**	**0.0**
URIC				*e*S	**Sn**	**03 26 55.0**	**+0.7**
URIC				IAML		03 26 55.4	
	comp=Z,366nm,0.1s						
DABV	**Dabajuro**	**1.15**	**122**	*e*P	**Pb**	**03 26 59.7**	**-0.3**
DABV				*e*S	**Sn**	**03 27 14.2**	**+1.0**
CRJC	**Cerrejon, Guaj**	**1.34**	**247**	*e*P	**Pn**	**03 27 00.0**	**-1.1**
CRJC				*e*S	**Sn**	**03 27 17.7**	**-0.2**
CRJC				IAML		03 27 20.8	
	comp=Z,118nm,0.2s						
SIQV	**Siquisique**	**2.00**	**116**	*e*P	**Pn**	**03 27 11.2**	**+1.0**
SIQV				*e*S	**Sn**	**03 27 34.5**	**+0.4**
CURV	**Curarigua**	**2.24**	**133**	*e*P	**Pb**	**03 27 17.0**	**-1.4**
CURV				*e*S	**Sn**	**03 27 41.3**	**+1.2**
SMRC	**Santa Marta, M**	**2.58**	**262**	*e*P	**Pn**	**03 27 19.0**	**+0.9**
SMRC				IAML		03 27 53.7	
	comp=Z,14nm,0.1s						
ARGC	**Ariguani, Magd**	**3.07**	**237**	*e*P	**Pn**	**03 27 24.2**	**-0.8**
ARGC				*e*S	**Sn**	**03 27 59.2**	**-1.5**
ARGC				IAML		03 28 04.7	
	comp=Z,7.9nm,0.2s						
SOCV	**Socops**	**3.33**	**167**	*e*P	**Pn**	**03 27 29.9**	**+1.4**
SOCV				*e*S	**Sn**	**03 28 06.2**	**-0.9**
OCAC	**Ocana**	**3.69**	**207**	*e*P	**Pn**	**03 27 33.1**	**-0.4**
OCAC				*e*S	**Sn**	**03 28 15.9**	**-0.1**
SJCC	**San Jacinto, C**	**3.86**	**245**	*e*P	**Pn**	**03 27 36.5**	**+0.8**
SJCC				*e*S	**Sn**	**03 28 20.1**	**+0.1**
SJCC				IAML		03 28 27.8	
	comp=Z,5.6nm,0.3s						
BENV	**Beln**	**4.26**	**111**	*e*P	**Pn**	**03 27 41.9**	**+0.6**
BENV				*e*S	**Sn**	**03 28 27.3**	**-2.7**
PAMC	**Pamplona, Colo**	**4.31**	**194**	*e*P	**Pn**	**03 27 44.2**	**+1.8**
PAMC				*e*S	**Sn**	**03 28 33.3**	**+1.4**
PAMC				IAML		03 28 38.7	
	comp=Z,5.1nm,0.2s						
BAUV	**El Baul**	**4.38**	**126**	*e*P	**Pn**	**03 27 43.8**	**+0.9**
BAUV				*e*S	**Sn**	**03 28 30.9**	**-1.9**
ZARC	**Zaragoza, Cauc**	**5.14**	**219**	*e*P	**Pn**	**03 27 53.9**	**+0.5**
ZARC				*e*S	**Sn**	**03 28 51.7**	**+0.1**
ZARC				IAML		03 29 01.1	
	comp=Z,6.1nm,0.3s						
PTBC	**PUERTO BERRIO,**	**5.71**	**210**	⇑*e*P	**Pn**	**03 28 02.2**	**+1.0**
PTBC				IAML		03 29 11.1	
	comp=Z,3.1nm,0.3s						
RUSC	**La Rusia**	**5.80**	**194**	*e*P	**Pn**	**03 28 04.3**	**+1.4**
SPBC	**San Pablo de B**	**6.34**	**203**	*e*P	**Pn**	**03 28 10.1**	**+0.2**
SPBC				IAML		03 29 28.0	
	comp=Z,2.4nm,0.3s						

*IDC **29** 03:35:10.7±7.5,12°.83S×166°.03E,h86km±27km,mb3.9/3, mbtmp4.2/4,MS3.4/2,Error ellipse: s-maj=118.6km s-min=18.9km az=57.0*
*NEIC **29** 03:35:22.4±2.1,13°.8S±0°.1×166°.2E±0°.2,h219km±10km, mb4.3/8,Error ellipse: s-maj=23.9km s-min=17.8km az=115.0*

ISC 29 03:35:12.0±0.8,12°.95S±0°.08×165°.95E±0°.10,h100km,n20, σ1§88/21,mb4.3/6,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.85**	**300**	P	**Pn**	**03 36 49.7**	**-0.1**
	2μm,0.4s,baz=174,slow=7.0,SNR=9.6						
HNR				S	**Sn**	**03 38 05.9**	**-0.4**
	827nm,0.3s,baz=177,slow=15,SNR=1.5						
HNR				LR	LR	03 39 32.7	
	comp=Z,988nm,20.6s,baz=134,slow=38						
KOUNC	**Koumac, New Ca**	**7.73**	**192**		**Pn**	**03 37 03.5**	**+1.7**
LIFNC	**LIFOU**	**7.88**	**171**	Pn	**Pn**	**03 37 01.8**	**-2.1**
MARNC	**Mare, Loyalty**	**8.72**	**167**	Pn	**Pn**	**03 37 12.4**	**-2.8**
DZM	**Mont Dzumac**	**9.09**	**177**	P	**Pn**	**03 37 19.5**	**-0.8**
	6.8nm,0.5s,baz=28,slow=20,SNR=16						
DZM				S	**Sn**	**03 39 04.0**	**+3.1**
	1.7nm,0.3s,baz=143,slow=20,SNR=1.2						
DZM				LR	LR	03 40 14.7	
	comp=Z,81nm,19.3s,baz=170,slow=33						
ONTNC	**Ouen Toro**	**9.32**	**177**	Pn	**Pn**	**03 37 21.7**	**-1.8**
OUENC	**Ouen Island, N**	**9.46**	**175**

ULN Ulaanbaatar 5.45 53 *ce*P **Pn 04 49 08.3 +0.2**
ZAK Zakamensk 5.93 17 *e*P **Pn 04 49 14.6 -0.1**
ZAK pmax pmax
comp=Z,48nm,0.6s
KNGR Kungurtug, Tuv 6.24 341⇑ *e*P **Pn 04 49 20.0 +1.1**
MOY Mondy 6.94 2 *e*P **Pn 04 49 27.7 -0.9**
BTO Baotou 8.06 118 *e*P **Pn 04 49 43.8 -0.1**
BTO S **Sn 04 51 12.5 -2.7**
BTO LR LR
comp=N,2µm,4.5s
BTO LR LR
comp=E,850nm,4.2s
GOMU GeErMu 9.60 209 P **Pn 04 50 06.0 +0.7**
GOMU pmax pmax
comp=E,5.0nm,0.7s
GOMU pmax pmax
comp=E,39nm,3.7s
DGZ Jazzator, Alta 10.25 304⇑ *e*P Pn 04 50 18.7 +4.7
MK31 Makanchi Array 12.96 286⇑ *e*P Pn 04 50 55.0 +4.1
MK31 Makanchi Array 12.96 286 ⇑Pn Pn 04 51 00.6 +10
comp=E,1.0nm,0.7s,baz=81,slow=16,SNR=5.0
MK31 ⇑Lg Lg 04 54 41.5
comp=E,20nm,1.0s,baz=86,slow=28,SNR=3.6
MKAR Makanchi Array 12.96 286 Pn **Pn 04 50 51.7 +0.7**
comp=E,0.1nm,0.3s,baz=94,slow=16,SNR=3.5
MKAR Lg Lg 04 54 35.4
comp=E,0.3nm,0.3s,baz=86,slow=28,SNR=4.8
MKAR LR LR 04 55 48.3
comp=E,125nm,19.4s,baz=99,slow=37
comp=E,0.4nm,0.6s
LYN LuoYang 13.65 134⇓ *i*P P 04 51 15.0 +5.8
ZAA0 Zalesovo Array 13.80 318 Pn **Pn 04 50 59.1 -3.1**
ZAA0 Zalesovo Array 13.80 318 ⇓Lg Lg 04 54 44.2
comp=E,9.4nm,1.3s
ZALV Zalesovo Beam 13.80 318 Pn **Pn 04 51 02.5 +0.3**
comp=E,0.2nm,0.3s,baz=130,slow=13,SNR=1.9
ZALV Lg Lg 04 54 50.4
comp=E,0.1nm,0.3s,baz=128,slow=20,SNR=5.9
ZALV LR LR 04 56 23.1
comp=E,162nm,19.3s,baz=92,slow=38
comp=E,0.7nm,0.6s
KURK Kurchatov 15.94 300 Pn **Pn 04 51 30.2 -0.7**
KURK IAmb IAmb 04 51 35.2
comp=Z,17nm,0.7s
KURK Kurchatov 15.94 300 *de*P **P 04 51 34.5 0.0**
KURK Kurchatov 15.94 300 ⇑Pn **P 04 51 34.2 -0.4**
comp=Z,15nm,0.6s
KURK ⇑Lg Lg 04 56 04.3
comp=Z,64nm,1.6s
KURBB Kurchatov Arra 15.97 299 Pn **Pn 04 51 30.4 -1.0**
comp=Z,0.1nm,0.3s,baz=104,slow=12,SNR=5.5
KURBB Lg Lg 04 56 04.9
baz=99,slow=33,SNR=5.3
KURBB LR LR 04 57 45.6
comp=Z,243nm,19.1s,baz=97,slow=38
comp=Z,12nm,0.9s
TARG Taragay, Kyrgy 16.89 268 Pn **Pn 04 51 42.4 -1.1**
TARG Taragay, Kyrgy 16.89 268 P **Pn 04 51 42.4 -1.1**
TARG pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 18.99 273 P **Pn 04 52 08.4 -0.8**
comp=Z,0.2nm,0.3s,baz=66,slow=16,SNR=1.7
AAK LR LR 05 00 03.9
comp=Z,107nm,20.0s,baz=68,slow=39
comp=Z,0.9nm,0.3s
AAK Ala-Archa 18.99 273 *i*P **Pn 04 52 11.8 +2.7**
AAK pmax pmax
comp=Z,2.0nm,0.7s
TAPN Taplejung 20.20 215 *e*P Pn 04 52 25.1 +1.3
GUN Gumba 20.51 220 *e*P Pn 04 52 27.7 +0.2
comp=Z,39nm,0.5s
JIRN Jiri 20.58 219 *e*P Pn 04 52 29.0 +0.6
comp=Z,69nm,0.8s
PKI Pulchoki 21.02 220 *e*P **P 04 52 32.7 +1.9**
comp=Z,62nm,0.8s
PKIN Phulchoki 21.02 221 *e*P **P 04 52 32.7 +2.0**
comp=Z,38nm,0.5s
GKN Gorkha 21.02 223 *e*P **P 04 52 32.2 +1.6**
RAMN Ramite 21.02 217 *e*P **P 04 52 32.2 +1.5**
comp=Z,17nm,0.5s
DMN Daman 21.12 221 *e*P **P 04 52 34.1 +2.2**
comp=Z,39nm,0.8s
DANN Dangsing 21.16 225 *e*P **P 04 52 34.1 +1.7**
BVAR Borovoye Array 21.41 304 P **P 04 52 34.1 -0.4**
comp=Z,5.8nm,0.5s,baz=103,slow=9.5,SNR=18
BVAR LR LR 05 01 22.5
comp=Z,112nm,21.9s,baz=85,slow=38
comp=Z,5.8nm,0.5s
BRVK Borovoye 21.48 304 **P 04 52 34.9 -0.3**
BRVK Borovoye 21.48 304 *i*P **P 04 52 35.0 -0.3**
BRVK pmax pmax
comp=Z,13nm,0.8s
KLR Kul'dur 21.62 67 LR LR 05 00 11.7
comp=Z,19nm,20.3s,baz=304,slow=35
KLR Kul'dur 21.62 67⇓ *e*P **P 04 52 39.6 +2.8**
KLR pmax pmax
comp=Z,2.0nm,1.0s
KKAR Karatay Array 21.70 276 P **P 04 52 36.6 -1.1**
KKAR Karatay Array 21.70 276 P **P 04 52 36.6 -1.1**
KSRS Korea Array 21.76 100 P **P 04 52 40.2 +1.9**
comp=Z,2.0nm,0.8s,baz=293,slow=9.9,SNR=5.1
KSRS LR LR 05 01 52.5
comp=Z,51nm,19.1s,baz=315,slow=39
comp=Z,2.0nm,0.8s
KSRS Korea Array 21.76 100 *e*P **P 04 52 43.4 +5.1**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
BTK Batken 22.43 268 P **P 04 52 44.7 -1.0**
BTK Batken 22.43 268 P **P 04 52 44.7 -1.0**
BTK pmax pmax
comp=Z,5.0nm,0.8s
CHGR Chuyangaron 24.17 266 P **P 04 53 01.8 -1.4**
CHGR IAmb IAmb 04 53 10.2
comp=Z,8.9nm,0.7s
CHGR Chuyangaron 24.17 266 P **P 04 53 01.8 -1.4**
CHGR pmax pmax
comp=Z,9.0nm,0.7s
YAK Yakutsk 24.18 34 LR LR 05 03 06.3
comp=Z,44nm,19.1s,baz=90,slow=38
NRIK Noril'sk 25.55 349 P **P 04 53 13.5 -1.8**
comp=Z,3.0nm,0.5s,baz=170,slow=3.4,SNR=4.0
comp=Z,3.0nm,0.5s
NRIK Noril'sk 25.55 349⇓ *e*P **P 04 53 16.2 +0.9**
NRIK pmax pmax
comp=Z,5.0nm,1.3s
CMAR Chiang Mai Arr 26.24 184 LR LR 05 04 42.2
comp=Z,89nm,19.1s,baz=20,slow=39
ARU Arti 28.69 309 LR LR 05 05 12.3
comp=Z,54nm,19.1s,baz=72,slow=36
AKTO Aktyubinsk 28.98 297 LR LR 05 05 42.0
comp=Z,125nm,18.8s,baz=57,slow=37
MJAR Matsushiro Arr 29.46 93 LR LR 05 06 09.2
comp=Z,54nm,18.6s,baz=6.5,slow=38
KLMR Klimovskoe 38.72 317 *e*P **P 04 55 09.5 -1.0**
KLMR pmax pmax
comp=Z,24nm,1.4s
KLMR Klimovskoe 38.72 317 *e*P **P 04 55 09.5 -1.0**
KLMR AMP 04 55 12.1
comp=Z,24nm,1.4s
BILL Bilibino 40.50 32 *e*P **P 04 55 23.2 -2.1**
BILL *e* 04 56 56.1
BILL pmax pmax
comp=Z,9.0nm,1.2s
KBZ Khabaz 40.62 290 LR LR 05 13 46.8
comp=Z,57nm,18.4s,baz=44,slow=38
OBN Obninsk 41.12 308 *e*P **P 04 55 28.8 -1.8**
OBN pmax pmax
comp=Z,6.0nm,1.0s
PALK Pallekele 41.15 211 *i*P P 04 55 41.4 +10
DAV Davao City (W) 43.36 142 LR LR 05 14 41.6
comp=Z,54nm,19.6s,baz=356,slow=37
ARCES ARCESS Array B 43.86 331 P **P 04 55 53.0 +0.3**
comp=Z,4.1nm,0.9s,baz=75,slow=8.9,SNR=8.7
comp=Z,4.1nm,0.9s
ARCES ARCESS Array B 43.86 331 *e*P **P 04 55 53.4 +0.7**
ARCES pmax pmax
comp=Z,21nm,1.3s
FINES FINESS Array B 45.05 319 P **P 04 56 02.5 +0.1**
comp=Z,1.1nm,0.7s,baz=87,slow=8.2,SNR=6.0
comp=Z,1.1nm,0.7s
AKASG Malin Array Be 46.69 304 P **P 04 56 15.2 -0.2**
comp=Z,0.2nm,0.3s,baz=57,slow=8.9,SNR=4.6
AKASG LR LR 05 15 39.1
comp=Z,85nm,18.1s,baz=28,slow=36
comp=Z,0.2nm,0.3s
BRTR Keskin Array B 48.59 289 P **P 04 56 31.6 +1.2**
comp=Z,1.3nm,0.7s,baz=91,slow=6.6,SNR=5.8
comp=Z,1.3nm,0.7s
HFS Hagfors 51.22 320 LR LR 05 21 23.6
comp=Z,123nm,18.5s,baz=348,slow=40
NB2 NORSAR Subarra 51.95 322 P **P 04 56 55.1 -0.3**
comp=Z,1.4nm,0.5s,baz=64,slow=7.9
NOA NORSAR Array B 51.95 322 P **P 04 56 55.2 -0.3**
comp=Z,2.5nm,0.6s,baz=64,slow=7.4,SNR=9.3
NOA LR LR 05 20 45.3
comp=Z,90nm,18.0s,baz=50,slow=38
comp=Z,2.5nm,0.6s
VRAC Vranov 54.63 307 LR LR 05 20 08.5
comp=Z,59nm,18.3s,baz=5.5,slow=36
CLL Collm 55.62 311 *e*P **P 04 57 22.0 -0.4**
CLL Collm 55.62 311 *e*P **P 04 57 22.0 -0.4**
GERES GERESS Array B 56.50 308 P **P 04 57 30.4 +1.5**
comp=Z,0.2nm,0.4s,baz=63,slow=8.9,SNR=4.1
comp=Z,0.2nm,0.4s
CCB Clear Creek Bu 58.65 28 P **P 04 57 42.7 -0.9**
CCB IAmb IAmb 04 57 45.2
comp=Z,3.9nm,1.1s
ILAR Eielson Array 58.88 28 P **P 04 57 45.1 -0.1**
comp=Z,0.8nm,0.8s,baz=291,slow=5.0,SNR=8.4
comp=Z,0.8nm,0.8s
ILAR Eielson Array 58.88 28 *e*P **P 04 57 45.8 +0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
DAVOX Davos/Dischmat 59.79 307 LR LR 05 23 53.8
comp=Z,64nm,18.1s,baz=58,slow=36
RIDG Independent Ri 60.23 28 P **P 04 57 52.9 -1.7**
INK Inuvik 60.27 20 P **P 04 57 54.4 -0.3**
comp=Z,2.5nm,0.8s,baz=326,slow=9.3,SNR=5.2
comp=Z,2.5nm,0.8s
LATE Laterza 61.05 302 P **P 04 57 59.4 -1.1**
KDAK Kodiak Island 61.19 36 P **P 04 58 00.3 -0.8**
comp=Z,2.4nm,0.8s,baz=278,slow=3.8,SNR=5.4
KDAK LR LR 05 24 28.3
comp=Z,47nm,18.9s,baz=341,slow=36
comp=Z,2.4nm,0.8s
EKA Eskdalemuir Ar 61.40 321 LR LR 05 28 54.2
comp=Z,66nm,19.5s,baz=1.0,slow=40
BORG Borgarnes 61.85 336 LR LR 05 27 35.9
comp=Z,52nm,18.3s,baz=66,slow=39
WRA Warramunga Arr 71.34 147 P **P 04 59 07.2 +0.6**
comp=Z,0.3nm,0.5s,baz=346,slow=7.0,SNR=11
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 72.09 308 P **P 04 59 11.3 +0.1**
comp=Z,1.4nm,1.1s,baz=23,slow=7.0,SNR=4.1
comp=Z,1.4nm,1.1s
JTMT Jette 82.93 23 P **P 05 00 13.2 +1.4**
JTMT IAmb IAmb 05 00 14.6
comp=Z,6.8nm,1.2s
PLID Pearl Lake 84.85 25 P **P 05 00 21.6 -0.1**
PLID IAmb IAmb 05 00 23.1
comp=Z,2.9nm,0.9s
TORD Torodi Ar. Bea 87.09 286 P **P 05 00 33.2 +0.2**
comp=Z,15nm,0.6s,baz=50,slow=3.9,SNR=5.1

*REN **29** 04:51:31.2±0.9, 41.08N±0.04×117.44W±0.06, h12km±7km, ML2.6/18, ML2.6/86(NEIC), Error ellipse: s-maj=7.0km s-min=5.4km az=70.0*

NEIC 29 04:51:31.5±0.6, 41.08N±0.02×117.49W±0.06, h15km±7km, Error ellipse: s-maj=7.1km s-min=2.5km az=71.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMN	**Battle Mountai**	**0.68**	**162**		Pg	04 51 44.3	-0.6
BMN					Sg	04 51 53.6	-0.3
PLTX	**Planet X, Gerl**	**1.54**	**257**		Pn	04 51 58.7	+0.1
PLTX				IAML		04 52 25.0	
	comp=N,276nm,0.7s						
PLTX				IAML		04 52 25.5	
	comp=E,266nm,0.5s						
WVOR	**Wild Horse Val**	**1.60**	**328**		Pn	04 51 58.9	-0.5
WVOR	**Wild Horse Val**	**1.60**	**328**	IAML		04 52 25.1	
	comp=E,49nm,0.4s						
ELK	**Elko**	**1.74**	**100**		Pn	04 51 60.0	-1.5
ELK	**Elko**	**1.74**	**100**	IAML		04 52 27.3	
	comp=E,55nm,0.2s						
PAHR	**Pah Rah Range**	**1.99**	**227**		Pn	04 52 04.6	-0.2
KVN	**Kaiserville**	**2.08**	**193**		Pn	04 52 05.4	-0.7
WVA	**Winnemucca Val**	**2.11**	**238**		Pn	04 52 06.2	-0.2
MOD	**Modoc Plateau**	**2.27**	**292**		Pn	04 52 08.2	-0.4
MOD	**Modoc Plateau**	**2.27**	**292**	IAML		04 52 48.2	
	comp=N,38nm,0.7s						
MOD				IAML		04 52 50.1	
	comp=E,54nm,0.7s						
BMRR	**Black Mountain**	**2.34**	**246**		Pn	04 52 09.7	0.0
J08A	**Circle Bar Ran**	**2.39**	**343**		Pn	04 52 10.3	0.0
PEAR	**Peavine Mounta**	**2.39**	**233**		Pn	04 52 10.3	-0.1
VCNR	**Virginia City**	**2.43**	**224**		Pn	04 52 10.8	-0.1
VCNR	**Virginia City**	**2.43**	**224**	IAML		04 52 53.1	
	comp=E,47nm,0.7s						
VCNR				IAML		04 52 54.0	
	comp=N,35nm,0.6s						
YERR	**Yerington**	**2.49**	**213**		Pn	04 52 11.7	0.0
YERR	**Yerington**	**2.49**	**213**	IAML		04 53 00.1	
	comp=E,27nm,0.5s						
BEKR	**Beckworth**	**2.50**	**242**		Pn	04 52 11.8	-0.1
BEKR	**Beckworth**	**2.50**	**242**	IAML		04 52 53.6	
	comp=N,28nm,0.5s						
LOY	**Loyalton**	**2.53**	**237**		Pn	04 52 12.4	+0.1
PNTR	**Pine Nut**	**2.56**	**220**	Pn	Pn	04 52 12.5	-0.2
PNTR				IAML		04 52 58.9	
	comp=N,32nm,0.9s						
PNTR				IAML		04 53 01.4	
	comp=E,26nm,0.8s						
RYN	**Ryan**	**2.58**	**198**		Pn	04 52 12.9	0.0
RYN	**Ryan**	**2.58**	**198**	IAML		04 52 56.0	
	comp=E,35nm,0.5s						
RYN				IAML		04 52 57.5	
	comp=N,39nm,0.4s						
MPK	**Martis Peak**	**2.64**	**228**	Pn	Pn	04 52 14.0	+0.2
MPK				IAML		04 52 57.7	
	comp=N,32nm,0.8s						
MPK				IAML		04 52 59.0	
	comp=E,26nm,1.0s						
MFID	**Camas Ranch**	**2.64**	**27**		Pn	04 52 13.0	-0.7
MFID				IAML		04 52 58.3	
	comp=E,33nm,0.4s						
MFID				IAML		04 52 58.7	
	comp=E,38nm,0.5s						
NV11	**Mina Array Sit**	**2.69**	**191**	Pn	Pn	04 52 14.4	-0.1
NV11				IAML		04 52 59.9	
	comp=E,18nm,0.4s						
NVAR	**Mina Array Bea**	**2.72**	**194**	Pn	Pn	04 52 14.6	-0.3
NV09	**Mina Array Sit**	**2.72**	**194**		Pn	04 52 15.3	+0.4
NV08	**Mina Array Sit**	**2.75**	**194**		Pn	04 52 15.5	+0.2
Q12A	**Willow Creek R**	**2.89**	**134**		Pn	04 52 19.6	+2.4
LHV	**Little Huntoon**	**2.93**	**196**	Pn	Pn	04 52 17.9	+0.3
LHV				IAML		04 53 13.9	
	comp=E,24nm,0.6s						
LHV				IAML		04 53 18.7	
	comp=N,19nm,0.7s						
WAKR	**Walker**	**2.98**	**211**	Pn	Pn	04 52 18.5	+0.1
TPH	**Tonopah**	**3.01**	**176**	Pn	Pn	04 52 18.7	-0.2
K05A	**Summer Lake**	**3.02**	**304**	Pn	Pn	04 52 22.0	+3.0
K05A				IAML		04 52 41.6	
	comp=E,15nm,4.4s						
K05A				IAML		04 53 35.6	
	comp=N,18nm,4.2s						
R11A	**Troy Canyon, C**	**3.10**	**151**		Pn	04 52 20.2	+0.1
R11A	**Troy Canyon, C**	**3.10**	**151**	IAML		04 53 12.2	
	comp=E,13nm,0.3s						
SPR3	**Spring Creek 3**	**3.20**	**130**		Pn	04 52 23.1	+1.5
SPR3				IAML		04 53 16.1	
	comp=E,9.0nm,0.4s						
SPR3				IAML		04 53 22.7	
	comp=N,13nm,0.9s						
HLID	**Hailey**	**3.37**	**42**		Pn	04 52 24.8	+1.0
HLID				IAML		04 53 15.6	
	comp=N,10nm,0.3s						
HVU	**Hansel Valley**	**3.62**	**77**		Pn	04 52 28.7	+1.5
DUG	**Dugway, Tooele**	**3.67**	**102**	Pn	Pn	04 52 27.7	-0.2
DUG				IAML		04 53 30.8	
	comp=N,11nm,0.7s						
DUG				IAML		04 53 32.7	
	comp=N,10nm,0.7s						
S11A	**Rachel**	**3.69**	**158**		Pg	04 52 39.5	-2.7
DSP	**Deep Springs**	**3.72**	**186**	Pn	Pn	04 52 29.0	+0.5
DSP				IAML		04 53 38.3	
	comp=E,8.4nm,4.1s						
GMN	**Gold Mountain**	**3.78**	**177**	Pn	Pn	04 52 29.1	-0.3
GMN				IAML		04 53 40.5	
	comp=E,7.2nm,0.9s						
GMN				IAML		04 53 40.6	
	comp=N,8.4nm,0.7s						
PSUT	**Pine Spring**	**3.78**	**131**		Pb	04 52 37.3	-0.8
LCH	**Last Change Ra**	**3.84**	**182**	Pn	Pn	04 52 30.1	-0.2
LCH				IAML		04 53 37.4	
	comp=E,12nm,0.7s						
LCH				IAML		04 53 55.0	
	comp=N,7.2nm,4.2s						
GRAC	**Grapevine Rang**	**4.08**	**179**	Pn	Pn	04 52 33.3	-0.2
PRN	**Pahroc Range**	**4.13**	**152**	Pn	Pn	04 52 34.3	+0.1
NLU	**North Lily Min**	**4.28**	**103**	Pn	Pn	04 52 35.9	-0.4
NLU				IAML		04 53 54.3	
	comp=E,9.1nm,3.6s						
NLU				IAML		04 55 14.8	
	comp=N,4.9nm,4.9s						
TCRU	**Three Creeks R**	**4.60**	**121**	Pn	Pn	04 52 40.0	-0.8
TCRU				IAML		04 54 48.0	
	comp=E,6.8nm,4.2s						
CCUT	**Cedar City**	**4.76**	**136**	Pn	Pn	04 52 42.6	-0.4
CCUT				IAML		04 54 30.8	
	comp=E,5.6nm,4.3s						
CCUT				IAML		04 54 42.2	
	comp=N,5.3nm,4.9s						
MVU	**Marysvale**	**4.81**	**121**	Pn	Pn	04 52 42.9	-0.8
SHPR	**Sheep Range**	**4.92**	**158**	Pn	Pn	04 52 44.5	-0.6
GWY	**Greenwater Val**	**4.93**	**172**	Pn	Pn	04 52 45.3	0.0
LCMT	**Little Creek M**	**5.24**	**139**	Pn	Pn	04 52 49.3	-0.1
LCMT				IAML		04 54 05.5	
	comp=N,4.5nm,4.5s						
LCMT				IAML		04 54 18.4	
	comp=E,3.4nm,1.9s						
PKCU	**Pink Cliffs**	**5.42**	**130**	Pn	Pn	04 52 51.4	-0.7
KNB	**Kanab**	**5.45**	**137**	Pn	Pn	04 52 51.2	-1.2

ROM 29 04:58:57.5±0.1, 42.797N±0.004×13.240E±0.005, h7km, ML1.3/10, 6C-7D, Error ellipse: s-maj=0.5km s-min=0.2km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1242	**Castelluccio d**	**0.04**	**321**	P	Pg	04 58 59.2	0.0
T1242				S	Sg	04 59 00.2	-0.2
T1242				AML	AML		
	comp=E,2295µm,0.2s						
T1242				AML	AML		
	comp=N,1650µm,1.1s						
T1242				AML	AML		
	comp=N,1725µm,1.1s						
T1242				AML	AML		
	comp=E,2295µm,0.2s						
T1242				AML	AML		
	comp=E,2335µm,0.2s						
T1242	**Castelluccio d**	**0.04**	**321**	P	Pg	04 58 59.1	-0.1
T1242				S	Sg	04 59 00.2	-0.2
T1242				AML	AML		
	comp=E,2295µm,0.2s						
T1242				AML	AML		
	comp=N,1725µm,1.1s						
T1242				AML	AML		
	comp=E,2335µm,0.2s						
T1242				AML	AML		
	comp=N,1650µm,1.1s						
T1242				AML	AML		
	comp=E,2295µm,0.2s						
T1242				AML	AML		
	comp=N,1725µm,1.1s						
T1242				AML	AML		
	comp=E,2335µm,0.2s						
T1242				AML	AML		
	comp=N,1650µm,1.1s						
T1202	**Accumoli, Fraz**	**0.09**	**187**	P	Pg	04 59 00.4	+0.6
T1202				S	Sg	04 59 02.6	+1.2
T1202				AML	AML		
	comp=E,874µm,0.6s						
T1202				AML	AML		
	comp=N,1275µm,0.1s						
T1202	**Accumoli, Fraz**	**0.09**	**187** ⇑	P	Pg	04 59 00.4	+0.6
T1202				S	Sg	04 59 02.4	+1.0
T1202				AML	AML		
	comp=E,874µm,0.6s						
T1202				AML	AML		
	comp=N,1275µm,0.1s						
T1202				AML	AML		
	comp=N,1275µm,0.1s						
T1202				AML	AML		
	comp=E,874µm,0.6s						
NRCA	**Norcia**	**0.10**	**292**	P	Pg	04 59 00.2	+0.3
NRCA				S	Sg	04 59 02.2	+0.6
NRCA				AML	AML		
	comp=E,1525µm,0.7s						
NRCA				AML	AML		
	comp=N,1060µm,0.7s						
NRCA	**Norcia**	**0.10**	**292**	P	Pg	04 59 00.3	+0.4
NRCA				AML	AML		
	comp=E,1525µm,0.7s						
NRCA				AML	AML		
	comp=N,1060µm,0.7s						
NRCA				AML	AML		
	comp=E,1525µm,0.7s						
NRCA				AML	AML		
	comp=N,1060µm,0.7s						
NRCA				AML	AML		
	comp=E,1525µm,0.7s						
NRCA				AML	AML		
	comp=N,1060µm,0.7s						
MC2	**Monte Cornacci**	**0.12**	**343**	P	Pg	04 59 00.7	+0.4
MC2				S	Sg	04 59 03.2	+1.0
MC2	**Monte Cornacci**	**0.12**	**343** ⇓	P	Pg	04 59 00.8	+0.4
MMO1	**Montemonaco**	**0.12**	**32**	P	Pg	04 59 00.7	+0.4
MMO1				S	Sg	04 59 02.9	+0.8
MMO1	**Montemonaco**	**0.12**	**32**	P	Pg	04 59 00.7	+0.4
MMO1				S	Sg	04 59 02.9	+0.8
T1204	**Amatrice, Fraz**	**0.13**	**155**	P	Pg	04 59 01.2	+0.8
T1204	**Amatrice, Fraz**	**0.13**	**155** ⇓	P	Pg	04 59 01.3	+0.9
T1241	**Roccafluvione,**	**0.15**	**67**	P	Pg	04 59 01.4	+0.7
T1241				S	Sg	04 59 04.3	+1.3
T1241				AML	AML		
	comp=N,207µm,0.6s						
T1241				AML	AML		
	comp=N,206µm,0.6s						
T1241				AML	AML		
	comp=E,258µm,0.4s						
T1241	**Roccafluvione,**	**0.15**	**67** ⇑	P	Pg	04 59 01.5	+0.8
T1241				S	Sg	04 59 04.3	+1.4
T1241				AML	AML		
	comp=E,258µm,0.4s						
T1241				AML	AML		
	comp=N,207µm,0.6s						
T1241				AML	AML		
	comp=E,258µm,0.4s						
T1241				AML	AML		
	comp=N,206µm,0.6s						
T1241				AML	AML		
	comp=N,206µm,0.6s						
T1241				AML	AML		
	comp=E,258µm,0.4s						
SMA1	**SAN MARTINO**	**0.18**	**157**	P	Pg	04 59 01.9	+0.7
SMA1				AML	AML		
	comp=E,180µm,0.8s						
SMA1				AML	AML		
	comp=N,136µm,1.6s						
SMA1	**SAN MARTINO**	**0.18**	**157** ⇑	P	Pg	04 59 02.1	+0.8
SMA1				AML	AML		
	comp=E,180µm,0.8s						
SMA1				AML	AML		
	comp=N,136µm,1.6s						
SMA1				AML	AML		
	comp=N,136µm,1.6s						
SMA1				AML	AML		
	comp=E,180µm,0.8s						
T1243	**Rocca Santa Ma**	**0.18**	**123**	P	Pg	04 59 01.8	+0.5
T1243	**Rocca Santa Ma**	**0.18**	**123**	P	Pg	04 59 01.9	+0.6
T1243				S	Sg	04 59 05.0	+1.1
T1216	**Preci, Frazion**	**0.19**	**300**	P	Pg	04 59 01.7	+0.4
T1216	**Preci, Frazion**	**0.19**	**300** ⇑	P	Pg	04 59 01.9	+0.5
T1217	**Poggiodomo (PG**	**0.24**	**250**	P	Pg	04 59 03.4	+1.0
LNSS	**Leonessa**	**0.24**	**217**	P	Pg	04 59 03.0	+0.6

LNSS				AML	AML		
	comp=E,192μm,0.6s						
LNSS				AML	AML		
	comp=N,156μm,0.4s						
LNSS				AML	AML		
	comp=E,191μm,0.6s						
LNSS	**Leonessa**	**0.24**	**217**	⇓P	Pg	04 59 03.1	+0.7
LNSS				AML	AML		
	comp=E,192μm,0.6s						
LNSS				AML	AML		
	comp=N,156μm,0.4s						
LNSS				AML	AML		
	comp=E,191μm,0.6s						
LNSS				AML	AML		
	comp=N,156μm,0.4s						
LNSS				AML	AML		
	comp=N,156μm,0.4s						
LNSS				AML	AML		
	comp=E,191μm,0.6s						
FDMO	**Fiordimonte**	**0.27**	**335**	⇓P	Pg	04 59 03.2	+0.4
FDMO				AML	AML		
	comp=N,73μm,0.2s						
FDMO				AML	AML		
	comp=N,73μm,0.2s						
FDMO				AML	AML		
	comp=E,78μm,0.2s						
FDMO	**Fiordimonte**	**0.27**	**335**	AML	AML		
	comp=N,73μm,0.2s						
FDMO				AML	AML		
	comp=E,78μm,0.2s						
FDMO				AML	AML		
	comp=N,73μm,0.2s						
FDMO				AML	AML		
	comp=E,78μm,0.2s						
FDMO				AML	AML		
	comp=N,73μm,0.2s						
FDMO				AML	AML		
	comp=E,78μm,0.2s						
T1215	**Vallo di Nera,**	**0.27**	**271**	⇑P	Pg	04 59 03.6	+0.6
T1215				AML	AML		
	comp=E,85μm,1.6s						
T1215				AML	AML		
	comp=N,84μm,1.6s						
T1215	**Vallo di Nera,**	**0.27**	**271**	AML	AML		
	comp=E,85μm,1.6s						
T1215				AML	AML		
	comp=N,84μm,1.6s						
T1215				AML	AML		
	comp=E,85μm,1.6s						
T1215				AML	AML		
	comp=N,84μm,1.6s						
RM33	**Pellescritta (**	**0.29**	**184**	P	Pb	04 59 04.8	-0.3
CAMP	**Campotosto**	**0.29**	**154**	P	Pg	04 59 03.9	+0.6
CAMP				AML	AML		
	comp=E,29μm,0.9s						
CAMP				AML	AML		
	comp=N,24μm,0.7s						
CAMP	**Campotosto**	**0.29**	**154**	AML	AML		
	comp=N,24μm,0.7s						
CAMP				AML	AML		
	comp=E,29μm,0.9s						
CAMP				AML	AML		
	comp=N,24μm,0.7s						
CAMP				AML	AML		
	comp=E,29μm,0.9s						
CSP1	**Cessapalombo**	**0.30**	**355**	⇓P	Pg	04 59 03.9	+0.5
TERO	**Teramo**	**0.32**	**123**	⇓P	Pg	04 59 04.2	+0.4
TERO				AML	AML		
	comp=E,80μm,0.1s						
TERO				AML	AML		
	comp=N,61μm,1.2s						
TERO	**Teramo**	**0.32**	**123**	S	Sg	04 59 09.5	+1.4
TERO				AML	AML		
	comp=E,80μm,0.1s						
TERO				AML	AML		
	comp=N,61μm,1.2s						
TERO				AML	AML		
	comp=N,61μm,1.2s						
TERO				AML	AML		
	comp=E,80μm,0.1s						
CESI	**CESI - Serrava**	**0.32**	**310**	⇓P	Pg	04 59 04.6	+0.7
CESI				AML	AML		
	comp=N,136μm,0.3s						
CESI				AML	AML		
	comp=E,94μm,0.3s						
CESI	**CESI - Serrava**	**0.32**	**310**	AML	AML		
	comp=E,94μm,0.3s						
CESI				AML	AML		
	comp=E,94μm,0.3s						
CESI				AML	AML		
	comp=N,136μm,0.3s						
CESI				AML	AML		
	comp=N,136μm,0.3s						
SNTG	**Esanatoglia**	**0.51**	**335**	P	Pg	04 59 07.5	+0.2
SNTG				AML	AML		
	comp=N,25μm,0.9s						
SNTG				AML	AML		
	comp=E,26μm,1.2s						
SNTG	**Esanatoglia**	**0.51**	**335**	S	Sb	04 59 16.0	-0.5
SNTG				AML	AML		
	comp=E,26μm,1.2s						
SNTG				AML	AML		
	comp=N,25μm,0.9s						
SNTG				AML	AML		
	comp=N,25μm,0.9s						
SNTG				AML	AML		
	comp=E,26μm,1.2s						
FIAM	**Fiamignano**	**0.54**	**190**	S	Sb	04 59 17.0	-0.3
EL6	**Elcito**	**0.54**	**349**	⇑P	Pg	04 59 08.3	+0.3
EL6	**Elcito**	**0.54**	**349**	S	Sb	04 59 17.5	0.0

IDC 29 05:05:24.3±2.1, 0.04N×125.83E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=186.7km s-min=29.3km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.53**	**158**	P	P	05 10 14.4	-0.9
	0.3nm,0.4s,baz=336,slow=10,SNR=7.1 0.3nm,0.4s						
ASAR	**Alice Springs**	**24.83**	**162**	P	P	05 10 49.3	+0.8
	0.4nm,0.5s,baz=354,slow=7.6,SNR=2.0 0.4nm,0.5s						
MKAR	**Makanchi Array**	**60.10**	**327**	P	P	05 15 33.4	-0.1
	0.3nm,0.6s,baz=145,slow=7.6,SNR=2.2 0.3nm,0.6s						

*STR **29** 05:06:30.6±0.7, 46°N±5°×±°, h0km, MLv0.4/4, Error ellipse: s-maj=0.0km s-min=0.0km az=38.4, preliminary*

ZUR 29 05:06:29.9, 46.28N×7.15E, h3km±1km, MLh0.8/6, 3C-1D, Error ellipse: s-maj=5.2km s-min=0.9km az=131.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRYON	**Gryon**	**0.04**	**221**	⇑Pg	Pg	05 06 31.2	+0.2
GRYON				Sg	Sg	05 06 31.9	+0.3
SENIN	**Lac Senin/Sane**	**0.13**	**52**	⇑Pg	Pg	05 06 32.7	+0.2
SENIN				Sg	Sg	05 06 34.7	+0.5
AIGLE	**Aigle**	**0.15**	**293**	Pg	Pg	05 06 33.3	+0.5
AIGLE	**Aigle**	**0.15**	**293**	Sg	Sg	05 06 35.9	+1.0
SALAN	**Lac Salanfe**	**0.19**	**222**	⇑Pg	Pg	05 06 33.9	+0.3
SALAN				Sg	Sg	05 06 36.5	+0.4
DIX	**Grande Dixence**	**0.27**	**139**	Pg	Pg	05 06 35.4	+0.3
DIX	**Grande Dixence**	**0.27**	**139**	Sg	Sg	05 06 39.1	+0.4
LKBD2	**Leukerbad 2**	**0.35**	**75**	Sg	Sg	05 06 41.9	+0.5
OGSI	**Sixt**	**0.35**	**232**	⇓Pg	Pg	05 06 37.0	+0.3
OGSI				Sg	Sg	05 06 41.8	+0.5
CHMF	**Charmoille**	**1.02**	**341**	Pg	Pn	05 06 50.9	-0.4

*HVO **29** 05:55:31.6±1.1, 19.23N±0.03×155.02W±0.04, h40km±3km, ML2.8/34, ML2.8/44(NEIC), Error ellipse: s-maj=6.9km s-min=2.8km az=123.0*

NEIC 29 05:55:30.7±0.5, 19.25N±0.04×155.08W±0.04, h44km±2km, Error ellipse: s-maj=7.0km s-min=3.2km az=136.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.13**	**352**		Pn	05 55 38.0	0.0
JCUZ					Sn	05 55 42.7	-0.5
NPOC	**North of Pu'u**	**0.14**	**349**		Pn	05 55 38.1	0.0
NPOC					Sn	05 55 42.9	-0.4
KNHH	**Kane Nui o Ham**	**0.15**	**327**		Pn	05 55 38.2	0.0
PUH	**Pauahi**	**0.17**	**313**		Pn	05 55 38.4	0.0
PUH					Sn	05 55 43.2	-0.5
PUH				IAML		05 55 43.8	
	comp=N,1μm,0.5s						
JOKA	**Jonika Flow**	**0.19**	**22**		Pn	05 55 38.2	-0.2
JOKA					Sn	05 55 43.1	-0.7
HLP	**Hilina Pali**	**0.22**	**281**		Pn	05 55 39.0	+0.4
HLP				IAML		05 55 44.9	
	comp=E,1μm,0.2s						
KKO	**Keanakako`i**	**0.23**	**310**		Pn	05 55 38.9	+0.1
KKO					Sn	05 55 44.2	-0.2
KKO				IAML		05 55 44.7	
	comp=N,1μm,0.3s						
RIM	**Rim**	**0.23**	**308**		Pn	05 55 38.9	+0.1
RIM					Sn	05 55 44.2	-0.3
RIM				IAML		05 55 44.5	
	comp=E,2μm,0.2s						
RIM				IAML		05 55 45.9	
	comp=N,1μm,0.2s						
BYL	**Byron's Ledge**	**0.23**	**313**		Pn	05 55 38.8	0.0
BYL					Sn	05 55 44.2	-0.2
BYL				IAML		05 55 44.5	
	comp=E,2μm,0.3s						
HATHI	**Halema'uma'u T**	**0.24**	**315**		Pn	05 55 38.9	0.0
HATHI					Sn	05 55 44.3	-0.3
HATHI				IAML		05 55 45.0	
	comp=E,2μm,0.3s						
SDHHI	**Sand Hill**	**0.24**	**304**		Pn	05 55 39.0	+0.1
SDHHI					Sn	05 55 44.4	-0.2
SDHHI				IAML		05 55 44.8	
	comp=E,1μm,0.4s						
SDHHI				IAML		05 55 46.2	
	comp=N,1μm,0.2s						
SBLHI	**Steaming Bluff**	**0.25**	**314**		Pn	05 55 38.9	0.0
SBLHI					Sn	05 55 44.2	-0.5
OBL	**Observatory Le**	**0.25**	**311**		Pn	05 55 39.0	0.0
OBL					Sn	05 55 45.1	+0.3
OBL				IAML		05 55 45.5	
	comp=N,2μm,0.7s						
OBL				IAML		05 55 47.5	
	comp=E,1μm,0.3s						
UWB	**Uwekahuna B**	**0.25**	**313**		Pn	05 55 39.0	0.0
UWB					Sn	05 55 44.4	-0.4
WRMHI	**West Rim**	**0.26**	**306**		Pn	05 55 39.0	0.0
WRMHI				IAML		05 55 48.1	
	comp=N,1μm,0.6s						
WRMHI				IAML		05 55 48.6	
	comp=E,1μm,0.3s						
UWE	**Uwekahuna**	**0.26**	**310**		Pn	05 55 39.1	+0.1
UWE				IAML		05 55 47.7	
	comp=N,918nm,0.5s						
UWE				IAML		05 55 47.7	
	comp=E,1μm,0.3s						
RSD	**Rainshed**	**0.28**	**318**		Pn	05 55 39.4	+0.1
HTC	**Hot Caves**	**0.30**	**267**		Pn	05 55 39.8	+0.4
HTC					Sn	05 55 44.2	-1.2
AIN	**Ainahou**	**0.37**	**288**		Pn	05 55 40.7	+0.4
MLH	**Mauna Loa**	**0.37**	**310**		Pn	05 55 40.5	+0.2
MLH				IAML		05 55 51.1	
	comp=N,656nm,0.1s						
HPO	**Honuapo**	**0.48**	**250**		Pn	05 55 41.2	-0.1
HPO					Sn	05 55 48.5	-0.3
KHU	**Kahuku**	**0.50**	**269**		Pn	05 55 41.9	0.0
KHU					Sn	05 55 49.4	-0.4
KHU				IAML		05 55 49.6	
	comp=N,576nm,0.3s						
HMH	**Humu'ula Sheep**	**0.51**	**313**		Pn	05 55 42.4	+0.3
HMH					Sn	05 55 50.8	+0.6
HMH				IAML		05 55 50.9	
	comp=E,567nm,0.5s						
MWH	**Moku'aweowe**	**0.54**	**295**		Pn	05 55 42.6	0.0
MWH				IAML		05 55 51.4	
	comp=E,663nm,2.1s						
MWH				IAML		05 55 53.8	
	comp=N,447nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.55**	**301**		Pn	05 55 42.8	+0.2
MLOA					Sn	05 55 50.9	-0.1
ALEP	**Alea Permanent**	**0.60**	**298**		Pn	05 55 43.1	-0.2
ALEP					Sn	05 55 51.7	-0.5
POHA	**Pohakuloa**	**0.66**	**320**	Pn	Pn	05 55 43.7	-0.2
POHA				IAML		05 55 53.1	
	comp=N,402nm,0.1s						
POHA				IAML		05 55 53.1	
	comp=N,437nm,0.1s						
POHA	**Pohakuloa**	**0.66**	**320**		Sn	05 55 53.0	-0.4
CPH	**Captain Cook**	**0.82**	**287**		Pn	05 55 45.6	-0.3
CPH					Sn	05 55 56.3	-0.7
HUH	**Hualalai**	**0.83**	**301**		Pn	05 55 46.4	+0.2
KHLU	**Kahalu`u**	**0.84**	**294**		Pn	05 55 46.1	-0.1
HPAH	**Hawaii Prepara**	**0.97**	**323**		Pn	05 55 47.4	-0.5
MHA	**Mahukona**	**1.21**	**320**	Pn	Pn	05 55 51.0	-0.2
HLK	**Haleakala**	**1.86**	**324**		Pn	05 55 59.5	-0.8

ROM 29 06:14:09.8±0.1, 42.563N±0.004×13.304E±0.004, h11km, ML1.4/3, 5C-1D, Error ellipse: s-maj=0.4km s-min=0.3km az=0.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.07**	**19**	P	Pg	06 14 12.7	+0.5
SMA1				S	Sg	06 14 14.4	+0.4
SMA1	**SAN MARTINO**	**0.07**	**19**	P	Pg	06 14 12.8	+0.5
SMA1				S	Sg	06 14 14.4	+0.4
CAMP	**Campotosto**	**0.08**	**109**	P	Pg	06 14 12.8	+0.4
CAMP				S	Sg	06 14 14.5	+0.3
RM33	**Pellescritta (**	**0.09**	**231**	⇑P	Pg	06 14 12.7	+0.3
RM33				S	Sg	06 14 14.2	0.0
RM33				AML	AML		
	comp=E,224μm,0.6s						
RM33				AML	AML		
	comp=N,253μm,0.1s						
RM33				AML	AML		
	comp=E,224μm,0.6s						
RM33				AML	AML		
	comp=N,252μm,0.1s						
RM33				AML	AML		
	comp=E,224μm,0.6s						
RM33				AML	AML		
	comp=N,252μm,0.1s						
RM33	**Pellescritta (**	**0.09**	**231**	S	Sg	06 14 14.3	+0.1
RM33				AML	AML		
	comp=E,224μm,0.6s						
RM33				AML	AML		
	comp=N,253μm,0.1s						
RM33				AML	AML		
	comp=N,252μm,0.1s						
T1204	**Amatrice, Fraz**	**0.11**	**5**	P	Pg	06 14 13.2	+0.4
T1204				S	Sg	06 14 15.4	+0.4
T1204	**Amatrice, Fraz**	**0.11**	**5**	P	Pg	06 14 13.3	+0.5
T1204				S	Sg	06 14 15.4	+0.4
T1246	**Crognaleto (TE**	**0.14**	**82**	P	Pg	06 14 13.7	+0.5
T1246				S	Sg	06 14 16.3	+0.7
T1202	**Accumoli, Fraz**	**0.15**	**337**	P	Pg	06 14 14.0	+0.7
T1243	**Rocca Santa Ma**	**0.17**	**38**	P	Pg	06 14 14.2	+0.6
T1243				S	Sg	06 14 17.0	+0.7
T1243	**Rocca Santa Ma**	**0.17**	**38**	⇓P	Pg	06 14 14.2	+0.6
T1243				S	Sg	06 14 17.0	+0.7
LNSS	**Leonessa**	**0.20**	**282**	⇑P	Pg	06 14 14.6	+0.6
LNSS				S	Sg	06 14 17.9	+0.9
LNSS				AML	AML		
	comp=E,100μm,0.3s						
LNSS				AML	AML		
	comp=N,170μm,0.2s						
LNSS				AML	AML		
	comp=E,100μm,0.3s						
LNSS				AML	AML		
	comp=N,170μm,0.2s						
LNSS				AML	AML		
	comp=N,170μm,0.2s						
LNSS				AML	AML		
	comp=E,100μm,0.3s						
LNSS	**Leonessa**	**0.20**	**282**	S	Sg	06 14 18.0	+1.0
LNSS				AML	AML		
	comp=E,100μm,0.3s						
LNSS				AML	AML		
	comp=N,170μm,0.2s						
LNSS				AML	AML		
	comp=E,100μm,0.3s						
TERO	**Teramo**	**0.23**	**75**	P	Pg	06 14 15.1	+0.6
TERO				S	Sg	06 14 18.9	+1.1
TERO	**Teramo**	**0.23**	**75**	⇑P	Pg	06 14 15.2	+0.6
T1242	**Castelluccio d**	**0.28**	**345**	S	Sb	06 14 23.0	+1.4
NRCA	**Norcia**	**0.30**	**333**	⇑P	Pg	06 14 16.4	+0.5
NRCA				S	Sb	06 14 21.4	-1.0
NRCA				AML	AML		
	comp=E,114μm,0.4s						
NRCA				AML	AML		
	comp=N,166μm,0.1s						
NRCA				AML	AML		
	comp=E,114μm,0.4s						
NRCA				AML	AML		
	comp=N,166μm,0.1s						
NRCA	**Norcia**	**0.30**	**333**	S	Sb	06 14 21.4	-1.0
NRCA				AML	AML		
	comp=N,166μm,0.1s						
NRCA				AML	AML		
	comp=E,114μm,0.4s						
T1215	**Vallo di Nera,**	**0.40**	**307**	P	Pg	06 14 18.1	+0.4
T1215				S	Sb	06 14 24.1	-1.0
T1215	**Vallo di Nera,**	**0.40**	**307**	⇑P	Pg	06 14 18.1	+0.4
T1215				S	Sb	06 14 24.1	-1.0

NOU 29 06:20:33.8, 17.16S×168.25E, h35km, MLv3.8/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.56**	**186**	P	Pn	06 20 46.3	+0.9
RTV	**Rentapao**	**0.65**	**165**	P	Pn	06 20 47.6	+1.0
LIFNC	**LIFOU**	**3.72**	**195**	P	Pn	06 21 28.2	-0.6
YATNC	**Mamie plateau,**	**5.04**	**195**	P	Pn	06 21 46.5	-0.4
ONTNC	**Ouen Toro**	**5.39**	**198**	P	Pn	06 21 52.4	+0.6
OUENC	**Ouen Island, N**	**5.40**	**194**	P	Pn	06 21 52.8	+1.0

IDC 29 06:39:42.1±1.7, 6.36S×155.91E, h0km, mb4.0/4, mbtmp4.1/5, ML4.3/1, Error ellipse: s-maj=43.4km s-min=28.9km az=88.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.64**	**148**	P	P	06 44 01.7	0.0
	0.8nm,0.3s,baz=340,slow=3.0,SNR=12 2.5nm,0.4s						
WRA	**Warramunga Arr**	**24.93**	**235**	P	P	06 45 08.0	+0.8
	1.3nm,0.4s,baz=62,slow=8.8,SNR=29 1.3nm,0.4s						
ASAR	**Alice Springs**	**27.27**	**229**	P	P	06 45 27.9	-0.6
	0.8nm,0.3s,baz=60,slow=9.6,SNR=19 0.8nm,0.3s						
SONM	**Songino Array**	**69.30**	**327**	P	P	06 50 52.0	+0.5
	1.7nm,0.7s,baz=132,slow=5.1,SNR=5.3 1.7nm,0.7s						
MKAR	**Makanchi Array**	**83.53**	**318**	P	P	06 52 11.2	-0.9
	0.7nm,0.7s,baz=100,slow=6.3,SNR=3.5 0.7nm,0.7s						

NNC 29 06:41:12.9±2.0, 53.66N×88.25E, h0km, mb3.5, mpv3.1, 7C-5D, Error ellipse: s-maj=15.4km s-min=8.8km az=64.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.05**	**279**	⇑Pn	Pn	06 41 48.1	-0.5
	1.7nm,0.6s						
ZAA0				⇑Sn	Sb	06 42 16.1	-1.0
	7.1nm,0.9s						
ZAA0				⇓Rg	Rg	06 42 29.5	
KURK	**Kurchatov**	**6.61**	**247**	⇑Pn	Pn	06 42 52.0	+0.7
	1.2nm,0.6s						
KURK				⇓Lg	Lg	06 44 42.1	
	9.5nm,0.9s						
KURBB	**Kurchatov Arra**	**6.71**	**247**	⇑Pn	Pn	06 42 53.8	+1.2
	1.9nm,0.3s,baz=62,slow=14						
KURBB				⇑Sn	Sn	06 44 09.3	-0.4
	3.2nm,0.6s						
KURBB				⇓Lg	Lg	06 44 47.8	
	9.6nm,0.9s						
MK31	**Makanchi Array**	**7.86**	**211**	⇓Sn	Sn	06 44 39.8	+1.6
	0.5nm,0.5s						
MK31				⇑Lg	Lg	06 45 21.7	
	4.0nm,0.9s						
MAKZ	**Makanchi**	**7.95**	**213**	⇓Sn	Sn	06 44 42.0	+1.8
	1.4nm,0.8s						
MAKZ				⇑Lg	Lg	06 45 25.7	
	6.0nm,1.2s						

*GCG **29** 06:54:57.6±0.4, 12.91N×89.53W, h54km±114km, MD4.1 NEIC **29** 06:55:00.3±1.3, 13.17N±0.09×89.60W±0.08, h47km±29km, Md4.0(SNET), Error ellipse: s-maj=15.0km s-min=9.1km az=208.0*

ISC 29 06:55:00.7±1.5, 13.15N±0.07×89.56W±0.04, h31km±13km, n66, σ0.94/84, 16D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITCA	**Escuela Especi**	**0.59**	**27**	eP	Pb	06 55 12.2	-0.6
ITCA				eS	Sb	06 55 21.5	+0.6
PMON	**Piamonte**	**0.61**	**23**	⇓eP	Pb	06 55 12.5	-0.6
PMON				eS	Sb	06 55 22.6	+1.1
SNET	**Serv Nac Est T**	**0.62**	**30**		Pb	06 55 12.6	-0.7
SNET				Sn	Sb	06 55 22.2	+0.4
SNET	**Serv Nac Est T**	**0.62**	**30**	eP	Pb	06 55 12.6	-0.7
SNET				eS	Sb	06 55 23.0	+1.2
BOQS	**Boqueron**	**0.64**	**25**	eP	Pb	06 55 13.2	-0.5
BOQS				eS	Sb	06 55 24.1	+1.5
UEES	**Universidad Ev**	**0.65**	**28**	⇓eP	Pb	06 55 12.9	-0.8
UEES				eS	Sb	06 55 23.0	+0.5
UTEC	**Universidad Te**	**0.65**	**32**	eP	Pb	06 55 13.0	-0.7
UTEC				eS	Sb	06 55 23.3	+0.7
UESS	**Universidad de**	**0.67**	**31**	⇓eP	Pb	06 55 13.4	-0.6
UESS				eS	Sb	06 55 24.4	+1.3
CEDA	**San Andres**	**0.67**	**13**	⇓eP	Pb	06 55 13.3	-0.7
CEDA				eS	Sb	06 55 23.5	+0.4
LFRS	**El Faro**	**0.68**	**45**	⇓eP	Pb	06 55 13.5	-0.6
LFRS				eS	Sb	06 55 23.2	-0.1
IGN	**Direccin Gen**	**0.68**	**34**	eP	Pb	06 55 13.4	-0.8
CEVE	**Cerro Verde**	**0.68**	**354**	⇓eP	Pb	06 55 13.6	-0.8
CEVE				eS	Sb	06 55 24.2	+0.6
SBLS	**San Blas**	**0.69**	**355**	eP	Pb	06 55 13.6	-0.9
AEIL	**Aeropuerto Ilo**	**0.69**	**38**	eP	Pb	06 55 13.9	-0.5
AEIL				eS	Sb	06 55 25.3	+1.5
SJTE	**Alcalda de S**	**0.71**	**49**	⇓eP	Pb	06 55 14.0	-0.7
SJTE				eS	Sb	06 55 24.4	+0.3
SNJE	**San Jose**	**0.72**	**356**	eP	Pb	06 55 13.9	-1.0
SNJE				eS	Sb	06 55 25.3	+0.6
LFU	**La Fuente**	**0.74**	**36**	eP	Pb	06 55 14.6	-0.6
LFU				eS	Sb	06 55 25.7	+0.7
RTR	**El Retiro**	**0.75**	**353**	eP	Pb	06 55 14.3	-1.2
LBRS	**Las Brisas**	**0.77**	**40**	eP	Pb	06 55 15.1	-0.6
LBRS				eS	Sb	06 55 26.4	+0.4
NUBE	**Las Nubes**	**0.78**	**344**	⇓eP	Pb	06 55 14.6	-1.4
COEG	**Centro de Oper**	**0.81**	**54**	⇓eP	Pn	06 55 15.3	-1.1
PAVA	**Las Pavas**	**0.82**	**47**	⇓eP	Pn	06 55 16.0	-0.3
UNIC	**Universidad Ca**	**0.83**	**0**	eP	Pn	06 55 15.6	-0.8
UNIC				eS	Sb	06 55 26.5	-1.2
SNVI	**San Vicente**	**0.84**	**56**	eP	Pn	06 55 15.7	-0.9
LOAL	**Lomas de Alarc**	**0.88**	**346**	eP	Pn	06 55 16.2	-0.8
UESV	**Universidad de**	**0.89**	**57**	⇓eP	Pn	06 55 16.4	-0.8
SLOZ	**Alcaldia de Sa**	**0.90**	**346**	eP	Pn	06 55 16.4	-0.9
SCLA	**Alcaldia de Sa**	**0.98**	**55**	⇓eP	Pn	06 55 18.0	-0.4
COEB	**Comit de Eme**	**1.06**	**71**	eP	Pn	06 55 18.3	-1.2
PQSS	**Presa 15 de Se**	**1.08**	**64**	eP	Pn	06 55 18.8	-1.0
P5NO	**Presa 5 de nov**	**1.14**	**43**	⇓eP	Pn	06 55 20.0	-0.6
LLGN	**La Laguna**	**1.17**	**30**	eP	Pn	06 55 20.6	-0.6
PACA	**Pacayal**	**1.24**	**75**	eP	Pn	06 55 22.1	0.0
LCY	**Lacayo**	**1.26**	**77**	eP	Pn	06 55 21.0	-1.3
LCY				eS	Sn	06 55 38.1	-0.1
VSM	**San Miguel**	**1.28**	**77**	eP	Pn	06 55 22.1	-0.6
CNRM	**Centro Naciona**	**1.39**	**76**	eP	Pn	06 55 23.3	-0.7
ESQI	**Esquipulas**	**1.42**	**8**		Pb	06 55 24.4	-0.2
ESQI	**Esquipulas**	**1.42**	**8**	⇓eP	Pn	06 55 24.2	-0.4
PCG	**Pacaya**	**1.61**	**321**	eP	Pn	06 55 27.5	+0.3
NBG	**Las Nubes**	**1.63**	**332**	eP	Pn	06 55 28.0	+0.5
NBG				eS	Sb	06 55 51.7	+1.2
LCND	**La Caada**	**1.63**	**84**	⇓eP	Pn	06 55 26.7	-0.6
CNCH	**Conchagua**	**1.68**	**85**	⇓eP	Pn	06 55 27.2	-0.9
FUG	**Fuego 3**	**1.80**	**316**	eP	Pn	06 55 29.3	-0.5
MRL	**Marmol**	**1.93**	**356**	eP	Pn	06 55 32.2	+0.6
TGUH	**Tegucigalpa,Un**	**2.40**	**68**		Pn	06 55 37.3	-0.7

TGUH	Tegucigalpa,Un	2.40	68	*eP*		Pn	06 55 37.1	-0.9
RTAL	Retalhuleu	2.49	304			Pn	06 55 37.3	-1.8
STG3	Santiaguito 3,	2.50	309	*eP*		Pn	06 55 39.2	-0.3
CNGN	Cerro Negro	2.86	103			Pn	06 55 44.2	-0.1
HUEH	Huehuetenango	2.87	319			Pn	06 55 42.1	-2.4
MATN	Matagalpa	3.54	93			Pn	06 55 52.8	-1.0
PETF	Flores	3.76	355			Pn	06 55 54.8	-1.9
PETF	Flores	3.76	355	*eP*		Pn	06 55 56.3	-0.4
BOAB	BOACO BROADBAN	3.86	100			Pn	06 55 57.2	-0.7
CCIG	Comitan	4.00	322			Pn	06 55 58.1	-1.9
ACON	Acoyapa	4.43	105	Pn		Pn	06 56 05.7	-0.2
HZTE	Horizontes, Gu	4.57	122	Pn		Pn	06 56 08.0	+0.3
ORTG	Ortega, Santa	4.87	124			Pn	06 56 12.8	+0.8
DUNO	Dulce Nombre,	5.01	127	Pn		Pn	06 56 14.3	+0.4
ESPN	Las Esperanzas	5.21	100	Pn		Pn	06 56 14.4	-2.2
COVE	Coope Vega, Sa	5.59	115	Pn		Pn	06 56 21.4	-0.4
JACO	JACO, Garabito	5.92	125	Pn		Pn	06 56 27.5	+1.2
RIMA	Rio Macho	6.51	120	Pn		Pn	06 56 36.9	+2.3
TEIG	Tepich	7.15	10	Pn		Pn	06 56 43.5	+0.3
SRBA	San Rafael, Bu	7.22	122	Pn		Pn	06 56 43.8	-0.4
SOR	Soroa	11.44	32	Pn		Pn	06 57 44.1	+2.1

IDC ***29*** *07:04:54.9±1.7,60˚14N×21˚50E,h0km,mbtmp2.9/4, ML2.2/4,Error ellipse: s-maj=31.0km s-min=7.3km az=161.0*
DNK ***29*** *07:04:54.6±0.9,60˚08N×21˚41E,h0km,ML2.8(UPP), Suspected explosion*
HEL ***29*** *07:04:55.1±0.1,60˚04N×21˚35E,h0km,ML2.3, ML2.8(UPP),Explosion*
UPP ***29*** *07:04:55.0±0.5,60˚05N×21˚29E,h0km,ML2.8,Suspected explosion*
BER ***29*** *07:04:56.6±1.3,60˚08N×21˚42E,h0km,ML2.3(HEL), Suspected explosion*

ISC 29 07:04:53.2±0.7, 60˚10N±0˚03×21˚47E±0˚02, h0km, n75, σ1s27/99, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAL	**Aland**	**0.74**	**277**	P		**Pg**		**07 05 07.5**	**0.0**
AAL				S		**Sg**		**07 05 17.2**	**+0.1**
AAL	**Aland**	**0.74**	**277**	*eP*		**Pg**		**07 05 07.4**	**0.0**
AAL				*eS*		**Sg**		**07 05 16.8**	**-0.2**
RAF	**Rauma**	**0.94**	**9**	*eP*		**Pg**		**07 05 11.4**	**+0.3**
RAF	**Rauma**	**0.94**	**9**	*eP*		**Pg**		**07 05 11.4**	**+0.3**
RAF				*eS*		**Sb**		**07 05 24.9**	**-0.4**
MEF	**Metsahovi**	**1.47**	**84**	*eP*		**Pb**		**07 05 21.2**	**-0.1**
MEF				IAML				07 05 46.0	
	comp=Z,35nm,0.2s								
MEF	**Metsahovi**	**1.47**	**84**	*eP*		**Pb**		**07 05 21.3**	**0.0**
MEF				*eS*		**Sn**		**07 05 42.1**	**+1.4**
MEF	**Metsahovi**	**1.47**	**84**	*eP*		**Pb**		**07 05 21.3**	**0.0**
MEF				*eS*		**Sn**		**07 05 42.1**	**+1.4**
NRTU	**Norrtaelje**	**1.49**	**255**	P		**Pn**		**07 05 20.3**	**-0.9**
NRTU				S		**Sn**		**07 05 40.9**	**-0.5**
NRTU	**Norrtaelje**	**1.49**	**255**	P		**Pn**		**07 05 20.3**	**-0.9**
NRTU				S		**Sn**		**07 05 40.9**	**-0.5**
NRTU	**Norrtaelje**	**1.49**	**255**	*eP*		**Pn**		**07 05 20.3**	**-0.9**
NRTU				*eS*		**Sn**		**07 05 40.9**	**-0.5**
NUR	**Nurmijrvi**	**1.64**	**74**	*eP*		**Pg**		**07 05 24.2**	**-0.2**
NUR				*eS*		**Sg**		**07 05 46.0**	**+0.3**
NUR	**Nurmijrvi**	**1.64**	**74**	*eP*		**Pg**		**07 05 24.2**	**-0.2**
NUR				*eS*		**Sg**		**07 05 46.0**	**+0.3**
FLYU	**Flymyra**	**1.80**	**272**	P		**Pn**		**07 05 25.5**	**+0.1**
FLYU	**Flymyra**	**1.80**	**272**	P		**Pn**		**07 05 25.5**	**+0.1**
FLYU	**Flymyra**	**1.80**	**272**	*eP*		**Pn**		**07 05 25.5**	**+0.1**
MTSE	**Matsula**	**1.84**	**138**	*eP*		**Pb**		**07 05 27.1**	**-0.5**
MTSE				IAML				07 05 54.1	
	comp=Z,101nm,0.2s								
MTSE	**Matsula**	**1.84**	**138**	*eP*		**Pb**		**07 05 27.4**	**-0.2**
MTSE				*eS*		**Sb**		**07 05 50.8**	**-0.3**
MTSE	**Matsula**	**1.84**	**138**	*eP*		**Pb**		**07 05 27.4**	**-0.2**
MTSE				*eS*		**Sb**		**07 05 50.8**	**-0.3**
UPP	**Uppsala**	**1.95**	**264**	P		**Pn**		**07 05 28.2**	**+0.8**
UPP	**Uppsala**	**1.95**	**264**	*eP*		**Pn**		**07 05 28.2**	**+0.8**
FIBU	**Brunna**	**2.08**	**266**	P		**Pn**		**07 05 30.2**	**+1.0**
FIBU	**Brunna**	**2.08**	**266**	P		**Pn**		**07 05 30.2**	**+1.0**
NYNU	**Nynaeshamn**	**2.08**	**240**	P		**Pn**		**07 05 30.4**	**+1.2**
NYNU	**Nynaeshamn**	**2.08**	**240**	P		**Pn**		**07 05 30.4**	**+1.2**
NYNU	**Nynaeshamn**	**2.08**	**240**	*eP*		**Pn**		**07 05 30.4**	**+1.2**
OSTU	**Oestervaala**	**2.17**	**275**	P		**Pn**		**07 05 31.7**	**+1.1**
OSTU	**Oestervaala**	**2.17**	**275**	P		**Pn**		**07 05 31.7**	**+1.1**
OSTU	**Oestervaala**	**2.17**	**275**	*eP*		**Pn**		**07 05 31.7**	**+1.1**
IGGU	**Iggoen**	**2.20**	**292**	P		**Pn**		**07 05 32.7**	**+1.8**
IGGU	**Iggoen**	**2.20**	**292**	P		**Pn**		**07 05 32.7**	**+1.8**
IGGU	**Iggoen**	**2.20**	**292**	*eP*		**Pn**		**07 05 32.7**	**+1.8**
BACU	**Backbrunna**	**2.21**	**265**	P		**Pn**		**07 05 32.4**	**+1.4**
BACU	**Backbrunna**	**2.21**	**265**	P		**Pn**		**07 05 32.4**	**+1.4**
BACU	**Backbrunna**	**2.21**	**265**	*eP*		**Pn**		**07 05 32.4**	**+1.4**
PVF	**Pernaja**	**2.23**	**77**	*eP*		**Pb**		**07 05 34.1**	**-0.2**
PVF				MSG				07 06 06.9	
	comp=Z,30nm,0.1s								
PVF	**Pernaja**	**2.23**	**77**	*eP*		**Pb**		**07 05 34.1**	**-0.2**
PVF				*eS*		**Sg**		**07 06 03.0**	**-1.8**
PVF				MSG				07 06 06.9	
	comp=Z,30nm,0.1s								
SLIT	**Slitere, Latvi**	**2.52**	**170**	*eP*		**Pn**		**07 05 36.4**	**+1.1**
SLIT	**Slitere, Latvi**	**2.52**	**170**	*eP*		**Pn**		**07 05 36.0**	**+0.8**
SLIT				*eS*		**Sn**		**07 06 05.8**	**-0.8**
ARNU	**Arnoeviken**	**2.56**	**310**	P		**Pn**		**07 05 37.7**	**+1.8**
ARNU	**Arnoeviken**	**2.56**	**310**	P		**Pn**		**07 05 37.7**	**+1.8**
ARNU	**Arnoeviken**	**2.56**	**310**	*eP*		**Pn**		**07 05 37.7**	**+1.8**
FIA0	**FINESS Array S**	**2.63**	**57**	*eP*		**Pb**		**07 05 39.9**	**-1.3**
FIA0				*eS*		**Sb**		**07 06 13.1**	**-0.9**
FINES	**FINESS Array B**	**2.63**	**57**	Pn		**Pb**		**07 05 40.2**	**-0.9**
	comp=Z,2.0nm,0.3s,baz=239,slow=13,SNR=126								
FINES				Lg		Lg		07 06 15.1	
	comp=Z,4.8nm,0.3s,baz=243,slow=23,SNR=23								
FINES				Rg		Rg		07 06 31.4	
	comp=Z,9.2nm,0.9s,baz=242,slow=32,SNR=7.5								
	comp=Z,4.7nm,0.2s								
FIA1	**FINESS Array S**	**2.63**	**57**	*eP*		**Pb**		**07 05 40.5**	**-0.7**
FIA1				*eS*		**Sb**		**07 06 12.5**	**-1.5**
KEF	**Keuruu**	**2.65**	**37**	*eP*		**Pb**		**07 05 40.8**	**-0.7**
KEF				*eS*		**Sb**		**07 06 13.5**	**-1.0**
KEF				MSG				07 06 18.2	
	comp=Z,9.2nm,0.1s								
HUDU	**Hudiksvall**	**2.69**	**310**	P		**Pn**		**07 05 39.1**	**+1.5**
HUDU	**Hudiksvall**	**2.69**	**310**	P		**Pn**		**07 05 39.1**	**+1.5**
HUDU	**Hudiksvall**	**2.69**	**310**	*eP*		**Pn**		**07 05 39.1**	**+1.5**
ESKU	**Eskilstuna**	**2.72**	**253**	P		**Pn**		**07 05 39.5**	**+1.5**
ESKU	**Eskilstuna**	**2.72**	**253**	P		**Pn**		**07 05 39.5**	**+1.5**
ESKU	**Eskilstuna**	**2.72**	**253**	*eP*		**Pn**		**07 05 39.5**	**+1.5**
VAF	**Ylistaro**	**3.01**	**10**	*eP*		**Pb**		**07 05 45.2**	**-2.3**
VAF				*eS*		**Sn**		**07 06 21.3**	**+2.6**
VAF				MSG				07 06 29.1	
	comp=Z,3.8nm,0.1s								
VJF	**Virojoki**	**3.06**	**79**	*eS*		**Sb**		**07 06 22.7**	**-3.5**
VJF				MSG				07 06 31.2	
	comp=Z,8.3nm,0.1s								
HEMU	**Hemsoen**	**3.07**	**329**	*eP*		**Pn**		**07 05 44.9**	**+2.1**
HEMU				*eS*		**Sn**		**07 06 22.1**	**+1.9**
KAF	**Kangasniemi**	**3.10**	**47**	*eP*		**Pb**		**07 05 46.7**	**-2.4**
KAF				*eS*		**Sb**		**07 06 23.8**	**-3.6**
KAF				MSG				07 06 30.6	
	comp=Z,11nm,0.1s								
HUSU	**Husum**	**3.42**	**343**	*eP*		**Pn**		**07 05 49.9**	**+2.2**
HUSU				*eS*		**Sn**		**07 06 30.4**	**+1.5**
UMAU	**Umeaa**	**3.81**	**355**	*eP*		**Pn**		**07 05 55.0**	**+1.9**
UMAU				*eS*		**Sn**		**07 06 39.4**	**+0.8**
HFS	**Hagfors**	**3.89**	**274**	Pn		**Pn**		**07 05 55.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=82,slow=13,SNR=5.2								
HFS				Pg		**Pb**		**07 06 01.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=85,slow=16,SNR=19								
HFS				Lg		Lg		07 06 52.5	
	comp=Z,2.3nm,0.3s,baz=86,slow=31,SNR=13								
	comp=Z,0.7nm,0.5s								
RUF	**Ruokolahti**	**3.90**	**67**	*eS*		**Sn**		**07 06 42.8**	**+2.0**
BURU	**Burvik**	**4.50**	**359**	*eP*		**Pn**		**07 06 04.8**	**+2.3**
BURU				*eS*		**Sn**		**07 06 57.2**	**+1.7**
NC602	**NORSAR Array S**	**4.96**	**282**	*eP*		**Pn**		**07 06 09.9**	**+1.0**
NC303	**NORSAR Array S**	**5.09**	**287**	*eP*		**Pn**		**07 06 11.4**	**+0.7**
NB201	**NORSAR Array S**	**5.11**	**285**	*eP*		**Pn**		**07 06 11.5**	**+0.6**
NOA	**NORSAR Array B**	**5.15**	**285**	Pn		**Pn**		**07 06 11.8**	**+0.3**
	baz=164,slow=11,SNR=4.8								
	comp=Z,0.4nm,0.6s								
NAO01	**NORSAR Array S**	**5.29**	**283**	*eP*		**Pn**		**07 06 14.7**	**+1.3**
STRU	**Stroemstad**	**5.34**	**263**	*eP*		**Pn**		**07 06 15.2**	**+1.2**
NC204	**NORSAR Array S**	**5.39**	**287**	*eP*		**Pn**		**07 06 15.3**	**+0.4**
SALU	**Saltoluokta**	**7.42**	**351**	*eP*		**Pn**		**07 06 43.4**	**+0.8**
FAUS	**Fauske**	**7.80**	**342**	*eP*		**Pn**		**07 06 48.1**	**+0.4**
STEI	**Steigen**	**8.32**	**344**	*eP*		**Pn**		**07 06 54.8**	**0.0**
HEF	**Hetta**	**8.39**	**6**	*eP*		**Pn**		**07 06 55.7**	**-0.2**
KTK1	**Kautokeino**	**8.98**	**4**	*eP*		**Pn**		**07 07 04.0**	**+0.1**
ARA0	**ARCESS Array S**	**9.62**	**9**	*eP*		**Pn**		**07 07 12.3**	**-0.4**
ARCES	**ARCESS Array B**	**9.62**	**9**	Pn		**Pn**		**07 07 11.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=189,slow=14,SNR=16								
	comp=Z,0.4nm,0.3s								
KEV	**Kevo**	**9.97**	**11**	*eP*		**Pn**		**07 07 17.6**	**+0.2**

ISK ***29*** *07:12:12.8,35˚88N×32˚21E,h46km±1km,ML2.6/13*
NIC ***29*** *07:12:13.3±0.0,35˚92N×32˚33E,h38km±18km,ML2.3/3*
DDA ***29*** *07:12:13.0±0.0,36˚11N×32˚08E,h52km±4km,ML2.4*

ISC 29 07:12:12.0±1.5, 35˚90N±0˚04×32˚11E±0˚06, h58km±12km, n24, σ0s61/36, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.38**	**26**	PG		**Pn**		**07 12 22.5**	**-0.2**
GAZI				SG		**Sn**		**07 12 30.0**	**-0.4**
GAZI	**Gazipasa**	**0.38**	**26**	P		**Pn**		**07 12 22.6**	**-0.2**
GAZI				S		**Sn**		**07 12 30.5**	**+0.1**
ALFC	**Alefka**	**0.84**	**151**	P		**Pn**		**07 12 28.2**	**+0.3**
ALFC				S		**Sn**		**07 12 40.3**	**+0.6**
ALFC				AML	AML			07 12 41.0	
	0.6nm,0.2s								
ALFC				AML	AML			07 12 41.0	
	0.6nm,0.2s								
ALFC				AML	AML			07 12 41.2	
	0.5nm,0.2s								
ALFC				AML	AML			07 12 41.2	
	0.5nm,0.2s								
AKMS	**Akamas**	**0.89**	**168**	P		**Pn**		**07 12 29.3**	**+0.6**
AKMS				S		**Sn**		**07 12 42.1**	**+1.2**
AKMS				AML	AML			07 12 49.9	
	0.2nm,0.4s								
AKMS				AML	AML			07 12 49.9	
	0.2nm,0.4s								
AKMS				AML	AML			07 12 50.1	
	0.3nm,0.3s								
AKMS				AML	AML			07 12 50.1	
	0.3nm,0.3s								
ERMK	**Ermenek**	**0.99**	**41**	P		**Pn**		**07 12 30.7**	**+0.6**
ERMK				S		**Sn**		**07 12 44.5**	**+1.1**
LEF	**Lefka**	**1.00**	**140**	PG		**Pn**		**07 12 30.2**	**+0.1**
LEF				SG		**Sn**		**07 12 42.6**	**-0.8**
BERE	**Bereket-Mersin**	**1.01**	**63**	PG		**Pn**		**07 12 30.4**	**+0.1**
KEPZ	**Antalya-Kepez**	**1.08**	**338**	P		**Pn**		**07 12 31.0**	**-0.1**
KEPZ				S		**Sn**		**07 12 44.8**	**-0.6**
AKK2	**Akkuyu-Mersin**	**1.19**	**78**	PN		**Pn**		**07 12 32.7**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.20**	**77**	PN		**Pn**		**07 12 32.9**	**+0.3**
TEVE	**Tevekalti-Mers**	**1.21**	**63**	PN		**Pn**		**07 12 32.9**	**0.0**
YESI	**Yesilovacik-Me**	**1.28**	**76**	PN		**Pn**		**07 12 34.0**	**+0.3**
TISA	**Tisan-Mersin**	**1.30**	**78**	PN		**Pn**		**07 12 34.4**	**+0.4**
LFK	**Lefkose**	**1.31**	**117**	PN		**Pn**		**07 12 34.4**	**+0.2**
IKL	**Isikli**	**1.32**	**75**	PN		**Pn**		**07 12 34.8**	**+0.5**
IKL				SN		**Sn**		**07 12 50.4**	**-0.6**
KARG	**Kargicak-Mersi**	**1.33**	**76**	PN		**Pn**		**07 12 34.8**	**+0.3**
CSS	**Mathiatis**	**1.36**	**133**	P		**Pn**		**07 12 34.2**	**-0.7**
CSS				S		**Sn**		**07 12 50.9**	**-1.1**
KEBE	**Keben-Mersin**	**1.41**	**67**	PN		**Pn**		**07 12 36.0**	**+0.4**
KEBE				SN		**Sn**		**07 12 52.8**	**-0.4**
MVOU	**Mavrovouni**	**1.52**	**125**	P		**Pn**		**07 12 36.6**	**-0.4**
MVOU				S		**Sn**		**07 12 54.5**	**-1.2**
MVOU				AML	AML			07 12 55.1	
	0.1nm,0.3s								
MVOU				AML	AML			07 12 55.1	
	0.1nm,0.3s								
MVOU				AML	AML			07 12 55.8	
	0.1nm,0.2s								
MVOU				AML	AML			07 12 55.8	
	0.1nm,0.2s								
SILI	**Silifke-Mersin**	**1.54**	**72**	PN		**Pn**		**07 12 37.8**	**+0.5**
SEDI	**Konya, Seydise**	**1.58**	**350**	P		**Pn**		**07 12 38.3**	**+0.4**
SEDI				S		**Sn**		**07 12 56.6**	**-0.8**
SEDI				*i* AML	AML			07 12 59.0	
	comp=N,16nm,0.5s								
EREN	**Erenkoy**	**1.72**	**102**	PN		**Pn**		**07 12 40.2**	**+0.6**
KIZK	**Mersin**	**1.75**	**70**	PN		**Pn**		**07 12 40.8**	**+0.8**
KERG	**Konya-Eregli**	**2.22**	**46**	P		**Pn**		**07 12 47.0**	**+0.3**

KRNET ***29*** *07:19:21.7±0.1,40˚68N×72˚93E,h26km,mb2.9*
ISU ***29*** *07:19:22,40˚74N×72˚85E,h12km*
NNC ***29*** *07:19:22.4±1.3,40˚79N×72˚96E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=10.5km s-min=4.6km az=172.0*
SOME ***29*** *07:19:22.2,40˚82N×72˚92E,h10km*

ISC 29 07:19:20.3±0.9, 40˚77N±0˚03×72˚98E±0˚03, h14km±8km, n34, σ1s12/56, 15C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.28**	**212**	⇓*i*	P	**Pg**		**07 19 26.7**	**+0.3**
OHH	baz=15								
				⇓*i*	S	**Sg**		**07 19 30.2**	**-0.2**
	baz=15								
OHH	**Osh**	**0.28**	**212**	P		**Pg**		**07 19 26.1**	**-0.3**
OHH				S		**Sg**		**07 19 29.9**	**-0.5**
FRG	**Fergana**	**0.99**	**247**	P		**Sg**		**07 19 52.3**	**-0.2**
CHMI	**Chimion**	**1.22**	**246**	P		**Pg**		**07 19 44.0**	**+0.2**
CHMI				S		**Sn**		**07 20 00.1**	**+0.7**
ARK	**Arkit**	**1.28**	**324**	P		**Pg**		**07 19 45.3**	**+0.2**
ARK				S		**Sg**		**07 20 02.9**	**+1.1**
ARLS	**Aral**	**1.49**	**42**	⇑*i*	P	**Pg**		**07 19 50.4**	**+1.4**
ARLS	baz=41			⇑*i*	S	**Sg**		**07 20 11.4**	**+3.0**
	baz=41								
MINT	**Mingtut**	**1.56**	**260**	P		Pg		07 20 09.1	+19
MINT				S		Sg		07 20 36.8	+26
DRK	**Karamyk**	**1.57**	**216**	⇑*i*	P	**Pn**		**07 19 48.8**	**+0.7**
DRK	baz=16			⇑*i*	S	**Sn**		**07 20 08.5**	**0.0**
	baz=16								
TRKS	**Terek-Say**	**1.59**	**299**	⇑*i*	P	**Pb**		**07 19 49.9**	**+0.3**
TRKS	baz=1.0			⇑*i*	S	**Sb**		**07 20 10.1**	**+0.6**
	baz=1.0								
BTK	**Batken**	**1.80**	**247**	⇑*i*	P	**Pb**		**07 19 52.8**	**-0.3**
BTK	baz=50			⇑*i*	S	**Sb**		**07 20 15.1**	**-0.4**
	baz=50								
BTK	**Batken**	**1.80**	**247**	P		**Pn**		**07 19 51.5**	**+0.5**
BTK				S		**Sb**		**07 20 14.6**	**-0.9**
UCH	**Uchtor**	**1.86**	**38**	⇓*i*	P	**Pg**		**07 19 55.8**	**-0.3**
UCH	baz=37			⇓*i*	S	**Sg**		**07 20 20.6**	**+0.4**
	baz=37								
EKS2	**Erkin-Say**	**1.98**	**17**	⇑*i*	P	**Pg**		**07 19 57.6**	**-0.8**
EKS2	baz=18			⇑*i*	S	**Sg**		**07 20 23.5**	**-0.7**
	baz=18								
MRKS	**Merke**	**1.98**	**5**	*eP*		**Pg**		**07 19 59.3**	**+0.8**
MRKS	44nm,0.4s			*eS*		**Sg**		**07 20 26.1**	**+1.9**
	66nm,0.4s								
MRKS	**Merke**	**1.98**	**5**	Pg		**Pg**		**07 19 59.3**	**+0.8**
MRKS	44nm,0.4s			Lg		Lg		07 20 26.5	
	66nm,0.4s								
AAK	**Ala-Archa**	**2.19**	**31**	⇓*i*	P	**Pb**		**07 20 00.7**	**+0.9**
AAK	baz=30			⇓*i*	S	**Sb**		**07 20 28.7**	**+1.9**
	baz=30								
IUG	**Iuzhnay**	**2.61**	**303**	*eP*		**Pg**		**07 20 09.4**	**-1.0**
IUG	123nm,0.4s			*eS*		**Sg**		**07 20 43.6**	**-0.6**
	58nm,0.5s								
IUG	**Iuzhnay**	**2.61**	**303**	Pg		**Pg**		**07 20 09.4**	**-1.0**
IUG	123nm,0.4s			Lg		Lg		07 20 43.6	
	58nm,0.5s								
GAR	**Garm**	**2.71**	**230**	⇑*i*	P	**Pn**		**07 20 04.8**	**+1.2**
GAR	baz=31			⇑*i*	S	**Sn**		**07 20 36.4**	**+0.2**
	baz=31								
BOOM	**Boomskoye usch**	**2.81**	**51**	⇑*i*	P	**Pb**		**07 20 09.0**	**-1.4**
BOOM	baz=50			⇑*i*	S	**Sb**		**07 20 43.4**	**-1.3**
	baz=50								
KK31	**Karatay Array**	**2.97**	**323**	⇑Pg		**Pg**		**07 20 15.8**	**-1.5**
KK31	0.5nm,0.3s,baz=133,slow=14,SNR=7.6			⇓Lg		Lg		07 20 55.1	
	4.6nm,0.3s,baz=130,slow=29,SNR=12								
KST	**Kastek**	**3.18**	**43**	*eP*		**Pg**		**07 20 20.8**	**-0.6**
KST	2.8nm,0.7s			*eS*		**Sg**		**07 21 02.9**	**+0.3**
	8.6nm,0.3s								
KST	**Kastek**	**3.18**	**43**	Pg		**Pg**		**07 20 20.7**	**-0.6**
KST	2.8nm,0.7s			Lg		Lg		07 21 02.9	
	8.6nm,0.3s								
DGS	**Degeres**	**3.23**	**39**	*eP*		**Pg**		**07 20 21.3**	**-0.9**
DGS	2.8nm,0.3s			*eS*		**Sg**		**07 21 03.7**	**-0.4**
	7.4nm,0.6s								
DGS	**Degeres**	**3.23**	**39**	Pg		**Pg**		**07 20 21.3**	**-0.9**
DGS	2.8nm,0.3s			Lg		Lg		07 21 03.7	
	7.4nm,0.6s								
KRBS	**Karabastau**	**3.54**	**33**	*eP*		**Pg**		**07 20 26.9**	**-1.4**
KRBS	2.3nm,0.4s			*eS*		**Sg**		**07 21 13.6**	**-0.5**
	8.7nm,0.5s								
KRBS	**Karabastau**	**3.54**	**33**	Pg		**Pg**		**07 20 26.9**	**-1.4**
KRBS	2.3nm,0.4s			Lg		Lg		07 21 13.6	
	8.7nm,0.5s								
TNSS	**Tian-Shan**	**3.73**	**51**	*eP*		**Pg**		**07 20 31.5**	**-0.3**
TNSS	3.8nm,0.3s			*eS*		**Sg**		**07 21 20.9**	**+0.8**
	3.7nm,0.5s								
KUU	**Kurty**	**3.99**	**37**	*eP*		**Pg**		**07 20 35.1**	**-1.8**
KUU	1.4nm,0.4s			*eS*		**Sg**		**07 21 27.4**	**-1.1**
	9.4nm,0.5s								
KUU	**Kurty**	**3.99**	**37**	Pg		**Pg**		**07 20 35.1**	**-1.8**
KUU	1.4nm,0.4s			Lg		Lg		07 21 27.4	
	9.4nm,0.5s								
KTBS	**Karatobe**	**4.03**	**42**	*eP*		**Pg**		**07 20 36.0**	**-1.5**
KTBS	1.1nm,0.3s			*eS*		**Sg**		**07 21 28.9**	**-0.6**
	15nm,0.5s								
KTBS	**Karatobe**	**4.03**	**42**	Pg		**Pg**		**07 20 36.0**	**-1.5**
KTBS	1.1nm,0.3s			Lg		Lg		07 21 29.0	
	15nm,0.5s								
BTLS	**Baital**	**4.34**	**10**	*eP*		**Pg**		**07 20 41.6**	**-1.9**
BTLS	2.4nm,0.3s			*eS*		**Sg**		**07 21 38.5**	**-1.3**
	6.4nm,0.3s								
BTLS	**Baital**	**4.34**	**10**	Pg		**Pg**		**07 20 41.6**	**-1.9**
BTLS	2.4nm,0.3s			Lg		Lg		07 21 38.5	
	6.4nm,0.3s								

IDC ***29*** *07:33:25.6±4.4,31˚43N×141˚39E,h0km,mb3.7/4, mbtmp3.6/6,ML2.9/2,MS3.0/2,Error ellipse: s-maj=168.1km s-min=18.5km az=68.0*
JMA ***29*** *07:33:26.2±0.4,32˚N±2˚×14˚2E±˚,h48km,MV3.5/10, NEAR TORISHIMA IS*

ISC 29 07:33:27.7±1.4, 31˚69N±0˚09×141˚9E±0˚1, h29km, n13, σ0s83/15, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.28**	**309**	*eP*		**Pn**		**07 34 02.9**	**-0.6**
JHJ2				*eS*		**Sn**		**07 34 30.1**	**-0.6**
JHJ	**Hachijo jima 2**	**2.31**	**309**	Pn		**Pn**		**07 34 02.4**	**-1.4**
	15nm,0.3s,baz=80,slow=19,SNR=6.3								
JHJ				Sn		**Sn**		**07 34 31.9**	**+0.6**
	24nm,0.3s,baz=66,slow=20,SNR=2.4								
	40nm,0.4s								
BSO1	**Boso 1**	**3.06**	**345**	*eP*		**Pn**		**07 34 13.7**	**0.0**
BSO1				*eS*		**Sn**		**07 34 49.4**	**+0.2**
JRY	**Ryogami san**	**5.00**	**331**	*eP*		**Pn**		**07 34 41.5**	**+0.7**
JHO	**Hitachi**	**5.04**	**347**	*eP*		**Pn**		**07 34 40.5**	**-0.8**
JHO				*eS*		**Sn**		**07 35 37.4**	**-1.2**
JAG	**Ashikaga**	**5.15**	**337**	*eP*		**Pn**		**07 34 42.9**	**-0.1**
MJAR	**Matsushiro Arr**	**5.74**	**329**	Pn		**Pn**		**07 34 52.3**	**+1.3**
	0.2nm,0.3s,baz=140,slow=11,SNR=4.9								
	1.2nm,0.4s								
KSRS	**Korea Array**	**12.89**	**300**	LR		LR		07 41 05.0	
	comp=Z,21nm,18.3s,baz=100,slow=36								
MKAR	**Makanchi Array**	**47

comp=Z,6.4nm,0.2s

RSNC 29 07:41:27.0±1.1, 2°.84N×76°.09W, h0km±3km, ML2.1, 2C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POPC	**Popayan, Colom**	**0.66**	**243**⇓	*e*P	Pg	07 41 39.2	-0.4
POPC				*e*S	Sg	07 41 47.7	-0.4
POPC				IAML		07 41 48.5	
	comp=Z,38nm,0.2s						
BETC	**Betania**	**0.67**	**104**	*e*S	Sg	07 41 49.7	+1.2
GARC	**Garzon, Huila**	**0.88**	**137**⇑	*e*P	Pg	07 41 43.7	-0.2
GARC				IAML		07 41 56.7	
	comp=Z,90nm,0.2s						
YOTC	**Yotoco, Valle**	**1.17**	**347**	*e*P	Pg	07 41 48.2	-1.2
YOTC				*e*S	Sg	07 42 04.0	-0.5
YOTC				IAML		07 42 04.5	
	comp=Z,24nm,0.3s						
FLOC	**Florencia**	**1.32**	**161**⇑	*e*P	Pg	07 41 51.1	-1.2
FLOC				*e*S	Sg	07 42 08.5	-1.1
FLOC				IAML		07 42 17.0	
	comp=Z,11nm,0.4s						
BBAC	**Balboa, Cauca**	**1.41**	**235**	*e*P	Pg	07 41 52.6	-1.5
ANIL	**Santa Ana**	**1.78**	**23**	*e*P	Pb	07 42 00.1	-0.6
ANIL				*e*S	Sb	07 42 23.4	-0.3
ANIL	**Santa Ana**	**1.78**	**23**	*e*P	Pb	07 42 00.1	-0.6
ANIL				*e*S	Sb	07 42 23.4	-0.3
ANIL				IAML		07 42 27.7	
	comp=Z,35nm,0.2s						
MACC	**Macarena, Meta**	**2.34**	**107**	*e*P	Pn	07 42 08.3	+1.5
MACC				*e*S	Sb	07 42 39.0	-0.7
MACC				IAML		07 42 41.4	
	comp=Z,28nm,0.6s						
PTLC	**Puerto Leguiza**	**2.95**	**154**	*e*P	Pb	07 42 21.9	+1.4
PTLC				*e*S	Sg	07 43 04.8	+3.0
PTLC				IAML		07 43 15.1	
	comp=Z,5.7nm,0.3s						

IDC ***29*** *07:59:26.1±8.6, 7°.30S×128°.42E, h107km±92km, mb3.4/1, mbtmp4.1/5, ML4.0/4, Error ellipse: s-maj=74.7km s-min=26.5km az=28.0*

ISC 29 07:59:27.9±1.4, 7°.5S±0°.1×128°.37E±0°.09, h100km, n13, σ2s 90/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.64**	**241**	P	Pn	08 00 41.1	+5.2
BATI	**Baumata**	**5.38**	**239**	P	**Pn**	**08 00 46.4**	**+0.6**
	6.9nm,0.3s,baz=72,slow=3.2,SNR=3.1						
BATI				S	**Sn**	**08 01 48.9**	**+2.4**
	61nm,0.4s,baz=329,slow=17,SNR=12						
	25nm,0.3s						
KDU	**Kakadu**	**6.56**	**142**	P	**Pn**	**08 01 05.8**	**+3.9**
KNRA	**Kununurra**	**8.15**	**177**	P	**Pn**	**08 01 25.6**	**+2.1**
FITZ	**Fitzroy Crossi**	**10.88**	**194**	P	**Pn**	**08 01 59.6**	**-1.0**
	1.0nm,0.3s,baz=18,slow=10,SNR=25						
FITZ				S	Sn	08 03 52.1	-8.3
	3.5nm,0.3s,baz=142,slow=20,SNR=8.4						
	5.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.88**	**194**	P	**Pn**	**08 02 00.4**	**-0.2**
WRAB	**Tennant Creek**	**13.67**	**155**	P	**Pn**	**08 02 38.2**	**+0.6**
WRA	**Warramunga Arr**	**13.67**	**156**	P	**Pn**	**08 02 36.8**	**-0.9**
	0.4nm,0.3s,baz=327,slow=12,SNR=21						
WRA				S	Sn	08 04 58.8	-9.4
	2.9nm,0.3s,baz=333,slow=22,SNR=14						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**16.94**	**162**	P	**P**	**08 03 20.3**	**+1.0**
	1.3nm,0.3s,baz=342,slow=11,SNR=121						
ASAR				S	**Sn**	**08 06 20.5**	**-6.8**
	1.6nm,0.6s,baz=326,slow=22,SNR=6.8						
	5.2nm,0.4s						
QIS	**Mount Isa**	**16.95**	**141**	P	**P**	**08 03 21.3**	**+1.9**
WRKA	**Warakurna**	**17.45**	**180**	P	**Pn**	**08 03 25.8**	**+0.6**
OOD	**Oodnadatta**	**21.36**	**162**	P	**P**	**08 04 07.9**	**+0.7**
MKAR	**Makanchi Array**	**67.75**	**328**	P	**P**	**08 10 11.4**	**-3.5**
	0.4nm,0.5s,baz=120,slow=8.6,SNR=5.9						
	0.4nm,0.5s						

ROM 29 08:10:23.8±0.1, 42°.783N±0°.003×13°.222E±0°.004, h9km, ML1.7/11, 8C-4D, Error ellipse: s-maj=0.3km s-min=0.2km az=245.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1242	**Castelluccio d**	**0.05**	**344**	P	Pg	08 10 25.7	-0.2
T1242				S	Sg	08 10 26.8	-0.6
T1242				AML	AML		
	comp=E,878μm,1.0s						
T1242				AML	AML		
	comp=N,1475μm,0.6s						
T1242				AML	AML		
	comp=E,829μm,1.0s						
T1242				AML	AML		
	comp=N,1440μm,0.6s						
T1242				AML	AML		
	comp=E,2740μm,0.1s						
T1242				AML	AML		
	comp=N,4160μm,0.2s						
T1242				END			
T1242	**Castelluccio d**	**0.05**	**344**	P	Pg	08 10 25.7	-0.1
T1242				S	Sg	08 10 26.8	-0.5
T1202	**Accumoli, Fraz**	**0.08**	**179**	P	Pg	08 10 26.4	+0.3
T1202				S	Sg	08 10 28.4	+0.6
T1202				AML	AML		
	comp=E,829μm,0.2s						
T1202				AML	AML		
	comp=N,1375μm,0.3s						
T1202				AML	AML		
	comp=E,1795μm,0.2s						
T1202				AML	AML		
	comp=N,3580μm,0.2s						
T1202				END			
T1202	**Accumoli, Fraz**	**0.08**	**179**	S	Sg	08 10 28.5	+0.7
NRCA	**Norcia**	**0.09**	**303**	P	Pg	08 10 26.5	+0.2
NRCA				S	Sg	08 10 28.5	+0.4
NRCA				AML	AML		
	comp=E,6275μm,0.1s						
NRCA				AML	AML		
	comp=N,2750μm,1.2s						
NRCA				AML	AML		
	comp=E,6805μm,0.1s						
NRCA				AML	AML		
	comp=N,3020μm,1.2s						
NRCA				END			
NRCA	**Norcia**	**0.09**	**303**	P	Pg	08 10 26.5	+0.2
NRCA				S	Sg	08 10 28.4	+0.3
NRCA				AML	AML		
	comp=E,6275μm,0.1s						
NRCA				AML	AML		
	comp=E,6805μm,0.1s						
NRCA				AML	AML		
	comp=N,2620μm,0.1s						
NRCA				AML	AML		
	comp=N,2560μm,0.7s						
T1204	**Amatrice, Fraz**	**0.13**	**147**	P	Pg	08 10 27.5	+0.7
T1204	**Amatrice, Fraz**	**0.13**	**147**	P	Pg	08 10 27.5	+0.7
MC2	**Monte Cornacci**	**0.13**	**350**	P	Pg	08 10 27.2	+0.3
MC2	**Monte Cornacci**	**0.13**	**350**	⇑P	Pg	08 10 27.2	+0.3
MC2				S	Sg	08 10 30.0	+0.8
MMO1	**Montemonaco**	**0.14**	**33**	P	Pg	08 10 27.2	+0.3
MMO1				S	Sg	08 10 29.8	+0.6
MMO1	**Montemonaco**	**0.14**	**33**	P	Pg	08 10 27.3	+0.4
MMO1				S	Sg	08 10 29.8	+0.6
T1241	**Roccafluvione,**	**0.17**	**64**	P	Pg	08 10 28.0	+0.5
T1241				S	Sg	08 10 31.1	+1.2
T1241				AML	AML		
	comp=E,99μm,0.9s						
T1241				AML	AML		
	comp=N,73μm,0.6s						
T1241				AML	AML		
	comp=E,240μm,1.0s						
T1241				AML	AML		
	comp=N,262μm,0.9s						
T1241	**Roccafluvione,**	**0.17**	**64**	⇑P	Pg	08 10 28.0	+0.6
T1241				S	Sg	08 10 31.1	+1.1
T1241				AML	AML		
	comp=E,240μm,1.0s						
T1241				AML	AML		
	comp=N,262μm,0.9s						
SMA1	**SAN MARTINO**	**0.17**	**151**	P	Pg	08 10 28.4	+0.9
SMA1				AML	AML		
	comp=E,262μm,1.1s						
SMA1				AML	AML		
	comp=N,403μm,0.5s						
SMA1	**SAN MARTINO**	**0.17**	**151**	P	Pg	08 10 28.4	+1.0
SMA1				AML	AML		
	comp=N,403μm,0.5s						
SMA1				AML	AML		
	comp=E,262μm,1.1s						
T1216	**Preci, Frazion**	**0.18**	**306**	P	Pg	08 10 28.3	+0.6
T1216				END			
T1216	**Preci, Frazion**	**0.18**	**306**	⇑P	Pg	08 10 28.3	+0.6
T1216				S	Sg	08 10 31.5	+1.2
T1216				AML	AML		
	comp=E,278μm,0.7s						
T1216				AML	AML		
	comp=N,309μm,1.5s						
T1243	**Rocca Santa Ma**	**0.19**	**117**	P	Pg	08 10 28.3	+0.6
T1243				S	Sg	08 10 31.6	+1.1
LNSS	**Leonessa**	**0.22**	**217**	P	Pg	08 10 29.1	+0.7
LNSS				S	Sg	08 10 33.0	+1.5
LNSS				AML	AML		
	comp=E,213μm,1.6s						
LNSS				AML	AML		
	comp=N,248μm,0.3s						
LNSS				AML	AML		
	comp=E,398μm,1.3s						
LNSS				AML	AML		
	comp=N,307μm,0.3s						
LNSS	**Leonessa**	**0.22**	**217**	⇓P	Pg	08 10 29.1	+0.7
LNSS				S	Sg	08 10 33.1	+1.6
LNSS				AML	AML		
	comp=N,307μm,0.3s						
LNSS				AML	AML		
	comp=E,398μm,1.3s						
T1217	**Poggiodomo (PG**	**0.23**	**252**	P	Pg	08 10 29.1	+0.6
T1217				END			
T1217	**Poggiodomo (PG**	**0.23**	**252**	⇑P	Pg	08 10 29.1	+0.6
T1217				S	Sg	08 10 33.2	+1.7
T1217				AML	AML		
	comp=E,135μm,1.5s						
T1217				AML	AML		
	comp=N,136μm,1.5s						
T1215	**Vallo di Nera,**	**0.26**	**274**	P	Pg	08 10 29.5	+0.4
T1215				S	Sb	08 10 34.3	-1.0
T1215				AML	AML		
	comp=E,80μm,1.4s						
T1215				AML	AML		
	comp=N,95μm,1.6s						
T1215	**Vallo di Nera,**	**0.26**	**274**	P	Pg	08 10 29.4	+0.3
T1215				S	Sb	08 10 34.4	-0.9
FDMO	**Fiordimonte**	**0.27**	**339**	P	Pg	08 10 29.7	+0.5
FDMO				S	Sb	08 10 34.4	-1.2
FDMO				AML	AML		
	comp=E,194μm,0.2s						
FDMO				AML	AML		
	comp=N,228μm,0.2s						
FDMO	**Fiordimonte**	**0.27**	**339**	S	Sb	08 10 34.5	-1.1
FDMO				AML	AML		
	comp=N,228μm,0.2s						
FDMO				AML	AML		
	comp=E,194μm,0.2s						
RM33	**Pellescritta (**	**0.27**	**181**	P	Pg	08 10 30.0	+0.7
RM33				S	Sb	08 10 34.8	-0.9
RM33				AML	AML		
	comp=E,118μm,0.9s						
RM33				AML	AML		
	comp=N,145μm,0.4s						
RM33	**Pellescritta (**	**0.27**	**181**	P	Pg	08 10 30.0	+0.7
RM33				S	Sb	08 10 34.9	-0.7
CAMP	**Campotosto**	**0.28**	**151**	P	Pg	08 10 30.0	+0.5
CAMP				S	Sb	08 10 34.7	-1.3
CAMP				AML	AML		
	comp=E,65μm,0.4s						
CAMP				AML	AML		
	comp=N,36μm,0.7s						
CAMP	**Campotosto**	**0.28**	**151**	S	Sb	08 10 34.7	-1.2
CAMP				AML	AML		
	comp=E,65μm,0.4s						
CAMP				AML	AML		
	comp=N,36μm,0.7s						
GUMA	**Gualdo di Mace**	**0.29**	**16**	⇑P	Pb	08 10 30.5	-0.7
GUMA				S	Sb	08 10 35.8	-0.4
CSP1	**Cessapalombo**	**0.31**	**358**	⇑P	Pg	08 10 30.4	+0.4
CSP1				S	Sb	08 10 35.8	-1.0
CESI	**CESI - Serrava**	**0.32**	**314**	P	Pg	08 10 30.9	+0.6
CESI				S	Sb	08 10 36.2	-0.9
CESI				AML	AML		
	comp=E,98μm,0.3s						
CESI				AML	AML		
	comp=N,208μm,0.2s						
CESI				AML	AML		
	comp=E,105μm,1.2s						
CESI				AML	AML		
	comp=N,208μm,0.2s						
CESI	**CESI - Serrava**	**0.32**	**314**	P	Pb	08 10 31.1	-0.6
CESI				S	Sb	08 10 36.2	-0.9
CESI				AML	AML		
	comp=E,105μm,1.2s						
CESI				AML	AML		
	comp=N,205μm,0.5s						
CESI				AML	AML		
	comp=E,104μm,1.2s						
TERO	**Teramo**	**0.32**	**119**	P	Pg	08 10 30.7	+0.5
TERO				S	Sb	08 10 36.0	-1.1
TERO				AML	AML		
	comp=E,112μm,0.3s						
TERO				AML	AML		
	comp=N,162μm,0.3s						
TERO	**Teramo**	**0.32**	**119**	⇓P	Pg	08 10 30.7	+0.5
TERO				AML	AML		
	comp=E,112μm,0.3s						
TERO				AML	AML		
	comp=N,162μm,0.3s						
TERO				AML	AML		
	comp=N,162μm,0.3s						
GIGS	**Gran Sasso**	**0.42**	**142**	⇓P	Pb	08 10 32.7	-0.7
SNTG	**Esanatoglia**	**0.52**	**336**	⇑P	Pg	08 10 34.1	+0.3
SNTG				S	Sb	08 10 42.3	-0.3
FIAM	**Fiamignano**	**0.52**	**189**	⇑P	Pn	08 10 42.2	+4.7
EL6	**Elcito**	**0.55**	**351**	P	Pg	08 10 34.7	+0.1
EL6				S	Sb	08 10 44.3	+0.5
EL6	**Elcito**	**0.55**	**351**	⇓P	Pg	08 10 34.8	+0.3
EL6				S	Sb	08 10 44.2	+0.4

NEIC ***29*** *08:23:52.8±1.9, 17°.5S±0°.1×179°.7E±0°.1, h583km±3km, mb4.5/78, Error ellipse: s-maj=18.5km s-min=14.4km az=139.0*

NOU ***29*** *08:23:53.2, 17°.59S×179°.83E, h603km, mb4.7/64, Fiji Islands*

IDC ***29*** *08:23:55.1±0.6, 17°.54S×179°.55E, h610km±4km, mb3.5/13, mbtmp4.5/14, Error ellipse: s-maj=17.4km s-min=11.4km az=118.0*

ISC 29 08:23:53.8±0.4, 17°.56S±0°.07×179°.71E±0°.07, h602km, n359, σ0s 89/358, mb4.4/61, 1C, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**0.92**	**24**	P	**P**	**08 25 05.3**	**+0.1**
LKBA	**Tubou, Lakemba**	**1.56**	**116**	P	**P**	**08 25 06.3**	**-0.4**
MSVF	**Nonsavu**	**1.59**	**263**	P	**P**	**08 25 07.7**	**+0.7**
	119nm,0.6s,baz=42,slow=0.8,SNR=290						
MSVF				S	**S**	**08 26 08.7**	**+2.3**
	57nm,1.1s,baz=271,slow=19,SNR=22						
MSVF	**Nonsavu**	**1.59**	**263**	P	**P**	**08 25 07.8**	**+0.9**
AFI	**Afiamalu**	**8.96**	**67**	P	**P**	**08 25 59.0**	**-3.6**
	72nm,1.0s,baz=279,slow=7.7,SNR=9.6						
AFI	**Afiamalu**	**8.96**	**67**	P	**P**	**08 25 59.1**	**-3.6**
AFI	**Afiamalu**	**8.96**	**67**	P	**P**	**08 26 01.2**	**-1.5**
NIUE	**Niue**	**9.96**	**100**		**P**	**08 26 10.7**	**-1.6**
NIUE	**Niue**	**9.96**	**100**	P	**P**	**08 26 11.0**	**-1.3**
RTV	**Rentapao**	**10.76**	**267**	P	**P**	**08 26 20.5**	**+0.3**
DVP	**Devils Point**	**10.98**	**267**	P	**P**	**08 26 22.8**	**+0.3**
MARNC	**Mare, Loyalty**	**11.68**	**249**		**P**	**08 26 27.5**	**-1.9**
MARNC	**Mare, Loyalty**	**11.68**	**249**	P	**P**	**08 26 28.3**	**-1.1**
LIFNC	**LIFOU**	**12.21**	**253**		**P**	**08 26 32.8**	**-1.9**
LIFNC	**LIFOU**	**12.21**	**253**	P	**P**	**08 26 33.7**	**-1.0**
PINNC	**Pines Island,**	**12.57**	**244**	P	**P**	**08 26 37.3**	**-1.0**
YATNC	**Mamie plateau,**	**12.87**	**248**	P	**P**	**08 26 40.9**	**-0.4**
OUENC	**Ouen Island, N**	**13.02**	**246**	P	**P**	**08 26 41.5**	**-1.3**
OUENC	**Ouen Island, N**	**13.02**	**246**	P	**P**	**08 26 42.2**	**-0.7**
DZM	**Mont Dzumac**	**13.26**	**248**	P	**P**	**08 26 44.1**	**-1.3**
	50nm,1.1s,baz=161,slow=23,SNR=24						
DZM	**Mont Dzumac**	**13.26**	**248**	P	**P**	**08 26 43.4**	**-2.0**
ONTNC	**Ouen Toro**	**13.33**	**247**	P	**P**	**08 26 47.0**	**+1.0**
ONTNC	**Ouen Toro**	**13.33**	**247**	P	**P**	**08 26 46.7**	**+0.7**
KOUNC	**Koumac, New Ca**	**14.88**	**256**	P	**P**	**08 27 00.8**	**-0.1**
KOUNC	**Koumac, New Ca**	**14.88**	**256**	P	**P**	**08 27 01.6**	**+0.7**
OUZ	**Omahuta**	**18.42**	**196**	P	**P**	**08 27 34.3**	**+1.3**
OUZ				IAmb	IAmb	08 27 37.8	
	comp=Z,20nm,0.9s						
OUZ	**Omahuta**	**18.42**	**196**	P	**P**	**08 27 32.3**	**-0.7**
URZ	**Urewera**	**20.75**	**186**	P	**P**	**08 27 53.9**	**-0.2**
	comp=Z,5.3nm,0.6s,baz=49,slow=1.3,SNR=5.8						
	comp=Z,5.3nm,0.6s						
URZ	**Urewera**	**20.75**	**186**	P	**P**	**08 27 53.8**	**-0.3**
URZ	**Urewera**	**20.75**	**186**	P	**P**	**08 27 53.3**	**-0.8**
BKZ	**Black Stump Fm**	**21.71**	**187**	P	**P**	**08 28 02.4**	**-0.4**
BKZ				IAmb	IAmb	08 28 13.6	
	comp=Z,27nm,1.4s						
BKZ	**Black Stump Fm**	**21.71**	**187**	P	**P**	**08 28 02.3**	**-0.4**
QRZ	**Quartz Range**	**24.00**	**193**	P	**P**	**08 28 22.0**	**-1.0**
QRZ	**Quartz Range**	**24.00**	**193**	P	**P**	**08 28 22.4**	**-0.6**
SNZO	**South Karori**	**24.06**	**189**	P	**P**	**08 28 22.5**	**-1.0**
THZ	**Tophouse**	**24.82**	**192**	P	**P**	**08 28 29.1**	**-1.2**
THZ				IAmb	IAmb	08 28 49.3	
	comp=Z,21nm,1.2s						
KHZ	**Kahutara**	**25.33**	**191**	P	**P**	**08 28 32.7**	**-2.0**
LTZ	**Lake Taylor**	**25.93**	**193**	P	**P**	**08 28 37.5**	**-2.4**
RPZ	**Rata Peaks**	**27.09**	**194**	P	**P**	**08 28 50.4**	**+0.3**
	comp=Z,3.9nm,0.4s,baz=23,slow=3.8,SNR=7.3						
	comp=Z,3.9nm,0.4s						
RPZ	**Rata Peaks**	**27.09**	**194**	P	**P**	**08 28 49.9**	**-0.2**
EIDS	**Eidsvold**	**27.71**	**249**	P	**P**	**08 28 55.1**	**-0.7**
EIDS				IAmb	IAmb	08 28 56.2	
	comp=Z,25nm,1.1s						
EIDS	**Eidsvold**	**27.71**	**249**	P	**P**	**08 28 55.5**	**-0.3**
RK1H	**Rockhampton Ha**	**27.95**	**253**	P	**P**	**08 28 57.8**	**0.0**
ODZ	**Otahua Downs**	**28.44**	**194**	P	**P**	**08 28 59.7**	**-2.1**
ARMA	**Armidale**	**28.58**	**238**	P	**P**	**08 29 03.0**	**-0.4**
ARMA				IAmb	IAmb	08 29 04.4	
	comp=Z,12nm,0.6s						
ARMA	**Armidale**	**28.58**	**238**	P	**P**	**08 29 04.1**	**+0.7**
RMQ	**Roma**	**29.97**	**247**	P	**P**	**08 29 16.0**	**+0.7**
CTAO	**Charters Tower**	**31.73**	**260**	P	**P**	**08 29 29.8**	**-0.6**
CTAO				IAmb	IAmb	08 29 31.1	
	comp=Z,16nm,0.8s						
CTAO	**Charters Tower**	**31.73**	**260**	P	**P**	**08 29 30.5**	**+0.1**
CNB	**Canberra Magne**	**32.24**	**231**	P	**P**	**08 29 35.1**	**+0.5**
CMSA	**Cobar Meteorol**	**33.77**	**239**	P	**P**	**08 29 47.6**	**+0.2**
QLP	**Quilpie**	**33.99**	**248**	P	**P**	**08 29 49.1**	**-0.2**
COEN	**Coen**	**35.30**	**271**	P	**P**	**08 30 00.5**	**+0.1**
COEN	**Coen**	**35.30**	**271**	P	**P**	**08 30 00.8**	**+0.4**
TOO	**Toolangi**	**36.02**	**229**	P	**P**	**08 30 06.1**	**+0.1**
TOO	**Toolangi**	**36.02**	**229**	P	**P**	**08 30 06.4**	**+0.4**
INKA	**Innaminka**	**37.22**	**247**	P	**P**	**08 30 16.7**	**+0.8**
STKA	**Stephens Creek**	**37.23**	**240**	P	**P**	**08 30 16.2**	**+0.2**
	comp=Z,17nm,0.5s,baz=87,slow=10,SNR=46						
	comp=Z,17nm,0.5s						
STKA	**Stephens Creek**	**37.23**	**240**	P	**P**	**08 30 16.0**	**0.0**
STKA				IAmb	IAmb	08 30 17.2	
	comp=Z,8.2nm,1.1s						
STKA	**Stephens Creek**	**37.23**	**240**	P	**P**	**08 30 16.6**	**+0.6**
QIS	**Mount Isa**	**37.96**	**259**	P	**P**	**08 30 22.3**	**+0.3**
ARPS	**Mount Arapiles**	**38.43**	**232**	P	**P**	**08 30 25.5**	**0.0**
HTT	**Hallett**	**39.78**	**239**	P	**P**	**08 30 36.9**	**+0.3**
LCRK	**Leigh Creek**	**39.80**	**243**	P	**P**	**08 30 36.7**	**0.0**
TWOA	**Tennyson Woods**	**40.45**	**236**	P	**P**	**08 30 41.8**	**+0.1**
OOD	**Oodnadatta**	**41.68**	**248**	P	**P**	**08 30 52.1**	**+0.5**
BBOO	**Buckleboo**	**42.01**	**240**	P	**P**	**08 30 53.4**	**-0.7**
BBOO	**Buckleboo**	**42.01**	**240**	P	**P**	**08 30 54.1**	**0.0**
WR0	**Warramunga Arr**	**42.74**	**259**	P	**P**	**08 30 58.1**	**-1.9**
WR0				IAmb	IAmb	08 31 00.4	
	comp=Z,9.4nm,0.9s						
WRAB	**Tennant Creek**	**42.92**	**259**	P	**P**	**08 31 00.3**	**-1.1**
WRAB				IAmb	IAmb	08 31 01.2	
	comp=Z,9.1nm,0.8s						
WRAB	**Tennant Creek**	**42.92**	**259**	P	**P**	**08 31 00.3**	**-1.1**
WRA	**Warramunga Arr**	**42.93**	**259**	P	**P**	**08 31 00.4**	**-1.0**
	comp=Z,3.6nm,0.3s,baz=85,slow=7.7,SNR=191						
	comp=Z,3.6nm,0.3s						
WRA	**Warramunga Arr**	**42.93**	**259**	P	**P**	**08 30 59.2**	**-2.3**
AS31	**Alice Springs**	**43.16**	**254**	P	**P**	**08 31 02.6**	**-0.6**
AS31				IAmb	IAmb	08 31 03.8	
	comp=Z,21nm,0.8s						
ASAR	**Alice Springs**	**43.16**	**254**	P	**P**	**08 31 02.9**	**-0.4**
	comp=Z,52nm,0.6s,baz=87,slow=8.2,SNR=574						
ASAR				ScP	**ScP**	**08 35 35.4**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=108,slow=4.3,SNR=4.5						
	comp=Z,52nm,0.6s						
ASAR	**Alice Springs**	**43.16**	**254**	P	**P**	**08 31 02.3**	**-0.9**
MULG	**Mulgathing**	**43.34**	**244**	P	**P**	**08 31 04.2**	**-0.3**
KEKH	**Kekaha**	**44.16**	**28**	P	**P**	**08 31 10.9**	**+0.1**
MTN	**Manton Dam**	**47.01**	**269**	P	**P**	**08 31 31.5**	**-1.1**
MTN	**Manton Dam**	**47.01**	**269**	P	**P**	**08 31 32.2**	**-0.4**
WRKA	**Warakurna**	**48.24**	**252**	P	**P**	**08 31 41.6**	**-0.1**
FORT	**Forrest**	**48.54**	**244**	P	**P**	**08 31 42.6**	**-1.2**
FORT	**Forrest**	**48.54**	**244**	P	**P**	**08 31 43.0**	**-0.8**
KNRA	**Kununurra**	**48.74**	**264**	P	**P**	**08 31 44.9**	**-0.5**
KNRA				IAmb	IAmb	08 31 45.4	
	comp=Z,21nm,0.8s						
KNRA	**Kununurra**	**48.74**	**264**	P	**P**	**08 31 45.1**	**-0.3**
FAKI	**Fak Fak**	**48.75**	**282**	P	**P**	**08 31 45.2**	**-0.3**
	comp=Z,13nm,1.3s						
FAKI	**Fak Fak**	**48.75**	**282**	P	**P**	**08 31 45.6**	**+0.1**
BNDI	**Bandanaira**	**50.41**	**279**	P	**P**	**08 31 56.6**	**-1.1**
	comp=Z,11μmcomp=Z,104nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.31**	**261**	P	**P**	**08 32 04.1**	**-0.1**
FITZ				IAmb	IAmb	08 32 05.2	
	comp=Z,11nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.31**	**261**	P	**P**	**08 32 04.5**	**+0.3**
NLAI	**Namlea**	**53.47**	**279**	P	**P**	**08 32 18.6**	**-1.0**
	comp=Z,20nm,1.0s						
SOEI	**Soe**	**54.27**	**270**	P	**P**	**08 32 26.2**	**+0.8**
SOEI	**Soe**	**54.27**	**270**	P	**P**	**08 32 25.3**	**-0.1**
	comp=Z,126nm,0.8s						
SOEI	**Soe**	**54.27**	**270**	P	**P**	**08 32 25.3**	**-0.1**
PSA00	**Pilbara Seismi**	**56.26**	**255**	P	**P**	**08 32 38.1**	**-0.8**
PSA00				IAmb	IAmb	08 32 39.4	
	comp=Z,32nm,1.1s						
PSA00	**Pilbara Seismi**	**56.26**	**255**	P	**P**	**08 32 38.6**	**-0.3**
MBWA	**Marble Bar**	**56.42**	**256**	P	**P**	**08 32 39.7**	**-0.3**
MEEK	**Meekatharra**	**56.88**	**249**	P	**P**	**08 32 42.4**	**-0.7**
EDFI	**Ende, Flores**	**56.99**	**271**	P	**P**	**08 32 42.9**	**-1.2**
	comp=Z,18nm,0.7s						
KLBR	**Kellerberrin**	**57.38**	**243**	P	**P**	**08 32 45.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**57.79**	**242**	P	**P**	**08 32 48.5**	**-0.7**
NWAO				IAmb	IAmb	08 33 23.1	
	comp=Z,71nm,1.4s						
NWAO	**Narrogin (SRO)**	**57.79**	**242**	P	**P**	**08 32 48.7**	**-0.4**
BLDU	**Ballidu**	**58.31**	**245**	P	**P**	**08 32 51.9**	**-0.8**
MORW	**Morawa**	**58.98**	**246**	P	**P**	**08 32 56.4**	**-0.8**
MORW				IAmb	IAmb	08 33 14.2	
	comp=Z,27nm,1.5s						
MORW	**

PETK Petropavlovsk- 72.90 346 P P 08 34 22.8 0.0
comp=Z,3.7nm,0.6s,baz=132,slow=7.8,SNR=5.7
comp=Z,3.7nm,0.6s
PETK Petropavlovsk- 72.90 346 P P 08 34 22.2 -0.6
SDPT Sand Point 74.54 12 P P 08 34 31.1 -0.8
baz=200
S14K Fog Glacier 75.60 12 P P 08 34 37.5 -0.4
baz=200
CHGN Chignik 75.84 12 P P 08 34 38.5 -0.6
baz=202
SBC Santa Barbara 77.38 48 P P 08 34 46.7 -1.3
baz=238
R17K Ugashik Creek 77.51 13 P P 08 34 48.0 -0.2
baz=203
OHAK Old Harbor 77.83 15 P P 08 34 50.2 +0.3
baz=206
Q17K Contact Creek 78.19 13 P P 08 34 51.7 -0.3
baz=204
Q16K King Salmon 78.41 12 P P 08 34 52.1 -0.9
baz=203
VES Vestal, Richgr 78.55 47 P P 08 34 54.3 0.0
baz=238
Q18K Katmai Hardscr 78.73 13 P P 08 34 54.8 -0.1
baz=204,SNR=7.5
BFSC Mount Baldy Ra 78.73 49 P P 08 34 54.9 -0.6
baz=240
EDW2 Edwards Air Fo 78.82 48 P P 08 34 56.1 +0.3
baz=239
ISA Isabella, Lake 78.88 47 P P 08 34 57.5 +1.3
ISA Isabella, Lake 78.88 47 P P 08 34 56.8 +0.6
baz=239
P17K Kvichak River 78.93 12 P P 08 34 55.5 -0.2
baz=203
MONP2 Monument Peak 78.96 50 P P 08 34 57.3 +0.5
baz=241
O16K Kokwok River B 78.98 11 P P 08 34 56.4 +0.5
baz=202
Q19K Cape Douglas, 79.28 14 P P 08 34 57.8 +0.1
baz=206
O17K Koliganek Bris 79.33 12 P P 08 34 58.0 +0.1
baz=202
P18K Big Mountain, 79.36 13 P P 08 34 58.1 0.0
P18K IAmb IAmb 08 34 58.8
comp=Z,21nm,0.7s
P18K Big Mountain, 79.36 13 P P 08 34 57.9 -0.2
baz=204
MDPB Devils Postpil 79.49 45 P P 08 35 00.5 +1.0
OMMB Old Mammoth Mi 79.53 45 P P 08 35 00.8 +0.9
CWC Cottonwood Cre 79.55 47 P P 08 35 00.6 +0.8
baz=239
N16K Nishlik Lake 79.68 11 P P 08 35 01.2 +1.5
baz=201
MPK Martis Peak 79.74 43 P P 08 35 02.2 +1.4
MPK IAmb IAmb 08 35 03.1
comp=Z,18nm,1.2s
MPMC Manual Prospec 79.77 47 P P 08 35 01.5 +0.5
baz=240
O18K Koktuh Hills 79.79 13 P P 08 35 00.3 0.0
O18K Koktuh Hills 79.79 13 P P 08 35 00.4 +0.1
baz=204
BEKR Beckworth 79.84 43 P P 08 35 01.6 +0.4
GSC Goldstone, Bar 79.87 48 P P 08 35 02.2 +0.8
baz=240
L04D Klamath Falls 79.92 40 P P 08 35 02.6 +1.0
baz=235
HEC Hector,Ludlow 79.97 49 P P 08 35 02.7 +0.8
baz=240
VCNR Virginia City 79.99 43 P P 08 35 02.3 +0.2
DSP Deep Springs 80.11 46 P P 08 35 03.7 +1.3
LCH Last Change Ra 80.26 46 P P 08 35 04.2 +0.8
O19K Port Alsworth 80.28 13 P P 08 35 03.2 +0.4
O19K Port Alsworth 80.28 13 P P 08 35 02.8 0.0
baz=205,SNR=8.1
GRAC Grapevine Rang 80.33 46 P P 08 35 05.4 +1.7
baz=239
ILSW Iliamna Southw 80.35 13 P P 08 35 03.4 0.0
ILSW IAmb IAmb 08 35 04.0
comp=Z,16nm,0.7s
PAHR Pah Rah Range 80.38 43 P P 08 35 04.8 +0.7
N18K Kilae Creek 80.41 12 P P 08 35 03.7 +0.2
N18K IAmb IAmb 08 35 04.1
comp=Z,4.5nm,0.6s
N18K Kilae Creek 80.41 12 P P 08 35 03.8 +0.4
baz=204
FURC Furnace Creek, 80.41 47 P P 08 35 04.7 +0.7
baz=240
NVAR Mina Array Bea 80.43 45 P P 08 35 05.8 +1.4
comp=Z,1.6nm,0.6s,baz=225,slow=7.9,SNR=22
comp=Z,1.6nm,0.6s
GMRC Granite Mounta 80.44 49 P P 08 35 05.3 +0.9
baz=241
IRM Iron Mountain 80.51 50 P P 08 35 05.9 +1.3
baz=241
SHOC Shoshone, Teco 80.54 48 P P 08 35 04.3 -0.5
baz=240
TUQ Turquoise Moun 80.56 48 P P 08 35 05.5 +0.5
baz=241
J04D Umpqua Nationa 80.62 39 P P 08 35 06.8 +1.5
baz=235
BRSE Bradley Lake S 80.69 15 P P 08 35 05.1 +0.1
baz=208
I04A Tendick Farm, 80.76 38 P P 08 35 06.7 +0.9
baz=235
N19K Bonanza Creek 80.81 12 P P 08 35 05.0 -0.6
N19K IAmb IAmb 08 35 06.4
comp=Z,9.1nm,1.1s
N19K Bonanza Creek 80.81 12 P P 08 35 05.9 +0.3
baz=205
SVW2 Sparrevohn 80.85 12 P P 08 35 05.7 -0.1
KVN Kaiserville 80.89 44 P P 08 35 07.8 +1.1
MOD Modoc Plateau 80.98 41 P P 08 35 08.1 +1.1
H04D Lebanon 80.99 38 P P 08 35 08.9 +2.1
baz=234
TPNV Topopah Spring 81.08 47 P P 08 35 08.7 +1.0
baz=240,SNR=5.2
J05D Fort Rock, OR 81.18 39 P P 08 35 09.5 +1.5
baz=236
214A Organ Pipe Nat 81.22 53 P P 08 35 10.1 +1.7
baz=243
PDMCI Parker Dam,Lak 81.31 50 P P 08 35 10.8 +2.1
baz=242
H04A Detroit Lake 81.40 38 P P 08 35 09.9 +0.8
H04A IAmb IAmb 08 35 18.7
comp=Z,21nm,1.5s
PINE Pine Mountain 81.64 39 P P 08 35 11.6 +1.2
PINE IAmb IAmb 08 35 12.9
comp=Z,9.1nm,0.8s
N20K Mount Spurr 81.65 13 P P 08 35 08.9 -1.0
baz=207
I05D Terrebonne, OR 81.71 38 P P 08 35 12.0 +1.4
baz=236
M19K Big River Lodg 81.82 12 P P 08 35 10.9 +0.2
baz=205
L19K White Mountain 81.99 12 P P 08 35 12.2 +0.7
L19K IAmb IAmb 08 35 13.3
comp=Z,13nm,0.8s
L19K White Mountain 81.99 12 P P 08 35 12.1 +0.5
baz=204,SNR=8.4
M20K Styx River 82.06 13 P P 08 35 12.3 +0.3
baz=206
RC01 Rabbit Creek A 82.11 14 P P 08 35 12.7 +0.5
baz=209
PRN Pahroc Range 82.14 47 P P 08 35 14.6 +1.5
PRN IAmb IAmb 08 35 15.5
comp=Z,7.1nm,0.9s
SUA Susitna One 82.21 14 P P 08 35 13.0 +0.2
baz=208,SNR=5.8
R11A Troy Canyon, C 82.23 46 P P 08 35 14.6 +1.1
baz=240
G05D Wamic, OR 82.23 38 P P 08 35 14.4 +1.2
baz=236
PWL Port Wells 82.26 15 P P 08 35 13.0 +0.1
baz=211
WVOR Wild Horse Val 82.31 41 P P 08 35 14.6 +0.8
L20K Farewell, AK 82.45 12 P P 08 35 14.6 +0.8
baz=205
SKT Skwentna 82.49 13 P P 08 35 14.1 +0.1
baz=208
GLI Glacier Island 82.59 16 P P 08 35 14.8 +0.2
GLI IAmb IAmb 08 35 15.3
comp=Z,18nm,0.7s
GLI Glacier Island 82.59 16 P P 08 35 14.8 +0.2
baz=212,SNR=9.4
M22K Willow 82.61 14 P P 08 35 15.3 +0.7
baz=209
EYAK Cordova Ski Ar 82.66 16 P P 08 35 14.9 0.0
baz=213

I07A Izee 82.66 39 P P 08 35 16.8 +1.3
I07A IAmb IAmb 08 35 17.7
comp=Z,6.2nm,0.8s
PMR Palmer 82.70 14 P P 08 35 15.2 +0.1
baz=210
KNK Knik Glacier 82.70 15 P P 08 35 16.0 +0.8
KNK Knik Glacier 82.70 15 P P 08 35 15.8 +0.6
baz=210
TUC Tucson 82.92 53 P P 08 35 18.6 +1.6
baz=244
CUT Chulitna 83.14 14 P P 08 35 17.1 -0.2
baz=209
PPLA Purkeypile 83.17 13 P P 08 35 17.2 -0.4
baz=207
K20K Telida 83.21 12 P P 08 35 17.7 +0.1
K20K IAmb IAmb 08 35 18.9
comp=Z,11nm,1.1s
K20K Telida 83.21 12 P P 08 35 18.4 +0.8
baz=205,SNR=5.7
M23K Glacier View 83.21 15 P P 08 35 17.6 -0.1
baz=211
BMRM Bremner River 83.32 17 P P 08 35 18.3 0.0
baz=214
SCM Sheep Creek Mo 83.34 15 P P 08 35 18.5 +0.1
SCM IAmb IAmb 08 35 19.4
comp=Z,16nm,0.7s
SCM Sheep Creek Mo 83.34 15 P P 08 35 19.0 +0.6
baz=212,SNR=7.3
TNA Tin City 83.39 5 P P 08 35 18.0 -0.4
baz=192
KLU Klutina 83.41 16 P P 08 35 19.1 +0.4
baz=213
MESA MESA 83.44 18 P P 08 35 19.6 +0.6
baz=216
MAW Mawson 83.58 200 P P 08 35 20.7 +1.3
comp=Z,2.3nm,0.6s,baz=127,slow=6.5,SNR=7.4
comp=Z,2.3nm,0.6s
U15A North Rim 83.63 49 P P 08 35 20.5 -0.2
CAST Castle Rocks 83.66 12 P P 08 35 19.0 -0.9
CAST IAmb IAmb 08 35 19.7
comp=Z,11nm,0.7s
CAST Castle Rocks 83.66 12 P P 08 35 19.2 -0.6
baz=207,SNR=14
S32K Killisnoo 83.82 23 P P 08 35 21.6 +0.9
baz=223
N25K Chitina, Valde 83.86 16 P P 08 35 20.7 -0.2
N25K IAmb IAmb 08 35 22.1
comp=Z,15nm,0.7s
N25K Chitina, Valde 83.86 16 P P 08 35 21.3 +0.4
baz=214,SNR=14
M24K Tolsona, Glenn 83.86 15 P P 08 35 22.1 +1.2
M24K IAmb IAmb 08 35 22.5
comp=Z,14nm,0.7s
M24K Tolsona, Glenn 83.86 15 P P 08 35 21.6 +0.6
baz=212
WAT6 Susitna Watana 83.88 15 P P 08 35 21.2 0.0
baz=211,SNR=6.2
WUAZ Wupatki 83.88 50 P P 08 35 23.0 +1.2
baz=243
HAWA Hanford 83.91 37 P P 08 35 22.5 +1.1
HAWA IAmb IAmb 08 35 23.5
comp=Z,7.7nm,0.9s
WAT1 Susitna Watana 83.91 14 P P 08 35 21.5 +0.3
baz=210
J20K Nowinta River 83.94 11 P P 08 35 21.7 +0.6
baz=205
CHUM Lake Minchumin 84.03 12 P P 08 35 21.0 -0.6
baz=207
TRF Thorofare Moun 84.06 13 P P 08 35 21.9 -0.1
baz=209,SNR=7.1
MCARA McCarthy VSAT 84.10 17 P P 08 35 22.6 +0.6
baz=216
BARN Barnard Glacie 84.23 18 P P 08 35 23.5 +0.6
BARN IAmb IAmb 08 35 24.3
comp=Z,8.6nm,0.9s
LOGN Logan Glacier 84.23 18 P P 08 35 22.9 0.0
LOGN IAmb IAmb 08 35 24.1
comp=Z,6.2nm,0.8s
CTG Chitna Glacier 84.25 18 P P 08 35 23.3 +0.4
baz=217
HARP HAARP 84.37 16 P P 08 35 23.8 +0.5
baz=213
DHY Denali Highway 84.39 14 P P 08 35 23.6 0.0
baz=211
O28M Mount Upton 84.44 19 P P 08 35 24.3 +0.2
baz=218
MCK McKinley 84.61 13 P P 08 35 25.2 +0.7
baz=210
XAN Xi'an 84.62 308 ⇑P P 08 35 27.8 +2.5
XAN pmax pmax
comp=Z,11nm,1.6s
PLBC Pleasant Camp 84.65 21 P P 08 35 25.3 +0.5
baz=222
PAX Paxson 84.77 15 P P 08 35 25.2 -0.2
baz=213
M26K Nabesna, AK 84.94 16 P P 08 35 26.1 -0.1
M26K IAmb IAmb 08 35 27.5
comp=Z,5.9nm,0.9s
M26K Nabesna, AK 84.94 16 P P 08 35 27.0 +0.8
baz=215,SNR=5.6
P30M Million Dollar 84.96 20 P P 08 35 27.5 +1.2
baz=221
YUK3 Moose Creek 85.15 18 P P 08 35 28.0 +0.6
baz=218,SNR=5.6
M27K Edge Creek, AK 85.21 17 P P 08 35 28.0 +0.4
baz=216
I21K Tanana 85.25 12 P P 08 35 27.6 +0.1
baz=207
121A Cookes Peak, D 85.31 54 P P 08 35 28.9 +0.1
baz=246
L26K Log Cabin Wild 85.36 16 P P 08 35 28.6 +0.4
baz=215
MLY Manley 85.36 12 P P 08 35 27.4 -0.7
baz=208
K24K Donnelly Dome 85.40 15 P P 08 35 28.8 +0.5
baz=213
S34M Telegraph Cree 85.44 24 P P 08 35 29.9 +1.3
baz=226
H21K Melozitna Rive 85.53 11 P P 08 35 28.9 0.0
baz=206
HLID Hailey 85.55 42 P P 08 35 30.9 +1.1
baz=241,SNR=6.2
HDA Harding Lake 85.64 14 P P 08 35 29.4 0.0
baz=212,SNR=8.6
P32M Atlin 85.67 22 P P 08 35 30.2 +0.5
baz=224
DOT Dot Lake 85.69 15 P P 08 35 29.9 +0.2
DOT IAmb IAmb 08 35 30.8
comp=Z,11nm,1.3s
O30N Mendenhall 85.73 20 P P 08 35 30.8 +0.9
baz=222
Q32M Nakina River 85.74 23 P P 08 35 31.1 +0.8
baz=225
HHC Hu-ho-hao-te 85.75 315 eP P 08 35 31.0 +0.4
HHC pmax pmax
comp=Z,25nm,1.3s
HHC pmax pmax
comp=Z,140nm,5.1s
L27K Beaver Creek, 85.80 17 P P 08 35 30.3 0.0
baz=216
TCOL CIGO, UAF Yank 85.83 13 P P 08 35 29.5 -0.8
baz=211
COLA College 85.83 13 P P 08 35 30.0 -0.3
baz=211
N30M Aishikik Lake 85.93 19 P P 08 35 31.3 +0.4
baz=221
IL31 85.96 14 P P 08 35 30.1 -0.8
IL31 IAmb IAmb 08 35 33.5
comp=Z,13nm,1.5s
ILAR Eielson Array 85.96 14 P P 08 35 30.2 -0.7
comp=Z,1.7nm,0.7s,baz=225,slow=5.8,SNR=25
comp=Z,1.7nm,0.7s
ILAR Eielson Array 85.96 14 P P 08 35 29.6 -1.3
H22K Ishtalitna Cre 86.01 11 P P 08 35 31.4 +0.2
baz=208
WHY Whitehorse 86.05 21 P P 08 35 32.0 +0.4
baz=223
J25K Salcha River, 86.17 14 P P 08 35 31.6 -0.5
J25K IAmb IAmb 08 35 32.4
comp=Z,2.9nm,0.6s
J25K Salcha River, 86.17 14 P P 08 35 31.9 -0.1
baz=213
G21K Allakaket 86.18 10 P P 08 35 32.0 0.0
baz=206
DLBC Dease Lake 86.23 24 P P 08 35 33.2 +0.7
baz=227
M29M Somme Creek 86.26 18 P P 08 35 33.1 +0.6
baz=220

NEW Newport 86.29 37 P P 08 35 33.3 +0.3
baz=238
N31M Braeburn, Yuko 86.36 20 P P 08 35 33.5 +0.5
baz=222
K27K Chicken 86.51 16 P P 08 35 34.4 +0.9
baz=216
J26L Joseph Creek 86.52 15 P P 08 35 34.3 +0.6
baz=215
R33M Jennings River 86.53 23 P P 08 35 34.9 +1.0
baz=226
H24K Noodor Dome 86.66 13 P P 08 35 36.7 +2.4
baz=211
L29M L29M 86.87 18 P P 08 35 36.7 +1.3
baz=220
G22K Bettles 86.90 11 P P 08 35 35.7 +0.4
baz=207
N32M Quiet Lake 87.01 21 P P 08 35 37.1 +1.0
baz=224
DAWY Dawson 87.26 17 P P 08 35 37.3 +0.2
baz=219
I26K Coal Creek Min 87.28 15 P P 08 35 37.7 +0.5
baz=215
ANMO Albuquerque 87.29 52 P P 08 35 39.2 +1.0
baz=246
TXAR Lajitas Array 87.33 58 P P 08 35 40.3 +2.0
comp=Z,0.4nm,0.5s,baz=224,slow=6.3,SNR=5.7
comp=Z,0.4nm,0.5s
M31M Drury Creek, Y 87.34 20 P P 08 35 37.9 +0.4
baz=223
EGAK Eagle 87.35 16 P P 08 35 37.4 0.0
baz=217
COLD Coldfoot 87.41 11 P P 08 35 38.3 +0.6
baz=209
PZH PanZhiHua 87.41 299 P P 08 35 37.0 -1.8
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,140nm,3.7s
MSO Missoula 87.43 39 P P 08 35 39.0 +0.6
baz=241
FARO Faro, Yukon 87.70 20 P P 08 35 39.3 +0.2
baz=224
WTLY Watson Lake, Y 87.82 23 P P 08 35 40.0 +0.2
baz=228
I27K Kandik River 87.90 15 P P 08 35 40.3 +0.2
baz=217
MAYO Mayo, Yukon 87.90 18 P P 08 35 40.9 +0.8
baz=222
F24K Squaw Lake 88.11 12 P P 08 35 41.6 +0.6
baz=211
O20A White River Ci 88.11 47 P P 08 35 42.5 +0.6
baz=245
S22A 4UR Ranch, Cre 88.14 49 P P 08 35 42.9 +0.7
baz=246
E23K Chandalar 88.25 11 P P 08 35 42.4 +0.7
baz=209
BOZ Bozeman (W) 88.27 41 P P 08 35 43.1 +0.7
baz=243
BW06 Boulder Array 88.34 44 P P 08 35 43.0 0.0
baz=244
PDAR Pinedale Array 88.34 44 P P 08 35 43.4 +0.5
comp=Z,0.7nm,0.5s,baz=236,slow=2.7,SNR=9.3
comp=Z,0.7nm,0.5s
E24K Your Creek 88.47 11 P P 08 35 42.8 +0.1
baz=210
G26K Porcupine Rive 88.49 14 P P 08 35 43.7 +1.0
baz=215
I29M Ogilvie Camp, 88.56 16 P P 08 35 43.0 -0.1
baz=220
F25K Christian Rive 88.62 13 P P 08 35 43.8 +0.3
baz=213
MMPY Sheldon Lake, 88.66 20 P P 08 35 44.3 +0.6
baz=226
TGTN Hyland Airport 88.96 22 P P 08 35 46.3 +1.2
baz=229
RLMT Red Lodge 89.55 42 P P 08 35 49.6 +1.1
baz=244
MSTX Muleshoe 89.74 54 P P 08 35 49.7 +0.2
baz=249
N23A Red Feather La 90.02 47 P P 08 35 51.7 +0.9
baz=247
TROLL Troll, Antarti 90.64 181 P P 08 35 52.8 -0.1
SNAA Sanae 90.98 179 P P 08 35 53.8 -0.6
VNA3 Neumayer Olymp 91.19 177 P P 08 35 54.8 -0.6
VNA2 Neumayer--Watz 91.61 178 P P 08 35 57.1 -0.2
baz=182,slow=4.9
VNA1 Neumayer--Stat 91.85 177 P P 08 35 58.0 -0.3
WVT Waverly 102.07 56 P Pdif 08 36 45.9 +1.0
baz=257
GOGA Godfrey 105.02 59 P PKiKP 08 41 08.2 -0.8
baz=259
ARCES ARCESS Array B 125.64 349 PKP PKPdf 08 41 47.2 0.0
comp=Z,1.1nm,0.5s,baz=45,slow=1.9,SNR=9.9
FINES FINESS Array B 132.35 343 PKhKP PKPpre 08 41 55.0
comp=Z,1.6nm,0.8s,baz=98,slow=3.9,SNR=3.9
BRTR Keskin Array B 143.25 314 PKP PKPbc 08 42 19.8 +0.2
comp=Z,1.7nm,0.6s,baz=91,slow=3.1,SNR=7.0
OJC Ojcow 143.64 338 ePKPdf PKPbc 08 42 19.1 -1.0
OSTC Ostas 144.52 342 ePKP PKPab 08 42 23.4 -0.2
UPC Upice 144.62 342 ePKP PKPab 08 42 23.8 -0.1
DPC Dobruska-Polom 144.67 342 ePKP PKPab 08 42 24.3 +0.1
KRLC Kraliky 144.77 341 ePKP PKPab 08 42 24.5 -0.1
PRU Pruhonice 145.51 343 ePKP PKPbc 08 42 25.5 -0.3
KHC Kasperske Hory 146.55 343 ePKP PKPbc 08 42 29.5 +0.7
CKRC Cesky Krumlov 146.63 342 ePKP PKPbc 08 42 29.5 +0.5
GERES GERESS Array B 146.78 343 PKPbc PKPbc 08 42 30.0 +0.5
comp=Z,2.9nm,0.4s,baz=29,slow=3.4,SNR=14
CONA Conrad Observa 146.94 340 eP PKiKP 08 42 31.1 -0.7
comp=Z,2.5nm,0.5s
RONA Rosalia, Austr 147.00 339 eP PKPbc 08 42 30.8 +0.8
comp=Z,1.1nm,0.5s
KBA Koelnbreinsper 148.48 342 eP PKPbc 08 42 33.7 -0.3
comp=Z,2.0nm,0.5s
WTTA Wattenberg 148.78 344 eP PKPbc 08 42 35.0 +0.3
comp=Z,5.5nm,0.4s
RETA Reutte 148.79 345 eP PKPbc 08 42 34.8 +0.2
comp=Z,2.5nm,0.5s
MYKA Terra Mystica 148.80 341 eP PKPbc 08 42 34.3 -0.4
comp=Z,3.0nm,0.4s
MOTA Moosalm 148.84 345 eP PKPbc 08 42 34.7 -0.2
comp=Z,2.1nm,0.5s
SQTA Sankt Quirin 148.93 345 eP PKPbc 08 42 35.4 +0.4
comp=Z,4.7nm,0.5s
ABTA Abfaltersbach 149.02 343 eP PKPbc 08 42 35.1 -0.1
comp=Z,2.9nm,0.6s
CRNS Crni Vrh 149.09 340 i PKPbc PKPbc 08 42 35.3 0.0
DAVA Damuels 149.19 346 eP PKPbc 08 42 34.9 -0.8
comp=Z,4.2nm,0.7s
FETA Feichten 149.24 345 eP PKPbc 08 42 36.2 +0.4
comp=Z,1.9nm,0.5s
KNDS Knezji Dol 149.54 339 i PKPbc PKPbc 08 42 36.5 0.0
ESDC Sonseca Array 157.73 7 PKPab PKPab 08 43 19.5 +0.3
comp=Z,1.1nm,1.1s,baz=25,slow=3.4,SNR=4.1
TORD Torodi Ar. Bea 175.22 204 PKPab PKPbc 08 44 36.9 0.0
comp=Z,15nm,0.6s,baz=180,slow=2.6,SNR=5.1

DDA ***29*** *08:41:29.0±0.0, 40.68N±22.2E, h15km, ML2.6*
SOF ***29*** *08:41:32.2, 41.12N±23.36E, h2km, MD3.1*
ATH ***29*** *08:41:34.7, 41.29N±23.43E, h14km±2km, ML2.3/6, Error ellipse: s-maj=2.6km s-min=1.1km az=177.0*
SKO ***29*** *08:41:35.8, 41.28N±23.42E, h1km*
THE ***29*** *08:41:35.0, 41.27N±23.42E, h9km±1km, ML2.3/11, Error ellipse: s-maj=1.5km s-min=0.8km az=186.0*
BEO ***29*** *08:41:36.4±0.4, 41.25N±23.40E, h0km, ML2.6/7*

ISC 29 08:41:35.0±0.9, 41.26N±0.02±23.41E±0.01, h9km±7km, n63, σ0.85/101, 1C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRS	Serrai	0.20	136	P	Pg	08 41 39.3	+0.1
SRS				S	Sg	08 41 42.4	+0.4
	1μm,0.2s						
SRS	Serrai	0.20	136	ePn	Pg	08 41 39.3	+0.1
SRS	Serrai	0.20	136	⇑iPg	Pg	08 41 39.3	+0.1
SRS				*i* Sg	Sg	08 41 42.6	+0.6
SRS	Serrai	0.20	136	P	Pg	08 41 39.3	+0.1
SRS				S	Sg	08 41 42.5	+0.4
SRS				AML	AML	08 41 43.5	
	comp=N,2765μm,0.1s						
SRS				AML	AML	08 41 43.9	
	comp=E,2795μm,0.3s						
NVR	Nevrokopi	0.35	76	P	Pg	08 41 41.9	-0.1
NVR				S	Sg	08 41 46.8	+0.1
NVR	Nevrokopi	0.35	76	P	Pg	08 41 41.9	-0.1
KNT	Kendrikon	0.40	255	P	Pg	08 41 42.5	-0.3

KNT				S		Sg	08 41 47.9	-0.1
	comp=E,430nm,0.1s							
KNT	**Kendrikon**	**0.40**	**255**	*i* Pg		Pg	08 41 42.5	-0.3
KNT				*i* Sg		Sg	08 41 48.0	-0.1
KNT	**Kendrikon**	**0.40**	**255**	P		Pg	08 41 42.6	-0.1
KNT				S		Sg	08 41 48.7	+0.7
MMB	**Musomiste**	**0.41**	**37**	*i* P		Pg	08 41 42.5	-0.5
SOH	**Sokhos**	**0.44**	**185**	P		Pg	08 41 43.9	+0.2
SOH				S		Sg	08 41 50.3	+0.8
	comp=E,592nm,0.3s							
SOH	**Sokhos**	**0.44**	**185**	⇓*i* Pg		Pg	08 41 43.9	+0.2
SOH				*i* Sg		Sg	08 41 50.4	+0.9
SOH	**Sokhos**	**0.44**	**185**	P		Pg	08 41 43.9	+0.2
SOH				S		Sg	08 41 50.5	+0.9
SOH				AML		AML	08 41 51.0	
	comp=E,1668μm,0.3s							
SOH				AML		AML	08 41 51.1	
	comp=N,1299μm,0.3s							
KOKK	**Kokkinochori,**	**0.63**	**135**	P		Pg	08 41 47.0	-0.2
KOKK				S		Sg	08 41 55.7	+0.2
	comp=N,198nm,0.2s							
KOKK	**Kokkinochori,**	**0.63**	**135**	P		Pg	08 41 47.1	-0.1
VAY	**Valandovo**	**0.63**	**275**	*e*Pg		Pg	08 41 47.2	0.0
VAY				*e*Sg		Sb	08 41 57.1	-0.1
VAY	**Valandovo**	**0.63**	**275**	*i* Pg		Pg	08 41 47.2	0.0
VAY				*i* Sg		Sg	08 41 56.6	+1.0
VAY				*e*Lg		Lg	08 41 56.9	
	comp=E,46nm,0.3s							
VAY				*e*Lg		Lg	08 41 57.2	
	comp=N,67nm,0.3s							
KKB	**Krupnik**	**0.65**	**338**	*i* P		Pg	08 41 47.1	-0.5
HORT	**Hortiatis**	**0.70**	**199**	P		Pg	08 41 49.0	+0.4
HORT				S		Sg	08 41 58.8	+0.9
	comp=N,160nm,0.4s							
HORT	**Hortiatis**	**0.70**	**199**	P		Pg	08 41 48.8	+0.2
HORT				S		Sg	08 41 58.7	+0.9
HORT				AML		AML	08 42 00.1	
	comp=E,323μm,0.2s							
HORT				AML		AML	08 42 03.6	
	comp=N,281μm,0.4s							
THE	**Thessaloniki**	**0.71**	**208**	P		Pg	08 41 48.9	+0.2
THE	**Thessaloniki**	**0.71**	**208**	*i* Pg		Pg	08 41 49.0	+0.2
THE				*i* Sg		Sb	08 41 59.7	+0.2
THE	**Thessaloniki**	**0.71**	**208**	P		Pg	08 41 49.0	+0.2
THE				S		Sb	08 41 59.4	0.0
THE				AML		AML	08 42 01.2	
	comp=E,308μm,0.3s							
THE				AML		AML	08 42 01.3	
	comp=N,402μm,0.4s							
GRG	**Griva**	**0.82**	**248**	P		Pg	08 41 50.4	-0.4
GRG				S		Sb	08 42 02.6	0.0
GRG	**Griva**	**0.82**	**248**	*i* Pg		Pg	08 41 50.7	-0.2
GRG				*i* Sg		Sb	08 42 02.8	+0.2
GRG	**Griva**	**0.82**	**248**	P		Pg	08 41 50.6	-0.2
GRG				S		Sb	08 42 02.6	0.0
GRG				AML		AML	08 42 04.8	
	comp=E,219μm,0.2s							
GRG				AML		AML	08 42 04.9	
	comp=N,405μm,0.4s							
KAVA	**Kavala**	**0.88**	**107**	P		Pg	08 41 51.3	-0.6
KAVA				S		Sb	08 42 04.0	-0.2
	comp=N,598nm,0.2s							
KAVA	**Kavala**	**0.88**	**107**	P		Pg	08 41 51.6	-0.2
STIP	**Stip**	**1.01**	**296**	*i* Pg		Pg	08 41 51.3	-3.2
STIP				*i* Sg		Sg	08 42 04.8	-2.9
OUR	**Ouranopolis**	**1.03**	**155**	P		Pn	08 41 55.6	+0.1
OUR				S		Sn	08 42 09.7	-0.3
	comp=N,740nm,0.6s							
RZN	**Rozhen**	**1.07**	**66**	*i* P		Pg	08 41 55.5	-0.1
THAS	**Thassos island**	**1.19**	**123**	P		Pb	08 41 55.9	-1.8
THAS				S		Sb	08 42 12.2	-1.1
	comp=N,270nm,0.3s							
THAS	**Thassos island**	**1.19**	**123**	P		Pb	08 41 55.9	-1.8
THAS				S		Sb	08 42 12.1	-1.1
THAS				AML		AML	08 42 13.5	
	comp=E,451μm,0.3s							
THAS				AML		AML	08 42 15.1	
	comp=N,629μm,0.2s							
PLD	**Plovdiv**	**1.28**	**49**	*e*Pg		Pg	08 42 00.4	+0.7
PLD				*e*Sg		Sn	08 42 18.9	+2.5
PLD	**Plovdiv**	**1.28**	**49**	*i* Pg		Pg	08 42 00.3	+0.7
PLD	**Plovdiv**	**1.28**	**49**	*i* P		Pg	08 42 01.1	+1.5
PAIG	**Paliouri**	**1.35**	**171**	P		Pn	08 42 00.2	+0.2
PAIG				S		Sb	08 42 17.9	+0.1
	comp=N,70nm,0.3s							
PAIG	**Paliouri**	**1.35**	**171**	P		Pn	08 42 00.2	+0.2
LIT	**Litokhoron**	**1.35**	**211**	P		Pn	08 42 00.0	-0.1
VTS	**Vitosha**	**1.36**	**355**	*e*Pg		Pg	08 42 01.0	-0.1
VTS				*e*Sg		Sg	08 42 18.6	-0.2
VTS	**Vitosha**	**1.36**	**355**	*i* Pg		Pg	08 42 01.0	-0.1
VTS	**Vitosha**	**1.36**	**355**	*i* P		Pg	08 42 01.2	+0.1
PGB	**Panagyurishte**	**1.41**	**24**	*i* P		Pb	08 42 01.5	+0.1
BOSS	**Bosilegrad**	**1.41**	**331**	*e*Pg		Pb	08 42 01.6	+0.1
BOSS				*e*Sg		Sg	08 42 21.3	+0.9
KDZ	**Kurdzhali**	**1.56**	**75**	*i* P		Pn	08 42 03.0	+0.1
RDO	**Rodhopi**	**1.61**	**93**	P		Pn	08 42 03.5	-0.1
RDO				S		Sb	08 42 24.8	-0.5
	comp=N,158nm,0.2s							
RDO	**Rodhopi**	**1.61**	**93**	P		Pn	08 42 03.7	+0.2
DIM	**Dimitrovgrad**	**1.78**	**63**	*e*P		Pb	08 42 07.5	-0.2
SMTH	**Samothraki Isl**	**1.79**	**116**	P		Pn	08 42 05.6	-0.5
BARS	**Barje**	**1.95**	**323**	*e*Pn		Pb	08 42 10.5	-0.2
BARS				*e*Sn		Sg	08 42 37.5	-0.2
NEST	**Nestorio**	**1.98**	**245**	P		Pn	08 42 09.6	+0.8
ALN	**Alexandroupoli**	**2.03**	**100**	P		Pn	08 42 09.4	+0.1
ALN				S		Sn	08 42 35.4	+0.7
	comp=N,42nm,0.5s							
ALN	**Alexandroupoli**	**2.03**	**100**	P		Pn	08 42 09.3	+0.1
ZAPS	**Zavoj**	**2.09**	**344**	*e*Pn		Pb	08 42 12.4	-0.7
ZAPS				*e*Sn		Sb	08 42 39.7	+0.6
MPEP	**Malo Peshtene**	**2.10**	**7**	*e*P		Pg	08 42 16.7	+1.3
KESN	**Edirne-Kesan**	**2.51**	**99**	P		Pn	08 42 17.9	+1.5
KESN				S		Sg	08 42 55.0	-0.8
KESN				*i* AML		AML	08 43 02.0	
	comp=N,40nm,0.4s							
KESN				*i* AML		AML	08 43 04.0	
	comp=N,40nm,0.3s							
EDRB	**Edirne**	**2.57**	**76**	P		Pn	08 42 17.6	+0.8
SELS	**Selova**	**2.59**	**320**	*e*Pn		Pb	08 42 20.7	-0.9
SELS				*e*Sn		Sb	08 42 52.7	-0.8
KOCA	**Canakkale, Ayv**	**2.73**	**129**	P		Pn	08 42 11.8	-7.1
KOCA				S		Sn	08 42 31.4	-21
KOCA				*i* AML		AML	08 43 01.0	
	comp=N,25nm,1.4s							
KIRK	**Kirklareli**	**2.82**	**78**	P		Pb	08 42 23.9	-1.6
KIRK				S		Sg	08 43 05.3	-0.2
BAYC	**CANAKKALE_Bayr**	**2.84**	**121**	P		Pn	08 42 18.1	-2.3
BAYC				S		Sn	08 42 56.8	+2.1
SART	**Tekirdag**	**2.91**	**100**	P		Pn	08 42 22.7	+1.2
SART				S		Sg	08 43 07.4	-1.2
SART				*i* AML		AML	08 43 11.0	
	comp=N,24nm,0.5s							
SART				*i* AML		AML	08 43 14.0	
	comp=N,18nm,1.2s							
ARMN	**Kirklareli, Me**	**3.08**	**77**	P		Pn	08 42 23.9	+0.1
ARMN				S		Sg	08 43 13.3	-0.5

*IDC **29** 08:55:12.9±0.6, 16°.14N×98°.42W, h0km, mb4.6/20, mbtmp4.6/22, ML3.7/2, MS4.5/12, Error ellipse: s-maj=21.0km s-min=10.2km az=55.0*

*MEX **29** 08:55:13.7±0.9, 15°.97N×98°.70W, h17km±12km, MD5.0*

*GCMT **29** 08:55:16.7±0.2, 16°.15N±0°.01×98°.51W±0°.02, h12km, MW5.1/128, Moment Tensor Solution. s55,c72; s128,c192; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.90±.08; Mθθ-3.12±.07; Mϕϕ-0.78±.07; Mrθ4.76±.23; Mθϕ1.21±.07; Mϕr-2.24±.29; Best double couple: Mo6.47000×10¹⁶ NP1:ϕs115.00000°, δ72.00000°, λ91.00000°. NP2:ϕs292.00000°, δ18.00000°, λ87.00000°. Principal axes: T 6.6050, Plg63.0000°, Azm26.0000°; N -0.2720, Plg1.0000°, Azm294.0000°; P -6.3350, Plg27.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **29** 08:55:16.7±2.4, 16°.21N±0°.04×98°.46W±0°.04, h18km±1km, mb5.2/121, Ms_20 4.7/167, Mwb5.1/15, Md5.0/122(MEX) Error ellipse: s-maj=6.7km s-min=5.2km az=141.0*

*NEIC **29** 08:55:17, 16°.42N×98°.34W, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr4.60; Mθθ-1.04; Mϕϕ-3.56; Mrθ-2.76; Mθϕ3.50; Mϕr0.67; Fault plane solution: Mo6.14000×10¹⁶ NP1:ϕs167.60000°, δ38.65000°, λ126.58000°. NP2:ϕs304.06000°, δ59.90000°, λ64.51000°. Principal axes: T 5.7856, Plg65.0000°, Azm168.0000°; N 0.6609, Plg22.0000°, Azm318.0000°; P -6.4465, Plg11.0000°, Azm52.0000°;*

ISC 29 08:55:13.4±0.3, 16°.03N±0°.03×98°.65W±0°.02, h10km, n928, σ2s12/978, mb5.2/83, MS4.7/99, 22C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.62**	**54**			**Pg**	**08 55 24.1**	**-1.3**
PNIG	**Pinotepa**	**0.62**	**54**	⇑	*e*P	**Pg**	**08 55 24.1**	**-1.3**
	baz=237,slow=14							
PNIG					*e*S	**Sb**	**08 55 33.7**	**-1.4**
CRIG	**Cruz Grande**	**0.84**	**327**			**Sg**	**08 55 38.0**	**-2.6**
CRIG	**Cruz Grande**	**0.84**	**327**	⇑	*e*P	**Pg**	**08 55 27.1**	**-2.5**
CRIG					*i* S	**Sg**	**08 55 38.4**	**-2.1**
MGIG	**Malinaltepec**	**1.20**	**1**			**Pb**	**08 55 33.4**	**-2.9**
MGIG	**Malinaltepec**	**1.20**	**1**	⇑	*e*P	**Pb**	**08 55 33.4**	**-2.9**
MGIG					*e*S	**Sb**	**08 55 48.8**	**-3.1**
YOIG	**Yosondua**	**1.34**	**52**			**Pn**	**08 55 35.6**	**-2.8**
YOIG						**Sb**	**08 55 52.6**	**-3.6**
YOIG	**Yosondua**	**1.34**	**52**	⇑	*e*P	**Pn**	**08 55 35.6**	**-2.8**
YOIG					*e*S	**Sb**	**08 55 52.6**	**-3.6**
DAIG	**Los Arroyos**	**1.37**	**316**	⇑	*e*P	**Pn**	**08 55 35.1**	**-3.6**
DAIG					*e*S	**Sb**	**08 55 52.0**	**-4.8**
VNTA	**La Mica**	**1.42**	**308**		*e*P	**Pn**	**08 55 34.8**	**-4.5**
VNTA					*i* S	**Sn**	**08 55 52.4**	**-5.7**
PEIG	**Puerto Escondi**	**1.45**	**91**	⇑	*e*P	**Pn**	**08 55 36.1**	**-3.6**
PEIG					*i* S	**Sn**	**08 55 53.4**	**-5.3**
ACP2	**Acapulco**	**1.45**	**305**		*e*P	**Pn**	**08 55 36.5**	**-3.2**
ACP2					*i* S	**Sn**	**08 55 52.5**	**-6.4**
TLIG	**Tlapa**	**1.52**	**3**	Pn		**Pn**	**08 55 38.4**	**-2.4**
TLIG	**Tlapa**	**1.52**	**3**	⇑	*e*P	**Pn**	**08 55 38.6**	**-2.3**
TLIG					*i* S	**Sn**	**08 55 57.1**	**-3.7**
HMTT	**Tlapaneco**	**1.76**	**3**			**Pn**	**08 55 42.5**	**-1.6**
HMTT						**Sn**	**08 56 03.4**	**-3.2**
HMTT	**Tlapaneco**	**1.76**	**3**		*i* P	**Pn**	**08 55 42.1**	**-2.0**
HMTT					*e*S	**Sn**	**08 56 03.4**	**-3.2**
CAIG	**El Cayaco**	**1.85**	**303**			**Sb**	**08 56 09.2**	**-1.3**
CAIG	**El Cayaco**	**1.85**	**303**	⇑	*i*P	**Pn**	**08 55 42.1**	**-3.1**
	baz=129,slow=16							
CAIG					*e*S	**Sn**	**08 56 04.2**	**-4.4**
FTIG	**Fresnillo de T**	**1.93**	**15**			**Pn**	**08 55 44.5**	**-1.9**
FTIG						**Sb**	**08 56 10.7**	**-2.3**
FTIG	**Fresnillo de T**	**1.93**	**15**		*e*P	**Pn**	**08 55 44.5**	**-1.9**
FTIG					*e*S	**Sn**	**08 56 08.7**	**-2.1**
HLIG	**Huajuapan de L**	**1.96**	**24**			**Pn**	**08 55 44.8**	**-2.2**
HLIG						**Sn**	**08 56 10.5**	**-1.3**
HLIG	**Huajuapan de L**	**1.96**	**24**	⇑	*e*P	**Pn**	**08 55 44.8**	**-2.2**
HLIG					*e*S	**Sn**	**08 56 09.5**	**-2.3**
ATYC	**Atoyac**	**2.07**	**305**		*e*P	**Pg**	**08 55 50.9**	**-2.3**
ATYC					*e*S	**Sb**	**08 56 16.4**	**-0.6**
MEIG	**Mezcala**	**2.10**	**334**			**Pn**	**08 55 47.0**	**-1.7**
MEIG						**Sn**	**08 56 14.2**	**-0.8**
MEIG	**Mezcala**	**2.10**	**334**	⇑	*e*P	**Pn**	**08 55 47.0**	**-1.7**
MEIG					*e*S	**Sn**	**08 56 12.2**	**-2.8**
OXIG	**Oaxaca**	**2.11**	**60**			**Pn**	**08 55 46.6**	**-2.4**
OXIG						**Sn**	**08 56 14.3**	**-1.1**
VHO	**Vista Hermosa**	**2.11**	**60**	⇑	*e*P	**Pn**	**08 55 46.6**	**-2.4**
VHO					*e*S	**Sn**	**08 56 12.3**	**-3.1**
OXBJ	**Oaxaca**	**2.12**	**61**			**Pn**	**08 55 46.7**	**-2.3**
OXBJ						**Sn**	**08 56 14.4**	**-1.1**
OXBJ	**Oaxaca**	**2.12**	**61**		*e*P	**Pn**	**08 55 46.7**	**-2.3**
OXBJ					*e*S	**Sn**	**08 56 14.4**	**-1.1**
OXLC	**Oaxaca**	**2.13**	**61**		*e*P	**Pn**	**08 55 46.9**	**-2.3**
OXLC					*e*S	**Sn**	**08 56 14.7**	**-1.2**
HUIG	**Huatulco**	**2.46**	**96**			**Sn**	**08 56 21.1**	**-2.7**
HUIG	**Huatulco**	**2.46**	**96**		*e*P	**Pn**	**08 55 50.6**	**-3.1**
HUIG					*e*S	**Sn**	**08 56 21.1**	**-2.7**
PLIG	**Platanillo**	**2.48**	**341**			**Pn**	**08 55 52.7**	**-1.3**
PLIG						**Sb**	**08 56 25.4**	**-3.5**
PLIG	**Platanillo**	**2.48**	**341**	⇑	*e*P	**Pn**	**08 55 52.7**	**-1.3**
PLIG					*e*S	**Sb**	**08 56 25.4**	**-3.5**
TOIG	**Toxpalan**	**2.55**	**36**			**Pn**	**08 55 53.0**	**-1.9**
TOIG						**Sn**	**08 56 23.6**	**-2.6**
TOIG	**Toxpalan**	**2.55**	**36**	⇑	*e*P	**Pn**	**08 55 53.0**	**-1.9**
TOIG					*e*S	**Sn**	**08 56 23.6**	**-2.6**
TPIG	**Tehuac#an**	**2.68**	**27**			**Pn**	**08 55 55.2**	**-1.6**
TPIG						**Sb**	**08 56 30.7**	**-3.8**
TPIG	**Tehuac#an**	**2.68**	**27**	⇑	*e*P	**Pn**	**08 55 55.1**	**-1.7**
TPIG					*e*S	**Sn**	**08 56 25.5**	**-3.8**
THEZ	**Tehuacan**	**2.72**	**26**		*e*P	**Pn**	**08 55 56.2**	**-1.2**
THEZ					*e*S	**Sb**	**08 56 33.3**	**-2.5**
ARIG	**Puente Sto Nin**	**2.76**	**324**			**Pn**	**08 55 56.6**	**-1.1**
ARIG						**Sb**	**08 56 33.6**	**-3.2**
ARIG	**Puente Sto Nin**	**2.76**	**324**	⇑	*e*P	**Pn**	**08 55 56.6**	**-1.1**
ARIG					*e*S	**Sb**	**08 56 33.6**	**-3.2**
MAVM	**Malinalco, Edo**	**3.02**	**345**			**Pb**	**08 56 05.7**	**-1.7**
MAVM	**Malinalco, Edo**	**3.02**	**345**		*e*P	**Pb**	**08 56 05.7**	**-1.7**
PPIG	**Popocatepetl**	**3.02**	**0**			**Pn**	**08 56 00.5**	**-1.2**
PPIG						**Sn**	**08 56 36.5**	**-1.8**
PPM	**Popocatepetl**	**3.02**	**0**	⇑	*e*P	**Pn**	**08 56 00.5**	**-1.2**
PPM					*e*S	**Sn**	**08 56 36.5**	**-1.8**
PHPU	**Puebla**	**3.03**	**9**			**Pb**	**08 56 06.3**	**-1.4**
PHPU	**Puebla**	**3.03**	**9**		*e*P	**Pb**	**08 56 06.3**	**-1.4**
AMVM	**AMECAMECA**	**3.09**	**358**			**Pb**	**08 56 07.2**	**-1.4**
AMVM	**AMECAMECA**	**3.09**	**358**		*e*P	**Pn**	**08 56 01.8**	**-0.7**
ZIIG	**Zihuatanejo**	**3.12**	**301**			**Pn**	**08 56 01.1**	**-1.5**
ZIIG	**Zihuatanejo**	**3.12**	**301**		*e*P	**Pn**	**08 56 01.1**	**-1.5**
ZIIG					*e*S	**Sn**	**08 56 35.7**	**-4.2**
OZST	**Orizaba**	**3.18**	**28**		*e*P	**Pn**	**08 56 01.8**	**-1.9**
TLVM	**San Miguel Top**	**3.20**	**351**		*e*P	**Pb**	**08 56 09.5**	**-1.1**
TEJU	**Tejupilco**	**3.20**	**333**		*e*P	**Pn**	**08 56 04.9**	**+1.0**
NEUV	**Arroyo Zacate**	**3.20**	**58**	⇑	*e*P	**Pn**	**08 56 01.7**	**-2.1**
NEUV					*e*S	**Sn**	**08 56 42.8**	**+0.8**
XCVM	**Xochimilco**	**3.23**	**352**		*e*P	**Pn**	**08 56 03.8**	**-0.7**
THVM	**De Xico**	**3.28**	**355**		*e*P	**Pn**	**08 56 04.9**	**-0.2**
AOVM	**Tlapan**	**3.28**	**349**		*e*P	**Pn**	**08 56 04.8**	**-0.5**
INVM	**La Marquesa**	**3.32**	**348**		*e*P	**Pn**	**08 56 05.2**	**-0.6**
UNM	**Universidad Na**	**3.32**	**351**			**Pn**	**08 56 05.6**	**0.0**
UNM	**Universidad Na**	**3.32**	**351**		*e*P	**Pb**	**08 56 10.3**	**-2.2**
UNM					*e*S	**Sn**	**08 56 42.8**	**-2.5**
CUIG	**Ciudad Univers**	**3.32**	**351**			**Pb**	**08 56 10.3**	**-2.2**
CUIG						**Sn**	**08 56 42.8**	**-2.5**
BJVM	**Benito Juarez**	**3.36**	**352**		*e*P	**Pn**	**08 56 05.9**	**-0.4**
CJVM	**Cuajimalpa**	**3.37**	**350**		*e*P	**Pn**	**08 56 06.0**	**-0.3**
SCT2	**Benito Juarez**	**3.38**	**352**		*e*P	**Pb**	**08 56 13.9**	**+0.3**
TXVM	**Universitario**	**3.39**	**356**		*e*P	**Pb**	**08 56 11.9**	**-2.0**
GMVM	**Gustavo A Made**	**3.47**	**353**		*e*P	**Pn**	**08 56 06.9**	**-0.9**
APVM	**Azcapotzalco**	**3.48**	**351**		*e*P	**Pn**	**08 56 06.5**	**-1.3**
AZVM	**Cuida Lopez Ma**	**3.58**	**350**			**Pn**	**08 56 11.7**	**+2.3**
AZVM	**Cuida Lopez Ma**	**3.58**	**350**		*e*P	**Pn**	**08 56 08.7**	**-0.7**
UON	**La Union**	**3.59**	**303**		*e*P	**Pn**	**08 56 08.8**	**-0.3**
UON					*e*S	**Sn**	**08 56 42.7**	**-8.9**
VTVM	**Tizayuca**	**3.72**	**358**			**Pb**	**08 56 18.0**	**-1.4**
VTVM	**Tizayuca**	**3.72**	**358**		*e*P	**Pn**	**08 56 10.2**	**-1.0**
JAUV	**Jalcomulco**	**3.76**	**28**	⇑	*e*P	**Pn**	**08 56 08.8**	**-2.7**
JAUV					*e*S	**Sn**	**08 56 54.5**	**-1.3**
CMIG	**Matias Romero**	**3.76**	**73**	Pn		**Pn**	**08 56 08.7**	**-2.8**
	18nm,0.3s,baz=267,slow=11,SNR=146							
CMIG					Sn	**Sn**	**08 56 52.4**	**-3.6**
	42nm,0.3s,baz=242,slow=13,SNR=4.4							
	264nm,0.7s							
CMIG	**Matias Romero**	**3.76**	**73**			**Pn**	**08 56 08.8**	**-2.7**
CMIG						**Sn**	**08 56 59.2**	**+3.2**
CMIG	**Matias Romero**	**3.76**	**73**	⇑	*i*P	**Pn**	**08 56 08.8**	**-2.7**
CMIG					*e*S	**Sn**	**08 56 59.2**	**+3.2**
ZUVM	**ZUMPANGO**	**3.80**	**354**			**Pb**	**08 56 18.5**	**-2.2**
ZUVM	**ZUMPANGO**	**3.80**	**354**		*e*P	**Pb**	**08 56 18.5**	**-2.2**
NILT	**Santiago Nilte**	**3.91**	**82**		*e*P	**Pn**	**08 56 12.0**	**-1.5**
ACIG	**Acambay**	**4.10**	**344**			**Pb**	**08 56 23.8**	**-2.0**
ACIG	**Acambay**	**4.10**	**344**		*e*P	**Pn**	**08 56 15.9**	**-0.4**
CXUV	**Coxquihui**	**4.24**	**14**		*e*P	**Pn**	**08 56 16.5**	**-2.5**
CXUV					*e*S	**Sn**	**08 57 08.6**	**+0.8**
LVIG	**Laguna Verde**	**4.24**	**30**	⇑	*e*P	**Pn**	**08 56 13.9**	**-4.3**
LVIG					*e*S	**Sb**	**08 57 15.0**	**-4.4**
DHIG	**Demacu**	**4.26**	**355**			**Pb**	**08 56 26.4**	**-2.2**
DHIG						**Sn**	**08 57 11.9**	**+3.3**
DEIG	**Demacu**	**4.26**	**355**	⇑	*e*P	**Pb**	**08 56 26.4**	**-2.2**
DEIG					*e*S	**Sn**	**08 57 11.9**	**+3.3**
MOIG	**Morelia**	**4.36**	**327**			**Pn**	**08 56 22.2**	**+2.3**
MOIG	**Morelia**	**4.36**	**327**		*e*P	Pb	08 56 24.7	-5.5
MOIG					*e*S	**Sn**	**08 57 15.1**	**+4.2**
TUIG	**Tuzandepetl**	**4.51**	**63**		*e*P	**Pn**	**08 56 18.6**	**-3.2**
TUIG					*e*S	**Sn**	**08 57 12.1**	**-2.3**
CARR	**Arriaga**	**4.56**	**87**		*e*P	**Pn**	**08 56 18.3**	**-4.2**
JRQG	**Juriquilla Cam**	**4.95**	**340**		*e*P	Pb	08 56 33.6	-6.7
JRQG					*e*S	**Sn**	**08 57 26.3**	**+0.7**
MMIG	**Aquila**	**5.02**	**297**			**Pn**	**08 56 27.6**	**-1.2**
MMIG	**Aquila**	**5.02**	**297**		*e*P	**Pn**	**08 56 27.6**	**-1.2**
PCIG		**5.24**	**93**			**Pn**	**08 56 29.9**	**-1.9**
PCIG		**5.24**	**93**		*e*P	**Pn**	**08 56 29.9**	**-1.9**
PCIG					*e*S	**Sn**	**08 57 27.4**	**-4.9**
IGIG	**Irapuato, Guan**	**5.34**	**332**		*e*P	**Pn**	**08 56 31.9**	**-1.5**
IGIG					*i* S	Sn	08 57 22.5	-13
TGIG		**5.36**	**81**			**Pn**	**08 56 31.3**	**-2.2**
TGIG		**5.36**	**81**		*e*P	**Pn**	**08 56 31.3**	**-2.2**
COIG	**Colima**	**5.73**	**304**		*e*P	**Pn**	**08 56 40.0**	**+1.3**
COIG					*e*S	**Sn**	**08 57 44.8**	**+0.1**
JUBC	**Volcan de Coli**	**5.83**	**307**		*e*P	**Pn**	**08 56 41.9**	**+1.7**
JUBC					*e*S	**Sn**	**08 57 50.4**	**+3.1**
MNGA	**Volcan de Coli**	**5.84**	**307**		*e*P	**Pn**	**08 56 42.2**	**+1.9**
INCO	**Volcan de Coli**	**5.86**	**307**		*e*P	**Pn**	**08 56 40.9**	**+0.2**
INCO					*e*S	**Sn**	**08 57 46.0**	**-2.2**
CDAR	**Ciudad de Arme**	**5.88**	**300**		*e*P	**Pn**	**08 56 40.8**	**+0.2**
CDAR					*e*S	**Sn**	**08 57 45.0**	**-3.0**
RPIG	**Rio Verde**	**5.96**	**348**			**Pn**	**08 56 41.9**	**+0.1**
RPIG	**Rio Verde**	**5.96**	**348**		*e*P	**Pn**	**08 56 41.9**	**+0.1**
R15V		**5.96**	**302**			**Pn**	**08 56 44.4**	**+2.6**
R15V		**5.96**	**302**		*e*P	**Pn**	**08 56 43.2**	**+1.3**
R15V					*e*S	**Sn**	**08 57 45.6**	**-4.8**
CCIG	**Comitan**	**6.27**	**87**			**Pn**	**08 56 46.5**	**+0.4**
CCIG	**Comitan**	**6.27**	**87**	⇑	*e*P	**Pn**	**08 56 45.2**	**-0.9**
CCIG					*e*S	**Sn**	**08 57 57.7**	**-0.2**
AAIG	**Aguscalientes**	**6.88**	**330**			**Pn**	**08 56 56.1**	**+1.5**
AAIG						**Sn**	**08 58 10.8**	**-2.3**
AAIG	**Aguscalientes**	**6.88**	**330**		*e*P	**Pn**	**08 56 56.1**	**+1.5**
AAIG					*e*S	**Sn**	**08 58 10.8**	**-2.3**
RTAL	**Retalhuleu**	**6.88**	**102**	Pn		**Pn**	**08 56 55.8**	**+1.4**
HUEH	**Huehuetenango**	**6.92**	**95**			**Pn**	**08 56 55.6**	**+0.4**
GTIG	**Gomez Farias**	**7.02**	**356**			**Pn**	**08 56 55.2**	**-1.0**
GTIG	**Gomez Farias**	**7.02**	**356**		*e*P	**Pn**	**08 56 55.2**	**-1.0**
ANIG	**Ahuacatlan**	**7.48**	**313**			**Pn**	08 57 07.3	+4.6
ANIG						**Sn**	**08 58 29.1**	**+1.4**
ANIG	**Ahuacatlan**	**7.48**	**313**		*e*P	**Pn**	08 57 07.3	+4.6
ANIG					*i* S	**Sn**	**08 58 29.1**	**+1.4**
ZAIG	**Zacatecas**	**7.65**	**332**	Pn		**Pn**	**08 57 07.3**	**+2.1**
SCIG	**Sabancuy**	**7.70**	**67**	*e*P		Pn	08 56 58.8	-6.8
SCIG					*e*S	**Sn**	**08 58 31.9**	**-1.0**
PETF	**Flores**	**8.47**	**83**			**Pn**	**08 57 13.9**	**-2.4**
LNIG	**Linares**	**8.86**	**355**	*e*P		Pn	08 57 15.5	-6.0
ESQI	**Esquipulas**	**9.10**	**98**			**Pn**	**08 57 25.8**	**+0.8**
MNIG	**Monterrey**	**9.65**	**351**			Pn	08

WMOK	**Wichita Mounta**	**18.63**	**360**	P	**P**	**08 59 29.8**	**-1.4**
	baz=179,SNR=8.4						
WMOK				S	**S**	**09 03 04.2**	**+0.6**
	baz=179						
WMOK	**Wichita Mounta**	**18.63**	**360**	P	**P**	**08 59 29.2**	**-2.0**
	baz=179,SNR=8.4						
146A	**Union**	**18.68**	**26**	P	**P**	**08 59 29.5**	**-2.3**
	baz=210,SNR=9.8						
X37A	**Clayton**	**18.71**	**8**		**P**	**08 59 30.1**	**-2.0**
X37A	**Clayton**	**18.71**	**8**	P	**Pn**	**08 59 31.3**	**-1.2**
	baz=189,SNR=27						
X37A				S	**S**	**09 03 10.0**	**+4.7**
	baz=189						
CCAR	**Cane Creek**	**18.86**	**18**	P	**P**	**08 59 31.8**	**-1.9**
AMTX	**Amarillo**	**18.97**	**352**	P	**Pn**	**08 59 34.7**	**-1.0**
	baz=170,SNR=16						
AMTX				S	**S**	**09 03 08.1**	**-2.5**
	baz=170						
AMTX	**Amarillo**	**18.97**	**352**	P	**Pn**	**08 59 34.1**	**-1.6**
	baz=170						
MIAR	**Mount Ida**	**18.99**	**13**	P	**P**	**08 59 32.6**	**-2.6**
MIAR	**Mount Ida**	**18.99**	**13**	P	**P**	**08 59 33.4**	**-1.8**
	baz=195,SNR=31						
MIAR				S	**S**	**09 03 14.4**	**+3.5**
	baz=195						
MIAR	**Mount Ida**	**18.99**	**13**	P	**P**	**08 59 32.8**	**-2.4**
	baz=195,SNR=31						
061Z	**Ochoppi**	**19.23**	**57**	P	**P**	**08 59 36.5**	**-1.3**
	baz=243						
CRNM	**Carthage**	**19.27**	**339**	P	**Pn**	**08 59 39.5**	**0.0**
Y22A	**Socorro**	**19.34**	**339**	P	**Pn**	**08 59 41.2**	**+1.0**
	baz=154,SNR=23						
Y22D	**IRIS PASSCAL I**	**19.45**	**339**	P	**Pn**	**08 59 39.8**	**-1.8**
	baz=155						
Y22F	**Passcal Instru**	**19.45**	**339**	P	**Pn**	**08 59 39.8**	**-1.8**
	baz=155						
SBM	**South Baldy**	**19.45**	**338**	P	**P**	**08 59 39.6**	**-1.0**
250A	**Grady**	**19.47**	**33**	P	**Pn**	**08 59 39.7**	**-1.9**
	baz=218						
Y45A	**Yeager Farm, C**	**19.57**	**23**	P	**Pn**	**08 59 40.8**	**-1.9**
	baz=207,SNR=16						
BCIP	**Isla Barro Col**	**19.58**	**108**	P	**Pn**	**08 59 44.2**	**+1.1**
Z47A	**Carrollton**	**19.59**	**27**	P	**Pn**	**08 59 41.2**	**-1.9**
	baz=211,SNR=7.0						
Z47A				S	**Sn**	**09 03 21.9**	**-1.1**
	baz=211						
TUC	**Tucson**	**19.60**	**328**	P	**Pn**	**08 59 43.3**	**+0.1**
	baz=142						
DEOK	**Depew**	**19.82**	**5**		**P**	**08 59 42.7**	**-1.6**
DEOK				IAmb	IAmb	08 59 45.5	
	comp=Z,187nm,1.3s						
352A	**Blakely**	**19.82**	**37**	P	**Pn**	**08 59 43.8**	**-2.1**
	baz=222						
LRAL	**Lakeview Retre**	**19.95**	**30**	P	**P**	**08 59 44.2**	**-1.4**
LRAL				IAmb	IAmb	08 59 57.8	
	comp=Z,152nm,1.8s						
LRAL	**Lakeview Retre**	**19.95**	**30**	P	**P**	**08 59 44.8**	**-0.8**
	baz=214,SNR=24						
LRAL	**Lakeview Retre**	**19.95**	**30**	P	**P**	**08 59 43.9**	**-1.8**
	baz=214,SNR=24						
DWPF	**Disney Wildern**	**19.95**	**50**	P	**P**	**08 59 42.6**	**-3.1**
	baz=236						
TUL1	**Leonard**	**19.96**	**7**	P	**P**	**08 59 44.1**	**-1.8**
	baz=188,SNR=36						
TUL1				S	**Sn**	**09 03 31.7**	**-0.3**
	baz=188						
TUL1	**Leonard**	**19.96**	**7**	P	**P**	**08 59 44.0**	**-1.8**
	baz=188,SNR=36						
ELIS	**Ellis County**	**19.96**	**358**	P	**P**	**08 59 44.8**	**-1.1**
WHAR	**Wooly Hollow**	**20.01**	**15**	P	**P**	**08 59 44.7**	**-1.5**
WHAR				IAmb	IAmb	08 59 53.1	
	comp=Z,138nm,1.1s						
ANMO	**Albuquerque**	**20.09**	**341**	P	Pn	08 59 48.6	-0.7
	comp=Z,25nm,1.0s,baz=152,slow=12,SNR=80						
	comp=Z,25nm,1.0s						
ANMO	**Albuquerque**	**20.09**	**341**	P	Pn	08 59 48.1	-1.2
ANMO				IAmb	IAmb	08 59 59.6	
	comp=Z,229nm,1.8s						
ANMO	**Albuquerque**	**20.09**	**341**	P	Pn	08 59 48.4	-0.9
	baz=157,SNR=68						
ANMO				S	Sn	09 03 35.9	+0.4
	baz=157						
ANMO	**Albuquerque**	**20.09**	**341**	P	Pn	08 59 48.4	-0.9
	baz=157						
QUOK	**Quay**	**20.13**	**5**		**P**	**08 59 46.1**	**-1.6**
QUOK				IAmb	IAmb	08 59 53.1	
	comp=Z,111nm,1.3s						
OXF	**Oxford**	**20.19**	**23**	P	**P**	**08 59 46.4**	**-1.9**
OXF				IAmb	IAmb	08 59 53.9	
	comp=Z,206nm,1.1s						
OXF	**Oxford**	**20.19**	**23**	P	Pn	08 59 47.9	-2.3
	baz=206,SNR=13						
OXF	**Oxford**	**20.19**	**23**	P	**P**	**08 59 46.7**	**-1.5**
	baz=206,SNR=13						
U32A	**Winter Ranch,**	**20.27**	**359**	P	Pn	08 59 49.3	-1.8
	baz=178,SNR=24						
U32A				S	Sn	09 03 42.3	+2.8
	baz=178						
OK044	**Pawnee Station**	**20.33**	**4**		**P**	**08 59 48.3**	**-1.4**
OK044				IAmb	IAmb	08 59 56.4	
	comp=Z,159nm,1.2s						
OK049	**E0420 Rd and N**	**20.33**	**3**		**P**	**08 59 48.3**	**-1.5**
OK049				IAmb	IAmb	08 59 51.9	
	comp=Z,205nm,1.1s						
214A	**Organ Pipe Nat**	**20.43**	**323**	P	Pn	08 59 52.7	-0.3
	baz=137,SNR=31						
TIGA	**Tifton**	**20.59**	**39**	P	**P**	**08 59 50.7**	**-1.9**
	baz=225						
HHAR	**Hobbs**	**20.60**	**11**	P	**P**	**08 59 51.7**	**-1.0**
	baz=192						
U38A	**Gravette**	**20.68**	**10**	P	**P**	**08 59 52.0**	**-1.6**
	baz=191,SNR=57						
U38A				S	Sn	09 03 46.4	-2.8
	baz=191						
152A	**Waverly Hall**	**20.83**	**35**	P	**P**	**08 59 53.9**	**-1.3**
	baz=220,SNR=8.3						
W45A	**Hickory Valley**	**20.85**	**22**	P	**P**	**08 59 54.2**	**-1.2**
	baz=206,SNR=24						
W45A				S	Sn	09 03 55.4	+2.0
	baz=206						
T35B	**Sooner Cattle**	**20.89**	**5**	P	**P**	**08 59 54.5**	**-1.4**
	baz=185,SNR=38						
T35B				S	Sn	09 03 54.8	+0.5
	baz=185						
Y49A	**Blount Mountai**	**20.90**	**30**	P	**P**	**08 59 55.1**	**-0.9**
	baz=214,SNR=27						
Y49A				S	Sn	09 03 52.5	-2.2
	baz=214						
SFX	**San Felipe**	**21.02**	**318**	P	**P**	**08 59 59.4**	**+2.1**
LCAR	**Lake Charles**	**21.05**	**17**	S	**S**	**09 03 51.7**	**-0.2**
	baz=200						
Z51A	**Franklin**	**21.09**	**33**	P	**P**	**08 59 57.2**	**-0.8**
	baz=218						
X48A	**Hartselle**	**21.10**	**28**	P	**P**	**08 59 56.1**	**-2.1**
X48A				IAmb	IAmb	09 00 08.1	
	comp=Z,306nm,1.9s						
X48A	**Hartselle**	**21.10**	**28**	P	**P**	**08 59 56.5**	**-1.7**
	baz=212,SNR=31						
X48A				S	Sn	09 04 03.9	+4.4
	baz=212						
W18A	**Petrified Fore**	**21.45**	**334**	P	**P**	**09 00 03.3**	**+1.3**
	baz=149						
113A	**Mohawk Valley,**	**21.57**	**323**	P	**P**	**09 00 04.5**	**+1.3**
113A				IAmb	IAmb	09 00 14.1	
	comp=Z,279nm,1.9s						
T25A	**Trinidad**	**21.64**	**347**	P	**P**	**09 00 04.8**	**+0.6**
	baz=164,SNR=80						
154A	**Montrose**	**21.71**	**38**	P	**P**	**09 00 03.0**	**-1.7**
	baz=224,SNR=8.1						
GUVIX	**Guadalupe Vict**	**22.02**	**320**	P	**P**	**09 00 10.0**	**+2.0**
GOGA	**Godfrey**	**22.08**	**36**	P	**P**	**09 00 07.0**	**-1.7**
	baz=222,SNR=13						
GOGA				S	**S**	**09 04 16.2**	**+3.9**
	baz=222						
GOGA	**Godfrey**	**22.08**	**36**	P	**P**	**09 00 06.4**	**-2.3**
	baz=222,SNR=13						
S39A	**Bolivar**	**22.08**	**11**	P	**P**	**09 00 07.6**	**-1.1**
	baz=193,SNR=34						
S39A				S	Sn	09 04 16.7	-6.3
	baz=193						
Y52A	**Lilburn**	**22.09**	**34**	P	**P**	**09 00 07.1**	**-1.7**
	baz=220,SNR=20						
Y52A				P	**P**	**09 00 07.1**	**-1.7**
	baz=220,SNR=20						
Y52A				S	Sn	09 04 19.1	-4.3
	baz=220						
Y52A				S	Sn	09 04 19.1	-4.3
	baz=220						
WVT	**Waverly**	**22.22**	**24**	P	**P**	**09 00 08.0**	**-2.1**
WVT				IAmb	IAmb	09 00 12.0	
	comp=Z,162nm,1.0s						
WVT	**Waverly**	**22.22**	**24**	P	**P**	**09 00 08.2**	**-2.0**
	baz=208,SNR=105						
WVT				S	Sn	09 04 21.2	-5.0
	baz=208						
WVT	**Waverly**	**22.22**	**24**	P	**P**	**09 00 08.1**	**-2.0**
	baz=208						
X51A	**Calhoun**	**22.23**	**31**	P	**P**	**09 00 08.8**	**-1.5**
	baz=217,SNR=7.1						
X51A				P	**P**	**09 00 08.8**	**-1.5**
	baz=217,SNR=7.1						
CPBX	**Cerro Prieto**	**22.24**	**320**	P	**P**	**09 00 12.2**	**+1.8**
CPBX				IAmb	IAmb	09 00 29.0	
	comp=Z,192nm,1.5s						
V48A	**Smith Brothers**	**22.29**	**26**	P	**P**	**09 00 09.4**	**-1.5**
	baz=211,SNR=27						
V48A				S	Sn	09 04 21.7	-6.2
	baz=211						
R32A	**Long Quarter,**	**22.31**	**360**	P	**P**	**09 00 10.6**	**-0.5**
	baz=179,SNR=8.8						
GLA	**Glamis**	**22.39**	**322**	P	**P**	**09 00 13.4**	**+1.3**
	baz=135,SNR=9.5						
SDCO	**Great Sand Dun**	**22.46**	**346**	P	**P**	**09 00 13.7**	**+0.7**
	baz=162,SNR=39						
SDCO				S	**S**	**09 04 23.7**	**+3.8**
	baz=162						
SDCO	**Great Sand Dun**	**22.46**	**346**	P	**P**	**09 00 13.2**	**+0.2**
	baz=162,SNR=39						
WUAZ	**Wupatki**	**22.49**	**332**	P	**P**	**09 00 15.6**	**+2.3**
	baz=146,SNR=74						
W50A	**Signal Mountai**	**22.52**	**30**	P	**P**	**09 00 12.0**	**-1.4**
	baz=215,SNR=48						
W50A				S	Sn	09 04 26.6	-6.9
	baz=215						
CGM3	**Cape Girardeau**	**22.63**	**19**	P	**P**	**09 00 12.4**	**-2.2**
CGM3				IAmb	IAmb	09 00 16.0	
	comp=Z,109nm,1.0s						
T45B	**Paducah**	**22.71**	**21**	P	**P**	**09 00 14.2**	**-1.2**
	baz=205,SNR=6.4						
T45A	**Paducah**	**22.71**	**21**	P	**P**	**09 00 12.8**	**-2.5**
CBKS	**Cedar Bluff**	**22.72**	**358**	P	**P**	**09 00 14.7**	**-0.8**
	baz=177,SNR=17						
CBKS	**Cedar Bluff**	**22.72**	**358**	P	**P**	**09 00 14.3**	**-1.2**
	baz=177,SNR=17						
GTBY	**Guantanamo Bay**	**22.72**	**77**	P	**P**	**09 00 14.2**	**-1.5**
S22A	**4UR Ranch, Cre**	**22.80**	**343**	P	**P**	**09 00 17.6**	**+0.9**
	baz=159,SNR=42						
MVCO	**Mesa Verde**	**22.83**	**339**	P	**P**	**09 00 17.3**	**+0.4**
	baz=154,SNR=87						
R40A	**Maddies Statio**	**22.88**	**13**	P	**P**	**09 00 16.2**	**-0.9**
	baz=196,SNR=115						
CCM	**Cathedral Cave**	**22.89**	**15**	P	**P**	**09 00 15.4**	**-1.8**
	baz=198,SNR=40						
CCM	**Cathedral Cave**	**22.89**	**15**	P	**P**	**09 00 15.8**	**-1.5**
	baz=198						
IKP	**In-Ko-Pah, Jac**	**22.89**	**319**	P	**P**	**09 00 19.0**	**+1.6**
	baz=132						
SWSC	**Sam W. Stewart**	**22.90**	**320**	P	**P**	**09 00 18.7**	**+1.3**
	baz=133,SNR=24						
PDMCI	**Parker Dam,Lak**	**22.91**	**325**	P	**P**	**09 00 18.7**	**+1.2**
	baz=138,SNR=14						
FVM	**French Village**	**23.04**	**17**	P	**P**	**09 00 18.2**	**-0.6**
	baz=200,SNR=5.4						
FVM				S	**S**	**09 04 34.9**	**+5.2**
	baz=200						
KSU1	**Kansas State U**	**23.05**	**4**	P	**P**	**09 00 18.3**	**-0.7**
	baz=184						
KSU1				S	**S**	**09 04 35.9**	**+6.1**
	baz=184						
KSU1	**Kansas State U**	**23.05**	**4**	P	**P**	**09 00 17.2**	**-1.8**
	baz=184						
W52A	**Murphy**	**23.11**	**32**	P	**P**	**09 00 18.6**	**-1.1**
	baz=216,SNR=38						
W52A				S	**S**	**09 04 35.4**	**+4.3**
	baz=218						
S44A	**Carbondale**	**23.12**	**19**	P	**P**	**09 00 19.3**	**-0.4**
	baz=203,SNR=32						
S44A				S	**S**	**09 04 31.5**	**+0.5**
	baz=203						
HAW	**Hawthorne Fire**	**23.12**	**39**	P	**P**	**09 00 17.8**	**-1.9**
	baz=226,SNR=10						
HAW				S	**S**	**09 04 36.0**	**+4.8**
	baz=226						
KSCO	**Kaye Shedlock'**	**23.16**	**352**	P	**P**	**09 00 20.6**	**+0.5**
	baz=170,SNR=20						
KSCO	**Kaye Shedlock'**	**23.16**	**352**	P	**P**	**09 00 19.8**	**-0.4**
	baz=170,SNR=20						
BC3	**Big Chuckawall**	**23.19**	**322**	P	**P**	**09 00 21.8**	**+1.3**
	baz=134,SNR=25						
MONP2	**Monument Peak**	**23.25**	**319**	P	**P**	**09 00 22.9**	**+1.6**
	baz=131,SNR=17						
T47A	**Sharon Grove**	**23.25**	**24**	P	**P**	**09 00 18.5**	**-2.5**
	baz=209,SNR=101						
T47A				S	**S**	**09 04 33.2**	**0.0**
	baz=209						
HODGE	**Hodges**	**23.36**	**36**	P	**P**	**09 00 20.6**	**-1.6**
	baz=223,SNR=11						
IRM	**Iron Mountain**	**23.37**	**324**	P	**P**	**09 00 23.9**	**+1.6**
	baz=136,SNR=55						
U49A	**Red Boiling Sp**	**23.39**	**27**	P	**P**	**09 00 20.8**	**-1.6**
	baz=212,SNR=50						
U49A				S	**S**	**09 04 40.3**	**+4.8**
	baz=212						
V51A	**Loudon**	**23.47**	**30**	P	**P**	**09 00 21.7**	**-1.5**
	baz=216,SNR=25						
V51A				S	**S**	**09 04 41.7**	**+4.9**
	baz=216						
NEE2	**Needles Airpor**	**23.52**	**325**	P	**P**	**09 00 25.0**	**+1.2**
	baz=138						
Q24A	**Divide**	**23.55**	**347**	P	**P**	**09 00 24.9**	**+0.6**
	baz=164,SNR=9.5						
CASEE	**Lake Jocassee**	**23.56**	**34**	P	**P**	**09 00 23.3**	**-0.8**
	baz=220,SNR=14						
TKL	**Tuckaleechee C**	**23.64**	**31**	P	**P**	**09 00 23.9**	**-1.0**
	comp=Z,18nm,0.9s,baz=187,slow=10.0,SNR=18						
	comp=Z,18nm,0.9s						
TKL	**Tuckaleechee C**	**23.64**	**31**	P	**P**	**09 00 23.7**	**-1.2**
	baz=218,SNR=10						
TKL				S	**S**	**09 04 43.6**	**+4.1**
	baz=218						
U15A	**North Rim**	**23.66**	**332**	P	**P**	**09 00 26.5**	**+1.1**
U15A				IAmb	IAmb	09 00 33.7	
	comp=Z,218nm,1.9s						
109C	**Camp Elliot, M**	**23.68**	**318**	P	**P**	**09 00 26.3**	**+1.0**
	baz=130						
SLM	**Saint Louis**	**23.70**	**17**	P	**P**	**09 00 25.8**	**+0.3**
	baz=200,SNR=7.6						
SLM				S	**S**	**09 04 43.1**	**+2.6**
	baz=200						
BELC	**Belle Mtn. Jos**	**23.75**	**322**	P	**P**	**09 00 27.6**	**+1.5**
	baz=134,SNR=38						
TPFO	**Pinon Flats**	**23.75**	**321**	P	**P**	**09 00 27.4**	**+1.2**
	baz=132,SNR=23						
PFO	**Pinyon Flats O**	**23.76**	**321**	P	**P**	**09 00 28.0**	**+1.8**
	comp=Z,3.8nm,0.8s,baz=132,slow=11,SNR=23						
PFO				LR	LR	09 10 07.5	
	comp=Z,1µm,18.2s,baz=136,slow=38						
	comp=Z,3.8nm,0.8s						
PFO	**Pinyon Flats O**	**23.76**	**321**	P	**P**	**09 00 27.8**	**+1.5**
	baz=132,SNR=14						
NHSC	**New Hope**	**23.84**	**41**	P	**P**	**09 00 26.1**	**-0.7**
NHSC	**New Hope**	**23.84**	**41**	P	**P**	**09 00 26.9**	**+0.1**
	baz=229,SNR=13						
NHSC				S	Sn	09 04 53.8	-11
	baz=229						
NHSC	**New Hope**	**23.84**	**41**	P	**P**	**09 00 24.9**	**-1.8**
	baz=229,SNR=13						
V52A	**Sevierville**	**23.87**	**31**	P	**P**	**09 00 26.2**	**-0.9**
	baz=218,SNR=13						
P38A	**Dawn**	**23.93**	**10**	P	**P**	**09 00 26.1**	**-1.5**
	baz=192,SNR=25						
JSC	**Jenkinsville**	**23.98**	**38**	P	**P**	**09 00 26.9**	**-1.2**
	baz=225,SNR=6.9						
PAULI	**Pauline**	**24.04**	**36**	P	**P**	**09 00 26.2**	**-2.6**
PAULI	**Pauline**	**24.04**	**36**	P	**P**	**09 00 27.5**	**-1.2**
	baz=223,SNR=7.5						
P40A	**Paris**	**24.11**	**13**	P	**P**	**09 00 28.4**	**-0.9**
	baz=195,SNR=44						
P40A				S	**S**	**09 04 50.7**	**+3.7**
	baz=195						
GMRC	**Granite Mounta**	**24.11**	**324**	P	**P**	**09 00 31.0**	**+1.5**
	baz=136,SNR=21						
V53A	**Saluda**	**24.14**	**33**	P	**P**	**09 00 28.9**	**-0.8**
	baz=220,SNR=12						
V53A				P	**P**	**09 00 28.9**	**-0.8**
	baz=220,SNR=12						
SMCO	**Snowmass**	**24.18**	**344**	IAMs_20	IAMs_20	09 09 58.8	
	comp=Z,3µm,21.0s						
MURC	**Murrieta**	**24.20**	**320**	P	**P**	**09 00 32.0**	**+1.7**
	baz=131,SNR=9.6						
T50A	**Nancy**	**24.23**	**28**	P	**P**	**09 00 29.1**	**-1.3**
	baz=214						
T50A				P	**P**	**09 00 29.1**	**-1.3**
	baz=214						
T50A				S	**S**	**09 04 54.0**	**+5.0**
	baz=214						
T50A				S	**S**	**09 04 54.0**	**+5.0**
	baz=214						
Q44A	**Meyer Farm, Va**	**24.30**	**18**	P	**P**	**09 00 30.2**	**-0.9**
	baz=203,SNR=17						
Q44A				S	**S**	**09 04 54.5**	**+4.4**
	baz=203						
Y57A	**Sumter**	**24.31**	**39**	P	**P**	**09 00 30.7**	**-0.5**
	baz=227,SNR=7.0						
Y57A				P	**P**	**09 00 30.7**	**-0.5**
	baz=227,SNR=7.0						
Y57A				S	**S**	**09 04 58.1**	**+7.8**
	baz=227						
Y57A				S	**S**	**09 04 58.1**	**+7.8**
	baz=227						
ELS	**Elsinore Mount**	**24.38**	**319**	P	**P**	**09 00 33.0**	**+1.1**
ELS				IAmb	IAmb	09 00 41.6	
	comp=Z,136nm,1.9s						
OLIL	**Olney**	**24.44**	**20**	P	**P**	**09 00 31.3**	**-1.0**
	baz=205,SNR=14						
TZTN	**Tazewell**	**24.45**	**30**	P	**P**	**09 00 32.0**	**-0.5**
	baz=217,SNR=19						
TZTN				S	**S**	**09 04 57.1**	**+4.6**
	baz=217						
TZTN	**Tazewell**	**24.45**	**30**	P	**P**	**09 00 31.3**	**-1.2**
	baz=217,SNR=19						
ISCO	**Idaho Springs**	**24.45**	**347**	P	**P**	**09 00 34.1**	**+1.3**
	baz=163,SNR=62						
ISCO				S	**S**	**09 04 58.6**	**+5.5**
	baz=163						
ISCO	**Idaho Springs**	**24.45**	**347**	P	**P**	**09 00 33.5**	**+0.7**
	baz=163,SNR=62						
BBRC	**Big Bear Solar**	**24.48**	**321**	P	**P**	**09 00 35.1**	**+2.0**
	baz=133						
HEC	**Hector,Ludlow**	**24.53**	**323**	P	**P**	**09 00 35.1**	**+1.8**
	baz=135,SNR=13						
KMSC	**Kings Mountain**	**24.55**	**36**	P	**P**	**09 00 32.3**	**-1.1**
	baz=223,SNR=12						
KMSC	**Kings Mountain**	**24.55**	**36**	P	**P**	**09 00 32.0**	**-1.4**
	baz=223,SNR=12						
N33B	**J Bar K, Exete**	**24.64**	**2**	P	**P**	**09 00 34.2**	**+0.1**
	baz=182,SNR=11						
N33A	**J Bar K, Exete**	**24.64**	**2**	P	**P**	**09 00 33.6**	**-0.6**
WCI	**Wyandotte Cave**	**24.65**	**24**	P	**P**	**09 00 33.9**	**-0.4**
	baz=209,SNR=35						
WCI				S	**S**	**09 04 59.9**	**+4.3**
	baz=209						
WCI	**Wyandotte Cave**	**24.65**	**24**	P	**P**	**09 00 32.9**	**-1.4**
	baz=209						
SCI2	**San Clemente I**	**24.67**	**317**	P	**P**	**09 00 36.8**	**+2.2**
	baz=128						
Y58A	**Scranton**	**24.68**	**40**	S	S	09 05 06.7	+10
	baz=228						
Y58A				S	S	09 05 06.7	+10
	baz=228						
BIRD	**Birdtown, Kers**	**24.70**	**38**	P	**P**	**09 00 33.5**	**-1.3**
	baz=226,SNR=13						
BIRD				S	**S**	**09 05 01.4**	**+4.8**
	baz=226						
TUQ	**Turquoise Moun**	**24.73**	**325**	P	**P**	**09 00 36.9**	**+1.6**
	baz=136,SNR=50						
WTNK	**Soaring Height**	**24.81**	**327**	P	**P**	**09 00 36.2**	**+0.5**
P43A	**Skaggs, Pawnee**	**24.84**	**17**	P	**P**	**09 00 34.7**	**-1.2**
P43A	**Skaggs, Pawnee**	**24.84**	**17**	P	**P**	**09 00 35.3**	**-0.6**
	baz=201						
P43A				S	**S**	**09 05 03.4**	**+4.7**
	baz=201						
CIS	**Catalina Islan**	**24.85**	**318**	P	**P**	**09 00 37.4**	**+1.3**
	baz=129						
N35A	**Tabor**	**24.88**	**5**	P	**P**	**09 00 35.7**	**-0.7**
	baz=186,SNR=12						
N35A				S	**S**	**09 05 05.6**	**+6.2**
	baz=186						
BFSC	**Mount Baldy Ra**	**24.92**	**320**	P	**P**	**09 00 37.9**	**+1.0**
	baz=131,SNR=7.0						
RRX	**Edison Barstow**	**24.95**	**322**	P	**P**	**09 00 38.5**	**+1.5**
	baz=134						
FMP	**Fort Macarthur**	**24.97**	**318**	P	**P**	**09 00 39.2**	**+2.0**
	baz=129						
SZCU	**Shurtz Canyon**	**24.98**	**332**	P	**P**	**09 00 38.0**	**+0.4**
SZCU				IAmb	IAmb	09 00 50.5	
	comp=Z,56nm,1.4s						
OGNE	**Ogallala**	**25.00**	**354**	P	**P**	**09 00 37.6**	**+0.2**
OGNE	**Ogallala**	**25.00**	**354**	P	**P**	**09 00 39.2**	**+1.7**
	baz=172,SNR=28						
OGNE				S	**S**	**09 05 10.2**	**+8.8**
	baz=172						
OGNE	**Ogallala**	**25.00**	**354**	P	**P**	**09 00 38.0**	**+0.5**
	baz=172,SNR=28						
N38A	**Joes South For**	**25.12**	**10**	P	**P**	**09 00 38.0**	**-0.4**
	baz=192,SNR=32						
N38A				S	**S**	**09 05 09.9**	**+6.7**
	baz=192						
V55A	**Taylorsville**	**25.13**	**35**	P	**P**	**09 00 38.2**	**-0.4**
	baz=222,SNR=20						
V55A				P	**P**	**09 00 38.2**	**-0.4**
	baz=222,SNR=20						
V55A				S	**S**	**09 05 07.6**	**+4.0**
	baz=222						
V55A				S	**S**	**09 05 07.6**	**+4.0**
	baz=222						
GSC	**Goldstone, Bar**	**25.14**	**323**	P	**P**	**09 00 40.2**	**+1.4**
	baz=135,SNR=14						
R49A	**Shelbyville**	**25.15**	**26**	P	**P**	**09 00 37.9**	**-0.9**
	baz=212,SNR=13						
R49A				P	**P**	**09 00 37.9**	**-0.9**
	baz=212,SNR=13						
R49A				S	**S**	**09 05 08.7**	**+4.9**
	baz=212						
R49A				S	**S**	**09 05 08.7**	**+4.9**
	baz=212						
Y59A	**Loris**	**25.24**	**41**	P	**P**	**09 00 38.9**	**-0.6**
	baz=230						
Y59A				P	**P**	**09 00 38.9**	**-0.6**
	baz=230						
SHOC	**Shoshone, Teco**	**25.27**	**325**	P	**P**	**09 00 41.3**	**+1.3**
	baz=136,SNR=7.2						
BGNE	**Belgrade**	**25.29**	**1**	P	**P**	**09 00 40.2**	**+0.1**
	baz=181						
BGNE				S	**S**	**09 05 13.0**	**+7.0**
	baz=181						
BGNE	**Belgrade**	**25.29**	**1**	P	**P**	**09 00 39.7**	**-0.3**
	baz=181						
S51A	**Beattyville**	**25.30**	**29**	P	**P**	**09 00 39.1**	**-1.0**
S51A	**Beattyville**	**25.30**	**29**	P	**P**	**09 00 39.5**	**-0.7**
	baz=215,SNR=54						
S51A				P	**P**	**09 00 39.5**	**-0.7**
	baz=215,SNR=54						
S51A				S	**S**	**09 05 10.7**	**+4.4**
	baz=215						
S51A				S	**S**	**09 05 10.7**	**+4.4**
	baz=215						
U54A	**Nelsons Funny**	**25.30**	**33**	P	**P**	**09 00 39.5**	**-0.8**
	baz=220,SNR=17						
U54A				P	**P**	**09 00 39.5**	**-0.8**
	baz=220,SNR=17						
U54A				S	**S**	**09 05 10.9**	**+4.5**
	baz=220						
U54A				S

baz=226
DECC Green Verdugo 25.35 319 P P 09 00 42.5 +1.9
baz=130
MSU Marysvale 25.36 335 P P 09 00 42.0 +1.1
OTAV Otavalo 25.37 126 P P 09 00 43.6 +2.1
OTAV IAmb IAmb 09 00 49.9
comp=Z,42nm,1.1s
OTAV Otavalo 25.37 126 eP P 09 00 37.0 -4.5
O20A White River Ci 25.43 343 P P 09 00 42.4 +0.8
baz=158,SNR=48
SNCC San Nicolas Is 25.48 316 P P 09 00 43.3 +1.4
baz=127
R50A Paris 25.50 27 P P 09 00 41.0 -1.0
baz=213,SNR=16
R50A P P 09 00 41.0 -1.0
baz=213,SNR=16
R50A S S 09 05 13.9 +4.5
baz=213
R50A S S 09 05 13.9 +4.5
baz=213
N41A Harden Midland 25.50 14 P P 09 00 41.3 -0.6
baz=197,SNR=7.0
N41A S S 09 05 13.0 +3.7
baz=197
P46A Rosedale 25.54 21 P P 09 00 42.1 -0.2
baz=206,SNR=12
P46A S S 09 05 15.9 +6.0
baz=206
IMBA Imbabura, San 25.54 126 P P 09 00 47.9 +4.9
EDW2 Edwards Air Fo 25.55 321 P P 09 00 43.4 +0.8
baz=132,SNR=22
N23A Red Feather La 25.57 347 P P 09 00 43.2 +0.3
N23A IAmb IAmb 09 00 46.2
comp=Z,53nm,1.1s
N23A Red Feather La 25.57 347 P P 09 00 43.6 +0.8
baz=163,SNR=25
P18A Preston Nutter 25.60 339 P P 09 00 43.5 +0.3
P18A IAmb IAmb 09 00 56.5
comp=Z,88nm,1.2s
O44A Mansfield 25.62 18 P P 09 00 41.9 -1.1
O44A Mansfield 25.62 18 P P 09 00 42.5 -0.5
baz=203,SNR=7.8
O44A S S 09 05 17.4 +6.3
baz=203
QSM Queen of Sheba 25.65 324 P P 09 00 45.1 +1.7
QSM IAmb IAmb 09 00 55.3
comp=Z,74nm,1.2s
TMUT Trail Mountain 25.65 337 P P 09 00 44.6 +0.9
GWY Greenwater Val 25.70 325 P P 09 00 45.5 +1.5
GWY IAmb IAmb 09 00 55.1
comp=Z,55nm,1.3s
HDIL Hopedale 25.75 17 P P 09 00 43.9 -0.4
baz=201,SNR=15
HDIL S S 09 05 18.4 +5.1
baz=201
HDIL Hopedale 25.75 17 P P 09 00 43.0 -1.2
baz=201,SNR=15
PRN Pahroc Range 25.76 329 P P 09 00 45.7 +1.1
PRN IAmb IAmb 09 00 56.1
comp=Z,84nm,1.4s
LRMC Laurel Mtn Rad 25.77 322 P P 09 00 45.5 +0.9
baz=133,SNR=13
OSI Osito Audit: C 25.82 319 P P 09 00 46.5 +1.5
baz=130
PHWY Pilot Hill 25.86 348 P P 09 00 45.8 +0.2
PHWY IAmb IAmb 09 00 48.8
comp=Z,48nm,1.1s
L34A Svendsen Farm, 25.92 4 P P 09 00 45.9 +0.2
baz=184
SLOR San Lorenzo - 25.95 128 P P 09 00 49.2 +2.4
U56A King 25.95 35 P P 09 00 46.1 0.0
baz=223
U56A P P 09 00 46.1 0.0
baz=223
U56A S S 09 05 22.4 +5.9
baz=223
U56A S S 09 05 22.4 +5.9
baz=223
FURC Furnace Creek, 26.01 325 P P 09 00 48.0 +1.4
baz=136,SNR=10
SCZ2 Santa Cruz Isl 26.02 317 P P 09 00 49.4 +2.7
baz=128
TPNV Topopah Spring 26.03 327 P P 09 00 48.4 +1.4
TPNV IAMs_20 IAMs_20 09 10 40.2
comp=Z,1µm,18.0s
TPNV Topopah Spring 26.03 327 P P 09 00 49.3 +2.3
baz=138,SNR=48
P48A Milroy 26.05 24 P P 09 00 44.3 -2.6
P48A IAmb IAmb 09 00 58.1
comp=Z,170nm,1.8s
P48A Milroy 26.05 24 P P 09 00 46.1 -0.8
baz=210,SNR=8.9
P48A P P 09 00 46.1 -0.8
baz=210,SNR=8.9
P48A S S 09 05 22.5 +4.5
baz=210
P48A S S 09 05 22.5 +4.5
baz=210
MPMC Manual Prospec 26.07 323 P P 09 00 48.8 +1.4
baz=134,SNR=29
WCT Wildcat Mounta 26.12 326 P P 09 00 48.5 +0.8
CHSH Refugio Sur-Vo 26.18 130 P P 09 00 50.3 +1.3
CHSH IAmb IAmb 09 01 00.3
comp=Z,42nm,1.0s
SCIA State Center 26.21 9 P P 09 00 48.5 +0.2
baz=191,SNR=20
SCIA State Center 26.21 9 P P 09 00 47.4 -0.9
baz=191,SNR=20
ARVC Arvin 26.23 320 P P 09 00 50.4 +1.8
baz=131
PORT Chimborazo Vol 26.23 130 P P 09 00 52.3 +2.8
PORT IAmb IAmb 09 00 58.4
comp=Z,44nm,0.9s
SDDR Presa de Saban 26.25 80 P P 09 00 49.1 0.0
SDDR IAmb IAmb 09 00 55.6
comp=Z,42nm,0.9s
SFIN Lafayette 26.26 20 P P 09 00 47.5 -1.3
SFIN IAmb IAmb 09 00 50.5
comp=Z,106nm,1.1s
SFIN Lafayette 26.26 20 P P 09 00 48.8 0.0
baz=205,SNR=8.7
SFIN S S 09 05 22.1 +0.9
baz=205
SFIN Lafayette 26.26 20 P P 09 00 48.1 -0.7
baz=205,SNR=8.7
V58A Windy Hill, Pi 26.29 38 P P 09 00 47.3 -1.8
V58A Windy Hill, Pi 26.29 38 P P 09 00 48.1 -1.0
baz=226,SNR=38
V58A P P 09 00 48.1 -1.0
baz=226,SNR=38
V58A S S 09 05 27.0 +5.1
baz=226
V58A S S 09 05 27.0 +5.1
baz=226
SBC Santa Barbara 26.34 318 P P 09 00 52.3 +2.7
baz=128
ROSC El Rosal 26.35 112 P P 09 00 53.8 +3.5
comp=Z,12nm,0.5s,baz=343,slow=11,SNR=8.1
ROSC El Rosal 26.35 112 P P 09 00 52.6 +2.2
ISA Isabella, Lake 26.37 322 P P 09 00 51.2 +1.2
ISA IAmb IAmb 09 01 03.0
comp=Z,97nm,1.7s
ISA Isabella, Lake 26.37 322 P P 09 00 51.9 +2.0
baz=132,SNR=13
P49A Miami Univ. Ec 26.39 25 P P 09 00 49.2 -0.9
baz=211,SNR=38
P49A Miami Univ. Ec 26.39 25 P P 09 00 48.5 -1.6
baz=211,SNR=38
MPU Maple Canyon 26.44 337 P P 09 00 51.7 +1.0
MPU IAmb IAmb 09 00 59.3
comp=Z,44nm,1.3s
S54A Dingess, Beckl 26.54 32 P P 09 00 50.3 -1.2
baz=220,SNR=8.2
S54A P P 09 00 50.3 -1.2
baz=220,SNR=8.2
S54A S S 09 05 31.9 +6.0
baz=220
S54A S S 09 05 31.9 +6.0
baz=220
Q51A Peebles 26.55 27 P P 09 00 50.6 -0.9
Q51A Peebles 26.55 27 P P 09 00 50.2 -1.3
baz=214,SNR=28
Q51A P P 09 00 50.2 -1.3
baz=214,SNR=28
Q51A S S 09 05 29.4 +3.5
baz=214
Q51A S S 09 05 29.4 +3.5
baz=214
NLU North Lily Min 26.55 336 P P 09 00 53.2 +1.4
NLU IAmb IAmb 09 01 02.2
comp=Z,126nm,1.8s
BLA Blacksburg 26.56 34 P P 09 00 50.9 -0.8
baz=222,SNR=10
BLA Blacksburg 26.56 34 P P 09 00 50.3 -1.3
baz=222,SNR=10
RWWY Rawlins 26.61 346 IAMs_20 IAMs_20 09 10 11.8
comp=Z,2µm,19.0s
R53A Hurricane 26.64 30 P P 09 00 52.1 -0.1
baz=218,SNR=16
R53A P P 09 00 52.1 -0.1
baz=218,SNR=16
R53A S S 09 05 32.8 +5.5
baz=218
R53A S S 09 05 32.8 +5.5
baz=218
CNNC Cliffs of the 26.66 40 P P 09 00 51.0 -1.5
baz=229
GRAC Grapevine Rang 26.67 325 P P 09 00 54.6 +2.0
baz=136
CWC Cottonwood Cre 26.67 323 P P 09 00 54.8 +1.9
baz=134
PKM Mcpherson Peak 26.69 319 P P 09 00 54.8 +1.8
baz=129
L40A Anamosa 26.72 12 P P 09 00 51.8 -1.1
L40A IAmb IAmb 09 00 58.6
comp=Z,60nm,1.1s
L40A Anamosa 26.72 12 P P 09 00 51.8 -1.1
baz=196,SNR=9.8
R11A Troy Canyon, C 26.76 329 P P 09 00 55.1 +1.5
baz=141,SNR=18
ARNL Arenillas 26.77 135 P P 09 00 58.0 +4.4
SC01 Santiago de lo 26.80 79 P P 09 00 54.3 +0.3
O48B Farmland 26.84 23 P P 09 00 53.1 -1.0
baz=209,SNR=26
O48B Farmland 26.84 23 P P 09 00 52.8 -1.3
baz=209,SNR=26
VES Vestal, Richgr 26.86 321 P P 09 00 56.3 +2.0
baz=131,SNR=8.9
M44A Midewin, Midew 26.88 18 P P 09 00 53.1 -1.4
M44A Midewin, Midew 26.88 18 P P 09 00 53.4 -1.0
baz=203
Q52A Bidwell 26.99 29 P P 09 00 54.9 -0.5
baz=216,SNR=16
Q52A P P 09 00 54.9 -0.5
baz=216,SNR=16
Q52A S S 09 05 39.7 +6.9
baz=216
Q52A S S 09 05 39.7 +6.9
baz=216
K38A Parkersburg 27.00 10 P P 09 00 54.8 -0.7
baz=192,SNR=6.2
L42A Oliver, Polo 27.02 15 P P 09 00 55.0 -0.6
baz=199,SNR=8.4
DUG Dugway, Tooele 27.05 336 P P 09 00 57.5 +1.4
baz=148,SNR=18
P51A Williamsport 27.05 27 P P 09 00 55.1 -0.8
baz=214,SNR=11
P51A P P 09 00 55.1 -0.8
baz=214,SNR=11
P51A S S 09 05 37.3 +3.6
baz=214
P51A S S 09 05 37.3 +3.6
baz=214
T57A Hurt 27.05 36 P P 09 00 55.3 -0.7
baz=224,SNR=7.3
T57A P P 09 00 55.3 -0.7
baz=224,SNR=7.3
T57A S S 09 05 41.4 +7.5
baz=224
T57A S S 09 05 41.4 +7.5
baz=224
SMMC Simmler 27.07 319 P P 09 00 58.8 +2.5
baz=129,SNR=6.7
O49A Covington 27.10 25 P P 09 00 55.4 -1.1
baz=211,SNR=12
O49A P P 09 00 55.4 -1.1
baz=211,SNR=12
N47A Urbana 27.19 22 P P 09 00 56.3 -0.9
baz=208,SNR=10
N47A P P 09 00 56.3 -0.9
baz=208,SNR=10
TIN Tinemaha, Big 27.19 324 P P 09 00 59.7 +2.3
baz=135
VOG Valley Oaks Go 27.36 322 P P 09 01 00.1 +1.3
baz=132
K22A Casper 27.38 347 P P 09 01 00.2 +1.1
baz=163
K22A Casper 27.38 347 P P 09 00 59.6 +0.5
baz=163
MCRA Mar, Loja 27.44 136 P P 09 01 04.0 +4.2
U59A Littleton 27.45 39 S S 09 05 47.4 +7.2
baz=228
U59A S S 09 05 47.4 +7.2
baz=228
R55A Marlinton 27.52 33 P P 09 00 59.8 -0.5
baz=221,SNR=7.2
R55A P P 09 00 59.8 -0.5
baz=221,SNR=7.2
R55A S S 09 05 49.4 +8.0
baz=221
R55A S S 09 05 49.4 +8.0
baz=221
BOSC San Juan Bosco 27.58 132 P P 09 01 03.3 +2.2
BOSC IAmb IAmb 09 01 10.4
comp=Z,33nm,1.1s
P52A Corning 27.59 28 P P 09 01 01.2 +0.4
P52A IAmb IAmb 09 01 08.7
comp=Z,66nm,1.2s
P52A Corning 27.59 28 P P 09 00 59.1 -1.7
baz=216
L44A Lake County Fo 27.65 17 P P 09 01 00.4 -0.9
baz=202
ECSD EROS Data Cent 27.67 3 P P 09 01 00.9 -0.6
baz=184,SNR=20
ECSD EROS Data Cent 27.67 3 P P 09 01 00.9 -0.6
baz=184,SNR=20
Q54A Coxs Mills 27.69 31 P P 09 01 01.3 -0.5
baz=219,SNR=6.1
Q54A P P 09 01 01.3 -0.5
baz=219,SNR=6.1
ACSO Alum Creek Sta 27.70 26 P P 09 01 00.6 -1.2
baz=214,SNR=7.6
ACSO Alum Creek Sta 27.70 26 P P 09 01 00.3 -1.5
baz=214,SNR=7.6
ACSO Alum Creek Sta 27.70 26 P PP 09 02 07.6 +3.2
baz=214
JFWS Jewell Farm 27.74 13 P P 09 01 01.4 -0.7
baz=197,SNR=6.1
JFWS Jewell Farm 27.74 13 P P 09 01 01.3 -0.8
baz=197,SNR=6.1
S57A Dark Hollow, R 27.76 35 P P 09 01 01.7 -0.7
baz=224,SNR=6.3
S57A P P 09 01 01.7 -0.7
baz=224,SNR=6.3
MLAC Mammoth, Mammc 27.94 324 P P 09 01 06.4 +2.1
baz=134
T59A Double "B" Far 28.01 38 P P 09 01 04.1 -0.5
baz=227,SNR=5.6
T59A P P 09 01 04.1 -0.5
baz=227,SNR=5.6
O52A Adamsville 28.11 28 P P 09 01 03.9 -1.6
O52A IAmb IAmb 09 01 12.7
comp=Z,123nm,1.6s
O52A Adamsville 28.11 28 P P 09 01 04.9 -0.6
baz=216
O52A P P 09 01 04.9 -0.6
baz=216
NVAR Mina Array Bea 28.22 326 P P 09 01 09.0 +2.2
comp=Z,7.6nm,0.9s,baz=154,slow=9.9,SNR=64
NVAR PcP PcP 09 04 20.8 +0.4
comp=Z,2.0nm,0.9s,baz=124,slow=4.7,SNR=1.8
NVAR LR LR 09 13 24.9
comp=Z,1µm,20.4s,baz=140,slow=39
comp=Z,7.6nm,0.9s
NVAR Mina Array Bea 28.22 326 P P 09 01 08.3 +1.5
PDAR Pinedale Array 28.23 343 P P 09 01 08.2 +1.3
comp=Z,12nm,1.0s,baz=145,slow=8.8,SNR=59
comp=Z,12nm,1.0s
BW06 Boulder Array 28.24 343 IAMs_20 IAMs_20 09 13 06.4
comp=Z,2µm,19.0s
BW06 Boulder Array 28.24 343 P P 09 01 07.4 +0.6
baz=157,SNR=26
SDV Santo Domingo 28.24 101 P P 09 01 08.3 +1.1
comp=Z,16nm,0.8s,baz=313,slow=4.7,SNR=14
comp=Z,16nm,0.8s
SDV Santo Domingo 28.24 101 P P 09 01 07.9 +0.8
SDV IAmb IAmb 09 01 19.7
comp=Z,28nm,1.0s
I37B Waseca 28.25 8 P P 09 01 05.6 -1.1
baz=190
SUSD Miller 28.32 360 P P 09 01 06.8 -0.6
baz=179
RSSD Black Hills 28.37 352 P P 09 01 08.9 +0.9
baz=169,SNR=8.1
RSSD Black Hills 28.37 352 P P 09 01 08.6 +0.6
baz=169
O53A New Philadelph 28.50 29 P P 09 01 07.5 -1.4
baz=217
ELK Elko 28.52 333 P P 09 01 11.2 +1.8
comp=Z,3.3nm,1.1s,baz=150,slow=7.4,SNR=13
comp=Z,3.3nm,1.1s
ELK Elko 28.52 333 IAMs_20 IAMs_20 09 11 18.2
comp=Z,1µm,21.0s
L48A N Adams 28.58 23 P P 09 01 09.9 +0.3
baz=209
L48A P P 09 01 09.9 +0.3
baz=209
AHID Auburn Hatcher 28.70 341 IAMs_20 IAMs_20 09 12 52.9
comp=Z,1µm,18.0s
MCWV Mont Chateau 28.70 31 P P 09 01 10.3 -0.5
MCWV IAmb IAmb 09 01 13.0
comp=Z,74nm,1.4s
MCWV Mont Chateau 28.70 31 P P 09 01 10.7 0.0
baz=220
MCWV Mont Chateau 28.70 31 P P 09 01 09.9 -0.8
baz=220
CBN Corbin Frederi 28.96 36 P P 09 01 11.3 -1.7
baz=226
AAM Ann Arbor 29.18 23 P P 09 01 14.1 -0.9
baz=210
LOHW Long Hollow 29.32 342 IAMs_20 IAMs_20 09 13 06.1
comp=Z,2µm,20.0s
PNTR Pine Nut 29.40 325 P 09 01 19.1 +1.9
PNTR IAmb IAmb 09 01 29.0
comp=Z,79nm,1.6s
SPMN Marine on St. 29.52 8 P P 09 01 17.5 -0.4
baz=191
SPMN Marine on St. 29.52 8 P P 09 01 16.6 -1.3
baz=191
IMW Indian Meadow 29.67 342 P P 09 01 20.8 +1.1
M53A Wi Miller and 29.70 28 P P 09 01 18.0 -1.6
baz=216
F33A 5 Mile Ranch, 29.78 3 P P 09 01 18.4 -1.8
baz=184
YPP Pitchstone Pla 29.98 342 P P 09 01 23.2 +0.8
H17A Grant Village 30.02 343 P P 09 01 24.2 +1.5
baz=156
F36A Milaca 30.05 7 P P 09 01 21.8 -0.8
baz=190,SNR=6.2
YFT Old Faithful 30.15 342 P P 09 01 23.9 +0.1
YFT IAmb IAmb 09 01 40.0
comp=Z,56nm,2.0s
RLMT Red Lodge 30.35 345 IAMs_20 IAMs_20 09 12 36.1
comp=Z,2µm,18.0s
RLMT Red Lodge 30.35 345 P P 09 01 26.2 +0.6
baz=159,SNR=15
RLMT Red Lodge 30.35 345 P PP 09 02 33.2 -0.9
baz=160
YMR Madison River 30.39 342 P P 09 01 26.9 +1.0
YMR IAmb IAmb 09 01 36.4
comp=Z,57nm,1.6s
SSPA Standing Stone 30.42 32 P P 09 01 24.5 -1.5
baz=222
E28A Huff 30.50 357 P P 09 01 27.4 +0.8
baz=176
ATAH Atahualpa 30.53 137 P P 09 01 30.0 +2.4
comp=Z,8.7nm,0.8s,baz=352,slow=12,SNR=7.7
ATAH LR LR 09 11 18.3
comp=Z,439nm,19.6s,baz=323,slow=32
comp=Z,8.7nm,0.8s
ERPA Erie 30.55 28 P P 09 01 25.7 -1.4
baz=217
HLID Hailey 30.55 337 P P 09 01 28.0 +0.7
baz=149,SNR=8.4
HLID Hailey 30.55 337 P PP 09 02 35.8 -0.5
baz=149
M55A Ridgway 30.61 30 P P 09 01 27.0 -0.7
baz=220
M55A P P 09 01 27.0 -0.7
baz=220
MFID Camas Ranch 30.97 335 IAMs_20 IAMs_20 09 13 34.8
comp=Z,2µm,20.0s
COWI Conover 31.02 13 P P 09 01 30.7 -0.5
baz=198
GLMI Grayling 31.05 20 P P 09 01 30.3 -1.2
baz=206
E38A The Farm, Brul 31.05 10 P P 09 01 30.6 -0.9
baz=193
LAO LASA Array 31.21 350 IAMs_20 IAMs_20 09 13 46.3
comp=Z,1µm,19.0s
LAO LASA Array 31.21 350 P P 09 01 33.3 +0.3
baz=165
LAO LASA Array 31.21 350 P P 09 01 33.5 +0.6
baz=165
HOPS Hopland Field 31.32 322 IAMs_20 IAMs_20 09 13 33.7
comp=Z,1µm,18.0s
WVNY West Valley, N 31.41 29 P P 09 01 33.7 -1.1
baz=219
BOZ Bozeman (W) 31.43 342 IAMs_20 IAMs_20 09 13 28.9
comp=Z,2µm,18.0s
BOZ Bozeman (W) 31.43 342 P P 09 01 36.4 +1.4
baz=155,SNR=13
BOZ Bozeman (W) 31.43 342 P PP 09 02 43.4 -2.6
baz=156
MTP Monte Pirata 31.69 81 P P 09 01 36.9 -0.5
MDND Maddock 31.74 359 P P 09 01 38.1 +0.6
baz=178,SNR=23
MDND Maddock 31.74 359 P P 09 01 37.4 -0.2
baz=178,SNR=23
E43A Lone Tree Farm 31.78 15 P P 09 01 37.2 -0.7
baz=201
AGMN Agassiz Nation 32.26 3 P P 09 01 41.2 -0.9
AGMN Agassiz Nation 32.26 3 P P 09 01 41.8 -0.3
baz=185,SNR=36
AGMN Agassiz Nation 32.26 3 P P 09 01 41.3 -0.9
baz=185,SNR=36
EYMN Ely 32.37 9 P P 09 01 41.9 -1.2
baz=193
B35A Bob, Littlefor 32.49 6 P P 09 01 43.0 -1.1
baz=188,SNR=10
HRY Holter Researc 32.50 343 P P 09 01 45.2 +0.9
E46A Sault Ste Mari 32.53 19 P P 09 01 44.1 -0.3
baz=206
BINY Binghamton 32.54 32 P P 09 01 44.5 -0.2
baz=223
BINY Binghamton 32.54 32 P P 09 01 43.8 -0.9
baz=223
DGMT Dagmar 32.67 353 IAMs_20 IAMs_20 09 14 23.5
comp=Z,1µm,18.0s
DGMT Dagmar 32.67 353 P P 09 01 46.4 +0.7
baz=170,SNR=7.5
DGMT Dagmar 32.67 353 P P 09 01 45.3 -0.4
baz=170,SNR=7.5
BMO Blue Mountains 32.76 335 IAMs_20 IAMs_20 09 15 59.1
comp=Z,1µm,20.0s
PAL Palisades 32.83 36 P P 09 01 44.9 -2.2
baz=228
YBH Yreka Blue Hor 32.94 326 LR LR 09 16 28.1
comp=Z,828nm,18.1s,baz=146,slow=39
L59A Walton 33.02 33 P P 09 01 48.1 -0.8
baz=225
L59A P P 09 01 48.1 -0.8
baz=225
L04D Klamath Falls 33.07 327 P P 09 01 50.5 +1.1
baz=135
K04D Chiloquin, OR 33.07 328 P P 09 01 49.7 +0.3
baz=136
EGMT Eagleton 33.19 346 P P 09 01 50.8 +0.5
baz=160,SNR=7.8
MSO Missoula 33.24 341 P P 09 01 51.4 +0.6
baz=152
J05D Fort Rock, OR 33.29 329 P P 09 01 52.5 +1.1
baz=137
L02F Cave Junction 33.67 326 P P 09 01 56.3 +1.8
baz=133
J04D Umpqua Nationa 33.70 328 IAMs_20 IAMs_20 09 15 17.8
comp=Z,1µm,19.0s
J04D Umpqua Nationa 33.70 328 P P 09 01 55.9 +0.9
baz=136
K02D Willamette Mer 34.12 326 P P 09 01 59.8 +1.3
baz=133
I05D Terrebonne, OR 34.13 330 P P 09 01 60.0 +1.5
baz=138

I04A Tendick Farm, 34.25 329 P P 09 02 00.4 +0.9
baz=136
L61B Northampton 34.47 35 P P 09 02 00.4 -1.1
baz=228
J01E Myrtle Point 34.58 327 P P 09 02 03.5 +1.2
baz=133
I03D Drain, OR 34.65 328 P P 09 02 03.9 +0.9
baz=135
BBSR BB Station 34.80 56 IAMs_20 IAMs_20 09 16 12.1
comp=Z,1µm,19.0s
TBTG Tabatinga, AM 34.82 123 eP P 09 02 03.9 -0.8
CZSB Cruzeiro do Su 34.89 131 P P 09 02 06.7 +1.3
CZSB Cruzeiro do Su 34.89 131 eP P 09 02 04.9 -0.5
HAWA Hanford 34.92 334 IAMs_20 IAMs_20 09 16 36.4
comp=Z,1µm,20.0s
H04D Lebanon 34.94 329 IAMs_20 IAMs_20 09 16 54.6
comp=Z,980nm,22.0s
H04D Lebanon 34.94 329 P P 09 02 07.5 +2.0
baz=136
LONY Lake Ozonia 35.00 31 P P 09 02 04.9 -1.2
baz=223
HRV Adam Dziewonsk 35.13 36 P P 09 02 05.9 -1.3
baz=229
I02E Swisshome, OR 35.20 328 P P 09 02 08.2 +0.5
baz=134
NNA Nana 35.22 141 LR LR 09 13 39.4
comp=Z,526nm,19.0s,baz=334,slow=32
NEW Newport 35.55 339 P P 09 02 11.3 +0.6
comp=Z,3.4nm,0.9s,baz=153,slow=8.9,SNR=6.7
comp=Z,3.4nm,0.9s
NEW Newport 35.55 339 P P 09 02 11.2 +0.4
NEW Newport 35.55 339 P P 09 02 11.5 +0.7
baz=148,SNR=6.3
C09A Chrisman Ranch 35.58 337 P P 09 02 11.5 +0.6
C09A IAmb IAmb 09 02 13.3
comp=Z,27nm,1.1s
NLWA Neilton Lookou 37.58 332 IAMs_20 IAMs_20 09 17 57.2
comp=Z,2µm,18.0s
E63A Oxbow 39.38 33 P P 09 02 43.1 -0.1
baz=230
E63A P P 09 02 43.1 -0.1
baz=230
D62A Allapoint, All 39.49 32 P P 09 02 43.8 -0.3
baz=228
D62A P P 09 02 43.8 -0.3
baz=228
BOAV Boa Vista 39.90 106 P P 09 02 47.7 -0.2
BOAV Boa Vista 39.90 106 eP P 09 02 47.5 -0.4
ETMB Extrema 41.12 126 eP P 09 02 57.2 -0.7
MACA Manacapuru-AM 42.11 114 P P 09 03 05.7 -0.4
MACA IAmb IAmb 09 03 11.3
comp=Z,55nm,1.0s
MACA Manacapuru-AM 42.11 114 eP P 09 03 05.1 -1.0
BBB Bella Bella 42.97 334 LR LR 09 22 01.9
comp=Z,608nm,19.6s,baz=149,slow=38
LPAZ La Paz 44.02 135 P P 09 03 23.1 +0.8
comp=Z,5.4nm,0.8s,baz=332,slow=13,SNR=13
comp=Z,5.4nm,0.8s
LPAZ La Paz 44.02 135 P P 09 03 24.4 +2.2
LPAZ La Paz 44.02 135 eP P 09 03 21.3 -0.9
HILA High Level 44.59 346 P P 09 03 25.2 -0.3
PB16 IPOC Station P 44.61 139 P P 09 03 27.2 +0.3
PB16 IAmb IAmb 09 03 34.0
comp=Z,29nm,1.0s
SCHQ Schefferville 45.85 25 P P 09 03 34.8 -0.8
comp=Z,34nm,0.9s,baz=230,slow=6.1,SNR=24
comp=Z,34nm,0.9s
TA01 Diego Aracena 45.87 142 P P 09 03 38.8 +2.6
TA01 IAmb IAmb 09 03 43.4
comp=Z,36nm,1.0s
PB08 IPOC Station P 46.18 140 P P 09 03 41.1 +2.0
PB08 IAmb IAmb 09 03 45.9
comp=Z,31nm,1.3s
T35M Bob Quinn 47.31 337 P P 09 03 47.7 +0.6
baz=136
CRAG Craig 47.39 334 P P 09 03 48.1 +0.5
baz=132
VILB Vilhena 47.70 125 eP P 09 03 51.0 +0.4
YKA Yellowknife Ar 47.75 350 P P 09 03 50.2 -0.2
comp=Z,7.7nm,0.9s,baz=161,slow=7.3,SNR=15
comp=Z,7.7nm,0.9s
YKA Yellowknife Ar 47.75 350 P P 09 03 50.7 +0.4
PB06 IPOC Station P 47.88 143 P P 09 03 55.1 +3.0
PB06 IAmb IAmb 09 03 58.9
comp=Z,37nm,1.3s
TAOE Nuku Hiva Isla 47.95 242 eS S 09 10 53.7 +2.9
comp=Z,132nm,22.3s
TAOE eLR LR 09 17 39.6
comp=Z,370nm,22.8s
TAOE Nuku Hiva Isla 47.95 242 eT T 09 55 08.9
comp=Z,33nm,0.2s
LVC Limon Verde 48.20 142 P P 09 03 54.3 -0.4
comp=Z,3.1nm,0.8s,baz=278,slow=15,SNR=1.6
comp=Z,3.1nm,0.8s
LVC Limon Verde 48.20 142 eP P 09 03 55.2 +0.5
T33K Petersburg 48.23 335 P P 09 03 55.6 +1.5
baz=133
DLBC Dease Lake 48.30 338 LR LR 09 23 37.5
comp=Z,3µm,18.3s,baz=136,slow=35
DLBC Dease Lake 48.30 338 P P 09 03 56.7 +1.9
baz=138,SNR=11
S34M Telegraph Cree 48.31 337 P P 09 03 56.8 +2.0
baz=136
SIV San Ignacio 48.87 129 P P 09 03 59.5 -0.2
comp=Z,7.6nm,0.8s,baz=309,slow=8.1,SNR=19
comp=Z,7.6nm,0.8s
AF01 San Pedro de A 48.89 142 P P 09 04 01.3 +1.3
WTLY Watson Lake, Y 49.16 341 P P 09 04 02.8 +1.5
WTLY Watson Lake, Y 49.16 341 P P 09 04 02.5 +1.1
baz=140,SNR=12
S32K Killisnoo 49.33 335 P P 09 04 03.9 +1.3
baz=132
R33M Jennings River 49.34 339 P P 09 04 04.5 +1.7
baz=137,SNR=12
SIT Sitka 49.36 335 P P 09 04 04.1 +1.3
baz=130
Q32M Nakina River 49.48 338 P P 09 04 05.8 +1.7
baz=135
PDRB Porto dos Gac 49.75 121 eP P 09 04 08.4 +2.0
GO02 Mina Guanaco 49.79 145 P P 09 04 07.8 +0.9
GO02 IAmb IAmb 09 04 13.9
comp=Z,22nm,1.0s
R32K Eaglecrest 49.85 336 P P 09 04 07.7 +1.1
baz=132
PTLB Pontes e Lacer 50.01 127 eP P 09 04 09.5 +1.2
TGTN Hyland Airport 50.10 342 P P 09 04 10.0 +1.5
baz=141,SNR=8.8
WRGLY Wrigley 50.21 346 P P 09 04 09.9 +0.7
baz=148
P32M Atlin 50.45 338 P P 09 04 12.1 +0.9
baz=134,SNR=6.9
P33M Teslin, Yukon 50.58 339 P P 09 04 12.9 +0.8
P33M IAmb IAmb 09 04 21.2
comp=Z,50nm,1.8s
P33M Teslin, Yukon 50.58 339 P P 09 04 13.6 +1.4
baz=135,SNR=7.8
SKAG Skagway 50.96 337 P P 09 04 16.3 +1.4
baz=132
N32M Quiet Lake 51.34 339 P P 09 04 18.9 +1.0
baz=136
PLBC Pleasant Camp 51.36 336 P P 09 04 19.6 +1.7
baz=131
WHY Whitehorse 51.62 338 P P 09 04 21.1 +1.1
WHY Whitehorse 51.62 338 P P 09 04 21.6 +1.6
baz=133
MMPY Sheldon Lake, 51.84 342 P P 09 04 22.8 +1.2
baz=138,SNR=17
P30M Million Dollar 52.02 337 P P 09 04 24.6 +1.6
baz=131
O30N Mendenhall 52.13 338 P P 09 04 25.1 +1.3
baz=132,SNR=6.4
FARO Faro, Yukon 52.21 340 P P 09 04 25.8 +1.5
baz=136,SNR=10
N31M Braeburn, Yuko 52.51 339 P P 09 04 27.8 +1.3
N31M IAMs_20 IAMs_20 09 25 10.9
comp=Z,857nm,19.0s
N31M Braeburn, Yuko 52.51 339 P P 09 04 27.9 +1.4
baz=133,SNR=10
M31M Drury Creek, Y 52.53 340 P P 09 04 28.0 +1.3
baz=135,SNR=8.3
H03N2 Juan Fernandez 52.67 159 T T 10 01 19.2
baz=337,slow=77,SNR=1133
H03N1 Juan Fernandez 52.68 159 T T 10 01 20.6
baz=337,slow=77,SNR=1478
PNL Peninsula 52.68 335 P P 09 04 29.0 +1.1
baz=128
HYT Haines Junctio 52.69 337 P P 09 04 29.7 +1.7
baz=130,SNR=11
H03N3 Juan Fernandez 52.69 159 T T 10 01 18.1
baz=337,slow=77,SNR=1208
O29M Mount Kennedy 52.76 336 P P 09 04 30.3 +1.8
baz=129
BCPM Bancas Point 52.95 336 IAMs_20 IAMs_20 09 25 22.1
comp=Z,645nm,20.0s
N30M Aishikik Lake 52.95 338 P P 09 04 31.6 +1.7
baz=131,SNR=7.3
SALV Santo Antonio 52.96 125 eP P 09 04 30.9 +0.5
YUK6 Outpost Mounta 53.08 337 P P 09 04 33.0 +1.9
baz=130,SNR=8.7
PINM Pinnacle 53.29 335 P P 09 04 33.6 +1.2
baz=127
YUK4 Talbot Arm 53.45 337 P P 09 04 35.4 +1.7
baz=130
O28M Mount Upton 53.67 336 P P 09 04 37.3 +1.9
baz=127
TABL Table Mountain 53.85 335 P P 09 04 38.2 +1.6
TABL IAmb IAmb 09 04 48.3
comp=Z,70nm,1.6s
MAYO Mayo, Yukon 54.00 340 P P 09 04 39.1 +1.6
MAYO Mayo, Yukon 54.00 340 P P 09 04 38.6 +1.1
baz=134
MESA MESA 54.02 335 P P 09 04 39.1 +1.2
baz=125
LOGN Logan Glacier 54.02 336 IAMs_20 IAMs_20 09 29 28.4
comp=Z,746nm,19.0s
M29M Somme Creek 54.09 338 P P 09 04 39.5 +1.2
baz=130,SNR=17
CTG Chitna Glacier 54.24 336 P P 09 04 41.3 +1.9
baz=126
YUK3 Moose Creek 54.39 337 P P 09 04 42.0 +1.3
baz=128,SNR=6.8
L29M L29M 54.41 339 P P 09 04 41.6 +1.1
baz=131,SNR=16
K29M Barlow Dome 54.70 340 P P 09 04 43.7 +1.0
baz=132,SNR=7.9
SUCK Suckling Hills 54.71 334 IAMs_20 IAMs_20 09 26 24.9
comp=Z,860nm,19.0s
BERG Berg Lake 54.86 335 P P 09 04 45.7 +2.0
BERG IAMs_20 IAMs_20 09 25 58.7
comp=Z,960nm,22.0s
KAIM Kayak Island 54.91 334 IAMs_20 IAMs_20 09 27 57.0
comp=Z,904nm,18.0s
KAIM Kayak Island 54.91 334 P P 09 04 45.3 +1.3
baz=122
BVCY Beaver Creek 54.94 338 P P 09 04 45.1 +0.7
baz=128
MCARA McCarthy VSAT 55.15 336 IAMs_20 IAMs_20 09 29 33.1
comp=Z,818nm,18.0s
MCARA McCarthy VSAT 55.15 336 P P 09 04 47.3 +1.5
baz=125,SNR=6.7
M27K Edge Creek, AK 55.28 337 IAMs_20 IAMs_20 09 27 33.4
comp=Z,857nm,19.0s
M27K Edge Creek, AK 55.28 337 P P 09 04 48.5 +1.5
baz=126
J29M Klondike Camp 55.34 340 P P 09 04 47.9 +0.7
baz=132
DAWY Dawson 55.47 340 P P 09 04 48.3 +0.2
baz=130,SNR=7.2
Q23K Middleton Isla 55.48 333 IAMs_20 IAMs_20 09 31 23.2
comp=Z,446nm,18.0s
GLB Gilahina Butte 55.49 336 IAMs_20 IAMs_20 09 29 55.3
comp=Z,727nm,19.0s
BMRM Bremner River 55.55 335 P P 09 04 49.9 +1.1
baz=123,SNR=5.3
C36M Paulatuk 55.62 349 P P 09 04 48.7 -0.3
baz=150
BCAR Beaver Creek A 55.67 338 P P 09 04 51.0 +1.4
L27K Beaver Creek, 55.69 338 P P 09 04 51.0 +1.3
baz=127,SNR=15
M26K Nabesna, AK 55.73 337 P P 09 04 51.1 +1.1
baz=125,SNR=10.0
EYAK Cordova Ski Ar 55.80 334 P P 09 04 52.3 +1.9
baz=121
N25K Chitina, Valde 55.90 335 P P 09 04 52.9 +1.6
N25K IAmb IAmb 09 05 03.2
comp=Z,42nm,1.4s
N25K Chitina, Valde 55.90 335 P P 09 04 52.9 +1.6
baz=123,SNR=8.1
I29M Ogilvie Camp, 55.98 341 IAMs_20 IAMs_20 09 28 21.3
comp=Z,905nm,20.0s
I29M Ogilvie Camp, 55.98 341 P P 09 04 51.7 -0.1
baz=132,SNR=8.3
HIN Hinchinbrook I 56.04 334 IAMs_20 IAMs_20 09 28 31.0
comp=Z,735nm,18.0s
DIV Divide 56.12 335 P P 09 04 54.5 +1.6
DIV IAmb IAmb 09 05 01.7
comp=Z,56nm,1.6s
F31M Tsiigehtchic 56.17 345 P P 09 04 53.2 +0.2
baz=138
EPYK Eagle Plains 56.20 343 P P 09 04 53.4 +0.1
baz=134
FID Port Fidalgo 56.21 334 IAMs_20 IAMs_20 09 29 18.5
comp=Z,602nm,22.0s
L26K Log Cabin Wild 56.22 337 P P 09 04 54.5 +1.0
baz=125,SNR=7.5
P23K Montague Islan 56.23 333 P P 09 04 54.6 +1.1
baz=119
K27K Chicken 56.36 339 P P 09 04 56.0 +1.5
baz=127
KLU Klutina 56.37 335 IAMs_20 IAMs_20 09 30 53.5
comp=Z,557nm,18.0s
KLU Klutina 56.37 335 P P 09 04 56.0 +1.3
baz=122
G30M tAoh Zraii Nji 56.49 343 P P 09 04 55.9 +0.5
baz=135
EGAK Eagle 56.51 340 IAMs_20 IAMs_20 09 28 31.7
comp=Z,875nm,19.0s
EGAK Eagle 56.51 340 P P 09 04 56.0 +0.5
baz=128,SNR=10
GLI Glacier Island 56.54 334 P P 09 04 56.2 +0.5
GLI IAmb IAmb 09 05 06.7
comp=Z,67nm,1.7s
GLI IAMs_20 IAMs_20 09 28 00.1
comp=Z,622nm,19.0s
GLI Glacier Island 56.54 334 P P 09 04 56.7 +0.9
baz=120
HARP HAARP 56.55 336 P P 09 04 57.1 +1.1
baz=123,SNR=6.1
INK Inuk 56.76 345 P P 09 04 57.4 +0.1
comp=Z,10.0nm,0.8s,baz=118,slow=7.4,SNR=12
comp=Z,10.0nm,0.8s
INK Inuvik 56.76 345 P P 09 04 57.5 +0.3
baz=139,SNR=6.1
M24K Tolsona, Glenn 56.80 336 IAMs_20 IAMs_20 09 27 49.8
comp=Z,756nm,20.0s
M24K Tolsona, Glenn 56.80 336 P P 09 04 59.4 +1.7
baz=122
C2SB Chapadao do Su 56.82 126 eP P 09 05 02.3 +3.9
PAX Paxson 56.99 337 P P 09 04 59.9 +0.8
baz=123,SNR=13
SCRK Sand Creek 57.01 338 IAMs_20 IAMs_20 09 29 03.1
comp=Z,515nm,20.0s
SCRK Sand Creek 57.01 338 P P 09 05 00.2 +0.9
baz=125,SNR=5.7
PWL Port Wells 57.05 334 IAMs_20 IAMs_20 09 28 29.8
comp=Z,726nm,18.0s
PWL Port Wells 57.05 334 P P 09 05 00.2 +0.8
baz=119
ROSB Rosrio 57.08 104 eP P 09 05 05.2 +4.8
SCM Sheep Creek Mo 57.12 335 P P 09 05 01.0 +1.0
baz=120
J26L Joseph Creek 57.17 339 P P 09 05 01.6 +1.3
J26L IAmb IAmb 09 05 03.2
comp=Z,35nm,1.0s
J26L Joseph Creek 57.17 339 P P 09 05 01.3 +0.9
baz=126,SNR=5.2
SEW Seward 57.18 332 P P 09 05 01.0 +0.6
baz=117
I27K Kandik River 57.18 340 P P 09 05 01.1 +0.7
baz=128
RIDG Independent Ri 57.19 338 P P 09 05 01.1 +0.7
baz=124,SNR=12
M23K Glacier View 57.26 335 P P 09 05 01.7 +0.7
baz=120
KNK Knik Glacier 57.38 334 IAMs_20 IAMs_20 09 30 02.3
comp=Z,490nm,20.0s
KNK Knik Glacier 57.38 334 P P 09 05 02.4 +0.6
baz=119
O22K Cooper Landing 57.48 333 IAMs_20 IAMs_20 09 28 10.1
comp=Z,695nm,18.0s
O22K Cooper Landing 57.48 333 P P 09 05 03.1 +0.7
baz=117
I26K Coal Creek Min 57.51 340 IAMs_20 IAMs_20 09 29 14.0
comp=Z,570nm,19.0s
I26K Coal Creek Min 57.51 340 P P 09 05 02.8 +0.2
baz=127
SML Sawmill 57.52 335 IAMs_20 IAMs_20 09 27 44.0
comp=Z,822nm,22.0s
SML Sawmill 57.52 335 P P 09 05 03.4 +0.6
baz=119,SNR=5.8
H27K Steamboat Moun 57.55 341 P P 09 05 03.3 +0.3
baz=129
K24K Donnelly Dome 57.57 337 P P 09 05 03.9 +0.8
baz=123,SNR=6.7
PMOR Pomariorio Ree 57.58 240 eT T 10 07 15.2
comp=Z,6.2nm,0.2s
BRSE Bradley Lake S 57.60 332 P P 09 05 03.7 +0.4
baz=116
KDAK Kodiak Island 57.65 329 LR LR 09 28 54.7
comp=Z,550nm,18.2s,baz=161,slow=35
KDAK Kodiak Island 57.65 329 IAMs_20 IAMs_20 09 28 34.4
comp=Z,602nm,19.0s
WAT6 Susitna Watana 57.67 336 P P 09 05 04.6 +0.6
baz=120,SNR=11
BRLK Bradley Lake 57.67 332 IAMs_20 IAMs_20 09 28 04.6
comp=Z,393nm,18.0s
PMR Palmer 57.75 334 P P 09 05 05.1 +0.8
baz=118,SNR=7.9
RC01 Rabbit Creek A 57.76 333 IAMs_20 IAMs_20 09 29 41.7
comp=Z,695nm,18.0s
RC01 Rabbit Creek A 57.76 333 P P 09 05 05.3 +0.8
baz=118,SNR=6.9
DHY Denali Highway 57.78 336 IAMs_20 IAMs_20 09 27 52.7
comp=Z,654nm,21.0s
DHY Denali Highway 57.78 336 P P 09 05 04.6 -0.2
baz=121
OHAK Old Harbor 57.79 328 P P 09 05 05.1 +0.4
baz=112
J25K Salcha River, 57.87 338 P P 09 05 05.5 +0.3
baz=124,SNR=8.9
Q20K Shuyak Island 57.89 330 P P 09 05 05.4 0.0
baz=113
G27K Doyon Strip 57.96 341 P P 09 05 05.9 +0.1
baz=129
HOM Homer 57.97 331 IAMs_20 IAMs_20 09 28 56.6
comp=Z,557nm,18.0s
SII Sitkinak Islan 58.00 327 IAMs_20 IAMs_20 09 27 13.9
comp=Z,537nm,20.0s
SII Sitkinak Islan 58.00 327 P P 09 05 06.5 +0.3
baz=110
A36M Sachs Harbour 58.11 351 IAMs_20 IAMs_20 09 31 36.0
comp=Z,779nm,20.0s
A36M Sachs Harbour 58.11 351 P P 09 05 06.2 -0.5
baz=149
WAT1 Susitna Watana 58.12 336 P P 09 05 07.1 +0.1
baz=120
CPUP Villa Florida 58.20 136 P P 09 05 07.4 -0.6
comp=Z,6.1nm,0.9s,baz=324,slow=8.7,SNR=3.0
comp=Z,6.1nm,0.9s
CPUP Villa Florida 58.20 136 eP P 09 05 12.3 +4.3
CAPN Captain Cook N 58.23 333 IAMs_20 IAMs_20 09 28 24.2
comp=Z,728nm,19.0s
M22K Willow 58.24 334 IAMs_20 IAMs_20 09 29 16.1
comp=Z,773nm,19.0s
M22K Willow 58.24 334 P P 09 05 07.9 +0.1
baz=118,SNR=6.1
HDA Harding Lake 58.33 338 IAMs_20 IAMs_20 09 30 10.9
comp=Z,695nm,18.0s
HDA Harding Lake 58.33 338 P P 09 05 08.2 -0.2
baz=122,SNR=10
SUA Susitna One 58.37 334 IAMs_20 IAMs_20 09 29 08.6
comp=Z,639nm,18.0s
SUA Susitna One 58.37 334 P P 09 05 09.6 +0.7
baz=117,SNR=12
PRP Porcupine Dome 58.44 339 P P 09 05 09.8 +0.5
baz=124
ILAR Eielson Array 58.50 338 P P 09 05 10.3 +0.8
comp=Z,8.8nm,1.0s,baz=142,slow=4.7,SNR=54
comp=Z,8.8nm,1.0s
ILAR Eielson Array 58.50 338 P P 09 05 09.6 +0.1
CHIR Chirikof Islan 58.51 326 IAMs_20 IAMs_20 09 28 54.4
comp=Z,662nm,18.0s
CHIR Chirikof Islan 58.51 326 P P 09 05 10.9 +1.2
baz=109
RND Reindeer 58.53 336 IAMs_20 IAMs_20 09 28 25.4
comp=Z,639nm,19.0s
O20K Slope Mountain 58.60 332 P P 09 05 11.2 +0.8
baz=114
CUT Chulitna 58.61 335 IAMs_20 IAMs_20 09 31 50.4
comp=Z,601nm,21.0s
CUT Chulitna 58.61 335 P P 09 05 11.2 +0.9
baz=118,SNR=6.0
Q19K Cape Douglas, 58.62 330 IAMs_20 IAMs_20 09 28 34.7
comp=Z,467nm,19.0s
Q19K Cape Douglas, 58.62 330 P P 09 05 10.9 +0.4
baz=112
P19K Oil Pt 58.71 331 IAMs_20 IAMs_20 09 29 19.9
comp=Z,422nm,18.0s
P19K Oil Pt 58.71 331 P P 09 05 11.8 +0.7
baz=113
G26K Porcupine Rive 58.71 341 P P 09 05 11.1 +0.2
baz=127
MCK McKinley 58.72 336 IAMs_20 IAMs_20 09 30 13.5
comp=Z,693nm,20.0s
MCK McKinley 58.72 336 P P 09 05 11.5 +0.3
baz=120,SNR=8.8
CCB Clear Creek Bu 58.77 338 IAMs_20 IAMs_20 09 31 43.6
comp=Z,730nm,19.0s
SPU Mount Spurr 58.81 333 P P 09 05 12.6 +0.7
E27K Coleen River 58.83 343 P P 09 05 12.4 +0.6
baz=130,SNR=6.1
POKR Poker Plat Res 58.88 338 P P 09 05 12.5 +0.2
baz=122
N20K Mount Spurr 58.89 333 P P 09 05 12.6 +0.2
baz=115
SPCR Spurr Chakacha 58.89 333 P P 09 05 12.5 +0.1
baz=115
COLA College 58.91 338 IAMs_20 IAMs_20 09 29 25.3
comp=Z,737nm,20.0s
COLA College 58.91 338 P P 09 05 12.5 +0.1
baz=122
TCOL CIGO, UAF Yank 58.91 338 IAMs_20 IAMs_20 09 29 25.3
comp=Z,812nm,22.0s
TCOL CIGO, UAF Yank 58.91 338 P P 09 05 12.3 0.0
baz=122
SKT Skwentna 58.94 334 IAMs_20 IAMs_20 09 28 41.6
comp=Z,733nm,20.0s
SKT Skwentna 58.94 334 P P 09 05 13.2 +0.5
baz=116,SNR=14
H25K Birch Creek 58.96 340 P P 09 05 13.2 +0.5
baz=124
BDFB Brasilia 59.07 120 P P 09 05 14.9 +0.6
comp=Z,12nm,0.8s,baz=283,slow=14,SNR=5.5
comp=Z,12nm,0.8s
MDM Murphy Dome 59.09 338 IAMs_20 IAMs_20 09 29 31.0
comp=Z,868nm,21.0s
TRF Thorofare Moun 59.11 336 IAMs_20 IAMs_20 09 30 24.9
comp=Z,617nm,20.0s
TRF Thorofare Moun 59.11 336 P P 09 05 14.3 +0.2
baz=118,SNR=19
Q18K Katmai Hardscr 59.17 330 P P 09 05 15.1 +0.6
baz=111
NEA2 Nenana 59.21 337 P P 09 05 14.7 +0.2
baz=120
F26K Sheenjek River 59.27 342 P P 09 05 15.6 +0.7
baz=127
KTH Kantishna Hill 59.41 336 IAMs_20 IAMs_20 09 32 28.8
comp=Z,572nm,18.0s
O19K Port Alsworth 59.42 331 IAMs_20 IAMs_20 09 28 44.8
comp=Z,414nm,19.0s
O19K Port Alsworth 59.42 331 P P 09 05 16.0 0.0
baz=112
H24K Noodor Dome 59.43 339 P P 09 05 16.3 +0.3
baz=122,SNR=14
Q17K Contact Creek 59.47 329 P P 09 05 16.5 0.0
baz=110
R17K Ugashik Creek 59.51 328 P P 09 05 16.6 -0.1
baz=109
P18K Big Mountain, 59.55 330 IAMs_20 IAMs_20 09 30 41.3
comp=Z,396nm,19.0s
P18K Big Mountain, 59.55 330 P P 09 05 16.5 -0.4
baz=111
M20K Styx River 59.58 333 IAMs_20 IAMs_20 09 30 10.6
comp=Z,578nm,19.0s
M20K Styx River 59.58 333 P P 09 05 17.5 +0.3
baz=114,SNR=11
I23K Minto, Yukon-K 59.60 338 IAMs_20 IAMs_20 09 29 03.4
comp=Z,762nm,18.0s
I23K Minto, Yukon-K 59.60 338 P P 09 05 17.9 +0.8
baz=120,SNR=17
PPLA Purkeypile 59.62 335 P P 09 05 18.0 +0.4
baz=116,SNR=6.6
PCMB Pacaembu 59.65 127 eP P 09 05 22.6 +4.5

SFJD	**Kangerlussuaq**	59.66	20	*i* P		**P**		09 05 17.3	-0.2
SFJD				IAmb		IAmb		09 05 23.1	
	comp=Z,62nm,1.3s								
F25K	**Christian Rive**	59.67	341	P		**P**		09 05 18.6	+0.9
	baz=125								
BPAW	**Bear Paw Mtn.**	59.69	336	IAMs_20		IAMs_20		09 29 47.2	
	comp=Z,764nm,19.0s								
BPAW	**Bear Paw Mtn.**	59.69	336	P		**P**		09 05 18.1	+0.2
	baz=118								
O18K	**Koktuh Hills**	59.71	331	P		**P**		09 05 18.1	0.0
	baz=111								
N19K	**Bonanza Creek**	59.74	332	IAMs_20		IAMs_20		09 29 11.1	
	comp=Z,515nm,20.0s								
N19K	**Bonanza Creek**	59.74	332	P		**P**		09 05 18.3	0.0
	baz=113,SNR=9.1								
G24K	**Hadweenzic Riv**	59.76	340	P		**P**		09 05 18.7	+0.4
	baz=123,SNR=5.4								
CAST	**Castle Rocks**	59.81	335	IAMs_20		IAMs_20		09 31 30.5	
	comp=Z,821nm,19.0s								
CAST	**Castle Rocks**	59.81	335	P		**P**		09 05 18.2	-0.5
	baz=116,SNR=22								
E25K	**Arctic Village**	59.96	342	P		**P**		09 05 20.1	+0.4
	baz=126								
Q16K	**King Salmon**	59.99	329	P		**P**		09 05 19.9	0.0
	baz=109								
H23K	**Yukon River**	60.01	338	P		**P**		09 05 20.7	+0.7
	baz=120								
MLY	**Manley**	60.05	337	IAMs_20		IAMs_20		09 29 52.4	
	comp=Z,809nm,19.0s								
MLY	**Manley**	60.05	337	P		**P**		09 05 20.3	0.0
	baz=119,SNR=15								
P17K	**Kvichak River**	60.06	330	P		**P**		09 05 20.5	+0.1
	baz=110								
R16K	**Pilot Point**	60.09	328	P		**P**		09 05 20.8	+0.2
	baz=108								
CHUM	**Lake Minchumin**	60.11	336	P		**P**		09 05 20.6	-0.1
	baz=116								
M19K	**Big River Lodg**	60.13	333	P		**P**		09 05 21.5	+0.6
	baz=113								
CHGN	**Chignik**	60.15	326	P		**P**		09 05 21.0	-0.1
	baz=106								
L20K	**Farewell, AK**	60.15	334	P		**P**		09 05 21.2	+0.1
	baz=114,SNR=9.4								
SDBA	**SAO DESIDERIO**	60.20	115	*e*P		P		09 05 26.6	+4.4
PPT	**Papeete**	60.27	239	LR		LR		09 25 36.6	
	comp=Z,201nm,18.5s,baz=52,slow=30								
PPT2	**Papeete2**	60.28	238	*e*P		P		09 05 28.5	+5.8
PPT2				*e*S		**S**		09 13 38.7	+1.4
	comp=Z,169nm,26.0s								
PPT2				*e*LR		LR		09 23 21.3	
	comp=Z,280nm,22.5s								
N18K	**Kilae Creek**	60.33	332	IAMs_20		IAMs_20		09 31 28.7	
	comp=Z,368nm,19.0s								
N18K	**Kilae Creek**	60.33	332	P		**P**		09 05 22.5	+0.2
	baz=111,SNR=8.1								
C27K	**Jago River**	60.33	343	P		**P**		09 05 22.0	-0.2
	baz=128								
F24K	**Squaw Lake**	60.34	340	P		**P**		09 05 22.3	0.0
	baz=123								
CHNA	**Chernabura Isl**	60.39	324	P		**P**		09 05 22.6	-0.1
	baz=104								
L19K	**White Mountain**	60.44	333	IAMs_20		IAMs_20		09 32 57.4	
	comp=Z,723nm,18.0s								
L19K	**White Mountain**	60.44	333	P		**P**		09 05 23.2	+0.1
	baz=113,SNR=7.7								
O17K	**Koliganek Bris**	60.57	330	P		**P**		09 05 24.1	+0.2
	baz=110,SNR=6.2								
I21K	**Tanana**	60.58	337	P		**P**		09 05 24.2	+0.3
	baz=117,SNR=12								
K20K	**Telida**	60.59	335	IAMs_20		IAMs_20		09 31 41.2	
	comp=Z,632nm,20.0s								
K20K	**Telida**	60.59	335	P		**P**		09 05 24.0	0.0
	baz=114,SNR=10								
G23K	**Bananza Creek**	60.63	339	P		**P**		09 05 24.6	+0.4
	baz=120,SNR=6.9								
H22K	**Ishtalitna Cre**	60.70	338	P		**P**		09 05 24.6	-0.1
	baz=118,SNR=7.8								
E24K	**Your Creek**	60.84	341	P		**P**		09 05 26.2	+0.5
	baz=122								
DY2G	**Dye2**	60.86	21	*i* P		**P**		09 05 25.9	-0.2
DY2G				IAmb		IAmb		09 05 35.1	
	comp=Z,242nm,1.6s								
ITQB	**Itaqui**	60.89	138	*e*P		P		09 05 30.5	+4.0
D25K	**Kavik River**	60.90	342	P		**P**		09 05 26.4	+0.3
	baz=125								
COLD	**Coldfoot**	60.95	340	P		**P**		09 05 27.0	+0.7
	baz=120								
J20K	**Nowinta River**	60.97	336	IAMs_20		IAMs_20		09 30 29.0	
	comp=Z,763nm,20.0s								
J20K	**Nowinta River**	60.97	336	P		**P**		09 05 26.3	-0.2
	baz=115,SNR=12								
O16K	**Kokwok River B**	60.99	330	P		**P**		09 05 27.0	+0.2
	baz=108								
SDPT	**Sand Point**	61.01	325	P		**P**		09 05 28.2	+1.2
	baz=104								
H21K	**Melozitna Rive**	61.11	337	P		**P**		09 05 27.7	+0.2
	baz=117								
E23K	**Chandalar**	61.19	341	P		**P**		09 05 28.3	+0.2
	baz=121,SNR=6.4								
TTA	**Tatalina**	61.23	334	P		**P**		09 05 27.8	-0.6
	baz=112,SNR=5.7								
G22K	**Bettles**	61.24	339	P		**P**		09 05 28.1	-0.2
	baz=119								
BB19B	**Bebedouro**	61.46	125	*e*P		**P**		09 05 33.7	+3.1
TOLK	**Toolik Lake Re**	61.48	341	P		**P**		09 05 29.5	-0.5
	baz=122								
D24K	**Happy Valley**	61.53	342	P		**P**		09 05 29.9	-0.3
	baz=123								
N16K	**Nishlik Lake**	61.59	331	P		**P**		09 05 31.0	+0.1
	baz=108,SNR=8.0								
G21K	**Allakaket**	61.75	338	P		**P**		09 05 31.8	0.0
	baz=116								
F22K	**John River**	61.75	339	P		**P**		09 05 32.4	+0.5
	baz=118,SNR=6.7								
C24K	**Franklin Bluff**	61.80	342	P		**P**		09 05 32.1	0.0
	baz=123								
PMNB	**Patos De Minas**	61.82	122	*e*P		P		09 05 36.7	+3.6
JANB	**Januaria**	61.92	117	*e*P		**P**		09 05 36.9	+3.1
D23K	**Nanushuk River**	61.99	341	P		**P**		09 05 33.7	+0.2
	baz=120								
F21K	**Alatna River**	62.07	339	P		**P**		09 05 34.3	+0.3
	baz=117,SNR=11								
PLCA	**Paso Flores**	62.21	156	P		**P**		09 05 35.6	+0.3
	comp=Z,4.3nm,0.9s,baz=305,slow=9.5,SNR=6.9								
	comp=Z,4.3nm,0.9s								
ITAB	**Concordia**	62.34	133	*e*P		P		09 05 39.8	+3.5
RCLB	**Rio Claro- Sao**	62.97	126	*e*P		P		09 05 45.1	+4.3
ANGG	**Ammassalik, Gr**	63.70	24	*i* P		**P**		09 05 43.9	-0.9
ANGG				IAmb		IAmb		09 05 53.9	
	comp=Z,156nm,1.8s								
VAO	**Valinhos**	63.73	126	*e*P		P		09 05 50.5	+4.8
DIAM	**Diamantina, MG**	63.98	120	*e*P		P		09 05 52.9	+5.3
PLTB	**Pedras Altas**	64.22	138	*e*P		P		09 05 54.1	+5.4
ICESG	**Greenland Ices**	64.28	20	*i* P		**P**		09 05 48.2	-0.8
ICESG				IAmb		IAmb		09 05 58.0	
	comp=Z,94nm,1.3s								
TER01	**Tubaro-SC**	65.24	133	*e*P		P		09 06 01.0	+5.5
GDU01	**Guandu, BA**	65.45	114	*e*P		P		09 06 02.1	+5.1
NEEM	**North Greenlan**	65.81	10	*i* P		**P**		09 05 58.5	-0.3
NEEM				IAmb		IAmb		09 06 03.4	
	comp=Z,520nm,2.4s								
SUMG	**Summit**	66.07	17	*i* P		**P**		09 06 00.3	-0.3
SUMG				IAmb		IAmb		09 06 10.2	
	comp=Z,244nm,2.1s								
NOR	**Nord**	73.07	9	*i* P		**P**		09 06 43.1	-0.1
NOR				IAmb		IAmb		09 06 49.1	
	comp=Z,71nm,1.6s								
PCAS	**Casmilo, Conde**	79.98	51	*e*P		**P**		09 07 23.5	+0.3
	comp=Z,85nm,1.9s								
POLO	**Lamas de Olo**	80.22	50	*e*P		**P**		09 07 23.4	-1.2
	comp=Z,22nm,1.9s								
PVIS	**Viseu**	80.29	50	*e*P		**P**		09 07 24.0	-0.9
	comp=Z,22nm,2.3s								
PNCL	**Nicolau / Gran**	80.38	53	*e*P		**P**		09 07 25.5	+0.1
PMTG	**Montargil**	80.40	52	*e*P		**P**		09 07 25.0	-0.5
	comp=Z,25nm,1.7s								
MORF	**Marmelete**	80.47	54	*e*P		**P**		09 07 26.0	+0.1
MTE	**Manteigas**	80.62	51	*e*P		**P**		09 07 26.4	-0.3
	comp=Z,28nm,1.9s								
PCBR	**Castelo Branco**	80.80	51	*e*P		**P**		09 07 27.6	+0.1
	comp=Z,31nm,1.7s								
MVO	**Moncorvo**	80.83	50	*e*P		**P**		09 07 27.9	+0.1
	comp=Z,24nm,1.8s								
PCVE	**Castro Verde**	80.87	54	*e*P		**P**		09 07 27.6	-0.4
PBEJ	**Beja**	80.91	53	*e*P		**P**		09 07 28.5	+0.3
	comp=Z,50nm,1.8s								
PMRV	**Marv??o**	80.95	52	*e*P		**P**		09 07 28.1	-0.3
	comp=Z,44nm,1.9s								
PVAQ	**Vaqueiros**	81.17	54	*e*P		**P**		09 07 29.9	+0.3
	comp=Z,51nm,1.9s								
ESDC	**Sonseca Array**	83.46	51	P		**P**		09 07 40.6	-1.1
	comp=Z,2.7nm,1.0s,baz=305,slow=5.0,SNR=10								
	comp=Z,2.7nm,1.0s								
TIXI	**Tiksi**	86.87	346	LR		LR		09 49 16.5	
	comp=Z,161nm,20.9s,baz=359,slow=37								
TIXI	**Tiksi**	86.87	346	IAMs_20		IAMs_20		09 50 22.1	
	comp=Z,309nm,19.0s								
CLL	**Collm**	90.52	36	*e*P		**P**		09 08 16.0	+0.3
BRG	**Berggiesshubel**	91.25	36	*e*P		P		09 08 23.8	+4.8
BRG					Amp			09 08 24.8	
	comp=Z,10nm,1.1s								
GERES	**GERESS Array B**	92.04	38	LR		LR		09 52 38.9	
	comp=Z,109nm,18.2s,baz=310,slow=38								
YAK	**Yakutsk**	93.40	339	IAMs_20		IAMs_20		09 53 49.6	
	comp=Z,362nm,21.0s								
TORD	**Torodi Ar. Bea**	96.10	75	P		**P**		09 08 40.1	-2.0
	comp=Z,15nm,0.6s,baz=239,slow=2.7,SNR=5.1								
DZM	**Mont Dzumac**	100.30	250	*e*LR		LR		09 41 56.0	
	comp=Z,234nm,22.1s								
HHC	**Hu-ho-hao-te**	116.84	335	*e*P		**PKiKP**		09 14 00.0	+1.2
WMQ	**Urumqi**	120.16	355	*e*P		**PKiKP**		09 14 06.8	+1.7
WMQ					LR	LR			
	comp=N,200nm,15.1s								
WMQ					LR	LR			
	comp=Z,190nm,21.9s								
STKA	**Stephens Creek**	123.38	242	PKP		**PKiKP**		09 14 15.2	+3.6
	comp=Z,8.4nm,0.9s,baz=295,slow=6.8,SNR=5.0								
XAN	**Xi'an**	123.70	332	PKP		**PKiKP**		09 14 12.0	-0.3
XAN					LR	LR			
	comp=N,360nm,16.5s								
XAN					LR	LR			
	comp=E,450nm,16.5s								
XAN					LR	LR			
	comp=Z,320nm,15.1s								
LZH	**Lanzhou**	123.97	338	PKP		PKiKP		09 14 20.0	+7.1
LZH				sPKP				09 14 34.5	
LZH					LR	LR			
	comp=N,360nm,16.8s								
LZH					LR	LR			
	comp=E,380nm,15.8s								
LZH					LR	LR			
	comp=Z,310nm,17.8s								
CD2	**Chengdu**	128.59	335	PKP		**PKiKP**		09 14 22.0	-0.1
WRA	**Warramunga Arr**	129.61	257	PKP		**PKiKP**		09 14 23.9	-0.4
	comp=Z,7.4nm,1.0s,baz=84,slow=1.9,SNR=26								
ASAR	**Alice Springs**	130.21	252	PKP		**PKiKP**		09 14 24.6	-0.9
	comp=Z,4.0nm,0.9s,baz=88,slow=1.8,SNR=16								
PZH	**PanZhiHua**	133.30	335	PKP		**PKiKP**		09 14 30.3	-1.5
LSA	**Lhasa**	133.56	348	IAMs_20		IAMs_20		10 22 34.6	
	comp=Z,146nm,19.0s								
CMAR	**Chiang Mai Arr**	141.60	332	PKP		**PKPdf**		09 14 44.6	-1.3
	comp=Z,0.8nm,0.3s,baz=312,slow=2.5,SNR=4.5								
SBUM	**Sibu**	144.39	298	IAMs_20		IAMs_20		10 25 02.0	
	comp=Z,111nm,20.0s								
HYBB	**Hyderabad (bro**	146.65	5	*e*PKPbc		**PKPab**		09 14 55.5	-1.8
OPO	**Ambohidratompo**	147.32	99	PKPbc		**PKPab**		09 14 58.7	-1.5
	comp=Z,29nm,1.1s,baz=246,slow=4.5,SNR=7.7								
KULM	**Kulim**	151.47	316	IAMs_20		IAMs_20		10 28 11.2	
	comp=Z,164nm,22.0s								
IPM	**Ipoh**	151.81	315	IAMs_20		IAMs_20		10 14 49.6	
	comp=Z,157nm,18.0s								
PSI	**Prapat**	154.46	316	PKP		**PKPdf**		09 15 07.1	-0.1
	comp=Z,2.8nm,0.4s,baz=100,slow=7.8,SNR=3.5								
PSI				PKPbc		**sPKPbc**		09 15 18.2	-1.3
	comp=Z,6.9nm,0.7s,baz=163,slow=7.5,SNR=3.7								
RPSI	**Rantau Prapat**	154.54	315			**PKPdf**		09 15 07.1	0.0

*NEIC **29** 08:56:18.2±2.3, 15.92N±0.05×98.75W±0.04, h10km±1km, mb5.1/43, Ms_20 4.7/179, Md4.9/35(MEX), Error ellipse: s-maj=7.9km s-min=7.3km az=168.0*
*MEX **29** 08:56:20.2±0.7, 15.91N×98.69W, h16km±22km, MD4.9*
*IDC **29** 08:56:21.4±0.6, 16.39N×98.34W, h0km, mb4.6/18, mbtmp4.6/21, ML4.4/3, Error ellipse: s-maj=23.9km s-min=11.2km az=54.0*
ISC 29 08:56:19.3±0.5, 16.01N±0.04×98.72W±0.02, h10km, n266, σ2=07/275, mb4.8/29, MS4.7/13, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.68	56			**Pg**	08 56 31.3	-1.2
PNIG						Sg	08 56 40.8	-0.6
PNIG	**Pinotepa**	0.68	56	*e*P		**Pg**	08 56 31.3	-1.2
PNIG				*i* S		Sg	08 56 40.8	-0.6
CRIG	**Cruz Grande**	0.83	331			**Pb**	08 56 34.6	-1.1
CRIG						Sg	08 56 45.1	-0.9
CRIG	**Cruz Grande**	0.83	331	*e*P		**Pb**	08 56 34.6	-1.1
CRIG				*e*S		Sg	08 56 45.1	-0.9
MGIG	**Malinaltepec**	1.22	4			**Pn**	08 56 41.0	-1.5
MGIG	**Malinaltepec**	1.22	4	*i* P		**Pn**	08 56 40.9	-1.7
MGIG				*e*S		**Sb**	08 56 56.1	-2.4
DAIG	**Los Arroyos**	1.35	318			**Pn**	08 56 41.9	-2.3
DAIG						Sb	08 56 58.9	-3.1
DAIG	**Los Arroyos**	1.35	318	*e*P		**Pn**	08 56 41.9	-2.3
DAIG				*e*S		Sb	08 56 58.9	-3.1
YOIG	**Yosondua**	1.40	53			**Pg**	08 56 45.2	-1.0
YOIG	**Yosondua**	1.40	53	*e*P		**Pn**	08 56 43.6	-1.6
YOIG				*e*S		Sn	08 56 58.6	-5.3
TLIG	**Tlapa**	1.55	5	Pn		**Pg**	08 56 47.9	-1.2
TLIG	**Tlapa**	1.55	5	*e*P		**Pb**	08 56 47.1	-1.0
TLIG				*e*S		Sn	08 57 05.6	-1.7
CAIG	**El Cayaco**	1.81	305			**Pn**	08 56 48.9	-1.6
CAIG						Sn	08 57 10.3	-3.3
CAIG	**El Cayaco**	1.81	305	*e*P		**Pn**	08 56 48.9	-1.6
CAIG				*e*S		Sn	08 57 10.3	-3.3
FTIG	**Fresnillo de T**	1.97	16			**Pn**	08 56 52.5	-0.3
FTIG						Sn	08 57 15.9	-1.8
FTIG	**Fresnillo de T**	1.97	16	*e*P		**Pn**	08 56 52.5	-0.3
FTIG				*e*S		Sn	08 57 15.9	-1.8
HLIG	**Huajuapan de L**	2.01	26			**Pb**	08 56 55.6	-0.5
HLIG						Sn	08 57 18.2	-0.6
HLIG	**Huajuapan de L**	2.01	26	*e*P		**Pb**	08 56 55.6	-0.5
HLIG				*e*S		Sn	08 57 18.2	-0.6
MEIG	**Mezcala**	2.09	336			**Pg**	08 56 57.6	-1.8
MEIG	**Mezcala**	2.09	336	*e*P		**Pg**	08 56 57.6	-1.8
MEIG				*e*S		Sn	08 57 17.5	-3.2
PLIG	**Platanillo**	2.49	342			**Pn**	08 57 00.6	+0.7
PLIG						Sn	08 57 29.6	-0.7
PLIG	**Platanillo**	2.49	342	*e*P		**Pn**	08 57 00.6	+0.7
PLIG				*e*S		Sn	08 57 29.6	-0.7
TOIG	**Toxpalan**	2.61	37			**Pn**	08 57 02.4	+0.8
TOIG	**Toxpalan**	2.61	37	*e*P		**Pn**	08 57 02.4	+0.8
TOIG				*e*S		Sn	08 57 30.5	-2.9
TPIG	**Tehuac#an**	2.72	28			**Pn**	08 57 03.3	+0.1
TPIG						Sn	08 57 35.1	-1.3
TPIG	**Tehuac#an**	2.72	28	*e*P		**Pn**	08 57 03.3	+0.1
TPIG				*e*S		Sn	08 57 34.4	-1.9
ARIG	**Puente Sto Nin**	2.75	326			**Pn**	08 57 02.9	-0.5
ARIG	**Puente Sto Nin**	2.75	326	*e*P		**Pn**	08 57 02.9	-0.5
ARIG				*e*S		Sn	08 57 32.9	-3.8
ZIIG	**Zihuatanejo**	3.08	301			**Pn**	08 57 06.5	-1.4
ZIIG						Sn	08 57 42.6	-2.2
ZIIG	**Zihuatanejo**	3.08	301	*e*P		**Pn**	08 57 06.5	-1.4
ZIIG				*e*S		Sn	08 57 42.6	-2.2
NEUV	**Arroyo Zacate**	3.26	58	*i* P		Pn	08 57 04.2	-6.3
NEUV				*e*S		Sn	08 57 46.6	-2.8
UNM	**Universidad Na**	3.33	352	*i* S		Sn	08 57 50.7	-0.8
CUIG	**Ciudad Univers**	3.33	352			Sn	08 57 50.7	-0.8
JAUV	**Jalcomulco**	3.80	28	*i* P		Sn	08 57 20.7	+2.7
JAUV				*e*S		Sb	08 58 08.4	-4.3
CMIG	**Matias Romero**	3.83	73	Pn		**Pn**	08 57 15.7	-2.6
	251nm,0.3s,baz=2.5,slow=16,SNR=13							
CMIG					Sn	**Sn**	08 57 59.3	-4.1
	baz=320,slow=14							
	4μm,0.8s							
CMIG	**Matias Romero**	3.83	73			**Pn**	08 57 15.7	-2.6
CXUV	**Coxquihui**	4.28	14	*i* P		**Pn**	08 57 24.9	+0.4
CXUV				*e*S		Sn	08 58 13.0	-1.5
MOIG	**Morelia**	4.34	328	Pn		**Pn**	08 57 25.9	+0.3
COIG	**Colima**	5.70	304	*e*S		Sn	08 58 48.2	-1.4
JUBC	**Volcan de Coli**	5.79	308	*e*S		Sn	08 58 50.0	-2.2
EZ5V		5.80	307	*i* S		Sn	08 58 51.0	-1.3
MNGA	**Volcan de Coli**	5.80	307	*e*S		Sn	08 58 49.0	-3.5
INCO	**Volcan de Coli**	5.82	308	*i* S		Sn	08 58 50.6	-2.6
CDAR	**Ciudad de Arme**	5.83	301	*e*S		Sn	08 58 51.0	-1.9
R15V		5.93	303	*e*S		Sn	08 58 54.9	-0.4
CCIG	**Comitan**	6.33	87	Pn		**Pn**	08 57 51.4	-1.5
833A	**Chaparral WMA,**	12.27	357	Pn		**Pn**	08 59 14.8	+0.7
SLBS	**Sierra La Lagu**	13.03	308	Pn		**Pn**	08 59 25.1	+0.5
TXAR	**Lajitas Array**	14.02	342	Pn		**Pn**	08 59 38.7	+0.5
	0.1nm,0.3s,baz=162,slow=14,SNR=4.8							
	5.0nm,0.8s							
TX31	**Lajitas Ar. Si**	14.02	342	Pn		**Pn**	08 59 36.2	-2.0
JCT	**Junction City**	14.44	356	Pn		**Pn**	08 59 43.1	-0.7
WHTX	**Lake Whitney,**	15.95	4	Pn		**Pn**	09 00 02.8	-1.1
WHTX				IAmb		IAmb	09 00 09.7	
	comp=Z,173nm,1.0s							
WHTX	**Lake Whitney,**	15.95	4	P		**P**	09 00 08.0	+0.5
	baz=184							
NATX	**Nacogdoches**	16.11	13	P		**P**	09 00 09.3	+0.1
	baz=194							
342A	**Flagon Creek P**	16.37	20	Pn		**Pn**	09 00 08.1	-1.1
ABTX	**Abilene, Hawle**	16.56	357	Pn		**Pn**	09 00 10.4	-1.3
ABTX				IAmb		IAmb	09 00 16.9	
	comp=Z,130nm,0.8s							
ABTX	**Abilene, Hawle**	16.56	357	P		**P**	09 00 16.0	+1.8
	baz=177							
CLN7	**Carlsbad 7**	16.97	345	P		**P**	09 00 18.4	-0.5
HTMS	**Hat Mesa**	16.99	346			**Pn**	09 00 16.8	-0.4
Z38A	**Mt. Pleasant**	17.50	10	P		**P**	09 00 23.9	-0.7
CPRX	**Cap Rock**	17.58	346			**P**	09 00 25.5	-0.1
MSTX	**Muleshoe**	18.25	349	P		**P**	09 00 33.7	+0.6
	baz=168							
121A	**Cookes Peak, D**	18.39	335	P		**Pn**	09 00 37.0	+2.4
	baz=152							
AMTX	**Amarillo**	18.98	352	P		**Pn**	09 00 41.8	0.0
AMTX	**Amarillo**	18.98	352	P		**Pn**	09 00 41.2	-0.5
	baz=171							
OKCSW	**OKLAHOMA CITY**	19.35	3	P		**Pn**	09 00 44.8	-1.2
OK025	**Westminster Rd**	19.53	3			**P**	09 00 46.2	-0.7
OK025				IAmb		IAmb	09 00 54.1	
	comp=Z,62nm,0.8s							
TUC	**Tucson**	19.58	328	P		**Pn**	09 00 51.4	+2.4
	baz=144							
BCOK	**Bluff Creek, N**	19.59	3	P		**Pn**	09 00 47.8	-1.1
BCOK				IAmb		IAmb	09 00 51.1	
	comp=Z,69nm,0.9s							
DEOK	**Depew**	19.85	5			**Pn**	09 00 50.5	-1.5
OK031	**S. Brethren Rd**	19.93	4	P		**P**	09 00 50.7	-0.6
OK031				IAmb		IAmb	09 00 51.8	
	comp=Z,89nm,1.0s							
TUL1	**Leonard**	19.99	7	P		**P**	09 00 51.4	-0.5
TUL1				IAmb		IAmb	09 00 57.2	
	comp=Z,66nm,0.9s							
TUL1	**Leonard**	19.99	7	P		**P**	09 00 51.7	-0.2
	baz=188							
LRAL	**Lakeview Retre**	20.00	30	P		**P**	09 00 50.3	-1.7
OK034	**N. Norfolk Rd.**	20.00	5	P		**P**	09 00 51.4	-0.6
OK034				IAmb		IAmb	09 00 55.0	
	comp=Z,80nm,1.0s							
ANMO	**Albuquerque**	20.09	341	P		Pn	09 00 55.6	+0.5
	comp=Z,1.0nm,0.3s,baz=145,slow=10,SNR=11							
	comp=Z,29nm,1.0s							
ANMO	**Albuquerque**	20.09	341	P		**P**	09 00 53.1	-0.2
ANMO	**Albuquerque**	20.09	341	P		Pn	09 00 56.3	+1.2
	baz=158							
OXF	**Oxford**	20.23	23	P		**P**	09 00 54.4	-0.2
	baz=207							
U32A	**Winter Ranch,**	20.29	359	P		**P**	09 00 55.1	-0.1
U32A				IAmb		IAmb	09 00 57.1	
	comp=Z,114nm,0.9s							
OK038	**West end E0370**	20.39	360	P		**P**	09 00 55.9	-0.4
OK038				IAmb		IAmb	09 00 57.8	
	comp=Z,73nm,0.9s							
CROK	**Carrier**	20.42	2			**P**	09 00 55.5	-1.2
CROK				IAmb		IAmb	09 01 02.3	
	comp=Z,86nm,1.0s							
KAN13	**South Haven SW**	20.95	3			**P**	09 01 02.3	-0.1
KAN13				IAmb		IAmb	09 01 08.2	
	comp=Z,109nm,0.9s							
KAN17	**Caldwell West**	20.97	2			**P**	09 01 01.1	-1.4
KAN17				IAmb		IAmb	09 01 07.7	
	comp=Z,107nm,1.0s							
GNAR	**Gosnell**	21.34	20	P		**P**	09 01 07.0	+0.5
T25A	**Trinid

PDAR	**Pinedale Array**	**28.24**	**343**	P	**P**	09 02 14.7	+2.0
	comp=Z,15nm,0.9s,baz=148,slow=9.3,SNR=9.8						
	comp=Z,15nm,0.9s						
SDV	**Santo Domingo**	**28.30**	**101**	P	**P**	09 02 14.6	+1.1
	comp=Z,7.5nm,0.5s,baz=269,slow=4.0,SNR=3.8						
	comp=Z,7.5nm,0.5s						
ELK	**Elko**	**28.51**	**333**	P	**P**	09 02 18.6	+3.4
	comp=Z,8.3nm,1.2s,baz=126,slow=5.1,SNR=4.2						
	comp=Z,8.3nm,1.2s						
ATAH	**Atahualpa**	**30.55**	**137**	P	P	09 02 38.0	+4.3
	comp=Z,9.2nm,0.8s,baz=319,slow=9.3,SNR=2.3						
	comp=Z,9.2nm,0.8s						
MDND	**Maddock**	**31.76**	**359**	P	**P**	09 02 43.9	+0.3
MDND	**Maddock**	**31.76**	**359**	P	**P**	09 02 44.8	+1.2
	baz=178						
MOD	**Modoc Plateau**	**31.80**	**329**	IAMs_20	IAMs_20	09 13 57.7	
	comp=Z,930nm,18.0s						
AGMN	**Agassiz Nation**	**32.28**	**4**	P	**P**	09 02 48.6	+0.5
	baz=185						
DGMT	**Dagmar**	**32.68**	**353**	P	**P**	09 02 54.1	+2.4
	baz=170						
NEW	**Newport**	**35.55**	**339**	P	**P**	09 03 17.5	+1.0
	comp=Z,6.0nm,1.0s,baz=137,slow=6.9,SNR=4.9						
	comp=Z,6.0nm,1.0s						
FFC	**Flin Flon**	**38.72**	**357**	IAMs_20	IAMs_20	09 22 11.5	
	comp=Z,2µm,20.0s						
ETMB	**Extrema**	**41.16**	**126**	P	**P**	09 04 01.3	-2.8
LPAZ	**La Paz**	**44.05**	**135**	P	P	09 04 32.3	+4.0
	comp=Z,2.2nm,0.8s,baz=272,slow=13,SNR=15						
	comp=Z,2.2nm,0.8s						
SCHQ	**Schefferville**	**45.89**	**25**	P	**P**	09 04 41.5	-0.4
	comp=Z,25nm,0.8s,baz=236,slow=6.1,SNR=8.5						
	comp=Z,25nm,0.8s						
YKA	**Yellowknife Ar**	**47.76**	**350**	P	**P**	09 04 57.2	+0.9
	comp=Z,7.1nm,0.9s,baz=161,slow=7.5,SNR=6.8						
	comp=Z,7.1nm,0.9s						
SIV	**San Ignacio**	**48.90**	**129**	P	**P**	09 05 08.9	+3.1
	comp=Z,3.7nm,1.0s,baz=311,slow=9.1,SNR=4.8						
	comp=Z,3.7nm,1.0s						
WTLY	**Watson Lake, Y**	**49.16**	**341**	P	**P**	09 05 09.5	+2.3
	baz=141						
R33M	**Jennings River**	**49.34**	**339**	P	**P**	09 05 11.7	+3.0
	baz=139						
TGTN	**Hyland Airport**	**50.10**	**342**	P	**P**	09 05 17.8	+3.4
	baz=142						
P32M	**Atlin**	**50.45**	**338**	P	**P**	09 05 19.7	+2.6
	baz=134						
MMPY	**Sheldon Lake,**	**51.84**	**342**	P	**P**	09 05 30.9	+3.4
	baz=139						
O30N	**Mendenhall**	**52.13**	**338**	P	**P**	09 05 32.6	+3.0
	baz=132						
N31M	**Braeburn, Yuko**	**52.50**	**339**	P	**P**	09 05 35.8	+3.5
	baz=133						
H03N2	**Juan Fernandez**	**52.67**	**159**	T	T	10 02 20.5	
	baz=338,slow=77,SNR=5.9						
H03N1	**Juan Fernandez**	**52.68**	**159**	T	T	10 02 21.4	
	baz=338,slow=77,SNR=4.1						
HYT	**Haines Junctio**	**52.68**	**337**	P	**P**	09 05 37.3	+3.5
	baz=131						
H03N3	**Juan Fernandez**	**52.69**	**159**	T	T	10 02 24.6	
	baz=338,slow=77,SNR=4.9						
O29M	**Mount Kennedy**	**52.75**	**336**	P	**P**	09 05 37.3	+3.0
	baz=129						
LOGN	**Logan Glacier**	**54.02**	**336**	P	**P**	09 05 43.7	0.0
LOGN				IAmb	IAmb	09 05 48.0	
	comp=Z,15nm,0.9s						
M29M	**Somme Creek**	**54.09**	**338**	P	**P**	09 05 47.6	+3.5
	baz=131						
CTGM	**Chitina Glacie**	**54.23**	**336**	IAMs_20	IAMs_20	09 26 05.4	
	comp=Z,453nm,20.0s						
YUK3	**Moose Creek**	**54.39**	**337**	P	**P**	09 05 49.3	+2.8
	baz=128						
L29M	**L29M**	**54.41**	**339**	P	**P**	09 05 49.4	+3.0
	baz=131						
K29M	**Barlow Dome**	**54.70**	**340**	P	**P**	09 05 51.0	+2.4
	baz=132						
M27K	**Edge Creek, AK**	**55.28**	**337**	P	**P**	09 05 55.7	+2.9
	baz=127						
ZON	**Zonda**	**55.38**	**149**	P	**P**	09 05 51.2	-2.6
DAWY	**Dawson**	**55.47**	**340**	P	**P**	09 05 55.7	+1.7
	baz=131						
BMRM	**Bremner River**	**55.54**	**335**	P	**P**	09 05 57.7	+3.1
	baz=123						
C36M	**Paulatuk**	**55.63**	**349**	IAMs_20	IAMs_20	09 30 00.4	
	comp=Z,864nm,18.0s						
L27K	**Beaver Creek,**	**55.68**	**338**	P	**P**	09 05 58.4	+2.8
	baz=127						
M26K	**Nabesna, AK**	**55.72**	**337**	P	**P**	09 05 58.7	+2.8
	baz=126						
EYAK	**Cordova Ski Ar**	**55.79**	**334**	P	**P**	09 05 59.3	+3.0
	baz=122						
N25K	**Chitina, Valde**	**55.89**	**336**	P	**P**	09 06 00.2	+3.0
	baz=124						
I29M	**Ogilvie Camp,**	**55.98**	**341**	P	**P**	09 05 59.0	+1.4
	baz=132						
L26K	**Log Cabin Wild**	**56.22**	**337**	P	**P**	09 06 01.9	+2.6
	baz=126						
P23K	**Montague Islan**	**56.22**	**333**	P	**P**	09 06 02.1	+2.7
	baz=120						
K27K	**Chicken**	**56.36**	**339**	P	**P**	09 06 03.6	+3.2
	baz=128						
KLU	**Klutina**	**56.36**	**335**	P	**P**	09 06 01.1	+0.6
KLU				IAmb	IAmb	09 06 04.3	
	comp=Z,16nm,1.0s						
KLU	**Klutina**	**56.36**	**335**	P	**P**	09 06 03.7	+3.1
	baz=122						
EGAK	**Eagle**	**56.51**	**340**	P	**P**	09 06 03.1	+1.7
	baz=129						
GLI	**Glacier Island**	**56.53**	**334**	P	**P**	09 06 04.4	+2.8
	baz=121						
HARP	**HAARP**	**56.55**	**336**	P	**P**	09 06 05.1	+3.3
	baz=124						
INK	**Inuvik**	**56.77**	**345**	P	**P**	09 06 04.3	+1.2
	comp=Z,11nm,0.8s,baz=119,slow=7.1,SNR=7.5						
	comp=Z,11nm,0.8s						
INK	**Inuvik**	**56.77**	**345**	P	**P**	09 06 04.7	+1.6
	baz=139						
PAX	**Paxson**	**56.99**	**337**	P	**P**	09 06 07.3	+2.4
	baz=124						
SCRK	**Sand Creek**	**57.01**	**338**	P	**P**	09 06 08.2	+3.1
	baz=126						
J26L	**Joseph Creek**	**57.17**	**339**	P	**P**	09 06 09.2	+3.0
	baz=126						
RIDG	**Independent Ri**	**57.18**	**338**	P	**P**	09 06 08.8	+2.6
	baz=124						
KNK	**Knik Glacier**	**57.37**	**334**	P	**P**	09 06 09.8	+2.2
	baz=120						
K24K	**Donnelly Dome**	**57.56**	**337**	P	**P**	09 06 11.4	+2.4
	baz=124						
ML02	**Panimavida**	**57.62**	**154**	P	**P**	09 06 07.9	-1.6
ML02				IAmb	IAmb	09 06 17.2	
	comp=Z,36nm,1.4s						
WAT6	**Susitna Watana**	**57.66**	**336**	P	**P**	09 06 12.2	+2.4
	baz=121						
PMR	**Palmer**	**57.74**	**334**	P	**P**	09 06 12.4	+2.2
	baz=119						
RC01	**Rabbit Creek A**	**57.76**	**333**	P	**P**	09 06 12.7	+2.4
	baz=118						
G27K	**Doyon Strip**	**57.96**	**341**	P	**P**	09 06 13.4	+1.7
	baz=130						
CPUP	**Villa Florida**	**58.22**	**136**	P	P	09 06 17.8	+3.7
	comp=Z,2.9nm,0.8s,baz=327,slow=5.7,SNR=4.5						
	comp=Z,2.9nm,0.8s						
M22K	**Willow**	**58.23**	**334**	P	**P**	09 06 16.1	+2.6
	baz=118						
HDA	**Harding Lake**	**58.33**	**338**	P	**P**	09 06 16.0	+1.8
	baz=123						
SUA	**Susitna One**	**58.36**	**334**	P	**P**	09 06 17.1	+2.4
	baz=117						
PRP	**Porcupine Dome**	**58.44**	**339**	P	**P**	09 06 17.0	+1.9
	baz=125						
ILAR	**Eielson Array**	**58.50**	**338**	P	**P**	09 06 17.2	+1.8
	comp=Z,8.6nm,0.9s,baz=146,slow=4.7,SNR=9.2						
	comp=Z,8.6nm,0.9s						
CUT	**Chulitna**	**58.60**	**335**	IAMs_20	IAMs_20	09 28 15.8	
	comp=Z,689nm,22.0s						
MCK	**McKinley**	**58.72**	**336**	P	**P**	09 06 19.1	+2.1
	baz=120						
SPU	**Mount Spurr**	**58.80**	**333**	P	**P**	09 06 18.4	+0.8
RSO	**Redoubt South**	**58.81**	**332**	P	**P**	09 06 19.0	+1.1
E27K	**Coleen River**	**58.83**	**343**	P	**P**	09 06 19.5	+1.8
	baz=130						
N20K	**Mount Spurr**	**58.88**	**333**	P	**P**	09 06 19.9	+1.7
	baz=116						
POKR	**Poker Plat Res**	**58.88**	**338**	P	**P**	09 06 19.8	+1.7
	baz=122						
COLA	**College**	**58.90**	**338**	P	**P**	09 06 19.5	+1.3
	baz=122						
TCOL	**CIGO, UAF Yank**	**58.91**	**338**	P	**P**	09 06 19.5	+1.3
	baz=122						
SKT	**Skwentna**	**58.93**	**334**	P	**P**	09 06 20.7	+2.2
	baz=117						
H25K	**Birch Creek**	**58.96**	**340**	P	**P**	09 06 20.7	+2.1
	baz=125						
TRF	**Thorofare Moun**	**59.11**	**336**	P	**P**	09 06 21.8	+1.9
	baz=119						
BDFB	**Brasilia**	**59.11**	**120**	P	**P**	09 06 23.6	+3.1
	comp=Z,5.6nm,0.7s,baz=268,slow=6.9,SNR=4.8						
	comp=Z,5.6nm,0.7s						
BWN	**Browne**	**59.14**	**337**	P	**P**	09 06 17.8	-2.1
Q18K	**Katmai Hardscr**	**59.16**	**330**	P	**P**	09 06 21.7	+1.5
	baz=111						
NEA2	**Nenana**	**59.20**	**337**	P	**P**	09 06 21.4	+1.1
	baz=121						
O19K	**Port Alsworth**	**59.41**	**331**	P	**P**	09 06 23.0	+1.2
	baz=113						
H24K	**Noodor Dome**	**59.43**	**339**	P	**P**	09 06 23.7	+1.8
	baz=122						
R17K	**Ugashik Creek**	**59.49**	**328**	P	**P**	09 06 24.5	+2.1
	baz=110						
M20K	**Styx River**	**59.57**	**333**	P	**P**	09 06 25.0	+2.0
	baz=115						
I23K	**Minto, Yukon-K**	**59.59**	**338**	P	**P**	09 06 25.4	+2.4
	baz=120						
N19K	**Bonanza Creek**	**59.73**	**332**	P	**P**	09 06 25.6	+1.4
	baz=113						
G24K	**Hadweenzic Riv**	**59.76**	**340**	P	**P**	09 06 26.4	+2.3
	baz=123						
CAST	**Castle Rocks**	**59.81**	**335**	P	**P**	09 06 25.8	+1.3
	baz=117						
Q16K	**King Salmon**	**59.97**	**329**	P	**P**	09 06 27.8	+2.1
	baz=110						
MLY	**Manley**	**60.04**	**337**	P	**P**	09 06 28.1	+2.0
	baz=119						
M19K	**Big River Lodg**	**60.12**	**333**	P	**P**	09 06 26.7	0.0
M19K				IAmb	IAmb	09 06 29.6	
	comp=Z,24nm,0.9s						
M19K				IAMs_20	IAMs_20	09 29 37.0	
	comp=Z,715nm,20.0s						
M19K	**Big River Lodg**	**60.12**	**333**	P	**P**	09 06 28.8	+2.1
	baz=114						
L20K	**Farewell, AK**	**60.14**	**334**	P	**P**	09 06 28.8	+1.9
	baz=115						
N18K	**Kilae Creek**	**60.32**	**332**	P	**P**	09 06 29.9	+1.8
	baz=112						
L19K	**White Mountain**	**60.43**	**333**	P	**P**	09 06 30.8	+2.0
	baz=114						
O17K	**Koliganek Bris**	**60.56**	**330**	P	**P**	09 06 31.5	+1.8
	baz=110						
K20K	**Telida**	**60.59**	**335**	P	**P**	09 06 31.4	+1.6
	baz=115						
G23K	**Bananza Creek**	**60.62**	**339**	P	**P**	09 06 32.1	+1.9
	baz=121						
H22K	**Ishtalitna Cre**	**60.69**	**338**	P	**P**	09 06 31.8	+1.2
	baz=119						
COLD	**Coldfoot**	**60.95**	**340**	P	**P**	09 06 34.7	+2.5
	baz=121						
J20K	**Nowinta River**	**60.96**	**336**	P	**P**	09 06 34.0	+1.6
	baz=115						
O16K	**Kokwok River B**	**60.98**	**330**	P	**P**	09 06 34.1	+1.6
	baz=109						
H21K	**Melozitna Rive**	**61.10**	**337**	P	**P**	09 06 33.1	-0.2
H21K				IAmb	IAmb	09 06 35.5	
	comp=Z,11nm,0.9s						
H21K	**Melozitna Rive**	**61.10**	**337**	P	**P**	09 06 34.8	+1.5
	baz=117						
TTA	**Tatalina**	**61.22**	**334**	P	**P**	09 06 35.5	+1.2
	baz=113						
TOLK	**Toolik Lake Re**	**61.48**	**341**	P	**P**	09 06 37.8	+1.9
	baz=122						
N16K	**Nishlik Lake**	**61.58**	**331**	P	**P**	09 06 38.5	+1.8
	baz=109						
F21K	**Alatna River**	**62.06**	**339**	P	**P**	09 06 42.1	+2.3
	baz=117						
PLCA	**Paso Flores**	**62.22**	**156**	P	P	09 06 46.0	+4.7
	comp=Z,4.9nm,1.0s,baz=357,slow=9.1,SNR=4.0						
	comp=Z,4.9nm,1.0s						
TULEG	**Thule**	**62.50**	**8**	IAMs_20	IAMs_20	09 39 04.2	
	comp=Z,496nm,18.0s						
AY01	**Puyuhuapi**	**64.67**	**160**	P	**P**	09 06 54.5	-2.8
SUMG	**Summit**	**66.10**	**17**	P	**P**	09 07 06.9	+0.1
SUMG				IAmb	IAmb	09 07 09.2	
	comp=Z,20nm,1.0s						
MG02	**Cerro Sombrero**	**73.10**	**162**	P	**P**	09 07 46.1	-3.4
PCAS	**Casmilo, Conde**	**80.04**	**51**	eP	**P**	09 08 30.7	+1.3
PVIS	**Viseu**	**80.35**	**50**	eP	**P**	09 08 32.0	+0.9
PFVI	**Vila Bisbo**	**80.43**	**54**	eP	**P**	09 08 30.6	-0.9
PMTG	**Montargil**	**80.47**	**52**	eP	**P**	09 08 31.9	+0.3
MORF	**Marmelete**	**80.53**	**54**	eP	**P**	09 08 32.8	+0.7
MTE	**Manteigas**	**80.68**	**51**	eP	**P**	09 08 33.3	+0.4
MVO	**Moncorvo**	**80.89**	**50**	eP	**P**	09 08 34.9	+0.9
PBEJ	**Beja**	**80.97**	**53**	eP	**P**	09 08 34.8	+0.4
PMRV	**Marv??o**	**81.02**	**52**	eP	**P**	09 08 34.9	+0.3
PBAR	**Barrancos**	**81.57**	**53**	eP	**P**	09 08 38.2	+0.6
ESDC	**Sonseca Array**	**83.52**	**51**	P	**P**	09 08 47.4	-0.4
	comp=Z,2.2nm,0.9s,baz=299,slow=4.7,SNR=5.6						
	comp=Z,2.2nm,0.9s						
KOUNC	**Koumac, New Ca**	**101.86**	**252**	IAMs_20	IAMs_20	09 46 34.8	
	comp=Z,238nm,22.0s						
MKAR	**Makanchi Array**	**117.48**	**359**	PKP	**PKiKP**	09 15 06.5	+0.9
	comp=Z,0.5nm,0.7s,baz=31,slow=3.7,SNR=2.1						
XAN	**Xi'an**	**123.69**	**332**	PKP	**PKPdf**	09 15 11.8	-6.1
XAN				sPKP		09 15 23.5	
XAN				LR	LR		
	comp=N,450nm,14.4s						
XAN				LR	LR		
	comp=Z,380nm,13.1s						
WRA	**Warramunga Arr**	**129.55**	**257**	PKP	**PKiKP**	09 15 34.6	+4.5
	comp=Z,3.6nm,0.9s,baz=85,slow=2.6,SNR=8.3						
ASAR	**Alice Springs**	**130.15**	**252**	PKP	**PKiKP**	09 15 35.3	+4.1
	comp=Z,1.6nm,0.9s,baz=95,slow=2.6,SNR=5.9						
CMAR	**Chiang Mai Arr**	**141.59**	**332**	PKP	**PKiKP**	09 15 53.0	-1.6
	comp=Z,1.0nm,0.3s,baz=336,slow=2.0,SNR=1.6						
OPO	**Ambohidratompo**	**147.37**	**100**	PKPbc	**PKiKP**	09 16 07.9	+1.3
	comp=Z,12nm,0.9s,baz=239,slow=5.8,SNR=6.0						
MYKOM	**Kota Tinggi**	**151.54**	**306**	IAMs_20	IAMs_20	10 11 33.2	
	comp=Z,117nm,21.0s						

*DJA **29** 09:00:29.8±0.3,8°S±4°×117°8E±°, h222km±5km, M3.9/13, mb4.0/8, mB4.7/1, MLv3.8/13, Mw(mB)3.9/1*
*IDC **29** 09:00:31.1±5.3, 7.85S×117.91E, h240km±44km, mb3.1/3, mbtmp3.7/7, Error ellipse: s-maj=103.6km s-min=14.5km az=61.0*
ISC 29 09:00:29.6±0.8,**7°93S**±0°07×**117°89E**±0°07,**h222**km,**n32,**
σ1§**22**/**34**,**mb3.5**/**3**,**Bali Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.90**	**187**	P		P	**Pn**	**09 01 01.4**	**+0.3**
PLAI	**Plampang**	**0.90**	**187**	P		P	**Pn**	**09 01 01.5**	**+0.3**
TWSI	**Taliwang, Sumb**	**1.28**	**231**	P		P	**Pn**	**09 01 04.0**	**+0.4**
SRBI	**Singaraja**	**2.66**	**266**	P		P	**Pn**	**09 01 16.5**	**-0.1**
DNP	**Denpasar**	**2.75**	**254**	P		P	**Pn**	**09 01 18.0**	**+0.3**
IGBI	**Denpasar**	**2.86**	**252**	P		P	**Pn**	**09 01 18.6**	**-0.2**
BSSI	**Bau Bau, Buton**	**3.13**	**56**	P		P	**Pn**	**09 01 23.1**	**+1.1**
BKSI	**Bulukumba**	**3.41**	**41**	P		P	**Pn**	**09 01 26.2**	**+1.0**
KAPI	**Kappang**	**3.43**	**33**	P		P	**Pn**	**09 01 27.6**	**+2.2**
	17nm,0.5s,baz=206,slow=6.0,SNR=14								
KAPI	**Kappang**	**3.43**	**33**	P			**Pn**	**09 01 27.7**	**+2.2**
JAGI	**Jajag, Banyuwa**	**3.74**	**261**	P			**Pn**	**09 01 28.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**3.74**	**261**	P			**Pn**	**09 01 29.0**	**-0.1**
EDFI	**Ende, Flores**	**3.85**	**103**	P			**Pn**	**09 01 30.7**	**+0.2**
BNSI	**Bone**	**4.14**	**32**	P			**Pn**	**09 01 33.4**	**-0.5**
TTSI	**Tana Toraja**	**5.22**	**22**	P			**Pn**	**09 01 47.2**	**-0.1**
	0.1nm1µm32nm,1.2s								
BATI	**Baumata**	**6.13**	**112**	P			**Pn**	**09 01 59.3**	**+0.3**
	15nm,0.3s,baz=18,slow=6.4,SNR=2.4								
BATI				S			**S**	**09 03 07.5**	**-2.5**
	39nm,0.3s,baz=228,slow=22,SNR=8.2								
BATI	**Baumata**	**6.13**	**112**	P			**Pn**	**09 01 59.1**	**+0.1**
	0.2nm17nm,0.6s								
SOEI	**Soe**	**6.56**	**107**	P			**Pn**	**09 02 05.2**	**+0.7**
	0.2nm39nm,0.6s								
PCJI	**Pacitan**	**6.65**	**267**	P			**Pn**	**09 02 04.7**	**-0.9**
	0.4nm47nm,1.2s								
UGM	**Wanagama**	**7.30**	**270**	P			**Pn**	**09 02 13.5**	**-0.4**
	0.7nm141nm,1.7s								
CNJI	**Cibinong**	**10.69**	**273**	P			**Pn**	**09 02 56.6**	**-0.8**
	56nm,1.6s								
FITZ	**Fitzroy Crossi**	**12.61**	**144**	P		P	**Pn**	**09 03 24.6**	**-0.1**
	1.0nm,0.4s,baz=334,slow=10,SNR=1.1								
FITZ				S			**S**	**09 05 38.6**	**-2.6**
	0.9nm,0.3s,baz=218,slow=19,SNR=2.0								
FITZ	**Fitzroy Crossi**	**12.61**	**144**	P		P	**Pn**	**09 03 25.8**	**+1.1**

KNRA	**Kununurra**	**13.13**	**127**	P		**Pn**	**09 03 29.7**	**+1.6**
MBWA	**Marble Bar**	**13.28**	**172**	P		**P**	**09 03 32.4**	**+0.4**
GIRL	**Giralia**	**15.05**	**193**	P		**P**	**09 03 54.8**	**+3.1**
FAKI	**Fak Fak**	**15.13**	**72**	P		**Pn**	**09 03 53.1**	**+0.4**
	7.4nm,1.4s							
MEEK	**Meekatharra**	**18.62**	**178**	P		**P**	**09 04 32.2**	**+1.4**
WRA	**Warramunga Arr**	**19.91**	**129**	P		**P**	**09 04 45.2**	**+0.5**
	0.3nm,0.3s,baz=300,slow=12,SNR=18							
ASAR	**Alice Springs**	**21.92**	**137**	P		**P**	**09 05 06.2**	**+0.7**
	0.8nm,0.5s,baz=311,slow=8.7,SNR=22							
	0.8nm,0.5s							
SONM	**Songino Array**	**56.44**	**351**	P		**P**	**09 09 47.4**	**-1.0**
	1.1nm,0.6s,baz=176,slow=7.6,SNR=4.4							
	1.1nm,0.6s							
MKAR	**Makanchi Array**	**63.01**	**333**	P		**P**	**09 10 31.9**	**-1.0**
	0.4nm,0.5s,baz=150,slow=8.2,SNR=4.1							
	0.4nm,0.5s							

*INET **29** 09:20:08.7±0.9, 9°.49N×84°.32W, h24km±10km, MW3.2*
*UCR **29** 09:20:08.9±1.5, 9°.52N×84°.32W, h36km±3km, MW3.6*
ISC 29 09:20:08.8±1.1,**9°52N**±0°04×**84°32W**±0°03,**h32**km±9km,
n44,σ0§**64**/**56,9C-6D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.36**	**294**	⇓eP			**Pb**	**09 20 17.0**	**-0.3**
JACO				eS			**Sn**	**09 20 24.1**	**+0.1**
JACO	**JACO, Garabito**	**0.36**	**294**	eP			**Pb**	**09 20 17.0**	**-0.3**
LCR2	**La Lucha 2**	**0.39**	**54**	⇓iP			**Pb**	**09 20 17.6**	**-0.2**
LCR2				eS			**Sn**	**09 20 24.5**	**-0.3**
SJS	**Escuela Geolog**	**0.50**	**32**	eP			**Pb**	**09 20 19.6**	**+0.2**
SJS				eS			**Sn**	**09 20 28.2**	**+0.7**
RIMA	**Rio Macho**	**0.52**	**61**	⇑eP			**Pb**	**09 20 19.5**	**-0.3**
RIMA				eS			**Sn**	**09 20 27.9**	**-0.1**
RIMA	**Rio Macho**	**0.52**	**61**	eP			**Pb**	**09 20 19.5**	**-0.3**
OCM	**Ochomogo**	**0.52**	**43**	⇓iP			**Pb**	**09 20 19.6**	**-0.2**
OCM				eS			**Sn**	**09 20 28.0**	**-0.1**
EDDO	**Dominical**	**0.52**	**120**	⇑iP			**Pn**	**09 20 20.8**	**+0.7**
EDDO				eS			**Sn**	**09 20 27.8**	**-0.1**
HDC3	**Heredia 3**	**0.53**	**23**	⇓eP			**Pb**	**09 20 20.1**	**+0.2**
HDC3				eS			**Sb**	**09 20 27.7**	**+0.2**
HDC3	**Heredia 3**	**0.53**	**23**	eP			**Pb**	**09 20 20.0**	**+0.1**
CDM	**Cerro de Muert**	**0.55**	**86**	⇑eP			**Pb**	**09 20 20.5**	**-0.1**
CDM				eS			**Sn**	**09 20 29.4**	**+0.1**
CDM	**Cerro de Muert**	**0.55**	**86**	eP			**Pb**	**09 20 20.5**	**-0.1**
LAFE	**Finca La Fe, P**	**0.65**	**297**	eP			**Pb**	**09 20 21.2**	**-0.6**
LAFE	**Finca La Fe, P**	**0.65**	**297**	eP			**Pb**	**09 20 21.2**	**-0.6**
PEZE	**Perez Zeledon,**	**0.65**	**102**	eP			**Pb**	**09 20 21.7**	**-0.2**
PEZE				eS			**Sn**	**09 20 31.5**	**+0.3**
PEZE	**Perez Zeledon,**	**0.65**	**102**	eP			**Pb**	**09 20 21.7**	**-0.2**
CRPO	**Crater poas**	**0.68**	**8**	⇑iP			**Pb**	**09 20 22.1**	**-0.5**
RIFO	**Rio Frio, Sara**	**0.89**	**26**	eP			**Pn**	**09 20 23.8**	**-1.4**
MRVA	**Moravia de Chi**	**0.92**	**71**	⇑iP			**Pn**	**09 20 25.4**	**-0.3**
MRVA				eS			**Sb**	**09 20 38.4**	**0.0**
JTS	**Las Juntas de**	**0.99**	**321**	⇑eP			**Pn**	**09 20 26.1**	**-0.5**
JTS				eS			**Sn**	**09 20 39.6**	**+0.1**
SRBA	**San Rafael, Bu**	**0.99**	**106**	eP			**Pn**	**09 20 26.5**	**-0.1**
FORC	**Fortuna**	**1.00**	**340**	⇓iP			**Pn**	**09 20 27.2**	**+0.4**
BATAN	**Batan**	**1.10**	**58**	⇑iP			**Pb**	**09 20 28.8**	**-0.5**
COVE	**Coope Vega, Sa**	**1.20**	**356**	eP			**Pn**	**09 20 29.7**	**+0.2**
NICO	**Nicoya**	**1.27**	**299**	eP			**Pn**	**09 20 29.7**	**-0.7**
POTG	**Potrero Grande**	**1.27**	**111**	eP			**Pn**	**09 20 30.6**	**0.0**
DUNO	**Dulce Nombre,**	**1.28**	**296**	eP			**Pn**	**09 20 29.6**	**-1.0**
DUNO	**Dulce Nombre,**	**1.28**	**296**	eP			**Pn**	**09 20 29.7**	**-0.8**
ACAL	**Aguas Claras**	**1.31**	**328**	eP			**Pn**	**09 20 31.7**	**+0.6**
GRZA	**Playa Garza**	**1.35**	**287**	eP			**Pn**	**09 20 32.4**	**+0.8**
ORTG	**Ortega, Santa**	**1.40**	**307**	eP			**Pn**	**09 20 31.7**	**-0.6**
CUI	**Cuipilapa**	**1.41**	**324**	⇑iP			**Pn**	**09 20 32.6**	**+0.3**
COLC	**Colonia**	**1.43**	**323**	eP			**Pn**	**09 20 32.9**	**+0.2**
VERA	**Finca Concepci**	**1.43**	**338**	eP			**Pn**	**09 20 33.1**	**+0.4**
HORNC	**Hornillas**	**1.46**	**325**	⇓eP			**Pn**	**09 20 33.2**	**+0.1**
HORNC				eS			**Sn**	**09 20 51.9**	**+0.7**
GUAB	**Guayabo de Bag**	**1.48**	**323**	eP			**Pn**	**09 20 33.9**	**+0.5**
VMAR	**Armenia, Volca**	**1.51**	**329**	eP			**Pn**	**09 20 34.2**	**+0.4**
GPS2	**Hotel Rincn d**	**1.59**	**321**	eP			**Pb**	**09 20 36.8**	**-0.9**
LAPC	**Finca la Perla**	**1.66**	**319**	eP			**Pn**	**09 20 37.1**	**+1.4**
BUEV	**Buena Vista**	**1.66**	**320**	eP			**Pn**	**09 20 37.3**	**+1.4**
GB1A	**Borinquen Arri**	**1.67**	**321**	eP			**Pn**	**09 20 37.3**	**+1.3**
GBS3	**Finca Las Img**	**1.68**	**319**	eP			**Pn**	**09 20 37.7**	**+1.6**
HZTE	**Horizontes, Gu**	**1.73**	**314**	eP			**Pn**	**09 20 38.1**	**+1.4**
ACON	**Acoyapa**	**2.58**	**341**	eP			**Pn**	**09 20 48.5**	**+0.2**

*JMA **29

BUAI	**Buenos Aires**	**0.94**	**80**	ǁ	*eP*	**Pb**	**09 58 22.5**	**+0.2**
BUAI					*eS*	**Sn**	**09 58 35.8**	**+0.4**
DUNO	**Dulce Nombre,**	**0.99**	**129**	ǁ	*iP*	**Pb**	**09 58 23.0**	**-0.1**
DUNO					*eS*	**Sb**	**09 58 35.4**	**-0.4**
NICO	**Nicoya**	**0.99**	**125**	ǁ	*eP*	**Pb**	**09 58 22.7**	**-0.5**
GRZA	**Playa Garza**	**1.01**	**142**	ǁ	*eP*	**Pb**	**09 58 23.2**	**-0.2**
GRZA					*eS*	**Sb**	**09 58 35.4**	**-0.8**
GUAB	**Guayabo de Bag**	**1.02**	**90**		*eP*	**Pb**	**09 58 23.5**	**-0.2**
GUAB					*eS*	**Sn**	**09 58 37.1**	**-0.5**
COLC	**Colonia**	**1.05**	**92**	ǁ	*eP*	**Pb**	**09 58 23.9**	**-0.3**
COLC					*eS*	**Sn**	**09 58 38.0**	**-0.2**
MESS	**Mesas**	**1.06**	**88**	ǁ	*iP*	**Pb**	**09 58 23.9**	**-0.4**
HORNC	**Hornillas**	**1.07**	**90**	ǁ	*iP*	**Pb**	**09 58 24.2**	**-0.4**
HORNC					*eS*	**Sb**	**09 58 37.7**	**-0.5**
CUI	**Cuipilapa**	**1.09**	**93**	ǁ	*iP*	**Pb**	**09 58 24.5**	**-0.4**
CUI					*eS*	**Sn**	**09 58 38.9**	**-0.4**
INDI	**Punta indio, G**	**1.13**	**138**		*eP*	**Pn**	**09 58 25.0**	**-0.3**
VMAR	**Armenia, Volca**	**1.13**	**85**	ǁ	*iP*	**Pn**	**09 58 25.6**	**+0.2**
VMAR					*eS*	**Sn**	**09 58 41.5**	**+1.1**
PTEN	**Parque Tenorio**	**1.26**	**90**	ǁ	*iP*	**Pn**	**09 58 27.4**	**+0.2**
JTS	**Las Juntas de**	**1.36**	**108**		*eP*	**Pn**	**09 58 28.4**	**-0.1**
VERA	**Finca Concepci**	**1.38**	**84**		*eP*	**Pn**	**09 58 29.0**	**+0.2**
VERA					*eS*	**Sb**	**09 58 48.6**	**+1.5**
MGAN	**Managua**	**1.43**	**1**		*eP*	**Pn**	**09 58 30.1**	**+0.8**
COPN	**Copaltepe**	**1.49**	**348**		*eP*	**Pn**	**09 58 30.7**	**+0.4**
CASO	**Castillo**	**1.54**	**100**		*eP*	**Pn**	**09 58 31.1**	**+0.1**
CEDE	**Laguna Cedeo**	**1.56**	**98**		*eP*	**Pn**	**09 58 31.7**	**+0.5**
FORC	**Fortuna**	**1.59**	**99**		*eP*	**Pn**	**09 58 32.1**	**+0.4**
LAFE	**Finca La Fe, P**	**1.61**	**124**		*eP*	**Pn**	**09 58 31.4**	**-0.6**
HUEN		**1.62**	**3**		*eP*	**Pn**	**09 58 32.1**	**+0.1**
ACON	**Acoyapa**	**1.65**	**41**	ǁ	*eP*	**Pn**	**09 58 31.6**	**-0.8**
ACON					*eS*	**Sn**	**09 58 51.8**	**-1.1**
ACON	**Acoyapa**	**1.65**	**41**		*eP*	**Pn**	**09 58 31.8**	**-0.6**
ACON					*eS*	**Sn**	**09 58 52.8**	**-0.1**
BOAB	**BOACO BROADBAN**	**1.82**	**19**		*eP*	**Pn**	**09 58 34.6**	**-0.3**
CNGN	**Cerro Negro**	**1.82**	**347**		*eP*	**Pb**	**09 58 37.4**	**-0.1**
COVE	**Coope Vega, Sa**	**1.84**	**90**		*eP*	**Pn**	**09 58 34.8**	**-0.2**
JACO	**JACO, Garabito**	**1.90**	**123**		*eP*	**Pb**	**09 58 38.8**	**+0.1**
MATN	**Matagalpa**	**2.23**	**9**		*eP*	**Pn**	**09 58 40.6**	**+0.1**
ESPN	**Las Esperanzas**	**2.43**	**52**		*eP*	**Pn**	**09 58 43.3**	**+0.2**
ESPN	**Las Esperanzas**	**2.43**	**52**		*eP*	**Pn**	**09 58 43.2**	**+0.1**
LCR2	**La Lucha 2**	**2.43**	**113**		*eP*	**Pn**	**09 58 45.6**	**+2.2**
RIMA	**Rio Macho**	**2.55**	**111**		*eP*	**Pn**	**09 58 45.7**	**+0.7**

*JMA **29** 09:58:42.3±0.1, 36°.5N±0°.3×141°.1E±0°.8, h44km±1km, MV3.1/37, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
*IDC **29** 09:58:44.7±4.0, 36°.38N×141°.12E, h54km±44km, mb3.2/2, mbtmp3.4/4, ML2.7/2, Error ellipse: s-maj=33.3km s-min=14.1km az=65.0*

ISC 29 09:58:40.1±2.1, 36°.50N±0°.05×141°.07E±0°.06, h15km±14km, n19, σ0°.76/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.42**	**286**	*i* P	**Pn**	**09 58 52.3**	**+0.7**
JHO				S	**Sn**	**09 58 59.1**	**-0.1**
JHYU	**Hitachinakayam**	**0.42**	**248**	*i* P	**Pn**	**09 58 52.2**	**+0.6**
JHYU				S	**Sn**	**09 58 59.0**	**-0.1**
JIHU	**Itakohorinouch**	**0.69**	**220**	P	**Pn**	**09 58 56.0**	**+0.7**
JIHU				S	**Sn**	**09 59 05.5**	**-0.2**
JYT	**Yasato**	**0.76**	**249**	*i* P	**Pn**	**09 58 56.4**	**+0.2**
JYT				S	**Sb**	**09 59 06.2**	**+1.1**
JFK	**Kawauchi**	**0.88**	**350**	*i* P	**Pn**	**09 58 58.3**	**+0.2**
JAG	**Ashikaga**	**1.30**	**267**	P	**Pb**	**09 59 04.7**	**+0.4**
JMM	**Marumori**	**1.39**	**351**	*i* P	**Pb**	**09 59 05.9**	**+0.2**
JFY	**Yanaizu**	**1.42**	**310**	P	**Pg**	**09 59 07.2**	**-0.2**
JKT	**Katashina**	**1.49**	**281**	P	**Pb**	**09 59 08.2**	**+0.6**
JKT				S	**Sn**	**09 59 26.4**	**+0.7**
MJAR	**Matsushiro Arr**	**2.31**	**272**	P	**Pb**	**09 59 20.0**	**-1.4**
	0.7nm,0.3s,baz=103,slow=11,SNR=15						
MJAR				S	**Sb**	**09 59 48.8**	**-0.9**
	3.4nm,0.3s,baz=190,slow=24,SNR=7.1 1.7nm,0.3s						
JHJ	**Hachijo jima 2**	**3.53**	**198**	P	**Pn**	**09 59 35.2**	**+0.8**
	4.0nm,0.3s,baz=254,slow=18,SNR=1.8						
JHJ				S	**Sn**	**10 00 15.9**	**0.0**
	52nm,0.4s,baz=216,slow=19,SNR=1.8 92nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.12**	**119**	T	T	10 33 52.4	
	baz=313,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**28.12**	**119**	T	T	10 33 50.6	
	baz=313,slow=75,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**28.14**	**119**	T	T	10 33 50.6	
	baz=313,slow=75,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	10 34 55.3	
	baz=314,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	10 34 54.8	
	baz=314,slow=76,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	10 34 54.8	
	baz=314,slow=76,SNR=3.0						
ILAR	**Eielson Array**	**50.09**	**32**	P	**P**	**10 07 34.6**	**+0.5**
	0.5nm,0.8s,baz=264,slow=7.9,SNR=5.9 0.5nm,0.8s						
WRA	**Warramunga Arr**	**56.49**	**188**	P	**P**	**10 08 20.3**	**-1.3**
	0.5nm,1.0s,baz=1.7,slow=7.2,SNR=2.0 0.5nm,1.0s						

*IDC **29** 10:00:33.9±3.5, 65°.07N×34°.40E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=41.9km s-min=11.2km az=98.0*
*UPP **29** 10:00:49.1±2.7, 64°.48N×30°.91E, h0km, ML2.2, Suspected explosion*
*KOLA **29** 10:00:53.1, 64°.66N×30°.37E, h0km, ML2.6*
*BER **29** 10:00:55.8±1.6, 64°.86N×30°.75E, h0km, ML2.0, Suspected explosion*

ISC 29 10:00:53.9±1.4, 64°.77N±0°.05×30°.07E±0°.09, h0km, n21, σ1§48/26, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALU	**Kalix**	**3.02**	**294**	P	**Pn**	**10 01 43.7**	**+0.8**
KALU				S	**Sb**	**10 02 25.6**	**-0.3**
APA0	**Apatity Array**	**3.08**	**21**	S	**Sn**	**10 02 20.7**	**-0.6**
PAJU	**Pajala**	**3.64**	**311**	P	**Pn**	**10 01 52.7**	**+1.2**
SJUU	**Sjulsmark**	**3.65**	**285**	P	**Pn**	**10 01 52.1**	**+0.6**
SJUU				S	**Sb**	**10 02 40.7**	**-3.2**
BURU	**Burvik**	**3.74**	**271**	P	**Pn**	**10 01 53.6**	**+0.8**
FINES	**FINESS Array B**	**3.80**	**210**	Pn	**Pn**	**10 01 52.1**	**-1.6**
	0.3nm,0.3s,baz=37,slow=12,SNR=12						
FINES				Pg	**Pb**	**10 02 01.9**	**+0.1**
	1.3nm,0.3s,baz=37,slow=14,SNR=19						
FINES				Sn	**Sb**	**10 02 50.8**	**+2.5**
	1.9nm,0.3s,baz=37,slow=28,SNR=8.7 1.2nm,0.4s						
HARU	**Harads**	**4.04**	**294**	P	**Pn**	**10 01 58.9**	**+1.9**
ODEU	**Stanfors**	**4.05**	**269**	P	**Pn**	**10 01 55.8**	**-1.3**
UMAU	**Umeaa**	**4.18**	**262**	P	**Pn**	**10 01 58.3**	**-0.6**
HEF	**Hetta**	**4.46**	**328**	*eP*	**Pn**	**10 02 02.2**	**-0.5**
HEF				*eS*	**Sn**	**10 02 53.8**	**-1.3**
KTK1	**Kautokeino**	**5.03**	**331**	*eP*	**Pn**	**10 02 12.5**	**+1.9**
KTK1				IAML		10 03 39.1	
	comp=Z,8.6nm,0.4s						
ARA0	**ARCESS Array S**	**5.10**	**342**	*eP*	**Pn**	**10 02 10.7**	**-0.8**
ARA0				IAML		10 03 15.0	
	comp=Z,3.2nm,0.1s						
ARCES	**ARCESS Array B**	**5.10**	**342**	Pn	Pn	10 01 56.8	-15
	comp=Z,0.1nm,0.3s,baz=122,slow=13,SNR=8.1						
ARCES				Pg	Pb	10 02 10.8	-13
	comp=Z,0.8nm,0.3s,baz=154,slow=14,SNR=28						
ARCES				Lg	Lg	10 03 31.1	
	comp=Z,1.5nm,0.3s,baz=154,slow=28,SNR=7.0 comp=Z,1.7nm,0.9s						
ARCES	**ARCESS Array B**	**5.10**	**342**	P	**Pn**	**10 02 11.4**	**-0.1**
ARCES				S	**Sn**	**10 03 10.3**	**-0.7**
KEV	**Kevo**	**5.14**	**348**	*eP*	**Pn**	**10 02 11.7**	**-0.4**
KIF	**Kilpisjarvi**	**5.60**	**323**	*eP*	**Pn**	**10 02 19.3**	**+1.1**
JETT	**Jettan, Norway**	**6.09**	**326**	*eP*	**Pn**	**10 02 26.7**	**+1.6**
FAUS	**Fauske**	**6.55**	**300**	*eP*	**Pn**	**10 02 33.1**	**+1.7**
MOR8	**Moi Rana**	**6.66**	**289**	*eP*	**Pn**	**10 02 33.9**	**+1.1**
STEI	**Steigen**	**6.75**	**305**	*eP*	**Pn**	**10 02 35.8**	**+1.8**
NOA	**NORSAR Array B**	**9.37**	**255**	Pn	**Pn**	**10 03 12.1**	**+2.1**
	baz=54,slow=12,SNR=5.6 comp=Z,0.5nm,0.6s						

IDC 29 10:13:40.3±1.8, 7°.50S×120°.19E, h629km±23km, mb2.4/2, mbtmp3.3/5, Error ellipse: s-maj=150.3km s-min=19.8km az=57.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.51**	**350**	P	P	10 14 59.5	0.0
	6.8nm,0.5s,baz=240,slow=3.4,SNR=5.0						
FITZ	**Fitzroy Crossi**	**11.79**	**154**	P	P	10 16 16.6	-0.4
	1.6nm,0.9s,baz=332,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**18.47**	**133**	P	P	10 17 18.9	0.0
	0.3nm,0.5s,baz=310,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**20.77**	**142**	P	P	10 17 40.1	+0.4
	0.2nm,0.3s,baz=319,slow=8.5,SNR=13 0.2nm,0.3s						
MKAR	**Makanchi Array**	**63.68**	**332**	P	P	10 23 11.8	+0.1
	0.4nm,0.8s,baz=132,slow=8.6,SNR=3.0 0.4nm,0.8s						

*IDC **29** 10:27:35.1±3.0, 3°.12S×127°.77E, h33km±22km, mb4.3/21, mbtmp4.5/23, ML4.8/3, MS3.7/24, Error ellipse: s-maj=18.0km s-min=10.8km az=68.0*
*DJA **29** 10:27:36.3±0.2, 3°.3S×127°.8E±°, h44km±3km, M4.7/47, mB5.1/13, mb4.9/47, MLv4.8/20, Mw(mB)4.5/13*
*BJI **29** 10:27:36.2±0.2, 3°.14S×127°.67E, h57km, mb4.7/22, mB5.0/13, Ms4.3/3, Ms7 4.1/3*
*NEIC **29** 10:27:36.6±2.8, 2°.95S±0°.03×127°.88E±0°.06, h51km±8km, mb4.6/25, Error ellipse: s-maj=9.4km s-min=4.4km az=96.0*

ISC 29 10:27:35.7±0.3, 3°.04S±0°.05×127°.87E±0°.05, h38km, n156, σ1§45/153, mb4.7/35, MS3.7/21, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.72**	**153**	P	**Pn**	**10 27 50.1**	**+0.7**
NLAI	**Namlea**	**0.79**	**255**	P	**Pn**	**10 27 49.4**	**-0.9**
MSAI	**Masohi**	**1.10**	**106**	P	**Pn**	**10 27 57.4**	**+2.8**
SANI	**Sanana**	**2.12**	**298**	P	**Pn**	**10 28 06.5**	**-2.0**
SANI	**Sanana**	**2.12**	**298**	P	**Pn**	**10 28 06.9**	**-1.6**
LBMI	**Labuha**	**2.41**	**351**	P	**Pn**	**10 28 13.1**	**+0.5**
BNDI	**Bandanaira**	**2.51**	**126**	P	**Pn**	**10 28 15.4**	**+1.4**
BNDI	**Bandanaira**	**2.51**	**126**	P	**Pn**	**10 28 17.3**	**+3.3**
TNTI	**Ternate**	**3.82**	**352**		**Pn**	**10 28 31.1**	**-0.9**
TNTI	**Ternate**	**3.82**	**352**	P	**Pn**	**10 28 32.4**	**+0.4**
SIJI	**Sorong**	**4.03**	**58**	Pn	**Pn**	**10 28 35.4**	**+0.6**
	65nm,0.3s,baz=247,slow=7.9,SNR=79						
SIJI				Sn	**Sn**	**10 29 20.1**	**-0.7**
	46nm,0.3s,baz=56,slow=20,SNR=17						
SIJI				LR	LR	10 30 50.2	
	comp=Z,885nm,20.2s,baz=298,slow=47 248nm,0.5s						
FAKI	**Fak Fak**	**4.38**	**89**	Pn	**Pn**	**10 28 40.9**	**+1.2**
FAKI	**Fak Fak**	**4.38**	**89**	P	**Pn**	**10 28 40.6**	**+0.9**
FAKI	**Fak Fak**	**4.38**	**89**	P	**Pn**	**10 28 41.6**	**+1.9**
KMSI	**Cibinong**	**5.29**	**313**	P	**Pn**	**10 28 52.2**	**0.0**
	2.7nm319nm,0.6s						
LUWI	**Luwuk**	**5.46**	**291**	Pn	**Pn**	**10 28 54.0**	**-0.6**
LUWI	**Luwuk**	**5.46**	**291**	P	**Pn**	**10 28 54.4**	**-0.2**
	1.5nm7µm311nm,0.8s						
LUWI	**Luwuk**	**5.46**	**291**	P	**Pn**	**10 28 54.8**	**+0.2**
BBSI	**Bau Bau**	**5.81**	**245**	P	**Pn**	**10 29 01.6**	**+2.2**
	0.3nm114nm,1.1s						
SAUI	**Saumlaki**	**5.98**	**145**	Pn	**Pn**	**10 29 04.6**	**+2.9**
SAUI	**Saumlaki**	**5.98**	**145**	P	**Pn**	**10 29 03.0**	**+1.3**
	1.7nm15µm562nm,1.1s						
GTOI	**Gorontalo**	**6.07**	**307**	P	**Pn**	**10 29 04.7**	**+1.7**
	0.5nm601nm77nm,0.8s						
RKPI	**Ransiki, Papua**	**6.49**	**77**	P	**Pn**	**10 29 09.4**	**+0.7**
	2.209nm,0.7s						
APSI	**Ampana**	**6.56**	**289**	P	**Pn**	**10 29 10.8**	**+1.1**
	1.2nm4µm417nm,0.9s						
MRSI	**Marisa**	**6.88**	**300**	P	**Pn**	**10 29 14.7**	**+0.7**
	0.6nm1µm119nm,0.7s						
SGSI	**Sangihe**	**7.08**	**341**	P	**Pn**	**10 29 17.3**	**+0.5**
	0.9nm151nm,0.4s						
SOEI	**Soe**	**7.57**	**208**		**Pn**	**10 29 27.3**	**+3.7**
SOEI	**Soe**	**7.57**	**208**	P	**Pn**	**10 29 25.5**	**+1.9**
	0.6nm2µm178nm,1.1s						
BNSI	**Bone**	**7.86**	**260**	P	**Pn**	**10 29 28.5**	**+1.0**
	0.1nm38nm,0.8s						
BSSI	**Bau Bau, Buton**	**7.97**	**247**	P	**Pn**	**10 29 30.6**	**+1.6**
	716nm87nm,0.8s						
TTSI	**Tana Toraja**	**8.04**	**270**	P	**Pn**	**10 29 31.2**	**+1.3**
	1µm45nm,0.8s						
BKSI	**Bulukumba**	**8.05**	**253**	P	**Pn**	**10 29 31.6**	**+1.5**
	1µm102nm,0.9s						
SPSI	**Siap Palu**	**8.13**	**263**	P	**Pn**	**10 29 33.0**	**+1.7**
	636nm74nm,0.9s						
BATI	**Baumata**	**8.25**	**210**	Pn	**Pn**	**10 29 37.2**	**+4.3**
	11nm,0.3s,baz=125,slow=2.2,SNR=5.7						
BATI				LR	LR	10 32 53.1	
	comp=Z,1µm,19.5s,baz=18,slow=39						
BATI	**Baumata**	**8.25**	**210**	P	**Pn**	**10 29 34.8**	**+1.9**
	62nm,0.7s						
KAPI	**Kappang**	**8.33**	**256**	Pn	**Pn**	**10 29 36.7**	**+2.8**
	3.1nm,0.3s,baz=94,slow=6.5,SNR=19						
KAPI				LR	LR	10 33 05.4	
	comp=Z,504nm,19.2s,baz=70,slow=40						
KAPI	**Kappang**	**8.33**	**256**	Pn	**Pn**	**10 29 37.0**	**+3.0**
KAPI	**Kappang**	**8.33**	**256**	P	**Pn**	**10 29 34.6**	**+0.7**
EDFI	**Ende, Flores**	**8.36**	**227**	P	**Pn**	**10 29 35.9**	**+1.4**
	318nm39nm,0.9s						
MPSI	**Mapaga**	**8.64**	**293**	P	**Pn**	**10 29 38.3**	**+0.1**
	656nm53nm,0.7s						
MTN	**Manton Dam**	**10.26**	**162**		**Pn**	**10 30 03.5**	**+3.0**
KDU	**Kakadu**	**10.61**	**155**	P	**Pn**	**10 30 07.5**	**+2.2**
SMPI	**Sarmi**	**10.88**	**85**	P	**Pn**	**10 30 09.9**	**+0.9**
BKB	**Balikpapan**	**11.10**	**279**	P	**Pn**	**10 30 11.3**	**-0.7**
	66nm,0.6s						
PLAI	**Plampang**	**11.56**	**240**	P	**Pn**	**10 30 19.0**	**+0.7**
	56nm,1.0s						
GENI	**Genyem**	**12.29**	**88**	P	**Pn**	**10 30 28.7**	**+0.4**
	74nm,0.9s						
TWSI	**Taliwang, Sumb**	**12.30**	**242**	P	**Pn**	**10 30 30.3**	**+1.9**
	21nm,1.1s						
KNRA	**Kununurra**	**12.59**	**176**		**Pn**	**10 30 34.2**	**+2.0**
KNRA	**Kununurra**	**12.59**	**176**	P	**Pn**	**10 30 35.1**	**+2.8**
SRBI	**Singaraja**	**13.55**	**248**	P	**Pn**	**10 30 47.1**	**+1.7**
	19nm,0.6s						
ABJI	**Asem Bagus**	**14.37**	**250**	P	**Pn**	**10 30 58.0**	**+1.4**
	50nm,0.9s						
KMMI	**Kalianget**	**14.40**	**253**	P	**Pn**	**10 30 58.8**	**+1.7**
	59nm,1.1s						
JAGI	**Jajag, Banyuwa**	**14.67**	**248**	P	**Pn**	**10 31 01.5**	**+0.8**
	53nm,1.9s						
FITZ	**Fitzroy Crossi**	**15.12**	**188**	Pn	**Pn**	**10 31 06.7**	**+0.1**
	0.7nm,0.3s,baz=29,slow=9.8,SNR=22						
FITZ				LR	LR	10 37 26.6	
	comp=Z,359nm,19.6s,baz=18,slow=39 8.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.12**	**188**		**Pn**	**10 31 08.2**	**+1.5**
FITZ				IAmb	IAmb	10 31 14.8	
	comp=Z,20nm,0.7s						
PWJI	**Pagerwojo**	**16.73**	**252**	P	**P**	**10 31 28.7**	**-0.5**
	comp=Z,42nm,0.7s						
NGJI	**Ngawi**	**16.89**	**255**	P	**P**	**10 31 30.8**	**-0.2**
	comp=Z,41nm,0.9s						
PCJI	**Pacitan**	**17.38**	**252**	P	**P**	**10 31 36.3**	**-0.1**
	comp=Z,105nm,1.4s						
SMRI	**Semarang**	**17.80**	**256**	P	**P**	**10 31 41.7**	**+0.5**
	comp=Z,87nm,1.0s						
WB0	**Warramunga Arr**	**17.81**	**160**		**Pn**	**10 31 40.3**	**-0.4**
WB0				IAmb	IAmb	10 31 51.7	
	comp=Z,38nm,0.8s						
WRAB	**Tennant Creek**	**17.94**	**160**	P	**Pn**	**10 31 41.4**	**-1.0**
WRAB	**Tennant Creek**	**17.94**	**160**	P	**P**	**10 31 42.5**	**-0.1**
WRA	**Warramunga Arr**	**17.95**	**160**	P	**Pn**	**10 31 41.7**	**-0.8**
	comp=Z,6.5nm,0.3s,baz=340,slow=12,SNR=184						
WRA				LR	LR	10 39 27.2	
	comp=Z,414nm,18.0s,baz=342,slow=40						
WRA	**Warramunga Arr**	**17.95**	**160**	P	**Pn**	**10 31 41.3**	**-1.2**
WB2	**Warramunga Arr**	**17.95**	**160**	P	**Pn**	**10 31 41.7**	**-0.8**
WR0	**Warramunga Arr**	**18.04**	**159**	P	**Pn**	**10 31 43.0**	**-0.5**
WR0				IAmb	IAmb	10 31 45.8	
	comp=Z,28nm,0.6s						
COEN	**Coen**	**18.61**	**127**	P	**Pn**	**10 31 50.0**	**-0.5**
COEN				IAmb	IAmb	10 31 53.4	
	comp=Z,35nm,0.6s						
COEN	**Coen**	**18.61**	**127**	P	**Pn**	**10 31 50.4**	**-0.1**
MBWA	**Marble Bar**	**19.67**	**203**	P	**P**	**10 32 01.1**	**-0.5**
MBWA	**Marble Bar**	**19.67**	**203**	P	**P**	**10 32 01.9**	**+0.3**
PSA00	**Pilbara Seismi**	**20.00**	**202**	P	**P**	**10 32 04.8**	**-0.4**
PSA00				IAmb	IAmb	10 32 06.3	
	comp=Z,31nm,1.1s						
PSA00	**Pilbara Seismi**	**20.00**	**202**	P	**P**	**10 32 04.2**	**-1.0**
PSA00				IAmb	IAmb	10 32 06.3	
	comp=Z,11nm,0.9s						
PSA00	**Pilbara Seismi**	**20.00**	**202**	P	**P**	**10 32 05.3**	**+0.1**

PMG	**Port Moresby**	**20.19**	**109**		P	Pn	10 32 09.2	-0.1
	comp=Z,9.8nm,0.8s,baz=288,slow=15,SNR=4.3							
PMG					LR	LR	10 41 23.8	
	comp=Z,207nm,19.2s,baz=292,slow=41 comp=Z,9.8nm,0.8s							
LEM	**Lembang**	**20.52**	**259**		P	**P**	**10 32 09.8**	**-1.2**
	comp=Z,31nm,0.7s,baz=208,slow=2.3,SNR=4.3							
LEM					LR	LR	10 41 13.6	
	comp=Z,435nm,19.7s,baz=122,slow=40 comp=Z,31nm,0.7s							
LEM	**Lembang**	**20.52**	**259**		P	**P**	**10 32 11.6**	**+0.6**
	comp=Z,38nm,1.0s							
QIS	**Mount Isa**	**20.84**	**148**		P	**P**	**10 32 14.5**	**+0.2**
CNJI	**Cibinong**	**21.08**	**258**		P	**P**	**10 32 17.3**	**+0.4**
	comp=Z,103nm,0.9s							
AS31	**Alice Springs**	**21.32**	**165**			**P**	**10 32 19.1**	**-0.4**
AS31					IAmb	IAmb	10 32 29.1	
	comp=Z,21nm,0.6s							
ASAR	**Alice Springs**	**21.32**	**165**		P	**P**	**10 32 19.2**	**-0.2**
	comp=Z,54nm,0.7s,baz=341,slow=11,SNR=565							
ASAR					S	**S**	**10 36 10.5**	**-3.9**
	comp=Z,4.7nm,0.8s,baz=344,slow=19,SNR=7.5							
ASAR					ScP	**ScP**	**10 39 57.2**	**0.0**
	comp=Z,1.4nm,0.7s,baz=340,slow=2.1,SNR=7.3							
ASAR					LR	LR	10 41 10.3	
	comp=Z,266nm,18.9s,baz=346,slow=38 comp=Z,54nm,0.7s							
ASAR	**Alice Springs**	**21.32**	**165**		P	**P**	**10 32 19.4**	**-0.1**
PPBI	**Pangkal Pinang**	**21.72**	**272**		P	**P**	**10 32 24.6**	**+0.7**
	comp=Z,10µmcomp=Z,54nm,0.8s							
WRKA	**Warakurna**	**21.87**	**179**		P	**P**	**10 32 25.7**	**+0.3**
DSRI	**Dabo**	**23.41**	**276**		P	**P**	**10 32 42.1**	**+0.6**
	comp=Z,24nm,1.0s							
GIRL	**Giralia**	**23.55**	**213**		P	**P**	**10 32 41.7**	**-1.0**
GUMO	**Guam**	**23.61**	**45**		LR	LR	10 43 03.4	
	comp=Z,88nm,18.0s,baz=234,slow=39							
KRVT	**Keravat (AS076**	**24.14**	**94**		P	**P**	**10 32 49.4**	**+0.9**
	comp=Z,50nm,0.9s,baz=261,slow=4.5,SNR=5.2 comp=Z,50nm,0.9s							
RABL	**Rabaul**	**24.28**	**93**		P	**P**	**10 32 50.0**	**+0.3**
CTA	**Charters Tower**	**24.68**	**135**		P	**P**	**10 32 53.8**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=317,slow=9.1,SNR=5.5							
CTA					LR	LR	10 44 20.3	
	comp=Z,142nm,18.7s,baz=310,slow=41 comp=Z,3.3nm,0.6s							
CTAO	**Charters Tower**	**24.68**	**135**		P	**P**	**10 32 53.8**	**+0.5**
CTAO					IAmb	IAmb	10 33 36.1	
	comp=Z,20nm,1.2s							
MEEK	**Meekatharra**	**25.09**	**200**		P	**P**	**10 32 55.5**	**-1.4**
OOD	**Oodnadatta**	**25.73**	**164**		P	**P**	**10 33 01.4**	**-1.2**
SDSI	**Sungai Dareh**	**26.50**	**274**		P	**P**	**10 33 10.0**	**+0.2**
	comp=Z,8.1nm,0.9s							
INKA	**Innaminka**	**27.47**	**155**		P	**P**	**10 33 18.7**	**+0.3**
FORT	**Forrest**	**27.59**	**180**		P	**P**	**10 33 18.3**	**-1.1**
FORT	**Forrest**	**27.59**	**180**		P	**P**	**10 33 18.6**	**-0.8**
MULG	**Mulgathing**	**27.72**	**168**		P	**P**	**10 33 19.8**	**-0.8**
MORW	**Morawa**	**28.22**	**202**		P	**P**	**10 33 23.8**	**-1.3**
MORW					IAmb	IAmb	10 33 31.8	
	comp=Z,15nm,1.3s							
MORW	**Morawa**	**28.22**	**202**		P	**P**	**10 33 24.2**	**-0.9**
BLDU	**Ballidu**	**29.39**	**200**		P	**P**	**10 33 34.7**	**-0.7**
RPSI	**Rantau Prapat**	**29.48**	**281**		P	**P**	**10 33 39.4**	**+2.9**
PSI	**Prapat**	**29.50**	**281**		P	**P**	**10 33 39.4**	**+2.5**
	comp=Z,4.4nm,0.2s,baz=318,slow=18,SNR=5.8							
PSI					LR	LR	10 45 56.2	
	comp=Z,167nm,19.2s,baz=78,slow=37							
KLBR	**Kellerberrin**	**29.96**	**197**		P	**P**	**10 33 39.1**	**-1.3**
NWAO	**Narrogin (SRO)**	**31.36**	**197**		P	**P**	**10 33 51.1**	**-1.6**
	comp=Z,7.7nm,0.6s,baz=240,slow=6.2,SNR=7.6							
NWAO					LR	LR	10 47 16.0	
	comp=Z

comp=Z,4.8nm,0.5s,baz=90,slow=23,SNR=2.4
TIXI LR LR 11 13 39.1
comp=Z,27nm,21.1s,baz=359,slow=37
comp=Z,4.8nm,0.5s
VNDA Vanda 76.61 173 P **P** **10 39 20.2 -1.7**
comp=Z,1.3nm,0.8s,baz=304,slow=8.3,SNR=10
VNDA LR LR 11 13 29.5
comp=Z,65nm,18.3s,baz=324,slow=36
comp=Z,1.3nm,0.8s
VNDA Vanda 76.61 173 P **P** **10 39 20.5 -1.4**
SBA Scott Base 77.52 172 P **P** **10 39 27.0 0.0**
SBA IAmb IAmb 10 39 46.3
comp=Z,4.3nm,1.1s
MAW Mawson 77.85 201 P **P** **10 39 27.8 -1.1**
comp=Z,1.9nm,0.7s,baz=56,slow=11,SNR=1.9
MAW LR LR 11 12 38.2
comp=Z,36nm,18.2s,baz=31,slow=35
comp=Z,1.9nm,0.7s
AKTO Aktyubinsk 79.66 322 P **P** **10 39 38.9 -0.3**
comp=Z,1.3nm,0.5s,baz=78,slow=6.1,SNR=6.3
comp=Z,1.3nm,0.5s
ARU Arti 81.24 328 P **P** **10 39 46.8 -0.8**
comp=Z,3.4nm,0.5s,baz=143,slow=13,SNR=4.6
comp=Z,3.4nm,0.5s
RAYN Ar Rayn 84.21 294 P **P** **10 40 03.2 -0.6**
RAYN IAmb IAmb 10 40 17.4
comp=Z,3.8nm,0.9s
QSPA South Pole Qui 86.91 180 LR LR 11 19 52.1
comp=Z,61nm,18.8s,baz=310,slow=36
QSPA South Pole Qui 86.91 180 P **P** **10 40 14.9 -1.6**
KMBO Kilima Mbogo 90.55 269 LR LR 11 14 39.8
comp=Z,35nm,21.2s,baz=91,slow=31
RAGM Ragged Mountai 91.36 30 P **P** **10 40 35.7 -1.7**
ARCES ARCESS Array B 97.15 340 P Pdif 10 41 03.0 -0.8
comp=Z,3.3nm,1.0s,baz=81,slow=5.6,SNR=5.5
comp=Z,3.3nm,1.0s
MNK Minsk 98.27 325 *i* P Pdif 10 41 15.1 +6.0
comp=E,5.0nm,0.9s
MNK *i* P Pdif 10 41 15.1 +6.0
MNK *i* P Pdif 10 41 15.1 +6.0
comp=Z,9.0nm,0.8s,baz=264
MNK *i* pP sP 10 41 30.7 +7.2
MNK *i* PP **PP** **10 45 08.7 -0.2**
MNK *i* SKS 10 51 07.8
MNK *i* S **SKSac** **10 51 48.2 +4.3**
MNK *i* sS **SKKSac** **10 52 15.2 +1.8**
MNK *i* SS **SS** **10 59 13.5 -4.2**
MNK *i* LQ LQ 11 19 29.6
MNK *i* LR LR 11 23 04.9
MNK *i* LRM MLR 11 27 01.7
comp=E,36nm,19.9s
MNK *i* LRM MLR 11 27 25.0
comp=Z,116nm,16.6s
BOSA Boshof 99.59 240 LR LR 11 24 59.0
comp=Z,32nm,18.1s,baz=186,slow=35
TXAR Lajitas Array 124.62 56 PKP **PKiKP** **10 46 33.0 +0.7**
comp=Z,0.6nm,0.9s,baz=182,slow=3.4,SNR=3.5
TORD Torodi Ar. Bea 125.88 284 PKP **PKiKP** **10 46 34.7 -0.3**
comp=Z,1.9nm,0.7s,baz=57,slow=1.6,SNR=11
PLCA Paso Flores 133.30 161 PKP **PKiKP** **10 46 48.3 -1.0**
comp=Z,0.8nm,0.6s,baz=239,slow=5.9,SNR=3.8
CPUP Villa Florida 150.37 171 PKPbc **PKiKP** **10 47 24.0 -0.6**
comp=Z,10nm,0.8s,baz=181,slow=1.5,SNR=18
NNA Nana 151.26 122 PKPbc **PKiKP** **10 47 26.3 -0.5**
comp=Z,13nm,0.7s,baz=216,slow=6.2,SNR=4.5
LPAZ La Paz 155.12 141 PKPab **PKPab** **10 47 50.3 -0.8**
comp=Z,1.2nm,0.5s,baz=352,slow=1.1,SNR=6.0
SIV San Ignacio 159.13 155 PKPab **PKPab** **10 48 07.5 0.0**
comp=Z,2.0nm,0.6s,baz=224,slow=5.5,SNR=9.8

IDC 29 10:28:50.5±8.2, 9.07S×156.61E, h0km, mb3.9/3, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=182.4km s-min=46.7km az=105.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.84**	**221**	Pn	Pn	10 32 23.2	+1.4
	0.1nm,0.3s,baz=43,slow=14,SNR=2.1						
	8.2nm,1.0s						
WRA	**Warramunga Arr**	**24.08**	**241**	P	P	10 34 06.9	-1.1
	1.2nm,0.5s,baz=68,slow=9.3,SNR=2.8						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**26.11**	**234**	P	P	10 34 26.9	+0.4
	0.9nm,0.5s,baz=55,slow=11,SNR=1.6						
	0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**63.12**	**296**	P	P	10 39 20.9	+0.4
	0.8nm,0.3s,baz=120,slow=5.3,SNR=4.7						
	0.8nm,0.3s						

*IDC **29** 10:30:33.2±0.7, 30.71N×142.09E, h0km, mb4.0/13, mbtmp3.9/18, ML3.3/5, MS3.2/5, Error ellipse: s-maj=25.5km s-min=14.9km az=79.0*
*JMA **29** 10:30:34.3±0.2, 30.8N±0.7×14.2E±, h40km, MV4.5/28, NEAR TORISHIMA IS*
*NIED **29** 10:30:34.3, 30.79N×142.19E, h40km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr 1.10; Mθθ -0.17; Mφφ -0.93; Mrθ 1.58; Mθφ -0.73; Mφr -1.09; Fault plane solution: M0 2.03000×10^15^ NP1:φs 50.00000°, δ 40.00000°, λ 148.00000°. NP2:φs 165.00000°, δ 70.00000°, λ 54.00000°.*
*NEIC **29** 10:30:37.1±2.2, 30.89N±0.08×142.3E±0.2, h31km±8km, mb4.7/9 Error ellipse: s-maj=24.5km s-min=9.2km az=74.0*

ISC 29 10:30:36.2±0.6, 30.74N±0.05×142.1E±0.1, h23km, n45, σ1 36/51, mb4.1/15, MS3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.05**	**321**	Pn	**Pn**	**10 31 22.1**	**-0.9**
JHJ2	**Mitsune**	**3.05**	**321**	*e*P	**Pn**	**10 31 21.7**	**-1.3**
JHJ	**Hachijo jima 2**	**3.07**	**321**	Pn	**Pn**	**10 31 21.7**	**-1.6**
	11nm,0.3s,baz=69,slow=23,SNR=11						
JHJ				Sn	**Sn**	**10 31 58.0**	**-1.3**
	31nm,0.3s,baz=67,slow=20,SNR=5.4						
	47nm,0.4s						
CBIJ	**Chichi jima**	**3.64**	**179**	*e*P	**Pn**	**10 31 30.6**	**-0.6**
CBIJ				*e*S	**Sn**	**10 32 12.3**	**-1.1**
JCJ	**Chichijima**	**3.64**	**179**	Pn	**Pn**	**10 31 28.1**	**-3.0**
	7.9nm,0.3s,baz=262,slow=19,SNR=1.7						
JCJ				Sn	**Sn**	**10 32 10.7**	**-2.6**
	30nm,0.3s,baz=320,slow=22,SNR=5.7						
	23nm,0.3s						
JCJ	**Chichijima**	**3.64**	**179**	Pn	**Pn**	**10 31 31.3**	**+0.1**
BSO1	**Boso 1**	**4.01**	**347**	*e*P	**Pn**	**10 31 34.9**	**-0.8**
BSO1				*e*S	**Sn**	**10 32 20.9**	**-0.8**
BSO3	**Boso 3**	**4.26**	**342**	*e*P	**Pn**	**10 31 38.6**	**-0.8**
JOD2	**Odawara 2**	**5.16**	**332**	*e*P	**Pn**	**10 31 51.9**	**-0.2**
JHU	**Hanno**	**5.61**	**336**	*e*P	**Pn**	**10 31 58.0**	**-0.2**
JYT	**Yasato**	**5.69**	**344**		**Pn**	**10 31 58.4**	**-0.9**
JRY	**Ryogami san**	**5.89**	**334**	*e*P	**Pn**	**10 32 02.2**	**0.0**
JRY				*e*S	**Sn**	**10 33 09.1**	**+0.1**
JHO	**Hitachi**	**5.99**	**348**	P	**Pn**	**10 32 02.3**	**-1.1**
JAG	**Ashikaga**	**6.08**	**340**	P	**Pn**	**10 32 04.0**	**-0.6**
JAG				*e*S	**Sn**	**10 33 10.9**	**-2.5**
JGF	**Kuroka**	**6.25**	**322**	Pn	**Pn**	**10 32 08.2**	**+1.0**
MJAR	**Matsushiro Arr**	**6.62**	**332**	Pn	**Pn**	**10 32 12.6**	**+0.4**
	0.9nm,0.3s,baz=160,slow=11,SNR=73						
MJAR				LR	LR	10 34 39.1	
	comp=Z,147nm,21.4s,baz=179,slow=37						
	8.1nm,0.4s						
MAJO	**Matsushiro**	**6.62**	**332**		**Pn**	**10 32 13.0**	**+0.8**
MJB9	**Matsu-Tunnel**	**6.63**	**332**		**Pn**	**10 32 12.9**	**+0.6**
JMM	**Marumori**	**7.18**	**352**		**Pn**	**10 32 18.2**	**-1.6**
JMM					**Sn**	**10 33 35.9**	**-4.8**
JSD	**Sado**	**7.93**	**338**	Pn	**Pn**	**10 32 29.1**	**-1.0**
KSRS	**Korea Array**	**13.50**	**304**	Pn	**Pn**	**10 33 48.4**	**+2.1**
	0.2nm,0.3s,baz=109,slow=13,SNR=5.0						
KSRS				LR	LR	10 39 01.9	
	comp=Z,87nm,18.5s,baz=90,slow=38						
	1.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**15.62**	**332**	Pn	**Pn**	**10 34 13.4**	**-1.4**
	0.1nm,0.3s,baz=119,slow=15,SNR=2.7						
	1.1nm,0.7s						
YULB	**Yu-li**	**19.89**	**253**	P	**Pn**	**10 35 05.3**	**-2.5**
YULB				IAmb	IAmb	10 35 19.6	
	comp=Z,53nm,1.5s						
KLR	**Kul'dur**	**20.05**	**340**	P	**P**	**10 35 07.8**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=144,slow=7.1,SNR=12						
	comp=Z,3.3nm,0.7s						
PETK	**Petropavlovsk-**	**25.08**	**23**	LR	LR	10 47 00.6	
	comp=Z,40nm,20.1s,baz=242,slow=39						
COEN	**Coen**	**44.45**	**178**	P	**P**	**10 38 46.5**	**+0.8**
MTN	**Manton Dam**	**44.60**	**195**	P	**P**	**10 38 46.5**	**-0.3**
ZALV	**Zalesovo Beam**	**46.72**	**317**	P	**P**	**10 39 03.9**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=108,slow=8.3,SNR=4.4						
ZALV				LR	LR	10 58 23.7	
	comp=Z,36nm,20.7s,baz=86,slow=36						
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**48.15**	**307**	P	**P**	**10 39 15.3**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=93,slow=9.5,SNR=3.9						
MKAR				LR	LR	10 59 22.0	
	comp=Z,47nm,18.5s,baz=136,slow=36						
	comp=Z,1.5nm,0.6s						
WB0	**Warramunga Arr**	**50.76**	**189**	P	**P**	**10 39 34.9**	**+0.3**
WRAB	**Tennant Creek**	**50.93**	**189**	P	**P**	**10 39 36.6**	**+0.7**
WRAB				IAmb	IAmb	10 39 39.5	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**50.94**	**189**	P	**P**	**10 39 35.9**	**-0.1**
WB2				IAmb	IAmb	10 39 40.1	
	comp=Z,8.3nm,0.9s						
WRA	**Warramunga Arr**	**50.94**	**189**	P	**P**	**10 39 35.4**	**-0.5**
	comp=Z,5.8nm,0.9s,baz=9.9,slow=8.2,SNR=20						
	comp=Z,5.8nm,0.9s						
WRA	**Warramunga Arr**	**50.94**	**189**	P	**P**	**10 39 36.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**51.07**	**200**	P	**P**	**10 39 38.2**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=29,slow=10,SNR=2.3						
	comp=Z,1.9nm,0.9s						
ILAR	**Eielson Array**	**54.58**	**30**	P	**P**	**10 40 03.8**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=267,slow=6.0,SNR=7.6						
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**54.66**	**189**	P	**P**	**10 40 04.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=3.7,slow=4.6,SNR=7.6						
	comp=Z,0.9nm,0.6s						
CHGR	**Chuyangaron**	**59.04**	**299**	P	**P**	**10 40 34.8**	**+0.2**
ABKAR	**Akbulak array**	**62.52**	**313**	P	**P**	**10 40 57.9**	**0.0**
ABKAR				IAmb	IAmb	10 41 11.2	
	comp=Z,3.9nm,0.8s						
AKTO	**Aktyubinsk**	**63.38**	**315**	P	**P**	**10 41 04.8**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=74,slow=14,SNR=1.8						
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**74.65**	**333**	P	**P**	**10 42 14.2**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=79,slow=4.1,SNR=7.2						
	comp=Z,3.4nm,0.8s						
NVAR	**Mina Array Bea**	**78.35**	**52**	P	**P**	**10 42 36.1**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=291,slow=5.3,SNR=2.9						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**79.64**	**323**	P	**P**	**10 42 41.9**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=70,slow=1.1,SNR=2.7						
	comp=Z,0.6nm,0.4s						
PDAR	**Pinedale Array**	**81.70**	**45**	P	**P**	**10 42 54.0**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=270,slow=4.5,SNR=2.5						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**93.49**	**53**	P	**P**	**10 43 50.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=319,slow=9.5,SNR=2.7						
	comp=Z,0.3nm,0.7s						

*IDC **29** 10:49:16.9±5.4, 17.76S×72.92W, h37km±47km, mb3.4/3, mbtmp3.6/6, ML3.5/3, MS3.0/3, Error ellipse: s-maj=42.9km s-min=28.4km az=99.0*

ISC 29 10:49:16.1±1.0, 17.93S±0.08×72.92W±0.09, h35km, n20, σ1 33/21, mb3.8/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**2.49**	**101**	*e*P	**Pn**	**10 49 54.7**	**+0.7**
AP01				*e*S	**Sn**	**10 50 24.5**	**+1.3**
AP01				IAML		10 50 25.9	
	comp=E,508nm,0.4s						
PB12	**IPOC Station P**	**2.55**	**106**	*e*P	**Pn**	**10 49 54.0**	**-1.1**
PB12				*e*S	**Sn**	**10 50 22.5**	**-2.5**
PB16	**IPOC Station P**	**3.27**	**98**	*e*P	**Pn**	**10 50 05.8**	**+0.5**
TA02	**Huaiquique**	**3.52**	**132**	*e*S	**Sn**	**10 50 48.0**	**-0.7**
TA01	**Diego Aracena**	**3.68**	**136**	*e*P	**Pn**	**10 50 10.7**	**+0.1**
GO01	**Chusmiza**	**3.93**	**117**	*e*P	**Pn**	**10 50 15.1**	**+0.8**
GO01				*e*S	**Sn**	**10 50 59.4**	**-0.1**
PB08	**IPOC Station P**	**4.18**	**122**	*e*P	**Pn**	**10 50 18.5**	**+0.7**
PB02	**IPOC Station P**	**4.42**	**140**	*e*P	**Pn**	**10 50 19.3**	**-1.5**
PB01	**IPOC Station P**	**4.48**	**134**	*e*P	**Pn**	**10 50 22.0**	**+0.4**
PB01				*e*S	**Sn**	**10 51 10.2**	**-2.4**
LPAZ	**La Paz**	**4.86**	**71**	Pn	**Pn**	**10 50 28.1**	**+0.9**
	comp=E,0.7nm,0.3s,baz=247,slow=9.9,SNR=14						
LPAZ				LR	LR	10 52 44.0	
	comp=E,90nm,20.9s,baz=290,slow=43						
	comp=E,4.3nm,0.8s						
LPAZ	**La Paz**	**4.86**	**71**	*e*P	Pn	10 50 29.5	+2.2
LVC	**Limon Verde**	**5.99**	**142**	Pn	**Pn**	**10 50 44.0**	**+1.4**
	comp=E,1.9nm,0.3s,baz=354,slow=8.9,SNR=32						
LVC				Sn	**Sn**	**10 51 49.8**	**-0.3**
	comp=E,4.2nm,0.3s,baz=87,slow=19,SNR=18						
	comp=E,5.6nm,0.4s						
NNA	**Nana**	**7.02**	**327**	LR	LR	10 52 54.3	
	comp=E,50nm,21.9s,baz=344,slow=32						
SIV	**San Ignacio**	**11.49**	**82**	Pn	Pn	10 52 00.5	+2.7
	baz=286,slow=14,SNR=5.1						
	comp=E,0.7nm,0.4s						
PLCA	**Paso Flores**	**22.82**	**175**	P	**P**	**10 54 18.9**	**+2.8**
	comp=E,0.8nm,0.8s,baz=321,slow=13,SNR=2.6						
	comp=E,0.8nm,0.8s						
TXAR	**Lajitas Array**	**55.58**	**327**	P	**P**	**10 58 47.6**	**-0.8**
	comp=E,0.2nm,0.7s,baz=161,slow=8.6,SNR=2.3						
	comp=E,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**79.81**	**73**	P	**P**	**11 01 21.3**	**-0.1**
	comp=E,15nm,0.6s,baz=241,slow=5.1,SNR=5.2						
YKA	**Yellowknife Ar**	**86.61**	**342**	P	**P**	**11 01 54.3**	**-1.1**
	comp=E,1.5nm,0.8s,baz=146,slow=5.1,SNR=4.2						
	comp=E,1.5nm,0.8s						
RES	**Resolute Bay**	**93.46**	**354**	LR	LR	11 49 57.2	
	comp=E,34nm,18.1s,baz=14,slow=39						
SONM	**Songino Array**	**150.16**	**1**	PKPbc	**PKiKP**	**11 09 04.8**	**+0.6**
	comp=E,0.4nm,0.5s,baz=340,slow=1.7,SNR=2.3						

*WEL **29** 10:59:23.0±0.9, 37°S±5°×17°9E±°, h20km, M3.4/16, ML3.6/23, MLv3.4/16, Error ellipse: s-maj=0.0km s-min=0.0km az=103.3*
*NOU **29** 10:59:36.3, 37.93S×178.24E, h88km, MLv3.9/7, Off E. Coast of N. Island, N.Z.*

ISC 29 10:59:19.9±3.1, 37.03S±0.10×179.2E±0.1, h23km±15km, n36, σ1 15/50, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.87**	**232**	P	**Pn**	**10 59 36.0**	**-0.6**
MXZ				S	**Sb**	**10 59 46.3**	**-1.2**
WMGZ	**Waiomatatini S**	**0.99**	**217**	P	**Pn**	**10 59 39.6**	**+1.3**
WMGZ				S	**Sn**	**10 59 53.2**	**+1.7**
PUZ	**Puketiti**	**1.27**	**214**	P	**Pb**	**10 59 43.5**	**+0.4**
PUZ				S	**Sb**	**10 59 59.7**	**+0.7**
HAZ	**Te Kaha**	**1.32**	**236**	P	**Pn**	**10 59 42.6**	**-0.2**
HAZ				S	**Sb**	**11 00 02.4**	**+2.0**
RUGZ	**Raukumara Rang**	**1.51**	**231**	P	**Pb**	**10 59 47.8**	**+0.6**
RUGZ				S	**Sb**	**11 00 06.9**	**+1.0**
CNGZ	**Carnagh Statio**	**1.64**	**207**	P	**Pb**	**10 59 48.8**	**-0.6**
MWZ	**Matawai**	**1.84**	**224**	P	**Pn**	**10 59 51.1**	**+1.0**
MWZ				S	**Sb**	**11 00 13.0**	**-2.5**
RIGZ	**Rimuhau**	**2.01**	**213**	P	**Pn**	**10 59 53.3**	**+0.9**
RIGZ				S	**Sn**	**11 00 17.3**	**+0.5**
RAGZ	**Rawiri**	**2.02**	**223**	P	**Pn**	**10 59 53.7**	**+1.2**
RAGZ				S	**Sn**	**11 00 17.3**	**+0.3**
URZ	**Urewera**	**2.04**	**232**	P	**Pn**	**10 59 54.0**	**+1.2**
URZ				S	**Sn**	**11 00 18.0**	**+0.5**
URZ	**Urewera**	**2.04**	**232**	P	**Pb**	**10 59 55.3**	**-0.9**
OPRZ	**Ohinepanea**	**2.23**	**248**	P	**Pn**	**10 59 56.2**	**+0.9**
SNGZ	**Shannon Statio**	**2.27**	**219**	P	**Pn**	**10 59 56.9**	**+0.9**
KNZ	**Kokohu**	**2.31**	**210**	P	**Pn**	**10 59 56.7**	**+0.2**
RTZ	**Ruatahuna**	**2.34**	**227**	P	**Pn**	**10 59 58.7**	**+1.6**
RTZ				S	**Sn**	**11 00 25.3**	**+0.1**
MUGZ	**Murupara**	**2.39**	**232**	P	**Pn**	**10 59 58.5**	**+0.9**
MUGZ				S	**Sn**	**11 00 25.5**	**-0.6**
RAHZ	**Arahi**	**2.50**	**220**	P	**Pn**	**11 00 00.7**	**+1.6**
ALRZ	**Allen Road**	**2.71**	**235**	P	**Pn**	**11 00 02.5**	**+0.5**
KUZ	**Kuaotunu**	**2.77**	**275**	P	**Pn**	**11 00 02.2**	**-0.6**
MRHZ	**Matea Rd**	**2.82**	**229**	P	**Pn**	**11 00 03.4**	**-0.1**
TOZ	**Tahuroa Road**	**3.00**	**255**	P	**Pn**	**11 00 06.8**	**+0.9**
BKZ	**Black Stump Fm**	**3.00**	**224**	P	**Pn**	**11 00 06.6**	**+0.6**
BKZ	**Black Stump Fm**	**3.00**	**224**	P	**Pn**	**11 00 07.0**	**+1.0**
MKAZ	**Moumakai**	**3.20**	**267**	P	**Pn**	**11 00 09.2**	**+0.5**
WIAZ	**Waiheke Island**	**3.24**	**273**	P	**Pn**	**11 00 09.6**	**+0.4**
TMVZ	**Te Maari**	**3.44**	**232**	P	**Pn**	**11 00 12.5**	**+0.5**
NTVZ	**North Tongariro**	**3.44**	**232**	P	**Pn**	**11 00 13.1**	**+0.9**
ETVZ	**East Tongariro**	**3.44**	**231**	P	**Pn**	**11 00 13.0**	**+0.8**
ETVZ				S	**Sn**	**11 00 51.3**	**-1.0**
OTVZ	**Oturere**	**3.49**	**231**	P	**Pn**	**11 00 13.3**	**+0.5**
OTVZ				S	**Sn**	**11 00 52.2**	**-1.2**
HIZ	**Hauiti**	**3.72**	**245**	P	**Pn**	**11 00 18.0**	**+2.2**
HIZ	**Hauiti**	**3.72**	**245**	P	**Pn**	**11 00 18.5**	**+2.6**
MTVZ	**Mangateitei**	**3.74**	**230**	P	**Pn**	**11 00 16.4**	**+0.2**
MTVZ				S	**Sn**	**11 00 57.3**	**-2.3**
BFZ	**Birch Farm**	**4.30**	**211**	P	**Pn**	**11 00 23.3**	**-0.5**
QRZ	**Quartz Range**	**6.41**	**232**	P	**Pn**	**11 00 51.4**	**-1.4**
KHZ	**Kahutara**	**6.91**	**217**	P	**Pn**	**11 00 58.7**	**-0.9**
ODZ	**Otahua Downs**	**10.27**	**216**	P	**Pn**	**11 01 45.8**	**+0.1**
	24nm,1.8s						

*IDC **29** 11:02:43.9±6.4, 20.94N×144.50E, h114km±58km, mb3.8/16, mbtmp4.2/16, MS3.6/35, Error ellipse: s-maj=24.0km s-min=12.7km az=86.0*
*NEIC **29** 11:02:45.1±1.6, 21.01N±0.10×144.4E±0.2, h114km±8km, mb4.5/14, Error ellipse: s-maj=23.6km s-min=12.4km az=71.0*

ISC 29 11:02:42.5±0.7, 20.9N±0.1×144.5E±0.1, h100km, n69, σ1 96/106, mb4.3/24, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.52**	**341**	Pn	**Pn**	**11 04 16.8**	**+0.9**
GUMO	**Guam**	**7.29**	**177**	LR	LR	11 06 31.4	
	comp=Z,414nm,19.4s,baz=12,slow=31						
JOW	**Kunigami**	**16.00**	**295**	LR	LR	11 12 03.8	
	comp=Z,132nm,18.2s,baz=144,slow=35						
JOW	**Kunigami**	**16.00**	**295**		**Pn**	**11 06 22.3**	**+0.5**
JOW				IAmb	IAmb	11 06 27.0	
	comp=Z,29nm,1.1s						
MJAR	**Matsushiro Arr**	**16.53**	**342**	LR	LR	11 12 37.8	
	comp=Z,40nm,20.1s,baz=130,slow=36						
H11S3	**WAKE ISLAND Hy 20.99**	**93**		T	T	11 28 39.5	
	baz=280,slow=75,SNR=245						
H11N1	**WAKE ISLAND Hy 20.99**	**89**		T	T	11 28 41.8	
	baz=277,slow=75,SNR=859						
H11S1	**WAKE ISLAND Hy 21.00**	**93**		T	T	11 28 40.3	
	baz=280,slow=75,SNR=308						
H11N2	**WAKE ISLAND Hy 21.00**	**89**		T	T	11 28 42.0	
	baz=277,slow=75,SNR=591						
H11S2	**WAKE ISLAND Hy 21.00**	**93**		T	T	11 28 42.3	
	baz=280,slow=75,SNR=255						
H11N3	**WAKE ISLAND Hy 21.01**	**89**		T	T	11 28 43.0	
	baz=277,slow=75,SNR=524						
KSRS	**Korea Array**	**21.90**	**322**	P	**P**	**11 07 28.9**	**+1.5**
	comp=Z,7.6nm,0.8s,baz=142,slow=8.4,SNR=29						
KSRS				LR	LR	11 14 47.5	
	comp=Z,80nm,20.8s,baz=150,slow=33						
	comp=Z,7.6nm,0.8s						
DAV	**Davao City (W)**	**22.93**	**236**	LR	LR	11 14 37.0	
	comp=Z,260nm,20.9s,baz=73,slow=31						
SIJI	**Sorong**	**25.24**	**213**	LR	LR	11 15 30.3	
	comp=Z,54nm,20.0s,baz=346,slow=30						
KLR	**Kul'dur**	**30.05**	**343**	P	**P**	**11 08 41.7**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=145,slow=7.7,SNR=21						
KLR				LR	LR	11 20 10.9	
	comp=Z,64nm,18.6s,baz=110,slow=35						
	comp=Z,7.6nm,0.8s						
PETK	**Petropavlovsk-**	**33.70**	**14**	LR	LR	11 22 47.7	
	comp=Z,86nm,19.0s,baz=196,slow=36						
HNR	**Honiara**	**33.74**	**152**	LR	LR	11 21 54.1	
	comp=Z,866nm,21.6s,baz=298,slow=34						
KAPI	**Kappang**	**35.44**	**226**	LR	LR	11 22 28.7	
	comp=Z,82nm,21.5s,baz=90,slow=33						
MA2	**Magadan**	**38.88**	**5**	LR	LR	11 24 19.3	
	comp=Z,39nm,21.3s,baz=123,slow=33						
SHEM	**Shemya Is, Ala**	**39.08**	**28**	LR	LR	11 23 18.1	
	comp=Z,142nm,21.3s,baz=224,slow=32						
SONM	**Songino Array**	**40.75**	**320**	P	**P**	**11 10 13.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=130,slow=8.6,SNR=7.4						
SONM				LR	LR	11 27 24.1	
	comp=Z,49nm,18.2s,baz=91,slow=36						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**41.81**	**194**	P	**P**	**11 10 22.1**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=17,slow=8.6,SNR=25						
WRA				LR	LR	11 26 36.0	
	comp=Z,94nm,21.5s,baz=14,slow=34						
	comp=Z,2.0nm,0.7s						
YAK	**Yakutsk**	**42.36**	**350**	LR	LR	11 30 55.3	
	comp=Z,17nm,19.6s,baz=89,slow=40						
CMAR	**Chiang Mai Arr**	**42.90**	**275**	LR	LR	11 28 24.6	
	comp=Z,35nm,19.1s,baz=80,slow=36						
FITZ	**Fitzroy Crossi**	**42.97**	**207**	P	**P**	**11 10 32.5**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=53,slow=16,SNR=5.9						
	comp=Z,1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.97**	**207**	P	**P**	**11 10 33.4**	**+1.5**
ASAR	**Alice Springs**	**45.50**	**194**	P	**P**	**11 10 51.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=18,slow=8.7,SNR=20						
	comp=Z,1.2nm,0.7s						
PSI	**Prapat**	**47.90**	**254**	LR	LR	11 28 37.9	
	comp=Z,26nm,21.4s,baz=52,slow=32						
ZALV	**Zalesovo Beam**	**55.61**	**322**	P	**P**	**11 12 05.8**	**-1.9**
	comp=Z,2.9nm,0.8s,baz=99,slow=9.2,SNR=5.1						
ZALV				LR	LR	11 35 15.1	
	comp=Z,33nm,19.4s,baz=71,slow=35						
	comp=Z,2.9nm,0.8s						
MK31	**Makanchi Array**	**56.16**	**313**	P	**P**	**11 12 11.0**	**-0.8**
MKAR	**Makanchi Array**	**56.16**	**313**	P	**P**	**11 12 11.5**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=91,

FINES	**FINES Array B**	**84.43**	**335**	P		**P**	**11 15 01.9**	**-1.7**
	comp=Z,2.7nm,0.6s,baz=85,slow=4.0,SNR=8.7							
	comp=Z,2.7nm,0.6s							
PFO	**Pinyon Flats O**	**85.79**	**56**	LR		LR	11 49 35.2	
	comp=Z,29nm,19.0s,baz=278,slow=33							
DUG	**Dugway, Tooele**	**85.91**	**49**	IAmb		IAmb	11 15 14.2	
	comp=Z,5.3nm,1.1s							
HWUT	**Hardware Ranch**	**86.19**	**47**	P		**P**	**11 15 14.2**	**+1.0**
HWUT				IAmb		IAmb	11 15 16.2	
	comp=Z,6.7nm,1.1s							
PDAR	**Pinedale Array**	**87.05**	**45**	P		**P**	**11 15 16.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=121,slow=2.6,SNR=4.6							
PDAR				LR		LR	11 48 01.2	
	comp=Z,63nm,21.3s,baz=306,slow=31							
	comp=Z,0.2nm,0.4s							
KNB	**Kanab**	**87.19**	**51**	P		**P**	**11 15 19.6**	**+1.5**
ANMO	**Albuquerque**	**92.74**	**51**	LR		LR	11 51 04.4	
	comp=Z,56nm,20.0s,baz=299,slow=31							
LPIG	**La Paz**	**94.54**	**62**	LR		LR	11 49 03.7	
	comp=Z,46nm,20.9s,baz=275,slow=29							
TXAR	**Lajitas Array**	**97.48**	**55**	LR		LR	11 56 53.1	
	comp=Z,37nm,19.4s,baz=278,slow=33							
LPAZ	**La Paz**	**148.73**	**87**	PKPbc		**PKPbc**	**11 22 20.3**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=165,slow=0.8,SNR=6.7							

TAP 29 11:24:38.8,24.08N×121.45E,h62km,ML3.5,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.14**	**89**	P	Pn	11 24 48.0	-0.2
	baz=88						
TWD				S	Sn	11 24 54.5	-0.5
	baz=88						
NACB	**Ninganchiao**	**0.17**	**54**	P	Pn	11 24 49.1	+0.8
	baz=54						
NACB				S	Sn	11 24 54.7	-0.5
	baz=54						
HWA	**Hwalien**	**0.17**	**125**	*e*P	Pn	11 24 48.0	-0.3
	baz=123						
HWA				*e*S	Sn	11 24 55.2	0.0
	baz=123						
ETL	**Fush Village**	**0.18**	**63**	*e*P	Pn	11 24 48.4	-0.1
	baz=63						
ETL				*e*S	Sn	11 24 55.2	-0.2
	baz=63						
WHF	**Hehuan Shan**	**0.18**	**292**	P	Pn	11 24 49.4	+0.5
	baz=292						
WHF				S	Sn	11 24 56.3	+0.1
	baz=292						
CHGB	**Renai**	**0.25**	**266**	P	Pn	11 24 49.6	+0.5
	baz=266						
CHGB				S	Sn	11 24 56.8	+0.4
	baz=266						
FUSS	**Fushou**	**0.25**	**313**	P	Pn	11 24 49.7	+0.6
	baz=312						
FUSS				S	Sn	11 24 56.9	+0.4
	baz=312						
ESL	**Shilin**	**0.26**	**183**	P	Pn	11 24 48.5	-0.3
	baz=181						
ESL				S	Sn	11 24 57.0	+0.9
	baz=181						
OWD	**Renai**	**0.28**	**244**	P	Pn	11 24 49.5	+0.4
	baz=243						
OWD				S	Sn	11 24 56.6	0.0
	baz=243						
TWT	**Tachien**	**0.30**	**305**	P	Pn	11 24 49.9	+0.5
	baz=303						
TWT				S	Sn	11 24 57.6	+0.5
	baz=303						
WUSB	**Renai**	**0.31**	**254**	P	Pn	11 24 49.9	+0.6
	baz=254						
WUSB				S	Sn	11 24 57.4	+0.4
	baz=254						
TDCB	**Techi**	**0.32**	**304**	P	Pn	11 24 49.7	+0.3
	baz=303						
TDCB				S	Sn	11 24 57.2	0.0
	baz=303						
EGFH	**Guangfu**	**0.41**	**183**	*e*P	Pn	11 24 50.4	+0.4
	baz=182						
EGFH				*e*S	Sn	11 24 58.7	+0.6
	baz=182						
VWDT	**VWDT**	**0.43**	**221**	P	Pn	11 24 51.1	+0.9
	baz=220						
VWDT				S	Sn	11 24 59.4	+1.0
	baz=220						
LATG	**Datong**	**0.46**	**9**	P	Pn	11 24 51.3	+0.6
	baz=9.0						
LATG				S	Sn	11 25 00.1	+0.8
	baz=9.0						
WCS	**Beigang Elemen**	**0.49**	**268**	P	Pn	11 24 50.0	-0.8
	baz=267						
WCS				S	Sn	11 24 58.7	-0.8
	baz=267						
WHP	**Taichung City**	**0.50**	**294**	P	Pn	11 24 50.8	-0.2
	baz=293						
WHP				*e*S	Sn	11 24 59.4	-0.5
	baz=293						
SSLB	**Suanglung**	**0.54**	**238**	P	Pn	11 24 51.7	+0.3
	baz=237						
SSLB				S	Sn	11 25 01.1	+0.6
	baz=237						
SMLT	**Sun Moon Lake**	**0.54**	**249**	P	Pn	11 24 51.8	+0.4
	baz=248						
SMLT				S	Sn	11 25 01.5	+0.9
	baz=248						
TYC	**Yuchr**	**0.57**	**252**	P	Pn	11 24 51.7	+0.1
	baz=252						
TYC				S	Sn	11 25 01.6	+0.6
	baz=252						
EHY	**Hungye**	**0.58**	**191**	*e*P	Pn	11 24 52.3	+0.5
	baz=190						
EHY				*e*S	Sn	11 25 01.9	+0.6
	baz=190						
HGSD	**Ruisui**	**0.58**	**182**	*e*P	Pn	11 24 52.0	+0.2
	baz=182						
HGSD				*e*S	Sn	11 25 02.1	+0.8
	baz=182						
YHNB	**Yeheng**	**0.59**	**354**	P	Pn	11 24 52.7	+0.7
	baz=353						
YHNB				S	Sn	11 25 02.8	+1.1
	baz=353						
NSK	**Sanguang**	**0.60**	**352**	P	Pn	11 24 52.0	-0.1
	baz=352						
NSK				S	Sn	11 25 01.8	0.0
	baz=352						
NDS	**Dongshan**	**0.61**	**24**	*e*P	Pn	11 24 52.4	+0.3
	baz=23						
NDS				*e*S	Sn	11 25 02.7	+0.9
	baz=23						
NFF	**Wufeng Townshi**	**0.63**	**332**	*e*P	Pn	11 24 51.6	-0.8
	baz=331						
NFF				*e*S	Sn	11 25 02.6	+0.3
	baz=331						
TWC	**Suao**	**0.64**	**35**	*e*P	Pn	11 24 53.0	+0.6
	baz=35						
TWC				*e*S	Sn	11 25 03.5	+1.0
	baz=35						
TWE	**Neicheng**	**0.67**	**17**	*e*P	Pn	11 24 53.5	+0.7
	baz=18						
TWE				*e*S	Sn	11 25 04.8	+1.7
	baz=18						
NSTT	**Nanjuang**	**0.69**	**324**	*e*P	Pn	11 24 53.7	+0.7
	baz=323						
NSTT				*e*S	Sn	11 25 04.5	+1.1
	baz=323						
LIOB	**Emei**	**0.69**	**325**	*e*P	Pn	11 24 53.6	+0.6
	baz=325						
LIOB				*e*S	Sn	11 25 04.8	+1.3
	baz=325						
FUSB	**Fushanzhiwuyua**	**0.69**	**11**	P	Pn	11 24 53.8	+0.6
	baz=10.0						
FUSB				S	Sn	11 25 04.5	+0.9
	baz=10.0						
YULB	**Yu-li**	**0.69**	**191**	*e*P	Pn	11 24 53.9	+0.8
	baz=191						
YULB				*e*S	Sn	11 25 04.7	+1.1
	baz=191						
WJS	**Zhushan**	**0.70**	**249**	P	Pn	11 24 53.3	+0.1
	baz=248						
WJS				S	Sn	11 25 04.4	+0.6
	baz=248						
TCU	**Taichung**	**0.71**	**276**	*e*P	Pn	11 24 53.4	+0.2
	baz=275						
TCU				*e*S	Sn	11 25 03.6	-0.2
	baz=275						
NSY	**Sanyi**	**0.71**	**298**	*e*P	Pn	11 24 53.1	-0.2
	baz=298						
NSY				*e*S	Sn	11 25 04.1	+0.1
	baz=298						
WNT	**Mingjian**	**0.72**	**254**	*e*P	Pn	11 24 53.7	+0.2
	baz=253						
WNT				*e*S	Sn	11 25 05.3	+1.1
	baz=253						
EYUL	**Yuli**	**0.74**	**189**	*e*P	Pn	11 24 54.2	+0.6
	baz=189						
EYUL				*e*S	Sn	11 25 05.6	+1.2
	baz=189						
ILA	**Ilan**	**0.74**	**22**	*e*P	Pn	11 24 54.3	+0.7
	baz=22						
ILA				*e*S	Sn	11 25 05.4	+0.9
	baz=22						
YUS	**Yu-Shan**	**0.74**	**218**	P	Pn	11 24 55.2	+1.1
	baz=217						
YUS				S	Sn	11 25 07.2	+1.9
	baz=217						
NMLH	**Miaoli**	**0.75**	**308**	*e*P	Pn	11 24 53.6	-0.2
	baz=307						
NMLH				*e*S	Sn	11 25 05.9	+1.0
	baz=307						
WDJ	**Dajia District**	**0.78**	**290**	*e*P	Pn	11 24 54.5	+0.3
	baz=290						
WDJ				*e*S	Sn	11 25 04.9	-0.6
	baz=290						
WCHH	**Zhanghua**	**0.81**	**270**	*e*P	Pn	11 24 53.9	-0.6
	baz=270						
WCHH				*e*S	Sn	11 25 05.7	-0.3
	baz=270						
ALS	**Alishan**	**0.81**	**226**	P	Pn	11 24 55.6	+0.8
	baz=225						
ALS				*e*S	Sn	11 25 07.8	+1.2
	baz=225						
SBCB	**Hsinchu**	**0.83**	**330**	*e*P	Pn	11 24 55.7	+1.0
	baz=329						
SBCB				*e*S	Sn	11 25 08.1	+1.6
	baz=329						
HSN	**Hsinchu**	**0.84**	**329**	*e*S	Sn	11 25 08.4	+1.6
	baz=332						
NTC	**Toucheng**	**0.85**	**24**	*e*P	Pn	11 24 55.7	+0.8
	baz=24						
NTC				*e*S	Sn	11 25 07.8	+0.9
	baz=24						
NHDH	**Xindian Distri**	**0.89**	**5**	*e*P	Pn	11 24 56.2	+0.8
	baz=4.0						
NHDH				*e*S	Sn	11 25 08.7	+0.9
	baz=4.0						
FULB	**Fuli**	**0.89**	**189**	*e*P	Pn	11 24 56.5	+1.0
	baz=189						
FULB				*e*S	Sn	11 25 08.4	+0.7
	baz=189						
TWA	**Mucha**	**0.91**	**8**	*e*P	Pn	11 24 56.6	+0.8
	baz=8.0						
TWA				*e*S	Sn	11 25 09.6	+1.3
	baz=8.0						
WDLH	**Douliu**	**0.92**	**245**	*e*P	Pn	11 24 56.2	+0.3
	baz=245						
WDLH				*e*S	Sn	11 25 09.6	+1.1
	baz=245						
NCU	**National Centr**	**0.92**	**345**	*e*P	Pn	11 24 56.5	+0.6
	baz=345						
NCU				*e*S	Sn	11 25 09.6	+1.1
	baz=345						
TIPB	**Shuangxi**	**0.95**	**21**	P	Pn	11 24 56.9	+0.6
	baz=21						
TIPB				*e*S	Sn	11 25 10.3	+1.0
	baz=21						
WRL	**Guolierlin Hig**	**0.99**	**260**	*e*P	Pn	11 24 56.0	-0.8
	baz=259						
WRL				*e*S	Sn	11 25 11.4	+1.2
	baz=259						
WCKO	**Fanlu**	**1.00**	**231**	*e*P	Pn	11 24 57.1	+0.2
	baz=230						
WCKO				*e*S	Sn	11 25 11.6	+1.2
	baz=230						
TWS1	**Kuangyinshan**	**1.02**	**359**	*e*P	Pn	11 24 57.7	+0.5
	baz=358						
TWS1				*e*S	Sn	11 25 11.5	+0.7
	baz=358						
NWF	**Wu-fen Shan**	**1.03**	**17**	*e*P	Pn	11 24 58.0	+0.6
	baz=17						
NWF				*e*S	Sn	11 25 12.0	+0.7
	baz=17						
CHN2	**Minshiung**	**1.04**	**239**	*e*S	Sn	11 25 12.3	+1.0
	baz=238						
TWB1	**Santiao Chiao**	**1.05**	**28**	*e*P	Pn	11 24 58.4	+0.8
	baz=28						
TWB1				*e*S	Sn	11 25 12.8	+1.4
	baz=28						
YM01	**YM01**	**1.07**	**6**	*e*P	Pn	11 24 58.4	+0.5
	baz=5.0						
YM01				*e*S	Sn	11 25 12.4	+0.4
	baz=5.0						
TPUB	**Ta-pu**	**1.08**	**224**	*e*P	Pn	11 24 58.8	+0.9
	baz=224						
TPUB				*e*S	Sn	11 25 13.3	+1.2
	baz=224						
NTST	**Danshui**	**1.08**	**0**	P	Pn	11 24 58.6	+0.6
NTST				S	Sn	11 25 13.4	+1.2
SXI1	**Grass Mountain**	**1.08**	**21**	*e*P	Pn	11 24 58.4	+0.3
	baz=21						
SXI1				*e*S	Sn	11 25 13.3	+0.9
	baz=21						
WTCT	**Ta-ch'eng**	**1.09**	**259**	*e*S	Sn	11 25 12.5	+0.2
	baz=258						
STYH	**Taoyuan**	**1.09**	**214**	*e*P	Pn	11 24 58.1	0.0
	baz=214						
STYH				*e*S	Sn	11 25 13.4	+1.0
	baz=214						
CHY	**Chiayi**	**1.10**	**239**	*e*P	Pn	11 24 58.9	+0.7
	baz=238						
CHY				*e*S	Sn	11 25 14.1	+1.5
	baz=238						
ANP	**Anpu**	**1.11**	**3**	*e*P	Pn	11 24 58.8	+0.4
	baz=3.0						
ANP				*e*S	Sn	11 25 13.7	+0.7
	baz=3.0						
EDH	**Donghe**	**1.11**	**187**	*e*P	Pn	11 24 58.7	+0.4
	baz=186						
EDH				*e*S	Sn	11 25 13.7	+0.9
	baz=186						
TWK	**Hsinying**	**1.19**	**228**	P	Pn	11 24 59.9	+0.4
	baz=227						
TWK				*e*S	Sn	11 25 15.8	+0.9
	baz=227						
LONT	**Longtian**	**1.20**	**194**	*e*P	Pn	11 25 00.3	+0.7
	baz=194						
LONT				*e*S	Sn	11 25 16.2	+1.1
	baz=194						
TWY	**Chenhua**	**1.20**	**7**	*e*P	Pn	11 25 00.0	+0.5
	baz=7.0						
TWY				*e*S	Sn	11 25 16.4	+1.4
	baz=7.0						
WSF	**Szhu**	**1.20**	**249**	*e*P	Pn	11 25 00.1	+0.5
	baz=248						
WSF				*e*S	Sn	11 25 15.0	0.0
	baz=248						
SNST	**Tainan City**	**1.22**	**226**	*e*P	Pn	11 25 00.9	+1.1
	baz=225						
SNST				*e*S	Sn	11 25 16.5	+1.1
	baz=225						
CHN1	**Nanshi**	**1.22**	**224**	*e*P	Pn	11 25 00.3	+0.5
	baz=223						
CHN1				*e*S	Sn	11 25 16.9	+1.3
	baz=223						
WSL	**Shuilin Townsh**	**1.25**	**244**	*e*P	Pn	11 25 00.0	-0.1
	baz=243						
WSL				*e*S	Sn	11 25 16.8	+0.7
	baz=243						
SGST	**Jiashian**	**1.27**	**219**	*e*P	Pn	11 25 01.0	+0.5
	baz=218						
SGST				*e*S	Sn	11 25 17.9	+1.3
	baz=218						
TWG	**Pinlang**	**1.30**	**195**	*e*P	Pn	11 25 01.9	+1.1
	baz=195						
TWG				*e*S	Sn	11 25 18.1	+0.8
	baz=195						
TWGBT	**Beinan**	**1.30**	**195**	*e*P	Pn	11 25 01.8	+1.0
	baz=195						
TWGBT				*e*S	Sn	11 25 18.3	+1.0
	baz=195						
LDUT	**Ludao**	**1.40**	**179**	*e*P	Pn	11 25 02.9	+0.8
	baz=179						
LDUT				*e*S	Sn	11 25 20.6	+0.9
	baz=179						
CHN3	**Shinhua**	**1.41**	**225**	*e*S	Sn	11 25 21.0	+1.1
	baz=224						
SCST	**Cishan**	**1.47**	**217**	*e*P	Pn	11 25 04.5	+1.4
	baz=216						
SCST				*e*S	Sn	11 25 22.4	+0.9
	baz=216						
YOJ	**Yonaguni jima**	**1.48**	**75**	*e*P	Pn	11 25 04.1	+0.9
	baz=74						
YOJ				*e*S	Sn	11 25 22.4	+0.8
	baz=74						
SSD	**Sandimen**	**1.52**	**210**	*e*P	Pn	11 25 04.8	+0.9
	baz=209						
SSD				*e*S	Sn	11 25 23.9	+1.2
	baz=209						
ECL	**Taimali**	**1.54**	**197**	*e*P	Pn	11 25 05.2	+1.2
	baz=196						
ECL				*e*S	Sn	11 25 24.0	+0.8
	baz=196						
TSMG	**Majia**	**1.55**	**209**	*e*P	Pn	11 25 05.2	+1.0
	baz=208						
TSMG				*e*S	Sn	11 25 24.5	+1.1
	baz=208						
TSCK	**Chigu Township**	**1.55**	**234**	*e*P	Pn	11 25 05.3	+1.1
	baz=233						
TSCK				*e*S	Sn	11 25 24.6	+1.2
	baz=233						
MASBT	**Mashibuluo**	**1.64**	**207**	*e*P	Pn	11 25 06.1	+0.7
	baz=207						
MASBT				*e*S	Sn	11 25 26.4	+0.9
	baz=207						
EAST	**Anshuo**	**1.77**	**198**	*e*P	Pn	11 25 08.5	+1.2
	baz=197						
EAST				*e*S	Sn	11 25 29.6	+0.8
	baz=197						
TAWH	**Dawu Township**	**1.80**	**197**	*e*P	Pn	11 25 08.7	+1.1
	baz=196						
TAWH				*e*S	Sn	11 25 30.7	+1.2
	baz=196						
PNG	**Penghu**	**1.81**	**254**	*e*P	Pn	11 25 06.6	-1.0
	baz=253						
PNG				*e*S	Sn	11 25 28.8	-0.7
	baz=253						
PHUB	**P'eng-hu**	**1.81**	**252**	*e*S	Sn	11 25 29.1	-0.4
	baz=251						
SCZT	**Fangliau**	**1.86**	**204**	*e*P	Pn	11 25 09.4	+1.0
	baz=203						
SCZT				*e*S	Sn	11 25 31.8	+1.0
	baz=203						
LAY	**Lan-yu**	**2.03**	**177**	*e*P	Pn	11 25 11.3	+0.6
	baz=177						
LAY				*e*S	Sn	11 25 35.6	+0.6
	baz=177						
VWUC	**VWUC**	**2.03**	**297**	*e*P	Pn	11 25 11.6	+0.8
	baz=296						
VWUC				*e*S	Sn	11 25 35.7	+0.6
	baz=296						
VCHM	**Qimei**	**2.04**	**245**	*e*S	Sn	11 25 34.2	-1.1
	baz=244						
PTMZ	**Houxiangcun**	**2.33**	**295**	*e*P	Pn	11 25 14.4	-0.3
	baz=294						
PTMZ				*e*S	Sn	11 25 40.9	-1.2
	baz=294						
MATB	**Ma-tsu**	**2.47**	**327**	*e*P	Pn	11 25 17.7	+1.0
	baz=326						
MATB				*e*S	Sn	11 25 46.0	+0.2
	baz=326						
KNM	**Kinmen**	**2.77**	**278**	*e*S	Sn	11 25 56.2	+3.2
	baz=276						
KNMB	**Chin-men Tao**	**2.82**	**278**	*e*P	Pn	11 25 22.1	+0.7
	baz=277						
KNMB				*e*S	Sn	11 25 54.2	0.0
	baz=277						
LYJJ	**Jianjiangzhen**	**2.90**	**329**	*e*P	Pn	11 25 21.5	-1.0
	baz=328						
LYJJ				*e*S	Sn	11 25 55.0	-1.2
	baz=328						
MHZQ	**Yeshan**	**2.98**	**313**	*e*P	Pn	11 25 24.5	+1.0
	baz=312						
MHZQ				*e*S	Sn	11 25 57.9	-0.2
	baz=312						
XPSS	**Dashiqiu**	**3.06**	**338**	*e*P	Pn	11 25 25.4	+0.8
	baz=338						
XPSS				*e*S	Sn	11 25 59.5	-0.6
	baz=338						
AXDP	**Jialang**	**3.27**	**285**	*e*P	Pn	11 25 28.6	+1.0
	baz=284						
AXDP				*e*S	Sn	11 26 04.7	-0.6
	baz=284						
ZPLA	**Ao Xicun**	**3.38**	**268**	*e*P	Pn	11 25 30.1	+1.0
	baz=267						
ZPLA				*e*S	Sn	11 26 07.4	-0.7
	baz=267						

IDC ***29*** *11:28:30.6±10.0, 17.40S×178.32W, h535km±98km, mb3.7/5, mbtmp4.6/6, Error ellipse: s-maj=93.5km s-min=34.2km az=42.0*

NOU ***29*** *11:28:33.7, 17.50S×178.26W, h581km, mb4.4/21, Fiji Islands Region*

NEIC ***29*** *11:28:33.2±2.0, 17.9S±0.2×178.3W±0.2, h562km±18km, mb4.4/23, Error ellipse: s-maj=28.7km s-min=22.4km az=181.0*

ISC 29 11:28:33.4±0.9, 17.7S±0.2×178.1W±0.1, h600km, n55, σ1§43/54, mb4.4/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.87**	**228**	P	**P**	**11 29 43.7**	**-0.6**
TAVE	**Taveuni**	**1.94**	**299**	P	**P**	**11 29 46.1**	**-1.4**
MSVF	**Nonsavu**	**3.64**	**268**	P	**P**	**11 29 55.1**	**-1.4**
MSVF	**Nonsavu**	**3.64**	**268**	P	**P**	**11 29 55.3**	**-1.3**
AFI	**Afiamalu**	**7.16**	**60**	P	**P**	**11 30 24.8**	**-0.2**
AFI	**Afiamalu**	**7.16**	**60**	P	**P**	**11 30 25.0**	**0.0**
NIUE	**Niue**	**7.92**	**102**	P	**P**	**11 30 29.2**	**-2.7**
NIUE	**Niue**	**7.92**	**102**	P	**P**	**11 30 33.9**	**+2.0**
MARNC	**Mare, Loyalty**	**13.59**	**251**	P	**P**	**11 31 24.3**	**-3.9**
PINNC	**Pines Island,**	**14.41**	**248**	P	**P**	**11 31 33.8**	**-2.4**
PINNC	**Pines Island,**	**14.41**	**248**	P	**P**	**11 31 34.5**	**-1.7**
YATNC	**Mamie plateau,**	**14.76**	**250**	P	**P**	**11 31 37.8**	**-1.6**
OUENC	**Ouen Island, N**	**14.90**	**249**	P	**P**	**11 31 38.5**	**-2.1**
DZM	**Mont Dzumac**	**15.16**	**251**	P	**P**	**11 31 41.1**	**-2.1**
	8.3nm,0.7s,baz=156,slow=20,SNR=4.5						
DZM	**Mont Dzumac**	**15.16**	**251**	P	**P**	**11 31 41.2**	**-2.0**
KOUNC	**Koumac, New Ca**	**16.87**	**257**	P	**P**	**11 31 58.9**	**+0.1**
OUZ	**Omahuta**	**18.99**	**201**	P	**P**	**11 32 21.1**	**+3.3**
URZ	**Urewera**	**20.95**	**191**	P	**P**	**11 32 32.8**	**-2.7**
QRZ	**Quartz Range**	**24.46**	**197**	P	**P**	**11 33 08.7**	**+2.0**
KHZ	**Kahutara**	**25.69**	**194**	P	**P**	**11 33 17.1**	**-0.4**
FOZ	**Fox Glacier**	**27.75**	**199**	P	**P**	**11 33 35.2**	**-0.3**
ARMA	**Armidale**	**30.30**	**240**	P	**P**	**11 33 58.2**	**+0.4**
ARMA				IAmb	IAmb	11 33 59.6	
	comp=Z,8.9nm,0.8s						
ARMA	**Armidale**	**30.30**	**240**	P	**P**	**11 33 58.7**	**+0.8**
CNB	**Canberra Magne**	**33.80**	**232**	P	**P**	**11 34 28.7**	**+1.4**
CAN	**Canberra**	**34.07**	**232**	P	**P**	**11 34 29.5**	**-0.1**
CAN				IAmb	IAmb	11 34 37.1	
	comp=Z,18nm,1.1s						
PMG	**Port Moresby**	**34.68**	**279**	P	**P**	**11 34 36.1**	**+1.2**
CMSA	**Cobar Meteorol**	**35.51**	**240**	P	**P**	**11 34 42.2**	**+0.7**
QLP	**Quilpie**	**35.87**	**249**	P	**P**	**11 34 44.9**	**+0.3**
COEN	**Coen**	**37.37**	**270**	P	**P**	**11 34 58.1**	**+1.1**
COEN				IAmb	IAmb	11 34 59.2	
	comp=Z,12nm,1.1s						
COEN	**Coen**	**37.37**	**270**	P	**P**	**11 34 57.9**	**+0.9**
TOO	**Toolangi**	**37.54**	**231**	P	**P**	**11 34 59.5**	**+1.4**
TOO	**Toolangi**	**37.54**	**231**	P	**P**	**11 34 59.5**	**+1.4**
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**11 35 11.3**	**+1.4**
	comp=Z,7.1nm,0.5s,baz=84,slow=11,SNR=10						
	comp=Z,7.1nm,0.5s						
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**11 35 10.5**	**+0.7**
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**11 35 11.2**	**+1.4**
INKA	**Innaminka**	**39.09**	**248**	P	**P**	**11 35 12.1**	**+1.4**
BBOO	**Buckleboo**	**43.76**	**241**	P	**P**	**11 35 48.1**	**+0.7**
WR0	**Warramunga Arr**	**44.75**	**259**	P	**P**	**11 35 54.9**	**-0.3**
WR0				IAmb	IAmb	11 36 14.3	
	comp=Z,8.0nm,1.2s						
WB0	**Warramunga Arr**	**44.91**	**259**	P	**P**	**11 35 56.2**	**-0.1**
WB0				IAmb	IAmb	11 35 58.3	
	comp=Z,21nm,1.4s						
WB2	**Warramunga Arr**	**44.93**	**259**	P	**P**	**11 35 56.3**	**-0.3**
WB2				IAmb	IAmb	11 35 57.4	
	comp=Z,7.0nm,0.7s						
WRAB	**Tennant Creek**	**44.93**	**259**	P	**P**	**11 35 55.9**	**-0.6**
WRAB				IAmb	IAmb	11 36 19.4	
	comp=Z,6.8nm,1.0s						
WRA	**Warramunga Arr**	**44.94**	**259**	P	**P**	**11 35 56.5**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=95,slow=6.9,SNR=67						
	comp=Z,3.9nm,0.5s						

WRA	Warramunga Arr	44.94	259	P	P	11 35 56.2	-0.4
AS31	Alice Springs	45.12	254	P	P	11 35 58.5	+0.5
AS31				IAmb	IAmb	11 35 59.1	
	comp=Z,10nm,0.7s						
ASAR	Alice Springs	45.12	254	P	P	11 35 58.3	+0.4
	comp=Z,35nm,0.6s,baz=88,slow=8.0,SNR=578						
	comp=Z,35nm,0.6s						
ASAR	Alice Springs	45.12	254	P	P	11 35 58.7	+0.8
MTN	Manton Dam	49.07	268	P	P	11 36 28.2	+0.6
MTN				IAmb	IAmb	11 36 36.4	
	comp=Z,12nm,1.2s						
FORT	Forrest	50.36	244	P	P	11 36 37.2	+0.4
KNRA	Kununurra	50.78	264	P	P	11 36 40.8	+0.8
KNRA				IAmb	IAmb	11 36 41.8	
	comp=Z,17nm,1.1s						
FITZ	Fitzroy Crossi	53.33	260	P	P	11 36 59.4	+1.1
	comp=Z,2.2nm,0.7s,baz=108,slow=4.9,SNR=13						
	comp=Z,2.2nm,0.7s						
FITZ	Fitzroy Crossi	53.33	260	P	P	11 36 59.3	+1.1
PSA00	Pilbara Seismi	58.23	255	P	P	11 37 32.3	+0.3
MORW	Morawa	60.83	246	P	P	11 37 48.7	-0.4
MORW				IAmb	IAmb	11 38 27.6	
	comp=Z,18nm,1.3s						
QSPA	South Pole Qui	72.40	180	P	P	11 39 03.7	+4.0
	comp=Z,2.1nm,0.8s,baz=4.7,slow=1.6,SNR=6.8						
	comp=Z,2.1nm,0.8s						
BRTR	Keskin Array B	144.79	315	PKP	PKiKP	11 47 06.4	-1.0
	comp=Z,0.8nm,0.7s,baz=34,slow=3.6,SNR=3.7						

*IDC **29** 11:29:52.5±1.2,51°.45S×139°.61E,h0km,mb4.1/5, mbtmp4.1/6,ML3.9/1,Error ellipse: s-maj=83.3km s-min=19.4km az=87.0*

ISC 29 11:29:54.4±1.1,51°.4S±0°.1×139°.7E±0°.5,h14km,n14, σ0s49/8,mb4.0/5,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	19.60	5	P	P	11 34 21.6	-0.5
	0.2nm,0.3s,baz=130,slow=7.9,SNR=2.8						
	3.1nm,0.8s						
H01W1	Cape Leeuwin H	24.71	302	T	T	12 00 44.5	
	baz=139,slow=75,SNR=8.6						
H01W2	Cape Leeuwin H	24.72	302	T	T	12 00 45.5	
	baz=139,slow=75,SNR=11						
H01W3	Cape Leeuwin H	24.73	302	T	T	12 00 47.1	
	baz=139,slow=75,SNR=9.9						
ASAR	Alice Springs	28.08	349	P	P	11 35 45.5	0.0
	1.9nm,1.1s,baz=162,slow=10,SNR=5.4						
	1.9nm,1.1s						
WRA	Warramunga Arr	31.71	350	P	P	11 36 17.9	+0.2
	3.7nm,0.9s,baz=170,slow=8.0,SNR=11						
	3.7nm,0.9s						
FITZ	Fitzroy Crossi	35.08	336	P	P	11 36 47.5	+0.5
	3.2nm,0.9s,baz=176,slow=11,SNR=4.5						
	3.2nm,0.9s						
QSPA	South Pole Qui	38.67	180	P	P	11 37 17.6	+0.2
	3.5nm,1.0s,baz=333,slow=3.4,SNR=5.5						
	3.5nm,1.0s						
SNAA	Sanae	54.36	194	P	P	11 39 19.7	-0.3
	1.9nm,1.1s,baz=118,slow=9.6,SNR=3.8						
	1.9nm,1.1s						
H08S2	Diego Garcia H	69.90	283	T	T	12 56 33.9	
	baz=148,slow=76,SNR=5.4						
H08S1	Diego Garcia H	69.91	283	T	T	12 56 32.7	
	baz=148,slow=76,SNR=8.4						
H08S3	Diego Garcia H	69.92	283	T	T	12 56 35.4	
	baz=148,slow=76,SNR=173						
NVAR	Mina Array Bea	125.81	71	PKP	PKiKP	11 48 56.2	+0.5
	0.2nm,0.5s,baz=225,slow=2.4,SNR=3.7						
GERES	GERESS Array B	145.93	287	PKPbc	PKPbc	11 49 32.2	-0.5
	0.8nm,0.6s,baz=116,slow=3.1,SNR=6.4						

*IDC **29** 11:32:10.4±1.0,51°.28S×138°.92E,h0km,mb4.1/5, mbtmp4.1/6,ML3.9/1,Error ellipse: s-maj=65.9km s-min=19.0km az=86.0*

*GCMT **29** 11:32:11.0±0.3,51°.43S±0°.02×139°.42E±0°.08,h12km, MW5.0/75,Moment Tensor Solution. s9,c9; s75,c109; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.77±.15; Mθθ=2.62±.11; Mϕϕ=0.15±.17; Mrθ=3.75±.50; Mϕθ=0.02±.13; Mϕr=1.35±.74; Best double couple: Mo=4.80400×10^16^ NP1:ϕ=254.00000°,δ=73.00000°,λ=-98.00000°. NP2: ϕ=101.00000°,δ=19.00000°,λ=-64.00000°. Principal axes: T 4.6350, Plg28.0000°, Azm351.0000°; N 0.3390, Plg8.0000°, Azm256.0000°; P -4.9740, Plg61.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 29 11:32:11.9±1.0,51°.3S±0°.1×139°.0E±0°.4,h10km,n22, σ0s72/19,mb4.1/5,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	19.49	7	P	Pn	11 36 40.8	+0.6
	0.2nm,0.3s,baz=167,slow=11,SNR=3.5						
	7.5nm,1.0s						
H01W1	Cape Leeuwin H	24.25	303	T	T	12 02 59.9	
	baz=140,slow=75,SNR=24						
H01W2	Cape Leeuwin H	24.26	303	T	T	12 03 00.8	
	baz=140,slow=75,SNR=35						
H01W3	Cape Leeuwin H	24.27	303	T	T	12 03 01.2	
	baz=140,slow=75,SNR=222						
VNDA	Vanda	27.70	170	P	P	11 38 00.1	+0.4
	1.0nm,0.9s,baz=326,slow=11,SNR=3.2						
	1.0nm,0.9s						
ASAR	Alice Springs	27.85	350	P	P	11 38 00.1	-1.4
	2.3nm,1.1s,baz=163,slow=9.7,SNR=4.4						
	2.3nm,1.1s						
WRA	Warramunga Arr	31.49	352	P	P	11 38 34.2	+0.4
	4.4nm,0.9s,baz=175,slow=7.5,SNR=11						
	4.4nm,0.9s						
SNAA	Sanae	54.41	194	P	P	11 41 39.0	+0.4
	2.8nm,1.2s,baz=135,slow=8.7,SNR=3.4						
	2.8nm,1.2s						
CMAR	Chiang Mai Arr	77.78	321	P	P	11 44 10.2	+1.1
	0.6nm,0.3s,baz=195,slow=4.9,SNR=4.8						
	0.6nm,0.3s						
NVAR	Mina Array Bea	126.19	72	PKP	PKPdf	11 51 13.3	-0.9
	0.2nm,0.5s,baz=242,slow=1.9,SNR=3.9						
MYKA	Terra Mystica	144.50	284	eP	PKPdf	11 51 47.1	-0.7
	11nm,1.4s						
ARCES	ARCESS Array B	144.72	326	PKP	PKPab	11 51 45.9	-0.3
	3.3nm,0.8s,baz=85,slow=4.1,SNR=6.5						
KBA	Koelnbreinsper	144.89	285	eP	PKPab	11 51 47.5	-0.2
	5.8nm,1.1s						
ABTA	Abfaltersbach	145.24	284	eP	PKPab	11 51 48.8	-0.1
	9.4nm,1.0s						
GERES	GERESS Array B	145.46	288	PKPbc	PKPbc	11 51 48.1	-1.3
	1.8nm,0.8s,baz=131,slow=3.7,SNR=10						
WTTA	Wattenberg	146.01	284	eP	PKPab	11 51 51.6	-0.3
	2.7nm,0.7s						
SQTA	Sankt Quirin	146.25	284	eP	PKPab	11 51 52.4	-0.3
	5.0nm,0.7s						
MOTA	Moosalm	146.37	284	eP	PKPbc	11 51 52.6	+0.2
	6.7nm,0.9s						
FETA	Feichten	146.46	283	eP	PKPbc	11 51 52.3	-0.3
	8.9nm,1.1s						
RETA	Reutte	146.65	284	eP	PKPdf	11 51 51.7	+0.3
	8.1nm,1.1s						
DAVA	Damuels	147.09	283	eP	PKPbc	11 51 54.9	+0.5
	10nm,1.4s						
ESDC	Sonseca Array	151.83	260	PKPbc	PKPbc	11 52 05.7	-0.6
	2.0nm,1.2s,baz=91,slow=2.3,SNR=5.3						

*MAN **29** 11:33:47.4,4°.78N×126°.12E,h1km,mb4.9,ML3.8,MS3.8*
*IDC **29** 11:34:09.2±1.7,0°.85N×126°.41E,h0km,mb3.5/3, mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=60.6km s-min=27.4km az=58.0*

ISC 29 11:33:42.6±1.1,4°.70N±0°.08×126°.7E±0°.1,h10km,n8, σ2s58/11,3C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	Kidapawan	2.79	325	eP	Pn	11 34 28.7	+1.3
KCP				i S	Sb	11 35 03.2	-3.8
CDOP	Cateel, Davao	3.08	355	eP	Pn	11 34 35.0	+3.7
CDOP				i S	Sn	11 35 08.2	0.0
BIPH	Bislig	3.48	355	eP	Pb	11 34 43.0	-1.3
BIPH				eS	Sb	11 35 24.4	-2.3
CTBH	Cotabato--PC H	3.49	316	iP	Pn	11 34 37.9	+0.9
CGP	Cagayan de Oro	4.22	332	eP	Pb	11 34 59.5	+2.4
CGP				eS	Sb	11 35 46.1	-2.0
SIJI	Sorong	7.18	140	Pn	Pn	11 35 28.1	+0.4
	2.0nm,0.3s,baz=150,slow=20,SNR=5.0						
SIJI				Sn	Sn	11 36 47.0	-2.4
	0.4nm,0.3s,baz=165,slow=20,SNR=1.7						
	5.9nm,0.3s						
WRA	Warramunga Arr	25.61	163	P	P	11 39 07.3	-5.1
	1.1nm,0.4s,baz=340,slow=10,SNR=7.3						
	1.1nm,0.4s						
ASAR	Alice Springs	29.06	166	P	P	11 39 37.9	-5.4
	0.5nm,0.6s,baz=342,slow=6.9,SNR=7.5						
	0.5nm,0.6s						

IDC 29 11:34:10.3±1.6,51°.45S×139°.68E,h0km,mb4.0/4, mbtmp4.0/5,ML3.7/1,Error ellipse: s-maj=148.1km s-min=21.5km az=90.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	19.61	5	P	Pn	11 38 40.6	-0.6
	0.1nm,0.3s,baz=197,slow=11,SNR=2.8						
	5.8nm,0.9s						
H01W1	Cape Leeuwin H	24.72	302	T	T	12 04 59.2	
	baz=140,slow=75,SNR=9.3						
H01W2	Cape Leeuwin H	24.72	302	T	T	12 05 03.6	
	baz=140,slow=75,SNR=6.4						
H01W3	Cape Leeuwin H	24.73	302	T	T	12 05 02.9	
	baz=140,slow=75,SNR=9.0						
ASAR	Alice Springs	28.09	349	P	P	11 40 03.8	+0.2
	0.9nm,0.9s,baz=168,slow=10,SNR=4.6						
	0.9nm,0.9s						
WRA	Warramunga Arr	31.72	350	P	P	11 40 35.0	-0.8
	4.8nm,1.1s,baz=174,slow=7.7,SNR=6.0						
	4.8nm,1.1s						
QSPA	South Pole Qui	38.67	180	P	P	11 41 35.2	-0.2
	2.8nm,1.0s,baz=330,slow=5.3,SNR=3.3						
	2.8nm,1.0s						
SNAA	Sanae	54.35	194	P	P	11 43 38.0	-0.1
	1.9nm,1.1s,baz=156,slow=10.0,SNR=2.7						
	1.9nm,1.1s						
ARCES	ARCESS Array B	145.11	326	PKPbc	PKPbc	11 53 47.2	-0.5
	2.9nm,0.8s,baz=71,slow=6.1,SNR=5.0						

*IDC **29** 11:36:56.1±0.7,51°.53S×139°.34E,h0km,mb4.3/8, mbtmp4.3/9,ML4.0/1,MS4.4/12,Error ellipse: s-maj=31.6km s-min=15.6km az=83.0*
*NEIC **29** 11:36:57.4±1.3,51°.6S±0°.1×139°.1E±0°.2,h10km±1km, mb4.6/15,Error ellipse: s-maj=27.3km s-min=14.1km az=115.0*
*GCMT **29** 11:36:59.4±0.3,51°.68S±0°.02×139°.30E±0°.06,h32km, MW5.2/79,Moment Tensor Solution. s19,c19; s79,c112; Duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr=0.94±.05; Mθθ=0.75±.03; Mϕϕ=0.19±.03; Mrθ=-0.17±.03; Mθϕ=0.05±.02; Mϕr=0.04±.04; Best double couple: Mo=0.86600×10^17^ NP1:ϕ=84.00000°,δ=51.00000°, λ=-91.00000°. NP2:ϕ=266.00000°,δ=39.00000°, λ=-88.00000°. Principal axes: T 0.7710, Plg6.0000°, Azm175.0000°; N 0.1890, Plg1.0000°, Azm85.0000°; P -0.9610, Plg84.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 11:36:57.5±0.5,51°.50S±0°.08×139°.2E±0°.1,h10km,n66, σ0s91/55,mb4.4/9,MS4.3/11,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOO	Toolangi	14.62	20	Pn	Pn	11 40 25.6	+1.3
STKA	Stephens Creek	19.68	6	P	Pn	11 41 28.2	+0.1
	0.3nm,0.3s,baz=165,slow=12,SNR=6.8						
STKA				LR	LR	11 47 51.1	
	comp=Z,2μm,19.6s,baz=160,slow=33						
	9.7nm,0.8s						
STKA	Stephens Creek	19.68	6	P	P	11 41 26.2	-0.5
WHZ	Wether Hill Ro	19.71	85	P	P	11 41 27.6	+0.6
WHZ				IAmb	IAmb	11 41 29.3	
	comp=Z,58nm,1.5s						
MLZ	Mavora Lakes	20.06	84	P	P	11 41 30.6	-0.2
MLZ				IAmb	IAmb	11 41 33.0	
	comp=Z,24nm,1.1s						
FORT	Forrest	22.28	334	P	P	11 41 52.8	-1.9
RPZ	Rata Peaks	22.71	83	P	P	11 41 57.8	-1.4
	comp=Z,22nm,1.0s,baz=192,slow=10,SNR=6.1						
RPZ				LR	LR	11 49 14.2	
	comp=Z,502nm,18.5s,baz=248,slow=33						
	comp=Z,22nm,1.0s						
ARMA	Armidale	22.99	28	P	P	11 42 02.4	0.0
ARMA				IAmb	IAmb	11 42 15.4	
	comp=Z,36nm,1.4s						
H01W1	Cape Leeuwin H	24.49	303	T	T	12 07 51.6	
	baz=139,slow=75,SNR=59						
H01W2	Cape Leeuwin H	24.50	303	T	T	12 07 49.4	
	baz=139,slow=75,SNR=38						
H01W3	Cape Leeuwin H	24.51	303	T	T	12 07 52.9	
	baz=139,slow=75,SNR=84						
THZ	Tophouse	24.91	80	P	P	11 42 19.8	-0.7
VNDA	Vanda	27.46	170	P	P	11 42 42.8	-0.4
	comp=Z,2.8nm,1.1s,baz=329,slow=8.4,SNR=6.0						
VNDA				LR	LR	11 52 01.8	
	comp=Z,804nm,21.3s,baz=345,slow=33						
	comp=Z,2.8nm,1.1s						
VNDA	Vanda	27.46	170	P	P	11 42 42.9	-0.2
ASAR	Alice Springs	28.08	350	P	P	11 42 49.5	+0.3
	comp=Z,1.5nm,0.6s,baz=172,slow=9.3,SNR=11						
ASAR				LR	LR	11 54 00.4	
	comp=Z,1μm,20.4s,baz=160,slow=36						
	comp=Z,1.5nm,0.6s						
ASAR	Alice Springs	28.08	350	P	P	11 42 46.0	-3.3
URZ	Urewera	29.59	78	LR	LR	11 54 02.4	
	comp=Z,198nm,18.2s,baz=322,slow=35						
WR0	Warramunga Arr	31.68	352	P	P	11 43 20.9	-0.2
WB2	Warramunga Arr	31.72	351	P	P	11 43 21.1	-0.3
WRA	Warramunga Arr	31.72	351	P	P	11 43 21.1	-0.4
	comp=Z,7.1nm,0.8s,baz=171,slow=7.8,SNR=17						
WRA				LR	LR	11 56 04.3	
	comp=Z,1μm,21.3s,baz=177,slow=36						
	comp=Z,7.1nm,0.8s						
WRA	Warramunga Arr	31.72	351	P	P	11 43 21.0	-0.4
WRAB	Tennant Creek	31.73	351	P	P	11 43 21.4	-0.1
CTA	Charters Tower	31.83	13	LR	LR	11 57 32.9	
	comp=Z,2μm,18.1s,baz=184,slow=39						
WB0	Warramunga Arr	31.89	351	P	P	11 43 22.8	-0.1
FITZ	Fitzroy Crossi	35.01	337	P	P	11 43 51.1	+0.9
	comp=Z,3.5nm,0.9s,baz=173,slow=13,SNR=4.8						
	comp=Z,3.5nm,0.9s						
FITZ	Fitzroy Crossi	35.01	337	P	P	11 43 51.0	+0.9
FITZ				IAmb	IAmb	11 43 58.4	
	comp=Z,9.3nm,1.1s						
DZM	Mont Dzumac	36.19	46	LR	LR	11 57 23.9	
	comp=Z,868nm,18.4s,baz=210,slow=34						
QSPA	South Pole Qui	38.62	180	P	P	11 44 20.4	-0.1
	comp=Z,6.5nm,1.0s,baz=344,slow=4.4,SNR=12						
	comp=Z,6.5nm,1.0s						
QSPA	South Pole Qui	38.62	180	P	P	11 44 20.7	+0.1
QSPA				IAmb	IAmb	11 44 22.7	
	comp=Z,9.6nm,1.0s						
PMG	Port Moresby	42.47	12	LR	LR	12 03 51.2	
	comp=Z,888nm,19.1s,baz=164,slow=38						
MSVF	Nonsavu	45.55	57	LR	LR	12 02 22.5	
	comp=Z,354nm,18.5s,baz=216,slow=34						
TROLL	Troll, Antarti	53.09	195	P	P	11 46 15.3	+0.8
SNAA	Sanae	54.23	194	P	P	11 46 23.2	+0.3
SNAA	Sanae	54.23	194	P	P	11 46 22.9	0.0
	comp=Z,5.8nm,1.1s,baz=151,slow=7.8,SNR=9.4						
	comp=Z,5.8nm,1.1s						
SNAA	Sanae	54.23	194	P	P	11 46 21.3	-1.5
SNAA				IAmb	IAmb	11 46 24.3	
	comp=Z,9.3nm,1.2s						
VNA2	Neumayer--Watz	55.56	193	P	P	11 46 32.4	+0.1
	baz=157,slow=7.7						
VNA1	Neumayer--Stat	55.93	193	P	P	11 46 35.4	+0.4
PPT	Papeete	64.78	87	LR	LR	12 12 36.1	
	comp=Z,37nm,18.2s,baz=227,slow=33						
CMAR	Chiang Mai Arr	78.04	321	P	P	11 48 56.3	+0.1
	comp=Z,0.4nm,0.5s,baz=210,slow=5.2,SNR=1.8						
	comp=Z,0.4nm,0.5s						
KSRS	Korea Array	89.13	351	LR	LR	12 27 07.3	
	comp=Z,61nm,21.9s,baz=155,slow=34						
NVAR	Mina Array Bea	126.11	72	PKP	PKiKP	11 56 00.6	+0.4
	comp=Z,1.4nm,1.0s,baz=216,slow=4.6,SNR=8.5						
TXAR	Lajitas Array	129.01	90	PKP	PKPdf	11 56 05.2	-0.1
	comp=Z,0.3nm,0.7s,baz=165,slow=3.7,SNR=4.8						
RONA	Rosalia, Austr	143.60	287	eP	PKiKP	11 56 35.8	+0.7
	comp=Z,1.4nm,0.5s						
ARSA	Arzberg	143.85	286	eP	PKPdf	11 56 31.9	-0.2
	comp=Z,9.0nm,1.4s						
SOKA	Soboth	143.88	285	eP	PKPdf	11 56 32.1	-0.2
	comp=Z,4.8nm,0.7s						
CONA	Conrad Observa	143.97	287	eP	PKPbc	11 56 31.5	+1.2
	comp=Z,3.7nm,1.0s						
MYKA	Terra Mystica	144.69	284	eP	PKPdf	11 56 34.6	+0.9
	comp=Z,25nm,1.7s						
DPC	Dobruska-Polom	144.76	291	ePKP	PKPab	11 56 32.4	-0.1
MOA	Molln	144.88	286	eP	PKiKP	11 56 37.8	+0.2
	comp=Z,8.1nm,1.1s						
ARCES	ARCESS Array B	144.99	326	PKPbc	PKPbc	11 56 33.0	+0.3
	comp=Z,6.1nm,0.9s,baz=65,slow=5.1,SNR=8.4						
CHVC	Chvalec	145.01	291	ePKP	PKPbc	11 56 32.1	-1.3
KBA	Koelnbreinsper	145.09	285	eP	PKPbc	11 56 34.4	+0.4
	comp=Z,9.0nm,1.1s						
BIOA	Bad Ischl, Aus	145.19	286	eP	PKPbc	11 56 34.6	+0.5
	comp=Z,0.5nm,0.2s						
CKRC	Cesky Krumlov	145.29	288	ePKP	PKPbc	11 56 34.4	0.0
ABTA	Abfaltersbach	145.44	284	eP	PKPdf	11 56 35.2	+0.2
	comp=Z,14nm,1.1s						
GERES	GERESS Array B	145.66	288	PKPbc	PKPdf	11 56 35.6	+0.3
	comp=Z,2.8nm,0.8s,baz=112,slow=0.7,SNR=12						
KHC	Kasperske Hory	145.86	288	ePKP	PKPdf	11 56 32.3	-3.2
KHC				ex	x	11 56 39.8	
WTTA	Wattenberg	146.21	284	eP	PKPab	11 56 39.1	+0.9
	comp=Z,11nm,1.2s						
WATA	Walderalm	146.28	284	eP	PKPab	11 56 38.9	+0.5
	comp=Z,8.5nm,1.0s						
SQTA	Sankt Quirin	146.45	284	eP	PKPab	11 56 39.5	+0.5
	comp=Z,16nm,0.9s						
MOTA	Moosalm	146.57	284	eP	PKPab	11 56 39.7	+0.2
	comp=Z,19nm,1.0s						
FETA	Feichten	146.65	283	eP	PKPbc	11 56 39.4	+0.6
	comp=Z,13nm,1.1s						
RETA	Reutte	146.84	284	eP	PKPbc	11 56 39.8	+0.7
	comp=Z,13nm,1.5s						
CLL	Collm	147.07	291	ePKPbc	PKPbc	11 56 39.0	-0.6
CLL				ePKiKP	sPKPbc	11 56 43.0	+3.6
DAVA	Damuels	147.28	283	eP	PKPbc	11 56 41.7	+1.1
	comp=Z,12nm,1.1s						
ESDC	Sonseca Array	151.94	260	PKPbc	PKPbc	11 56 52.3	+0.1
	comp=Z,2.1nm,0.9s,baz=80,slow=1.2,SNR=7.2						

*IDC **29** 11:38:28.4±1.6,51°.51S×139°.20E,h0km,mb4.1/5, mbtmp4.2/6,ML4.1/1,MS4.2/2,Error ellipse: s-maj=111.3km s-min=20.1km az=89.0*

ISC 29 11:38:29.7±1.2,51°.5S±0°.1×139°.3E±0°.6,h10km,n14, σ0s67/9,mb4.2/5,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	19.68	6	P	Pn	11 43 00.7	+0.4
	0.3nm,0.3s,baz=158,slow=9.9,SNR=4.7						
	8.8nm,0.9s						
H01W1	Cape Leeuwin H	24.52	303	T	T	12 09 23.1	
	baz=139,slow=75,SNR=20						
H01W2	Cape Leeuwin H	24.52	303	T	T	12 09 24.3	
	baz=139,slow=75,SNR=21						
H01W3	Cape Leeuwin H	24.54	303	T	T	12 09 25.6	
	baz=139,slow=75,SNR=28						
ASAR	Alice Springs	28.09	350	P	P	11 44 21.6	+0.1
	0.7nm,0.6s,baz=172,slow=9.9,SNR=2.0						
	0.7nm,0.6s						
WRA	Warramunga Arr	31.73	351	P	P	11 44 53.6	-0.1
	3.9nm,0.9s,baz=175,slow=7.7,SNR=6.3						
	3.9nm,0.9s						
FITZ	Fitzroy Crossi	35.03	337	P	P	11 45 22.6	+0.2
	2.0nm,0.9s,baz=158,slow=8.7,SNR=3.1						
	2.0nm,0.9s						
QSPA	South Pole Qui	38.62	180	P	P	11 45 52.6	-0.2
	5.2nm,1.1s,baz=320,slow=8.7,SNR=3.2						
	5.2nm,1.1s						
LEM	Lembang	51.63	318	LR	LR	12 08 33.1	
	comp=Z,342nm,19.4s,baz=170,slow=35						
SNAA	Sanae	54.24	194	P	P	11 47 55.9	+0.8
	5.5nm,1.2s,baz=126,slow=7.3,SNR=4.7						
	5.5nm,1.2s						
RPN	Rapa Nui	81.34	123	LR	LR	12 18 01.6	
	comp=Z,73nm,18.4s,baz=155,slow=29						
ARCES	ARCESS Array B	145.00	326	PKPbc	PKPbc	11 58 04.6	-0.4
	2.9nm,0.7s,baz=26,slow=5.0,SNR=4.3						
GERES	GERESS Array B	145.70	288	PKPbc	PKPdf	11 58 06.2	-1.3
	2.6nm,0.9s,baz=134,slow=3.9,SNR=6.1						
ESDC	Sonseca Array	151.97	260	PKPbc	PKPbc	11 58 24.2	-0.2
	1.0nm,0.8s,baz=132,slow=1.9,SNR=2.8						

*IDC **29** 11:39:30.3±0.9,51°.52S×139°.30E,h0km,mb4.2/6, mbtmp4.3/7,ML4.0/1,Error ellipse: s-maj=69.2km s-min=17.3km az=85.0*

ISC 29 11:39:32.2±0.9,51°.5S±0°.1×139°.4E±0°.4,h14km,n14, σ0s89/11,mb4.2/6,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	19.68	6	P	Pn	11 44 02.8	+0.5
	0.3nm,0.3s,baz=150,slow=8.7,SNR=4.5						
	8.7nm,0.9s						
H01W1	Cape Leeuwin H	24.59	303	T	T	12 10 27.0	
	baz=139,slow=75,SNR=11						
H01W2	Cape Leeuwin H	24.59	303	T	T	12 10 27.5	
	baz=139,slow=75,SNR=12						
H01W3	Cape Leeuwin H	24.60	303	T	T	12 10 28.3	
	baz=139,slow=75,SNR=15						
VNDA	Vanda	27.43	170	P	P	11 45 16.8	-0.2
	4.5nm,1.2s,baz=323,slow=13,SNR=5.2						
	4.5nm,1.2s						
ASAR	Alice Springs	28.11	349	P	P	11 45 23.4	-0.3
	1.7nm,0.8s,baz=165,slow=9.8,SNR=4.4						
	1.7nm,0.8s						
WRA	Warramunga Arr	31.75	351	P	P	11 45 55.4	-0.4
	6.6nm,0.8s,baz=174,slow=7.5,SNR=8.5						
	6.6nm,0.8s						
QSPA	South Pole Qui	38.61	180	P	P	11 46 55.8	+1.1
	7.2nm,1.1s,baz=347,slow=3.1						
	7.2nm,1.1s						
SNAA	Sanae	54.25	194	P	P	11 48 56.3	-0.8
	5.1nm,1.1s,baz=157,slow=11,SNR=6.0						
	5.1nm,1.1s						
CMAR	Chiang Mai Arr

DGS				Lg	Lg	11 41 47.3	
	7.7nm,0.8s						
TKM2	**Tokmak 2**	**3.99**	**152**	⇓Lg	Lg	11 41 54.4	
	3.5nm,0.7s						
KST	**Kastek**	**4.01**	**148**	*eP*	**Pb**	**11 41 00.5**	**+1.4**
	1.1nm,0.3s						
KST				*eS*	**Sg**	**11 41 54.4**	**-2.0**
	8.3nm,0.8s						
KST	**Kastek**	**4.01**	**148**	Pg	**Pb**	**11 41 00.5**	**+1.4**
	1.1nm,0.3s						
KST				Lg	Lg	11 41 54.4	
	8.3nm,0.8s						
ARXS	**Arharly**	**4.06**	**122**	*eP*	**Pg**	**11 41 03.1**	**-2.1**
	1.1nm,0.4s						
ARXS				*eS*	**Sg**	**11 41 58.3**	**+0.5**
	4.5nm,0.9s						
KOTS	**Kotyrbulak**	**4.34**	**137**	*eP*	**Pb**	**11 41 07.4**	**+2.6**
	0.4nm,0.4s						
KOTS				*eS*	**Sg**	**11 42 06.6**	**-0.4**
	12nm,0.7s						
KOTS	**Kotyrbulak**	**4.34**	**137**	Pg	**Pb**	**11 41 07.4**	**+2.6**
	0.4nm,0.4s						
KOTS				Lg	Lg	11 42 06.6	
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**5.51**	**39**	⇑Lg	Lg	11 41 15.9	
	6.1nm,0.7s						
MK31	**Makanchi Array**	**6.37**	**84**	⇓Lg	Lg	11 42 46.8	
	1.1nm,0.7s,baz=307,slow=32,SNR=6.0						

*IDC **29** 11:42:36.5±0.6,51˚.53S×139˚.23E,h0km,mb4.2/8, mbtmp4.3/9,ML4.0/1,Error ellipse: s-maj=32.5km s-min=16.1km az=85.0*

ISC 29 11:42:37.8±0.6,51˚.5S±0˚.1×139˚.2E±0˚.2,h10km,n35, σ0s60/33,mb4.3/8,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.70**	**6**	P	**Pn**	**11 47 08.4**	**-0.2**
	0.3nm,0.3s,baz=172,slow=11,SNR=5.9						
	9.4nm,1.0s						
RPZ	**Rata Peaks**	**22.68**	**82**	P	**P**	**11 47 39.7**	**+0.5**
	16nm,0.9s,baz=137,slow=9.1,SNR=5.2						
	16nm,0.9s						
H01W1	**Cape Leeuwin H**	**24.52**	**303**	T	T	12 13 32.8	
	baz=139,slow=75,SNR=11						
H01W2	**Cape Leeuwin H**	**24.53**	**303**	T	T	12 13 32.9	
	baz=139,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**24.54**	**303**	T	T	12 13 32.2	
	baz=139,slow=75,SNR=13						
VNDA	**Vanda**	**27.43**	**170**	P	**P**	**11 48 23.5**	**+0.3**
	2.6nm,0.9s,baz=331,slow=9.9,SNR=5.8						
	2.6nm,0.9s						
ASAR	**Alice Springs**	**28.11**	**350**	P	**P**	**11 48 29.4**	**-0.4**
	2.1nm,1.0s,baz=163,slow=10,SNR=9.8						
ASAR				PcP	**PcP**	**11 51 43.6**	**-0.3**
	0.6nm,0.8s,baz=168,slow=2.4,SNR=5.2						
	2.1nm,1.0s						
WRA	**Warramunga Arr**	**31.75**	**351**	P	**P**	**11 49 01.6**	**-0.4**
	4.9nm,0.9s,baz=174,slow=7.6,SNR=9.4						
WRA				PcP	**PcP**	**11 51 52.4**	**-0.9**
	1.4nm,0.9s,baz=179,slow=2.6,SNR=3.1						
	4.9nm,0.9s						
QSPA	**South Pole Qui**	**38.60**	**180**	P	**P**	**11 50 00.7**	**0.0**
	7.4nm,0.9s,baz=358,slow=2.9,SNR=9.5						
	7.4nm,0.9s						
TROLL	**Troll, Antarti**	**53.08**	**195**	P	**P**	**11 51 54.9**	**+0.1**
SNAA	**Sanae**	**54.22**	**194**	P	**P**	**11 52 03.5**	**+0.4**
SNAA	**Sanae**	**54.22**	**194**	P	**P**	**11 52 03.1**	**+0.1**
	3.9nm,0.9s,baz=157,slow=8.7,SNR=9.2						
	3.9nm,0.9s						
VNA2	**Neumayer--Watz**	**55.54**	**193**	P	**P**	**11 52 12.9**	**+0.3**
	baz=158,slow=7.5						
VNA3	**Neumayer Olymp**	**55.55**	**192**	P	**P**	**11 52 12.4**	**-0.2**
VNA1	**Neumayer--Stat**	**55.91**	**192**	P	**P**	**11 52 15.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**78.07**	**321**	P	**P**	**11 54 38.4**	**+1.7**
	0.5nm,0.7s,baz=190,slow=3.8,SNR=6.5						
	0.5nm,0.7s						
KSRS	**Korea Array**	**89.15**	**351**	P	**P**	**11 55 34.0**	**+1.1**
	1.2nm,0.7s,baz=170,slow=5.2,SNR=3.2						
	1.2nm,0.7s						
NVAR	**Mina Array Bea**	**126.10**	**72**	PKP	**PKPdf**	**12 01 39.4**	**-0.6**
	0.7nm,0.8s,baz=213,slow=4.1,SNR=4.6						
TXAR	**Lajitas Array**	**128.98**	**90**	PKP	**PKiKP**	**12 01 45.9**	**-0.4**
	0.5nm,1.0s,baz=199,slow=4.8,SNR=3.4						
ARSA	**Arzberg**	**143.88**	**286**	*eP*	**PKPdf**	**12 02 12.1**	**-0.4**
	6.2nm,1.1s						
SOKA	**Soboth**	**143.91**	**285**	*eP*	**PKPdf**	**12 02 11.9**	**-0.7**
	4.6nm,0.9s						
MYKA	**Terra Mystica**	**144.73**	**284**	*eP*	**PKPdf**	**12 02 13.8**	**-0.2**
	16nm,1.2s						
MOA	**Molln**	**144.92**	**286**	*eP*	PKPbc	12 02 13.5	0.0
	15nm,1.3s						
ARCES	**ARCESS Array B**	**145.02**	**326**	PKPbc	**PKPbc**	**12 02 12.7**	**-0.5**
	8.6nm,1.0s,baz=39,slow=5.8,SNR=5.5						
KBA	**Koelnbreinsper**	**145.12**	**285**	*eP*	**PKPdf**	**12 02 14.4**	**-0.5**
	9.2nm,1.1s						
ABTA	**Abfaltersbach**	**145.47**	**284**	*eP*	**PKPab**	**12 02 15.8**	**+0.2**
	22nm,1.4s						
GERES	**GERESS Array B**	**145.70**	**287**	PKPbc	**PKPdf**	**12 02 14.7**	**-1.0**
	2.5nm,0.9s,baz=186,slow=2.7,SNR=10.0						
WTTA	**Wattenberg**	**146.24**	**284**	*eP*	**PKPab**	**12 02 18.3**	**-0.3**
	7.5nm,1.0s						
WATA	**Walderalm**	**146.31**	**284**	*eP*	**PKPab**	**12 02 18.8**	**-0.1**
	6.2nm,0.7s						
SQTA	**Sankt Quirin**	**146.48**	**284**	*eP*	**PKPab**	**12 02 19.3**	**-0.2**
	3.2nm,0.4s						
MOTA	**Moosalm**	**146.60**	**284**	*eP*	**PKPbc**	**12 02 18.2**	**-0.7**
	7.8nm,0.7s						
FETA	**Feichten**	**146.68**	**283**	*eP*	**PKPab**	**12 02 19.6**	**-0.8**
	16nm,1.3s						
RETA	**Reutte**	**146.87**	**284**	*eP*	**PKPab**	**12 02 20.3**	**-0.6**
	12nm,1.2s						
DAVA	**Damuels**	**147.31**	**283**	*eP*	**PKPbc**	**12 02 21.4**	**+0.4**
	10nm,1.1s						
ESDC	**Sonseca Array**	**151.96**	**260**	PKPbc	**PKiKP**	**12 02 32.9**	**-0.1**
	1.3nm,0.9s,baz=165,slow=2.1,SNR=6.2						

*NEIC **29** 11:53:04.5±1.9, 18˚.29S±0˚.09×168˚.07E±0˚.04, h49km±13km, mb4.4/19, Error ellipse: s-maj=14.0km s-min=4.0km az=160.0*

ISC 29 11:53:02.3±0.7,18˚.31S±0˚.09×168˚.11E±0˚.09,h29km,n40, σ1s79/38,mb4.5/14,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.59**	**198**		**Pn**	**11 53 42.3**	**0.0**
MARNC	**Mare, Loyalty**	**3.16**	**181**		**Pn**	**11 53 49.6**	**-0.5**
DZM	**Mont Dzumac**	**4.06**	**202**	Pn	**Pn**	**11 54 04.7**	**+2.1**
KOUNC	**Koumac, New Ca**	**4.24**	**238**		**Pn**	**11 54 06.8**	**+1.8**
OUENC	**Ouen Island, N**	**4.26**	**196**		**Pn**	**11 54 07.0**	**+1.8**
ONTNC	**Ouen Toro**	**4.27**	**201**		**Pn**	**11 54 07.5**	**+2.1**
PINNC	**Pines Island,**	**4.33**	**188**		**Pn**	**11 54 08.0**	**+1.8**
MSVF	**Nonsavu**	**9.48**	**88**	Pn	**Pn**	**11 55 18.6**	**+1.6**
HNR	**Honiara**	**11.85**	**317**		**Pn**	**11 55 49.2**	**-0.3**
EIDS	**Eidsvold**	**17.29**	**243**	P	**P**	**11 57 06.5**	**+3.5**
OUZ	**Omahuta**	**17.54**	**165**	P	**Pn**	**11 57 05.8**	**+1.1**
CTAO	**Charters Tower**	**20.71**	**262**	P	Pn	11 57 42.7	-0.3
CTAO				IAmb	IAmb	11 58 01.2	
	comp=Z,13nm,0.9s						
URZ	**Urewera**	**21.38**	**160**	P	**P**	**11 57 49.9**	**+2.4**
BKZ	**Black Stump Fm**	**22.03**	**162**	P	**P**	**11 57 54.5**	**0.0**
BKZ				IAmb	IAmb	11 58 35.4	
	comp=Z,29nm,1.3s						
TUWZ	**Tuamarina**	**23.58**	**169**	P	**P**	**11 58 10.6**	**0.0**
SNZO	**South Karori**	**23.62**	**168**	P	**P**	**11 58 10.3**	**-0.6**
THZ	**Tophouse**	**23.74**	**171**	P	**P**	**11 58 12.8**	**+0.7**
THZ				IAmb	IAmb	11 58 39.6	
	comp=Z,27nm,1.4s						
MSWZ	**Moikau Station**	**23.83**	**167**	P	**P**	**11 58 12.0**	**-1.0**
PLWZ	**Palliser**	**23.98**	**167**	P	**P**	**11 58 13.2**	**-1.2**
COEN	**Coen**	**24.33**	**277**	P	**P**	**11 58 18.3**	**+0.5**
COEN				IAmb	IAmb	11 58 20.4	
	comp=Z,8.1nm,1.1s						
LTZ	**Lake Taylor**	**24.65**	**173**	P	**P**	**11 58 19.8**	**-0.7**
LTZ				IAmb	IAmb	11 58 23.4	
	comp=Z,13nm,0.9s						
WR0	**Warramunga Arr**	**31.73**	**262**	P	**P**	**11 59 21.5**	**-2.4**
WR0				IAmb	IAmb	11 59 41.7	
	comp=Z,8.9nm,1.2s						
WB0	**Warramunga Arr**	**31.87**	**262**	P	**P**	**11 59 23.7**	**-1.6**
WB0				IAmb	IAmb	11 59 52.6	
	comp=Z,8.8nm,1.4s						
WB2	**Warramunga Arr**	**31.90**	**262**	P	**P**	**11 59 24.1**	**-1.5**
WB2				IAmb	IAmb	11 59 53.0	
	comp=Z,6.7nm,1.2s						
WRAB	**Tennant Creek**	**31.91**	**262**	P	**P**	**11 59 23.6**	**-2.0**
WRAB				IAmb	IAmb	11 59 27.8	
	comp=Z,9.2nm,1.3s						
WRA	**Warramunga Arr**	**31.91**	**262**	P	**P**	**11 59 23.8**	**-1.9**
AS31	**Alice Springs**	**32.32**	**255**	P	**P**	**11 59 28.4**	**-0.9**
ASAR	**Alice Springs**	**32.32**	**255**	P	**P**	**11 59 27.7**	**-1.6**
KNRA	**Kununurra**	**37.67**	**268**	P	**P**	**12 00 14.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**40.27**	**263**	P	**P**	**12 00 36.8**	**-0.3**
PSA00	**Pilbara Seismi**	**45.34**	**258**	P	**P**	**12 01 16.5**	**-1.8**
PSA00				IAmb	IAmb	12 01 18.6	
	comp=Z,4.3nm,0.9s						
SBA	**Scott Base**	**59.58**	**180**	P	**P**	**12 03 02.2**	**-0.8**
SBA				IAmb	IAmb	12 03 36.9	
	comp=Z,6.8nm,1.3s						
XAN	**Xi'an**	**76.69**	**313**	P	**P**	**12 04 54.8**	**+3.8**
XAN				pP	pwP	12 05 06.0	+2.7
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**78.82**	**320**	*eP*	**P**	**12 05 03.3**	**+0.6**
HHC				pmax	pmax		
	comp=Z,31nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,5.0s						
LZH	**Lanzhou**	**81.31**	**312**	*eP*	**P**	**12 05 16.5**	**+0.1**
LZH				pP	pwP	12 05 30.0	+0.2
LZH				sP	sP	12 05 35.0	+7.9
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
GTA	**Gaotai**	**85.71**	**314**	*eP*	P	12 05 31.5	-7.4
GTA				pP	PcP	12 05 44.8	+3.1
GTA				sP	sP	12 05 49.5	-0.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SNAA	**Sanae**	**90.04**	**183**	P	**P**	**12 05 56.2**	**-2.8**
VNA3	**Neumayer Olymp**	**90.67**	**181**	P	**P**	**12 05 58.7**	**-3.2**
VNA2	**Neumayer--Watz**	**90.95**	**181**	P	**P**	**12 06 00.5**	**-2.7**
	baz=182,slow=2.7						
WMQ	**Urumqi**	**95.79**	**314**	*eP*	**P**	**12 06 26.5**	**+0.5**
WMQ				LR	LR		
	comp=Z,110nm,21.7s						

*BJI **29** 11:57:34.4±0.0,37˚.40N×141˚.87E,h10km,mb4.5/40, mB4.9/25,Ms4.3/24,Ms7 4.0/24*
*IDC **29** 11:57:34.4±0.6,37˚.47N×141˚.89E,h0km,mb4.3/17, mbtmp4.2/20,ML3.4/3,MS3.7/19,Error ellipse: s-maj=17.0km s-min=13.4km az=134.0*
*MOS **29** 11:57:34.9±1.6,37˚.56N×141˚.88E,h15km,mb4.7/22,Error ellipse: s-maj=8.7km s-min=5.7km az=95.3*
*JMA **29** 11:57:35.4±0.2,37˚.4N±0˚.3×141˚.9E±0˚.7,h29km±2km, MD4.8/40,MW4.4/40,E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **29** 11:57:35.4,37˚.41N×141˚.87E,h29km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-2.47; Mθθ2.50; Mφφ-0.02; Mrθ-1.57; Mθφ4.17; Mφr1.08; Fault plane solution: M0 5.14000×10^15^ NP1: φs195.00000°,δ59.00000°,λ-152.00000°. NP2: φs90.00000°,δ66.00000°,λ-34.00000°.*
*NEIC **29** 11:57:37.7±1.6,37˚.45N±0˚.06×141˚.76E±0˚.08,h18km±5km, mb4.6/87 Error ellipse: s-maj=9.6km s-min=7.9km az=109.0*

ISC 29 11:57:36.0±1.0,37˚.44N±0˚.04×141˚.90E±0˚.04,h13km±5km, n241,σ1s66/153,mb4.6/81,MS4.0/22,12C-8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.82**	**265**	*i* P	**Pb**	**11 57 50.2**	**-1.9**
JFK				S	**Sb**	**11 58 00.8**	**-2.2**
JFK	**Kawauchi**	**0.82**	**265**	A	A	11 57 50.2	
	comp=E,13nm,0.7s,comp=E,31nm,1.0s						
JMST	**Minamisoumatoc**	**0.85**	**290**	*i* P	**Pb**	**11 57 50.8**	**-1.9**
JMST				*eS*	**Sb**	**11 58 01.8**	**-2.3**
JMST	**Minamisoumatoc**	**0.85**	**290**	A	A	11 57 50.8	
	comp=E,21nm,2.0s,comp=E,25nm,1.3s						
JIKH	**Ishinomakikobu**	**0.94**	**339**	*i* P	**Pb**	**11 57 52.7**	**-1.4**
JIKH				*eS*	**Sb**	**11 58 05.0**	**-1.4**
JIKH	**Ishinomakikobu**	**0.94**	**339**	A	A	11 57 52.7	
	comp=E,26nm,1.0s						
JMM	**Marumori**	**0.98**	**296**		**Pb**	**11 57 52.9**	**-1.9**
JMM	**Marumori**	**0.98**	**296**	*i* P	**Pb**	**11 57 52.8**	**-1.9**
JMM				*eS*	**Sb**	**11 58 05.5**	**-2.1**
JMM	**Marumori**	**0.98**	**296**	A	A	11 57 52.8	
	comp=E,16nm,2.1s,comp=E,22nm,1.1s						
JIO	**Ouri**	**1.11**	**337**	⇓*i* P	**Pb**	**11 57 55.3**	**-1.6**
JIO				⇓*eS*	**Sb**	**11 58 09.2**	**-2.0**
JIO	**Ouri**	**1.11**	**337**	A	A	11 57 55.3	
	comp=E,17nm,1.8s,comp=E,8.0nm,2.3s						
JFFD	**Fukushimafurud**	**1.12**	**252**	A	A	11 57 54.9	
	comp=E,8.0nm,9.1s,comp=E,12nm,2.8s						
JHO	**Hitachi**	**1.35**	**233**	⇓*i* P	Pn	11 57 57.7	-2.8
JHO				⇓*eS*	**Sn**	**11 58 13.9**	**-4.3**
JHO	**Hitachi**	**1.35**	**233**	A	A	11 57 57.7	
	comp=E,8.0nm,2.1s,comp=E,8.0nm,3.7s						
JOU	**Okura**	**1.35**	**314**	*i* P	**Pn**	**11 57 59.7**	**-0.8**
JOU				*eS*	**Sn**	**11 58 17.2**	**-1.1**
JOU	**Okura**	**1.35**	**314**	A	A	11 57 59.7	
	comp=E,35nm,0.9s,comp=E,82nm,1.1s						
JOFO	**Osakifurukawao**	**1.40**	**326**	A	A	11 57 59.8	
	comp=E,76nm,1.5s,comp=E,97nm,1.7s						
JKMT	**Kesennumamotoy**	**1.41**	**346**	A	A	11 58 00.1	
	comp=E,23nm,2.7s,comp=E,17nm,2.1s						
JYAR	**Yonezawaarcadi**	**1.47**	**289**	A	A	11 58 00.5	
	comp=E,50nm,1.1s,comp=E,82nm,1.2s						
JHYU	**Hitachinakayam**	**1.52**	**224**	A	A	11 58 00.8	
	comp=E,15nm,2.4s,comp=E,9.0nm,2.5s						
JMK	**Ichinoseki**	**1.60**	**341**	⇓*i* P	**Pn**	**11 58 03.2**	**-0.8**
JMK				⇓*eS*	**Sn**	**11 58 23.6**	**-1.0**
JMK	**Ichinoseki**	**1.60**	**341**	A	A	11 58 03.2	
	comp=E,24nm,1.2s,comp=E,15nm,2.2s						
JSB	**Shiboa**	**1.65**	**254**	A	A	11 58 02.8	
	comp=E,69nm,1.4s,comp=E,44nm,1.1s						
JYS	**Shirataka**	**1.65**	**299**	*i* P	**Pn**	**11 58 04.1**	**-0.6**
JYS				S	**Sn**	**11 58 26.0**	**+0.2**
JYS	**Shirataka**	**1.65**	**299**	A	A	11 58 04.1	
	comp=E,34nm,1.2s,comp=E,41nm,1.4s						
OFUJ	**Ofunato**	**1.65**	**354**	A	A	11 58 03.7	
	comp=E,15nm,3.0s,comp=E,9.0nm,3.3s						
JFY	**Yanaizu**	**1.75**	**270**	*i* P	**Pn**	**11 58 05.1**	**-0.9**
JFY				S	**Sn**	**11 58 27.1**	**-1.1**
JFY	**Yanaizu**	**1.75**	**270**	A	A	11 58 05.1	
	comp=E,22nm,1.4s,comp=E,22nm,0.8s						
JYT	**Yasato**	**1.83**	**229**		**Pn**	**11 58 05.1**	**-1.9**
JYT	**Yasato**	**1.83**	**229**	A	A	11 58 05.3	
	comp=E,7.0nm,3.0s,comp=E,6.0nm,2.2s						
JIHU	**Itakohorinouch**	**1.84**	**217**	A	A	11 58 05.5	
	comp=E,61nm,4.6s,comp=E,37nm,1.6s						
JYK	**Kaneyama**	**1.91**	**321**	A	A	11 58 07.3	
	comp=E,8.0nm,1.5s,comp=E,9.0nm,1.4s						
CHOJ	**Chosi**	**1.92**	**206**	A	A	11 58 06.7	
	comp=N,10.0nm,2.0s						
JYA	**Atsumi**	**2.08**	**304**	A	A	11 58 09.5	
	comp=E,15nm,1.2s,comp=E,12nm,0.7s						
JNS	**Sasagawa**	**2.09**	**281**	A	A	11 58 09.4	
	comp=E,10.0nm,4.1s						
JOM	**Ohasama**	**2.09**	**347**	A	A	11 58 10.0	
	comp=E,26nm,1.3s,comp=E,11nm,1.2s						
JSMT	**Sammumatsuo**	**2.14**	**214**	A	A	11 58 09.8	
	comp=E,27nm,2.6s,comp=E,21nm,3.9s						
JRG	**Rokugo**	**2.19**	**333**	A	A	11 58 11.4	
	comp=E,14nm,1.9s,comp=E,18nm,4.0s						
JAG	**Ashikaga**	**2.21**	**243**	A	A	11 58 10.8	
	comp=N,7.0nm,2.3s						
JYYZ	**Yamagatayuza**	**2.21**	**316**	A	A	11 58 11.5	
	comp=E,20nm,1.4s,comp=E,23nm,1.7s						
JKT	**Katashina**	**2.22**	**253**	A	A	11 58 11.1	
	comp=E,5.0nm,3.3s,comp=E,8.0nm,3.5s						
JUON	**Uonuma**	**2.28**	**265**	A	A	11 58 12.0	
	comp=E,4.0nm,2.6s,comp=E,7.0nm,3.6s						
JAW	**Awa shima**	**2.33**	**297**	A	A	11 58 13.0	
	comp=E,9.0nm,2.4s,comp=E,12nm,3.6s						
JSZI	**Iwateshizukuis**	**2.42**	**342**	A	A	11 58 14.6	
	comp=E,38nm,2.6s,comp=E,31nm,1.8s						
JCN	**Nagara**	**2.44**	**215**	A	A	11 58 14.1	
	comp=E,28nm,2.4s,comp=E,17nm,2.2s						
JYW	**Yuwa**	**2.48**	**328**	A	A	11 58 15.5	
	comp=E,23nm,1.3s,comp=E,23nm,2.1s						
JTH	**Tanohata**	**2.50**	**359**	A	A	11 58 15.9	
	comp=E,9.0nm,2.8s,comp=E,4.0nm,2.6s						
JIZZ	**Izumozaki**	**2.54**	**273**	A	A	11 58 15.8	
	comp=E,21nm,2.7s,comp=E,21nm,2.9s						
JKZ	**Kuzumaki**	**2.58**	**350**	A	A	11 58 17.1	
	comp=E,16nm,2.0s						
JHU	**Hanno**	**2.63**	**234**	A	A	11 58 16.9	
	comp=E,4.0nm,2.9s,comp=E,3.0nm,3.4s						
JKUC	**kamogawauchiur**	**2.66**	**212**	A	A	11 58 17.2	
	comp=E,11nm,3.3s						
JGK	**Kuni**	**2.75**	**252**	A	A	11 58 18.7	
	comp=E,7.0nm,1.6s,comp=E,10.0nm,2.4s						
JKEN	**Kujiedanarisaw**	**2.77**	**357**	A	A	11 58 19.8	
	comp=E,14nm,3.0s,comp=E,12nm,1.2s						
JAH	**Hinai**	**2.92**	**341**	A	A	11 58 21.8	
	comp=E,14nm,1.9s,comp=E,9.0nm,3.1s						
JANG	**Nango**	**2.95**	**354**	A	A	11 58 22.3	
	comp=E,8.0nm,4.8s,comp=E,4.0nm,5.2s						
JSD	**Sado**	**2.95**	**283**	Pn	**Pn**	**11 58 21.7**	**-0.8**
JJN	**Nakama**	**3.00**	**265**	A	A	11 58 22.3	
	comp=N,7.0nm,1.8s						
MJAR	**Matsushiro Arr**	**3.09**	**254**	Pn	**Pn**	**11 58 24.5**	**+0.1**
	1.8nm,0.3s,baz=81,slow=16,SNR=50						
MJAR				Sn	**Sn**	**11 59 02.1**	**+0.9**
	1.6nm,0.3s,baz=75,slow=9.9,SNR=4.1						
MJAR				LR	LR	11 59 45.6	
	comp=Z,1μm,20.3s,baz=66,slow=42 38nm,0.9s						
MAJO	**Matsushiro**	**3.09**	**254**	Pn	**Pn**	**11 58 24.6**	**+0.2**
MAJO	**Matsushiro**	**3.09**	**254**	P	**Pn**	**11 58 24.6**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.09**	**254**		**Pn**	**11 58 24.8**	**+0.3**
JNTW	**Noshirotokiwa**	**3.14**	**335**	A	A	11 58 24.9	
	comp=E,22nm,2.2s,comp=E,24nm,2.3s						
JOD2	**Odawara 2**	**3.14**	**227**	A	A	11 58 24.1	
	comp=E,4.0nm,3.7s,comp=E,4.0nm,1.7s						
JOG3	**Oga3**	**3.32**	**319**	A	A	11 58 22.4	
	comp=E,9.0nm,3.0s,comp=E,10.0nm,2.9s						
JTM	**Tenmabayashi**	**3.41**	**349**	Pn	**Pn**	**11 58 29.4**	**+0.7**
JTM	**Tenmabayashi**	**3.41**	**349**	A	A	11 58 28.8	
	comp=E,10.0nm,3.0s						
JHHS	**Hirosakihyakuz**	**3.43**	**340**	A	A	11 58 29.0	
	comp=E,21nm,2.9s,comp=E,18nm,3.0s						
JIW	**Iwasaki**	**3.48**	**335**	A	A	11 58 29.7	
	comp=E,5.0nm,2.0s,comp=E,5.0nm,1.8s						
JARK	**Aomorirokkasho**	**3.59**	**354**	A	A	11 58 31.4	
	comp=E,8.0nm,1.5s						
JTT	**Ttatey**	**3.75**	**259**	A	A	11 58 32.9	
	comp=E,6.0nm,3.0s,comp=E,6.0nm,2.1s						
JSI2	**Shiura 2**	**3.80**	**343**	A	A	11 58 34.3	
	comp=E,10.0nm,1.6s,comp=E,6.0nm,1.9s						
SHZ3	**Shizuoka 3**	**3.81**	**233**	A	A	11 58 33.6	
	comp=N,3.0nm,2.7s						
JAHD	**Aomorihigashid**	**3.85**	**354**	A	A	11 58 35.0	
	comp=E,12nm,2.0s,comp=E,12nm,1.5s						
JOT	**Ohata**	**4.00**	**351**	A	A	11 58 37.1	
	comp=E,4.0nm,4.8s,comp=E,3.0nm,2.7s						
JGF	**Kuroka**	**4.09**	**245**		**Pn**	**11 58 39.0**	**+0.8**
JHJ2	**Mitsune**	**4.64**	**202**	Pn	**Pn**	**11 58 46.3**	**+0.6**
JHJ	**Hachijo jima 2**	**4.64**	**203**	Pn	**Pn**	**11 58 45.4**	**-0.4**
	26nm,0.3s,baz=141,slow=23,SNR=14						
JHJ				Sn	**Sn**	**11 59 36.8**	**-2.8**
	22nm,0.3s,baz=233,slow=20,SNR=1.3						
JHJ				LR	LR	12 00 51.6	
	comp=Z,784nm,19.6s,baz=100,slow=42 84nm,0.3s						
ERM	**Erimo**	**4.67**	**12**	Pn	**Pn**	**11 58 46.6**	**+0.5**
ERM	**Erimo**	**4.67**	**12**	P	**Pn**	**11 58 46.6**	**+0.5**
JEW	**Eniwo**	**5.41**	**356**	Pn	**Pn**	**11 58 57.8**	**+1.6**
NMR	**Nemuro--Hokkai**	**6.61**	**25**	*eP*	Pn	11 59 09.9	-2.8
NMR				*eS*	**Sn**	**12 00 23.3**	**-4.5**
RUSJ	**Misakicho**	**7.13**	**20**	*eP*	Pn	11 59 17.2	-2.7
RUSJ				*eS*	**Sn**	**12 00 36.5**	**-4.1**
YUK	**Yuzh-Kuril'sk**	**7.24**	**23**	*eP*	Pn	11 59 18.9	-2.5
YUK				*eS*	**Sn**	**12 00 39.6**	**-3.9**
YUK				pmax	pmax		
	comp=Z,106nm,0.2s						
YUK				pmax	pmax		
	comp=N,73nm,0.3s						
YUK				pmax	pmax		
	comp=E,59nm,0.3s						
YUK				smax	smax		
	comp=N,190nm,0.6s						
YUK				smax	smax		
	comp=E,228nm,0.6s						
JHS	**Saijyo**	**7.51**	**254**	Pn	**Pn**	**11 59 27.5**	**+2.4**
TEY	**Ternei**	**8.57**	**334**	*eP*	**Pn**	**11 59 42.4**	**+2.7**
KUR	**Kuril'sk**	**8.99**	**28**	*eP*	Pn	11 59 43.5	-1.8
KUR				*eS*	**Sn**	**12 01 22.6**	**-3.7**
KUR				pmax	pmax		
	comp=Z,42nm,0.7s						
KUR				smax	smax		
	comp=E,60nm,0.5s						
KUR				smax	smax		
	comp=N,16nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.53**	**4**	Pn	**Pn**	**11 59 52.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**9.53**	**4**

YULB IAmb IAmb 12 03 15.7
comp=Z,36nm,1.4s
MA2 Magadan 22.88 12 LR LR 12 12 58.3
comp=Z,128nm,18.0s,baz=169,slow=40
HHC Hu-ho-hao-te 23.72 288 *e*P **P** **12 02 48.0 +0.3**
HHC pmax pmax
comp=Z,36nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.5s
WHN Wuhan 23.80 261 ⇑P **P** **12 02 51.5 +3.0**
YAK Yakutsk 25.77 347 P **P** **12 03 04.4 -1.6**
comp=Z,8.5nm,0.4s,baz=45,slow=0.1,SNR=5.0
YAK LR LR 12 13 22.5
comp=Z,194nm,19.1s,baz=268,slow=37
comp=Z,8.5nm,0.4s
YAK Yakutsk 25.77 347 *e*P **P** **12 03 04.9 -1.2**
YAK *e**PP pP 12 03 07.8 -2.2
YAK *e*S **S** **12 07 36.4 +1.8**
YAK *e**SS **sS** **12 07 42.0 +1.0**
YAK *e*SS **SnSn** **12 08 33.9 +4.2**
YAK *e*SSS SSS 12 08 49.2
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,13nm,0.5s
YAK pmax pmax
comp=E,4.0nm,0.6s
YAK pmax pmax
comp=N,63nm,1.5s
YAK smax smax
comp=N,77nm,1.7s
YAK smax smax
comp=E,191nm,3.0s
YAK MLR MLR
comp=Z,279nm,12.0s
YAK MLR MLR
comp=N,369nm,16.0s
YAK MLR MLR
comp=E,112nm,14.0s
SEY Seymchan 26.32 11 P **P** **12 03 10.7 -0.4**
comp=E,5.6nm,0.9s,baz=87,slow=13,SNR=3.3
comp=E,5.6nm,0.9s
SEY Seymchan 26.32 11 *c*e P **P** **12 03 12.1 +1.0**
SEY pmax pmax
comp=Z,6.0nm,1.1s
XAN Xi'an 26.91 273 P **P** **12 03 17.5 +0.7**
XAN pP pP 12 03 22.5 +1.8
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN LR LR
comp=Z,510nm,15.8s
XAN LR LR
comp=Z,280nm,15.8s
XAN LR LR
comp=Z,320nm,15.8s
BOD Bodaibo 27.40 327 *e*P **P** **12 03 20.2 -0.7**
BOD pmax pmax
comp=Z,15nm,0.9s
ULN Ulaanbaatar 27.45 303 *i* P **P** **12 03 20.9 -0.8**
ULN pmax pmax
comp=Z,11nm,1.7s
SONM Songino Array 27.89 303 P **P** **12 03 25.4 -0.2**
comp=Z,1.7nm,0.8s,baz=99,slow=7.2,SNR=8.1
comp=Z,1.7nm,0.8s
SONM Songino Array 27.89 303 P **P** **12 03 25.6 +0.1**
SONM Songino Array 27.89 303 P **P** **12 03 25.7 +0.1**
SONM pmax pmax
comp=Z,6.0nm,1.4s
H11N2 WAKE ISLAND Hy 28.02 122 T T 12 32 47.5
baz=315,slow=75,SNR=3225
H11N1 WAKE ISLAND Hy 28.03 122 T T 12 32 49.1
baz=315,slow=75,SNR=4495
H11N3 WAKE ISLAND Hy 28.04 122 T T 12 32 47.7
baz=315,slow=75,SNR=3018
H11S1 WAKE ISLAND Hy 28.76 124 T T 12 33 43.7
baz=316,slow=76,SNR=2243
H11S3 WAKE ISLAND Hy 28.76 124 T T 12 33 43.8
baz=316,slow=76,SNR=1917
H11S2 WAKE ISLAND Hy 28.77 124 T T 12 33 44.2
baz=316,slow=76,SNR=1960
LZH Lanzhou 30.39 279 *e*P **P** **12 03 46.0 -1.9**
LZH pP pP 12 03 51.3 -0.5
LZH sP sP 12 03 55.3 +1.9
LZH pmax pmax
comp=Z,14nm,1.0s
LZH LR LR
comp=Z,530nm,16.6s
LZH LR LR
comp=Z,340nm,16.5s
LZH LR LR
comp=Z,280nm,17.9s
GYA Guiyang 31.67 260 ⇑P P 12 04 03.3 +4.0
GYA pmax pmax
comp=Z,18nm,0.8s
GTA Gaotai 32.82 287 *e*P **P** **12 04 11.0 +1.8**
GTA pP pP 12 04 14.3 +1.1
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,67nm,5.4s
GTA LR LR
comp=Z,280nm,18.5s
GTA LR LR
comp=Z,160nm,14.5s
GTA LR LR
comp=Z,200nm,16.4s
QIZ Qiongzhong 33.45 246 P **P** **12 04 13.5 -1.2**
QIZ S **S** **12 09 35.8 -0.2**
QIZ LR LR
comp=Z,290nm,14.7s
QIZ LR LR
comp=Z,260nm,15.9s
QIZ LR LR
comp=Z,260nm,19.1s
BILL Bilibino 33.53 16 *e*P **P** **12 04 15.6 +0.7**
BILL *e* 12 05 26.8
BILL *e* 12 06 56.0
BILL pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 34.94 353 LR LR 12 21 21.2
comp=Z,97nm,18.3s,baz=257,slow=41
KMI Kunming 35.41 261 ⇑P P 12 04 36.5 +4.6
KMI pmax pmax
comp=Z,16nm,0.9s
PZH PanZhiHua 35.53 264 P **P** **12 04 33.3 +0.4**
PZH S **S** **12 10 08.0 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,4.1s
PZH LR LR
comp=Z,750nm,16.5s
PZH LR LR
comp=Z,440nm,16.6s
PZH LR LR
comp=Z,590nm,23.0s
GOMU GeErMu 37.41 283 P **P** **12 04 48.8 -0.3**
GOMU pmax pmax
comp=Z,1.0nm,0.5s
GOMU pmax pmax
comp=Z,38nm,5.1s
GOMU LR LR
comp=Z,120nm,12.3s
GOMU LR LR
comp=Z,94nm,12.8s
GOMU LR LR
comp=Z,90nm,13.9s
DGZ Jazzator, Alta 40.47 306 ⇑ *i*P **P** **12 05 15.3 +0.9**
DGZ pmax pmax
comp=Z,12nm,1.1s
WMQ Urumqi 41.01 297 *e*P **P** **12 05 20.5 +1.8**
WMQ pP sP 12 05 26.5 +2.2
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ LR LR
comp=Z,320nm,17.1s
WMQ LR LR
comp=Z,240nm,20.9s
WMQ LR LR
comp=Z,180nm,20.3s
ZAA0 Zalesovo Array 41.93 312 P **P** **12 05 25.8 -0.3**
ZALV Zalesovo Beam 41.93 312 P **P** **12 05 26.1 +0.1**
comp=Z,3.8nm,0.8s,baz=81,slow=9.2,SNR=9.9
comp=Z,3.8nm,0.8s
ZALV Zalesovo Beam 41.93 312 P **P** **12 05 26.0 -0.1**
CMAR Chiang Mai Arr 41.98 255 P **P** **12 05 29.0 +2.1**
comp=Z,0.4nm,0.3s,baz=48,slow=5.2,SNR=6.7
comp=Z,0.4nm,0.3s
NRIK Noril'sk 43.06 335 LR LR 12 24 18.7
comp=Z,168nm,18.5s,baz=142,slow=37
MK31 Makanchi Array 44.24 302 P **P** **12 05 44.8 -0.1**
MK31 Makanchi Array 44.24 302 P **P** **12 05 44.8 -0.1**
MK31 pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 44.24 302 P **P** **12 05 45.0 +0.1**
comp=Z,3.9nm,0.8s,baz=89,slow=9.8,SNR=19
comp=Z,3.9nm,0.8s
MKAR Makanchi Array 44.24 302 P **P** **12 05 44.4 -0.5**
MKAR Makanchi Array 44.24 302 P **P** **12 05 45.0 +0.1**
MAKZ Makanchi 44.45 302 P **P** **12 05 46.2 -0.3**
MAKZ IAmb IAmb 12 05 52.7
comp=Z,8.4nm,1.1s
MAKZ Makanchi 44.45 302 P **P** **12 05 46.2 -0.3**
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 45.99 308 P **P** **12 05 57.9 -0.8**
KURK Kurchatov 45.99 308 *ce*P **P** **12 05 58.2 -0.5**
KURK pmax pmax
comp=Z,28nm,1.0s
KURBB Kurchatov Arra 46.06 308 LR LR 12 25 45.4
comp=Z,152nm,19.7s,baz=89,slow=37
KDAK Kodiak Island 46.54 42 P **P** **12 06 02.9 0.0**
comp=Z,6.6nm,0.7s,baz=320,slow=4.6,SNR=14
comp=Z,6.6nm,0.7s
H23K Yukon River 47.82 31 P **P** **12 06 14.5 +1.7**
NEA2 Nenana 48.01 33 P **P** **12 06 15.8 +1.4**
NEA2 IAmb IAmb 12 06 16.8
comp=Z,9.7nm,1.2s
RND Reindeer 48.13 34 IAmb IAmb 12 06 16.2
comp=Z,5.3nm,1.0s
MDM Murphy Dome 48.37 32 P **P** **12 06 18.3 +1.2**
TARG Taragay, Kyrgy 48.57 296 P **P** **12 06 21.6 +2.1**
TARG IAmb IAmb 12 06 28.2
comp=Z,6.0nm,0.8s
TARG Taragay, Kyrgy 48.57 296 P **P** **12 06 21.6 +2.1**
TARG pmax pmax
comp=Z,6.0nm,0.8s
IL31 48.95 33 IAmb IAmb 12 06 24.8
comp=Z,11nm,1.4s
ILAR Eielson Array 48.95 33 P **P** **12 06 21.9 +0.3**
comp=Z,2.0nm,0.8s,baz=269,slow=5.9,SNR=16
comp=Z,2.0nm,0.8s
MENT Mentasta 50.48 35 P **P** **12 06 35.0 +1.7**
MENT IAmb IAmb 12 06 35.9
comp=Z,8.2nm,1.3s
L26K Log Cabin Wild 50.64 35 IAmb IAmb 12 06 37.1
comp=Z,11nm,1.2s
BRVK Borovoye 50.65 312 *ce*P **P** **12 06 35.0 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.1s
MCARA McCarthy VSAT 51.01 37 IAmb IAmb 12 06 39.9
comp=Z,12nm,1.2s
M27K Edge Creek, AK 51.40 35 IAmb IAmb 12 07 04.9
comp=Z,11nm,1.4s
I29M Ogilvie Camp, 52.51 31 IAmb IAmb 12 06 50.9
comp=Z,11nm,1.3s
KK31 Karatay Array 53.26 300 P **P** **12 06 51.7 -2.6**
KK31 IAmb IAmb 12 07 34.5
comp=Z,4.7nm,0.7s
KK31 Karatay Array 53.26 300 P **P** **12 06 51.7 -2.6**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 53.26 300 P **P** **12 06 51.2 -3.1**
KKAR Karatay Array 53.26 300 P **P** **12 06 51.2 -3.1**
P33M Teslin, Yukon 56.14 37 IAmb IAmb 12 07 17.9
comp=Z,7.8nm,1.1s
ARU Arti 56.32 318 LR LR 12 33 49.2
comp=Z,119nm,18.0s,baz=106,slow=39
ARU Arti 56.32 318 P **P** **12 07 15.8 -0.3**
ARU Arti 56.32 318 *c i*P **P** **12 07 16.2 0.0**
ARU 12 08 11.6
ARU 12 09 21.0
ARU S **S** **12 15 09.1 +3.3**
ARU SS **SS** **12 18 50.5 -1.5**
ARU pmax pmax
comp=Z,10.0nm,1.0s
FITZ Fitzroy Crossi 57.32 198 P **P** **12 07 25.0 +1.4**
comp=Z,1.8nm,0.9s,baz=13,slow=5.3,SNR=2.1
comp=Z,1.8nm,0.9s
WRA Warramunga Arr 57.52 188 P **P** **12 07 24.0 -1.0**
comp=Z,2.8nm,0.8s,baz=7.0,slow=7.2,SNR=15
comp=Z,2.8nm,0.8s
WRA Warramunga Arr 57.52 188 P **P** **12 07 24.4 -0.6**
WRA Warramunga Arr 57.52 188 P **P** **12 07 24.4 -0.6**
ABKAR Akbulak array 57.98 310 P **P** **12 07 26.6 -1.5**
KIRV Kirov 60.16 323 LR LR 12 34 43.6
comp=Z,92nm,18.7s,baz=91,slow=37
KIRV Kirov 60.16 323 *ce*P **P** **12 07 41.4 -1.6**
ASAR Alice Springs 61.24 188 P **P** **12 07 50.9 +0.2**
comp=Z,1.6nm,0.7s,baz=13,slow=7.0,SNR=4.5
comp=Z,1.6nm,0.7s
OBN Obninsk 68.01 323 *e*P **P** **12 08 35.7 +1.2**
OBN *e* 12 09 01.7
OBN *e* 12 11 01.0
OBN pmax pmax
comp=Z,5.0nm,1.0s
VORR Voronezh 68.61 319 *e*P P 12 08 44.0 +5.6
VORR pmax pmax
comp=Z,50nm,0.4s
FINES FINESS Array B 68.64 332 P **P** **12 08 38.1 -0.3**
comp=Z,3.0nm,0.8s,baz=26,slow=8.2,SNR=8.0
comp=Z,3.0nm,0.8s
FINES FINESS Array B 68.64 332 *i* P **P** **12 08 38.4 0.0**
FINES pmax pmax
comp=Z,5.0nm,0.9s
VSR Storozhevoye 68.89 319 *e*P **P** **12 08 38.1 -2.0**
VSR pmax pmax
comp=Z,4.0nm,0.9s
K05A Summer Lake 70.39 51 P **P** **12 08 51.7 +1.9**
KIV Kislovodsk 70.94 311 *e*P **P** **12 08 50.9 -2.1**
KIV pmax pmax
comp=Z,10.0nm,1.1s
MOD Modoc Plateau 71.21 51 P **P** **12 08 55.8 +1.0**
BMO Blue Mountains 71.37 48 IAmb IAmb 12 08 57.9
comp=Z,4.2nm,1.1s
GNI Garni 71.78 307 LR LR 12 43 00.4
comp=Z,51nm,19.4s,baz=150,slow=38
CMB Columbia Colle 73.32 55 IAmb IAmb 12 09 09.4
comp=Z,4.7nm,1.1s
NB2 NORSAR Subarra 73.97 337 P **P** **12 09 10.4 -0.3**
comp=Z,2.9nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.97 337 P **P** **12 09 10.6 -0.1**
comp=Z,2.0nm,0.9s,baz=38,slow=6.0,SNR=2.9
NOA LR LR 12 45 29.5
comp=Z,56nm,19.9s,baz=0.0,slow=39
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 74.18 44 IAmb IAmb 12 09 14.5
comp=Z,5.7nm,1.1s
KVN Kaiserville 74.20 53 IAmb IAmb 12 09 15.0
comp=Z,6.7nm,1.1s
AKASG Malin Array Be 74.22 322 P **P** **12 09 13.4 +1.2**
comp=Z,2.4nm,0.6s,baz=46,slow=5.9,SNR=8.1
comp=Z,2.4nm,0.6s
AKASG Malin Array Be 74.22 322 *i* P **P** **12 09 14.6 +2.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 74.22 322 *ce*P **P** **12 09 13.3 +1.0**
AKBB pmax pmax
comp=Z,2.0nm,0.6s
LHV Little Huntoon 74.41 54 IAmb IAmb 12 09 16.6
comp=Z,8.6nm,1.0s
NVAR Mina Array Bea 74.44 53 P **P** **12 09 15.7 +1.6**
comp=Z,2.7nm,0.8s,baz=280,slow=6.2,SNR=24
comp=Z,2.7nm,0.8s
YHL Hebgen Lake 74.89 45 IAmb IAmb 12 09 23.1
comp=Z,11nm,1.4s
YHB Horse Butte 74.94 45 IAmb IAmb 12 09 22.3
comp=Z,5.4nm,0.9s
IMW Indian Meadow 75.61 45 IAmb IAmb 12 09 23.7
comp=Z,5.1nm,0.9s
FXWY Fox Creek 75.72 46 IAmb IAmb 12 09 24.3
comp=Z,4.8nm,1.1s
TPAW Teton Pass 75.86 46 P **P** **12 09 23.6 +1.3**
TPAW IAmb IAmb 12 09 31.5
comp=Z,4.2nm,0.9s
R11A Troy Canyon, C 76.21 52 P **P** **12 09 25.3 +1.0**
S11A Rachel 76.53 53 P **P** **12 09 27.5 +1.4**
S11A IAmb IAmb 12 09 28.0
comp=Z,5.7nm,0.9s
TPNV Topopah Spring 76.62 54 P **P** **12 09 27.3 +0.7**
TPNV IAmb IAmb 12 09 28.7
comp=Z,7.2nm,1.1s
TPNV Topopah Spring 76.62 54 P **P** **12 09 27.3 +0.7**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 76.80 49 P **P** **12 09 29.0 +1.5**
DUG IAmb IAmb 12 09 29.9
comp=Z,4.3nm,0.9s
DUG Dugway, Tooele 76.80 49 P **P** **12 09 29.0 +1.5**
DUG pmax pmax
comp=Z,4.0nm,1.0s
GWY Greenwater Val 76.81 55 P **P** **12 09 28.3 +0.7**
GWY IAmb IAmb 12 09 29.6
comp=Z,5.6nm,1.0s
QSM Queen of Sheba 76.81 55 IAmb IAmb 12 09 29.6
comp=Z,7.0nm,1.0s
PD31 Pinedale Array 77.11 46 P **P** **12 09 29.3 0.0**
PDAR Pinedale Array 77.11 46 P **P** **12 09 29.9 +0.6**
comp=Z,1.5nm,0.7s,baz=259,slow=2.3,SNR=13
comp=Z,1.5nm,0.7s
PRN Pahroc Range 77.11 53 P **P** **12 09 30.3 +1.0**
PRN IAmb IAmb 12 09 34.4
comp=Z,4.6nm,1.0s
PSUT Pine Spring 77.18 51 P **P** **12 09 30.6 +0.9**
PSUT IAmb IAmb 12 09 44.9
comp=Z,7.1nm,1.3s
SHPR Sheep Range 77.59 54 P **P** **12 09 32.1 +0.1**
CCUT Cedar City 78.09 52 IAmb IAmb 12 09 41.0
comp=Z,5.8nm,1.2s
LCMT Little Creek M 78.49 52 IAmb IAmb 12 09 39.6
comp=Z,7.3nm,1.1s
P17A Butcher Ranch, 78.50 49 IAmb IAmb 12 09 39.4
comp=Z,12nm,1.3s
Q16A Castle Valley 78.58 50 IAmb IAmb 12 09 44.7
comp=Z,12nm,1.5s
KNB Kanab 78.75 52 IAmb IAmb 12 09 41.3
comp=Z,11nm,1.3s
SRU San Rafael Swe 78.85 49 IAmb IAmb 12 09 41.0
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 78.88 312 LR LR 12 49 18.5
comp=Z,85nm,18.2s,baz=98,slow=39
U15A North Rim 79.45 52 IAmb IAmb 12 09 45.2
comp=Z,7.2nm,1.2s
PV23 Carpenter Ridg 80.18 49 IAmb IAmb 12 09 51.2
comp=Z,6.4nm,1.0s
WUAZ Wupatki 80.61 52 IAmb IAmb 12 09 51.0
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 82.40 329 *e*P **P** **12 09 57.6 -0.1**
ANMO Albuquerque 84.03 50 P **P** **12 10 07.6 +1.0**
ANMO Albuquerque 84.03 50 P **P** **12 10 07.6 +1.0**
ANMO pmax pmax
comp=Z,8.0nm,1.3s
PPT Papeete 84.47 117 LR LR 12 38 43.5
comp=Z,22nm,21.6s,baz=326,slow=29
319A Douglas 84.61 54 IAmb IAmb 12 10 12.1
comp=Z,5.1nm,1.0s
TX32 Lajitas Array 89.57 53 IAmb IAmb 12 10 43.4
comp=Z,5.2nm,1.4s
TXAR Lajitas Array 89.57 53 P **P** **12 10 34.2 +0.7**
comp=Z,0.9nm,0.7s,baz=292,slow=3.0,SNR=9.5
comp=Z,0.9nm,0.7s
VAE Valguarnera 91.07 321 LR LR 12 56 43.8
comp=Z,94nm,18.5s,baz=144,slow=39
KEST Kesra 94.94 323 LR LR 12 58 48.4
comp=Z,135nm,18.1s,baz=122,slow=39
LPAZ La Paz 146.15 60 PKPbc **PKPbc** **12 17 17.4 +0.3**
comp=Z,3.7nm,0.9s,baz=5.0,slow=3.7,SNR=10

IDC ***29*** *12:10:27.2±0.6, 27.61N×142.66E, h0km, mb4.0/15, mbtmp4.0/17, ML3.4/2, MS3.8/3, Error ellipse: s-maj=19.6km s-min=11.4km az=109.0*
JMA ***29*** *12:10:28.9±0.1, 27.7N±0.7×142.9E±0.9, h35km±2km, MD4.2/16, MV4.2/16, NEAR CHICHIJIMA ISLAND*
NEIC ***29*** *12:10:34.0±1.9, 27.64N±0.06×142.3E±0.3, h35km±8km, mb4.7/17, Error ellipse: s-maj=33.3km s-min=7.8km az=84.0*

ISC 29 12:10:32.0±0.6, 27.68N±0.05×142.6E±0.1, h30km, n56, σ1§05/58, mb4.3/22, MS3.9/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.66**	**209**	P	**Pn**	**12 10 45.2**	**-0.2**
CBIJ				S	**Sn**	**12 10 56.9**	**+2.2**
CBIJ	**Chichi jima**	**0.66**	**209**	A	A	12 10 45.2	
	comp=E,18nm,0.5s,comp=E,15nm,1.2s						
JCJ	**Chichijima**	**0.66**	**209**	Pn	**Pn**	**12 10 45.0**	**-0.4**
	431nm,0.3s,baz=95,slow=23,SNR=113						
JCJ				Sn	**Sn**	**12 10 56.2**	**+1.5**
	682nm,0.3s,baz=270,slow=20,SNR=8.3						
JCJ	**Chichijima**	**0.66**	**209**		**Pn**	**12 10 45.5**	**+0.1**
JHH2	**Haha-jima-NKT2**	**1.09**	**198**	P	**Pb**	**12 10 50.9**	**-1.4**
JHH2				*e*S	**Sb**	**12 11 06.6**	**+0.4**
JHH2	**Haha-jima-NKT2**	**1.09**	**198**	A	A	12 10 50.9	
	comp=E,7.0nm,2.1s,comp=E,9.0nm,5.9s						
JHJ2	**Mitsune**	**5.91**	**337**	Pn	**Pn**	**12 11 58.7**	**+1.2**
BSO1	**Boso 1**	**7.08**	**349**	*e*P	**Pn**	**12 12 12.9**	**-0.2**
BSO1				*e*S	**Sn**	**12 13 31.5**	**-0.8**
JOD2	**Odawara 2**	**8.12**	**340**	*e*P	**Pn**	**12 12 28.7**	**+0.9**
JHU	**Hanno**	**8.61**	**342**	P	**Pn**	**12 12 34.4**	**-0.1**
JHU				*e*S	**Sn**	**12 14 08.6**	**-2.1**
JYT	**Yasato**	**8.76**	**347**	Pn	**Pn**	**12 12 38.0**	**+1.5**
JRY	**Ryogami san**	**8.87**	**340**	*e*P	**Pn**	**12 12 39.0**	**+0.8**
JGF	**Kuroka**	**9.05**	**332**	Pn	**Pn**	**12 12 40.9**	**+0.2**
MJAR	**Matsushiro Arr**	**9.57**	**339**	Pn	**Pn**	**12 12 48.0**	**+0.3**
	0.3nm,0.3s,baz=132,slow=17,SNR=8.4						
	3.6nm,0.5s						
MAJO	**Matsushiro**	**9.57**	**338**		**Pn**	**12 12 48.8**	**+1.0**
MJB9	**Matsu-Tunnel**	**9.58**	**338**		**Pn**	**12 12 48.8**	**+1.0**
JMM	**Marumori**	**10.27**	**352**		**Pn**	**12 12 56.8**	**-0.4**
KSRS	**Korea Array**	**15.70**	**312**	Pn	**Pn**	**12 14 12.2**	**+1.2**
	0.2nm,0.3s,baz=119,slow=14,SNR=3.8						
	1.3nm,0.7s						
YULB	**Yu-li**	**19.64**	**262**	P	**P**	**12 14 56.1**	**-2.2**
YULB				IAmb	IAmb	12 15 23.8	
	comp=Z,77nm,1.5s						
KLR	**Kul'dur**	**23.07**	**342**	P	**P**	**12 15 36.1**	**+1.2**
	comp=Z,4.5nm,1.0s,baz=153,slow=10.0,SNR=8.1						
	comp=Z,4.5nm,1.0s						
SONM	**Songino Array**	**34.52**	**315**	P	**P**	**12 17 18.0**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=140,slow=8.8,SNR=4.5						
	comp=Z,0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.98**	**267**	P	**P**	**12 18 13.0**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=87,slow=5.5,SNR=4.4						
	comp=Z,0.6nm,0.3s						
COEN	**Coen**	**41.39**	**179**	P	**P**	**12 18 16.6**	**+0.9**
MTN	**Manton Dam**	**41.77**	**197**	P	**P**	**12 18 16.2**	**-2.6**
KNRA	**Kununurra**	**45.12**	**199**	P	**P**	**12 18 45.5**	**-0.3**
WB0	**Warramunga Arr**	**47.82**	**190**	P	**P**	**12 19 06.2**	**-0.8**
WB0				IAmb	IAmb	12 19 17.9	
	comp=Z,7.9nm,1.1s						
WR0	**Warramunga Arr**	**47.99**	**190**	P	**P**	**12 19 07.1**	**-1.2**
WR0				IAmb	IAmb	12 19 21.9	
	comp=Z,6.1nm,0.9s						
WRAB	**Tennant Creek**	**47.99**	**190**	P	**P**	**12 19 07.5**	**-0.8**
WRAB				IAmb	IAmb	12 19 21.9	
	comp=Z,6.1nm,0.7s						
WB2	**Warramunga Arr**	**48.00**	**190**	P	**P**	**12 19 07.3**	**-1.0**
WB2				IAmb	IAmb	12 19 19.1	
	comp=Z,7.1nm,0.8s						
WRA	**Warramunga Arr**	**48.00**	**190**	P	**P**	**12 19 07.1**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=12,slow=8.7,SNR=47						
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**48.00**	**190**	P	**P**	**12 19 06.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**48.36**	**202**	P	**P**	**12 19 10.7**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=18,slow=9.2,SNR=10						
	comp=Z,3.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**48.36**	**202**	P	**P**	**12 19 10.1**	**-1.0**
FITZ				IAmb	IAmb	12 19 24.4	
	comp=Z,8.5nm,1.1s						
ZAA0	**Zalesovo Array**	**49.26**	**319**	P	**P**	**12 19 18.4**	**+0.7**
ZAA0				IAmb	IAmb	12 19 19.4	
	comp=Z,5.1nm,0.8s						
ZALV	**Zalesovo Beam**	**49.26**	**319**	P	**P**	**12 19 18.3**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=98,slow=7.6,SNR=11						
ZALV				PcP	**PcP**	**12 20 40.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=106,slow=2.1,SNR=2.6						
	comp=Z,2.9nm,0.6s						
MK31	**Makanchi Array**	**50.36**	**309**	P	**P**	**12 19 26.2**	**0.0**
MKAR	**Makanchi Array**	**50.36**	**309**	P	**P**	**12 19 25.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=88,slow=10,SNR=16						
MKAR				PcP	**PcP**	**12 20 44.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=88,slow=3.6,SNR=2.7						
	comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**51.72**	**190**	P	**P**	**12 19 34.8**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=6.7,slow=4.4,SNR=10						

	comp=Z,0.5nm,0.6s							
KURK	**Kurchatov**	**52.81**	**314**	P	**P**	**12 19 44.6**	**+0.1**	
KURK				IAmb	IAmb	12 20 06.3		
	comp=Z,4.7nm,0.8s							
KURBB	**Kurchatov Arra**	**52.87**	**314**	LR	LR	12 43 53.8		
	comp=Z,119nm,20.2s,baz=104,slow=38							
KDAK	**Kodiak Island**	**53.71**	**37**	LR	LR	12 39 45.7		
	comp=Z,50nm,21.3s,baz=246,slow=33							
ILAR	**Eielson Array**	**57.05**	**29**	P	**P**	**12 20 15.2**	**+0.3**	
	comp=Z,0.8nm,0.9s,baz=246,slow=5.9,SNR=4.9							
	comp=Z,0.8nm,0.9s							
BVAR	**Borovoye Array**	**57.84**	**317**	LR	LR	12 45 46.5		
	comp=Z,126nm,21.8s,baz=115,slow=37							
BRVK	**Borovoye**	**57.90**	**317**	P	**P**	**12 20 20.8**	**-0.3**	
KKAR	**Karatay Array**	**59.01**	**306**	P	**P**	**12 20 28.5**	**-0.5**	
ARU	**Arti**	**64.16**	**322**	P	**P**	**12 21 03.5**	**0.0**	
ABKAR	**Akbulak array**	**64.92**	**314**	P	**P**	**12 21 09.4**	**+0.8**	
ABKAR	**Akbulak array**	**64.92**	**314**	P	**P**	**12 21 08.1**	**-0.5**	
ABKAR				IAmb	IAmb	12 21 10.4		
	comp=Z,18nm,1.2s							
FINES	**FINESS Array B**	**77.57**	**334**	P	**P**	**12 22 25.1**	**+0.3**	
	comp=Z,2.8nm,0.8s,baz=76,slow=4.6,SNR=8.5							
	comp=Z,2.8nm,0.8s							
KBZ	**Khabaz**	**77.85**	**313**	P	**P**	**12 22 27.6**	**+0.9**	
	comp=Z,6.8nm,0.9s,baz=168,slow=3.2,SNR=8.2							
	comp=Z,6.8nm,0.9s							
NVAR	**Mina Array Bea**	**79.91**	**52**	P	**P**	**12 22 37.8**	**-0.6**	
	comp=Z,0.6nm,0.7s,baz=289,slow=5.7,SNR=6.9							
	comp=Z,0.6nm,0.7s							
PDAR	**Pinedale Array**	**83.57**	**45**	P	**P**	**12 22 58.3**	**+0.6**	
	comp=Z,0.3nm,0.6s,baz=316,slow=2.5,SNR=2.7							
	comp=Z,0.3nm,0.6s							
RAYN	**Ar Rayn**	**85.21**	**294**	P	**P**	**12 23 05.4**	**-0.7**	
RAYN				IAmb	IAmb	12 23 19.9		
	comp=Z,4.9nm,0.8s							
BRTR	**Keskin Array B**	**85.84**	**313**	P	**P**	**12 23 08.9**	**-0.2**	
	comp=Z,1.0nm,0.7s,baz=64,slow=5.6,SNR=4.6							
	comp=Z,1.0nm,0.7s							
TXAR	**Lajitas Array**	**95.00**	**53**	P	**P**	**12 23 53.8**	**+1.6**	
	comp=Z,0.2nm,0.6s,baz=328,slow=4.4,SNR=3.8							
	comp=Z,0.2nm,0.6s							
LPAZ	**La Paz**	**149.46**	**75**	PKPbc	**PKiKP**	**12 30 19.1**	**-1.7**	
	comp=Z,0.8nm,0.5s,baz=277,slow=4.0,SNR=4.6							

IDC 29 12:17:11.5±1.5, 51°19S×139°84E, h0km, mb3.5/4, mbtmp3.5/4, MS3.5/14, Error ellipse: s-maj=222.9km s-min=22.9km az=82.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**19.34**	**5**	LR	LR	12 27 54.4	
	comp=Z,202nm,21.6s,baz=213,slow=33						
NWAO	**Narrogin (SRO)**	**24.63**	**309**	LR	LR	12 30 57.7	
	comp=Z,131nm,19.2s,baz=280,slow=34						
H01W1	**Cape Leeuwin H**	**24.67**	**301**	T	T	12 48 21.7	
	baz=139,slow=75,SNR=6.5						
H01W2	**Cape Leeuwin H**	**24.68**	**301**	T	T	12 48 23.9	
	baz=139,slow=75,SNR=6.2						
H01W3	**Cape Leeuwin H**	**24.69**	**301**	T	T	12 48 22.6	
	baz=139,slow=75,SNR=7.8						
VNDA	**Vanda**	**27.69**	**170**	P	P	12 23 00.4	-0.3
	0.4nm,0.8s,baz=340,slow=12,SNR=1.7						
VNDA				LR	LR	12 32 28.2	
	comp=Z,123nm,18.4s,baz=340,slow=33						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**27.86**	**348**	P	P	12 23 04.1	+1.4
	0.2nm,0.6s,baz=162,slow=9.4,SNR=1.4						
ASAR				LR	LR	12 33 03.3	
	comp=Z,77nm,21.6s,baz=162,slow=34						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**31.48**	**350**	P	P	12 23 33.8	-1.1
	0.9nm,0.9s,baz=175,slow=7.7,SNR=6.9						
	0.9nm,0.9s						
DZM	**Mont Dzumac**	**35.68**	**45**	LR	LR	12 36 36.4	
	comp=Z,80nm,18.5s,baz=27,slow=33						
QSPA	**South Pole Qui**	**38.92**	**180**	P	P	12 24 38.9	+0.3
	1.3nm,1.0s,baz=271,slow=3.9,SNR=2.1						
QSPA				LR	LR	12 39 44.5	
	comp=Z,132nm,21.2s,baz=338,slow=35						
	1.3nm,1.0s						
PMG	**Port Moresby**	**42.09**	**11**	LR	LR	12 42 35.7	
	comp=Z,119nm,18.1s,baz=166,slow=36						
BATI	**Baumata**	**42.97**	**336**	LR	LR	12 42 38.7	
	comp=Z,107nm,21.1s,baz=230,slow=36						
KAPI	**Kappang**	**48.99**	**333**	LR	LR	12 49 16.8	
	comp=Z,34nm,18.2s,baz=154,slow=39						
SIJI	**Sorong**	**50.66**	**349**	LR		12 49 40.4	
	comp=Z,32nm,18.1s,baz=32,slow=38						
SNAA	**Sanae**	**54.62**	**194**	LR	LR	12 48 35.8	
	comp=Z,113nm,20.3s,baz=220,slow=34						
DAV	**Davao City (W)**	**59.32**	**343**	LR	LR	12 55 05.8	
	comp=Z,15nm,18.1s,baz=146,slow=38						
GUMO	**Guam**	**64.66**	**5**	LR	LR	12 55 15.2	
	comp=Z,17nm,20.8s,baz=174,slow=35						
CMAR	**Chiang Mai Arr**	**78.06**	**321**	LR	LR	13 05 57.0	
	comp=Z,16nm,18.1s,baz=170,slow=38						

*CNRM **29** 12:17:31.1, 35°37N×5°01W, h75km, ml2.4*
*MDD **29** 12:17:34.4±0.8, 35°40N×4°93W, h31km±14km, mb_Lg2.5/8, Error ellipse: s-maj=7.2km s-min=4.9km az=138.0*
*INMG **29** 12:17:34.1±1.6, 35°42N×4°80W, h31km±24km, ML2.2, Error ellipse: s-maj=6.6km s-min=6.5km az=118.0*
*IGIL **29** 12:17:36.0, 35°61N×5°08W, h1km, ML2.2*

ISC 29 12:17:32.3±1.2, 35°38N±0°03×4°89W±0°03, h54km±20km, n34, σ1°74/63, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHEFC	**Chefchaouen**	**0.45**	**234**	P	**Pn**	**12 17 44.6**	**+1.2**
EMIJ	**Mijas**	**1.19**	**5**	P	**Pn**	**12 17 52.7**	**0.0**
EMIJ				S	**Sn**	**12 18 07.0**	**-0.9**
EMIJ				*i* Vmb_Lg		12 18 08.2	
ESPR	**Espera**	**1.68**	**333**	S	**Sn**	**12 18 20.2**	**+0.5**
ESPR				*i* Vmb_Lg		12 18 25.3	
ELGU	**Los Guajares,**	**1.81**	**34**	P	**Pn**	**12 18 01.0**	**-0.1**
ELGU				S	**Sn**	**12 18 21.3**	**-1.6**
ELGU				*i* Vmb_Lg		12 18 26.2	
JBK	**JBK**	**2.17**	**118**	P	**Pn**	**12 18 06.1**	**-0.1**
JBK				S	**Sn**	**12 18 30.4**	**-1.7**
EBER	**Berja**	**2.22**	**46**	P	**Pn**	**12 18 07.2**	**+0.4**
EBER				S	**Sn**	**12 18 31.3**	**-2.0**
ZHG	**ZHG**	**2.41**	**217**	P	**Pn**	**12 18 10.1**	**+0.9**
ZHG				S	**Sn**	**12 18 37.0**	**-0.6**
MD31	**MD31**	**2.50**	**177**	P	**Pn**	**12 18 11.7**	**+1.1**
MDT	**Midelt**	**2.56**	**175**	P	**Pn**	**12 18 12.5**	**+1.0**
MDT				S	**Sn**	**12 18 40.8**	**-0.7**
ECAB	**El Cabril**	**2.73**	**351**	P	**Pn**	**12 18 15.1**	**+1.5**
ECAB				S	**Sn**	**12 18 44.1**	**-1.3**
ECAB				*i* Vmb_Lg		12 18 50.0	
EMIN	**Mina Concepcio**	**2.79**	**330**	P	**Pn**	**12 18 15.6**	**+1.2**
EMIN				S	**Sn**	**12 18 45.2**	**-1.5**
EMIN				*i* Vmb_Lg		12 18 46.7	
EADA	**Adamuz**	**2.80**	**5**	P	**Pn**	**12 18 16.2**	**+1.6**
EADA				S	**Sn**	**12 18 46.8**	**-0.4**
EADA				*i* Vmb_Lg		12 18 50.1	
EQES	**Quesada**	**2.83**	**31**	P	**Pn**	**12 18 19.2**	**+4.1**
EQES				S	**Sn**	**12 18 50.0**	**+1.9**
EGRO	**El Granado**	**3.00**	**317**	P	**Pn**	**12 18 19.5**	**+2.2**
EGRO				S	**Sn**	**12 18 51.0**	**-1.0**
EGRO				*i* Vmb_Lg		12 18 52.5	
PVAQ	**Vaqueiros**	**3.05**	**312**	*e*Pn	**Pn**	**12 18 19.4**	**+1.4**
PVAQ				*e*Sn	**Sn**	**12 18 52.6**	**-0.6**
PVAQ				A	A	12 18 53.1	
	6.3nm,0.2s						
PVAQ	**Vaqueiros**	**3.05**	**312**	P	**Pn**	**12 18 18.0**	**+0.1**
PVAQ				S	**Sn**	**12 18 51.2**	**-2.1**
PBDV	**Barranco-do-Ve**	**3.08**	**308**	*e*Sn	**Sn**	**12 18 52.3**	**-1.8**
PBAR	**Barrancos**	**3.28**	**329**	*e*Pn	**Pn**	**12 18 22.5**	**+1.3**
PBAR				*e*Sn	**Sn**	**12 18 57.2**	**-1.8**
PBAR				A	A	12 19 01.8	
	4.3nm,0.4s						
PCVE	**Castro Verde**	**3.39**	**313**	*e*Pn	**Pn**	**12 18 24.8**	**+2.1**
PCVE				*e*Sn	**Sn**	**12 19 00.6**	**-1.1**
PCVE				A	A	12 19 02.9	
	3.9nm,0.2s						
PBEJ	**Beja**	**3.57**	**319**	*e*Pn	**Pn**	**12 18 26.2**	**+1.1**
PBEJ				*e*Sn	**Sn**	**12 19 04.5**	**-1.5**
PBEJ				A	A	12 19 07.7	
	3.8nm,0.2s						
MORF	**Marmelete**	**3.60**	**304**	*e*P	**Pn**	**12 18 27.6**	**+2.1**
MORF				*e*S	**Sn**	**12 19 05.2**	**-1.5**
MORF				IAML		12 19 08.2	
	comp=N,9.4nm,0.1s						
MORF	**Marmelete**	**3.60**	**304**	*e*Pn	**Pn**	**12 18 28.0**	**+2.5**
MORF				*e*Sn	**Sn**	**12 19 05.8**	**-0.9**
MORF				A	A	12 19 11.8	
	comp=N,3.3nm,0.1s						
PFVI	**Vila Bisbo**	**3.63**	**300**	*e*Pn	**Pn**	**12 18 28.3**	**+2.3**
PFVI				*e*Sn	**Sn**	**12 19 06.7**	**-0.9**
PFVI				A	A	12 19 14.1	
	comp=N,8.1nm,0.8s						
PFVI	**Vila Bisbo**	**3.63**	**300**	P	**Pn**	**12 18 24.8**	**-1.2**
PFVI				S	**Sn**	**12 19 05.3**	**-2.2**
MESJ	**Messejana**	**3.64**	**314**	*e*P	**Pn**	**12 18 27.9**	**+1.8**
MESJ				*e*S	**Sn**	**12 19 05.7**	**-1.9**
MESJ				IAML		12 19 08.0	
	comp=N,6.6nm,0.2s						
MESJ	**Messejana**	**3.64**	**314**	*e*Pn	**Pn**	**12 18 28.1**	**+2.1**
MESJ				*e*Sn	**Sn**	**12 19 06.3**	**-1.4**
MESJ				A	A	12 19 09.0	
	comp=N,3.6nm,0.2s						
PTEO	**Sao Teotonio**	**3.77**	**306**	*e*Pn	**Pn**	**12 18 29.6**	**+1.7**
PTEO				*e*Sn	**Sn**	**12 19 09.9**	**-1.1**
PTEO				A	A	12 19 11.5	
	comp=N,4.8nm,0.8s						
EBAD	**Badajoz**	**3.78**	**334**	P	**Pn**	**12 18 29.0**	**+1.0**
EBAD				S	**Sn**	**12 19 09.4**	**-1.7**
EBAD				*i* Vmb_Lg		12 19 11.9	
PNCL	**Nicolau / Gran**	**4.00**	**314**	*e*Pn	**Pn**	**12 18 33.3**	**+2.3**
PNCL				*e*Sn	**Sn**	**12 19 15.2**	**-1.4**
PNCL				A	A	12 19 17.2	
	comp=N,2.3nm,0.6s						
PESTR	**Estremoz**	**4.10**	**329**	*e*Pn	**Pn**	**12 18 34.3**	**+1.9**
PESTR				*e*Sn	**Sn**	**12 19 17.3**	**-1.8**
PESTR				A	A	12 19 19.5	
	comp=N,1.9nm,0.2s						
PESTR	**Estremoz**	**4.10**	**329**	P	**Pn**	**12 18 31.6**	**-0.8**
PESTR				S	**Sn**	**12 19 14.4**	**-4.7**
PMRV	**Marv??o**	**4.51**	**335**	*i* Pn	**Pn**	**12 18 39.8**	**+1.8**
PMRV				*e*Sn	**Sn**	**12 19 27.1**	**-2.1**
PMRV				A	A	12 19 28.8	
	comp=N,1.7nm,0.5s						
PMTG	**Montargil**	**4.55**	**325**	*e*Pn	**Pn**	**12 18 40.0**	**+1.5**
PMTG				*e*Sn	**Sn**	**12 19 28.1**	**-1.9**
PMTG				A	A	12 19 36.2	
	comp=N,1.5nm,0.8s						
PCBR	**Castelo Branco**	**4.91**	**336**	*e*Sn	**Sn**	**12 19 36.7**	**-2.2**

IDC 29 12:19:54.5±501.0, 48°89N×47°87E, h0km, Error ellipse: s-maj=177.0km s-min=140.2km az=62.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**6.78**	**73**	*i*		13 02 00.0	
	0.3nm,0.8s,baz=259,slow=319,SNR=8.8						
I43RU	**DUBNA INFRASON**	**10.14**	**325**	*i*		13 16 10.0	
	baz=132,slow=328,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**23.40**	**63**	*i*		14 46 00.0	
	baz=270,slow=322,SNR=1.9						

*NEIC **29** 12:22:40.6±1.6, 7°3S±0°1×106°83E±0°10, h81km±9km, mb4.3/15, Error ellipse: s-maj=18.6km s-min=8.3km az=137.0*
*DJA **29** 12:22:41.4±0.3, 8°3S±6°×10°7E±°, h80km±5km, M4.5/19, mb4.5/16, mB5.5/3, MLv4.4/19, Mw(mB)4.9/3*
*IDC **29** 12:22:43.4±1.6, 6°92S×107°19E, h110km±10km, mb3.5/7, mbtmp3.9/7, Error ellipse: s-maj=55.3km s-min=17.4km az=53.0*

ISC 29 12:22:41.3±0.9, 7°39S±0°07×106°93E±0°06, h91km±10km, n58, σ1°45/58, mb3.9/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.21**	**68**	P	**Pn**	**12 22 54.8**	**+0.4**
SKJI	**Sukabumi**	**0.53**	**316**	P	**Pn**	**12 22 57.5**	**+1.1**
LEM	**Lembang**	**0.88**	**51**	P	**Pn**	**12 23 00.8**	**+1.0**
	530nm,0.3s,baz=53,slow=12,SNR=28						
LEM	**Lembang**	**0.88**	**51**	P	**Pn**	**12 23 00.1**	**+0.2**
TNG	**Tangerang**	**1.24**	**347**	P	**Pn**	**12 23 05.5**	**+1.6**
TNG				P		12 23 05.6	
SBJI	**Serang**	**1.49**	**328**	P	**Pn**	**12 23 09.3**	**+2.3**
JCJI	**Jatiwangi**	**1.60**	**56**	P	**Pn**	**12 23 06.8**	**-1.5**
BLSI	**Bandar Lampung**	**2.62**	**320**	P	**Pn**	**12 23 24.1**	**+2.4**
KASI	**Kota Agung**	**3.05**	**307**	P	**Pn**	**12 23 29.6**	**+2.1**
KLI	**Kotabumi**	**3.25**	**320**	P	**Pn**	**12 23 32.5**	**+2.3**
XMIS	**Christmas Isla**	**3.32**	**202**		**Pn**	**12 23 30.9**	**-0.3**
XMIS					**Sn**	**12 24 06.6**	**-3.1**
YOGI	**Yogyakarta**	**3.36**	**97**	P	**Pn**	**12 23 30.7**	**-1.0**
SMRI	**Semarang**	**3.50**	**85**		**Pn**	**12 23 34.1**	**+0.6**
SMRI	**Semarang**	**3.50**	**85**	P	**Pn**	**12 23 33.4**	**-0.1**
UGM	**Wanagama**	**3.60**	**99**		**Pn**	**12 23 35.0**	**+0.1**
UGM	**Wanagama**	**3.60**	**99**	P	**Pn**	**12 23 34.8**	**-0.1**
PCJI	**Pacitan**	**4.28**	**101**	P	**Pn**	**12 23 44.0**	**-0.1**
NGJI	**Ngawi**	**4.49**	**90**	P	**Pn**	**12 23 46.9**	**-0.1**
PWJI	**Pagerwojo**	**4.87**	**98**	P	**Pn**	**12 23 51.9**	**-0.2**
MNAI	**Manna**	**4.97**	**307**	P	**Pn**	**12 23 55.7**	**+2.2**
	2.5nm405nm,0.5s						
PPBI	**Pangkal Pinang**	**5.25**	**351**	P	**Pn**	**12 23 59.4**	**+2.0**
MASI	**Maura Aman, Be**	**6.30**	**312**	P	**Pn**	**12 24 13.6**	**+2.0**
	0.6nm98nm,2.5s						
KMMI	**Kalianget**	**6.99**	**88**	P	**Pn**	**12 24 19.6**	**-1.4**
	0.1nm18nm,0.6s						
JAGI	**Jajag, Banyuwa**	**7.23**	**99**		**Pn**	**12 24 25.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**7.23**	**99**	P	**Pn**	**12 24 24.3**	**0.0**
	0.3nm2µm76nm,1.0s						
DSRI	**Dabo**	**7.25**	**341**	P	**Pn**	**12 24 27.0**	**+2.3**
	0.0nm7.1nm,0.5s						
SRBI	**Singaraja**	**8.23**	**95**	P	**Pn**	**12 24 38.2**	**+0.2**
	1µm40nm,0.6s						
IGBI	**Denpasar**	**8.26**	**100**	P	**Pn**	**12 24 38.1**	**-0.2**
	52nm,1.0s						
PPSI	**Pulau Pagai**	**8.29**	**303**	P	**Pn**	**12 24 38.7**	**0.0**
	356nm,1.4s						
TWSI	**Taliwang, Sumb**	**9.94**	**98**	P	**Pn**	**12 24 59.6**	**-1.7**
	8.4nm,0.7s						
PLAI	**Plampang**	**10.83**	**98**	P	**Pn**	**12 25 11.2**	**-2.2**
	34nm,0.8s						
GIRL	**Giralia**	**16.72**	**156**		**Pn**	**12 26 30.6**	**+0.7**
BATI	**Baumata**	**16.77**	**101**	P	**Pn**	**12 26 30.3**	**-0.4**
	17nm,0.7s						
SOEI	**Soe**	**17.30**	**99**	P	**Pn**	**12 26 37.9**	**+0.6**
SOEI				IAmb	IAmb	12 26 50.6	
	comp=Z,23nm,0.9s						
SOEI	**Soe**	**17.30**	**99**	P	**Pn**	**12 26 37.6**	**+0.3**
	comp=Z,27nm,0.8s						
PSA00	**Pilbara Seismi**	**18.82**	**140**	P	**Pn**	**12 26 55.4**	**+1.4**
PSA00				IAmb	IAmb	12 27 17.7	
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.10**	**122**	P	**P**	**12 27 19.1**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=280,slow=6.9,SNR=7.8						
	comp=Z,2.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.10**	**122**	P	**P**	**12 27 19.3**	**+0.7**
KNRA	**Kununurra**	**22.90**	**113**	P	**P**	**12 27 37.1**	**-0.6**
KNRA				IAmb	IAmb	12 27 58.0	
	comp=Z,10nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.87**	**343**	P	**P**	**12 28 11.2**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=177,slow=9.0,SNR=4.1						
	comp=Z,0.5nm,0.3s						
WB0	**Warramunga Arr**	**29.33**	**118**	P	**P**	**12 28 36.2**	**+0.5**
WB0				IAmb	IAmb	12 28 44.6	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**29.35**	**118**	P	**P**	**12 28 36.5**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=308,slow=9.3,SNR=35						
	comp=Z,0.6nm,0.4s						
WRA	**Warramunga Arr**	**29.35**	**118**	P	**P**	**12 28 36.2**	**+0.3**
WRAB	**Tennant Creek**	**29.36**	**118**	P	**P**	**12 28 36.2**	**+0.3**
WRAB				IAmb	IAmb	12 28 44.1	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**29.36**	**118**	P	**P**	**12 28 36.0**	**0.0**
WB2				IAmb	IAmb	12 28 44.1	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**29.53**	**118**	P	**P**	**12 28 37.4**	**-0.1**
WR0				IAmb	IAmb	12 28 60.0	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**30.52**	**125**	P	**P**	**12 28 46.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=302,slow=8.0,SNR=18						
	comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**30.52**	**125**	P	**P**	**12 28 46.6**	**+0.5**
AS31	**Alice Springs**	**30.52**	**125**	P	**P**	**12 28 46.9**	**+0.7**
AS31				IAmb	IAmb	12 28 53.2	
	comp=Z,4.0nm,1.4s						
COEN	**Coen**	**36.17**	**103**	P	**P**	**12 29 34.6**	**-0.8**
STKA	**Stephens Creek**	**40.43**	**132**	P	**P**	**12 30 12.4**	**+1.5**
	comp=Z,4.1nm,0.5s,baz=310,slow=7.7,SNR=13						
STKA	**Stephens Creek**	**40.43**	**132**	P	**P**	**12 30 12.3**	**+1.5**
STKA				IAmb	IAmb	12 30 14.3	
	comp=Z,1.7nm,0.9s						
ARMA	**Armidale**	**47.67**	**125**	P	**P**	**12 31 11.5**	**+2.6**
MKAR	**Makanchi Array**	**58.23**	**340**	P	**P**	**12 32 23.1**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=157,slow=7.7,SNR=2.7						
	comp=Z,0.2nm,0.3s						
ABKAR	**Akbulak array**	**69.71**	**329**	P	**P**	**12 33 39.8**	**-1.5**
VNDA	**Vanda**	**75.60**	**169**	P	**P**	**12 34 18.1**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=316,slow=7.9,SNR=4.3						
	comp=Z,0.3nm,0.4s						
VNDA	**Vanda**	**75.60**	**169**	P	**P**	**12 34 17.9**	**+2.1**
TXAR	**Lajitas Array**	**143.87**	**49**	PKP	PKPab	12 42 04.9	+0.8
	comp=Z,0.2nm,0.4s,baz=180,slow=1.2,SNR=3.7						

IDC 29 12:33:21.5±13.0, 23°33S×176°00W, h0km, mb4.6/6, mbtmp4.6/6, Error ellipse: s-maj=262.2km s-min=89.2km az=98.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.15**	**268**	P	P	12 40 18.3	+1.1
	14nm,0.5s,baz=92,slow=11,SNR=47						
	14nm,0.5s						
STKA	**Stephens Creek**	**38.33**	**248**	P	P	12 40 43.8	-0.4
	3.6nm,0.9s,baz=90,slow=6.1,SNR=4.0						
	3.6nm,0.9s						
ASAR	**Alice Springs**	**45.74**	**259**	P	P	12 41 44.4	-0.5
	4.2nm,0.7s,baz=100,slow=7.2,SNR=50						
	4.2nm,0.7s						
WRA	**Warramunga Arr**	**46.11**	**264**	P	P	12 41 46.9	-1.0
	4.7nm,0.5s,baz=94,slow=8.3,SNR=193						
	4.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**54.53**	**264**	P	P	12 42 51.1	-0.5
	2.3nm,0.6s,baz=82,slow=7.8,SNR=7.9						
	2.3nm,0.6s						
SIJI	**Sorong**	**55.77**	**286**	P	P	12 43 01.4	+0.7
	7.1nm,0.7s,baz=87,slow=5.8,SNR=5.9						
	7.1nm,0.7s						

IDC 29 12:36:46.7±1.5, 3°05N×125°20E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=118.8km s-min=20.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.02**	**179**	P	P	12 41 34.0	+1.9
	1.0nm,0.4s,baz=12,slow=8.2,SNR=17						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**24.55**	**159**	P	P	12 42 08.5	+0.1
	0.5nm,0.3s,baz=334,slow=11,SNR=7.9						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**27.88**	**163**	P	P	12 42 37.1	-1.4
	0.4nm,0.7s,baz=345,slow=7.7,SNR=4.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**57.25**	**326**	P	P	12 46 36.3	+0.2
	0.9nm,0.4s,baz=124,slow=7.5,SNR=22						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**60.51**	**334**	P	P	12 46 57.9	-0.7
	0.5nm,0.3s,baz=150,slow=6.1,SNR=2.1						
	0.5nm,0.3s						

*NEIC **29** 12:57:16.5±1.3, 19°01N±0°03×67°01W±0°04, h29km±10km, Error ellipse: s-maj=6.3km s-min=4.1km az=104.0*
*RSPR **29** 12:57:17.6, 19°06N×67°01W, h37km±9km, MD2.9/9*
*OSPL **29** 12:57:19.0±10.0, 18°83N×66°75W, h40km±190km, ML2.1*

ISC 29 12:57:17.3±2.0, 18°96N±0°10×66°98W±0°05, h29km, n46, σ0°62/46, 10C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.50**	**194**	*e*P	**Pb**	**12 57 28.1**	**+0.3**
AGPR	**Aguadilla, PR**	**0.50**	**194**		**Pb**	**12 57 28.1**	**+0.3**
AGPR	**Aguadilla, PR**	**0.50**	**194**		**Sn**	**12 57 36.5**	**+0.2**
AGPR	**Aguadilla, PR**	**0.50**	**194**	IAML		12 57 34.7	
	comp=E,131nm,2.6s						
AGPR	**Aguadilla, PR**	**0.50**	**194**	IAML		12 57 40.0	
	comp=N,117nm,1.4s						
AGPR	**Aguadilla, PR**	**0.50**	**194**	*i* P	**Pb**	**12 57 28.0**	**+0.3**
AGPR				*e*S	**Sn**	**12 57 36.2**	**-0.1**
AGPR				IAML		12 57 37.4	
	comp=Z,42nm,0.2s						
EMPR	**Esperanza - Ma**	**0.64**	**138**	*e*P	**Pb**	**12 57 30.0**	**-0.1**
EMPR	**Esperanza - Ma**	**0.64**	**138**	*e*S	**Sn**	**12 57 40.7**	**+1.0**
EMPR	**Esperanza - Ma**	**0.64**	**138**		**Pb**	**12 57 30.0**	**-0.1**
EMPR					**Sn**	**12 57 40.7**	**+1.0**
EMPR	**Esperanza - Ma**	**0.64**	**138**	IAML		12 57 43.5	
	comp=N,125nm,1.4s						
EMPR				IAML		12 57 54.3	
	comp=E,150nm,1.8s						
AOPR	**Arecibo Observ**	**0.65**	**160**	*e*P	**Pb**	**12 57 29.9**	**-0.2**
AOPR	**Arecibo Observ**	**0.65**	**160**	*e*S	**Sn**

WCSM	**Coso Springs S**	**0.16**	**334**			**Pg**	**12 59 32.7**	**-0.5**
WCSM						**Sg**	**12 59 35.0**	**-0.9**
WNMM	**Nine Mile Cany**	**0.18**	**257**			**Pg**	**12 59 33.7**	**+0.2**
SRTC	**Snort**	**0.20**	**196**			**Pg**	**12 59 34.4**	**+0.5**
WRVM	**Rose V. Centra**	**0.21**	**306**			**Pg**	**12 59 33.8**	**-0.2**
WRVM						**Sg**	**12 59 36.9**	**-0.3**
MPMC	**Manual Prospec**	**0.23**	**42**			**Pg**	**12 59 34.3**	**-0.2**
MPMC						**Sg**	**12 59 37.6**	**-0.4**
MPMC	**Manual Prospec**	**0.23**	**42**	P		**Pg**	**12 59 34.2**	**-0.2**
	baz=225,SNR=1000							
MPMC				S		**Sg**	**12 59 37.5**	**-0.4**
	baz=225							
MFS	**McCloud Flat S**	**0.27**	**329**			**Pg**	**12 59 34.9**	**-0.3**
MFS						**Sg**	**12 59 39.0**	**0.0**
WCHM	**Chimney Peak**	**0.32**	**270**			**Pb**	**12 59 36.6**	**-0.8**
LRMC	**Laurel Mtn Rad**	**0.40**	**180**			**Sb**	**12 59 43.9**	**-1.0**
LRMC	**Laurel Mtn Rad**	**0.40**	**180**	P		**Pb**	**12 59 37.7**	**-0.9**
	baz=360,SNR=790							
LRMC				S		**Sb**	**12 59 43.6**	**-1.3**
	baz=360							
CCCA	**Chr Cany lake**	**0.44**	**144**			**Pb**	**12 59 39.2**	**-0.1**
CCCA						**Sb**	**12 59 46.0**	**+0.1**
WORM	**Onyx Ranch**	**0.49**	**248**			**Pg**	**12 59 39.1**	**0.0**
WORM						**Sg**	**12 59 46.0**	**+0.3**
WBSM	**Bird Springs**	**0.51**	**227**			**Sb**	**12 59 47.0**	**-1.0**
WLHM	**Little Horse**	**0.58**	**298**			**Pg**	**12 59 40.5**	**-0.3**
WLHM						**Sg**	**12 59 48.4**	**-0.1**
DTP	**Desert Tortois**	**0.63**	**192**			**Pb**	**12 59 41.8**	**-0.7**
DTP						**Sb**	**12 59 50.7**	**-0.6**
CWC	**Cottonwood Cre**	**0.64**	**330**			**Pg**	**12 59 41.8**	**-0.2**
CWC	**Cottonwood Cre**	**0.64**	**330**	P		**Pg**	**12 59 41.7**	**-0.3**
	baz=149							
CWC				S		**Sg**	**12 59 50.4**	**0.0**
	baz=149							
QSM	**Queen of Sheba**	**0.67**	**83**			**Pg**	**12 59 42.2**	**-0.1**
QSM				IAML			12 59 57.6	
	comp=N,694nm,0.4s							
CGO	**Cerro Gordo**	**0.67**	**352**			**Pg**	**12 59 42.0**	**-0.6**
ISA	**Isabella, Lake**	**0.68**	**251**	Pg		**Pb**	**12 59 42.7**	**-0.7**
ISA				IAML			12 59 52.2	
	comp=N,453nm,0.5s							
ISA	**Isabella, Lake**	**0.68**	**251**			**Sg**	**12 59 51.8**	**+0.2**
ISA	**Isabella, Lake**	**0.68**	**251**	P		**Pb**	**12 59 42.7**	**-0.7**
	baz=70,SNR=149							
ISA				S		**Sg**	**12 59 51.7**	**+0.1**
	baz=70							
WASM	**Alta Sierra Ca**	**0.73**	**259**			**Pb**	**12 59 43.6**	**-0.6**
CCAC	**Calif City Air**	**0.78**	**201**			**Pb**	**12 59 44.7**	**-0.4**
CCAC	**Calif City Air**	**0.78**	**201**			**Sb**	**12 59 55.7**	**+0.1**
CCAC	**Calif City Air**	**0.78**	**201**	IAML			12 59 56.0	
	comp=E,330nm,0.6s							
CCAC				IAML			13 00 00.6	
	comp=N,385nm,0.5s							
GWY	**Greenwater Val**	**0.88**	**70**			**Pb**	**12 59 46.4**	**-0.4**
GWY				IAML			13 00 03.4	
	comp=N,498nm,0.4s							
FURC	**Furnace Creek,**	**0.88**	**49**			**Sb**	**12 59 58.7**	**+0.2**
FURC	**Furnace Creek,**	**0.88**	**49**	P		**Pb**	**12 59 46.6**	**-0.1**
	baz=230,SNR=172							
FURC				S		**Sb**	**12 59 58.3**	**-0.2**
	baz=230							
GSC	**Goldstone, Bar**	**0.92**	**129**			**Pb**	**12 59 47.1**	**-0.4**
GSC	**Goldstone, Bar**	**0.92**	**129**			**Sb**	**12 59 59.9**	**+0.2**
GSC	**Goldstone, Bar**	**0.92**	**129**	P		**Pb**	**12 59 47.0**	**-0.4**
	baz=310,SNR=143							
GSC				S		**Sb**	**12 59 59.7**	**-0.1**
	baz=310							
SPG2	**Springville 2**	**0.93**	**290**			**Pg**	**12 59 46.9**	**-0.6**
HYS	**Haystack Butte**	**1.02**	**175**			**Pb**	**12 59 48.9**	**-0.3**
EDW2	**Edwards Air Fo**	**1.03**	**194**			**Sb**	**13 00 02.8**	**-0.1**
EDW2	**Edwards Air Fo**	**1.03**	**194**	P		**Pg**	**12 59 49.0**	**-0.4**
	baz=14,SNR=63							
EDW2				S		**Sb**	**13 00 02.9**	**0.0**
	baz=14							
GRAC	**Grapevine Rang**	**1.14**	**13**	Pg		**Pg**	**12 59 50.7**	**-0.6**
GRAC				IAML			13 00 11.4	
	comp=N,280nm,1.0s							
GRAC				IAML			13 00 14.0	
	comp=E,276nm,0.6s							
GRAC	**Grapevine Rang**	**1.14**	**13**	P		**Pg**	**12 59 50.8**	**-0.6**
	baz=193,SNR=110							
GRAC				S		**Sb**	**13 00 06.4**	**+0.5**
	baz=193							
VES	**Vestal, Richgr**	**1.14**	**268**			**Sb**	**13 00 05.9**	**0.0**
VES	**Vestal, Richgr**	**1.14**	**268**	P		**Pb**	**12 59 51.1**	**0.0**
	baz=87,SNR=9.9							
VES				S		**Sb**	**13 00 06.3**	**+0.4**
	baz=87							
SHOC	**Shoshone, Teco**	**1.14**	**89**			**Pg**	**12 59 51.0**	**-0.4**
SHOC						**Sb**	**13 00 06.5**	**+0.4**
SHOC	**Shoshone, Teco**	**1.14**	**89**	P		**Pg**	**12 59 51.0**	**-0.4**
	baz=270,SNR=303							
SHOC				S		**Sn**	**13 00 06.9**	**-0.1**
	baz=270							
RRX	**Edison Barstow**	**1.15**	**151**	P		**Pb**	**12 59 51.3**	**0.0**
	baz=332,SNR=17							
RRX				S		**Sn**	**13 00 07.5**	**+0.3**
	baz=332							
SBB	**Saddle Back Bu**	**1.20**	**186**			**Pb**	**12 59 52.0**	**-0.2**
ARVC	**Arvin**	**1.20**	**231**	P		**Pn**	**12 59 52.4**	**+0.2**
	baz=50,SNR=26							
ARVC				S		**Sn**	**13 00 08.4**	**-0.1**
	baz=50							
WCT	**Wildcat Mounta**	**1.25**	**43**			**Pn**	**12 59 52.9**	**0.0**
WCT				IAML			13 00 10.0	
	comp=N,150nm,0.5s							
WCT				IAML			13 00 14.5	
	comp=E,214nm,1.0s							
TIN	**Tinemaha, Big**	**1.25**	**339**	P		**Pn**	**12 59 52.9**	**0.0**
	baz=159							
TIN				S		**Sn**	**13 00 09.8**	**+0.1**
	baz=159							
AMDNV	**Amargosa**	**1.27**	**63**			**Sb**	**13 00 09.8**	**+0.2**
LCH	**Last Change Ra**	**1.35**	**1**			**Pn**	**12 59 54.0**	**-0.3**
VOG	**Valley Oaks Go**	**1.44**	**288**	Pb		**Pb**	**12 59 56.3**	**0.0**
	baz=107							
VOG				S		**Sg**	**13 00 15.9**	**-0.1**
	baz=107							
JNH	**Juniper Hills**	**1.45**	**189**			**Pn**	**12 59 55.9**	**+0.2**
GMN	**Gold Mountain**	**1.45**	**13**			**Pb**	**12 59 56.3**	**-0.3**
GMN				IAML			13 00 23.1	
	comp=N,85nm,1.0s							
DSCC	**Desert Studies**	**1.49**	**119**			**Pn**	**12 59 55.8**	**-0.2**
DSP	**Deep Springs**	**1.50**	**351**			**Pb**	**12 59 57.0**	**-0.3**
TUQ	**Turquoise Moun**	**1.50**	**107**			**Pn**	**12 59 56.3**	**0.0**
TUQ	**Turquoise Moun**	**1.50**	**107**	P		**Pn**	**12 59 56.3**	**0.0**
	baz=288,SNR=150							
TUQ				Sg		**Sg**	**13 00 18.6**	**+0.8**
	baz=288							
HEC	**Hector,Ludlow**	**1.52**	**133**	P		**Pn**	**12 59 56.6**	**-0.1**
	baz=315,SNR=34							
HEC				Sg		**Sg**	**13 00 19.6**	**+1.0**
	baz=315							
OSI	**Osito Audit: C**	**1.53**	**214**	Sb		**Sg**	**13 00 18.6**	**0.0**
	baz=33							
TPNV	**Topopah Spring**	**1.57**	**47**			**Pn**	**12 59 57.8**	**+0.4**
TPNV				IAML			13 00 24.7	
	comp=N,206nm,0.5s							
TPNV	**Topopah Spring**	**1.57**	**47**	Pb		**Pb**	**12 59 58.1**	**-0.5**
	baz=228,SNR=115							
TPNV				Sb		**Sg**	**13 00 19.8**	**-0.3**
	baz=228							
MTUM	**Tungsten Hills**	**1.63**	**334**			**Pg**	**12 59 60.0**	**-0.8**
BFSC	**Mount Baldy Ra**	**1.64**	**179**	Pb		**Pb**	**13 00 00.0**	**+0.2**
	baz=359,SNR=47							
BFSC				Sb		**Sg**	**13 00 22.4**	**+0.1**
	baz=359							
SIL	**Silver Peak**	**1.69**	**155**			**Pg**	**13 00 02.1**	**+0.3**
BCW	**Bitter Crk WRg**	**1.70**	**237**			**Pg**	**13 00 01.4**	**-0.7**
BBRC	**Big Bear Solar**	**1.73**	**159**	Sg		**Sg**	**13 00 26.4**	**+1.1**
	baz=339							
PASC	**Pasadena Art C**	**1.76**	**194**			**Pb**	**13 00 01.5**	**-0.2**
CRGC	**Crocker Grade**	**1.78**	**250**			**Pb**	**13 00 02.5**	**+0.3**
MZP	**Montezuma Peak**	**1.83**	**7**			**Pn**	**13 00 01.9**	**+0.8**
BENR	**Benton**	**1.96**	**339**			**Pb**	**13 00 05.8**	**+0.5**
SMMC	**Simmler**	**1.97**	**254**	P		**Pn**	**13 00 03.2**	**+0.5**
	baz=72							
SMMC				Sg		**Sg**	**13 00 31.5**	**-1.3**
	baz=72							
GMRC	**Granite Mounta**	**1.98**	**123**			**Pn**	**13 00 02.5**	**-0.6**
GMRC	**Granite Mounta**	**1.98**	**123**	P		**Pn**	**13 00 02.4**	**-0.6**
	baz=305,SNR=22							
GMRC				Sb		**Sg**	**13 00 32.2**	**-1.1**
	baz=305							
PKM	**Mcpherson Peak**	**2.00**	**241**	Pb		**Pb**	**13 00 06.1**	**+0.1**
	baz=59							
PKM				Sb		**Sg**	**13 00 32.6**	**-1.3**
	baz=59							
OMMB	**Old Mammoth Mi**	**2.02**	**329**			**Pb**	**13 00 06.7**	**+0.3**
OMMB				IAML			13 00 38.9	
	comp=E,49nm,1.1s							
MDPB	**Devils Postpil**	**2.07**	**328**			**Pb**	**13 00 07.7**	**+0.5**
MDPB				IAML			13 00 37.7	
	comp=N,60nm,0.6s							
MDPB				IAML			13 00 39.0	
	comp=E,63nm,0.9s							
BCH	**Branch Mountai**	**2.08**	**251**			**Pb**	**13 00 07.2**	**0.0**
SHPR	**Sheep Range**	**2.13**	**72**			**Pn**	**13 00 06.1**	**+1.0**
MHDM	**Hidden Dam**	**2.17**	**305**			**Pb**	**13 00 08.3**	**-0.4**
SBC	**Santa Barbara**	**2.20**	**230**	Sg		**Sg**	**13 00 41.1**	**+1.0**
	baz=48							
ELS	**Elsinore Mount**	**2.24**	**175**			**Pn**	**13 00 07.6**	**+1.0**
ELS				IAML			13 00 45.5	
	comp=N,38nm,0.7s							
V12A	**Nelson**	**2.31**	**93**			**Pn**	**13 00 07.9**	**+0.4**
V12A				IAML			13 00 45.0	
	comp=N,60nm,0.6s							
V12A				IAML			13 00 48.2	
	comp=E,38nm,0.5s							
MURC	**Murrieta**	**2.31**	**170**	P		**Pn**	**13 00 08.0**	**+0.6**
	baz=350							
BELC	**Belle Mtn. Jos**	**2.33**	**143**	P		**Pn**	**13 00 08.1**	**+0.3**
	baz=324,SNR=13							
S11A	**Rachel**	**2.34**	**41**			**Pn**	**13 00 09.3**	**+1.2**
LHV	**Little Huntoon**	**2.45**	**345**			**Pn**	**13 00 11.1**	**+1.8**
LHV				IAML			13 00 55.6	
	comp=E,43nm,1.0s							
LHV				IAML			13 01 00.4	
	comp=N,28nm,1.1s							
PMD	**Palm Desert**	**2.48**	**154**	Pn		**Pn**	**13 00 11.1**	**+1.4**
PMD				IAML			13 00 55.8	
	comp=E,41nm,0.6s							
PMD				IAML			13 00 59.5	
	comp=N,28nm,1.2s							
PFO	**Pinyon Flats O**	**2.48**	**156**			**Pb**	**13 00 12.0**	**-2.1**
PFO				IAML			13 00 54.8	
	comp=N,42nm,1.4s							
PMPB	**Monarch Peak**	**2.55**	**278**			**Pn**	**13 00 12.8**	**+2.1**
PRN	**Pahroc Range**	**2.60**	**54**	Pn		**Pn**	**13 00 12.6**	**+1.0**
PRN				IAML			13 01 03.9	
	comp=N,74nm,0.9s							
PRN				IAML			13 01 04.4	
	comp=E,75nm,0.8s							
IRM	**Iron Mountain**	**2.70**	**129**	P		**Pn**	**13 00 12.2**	**-0.6**
	baz=311							
BBGB	**Big Mountain B**	**2.80**	**285**			**Pb**	**13 00 17.5**	**-2.0**
SAO	**San Andreas Ge**	**3.16**	**287**	Pn		**Pn**	**13 00 20.7**	**+1.6**
KVN	**Kaiserville**	**3.18**	**354**			**Pn**	**13 00 20.6**	**+1.1**
KNB	**Kanab**	**4.08**	**72**	Pn		**Pn**	**13 00 34.0**	**+2.1**
KNB				IAML			13 01 49.2	
	comp=E,10nm,1.8s							
KNB				IAML			13 01 50.9	
	comp=N,12nm,1.7s							

IDC 29 13:35:18.0±44.0, 22.92S×174.80W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=819.3km s-min=163.3km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.52**	**247**	P	P	13 42 50.1	-0.6
	1.5nm,0.8s,baz=108,slow=9.6,SNR=2.4						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**46.91**	**258**	P	P	13 43 50.5	-0.1
	0.8nm,0.8s,baz=91,slow=7.2,SNR=8.7						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**47.26**	**264**	P	P	13 43 53.6	+0.3
	0.8nm,0.5s,baz=102,slow=7.7,SNR=19						
	0.8nm,0.5s						

*NEIC **29** 13:58:52.6±0.9, 34.48N±0.05×90.4E±0.2, h14km±5km, mb4.2/19, Error ellipse: s-maj=20.4km s-min=5.5km az=75.0*
*IDC **29** 13:58:52.9±0.8, 34.15N×89.90E, h0km, mb3.9/7, mbtmp3.8/11, ML3.3/4, MS3.3/4, Error ellipse: s-maj=37.3km s-min=15.6km az=55.0*
ISC 29 13:58:52.2±0.6, 34.42N±0.08×90.37E±0.07, h10km, n46, σ1s87/43, mb4.3/11, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOMU	**GeErMu**	**4.05**	**63**	Pg	**Pg**	**14 00 07.0**	**-2.8**
GOMU				smax	smax		
	comp=N,5.0nm,1.1s						
GOMU				smax	smax		
	comp=E,9.0nm,0.8s						
LSA	**Lhasa**	**4.75**	**172**		**Pn**	**14 00 04.6**	**+0.3**
WMQ	**Urumqi**	**9.61**	**348**	eP	Pn	14 01 20.0	+9.3
WMQ				smax	smax		
	comp=N,31nm,1.1s						
WMQ				smax	smax		
	comp=E,26nm,1.3s						
TARG	**Taragay, Kyrgy**	**12.29**	**310**	Pn	**Pn**	**14 01 47.0**	**-0.6**
MK31	**Makanchi Array**	**13.79**	**336**	Pn	**Pn**	**14 02 06.5**	**-1.2**
MKAR	**Makanchi Array**	**13.79**	**336**	Pn	**Pn**	**14 02 09.8**	**+2.1**
	comp=E,0.1nm,0.3s,baz=140,slow=14,SNR=6.4						
	comp=E,1.1nm,0.9s						
MKAR	**Makanchi Array**	**13.79**	**336**	Pn	**Pn**	**14 02 06.5**	**-1.2**
MAKZ	**Makanchi**	**13.91**	**335**		**Pn**	**14 02 08.3**	**-1.1**
NIL	**Nilore**	**14.22**	**272**	Pn	**Pn**	**14 02 11.2**	**-2.5**
AAK	**Ala-Archa**	**14.87**	**308**	Pn	**P**	**14 02 27.6**	**-0.8**
	comp=E,0.1nm,0.3s,baz=209,slow=19,SNR=1.3						
AAK				LR	LR	14 08 51.2	
	comp=E,69nm,18.9s,baz=110,slow=41						
AAK	**Ala-Archa**	**14.87**	**308**	P	**P**	**14 02 29.0**	**+0.5**
BTK	**Batken**	**16.54**	**296**	P	**P**	**14 02 46.3**	**-0.6**
ENH	**Enshi**	**16.68**	**99**	Pn	**Pn**	**14 02 44.0**	**-2.0**
ENH				IAmb	IAmb	14 03 26.5	
	comp=Z,14nm,1.2s						
GAR	**Garm**	**16.71**	**292**	Pn	**Pn**	**14 02 44.4**	**-2.1**
GAR				IAmb	IAmb	14 02 54.9	
	comp=Z,8.9nm,1.0s						
CHGR	**Chuyangaron**	**17.55**	**290**	P	**Pn**	**14 02 56.5**	**-0.6**
CHGR				IAmb	IAmb	14 03 04.8	
	comp=Z,6.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.64**	**152**	P	**Pn**	**14 02 59.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=325,slow=11,SNR=13						
CMAR				LR	LR	14 09 53.3	
	comp=Z,28nm,18.5s,baz=200,slow=38						
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.64**	**152**	Pn	**Pn**	**14 02 56.0**	**-2.2**
KK31	**Karatay Array**	**17.72**	**305**	P	**Pn**	**14 02 58.2**	**-0.8**
KKAR	**Karatay Array**	**17.72**	**305**	P	**Pn**	**14 02 58.8**	**-0.2**
KKAR	**Karatay Array**	**17.72**	**305**	P	**Pn**	**14 02 58.7**	**-0.2**
KKAR				IAmb	IAmb	14 03 07.9	
	comp=Z,3.1nm,0.8s						
SONM	**Songino Array**	**17.99**	**37**	P	**P**	**14 03 07.9**	**+5.0**
	comp=Z,0.2nm,0.3s,baz=221,slow=11,SNR=4.4						
	comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**18.35**	**335**	P	**P**	**14 03 08.7**	**+1.9**
	baz=150,slow=12,SNR=9.3						
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**18.40**	**336**		**Pn**	**14 03 06.8**	**-0.6**
ZAA0	**Zalesovo Array**	**19.91**	**350**	P	**P**	**14 03 21.7**	**-2.1**
ZAA0				IAmb	IAmb	14 03 32.1	
	comp=Z,5.9nm,0.9s						
ZALV	**Zalesovo Beam**	**19.91**	**350**	P	**Pn**	**14 03 27.9**	**+2.4**
	comp=Z,3.5nm,0.7s,baz=164,slow=12,SNR=17						
	comp=Z,3.5nm,0.7s						
ZALV	**Zalesovo Beam**	**19.91**	**350**	P	**Pn**	**14 03 27.0**	**+1.6**
BVAR	**Borovoye Array**	**23.40**	**329**	P	**P**	**14 04 05.1**	**+3.9**
	comp=Z,1.1nm,0.7s,baz=141,slow=5.5,SNR=3.6						
	comp=Z,1.1nm,0.7s						
GEYT	**Alibeck**	**26.20**	**287**	P	**P**	**14 04 25.4**	**-1.7**
GEYT				IAmb	IAmb	14 04 36.1	
	comp=Z,7.8nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**26.20**	**287**	P	**P**	**14 04 25.5**	**-1.6**
GYA0B				IAmb	IAmb	14 04 36.0	
	comp=Z,5.7nm,0.8s						
ABKAR	**Akbulak array**	**26.86**	**313**	P	**P**	**14 04 33.0**	**+0.1**
ABKAR				IAmb	IAmb	14 04 44.2	
	comp=Z,5.1nm,1.5s						
ARU	**Arti**	**30.89**	**325**	LR	LR	14 19 10.7	
	comp=Z,92nm,19.7s,baz=357,slow=39						
ONI	**Oni**	**37.21**	**297**	P	**P**	**14 06 04.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**40.93**	**56**	P	**P**	**14 06 33.1**	**-1.6**
AKASG	**Malin Array Be**	**46.53**	**310**	P	**P**	**14 07 21.3**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=85,slow=7.0,SNR=2.1						
	comp=Z,1.2nm,0.8s						
AKBB	**Malin Array Si**	**46.53**	**310**	P	**P**	**14 07 19.4**	**-0.3**
FINES	**FINESS Array B**	**48.26**	**325**	P	**P**	**14 07 35.0**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=95,slow=4.0,SNR=4.0						
	comp=Z,1.5nm,0.8s						
GEC2	**GERESS Array S**	**56.74**	**310**	P	**P**	**14 08 35.5**	**-0.8**
GEC2				IAmb	IAmb	14 08 38.7	
	comp=Z,8.8nm,1.4s						
GERES	**GERESS Array B**	**56.74**	**310**	P	**P**	**14 08 38.3**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=54,slow=6.8,SNR=6.4						
	comp=Z,0.5nm,0.3s						
GERES	**GERESS Array B**	**56.74**	**310**	P	**P**	**14 08 35.8**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**59.63**	**308**	P	**P**	**14 08 55.1**	**-1.6**
FUORN				IAmb	IAmb	14 09 00.7	
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**68.35**	**135**	P	**P**	**14 09 57.1**	**+3.1**
	comp=Z,1.9nm,0.8s,baz=327,slow=6.5,SNR=22						
	comp=Z,1.9nm,0.8s						
ASAR	**Alice Springs**	**71.04**	**138**	P	**P**	**14 10 13.9**	**+3.4**
	comp=Z,1.2nm,0.7s,baz=331,slow=6.7,SNR=14						
	comp=Z,1.2nm,0.7s						
J26L	**Joseph Creek**	**72.75**	**21**	P	**P**	**14 10 20.4**	**+0.1**
SFJD	**Kangerlussuaq**	**74.64**	**345**	LR	LR	14 46 59.3	
	comp=Z,38nm,19.3s,baz=24,slow=39						
TORD	**Torodi Ar. Bea**	**81.61**	**280**	P	**P**	**14 11 10.4**	**-0.5**
	comp=Z,13nm,0.6s,baz=55,slow=7.7,SNR=5.1						
CPUP	**Villa Florida**	**151.08**	**277**	PKPbc	**PKPbc**	**14 18 45.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=117,slow=4.5,SNR=3.4						

*ATH **29** 14:07:52.1, 39.64N×19.26E, h10km±31km, ML2.6/2, Error ellipse: s-maj=31.6km s-min=1.3km az=0.0*
*THE **29** 14:07:54.5, 39.66N×19.38E, h0km±3km, ML2.5/6, Error ellipse: s-maj=3.7km s-min=1.6km az=283.0*
ISC 29 14:07:52.6±1.2, 39.70N±0.06×19.27E±0.04, h11km±11km, n10, σ0s72/20, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.41**	**88**	P	**Pg**	**14 08 00.1**	**-0.5**
KEK				S	**Sg**	**14 08 06.7**	**+0.7**
	748nm,0.3s						
KEK	**Kerkira**	**0.41**	**88**	P	**Pg**	**14 08 00.1**	**-0.5**
KEK				S	**Sg**	**14 08 06.5**	**+0.5**
KEK				AML	AML	14 08 06.8	
	comp=N,1237μm,0.3s						
KEK				AML	AML	14 08 09.5	
	comp=E,1734μm,0.3s						
KASA	**Kassiopi**	**0.51**	**85**	P	**Pg**	**14 08 01.6**	**-1.0**
KASA				S	**Sg**	**14 08 09.1**	**-0.3**
SCTE	**Santa Cesarea**	**0.72**	**301**	P	**Pg**	**14 08 05.9**	**-0.6**
SCTE				S	**Sg**	**14 08 16.8**	**+0.8**
LSK	**Leskovik**	**1.11**	**66**	P	**Pb**	**14 08 14.1**	**+0.1**
LSK				S	**Sg**	**14 08 29.5**	**+1.0**
	comp=E,288nm,0.5s						
JAN	**Janina**	**1.22**	**92**	P	**Pn**	**14 08 15.3**	**-0.3**
JAN				S	**Sn**	**14 08 32.2**	**0.0**
	comp=E,442nm,0.4s						
JAN	**Janina**	**1.22**	**92**	P	**Pn**	**14 08 15.1**	**-0.6**
JAN				S	**Sg**	**14 08 31.6**	**-0.3**
JAN				AML	AML	14 08 35.4	
	comp=E,906μm,0.4s						
JAN				AML	AML	14 08 35.4	
	comp=N,860μm,0.4s						
TSLK	**Tsoukalades, L**	**1.39**	**129**	P	**Pg**	**14 08 19.6**	**+0.4**
TSLK				S	**Sg**	**14 08 36.9**	**-0.3**
	comp=N,275nm,0.4s						
DRAG	**Dragano-Lefkad**	**1.44**	**135**	P	**Pg**	**14 08 19.9**	**-0.2**
DRAG				S	**Sg**	**14 08 39.6**	**+0.9**
	comp=N,2μm,0.3s						
NEST	**Nestorio**	**1.54**	**62**	P	**Pb**	**14 08 21.7**	**+0.5**
NEST				S	**Sg**	**14 08 43.5**	**+1.4**
	comp=N,100nm,0.7s						

RSNC 29 14:14:47.4±0.9, 6.81N×73.12W, h150km±3km, ML3.5, Mw3.7, 5C-2D, Fault plane solution: NP1:ϕs55.00000°, δ38.00000°, λ118.00000°, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**196**	↑iP	Pn	14 15 07.5	-0.6
BARC				eS	Sn	14 15 23.4	-0.4
BARC				IAML		14 15 26.3	
	comp=Z,622nm,0.3s						
BRRC	**Barranca, Sant**	**0.66**	**296**	↑iP	Pn	14 15 09.3	-0.4
BRRC				eS	Sn	14 15 25.7	-0.9
BRRC				IAML		14 15 27.4	
	comp=Z,413nm,0.1s						
PAMC	**Pamplona, Colo**	**0.67**	**38**	eP	Pn	14 15 10.2	0.0
PAMC				eS	Sn	14 15 27.6	-0.1
PAMC				IAML		14 15 30.0	
	comp=Z,377nm,0.4s						
RUSC	**La Rusia**	**0.92**	**178**	↑iP	Pn	14 15 11.4	-0.7
RUSC				eS	Sn	14 15 30.5	-0.3
RUSC				IAML		14 15 32.0	
	comp=Z,327nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	eP	Pn	14 15 13.9	-1.6
PTBC				eS	Sn	14 15 35.4	-1.6
PTBC				IAML		14 15 37.9	
	comp=Z,460nm,0.1s						
TAMC	**Tame, Arauca**	**1.37**	**106**	↓iP	Pn	14 15 15.9	+0.3
TAMC				eS	Sn	14 15 37.9	+0.6
TAMC				IAML		14 15 38.4	
	comp=Z,251nm,0.6s						
OCAC	**Ocana**	**1.43**	**352**	eP	P

ANIL					IAML		14 16 25.7	
	comp=Z,372nm,0.3s							
PLMC	**San Jos del P**	**3.68**	**239**	*e*P	Pn		14 15 43.6	+0.1
PLMC				*e*S	Sn		14 16 27.3	+0.2
PLMC				IAML			14 16 31.9	
	comp=Z,80nm,0.5s							
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P	Pn		14 15 41.2	-2.4
SJCC				*e*S	Sn		14 16 22.6	-4.6
SJCC				IAML			14 16 26.3	
	comp=Z,64nm,0.4s							
LCBC	**Los crdobas,**	**3.81**	**302**	*e*P	Pn		14 15 43.6	-1.6
LCBC				*e*S	Sn		14 16 30.4	+0.4
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	*e*P	Pn		14 15 47.9	-2.3
CRJC				*e*S	Sn		14 16 34.8	-4.3
CRJC				IAML			14 16 38.4	
	comp=Z,89nm,0.2s							
GUVC	**San Jose del G**	**4.27**	**173**	*e*P	Pn		14 15 50.6	-0.7
GUVC				*e*S	Sn		14 16 39.1	-1.9
GUVC				IAML			14 16 41.6	
	comp=Z,82nm,0.2s							
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P	Pn		14 15 50.6	-0.7
YOTC				*e*S	Sn		14 16 43.5	+2.5
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*P	Pn		14 15 53.1	-0.6
SMRC				*e*S	Sn		14 16 40.5	-4.9
SMRC				IAML			14 16 41.8	
	comp=Z,44nm,0.2s							
MACC	**Macarena, Meta**	**4.70**	**189**	⇓*e*P	Pn		14 15 54.9	-2.0
MACC				*e*S	Sn		14 16 47.3	-3.7
MACC				IAML			14 16 50.9	
	comp=Z,29nm,0.4s							
URIC	**Uribia, Colomb**	**4.98**	**13**	*e*P	Pn		14 15 58.0	-2.6
URIC				*e*S	Sn		14 16 53.7	-4.1
URIC				IAML			14 16 59.7	
	comp=Z,10nm,0.3s							
MALC	**Bahia Malaga**	**5.04**	**237**	*e*P	Pn		14 16 03.3	+1.9
MALC				*e*S	Sn		14 17 01.0	+2.0
GARC	**Garzon, Huila**	**5.17**	**207**	*e*P	Pn		14 16 01.9	-1.5
GARC				*e*S	Sn		14 16 59.1	-3.5
FLOC	**Florencia**	**5.78**	**206**	*e*P	Pn		14 16 10.9	-0.4
FLOC				*e*S	Sn		14 17 15.6	-1.2
BBAC	**Balboa, Cauca**	**6.29**	**221**	*e*P	Pn		14 16 18.7	+0.5
BBAC				*e*S	Sn		14 17 27.5	-1.9
BBAC				IAML			14 17 35.3	
	comp=Z,6.5nm,0.4s							

ROM 29 14:36:33.2±0.1, 41°.865N±0°.004×13°.813E±0°.005, h17km, Md1.1/3, ML1.2/3, 4C-4D, Error ellipse: s-maj=0.4km s-min=0.2km az=306.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
VVLD	**Villa Vallelon**	**0.14**	**273**	⇓P		Pb	14 36 37.5	0.0
VVLD				S		Sb	14 36 40.5	+0.1
VVLD				AML		AML		
	comp=E,90μm,1.0s							
VVLD				AML		AML		
	comp=E,90μm,1.0s							
VVLD				AML		AML		
	comp=N,136μm,0.2s							
VVLD				END				
VVLD	**Villa Vallelon**	**0.14**	**273**	⇓P		Pb	14 36 37.5	0.0
VVLD				AML		AML		
	comp=E,90μm,1.0s							
VVLD				AML		AML		
	comp=N,136μm,0.2s							
VVLD				AML		AML		
	comp=E,90μm,1.0s							
VVLD				AML		AML		
	comp=N,136μm,0.2s							
VVLD				AML		AML		
	comp=E,90μm,1.0s							
VVLD				AML		AML		
	comp=N,136μm,0.2s							
INTR	**Introdacqua**	**0.16**	**25**	⇑P		Pg	14 36 37.6	+0.1
INTR				S		Sb	14 36 40.7	-0.3
INTR				AML		AML		
	comp=N,103μm,0.3s							
INTR				AML		AML		
	comp=N,103μm,0.3s							
INTR				AML		AML		
	comp=E,116μm,0.6s							
INTR				AML		AML		
	comp=E,116μm,1.4s							
INTR				AML		AML		
	comp=N,103μm,0.3s							
INTR				END				
INTR	**Introdacqua**	**0.16**	**25**	⇑P		Pg	14 36 37.6	+0.1
INTR				AML		AML		
	comp=E,116μm,0.6s							
INTR				AML		AML		
	comp=N,103μm,0.3s							
INTR				AML		AML		
	comp=E,116μm,0.6s							
INTR				AML		AML		
	comp=N,103μm,0.3s							
INTR				AML		AML		
	comp=E,116μm,0.6s							
INTR				AML		AML		
	comp=N,103μm,0.3s							
POFI	**Posta Fibreno**	**0.17**	**207**	⇑P		Pb	14 36 37.9	0.0
POFI				S		Sb	14 36 40.8	-0.2
POFI				AML		AML		
	comp=N,70μm,0.9s							
POFI				AML		AML		
	comp=N,70μm,0.9s							
POFI				AML		AML		
	comp=E,99μm,0.1s							
POFI				END				
POFI	**Posta Fibreno**	**0.17**	**207**	⇑P		Pb	14 36 37.9	0.0
POFI				AML		AML		
	comp=E,99μm,0.1s							
POFI				AML		AML		
	comp=N,70μm,0.9s							
POFI				AML		AML		
	comp=E,99μm,0.1s							
POFI				AML		AML		
	comp=N,70μm,0.9s							
POFI				AML		AML		
	comp=N,70μm,0.9s							
POFI				AML		AML		
	comp=E,99μm,0.1s							
LRP	**Arpino**	**0.28**	**218**	P		Pg	14 36 39.3	+0.2
LRP				S		Sb	14 36 43.9	-0.2
RNI2	**Rionero Sannit**	**0.30**	**122**	P		Pb	14 36 40.2	0.0
RNI2				S		Sb	14 36 45.1	+0.2
CERA	**Filignano**	**0.31**	**150**	P		Pg	14 36 39.9	+0.2
CERA				S		Sb	14 36 44.9	-0.2
CERA	**Filignano**	**0.31**	**150**	⇓P		Pb	14 36 40.4	+0.1
LPEL	**Lama dei Pelig**	**0.33**	**56**	P		Pg	14 36 40.1	-0.1
LPEL				S		Sb	14 36 45.4	-0.4
T0110	**Collepietro**	**0.36**	**356**	P		Pg	14 36 40.8	+0.1
T0110				S		Sb	14 36 46.9	+0.2
T0110	**Collepietro**	**0.36**	**356**	⇓P		Pb	14 36 41.0	-0.2
GUAR	**Guarcino**	**0.38**	**260**	P		Pb	14 36 41.4	-0.1
GUAR				S		Sb	14 36 47.0	-0.2

ROM 29 14:36:59.6±0.2, 42°.789N±0°.006×13°.188E±0°.010, h10km±1km, ML1.9/1, Error ellipse: s-maj=0.9km s-min=0.1km az=241.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
T1242	**Castelluccio d**	**0.04**	**17**	S		Sg	14 37 02.0	-1.3
T1242	**Castelluccio d**	**0.04**	**17**	P		Pg	14 37 01.8	+0.1
T1242				S		Sg	14 37 03.0	-0.3
T1202	**Accumoli, Fraz**	**0.09**	**162**	S		Sg	14 37 03.0	-1.0
T1202	**Accumoli, Fraz**	**0.09**	**162**	P		Pg	14 37 02.6	+0.5
T1202				S		Sg	14 37 04.6	+0.6
MC2	**Monte Cornacci**	**0.12**	**1**	S		Sg	14 37 04.0	-0.9
MC2	**Monte Cornacci**	**0.12**	**1**	P		Pg	14 37 03.2	+0.5
MC2				S		Sg	14 37 06.0	+1.0
T1204	**Amatrice, Fraz**	**0.15**	**140**	S		Sg	14 37 04.0	-1.4
T1204	**Amatrice, Fraz**	**0.15**	**140**	P		Pg	14 37 03.8	+0.8
T1204				S		Sg	14 37 06.2	+0.8
MMO1	**Montemonaco**	**0.15**	**43**	S		Sg	14 37 04.0	-1.4
MMO1	**Montemonaco**	**0.15**	**43**	S		Sg	14 37 04.0	-1.4
T1216	**Preci, Frazion**	**0.16**	**309**	S		Sg	14 37 03.0	-2.6
T1216	**Preci, Frazion**	**0.16**	**309**	P		Pg	14 37 03.9	+0.7
T1216				S		Sg	14 37 06.7	+1.1
T1241	**Roccafluvione,**	**0.19**	**69**	S		Sg	14 37 05.0	-1.5
T1241	**Roccafluvione,**	**0.19**	**69**	P		Pg	14 37 04.2	+0.5
T1241				S		Sg	14 37 07.3	+0.8
T1217	**Poggiodomo (PG**	**0.20**	**248**	S		Sg	14 37 04.0	-2.9
T1217	**Poggiodomo (PG**	**0.20**	**248**	P		Pg	14 37 03.8	-0.1
CSP1	**Cessapalombo**	**0.30**	**2**	P		Pg	14 37 06.3	+0.6

*IDC **29** 15:06:36.6±2.1, 32°.75S×177°.92W, h0km, mb4.7/3, mbtmp4.6/6, ML3.8/3, MS3.6/7, Error ellipse: s-maj=46.7km s-min=28.5km az=108.0*
*NEIC **29** 15:06:39.9±2.0, 32°.9S±0°.1×178°.1W±0°.1, h10km±2km, mb4.5/18, Error ellipse: s-maj=21.9km s-min=19.0km az=58.0*
ISC 29 15:06:36.6±1.6, 32°.90S±0°.08×177°.4W±0°.2, h26km, n65, σ1°20/52, mb4.7/11, MS3.5/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.99**	**219**	Pn		**Pn**	**15 08 18.4**	**+1.1**
	2.3nm,0.3s,baz=101,slow=2.4,SNR=14							
URZ				Sn		**Sn**	**15 09 36.4**	**+0.4**
	11nm,0.3s,baz=359,slow=17,SNR=16							
	9.4nm,0.4s							
URZ	**Urewera**	**6.99**	**219**			**Pn**	**15 08 17.9**	**+0.6**
WHHZ	**Waihua**	**7.56**	**214**	P		**Sn**	**15 09 53.3**	**+3.3**
OUZ	**Omahuta**	**7.85**	**250**			**Pn**	**15 08 30.9**	**+1.8**
BKZ	**Black Stump Fm**	**7.99**	**217**	Pn		**Pn**	**15 08 32.5**	**+1.3**
BKZ	**Black Stump Fm**	**7.99**	**217**	P		**Sn**	**15 10 00.7**	**0.0**
MCHZ	**McNeill Hill**	**8.11**	**215**	P		**Sn**	**15 10 05.6**	**+2.2**
KWHZ	**Kaweka Forest**	**8.23**	**216**	P		**Sn**	**15 10 07.3**	**+0.9**
KAHZ	**Kahuranaki**	**8.30**	**212**	P		**Sn**	**15 10 07.1**	**-1.2**
ETVZ	**East Tongariro**	**8.38**	**220**	P		**Sn**	**15 10 10.6**	**+0.3**
KRHZ	**Kereru**	**8.42**	**215**	P		**Sn**	**15 10 11.0**	**-0.2**
HIZ	**Hauiti**	**8.45**	**226**	Pn		**Pn**	**15 08 37.0**	**-0.3**
BHHZ	**Black Hill Sta**	**8.46**	**217**	P		**Sn**	**15 10 13.3**	**+1.2**
PXZ	**Pawanui**	**8.50**	**211**	P		**Sn**	**15 10 11.8**	**-1.3**
MOVZ	**Moawhango**	**8.55**	**219**	P		**Sn**	**15 10 12.8**	**-1.7**
WNVZ	**Wahianoa**	**8.58**	**220**	P		**Sn**	**15 10 15.9**	**+0.7**
PNHZ	**Pukenui**	**8.71**	**215**	P		**Sn**	**15 10 17.7**	**-0.7**
BFZ	**Birch Farm**	**9.31**	**212**	Pn		**Pn**	**15 08 48.7**	**-0.3**
MSWZ	**Moikau Station**	**10.34**	**213**	Pn		**Pn**	**15 09 01.0**	**-2.3**
PLWZ	**Palliser**	**10.46**	**212**	Pn		Pn	15 08 58.4	-6.5
SNZO	**South Karori**	**10.52**	**215**	Pn		**Pn**	**15 09 04.9**	**-0.7**
TUWZ	**Tuamarina**	**10.98**	**217**	Pn		**Pn**	**15 09 09.2**	**-2.8**
NNZ	**Nelson**	**11.12**	**219**	Pn		**Pn**	**15 09 14.7**	**+0.9**
THZ	**Tophouse**	**11.75**	**218**	Pn		**Pn**	**15 09 23.4**	**+0.8**
KHZ	**Kahutara**	**11.92**	**215**	Pn		**Pn**	**15 09 25.2**	**+0.4**
LTZ	**Lake Taylor**	**12.82**	**217**	Pn		**Pn**	**15 09 36.5**	**-0.6**
OXZ	**Oxford**	**13.33**	**216**	Pn		**Pn**	**15 09 42.0**	**-2.1**
RPZ	**Rata Peaks**	**14.10**	**217**	Pn		**Pn**	**15 09 56.4**	**+1.8**
	0.5nm,0.3s,baz=281,slow=19,SNR=1.7							
RPZ				Sn		Sn	15 12 17.7	-13
	0.9nm,0.3s,baz=357,slow=17,SNR=2.1							
	3.9nm,0.4s							
WHZ	**Wether Hill Ro**	**17.21**	**217**	Pn		**Pn**	**15 10 35.1**	**0.0**
OUENC	**Ouen Island, N**	**17.43**	**303**	P		**P**	**15 10 38.9**	**-0.2**
OUENC				IAmb		IAmb	15 10 41.5	
	comp=Z,18nm,1.0s							
DZM	**Mont Dzumac**	**17.94**	**303**	*e*Pn		**Pn**	**15 10 44.0**	**-0.4**
	comp=Z,41nm,1.4s							
DZM				*e*LR		LR	15 14 34.0	
	comp=Z,174nm,23.7s							
DZM	**Mont Dzumac**	**17.94**	**303**	P		**Pn**	**15 10 43.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=121,slow=16,SNR=5.6							
DZM				LR		LR	15 16 43.4	
	comp=Z,292nm,18.3s,baz=162,slow=35							
	comp=Z,9.4nm,1.0s							
DZM	**Mont Dzumac**	**17.94**	**303**	P		**Pn**	**15 10 43.7**	**-0.7**
RAR	**Rarotonga**	**19.48**	**58**	LR		LR	15 19 14.3	
	comp=Z,61nm,18.6s,baz=258,slow=38							
KOUNC	**Koumac, New Ca**	**20.45**	**302**	P		**P**	**15 11 11.2**	**-1.0**
KOUNC				IAmb		IAmb	15 11 17.8	
	comp=Z,18nm,1.1s							
EIDS	**Eidsvold**	**28.49**	**277**	P		**P**	**15 12 28.8**	**-1.0**
EIDS				IAmb		IAmb	15 12 35.8	
	comp=Z,24nm,1.5s							
PPT2	**Papeete2**	**29.27**	**65**	*e*LR		LR	15 20 28.0	
	comp=Z,49nm,22.8s							
HNR	**Honiara**	**31.37**	**313**	LR		LR	15 22 26.7	
	comp=Z,556nm,19.2s,baz=174,slow=31							
CTA	**Charters Tower**	**34.80**	**282**	LR		LR	15 24 46.5	
	comp=Z,58nm,18.3s,baz=96,slow=32							
CTAO	**Charters Tower**	**34.80**	**282**	P		**P**	**15 13 26.3**	**+1.0**
KRVT	**Keravat (AS076**	**40.33**	**308**	P		**P**	**15 14 12.4**	**+0.4**
	comp=Z,34nm,0.6s,baz=187,slow=1.0,SNR=11							
	comp=Z,34nm,0.6s							
COEN	**Coen**	**40.52**	**288**	P		**P**	**15 14 14.2**	**+0.5**
COEN				IAmb		IAmb	15 14 28.2	
	comp=Z,7.6nm,1.1s							
AS31	**Alice Springs**	**43.57**	**269**	P		**P**	**15 14 38.3**	**-0.3**
ASAR	**Alice Springs**	**43.57**	**269**	P		**P**	**15 14 38.4**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=105,slow=7.7,SNR=42							
	comp=Z,4.5nm,0.8s							
ASAR	**Alice Springs**	**43.57**	**269**	P		**P**	**15 14 37.9**	**-0.7**
WR0	**Warramunga Arr**	**44.60**	**274**	P		**P**	**15 14 46.2**	**-0.7**
WR0				IAmb		IAmb	15 14 47.2	
	comp=Z,12nm,1.2s							
WB2	**Warramunga Arr**	**44.77**	**274**	P		**P**	**15 14 47.8**	**-0.5**
WRAB	**Tennant Creek**	**44.77**	**274**	P		**P**	**15 14 47.8**	**-0.5**
WRAB				IAmb		IAmb	15 14 49.3	
	comp=Z,20nm,1.4s							
WRA	**Warramunga Arr**	**44.78**	**274**	P		**P**	**15 14 47.8**	**-0.6**
	comp=Z,3.8nm,0.5s,baz=113,slow=7.8,SNR=121							
WRA				LR		LR	15 31 53.5	
	comp=Z,48nm,18.6s,baz=260,slow=34							
	comp=Z,3.8nm,0.5s							
WRA	**Warramunga Arr**	**44.78**	**274**	P		**P**	**15 14 47.2**	**-1.1**
WB0	**Warramunga Arr**	**44.81**	**275**	P		**P**	**15 14 48.1**	**-0.5**
WB0				IAmb		IAmb	15 14 48.8	
	comp=Z,11nm,1.0s							
FORT	**Forrest**	**45.98**	**257**	P		**P**	**15 14 58.0**	**+0.3**
KNRA	**Kununurra**	**51.47**	**276**	P		**P**	**15 15 38.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.93**	**271**	LR		LR	15 38 25.2	
	comp=Z,75nm,18.4s,baz=110,slow=36							
FITZ	**Fitzroy Crossi**	**52.93**	**271**	P		**P**	**15 15 49.7**	**-1.2**
QSPA	**South Pole Qui**	**57.22**	**180**	P		P	15 16 29.5	+8.1
QSPA				IAmb		IAmb	15 16 42.6	
	comp=Z,6.7nm,0.8s							
BELA	**Belgrano 2**	**67.25**	**172**	P		P	15 17 35.3	+7.1
BELA				IAmb		IAmb	15 17 50.1	
	comp=Z,3.4nm,0.8s							
TROLL	**Troll, Antarti**	**75.39**	**180**	P		P	15 18 35.9	+18
SNAA	**Sanae**	**75.65**	**178**	P		P	15 18 25.0	+5.9
SNAA				IAmb		IAmb	15 18 38.5	
	comp=Z,3.3nm,0.9s							
VNA3	**Neumayer Olymp**	**75.79**	**176**	P		P	15 18 38.8	+19
VNA2	**Neumayer--Watz**	**76.22**	**177**	P		P	15 18 41.4	+19
	baz=170,slow=506							
VNA1	**Neumayer--Stat**	**76.45**	**176**	P		P	15 18 42.8	+19
ANMO	**Albuquerque**	**94.71**	**51**	LR		LR	15 58 07.1	
	comp=Z,18nm,18.1s,baz=107,slow=32							
FINES	**FINESS Array B**	**147.66**	**339**	PKPbc		**PKPab**	**15 26 21.4**	**+1.1**
	comp=Z,5.1nm,0.7s,baz=51,slow=3.6,SNR=14							
BRTR	**Keskin Array B**	**154.19**	**294**	PKPbc		**PKiKP**	**15 26 36.5**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=97,slow=3.0,SNR=4.5							

IDC 29 15:12:02.2±3.4, 32°.45S×178°.22W, h0km, mb3.5/2, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=78.2km s-min=49.7km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.94**	**212**	Pn		Pn	15 13 43.8	-1.3
	0.8nm,0.3s,baz=106,slow=15,SNR=1.6							
URZ				Sn		Sn	15 15 00.4	-4.4
	3.2nm,0.3s,baz=142,slow=19,SNR=11							
	14nm,1.0s							
ASAR	**Alice Springs**	**42.85**	**269**	P		P	15 20 02.4	0.0
	0.2nm,0.3s,baz=112,slow=8.2,SNR=5.2							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**44.03**	**274**	P		P	15 20 11.9	+0.1
	0.4nm,0.4s,baz=113,slow=7.9,SNR=8.9							
	0.4nm,0.4s							
FINES	**FINESS Array B**	**146.99**	**339**	PKPbc		PKPbc	15 31 45.3	-0.8
	4.8nm,1.1s,baz=40,slow=2.4,SNR=1.6							

*HVO **29** 15:27:20.6±1.1, 19°.20N±0°.04×155°.21W±0°.04, h27km±3km, ML2.8/41, ML2.7/50(NEIC), Error ellipse: s-maj=6.5km s-min=5.4km az=154.0*
NEIC 29 15:27:18.9±0.8, 19°.20N±0°.07×155°.23W±0°.03, h35km±10km, Error ellipse: s-maj=9.9km s-min=3.4km az=165.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HLP	**Hilina Pali**	**0.12**	**322**			Pn	15 27 25.6	-0.4
HLP				Sg		Sn	15 27 29.3	-2.0
HTC	**Hot Caves**	**0.16**	**283**			Pn	15 27 26.0	+0.1
HTC						Sn	15 27 30.3	-0.9
PUH	**Pauahi**	**0.17**	**4**			Pn	15 27 25.7	-0.4
PUH				Sg		Sn	15 27 29.1	-2.3
PUH				IAML			15 27 29.6	
	comp=E,3μm,0.1s							
PUH				IAML			15 27 29.6	
	comp=N,3μm,0.1s							
KNHH	**Kane Nui o Ham**	**0.19**	**18**			Pn	15 27 25.8	-0.3
RIM	**Rim**	**0.20**	**348**			Pn	15 27 26.0	-0.2
RIM				IAML			15 27 30.5	
	comp=N,2μm,0.3s							
RIM				IAML			15 27 30.5	
	comp=E,2μm,0.3s							
SDHHI	**Sand Hill**	**0.20**	**342**			Pn	15 27 26.0	-0.2
SDHHI				IAML			15 27 31.2	
	comp=N,2μm,0.2s							
KKO	**Keanakako`i**	**0.20**	**350**			Pn	15 27 26.1	-0.2
KKO				Sg		Sn	15 27 29.8	-1.8
KKO				IAML			15 27 30.1	
	comp=E,2μm,0.3s							
BYL	**Byron's Ledge**	**0.21**	**352**			Pn	15 27 26.1	-0.2
BYL				Sg		Sn	15 27 30.0	-1.7
BYL				IAML			15 27 30.3	
	comp=E,1μm,0.3s							
BYL				IAML			15 27 30.6	
	comp=N,1μm,0.3s							
NPH	**North Pit**	**0.22**	**347**			Pn	15 27 26.0	-0.3
WRMHI	**West Rim**	**0.22**	**342**			Pn	15 27 26.1	-0.2
WRMHI				IAML			15 27 32.2	
	comp=N,1μm,0.4s							
JCUZ	**Jacuzzi**	**0.22**	**33**			Pn	15 27 26.1	-0.1
JCUZ						Sn	15 27 30.1	-1.6
JCUZ	**Jacuzzi**	**0.22**	**33**	IAML			15 27 30.2	
	comp=E,825nm,0.2s							
JCUZ				IAML			15 27 30.5	
	comp=N,832nm,0.3s							
NPOC	**North of Pu'u**	**0.22**	**30**	IAML			15 27 30.4	
	comp=E,2μm,0.1s							
NPOC				IAML			15 27 30.5	
	comp=N,2μm,0.5s							
NPOC	**North of Pu'u**	**0.22**	**30**			Pn	15 27 26.1	-0.2
NPOC						Sn	15 27 30.0	-1.6
OBL	**Observatory Le**	**0.22**	**347**			Pn	15 27 26.2	-0.2
OBL				IAML			15 27 31.9	
	comp=E,2μm,0.3s							
OBL				IAML			15 27 33.1	
	comp=N,2μm,0.3s							
HATHI	**Halema'uma'u T**	**0.23**	**352**			Pn	15 27 26.2	-0.1
HATHI				IAML			15 27 30.6	
	comp=N,2μm,0.2s							
HATHI				IAML			15 27 30.6	
	comp=E,1μm,0.4s							
SBLHI	**Steaming Bluff**	**0.23**	**351**			Pn	15 27 26.2	-0.2
SBLHI				Sg		Sn	15 27 30.1	-1.7
SBLHI				IAML			15 27 30.8	
	comp=N,2μm,0.4s							
UWB	**Uwekahuna B**	**0.23**	**348**			Pn	15 27 26.1	-0.3
UWE	**Uwekahuna**	**0.23**	**345**			Pn	15 27 26.3	-0.1
UWE				IAML			15 27 32.5	
	comp=N,1μm,0.4s							
UWE				IAML			15 27 33.6	
	comp=E,2μm,0.3s							
RSD	**Rainshed**	**0.27**	**350**			Pn	15 27 26.6	-0.2
AIN	**Ainahou**	**0.28**	**309**			Pn	15 27 27.3	+0.5
AIN	**Ainahou**	**0.28**	**309**			Sn	15 27 32.3	-0.2
AIN	**Ainahou**	**0.28**	**309**	IAML			15 27 32.6	
	comp=E,2μm,0.2s							
AIN				IAML			15 27 32.8	
	comp=N,12μm,0.1s							
JOKA	**Jonika Flow**	**0.32**	**42**			Pn	15 27 27.0	-0.1
JOKA						Sn	15 27 31.7	-1.2
HPO	**Honuapo**	**0.33**	**250**			Pn	15 27 24.5	-2.6
HPO						Sn	15 27 32.8	-0.2
MLH	**Mauna Loa**	**0.33**	**333**			Pn	15 27 27.8	+0.3
MLH				IAML			15 27 35.2	
	comp=N,1μm,0.1s							
KHU	**Kahuku**	**0.37**	**277**			Pn	15 27 28.0	+0.1
KHU	**Kahuku**	**0.37**	**277**			Sn	15 27 33.6	-0.6
KHU	**Kahuku**	**0.37**	**277**	IAML			15 27 33.8	
	comp=N,740nm,0.1s							
KHU				IAML			15 27 34.1	
	comp=E,2μm,0.4s							
MWH	**Moku'aweowe**	**0.45**	**309**			Pn	15 27 29.2	-0.1
MWH				IAML			15 27 42.3	
	comp=N,520nm,0.7s							
MWH				IAML			15 27 43.5	
	comp=E,511nm,0.7s							
HMH	**Humu'ula Sheep**	**0.47**	**329**			Pn	15 27 29.8	+0.4
HMH				IAML			15 27 36.9	
	comp=N,642nm,0.2s							
HMH				IAML			15 27 37.0	
	comp=E,585nm,0.2s							
HMH	**Humu'ula Sheep**	**0.47**	**329**			Sn	15 27 36.6	0.0
MLOA	**Mauna Loa Obse**	**0.47**	**316**			Pn	15 27 29.6	+0.1
MLOA	**Mauna Loa Obse**	**0.47**	**316**			Sn	15 27 36.1	-0.7
ALEP	**Alea Permanent**	**0.52**	**311**			Pn	15 27 30.0	-0.2
POHA	**Pohakuloa**	**0.62**	**333**			Pn	15 27 31.5	-0.1
POHA	**Pohakuloa**	**0.62**	**333**			Sn	15 27 39.7	-0.7
POHA	**Pohakuloa**	**0.62**	**333**	IAML			15 27 39.9	
	comp=E,1μm,0.4s							
POHA				IAML			15 27 39.9	
	comp=E,753nm,0.1s							
CPH	**Captain Cook**	**0.71**	**294**			Pn	15 27 32.2	-0.3
KHLU	**Kahalu`u**	**0.74**	**302**			Pn	15 27 32.9	-0.1
KHLU				IAML			15 27 42.9	
	comp=N,370nm,0.1s							
KHLU				IAML			15 27 44.9	
	comp=E,292nm,0.1s							
KHLU	**Kahalu`u**	**0.74**	**302**			Sn	15 27 41.8	-1.2
HUH	**Hualalai**	**0.75**	**310**			Pn	15 27 33.5	+0.3
HPAH	**Hawaii Prepara**	**0.94**	**322**	Pn		Pn	15 27 35.5	-0.2
KHLH	**Kahului Airpor**	**2.03**	**327**	Pn		Pn	15 27 51.0	+0.4
HON	**Honolulu**	**3.35**	**310**

BKZ	**Black Stump Fm**	**0.86**	**169**	P	**Pn**	**15 27 54.5 +0.3**
BKZ	**Black Stump Fm**	**0.86**	**169**	P	**Pn**	**15 27 54.7 +0.5**
RAHZ	**Arahi**	**0.86**	**133**	P	**Pn**	**15 27 55.1 +0.8**
NTVZ	**North Tongarir**	**0.91**	**211**	P	**Pn**	**15 27 55.6 +0.8**
TMVZ	**Te Maari**	**0.91**	**209**	P	**Pn**	**15 27 55.8 +1.0**
ETVZ	**East Tongariro**	**0.92**	**209**	P	**Pn**	**15 27 55.7 +0.8**
SNGZ	**Shannon Statio**	**0.95**	**119**	P	**Pn**	**15 27 56.0 +1.0**
WTVZ	**West Tongariro**	**0.96**	**214**	P	**Pn**	**15 27 56.0 +0.8**
NNVZ	**North Ngauruho**	**0.96**	**213**	P	**Pn**	**15 27 56.0 +0.7**
OTVZ	**Oturere**	**0.96**	**210**	P	**Pn**	**15 27 56.2 +0.9**
MWZ	**Matawai**	**0.98**	**91**	P	**Pn**	**15 27 55.4 0.0**
SNVZ	**South Ngauruho**	**0.99**	**210**	P	**Pn**	**15 27 57.2 +1.6**
TWVZ	**Taurewa**	**0.99**	**221**	P	**Pn**	**15 27 57.2 +1.7**
NGZ	**Ngauruhoe**	**1.00**	**212**	P	**Pn**	**15 27 56.7 +1.0**
WHHZ	**Waihua**	**1.06**	**135**	P	**Pn**	**15 27 57.3 +1.3**
TUVZ	**Tukino**	**1.06**	**207**	P	**Pn**	**15 27 57.6 +1.4**
FWVZ	**Far West T-bar**	**1.09**	**211**	P	**Pn**	**15 27 57.7 +1.1**
ARHZ	**Aropaoanui**	**1.09**	**149**	P	**Pn**	**15 27 57.8 +1.4**
WHVZ	**Whangaehu Hut**	**1.10**	**209**	P	**Pn**	**15 27 57.4 +0.7**
KWHZ	**Kaweka Forest**	**1.10**	**174**	P	**Pn**	**15 27 57.7 +1.2**
HIZ	**Hauiti**	**1.13**	**260**	P	**Pn**	**15 27 57.7 +0.9**
HIZ	**Hauiti**	**1.13**	**260**	P	**Pn**	**15 27 57.7 +0.9**
WNVZ	**Wahianoa**	**1.13**	**208**	P	**Pn**	**15 27 58.3 +1.3**
MOVZ	**Moawhango**	**1.16**	**201**	P	**Pn**	**15 27 58.0 +0.9**
RUGZ	**Raukumara Rang**	**1.16**	**72**	P	**Pn**	**15 27 56.7 -0.5**
MCHZ	**McNeill Hill**	**1.17**	**164**	P	**Pn**	**15 27 58.6 +1.5**
BHHZ	**Black Hill Sta**	**1.18**	**188**	P	**Pn**	**15 27 58.2 +0.9**
PKVZ	**Pokaka**	**1.21**	**217**	P	**Pn**	**15 27 58.6 +1.0**
RIGZ	**Rimuhau**	**1.22**	**109**	P	**Pn**	**15 27 59.0 +1.2**
MTVZ	**Mangateitei**	**1.23**	**211**	P	**Pn**	**15 27 59.5 +1.5**
KNZ	**Kokohu**	**1.29**	**123**	P	**Pn**	**15 27 59.3 +0.9**
HAZ	**Te Kaha**	**1.32**	**65**	P	**Pn**	**15 27 58.5 -0.1**
KRHZ	**Kereru**	**1.32**	**177**	P	**Pn**	**15 27 59.9 +1.1**
VRZ	**Vera Road**	**1.43**	**236**	P	**Pn**	**15 28 01.2 +1.2**
CKHZ	**Cape Kidnapper**	**1.47**	**155**	P	**Pn**	**15 28 01.6 +1.2**
MKAZ	**Moumakai**	**1.51**	**324**	P	**Pn**	**15 28 01.7 +0.9**
CNGZ	**Carnagh Statio**	**1.52**	**97**	P	**Pn**	**15 28 02.5 +1.4**
KAHZ	**Kahuranaki**	**1.54**	**163**	P	**Pn**	**15 28 02.3 +1.0**
PUZ	**Puketiti**	**1.58**	**81**	P	**Pn**	**15 28 02.5 +0.8**
PNHZ	**Pukenui**	**1.59**	**182**	P	**Pn**	**15 28 02.4 +0.6**
KUZ	**Kuaotunu**	**1.64**	**344**	P	**Pn**	**15 28 03.1 +0.7**
WPHZ	**Waipukurau**	**1.74**	**176**	P	**Pn**	**15 28 04.4 +0.7**
WAZ	**Wanganui**	**1.75**	**215**	P	**Pn**	**15 28 05.2 +1.5**
TSZ	**Takapari Road**	**1.75**	**188**	P	**Pn**	**15 28 04.6 +0.9**
WMGZ	**Waiomatatini S**	**1.76**	**74**	P	**Pn**	**15 28 04.7 +0.9**
PXZ	**Pawanui**	**1.76**	**165**	P	**Pn**	**15 28 04.5 +0.6**
MXZ	**Matakaoa Point**	**1.77**	**65**	P	Pn	15 28 08.1 +4.1
WIAZ	**Waiheke Island**	**1.78**	**329**	P	**Pn**	**15 28 05.2 +1.1**
WTAZ	**Waiatarua**	**1.94**	**315**	P	**Pn**	**15 28 07.3 +1.3**
NEZ	**North Egmont**	**1.95**	**240**	P	**Pn**	**15 28 08.7 +2.5**
PRHZ	**Porangahau**	**1.96**	**172**	P	**Pn**	**15 28 06.9 +0.7**
DVHZ	**Dannevirke**	**1.97**	**183**	P	**Pn**	**15 28 06.5 +0.1**
KHEZ	**Kahui Hut**	**2.02**	**241**	P	**Pn**	**15 28 09.2 +2.2**
OHWZ	**Ohakea**	**2.02**	**201**	P	**Pn**	**15 28 10.4 +3.4**
RVAZ	**Riverhead Bore**	**2.06**	**318**	P	**Pn**	**15 28 06.4 -1.1**
POWZ	**Post Office Ro**	**2.10**	**191**	P	**Pn**	**15 28 09.5 +1.5**
ANWZ	**Angora Road**	**2.14**	**176**	P	**Pn**	**15 28 09.0 +0.6**
PRWZ	**Pori Road**	**2.24**	**186**	P	**Pn**	**15 28 10.2 +0.5**
BFZ	**Birch Farm**	**2.35**	**181**	P	**Pn**	**15 28 11.1 -0.1**
BFZ	**Birch Farm**	**2.35**	**181**	P	**Pn**	**15 28 11.4 +0.2**
MRZ	**Mangatainoka R**	**2.40**	**193**	P	**Pn**	**15 28 11.3 -0.4**
TIWZ	**Tintock**	**2.47**	**187**	P	**Pn**	**15 28 12.4 -0.2**
OGWZ	**Otaki Gorge**	**2.63**	**199**	P	**Pn**	**15 28 14.4 -0.3**
KIW	**Kapiti Island**	**2.75**	**202**	P	**Pn**	**15 28 16.0 -0.2**
TMWZ	**Te Maipa**	**2.79**	**186**	P	**Pn**	**15 28 16.3 -0.5**
CAW	**Cannon Point**	**2.93**	**198**	P	**Pn**	**15 28 17.5 -1.0**
DUZ	**D'Urville Isla**	**3.07**	**216**	P	**Pn**	**15 28 19.7 -0.7**
TRWZ	**Traveller**	**3.10**	**188**	P	**Pn**	**15 28 20.3 -0.5**
PAWZ	**Paruwai Farm**	**3.12**	**192**	P	**Pn**	**15 28 19.9 -1.2**
WEL	**Wellington**	**3.18**	**201**	P	**Pn**	**15 28 20.6 -1.2**
MSWZ	**Moikau Station**	**3.19**	**194**	P	**Pn**	**15 28 20.9 -1.0**
TCW	**Tory Channel**	**3.27**	**208**	P	**Pn**	**15 28 21.7 -1.3**
PLWZ	**Palliser**	**3.33**	**193**	P	**Pn**	**15 28 22.4 -1.5**
TUWZ	**Tuamarina**	**3.58**	**209**	P	**Pn**	**15 28 25.6 -1.5**
QRZ	**Quartz Range**	**3.83**	**228**	P	**Pn**	**15 28 29.8 -0.6**
QRZ	**Quartz Range**	**3.83**	**228**	P	**Pn**	**15 28 30.9 +0.6**
BSWZ	**Blackbirch Sta**	**3.86**	**208**	P	**Pn**	**15 28 29.8 -1.0**
THZ	**Tophouse**	**4.30**	**216**	P	**Pn**	**15 28 35.3 -1.5**
KHZ	**Kahutara**	**4.59**	**206**	P	**Pn**	**15 28 38.3 -2.2**
KHZ	**Kahutara**	**4.59**	**206**	P	**Pn**	**15 28 38.5 -2.0**

*IDC **29** 15:38:01.0±1.0,52.°77N×162.°36E,h0km,mb3.8/5, mbtmp3.9/7,ML3.5/2,MS2.6/3,Error ellipse: s-maj=29.2km s-min=21.9km az=4.0*
*KRSC **29** 15:38:01.6±1.8,52.°91N×162.°54E,h42km±37km,ML4.1*
*MOS **29** 15:38:02.0±0.6,52.°74N×162.°70E,h52km,mb4.4/1,Error ellipse: s-maj=9.5km s-min=6.6km az=122.2*
*NEIC **29** 15:38:03.7±1.4,52.°5N±0.°2×162.°5E±0.°1,h32km±7km, mb4.1/5,Error ellipse: s-maj=22.3km s-min=10.5km az=183.0*

ISC 29 15:37:60.0±3.4,**52.80N**±0.°06×**162.57E**±0.°05,**h1**km±22km, **n77**,σ1°**69**/105,**mb4.0**/8,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.57**	**282**	PN	**Pn**	**15 38 28.9**	**-0.1**
SPN				*S*	**Sn**	**15 38 46.9**	**-3.0**
SPN	**Mys Shipunski**	**1.57**	**282**	*eP*	**Pn**	**15 38 28.7**	**-0.3**
SPN				*eS*	**Sn**	**15 38 47.0**	**-3.0**
NLC	**Nalytchevo**	**1.98**	**282**	*eP*	**Pn**	**15 38 35.0**	**+0.3**
NLC				*eS*	**Sn**	**15 38 57.4**	**-2.8**
KII	**Karymskiy**	**2.24**	**305**	*eP*	**Pn**	**15 38 38.8**	**+0.5**
KII				*eS*	**Sn**	**15 39 03.7**	**-3.0**
SDLR	**Sedlovina**	**2.28**	**284**	*eP*	**Pn**	**15 38 38.6**	**-0.3**
SDLR				*eS*	**Sn**	**15 39 05.9**	**-1.7**
UGLR	**Uglovaya**	**2.30**	**282**	*eS*	**Sn**	**15 39 07.1**	**-1.1**
DALK	**Dalny**	**2.32**	**277**	PN	**Pn**	**15 38 39.8**	**+0.5**
DALK				*S*	**Sn**	**15 39 07.0**	**-1.5**
DALK	**Dalny**	**2.32**	**277**	*eP*	**Pn**	**15 38 39.8**	**+0.5**
DALK				*eS*	**Sn**	**15 39 06.5**	**-2.0**
SMAR	**Somma**	**2.32**	**283**	*eP*	**Pn**	**15 38 42.0**	**-0.8**
AVH	**Avacha**	**2.36**	**283**	PN	**Pn**	**15 38 41.3**	**+1.3**
AVH				*S*	**Sn**	**15 39 08.6**	**-1.0**
AVH	**Avacha**	**2.36**	**283**	*eP*	**Pn**	**15 38 41.6**	**+1.6**
AVH				*eS*	**Sn**	**15 39 08.7**	**-0.9**
KRER	**Koryakskii**	**2.36**	**284**	PN	**Pn**	**15 38 41.1**	**+1.0**
KRER				*S*	**Sn**	**15 39 08.4**	**-1.4**
PET	**Petropavlovsk**	**2.38**	**277**		**Pn**	**15 38 40.8**	**+0.6**
PET				Sn	**Sn**	**15 39 07.3**	**-2.7**
PET	**Petropavlovsk**	**2.38**	**277**	*e*PN	**Pn**	**15 38 40.7**	**+0.6**
PET				*eS*	**Sn**	**15 39 07.6**	**-2.4**
PET	comp=N,238nm,0.5s			*smax*	*smax*		
PET	comp=E,200nm,0.6s			*smax*	*smax*		
KOK	**Koryaka**	**2.42**	**283**	*eP*	**Pn**	**15 38 41.9**	**+1.0**
KOK				*eS*	**Sn**	**15 39 09.6**	**-1.6**
KRX	**Arik**	**2.43**	**285**	PN	**Pn**	**15 38 41.5**	**+0.6**
KRX				*S*	**Sn**	**15 39 09.2**	**-2.2**
KRX	**Arik**	**2.43**	**285**	*eP*	**Pn**	**15 38 41.6**	**+0.6**
KRX				*eS*	**Sn**	**15 39 09.1**	**-2.3**
RUS	**Russkaya**	**2.50**	**263**	PN	**Pn**	**15 38 42.2**	**+0.4**
RUS				*S*	**Sn**	**15 39 10.5**	**-2.4**
RUS	**Russkaya**	**2.50**	**263**	*eP*	**Pn**	**15 38 42.4**	**+0.6**
RUS				*eS*	**Sn**	**15 39 10.2**	**-2.7**
MTVR	**Mutnovka**	**2.69**	**265**	PN	**Pn**	**15 38 45.4**	**+0.8**
MTVR				*S*	**Sn**	**15 39 16.3**	**-1.6**
MTVR	**Mutnovka**	**2.69**	**265**	*eP*	**Pn**	**15 38 45.1**	**+0.5**
MTVR				*eS*	**Sn**	**15 39 16.0**	**-1.9**
KRMR	**Karymshinskiy**	**2.69**	**272**	PN	**Pn**	**15 38 44.3**	**-0.2**
KRMR				*S*	**Sn**	**15 39 16.7**	**-3.0**
KRMR	**Karymshinskiy**	**2.69**	**272**	*eP*	**Pn**	**15 38 45.1**	**+0.6**
KRMR				*eS*	**Sn**	**15 39 17.4**	**-0.3**
GRL	**Gorelyy**	**2.75**	**267**	PN	**Pn**	**15 38 46.5**	**+1.1**
GRL				*S*	**Sn**	**15 39 18.1**	**-1.2**
GRL	**Gorelyy**	**2.75**	**267**	*eP*	**Pn**	**15 38 46.5**	**+1.1**
TUMR	**Tumrok**	**2.87**	**331**	PN	**Pn**	**15 38 47.5**	**+0.5**
TUMR	**Tumrok**	**2.87**	**331**	*eP*	**Pn**	**15 38 47.5**	**+0.5**
GNL	**Ganaly**	**2.92**	**290**	PN	**Pn**	**15 38 49.1**	**+1.4**
GNL				*S*	**Sn**	**15 39 22.4**	**-1.1**
GNL	**Ganaly**	**2.92**	**290**	*eP*	**Pn**	**15 38 49.5**	**+1.8**
GNL				*eS*	**Sn**	**15 39 24.2**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.93**	**252**	PN	**Pn**	**15 38 47.9**	**+0.2**
KDTR				*S*	**Sn**	**15 39 20.6**	**-3.0**
KDTR	**Khodutka, Kamc**	**2.93**	**252**	*eP*	**Pn**	**15 38 48.1**	**+0.4**
PEA0B	**Petropavlovsk-**	**2.96**	**278**		**Pn**	**15 38 49.7**	**+1.5**
PEA0B				Sn	**Sn**	**15 39 23.4**	**-1.0**
PEA0B	**Petropavlovsk-**	**2.96**	**278**	PN	**Pn**	**15 38 49.7**	**+1.5**
PEA0B						15 39 23.4	
PETK	**Petropavlovsk-**	**2.96**	**278**	Pn	**Pn**	**15 38 49.1**	**+0.9**
PETK	comp=E,6.5nm,0.3s,baz=99,slow=17,SNR=188			Sn	**Sn**	**15 39 23.9**	**-0.5**
	comp=E,11nm,0.3s,baz=83,slow=38,SNR=7.9 comp=E,28nm,0.5s						
BKI	**Bering**	**3.13**	**38**	*eS*	**Sn**	**15 39 22.3**	**-6.2**
KMNR	**Kamenistaya**	**3.26**	**336**	PN	**Pn**	**15 38 54.2**	**+1.8**
KMNR	**Kamenistaya**	**3.26**	**336**	*eP*	**Pn**	**15 38 54.0**	**+1.6**
APC	**Apacha**	**3.28**	**274**	PN	**Pn**	**15 38 54.5**	**+1.9**
APC				*S*	**Sn**	**15 39 32.0**	**-0.2**
APC	**Apacha**	**3.28**	**274**	*eP*	**Pn**	**15 38 54.4**	**+1.9**
APC				*eS*	**Sn**	**15 39 32.1**	**-0.2**
KBTR	**Krutoberegovo**	**3.42**	**2**	PN	**Pn**	**15 38 53.5**	**-0.9**
KBTR	**Krutoberegovo**	**3.42**	**2**	*eP*	**Pn**	**15 38 53.2**	**-1.2**
KOZ	**Kozyrevsk**	**3.62**	**335**	PN	**Pn**	**15 38 58.9**	**+1.6**
KOZ	**Kozyrevsk**	**3.62**	**335**	*eP*	**Pn**	**15 38 58.7**	**+1.4**
KLY	**Klyuchi**	**3.69**	**343**	PN	**Pn**	**15 38 58.5**	**+0.3**
KLY	**Klyuchi**	**3.69**	**343**	*eP*	**Pn**	**15 38 58.7**	**+0.5**
SMKR	**Semkarok**	**3.84**	**351**	PN	**Pn**	**15 39 00.4**	**+0.1**
SMKR	**Semkarok**	**3.84**	**351**	*eP*	**Pn**	**15 39 00.5**	**+0.1**
BDR	**Baidarnaya**	**3.86**	**349**	PN	**Pn**	**15 39 01.8**	**+1.3**
ESO	**Esso**	**3.86**	**326**	PN	**Pn**	**15 39 02.0**	**+1.5**
ESO				*S*	**Sn**	**15 39 44.3**	**-2.3**
ESO	**Esso**	**3.86**	**326**	*eP*	**Pn**	**15 39 02.0**	**+1.5**
ESO				*eS*	**Sn**	**15 39 44.1**	**-2.5**
SRDR	**Sredinnyy**	**3.89**	**336**	PN	**Pn**	**15 39 01.6**	**+0.6**
SRDR	**Sredinnyy**	**3.89**	**336**	*eP*	**Pn**	**15 39 01.2**	**+0.2**
SRKR	**Sorokina**	**3.94**	**349**	*eP*	**Pn**	**15 39 02.3**	**+0.6**
SKR	**Severo-Kuril's**	**4.54**	**245**	PN	**Pn**	**15 39 10.1**	**+0.3**
SHEM	**Shemya Is, Ala** comp=E,5.4nm,0.3s,baz=109,slow=3.7,SNR=6.5 comp=E,110nm,1.0s	**7.00**	**86**	Pn	**Pn**	**15 39 44.6**	**+1.0**
SMY	**Shemya**	**7.00**	**86**	Pn	**Pn**	**15 39 44.3**	**+0.8**
SMY	**Shemya**	**7.00**	**86**	PN	**Pn**	**15 39 44.3**	**+0.8**
MA2	**Magadan** comp=E,27nm,18.7s,baz=281,slow=45	**9.44**	**321**	LR	LR	15 45 01.0	
MA2	**Magadan**	**9.44**	**321**	Pn	**Pn**	**15 40 19.1**	**+2.0**
MA2	**Magadan**	**9.44**	**321**	PN	**Pn**	**15 40 19.1**	**+2.0**
ERM	**Erimo**	**16.94**	**238**	Pn	**Pn**	**15 41 55.0**	**-3.2**
ERM	**Erimo**	**16.94**	**238**	P	**Pn**	**15 41 55.0**	**-3.2**
ERM	comp=Z,163nm,1.5s			*pmax*	*pmax*		
YAK	**Yakutsk** comp=Z,26nm,19.8s,baz=88,slow=40	**19.76**	**311**	LR	LR	15 51 02.1	
L19K	**White Mountain**	**24.29**	**50**	P	**P**	**15 43 21.7**	**+3.1**
L19K	comp=Z,7.3nm,1.4s			IAmb	IAmb	15 43 57.8	
M19K	**Big River Lodg**	**24.50**	**51**	P	**P**	**15 43 21.4**	**+0.9**
K20K	**Telida**	**24.73**	**48**	P	**P**	**15 43 25.1**	**+2.5**
K20K	comp=Z,5.8nm,1.4s			IAmb	IAmb	15 43 28.7	
IMAR	**Indian Mountai**	**25.22**	**42**	P	**P**	**15 43 28.9**	**+2.0**
KSRS	**Korea Array** comp=Z,10nm,18.0s,baz=155,slow=41	**28.52**	**251**	LR	LR	15 57 24.0	
KURK	**Kurchatov**	**49.15**	**303**	P	**P**	**15 46 47.9**	**-1.2**
KURK	comp=Z,4.3nm,1.4s			IAmb	IAmb	15 46 49.2	
KURK	**Kurchatov**	**49.15**	**303**	P	**P**	**15 46 47.9**	**-1.2**
KURK	comp=Z,4.0nm,1.5s			*pmax*	*pmax*		
MKAR	**Makanchi Array** comp=Z,0.4nm,0.6s,baz=59,slow=7.9,SNR=4.9 comp=Z,0.4nm,0.6s	**49.63**	**297**	P	**P**	**15 46 51.7**	**-1.1**
MKAR	**Makanchi Array**	**49.63**	**297**	P	**P**	**15 46 51.9**	**-0.9**
MKAR	**Makanchi Array**	**49.63**	**297**	P	**P**	**15 46 51.9**	**-0.9**
FINES	**FINESS Array B** comp=Z,1.8nm,0.7s,baz=46,slow=11,SNR=5.6 comp=Z,1.8nm,0.7s	**60.97**	**338**	P	**P**	**15 48 15.2**	**+1.0**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=295,slow=4.5,SNR=3.8 comp=Z,0.2nm,0.5s	**69.36**	**69**	P	**P**	**15 49 12.5**	**+3.1**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.6s,baz=21,slow=6.1,SNR=9.8 comp=Z,0.7nm,0.6s	**76.48**	**207**	P	**P**	**15 49 51.7**	**+0.3**
ASAR	**Alice Springs** comp=Z,1.0nm,0.6s,baz=18,slow=5.4,SNR=19 comp=Z,1.0nm,0.6s	**80.14**	**207**	P	**P**	**15 50 12.4**	**+0.9**

*IDC **29** 15:45:19.6±1.2,28.°60N×130.°12E,h0km,mb3.8/9, mbtmp3.9/10,ML3.3/1,MS3.2/7,Error ellipse: s-maj=36.9km s-min=17.9km az=87.0*
*JMA **29** 15:45:22.9±0.2,28.°N±1.°×13.°0E±.°,h31km±2km,MV3.5/24, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
*NIED **29** 15:45:22.9,28.°49N×130.°21E,h31km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.07; $M_{\theta\theta}$0.43; $M_{\phi\phi}$-2.50; $M_{r\theta}$2.89; $M_{\theta\phi}$-4.05; $M_{\phi r}$7.28; Fault plane solution: $M_0$8.80000×10^{14} NP1: ϕ_s253.00000°,δ19.00000°,λ144.00000°. NP2: ϕ_s17.00000°,δ79.00000°,λ75.00000°.*

ISC 29 15:45:20.8±1.4,**28.52N**±0.°04×**130.30E**±0.°04,**h14**km±9km, **n34**,σ1°**06**/44,**mb3.9**/8,**MS3.5**/5,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.35**	**236**	P	**Pb**	**15 45 29.8**	**+1.0**
JZK				*eS*	**Sb**	**15 45 35.3**	**+1.1**
JAM	**Amami Oshima**	**0.62**	**261**	P	**Pb**	**15 45 33.6**	**+0.2**
JAM				*eS*	**Sg**	**15 45 40.6**	**-0.6**
JAMN	**Amaminishikomi**	**1.03**	**255**	*eP*	**Pb**	**15 45 40.0**	**-0.3**
JAMN				*eS*	**Sg**	**15 45 54.1**	**0.0**
JTAJ	**Takarajima**	**1.16**	**304**	P	**Pn**	**15 45 42.4**	**-0.1**
JTAJ				*eS*	**Sb**	**15 45 57.2**	**-0.1**
JNN	**Nakanoshima**	**1.37**	**344**	*eP*	**Pg**	**15 45 47.1**	**-0.1**
JNN				*eS*	**Sg**	**15 45 58.8**	**+1.6**
JTK	**Tokunoshima**	**1.40**	**239**	*eP*	**Pn**	**15 45 45.9**	**+0.1**
JTK				*eS*	**Sn**	**15 46 03.5**	**-0.5**
JYAK	**Yakushimahirau**	**1.73**	**6**	P	**Pg**	**15 45 53.2**	**-0.7**
JYAK				*eS*	**Sg**	**15 46 16.2**	**-0.2**
JOKE	**Okinoerabujima**	**1.92**	**234**	*eP*	**Pn**	**15 45 53.2**	**+0.2**
JKC	**Kuchinoerabu**	**1.94**	**357**	*eP*	**Pb**	**15 45 55.8**	**-0.1**
JKC				*eS*	**Sb**	**15 46 20.7**	**+0.7**
JMTN	**Minamitane**	**1.95**	**15**	*eP*	**Pb**	**15 45 55.9**	**-0.2**
JMTN				*eS*	**Sb**	**15 46 21.4**	**+1.2**
JTN	**Tanegashima 3**	**2.21**	**15**	*eP*	**Pb**	**15 45 59.8**	**-0.8**
JTN				*eS*	**Sb**	**15 46 27.6**	**-0.1**
JYRO	**Yoronjima**	**2.21**	**228**	*eP*	**Pn**	**15 45 57.0**	**0.0**
JOW	**Kunigami** 11nm,0.3s,baz=102,slow=23,SNR=46	**2.46**	**227**	Pn	**Pn**	**15 46 00.2**	**-0.2**
JOW	30nm,0.3s,baz=109,slow=30,SNR=5.5			Sn	**Sn**	**15 46 29.3**	**-1.0**
JOW	comp=Z,79nm,20.6s,baz=334,slow=40 43nm,0.3s			LR	LR	15 46 55.0	
JOW	**Kunigami**	**2.46**	**227**	*eP*	**Pn**	**15 46 00.2**	**-0.2**
JOW				*eS*	**Sn**	**15 46 29.1**	**-1.2**
JIH	**Iheya**	**2.54**	**235**	*eP*	**Pn**	**15 46 01.3**	**-0.2**
JIH				*eS*	**Sn**	**15 46 30.9**	**-1.4**
JKDJ	**Kitadaitoujima**	**2.70**	**161**	*eP*	**Pn**	**15 46 03.8**	**0.0**
JKDJ				*eS*	**Sn**	**15 46 34.5**	**-1.8**
JMZ	**Minamidaito 2**	**2.81**	**163**	*eS*	**Sn**	**15 46 36.7**	**-2.1**
JNTH	**Nagotoyohara**	**2.84**	**226**	*eP*	**Pn**	**15 46 05.4**	**-0.2**
JNTH				*eS*	**Sn**	**15 46 37.4**	**-2.2**
JKE	**Kume jima 2**	**3.81**	**236**	*eP*	**Pn**	**15 46 18.6**	**-0.4**
JKE				*eS*	**Sn**	**15 47 00.3**	**-3.3**
JHJ	**Hachijo jima 2** comp=Z,52nm,19.6s,baz=66,slow=36	**9.35**	**58**	LR	LR	15 50 57.6	
KLR	**Kul'dur** 1.3nm,0.6s,baz=199,slow=4.0,SNR=6.0 1.3nm,0.6s	**20.72**	**3**	P	**P**	**15 50 00.2**	**-0.3**
SONM	**Songino Array** comp=Z,52nm,18.5s,baz=134,slow=39	**26.75**	**323**	LR	LR	16 02 44.5	
CMAR	**Chiang Mai Arr** comp=Z,30nm,18.0s,baz=145,slow=39	**30.37**	**259**	LR	LR	16 05 06.0	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=88,slow=10,SNR=2.2 0.2nm,0.4s	**41.45**	**310**	P	**P**	**15 53 06.3**	**-0.6**
ZALV	**Zalesovo Beam** 1.1nm,0.4s,baz=106,slow=8.8,SNR=5.8 1.1nm,0.4s	**41.60**	**321**	P	**P**	**15 53 08.1**	**0.0**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=102,slow=9.3,SNR=5.4 0.7nm,0.6s	**44.52**	**314**	P	**P**	**15 53 31.6**	**-0.1**
WRA	**Warramunga Arr** 1.0nm,1.0s,baz=352,slow=8.4,SNR=4.3 1.0nm,1.0s	**48.33**	**175**	P	**P**	**15 54 03.5**	**+1.6**
BVAR	**Borovoye Array** comp=Z,43nm,18.0s,baz=324,slow=38	**49.84**	**317**	LR	LR	16 16 42.4	
ASAR	**Alice Springs** 0.4nm,0.9s,baz=7.3,slow=14,SNR=5.2	**51.99**	**176**	P	**P**	**15 54 31.6**	**+1.9**
ARU	**Arti** comp=Z,66nm,20.2s,baz=326,slow=39	**56.77**	**321**	LR	LR	16 21 45.0	
AKTO	**Aktyubinsk** comp=Z,57nm,19.1s,baz=347,slow=38	**57.56**	**314**	LR	LR	16 21 32.7	
FINES	**FINESS Array B** 4.5nm,0.9s,baz=66,slow=4.8,SNR=7.9 4.5nm,0.9s	**71.78**	**331**	P	**P**	**15 56 42.0**	**-0.4**
AKASG	**Malin Array Be** 1.2nm,0.4s,baz=58,slow=6.6,SNR=6.0 1.2nm,0.4s	**74.99**	**320**	P	**P**	**15 57 01.9**	**+0.4**
BRTR	**Keskin Array B** 1.7nm,0.7s,baz=109,slow=5.0,SNR=8.5 1.7nm,0.7s	**77.08**	**308**	P	**P**	**15 57 14.6**	**+0.7**

*NNC **29** 15:51:17.8±5.5,38.°27N×71.°29E,h0km,mb3.9,mpv3.4, Error ellipse: s-maj=42.3km s-min=32.2km az=177.0*
*KRNET **29** 15:51:27.8±0.1,39.°22N×70.°89E,h13km,mb3.3*
*SOME **29** 15:51:27.0,39.°42N×71.°32E,h5km*

ISC 29 15:51:27.3±1.3,**39.25N**±0.°05×**70.95E**±0.°04,**h4**km±14km, **n18**,σ2°**51**/35,**10C-6D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm** baz=44	**0.55**	**244**	⇓*iP*	**Pg**	**15 51 37.7**	**-0.2**
GAR	baz=44			⇓*iS*	**Sg**	**15 51 45.1**	**+0.1**
BTK	**Batken** baz=56	**0.82**	**353**	⇑*iP*	**Pb**	**15 51 43.8**	**-0.4**
BTK	baz=56			⇑*iS*	**Sb**	**15 51 55.9**	**+0.3**
CHGR	**Chuyangaron** baz=48	**1.52**	**248**	⇑*iP*	**Pb**	**15 51 55.6**	**-0.5**
CHGR	baz=48			⇑*iS*	**Sg**	**15 52 15.6**	**-0.4**
OHH	**Osh** baz=48	**1.91**	**47**	⇑*iP*	**Pg**	**15 52 04.4**	**+0.5**
OHH	baz=48			⇑*iS*	**Sg**	**15 52 30.8**	**+2.3**
TRKS	**Terek-Say** baz=5.0	**2.29**	**4**	⇓*iP*	**Pb**	**15 52 08.4**	**-0.9**
TRKS	baz=5.0			⇓*iS*	**Sb**	**15 52 38.2**	**+0.2**
TAS	**Tashkent** baz=30	**2.43**	**329**	⇑*iP*	**Pb**	**15 52 10.9**	**-0.8**
TAS	baz=30			⇑*iS*	**Sb**	**15 52 42.7**	**+0.7**
IUG	**Iuzhnay** 246nm,0.5s	**2.98**	**347**	*eP*	**Pb**	**15 52 20.5**	**-0.6**
IUG	42nm,0.5s			*eS*	**Sb**	**15 52 59.6**	**+1.7**
CHM	**Chimkent** 1.9nm,0.5s	**3.24**	**342**	*eP*	**Pb**	**15 52 25.8**	**+0.5**
CHM	75nm,0.3s			*eS*	**Sb**	**15 53 08.0**	**+2.9**
KK31	**Karatay Array** 0.9nm,0.3s,baz=174,slow=12,SNR=40	**3.87**	**355**	Pn	**Pb**	**15 52 31.8**	**-4.4**
KK31	20nm,0.5s,baz=164,slow=31,SNR=18			Sn	**Sg**	**15 53 31.4**	**-0.2**
MRKS	**Merke** 1.8nm,0.3s	**3.90**	**26**	*eP*	**Pb**	**15 52 33.2**	**-3.5**
MRKS	14nm,0.4s			*eS*	**Sb**	**15 53 21.0**	**-3.3**
CHMS	**Chumysh** 4.6nm,0.7s	**4.72**	**36**	⇓Pn	**Pn**	**15 52 41.2**	**+1.8**
CHMS	6.1nm,0.6s			⇑Sn	**Sb**	**15 53 41.3**	**-6.6**
TKM2	**Tokmak 2** 3.0nm,0.5s	**5.08**	**42**	⇑Pn

JTN					*e*S		**Sb**	16 11 03.5	-0.4
JOW	**Kunigami**	**2.41**	**228**		Pn		**Pn**	16 10 35.4	+1.0
	11nm,0.3s,baz=104,slow=25,SNR=116								
JOW						Sn	**Sn**	16 11 05.6	+1.9
	32nm,0.3s,baz=121,slow=23,SNR=6.5								
JOW						LR	LR	16 11 20.5	
	comp=Z,80nm,19.5s,baz=58,slow=36								
	54nm,0.3s								
JOW	**Kunigami**	**2.41**	**228**		Pn		**Pn**	16 10 35.3	+0.8
JOW	**Kunigami**	**2.41**	**228**		P		**Pn**	16 10 35.4	+1.0
JOW					*e*S		**Sn**	16 11 05.4	+1.7
JIH	**Iheya**	**2.50**	**236**		P		**Pn**	16 10 36.4	+0.8
JIH					*e*S		**Sn**	16 11 06.3	+0.5
JKDJ	**Kitadaitoujima**	**2.67**	**160**		*e*P		**Pn**	16 10 38.5	+0.5
JKDJ					S		**Sn**	16 11 09.5	-0.5
JMZ	**Minamidaito 2**	**2.77**	**162**		*e*S		**Sn**	16 11 12.1	-0.5
JNTH	**Nagotoyohara**	**2.79**	**226**		*e*P		**Pn**	16 10 40.6	+1.0
JNTH					*e*S		**Sn**	16 11 13.4	+0.3
JSU	**Suzuyama**	**3.03**	**3**				**Pn**	16 10 45.4	+2.4
JKE	**Kume jima 2**	**3.77**	**236**		*e*P		**Pn**	16 10 53.8	+0.7
JKE					*e*S		**Sn**	16 11 38.0	+0.9
JMN	**Monobe**	**6.08**	**30**		Pn		**Pn**	16 11 26.4	+1.4
JHS	**Saijyo**	**6.95**	**20**		Pn		**Pn**	16 11 38.4	+1.6
KSRS	**Korea Array**	**9.18**	**348**		Pn		Pn	16 12 12.7	+5.3
	0.1nm,0.3s,baz=162,slow=14,SNR=4.6								
JGF	**Kuroka**	**9.31**	**38**		Pn		Pn	16 12 04.4	-4.8
YULB	**Yu-li**	**9.53**	**240**		Pn		**Pn**	16 12 09.7	-2.6
JCJ	**Chichijima**	**10.63**	**95**		LR		LR	16 16 15.3	
	comp=Z,40nm,18.6s,baz=173,slow=33								
KLR	**Kul'dur**	**20.76**	**3**		P		**P**	16 14 36.3	+0.5
	1.2nm,0.4s,baz=165,slow=4.3,SNR=4.8								
	1.2nm,0.4s								
SONM	**Songino Array**	**26.77**	**323**		P		**P**	16 15 34.8	-0.1
	0.3nm,0.4s,baz=130,slow=7.8,SNR=2.8								
SONM						LR	LR	16 28 20.6	
	comp=Z,46nm,18.8s,baz=142,slow=42								
	0.3nm,0.4s								
CMAR	**Chiang Mai Arr**	**30.34**	**258**		LR		LR	16 29 30.7	
	comp=Z,30nm,18.3s,baz=50,slow=40								
MKAR	**Makanchi Array**	**41.46**	**310**		P		**P**	16 17 41.0	-0.7
	0.2nm,0.4s,baz=106,slow=11,SNR=2.6								
	0.2nm,0.4s								
MKAR	**Makanchi Array**	**41.46**	**310**		P		**P**	16 17 42.4	+0.6
ZALV	**Zalesovo Beam**	**41.62**	**321**		P		**P**	16 17 42.3	-0.6
	1.2nm,0.4s,baz=107,slow=9.5,SNR=6.0								
	1.2nm,0.4s								
KURBB	**Kurchatov Arra**	**44.54**	**315**		P		**P**	16 18 05.9	-0.6
	1.2nm,0.2s,baz=99,slow=8.7,SNR=4.3								
KURBB						LR	LR	16 38 03.6	
	comp=Z,47nm,18.9s,baz=54,slow=39								
	1.2nm,0.2s								
WB0	**Warramunga Arr**	**48.12**	**175**		P		P	16 18 20.1	-15
WB0					IAmb		IAmb	16 18 53.6	
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**48.29**	**175**		P		P	16 18 46.6	+10
	comp=Z,0.9nm,0.7s,baz=354,slow=9.0,SNR=6.5								
	comp=Z,0.9nm,0.7s								
WRA	**Warramunga Arr**	**48.29**	**175**		P		P	16 18 19.1	-17
WR0	**Warramunga Arr**	**48.32**	**175**		P		P	16 18 21.2	-15
KKAR	**Karatay Array**	**49.64**	**304**		P		**P**	16 18 46.8	+0.3
BRVK	**Borovoye**	**49.92**	**317**		P		**P**	16 18 48.0	-0.5
BRVK					IAmb		IAmb	16 18 50.4	
	comp=Z,4.9nm,1.1s								
ASAR	**Alice Springs**	**51.95**	**176**		P		P	16 19 13.8	+10
	comp=Z,0.4nm,0.8s,baz=88,slow=8.1,SNR=15								
	comp=Z,0.4nm,0.8s								
ABKAR	**Akbulak array**	**56.47**	**312**		P		**P**	16 19 37.2	+0.4
ABKAR	**Akbulak array**	**56.47**	**312**		P		**P**	16 19 36.5	-0.3
ABKAR					IAmb		IAmb	16 19 45.7	
	comp=Z,4.3nm,1.4s								
CHGN	**Chignik**	**56.57**	**39**		P		P	16 19 29.7	-7.5
ARU	**Arti**	**56.79**	**321**		LR		LR	16 45 45.7	
	comp=Z,56nm,18.8s,baz=3.0,slow=38								
AKTO	**Aktyubinsk**	**57.58**	**314**		LR		LR	16 46 08.0	
	comp=Z,44nm,19.9s,baz=25,slow=38								
FINES	**FINESS Array B**	**71.81**	**331**		P		**P**	16 21 17.4	+0.1
	comp=Z,3.2nm,0.9s,baz=58,slow=7.2,SNR=7.6								
	comp=Z,3.2nm,0.9s								
FINES	**FINESS Array B**	**71.81**	**331**		P		**P**	16 21 16.9	-0.4
AKASG	**Malin Array Be**	**75.01**	**320**		P		**P**	16 21 36.3	0.0
	comp=Z,1.3nm,0.4s,baz=58,slow=6.3,SNR=6.3								
	comp=Z,1.3nm,0.4s								
BR131	**Keskin Array S**	**77.09**	**308**		P		**P**	16 21 46.0	-2.6
BR131					IAmb		IAmb	16 21 51.3	
	comp=Z,3.6nm,0.8s								
BRTR	**Keskin Array B**	**77.09**	**308**		P		**P**	16 21 49.5	+0.9
	comp=Z,1.6nm,0.7s,baz=106,slow=5.9,SNR=11								
	comp=Z,1.6nm,0.7s								
BRTR	**Keskin Array B**	**77.09**	**308**		P		**P**	16 21 45.7	-2.9

TEH ***29*** *16:09:59.5,27°.95N×54°.17E,h7km,ML3.4*
DSN ***29*** *16:10:01.6± 1.0,27°.61N×53°.93E,h10km,ML3.4/7, Error ellipse: s-maj=15.7km s-min=8.7km az=59.0*
IDC ***29*** *16:10:05.3± 24.0, 29°.13N×54°.06E, h0km, mb4.0/2, mbtmp3.9/3, ML3.4/1, MS4.0/1, Error ellipse: s-maj=487.6km s-min=44.3km az=179.0*
OMAN ***29*** *16:10:06.1± 0.1, 27°.27N×53°.72E, h20km, mb5.1/3, ml3.4/11, Error ellipse: s-maj=3.3km s-min=2.7km az=20.0*

ISC 29 16:10:00.4±0.7,27°.83N±0°.04×54°.02E±0°.04,h26km,n59, σ2^{s}12/78,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LAR1	**LAR**	**0.35**	**116**	*e*Sg	**Sb**		**16 10 12.3**	**-1.3**
LAR1				*e*Pg	**Pb**		16 10 06.3	-2.0
LAR1				*e*			16 10 26.0	
	comp=Z,63μm,0.4s							
JHRM	**Jahrom**	**0.78**	**330**	*e*Pg	**Pb**		**16 10 13.6**	**-1.9**
JHRM				*e*			16 10 36.1	
	comp=Z,27μm,0.4s							
LMD1	**Lamerd**	**0.90**	**238**	*e*Pg	**Pb**		**16 10 20.2**	**+2.8**
LMD1				*e*			16 10 37.9	
	comp=Z,15μm,0.4s							
QIR1	**Qir**	**1.08**	**307**	*e*Pg	**Pb**		**16 10 21.6**	**+1.1**
QIR1				*e*Sg	**Sb**		**16 10 37.6**	**+3.4**
QIR1				*e*			16 10 45.0	
	comp=Z,13μm,0.4s							
GENO	**Geno**	**1.95**	**102**	*e*Pn	**Pn**		**16 10 32.8**	**+0.8**
GENO				*e*			16 11 12.5	
	comp=Z,4μm,0.3s							
SHI	**Shiraz**	**2.24**	**324**	*e*Pn	**Pb**		**16 10 39.8**	**-0.6**
SHI				*e*			16 11 37.5	
	comp=Z,2μm,1.2s							
SHME	**Shamm**	**2.59**	**133**	P	**Pb**		**16 10 46.1**	**0.0**
SHME	**Shamm**	**2.59**	**133**	P	**Pn**		**16 10 43.5**	**+2.9**
AHBU	**AHRAM**	**2.62**	**294**	*e*Pn	**Pb**		**16 10 45.8**	**-0.8**
AHBU				*e*			16 11 54.1	
	comp=Z,99nm,0.7s							
BANOM	**Banah**	**2.78**	**132**	P	**Pb**		**16 10 50.5**	**+1.1**
BANOM				S	**Sn**		**16 11 19.7**	**+3.7**
BANOM	**Banah**	**2.78**	**132**	P	**Pn**		**16 10 44.8**	**+1.5**
NGRK	**Negar Kerman**	**2.99**	**52**	*e*Pn	**Pn**		**16 10 46.9**	**+0.4**
NGRK				*e*			16 11 25.8	
	comp=Z,1μm,0.3s							
MASF	**Masafi**	**3.10**	**141**	P	**Pn**		**16 10 50.1**	**+2.4**
MASF				S	**Sn**		**16 11 27.4**	**+3.4**
MSFE	**Esma-Masafi**	**3.11**	**142**	P	**Pn**		**16 10 49.4**	**+1.5**
NAZ	**Nazwa, Dubai**	**3.19**	**152**	P	**Pn**		**16 10 50.6**	**+1.8**
KRBR	**Kerman**	**3.22**	**48**	*e*Pn	**Pn**		**16 10 51.4**	**+1.8**
TVBK	**TV Kerman**	**3.22**	**47**	*e*Pn	**Pn**		**16 10 50.0**	**+0.3**
TVBK				*e*			16 11 01.9	
	comp=Z,2μm,0.3s							
KHGB	**Koh Gabri**	**3.33**	**40**	*e*Pn	**Pn**		**16 10 52.1**	**+1.1**
KHGB				*e*			16 11 46.6	
	comp=Z,961nm,0.5s							
FAQ	**Al Faqa, Dubai**	**3.38**	**155**	P	**Pn**		**16 10 53.8**	**+2.4**
FAQ				S	**Sn**		**16 11 33.2**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.40**	**160**	P	**Pn**		**16 10 53.9**	**+2.2**
	SNR=6.8							
ASUD				S	**Sn**		**16 11 32.6**	**+1.4**
UOSS	**Minazif**	**3.47**	**145**	P	**Pn**		**16 10 54.4**	**+1.6**
UOSS				S	**Sn**		**16 11 34.5**	**+1.4**
UOSS	**Minazif**	**3.47**	**145**	P	**Pn**		**16 10 53.1**	**+0.3**
HATD	**Hatta, Dubai**	**3.54**	**147**	P	**Pn**		**16 10 56.1**	**+2.5**
HATD				S	**Sn**		**16 11 36.8**	**+2.1**
IMEH	**Mehriz**	**3.59**	**8**	*e*Pn	**Pn**		**16 10 55.7**	**+1.1**
ASHO	**Ashiyiah**	**3.62**	**149**	P	**Pn**		**16 10 56.6**	**+1.7**
	SNR=15							
ASHO				S	**Sn**		**16 11 38.6**	**+1.7**
ASHO	**Ashiyiah**	**3.62**	**149**	P	**Pn**		**16 10 56.2**	**+1.3**
ASHO				S	**Sn**		**16 11 38.6**	**+1.7**
CHMN	**Cheshme madani**	**3.69**	**56**	*e*	Pb		16 11 46.0	+41
	comp=Z,781nm,0.5s							
IBAF	**Bafgh**	**3.98**	**19**	*e*Pn	**Pn**		**16 11 00.9**	**+0.9**
IBAF				*e*			16 12 11.9	
	comp=Z,417nm,0.7s							
ALNE	**Al Ain**	**4.06**	**157**	P	**Pn**		**16 11 02.6**	**+1.6**
ISAD	**Sadrabad**	**4.08**	**356**	*e*			16 11 04.1	
	comp=Z,733nm,0.2s							
ISAD				*e*Pn	**Pn**		**16 11 03.0**	**+1.5**
KBAM	**BAM**	**4.11**	**70**	*e*Pn	**Pn**		**16 11 03.5**	**+1.9**
IRAM	**Rameseh**	**4.22**	**341**	*e*Pn	**Pn**		**16 11 04.2**	**+1.0**
ICHK	**Chekchek**	**4.42**	**4**	*e*Pn	**Pn**		**16 11 07.1**	**+1.1**
YZKH	**Yazd**	**4.58**	**6**	*e*Pn	**Pn**		**16 11 09.2**	**+1.2**
ARQ	**Aragi**	**5.01**	**153**	P	**Pn**		**16 11 15.6**	**+1.7**
	SNR=6.3							
ARQ				S	**Sn**		**16 12 12.0**	**+1.0**
NASN	**Na'in**	**5.07**	**348**	*e*Pn	**Pn**		**16 11 15.8**	**+0.8**
HOQ	**Hoqain**	**5.16**	**144**	*e*Pn	**Pn**		**16 11 18.5**	**+2.5**
HOQ	**Hoqain**	**5.16**	**144**	P	**Pn**		**16 11 17.4**	**+1.4**
HOQ				S	**Sn**		**16 12 14.7**	**-0.1**
UMZA	**Um Al Zommool**	**5.19**	**168**	P	**Pn**		**16 11 17.6**	**+1.1**
UMZA				S	**Sn**		**16 12 13.5**	**-2.0**
ANAR	**Anarak**	**5.35**	**357**	*e*Pn	**Pn**		**16 11 19.3**	**+0.6**
BSY	**Bisya**	**5.82**	**150**	P	**Pn**		**16 11 26.4**	**+1.4**
BSY				S	**Sn**		**16 12 30.5**	**-0.5**
SMDO	**Samad**	**5.98**	**142**	P	**Pn**		**16 11 29.3**	**+1.9**
SMDO				S	**Sn**		**16 12 35.7**	**+0.6**
WSAR	**Wadi Sarin**	**6.18**	**137**	P	**Pn**		**16 11 31.6**	**+1.6**
	SNR=9.8							
WSAR				S	**Sn**		**16 12 39.5**	**-0.4**
CHBR	**Chabahar**	**6.19**	**110**	*e*Pn	**Pn**		**16 11 32.2**	**+2.1**
ZHSF	**Zahedan**	**6.19**	**72**	*e*Pn	**Pn**		**16 11 32.5**	**+2.2**
TKDS	**Koohdasht(Taba**	**6.36**	**24**	*e*Pn	**Pn**		**16 11 33.3**	**+0.8**
JMDO	**Jabal Madar**	**6.57**	**145**	S	**Sn**		**16 12 48.6**	**-1.0**
KHMZ	**Khomeyn**	**6.85**	**330**	*e*Pn	**Pn**		**16 11 40.1**	**+0.7**
WBK	**Wadi Bani Khal**	**6.86**	**138**	P	**Pn**		**16 11 39.9**	**+0.5**
WBK				S	**Sn**		**16 12 55.4**	**-1.2**
SRVN	**Saravan**	**7.44**	**91**	*e*Pn	**Pn**		**16 11 49.4**	**+1.9**
MHTO	**MHTO**	**7.70**	**151**	P	**Pn**		**16 11 51.3**	**+0.4**
MHTO				S	**Sn**		**16 13 14.5**	**-2.8**
RAYN	**Ar Rayn**	**8.80**	**243**	P	**Pn**		**16 12 06.4**	**+0.4**
DOK	**Doka**	**9.17**	**179**	P	**Pn**		**16 12 11.8**	**+0.8**
DOK				S	**Sn**		**16 13 46.5**	**-6.8**
WHFO	**Wadi Hawf**	**9.86**	**181**	P	**Pn**		**16 12 20.6**	**0.0**
WHFO				S	**Sn**		**16 14 03.2**	**-7.3**
ABTO	**Aybut**	**10.44**	**184**	P	**Pn**		**16 12 30.1**	**+1.6**
ABTO				S	**Sn**		**16 14 18.8**	**-6.0**
BRTR	**Keskin Array B**	**20.64**	**310**	P	**P**		**16 14 38.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=125,slow=11,SNR=8.8							
	comp=Z,1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**34.49**	**32**	P	**P**		**16 16 45.2**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=245,slow=8.5,SNR=5.8							
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**38.45**	**339**	P	**P**		**16 17 18.2**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=134,slow=12,SNR=3.6							
	comp=Z,1.8nm,0.9s							
JMIC	**Jan Mayen**	**55.07**	**339**	LR	LR		16 45 30.6	
	comp=Z,142nm,19.1s,baz=318,slow=40							

IDC ***29*** *16:12:18.9± 1.8,5°.52S×130°.10E,h0km,mb3.6/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=74.7km s-min=27.4km az=81.0*
DJA ***29*** *16:12:27.5± 0.4,5°.S± 3°.×13°.1E± °,h72km± 15km, M3.7/8, mb3.8/3, MLv3.6/8*

ISC 29 16:12:26.2±0.9,5°.34S±0°.06×130°.86E±0°.07,h68km,n11, σ1^{s}69/15,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BNDI	**Bandanaira**	**1.25**	**310**	P	**Pn**		**16 12 49.8**	**+1.9**
BNDI				S	**Sn**		**16 13 05.0**	**+0.9**
SAUI	**Saumlaki**	**2.66**	**171**	P	**Pn**		**16 13 09.2**	**+2.4**
MSAI	**Masohi**	**2.77**	**316**	P	**Pn**		**16 13 10.2**	**+1.9**
MSAI				S	**Sn**		**16 13 40.3**	**-0.3**
FAKI	**Fak Fak**	**2.78**	**30**	P	**Pn**		**16 13 09.9**	**+1.5**
FAKI				S	**Sn**		**16 13 41.4**	**+0.6**
AAI	**Ambon**	**3.13**	**302**	P	**Pn**		**16 13 14.3**	**+1.1**
SIJI	**Sorong**	**4.46**	**5**	Pn	**Pn**		**16 13 32.0**	**+0.6**
	3.9nm,0.3s,baz=51,slow=4.6,SNR=64							
SIJI				Sn	**Sn**		**16 14 19.2**	**-2.9**
	5.9nm,0.3s,baz=230,slow=23,SNR=26							
	9.8nm,0.2s							
RKPI	**Ransiki, Papua**	**5.04**	**41**	P	**Pn**		**16 13 41.2**	**+1.8**
	0.1nm12nm,1.0s							
SMPI	**Sarmi**	**8.51**	**67**	P	**Pn**		**16 14 27.7**	**+0.9**
WRA	**Warramunga Arr**	**14.90**	**167**	Pn	**Pn**		**16 15 51.7**	**-1.5**
	0.2nm,0.3s,baz=347,slow=14,SNR=12							
WRA				Sn	Sn		16 18 26.1	-11
	0.3nm,0.3s,baz=339,slow=20,SNR=9.2							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**18.45**	**171**	P	**P**		**16 16 35.4**	**-1.2**
	0.1nm,0.3s,baz=350,slow=11,SNR=15							
	1.0nm,0.7s							
MKAR	**Makanchi Array**	**67.33**	**326**	P	**P**		**16 23 14.1**	**0.0**
	0.2nm,0.3s,baz=130,slow=6.6,SNR=4.7							
	0.2nm,0.3s							

DSN ***29*** *16:25:23.7± 1.8,27°.44N×54°.18E,h10km,ML3.2/7, Error ellipse: s-maj=26.3km s-min=9.8km az=14.0*
IDC ***29*** *16:25:28.3± 1.6,26°.82N×54°.23E,h0km,mb4.1/5, mbtmp4.0/6, ML3.2/1, Error ellipse: s-maj=35.1km s-min=29.1km az=33.0*
TEH ***29*** *16:25:30.9,26°.75N×54°.32E,h16km,ML3.4*

ISC 29 16:25:30.2±0.7,26°.75N±0°.04×54°.33E±0°.05,h10km,n55, σ1^{s}60/58,mb4.0/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LAR1	**LAR**	**0.92**	**3**	*e*Pg	**Pg**		**16 25 48.5**	**+0.6**
LAR1				*e*			16 25 52.4	
	comp=Z,22μm,0.2s							
LMD1	**Lamerd**	**1.19**	**300**	*e*Pg	**Pb**		**16 25 53.3**	**+0.4**
LMD1				*e*			16 25 57.9	
	comp=Z,10μm,0.3s							
ESRB	**Sir Abu**	**1.52**	**183**	*e*Pn	**Pb**		**16 25 59.4**	**+0.9**
GENO	**Geno**	**1.77**	**68**	*e*Pn	**Pn**		**16 26 02.4**	**+1.4**
SHME	**Shamm**	**1.77**	**113**	*e*Pn	**Pn**		**16 26 01.7**	**+0.8**
SHME	**Shamm**	**1.77**	**113**	P	**Pn**		**16 26 01.3**	**+0.4**
SHME				S	**Sg**		**16 26 29.3**	**+2.2**
JHRM	**Jahrom**	**1.87**	**339**	*e*			16 26 38.9	
	comp=Z,5μm,0.3s							
JHRM				*e*Pg	**Pb**		**16 26 05.0**	**+0.5**
BANOM	**Banah**	**1.95**	**114**	*e*Pn	**Pn**		**16 26 04.4**	**+1.0**
BANOM	**Banah**	**1.95**	**114**	P	**Pn**		**16 26 03.7**	**+0.3**
BANOM				S	**Sg**		**16 26 34.2**	**+1.3**
QIR1	**Qir**	**2.06**	**327**	*e*Pn	**Pn**		**16 26 07.0**	**+2.1**
IBND	**Bandar-abas**	**2.09**	**70**	*e*			16 26 54.9	
	comp=Z,2μm,0.8s							
IBND				*e*Pn	**Pn**		**16 26 06.9**	**+1.6**
NAZ	**Nazwa, Dubai**	**2.13**	**145**	*e*Pn	**Pb**		**16 26 08.2**	**-0.6**
NAZ	**Nazwa, Dubai**	**2.13**	**145**	P	**Pn**		**16 26 07.9**	**+2.2**
MSFE	**Esma-Masafi**	**2.15**	**130**	*e*Pn	**Pn**		**16 26 07.8**	**+1.6**
MSFE	**Esma-Masafi**	**2.15**	**130**	P	**Pn**		**16 26 07.2**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.30**	**150**	*e*Pn	**Pn**		**16 26 10.0**	**+1.9**
FAQ	**Al Faqa, Dubai**	**2.30**	**150**	P	**Pb**		**16 26 12.6**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.30**	**157**	*e*Pn	**Pb**		**16 26 11.1**	**-0.7**
ASUD	**Al Ashush, Dub**	**2.30**	**157**	P	**Pb**		**16 26 11.1**	**-0.7**
UOSS	**Minazif**	**2.47**	**136**	*e*Pn	**Pn**		**16 26 12.3**	**+1.8**
UOSS	**Minazif**	**2.47**	**136**	P	**Pn**		**16 26 11.2**	**+0.7**
HATD	**Hatta, Dubai**	**2.51**	**139**	*e*Pn	**Pn**		**16 26 12.9**	**+1.8**
HATD	**Hatta, Dubai**	**2.51**	**139**	P	**Pn**		**16 26 13.1**	**+2.0**
ASHO	**Ashiyiah**	**2.58**	**142**	*e*Pn	**Pn**		**16 26 13.8**	**+1.7**
ALNE	**Al Ain**	**2.98**	**154**	*e*Pn	**Pn**		**16 26 20.4**	**+2.9**
MZWR	**Madinat Zayed**	**3.00**	**188**	*e*Pn	**Pn**		**16 26 20.4**	**+2.6**
NGRK	**Negar Kerman**	**3.58**	**36**	*e*Pn	**Pn**		**16 26 27.7**	**+1.6**
NGRK				*e*			16 26 30.2	
	comp=Z,574nm,0.2s							
KRBR	**Kerman**	**3.87**	**33**	*e*Pn	**Pn**		**16 26 31.7**	**+1.7**
TVBK	**TV Kerman**	**3.87**	**33**	*e*Pn	**Pn**		**16 26 32.0**	**+1.9**
KHGB	**Koh Gabri**	**4.08**	**27**	*e*Pn	**Pn**		**16 26 35.1**	**+2.3**
UMZA	**Um Al Zommool**	**4.09**	**169**	*e*Pn	**Pn**		**16 26 33.6**	**+0.9**
HOQ	**Hoqain**	**4.15**	**139**	*e*Pn	**Pn**		**16 26 35.7**	**+2.0**
CHMN	**Cheshme madani**	**4.20**	**42**	*e*Pn	**Pn**		**16 26 36.9**	**+2.3**
CHMN				*e*			16 26 42.1	
	comp=Z,618nm,0.3s							
KBAM	**BAM**	**4.36**	**56**	*e*Pn	**Pn**		**16 26 38.6**	**+2.1**
KBAM				*e*			16 26 39.8	
	comp=Z,518nm,0.3s							
IMEH	**Mehriz**	**4.63**	**3**	*e*Pn	**Pn**		**16 26 42.1**	**+1.7**
IMEH				*e*			16 26 47.1	
	comp=Z,163nm,0.2s							
KLNJ	**Kolanjah**	**4.87**	**331**	*e*Pn	**Pn**		**16 26 45.2**	**+1.3**
KLNJ				*e*			16 27 47.8	
	comp=Z,176nm,0.3s							
IBAF	**Bafgh**	**4.95**	**12**	*e*Pn	**Pn**		**16 26 46.2**	**+1.5**
IBAF				*e*			16 26 50.6	
	comp=Z,199nm,0.1s							
WSAR	**Wadi Sarin**	**5.24**	**131**	Pn	**Pn**		**16 26 49.8**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=314,slow=8.9,SNR=12							
WSAR				Sn	**Sn**		**16 27 47.5**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=230,slow=7.9,SNR=3.3							
	comp=Z,3.4nm,0.5s							
IRAM	**Rameseh**	**5.32**	**342**	*e*Pn	**Pn**		**16 26 51.0**	**+1.1**
YZKH	**Yazd**	**5.63**	**2**	*e*Pn	**Pn**		**16 26 55.6**	**+1.6**
CHBR	**Chabahar**	**5.65**	**100**	*e*Pn	**Pn**		**16 26 57.4**	**+3.2**
WBK	**Wadi Bani Khal**	**5.90**	**133**	*e*Pn	**Pn**		**16 26 58.7**	**+1.0**
IPIR	**Pirpir**	**6.62**	**334**	*e*Pn	**Pn**		**16 27 08.0**	**+0.1**
BSRN	**Basiran**	**6.67**	**38**	*e*Pn	**Pn**		**16 27 09.6**	**+1.2**
NHDN	**Nehbandan**	**6.82**	**46**	*e*Pn	**Pn**		**16 27 11.7**	**+1.3**
IKOO	**Kooshah**	**6.97**	**35**	*e*Pn	**Pn**		**16 27 13.7**	**+1.1**
SRVN	**Saravan**	**7.23**	**83**	*e*Pn	**Pn**		**16 27 17.9**	**+1.9**
TNSJ	**Nastanj**	**7.46**	**15**	*e*Pn	**Pn**		**16 27 19.8**	**+0.7**
KHMZ	**Khomeyn**	**7.92**	**333**	*e*Pn	**Pn**		**16 27 27.3**	**+1.7**
IKOM	**Komasi**	**9.45**	**323**	*e*Pn	**Pn**		**16 27 47.2**	**+0.7**
BRTR	**Keskin Array B**	**21.54**	**312**	P	**P**		**16 30 17.1**	**-2.6**
	comp=Z,0.7nm,0.7s,baz=129,slow=14,SNR=4.6							
	comp=Z,0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**35.26**	**31**	P	**P**		**16 32 23.3**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=235,slow=10,SNR=4.0							
	comp=Z,0.7nm,0.5s							
FINES	**FINESS Array B**	**39.55**	**339**	P	**P**		**16 33 00.1**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=144,slow=10.0,SNR=17							
	comp=Z,1.5nm,0.4s							
ARCES	**ARCESS Array B**	**46.00**	**346**	P	**P**		**16 33 53.3**	**0.0**
	comp=Z,4.5nm,1.1s,baz=153,slow=6.1,SNR=3.7							
	comp=Z,4.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**50.96**	**265**	P	**P**		**16 34 31.1**	**-1.2**
	comp=Z,13nm,0.6s,baz=72,slow=9.0,SNR=5.1							
	comp=Z,13nm,0.6s							

IDC 29 16:31:23.7±3.6,27°.49N×85°.50E,h0km,mb3.5/3, mbtmp3.4/4,ML3.2/1,MS3.6/2,Error ellipse: s-maj=120.7km s-min=29.7km az=78.0,Nepal

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**19.44**	**353**	P	P		16 35 51.5	-0.2
	0.1nm,0.3s,baz=173,slow=12,SNR=2.4							
	0.2nm,0.6s							
SONM	**Songino Array**	**26.05**	**33**	P	P		16 36 59.1	+0.3
	0.5nm,0.5s,baz=218,slow=9.1,SNR=2.4							
	0.5nm,0.5s							
MJAR	**Matsushiro Arr**	**45.12**	**65**	LR	LR		16 59 09.0	
	comp=Z,88nm,18.1s,baz=193,slow=37							
WRA	**Warramunga Arr**	**66.77**	**130**	P	P		16 42 17.4	0.0

QLP	Quilpie	24.21	173	P	P	16 47 36.2	+1.8		
EIDS	Eidsvold	24.75	158	P	P	16 47 40.9	+1.7		
EIDS				IAmb	IAmb	16 47 59.9			
	comp=Z,10nm,1.0s								
RMQ	Roma	25.02	164	P	P	16 47 45.1	+3.3		
INKA	Innaminka	25.19	181	P	P	16 47 44.5	+1.3		
WRKA	Warakurna	25.68	208	P	P	16 47 48.2	+0.4		
OOD	Oodnadatta	25.77	191	P	P	16 47 49.7	+1.2		
MBWA	Marble Bar	27.97	227	P	P	16 48 04.8	-3.6		
MBWA				IAmb	IAmb	16 48 23.8			
	comp=Z,18nm,1.5s								
PSA00	Pilbara Seismi	28.15	226	P	P	16 48 07.7	-2.3		
PSA00				IAmb	IAmb	16 48 20.6			
	comp=Z,5,8nm,1.2s								
PSA00	Pilbara Seismi	28.15	226	P	P	16 48 08.2	-1.9		
PSA00				IAmb	IAmb	16 48 48.0			
	comp=Z,16nm,1.3s								
MULG	Mulgathing	28.52	193	P	P	16 48 14.0	+0.8		
BBOO	Buckleboo	30.61	188	P	P	16 48 31.1	-0.7		
FORT	Forrest	30.81	202	P	P	16 48 33.1	-0.4		
H11S3	WAKE ISLAND Hy	32.61	49	T	T	17 23 23.7			
	baz=232,slow=75,SNR=83								
H11S2	WAKE ISLAND Hy	32.62	49	T	T	17 23 24.3			
	baz=232,slow=75,SNR=92								
H11S1	WAKE ISLAND Hy	32.63	49	T	T	17 23 25.0			
	baz=232,slow=75,SNR=83								
PPBI	Pangkal Pinang	34.99	270	P	P	16 49 10.9	+0.6		
TOO	Toolangi	35.21	174	P	P	16 49 13.7	+1.8		
TOO				IAmb	IAmb	16 49 52.8			
	comp=Z,13nm,1.2s								
MORW	Morawa	35.69	220	P	P	16 49 15.6	-0.5		
MORW				IAmb	IAmb	16 49 17.4			
	comp=Z,22nm,1.4s								
MSVF	Nonsavu	39.27	115	LR	LR	17 06 16.5			
	comp=Z,61nm,18.3s,baz=224,slow=37								
KULM	Kulim	41.18	281	P	P	16 50 01.6	-1.0		
KULM				IAmb	IAmb	16 50 03.5			
	comp=Z,18nm,1.2s								
CMAR	Chiang Mai Arr	46.43	298	P	P	16 50 44.5	-0.2		
	comp=Z,0.6nm,0.5s,baz=124,slow=6.5,SNR=5.4								
	comp=Z,0.6nm,0.5s								
PZH	PanZhiHua	47.69	310	P	P	16 50 55.5	+0.9		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
PZH				pmax	pmax				
	comp=Z,100nm,4.8s								
THZ	Tophouse	48.44	148	P	P	16 51 02.3	+2.2		
BKZ	Black Stump Fm	48.71	143	P	P	16 51 01.9	-0.3		
TUWZ	Tuamarina	48.76	147	P	P	16 51 02.1	-0.4		
PYZ	Puysegur Point	48.95	157	P	P	16 51 05.3	+1.4		
LBZ	Lake Benmore	49.04	153	P	P	16 51 04.8	+0.2		
HHC	Hu-ho-hao-te	50.81	331	*e*P	P	16 51 19.8	+1.5		
HHC				pmax	pmax				
	comp=Z,30nm,0.8s								
HHC				pmax	pmax				
	comp=Z,170nm,5.8s								
LZH	Lanzhou	51.75	321	*e*P	P	16 51 23.5	-1.9		
LZH				pP	pwP	16 51 30.5	-0.2		
LZH				sP	sP	16 51 34.0	+5.1		
LZH				pmax	pmax				
	comp=Z,17nm,1.2s								
GTA	Gaotai	56.31	322	*e*P	P	16 51 58.8	+0.1		
GTA				pP	pwP	16 52 06.0	+2.0		
GTA				sP	sP	16 52 09.5	+7.3		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,59nm,6.2s								
GTA				LR	LR				
	comp=N,87nm,14.2s								
GTA				LR	LR				
	comp=E,160nm,13.5s								
GTA				LR	LR				
	comp=Z,220nm,14.9s								
WMQ	Urumqi	66.31	321	*e*P	P	16 53 04.5	-1.8		
WMQ				pP	pwP	16 53 12.5	+0.9		
WMQ				pmax	pmax				
	comp=Z,45nm,0.9s								
MK31	Makanchi Array	71.06	322	P	P	16 53 35.0	-0.8		
MKAR	Makanchi Array	71.06	322	P	P	16 53 34.8	-1.0		
ZALV	Zalesovo Beam	72.92	329	P	P	16 53 44.9	-1.9		
	comp=Z,0.7nm,0.4s,baz=100,slow=4.0,SNR=4.0								
	comp=Z,0.7nm,0.4s								
VNDA	Vanda	75.87	175	P	P	16 54 04.3	+0.8		
	comp=Z,2.4nm,0.7s,baz=321,slow=7.1,SNR=25								
	comp=Z,2.4nm,0.7s								
VNDA	Vanda	75.87	175	P	P	16 54 03.9	+0.4		
VNDA				IAmb	IAmb	16 54 04.9			
	comp=Z,2.7nm,0.8s								
KKAR	Karatay Array	77.64	315	P	P	16 54 14.2	0.0		
CNPM	China Poot	80.91	29	P	P	16 54 31.7	0.0		
M20K	Styx River	80.92	26	P	P	16 54 32.3	+0.5		
M20K				IAmb	IAmb	16 54 50.3			
	comp=Z,5.8nm,1.3s								
K20K	Telida	81.11	24	P	P	16 54 32.6	-0.1		
K20K				IAmb	IAmb	16 54 58.4			
	comp=Z,5.8nm,1.4s								
BRLK	Bradley Lake	81.16	28	P	P	16 54 32.7	-0.4		
J20K	Nowinta River	81.41	24	P	P	16 54 34.0	-0.3		
J20K				IAmb	IAmb	16 55 10.5			
	comp=Z,9.2nm,1.4s								
PPLA	Purkeypile	81.71	25	P	P	16 54 34.7	-1.4		
CAST	Castle Rocks	81.95	25	P	P	16 54 36.2	-1.0		
CAST				IAmb	IAmb	16 55 15.5			
	comp=Z,8.2nm,1.5s								
H21K	Melozitna Rive	82.53	22	P	P	16 54 39.9	-0.3		
H21K				IAmb	IAmb	16 54 43.4			
	comp=Z,7.0nm,1.4s								
MLY	Manley	83.09	23	P	P	16 54 42.7	-0.5		
MLY				IAmb	IAmb	16 54 48.0			
	comp=Z,2.2nm,1.0s								
MAW	Mawson	83.31	202	P	P	16 54 43.8	-0.3		
ILAR	Eielson Array	84.56	24	P	P	16 54 49.0	-1.6		
	comp=Z,1.1nm,0.9s,baz=253,slow=5.6,SNR=5.3								
	comp=Z,1.1nm,0.9s								
GEYT	Alibeck	85.98	308	P	P	16 54 58.8	+0.5		
	comp=Z,2.9nm,0.7s,baz=48,slow=2.2,SNR=5.2								
	comp=Z,2.9nm,0.7s								
TORD	Torodi Ar. Bea	138.51	287	PKP	PKPdf	17 01 45.3	+0.8		
	comp=Z,0.5nm,0.7s,baz=85,slow=1.6,SNR=2.9								
LPAZ	La Paz	145.61	124	PKPbc	PKPab	17 01 58.3	0.0		
	comp=Z,2.6nm,0.6s,baz=240,slow=3.3,SNR=7.5								
DBIC	Dimbokro	145.86	278	PKPbc	PKPdf	17 01 57.4	-0.2		
	comp=Z,4.4nm,0.9s,baz=94,slow=6.5,SNR=4.7								
CPUP	Villa Florida	146.30	149	PKPbc	PKPbc	17 01 58.8	-0.4		
	comp=Z,2.5nm,0.8s,baz=194,slow=8.7,SNR=3.2								
SIV	San Ignacio	151.41	131	PKPbc	PKPbc	17 02 12.1	-0.6		
	comp=Z,1.6nm,0.8s,baz=225,slow=5.1,SNR=5.3								

NEIC ***29*** *16:43:47.3±1.8, 62°.31N±0°.04×158°.92W±0°.07, h21km±8km, Error ellipse: s-maj=5.7km s-min=4.6km az=183.0*

AEIC ***29*** *16:43:48±1.7, 62°.32N±0°.04×158°.93W±0.08, h32km±7km, ML3.8,ML4.0/82(NEIC),Mwr3.7/24(NEIC), Error ellipse: s-maj=6.0km s-min=5.1km az=172.0*

NEIC ***29*** *16:43:48, 62°.32N×158°.93W, h24km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=0.20; Mθθ1.74; Mϕϕ-1.54; Mrθ0.30; Mθϕ-4.31; Mϕr-1.46; Fault plane solution: M₀4.85000×10¹⁴ NP1:φs79.61000°, δ72.01000°, λ-179.21000°. NP2:φs349.36000°, δ89.25000°, λ-18.00000°. Principal axes: T 4.9381, Plg12.0000°, Azm36.0000°; N -0.1873, Plg72.0000°, Azm167.0000°; P -4.7508, Plg13.0000°, Azm303.0000°;*

ISC 29 16:43:48.0±1.5, 62°.32N±0°.04×158°.86W±0°.09, h22km±6km, n168, σ1°.02/177, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TT01	Tatalina	1.44	65		Pn	16 44 12.8	+0.1
TTA	Tatalina	1.45	64	Pn	Pn	16 44 13.2	+0.2
TTA				Sn	Sb	16 44 32.7	+0.4
TTA				IAML		16 44 41.1	
	comp=E,3μm,0.9s						
TTA				IAML		16 44 42.9	
	comp=N,2μm,0.7s						
TTA	Tatalina	1.45	64	P	Pb	16 44 13.9	-0.4
	baz=251						
TTA				S	Sb	16 44 33.4	+1.1
	baz=251						
N16K	Nishlik Lake	1.85	179		Pn	16 44 18.4	0.0
N16K					Sn	16 44 41.4	+0.2
N16K	Nishlik Lake	1.85	179	P	Pn	16 44 18.4	0.0
	baz=353						
N16K				S	Sn	16 44 41.4	+0.2
L19K	White Mountain	1.88	92	Pn	Pn	16 44 18.7	-0.2
L19K				IAML		16 44 52.7	
	comp=N,1μm,0.6s						
L19K				IAML		16 44 53.4	
	comp=E,1μm,0.9s						
L19K	White Mountain	1.88	92		Sb	16 44 45.7	+1.2
L19K	White Mountain	1.88	92	P	Pn	16 44 18.6	-0.2
	baz=277						
L19K				S	Sb	16 44 45.7	+1.2
	baz=277						
SVW2	Sparrevohn	1.98	127		Pn	16 44 20.3	+0.1
M19K	Big River Lodg	2.14	99		Pn	16 44 22.5	+0.1
M19K	Big River Lodg	2.14	99	IAML		16 45 02.4	
	comp=E,840nm,0.7s						
M19K				IAML		16 45 03.6	
	comp=N,1μm,0.7s						
M19K	Big River Lodg	2.14	99	P	Pn	16 44 22.5	+0.1
	baz=284						
N18K	Kilae Creek	2.17	138	Pn	Pn	16 44 23.2	+0.4
N18K	Kilae Creek	2.17	138		Sb	16 44 52.4	-0.7
N18K	Kilae Creek	2.17	138	P	Pn	16 44 23.2	+0.4
	baz=318						
N18K				S	Sb	16 44 52.4	-0.7
	baz=318						
L20K	Farewell, AK	2.32	84		Pn	16 44 24.7	-0.2
L20K					Sb	16 44 56.1	-1.2
L20K	Farewell, AK	2.32	84	P	Pn	16 44 24.7	-0.2
	baz=270						
L20K				S	Sb	16 44 57.0	-0.3
	baz=270						
K20K	Telida	2.43	63	Pn	Pn	16 44 26.2	-0.1
K20K				IAML		16 45 09.9	
	comp=N,822nm,0.8s						
K20K				IAML		16 45 15.0	
	comp=E,818nm,0.9s						
K20K	Telida	2.43	63	P	Pn	16 44 26.2	-0.1
	baz=250						
N19K	Bonanza Creek	2.58	124	Pn	Pn	16 44 28.6	0.0
N19K	Bonanza Creek	2.58	124	P	Pn	16 44 28.6	+0.1
	baz=307						
O17K	Koliganek Bris	2.69	161		Pn	16 44 30.0	0.0
O17K					Sn	16 45 04.2	+2.4
O17K	Koliganek Bris	2.69	161	P	Pn	16 44 30.0	0.0
	baz=339						
O17K				S	Sn	16 45 04.2	+2.4
	baz=339						
M20K	Styx River	2.73	97		Pn	16 44 30.7	+0.2
M20K				IAML		16 45 19.2	
	comp=N,392nm,1.1s						
M20K	Styx River	2.73	97	P	Pn	16 44 31.3	+0.7
	baz=282						
O16K	Kokwok River B	2.76	172		Pn	16 44 30.8	-0.1
O16K	Kokwok River B	2.76	172	P	Pn	16 44 30.8	-0.1
	baz=349						
J20K	Nowinta River	2.83	47	Pn	Pn	16 44 31.8	-0.1
J20K				IAML		16 45 29.4	
	comp=E,516nm,0.7s						
J20K	Nowinta River	2.83	47	P	Pn	16 44 31.7	-0.1
	baz=234						
O18K	Koktuh Hills	3.04	143		Pn	16 44 34.6	-0.1
O18K				IAML		16 45 30.6	
	comp=N,330nm,0.9s						
O18K	Koktuh Hills	3.04	143	P	Pn	16 44 34.7	-0.1
	baz=324						
O19K	Port Alsworth	3.06	132		Pn	16 44 34.9	0.0
PPLA	Purkeypile	3.14	76		Pn	16 44 36.1	-0.1
PPLA	Purkeypile	3.14	76	P	Pn	16 44 36.1	-0.1
	baz=264						
CAST	Castle Rocks	3.29	67	Pn	Pn	16 44 37.8	-0.4
CAST				IAML		16 45 43.0	
	comp=E,537nm,0.6s						
CAST				IAML		16 45 43.6	
	comp=N,488nm,0.9s						
CAST	Castle Rocks	3.29	67	P	Pn	16 44 38.6	+0.3
	baz=255						
CKL	Chakachamna La	3.30	107		Pn	16 44 39.3	+1.0
P16K	Nushagak River	3.33	172		Pn	16 44 38.9	+0.2
P16K	Nushagak River	3.33	172	P	Pn	16 44 38.9	+0.2
	baz=350						
NCT	North Crescent	3.35	119		Pn	16 44 39.2	+0.1
P17K	Kvichak River	3.35	158		Pn	16 44 39.2	+0.2
P17K	Kvichak River	3.35	158	P	Pn	16 44 39.2	+0.2
	baz=338						
SPCP	Crater Peak Br	3.35	105		Pn	16 44 40.2	+1.0
CHUM	Lake Minchumin	3.36	59		Pn	16 44 39.3	+0.1
CHUM	Lake Minchumin	3.36	59	P	Pn	16 44 39.3	+0.1
	baz=247						
SPCG	Spurr Capps Gl	3.40	105		Pn	16 44 40.8	+0.9
STLK	Strandline Lak	3.42	101		Pn	16 44 40.9	+0.9
RDWB	Redoubt West	3.43	120		Pn	16 44 40.2	0.0
SPU	Mount Spurr	3.43	106		Pn	16 44 40.1	0.0
DFR	Drift River	3.43	118		Pn	16 44 40.4	+0.2
P18K	Big Mountain,	3.43	147	Pn	Pn	16 44 39.8	-0.3
P18K				IAML		16 45 41.8	
	comp=N,229nm,0.9s						
P18K				IAML		16 45 41.8	
	comp=E,425nm,0.9s						
P18K	Big Mountain,	3.43	147	P	Pn	16 44 40.1	-0.1
	baz=328						
SKT	Skwentna	3.45	92	Pn	Pn	16 44 41.0	+0.6
SKT				IAML		16 45 42.6	
	comp=E,354nm,0.6s						
SKT				IAML		16 45 45.2	
	comp=N,337nm,0.8s						
SKT	Skwentna	3.45	92	P	Pn	16 44 41.1	+0.6
	baz=280						
RSO	Redoubt South	3.48	120		Pn	16 44 38.3	-2.6
RED	Redoubt Volcan	3.49	120		Pn	16 44 41.0	0.0
ILSW	Iliamna Southw	3.63	128		Pn	16 44 42.6	-0.4
ILSW				IAML		16 45 52.2	
	comp=E,189nm,1.2s						
ILSW				IAML		16 45 57.4	
	comp=N,153nm,0.8s						
IVE	Iliamna Volcan	3.65	127		Pn	16 44 43.5	+0.3
ANM	Nome	3.69	310	Pn	Pn	16 44 41.3	-2.4
P19K	Oil Pt	3.83	132	Pn	Pn	16 44 46.1	+0.5
P19K				IAML		16 46 02.9	
	comp=N,313nm,0.8s						
KTH	Kantishna Hill	3.83	68		Pn	16 44 43.3	-2.4
KTH				IAML		16 45 56.4	
	comp=E,241nm,1.1s						
KTH				IAML		16 45 57.6	
	comp=N,284nm,1.2s						
SUA	Susitna One	3.93	99		Pn	16 44 47.7	+0.6
SUA				IAML		16 46 03.4	
	comp=E,135nm,1.6s						
SUA				IAML		16 46 04.9	
	comp=N,134nm,1.5s						
BPAW	Bear Paw Mtn.	3.98	60	Pn	Pn	16 44 47.6	-0.2
BPAW				IAML		16 45 59.6	
	comp=E,241nm,0.7s						
BPAW				IAML		16 46 02.9	
	comp=N,295nm,1.1s						
BPAW	Bear Paw Mtn.	3.98	60	P	Pn	16 44 47.5	-0.2
	baz=249						
CUT	Chulitna	4.00	85		Pn	16 44 48.3	+0.4
TRF	Thorofare Moun	4.08	70		Pn	16 44 49.4	+0.2
TRF				IAML		16 46 09.5	
	comp=N,276nm,1.3s						
TRF				IAML		16 46 11.5	
	comp=E,253nm,1.4s						
KAHC	Katmai Hardscr	4.14	151		Pn	16 44 50.0	0.0
KAHC	Katmai Hardscr	4.14	151		Pn	16 44 49.7	-0.3
KAHC	Katmai Hardscr	4.14	151	P	Pn	16 44 50.0	0.0
	baz=333						
Q18K	Katmai Hardscr	4.14	151	P	Pn	16 44 49.7	-0.3
	baz=333						
M22K	Willow	4.15	94		Pn	16 44 50.4	+0.4
KELA	Mount Kelaz	4.19	157		Pn	16 44 50.8	+0.2
I21K	Tanana	4.19	44		Pn	16 44 50.4	-0.1
I21K	Tanana	4.19	44	P	Pn	16 44 50.4	-0.1
	baz=232						
Q19K	Cape Douglas,	4.26	141	Pn	Pn	16 44 50.7	-0.8
Q19K	Cape Douglas,	4.26	141	P	Pn	16 44 51.5	0.0
	baz=324						
H21K	Melozitna Rive	4.28	36	Pn	Pn	16 44 51.2	-0.5
H21K				IAML		16 46 13.6	
	comp=E,166nm,0.9s						
H21K				IAML		16 46 16.2	
	comp=N,167nm,1.0s						
H21K	Melozitna Rive	4.28	36	P	Pn	16 44 51.4	-0.4
	baz=224						
IMAR	Indian Mountai	4.30	29		Pn	16 44 51.9	-0.2
CNTC	Contact Creek	4.33	159		Pn	16 44 52.2	-0.3
Q17K	Contact Creek	4.33	159	P	Pn	16 44 52.2	-0.3
	baz=339						
ANCK	Angle Creek	4.46	156		Pn	16 44 54.5	+0.2
RC01	Rabbit Creek A	4.51	102		Pn	16 44 53.9	-1.0
MLY	Manley	4.52	49		Pn	16 44 54.8	-0.4
MLY				IAML		16 46 20.5	
	comp=E,126nm,1.3s						
MLY				IAML		16 46 25.7	
	comp=N,172nm,1.0s						
MLY	Manley	4.52	49	P	Pn	16 44 54.9	-0.3
	baz=239						
BWN	Browne	4.63	62		Pn	16 44 57.8	+1.1
BRLK	Bradley Lake	4.64	120		Pn	16 44 56.9	+0.1
CNPM	China Poot	4.66	124		Pn	16 44 57.3	+0.4
RND	Reindeer	4.71	72		Pn	16 44 58.0	+0.3
RND				IAML		16 46 25.3	
	comp=N,96nm,1.2s						
MCK	McKinley	4.74	68		Pn	16 44 57.1	-1.0
MCK				IAML		16 46 26.6	
	comp=E,105nm,0.9s						
MCK				IAML		16 46 31.1	
	comp=N,147nm,1.5s						
O22K	Cooper Landing	4.76	109		Pn	16 44 59.0	+0.7
G21K	Allakaket	4.81	26		Pn	16 44 59.1	+0.1
G21K	Allakaket	4.81	26	P	Pn	16 44 59.1	+0.1
	baz=214						
R17K	Ugashik Creek	4.86	164		Pn	16 44 60.0	+0.3
R17K	Ugashik Creek	4.86	164	P	Pn	16 44 60.0	+0.3
	baz=344						
H22K	Ishtalitna Cre	4.86	39		Pn	16 44 59.4	-0.3
H22K	Ishtalitna Cre	4.86	39	P	Pn	16 44 59.4	-0.3
	baz=228						
NEA2	Nenana	4.95	58		Pn	16 45 01.7	+0.7
NEA2				IAML		16 46 35.0	
	comp=E,82nm,0.9s						
NEA2				IAML		16 46 45.4	
	comp=N,97nm,1.7s						
SML	Sawmill	4.98	91		Pn	16 45 02.3	+0.9
SML	Sawmill	4.98	91	P	Pn	16 45 03.1	+1.7
	baz=281						
KNK	Knik Glacier	5.01	96		Pn	16 45 02.6	+0.9
KNK				IAML		16 46 27.9	
	comp=N,82nm,1.1s						
KNK				IAML		16 46 41.0	
	comp=E,86nm,0.9s						
SEW	Seward	5.06	112		Pn	16 45 00.3	-2.1
I23K	Minto, Yukon-K	5.08	52		Pn	16 45 01.9	-0.8
I23K	Minto, Yukon-K	5.08	52	P	Pn	16 45 02.4	-0.3
	baz=242						
PWL	Port Wells	5.23	102	Pn	Pn	16 45 05.9	+1.0
PWL				IAML		16 46 44.6	
	comp=N,66nm,1.3s						
WRH	Wood River Hil	5.30	61		Pn	16 45 05.8	+0.1
WRH				IAML		16 46 47.1	
	comp=N,57nm,0.8s						
DHY	Denali Highway	5.34	77		Pn	16 45 07.1	+0.6
DHY				IAML		16 46 44.7	
	comp=E,66nm,0.9s						
DHY				IAML		16 46 46.0	
	comp=N,65nm,0.9s						
H23K	Yukon River	5.39	45	Pn	Pn	16 45 05.7	-1.3
H23K	Yukon River	5.39	45	P	Pn	16 45 07.5	+0.5
	baz=235						
MDM	Murphy Dome	5.42	56		Pn	16 45 05.3	-2.2
F21K	Alatna River	5.43	23		Pn	16 45 08.4	+0.8
F21K	Alatna River	5.43	23	P	Pn	16 45 08.4	+0.8
	baz=210						
SCM	Sheep Creek Mo	5.44	90		Pn	16 45 08.3	+0.5
SCM	Sheep Creek Mo	5.44	90	P	Pn	16 45 09.1	+1.4
	baz=281						
CCB	Clear Creek Bu	5.47	60		Pn	16 45 08.2	0.0
HDA	Harding Lake	5.75	63		Pn	16 45 10.1	-1.9
GLI	Glacier Island	5.80	99		Pn	16 45 11.0	-1.6
POKR	Poker Plat Res	5.80	56		Pn	16 45 11.4	-1.2
G23K	Bananza Creek	5.83	37		Pn	16 45 13.3	+0.3
G23K	Bananza Creek	5.83	37	P	Pn	16 45 13.3	+0.3
	baz=227						
OHAK	Old Harbor	5.83	149	Pn	Pn	16 45 14.1	+1.0
IL31		5.89	60		Pn	16 45 12.5	-1.2
ILAR	Eielson Array	5.89	60		Pn	16 45 11.4	-2.4
M24K	Tolsona, Glenn	5.94	86		Pn	16 45 14.4	-0.2
M24K	Tolsona, Glenn	5.94	86	P	Pn	16 45 15.7	+1.1
	baz=278						
H24K	Noodor Dome	5.97	49	Pn	Pn	16 45 14.4	-0.5
H24K	Noodor Dome	5.97	49	P	Pn	16 45 14.8	-0.1
	baz=240						
CHGN	Chignik	6.04	178	Pn	Pn	16 45 11.9	-4.0
FID	Port Fidalgo	6.12	99	Pn	Pn	16 45 16.3	-0.8
COLD	Coldfoot	6.16	33		Pn	16 45 17.8	+0.3
KLU	Klutina	6.17	92		Pn	16 45 16.8	-0.9
KLU	Klutina	6.17	92	P	Pn	16 45 18.5	+0.7
	baz=284						
PAX	Paxson	6.21	78		Pn	16 45 17.6	-0.7
HIN	Hinchinbrook I	6.25	102	Pn	Pn	16 45 18.2	-0.6
SII	Sitkinak Islan	6.25	156	Pn	Pn	16 45 16.0	-2.8
DIV	Divide	6.33	95	Pn	Pn	16 45 19.6	-0.3
J25K	Salcha River,	6.46	63		Pn	16 45 20.6	-1.2
RIDG	Independent Ri	6.53	71	Pn	Pn	16 45 22.1	-0.6
EYAK	Cordova Ski Ar	6.53	100	Pn	Pn	16 45 21.8	-0.8
PRP	Porcupine Dome	6.69	56	Pn	Pn	16 45 23.0	-1.9
Q23K	Middleton Isla	6.76	110	Pn	Pn	16 45 25.1	-0.6
MID	Middleton Isla	6.76	110	Pn	Pn	16 45 25.1	-0.7
N25K	Chitina, Valde	6.76	90		Pn	16 45 25.3	-0.6
DOT	Dot Lake	6.87	72		Pn	16 45 27.0	-0.3
MENT	Mentasta	7.01	78		Pn	16 45 28.8	-0.4
SDPT	Sand Point	7.04	188	Pn	Pn	16 45 28.8	-0.8
RAGM	Ragged Mountai	7.09	100	Pn	Pn	16 45 30.4	0.0
GLB	Gilahina Butte	7.17	90	Pn	Pn	16 45 30.9	-0.5
L26K	Log Cabin Wild	7.17	77		Pn	16 45 29.9	-1.6
J26L	Joseph Creek	7.20	66		Pn	16 45 31.2	-0.7
FYU	Fort Yukon	7.26	48	Pn	Pn	16 45 32.8	+0.2
HMT	Hamilton	7.30	99	Pn	Pn	16 45 32.3	-0.9
M26K	Nabesna, AK	7.38	82	Pn	Pn	16 45 35.0	+0.7
TOLK	Toolik Lake Re	7.42	27		Pn	16 45 34.3	-0.6
CNBA	Chernabura Isl	7.53	183	Pn	Pn	16 45 33.0	-3.3
BERG	Berg Lake	7.53	98		Pn	16 45 34.9	-1.6
MCARA	McCarthy VSAT	7.55	90	Pn	Pn	16 45 35.0	-1.5
I26K	Coal Creek Min	7.56	60	Pn	Pn	16 45 33.2	-3.5
L27K	Beaver Creek,	7.87	77		Pn	16 45 40.5	-0.5
BCAR	Beaver Creek A	7.88	77	Pn	Pn	16 45 41.8	+0.5
M27K	Edge Creek, AK	7.90	82	Pn	Pn	16 45 40.0	-1.6
BMAR	Burnt Mountain	7.94	44	Pn	Pn	16 45 41.3	-0.6
EGAK	Eagle	8.27	65	Pn	Pn	16 45 44.4	-2.1

JMKN				*e*S		**Sn**	**16 45 59.4**	**+3.2**
BSO1	**Boso 1**	**5.40**	**1**	P		**Pn**	**16 45 13.4**	**+3.0**
BSO1				*e*S		**Sn**	**16 46 12.6**	**+1.6**
BSO3	**Boso 3**	**5.55**	**357**	P		**Pn**	**16 45 15.6**	**+2.8**
BSO4	**Boso 4**	**5.75**	**356**	P		**Pn**	**16 45 19.1**	**+3.5**
JIE	**Ise**	**6.22**	**327**	P		Pn	16 45 27.5	+5.3
JTNC	**Tanabenakahech**	**6.38**	**317**	P		Pn	16 45 30.0	+5.6
JHU	**Hanno**	**6.72**	**349**	P		**Pn**	**16 45 32.1**	**+3.1**
JHU				*e*S		**Sn**	**16 46 43.3**	**-0.7**
JAO	**Obara**	**6.73**	**334**	*e*P		Pn	16 45 34.4	+5.3
JRY	**Ryogami san**	**6.95**	**347**	P		**Pn**	**16 45 35.7**	**+3.5**
JRY				*e*S		**Sn**	**16 46 51.3**	**+1.7**
JYT	**Yasato**	**6.99**	**356**			**Pn**	**16 45 34.6**	**+1.9**
JYT	**Yasato**	**6.99**	**356**	P		**Pn**	**16 45 35.1**	**+2.5**
JYT				*e*S		**Sn**	**16 46 48.5**	**-2.1**
JGF	**Kuroka**	**6.99**	**336**			**Pn**	**16 45 37.3**	**+4.6**
JAG	**Ashikaga**	**7.26**	**351**	P		**Pn**	**16 45 38.2**	**+1.9**
JHO	**Hitachi**	**7.35**	**358**	P		**Pn**	**16 45 39.2**	**+1.6**
JMN	**Monobe**	**7.44**	**309**	Pn		Pn	16 45 44.0	+5.2
MJAR	**Matsushiro Arr**	**7.61**	**344**	P		**Pn**	**16 45 44.2**	**+3.1**
	3.1nm,0.4s,baz=157,slow=12,SNR=32							
MAJO	**Matsushiro**	**7.61**	**344**			**Pn**	**16 45 45.2**	**+4.1**
MJB9	**Matsu-Tunnel**	**7.61**	**344**			**Pn**	**16 45 45.2**	**+4.0**
JFK	**Kawauchi**	**8.10**	**0**	P		**Pn**	**16 45 48.5**	**+0.6**
JMM	**Marumori**	**8.60**	**360**			**Pn**	**16 45 55.9**	**+1.3**
JHS	**Saijyo**	**8.71**	**313**	Pn		Pn	16 46 01.3	+5.2
JSD	**Sado**	**9.03**	**347**	Pn		**Pn**	**16 46 00.8**	**+0.3**
JMK	**Ichinoseki**	**9.69**	**2**	*e*P		**Pn**	**16 46 10.2**	**+0.8**
JTM	**Tenmabayashi**	**11.52**	**1**	Pn		**Pn**	**16 46 34.5**	**+0.2**
KSRS	**Korea Array**	**13.54**	**311**	P		**P**	**16 47 08.5**	**+1.4**
	1.3nm,0.7s,baz=123,slow=9.9,SNR=6.5							
USRK	**Ussuriysk Ar.**	**16.51**	**337**	P		**Pn**	**16 47 38.4**	**-0.6**
	0.8nm,0.4s,baz=149,slow=9.1,SNR=9.9							
USRK	**Ussuriysk Ar.**	**16.51**	**337**	Pn		**Pn**	**16 47 37.1**	**-1.9**
USA0B	**Ussuriysk Arra**	**16.51**	**337**	Pn		**Pn**	**16 47 37.5**	**-1.5**
YSS	**Yuzh-Sakhalins**	**17.75**	**4**	P		**P**	**16 47 53.4**	**-0.3**
YSS				IAmb		IAmb	16 47 58.8	
	comp=Z,42nm,1.5s							
KLR	**Kul'dur**	**21.14**	**343**	P		**P**	**16 48 30.6**	**+0.2**
	comp=Z,11nm,0.6s,baz=147,slow=9.7,SNR=14							
	comp=Z,11nm,0.6s							
YAK	**Yakutsk**	**33.61**	**351**	P		**P**	**16 50 23.2**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=97,slow=4.2,SNR=4.3							
	comp=Z,1.4nm,0.3s							
YAK	**Yakutsk**	**33.61**	**351**	P		**P**	**16 50 23.3**	**-1.1**
YAK				IAmb		IAmb	16 50 27.3	
	comp=Z,11nm,1.1s							
UBPT	**Khong Chiam**	**35.41**	**255**	P		**P**	**16 50 39.4**	**-1.0**
TIXI	**Tiksi**	**42.97**	**354**	P		**P**	**16 51 43.1**	**+0.5**
TIXI				IAmb		IAmb	16 52 00.1	
	comp=Z,9.3nm,0.8s							
ZALV	**Zalesovo Beam**	**47.10**	**318**	P		**P**	**16 52 14.8**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=98,slow=8.5,SNR=4.7							
	comp=Z,1.0nm,0.4s							
MK31	**Makanchi Array**	**48.21**	**308**	P		**P**	**16 52 22.8**	**-1.6**
MKAR	**Makanchi Array**	**48.21**	**308**	P		**P**	**16 52 22.7**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=83,slow=9.9,SNR=6.2							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**48.21**	**308**	P		**P**	**16 52 23.5**	**-1.0**
WRA	**Warramunga Arr**	**49.30**	**188**	P		**P**	**16 52 31.8**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=27,slow=7.4,SNR=2.0							
	comp=Z,1.3nm,0.9s							
NRIK	**Noril'sk**	**50.22**	**338**	P		**P**	**16 52 39.9**	**+0.5**
	comp=Z,4.5nm,0.4s,baz=107,slow=9.3,SNR=9.2							
	comp=Z,4.5nm,0.4s							
NRIK	**Noril'sk**	**50.22**	**338**	P		**P**	**16 52 39.3**	**-0.1**
NRIK				IAmb		IAmb	16 52 40.5	
	comp=Z,6.4nm,0.8s							
KURK	**Kurchatov**	**50.65**	**313**	P		**P**	**16 52 41.2**	**-1.6**
KURK				IAmb		IAmb	16 52 41.6	
	comp=Z,4.4nm,1.2s							
KK31	**Karatay Array**	**56.88**	**305**	P		**P**	**16 53 26.8**	**-1.7**
KKAR	**Karatay Array**	**56.88**	**305**	P		**P**	**16 53 26.5**	**-2.0**
KKAR				IAmb		IAmb	16 53 27.7	
	comp=Z,1.3nm,0.8s							
ARU	**Arti**	**62.01**	**321**	P		**P**	**16 54 02.6**	**-0.9**
ARU				IAmb		IAmb	16 54 06.4	
	comp=Z,9.8nm,1.4s							
ABKAR	**Akbulak array**	**62.76**	**313**	P		**P**	**16 54 07.1**	**-1.5**
ABKAR				IAmb		IAmb	16 54 07.8	
	comp=Z,3.0nm,0.6s							
ABKAR	**Akbulak array**	**62.76**	**313**	P		**P**	**16 54 07.3**	**-1.3**
ARCES	**ARCESS Array B**	**71.13**	**340**	P		**P**	**16 55 01.6**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=65,slow=7.2,SNR=12							
	comp=Z,4.6nm,0.8s							
ARCES	**ARCESS Array B**	**71.13**	**340**	P		**P**	**16 55 01.9**	**+0.5**
HOOD	**Mount Hood Mea**	**74.70**	**46**	P		**P**	**16 55 20.9**	**-2.2**
HOOD				IAmb		IAmb	16 55 26.1	
	comp=Z,7.9nm,0.6s							
FIA1	**FINESS Array S**	**75.50**	**333**	P		**P**	**16 55 26.8**	**-0.4**
FINES	**FINESS Array B**	**75.50**	**333**	P		**P**	**16 55 26.9**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=71,slow=4.4,SNR=27							
	comp=Z,2.8nm,0.5s							
FINES	**FINESS Array B**	**75.50**	**333**	P		**P**	**16 55 26.8**	**-0.3**
NVAR	**Mina Array Bea**	**80.12**	**52**	P		**P**	**16 55 54.7**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=277,slow=5.5,SNR=3.7							
	comp=Z,0.6nm,0.6s							
AKASG	**Malin Array Be**	**80.19**	**323**	P		**P**	**16 55 52.5**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=50,slow=5.8,SNR=6.5							
	comp=Z,0.5nm,0.4s							
TXAR	**Lajitas Array**	**95.26**	**52**	P		**P**	**16 57 08.6**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=337,slow=8.8,SNR=2.1							
	comp=Z,0.1nm,0.4s							

*ATH **29** 16:46:45.0,39.76N×19.29E,h8km±2km,ML2.3/9,Error ellipse: s-maj=2.6km s-min=0.9km az=354.0*
*TIR **29** 16:46:44.6,39.71N×19.39E,h1km±1km,Md3.0,Ml2.6*
*THE **29** 16:46:47.2,39.70N×19.38E,h0km±2km,ML2.3/5,Error ellipse: s-maj=3.2km s-min=1.3km az=282.0*

ISC 29 16:46:44.1±1.3,39.81N±0.04×19.23E±0.04,h7km±10km, n29,σ1s07/46,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KEK	**Kerkira**	**0.45**	**102**	P		**Pg**	**16 46 52.5**	**-0.3**
KEK				S		**Sg**	**16 46 58.5**	**-0.3**
	828nm,0.4s							
KEK	**Kerkira**	**0.45**	**102**	P		**Pg**	**16 46 52.6**	**-0.3**
KEK				S		**Sg**	**16 46 58.3**	**-0.5**
KEK				AML	AML		16 46 59.6	
	comp=N,1600μm,0.4s							
KEK				AML	AML		16 46 59.7	
	comp=E,1697μm,0.4s							
KASA	**Kassiopi**	**0.55**	**97**	P		**Pg**	**16 46 54.0**	**-0.7**
KASA				S		**Sg**	**16 47 01.4**	**-0.5**
SRN	**Sarande**	**0.60**	**83**	P		**Pg**	**16 46 55.1**	**-0.5**
	baz=70							
SRN				S		**Sg**	**16 47 01.9**	**-1.6**
	baz=70							
SRN				AMP				
	comp=N,1.3nm,0.4s,baz=70							
SCTE	**Santa Cesarea**	**0.64**	**294**	P		**Pb**	**16 46 58.3**	**+0.7**
SCTE				S		**Sn**	**16 47 08.0**	**-1.9**
SCTE				AML	AML		16 47 14.1	
	comp=E,341μm,0.3s							
SCTE				AML	AML		16 47 19.4	
	comp=N,288μm,0.3s							
LSK	**Leskovik**	**1.11**	**72**	P		**Pg**	**16 47 07.1**	**+1.7**
LSK				S		**Sn**	**16 47 22.3**	**+0.7**
	comp=N,288nm,0.4s							
LSK	**Leskovik**	**1.11**	**72**	P		**Pg**	**16 47 07.1**	**+1.7**
	baz=64							
LSK				S		**Sn**	**16 47 21.1**	**-0.6**
	baz=64							
LSK				AMP				
	comp=N,1.5nm,0.5s,baz=64							
JAN	**Janina**	**1.26**	**97**	P		**Pn**	**16 47 07.6**	**-0.5**
JAN				S		**Sb**	**16 47 24.0**	**-0.7**
JAN				AML	AML		16 47 28.2	
	comp=E,891μm,0.4s							
JAN				AML	AML		16 47 28.2	
	comp=N,841μm,0.3s							
TSLK	**Tsoukalades, L**	**1.48**	**131**	P		**Pb**	**16 47 12.1**	**+0.2**
TSLK				S		**Sb**	**16 47 31.1**	**+0.2**
	comp=N,122nm,0.5s							
TSLK	**Tsoukalades, L**	**1.48**	**131**	P		**Pn**	**16 47 10.6**	**-0.6**
TSLK				S		**Sn**	**16 47 30.3**	**-0.4**
TSLK				AML	AML		16 47 38.7	
	comp=N,317μm,0.6s							
TSLK				AML	AML		16 47 41.6	
	comp=E,209μm,0.5s							
NEST	**Nestorio**	**1.52**	**66**	P		**Pg**	**16 47 14.6**	**+1.3**
NEST				S		**Sg**	**16 47 34.6**	**+1.6**
	comp=E,68nm,0.5s							
NEST	**Nestorio**	**1.52**	**66**	P		**Pb**	**16 47 12.6**	**-0.1**
NEST				S		**Sb**	**16 47 32.1**	**-0.1**
NEST				AML	AML		16 47 39.1	
	comp=E,198μm,0.5s							
NEST				AML	AML		16 47 39.3	
	comp=N,119μm,0.3s							
DRAG	**Dragano-Lefkad**	**1.54**	**137**	P		**Pb**	**16 47 12.7**	**-0.2**
DRAG				S		**Sb**	**16 47 33.2**	**+0.7**
	comp=N,1μm,0.3s							
FSK	**Fiskardo**	**1.70**	**142**	P		**Pn**	**16 47 14.6**	**+0.5**
FSK				S		**Sn**	**16 47 36.3**	**+0.2**
FSK				AML	AML		16 47 44.1	
	comp=E,192μm,0.8s							
FSK				AML	AML		16 47 46.6	
	comp=N,141μm,0.3s							
KEF4	**Livadi, Kephal**	**1.81**	**149**	P		**Pb**	**16 47 16.9**	**-0.6**
KEF3	**Kipouria, Keph**	**1.83**	**151**	P		**Pn**	**16 47 16.6**	**+0.7**
VLS	**Valsamata**	**1.95**	**147**	P		**Pn**	**16 47 17.8**	**+0.3**
VLS				AML	AML		16 47 54.7	
	comp=N,139μm,0.4s							
VLS				AML	AML		16 47 58.5	
	comp=E,160μm,0.4s							
PSDA	**Pessada-Kefalo**	**2.00**	**148**	P		**Pn**	**16 47 19.3**	**+1.1**
PVO	**Paravola**	**2.15**	**123**	P		**Pn**	**16 47 21.8**	**+1.5**
THL	**Klokotos Trika**	**2.17**	**96**	P		**Pb**	**16 47 22.9**	**-0.6**
THL				AML	AML		16 47 57.4	
	comp=N,63μm,0.5s							
THL				AML	AML		16 47 58.1	
	comp=E,63μm,0.6s							
SERG	**Sergoula**	**2.61**	**121**	AML	AML		16 48 23.1	
	comp=N,58μm,0.5s							
SERG				AML	AML		16 48 23.9	
	comp=E,52μm,0.5s							
DBRK	**Dubrovnik**	**2.97**	**344**	*e*Pn		**Pn**	**16 47 29.8**	**-1.8**
STON	**Ston**	**3.27**	**340**	*e*Pn		**Pn**	**16 47 35.0**	**-0.6**
STON				Sn		**Sn**	**16 48 12.2**	**-2.5**
LSTV	**Lastovo**	**3.44**	**330**	*e*Pn		**Pn**	**16 47 37.4**	**-0.6**
RICI	**Ricice**	**4.00**	**338**	*e*Pn		**Pn**	**16 47 47.3**	**+1.5**
RICI				Sn		**Sn**	**16 48 31.9**	**-1.0**
ZIRJ	**Zirje**	**4.68**	**326**	*e*Pn		**Pn**	**16 47 55.3**	**+0.2**
KIJV	**Kijevo**	**4.69**	**334**	*e*Pn		**Pn**	**16 47 56.5**	**+1.3**
KIJV				Sn		**Sn**	**16 48 49.5**	**-0.3**
DUGI	**Dugi Otok**	**5.21**	**325**	*e*Pn		**Pn**	**16 48 04.0**	**+1.7**
DUGI				Sn		**Sn**	**16 49 01.3**	**-1.3**
NVLJ	**Novalja**	**5.75**	**327**	*e*Pn		**Pn**	**16 48 11.3**	**+1.6**

*IDC **29** 16:49:23.4±1.6,2.93S×130.58E,h0km,mb3.8/2, mbtmp3.8/4,ML3.5/2,MS3.0/3,Error ellipse: s-maj=56.9km s-min=21.3km az=92.0*
*DJA **29** 16:49:26.1±1.9,3.5S±4.3×13.0E±9.1,h22km±19km,M3.9/10, mb4.5/1,mB5.1/1,MLv3.6/10,Mw(mB)4.4/1*

ISC 29 16:49:24.5±1.0,2.78S±0.06×130.13E±0.06,h10km,n14, σ2s18/12,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MSAI	**Masohi**	**1.33**	**245**	P		**Pn**	**16 49 49.5**	**+0.4**
BNDI	**Bandanaira**	**1.75**	**187**	P		**Pn**	**16 49 55.9**	**+1.0**
FAKI	**Fak Fak**	**2.12**	**94**	P		**Pn**	**16 49 59.7**	**-0.3**
AAI	**Ambon**	**2.13**	**245**	P		**Pn**	**16 50 00.8**	**+0.6**
SIJI	**Sorong**	**2.21**	**31**	Pn		**Pn**	**16 50 00.6**	**-0.7**
	8.6nm,0.3s,baz=43,slow=2.6,SNR=116							
SIJI				Sn		**Sn**	**16 50 28.1**	**-0.6**
	31nm,0.3s,baz=307,slow=19,SNR=9.9							
SIJI				LR		LR	16 51 23.9	
	comp=Z,293nm,21.2s,baz=25,slow=56 33nm,0.5s							
NLAI	**Namlea**	**3.06**	**261**	P		**Pn**	**16 50 12.3**	**-0.7**
LBMI	**Labuha**	**3.38**	**309**	P		**Pn**	**16 50 16.5**	**-0.9**
SANI	**Sanana**	**4.20**	**280**	P		Pn	16 50 26.2	-2.5
SRPI	**Serui, Papua**	**6.17**	**82**	P		**Pn**	**16 50 59.2**	**+3.4**
WRA	**Warramunga Arr**	**17.55**	**167**	P		**Pn**	**16 53 26.5**	**-2.9**
	0.2nm,0.3s,baz=346,slow=12,SNR=4.6							
	1.2nm,0.6s							
PMG	**Port Moresby**	**18.16**	**112**	LR		LR	17 02 11.0	
	comp=Z,51nm,18.1s,baz=316,slow=43							
ASAR	**Alice Springs**	**21.09**	**170**	P		**P**	**16 54 06.7**	**-2.5**
	3.5nm,0.6s,baz=351,slow=9.6,SNR=29							
	3.5nm,0.6s							
JOW	**Kunigami**	**29.49**	**357**	LR		LR	17 07 47.2	
	comp=Z,21nm,18.5s,baz=244,slow=37							
MKAR	**Makanchi Array**	**64.81**	**326**	P		**P**	**17 00 07.1**	**+3.5**
	0.8nm,0.8s,baz=115,slow=7.4,SNR=4.3							
	0.8nm,0.8s							

*IDC **29** 16:51:16.4±1.1,28.63N×130.26E,h0km,mb3.9/11, mbtmp3.9/12,ML3.1/1,MS3.5/10,Error ellipse: s-maj=37.5km s-min=16.5km az=80.0*
*NEIC **29** 16:51:19.5±2.1,28.2N±0.1×130.5E±0.2,h41km±16km, mb4.3/4,Error ellipse: s-maj=24.1km s-min=11.1km az=127.0*
*JMA **29** 16:51:20.9±0.2,28.5N±0.9×130.2E±0.8,h27km±1km, MV3.6/26,NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
*NIED **29** 16:51:20.9,28.50N×130.15E,h27km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.22; Mθθ-0.53; Mφφ-0.70; Mrθ-0.07; Mθφ-1.10; Mφr-1.18; Fault plane solution: M0 1.93000×10¹⁵ NP1: φs70.00000°,δ36.00000°,λ137.00000°. NP2: φs197.00000°,δ66.00000°,λ62.00000°.*

ISC 29 16:51:17.7±1.4,28.51N±0.03×130.30E±0.04,h12km±8km, n50,σ1s16/63,mb4.0/12,MS3.5/10,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JZK	**Kikaishima**	**0.35**	**235**	*i* P		**Pb**	**16 51 27.1**	**+1.2**
JZK				*e*S		**Sb**	**16 51 32.0**	**+0.6**
JAM	**Amami Oshima**	**0.62**	**261**	*i* P		**Pb**	**16 51 30.9**	**+0.5**
JAM				*e*S		**Sg**	**16 51 37.0**	**-0.9**
JAMN	**Amaminishikomi**	**1.02**	**255**	*i* P		**Pb**	**16 51 37.5**	**+0.1**
JAMN				*e*S		**Sb**	**16 51 49.0**	**-1.8**
JTAJ	**Takarajima**	**1.15**	**304**	*i* P		**Pb**	**16 51 40.1**	**+0.5**
JTAJ				*e*S		**Sb**	**16 51 53.8**	**-0.8**
JNN	**Nakanoshima**	**1.38**	**345**	P		**Pg**	**16 51 44.6**	**+0.4**
JNN				*e*S		**Sb**	**16 52 01.4**	**+0.4**
JTK	**Tokunoshima**	**1.39**	**239**	P		**Pn**	**16 51 43.3**	**+0.3**
JTK				*e*S		**Sn**	**16 51 59.3**	**-2.0**
JYAK	**Yakushimahirau**	**1.73**	**6**	P		**Pg**	**16 51 50.4**	**-0.6**
JYAK				*e*S		**Sg**	**16 52 12.5**	**-0.9**
JOKE	**Okinoerabujima**	**1.91**	**233**	P		**Pn**	**16 51 50.6**	**+0.4**
JOKE				*e*S		**Sn**	**16 52 13.2**	**-1.0**
JKC	**Kuchinoerabu**	**1.94**	**357**	P		**Pb**	**16 51 53.1**	**-0.1**
JKC				*e*S		**Sb**	**16 52 16.9**	**-0.5**
JMTN	**Minamitane**	**1.95**	**16**	*e*P		**Pb**	**16 51 53.3**	**0.0**
JMTN				*e*S		**Sb**	**16 52 16.8**	**-0.8**
JYRO	**Yoronjima**	**2.21**	**228**	P		**Pn**	**16 51 54.5**	**+0.2**
JYRO				*e*S		**Sn**	**16 52 20.4**	**-1.0**
JTN	**Tanegashima 3**	**2.22**	**15**	*e*P		**Pb**	**16 51 57.0**	**-0.8**
JTN				*e*S		**Sb**	**16 52 24.8**	**-0.5**
JOW	**Kunigami**	**2.45**	**227**	Pn		**Pn**	**16 51 57.5**	**-0.1**
	6.0nm,0.3s,baz=138,slow=26,SNR=46							
JOW				Sn		**Sg**	**16 52 36.9**	**+0.3**
	17nm,0.3s,baz=143,slow=24,SNR=7.9 36nm,0.3s							
JOW	**Kunigami**	**2.45**	**227**			**Pn**	**16 51 56.9**	**-0.7**
JOW	**Kunigami**	**2.45**	**227**	*e*P		**Pn**	**16 51 56.9**	**-0.7**
JIH	**Iheya**	**2.53**	**235**	P		**Pn**	**16 51 58.6**	**-0.2**
JIH				*e*S		**Sn**	**16 52 28.9**	**-0.7**
JKDJ	**Kitadaitoujima**	**2.70**	**161**	P		**Pn**	**16 52 00.9**	**-0.1**
JKDJ				*e*S		**Sn**	**16 52 31.3**	**-2.4**
JMZ	**Minamidaito 2**	**2.81**	**163**	*e*S		**Sn**	**16 52 33.6**	**-2.7**
JNTH	**Nagotoyohara**	**2.83**	**226**	*e*P		**Pn**	**16 52 03.3**	**+0.4**
JSU	**Suzuyama**	**2.99**	**3**			**Pn**	**16 52 07.6**	**+2.6**
JSU				Sn		**Sn**	**16 52 42.1**	**+1.3**
JJT3	**Tamagusuku3**	**3.25**	**224**	P		**Pn**	**16 52 09.2**	**+0.6**
JJT3				*e*S		**Sn**	**16 52 46.2**	**-1.1**
JAGN	**Aguni-jima**	**3.32**	**235**	P		**Pn**	**16 52 09.7**	**+0.2**
JAGN				S		**Sn**	**16 52 47.9**	**-1.0**
JKE	**Kume jima 2**	**3.80**	**236**	*e*P		**Pn**	**16 52 15.4**	**-0.8**
JKE				*e*S		**Sn**	**16 52 58.9**	**-2.0**
JMN	**Monobe**	**6.04**	**30**	Pn		**Pn**	**16 52 49.8**	**+2.8**
JMN				Sn		**Sn**	**16 53 53.5**	**-2.6**
JHS	**Saijyo**	**6.90**	**20**	Pn		**Pn**	**16 53 01.3**	**+2.6**
JHS				Sn		**Sn**	**16 54 17.3**	**+0.1**
KSRS	**Korea Array**	**9.14**	**348**	Pn		Pn	16 53 34.8	+5.4
	0.2nm,0.3s,baz=166,slow=16,SNR=6.4							
JGF	**Kuroka**	**9.26**	**38**	Pn		**Pn**	**16 53 31.2**	**-0.1**
GUMO	**Guam**	**20.10**	**135**	LR		LR	17 02 38.9	
	comp=Z,41nm,18.4s,baz=138,slow=34							
KLR	**Kul'dur**	**20.72**	**3**	P		**P**	**16 55 56.8**	**-1.2**
	1.5nm,0.6s,baz=158,slow=7.5,SNR=5.0							
	1.5nm,0.6s							
SONM	**Songino Array**	**26.75**	**323**	P		**P**	**16 56 56.3**	**-1.1**
	0.4nm,0.5s,baz=136,slow=11,SNR=2.9							
SONM				LR		LR	17 08 43.3	
	comp=Z,65nm,18.8s,baz=132,slow=39 0.4nm,0.5s							
CHTO	**Chiang Mai**	**30.22**	**258**			**P**	**16 57 27.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.37**	**258**	P		**P**	**16 57 30.6**	**+0.8**
	0.4nm,0.5s,baz=57,slow=7.9,SNR=2.3							
	0.4nm,0.5s							
PETK	**Petropavlovsk-**	**31.80**	**32**	LR		LR	17 11 06.0	
	comp=Z,30nm,20.3s,baz=188,slow=38							
MKAR	**Makanchi Array**	**41.45**	**310**	P		**P**	**16 59 04.7**	**+0.3**
	0.3nm,0.6s,baz=80,slow=10,SNR=5.0							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**41.45**	**310**	P		**P**	**16 59 05.5**	**+1.1**
ZALV	**Zalesovo Beam**	**41.60**	**321**	P		**P**	**16 59 04.9**	**-0.6**
	1.2nm,0.4s,baz=113,slow=8.2,SNR=6.9							
ZALV				LR		LR	17 17 34.1	
	comp=Z,40nm,18.1s,baz=132,slow=38 1.2nm,0.4s							
FITZ	**Fitzroy Crossi**	**46.55**	**186**	P		**P**	**16 59 46.2**	**+0.7**
	1.3nm,0.8s,baz=31,slow=5.9,SNR=1.8							
	1.3nm,0.8s							
WRA	**Warramunga Arr**	**48.33**	**175**	P		**P**	**17 00 00.5**	**+1.2**
	0.5nm,0.7s,baz=354,slow=8.4,SNR=5.4							
	0.5nm,0.7s							
BVAR	**Borovoye Array**	**49.84**	**317**	LR		LR	17 24 48.6	
	comp=Z,43nm,18.4s,baz=96,slow=40							
BRVK	**Borovoye**	**49.90**	**317**	P		**P**	**17 00 11.5**	**+0.4**
BRVK				IAmb		IAmb	17 00 12.6	
	comp=Z,4.6nm,0.9s							
PALK	**Pallekele**	**51.27**	**256**	LR		LR	17 24 08.9	
	comp=Z,38nm,19.1s,baz=170,slow=38							
ASAR	**Alice Springs**	**51.99**	**176**	P		**P**	**17 00 28.9**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=6.4,slow=14,SNR=7.4							
	comp=Z,0.6nm,0.8s							
ABKAR	**Akbulak array**	**56.45**	**312**	P		**P**	**17 00 59.0**	**-0.4**
ABKAR	**Akbulak array**	**56.45**	**312**	P		**P**	**17 00 58.9**	**-0.5**
ABKAR				IAmb		IAmb	17 01 10.4	
	comp=Z,3.6nm,1.4s							
ARU	**Arti**	**56.76**	**321**	LR		LR	17 28 24.5	
	comp=Z,58nm,19.9s,baz=90,slow=39							
AKTO	**Aktyubinsk**	**57.56**	**314**	LR		LR	17 27 41.4	
	comp=Z,53nm,20.8s,baz=87,slow=38							
BELG	**Belogornoye**	**63.64**	**317**	LR		LR	17 31 39.1	
	comp=Z,66nm,18.8s,baz=122,slow=38							
FINES	**FINESS Array B**	**71.78**	**331**	P		**P**	**17 02 39.6**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=46,slow=5.5,SNR=6.5							
FINES				LR		LR	17 36 59.5	
	comp=Z,94nm,18.1s,baz=231,slow=38 comp=Z,3.1nm,0.8s							
AKASG	**Malin Array Be**	**74.99**	**320**	P		**P**	**17 02 58.7**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=57,slow=6.2,SNR=9.6							
	comp=Z,2.2nm,0.5s							
BRTR	**Keskin Array B**	**77.08**	**308**	P		**P**	**17 03 11.8**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=97,slow=4.7,SNR=11							
	comp=Z,2.4nm,0.7s							

*IDC **29** 16:56:14.3±1.2,32.16S×71.86W,h0km,mb4.5/1, mbtmp3.9/4,ML3.9/3,MS3.0/1,Error ellipse: s-maj=45.6km s-min=29.8km az=97.0*
*GUC **29** 16:56:18.2±0.8,32.16S×71.75W,h21km±8km,ML3.9*

ISC 29 16:56:15.8±1.8,32.16S±0.03×71.90W±0.09,h9km±10km, n38,σ0s67/37,mb4.4/3,2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VA01	**Torpederas**	**0.88**	**166**	*e*P		**Pn**	**16 56 34.8**	**+0.4**
VA01				*e*S		**Sn**	**16 56 47.2**	**-0.2**
ROCH	**El Roble**	**1.10**	**137**	⇓*i*P		**Pn**	**16 56 38.2**	**+0.5**
ROCH				*e*S		**Sn**	**16 56 53.2**	**0.0**
ROCH				IAML			16 56 56.4	
	comp=N,7μm,0.5s							
CO02	**Combarbal**	**1.22**	**39**	⇓*i*P		**Pg**	**16 56

ZALV Zalesovo Beam 152.60 31 PKPbc **PKPbc** **17 16 11.8 -0.4**
comp=E,0.7nm,0.4s,baz=296,slow=2.9,SNR=4.0

IDC 29 16:58:59.9±2.1, 8°54'S×129°69'E, h0km, mb3.3/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=54.8km s-min=26.1km az=80.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.29**	**202**	Pn	Pn	17 01 30.0	+1.1
	0.3nm,0.3s,baz=7.6,slow=9.7,SNR=30						
FITZ				Sn	Sn	17 03 29.3	+4.2
	0.2nm,0.3s,baz=53,slow=15,SNR=2.8						
	0.8nm,0.2s						
WRA	**Warramunga Arr**	**12.20**	**159**	Pn	Pn	17 01 54.3	-0.8
	0.4nm,0.3s,baz=335,slow=13,SNR=19						
WRA				Sn	Sn	17 04 14.2	+2.2
	0.2nm,0.3s,baz=340,slow=22,SNR=2.6						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**15.58**	**165**	Pn	Pn	17 02 39.0	-2.1
	0.1nm,0.3s,baz=340,slow=10.0,SNR=2.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**69.34**	**327**	P	P	17 10 09.5	+0.1
	0.3nm,0.8s,baz=145,slow=5.3,SNR=2.4						
	0.3nm,0.8s						

---

*IDC **29** 17:01:25.6±1.7, 2°79'S×129°84'E, h0km, mb3.5/2, mbtmp3.6/4, ML3.6/2, MS2.4/1, Error ellipse: s-maj=51.5km s-min=25.5km az=90.0*
*DJA **29** 17:01:31.0±1.4, 3°S±4°×13°0E±°, h26km±15km, M3.6/10, mb4.1/1, mB6.1/1, MLv3.4/10, Mw(mB)5.7/1*
ISC 29 17:01:30.3±0.9, 2°80S±0°06×130°12E±0°05, h25km, n13, σ1°03/16, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.30**	**246**	P	**Pb**	**17 01 54.8**	**+0.6**
MSAI				S	**Sb**	**17 02 12.3**	**+1.8**
BNDI	**Bandanaira**	**1.72**	**187**	P	**Pn**	**17 01 57.9**	**-0.8**
AAI	**Ambon**	**2.11**	**245**	P	**Pn**	**17 02 04.9**	**+0.8**
FAKI	**Fak Fak**	**2.13**	**93**	P	**Pn**	**17 02 05.7**	**+1.3**
SIJI	**Sorong**	**2.24**	**31**	Pn	**Pn**	**17 02 05.7**	**-0.1**
	5.5nm,0.3s,baz=227,slow=23,SNR=25						
SIJI				Sn	**Sn**	**17 02 33.1**	**+0.4**
	20nm,0.3s,baz=308,slow=19,SNR=10						
SIJI				LR	LR	17 03 29.1	
	comp=Z,87nm,21.2s,baz=30,slow=52						
	30nm,0.3s						
NLAI	**Namlea**	**3.04**	**262**	P	**Pn**	**17 02 17.2**	**+0.3**
NLAI				S	**Sn**	**17 02 53.6**	**+1.0**
LBMI	**Labuha**	**3.38**	**309**	P	**Pn**	**17 02 22.0**	**+0.4**
SANI	**Sanana**	**4.19**	**280**	P	**Pn**	**17 02 32.0**	**-0.7**
RKPI	**Ransiki, Papua**	**4.26**	**73**	P	**Pn**	**17 02 34.6**	**+1.0**
MTKI	**Muara Teweh, K**	**15.32**	**277**	P	**Pn**	**17 05 05.0**	**-0.2**
WRA	**Warramunga Arr**	**17.53**	**167**	P	**Pn**	**17 05 32.1**	**-1.0**
	0.3nm,0.3s,baz=345,slow=12,SNR=3.8						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**21.06**	**170**	P	**P**	**17 06 12.3**	**-0.4**
	2.2nm,0.5s,baz=351,slow=10,SNR=35						
	2.2nm,0.5s						
MKAR	**Makanchi Array**	**64.82**	**326**	P	**P**	**17 12 05.5**	**-1.6**
	0.2nm,0.6s,baz=108,slow=7.7,SNR=2.7						
	0.2nm,0.6s						

---

*IDC **29** 17:12:29.1±2.0, 4°15S×131°77E, h0km, mb3.5/2, mbtmp3.6/6, ML3.7/4, MS4.1/1, Error ellipse: s-maj=114.7km s-min=22.5km az=82.0*
*DJA **29** 17:12:34.3±3.5, 4°S±8°×13°2E±°, h18km±35km, M3.8/8, mb4.2/2, MLv3.5/8*
ISC 29 17:12:33.2±0.8, 4°06S±0°06×131°86E±0°06, h35km, n22, σ1°87/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.20**	**19**	P	**Pn**	**17 12 54.0**	**+0.4**
FAKI				S	**Sn**	**17 13 08.3**	**-0.4**
FAKI	**Fak Fak**	**1.20**	**19**	P	**Pn**	**17 12 54.0**	**+0.4**
BNDI	**Bandanaira**	**2.00**	**257**	P	**Pn**	**17 13 06.3**	**+1.8**
BNDI	**Bandanaira**	**2.00**	**257**	P	**Pn**	**17 13 06.4**	**+1.9**
SIJI	**Sorong**	**3.23**	**349**	Pn	**Pn**	**17 13 20.7**	**-0.8**
	1.6nm,0.3s,baz=214,slow=21,SNR=8.2						
SIJI				Sn	**Sn**	**17 13 56.4**	**-2.3**
	5.3nm,0.3s,baz=199,slow=22,SNR=12						
	6.0nm,0.2s						
RKPI	**Ransiki, Papua**	**3.44**	**42**	P	**Pn**	**17 13 25.9**	**+1.6**
AAI	**Ambon**	**3.67**	**276**	P	**Pn**	**17 13 29.2**	**+1.6**
LBMI	**Labuha**	**5.53**	**308**	P	**Pn**	**17 13 53.6**	**+0.6**
	0.1nm15nm,0.6s						
SANI	**Sanana**	**6.19**	**289**	P	**Pn**	**17 14 01.5**	**-0.7**
SANI	**Sanana**	**6.19**	**289**	P	**Pn**	**17 14 01.2**	**-1.0**
KDU	**Kakadu**	**8.59**	**176**	P	**Pn**	**17 14 35.0**	**-0.1**
COEN	**Coen**	**14.88**	**132**	P	**Pn**	**17 15 59.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**15.22**	**203**	Pn	**Pn**	**17 16 01.9**	**-3.7**
	0.3nm,0.3s,baz=42,slow=13,SNR=9.3						
	0.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**15.22**	**203**	P	**Pn**	**17 16 02.5**	**-3.1**
WRAB	**Tennant Creek**	**15.96**	**171**	P	**Pn**	**17 16 12.7**	**-2.5**
WRA	**Warramunga Arr**	**15.97**	**171**	Pn	**Pn**	**17 16 12.5**	**-2.9**
	0.4nm,0.3s,baz=356,slow=13,SNR=27						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**19.59**	**174**	P	**P**	**17 16 59.2**	**+0.7**
	0.5nm,0.3s,baz=351,slow=12,SNR=50						
	1.4nm,0.6s						
PSA00	**Pilbara Seismi**	**20.95**	**213**	P	**P**	**17 17 13.6**	**+0.3**
WRKA	**Warakurna**	**21.13**	**189**	P	**P**	**17 17 16.8**	**+1.6**
HNR	**Honiara**	**28.39**	**102**	LR	LR	17 29 33.3	
	comp=Z,346nm,18.1s,baz=194,slow=36						
SONM	**Songino Array**	**56.30**	**340**	P	**P**	**17 22 12.6**	**+2.0**
	0.4nm,0.8s,baz=152,slow=6.4,SNR=2.0						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**66.84**	**325**	P	**P**	**17 23 23.2**	**+1.6**
	0.2nm,0.3s,baz=114,slow=8.0,SNR=4.9						
	0.2nm,0.3s						

---

*ECX **29** 17:18:58.0±0.7, 26°33N×111°43W, h14km±46km, MD3.0, ML3.3*
*MEX **29** 17:18:59.2±0.4, 26°30N×111°60W, h5km±7km, MD3.9*
ISC 29 17:18:56.1±1.0, 26°38N±0°05×111°39W±0°06, h10km, n10, σ1°05/16, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.21**	**321**	*eP*	**Pb**	**17 19 18.4**	**-0.7**
SRIG				*eS*	**Sb**	**17 19 33.2**	**-1.5**
SRIG	**Santa Rosalia**	**1.21**	**321**	*eP*	**Pb**	**17 19 18.5**	**-0.6**
SRIG				*eS*	**Sn**	**17 19 35.9**	**+0.5**
SRIG				IAML		17 19 37.4	
	comp=N,702nm,0.5s						
SRIG				⇑*e*		17 19 37.4	
SRIG				IAML		17 19 41.3	
	comp=E,423nm,0.5s						
SRIG				⇓*e*		17 19 41.3	
GUYB	**Guaymas**	**1.58**	**17**	*eP*	**Pg**	**17 19 26.3**	**-0.2**
GUYB				*eS*	**Sg**	**17 19 47.4**	**+0.4**
GUYB	**Guaymas**	**1.58**	**17**	*eP*	**Pg**	**17 19 26.3**	**-0.2**
GUYB				*eS*	**Sg**	**17 19 46.5**	**-0.5**
NE80	**Navojoa**	**2.00**	**74**	⇑*eP*	**Pb**	**17 19 32.5**	**-0.2**
SFQB	**San Francisqui**	**2.41**	**327**	*eP*	**Pn**	**17 19 35.9**	**+0.4**
LPIG	**La Paz**	**2.47**	**156**	*eP*	**Pn**	**17 19 37.7**	**+1.3**
SLBS	**Sierra La Lagu**	**2.98**	**154**	*eP*	**Pn**	**17 19 44.1**	**+0.5**
SLBS				*eS*	**Sn**	**17 20 20.2**	**+0.7**
SLBS	**Sierra La Lagu**	**2.98**	**154**	*eP*	**Pn**	**17 19 44.0**	**+0.5**
SLBS				*eS*	**Sb**	**17 20 24.4**	**-1.5**
BAHB	**Baha de los**	**3.20**	**323**	*eP*	**Pn**	**17 19 48.8**	**+2.3**

---

*VAO **29** 17:38:57.2±0.8, 14°46S×72°88W, h10km, mb4.3*
*IDC **29** 17:39:01.9±2.3, 14°19S×72°75W, h62km±22km, mb3.9/3, mbtmp4.3/6, ML4.4/3, MS2.5/3, Error ellipse: s-maj=35.0km s-min=15.1km az=35.0*
*NEIC **29** 17:39:02.0±2.6, 14°28S±0°08×72°80W±0°10, h59km±11km, mb4.1/5, Error ellipse: s-maj=15.1km s-min=10.0km az=53.0*
ISC 29 17:39:03.1±0.6, 14°28S±0°08×72°80W±0°07, h83km, n63, σ1°49/60, mb4.0/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.55**	**300**	P	**Pn**	**17 40 09.8**	**+0.2**
	34nm,0.3s,baz=109,slow=7.1,SNR=17						
NNA				S	**Sn**	**17 40 59.7**	**-1.6**
	84nm,0.3s,baz=70,slow=18,SNR=6.6						
NNA				LR	LR	17 41 37.0	
	comp=Z,33nm,19.8s,baz=191,slow=34						
	81nm,0.3s						
NNA	**Nana**	**4.55**	**300**	Pn	**Pn**	**17 40 09.1**	**-0.5**
PB12	**IPOC Station P**	**4.92**	**152**	Pn	**Pn**	**17 40 14.2**	**-0.4**
LPAZ	**La Paz**	**4.93**	**115**	P	**Pn**	**17 40 18.4**	**+3.2**
	34nm,0.4s,baz=290,slow=9.8,SNR=162						
LPAZ				LR	LR	17 41 52.1	
	comp=Z,46nm,20.0s,baz=260,slow=35						
PB16	**IPOC Station P**	**5.12**	**142**	Pn	**Pn**	**17 40 19.6**	**+1.7**
GO01	**Chusmiza**	**6.37**	**148**		**Pn**	**17 40 35.0**	**+0.1**
TA02	**Huaiquique**	**6.48**	**157**		**Pn**	**17 40 34.5**	**-1.3**
CZSB	**Cruzeiro do Su**	**6.51**	**1**		**Pn**	**17 40 35.1**	**-1.2**
CZSB	**Cruzeiro do Su**	**6.51**	**1**	*eP*	**Pn**	**17 40 35.7**	**-0.6**
TA01	**Diego Aracena**	**6.73**	**159**	Pn	**Pn**	**17 40 37.3**	**-2.0**
PB08	**IPOC Station P**	**6.79**	**150**	Pn	**Pn**	**17 40 39.9**	**-0.5**
PATCX	**Punta Patache**	**6.98**	**159**	Pn	**Pn**	**17 40 40.8**	**-1.9**
PB01	**IPOC Station P**	**7.43**	**155**		**Pn**	**17 40 46.9**	**-2.0**
PB02	**IPOC Station P**	**7.53**	**159**		**Pn**	**17 40 48.1**	**-2.1**
ETMB	**Extrema**	**7.82**	**56**	Pn	**Pn**	**17 40 53.9**	**-0.3**
ETMB	**Extrema**	**7.82**	**56**	*eP*	**Pn**	**17 40 54.1**	**0.0**
PB07	**IPOC Station P**	**7.91**	**160**		**Pn**	**17 40 53.3**	**-2.2**
PB09	**IPOC Station P**	**8.20**	**156**		**Pn**	**17 40 58.6**	**-1.0**
PB04	**IPOC Station P**	**8.40**	**163**	Pn	**Pn**	17 40 56.7	-5.4
ATAH	**Atahualpa**	**8.98**	**322**	P	**Pn**	**17 41 14.5**	**+4.1**
	6.7nm,0.6s,baz=344,slow=9.2,SNR=7.0						
LVC	**Limon Verde**	**9.07**	**157**	LR	LR	17 44 56.3	
	comp=Z,62nm,21.4s,baz=256,slow=39						
AF01	**San Pedro de A**	**9.67**	**154**	Pn	**Pn**	**17 41 17.4**	**-2.3**
SAML	**Samuel**	**10.80**	**62**	Pn	**Pn**	**17 41 32.7**	**-2.2**
SIV	**San Ignacio**	**11.45**	**100**	P	**Pn**	**17 41 42.2**	**-1.5**
	0.1nm,0.3s,baz=290,slow=12,SNR=20						
	3.5nm,0.5s						
VILB	**Vilhena**	**12.32**	**85**	Pn	**Pn**	**17 41 52.6**	**-2.9**
VILB	**Vilhena**	**12.32**	**85**	*eP*	**Pn**	**17 41 54.1**	**-1.4**
BOSC	**San Juan Bosco**	**12.41**	**333**		Pn	17 41 51.9	-4.9
PTLB	**Pontes e Lacer**	**13.26**	**97**		**Pn**	**17 42 05.0**	**-3.1**
PTLB	**Pontes e Lacer**	**13.26**	**97**	*eP*	**Pn**	**17 42 05.8**	**-2.2**
PDRB	**Porto dos Gac**	**15.88**	**82**	*eP*	**P**	**17 42 43.3**	**-0.7**
SALV	**Santo Antonio**	**16.59**	**98**	*eP*	**Pn**	**17 42 50.8**	**+0.1**
CLDB	**Colider**	**16.93**	**80**	*eP*	**P**	**17 42 56.7**	**+1.1**
AQDB	**Aquidauana**	**17.44**	**113**		**P**	**17 43 01.1**	**0.0**
AQDB	**Aquidauana**	**17.44**	**113**	*eP*	**P**	**17 43 01.0**	**0.0**
ANTJ	**Antonio Joao (**	**17.70**	**118**	*eP*	**P**	**17 43 03.7**	**-0.3**
NPGB	**Novo Progresso**	**18.57**	**69**	*eP*	**Pn**	**17 43 15.2**	**+0.3**
CPUP	**Villa Florida**	**18.80**	**132**	P	**Pn**	**17 43 17.2**	**-0.1**
	0.5nm,0.3s,baz=312,slow=11,SNR=21						
	13nm,0.8s						
CPUP	**Villa Florida**	**18.80**	**132**	P	**Pn**	**17 43 17.4**	**-0.1**
CPUP				IAmb	IAmb	17 43 18.2	
	comp=Z,16nm,0.8s						
CPUP	**Villa Florida**	**18.80**	**132**	*eP*	**P**	**17 43 16.1**	**+0.1**
RPRD	**Ribas do Rio P**	**19.23**	**111**	*eP*	**P**	**17 43 20.9**	**+0.1**
ITTB	**Itaituba**	**19.49**	**61**	*eP*	**Pn**	**17 43 24.8**	**-0.9**
BOAV	**Boa Vista**	**20.55**	**37**	*eP*	Pn	17 43 39.3	+1.2
SNDB	**Serra Nova Dou**	**21.07**	**86**	*eP*	**P**	**17 43 41.1**	**+0.4**
ITQB	**Itaqui**	**21.40**	**138**	P	**P**	**17 43 45.7**	**+1.6**
ITQB	**Itaqui**	**21.40**	**138**	*eP*	**P**	**17 43 44.5**	**+0.4**
PCMB	**Pacaembu**	**21.73**	**113**	*eP*	**P**	**17 43 48.6**	**+0.9**
FRBT	**Francisco Belt**	**21.84**	**125**	*eP*	**P**	**17 43 49.4**	**+0.4**
CRSM	**Crissiumal (Br**	**21.87**	**130**	*eP*	**P**	**17 43 51.0**	**+1.9**
UNIS	**Unistalda (Bra**	**22.04**	**135**	*eP*	**P**	**17 43 53.0**	**+2.0**
GO06	**Currarrehue**	**25.23**	**178**	P	**P**	**17 44 22.7**	**+1.3**
GO06				IAmb	IAmb	17 44 24.8	
	comp=Z,5.1nm,0.8s						
PLCA	**Paso Flores**	**26.43**	**176**	P	**P**	**17 44 33.7**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=0.8,slow=11,SNR=4.3						
	comp=Z,1.5nm,0.8s						
TX32	**Lajitas Array**	**52.62**	**326**	P	**P**	**17 48 08.5**	**-0.3**
TX32				IAmb	IAmb	17 48 47.3	
	comp=Z,2.1nm,1.3s						
TXAR	**Lajitas Array**	**52.62**	**326**	P	**P**	**17 48 09.7**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=152,slow=8.2,SNR=4.5						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**52.62**	**326**	P	**P**	**17 48 08.2**	**-0.6**
SNAA	**Sanae**	**70.27**	**162**	P	**P**	**17 50 09.0**	**+1.9**
TROLL	**Troll, Antarti**	**71.98**	**162**	P	**P**	**17 50 19.6**	**+2.0**
TORD	**Torodi Ar. Bea**	**78.63**	**73**	P	**P**	**17 50 56.5**	**0.0**
	comp=Z,13nm,0.6s,baz=254,slow=7.2,SNR=5.0						
	comp=Z,13nm,0.6s						
ASAR	**Alice Springs**	**134.13**	**215**	PKP	**PKiKP**	**17 58 12.4**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=80,slow=2.2,SNR=6.4						
ZALV	**Zalesovo Beam**	**136.69**	**19**	PKP	**PKiKP**	**17 58 16.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=327,slow=2.5,SNR=4.5						
WRA	**Warramunga Arr**	**136.77**	**219**	PKP	**PKiKP**	**17 58 18.1**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=143,slow=1.9,SNR=7.5						
SONM	**Songino Array**	**146.54**	**1**	PKPbc	**PKPab**	**17 58 36.4**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=338,slow=2.0,SNR=11						
KSRS	**Korea Array**	**150.47**	**325**	PKPbc	**PKiKP**	**17 58 46.6**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=348,slow=2.9,SNR=5.5						
PZH	**PanZhiHua**	**166.81**	**22**	PKP	**PKPdf**	**17 58 58.8**	**-1.1**

---

*ANF **29** 18:07:58.4±0.1, 33°30N×115°74W, h15km, ML3.0/26, Error ellipse: s-maj=1.4km s-min=1.1km az=125.0*
*PAS **29** 18:07:59.3±2.2, 33°287N±0°009×115°73W±0°01, h5km±4km, ML3.2/239, ML3.0/60(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=75.0*
*NEIC **29** 18:07:59.1±1.6, 33°281N±0°009×115°75W±0°01, h16km±1km, Error ellipse: s-maj=1.8km s-min=0.8km az=52.0*
ISC 29 18:07:58.9±0.8, 33°28N±0°01×115°75W±0°01, h17km±6km, n152, σ1°00/200, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.17**	**200**		**Pb**	**18 08 03.8**	**+0.2**
ERRC					**Sb**	**18 08 07.5**	**+0.9**
SALN	**Salton City**	**0.20**	**270**		**Pb**	**18 08 04.1**	**+0.1**
SALN					**Sb**	**18 08 07.4**	**0.0**
WEMD	**Westmorland, C**	**0.28**	**149**		**Pg**	**18 08 05.3**	**+0.4**
SUP	**Superstition M**	**0.33**	**191**		**Pg**	**18 08 06.1**	**+0.3**
SWSC	**Sam W. Stewart**	**0.34**	**187**		**Pg**	**18 08 06.2**	**+0.3**
SWSC					**Sg**	**18 08 10.1**	**-0.7**
SWSC	**Sam W. Stewart**	**0.34**	**187**	P	**Pg**	**18 08 06.2**	**+0.3**
	baz=10,SNR=701						
SWSC				S	**Sg**	**18 08 10.4**	**-0.3**
	baz=10						
IMPE	**Imperial**	**0.41**	**157**		**Pb**	**18 08 08.2**	**+0.6**
CTW	**Cottonwood Mou**	**0.41**	**346**		**Pg**	**18 08 07.3**	**0.0**
CTW					**Sg**	**18 08 13.3**	**+0.3**
CTCC	**Cactus City**	**0.42**	**332**		**Pg**	**18 08 07.9**	**+0.3**
CTCC					**Sg**	**18 08 13.9**	**+0.5**
COK2	**Cook Ranch 2**	**0.43**	**177**		**Pb**	**18 08 08.4**	**+0.5**
SLH	**Sleepy Hollow**	**0.43**	**259**		**Pb**	**18 08 08.2**	**+0.3**
SLH					**Sb**	**18 08 15.0**	**+0.9**
CRR	**Carrizo Plain**	**0.43**	**205**		**Pg**	**18 08 08.0**	**+0.3**
HAY	**Hayfield**	**0.43**	**7**		**Pg**	**18 08 07.6**	**-0.1**
BC3	**Big Chuckawall**	**0.45**	**33**		**Pg**	**18 08 07.6**	**-0.4**
BC3					**Sg**	**18 08 13.8**	**-0.5**
BC3	**Big Chuckawall**	**0.45**	**33**	P	**Pg**	**18 08 07.6**	**-0.4**
	baz=212,SNR=390						
BC3				S	**Sg**	**18 08 13.8**	**-0.5**
	baz=212						
SNR	**Schaffner Ranc**	**0.49**	**148**		**Pb**	**18 08 09.3**	**+0.3**
SNR					**Sb**	**18 08 17.8**	**+1.9**
WESC	**Westside Schoo**	**0.52**	**178**		**Pb**	**18 08 09.8**	**+0.3**
BORC	**Borrego Spring**	**0.56**	**269**		**Pg**	**18 08 10.2**	**+0.3**
SGL	**Mount Signal**	**0.63**	**178**		**Pg**	**18 08 11.1**	**-0.2**
SGL					**Sg**	**18 08 19.8**	**+0.1**
PMD	**Palm Desert**	**0.64**	**305**		**Sg**	**18 08 19.9**	**-0.2**
PMD	**Palm Desert**	**0.64**	**305**	Pg	**Pg**	**18 08 10.6**	**-0.9**
PMD	**Palm Desert**	**0.64**	**305**	IAML		18 08 21.6	
	comp=N,784nm,0.5s						
PMD				IAML		18 08 21.6	
	comp=E,578nm,0.3s						
YUH	**Yuha Desert**	**0.65**	**193**		**Pg**	**18 08 11.2**	**-0.3**
YUH	**Yuha Desert**	**0.65**	**193**		**Sg**	**18 08 20.6**	**+0.4**
COA	**Coachella**	**0.67**	**128**		**Pg**	**18 08 11.9**	**-0.1**
COA					**Sb**	**18 08 22.3**	**+1.3**
XPFO	**Pion Flat**	**0.68**	**300**		**Pg**	**18 08 12.1**	**-0.1**
XPFO					**Sg**	**18 08 21.2**	**0.0**
PFO	**Pinyon Flats O**	**0.68**	**299**		**Pg**	**18 08 11.7**	**-0.6**
PFO				IAML		18 08 22.8	
	comp=E,401nm,0.5s						
PFO				IAML		18 08 23.0	
	comp=E,696nm,0.5s						
PFO	**Pinyon Flats O**	**0.68**	**299**		**Pg**	**18 08 12.1**	**-0.2**
PFO					**Sg**	**18 08 21.5**	**+0.2**
PFO	**Pinyon Flats O**	**0.68**	**299**	P	**Pg**	**18 08 12.1**	**-0.2**
	baz=118,SNR=174						
PFO				S	**Sg**	**18 08 21.2**	**-0.1**
	baz=118						
MONP2	**Monument Peak**	**0.68**	**236**		**Pg**	**18 08 12.6**	**+0.2**
MONP2					**Sb**	**18 08 22.0**	**+0.4**
MONP2	**Monument Peak**	**0.68**	**236**	P	**Pg**	**18 08 12.5**	**+0.2**
	baz=56,SNR=112						
MONP2				S	**Sb**	**18 08 22.1**	**+0.5**
	baz=56						
IKP	**In-Ko-Pah, Jac**	**0.69**	**206**		**Pg**	**18 08 12.5**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.69**	**206**	P	**Pg**	**18 08 12.5**	**-0.1**
	baz=27,SNR=182						
IKP				S	**Sg**	**18 08 22.0**	**+0.2**
	baz=27						
UABX	**UABC, Campus M**	**0.70**	**158**	Pg	**Pg**	**18 08 11.2**	**-1.3**
UABX				IAML		18 08 31.9	
	comp=N,760nm,0.7s						
UABX				IAML		18 08 35.1	
	comp=E,884nm,0.6s						
RUN	**Ruthven**	**0.72**	**115**		**Pg**	**18 08 12.3**	**-0.6**
RMX	**La Rumorosa**	**0.73**	**202**		**Pg**	**18 08 13.5**	**+0.3**
RMX	**La Rumorosa**	**0.73**	**202**		Pn	18 08 24.1	+10
JUEM	**Julian Eagle M**	**0.74**	**255**		**Pb**	**18 08 13.7**	**+0.4**
JUEM					**Sb**	**18 08 23.9**	**+0.8**
FRD	**Ford Ranch, An**	**0.74**	**287**		**Pg**	**18 08 13.6**	**+0.1**
FRD					**Sb**	**18 08 23.9**	**+0.6**
FRD	**Ford Ranch, An**	**0.74**	**287**		**Pg**	**18 08 13.6**	**+0.1**
FRD					**Sb**	**18 08 24.1**	**+0.8**
BELC	**Belle Mtn. Jos**	**0.75**	**344**		**Pg**	**18 08 13.5**	**-0.1**
BELC					**Sg**	**18 08 23.4**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.75**	**344**	P	**Pg**	**18 08 13.4**	**-0.1**
	baz=162,SNR=402						
BELC				S	**Sg**	**18 08 23.4**	**-0.2**
	baz=162						
MATG	**Mataguay Scout**	**0.76**	**264**		**Pg**	**18 08 13.8**	**+0.2**
SNDA	**J Saunders Pla**	**0.77**	**291**		**Pg**	**18 08 14.0**	**0.0**
SNDA					**Sb**	**18 08 25.1**	**+1.0**
DNR	**Dunn Ranch,Anz**	**0.79**	**292**		**Pg**	**18 08 14.3**	**0.0**
DNR					**Sb**	**18 08 25.4**	**+0.8**
BZNA	**Buzz No.'s Pla**	**0.80**	**286**		**Pg**	**18 08 14.7**	**+0.2**
GLA	**Glamis**	**0.81**	**106**		**Pb**	**18 08 13.8**	**-0.6**
GLA				IAML		18 08 32.6	
	comp=N,664nm,0.6s						
GLA	**Glamis**	**0.81**	**106**	P	**Pb**	**18 08 14.0**	**-0.4**
	baz=288,SNR=365						
GLA				S	**Sg**	**18 08 25.7**	**+0.4**
	baz=288						
EMSC	**East Mesa**	**0.84**	**130**		**Pb**	**18 08 14.9**	**0.0**
EW2	**E Wide Canyon**	**0.86**	**320**		**Pb**	**18 08 15.0**	**-0.3**
EW2					**Sg**	**18 08 27.5**	**+0.5**
CRY	**Cary Ranch**	**0.87**	**289**		**Pb**	**18 08 15.6**	**0.0**
CRY					**Sg**	**18 08 27.6**	**+0.1**
PLM	**Palomar**	**0.93**	**275**		**Pb**	**18 08 16.8**	**+0.2**
PLM					**Sg**	**18 08 29.7**	**+0.3**
CPBX	**Cerro Prieto**	**0.94**	**156**		**Pb**	**18 08 17.0**	**+0.4**
CPBX				IAML		18 08 46.0	
	comp=E,561nm,0.5s						
CPBX				IAML		18 08 50.3	
	comp=N,487nm,0.5s						
BLAC	**Blackrock camp**	**0.95**	**326**		**Pb**	**18 08 16.5**	**-0.5**
BLAC					**Sg**	**18 08 30.2**	**+0.2**
DEVC	**Devers**	**0.95**	**314**		**Pb**	**18 08 16.9**	**+0.1**
DEVC					**Sg**	**18 08 30.2**	**+0.3**
BAR	**Barrett**	**0.98**	**233**		**Pb**	**18 08 17.0**	**-0.3**
BAR				IAML		18 08 31.7	
	comp=N,243nm,0.2s						
BAR	**Barrett**	**0.98**	**233**		**Sb**	**18 08 30.2**	**+0.3**
BAR	**Barrett**	**0.98**	**233**		**Pb**	**18 08 17.6**	**+0.3**
EML	**El Monte Cty P**	**1.00**	**247**		**Pb**	**18 08 17.3**	**-0.4**
EML					**Sb**	**18 08 30.9**	**+0.4**
TKX	**Tecate**	**1.01**	**226**		**Pb**	**18 08 17.5**	**-0.4**
TKX				IAML		18 08 32.1	
	comp=E,470nm,0.2s						
TKX				IAML		18 08 32.3	
	comp=N,470nm,0.2s						
IRM	**Iron Mountain**	**1.01**	**30**		**Pb**	**18 08 17.6**	**-0.3**
IRM	**Iron Mountain**	**1.01**	**30**	P	**Pb**	**18 08 17.4**	**-0.5**
	baz=209,SNR=399						
IRM				S	**Sg**	**18 08 31.7**	**-0.1**
	baz=209						
DPP	**Dos Picos Cty**	**1.04**	**255**		**Pb**	**18 08 17.9**	**-0.4**
DPP					**Sb**	**18 08 32.3**

GSC				IAML			18 09 15.8	
	comp=E,123nm,0.7s							
GSC				IAML			18 09 18.0	
	comp=N,68nm,0.9s							
GSC	**Goldstone, Bar**	**2.20**	**337**	Pg	**Pg**		**18 08 40.1**	**-1.0**
	baz=156							
PASC	**Pasadena Art C**	**2.21**	**294**		**Pn**		**18 08 33.8**	**-1.0**
PASC				IAML			18 09 18.1	
	comp=N,70nm,0.6s							
CIS	**Catalina Islan**	**2.23**	**274**	Pb	**Pb**		**18 08 39.1**	**+0.3**
	baz=92							
CIS				Sb	**Sb**		**18 09 08.4**	**+2.3**
	baz=92							
SFX	**San Felipe**	**2.36**	**161**		**Pn**		**18 08 36.5**	**-0.3**
W13A	**Hualapai Mount**	**2.38**	**40**		**Pn**		**18 08 37.6**	**+0.3**
EDW2	**Edwards Air Fo**	**2.45**	**311**	P	**Pn**		**18 08 37.8**	**-0.3**
	baz=130							
EDW2				Sb	**Sb**		**18 09 14.9**	**+2.4**
	baz=130							
V12A	**Nelson**	**2.55**	**17**	Pg	**Pb**		**18 08 45.9**	**+1.6**
PIX	**Pinacate**	**2.59**	**131**		**Pb**		**18 08 46.4**	**+1.6**
CCAC	**Calif City Air**	**2.65**	**316**		**Pn**		**18 08 42.4**	**+1.5**
CCAC				IAML			18 09 40.1	
	comp=E,84nm,1.4s							
SHOC	**Shoshone, Teco**	**2.65**	**351**	Pg	**Pg**		**18 08 48.6**	**-1.1**
	baz=170							
214A	**Organ Pipe Nat**	**2.81**	**117**	Pn	**Pn**		**18 08 43.8**	**+0.8**
214A				IAML			18 09 43.0	
	comp=N,39nm,1.1s							
214A				IAML			18 09 48.7	
	comp=E,36nm,0.7s							
214A	**Organ Pipe Nat**	**2.81**	**117**	P	**Pn**		**18 08 42.2**	**-0.8**
	baz=299							
QSM	**Queen of Sheba**	**2.83**	**341**	Pn	**Pn**		**18 08 44.3**	**+1.0**
WTNK	**Soaring Height**	**2.97**	**12**		**Pn**		**18 08 45.3**	**+0.1**
GWY	**Greenwater Val**	**3.00**	**346**		**Pb**		**18 08 53.3**	**+1.4**
SHPR	**Sheep Range**	**3.26**	**8**		**Pb**		**18 08 58.5**	**+2.2**
ISA	**Isabella, Lake**	**3.27**	**317**	Pn	**Pn**		**18 08 49.1**	**-0.3**
ISA	**Isabella, Lake**	**3.27**	**317**	Pg	**Pg**		**18 09 01.5**	**-0.1**
	baz=136,SNR=9.0							
BCW	**Bitter Crk WRg**	**3.46**	**300**		**Pb**		**18 09 02.4**	**+2.7**
SBC	**Santa Barbara**	**3.50**	**290**	P	**Pn**		**18 08 51.4**	**-1.0**
	baz=108							
TPNV	**Topopah Spring**	**3.68**	**354**		**Pb**		**18 09 03.0**	**-0.6**
TPNV				IAML			18 10 01.6	
	comp=E,22nm,0.6s							
TPNV				IAML			18 10 03.5	
	comp=E,20nm,0.8s							
TPNV	**Topopah Spring**	**3.68**	**354**	Pg	**Pg**		**18 09 08.8**	**-0.7**
	baz=173							
GRAC	**Grapevine Rang**	**3.94**	**341**		**Pb**		**18 09 10.4**	**+2.6**
GRAC				IAML			18 10 11.3	
	comp=E,26nm,0.7s							
GRAC				IAML			18 10 13.0	
	comp=N,27nm,1.1s							
PRN	**Pahroc Range**	**4.16**	**8**		**Pg**		**18 09 18.4**	**-0.2**
U15A	**North Rim**	**4.24**	**41**		**Pn**		**18 09 04.5**	**+1.6**
LCH	**Last Change Ra**	**4.24**	**339**		**Pg**		**18 09 17.5**	**-2.5**
WUAZ	**Wupatki**	**4.25**	**57**		Pn		18 09 08.0	+5.0
LCMT	**Little Creek M**	**4.25**	**28**		**Pn**		**18 09 03.3**	**+0.4**
TUC	**Tucson**	**4.29**	**102**	IAML			18 10 27.5	
	comp=N,10nm,1.1s							
TUC	**Tucson**	**4.29**	**102**		**Pn**		**18 09 01.8**	**-1.7**
S11A	**Rachel**	**4.36**	**0**		**Pg**		**18 09 20.3**	**-2.0**
KNB	**Kanab**	**4.43**	**32**	Pn	**Pn**		**18 09 07.1**	**+1.6**
DSP	**Deep Springs**	**4.47**	**337**	Pg	**Pg**		**18 09 22.2**	**-2.2**
CCUT	**Cedar City**	**4.69**	**24**		**Pn**		**18 09 08.5**	**-0.5**
SZCU	**Shurtz Canyon**	**4.83**	**26**		**Pb**		**18 09 27.1**	**+4.1**
TPH	**Tonopah**	**4.93**	**346**		**Pg**		**18 09 30.1**	**-3.2**
X18A	**Snowflake**	**4.98**	**74**	Pn	**Pn**		**18 09 14.4**	**+1.4**
PKCU	**Pink Cliffs**	**5.02**	**33**		**Pn**		**18 09 10.9**	**-2.7**
R11A	**Troy Canyon, C**	**5.06**	**1**		**Pg**		**18 09 31.9**	**-3.9**
R11A	**Troy Canyon, C**	**5.06**	**1**	Pg	**Pg**		**18 09 34.4**	**-1.4**
	baz=181							
OMMB	**Old Mammoth Mi**	**5.07**	**329**	Pg	**Pb**		**18 09 29.2**	**+1.8**
LHV	**Little Huntoon**	**5.44**	**337**		**Pg**		**18 09 40.9**	**-2.1**
PSUT	**Pine Spring**	**5.46**	**16**		**Pn**		**18 09 19.8**	**+0.1**
MTPU	**Mount Pierson**	**5.57**	**30**		**Pn**		**18 09 22.0**	**+0.7**
SPR3	**Spring Creek 3**	**5.82**	**11**	Pg	**Pb**		**18 09 44.6**	**+4.5**
MSU	**Marysvale**	**5.97**	**28**	Pg	Pg		18 09 48.4	-4.8

*NEIC **29** 18:08:33.3±1.3,36˚.268N±0˚.010×98˚.41W±0˚.01,h5km±1km, Error ellipse: s-maj=2.7km s-min=1.8km az=179.0*
*TUL **29** 18:08:35.2±0.4,36˚.278N±0˚.010×98˚.406W±0˚.009, h6km±2km, ML3.5, mb_Lg3.4/85(NEIC), Mwr3.1/7(SLM), Error ellipse: s-maj=1.6km s-min=0.8km az=210.0*
*ANF **29** 18:08:35.9±0.7,36˚.26N×98˚.43W,h10km±5km, ML4.2/13, Error ellipse: s-maj=4.3km s-min=3.3km az=76.0*
*NEIC **29** 18:08:35.2,36˚.26N×98˚.40W,h3km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-0.26; $M_{\theta\theta}$3.83; $M_{\phi\phi}$-3.57; $M_{r\theta}$-1.23; $M_{\theta\phi}$4.21; $M_{\phi r}$0.97; Fault plane solution: M_o5.82000×10^{13} NP1:ϕ_s201.00000°, δ75.00000°,λ-175.00000°. NP2:ϕ_s110.00000°, δ85.00000°,λ-15.00000°. Principal axes: T 5.8235, Plg7.0000°, Azm157.0000°; N 0.0003, Plg74.0000°, Azm272.0000°; P -5.8238, Plg14.0000°, Azm65.0000°;*
ISC 29 18:08:35.2±1.0,36˚.26N±0˚.02×98˚.39W±0˚.02,h5km±9km, n131,σ1^{9}25/123,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.36**	**308**		**Pg**	**18 08 42.2**	**0.0**
OK038				Sg	**Sg**	**18 08 46.9**	**0.0**
CROK	**Carrier**	**0.41**	**53**		**Pg**	**18 08 43.3**	**+0.1**
CROK				Sg	**Sg**	**18 08 48.8**	**+0.3**
U32A	**Winter Ranch,**	**0.51**	**284**		**Pg**	**18 08 44.9**	**-0.1**
U32A				Sg	**Sg**	**18 08 51.4**	**-0.3**
U32A	**Winter Ranch,**	**0.51**	**284**	P	**Pg**	**18 08 45.0**	**0.0**
	baz=103,SNR=258						
U32A				S	**Sg**	**18 08 52.1**	**+0.5**
	baz=103						
OK035	**E0210 Rd and N**	**0.52**	**330**		**Pg**	**18 08 45.1**	**-0.1**
OK035				Sg	**Sg**	**18 08 52.1**	**+0.2**
OK032	**Salt Plains WL**	**0.56**	**15**		**Pg**	**18 08 45.9**	**-0.2**
OK032				Sg	**Sg**	**18 08 53.7**	**+0.3**
NOKA	**Waynoka**	**0.57**	**311**	Pg	**Pg**	**18 08 46.1**	**-0.3**
NOKA				Sg	**Sg**	**18 08 54.0**	**+0.2**
CSTR	**Hydro, Custer**	**0.66**	**202**	Pg	**Pg**	**18 08 48.1**	**+0.3**
CSTR				Sg	**Sg**	**18 08 57.7**	**+1.3**
GC02	**Grant County #**	**0.73**	**36**		**Pg**	**18 08 49.1**	**-0.2**
GC02				Sg	**Sg**	**18 08 59.0**	**+0.3**
KAN14	**Manchester OK**	**0.78**	**26**		**Pg**	**18 08 49.8**	**-0.3**
KAN14				Sg	**Sg**	**18 09 00.2**	**-0.1**
ELIS	**Ellis County**	**0.85**	**257**	Pg	**Pg**	**18 08 51.3**	**-0.3**
BCOK	**Bluff Creek, N**	**0.87**	**133**	Pg	**Pg**	**18 08 52.0**	**0.0**
OK029	**Liberty Lake**	**0.89**	**121**	Pg	**Pg**	**18 08 52.0**	**-0.2**
OK049	**E0420 Rd and N**	**0.89**	**80**		**Pg**	**18 08 52.2**	**-0.1**
KAN10	**Anthony SW Sta**	**0.90**	**15**		**Pg**	**18 08 51.9**	**-0.5**
KAN10				Sg	**Sg**	**18 09 03.9**	**-0.2**
KAN17	**Caldwell West**	**0.93**	**33**		**Pg**	**18 08 52.6**	**-0.5**
KAN16	**Harper SW Stat**	**1.00**	**15**		**Pg**	**18 08 53.8**	**-0.6**
KAN08	**Anthony NE Sta**	**1.02**	**19**	Pg	**Pg**	**18 08 54.2**	**-0.6**
KAN01	**Argonia South**	**1.03**	**29**		**Pg**	**18 08 54.2**	**-0.7**
OK009	**Oakdale Elemen**	**1.04**	**130**	Pg	**Pg**	**18 08 53.7**	**-1.4**
KAN13	**South Haven SW**	**1.05**	**44**		**Pg**	**18 08 54.6**	**-0.8**
BLOK	**Blackwell**	**1.07**	**62**		**Pg**	**18 08 55.3**	**-0.5**
KAN09	**Caldwell North**	**1.07**	**35**		**Pg**	**18 08 55.1**	**-0.7**
KAN06	**Argonia West S**	**1.08**	**23**		**Pg**	**18 08 55.1**	**-0.7**
KAN12	**Harper NE Stat**	**1.08**	**17**		**Pg**	**18 08 55.3**	**-0.7**
OK025	**Westminster Rd**	**1.09**	**128**	Pg	**Pb**	**18 08 55.7**	**-0.9**
OK050	**Pawnee Station**	**1.15**	**83**		**Pb**	**18 08 56.6**	**-0.9**
OKCSW	**OKLAHOMA CITY**	**1.15**	**137**		**Pb**	**18 08 56.9**	**-0.7**
KS20	**Mayfield South**	**1.18**	**34**		**Pb**	**18 08 57.0**	**-1.1**
OK048	**Pawnee Station**	**1.18**	**82**		**Pb**	**18 08 57.3**	**-0.7**
KS21	**Milan North St**	**1.18**	**29**		**Pb**	**18 08 57.0**	**-1.1**
OK033	**Mehan**	**1.20**	**100**		**Pn**	**18 08 57.5**	**-1.1**
OK045	**Pawnee Station**	**1.20**	**81**		**Pn**	**18 08 57.7**	**-1.0**
OK046	**Pawnee Station**	**1.21**	**83**		**Pn**	**18 08 57.8**	**-1.0**
OK051	**E0350 and S346**	**1.28**	**78**		**Pn**	**18 08 58.9**	**-0.8**
FNO	**Franklin**	**1.28**	**141**		**Pn**	**18 08 59.1**	**-0.7**
OK031	**S. Brethren Rd**	**1.29**	**103**		**Pn**	**18 08 59.2**	**-0.8**
OK044	**Pawnee Station**	**1.29**	**84**		**Pn**	**18 08 59.2**	**-0.7**
OK047	**Pawnee, Statio**	**1.36**	**81**		**Pn**	**18 09 00.4**	**-0.5**
QUOK	**Quay**	**1.36**	**93**		**Pn**	**18 09 00.3**	**-0.6**
OK034	**N. Norfolk Rd.**	**1.38**	**100**		**Pn**	**18 09 00.1**	**-1.0**
WMOK	**Wichita Mounta**	**1.55**	**192**		**Pn**	**18 09 02.3**	**-1.2**
WMOK	**Wichita Mounta**	**1.55**	**192**	P	**Pn**	**18 09 03.0**	**-0.5**
	baz=11,SNR=245						
WMOK				S	**Sb**	**18 09 24.8**	**+0.4**
	baz=11						
WMOK	**Wichita Mounta**	**1.55**	**192**	P	**Pn**	**18 09 03.1**	**-0.5**
	baz=11						
WMOK				S	**Sb**	**18 09 24.3**	**0.0**
	baz=11						
DEOK	**Depew**	**1.59**	**105**		**Pn**	**18 09 02.9**	**-1.1**
T35A	**Sooner Cattle**	**1.65**	**66**	IAmb_Lg		18 09 32.4	
	comp=Z,164nm,0.8s						
T35B	**Sooner Cattle**	**1.65**	**66**	P	**Pn**	**18 09 05.4**	**+0.5**
	baz=247,SNR=302						
T35B				S	**Sb**	**18 09 27.7**	**+0.5**
	baz=247						
X34A	**Smith Ranch, M**	**1.72**	**164**	IAmb_Lg		18 09 34.2	
	comp=Z,189nm,0.8s						
TUL1	**Leonard**	**2.13**	**99**		**Pn**	**18 09 10.3**	**-1.2**
TUL1				IAmb_Lg		18 09 47.5	
	comp=Z,220nm,1.0s						
TUL1	**Leonard**	**2.13**	**99**	P	**Pn**	**18 09 12.0**	**+0.5**
	baz=280,SNR=18						
TUL1				S	**Sn**	**18 09 40.4**	**+2.0**
	baz=280						
TUL1	**Leonard**	**2.13**	**99**	P	**Pn**	**18 09 12.1**	**+0.5**
	baz=280						
TUL1				S	**Sn**	**18 09 40.2**	**+1.8**
	baz=280						
R32A	**Long Quarter,**	**2.17**	**353**		**Pn**	**18 09 10.9**	**-1.2**
R32A	**Long Quarter,**	**2.17**	**353**	P	**Pn**	**18 09 12.7**	**+0.5**
	baz=173,SNR=68						
R32A				S	**Sb**	**18 09 41.1**	**-1.3**
	baz=173						
LOOK	**Love County**	**2.47**	**156**	Pn	**Pn**	**18 09 17.2**	**+1.1**
LOOK				IAmb_Lg		18 10 00.3	
	comp=Z,96nm,0.8s						
RLO	**Rose Lookout**	**2.73**	**91**	Pg	**Pb**	**18 09 24.8**	**+0.4**
CBKS	**Cedar Bluff**	**2.77**	**338**		**Pn**	**18 09 20.0**	**-0.2**
CBKS	**Cedar Bluff**	**2.77**	**338**	S	**Sn**	**18 09 55.3**	**+1.2**
	baz=157						
CBKS	**Cedar Bluff**	**2.77**	**338**	P	**Pn**	**18 09 21.7**	**+1.4**
	baz=157						
X37A	**Clayton**	**2.98**	**123**	Pn	**Pn**	**18 09 22.8**	**-0.3**
X37A	**Clayton**	**2.98**	**123**	P	**Pn**	**18 09 23.8**	**+0.7**
	baz=305,SNR=5.4						
AMTX	**Amarillo**	**3.01**	**244**		**Pn**	**18 09 23.7**	**0.0**
AMTX				IAmb_Lg		18 10 16.7	
	comp=Z,118nm,0.9s						
AMTX	**Amarillo**	**3.01**	**244**	Pb	**Pb**	**18 09 29.7**	**+0.3**
	baz=62						
AMTX				Sb	**Sg**	**18 10 09.2**	**-2.8**
	baz=62						
Z35A	**Perchaven, San**	**3.07**	**162**		**Pn**	**18 09 22.6**	**-1.8**
KSU1	**Kansas State U**	**3.17**	**26**		**Pn**	**18 09 24.1**	**-1.7**
KSU1				IAmb_Lg		18 10 22.0	
	comp=Z,149nm,1.1s						
KSU1	**Kansas State U**	**3.17**	**26**	P	**Pn**	**18 09 26.0**	**+0.3**
	baz=207						
KSU1	**Kansas State U**	**3.17**	**26**	Sb	**Sb**	**18 10 13.9**	**+2.9**
	baz=207						
U38A	**Gravette**	**3.24**	**86**		**Pn**	**18 09 24.8**	**-2.0**
HHAR	**Hobbs**	**3.60**	**88**		**Pb**	**18 09 38.6**	**-0.7**
HHAR				IAmb_Lg		18 10 33.8	
	comp=Z,102nm,1.0s						
ABTX	**Abilene, Hawle**	**3.77**	**196**	Pn	**Pn**	**18 09 32.7**	**-1.4**
ABTX					**Pb**	**18 09 43.6**	**+1.3**
ABTX				IAmb_Lg		18 10 38.0	
	comp=Z,125nm,0.9s						
ABTX	**Abilene, Hawle**	**3.77**	**196**	P	**Pn**	**18 09 34.6**	**+0.5**
	baz=15						
Z38A	**Mt. Pleasant**	**4.10**	**136**	Pg	**Pb**	**18 09 48.8**	**+0.9**
MSTX	**Muleshoe**	**4.26**	**239**		**Pb**	**18 09 49.6**	**-1.0**
MSTX	**Muleshoe**	**4.26**	**239**	P	**Pn**	**18 09 42.0**	**+1.2**
	baz=56						
MIAR	**Mount Ida**	**4.29**	**112**		**Pn**	**18 09 40.7**	**-0.4**
MIAR	**Mount Ida**	**4.29**	**112**	P	**Pn**	**18 09 41.8**	**+0.7**
	baz=295,SNR=11						
MIAR	**Mount Ida**	**4.29**	**112**	P	**Pn**	**18 09 42.2**	**+1.0**
	baz=295						
MIAR				S	**Sn**	**18 10 32.5**	**+0.9**
	baz=295						
S39A	**Bolivar**	**4.30**	**69**		**Pb**	**18 09 51.8**	**+0.4**
S39A	**Bolivar**	**4.30**	**69**	P	**Pn**	**18 09 41.5**	**+0.2**
	baz=252						
WHTX	**Lake Whitney,**	**4.33**	**169**	Pn	**Pn**	**18 09 40.6**	**-1.1**
WHTX					**Pb**	**18 09 52.7**	**+1.0**
WHTX	**Lake Whitney,**	**4.33**	**169**	P	**Pn**	**18 09 42.5**	**+0.9**
	baz=350						
KSCO	**Kaye Shedlock'**	**4.34**	**311**	Pg	**Pb**	**18 09 53.3**	**+1.2**
KSCO				IAmb_Lg		18 10 51.5	
	comp=Z,99nm,0.7s						
N33A	**J Bar K, Exete**	**4.53**	**9**		**Pn**	**18 09 44.0**	**-0.5**
N33A				IAmb_Lg		18 11 10.2	
	comp=Z,110nm,0.8s						
237A	**Washetta, Mont**	**4.76**	**152**	IAmb_Lg		18 11 16.7	
	comp=Z,64nm,1.0s						
237A	**Washetta, Mont**	**4.76**	**152**	S	**Sn**	**18 10 43.3**	**+0.3**
	baz=334						
T25A	**Trinidad**	**4.92**	**282**	Pn	**Pn**	**18 09 48.9**	**-1.1**
T25A	**Trinidad**	**4.92**	**282**	Sb	**Sg**	**18 11 07.3**	**-5.8**
	baz=98						
MGMO	**Mountain Grove**	**5.00**	**78**	Pn	**Pn**	**18 09 50.8**	**-0.2**
WLAR	**White Oak Lake**	**5.04**	**119**	Pn	**Pn**	**18 09 50.7**	**-0.7**
WLAR				IAmb_Lg		18 11 28.7	
	comp=Z,99nm,0.8s						
WHAR	**Wooly Hollow**	**5.05**	**99**		**Pb**	**18 10 02.5**	**-1.6**
WHAR				IAmb_Lg		18 11 18.9	
	comp=Z,68nm,0.7s						
N35A	**Tabor**	**5.08**	**24**		**Pn**	**18 09 50.1**	**-1.8**
FCAR	**Ozark Folk Cen**	**5.09**	**92**	IAmb_Lg		18 11 20.8	
	comp=Z,64nm,0.9s						
P38A	**Dawn**	**5.10**	**47**		**Pb**	**18 10 08.5**	**+3.5**
UALR	**University of**	**5.15**	**105**	IAmb_Lg		18 11 26.2	
	comp=Z,81nm,0.8s						
R40A	**Maddies Statio**	**5.29**	**66**		**Pn**	**18 09 54.6**	**-0.2**
R40A				IAmb_Lg		18 11 34.8	
	comp=Z,54nm,0.8s						
R40A	**Maddies Statio**	**5.29**	**66**	P	**Pn**	**18 09 54.7**	**-0.1**
	baz=249,SNR=13						
OGNE	**Ogallala**	**5.48**	**330**	Pn	**Pn**	**18 09 58.9**	**+1.3**
OGNE				IAmb_Lg		18 11 36.1	
	comp=Z,66nm,0.9s						
OGNE	**Ogallala**	**5.48**	**330**	P	**Pn**	**18 09 59.1**	**+1.6**
	baz=148						
LCAR	**Lake Charles**	**5.86**	**90**	IAmb_Lg		18 11 43.3	
	comp=Z,48nm,0.7s						
CCAR	**Cane Creek**	**5.91**	**111**	IAmb_Lg		18 11 55.3	
	comp=Z,88nm,0.7s						
L34A	**Svendsen Farm,**	**5.91**	**15**	S	**Sn**	**18 11 08.9**	**-2.6**
	baz=196						
CCM	**Cathedral Cave**	**5.98**	**70**		**Pb**	**18 10 22.5**	**+2.6**
CCM				IAmb_Lg		18 11 47.8	
	comp=Z,68nm,0.9s						
P40A	**Paris**	**5.99**	**55**		**Pb**	**18 10 20.9**	**+0.9**
P40A				IAmb_Lg		18 11 45.1	
	comp=Z,58nm,0.9s						
Q24A	**Divide**	**6.01**	**299**	IAmb_Lg		18 11 48.2	
	comp=Z,57nm,0.7s						
BRIGG	**Briggsdale**	**6.35**	**315**	Pg	**Pb**	**18 10 29.4**	**+3.1**
K31A	**O'Neill**	**6.36**	**358**	IAmb_Lg		18 12 04.1	
	comp=Z,83nm,0.7s						
ANMO	**Albuquerque**	**6.70**	**261**	Pg	**Pb**	**18 10 35.8**	**+3.5**
ISCO	**Idaho Springs**	**6.71**	**304**	IAmb_Lg		18 12 11.0	
	comp=Z,44nm,0.8s						
SLM	**Saint Louis**	**6.91**	**67**	IAmb_Lg		18 12 16.8	
	comp=Z,48nm,0.9s						
SCIA	**State Center**	**6.93**	**34**	IAmb_Lg		18 12 18.2	
	comp=Z,68nm,0.8s						
342A	**Flagon Creek P**	**7.01**	**132**	IAmb_Lg		18 12 38.6	
	comp=Z,52nm,1.3s						
CGM3	**Cape Girardeau**	**7.08**	**79**	IAmb_Lg		18 12 19.2	
	comp=Z,30nm,0.8s						
CRNM	**Carthage**	**7.21**	**254**	Pn	**Pn**	**18 10 19.6**	**-1.9**
735A	**Kenedy**	**7.40**	**176**	IAmb_Lg		18 12 44.5	
	comp=Z,56nm,1.1s						
S44A	**Carbondale**	**7.45**	**76**	IAmb_Lg		18 12 36.8	
	comp=Z,39nm,0.8s						
PHWY	**Pilot Hill**	**7.47**	**315**	IAmb_Lg		18 12 33.7	
	comp=Z,43nm,1.0s						
SIUC	**Southern Illin**	**7.48**	**76**	IAmb_Lg		18 12 42.2	
	comp=Z,64nm,0.8s						
ECSD	**EROS Data Cent**	**7.59**	**10**	Pn	**Pn**	**18 10 27.1**	**+0.6**
ECSD				IAmb_Lg		18 12 38.9	
	comp=Z,35nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.78**	**62**	IAmb_Lg		18 12 49.5	
	comp=Z,50nm,0.7s						
Q44A	**Meyer Farm, Va**	**7.90**	**68**	IAmb_Lg		18 12 53.8	
	comp=Z,53nm,1.0s						
L40A	**Anamosa**	**8.04**	**42**		Pg	18 11 04.4	-4.7
L40A				IAmb_Lg		18 12 55.1	
	comp=Z,47nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.21**	**214**	Pn	**Pn**	**18 10 35.1**	**0.0**
TX32	**Lajitas Array**	**8.21**	**214**	Pn	**Pn**	**18 10 34.7**	**-0.4**
TXAR	**Lajitas Array**	**8.21**	**214**	Pn	**Pn**	**18 10 34.5**	**-0.6**
I37A	**Lemond, Waseca**	**8.64**	**25**	IAmb_Lg		18 13 13.8	
	comp=Z,30nm,0.7s						
O44A	**Mansfield**	**8.72**	**61**	IAmb_Lg		18 13 30.1	
	comp=Z,53nm,0.8s						
L42A	**Oliver, Polo**	**8.88**	**47**	IAmb_Lg		18 13 24.0	
	comp=Z,44nm,0.8s						
K22A	**Casper**	**8.96**	**318**	IAmb_Lg		18 13 35.0	
	comp=Z,40nm,1.2s						
JFWS	**Jewell Farm**	**9.14**	**41**	IAmb_Lg		18 13 32.0	
	comp=Z,37nm,0.7s						
I40A	**Norwalk**	**9.67**	**36**	IAmb_Lg		18 13 49.3	
	comp=Z,24nm,0.8s						
F33A	**5 Mile Ranch,**	**9.70**	**9**	IAmb_Lg		18 13 43.4	
	comp=Z,28nm,1.0s						
SPMN	**Marine on St.**	**9.91**	**24**	IAmb_Lg		18 13 52.1	
	comp=Z,19nm,0.8s						

*CNRM **29** 18:25:40.6,35˚.82N×7˚.53W,h30km, ml2.6*
*IGIL **29** 18:25:43.6,35˚.87N×7˚.53W,h32km, ML2.7*
*MDD **29** 18:25:44.2±0.6,35˚.92N×7˚.51W,h30km±15km, mb_Lg3.2/18, Error ellipse: s-maj=9.1km s-min=2.7km az=25.0*
*INMG **29** 18:25:44.4±1.6,35˚.86N×7˚.53W,h31km±8km, ML2.8, Error ellipse: s-maj=3.9km s-min=2.8km az=64.0*
*LDG **29** 18:25:44.8±0.5,36˚.01N×7˚.16W,h30km,Ml3.6/3, Error ellipse: s-maj=9.9km s-min=5.0km az=15.0*
*SFS **29** 18:25:44.0,35˚.92N×7˚.51W,h30km, ML3.2, GOLFO DE CADIZ*
ISC 29 18:25:42.9±1.3,35˚.95N±0˚.05×7˚.44W±0˚.03,h35km,n79, σ1^{9}65/134,1C-7D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.35**	**343**	*e*Pn	**Pn**	**18 26 04.8**	**-0.4**
PBDV				*e*Sn	**Sn**	**18 26 21.5**	**-0.5**
PBDV				A	A	18 26 27.5	
	56nm,0.6s						
PVAQ	**Vaqueiros**	**1.47**	**351**	*i*Pn	**Pn**	**18 26 07.9**	**+1.1**
PVAQ				*e*Sn	**Sn**	**18 26 25.4**	**+0.6**
PVAQ				A	A	18 26 27.3	
	118nm,0.3s						
PVAQ	**Vaqueiros**	**1.47**	**351**	P	**Pn**	**18 26 07.7**	**+0.9**
PVAQ				S	**Sn**	**18 26 25.7**	**+0.9**
PVAQ	**Vaqueiros**	**1.47**	**351**	P	**Pn**	**18 26 07.7**	**+0.9**
PVAQ				S	**Sn**	**18 26 25.7**	**+0.9**
ESPR	**Espera**	**1.57**	**54**	P	**Pn**	**18 26 10.1**	**+1.8**
ESPR				S	**Sn**	**18 26 29.9**	**+2.5**
ESPR				*i* Vmb_Lg		18 26 30.5	
EGRO	**El Granado**	**1.58**	**359**	P	**Pn**	**18 26 09.8**	**+1.5**
EGRO				S	**Sn**	**18 26 27.2**	**-0.4**
EGRO				*i* Vmb_Lg		18 26 30.3	
PFVI	**Vila Bisbo**	**1.62**	**317**	*e*Pn	**Pn**	**18 26 09.0**	**0.0**
PFVI				*e*Sn	**Sn**	**18 26 29.1**	**+0.4**
PFVI				A	A	18 26 35.7	
	45nm,0.1s						
PFVI	**Vila Bisbo**	**1.62**	**317**	P	**Pn**	**18 26 09.0**	**0.0**
PFVI	**Vila Bisbo**	**1.62**	**317**	P	**Pn**	**18 26 09.0**	**0.0**
PFVI				S	**Sn**	**18 26 27.3**	**-1.4**
MORF	**Marmelete**	**1.67**	**325**	*e*P	**Pn**	**18 26 09.8**	**+0.2**
MORF				*e*S	**Sn**	**18 26 28.7**	**-1.1**
MORF				IAML		18 26 32.0	
	comp=N,91nm,0.2s						
MORF	**Marmelete**	**1.67**	**325**	*e*Pn	**Pn**	**18 26 09.8**	**+0.2**
MORF				*e*Sn	**Sn**	**18 26 30.6**	**+0.8**
MORF				A	A	18 26 37.8	
	comp=N,43nm,0.1s						
PCVE	**Castro Verde**	**1.75**	**344**	*e*Pn	**Pn**	**18 26 11.8**	**+1.1**
PCVE				*e*Sn	**Sn**	**18 26 32.5**	**+0.8**
PCVE				A	A	18 26 33.4	
	comp=N,121nm,0.3s						
PTEO	**Sao Teotonio**	**1.90**	**327**	*e*Pn	**Pn**	**18 26 13.3**	**+0.6**
PTEO				*e*Sn	**Sn**	**18 26 35.5**	**+0.1**
PTEO				A	A	18 26 47.5	
	comp=N,25nm,0.8s						
EMIN	**Mina Concepcio**	**1.92**	**19**	P	**Pn**	**18 26 14.6**	**+1.6**
EMIN				S	**Sn**	**18 26 36.6**	**+0.7**
EMIN				*

MDT				S		Sn	18 27 21.3	-3.9	
EQES	**Quesada**	**3.96**	**61**	P		Pn	18 26 43.0	+1.8	
EQES				S		Sn	18 27 25.7	-0.8	
EQES				*i* Vmb_Lg			18 27 28.4		
PCAS	**Casmilo, Conde**	**4.18**	**349**	*e*Pn		Pn	18 26 45.5	+1.4	
PCAS				*e*Sn		Sn	18 27 30.9	-0.8	
PCAS				A		A	18 27 57.9		
	comp=E,8.4nm,0.7s								
EPLA	**Plasencia**	**4.25**	**14**	P		Pn	18 26 47.3	+2.2	
EPLA				S		Sn	18 27 33.3	0.0	
EPLA				*i* Vmb_Lg			18 27 35.6		
PAB	**San Pablo**	**4.34**	**33**	P		Pn	18 26 48.6	+2.1	
PAB				S		Sn	18 27 33.5	-2.4	
PAB				*i* Vmb_Lg			18 27 38.2		
PAB	**San Pablo**	**4.34**	**33**	S		Sn	18 27 36.9	+0.9	
MTE	**Manteigas**	**4.44**	**359**	*e*Pn		Pn	18 26 49.0	+1.2	
MTE				*e*Sn		Sn	18 27 37.2	-1.1	
MTE				A		A	18 27 40.0		
	comp=E,24nm,0.3s								
ESDC	**Sonseca Array**	**4.62**	**35**	S		Sn	18 27 40.6	-2.2	
ESDC				*i* Vmb_Lg			18 27 46.4		
OUK	**Oukaimeden**	**4.75**	**184**	P		Pn	18 26 50.3	-1.9	
OUK	**Oukaimeden**	**4.75**	**184**	P		Pn	18 26 50.3	-1.9	
PVIS	**Viseu**	**4.77**	**356**	*e*Pn		Pn	18 26 53.4	+1.1	
PVIS				*e*Sn		Sn	18 27 46.3	-0.1	
PVIS				A		A	18 27 48.0		
	comp=E,13nm,0.5s								
ELOR	**Lorca, Murcia**	**4.87**	**68**	P		Pn	18 26 55.5	+1.9	
MVO	**Moncorvo**	**5.22**	**3⇓**	*e*Pn		Pn	18 26 59.7	+1.3	
MVO				*e*Sn		Sn	18 27 56.0	-1.4	
MVO				A		A	18 27 58.9		
	comp=E,13nm,0.4s								
PVRL	**Vila Real**	**5.32**	**358**	*e*Sn		Sn	18 27 58.5	-1.4	
GUD	**Guadarrama**	**5.35**	**28**	P		Pn	18 27 02.3	+2.0	
GUD				S		Sn	18 27 57.8	-3.0	
ETOB	**Tobarra**	**5.41**	**58**	P		Pn	18 27 02.4	+1.2	
ETOB				S		Sn	18 28 00.4	-1.8	
ETOB				*i* Vmb_Lg			18 28 02.7		
POLO	**Lamas de Olo**	**5.42**	**357**	*e*Pn		Pn	18 27 02.5	+1.2	
POLO				*e*Sn		Sn	18 28 00.3	-2.2	
POLO				A		A	18 28 03.8		
	comp=E,9.5nm,0.3s								
TTIG	**Tnine Tigouga,**	**5.45**	**189**	P		Pn	18 26 56.6	-5.1	
UCM	**Universidad Co**	**5.46**	**36**	P		Pn	18 27 03.8	+2.0	
UCM				S		Sn	18 28 03.0	-0.5	
PCAB	**Cabril**	**5.77**	**356**	*e*Pn		Pn	18 27 07.2	+1.2	
PCAB				*e*Sn		Sn	18 28 09.5	-1.4	
PCAB				A		A	18 28 13.3		
	comp=E,11nm,0.3s								
PBRG	**Braganca**	**5.87**	**5**	*e*Pn		Pn	18 27 08.8	+1.4	
PBRG				*e*Sn		Sn	18 28 10.8	-2.7	
PBRG				A		A	18 28 14.5		
	comp=E,6.2nm,0.5s								
ELOB	**Lobios**	**5.93**	**355**	P		Pn	18 27 09.3	+1.1	
ELOB				S		Sn	18 28 12.3	-2.6	
ELOB				*i* Vmb_Lg			18 28 16.2		
ECAL	**Calabor**	**6.01**	**5**	P		Pn	18 27 10.4	+1.1	
ECAL				S		Sn	18 28 14.5	-2.4	
ECAL				*i* Vmb_Lg			18 28 19.6		
PGAV	**Gavieira, Arco**	**6.04**	**354**	*e*Pn		Pn	18 27 10.8	+1.0	
PGAV				*e*Sn		Sn	18 28 17.3	-0.4	
PGAV				A		A	18 28 19.0		
	comp=E,4.3nm,0.2s								
AFON	**Font Roja**	**6.13**	**62**	P		Pn	18 27 11.7	+0.7	
EZAM	**Zamans**	**6.27**	**351**	P		Pn	18 27 14.0	+1.2	
ECHE	**Chera**	**6.28**	**53**	P		Pn	18 27 14.3	+1.3	
ETOR	**Torete**	**6.44**	**39**	P		Pn	18 27 17.1	+1.8	
ETOR				S		Sn	18 28 23.8	-3.8	
ETOR				*i* Vmb_Lg			18 28 29.3		
EAGO	**Agolada(Pontev**	**6.86**	**356**	P		Pn	18 27 20.7	-0.2	
EAGO				S		Sn	18 28 35.1	-2.7	
EAGO				*i* Vmb_Lg			18 28 40.3		
EMOS	**Mosqueruela**	**7.04**	**49**	P		Pn	18 27 25.5	+2.0	
EARI	**Arriondas**	**7.54**	**12**	S		Sn	18 28 50.2	-4.3	
EORO	**Oroz-Betelu**	**8.40**	**33**	S		Sn	18 29 13.1	-2.5	
EALK	**Alkurruntz**	**8.58**	**30**	S		Sn	18 29 15.2	-4.9	
EALK				*i* Vmb_Lg			18 29 20.4		
SJPF	**Ste Jean**	**8.61**	**32**	*e*Pn		Pn	18 27 40.9	-4.1	
SJPF	**Ste Jean**	**8.61**	**32**	*e*P		Pn	18 27 46.7	+1.7	
SJPF				*e*Sn		Sn	18 29 10.8	-10	
	comp=E,6.5nm,0.4s								
ETSF	**Etsaut**	**8.74**	**35**	*e*Pn		Pn	18 27 43.7	-3.1	
ETSF	**Etsaut**	**8.74**	**35**	*e*P		Pn	18 27 48.9	+2.1	
ETSF				*e*Sn		Sn	18 29 12.8	-11	
	comp=E,8.9nm,0.5s								
ECHI	**Chisagues Biel**	**8.94**	**39**	P		Pn	18 27 52.1	+2.6	
EPF	**Esparros**	**9.28**	**38**	*e*Pn		Pn	18 27 50.8	-3.3	
EPF	**Esparros**	**9.28**	**38**	*e*P		Pn	18 27 55.8	+1.7	
EPF				*e*Sn		Sn	18 29 26.6	-11	
	comp=E,2.8nm,0.4s								

NEIC ***29*** *18:50:12.0±2.1,8.°06S±0.°09×123.°97E±0.°08, h163km±11km, mb4.1/9, Error ellipse: s-maj=15.5km s-min=8.2km az=221.0*

DJA ***29*** *18:50:12.6±0.2,8.°3S±3.°×12.°4E±.°, h169km±5km, M4.3/13, mb4.2/11, mB5.2/5, MLv4.0/13, Mw(mB)4.6/5, MwMwp6.2/3, Mwp6.2/3*

IDC ***29*** *18:50:12.2±1.2,8.°16S×124.°00E, h167km±12km, mb3.2/1, mbtmp4.0/7, Error ellipse: s-maj=26.5km s-min=9.3km az=64.0*

ISC 29 18:50:11.6±0.6, 8.°17S±0.°05×124.°04E±0.°05, h163km, n64, σ1s77/67, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.59**	**172**		**Pn**	**18 50 44.9**	**+1.6**
SOEI	**Soe**	**1.59**	**172**	P	**Pn**	**18 50 45.0**	**+1.7**
MMRI	**Maumere**	**1.84**	**255**		**Pn**	**18 50 45.6**	**-0.2**
MMRI	**Maumere**	**1.84**	**255**	P	**Pn**	**18 50 45.7**	**0.0**
MMRI	**Maumere**	**1.84**	**255**	P	**Pn**	**18 50 45.9**	**+0.2**
BATI	**Baumata**	**2.06**	**190**	P	**Pn**	**18 50 49.4**	**+1.1**
	167nm,0.3s,baz=27,slow=2.4,SNR=102						
BATI				S	**Sn**	**18 51 18.2**	**+1.6**
	282nm,0.4s,baz=96,slow=23,SNR=16						
BATI	**Baumata**	**2.06**	**190**	P	**Pn**	**18 50 49.2**	**+1.0**
EDFI	**Ende, Flores**	**2.39**	**256**	P	**Pn**	**18 50 51.8**	**-0.4**
BBSI	**Bau Bau**	**3.04**	**331**	P	**Pn**	**18 51 01.7**	**+1.7**
BSSI	**Bau Bau, Buton**	**4.05**	**300**	P	**Pn**	**18 51 13.2**	**+0.3**
BKSI	**Bulukumba**	**4.81**	**306**	P	**Pn**	**18 51 22.4**	**-0.3**
KAPI	**Kappang**	**5.29**	**306**	P	**Pn**	**18 51 28.8**	**-0.3**
	6.6nm,0.8s,baz=109,slow=10,SNR=5.8						
KAPI				S	**Sn**	**18 52 30.2**	**+0.6**
	1.7nm,0.3s,baz=81,slow=23,SNR=0.9						
KAPI	**Kappang**	**5.29**	**306**	Pn	**Pn**	**18 51 27.7**	**-1.3**
BNSI	**Bone**	**5.41**	**314**	P	**Pn**	**18 51 33.0**	**+2.3**
	0.0nm18nm,0.8s						
NLAI	**Namlea**	**5.77**	**32**	P	Pn	18 51 40.6	+5.2
	0.4nm39µm80nm,1.0s						
AAI	**Ambon**	**6.08**	**43**	P	Pn	18 51 45.2	+5.7
	0.3nm31µm3µm39nm,0.6s						
PLAI	**Plampang**	**6.22**	**264**	P	**Pn**	**18 51 39.8**	**-1.7**
PLAI	**Plampang**	**6.22**	**264**	P	**Pn**	**18 51 40.5**	**-1.0**
TWSI	**Taliwang, Sumb**	**7.10**	**265**	P	**Pn**	**18 51 50.5**	**-2.5**
	0.1nm11nm,0.8s						
SAUI	**Saumlaki**	**7.20**	**89**	Pn	**Pn**	**18 51 55.1**	**+0.8**
SAUI					**Sn**	**18 53 09.1**	**-6.1**
SAUI	**Saumlaki**	**7.20**	**89**	P	**Pn**	**18 51 55.6**	**+1.2**
	0.7nm89nm,1.1s						
SAUI	**Saumlaki**	**7.20**	**89**	P	**Pn**	**18 51 57.7**	**+3.3**
MTN	**Manton Dam**	**8.38**	**124**		**Pn**	**18 52 10.7**	**+0.6**
MTN				Sn	**Sn**	**18 53 38.3**	**-5.3**
MTN	**Manton Dam**	**8.38**	**124**	P	**Pn**	**18 52 11.0**	**+0.9**
KNRA	**Kununurra**	**8.78**	**149**		**Pn**	**18 52 14.8**	**-0.5**
KNRA	**Kununurra**	**8.78**	**149**	P	**Pn**	**18 52 14.9**	**-0.5**
KDU	**Kakadu**	**9.43**	**119**	P	**Pn**	**18 52 24.3**	**+0.3**
FAKI	**Fak Fak**	**9.70**	**58**	Pn	**Pn**	**18 52 30.5**	**+3.0**
FAKI	**Fak Fak**	**9.70**	**58**	P	**Pn**	**18 52 30.3**	**+2.8**
	11nm,0.8s						
FAKI	**Fak Fak**	**9.70**	**58**	P	Pn	18 52 30.5	+3.0
JAGI	**Jajag, Banyuwa**	**9.78**	**268**	Pn	Pn	18 52 23.6	-5.1
JAGI	**Jajag, Banyuwa**	**9.78**	**268**	P	**Pn**	**18 52 28.7**	**0.0**
FITZ	**Fitzroy Crossi**	**9.99**	**171**	P	**Pn**	**18 52 30.3**	**-1.0**
	1.9nm,0.5s,baz=7.8,slow=12,SNR=28						
FITZ				S	Sn	18 54 16.4	-5.9
	8.0nm,0.5s,baz=138,slow=18,SNR=5.3						
FITZ	**Fitzroy Crossi**	**9.99**	**171**	Pn	**Pn**	**18 52 30.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**9.99**	**171**	P	**Pn**	**18 52 30.5**	**-0.8**
SIJI	**Sorong**	**10.22**	**45**	P	**Pn**	**18 52 35.6**	**+1.2**
	3.1nm,0.5s,baz=255,slow=17,SNR=6.5						
UGM	**Wanagama**	**13.38**	**270**	Pn	**Pn**	**18 53 14.7**	**-0.7**
UGM	**Wanagama**	**13.38**	**270**	P	**Pn**	**18 53 15.6**	**+0.2**
WB0	**Warramunga Arr**	**15.29**	**140**	P	**Pn**	**18 53 38.5**	**-0.6**
WB0				IAmb	IAmb	18 53 44.0	
	comp=Z,5.7nm,0.8s						
WRA	**Warramunga Arr**	**15.38**	**141**	P	**Pn**	**18 53 39.7**	**-0.6**
	comp=Z,5.9nm,0.5s,baz=317,slow=12,SNR=65						
WRA				S	Sn	18 56 22.8	-9.0
	comp=Z,0.9nm,0.5s,baz=318,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**15.38**	**141**	P	**Pn**	**18 53 40.0**	**-0.2**
WRAB	**Tennant Creek**	**15.38**	**141**	P	**Pn**	**18 53 40.9**	**+0.7**
WB2	**Warramunga Arr**	**15.39**	**141**	P	**Pn**	**18 53 40.5**	**+0.2**
WB2				IAmb	IAmb	18 53 44.0	
	comp=Z,6.5nm,0.7s						
WR0	**Warramunga Arr**	**15.52**	**140**	P	**Pn**	**18 53 41.7**	**-0.2**
WR0				IAmb	IAmb	18 53 45.8	
	comp=Z,7.4nm,0.8s						
WRKA	**Warakurna**	**17.26**	**167**	P	**P**	**18 54 03.6**	**+1.6**
AS31	**Alice Springs**	**18.08**	**150**	P	**P**	**18 54 13.0**	**+2.1**
ASAR	**Alice Springs**	**18.08**	**150**	P	**P**	**18 54 12.4**	**+1.4**
	comp=Z,3.6nm,0.6s,baz=330,slow=12,SNR=66						
ASAR				S	**S**	**18 57 31.7**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=327,slow=23,SNR=8.7						
ASAR				ScP	**ScP**	**19 01 56.2**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=344,slow=1.6,SNR=2.6						
ASAR	**Alice Springs**	**18.08**	**150**	P	**P**	**18 54 13.0**	**+2.1**
MEEK	**Meekatharra**	**19.07**	**195**	P	**P**	**18 54 22.3**	**+0.6**
QIS	**Mount Isa**	**19.45**	**131**	P	**P**	**18 54 28.3**	**+2.5**
COEN	**Coen**	**19.64**	**109**	P	**P**	**18 54 29.8**	**+1.9**
COEN				IAmb	IAmb	18 54 32.6	
	comp=Z,10nm,1.2s						
COEN	**Coen**	**19.64**	**109**	P	**P**	**18 54 29.8**	**+1.9**
MTSU	**Mount Surprise**	**22.07**	**119**	P	**P**	**18 54 55.5**	**+1.8**
MORW	**Morawa**	**22.11**	**199**	P	**P**	**18 54 53.0**	**-0.9**
MORW	**Morawa**	**22.11**	**199**	P	**P**	**18 54 53.2**	**-0.7**
OOD	**Oodnadatta**	**22.41**	**152**	P	**P**	**18 54 58.9**	**+2.0**
BLDU	**Ballidu**	**23.36**	**196**	P	**P**	**18 55 05.5**	**0.0**
MULG	**Mulgathing**	**23.92**	**158**	P	**P**	**18 55 11.9**	**+1.3**
KLBR	**Kellerberrin**	**24.03**	**193**	P	**P**	**18 55 11.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**25.43**	**193**	P	**P**	**18 55 24.3**	**0.0**
MAJO	**Matsushiro**	**46.43**	**16**	P	**P**	**18 58 19.5**	**-2.5**
MAJO				IAmb	IAmb	18 58 24.5	
	comp=Z,12nm,1.1s						
MJB9	**Matsu-Tunnel**	**46.43**	**16**	P	**P**	**18 58 19.6**	**-2.4**
MKAR	**Makanchi Array**	**66.11**	**330**	P	**P**	**19 00 41.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=142,slow=7.0,SNR=11						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**66.11**	**330**	P	**P**	**19 00 40.7**	**-0.6**

IDC 29 19:01:19.1±6.8, 2.°59N×128.°19E, h87km±51km, mb3.4/4, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=74.4km s-min=48.4km az=46.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.61**	**138**	P	Pn	19 02 26.1	-0.4
	2.6nm,0.3s,baz=324,slow=19,SNR=48						
SIJI				S	Sn	19 03 19.6	+0.7
	3.5nm,0.3s,baz=88,slow=23,SNR=9.4						
	5.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.71**	**187**	P	P	19 05 53.1	+0.6
	1.4nm,0.9s,baz=0.0,slow=17,SNR=1.6						
	1.4nm,0.9s						
WRA	**Warramunga Arr**	**23.19**	**165**	P	P	19 06 18.5	-0.1
	0.7nm,0.3s,baz=344,slow=10,SNR=39						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**26.68**	**168**	P	P	19 06 50.3	+0.1
	0.2nm,0.3s,baz=355,slow=8.3,SNR=5.5						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**36.57**	**161**	P	P	19 08 16.4	-0.3
	1.6nm,0.3s,baz=356,slow=6.8,SNR=8.2						
	1.6nm,0.3s						

IDC ***29*** *19:02:54.3±3.8, 42.°41N×143.°03E, h50km±38km, mb3.4/6, mbtmp3.6/8, ML2.9/2, MS2.6/3, Error ellipse: s-maj=32.6km s-min=26.6km az=78.0*

JMA ***29*** *19:02:56.4±0.2, 42.°4N±0.°6×143.°0E±0.°6, h55km±1km, MV3.5/39, HIDAKA MOUNTAINS REGION*

JMA Felt I J1 at HIDAKA MOUNTAINS REGION .

SKHL ***29*** *19:02:56.3±0.1, 42.°30N×142.°90E, h54km±5km, mb4.4/2*

NIED ***29*** *19:02:56.4, 42.°35N×142.°99E, h55km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.33; Mθθ-1.00; Mϕϕ-2.33; Mrθ2.59; Mθϕ-1.75; Mϕr1.93; Fault plane solution: M₀4.71000×10¹⁴ NP1: ϕs202.00000°, δ25.00000°, λ67.00000°. NP2:ϕs47.00000°, δ67.00000°, λ101.00000°.*

ISC 29 19:02:55.5±0.8, 42.°28N±0.°06×142.°99E±0.°03, h63km±6km, n39, σ1s12/39, mb3.5/6, 9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.18**	**269**	P	**Pn**	**19 03 05.0**	**-0.1**
JNBK				*e*S	**Sn**	**19 03 11.5**	**-0.6**
JTHR	**Tokachihiroo**	**0.23**	**88**	P	**Pn**	**19 03 05.5**	**+0.2**
JTHR				*e*S	**Sn**	**19 03 12.8**	**+0.2**
JEM	**Erimo**	**0.29**	**155**	P	**Pn**	**19 03 06.6**	**+0.8**
JSHD	**Hidakashinhida**	**0.41**	**288**	⇓P	**Pn**	**19 03 07.0**	**+0.3**
JSHD				⇓*e*S	**Sn**	**19 03 16.3**	**+1.3**
JCH	**Churui**	**0.43**	**40**	P	**Pn**	**19 03 06.8**	**-0.2**
JCH				*e*S	**Sn**	**19 03 14.9**	**-0.5**
JBT2	**Biratori 2**	**0.68**	**317**	*e*S	**Sn**	**19 03 20.3**	**+0.3**
JIAM	**Iburiatsuma**	**0.86**	**294**	⇓P	**Pn**	**19 03 13.0**	**+1.2**
JOB	**Onbets**	**0.88**	**45**	P	**Pn**	**19 03 12.8**	**+0.8**
JOB				*e*S	**Sn**	**19 03 25.7**	**+1.4**
JFR	**Furan**	**0.93**	**342**	⇓P	**Pn**	**19 03 11.7**	**-1.0**
JAR	**Ashorobuto**	**1.16**	**29**	*e*P	**Pn**	**19 03 15.6**	**-0.1**
JAR				*e*S	**Sn**	**19 03 30.2**	**-0.7**
JEW	**Eniwo**	**1.27**	**297**	⇓P	**Pn**	**19 03 17.8**	**+0.7**
JEW				⇓*e*S	**Sn**	**19 03 34.5**	**+1.1**
JAB	**Ashibetsu**	**1.34**	**335**	⇓*e*P	**Pn**	**19 03 18.5**	**+0.4**
JAK	**Akkeshi**	**1.45**	**60**	P	**Pn**	**19 03 19.7**	**+0.2**
JAK				*e*S	**Sn**	**19 03 37.7**	**+0.2**
JNB	**Noboribetsu**	**1.46**	**278**	⇓P	**Pn**	**19 03 19.5**	**-0.1**
JNB				⇓*e*S	**Sn**	**19 03 37.8**	**-0.1**
AKK	**Akkeshi**	**1.55**	**61**	*e*P	**Pn**	**19 03 21.1**	**+0.2**
NMR	**Nemuro--Hokkai**	**2.29**	**61**	*e*P	**Pn**	**19 03 30.2**	**-0.6**
NMR				*e*S	**Sn**	**19 03 56.0**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**2.73**	**49**	*e*P	**Pn**	**19 03 38.5**	**+1.6**
YUK				AMB	AMB	19 03 42.4	
	80nm,0.3s						
YUK				*e*S	**Sn**	**19 04 10.1**	**+1.3**
YUK				A	A	19 04 11.5	
	360nm,0.4s						
YUK				A	A	19 04 11.5	
	260nm,0.4s						
KUR	**Kuril'sk**	**4.60**	**48**	*e*P	**Pn**	**19 04 05.1**	**+2.7**
KUR				AMB	AMB	19 04 16.7	
	20nm,0.6s						
KUR				*e*S	**Sn**	**19 04 56.7**	**+2.2**
KUR				A	A	19 05 03.8	
	50nm,0.4s						
KUR				A	A	19 05 03.8	
	50nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.67**	**358**	*e*P	**Pn**	**19 04 05.5**	**+2.1**
MJAR	**Matsushiro Arr**	**6.82**	**214**	P	**Pn**	**19 04 34.5**	**+1.6**
	0.1nm,0.3s,baz=25,slow=13,SNR=5.0						
	0.8nm,0.3s						
KLR	**Kul'dur**	**10.48**	**315**	LR	LR	19 08 48.1	
	comp=Z,21nm,21.0s,baz=102,slow=34						
KSRS	**Korea Array**	**12.54**	**252**	P	**Pn**	**19 05 50.4**	**-0.6**
	0.1nm,0.3s,baz=54,slow=14,SNR=3.6						
	1.4nm,0.9s						
PETK	**Petropavlovsk-**	**14.64**	**37**	LR	LR	19 13 01.8	
	comp=Z,27nm,19.3s,baz=59,slow=42						
SEY	**Seymchan**	**21.41**	**12**	P	**P**	**19 07 35.5**	**-2.2**
	1.1nm,0.4s,baz=171,slow=19,SNR=1.7						
	1.1nm,0.4s						
SONM	**Sogino Array**	**26.27**	**295**	P	**P**	**19 08 24.9**	**0.0**
	0.8nm,0.7s,baz=83,slow=8.4,SNR=4.3						
	0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**30.23**	**131**	T	T	19 40 32.5	
	baz=324,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**30.24**	**131**	T	T	19 40 32.5	
	baz=324,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**30.25**	**131**	T	T	19 40 32.8	
	baz=324,slow=75,SNR=59						
H11S1	**WAKE ISLAND Hy**	**31.10**	**132**	T	T	19 41 37.5	
	baz=325,slow=76,SNR=93						
H11S3	**WAKE ISLAND Hy**	**31.11**	**132**	T	T	19 41 38.9	
	baz=325,slow=76,SNR=73						
H11S2	**WAKE ISLAND Hy**	**31.12**	**132**	T	T	19 41 39.7	
	baz=325,slow=76,SNR=48						
DAV	**Davao City (W)**	**38.31**	**209**	LR	LR	19 25 20.3	
	comp=Z,12nm,18.9s,baz=14,slow=35						
ZALV	**Zalesovo Beam**	**39.47**	**308**	P	**P**	**19 10 19.1**	**-0.3**
	1.1nm,0.4s,baz=95,slow=8.3,SNR=7.6						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**42.56**	**298**	P	**P**	**19 10 44.6**	**-0.3**
	1.3nm,0.8s,baz=87,slow=8.7,SNR=9.0						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**62.43**	**189**	P	**P**	**19 13 12.4**	**+0.5**
	0.4nm,0.9s,baz=9.0,slow=6.9,SNR=2.0						
	0.4nm,0.9s						
TXAR	**Lajitas Array**	**85.99**	**53**	P	**P**	**19 15 29.6**	**+0.4**
	0.2nm,0.6s,baz=292,slow=4.8,SNR=2.0						
	0.2nm,0.6s						
H03N2	**Juan Fernandez**	**146.03**	**89**	T	T	22 05 34.9	
	baz=300,slow=76,SNR=17						
H03N3	**Juan Fernandez**	**146.04**	**89**	T	T	22 05 36.0	
	baz=300,slow=76,SNR=18						
H03N1	**Juan Fernandez**	**146.04**	**89**	T	T	22 05 35.8	
	baz=300,slow=76,SNR=24						

NEIC ***29*** *19:04:54.0±1.9, 21.°5S±0.°1×178.°1W±0.°2, h405km±11km, mb4.0/13, Error ellipse: s-maj=29.1km s-min=10.2km az=48.0*

IDC ***29*** *19:04:53.0±4.2, 21.°59S×178.°01W, h401km±33km, mb3.3/7, mbtmp4.0/8, Error ellipse: s-maj=63.8km s-min=19.1km az=151.0*

ISC 29 19:04:54.2±0.8, 21.°5S±0.°2×178.°2W±0.°1, h412km, n30, σ0s90/29, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.21**	**316**	P	**P**	**19 06 18.7**	**-0.2**
	18nm,0.6s,baz=146,slow=8.2,SNR=37						
KOUNC	**Koumac, New Ca**	**16.43**	**270**	P	**P**	**19 08 20.3**	**-1.4**
HNR	**Honiara**	**24.26**	**296**	P	**P**	**19 09 34.9**	**-1.7**
COEN	**Coen**	**37.52**	**275**	P	**P**	**19 11 32.9**	**+1.6**
COEN				IAmb	IAmb	19 11 38.9	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**44.14**	**263**	P	**P**	**19 12 22.9**	**-1.7**
WR0				IAmb	IAmb	19 13 03.9	
	comp=Z,8.6nm,1.5s						
ASAR	**Alice Springs**	**44.16**	**258**	P	**P**	**19 12 25.2**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=89,slow=8.4,SNR=23						
ASAR				PcP	**PcP**	**19 14 01.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=87,slow=5.8,SNR=2.0						
	comp=Z,1.5nm,0.7s						
WB0	**Warramunga Arr**	**44.32**	**263**	P	**P**	**19 12 26.2**	**+0.3**
WB2	**Warramunga Arr**	**44.32**	**263**	P	**P**	**19 12 26.0**	**+0.1**
WB2				IAmb	IAmb	19 12 30.0	
	comp=Z,8.8nm,1.4s						
WRAB	**Tennant Creek**	**44.32**	**263**	P	**P**	**19 12 25.0**	**-0.9**
WRAB				IAmb	IAmb	19 13 08.5	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**44.33**	**263**	P	**P**	**19 12 26.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=96,slow=7.3,SNR=14						
	comp=Z,0.9nm,0.8s						
WRA	**Warramunga Arr**	**44.33**	**263**	P	**P**	**19 12 25.8**	**-0.2**
KNRA	**Kununurra**	**50.46**	**267**	P	**P**	**19 13 13.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**52.76**	**263**	P	**P**	**19 13 30.8**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=146,slow=7.3,SNR=1.3						
	comp=Z,1.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.76**	**263**	P	**P**	**19 13 28.0**	**-1.3**
SIJI	**Sorong**	**53.38**	**286**	P	**P**	**19 13 34.6**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=114,slow=20						
	comp=Z,5.3nm,0.7s						
MBWA	**Marble Bar**	**57.50**	**258**	P	**P**	**19 14 02.4**	**-0.3**
MBWA				IAmb	IAmb	19 14 14.0	
	comp=Z,9.4nm,1.1s						
MORW	**Morawa**	**59.32**	**248**	P	**P**	**19 14 15.5**	**+0.5**
MORW				IAmb	IAmb	19 14 49.5	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**68.55**	**180**	P	**P**	**19 15 13.7**	**-0.1**
QSPA				IAmb	IAmb	19 15 24.5	
	comp=Z,3.7nm,1.1s						
PETK	**Petropavlovsk-**	**77.22**	**345**	P	**P**	**19 16 04.7**	**+0.7**
**NVAR

	comp=Z,9.4nm,1.4s						
RAGM	**Ragged Mountai**	**18.68**	**50**	P	**P**	**19 13 21.9**	**-0.1**
ILAR	**Eielson Array**	**19.46**	**36**	P	**P**	**19 13 30.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=232,slow=9.1,SNR=8.0 comp=Z,0.5nm,0.4s						
H24K	**Noodor Dome**	**19.68**	**33**	Pn	**Pn**	**19 13 34.2**	**-0.4**
RIDG	**Independent Ri**	**19.77**	**40**	P	**P**	**19 13 33.6**	**-0.3**
RIDG				IAmb	IAmb	19 13 48.2	
	comp=Z,11nm,1.4s						
J25K	**Salcha River,**	**19.95**	**38**	P	**P**	**19 13 35.6**	**-0.3**
M26K	**Nabesna, AK**	**20.05**	**45**	Pn	Pn	19 13 38.7	-0.2
M26K				IAmb	IAmb	19 13 45.5	
	comp=Z,6.1nm,1.4s						
J26L	**Joseph Creek**	**20.60**	**39**	P	**P**	**19 13 42.5**	**-0.5**
K27K	**Chicken**	**21.01**	**41**	P	**P**	**19 13 46.4**	**-0.9**
K27K				IAmb	IAmb	19 13 57.8	
	comp=Z,11nm,1.4s						
I26K	**Coal Creek Min**	**21.11**	**37**	P	**P**	**19 13 47.8**	**-0.6**
I26K				IAmb	IAmb	19 13 58.0	
	comp=Z,5.5nm,1.1s						
MA2	**Magadan**	**21.24**	**306**	LR	LR	19 21 35.1	
	comp=Z,21nm,20.2s,baz=8.0,slow=37						
EGAK	**Eagle**	**21.66**	**39**	P	**P**	**19 13 54.9**	**+0.6**
EGAK				IAmb	IAmb	19 14 09.2	
	comp=Z,5.3nm,0.7s						
I29M	**Ogilvie Camp,**	**23.00**	**39**	P	**P**	**19 14 08.2**	**-0.3**
I29M				IAmb	IAmb	19 14 19.8	
	comp=Z,2.9nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**36.14**	**212**	T	T	19 55 14.2	
	baz=20,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**36.16**	**212**	T	T	19 55 15.3	
	baz=20,slow=76,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**36.16**	**212**	T	T	19 55 15.4	
	baz=20,slow=76,SNR=6.6						
MJAR	**Matsushiro Arr**	**36.65**	**265**	LR	LR	19 30 20.9	
	comp=Z,7.8nm,19.9s,baz=69,slow=35						
PDAR	**Pinedale Array**	**43.53**	**75**	P	P	19 17 18.8	+11
	comp=Z,0.4nm,0.5s,baz=324,slow=4.5,SNR=2.3 comp=Z,0.4nm,0.5s						
TCRU	**Three Creeks R**	**44.22**	**82**	P	**P**	**19 17 13.2**	**+0.2**
SONM	**Songino Array**	**49.18**	**299**	P	**P**	**19 17 52.3**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=45,slow=8.6,SNR=2.3 comp=Z,0.3nm,0.6s						
FRB	**Frobisher Bay**	**51.46**	**33**	LR	LR	19 42 55.5	
	comp=Z,28nm,18.3s,baz=0.5,slow=40						
TXAR	**Lajitas Array**	**55.79**	**85**	P	P	19 18 53.0	+12
	comp=Z,0.2nm,0.4s,baz=308,slow=4.4,SNR=3.4 comp=Z,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**61.15**	**316**	P	**P**	**19 19 17.8**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=43,slow=6.8,SNR=5.3 comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**62.23**	**311**	P	**P**	**19 19 24.7**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=47,slow=6.8,SNR=4.2 comp=Z,0.2nm,0.4s						
NOA	**NORSAR Array B**	**67.82**	**357**	P	**P**	**19 20 00.7**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=353,slow=6.7,SNR=1.2 comp=Z,1.0nm,0.9s						
HFS	**Hagfors**	**68.63**	**356**	P	**P**	**19 20 05.4**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=347,slow=5.9,SNR=4.1 comp=Z,2.7nm,0.8s						

*IDC **29** 19:16:29.9±2.6, 8.27S×121.90E, h196km±23km, mb2.8/1, mbtmp3.5/4, MS3.1/1, Error ellipse: s-maj=105.7km s-min=27.7km az=59.0*

ISC 29 19:16:31.0±1.0, 8.46S±0.09×121.99E±0.09, h200km, n18, σ1§98/20, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.30**	**126**	P	**Pn**	**19 16 59.4**	**+1.9**
BATI	**Baumata**	**2.40**	**137**	P	**Pn**	**19 17 16.2**	**+2.4**
	169nm,0.4s,baz=341,slow=1.9,SNR=156						
BATI				S	**Sn**	**19 17 49.6**	**+2.3**
	39nm,0.3s,baz=276,slow=22,SNR=7.7						
SOEI	**Soe**	**2.59**	**120**	P	**Pn**	**19 17 18.2**	**+2.1**
PLAI	**Plampang**	**4.18**	**265**	P	**Pn**	**19 17 36.1**	**+1.0**
KNRA	**Kununurra**	**9.77**	**138**	P	**Pn**	**19 18 47.6**	**+0.3**
MTN	**Manton Dam**	**9.99**	**117**	P	**Pn**	**19 18 50.2**	**0.0**
FITZ	**Fitzroy Crossi**	**10.22**	**160**	P	**Pn**	**19 18 53.4**	**+0.2**
	1.0nm,0.5s,baz=4.2,slow=12,SNR=2.4						
FITZ				S	**Sn**	**19 20 43.1**	**-4.3**
	2.2nm,0.7s,baz=233,slow=22,SNR=1.5						
FITZ	**Fitzroy Crossi**	**10.22**	**160**	P	**Pn**	**19 18 53.6**	**+0.4**
FAKI	**Fak Fak**	**11.59**	**62**	P	**Pn**	**19 19 09.8**	**-1.0**
LEM	**Lembang**	**14.34**	**275**	LR	LR	19 27 11.1	
	comp=Z,67nm,19.7s,baz=300,slow=45						
WRA	**Warramunga Arr**	**16.53**	**135**	P	**P**	**19 20 12.0**	**+1.1**
	1.0nm,0.8s,baz=314,slow=12,SNR=17						
WRA				S	**S**	**19 23 10.0**	**-3.8**
	0.3nm,0.7s,baz=312,slow=25,SNR=2.1						
WRKA	**Warakurna**	**17.55**	**161**	P	**Pn**	**19 20 24.7**	**+0.8**
MEEK	**Meekatharra**	**18.37**	**190**	P	**Pn**	**19 20 33.2**	**-0.2**
ASAR	**Alice Springs**	**18.95**	**144**	P	**P**	**19 20 39.2**	**+1.9**
	0.9nm,0.6s,baz=330,slow=11,SNR=20						
QIS	**Mount Isa**	**20.84**	**127**	P	**P**	**19 20 58.6**	**+1.1**
MORW	**Morawa**	**21.26**	**194**	P	**P**	**19 21 02.9**	**+1.1**
COEN	**Coen**	**21.48**	**107**	P	**P**	**19 21 04.2**	**-0.1**
MKAR	**Makanchi Array**	**65.36**	**331**	P	**P**	**19 26 49.7**	**-2.3**
	0.1nm,0.4s,baz=145,slow=7.0,SNR=2.1 0.1nm,0.4s						

*IDC **29** 19:25:37.5±3.1, 34.39N×141.67E, h0km, mb3.3/5, mbtmp3.3/6, ML2.5/1, Error ellipse: s-maj=102.4km s-min=22.8km az=61.0*

*JMA **29** 19:25:38.0±0.7, 34.2N×14.2E±, h26km, MV3.0/24, FAR SE OFF BOSO PEN*

ISC 29 19:25:41.6±1.4, 34.41N±0.08×141.6E±0.1, h27km, n16, σ1§19/16, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.54**	**297**	P	**Pb**	**19 25 50.8**	**-1.5**
BSO1				X		19 26 01.4	
BSO3	**Boso 3**	**0.95**	**295**	*e*P	**Pn**	**19 25 58.0**	**-0.9**
BSO4	**Boso 4**	**1.17**	**300**	*e*P	**Pn**	**19 26 01.3**	**-0.7**
JKUC	**kamogawauchiur**	**1.35**	**304**	*e*P	**Pn**	**19 26 03.9**	**-0.8**
JKUC				*e*S	**Sn**	**19 26 22.7**	**+1.0**
CHOJ	**Chosi**	**1.42**	**336**	*e*P	**Pn**	**19 26 04.0**	**-1.5**
JMKN	**Mikurajimanish**	**1.71**	**253**	P	**Pn**	**19 26 09.0**	**-0.7**
JMKN				*e*S	**Sn**	**19 26 30.9**	**+0.2**
JIM2	**Oshima 3**	**1.79**	**281**	*e*P	**Pn**	**19 26 09.5**	**-1.2**
MJAR	**Matsushiro Arr**	**3.47**	**309**	Pn	**Pn**	**19 26 34.0**	**+0.1**
	0.4nm,0.3s,baz=131,slow=12,SNR=14						
MJAR				Sn	**Sn**	**19 27 14.9**	**+0.9**
	0.2nm,0.3s,baz=122,slow=16,SNR=4.7 1.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.78**	**117**	T	T	19 59 28.2	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**26.79**	**117**	T	T	19 59 39.8	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**26.80**	**117**	T	T	19 59 35.1	
	baz=306						
SONM	**Songino Array**	**29.42**	**308**	P	**P**	**19 31 45.2**	**+2.3**
	0.2nm,0.7s,baz=95,slow=8.8,SNR=1.7 0.2nm,0.7s						
MKAR	**Makanchi Array**	**45.66**	**304**	P	**P**	**19 34 00.7**	**+0.9**
	0.3nm,0.6s,baz=85,slow=10,SNR=2.0 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**47.75**	**310**	P	**P**	**19 34 14.9**	**-1.2**
	0.2nm,0.4s,baz=78,slow=8.6,SNR=1.9 0.2nm,0.4s						
WRA	**Warramunga Arr**	**54.48**	**188**	P	**P**	**19 35 07.4**	**+0.5**
	0.2nm,0.4s,baz=5.5,slow=7.6,SNR=1.8 0.2nm,0.4s						
ASAR	**Alice Springs**	**58.21**	**188**	P	**P**	**19 35 32.9**	**-0.6**
	0.2nm,0.7s,baz=3.1,slow=7.0,SNR=1.6 0.2nm,0.7s						

*IDC **29** 20:09:47.1±4.8, 15.70S×167.45E, h132km±49km, mb3.8/9, mbtmp4.2/10, Error ellipse: s-maj=41.3km s-min=23.9km az=155.0*

*NOU **29** 20:09:51.1, 15.87S×167.35E, h74km, MLv4.3/13, Vanuatu Islands*

*NEIC **29** 20:09:51.2±0.9, 15.82S±0.09×167.1E±0.1, h139km±11km, mb4.3/14, Error ellipse: s-maj=17.0km s-min=9.8km az=51.0*

ISC 29 20:09:46.5±0.8, 15.64S±0.07×167.4E±0.1, h124km, n45, σ1§44/47, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.20**	**161**	P	**Pn**	**20 10 23.5**	**+0.9**
RTV	**Rentapao**	**2.34**	**156**	P	**Pn**	**20 10 25.2**	**+0.8**
LIFNC	**LIFOU**	**5.12**	**182**	Pn	**Pn**	**20 11 00.8**	**-0.2**
LIFNC					**Sn**	**20 11 55.6**	**-3.5**
LIFNC	**LIFOU**	**5.12**	**182**	P	**Pn**	**20 11 00.6**	**-0.4**
KOUNC	**Koumac, New Ca**	**5.73**	**211**		**Pn**	**20 11 10.3**	**+0.9**
KOUNC	**Koumac, New Ca**	**5.73**	**211**	P	**Pn**	**20 11 10.9**	**+1.5**
MARNC	**Mare, Loyalty**	**5.84**	**175**	Pn	**Pn**	**20 11 10.4**	**-0.4**
MARNC					**Sn**	**20 12 12.1**	**-4.5**
MARNC	**Mare, Loyalty**	**5.84**	**175**	P	**Pn**	**20 11 11.2**	**+0.4**
YATNC	**Mamie plateau,**	**6.41**	**185**	P	**Pn**	**20 11 18.8**	**+0.3**
DZM	**Mont Dzumac**	**6.47**	**188**	P	**Pn**	**20 11 19.8**	**+0.5**
	24nm,0.3s,baz=353,slow=16,SNR=94						
DZM				S	**Sn**	**20 12 31.6**	**-0.4**
	20nm,0.3s,baz=150,slow=23,SNR=10						
DZM	**Mont Dzumac**	**6.47**	**188**		**Pn**	**20 11 21.0**	**+1.6**
ONTNC	**Ouen Toro**	**6.70**	**188**		**Pn**	**20 11 24.3**	**+1.9**
ONTNC					**Sn**	**20 12 37.9**	**+0.6**
OUENC	**Ouen Island, N**	**6.77**	**185**		**Pn**	**20 11 25.5**	**+2.2**
OUENC					**Sn**	**20 12 39.8**	**+0.8**
OUENC	**Ouen Island, N**	**6.77**	**185**	P	**Pn**	**20 11 25.5**	**+2.2**
PINNC	**Pines Island,**	**6.94**	**180**		**Pn**	**20 11 27.9**	**+2.2**
PINNC					**Sn**	**20 12 43.4**	**+0.2**
PINNC	**Pines Island,**	**6.94**	**180**	P	**Pn**	**20 11 27.8**	**+2.2**
MSVF	**Nonsavu**	**10.38**	**103**	P	Pn	20 12 24.1	+12
	15nm,0.8s,baz=268,slow=11,SNR=22						
MSVF	**Nonsavu**	**10.38**	**103**		Pn	20 12 21.1	+9.0
EIDS	**Eidsvold**	**18.11**	**235**	P	**P**	**20 13 48.0**	**-0.8**
EIDS				IAmb	IAmb	20 13 51.9	
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**20.64**	**255**	P	**P**	**20 14 16.8**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=82,slow=9.5,SNR=5.7 comp=Z,4.8nm,0.7s						
CTAO	**Charters Tower**	**20.64**	**255**	P	Pn	20 14 17.2	-2.8
CTAO				IAmb	IAmb	20 14 20.5	
	comp=Z,8.9nm,1.1s						
COEN	**Coen**	**23.52**	**271**	P	**P**	**20 14 45.6**	**0.0**
COEN				IAmb	IAmb	20 14 47.1	
	comp=Z,20nm,1.4s						
BKZ	**Black Stump Fm**	**24.75**	**163**	P	**P**	**20 14 58.9**	**+2.4**
BKZ				IAmb	IAmb	20 15 33.2	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**28.54**	**231**	P	**P**	**20 15 31.2**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=30,slow=8.1,SNR=2.9 comp=Z,1.8nm,0.8s						
STKA	**Stephens Creek**	**28.54**	**231**	P	**P**	**20 15 28.6**	**-2.0**
WR0	**Warramunga Arr**	**31.59**	**257**	P	**P**	**20 15 56.8**	**-0.9**
WR0				IAmb	IAmb	20 16 28.7	
	comp=Z,8.5nm,1.4s						
WB0	**Warramunga Arr**	**31.72**	**258**	P	**P**	**20 15 57.9**	**-0.9**
WB0				IAmb	IAmb	20 16 31.9	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**31.76**	**257**	P	**P**	**20 15 58.1**	**-1.1**
WRAB	**Tennant Creek**	**31.77**	**257**	P	**P**	**20 15 58.4**	**-0.8**
WRAB				IAmb	IAmb	20 16 29.1	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**31.78**	**257**	P	**P**	**20 15 58.0**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=85,slow=8.3,SNR=18 comp=Z,1.1nm,0.6s						
WRA	**Warramunga Arr**	**31.78**	**257**	P	**P**	**20 15 57.8**	**-1.5**
AS31	**Alice Springs**	**32.51**	**250**	P	**P**	**20 16 05.2**	**-0.6**
ASAR	**Alice Springs**	**32.51**	**250**	P	**P**	**20 16 05.3**	**-0.4**
	comp=Z,5.0nm,0.7s,baz=77,slow=8.8,SNR=57 comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**32.51**	**250**	P	**P**	**20 16 05.0**	**-0.8**
FAKI	**Fak Fak**	**36.88**	**286**	P	**P**	**20 16 43.1**	**-0.3**
KNRA	**Kununurra**	**37.21**	**265**	P	**P**	**20 16 45.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**40.02**	**260**	P	**P**	**20 17 09.5**	**-0.1**
FITZ				IAmb	IAmb	20 17 10.2	
	comp=Z,5.3nm,0.6s						
VNDA	**Vanda**	**61.96**	**181**	P	**P**	**20 19 54.3**	**+1.5**
PETK	**Petropavlovsk-**	**68.98**	**354**	P	**P**	**20 20 38.7**	**+0.5**
	comp=Z,8.8nm,0.9s,baz=160,slow=8.8,SNR=5.1 comp=Z,8.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.47**	**294**	P	**P**	**20 21 17.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=128,slow=5.8,SNR=2.0 comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**83.32**	**324**	P	**P**	**20 22 00.7**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=141,slow=6.9,SNR=5.2 comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**87.34**	**18**	P	**P**	**20 22 17.5**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=232,slow=5.9,SNR=9.8 comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**97.97**	**316**	P	Pdif	20 23 09.9	+1.3
	comp=Z,0.3nm,0.5s,baz=90,slow=7.9,SNR=5.3 comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**121.17**	**345**	PKP	**PKiKP**	**20 28 23.7**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=52,slow=1.7,SNR=13						
FINES	**FINESS Array B**	**126.62**	**338**	PKP	**PKiKP**	**20 28 34.8**	**-0.4**
	comp=Z,5.0nm,1.0s,baz=73,slow=4.8,SNR=1.8						

*TIR **29** 20:16:23.8, 41.07N×20.17E, h3km±2km, Md2.8, Ml2.2*
*ATH **29** 20:16:25.4, 41.12N×20.19E, h10km±31km, ML1.9/2, Error ellipse: s-maj=31.6km s-min=2.3km az=0.0*
*SKO **29** 20:16:25.1, 40.95N×20.03E, h0km*

ISC 29 20:16:25.2±1.2, 41.06N±0.03×20.12E±0.03, h5km±10km, n24, σ1§04/37, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.35**	**326**	*i* Pg	**Pg**	**20 16 31.9**	**0.0**
TIR				*i* Sg	**Sb**	**20 16 39.1**	**-0.5**
TIR	**Tirane**	**0.35**	**326**	P	**Pg**	**20 16 31.7**	**-0.2**
	baz=322						
TIR				S	**Sg**	**20 16 38.0**	**+1.5**
	baz=322						
TIR				AMP			
	comp=N,1.4nm,0.3s,baz=322						
OHR	**Ohrid**	**0.51**	**84**	*i* Pg	**Pb**	**20 16 35.7**	**-1.0**
OHR				*i* Sg	**Sb**	**20 16 44.3**	**-0.1**
OHR				*e*Lg	Lg	20 16 44.6	
	comp=N,85nm,0.2s						
OHR				*e*Lg	Lg	20 16 45.8	
	comp=E,57nm,0.4s						
KBN	**Korca**	**0.67**	**131**	P	**Pg**	**20 16 36.8**	**-1.2**
	baz=133						
KBN				S	**Sb**	**20 16 48.6**	**-0.3**
	baz=133						
PHP	**Peshkopia**	**0.67**	**21**	P	**Pg**	**20 16 37.5**	**-0.6**
	baz=18						
PHP				S	**Sb**	**20 16 47.5**	**-1.4**
	baz=18						
PHP				AMP			
	comp=N,0.5nm,0.3s,baz=18						
NEST	**Nestorio**	**0.95**	**132**	P	**Pg**	**20 16 42.5**	**-0.9**
NEST				S	**Sb**	**20 16 56.9**	**-0.3**
NEST				AML	AML	20 17 03.1	
	comp=N,202μm,0.4s						
NEST				AML	AML	20 17 05.0	
	comp=E,150μm,0.5s						
LSK	**Leskovik**	**0.98**	**158**	P	**Pg**	**20 16 42.3**	**-1.6**
	baz=160						
LSK				S	**Sb**	**20 16 58.0**	**+0.2**
	baz=160						
ULC	**Ulcinj**	**1.12**	**324**	*i* Pg	**Pg**	**20 16 46.0**	**-0.6**
PENT	**Pentalofos**	**1.16**	**138**	P	**Pg**	**20 16 46.5**	**-0.9**
PENT				S	**Sb**	**20 17 03.1**	**0.0**
SRN	**Sarande**	**1.18**	**185**	P	**Pn**	**20 16 48.5**	**+0.2**
	baz=187						
SRN				S	**Sn**	**20 17 06.9**	**+2.1**
	baz=187						
BCI	**Bajram Curri**	**1.31**	**358**	P	**Pb**	**20 16 50.5**	**+0.3**
	baz=357						
KEK	**Kerkira**	**1.37**	**191**	P	**Pg**	**20 16 52.1**	**+0.7**
KEK				S	**Sn**	**20 17 11.2**	**+1.8**
PDG	**Podgorica**	**1.52**	**335**	*i* Pn	**Pg**	**20 16 55.0**	**+0.8**
STIP	**Stip**	**1.68**	**67**	*i* Pn	**Pg**	**20 16 59.3**	**+2.0**
GRG	**Griva**	**1.73**	**93**	*i* Pn	**Pb**	**20 16 57.0**	**-0.4**
GRG	**Griva**	**1.73**	**93**	P	**Pn**	**20 16 56.1**	**+0.2**
GRG				S	**Sn**	**20 17 18.2**	**-0.1**
GRG				AML	AML	20 17 30.3	
	comp=N,42μm,0.8s						
GRG				AML	AML	20 17 31.3	
	comp=E,43μm,0.9s						
LIT	**Litokhoron**	**2.04**	**117**	*i* Pn	**Pg**	**20 17 03.8**	**-0.5**
KNT	**Kendrikon**	**2.10**	**86**	P	**Pn**	**20 17 01.9**	**+0.9**
DBRK	**Dubrovnik**	**2.18**	**318**	*e*Pn	**Pn**	**20 17 01.2**	**-0.8**
DBRK					Sn	**20 17 29.9**	**+0.4**
STON	**Ston**	**2.56**	**316**	*e*Pn	**Pn**	**20 17 06.0**	**-1.3**
STON					Sn	**20 17 37.0**	**-1.6**
LSTV	**Lastovo**	**2.95**	**306**	*e*Pn	**Pn**	**20 17 11.8**	**-0.9**
RICI	**Ricice**	**3.29**	**319**	*e*Pn	**Pn**	**20 17 16.6**	**-0.8**
KIJV	**Kijevo**	**4.03**	**318**	*e*Pn	**Pn**	**20 17 28.8**	**+1.4**
DUGI	**Dugi Otok**	**4.75**	**310**	*e*Pn	**Pn**	**20 17 36.7**	**-0.7**

PRE 29 20:16:43.9±1.7, 21.47S×33.27E, h10km, ML1.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**2.67**	**220**	*e*P	Pn	20 17 26.7	-0.3
MOPA				*e*S	Sn	20 18 00.7	+1.2
MOPA				IAML		20 18 04.7	
	comp=Z,4.0nm,0.3s						
MUSN	**Musina, Limpop**	**3.27**	**255**	*e*P	Pn	20 17 37.1	+1.9
MUSN				*e*S	Sn	20 18 13.9	-0.3
MUSN				IAML		20 18 27.4	
	comp=Z,1.6nm,0.4s						
LEPH	**Lephalale, Lim**	**5.58**	**244**	*e*S	Sn	20 19 08.8	-2.7

*ISN **29** 20:20:31.0±1.0, 34.78N×44.18E, h5km±14km, ML3.1*
*TEH **29** 20:20:32.4, 34.78N×44.19E, h13km, ML3.0*

ISC 29 20:20:32.3±1.3, 34.79N±0.04×44.16E±0.08, h10km, n14, σ1§13/19, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKRK	**Kirkuk**	**0.63**	**14**	*e*Pg	**Pg**	**20 20 44.0**	**-0.4**
IKRK				*e*Sg	**Sg**	**20 20 52.0**	**-0.7**
BHD	**Baghdad**	**1.53**	**173**	*e*Pn	**Pn**	**20 21 00.0**	**+0.4**
BHD				*e*Sn	**Sg**	**20 21 21.0**	**-0.4**
IDHR	**Dehrash**	**1.83**	**92**	*e*		20 21 33.9	
	comp=Z,2μm,0.5s						
IDHR				*e*Pn	**Pb**	**20 21 05.8**	**-0.3**
IGHG	**Ghaleghazi**	**2.04**	**102**	*e*Sg	**Sg**	**20 21 38.0**	**+0.1**
IGHG				*e*Pn	**Pb**	**20 21 08.2**	**-1.4**
IGHG				*e*		20 21 47.6	
	comp=Z,2μm,0.7s						
IBDR	**Badra**	**2.23**	**138**	*e*Pn	**Pn**	**20 21 10.0**	**+0.7**
IBDR				*e*Sn	**Sn**	**20 21 37.0**	**+0.1**
ILIN	**Lien**	**2.31**	**86**	*e*Pn	**Pb**	**20 21 12.5**	**-1.6**
ILIN				*e*		20 21 51.4	
	comp=Z,780nm,0.8s						
MAHB	**Mahabad**	**2.34**	**32**	*e*Pn	**Pn**	**20 21 12.0**	**+1.1**
IKOM	**Komasi**	**2.83**	**102**	*e*Pn	**Pn**	**20 21 19.1**	**+1.3**
IKOM				*e*		20 22 21.1	
	comp=Z,478nm,0.8s						
IBZA	**Bozab**	**3.07**	**95**	*e*Pn	**Pn**	**20 21 21.6**	**+0.5**
RAFI	**Al-Rafai**	**3.47**	**151**	*e*Pn	**Pn**	**20 21 28.0**	**+1.7**
RAFI				*e*Sn	**Sn**	**20 22 08.0**	**+0.6**
RAFI				AML	AML	20 22 15.9	
	comp=E,67nm,0.5s						
IDOB	**Doab**	**3.47**	**106**	*e*Pn	**Pn**	**20 21 27.0**	**+0.4**
ISHB	**Shabestar**	**3.68**	**18**	*e*Pn	**Pn**	**20 21 31.0**	**+1.6**
ISHB				*e*		20 22 46.7	
	comp=Z,313nm,0.8s						
HSAM	**Samen**	**3.71**	**98**	*e*Pn	**Pn**	**20 21 31.0**	**+1.1**
HAGD	**Aghdareh**	**4.10**	**88**	*e*Pn	**Pn**	**20 21 37.2**	**+2.0**
HAGD				*e*		20 23 00.2	
	comp=Z,89nm,1.0s						

*IDC **29** 20:23:11.8±0.5, 16.18N×84.91W, h0km, mb4.7/23, mbtmp4.7/27, ML3.6/4, MS4.5/62, Error ellipse: s-maj=16.6km s-min=10.4km az=66.0*

*MOS **29** 20:23:12.5±0.9, 16.11N×84.98W, h15km, mb5.5/15, Error ellipse: s-maj=8.0km s-min=4.0km az=108.7*

*INET **29** 20:23:13.8±7.0, 16.62N×84.25W, h15km, MW5.3*

*NEIC **29** 20:23:14.4±1.7, 16.12N±0.06×84.98W±0.06, h10km±1km, mb5.2/582, Mww5.3, Error ellipse: s-maj=10.3km s-min=9.6km az=260.0*

*GCMT **29** 20:23:16.4±0.1, 16.25N±0.01×85.03W±0.01, h12km, MW5.2/146, Moment Tensor Solution. s86, c132; s146, c263; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}=2.36±.14; $M_{\theta\theta}$=3.25±.14; $M_{\phi\phi}$=-0.88±.14; $M_{r\theta}$=0.95±.29; $M_{\theta\phi}$=7.87±.13; $M_{r\phi}$=4.08±.46; Best double couple: M_{θ}=9.23100×10^{16} NP1:ϕ_s=191.00000°, δ82.00000°, λ-150.00000°. NP2:ϕ_s=96.00000°, δ60.00000°, λ-9.00000°. Principal axes: T 10.1850, Plg15.0000°, Azm320.0000°; N -1.9040, Plg59.0000°, Azm204.0000°; P -8.2780, Plg26.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **29** 20:23:17, 16.23N×85.04W, h12km, Moment Tensor Solution. Duration: 6§0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.33; $M_{\theta\theta}$=3.97; $M_{\phi\phi}$=-0.64; $M_{r\theta}$=1.56; $M_{\theta\phi}$=7.46; $M_{r\phi}$=4.36; Fault plane solution: M_{o}=9.52000×10^{16} NP1:ϕ_s=93.00000°, δ60.00000°, λ-23.00000°. NP2:ϕ_s=195.00000°, δ70.00000°, λ-147.00000°. Principal axes: T 9.6233, Plg7.0000°, Azm322.0000°; N -0.2042, Plg53.0000°, Azm223.0000°; P -9.4191, Plg36.0000°, Azm57.0000°;*

*GCG **29** 20:23:21.2±8.0, 16.10N×84.96W, h10km, MD5.3*

ISC 29 20:23:13.2±0.2, 16.08N±0.03×85.02W±0.03, h10km, n1442, σ1§17/1471, mb5.2/337, MS4.6/68, 23C-16D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCON	**San Juan de Ri**	**2.80**	**203**	*e*P	**Pb**	**20 24 05.0**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.96**	**228**	Pn	**Pn**	**20 24 00.6**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.96**	**228**	*e*P	**Pb**	**20 24 07.9**	**+1.7**
MATN	**Matagalpa**	**3.25**	**196**		**Pn**	**20 24 04.1**	**-0.2**
MATN	**Matagalpa**	**3.25**	**196**	*e*P	**Pb**	**20 24 12.3**

SOR Soroa 6.95 16 Pn Pn 20 24 54.0 -1.1
SOR Soroa 6.95 16 P Pn 20 24 54.0 -1.1
SRBA San Rafael, Bu 7.00 166 Pn Pn 20 24 56.5 +0.5
MTDJ Mount Denham 7.47 72 Pn Pn 20 25 00.6 -1.8
BRU2 Volcan 7.59 162 Pn Pn 20 25 04.8 +0.7
STH Stony Hill 8.10 75 *i* P Pn 20 25 10.1 -0.9
HOJ Hope 8.14 75 *i* P Pn 20 25 10.6 -1.0
GWJ Greenwich 8.18 75 *i* P Pn 20 25 11.3 -0.9
CMIG Matias Romero 9.51 277 Pn Pn 20 25 29.9 -0.4
1.1nm,0.3s,baz=101,slow=13,SNR=9.4
CMIG Sn **Sn** 20 27 09.8 -7.5
2.1nm,0.3s,baz=152,slow=13,SNR=1.6
CMIG LR LR 20 29 18.0
comp=Z,5µm,18.1s,baz=95,slow=38
4.6nm,0.5s
GTBY Guantanamo Bay 10.18 66 Pn Pn 20 25 37.9 -1.6
061Z Ochoppi 10.47 21 Pn 20 25 42.2 -1.2
061Z Ochoppi 10.47 21 P Pn 20 25 41.8 -1.7
baz=202,SNR=6.3
DWPF Disney Wildern 12.43 15 P Pn 20 26 10.0 -0.2
baz=196
TLIG Tlapa 13.05 278 Pn 20 26 18.6 -0.3
SDDR Presa de Saban 13.42 76 Pn 20 26 24.0 +0.1
656A Willston 13.43 9 Pn 20 26 22.8 -1.1
SC01 Santiago de lo 14.02 74 Pn 20 26 33.1 +1.0
456A Hilliard 14.84 10 Pn Pn 20 26 42.3 -0.8
BRAL Brewton 15.14 353 Pn Pn 20 26 47.5 +0.4
BRAL IAmb IAmb 20 26 55.1
comp=Z,53nm,0.8s
BRAL Brewton 15.14 353 P Pn 20 26 48.6 +1.4
baz=172
352A Blakely 15.33 0 Pn Pn 20 26 46.2 -3.6
352A IAmb IAmb 20 26 57.3
comp=Z,93nm,0.9s
ROSC El Rosal 15.34 136 Pn Pn 20 26 51.6 +1.3
comp=Z,1.8nm,0.3s,baz=338,slow=14,SNR=1.7
ROSC LR LR 20 32 49.6
comp=Z,3µm,20.5s,baz=338,slow=38
comp=Z,5.8nm,0.3s
ROSC El Rosal 15.34 136 Pn 20 26 48.5 -1.8
ROSC El Rosal 15.34 136 P Pn 20 26 48.5 -1.8
ROSC pmax pmax
comp=Z,77nm,1.7s
TIGA Tifton 15.35 5 P Pn 20 26 47.3 -2.7
TIGA Tifton 15.35 5 P Pn 20 26 50.7 +0.7
baz=185
SDV Santo Domingo 15.76 115 Pn Pn 20 26 54.7 -0.9
comp=Z,1.2nm,0.3s,baz=296,slow=12,SNR=10
SDV Sn **Sn** 20 29 47.0 -3.5
comp=Z,0.5nm,0.3s,baz=50,slow=21,SNR=1.1
SDV LR LR 20 33 31.2
comp=Z,489nm,18.4s,baz=304,slow=39
comp=Z,20nm,0.8s
SDV Santo Domingo 15.76 115 Pn Pn 20 26 53.4 -2.2
SDV Santo Domingo 15.76 115 *e* P Pn 20 26 54.4 -1.2
346A Big Creek Wild 15.77 346 Pn 20 26 53.9 -1.6
346A IAmb IAmb 20 27 02.8
comp=Z,85nm,0.9s
MOIG Morelia 15.80 285 Pn Pn 20 26 56.1 0.0
255A Hazlehurst 15.95 8 Pn 20 26 55.5 -2.2
255A IAmb IAmb 20 27 03.8
comp=Z,223nm,1.4s
PCDR Punta Cana, DR 16.08 79 Pn Pn 20 26 58.4 -1.1
PCDR IAmb IAmb 20 27 05.4
comp=Z,230nm,0.9s
344A Westbrook Farm 16.17 342 Pn Pn 20 26 59.6 -1.0
257A Skidaway Islan 16.24 12 Pn 20 26 59.0 -2.5
441A DeRidder 16.41 334 Pn 20 27 02.6 -1.1
152A Waverly Hall 16.52 1 P Pn 20 27 03.2 -2.0
154A Montrose 16.55 6 Pn 20 27 03.9 -1.6
342A Flagon Creek P 16.62 338 Pn Pn 20 27 05.2 -1.1
VBMS Vicksburg 16.83 344 Pn 20 27 07.1 -1.9
VBMS IAmb IAmb 20 27 16.2
comp=Z,124nm,0.9s
VBMS Vicksburg 16.83 344 P P 20 27 10.6 -0.5
baz=161
TULM Tulcn-Chalpat 16.85 154 Pn 20 27 09.7 -0.1
146A Union 16.89 348 P Pn 20 27 09.2 -0.5
146A IAmb IAmb 20 27 14.9
comp=Z,132nm,1.1s
LRAL Lakeview Retre 16.98 354 P Pn 20 27 11.8 +0.9
LRAL IAmb IAmb 20 27 16.2
comp=Z,125nm,1.1s
LRAL Lakeview Retre 16.98 354 P P 20 27 13.2 +0.4
baz=173,SNR=19
LRAL Lakeview Retre 16.98 354 P Pn 20 27 11.7 +0.8
baz=173,SNR=19
HKT Hockley 17.00 326 P Pn 20 27 10.5 -0.6
HKT Hockley 17.00 326 P Pn 20 27 10.5 -0.6
HKT pmax pmax
comp=Z,149nm,1.7s
OTAV Otavalo 17.02 157 P Pn 20 27 10.4 -1.6
OTAV Otavalo 17.02 157 P Pn 20 27 10.4 -1.6
OTAV pmax pmax
comp=Z,62nm,1.4s
OTAV Otavalo 17.02 157 *e* P Pn 20 27 12.8 +0.7
IMBA Imbabura, San 17.08 156 P Pn 20 27 13.4 +0.7
IMBA IAmb IAmb 20 27 19.5
comp=Z,476nm,1.9s
Z51A Franklin 17.17 360 P Pn 20 27 12.1 -1.1
Z51A Franklin 17.17 360 P P 20 27 15.0 +0.1
baz=179,SNR=9.5
PULU Pululahua 17.20 157 P Pn 20 27 14.6 +0.4
Z47A Carrollton 17.27 351 P Pn 20 27 13.6 -0.9
Z47A IAmb IAmb 20 27 21.1
comp=Z,229nm,1.5s
GOGA Godfrey 17.32 4 Pn Pn 20 27 14.8 -0.4
GOGA Godfrey 17.32 4 P Pn 20 27 14.8 -0.4
GOGA pmax pmax
comp=Z,102nm,1.4s
GOGA Godfrey 17.32 4 P P 20 27 15.9 -0.6
baz=185,SNR=8.4
GOGA Godfrey 17.32 4 P Pn 20 27 14.3 -0.8
baz=185,SNR=8.4
735A Kenedy 17.34 319 Pn Pn 20 27 14.9 -0.6
735A IAmb IAmb 20 27 25.5
comp=Z,153nm,1.2s
CSU Charleston Sou 17.42 14 P Pn 20 27 15.3 -1.1
CSU IAmb IAmb 20 27 20.9
comp=Z,191nm,1.0s
HAW Hawthorne Fire 17.48 10 P Pn 20 27 17.4 +0.2
baz=191,SNR=8.4
NHSC New Hope 17.51 14 P Pn 20 27 17.9 +0.3
NHSC New Hope 17.51 14 P Pn 20 27 17.4 -0.2
baz=195
Y52A Lilburn 17.73 3 P Pn 20 27 20.4 +0.1
Y52A Lilburn 17.73 3 P P 20 27 20.8 -0.3
baz=183
Y52A P P 20 27 20.8 -0.3
baz=183
Y49A Blount Mountai 17.75 356 Pn 20 27 20.7 +0.2
Y49A Blount Mountai 17.75 356 P P 20 27 21.2 -0.2
baz=175,SNR=18
ZAIG Zacatecas 17.83 295 P P 20 27 23.6 +1.0
SLOR San Lorenzo - 17.90 158 P P 20 27 25.0 +1.4
NATX Nacogdoches 17.91 332 Pn Pn 20 27 21.2 -1.3
NATX Nacogdoches 17.91 332 P Pn 20 27 23.1 +0.6
baz=148
833A Chaparral WMA, 18.02 315 Pn 20 27 21.9 -2.0
833A IAmb IAmb 20 27 35.2
comp=Z,127nm,0.8s
833A Chaparral WMA, 18.02 315 P Pn 20 27 22.9 -1.0
baz=129
833A Chaparral WMA, 18.02 315 P Pn 20 27 23.7 -0.2
baz=129,SNR=22
BAUV El Baul 18.02 111 P Pn 20 27 23.4 -0.7
Y45A Yeager Farm, C 18.18 348 P Pn 20 27 25.7 0.0
Y45A IAmb IAmb 20 27 32.7
comp=Z,184nm,0.9s
HODGE Hodges 18.25 7 P Pn 20 27 26.4 -0.2
HODGE IAmb IAmb 20 27 27.7
comp=Z,208nm,1.6s
HODGE Hodges 18.25 7 P Pn 20 27 26.5 -0.2
baz=188,SNR=19
Y57A Sumter 18.34 12 P Pn 20 27 27.5 -0.3
X48A Hartselle 18.39 355 P P 20 27 28.6 +0.2
X48A Hartselle 18.39 355 P P 20 27 29.6 +1.2
baz=174,SNR=18
FPAL Fort Paine 18.39 358 P P 20 27 29.3 +0.8
FPAL IAmb IAmb 20 27 30.8
comp=Z,156nm,1.2s
Y58A Scranton 18.40 14 P Pn 20 27 27.9 -0.5
Y58A IAmb IAmb 20 27 31.2
comp=Z,129nm,0.8s
X51A Calhoun 18.41 0 P P 20 27 27.8 -0.8
X51A Calhoun 18.41 0 P Pn 20 27 29.6 +1.0
baz=180,SNR=7.4
X51A P Pn 20 27 29.6 +1.0
baz=180,SNR=7.4
JSC Jenkinsville 18.44 10 P P 20 27 29.0 0.0
JSC IAmb IAmb 20 27 30.2
comp=Z,166nm,1.5s
JSC Jenkinsville 18.44 10 P P 20 27 29.0 0.0
JSC pmax pmax
comp=Z,166nm,1.5s
JSC Jenkinsville 18.44 10 P P 20 27 28.4 -0.5
baz=191,SNR=11
CHSH Refugio Sur-Vo 18.49 160 P Pn 20 27 33.0 +2.7
CHSH IAmb IAmb 20 27 38.3
comp=Z,417nm,1.8s
PORT Chimborazo Vol 18.49 160 P Pn 20 27 33.2 +2.9
PORT IAmb IAmb 20 27 40.3
comp=Z,133nm,1.3s
237A Washetta, Mont 18.64 330 P Pn 20 27 32.2 +0.8
Y59A Loris 18.68 16 P P 20 27 30.2 -1.4
Y59A IAmb IAmb 20 27 34.4
comp=Z,154nm,0.9s
Y59A Loris 18.68 16 P Pn 20 27 32.5 +0.7
baz=198,SNR=5.7
Y59A P Pn 20 27 32.5 +0.7
baz=198,SNR=5.7
CCAR Cane Creek 18.78 342 S S 20 31 08.5 +2.1
baz=159
OXF Oxford 18.78 349 Pn 20 27 33.7 +0.6
OXF Oxford 18.78 349 P Pn 20 27 33.7 +0.6
OXF pmax pmax
comp=Z,276nm,1.0s
OXF Oxford 18.78 349 P Pn 20 27 35.1 +2.0
baz=167
OXF S S 20 31 05.2 -1.2
baz=167
OXF Oxford 18.78 349 P Pn 20 27 33.6 +0.6
baz=167
PAULI Pauline 18.89 8 P Pn 20 27 34.4 0.0
PAULI IAmb IAmb 20 27 35.7
comp=Z,170nm,1.3s
PAULI Pauline 18.89 8 P Pn 20 27 34.6 +0.2
baz=189,SNR=20
BG3 Lake Jocassee 18.93 5 P Pn 20 27 35.1 +0.1
BG3 IAmb IAmb 20 27 36.5
comp=Z,116nm,1.3s
CASEE Lake Jocassee 18.93 5 P Pn 20 27 35.2 +0.2
baz=186,SNR=14
BIRD Birdtown, Kers 18.94 12 Pn 20 27 34.9 -0.2
BIRD IAmb IAmb 20 27 36.2
comp=Z,240nm,1.4s
BIRD Birdtown, Kers 18.94 12 P Pn 20 27 35.3 +0.3
baz=193,SNR=23
W52A Murphy 18.96 3 P P 20 27 34.6 -0.1
W52A Murphy 18.96 3 P Pn 20 27 35.7 +0.3
baz=183,SNR=7.9
WLAR White Oak Lake 18.99 339 P 20 27 34.6 -0.4
WLAR IAmb IAmb 20 27 45.5
comp=Z,128nm,1.2s
PLAL Pickwick Lake 19.02 352 P Pn 20 27 36.4 +0.3
W50A Signal Mountai 19.05 359 P P 20 27 35.6 0.0
W50A Signal Mountai 19.05 359 P Pn 20 27 36.6 +0.2
baz=179,SNR=16
W50A S S 20 31 15.3 +3.5
baz=179
SWET Sewanee 19.08 358 P Pn 20 27 36.5 -0.2
SWET IAmb IAmb 20 27 38.6
comp=Z,319nm,1.7s
X58A Rowland 19.10 14 P P 20 27 36.0 -0.1
X58A IAmb IAmb 20 27 37.9
comp=Z,302nm,2.0s
X58A Rowland 19.10 14 P Pn 20 27 36.7 -0.2
baz=197
X58A P Pn 20 27 36.7 -0.2
baz=197
KMSC Kings Mountain 19.27 9 P P 20 27 38.5 +0.4
KMSC IAmb IAmb 20 27 40.5
comp=Z,290nm,1.7s
KMSC Kings Mountain 19.27 9 P Pn 20 27 38.9 -0.2
baz=190,SNR=16
KMSC Kings Mountain 19.27 9 P P 20 27 38.2 +0.2
baz=190,SNR=16
COHC Cochancay 19.29 162 P P 20 27 38.9 +0.5
CPCT Cooper Cave 19.30 1 P P 20 27 37.9 -0.5
CPCT IAmb IAmb 20 27 41.4
comp=Z,306nm,1.9s
Z38A Mt. Pleasant 19.33 334 P P 20 27 39.5 +0.8
W45A Hickory Valley 19.36 350 P P 20 27 39.7 +0.7
W45A IAmb IAmb 20 27 46.8
comp=Z,241nm,1.1s
WHTX Lake Whitney, 19.46 327 P 20 27 40.9 +0.7
WHTX IAmb IAmb 20 27 50.7
comp=Z,217nm,1.4s
WHTX Lake Whitney, 19.46 327 P P 20 27 41.1 +0.9
baz=141,SNR=9.8
W57A Gilead 19.52 12 P P 20 27 40.3 -0.5
W57A IAmb IAmb 20 27 44.6
comp=Z,219nm,1.9s
W57A Gilead 19.52 12 P P 20 27 41.1 +0.3
baz=194,SNR=6.1
W57A P P 20 27 41.1 +0.3
baz=194,SNR=6.1
TKL Tuckaleechee C 19.53 3 P P 20 27 41.2 +0.3
comp=Z,0.6nm,0.3s,baz=178,slow=13,SNR=13
TKL S Sn 20 31 18.0 -3.5
comp=Z,15nm,0.8s,baz=44,slow=14,SNR=3.4
TKL LR LR 20 34 42.0
comp=Z,1µm,18.4s,baz=186,slow=36
comp=Z,16nm,0.9s
TKL Tuckaleechee C 19.53 3 P P 20 27 41.1 +0.2
TKL IAmb IAmb 20 27 49.8
comp=Z,152nm,1.9s
TKL Tuckaleechee C 19.53 3 P P 20 27 41.1 +0.2
TKL pmax pmax
comp=Z,152nm,1.9s
V53A Saluda 19.61 5 P Pn 20 27 42.7 -0.5
V53A IAmb IAmb 20 27 48.8
comp=Z,210nm,1.9s
V53A Saluda 19.61 5 P Pn 20 27 43.4 +0.2
baz=186,SNR=15
V53A P Pn 20 27 43.4 +0.2
baz=186,SNR=15
V53A S Sn 20 31 26.2 +2.8
baz=186
V53A S Sn 20 31 26.2 +2.8
baz=186
V48A Smith Brothers 19.65 356 P P 20 27 42.8 +0.6
V48A IAmb IAmb 20 27 47.4
comp=Z,84nm,0.8s
V48A Smith Brothers 19.65 356 P Pn 20 27 43.6 0.0
baz=175,SNR=31
V51A Loudon 19.66 2 Pn 20 27 43.3 -0.4
V51A IAmb IAmb 20 27 50.3
comp=Z,344nm,1.8s
V51A Loudon 19.66 2 P Pn 20 27 43.7 +0.1
baz=182,SNR=14
V51A S Sn 20 31 28.7 +4.3
baz=182
JCT Junction City 19.71 319 P Pn 20 27 44.7 +0.3
JCT Junction City 19.71 319 P Pn 20 27 44.7 +0.3
JCT pmax pmax
comp=Z,64nm,1.2s
JCT Junction City 19.71 319 P Pn 20 27 45.6 +1.2
baz=133
JCT Junction City 19.71 319 P P 20 27 44.1 +1.1
baz=133
V52A Sevierville 19.73 3 P P 20 27 43.2 +0.2
V52A IAmb IAmb 20 27 47.4
comp=Z,143nm,1.8s
V52A Sevierville 19.73 3 P P 20 27 43.4 +0.3
baz=184,SNR=8.7
V52A S Sn 20 31 27.7 +1.6
baz=184
UALR University of 19.74 342 Pn 20 27 44.4 -0.4
MIAR Mount Ida 19.93 339 P Pn 20 27 46.6 -0.4
MIAR Mount Ida 19.93 339 P Pn 20 27 46.6 -0.4
MIAR pmax pmax
comp=Z,44nm,1.0s
MIAR Mount Ida 19.93 339 P Pn 20 27 47.2 +0.3
baz=155,SNR=16
MIAR S Sn 20 31 32.9 +1.8
baz=155
MIAR Mount Ida 19.93 339 P Pn 20 27 46.7 -0.3
baz=155,SNR=16
CLTN Cedars of Leba 19.97 357 P P 20 27 46.6 +0.9
CLTN IAmb IAmb 20 27 54.0
comp=Z,114nm,1.5s
V55A Taylorsville 19.99 9 P Pn 20 27 46.9 -0.7
V55A Taylorsville 19.99 9 P Pn 20 27 47.1 -0.5
baz=190,SNR=20
V55A P Pn 20 27 47.1 -0.5
baz=190,SNR=20
V55A S Sn 20 31 35.4 +3.0
baz=190
V55A S Sn 20 31 35.4 +3.0
baz=190
HBAR Harrisburg 20.04 346 P P 20 27 47.4 +1.0
ARNL Arenillas 20.11 165 P Pn 20 27 48.5 -0.6
ARNL IAmb IAmb 20 27 55.2
comp=Z,296nm,1.9s
CNNC Cliffs of the 20.12 17 P P 20 27 46.8 -0.5
CNNC IAmb IAmb 20 27 50.5
comp=Z,206nm,1.6s
CNNC Cliffs of the 20.12 17 P Pn 20 27 48.3 -0.9
baz=200
WVT Waverly 20.13 353 P 20 27 47.4 0.0
WVT Waverly 20.13 353 P P 20 27 47.4 0.0
WVT pmax pmax
comp=Z,88nm,1.4s
WVT Waverly 20.13 353 P P 20 27 48.3 +0.9
baz=172,SNR=17
WVT Waverly 20.13 353 P P 20 27 47.8 +0.4
baz=172
BOSC San Juan Bosco 20.17 161 P Pn 20 27 50.4 +0.4
BOSC IAmb IAmb 20 27 55.2
comp=Z,108nm,1.4s
WHAR Wooly Hollow 20.21 343 P Pn 20 27 49.8 -0.4
WHAR IAmb IAmb 20 28 04.1
comp=Z,95nm,1.3s
GNAR Gosnell 20.30 348 P P 20 27 50.0 +0.7
V58A Windy Hill, Pi 20.33 14 P P 20 27 49.4 -0.2
V58A IAmb IAmb 20 27 55.7
comp=Z,89nm,1.1s
V58A Windy Hill, Pi 20.33 14 P P 20 27 49.5 -0.2
baz=196,SNR=13
V58A P P 20 27 49.5 -0.2
baz=196,SNR=13
LNXT Lenox 20.34 350 P P 20 27 50.1 +0.4
U49A Red Boiling Sp 20.36 358 P P 20 27 50.5 +0.5
U49A IAmb IAmb 20 27 54.0
comp=Z,180nm,1.6s
U49A Red Boiling Sp 20.36 358 P P 20 27 51.0 +1.0
baz=178,SNR=21
U49A S Sn 20 31 40.0 -1.6
baz=178
PEBM Pemiscott Bayo 20.42 349 P P 20 27 51.4 +0.8
Z35A Perchaven, San 20.43 329 P P 20 27 51.7 +1.0
Z35A IAmb IAmb 20 28 03.3
comp=Z,60nm,0.8s
TZTN Tazewell 20.43 3 P 20 27 51.4 +0.7
TZTN IAmb IAmb 20 27 55.2
comp=Z,129nm,1.3s
TZTN Tazewell 20.43 3 P Pn 20 27 52.0 -0.8
baz=184,SNR=13
TZTN S S 20 31 40.5 +1.0
baz=184
TZTN Tazewell 20.43 3 P Pn 20 27 51.8 -0.9
baz=184,SNR=13
GLAT Glass 20.47 350 P P 20 27 52.0 +1.0
UTMT University of 20.47 351 P P 20 27 52.3 +1.2
U54A Nelsons Funny 20.56 7 P P 20 27 53.0 +0.8
U54A Nelsons Funny 20.56 7 P P 20 27 53.3 +1.1
baz=188,SNR=19
U54A P P 20 27 53.3 +1.1
baz=188,SNR=19
U54A S Sn 20 31 47.2 +0.9
baz=188
U54A S Sn 20 31 47.2 +0.9
baz=188
U56A King 20.61 11 P P 20 27 53.8 +1.1
U56A IAmb IAmb 20 27 56.0
comp=Z,245nm,1.8s
U56A King 20.61 11 P Pn 20 27 54.0 -0.9
baz=192,SNR=7.9
U56A P Pn 20 27 54.0 -0.9
baz=192,SNR=7.9
X37A Clayton 20.64 335 Pn 20 27 54.8 -0.6
X37A IAmb IAmb 20 28 05.3
comp=Z,80nm,1.1s
X37A Clayton 20.64 335 P Pn 20 27 55.5 +0.1
baz=150,SNR=19
LCAR Lake Charles 20.65 346 P P 20 27 54.2 +1.1
LCAR IAmb IAmb 20 27 58.2
comp=Z,61nm,0.9s
LCAR Lake Charles 20.65 346 P P 20 27 53.6 +0.6
baz=163,SNR=34
PCRV Puerto La Cruz 20.70 104 P P 20 27 53.6 -0.2
comp=Z,22nm,1.0s,baz=297,slow=7.3,SNR=2.5
comp=Z,22nm,1.0s
HICK Hickman 20.72 350 P P 20 27 54.5 +0.7
FCAR Ozark Folk Cen 20.72 344 P P 20 27 54.9 +1.0
T50A Nancy 20.86 0 P P 20 27 55.9 +0.5
T50A IAmb IAmb 20 28 01.6
comp=Z,86nm,1.1s
T50A Nancy 20.86 0 P P 20 27 56.6 +1.2
baz=180
T50A P P 20 27 56.6 +1.2
baz=180
T47A Sharon Grove 20.91 355 P P 20 27 56.4 +0.5
T47A Sharon Grove 20.91 355 P P 20 27 57.0 +1.1
baz=174,SNR=45
T47A S S 20 31 49.8 +0.8
baz=174
LOOK Love County 20.93 331 P 20 27 56.8 +0.6
LOOK IAmb IAmb 20 28 01.8
comp=Z,110nm,0.9s
T45A Paducah 21.11 352 P P 20 27 58.2 +0.2
T45A IAmb IAmb 20 28 15.3
comp=Z,91nm,0.7s
ABTX Abilene, Hawle 21.14 324 P P 20 28 00.1 +1.6
ABTX Abilene, Hawle 21.14 324 P P 20 28 02.0 +3.5
baz=138,SNR=10
ABTX Abilene, Hawle 21.14 324 P P 20 27 59.9 +1.4
baz=138,SNR=10
U59A Littleton 21.20 16 P P 20 27 59.0 0.0
U59A IAmb IAmb 20 28 00.6
comp=Z,126nm,1.3s
U59A Littleton 21.20 16 P P 20 27 59.4 +0.4
baz=199,SNR=9.9
U59A P P 20 27 59.4 +0.4
baz=199,SNR=9.9
BLA Blacksburg 21.44 10 P P 20 28 02.5 +0.8
BLA Blacksburg 21.44 10 P P 20 28 02.5 +0.8
BLA pmax pmax
comp=Z,280nm,1.2s
BLA Blacksburg 21.44 10 P P 20 28 02.8 +1.1
baz=192,SNR=45
BLA Blacksburg 21.44 10 P P 20 28 02.6 +0.9
baz=192,SNR=45
T57A Hurt 21.46 13 P P 20 28 02.3 +0.5
T57A Hurt 21.46 13 P P 20 28 02.5 +0.8
baz=195,SNR=34
T57A P P 20 28 02.5 +0.8
baz=195,SNR=34
S51A Beattyville 21.52 3 P P 20 28 01.2 -1.2
S51A IAmb IAmb 20 28 07.5
comp=Z,120nm,0.8s
S51A Beattyville 21.52 3 P P 20 28 02.5 +0.1
baz=184,SNR=30
S51A P P 20 28 02.5 +0.1
baz=184,SNR=30
CGM3 Cape Girardeau 21.53 350 P P 20 28 03.3 +0.7
CGM3 IAmb IAmb 20 28 07.5
comp=Z,188nm,1.0s
HHAR Hobbs 21.63 340 P P 20 28 04.3 +0.6
HHAR Hobbs 21.63 340 P P 20 28 05.0 +1.3
baz=156
TX32 Lajitas Array 21.64 311 P P 20 28 05.7 +1.8
TX32 IAmb IAmb 20 28 22.5
comp=Z,199nm,1.9s
TXAR Lajitas Array 21.64 311 P P 20 28 05.2 +1.3
comp=Z,11nm,0.8s,baz=128,slow=11,SNR=36
TXAR S S 20 31 58.6 -5.0
comp=Z,2.5nm,0.7s,baz=122,slow=24,SNR=3.8
TXAR LR LR 20 39 24.6
comp=Z,389nm,18.1s,baz=127,slow=45
comp=Z,11nm,0.8s
TXAR Lajitas Array 21.64 311 P P 20 28 05.0 +1.1
TXAR Lajitas Array 21.64 311 P P 20 28 05.0 +1.1
TX31 Lajitas Ar. Si 21.64 311 P P 20 28 05.0 +1.1
TX31 Lajitas Ar. Si 21.64 311 P P 20 28 06.7 +2.8
baz=123,SNR=24

X34A Smith Ranch, M 21.74 330 P 20 28 05.6 +0.8
X34A IAmb IAmb 20 28 11.4
comp=Z,109nm,1.0s
T59A Double "B" Far 21.84 16 P P 20 28 06.4 +0.5
T59A IAmb IAmb 20 28 10.2
comp=Z,158nm,1.5s
T59A Double "B" Far 21.84 16 P P 20 28 06.4 +0.5
baz=199,SNR=12
T59A P P 20 28 06.4 +0.5
baz=199,SNR=12
S44A Carbondale 21.86 351 P P 20 28 06.9 +0.8
S44A IAmb IAmb 20 28 17.3
comp=Z,107nm,1.0s
S44A Carbondale 21.86 351 P P 20 28 06.7 +0.7
baz=169
SIUC Southern Illin 21.87 351 P P 20 28 06.7 +0.5
SIUC IAmb IAmb 20 28 11.3
comp=Z,116nm,1.1s
S54A Dingess, Beckl 21.89 8 P P 20 28 07.0 +0.6
S54A IAmb IAmb 20 28 08.3
comp=Z,105nm,1.1s
S54A Dingess, Beckl 21.89 8 P P 20 28 07.3 +0.8
baz=189,SNR=11
S54A P P 20 28 07.3 +0.8
baz=189,SNR=11
S54A S S 20 32 10.6 +2.3
baz=189
S54A S S 20 32 10.6 +2.3
baz=189
RLO Rose Lookout 21.90 338 P 20 28 07.5 +0.9
RLO IAmb IAmb 20 28 13.5
comp=Z,109nm,1.5s
U38A Gravette 21.92 339 P P 20 28 07.4 +0.6
U38A Gravette 21.92 339 P P 20 28 08.2 +1.3
baz=155,SNR=10
USIN University of 21.93 354 P P 20 28 07.3 +0.5
USIN IAmb IAmb 20 28 11.8
comp=Z,102nm,0.8s
MGMO Mountain Grove 21.95 344 P P 20 28 08.1 +1.0
MGMO IAmb IAmb 20 28 15.8
comp=Z,82nm,0.9s
TUL1 Leonard 21.96 336 P 20 28 07.0 -0.2
TUL1 IAmb IAmb 20 28 22.1
comp=Z,68nm,1.1s
TUL1 Leonard 21.96 336 P P 20 28 09.4 +2.2
baz=151
TUL1 S S 20 32 11.1 +1.4
baz=151
TUL1 Leonard 21.96 336 P P 20 28 09.1 +1.8
baz=151
HPIG 22.00 303 P P 20 28 09.1 +1.1
HPIG IAmb IAmb 20 28 22.1
comp=Z,250nm,1.9s
FNO Franklin 22.08 332 P 20 28 08.3 -0.2
FNO IAmb IAmb 20 28 15.2
comp=Z,95nm,1.0s
WCI Wyandotte Cave 22.09 357 P P 20 28 09.4 +0.8
WCI Wyandotte Cave 22.09 357 P P 20 28 09.4 +0.8
WCI pmax pmax
comp=Z,220nm,1.2s
WCI Wyandotte Cave 22.09 357 P P 20 28 09.3 +0.8
baz=176,SNR=32
WCI S S 20 32 16.3 +4.1
baz=176
WCI Wyandotte Cave 22.09 357 P P 20 28 09.3 +0.7
baz=176
R50A Paris 22.13 1 P P 20 28 09.6 +0.6
R50A IAmb IAmb 20 28 13.2
comp=Z,108nm,1.1s
R50A Paris 22.13 1 P P 20 28 10.4 +1.4
baz=182,SNR=22
R50A P P 20 28 10.4 +1.4
baz=182,SNR=22
R50A S S 20 32 15.7 +2.8
baz=182
R50A S S 20 32 15.7 +2.8
baz=182
R49A Shelbyville 22.13 360 P P 20 28 09.5 +0.5
R49A IAmb IAmb 20 28 12.9
comp=Z,105nm,1.1s
R49A Shelbyville 22.13 360 P P 20 28 09.7 +0.7
baz=179,SNR=15
R49A P P 20 28 09.7 +0.7
baz=179,SNR=15
R49A S S 20 32 15.1 +2.2
baz=179
R49A S S 20 32 15.1 +2.2
baz=179
DEOK Depew 22.19 335 P 20 28 09.6 -0.1
DEOK IAmb IAmb 20 28 31.4
comp=Z,167nm,1.1s
S57A Dark Hollow, R 22.25 13 P P 20 28 10.8 +0.4
S57A IAmb IAmb 20 28 15.2
comp=Z,70nm,1.1s
S57A Dark Hollow, R 22.25 13 P P 20 28 11.1 +0.7
baz=195,SNR=13
S57A P P 20 28 11.1 +0.7
baz=195,SNR=13
WMOK Wichita Mounta 22.31 329 P 20 28 11.0 0.0
WMOK IAmb IAmb 20 28 24.9
comp=Z,132nm,1.4s
WMOK Wichita Mounta 22.31 329 P P 20 28 11.0 0.0
WMOK pmax pmax
comp=Z,132nm,1.4s
WMOK Wichita Mounta 22.31 329 P P 20 28 11.5 +0.5
baz=143,SNR=43
WMOK S S 20 32 18.2 +1.7
baz=143
WMOK Wichita Mounta 22.31 329 P P 20 28 10.9 -0.1
baz=143,SNR=43
OK025 Westminster Rd 22.32 333 P P 20 28 11.3 +0.2
R53A Hurricane 22.33 6 P P 20 28 11.4 +0.2
R53A IAmb IAmb 20 28 14.0
comp=Z,217nm,1.8s
R53A Hurricane 22.33 6 P P 20 28 11.9 +0.7
baz=188,SNR=9.6
R53A P P 20 28 11.9 +0.7
baz=188,SNR=9.6
R53A S S 20 32 19.0 +2.2
baz=188
R53A S S 20 32 19.0 +2.2
baz=188
FVM French Village 22.34 349 P P 20 28 10.6 -0.6
FVM French Village 22.34 349 P P 20 28 10.6 -0.6
OK034 N. Norfolk Rd. 22.42 334 P 20 28 12.7 +0.6
OK034 IAmb IAmb 20 28 18.6
comp=Z,91nm,1.1s
OK031 S. Brethren Rd 22.43 334 P 20 28 12.2 0.0
OK031 IAmb IAmb 20 28 14.9
comp=Z,86nm,1.1s
JSRW J. Sargeant Re 22.44 15 P P 20 28 11.9 -0.4
BCOK Bluff Creek, N 22.51 332 P 20 28 13.1 0.0
BCOK IAmb IAmb 20 28 20.2
comp=Z,129nm,1.2s
R55A Marlinton 22.54 10 P P 20 28 14.0 +0.5
R55A Marlinton 22.54 10 P P 20 28 13.8 +0.4
baz=192,SNR=13
R55A P P 20 28 13.8 +0.4
baz=192,SNR=13
R55A S S 20 32 23.7 +3.0
baz=192
R55A S S 20 32 23.7 +3.0
baz=192
OK033 Mehan 22.54 334 P 20 28 13.6 +0.2
OK033 IAmb IAmb 20 28 18.8
comp=Z,160nm,1.3s
OK029 Liberty Lake 22.56 333 P 20 28 13.8 +0.2
QUOK Quay 22.56 335 P 20 28 13.1 -0.5
QUOK IAmb IAmb 20 28 19.9
comp=Z,314nm,1.9s
CCM Cathedral Cave 22.57 347 P P 20 28 13.8 +0.1
CCM IAmb IAmb 20 28 16.5
comp=Z,118nm,0.9s
CCM Cathedral Cave 22.57 347 P P 20 28 13.8 +0.1
CCM pmax pmax
comp=Z,118nm,1.0s
CCM Cathedral Cave 22.57 347 P P 20 28 14.4 +0.7
baz=164,SNR=52
CCM Cathedral Cave 22.57 347 P P 20 28 13.7 0.0
baz=164
R58B Mineral 22.70 15 P P 20 28 15.5 +0.4
R58B IAmb IAmb 20 28 18.4
comp=Z,156nm,1.4s
R58B Mineral 22.70 15 P P 20 28 15.3 +0.3
baz=198,SNR=11
R58B P P 20 28 15.3 +0.3
baz=198,SNR=11
OLIL Olney 22.73 354 P P 20 28 16.2 +0.8
OLIL Olney 22.73 354 P P 20 28 16.6 +1.2
baz=172,SNR=7.9
S39A Bolivar 22.74 343 P P 20 28 16.1 +0.5
S39A IAmb IAmb 20 28 24.7
comp=Z,78nm,1.1s
S39A Bolivar 22.74 343 P P 20 28 16.9 +1.3
baz=159,SNR=14
S39A S S 20 32 26.9 +2.5
baz=159
OK044 Pawnee Station 22.77 335 P 20 28 16.1 +0.3
OK047 Pawnee, Statio 22.82 335 P 20 28 16.6 +0.2
OK046 Pawnee Station 22.83 335 P P 20 28 17.1 +0.6
OK050 Pawnee Station 22.86 335 P 20 28 17.4 +0.6
OK048 Pawnee Station 22.86 335 P 20 28 17.2 +0.3
OK045 Pawnee Station 22.88 335 P P 20 28 17.6 +0.6
OK051 E0350 and S346 22.90 335 P 20 28 17.4 +0.2
Q51A Peebles 22.91 3 P P 20 28 18.1 +0.7
Q51A Peebles 22.91 3 P P 20 28 18.9 +1.6
baz=184,SNR=22
Q51A P P 20 28 18.9 +1.6
baz=184,SNR=22
Q51A S S 20 32 30.8 +3.6
baz=184
Q51A S S 20 32 30.8 +3.6
baz=184
Q52A Bidwell 22.93 6 P P 20 28 17.2 -0.2
Q52A Bidwell 22.93 6 P P 20 28 17.6 +0.1
baz=187,SNR=18
Q52A P P 20 28 17.6 +0.1
baz=187,SNR=18
Q52A S S 20 32 30.2 +2.7
baz=187
Q52A S S 20 32 30.2 +2.7
baz=187
SLM Saint Louis 22.94 349 P P 20 28 17.7 +0.1
SLM IAmb IAmb 20 28 29.2
comp=Z,121nm,1.0s
SLM Saint Louis 22.94 349 P P 20 28 17.7 +0.1
SLM pmax pmax
comp=Z,121nm,1.0s
SLM Saint Louis 22.94 349 P P 20 28 19.5 +1.9
baz=167
CSTR Hydro, Custer 22.99 330 P P 20 28 19.0 +0.7
CSTR IAmb IAmb 20 28 39.0
comp=Z,13nm,1.2s
OK049 E0420 Rd and N 23.01 334 P 20 28 19.0 +0.6
Q44A Meyer Farm, Va 23.01 352 P P 20 28 18.6 +0.3
Q44A IAmb IAmb 20 28 25.6
comp=Z,151nm,1.4s
Q44A Meyer Farm, Va 23.01 352 P P 20 28 20.0 +1.7
baz=170
Q44A S S 20 32 31.5 +2.6
baz=170
R40A Maddies Statio 23.03 345 P P 20 28 18.8 +0.3
R40A IAmb IAmb 20 28 21.6
comp=Z,97nm,1.1s
R40A Maddies Statio 23.03 345 P P 20 28 18.9 +0.4
baz=162,SNR=34
BLO Bloomington 23.05 357 P P 20 28 18.2 -0.4
BLO IAmb IAmb 20 28 21.2
comp=Z,73nm,0.9s
BLO Bloomington 23.05 357 P P 20 28 18.3 -0.4
BLO pmax pmax
comp=Z,73nm,1.0s
CBN Corbin Frederi 23.05 16 P P 20 28 18.4 -0.3
CBN Corbin Frederi 23.05 16 P P 20 28 21.0 +2.3
baz=199
CBN Corbin Frederi 23.05 16 P P 20 28 18.7 0.0
baz=199
Q54A Coxs Mills 23.11 8 P P 20 28 20.2 +0.8
Q54A IAmb IAmb 20 28 34.6
comp=Z,68nm,1.1s
Q54A Coxs Mills 23.11 8 P P 20 28 20.5 +1.1
baz=190,SNR=11
Q54A P P 20 28 20.5 +1.1
baz=190,SNR=11
T35A Sooner Cattle 23.12 336 P P 20 28 19.8 +0.2
T35B Sooner Cattle 23.12 336 P P 20 28 20.0 +0.4
baz=151,SNR=15
BLOK Blackwell 23.27 335 P 20 28 21.3 +0.3
BLOK IAmb IAmb 20 28 25.3
comp=Z,106nm,1.0s
P48A Milroy 23.30 359 P P 20 28 20.8 -0.5
P48A IAmb IAmb 20 28 28.0
comp=Z,141nm,1.4s
P48A Milroy 23.30 359 P P 20 28 21.4 +0.2
baz=179,SNR=7.9
P48A P P 20 28 21.4 +0.2
baz=179,SNR=7.9
P49A Miami Univ. Ec 23.37 1 P P 20 28 20.6 -1.5
P49A IAmb IAmb 20 28 24.0
comp=Z,195nm,1.9s
P49A Miami Univ. Ec 23.37 1 P P 20 28 21.2 -0.9
baz=180
P51A Williamsport 23.38 4 P P 20 28 20.9 -1.2
P51A IAmb IAmb 20 28 25.3
comp=Z,89nm,1.4s
CROK Carrier 23.38 333 P 20 28 21.5 -0.7
CROK IAmb IAmb 20 28 26.3
comp=Z,130nm,1.2s
Q56A Snyder Ridge, 23.44 11 P P 20 28 24.6 +1.9
Q56A IAmb IAmb 20 28 27.1
comp=Z,144nm,1.4s
Q56A Snyder Ridge, 23.44 11 P P 20 28 24.4 +1.7
baz=194,SNR=8.6
Q56A P P 20 28 24.4 +1.7
baz=194,SNR=8.6
HTMS Hat Mesa 23.48 317 P P 20 28 24.4 +1.1
P46A Rosedale 23.53 356 P P 20 28 24.1 +0.5
P53A Whipple 23.54 7 P P 20 28 24.0 +0.3
P53A Whipple 23.54 7 P P 20 28 24.9 +1.3
baz=189,SNR=12
P53A P P 20 28 24.9 +1.3
baz=189,SNR=12
CLN7 Carlsbad 7 23.56 317 P P 20 28 25.9 +1.8
KAN13 South Haven SW 23.60 334 P 20 28 24.2 -0.1
KAN13 IAmb IAmb 20 28 30.1
comp=Z,120nm,1.3s
P52A Corning 23.61 6 P P 20 28 24.0 -0.4
P52A Corning 23.61 6 P P 20 28 23.9 -0.4
baz=187,SNR=10
GC02 Grant County # 23.62 334 P 20 28 24.2 -0.3
ELIS Ellis County 23.68 330 P P 20 28 25.4 +0.2
ELIS IAmb IAmb 20 28 30.0
comp=Z,181nm,1.2s
OK038 West end E0370 23.70 332 P P 20 28 24.6 -0.8
OK038 IAmb IAmb 20 28 47.6
comp=Z,161nm,1.8s
OK032 Salt Plains WL 23.73 333 P 20 28 25.6 -0.1
U32A Winter Ranch, 23.74 331 P 20 28 25.5 -0.2
U32A IAmb IAmb 20 28 29.3
comp=Z,78nm,1.1s
U32A Winter Ranch, 23.74 331 P P 20 28 26.2 +0.5
baz=145
KAN17 Caldwell West 23.74 334 P 20 28 25.5 -0.2
KAN17 IAmb IAmb 20 28 31.4
comp=Z,122nm,1.2s
KAN09 Caldwell North 23.76 334 P P 20 28 24.9 -0.9
KAN09 IAmb IAmb 20 28 31.6
comp=Z,80nm,1.1s
P43A Skaggs, Pawnee 23.80 351 P P 20 28 26.9 +0.7
P43A Skaggs, Pawnee 23.80 351 P P 20 28 27.4 +1.2
baz=169,SNR=10
P43A S S 20 32 45.0 +3.1
baz=169
KS20 Mayfield South 23.81 335 P 20 28 25.2 -1.2
KS20 IAmb IAmb 20 28 42.6
comp=Z,102nm,1.2s
KAN01 Argonia South 23.83 334 P 20 28 26.3 -0.3
KAN01 IAmb IAmb 20 28 52.0
comp=Z,120nm,1.3s
OK035 E0210 Rd and N 23.87 332 P P 20 28 26.7 -0.3
OK035 IAmb IAmb 20 28 50.7
comp=Z,65nm,1.1s
NOKA Waynoka 23.91 332 P 20 28 26.5 -0.9
NOKA IAmb IAmb 20 28 31.9
comp=Z,59nm,0.9s
MCWV Mont Chateau 23.93 10 P P 20 28 28.4 +1.0
MCWV IAmb IAmb 20 28 30.0
comp=Z,83nm,1.0s
MCWV Mont Chateau 23.93 10 P P 20 28 29.0 +1.6
baz=192,SNR=8.1
MCWV Mont Chateau 23.93 10 P P 20 28 28.4 +1.0
baz=192,SNR=8.1
MSTX Muleshoe 23.93 321 P P 20 28 26.5 -1.2
MSTX IAmb IAmb 20 28 52.4
comp=Z,46nm,0.9s
MSTX Muleshoe 23.93 321 P P 20 28 27.4 -0.3
baz=134
MSTX Muleshoe 23.93 321 P P 20 28 27.8 +0.1
baz=134
KAN10 Anthony SW Sta 23.95 334 P P 20 28 25.9 -1.8
KAN10 IAmb IAmb 20 28 46.8
comp=Z,62nm,1.3s
AMTX Amarillo 23.95 325 P P 20 28 27.6 -0.2
AMTX IAmb IAmb 20 28 47.5
comp=Z,46nm,0.8s
AMTX Amarillo 23.95 325 P P 20 28 28.4 +0.6
baz=137,SNR=5.5
AMTX Amarillo 23.95 325 P P 20 28 28.2 +0.4
baz=137
KAN06 Argonia West S 23.95 334 P P 20 28 26.6 -1.1
KAN06 IAmb IAmb 20 28 52.5
comp=Z,74nm,1.0s
ATAH Atahualpa 23.98 164 P P 20 28 30.1 +1.5
comp=Z,15nm,0.8s,baz=0.6,slow=8.4,SNR=8.5
ATAH LR LR 20 37 17.6
comp=Z,2µm,19.6s,baz=340,slow=35
comp=Z,15nm,0.8s
KAN08 Anthony NE Sta 23.98 334 P P 20 28 27.1 -0.9
KAN08 IAmb IAmb 20 28 44.1
comp=Z,97nm,1.1s
KAN16 Harper SW Stat 24.02 334 P 20 28 27.5 -0.9
KAN16 IAmb IAmb 20 28 32.8
comp=Z,51nm,1.0s
O49A Covington 24.03 1 P P 20 28 28.4 0.0
O49A IAmb IAmb 20 28 31.5
comp=Z,84nm,1.4s
O49A Covington 24.03 1 P P 20 28 28.9 +0.5
baz=181,SNR=5.6
O49A P P 20 28 28.9 +0.5
baz=181,SNR=5.6
KAN12 Harper NE Stat 24.06 334 P P 20 28 27.7 -1.0
KAN12 IAmb IAmb 20 28 33.4
comp=Z,128nm,1.2s
O48B Farmland 24.09 360 P P 20 28 29.8 +0.8
baz=180,SNR=6.8
O48B Farmland 24.09 360 P P 20 28 28.6 -0.4
baz=180,SNR=6.8
O52A Adamsville 24.11 6 P P 20 28 29.4 +0.3
O52A IAmb IAmb 20 28 31.3
comp=Z,68nm,1.1s
O52A Adamsville 24.11 6 P P 20 28 30.2 +1.1
baz=187,SNR=9.1
O52A P P 20 28 30.2 +1.1
baz=187,SNR=9.1
P57A Homestead Farm 24.11 13 P P 20 28 31.1 +1.9
P57A IAmb IAmb 20 28 31.5
comp=Z,57nm,0.9s
P57A Homestead Farm 24.11 13 P P 20 28 30.7 +1.6
baz=196,SNR=8.6
P57A P P 20 28 30.7 +1.6
baz=196,SNR=8.6
ACSO Alum Creek Sta 24.13 4 P P 20 28 30.5 +1.1
ACSO IAmb IAmb 20 28 31.4
comp=Z,133nm,1.5s
ACSO Alum Creek Sta 24.13 4 P P 20 28 30.6 +1.2
baz=185,SNR=9.8
ACSO Alum Creek Sta 24.13 4 P P 20 28 29.5 +0.1
baz=185,SNR=9.8
P40A Paris 24.16 347 P P 20 28 29.5 -0.1
P40A IAmb IAmb 20 28 33.5
comp=Z,50nm,1.0s
P40A Paris 24.16 347 P P 20 28 30.3 +0.7
baz=163,SNR=11
O44A Mansfield 24.18 354 P P 20 28 30.5 +0.7
O44A Mansfield 24.18 354 P P 20 28 30.7 +0.9
baz=172
SFIN Lafayette 24.28 356 P P 20 28 30.9 +0.2
SFIN IAmb IAmb 20 28 31.7
comp=Z,59nm,1.1s
SFIN Lafayette 24.28 356 P P 20 28 31.6 +0.8
baz=175,SNR=6.1
SFIN Lafayette 24.28 356 P P 20 28 31.1 +0.4
baz=175,SNR=6.1
O53A New Philadelph 24.31 7 P P 20 28 31.8 +0.8
O53A IAmb IAmb 20 28 32.6
comp=Z,39nm,0.8s
O53A New Philadelph 24.31 7 P P 20 28 31.7 +0.6
baz=189,SNR=6.0
SDMD Soldier's Deli 24.32 16 P P 20 28 32.5 +1.4
SDMD IAmb IAmb 20 28 33.3
comp=Z,34nm,1.0s
SDMD Soldier's Deli 24.32 16 P P 20 28 32.3 +1.2
baz=199,SNR=6.3
O54A Avella 24.36 9 P P 20 28 32.1 +0.7
O54A IAmb IAmb 20 28 35.0
comp=Z,40nm,1.1s
BBSR BB Station 24.56 45 P P 20 28 34.4 +1.1
BBSR BB Station 24.56 45 P P 20 28 34.7 +1.3
baz=233,SNR=7.1
SLBS Sierra La Lagu 24.60 292 P P 20 28 36.2 +2.3
SLBS IAmb IAmb 20 28 46.6
comp=Z,37nm,1.1s
P38A Dawn 24.61 344 P P 20 28 33.6 -0.1
P38A IAmb IAmb 20 28 35.9
comp=Z,73nm,1.1s
P38A Dawn 24.61 344 P P 20 28 34.3 +0.5
baz=160,SNR=9.7
HDIL Hopedale 24.67 352 P P 20 28 34.9 +0.6
HDIL Hopedale 24.67 352 P P 20 28 35.2 +1.0
baz=170
HDIL Hopedale 24.67 352 P P 20 28 34.5 +0.2
baz=170,SNR=6.0
N47A Urbana 24.72 359 P P 20 28 32.8 -1.9
N47A IAmb IAmb 20 28 37.2
comp=Z,72nm,1.2s
N49A Columbus Grove 24.77 2 P P 20 28 35.4 +0.3
N49A IAmb IAmb 20 28 36.9
comp=Z,112nm,1.3s
N49A Columbus Grove 24.77 2 P P 20 28 35.6 +0.5
baz=182,SNR=8.2
N49A P P 20 28 35.6 +0.5
baz=182,SNR=8.2
N51A Ashland 24.86 5 P P 20 28 35.7 -0.3
N51A Ashland 24.86 5 P P 20 28 36.4 +0.4
baz=186,SNR=10.0
N51A P P 20 28 36.4 +0.4
baz=186,SNR=10.0
N53A Lisbon 24.91 8 P P 20 28 36.5 +0.1
N53A IAmb IAmb 20 28 38.3
comp=Z,84nm,1.4s
N53A Lisbon 24.91 8 P P 20 28 36.9 +0.5
baz=189,SNR=6.8
N53A P P 20 28 36.9 +0.5
baz=189,SNR=6.8
MVL Millersville 25.00 16 P P 20 28 38.5 +1.3
MVL IAmb IAmb 20 28 40.6
comp=Z,59nm,1.2s
LPIG La Paz 25.02 293 LR LR 20 39 33.7
comp=Z,2µm,19.4s,baz=114,slow=39
N41A Harden Midland 25.06 349 P P 20 28 38.0 +0.2
N41A Harden Midland 25.06 349 P P 20 28 38.3 +0.6
baz=166,SNR=9.8
KSU1 Kansas State U 25.08 338 P P 20 28 37.4 -0.6
KSU1 IAmb IAmb 20 28 44.0
comp=Z,59nm,0.8s
KSU1 Kansas State U 25.08 338 P P 20 28 38.2 +0.2
baz=153
KSU1 Kansas State U 25.08 338 P P 20 28 37.6 -0.4
baz=153
PAGS Pennsylvania G 25.12 15 P P 20 28 39.2 +0.9
WUPA West Chester U 25.15 17 P P 20 28 38.9 +0.3
SSPA Standing Stone 25.24 13 P P 20 28 40.2 +0.7
SSPA Standing Stone 25.24 13 P P 20 28 40.8 +1.4
baz=196,SNR=7.4
SSPA Standing Stone 25.24 13 P P 20 28 40.4 +1.0
baz=196
M50A Fremont 25.30 3 P P 20 28 40.5 +0.6
M50A IAmb IAmb 20 28 41.6
comp=Z,78nm,0.9s
M50A Fremont 25.30 3 P P 20 28 40.3 +0.4
baz=184
M50A P P 20 28 40.3 +0.4
baz=184
R32A Long Quarter, 25.31 334 P P 20 28 40.3 +0.2
R32A IAmb IAmb 20 28 46.4
comp=Z,104nm,1.3s
TUPA Temple Univers 25.48 18 P P 20 28 43.3 +1.7
baz=202,SNR=6.8
PSDB Penn State Uni 25.55 11 P P 20 28 43.8 +1.6

baz=194
M53A WI Miller and 25.55 8 P **P** **20 28 42.5 +0.3**
M53A WI Miller and 25.55 8 P **P** **20 28 43.1 +0.8**
baz=190,SNR=13
N38A Joes South For 25.64 345 P **P** **20 28 43.1 +0.1**
N38A IAmb IAmb 20 28 46.9
comp=Z,79nm,1.1s
N38A Joes South For 25.64 345 P **P** **20 28 44.1 +1.1**
baz=161,SNR=8.1
N58A Sunbury 25.70 15 P **P** **20 28 44.9 +1.3**
N58A Sunbury 25.70 15 P **P** **20 28 44.9 +1.3**
baz=198,SNR=8.4
N58A P **P** **20 28 44.9 +1.3**
baz=198,SNR=8.4
HQIL Hanson Quary C 25.75 355 P **P** **20 28 44.2 +0.2**
HQIL IAmb IAmb 20 28 48.0
comp=Z,228nm,1.4s
L48A N Adams 25.78 1 P **P** **20 28 44.5 +0.2**
L48A N Adams 25.78 1 P **P** **20 28 44.7 +0.4**
baz=181
L48A P **P** **20 28 44.7 +0.4**
baz=181
LUPA Lehigh Univers 25.83 17 P **P** **20 28 45.5 +0.7**
M55A Ridgway 25.87 11 P **P** **20 28 45.5 +0.3**
M55A Ridgway 25.87 11 P **P** **20 28 46.3 +1.1**
baz=194,SNR=10
M55A P **P** **20 28 46.3 +1.1**
baz=194,SNR=10
CBKS Cedar Bluff 26.07 333 P **P** **20 28 47.3 +0.2**
CBKS IAmb IAmb 20 29 09.8
comp=Z,38nm,1.0s
CBKS Cedar Bluff 26.07 333 P **P** **20 28 47.3 +0.2**
CBKS pmax pmax
comp=Z,38nm,1.0s
CBKS Cedar Bluff 26.07 333 P **P** **20 28 47.0 0.0**
baz=146
M57A Sunshine Farm, 26.08 14 P **P** **20 28 47.9 +0.9**
M57A Sunshine Farm, 26.08 14 P **P** **20 28 48.2 +1.2**
baz=197,SNR=5.3
M57A P **P** **20 28 48.2 +1.2**
baz=197,SNR=5.3
L42A Oliver, Polo 26.14 352 P **P** **20 28 47.5 -0.1**
L42A IAmb IAmb 20 28 48.8
comp=Z,92nm,1.1s
L42A Oliver, Polo 26.14 352 P **P** **20 28 48.1 +0.5**
baz=170,SNR=6.4
AAM Ann Arbor 26.16 2 P **P** **20 28 48.1 +0.3**
AAM IAmb IAmb 20 28 52.1
comp=Z,66nm,1.2s
AAM Ann Arbor 26.16 2 P **P** **20 28 48.1 +0.3**
AAM pmax pmax
comp=Z,66nm,1.2s
AAM Ann Arbor 26.16 2 P **P** **20 28 48.0 +0.3**
baz=183
ERPA Erie 26.31 8 P **P** **20 28 49.0 -0.1**
baz=191
121A Cookes Peak, D 26.34 313 P **P** **20 28 49.7 0.0**
121A IAmb IAmb 20 29 28.1
comp=Z,50nm,1.1s
121A Cookes Peak, D 26.34 313 P **P** **20 28 54.0 +4.3**
baz=123,SNR=14
121A Cookes Peak, D 26.34 313 P **P** **20 28 52.1 +2.4**
baz=123,SNR=14
N35A Tabor 26.36 342 P **P** **20 28 49.2 -0.3**
L40A Anamosa 26.44 350 P **P** **20 28 48.5 -1.7**
BNM Barren Site 26.48 317 P **P** **20 28 52.5 +1.4**
CZSB Cruzeiro do Su 26.61 152 P **P** **20 28 51.6 -0.4**
CZSB IAmb IAmb 20 29 27.2
comp=Z,61nm,1.2s
CZSB Cruzeiro do Su 26.61 152 *e*P **P** **20 28 53.9 +1.8**
KSPA Keystone Colle 26.62 16 P **P** **20 28 53.2 +1.2**
KSPA IAmb IAmb 20 28 55.3
comp=Z,104nm,1.4s
KSPA Keystone Colle 26.62 16 P **P** **20 28 53.1 +1.2**
baz=200,SNR=6.1
PAL Palisades 26.64 19 P **P** **20 28 52.2 +0.2**
baz=204
SCIA State Center 26.69 346 P **P** **20 28 52.8 +0.2**
SCIA State Center 26.69 346 P **P** **20 28 52.6 0.0**
baz=162
SBM South Baldy 26.75 316 P **P** **20 28 53.3 -0.3**
L56A Greenwood 26.75 12 P **P** **20 28 54.1 +0.9**
L56A IAmb IAmb 20 28 55.2
comp=Z,90nm,1.3s
L56A Greenwood 26.75 12 P **P** **20 28 54.7 +1.6**
baz=196
L56A P **P** **20 28 54.7 +1.6**
baz=196
WVNY West Valley, N 26.81 11 P **P** **20 28 54.4 +0.7**
WVNY IAmb IAmb 20 28 58.8
comp=Z,71nm,1.2s
WVNY West Valley, N 26.81 11 P **P** **20 28 55.1 +1.5**
baz=194
319A Douglas 26.84 309 P **P** **20 28 55.5 +1.3**
319A IAmb IAmb 20 29 30.7
comp=Z,66nm,1.1s
ANMO Albuquerque 26.86 318 P **P** **20 28 55.0 +0.6**
comp=Z,4.5nm,0.8s,baz=136,slow=14,SNR=4.9
ANMO LR LR 20 43 20.6
comp=Z,214nm,19.1s,baz=152,slow=45
comp=Z,4.5nm,0.8s
ANMO Albuquerque 26.86 318 P **P** **20 28 55.1 +0.6**
ANMO IAmb IAmb 20 29 23.1
comp=Z,55nm,1.5s
ANMO Albuquerque 26.86 318 *ce*P **P** **20 28 55.3 +0.9**
ANMO pmax pmax
comp=Z,14nm,1.7s
ANMO Albuquerque 26.86 318 P **P** **20 28 56.3 +1.9**
baz=129
T25A Trinidad 27.11 324 P **P** **20 28 57.1 +0.5**
T25A Trinidad 27.11 324 P **P** **20 28 57.3 +0.6**
baz=135
HSIG 27.11 303 P **P** **20 28 57.8 +1.2**
JFWS Jewell Farm 27.12 352 P **P** **20 28 56.3 -0.1**
JFWS IAmb IAmb 20 29 23.2
comp=Z,85nm,1.4s
JFWS Jewell Farm 27.12 352 P **P** **20 28 56.3 -0.1**
JFWS pmax pmax
comp=Z,85nm,1.4s
JFWS Jewell Farm 27.12 352 P **P** **20 28 56.8 +0.4**
baz=169
BINY Binghamton 27.17 15 P **P** **20 28 58.1 +1.2**
BINY IAmb IAmb 20 29 21.9
comp=Z,57nm,1.4s
BINY Binghamton 27.17 15 P **P** **20 28 57.0 +0.1**
baz=199
MMNY Mt. Morris Dam 27.26 11 P **P** **20 28 58.2 +0.6**
MMNY IAmb IAmb 20 29 02.9
comp=Z,93nm,1.5s
K38A Parkersburg 27.30 347 P **P** **20 28 57.7 -0.3**
K38A IAmb IAmb 20 29 12.4
comp=Z,40nm,1.2s
L59A Walton 27.40 16 P **P** **20 29 00.6 +1.6**
K57A Scipio Center 27.55 14 P **P** **20 29 00.8 +0.6**
K57A IAmb IAmb 20 29 05.8
comp=Z,56nm,1.3s
KSCO Kaye Shedlock' 27.57 329 P **P** **20 29 01.0 +0.4**
SRIG Santa Rosalia 27.59 299 P **P** **20 29 03.0 +2.2**
SRIG IAmb IAmb 20 29 13.4
comp=Z,29nm,0.9s
BOAV Boa Vista 27.69 117 P **P** **20 29 02.4 +0.6**
BOAV IAmb IAmb 20 29 03.4
comp=Z,20nm,1.4s
BOAV Boa Vista 27.69 117 *e*P **P** **20 29 02.2 +0.4**
UCCT U. Connecticut 27.90 21 P **P** **20 29 04.0 +0.6**
I42A Draeger Farm, 27.92 354 P **P** **20 29 04.2 +0.6**
J56A Wolcott 27.99 13 P **P** **20 29 04.8 +0.6**
J56A IAmb IAmb 20 29 06.1
comp=Z,82nm,1.4s
I40A Norwalk 28.13 351 P **P** **20 29 05.2 -0.2**
I40A IAmb IAmb 20 30 00.0
comp=Z,50nm,1.3s
SDCO Great Sand Dun 28.15 324 P **P** **20 29 06.8 +0.8**
SDCO IAmb IAmb 20 30 08.8
comp=Z,46nm,1.8s
SDCO Great Sand Dun 28.15 324 P **P** **20 29 07.2 +1.1**
baz=134
TRY Troy 28.29 18 P **P** **20 29 07.5 +0.6**
QUA2 Belchertown 28.29 20 P **P** **20 29 08.0 +1.2**
QUA2 IAmb IAmb 20 29 08.9
comp=Z,61nm,1.3s
J57A Williamstown 28.31 14 P **P** **20 29 07.8 +0.7**
J57A IAmb IAmb 20 29 08.2
comp=Z,39nm,0.9s
L61B Northampton 28.34 19 P **P** **20 29 07.9 +0.6**
baz=205

TUC Tucson 28.41 309 P **P** **20 29 09.3 +1.1**
TUC Tucson 28.41 309 P **P** **20 29 09.3 +1.1**
TUC pmax pmax
comp=Z,20nm,1.1s
TUC Tucson 28.41 309 P **P** **20 29 09.3 +1.1**
baz=118
J59A Piesco 28.73 16 P **P** **20 29 11.5 +0.7**
J59A IAmb IAmb 20 29 12.1
comp=Z,45nm,1.4s
Q24A Divide 28.82 326 P **P** **20 29 13.1 +1.0**
OGNE Ogallala 28.83 333 P **P** **20 29 12.1 +0.3**
S22A 4UR Ranch, Cre 28.91 322 P **P** **20 29 12.1 -0.7**
S22A IAmb IAmb 20 29 60.0
comp=Z,35nm,1.5s
S22A 4UR Ranch, Cre 28.91 322 P **P** **20 29 13.7 +0.9**
baz=132
X18A Snowflake 28.95 314 P **P** **20 29 14.0 +0.9**
K31A O'Neill 28.95 339 P **P** **20 29 12.7 -0.2**
K31A IAmb IAmb 20 29 49.9
comp=Z,40nm,0.8s
SADO Sadowa 29.03 9 P **P** **20 29 13.6 +0.2**
comp=Z,25nm,0.9s,baz=243,slow=4.9,SNR=7.7
SADO LR LR 20 41 40.5
comp=Z,1µm,18.2s,baz=186,slow=38
comp=Z,25nm,0.9s
SADO Sadowa 29.03 9 P **P** **20 29 13.8 +0.3**
SADO IAmb IAmb 20 29 14.9
comp=Z,44nm,1.1s
NNA Nana 29.04 163 LR LR 20 40 51.3
comp=Z,558nm,18.4s,baz=322,slow=36
NNA Nana 29.04 163 *i* P **P** **20 29 15.4 +1.6**
J61A Chester 29.19 19 P **P** **20 29 15.8 +1.0**
J61A IAmb IAmb 20 29 17.6
comp=Z,65nm,1.3s
J61A Chester 29.19 19 P **P** **20 29 16.6 +1.7**
baz=205
J61A P **P** **20 29 16.6 +1.7**
baz=205
ECSD EROS Data Cent 29.28 343 P **P** **20 29 14.7 -1.0**
ECSD EROS Data Cent 29.28 343 P **P** **20 29 14.9 -0.8**
baz=157
ECSD EROS Data Cent 29.28 343 P **P** **20 29 15.6 -0.1**
baz=157
G40A Rib Lake 29.43 353 P **P** **20 29 17.2 +0.2**
G40A Rib Lake 29.43 353 P **P** **20 29 17.1 +0.1**
baz=170,SNR=6.2
MVCO Mesa Verde 29.57 320 P **P** **20 29 19.8 +1.2**
ISCO Idaho Springs 29.68 327 P **P** **20 29 19.9 +0.2**
baz=137
214A Organ Pipe Nat 29.78 307 P **P** **20 29 21.5 +1.2**
214A IAmb IAmb 20 29 46.9
comp=Z,33nm,1.4s
214A Organ Pipe Nat 29.78 307 P **P** **20 29 21.8 +1.5**
baz=116
SPMN Marine on St. 29.79 349 P **P** **20 29 18.6 -1.6**
SPMN IAmb IAmb 20 30 21.8
comp=Z,16nm,0.8s
SPMN Marine on St. 29.79 349 P **P** **20 29 20.8 +0.7**
baz=165
LONY Lake Ozonia 29.79 15 P **P** **20 29 20.8 +0.6**
LONY IAmb IAmb 20 29 22.2
comp=Z,57nm,1.1s
LONY Lake Ozonia 29.79 15 P **P** **20 29 20.1 -0.1**
baz=200,SNR=7.9
SMCO Snowmass 29.98 324 P **P** **20 29 25.3 +2.9**
BMNY Brushton-Moira 30.02 15 P **P** **20 29 22.7 +0.5**
baz=200,SNR=7.0
COWI Conover 30.13 354 P **P** **20 29 23.1 -0.1**
COWI IAmb IAmb 20 29 24.1
comp=Z,26nm,1.1s
LBNH Lisbon 30.19 19 P **P** **20 29 24.6 +0.8**
baz=206
E43A Lone Tree Farm 30.25 357 P **P** **20 29 24.4 +0.1**
E43A IAmb IAmb 20 29 29.2
comp=Z,34nm,0.9s
PV15 Paradox Valley 30.29 322 P **P** **20 29 24.4 -0.6**
WUAZ Wupatki 30.46 314 P **P** **20 29 27.0 +0.6**
WUAZ Wupatki 30.46 314 P **P** **20 29 27.7 +1.2**
baz=123
PV11 David Mesa, Pa 30.49 321 P **P** **20 29 25.7 -1.0**
PV11 IAmb IAmb 20 30 32.8
comp=Z,37nm,1.5s
F36A Milaca 30.54 348 P **P** **20 29 25.6 -1.1**
F36A Milaca 30.54 348 P **P** **20 29 26.1 -0.7**
baz=164,SNR=7.5
SUSD Miller 30.64 340 P **P** **20 29 26.7 -1.0**
SUSD IAmb IAmb 20 30 09.5
comp=Z,37nm,0.9s
N23A Red Feather La 30.66 328 P **P** **20 29 27.5 -0.7**
N23A IAmb IAmb 20 30 25.1
comp=Z,26nm,1.2s
N23A Red Feather La 30.66 328 P **P** **20 29 28.9 +0.7**
baz=138
MACA Manacapuru-AM 30.74 126 P **P** **20 29 29.5 +0.7**
MACA IAmb IAmb 20 29 30.7
comp=Z,34nm,1.3s
MACA Manacapuru-AM 30.74 126 *e*P **P** **20 29 30.2 +1.4**
MNTQ Montreal, Queb 30.86 16 P **P** **20 29 29.2 -0.4**
MNTQ IAmb IAmb 20 29 31.1
comp=Z,38nm,1.1s
113A Mohawk Valley, 30.86 308 P **P** **20 29 30.3 +0.5**
E38A The Farm, Brul 30.92 351 P **P** **20 29 28.9 -1.3**
E38A IAmb IAmb 20 29 31.0
comp=Z,39nm,1.1s
E38A The Farm, Brul 30.92 351 P **P** **20 29 30.0 -0.2**
baz=168
D41A Chassel 31.03 355 P **P** **20 29 31.1 0.0**
D41A Chassel 31.03 355 P **P** **20 29 30.4 -0.7**
baz=173,SNR=6.2
WVL Waterville 31.23 21 P **P** **20 29 34.4 +1.6**
WVL Waterville 31.23 21 P **P** **20 29 34.9 +2.0**
baz=209
TRQ Mont Tremblant 31.30 14 P **P** **20 29 34.2 +0.6**
G62A West of Eustis 31.51 20 P **P** **20 29 37.0 +1.6**
G62A West of Eustis 31.51 20 P **P** **20 29 37.0 +1.6**
baz=207
G62A P **P** **20 29 37.0 +1.6**
baz=207
U15A North Rim 31.58 315 P **P** **20 29 37.5 +1.1**
ETMB Extrema 31.76 143 P **P** **20 29 36.7 -1.1**
ETMB IAmb IAmb 20 29 40.7
comp=Z,40nm,1.5s
ETMB Extrema 31.76 143 *e*P **P** **20 29 37.1 -0.8**
GLA Glamis 31.79 308 P **P** **20 29 38.9 +0.9**
GLA IAmb IAmb 20 29 52.9
comp=Z,26nm,1.1s
GLA Glamis 31.79 308 P **P** **20 29 38.9 +0.9**
GLA pmax pmax
comp=Z,26nm,1.1s
GLA Glamis 31.79 308 P **P** **20 29 38.6 +0.6**
baz=115
PDMCI Parker Dam,Lak 31.82 310 P **P** **20 29 39.0 +0.8**
baz=117
BLYC Blythe 31.86 309 P **P** **20 29 39.2 +0.6**
BLYC IAmb IAmb 20 30 07.5
comp=Z,42nm,1.7s
PKME Peaks-Kenny Pk 31.97 21 P **P** **20 29 40.8 +1.5**
PKME Peaks-Kenny Pk 31.97 21 P **P** **20 29 41.0 +1.7**
baz=209
PKME Peaks-Kenny Pk 31.97 21 P **P** **20 29 41.2 +1.9**
baz=209,SNR=5.1
SRU San Rafael Swe 32.01 321 P **P** **20 29 41.9 +1.9**
SRU San Rafael Swe 32.01 321 P **P** **20 29 41.9 +1.9**
SRU pmax pmax
comp=Z,16nm,1.1s
W13A Hualapai Mount 32.01 312 P **P** **20 29 40.5 +0.3**
PKCU Pink Cliffs 32.15 317 P **P** **20 29 42.0 +0.5**
PKCU IAmb IAmb 20 30 09.4
comp=Z,28nm,1.2s
P18A Preston Nutter 32.16 322 P **P** **20 29 42.1 +0.5**
EYMN Ely 32.23 352 P **P** **20 29 40.6 -1.0**
EYMN Ely 32.23 352 P **P** **20 29 40.6 -1.0**
baz=168,SNR=6.2
ESJX Sierra Juarez 32.24 305 P **P** **20 29 42.4 +0.3**
K22A Casper 32.25 330 P **P** **20 29 41.4 -0.8**
K22A IAmb IAmb 20 30 47.7
comp=Z,27nm,1.2s
K22A Casper 32.25 330 P **P** **20 29 42.9 +0.8**
baz=139
KNB Kanab 32.26 316 P **P** **20 29 44.8 +2.5**
KNB IAmb IAmb 20 30 11.8
comp=Z,22nm,1.2s
KNB Kanab 32.26 316 P **P** **20 29 44.8 +2.5**
KNB pmax pmax
comp=Z,22nm,1.2s

RSSD Black Hills 32.27 334 P **P** **20 29 42.8 +0.5**
RSSD IAmb IAmb 20 30 14.2
comp=Z,53nm,2.0s
RSSD Black Hills 32.27 334 P **P** **20 29 42.8 +0.5**
RSSD pmax pmax
comp=Z,53nm,2.0s
RSSD Black Hills 32.27 334 P **P** **20 29 42.2 -0.1**
baz=144
Q16A Castle Valley 32.28 320 P **P** **20 29 42.7 +0.2**
P17A Butcher Ranch, 32.36 321 P **P** **20 29 44.5 +1.4**
RDMU Red Mountain 32.39 324 P **P** **20 29 42.8 -0.7**
MTPU Mount Pierson 32.41 318 P **P** **20 29 44.9 +1.1**
F63A Nahmakanta, Br 32.41 21 P **P** **20 29 44.3 +1.0**
F63A IAmb IAmb 20 29 46.4
comp=Z,42nm,1.2s
YUH Yuha Desert 32.47 306 P **P** **20 29 46.0 +2.0**
YUH IAmb IAmb 20 30 08.9
comp=Z,60nm,1.8s
SWSC Sam W. Stewart 32.49 307 P **P** **20 29 45.3 +1.2**
baz=114
IRM Iron Mountain 32.50 309 P **P** **20 29 46.1 +1.8**
baz=116
BC3 Big Chuckawall 32.52 308 P **P** **20 29 45.5 +1.0**
baz=115
TMUT Trail Mountain 32.54 320 P **P** **20 29 45.2 +0.4**
LCMT Little Creek M 32.54 315 P **P** **20 29 44.0 -0.7**
G65A Princeton 32.54 23 P **P** **20 29 45.5 +1.2**
VLDQ Val d'Or 32.55 9 P **P** **20 29 44.8 +0.4**
VLDQ IAmb IAmb 20 29 46.1
comp=Z,43nm,1.1s
RMX La Rumorosa 32.57 306 P **P** **20 29 44.3 -0.8**
IKP In-Ko-Pah, Jac 32.61 306 P **P** **20 29 47.4 +2.1**
baz=113
MSU Marysvale 32.67 318 P **P** **20 29 44.9 -1.1**
MSU Marysvale 32.67 318 P **P** **20 29 44.9 -1.1**
CCUT Cedar City 32.91 316 P **P** **20 29 49.2 +1.2**
CBX Cerro Bola 32.92 305 P **P** **20 29 49.8 +1.7**
MONP2 Monument Peak 32.95 306 P **P** **20 29 50.0 +1.6**
baz=113
V12A Nelson 33.01 312 P **P** **20 29 50.6 +1.9**
V12A IAmb IAmb 20 30 02.8
comp=Z,29nm,1.0s
BELC Belle Mtn. Jos 33.07 308 P **P** **20 29 49.9 +0.5**
baz=115
E62A Clayton Lake 33.08 20 P **P** **20 29 50.4 +1.3**
E28A Huff 33.09 340 P **P** **20 29 48.4 -0.9**
E28A IAmb IAmb 20 29 53.0
comp=Z,23nm,0.9s
GMRC Granite Mounta 33.16 310 P **P** **20 29 51.4 +1.2**
baz=116
PMD Palm Desert 33.21 308 P **P** **20 29 51.2 +0.8**
PMD IAmb IAmb 20 30 10.2
comp=Z,11nm,0.9s
TPFO Pinon Flats 33.26 307 P **P** **20 29 51.7 +0.7**
baz=114
PFO Pinyon Flats O 33.26 307 LR LR 20 45 04.5
comp=Z,416nm,18.7s,baz=154,slow=39
PFO Pinyon Flats O 33.26 307 P **P** **20 29 50.0 -1.1**
PFO IAmb IAmb 20 30 04.0
comp=Z,31nm,1.6s
PFO Pinyon Flats O 33.26 307 P **P** **20 29 50.0 -1.1**
PFO pmax pmax
comp=Z,31nm,1.6s
PFO Pinyon Flats O 33.26 307 P **P** **20 29 52.1 +1.1**
baz=114
E63A Oxbow 33.27 21 P **P** **20 29 51.6 +0.8**
baz=210
E63A P **P** **20 29 51.6 +0.8**
baz=210
AGMN Agassiz Nation 33.34 347 P **P** **20 29 50.7 -0.7**
AGMN Agassiz Nation 33.34 347 P **P** **20 29 53.1 +1.7**
baz=161
NLU North Lily Min 33.47 321 P **P** **20 29 54.2 +1.3**
MDP Montagnes des 33.59 105 LR LR 20 43 19.5
comp=Z,691nm,20.6s,baz=288,slow=36
SHPR Sheep Range 33.60 313 P **P** **20 29 56.5 +2.5**
PQI Presque Isle 33.63 21 P **P** **20 29 55.2 +1.3**
D62A Allapoint, All 33.64 20 P **P** **20 29 55.2 +1.2**
D62A Allapoint, All 33.64 20 P **P** **20 29 55.4 +1.5**
baz=208
D62A P **P** **20 29 55.4 +1.5**
baz=208
TUQ Turquoise Moun 33.64 311 P **P** **20 29 55.4 +1.0**
baz=117
HEC Hector,Ludlow 33.68 310 P **P** **20 29 55.9 +1.3**
baz=116
PSUT Pine Spring 33.77 317 P **P** **20 29 56.7 +1.2**
MURC Murrieta 33.82 307 P **P** **20 29 56.1 +0.3**
baz=113
BW06 Boulder Array 33.88 327 P **P** **20 29 56.9 +0.5**
BW06 Boulder Array 33.88 327 P **P** **20 29 56.5 +0.1**
baz=134
PD31 Pinedale Array 33.88 327 P **P** **20 29 56.3 -0.1**
PDAR Pinedale Array 33.88 327 P **P** **20 29 55.5 -0.9**
comp=Z,2.4nm,1.1s,baz=134,slow=8.6,SNR=8.2
PDAR LR LR 20 47 05.3
comp=Z,446nm,19.0s,baz=134,slow=42
comp=Z,2.4nm,1.1s
PDAR Pinedale Array 33.88 327 P **P** **20 29 55.8 -0.7**
MDND Maddock 33.89 342 P **P** **20 29 55.6 -0.6**
MDND Maddock 33.89 342 P **P** **20 29 54.7 -1.5**
baz=154
PRN Pahroc Range 33.97 315 P **P** **20 29 58.2 +1.0**
ELS Elsinore Mount 34.02 307 P **P** **20 29 58.4 +0.8**
ELS IAmb IAmb 20 30 05.5
comp=Z,48nm,1.8s
DUG Dugway, Tooele 34.06 320 P **P** **20 29 59.7 +1.7**
DUG Dugway, Tooele 34.06 320 P **P** **20 29 59.7 +1.7**
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG Dugway, Tooele 34.06 320 P **P** **20 29 59.2 +1.2**
baz=127
SHOC Shoshone, Teco 34.11 311 P **P** **20 29 58.6 +0.3**
baz=117
HWUT Hardware Ranch 34.20 323 P **P** **20 29 59.3 +0.1**
GSC Goldstone, Bar 34.23 310 P **P** **20 30 00.2 +0.8**
GSC IAmb IAmb 20 30 28.3
comp=Z,29nm,1.5s
GSC Goldstone, Bar 34.23 310 P **P** **20 30 00.2 +0.8**
GSC pmax pmax
comp=Z,29nm,1.5s
GSC Goldstone, Bar 34.23 310 P **P** **20 29 60.0 +0.5**
baz=116
SPR3 Spring Creek 3 34.34 317 P **P** **20 30 01.9 +1.4**
SPR3 IAmb IAmb 20 30 20.2
comp=Z,17nm,1.4s
GWY Greenwater Val 34.52 312 P **P** **20 30 03.3 +1.3**
GWY IAmb IAmb 20 30 15.9
comp=Z,23nm,0.9s
SPUT South Promonto 34.53 322 P **P** **20 30 01.7 -0.3**
QSM Queen of Sheba 34.57 311 P **P** **20 30 04.3 +2.0**
QSM IAmb IAmb 20 30 28.8
comp=Z,39nm,1.3s
S11A Rachel 34.57 314 P **P** **20 30 04.5 +2.1**
S11A IAmb IAmb 20 30 36.4
comp=Z,34nm,1.2s
TPNV Topopah Spring 34.58 313 P **P** **20 30 04.2 +1.7**
TPNV IAmb IAmb 20 30 17.1
comp=Z,27nm,1.0s
TPNV Topopah Spring 34.58 313 P **P** **20 30 04.2 +1.7**
TPNV pmax pmax
comp=Z,27nm,1.0s
TPNV Topopah Spring 34.58 313 P **P** **20 30 04.4 +1.8**
baz=118,SNR=9.2
BGU Big Grassy Mou 34.64 321 P **P** **20 30 03.8 +0.8**
AHID Auburn Hatcher 34.70 325 P **P** **20 30 03.5 -0.1**
AHID IAmb IAmb 20 30 22.7
comp=Z,62nm,2.0s
WCT Wildcat Mounta 34.77 312 P **P** **20 30 05.8 +1.6**
WCT IAmb IAmb 20 30 18.5
comp=Z,30nm,1.5s
R11A Troy Canyon, C 34.82 316 P **P** **20 30 06.1 +1.6**
R11A Troy Canyon, C 34.82 316 P **P** **20 30 06.2 +1.6**
baz=121
BATG Bathurst New B 34.85 23 P **P** **20 30 05.3 +0.8**
EDW2 Edwards Air Fo 34.94 309 P **P** **20 30 07.0 +1.5**
baz=114
LRMC Laurel Mtn Rad 34.95 310 P **P** **20 30 07.5 +1.7**
baz=115
REDW Red Top Meadow 34.97 326 P **P** **20 30 06.4 +0.5**
REDW IAmb IAmb 20 30 19.9
comp=Z,59nm,1.4s
SNOW Snow King Moun 34.99 327 P **P** **20 30 06.7 +0.6**
SNOW IAmb IAmb 20 31 22.7
comp=Z,16nm,0.8s

HVU **Hansel Valley** 35.01 323 P P 20 30 06.8 +0.6
HVU **Hansel Valley** 35.01 323 P P 20 30 06.8 +0.6
HVU pmax pmax
comp=Z,6.0nm,0.9s
LOHW **Long Hollow** 35.01 327 P P 20 30 06.7 +0.5
MPMC **Manual Prospec** 35.06 311 P P 20 30 08.0 +1.3
baz=116,SNR=12
CCAC **Calif City Air** 35.06 309 P P 20 30 06.3 -0.3
CCAC IAmb IAmb 20 30 46.0
comp=Z,42nm,1.0s
TPAW **Teton Pass** 35.11 326 P P 20 30 07.1 -0.1
MOOW **Moose Ponds** 35.18 327 P P 20 30 07.5 -0.2
MALB **Monte Alegre** 35.23 118 eP P 20 30 08.7 +0.6
LAO **LASA Array** 35.25 334 P P 20 30 07.9 -0.2
LAO IAmb IAmb 20 30 28.1
comp=Z,26nm,1.0s
LAO **LASA Array** 35.25 334 P P 20 30 08.5 +0.5
baz=143
FXWY **Fox Creek** 35.26 327 P P 20 30 08.8 +0.5
OSI **Osito Audit: C** 35.38 308 P P 20 30 09.6 +0.2
baz=113
IMW **Indian Meadow** 35.39 327 P P 20 30 10.1 +0.5
ITTB **Itaituba** 35.39 123 eP P 20 30 10.1 +0.6
GRAC **Grapevine Rang** 35.39 312 P P 20 30 09.9 +0.5
baz=117
RLMT **Red Lodge** 35.41 330 P P 20 30 10.2 +0.5
RLMT **Red Lodge** 35.41 330 P P 20 30 09.5 -0.2
baz=137
H17A **Grant Village** 35.54 328 P P 20 30 11.6 +0.7
H17A **Grant Village** 35.54 328 P P 20 30 12.1 +1.3
baz=134
YPP **Pitchstone Pla** 35.58 328 P P 20 30 11.4 +0.3
ISA **Isabella, Lake** 35.62 310 P P 20 30 11.2 -0.2
ISA **Isabella, Lake** 35.62 310 P P 20 30 11.2 -0.2
ISA pmax pmax
comp=Z,20nm,1.3s
ISA **Isabella, Lake** 35.62 310 P P 20 30 12.8 +1.4
baz=114
CWC **Cottonwood Cre** 35.66 311 P P 20 30 13.2 +1.3
baz=116
LCH **Last Change Ra** 35.70 312 P P 20 30 12.8 +0.6
TPH **Tonopah** 35.80 314 P P 20 30 13.6 +0.5
TPH **Tonopah** 35.80 314 P P 20 30 13.6 +0.5
TPH pmax pmax
comp=Z,90nm,1.1s
ELK **Elko** 35.89 319 LR LR 20 48 20.8
comp=Z,695nm,18.9s,baz=157,slow=42
ELK **Elko** 35.89 319 P P 20 30 14.0 +0.2
ELK **Elko** 35.89 319 P P 20 30 14.0 +0.2
ELK pmax pmax
comp=Z,7.0nm,1.0s
DGMT **Dagmar** 35.93 338 P P 20 30 14.0 +0.1
DGMT IAmb IAmb 20 31 08.2
comp=Z,24nm,0.8s
DGMT **Dagmar** 35.93 338 P P 20 30 13.9 +0.1
baz=147
YHH **Holmes Hill** 35.96 328 P P 20 30 15.7 +1.2
DSP **Deep Springs** 35.99 313 P P 20 30 15.8 +1.4
DSP IAmb IAmb 20 30 28.9
comp=Z,50nm,1.8s
TIN **Tinemaha, Big** 36.04 312 P P 20 30 15.9 +0.9
baz=116
GCMT **Greycliff** 36.10 330 P P 20 30 15.0 -0.4
YHL **Hebgen Lake** 36.17 328 P P 20 30 17.7 +1.4
LPAZ **La Paz** 36.22 152 P P 20 30 17.1 -0.2
comp=Z,1.5nm,0.7s,baz=2.5,slow=11,SNR=5.8
LPAZ LR LR 20 47 12.9
comp=Z,734nm,19.6s,baz=308,slow=40
comp=Z,1.5nm,0.7s
LPAZ **La Paz** 36.22 152 P P 20 30 17.5 +0.2
LPAZ **La Paz** 36.22 152 P P 20 30 17.5 +0.2
LPAZ pmax pmax
comp=Z,10.0nm,1.3s
LPAZ **La Paz** 36.22 152 eP P 20 30 17.8 +0.5
PKM **Mcpherson Peak** 36.32 308 P P 20 30 18.9 +1.4
baz=112
NV11 **Mina Array Sit** 36.62 314 P P 20 30 20.7 +0.7
NVAR **Mina Array Bea** 36.72 314 P P 20 30 22.1 +1.1
comp=Z,6.2nm,1.0s,baz=122,slow=8.6,SNR=18
NVAR PcP PcP 20 32 44.2 +0.7
comp=Z,4.5nm,0.9s,baz=129,slow=4.8,SNR=4.8
NVAR LR LR 20 49 10.9
comp=Z,1μm,18.0s,baz=150,slow=43
comp=Z,6.2nm,1.0s
NVAR **Mina Array Bea** 36.72 314 P P 20 30 21.9 +0.9
LHV **Little Huntoon** 36.77 313 P P 20 30 22.4 +1.3
LHV IAmb IAmb 20 30 51.9
comp=Z,68nm,1.8s
OMMB **Old Mammoth Mi** 36.83 312 P P 20 30 22.0 0.0
KVN **Kaiserville** 36.87 315 P P 20 30 23.2 +1.0
KVN **Kaiserville** 36.87 315 P P 20 30 23.2 +1.0
KVN pmax pmax
comp=Z,10.0nm,0.8s
BOZ **Bozeman (W)** 36.92 328 P P 20 30 22.6 +0.2
BOZ **Bozeman (W)** 36.92 328 P P 20 30 22.6 +0.2
BOZ pmax pmax
comp=Z,13nm,1.3s
BOZ **Bozeman (W)** 36.92 328 P P 20 30 22.8 +0.4
baz=134
RYN **Ryan** 36.96 314 P P 20 30 23.5 +0.6
BMN **Battle Mountai** 36.98 317 P P 20 30 23.1 0.0
BMN **Battle Mountai** 36.98 317 P P 20 30 23.1 0.0
BMN pmax pmax
comp=Z,20nm,1.1s
MCMT **McKenzie Canyo** 37.02 327 P P 20 30 24.4 +0.9
HLID **Hailey** 37.07 324 P P 20 30 24.1 +0.3
HLID **Hailey** 37.07 324 P P 20 30 24.5 +0.7
baz=128
NPGB **Novo Progresso** 37.29 126 eP P 20 30 25.4 -0.3
PB16 **IPOC Station P** 37.45 155 P P 20 30 28.3 +0.6
PB16 IAmb IAmb 20 30 34.6
comp=Z,91nm,1.9s
LRM **Limekiln Ridge** 37.49 328 P P 20 30 27.4 -0.1
WAKR **Walker** 37.54 313 P P 20 30 29.4 +1.5
YERR **Yerington** 37.62 314 P P 20 30 29.1 +0.5
MFID **Camas Ranch** 37.80 322 P P 20 30 30.0 +0.1
EGMT **Eagleton** 37.80 333 P P 20 30 30.2 +0.4
EGMT IAmb IAmb 20 30 54.8
comp=Z,32nm,1.1s
EGMT **Eagleton** 37.80 333 P P 20 30 29.8 0.0
baz=139
VILB **Vilhena** 37.88 138 P P 20 30 29.8 -0.9
VILB IAmb IAmb 20 30 46.0
comp=Z,18nm,0.9s
VILB **Vilhena** 37.88 138 eP P 20 30 30.6 -0.1
PNTR **Pine Nut** 37.92 314 P P 20 30 30.2 -0.9
CMB **Columbia Colle** 38.01 312 P P 20 30 34.1 +2.4
CMB **Columbia Colle** 38.01 312 P P 20 30 34.1 +2.4
CMB pmax pmax
comp=Z,17nm,1.4s
VCNR **Virginia City** 38.05 314 P P 20 30 32.9 +0.7
PAHR **Pah Rah Range** 38.06 315 P P 20 30 33.5 +1.3
GO01 **Chusmiza** 38.78 156 P P 20 30 40.5 +1.7
BEKR **Beckworth** 38.80 315 P P 20 30 39.3 +0.8
PLID **Pearl Lake** 38.91 325 P P 20 30 39.2 -0.2
MSO **Missoula** 38.93 328 P P 20 30 38.9 -0.5
MSO **Missoula** 38.93 328 P P 20 30 39.3 -0.1
baz=132
WVOR **Wild Horse Val** 38.95 319 P P 20 30 40.2 +0.6
WVOR **Wild Horse Val** 38.95 319 P P 20 30 40.2 +0.6
PB08 **IPOC Station P** 39.23 156 P P 20 30 43.3 +1.0
PDRB **Porto dos Gac** 39.25 133 eP P 20 30 41.2 -1.1
J08A **Circle Bar Ran** 39.34 321 P P 20 30 43.3 +0.4
CLDB **Colider** 39.42 131 eP P 20 30 42.1 -1.5
ORV **Oroville** 39.45 314 P P 20 30 44.5 +0.8
ORV **Oroville** 39.45 314 P P 20 30 44.5 +0.8
ORV pmax pmax
comp=Z,26nm,1.6s
BMO **Blue Mountains** 39.51 323 P P 20 30 45.2 +1.0
BMO **Blue Mountains** 39.51 323 P P 20 30 45.2 +1.0
BMO pmax pmax
comp=Z,25nm,1.8s
SIV **San Ignacio** 39.68 142 LR LR 20 47 29.2
comp=Z,894nm,20.0s,baz=344,slow=37
MOD **Modoc Plateau** 39.74 318 P P 20 30 46.3 0.0
PB01 **IPOC Station P** 39.92 157 P P 20 30 49.2 +1.4
DRLN **Deer Lake** 39.96 28 P P 20 30 47.9 +0.1
DRLN IAmb IAmb 20 30 49.7
comp=Z,99nm,1.4s
F10A **Beach Ranch, E** 40.13 325 P P 20 30 49.2 -0.2
I07A **Izee** 40.37 321 P P 20 30 51.8 +0.4
PTLB **Pontes e Lacer** 40.43 140 P P 20 30 50.6 -1.4
PTLB IAmb IAmb 20 31 08.1
comp=Z,24nm,1.7s

PTLB **Pontes e Lacer** 40.43 140 eP P 20 30 51.3 -0.7
G08A **Pilot Rock** 40.71 323 P P 20 30 56.0 +1.8
TMAB **Tom-Au,PA,Br** 40.84 113 eP P 20 30 56.1 +0.6
E09A **Wood Farm, Sta** 40.97 325 P P 20 30 56.6 +0.4
J05D **Fort Rock, OR** 41.02 319 P P 20 30 57.2 +0.3
baz=120
SCHQ **Schefferville** 41.16 16 P P 20 30 56.5 -1.1
comp=Z,41nm,1.1s,baz=212,slow=7.1,SNR=10
SCHQ LR LR 20 48 06.3
comp=Z,1μm,19.1s,baz=207,slow=36
comp=Z,41nm,1.1s
SCHQ **Schefferville** 41.16 16 P P 20 30 57.4 -0.2
SCHQ IAmb IAmb 20 30 58.6
comp=Z,60nm,1.3s
L04D **Klamath Falls** 41.19 317 P P 20 30 57.1 -1.2
baz=118
YBH **Yreka Blue Hor** 41.24 316 LR LR 20 52 50.8
comp=Z,831nm,18.1s,baz=146,slow=43
PB06 **IPOC Station P** 41.41 158 P P 20 31 00.1 0.0
NEW **Newport** 41.50 328 P P 20 31 00.5 -0.1
NEW **Newport** 41.50 328 P P 20 31 00.5 -0.1
NEW pmax pmax
comp=Z,13nm,1.4s
LVC **Limon Verde** 41.56 157 LR LR 20 47 36.3
comp=Z,322nm,20.2s,baz=317,slow=35
LVC **Limon Verde** 41.56 157 eP P 20 31 02.7 +1.0
HAWA **Hanford** 41.67 324 P P 20 31 01.7 -0.3
D08A **Wollman Farm,** 41.72 325 P P 20 31 03.2 +0.8
D08A IAmb IAmb 20 31 08.5
comp=Z,54nm,1.9s
C09A **Chrisman Ranch** 41.81 326 P P 20 31 02.8 -0.3
H04A **Detroit Lake** 42.32 320 P P 20 31 07.0 -0.4
HOOD **Mount Hood Mea** 42.32 321 P P 20 31 08.7 +1.2
B08A **Colville Reser** 42.72 326 P P 20 31 10.6 +0.1
SALV **Santo Antonio** 42.98 136 eP P 20 31 12.4 -0.6
LON **Longmire** 43.17 323 P P 20 31 14.2 -0.1
LON **Longmire** 43.17 323 P P 20 31 14.2 -0.1
LON pmax pmax
comp=Z,12nm,1.0s
EDM **Edmonton** 43.22 335 P P 20 31 14.2 -0.3
EDM IAmb IAmb 20 31 37.8
comp=Z,73nm,1.6s
EDM **Edmonton** 43.22 335 P P 20 31 14.2 -0.3
EDM pmax pmax
comp=Z,73nm,1.6s
SNDB **Serra Nova Dou** 43.48 128 eP P 20 31 17.6 +0.5
SMTB **Santa Maria do** 44.58 121 eP P 20 31 26.7 +0.8
ROSB **Rosrio** 44.61 111 eP P 20 31 26.2 +0.1
AC02 **Maricunga** 45.37 160 P P 20 31 33.2 +0.7
LLLB **Lillooet** 45.39 328 P P 20 31 32.4 +0.4
BRLDA **Berland Lookou** 45.52 334 P P 20 31 32.3 -0.7
BRLDA IAmb IAmb 20 31 39.0
comp=Z,20nm,0.9s
AQDB **Aquidauana** 46.36 141 P P 20 31 38.8 -1.0
AQDB IAmb IAmb 20 31 41.3
comp=Z,19nm,1.0s
AQDB **Aquidauana** 46.36 141 eP P 20 31 39.5 -0.4
AC05 **El Transito** 46.87 162 P P 20 31 44.4 +0.5
AC05 IAmb IAmb 20 33 18.1
comp=Z,22nm,1.3s
CBB **Campbell River** 46.93 325 P P 20 31 45.2 +1.1
CBB IAmb IAmb 20 32 13.9
comp=Z,65nm,1.9s
WAPA **Wapiti River** 47.05 334 P P 20 31 43.6 -1.4
WAPA IAmb IAmb 20 31 58.0
comp=Z,30nm,1.4s
GO04 **Tololo Observa** 47.98 163 P P 20 31 52.5 -0.2
GO04 IAmb IAmb 20 31 56.5
comp=Z,29nm,1.4s
BDFB **Brasilia** 48.25 129 P P 20 31 54.4 -0.5
comp=Z,5.6nm,0.8s,baz=292,slow=5.4,SNR=6.0
BDFB LR LR 20 53 32.0
comp=Z,882nm,19.3s,baz=309,slow=38
comp=Z,5.6nm,0.8s
BDFB **Brasilia** 48.25 129 P P 20 31 54.9 +0.1
BDFB **Brasilia** 48.25 129 P P 20 31 54.9 +0.1
BDFB pmax pmax
comp=Z,10.0nm,1.1s
BDFB **Brasilia** 48.25 129 eP P 20 31 55.1 +0.3
CO03 **El Pedregal** 48.64 164 P P 20 31 57.7 +0.1
CO03 IAmb IAmb 20 32 03.2
comp=Z,15nm,1.0s
SDBA **SAO DESIDERIO** 48.74 123 eP P 20 31 58.2 -0.4
CO02 **Combarbal** 48.90 164 P P 20 32 00.0 +0.4
CO02 IAmb IAmb 20 32 02.5
comp=Z,26nm,1.2s
FRB **Frobisher Bay** 48.97 10 LR LR 20 52 51.3
comp=Z,2μm,18.3s,baz=200,slow=36
BBB **Bella Bella** 49.52 326 LR LR 20 55 06.0
comp=Z,699nm,21.4s,baz=134,slow=39
IPMB **Ipameri, GO** 49.60 132 eP P 20 32 05.2 +0.1
PCMB **Pacaembu** 49.98 138 eP P 20 32 09.3 +1.3
CPUP **Villa Florida** 50.02 147 P P 20 32 05.5 -2.5
comp=Z,2.3nm,0.8s,baz=323,slow=10,SNR=2.0
CPUP LR LR 20 55 07.5
comp=Z,605nm,20.5s,baz=330,slow=38
CPUP **Villa Florida** 50.02 147 eP P 20 32 09.6 +1.5
JANB **Januaria** 50.73 126 eP P 20 32 13.4 -0.4
YKA **Yellowknife Ar** 50.81 343 P P 20 32 12.6 -0.9
comp=Z,5.7nm,0.9s,baz=138,slow=7.7,SNR=12
YKA LR LR 20 53 40.9
comp=Z,267nm,20.8s,baz=140,slow=36
comp=Z,5.7nm,0.9s
YKA **Yellowknife Ar** 50.81 343 P P 20 32 13.7 +0.2
YKA **Yellowknife Ar** 50.81 343 P P 20 32 13.7 +0.2
T35M **Bob Quinn** 53.06 331 P P 20 32 32.2 +1.7
baz=121
DIAM **Diamantina, MG** 53.15 128 eP P 20 32 32.3 +0.5
RCBR **Riachuelo** 53.26 110 LR LR 20 56 42.0
comp=Z,1μm,19.8s,baz=84,slow=38
RCBR **Riachuelo** 53.26 110 P P 20 32 33.6 +1.0
RCBR IAmb IAmb 20 32 34.7
comp=Z,40nm,1.2s
RCBR **Riachuelo** 53.26 110 P P 20 32 33.6 +1.0
RCBR pmax pmax
comp=Z,40nm,1.2s
RCBR **Riachuelo** 53.26 110 eP P 20 32 33.1 +0.4
DLBC **Dease Lake** 53.73 333 LR LR 20 59 16.5
comp=Z,808nm,18.6s,baz=130,slow=40
DLBC **Dease Lake** 53.73 333 P P 20 32 36.9 +1.4
DLBC IAmb IAmb 20 32 52.2
comp=Z,22nm,0.9s
DLBC **Dease Lake** 53.73 333 P P 20 32 36.5 +1.0
baz=122,SNR=8.9
GDU01 **Guandu, BA** 53.80 121 eP P 20 32 36.8 +0.3
S34M **Telegraph Cree** 53.95 332 P P 20 32 37.8 +0.9
baz=121
WRGLY **Wrigley** 54.10 340 P P 20 32 37.4 -0.6
baz=132
WTLY **Watson Lake, Y** 54.13 335 P P 20 32 38.7 +0.4
WTLY **Watson Lake, Y** 54.13 335 P P 20 32 38.8 +0.5
baz=125
R33M **Jennings River** 54.65 333 P P 20 32 43.0 +0.7
baz=122,SNR=8.4
CMC01 **Camacan, BA** 54.72 123 eP P 20 32 42.7 -0.5
TGTN **Hyland Airport** 54.75 336 P P 20 32 43.4 +0.6
baz=126
Q32M **Nakina River** 55.00 332 P P 20 32 45.0 +0.2
baz=120
GUA01 **Guaratinga, BA** 55.16 124 eP P 20 32 46.4 0.0
S32K **Killisnoo** 55.35 330 P P 20 32 48.0 +0.9
baz=117
SIT **Sitka** 55.53 329 P P 20 32 49.7 +1.3
baz=116
SFJD **Kangerlussuaq** 55.61 16 LR LR 20 55 58.5
comp=Z,1μm,20.7s,baz=218,slow=35
R32K **Eaglecrest** 55.69 331 P P 20 32 49.6 -0.1
baz=118
P33M **Teslin, Yukon** 55.88 333 P P 20 32 51.3 +0.3
baz=121
P32M **Atlin** 55.96 333 P P 20 32 51.5 -0.1
baz=119
RIB01 **Linhares ES** 56.24 127 eP P 20 32 53.8 -0.3
DY2G **Dye2** 56.43 18 eP P 20 32 52.3 -2.7
DY2G IAmb IAmb 20 33 05.9
comp=Z,437nm,2.8s
MMPY **Sheldon Lake,** 56.53 336 P P 20 32 56.4 +0.8
baz=124,SNR=7.5
SKAG **Skagway** 56.62 332 P P 20 32 56.5 +0.3
baz=118
WHY **Whitehorse** 56.99 333 P P 20 32 58.6 -0.4
WHY IAmb IAmb 20 33 05.2
comp=Z,37nm,1.9s
WHY **Whitehorse** 56.99 333 P P 20 32 58.9 -0.1
baz=119

PLBC **Pleasant Camp** 57.09 332 P P 20 33 00.7 +1.1
baz=116
FARO **Faro, Yukon** 57.14 335 P P 20 33 00.1 +0.1
FARO **Faro, Yukon** 57.14 335 P P 20 33 01.4 +1.4
baz=121
M31M **Drury Creek, Y** 57.55 335 P P 20 33 02.4 -0.4
M31M IAmb IAmb 20 33 04.9
comp=Z,41nm,1.8s
M31M **Drury Creek, Y** 57.55 335 P P 20 33 03.4 +0.6
baz=120
O30N **Mendenhall** 57.57 333 P P 20 33 04.0 +1.0
baz=118,SNR=9.4
P30M **Million Dollar** 57.66 332 P P 20 33 04.6 +0.9
baz=116
N31M **Braeburn, Yuko** 57.77 334 P P 20 33 04.5 +0.1
N31M IAmb IAmb 20 33 11.1
comp=Z,39nm,1.6s
N31M **Braeburn, Yuko** 57.77 334 P P 20 33 04.9 +0.5
baz=118
P29M **Windy Craggy** 57.79 331 P P 20 33 05.5 +1.0
P29M IAmb IAmb 20 33 11.6
comp=Z,29nm,1.1s
P29M **Windy Craggy** 57.79 331 P P 20 33 05.4 +0.8
baz=115
PLCA **Paso Flores** 58.10 167 P P 20 33 06.0 -0.9
comp=Z,3.5nm,0.9s,baz=343,slow=10,SNR=6.4
comp=Z,3.5nm,0.9s
PLCA **Paso Flores** 58.10 167 eP P 20 33 06.9 0.0
ISOG **Isortoq, Green** 58.13 21 eP P 20 33 04.8 -2.0
ISOG IAmb IAmb 20 33 05.3
comp=Z,52nm,1.1s
HYT **Haines Junctio** 58.21 333 P P 20 33 08.4 +0.9
HYT **Haines Junctio** 58.21 333 P P 20 33 08.3 +0.7
baz=116
N30M **Aishikik Lake** 58.31 334 P P 20 33 08.8 +0.6
baz=117,SNR=6.1
O29M **Mount Kennedy** 58.46 332 P P 20 33 09.8 +0.4
baz=115
NUUG **Nuugaatsiaq** 58.59 11 IAmb IAmb 20 33 10.4
comp=Z,339nm,2.2s
NUUG *i* P P 20 33 10.5 +0.6
YUK6 **Outpost Mounta** 58.64 333 P P 20 33 11.1 +0.4
baz=115
BCPM **Bancas Point** 58.80 331 P 20 33 11.9 +0.3
BCPM IAmb IAmb 20 33 13.9
comp=Z,21nm,1.1s
RES **Resolute Bay** 58.87 357 LR LR 20 59 39.3
comp=Z,746nm,19.1s,baz=168,slow=37
YUK4 **Talbot Arm** 58.94 333 P P 20 33 12.4 -0.4
baz=115
PINM **Pinnacle** 59.14 331 P P 20 33 14.9 +0.8
baz=113
PCA **Pinnacle** 59.15 331 P P 20 33 14.2 +0.2
M29M **Somme Creek** 59.34 334 P P 20 33 16.1 +0.7
baz=116,SNR=13
O28M **Mount Upton** 59.38 332 P P 20 33 17.0 +1.1
baz=113
L29M **L29M** 59.50 335 P P 20 33 16.9 +0.4
baz=117,SNR=7.6
K29M **Barlow Dome** 59.59 336 P P 20 33 17.4 +0.2
baz=118,SNR=6.9
TABL **Table Mountain** 59.69 332 P P 20 33 19.0 +1.0
TABL IAmb IAmb 20 34 44.3
comp=Z,34nm,1.2s
LOGN **Logan Glacier** 59.77 332 P P 20 33 19.4 +1.0
LOGN IAmb IAmb 20 33 20.7
comp=Z,16nm,1.2s
YUK3 **Moose Creek** 59.91 333 P P 20 33 20.0 +0.6
baz=114,SNR=5.2
TAOE **Nuku Hiva Isla** 59.92 250 eLR LR 20 51 02.8
comp=Z,434nm,26.4s
YAH **Yahtse** 59.93 331 P P 20 33 20.8 +1.2
YAH IAmb IAmb 20 34 44.8
comp=Z,24nm,1.2s
MESA **MESA** 59.96 331 P P 20 33 20.8 +1.0
baz=111
CTGM **Chitina Glacie** 59.97 332 P P 20 33 20.8 +1.0
CTGM IAmb IAmb 20 33 22.3
comp=Z,22nm,1.4s
CTG **Chitna Glacier** 59.98 332 P P 20 33 20.9 +1.0
baz=112
ICESG **Greenland Ices** 60.05 17 *i* P P 20 33 18.6 -1.8
ICESG IAmb IAmb 20 33 19.3
comp=Z,58nm,1.2s
F31M **Tsiigehtchic** 60.09 340 P P 20 33 20.1 -0.2
baz=124
ISLE **Juniper Island** 60.30 331 P P 20 33 22.9 +0.8
ISLE IAmb IAmb 20 33 24.2
comp=Z,23nm,1.2s
BVCY **Beaver Creek** 60.34 334 P P 20 33 22.6 +0.5
baz=114,SNR=5.0
DAWY **Dawson** 60.43 336 P P 20 33 22.4 -0.4
baz=116
WAX **Waxell Ridge** 60.48 331 P P 20 33 23.7 +0.5
INK **Inuvik** 60.51 341 P P 20 33 23.7 +0.6
INK **Inuvik** 60.51 341 P P 20 33 23.7 +0.6
INK pmax pmax
comp=Z,39nm,1.3s
INK **Inuvik** 60.51 341 P P 20 33 23.0 -0.2
baz=124,SNR=6.4
EPYK **Eagle Plains** 60.52 339 P P 20 33 24.0 +0.6
EPYK IAmb IAmb 20 33 25.1
comp=Z,30nm,1.2s
EPYK **Eagle Plains** 60.52 339 P P 20 33 23.0 -0.4
baz=120,SNR=5.5
TGL **Tana Glacier** 60.58 332 P P 20 33 24.8 +0.9
TGL IAmb IAmb 20 33 26.1
comp=Z,23nm,1.2s
I29M **Ogilvie Camp,** 60.60 337 P P 20 33 24.1 +0.2
I29M IAmb IAmb 20 34 10.0
comp=Z,50nm,2.0s
I29M **Ogilvie Camp,** 60.60 337 P P 20 33 24.0 +0.1
baz=118
M27K **Edge Creek, AK** 60.75 333 P P 20 33 26.1 +1.0
M27K IAmb IAmb 20 33 27.2
comp=Z,19nm,1.1s
M27K **Edge Creek, AK** 60.75 333 P P 20 33 25.6 +0.4
baz=113,SNR=11
MCARA **McCarthy VSAT** 60.89 332 P P 20 33 26.9 +1.0
MCARA IAmb IAmb 20 33 28.4
comp=Z,19nm,1.0s
MCARA **McCarthy VSAT** 60.89 332 P P 20 33 26.9 +1.0
baz=111,SNR=6.4
BCAR **Beaver Creek A** 60.99 334 P P 20 33 27.2 +0.6
L27K **Beaver Creek,** 61.00 334 P P 20 33 27.4 +0.7
L27K IAmb IAmb 20 33 28.6
comp=Z,17nm,1.3s
L27K **Beaver Creek,** 61.00 334 P P 20 33 27.3 +0.6
baz=113,SNR=10
M26K **Nabesna, AK** 61.25 333 P P 20 33 29.2 +0.8
M26K **Nabesna, AK** 61.25 333 P P 20 33 29.2 +0.8
baz=112,SNR=5.4
GLB **Gilahina Butte** 61.26 332 P P 20 33 28.4 -0.2
GLB IAmb IAmb 20 33 30.8
comp=Z,19nm,1.2s
EGAK **Eagle** 61.43 336 P P 20 33 28.6 -0.9
EGAK IAmb IAmb 20 33 46.7
comp=Z,16nm,1.5s
EGAK **Eagle** 61.43 336 P P 20 33 29.5 0.0
baz=114
BMRM **Bremner River** 61.47 331 P P 20 33 30.9 +1.0
BMRM IAmb IAmb 20 33 34.8
comp=Z,14nm,0.8s
BMRM **Bremner River** 61.47 331 P P 20 33 30.9 +1.0
baz=109
K27K **Chicken** 61.49 335 P P 20 33 30.7 +0.8
K27K IAmb IAmb 20 33 46.4
comp=Z,39nm,2.0s
K27K **Chicken** 61.49 335 P P 20 33 30.7 +0.8
baz=113
L26K **Log Cabin Wild** 61.63 334 P P 20 33 32.0 +1.0
L26K IAmb IAmb 20 33 33.1
comp=Z,21nm,1.2s
L26K **Log Cabin Wild** 61.63 334 P P 20 33 31.5 +0.6
baz=112,SNR=9.1
N25K **Chitina, Valde** 61.67 332 P P 20 33 32.7 +1.3
N25K IAmb IAmb 20 33 33.8
comp=Z,18nm,1.1s
N25K **Chitina, Valde** 61.67 332 P P 20 33 32.6 +1.3
baz=110,SNR=7.7
MENT **Mentasta** 61.76 334 P P 20 33 31.6 -0.3
MENT IAmb IAmb 20 33 35.0
comp=Z,12nm,1.1s
EYAK **Cordova Ski Ar** 61.86 331 P P 20 33 33.0 +0.6
baz=108
I27K **Kandik River** 61.95 337 P P 20 33 33.8 +0.7
baz=114,SNR=8.1

DIV	**Divide**	**62.05**	**331**	P	**P**	**20 33 34.3**	**+0.4**
DIV				IAmb	IAmb	20 33 35.9	
	comp=Z,30nm,1.4s						
DOT	**Dot Lake**	**62.16**	**334**	P	**P**	**20 33 35.1**	**+0.6**
H27K	**Steamboat Moun**	**62.18**	**338**	P	**P**	**20 33 36.0**	**+1.4**
	baz=115,SNR=20						
HARP	**HAARP**	**62.19**	**333**	P	**P**	**20 33 36.5**	**+1.8**
	baz=109						
KLU	**Klutina**	**62.24**	**332**	P	**P**	**20 33 36.2**	**+1.1**
KLU				IAmb	IAmb	20 33 37.2	
	comp=Z,24nm,1.2s						
KLU	**Klutina**	**62.24**	**332**	P	**P**	**20 33 36.0**	**+0.8**
	baz=108,SNR=7.7						
SCRK	**Sand Creek**	**62.25**	**335**	P	**P**	**20 33 36.1**	**+0.9**
SCRK				IAmb	IAmb	20 33 41.2	
	comp=Z,13nm,1.1s						
SCRK	**Sand Creek**	**62.25**	**335**	P	**P**	**20 33 36.0**	**+0.8**
	baz=111						
FID	**Port Fidalgo**	**62.27**	**331**	P	**P**	**20 33 36.4**	**+1.2**
J26L	**Joseph Creek**	**62.27**	**335**	P	**P**	**20 33 36.3**	**+0.9**
J26L				IAmb	IAmb	20 33 38.9	
	comp=Z,16nm,1.2s						
J26L	**Joseph Creek**	**62.27**	**335**	P	**P**	**20 33 35.7**	**+0.4**
	baz=112						
I26K	**Coal Creek Min**	**62.42**	**336**	P	**P**	**20 33 36.7**	**+0.5**
I26K	**Coal Creek Min**	**62.42**	**336**	P	**P**	**20 33 36.9**	**+0.7**
	baz=113						
G27K	**Doyon Strip**	**62.48**	**338**	P	**P**	**20 33 37.1**	**+0.5**
	baz=115,SNR=5.6						
SUMG	**Summit**	**62.51**	**14**	P	**P**	**20 33 36.1**	**-1.1**
SUMG	**Summit**	**62.51**	**14**	P	**P**	**20 33 36.1**	**-1.1**
SUMG				pmax	pmax		
	comp=Z,67nm,1.2s						
SUMG	**Summit**	**62.51**	**14**	*i* P	**P**	**20 33 36.7**	**-0.5**
SUMG				IAmb	IAmb	20 33 37.5	
	comp=Z,66nm,1.2s						
PAX	**Paxson**	**62.52**	**333**	P	**P**	**20 33 37.1**	**+0.1**
PAX				IAmb	IAmb	20 33 38.7	
	comp=Z,26nm,1.0s						
PAX	**Paxson**	**62.52**	**333**	P	**P**	**20 33 37.1**	**+0.1**
PAX				pmax	pmax		
	comp=Z,26nm,1.0s						
PAX	**Paxson**	**62.52**	**333**	P	**P**	**20 33 37.6**	**+0.6**
	baz=109,SNR=17						
RIDG	**Independent Ri**	**62.52**	**334**	P	**P**	**20 33 38.2**	**+1.3**
RIDG	**Independent Ri**	**62.52**	**334**	P	**P**	**20 33 38.0**	**+1.1**
	baz=110,SNR=23						
M24K	**Tolsona, Glenn**	**62.55**	**332**	P	**P**	**20 33 38.1**	**+1.0**
M24K	**Tolsona, Glenn**	**62.55**	**332**	P	**P**	**20 33 38.4**	**+1.3**
	baz=108,SNR=11						
GLI	**Glacier Island**	**62.59**	**331**	P	**P**	**20 33 38.5**	**+1.1**
	baz=107						
K24K	**Donnelly Dome**	**62.93**	**334**	P	**P**	**20 33 40.2**	**+0.5**
	baz=110,SNR=9.7						
SCM	**Sheep Creek Mo**	**62.98**	**332**	P	**P**	**20 33 40.3**	**+0.2**
SCM	**Sheep Creek Mo**	**62.98**	**332**	P	**P**	**20 33 40.3**	**+0.2**
SCM				pmax	pmax		
	comp=Z,38nm,1.3s						
SCM	**Sheep Creek Mo**	**62.98**	**332**	P	**P**	**20 33 40.8**	**+0.7**
	baz=107						
J25K	**Salcha River,**	**63.04**	**335**	P	**P**	**20 33 40.5**	**+0.1**
J25K	**Salcha River,**	**63.04**	**335**	P	**P**	**20 33 41.1**	**+0.7**
	baz=110						
E27K	**Coleen River**	**63.05**	**340**	P	**P**	**20 33 41.2**	**+0.8**
	baz=116,SNR=9.4						
M23K	**Glacier View**	**63.15**	**332**	P	**P**	**20 33 41.6**	**+0.4**
	baz=107						
PWL	**Port Wells**	**63.17**	**331**	P	**P**	**20 33 41.5**	**+0.2**
	baz=106						
G26K	**Porcupine Rive**	**63.30**	**338**	P	**P**	**20 33 42.1**	**+0.1**
	baz=113,SNR=9.5						
DHY	**Denali Highway**	**63.38**	**333**	P	**P**	**20 33 42.6**	**-0.1**
DHY				IAmb	IAmb	20 33 44.3	
	comp=Z,33nm,1.9s						
DHY	**Denali Highway**	**63.38**	**333**	P	**P**	**20 33 42.5**	**-0.3**
	baz=108						
KNK	**Knik Glacier**	**63.38**	**331**	P	**P**	**20 33 43.1**	**+0.4**
KNK				IAmb	IAmb	20 33 44.4	
	comp=Z,22nm,1.1s						
KNK	**Knik Glacier**	**63.38**	**331**	P	**P**	**20 33 42.6**	**0.0**
	baz=106,SNR=6.4						
WAT6	**Susitna Watana**	**63.39**	**333**	P	**P**	**20 33 42.9**	**0.0**
	baz=107,SNR=16						
PRP	**Porcupine Dome**	**63.42**	**336**	P	**P**	**20 33 43.5**	**+0.5**
PRP				IAmb	IAmb	20 33 44.9	
	comp=Z,29nm,1.3s						
PRP	**Porcupine Dome**	**63.42**	**336**	P	**P**	**20 33 43.2**	**+0.2**
	baz=111,SNR=11						
SML	**Sawmill**	**63.43**	**332**	P	**P**	**20 33 43.7**	**+0.7**
SML				IAmb	IAmb	20 33 44.7	
	comp=Z,28nm,1.4s						
SML	**Sawmill**	**63.43**	**332**	P	**P**	**20 33 42.8**	**-0.2**
	baz=106						
SEW	**Seward**	**63.51**	**330**	P	**P**	**20 33 43.3**	**-0.2**
	baz=104						
HDA	**Harding Lake**	**63.61**	**335**	P	**P**	**20 33 43.8**	**-0.3**
HDA	**Harding Lake**	**63.61**	**335**	P	**P**	**20 33 44.8**	**+0.6**
	baz=109,SNR=21						
FYU	**Fort Yukon**	**63.69**	**337**	P	**P**	**20 33 45.2**	**+0.7**
NEEM	**North Greenlan**	**63.70**	**8**	*i* P	**P**	**20 33 44.0**	**-0.9**
NEEM				IAmb	IAmb	20 33 45.2	
	comp=Z,103nm,1.3s						
IL31		**63.71**	**335**	P	**P**	**20 33 45.2**	**+0.6**
ILAR	**Eielson Array**	**63.71**	**335**	P	**P**	**20 33 45.0**	**+0.3**
	comp=Z,20nm,0.9s,baz=114,slow=4.9,SNR=101						
ILAR				LR	LR	21 03 32.6	
	comp=Z,372nm,21.7s,baz=93,slow=38						
	comp=Z,20nm,0.9s						
ILAR	**Eielson Array**	**63.71**	**335**	P	**P**	**20 33 44.7**	**0.0**
ILAR	**Eielson Array**	**63.71**	**335**	P	**P**	**20 33 44.7**	**0.0**
F26K	**Sheenjek River**	**63.72**	**339**	P	**P**	**20 33 45.5**	**+0.7**
	baz=115,SNR=12						
PMR	**Palmer**	**63.74**	**331**	P	**P**	**20 33 45.3**	**+0.4**
PMR				IAmb	IAmb	20 33 46.4	
	comp=Z,17nm,1.2s						
PMR	**Palmer**	**63.74**	**331**	P	**P**	**20 33 45.3**	**+0.4**
PMR				pmax	pmax		
	comp=Z,17nm,1.2s						
PMR	**Palmer**	**63.74**	**331**	P	**P**	**20 33 44.5**	**-0.4**
	baz=105						
BMAR	**Burnt Mountain**	**63.77**	**338**	P	**P**	**20 33 45.4**	**+0.2**
H25K	**Birch Creek**	**63.80**	**337**	P	**P**	**20 33 46.1**	**+0.9**
	baz=111,SNR=10.0						
WAT1	**Susitna Watana**	**63.82**	**333**	P	**P**	**20 33 45.5**	**-0.1**
	baz=106						
RC01	**Rabbit Creek A**	**63.89**	**331**	P	**P**	**20 33 46.2**	**+0.2**
RC01				IAmb	IAmb	20 33 47.6	
	comp=Z,24nm,1.0s						
RC01	**Rabbit Creek A**	**63.89**	**331**	P	**P**	**20 33 45.3**	**-0.7**
	baz=104,SNR=5.4						
POKR	**Poker Plat Res**	**64.04**	**335**	P	**P**	**20 33 47.7**	**+0.7**
POKR				IAmb	IAmb	20 33 48.7	
	comp=Z,22nm,1.1s						
POKR	**Poker Plat Res**	**64.04**	**335**	P	**P**	**20 33 47.6**	**+0.7**
	baz=108						
CCB	**Clear Creek Bu**	**64.04**	**335**	P	**P**	**20 33 47.0**	**+0.1**
CCB				IAmb	IAmb	20 33 48.2	
	comp=Z,18nm,1.0s						
BRSE	**Bradley Lake S**	**64.05**	**329**	P	**P**	**20 33 47.2**	**+0.1**
	baz=103,SNR=5.2						
WRH	**Wood River Hil**	**64.10**	**335**	P	**P**	**20 33 47.3**	**0.0**
WRH				IAmb	IAmb	20 33 51.7	
	comp=Z,12nm,1.0s						
RND	**Reindeer**	**64.11**	**333**	P	**P**	**20 33 48.1**	**+0.6**
RND	**Reindeer**	**64.11**	**333**	P	**P**	**20 33 48.1**	**+0.6**
RND				pmax	pmax		
	comp=Z,85nm,1.1s						
BRLK	**Bradley Lake**	**64.13**	**329**	P	**P**	**20 33 48.1**	**+0.5**
COLA	**College**	**64.13**	**335**	P	**P**	**20 33 47.5**	**0.0**
COLA	**College**	**64.13**	**335**	P	**P**	**20 33 47.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,88nm,0.3s						
COLA	**College**	**64.13**	**335**	P	**P**	**20 33 46.4**	**-1.1**
	baz=108						
TCOL	**CIGO, UAF Yank**	**64.14**	**335**	P	**P**	**20 33 47.4**	**-0.1**
TCOL	**CIGO, UAF Yank**	**64.14**	**335**	P	**P**	**20 33 47.2**	**-0.4**
	baz=108						
F25K	**Christian Rive**	**64.21**	**338**	P	**P**	**20 33 49.3**	**+1.2**
	baz=111,SNR=14						
M22K	**Willow**	**64.24**	**331**	P	**P**	**20 33 48.5**	**+0.3**
M22K	**Willow**	**64.24**	**331**	P	**P**	**20 33 48.3**	**+0.1**
	baz=104						
MCK	**McKinley**	**64.24**	**334**	P	**P**	**20 33 48.9**	**+0.6**
MCK	**McKinley**	**64.24**	**334**	P	**P**	**20 33 48.9**	**+0.6**
MCK				pmax	pmax		
	comp=Z,35nm,1.1s						
MCK	**McKinley**	**64.24**	**334**	P	**P**	**20 33 48.5**	**+0.2**
	baz=106,SNR=11						
CNPM	**China Poot**	**64.25**	**329**	P	**P**	**20 33 48.9**	**+0.4**
CNPM				IAmb	IAmb	20 33 50.1	
	comp=Z,24nm,1.0s						
MDM	**Murphy Dome**	**64.31**	**335**	P	**P**	**20 33 49.2**	**+0.5**
MDM				IAmb	IAmb	20 33 50.2	
	comp=Z,24nm,1.2s						
C27K	**Jago River**	**64.36**	**341**	P	**P**	**20 33 49.2**	**+0.3**
	baz=114,SNR=5.4						
E25K	**Arctic Village**	**64.38**	**339**	P	**P**	**20 33 49.8**	**+0.7**
	baz=112,SNR=13						
H24K	**Noodor Dome**	**64.44**	**336**	P	**P**	**20 33 50.1**	**+0.5**
H24K				IAmb	IAmb	20 33 51.6	
	comp=Z,28nm,1.2s						
H24K	**Noodor Dome**	**64.44**	**336**	P	**P**	**20 33 49.8**	**+0.2**
	baz=108,SNR=14						
BORG	**Borgarnes**	**64.45**	**25**	LR	LR	21 02 12.9	
	comp=Z,324nm,18.5s,baz=253,slow=36						
SUA	**Susitna One**	**64.45**	**331**	P	**P**	**20 33 49.5**	**-0.4**
	baz=104						
CUT	**Chulitna**	**64.47**	**332**	P	**P**	**20 33 50.0**	**+0.2**
CUT	**Chulitna**	**64.47**	**332**	P	**P**	**20 33 49.3**	**-0.4**
	baz=105						
NEA2	**Nenana**	**64.55**	**335**	P	**P**	**20 33 50.2**	**0.0**
NEA2				IAmb	IAmb	20 33 51.6	
	comp=Z,17nm,1.0s						
NEA2	**Nenana**	**64.55**	**335**	P	**P**	**20 33 51.6**	**+1.3**
	baz=107,SNR=12						
G24K	**Hadweenzic Riv**	**64.57**	**337**	P	**P**	**20 33 51.3**	**+0.9**
	baz=109,SNR=12						
BWN	**Browne**	**64.59**	**334**	P	**P**	**20 33 51.0**	**+0.5**
KDAK	**Kodiak Island**	**64.60**	**327**	LR	LR	21 02 31.7	
	comp=Z,377nm,21.8s,baz=106,slow=36						
KDAK	**Kodiak Island**	**64.60**	**327**	*i* P	**P**	**20 33 52.5**	**+1.8**
KDAK	**Kodiak Island**	**64.60**	**327**	P	**P**	**20 33 52.4**	**+1.8**
	baz=100						
Q20K	**Shuyak Island**	**64.65**	**328**	P	**P**	**20 33 53.2**	**+2.2**
	baz=101						
TRF	**Thorofare Moun**	**64.75**	**333**	P	**P**	**20 33 52.1**	**+0.3**
TRF	**Thorofare Moun**	**64.75**	**333**	P	**P**	**20 33 51.8**	**0.0**
	baz=105,SNR=28						
I23K	**Minto, Yukon-K**	**64.83**	**335**	P	**P**	**20 33 52.5**	**+0.5**
I23K	**Minto, Yukon-K**	**64.83**	**335**	P	**P**	**20 33 52.5**	**+0.5**
	baz=107,SNR=40						
C26K	**Camden Bay**	**64.86**	**341**	P	**P**	**20 33 53.4**	**+1.2**
	baz=113						
OHAK	**Old Harbor**	**64.87**	**326**	P	**P**	**20 33 53.1**	**+0.7**
OHAK	**Old Harbor**	**64.87**	**326**	P	**P**	**20 33 52.9**	**+0.4**
	baz=99						
SKT	**Skwentna**	**64.94**	**331**	P	**P**	**20 33 53.2**	**+0.3**
SKT	**Skwentna**	**64.94**	**331**	P	**P**	**20 33 52.7**	**-0.2**
	baz=103,SNR=11						
F24K	**Squaw Lake**	**65.00**	**338**	P	**P**	**20 33 53.2**	**0.0**
	baz=109,SNR=5.6						
SPU	**Mount Spurr**	**65.00**	**331**	P	**P**	**20 33 53.7**	**+0.3**
KTH	**Kantishna Hill**	**65.05**	**333**	P	**P**	**20 33 53.9**	**+0.3**
O20K	**Slope Mountain**	**65.05**	**329**	P	**P**	**20 33 54.1**	**+0.3**
	baz=101						
N20K	**Mount Spurr**	**65.08**	**331**	P	**P**	**20 33 54.0**	**+0.1**
	baz=102						
SPCR	**Spurr Chakacha**	**65.08**	**331**	P	**P**	**20 33 53.9**	**0.0**
	baz=102						
H23K	**Yukon River**	**65.09**	**336**	P	**P**	**20 33 53.9**	**+0.1**
H23K				IAmb	IAmb	20 33 55.8	
	comp=Z,23nm,1.1s						
H23K	**Yukon River**	**65.09**	**336**	P	**P**	**20 33 54.8**	**+0.9**
	baz=107,SNR=12						
D25K	**Kavik River**	**65.10**	**340**	P	**P**	**20 33 55.1**	**+1.2**
	baz=102,SNR=12						
RSO	**Redoubt South**	**65.19**	**330**	P	**P**	**20 33 55.0**	**+0.2**
BPAW	**Bear Paw Mtn.**	**65.21**	**334**	P	**P**	**20 33 54.6**	**-0.1**
BPAW	**Bear Paw Mtn.**	**65.21**	**334**	P	**P**	**20 33 55.2**	**+0.5**
	baz=105,SNR=36						
SII	**Sitkinak Islan**	**65.26**	**325**	P	**P**	**20 33 55.4**	**+0.4**
	baz=98						
P19K	**Oil Pt**	**65.27**	**329**	P	**P**	**20 33 55.5**	**+0.4**
	baz=100						
ILSW	**Iliamna Southw**	**65.29**	**329**	P	**P**	**20 33 55.4**	**+0.1**
ILSW				IAmb	IAmb	20 33 56.4	
	comp=Z,29nm,1.1s						
Q19K	**Cape Douglas,**	**65.35**	**328**	P	**P**	**20 33 55.3**	**-0.3**
	baz=100						
MLY	**Manley**	**65.35**	**335**	P	**P**	**20 33 55.9**	**+0.3**
MLY	**Manley**	**65.35**	**335**	P	**P**	**20 33 56.1**	**+0.5**
	baz=105,SNR=49						
E24K	**Your Creek**	**65.39**	**338**	P	**P**	**20 33 55.9**	**+0.2**
	baz=109						
PPLA	**Purkeypile**	**65.45**	**332**	P	**P**	**20 33 56.5**	**+0.2**
PPLA	**Purkeypile**	**65.45**	**332**	P	**P**	**20 33 56.5**	**+0.2**
	baz=103,SNR=7.9						
CAST	**Castle Rocks**	**65.52**	**333**	P	**P**	**20 33 56.6**	**-0.1**
CAST				IAmb	IAmb	20 33 57.7	
	comp=Z,22nm,1.1s						
CAST	**Castle Rocks**	**65.52**	**333**	P	**P**	**20 33 56.1**	**-0.5**
	baz=103,SNR=15						
G23K	**Bananza Creek**	**65.54**	**337**	P	**P**	**20 33 58.0**	**+1.3**
	baz=107,SNR=14						
M20K	**Styx River**	**65.66**	**331**	P	**P**	**20 33 57.6**	**0.0**
M20K	**Styx River**	**65.66**	**331**	P	**P**	**20 33 57.6**	**0.0**
	baz=102						
CHUM	**Lake Minchumin**	**65.73**	**333**	P	**P**	**20 33 57.9**	**0.0**
	baz=103,SNR=6.0						
COLD	**Coldfoot**	**65.76**	**337**	P	**P**	**20 33 59.5**	**+1.4**
COLD	**Coldfoot**	**65.76**	**337**	P	**P**	**20 33 59.2**	**+1.1**
	baz=107,SNR=12						
BBTS	**Babate**	**65.77**	**81**	LR	LR	21 00 15.7	
	comp=Z,334nm,18.6s,baz=256,slow=34						
E23K	**Chandalar**	**65.79**	**338**	P	**P**	**20 34 00.1**	**+1.7**
	baz=108,SNR=18						
H22K	**Ishalitna Cre**	**65.84**	**336**	P	**P**	**20 33 59.2**	**+0.6**
	baz=105,SNR=8.8						
D24K	**Happy Valley**	**65.86**	**339**	P	**P**	**20 33 59.3**	**+0.6**
	baz=109						
I21K	**Tanana**	**65.90**	**335**	P	**P**	**20 33 59.1**	**+0.1**
I21K	**Tanana**	**65.90**	**335**	P	**P**	**20 33 59.6**	**+0.6**
	baz=104,SNR=27						
O19K	**Port Alsworth**	**65.91**	**329**	P	**P**	**20 33 59.0**	**-0.2**
O19K	**Port Alsworth**	**65.91**	**329**	P	**P**	**20 33 57.6**	**-1.5**
	baz=100						
CHIR	**Chirikof Islan**	**65.96**	**324**	P	**P**	**20 34 00.4**	**+0.8**
	baz=97						
TOLK	**Toolik Lake Re**	**65.96**	**339**	P	**P**	**20 33 59.9**	**+0.6**
TOLK				IAmb	IAmb	20 34 01.4	
	comp=Z,20nm,1.1s						
TOLK	**Toolik Lake Re**	**65.96**	**339**	P	**P**	**20 34 00.0**	**+0.6**
	baz=108,SNR=5.3						
Q18K	**Katmai Hardscr**	**66.01**	**327**	P	**P**	**20 33 59.7**	**-0.2**
	baz=98,SNR=5.7						
C24K	**Franklin Bluff**	**66.01**	**340**	P	**P**	**20 34 00.5**	**+0.8**
	baz=109						
N19K	**Bonanza Creek**	**66.09**	**330**	P	**P**	**20 33 59.7**	**-0.7**
N19K	**Bonanza Creek**	**66.09**	**330**	P	**P**	**20 34 00.5**	**0.0**
	baz=100,SNR=9.0						
L20K	**Farewell, AK**	**66.12**	**332**	P	**P**	**20 34 00.4**	**-0.1**
	baz=101,SNR=18						
G22K	**Bettles**	**66.16**	**337**	P	**P**	**20 34 02.1**	**+1.4**
	baz=105,SNR=10.0						
P18K	**Big Mountain,**	**66.23**	**328**	P	**P**	**20 34 00.3**	**-1.0**
	baz=99						
M19K	**Big River Lodg**	**66.25**	**331**	P	**P**	**20 34 01.8**	**+0.5**
M19K	**Big River Lodg**	**66.25**	**331**	P	**P**	**20 34 01.5**	**+0.1**
	baz=100,SNR=8.4						
O18K	**Koktuh Hills**	**66.29**	**329**	P	**P**	**20 34 01.7**	**0.0**
O18K	**Koktuh Hills**	**66.29**	**329**	P	**P**	**20 34 00.9**	**-0.8**
	baz=99						
H21K	**Melozitna Rive**	**66.35**	**335**	P	**P**	**20 34 01.9**	**0.0**
H21K				IAmb	IAmb	20 34 03.3	
	comp=Z,18nm,1.1s						
H21K	**Melozitna Rive**	**66.35**	**335**	P	**P**	**20 34 01.8**	**-0.2**
	baz=104,SNR=9.0						
K20K	**Telida**	**66.38**	**333**	P	**P**	**20 34 01.7**	**-0.5**
K20K	**Telida**	**66.38**	**333**	P	**P**	**20 34 02.2**	**+0.1**
	baz=101,SNR=26						
Q17K	**Contact Creek**	**66.41**	**327**	P	**P**	**20 34 02.7**	**+0.1**
	baz=98,SNR=12						
D23K	**Nanushuk River**	**66.44**	**339**	P	**P**	**20 34 03.3**	**+0.9**
	baz=107						
L19K	**White Mountain**	**66.51**	**331**	P	**P**	**20 34 02.4**	**-0.6**
L19K				IAmb	IAmb	20 34 04.2	
	comp=Z,21nm,1.2s						
L19K	**White Mountain**	**66.51**	**331**	P	**P**	**20 34 03.0**	**0.0**
	baz=100,SNR=7.7						
F22K	**John River**	**66.57**	**337**	P	**P**	**20 34 03.4**	**+0.1**
	baz=105						
J20K	**Nowinta River**	**66.58**	**334**	P	**P**	**20 34 03.2**	**-0.2**
J20K	**Nowinta River**	**66.58**	**334**	P	**P**	**20 34 03.8**	**+0.4**
	baz=102,SNR=15						
R17K	**Ugashik Creek**	**66.59**	**326**	P	**P**	**20 34 03.9**	**+0.3**
	baz=97,SNR=6.1						
E22K	**Anaktuvuk Pass**	**66.60**	**338**	P	**P**	**20 34 04.0**	**+0.5**
	baz=106						
SVW2	**Sparrevohn**	**66.67**	**330**	P	**P**	**20 34 03.5**	**-0.5**
SVW2				IAmb	IAmb	20 34 04.9	
	comp=Z,36nm,1.5s						
C23K	**Itkillik River**	**66.68**	**340**	P	**P**	**20 34 03.8**	**-0.1**
	baz=108,SNR=7.2						
N18K	**Kilae Creek**	**66.75**	**330**	P	**P**	**20 34 04.4**	**-0.2**
N18K	**Kilae Creek**	**66.75**	**330**	P	**P**	**20 34 04.3**	**-0.3**
	baz=99,SNR=5.6						
IMAR	**Indian Mountai**	**66.80**	**335**	P	**P**	**20 34 05.2**	**+0.4**
P17K	**Kvichak River**	**66.82**	**328**	P	**P**	**20 34 04.3**	**-0.7**
	baz=98						
G21K	**Allakaket**	**66.83**	**336**	P	**P**	**20 34 05.8**	**+0.9**
	baz=103,SNR=29						
Q16K	**King Salmon**	**66.86**	**327**	P	**P**	**20 34 06.8**	**+1.5**
	baz=97						
F21K	**Alatna River**	**66.99**	**337**	P	**P**	**20 34 07.1**	**+1.1**
	baz=104,SNR=20						
TTA	**Tatalina**	**67.17**	**332**	P	**P**	**20 34 06.6**	**-0.7**
TTA	**Tatalina**	**67.17**	**332**	P	**P**	**20 34 06.6**	**-0.7**
TTA				pmax	pmax		
	comp=Z,34nm,1.2s						
TTA	**Tatalina**	**67.17**	**332**	P	**P**	**20 34 07.2**	**-0.1**
	baz=99,SNR=12						
O17K	**Koliganek Bris**	**67.22**	**329**	P	**P**	**20 34 08.2**	**+0.6**
	baz=97						
CHGN	**Chignik**	**67.56**	**325**	P	**P**	**20 34 09.1**	**-0.6**
CHGN	**Chignik**	**67.56**	**325**	P	**P**	**20 34 09.8**	**+0.1**
	baz=94,SNR=7.4						
O16K	**Kokwok River B**	**67.71**	**328**	P	**P**	**20 34 10.6**	**0.0**
	baz=96						
CHNA	**Chernabura Isl**	**68.13**	**323**	P	**P**	**20 34 13.5**	**+0.1**
	baz=93						
N16K	**Nishlik Lake**	**68.14**	**329**	P	**P**	**20 34 13.1**	**-0.3**
	baz=96,SNR=6.4						
S14K	**Fog Glacier**	**68.19**	**325**	P	**P**	**20 34 14.3**	**+0.4**
	baz=94						
SDPT	**Sand Point**	**68.66**	**324**	P	**P**	**20 34 16.8**	**+0.1**
	baz=92						
DAG	**Danmarks Havn**	**69.11**	**13**	*i* P	**P**	**20 34 17.9**	**-1.2**
DAG				IAmb	IAmb	20 34 18.1	
	comp=Z,20nm,1.0s						
PCAS	**Casmilo, Conde**	**69.61**	**53**	*e*P	**P**	**20 34 24.2**	**+1.3**
	comp=Z,56nm,1.5s						
PGAV	**Gavieira, Arco**	**69.66**	**51**	*e*LR	LR	20 54 53.2	
	comp=Z,516nm,20.0s						
COI	**Coimbra**	**69.67**	**53**	P	**P**	**20 34 24.2**	**+1.0**
COI	**Coimbra**	**69.67**	**53**	P	**P**	**20 34 24.2**	**+1.0**
COI				pmax	pmax		
	comp=Z,86nm,1.4s						
MORF	**Marmelete**	**69.71**	**56**	*e*P	**P**	**20 34 24.5**	**+0.8**
MORF				IAmb	IAmb	20 34 26.4	
	comp=Z,169nm,1.8s						
MORF	**Marmelete**	**69.71**	**56**	*e*P	**P**	**20 34 25.0**	**+1.4**
MORF	**Marmelete**	**69.71**	**56**	*e*P	**P**	**20 34 24.5**	**+0.8**
PNCL	**Nicolau / Gran**	**69.74**	**55**	*e*P	**P**	**20 34 24.5**	**+0.8**
PCAB	**Cabril**	**69.86**	**51**	*e*P	**P**	**20 34 25.6**	**+1.2**
	comp=Z,46nm,1.4s						
PMTG	**Montargil**	**69.90**	**54**	*e*P	**P**	**20 34 25.5**	**+0.8**
	comp=Z,54nm,1.8s						
MESJ	**Messejana**	**70.01**	**55**	*e*P	**P**	**20 34 26.2**	**+0.8**
MESJ				IAmb	IAmb	20 34 27.1	
	comp=Z,30nm,1.3s						
MESJ	**Messejana**	**70.01**	**55**	*e*P	**P**	**20 34 26.3**	**+0.8**
	comp=Z,60nm,1.7s						
MESJ	**Messejana**	**70.01**	**55**	*e*P	**P**	**20 34 26.2**	**+0.8**
PVIS	**Viseu**	**70.03**	**52**	*e*P	**P**	**20 34 26.3**	**+0.8**
	comp=Z,48nm,1.3s						
POLO	**Lamas de Olo**	**70.05**	**51**	*e*P	**P**	**20 34 26.5**	**+0.8**
	comp=Z,14nm,1.5s						
EVO	**Evora**	**70.11**	**54**	*e*P	**P**	**20 34 26.9**	**+0.9**
	comp=Z,33nm,1.4s						
PCVE	**Castro Verde**	**70.17**	**55**	*e*P	**P**	**20 34 28.6**	**+2.2**
PBEJ	**Beja**	**70.27**	**55**	*e*P	**P**	**20 34 28.0**	**+1.0**
MTE	**Manteigas**	**70.32**	**52**	*e*P	**P**	**20 34 27.9**	**+0.6**
	comp=Z,61nm,1.4s						
MTE	**Manteigas**	**70.32**	**52**	*e*LR	LR	20 55 41.8	
	comp=Z,482nm,20.0s						
MTE	**Manteigas**	**70.32**	**52**	P	**P**	**20 34 27.3**	**0.0**
FALS	**False Pass**	**70.34**	**323**	P	**P**	**20 34 26.8**	**-0.3**
	baz=90						
PESTR	**Estremoz**	**70.41**	**54**	*e*P	**P**	**20 34 28.7**	**+0.8**
	comp=Z,47nm,1.5s						
PESTR	**Estremoz**	**70.41**	**54**	P	**P**	**20 34 28.2**	**+0.3**
PESTR				IAmb	IAmb	20 34 29.8	
	comp=Z,17nm,1.2s						
PCBR	**Castelo Branco**	**70.41**	**53**	*e*P	**P**	**20 34 28.5**	**+0.7**
	comp=Z,58nm,1.3s						
PVAQ	**Vaqueiros**	**70.45**	**56**	*e*P	**P**	**20 34 29.3**	**+1.2**
PVAQ	**Vaqueiros**	**70.45**	**56**	*e*LR	LR	20 55 39.6	
	comp=Z,497nm,18.0s						
PMRV	**Marv??o**	**70.51**	**53**	*e*P	**P**	**20 34 29.3**	**+0.8**
	comp=Z,48nm,1.4s						
PMRV	**Marv??o**	**70.51**	**53**	*e*LR	LR	20 56 17.9	
	comp=Z,259nm,22.0s						
JMIC	**Jan M

SSB pmax pmax
comp=Z,15nm,1.2s
TIC Toumodi 78.61 86⇑ *e*P **P 20 35 15.8 -0.2**
comp=Z,38nm,1.0s
WLF Walferdange 78.67 41 P **P 20 35 15.0 -0.7**
WLF IAmb IAmb 20 35 16.9
comp=Z,46nm,1.4s
WLF Walferdange 78.67 41 P **P 20 35 15.0 -0.7**
WLF pmax pmax
comp=Z,46nm,1.4s
WLF Walferdange 78.67 41 *d*P **P 20 35 15.8 +0.2**
LIC Lamto 78.72 87⇑ *e*P **P 20 35 16.5 0.0**
comp=Z,109nm,1.1s
DBIC Dimbokro 78.77 86 P **P 20 35 16.4 -0.4**
comp=Z,19nm,1.0s,baz=304,slow=6.4,SNR=8.4
DBIC LR LR 21 06 18.0
comp=Z,171nm,21.9s,baz=298,slow=33
comp=Z,19nm,1.0s
DBIC Dimbokro 78.77 86 P **P 20 35 16.8 0.0**
DBIC IAmb IAmb 20 35 17.9
comp=Z,38nm,1.1s
DBIC Dimbokro 78.77 86 P **P 20 35 16.8 0.0**
DBIC pmax pmax
comp=Z,38nm,1.2s
KIC Kosan Boka 78.96 87⇑ *e*P **P 20 35 17.7 -0.2**
comp=Z,14nm,0.9s
NB2 NORSAR Subarra 79.07 30 P **P 20 35 17.0 -0.7**
comp=Z,73nm,2.0s,baz=285,slow=5.9
NB2 NORSAR Subarra 79.07 30 P **P 20 35 17.0 -0.7**
baz=285,slow=5.9
NOA NORSAR Array B 79.07 30 P **P 20 35 17.5 -0.1**
comp=Z,6.5nm,1.0s,baz=285,slow=5.4,SNR=6.6
NOA LR LR 21 10 23.4
comp=Z,218nm,18.1s,baz=285,slow=36
comp=Z,6.5nm,1.0s
ECH Echery 79.62 43 P **P 20 35 20.0 -0.9**
ECH IAmb IAmb 20 35 21.7
comp=Z,18nm,1.1s
ECH Echery 79.62 43 P **P 20 35 20.0 -0.9**
ECH pmax pmax
comp=Z,18nm,1.1s
BNI Bardonecchia 79.99 46 P **P 20 35 23.4 +0.3**
BNI IAmb IAmb 20 35 25.4
comp=Z,24nm,1.4s
BNI Bardonecchia 79.99 46 P **P 20 35 23.4 +0.3**
BNI pmax pmax
comp=Z,24nm,1.4s
SENIN Lac Senin/Sane 80.12 45 P **P 20 35 24.0 +0.1**
SENIN IAmb IAmb 20 35 24.8
comp=Z,20nm,1.1s
HFS Hagfors 80.48 30 LR LR 21 09 17.8
comp=Z,230nm,19.7s,baz=281,slow=34
DAVA Damuels 81.63 43 *i* P **P 20 35 32.1 +0.2**
comp=Z,16nm,1.2s,SNR=5.8
DAVOX Davos/Dischmat 81.75 44 LR LR 21 06 11.2
comp=Z,315nm,20.9s,baz=278,slow=32
ARCES ARCESS Array B 82.01 19 P **P 20 35 32.6 -0.6**
comp=Z,8.3nm,0.9s,baz=282,slow=4.5,SNR=7.9
ARCES LR LR 21 11 43.8
comp=Z,240nm,18.4s,baz=290,slow=36
comp=Z,8.3nm,0.9s
BILL Bilibino 82.01 339 *e*P **P 20 35 32.3 -0.9**
BILL *e*PPP PPP 20 40 27.8
BILL pmax pmax
comp=Z,67nm,2.5s
FUORN Ofenpass-Fuorn 82.05 44 P **P 20 35 34.0 -0.2**
FUORN IAmb IAmb 20 35 35.7
comp=Z,32nm,1.1s
RAR Rarotonga 82.13 245 LR LR 21 04 54.8
comp=Z,182nm,21.6s,baz=116,slow=30
RETA Reutte 82.15 43 *i* P **P 20 35 34.4 -0.1**
comp=Z,35nm,1.3s,SNR=11
PMSA Palmer Station 82.18 171 LR LR 21 10 40.0
comp=Z,100nm,18.4s,baz=348,slow=35
FETA Feichten 82.25 43 *i* P **P 20 35 35.1 -0.1**
comp=Z,17nm,1.2s,SNR=7.3
MOTA Moosalm 82.42 43 *i* P **P 20 35 35.9 -0.1**
comp=Z,18nm,1.1s,SNR=7.8
SALO Salr 82.48 45 P **P 20 35 35.3 -0.9**
NKC Novy Kostel 82.49 40 *e*P **P 20 35 36.4 +0.2**
SQTA Sankt Quirin 82.52 43 *i* P **P 20 35 36.2 -0.2**
comp=Z,25nm,1.6s,SNR=7.8
CLL Collm 82.53 39 *i* P **P 20 35 36.1 -0.2**
CLL pmax pmax
comp=Z,34nm,1.5s
CLL Collm 82.53 39 *i* P **P 20 35 36.1 -0.2**
comp=Z,34nm,1.5s
CLL *e*S **S 20 45 54.0 +0.8**
CLL *e*PS **PnS 20 46 42.0 -0.5**
CLL *e*SS **SS 20 51 24.0 +10**
CLL *e*SSSS 20 57 24.0
WATA Walderalm 82.73 43 *e*P **P 20 35 37.4 -0.3**
comp=Z,16nm,1.5s
VLC Villacollemand 82.77 46 P **P 20 35 36.6 -1.1**
VLC IAmb IAmb 20 35 37.9
comp=Z,24nm,1.0s
WTTA Wattenberg 82.79 43 *e*P **P 20 35 37.9 -0.1**
comp=Z,19nm,1.9s
CTI Castel Tesino 83.13 44 P **P 20 35 39.0 -0.6**
CTI IAmb IAmb 20 35 40.1
comp=Z,15nm,1.0s
CTI Castel Tesino 83.13 44 P **P 20 35 39.1 -0.6**
CTI pmax pmax
comp=Z,15nm,1.0s
ZCCA Zocca 83.13 46 P **P 20 35 39.3 -0.3**
BRG Berggiesshubel 83.22 39 *i* P **P 20 35 40.0 0.0**
BRG Amp 20 35 41.2
comp=Z,27nm,1.3s
BRG Berggiesshubel 83.22 39 *i* P **P 20 35 39.9 0.0**
BRG pmax pmax
comp=Z,27nm,1.3s
TEOL Teolo 83.33 45 P **P 20 35 40.0 -0.6**
TOA0 Torodi Ar. Sit 83.35 78 P **P 20 35 40.6 -0.6**
TOA0 IAmb IAmb 20 35 42.0
comp=Z,24nm,1.6s
TORD Torodi Ar. Bea 83.35 78 P **P 20 35 40.0 -1.3**
comp=Z,13nm,0.6s,baz=297,slow=4.5,SNR=12
TORD LR LR 21 09 53.4
comp=Z,293nm,20.0s,baz=230,slow=34
comp=Z,13nm,0.6s
CASP Castiglione de 83.47 47 P **P 20 35 40.7 -0.7**
CASP IAmb IAmb 20 35 43.3
comp=Z,34nm,1.5s
ABTA Abfaltersbach 83.50 43 *i* P **P 20 35 41.5 -0.1**
comp=Z,23nm,1.5s,SNR=10.0
KHC Kasperske Hory 83.51 41 P **P 20 35 41.0 -0.5**
KHC IAmb IAmb 20 35 42.9
comp=Z,16nm,1.1s
KHC Kasperske Hory 83.51 41 P **P 20 35 41.0 -0.5**
KHC pmax pmax
comp=Z,16nm,1.1s
KHC Kasperske Hory 83.51 41 *e*P **P 20 35 41.3 -0.2**
KHC *e*pP **sP 20 35 46.1 +0.2**
OSSC Osservatorio P 83.54 47 P **P 20 35 39.5 -2.2**
OSSC IAmb IAmb 20 35 40.7
comp=Z,9.4nm,1.0s
CIMO Cimolais 83.58 44 P **P 20 35 40.9 -1.1**
CIMO IAmb IAmb 20 35 41.9
comp=Z,8.9nm,0.9s
GEC2 GERESS Array S 83.67 41 P **P 20 35 42.1 -0.3**
GEC2 IAmb IAmb 20 35 43.5
comp=Z,26nm,1.2s
GERES GERESS Array B 83.67 41 P **P 20 35 42.1 -0.3**
comp=Z,4.7nm,0.9s,baz=197,slow=3.1,SNR=26
comp=Z,4.7nm,0.9s
GERES GERESS Array B 83.67 41 P **P 20 35 41.3 -1.1**
GERES GERESS Array B 83.67 41 P **P 20 35 41.3 -1.1**
STAL STALIGIAL 83.78 44 P **P 20 35 42.2 -0.7**
STAL IAmb IAmb 20 35 42.9
comp=Z,16nm,1.0s
CLUD Cludinico 83.83 44 P **P 20 35 42.8 -0.4**
CLUD IAmb IAmb 20 35 43.8
comp=Z,12nm,0.9s
PRU Pruhonice 83.85 40 *e*P **P 20 35 43.0 -0.2**
KBA Koelnbreinsper 83.96 43 *i* P **P 20 35 43.9 -0.1**
comp=Z,23nm,1.4s,SNR=9.6
BIOA Bad Ischl, Aus 83.97 42 *i* P **P 20 35 43.6 -0.3**
comp=Z,26nm,1.6s,SNR=9.7
CKRC Cesky Krumlov 84.06 41 *e*P **P 20 35 43.4 -0.9**
LATE Laterza 84.19 47 P **P 20 35 44.8 -0.3**
KEST Kesra 84.24 55 P **P 20 35 46.3 +0.8**
comp=Z,22nm,1.0s,baz=246,slow=2.7,SNR=12
KEST LR LR 21 06 53.5
comp=Z,161nm,21.8s,baz=278,slow=31
comp=Z,22nm,1.0s
KEST Kesra 84.24 55 P **P 20 35 46.1 +0.6**

MYKA Terra Mystica 84.28 43 *i* P **P 20 35 45.3 -0.3**
comp=Z,24nm,1.5s,SNR=7.8
PRED Cave del Predi 84.29 43 P **P 20 35 44.2 -1.4**
MOA Molln 84.33 42 *e*P **P 20 35 45.0 -0.7**
comp=Z,12nm,1.3s
TAM Tamanrasset 84.40 68 P **P 20 35 46.9 +0.2**
TAM IAmb IAmb 20 35 49.0
comp=Z,14nm,1.0s
TAM Tamanrasset 84.40 68 P **P 20 35 46.9 +0.2**
TAM pmax pmax
comp=Z,14nm,1.0s
SABO M.te Sabotino 84.45 44 P **P 20 35 46.5 +0.1**
SABO IAmb IAmb 20 35 47.8
comp=Z,91nm,1.8s
CADS Cadrg 84.47 44 *i* P **P 20 35 46.2 -0.2**
MURB Monte Urbino 84.51 47 P **P 20 35 45.0 -1.7**
CHVC Chvalec 84.59 39 *e*P **P 20 35 46.6 -0.3**
UPC Upice 84.59 39 *e*P **P 20 35 46.9 0.0**
TREC Trest 84.65 40 *e*P **P 20 35 47.1 -0.2**
OSTC Ostas 84.70 39 *e*P **P 20 35 47.6 +0.1**
CESX Cesi 84.74 47 P **P 20 35 46.6 -1.2**
DPC Dobruska-Polom 84.83 39 *e*P **P 20 35 47.9 -0.3**
SKDS Skadanscina 84.86 44 *e*P **P 20 35 47.6 -0.8**
OBKA Obir 84.92 43 *e*P **P 20 35 48.0 -0.8**
OBKA Obir 84.92 43 *i* P **P 20 35 48.5 -0.2**
comp=Z,23nm,1.3s,SNR=13
FDMO Fiordimonte 84.97 47 P **P 20 35 47.9 -1.1**
LJU Ljubljana 85.05 44 *i* P **P 20 35 49.3 0.0**
NRCA Norcia 85.05 47 P **P 20 35 47.9 -1.6**
NRCA IAmb IAmb 20 35 49.6
comp=Z,12nm,1.1s
CEY Cerknica 85.07 44 *e*P **P 20 35 49.3 -0.2**
CEY Cerknica 85.07 44 *i* P **P 20 35 49.6 +0.2**
SOKA Soboth 85.18 43 *i* P **P 20 35 49.6 -0.5**
comp=Z,21nm,1.2s,SNR=13
KRLC Kraliky 85.26 39 *e*P **P 20 35 50.4 +0.4**
KRUC Moravsky 85.29 40 *e*P **P 20 35 50.1 -0.4**
ARSA Arzberg 85.32 42 *i* P **P 20 35 50.0 -0.7**
comp=Z,15nm,1.1s,SNR=6.4
CONA Conrad Observa 85.32 42 *i* P **P 20 35 50.8 0.0**
comp=Z,19nm,1.1s,SNR=10
VRAC Vranov 85.33 40 LR LR 21 10 00.3
comp=Z,410nm,19.8s,baz=286,slow=33
VRAC Vranov 85.33 40 *e*P **P 20 35 50.3 -0.4**
CAMP Campotosto 85.34 47 P **P 20 35 50.0 -1.0**
CAMP IAmb IAmb 20 35 51.7
comp=Z,26nm,1.1s
APA Apatity 85.50 20⇓ *i*P **P 20 35 47.8 -3.3**
APA pmax pmax
comp=Z,13nm,1.0s
APA MLR MLR
comp=Z,800nm,21.0s
RONA Rosalia, Austr 85.67 42 *i* P **P 20 35 52.7 +0.2**
comp=Z,28nm,1.1s,SNR=13
BOJS Bojanci 85.70 44 *e*P **P 20 35 52.3 -0.3**
FIA1 FINESS Array S 85.70 27 P **P 20 35 52.2 +0.1**
FINES FINESS Array B 85.70 27 P **P 20 35 52.0 -0.1**
comp=Z,24nm,1.0s,baz=298,slow=4.1,SNR=17
FINES LR LR 21 12 35.8
comp=Z,287nm,19.2s,baz=272,slow=35
comp=Z,24nm,1.0s
CRES Cresnjev 85.73 44 *e*P **P 20 35 51.9 -0.8**
MORC Moravsky Berou 85.76 39⇑ P **P 20 35 53.3 +0.4**
MORC Moravsky Berou 85.76 39 P **P 20 35 52.7 -0.2**
MORC IAmb IAmb 20 35 54.5
comp=Z,39nm,1.6s
MORC Moravsky Berou 85.76 39 *e*P **P 20 35 52.7 -0.2**
MORC Moravsky Berou 85.76 39 P **P 20 35 52.7 -0.2**
MORC pmax pmax
comp=Z,39nm,1.6s
SOP Sopron 85.84 42 P **P 20 35 53.3 +0.1**
ZST Bratislava 86.02 41 *e*P **P 20 35 54.7 +0.6**
ZST pmax pmax
comp=Z,134nm,1.3s
ZST Bratislava 86.02 41 *e*P **P 20 35 54.7 +0.6**
MODS Modra-Piesok 86.07 41 *e*P **P 20 35 55.1 +0.7**
MODS pmax pmax
comp=Z,115nm,1.4s
MODS Modra-Piesok 86.07 41 *e*P **P 20 35 55.1 +0.7**
MAUC Maruska 86.07 40 *e*P **P 20 35 54.9 +0.5**
OKC Ostrava-Krasne 86.11 39 *e*P **P 20 35 54.9 +0.4**
SMOL Smolenice 86.12 41 *e*P **P 20 35 55.5 +0.9**
SMOL pmax pmax
comp=Z,19nm,1.3s
JAVC Velka Javorina 86.15 40 *e*P **P 20 35 55.9 +1.1**
MPLH Magyarpolny 86.64 42 P **P 20 35 58.0 +0.8**
A050A Klekovaca 86.89 45 *e*P **P 20 35 58.2 -0.4**
A051A Mrakovica 86.96 44 *e*P **P 20 35 58.6 -0.3**
TIH Tihany 86.96 42 P **P 20 35 59.8 +1.0**
OJC Ojcow 86.97 38 P **P 20 35 56.5 -2.2**
OJC Ojcow 86.97 38 P **P 20 35 56.5 -2.2**
OJC pmax pmax
comp=Z,31nm,1.2s
VYHS Vyhne 87.00 40 *e*P **P 20 35 59.5 +0.5**
VYHS pmax pmax
comp=Z,24nm,1.5s
VYHS Vyhne 87.00 40 *e*P **P 20 35 59.5 +0.5**
CSKK Cskako 87.04 41 P **P 20 35 59.4 +0.2**
LANS Liptovska Anna 87.16 40 *e*P **P 20 36 01.1 +1.4**
LANS pmax pmax
comp=Z,12nm,1.2s
LANS Liptovska Anna 87.16 40 *e*P **P 20 36 01.1 +1.4**
BLY Banja Luka 87.23 44 *e*P **P 20 36 00.1 0.0**
KOVH Kovagotottos 87.38 43 P **P 20 36 00.7 -0.1**
SRKY Kupres RS 87.45 45 *e*P **P 20 36 01.6 +0.3**
BUD Budapest 87.48 41 P **P 20 36 00.7 -0.5**
VAE Valguarnera 87.63 52 LR LR 21 09 19.5
comp=Z,492nm,21.2s,baz=328,slow=32
MORH Mrgy, Hungar 87.69 42⇑ P **P 20 36 00.6 -1.7**
MORH Mrgy, Hungar 87.69 42 P **P 20 36 01.7 -0.6**
VALR Valaam 87.78 26 *i* P **P 20 36 03.8 +1.5**
PSZ Piszkesteto 87.87 41⇑ P **P 20 36 03.7 +0.4**
PSZ Piszkesteto 87.87 41 P **P 20 36 03.1 -0.1**
PSZ Piszkesteto 87.87 41 P **P 20 36 03.1 -0.1**
PSZ pmax pmax
comp=Z,44nm,1.3s
PSZ Piszkesteto 87.87 41 P **P 20 36 03.9 +0.6**
STON Ston 88.23 46 *e*P **P 20 36 03.4 -1.5**
CRVS Cervenica-Dubn 88.47 39 *e*P **P 20 36 06.9 +0.9**
CRVS pmax pmax
comp=Z,21nm,1.2s
CRVS Cervenica-Dubn 88.47 39 *e*P **P 20 36 06.9 +0.9**
HAPS Han Pijesak,Bl 88.65 44 *e*P **P 20 36 07.4 +0.3**
FRGS Fruska Gora 88.83 43⇑ P **P 20 36 08.3 +0.5**
FRGS Fruska Gora 88.83 43 *e*P **P 20 36 07.5 -0.3**
UPM Unac-Piva 88.94 45 *e*P **P 20 36 07.9 -0.6**
NACGM Naroch 88.94 32⇓ *e*P **P 20 36 11.9 +3.8**
baz=297
BBLS Lazići 89.04 44 *e*P **P 20 36 09.1 +0.3**
UZH Uzhgorod 89.08 39 *e*P **P 20 36 04.3 -4.5**
UZH *e* 20 36 07.5
UZH *e* 20 36 11.1
DIVS Divibare 89.35 44 P **P 20 36 10.1 -0.2**
DIVS IAmb IAmb 20 36 11.9
comp=Z,16nm,1.2s
DIVS Divibare 89.35 44 *e*P **P 20 36 09.9 -0.4**
TRPA Tarpa 89.43 40 ⇓P **P 20 36 10.4 0.0**
TRPA Tarpa 89.43 40 P **P 20 36 10.8 +0.4**
PDG Podgorica 89.46 46 P **P 20 36 11.1 +0.3**
PDG IAmb IAmb 20 36 12.2
comp=Z,20nm,1.2s
TIXI Tiksi 89.53 350 P **P 20 36 10.4 0.0**
comp=Z,12nm,0.9s,baz=89,slow=24,SNR=5.9
comp=Z,12nm,0.9s
TIXI Tiksi 89.53 350 *c**e*P **P 20 36 10.1 -0.3**
TIXI pmax pmax
comp=Z,14nm,1.0s
SIRR Siria 89.61 42⇑ P **P 20 36 11.9 +0.5**
LVV L'vov 89.64 38 *e*P **P 20 36 11.6 +0.2**
LVV MLR MLR
comp=N,100nm,17.0s
LVV MLR MLR
comp=E,200nm,17.0s
LVV MLR MLR
comp=Z,800nm,19.0s
BZS Buzias 89.84 42⇑ P **P 20 36 13.0 +0.6**
DRGR 90.07 41⇑ P **P 20 36 13.9 +0.2**
MDVR Moldovita 90.23 43⇑ P **P 20 36 14.5 +0.2**
HERR Herculane 90.65 43⇑ P **P 20 36 16.5 +0.3**
BOVS Bovan 90.67 44⇑ P **P 20 36 16.3 -0.1**
GZR Gura Zlata 90.68 42⇑ P **P 20 36 16.9 +0.5**
AFI Afiamalu 90.74 256 LR LR 21 08 53.4
comp=Z,215nm,19.5s,baz=70,slow=30

DJES Djerdap 90.80 43⇑ P **P 20 36 17.1 +0.1**
KBN Korca 91.20 47 P **P 20 36 18.9 -0.1**
KBN Korca 91.20 47 P **P 20 36 18.9 -0.1**
KBN pmax pmax
comp=Z,25nm,1.2s
PUNG Punghina 91.23 43 ⇓P **P 20 36 19.6 +0.7**
BLKB Belogradchik 91.32 44 ⇓P **P 20 36 19.3 -0.1**
ARR Arges 91.88 42 ⇓P **P 20 36 22.8 +0.8**
DOPR Dopca 92.10 41 ⇓P **P 20 36 22.8 -0.2**
VTS Vitosha 92.10 45⇑ P **P 20 36 23.7 +0.5**
VTS Vitosha 92.10 45 P **P 20 36 22.9 -0.3**
VTS IAmb IAmb 20 36 24.6
comp=Z,13nm,1.1s
VTS Vitosha 92.10 45 P **P 20 36 22.9 -0.3**
VTS pmax pmax
comp=Z,13nm,1.1s
VOIR 92.11 41 ⇓P **P 20 36 22.8 -0.3**
BIZ Bicaz 92.12 40⇑ P **P 20 36 23.4 +0.4**
MA2 Magadan 92.19 335 LR LR 21 24 40.8
comp=Z,156nm,18.4s,baz=84,slow=40
PET Petropavlovsk 92.19 327 *e*P P 20 36 15.8 -7.4
PET *e* 20 40 00.2
PET *e* 20 47 21.8
PET *e*SS SS 20 53 28.4 -6.3
PET pmax pmax
comp=Z,100nm,17.8s
PET MLR MLR
comp=Z,300nm,19.0s
AKASG Malin Array Be 92.22 35 P **P 20 36 21.3 -2.0**
comp=Z,0.3nm,0.4s,baz=298,slow=3.6,SNR=7.3
AKASG LR LR 21 16 11.2
comp=Z,331nm,19.2s,baz=302,slow=34
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 92.22 35*c* i P **P 20 36 23.0 -0.4**
PETK Petropavlovsk- 92.64 328 LR LR 21 22 11.4
comp=Z,70nm,18.6s,baz=57,slow=38
MLR Muntele Rosu 92.66 41⇑ P **P 20 36 25.8 0.0**
MLR Muntele Rosu 92.66 41 LR LR 21 14 08.9
comp=Z,278nm,21.6s,baz=296,slow=33
MLR Muntele Rosu 92.66 41 P **P 20 36 25.4 -0.3**
MLR Muntele Rosu 92.66 41 P **P 20 36 25.4 -0.3**
MLR pmax pmax
comp=Z,41nm,1.2s
PRGR Permogore 93.28 21 *e*P **P 20 36 24.3 -3.7**
PRGR pmax pmax
comp=Z,29nm,1.2s
OBN Obninsk 93.67 29 LR LR 21 19 53.2
comp=Z,44nm,18.1s,baz=340,slow=36
OBN Obninsk 93.67 29 *e*P **P 20 36 28.1 -1.9**
OBN *e* 20 40 15.1
OBN *e*PPP PPP 20 42 16.0
OBN pmax pmax
comp=Z,39nm,2.5s
OBN MLR MLR
comp=Z,265nm,18.0s
MOS Moscow 93.81 29 *e*P **P 20 36 28.4 -2.2**
MOS *e* 20 40 12.8
CFR Carcaliu 94.18 41⇑ P **P 20 36 31.5 -1.0**
RDO Rodhopi 94.28 45 P **P 20 36 33.2 +0.2**
RDO IAmb IAmb 20 36 34.0
comp=Z,12nm,1.2s
NRIK Noril'sk 94.65 3 LR LR 21 20 30.7
comp=Z,314nm,19.8s,baz=354,slow=36
ALN Alexandroupoli 94.73 45 P **P 20 36 34.9 -0.3**
ALN IAmb IAmb 20 36 35.9
comp=Z,8.7nm,1.0s
ALN Alexandroupoli 94.73 45 P **P 20 36 34.9 -0.3**
ALN pmax pmax
comp=Z,9.0nm,1.0s
LPSR Galich'ya Gora 96.28 31 *e*P **P 20 36 39.0 -3.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
IDI Anoyia 96.29 51 LR LR 21 15 58.4
comp=Z,79nm,20.5s,baz=302,slow=33
KIRV Kirov 96.78 22 LR LR 21 21 30.1
comp=Z,202nm,19.0s,baz=327,slow=36
KIRV Kirov 96.78 22 *i* P **P 20 36 42.3 -1.8**
VORR Voronezh 96.98 31 *e*P **P 20 36 43.5 -1.6**
VORR pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 97.23 32 *e*P **P 20 36 42.9 -3.4**
VSR pmax pmax
comp=Z,10.0nm,1.2s
YAK Yakutsk 97.46 344 LR LR 21 27 47.4
comp=Z,192nm,18.2s,baz=87,slow=40
YAK Yakutsk 97.46 344 *i* P **P 20 36 46.0 -1.1**
YAK pmax pmax
comp=Z,8.0nm,1.2s
VRH Novokhopyorsk 98.51 31 *e*P **P 20 36 48.7 -3.3**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MAK Makhachkala 106.87 34 *e*P **Pdif 20 37 23.9 -5.5**
MAK *e* 20 48 02.2
MAK *e* 20 48 49.0
MAK *e*SS SS 20 56 55.4 -4.6
MAK *e*SSS SSS 21 00 55.0
MAK pmax pmax
comp=Z,117nm,1.3s
DZM Mont Dzumac 112.72 252 *e*LR LR 21 15 31.0
comp=Z,250nm,23.4s
SONM Songino Array 115.56 351 PKP **PKiKP 20 41 54.9 -1.1**
comp=Z,0.9nm,0.9s,baz=354,slow=4.5,SNR=5.0
MKAR Makanchi Array 116.39 10 PKP **PKiKP 20 41 55.4 -2.1**
comp=Z,0.9nm,0.9s,baz=7.6,slow=2.2,SNR=4.2
KSRS Korea Array 118.38 331 PKP **PKPdf 20 42 00.7 -0.8**
comp=Z,2.9nm,0.9s,baz=44,slow=1.0,SNR=10
WMQ Urumqi 120.02 6 *e*PKP **PKiKP 20 42 06.0 +1.4**
WMQ LR LR
comp=Z,540nm,22.3s
WMQ LR LR
comp=Z,350nm,22.1s
WMQ LR LR
comp=Z,410nm,22.3s
HRA Herat 120.94 31 PKPdf **PKPdf 20 42 06.0 -0.7**
KMBO Kilima Mbogo 121.24 81 *i* PKIKP **PKiKP 20 42 12.6 +4.6**
HHC Hu-ho-hao-te 121.31 345 *e*PKP **PKPdf 20 42 05.0 -2.2**
GTA Gaotai 124.62 355 *e*PKP **PKPdf 20 42 13.5 -0.1**
GTA PP **PP 20 44 00.0 +1.2**
GTA AMB AMB
comp=Z,180nm,5.5s
GTA LR LR
comp=Z,230nm,18.9s
GTA LR LR
comp=Z,140nm,17.4s
GTA LR LR
comp=Z,330nm,19.3s
NJ2 Nanjing 126.95 335 *e*PKP **PKPdf 20 42 17.0 -1.1**
LZH Lanzhou 127.45 351 *e*PKP **PKPdf 20 42 15.3 -3.9**
LZH LR LR
comp=Z,440nm,15.8s
LZH LR LR
comp=Z,290nm,17.2s
LZH LR LR
comp=Z,350nm,18.6s
XAN Xi'an 128.42 345 PKP **PKPdf 20 42 20.5 -0.4**
XAN LR LR
comp=Z,460nm,19.2s
XAN LR LR
comp=Z,400nm,22.0s
ENH Enshi 131.85 343 PKPdf 20 42 27.3 -0.2
CD2 Chengdu 132.53 350 PKP **PKPdf 20 42 28.8 0.0**
DANN Dangsing 134.52 14 *e*P **PKPdf 20 42 32.6 -0.3**
comp=Z,23nm,0.8s
GKN Gorkha 135.05 13 *e*P **PKPdf 20 42 32.5 -1.3**
DMN Daman 135.53 13 *e*P **PKPdf 20 42 33.8 -1.0**
PKIN Phulchoki 135.62 12 *e*P **PKPdf 20 42 33.9 -1.1**
PKI Pulchoki 135.63 12 *e*P **PKPdf 20 42 33.5 -1.6**
comp=Z,10nm,0.9s
JIRN Jiri 135.70 11 *e*P **PKPdf 20 42 34.2 -1.0**
RAMN Ramite 136.46 11 *e*P **PKPdf 20 42 35.4 -1.1**
comp=Z,28nm,1.0s
PZH PanZhiHua 137.17 351 PKP **PKPdf 20 42 35.8 -1.9**
KMI Kunming 138.36 349⇑ PKP **PKPdf 20 42 40.3 +0.3**
MND Mandalay 142.13 358 PKPdf 20 42 45.9 -0.7
WRA Warramunga Arr 142.43 258 PKhKP PKPpre 20 42 42.1
comp=Z,2.2nm,0.9s,baz=86,slow=3.4,SNR=11
WRA Warramunga Arr 142.43 258 PKPpre 20 42 43.0
WRA Warramunga Arr 142.43 258 PKIKP PKPpre 20 42 43.1
ASAR Alice Springs 142.71 252 PKhKP PKPpre 20 42 43.1
comp=Z,0.7nm,0.5s,baz=107,slow=3.8,SNR=10
MTN Manton Dam 144.87 270 PKPab 20 42 50.1 -0.5
CHTO Chiang Mai 145.11 353 PKPbc 20 42 50.1 -1.2
CHTO Chiang Mai 145.11 353 PKIKP **PKPbc 20 42 50.1 -1.2**
CM31 Chiang Mai Arr 145.46 353 PKPbc 20 42 52.0 -0.4
CMAR Chiang Mai Arr 145.46 353 PKPbc **PKPbc 20 42 52.1 -0.3**

comp=Z,16nm,0.9s,baz=338,slow=4.2,SNR=76

CMAR	Chiang Mai Arr	145.46 353		PKPbc	20 42 51.4	-1.0
CMAR	Chiang Mai Arr	145.46 353	PKIKP	PKPbc	20 42 51.4	-1.0
UBPT	Khong Chiam	147.16 341		PKPbc	20 42 57.7	+0.1
MYLDM	Lahad Datu	148.57 310		PKPdf	20 42 58.7	+0.8
FITZ	Fitzroy Crossi	150.64 262	PKPbc	PKPbc	20 43 06.2	-0.3
	comp=Z,9.2nm,0.9s,baz=63,slow=2.3,SNR=12					
FITZ	Fitzroy Crossi	150.64 262		PKPbc	20 43 05.0	-1.5
BATI	Baumata	151.48 278	PKPbc	PKiKP	20 43 09.7	+0.6
	comp=Z,15nm,0.9s,baz=110,slow=5.3,SNR=5.2					
PSI	Prapat	160.84 348	PKPab	PKPab	20 43 56.2	-0.6
	comp=Z,16nm,0.9s,baz=27,slow=5.4,SNR=4.8					
PSI	Prapat	160.84 348	PKP2	PKPab	20 43 55.9	-0.9
RPSI	Rantau Prapat	160.94 348		PKPab	20 43 55.9	-1.3

*IDC **29** 20:42:51.9±6.3, 1°20′N×126°.79′E, h109^{km}±70^{km}, mb3.2/3, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=81.5km s-min=23.1km az=77.0*

*DJA **29** 20:42:51.2±0.4, 1°N±3°×12°.7′E±°, h92^{km}±7^{km}, M3.8/12, mb4.1/3, MLv3.6/12*

ISC 29 20:42:51.1±1.0, **1°34′N**±0°.08×**126°.82′E**±0°.08, **h103**^{km}, **n13, σ1§01/15, mb3.5/3, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	0.79	136	P	Pn	20 43 10.0	+0.4
TNTI				S	Sn	20 43 23.7	+0.2
LBMI	Labuha	2.08	161	P	Pn	20 43 25.5	+0.7
SGSI	Sangihe	2.67	331	P	Pn	20 43 31.9	-0.6
SGSI				S	Sn	20 44 03.1	-1.2
SANI	Sanana	3.46	194	P	Pn	20 43 41.8	-1.3
GTOI	Gorontalo	3.87	260	P	Pn	20 43 50.4	+1.8
NLAI	Namlea	4.55	176	P	Pn	20 43 57.6	-0.2
SIJI	Sorong	4.96	116	P	Pn	20 44 03.9	+0.6
	1.8nm,0.3s,baz=343,slow=22,SNR=7.7						
	5.7nm,0.4s						
AAI	Ambon	5.18	165	P	Pn	20 44 06.8	+0.5
	0.1nm22nm,0.6s						
SPSI	Sidrap Palu	8.79	233	P	Pn	20 44 55.9	+0.5
FITZ	Fitzroy Crossi	19.35	183	P	P	20 47 08.4	-0.2
	0.1nm,0.3s,baz=18,slow=7.6,SNR=6.4						
	1.4nm,0.9s						
WRA	Warramunga Arr	22.40	161	P	P	20 47 39.7	-1.5
	0.8nm,0.3s,baz=339,slow=11,SNR=40						
	0.8nm,0.3s						
ASAR	Alice Springs	25.79	165	P	P	20 48 11.8	-0.9
	0.2nm,0.3s,baz=343,slow=11,SNR=10						
	0.2nm,0.3s						
MKAR	Makanchi Array	59.57	326	P	P	20 52 44.8	+0.8
	0.3nm,0.3s,baz=114,slow=7.3,SNR=6.6						
	0.3nm,0.3s						

*NEIC **29** 20:54:25.0±2.7, 6°04′S±0°.08×151°.9′E±0°.1, h48^{km}±14^{km}, mb4.3/16, Error ellipse: s-maj=20.6km s-min=4.0km az=121.0*

*IDC **29** 20:54:30.0±1.1, 5°.25′S×151°.63′E, h132^{km}±8^{km}, mb3.1/4, mbtmp3.5/5, MS4.0/1, Error ellipse: s-maj=40.2km s-min=13.2km az=123.0*

ISC 29 20:54:29.8±0.8, **5°28′S**±0°.08×**151°.84′E**±0°.10, **h150**^{km}, **n28, σ2§13/28, mb4.1/11, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	0.98	11	P	Pn	20 54 53.6	-0.8
	155nm,0.3s,baz=147,slow=1.8,SNR=32						
KRVT				S	Sn	20 55 11.2	-2.1
	231nm,0.3s,baz=205,slow=22,SNR=7.6						
RABL	Rabaul	1.12	16		Pn	20 54 54.5	-1.2
RABL				Sn	Sn	20 55 12.5	-3.1
MANU	Manus Island	5.50	306		Pn	20 55 47.7	-2.2
PMG	Port Moresby	6.20	228	P	Pn	20 55 58.2	-1.0
	5.3nm,0.4s,baz=34,slow=4.4,SNR=3.5						
PMG				S	Sn	20 57 06.0	-3.1
	25nm,0.3s,baz=225,slow=22,SNR=11						
PMG	Port Moresby	6.20	228	Pn	Pn	20 55 46.8	-12
HNR	Honiara	9.03	118		Pn	20 56 19.4	-18
FAKI	Fak Fak	19.68	276	P	Pn	20 58 52.5	+2.0
FAKI				IAmb	IAmb	20 59 25.5	
	comp=Z,19nm,1.4s						
SAUI	Saumlaki	20.58	261	P	Pn	20 58 58.3	-2.9
MTN	Manton Dam	21.78	248	P	P	20 59 09.2	-0.7
MTN				IAmb	IAmb	20 59 30.0	
	comp=Z,34nm,1.5s						
WB0	Warramunga Arr	22.27	228	P	P	20 59 13.5	-1.4
WR0	Warramunga Arr	22.28	228	P	P	20 59 13.1	-1.9
OUENC	Ouen Island, N	22.38	141	P	P	20 59 12.2	-3.7
OUENC				IAmb	IAmb	20 59 15.6	
	comp=Z,20nm,1.2s						
WRAB	Tennant Creek	22.41	228	P	P	20 59 11.9	-4.3
WRAB				IAmb	IAmb	20 59 12.6	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	22.41	228	P	P	20 59 13.1	-3.2
WB2				IAmb	IAmb	20 59 49.3	
	comp=Z,20nm,1.5s						
WRA	Warramunga Arr	22.42	228	P	P	20 59 16.6	+0.3
	comp=Z,0.6nm,0.3s,baz=54,slow=9.3,SNR=26						
WRA				ScP	ScP	21 06 33.8	+4.4
	comp=Z,0.5nm,0.7s,baz=50,slow=3.2,SNR=2.7						
	comp=Z,0.6nm,0.3s						
WRA	Warramunga Arr	22.42	228	P	P	20 59 16.7	+0.3
KNRA	Kununurra	24.91	244	P	P	20 59 39.6	+0.5
KNRA				IAmb	IAmb	20 59 57.9	
	comp=Z,32nm,1.4s						
AS31	Alice Springs	25.16	222	P	P	20 59 41.0	-0.3
ASAR	Alice Springs	25.16	222	P	P	20 59 41.8	+0.3
	comp=Z,0.3nm,0.3s,baz=54,slow=8.6,SNR=8.8						
	comp=Z,0.3nm,0.3s						
ASAR	Alice Springs	25.16	222	P	P	20 59 40.6	-0.8
FITZ	Fitzroy Crossi	28.59	241	P	P	21 00 12.0	-0.2
FITZ				IAmb	IAmb	21 00 14.0	
	comp=Z,8.4nm,1.4s						
BBOO	Buckleboo	31.10	206	P	P	21 00 34.2	+0.1
MBWA	Marble Bar	34.91	240	P	P	21 01 07.3	0.0
URZ	Urewera	40.07	149	LR	LR	21 15 28.6	
	comp=Z,195nm,19.7s,baz=178,slow=31						
MORW	Morawa	41.31	231	P	P	21 02 02.4	+1.5
SONM	Songino Array	66.22	328	P	P	21 05 03.0	+1.3
	comp=Z,0.3nm,0.6s,baz=153,slow=5.3,SNR=1.5						
	comp=Z,0.3nm,0.6s						
SBA	Scott Base	72.96	177	P	P	21 05 44.3	+1.9
SBA				IAmb	IAmb	21 05 49.9	
	comp=Z,4.0nm,1.4s						
MKAR	Makanchi Array	80.06	319	P	P	21 06 24.2	+1.3
	comp=Z,0.1nm,0.4s,baz=97,slow=9.2,SNR=2.0						
	comp=Z,0.1nm,0.4s						

*MAN **29** 21:28:56.0, 4°.32′N×126°.45′E, h11^{km}, mb4.3, ML3.2, MS2.9*

*DJA **29** 21:28:56.6±0.3, 4°N±9°×12°.6′E±°, h25^{km}±8^{km}, M4.2/10, mb4.3/7, mB4.9/4, MLv4.2/10, Mw(mB)4.2/4*

*NEIC **29** 21:28:57.3±1.3, 4°.16′N±0°.10×126°.66′E±0°.06, h77^{km}±10^{km}, mb4.4/18, Error ellipse: s-maj=15.9km s-min=4.7km az=208.0*

*IDC **29** 21:28:57.2±1.6, 4°.06′N×126°.49′E, h86^{km}±16^{km}, mb3.8/14, mbtmp4.2/16, MS2.9/1, Error ellipse: s-maj=30.9km s-min=8.8km az=69.0*

ISC 29 21:28:53.9±0.5, **4°05′N**±0°.05×**126°.45′E**±0°.06, **h45**^{km}, **n52, σ1§93/51, mb4.2/21, 2C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	0.99	249	P	Pn	21 29 12.9	+1.6
SGSI				S	Sn	21 29 26.7	+2.5
DAV	Davao City (W)	3.12	344	P	Pn	21 29 45.7	+5.0
	161nm,0.4s,baz=79,slow=10,SNR=1.9						
DAV				S	Sn	21 30 21.5	+4.8
	93nm,0.4s,baz=252,slow=23,SNR=1.2						
DAV				LR	LR	21 31 17.8	
	comp=Z,191nm,20.8s,baz=20,slow=45						
TNTI	Ternate	3.38	164	Pn	Pn	21 29 46.1	+2.0
TNTI	Ternate	3.38	164	P	Pn	21 29 46.2	+2.0
CTBH	Cotabato--PC H	3.84	325	*i*P	Pn	21 29 53.9	+3.4
BUKP	Musuan	4.05	340	*i*P	Pn	21 29 55.8	+2.3
BIPH	Bislig	4.11	359	*e*P	Pn	21 29 57.9	+3.6
BIPH				*e*S	Sn	21 30 45.2	+4.1
GTOI	Gorontalo	4.83	225	P	Pn	21 30 06.5	+2.4
MRSI	Marisa	5.73	232	P	Pn	21 30 19.4	+2.9
	0.3nm1μm63nm,0.5s						
SANI	Sanana	6.08	184	P	Pn	21 30 22.4	+1.2
	0.1nm707nm9.8nm,0.6s						
LUWI	Luwuk	6.25	216	Pn	Pn	21 30 31.1	+7.5
LUWI	Luwuk	6.25	216	P	Pn	21 30 31.6	+8.0
SIJI	Sorong	6.86	135	P	Pn	21 30 34.3	+2.3
	7.7nm,0.3s,baz=331,slow=19,SNR=21						
SIJI				S	Sn	21 31 49.2	+0.4
	2.5nm,0.3s,baz=176,slow=23,SNR=1.4						
APSI	Ampana	6.88	224	P	Pn	21 30 38.9	+6.7
	0.1nm36nm,1.1s						
NLAI	Namlea	7.27	175	P	Pn	21 30 38.3	+0.7
	0.2nm2μm14nm,0.5s						
MYLDM	Lahad Datu	8.00	278	Pn	Pn	21 30 53.1	+5.4
FAKI	Fak Fak	9.03	140	Pn	Pn	21 31 03.8	+2.1
FAKI	Fak Fak	9.03	140	P	Pn	21 31 04.0	+2.3
MTN	Manton Dam	17.41	165	P	Pn	21 32 51.5	-2.2
MTN				IAmb	IAmb	21 33 20.9	
	comp=Z,29nm,1.5s						
KNRA	Kununurra	19.73	173	P	P	21 33 20.4	+0.4
KNRA				IAmb	IAmb	21 33 53.5	
	comp=Z,44nm,1.5s						
UGM	Wanagama	19.84	233	P	Pn	21 33 26.6	+3.6
YULB	Yu-li	19.86	346	P	P	21 33 19.0	-2.4
YULB				IAmb	IAmb	21 33 38.5	
	comp=Z,24nm,1.4s						
YHNB	Yeheng	21.08	347	P	P	21 33 34.1	-0.5
YHNB				IAmb	IAmb	21 34 14.1	
	comp=Z,50nm,1.4s						
FITZ	Fitzroy Crossi	22.02	182	P	P	21 33 44.9	+0.3
	comp=Z,2.1nm,0.9s,baz=20,slow=8.4,SNR=6.6						
	comp=Z,2.1nm,0.9s						
FITZ	Fitzroy Crossi	22.02	182	P	P	21 33 46.3	+1.6
JOW	Kunigami	22.72	4	P	P	21 33 52.2	+0.1
	comp=Z,11nm,0.7s,baz=233,slow=5.1,SNR=4.6						
	comp=Z,11nm,0.7s						
JOW	Kunigami	22.72	4	P	P	21 33 53.3	+1.2
WB0	Warramunga Arr	24.92	162	P	P	21 34 12.9	-0.1
WB0				IAmb	IAmb	21 34 40.7	
	comp=Z,6.6nm,0.8s						
WRAB	Tennant Creek	25.07	162	P	P	21 34 14.5	+0.2
WRAB				IAmb	IAmb	21 34 40.8	
	comp=Z,5.2nm,0.7s						
WRA	Warramunga Arr	25.07	162	P	P	21 34 13.9	-0.4
	comp=Z,1.4nm,0.4s,baz=337,slow=11,SNR=26						
	comp=Z,1.4nm,0.4s						
WRA	Warramunga Arr	25.07	162	P	P	21 34 14.1	-0.3
WB2	Warramunga Arr	25.07	162	P	P	21 34 14.2	-0.1
WR0	Warramunga Arr	25.15	162	P	P	21 34 15.5	+0.5
WR0				IAmb	IAmb	21 34 42.2	
	comp=Z,11nm,1.3s						
MBWA	Marble Bar	25.90	194	P	P	21 34 23.1	+1.3
MBWA				IAmb	IAmb	21 34 49.4	
	comp=Z,17nm,1.4s						
PSA00	Pilbara Seismi	26.27	194	P	P	21 34 26.2	+1.0
PSA00				IAmb	IAmb	21 34 30.3	
	comp=Z,20nm,1.3s						
AS31	Alice Springs	28.49	166	P	P	21 34 45.5	+0.4
ASAR	Alice Springs	28.49	166	P	P	21 34 45.1	0.0
	comp=Z,0.4nm,0.6s,baz=349,slow=7.7,SNR=9.3						
	comp=Z,0.4nm,0.6s						
ASAR	Alice Springs	28.49	166	P	P	21 34 43.4	-1.7
CMAR	Chiang Mai Arr	30.47	300	P	P	21 35 02.0	-0.7
	comp=Z,0.5nm,0.5s,baz=127,slow=8.1,SNR=4.1						
	comp=Z,0.5nm,0.5s						
KSRS	Korea Array	33.27	2	P	P	21 35 27.4	+0.3
	comp=Z,1.9nm,0.4s,baz=182,slow=9.9,SNR=9.0						
	comp=Z,1.9nm,0.4s						
STKA	Stephens Creek	38.52	159	P	P	21 36 12.6	+0.5
	comp=Z,1.2nm,0.4s,baz=343,slow=8.2,SNR=4.2						
	comp=Z,1.2nm,0.4s						
USRK	Ussuriysk Ar.	40.28	6	P	P	21 36 25.3	-1.3
	comp=Z,2.2nm,0.5s,baz=189,slow=7.1,SNR=6.4						
	comp=Z,2.2nm,0.5s						
SONM	Songino Array	46.91	342	P	P	21 37 18.8	-1.2
	comp=Z,0.4nm,0.3s,baz=159,slow=8.4,SNR=8.8						
	comp=Z,0.4nm,0.3s						
MKAR	Makanchi Array	57.14	325	P	P	21 38 34.3	-1.8
	comp=Z,1.3nm,0.5s,baz=117,slow=7.6,SNR=19						
	comp=Z,1.3nm,0.5s						
ZALV	Zalesovo Beam	60.18	333	P	P	21 38 55.0	-2.0
	comp=Z,0.3nm,0.3s,baz=145,slow=5.3,SNR=2.4						
	comp=Z,0.3nm,0.3s						
KURK	Kurchatov	61.32	328	P	P	21 39 03.6	-1.3
KURK				IAmb	IAmb	21 39 05.9	
	comp=Z,2.5nm,0.7s						
GAR	Garm	61.50	313	P	P	21 39 05.9	-0.6
NRIK	Noril'sk	70.06	346	P	P	21 40 00.2	-0.6
	comp=Z,8.6nm,0.7s,baz=127,slow=6.1,SNR=14						
	comp=Z,8.6nm,0.7s						
NRIK	Noril'sk	70.06	346	P	P	21 40 00.7	-0.1
ABKAR	Akbulak array	71.73	321	P	P	21 40 09.3	-2.0
ARCES	ARCESS Array B	90.06	340	P	P	21 41 46.9	-1.7
	comp=Z,4.8nm,1.0s,baz=72,slow=5.9,SNR=3.5						
	comp=Z,4.8nm,1.0s						
FINES	FINESS Array B	91.42	332	P	P	21 41 52.6	-2.5
	comp=Z,1.6nm,0.7s,baz=90,slow=2.1,SNR=4.9						
	comp=Z,1.6nm,0.7s						

*IDC **29** 21:49:08.0±0.9, 6°.32′S×127°.94′E, h350^{km}±9^{km}, mb4.1/20, mbtmp4.9/26, Error ellipse: s-maj=9.1km s-min=5.9km az=69.0*

*DJA **29** 21:49:09.4±0.1, 6°S±2°×12°.8′E±°, h352^{km}±2^{km}, M4.6/52, mb4.8/52, mB5.2/30, MLv5.2/24, Mw(mB)4.5/30, MwMwp5.9/1, Mwp6.0/1*

*NEIC **29** 21:49:09.1±1.2, 6°.28′S±0°.07×127°.94′E±0°.06, h357^{km}±6^{km}, mb4.5/101, Error ellipse: s-maj=10.5km s-min=8.1km az=204.0*

ISC 29 21:49:08.2±0.3, **6°34′S**±0°.04×**127°.96′E**±0°.04, **h353**^{km}, **n231, σ1§14/246, mb4.5/75, 4C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	Ambon	2.65	5	P	Pn	21 50 07.6	+2.8
BNDI	Bandanaira	2.65	47	P	Pn	21 50 07.1	+2.3
MSAI	Masohi	3.13	18	P	Pn	21 50 09.5	+0.5
NLAI	Namlea	3.20	344	P	Pn	21 50 12.8	+3.2
NLAI				S	S	21 51 02.6	+3.6
SAUI	Saumlaki	3.70	116	Pn	Pn	21 50 16.4	+2.1
SAUI				Sn	S	21 51 05.0	-2.7
SAUI	Saumlaki	3.70	116	P	Pn	21 50 16.5	+2.1
SAUI				S	S	21 51 06.1	-1.6
SANI	Sanana	4.69	335	P	Pn	21 50 25.5	+0.8
SANI				S	S	21 51 25.5	-0.9
SOEI	Soe	4.99	227		Pn	21 50 29.1	+1.2
SOEI	Soe	4.99	227	P	Pn	21 50 29.3	+1.3
	4.3nm15μm1μm,0.7s						
BBSI	Bau Bau	5.42	279	P	Pn	21 50 35.3	+2.6
	1.6nm12μm563nm,1.2s						
FAKI	Fak Fak	5.46	52	Pn	Pn	21 50 33.5	+0.3
FAKI	Fak Fak	5.46	52	P	Pn	21 50 33.4	+0.3
LBMI	Labuha	5.68	355	P	Pn	21 50 37.2	+1.6
	2.1nm5μm691nm,1.0s						
BATI	Baumata	5.73	228	P	Pn	21 50 37.8	+1.7
	2μm,0.4s,baz=89,slow=1.2,SNR=364						
BATI				S	S	21 51 46.5	-0.8
	439nm,0.7s,baz=309,slow=21,SNR=16						
BATI	Baumata	5.73	228	P	Pn	21 50 37.8	+1.7
	5.2nm14μm1μm,0.6s						
BATI				S	S	21 51 46.8	-0.5
	5.2nm14μm1μm,0.6s						
MMRI	Maumere	6.11	248	Pn	Pn	21 50 41.2	+0.8
MMRI	Maumere	6.11	248	P	Pn	21 50 42.5	+2.1
	0.5nm2μm116nm,0.8s						
SIJI	Sorong	6.36	31	P	Pn	21 50 42.5	-0.8
	72nm,0.3s,baz=187,slow=9.1,SNR=46						
SIJI				S	S	21 51 55.2	-5.3
	97nm,0.3s,baz=81,slow=22,SNR=23						
SWI	Sorong	6.36	31	P	Pn	21 50 42.6	-0.7
	1.3nm3μm133nm,0.5s						
EDFI	Ende, Flores	6.66	249	P	P	21 50 47.8	-0.4
	0.1nm591nm32nm,0.8s						
TNTI	Ternate	7.09	355	Pn	Pn	21 50 48.9	-2.8
MTN	Manton Dam	7.18	154	Pn	P	21 50 54.1	-0.1
LUWI	Luwuk	7.38	315	Pn	Pn	21 50 55.0	-0.1
LUWI	Luwuk	7.38	315	P	P	21 50 57.3	+0.8
	1.0nm10μm236nm,1.0s						
BSSI	Bau Bau, Buton	7.42	271	P	P	21 50 58.0	+1.0
	0.4nm1μm156nm,1.0s						
BKSI	Bulukumba	7.86	277	P	P	21 51 02.4	+0.4
	0.7nm2μm194nm,1.1s						
KMSI	Cibinong	7.93	330	P	P	21 51 03.4	+0.6
	1.5nm428nm,1.0s						
BNSI	Bone	8.05	283	P	P	21 51 05.1	-0.8
	0.3nm963nm80nm,0.9s						
KAPI	Kappang	8.27	279	P	P	21 51 07.1	-1.2
	112nm,0.8s,baz=104,slow=8.1,SNR=27						
KAPI				S	S	21 52 42.6	+1.1
	3.6nm,0.3s,baz=124,slow=17,SNR=1.3						
KAPI	Kappang	8.27	279	Pn	Pn	21 51 06.3	+0.6
APSI	Ampana	8.29	310	P	P	21 51 08.2	-0.3
	0.4nm1μm108nm,0.8s						
SPSI	Sidrap Palu	8.49	286	P	P	21 51 10.2	-0.6
	0.4nm1μm114nm,1.2s						
GTOI	Gorontalo	8.51	324	P	P	21 51 12.4	+1.4
	0.3nm914nm104nm,0.8s						
TTSI	Tana Toraja	8.74	292	P	P	21 51 14.3	+0.7
	0.3nm1μm79nm,0.8s						
MRSI	Marisa	9.05	318	P	P	21 51 16.3	-0.7
	2μm222nm,1.0s						
KNRA	Kununurra	9.31	175	Pn	P	21 51 19.2	-0.7
SRPI	Serui, Papua	9.38	62	P	P	21 51 21.0	+0.3
	88nm,0.5s						
BAKI	Biak	9.61	58	P	P	21 51 24.1	+0.9
	51μm6μm671nm,0.9s						
SGSI	Sangihe	10.25	346	P	P	21 51 29.9	-0.5
	7μm460nm,0.6s						
PLAI	Plampang	10.39	256	P	Pn	21 51 30.7	-0.2
	871nm52nm,0.9s						
MPSI	Mapaga	10.43	309	P	P	21 51 34.4	+2.1
	650nm30nm,0.7s						
TWSI	Taliwang, Sumb	11.23	257	P	P	21 51 42.1	+0.8
	17nm,0.6s						
SMPI	Sarmi	11.56	69	P	P	21 51 46.0	+1.1
	73nm,0.7s						
FITZ	Fitzroy Crossi	11.90	191	P	Pn	21 51 49.2	+0.4
	23nm,0.6s,baz=26,slow=9.7,SNR=78						
FITZ				S	S	21 53 58.0	-3.2
	17nm,0.6s,baz=115,slow=17,SNR=1.5						
FITZ	Fitzroy Crossi	11.90	191	P	Pn	21 51 48.8	0.0
BKB	Balikpapan	12.13	294	P	Pn	21 51 51.6	+0.1
BKB	Balikpapan	12.13	294	P	Pn	21 51 54.6	+3.0
	100nm,1.0s						
GENI	Genyem	12.73	74	P	Pn	21 51 59.7	+1.1
	4μm517nm,0.9s						
SRBI	Singaraja	12.76	261	P	Pn	21 52 00.5	+1.5
	38nm,1.2s						
BBKI	Banjar Baru	13.38	282	P	Pn	21 52 07.1	+0.9
	39nm,1.0s						
JAGI	Jajag, Banyuwa	13.85	260	P	Pn	21 52 11.3	-0.5
	26nm,1.3s						
KMMI	Kalianget	13.91	266	P	Pn	21 52 14.5	+2.0
	71nm,1.0s						
MTKI	Muara Teweh, K	14.09	292	P	Pn	21 52 14.1	-0.5
	27nm,0.8s						
WB0	Warramunga Arr	14.74	155	P	P	21 52 20.5	+0.5
MYLDM	Lahad Datu	14.83	320	P	P	21 52 21.0	0.0
WRAB	Tennant Creek	14.87	156	P	P	21 52 21.5	+0.1
WRA	Warramunga Arr	14.88	156	P	P	21 52 21.9	+0.4
	144nm,0.7s,baz=333,slow=12,SNR=584						
WRA				S	S	21 54 58.0	-3.6
	37nm,0.9s,baz=333,slow=16,SNR=12						
WRA	Warramunga Arr	14.88	156	P	P	21 52 21.5	+0.1
WB2	Warramunga Arr	14.88	156	P	P	21 52 22.0	+0.6
WR0	Warramunga Arr	14.97	155	P	P	21 52 23.1	+0.6
MBWA	Marble Bar	16.75	208	P	P	21 52 41.3	-0.4
COEN	Coen	16.77	118	P	P	21 52 42.4	+0.3
KKM	Kota Kinabalu	16.99	316	P	P	21 52 43.9	-0.5
PSA00	Pilbara Seismi	17.06	207	P	P	21 52 44.7	-0.3
PSA00	Pilbara Seismi	17.06	207	P	P	21 52 44.5	-0.5
PSA00				IAmb	IAmb	21 52 46.1	
	comp=Z,33nm,0.7s						
SBUM	Sibu	17.98	299	P	P	21 52 54.6	-0.3
SBUM				IAmb	IAmb	21 52 57.9	
	comp=Z,11nm,0.7s						
AS31	Alice Springs	18.15	162	P	P	21 52 57.0	+0.3
AS31				IAmb	IAmb	21 52 58.3	
	comp=Z,15nm,0.6s						
ASAR	Alice Springs	18.15	162	P	P	21 52 57.2	+0.5
	comp=Z,45nm,0.5s,baz=345,slow=12,SNR=792						
ASAR				S	S	21 56 03.6	-2.5
	comp=Z,39nm,0.9s,baz=345,slow=20,SNR=25						
ASAR	Alice Springs	18.15	162	P	P	21 52 57.0	+0.3
PMG	Port Moresby	19.26	100	P	P	21 53 09.1	+0.6
	comp=Z,92nm,1.0s,baz=286,slow=6.2,SNR=22						
PMG	Port Moresby	19.26	100	P	P	21 53 09.1	+0.6
MANU	Manus Island	19.82	78	P	P	21 53 14.7	+0.4
MANU				IAmb	IAmb	21 53 17.1	
	comp=Z,31nm,0.9s						
TGY	Tagaytay City	21.47	341	P	P	21 53 28.4	-1.2
	baz=270,slow=2.5						
CTA	Charters Tower	22.41	129	P	P	21 53 39.2	+1.1
	comp=Z,21nm,0.8s,baz=305,slow=9.9,SNR=16						
	comp=Z,21nm,0.8s						
CTAO	Charters Tower	22.41	129	P	P	21 53 38.7	+0.6
CTAO				IAmb	IAmb	21 53 40.6	
	comp=Z,29nm,0.9s						
KRVT	Keravat (AS076	24.05	86	P	P	21 53 53.2	+0.2
	comp=Z,19nm,0.3s,baz=252,slow=16,SNR=3.8						
	comp=Z,19nm,0.3s						
FORT	Forrest	24.31	180	P	P	21 53 55.3	+0.2
FORT					pP	21 54 53.9	-0.7
MORW	Morawa	25.26	205	P	P	21 54 04.1	+0.5
MORW				IAmb	IAmb	21 54 21.3	
	comp=Z,34nm,1.5s						
BBOO	Buckleboo	27.40	165	P	P	21 54 23.1	+0.5
BBOO				IAmb	IAmb	21 54 23.5	
	comp=Z,21nm,0.8s						
NWAO	Narrogin (SRO)	28.27	199	P	P	21 54 30.0	-0.3
	comp=Z,10nm,0.7s,baz=245,slow=10.0,SNR=5.5						
	comp=Z,10nm,0.7s						
NWAO	Narrogin (SRO)	28.27	199	P	P	21 54 30.3	0.0
NWAO				I

ENH	**Enshi**	**40.48**	**335**	P	**P**	**21 56 13.5**	**-0.5**
ENH				IAmb	IAmb	21 56 14.1	
	comp=Z,17nm,0.9s						
OUENC	**Ouen Island, N**	**40.75**	**117**	P	**P**	**21 56 17.2**	**+0.8**
PINNC	**Pines Island,**	**41.34**	**117**	P	**P**	**21 56 20.4**	**-0.7**
PZH	**PanZhiHua**	**41.38**	**323**	P	**P**	**21 56 23.3**	**+1.9**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,5.7s						
JHS	**Saijyo**	**41.40**	**6**	P	**P**	**21 56 20.9**	**-0.5**
JHS				IAmb	IAmb	21 56 23.0	
	comp=Z,27nm,0.8s						
MARNC	**Mare, Loyalty**	**41.55**	**115**	P	**P**	**21 56 23.1**	**+0.3**
JWT	**Wachi**	**41.99**	**9**	P	**P**	**21 56 25.9**	**-0.1**
JGF	**Kuroka**	**42.64**	**11**	P	**P**	**21 56 31.3**	**0.0**
TIA	**Tai'an**	**43.53**	**347**	⇓P	**P**	**21 56 37.3**	**-1.0**
TIA				pmax	pmax		
	comp=Z,16nm,0.8s						
KSAR	**Wonju Array Be**	**43.55**	**360**	P	**P**	**21 56 39.3**	**+0.9**
KSRS	**Korea Array**	**43.56**	**360**	P	**P**	**21 56 38.8**	**+0.3**
	comp=Z,14nm,0.7s,baz=177,slow=10,SNR=58						
	comp=Z,14nm,0.7s						
KS19	**Wonju Array Si**	**43.61**	**360**	P	**P**	**21 56 39.1**	**+0.2**
KS19				IAmb	IAmb	21 56 39.4	
	comp=Z,19nm,0.9s						
MAJO	**Matsushiro**	**43.73**	**12**	P	**P**	**21 56 38.7**	**-1.1**
MAJO				IAmb	IAmb	21 56 39.2	
	comp=Z,17nm,0.8s						
MJAR	**Matsushiro Arr**	**43.73**	**12**	P	**P**	**21 56 38.1**	**-1.7**
	comp=Z,13nm,0.8s,baz=187,slow=9.3,SNR=24						
	comp=Z,13nm,0.8s						
MJB9	**Matsu-Tunnel**	**43.73**	**12**	P	**P**	**21 56 38.8**	**-1.1**
MJB9				IAmb	IAmb	21 56 39.2	
	comp=Z,16nm,0.8s						
XAN	**Xi'an**	**44.02**	**337**	⇑P	**P**	**21 56 41.3**	**-0.9**
XAN				PcP	**PcP**	**21 58 23.0**	**+2.2**
XAN				ScP	**ScP**	**22 01 37.8**	**-0.6**
XAN				pmax	pmax		
	comp=Z,48nm,0.8s						
JSD	**Sado**	**45.18**	**11**	P	**P**	**21 56 50.9**	**-0.3**
JSD				IAmb	IAmb	21 56 51.5	
	comp=Z,13nm,0.5s						
HNS	**HongShan**	**45.24**	**345**	⇑P	**P**	**21 56 51.3**	**-0.3**
HNS				pmax	pmax		
	comp=Z,46nm,1.0s						
JMM	**Marumori**	**45.58**	**14**	P	**P**	**21 56 54.3**	**+0.1**
JMM				IAmb	IAmb	21 56 54.5	
	comp=Z,19nm,0.7s						
BJT	**Baijiatuau**	**47.39**	**348**	IAmb	IAmb	21 57 08.6	
	comp=Z,20nm,0.8s						
BJI	**Beijing**	**47.41**	**348**	P	**P**	**21 57 07.5**	**-0.8**
BJI				pmax	pmax		
	comp=Z,25nm,0.8s						
LZH	**Lanzhou**	**47.89**	**334**	*e*P	**P**	**21 57 12.5**	**+0.2**
LZH				pP	pP	21 58 25.5	+2.9
LZH				sP	sP	21 59 03.8	+2.0
LZH				pmax	pmax		
	comp=Z,54nm,1.1s						
JTM	**Tenmabayashi**	**48.42**	**13**	P	**P**	**21 57 16.0**	**+0.1**
JTM				IAmb	IAmb	21 57 45.4	
	comp=Z,61nm,1.3s						
HHC	**Hu-ho-hao-te**	**49.31**	**344**	*e*P	**P**	**21 57 22.0**	**-0.8**
HHC				pmax	pmax		
	comp=Z,46nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,4.6s						
MSVF	**Nonsavu**	**50.14**	**108**	P	**P**	**21 57 30.8**	**+1.4**
	comp=Z,12nm,0.8s,baz=271,slow=6.9,SNR=23						
	comp=Z,12nm,0.8s						
MSVF	**Nonsavu**	**50.14**	**108**	P	**P**	**21 57 31.1**	**+1.8**
MSVF				IAmb	IAmb	21 57 32.0	
	comp=Z,16nm,0.8s						
LSA	**Lhasa**	**50.33**	**317**	P	**P**	**21 57 31.9**	**+0.8**
LSA				IAmb	IAmb	21 57 32.4	
	comp=Z,18nm,0.7s						
LSA	**Lhasa**	**50.33**	**317**	P	**P**	**21 57 31.5**	**+0.4**
LSA				pmax	pmax		
	comp=Z,31nm,0.7s						
USA0B	**Ussuriysk Arra**	**50.44**	**4**	P	**P**	**21 57 31.2**	**+0.2**
USA0B				IAmb	IAmb	21 57 31.9	
	comp=Z,13nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.44**	**4**	P	**P**	**21 57 31.0**	**0.0**
	comp=Z,13nm,0.7s,baz=189,slow=7.4,SNR=19						
	comp=Z,13nm,0.7s						
USRK	**Ussuriysk Ar.**	**50.44**	**4**	P	**P**	**21 57 31.1**	**+0.1**
XLT	**XiLinHaoTe**	**51.15**	**349**	*e*P	**P**	**21 57 36.5**	**+0.1**
XLT				pmax	pmax		
	comp=Z,26nm,0.9s						
XLT				pmax	pmax		
	comp=Z,120nm,6.0s						
ODAN	**Odare**	**51.30**	**312**	*e*P	**P**	**21 57 37.4**	**-0.6**
TAPN	**Taplejung**	**51.34**	**313**	*e*P	**P**	**21 57 38.1**	**-0.3**
DCZ	**Deep Cove**	**51.68**	**145**	P	**P**	**21 57 41.2**	**+1.0**
RAMN	**Ramite**	**51.94**	**311**	*e*P	**P**	**21 57 42.4**	**-0.3**
	comp=Z,76nm,0.6s						
FOZ	**Fox Glacier**	**52.14**	**142**	P	**P**	**21 57 44.2**	**+0.6**
MLZ	**Mavora Lakes**	**52.17**	**145**	P	**P**	**21 57 44.3**	**+0.5**
MLZ				IAmb	IAmb	21 58 11.8	
	comp=Z,28nm,1.4s						
WKZ	**Wanaka**	**52.38**	**144**	P	**P**	**21 57 47.1**	**+1.7**
WKZ				IAmb	IAmb	21 58 17.3	
	comp=Z,36nm,1.4s						
WHZ	**Wether Hill Ro**	**52.38**	**145**	P	**P**	**21 57 45.9**	**+0.5**
WHZ				IAmb	IAmb	21 57 46.4	
	comp=Z,26nm,1.0s						
GTA	**Gaotai**	**52.44**	**333**	⇓P	**P**	**21 57 46.0**	**0.0**
GTA				pP	PcP	21 58 52.5	+1.2
GTA				sP	sP	21 59 34.5	-2.8
GTA				ScP	**ScP**	**22 02 13.8**	**-0.3**
GTA				pmax	pmax		
	comp=Z,25nm,0.9s						
QRZ	**Quartz Range**	**52.50**	**138**	P	**P**	**21 57 48.0**	**+1.7**
QRZ				IAmb	IAmb	21 57 48.6	
	comp=Z,31nm,0.7s						
GOMU	**GeErMu**	**52.51**	**326**	P	**P**	**21 57 47.0**	**+0.2**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,61nm,5.7s						
JIRN	**Jiri**	**52.63**	**312**	*e*P	**P**	**21 57 47.4**	**-0.5**
LBZ	**Lake Benmore**	**52.83**	**143**	P	**P**	**21 57 49.0**	**+0.4**
LBZ				IAmb	IAmb	21 57 53.3	
	comp=Z,50nm,1.5s						
GUN	**Gumba**	**53.00**	**312**	*e*P	**P**	**21 57 50.3**	**-0.2**
	comp=Z,59nm,0.5s						
RPZ	**Rata Peaks**	**53.00**	**142**	P	**P**	**21 57 50.9**	**+1.0**
	comp=Z,48nm,0.9s,baz=280,slow=3.5,SNR=12						
	comp=Z,48nm,0.9s						
RPZ	**Rata Peaks**	**53.00**	**142**	P	**P**	**21 57 51.0**	**+1.0**
PKI	**Pulchoki**	**53.16**	**311**	*e*P	**P**	**21 57 50.6**	**-1.1**
	comp=Z,24nm,0.5s						
PKIN	**Phulchoki**	**53.17**	**311**	*e*P	**P**	**21 57 51.0**	**-0.7**
	comp=Z,24nm,0.5s						
THZ	**Tophouse**	**53.20**	**139**	P	**P**	**21 57 52.4**	**+1.0**
THZ				IAmb	IAmb	21 57 54.1	
	comp=Z,14nm,0.7s						
NNZ	**Nelson**	**53.25**	**138**	P	**P**	**21 57 52.2**	**+0.5**
LTZ	**Lake Taylor**	**53.29**	**140**	P	**P**	**21 57 52.1**	**+0.1**
KKN	**Kakani**	**53.38**	**312**	*e*P	**P**	**21 57 52.5**	**-0.6**
	comp=Z,4.1nm,0.8s						
DMN	**Daman**	**53.41**	**311**	*e*P	**P**	**21 57 53.0**	**-0.4**
	comp=Z,26nm,0.6s						
ODZ	**Otahua Downs**	**53.47**	**143**	P	**P**	**21 57 51.5**	**-1.7**
ODZ				IAmb	IAmb	21 58 16.2	
	comp=Z,35nm,1.5s						
BSWZ	**Blackbirch Sta**	**53.81**	**138**	P	**P**	**21 57 55.9**	**+0.1**
KHZ	**Kahutara**	**53.92**	**139**	P	**P**	**21 57 57.1**	**+0.6**
KHZ				IAmb	IAmb	21 57 57.6	
	comp=Z,28nm,0.7s						
GKN	**Gorkha**	**53.97**	**311**	*e*P	**P**	**21 57 56.6**	**-0.7**
	comp=Z,51nm,0.3s						
MQZ	**McQueen's Vall**	**53.99**	**141**	P	**P**	**21 57 57.6**	**+0.6**
MQZ				IAmb	IAmb	21 58 22.5	
	comp=Z,27nm,1.2s						
BKZ	**Black Stump Fm**	**54.51**	**134**	IAmb	IAmb	21 58 02.5	
	comp=Z,21nm,0.7s						
URZ	**Urewera**	**54.59**	**133**	P	**P**	**21 58 01.2**	**-0.1**
	comp=Z,10nm,0.5s,baz=345,slow=5.4,SNR=7.5						
	comp=Z,10nm,0.5s						
URZ	**Urewera**	**54.59**	**133**	P	**P**	**21 58 01.5**	**+0.1**
URZ				IAmb	IAmb	21 58 10.6	
	comp=Z,32nm,1.2s						
MSWZ	**Moikau Station**	**54.60**	**137**	P	**P**	**21 58 02.3**	**+1.0**
PLWZ	**Palliser**	**54.67**	**137**	P	**P**	**21 58 03.0**	**+1.1**

DANN	**Dangsing**	**54.81**	**311**	*e*P	**P**	**21 58 02.3**	**-1.1**
BFZ	**Birch Farm**	**54.96**	**136**	P	**P**	**21 58 04.0**	**+0.1**
MXZ	**Matakaoa Point**	**55.21**	**132**	P	**P**	**21 58 06.5**	**+0.8**
KAAM	**Kaadhehdhoo**	**55.27**	**275**	P	**P**	**21 58 07.2**	**+0.6**
ULN	**Ulaanbaatar**	**57.03**	**343**	P	**P**	**21 58 18.9**	**+0.5**
ULN				IAmb	IAmb	21 58 20.1	
	comp=Z,25nm,1.1s						
SONM	**Songino Array**	**57.20**	**343**	P	**P**	**21 58 19.9**	**+0.4**
	comp=Z,13nm,0.8s,baz=165,slow=7.0,SNR=70						
	comp=Z,13nm,0.8s						
SONM	**Songino Array**	**57.20**	**343**	P	**P**	**21 58 20.7**	**+1.2**
SONM				IAmb	IAmb	21 58 21.0	
	comp=Z,17nm,0.9s						
CASY	**Casey**	**61.05**	**188**	P	**P**	**21 58 45.8**	**+0.5**
WMQ	**Urumqi**	**61.75**	**328**	*e*P	**P**	**21 58 52.0**	**+1.6**
PEA0B	**Petropavlovsk-**	**64.36**	**19**	P	**P**	**21 59 07.5**	**+0.4**
PETK	**Petropavlovsk-**	**64.36**	**19**	P	**P**	**21 59 07.4**	**+0.3**
	comp=Z,4.1nm,0.6s,baz=196,slow=4.2,SNR=12						
	comp=Z,4.1nm,0.6s						
PETK	**Petropavlovsk-**	**64.36**	**19**	P	**P**	**21 59 07.6**	**+0.5**
NIL	**Nilore**	**65.26**	**311**	P	**P**	**21 59 13.3**	**-0.1**
KSH	**Kashi**	**66.17**	**318**	P	**P**	**21 59 20.0**	**+0.9**
KSH				pmax	pmax		
	comp=Z,13nm,0.7s						
TARG	**Taragay, Kyrgy**	**66.17**	**321**	P	**P**	**21 59 18.7**	**-0.8**
TARG				IAmb	IAmb	21 59 26.2	
	comp=Z,8.6nm,1.3s						
MK31	**Makanchi Array**	**66.57**	**328**	P	**P**	**21 59 22.0**	**+0.6**
MKAR	**Makanchi Array**	**66.57**	**328**	P	**P**	**21 59 21.3**	**-0.1**
	comp=Z,15nm,0.5s,baz=118,slow=8.2,SNR=232						
	comp=Z,15nm,0.5s						
MKAR	**Makanchi Array**	**66.57**	**328**	P	**P**	**21 59 21.9**	**+0.5**
MAKZ	**Makanchi**	**66.75**	**327**	P	**P**	**21 59 22.7**	**+0.2**
MAKZ				IAmb	IAmb	21 59 23.2	
	comp=Z,8.4nm,0.6s						
YAK	**Yakutsk**	**68.18**	**1**	P	**P**	**21 59 30.8**	**-0.2**
TKM2	**Tokmak 2**	**68.19**	**321**	P	**P**	**21 59 32.0**	**+0.3**
	SNR=6.4						
UCH	**Uchtor**	**68.51**	**320**	P	**P**	**21 59 34.7**	**+0.6**
	SNR=7.4						
AAK	**Ala-Archa**	**68.74**	**320**	P	**P**	**21 59 36.0**	**+1.0**
	SNR=5.2						
AAK	**Ala-Archa**	**68.74**	**320**	P	**P**	**21 59 35.3**	**+0.2**
AAK				IAmb	IAmb	21 59 36.6	
	comp=Z,5.8nm,0.7s						
KBL	**Kabul**	**68.79**	**311**	P	**P**	**21 59 34.4**	**-1.2**
DRK	**Karamyk**	**68.96**	**316**	P	**P**	**21 59 36.1**	**-0.6**
DRK				IAmb	IAmb	21 59 37.8	
	comp=Z,8.0nm,0.6s						
USP	**Ospenovka**	**69.06**	**321**	P	**P**	**21 59 37.1**	**+0.3**
	SNR=13						
EKS2	**Erkin-Say**	**69.20**	**320**	P	**P**	**21 59 39.0**	**+1.1**
	SNR=8.2						
GAR	**Garm**	**69.77**	**315**	P	**P**	**21 59 40.8**	**-0.6**
BTK	**Batken**	**69.90**	**317**	P	**P**	**21 59 41.5**	**-0.6**
ZALV	**Zalesovo Beam**	**70.11**	**335**	P	**P**	**21 59 42.1**	**-0.8**
	comp=Z,11nm,0.7s,baz=125,slow=4.8,SNR=53						
	comp=Z,11nm,0.7s						
CHGR	**Chuyangaron**	**70.43**	**315**	P	**P**	**21 59 44.7**	**-0.6**
KURK	**Kurchatov**	**70.91**	**329**	P	**P**	**21 59 47.6**	**-0.1**
TAS	**Tashkent**	**71.51**	**317**	P	**P**	**21 59 51.7**	**+0.1**
KK31	**Karatay Array**	**71.52**	**319**	P	**P**	**21 59 51.6**	**+0.1**
KKAR	**Karatay Array**	**71.52**	**319**	P	**P**	**21 59 51.3**	**-0.2**
KKAR	**Karatay Array**	**71.52**	**319**	P	**P**	**21 59 51.6**	**+0.1**
KKAR				IAmb	IAmb	21 59 52.5	
	comp=Z,4.2nm,0.9s						
VNDA	**Vanda**	**73.35**	**173**	P	**P**	**22 00 01.2**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=321,slow=7.0,SNR=12						
	comp=Z,1.5nm,0.8s						
VNDA	**Vanda**	**73.35**	**173**	P	**P**	**22 00 01.6**	**-0.1**
HRA	**Herat**	**73.95**	**308**	P	**P**	**22 00 05.1**	**-1.1**
HRA				IAmb	IAmb	22 00 07.6	
	comp=Z,5.3nm,0.8s						
MAW	**Mawson**	**74.83**	**201**	P	**P**	**22 00 10.7**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=82,slow=7.1,SNR=2.8						
	comp=Z,2.8nm,0.9s						
BRVK	**Borovoye**	**76.50**	**328**	P	**P**	**22 00 19.7**	**-0.2**
BRVK				IAmb	IAmb	22 00 20.7	
	comp=Z,6.7nm,1.0s						
GEYT	**Alibeck**	**78.24**	**311**	P	**P**	**22 00 29.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=150,slow=3.2,SNR=3.5						
	comp=Z,0.9nm,0.6s						
VOI	**Vohitsoka**	**79.49**	**249**	P	**P**	**22 00 37.2**	**+0.1**
VOI				IAmb	IAmb	22 01 17.8	
	comp=Z,18nm,1.3s						
NRIK	**Noril'sk**	**80.44**	**347**	P	**P**	**22 00 40.5**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=132,slow=6.2,SNR=4.0						
	comp=Z,2.0nm,0.5s						
ABKAR	**Akbulak array**	**80.74**	**322**	P	**P**	**22 00 42.8**	**-0.2**
ABKAR	**Akbulak array**	**80.74**	**322**	P	**P**	**22 00 42.7**	**-0.2**
UNV	**Unalaska Valle**	**81.05**	**33**	P	**P**	**22 00 40.7**	**-3.7**
QSPA	**South Pole Qui**	**83.63**	**180**	P	**P**	**22 00 57.3**	**-0.4**
QSPA				IAmb	IAmb	22 00 57.6	
	comp=Z,4.8nm,0.6s						
TROLL	**Troll, Antarti**	**94.29**	**195**	P	**P**	**22 01 48.7**	**+0.8**
SNAA	**Sanae**	**95.82**	**194**	P	**P**	**22 01 54.7**	**0.0**
ARCES	**ARCESS Array B**	**100.26**	**340**	P	**Pdif**	**22 02 13.3**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=76,slow=5.1,SNR=2.0						
PDAR	**Pinedale Array**	**117.86**	**45**	PKP	**PKPdf**	**22 07 13.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=299,slow=0.9,SNR=3.4						
TXAR	**Lajitas Array**	**126.32**	**58**	PKP	**PKPdf**	**22 07 29.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=211,slow=1.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**126.69**	**282**	PKP	**PKPdf**	**22 07 30.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=76,slow=1.2,SNR=3.3						
CPUP	**Villa Florida**	**147.12**	**171**	PKPbc	**PKPbc**	**22 08 10.2**	**-0.6**
	comp=Z,8.2nm,0.8s,baz=172,slow=0.7,SNR=11						
LPAZ	**La Paz**	**152.45**	**145**	PKPbc	**PKiKP**	**22 08 24.9**	**0.0**
	comp=Z,2.0nm,0.4s,baz=158,slow=1.8,SNR=12						
LPAZ				PKPab	**PKPab**	**22 08 37.7**	**+1.4**
	comp=Z,5.9nm,0.6s,baz=196,slow=0.9,SNR=17						

*IDC **29** 22:27:10.8±0.5, 34.65N×24.91E, h0km, mb4.1/27, mbtmp4.1/41, ML3.8/12, MS3.3/15, Error ellipse: s-maj=10.8km s-min=8.0km az=90.0*
*MOS **29** 22:27:10.2±1.3, 34.61N×24.75E, h4km, mb4.4/8, Error ellipse: s-maj=7.4km s-min=4.4km az=75.7*
*ATH **29** 22:27:14.5, 34.73N×24.94E, h17km±2km, ML3.9/14, Error ellipse: s-maj=3.2km s-min=1.0km az=5.0*
*NEIC **29** 22:27:14.7±1.9, 34.73N±0.04×24.79E±0.07, h10km±1km, mb4.1/21, ML4.1(THE), Error ellipse: s-maj=10.1km s-min=7.0km az=82.0*
*ISK **29** 22:27:14.3, 34.77N×24.95E, h9km, ML3.9/23*
*THE **29** 22:27:15.2, 34.78N×24.94E, h0km±1km, ML3.6/8, Error ellipse: s-maj=2.2km s-min=0.9km az=173.0*
*HLW **29** 22:27:15.7, 34.70N×25.25E, h19km±31km, Md4.3, Ml4.2*
*DDA **29** 22:27:19.0±0.0, 35.04N×24.89E, h15km, MW4.1*
*GII **29** 22:27:23.0±0.0, 34.30N×25.61E, h10km, mb4.3/3, MD4.1/3*

ISC 29 22:27:14.1±1.0, 34.69N±0.03×24.95E±0.02, h17km±6km, n327, σ1§87/368, mb4.2/41, MS3.3/10, 11C-11D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.34**	**341**	P	**Pg**	**22 27 20.9**	**-0.4**
SIVA				S	**Sg**	**22 27 25.5**	**-0.7**
	44μm,0.5s						
SIVA	**Sivas**	**0.34**	**341**	P	**Pg**	**22 27 20.6**	**-0.7**
SIVA				S	**Sg**	**22 27 25.7**	**-0.5**
SIVA				AML	AML	22 27 27.0	
	comp=N,72489μm,0.4s						
SIVA				AML	AML	22 27 28.1	
TMBK	**Timbaki Herakl**	**0.41**	**339**	P	**Pg**	**22 27 22.0**	**-0.4**
TMBK				S	**Sb**	**22 27 28.5**	**-0.3**
	comp=N,9μm,0.3s						
TMBK	**Timbaki Herakl**	**0.41**	**339**	P	**Pg**	**22 27 22.1**	**-0.4**
TMBK				S	**Sg**	**22 27 27.9**	**-0.1**
TMBK				AML	AML	22 27 29.3	
	comp=N,43590μm,0.3s						
TMBK				AML	AML	22 27 29.4	
	comp=E,60936μm,0.3s						
IDI	**Anoyia**	**0.59**	**356**	⇓P	**Pg**	**22 27 24.4**	**-1.6**
IDI	**Anoyia**	**0.59**	**356**	Pg	**Pg**	**22 27 24.8**	**-1.2**
	comp=E,72nm,0.3s,baz=169,slow=12,SNR=1298						
IDI				Lg	Lg	22 27 32.0	
	comp=E,513nm,0.3s,baz=265,slow=16,SNR=48						
IDI	**Anoyia**	**0.59**	**356**	P	**Pg**	**22 27 24.4**	**-1.6**
IDI				S	**Sg**	**22 27 32.4**	**-1.5**
	comp=E,4μm,0.4s						
IDI	**Anoyia**	**0.59**	**356**	PG	**Pg**	**22 27 24.5**	**-1.5**
IDI				SG	**Sg**	**22 27 32.5**	**-1.5**
IDI	**Anoyia**	**0.59**	**356**	Pg	**Pg**	**22 27 24.5**	**-1.5**
IDI				Sg	**Sg**	**22 27 32.8**	**-1.1**

IDI	**Anoyia**	**0.59**	**356**	P	**Pg**	**22 27 24.9**	**-1.0**
IDI				S	**Sg**	**22 27 32.8**	**-1.1**
IDI				AML	AML	22 27 35.1	
	comp=N,7096μm,0.2s						
IDI				AML	AML	22 27 35.2	
	comp=E,10723μm,0.5s						
IACM	**Heraklion**	**0.62**	**9**	P	**Pg**	**22 27 25.8**	**-0.6**
IACM	**Heraklion**	**0.62**	**9**	P	**Pg**	**22 27 25.8**	**-0.6**
IACM				S	**Sg**	**22 27 34.3**	**-0.4**
IACM				AML	AML	22 27 44.8	
	comp=E,85574μm,0.6s						
IACM				AML	AML	22 27 47.5	
	comp=N,70996μm,0.9s						
HRKL	**Herakleio**	**0.63**	**12**	P	**Pg**	**22 27 25.9**	**-0.7**
HRKL				S	**Sg**	**22 27 34.1**	**-0.9**
	comp=N,19μm,0.8s						
HRKL	**Herakleio**	**0.63**	**12**	PG	**Pg**	**22 27 25.9**	**-0.7**
HRKL				SG	**Sg**	**22 27 33.8**	**-1.2**
HRKL	**Herakleio**	**0.63**	**12**	P	**Pg**	**22 27 25.7**	**-0.9**
HRKL				S	**Sg**	**22 27 34.8**	**-0.2**
HRKL				AML	AML	22 27 43.8	
	comp=N,66341μm,2.7s						
HRKL				AML	AML	22 27 44.9	
GVDS	**Gavdos**	**0.72**	**282**	P	**Pg**	**22 27 28.4**	**+0.2**
GVDS				S	**Sn**	**22 27 40.7**	**+0.5**
	comp=N,11μm,0.4s						
GVDS	**Gavdos**	**0.72**	**282**	PG	**Pb**	**22 27 29.0**	**+0.8**
GVDS				SG	**Sb**	**22 27 39.9**	**+2.1**
FRMA	**Ierapetra Chan**	**0.72**	**63**	P	**Pb**	**22 27 29.6**	**+1.4**
FRMA				S	**Sn**	**22 27 43.2**	**+3.0**
	comp=N,4μm,0.6s						
FRMA	**Ierapetra Chan**	**0.72**	**63**	P	**Pb**	**22 27 29.3**	**+1.1**
FRMA				S	**Sb**	**22 27 40.4**	**+2.6**
FRMA				AML	AML	22 27 46.5	
	comp=N,18197μm,0.6s						
FRMA				AML	AML	22 27 49.1	
	comp=E,30893μm,0.5s						
GVD	**Gavdhos**	**0.72**	**282**	P	**Pg**	**22 27 27.9**	**-0.4**
GVD				S	**Sn**	**22 27 41.0**	**+0.8**
	comp=E,15μm,0.5s						
GVD	**Gavdhos**	**0.72**	**282**	PG	**Pb**	**22 27 28.9**	**+0.7**
GVD				SG	**Sb**	**22 27 39.1**	**+1.2**
GVD	**Gavdhos**	**0.72**	**282**	P	**Pg**	**22 27 28.2**	**-0.1**
GVD				S	**Sg**	**22 27 37.7**	**-0.1**
GVD				AML	AML	22 27 44.8	
	comp=N,26256μm,0.5s						
GVD				AML	AML	22 27 48.0	
	comp=E,33531μm,0.5s						
PRNS	**Prines Rethymn**	**0.76**	**332**	P	**Pg**	**22 27 28.0**	**-1.0**
PRNS				S	**Sb**	**22 27 39.8**	**+0.8**
	comp=E,2μm,0.5s						
STIA	**Sitia Lasithi**	**1.07**	**61**	P	**Pg**	**22 27 34.0**	**-0.8**
STIA	**Sitia Lasithi**	**1.07**	**61**	P	**Pg**	**22 27 34.0**	**-0.8**
STIA				AML	AML	22 27 56.4	
	comp=E,19246μm,1.0s						
STIA				AML	AML	22 27 58.2	
	comp=N,19388μm,0.7s						
IMMV	**Iera Moni Meta**	**1.10**	**314**	P	**Pg**	**22 27 33.9**	**-1.5**
IMMV				S	**Sn**	**22 27 50.2**	**+0.6**
IMMV	**Iera Moni Meta**	**1.10**	**314**	PG	**Pg**	**22 27 33.9**	**-1.5**
IMMV				SG	**Sb**	**22 27 49.8**	**+1.0**
IMMV	**Iera Moni Meta**	**1.10**	**314**	P	**Pg**	**22 27 33.7**	**-1.8**
IMMV				S	**Sg**	**22 27 48.3**	**-1.5**
IMMV				AML	AML	22 27 51.8	
	comp=E,7709μm,0.6s						
IMMV				AML	AML	22 27 58.1	
	comp=N,5019μm,0.6s						
CHAN	**Chania**	**1.11**	**318**	P	**Pg**	**22 27 34.5**	**-1.1**
CHAN				AML	AML	22 27 56.1	
	comp=E,8050μm,0.7s						
CHAN				AML	AML	22 28 03.6	
	comp=N,8114μm,0.7s						
ZKR	**Zakros**	**1.12**	**68**	P	**Pb**	**22 27 35.3**	**+0.2**
ZKR				S	**Sn**	**22 27 53.0**	**+2.8**
ZKR	**Zakros**	**1.12**	**68**	PN	**Pb**	**22 27 35.0**	**-0.1**
ZKR				SN	**Sn**	**22 27 51.4**	**+1.2**
ZKR	**Zakros**	**1.12**	**68**	P	**Pb**	**22 27 35.2**	**0.0**
KNDR	**Palaiochora Ch**	**1.17**	**298**	P	**Pb**	**22 27 36.4**	**+0.6**
KNDR	**Palaiochora Ch**	**1.17**	**298**	PN	**Pb**	**22 27 36.6**	**+0.8**
KNDR				SN	**Sn**	**22 27 54.2**	**+3.0**
KNDR	**Palaiochora Ch**	**1.17**	**298**	P	**Pb**	**22 27 36.3**	**+0.4**
KNDR				S	**Sg**	**22 27 51.6**	**-0.4**
KNDR				AML	AML	22 27 59.3	
	comp=E,9818μm,0.4s						
KNDR				AML	AML	22 28 00.4	
	comp=N,6043μm,0.3s						
THR9	**Santorini-Faro**	**1.69**	**11**	P	**Pn**	**22 27 44.6**	**+1.7**
THR6	**Thira Island,**	**1.70**	**12**	P	**Pn**	**22 27 44.1**	**+1.1**
SANT	**Santorini**	**1.73**	**14**	P	**Pn**	**22 27 45.9**	**+0.5**
SANT	**Santorini**	**1.73**	**14**	P	**Pn**	**22 27 44.5**	**+1.1**
SANT	**Santorini**	**1.73**	**14**	PN	**Pn**	**22 27 44.2**	**+0.8**
SANT	**Santorini**	**1.73**	**14**	Pn	**Pn**	**22 27 44.4**	**+1.1**
SANT	**Santorini**	**1.73**	**14**	P	**Pn**	**22 27 44.3**	**+0.9**
SAP3	**Santorini-Thir**	**1.77**	**10**	P	**Pn**	**22 27 45.8**	**+1.8**
THT2	**Imerovigli**	**1.78**	**12**	PN	**Pn**	**22 27 44.9**	**+0.8**
ANKY	**Antikythira Is**	**1.78**	**311**	P	**Pn**	**22 27 45.5**	**+1.3**
ANKY				AML	AML	22 28 20.6	
	comp=E,2771μm,0.7s						
ANKY				AML	AML	22 28 20.6	
	comp=N,1692μm,0.5s						
KARP	**Karpathos**	**2.00**	**64**	Pn	**Pb**

ELL Elmali 4.53 62 Pn **Pn** 22 28 24.9 +2.9
ELL Elmali 4.53 62 P **Pn** 22 28 24.9 +2.9
ELL Elmali 4.53 62 P **Pn** 22 28 25.2 +3.2
ZEDA zmir-Bergama 4.59 21 P **Pn** 22 28 22.9 +0.1
MANT Manisa 4.78 36 **Pn** 22 28 27.7 +2.2
BRDR BURDUR-Merkez 5.11 53 P Pn 22 28 36.0 +6.1
PASA Karahalli, USA 5.16 44 P **Pn** 22 28 32.5 +1.8
USAK Uak-Merkez 5.18 38 P **Pn** 22 28 34.1 +3.2
BAYC CANAKKALE_Bayr 5.20 14 P **Pn** 22 28 32.5 +1.4
SWA2 5.45 175 P **Pn** 22 28 34.9 +0.3
baz=178
SWA2 S **Sn** 22 29 34.6 -2.3
baz=178
ISP Isparta 5.48 54 **Pn** 22 28 38.7 +3.6
ISP Isparta 5.48 54 P **Pn** 22 28 38.7 +3.6
GDZ Gediz 5.70 38 P **Pn** 22 28 40.4 +2.4
LIT Litokhoron 5.74 341 Pn **Pn** 22 28 39.8 +1.2
LIT Litokhoron 5.74 341 P **Pn** 22 28 39.8 +1.2
KEPZ Antalya-Kepez 5.84 66 P **Pn** 22 28 43.7 +3.7
ALN Alexandroupoli 6.25 8 Pn **Pn** 22 28 47.1 +1.5
ALN Alexandroupoli 6.25 8 P **Pn** 22 28 47.1 +1.5
KESN Edirne-Kesan 6.27 12 P **Pn** 22 28 46.0 -0.2
RDO Rodhopi 6.46 4 **Pn** 22 28 50.0 +1.6
KEK Kerkira 6.48 322 Pn **Pn** 22 28 49.3 +0.6
KBN Korca 6.78 332 Pn **Pn** 22 28 53.7 +0.9
KBN Korca 6.78 332 P **Pn** 22 28 53.7 +0.9
BORA Eskisehir 6.79 39 Pn **Pn** 22 28 55.5 +2.5
CSS Mathiatis 6.90 85 P **Pn** 22 28 57.0 +2.4
CSS Mathiatis 6.90 85 Pn **Pn** 22 28 56.2 +1.7
CSS Sn **Sn** 22 30 10.9 -1.7
MMB Musomiste 6.95 352 P **Pn** 22 28 58.5 +3.3
KDZ Kurdzhali 6.96 3 P **Pn** 22 28 56.0 +0.8
HNAT Natroun 6.97 135 P **Pn** 22 28 55.4 0.0
baz=136
RYAN Fayoum 7.20 140 P **Pn** 22 28 58.6 0.0
baz=141
VLO Vlora 7.21 325 Pn **Pn** 22 28 57.8 -0.8
VLO Vlora 7.21 325 P **Pn** 22 28 57.8 -0.8
SCTE Santa Cesarea 7.44 318 Pn **Pn** 22 29 01.4 -0.5
HSAF As Saff 7.55 130 P **Pn** 22 29 04.0 +0.6
baz=131
MDUB Mudurnu 7.61 39 **Pn** 22 29 06.9 +2.7
GLL Jalalah 7.67 130 P **Pn** 22 29 05.5 +0.3
baz=131
TIR Tirane 7.76 330 ⇑P **Pn** 22 29 06.8 +0.6
TIP Timpagrande 7.94 307 ⇑P **Pn** 22 29 09.7 +0.9
TIP Timpagrande 7.94 307 Pn **Pn** 22 29 08.0 -0.8
VTS Vitosha 8.02 351 ⇑P **Pn** 22 29 11.3 +1.2
VTS Vitosha 8.02 351 Pn **Pn** 22 29 11.7 +1.7
VTS Vitosha 8.02 351 P **Pn** 22 29 11.7 +1.7
HFRF Wahat Farafira 8.06 158 P **Pn** 22 29 10.0 -0.3
baz=159
HFRF S Sn 22 30 34.3 -6.8
baz=159
BR231 Keskin MP Arra 8.08 48 Pn **Pn** 22 29 14.1 +3.3
ANTO Ankara 8.11 48 ⇓P **Pn** 22 29 14.9 +3.7
ANTO Ankara 8.11 48 Pn **Pn** 22 29 14.2 +3.1
ANTO Ankara 8.11 48 P **Pn** 22 29 14.2 +3.1
SUZ Suez 8.24 124 P **Pn** 22 29 12.2 -0.8
baz=125
BR131 Keskin Array S 8.56 52 **Pn** 22 29 19.8 +2.4
BR131 Keskin Array S 8.56 52 *i* P **Pn** 22 29 20.9 +3.5
BRTR Keskin Array B 8.56 52 Pn **Pn** 22 29 20.0 +2.6
comp=E,0.2nm,0.3s,baz=230,slow=15,SNR=11
BRTR LR LR 22 33 00.3
comp=E,200nm,21.0s,baz=238,slow=41
comp=E,2.6nm,0.8s
BRTR Keskin Array B 8.56 52 Pn **Pn** 22 29 19.4 +2.0
BRTR Keskin Array B 8.56 52 *i* P Pn 22 29 23.6 +6.2
BRTR pmax pmax
comp=Z,3.0nm,0.8s
SZH Strazhica 8.60 5 P **Pn** 22 29 17.5 -0.2
TAMRE El Minia 8.66 142 P **Pn** 22 29 18.9 +0.2
baz=143
SLTI Sal'it 8.78 103 Pn **Pn** 22 29 21.8 +1.5
SLTI Sn **Sn** 22 30 53.1 -5.8
KZIT Kziot 8.80 113 Pn **Pn** 22 29 51.2 +0.6
KZIT Sn **Sn** 22 30 52.9 -6.6
MATE Matera 8.83 315 ⇑P **Pn** 22 29 22.1 +1.2
MMAI Mount Meron Ar 8.86 98 Pn **Pn** 22 29 20.8 -0.7
comp=Z,2.8nm,0.3s,baz=293,slow=11,SNR=12
MMAI Sn **Sn** 22 30 55.1 -5.8
comp=Z,2.5nm,0.3s,baz=273,slow=24,SNR=1.9
comp=Z,0.7nm,0.2s
PDG Podgorica 8.91 332 ⇓P **Pn** 22 29 22.3 +0.3
AMAZ Amatzia 8.94 108 Pn **Pn** 22 29 24.1 +1.6
AMAZ Sn **Sn** 22 30 57.6 -5.1
RAZG Razgrad 8.94 7 ⇓P **Pn** 22 29 24.1 +1.6
SALP Salfit 8.96 104 Pn **Pn** 22 29 24.1 +1.3
SALP Sn **Sn** 22 30 58.9 -4.4
VAE Valguarnera 8.97 291 Pn **Pn** 22 29 23.1 +0.2
comp=Z,7.8nm,0.9s,baz=79,slow=12,SNR=2.5
VAE Sn **Sn** 22 31 04.3 +0.8
comp=Z,0.6nm,0.3s,baz=192,slow=21,SNR=1.4
CUC Castrocucco 8.99 309 Pn **Pn** 22 29 22.1 -1.0
BLKB Belogradchik 9.09 350 ⇑P **Pn** 22 29 26.1 +1.5
YTIR Yattir 9.16 108 Pn **Pn** 22 29 26.4 +0.8
YTIR Sn **Sn** 22 31 03.4 -5.0
HMDT Nahal Hemdat 9.17 102 Pn **Pn** 22 29 27.3 +1.7
HMDT Sn **Sn** 22 31 03.6 -4.8
BOVS Bovan 9.28 345 ⇑P **Pn** 22 29 28.0 +0.9
DSI Dead Sea 9.29 107 Pn **Pn** 22 29 28.6 +1.4
DSI Sn **Sn** 22 31 06.9 -4.4
KRMI Paran Flat 9.44 116 Pn **Pn** 22 29 30.8 +1.4
KRMI Sn Sn 22 31 08.2 -6.9
PRNI Paran 9.53 114 Pn **Pn** 22 29 30.4 -0.2
GHAJ Ghor Haditha 9.54 108 **Pn** 22 29 33.4 +2.8
GHAJ Ghor Haditha 9.54 108 Pn **Pn** 22 29 32.4 +1.8
GHAJ Sn **Sn** 22 31 13.7 -3.7
BNN Bunyan 9.68 61 **Pn** 22 29 35.0 +2.3
HRFI Mount Harif 9.71 116 Pn **Pn** 22 29 34.6 +1.5
HRFI Sn **Sn** 22 31 16.4 -5.4
MBRI Mt Berech 9.75 117 Pn **Pn** 22 29 34.6 +0.9
TR2 Tor 2 9.78 128 P **Pn** 22 29 32.6 -1.3
baz=128
EIL Elat 9.85 118 Pn **Pn** 22 29 33.9 -1.0
comp=Z,1.8nm,0.3s,baz=318,slow=4.3,SNR=13
EIL Sn **Sn** 22 31 18.9 -6.2
comp=Z,2.5nm,0.3s,baz=348,slow=8.8,SNR=5.2
comp=Z,3.7nm,0.3s
EIL Elat 9.85 118 Pn **Pn** 22 29 35.1 +0.2
EIL Sn **Sn** 22 31 19.4 -5.6
HKAT Jabal Katrina 9.86 126 P **Pn** 22 29 34.2 -1.1
baz=127
HDK1 Dakhla 9.90 156 P **Pn** 22 29 35.9 +0.2
baz=157
HBST Basata 9.94 121 P **Pn** 22 29 35.3 -1.0
baz=121
SGRT San Giovanni R 10.10 317 Pn **Pn** 22 29 37.7 -0.7
DIVS Divibare 10.14 339 Pn **Pn** 22 29 39.7 +0.7
ASF Jabal al Asfar 10.30 101 Pn **Pn** 22 29 40.6 -0.6
comp=Z,0.3nm,0.3s,baz=337,slow=6.8,SNR=2.7
ASF Sn **Sn** 22 31 31.9 -4.4
comp=Z,0.4nm,0.3s,baz=17,slow=16,SNR=1.6
comp=Z,1.6nm,0.5s
TPGR Topolog 10.49 14 ⇑P **Pn** 22 29 46.6 +2.9
HHRG Al Ghardaqah 10.50 133 P **Pn** 22 29 45.1 +1.2
baz=134
VOIR 10.73 0 ⇑P **Pn** 22 29 47.6 +0.5
LOT Lotru 10.78 356 ⇑P **Pn** 22 29 49.5 +1.8
MLR Muntele Rosu 10.81 4 ⇑P **Pn** 22 29 50.4 +2.2
MLR Muntele Rosu 10.81 4 Pn **Pn** 22 29 47.6 -0.6
comp=Z,0.2nm,0.3s,baz=220,slow=18,SNR=2.1
MLR LR LR 22 34 35.2
comp=Z,142nm,21.0s,baz=168,slow=41
comp=Z,1.2nm,0.5s
MLR Muntele Rosu 10.81 4 **Pn** 22 29 48.9 +0.7
MLR Muntele Rosu 10.81 4 P **Pn** 22 29 48.9 +0.7
GZR Gura Zlata 10.81 352 ⇓P **Pn** 22 29 48.4 +0.2
CAMP Campotosto 11.94 314 Pn **Pn** 22 30 03.8 +0.2
NRCA Norcia 12.29 315 **Pn** 22 30 09.3 +0.9
KEST Kesra 12.80 279 Pn **Pn** 22 30 13.6 -1.8
comp=Z,0.1nm,0.3s,baz=52,slow=18,SNR=1.9
comp=Z,2.4nm,0.8s
SOKA Soboth 14.12 331 *e*Pn **Pn** 22 30 31.2 -2.2
comp=Z,2.2nm,0.6s
OBKA Obir 14.19 329 *e*Pn **P** 22 30 44.0 +2.3
comp=Z,2.4nm,0.7s
ARSA Arzberg 14.41 333 *e*Pn **P** 22 30 44.9 +0.8
comp=Z,4.9nm,1.0s
VYHS Vyhne 14.52 344 *e*P **Pn** 22 30 41.2 +2.5
VYHS Vyhne 14.52 344 *e*PN **Pn** 22 30 41.2 +2.5
RONA Rosalia, Austr 14.52 336 *e*Pn **P** 22 30 45.8 +0.5
comp=Z,2.8nm,0.8s
TEOL Teolo 14.71 320 **Pn** 22 30 44.4 +3.1
MODS Modra-Piesok 14.81 340 *e*P **P** 22 30 48.0 -0.6
MODS Modra-Piesok 14.81 340 *e*PN **P** 22 30 48.0 -0.6
STAL STALIGIAL 14.82 325 P **Pn** 22 30 46.7 +3.9
CONA Conrad Observa 14.86 336 *e*Pn **P** 22 30 51.9 +2.7
comp=Z,5.7nm,1.6s
CLUD Cludinico 14.88 326 Pn **Pn** 22 30 42.9 -0.8
CIMO Cimolais 14.98 325 Pn **Pn** 22 30 45.2 +0.2
KBA Koelnbreinsper 15.14 328 *e*Pn **P** 22 30 54.1 +1.7
comp=Z,7.9nm,0.8s
CTI Castel Tesino 15.19 322 **Pn** 22 30 47.5 -0.3
CTI P **P** 22 30 54.0 +1.2
CTI IAmb IAmb 22 30 55.0
comp=Z,6.8nm,0.9s
CTI Castel Tesino 15.19 322 P **P** 22 30 54.0 +1.2
CTI pmax pmax
comp=Z,7.0nm,0.9s
ABTA Abfaltersbach 15.27 326 *e*Pn **P** 22 30 54.9 +1.2
comp=Z,5.0nm,0.8s
MOA Molln 15.38 332 *e*Pn **P** 22 30 55.5 +0.6
comp=Z,8.7nm,0.8s
BIOA Bad Ischl, Aus 15.50 330 *e*Pn **P** 22 30 56.5 +0.3
comp=Z,4.9nm,0.8s
KARS Kars 15.52 62 **Pn** 22 30 53.2 +0.9
KARS Kars 15.52 62 P **Pn** 22 30 53.3 +0.9
KARS pmax pmax
comp=Z,73nm,1.1s
VRAC Vranov 15.85 340 Pn **Pn** 22 30 56.1 -0.3
comp=Z,0.2nm,0.3s,baz=243,slow=14,SNR=1.9
comp=Z,2.4nm,0.9s
WTTA Wattenberg 16.05 325 *e*Pn **P** 22 31 03.9 +1.4
comp=Z,18nm,1.7s
WATA Walderalm 16.13 326 *i* Pn **Pn** 22 31 02.1 +1.9
comp=Z,10nm,0.8s,SNR=5.0
CKRC Cesky Krumlov 16.17 334 *e*P **Pn** 22 31 02.8 +2.3
SQTA Sankt Quirin 16.23 325 *e*Pn **P** 22 31 05.1 +0.7
comp=Z,8.9nm,1.2s
FUORN Ofenpass-Fuorn 16.28 321 **Pn** 22 31 03.0 +0.9
FUORN IAmb IAmb 22 31 08.7
comp=Z,9.5nm,0.9s
AKASG Malin Array Be 16.30 10 Pn **Pn** 22 31 01.2 -0.9
comp=Z,2.2nm,0.3s,baz=201,slow=11,SNR=28
AKASG LR LR 22 37 36.9
comp=Z,75nm,20.4s,baz=180,slow=38
comp=Z,4.6nm,0.7s
AKASG Malin Array Be 16.30 10 **Pn** 22 31 02.7 +0.6
AKASG Malin Array Be 16.30 10 P **Pn** 22 31 02.7 +0.6
AKASG pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 16.30 10 Pn **Pn** 22 31 03.3 +1.2
AKBB IAmb IAmb 22 31 04.8
comp=Z,24nm,0.8s
AKBB Malin Array Si 16.30 10 P **Pn** 22 31 03.3 +1.2
AKBB pmax pmax
comp=Z,24nm,0.8s
FETA Feichten 16.32 323 *i* Pn **Pn** 22 31 03.7 +1.2
comp=Z,8.3nm,1.0s,SNR=6.0
MOTA Moosalm 16.36 325 *i* Pn **Pn** 22 31 04.7 +1.6
comp=Z,5.8nm,1.0s,SNR=5.3
SHA1 Shidzhatmaz 16.40 51 *i* P **P** 22 31 08.2 +1.7
GEC2 GERESS Array S 16.41 333 **Pn** 22 31 04.5 +0.9
GEC2 IAmb IAmb 22 31 08.3
comp=Z,12nm,0.8s
GERES GERESS Array B 16.41 333 Pn **Pn** 22 31 03.4 -0.2
comp=Z,0.5nm,0.3s,baz=152,slow=12,SNR=62
comp=Z,7.7nm,0.7s
GERES GERESS Array B 16.41 333 **Pn** 22 31 04.3 +0.6
GERES GERESS Array B 16.41 333 P **Pn** 22 31 04.3 +0.6
ONI Oni 16.45 56 Pn **Pn** 22 31 06.7 +2.6
ONI Oni 16.45 56 P **Pn** 22 31 06.7 +2.6
ONI pmax pmax
comp=Z,8.0nm,1.0s
KRLC Kraliky 16.50 341 *e*P **Pn** 22 31 06.7 +2.1
KIV Kislovodsk 16.52 51 **Pn** 22 31 07.3 +2.2
KIV IAmb IAmb 22 31 18.4
comp=Z,36nm,1.4s
KIV Kislovodsk 16.52 51 *e*P **P** 22 31 08.2 +0.6
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,53nm,13.0s
KVAR Kislovodsk Arr 16.53 51 Pn **Pn** 22 31 06.8 +1.6
baz=268,slow=20
comp=Z,3.4nm,0.9s
KBZ Khabaz 16.55 52 Pn **P** 22 31 08.2 +0.3
comp=Z,0.3nm,0.3s,baz=225,slow=8.2,SNR=18
KBZ LR LR 22 39 09.0
comp=Z,120nm,18.8s,baz=258,slow=43
comp=Z,15nm,1.0s
KBZ Khabaz 16.55 52 *ce*P **P** 22 31 08.9 +1.1
DAVOX Davos/Dischmat 16.58 321 Pn **Pn** 22 31 05.4 -0.5
comp=Z,0.1nm,0.3s,baz=140,slow=19,SNR=2.9
comp=Z,0.5nm,0.5s
RETA Reutte 16.63 324 *e*Pn **Pn** 22 31 08.4 +2.0
GNI Garni 16.63 65 Pn **Pn** 22 31 08.9 +2.3
comp=Z,1.9nm,0.5s,baz=334,slow=15,SNR=2.0
GNI LR LR 22 37 53.5
comp=Z,19nm,20.2s,baz=260,slow=38
KHC Kasperske Hory 16.70 333 **Pn** 22 31 07.2 0.0
KHC Kasperske Hory 16.70 333 P **Pn** 22 31 07.2 0.0
KHC pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 16.70 333 *e*P **Pn** 22 31 07.6 +0.4
KHC *ex* x 22 31 17.5
ZEI Tsey 16.83 56 *e*P **P** 22 31 14.4 +3.2
ZEI pmax pmax
comp=Z,9.0nm,1.2s
DAVA Damuels 16.92 323 *e*Pn **P** 22 31 12.8 +0.7
comp=Z,10nm,1.2s
SENIN Lac Senin/Sane 17.73 316 **Pn** 22 31 19.0 -1.3
GRA1 Grafenberg Arr 18.07 330 **Pn** 22 31 23.1 -1.1
GRA1 IAmb IAmb 22 31 27.5
comp=Z,22nm,1.0s
GRF Grafenberg Arr 18.07 330 P **Pn** 22 31 23.1 -1.1
GRF pmax pmax
comp=Z,22nm,1.0s
GRFO Grafenberg 18.07 330 **Pn** 22 31 23.6 -0.5
GRFO IAmb IAmb 22 31 27.4
comp=Z,18nm,0.9s
GRFO Grafenberg 18.07 330 P **Pn** 22 31 23.7 -0.5
GRFO pmax pmax
comp=Z,18nm,0.9s
CLL Collm 18.72 336 *e*P **P** 22 31 33.0 +1.3
CLL Collm 18.72 336 *e*P **P** 22 31 33.0 +1.3
CLL *ex* x 22 31 40.0
CLL *e*(PP) 22 31 48.0
VRH Novokhopyorsk 20.49 31 *e*P **P** 22 31 50.4 -0.6
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 20.50 25 *e*P **P** 22 31 49.9 -1.2
LPSR pmax pmax
comp=Z,6.0nm,0.7s
TAM Tamanrasset 20.71 240 P **P** 22 31 54.5 +0.7
TAM Tamanrasset 20.71 240 P **P** 22 31 54.5 +0.7
TAM pmax pmax
comp=Z,5.0nm,1.1s
BTNL Ternell 20.97 325 *d*P **P** 22 31 57.9 +1.6
comp=Z,11nm,1.1s
MEM Membach 21.05 325 *d*P **P** 22 31 58.0 +0.9
comp=Z,15nm,1.0s
RAYN Ar Rayn 21.09 116 P **P** 22 32 00.4 +2.6
RAYN IAmb IAmb 22 32 08.7
comp=Z,7.7nm,1.1s
RAYN Ar Rayn 21.09 116 P **P** 22 32 00.4 +2.6
RAYN pmax pmax
comp=Z,8.0nm,1.1s
BSTI Sart Tilman 21.24 324 *d*P **P** 22 32 01.1 +2.0
DOU Dourbes 21.41 322 *d*P **P** 22 32 00.6 -0.4
comp=Z,13nm,1.0s
OBN Obninsk 21.96 18 P **P** 22 32 06.9 +0.1
comp=Z,3.4nm,0.4s,baz=130,slow=7.3,SNR=1.6
OBN LR LR 22 40 35.9
comp=Z,21nm,19.2s,baz=178,slow=37
comp=Z,3.4nm,0.4s
OBN Obninsk 21.96 18 *e*P **P** 22 32 06.5 -0.3
OBN *e* 22 32 29.2
OBN *e*PPP PPP 22 32 39.5
OBN pmax pmax
comp=Z,11nm,0.7s
OBN MLR MLR
comp=Z,189nm,5.0s
ESDC Sonseca Array 23.51 291 P **P** 22 32 22.8 -0.5
comp=Z,1.8nm,0.9s,baz=85,slow=9.3,SNR=12
comp=Z,1.8nm,0.9s
BELG Belogornoye 23.98 36 P **P** 22 32 27.1 -0.5
comp=Z,8.6nm,0.6s,baz=166,slow=4.2,SNR=4.6
BELG LR LR 22 42 48.8
comp=Z,62nm,19.2s,baz=191,slow=39
comp=Z,8.6nm,0.6s
BELG Belogornoye 23.98 36 *i* P **P** 22 32 28.1 +0.5
BELG pmax pmax
comp=Z,5.0nm,1.3s
MDT Midelt 24.61 274 P **P** 22 32 33.3 -0.3
comp=Z,0.9nm,0.8s,baz=128,slow=13,SNR=1.4
comp=Z,0.9nm,0.8s
HFS Hagfors 26.49 347 P **P** 22 32 48.2 -2.1
comp=Z,3.7nm,0.7s,baz=71,slow=9.6,SNR=1.8
HFS LR LR 22 44 34.8
comp=Z,55nm,18.4s,baz=148,slow=39
comp=Z,3.7nm,0.7s
FINES FINESS Array B 26.78 1 P **P** 22 32 50.7 -2.1
comp=Z,2.9nm,0.7s,baz=171,slow=14,SNR=5.3
FINES LR LR 22 43 18.2
comp=Z,97nm,20.5s,baz=67,slow=36
comp=Z,2.9nm,0.7s
GEYT Alibeck 26.84 73 P **P** 22 32 53.7 -0.1
comp=Z,0.8nm,0.6s,baz=262,slow=9.9,SNR=2.3
comp=Z,0.8nm,0.6s
NB2 NORSAR Subarra 27.80 346 P **P** 22 33 02.2 +0.1
comp=Z,1.1nm,0.8s,baz=156,slow=9.3
NOA NORSAR Array B 27.80 346 P **P** 22 33 00.7 -1.4
comp=Z,2.1nm,0.9s,baz=175,slow=10,SNR=4.7
NOA LR LR 22 47 09.8
comp=Z,12nm,18.2s,baz=355,slow=43
comp=Z,2.1nm,0.9s
KLMR Klimovskoe 27.81 15 *e*P **P** 22 32 59.2 -2.9
KLMR pmax pmax
comp=Z,37nm,2.0s
KLMR Klimovskoe 27.81 15 *e*P **P** 22 32 59.3 -2.9
KLMR AMP 22 33 10.6
comp=Z,37nm,2.0s
EKA Eskdalemuir Ar 28.32 325 P **P** 22 33 05.8 -0.9
comp=Z,4.4nm,0.9s,baz=117,slow=10,SNR=4.2
comp=Z,4.4nm,0.9s
AKTO Aktyubinsk 28.70 47 P **P** 22 33 09.3 -0.8
comp=Z,1.8nm,0.6s,baz=251,slow=12,SNR=6.2
comp=Z,1.8nm,0.6s
TOA0 Torodi Ar. Sit 30.06 230 P **P** 22 33 22.7 +0.2
TORD Torodi Ar. Bea 30.06 230 P **P** 22 33 22.9 +0.4
comp=Z,19nm,0.8s,baz=51,slow=12,SNR=5.4
comp=Z,19nm,0.8s
ARU Arti 31.53 36 P **P** 22 33 35.0 -0.1
ARU Arti 31.53 36 *d* P **P** 22 33 36.2 +1.1
ARU 22 34 36.9
ARU S **S** 22 38 44.9 +2.2
ARU pmax pmax
comp=Z,10.0nm,1.4s
KOWA Kowa 32.94 240 P **P** 22 33 45.6 -2.4
comp=Z,1.0nm,0.6s,baz=108,slow=7.5,SNR=2.3
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 34.90 0 P **P** 22 34 02.0 -2.3
comp=Z,3.3nm,0.9s,baz=185,slow=9.0,SNR=3.8
comp=Z,3.3nm,0.9s
KKAR Karatay Array 36.07 63 P **P** 22 34 16.2 +1.4
KKAR Karatay Array 36.07 63 P **P** 22 34 16.2 +1.4
BRVK Borovoye 36.74 46 *i* P **P** 22 34 19.9 -0.4
BRVK pmax pmax
comp=Z,14nm,4.0s
BVAR Borovoye Array 36.80 46 P **P** 22 34 20.3 -0.6
comp=Z,0.1nm,0.3s,baz=256,slow=5.8,SNR=2.6
BVAR LR LR 22 53 23.6
comp=Z,53nm,21.4s,baz=255,slow=43
comp=Z,0.1nm,0.3s
AAK Ala-Archa 39.02 63 P **P** 22 34 41.1 +1.1
comp=Z,0.5nm,0.3s,baz=235,slow=11,SNR=1.9
comp=Z,0.5nm,0.3s
DBIC Dimbokro 39.14 231 P **P** 22 34 40.4 -0.5
comp=Z,1.4nm,0.4s,baz=37,slow=11,SNR=4.6
DBIC LR LR 22 53 26.0
comp=Z,62nm,18.5s,baz=91,slow=40
comp=Z,1.4nm,0.4s
KURBB Kurchatov Arra 41.55 51 P **P** 22 35 00.3 -0.3
comp=Z,1.5nm,0.5s,baz=277,slow=8.6,SNR=25
comp=Z,1.5nm,0.5s
KURK Kurchatov 41.61 50 P **P** 22 35 01.4 +0.4
KURK IAmb IAmb 22 35 02.4
comp=Z,2.8nm,0.8s
KURK Kurchatov 41.61 50 P **P** 22 35 01.4 +0.4
KURK pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 44.18 56 P **P** 22 35 22.4 +0.4
MK31 IAmb IAmb 22 35 24.2
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 44.18 56 P **P** 22 35 22.4 +0.4
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 44.18 56 P **P** 22 35 21.9 -0.1
comp=Z,3.4nm,0.7s,baz=278,slow=6.1,SNR=25
comp=Z,3.4nm,0.7s
MKAR Makanchi Array 44.18 56 P **P** 22 35 22.4 +0.4
MKAR Makanchi Array 44.18 56 P **P** 22 35 22.4 +0.4
ZALV Zalesovo Beam 45.45 46 P **P** 22 35 31.5 -0.5
comp=Z,0.9nm,0.4s,baz=264,slow=7.8,SNR=7.6
ZALV LR LR 22 58 37.9
comp=Z,50nm,18.3s,baz=190,slow=42
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 45.45 46 P **P** 22 35 31.9 0.0
ZALV Zalesovo Beam 45.45 46 *i* P **P** 22 35 32.0 0.0
ZALV pmax pmax
comp=Z,1.0nm,0.4s
DGZ Jazzator, Alta 47.31 52 *i* P **P** 22 35 46.8 0.0
DGZ pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 48.39 59 *e*P **P** 22 35 57.8 +2.6
WMQ pmax pmax
comp=Z,22nm,0.9s
TSUM Tsumeb 54.05 189 LR LR 23 01 31.9
comp=Z,66nm,21.4s,baz=345,slow=38
GTA Gaotai 58.34 61 *e*P **P** 22 37 09.8 +1.3
GTA pP sP 22 37 13.5 -1.6
GTA sP pwP 22 37 16.0 +0.5
GTA pmax pmax
comp=Z,2.0nm,1.3s
SONM Songino Array 59.92 50 P **P** 22 37 19.2 0.0
comp=Z,1.1nm,0.6s,baz=296,slow=6.9,SNR=8.4
comp=Z,1.1nm,0.6s
ULN Ulaanbaatar 60.32 50 *i* P **P** 22 37 22.0 -0.1
ULN pmax pmax
comp=Z,12nm,3.4s
BOSA Boshof 62.97 180 P **P** 22 37 40.3 +0.4
comp=Z,3.5nm,0.9s,baz=26,slow=6.4,SNR=3.6
comp=Z,3.5nm,0.9s
BOSA Boshof 62.97 180 P **P** 22 37 41.5 +1.6
BOSA Boshof 62.97 180 P **P** 22 37 41.5 +1.6
BOSA pmax pmax
comp=Z,11nm,1.3s
SCHQ Schefferville 63.43 320 P **P** 22 37 42.6 -0.1
comp=Z,2.5nm,0.7s,baz=80,slow=6.1,SNR=1.8
comp=Z,2.5nm,0.7s
PZH PanZhiHua 65.16 74 P **P** 22 37 59.0 +4.4
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,130nm,4.4s
HHC Hu-ho-hao-te 66.04 56 *e*P **P** 22 38 01.0 +0.9
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,190nm,4.2s
CMAR Chiang Mai Arr 66.80 83 P **P** 22 38 05.5 +0.3
comp=Z,1.7nm,0.3s,baz=268,slow=8.8,SNR=1.8
comp=Z,1.7nm,0.3s
EMMW East Machias 68.12 310 P **P** 22 38 12.0 -1.1
BILL Bilibino 73.56 14 *e*P **P** 22 38 44.3 -1.4
BILL *e* 22 38 56.4
BILL pmax pmax
comp=Z,2µm,0.9s
KLR Kul'dur 74.23 41 P P 22 38 46.4 -3.6
comp=Z,1.4nm,0.2s,baz=2.4,slow=2.1,SNR=3.6
USRK Ussuriysk Ar. 77.29 45 P **P** 22 39 07.6 0.0
comp=Z,1.3nm,0.7s,baz=306,slow=1.0,SNR=2.8
comp=Z,1.3nm,0.7s
YKA Yellowknife Ar 77.84 342 P **P** 22 39 10.3 +0.1
comp=Z,0.9nm,0.6s,baz=22,slow=6.7,SNR=1.9
comp=Z,0.8nm,0.6s
KSRS Korea Array 78.70 52 P **P** 22 39 14.3 -1.3
comp=Z,0.5nm,0.4s,baz=338,slow=2.9,SNR=1.5
comp=Z,0.5nm,0.4s
ILAR Eielson Array 80.66 356 P **P** 22 39 24.8 -0.9
comp=Z,0.9nm,0.8s,baz=356,slow=4.0,SNR=7.0
comp=Z,0.9nm,0.8s
PCRV Puerto La Cruz 83.95 278 LR LR 23 13 40.7
comp=Z,66nm,19.9s,slow=33

WRA	Warramunga Arr	116.71	97	PKP		PKPdf	22 45 55.8	-2.1
	comp=Z,0.2nm,0.6s,baz=317,slow=1.4,SNR=1.5							
ASAR	Alice Springs	118.14	100	PKP		PKPdf	22 45 58.9	-1.7
	comp=Z,0.1nm,0.3s,baz=298,slow=2.0,SNR=1.3							

*IDC **29** 22:42:01.6±1.5, 55°.09N×154°.90E, h0km, mb3.4/3, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=46.5km s-min=26.9km az=26.0*
*KRSC **29** 22:42:10.8±1.0, 52°.23N×156°.51E, h236km±8km, ML3.5*
ISC 29 22:42:10.7±1.3, 52°.1N±0°.1×156°.5E±0°.1, h250km, n14, σ1s81/19, mb2.9/3, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APC	Apacha	0.88	26	P	Pn	22 42 44.0	-1.0
KDTR	Khodutka, Kamc	1.01	108	P	Pn	22 42 45.5	-0.2
KDTR				S	S	22 43 10.7	-2.5
KRMR	Karymshinskiy	1.21	54	P	Pn	22 42 45.7	-1.1
PETK	Petropavlovsk-	1.21	36	Pn	Pn	22 42 44.6	-2.3
	13nm,0.3s,baz=204,slow=2.5,SNR=74						
PETK				Sn	S	22 43 13.0	-2.5
	baz=268,slow=13						
	15nm,0.3s						
RUS	Russkaya	1.26	75	P	Pn	22 42 47.2	0.0
RUS				S	S	22 43 14.7	-1.2
DALK	Dalny	1.63	56	P	Pn	22 42 49.9	0.0
DALK				S	S	22 43 18.2	-2.6
KOK	Koryaka	1.73	47	P	Pn	22 42 50.7	-0.2
KRX	Arik	1.78	45	P	Pn	22 42 51.0	-0.3
GNL	Ganaly	1.79	28	P	Pn	22 42 50.0	-1.3
SPN	Mys Shipunski	2.34	64	P	Pn	22 42 55.7	-0.6
SPN				S	S	22 43 29.3	-3.0
KBTR	Krutoberegovo	5.51	40	P	Pn	22 43 33.3	+0.8
ILAR	Eielson Array	31.03	44	P	P	22 48 08.2	+3.4
	0.3nm,0.6s,baz=277,slow=7.2,SNR=1.7						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	46.48	301	P	P	22 50 12.6	0.0
	0.2nm,0.3s,baz=61,slow=7.5,SNR=2.6						
	0.2nm,0.3s						
MKAR	Makanchi Array	46.59	294	P	P	22 50 14.0	+0.4
	0.2nm,0.4s,baz=61,slow=7.9,SNR=5.3						
	0.2nm,0.4s						

*NNC **29** 22:43:40.1±4.1, 37°.80N×71°.60E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=33.6km s-min=28.3km az=34.0*
ISC 29 22:43:35.5±3.5, 37°.3N±0°.2×71°.4E±0°.2, h35km, n11, σ2s11/9, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.13	19	P	Pn	22 44 52.8	+2.6
	SNR=12						
UCH	Uchtor	5.46	25	P	Pn	22 44 57.1	+2.3
	SNR=11						
EKS2	Erkin-Say	5.65	18	P	Pn	22 44 59.9	+2.9
	SNR=5.8						
AAK	Ala-Archa	5.82	23	P	Pn	22 45 02.3	+2.7
	SNR=9.0						
KK31	Karatay Array	5.84	353	P	Pn	22 45 02.7	+3.1
	0.5nm,0.2s,baz=177,slow=12,SNR=43						
KK31				S	Sn	22 46 05.0	-0.3
	13nm,0.7s,baz=167,slow=22,SNR=13						
CHMS	Chumysh	6.23	23	P	Pn	22 45 07.0	+2.0
	SNR=5.3						
CHMS	Chumysh	6.23	23	⇑P	Pn	22 45 06.7	+1.7
	6.5nm,0.7s						
CHMS				⇑S	Sn	22 46 13.7	-1.3
	3.2nm,0.7s						
TKM2	Tokmak 2	6.46	28	P	Pn	22 45 10.0	+1.8
	SNR=6.4						
MDOK	Medeo	7.26	35	⇑P	Pn	22 45 21.3	+2.1
	2.6nm,0.6s						
MK31	Makanchi Array	12.44	37	P	Pn	22 46 28.0	-2.1
	0.4nm,0.6s,baz=223,slow=17,SNR=4.2						
AB31	Akbulak array	14.56	329	P	Pn	22 46 58.0	-1.0
	0.2nm,0.2s,baz=215,slow=31,SNR=7.7						

*IDC **29** 22:43:40.0±1.1, 34°.50N×141°.72E, h0km, mb3.5/5, mbtmp3.6/8, ML2.8/2, MS2.8/2, Error ellipse: s-maj=23.4km s-min=19.2km az=106.0*
*JMA **29** 22:43:41.7±0.5, 34°.N±1°.×14°.2E±°, h31km±2km, MV3.0/29, FAR SE OFF BOSO PEN*
ISC 29 22:43:43.1±1.0, 34°.49N±0°.06×141°.75E±0°.08, h21km, n23, σ0s51/20, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.66	285	eP	Pb	22 43 55.7	+0.1
BSO3	Boso 3	1.07	287	eP	Pb	22 44 02.6	-0.1
BSO4	Boso 4	1.27	294	eP	Pb	22 44 06.0	-0.2
CHOJ	Chosi	1.42	329	eP	Pn	22 44 07.2	-0.4
CHOJ				eS	Sb	22 44 26.1	-0.3
JKUC	kamogawauchiur	1.44	298	eP	Pn	22 44 07.8	-0.1
JKUC				eS	Sb	22 44 26.9	-0.2
JMKN	Mikurajimanish	1.89	252	eP	Pn	22 44 13.8	-0.3
JHJ2	Mitsune	2.12	230	eS	Sn	22 44 43.5	+0.5
JHJ	Hachijo jima 2	2.13	231	Pn	Pn	22 44 17.3	-0.2
	12nm,0.3s,baz=50,slow=18,SNR=10						
JHJ				Sn	Sn	22 44 43.5	+0.2
	51nm,0.3s,baz=60,slow=20,SNR=8.5						
	60nm,0.5s						
JOD2	Odawara 2	2.32	290	eP	Pn	22 44 20.1	0.0
MJAR	Matsushiro Arr	3.54	306	Pn	Pn	22 44 36.6	-0.3
	0.5nm,0.3s,baz=124,slow=28,SNR=9.5						
MJAR				Sn	Sn	22 45 19.1	+0.9
	0.4nm,0.3s,baz=141,slow=12,SNR=6.8						
MJAR				LR	LR	22 46 21.7	
	comp=Z,105nm,20.2s,baz=144,slow=46						
	2.0nm,0.4s						
JCJ	Chichijima	7.38	177	Pn	Pn	22 45 28.9	-0.7
	29nm,0.4s,baz=15,slow=19,SNR=1.5						
H11N2	WAKE ISLAND Hy	26.68	117	T	T	23 17 23.4	
	baz=313,slow=74						
H11N1	WAKE ISLAND Hy	26.69	117	T	T	23 17 24.1	
	baz=313,slow=74						
H11N3	WAKE ISLAND Hy	26.70	117	T	T	23 17 32.6	
	baz=313						
H11S3	WAKE ISLAND Hy	27.31	119	T	T	23 18 33.3	
	baz=315						
H11S1	WAKE ISLAND Hy	27.31	119	T	T	23 18 19.4	
	baz=315						
H11S2	WAKE ISLAND Hy	27.33	119	T	T	23 18 30.2	
	baz=315						
PMG	Port Moresby	43.95	172	LR	LR	23 08 49.1	
	comp=Z,15nm,19.3s,baz=332,slow=34						
MKAR	Makanchi Array	45.74	304	P	P	22 52 02.7	-0.1
	0.2nm,0.6s,baz=99,slow=8.9,SNR=1.9						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	47.81	310	P	P	22 52 18.4	-0.5
	1.0nm,0.8s,baz=83,slow=7.7,SNR=8.7						
	1.0nm,0.8s						
ILAR	Eielson Array	51.51	31	P	P	22 52 46.4	-0.5
	0.6nm,0.9s,baz=266,slow=7.0,SNR=4.4						
	0.6nm,0.9s						
WRA	Warramunga Arr	54.59	189	P	P	22 53 10.0	0.0
	0.4nm,0.6s,baz=0.4,slow=7.6,SNR=8.5						
	0.4nm,0.6s						
NVAR	Mina Array Bea	76.30	53	P	P	22 55 32.0	+1.2
	0.4nm,0.6s,baz=281,slow=5.4,SNR=2.9						
	0.4nm,0.6s						

*IDC **29** 22:45:28.7±6.7, 36°.02N×70°.72E, h182km±50km, mb2.9/1, mbtmp3.5/6, Error ellipse: s-maj=90.8km s-min=26.3km az=148.0*
*NNC **29** 22:45:36.8±4.2, 37°.05N×70°.26E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=38.5km s-min=31.9km az=71.0*
ISC 29 22:45:37.4±2.1, 36°.9N±0°.2×70°.1E±0°.1, h200km, n17, σ1s07/19, 3C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.95	26	P	Pn	22 47 04.5	+0.3
	SNR=17						
KK31	Karatay Array	6.25	3	P	Pn	22 47 08.9	+1.1
	1.8nm,0.3s,baz=170,slow=12,SNR=17						
KK31				S	Sn	22 48 17.7	-1.8
	2.3nm,0.5s,baz=190,slow=17,SNR=3.8						
UCH	Uchtor	6.35	31	P	Pn	22 47 09.1	-0.4
	SNR=16						
EKS2	Erkin-Say	6.45	25	P	Pn	22 47 11.1	+0.7
	SNR=6.9						
AAK	Ala-Archa	6.68	29	P	Pn	22 47 14.2	+0.6
	SNR=9.8						
AAK	Ala-Archa	6.68	29	P	Pn	22 47 12.6	-1.0
	6.8nm,0.3s,baz=201,slow=7.2,SNR=10						
AAK				S	Sn	22 48 32.0	+2.1
	3.3nm,0.4s,baz=150,slow=20,SNR=8.6						
CHMS	Chumysh	7.09	29	⇑P	Pn	22 47 19.2	+0.4
	3.7nm,0.6s						
CHMS				⇑S	Sn	22 48 40.1	+0.9
	5.0nm,0.7s						
ULHL	Ulahol	7.16	39	P	Pn	22 47 20.0	+0.2
	SNR=5.8						
TKM2	Tokmak 2	7.37	33	P	Pn	22 47 22.4	-0.2
	SNR=9.1						
MDOK	Medeo	8.24	38	⇑P	Pn	22 47 33.7	-0.1
	9.7nm,1.0s						
GEYT	Alibeck	9.63	280	P	Pn	22 47 52.3	+0.5
	0.4nm,0.4s,baz=111,slow=12,SNR=1.7						
MK31	Makanchi Array	13.43	39	P	P	22 48 42.6	-0.2
	0.4nm,0.5s,baz=225,slow=15,SNR=8.7						
MKAR	Makanchi Array	13.43	39	P	Pn	22 48 38.8	-1.4
	0.5nm,0.5s,baz=215,slow=11,SNR=8.1						
AB31	Akbulak array	14.45	332	P	P	22 49 01.4	+7.4
	0.2nm,0.3s,baz=159,slow=13,SNR=4.4						
KURBB	Kurchatov Arra	15.03	21	P	Pn	22 48 58.3	-1.5
	0.7nm,0.7s,baz=209,slow=10,SNR=5.9						
BVAR	Borovoye Array	16.18	1	P	P	22 49 13.2	+0.1
	0.5nm,0.5s,baz=173,slow=12,SNR=4.0						
ZALV	Zalesovo Beam	19.90	26	P	P	22 49 52.0	-1.4
	0.6nm,0.3s,baz=229,slow=11,SNR=3.8						
	0.6nm,0.3s						

IDC 29 23:03:47.3±3.5, 5°.97S×147°.49E, h0km, mb4.1/2, mbtmp4.0/4, ML4.1/1, MS4.7/1, Error ellipse: s-maj=71.9km s-min=42.4km az=91.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.43	185	Pn	Pn	23 04 42.6	+0.6
	36nm,0.5s,baz=3.3,slow=6.0,SNR=20						
PMG				Sn	Sn	23 05 16.9	-6.6
	16nm,0.3s,baz=30,slow=22,SNR=14						
WRA	Warramunga Arr	18.88	221	P	P	23 08 09.0	-0.4
	0.6nm,0.3s,baz=45,slow=11,SNR=28						
	1.6nm,0.4s						
GUMO	Guam	19.60	352	LR	LR	23 14 38.3	
	comp=Z,238nm,20.8s,baz=286,slow=33						
ASAR	Alice Springs	21.92	215	P	P	23 08 41.8	-0.7
	1.8nm,0.5s,baz=51,slow=9.4,SNR=33						
	1.8nm,0.5s						
FITZ	Fitzroy Crossi	24.50	239	P	P	23 09 08.9	+0.4
	6.1nm,0.6s,baz=58,slow=7.5,SNR=26						
	6.1nm,0.6s						
PETK	Petropavlovsk-	59.48	7	LR	LR	23 35 04.5	
	comp=Z,629nm,21.7s,baz=220,slow=32						
TORD	Torodi Ar. Bea	145.55	284	PKPbc	PKPdf	23 23 27.9	-0.8
	0.2nm,0.5s,baz=91,slow=4.4,SNR=1.7						

*IDC **29** 23:05:18.8±1.5, 0°.54N×100°.03E, h182km±10km, mb3.5/10, mbtmp3.9/12, Error ellipse: s-maj=37.7km s-min=13.5km az=51.0*
*DJA **29** 23:05:19.3±0.4, 1°.N±3°.×10°.0E±°, h177km±6km, M4.4/12, mb5.2/1, mB5.3/1, MLv4.1/12, Mw(mB)4.7/1*
*NEIC **29** 23:05:19.7±1.1, 0°.56N±0°.08×100°.20E±0°.08, h182km±7km, mb4.2/19, Error ellipse: s-maj=12.9km s-min=9.5km az=223.0*
ISC 29 23:05:19.1±0.6, 0°.55N±0°.05×100°.17E±0°.05, h182km, n55, σ0s85/61, mb4.0/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKNI	Bangkinang	0.90	104	Pn	Pn	23 05 45.5	+0.2
BKNI	Bangkinang	0.90	104	P	Pn	23 05 46.3	0.0
BKNI				S	Sn	23 06 06.9	-0.3
BKNI	Bangkinang	0.90	104	P	Pn	23 05 46.4	+0.2
SDSI	Sungai Dareh	1.93	140	P	Pn	23 05 56.0	+0.4
PBSI	Pulau Batu	1.98	252	P	Pn	23 05 56.9	+0.8
SISI	Saibi	2.15	210	P	Pn	23 05 57.9	-0.1
RPSI	Rantau Prapat	2.47	330		Pn	23 06 02.5	+0.9
RPSI				Sn	Sn	23 06 34.7	0.0
RPSI	Rantau Prapat	2.47	330		Pn	23 06 01.9	+0.4
RPSI					Sn	23 06 33.3	-1.4
PSI	Prapat	2.56	331	P	Pn	23 06 01.9	-0.8
	25nm,0.4s,baz=150,slow=11,SNR=22						
PSI				S	Sn	23 06 33.3	-3.5
	13nm,0.5s,baz=165,slow=20,SNR=7.9						
GSI	Gunungsitoli	2.70	286	Pn	Pn	23 06 05.5	+1.2
GSI	Gunungsitoli	2.70	286	P	Pn	23 06 05.3	+1.0
GSI	Gunungsitoli	2.70	286	P	Pn	23 06 05.3	+1.0
PPSI	Pulau Pagai	3.29	183	P	Pn	23 06 10.8	-0.7
KCSI	Kotacane, Aceh	3.81	321	P	Pn	23 06 18.0	+0.1
MYKOM	Kota Tinggi	3.88	71	Pn	Pn	23 06 19.1	+0.4
IPM	Ipoh	4.00	12	Pn	Pn	23 06 20.6	+0.3
IPM	Ipoh	4.00	12	P	Pn	23 06 21.6	+1.3
MASI	Maura Aman, Be	4.21	151	P	Pn	23 06 23.1	+0.1
KULM	Kulim	4.73	6		Pn	23 06 29.5	-0.2
MLSI	Meulaboh, Aceh	5.27	315	P	Pn	23 06 36.6	-0.1
MNAI	Manna	5.61	150	Pn	Pn	23 06 40.7	-0.4
MNAI	Manna	5.61	150	P	Pn	23 06 40.8	-0.4
LHMI	Lhok Sumawe	5.66	325	Pn	Pn	23 06 41.1	-0.5
LHMI	Lhok Sumawe	5.66	325	P	Pn	23 06 42.1	+0.4
CMAR	Chiang Mai Arr	17.84	356	P	P	23 09 15.0	+0.5
	0.8nm,0.4s,baz=187,slow=12,SNR=5.6						
MTN	Manton Dam	33.47	115	P	P	23 11 41.9	+0.6
WB0	Warramunga Arr	39.15	123	P	P	23 12 30.3	+0.9
WB0				IAmb	IAmb	23 12 39.0	
	comp=Z,4.3nm,1.1s						
WRA	Warramunga Arr	39.18	123	P	P	23 12 30.6	+0.9
	comp=Z,1.4nm,0.6s,baz=303,slow=9.0,SNR=18						
WRA				PcP	PcP	23 14 35.8	+0.4
	comp=Z,0.3nm,0.8s,baz=316,slow=2.6,SNR=4.6						
	comp=Z,1.4nm,0.6s						
WRA	Warramunga Arr	39.18	123	P	P	23 12 31.1	+1.4
WB2	Warramunga Arr	39.19	123	P	P	23 12 30.4	+0.7
WB2				IAmb	IAmb	23 13 06.0	
	comp=Z,12nm,1.5s						
WR0	Warramunga Arr	39.36	123	P	P	23 12 32.3	+1.2
WR0				IAmb	IAmb	23 12 58.3	
	comp=Z,15nm,1.5s						
ASAR	Alice Springs	40.65	129	P	P	23 12 41.4	-0.4
	comp=Z,0.3nm,0.6s,baz=311,slow=8.5,SNR=1.8						
	comp=Z,0.3nm,0.6s						
NIL	Nilore	41.50	325	P	P	23 12 48.8	+0.3
NIL				IAmb	IAmb	23 12 49.7	
	comp=Z,6.2nm,0.9s						
TARG	Taragay, Kyrgy	45.70	337	P	P	23 13 22.1	-0.3
TARG				IAmb	IAmb	23 13 22.6	
	comp=Z,2.8nm,0.6s						
NRN	Naryn	46.19	335	P	P	23 13 27.1	+0.9
NRN				IAmb	IAmb	23 13 27.8	
	comp=Z,3.2nm,0.8s						
SONM	Songino Array	47.41	6	P	P	23 13 35.9	+0.6
	comp=Z,0.6nm,0.5s,baz=180,slow=7.9,SNR=4.6						
SONM				PcP	PcP	23 15 01.3	-1.5
	comp=Z,0.3nm,0.4s,baz=130,slow=2.3,SNR=1.6						
	comp=Z,0.6nm,0.5s						
BTK	Batken	47.54	329	P	P	23 13 38.0	+1.7
MK31	Makanchi Array	48.64	344	P	P	23 13 44.9	+0.3
MKAR	Makanchi Array	48.64	344	P	P	23 13 44.7	+0.2
	comp=Z,1.9nm,0.3s,baz=160,slow=8.5,SNR=55						
	comp=Z,1.9nm,0.3s						
MKAR	Makanchi Array	48.64	344	P	P	23 13 44.9	+0.3
KKAR	Karatay Array	49.99	332	P	P	23 13 55.5	+0.6
ZALV	Zalesovo Beam	54.72	349	P	P	23 14 29.1	-0.3
	comp=Z,0.9nm,0.3s,baz=185,slow=5.4,SNR=6.1						
	comp=Z,0.9nm,0.3s						
KLR	Kul'dur	55.55	25	P	P	23 14 34.1	-1.3
	comp=Z,0.6nm,0.4s,baz=169,slow=10,SNR=1.7						
	comp=Z,0.6nm,0.4s						
BRVK	Borovoye	57.94	339	P	P	23 14 52.3	+0.1
BRVK				IAmb	IAmb	23 14 52.6	
	comp=Z,3.6nm,0.4s						
ABKAR	Akbulak array	59.51	331	P	P	23 15 03.2	+0.1
BR131	Keskin Array S	71.75	312	P	P	23 16 22.0	+0.1
BR131				IAmb	IAmb	23 16 22.5	
	comp=Z,3.0nm,0.7s						
BRTR	Keskin Array B	71.75	312	P	P	23 16 20.6	-1.3
	comp=Z,1.2nm,0.6s,baz=137,slow=6.6,SNR=10.0						
	comp=Z,1.2nm,0.6s						
BRTR	Keskin Array B	71.75	312	P	P	23 16 21.8	-0.1
LIT	Litokhoron	80.23	310	P	P	23 17 09.0	-0.7
LIT				IAmb	IAmb	23 17 10.2	
	comp=Z,3.3nm,0.9s						

FINES	FINESS Array B	81.95	332	P		P	23 17 17.6	-0.6
	comp=Z,1.3nm,0.5s,baz=107,slow=8.9,SNR=14							
	comp=Z,1.3nm,0.5s							
FINES	FINESS Array B	81.95	332	P		P	23 17 18.7	+0.4
ARCES	ARCESS Array B	84.15	340	P		P	23 17 28.3	-1.1
	comp=Z,0.6nm,0.4s,baz=104,slow=5.1,SNR=14							
	comp=Z,0.6nm,0.4s							
ARCES	ARCESS Array B	84.15	340	P		P	23 17 29.7	+0.2
TIP	Timpagrande	84.54	309	P		P	23 17 31.8	-0.3
TIP				IAmb		IAmb	23 17 34.4	
	comp=Z,11nm,1.5s							
GERES	GERESS Array B	87.26	319	P		P	23 17 45.8	+0.5
	comp=Z,0.2nm,0.5s,baz=142,slow=6.8,SNR=2.1							
	comp=Z,0.2nm,0.5s							

*BJI **29** 23:20:55.6±0.0, 34°.45N×142°.11E, h8km, mb4.7/60, mB5.0/51, Ms5.4/73, Ms7 5.1/69*
*NIED **29** 23:20:59.4, 34°.35N×141°.78E, h22km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr 1.29; Mθθ -2.53; Mφφ 1.24; Mrθ 0.56; Mθφ 1.46; Mφr -0.04; Fault plane solution: M0 2.44000×10^16 NP1: φs 333.00000°, δ 71.00000°, λ 171.00000°. NP2: φs 66.00000°, δ 82.00000°, λ 19.00000°.*
*JMA **29** 23:20:59.4±0.3, 34°.4N±0°.9×14°.2E±°, h22km±1km, MD5.3/37, MV4.5/37, FAR SE OFF BOSO PEN*
*IDC **29** 23:21:00.2±0.4, 34°.44N×141°.50E, h0km, mb4.6/28, mbtmp4.6/32, ML3.2/3, MS4.6/26, Error ellipse: s-maj=12.5km s-min=9.1km az=93.0*
*MOS **29** 23:21:00.0±0.9, 34°.48N×141°.68E, h13km, mb5.1/25, MS5.0/12, Error ellipse: s-maj=6.9km s-min=4.5km az=117.8*
*NEIC **29** 23:21:01.7±1.4, 34°.52N±0°.04×141°.79E±0°.08, h10km±1km, mb5.0/279, Mww5.1, Error ellipse: s-maj=11.7km s-min=4.4km az=114.0*
*NEIC **29** 23:21:02, 34°.52N×141°.74E, h26km, Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10^16 Nm; Mrr 1.30; Mθθ -4.16; Mφφ 2.86; Mrθ -1.68; Mθφ 3.76; Mφr 0.33; Fault plane solution: M0 5.54000×10^16 NP1: φs 159.00000°, δ 76.00000°, λ -176.00000°. NP2: φs 68.00000°, δ 86.00000°, λ -14.00000°. Principal axes: T 4.5411, Plg 7.0000°, Azm 115.0000°; N 1.6277, Plg 75.0000°, Azm 233.0000°; P -6.1689, Plg 13.0000°, Azm 23.0000°;*
*GCMT **29** 23:21:03.7±0.2, 34°.41N±0°.01×141°.62E±0°.02, h14km±1km, MW5.0/121, Moment Tensor Solution. s33, c35; s121, c182; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.30±.14; Mθθ -3.44±.12; Mφφ 2.14±.09; Mrθ 1.04±.21; Mθφ 1.58±.08; Mφr 0.07±.20; Best double couple: M0 3.44400×10^16 NP1: φs 61.00000°, δ 87.00000°, λ 19.00000°. NP2: φs 330.00000°, δ 71.00000°, λ 176.00000°. Principal axes: T 2.6490, Plg 16.0000°, Azm 287.0000°; N 1.3910, Plg 71.0000°, Azm 71.0000°; P -4.0400, Plg 11.0000°, Azm 194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 23:21:01.5±0.8, 34°.49N±0°.03×141°.71E±0°.03, h11km±4km, n818, σ1s54/783, mb4.9/232, MS5.0/52, 23C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.63	285	eP	Pg	23 21 13.2	-0.4
BSO3	Boso 3	1.04	288	eP	Pb	23 21 20.1	-1.2
BSO3				eS	Sb	23 21 34.8	-0.1
BSO4	Boso 4	1.24	294	eS	Sb	23 21 40.8	+0.1
KTR	Katsuura	1.32	300	eS	Sb	23 21 43.3	0.0
CHOJ	Chosi	1.40	330	eP	Pn	23 21 26.3	-0.6
CHOJ				eS	Sb	23 21 45.8	+0.4
CHOJ	Chosi	1.40	330	A	A	23 21 26.3	
	comp=E,61nm,6.5s,comp=E,58nm,11.0s						
JKUC	kamogawauchiur	1.41	299	eP	Pn	23 21 26.1	-1.1
JKUC				eS	Sn	23 21 45.6	-0.2
JKUC	kamogawauchiur	1.41	299	A	A	23 21 26.1	
	comp=E,89nm,6.9s,comp=E,92nm,14.0s						
JCN	Nagara	1.55	307	A	A	23 21 28.2	
	comp=E,293nm,5.8s,comp=E,211nm,7.0s						
JSMT	Sammumatsuo	1.55	318	eP	Pn	23 21 27.7	-1.3
JSMT	Sammumatsuo	1.55	318	A	A	23 21 27.7	
	comp=E,244nm,6.4s,comp=E,243nm,5.5s						
JIHU	Itakohorinouch	1.76	327	A	A	23 21 31.6	
	comp=E,97nm,6.5s,comp=E,109nm,3.9s						
JYO	Yokosk	1.83	294	A	A	23 21 32.1	
	comp=E,92nm,9.7s,comp=E,100nm,9.5s						
JMYK	Miyake Tsubota	1.84	257	eS	Sn	23 21 53.6	-2.8
JMYK	Miyake Tsubota	1.84	257	A	A	23 21 53.6	
	comp=E,90nm,7.1s,comp=E,96nm,7.4s						
JMKN	Mikurajimanish	1.86	252	eP	Pn	23 21 31.1	-2.2
JMKN				eS	Sn	23 21 54.2	-2.5
JMKN	Mikurajimanish	1.86	252	A	A	23 21 31.1	
	comp=E,52nm,5.4s,comp=E,70nm,10.8s						
JIM2	Oshima 3	1.90	277	eP	Pn	23 21 31.9	-2.0
JIM2	Oshima 3	1.90	277	A	A	23 21 31.9	
	comp=E,49nm,6.5s,comp=E,58nm,4.0s						
TOK	Tokyo	2.00	307	A	A	23 21 34.8	
	comp=E,282nm,5.8s,comp=E,178nm,9.2s						
JTHY	Toshimahigashi	2.00	272	eP	Pn	23 21 34.4	-0.9
JTHY				eS	Sn	23 21 59.1	-1.2
JTHY	Toshimahigashi	2.00	272	A	A	23 21 34.4	
	comp=E,62nm,5.2s,comp=E,66nm,5.0s						
JNIO	Nijimaoohara	2.02	267	A	A	23 21 33.9	
	comp=E,66nm,2.3s,comp=E,66nm,3.0s						
JHYU	Hitachinakayam	2.06	334	A	A	23 21 35.9	
	comp=E,30nm,15.8s,comp=E,23nm,3.4s						
JSKK	Shikinejimakit	2.08	266	A	A	23 21 34.7	
	comp=E,41nm,6.4s,comp=E,35nm,5.2s						
JHJ2	Mitsune	2.10	229	Pn	Pn	23 21 36.7	+0.1
JHJ2	Mitsune	2.10	229	A	A	23 21 33.5	
	comp=E,75nm,5.3s,comp=E,45nm,4.6s						
JHJ	Hachijo jima 2	2.11	230	Pn	Pn	23 21 34.8	-2.0
	149nm,0.3s,baz=53,slow=20,SNR=46						
JHJ				Sn	Sn	23 21 59.0	-4.0
	496nm,0.3s,baz=59,slow=22,SNR=29						

comp=E,11nm,9.0s,comp=E,14nm,12.7s
JGK Kuni 3.25 310 A A 23 21 52.7
comp=E,17nm,5.7s,comp=E,16nm,4.6s
JNY Yasuok 3.28 286 A A 23 21 52.6
comp=E,9.0nm,6.1s,comp=E,15nm,9.1s
JMST Minamisoumatoc 3.29 349 A A 23 21 53.5
comp=E,9.0nm,6.2s,comp=E,8.0nm,11.2s
HMMJ Hamamatsu 2 3.31 277 A A 23 21 52.7
comp=E,9.0nm,13.7s,comp=E,9.0nm,7.8s
JFY Yanaizu 3.33 331 A A 23 21 54.1
comp=E,14nm,5.4s,comp=E,12nm,7.0s
JMM Marumori 3.45 348 Pn **Pn** **23 21 54.3 -0.9**
JMM Marumori 3.45 348 A A 23 21 55.7
comp=E,11nm,5.5s,comp=E,7.0nm,6.4s
JUON Uonuma 3.46 322 A A 23 21 55.9
comp=E,10.0nm,6.8s,comp=E,10.0nm,6.4s
JNG Nsakai 3.51 304 A A 23 21 56.3
comp=E,10.0nm,7.0s,comp=E,13nm,5.1s
MJAR Matsushiro Arr 3.51 307 Pn **Pn** **23 21 55.6 -0.5**
3.0nm,0.3s,baz=116,slow=9.9,SNR=88
MJAR Sn **Sn** **23 22 34.9 -2.8**
3.6nm,0.3s,baz=140,slow=14,SNR=2.7
MJAR LR LR 23 22 52.4
comp=Z,3μm,19.8s,baz=93,slow=33
10nm,0.3s
MAJO Matsushiro 3.52 307 Pn **Pn** **23 21 56.5 +0.4**
MAJO Matsushiro 3.52 307 P **Pn** **23 21 56.5 +0.4**
MJB9 Matsu-Tunnel 3.52 307 **Pn** **23 21 56.6 +0.4**
JYAR Yonezawaarcadi 3.64 340 A A 23 21 58.4
comp=E,13nm,8.6s,comp=E,12nm,4.4s
JGF Kuroka 3.74 288 Pn **Pn** **23 22 00.3 +1.0**
JGF Kuroka 3.74 288 A A 23 21 59.1
comp=E,6.0nm,6.3s,comp=E,9.0nm,17.9s
JAO Obara 3.74 283 A A 23 21 59.0
comp=E,7.0nm,9.2s,comp=E,14nm,6.5s
JAA Atsumi 3.77 273 A A 23 21 59.1
comp=E,6.0nm,9.6s,comp=E,7.0nm,8.9s
JNS Sasagawa 3.84 330 A A 23 22 01.3
comp=E,13nm,4.9s,comp=E,11nm,5.7s
JJN Nakama 3.89 313 A A 23 22 01.8
comp=E,20nm,5.9s,comp=E,14nm,4.5s
JIZZ Izumozaki 3.89 322 A A 23 22 01.9
comp=E,29nm,4.7s,comp=E,30nm,10.5s
JYS Shirataka 3.95 341 A A 23 22 02.9
comp=E,13nm,7.4s,comp=E,12nm,8.9s
JOU Okura 3.96 348 A A 23 22 02.9
comp=E,15nm,6.6s,comp=E,10.0nm,4.8s
JGN Niukaw 3.99 297 A A 23 22 02.8
comp=E,6.0nm,7.9s,comp=E,6.0nm,5.4s
JICN Ichinomiyachia 4.08 283 A A 23 22 03.8
comp=E,9.0nm,9.6s,comp=E,13nm,13.0s
JIE Ise 4.14 270 A A 23 22 04.1
comp=E,6.0nm,9.7s,comp=E,6.0nm,9.6s
JTT Ttatey 4.15 302 A A 23 22 05.2
comp=E,15nm,4.4s,comp=E,12nm,6.7s
JOFO Osakifurukawao 4.15 351 A A 23 22 05.6
comp=E,70nm,3.6s,comp=E,35nm,4.1s
JYTA Yamagatataniai 4.23 286 A A 23 22 05.9
comp=E,4.0nm,7.1s,comp=E,5.0nm,10.8s
JYA Atsumi 4.40 339 A A 23 22 09.1
comp=E,11nm,9.1s,comp=E,10.0nm,10.0s
JAW Awa shima 4.42 334 A A 23 22 09.5
comp=E,15nm,6.0s,comp=E,9.0nm,6.3s
JEG Eigenji 4.42 280 A A 23 22 08.5
comp=E,7.0nm,8.0s,comp=E,12nm,11.2s
JSD Sado 4.50 323 Pn **Pn** **23 22 09.5 -0.2**
JJH Hakui 4.69 303 A A 23 22 12.8
comp=E,6.0nm,12.6s,comp=E,8.0nm,7.7s
JYYZ Yamagatayuza 4.74 343 A A 23 22 13.8
comp=E,30nm,3.8s,comp=E,47nm,6.1s
JRG Rokugo 4.97 350 A A 23 22 17.1
comp=E,14nm,5.6s,comp=E,8.0nm,5.1s
JHE Heguri 4.98 274 A A 23 22 16.0
comp=E,4.0nm,7.0s,comp=E,7.0nm,12.6s
JYW Yuwa 5.18 347 A A 23 22 20.1
comp=E,19nm,3.6s,comp=E,12nm,11.1s
JSZI Iwateshizukuis 5.27 354 A A 23 22 21.3
comp=E,12nm,3.9s,comp=E,10.0nm,4.2s
JOG3 Oga3 5.81 340 A A 23 22 26.3
comp=E,11nm,10.8s,comp=E,14nm,4.7s
JNTW Noshirotokiwa 5.90 348 A A 23 22 30.1
comp=E,31nm,4.9s,comp=E,19nm,4.4s
JHHS Hirosakihyakuz 6.24 350 A A 23 22 34.9
comp=E,14nm,6.2s,comp=E,15nm,5.5s
JTM Tenmabayashi 6.30 356 Pn **Pn** **23 22 33.8 -0.5**
JMN Monobe 6.54 266 Pn **Pn** **23 22 39.4 +1.6**
JHS Saijyo 7.09 277 Pn **Pn** **23 22 47.2 +1.9**
JCJ Chichijima 7.38 177 Pn **Pn** **23 22 48.9 -0.4**
83nm,0.4s,baz=304,slow=7.0,SNR=9.1
JCJ Sn **Sn** **23 24 05.0 -8.1**
10nm,0.3s,baz=270,slow=20,SNR=1.8
JCJ LR LR 23 25 58.2
comp=Z,10μm,18.5s,baz=354,slow=40
JCJ Chichijima 7.38 177 Pn **Pn** **23 22 49.3 0.0**
JCJ **Sn** **23 24 12.7 -0.4**
ERM Erimo 7.59 8 Pn **Pn** **23 22 50.5 -1.6**
ERM **Sn** **23 24 15.2 -3.0**
ERM Erimo 7.59 8 P **Pn** **23 22 50.5 -1.6**
ERM 23 24 15.2
JEW Eniwo 8.34 359 **Pn** **23 23 00.9 -1.4**
TEY Ternei 11.24 341 *e*P Pn 23 23 48.1 +6.1
TEY MLR MLR
comp=E,200nm,12.0s
TEY MLR MLR
comp=N,200nm,13.0s
TEY MLR MLR
comp=Z,100nm,12.0s
KSRS Korea Array 11.56 289 Pn **Pn** **23 23 47.7 +1.3**
comp=Z,0.4nm,0.3s,baz=104,slow=14,SNR=23
KSAR Wonju Array Be 11.59 289 Pn **Pn** **23 23 48.0 +1.2**
KSAR Wonju Array Be 11.59 289 P **Pn** **23 23 48.0 +1.2**
KS19 Wonju Array Si 11.61 289 Pn **Pn** **23 23 48.2 +1.0**
TJN Taejon 11.86 283 Pn **Pn** **23 23 50.1 -0.4**
TJN Taejon 11.86 283 *ce*P **Pn** **23 23 52.8 +2.3**
USA0B Ussuriysk Arra 12.26 325 Pn **Pn** **23 23 55.7 -0.3**
USA0B Ussuriysk Arra 12.26 325 P **Pn** **23 23 55.7 -0.3**
USRK Ussuriysk Ar. 12.26 325 Pn **Pn** **23 23 55.7 -0.4**
comp=Z,0.3nm,0.3s,baz=115,slow=13,SNR=6.7
USRK LR LR 23 28 32.2
comp=Z,2μm,18.8s,baz=128,slow=37
comp=Z,7.2nm,0.8s
YSS Yuzh-Sakhalins 12.47 3 Pn **Pn** **23 23 56.1 -2.7**
YSS Yuzh-Sakhalins 12.47 3 *de*P **Pn** **23 23 57.4 -1.5**
YSS pmax pmax
comp=Z,70nm,0.8s
YSS pmax pmax
comp=Z,200nm,2.3s
YSS MLR MLR
comp=N,6μm,16.0s
YSS MLR MLR
comp=Z,8μm,16.0s
YSS MLR MLR
comp=E,3μm,17.0s
JOW Kunigami 13.85 240 Pn **Pn** **23 24 17.2 -0.6**
comp=E,0.4nm,0.3s,baz=100,slow=18,SNR=1.6
JOW Sn **Sn** **23 26 54.4 +2.7**
comp=E,0.3nm,0.3s,baz=113,slow=14,SNR=1.4
JOW LR LR 23 29 58.7
comp=E,2μm,18.1s,baz=80,slow=39
comp=E,8.5nm,0.8s
CN2 Changchun 15.65 311 *e*P **Pn** **23 24 43.0 +1.1**
CN2 *es*P sP 23 24 50.0 +1.6
CN2 *e*S **Sn** **23 27 37.3 +2.0**
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 pmax pmax
comp=E,300nm,4.0s
CN2 LR LR
comp=E,6μm,13.0s
CN2 LR LR
comp=E,5μm,13.0s
CN2 LR LR
comp=E,4μm,14.0s
BNX BinXian 15.66 320 ⇑P **Pn** **23 24 39.5 -2.5**
BNX pP **P** **23 24 42.5 -3.6**
BNX S **Sn** **23 27 29.0 -6.4**
BNX pmax pmax
comp=E,9.0nm,0.5s
BNX pmax pmax
comp=E,240nm,4.2s
BNX LR LR
comp=E,4μm,15.2s
BNX LR LR
comp=E,5μm,14.4s
BNX LR LR
comp=E,2μm,15.1s
SNY Shenyang 16.02 303 ⇑P **P** **23 24 49.8 -0.4**
SNY S **Sn** **23 27 46.5 +2.3**
SNY pmax pmax
comp=E,25nm,1.0s
SNY pmax pmax
comp=E,400nm,3.6s
SNY LR LR
comp=E,5μm,11.3s
SNY LR LR
comp=E,3μm,14.8s
SNY LR LR
comp=E,5μm,13.6s
KLR Kul'dur 16.47 336 Pn **Pn** **23 24 49.2 -3.2**
comp=E,0.2nm,0.3s,baz=148,slow=19,SNR=2.7
KLR Sn **Sn** **23 27 56.5 +1.4**
comp=E,0.1nm,0.3s,baz=125,slow=18,SNR=1.3
KLR LR LR 23 31 32.2
comp=E,1μm,18.3s,baz=152,slow=38
KLR Kul'dur 16.47 336 *i*P **Pn** **23 24 52.5 +0.1**
KLR pmax pmax
comp=Z,13nm,1.4s
DL2 Dalian 16.69 291 P **Pn** **23 24 56.5 +1.1**
DL2 S **Sn** **23 28 05.5 +4.8**
DL2 pmax pmax
comp=Z,26nm,0.6s
DL2 pmax pmax
comp=Z,500nm,6.4s
DL2 LR LR
comp=Z,4μm,16.2s
DL2 LR LR
comp=Z,6μm,16.7s
DL2 LR LR
comp=Z,6μm,18.1s
GRNR Gornyy 16.72 348 ⇓*i*P **Pn** **23 24 55.6 0.0**
GRNR *e*S **Sn** **23 28 05.8 +4.6**
GRNR pmax pmax
comp=E,3.0nm,0.6s
GRNR pmax pmax
comp=N,6.0nm,0.9s
GRNR pmax pmax
comp=Z,4.0nm,0.8s
GRNR smax smax
comp=E,4.0nm,0.9s
GRNR MLR MLR
comp=E,1μm,13.0s
GRNR MLR MLR
comp=N,2μm,18.0s
GRNR MLR MLR
comp=Z,3μm,17.0s
SSE Sheshan 17.59 265 P **Pn** **23 25 06.3 -0.3**
SSE S **Sn** **23 28 24.3 +1.9**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,460nm,4.1s
SSE LR LR
comp=Z,4μm,14.8s
SSE LR LR
comp=Z,3μm,13.4s
NJ2 Nanjing 19.26 269 *e*P **P** **23 25 26.5 +0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,9μm,15.2s
NJ2 LR LR
comp=Z,5μm,15.6s
NJ2 LR LR
comp=Z,4μm,17.5s
NACB Ninganchiao 20.30 245 P **P** **23 25 35.2 -2.2**
SSLB Suanglung 21.00 245 P **P** **23 25 43.1 -1.9**
GUMO Guam 21.01 171 P **P** **23 25 45.0 -0.1**
comp=Z,27nm,0.4s,baz=302,slow=15,SNR=2.0
GUMO S Sn 23 29 42.2 -2.9
comp=Z,16nm,0.3s,baz=19,slow=23,SNR=1.4
GUMO LR LR 23 32 10.1
comp=Z,2μm,20.7s,baz=7.0,slow=32
comp=Z,27nm,0.4s
GUMO Guam 21.01 171 P **P** **23 25 44.6 -0.6**
BJI Beijing 21.03 293 P **P** **23 25 44.5 -0.8**
BJI S **S** **23 29 38.8 -0.5**
BJI sS Sn 23 29 44.5 -1.0
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI pmax pmax
comp=Z,220nm,4.7s
BJI LR LR
comp=Z,580nm,14.8s
BJI LR LR
comp=Z,2μm,12.8s
BJI LR LR
comp=Z,3μm,13.0s
TWG Pinlang 21.48 243 P **P** **23 25 47.6 -2.6**
TPUB Ta-pu 21.52 244 P **P** **23 25 50.4 -0.3**
PETK Petropavlovsk- 21.80 27 P **P** **23 25 55.5 +2.1**
comp=Z,11nm,1.1s,baz=197,slow=4.5,SNR=2.7
comp=Z,11nm,1.1s
XLT XiLinHaoTe 21.90 303 *e*P **P** **23 25 52.5 -2.2**
XLT pP sP 23 25 56.8 -0.2
XLT sP pwP 23 26 00.3 -3.4
XLT S **S** **23 29 53.5 -3.0**
XLT sS pS 23 30 01.5 +1.6
XLT pmax pmax
comp=Z,19nm,1.0s
XLT pmax pmax
comp=Z,110nm,5.9s
XLT LR LR
comp=Z,4μm,13.0s
XLT LR LR
comp=Z,4μm,13.3s
HNS HongShan 22.03 285 ⇑P **P** **23 25 53.5 -2.5**
HNS S **S** **23 30 00.3 +1.4**
HNS SS **SnSn** **23 30 32.3 +7.5**
HNS LR LR
comp=Z,8μm,16.5s
HNS LR LR
comp=Z,3μm,17.9s
HNS LR LR
comp=Z,4μm,16.7s
PET Petropavlovsk 22.10 28 *e*P **P** **23 25 58.4 +1.8**
PET *e*S **S** **23 29 55.1 -4.8**
PET pmax pmax
comp=Z,300nm,5.5s
PET MLR MLR
comp=Z,2μm,17.0s
PET MLR MLR
comp=Z,2μm,14.0s
QZH Quanzhou 22.18 251 P **P** **23 25 59.5 +1.8**
QZH S **S** **23 30 05.5 +3.6**
QZH LR LR
comp=Z,3μm,13.2s
QZH LR LR
comp=Z,1μm,11.7s
QZH LR LR
comp=Z,3μm,12.9s
WHN Wuhan 23.38 268 ⇓P **P** **23 26 08.3 -1.9**
WHN S **S** **23 30 18.3 -4.8**
WHN LR LR
comp=Z,11μm,13.6s
WHN LR LR
comp=Z,11μm,13.6s
WHN LR LR
comp=Z,9μm,19.0s
TIY Taiyuan 23.83 286 ⇑P **P** **23 26 17.0 +2.3**
TIY S **S** **23 30 31.5 +1.0**
TIY pmax pmax
comp=Z,240nm,5.2s
TIY LR LR
comp=Z,2μm,14.2s
TIY LR LR
comp=Z,3μm,18.1s
TIY LR LR
comp=Z,3μm,21.0s
HHC Hu-ho-hao-te 24.62 294 *e*P **P** **23 26 23.0 +1.0**
HHC S **S** **23 30 46.0 +2.9**
HHC sS sS 23 30 47.0 +1.4
HHC pmax pmax
comp=Z,34nm,1.2s
HHC pmax pmax
comp=Z,470nm,6.2s
HHC LR LR
comp=Z,8μm,12.5s
HHC LR LR
comp=Z,7μm,12.8s
HHC LR LR
comp=Z,6μm,14.1s
BTO Baotou 25.77 293 *e*P **P** **23 26 34.0 +1.6**
BTO S **S** **23 31 07.3 +5.8**
BTO LR LR
comp=Z,20μm,16.1s
BTO LR LR
comp=Z,9μm,14.1s
MA2 Magadan 25.79 11 P **P** **23 26 34.2 +1.9**
comp=Z,5.2nm,0.3s,baz=216,slow=16,SNR=2.0
MA2 S **S** **23 31 00.5 -0.8**
comp=Z,4.1nm,0.4s,baz=143,slow=20,SNR=1.4
MA2 LR LR 23 38 20.6
comp=Z,2μm,18.2s,baz=206,slow=40
comp=Z,5.2nm,0.3s
H11N2 WAKE ISLAND Hy 26.71 117 T T 23 54 42.4
baz=312,slow=76
H11N1 WAKE ISLAND Hy 26.72 117 T T 23 54 46.6
baz=312,slow=76
H11N3 WAKE ISLAND Hy 26.73 117 T T 23 54 43.7
baz=312,slow=76
XAN Xi'an 27.04 278 P **P** **23 26 45.5 +1.6**
XAN pP pwP 23 26 50.0 -2.9
XAN sP sP 23 26 53.5 +7.9
XAN PcP **PcP** **23 30 06.5 +1.4**
XAN S **S** **23 31 21.0 -0.6**
XAN pmax pmax
comp=Z,14nm,1.2s
XAN LR LR
comp=Z,5μm,15.8s
XAN LR LR
comp=Z,3μm,17.2s
XAN LR LR
comp=Z,5μm,17.2s
H11S3 WAKE ISLAND Hy 27.34 119 T T 23 55 39.3
baz=313,slow=75
H11S1 WAKE ISLAND Hy 27.34 119 T T 23 55 37.5
baz=313,slow=75
H11S2 WAKE ISLAND Hy 27.36 119 T T 23 55 35.8
baz=313,slow=75
ENH Enshi 27.47 270 P **P** **23 26 45.6 -2.2**
ENH IAmb IAmb 23 26 47.7
comp=Z,22nm,0.6s
YAK Yakutsk 28.60 348 P **P** **23 26 57.7 +0.2**
comp=Z,8.7nm,0.4s,baz=223,slow=1.0,SNR=2.1
YAK S **S** **23 31 41.1 -4.3**
comp=Z,29nm,0.5s,baz=127,slow=4.3,SNR=4.3
YAK LR LR 23 38 58.6
comp=Z,4μm,18.9s,baz=146,slow=38
comp=Z,8.7nm,0.4s
YAK Yakutsk 28.60 348 P **P** **23 26 57.1 -0.3**
YAK Yakutsk 28.60 348 *e*P **P** **23 26 58.1 +0.7**
YAK *e**PP **pwP** **23 27 07.1 -0.1**
YAK *e* 23 27 47.1
YAK *e* 23 30 08.1
YAK *e*S **S** **23 31 44.7 -0.7**
YAK *e*SSS SSS 23 33 29.4
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,1.0nm,0.9s
YAK pmax pmax
comp=Z,49nm,1.8s
YAK pmax pmax
comp=N,54nm,2.1s
YAK pmax pmax
comp=E,27nm,1.6s
YAK smax smax
comp=N,54nm,1.8s
YAK smax smax
comp=E,68nm,2.0s
YAK MLR MLR
comp=Z,3μm,17.0s
YAK MLR MLR
comp=N,2μm,16.0s
YAK MLR MLR
comp=E,1μm,18.0s
ULN Ulaanbaatar 29.05 308 P **P** **23 27 01.9 +0.2**
ULN Ulaanbaatar 29.05 308 P **P** **23 27 02.0 +0.2**
ULN pmax pmax
comp=Z,11nm,1.0s
SONM Songino Array 29.47 308 P **P** **23 27 05.8 +0.4**
comp=Z,6.5nm,0.9s,baz=105,slow=8.4,SNR=22
comp=Z,6.5nm,0.9s
SONM Songino Array 29.47 308 P **P** **23 27 05.9 +0.4**
SONM Songino Array 29.47 308 P **P** **23 27 05.9 +0.4**
SONM pmax pmax
comp=Z,9.0nm,0.8s
BOD Bodaibo 29.83 330 *e*P **P** **23 27 08.6 +0.2**
BOD pmax pmax
comp=Z,37nm,1.5s
LZH Lanzhou 30.83 284 *e*P P 23 27 04.5 -13
LZH pP pP 23 27 09.5 -10
LZH sP sP 23 27 12.8 -6.9
LZH S S 23 31 59.5 -22
LZH sS pS 23 32 20.8 -2.1
LZH SS ScP 23 33 26.0 -31
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,61nm,4.8s
LZH LR LR
comp=N,5μm,17.0s
LZH LR LR
comp=E,3μm,15.6s
LZH LR LR
comp=Z,4μm,17.4s
DAV Davao City (W) 31.09 212 LR LR 23 40 53.3
comp=Z,1μm,18.6s,baz=40,slow=38
GYA Guiyang 31.13 265 ⇑*i*P **P** **23 27 18.5 -1.9**
GYA S **S** **23 32 27.5 +1.3**
GYA pmax pmax
comp=Z,32nm,0.9s
GYA LR LR
comp=Z,6μm,15.5s
GYA LR LR
comp=Z,2μm,14.2s
GYA LR LR
comp=Z,6μm,15.9s
CD2 Chengdu 32.02 274 P **P** **23 27 27.3 -0.8**
CD2 S **S** **23 32 38.3 -1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,110nm,5.6s
CD2 LR LR
comp=Z,8μm,16.7s
CD2 LR LR
comp=Z,4μm,17.2s
CD2 LR LR
comp=Z,6μm,16.7s
ZAK Zakamensk 32.08 311 *e*P **P** **23 27 29.2 +0.7**
ZAK pmax pmax
comp=Z,11nm,1.3s
QIZ Qiongzhong 32.19 250 P **P** **23 27 29.8 +0.2**
QIZ PP **PP** **23 28 42.3 -0.1**
QIZ S **S** **23 32 43.5 +1.0**
QIZ pmax pmax
comp=Z,93nm,3.7s
QIZ LR LR
comp=Z,2μm,12.7s
QIZ LR LR
comp=Z,2μm,14.2s
QIZ LR LR
comp=Z,2μm,14.5s
GTA Gaotai 33.62 291 *e*P **P** **23 27 42.5 +0.4**
GTA S **S** **23 33 02.3 -2.4**
GTA SS **SnSn** **23 35 15.8 +8.1**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,170nm,8.4s
GTA LR LR
comp=Z,3μm,16.7s
GTA LR LR
comp=Z,2μm,16.4s
GTA LR LR
comp=Z,3μm,17.5s
GSTR Great Sitkin T 34.82 47 P **P** **23 27 50.2 -2.1**
KMI Kunming 34.90 265 ⇑P **P** **23 27 52.5 -1.0**
KMI pP sP 23 27 56.5 +1.2
KMI S **S** **23 33 25.8 +0.8**
KMI pmax pmax
comp=Z,14nm,0.7s
KMI LR LR
comp=Z,3μm,15.9s
KMI LR LR
comp=Z,3μm,17.5s

KMI LR LR
comp=Z,5µm,16.1s
PZH PanZhiHua 35.17 268 P **P** **23 27 55.5 -0.2**
PZH PP **PP** **23 29 15.5 +0.1**
PZH S **S** **23 33 26.8 -2.1**
PZH PcS **PcS** **23 34 14.0 0.0**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,80nm,5.3s
PZH LR LR
comp=Z,4µm,15.1s
PZH LR LR
comp=Z,3µm,16.9s
PZH LR LR
comp=Z,2µm,16.1s
KNGR Kungurtug, Tuv 35.73 310 *i* P **P** **23 28 00.7 +0.5**
BILL Bilibino 36.40 15 *eP* **P** **23 28 06.9 +1.3**
BILL *e* 23 29 27.4
BILL *e* 23 30 29.4
BILL pmax pmax
comp=Z,7.0nm,0.4s
BILL MLR MLR
comp=Z,912nm,12.0s
SIJI Sorong 36.52 198 LR LR 23 40 28.0
comp=Z,1µm,18.7s,baz=12,slow=32
UBPT Khong Chiam 37.76 249 P **P** **23 28 16.5 -1.2**
TIXI Tiksi 37.84 353 S **S** **23 34 05.3 -3.0**
comp=Z,5.7nm,0.8s,baz=90,slow=20,SNR=1.6
TIXI LR LR 23 45 33.6
comp=Z,1µm,18.9s,baz=180,slow=39
GOMU GeErMu 38.00 286 P **P** **23 28 19.5 -0.6**
GOMU sP sP 23 28 23.5 +1.5
GOMU S **S** **23 34 12.5 0.0**
GOMU pmax pmax
comp=Z,12nm,1.9s
GOMU pmax pmax
comp=Z,170nm,4.8s
GOMU LR LR
comp=Z,3µm,17.8s
GOMU LR LR
comp=Z,1µm,19.4s
GOMU LR LR
comp=Z,1µm,18.4s
CHTO Chiang Mai 40.97 259 P **P** **23 28 43.3 -1.2**
CHTO Chiang Mai 40.97 259 P **P** **23 28 43.3 -1.2**
CM31 Chiang Mai Arr 41.16 258 P **P** **23 28 44.7 -1.4**
CMAR Chiang Mai Arr 41.16 258 P **P** **23 28 44.0 -2.1**
comp=Z,6.5nm,0.6s,baz=48,slow=7.7,SNR=38
CMAR LR LR 23 48 32.5
comp=Z,1µm,18.1s,baz=40,slow=40
comp=Z,6.5nm,0.6s
CMAR Chiang Mai Arr 41.16 258 P **P** **23 28 44.5 -1.5**
CMAR Chiang Mai Arr 41.16 258 *i* P **P** **23 28 44.7 -1.4**
CMAR pmax pmax
comp=Z,7.0nm,0.6s
DGZ Jazzator, Alta 42.11 308 *i* P **P** **23 28 55.1 +1.3**
DGZ pmax pmax
comp=Z,38nm,0.8s
WMQ Urumqi 42.25 299 *eP* **P** **23 28 56.0 +1.2**
WMQ sP pwP 23 29 03.5 -0.3
WMQ PcP **PcP** **23 30 50.8 +2.1**
WMQ S **S** **23 35 16.0 +0.8**
WMQ ScS **ScS** **23 38 54.0 -3.1**
WMQ pmax pmax
comp=Z,45nm,0.9s
WMQ pmax pmax
comp=Z,520nm,5.5s
WMQ LR LR
comp=Z,3µm,19.5s
WMQ LR LR
comp=Z,2µm,14.5s
WMQ LR LR
comp=Z,660nm,18.1s
ZALV Zalesovo Beam 43.83 314 P **P** **23 29 07.1 -0.3**
comp=Z,5.6nm,0.8s,baz=90,slow=6.8,SNR=21
ZALV PcP **PcP** **23 30 53.3 -0.3**
comp=Z,5.4nm,0.6s,baz=102,slow=3.0,SNR=5.8
comp=Z,5.6nm,0.8s
ZSN Zaisan 43.90 305 *eP* **P** **23 29 08.2 +0.1**
ZSN pmax pmax
comp=Z,14nm,1.0s
ZSN Zaisan 43.90 305 *eP* **P** **23 29 08.2 +0.1**
comp=Z,14nm,1.0s,baz=305
KAPI Kappang 44.42 212 P **P** **23 29 10.4 -2.1**
comp=Z,2.9nm,0.2s,baz=83,slow=17,SNR=1.7
KAPI LR LR 23 48 24.0
comp=Z,392nm,18.9s,baz=17,slow=37
comp=Z,2.9nm,0.2s
KAPI Kappang 44.42 212 P **P** **23 29 12.0 -0.5**
KAPI lAmb lAmb 23 29 52.6
comp=Z,32nm,1.3s
KAPI Kappang 44.42 212 P **P** **23 29 12.0 -0.5**
KAPI pmax pmax
comp=Z,32nm,1.3s
BRDH Bariadhala 45.11 269 P **P** **23 29 16.7 -1.3**
comp=Z,85nm,0.3s,baz=86,slow=6.7,SNR=6.8
NRIK Noril'sk 45.68 336 P **P** **23 29 22.2 +0.3**
comp=Z,9.1nm,0.9s,baz=100,slow=13,SNR=8.7
NRIK S **S** **23 36 02.5 -1.9**
comp=Z,0.7nm,0.3s,baz=40,slow=21,SNR=1.6
comp=Z,9.1nm,0.9s
NRIK Noril'sk 45.68 336 P **P** **23 29 21.6 -0.3**
NRIK lAmb lAmb 23 29 42.2
comp=Z,11nm,0.8s
MK31 Makanchi Array 45.71 304 P **P** **23 29 22.3 -0.3**
MK31 lAmb lAmb 23 29 27.3
comp=Z,15nm,1.1s
MK31 Makanchi Array 45.71 304 *i* P **P** **23 29 22.4 -0.1**
MKAR Makanchi Array 45.71 304 P **P** **23 29 22.3 -0.3**
comp=Z,7.5nm,0.6s,baz=86,slow=9.9,SNR=36
MKAR S **S** **23 36 03.1 -2.4**
comp=Z,0.5nm,0.8s,baz=61,slow=9.0,SNR=1.0
comp=Z,7.5nm,0.6s
MKAR Makanchi Array 45.71 304 P **P** **23 29 22.6 0.0**
MKAR Makanchi Array 45.71 304 *i* P **P** **23 29 24.8 +2.3**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
N16K Nishlik Lake 45.79 37 P **P** **23 29 24.3 +1.3**
baz=263
MAKZ Makanchi 45.92 304 P **P** **23 29 24.7 +0.5**
MAKZ Makanchi 45.92 304 P **P** **23 29 24.7 +0.5**
MAKZ pmax pmax
comp=Z,45nm,1.6s
O16K Kokwok River B 46.04 38 P **P** **23 29 27.0 +2.1**
baz=265
MMRI Maumere 46.69 207 P **P** **23 29 29.5 -1.0**
HNR Honiara 46.98 155 LR LR 23 47 08.4
comp=Z,15µm,21.8s,baz=332,slow=33
Q17K Contact Creek 47.09 40 P **P** **23 29 34.7 +1.4**
baz=268
N18K Kilae Creek 47.23 36 P **P** **23 29 32.4 -1.9**
N18K lAmb lAmb 23 29 53.9
comp=Z,21nm,1.4s
N18K Kilae Creek 47.23 36 P **P** **23 29 35.1 +0.8**
baz=266
TTA Tatalina 47.38 33 P **P** **23 29 34.9 -0.6**
TTA lAmb lAmb 23 29 54.3
comp=Z,13nm,1.3s
TTA Tatalina 47.38 33 P **P** **23 29 34.9 -0.6**
TTA pmax pmax
comp=Z,13nm,1.3s
TTA Tatalina 47.38 33 P **P** **23 29 36.6 +1.1**
baz=263
SVW2 Sparrevohn 47.41 36 P **P** **23 29 35.0 -0.7**
SVW2 lAmb lAmb 23 29 57.7
comp=Z,27nm,1.6s
P18K Big Mountain, 47.48 38 P **P** **23 29 37.4 +1.1**
baz=267
RAMN Ramite 47.48 277 *eP* **P** **23 29 36.7 -0.3**
O18K Koktuh Hills 47.52 38 P **P** **23 29 38.4 +2.0**
O18K lAmb lAmb 23 30 09.5
comp=Z,24nm,1.3s
JIRN Jiri 47.54 278 *eP* **P** **23 29 36.8 -0.8**
comp=Z,15nm,0.3s
BATI Baumata 47.64 204 LR LR 23 48 27.3
comp=Z,526nm,20.9s,baz=20,slow=35
GUN Gumba 47.70 278 *eP* **P** **23 29 37.3 -1.5**
comp=Z,17nm,0.5s
KURK Kurchatov 47.72 310 P **P** **23 29 38.0 -0.1**
KURK Kurchatov 47.72 310 P **P** **23 29 38.3 +0.2**
KURBB Kurchatov Arra 47.78 310 P **P** **23 29 38.3 -0.3**
comp=Z,11nm,0.6s,baz=85,slow=7.5,SNR=60
KURBB S **S** **23 36 33.7 -1.3**
comp=Z,1.1nm,0.7s,baz=84,slow=7.7,SNR=4.7
comp=Z,11nm,0.6s

L19K White Mountain 47.84 34 P **P** **23 29 38.3 -0.7**
L19K White Mountain 47.84 34 P **P** **23 29 40.4 +1.4**
baz=265
N19K Bonanza Creek 47.93 36 P **P** **23 29 41.5 +1.8**
baz=267
MTN Manton Dam 48.14 194 P **P** **23 29 40.9 -0.7**
PKI Pulchoki 48.22 278 *eP* **P** **23 29 41.4 -1.3**
comp=Z,16nm,0.7s
PKIN Phulchoki 48.22 278 *eP* **P** **23 29 41.4 -1.3**
comp=Z,15nm,0.7s
SHLS Shalkode 48.27 300 *eP* **P** **23 29 40.2 -2.5**
SHLS Shalkode 48.27 300 *eP* **P** **23 29 40.2 -2.5**
baz=300
K20K Telida 48.31 33 P **P** **23 29 42.3 -0.2**
K20K Telida 48.31 33 P **P** **23 29 44.9 +2.3**
baz=265,SNR=7.9
L20K Farewell, AK 48.32 34 P **P** **23 29 44.8 +2.1**
baz=266
J20K Nowinta River 48.35 32 P **P** **23 29 42.7 -0.2**
J20K lAmb lAmb 23 30 00.2
comp=Z,21nm,1.2s
J20K Nowinta River 48.35 32 P **P** **23 29 45.8 +2.9**
baz=264,SNR=8.3
DMN Daman 48.45 278 *eP* **P** **23 29 43.4 -1.1**
comp=Z,57nm,0.9s
UZB Uzynbulak 48.59 300 *eP* **P** **23 29 44.6 -0.6**
UZB Uzynbulak 48.59 300 *eP* **P** **23 29 44.6 -0.6**
baz=300
TDK Taldyqorghan 48.66 302 *eP* **P** **23 29 45.2 -0.3**
TDK MLR MLR
comp=Z,1µm,14.0s
TDK Taldyqorghan 48.66 302 *eP* **P** **23 29 45.3 -0.3**
baz=302
TDK LR LR 23 50 49.6
comp=Z,1µm,13.5s,baz=302
GKN Gorkha 48.68 279 *eP* **P** **23 29 45.2 -0.9**
comp=Z,31nm,0.7s
IMAR Indian Mountai 48.73 29 P **P** **23 29 45.0 -0.7**
KPKS Kokpek 48.76 300 *eP* **P** **23 29 45.7 -0.8**
KPKS Kokpek 48.76 300 *eP* **P** **23 29 45.7 -0.8**
baz=300
KDAK Kodiak Island 48.85 40 P **P** **23 29 47.7 +0.9**
comp=Z,8.0nm,0.8s,baz=283,slow=4.2,SNR=6.0
KDAK S **S** **23 36 47.5 -2.3**
comp=Z,3.5nm,0.9s,baz=295,slow=17,SNR=1.8
KDAK LR LR 23 47 39.7
comp=Z,434nm,21.2s,baz=267,slow=33
comp=Z,8.0nm,0.8s
KDAK Kodiak Island 48.85 40 P **P** **23 29 47.9 +1.2**
baz=271
G21K Allakaket 48.89 29 P **P** **23 29 48.9 +1.9**
baz=263
F21K Alatna River 48.99 28 P **P** **23 29 49.9 +2.1**
baz=262
SATY Saty 49.05 300 *eP* **P** **23 29 48.1 -0.6**
SATY Saty 49.05 300 *eP* **P** **23 29 48.2 -0.6**
baz=300
N20K Mount Spurr 49.05 36 P **P** **23 29 50.3 +2.0**
baz=268
SPCR Spurr Chakacha 49.05 36 P **P** **23 29 50.5 +2.1**
baz=268
H21K Melozitna Rive 49.07 30 P **P** **23 29 49.2 +0.8**
H21K lAmb lAmb 23 30 06.9
comp=Z,16nm,1.1s
H21K Melozitna Rive 49.07 30 P **P** **23 29 50.4 +2.0**
baz=264,SNR=7.3
SPU Mount Spurr 49.12 36 P **P** **23 29 49.2 +0.3**
PPLA Purkeypile 49.13 34 P **P** **23 29 48.1 -0.9**
PPLA lAmb lAmb 23 30 18.0
comp=Z,24nm,1.1s
PPLA Purkeypile 49.13 34 P **P** **23 29 50.8 +1.8**
baz=267
CHUM Lake Minchumin 49.13 32 P **P** **23 29 51.4 +2.6**
baz=266
CAST Castle Rocks 49.20 33 P **P** **23 29 49.5 0.0**
CAST lAmb lAmb 23 30 04.1
comp=Z,27nm,1.6s
CAST Castle Rocks 49.20 33 P **P** **23 29 51.9 +2.4**
baz=267,SNR=5.6
DANN Dangsing 49.26 280 *eP* **P** **23 29 50.3 -0.4**
comp=Z,50nm,0.5s
I21K Tanana 49.37 31 P **P** **23 29 50.3 -0.4**
I21K lAmb lAmb 23 30 11.4
comp=Z,15nm,1.2s
I21K Tanana 49.37 31 P **P** **23 29 53.6 +2.9**
baz=265
SKT Skwentna 49.40 35 P **P** **23 29 51.3 +0.4**
SKT lAmb lAmb 23 30 23.2
comp=Z,27nm,1.6s
SKT Skwentna 49.40 35 P **P** **23 29 52.9 +1.9**
baz=268
F22K John River 49.53 28 P **P** **23 29 53.8 +1.9**
baz=263
H22K Ishtalitna Cre 49.68 30 P **P** **23 29 56.0 +2.9**
baz=265,SNR=5.7
BPAW Bear Paw Mtn. 49.73 32 P **P** **23 29 53.5 +0.1**
BPAW Bear Paw Mtn. 49.73 32 P **P** **23 29 55.9 +2.5**
baz=267
G22K Beaties 49.73 28 P **P** **23 29 55.3 +2.0**
baz=264
KTH Kantishna Hill 49.73 33 P **P** **23 29 52.4 -1.1**
KTH lAmb lAmb 23 30 28.4
comp=Z,33nm,1.5s
E22K Anaktuvuk Pass 49.75 27 P **P** **23 29 55.9 +2.3**
baz=263
SUA Susitna One 49.76 36 P **P** **23 29 53.8 0.0**
SUA Susitna One 49.76 36 P **P** **23 29 55.2 +1.3**
baz=270
TARG Taragay, Kyrgy 49.78 298 P **P** **23 29 53.3 -1.3**
TARG lAmb lAmb 23 30 10.6
comp=Z,15nm,0.8s
TARG Taragay, Kyrgy 49.78 298 P **P** **23 29 53.3 -1.3**
TARG pmax pmax
comp=Z,15nm,0.8s
CHKK Chushkaly 49.89 301 *eP* **P** **23 29 54.5 -0.4**
CHKK Chushkaly 49.89 301 *eP* **P** **23 29 54.6 -0.4**
baz=301
MLY Manley 49.89 31 P **P** **23 29 54.8 +0.1**
MLY Manley 49.89 31 P **P** **23 29 56.4 +1.7**
baz=266,SNR=7.5
MDOK Medeo 49.99 300 *eP* **P** **23 29 55.8 -0.2**
MDOK Medeo 49.99 300 *eP* **P** **23 29 55.8 -0.2**
baz=300
MDOK LR LR 23 52 01.2
baz=300
TRF Thorofare Moun 50.01 33 lAmb lAmb 23 30 02.6
comp=Z,17nm,1.4s
TRF Thorofare Moun 50.01 33 P **P** **23 29 57.3 +1.5**
baz=268
AAA Alma-Ata 50.08 300 *eP* **P** **23 29 56.2 -0.3**
AAA Alma-Ata 50.08 300 *eP* **P** **23 29 56.2 -0.3**
baz=300
RC01 Rabbit Creek A 50.25 36 P **P** **23 29 56.1 -1.3**
COLD Coldfoot 50.26 28 P **P** **23 29 59.1 +1.7**
baz=265
G23K Bananza Creek 50.29 29 P **P** **23 29 59.6 +1.9**
baz=266
KUU Kurty 50.34 301 *eP* **P** **23 29 57.6 -0.7**
KUU pmax pmax
comp=Z,15nm,1.0s
KUU Kurty 50.34 301 *eP* **P** **23 29 57.6 -0.7**
comp=Z,15nm,1.0s,baz=301
KUU LR LR 23 52 10.5
baz=301
C23K Itkillik River 50.39 25 P **P** **23 30 00.4 +2.1**
baz=263,SNR=5.3
BWN Browne 50.40 32 P **P** **23 29 58.1 -0.4**
SEW Seward 50.41 37 P **P** **23 29 56.1 -2.5**
SEW lAmb lAmb 23 30 16.6
comp=Z,32nm,1.4s
SEW Seward 50.41 37 P **P** **23 29 59.6 +1.0**
baz=272
H23K Yukon River 50.43 30 P **P** **23 29 59.4 +0.6**
H23K lAmb lAmb 23 30 16.5
comp=Z,31nm,1.2s
H23K Yukon River 50.43 30 P **P** **23 30 00.1 +1.4**
baz=267,SNR=7.6
I23K Minto, Yukon-K 50.48 31 P **P** **23 29 59.6 +0.5**
I23K lAmb lAmb 23 30 35.7
comp=Z,16nm,1.2s
I23K Minto, Yukon-K 50.48 31 P **P** **23 30 01.3 +2.2**
baz=268
PMR Palmer 50.53 35 P **P** **23 30 00.1 +0.6**
PMR lAmb lAmb 23 30 17.3
comp=Z,21nm,1.2s
PMR Palmer 50.53 35 P **P** **23 30 00.1 +0.6**
PMR pmax pmax
comp=Z,21nm,1.2s
E23K Chandalar 50.56 27 P **P** **23 30 01.8 +2.0**
baz=265,SNR=11
NEA2 Nenana 50.58 31 P **P** **23 29 59.9 0.0**
NEA2 lAmb lAmb 23 30 14.0
comp=Z,19nm,1.0s
NEA2 Nenana 50.58 31 P **P** **23 30 01.6 +1.7**
baz=268,SNR=13
MCK McKinley 50.62 33 P **P** **23 30 00.1 -0.1**
MCK McKinley 50.62 33 P **P** **23 30 00.1 -0.1**
MCK pmax pmax
comp=Z,48nm,1.8s
MCK McKinley 50.62 33 P **P** **23 30 01.8 +1.6**
baz=269
TOLK Toolik Lake Re 50.63 26 P **P** **23 29 59.3 -0.9**
TOLK lAmb lAmb 23 30 23.1
comp=Z,24nm,1.1s
TOLK Toolik Lake Re 50.63 26 P **P** **23 30 02.1 +1.9**
baz=265
WAT1 Susitna Watana 50.79 34 P **P** **23 30 03.0 +1.5**
baz=270
KNK Knik Glacier 50.86 36 P **P** **23 30 02.4 +0.4**
KNK lAmb lAmb 23 30 26.2
comp=Z,20nm,1.1s
KNK Knik Glacier 50.86 36 P **P** **23 30 03.5 +1.5**
baz=272
SML Sawmill 50.91 35 P **P** **23 30 01.1 -1.4**
SML lAmb lAmb 23 30 16.1
comp=Z,13nm,0.9s
SML Sawmill 50.91 35 P **P** **23 30 03.9 +1.4**
baz=271
D24K Happy Valley 50.94 26 P **P** **23 30 04.0 +1.5**
baz=265
MDM Murphy Dome 50.95 31 P **P** **23 30 02.0 -0.6**
MDM lAmb lAmb 23 30 27.4
comp=Z,18nm,1.0s
E24K Your Creek 50.98 27 P **P** **23 30 05.0 +2.1**
baz=266
WRH Wood River Hil 51.00 32 P **P** **23 30 02.5 -0.5**
WRH lAmb lAmb 23 30 21.0
comp=Z,24nm,1.6s
C24K Franklin Bluff 51.04 25 P **P** **23 30 05.4 +2.2**
baz=264
TKM2 Tokmak 2 51.09 300 P **P** **23 30 05.2 +0.9**
SNR=10
COLA College 51.11 31 *i* P **P** **23 30 04.0 +0.2**
COLA pmax pmax
comp=Z,26nm,2.1s
H24K Noodor Dome 51.12 30 lAmb lAmb 23 30 33.8
comp=Z,18nm,1.2s
H24K Noodor Dome 51.12 30 P **P** **23 30 06.3 +2.4**
baz=268,SNR=6.7
F24K Squaw Lake 51.18 28 P **P** **23 30 06.2 +1.8**
baz=267
M23K Glacier View 51.20 35 P **P** **23 30 06.1 +1.5**
baz=272
POKR Poker Plat Res 51.29 31 P **P** **23 30 07.1 +1.9**
baz=269
G24K Hadweenzic Riv 51.30 29 P **P** **23 30 07.6 +2.3**
baz=268,SNR=5.6
DHY Denali Highway 51.33 33 P **P** **23 30 05.3 -0.3**
DHY lAmb lAmb 23 30 30.5
comp=Z,29nm,1.6s
DHY Denali Highway 51.33 33 P **P** **23 30 07.8 +2.1**
baz=271
SCM Sheep Creek Mo 51.38 35 P **P** **23 30 05.8 -0.3**
SCM lAmb lAmb 23 30 19.8
comp=Z,21nm,1.1s
SCM Sheep Creek Mo 51.38 35 P **P** **23 30 05.8 -0.3**
SCM pmax pmax
comp=Z,21nm,1.1s
SCM Sheep Creek Mo 51.38 35 P **P** **23 30 07.5 +1.5**
baz=272
KNRA Kununurra 51.39 196 P **P** **23 30 06.6 +0.2**
HDA Harding Lake 51.50 32 P **P** **23 30 06.0 -0.8**
HDA Harding Lake 51.50 32 P **P** **23 30 08.9 +2.2**
baz=270
IL31 51.52 31 P **P** **23 30 06.9 0.0**
IL31 lAmb lAmb 23 30 19.9
comp=Z,43nm,1.9s
ILAR Eielson Array 51.52 31 P **P** **23 30 08.1 +1.1**
comp=Z,6.0nm,0.9s,baz=270,slow=6.3,SNR=35
comp=Z,6.0nm,0.9s
BRZS Berezniki 51.59 310 *eP* **P** **23 30 06.9 -0.8**
BRZS Berezniki 51.59 310 *eP* **P** **23 30 06.1 -1.6**
baz=310
KBK Karagaybulak 51.61 300 P **P** **23 30 08.9 +0.7**
SNR=8.9
SGDS Sogindy 51.64 301 *eP* **P** **23 30 08.0 -0.3**
SGDS Sogindy 51.64 301 *eP* **P** **23 30 08.0 -0.3**
baz=301
BTLS Baital 51.68 303 *eP* **P** **23 30 08.1 -0.3**
BTLS pmax pmax
comp=Z,19nm,1.8s
BTLS Baital 51.68 303 *eP* **P** **23 30 08.2 -0.3**
comp=Z,19nm,1.8s,baz=303
KSH Kashi 51.70 296 P **P** **23 30 13.0 +4.2**
KSH pP pwP 23 30 15.8 -3.1
KSH S **S** **23 37 37.5 +7.2**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH LR LR
comp=Z,2µm,17.2s
KSH LR LR
comp=Z,1µm,17.2s
KSH LR LR
comp=Z,1µm,19.2s
USP Ospenovka 51.78 301 P **P** **23 30 09.7 +0.4**
SNR=7.4
D25K Kavik River 51.83 25 P **P** **23 30 11.1 +1.9**
baz=267
M24K Tolsona, Glenn 51.92 35 P **P** **23 30 11.8 +1.7**
baz=273
AAK Ala-Archa 51.94 300 P **P** **23 30 11.4 +0.8**
AAK Ala-Archa 51.94 300 P **P** **23 30 11.4 +0.8**
AAK pmax pmax
comp=Z,6.0nm,1.0s
H25K Birch Creek 51.96 29 P **P** **23 30 12.7 +2.6**
baz=270
K24K Donnelly Dome 52.02 32 P **P** **23 30 12.5 +1.8**
baz=272
UCH Uchtor 52.03 300 P **P** **23 30 12.8 +1.1**
SNR=7.2
F25K Christian Rive 52.04 28 P **P** **23 30 13.1 +2.3**
baz=269,SNR=9.3
KLU Klutina 52.07 35 lAmb lAmb 23 30 18.2
comp=Z,20nm,1.2s
KLU Klutina 52.07 35 P **P** **23 30 12.8 +1.6**
baz=274
E25K Arctic Village 52.08 27 P **P** **23 30 13.4 +2.3**
baz=269,SNR=8.9
PRP Porcupine Dome 52.09 30 P **P** **23 30 10.2 -1.1**
PRP Porcupine Dome 52.09 30 P **P** **23 30 13.4 +2.0**
baz=271
DIV Divide 52.17 36 P **P** **23 30 12.4 +0.5**
J25K Salcha River, 52.17 31 P **P** **23 30 13.0 +1.1**
baz=272
PAX Paxson 52.20 34 P **P** **23 30 11.2 -1.0**
PAX lAmb lAmb 23 30 31.9
comp=Z,30nm,1.9s
PAX Paxson 52.20 34 P **P** **23 30 11.2 -1.0**
PAX pmax pmax
comp=Z,30nm,1.9s
PAX Paxson 52.20 34 P **P** **23 30 13.5 +1.3**
baz=273
HARP HAARP 52.38 34 P **P** **23 30 16.1 +2.8**
baz=274
RIDG Independent Ri 52.44 33 P **P** **23 30 16.4 +2.5**
baz=273
BMAR Burnt Mountain 52.45 28 P **P** **23 30 13.1 -0.8**
BRVK Borovoye 52.54 314 P **P** **23 30 14.8 +0.2**
BRVK Borovoye 52.54 314 *ce*P **P** **23 30 14.9 +0.2**
BRVK pmax pmax
comp=Z,28nm,2.5s
F26K Sheenjek River 52.61 28 P **P** **23 30 17.8 +2.7**
baz=270,SNR=13
AML Almayashu 52.65 300 P **P** **23 30 16.8 +0.7**
SNR=9.7
N25K Chitina, Valde 52.70 35 P **P** **23 30 15.7 -0.1**
N25K lAmb lAmb 23 30 23.2
comp=Z,36nm,1.9s
GSI Gunungsitoli 52.74 241 P **P** **23 30 15.0 -1.7**
BMRM Bremner River 52.75 36 P **P** **23 30 15.7 -0.5**
BMRM lAmb lAmb 23 30 23.3
comp=Z,21nm,1.1s
BMRM Bremner River 52.75 36 P **P** **23 30 17.3 +1.1**
baz=275

G26K **Porcupine Rive** 52.77 28 P P 23 30 18.4 +2.2
baz=271
C27K **Jago River** 52.77 25 P P 23 30 18.2 +2.0
baz=269
DOT **Dot Lake** 52.79 33 P P 23 30 15.9 -0.5
DOT IAmb IAmb 23 30 22.7
comp=Z,38nm,1.8s
SCRK **Sand Creek** 52.81 32 P P 23 30 17.2 +0.5
SCRK IAmb IAmb 23 30 34.8
comp=Z,23nm,1.4s
SCRK **Sand Creek** 52.81 32 P P 23 30 18.1 +1.4
baz=273,SNR=8.3
KAIM **Kayak Island** 52.94 37 P P 23 30 19.6 +2.0
baz=276
J26L **Joseph Creek** 52.96 32 P P 23 30 18.1 +0.4
J26L IAmb IAmb 23 30 34.7
comp=Z,38nm,1.9s
J26L **Joseph Creek** 52.96 32 P P 23 30 19.2 +1.5
baz=273
MENT **Mentasta** 53.00 34 P P 23 30 16.8 -1.2
MENT IAmb IAmb 23 30 25.5
comp=Z,13nm,1.0s
I26K **Coal Creek Min** 53.09 31 P P 23 30 19.8 +1.2
baz=273
GLB **Gilahina Butte** 53.09 35 P P 23 30 17.6 -1.1
L26K **Log Cabin Wild** 53.16 33 P P 23 30 19.3 +0.2
L26K IAmb IAmb 23 30 26.6
comp=Z,14nm,1.1s
L26K **Log Cabin Wild** 53.16 33 P P 23 30 21.0 +1.9
baz=275,SNR=5.5
M26K **Nabesna, AK** 53.38 34 P P 23 30 19.9 -0.9
M26K IAmb IAmb 23 31 10.5
comp=Z,19nm,1.6s
M26K **Nabesna, AK** 53.38 34 P P 23 30 22.5 +1.7
baz=276
MCARA **McCarthy VSAT** 53.47 35 P P 23 30 20.8 -0.7
MCARA IAmb IAmb 23 30 53.5
comp=Z,14nm,0.9s
MCARA **McCarthy VSAT** 53.47 35 P P 23 30 23.0 +1.5
baz=276,SNR=5.6
E27K **Coleen River** 53.56 27 P P 23 30 24.1 +2.0
baz=272,SNR=5.7
G27K **Doyon Strip** 53.61 29 P P 23 30 24.6 +2.1
baz=273
TGL **Tana Glacier** 53.63 36 P P 23 30 21.4 -1.4
TGL IAmb IAmb 23 30 29.9
comp=Z,19nm,1.3s
K27K **Chicken** 53.64 32 P P 23 30 23.6 +0.9
K27K IAmb IAmb 23 30 36.0
comp=Z,20nm,1.2s
K27K **Chicken** 53.64 32 P P 23 30 24.2 +1.6
baz=275
WAX **Waxell Ridge** 53.66 37 P P 23 30 21.6 -1.3
WAX IAmb IAmb 23 30 41.8
comp=Z,19nm,1.0s
H27K **Steamboat Moun** 53.70 29 P P 23 30 24.9 +1.8
baz=274,SNR=8.5
I27K **Kandik River** 53.71 30 P P 23 30 24.8 +1.6
baz=274
L27K **Beaver Creek,** 53.85 33 P P 23 30 23.9 -0.4
L27K IAmb IAmb 23 30 31.7
comp=Z,21nm,1.4s
L27K **Beaver Creek,** 53.85 33 P P 23 30 26.1 +1.8
baz=276,SNR=6.8
BCAR **Beaver Creek A** 53.87 33 P P 23 30 24.5 +0.2
ISLE **Juniper Island** 53.89 36 P P 23 30 23.2 -1.5
M27K **Edge Creek, AK** 53.90 34 P P 23 30 25.2 +0.4
M27K IAmb IAmb 23 30 38.3
comp=Z,14nm,1.1s
M27K **Edge Creek, AK** 53.90 34 P P 23 30 26.1 +1.4
baz=276
EGAK **Eagle** 53.97 31 P P 23 30 24.7 -0.3
EGAK IAmb IAmb 23 30 43.6
comp=Z,20nm,1.6s
EGAK **Eagle** 53.97 31 P P 23 30 26.9 +1.8
baz=275
DZA **Taraz** 54.12 301 eP P 23 30 26.1 -0.4
DZA **Taraz** 54.12 301 eP P 23 30 26.1 -0.4
baz=301
MESA **MESA** 54.14 37 P P 23 30 27.6 +1.0
baz=278
WB0 **Warramunga Arr** 54.41 188 P P 23 30 28.4 -0.3
FITZ **Fitzroy Crossi** 54.49 199 P P 23 30 29.8 +0.5
FITZ IAmb IAmb 23 30 47.4
comp=Z,23nm,1.1s
LOGN **Logan Glacier** 54.51 36 P P 23 30 26.7 -2.6
WRAB **Tennant Creek** 54.58 189 P P 23 30 30.0 +0.1
WRAB **Tennant Creek** 54.58 189 P P 23 30 30.0 +0.1
WRAB pmax pmax
comp=Z,74nm,1.7s
WRA **Warramunga Arr** 54.59 189 P P 23 30 29.4 -0.6
comp=Z,6.4nm,0.7s,baz=4.1,slow=7.7,SNR=101
WRA S S 23 38 11.9 +2.4
comp=Z,0.7nm,1.0s,baz=4.5,slow=23,SNR=2.1
WRA LR LR 23 53 18.2
comp=Z,723nm,19.3s,baz=11,slow=36
comp=Z,6.4nm,0.7s
WRA **Warramunga Arr** 54.59 189 i P P 23 30 29.8 -0.2
WRA pmax pmax
comp=Z,7.0nm,0.6s
KKAR **Karatay Array** 54.64 302 P P 23 30 30.5 +0.2
KKAR **Karatay Array** 54.64 302 P P 23 30 30.5 +0.2
KKAR pmax pmax
comp=Z,30nm,1.3s
YUK3 **Moose Creek** 54.64 35 P P 23 30 31.7 +1.5
baz=278
DRK **Karamyk** 54.79 297 P P 23 30 31.6 -0.3
DRK IAmb IAmb 23 30 44.3
comp=Z,13nm,0.6s
O28M **Mount Upton** 54.92 36 P P 23 30 32.7 +0.3
baz=279
I29M **Ogilvie Camp,** 55.11 30 P P 23 30 32.4 -1.0
I29M IAmb IAmb 23 30 40.6
comp=Z,22nm,1.4s
I29M **Ogilvie Camp,** 55.11 30 P P 23 30 35.1 +1.8
baz=277
IUG **Iuzhnay** 55.26 301 eP P 23 30 34.5 -0.4
IUG **Iuzhnay** 55.26 301 eP P 23 30 34.5 -0.4
baz=301
M29M **Somme Creek** 55.47 34 P P 23 30 38.2 +2.2
baz=279,SNR=6.2
PNL **Peninsula** 55.49 37 P P 23 30 37.7 +1.5
baz=280
L29M **L29M** 55.51 33 P P 23 30 38.4 +2.1
baz=279,SNR=14
YUK4 **Talbot Arm** 55.56 35 P P 23 30 38.5 +1.6
baz=280
EPYK **Eagle Plains** 55.62 29 P P 23 30 38.5 +1.5
baz=278,SNR=6.3
K29M **Barlow Dome** 55.66 32 P P 23 30 39.7 +2.3
baz=279
NIL **Nilore** 55.68 290 P P 23 30 38.5 +0.6
NIL **Nilore** 55.68 290 P P 23 30 38.5 +0.6
NIL pmax pmax
comp=Z,18nm,0.8s
G30M **tAoh Zraii Nji** 55.73 28 P P 23 30 39.6 +1.9
baz=278,SNR=6.6
YUK6 **Outpost Mounta** 55.77 36 P P 23 30 39.7 +1.3
baz=280
O29M **Mount Kennedy** 55.78 36 P P 23 30 40.5 +2.1
baz=281,SNR=6.7
GAR **Garm** 56.04 297 P P 23 30 41.0 +0.4
HYT **Haines Junctio** 56.20 36 P P 23 30 41.4 0.0
HYT **Haines Junctio** 56.20 36 P P 23 30 43.4 +2.0
baz=281
P29M **Windy Craggy** 56.33 37 P P 23 30 44.3 +2.1
baz=282
INK **Inuvik** 56.54 26 P P 23 30 44.5 +1.0
comp=Z,8.0nm,0.8s,baz=268,slow=15,SNR=4.4
comp=Z,8.0nm,0.8s
INK **Inuvik** 56.54 26 P P 23 30 45.2 +1.7
baz=280
P30M **Million Dollar** 56.61 36 P P 23 30 46.5 +2.3
baz=282
N31M **Braeburn, Yuko** 56.89 35 P P 23 30 48.2 +2.0
baz=282
PLBC **Pleasant Camp** 57.05 37 P P 23 30 48.7 +1.5
baz=283
M31M **Drury Creek, Y** 57.38 34 P P 23 30 48.9 -0.7
M31M **Drury Creek, Y** 57.38 34 P P 23 30 51.4 +1.8
baz=283,SNR=5.2
WHY **Whitehorse** 57.50 35 P P 23 30 52.3 +1.8
baz=283
FARO **Faro, Yukon** 57.85 33 P P 23 30 53.5 +0.5
FARO IAmb IAmb 23 31 00.2
comp=Z,13nm,1.2s
FARO **Faro, Yukon** 57.85 33 P P 23 30 55.5 +2.6
baz=284
AS31 **Alice Springs** 58.31 188 P P 23 30 56.6 +0.1
ASAR **Alice Springs** 58.31 188 P P 23 30 56.4 -0.1
comp=Z,3.8nm,0.7s,baz=14,slow=10.0,SNR=38
ASAR S S 23 39 00.4 +1.5
comp=Z,0.7nm,1.0s,baz=19,slow=23,SNR=2.8
ASAR LR LR 23 55 33.0
comp=Z,670nm,19.4s,baz=358,slow=36
comp=Z,3.8nm,0.7s
ASAR **Alice Springs** 58.31 188 P P 23 30 56.2 -0.4
HYBB **Hyderabad (bro** 58.42 270 eP P 23 30 56.8 -0.8
HYBB IVmB_BB 23 30 57.6
comp=Z,221nm,0.7s
ARU **Arti** 58.44 320 P P 23 30 56.1 -0.9
ARU IAmb IAmb 23 30 58.4
comp=Z,14nm,0.8s
ARU **Arti** 58.44 320 c i P P 23 30 56.4 -0.7
ARU 23 31 42.2
ARU PPP PPP 23 34 25.6
ARU S S 23 39 01.8 +2.0
ARU SS SS 23 42 51.0 -0.6
ARU pmax pmax
comp=Z,15nm,0.7s
KBL **Kabul** 58.58 293 P P 23 30 58.7 0.0
KBL **Kabul** 58.58 293 P P 23 30 58.7 0.0
KBL pmax pmax
comp=Z,6.0nm,0.8s
P33M **Teslin, Yukon** 58.60 36 P P 23 30 58.3 +0.1
P33M IAmb IAmb 23 31 05.9
comp=Z,19nm,1.2s
P33M **Teslin, Yukon** 58.60 36 P P 23 31 00.6 +2.4
baz=285
MMPY **Sheldon Lake,** 58.69 33 P P 23 31 00.9 +2.1
baz=285
MBWA **Marble Bar** 59.16 204 P P 23 31 02.1 -0.4
Q32M **Nakina River** 59.21 37 P P 23 31 04.8 +2.1
baz=286
PSA00 **Pilbara Seismi** 59.51 204 P P 23 31 05.6 +0.8
PSA00 **Pilbara Seismi** 59.51 204 P P 23 31 04.9 0.0
PSA00 IAmb IAmb 23 31 06.5
comp=Z,6.4nm,0.7s
C36M **Paulatuk** 59.63 24 P P 23 31 06.3 +1.2
baz=287
R33M **Jennings River** 59.73 36 P P 23 31 07.3 +1.2
baz=287
ABKAR **Akbulak array** 59.78 311 IAmb IAmb 23 31 25.3
comp=Z,9.0nm,0.7s
S34M **Telegraph Cree** 60.09 38 P P 23 31 10.4 +1.9
baz=288
TGTN **Hyland Airport** 60.35 33 P P 23 31 11.7 +1.4
baz=288
DLBC **Dease Lake** 60.49 37 P P 23 31 11.2 -0.1
DLBC **Dease Lake** 60.49 37 P P 23 31 13.5 +2.2
baz=288
AKTO **Aktyubinsk** 60.57 313 S S 23 39 25.4 -2.2
comp=Z,0.7nm,0.7s,baz=112,slow=19,SNR=1.7
T35M **Bob Quinn** 60.84 39 P P 23 31 15.6 +1.9
baz=289
DZM **Mont Dzumac** 60.97 154 eS S 23 39 34.9 +1.6
comp=Z,179nm,23.4s
DZM eLR LR 23 49 17.5
comp=Z,1µm,23.1s
DZM **Mont Dzumac** 60.97 154 LR LR 23 55 12.2
comp=Z,543nm,20.7s,baz=34,slow=34
KIRV **Kirov** 62.43 324 ceP P 23 31 25.5 +1.3
PRGR **Permogore** 63.03 328 eP P 23 31 28.5 +0.3
PRGR pmax pmax
comp=Z,14nm,1.3s
NOR **Nord** 63.60 357 i P P 23 31 32.2 +0.4
BBB **Bella Bella** 63.73 43 LR LR 23 56 36.9
comp=Z,204nm,21.1s,baz=311,slow=33
HRA **Herat** 63.78 295 P P 23 31 34.2 +0.2
HRA IAmb IAmb 23 31 36.2
comp=Z,8.7nm,0.9s
PCHI **Peechi** 63.84 265 eP P 23 31 34.3 0.0
PCHI eS S 23 40 07.1 -2.7
RES **Resolute Bay** 65.00 14 LR LR 00 02 51.5
comp=Z,301nm,18.2s,baz=297,slow=39
GEYT **Alibeck** 65.30 300 P P 23 31 43.8 +0.2
comp=Z,6.1nm,0.7s,baz=27,slow=3.6,SNR=17
comp=Z,6.1nm,0.7s
GEYT **Alibeck** 65.30 300 P P 23 31 43.4 -0.3
GEYT IAmb IAmb 23 31 45.8
comp=Z,7.5nm,0.8s
GYA0B **ALIBECK ARRAY** 65.30 300 P P 23 31 43.8 +0.2
GYA0B IAmb IAmb 23 32 21.9
comp=Z,9.0nm,0.9s
BELG **Belogornoye** 65.83 318 LR LR 00 01 20.4
comp=Z,428nm,18.1s,baz=99,slow=37
YKA **Yellowknife Ar** 65.89 30 P P 23 31 48.0 +1.1
comp=Z,2.5nm,0.9s,baz=285,slow=6.4,SNR=4.3
YKA LR LR 00 04 16.0
comp=Z,119nm,19.3s,baz=305,slow=39
comp=Z,2.5nm,0.9s
YKA **Yellowknife Ar** 65.89 30 P P 23 31 48.0 +1.1
STKA **Stephens Creek** 66.02 180 P P 23 31 52.7 +4.7
comp=Z,5.2nm,0.7s,baz=334,slow=6.2,SNR=10
KLMR **Klimovskoe** 66.04 328 eP P 23 31 47.4 -0.5
KLMR pmax pmax
comp=Z,10.0nm,0.8s
KLMR MLR MLR
comp=Z,961nm,13.0s
KLMR **Klimovskoe** 66.04 328 eP P 23 31 47.5 -0.5
KLMR AMP 23 31 49.6
comp=Z,10.0nm,0.8s
KLMR LQ LQ 23 54 00.3
KLMR LQ LQ 23 54 00.3
KLMR LR LR 23 56 38.3
KLMR AMP 00 04 44.3
comp=Z,961nm,12.8s
NEEM **North Greenlan** 68.05 3 i P P 23 32 00.8 -0.1
NEEM IAmb IAmb 23 32 03.5
comp=Z,9.5nm,0.8s
NLWA **Neilton Lookou** 68.26 47 P P 23 32 00.4 -2.0
BRLDA **Berland Lookou** 68.67 38 P P 23 32 04.7 -0.2
BRLDA IAmb IAmb 23 32 33.5
comp=Z,18nm,1.3s
E03A **Lebam** 68.84 48 P P 23 32 05.9 0.0
MOS **Moscow** 69.44 324 eP P 23 32 14.7 +5.3
MOS e 23 32 33.1
MOS pmax pmax
comp=Z,35nm,1.3s
MOS MLR MLR
comp=Z,1µm,16.0s
VRH **Novokhopyorsk** 69.63 319 eP P 23 32 09.1 -1.6
VRH pmax pmax
comp=Z,10.0nm,0.6s
MAK **Makhachkala** 70.23 309 eP P 23 32 08.6 -5.9
MAK eS S 23 41 16.4 -10
MAK eSSS SSS 23 49 08.3
MAK pmax pmax
comp=Z,113nm,1.7s
MAK MLR MLR
comp=Z,1µm,15.0s
LTY **Liberty** 70.24 46 P P 23 32 14.1 -0.6
LTY IAmb IAmb 23 32 50.4
comp=Z,29nm,1.9s
OBN **Obninsk** 70.28 324 eP P 23 32 14.8 +0.2
OBN e 23 32 36.1
OBN pmax pmax
comp=Z,21nm,1.7s
OBN MLR MLR
comp=Z,1µm,17.0s
H04D **Lebanon** 70.32 49 P P 23 32 17.6 +2.5
baz=299
LPSR **Galich'ya Gora** 70.41 321 eP P 23 32 14.4 -1.1
LPSR pmax pmax
comp=Z,10.0nm,0.8s
B08A **Colville Reser** 70.47 44 P P 23 32 16.2 +0.2
B08A IAmb IAmb 23 32 22.9
comp=Z,16nm,1.2s
H04A **Detroit Lake** 70.58 49 P P 23 32 16.6 -0.2
HOOD **Mount Hood Mea** 70.60 48 P P 23 32 16.6 -0.4
VORR **Voronezh** 70.75 320 eP P 23 32 19.2 +1.6
VORR pmax pmax
comp=Z,20nm,0.4s
I04A **Tendick Farm,** 70.88 50 P P 23 32 20.7 +2.1
baz=300
VSR **Storozhevoye** 71.01 320 eP P 23 32 17.8 -1.4
VSR pmax pmax
comp=Z,10.0nm,0.7s
FINES **FINESS Array B** 71.17 333 P P 23 32 20.0 +0.1
comp=Z,7.3nm,0.8s,baz=130,slow=7.7,SNR=9.6
comp=Z,7.3nm,0.8s
EDM **Edmonton** 71.19 38 P P 23 32 19.7 -0.6
EDM **Edmonton** 71.19 38 P P 23 32 19.7 -0.6
EDM pmax pmax
comp=Z,62nm,1.9s
GROC **Groznyy** 71.20 310 eP P 23 32 14.7 -5.8
HAWA **Hanford** 71.34 46 P P 23 32 21.2 -0.1
HAWA IAmb IAmb 23 32 29.5
comp=Z,16nm,1.6s
F07A **Phinny Hill Vi** 71.36 47 P P 23 32 21.3 -0.1
F07A IAmb IAmb 23 34 19.1
comp=Z,13nm,0.9s
C09A **Chrisman Ranch** 71.37 44 P P 23 32 20.8 -0.6
D08A **Wollman Farm,** 71.37 45 P P 23 32 21.8 +0.4
E08A **Dider Farm, El** 71.58 46 P P 23 32 23.5 +0.8
YBH **Yreka Blue Hor** 71.71 52 P 23 32 24.5 +0.7
L04D **Klamath Falls** 71.73 51 P P 23 32 25.9 +1.9
baz=300
WSAR **Wadi Sarin** 71.78 286 P P 23 32 24.6 +0.2
comp=Z,4.1nm,0.8s,baz=21,slow=8.6,SNR=2.5
WSAR S S 23 41 43.0 -1.8
comp=Z,2.7nm,0.8s,baz=157,slow=13,SNR=1.2
comp=Z,4.1nm,0.8s
NEW **Newport** 71.79 44 P P 23 32 24.1 +0.1
NEW IAmb IAmb 23 32 30.9
comp=Z,11nm,1.1s
NEW **Newport** 71.79 44 P P 23 32 24.1 +0.1
NEW pmax pmax
comp=Z,11nm,1.1s
NEW **Newport** 71.79 44 P P 23 32 25.7 +1.7
baz=302
PINE **Pine Mountain** 71.80 49 P P 23 32 23.7 -0.7
J05D **Fort Rock, OR** 71.88 50 P P 23 32 27.0 +2.3
baz=300
GOF **Gofitskoye** 71.97 313⇑ eP P 23 32 26.0 +0.9
GOF pmax pmax
comp=Z,25nm,0.8s
E09A **Wood Farm, Sta** 72.11 46 P P 23 32 25.7 -0.2
E09A IAmb IAmb 23 32 33.0
comp=Z,14nm,1.2s
K05A **Summer Lake** 72.38 50 P 23 32 27.3 -0.5
I07A **Izee** 72.55 48 P P 23 32 26.6 -2.1
ZEI **Tsey** 72.61 310 eP P 23 32 28.4 -0.8
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KBZ **Khabaz** 72.75 311 P P 23 32 29.8 +0.1
comp=Z,6.3nm,0.8s,baz=126,slow=6.3,SNR=9.8
KBZ LR LR 00 05 45.1
comp=Z,771nm,18.9s,baz=58,slow=37
comp=Z,6.3nm,0.8s
KBZ **Khabaz** 72.75 311 i P P 23 32 30.7 +1.0
KBZ pmax pmax
comp=Z,12nm,0.9s
KIV **Kislovodsk** 72.76 312 P P 23 32 29.2 -0.7
KIV **Kislovodsk** 72.76 312 eP P 23 32 31.2 +1.2
KIV eS S 23 41 57.2 +1.6
KIV pmax pmax
comp=Z,18nm,1.1s
WALA **Waterton Lakes** 73.16 42 P P 23 32 32.5 +0.3
WALA IAmb IAmb 23 32 39.1
comp=Z,15nm,1.2s
MOD **Modoc Plateau** 73.17 51 P P 23 32 32.0 -0.5
MOD IAmb IAmb 23 33 19.5
comp=Z,22nm,1.7s
SUMG **Summit** 73.22 0 P P 23 32 31.9 -0.7
SUMG IAmb IAmb 23 32 34.9
comp=Z,14nm,1.2s
SUMG **Summit** 73.22 0 P P 23 32 31.9 -0.7
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG **Summit** 73.22 0 i P P 23 32 34.0 +1.5
GNI **Garni** 73.43 307 P P 23 32 33.8 -0.3
GNI **Garni** 73.43 307 P P 23 32 33.8 -0.3
GNI pmax pmax
comp=Z,57nm,1.4s
J08A **Circle Bar Ran** 73.56 49 P P 23 32 35.2 +0.5
J08A IAmb IAmb 23 32 42.2
comp=Z,14nm,1.2s
ORV **Oroville** 73.61 53 P P 23 32 35.5 +0.5
ORV **Oroville** 73.61 53 P P 23 32 35.5 +0.5
ORV pmax pmax
comp=Z,7.0nm,1.0s
JTMT **Jette** 73.67 43 P P 23 32 33.9 -1.5
JTMT IAmb IAmb 23 32 42.4
comp=Z,12nm,1.1s
PLID **Pearl Lake** 74.14 46 P P 23 32 38.3 0.0
BEKR **Beckworth** 74.20 52 P P 23 32 38.1 -0.6
BEKR IAmb IAmb 23 32 45.5
comp=Z,12nm,1.1s
AFDM **Forest Hills D** 74.28 53 P P 23 32 39.1 +0.2
MSO **Missoula** 74.38 44 P P 23 32 38.8 -0.6
MSO **Missoula** 74.38 44 P P 23 32 41.3 +1.8
baz=304
MNK **Minsk** 74.74 326 i P P 23 32 39.3 -1.9
MNK i 23 35 26.2
MNK i PPP PPP 23 37 11.8
MNK i S S 23 42 16.6 -0.6
MNK i SS SS 23 47 05.2 +1.4
MNK pmax pmax
comp=E,2.0nm,1.6s
MNK pmax pmax
comp=N,32nm,1.0s
MNK pmax pmax
comp=Z,15nm,1.0s
MNK MLR MLR
comp=N,566nm,17.0s
MNK MLR MLR
comp=Z,951nm,15.0s
MNK MLR MLR
comp=E,158nm,15.0s
MNK **Minsk** 74.74 326 i P P 23 32 39.3 -1.9
comp=E,2.0nm,1.6s
MNK i P P 23 32 39.3 -1.9
comp=N,32nm,1.0s
MNK i P P 23 32 39.3 -1.9
comp=Z,15nm,1.0s,baz=52
MNK i PP PP 23 35 26.3 -1.5
MNK i PPP PPP 23 37 11.9
MNK i S S 23 42 16.6 -0.6
MNK i SS SS 23 47 05.3 +1.4
MNK i SSS SSS 23 50 27.4
MNK i LQ LQ 00 00 34.8
MNK i LR LR 00 04 53.5
MNK i LRM MLR 00 07 52.6
comp=N,566nm,16.8s
MNK i LRM MLR 00 08 56.7
comp=Z,951nm,14.9s
MNK i LRM MLR 00 09 15.6
comp=E,158nm,15.0s
NACGM **Naroch** 74.98 327⇑ eP P 23 32 38.1 -4.5
baz=50
CMB **Columbia Colle** 75.15 54 P P 23 32 43.9 -0.1
CMB **Columbia Colle** 75.15 54 P P 23 32 43.9 -0.1
CMB pmax pmax
comp=Z,12nm,1.2s
MFID **Camas Ranch** 75.16 47 P P 23 32 44.2 +0.2
MFID IAmb IAmb 23 32 51.2
comp=Z,14nm,1.2s
YERR **Yerington** 75.40 53 P P 23 32 45.9 +0.3
YERR IAmb IAmb 23 33 15.9
comp=Z,12nm,0.6s
ANN **Anapa** 75.47 315 eP P 23 32 47.3 +1.7
ANN pmax pmax
comp=Z,186nm,1.5s
ANN MLR MLR
comp=Z,834nm,16.0s
WAKR **Walker** 75.53 53 P P 23 32 45.6 -0.8
WAKR IAmb IAmb 23 33 08.9
comp=Z,26nm,1.8s
FFC **Flin Flon** 75.71 32 P P 23 32 46.7 -0.1
FFC IAmb IAmb 23 32 50.0
comp=Z,11nm,1.0s
FFC **Flin Flon** 75.71 32 P P 23 32 46.7 -0.1
FFC pmax pmax
comp=Z,11nm,1.0s
LRM **Limekiln Ridge** 75.80 44 P P 23 32 48.0 +0.2
BMN **Battle Mountai** 75.93 51 P P 23 32 48.5 -0.1
BMN IAmb IAmb 23 32 56.0
comp=Z,15nm,1.3s
BMN **Battle Mountai** 75.93 51 P P 23 32 48.5 -0.1
BMN pmax pmax
comp=Z,15nm,1.3s
HLID **Hailey** 75.93 47 P P 23 32 49.0 +0.5
HLID IAmb IAmb 23 33 11.0
comp=Z,23nm,2.0s
HLID **Hailey** 75.93 47 P P 23 32 49.4 +0.8
baz=304
EGMT **Eagleton** 76.02 41 IAmb IAmb 23 32 55.5

comp=Z,14nm,1.1s
EGMT Eagleton 76.02 41 P P 23 32 50.3 +1.4
baz=306
RYN Ryan 76.07 53 P P 23 32 48.9 -0.6
RYN IAmb IAmb 23 32 56.6
comp=Z,12nm,1.1s
KVN Kaiserville 76.11 52 P P 23 32 49.4 -0.3
KVN IAmb IAmb 23 32 56.9
comp=Z,8.6nm,1.0s
KVN Kaiserville 76.11 52 P P 23 32 49.4 -0.3
KVN pmax pmax
comp=Z,9.0nm,1.0s
MDPB Devils Postpil 76.24 54 P P 23 32 49.4 -1.1
MDPB IAmb IAmb 23 33 56.9
comp=Z,9.3nm,1.0s
LHV Little Huntoon 76.29 53 P P 23 32 49.5 -0.9
OMMB Old Mammoth Mi 76.31 54 P P 23 32 50.2 -0.8
NVAR Mina Array Bea 76.32 53 P P 23 32 53.0 +2.1
comp=Z,3.6nm,0.7s,baz=279,slow=6.2,SNR=16
comp=Z,3.6nm,0.7s
NVAR Mina Array Bea 76.32 53 P P 23 32 51.0 +0.1
BOZ Bozeman (W) 76.40 44 P P 23 32 51.3 +0.2
BOZ Bozeman (W) 76.40 44 P P 23 32 51.3 +0.2
BOZ pmax pmax
comp=Z,9.0nm,1.2s
BOZ Bozeman (W) 76.40 44 P P 23 32 52.9 +1.8
baz=306
NV11 Mina Array Sit 76.42 53 P P 23 32 50.7 -0.7
NV11 IAmb IAmb 23 32 58.6
comp=Z,13nm,1.4s
AKASG Malin Array Be 76.46 323 P P 23 32 50.6 -0.5
comp=Z,2.8nm,0.5s,baz=47,slow=6.2,SNR=23
comp=Z,2.8nm,0.5s
AKASG Malin Array Be 76.46 323 P P 23 32 50.6 -0.5
AKASG Malin Array Be 76.46 323 P P 23 32 50.6 -0.5
AKASG pmax pmax
comp=Z,5.0nm,1.1s
AKBB Malin Array Si 76.46 323 P P 23 32 51.2 +0.1
AKBB IAmb IAmb 23 33 00.1
comp=Z,9.3nm,0.7s
AKBB Malin Array Si 76.46 323 P P 23 32 51.2 +0.1
AKBB pmax pmax
comp=Z,9.0nm,0.7s
PAGB Antelope Grade 76.48 56 P P 23 32 51.6 0.0
PAGB IAmb IAmb 23 32 58.9
comp=Z,20nm,1.2s
NB2 NORSAR Subarra 76.62 338 P P 23 32 52.1 +0.2
comp=Z,7.2nm,0.8s,baz=40,slow=5.9
NOA NORSAR Array B 76.62 338 P P 23 32 52.1 +0.2
comp=Z,3.9nm,0.7s,baz=40,slow=5.7,SNR=14
comp=Z,3.9nm,0.7s
ICESG Greenland Ices 76.72 1 *i* P P 23 32 54.3 +1.6
ELK Elko 77.01 49 P P 23 32 55.2 +0.4
ELK Elko 77.01 49 P P 23 32 55.2 +0.4
ELK pmax pmax
comp=Z,8.0nm,1.0s
YHL Hebgen Lake 77.09 44 P P 23 32 54.3 -0.9
YHL IAmb IAmb 23 33 23.9
comp=Z,22nm,1.7s
DSP Deep Springs 77.12 54 P P 23 32 55.1 0.0
TPH Tonopah 77.23 53 P P 23 32 55.7 -0.3
TPH Tonopah 77.23 53 P P 23 32 55.7 -0.3
TPH pmax pmax
comp=Z,95nm,1.6s
YHH Holmes Hill 77.32 44 P P 23 32 55.3 -1.2
YMR Madison River 77.32 44 P P 23 32 56.2 -0.2
YMR IAmb IAmb 23 33 04.1
comp=Z,24nm,1.5s
LCH Last Change Ra 77.42 53 P P 23 32 56.3 -0.7
YNR Norris Junctio 77.46 44 P P 23 32 57.6 +0.3
YNR IAmb IAmb 23 33 20.5
comp=Z,23nm,1.6s
MARD Mardin 77.56 307 P P 23 32 58.2 +0.4
GMN Gold Mountain 77.63 53 P P 23 32 57.4 -1.0
YPP Pitchstone Pla 77.65 45 P P 23 32 58.2 -0.2
YPP IAmb IAmb 23 33 10.3
comp=Z,20nm,1.6s
H17A Grant Village 77.71 44 P P 23 32 58.0 -0.7
H17A IAmb IAmb 23 33 16.2
comp=Z,15nm,1.1s
H17A Grant Village 77.71 44 P P 23 33 01.1 +2.4
baz=306
ISA Isabella, Lake 77.73 55 P P 23 32 57.5 -1.2
ISA Isabella, Lake 77.73 55 P P 23 32 57.5 -1.2
ISA pmax pmax
comp=Z,13nm,1.8s
YMP Mirror Lake Pl 77.74 44 P P 23 32 57.9 -1.1
IMW Indian Meadow 77.79 45 P P 23 32 58.1 -1.1
IMW IAmb IAmb 23 33 07.1
comp=Z,10nm,1.1s
FXWY Fox Creek 77.89 45 P P 23 32 59.6 -0.1
HVU Hansel Valley 77.94 47 P P 23 32 58.4 -1.5
HVU IAmb IAmb 23 33 07.4
comp=Z,11nm,1.1s
HVU Hansel Valley 77.94 47 P P 23 32 58.4 -1.5
MOOW Moose Ponds 77.99 45 P P 23 32 59.5 -0.7
TPAW Teton Pass 78.03 45 P P 23 32 59.7 -0.8
TPAW IAmb IAmb 23 33 08.3
comp=Z,11nm,1.1s
R11A Troy Canyon, C 78.14 52 P P 23 33 00.6 -0.4
R11A IAmb IAmb 23 33 22.5
comp=Z,21nm,1.6s
R11A Troy Canyon, C 78.14 52 P P 23 33 02.1 +1.0
baz=305
LOHW Long Hollow 78.16 45 P P 23 33 00.9 -0.2
SNOW Snow King Moun 78.16 45 P P 23 33 00.3 -0.9
SNOW IAmb IAmb 23 33 44.2
comp=Z,12nm,1.2s
REDW Red Top Meadow 78.16 45 P P 23 33 01.0 -0.1
REDW IAmb IAmb 23 33 08.8
comp=Z,12nm,1.2s
MPMC Manual Prospec 78.17 54 P P 23 33 02.5 +1.2
baz=304
BGU Big Grassy Mou 78.28 48 P P 23 33 01.9 +0.1
WCT Wildcat Mounta 78.34 53 P P 23 33 01.4 -0.6
FURC Furnace Creek, 78.36 54 P P 23 33 03.8 +1.7
baz=304
SPUT South Promonto 78.41 48 P P 23 33 02.6 +0.1
SPUT IAmb IAmb 23 33 24.5
comp=Z,14nm,1.3s
S11A Rachel 78.43 52 P P 23 33 03.3 +0.6
S11A IAmb IAmb 23 33 41.6
comp=Z,19nm,1.2s
EDW2 Edwards Air Fo 78.49 56 P P 23 33 04.4 +1.5
baz=304
TPNV Topopah Spring 78.50 53 P P 23 33 02.5 -0.6
TPNV IAmb IAmb 23 33 11.1
comp=Z,26nm,1.6s
TPNV Topopah Spring 78.50 53 P P 23 33 02.5 -0.6
TPNV pmax pmax
comp=Z,26nm,1.7s
TPNV Topopah Spring 78.50 53 P P 23 33 04.5 +1.5
baz=305
SPR3 Spring Creek 3 78.57 50 P P 23 33 02.2 -1.5
SPR3 IAmb IAmb 23 33 12.3
comp=Z,13nm,1.4s
QSM Queen of Sheba 78.64 54 P P 23 33 03.3 -0.4
GWY Greenwater Val 78.65 54 P P 23 33 03.5 -0.4
GWY IAmb IAmb 23 33 42.3
comp=Z,11nm,1.1s
HWUT Hardware Ranch 78.77 47 P P 23 33 04.3 -0.2
HWUT IAmb IAmb 23 33 12.1
comp=Z,21nm,1.1s
DUG Dugway, Tooele 78.84 49 P P 23 33 04.5 -0.4
DUG IAmb IAmb 23 33 12.3
comp=Z,16nm,1.1s
DUG Dugway, Tooele 78.84 49 P P 23 33 04.5 -0.4
DUG pmax pmax
comp=Z,16nm,1.1s
DUG Dugway, Tooele 78.84 49 P P 23 33 06.7 +1.8
baz=306
PRN Pahroc Range 79.02 52 P P 23 33 05.7 -0.3
GSC Goldstone, Bar 79.06 55 P P 23 33 05.6 -0.5
GSC IAmb IAmb 23 33 28.1
comp=Z,25nm,1.9s
GSC Goldstone, Bar 79.06 55 P P 23 33 05.6 -0.5
GSC pmax pmax
comp=Z,25nm,2.0s
PSUT Pine Spring 79.15 51 P P 23 33 07.8 +1.1
PSUT IAmb IAmb 23 33 13.8
comp=Z,17nm,1.2s
TCUT Toone Canyon 79.16 47 P P 23 33 07.4 +0.7
TCUT IAmb IAmb 23 33 15.7
comp=Z,14nm,1.1s
DY2G Dye2 79.17 3 *i* P P 23 33 07.0 +0.8

CTU Camp Tracy 79.20 48 P P 23 33 07.1 +0.2
PD31 Pinedale Array 79.28 45 P P 23 33 08.3 +1.0
PDAR Pinedale Array 79.28 45 P P 23 33 08.9 +1.6
comp=Z,2.1nm,0.9s,baz=318,slow=2.0,SNR=8.9
comp=Z,2.1nm,0.9s
PDAR Pinedale Array 79.28 45 P P 23 33 07.3 0.0
NLU North Lily Min 79.44 49 P P 23 33 07.9 -0.3
JLU Jordanelle 79.44 48 P P 23 33 07.2 -1.1
JLU IAmb IAmb 23 33 15.6
comp=Z,17nm,1.3s
SHPR Sheep Range 79.47 53 P P 23 33 07.4 -1.0
MPU Maple Canyon 79.67 48 P P 23 33 08.3 -1.1
MPU IAmb IAmb 23 33 16.8
comp=Z,14nm,1.1s
WTNK Soaring Height 79.75 53 P P 23 33 09.5 -0.3
WTNK IAmb IAmb 23 33 17.9
comp=Z,4.1nm,1.3s
BNN Bunyan 79.87 310 P P 23 33 10.8 +0.3
ILGA Ilgaz 79.87 313 P P 23 33 11.1 +0.5
TCRU Three Creeks R 80.00 50 P P 23 33 11.7 +0.3
CCUT Cedar City 80.03 51 P P 23 33 10.6 -0.9
VLDR Vladesti 80.11 319 ⇓P P 23 33 12.1 +0.6
V12A Nelson 80.12 53 P P 23 33 12.4 +0.5
GMRC Granite Mounta 80.12 55 P P 23 33 13.8 +1.9
baz=305
SZCU Shurtz Canyon 80.19 51 P P 23 33 12.4 +0.1
MVU Marysvale 80.21 50 P P 23 33 11.1 -1.4
MSU Marysvale 80.22 50 P P 23 33 11.5 -1.1
MSU Marysvale 80.22 50 P P 23 33 11.5 -1.1
PFO Pinyon Flats O 80.25 56 P P 23 33 11.6 -1.0
PFO Pinyon Flats O 80.25 56 P P 23 33 11.6 -1.0
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO Pinyon Flats O 80.25 56 P P 23 33 14.7 +2.1
baz=305
TPFO Pinon Flats 80.26 56 P P 23 33 14.1 +1.4
baz=305
PMD Palm Desert 80.29 56 P P 23 33 12.5 -0.1
PMD IAmb IAmb 23 33 57.6
comp=Z,11nm,1.3s
BELC Belle Mtn. Jos 80.34 55 P P 23 33 14.7 +1.5
baz=305
TMUT Trail Mountain 80.37 49 P P 23 33 12.5 -0.9
LCMT Little Creek M 80.43 52 P P 23 33 13.2 -0.4
TESR Tescani 80.44 321 ⇑P P 23 33 14.2 +1.0
BUR08 Bucovina Ar. S 80.45 322 P P 23 33 13.1 -0.3
BUR08 IAmb IAmb 23 34 29.2
comp=Z,33nm,1.9s
BIZ Bicaz 80.45 321 ⇑P P 23 33 14.6 +1.4
BURAR Bucovina Array 80.46 322 ⇑P P 23 33 14.6 +1.2
BURAR Bucovina Array 80.46 322 P P 23 33 13.4 0.0
MTPU Mount Pierson 80.50 50 P P 23 33 14.8 +0.6
MTPU IAmb IAmb 23 33 22.1
comp=Z,14nm,1.1s
CFR Carcaliu 80.51 319 ⇓P P 23 33 14.8 +1.2
P17A Butcher Ranch, 80.55 48 P P 23 33 13.4 -0.8
P17A IAmb IAmb 23 33 21.6
comp=Z,26nm,1.1s
TPGR Topolog 80.56 319 ⇑P P 23 33 14.9 +0.9
RDMU Red Mountain 80.60 47 P P 23 33 14.1 -0.4
Q16A Castle Valley 80.61 49 P P 23 33 14.6 0.0
Q16A IAmb IAmb 23 33 22.9
comp=Z,25nm,1.3s
MONP2 Monument Peak 80.69 57 P P 23 33 16.4 +1.3
baz=305
KNB Kanab 80.70 51 P P 23 33 13.6 -1.5
KNB Kanab 80.70 51 P P 23 33 13.6 -1.5
KNB pmax pmax
comp=Z,27nm,1.1s
BR131 Keskin Array S 80.72 312 P P 23 33 14.9 -0.2
BR131 Keskin Array S 80.72 312 P P 23 33 14.9 -0.2
BR131 pmax pmax
comp=Z,12nm,1.2s
BRTR Keskin Array B 80.72 312 P P 23 33 15.8 +0.8
comp=Z,2.6nm,0.7s,baz=106,slow=3.6,SNR=19
comp=Z,2.6nm,0.7s
P18A Preston Nutter 80.76 48 P P 23 33 14.9 -0.6
P18A IAmb IAmb 23 33 28.8
comp=Z,14nm,1.0s
PKCU Pink Cliffs 80.77 51 P P 23 33 15.4 -0.2
PKCU IAmb IAmb 23 33 29.4
comp=Z,21nm,1.4s
IRM Iron Mountain 80.83 55 P P 23 33 17.5 +1.9
baz=306
SRU San Rafael Swe 80.90 49 P P 23 33 16.8 +0.7
SRU IAmb IAmb 23 33 23.2
comp=Z,19nm,0.9s
SRU San Rafael Swe 80.90 49 P P 23 33 16.8 +0.7
SRU pmax pmax
comp=Z,19nm,0.9s
BC3 Big Chuckawall 80.91 55 P P 23 33 17.4 +1.2
baz=306
IKP In-Ko-Pah, Jac 81.04 57 P P 23 33 18.0 +1.2
baz=305
W13A Hualapai Mount 81.13 53 P P 23 33 17.8 +0.3
UZH Uzhgorod 81.22 324 *e*P P 23 33 27.3 +10
U15A North Rim 81.39 52 P P 23 33 18.9 0.0
PDMCI Parker Dam,Lak 81.42 54 P P 23 33 19.7 +1.0
baz=306
TRPA Tarpa 81.44 324 ⇑P P 23 33 20.2 +1.7
DOPR Dopca 81.46 321 ⇑P P 23 33 20.7 +2.0
BLYC Blythe 81.49 55 P P 23 33 19.5 +0.5
ESJX Sierra Juarez 81.53 57 P P 23 33 18.9 -0.7
O20A White River Ci 81.67 47 P P 23 33 20.5 +0.3
O20A IAmb IAmb 23 33 27.0
comp=Z,16nm,1.1s
O20A White River Ci 81.67 47 P P 23 33 21.2 +1.0
baz=308
GLA Glamis 81.69 56 P P 23 33 18.9 -1.3
GLA IAmb IAmb 23 33 22.0
comp=Z,8.0nm,0.7s
GLA Glamis 81.69 56 P P 23 33 18.9 -1.3
GLA pmax pmax
comp=Z,8.0nm,0.7s
MDUB Mudumu 81.74 314 P P 23 33 19.0 -1.4
RAYN Ar Rayn 81.85 293 P P 23 33 21.4 +0.1
RAYN IAmb IAmb 23 33 32.9
comp=Z,13nm,1.1s
RAYN Ar Rayn 81.85 293 P P 23 33 21.4 +0.1
RAYN pmax pmax
comp=Z,13nm,1.1s
VOIR 81.99 321 ⇑P P 23 33 24.0 +2.4
LANS Liptovska Anna 82.19 326 *e*P P 23 33 25.4 +2.8
LANS Liptovska Anna 82.19 326 *e*P P 23 33 25.4 +2.8
PV23 Carpenter Ridg 82.24 48 P P 23 33 22.8 -0.5
ARR Arges 82.25 321 ⇓P P 23 33 24.7 +1.8
PV10 Paradox Valley 82.27 48 P P 23 33 23.9 +0.5
PV11 David Mesa, Pa 82.42 48 P P 23 33 23.7 -0.5
PV07 Paradox Valley 82.47 48 P P 23 33 23.7 -0.8
PV07 IAmb IAmb 23 33 49.2
comp=Z,14nm,1.2s
WUAZ Wupatki 82.53 52 P P 23 33 24.3 -0.5
WUAZ IAmb IAmb 23 33 32.7
comp=Z,14nm,1.2s
WUAZ Wupatki 82.53 52 P P 23 33 26.1 +1.3
baz=307
PV13 Radium Mtn., P 82.54 49 P P 23 33 24.3 -0.5
N23A Red Feather La 82.55 45 P P 23 33 23.6 -1.4
N23A IAmb IAmb 23 33 45.7
comp=Z,18nm,1.2s
N23A Red Feather La 82.55 45 P P 23 33 26.0 +1.1
baz=310
BORA Eskisehir 82.56 314 P P 23 33 25.0 +0.3
PHWY Pilot Hill 82.58 44 P P 23 33 24.1 -0.9
PHWY IAmb IAmb 23 33 45.0
comp=Z,21nm,1.7s
113A Mohawk Valley, 82.58 55 P P 23 33 25.2 +0.5
113A IAmb IAmb 23 34 25.5
comp=Z,23nm,1.9s
MORC Moravsky Berou 82.62 327 *e*P P 23 33 27.2 +2.4
PV15 Paradox Valley 82.64 48 P P 23 33 25.6 +0.2
LOT Lotru 82.65 321 ⇑P P 23 33 26.4 +1.3
DPC Dobruska-Polom 82.74 328 *e*P P 23 33 26.3 +0.9
KRLC Kraliky 82.74 328 *e*P P 23 33 28.2 +2.8
VYHS Vyhne 82.95 326 *e*P P 23 33 27.9 +1.4
VYHS Vyhne 82.95 326 *e*P P 23 33 27.9 +1.4
SMCO Snowmass 83.03 47 P P 23 33 26.2 -1.4
SMCO IAmb IAmb 23 33 31.1
comp=Z,7.8nm,1.1s
GZR Gura Zlata 83.20 322 ⇓P P 23 33 28.6 +0.7
JAVC Velka Javorina 83.23 327 *e*P P 23 33 31.2 +3.2
PPT2 Papeete2 83.30 117 *e*LR LR 23 59 37.5
comp=Z,382nm,23.0s
MVCO Mesa Verde 83.33 49 P P 23 33 29.1 +0.1

MVCO IAmb IAmb 23 33 38.3
comp=Z,16nm,1.1s
MVCO Mesa Verde 83.33 49 P P 23 33 29.9 +1.0
baz=309
VRAC Vranov 83.38 327 *e*P P 23 33 30.2 +1.5
CLL Collm 83.42 330 *e*P P 23 33 29.0 +0.2
CLL *e*S S 23 43 50.0 +0.2
CLL Collm 83.42 330 *e*P P 23 33 29.0 +0.2
CLL *e*S S 23 43 50.0 +0.2
CLL *e*(SSS) 23 53 18.0
BZS Buzias 83.64 322 ⇓P P 23 33 30.6 +0.6
MMAI Mount Meron Ar 83.64 306 LR LR 00 15 19.0
comp=Z,591nm,18.3s,baz=286,slow=39
KRUC Moravsky 83.65 327 *e*P P 23 33 31.5 +1.4
214A Organ Pipe Nat 83.71 56 P P 23 33 32.3 +1.6
baz=307
MODS Modra-Piesok 83.76 326 *e*P P 23 33 32.4 +1.7
MODS Modra-Piesok 83.76 326 *e*P P 23 33 32.4 +1.7
MODS *e* 23 56 32.2
PRU Pruhonice 83.78 329 *e*P P 23 33 31.7 +1.0
CSS Mathiatis 83.82 308 P P 23 33 31.1 -0.1
S22A 4UR Ranch, Cre 84.02 48 P P 23 33 31.9 -0.7
S22A IAmb IAmb 23 33 40.1
comp=Z,12nm,1.1s
S22A 4UR Ranch, Cre 84.02 48 P P 23 33 33.8 +1.2
baz=310
X18A Snowflake 84.06 52 P P 23 33 32.5 -0.2
X18A IAmb IAmb 23 33 46.2
comp=Z,21nm,1.8s
MDVR Moldovita 84.17 322 ⇓P P 23 33 33.4 +0.5
Q24A Divide 84.26 46 P P 23 33 32.8 -1.0
Q24A IAmb IAmb 23 33 48.3
comp=Z,7.6nm,1.1s
Q24A Divide 84.26 46 P P 23 33 35.2 +1.4
baz=310
F33A 5 Mile Ranch, 84.42 37 P P 23 33 33.9 -0.2
BLKB Belogradchik 84.47 320 ⇑P P 23 33 32.3 -2.1
GHAJ Ghor Haditha 84.56 304 P P 23 33 33.2 -1.8
MEH Mehetia 84.59 116 *e*T T 01 07 02.4
comp=Z,10nm,0.3s
MORH Mrgy, Hungar 84.68 324 ⇓P P 23 33 35.7 +0.4
RONA Rosalia, Austr 84.70 326 *e*P P 23 33 37.0 +1.5
comp=Z,4.4nm,0.9s
CONA Conrad Observa 84.73 327 *e*P P 23 33 36.9 +1.2
comp=Z,2.1nm,0.7s
CKRC Cesky Krumlov 84.75 328 *e*P P 23 33 35.8 +0.1
SDCO Great Sand Dun 84.83 47 P P 23 33 36.2 -0.4
SDCO Great Sand Dun 84.83 47 P P 23 33 38.5 +1.8
baz=310
KHC Kasperske Hory 84.83 329 P P 23 33 36.5 +0.4
KHC IAmb IAmb 23 35 31.2
comp=Z,8.4nm,1.2s
KHC Kasperske Hory 84.83 329 P P 23 33 36.5 +0.4
KHC pmax pmax
comp=Z,8.0nm,1.2s
KHC Kasperske Hory 84.83 329 *e*P P 23 33 36.8 +0.7
VTS Vitosha 84.86 319 ⇓P P 23 33 38.0 +1.5
VTS Vitosha 84.86 319 P P 23 33 37.1 +0.6
VTS IAmb IAmb 23 33 39.4
comp=Z,7.4nm,0.8s
VTS Vitosha 84.86 319 P P 23 33 37.1 +0.6
VTS pmax pmax
comp=Z,7.0nm,0.8s
FRGS Fruska Gora 84.86 323 ⇑P P 23 33 36.6 +0.3
TUC Tucson 84.86 54 P P 23 33 36.4 -0.3
TUC Tucson 84.86 54 P P 23 33 36.4 -0.3
TUC pmax pmax
comp=Z,6.0nm,1.3s
TUC Tucson 84.86 54 P P 23 33 37.9 +1.2
baz=308
ELL Elmali 84.87 312 P P 23 33 36.8 +0.2
ELL Elmali 84.87 312 P P 23 33 36.8 +0.2
ELL pmax pmax
comp=Z,73nm,1.2s
BOVS Bovan 84.97 321 ⇑P P 23 33 37.0 +0.1
GERES GERESS Array B 85.00 329 P P 23 33 35.8 -1.3
comp=Z,1.0nm,0.6s,baz=85,slow=4.4,SNR=7.7
comp=Z,1.0nm,0.6s
EYMN Ely 85.14 33 P P 23 33 39.1 +1.4
baz=318
TAOE Nuku Hiva Isla 85.32 104 *e*SS SS 23 49 45.5 +0.5
comp=Z,344nm,36.2s
TAOE Nuku Hiva Isla 85.32 104 *e*LR LR 00 00 34.2
comp=Z,314nm,26.8s
ARSA Arzberg 85.39 327 *e*P P 23 33 41.2 +2.3
comp=Z,3.8nm,1.1s
MOA Molln 85.50 328 *e*P P 23 33 43.7 +4.2
comp=Z,5.3nm,1.1s
DIVS Divibare 85.52 322 P P 23 33 39.8 +0.1
DIVS IAmb IAmb 23 34 12.0
comp=Z,14nm,1.4s
ECSD EROS Data Cent 85.76 38 P P 23 33 40.6 -0.2
ECSD IAmb IAmb 23 33 48.3
comp=Z,7.4nm,0.9s
ECSD EROS Data Cent 85.76 38 P P 23 33 42.1 +1.3
baz=315
T25A Trinidad 85.89 47 P P 23 33 43.2 +1.3
baz=311
BIOA Bad Ischl, Aus 85.90 328 *e*P P 23 33 45.9 +4.4
comp=Z,1.7nm,0.6s
EIL Elat 85.97 303 LR LR 00 16 32.0
comp=Z,390nm,19.1s,baz=86,slow=39
ANMO Albuquerque 86.04 50 P P 23 33 44.0 +1.4
baz=310
SOKA Soboth 86.04 326 *e*P P 23 33 45.7 +3.5
comp=Z,11nm,1.2s
OBKA Obir 86.39 327 *e*P P 23 33 45.7 +1.8
comp=Z,2.0nm,0.8s
KBA Koelnbreinsper 86.50 328 *e*P P 23 33 45.1 +0.5
comp=Z,1.7nm,0.7s
MYKA Terra Mystica 86.70 327 *e*P P 23 33 47.5 +2.0
comp=Z,0.8nm,0.4s
WATA Walderalm 87.07 329 *e*P P 23 33 51.8 +4.5
comp=Z,1.3nm,0.5s
WTTA Wattenberg 87.10 329 *e*P P 23 33 48.3 +0.7
comp=Z,5.2nm,1.5s
ABTA Abfaltersbach 87.12 328 *e*P P 23 33 50.6 +3.0
comp=Z,4.0nm,1.4s
I37A Lemond, Waseca 87.16 36 P P 23 33 47.2 -0.5
MOTA Moosalm 87.27 329 *e*P P 23 33 51.0 +2.7
comp=Z,3.3nm,1.0s
RETA Reutte 87.30 329 *e*P P 23 33 50.8 +2.4
comp=Z,5.6nm,1.3s
FETA Feichten 87.68 329 *e*P P 23 33 51.0 +0.7
DAVA Damuels 87.83 329 *e*P P 23 33 52.5 +1.5
comp=Z,1.5nm,0.6s
FDMO Fiordimonte 89.70 325 P P 23 34 00.0 +0.3
TX31 Lajitas Ar. Si 91.47 53 P P 23 34 07.2 -1.2
TX32 Lajitas Array 91.47 53 P P 23 34 07.8 -0.6
TX32 IAmb IAmb 23 34 50.2
comp=Z,8.9nm,1.5s
TXAR Lajitas Array 91.47 53 P P 23 34 09.6 +1.2
comp=Z,1.6nm,0.9s,baz=306,slow=4.0,SNR=13
comp=Z,1.6nm,0.9s
R40A Maddies Statio 91.97 40 P P 23 34 09.5 -0.8
R40A IAmb IAmb 23 34 16.6
comp=Z,9.1nm,1.1s
CCM Cathedral Cave 92.68 39 P P 23 34 13.1 -0.6
CCM IAmb IAmb 23 34 29.6
comp=Z,7.8nm,1.1s
CCM Cathedral Cave 92.68 39 P P 23 34 13.1 -0.6
CCM pmax pmax
comp=Z,8.0nm,1.1s
TKL Tuckaleechee C 98.30 36 LR LR 00 22 48.5
comp=Z,100nm,19.6s,baz=343,slow=38
TORD Torodi Ar. Bea 119.28 314 PKP PKPdf 23 39 50.8 -0.7
comp=Z,1nm,0.6s,baz=318,slow=2.0,SNR=5.1
QSPA South Pole Qui 124.24 180 PKiKP 23 39 60.0 +0.2
LBTB Lobatse 124.54 261 PKP PKPdf 23 40 01.2 -0.2
comp=Z,3.2nm,0.8s,baz=148,slow=3.0,SNR=4.6
BOSA Boshof 126.31 258 PKP PKiKP 23 40 05.3 +0.2
comp=Z,5.5nm,1.1s,baz=101,slow=5.2,SNR=2.1
H03N2 Juan Fernandez 146.43 100 T T 02 24 33.0
baz=290,slow=76,SNR=4.5
H03N3 Juan Fernandez 146.44 100 T T 02 24 42.0
baz=290,slow=76,SNR=4.9
H03N1 Juan Fernandez 146.45 100 T T 02 24 36.8
baz=290,slow=76,SNR=5.1
LPAZ La Paz 147.69 63 PKPbc PKPbc 23 40 48.5 +1.0
comp=Z,10nm,1.1s,baz=286,slow=2.0,SNR=18

*IDC **29** 23:22:53.3 0.9, 34.47N 141.50E, h0km, mb4.3/17, mbtmp4.2/20, ML2.3/2, MS4.4/5, Error ellipse: s-maj=26.1km s-min=18.0km az=6.0*

*JMA **29** 23:22:55.2±0.3,34.°5N±0.°7×14.°2E±°, h37km, MV3.9/18, FAR SE OFF BOSO PEN*

ISC 29 23:22:57.3±0.6,34.°45N±0.°06×141.°55E±0.°07, h27km, n42, σ0s87/34, mb4.2/17, MS4.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKUC	**kamogawauchiur**	**1.32**	**303**	*eS*	**Sb**	**23 23 39.7**	**+1.7**
CHOJ	**Chosi**	**1.38**	**336**	*eP*	**Pn**	**23 23 20.2**	**-0.5**
CHOJ				*eS*	**Sn**	**23 23 38.4**	**+0.3**
JMKN	**Mikurajimanish**	**1.71**	**252**	*eP*	**Pn**	**23 23 26.7**	**+1.3**
JHJ	**Hachijo jima 2**	**1.98**	**229**	Sn	**Sn**	**23 23 50.4**	**-2.6**
	35nm,0.3s,baz=80,slow=20,SNR=1.1						
JHYU	**Hitachinakayam**	**2.05**	**338**	*eP*	**Pn**	**23 23 29.5**	**-0.5**
JHYU				*eS*	**Sn**	**23 23 54.3**	**-0.4**
JYT	**Yasato**	**2.10**	**328**	*eP*	**Pn**	**23 23 31.1**	**+0.5**
JOD2	**Odawara 2**	**2.18**	**293**	*eP*	**Pn**	**23 23 32.4**	**+0.5**
JHO	**Hitachi**	**2.30**	**340**	*eP*	**Pn**	**23 23 33.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.44**	**308**	Pn	**Pn**	**23 23 48.9**	**-0.2**
	1.7nm,0.3s,baz=118,slow=20,SNR=0.8						
MJAR				Sn	**Sn**	**23 24 28.1**	**-0.8**
	0.7nm,0.3s,baz=173,slow=21,SNR=1.0						
	33nm,0.8s						
KSRS	**Korea Array**	**11.45**	**289**	Pn	**Pn**	**23 25 38.6**	**-0.3**
	5.5nm,0.8s,baz=107,slow=8.1,SNR=2.1						
USRK	**Ussuriysk Ar.**	**12.22**	**326**	Pn	**Pn**	**23 25 48.7**	**-0.8**
	baz=143,slow=13,SNR=2.4						
	4.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**26.81**	**117**	T	T	23 56 46.1	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**26.82**	**117**	T	T	23 56 43.4	
	baz=314,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.83**	**117**	T	T	23 56 44.8	
	baz=314,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.44**	**119**	T	T	23 57 37.5	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**27.44**	**119**	T	T	23 57 34.1	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.45**	**119**	T	T	23 57 34.6	
	baz=312						
SONM	**Songino Array**	**29.39**	**308**	P	**P**	**23 28 58.6**	**+0.3**
	5.9nm,1.0s,baz=110,slow=6.3,SNR=3.2						
	5.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.01**	**258**	P	**P**	**23 30 37.9**	**-0.4**
	1.2nm,0.4s,baz=50,slow=7.3,SNR=2.3						
	1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**43.77**	**314**	PcP	**PcP**	**23 32 47.0**	**+0.4**
	2.4nm,0.7s,baz=140,slow=3.8,SNR=3.4						
MKAR	**Makanchi Array**	**45.62**	**304**	P	**P**	**23 31 13.6**	**-1.7**
	3.7nm,0.8s,baz=84,slow=6.5,SNR=2.7						
	3.7nm,0.8s						
KURBB	**Kurchatov Arra**	**47.71**	**310**	P	**P**	**23 31 31.8**	**+0.3**
	13nm,0.9s,baz=84,slow=7.8,SNR=3.7						
	13nm,0.9s						
KDAK	**Kodiak Island**	**48.97**	**40**	P	**P**	**23 31 42.2**	**+1.1**
	5.5nm,0.9s,baz=348,slow=13,SNR=2.0						
	5.5nm,0.9s						
ILAR	**Eielson Array**	**51.63**	**31**	P	**P**	**23 32 01.7**	**+0.5**
	2.3nm,0.8s,baz=278,slow=6.4,SNR=2.2						
	2.3nm,0.8s						
LEM	**Lembang**	**52.09**	**225**	LR	LR	23 54 45.4	
	comp=Z,982nm,19.7s,baz=4.5,slow=37						
WRA	**Warramunga Arr**	**54.52**	**188**	P	**P**	**23 32 23.3**	**+0.4**
	3.5nm,0.8s,baz=5.9,slow=7.9,SNR=1.3						
	3.5nm,0.8s						
DLBC	**Dease Lake**	**60.61**	**37**	LR	LR	00 02 43.3	
	comp=Z,233nm,18.6s,baz=304,slow=39						
GEYT	**Alibeck**	**65.20**	**300**	P	**P**	**23 33 36.2**	**-0.1**
	4.8nm,0.9s,baz=29,slow=3.4,SNR=3.5						
	4.8nm,0.9s						
YKA	**Yellowknife Ar**	**65.99**	**30**	P	**P**	**23 33 39.8**	**-1.2**
	1.8nm,0.9s,baz=305,slow=9.0,SNR=1.7						
	1.8nm,0.9s						
FINES	**FINESS Array B**	**71.16**	**333**	P	**P**	**23 34 13.4**	**+0.2**
	3.3nm,0.7s,baz=27,slow=4.7,SNR=2.2						
	3.3nm,0.7s						
YBH	**Yreka Blue Hor**	**71.85**	**52**	LR	LR	00 03 32.2	
	comp=Z,136nm,18.3s,baz=307,slow=34						
AKASG	**Malin Array Be**	**76.41**	**323**	P	**P**	**23 34 43.9**	**-0.3**
	2.0nm,0.5s,baz=47,slow=6.3,SNR=4.2						
	2.0nm,0.5s						
NVAR	**Mina Array Bea**	**76.46**	**53**	P	**P**	**23 34 46.3**	**+1.3**
	1.8nm,0.7s,baz=297,slow=6.0,SNR=2.1						
	1.8nm,0.7s						
NOA	**NORSAR Array B**	**76.61**	**338**	P	**P**	**23 34 44.6**	**-0.6**
	2.1nm,0.8s,baz=59,slow=8.0,SNR=2.7						
	2.1nm,0.8s						
PDAR	**Pinedale Array**	**79.41**	**45**	P	**P**	**23 35 01.3**	**-0.1**
	0.3nm,0.6s,baz=291,slow=2.5,SNR=2.3						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**80.65**	**312**	P	**P**	**23 35 08.3**	**+0.4**
	2.3nm,0.8s,baz=95,slow=2.8,SNR=3.6						
	2.3nm,0.8s						
VRAC	**Vranov**	**83.35**	**327**	LR	LR	00 13 54.3	
	comp=Z,422nm,20.6s,baz=39,slow=37						
GERES	**GERESS Array B**	**84.97**	**328**	P	**P**	**23 35 29.8**	**-0.3**
	0.8nm,0.7s,baz=64,slow=3.1,SNR=3.5						
	0.8nm,0.7s						
TXAR	**Lajitas Array**	**91.61**	**52**	P	**P**	**23 36 02.7**	**+0.5**
	0.6nm,0.7s,baz=251,slow=3.8,SNR=2.3						
	0.6nm,0.7s						
VAE	**Valguarnera**	**93.20**	**321**	LR	LR	00 25 21.4	
	comp=Z,174nm,20.5s,baz=23,slow=40						
TORD	**Torodi Ar. Bea**	**119.22**	**314**	PKP	**PKPdf**	**23 41 44.7**	**+0.2**
	7.2nm,0.4s,baz=53,slow=3.5,SNR=5.1						
LPAZ	**La Paz**	**147.83**	**63**	PKPbc	**PKPbc**	**23 42 41.5**	**+0.4**
	3.0nm,0.9s,baz=3.8,slow=9.8,SNR=2.1						

IDC 29 23:25:22.9±2.8,34.°30N×141.°80E, h0km, mb3.5/2, mbtmp3.5/4, ML2.6/2, Error ellipse: s-maj=44.7km s-min=37.5km az=38.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.06**	**236**	Pn	Pn	23 25 58.6	-0.1
	8.9nm,0.3s,baz=41,slow=18,SNR=0.9						
JHJ				Sn	Sn	23 26 25.8	+0.7
	22nm,0.3s,baz=71,slow=21,SNR=1.1						
	89nm,0.4s						
MJAR	**Matsushiro Arr**	**3.69**	**308**	Pn	Pn	23 26 20.8	-0.4
	0.3nm,0.3s,baz=135,slow=14,SNR=1.1						
MJAR				Sn	Sn	23 27 01.2	-4.2
	0.1nm,0.3s,baz=162,slow=32,SNR=1.1						
	3.1nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.56**	**117**	T	T	23 59 07.1	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**26.57**	**117**	T	T	23 59 09.2	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**26.58**	**117**	T	T	23 59 07.1	
	baz=305						
WRA	**Warramunga Arr**	**54.41**	**189**	P	P	23 34 52.3	+0.5
	0.3nm,0.4s,baz=4.8,slow=7.6,SNR=1.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**58.14**	**189**	P	P	23 35 17.7	-0.7
	0.5nm,0.8s,baz=3.0,slow=6.3,SNR=1.4						
	0.5nm,0.8s						

*IDC **29** 23:26:20.0±1.5,34.°31N×141.°74E, h0km, mb3.9/6, mbtmp3.8/9, ML3.0/2, Error ellipse: s-maj=30.7km s-min=22.4km az=118.0*

ISC 29 23:26:24.4±1.1,34.°31N±0.°08×141.°6E±0.°1, h27km, n15, σ1s43/11, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.92**	**232**	Pn	**Pn**	**23 26 55.1**	**-0.2**
	152nm,0.7s,baz=66,slow=13,SNR=1.1						
JHJ				Sn	**Sb**	**23 27 21.9**	**-0.4**
	21nm,0.3s,baz=49,slow=24,SNR=1.2						
MJAR	**Matsushiro Arr**	**3.55**	**310**	Pn	**Pn**	**23 27 18.3**	**+0.5**
	0.5nm,0.3s,baz=133,slow=11,SNR=1.7						
MJAR				Sn	**Sn**	**23 27 56.3**	**-2.6**
	baz=116,slow=24						
	2.7nm,0.4s						
KSRS	**Korea Array**	**11.53**	**290**	Pn	**Pn**	**23 29 09.0**	**+1.9**
	0.2nm,0.3s,baz=29,slow=21,SNR=2.3						
	1.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**26.71**	**116**	T	T	00 00 12.2	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**26.72**	**116**	T	T	00 00 14.5	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**26.73**	**116**	T	T	00 00 10.9	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**27.34**	**119**	T	T	00 01 04.7	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.34**	**119**	T	T	00 01 07.9	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.35**	**119**	T	T	00 01 06.8	
	baz=312						
SONM	**Songino Array**	**29.50**	**308**	P	**P**	**23 32 27.5**	**+1.1**
	1.1nm,0.8s,baz=108,slow=8.1,SNR=3.2						
	1.1nm,0.8s						
TIXI	**Tiksi**	**38.01**	**353**	P	**P**	**23 33 40.4**	**+0.7**
	8.0nm,0.6s,baz=89,slow=22,SNR=3.6						
	8.0nm,0.6s						
MKAR	**Makanchi Array**	**45.73**	**304**	P	**P**	**23 34 42.4**	**-0.8**
	1.0nm,0.9s,baz=90,slow=9.8,SNR=3.2						
	1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**47.83**	**310**	P	**P**	**23 34 58.2**	**-1.3**
	0.8nm,0.6s,baz=84,slow=7.7,SNR=2.8						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**51.73**	**31**	P	**P**	**23 35 27.8**	**-1.2**
	0.3nm,0.4s,baz=282,slow=4.5,SNR=2.1						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**54.39**	**188**	P	**P**	**23 35 49.3**	**+0.2**
	0.9nm,0.7s,baz=3.4,slow=7.6,SNR=2.9						
	0.9nm,0.7s						

*IDC **29** 23:27:57.9±2.2,34.°27N×141.°27E, h0km, mb3.7/4, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=42.4km s-min=23.0km az=85.0*
*JMA **29** 23:27:58.5±0.3,34.°5N±0.°7×14.°2E±°, h40km±1km, MV3.3/23, FAR SE OFF BOSO PEN*

ISC 29 23:28:00.9±1.6,34.°46N±0.°08×141.°5E±0.°1, h27km, n17, σ1s59/12, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.48**	**294**	*eP*	**Pb**	**23 28 11.7**	**+1.1**
JKUC	**kamogawauchiur**	**1.29**	**303**	*eP*	**Pn**	**23 28 23.5**	**+0.4**
CHOJ	**Chosi**	**1.35**	**337**	*eP*	**Pn**	**23 28 23.0**	**-1.0**
JMKN	**Mikurajimanish**	**1.69**	**251**	*eP*	**Pn**	**23 28 29.1**	**+0.5**
JHJ	**Hachijo jima 2**	**1.96**	**228**	Pn	Pn	23 28 27.6	-4.8
	baz=48,slow=17						
JHJ				Sn	**Sn**	**23 28 53.1**	**-3.0**
	14nm,0.3s,baz=45,slow=23,SNR=1.8						
JOD2	**Odawara 2**	**2.15**	**293**	*eP*	**Pn**	**23 28 35.5**	**+0.6**
MJAR	**Matsushiro Arr**	**3.40**	**309**	Pn	**Pn**	**23 28 52.7**	**+0.5**
	1.0nm,0.3s,baz=136,slow=10,SNR=9.3						
MJAR				Sn	**Sn**	**23 29 28.9**	**-2.8**
	0.1nm,0.3s,baz=138,slow=15,SNR=1.1						
	2.9nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**26.84**	**117**	T	T	00 01 48.2	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**26.85**	**117**	T	T	00 01 51.1	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**26.86**	**117**	T	T	00 01 48.2	
	baz=313						
H11S3	**WAKE ISLAND Hy**	**27.47**	**119**	T	T	00 02 43.4	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**27.47**	**119**	T	T	00 02 42.0	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**27.49**	**119**	T	T	00 02 46.2	
	baz=316						
SONM	**Songino Array**	**29.36**	**308**	P	**P**	**23 34 02.8**	**+1.2**
	0.4nm,0.6s,baz=111,slow=8.3,SNR=2.8						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**43.74**	**314**	P	**P**	**23 36 03.1**	**-0.5**
	0.5nm,0.5s,baz=101,slow=7.5,SNR=2.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**45.59**	**304**	P	**P**	**23 36 19.2**	**+0.6**
	0.9nm,0.6s,baz=84,slow=9.2,SNR=4.3						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**54.53**	**188**	P	**P**	**23 37 26.3**	**-0.2**
	0.4nm,0.4s,baz=3.7,slow=7.6,SNR=1.7						
	0.4nm,0.4s						

*IDC **29** 23:29:23.4±0.7,34.°45N×141.°55E, h0km, mb3.9/18, mbtmp3.9/21, ML3.4/3, Error ellipse: s-maj=17.5km s-min=15.5km az=80.0*
*JMA **29** 23:29:25.6±0.3,34.°5N±0.°8×14.°2E±°, h28km±1km, MV3.4/30, FAR SE OFF BOSO PEN*
*NEIC **29** 23:29:26.1±1.7,34.°41N±0.°05×141.°8E±0.°1, h22km±7km, mb4.5/4, Error ellipse: s-maj=16.2km s-min=6.9km az=103.0*

ISC 29 23:29:25.9±2.0,34.°44N±0.°04×141.°66E±0.°07, h17km±11km, n49, σ0s98/49, mb4.0/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.60**	**291**	*eP*	**Pg**	**23 29 37.5**	**0.0**
JKUC	**kamogawauchiur**	**1.39**	**301**	*eP*	**Pn**	**23 29 50.1**	**-0.5**
JKUC				*eS*	**Sn**	**23 30 07.6**	**-1.0**
CHOJ	**Chosi**	**1.42**	**333**	*eP*	**Pn**	**23 29 50.0**	**-0.9**
CHOJ				*eS*	**Sn**	**23 30 07.6**	**-1.5**
JMKN	**Mikurajimanish**	**1.80**	**253**	*eP*	**Pn**	**23 29 56.1**	**-0.1**
JMKN				*eS*	**Sn**	**23 30 17.8**	**-0.8**
JHJ2	**Mitsune**	**2.03**	**230**		**Pn**	**23 29 59.0**	**-0.4**
JHJ2	**Mitsune**	**2.03**	**230**	*eP*	**Pn**	**23 30 00.3**	**+1.0**
JHJ	**Hachijo jima 2**	**2.04**	**230**	Pn	**Pn**	**23 29 59.1**	**-0.5**
	25nm,0.3s,baz=73,slow=19,SNR=2.1						
JHJ				Sn	**Sn**	**23 30 24.4**	**-0.2**
	70nm,0.3s,baz=64,slow=22,SNR=8.0						
JYT	**Yasato**	**2.14**	**327**	Pn	**Pn**	**23 30 00.9**	**0.0**
JYT					**Sn**	**23 30 27.6**	**+0.5**
JOD2	**Odawara 2**	**2.26**	**292**	*eP*	**Pn**	**23 30 02.1**	**-0.5**
JMM	**Marumori**	**3.48**	**349**	Pn	**Pn**	**23 30 18.8**	**-0.6**
MJAR	**Matsushiro Arr**	**3.50**	**308**	Pn	**Pn**	**23 30 19.6**	**-0.1**
	1.1nm,0.3s,baz=151,slow=12,SNR=9.6						
MJAR				Sn	**Sn**	**23 31 01.1**	**+0.3**
	0.4nm,0.3s,baz=89,slow=12,SNR=4.0						
	5.5nm,0.4s						
MAJO	**Matsushiro**	**3.51**	**308**	Pn	**Pn**	**23 30 20.7**	**+1.0**
MJB9	**Matsu-Tunnel**	**3.51**	**308**		**Pn**	**23 30 20.6**	**+0.8**
JGF	**Kuroka**	**3.71**	**289**	Pn	**Pn**	**23 30 24.5**	**+1.9**
JSD	**Saito**	**4.51**	**324**		**Pn**	**23 30 33.1**	**-0.4**
JTM	**Tenmabayashi**	**6.35**	**356**	Pn	**Pn**	**23 30 58.7**	**0.0**
JMN	**Monobe**	**6.49**	**266**	Pn	**Pn**	**23 31 01.9**	**+1.1**
JCJ	**Chichijima**	**7.34**	**176**	Pn	**Pn**	**23 31 12.7**	**+0.3**
	5.4nm,0.3s,baz=285,slow=22,SNR=1.8						
JCJ				Sn	**Sn**	**23 32 32.2**	**-3.0**
	5.0nm,0.3s,baz=284,slow=23,SNR=2.2						
	24nm,0.4s						
KSRS	**Korea Array**	**11.53**	**289**	Pn	**Pn**	**23 32 09.8**	**+0.1**
	0.1nm,0.3s,baz=106,slow=15,SNR=5.5						
	2.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**26.73**	**117**	T	T	00 03 13.1	
	baz=304						
H11N1	**WAKE ISLAND Hy**	**26.74**	**117**	T	T	00 03 11.0	
	baz=304						
H11N3	**WAKE ISLAND Hy**	**26.75**	**117**	T	T	00 03 13.7	
	baz=304						
H11S3	**WAKE ISLAND Hy**	**27.36**	**119**	T	T	00 04 03.5	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**27.36**	**119**	T	T	00 04 07.4	
	baz=310						
H11S2	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	00 04 04.0	
	baz=310						
SONM	**Songino Array**	**29.46**	**308**	P	**P**	**23 35 29.3**	**+0.3**
	0.5nm,0.6s,baz=46,slow=4.2,SNR=3.1						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.10**	**258**	P	**P**	**23 37 07.7**	**-1.4**
	1.0nm,0.3s,baz=44,slow=7.8,SNR=5.3						
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**43.83**	**314**	P	**P**	**23 37 29.6**	**-1.3**
	1.3nm,0.6s,baz=89,slow=7.7,SNR=4.5						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**45.70**	**304**	P	**P**	**23 37 44.3**	**-1.6**
	1.5nm,0.6s,baz=72,slow=12,SNR=3.7						
	1.5nm,0.6s						
KURK	**Kurchatov**	**47.71**	**310**	P	**P**	**23 38 01.5**	**0.0**
KURK				IAmb	IAmb	23 38 06.2	
	comp=Z,3.5nm,0.8s						
KURBB	**Kurchatov Arra**	**47.78**	**310**	P	**P**	**23 38 01.4**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=86,slow=7.5,SNR=8.9						
	comp=Z,1.6nm,0.6s						
ILAR	**Eielson Array**	**51.59**	**31**	P	**P**	**23 38 32.3**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=267,slow=6.7,SNR=5.0						
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**52.48**	**314**	P	**P**	**23 38 37.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=114,slow=11,SNR=4.6						
	comp=Z,0.2nm,0.4s						
WB0	**Warramunga Arr**	**54.35**	**188**	P	**P**	**23 38 50.3**	**-1.4**
WRA	**Warramunga Arr**	**54.53**	**188**	P	**P**	**23 38 53.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=3.2,slow=7.6,SNR=8.0						
	comp=Z,1.0nm,0.5s						
CHGR	**Chuyangaron**	**56.98**	**297**	P	**P**	**23 39 10.9**	**+0.2**
ASAR	**Alice Springs**	**58.26**	**188**	P	**P**	**23 39 19.8**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=14,slow=12,SNR=5.9						
	comp=Z,0.8nm,0.7s						
ARU	**Arti**	**58.44**	**320**	P	**P**	**23 39 20.2**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=42,slow=5.5,SNR=6.2						
	comp=Z,2.8nm,0.5s						
ABKAR	**Akbulak array**	**59.77**	**311**	P	**P**	**23 39 30.0**	**+0.1**
ABKAR				IAmb	IAmb	23 39 30.4	
	comp=Z,2.4nm,0.5s						
AKTO	**Aktyubinsk**	**60.57**	**313**	P	**P**	**23 39 34.3**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=60,slow=16,SNR=4.6						
	comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**71.20**	**333**	P	**P**	**23 40 44.0**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=59,slow=6.7,SNR=2.5						
	comp=Z,4.7nm,0.9s						
KBZ	**Khabaz**	**72.75**	**311**	P	**P**	**23 40 54.1**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=72,slow=3.2,SNR=2.6						
	comp=Z,1.9nm,0.8s						
NVAR	**Mina Array Bea**	**76.39**	**53**	P	**P**	**23 41 14.8**	**0.0**
	comp=Z,0.6nm,0.8s,baz=262,slow=6.3,SNR=2.3						
	comp=Z,0.6nm,0.8s						
AKASG	**Malin Array Be**	**76.47**	**323**	P	**P**	**23 41 13.9**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=45,slow=6.0,SNR=4.4						
	comp=Z,0.8nm,0.5s						
NOA	**NORSAR Array B**	**76.65**	**338**	P	**P**	**23 41 15.5**	**0.0**
	comp=Z,0.7nm,0.7s,baz=40,slow=5.5,SNR=3.2						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**79.34**	**45**	P	**P**	**23 41 32.5**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=330,slow=5.3,SNR=2.0						
	comp=Z,0.4nm,0.8s						
GC02	**Grant County #**	**90.00**	**44**	P	P	23 42 20.7	-4.0
TXAR	**Lajitas Array**	**91.54**	**53**	P	**P**	**23 42 33.5**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=316,slow=2.5,SNR=1.8						
	comp=Z,0.2nm,0.7s						
LPAZ	**La Paz**	**147.75**	**63**	PKPbc	**PKPdf**	**23 49 09.5**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=338,slow=5.4,SNR=2.3						

*HEL **29** 23:30:09.6,67.°79N×20.°17E, h0km, ML1.8, Explosion*

UPP 29 23:30:09.8±0.0,67.°83N×20.°21E, h0km, ML2.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	23 30 12.7	+0.3
KUA				S	Sg	23 30 14.7	+0.4
KUA	**Kurravaara**	**0.14**	**20**	*i* P	Pg	23 30 12.7	+0.3
KUA				*i* S	Sg	23 30 14.7	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 30 14.5	+0.2
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	23 30 14.5	+0.2
KOVU	**Salmi**	**0.40**	**357**	P	Pg	23 30 17.5	+0.1
KOVU	**Salmi**	**0.40**	**357**	*i* P	Pg	23 30 17.5	+0.1
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	23 30 18.4	+0.1
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	23 30 18.4	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 30 23.3	0.0
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	23 30 23.1	-0.2
LANU				*e*S	Sg	23 30 32.5	0.0
DUNU	**Dundret**	**0.72**	**169**	P	Pg	23 30 23.4	-0.2
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	23 30 23.4	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 30 24.8	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 30 24.8	-0.2
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	23 30 33.1	+0.3
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pb	23 30 33.2	-0.3
KIF				MSG		23 30 48.5	
	comp=Z,9.7nm,0.2s						
KIF				*e*S	Sg	23 30 48.8	+0.3
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23 30 35.2	-1.0
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 30 35.2	-1.0
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	23 30 36.0	-0.8
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	23 30 35.9	-0.9
HEF				MSG		23 30 53.1	
	comp=Z,6.2nm,0.2s						
HEF				*e*SB	Sg	23 30 54.6	-0.7
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	23 30 37.1	-0.7
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*PG	Pn	23 30 37.1	-0.7
ERTU				*e*SN	Sn	23 30 58.3	+0.4
KLF	**Kolari**	**1.56**	**111**	*e*PG	Pn	23 30 38.3	-0.4
KLF				*e*SN	Sg	23 30 59.8	0.0
KTK1	**Kautokeino**	**1.64**	**42**	*e*PG	Pn	23 30 39.7	-0.1
KTK1				*e*SN	Sb	23 31 01.9	0.0
HARU	**Harads**	**1.70**	**169**	P	Pn	23 30 40.7	+0.1
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	23 30 40.7	+0.1
TRO	**Tromso**	**1.88**	**346**	*e*PN	Pn	23 30 43.8	+0.8
TRO				*e*SG	Sb	23 31 08.7	-0.1
KALU	**Kalix**	**2.33**	**146**	*e*PB	Pn	23 30 50.4	+1.1
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	23 30 51.5	+1.4
TOF				MSG		23 31 19.8	

H11N3	WAKE ISLAND Hy baz=310	26.79	117	T	T	00 07 51.1	
H11S1	WAKE ISLAND Hy baz=312	27.40	119	T	T	00 08 41.5	
H11S3	WAKE ISLAND Hy baz=312	27.40	119	T	T	00 08 40.2	
H11S2	WAKE ISLAND Hy baz=312	27.41	119	T	T	00 08 47.5	
MKAR	Makanchi Array 0.6nm,0.8s,baz=86,slow=9.1,SNR=2.9 0.6nm,0.8s	45.66	304	P	P	23 42 27.1	+1.7
KURBB	Kurchatov Arra 0.3nm,0.4s,baz=82,slow=7.9,SNR=2.6 0.3nm,0.4s	47.74	310	P	P	23 42 40.6	-1.1
WRA	Warramunga Arr 0.6nm,1.0s,baz=4.4,slow=7.5,SNR=2.1 0.6nm,1.0s	54.56	188	P	P	23 43 33.2	+0.2

THE 29 23:58:05.5, 38°.72N×20°.62E, h0km±3km, ML1.2/3, Error ellipse: s-maj=3.7km s-min=0.6km az=278.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.05**	**223**	P	Pg	23 58 06.0	-0.4
DRAG				S	Sg	23 58 07.2	+0.2
EVGI	**Lefkada island**	**0.10**	**162**	P	Pg	23 58 07.1	-0.3
EVGI				S	Sg	23 58 09.2	+0.4
	425nm,0.1s						
TSLK	**Tsoukalades, L**	**0.11**	**16**	P	Pg	23 58 07.5	-0.1
TSLK				S	Sg	23 58 09.8	+0.7
	180nm,0.2s						
FSK	**Fiskardo**	**0.26**	**189**	P	Pg	23 58 10.6	+0.1
FSK				S	Sg	23 58 14.9	+1.0
	55nm,0.6s						

ATH 29 23:58:11.0, 37°.92N×22°.59E, h12km±1km, ML2.0/11, Error ellipse: s-maj=1.5km s-min=0.6km az=300.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.13**	**26**	P	Pg	23 58 14.2	0.0
THAL				S	Sg	23 58 16.1	-0.5
THAL				AML	AML	23 58 19.8	
	comp=E,11559μm,0.2s						
THAL				AML	AML	23 58 20.5	
	comp=N,10588μm,0.3s						
GUR	**Goura**	**0.20**	**274**	P	Pg	23 58 15.3	-0.1
GUR				S	Sg	23 58 18.0	-0.4
LOUT	**Loutraki**	**0.31**	**77**	P	Pg	23 58 17.4	+0.1
LOUT				S	Sg	23 58 21.8	+0.3
LOUT				AML	AML	23 58 23.9	
	comp=E,130μm,0.3s						
LOUT				AML	AML	23 58 25.9	
	comp=N,115μm,0.3s						
KLV	**Kalavryta, Ach**	**0.37**	**289**	P	Pg	23 58 18.1	-0.3
KLV				S	Sg	23 58 22.9	-0.5
KLV				AML	AML	23 58 24.5	
	comp=E,474μm,0.3s						
KLV				AML	AML	23 58 24.7	
	comp=N,236μm,0.2s						
EPID	**Epidavros**	**0.52**	**126**	P	Pg	23 58 20.7	-0.5
EPID				S	Sg	23 58 28.0	0.0
LAKA	**Lakka**	**0.58**	**304**	P	Pg	23 58 22.3	0.0
LAKA				S	Sg	23 58 29.8	-0.2
LAKA				AML	AML	23 58 30.7	
	comp=E,206μm,0.4s						
LAKA				AML	AML	23 58 30.9	
	comp=N,236μm,0.2s						
VIL2	**Platees**	**0.61**	**61**	P	Pb	23 58 23.3	-0.3
SERG	**Sergoula**	**0.65**	**320**	P	Pg	23 58 23.5	-0.1
SERG				S	Sg	23 58 32.4	+0.2
SERG				AML	AML	23 58 33.9	
	comp=N,422μm,0.2s						
SERG				AML	AML	23 58 34.0	
	comp=E,385μm,0.2s						
DRO	**Drossia**	**0.70**	**273**	P	Pg	23 58 24.1	-0.4
DRO				S	Sb	23 58 34.3	-0.4
DRO				AML	AML	23 58 37.0	
	comp=N,430μm,0.4s						
DRO				AML	AML	23 58 37.9	
	comp=E,360μm,0.5s						
KRND	**KRANIDI**	**0.70**	**140**	P	Pg	23 58 24.1	-0.4
KRND				S	Sb	23 58 34.2	-0.4
KRND				AML	AML	23 58 37.5	
	comp=N,499μm,0.2s						
KRND				AML	AML	23 58 38.1	
	comp=E,470μm,0.4s						
EFP	**Efpalio**	**0.74**	**313**	P	Pg	23 58 25.2	-0.1
EFP				S	Sb	23 58 35.7	-0.1
EFP				AML	AML	23 58 38.7	
	comp=N,154μm,0.3s						
EFP				AML	AML	23 58 43.9	
	comp=E,186μm,0.4s						
AXAR	**Agios Charalam**	**0.85**	**4**	P	Pg	23 58 26.8	-0.6
ATH	**Athens Observa**	**0.89**	**86**	P	Pb	23 58 28.5	+0.1
ATH				S	Sg	23 58 39.9	+0.1
ATH				AML	AML	23 58 41.4	
	comp=E,186μm,0.2s						
ATH				AML	AML	23 58 42.1	
	comp=N,135μm,0.6s						
RLS	**Riolos of Patr**	**0.90**	**279**	P	Pg	23 58 27.7	-0.7
RLS				S	Sb	23 58 40.7	+0.2
ITM	**Ithomi**	**0.91**	**216**	P	Pg	23 58 27.8	-0.8
ATHU	**Athens Univers**	**0.94**	**87**	P	Pb	23 58 29.3	0.0
ATHU				S	Sg	23 58 41.2	-0.3
VLY	**Voula,Athens**	**0.95**	**94**	P	Pb	23 58 29.5	+0.1
VLY				S	Sb	23 58 42.1	0.0
PTL	**Penteli**	**1.01**	**82**	P	Pg	23 58 30.6	0.0
PTL				S	Sg	23 58 43.0	-0.8
PTL				AML	AML	23 58 44.6	
	comp=N,92μm,0.5s						
PTL				AML	AML	23 58 45.1	
	comp=E,252μm,0.5s						
EVR	**Evrytania**	**1.17**	**328**	P	Pb	23 58 33.1	-0.2
VLI	**Velíai**	**1.23**	**167**	P	Pn	23 58 33.9	-0.1
VLI				S	Sb	23 58 49.8	-0.2
VLI				AML	AML	23 58 52.3	
	comp=N,159μm,0.8s						
VLI				AML	AML	23 58 54.2	
	comp=E,125μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.38**	**59**	P	Pn	23 58 36.1	-0.1
KYMI				S	Sn	23 58 53.8	-0.6
NEO	**Neokhori**	**1.47**	**19**	P	Pn	23 58 37.1	-0.2
KTHA	**Kythira Island**	**1.70**	**167**	P	Pb	23 58 41.5	-0.8

*ISK **30** 00:13:20.4, 37°.59N×36°.24E, h3km, ML2.5/16*
*DDA **30** 00:13:20.8±0.0, 37°.59N×36°.26E, h11km, ML2.7*
ISC 30 00:13:21.0±0.9, 37°.57N±0°.03×36°.25E±0°.03, h10km±7km, n23, σ1°03/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.08**	**86**	P	**Pg**	**00 13 23.4**	**0.0**
ANDN				*i* AML	AML	00 13 25.0	
	comp=E,1μm,0.2s						
ANDN				*i* AML	AML	00 13 25.0	
	comp=N,6μm,0.6s						
ANDN				S	**Sg**	**00 13 25.1**	**-0.1**
KOZT	**Kozan**	**0.35**	**255**	PG	**Pg**	**00 13 27.9**	**0.0**
KOZT				SG	**Sb**	**00 13 33.7**	**-1.1**
SAIM	**ADANA**	**0.42**	**342**	P	**Pg**	**00 13 29.0**	**-0.3**
SAIM				S	**Sb**	**00 13 35.4**	**-1.7**
SAIM				*i* AML	AML	00 13 37.0	
	comp=N,617nm,0.5s						
SAIM				*i* AML	AML	00 13 38.0	
	comp=E,653nm,0.3s						
KMRS	**Kahramanmaras**	**0.52**	**97**	PG	**Pg**	**00 13 31.2**	**0.0**
KMRS				SG	**Sb**	**00 13 39.3**	**-0.6**
HCB	**Kahramanmara**	**0.57**	**113**	P	**Pg**	**00 13 32.2**	**0.0**
HCB				S	**Sg**	**00 13 39.5**	**-0.1**
HCB				*i* AML	AML	00 13 42.0	
	comp=N,140nm,0.1s						
KAHM	**Kahramanmaras,**	**0.59**	**95**	P	**Pg**	**00 13 32.3**	**-0.2**
KAHM				S	**Sb**	**00 13 40.8**	**-1.0**
CEYT	**Ceyhan**	**0.69**	**215**	PG	**Pb**	**00 13 35.1**	**0.0**
SARI	**SarD1z-Kayseri**	**0.84**	**9**	PG	**Pb**	**00 13 37.5**	**-0.3**
KARA	**Karaisali**	**1.00**	**252**	PG	**Pb**	**00 13 40.2**	**-0.2**
CMRD	**Camardi-Nigde**	**1.00**	**275**	PG	**Pg**	**00 13 39.8**	**-0.5**
GZT	**Gaziantep**	**1.07**	**101**	P	**Pg**	**00 13 40.6**	**-0.9**
GZT				S	**Sn**	**00 13 57.2**	**0.0**
GZT				*i* AML	AML	00 13 59.0	
	comp=N,318nm,0.3s						
GZT				*i* AML	AML	00 14 00.0	
	comp=E,193nm,0.5s						
TAHT	**Tahtakopru-Hat**	**1.20**	**182**	PN	**Pn**	**00 13 44.3**	**+0.5**
BNN	**Bunyan**	**1.31**	**346**	PN	**Pn**	**00 13 45.0**	**-0.5**
DARE	**Darende-Malaty**	**1.39**	**44**	PN	**Pg**	**00 13 47.9**	**+0.1**
CUGUR	**Gurin_SVAS**	**1.40**	**35**	P	**Pg**	**00 13 48.7**	**+0.8**
CUGUR				S	**Sg**	**00 14 09.5**	**+3.3**
CUGUR				*i* AML	AML	00 14 12.0	
	comp=N,80nm,0.5s						
CUGUR				*i* AML	AML	00 14 15.0	
	comp=E,88nm,0.6s						
AKCD	**Akcadag**	**1.51**	**61**	P	**Pg**	**00 13 49.8**	**-0.2**
AKCD				S	**Sg**	**00 14 10.6**	**+1.1**
AKCD				*i* AML	AML	00 14 14.0	
	comp=N,130nm,0.2s						
AKCD				*i* AML	AML	00 14 16.0	
	comp=E,91nm,0.2s						
MERS	**Mersin**	**1.55**	**243**	PN	**Pn**	**00 13 49.1**	**+0.4**
GULA	**Gulagac**	**1.77**	**296**	PN	**Pb**	**00 13 53.1**	**-0.4**
KIZK	**Mersin**	**2.01**	**238**	PN	**Pb**	**00 13 56.7**	**-0.8**
YOZ	**Yozgat**	**2.19**	**341**	PN	**Pb**	**00 13 59.2**	**-1.5**
SULT	**Sultanhani-AKS**	**2.25**	**287**	PN	**Pn**	**00 13 59.9**	**+1.6**
KEBE	**Keben-Mersin**	**2.32**	**242**	PN	**Pn**	**00 14 00.7**	**+1.4**
KRMN	**Karaman**	**2.41**	**261**	PN	**Pn**	**00 14 01.8**	**+1.2**

*NEIC **30** 00:39:04.8±2.5, 28°.31S±0°.04×71°.17W±0°.08, h52km±7km, mb4.5/7, ML3.9(GUC), Error ellipse: s-maj=10.7km s-min=5.3km az=94.0*
*GUC **30** 00:39:05.6±0.6, 28°.34S×71°.03W, h66km±3km, ML3.9*
*IDC **30** 00:39:05.6±1.0, 28°.27S×70°.99W, h61km±5km, mb4.4/3, mbtmp4.3/6, MS3.5/1, Error ellipse: s-maj=46.7km s-min=15.2km az=100.0*
ISC 30 00:39:05.0±0.6, 28°.30S±0°.03×71°.16W±0°.06, h60km±4km, n89, σ1°01/103, mb4.5/7, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.12**	**39**		**Pn**	**00 39 15.0**	**+0.8**
AC04				Sn	**Sn**	**00 39 21.9**	**+1.1**
AC04	**Llanos de Chal**	**0.12**	**39**	⇓*i* P	**Pn**	**00 39 15.1**	**+0.8**
AC04				*i* S	**Sn**	**00 39 21.9**	**+1.1**
AC04				IAML		00 39 23.1	
	comp=E,49μm,0.1s						
LCO	**Las Campanas**	**0.81**	**150**	Pn	**Pn**	**00 39 20.8**	**-0.2**
LCO				Sn	**Sn**	**00 39 31.9**	**-0.8**
LCO	**Las Campanas**	**0.81**	**150**	*e*P	**Pn**	**00 39 20.4**	**-0.6**
LCO				*i* S	**Sn**	**00 39 31.0**	**-1.7**
AC05	**El Transito**	**0.94**	**125**		**Pn**	**00 39 21.9**	**-0.6**
AC05				Sn	**Sn**	**00 39 34.0**	**-1.4**
AC05	**El Transito**	**0.94**	**125**	⇑*i* P	**Pn**	**00 39 22.1**	**-0.4**
AC05				*i* S	**Sn**	**00 39 34.2**	**-1.2**
AC05				IAML		00 39 34.9	
	comp=E,3μm,0.1s						
AC06	**Mina Casimiro**	**1.18**	**37**	Pn	**Pn**	**00 39 25.9**	**+0.4**
AC06				Sn	**Sn**	**00 39 41.1**	**+0.3**
AC06	**Mina Casimiro**	**1.18**	**37**	⇑*i* P	**Pn**	**00 39 26.2**	**+0.7**
AC06				*i* S	**Sn**	**00 39 41.0**	**+0.2**
AC06				IAML		00 39 42.1	
	comp=E,3μm,0.1s						
CO05	**La Serena**	**1.61**	**182**		**Pn**	**00 39 31.2**	**0.0**
CO05	**La Serena**	**1.61**	**182**	*e*P	**Pn**	**00 39 31.7**	**+0.5**
CO05				*i* S	**Sn**	**00 39 51.5**	**+0.5**
CO05				IAML		00 39 55.9	
	comp=E,3μm,0.1s						
GO04	**Tololo Observa**	**1.89**	**170**	Pn	**Pn**	**00 39 35.9**	**+0.7**
GO04	**Tololo Observa**	**1.89**	**170**	*e*P	**Pn**	**00 39 35.7**	**+0.4**
GO04				*i* S	**Sn**	**00 39 58.5**	**+0.3**
CO01	**Juntas del Tor**	**1.91**	**151**		**Pn**	**00 39 36.2**	**+0.7**
CO01	**Juntas del Tor**	**1.91**	**151**	⇓*i* P	**Pn**	**00 39 36.5**	**+1.0**
CO01				IAML		00 40 01.0	
	comp=E,1μm,0.2s						
AC01	**Pan de Azucar**	**2.20**	**13**	Pn	**Pn**	**00 39 39.1**	**-0.1**
AC01	**Pan de Azucar**	**2.20**	**13**	⇑*i* P	**Pn**	**00 39 39.1**	**-0.1**
AC01				IAML		00 40 18.4	
	comp=E,1μm,0.4s						
AC02	**Maricunga**	**2.32**	**51**	Pn	**Pn**	**00 39 42.2**	**+0.8**
AC02	**Maricunga**	**2.32**	**51**	⇑*i* P	**Pn**	**00 39 42.3**	**+0.9**
CO06	**Fray Jorge**	**2.40**	**190**	Pn	**Pn**	**00 39 41.6**	**-0.3**
CO06	**Fray Jorge**	**2.40**	**190**	⇓*i* P	**Pn**	**00 39 41.7**	**-0.3**
CO06				IAML		00 40 27.7	
	comp=E,435nm,0.1s						
CO03	**El Pedregal**	**2.56**	**171**		**Pn**	**00 39 44.9**	**+0.7**
CO03	**El Pedregal**	**2.56**	**171**	⇓*i* P	**Pn**	**00 39 44.9**	**+0.7**
CO03				IAML		00 40 29.7	
	comp=N,768nm,0.1s						
CO02	**Combarbal**	**2.90**	**177**		**Pn**	**00 39 48.8**	**0.0**
CO02	**Combarbal**	**2.90**	**177**	⇑*i* P	**Pn**	**00 39 49.0**	**+0.2**
GO02	**Mina Guanaco**	**3.43**	**25**	Pn	**Pn**	**00 39 56.2**	**-0.1**
GO02	**Mina Guanaco**	**3.43**	**25**	⇑*i* P	**Pn**	**00 39 56.2**	**-0.1**
PB14	**IPOC Station P**	**3.72**	**11**	Pn	**Pn**	**00 39 59.1**	**-1.3**
ZON	**Zonda**	**3.88**	**147**		**Pn**	**00 40 03.1**	**+0.8**
VA06	**Catapilco**	**4.25**	**182**		**Pn**	**00 40 06.5**	**-0.7**
VA06	**Catapilco**	**4.25**	**182**	⇑*i* P	**Pn**	**00 40 06.7**	**-0.5**
VA03	**San Esteban**	**4.48**	**173**		**Pn**	**00 40 11.2**	**+0.7**
VA03	**San Esteban**	**4.48**	**173**	*e*P	**Pn**	**00 40 10.7**	**+0.2**
ROCH	**El Roble**	**4.66**	**178**	*e*P	**Pn**	**00 40 12.7**	**-0.3**
ROC1	**El Roble**	**4.66**	**178**		**Pn**	**00 40 12.7**	**-0.4**
VA01	**Torpederas**	**4.72**	**185**	Pn	**Pn**	**00 40 11.9**	**-1.8**
PB10	**IPOC Station P**	**4.80**	**7**	Pn	**Pn**	**00 40 12.8**	**-2.0**
PB10	**IPOC Station P**	**4.80**	**7**	*e*P	**Pn**	**00 40 13.0**	**-1.8**
PEL	**Peldehue**	**4.84**	**175**		**Pn**	**00 40 15.2**	**-0.2**
PEL	**Peldehue**	**4.84**	**175**	*e*P	**Pn**	**00 40 15.6**	**+0.1**
MT02	**Curacav**	**4.94**	**180**		**Pn**	**00 40 15.7**	**-1.0**
MT02	**Curacav**	**4.94**	**180**	*e*P	**Pn**	**00 40 15.7**	**-1.0**
MT05	**Renca**	**5.09**	**176**	Pn	**Pn**	**00 40 18.9**	**+0.1**
MT03	**Universidad Ad**	**5.21**	**174**	Pn	**Pn**	**00 40 20.3**	**-0.2**
PB15	**IPOC Station P**	**5.30**	**17**		**Pn**	**00 40 21.3**	**-0.5**
VA05	**Santo Domingo**	**5.35**	**184**	Pn	**Pn**	**00 40 20.5**	**-1.8**
MT09	**Talagante**	**5.46**	**178**		**Pn**	**00 40 23.3**	**-0.6**
MT01	**Popeta**	**5.54**	**181**		**Pn**	**00 40 23.3**	**-1.7**
LMEL	**Las Melosas**	**5.59**	**172**		**Pn**	**00 40 26.0**	**+0.3**
BO04	**La Punta**	**5.69**	**175**		**Pn**	**00 40 26.5**	**-0.5**
PB06	**IPOC Station P**	**5.75**	**15**	Pn	**Pn**	**00 40 26.6**	**-1.4**
AF01	**San Pedro de A**	**5.97**	**27**	Pn	**Pn**	**00 40 29.8**	**-1.3**
PB04	**IPOC Station P**	**6.01**	**9**	Pn	**Pn**	**00 40 30.3**	**-1.3**
LVC	**Limon Verde**	**6.02**	**20**	P	**Pn**	**00 40 30.7**	**-1.1**
	comp=N,7.3nm,0.3s,baz=202,slow=10,SNR=28						
LVC				S	**Sn**	**00 41 39.3**	**-0.3**
	comp=N,24nm,0.5s,baz=185,slow=11,SNR=6.4						
LVC	**Limon Verde**	**6.02**	**20**	Pn	**Pn**	**00 40 30.6**	**-1.3**
BO01	**Tunca**	**6.07**	**179**		**Pn**	**00 40 31.1**	**-1.1**
BO02	**Sierra Bellavi**	**6.48**	**177**		**Pn**	**00 40 37.0**	**-0.8**
PB07	**IPOC Station P**	**6.65**	**10**	Pn	**Pn**	**00 40 39.4**	**-0.9**
PB09	**IPOC Station P**	**6.71**	**15**	Pn	**Pn**	**00 40 39.9**	**-1.2**
GO05	**Huala**	**6.72**	**185**	Pn	**Pn**	**00 40 38.6**	**-2.5**
PB02	**IPOC Station P**	**7.05**	**10**	Pn	**Pn**	**00 40 43.7**	**-2.0**
PB01	**IPOC Station P**	**7.38**	**12**	Pn	**Pn**	**00 40 47.7**	**-2.6**
H03N1	**Juan Fernandez** baz=56,slow=72,SNR=212	**8.40**	**231**	T	T	00 49 43.9	
H03N2	**Juan Fernandez** baz=56,slow=72,SNR=290	**8.41**	**231**	T	T	00 49 46.5	
H03N3	**Juan Fernandez** baz=56,slow=72,SNR=274	**8.42**	**230**	T	T	00 49 49.2	
VA04	**Juan Fernndez**	**8.46**	**229**	Pn	**Pn**	**00 41 04.2**	**-0.7**
LPAZ	**La Paz**	**12.28**	**14**	P	**Pn**	**00 41 55.5**	**-2.2**
	comp=N,0.6nm,0.4s,baz=196,slow=5.2,SNR=2.9						
LPAZ	**La Paz**	**12.28**	**14**	Pn	**Pn**	**00 41 55.8**	**-2.0**
TRQA	**Tornquist**	**12.39**	**144**	Pn	**Pn**	**00 41 59.0**	**+0.4**
ITQB	**Tornquist**	**12.80**	**100**	Pn	**Pn**	**00 42 04.5**	**+0.3**
SIV	**San Ignacio**	**15.40**	**39**	P	**Pn**	**00 42 37.4**	**-1.3**
	comp=N,0.3nm,0.4s,baz=263,slow=11,SNR=1.9						
SIV				LR	LR	00 47 53.7	
	comp=N,205nm,21.4s,baz=354,slow=35						
PLTB	**Pedras Altas**	**15.59**	**107**	Pn	**Pn**	**00 42 39.8**	**-1.2**
GO09	**Cerro Castillo**	**22.96**	**182**	P	**P**	**00 44 06.4**	**+2.2**
MG05	**Puerto Natales**	**23.37**	**182**	P	**P**	**00 44 09.3**	**+1.2**
MG05				IAmb	IAmb	00 44 19.9	
	comp=Z,10nm,0.9s						
VNA3	**Neumayer Olymp**	**54.38**	**160**	P	**P**	**00 48 26.0**	**+0.7**
VNA2	**Neumayer--Watz** baz=283,slow=6.1	**55.00**	**159**	P	**P**	**00 48 30.5**	**+0.7**
SNAA	**Sanae**	**56.60**	**159**	P	**P**	**00 48 41.9**	**+0.6**
SNAA	**Sanae**	**56.60**	**159**	P	**P**	**00 48 41.6**	**+0.3**
	comp=Z,2.3nm,0.4s,baz=286,slow=9.9,SNR=27						
SNAA				pP	**pP**	**00 48 58.3**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=278,slow=7.1,SNR=2.5 comp=Z,2.3nm,0.4s						
SNAA	**Sanae**	**56.60**	**159**	P	**P**	**00 48 41.9**	**+0.6**
SNAA				IAmb	IAmb	00 48 42.7	
	comp=Z,3.8nm,0.9s						
TROLL	**Troll, Antarti**	**58.31**	**159**	P	**P**	**00 48 54.1**	**+0.6**
QSPA	**South Pole Qui**	**61.92**	**180**	P	**P**	**00 49 19.5**	**+1.3**
QSPA				IAmb	IAmb	00 49 19.9	
	comp=Z,2.5nm,0.6s						
RWWY	**Rawlins**	**77.20**	**333**	P	**P**	**00 50 54.4**	**+1.7**
KOWA	**Kowa**	**77.62**	**66**	P	**P**	**00 50 55.2**	**0.0**
KOWA				IAmb	IAmb	00 50 56.5	
	comp=Z,3.5nm,0.8s						
BCW	**Bitter Crk WRg**	**77.67**	**321**	P	**P**	**00 50 55.0**	**-0.2**
BCW				IAmb	IAmb	00 51 03.2	
	comp=Z,8.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**81.57**	**70**	P	**P**	**00 51 16.4**	**-0.3**
	comp=Z,13nm,0.6s,baz=262,slow=4.7,SNR=8.7						
TORD				pP	**pP**	**00 51 33.3**	**-0.4**
	comp=Z,13nm,0.6s,baz=254,slow=5.0,SNR=4.7 comp=Z,13nm,0.6s						
BOSA	**Boshof**	**82.06**	**118**	P	**P**	**00 51 19.0**	**-0.4**
	comp=Z,5.7nm,1.1s,baz=255,slow=4.8,SNR=6.8 comp=Z,5.7nm,1.1s						
WRA	**Warramunga Arr**	**126.07**	**210**	PKP	**PKiKP**	**00 58 01.4**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=164,slow=1.6,SNR=5.4						
WRA				pPKP	**pPKPdf**	**00 58 18.6**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=163,slow=1.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**148.05**	**37**	PKPbc	**PKPbc**	**00 58 43.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=302,slow=3.2,SNR=4.5						
KURBB				pPKPbc	**pPKPbc**	**00 59 00.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=304,slow=3.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**148.93**	**28**	PKPbc	**PKPbc**	**00 58 45.0**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=293,slow=3.3,SNR=9.9						
ZALV				pPKPbc	**pPKPbc**	**00 59 03.7**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=312,slow=5.2,SNR=5.6						
MKAR	**Makanchi Array**	**152.21**	**41**	PKPbc	**PKiKP**	**00 58 54.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=324,slow=1.2,SNR=6.7						
MKAR				pPKPbc	**sPKPdf**	**00 59 11.4**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=303,slow=1.5,SNR=6.1						

IDC 30 00:40:46.2±11.0, 17°.99S×172°.49W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=345.1km s-min=69.7km az=132.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 3.9nm,0.9s,baz=101,slow=5.2,SNR=1.5 3.9nm,0.9s	**38.98**	**260**	P	P	00 48 15.0	+0.4
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=98,slow=7.8,SNR=7.7 0.2nm,0.3s	**50.15**	**259**	P	P	00 49 43.6	-0.3
ASAR	**Alice Springs** 0.3nm,0.4s,baz=86,slow=8.2,SNR=5.3 0.3nm,0.4s	**50.18**	**254**	P	P	00 49 43.9	-0.2
SONM	**Songimo Array** 0.6nm,0.7s,baz=123,slow=5.3,SNR=2.7 0.6nm,0.7s	**97.34**	**318**	P	P	00 54 21.3	-0.3

*NEIC **30** 00:44:07.3±0.8, 24°.5S±0°.2×180°.0E±0°.1, h515km±17km, mb4.3/14, Error ellipse: s-maj=26.7km s-min=13.9km az=206.0*
*IDC **30** 00:44:07.0±2.4, 24°.49S×179°.73E, h500km±28km, mb3.1/5, mbtmp4.1/7, Error ellipse: s-maj=31.3km s-min=23.7km az=149.0*
ISC 30 00:44:07.6±0.9, 24°.50S±0°.09×179°.9E±0°.1, h517km, n34, σ0°80/35, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.13**	**158**	P	**P**	**00 45 35.4**	**-1.1**
MSVF	**Nonsavu** 6.0nm,0.3s,baz=180,slow=17,SNR=6.5	**6.95**	**346**	P	**P**	**00 45 52.3**	**-1.7**
MSVF	**Nonsavu**	**6.95**	**346**	P	**P**	**00 45 53.5**	**-0.5**
MARNC	**Mare, Loyalty**	**11.30**	**283**	P	**P**	**00 46 38.8**	**0.0**
PINNC	**Pines Island,**	**11.54**	**277**	P	**P**	**00 46 41.6**	**+0.3**
LIFNC	**LIFOU**	**12.23**	**285**	P	**P**	**00 46 48.3**	**-0.2**
DZM	**Mont Dzumac** 7.3nm,0.7s,baz=86,slow=18,SNR=8.0	**12.56**	**278**	P	**P**	**00 46 53.5**	**+1.3**
DZM	**Mont Dzumac**	**12.56**	**278**	P	**P**	**00 46 52.8**	**+0.6**
URZ	**Urewera** 7.6nm,0.5s,baz=22,slow=1.0,SNR=9.8	**13.91**	**189**	P	**P**	**00 47 05.6**	**-0.3**
URZ	4.0nm,0.4s,baz=299,slow=23,SNR=8.0			S	**S**	**00 49 33.0**	**0.0**
BKZ	**Black Stump Fm**	**14.89**	**190**	P	**P**	**00 47 15.6**	**-0.7**
KOUNC	**Koumac, New Ca**	**14.91**	**282**	P	**P**	**00 47 17.1**	**+0.4**
KOUNC				IAmb	IAmb	00 47 35.9	
	comp=Z,11nm,0.8s						
BFZ	**Birch Farm**	**16.41**	**190**	P	**P**	**00 47 30.6**	**-1.3**
MSWZ	**Moikau Station**	**17.30**	**192**	P	**P**	**00 47 39.7**	**-0.8**
QRZ	**Quartz Range**	**17.39**	**199**	P	**P**	**00 47 41.2**	**-0.1**
QRZ				IAmb	IAmb	00 47 43.6	
	comp=Z,14nm,1.0s						
NNZ	**Nelson**	**17.52**	**196**	P	**P**	**00 47 42.2**	**-0.3**
THZ	**Tophouse**	**18.16**	**197**	P	**P**	**00 47 48.6**	**+0.2**
THZ				IAmb	IAmb	00 47 49.5	
	comp=Z,17nm,1.2s						
KHZ	**Kahutara**	**18.61**	**195**	P	**P**	**00 47 51.7**	**-0.8**
CTA	**Charters Tower** comp=Z,4.3nm,0.4s,baz=95,slow=11,SNR=6.2 comp=Z,4.3nm,0.4s	**31.35**	**271**	P	**P**	**00 49 46.2**	**+0.5**
CTAO	**Charters Tower**	**31.35**	**271**	P	**P**	**00 49 46.3**	**+0.6**
CTAO				IAmb	IAmb	00 50 00.1	
	comp=Z,39nm,1.5s						
COEN	**Coen**	**36.09**	**280**	P	**P**	**00 50 26.2**	**+0.6**
COEN				IAmb	IAmb	00 51 07.1	
	comp=Z,6.7nm,1.2s						
ASAR	**Alice Springs** comp=Z,0.4nm,0.5s,baz=96,slow=7.5,SNR=4.8 comp=Z,0.4nm,0.5s	**41.81**	**261**	P	**P**	**00 51 11.7**	**-0.3**
WR0	**Warramunga Arr**	**42.05**	**267**	P	**P**	**00 51 13.2**	**-0.7**
WR0				IAmb	IAmb	00 51 35.4	
	comp=Z,9.4nm,1.5s

BKZ				S		00 53 15.8	-0.8
QRZ	Quartz Range	16.25	200	P	P	00 51 18.8	+1.6
NNZ	Nelson	16.37	197	P	P	00 51 18.1	-0.3
THZ	Tophouse	17.01	198	P	P	00 51 24.9	0.0
LTZ	Lake Taylor	18.13	198	P	P	00 51 34.9	-0.3
EIDS	Eidsvold	25.79	264	P	P	00 52 45.9	+1.5
EIDS				IAmb	IAmb	00 53 23.7	
	comp=Z,24nm,1.4s						
CTA	Charters Tower	31.24	273	P	P	00 53 32.3	+0.3
	comp=Z,5.8nm,0.6s,baz=94,slow=11,SNR=5.9						
	comp=Z,5.8nm,0.6s						
CTAO	Charters Tower	31.24	273	P	P	00 53 32.6	+0.6
CTAO				IAmb	IAmb	00 53 32.9	
	comp=Z,14nm,1.1s						
COEN	Coen	36.14	282	P	P	00 54 13.6	+0.2
COEN				IAmb	IAmb	00 54 14.2	
	comp=Z,4.8nm,0.8s						
ASAR	Alice Springs	41.49	263	P	P	00 54 55.8	-0.9
	comp=Z,2.9nm,0.8s,baz=107,slow=7.7,SNR=17						
	comp=Z,2.9nm,0.8s						
WR0	Warramunga Arr	41.84	268	P	P	00 54 58.9	-0.6
WR0				IAmb	IAmb	00 55 29.7	
	comp=Z,7.9nm,1.3s						
WB2	Warramunga Arr	42.02	268	P	P	00 55 00.4	-0.6
WRA	Warramunga Arr	42.03	268	P	P	00 55 00.1	-0.9
	comp=Z,2.9nm,0.6s,baz=104,slow=7.8,SNR=26						
	comp=Z,2.9nm,0.6s						
WRA	Warramunga Arr	42.03	268	P	P	00 55 00.5	-0.5
WB0	Warramunga Arr	42.03	268	P	P	00 55 00.2	-0.9
WB0				IAmb	IAmb	00 55 01.1	
	comp=Z,3.9nm,0.7s						
KNRA	Kununurra	48.41	271	P	P	00 55 50.0	0.0
KNRA				IAmb	IAmb	00 56 32.2	
	comp=Z,25nm,1.4s						
FITZ	Fitzroy Crossi	50.42	267	P	P	00 56 05.3	+0.4
	comp=Z,2.5nm,0.5s,baz=111,slow=9.3,SNR=14						
	comp=Z,2.5nm,0.5s						
FITZ	Fitzroy Crossi	50.42	267	P	P	00 56 05.1	+0.2
VNDA	Vanda	52.61	185	P	P	00 56 20.4	+0.6
TROLL	Troll, Antarti	82.57	181	P	P	00 59 23.7	+0.3
SNAA	Sanae	82.92	179	P	P	00 59 24.8	-0.3
VNA3	Neumayer Olymp	83.14	177	P	P	00 59 26.0	-0.1
SLBS	Sierra La Lagu	83.93	60	P	P	00 59 31.7	+0.8
SLBS				IAmb	IAmb	00 59 33.8	
	comp=Z,19nm,1.4s						
KMPM	Mount Pierce	83.97	40	P	P	00 59 30.6	-0.1
NVAR	Mina Array Bea	86.22	44	P	P	00 59 41.4	-0.5
	comp=Z,1.1nm,0.7s,baz=225,slow=7.5,SNR=10						
	comp=Z,1.1nm,0.7s						
TPNV	Topopah Spring	86.66	46	P	P	00 59 44.2	+0.3
PINE	Pine Mountain	87.94	39	P	P	00 59 50.3	+0.5
PINE				IAmb	IAmb	00 59 51.3	
	comp=Z,5.0nm,0.8s						
J08A	Circle Bar Ran	89.09	40	P	P	00 59 55.5	+0.5
J08A				IAmb	IAmb	00 59 56.6	
	comp=Z,4.7nm,1.2s						
MTPU	Mount Pierson	89.94	47	P	P	01 00 00.6	+1.1
MTPU				IAmb	IAmb	01 00 01.2	
	comp=Z,2.4nm,0.8s						
TMUT	Trail Mountain	91.26	46	P	P	01 00 06.5	+1.0
TMUT				IAmb	IAmb	01 00 06.9	
	comp=Z,3.0nm,0.7s						
TXAR	Lajitas Array	91.61	58	P	P	01 00 07.5	+0.4
	comp=Z,1.0nm,0.9s,baz=218,slow=6.8,SNR=6.9						
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	93.80	14	P	P	01 00 13.6	-2.6
	comp=Z,0.3nm,0.7s,baz=222,slow=3.5,SNR=2.1						
	comp=Z,0.3nm,0.7s						
NB2	NORSAR Subarra	143.76	351	PKP	PKPab	01 06 28.3	-1.4
	comp=Z,0.2nm,0.5s,baz=6.2,slow=3.3						
NOA	NORSAR Array B	143.76	351	PKP	PKPab	01 06 28.1	-1.6
	comp=Z,0.6nm,0.6s,baz=345,slow=4.1,SNR=3.9						
BRTR	Keskin Array B	148.37	305	PKPbc	PKPbc	01 06 43.2	-0.3
	comp=Z,0.6nm,0.8s,baz=73,slow=3.8,SNR=2.1						
CLL	Collm	152.44	342	*e*PKPbc	PKiKP	01 06 54.0	+1.5

IDC 30 00:47:54.4±5.1, 31°.46N×141°.32E, h85km±65km, mb3.5/3, mbtmp3.8/4, ML2.7/1, Error ellipse: s-maj=260.2km s-min=29.8km az=68.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	5.69	334	P	Pn	00 49 16.0	-0.3
	0.2nm,0.3s,baz=154,slow=11,SNR=7.2						
	1.6nm,0.3s						
MKAR	Makanchi Array	47.20	307	P	P	00 56 17.5	-1.0
	0.5nm,0.8s,baz=101,slow=7.6,SNR=2.6						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	49.51	312	P	P	00 56 36.9	+0.7
	0.5nm,0.2s,baz=84,slow=8.5,SNR=1.9						
	0.5nm,0.2s						
WRA	Warramunga Arr	51.54	188	P	P	00 56 51.7	-0.1
	1.8nm,0.9s,baz=8.5,slow=7.7,SNR=8.0						
	1.8nm,0.9s						

DJA 30 01:13:23.1±1.4, 11°S±11°×11°.7E±°, h10km, M4.0/5, mb4.6/1, MLv3.8/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWSI	Taliwang, Sumb	2.60	358	P	Pn	01 14 04.3	-0.9
PLAI	Plampang	2.62	17	P	Pn	01 14 04.5	-1.1
PLAI				S	Sn	01 14 37.8	+0.3
IGBI	Denpasar	3.10	324	P	Pg	01 14 25.3	+2.7
JAGI	Jajag, Banyuwa	4.00	315	P	Pn	01 14 18.5	-6.0
JAGI				S	Sn	01 15 04.6	-6.9
ABJI	Asem Bagus	4.46	322	P	Pn	01 14 31.5	+0.7
BKSI	Bulukumba	6.74	28	P	Pn	01 15 02.9	+0.7

IDC 30 02:07:38.5±2.7, 5°.68S×106°.25E, h164km±15km, mb3.2/3, mbtmp3.6/3, Error ellipse: s-maj=103.4km s-min=24.0km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	Lembang	1.77	130	P	Pn	02 08 11.2	-1.0
	57nm,0.4s,baz=300,slow=20,SNR=4.7						
LEM				S	Sn	02 08 38.5	+0.4
	78nm,0.6s,baz=319,slow=19,SNR=6.1						
WRA	Warramunga Arr	30.77	120	P	P	02 13 38.8	0.0
	0.2nm,0.3s,baz=294,slow=10,SNR=2.1						
	0.2nm,0.3s						
ASAR	Alice Springs	32.06	127	P	P	02 13 50.0	-0.1
	0.5nm,0.3s,baz=297,slow=7.8,SNR=8.6						
	0.5nm,0.3s						
MKAR	Makanchi Array	56.40	340	P	P	02 17 02.9	+0.1
	0.3nm,0.4s,baz=143,slow=9.4,SNR=5.1						
	0.3nm,0.4s						

*NEIC **30** 03:21:11.1±1.4, 18°.1S±0°.2×178°.5W±0°.2, h592km±9km, mb4.1/67, Error ellipse: s-maj=30.3km s-min=12.8km az=143.0*

*IDC **30** 03:21:12.7±1.4, 17°.93S×178°.58W, h604km±15km, mb3.5/11, mbtmp4.4/13, Error ellipse: s-maj=28.6km s-min=12.6km az=150.0*

ISC 30 03:21:12.2±0.5, 18°.0S±0°.1×178°.53W±0°.08, h600km, n87, σ1§14/69, mb4.0/45, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.27	274	P	P	03 22 34.0	+1.0
	378nm,0.8s,baz=140,slow=4.3,SNR=295						
MSVF				S	S	03 23 43.6	+4.7
	16nm,0.8s,baz=112,slow=23,SNR=0.7						
MSVF	Nonsavu	3.27	274		P	03 22 34.1	+1.0
AFI	Afiamalu	7.67	59	P	P	03 23 01.8	-6.7
	16nm,0.5s,baz=310,slow=22,SNR=3.1						
AFI				S	S	03 24 43.3	-0.5
	16nm,0.4s,baz=58,slow=20,SNR=2.1						
NIUE	Niue	8.23	99	P	P	03 23 16.6	+2.9
DZM	Mont Dzumac	14.69	252	P	P	03 24 18.3	+0.6
	4.2nm,0.8s,baz=112,slow=23,SNR=6.0						
FOZ	Fox Glacier	27.28	199	P	P	03 26 08.5	-1.7
MLZ	Mavora Lakes	29.46	199	P	P	03 26 28.6	-0.5
MLZ				IAmb	IAmb	03 26 45.7	
	comp=Z,8.6nm,1.3s						
PMG	Port Moresby	34.37	280	P	P	03 27 11.3	+0.2
COEN	Coen	36.99	271	P	P	03 27 32.9	+0.2
STKA	Stephens Creek	38.48	241	P	P	03 27 45.0	+0.4
	comp=Z,4.2nm,0.7s,baz=100,slow=12,SNR=4.8						
	comp=Z,4.2nm,0.7s						
BBOO	Buckleboo	43.26	241	P	P	03 28 20.3	-2.0
WB0	Warramunga Arr	44.47	260	P	P	03 28 30.8	-1.0
WB2	Warramunga Arr	44.49	260	P	P	03 28 30.8	-1.2
WRAB	Tennant Creek	44.49	260	P	P	03 28 31.0	-1.0
WRA	Warramunga Arr	44.50	260	P	P	03 28 31.5	-0.5
	comp=Z,4.5nm,0.5s,baz=96,slow=7.2,SNR=207						
WRA				PcP	PcP	03 30 02.0	0.0
	comp=Z,0.2nm,0.4s,baz=94,slow=3.8,SNR=3.4						
	comp=Z,4.5nm,0.5s						
WRA	Warramunga Arr	44.50	260	P	P	03 28 30.9	-1.2
AS31	Alice Springs	44.65	254	P	P	03 28 32.2	-1.0
ASAR	Alice Springs	44.66	254	P	P	03 28 33.3	+0.1
	comp=Z,27nm,0.6s,baz=87,slow=8.6,SNR=303						
ASAR				PcP	PcP	03 30 02.4	-0.2
	comp=Z,0.6nm,0.5s,baz=101,slow=3.8,SNR=2.9						
ASAR				ScP	ScP	03 32 59.8	+1.4
	comp=Z,0.3nm,0.6s,baz=90,slow=5.6,SNR=2.0						
ASAR				S	S	03 34 26.0	-1.2
	comp=Z,0.5nm,0.8s,baz=89,slow=16,SNR=3.7						
	comp=Z,27nm,0.6s						
ASAR	Alice Springs	44.66	254	P	P	03 28 32.7	-0.5
MTN	Manton Dam	48.68	269	P	P	03 29 01.1	-2.4
VNDA	Vanda	60.33	185	P	P	03 30 24.4	+0.6
	comp=Z,0.3nm,0.5s,baz=45,slow=7.1,SNR=2.3						
	comp=Z,0.3nm,0.5s						
MJAR	Matsushiro Arr	67.92	323	P	P	03 31 12.0	-0.3
	comp=Z,2.4nm,0.8s,baz=161,slow=7.2,SNR=5.1						
	comp=Z,2.4nm,0.8s						
ISA	Isabella, Lake	77.97	46	P	P	03 32 09.5	-0.4
ISA				IAmb	IAmb	03 32 10.8	
	comp=Z,7.5nm,1.1s						
CMB	Columbia Colle	77.99	43	P	P	03 32 08.7	-1.2
MDPB	Devils Postpil	78.63	44	P	P	03 32 12.9	-0.7
MDPB				IAmb	IAmb	03 32 14.3	
	comp=Z,4.4nm,0.8s						
OMMB	Old Mammoth Mi	78.67	44	P	P	03 32 13.9	+0.1
WAKR	Walker	78.87	43	P	P	03 32 14.2	-0.6
WAKR				IAmb	IAmb	03 32 15.9	
	comp=Z,6.4nm,0.9s						
BEKR	Beckworth	79.04	42	P	P	03 32 15.7	+0.1
BEKR				IAmb	IAmb	03 32 15.8	
	comp=Z,3.4nm,0.6s						
PNTR	Pine Nut	79.09	43	P	P	03 32 15.8	-0.1
PNTR				IAmb	IAmb	03 32 16.9	
	comp=Z,6.7nm,0.8s						
DSP	Deep Springs	79.23	45	P	P	03 32 16.5	+0.2
LHV	Little Huntoon	79.35	44	P	P	03 32 17.2	+0.2
LHV				IAmb	IAmb	03 32 18.3	
	comp=Z,9.5nm,1.1s						
NVAR	Mina Array Bea	79.58	44	P	P	03 32 18.4	-0.1
	comp=Z,2.3nm,0.7s,baz=223,slow=8.5,SNR=30						
	comp=Z,2.3nm,0.7s						
NV11	Mina Array Sit	79.67	44	P	P	03 32 18.1	-0.8
NV11				IAmb	IAmb	03 32 19.8	
	comp=Z,6.5nm,1.2s						
J04D	Umpqua Nationa	79.93	38	P	P	03 32 19.7	-0.4
KVN	Kaiserville	80.05	43	P	P	03 32 20.3	-0.6
PLTX	Planet X, Gerl	80.08	41		pP	03 34 23.7	-2.3
TPH	Tonopah	80.10	45	P	P	03 32 20.6	-0.6
MOD	Modoc Plateau	80.23	40	P	P	03 32 20.8	-1.0
MOD				IAmb	IAmb	03 32 22.5	
	comp=Z,4.9nm,0.7s						
K05A	Summer Lake	80.35	39	P	P	03 32 22.4	0.0
K05A				IAmb	IAmb	03 32 23.5	
	comp=Z,12nm,1.1s						
S11A	Rachel	80.87	46	IAmb	IAmb	03 32 35.4	
	comp=Z,4.4nm,0.9s						
PINE	Pine Mountain	80.94	38	P	P	03 32 24.5	-0.9
PRN	Pahroc Range	81.23	46	P	P	03 32 26.7	-0.2
PRN				IAmb	IAmb	03 32 28.2	
	comp=Z,6.7nm,0.9s						
BMN	Battle Mountai	81.36	43	IAmb	IAmb	03 32 28.4	
	comp=Z,4.8nm,0.9s						
WVOR	Wild Horse Val	81.56	40	IAmb	IAmb	03 32 29.4	
	comp=Z,5.6nm,1.0s						
TUC	Tucson	81.85	52	P	P	03 32 29.6	-0.6
I07A	Izee	81.96	39	P	P	03 32 29.9	-0.5
I07A				IAmb	IAmb	03 32 31.4	
	comp=Z,4.4nm,0.8s						
LCMT	Little Creek M	82.28	47	IAmb	IAmb	03 32 33.2	
	comp=Z,3.6nm,0.9s						
SPR3	Spring Creek 3	82.52	45	IAmb	IAmb	03 32 34.0	
	comp=Z,2.4nm,0.8s						
KNB	Kanab	82.58	47	IAmb	IAmb	03 32 35.0	
	comp=Z,4.5nm,0.9s						
PSUT	Pine Spring	82.61	46	IAmb	IAmb	03 32 34.7	
	comp=Z,3.0nm,0.7s						
U15A	North Rim	82.67	48	IAmb	IAmb	03 32 35.7	
	comp=Z,7.8nm,0.8s						
SZCU	Shurtz Canyon	82.68	47	IAmb	IAmb	03 32 35.5	
	comp=Z,5.5nm,1.3s						
RAGM	Ragged Mountai	82.78	16		pwP	03 34 40.4	-2.5
ELK	Elko	82.81	43	P	P	03 32 34.2	-0.8
G08A	Pilot Rock	82.96	38	P	P	03 32 34.4	-1.0
G08A				IAmb	IAmb	03 32 36.2	
	comp=Z,10nm,1.4s						
PKCU	Pink Cliffs	83.14	47	IAmb	IAmb	03 32 38.8	
	comp=Z,4.9nm,0.8s						
ISLE	Juniper Island	83.59	17		pP	03 34 41.1	-4.0
MFID	Camas Ranch	83.82	41	P	P	03 32 39.0	-0.8
MFID				IAmb	IAmb	03 32 41.2	
	comp=Z,5.9nm,1.4s						
N25K	Chitina, Valde	83.83	16	IAmb	IAmb	03 32 39.3	
	comp=Z,4.2nm,0.8s						
D08A	Wollman Farm,	83.98	36	P	P	03 32 39.2	-1.1
D08A				IAmb	IAmb	03 32 40.6	
	comp=Z,4.2nm,0.9s						
TRF	Thorofare Moun	84.13	12	IAmb	IAmb	03 32 40.2	
	comp=Z,5.4nm,0.9s						
BARN	Barnard Glacie	84.16	17		pP	03 34 45.6	-2.4
CTGM	Chitina Glacie	84.17	17		pP	03 34 44.4	-3.7
F10A	Beach Ranch, E	84.35	38	IAmb	IAmb	03 32 42.6	
	comp=Z,7.2nm,1.1s						
B08A	Colville Reser	84.49	35	IAmb	IAmb	03 32 42.8	
	comp=Z,3.0nm,0.8s						
HLID	Hailey	84.78	41	IAmb	IAmb	03 32 45.5	
	comp=Z,2.9nm,0.8s						
BCYI	Bear Canyon	85.79	41	P	P	03 32 47.9	-1.5
ILAR	Eielson Array	86.01	13	P	P	03 32 48.2	-1.4
	comp=Z,0.6nm,0.5s,baz=222,slow=5.0,SNR=9.1						
	comp=Z,0.6nm,0.5s						
TXAR	Lajitas Array	86.14	58	P	P	03 32 51.9	+0.6
	comp=Z,4.0nm,0.8s,baz=218,slow=6.0,SNR=52						
	comp=Z,4.0nm,0.8s						
TXAR	Lajitas Array	86.14	58	P	P	03 32 50.8	-0.5
ANMO	Albuquerque	86.25	52	P	P	03 32 50.8	-1.0
REDW	Red Top Meadow	86.94	43	IAmb	IAmb	03 32 55.8	
	comp=Z,4.8nm,1.1s						
SNOW	Snow King Moun	87.05	42	IAmb	IAmb	03 32 57.0	
	comp=Z,4.4nm,0.8s						
IMW	Indian Meadow	87.14	42	IAmb	IAmb	03 32 56.9	
	comp=Z,4.5nm,0.9s						
HHC	Hu-ho-hao-te	87.26	314	*e*P	P	03 32 58.0	+1.7
HHC				pmax	pmax		
	comp=Z,23nm,0.5s						
HHC				pmax	pmax		
	comp=Z,90nm,6.5s						
PD31	Pinedale Array	87.50	43	P	P	03 32 55.9	-1.6
PD31				IAmb	IAmb	03 32 57.4	
	comp=Z,1.9nm,0.8s						
PDAR	Pinedale Array	87.50	43	P	P	03 32 57.1	-0.4
	comp=Z,1.5nm,0.6s,baz=216,slow=3.5,SNR=18						
	comp=Z,1.5nm,0.6s						
KMI	Kunming	87.78	297	⇑P	P	03 32 59.5	+0.3
KMI				pmax	pmax		
	comp=Z,130nm,4.3s						
CMAR	Chiang Mai Arr	88.81	290	P	P	03 33 05.1	+1.2
	comp=Z,1.2nm,0.3s,baz=123,slow=3.3,SNR=4.2						
	comp=Z,1.2nm,0.3s						
PZH	PanZhiHua	89.11	298	P	P	03 33 06.0	+0.8
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,70nm,4.1s						
TROLL	Troll, Antarti	90.20	180	P	P	03 33 08.8	-0.7
VNA3	Neumayer Olymp	90.64	176	P	P	03 33 10.8	-0.6
SONM	Songino Array	93.55	319	P	P	03 33 26.0	+0.8
	comp=Z,0.3nm,0.4s,baz=160,slow=4.6,SNR=1.9						
	comp=Z,0.3nm,0.4s						
BRTR	Keskin Array B	144.77	315	PKP	PKPdf	03 39 40.3	-1.8
	comp=Z,1.2nm,0.8s,baz=66,slow=3.3,SNR=4.9						
BRTR	Keskin Array B	144.77	315	PKPdf	PKPab	03 39 42.5	-1.1
CLL	Collm	145.54	347	*e*PKPbc	PKiKP	03 39 47.0	-0.1
GERES	GERESS Array B	147.68	345	PKPbc	PKPbc	03 39 49.9	-0.5
	comp=Z,0.3nm,0.4s,baz=4.3,slow=3.9,SNR=2.3						

*IDC **30** 03:35:09.6±1.2, 5°.48S×150°.78E, h61km±18km, mb3.5/3, mbtmp3.9/4, Error ellipse: s-maj=53.2km s-min=9.5km az=134.0*

ISC 30 03:35:09.5±1.0, 5°.4S±0°.5×150°.8E±0°.5, h65km, n6, σ0§75/9, mb3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	1.66	48	P	Pn	03 35 35.7	-0.8
	768nm,0.4s,baz=234,slow=1.0,SNR=61						
KRVT				S	Sn	03 35 58.2	+1.2
	502nm,0.4s,baz=217,slow=21,SNR=7.7						
PMG	Port Moresby	5.34	222	P	Pn	03 36 27.0	+0.2
	18nm,0.3s,baz=32,slow=3.8,SNR=8.6						
PMG				S	Sn	03 37 27.1	+0.1
	26nm,0.3s,baz=59,slow=18,SNR=10						
WRA	Warramunga Arr	21.54	226	P	P	03 39 52.8	-0.8
	1.6nm,0.5s,baz=52,slow=10,SNR=7.7						
WRA				PcP	PcP	03 43 54.6	+0.5
	0.3nm,0.7s,baz=38,slow=2.6,SNR=2.1						
	1.6nm,0.5s						
ASAR	Alice Springs	24.36	220	P	P	03 40 21.6	-0.1
	1.2nm,0.6s,baz=56,slow=8.6,SNR=18						
	1.2nm,0.6s						
FITZ	Fitzroy Crossi	27.60	241	P	P	03 40 50.6	-0.3
	1.0nm,0.5s,baz=74,slow=9.2,SNR=2.3						
	1.0nm,0.5s						
TORD	Torodi Ar. Bea	148.57	286	PKPbc	PKPbc	03 54 50.6	+0.4
	14nm,0.6s,baz=72,slow=3.0,SNR=5.2						

IDC 30 03:55:30.5±1.7, 30°.95N×41°.23W, h0km, mb3.7/6, mbtmp3.7/6, MS3.4/24, Error ellipse: s-maj=76.2km s-min=26.7km az=16.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBTS	Babate	27.85	120	LR	LR	04 10 12.0	
	comp=Z,71nm,18.4s,baz=331,slow=32						
MDP	Montagnes des	27.86	205	LR	LR	04 08 49.6	
	comp=Z,32nm,20.6s,baz=168,slow=29						
SCHQ	Schefferville	30.05	330	LR	LR	04 12 54.5	
	comp=Z,66nm,19.1s,baz=175,slow=35						
MDT	Midelt	31.06	77	LR	LR	04 11 19.1	
	comp=Z,41nm,21.5s,baz=306,slow=30						
ESDC	Sonseca Array	31.45	64	LR	LR	04 12 17.4	
	comp=Z,28nm,18.4s,baz=267,slow=32						
SADO	Sadowa	32.65	306	LR	LR	04 13 45.6	
	comp=Z,30nm,19.2s,baz=16,slow=34						
TKL	Tuckaleechee C	35.66	289	LR	LR	04 13 52.0	
	comp=Z,57nm,21.1s,baz=93,slow=31						
FRB	Frobisher Bay	37.08	340	LR	LR	04 16 48.9	
	comp=Z,44nm,18.1s,baz=254,slow=34						
KOWA	Kowa	37.81	107	LR	LR	04 15 58.7	
	comp=Z,49nm,20.6s,baz=304,slow=32						
DBIC	Dimbokro	41.74	118	LR	LR	04 18 19.3	
	comp=Z,45nm,21.8s,baz=334,slow=33						
TORD	Torodi Ar. Bea	43.24	104	P	P	04 03 33.7	-0.1
	3.9nm,1.1s,baz=284,slow=7.3,SNR=4.2						
	3.9nm,1.1s						
H10N2	ASCENSION HYDR	46.29	142	T	T	04 53 24.6	
	baz=328,slow=75,SNR=235						
H10N3	ASCENSION HYDR	46.30	142	T	T	04 53 27.1	
	baz=328,slow=75,SNR=175						
H10N1	ASCENSION HYDR	46.31	142	T	T	04 53 25.7	
	baz=328,slow=75,SNR=187						
TXAR	Lajitas Array	53.38	285	P	P	04 04 52.4	+0.2
	0.2nm,0.7s,baz=96,slow=8.5,SNR=3.5						
TXAR				LR	LR	04 26 08.4	
	comp=Z,20nm,19.7s,baz=76,slow=34						
	0.2nm,0.7s						
ANMO	Albuquerque	54.02	293	LR	LR	04 27 41.8	
	comp=Z,31nm,18.2s,baz=85,slow=36						
PDAR	Pinedale Array	54.56	303	P	P	04 05 00.3	-0.5
	0.8nm,0.8s,baz=77,slow=9.3,SNR=6.0						
PDAR				LR	LR	04 27 27.5	
	comp=Z,45nm,18.6s,baz=86,slow=35						
	0.8nm,0.8s						
NNA	Nana	54.70	224	LR	LR	04 29 22.8	
	comp=Z,13nm,18.2s,baz=350,slow=37						
YKA	Yellowknife Ar	55.44	327	LR	LR	04 27 03.6	
	comp=Z,49nm,21.8s,baz=26,slow=34						
ELK	Elko	59.17	302	LR	LR	04 29 10.6	
	comp=Z,36nm,21.6s,baz=95,slow=34						
NVAR	Mina Array Bea	62.12	300	P	P	04 05 53.7	0.0
	0.5nm,0.7s,baz=74,slow=6.7,SNR=4.8						
	0.5nm,0.7s						
PFO	Pinyon Flats O	62.31	294	LR	LR	04 31 14.2	
	comp=Z,43nm,19.2s,baz=78,slow=34						
DLBC	Dease Lake	63.60	324	LR	LR	04 34 19.3	
	comp=Z,26nm,18.8s,baz=156,slow=37						
YBH	Yreka Blue Hor	64.24	305	LR	LR	04 31 26.8	
	comp=Z,28nm,21.2s,baz=114,slow=34						
ILAR	Eielson Array	68.72	334	P	P	04 06 36.0	+0.2
	1.0nm,0.8s,baz=56,slow=4.1,SNR=4.8						
ILAR				LR	LR	04 34 55.5	
	comp=Z,43nm,18.9s,baz=68,slow=34						
	1.0nm,0.8s						
AKTO	Aktyubinsk	72.23	42	LR	LR	04 36 31.1	
	comp=Z,19nm,18.3s,baz=333,slow=34						
KDAK	Kodiak Island	74.66	329	LR	LR	04 40 42.6	
	comp=Z,39nm,18.2s,baz=114,slow=36						
MBAR	Mbarara	74.89	100	LR	LR	04 39 24.2	
	comp=Z,52nm,18.2s,baz=308,slow=35						
KMBO	Nzilima Mbogo	80.70	97	LR	LR	04 43 35.7	
	comp=Z,29nm,18.2s,baz=252,slow=36						
KURBB	Kurchatov Arra	82.94	34	P	P	04 07 57.2	0.0
	0.3nm,0.5s,baz=311,slow=4.8,SNR=2.3						
	0.3nm,0.5s						

*IDC **30** 04:07:14.8±0.9, 2°.30N×125°.70E, h0km, mb3.8/8, mbtmp3.9/8, Error ellipse: s-maj=79.1km s-min=15.9km az=71.0*

*DJA **30** 04:07:20.3±2.3, 2°.N±3°×12°.6E±°, h19km±21km, M3.9/10, mb4.2/1, MLv3.7/10*

**ISC 30 04:07:22.0±0

MBFL	**Flemmings, Mon**	**2.48**	**210**	*eP*	Pn	04 30 03.3	+2.5
MBFL				*eS*	Sn	04 30 32.0	+2.1
ABD	**La Joyeuse, An**	**2.48**	**193**	*eP*	Pn	04 30 02.5	+1.6
MLYT	**Lee's Yard**	**2.49**	**209**	*e*	Pn	04 30 07.2	+6.2
CBE	**Ff, Capester**	**2.90**	**193**	*eP*	Pn	04 30 08.9	+2.2
MAGL	**Barre de l'ile**	**2.97**	**187**	*eP*	Pn	04 30 09.5	+2.0
TBG	**Guadaloupe-3**	**3.12**	**193**	*eP*	Pn	04 30 11.3	+1.7
TBG				*eS*	Sn	04 30 46.7	+1.0
TDBA	**Terre de Bas,**	**3.12**	**193**	*eP*	Pn	04 30 13.2	+3.6
MDCT	**Cottage Hill,**	**3.32**	**189**	*eP*	Pn	04 30 13.8	+1.4
MDCT				*eS*	Sn	04 30 53.2	+2.6
DSLB	**Salisbury**	**3.49**	**188**	*eP*	Pn	04 30 16.5	+1.8
DSLB				*eS*	Sn	04 30 56.2	+1.4
CDVI	**St. Croix**	**3.83**	**253**	*eP*	Pn	04 30 22.1	+2.7
CDVI				*eS*	Sn	04 31 04.0	+0.8
BAMF	**Morne Balai**	**4.08**	**183**	*eP*	Pn	04 30 25.8	+2.9
GBMF	**Grand Be**	**4.10**	**183**	*eP*	Pn	04 30 25.6	+2.4
FDF	**Fort de France**	**4.16**	**183**	*eP*	Pn	04 30 26.0	+2.0
FDF	**Fort de France**	**4.16**	**183**	*eS*	Sn	04 31 12.1	+0.7
LPMF	**Morne Lapointe**	**4.32**	**181**	*eP*	Pn	04 30 27.3	+1.2
ZAM	**Aeronautique**	**4.32**	**181**	*eP*	Pn	04 30 28.3	+2.3
MVM	**Montagne Vaucl**	**4.33**	**180**	*eP*	Pn	04 30 28.7	+2.4
TRMF	**Trois Ilets**	**4.35**	**182**	*eP*	Pn	04 30 28.3	+1.7
BIM	**Bigot**	**4.37**	**182**	*eP*	Pn	04 30 28.5	+1.6
BIM	**Bigot**	**4.37**	**182**	*eS*	Sn	04 31 17.6	+1.0
MPOM	**Morne Pois Mar**	**4.44**	**179**	*eP*	Pn	04 30 29.0	+1.2
MPOM	**Morne Pois Mar**	**4.44**	**179**	*eS*	Sn	04 31 18.6	+0.3
SLBI	**Saint Lucia, B**	**4.86**	**181**	*eP*	Pn	04 30 35.0	+1.4
SLBI	**Saint Lucia, B**	**4.86**	**181**	*eS*	Sn	04 31 28.1	-0.6
AOPR	**Arecibo Observ**	**5.56**	**265**	*eP*	Pn	04 30 44.4	+1.2
AOPR	**Arecibo Observ**	**5.56**	**265**	*eS*	Sn	04 31 46.4	+0.5

*DDA **30** 04:41:21.3±0.0,36°.13N×27°.84E, h52km±5km, ML2.9*
*ISK **30** 04:41:21.6,36°.15N×27°.81E, h80km±2km, ML2.9/12*
*ATH **30** 04:41:22.7,35°.78N×28°.10E, h58km±9km, ML3.2/3, Error ellipse: s-maj=11.1km s-min=1.4km az=334.0*
*THE **30** 04:41:25.0,35°.72N×28°.09E, h37km±9km, ML3.0/3, Error ellipse: s-maj=9.9km s-min=1.0km az=339.0*
*HLW **30** 04:41:26.2,35°.45N×28°.01E, h19km±19km, Md4.3, Ml4.1*
ISC 30 04:41:20.1±1.2,36°.09N±0°.04×27°.85E±0°.04, h95km±8km, n43,σ1°64/61, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.26**	**60**	P	**Pn**	**04 41 34.6**	**+0.7**
ARG				S	**Sn**	**04 41 43.0**	**-1.2**
	1μm,0.3s						
ARG	**Arkhangelos**	**0.26**	**60**	PG	**Pn**	**04 41 34.4**	**+0.5**
ARG				SG	**Sn**	**04 41 43.4**	**-0.9**
ARG	**Arkhangelos**	**0.26**	**60**	P	**Pn**	**04 41 34.6**	**+0.7**
ARG				S	**Sn**	**04 41 43.0**	**-1.2**
ARG				AML	AML	04 41 43.4	
	comp=N,3391μm,0.6s						
ARG				AML	AML	04 41 45.8	
	comp=E,3211μm,0.3s						
NIS1	**Nisyros Isl.**	**0.75**	**314**	P	Pn	04 41 44.1	+6.6
TURN	**Turunc**	**0.76**	**25**	PG	**Pn**	**04 41 38.3**	**+0.7**
TURN	**Turunc**	**0.76**	**25**	P	**Pn**	**04 41 37.8**	**+0.2**
TURN				S	**Sn**	**04 41 49.0**	**-1.7**
TURN				*i* AML	AML	04 41 50.0	
	comp=E,485nm,0.3s						
KARP	**Karpathos**	**0.77**	**226**	P	**Pn**	**04 41 39.2**	**+1.4**
KARP				S	**Sn**	**04 41 49.9**	**-1.2**
	comp=E,2μm,0.3s						
KARP	**Karpathos**	**0.77**	**226**	PG	**Pn**	**04 41 39.3**	**+1.4**
KARP				SG	**Sn**	**04 41 51.3**	**+0.2**
KARP	**Karpathos**	**0.77**	**226**	P	**Pn**	**04 41 39.2**	**+1.4**
KARP				S	**Sn**	**04 41 51.6**	**+0.5**
KARP				AML	AML	04 41 52.1	
	comp=E,4660μm,0.5s						
KARP				AML	AML	04 41 52.4	
	comp=N,4374μm,0.4s						
DALY	**Dalyan (Mula)**	**0.98**	**41**	PG	**Pn**	**04 41 40.9**	**+1.0**
BDRM	**Kayabasi**	**1.03**	**342**	P	**Pn**	**04 41 40.5**	**0.0**
BDRM				S	**Sn**	**04 41 54.8**	**-1.0**
BDRM				*i* AML	AML	04 41 55.0	
	comp=N,405nm,0.5s						
BODT	**Bodrum**	**1.06**	**336**	PG	**Pn**	**04 41 41.3**	**+0.4**
YER	**Yerkesik**	**1.10**	**18**	PG	**Pn**	**04 41 42.1**	**+0.7**
FETY	**Fethiye**	**1.14**	**61**	PN	**Pn**	**04 41 41.5**	**-0.3**
MULA	**Mugla, Merkez-**	**1.23**	**18**	P	**Pn**	**04 41 43.6**	**+0.7**
MULA				S	**Sn**	**04 41 58.8**	**-1.2**
KSL	**Kastellorizon**	**1.41**	**87**	P	**Pn**	**04 41 46.5**	**+1.6**
KSL				S	**Sn**	**04 42 01.7**	**-2.0**
	comp=N,528nm,0.5s						
KSL	**Kastellorizon**	**1.41**	**87**	P	**Pn**	**04 41 46.5**	**+1.6**
KSL				S	**Sn**	**04 42 03.7**	**0.0**
KSL				AML	AML	04 42 04.5	
	comp=N,664μm,0.4s						
KSL				AML	AML	04 42 04.9	
	comp=E,1464μm,0.6s						
AKAS	**Kas**	**1.43**	**84**	P	**Pn**	**04 41 45.3**	**0.0**
AKAS				S	**Sn**	**04 42 01.1**	**-3.3**
AKAS				*i* AML	AML	04 42 08.0	
	comp=E,196nm,0.6s						
CAME	**Cameli-Denizli**	**1.45**	**53**	PN	**Pn**	**04 41 47.2**	**+1.6**
DDIM	**Aydin, Didim**	**1.45**	**341**	P	**Pn**	**04 41 46.3**	**+0.9**
DDIM				S	**Sn**	**04 42 03.7**	**-1.0**
DDIM				*i* AML	AML	04 42 05.0	
	comp=E,167nm,0.5s						
AYDN	**Tasoluk**	**1.57**	**1**	P	**Pn**	**04 41 47.5**	**+0.4**
AYDN				S	**Sn**	**04 42 05.2**	**-2.3**
AYDN				*i* AML	AML	04 42 08.0	
	comp=E,146nm,0.4s						
CAEL	**Denizli, Camel**	**1.57**	**48**	P	**Pn**	**04 41 48.5**	**+1.4**
CAEL				S	**Sn**	**04 42 08.7**	**+1.0**
CAEL				*i* AML	AML	04 42 14.0	
	comp=E,150nm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.62**	**32**	P	**Pn**	**04 41 48.4**	**+0.6**
TAVA				S	**Sn**	**04 42 08.2**	**-0.5**
ZKR	**Zakros**	**1.64**	**234**	P	**Pn**	**04 41 50.6**	**+2.7**
ZKR				S	**Sn**	**04 42 10.2**	**+1.2**
ZKR	**Zakros**	**1.64**	**234**	PN	**Pn**	**04 41 50.6**	**+2.7**
GCAM	**G?zelcaml?**	**1.68**	**343**	PN	**Pn**	**04 41 49.5**	**+1.1**
GCAM	**G?zelcaml?**	**1.68**	**343**	P	**Pn**	**04 41 49.0**	**+0.6**
GCAM				S	**Sn**	**04 42 07.5**	**-2.3**
GCAM				*i* AML	AML	04 42 10.0	
	comp=E,99nm,0.5s						
ELL	**Elmali**	**1.79**	**68**	PN	**Pn**	**04 41 52.0**	**+2.1**
GOLH	**Golhisar**	**1.79**	**50**	P	**Pn**	**04 41 51.7**	**+1.8**
APMY	**Acipayam-Deniz**	**1.81**	**40**	PN	**Pn**	**04 41 51.3**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.86**	**1**	PN	**Pn**	**04 41 51.7**	**+0.9**
BUCA	**Burdur, Bucak-**	**2.51**	**60**	P	**Pn**	**04 42 01.4**	**+2.2**
PASA	**Karahalli, USA**	**2.61**	**30**	P	**Pn**	**04 41 59.9**	**-0.7**
SLUM	**Salum**	**5.08**	**206**	P	**Pn**	**04 42 35.1**	**+1.3**
	baz=212						
SLUM				S	**Sn**	**04 43 24.2**	**-7.1**
	baz=212						
SWA2		**7.12**	**197**	P	**Pn**	**04 43 02.7**	**+1.2**
	baz=200						
HSAF	**As Saff**	**7.16**	**153**	P	**Pn**	**04 43 03.3**	**+1.1**
	baz=151						
GLL	**Jalalah**	**7.26**	**152**	P	**Pn**	**04 43 03.9**	**+0.3**
	baz=150						
RYAN	**Fayoum**	**7.28**	**163**	P	**Pn**	**04 43 03.7**	**-0.1**
	baz=162						
SUZ	**Suez**	**7.50**	**145**	P	**Pn**	**04 43 07.2**	**+0.4**
	baz=142						
HFRF	**Wahat Farafira**	**8.92**	**177**	P	**Pn**	**04 43 26.9**	**+0.8**
	baz=178						
HFRF				S	Sn	04 44 54.4	-10
	baz=178						
TR2	**Tor 2**	**9.15**	**145**	P	**Pn**	**04 43 29.2**	**-0.1**
	baz=143						
HKAT	**Jabal Katrina**	**9.16**	**144**	P	**Pn**	**04 43 29.9**	**+0.3**
	baz=142						
HKAT				S	Sn	04 45 01.1	-10
	baz=142						
HHRG	**Al Ghardaqah**	**10.09**	**150**	P	**Pn**	**04 43 44.8**	**+2.7**
	baz=148						

*IDC **30** 04:57:03.2±0.8,30°.71N×142°.03E, h0km, mb3.8/12, mbtmp3.9/15, ML3.4/3, MS3.0/8, Error ellipse: s-maj=25.6km s-min=16.4km az=76.0*
*NEIC **30** 04:57:05.7±1.1,30°.84N±0°.05×142°.0E±0°.1, h10km±1km, mb4.4/14, Error ellipse: s-maj=22.3km s-min=5.6km az=71.0*
*JMA **30** 04:57:08.8±0.7,31°.N±3°×14°.2E±°, h25km, MV4.3/17, NEAR TORISHIMA IS*

*NIED **30** 04:57:08.8,31°.22N×142°.32E, h25km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr1.02; Mθθ-0.55; Mφφ-0.47; Mrθ-2.09; Mθφ0.42; Mφr1.27; Fault plane solution: Mo2.63000×10^15^ NP1: φs140.00000°,δ11.00000°,λ107.00000°. NP2: φs302.00000°,δ79.00000°,λ87.00000°.*
ISC 30 04:57:04.6±0.6,30.74N±0°.06×142°.0E±0°.1, h10km, n55, σ1°37/51, mb4.1/17, MS2.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.00**	**323**	Pn	**Pn**	**04 57 51.6**	**-0.5**
JHJ2	**Mitsune**	**3.00**	**323**	*eS*	**Sn**	**04 58 27.7**	**-0.5**
JHJ	**Hachijo jima 2**	**3.02**	**322**	Pn	**Pn**	**04 57 51.9**	**-0.5**
	9.5nm,0.3s,baz=55,slow=23,SNR=1.4						
JHJ				Sn	**Sn**	**04 58 26.4**	**-2.3**
	17nm,0.3s,baz=74,slow=19,SNR=1.8						
	113nm,0.5s						
JCJ	**Chichijima**	**3.63**	**177**	Pn	**Pn**	**04 58 02.0**	**+1.1**
	6.7nm,0.3s,baz=288,slow=22,SNR=1.9						
JCJ				Sn	**Sn**	**04 58 39.2**	**-4.6**
	20nm,0.3s,baz=275,slow=22,SNR=2.9						
	44nm,0.5s						
JCJ	**Chichijima**	**3.63**	**177**	Pn	**Pn**	**04 58 02.7**	**+1.8**
JMKN	**Mikurajimanish**	**3.74**	**328**	*eP*	**Pn**	**04 58 03.6**	**+1.2**
BSO1	**Boso 1**	**4.00**	**348**	*eP*	**Pn**	**04 58 05.1**	**-0.3**
BSO3	**Boso 3**	**4.24**	**343**	*eP*	**Pn**	**04 58 08.9**	**-0.1**
JHU	**Hanno**	**5.58**	**337**	*eP*	**Pn**	**04 58 28.1**	**+0.5**
JRY	**Ryogami san**	**5.86**	**335**	P	**Pn**	**04 58 33.0**	**+1.4**
JAG	**Ashikaga**	**6.05**	**340**	*eP*	**Pn**	**04 58 34.1**	**0.0**
MJAR	**Matsushiro Arr**	**6.59**	**333**	Pn	**Pn**	**04 58 42.6**	**+1.1**
	0.5nm,0.3s,baz=153,slow=11,SNR=12						
MJAR				Sn	**Sn**	**04 59 50.4**	**-6.3**
	baz=225,slow=9.6						
MJAR				LR	LR	05 01 28.5	
	comp=Z,140nm,18.1s,baz=180,slow=40						
	3.5nm,0.4s						
MAJO	**Matsushiro**	**6.59**	**333**		**Pn**	**04 58 41.6**	**+0.1**
MJB9	**Matsu-Tunnel**	**6.59**	**333**		**Pn**	**04 58 41.6**	**0.0**
JMM	**Marumori**	**7.18**	**352**		**Pn**	**04 58 48.1**	**-1.5**
JOW	**Kunigami**	**12.63**	**255**	LR	LR	05 04 53.2	
	comp=Z,56nm,18.2s,baz=190,slow=37						
KSRS	**Korea Array**	**13.43**	**304**	LR	LR	05 05 40.3	
	comp=Z,58nm,18.4s,baz=135,slow=38						
KSAR	**Wonju Array Be**	**13.45**	**304**	Pn	**Pn**	**05 00 15.0**	**-0.5**
INCN	**Inchon**	**14.37**	**302**	Pn	**Pn**	**05 00 28.1**	**0.0**
MDJ	**Mudanjiang**	**16.94**	**328**	Pn	**Pn**	**05 01 00.8**	**-0.9**
GUMO	**Guam**	**17.27**	**170**	LR	LR	05 06 32.8	
	comp=Z,24nm,19.3s,baz=247,slow=33						
KLR	**Kul'dur**	**20.03**	**340**	P	**Pn**	**05 01 39.2**	**-0.1**
	1.0nm,0.5s,baz=172,slow=11,SNR=3.5						
	1.0nm,0.5s						
BJT	**Baijiatuao**	**22.93**	**301**	P	**P**	**05 02 08.5**	**-0.3**
DAV	**Davao City (W)**	**28.12**	**216**	LR	LR	05 12 26.8	
	comp=Z,31nm,21.1s,baz=55,slow=33						
ULN	**Ulaanbaatar**	**31.64**	**313**	P	**P**	**05 03 27.1**	**-0.9**
ULN				IAmb	IAmb	05 03 30.9	
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**32.05**	**312**	P	**P**	**05 03 32.2**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=116,slow=6.8,SNR=8.1						
	comp=Z,1.9nm,1.0s						
SONM	**Songino Array**	**32.05**	**312**	P	**P**	**05 03 31.2**	**-0.3**
SONM				IAmb	IAmb	05 03 34.3	
	comp=Z,5.7nm,1.5s						
SHEM	**Shemya Is, Ala**	**32.09**	**37**	LR	LR	05 18 39.6	
	comp=Z,11nm,18.7s,baz=291,slow=40						
CMAR	**Chiang Mai Arr**	**40.76**	**263**	LR	LR	05 23 26.3	
	comp=Z,22nm,19.8s,baz=65,slow=39						
ZALV	**Zalesovo Beam**	**46.67**	**317**	P	**P**	**05 05 33.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=121,slow=5.6,SNR=2.2						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**46.67**	**317**	P	**P**	**05 05 33.8**	**+0.6**
MK31	**Makanchi Array**	**48.08**	**307**	P	**P**	**05 05 44.5**	**+0.1**
MK31				IAmb	IAmb	05 06 12.5	
	comp=Z,3.2nm,1.2s						
MKAR	**Makanchi Array**	**48.08**	**307**	P	**P**	**05 05 44.0**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=92,slow=11,SNR=6.7						
	comp=Z,1.4nm,0.9s						
MKAR	**Makanchi Array**	**48.08**	**307**	P	**P**	**05 05 45.2**	**+0.9**
KURK	**Kurchatov**	**50.35**	**312**	P	**P**	**05 06 01.5**	**-0.1**
WRA	**Warramunga Arr**	**50.92**	**189**	P	**P**	**05 06 05.8**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=4.9,slow=7.5,SNR=39						
	comp=Z,1.4nm,0.5s						
NEA2	**Nenana**	**53.69**	**30**	P	**P**	**05 06 27.2**	**+1.0**
NEA2				IAmb	IAmb	05 06 40.8	
	comp=Z,4.1nm,1.0s						
AAK	**Ala-Archa**	**54.09**	**303**	LR	LR	05 30 07.0	
	comp=Z,31nm,18.1s,baz=104,slow=37						
ILAR	**Eielson Array**	**54.63**	**30**	P	**P**	**05 06 32.9**	**-0.2**
	comp=Z,1.5nm,1.1s,baz=259,slow=7.0,SNR=5.1						
	comp=Z,1.5nm,1.1s						
AS31	**Alice Springs**	**54.64**	**189**	P	**P**	**05 06 34.8**	**+1.1**
ASAR	**Alice Springs**	**54.64**	**189**	P	**P**	**05 06 33.5**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=351,slow=4.8,SNR=6.8						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**54.64**	**189**	P	**P**	**05 06 34.5**	**+0.8**
MBWA	**Marble Bar**	**55.85**	**205**	P	**P**	**05 06 43.0**	**+0.6**
KK31	**Karatay Array**	**56.86**	**304**	P	**P**	**05 06 50.4**	**+0.9**
KK31				IAmb	IAmb	05 06 51.1	
	comp=Z,6.5nm,1.3s						
KKAR	**Karatay Array**	**56.86**	**304**	P	**P**	**05 06 49.6**	**+0.1**
BCAR	**Beaver Creek A**	**56.91**	**32**	P	**P**	**05 06 49.9**	**+0.4**
NIL	**Nilore**	**57.24**	**292**	P	**P**	**05 06 52.5**	**+0.1**
NIL				IAmb	IAmb	05 07 01.2	
	comp=Z,12nm,1.4s						
ARU	**Arti**	**61.46**	**321**	P	**P**	**05 07 21.9**	**+0.8**
ABKAR	**Akbulak array**	**62.46**	**313**	P	**P**	**05 07 27.7**	**-0.2**
ABKAR				IAmb	IAmb	05 07 41.5	
	comp=Z,2.8nm,0.7s						
FINES	**FINESS Array B**	**74.62**	**333**	P	**P**	**05 08 44.0**	**+0.4**
	comp=Z,7.6nm,1.1s,baz=70,slow=4.9,SNR=3.4						
	comp=Z,7.6nm,1.1s						
NVAR	**Mina Array Bea**	**78.43**	**52**	P	**P**	**05 09 06.4**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=298,slow=6.0,SNR=5.8						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**79.59**	**323**	P	**P**	**05 09 12.9**	**+1.1**
	comp=Z,0.1nm,0.2s,baz=50,slow=5.9,SNR=2.3						
	comp=Z,0.1nm,0.2s						
PDAR	**Pinedale Array**	**81.77**	**45**	P	**P**	**05 09 24.4**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=316,slow=2.5,SNR=3.6						
	comp=Z,0.5nm,0.8s						
RAYN	**Ar Rayn**	**83.53**	**293**	P	**P**	**05 09 33.8**	**+0.6**
TXAR	**Lajitas Array**	**93.57**	**53**	P	**P**	**05 10 20.8**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=303,slow=2.2,SNR=5.4						
	comp=Z,0.5nm,0.8s						

*IDC **30** 04:57:46.3±6.7,59°.53S×160°.73E, h0km, mb4.0/4, mbtmp4.0/5, ML3.4/1, MS3.6/10, Error ellipse: s-maj=335.5km s-min=20.5km az=73.0*
ISC 30 04:57:47.0±5.4,59°.4S±0°.6×16°.1E±°, h10km, n28,σ0°50/10, mb4.0/4, MS3.6/11, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**18.18**	**180**	P	**P**	**05 01 59.3**	**0.0**
	0.1nm,0.3s,baz=345,slow=9.3,SNR=14						
VNDA				LR	LR	05 06 48.6	
	comp=Z,42nm,20.4s,baz=3.5,slow=30						
	2.4nm,0.8s						
STKA	**Stephens Creek**	**30.54**	**326**	LR	LR	05 14 16.8	
	comp=Z,152nm,18.6s,baz=173,slow=32						
QSPA	**South Pole Qui**	**30.67**	**180**	P	**P**	**05 04 01.7**	**+0.3**
	2.9nm,1.0s,baz=344,slow=2.4,SNR=5.0						
QSPA				LR	LR	05 14 51.3	
	comp=Z,57nm,19.7s,baz=36,slow=34						
	2.9nm,1.0s						
DZM	**Mont Dzumac**	**37.51**	**8**	*e*LR	LR	05 13 42.7	
	comp=Z,70nm,22.2s						
DZM	**Mont Dzumac**	**37.51**	**8**	LR	LR	05 17 47.3	
	comp=Z,74nm,19.7s,baz=230,slow=32						
H01W1	**Cape Leeuwin H**	**39.14**	**288**	T	T	05 46 17.5	
	baz=144,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**39.14**	**288**	T	T	05 46 21.2	
	baz=144,slow=76,SNR=24						
H01W3	**Cape Leeuwin H**	**39.15**	**288**	T	T	05 46 21.6	
	baz=144,slow=76,SNR=22						
NWAO	**Narrogin (SRO)**	**39.26**	**293**	LR	LR	05 18 59.1	
	comp=Z,66nm,18.1s,baz=76,slow=33						
MAW	**Mawson**	**40.06**	**216**	LR	LR	05 21 20.0	
	comp=Z,104nm,18.6s,baz=122,slow=36						
ASAR	**Alice Springs**	**40.58**	**320**	P	**P**	**05 05 27.2**	**+0.6**
	2.4nm,0.8s,baz=160,slow=8.6,SNR=15						
	2.4nm,0.8s						
CTA	**Charters Tower**	**40.75**	**338**	LR	LR	05 21 18.2	
	comp=Z,87nm,18.3s,baz=92,slow=35						
WRA	**Warramunga Arr**	**43.92**	**322**	P	**P**	**05 05 53.5**	**-0.4**
	1.3nm,0.8s,baz=161,slow=6.5,SNR=7.9						
WRA				LR	LR	05 21 43.3	
	comp=Z,94nm,18.0s,baz=144,slow=33						
	1.3nm,0.8s						
TROLL	**Troll, Antarti**	**48.02**	**189**	P	**P**	**05 06 25.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**48.64**	**312**	LR	LR	05 23 58.3	
	comp=Z,75nm,21.4s,baz=142,slow=32						
SNAA	**Sanae**	**48.72**	**187**	P	**P**	**05 06 31.1**	**+0.1**
SNAA	**Sanae**	**48.72**	**187**	P	**P**	**05 06 30.2**	**-0.8**
	2.3nm,1.0s,baz=176,slow=8.4,SNR=6.9						
SNAA				LR	LR	05 25 37.0	
	comp=Z,66nm,18.9s,baz=214,slow=34						
	2.3nm,1.0s						
VNA3	**Neumayer Olymp**	**49.46**	**184**	P	**P**	**05 06 36.8**	**+0.1**
TBI	**Tubuai**	**49.84**	**66**	*e*LR	LR	05 19 42.2	
	comp=Z,46nm,25.2s						
TBI	**Tubuai**	**49.84**	**66**	*e*T	T	06 01 12.3	
	18nm,0.3s						
VNA1	**Neumayer--Stat**	**50.00**	**185**	P	**P**	**05 06 41.2**	**+0.5**
PPT2	**Papeete2**	**54.78**	**62**	*e*LR	LR	05 21 58.9	
	comp=Z,65nm,25.5s						
RKT	**Rikitea**	**57.09**	**80**	*e*T	T	06 10 09.6	
	7.7nm,0.2s						
VAH	**Vaihoa**	**57.73**	**63**	*e*T	T	06 10 58.7	
	6.4nm,0.2s						
H08S2	**Diego Garcia H**	**82.83**	**267**	T	T	06 40 52.4	
	baz=148,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**82.84**	**267**	T	T	06 40 51.0	
	baz=148,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**82.85**	**267**	T	T	06 40 53.9	
	baz=148,slow=76,SNR=14						
AKASG	**Malin Array Be**	**151.74**	**273**	PKPbc	**PKiKP**	**05 17 40.5**	**-0.4**
	0.5nm,0.5s,baz=140,slow=1.3,SNR=1.7						

*NOU **30** 05:05:27.9,37°.17S×179°.60W, h126km, MLv5.0/7, East of North Island, N.Z.*
*WEL **30** 05:05:37.9±1.4,37°.S±4°×17°.9E±°, h14km±6km, M4.1/79, ML4.3/80, MLv4.1/79, Error ellipse: s-maj=0.0km s-min=0.0km az=75.1*
ISC 30 05:05:34.8±2.3,37°.25S±0°.07×179°.4E±0°.1, h10km, n131, σ1°34/134, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.93**	**250**	P	**Pg**	**05 05 53.0**	**+0.2**
MXZ				S	**Sg**	**05 06 01.9**	**-3.0**
WMGZ	**Waiomatatini S**	**0.98**	**234**	P	**Pn**	**05 05 56.4**	**+1.7**
WMGZ				S	**Sn**	**05 06 08.4**	**-0.2**
PUZ	**Puketiti**	**1.23**	**228**	P	**Pn**	**05 06 00.1**	**+1.9**
PUZ				S	**Sg**	**05 06 14.6**	**0.0**
PKGZ	**Pakihiroa**	**1.24**	**238**	P	**Pb**	**05 05 59.4**	**+1.0**
PKGZ				S	**Sg**	**05 06 13.5**	**-1.3**
HAZ	**Te Kaha**	**1.39**	**248**	P	**Pn**	**05 05 59.9**	**-0.4**
HAZ				S	**Sb**	**05 06 17.2**	**-1.5**
RUGZ	**Raukumara Rang**	**1.55**	**242**	P	**Pn**	**05 06 04.0**	**+1.3**
CNGZ	**Carnagh Statio**	**1.56**	**217**	P	**Pb**	**05 06 05.6**	**+1.8**
TKGZ	**Te Karaka**	**1.72**	**226**	P	**Pn**	**05 06 06.4**	**+1.6**
WIZ	**White Island**	**1.79**	**260**	P	**Pn**	**05 06 04.7**	**-1.1**
WSRZ	**White Island S**	**1.80**	**261**	P	**Pn**	**05 06 07.6**	**+1.7**
MWZ	**Matawai**	**1.85**	**233**	P	**Pn**	**05 06 07.9**	**+1.3**
MWZ				S	**Sn**	**05 06 30.5**	**+0.5**
RIGZ	**Rimuhau**	**1.96**	**221**	P	**Pn**	**05 06 09.8**	**+1.6**
RAGZ	**Rawiri**	**2.01**	**231**	P	**Pn**	**05 06 10.4**	**+1.5**
WHRZ	**Whale Island**	**2.03**	**252**	P	**Pn**	**05 06 10.0**	**+0.9**
URZ	**Urewera**	**2.08**	**240**	P	**Pn**	**05 06 11.4**	**+1.6**
URZ	**Urewera**	**2.08**	**240**	P	**Pn**	**05 06 11.1**	**+1.3**
KNZ	**Kokohu**	**2.24**	**217**	P	**Pn**	**05 06 13.3**	**+1.3**
MHGZ	**Mahia Peninsul**	**2.24**	**211**	P	**Pn**	**05 06 14.2**	**+2.2**
SNGZ	**Shannon Statio**	**2.24**	**226**	P	**Pn**	**05 06 13.4**	**+1.3**
EDRZ	**Edgecumbe**	**2.29**	**247**	P	**Pn**	**05 06 13.8**	**+1.1**
MARZ	**Manawahe**	**2.29**	**250**	P	**Pn**	**05 06 13.3**	**+0.6**
OPRZ	**Ohinepanea**	**2.35**	**254**	P	**Pn**	**05 06 13.7**	**+0.2**
RTZ	**Ruatahuna**	**2.36**	**234**	P	**Pn**	**05 06 15.2**	**+1.5**
MUGZ	**Murupara**	**2.42**	**239**	P	**Pn**	**05 06 15.5**	**+1.0**
RAHZ	**Arahi**	**2.48**	**227**	P	**Pn**	**05 06 16.8**	**+1.5**
MKRZ	**Makatiti**	**2.50**	**248**	P	**Pn**	**05 06 17.2**	**+1.6**

PKE	Pukeiti	4.69	244	P	Pn	05 06 48.5 +2.7
KHEZ	Kahui Hut	4.71	243	P	Pn	05 06 48.0 +2.0
TMWZ	Te Maipa	4.73	214	P	Pn	05 06 44.6 -1.6
HOWZ	Holdsworth Sta	4.74	219	P	Pn	05 06 44.7 -1.7
NBEZ	Newall Road No	4.81	243	P	Pn	05 06 50.0 +2.7
NMEZ	Namu Road	4.86	242	P	Pn	05 06 50.0 +2.1
OGWZ	Otaki Gorge	4.86	221	P	Pn	05 06 46.0 -2.0
MTW	Mount Morrison	4.95	217	P	Pn	05 06 47.5 -1.7
KIW	Kapiti Island	5.03	223	P	Pn	05 06 48.4 -2.0
TRWZ	Traveller	5.05	214	P	Pn	05 06 48.2 -2.4
OUZ	Omahuta	5.12	292	P	Pn	05 06 52.2 +0.7
OUZ	Omahuta	5.12	292	P	Pn	05 06 52.3 +0.8
CAW	Cannon Point	5.12	220	P	Pn	05 06 49.5 -2.2
PAWZ	Paruwai Farm	5.16	216	P	Pn	05 06 50.3 -1.8
MSWZ	Moikau Station	5.27	216	P	Pn	05 06 51.3 -2.3
TKNZ	Takaka Hill	6.28	231	P	Pn	05 07 06.0 -1.6
QRZ	Quartz Range	6.44	234	P	Pn	05 07 08.6 -1.1
KHZ	Kahutara	6.86	219	P	Pn	05 07 13.2 -2.2
CTZ	Chatham Island	7.15	156	P	Pn	05 07 25.5 +6.1
ODZ	Otahua Downs	10.21	218	P	Pn	05 07 58.2 -3.2
WHZ	Wether Hill Ro	12.17	221	P	Pn	05 08 28.9 +0.7

MOS ***30*** *05:19:22.3±1.1, 43.˚72N×146.˚14E, h86km, mb3.9/2, Error ellipse: s-maj=17.8km s-min=11.3km az=75.6*

SKHL ***30*** *05:19:22.4±0.4, 43.˚60N×146.˚40E, h87km±3km, mb4.9/3, msha6.3/2*

IDC ***30*** *05:19:22.8±5.1, 43.˚82N×146.˚18E, h78km±47km, mb3.4/10, mbtmp3.7/11, ML2.6/1, Error ellipse: s-maj=24.6km s-min=22.8km az=45.0*

JMA ***30*** *05:19:23.2±0.2, 43.˚7N±0.˚6×14.˚6E±.˚, h75km±1km, MV3.8/35, NEAR KUNASHIRI ISLAND*

NIED ***30*** *05:19:23.2, 43.˚68N×146.˚31E, h75km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr-3.32; Mθθ3.73; Mφφ-0.41; Mrθ-2.15; Mθφ-0.10; Mφr-2.88; Fault plane solution: M0 4.97000×1014 NP1: φ=293.00000°, δ34.00000°, λ-42.00000°. NP2:φ=60.00000°, δ68.00000°, λ-117.00000°.*

ISC 30 05:19:22.7±0.7, 43.˚68N±0.˚05×146.˚37E±0.˚06, h76km±6km, n47, σ1§16/57, mb3.6/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.51**	**314**	*e*PN	**Pn**	**05 19 36.0**	**-0.1**
YUK				*e*S	**Sn**	**05 19 45.0**	**-1.0**
YUK				pmax	pmax		
	comp=N,774nm,0.1s						
YUK				pmax	pmax		
	comp=E,844nm,0.1s						
YUK				pmax	pmax		
	comp=Z,248nm,0.1s						
YUK				smax	smax		
	comp=E,11μm,0.4s						
YUK				smax	smax		
	comp=N,10μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.51**	**314**	*e*P	**Pn**	**05 19 35.7**	**-0.4**
YUK				AMB	AMB	05 19 36.4	
	comp=N,1μm,0.3s						
YUK				*e*S	**Sn**	**05 19 45.5**	**-0.5**
YUK				A	A	05 19 45.9	
	comp=N,9μm,0.3s						
YUK				A	A	05 19 45.9	
	comp=N,11μm,0.3s						
NEM2	**Nemuro 2**	**0.56**	**235**	*e*P	**Pn**	**05 19 36.8**	**+0.3**
NEM2				*e*S	**Sn**	**05 19 46.7**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.56**	**236**	*e*PN	**Pn**	**05 19 36.7**	**+0.1**
NMR				*e*S	**Sn**	**05 19 46.8**	**0.0**
NMR	**Nemuro--Hokkai**	**0.56**	**236**	*e*P	**Pn**	**05 19 36.7**	**+0.1**
NMR				*e*S	**Sn**	**05 19 46.8**	**0.0**
RUSJ	**Misakicho**	**0.92**	**298**	*e*PN	**Pn**	**05 19 40.5**	**+0.1**
RUSJ				*e*S	**Sn**	**05 19 53.4**	**-0.2**
JRA	**Rausu**	**0.94**	**286**	*e*P	**Pn**	**05 19 40.9**	**+0.2**
JRA				*e*S	**Sn**	**05 19 54.1**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.99**	**276**	*e*P	**Pn**	**05 19 41.7**	**+0.3**
JNSB				*e*S	**Sn**	**05 19 55.8**	**+0.5**
JKHN	**Kushirohamanak**	**1.07**	**236**	*e*P	**Pn**	**05 19 42.6**	**+0.3**
JKHN				*e*S	**Sn**	**05 19 57.0**	**+0.1**
JNK	**Nakash**	**1.20**	**266**	*e*P	**Pn**	**05 19 43.7**	**-0.3**
JNK				*e*S	**Sn**	**05 19 59.1**	**-0.8**
AKK	**Akkeshi**	**1.30**	**240**	*e*P	**Pn**	**05 19 45.1**	**-0.1**
JAK	**Akkeshi**	**1.40**	**241**	*e*P	**Pn**	**05 19 46.5**	**0.0**
JAK				*e*S	**Sn**	**05 20 04.1**	**-0.4**
JTKR	**Abashiri--Toko**	**1.81**	**280**	*e*P	**Pn**	**05 19 52.0**	**+0.2**
KUR	**Kuril'sk**	**1.88**	**34**	*c i*PN	**Pn**	**05 19 54.2**	**+1.4**
KUR	**Kuril'sk**	**1.88**	**34**	*i* P	**Pn**	**05 19 54.0**	**+1.2**
KUR				AMB	AMB	05 19 54.7	
	comp=N,110nm,0.3s						
KUR				*i* S	**Sn**	**05 20 17.1**	**+1.3**
KUR				A	A	05 20 19.5	
	comp=N,1μm,0.2s						
KUR				A	A	05 20 19.5	
	comp=N,670nm,0.2s						
JAR	**Ashorobuto**	**1.93**	**259**	*e*P	**Pn**	**05 19 54.1**	**+0.6**
JOB	**Onbets**	**2.01**	**248**	*e*P	**Pn**	**05 19 55.1**	**+0.6**
JOB				*e*S	**Sn**	**05 20 18.9**	**+0.1**
ERM	**Erimo**	**2.89**	**236**	*i* PN	**Pn**	**05 20 08.6**	**+2.2**
YSS	**Yuzh-Sakhalins**	**4.15**	**323**	*e*PN	**Pn**	**05 20 24.1**	**+0.6**
YSS				*e*S	**Sn**	**05 21 11.2**	**+0.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				smax	smax		
	comp=E,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.15**	**323**	*e*P	**Pn**	**05 20 24.7**	**+1.2**
YSS				*e*S	**Sn**	**05 21 11.2**	**+0.5**
UGL	**Uglegorsk**	**6.16**	**333**	*e*P	**Pn**	**05 20 51.9**	**+1.0**
UGL				AMB	AMB	05 21 53.9	
	comp=E,40nm,0.6s						
MJAR	**Matsushiro Arr**	**9.48**	**224**	P	**Pn**	**05 21 36.3**	**-0.1**
	comp=E,0.1nm,0.3s,baz=37,slow=16,SNR=1.6 comp=E,0.8nm,0.3s						
SKR	**Severo-Kuril's**	**9.64**	**40**	*e*P	**Pn**	**05 21 39.1**	**+0.7**
SKR				*e*S	**Sn**	**05 23 22.0**	**-2.9**
PEA0B	**Petropavlovsk-**	**12.05**	**35**	*i* PN	**Pn**	**05 22 15.4**	**+4.2**
PET	**Petropavlovsk**	**12.39**	**37**	*e*P	**Pn**	**05 22 15.1**	**-0.8**
ZEA	**Zeya**	**16.09**	**315**	*e*P	**P**	**05 23 08.2**	**+2.3**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SONM	**Songino Array**	**27.98**	**293**	P	**P**	**05 25 05.1**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=88,slow=8.3,SNR=7.9 comp=Z,1.3nm,0.6s						
SONM	**Songino Array**	**27.98**	**293**	*e*P	**P**	**05 25 05.8**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.43**	**138**	T	T	05 56 16.6	
	baz=329,slow=75,SNR=556						
H11N1	**WAKE ISLAND Hy**	**29.44**	**138**	T	T	05 56 17.6	
	baz=329,slow=75,SNR=377						
H11N3	**WAKE ISLAND Hy**	**29.44**	**138**	T	T	05 56 19.8	
	baz=329,slow=75,SNR=416						
H11S1	**WAKE ISLAND Hy**	**30.38**	**139**	T	T	05 57 29.8	
	baz=330,slow=76,SNR=750						
H11S3	**WAKE ISLAND Hy**	**30.38**	**139**	T	T	05 57 31.1	
	baz=330,slow=76,SNR=548						
H11S2	**WAKE ISLAND Hy**	**30.40**	**139**	T	T	05 57 28.1	
	baz=330,slow=76,SNR=480						
ILAR	**Eielson Array**	**41.88**	**36**	P	**P**	**05 27 05.1**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=257,slow=7.0,SNR=2.5 comp=Z,0.6nm,0.9s						
MKAR	**Makanchi Array**	**44.12**	**297**	P	**P**	**05 27 21.6**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=83,slow=8.7,SNR=6.4 comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**44.12**	**297**	*e*P	**P**	**05 27 23.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.12**	**297**	*e*P	**P**	**05 27 23.1**	**-0.2**
KURK	**Kurchatov**	**45.10**	**304**	P	**P**	**05 27 29.3**	**-1.7**
KURK	**Kurchatov**	**45.10**	**304**	*e*P	**P**	**05 27 29.3**	**-1.7**
KURBB	**Kurchatov Arra**	**45.18**	**304**	P	**P**	**05 27 29.3**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=72,slow=8.8,SNR=5.2 comp=Z,0.6nm,0.5s						
WRA	**Warramunga Arr**	**64.27**	**193**	P	**P**	**05 29 49.9**	**+0.1**
	comp=Z,0.4nm,1.0s,baz=8.4,slow=6.2,SNR=1.8 comp=Z,0.4nm,1.0s						
FINES	**FINESS Array B**	**64.68**	**333**	P	**P**	**05 29 49.6**	**-2.4**
	comp=Z,3.9nm,1.0s,baz=53,slow=7.5,SNR=3.3 comp=Z,3.9nm,1.0s						
ASAR	**Alice Springs**	**67.99**	**192**	P	**P**	**05 30 14.7**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=12,slow=4.7,SNR=2.1 comp=Z,0.4nm,0.8s						
NVAR	**Mina Array Bea**	**68.09**	**57**	P	**P**	**05 30 14.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=281,slow=5.1,SNR=2.1 comp=Z,0.2nm,0.5s						
KBZ	**Khabaz**	**69.42**	**311**	P	**P**	**05 30 22.0**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=45,slow=2.9,SNR=1.9 comp=Z,1.5nm,0.7s						
TXAR	**Lajitas Array**	**83.16**	**56**	P	**P**	**05 31 41.3**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=278,slow=2.5,SNR=3.6 comp=Z,0.1nm,0.5s						

IDC 30 05:25:53.4±2.3, 1.˚66N×126.˚66E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=175.6km s-min=28.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.75**	**161**	P	P	05 30 56.4	-1.0
	0.7nm,0.3s,baz=340,slow=11,SNR=34 0.7nm,0.3s						
ASAR	**Alice Springs**	**26.14**	**165**	P	P	05 31 30.6	+1.1
	0.3nm,0.6s,baz=341,slow=12,SNR=2.3 0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.22**	**326**	P	P	05 35 56.5	-0.1
	0.3nm,0.4s,baz=122,slow=8.5,SNR=2.8 0.3nm,0.4s						

IDC ***30*** *05:27:26.3±0.7, 59.˚55S×160.˚11E, h0km, mb4.5/10, mbtmp4.4/11, ML3.7/1, MS4.2/43, Error ellipse: s-maj=29.5km s-min=17.4km az=75.0*

NEIC ***30*** *05:27:29.7±1.5, 59.˚60S±0.˚09×159.˚5E±0.˚3, h10km±1km, mb5.1/27, Error ellipse: s-maj=23.9km s-min=15.0km az=79.0*

GCMT ***30*** *05:27:33.7±0.1, 59.˚71S±0.˚01×159.˚54E±0.˚02, h24km±1km, MW5.3/127, Moment Tensor Solution. s100,c152; s127,c214; Duration: 1§1 Moment tensor: Scale 1017 Nm; Mrr-0.02±.02; Mθθ-0.70±.02; Mφφ0.71±.02; Mrθ0.10±.03; Mθφ0.72±.02; Mφr-0.00±.03; Best double couple: M0 1.01500×1017 NP1:φ=248.00000°, δ88.00000°, λ-5.00000°. NP2:φ=338.00000°, δ85.00000°, λ-178.00000°. Principal axes: T 1.0220, Plg2.0000°, Azm293.0000°; N -0.0140, Plg84.0000°, Azm43.0000°; P -1.0080, Plg5.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*

ISC 30 05:27:29.1±0.4, 59.˚59S±0.˚05×159.˚5E±0.˚1, h10km, n112, σ1§36/61, mb4.9/23, MS4.2/47, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**5.12**	**356**	Pn	**Pn**	**05 28 43.6**	**-2.1**
PYZ	**Puysegur Point**	**14.11**	**21**	Pn	**Pn**	**05 30 48.4**	**-0.4**
WHZ	**Wether Hill Ro**	**14.62**	**24**	Pn	**Pn**	**05 30 55.7**	**-0.1**
DCZ	**Deep Cove**	**14.87**	**21**		**Pn**	**05 30 59.7**	**+0.5**
MLZ	**Mavora Lakes**	**15.15**	**24**	Pn	**Pn**	**05 31 03.3**	**+0.2**
RPZ	**Rata Peaks**	**17.39**	**29**	P	**P**	**05 31 33.2**	**+0.3**
	41nm,0.7s,baz=167,slow=4.9,SNR=15						
VNDA	**Vanda**	**18.03**	**178**	P	**Pn**	**05 31 37.8**	**-1.5**
	0.2nm,0.3s,baz=352,slow=11,SNR=32						
VNDA				LR	LR	05 36 05.4	
	comp=Z,350nm,20.6s,baz=2.5,slow=29 8.8nm,1.0s						
TAU	**Tasmania Unive**	**18.32**	**330**	P	**Pn**	**05 31 43.1**	**+0.1**
TAU				lAmb	lAmb	05 31 50.7	
	comp=Z,273nm,1.9s						
SBA	**Scott Base**	**18.50**	**175**	P	**Pn**	**05 31 45.1**	**0.0**
CASY	**Casey**	**22.73**	**232**	P	**P**	**05 32 31.1**	**+0.4**
BKZ	**Black Stump Fm**	**23.10**	**35**	P	**P**	**05 32 34.2**	**-0.7**
BKZ				lAmb	lAmb	05 32 48.9	
	comp=Z,140nm,1.9s						
TOO	**Toolangi**	**23.81**	**331**	P	**P**	**05 32 43.0**	**+1.1**
URZ	**Urewera**	**24.12**	**36**	P	**P**	**05 32 41.7**	**-3.0**
	comp=Z,10nm,0.9s,baz=260,slow=3.5,SNR=2.8						
URZ				LR	LR	05 41 37.6	
	comp=Z,587nm,18.2s,baz=300,slow=36 comp=Z,10nm,0.9s						
STKA	**Stephens Creek**	**30.21**	**329**	LR	LR	05 43 58.2	
	comp=Z,1μm,19.2s,baz=158,slow=33						
QSPA	**South Pole Qui**	**30.51**	**180**	LR	LR	05 44 40.4	
	comp=Z,383nm,19.4s,baz=24,slow=34						
QSPA	**South Pole Qui**	**30.51**	**180**	P	**P**	**05 33 40.9**	**-1.2**
QSPA				lAmb	lAmb	05 34 33.5	
	comp=Z,18nm,1.1s						
RAO	**Raoul Island**	**33.99**	**37**	LR	LR	05 46 44.5	
	comp=Z,360nm,21.0s,baz=180,slow=34						
FORT	**Forrest**	**35.73**	**310**	P	**P**	**05 34 28.2**	**+0.5**
FORT				lAmb	lAmb	05 34 29.3	
	comp=Z,39nm,0.8s						
DZM	**Mont Dzumac**	**37.81**	**10**	*e*P	**P**	**05 34 48.0**	**+2.5**
	comp=Z,57nm,25.9s						
DZM				*e*S	**S**	**05 40 38.0**	**+1.7**
	comp=Z,169nm,26.4s						
DZM				*e*LR	LR	05 44 59.8	
	comp=Z,381nm,21.8s						
DZM	**Mont Dzumac**	**37.81**	**10**	P	**P**	**05 34 43.8**	**-1.7**
	comp=Z,5.0nm,0.9s,baz=299,slow=6.3,SNR=3.0						
DZM				LR	LR	05 47 26.7	
	comp=Z,385nm,18.9s,baz=204,slow=32 comp=Z,5.0nm,0.9s						
H01W1	**Cape Leeuwin H**	**38.37**	**290**	T	T	06 15 33.6	
	baz=144,slow=74						
H01W2	**Cape Leeuwin H**	**38.38**	**289**	T	T	06 15 34.6	
	baz=144						
H01W3	**Cape Leeuwin H**	**38.39**	**290**	T	T	06 15 34.7	
	baz=144,slow=74						
NWAO	**Narrogin (SRO)**	**38.54**	**295**	LR	LR	05 46 55.8	
	comp=Z,362nm,21.5s,baz=55,slow=30						
MAW	**Mawson**	**39.41**	**217**	P	**P**	**05 34 58.6**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=132,slow=14,SNR=2.2						
MAW				LR	LR	05 51 08.1	
	comp=Z,837nm,18.4s,baz=114,slow=36 comp=Z,2.5nm,0.8s						
MAW	**Mawson**	**39.41**	**217**	P	**P**	**05 34 58.6**	**+0.2**
MAW	**Mawson**	**39.41**	**217**	P	**P**	**05 34 58.6**	**+0.2**
MAW	**Mawson**	**39.41**	**217**	pmax	pmax		
	comp=Z,4.0nm,1.2s						
ASAR	**Alice Springs**	**40.17**	**322**	P	**P**	**05 35 05.8**	**+0.6**
	comp=Z,12nm,0.9s,baz=160,slow=8.2,SNR=71						
ASAR				LR	LR	05 49 43.1	
	comp=Z,513nm,18.4s,baz=166,slow=33 comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**40.17**	**322**	P	**P**	**05 35 05.5**	**+0.3**
AS31	**Alice Springs**	**40.17**	**322**	P	**P**	**05 35 06.2**	**+1.0**
CTA	**Charters Tower**	**40.60**	**341**	P	**P**	**05 35 06.2**	**-2.5**
	comp=Z,8.0nm,1.1s,baz=239,slow=1.8,SNR=3.4						
CTA				LR	LR	05 47 59.6	
	comp=Z,655nm,19.8s,baz=158,slow=30 comp=Z,8.0nm,1.1s						
BELA	**Belgrano 2**	**42.51**	**176**	P	**P**	**05 35 23.1**	**-0.8**
WRA	**Warramunga Arr**	**43.53**	**324**	P	**P**	**05 35 32.2**	**-0.5**
	comp=Z,6.6nm,0.9s,baz=156,slow=7.0,SNR=29						
WRA				LR	LR	05 50 39.1	
	comp=Z,294nm,21.5s,baz=159,slow=32 comp=Z,6.6nm,0.9s						
WRAB	**Tennant Creek**	**43.54**	**324**	P	**P**	**05 35 32.6**	**-0.2**
WRAB				lAmb	lAmb	05 36 10.4	
	comp=Z,43nm,1.9s						
MSVF	**Nonsavu**	**43.91**	**26**	LR	LR	05 52 28.6	
	comp=Z,165nm,18.0s,baz=172,slow=34						
COEN	**Coen**	**47.14**	**338**	P	**P**	**05 36 01.7**	**+0.4**
COEN				lAmb	lAmb	05 36 16.0	
	comp=Z,18nm,1.2s						
PSA00	**Pilbara Seismi**	**47.23**	**306**	P	**P**	**05 36 02.1**	**+0.1**
PSA00				lAmb	lAmb	05 36 03.1	
	comp=Z,12nm,1.1s						
TROLL	**Troll, Antarti**	**47.72**	**189**	P	**P**	**05 36 04.0**	**-1.4**
RAR	**Rarotonga**	**47.97**	**55**	LR	LR	05 54 04.2	
	comp=Z,133nm,18.9s,baz=204,slow=34						
FITZ	**Fitzroy Crossi**	**48.13**	**315**	P	**P**	**05 36 10.0**	**+1.0**
	comp=Z,11nm,0.8s,baz=166,slow=10.0,SNR=23						
FITZ				LR	LR	05 53 49.6	
	comp=Z,269nm,21.8s,baz=158,slow=33 comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**48.13**	**315**	P	**P**	**05 36 09.1**	**+0.1**
FITZ				lAmb	lAmb	05 36 10.9	
	comp=Z,19nm,0.9s						
SNAA	**Sanae**	**48.45**	**187**	P	**P**	**05 36 09.7**	**-1.3**
SNAA	**Sanae**	**48.45**	**187**	LR	LR	05 55 53.4	
	comp=Z,267nm,19.9s,baz=189,slow=35						
SNAA	**Sanae**	**48.45**	**187**	P	**P**	**05 36 10.0**	**-1.0**
SNAA				lAmb	lAmb	05 36 17.5	
	comp=Z,20nm,1.1s						
VNA3	**Neumayer Olymp**	**49.23**	**185**	P	**P**	**05 36 15.5**	**-1.5**
KNRA	**Kununurra**	**49.29**	**319**	P	**P**	**05 36 18.3**	**+0.3**
KNRA				lAmb	lAmb	05 36 19.0	
	comp=Z,16nm,0.8s						
VNA2	**Neumayer--Watz**	**49.45**	**186**	P	**P**	**05 36 17.4**	**-1.1**
	baz=161,slow=6.6						
VNA1	**Neumayer--Stat**	**49.76**	**185**	P	**P**	**05 36 19.9**	**-1.0**
HNR	**Honiara**	**50.05**	**1**	LR	LR	05 54 41.0	
	comp=Z,3μm,18.9s,baz=178,slow=33						
AFI	**Afiamalu**	**50.28**	**37**	LR	LR	05 56 24.0	
	comp=Z,76nm,19.6s,baz=74,slow=35						
TBI	**Tubuai**	**50.69**	**67**	*e*LR	LR	05 50 59.0	
	comp=Z,244nm,23.2s						
TBI	**Tubuai**	**50.69**	**67**	*e*T	T	06 30 22.7	
	comp=Z,24nm,0.2s						
PMG	**Port Moresby**	**50.94**	**344**	LR	LR	05 54 12.2	
	comp=Z,178nm,21.7s,baz=162,slow=32						
PMSA	**Palmer Station**	**51.69**	**158**	LR	LR	05 54 56.8	
	comp=Z,324nm,18.7s,baz=218,slow=32						
PMSA	**Palmer Station**	**51.69**	**158**	P	**P**	**05 36 36.0**	**+0.6**
PAE	**Paea**	**55.56**	**64**	*e*T	T	06 36 34.4	
	comp=Z,1.8nm,0.3s						
TVO	**Taravao**	**55.60**	**64**	*e*T	T	06 36 28.3	
	comp=Z,2.7nm,0.3s						
PPT2	**Papeete2**	**55.62**	**64**	*e*LR	LR	05 53 15.7	
	comp=Z,209nm,23.8s						
PPT2	**Papeete2**	**55.62**	**64**	*e*T	T	06 36 33.5	
	comp=Z,2.9nm,0.3s						
PPT	**Papeete**	**55.64**	**64**	LR	LR	05 55 53.5	
	comp=Z,151nm,18.1s,baz=224,slow=31						
BATI	**Baumata**	**56.13**	**316**	LR	LR	05 59 50.7	
	comp=Z,269nm,19.8s,baz=169,slow=34						
RKT	**Rikitea**	**57.97**	**81**	*e*T	T	06 39 20.3	
	comp=Z,18nm,0.3s						
VAH	**Vaihoa**	**58.57**	**64**	*e*T	T	06 40 30.7	
	comp=Z,28nm,0.3s						
GO09	**Cerro Castillo**	**61.80**	**146**	P	**P**	**05 37 49.8**	**+2.3**
KAPI	**Kappang**	**62.34**	**314**	LR	LR	06 04 37.2	
	comp=Z,176nm,19.3s,baz=156,slow=36						
SIJI	**Sorong**	**62.55**	**328**	LR	LR	06 04 17.8	
	comp=Z,258nm,19.7s,baz=97,slow=35						
LEM	**Lembang**	**65.59**	**301**	LR	LR	06 02 38.1	
	comp=Z,165nm,21.5s,baz=194,slow=32						
RPN	**Rapa Nui**	**67.57**	**105**	LR	LR	05 59 48.7	
	comp=Z,230nm,19.4s,baz=264,slow=29						
TAOE	**Nuku Hiva Isla**	**67.63**	**68**	*e*LR	LR	05 58 50.5	
	comp=Z,159nm,22.1s						
DAV	**Davao City (W)**	**71.73**	**324**	LR	LR	06 11 55.0	
	comp=Z,104nm,18.3s,baz=170,slow=37						
PLCA	**Paso Flores**	**71.85**	**142**	P	**P**	**05 38 49.9**	**-2.0**
	comp=Z,1.5nm,0.9s,baz=230,slow=9.6,SNR=2.0						
PLCA				LR	LR	06 02 47.3	
	comp=Z,163nm,19.6s,baz=192,slow=30 comp=Z,1.5nm,0.9s						
GUMO	**Guam**	**73.89**	**345**	LR	LR	06 10 28.4	
	comp=Z,51nm,18.1s,baz=192,slow=35						
H03S2	**Juan Fernandez**	**75.19**	**133**	T	T	07 02 34.7	
	baz=204						
H03S1	**Juan Fernandez**	**75.19**	**133**	T	T	07 02 36.3	
	baz=204						
H03S3	**Juan Fernandez**	**75.20**	**133**	T	T	07 02 35.4	
	baz=204						
BO02	**Sierra Bellavi**	**77.19**	**139**	P	**P**	**05 39 24.6**	**+1.6**
BO02				lAmb	lAmb	05 39 28.4	
	comp=Z,30nm,1.4s						
BO04	**La Punta**	**77.98**	**139**	P	**P**	**05 39 28.3**	**+1.0**
BO04				lAmb	lAmb	05 39 36.6	
	comp=Z,20nm,1.2s						
CO01	**Juntas del Tor**	**81.83**	**138**	P	**P**	**05 39 49.9**	**+1.4**
CO01				lAmb	lAmb	05 39 55.1	
	comp=Z,15nm,1.4s						
H08S2	**Diego Garcia H**	**81.96**	**269**	T	T	07 09 55.6	
	baz=149,slow=76,SNR=27						
H08S1	**Diego Garcia H**	**81.97**	**269**	T	T	07 09 56.3	
	baz=149,slow=76,SNR=22						
H08S3	**Diego Garcia H**	**81.98**	**269**	T	T	07 09 57.1	
	baz=149,slow=76,SNR=31						
SUR	**Sutherland**	**82.22**	**214**	LR	LR	06 12 52.1	
	comp=Z,182nm,20.5s,baz=158,slow=33						
BOSA	**Boshof**	**84.38**	**219**	LR	LR	06 11 54.1	
	comp=Z,133nm,21.4s,baz=164,slow=32						
PLTB	**Pedras Altas**	**84.94**	**152**	P	**P**	**05 40 04.4**	**+0.2**
PLTB				lAmb	lAmb	05 40 18.2	
	comp=Z,42nm,1.6s						
JCJ	**Chichijima**	**87.55**	**345**	LR	LR	06 13 58.0	
	comp=Z,63nm,21.5s,baz=110,slow=32						
LBTB	**Lobatse**	**87.61**	**221**	LR	LR	06 13 26.7	
	comp=Z,105nm,22.0s,baz=156,slow=31						
LVC	**Limon Verde**	**89.01**	**136**	LR	LR	06 12 28.9	
	comp=Z,54nm,20.4s,baz=202,slow=30						
LVC	**Limon Verde**	**89.01**	**136**	P	**P**	**05 40 25.8**	**+1.3**
CPUP	**Villa Florida**	**89.17**	**147**	P	**P**	**05 40 23.2**	**-1.5**
	comp=Z,5.3nm,1.0s,baz=210,slow=3.6,SNR=7.3						
CPUP				LR	LR	06 16 41.2	
	comp=Z,195nm,18.3s,baz=207,slow=33 comp=Z,5.3nm,1.0s						
CPUP	**Villa Florida**	**89.17**	**147**	P	**P**	**05 40 26.3**	**+1.6**
CPUP				lAmb	lAmb	05 40 30.6	
	comp=Z,14nm,1.2s						
YHNB	**Yeheng**	**89.62**	**326**	P	**P**	**05 40 27.3**	**+0.6**
JOW	**Kunigami**	**89.88**	**332**	LR	LR	06 19 20.3	
	comp=Z,73nm,20.7s,baz=166,slow=35						
PALK	**Pallekele**	**90.60**	**283**	LR	LR	06 16 06.8	
	comp=Z,105nm,18.1s,baz=250,slow=32						
CMAR	**Chiang Mai Arr**	**91.94**	**304**	P	**P**	**05 40 37.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=183,slow=5.4,SNR=4.3						
CMAR				LR	LR	06 19 25.5	
	comp=Z,107nm,20.0s,baz=175,slow=34 comp=Z,0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**91.94**	**304**	P	**P**	**05 40

0.7nm,0.5s,baz=227,slow=5.3,SNR=13
0.7nm,0.5s

TXAR	**Lajitas Array**	**84.87**	**58**	P		**P**	**05 56 50.9**	**-0.8**
	0.3nm,0.7s,baz=210,slow=3.1,SNR=4.4							
	0.3nm,0.7s							
PDAR	**Pinedale Array**	**85.42**	**44**	P		**P**	**05 56 53.8**	**-0.5**
	0.5nm,0.5s,baz=220,slow=1.8,SNR=7.5							
	0.5nm,0.5s							

*TUL **30** 05:45:36.1±0.3,36°.50N±0°.02×99°.06W±0°.05,h6km±5km, ML3.3,mb_Lg2.9/65(NEIC),Error ellipse: s-maj=5.3km s-min=2.7km az=101.0*
*NEIC **30** 05:45:36.9±0.4,36°.49N±0°.01×99°.06W±0°.05,h4km±6km, Error ellipse: s-maj=5.3km s-min=2.1km az=91.0*
*ANF **30** 05:45:36.4±1.2,36°.50N×99°.06W,h4km±8km,ML3.9/13, Error ellipse: s-maj=6.4km s-min=4.6km az=114.0*

ISC 30 05:45:36.5±1.0,36°.51N±0°.02×99°.05W±0°.03,h6km±8km, n96,σ1§01/78,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
U32A	**Winter Ranch,**	**0.13**	**163**	Pg		**Pg**	**05 45 39.2**	**-0.2**
U32A	**Winter Ranch,**	**0.13**	**163**	P		**Pg**	**05 45 38.9**	**-0.4**
	baz=338,SNR=1000							
NOKA	**Waynoka**	**0.16**	**37**	Pg		**Pg**	**05 45 40.0**	**+0.2**
NOKA				Sg		**Sg**	**05 45 42.9**	**+0.9**
OK038	**West end E0370**	**0.25**	**97**	Pg		**Pg**	**05 45 41.7**	**+0.2**
OK035	**E0210 Rd and N**	**0.34**	**54**	Pg		**Pg**	**05 45 43.2**	**0.0**
OK035				Sg		**Sg**	**05 45 48.4**	**+0.7**
ELIS	**Ellis County**	**0.53**	**214**	Pg		**Pg**	**05 45 46.6**	**-0.2**
OK032	**Salt Plains WL**	**0.74**	**66**	Pg		**Pg**	**05 45 50.5**	**-0.2**
CROK	**Carrier**	**0.86**	**90**	Pg		**Pg**	**05 45 52.7**	**-0.4**
CSTR	**Hydro, Custer**	**0.91**	**161**	Pg		**Pg**	**05 45 53.4**	**-0.6**
CSTR				IAmb_Lg			05 46 04.9	
	comp=Z,7.2nm,0.9s							
GC02	**Grant County #**	**1.02**	**70**	Pg		**Pg**	**05 45 55.5**	**-0.6**
KAN16	**Harper SW Stat**	**1.07**	**48**			**Pg**	**05 45 56.3**	**-0.7**
KAN08	**Anthony NE Sta**	**1.12**	**50**			**Pg**	**05 45 57.3**	**-0.8**
KAN12	**Harper NE Stat**	**1.16**	**47**			**Pg**	**05 45 57.9**	**-0.8**
KAN17	**Caldwell West**	**1.16**	**62**			**Pg**	**05 45 58.1**	**-0.7**
KAN06	**Argonia West S**	**1.21**	**52**			**Pg**	**05 45 58.9**	**-0.8**
KAN01	**Argonia South**	**1.22**	**58**			**Pg**	**05 45 59.2**	**-0.7**
KAN09	**Caldwell North**	**1.31**	**61**			**Pn**	**05 46 00.6**	**-0.8**
KAN13	**South Haven SW**	**1.36**	**68**			**Pn**	**05 46 01.4**	**-0.7**
KS20	**Mayfield South**	**1.40**	**59**			**Pn**	**05 46 02.1**	**-0.5**
OK049	**E0420 Rd and N**	**1.41**	**94**			**Pn**	**05 46 02.3**	**-0.4**
BCOK	**Bluff Creek, N**	**1.44**	**126**			**Pn**	**05 46 02.7**	**-0.4**
OK029	**Liberty Lake**	**1.47**	**118**			**Pn**	**05 46 03.0**	**-0.6**
BLOK	**Blackwell**	**1.50**	**80**			**Pn**	**05 46 04.0**	**+0.1**
OK025	**Westminster Rd**	**1.67**	**123**			**Pn**	**05 46 06.4**	**+0.2**
OK050	**Pawnee Station**	**1.67**	**93**			**Pn**	**05 46 06.6**	**+0.3**
OK048	**Pawnee Station**	**1.70**	**92**			**Pn**	**05 46 07.0**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**1.71**	**130**			**Pn**	**05 46 07.0**	**+0.2**
WMOK	**Wichita Mounta**	**1.78**	**173**	Pn		**Pn**	**05 46 07.8**	**0.0**
WMOK	**Wichita Mounta**	**1.78**	**173**	P		**Pn**	**05 46 07.3**	**-0.5**
	baz=353,SNR=282							
WMOK				Sb		**Sg**	**05 46 33.2**	**-0.5**
	baz=353							
WMOK	**Wichita Mounta**	**1.78**	**173**	P		**Pn**	**05 46 07.8**	**0.0**
	baz=353							
WMOK				S		**Sg**	**05 46 33.1**	**-0.6**
	baz=353							
OK051	**E0350 and S346**	**1.78**	**89**			**Pn**	**05 46 08.2**	**+0.3**
OK044	**Pawnee Station**	**1.82**	**94**	Pn		**Pn**	**05 46 08.4**	**0.0**
FNO	**Franklin**	**1.83**	**132**			**Pn**	**05 46 09.1**	**+0.6**
OK031	**S. Bretten Rd**	**1.87**	**107**			**Pn**	**05 46 09.6**	**+0.6**
OK047	**Pawnee, Statio**	**1.88**	**90**			**Pn**	**05 46 09.6**	**+0.5**
R32A	**Long Quarter,**	**1.93**	**8**	P		**Pn**	**05 46 11.0**	**+1.1**
	baz=188							
R32A				S		**Sb**	**05 46 36.9**	**+0.4**
	baz=188							
T35A	**Sooner Cattle**	**2.08**	**78**	lAmb_Lg			05 46 48.2	
	comp=Z,64nm,0.8s							
T35B	**Sooner Cattle**	**2.08**	**78**	P		**Pn**	**05 46 12.9**	**+1.0**
	baz=259,SNR=31							
T35B				S		**Sb**	**05 46 41.4**	**+0.6**
	baz=259							
CBKS	**Cedar Bluff**	**2.37**	**347**	P		**Pn**	**05 46 17.8**	**+1.9**
	baz=167							
CBKS				S		**Sb**	**05 46 49.3**	**+0.3**
	baz=167							
AMTX	**Amarillo**	**2.69**	**234**	P		**Pn**	**05 46 21.3**	**+1.0**
	baz=52							
AMTX				Sb		**Sb**	**05 46 58.8**	**+0.6**
	baz=52							
AMTX	**Amarillo**	**2.69**	**234**	P		**Pn**	**05 46 21.7**	**+1.4**
	baz=52							
AMTX				S		**Sb**	**05 46 58.9**	**+0.6**
	baz=52							
TUL1	**Leonard**	**2.70**	**102**	Pn		**Pn**	**05 46 20.6**	**+0.1**
TUL1				lAmb_Lg			05 47 04.5	
	comp=Z,33nm,0.8s							
TUL1	**Leonard**	**2.70**	**102**	P		**Pn**	**05 46 20.6**	**+0.1**
	baz=284,SNR=14							
TUL1	**Leonard**	**2.70**	**102**	Sb		**Sb**	**05 46 58.7**	**+0.1**
	baz=284							
LOOK	**Love County**	**2.94**	**148**	lAmb_Lg			05 47 18.0	
	comp=Z,25nm,0.7s							
KSU1	**Kansas State U**	**3.23**	**36**	lAmb_Lg			05 47 23.3	
	comp=Z,25nm,0.8s							
KSU1	**Kansas State U**	**3.23**	**36**	S		**Sn**	**05 47 07.9**	**+1.4**
	baz=218							
KSU1	**Kansas State U**	**3.23**	**36**	Sb		**Sb**	**05 47 15.6**	**+1.7**
	baz=218							
Z35A	**Perchaven, San**	**3.50**	**154**	lAmb_Lg			05 47 34.6	
	comp=Z,24nm,1.0s							
X37A	**Clayton**	**3.56**	**121**	Pn		**Pn**	**05 46 32.9**	**+0.6**
X37A				lAmb_Lg			05 47 34.7	
	comp=Z,54nm,0.8s							
X37A	**Clayton**	**3.56**	**121**	P		**Pn**	**05 46 32.4**	**+0.2**
	baz=304,SNR=25							
KSCO	**Kaye Shedlock'**	**3.78**	**312**	Sb		**Sg**	**05 47 36.6**	**-1.3**
	baz=131							
ABTX	**Abilene, Hawle**	**3.91**	**187**			**Pn**	**05 46 37.2**	**+0.2**
ABTX				lAmb_Lg			05 47 43.7	
	comp=Z,22nm,0.9s							
ABTX	**Abilene, Hawle**	**3.91**	**187**	P		**Pn**	**05 46 37.6**	**+0.5**
	baz=6.8							
ABTX	**Abilene, Hawle**	**3.91**	**187**	P		**Pn**	**05 46 37.6**	**+0.5**
	baz=6.8							
MSTX	**Muleshoe**	**3.96**	**231**	lAmb_Lg			05 47 51.8	
	comp=Z,24nm,0.8s							
MSTX	**Muleshoe**	**3.96**	**231**	P		**Pn**	**05 46 38.5**	**+0.6**
	baz=49							
MSTX	**Muleshoe**	**3.96**	**231**	Sb		**Sb**	**05 47 39.0**	**+4.0**
	baz=49							
HHAR	**Hobbs**	**4.13**	**92**	lAmb_Lg			05 47 54.2	
	comp=Z,23nm,0.7s							
T25A	**Trinidad**	**4.35**	**280**	Pn		**Pn**	**05 46 43.4**	**+0.1**
T25A	**Trinidad**	**4.35**	**280**	P		**Pn**	**05 46 43.5**	**+0.2**
	baz=97							
T25A				Sb		**Sg**	**05 47 51.3**	**-4.9**
	baz=97							
N33B	**J Bar K, Exete**	**4.41**	**16**	P		**Pn**	**05 46 43.4**	**-0.5**
	baz=197,SNR=8.4							
N33B				S		**Sn**	**05 47 33.9**	**-1.6**
	baz=197							
N33A	**J Bar K, Exete**	**4.41**	**16**	lAmb_Lg			05 47 56.9	
	comp=Z,36nm,1.1s							
MIAR	**Mount Ida**	**4.87**	**112**	P		**Pn**	**05 46 50.7**	**+0.3**
	baz=295,SNR=16							
MIAR	**Mount Ida**	**4.87**	**112**	P		**Pn**	**05 46 50.7**	**+0.3**
	baz=295							
MIAR				S		**Sn**	**05 47 46.4**	**-0.7**
	baz=295							
OGNE	**Ogallala**	**5.01**	**333**	Pn		**Pn**	**05 46 52.0**	**-0.2**
237A	**Washetta, Mont**	**5.24**	**148**	lAmb_Lg			05 48 33.1	
	comp=Z,37nm,1.0s							
SDCO	**Great Sand Dun**	**5.30**	**285**			**Pn**	**05 46 58.0**	**+1.5**
SDCO				lAmb_Lg			05 48 32.7	
	comp=Z,20nm,1.2s							
SDCO	**Great Sand Dun**	**5.30**	**285**	P		**Pn**	**05 46 57.9**	**+1.4**
	baz=102							
P38A	**Dawn**	**5.35**	**53**	lAmb_Lg			05 48 34.1	
	comp=Z,18nm,0.8s							
Q24A	**Divide**	**5.42**	**299**	Pn		**Pn**	**05 46 57.7**	**-0.4**
MGMO	**Mountain Grove**	**5.48**	**81**	Pn		**Pn**	**05 46 58.8**	**+0.1**
WHAR	**Wooly Hollow**	**5.62**	**100**	lAmb_Lg			05 48 43.6	
	comp=Z,33nm,0.9s							
WLAR	**White Oak Lake**	**5.62**	**118**	lAmb_Lg			05 48 47.1	
	comp=Z,18nm,0.7s							
FCAR	**Ozark Folk Cen**	**5.63**	**94**	lAmb_Lg			05 48 39.9	
	comp=Z,22nm,0.8s							
R40A	**Maddies Statio**	**5.69**	**70**	Pn		**Pn**	**05 47 01.4**	**-0.1**
R40A	**Maddies Statio**	**5.69**	**70**	P		**Pn**	**05 47 01.4**	**-0.1**
	baz=254,SNR=13							
BRIGG	**Briggsdale**	**5.79**	**316**	lAmb_Lg			05 48 50.9	
	comp=Z,24nm,0.8s							
435B	**Jarrell**	**5.84**	**168**	lAmb_Lg			05 48 49.9	
	comp=Z,27nm,0.7s							
ISCO	**Idaho Springs**	**6.13**	**304**	lAmb_Lg			05 48 54.7	
	comp=Z,13nm,0.7s							
N38A	**Joes South For**	**6.25**	**45**	lAmb_Lg			05 49 00.5	
	comp=Z,30nm,0.7s							
LCAR	**Lake Charles**	**6.39**	**92**	lAmb_Lg			05 49 02.0	
	comp=Z,12nm,1.0s							
CCM	**Cathedral Cave**	**6.41**	**74**	lAmb_Lg			05 48 58.5	
	comp=Z,15nm,0.7s							
Y22D	**IRIS PASSCAL I**	**6.88**	**252**	lAmb_Lg			05 49 21.1	
	comp=Z,17nm,0.8s							
PHWY	**Pilot Hill**	**6.92**	**316**	lAmb_Lg			05 49 19.2	
	comp=Z,13nm,0.7s							
N23A	**Red Feather La**	**6.95**	**311**	lAmb_Lg			05 49 35.0	
	comp=Z,18nm,0.9s							
FVM	**French Village**	**7.04**	**75**	lAmb_Lg			05 49 35.4	
	comp=Z,19nm,1.1s							
143A	**Socs Landing,**	**7.36**	**119**	lAmb_Lg			05 49 27.0	
	comp=Z,10nm,0.7s							
N41A	**Harden Midland**	**7.66**	**54**	lAmb_Lg			05 49 42.3	
	comp=Z,20nm,0.8s							
PV12	**Saucer Basin,**	**7.97**	**286**	lAmb_Lg			05 50 04.5	
	comp=Z,8.7nm,1.1s							
PV04	**Paradox Valley**	**8.06**	**286**	lAmb_Lg			05 50 10.4	
	comp=Z,8.7nm,1.2s							
TX31	**Lajitas Ar. Si**	**8.14**	**210**	P		**Pn**	**05 47 35.6**	**+0.3**
	baz=27							
833A	**Chaparral WMA,**	**8.17**	**182**	lAmb_Lg			05 50 11.0	
	comp=Z,14nm,0.8s							
L40A	**Anamosa**	**8.22**	**45**	lAmb_Lg			05 50 09.1	
	comp=Z,17nm,0.8s							
K22A	**Casper**	**8.42**	**319**	lAmb_Lg			05 50 13.9	
	comp=Z,17nm,0.9s							
RSSD	**Black Hills**	**8.50**	**335**	lAmb_Lg			05 50 16.2	
	comp=Z,14nm,1.1s							

*TAP **30** 05:50:15.7,24°.09N×122°.75E,h18km±1km,ML2.7,C JMA **30** 05:50:16.3±0.1,24°.1N±1°.0×122°.8E±0°.8,h16km±3km, MV2.2/9,NW OFF ISHIGAKIJIMA IS*

ISC 30 05:50:15.3±1.1,24°.04N±0°.04×122°.74E±0°.02,h14km±9km, n41,σ0§59/76,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYNG	**Yonagunijimaku**	**0.45**	**25**	P		**Pg**	**05 50 24.2**	**0.0**
JYNG				S		**Sg**	**05 50 29.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.48**	**31**	P		**Pg**	**05 50 25.0**	**+0.1**
	baz=38							
YOJ				S		**Sb**	**05 50 31.4**	**-1.1**
	baz=38							
YOJ	**Yonaguni jima**	**0.48**	**31**	P		**Pg**	**05 50 24.9**	**+0.1**
YOJ				S		**Sg**	**05 50 31.0**	**-0.3**
IRIF	**Iriomote-Funau**	**0.95**	**72**	P		**Pb**	**05 50 33.5**	**0.0**
IRIF				S		**Sg**	**05 50 46.0**	**-0.1**
HATJ	**Hateruma jima**	**0.97**	**89**	P		**Pb**	**05 50 34.1**	**+0.2**
HATJ				eS		**Sg**	**05 50 47.3**	**+0.4**
TWC	**Suao**	**0.99**	**305**	P		**Pb**	**05 50 33.5**	**-0.7**
	baz=303							
TWC				S		**Sb**	**05 50 46.1**	**-1.0**
	baz=303							
TWD	**Chiawan**	**1.05**	**272**	P		**Pb**	**05 50 34.4**	**-0.8**
	baz=271							
TWD				S		**Sb**	**05 50 49.6**	**+0.8**
	baz=271							
NACB	**Ninganchiao**	**1.06**	**277**	eP		**Pb**	**05 50 34.8**	**-0.5**
	baz=257							
NACB				S		**Sb**	**05 50 49.8**	**+0.8**
	baz=257							
NDS	**Dongshan**	**1.10**	**302**	eS		**Sb**	**05 50 50.5**	**+0.1**
	baz=301							
JKRS	**Kuro-shima**	**1.17**	**80**	P		**Pb**	**05 50 37.9**	**+0.5**
JKRS				S		**Sg**	**05 50 54.0**	**+0.8**
TWE	**Neicheng**	**1.19**	**305**	eP		**Pb**	**05 50 37.6**	**0.0**
	baz=304							
TWE				eS		**Sn**	**05 50 53.1**	**-0.3**
	baz=304							
LATG	**Datong**	**1.21**	**294**	P		**Pn**	**05 50 37.8**	**-0.1**
	baz=303							
LATG				S		**Sb**	**05 50 53.5**	**-0.1**
	baz=303							
TIPB	**Shuangxi**	**1.25**	**318**	P		**Pg**	**05 50 39.0**	**-0.3**
	baz=318							
TIPB				S		**Sb**	**05 50 54.0**	**-0.5**
	baz=318							
FUSB	**Fushanzhiwuyua**	**1.27**	**304**	P		**Pb**	**05 50 39.5**	**+0.4**
	baz=304							
FUSB				eS		**Sg**	**05 50 57.3**	**+0.9**
	baz=304							
SXI1	**Grass Mountain**	**1.31**	**323**	P		**Pb**	**05 50 39.8**	**+0.1**
	baz=339							
SXI1				S		**Sg**	**05 50 56.8**	**-0.8**
	baz=339							
JIJ	**Ishigaki jima**	**1.32**	**76**	P		**Pn**	**05 50 39.4**	**+0.1**
JIJ				eS		**Sb**	**05 50 56.5**	**-0.1**
HGSD	**Ruisui**	**1.33**	**246**	P		**Pn**	**05 50 39.3**	**-0.1**
	baz=244							
HGSD				S		**Sn**	**05 50 55.3**	**-1.5**
	baz=244							
NWF	**Wu-fen Shan**	**1.34**	**320**	eP		**Pb**	**05 50 40.8**	**+0.4**
	baz=320							
NWF				eS		**Sg**	**05 50 57.8**	**-1.0**
	baz=320							
WHF	**Hehuan Shan**	**1.35**	**275**	*i* P		**Pn**	**05 50 40.2**	**+0.1**
	baz=257							
WHF				*i* S		**Sn**	**05 50 58.3**	**+0.2**
	baz=257							
FUSS	**Fushou**	**1.38**	**279**	eP		**Pb**	**05 50 41.7**	**+0.6**
	baz=278							
FUSS				eS		**Sg**	**05 51 00.1**	**+0.1**
	baz=278							
YHNB	**Yeheng**	**1.39**	**297**	P		**Pb**	**05 50 41.2**	**+0.1**
	baz=296							
YHNB				S		**Sb**	**05 50 59.5**	**+0.7**
	baz=296							
EHY	**Hungye**	**1.41**	**248**	P		**Pn**	**05 50 40.3**	**-0.2**
	baz=246							
EHY				S		**Sn**	**05 50 58.4**	**-0.5**
	baz=246							
NSK	**Sanguang**	**1.41**	**297**	*i* P		**Pn**	**05 50 41.0**	**+0.4**
	baz=297							
NSK				S		**Sb**	**05 50 59.8**	**+0.5**
	baz=297							
CHGB	**Renai**	**1.43**	**271**	P		**Pb**	**05 50 42.1**	**+0.2**
	baz=255							
CHGB				S		**Sn**	**05 51 00.3**	**+0.5**
	baz=255							
OWD	**Renai**	**1.43**	**267**	P		**Pn**	**05 50 41.2**	**+0.2**
	baz=266							
OWD				S		**Sn**	**05 50 59.6**	**-0.1**
	baz=266							
YULB	**Yu-li**	**1.47**	**244**	P		**Pn**	**05 50 41.3**	**-0.1**
	baz=242							
YULB				S		**Sn**	**05 50 59.7**	**-0.8**
	baz=242							
EYUL	**Yuli**	**1.48**	**242**	eP		**Pn**	**05 50 41.8**	**+0.3**
	baz=240							
EYUL				eS		**Sn**	**05 51 01.1**	**+0.6**
	baz=240							
WUSB	**Renai**	**1.49**	**268**	P		**Pn**	**05 50 42.5**	**+0.8**
	baz=267							
WUSB				S		**Sb**	**05 51 02.0**	**+0.5**
	baz=267							
VWDT	**VWDT**	**1.49**	**259**	P		**Pn**	**05 50 41.5**	**-0.1**
	baz=258							
VWDT				S		**Sn**	**05 51 01.1**	**+0.1**
	baz=258							
JISG	**Ishigakijimahi**	**1.53**	**69**	eS		**Sb**	**05 51 02.7**	**0.0**
FULB	**Fuli**	**1.57**	**238**	eP		**Pn**	**05 50 43.1**	**+0.3**
	baz=223							
NFF	**Wufeng Townshi**	**1.59**	**292**	eP		**Pn**	**05 50 44.0**	**+0.9**
	baz=299							
NFF				eS		**Sb**	**05 51 04.1**	**-0.5**
	baz=299							
WHP	**Taichung City**	**1.66**	**278**	eP		**Pb**	**05 50 45.8**	**+0.2**
	baz=264							
WHP				eS		**Sn**	**05 51 05.9**	**+0.8**
	baz=264							
WCS	**Beigang Elemen**	**1.67**	**271**	eP		**Pb**	**05 50 46.0**	**+0.1**
	baz=270							
WCS				eS		**Sb**	**05 51 07.7**	**+0.9**
	baz=270							
SMLT	**Sun Moon Lake**	**1.69**	**265**	eP		**Pb**	**05 50 46.9**	**+0.7**
	baz=264							
EDH	**Donghe**	**1.70**	**231**	eP		**Pn**	**05 50 43.3**	**-1.2**
	baz=216							
EDH				eS		**Sn**	**05 51 04.5**	**-1.5**
	baz=216							
TYC	**Yuchr**	**1.73**	**266**	eP		**Pn**	**05 50 45.0**	**+0.1**
	baz=265							
TYC				eS		**Sn**	**05 51 07.1**	**+0.3**
	baz=265							
YUS	**Yu-Shan**	**1.73**	**252**	P		**Pn**	**05 50 45.8**	**+0.4**
	baz=250							
YUS				eS		**Sn**	**05 51 07.2**	**-0.3**
	baz=250							
LDUT	**Ludao**	**1.80**	**221**	eP		**Pn**	**05 50 45.5**	**-0.4**
	baz=219							
ALS	**Alishan**	**1.85**	**254**	eP		**Pn**	**05 50 48.0**	**+1.1**
	baz=253							
ALS				eS		**Sn**	**05 51 10.5**	**+0.2**
	baz=253							
TPUB	**Ta-pu**	**2.07**	**250**	eP		**Pb**	**05 50 52.1**	**-0.6**
	baz=249							

*BEO **30** 05:58:39.1±0.3,44°.43N×21°.68E,h15km±6km,ML2.5/11*

ISC 30 05:58:38.9±1.0,44°.43N±0°.02×21°.68E±0°.02,h12km±9km, n29,σ0§62/53,20C-11D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MDVR	**Moldovita**	**0.35**	**4**	⇑P		**Pg**	**05 58 46.0**	**0.0**
MDVR				⇑S		**Sg**	**05 58 51.1**	**+0.2**
DJES	**Djerdap**	**0.65**	**68**	⇑P		**Pg**	**05 58 51.3**	**-0.2**
DJES				⇓S		**Sg**	**05 58 59.2**	**-0.9**
HERR	**Herculane**	**0.69**	**49**	⇑P		**Pg**	**05 58 52.5**	**+0.1**
HERR				⇓S		**Sg**	**05 59 01.9**	**+0.3**
ZAGS	**Zajecar**	**0.74**	**147**	ePg		**Pg**	**05 58 52.9**	**-0.2**
ZAGS				eSg		**Sg**	**05 59 03.2**	**+0.4**
BOVS	**Bovan**	**0.80**	**178**	⇑P		**Pg**	**05 58 53.7**	**-0.5**
BOVS				⇓S		**Sg**	**05 59 04.8**	**+0.2**
BOVS	**Bovan**	**0.80**	**178**	ePg		**Pg**	**05 58 53.9**	**-0.4**
BOVS				eSg		**Sb**	**05 59 05.3**	**0.0**
GRUS	**Gruza**	**0.88**	**232**	ePg		**Pb**	**05 58 55.9**	**-0.1**
GRUS				eSg		**Sg**	**05 59 08.5**	**+1.2**
PUNG	**Punghina**	**0.91**	**99**	⇑P		**Pb**	**05 58 55.8**	**-0.8**
PUNG				⇓S		**Sb**	**05 59 08.3**	**-0.4**
BANR	**Banloc**	**1.03**	**338**	⇓P		**Pb**	**05 58 58.4**	**-0.1**
BANR				⇑S		**Sn**	**05 59 13.2**	**-0.1**
BLKB	**Belogradchik**	**1.08**	**138**	⇑P		**Pb**	**05 58 59.5**	**0.0**
BLKB				⇓S		**Sg**	**05 59 14.0**	**+0.2**
BZS	**Buzias**	**1.19**	**358**	⇑P		**Pn**	**05 59 00.5**	**-0.7**
BZS				⇓S		**Sb**	**05 59 16.6**	**0.0**
BZS	**Buzias**	**1.19**	**358**	ePg		**Pn**	**05 59 00.6**	**-0.7**
BZS				eSg		**Sb**	**05 59 16.4**	**-0.2**
GZR	**Gura Zlata**	**1.24**	**39**	⇑P		**Pb**	**05 59 02.3**	**0.0**
GZR				⇓S		**Sn**	**05 59 18.5**	**-0.2**
DIVS	**Divibare**	**1.25**	**255**	ePg		**Pg**	**05 59 03.0**	**1.0**
DIVS				eSg		**Sg**	**05 59 19.6**	**+0.3**
BAIL	**Bailesti**	**1.27**	**108**	⇑S		**Sg**	**05 59 21.3**	**+1.5**
SELS	**Selova**	**1.27**	**199**	ePg		**Pn**	**05 59 01.8**	**-0.7**
SELS				eSg		**Sn**	**05 59 19.7**	**+0.2**
ZAPS	**Zavoj**	**1.35**	**149**	ePg		**Pb**	**05 59 04.3**	**+0.3**
ZAPS				eSg		**Sg**	**05 59 22.2**	**-0.1**
FRGS	**Fruska Gora**	**1.52**	**299**	⇓P		**Pn**	**05 59 05.8**	**0.0**
FRGS				⇓S		**Sg**	**05 59 27.1**	**-0.6**
BARS	**Barje**	**1.62**	**176**	ePg		**Pn**	**05 59 07.3**	**+0.1**
BARS				eSg		**Sg**	**05 59 31.2**	**+0.4**
DEV	**Deva**	**1.69**	**30**	⇑S		**Sb**	**05 59 31.9**	**+0.8**
SJES	**Sjenica**	**1.70**	**227**	ePg		**Pb**	**05 59 10.4**	**+0.3**
SJES				eSg		**Sg**	**05 59 32.9**	**-0.6**
BBLS	**Lazići**	**1.73**	**252**	ePg		**Pn**	**05 59 09.0**	**+0.2**
BBLS				eSg		**Sb**	**05 59 32.7**	**+0.5**
LOT	**Lotru**	**1.80**	**55**	⇑P		**Pn**	**05 59 09.9**	**+0.1**
LOT				⇑S		**Sb**	**05 59 34.8**	**+0.4**
SIRR	**Siria**	**1.84**	**360**	⇑P		**Pb**	**05 59 11.5**	**-0.9**
SIRR				⇓S		**Sb**	**05 59 36.3**	**+1.0**
BOSS	**Bosilegrad**	**2.02**	**163**	ePn		**Pn**	**05 59 12.9**	**+0.2**
BOSS				eSg		**Sb**	**05 59 41.7**	**+1.1**
VTS	**Vitosha**	**2.14**	**147**	⇑P		**Pb**	**05 59 16.1**	**-1.5**
VTS				⇑S		**Sb**	**05 59 43.1**	**-1.0**
DRGR		**2.47**	**17**	⇑P		**Pn**	**05 59 19.3**	**+0.4**
VOIR		**2.60**	**66**	⇑P		**Pn**	**05 59 22.2**	**+1.4**
MLR	**Muntele Rosu**	**3.21**	**69**	⇑P		**Pn**	**05 59 29.7**	**+0.5**

*IDC **30** 06:26:11.1±7.0,15°.98S×176°.01W,h0km,mb4.1/3, mbtmp4.1/3,MS3.0/1,Error ellipse: s-maj=310.4km s-min=34.2km az=140.0*
*NOU **30** 06:26:53.4,16°.22S×176°.23W,h384km,MLv4.3/7,Fiji Islands Region*

ISC 30 06:26:52.6±1.9,16°.6S±0°.6×176°.1W±0°.3,h400km,n7, σ1§30/6,mb3.5/3,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TAVE	**Taveuni**	**3.65**	**267**	P		**Pn**	**06 28 00.1**	**-1.4**
AFI	**Afiamalu**	**4.94**	**58**	P		**Pn**	**06 28 12.9**	**-1.2**
MSVF	**Nonsavu**	**5.71**	**258**	P		**Pn**	**06 28 22.1**	**-0.1**
RAO	**Raoul Island**	**12.73**	**187**	LR		LR	06 33 13.1	
	comp=Z,73nm,21.7s,baz=114,slow=32							
WRA	**Warramunga Arr**	**47.06**	**258**	P		**P**

```
MT01                                    IAML                    06 31 20.8
      comp=E,346nm,0.4s
BO01  Tunca              2.32  84 ⇑ iP          Pn              06 30 53.7 -1.1
BO01                               i S           Sn              06 31 19.6 -2.5
BO01                                    IAML                    06 31 22.9
      comp=N,243nm,0.3s
VA01  Torpederas         2.47  49   eP          Pn              06 30 54.6 -2.2
VA01                               i S           Sn              06 31 23.6 -2.1
VA01                                    IAML                    06 31 24.6
      comp=N,414nm,0.1s
MT09  Talagante          2.55  71 ⇑ iP          Pn              06 30 56.3 -1.8
MT09                                    IAML                    06 31 30.1
      comp=N,438nm,0.4s
BO02  Sierra Bellavi     2.55  94 ⇑ iP          Pn              06 30 57.8 -0.2
BO02                               i S           Sn              06 31 26.3 -1.6
MT02  Curacav            2.67  59 ⇑ iP          Pn              06 30 57.6 -2.1
MT02                               i S           Sn              06 31 29.0 -1.7
MT02                                    IAML                    06 31 31.3
      comp=E,132nm,0.5s
BO04  La Punta           2.78  77 ⇑ iP          Pn              06 31 00.6 -0.7
MT05  Renca              2.89  65   eP          Pn              06 31 01.6 -1.2
MT05                               i S           Sn              06 31 34.4 -2.0
MT05                                    IAML                    06 31 46.9
      comp=E,347nm,0.3s
ROCH  El Roble           2.92  56   eP          Pn              06 31 01.9 -1.4
ROCH                               i S           Sn              06 31 35.2 -2.0
ROCH                                    IAML                    06 31 38.9
      comp=N,327nm,0.6s
VA06  Catapilco          3.00  47 ⇑ iP          Pn              06 31 01.8 -2.4
VA06                               i S           Sn              06 31 35.8 -3.1
VA06                                    IAML                    06 31 36.7
      comp=E,748nm,0.3s
MT03  Universidad Ad     3.02  68 ⇑ iP          Pn              06 31 03.4 -1.2
MT03                               i S           Sn              06 31 37.8 -1.9
MT03                                    IAML                    06 31 44.0
      comp=N,302nm,0.1s
PEL   Peldehue           3.05  61   eP          Pn              06 31 03.8 -1.2
PEL                                i S           Sn              06 31 38.4 -1.9
PEL                                     IAML                    06 31 44.0
      comp=N,303nm,0.5s
LMEL  Las Melosas        3.15  76   eP          Pn              06 31 06.0 -0.3
LMEL                                    IAML                    06 31 47.4
      comp=N,414nm,0.5s
FCH   Farellones         3.26  67 ⇑ iP          Pn              06 31 06.8 -1.2
FCH                                i S           Sn              06 31 44.0 -1.8
VA03  San Esteban        3.35  57 ⇑ iP          Pn              06 31 08.0 -1.2
VA03                               i S           Sn              06 31 46.0 -1.8
VA03                                    IAML                    06 31 52.8
      comp=E,463nm,0.1s
CO02  Combarbal          4.21  36   eP          Pn              06 31 18.5 -2.4
CO02                               i S           Sn              06 32 05.9 -3.0
H03S1 Juan Fernandez     4.25 280   T           T               06 35 24.8
      baz=110
H03S3 Juan Fernandez     4.25 280   T           T               06 35 23.8
      baz=110
H03S2 Juan Fernandez     4.26 280   T           T               06 35 25.9
      baz=110
CO06  Fray Jorge         4.40  26 ⇑ iP          Pn              06 31 19.6 -3.9
CO03  El Pedregal        4.66  36 ⇑ iP          Pn              06 31 25.3 -1.8
CO03                               i S           Sn              06 32 17.8 -2.1
GO06  Curarrehue         5.28 159 ⇓ iP          Pn              06 31 35.2 -0.4
PLCA  Paso Flores        6.61 158   Pn          Sn              06 31 54.4 +0.5
      comp=E,1.1nm,0.3s,baz=342,slow=17,SNR=48
PLCA                                    Sn      Sn              06 33 08.1 +0.1
      comp=E,1.0nm,0.3s,baz=53,slow=19,SNR=2.0
PLCA                                    LR      LR              06 34 13.0
      comp=E,194nm,21.6s,baz=346,slow=35
      comp=E,3.0nm,0.4s
CPUP  Villa Florida     16.48  64   Pn          P               06 34 10.5 +0.5
      comp=E,0.1nm,0.3s,baz=241,slow=19,SNR=1.9
      comp=E,1.8nm,0.9s
SIV   San Ignacio       21.86  35   P           P               06 35 10.4 +1.6
      comp=E,3.1nm,1.1s,baz=225,slow=11,SNR=7.2
      comp=E,3.1nm,1.1s
NNA   Nana              22.73 352   LR          LR              06 41 48.6
      comp=E,58nm,19.4s,baz=200,slow=30
VNA3  Neumayer Olymp    49.33 157   P           P               06 39 05.7 +1.3
VNA1  Neumayer--Stat    49.67 157   P           P               06 39 09.1 +2.2
VNA2  Neumayer--Watz    50.00 157   P           P               06 39 10.7 +1.2
      baz=290,slow=8.7
SNAA  Sanae             51.55 158   P           P               06 39 22.4 +1.1
TROLL Troll, Antarti    53.25 158   P           P               06 39 35.0 +1.1
QSPA  South Pole Qui    55.58 180   P           P               06 39 51.9 +0.9
      comp=E,3.6nm,1.0s,baz=95,slow=0.6,SNR=12
      comp=E,3.6nm,1.0s
TXAR  Lajitas Array     69.59 332   P           P               06 41 25.5 +0.8
      comp=E,0.7nm,0.6s,baz=158,slow=8.9,SNR=13
      comp=E,0.7nm,0.6s
TSUM  Tsumeb            80.49 107   LR          LR              07 11 08.7
      comp=E,45nm,19.8s,baz=320,slow=30
NVAR  Mina Array Bea    83.57 326   P           P               06 42 44.6 +0.8
      comp=E,0.1nm,0.6s,baz=146,slow=6.6,SNR=1.7
      comp=E,0.1nm,0.6s
TORD  Torodi Ar. Bea    85.86  71   P           P               06 42 56.4 +0.8
      comp=E,0.8nm,0.8s,baz=234,slow=4.8,SNR=4.7
```

*SNET **30** 06:30:57.3±0.8, 13°.89N×89°.99W, h4km±34km, ML2.1*
GCG 30 06:30:32.3±0.3, 13°.78N×91°.02W, h55km±20km, MD3.3,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	Fuego 3	0.69	15	eP	Pn	06 30 46.7	+0.4
NBG	Las Nubes	1.04	39	eP	Pn	06 30 51.7	+0.8
NBG				eS	Sn	06 31 06.7	+2.0
STG3	Santiaguito 3,	1.07	330	eP	Pn	06 30 51.7	+0.4
STG3				eS	Sn	06 31 07.0	+1.7
NUBE	Las Nubes	1.21	84	eS	Sn	06 31 06.1	-2.6
SLOZ	Alcaldia de Sa	1.23	78	eS	Sn	06 31 07.6	-1.3
CEVE	Cerro Verde	1.36	88	eP	Pn	06 31 06.1	+11
CEVE				IAML		06 31 14.1	
	comp=Z,216nm,0.2s						
UNIC	Universidad Ca	1.45	82	eS	Sn	06 31 13.4	-0.7
MTO3	Montecristo	1.73	69	eP	Pn	06 30 58.9	-1.3

*SNET **30** 06:35:13.5±1.3, 13°.94N×89°.98W, h3km, ML2.9*
*GCG **30** 06:35:16.7±0.3, 14°.03N×90°.04W, h16km±3km, MD3.5*
ISC 30 06:35:14.7±1.1, 13°.96N±0°.06×89°.98W±0°.06, h14km±9km, n16, σ0°.46/24, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOAL	Lomas de Alarc	0.19	78	iP	Pg	06 35 19.0	-0.2
LOAL				eS	Sg	06 35 22.8	+0.5
NUBE	Las Nubes	0.20	106	iP	Pg	06 35 18.9	-0.4
NUBE				eS	Sg	06 35 22.2	-0.3
SLOZ	Alcaldia de Sa	0.20	70	iP	Pg	06 35 19.1	-0.2
SLOZ				eS	Sg	06 35 22.6	+0.2
RTR	El Retiro	0.33	100	eP	Pg	06 35 21.6	+0.1
SBLS	San Blas	0.36	109	eP	Pg	06 35 22.0	-0.2
CEVE	Cerro Verde	0.36	110	eP	Pg	06 35 22.3	0.0
SNJE	San Jose	0.37	104	eP	Pg	06 35 21.8	-0.5
UNIC	Universidad Ca	0.41	86	iP	Pg	06 35 22.7	-0.4
UNIC				eS	Sg	06 35 28.9	+0.1
PMON	Piamonte	0.69	111	eP	Pg	06 35 28.0	-0.1
NBG	Las Nubes	0.72	330	eP	Pb	06 35 29.5	+0.3
MTO3	Montecristo	0.74	54	iP	Pg	06 35 28.6	-0.6
ESQI	Esquipulas	0.86	46	⇑ iP	Pg	06 35 30.8	-0.6
ESQI				eS	Sg	06 35 43.1	+0.4
FUG	Fuego 3	0.97	300	eP	Pb	06 35 33.3	-0.1
LLGN	La Laguna	1.02	78	eP	Pg	06 35 33.4	-1.0
LLGN				eS	Sg	06 35 47.5	-0.3
MRL	Marmol	1.15	14	eP	Pb	06 35 37.0	+0.5
MRL				eS	Sn	06 35 52.8	+0.6
STG3	Santiaguito 3,	1.72	296	eP	Pb	06 35 46.6	+0.5
STG3				eS	Sb	06 36 07.3	-0.4

*IDC **30** 06:41:40.9±1.2, 13°.57S×169°.17E, h0km, mb3.8/6, mbtmp3.8/7, ML4.3/1, MS3.5/23, Error ellipse: s-maj=44.7km s-min=25.0km az=134.0*
ISC 30 06:41:46.3±1.1, 13°.85S±0°.1×169°.2E±0°.2, h35km, n25, σ1s29/8, mb3.7/6, MS3.4/19, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.67	197	Pn	Pn	06 43 49.1	-0.3
	3.5nm,0.3s,baz=278,slow=8.0,SNR=38						
DZM				Sn	Sn	06 45 24.8	-1.3
	0.1nm,0.3s,baz=46,slow=17,SNR=1.4						
DZM				LR	LR	06 46 47.2	
	comp=Z,192nm,19.7s,baz=24,slow=35						

```
9.7nm,0.4s
MSVF  Nonsavu            9.37 116   LR          LR              06 46 49.0
      comp=Z,399nm,19.4s,baz=73,slow=32
HNR   Honiara           10.05 294   LR          LR              06 47 46.1
      comp=Z,1μm,21.4s,baz=154,slow=37
RAO   Raoul Island      19.48 144   LR          LR              06 51 55.0
      comp=Z,162nm,19.9s,baz=312,slow=31
PMG   Port Moresby      22.04 279   LR          LR              06 54 04.3
      comp=Z,94nm,18.2s,baz=22,slow=34
CTA   Charters Tower    22.84 251   LR          LR              06 54 23.6
      comp=Z,101nm,18.9s,baz=80,slow=33
URZ   Urewera           25.38 165   LR          LR              06 54 46.4
      comp=Z,66nm,21.9s,baz=94,slow=31
STKA  Stephens Creek    31.05 230   P           P               06 48 03.0 +1.8
      1.8nm,0.6s,baz=42,slow=8.7,SNR=3.4
STKA                                LR          LR              06 58 45.1
      comp=Z,82nm,19.2s,baz=26,slow=33
      1.8nm,0.6s
WRA   Warramunga Arr    33.90 255   P           P               06 48 25.0 -1.2
      0.6nm,0.9s,baz=86,slow=8.7,SNR=4.6
WRA                                 LR          LR              07 01 41.2
      comp=Z,92nm,18.3s,baz=45,slow=35
      0.6nm,0.9s
ASAR  Alice Springs     34.78 248   P           P               06 48 33.6 -0.2
      1.5nm,0.7s,baz=78,slow=8.5,SNR=15
ASAR                                LR          LR              07 01 20.8
      comp=Z,120nm,20.4s,baz=116,slow=34
      1.5nm,0.7s
GUMO  Guam              36.34 317   LR          LR              07 01 48.5
      comp=Z,55nm,18.3s,baz=150,slow=33
FITZ  Fitzroy Crossi    42.05 258   LR          LR              07 05 49.9
      comp=Z,60nm,21.4s,baz=89,slow=34
NWAO  Narrogin (SRO)    50.86 239   LR          LR              07 12 46.7
      comp=Z,85nm,18.1s,baz=343,slow=37
JOW   Kunigami          56.66 315   LR          LR              07 12 14.5
      comp=Z,25nm,21.8s,baz=116,slow=32
VNDA  Vanda             63.87 182   P           P               06 52 16.1 +1.1
      0.5nm,0.6s,baz=351,slow=4.2,SNR=2.6
      0.5nm,0.6s
KSRS  Korea Array       64.04 324   LR          LR              07 15 22.0
      comp=Z,12nm,21.9s,baz=150,slow=32
MA2   Magadan           74.60 350   LR          LR              07 19 35.5
      comp=Z,22nm,20.8s,baz=45,slow=31
CMAR  Chiang Mai Arr    76.30 293   LR          LR              07 29 52.5
      comp=Z,5.0nm,18.0s,baz=185,slow=38
PFO   Pinyon Flats O    84.90  54   LR          LR              07 23 46.7
      comp=Z,47nm,21.6s,baz=244,slow=30
BBB   Bella Bella       84.93  33   LR          LR              07 27 51.4
      comp=Z,19nm,18.3s,baz=77,slow=33
ILAR  Eielson Array     85.04  17   P           P               06 54 17.2 -0.7
      0.5nm,0.9s,baz=245,slow=5.8,SNR=4.1
      0.5nm,0.9s
NVAR  Mina Array Bea    85.22  49   P           P               06 54 19.5 -0.3
      0.4nm,0.9s,baz=245,slow=8.4,SNR=2.7
NVAR                                LR          LR              07 23 18.3
      comp=Z,33nm,21.9s,baz=250,slow=29
      0.4nm,0.9s
ELK   Elko              88.25  47   LR          LR              07 31 56.4
      comp=Z,34nm,18.5s,baz=272,slow=34
PDAR  Pinedale Array    92.91  47   LR          LR              07 27 01.5
      comp=Z,14nm,20.9s,baz=42,slow=29
ANMO  Albuquerque       93.20  55   LR          LR              07 27 40.4
      comp=Z,26nm,20.4s,baz=128,slow=30
```

*ISK **30** 06:48:35.8, 34°.81N×24°.10E, h77km, ML3.5/17*
*DDA **30** 06:48:39.0±0.0, 35°.30N×24°.13E, h111km±26km, MW3.5*
*ATH **30** 06:48:40.5, 35°.02N×24°.25E, h40km±3km, ML3.4/9, Error ellipse: s-maj=3.8km s-min=1.0km az=186.0*
*THE **30** 06:48:41.0, 35°.04N×24°.26E, h36km±1km, ML3.1/5, Error ellipse: s-maj=1.6km s-min=0.5km az=187.0*
ISC 30 06:48:41.2±0.9, 35°.06N±0°.03×24°.27E±0°.02, h31km±7km, n46, σ0°.93/67, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVDS	Gavdos	0.26	215	P	Pb	06 48 48.1	-0.1
GVDS				S	Sn	06 48 54.1	+0.2
	7μm,0.2s						
GVDS	Gavdos	0.26	215	PG	Pb	06 48 47.9	-0.3
GVDS				SG	Sn	06 48 55.1	+1.2
GVD	Gavdhos	0.27	215	P	Pb	06 48 48.0	-0.3
GVD				S	Sb	06 48 53.7	+0.7
GVD	Gavdhos	0.27	215	PG	Pb	06 48 47.4	-0.9
GVD				SG	Sn	06 48 55.3	+1.3
GVD	Gavdhos	0.27	215	P	Pb	06 48 47.9	-0.4
GVD				S	Sb	06 48 53.8	+0.7
GVD				AML	AML	06 49 01.8	
	comp=N,28830μm,0.4s						
GVD				AML	AML	06 49 02.3	
	comp=E,20285μm,0.4s						
PRNS	Prines Rethymn	0.36	31	P	Pb	06 48 48.9	-0.6
PRNS				S	Sb	06 48 55.4	+0.2
	comp=E,3μm,0.3s						
TMBK	Timbaki Herakl	0.40	88	P	Pb	06 48 49.9	-0.3
TMBK				S	Sn	06 48 57.5	+0.1
	comp=E,2μm,0.2s						
TMBK	Timbaki Herakl	0.40	88	P	Pb	06 48 50.5	+0.4
TMBK				S	Sn	06 48 57.9	+0.5
TMBK				AML	AML	06 48 59.9	
	comp=E,15614μm,0.5s						
TMBK				AML	AML	06 49 04.2	
	comp=N,9489μm,0.6s						
SIVA	Sivas	0.44	95	P	Pb	06 48 50.9	+0.2
SIVA				S	Sn	06 48 58.9	+0.5
SIVA				AML	AML	06 49 00.5	
	comp=E,15407μm,0.6s						
SIVA				AML	AML	06 49 02.8	
	comp=N,11341μm,0.5s						
IMMV	Iera Moni Meta	0.47	329	P	Pb	06 48 50.9	-0.2
IMMV				S	Sb	06 48 58.4	+0.4
	comp=N,5μm,0.4s						
IMMV	Iera Moni Meta	0.47	329	PG	Pb	06 48 51.0	-0.2
IMMV	Iera Moni Meta	0.47	329	P	Pb	06 48 51.0	-0.2
IMMV				S	Sn	06 48 58.7	-0.4
IMMV				AML	AML	06 49 00.3	
	comp=E,10264μm,0.4s						
IMMV				AML	AML	06 49 03.9	
	comp=N,8886μm,0.4s						
CHAN	Chania	0.50	338	P	Pb	06 48 51.7	0.0
CHAN				S	Sn	06 49 00.4	+0.6
CHAN				AML	AML	06 49 01.6	
	comp=N,6652μm,0.6s						
CHAN				AML	AML	06 49 02.8	
	comp=E,7097μm,0.4s						
KNDR	Palaiochora Ch	0.51	290	P	Pb	06 48 52.0	+0.2
KNDR				S	Sn	06 49 00.6	+0.5
	comp=E,2μm,0.4s						
KNDR	Palaiochora Ch	0.51	290	PG	Pb	06 48 51.3	-0.5
KNDR				SG	Sn	06 49 00.9	+0.8
KNDR	Palaiochora Ch	0.51	290	P	Pb	06 48 51.9	0.0
KNDR				S	Sn	06 49 00.6	+0.5
KNDR				AML	AML	06 49 01.6	
	comp=N,14075μm,0.6s						
KNDR				AML	AML	06 49 04.6	
	comp=E,8475μm,0.4s						
IDI	Anoyia	0.56	65	P	Pb	06 48 52.3	-0.3
IDI	Anoyia	0.56	65	PG	Pb	06 48 52.3	-0.3
IDI	Anoyia	0.56	65	P	Pb	06 48 52.3	-0.3
IDI				S	Sn	06 49 00.9	-0.4
IDI				AML	AML	06 49 03.1	
	comp=E,3855μm,0.5s						
IDI				AML	AML	06 49 04.0	
	comp=N,5057μm,0.5s						
RODP	Rodopos	0.66	320	P	Pb	06 48 53.6	-0.6
RODP				S	Sb	06 49 03.3	+0.2
IACM	Herakliion	0.70	69	P	Pn	06 48 55.0	+0.1
HRKL	Herakleio	0.72	69	P	Pb	06 48 54.6	-0.7
HRKL	Herakleio	0.72	69	PG	Pb	06 48 55.1	-0.2
HRKL				SG	Sn	06 49 09.3	+4.0
HRKL	Herakleio	0.72	69	P	Pn	06 48 55.3	0.0
ANKY	Antikythira Is	1.13	316	P	Pb	06 49 02.3	+0.1
ANKY				S	Sb	06 49 17.0	+0.4
ANKY				AML	AML	06 49 24.4	
	comp=E,1537μm,0.7s						
ANKY				AML	AML	06 49 25.7	
	comp=N,1634μm,0.8s						
KTHA	Kythira Island	1.55	321	PN	Pn	06 49 04.6	-2.1
KTHA	Kythira Island	1.55	321	P	Pn	06 49 07.7	+1.0
KTHA				S	Sb	06 49 29.5	+1.0
KTHA				AML	AML	06 49 35.0	
	comp=N,601μm,0.6s						
KTHA				AML	AML	06 49 38.7	
	comp=E,1062μm,0.6s						
KTHR	Kythira	1.58	320	P	Pn	06 49 08.2	+1.0

```
ZKR   Zakros             1.59  87   PN          Pn              06 49 05.7 -1.6
SANT  Santorini          1.63  36   PN          Pn              06 49 08.1 +0.3
SANT  Santorini          1.63  36   P           Pn              06 49 08.3 +0.5
SANT                                S           Sb              06 49 29.9 -0.9
APE   Apeiranthos        2.25  27   PN          Pn              06 49 16.5 +0.1
APE   Apeiranthos        2.25  27   P           Pn              06 49 15.4 -0.9
KARP  Karpathos          2.41  77   PN          Pn              06 49 17.6 -1.0
ITM   Ithomi             2.85 319   PN          Pn              06 49 22.1 -2.4
ARG   Arkhangelos        3.34  69   PN          Pn              06 49 30.9 -0.4
TURN  Turunc             3.65  61   PN          Pn              06 49 35.3 -0.2
TURN  Turunc             3.65  61   P           Pn              06 49 36.2 +0.7
YER   Yerkesik           3.85  56   PN          Pn              06 49 38.3 -0.1
DALY  Dalyan (Mula)      3.96  62   PN          Pn              06 49 39.5 -0.3
FETY  Fethiye            4.21  67   PN          Pn              06 49 42.7 -0.6
TAVA  DENIZLI_Tavas      4.45  56   P           Pn              06 49 47.5 +0.8
CAME  Cameli-Denizli     4.49  64   PN          Pn              06 49 46.4 -0.8
AKAS  Kas                4.50  73   PN          Pn              06 49 46.1 -1.2
AKAS  Kas                4.50  73   P           Pn              06 49 45.9 -1.4
ELL   Elmali              4.88  68   PN          Pn              06 49 50.5 -2.0
```

*MOS **30** 07:01:07.3±0.9, 42°.56N×144°.09E, h100km, mb4.5/1, Error ellipse: s-maj=22.1km s-min=11.7km az=71.3*
*IDC **30** 07:01:08.5±4.5, 42°.62N×144°.16E, h93km±43km, mb3.6/7, mbtmp3.9/8, MS2.2/1, Error ellipse: s-maj=28.1km s-min=24.9km az=78.0*
*NIED **30** 07:01:08.6, 42°.65N×144°.07E, h95km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=4.24; Mθθ3.92; Mφφ0.33; Mrθ4.69; Mθφ-0.70; Mφr1.34; Fault plane solution: M₀6.38000×10¹⁴ NP1: φs114.00000°, δ23.00000°, λ-60.00000°. NP2: φs262.00000°, δ70.00000°, λ-102.00000°.*
*JMA **30** 07:01:08.6±0.1, 42°.6N±0°.5×144°.1E±0°.5, h95km±1km, MV3.9/36, SE OFF TOKACHI*
JMA Felt I J1 at SE OFF TOKACHI .
*SKHL **30** 07:01:08.3±0.3, 42°.60N×144°.10E, h95km±2km, mb4.9/3, msha5.8/2*
ISC 30 07:01:08.6±0.8, 42°.60N±0°.05×144°.11E±0°.04, h93km±6km, n41, σ0°.79/53, mb4.0/7, 20D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOB	Onbets	0.36	326	⇓ eP	Pn	07 01 23.1	+0.5
JOB				⇓ eS	Sn	07 01 33.7	+0.6
JCH	Churui	0.55	271	⇓ eP	Pn	07 01 24.1	+0.2
JCH				⇓ eS	Sn	07 01 35.0	-0.4
JAK	Akkeshi	0.59	48	⇓ eP	Pn	07 01 24.4	+0.2
JAK				⇓ eS	Sn	07 01 36.1	+0.2
JTHR	Tokachihiroo	0.67	243	eP	Pn	07 01 25.4	+0.3
JTHR				eS	Sn	07 01 37.1	-0.2
AKK	Akkeshi	0.68	53	eP	Pn	07 01 25.0	-0.1
JAR	Ashorobuto	0.73	341	⇓ eP	Pn	07 01 25.6	0.0
JAR				⇓ eS	Sn	07 01 37.9	+0.5
JKHN	Kushirohamanak	0.91	58	⇓ eP	Pn	07 01 27.7	+0.2
JKHN				⇓ eS	Sn	07 01 41.4	-0.2
JEM	Erimo	0.92	230	eP	Pn	07 01 27.5	0.0
JNBK	Urakawa-nobuka	1.05	253	⇓ eP	Pn	07 01 29.0	0.0
JNBK				⇓ eS	Sn	07 01 43.8	-0.6
JNK	Nakash	1.08	24	⇓ eP	Pn	07 01 29.0	-0.3
JNK				⇓ eS	Sn	07 01 43.4	-1.5
JFR	Furan	1.24	297	⇓ eP	Pn	07 01 30.8	-0.4
JFR				⇓ eS	Sn	07 01 47.7	-0.7
JTKR	Abashiri--Toko	1.37	354	⇓ eP	Pn	07 01 32.9	+0.1
JTKR				⇓ eS	Sn	07 01 51.3	+0.1
NMR	Nemuro--Hokkai	1.42	57	eP	Pn	07 01 32.9	-0.4
NMR				eS	Sn	07 01 50.1	-2.0
NMR	Nemuro--Hokkai	1.42	57	eP	Pn	07 01 32.9	-0.4
NMR				eS	Sn	07 01 50.1	-2.0
NEM2	Nemuro 2	1.42	57	eP	Pn	07 01 32.8	-0.7
JMP	Maruseppu	1.50	339	eS	Sn	07 01 53.2	-0.9
JRA	Rausu	1.53	29	eS	Sn	07 01 54.7	+0.2
JKK2	Kamakawa 2	1.61	322	⇓ eP	Pn	07 01 35.9	+0.1
JKK2				⇓ eS	Sn	07 01 55.8	-0.7
RUSJ	Misakicho	1.72	29	eP	Pn	07 01 37.6	+0.5
RUSJ				eS	Sn	07 02 00.4	+1.6
YUK	Yuzh-Kuril'sk	1.92	41	eP	Pn	07 01 40.0	+0.2
YUK				eS	Sn	07 02 02.5	-1.0
YUK				pmax	pmax		
	comp=Z,232nm,0.2s						
YUK				pmax	pmax		
	comp=N,65nm,0.1s						
YUK				pmax	pmax		
	comp=E,113nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK	Yuzh-Kuril'sk	1.92	41	eP	Pn	07 01 40.0	+0.2
YUK				AMB	AMB	07 01 41.8	
	comp=E,230nm,0.2s						
YUK				eS	Sn	07 02 03.2	-0.3
YUK				A	A	07 02 04.5	
	comp=E,2μm,0.4s						
YUK				A	A	07 02 04.5	
	comp=E,2μm,0.4s						
KUR	Kuril'sk	3.78	45	PN	Pn	07 02 06.0	+1.4
KUR				S	Sn	07 02 48.9	+0.9
KUR				pmax	pmax		
	comp=Z,88nm,0.3s						
KUR				pmax	pmax		
	comp=E,71nm,0.2s						
KUR				pmax	pmax		
	comp=N,55nm,0.3s						
KUR				smax	smax		
	comp=N,109nm,0.4s						
KUR				smax	smax		
	comp=E,202nm,0.4s						
KUR	Kuril'sk	3.78	45	eP	Pn	07 02 06.0	+1.4
KUR				AMB	AMB	07 02 07.3	
	comp=E,90nm,0.3s						
KUR				eS	Sn	07 02 48.5	+0.5
KUR				A	A	07 02 52.8	
	comp=E,120nm,0.3s						
KUR				A	A	07 02 52.8	
	comp=E,210nm,0.3s						
YSS	Yuzh-Sakhalins	4.45	348	ePN	Pn	07 02 14.2	+0.5
YSS				eS	Sn	07 03 03.5	-0.8
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				smax	smax		
	comp=E,80nm,0.8s						
YSS	Yuzh-Sakhalins	4.45	348	eP	Pn	07 02 14.2	+0.5
YSS				AMB	AMB	07 02 17.4	
	comp=E,40nm,0.5s						
MJAR	Matsushiro Arr	7.57	219	P	Pn	07 02 55.9	-0.3
	comp=E,2.5nm,0.4s,baz=29,slow=15,SNR=8.8						
KLR	Kul'dur	10.85	312	LR	LR	07 07 56.1	
	comp=E,12nm,18.5s,baz=220,slow=38						
SONM	Songino Array	26.88	294	P	P	07 06 42.0	+1.3
	comp=E,3.8nm,0.7s,baz=86,slow=9.8,SNR=13						
	comp=E,3.8nm,0.7s						
SONM	Songino Array	26.88	294	P	P	07 06 42.0	+1.3
H11N2	WAKE ISLAND Hy	29.83	133	T	T	07 38 35.8	
	baz=327,slow=75,SNR=88						
H11N1	WAKE ISLAND Hy	29.84	133	T	T	07 38 31.4	
	baz=327,slow=75,SNR=82						
H11N3	WAKE ISLAND Hy	29.84	133	T	T	07 38 32.5	
	baz=327,slow=75,SNR=80						
H11S1	WAKE ISLAND Hy	30.73	134	T	T	07 39 41.6	
	baz=328,slow=76,SNR=122						
H11S3	WAKE ISLAND Hy	30.73	135	T	T	07 39 44.4	
	baz=328,slow=76,SNR=115						
H11S2	WAKE ISLAND Hy	30.74	134	T	T	07 39 41.2	
	baz=328,slow=76,SNR=75						
ZALV	Zalesovo Beam	39.92	308	P	P	07 08 33.9	+0.6
	comp=E,2.2nm,0.6s,baz=86,slow=9.4,SNR=5.3						
	comp=E,2.2nm,0.6s						
MKAR	Makanchi Array	43.14	298	P	P	07 08 59.5	-0.2
	comp=E,1.8nm,0.8s,baz=80,slow=8.8,SNR=7.8						
	comp=E,1.8nm,0.8s						
ILAR	Eielson Array	43.72	35	P	P	07 09 04.1	+0.1
	comp=E,0.6nm,0.6s,baz=266,slow=5.8,SNR=8.2						
	comp=E,0.6nm,0.6s						
WRA	Warramunga Arr	62.88	190	P	P	07 11 25.1	+0.3
	comp=E,0.4nm,0.7s,baz=7.7,slow=6.7,SNR=5.4						
	comp=E,0.4nm,0.7s						
FINES	FINESS Array B	64.86	332	P	P	07 11 36.1	-1.2
	comp=E,1.3nm,0.5s,baz=61,slow=9.0,SNR=8.9						
	comp=E,1.3nm,0.5s						
AKASG	Malin Array Be	71.16	322	P	P	07 12 16.5	-0.4
	comp=E,0.3nm,0.3s,baz=42,slow=6.1,SNR=1.6						
	comp=E,0.3nm,0.3s						
```
```

NOU 30 07:31:18.5, 16°31S × 167°56E, h0km, MLv4.2/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.53**	**157**	P	Pn	07 31 47.3	+0.2
RTV	**Rentapao**	**1.69**	**151**	P	Pn	07 31 49.8	+0.5
KOUNC	**Koumac, New Ca**	**5.24**	**216**	P	Pn	07 32 37.8	-0.3
YATNC	**Mamie plateau,**	**5.75**	**186**	P	Pn	07 32 43.8	-1.4
DZM	**Mont Dzumac**	**5.83**	**190**	P	Pn	07 32 45.8	-0.5
NOUC	**Port Laguerre**	**5.88**	**191**	P	Pn	07 32 47.2	+0.2
OUENC	**Ouen Island, N**	**6.11**	**186**	P	Pn	07 32 50.4	+0.2

*IDC **30** 07:35:14.4±2.1, 19°.69S × 178°.39W, h604km±22km, mb3.2/5, mbtmp4.2/7, Error ellipse: s-maj=30.8km s-min=26.8km az=154.0*

ISC 30 07:35:13.0±1.3, 19°.9S±0°.2 × 178°.2W±0°.2, h600km, n9, σ1°55/9, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.16**	**300**	P	**P**	**07 36 39.5**	**-0.2**
	23nm,0.4s,baz=264,slow=23,SNR=81						
DZM	**Mont Dzumac**	**14.52**	**259**	P	**P**	**07 38 17.6**	**+0.6**
	6.4nm,0.7s,baz=288,slow=23,SNR=8.3						
URZ	**Urewera**	**18.76**	**192**	P	**P**	**07 38 52.4**	**-2.9**
	6.5nm,0.3s,baz=353,slow=3.1,SNR=22						
CTA	**Charters Tower**	**33.38**	**263**	P	**P**	**07 41 03.9**	**+0.3**
	9.4nm,0.4s,baz=88,slow=9.8,SNR=27						
	9.4nm,0.4s						
ASAR	**Alice Springs**	**44.49**	**256**	P	**P**	**07 42 32.6**	**-0.1**
	4.1nm,0.8s,baz=86,slow=8.7,SNR=40						
	4.1nm,0.8s						
WRA	**Warramunga Arr**	**44.52**	**261**	P	**P**	**07 42 32.1**	**-0.8**
	1.2nm,0.3s,baz=97,slow=7.7,SNR=22						
	1.2nm,0.3s						
VNDA	**Vanda**	**58.50**	**185**	P	**P**	**07 44 14.6**	**+2.2**
	0.4nm,0.6s,baz=12,slow=5.9,SNR=5.9						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**87.76**	**13**	P	**P**	**07 46 58.3**	**-0.4**
	0.5nm,0.9s,baz=222,slow=5.3,SNR=2.7						
	0.5nm,0.9s						
GERES	**GERESS Array B**	**149.56**	**344**	PKPbc	**PKiKP**	**07 53 56.7**	**+0.3**
	0.2nm,0.3s,baz=12,slow=5.0,SNR=1.6						

*IDC **30** 07:36:05.5±1.0, 16°.44S × 176°.24W, h376km±11km, mb3.6/8, mbtmp4.3/11, Error ellipse: s-maj=24.8km s-min=10.4km az=147.0*

*NEIC **30** 07:36:06.9±1.6, 16°.2S±0°.2 × 176°.3W±0°.1, h389km±10km, mb4.2/21, Error ellipse: s-maj=22.1km s-min=16.5km az=170.0*

*NOU **30** 07:36:07.2, 16°.12S × 176°.27W, h373km, MLv4.7/9, Fiji Islands Region*

ISC 30 07:36:07.3±0.5, 16°.2S±0°.1 × 176°.38W±0°.07, h400km, n47, σ1°81/51, mb4.1/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.10**	**228**	P	**Pn**	**07 37 10.2**	**-1.1**
TAVE	**Taveuni**	**3.43**	**261**	P	**Pn**	**07 37 13.4**	**-0.8**
AFI	**Afiamalu**	**4.98**	**64**	P	**Pn**	**07 37 25.8**	**-3.5**
	85nm,0.5s,baz=147,slow=1.4,SNR=29						
AFI				S	**S**	**07 38 31.6**	**-4.3**
	21nm,0.5s,baz=233,slow=21,SNR=1.8						
AFI	**Afiamalu**	**4.98**	**64**	P	**Pn**	**07 37 26.0**	**-3.3**
MSVF	**Nonsavu**	**5.55**	**253**	P	**Pn**	**07 37 34.4**	**-0.8**
	105nm,0.7s,baz=87,slow=10,SNR=26						
MSVF				S	**S**	**07 38 45.1**	**-1.6**
	1.3nm,0.3s,baz=354,slow=23,SNR=0.5						
MSVF	**Nonsavu**	**5.55**	**253**		**Pn**	**07 37 35.1**	**-0.1**
MSVF	**Nonsavu**	**5.55**	**253**	P	**Pn**	**07 37 35.2**	**-0.1**
NIUE	**Niue**	**6.79**	**116**		**Pn**	**07 37 46.4**	**-2.3**
NIUE	**Niue**	**6.79**	**116**	P	**Pn**	**07 37 47.2**	**-1.5**
MARNC	**Mare, Loyalty**	**15.67**	**248**	P	**P**	**07 39 26.9**	**-0.2**
DZM	**Mont Dzumac**	**17.25**	**247**	P	**P**	**07 39 44.7**	**+0.5**
	2.2nm,0.4s,baz=261,slow=18,SNR=7.1						
DZM	**Mont Dzumac**	**17.25**	**247**	P	**P**	**07 39 44.1**	**-0.1**
DZM				IAmb	IAmb	07 40 08.7	
	comp=Z,24nm,1.4s						
OUZ	**Omahuta**	**20.98**	**203**	P	**P**	**07 40 20.9**	**+0.2**
OUZ				IAmb	IAmb	07 40 23.0	
	comp=Z,12nm,1.0s						
URZ	**Urewera**	**22.73**	**193**	P	**P**	**07 40 34.0**	**-2.5**
	comp=Z,11nm,0.4s,baz=19,slow=1.9,SNR=15						
	comp=Z,11nm,0.4s						
URZ	**Urewera**	**22.73**	**193**	P	**P**	**07 40 34.3**	**-2.2**
WHZ	**Wether Hill Ro**	**32.40**	**201**	P	**P**	**07 42 01.1**	**-0.6**
COEN	**Coen**	**39.08**	**268**	P	**P**	**07 42 59.4**	**+1.2**
TOO	**Toolangi**	**39.77**	**230**	P	**P**	**07 43 03.9**	**+0.4**
TOO				IAmb	IAmb	07 43 05.7	
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**41.17**	**240**	P	**P**	**07 43 14.9**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=73,slow=8.6,SNR=3.8						
	comp=Z,5.1nm,0.9s						
BBOO	**Buckleboo**	**45.95**	**240**	P	**P**	**07 43 52.0**	**-0.4**
WB0	**Warramunga Arr**	**46.84**	**258**	P	**P**	**07 43 59.0**	**-0.5**
WB0				IAmb	IAmb	07 44 16.1	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**46.88**	**258**	P	**P**	**07 43 59.3**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=91,slow=6.9,SNR=48						
WRA				S	**S**	**07 50 14.1**	**-5.9**
	comp=Z,0.3nm,0.8s,baz=95,slow=13,SNR=1.7						
	comp=Z,2.2nm,0.5s						
WRA	**Warramunga Arr**	**46.88**	**258**	P	**P**	**07 44 00.0**	**+0.2**
AS31	**Alice Springs**	**47.14**	**253**	P	**P**	**07 44 01.6**	**-0.2**
AS31				IAmb	IAmb	07 44 02.5	
	comp=Z,7.1nm,0.4s						
ASAR	**Alice Springs**	**47.15**	**253**	P	**P**	**07 44 02.0**	**+0.2**
	comp=Z,19nm,0.5s,baz=89,slow=8.0,SNR=142						
ASAR				S	**S**	**07 50 20.9**	**-2.8**
	comp=Z,0.8nm,1.0s,baz=76,slow=17,SNR=4.5						
	comp=Z,19nm,0.5s						
ASAR	**Alice Springs**	**47.15**	**253**	P	**P**	**07 44 01.9**	**+0.1**
FORT	**Forrest**	**52.51**	**243**	P	**P**	**07 44 41.2**	**-0.3**
PSA00	**Pilbara Seismi**	**60.24**	**254**	P	**P**	**07 45 35.8**	**+0.3**
PSA00				IAmb	IAmb	07 45 36.5	
	comp=Z,5.7nm,1.1s						
MBWA	**Marble Bar**	**60.39**	**255**	P	**P**	**07 45 36.9**	**+0.3**
SBA	**Scott Base**	**62.27**	**184**	P	**P**	**07 45 51.4**	**+3.5**
VNDA	**Vanda**	**62.33**	**185**	P	**P**	**07 45 50.7**	**+2.3**
PETK	**Petropavlovsk-**	**72.53**	**344**	P	**P**	**07 46 52.9**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=168,slow=7.4,SNR=1.7						
	comp=Z,2.6nm,0.7s						
QSPA	**South Pole Qui**	**73.87**	**180**	P	**P**	**07 47 01.7**	**+2.1**
NVAR	**Mina Array Bea**	**76.84**	**43**	P	**P**	**07 47 18.9**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=225,slow=8.7,SNR=5.4						
	comp=Z,0.4nm,0.6s						
HDA	**Harding Lake**	**83.45**	**12**	P	**P**	**07 47 51.7**	**+0.9**
HDA				IAmb	IAmb	07 47 52.8	
	comp=Z,3.4nm,0.8s						
BCAR	**Beaver Creek A**	**83.47**	**15**	P	**P**	**07 47 52.5**	**+1.5**
CCB	**Clear Creek Bu**	**83.49**	**12**	P	**P**	**07 47 51.6**	**+0.7**
CCB				IAmb	IAmb	07 47 52.8	
	comp=Z,2.9nm,0.6s						
H21K	**Melozitna Rive**	**83.51**	**10**	P	**P**	**07 47 53.0**	**+1.9**
H21K				IAmb	IAmb	07 48 18.8	
	comp=Z,7.6nm,1.5s						
IMAR	**Indian Mountai**	**83.66**	**9**	P	**P**	**07 47 52.8**	**+1.0**
MDM	**Murphy Dome**	**83.68**	**12**	P	**P**	**07 47 51.9**	**0.0**
MDM				IAmb	IAmb	07 47 54.5	
	comp=Z,3.1nm,1.0s						
SCRK	**Sand Creek**	**83.72**	**14**	P	**P**	**07 47 53.7**	**+1.4**
IL31		**83.78**	**12**	P	**P**	**07 47 52.4**	**0.0**
IL31				IAmb	IAmb	07 47 57.3	
	comp=Z,6.1nm,1.4s						
ILAR	**Eielson Array**	**83.78**	**12**	P	**P**	**07 47 53.4**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=216,slow=5.3,SNR=17						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**83.78**	**12**	P	**P**	**07 47 52.7**	**+0.2**
PDAR	**Pinedale Array**	**84.77**	**43**	P	**P**	**07 47 59.7**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=204,slow=2.0,SNR=1.9						
	comp=Z,0.1nm,0.5s						
ARCES	**ARCESS Array B**	**124.94**	**351**	PKP	**PKiKP**	**07 54 21.9**	**+1.5**
	comp=Z,3.0nm,0.9s,baz=43,slow=7.3,SNR=3.8						
BRTR	**Keskin Array B**	**144.88**	**318**	PKPbc	**PKiKP**	**07 55 00.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=357,slow=2.9,SNR=2.9						

*GII **30** 08:00:17.7±0.0, 33°.99N × 28°.01E, h30km, MD3.0/2, Mm3.2/10*

*IDC **30** 08:00:17.8±1.8, 33°.97N × 27°.77E, h0km, mb3.8/7, mbtmp3.6/12, ML3.4/5, Error ellipse: s-maj=37.7km s-min=16.9km az=18.0*

*ISK **30** 08:00:21.7, 33°.98N × 27°.82E, h86km, ML3.5/19*

*HLW **30** 08:00:22.4, 33°.91N × 27°.78E, h12km±11km, Md3.9, Ml3.9*

*DDA **30** 08:00:23.9±0.0, 34°.30N × 28°.27E, h7km±4km, MW3.4*

*NIC **30** 08:00:24.4±0.0, 34°.09N × 28°.08E, h32km±40km, Ml3.6/5*

ISC 30 08:00:16.5±1.5, 34°.04N±0°.04 × 28°.18E±0°.03, h0km±10km, n80, σ2°.9 14/114, mb3.7/7, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.72**	**331**	PN	**Pg**	**08 00 10.4**	**+1.0**
KARP				SN	**Sb**	**08 01 11.3**	**+0.2**
KARP	**Karpathos**	**1.72**	**331**	P	**Pg**	**08 00 50.5**	**+1.0**
KARP				S	**Sg**	**08 01 12.1**	**+0.4**
KARP				AML	AML	08 01 12.3	
	0.6nm,0.3s						
KARP				AML	AML	08 01 12.3	
	0.6nm,0.3s						
KARP				AML	AML	08 01 12.7	
	0.7nm,0.3s						
KARP				AML	AML	08 01 12.7	
	0.7nm,0.3s						
ZKR	**Zakros**	**1.94**	**304**	PN	**Pn**	**08 00 51.6**	**+0.9**
ZKR				SN	**Sn**	**08 01 13.3**	**-2.4**
ZKR	**Zakros**	**1.94**	**304**	P	**Pb**	**08 00 52.0**	**-0.6**
ARG	**Arkhangelos**	**2.17**	**359**	PN	**Pg**	**08 00 58.5**	**+0.5**
ARG				SN	**Sg**	**08 01 25.2**	**-0.9**
ARG	**Arkhangelos**	**2.17**	**359**	P	**Pb**	**08 00 57.2**	**+0.6**
ARG				S	**Sb**	**08 01 24.4**	**+0.4**
KSL	**Kastellorizon**	**2.40**	**28**	S	**Sb**	**08 01 29.9**	**-0.6**
AKAS	**Kas**	**2.48**	**28**	PN	**Pg**	**08 01 04.4**	**+0.5**
AKAS				SN	**Sg**	**08 01 35.3**	**-0.8**
AKAS	**Kas**	**2.48**	**28**	P	**Pb**	**08 01 02.8**	**+0.9**
AKAS				S	**Sb**	**08 01 33.9**	**+0.9**
OSC1	**CSNet OBS 1**	**2.64**	**101**	P	**Pb**	**08 01 05.8**	**+1.3**
OSC1				S	**Sb**	**08 01 38.6**	**+1.2**
FETY	**Fethiye**	**2.69**	**16**	PN	**Pb**	**08 01 06.5**	**+1.0**
TURN	**Turunc**	**2.73**	**1**	PN	**Pb**	**08 01 06.2**	**+0.1**
TURN	**Turunc**	**2.73**	**1**	P	**Pb**	**08 01 06.7**	**+0.6**
TURN				S	**Sb**	**08 01 38.3**	**-1.7**
DALY	**Dalyan (Mula)**	**2.79**	**8**	PN	**Pb**	**08 01 07.5**	**+0.3**
IDI	**Anoyia**	**2.98**	**296**	Pn	**Pn**	**08 01 04.8**	**-0.2**
	4.3nm,0.3s,baz=178,slow=10.0,SNR=26						
IDI				Sn	**Sn**	**08 01 37.2**	**-4.3**
	15nm,0.3s,baz=321,slow=20,SNR=14						
	9.8nm,0.3s						
IDI	**Anoyia**	**2.98**	**296**	PN	**Pn**	**08 01 05.4**	**+0.4**
CAME	**Cameli-Denizli**	**3.04**	**17**	PN	**Pb**	**08 01 11.1**	**-0.3**
ELL	**Elmali**	**3.05**	**27**	PN	**Pb**	**08 01 12.0**	**+0.4**
YER	**Yerkesik**	**3.08**	**2**	PN	**Pb**	**08 01 11.4**	**-0.8**
BODT	**Bodrum**	**3.09**	**347**	PN	**Pb**	**08 01 10.2**	**-2.2**
MULA	**Mugla, Merkez-**	**3.21**	**2**	P	**Pb**	**08 01 14.1**	**-0.2**
MULA				S	**Sb**	**08 01 51.6**	**-2.3**
CAEL	**Denizli, Camel**	**3.21**	**17**	P	**Pb**	**08 01 14.6**	**+0.2**
CAEL				S	**Sb**	**08 01 52.3**	**-1.8**
SANT	**Santorini**	**3.22**	**317**	PN	**Pn**	**08 01 10.1**	**+1.8**
GOLH	**Golhisar**	**3.38**	**19**	P	**Pb**	**08 01 17.2**	**-0.1**
GOLH				S	**Sb**	**08 01 58.5**	**-0.5**
TAVA	**DENIZLI_Tavas**	**3.47**	**10**	P	**Pb**	**08 01 17.2**	**-1.6**
TAVA				S	**Sb**	**08 01 58.0**	**-3.5**
GVDS	**Gavdos**	**3.47**	**284**	PN	**Pn**	**08 01 11.0**	**-0.7**
GVD	**Gavdhos**	**3.47**	**284**	PN	**Pn**	**08 01 10.8**	**-0.9**
APMY	**Acipayam-Deniz**	**3.54**	**15**	PN	**Pb**	**08 01 18.5**	**-1.5**
OSC2	**CSNet OBS 4**	**3.55**	**105**	P	**Pb**	**08 01 19.4**	**-0.7**
AKMS	**Akamas**	**3.57**	**73**	P	**Pb**	**08 01 18.8**	**-1.6**
AKMS				S	**Sb**	**08 02 00.7**	**-3.5**
AKMS				AML	AML	08 02 02.8	
	0.3nm,0.2s						
AKMS				AML	AML	08 02 02.8	
	0.3nm,0.2s						
AKMS				AML	AML	08 02 04.3	
	0.3nm,0.4s						
AKMS				AML	AML	08 02 04.3	
	0.3nm,0.4s						
SLUM	**Salum**	**3.57**	**225**	P	**Pn**	**08 01 10.5**	**-2.5**
	baz=223						
SLUM				S	Sn	08 01 44.6	-11
	baz=223						
AYDN	**Tasoluk**	**3.62**	**356**	P	**Pn**	**08 01 17.2**	**+3.4**
APE	**Apeiranthos**	**3.71**	**325**	PN	**Pn**	**08 01 16.9**	**+1.8**
APE	**Apeiranthos**	**3.71**	**325**	Pn	**Pn**	**08 01 12.4**	**-2.7**
APE				Sn	**Sn**	**08 01 55.1**	**-4.4**
IMMV	**Iera Moni Meta**	**3.73**	**293**	PN	**Pn**	**08 01 15.5**	**+0.2**
ALFC	**Alefka**	**3.81**	**72**	P	**Pb**	**08 01 23.1**	**-1.5**
ALFC				S	**Sb**	**08 02 07.8**	**-3.5**
ALFC				AML	AML	08 02 09.8	
	0.3nm,0.3s						
ALFC				AML	AML	08 02 09.8	
	0.3nm,0.3s						
ALFC				AML	AML	08 02 11.6	
	0.3nm,0.4s						
ALFC				AML	AML	08 02 11.6	
	0.3nm,0.4s						
KNDR	**Palaiochora Ch**	**3.89**	**289**	PN	**Pn**	**08 01 18.3**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**3.90**	**357**	PN	**Pb**	**08 01 21.9**	**-4.3**
RODP	**Rodopos**	**3.94**	**294**	PN	**Pn**	**08 01 18.3**	**+0.1**
BRDR	**BURDUR-Merkez**	**3.95**	**22**	P	**Pb**	**08 01 26.2**	**-0.8**
BRDR				S	**Sb**	**08 02 09.6**	**-5.8**
SZAC	**Souni**	**3.95**	**78**	S	**Sb**	**08 02 11.0**	**-4.4**
SZAC				AML	AML	08 02 15.9	
	0.3nm,0.2s						
SZAC				AML	AML	08 02 16.2	
	0.2nm,0.3s						
KEPZ	**Antalya-Kepez**	**3.99**	**43**	P	**Pb**	**08 01 25.9**	**-1.8**
KEPZ				S	**Sb**	**08 02 11.7**	**-4.9**
GAZI	**Gazipasa**	**4.03**	**56**	P	**Pb**	**08 01 26.0**	**-2.4**
GAZI				S	**Sb**	**08 02 11.8**	**-5.9**
ASGA	**Asgata**	**4.26**	**79**	S	**Sb**	**08 02 18.9**	**-5.1**
ASGA				AML	AML	08 02 22.8	
	0.2nm,0.3s						
ASGA				AML	AML	08 02 25.7	
	0.3nm,0.3s						
CSS	**Mathiatis**	**4.35**	**76**	S	**Sb**	**08 02 21.4**	**-5.5**
MVOU	**Mavrovouni**	**4.61**	**76**	P	Pb	08 01 33.4	-4.7
KTHA	**Kythira Island**	**4.74**	**299**	PN	**Pn**	**08 01 28.1**	**-1.0**
HSAF	**As Saff**	**5.26**	**146**	P	**Pn**	**08 01 39.2**	**+2.8**
	baz=142						
SWA2		**5.32**	**207**	P	**Pn**	**08 01 35.5**	**-1.6**
	baz=204						
SWA2				S	Sn	08 02 28.3	-11
	baz=204						
GLL	**Jalalah**	**5.37**	**145**	P	**Pn**	**08 01 40.8**	**+2.9**
	baz=141						
SLTI	**Sal'it**	**6.03**	**105**	Sn	**Sn**	**08 02 56.2**	**-0.4**
KZIT	**Kziot**	**6.12**	**119**	Pn	**Pn**	**08 01 47.2**	**-0.9**
KZIT				Sn	**Sn**	**08 02 58.3**	**-0.4**
MMAI	**Mount Meron Ar**	**6.12**	**98**	Pn	Pn	08 01 55.6	+7.4
	5.2nm,0.3s,baz=162,slow=42,SNR=2.1						
MMAI				Sn	**Sn**	**08 03 02.9**	**+4.0**
	1.2nm,0.3s,baz=263,slow=23,SNR=1.7						
	0.7nm,0.3s						
SALP	**Salfit**	**6.21**	**107**	Pn	**Pn**	**08 01 48.9**	**-0.5**
SALP				Sn	**Sn**	**08 03 01.4**	**+0.3**
MMLI	**Mount Malkishu**	**6.28**	**103**	Pn	**Pn**	**08 01 49.7**	**-0.6**
MMLI				Sn	**Sn**	**08 03 02.4**	**-0.4**
NATI	**Neve Ativ**	**6.35**	**95**	Pn	**Pn**	**08 01 51.9**	**+0.6**
HMDT	**Nahal Hemdat**	**6.42**	**104**	Pn	**Pn**	**08 01 51.6**	**-0.6**
HMDT				Sn	**Sn**	**08 03 06.1**	**0.0**
YTIR	**Yattir**	**6.43**	**113**	Sn	**Sn**	**08 03 07.0**	**+0.4**
UJAP	**Al Uja**	**6.47**	**107**	Sn	**Sn**	**08 03 06.7**	**-0.6**
DSI	**Dead Sea**	**6.54**	**110**	Pn	**Pn**	**08 01 54.4**	**+0.4**
DSI				Sn	**Sn**	**08 03 08.4**	**-0.9**
MDBI	**Mazsada**	**6.64**	**112**	Pn	**Pn**	**08 01 54.0**	**-1.2**
MDBI				Sn	**Sn**	**08 03 10.4**	**-1.1**
DAMI2	**DAM2**	**6.76**	**113**	Pn	**Pn**	**08 01 56.8**	**-0.1**
DAMI2				Sn	**Sn**	**08 03 14.2**	**-0.4**
KRMI	**Paran Flat**	**6.79**	**123**	Pn	**Pn**	**08 01 57.1**	**-0.3**
KRMI				Sn	**Sn**	**08 03 14.0**	**-1.5**
PRNI	**Paran**	**6.86**	**121**	Pn	**Pn**	**08 01 58.2**	**-0.1**
PRNI				Sn	**Sn**	**08 03 16.6**	**-0.4**
ZFRI	**Zfri**	**6.87**	**119**	Pn	**Pn**	**08 01 57.9**	**-0.5**
ZFRI				Sn	**Sn**	**08 03 16.0**	**-1.3**
HFRF	**Wahat Farafira**	**6.87**	**179**	P	**Pn**	**08 01 59.5**	**+1.0**
	baz=175						
HRFI	**Mount Harif**	**7.06**	**123**	Pn	**Pn**	**08 02 01.0**	**-0.1**
HRFI				Sn	**Sn**	**08 03 21.4**	**-0.7**
MBRI	**Mt Berech**	**7.12**	**125**	Pn	**Pn**	**08 02 01.4**	**-0.6**
MBRI				Sn	**Sn**	**08 03 23.0**	**-0.6**
BRTR	**Keskin Array B**	**7.16**	**36**	Pn	Pn	08 02 09.7	+7.1
	0.2nm,0.3s,baz=223,slow=15,SNR=3.2						
BRTR				Sn	**Sn**	**08 03 28.9**	**+4.2**
	0.3nm,0.3s,baz=203,slow=24,SNR=5.8						
	0.6nm,0.4s						
EIL	**Elat**	**7.22**	**125**	Pn	**Pn**	**08 02 07.7**	**+4.4**
	0.6nm,0.3s,baz=350,slow=4.5,SNR=11						
EIL				Sn	**Sn**	**08 03 25.6**	**-0.5**
	4.1nm,0.3s,baz=61,slow=4.0,SNR=10						
	1.7nm,0.3s						
EIL	**Elat**	**7.22**	**125**	Pn	**Pn**	**08 02 03.2**	**-0.1**
EIL				Sn	**Sn**	**08 03 25.0**	**-1.1**
HKAT	**Jabal Katrina**	**7.42**	**136**	P	**Pn**	**08 02 08.8**	**+2.6**
	baz=133						
HKAT				S	**Sn**	**08 03 29.6**	**-1.5**
	baz=133						
ASF	**Jabal al Asfar**	**7.55**	**102**	Pn	Pn	08 02 13.5	+5.7
	0.2nm,0.3s,baz=216,slow=5.9,SNR=1.9						
ASF				Sn	**Sn**	**08 03 36.3**	**+2.1**
	0.3nm,0.3s,baz=142,slow=16,SNR=1.8						
	1.1nm,0.5s						
ESDC	**Sonseca Array**	**26.24**	**292**	P	**P**	**08 05 51.2**	**-2.0**
	0.2nm,0.4s,baz=79,slow=9.5,SNR=1.7						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**27.45**	**358**	P	**P**	**08 06 05.6**	**+1.8**
	5.8nm,0.9s,baz=156,slow=10,SNR=4.0						
	5.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**30.39**	**324**	P	**P**	**08 06 29.8**	**-0.2**
	0.6nm,0.5s,baz=124,slow=11,SNR=1.2						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**35.35**	**45**	P	**P**	**08 07 16.3**	**+2.9**
	0.3nm,0.5s,baz=256,slow=5.8,SNR=1.9						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**35.57**	**358**	P	**P**	**08 07 16.9**	**+1.8**
	2.5nm,0.9s,baz=171,slow=8.8,SNR=7.5						
	2.5nm,0.9s						
MKAR	**Makanchi Array**	**42.33**	**56**	P	**P**	**08 08 15.7**	**+3.7**
	0.4nm,0.5s,baz=287,slow=7.2,SNR=2.6						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**44.00**	**45**	P	**P**	**08 08 29.6**	**+4.2**
	0.7nm,0.4s,baz=256,slow=5.8,SNR=1.7						
	0.7nm,0.4s						

*IDC **30** 08:07:36.4±2.0, 6°.47N × 126°.70E, h0km, mb3.4/3, mbtmp3.4/3, MS2.8/2, Error ellipse: s-maj=62.4km s-min=14.5km az=41.0*

*MAN **30** 08:07:38.9, 6°.46N × 126°.55E, h16km, mb4.7, ML3.6, MS3.5*

ISC 30 08:07:40.1±1.5, 6°.16N±0°.09 × 126°.46E±0°.10, h35km, n11, σ2°55/12, mb3.2/3, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.26**	**316**	Pg	**Pn**	**08 08 00.6**	**-0.6**
	84nm,0.3s,baz=220,slow=7.9,SNR=14						
DAV				Lg	Lg	08 08 17.4	
	113nm,0.3s,baz=252,slow=20,SNR=6.6						
DAV				LR	LR	08 08 27.5	
	comp=Z,368nm,18.3s,baz=92,slow=40						
GSPH	**General Santos**	**1.51**	**267**	↑eP	**Pn**	**08 08 00.9**	**-3.8**
GSPH				*i* S	**Sn**	**08 08 21.6**	**-1.6**
KCP	**Kidapawan**	**1.60**	**302**	↓*i*P	**Pn**	**08 08 05.0**	**-1.0**
KCP				*i* S	**Sn**	**08 08 26.9**	**+1.3**
BIPH	**Bislig**	**2.01**	**357**	↑eP	**Pn**	**08 08 07.2**	**-4.4**
BIPH				*e*S	**Sn**	**08 08 35.9**	**+0.3**
BUKP	**Musuan**	**2.20**	**321**	↑*i*P	**Pn**	**08 08 12.9**	**-1.3**
BUKP				*i* S	**Sn**	**08 08 42.3**	**+2.0**
CTBH	**Cotabato--PC H**	**2.44**	**296**	↓*i*P	**Pn**	**08 08 16.4**	**-1.0**
WRA	**Warramunga Arr**	**27.07**	**164**	P	**P**	**08 13 23.1**	**+3.5**
	0.3nm,0.8s,baz=343,slow=10.0,SNR=2.6						
	0.3nm,0.8s						
KRVT	**Keravat (AS076**	**27.56**	**112**	LR	LR	08 24 17.1	
	comp=Z,38nm,18.8s,baz=257,slow=36						
CMAR	**Chiang Mai Arr**	**29.48**	**297**	LR	LR	08 25 36.2	
	comp=Z,9.0nm,20.1s,baz=95,slow=36						
ASAR	**Alice Springs**	**30.52**	**166**	P	P	08 13 53.8	+3.5
	0.2nm,0.5s,baz=352,slow=7.2,SNR=4.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**55.43**	**324**	P	**P**	**08 17 11.7**	**+0.5**
	0.3nm,0.4s,baz=110,slow=6.1,SNR=1.9						
	0.3nm,0.4s						

*SFS **30** 08:22:04.0, 37°.02N × 3°.64W, ML3.3, PADUL (GRANADA)*

*IGIL **30** 08:22:04.6, 37°.02N × 3°.64W, h0km, ML2.7*

*INMG **30** 08:22:04.8±2.1, 37°.02N × 3°.64W, h0km, ML3.1, Error ellipse: s-maj=3.2km s-min=2.7km az=57.0*

*MDD **30** 08:22:05.0±0.2, 37°.03N × 3°.66W, h0km, mb_Lg3.3/34, Error ellipse: s-maj=1.8km s-min=1.3km az=163.0*

*LDG **30** 08:22:05.3±0.2, 37°.00N × 3°.59W, h2km, Ml3.1/6, Error ellipse: s-maj=5.7km s-min=3.9km az=158.0*

*CNRM **30** 08:22:08.4, 36°.91N ×

EMIN *i* Vmb_Lg 08 23 26.9
PAB San Pablo 2.57 348 Pn **Pn** **08 22 47.3 +0.7**
PAB Pg **Pb** **08 22 52.6 +1.7**
PAB Sn **Sn** **08 23 18.2 0.0**
PAB Sg **Sb** **08 23 23.6 +0.8**
PAB *i* Vmb_Lg 08 23 32.1
PAB San Pablo 2.57 348 P **Pn** **08 22 49.5 +2.9**
PAB San Pablo 2.57 348 P **Pn** **08 22 49.5 +2.9**
ESDC Sonseca Array 2.65 355 Pg **Pb** **08 22 53.2 +0.9**
ESDC Sn **Sn** **08 23 20.5 +0.3**
ESDC Sg **Sb** **08 23 26.5 +1.4**
ESDC *i* Vmb_Lg 08 23 32.9
JBK JBK 2.83 162 P **Pn** **08 22 49.2 -1.2**
JBK S **Sn** **08 23 22.7 -2.3**
PBAR Barrancos 2.93 294 *e*Pn **Pn** **08 22 51.1 -0.4**
PBAR *e*Sn **Sn** **08 23 26.4 -0.7**
PBAR *e*Sg **Sg** **08 23 39.7 +1.2**
PBAR A A 08 23 47.7
41nm,0.3s
AFON Font Roja 2.94 56 Pn **Pn** **08 22 52.8 +0.9**
AFON *i* Vmb_Lg 08 23 42.2
EGRO El Granado 3.10 280 Pn **Pn** **08 22 53.0 -0.9**
EGRO Sn **Sn** **08 23 31.3 -0.1**
EGRO Sg **Sb** **08 23 39.4 +1.2**
EGRO *i* Vmb_Lg 08 23 47.1
EBAD Badajoz 3.17 304 Pn **Pn** **08 22 54.7 -0.2**
EBAD Sn **Sn** **08 23 31.4 -1.7**
EBAD Sg **Sb** **08 23 43.6 +3.5**
EBAD *i* Vmb_Lg 08 23 52.5
PVAQ Vaqueiros 3.27 278 *e*Pn **Pn** **08 22 55.6 -0.7**
PVAQ *e*Sn **Sn** **08 23 35.0 -0.6**
PVAQ A A 08 24 09.4
28nm,0.6s
PVAQ Vaqueiros 3.27 278 P **Pn** **08 22 55.3 -0.9**
PVAQ Vaqueiros 3.27 278 P **Pn** **08 22 55.3 -0.9**
PVAQ S **Sn** **08 23 34.0 -1.6**
UCM Universidad Co 3.28 5 P **Pb** **08 23 05.0 +1.9**
UCM S **Sg** **08 23 48.3 -1.5**
ECHE Chera 3.31 39 Pn **Pn** **08 22 57.8 +1.0**
ECHE Pg **Pg** **08 23 07.3 -0.4**
ECHE Sn **Sn** **08 23 37.3 +0.9**
ECHE *i* Vmb_Lg 08 23 53.9
PBDV Barranco-do-Ve 3.44 275 *e*Sn **Sn** **08 23 38.9 -0.7**
LCRM LCR 3.49 197 P **Pn** **08 23 01.6 +2.2**
LCRM S **Sn** **08 23 40.7 -0.4**
PBEJ Beja 3.50 288 *e*Pn **Pn** **08 23 01.0 +1.6**
PBEJ *e*Sn **Sn** **08 23 40.6 -0.6**
PBEJ A A 08 24 06.6
19nm,0.5s
PCVE Castro Verde 3.56 281 *e*Pn **Pn** **08 23 00.5 +0.3**
PCVE *e*Sn **Sn** **08 23 41.6 -0.9**
PCVE A A 08 24 08.2
33nm,0.5s
EPLA Plasencia 3.58 328 Pn **Pn** **08 23 01.3 +0.8**
EPLA Sg **Sb** **08 23 56.2 +4.3**
EPLA *i* Vmb_Lg 08 24 03.9
PESTR Estremoz 3.62 302 *e*Pn **Pn** **08 23 01.6 +0.6**
PESTR *e*Sn **Sn** **08 23 41.8 -2.3**
PESTR A A 08 24 04.9
27nm,0.7s
PESTR Estremoz 3.62 302 P **Pn** **08 23 01.6 +0.6**
PESTR Estremoz 3.62 302 P **Pn** **08 23 00.3 -0.8**
GUD Guadarrama 3.62 354 Pn **Pn** **08 23 01.2 -0.1**
GUD Sn **Sn** **08 23 43.5 -0.9**
GUD Sg **Sb** **08 23 56.2 +2.9**
GUD *i* Vmb_Lg 08 24 00.7
MESJ Messejana 3.73 284 *e*P **Pn** **08 23 01.5 -1.1**
MESJ Messejana 3.73 284 *e*Pn **Pn** **08 23 02.6 0.0**
MESJ *e*Sn **Sn** **08 23 45.8 -1.1**
MESJ A A 08 24 05.8
29nm,0.5s
EVO Évora 3.77 295 *e*Sn **Sn** **08 23 45.7 -2.2**
PMRV Marv??o 3.80 310 *e*Pn **Pn** **08 23 04.7 +1.2**
ETOR Torete 3.98 18 Pn **Pn** **08 23 06.4 +0.4**
ETOR Pg **Pg** **08 23 19.5 -1.0**
ETOR Sg **Sg** **08 24 09.9 -2.2**
ETOR *i* Vmb_Lg 08 24 16.4
MORF Marmelete 4.01 275 *e*S **Sn** **08 23 50.0 -3.9**
MORF IAML 08 23 52.3
comp=N,18nm,0.5s
MORF Marmelete 4.01 275 *e*Sn **Sn** **08 23 52.3 -1.6**
MORF A A 08 24 27.6
comp=N,14nm,0.6s
PNCL Nicolau / Gran 4.03 287 *e*Pn **Pn** **08 23 06.5 -0.2**
PNCL *e*Sn **Sn** **08 23 53.2 -1.0**
PNCL A A 08 24 06.4
comp=N,8.3nm,0.5s
PTEO Sao Teotonio 4.09 279 *e*Sn **Sn** **08 23 53.9 -1.7**
PTEO A A 08 24 31.9
comp=N,33nm,0.6s
PCBR Castelo Branco 4.11 314 *e*Pn **Pn** **08 23 08.2 +0.4**
PCBR *e*Sn **Sn** **08 23 55.3 -1.0**
PCBR A A 08 24 23.1
comp=N,26nm,0.6s
EMOS Mosqueruela 4.15 36 Pn **Pn** **08 23 10.3 +1.9**
EMOS Sn **Sn** **08 23 55.7 -1.6**
EMOS *i* Vmb_Lg 08 24 22.1
PFVI Vila Bisbo 4.15 273 *e*Pn **Pn** **08 23 08.4 +0.1**
PFVI *e*Sn **Sn** **08 23 55.7 -1.4**
PFVI A A 08 24 03.6
comp=N,21nm,0.5s
PFVI Vila Bisbo 4.15 273 P **Pn** **08 23 09.3 +1.0**
PFVI S **Sn** **08 23 53.6 -3.5**
PMTG Montargil 4.15 301 *e*Pn **Pn** **08 23 08.4 +0.1**
PMTG *e*Sn **Sn** **08 23 55.5 -1.7**
PMTG A A 08 24 32.2
comp=N,33nm,0.6s
MD31 MD31 4.26 193 P **Pn** **08 23 08.7 -1.2**
MD31 S **Sn** **08 23 53.3 -6.7**
MDT Midelt 4.29 191 P **Pn** **08 23 14.1 +3.8**
MDT Midelt 4.29 191 P **Pn** **08 23 14.1 +3.8**
MDT S **Sn** **08 23 56.1 -4.5**
ZHG ZHG 4.34 215 P **Pn** **08 23 10.7 -0.4**
EIBI Ibiza 4.41 62 Pn **Pn** **08 23 12.2 +0.1**
EIBI Sn **Sn** **08 23 52.9 -0.7**
ECOL Islas Columbre 4.44 49 Pn **Pn** **08 23 12.0 -0.2**
ECOL Sn **Sn** **08 24 03.1 -1.2**
MTE Manteigas 4.54 319 *e*Pn **Pn** **08 23 13.7 0.0**
MTE *e*Sn **Sn** **08 24 05.2 -1.7**
MTE *e*Sg **Sg** **08 24 29.1 -1.1**
MTE A A 08 24 42.7
comp=N,45nm,0.5s
PSBE So Bento 4.75 303 *e*Pn **Pn** **08 23 17.0 +0.4**
PSBE *e*Sn **Sn** **08 24 10.4 -1.7**
PSBE A A 08 24 50.9
comp=N,38nm,0.5s
PMAFR Mafra 4.85 295 *e*Pn **Pn** **08 23 18.0 0.0**
PCAS Casmilo, Conde 4.86 310 *e*Pn **Pn** **08 23 18.7 +0.7**
PCAS *e*Sn **Sn** **08 24 12.1 -2.5**
PCAS A A 08 24 52.6
comp=N,38nm,0.6s
MVO Moncorvo 4.89 328 *e*Pn **Pn** **08 23 19.1 +0.5**
MVO *e*Sn **Sn** **08 24 13.6 -2.0**
MVO *e*Sg **Sg** **08 24 41.5 0.0**
MVO A A 08 24 51.3
comp=N,36nm,0.6s
PVIS Viseu 4.95 319 *e*Pn **Pn** **08 23 20.2 +0.8**
PVIS *e*Sn **Sn** **08 24 15.8 -1.2**
PVIS A A 08 24 58.2
comp=N,22nm,0.5s
FIGM Figuig 5.27 157 P **Pn** **08 23 23.7 -0.1**
FIGM S **Sn** **08 24 25.1 +0.1**
PBRG Braganca 5.33 334 *e*Sg **Sg** **08 24 53.4 -2.3**
PBRG A A 08 25 01.7
comp=N,20nm,0.6s
POLO Lamas de Olo 5.40 325 *e*Pn **Pn** **08 23 26.6 +1.0**
POLO *e*Sn **Sn** **08 24 25.4 -2.8**
POLO *e*Sg **Sg** **08 24 57.4 -0.4**
POLO A A 08 25 04.9
comp=N,9.4nm,0.6s
EPOB Poblet 5.66 39 Pn **Pn** **08 23 28.8 -0.3**
EPOB *i* Vmb_Lg 08 24 01.4
ETOS Mallorca 5.76 60 *i* Vmb_Lg 08 23 28.7
ETOS Pn **Pn** **08 23 30.7 +0.3**
ETOS Sn **Sn** **08 24 37.6 +0.8**
PCAB Cabril 5.77 325 *e*Sg **Sg** **08 25 11.2 +1.4**
PCAB A A 08 25 14.2
comp=N,20nm,0.7s
ELOB Lobios 5.92 326 Pn **Pn** **08 23 33.0 +0.4**
ELOB Sn **Sn** **08 24 37.3 -3.5**
ELOB *i* Vmb_Lg 08 25 18.2

PGAV Gavieira, Arco 6.09 325 *e*Pn **Pn** **08 23 36.1 +1.1**
PGAV *e*Sn **Sn** **08 24 41.8 -3.2**
PGAV A A 08 25 43.7
comp=N,15nm,0.6s
EORO Oroz-Betelu 6.12 16 Pn **Pn** **08 23 36.2 +0.8**
EORO Sn **Sn** **08 24 47.5 +1.7**
EORO *i* Vmb_Lg 08 25 25.3
ELAN Lanestosa 6.19 1 Pn **Pn** **08 23 36.4 0.0**
ETSF Etsaut 6.32 21 *e*Pn **Pn** **08 23 36.0 -2.1**
ETSF *e*Sn **Sn** **08 24 47.3 -3.3**
comp=N,2.4nm,0.4s
ETSF *e*Sg **Sg** **08 25 23.9 -3.2**
comp=N,4.9nm,0.4s
SJPF Ste Jean 6.35 16 *e*Pn **Pn** **08 23 39.5 +1.0**
SJPF *e*Sn **Sn** **08 24 47.7 -3.6**
comp=N,0.9nm,0.2s
SJPF *e*Sg **Sg** **08 25 24.5 -3.6**
EARI Arriondas 6.37 350 Pn **Pn** **08 23 40.0 +1.1**
EARI Sn **Sn** **08 24 52.6 +0.6**
EPF Esparros 6.72 26 *e*Pn **Pn** **08 23 42.8 -0.9**
EPF *e*Sg **Sg** **08 25 35.4 -4.7**
comp=N,5.2nm,0.4s
OUK Oukaimeden 6.79 212 P **Pn** **08 23 45.9 +1.0**
MTLF Montolieu 7.73 34 *e*Pn **Pn** **08 23 59.1 +1.6**
MTLF *e*Sg **Sg** **08 26 05.3 -7.1**
comp=N,2.6nm,0.4s
TANT Tantan 10.71 219 P **Pn** **08 24 40.1 +1.6**

*IDC **30** 09:15:57.7±0.6,29°.31S×61°.02E,h0km,mb4.3/13, mbtmp4.3/14,ML4.6/1,MS3.7/55,Error ellipse: s-maj=22.5km s-min=17.4km az=60.0*
*NEIC **30** 09:15:59.4±1.3,29°.11S±0°.09×60°.8E±0°.1,h10km±1km, mb4.6/20,Error ellipse: s-maj=16.3km s-min=14.5km az=303.0*
ISC 30 09:15:59.7±0.5,**29°.15S**±0°.08×**60°.66E**±0°.08,**h10**km,**n104,** σ1.2**85**/54,**mb4.6**/25,**MS3.8**/57,**1D,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.11**	**330**	Pn	**Pn**		**09 18 09.9**	**-1.5**
ROCAM	**Rodrigues Isla**	**9.67**	**15**	Pn	**Pn**		**09 18 17.0**	**-1.9**
VOI	**Vohitsoka**	**14.44**	**297**	Pn	**Pn**		**09 19 26.4**	**+2.2**
ABPO	**Ambohimpanom**	**15.86**	**306**	Pn	**Pn**		**09 19 43.5**	**+0.2**
OPO	**Ambohidratompo**	**16.19**	**308**	Pn	**P**		**09 19 50.5**	**-0.2**
	0.2nm,0.3s,baz=122,slow=11,SNR=19							
OPO				Sn	**Sn**		**09 22 40.3**	**-7.1**
	0.1nm,0.3s,baz=131,slow=7.3,SNR=2.6 7.3nm,0.5s							
H08S1	**Diego Garcia H**	**24.11**	**30**	T	T		09 46 02.7	
	baz=204,slow=76,SNR=6.6							
H08S2	**Diego Garcia H**	**24.12**	**30**	T	T		09 46 09.8	
	baz=204,slow=76,SNR=5.4							
H08S3	**Diego Garcia H**	**24.13**	**30**	T	T		09 46 13.9	
	baz=204,slow=76,SNR=6.9							
BOSA	**Boshof**	**30.94**	**262**	P	**P**		**09 22 15.8**	**-1.2**
	1.8nm,0.9s,baz=263,slow=18,SNR=1.5							
BOSA				LR	LR		09 32 53.0	
	comp=Z,90nm,18.7s,baz=90,slow=32							
LBTB	**Lobatse**	**31.42**	**269**	LR	LR		09 32 48.8	
	comp=Z,74nm,19.1s,baz=113,slow=32							
LSZ	**Lusaka**	**32.95**	**288**	LR	LR		09 33 56.6	
	comp=Z,76nm,21.4s,baz=185,slow=32							
SUR	**Sutherland**	**34.26**	**254**	LR	LR		09 36 26.7	
	comp=Z,50nm,18.2s,baz=114,slow=36							
KMBO	**Kilima Mbogo**	**35.70**	**317**	LR	LR		09 35 16.6	
	comp=Z,168nm,18.7s,baz=98,slow=32							
MAW	**Mawson**	**38.51**	**179**	LR	LR		09 35 32.1	
	comp=Z,161nm,19.1s,baz=340,slow=31							
MBAR	**Mbarara**	**40.26**	**309**	LR	LR		09 38 54.1	
	comp=Z,117nm,20.0s,baz=116,slow=34							
TSUM	**Tsumeb**	**40.34**	**274**	LR	LR		09 38 56.7	
	comp=Z,87nm,18.7s,baz=147,slow=34							
PALK	**Pallekele**	**41.03**	**31**	LR	LR		09 36 31.7	
	comp=Z,118nm,21.5s,baz=306,slow=30							
ATD	**Arta Tunnel**	**43.94**	**334**	LR	LR		09 39 41.3	
	comp=Z,164nm,19.8s,baz=172,slow=32							
H01W2	**Cape Leeuwin H**	**45.26**	**112**	T	T		10 12 06.1	
	baz=261,slow=75,SNR=21							
H01W3	**Cape Leeuwin H**	**45.26**	**112**	T	T		10 12 06.1	
	baz=261,slow=75,SNR=15							
H01W1	**Cape Leeuwin H**	**45.27**	**112**	T	T		10 11 53.7	
	baz=261,slow=75,SNR=21							
NWAO	**Narrogin (SRO)**	**48.13**	**110**	P	**P**		**09 24 38.0**	**-2.0**
PSI	**Prapat**	**48.51**	**56**	LR	LR		09 41 56.0	
	comp=Z,45nm,19.7s,baz=307,slow=32							
WSAR	**Wadi Sarin**	**52.12**	**358**	LR	LR		09 41 46.2	
	comp=Z,47nm,21.6s,baz=206,slow=30							
TROLL	**Troll, Antarti**	**52.84**	**199**	P	**P**		**09 25 15.8**	**+0.6**
SNAA	**Sanae**	**54.33**	**200**	P	**P**		**09 25 26.4**	**+0.4**
SNAA	**Sanae**	**54.33**	**200**	P	**P**		**09 25 24.2**	**-1.8**
	2.2nm,0.8s,baz=97,slow=8.3,SNR=11							
SNAA				LR	LR		09 44 16.5	
	comp=Z,79nm,19.5s,baz=40,slow=31 2.2nm,0.8s							
SNAA	**Sanae**	**54.33**	**200**	P	**P**		**09 25 25.5**	**-0.5**
RAYN	**Ar Rayn**	**54.36**	**343**	P	**P**		**09 25 25.7**	**-1.0**
VNA2	**Neumayer--Watz**	**55.59**	**202**	P	**P**		**09 25 36.1**	**+1.1**
	baz=89,slow=5.2							
VNA3	**Neumayer Olymp**	**56.38**	**201**	P	**P**		**09 25 40.9**	**+0.2**
BRDH	**Bariadhala**	**59.54**	**33**	LR	LR		09 48 03.8	
	comp=Z,81nm,21.6s,baz=256,slow=32							
CMAR	**Chiang Mai Arr**	**60.05**	**43**	P	**P**		**09 26 05.3**	**-1.7**
	2.0nm,0.3s,baz=238,slow=5.2,SNR=2.1							
CMAR				LR	LR		09 50 10.8	
	comp=Z,26nm,18.0s,baz=205,slow=34 2.0nm,0.3s							
KAPI	**Kappang**	**60.68**	**79**	LR	LR		09 46 57.8	
	comp=Z,11nm,21.2s,baz=262,slow=31							
QSPA	**South Pole Qui**	**61.01**	**180**	P	**P**		**09 26 12.2**	**-1.0**
	3.2nm,0.8s,baz=278,slow=2.0,SNR=14							
QSPA				LR	LR		09 49 30.6	
	comp=Z,102nm,19.4s,baz=276,slow=33 3.2nm,0.8s							
QSPA	**South Pole Qui**	**61.01**	**180**	P	**P**		**09 26 12.8**	**-0.3**
EIL	**Elat**	**63.43**	**335**	LR	LR		09 51 16.1	
	comp=Z,85nm,18.7s,baz=237,slow=33							
VNDA	**Vanda**	**64.15**	**166**	P	**P**		**09 26 32.0**	**-1.8**
	1.3nm,0.7s,baz=266,slow=7.8,SNR=10							
VNDA				LR	LR		09 51 59.8	
	comp=Z,146nm,19.1s,baz=256,slow=34 1.3nm,0.7s							
VNDA	**Vanda**	**64.15**	**166**	P	**P**		**09 26 34.0**	**+0.2**
VNDA				IAmb	IAmb		09 26 42.9	
	comp=Z,3.2nm,0.9s							
ASAR	**Alice Springs**	**64.87**	**104**	P	**P**		**09 26 36.4**	**-3.1**
	comp=Z,3.0nm,0.7s,baz=243,slow=6.0,SNR=41							
ASAR				LR	LR		09 50 41.5	
	comp=Z,38nm,19.5s,baz=233,slow=32 comp=Z,3.0nm,0.7s							
ASAR	**Alice Springs**	**64.87**	**104**	P	**P**		**09 26 37.5**	**-1.9**
AS31	**Alice Springs**	**64.87**	**104**	P	**P**		**09 26 37.0**	**-2.5**
ASF	**Jabal al Asfar**	**65.03**	**338**	LR	LR		09 51 42.1	
	comp=Z,193nm,21.5s,baz=107,slow=33							
SBA	**Scott Base**	**65.03**	**167**	P	**P**		**09 26 39.8**	**+0.2**
SBA				IAmb	IAmb		09 26 40.6	
	comp=Z,3.8nm,1.1s							
MMAI	**Mount Meron Ar**	**66.30**	**337**	LR	LR		09 52 52.8	
	comp=Z,68nm,20.0s,baz=96,slow=33							
WRA	**Warramunga Arr**	**66.70**	**101**	P	**P**		**09 26 48.6**	**-2.7**
	comp=Z,3.4nm,0.9s,baz=246,slow=5.7,SNR=14							
WRA				LR	LR		09 51 13.3	
	comp=Z,72nm,20.9s,baz=241,slow=32 comp=Z,3.4nm,0.9s							
WRA	**Warramunga Arr**	**66.70**	**101**	P	**P**		**09 26 48.2**	**-3.1**
WB2	**Warramunga Arr**	**66.71**	**101**	P	**P**		**09 26 48.9**	**-2.4**
WRAB	**Tennant Creek**	**66.71**	**101**	P	**P**		**09 26 49.0**	**-2.3**
WRAB				IAmb	IAmb		09 27 14.0	
	comp=Z,5.9nm,1.1s							
GEYT	**Alibeck**	**66.77**	**358**	LR	LR		09 53 38.4	
	comp=Z,52nm,20.0s,baz=169,slow=34							
GEYT	**Alibeck**	**66.77**	**358**	P	**P**		**09 26 51.9**	**+0.7**
GEYT				IAmb	IAmb		09 27 14.9	
	comp=Z,2.8nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**66.77**	**358**	P	**P**		**09 26 51.0**	**-0.1**
GYA0B				IAmb	IAmb		09 27 05.2	
	comp=Z,3.7nm,0.6s							
WB0	**Warramunga Arr**	**66.82**	**100**	P	**P**		**09 26 49.5**	**-2.5**
WR0	**Warramunga Arr**	**66.86**	**101**	P	**P**		**09 26 50.2**	**-2.1**
WR0				IAmb	IAmb		09 27 27.6	
	comp=Z,6.5nm,1.2s							
KMI	**Kunming**	**67.42**	**41**	||P	**P**	**09 26 58.3**	**+2.5**
KMI				pmax	pmax			
	comp=Z,12nm,0.5s							
GNI	**Garni**	**70.51**	**347**	LR	LR		09 56 34.3	

comp=Z,84nm,19.9s,baz=138,slow=34
TOA0 Torodi Ar. Sit 70.74 298 P **P** **09 27 16.0 -0.4**
TOA0 IAmb IAmb 09 27 21.9
comp=Z,5.4nm,0.9s
TORD Torodi Ar. Bea 70.74 298 P **P** **09 27 18.7 +2.3**
comp=Z,12nm,0.6s,baz=124,slow=4.4,SNR=5.1
comp=Z,12nm,0.6s
DBIC Dimbokro 72.29 288 P **P** **09 27 27.8 +2.0**
comp=Z,5.3nm,0.9s,baz=124,slow=8.3,SNR=4.0
DBIC LR LR 09 56 47.6
comp=Z,42nm,21.1s,baz=140,slow=34
comp=Z,5.3nm,0.9s
KK31 Karatay Array 72.46 8 P **P** **09 27 25.8 -0.3**
KK31 IAmb IAmb 09 27 30.8
comp=Z,5.4nm,1.1s
KKAR Karatay Array 72.46 8 P **P** **09 27 26.4 +0.2**
AAK Ala-Archa 72.56 11 LR LR 09 55 30.1
comp=Z,32nm,18.8s,baz=208,slow=33
AAK Ala-Archa 72.56 11 P **P** **09 27 26.4 -0.6**
AAK IAmb IAmb 09 27 31.9
comp=Z,5.7nm,1.1s
BR131 Keskin Array S 72.99 339 P **P** **09 27 29.5 0.0**
BR131 IAmb IAmb 09 27 33.7
comp=Z,6.6nm,1.1s
BRTR Keskin Array B 72.99 339 P **P** **09 27 29.8 +0.2**
comp=Z,1.6nm,0.8s,baz=86,slow=1.3,SNR=4.9
BRTR LR LR 09 57 54.9
comp=Z,33nm,19.1s,baz=189,slow=34
comp=Z,1.6nm,0.8s
KBZ Khabaz 74.33 347 LR LR 09 58 34.4
comp=Z,88nm,21.6s,baz=159,slow=34
KVAR Kislovodsk Arr 74.58 347 LR LR 09 58 27.5
comp=Z,56nm,21.9s,baz=80,slow=34
KOWA Kowa 76.00 296 LR LR 10 01 26.0
comp=Z,74nm,18.4s,baz=114,slow=36
WMQ Urumqi 76.72 20 *e*P **P** **09 27 53.0 +2.0**
CTA Charters Tower 76.78 106 LR LR 09 57 34.9
comp=Z,33nm,19.6s,baz=252,slow=33
PMSA Palmer Station 77.04 201 LR LR 09 58 56.0
comp=Z,153nm,19.6s,baz=75,slow=34
GTA Gaotai 77.34 30 *e*P **P** **09 27 58.0 +3.4**
GTA pP pwP 09 28 01.0 -1.7
GTA sP PcP 09 28 04.3 -0.9
GTA pmax pmax
comp=Z,5.0nm,1.0s
ABKAR Akbulak array 78.05 360 P **P** **09 27 58.8 +0.6**
MKAR Makanchi Array 78.08 15 LR LR 10 00 04.9
comp=Z,42nm,19.5s,baz=300,slow=34
AKTO Aktyubinsk 79.26 358 LR LR 09 59 55.0
comp=Z,39nm,21.8s,baz=184,slow=33
KEST Kesra 80.61 320 LR LR 10 05 18.7
comp=Z,92nm,18.1s,baz=218,slow=37
MLR Muntele Rosu 80.71 336 LR LR 10 03 49.9
comp=Z,39nm,18.5s,baz=198,slow=36
KURBB Kurchatov Arra 80.98 11 LR LR 10 03 00.0
comp=Z,24nm,18.0s,baz=85,slow=35
BELG Belogornoye 81.99 352 LR LR 10 07 34.6
comp=Z,28nm,18.0s,baz=140,slow=38
BVAR Borovoye Array 82.26 6 LR LR 10 02 31.3
comp=Z,71nm,21.1s,baz=206,slow=34
PMG Port Moresby 82.45 97 LR LR 10 01 34.5
comp=Z,36nm,19.7s,baz=274,slow=33
RPZ Rata Peaks 83.53 137 LR LR 09 57 50.0
comp=Z,102nm,18.4s,baz=259,slow=30
HHC Hu-ho-hao-te 84.10 36 *e*P **P** **09 28 32.0 +1.2**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,66nm,6.7s
AKASG Malin Array Be 84.22 341 P **P** **09 28 31.0 +0.1**
comp=Z,0.4nm,0.4s,baz=152,slow=3.8,SNR=5.5
comp=Z,0.4nm,0.4s
ZALV Zalesovo Beam 85.36 14 P **P** **09 28 37.2 +0.6**
comp=Z,2.0nm,0.8s,baz=197,slow=4.5,SNR=3.9
ZALV LR LR 10 03 04.3
comp=Z,42nm,19.9s,baz=248,slow=33
comp=Z,2.0nm,0.8s
BBTS Babate 86.23 289 LR LR 10 06 27.8
comp=Z,58nm,18.2s,baz=99,slow=35
SONM Songino Array 86.94 29 P **P** **09 28 45.8 +1.0**
comp=Z,0.4nm,0.6s,baz=276,slow=2.8,SNR=1.9
SONM LR LR 10 05 10.1
comp=Z,36nm,21.2s,baz=247,slow=34
comp=Z,0.4nm,0.6s
MDT Midelt 87.31 310 LR LR 10 07 26.8
comp=Z,79nm,19.6s,baz=110,slow=35
VRAC Vranov 87.42 333 LR LR 10 07 22.0
comp=Z,27nm,20.0s,baz=165,slow=35
KIRV Kirov 87.90 354 LR LR 10 09 42.4
comp=Z,34nm,18.2s,baz=137,slow=37
URZ Urewera 90.45 135 LR LR 10 00 57.8
comp=Z,103nm,21.9s,baz=304,slow=30
ESDC Consuegra Array 91.08 316 P **P** **09 29 05.6 +1.2**
comp=Z,1.9nm,0.9s,baz=20,slow=2.6,SNR=6.3
ESDC LR LR 10 09 23.9
comp=Z,36nm,20.2s,baz=136,slow=35
comp=Z,1.9nm,0.9s
KSRS Korea Array 91.39 47 LR LR 10 08 58.3
comp=Z,9.3nm,19.3s,baz=300,slow=35
DZM Mont Dzumac 92.28 117 *e*LR LR 09 58 39.9
comp=Z,48nm,23.6s
RCBR Riachuelo 92.90 262 LR LR 10 04 30.6
comp=Z,27nm,18.8s,baz=315,slow=31
FINES FINESS Array B 94.52 344 LR LR 10 14 37.4
comp=Z,28nm,18.2s,baz=246,slow=37
PLCA Paso Flores 97.07 215 LR LR 10 12 18.5
comp=Z,43nm,18.1s,baz=176,slow=35
NOA NORSAR Array B 98.42 338 LR LR 10 14 06.8
comp=Z,22nm,19.5s,baz=295,slow=35
PPT2 Papeete2 125.12 144 *e*LR LR 10 13 55.4
comp=Z,58nm,27.5s
ILAR Eielson Array 140.37 18 PKP **PKPdf** **09 35 27.6 -0.6**
comp=Z,0.2nm,0.6s,baz=292,slow=2.6,SNR=3.0
YKA Yellowknife Ar 146.50 356 PKPbc **PKPbc** **09 35 40.6 +0.1**
comp=Z,2.5nm,0.8s,baz=355,slow=2.6,SNR=5.9
PDAR Pinedale Array 164.29 332 PKP **PKPdf** **09 36 02.6 -1.1**
comp=Z,1.3nm,0.9s,baz=162,slow=1.4,SNR=9.9
TXAR Lajitas Array 166.31 275 PKP **PKPdf** **09 36 06.0 +0.4**
comp=Z,0.5nm,0.8s,baz=156,slow=2.1,SNR=6.9
NVAR Mina Array Bea 170.70 355 PKP **PKPdf** **09 36 09.0 +0.5**
comp=Z,1.2nm,0.8s,baz=100,slow=1.1,SNR=8.3

*IDC **30** 09:32:52.0±1.1,34°.31N×141°.69E,h0km,mb3.3/5, mbtmp3.3/6,ML2.6/1,MS3.1/2,Error ellipse: s-maj=29.0km s-min=20.4km az=123.0*
*JMA **30** 09:32:52.0±0.6,34°.1N±2°×14°.2E±°,h22km±2km,MV3.1/26, FAR SE OFF BOSO PEN*
ISC 30 09:32:53.3±2.1,**34°.39N**±0°.05×**141°.59E**±0°.08,**h11**km±12km, **n16,** σ1.9**20**/20,**mb3.5**/5,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.57**	**298**	*e*P	**Pg**		**09 33 04.7**	**+0.4**
BSO1				X			09 33 15.6	
BSO3	**Boso 3**	**0.98**	**295**	*e*P	**Pb**		**09 33 12.1**	**0.0**
BSO4	**Boso 4**	**1.19**	**300**	*e*P	**Pn**		**09 33 15.5**	**-0.3**
BSO4				*e*S	**Sb**		**09 33 32.1**	**+0.9**
JKUC	**kamogawauchiur**	**1.38**	**304**	*e*P	**Pn**		**09 33 17.9**	**-0.6**
JKUC				*e*S	**Sn**		**09 33 35.3**	**-1.4**
CHOJ	**Chosi**	**1.44**	**336**	*e*P	**Pn**		**09 33 17.9**	**-1.4**
CHOJ				*e*S	**Sn**		**09 33 35.7**	**-2.5**
JMKN	**Mikurajimanish**	**1.73**	**254**	*e*P	**Pn**		**09 33 23.0**	**-0.3**
JMKN				*e*S	**Sn**		**09 33 44.3**	**-1.1**
JIM2	**Oshima 3**	**1.81**	**281**	*e*P	**Pn**		**09 33 22.8**	**-1.6**
JHJ	**Hachijo jima 2**	**1.97**	**230**	Pn	**Pb**		**09 33 27.7**	**-1.4**
	10nm,0.3s,baz=257,slow=23,SNR=6.6							
JHJ				Sn	**Sn**		**09 33 52.0**	**+0.8**
	48nm,0.3s,baz=243,slow=20,SNR=8.6							
MJAR	**Matsushiro Arr**	**3.49**	**309**	Pn	**Pn**		**09 33 48.0**	**+0.4**
	0.5nm,0.3s,baz=140,slow=9.0,SNR=17							
MJAR				Sn	**Sn**		**09 34 29.4**	**+0.5**
	0.6nm,0.3s,baz=190,slow=22,SNR=2.9 3.3nm,0.3s							
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**		**09 41 15.5**	**+1.4**
	0.4nm,0.7s,baz=72,slow=9.3,SNR=1.9 0.4nm,0.7s							
ILAR	**Eielson Array**	**51.66**	**31**	P	**P**		**09 41 59.6**	**-0.2**
	0.5nm,0.7s,baz=277,slow=6.8,SNR=4.8 0.5nm,0.7s							
LEM	**Lembang**	**52.07**	**225**	LR	LR		10 03 24.2	
	comp=Z,12nm,20.1s,baz=180,slow=35							
WRA	**Warramunga Arr**	**54.47**	**188**	P	**P**		**09 42 20.5**	**-0.5**
	0.3nm,0.7s,baz=3.6,slow=7.7,SNR=9.3 0.3nm,0.7s							
ASAR	**Alice Springs**	**58.20**	**188**	P	**P**		**09 42 46.9**	**-0.6**
	0.1nm,0.3s,baz=357,slow=6.0,SNR=1.2							

0.1nm,0.3s
DZM Mont Dzumac 60.92 154 LR LR 10 09 44.3
comp=Z,21nm,18.7s,baz=32,slow=36
NVAR Mina Array Bea 76.47 53 P **P** **09 44 44.9 +1.4**
0.2nm,0.5s,baz=286,slow=6.5,SNR=2.7
0.2nm,0.5s

---

*ATH **30** 09:33:35.4, 35˚.32N×23˚.40E, h45km±3km, ML2.6/6, Error ellipse: s-maj=4.4km s-min=1.2km az=67.0*
*THE **30** 09:33:36.8, 35˚.36N×23˚.39E, h22km±3km, ML2.3/4, Error ellipse: s-maj=4.9km s-min=1.2km az=64.0*
ISC 30 09:33:36.4±1.4, 35˚.33N±0˚.06×23˚.36E±0˚.06, h24km±12km, n13, σ0§65/24, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.28**	**109**	P	**Pb**	**09 33 42.7**	**-0.3**
KNDR				S	**Sn**	**09 33 49.6**	**-0.9**
KNDR				AML	AML	09 33 51.6	
	comp=E,2171μm,0.3s						
KNDR				AML	AML	09 33 53.8	
	comp=N,3526μm,0.6s						
IMMV	**Iera Moni Meta**	**0.52**	**75**	P	**Pb**	**09 33 46.2**	**-0.8**
IMMV				S	**Sb**	**09 33 54.3**	**+0.2**
	comp=N,640nm,0.4s						
IMMV	**Iera Moni Meta**	**0.52**	**75**	P	**Pb**	**09 33 46.3**	**-0.6**
IMMV				S	**Sb**	**09 33 54.5**	**+0.3**
IMMV				AML	AML	09 33 54.9	
	comp=N,1531μm,0.3s						
IMMV				AML	AML	09 33 55.4	
	comp=E,1016μm,0.4s						
ANKY	**Antikythira Is**	**0.54**	**355**	P	**Pb**	**09 33 46.6**	**-0.7**
ANKY				S	**Sb**	**09 33 55.2**	**+0.5**
	comp=E,225nm,0.4s						
ANKY	**Antikythira Is**	**0.54**	**355**	P	**Pb**	**09 33 46.8**	**-0.5**
ANKY				S	**Sn**	**09 33 56.5**	**-0.4**
CHAN	**Chania**	**0.59**	**71**	P	**Pb**	**09 33 47.5**	**-0.5**
CHAN				S	**Sb**	**09 33 56.7**	**+0.7**
CHAN				AML	AML	09 33 58.0	
	comp=E,808μm,0.7s						
CHAN				AML	AML	09 34 02.0	
	comp=N,848μm,0.4s						
GVD	**Gavdhos**	**0.77**	**129**	P	**Pb**	**09 33 50.4**	**-0.7**
GVD				S	**Sn**	**09 34 02.7**	**+0.1**
	comp=N,322nm,0.3s						
GVD	**Gavdhos**	**0.77**	**129**	P	**Pb**	**09 33 50.4**	**-0.7**
GVD				S	**Sb**	**09 34 01.7**	**+0.6**
GVD				AML	AML	09 34 08.2	
	comp=N,692μm,0.3s						
GVD				AML	AML	09 34 08.7	
	comp=E,574μm,0.3s						
KTHA	**Kythira Island**	**0.96**	**345**	P	**Pb**	**09 33 53.7**	**-0.6**
KTHA				S	**Sb**	**09 34 06.2**	**-0.4**
	comp=E,220nm,0.5s						
KTHA	**Kythira Island**	**0.96**	**345**	P	**Pb**	**09 33 53.7**	**-0.6**
KTHA				S	**Sn**	**09 34 07.6**	**+0.3**
KTHA				AML	AML	09 34 08.4	
	comp=N,230μm,0.6s						
KTHA				AML	AML	09 34 10.8	
	comp=E,645μm,0.4s						
KTHR	**Kythira**	**0.98**	**343**	P	**Pb**	**09 33 53.8**	**-0.9**
KTHR				S	**Sb**	**09 34 07.6**	**+0.4**
KTHR				AML	AML	09 34 10.6	
	comp=E,1379μm,0.4s						
KTHR				AML	AML	09 34 11.1	
	comp=N,800μm,0.3s						
VLI	**Veliai**	**1.43**	**346**	P	**Pn**	**09 34 01.5**	**+0.6**
VLI	**Veliai**	**1.43**	**346**	P	**Pn**	**09 34 01.7**	**+0.8**

---

*IDC **30** 09:35:51.5±2.0, 30˚.73N×142˚.28E, h0km, mb3.6/4, mbtmp3.6/7, ML3.2/3, MS2.5/2, Error ellipse: s-maj=79.6km s-min=17.5km az=75.0*
*JMA **30** 09:35:59.6±0.7, 31˚.N±3˚.×14˚.3E±˚, h137km, MV3.2/15, FAR E OFF IZU ISLANDS*
ISC 30 09:35:56.4±1.2, 30˚.66N±0˚.08×142˚.2E±0˚.2, h35km, n15, σ1§42/17, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.18**	**321**	Pn	**Pn**	**09 36 41.8**	**-2.1**
	6.3nm,0.3s,baz=105,slow=20,SNR=1.6						
JHJ				Sn	**Sn**	**09 37 19.1**	**-1.6**
	11nm,0.3s,baz=127,slow=20,SNR=2.3						
	134nm,0.8s						
JCJ	**Chichijima**	**3.55**	**180**	Pn	**Pn**	**09 36 50.0**	**+1.0**
	6.2nm,0.3s,baz=72,slow=20,SNR=1.4						
JCJ				Sn	**Sn**	**09 37 27.5**	**-2.2**
	11nm,0.3s,baz=330,slow=20,SNR=6.1						
	17nm,0.3s						
JOD2	**Odawara 2**	**5.27**	**331**	*e*P	**Pn**	**09 37 14.8**	**+2.2**
JHU	**Hanno**	**5.71**	**336**	*e*P	**Pn**	**09 37 20.6**	**+1.9**
JRY	**Ryogami san**	**6.00**	**334**	*e*P	**Pn**	**09 37 24.0**	**+1.3**
JHO	**Hitachi**	**6.08**	**348**	*e*P	**Pn**	**09 37 23.2**	**-0.6**
JAG	**Ashikaga**	**6.18**	**339**	*e*P	**Pn**	**09 37 25.6**	**+0.4**
MJAR	**Matsushiro Arr**	**6.73**	**332**	Pn	**Pn**	**09 37 32.6**	**-0.1**
	0.2nm,0.3s,baz=148,slow=17,SNR=8.3						
MJAR				Sn	**Sn**	**09 38 48.0**	**-0.1**
	0.1nm,0.3s,baz=204,slow=40,SNR=1.6						
MJAR				LR	LR	09 39 49.6	
	comp=Z,34nm,19.6s,baz=156,slow=35						
	1.0nm,0.3s						
JFK	**Kawauchi**	**6.78**	**351**	*e*P	**Pn**	**09 37 32.4**	**-0.9**
KSRS	**Korea Array**	**13.60**	**304**	LR	LR	09 44 31.2	
	comp=Z,18nm,18.9s,baz=280,slow=38						
SONM	**Songino Array**	**32.22**	**312**	P	**P**	**09 42 21.0**	**-0.4**
	0.4nm,0.5s,baz=100,slow=8.0,SNR=1.7						
	0.4nm,0.5s						
YAK	**Yakutsk**	**32.42**	**349**	P	**P**	**09 42 21.9**	**-0.8**
	13nm,0.4s,baz=195,slow=1.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**50.59**	**312**	P	**P**	**09 44 53.0**	**+1.5**
	0.6nm,0.3s,baz=92,slow=8.8,SNR=1.9						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**50.87**	**189**	P	**P**	**09 44 54.8**	**+0.9**
	1.0nm,0.9s,baz=6.9,slow=7.8,SNR=9.4						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**54.59**	**189**	P	**P**	**09 45 21.6**	**+0.2**
	0.2nm,0.7s,baz=0.5,slow=5.3,SNR=4.2						
	0.2nm,0.7s						

ROM 30 09:40:54.6±0.0, 42˚.600N±0˚.003×13˚.323E±0˚.002, h11km, ML1.4/3, 1C-1D, Error ellipse: s-maj=0.3km s-min=0.2km az=200.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1204	**Amatrice, Fraz**	**0.08**	**356**	P	Pg	09 40 57.5	+0.3
T1204				S	Sg	09 40 59.1	0.0
CAMP	**Campotosto**	**0.09**	**135**	P	Pg	09 40 57.7	+0.4
CAMP				S	Sg	09 40 59.5	+0.2
RM33	**Pellescritta (**	**0.12**	**222**	P	Pg	09 40 58.1	+0.5
RM33				S	Sg	09 41 00.4	+0.5
RM33				AML	AML		
	comp=E,242μm,1.1s						
RM33				AML	AML		
	comp=N,180μm,0.3s						
RM33				AML	AML		
	comp=E,242μm,1.1s						
RM33	**Pellescritta (**	**0.12**	**222**	P	Pg	09 40 58.2	+0.5
RM33				S	Sg	09 41 00.4	+0.5
RM33				AML	AML		
	comp=E,242μm,1.1s						
RM33				AML	AML		
	comp=N,180μm,0.3s						
RM33				AML	AML		
	comp=E,242μm,1.1s						
RM33				AML	AML		
	comp=N,180μm,0.3s						
RM33				AML	AML		
	comp=E,242μm,1.1s						
T1202	**Accumoli, Fraz**	**0.13**	**325**	P	Pg	09 40 58.4	+0.7
T1202				S	Sg	09 41 01.0	+0.9
T1246	**Crognaleto (TE**	**0.13**	**98**	P	Pg	09 40 58.3	+0.6
T1246				S	Sg	09 41 00.6	+0.6
T1243	**Rocca Santa Ma**	**0.13**	**44**	P	Pg	09 40 58.3	+0.5
T1243				S	Sg	09 41 00.8	+0.6
T1243	**Rocca Santa Ma**	**0.13**	**44**	⇑P	Pg	09 40 58.4	+0.5
T1243				S	Sg	09 41 00.9	+0.7
T1247	**Pizzolo (AQ)**	**0.16**	**187**	P	Pb	09 40 58.9	-0.7
T1247				S	Sg	09 41 01.8	+1.0
TERO	**Teramo**	**0.21**	**84**	P	Pg	09 40 59.7	+0.6
TERO				S	Sg	09 41 03.0	+1.0
TERO				AML	AML		
	comp=E,244μm,0.1s						
TERO				AML	AML		
	comp=N,236μm,0.1s						
TERO				AML	AML		
	comp=E,244μm,0.1s						
TERO				AML	AML		
	comp=N,235μm,0.1s						
TERO	**Teramo**	**0.21**	**84**	P	Pg	09 40 59.7	+0.7
TERO				S	Sg	09 41 03.0	+1.0
TERO				AML	AML		
	comp=E,244μm,0.1s						
TERO				AML	AML		
	comp=N,236μm,0.1s						
TERO				AML	AML		
	comp=E,244μm,0.1s						
TERO				AML	AML		
	comp=N,235μm,0.1s						
TERO				AML	AML		
	comp=E,244μm,0.1s						
TERO				AML	AML		
	comp=N,235μm,0.1s						
LNSS	**Leonessa**	**0.21**	**271**	P	Pg	09 40 59.6	+0.6
LNSS				S	Sg	09 41 03.1	+1.0
LNSS				AML	AML		
	comp=E,96μm,0.4s						
LNSS				AML	AML		
	comp=N,117μm,1.6s						
LNSS				AML	AML		
	comp=E,96μm,0.4s						
LNSS				AML	AML		
	comp=N,117μm,1.6s						
LNSS	**Leonessa**	**0.21**	**271**	P	Pg	09 40 59.6	+0.5
LNSS				S	Sg	09 41 03.2	+1.1
LNSS				AML	AML		
	comp=E,96μm,0.4s						
LNSS				AML	AML		
	comp=N,117μm,1.6s						
LNSS				AML	AML		
	comp=E,96μm,0.4s						
LNSS				AML	AML		
	comp=N,117μm,1.6s						
LNSS				AML	AML		
	comp=E,96μm,0.4s						
LNSS				AML	AML		
	comp=N,117μm,1.6s						
GIGS	**Gran Sasso**	**0.24**	**129**	P	Pg	09 41 00.2	+0.7
GIGS				S	Sg	09 41 03.9	+1.0
GIGS	**Gran Sasso**	**0.24**	**129**	P	Pg	09 41 00.2	+0.7
GIGS				S	Sg	09 41 03.9	+1.1
T1241	**Roccafluvione,**	**0.27**	**17**	P	Pg	09 41 00.7	+0.6
T1241				S	Sb	09 41 05.0	-1.1
T1241	**Roccafluvione,**	**0.27**	**17**	P	Pb	09 41 00.8	-0.6
NRCA	**Norcia**	**0.28**	**327**	P	Pg	09 41 00.9	+0.6
NRCA				S	Sb	09 41 05.3	-1.1
NRCA				AML	AML		
	comp=E,387μm,0.1s						
NRCA				AML	AML		
	comp=N,354μm,0.1s						
NRCA				AML	AML		
	comp=N,354μm,0.1s						
NRCA				AML	AML		
	comp=E,387μm,0.1s						
T1217	**Poggiodomo (PG**	**0.31**	**291**	P	Pg	09 41 01.3	+0.4
T1217				S	Sg	09 41 06.1	+1.0
T1217	**Poggiodomo (PG**	**0.31**	**291**	P	Pg	09 41 01.3	+0.4
T1217				S	Sb	09 41 06.2	-1.1
T1215	**Vallo di Nera,**	**0.39**	**301**	⇓P	Pg	09 41 02.7	+0.3
T1215				S	Sg	09 41 08.6	+1.0
T1215	**Vallo di Nera,**	**0.39**	**301**	P	Pg	09 41 02.6	+0.2
T1215				S	Sb	09 41 08.7	-1.0
CSP1	**Cessapalombo**	**0.50**	**350**	P	Pb	09 41 05.0	-0.5
CSP1				S	Sb	09 41 12.9	+0.1
CSP1				AML	AML		
	comp=E,70μm,1.6s						
CSP1				AML	AML		
	comp=N,79μm,1.6s						
CSP1				AML	AML		
	comp=N,79μm,1.6s						
CSP1				AML	AML		
	comp=E,70μm,1.6s						

---

*IDC **30** 09:55:21.1±2.6, 15˚.14S×173˚.45W, h0km, mb3.5/5, mbtmp3.6/6, ML4.1/1, MS2.7/2, Error ellipse: s-maj=224.1km s-min=20.7km az=152.0*
*NEIC **30** 09:55:22.6±1.7, 15˚.16S±0˚.06×173˚.4W±0˚.2, h10km±2km, mb4.2/4, Error ellipse: s-maj=27.6km s-min=4.5km az=289.0*
*NOU **30** 09:55:42.0, 14˚.02S×172˚.29W, h62km, MLv3.3/4, Samoa Islands*
ISC 30 09:55:25.2±1.0, 15˚.1S±0˚.1×173˚.3W±0˚.1, h30km, n13, σ1§75/13, mb3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.89**	**50**	Pn	**Pn**	**09 55 55.6**	**+0.1**
	68nm,0.3s,baz=188,slow=2.2,SNR=98						
AFI				Sn	**Sn**	**09 56 15.3**	**-3.1**
	142nm,0.3s,baz=238,slow=13,SNR=25						
AFI				LR	LR	09 56 26.8	
	comp=Z,69nm,19.9s,baz=178,slow=32						
	193nm,0.5s						
AFI	**Afiamalu**	**1.89**	**50**	P	**Pn**	**09 55 55.7**	**+0.1**
NIUE	**Niue**	**5.07**	**141**	Pn	**Pn**	**09 56 39.0**	**-0.2**
WB0	**Warramunga Arr**	**49.98**	**257**	P	**P**	**10 04 14.7**	**-2.4**
WB0				IAmb	IAmb	10 04 40.8	
	comp=Z,2.7nm,1.2s						
WB2	**Warramunga Arr**	**50.01**	**257**	P	**P**	**10 04 16.4**	**-0.8**
WB2				IAmb	IAmb	10 04 28.1	
	comp=Z,4.6nm,1.2s						
WRAB	**Tennant Creek**	**50.01**	**257**	P	**P**	**10 04 16.3**	**-1.0**
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**10 04 16.5**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=91,slow=6.8,SNR=6.2						
	comp=Z,0.2nm,0.4s						
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**10 04 15.8**	**-1.6**
ASAR	**Alice Springs**	**50.31**	**252**	P	**P**	**10 04 18.3**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=87,slow=8.3,SNR=10						
	comp=Z,0.6nm,0.7s						
SIJI	**Sorong**	**56.53**	**279**	LR	LR	10 30 28.6	
	comp=Z,16nm,18.2s,baz=222,slow=37						
NVAR	**Mina Array Bea**	**74.05**	**42**	P	**P**	**10 07 00.9**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=224,slow=7.6,SNR=3.5						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**80.36**	**56**	P	**P**	**10 07 35.1**	**+1.0**
	comp=Z,0.5nm,1.0s,baz=200,slow=9.6,SNR=3.8						
	comp=Z,0.5nm,1.0s						
PDAR	**Pinedale Array**	**81.98**	**42**	P	**P**	**10 07 44.3**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=197,slow=2.5,SNR=4.6						
	comp=Z,0.6nm,0.8s						

---

*TIR **30** 10:31:04.7, 39˚.85N×19˚.33E, h22km±1km, Ml2.5*
ISC 30 10:31:04.1±1.9, 39.79N±0˚.07×19.24E±0.06, h12km±13km, n20, σ1§17/30, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.59**	**81**	P	**Pg**	**10 31 15.7**	**0.0**
	baz=86						
SRN				S	**Sg**	**10 31 23.3**	**-0.3**
	baz=86						
SRN				AMP			
	comp=N,0.9nm,0.5s,baz=86						
SCTE	**Santa Cesarea**	**0.65**	**295**	P	**Pn**	**10 31 19.0**	**-0.1**
	baz=290						
SCTE				S	**Sn**	**10 31 29.0**	**-0.4**
	baz=290						
SCTE				AMP			
	comp=E,1.6nm,0.2s,baz=290						
VLO	**Vlora**	**0.70**	**16**	P	**Pg**	**10 31 17.3**	**-0.5**
	baz=11						
VLO				S	**Sb**	**10 31 27.4**	**-0.5**
	baz=11						
LSK	**Leskovik**	**1.11**	**71**	P	**Pb**	**10 31 23.8**	**-1.4**
	baz=72						
LSK				S	**Sb**	**10 31 39.4**	**-0.3**
	baz=72						
TIR	**Tirane**	**1.62**	**17**	P	**Pb**	**10 31 34.8**	**+0.8**
	baz=14						
TIR				S	**Sg**	**10 31 55.8**	**-0.6**
	baz=14						
OHR	**Ohrid**	**1.78**	**42**	*i* Pn	**Pg**	**10 31 39.7**	**+1.5**
OHR				*e*Sn	**Sg**	**10 32 01.7**	**+0.4**
PHP	**Peshkopia**	**2.10**	**25**	P	**Pb**	**10 31 41.1**	**-1.0**
	baz=24						
PHP				S	**Sb**	**10 32 07.0**	**-1.1**
	baz=24						
BCI	**Bajram Curri**	**2.65**	**13**	P	**Pb**	**10 31 49.9**	**-1.6**
	baz=12						
BCI				S	**Sb**	**10 32 22.4**	**-1.5**
	baz=12						
STIP	**Stip**	**2.94**	**49**	*e*Pn	**Pb**	**10 31 56.8**	**+0.4**
STON	**Ston**	**3.29**	**340**	*e*Pn	**Pn**	**10 31 55.8**	**+0.4**
LSTV	**Lastovo**	**3.46**	**330**	*e*Pn	**Pn**	**10 31 58.5**	**+0.8**
MAKA	**Makarska**	**3.87**	**335**	Sn	**Sn**	**10 32 48.0**	**-0.7**
HVAR	**Hvar**	**3.98**	**329**	*e*Pn	**Pn**	**10 32 05.4**	**+0.6**
RICI	**Ricice**	**4.02**	**338**	*e*Pn	**Pn**	**10 32 07.7**	**+2.2**
RICI				Sn	**Sn**	**10 32 52.7**	**+0.3**
ZIRJ	**Zirje**	**4.70**	**326**	*e*Pn	**Pn**	**10 32 15.6**	**+0.8**
KIJV	**Kijevo**	**4.71**	**334**	*e*Pn	**Pn**	**10 32 15.8**	**+0.9**
MORI	**Morici**	**4.85**	**328**	*e*Pn	**Pn**	**10 32 18.7**	**+1.9**
MORI				Sn	**Sn**	**10 33 12.2**	**-0.6**
DUGI	**Dugi Otok**	**5.23**	**325**	*e*Pn	**Pn**	**10 32 23.8**	**+1.8**
VIRC	**Vir**	**5.47**	**327**	*e*Pn	**Pn**	**10 32 27.3**	**+2.0**
NVLJ	**Novalja**	**5.76**	**327**	*e*Pn	**Pn**	**10 32 31.2**	**+1.8**

---

*IDC **30** 10:40:52.8±1.0, 56˚.95N×155˚.46W, h0km, mb3.8/14, mbtmp3.8/16, ML3.5/2, Error ellipse: s-maj=25.5km s-min=11.9km az=170.0*
*ANF **30** 10:40:54.5±0.6, 56˚.76N×155˚.25W, h12km±5km, ML4.1/35, ML4.1/35, Error ellipse: s-maj=3.1km s-min=1.8km az=145.0*
*AEIC **30** 10:40:55±1.7, 56˚.76N±0˚.02×155˚.21W±0˚.05, h10km±6km, ML3.7, mb4.0/1(NEIC), ML3.8/50(NEIC), Error ellipse: s-maj=4.5km s-min=3.2km az=63.0*
*NEIC **30** 10:40:56.5±1.4, 56˚.73N±0˚.02×155˚.16W±0˚.05, h35km±49km, Error ellipse: s-maj=4.5km s-min=1.2km az=61.0*
ISC 30 10:40:54.7±1.1, 56˚.77N±0˚.03×155˚.23W±0˚.03, h15km±7km, n267, σ0§84/279, mb4.0/14, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SII	**Sitkinak Islan**	**0.61**	**110**		**Pg**	**10 41 06.7**	**0.0**
SII					**Sb**	**10 41 16.0**	**+0.4**
SII	**Sitkinak Islan**	**0.61**	**110**	P	**Pg**	**10 41 06.9**	**+0.2**
	baz=290,SNR=463						
SII				S	**Sb**	**10 41 15.8**	**+0.2**
	baz=290						
CHIR	**Chirikof Islan**	**0.98**	**193**		**Pg**	**10 41 13.2**	**-0.4**
CHIR					**Sg**	**10 41 26.4**	**0.0**
CHIR	**Chirikof Islan**	**0.98**	**193**	IAML		10 41 30.4	
	comp=N,5μm,0.6s						
CHIR	**Chirikof Islan**	**0.98**	**193**	P	**Pg**	**10 41 13.2**	**-0.4**
	baz=14,SNR=210						
CHIR				S	**Sb**	**10 41 26.5**	**+0.6**
	baz=14						
R17K	**Ugashik Creek**	**1.07**	**325**		**Pb**	**10 41 14.5**	**-0.5**
R17K					**Sg**	**10 41 29.9**	**+0.5**
R17K	**Ugashik Creek**	**1.07**	**325**	P	**Pb**	**10 41 13.2**	**-1.8**
	baz=144,SNR=216						
R17K				S	**Sg**	**10 41 30.2**	**+0.7**
	baz=144						
OHAK	**Old Harbor**	**1.15**	**66**		**Pb**	**10 41 15.1**	**-1.2**
OHAK					**Sb**	**10 41 31.4**	**+0.3**
OHAK	**Old Harbor**	**1.15**	**66**	IAML		10 41 33.1	
	comp=E,2μm,0.4s						
OHAK	**Old Harbor**	**1.15**	**66**	P	**Pb**	**10 41 15.0**	**-1.2**
	baz=247,SNR=152						
OHAK				S	**Sn**	**10 41 32.6**	**+0.9**
	baz=247						
ANCK	**Angle Creek**	**1.44**	**354**		**Pn**	**10 41 19.0**	**-1.2**
R16K	**Pilot Point**	**1.51**	**303**		**Pn**	**10 41 20.6**	**-0.5**
R16K	**Pilot Point**	**1.51**	**303**	P	**Pn**	**10 41 20.6**	**-0.5**
	baz=121,SNR=13						
KAKN	**Katmai Knife C**	**1.53**	**3**		**Pn**	**10 41 20.5**	**-1.0**
Q17K	**Contact Creek**	**1.54**	**347**	P	**Pn**	**10 41 20.8**	**-0.9**
	baz=166,SNR=193						
Q17K				S	**Sn**	**10 41 40.5**	**-0.9**
	baz=166						
CNTC	**Contact Creek**	**1.54**	**347**		**Pn**	**10 41 20.7**	**-1.0**
ANNE	**Aniakchak Nort**	**1.56**	**276**		**Pn**	**10 41 21.8**	**-0.1**
ANPB	**Aniakchak Plen**	**1.68**	**272**		**Pn**	**10 41 23.8**	**+0.2**
KDAK	**Kodiak Island**	**1.76**	**54**	Pg	**Pn**	**10 41 24.8**	**+0.2**
	comp=E,94nm,0.3s,baz=222,slow=4.5,SNR=1745						
KDAK				Lg	Lg	10 41 48.8	
	comp=E,81nm,0.3s,baz=350,slow=22,SNR=12						
KDAK	**Kodiak Island**	**1.76**	**54**		**Pn**	**10 41 24.8**	**+0.2**
KDAK				IAML		10 41 54.5	
	comp=E,522nm,0.8s						
KDAK	**Kodiak Island**	**1.76**	**54**		**Sn**	**10 41 47.3**	**+0.7**
KDAK	**Kodiak Island**	**1.76**	**54**	P	**Pn**	**10 41 24.7**	**+0.2**
	baz=235						
KDAK				S	**Sb**	**10 41 48.3**	**-0.1**
	baz=235						
CHGN	**Chignik**	**1.83**	**256**	Pn	**Pn**	**10 41 26.0**	**+0.6**
CHGN				IAML		10 41 51.5	
	comp=N,1μm,0.9s						
CHGN				IAML		10 41 57.0	
	comp=E,1μm,0.6s						
CHGN	**Chignik**	**1.83**	**256**	P	**Pn**	**10 41 25.7**	**+0.3**
	baz=74,SNR=49						
CHGN				S	**Sn**	**10 41 48.7**	**+0.4**
	baz=74						
KAHC	**Katmai Hardscr**	**1.89**	**3**		**Pn**	**10 41 26.5**	**+0.1**
KAHC					**Sn**	**10 41 49.6**	**-0.4**
Q18K	**Katmai Hardscr**	**1.89**	**3**	P	**Pn**	**10 41 26.4**	**-0.1**
	baz=183,SNR=172						
Q18K				S	**Sn**	**10 41 51.9**	**+1.9**
	baz=183						
Q16K	**King Salmon**	**2.06**	**339**		**Pn**	**10 41 28.5**	**-0.2**
Q16K					**Sn**	**10 41 53.8**	**-0.2**
Q16K	**King Salmon**	**2.06**	**339**	P	**Pn**	**10 41 28.5**	**-0.2**
	baz=157,SNR=21						
Q19K	**Cape Douglas,**	**2.32**	**21**		**Pn**	**10 41 33.1**	**+0.8**
Q19K					**Sn**	**10 42 01.9**	**+1.3**
Q19K	**Cape Douglas,**	**2.32**	**21**	P	**Pn**	**10 41 32.8**	**+0.5**
	baz=202,SNR=26						
Q20K	**Shuyak Island**	**2.39**	**38**	P	**Pn**	**10 41 34.2**	**+0.9**
	baz=220,SNR=53						
Q20K				Sb	**Sb**	**10 42 08.9**	**+2.3**
	baz=220						
SYI	**Shuyak Island**	**2.39**	**38**		**Pn**	**10 41 34.2**	**+0.9**
S14K	**Fog Glacier**	**2.45**	**260**	P	**Pn**	**10 41 33.9**	**-0.2**
	baz=77						
P17K	**Kvichak River**	**2.51**	**346**		**Pn**	**10 41 35.8**	**+0.8**
P17K	**Kvichak River**	**2.51**	**346**	P	**Pn**	**10 41 34.9**	**-0.1**
	baz=164,SNR=35						
P18K	**Big Mountain,**	**2.63**	**360**		**Pn**	**10 41 36.6**	**0.0**
P18K	**Big Mountain,**	**2.63**	**360**	P	**Pn**	**10 41 36.5**	**0.0**
	baz=180						
P16K	**Nushagak River**	**2.70**	**328**		**Pn**	**10 41 37.6**	**+0.1**
P16K	**Nushagak River**	**2.70**	**328**	P	**Pn**	**10 41 37.6**	**+0.1**
	baz=146,SNR=13						
P16K				S	**Sn**	**10 42 10.2**	**+0.3**
	baz=146						
AUQ	**Augustine Qik'**	**2.76**	**20**		**Pn**	**10 41 39.1**	**+0.7**
P19K	**Oil Pt**	**3.08**	**19**		**Pn**	**10 41 43.6**	**+0.9**
P19K				IAML		10 42 30.4	
	comp=E,340nm,0.7s						
P19K				IAML		10 42 30.4	
	comp=N,281nm,0.6s						
P19K	**Oil Pt**	**3.08**	**19**	P	**Pn**	**10 41 43.8**	**+1.1**
	baz=201						
O18K	**Koktuh Hills**	**3.09**	**0**		**Pn**	**10 41 43.0**	**+0.1**
O18K				IAML		10 42 37.0	
	comp=E,174nm,0.7s						
O18K	**Koktuh Hills**	**3.09**	**0**		**Sn**	**10 42 20.5**	**+1.0**
O18K	**Koktuh Hills**	**3.09**	**0**	P	**Pn**	**10 41 43.0**	**+0.1**
	baz=180,SNR=21						
CHNA	**Chernabura Isl**	**3.14**	**234**	P	**Pn**	**10 41 43.0**	**-0.5**
	baz=50						
CNBA	**Chernabura Isl**	**3.15**	**233**		**Pn**	**10 41 43.2**	**-0.3**
CNBA

	comp=N,402nm,1.2s							
SDPT	**Sand Point**	3.27	246	P		Pn	10 41 45.7	+0.4
	baz=62							
ILS	**Iliamna Low So**	3.39	19			Pn	10 41 48.3	+1.2
ILSW	**Iliamna Southw**	3.40	18			Pn	10 41 48.1	+0.8
ILSW	**Iliamna Southw**	3.40	18	IAML			10 42 35.7	
	comp=N,109nm,1.0s							
ILSW				IAML			10 42 36.3	
	comp=E,116nm,0.9s							
IVE	**Iliamna Volcan**	3.46	19			Pn	10 41 48.8	+0.8
HOM	**Homer**	3.46	32			Pn	10 41 49.1	+1.1
HOM	**Homer**	3.46	32	IAML			10 42 48.5	
	comp=N,489nm,0.9s							
HOM	**Homer**	3.46	32	P		Pn	10 41 48.9	+1.0
	baz=214							
O19K	**Port Alsworth**	3.47	8			Pn	10 41 49.1	+1.1
O19K	**Port Alsworth**	3.47	8	P		Pn	10 41 48.5	+0.5
	baz=188,SNR=12							
CNPM	**China Poot**	3.48	36			Pn	10 41 49.1	+0.8
CNPM				IAML			10 42 54.5	
	comp=N,214nm,0.7s							
CNPM				IAML			10 42 57.1	
	comp=E,208nm,0.8s							
O20K	**Slope Mountain**	3.59	21			Pn	10 41 51.5	+1.6
O20K	**Slope Mountain**	3.59	21	P		Pn	10 41 51.4	+1.6
	baz=203							
BRLK	**Bradley Lake**	3.78	36			Pn	10 41 52.5	+0.2
BRLK	**Bradley Lake**	3.78	36	IAML			10 43 00.5	
	comp=E,141nm,0.9s							
BRLK				IAML			10 43 05.6	
	comp=N,110nm,1.0s							
BRSE	**Bradley Lake S**	3.81	37			Pn	10 41 53.1	+0.4
BRSE	**Bradley Lake S**	3.81	37	P		Pn	10 41 53.1	+0.4
	baz=220,SNR=21							
RDSO	**Redoubt South**	3.92	18			Pn	10 41 55.5	+1.2
RSO	**Redoubt South**	3.92	18			Pn	10 41 56.1	+1.7
RDWB	**Redoubt West**	3.93	18			Pn	10 41 55.8	+1.3
N18K	**Kilae Creek**	3.94	355			Pn	10 41 54.9	+0.4
N18K				IAML			10 42 55.8	
	comp=E,103nm,0.8s							
N18K	**Kilae Creek**	3.94	355	P		Pn	10 41 54.8	+0.3
	baz=175							
DFR	**Drift River**	4.05	18			Pn	10 41 57.3	+1.1
N19K	**Bonanza Creek**	4.07	5			Pn	10 41 57.0	+0.6
N19K				IAML			10 42 59.4	
	comp=E,121nm,0.9s							
N19K				IAML			10 43 04.0	
	comp=N,107nm,0.7s							
N19K	**Bonanza Creek**	4.07	5	P		Pn	10 41 57.1	+0.6
	baz=186,SNR=7.1							
N16K	**Nishlik Lake**	4.15	335			Pn	10 41 57.6	+0.2
N16K	**Nishlik Lake**	4.15	335	P		Pn	10 41 57.6	+0.2
	baz=152,SNR=7.1							
SVW2	**Sparrevohn**	4.34	358			Pn	10 42 00.4	+0.3
SVW2				IAML			10 43 20.4	
	comp=E,89nm,1.2s							
SEW	**Seward**	4.51	40			Pn	10 42 01.8	-0.6
SEW	**Seward**	4.51	40	P		Pn	10 42 01.9	-0.5
	baz=224							
CAPN	**Captain Cook N**	4.53	26	Pn		Pn	10 42 04.2	+1.5
SLKM	**Skilak Lake**	4.57	33			Pn	10 42 03.2	0.0
CKL	**Chakachamna La**	4.68	17			Pn	10 42 06.1	+1.3
O22K	**Cooper Landing**	4.70	35			Pn	10 42 06.3	+1.3
N20K	**Mount Spurr**	4.71	18	P		Pn	10 42 06.0	+0.9
	baz=200,SNR=10.0							
SPCR	**Spurr Chakacha**	4.71	18	P		Pn	10 42 06.1	+0.9
	baz=200							
SPU	**Mount Spurr**	4.72	19			Pn	10 42 06.4	+1.1
SPCG	**Spurr Capps Gl**	4.83	19			Pn	10 42 07.7	+0.9
M19K	**Big River Lodg**	5.17	4			Pn	10 42 12.1	+0.7
M19K	**Big River Lodg**	5.17	4	IAML			10 43 54.8	
	comp=E,52nm,1.0s							
M19K	**Big River Lodg**	5.17	4	P		Pn	10 42 12.0	+0.6
	baz=185							
RC01	**Rabbit Creek A**	5.18	31			Pn	10 42 11.9	+0.4
RC01	**Rabbit Creek A**	5.18	31	IAML			10 43 24.4	
	comp=E,36nm,0.5s							
RC01	**Rabbit Creek A**	5.18	31	P		Pn	10 42 11.7	+0.1
	baz=216,SNR=5.9							
M20K	**Styx River**	5.24	11			Pn	10 42 14.2	+1.8
SUA	**Susitna One**	5.24	24			Pn	10 42 13.2	+0.8
SUA				IAML			10 43 22.2	
	comp=N,61nm,1.1s							
SUA				IAML			10 43 37.9	
	comp=E,62nm,1.5s							
SUA	**Susitna One**	5.24	24	P		Pn	10 42 13.3	+0.8
	baz=208							
L19K	**White Mountain**	5.43	2			Pn	10 42 15.8	+0.8
L19K	**White Mountain**	5.43	2	P		Pn	10 42 15.8	+0.8
	baz=182,SNR=44							
L19K				S		Sn	10 43 17.0	-0.1
	baz=182							
PWL	**Port Wells**	5.44	38			Pn	10 42 14.8	-0.3
PWL	**Port Wells**	5.44	38	P		Pn	10 42 14.9	-0.3
	baz=224,SNR=25							
SKT	**Skwentna**	5.55	18	Pn		Pn	10 42 17.5	+0.8
SKT	**Skwentna**	5.55	18	P		Pn	10 42 17.3	+0.6
	baz=201							
M22K	**Willow**	5.64	26			Pn	10 42 18.1	+0.3
M22K	**Willow**	5.64	26	P		Pn	10 42 18.2	+0.4
	baz=210							
PMR	**Palmer**	5.76	30			Pn	10 42 19.3	-0.2
PMR	**Palmer**	5.76	30	P		Pn	10 42 19.1	-0.4
	baz=215							
L20K	**Farewell, AK**	5.77	6			Pn	10 42 20.8	+1.1
L20K	**Farewell, AK**	5.77	6	P		Pn	10 42 20.8	+1.1
	baz=187,SNR=8.8							
KNK	**Knik Glacier**	5.81	34			Pn	10 42 19.9	-0.4
KNK	**Knik Glacier**	5.81	34	P		Pn	10 42 20.1	-0.2
	baz=220							
HIN	**Hinchinbrook I**	5.83	48			Pn	10 42 20.1	-0.4
GLI	**Glacier Island**	5.90	42			Pn	10 42 20.6	-0.8
GLI	**Glacier Island**	5.90	42	P		Pn	10 42 20.4	-1.0
	baz=229							
FID	**Port Fidalgo**	6.05	45			Pn	10 42 22.3	-1.2
SML	**Sawmill**	6.16	32	Pn		Pn	10 42 25.3	+0.2
SML	**Sawmill**	6.16	32	P		Pn	10 42 25.7	+0.6
	baz=218							
TT01	**Tatalina**	6.17	357			Pn	10 42 25.5	+0.4
TTA	**Tatalina**	6.19	357	Pn		Pn	10 42 26.1	+0.6
JPK	**Jack Peak**	6.20	43			Pn	10 42 24.9	-0.6
EYAK	**Cordova Ski Ar**	6.23	49			Pn	10 42 25.4	-0.5
EYAK	**Cordova Ski Ar**	6.23	49	P		Pn	10 42 24.9	-0.9
	baz=236							
PPLA	**Purkeypile**	6.33	13			Pn	10 42 27.6	+0.1
M23K	**Glacier View**	6.33	34	P		Pn	10 42 27.6	+0.3
	baz=220,SNR=8.0							
SCM	**Sheep Creek Mo**	6.49	35			Pn	10 42 28.6	-0.9
SCM	**Sheep Creek Mo**	6.49	35	P		Pn	10 42 29.5	-0.1
	baz=222,SNR=12							
KAIM	**Kayak Island**	6.51	56			Pn	10 42 30.1	+0.4
KAIM	**Kayak Island**	6.51	56	P		Pn	10 42 30.2	+0.4
	baz=246							
DIV	**Divide**	6.56	44			Pn	10 42 30.1	-0.4
RAGM	**Ragged Mountai**	6.60	52			Pn	10 42 30.9	-0.2
K20K	**Telida**	6.63	5			Pn	10 42 32.0	+0.6
K20K	**Telida**	6.63	5	P		Pn	10 42 32.2	+0.7
	baz=185,SNR=22							
KLU	**Klutina**	6.73	41			Pn	10 42 32.7	-0.2
KLU	**Klutina**	6.73	41	P		Pn	10 42 32.5	-0.3
	baz=229,SNR=13							
HMT	**Hamilton**	6.76	54			Pn	10 42 33.2	0.0
CAST	**Castle Rocks**	6.85	12			Pn	10 42 35.2	+0.7
CAST	**Castle Rocks**	6.85	12	P		Pn	10 42 35.2	+0.7
	baz=194,SNR=18							
SUCK	**Suckling Hills**	6.86	56	Pn		Pn	10 42 35.0	+0.4
WAT7	**Susitna Watana**	6.88	25			Pn	10 42 35.1	+0.2
BMRM	**Bremner River**	6.93	48			Pn	10 42 34.9	-0.7
BMRM	**Bremner River**	6.93	48	P		Pn	10 42 34.8	-0.8
	baz=237							
WAT1	**Susitna Watana**	6.94	26	P		Pn	10 42 35.7	-0.1
	baz=212							
WAT6	**Susitna Watana**	6.95	30			Pn	10 42 35.5	-0.4
WAT6	**Susitna Watana**	6.95	30	P		Pn	10 42 35.7	-0.3
	baz=216							
BERG	**Berg Lake**	7.03	54			Pn	10 42 35.7	-1.2
M24K	**Tolsona, Glenn**	7.06	37			Pn	10 42 37.8	+0.4
M24K	**Tolsona, Glenn**	7.06	37	P		Pn	10 42 37.7	+0.2
	baz=225,SNR=8.6							
KTH	**Kantishna Hill**	7.13	16			Pn	10 42 39.1	+0.7
TRF	**Thorofare Moun**	7.14	18			Pn	10 42 39.1	+0.6
TRF	**Thorofare Moun**	7.14	18	P		Pn	10 42 38.7	+0.2
	baz=202							
KHIT	**Khitrov Hills**	7.26	55			Pn	10 42 39.4	-0.7
CHUM	**Lake Minchumin**	7.28	10			Pn	10 42 40.8	+0.5
	baz=193							
N25K	**Chitina, Valde**	7.29	44			Pn	10 42 40.2	-0.5
N25K	**Chitina, Valde**	7.29	44	P		Pn	10 42 40.4	-0.3
	baz=233							
SNH	**Sunshine Point**	7.34	57	Pn		Pn	10 42 41.1	-0.1
RND	**Reindeer**	7.38	23			Pn	10 42 40.9	-0.8
WAX	**Waxell Ridge**	7.44	55			Pn	10 42 42.2	-0.4
DHY	**Denali Highway**	7.45	29			Pn	10 42 43.1	+0.3
DHY	**Denali Highway**	7.45	29	P		Pn	10 42 43.0	+0.2
	baz=215							
J20K	**Nowinta River**	7.45	4			Pn	10 42 42.9	+0.3
J20K	**Nowinta River**	7.45	4	P		Pn	10 42 43.7	+1.0
	baz=184,SNR=7.1							
GLB	**Gilahina Butte**	7.51	47			Pn	10 42 43.3	-0.3
VRDI	**Verde Repeater**	7.54	49			Pn	10 42 44.3	+0.2
HARP	**HAARP**	7.61	38			Pn	10 42 44.4	-0.5
HARP	**HAARP**	7.61	38	P		Pn	10 42 45.8	+1.0
	baz=226							
WACK	**Wrangell Chich**	7.63	42			Pn	10 42 45.0	-0.4
BPAW	**Bear Paw Mtn.**	7.64	14	Pn		Pn	10 42 46.6	+1.2
MCK	**McKinley**	7.65	21			Pn	10 42 45.9	+0.5
WASW	**Wrangell South**	7.65	43			Pn	10 42 45.1	-0.6
ISLE	**Juniper Island**	7.73	55			Pn	10 42 46.5	-0.2
MESA	**MESA**	7.75	58			Pn	10 42 45.7	-1.3
MCARA	**McCarthy VSAT**	7.80	49			Pn	10 42 47.2	-0.3
MCARA	**McCarthy VSAT**	7.80	49	P		Pn	10 42 47.6	+0.1
	baz=239							
BAGL	**Bagley Icefiel**	7.80	56			Pn	10 42 46.8	-0.6
KIAG	**Kiagna River**	7.86	53			Pn	10 42 47.7	-0.8
YAH	**Yahtse**	7.91	57			Pn	10 42 48.1	-1.2
PAX	**Paxson**	7.91	34	Pn		Pn	10 42 49.0	-0.1
PAX	**Paxson**	7.91	34	P		Pn	10 42 49.5	+0.3
	baz=222							
BALM	**Baldy**	7.92	52			Pn	10 42 48.5	-0.7
PTPK	**Patty Peak**	7.94	51			Pn	10 42 48.5	-1.0
GCSA	**Galena City Sc**	8.04	355	P		Pn	10 42 50.6	-0.1
	baz=173							
CHX	**Chaix Hills**	8.11	60			Pn	10 42 50.8	-1.0
TABL	**Table Mountain**	8.22	58			Pn	10 42 52.5	-1.0
BARN	**Barnard Glacie**	8.23	53			Pn	10 42 53.6	+0.1
CTG	**Chitna Glacier**	8.33	54	P		Pn	10 42 54.6	-0.3
	baz=246							
CTGM	**Chitina Glacie**	8.33	54			Pn	10 42 54.4	-0.6
M26K	**Nabesna, AK**	8.38	43			Pn	10 42 55.5	0.0
M26K	**Nabesna, AK**	8.38	43	P		Pn	10 42 55.7	+0.3
	baz=233,SNR=5.7							
NEA2	**Nenana**	8.40	18			Pn	10 42 56.0	+0.2
LOGN	**Logan Glacier**	8.42	55			Pn	10 42 55.3	-0.9
MENT	**Mentasta**	8.46	38			Pn	10 42 57.5	+0.9
WRH	**Wood River Hil**	8.48	21			Pn	10 42 55.9	-0.9
MLY	**Manley**	8.57	13			Pn	10 42 57.8	-0.3
I21K	**Tanana**	8.58	9			Pn	10 42 58.7	+0.5
L26K	**Log Cabin Wild**	8.65	39			Pn	10 42 59.2	+0.1
L26K	**Log Cabin Wild**	8.65	39	P		Pn	10 42 59.9	+0.8
	baz=229							
HDA	**Harding Lake**	8.67	25			Pn	10 42 59.1	-0.3
RIDG	**Independent Ri**	8.68	32			Pn	10 43 00.3	+0.8
CCB	**Clear Creek Bu**	8.69	22			Pn	10 42 58.7	-1.0
O28M	**Mount Upton**	8.77	57			Pn	10 43 00.4	-0.7
O28M	**Mount Upton**	8.77	57	P		Pn	10 43 01.1	0.0
	baz=249							
M27K	**Edge Creek, AK**	8.78	45			Pn	10 43 00.4	-0.6
M27K	**Edge Creek, AK**	8.78	45	P		Pn	10 43 01.5	+0.4
	baz=236							
DOT	**Dot Lake**	8.85	34	Pn		Pn	10 43 03.1	+1.2
I23K	**Minto, Yukon-K**	8.87	16			Pn	10 43 01.9	-0.2
I23K	**Minto, Yukon-K**	8.87	16	P		Pn	10 43 01.9	-0.2
	baz=201							
TCOL	**CIGO, UAF Yank**	8.88	21			Pn	10 43 02.5	+0.2
COLA	**College**	8.88	21			Pn	10 43 02.3	0.0
MDM	**Murphy Dome**	8.89	20			Pn	10 43 01.7	-0.7
YUK2	**White River**	8.90	50			Pn	10 43 02.3	-0.4
H21K	**Melozitna Rive**	8.99	6	Pn		Pn	10 43 04.3	+0.5
H21K	**Melozitna Rive**	8.99	6	P		Pn	10 43 04.1	+0.3
	baz=188,SNR=9.5							
IL31		8.99	23			Pn	10 43 03.1	-0.7
ILAR	**Eielson Array**	8.99	23	Pn		Pn	10 43 01.8	-2.0
	comp=E,0.5nm,0.3s,baz=208,slow=13,SNR=17							
ILAR					Sn	Sn	10 44 39.9	-4.8
	baz=204,slow=19							
ILAR	**Eielson Array**	8.99	23	Pn		Pn	10 43 03.8	-0.1
YUK3	**Moose Creek**	9.06	50			Pn	10 43 04.2	-0.8
YUK3	**Moose Creek**	9.06	50	P		Pn	10 43 04.9	-0.1
	baz=243							
SCRK	**Sand Creek**	9.11	33			Pn	10 43 04.7	-0.8
L27K	**Beaver Creek,**	9.21	41	Pn		Pn	10 43 07.5	+0.6
J25K	**Salcha River,**	9.22	27			Pn	10 43 07.2	+0.2
J25K	**Salcha River,**	9.22	27	P		Pn	10 43 07.0	0.0
	baz=216							
BC03		9.23	41			Pn	10 43 05.8	-1.1
BCAR	**Beaver Creek A**	9.23	41	Pn		Pn	10 43 07.5	+0.4
IM03		9.27	4			Pn	10 43 06.9	-0.7
IMAR	**Indian Mountai**	9.27	4	Pn		Pn	10 43 08.7	+1.1
O29M	**Mount Kennedy**	9.39	61			Pn	10 43 07.9	-1.5
O29M	**Mount Kennedy**	9.39	61	P		Pn	10 43 09.6	+0.2
	baz=255							
H23K	**Yukon River**	9.48	14			Pn	10 43 10.3	-0.3
H23K	**Yukon River**	9.48	14	P		Pn	10 43 10.1	-0.4
	baz=199							
J26L	**Joseph Creek**	9.62	32			Pn	10 43 13.8	+1.2
K27K	**Chicken**	9.74	36	Pn		Pn	10 43 15.4	+1.4
K27K	**Chicken**	9.74	36	P		Pn	10 43 14.9	+0.8
	baz=228							
H24K	**Noodor Dome**	9.75	18	Pn		Pn	10 43 14.9	+0.7
PRP	**Porcupine Dome**	9.93	24			Pn	10 43 17.2	+0.3
M29M	**Somme Creek**	10.20	49	P		Pn	10 43 20.6	+0.1
	baz=244,SNR=18							
I26K	**Coal Creek Min**	10.35	29			Pn	10 43 22.2	-0.2
EGAK	**Eagle**	10.54	35			Pn	10 43 25.6	+0.6
G24K	**Hadweenzic Riv**	10.61	17	P		Pn	10 43 26.2	+0.2
	baz=204							
L29M	**L29M**	10.65	46	P		Pn	10 43 26.5	0.0
	baz=241							
DAWY	**Dawson**	10.68	40	Pn		Pn	10 43 27.8	+0.8
DAWY	**Dawson**	10.68	40	P		Pn	10 43 27.6	+0.6
	baz=234							
SKAG	**Skagway**	10.86	67	Pn		Pn	10 43 30.8	+1.5
FYU	**Fort Yukon**	10.89	22	Pn		Pn	10 43 29.6	-0.2
N31M	**Braeburn, Yuko**	11.03	57	Pn		Pn	10 43 31.7	-0.1
BMAR	**Burnt Mountain**	11.77	20	Pn		Pn	10 43 41.7	-0.2
FARO	**Faro, Yukon**	12.35	55	Pn		Pn	10 43 49.9	+0.1
ADK	**Adak**	13.42	258	Pn		Pn	10 44 04.7	+0.4
DLBC	**Dease Lake**	13.59	72	Pn		Pn	10 44 09.7	+3.0
	comp=E,0.1nm,0.3s,baz=232,slow=19,SNR=1.8							
	comp=E,1.0nm,0.5s							
INK	**Inuvik**	15.17	32	Pn		Pn	10 44 29.4	+1.3
	comp=E,0.1nm,0.3s,baz=225,slow=12,SNR=2.3							
	comp=E,2.4nm,1.0s							
INK	**Inuvik**	15.17	32	Pn		Pn	10 44 26.7	-1.4
INK				IAmb		IAmb	10 44 37.4	
	comp=Z,7.1nm,1.1s							
YKA	**Yellowknife Ar**	21.03	57	P		P	10 45 37.7	+0.2
	comp=Z,2.1nm,0.6s,baz=271,slow=10.0,SNR=5.9							
	comp=Z,2.1nm,0.6s							
PETK	**Petropavlovsk-**	26.86	282	P		P	10 46 33.0	-1.4
	comp=Z,1.9nm,0.4s,baz=78,slow=10,SNR=13							
	comp=Z,1.9nm,0.4s							
NVAR	**Mina Array Bea**	30.41	111	P		P	10 47 08.4	+2.0
	comp=Z,0.2nm,0.8s,baz=316,slow=10,SNR=1.1							
	comp=Z,0.2nm,0.8s							
PDAR	**Pinedale Array**	32.00	96	P		P	10 47 22.6	+2.3
	comp=Z,0.4nm,0.7s,baz=325,slow=5.6,SNR=2.8							
	comp=Z,0.4nm,0.7s							
TXAR	**Lajitas Array**	45.11	105	P		P	10 49 11.3	+1.0
	comp=Z,0.2nm,0.7s,baz=322,slow=5.7,SNR=2.1							
	comp=Z,0.2nm,0.7s							
ARCES	**ARCESS Array B**	53.99	360	P		P	10 50 16.2	-1.1
	comp=Z,1.2nm,0.7s,baz=6.8,slow=8.4,SNR=3.6							
	comp=Z,1.2nm,0.7s							
SONM	**Songino Array**	55.75	306	P		P	10 50 29.6	-0.9
	comp=Z,1.0nm,0.6s,baz=40,slow=7.9,SNR=4.5							
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	59.28	323	P		P	10 50 53.7	-1.4
	comp=Z,0.8nm,0.4s,baz=45,slow=4.3,SNR=1.9							
	comp=Z,0.8nm,0.4s							
NOA	**NORSAR Array B**	62.05	7	P		P	10 51 13.3	-0.6
	comp=Z,0.5nm,0.5s,baz=356,slow=11,SNR=1.9							
	comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	62.12	359	P		P	10 51 13.5	-0.8
	comp=Z,1.2nm,0.5s,baz=4.6,slow=9.6,SNR=8.6							
	comp=Z,1.2nm,0.5s							
AKASG	**Malin Array Be**	72.83	357	P		P	10 52 21.1	-1.1
	comp=Z,0.4nm,0.3s,baz=9.5,slow=6.0,SNR=5.2							
	comp=Z,0.4nm,0.3s							
ESDC	**Sonseca Array**	80.89	22	P		P	10 53 09.2	+1.2
	comp=Z,0.7nm,0.9s,baz=340,slow=7.2,SNR=2.4							
	comp=Z,0.7nm,0.9s							
GEYT	**Alibeck**	81.53	334	P		P	10 53 12.3	+1.0
	comp=Z,1.9nm,0.4s,baz=8.9,slow=10,SNR=2.4							
	comp=Z,1.9nm,0.4s							
CMAR	**Chiang Mai Arr**	83.10	293	P		P	10 53 18.6	-1.1
	comp=Z,1.2nm,0.6s,baz=19,slow=5.2,SNR=7.2							
	comp=Z,1.2nm,0.6s							

*KRNET **30** 10:48:08.7±0.1, 42.33N×79.44E, mb2.8*
*SOME **30** 10:48:08.6, 42.65N×79.20E, h15km*
*NNC **30** 10:48:09.6±0.7, 42.77N×79.34E, h0km, mb3.4, mpv3.3,*
Error ellipse: s-maj=5.0km s-min=2.2km az=146.0

ISC 30 10:48:06.1±1.5, 42°58N±0.04×79°30E±0.04, h7km±10km,
n43, σ1.574/76, 16C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SHLS	**Shalkode**	0.59	12	*e*P	Pb	10 48 20.5	+1.6
	138nm,0.1s						
SHLS				*e*S	Sn	10 48 29.2	-1.9
	186nm,0.3s						
SHLS	**Shalkode**	0.59	12	P	Pb	10 48 20.5	+1.6
	138nm,0.1s						
SHLS				S	Sn	10 48 29.2	-1.9
	186nm,0.3s						
UZB	**Uzynbulak**	0.60	340	*e*P	Pg	10 48 18.2	+0.4
	39nm,0.2s						
UZB				*e*S	Sg	10 48 25.3	-0.4
	76nm,0.2s						
UZB	**Uzynbulak**	0.60	340	P	Pg	10 48 18.2	+0.4
	39nm,0.2s						
UZB				S	Sg	10 48 25.3	-0.4
	76nm,0.2s						
PDGK	**Podgornoye**	0.76	11	⇑P	Pg	10 48 20.5	-0.3
	28nm,0.4s						
PDGK				⇑S	Sg	10 48 29.1	-1.7
	99nm,0.9s						
ZHN	**Zhinishke**	0.86	313	*e*P	Pb	10 48 23.8	+0.2
	36nm,0.2s						
ZHN				*e*S	Sb	10 48 34.6	-0.8
	138nm,0.3s						
ZHN	**Zhinishke**	0.86	313	P	Pb	10 48 23.8	+0.2
	36nm,0.2s						
ZHN				S	Sb	10 48 34.6	-0.8
	138nm,0.3s						
KTMS	**Ketmen**	1.16	41	*e*P	Pn	10 48 27.9	-1.1
	17nm,0.1s						
KTMS				*e*S	Sb	10 48 42.1	-1.9
	19nm,0.2s						
KTMS	**Ketmen**	1.16	41	P	Pn	10 48 27.9	-1.1
	17nm,0.1s						
KTMS				S	Sb	10 48 42.1	-1.9
	19nm,0.2s						
KURS	**Kuram**	1.23	318	*e*P	Pg	10 48 30.6	+0.9
	2.6nm,0.1s						
KURS				*e*S	Sn	10 48 46.2	-0.5
	15nm,0.3s						
KURS	**Kuram**	1.23	318	P	Pg	10 48 30.6	+0.9
	2.6nm,0.1s						
KURS				S	Sn	10 48 46.2	-0.5
	15nm,0.3s						
TARG	**Taragay, Kyrgy**	1.40	233	⇑*e*P	Pn	10 48 33.8	+1.3
	baz=44						
TARG				⇑*i*S	Sb	10 48 52.2	+1.2
	baz=44						
MDOK	**Medeo**	1.75	290	*e*P	Pg	10 48 41.0	+1.2
	5.9nm,0.3s						
MDOK				*e*S	Sg	10 49 03.5	+1.0
	18nm,0.6s						
MDOK	**Medeo**	1.75	290	Pn	Pg	10 48 40.5	+0.8
	4.6nm,0.4s						
MDOK				Pg	Pg	10 48 41.0	+1.2
	5.9nm,0.3s						
MDOK				Lg	Lg	10 49 03.5	
	18nm,0.6s						
MDOK				⇑Sn	Sg	10 49 05.2	+2.8
	14nm,0.6s						
DJR	**Jarkent**	1.79	11	*e*P	Pn	10 48 38.6	+1.0
	7.8nm,0.2s						
DJR				*e*S	Sn	10 49 00.8	+0.2
	38nm,0.3s						
DJR	**Jarkent**	1.79	11	P	Pn	10 48 38.6	+1.0
	7.8nm,0.2s						
DJR				S	Sn	10 49 00.8	+0.2
	38nm,0.3s						
TNSS	**Tian-Shan**	1.79	286	P	Pg	10 48 41.0	+0.6
	7.2nm,0.2s						
TNSS				S	Sg	10 49 05.6	+2.0
	35nm,0.4s						

ARLS				⇑*e*S		**Sb**	**10 49 54.7**	**-4.2**
	baz=65							
BTLS	**Baital**	**4.53**	**305**	*e*P		**Pb**	**10 49 28.2**	**+2.3**
BTLS				*e*S		**Sg**	**10 50 25.1**	**-6.4**
BTLS	**Baital**	**4.53**	**305**	Lg		Lg	10 50 25.1	
MAKZ	**Makanchi**	**4.64**	**23**	⇑Pn		**Pn**	**10 49 20.2**	**+3.5**
	0.6nm,0.3s							
MAKZ				⇑Sn		**Sn**	**10 50 13.3**	**+2.5**
	0.6nm,0.3s							
MAKZ				⇓Lg		Lg	10 50 31.0	
	1.1nm,0.6s							
MK31	**Makanchi Array**	**4.72**	**26**	Pn		**Pn**	**10 49 20.6**	**+2.8**
	0.2nm,0.2s,baz=208,slow=12,SNR=22							
MK31				⇓Sn		**Sn**	**10 50 13.4**	**+0.6**
	0.4nm,0.3s,baz=206,slow=21,SNR=4.1							
MK31				⇑Lg		Lg	10 50 33.1	
	1.2nm,0.5s							
KURBB	**Kurchatov Arra**	**8.06**	**357**	⇑Lg		Lg	10 52 20.1	
	6.8nm,0.8s							
KURK	**Kurchatov**	**8.15**	**357**	⇓Lg		Lg	10 52 22.2	
	3.2nm,0.7s							

DJA 30 11:16:34.6±1.5, 1°N±3°×12°6E±°, h33km±26km, M4.0/12, mb4.2/4, mB4.7/1, MLv3.9/12, Mw(mB)3.9/1, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.58**	**254**	P	Pn	11 17 00.4	+0.1
KMSI				S	Sn	11 17 20.1	+0.6
TNTI	**Ternate**	**1.88**	**97**	P	Pn	11 17 04.4	0.0
TNTI				S	Sn	11 17 27.7	+0.7
GTOI	**Gorontalo**	**2.52**	**262**	P	Pn	11 17 14.2	+1.0
LBMI	**Labuha**	**2.58**	**129**	P	Pn	11 17 13.4	-0.7
SGSI	**Sangihe**	**2.67**	**1**	P	Pn	11 17 15.7	+0.4
SANI	**Sanana**	**3.07**	**171**	P	Pn	11 17 20.5	-0.3
LUWI	**Luwuk**	**3.40**	**233**	P	Pn	11 17 26.1	+0.7
MRSI	**Marisa**	**3.60**	**262**	P	Pn	11 17 28.1	0.0
APSI	**Ampana**	**4.29**	**244**	P	Pn	11 17 38.4	+0.7
NLAI	**Namlea**	**4.50**	**159**	P	Pn	11 17 40.7	+0.1
MPSI	**Mapaga**	**5.64**	**263**	P	Pn	11 17 56.5	+0.3
	0.1nm3.9nm,0.7s						
KCP	**Kidapawan**	**5.98**	**356**	⇓*i*P	Pn	11 18 03.2	+2.2
TTSI	**Tana Toraja**	**6.96**	**235**	P	Pn	11 18 14.0	-0.3
	0.1nm14nm,0.7s						
SPSI	**Sidrap Palu**	**7.56**	**229**	P	Pn	11 18 23.5	+1.0
	0.1nm451nm11nm,0.4s						

*BER **30** 11:29:30.0±0.8, 67°.51N×34°.48E, h0km, ML1.8, Suspected explosion*

HEL 30 11:29:30.5±0.4, 68°.09N×34°.10E, h0km, ML2.1, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.28**	**132**	PG	Pg	11 29 35.6	-0.2
LVZ				SG	Sg	11 29 39.5	+0.1
VRF	**Varrio**	**1.73**	**261**	PG	Pn	11 30 02.0	+0.2
	baz=74						
VRF				MSG		11 30 22.1	
	comp=Z,15nm,0.2s						
VRF				SG	Sn	11 30 24.1	-0.4
OLKF	**Oulanka, Finla**	**2.55**	**228**	PN	Pn	11 30 11.2	-1.8
OLKF				SN	Sn	11 30 41.8	-2.8
MSF	**Maaselka**	**2.95**	**225**	PN	Pn	11 30 18.7	+0.2
SGF	**Sodankyl**	**2.95**	**261**	PG	Pb	11 30 23.0	-0.9
	baz=71						
SGF				SG	Sb	11 31 00.0	-0.4
KEV	**Kevo**	**3.06**	**306**	*e*P	Pb	11 30 24.6	-1.2
KEV				*e*S	Sb	11 31 04.8	+1.2
KEV	**Kevo**	**3.06**	**306**	PG	Pb	11 30 24.3	-1.5
KEV				MSG		11 31 00.7	
	comp=Z,4.3nm,0.2s						
KEV				SG	Sb	11 31 05.2	+1.6
ARA0	**ARCESS Array S**	**3.44**	**299**	*e*P	Pn	11 30 28.8	+3.5
ARA0				*e*S	Sb	11 31 11.9	-2.7
ARA0				IAML		11 31 29.8	
	comp=Z,5.2nm,0.3s						
RNF	**Rovaniemi**	**3.46**	**248**	PN	Pn	11 30 24.3	-1.3
RNF				SN	Sn	11 31 05.0	-2.2
HEF	**Hetta**	**3.90**	**280**	*e*P	Pn	11 30 32.8	+1.2
HEF				*e*S	Sn	11 31 19.5	+1.5
HEF	**Hetta**	**3.90**	**280**	SG	Sg	11 31 32.9	-2.8
KLF	**Kolari**	**3.96**	**262**	PG	Pb	11 30 41.6	+0.5
	baz=71						
KLF				SG	Sb	11 31 32.1	+2.6
KTK1	**Kautokeino**	**4.10**	**288**	*e*	Pn	11 30 36.4	+2.1
TOF	**Tornio**	**4.32**	**247**	PG	Pb	11 30 46.8	-0.3
OUL	**Oulu**	**4.45**	**231**	PN	Pn	11 30 38.1	-0.9
OUL				SB	Sb	11 31 44.3	+0.9
LANU	**Lannavaara**	**4.54**	**275**	PN	Pn	11 30 41.0	+0.6
KIF	**Kilpisjarvi**	**4.97**	**287**	*e*S	Sn	11 31 46.5	+2.2

HEL 30 11:29:48.4±0.1, 63°.95N×28°.05E, h0km, ML1.7, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.87**	**71**	PG	Pg	11 30 03.7	-1.4
OUL	**Oulu**	**1.47**	**322**	PN	Pn	11 30 15.1	-1.0
OUF	**Merijarvi**	**1.51**	**288**	PN	Pn	11 30 15.8	-0.8
OUF				MSG		11 30 33.8	
	comp=Z,6.3nm,0.2s						
OUF				SN	Sg	11 30 36.5	-0.4
OBF4	**Vikkela, Lumij**	**1.54**	**305**	PN	Pn	11 30 16.4	-0.7
	baz=119						
OBF0	**Syolatti, Pyha**	**1.75**	**290**	PG	Pn	11 30 19.9	-0.1
JOF	**Joensuu**	**1.80**	**124**	PG	Pn	11 30 20.2	-0.4
	baz=305						
JOF				SN	Sn	11 30 44.5	+0.4
KAF	**Kangasniemi**	**2.01**	**204**	PG	Pn	11 30 24.5	+1.0
KAF				MSG		11 30 48.0	
	comp=Z,3.9nm,0.2s						
KAF				SG	Sb	11 30 51.1	-0.2
MSF	**Maaselka**	**2.01**	**12**	PG	Pb	11 30 24.9	-0.9
	baz=191						
MSF				SG	Sb	11 30 51.0	-0.4
KEF	**Keuruu**	**2.30**	**220**	PG	Pb	11 30 29.6	-1.1
KEF				MSG		11 30 56.5	
	comp=Z,4.7nm,0.2s						
KEF				SG	Sb	11 30 59.6	-0.1
VAF	**Ylistaro**	**2.58**	**252**	PG	Pb	11 30 34.1	-1.3
	baz=66						
VAF				MSG		11 31 04.6	
	comp=Z,2.6nm,0.2s						
VAF				SG	Sb	11 31 07.1	-0.5
TOF	**Tornio**	**2.66**	**325**	PB	Pn	11 30 32.8	+0.4
	baz=146						
TOF				MSG		11 31 06.7	
	comp=Z,1.7nm,0.2s						
FIA0	**FINESS Array S**	**2.68**	**201**	PG	Pb	11 30 35.1	-2.0
	baz=20						
FIA0				SG	Sb	11 31 10.3	-0.1
KALU	**Kalix**	**2.77**	**316**	PB	Pn	11 30 35.3	+1.3
UMAU	**Umeaa**	**3.26**	**272**	PN	Pn	11 30 40.7	+0.1
	baz=81						
ERTU	**Ertsjaerv**	**3.59**	**319**	PN	Pn	11 30 45.1	-0.2
ERTU				SG	Sb	11 31 39.1	+2.4
KLF	**Kolari**	**3.71**	**335**	SB	Sb	11 31 36.9	-3.2
PAJU	**Pajala**	**3.71**	**329**	PG	Pn	11 30 47.4	+0.6
PAJU				SN	Sn	11 31 27.3	-3.8
PAJU	**Pajala**	**3.71**	**329**	PN	Pn	11 30 47.4	+0.6
PAJU				SN	Sn	11 31 27.3	-3.8
RAF	**Rauma**	**4.14**	**228**	SG	Sb	11 31 56.4	+4.0
JETT	**Jettan, Norway**	**6.38**	**335**	*e*	Pg	11 31 49.9	-0.6

*IDC **30** 11:35:02.9±2.9, 1°.79N×99°.12E, h140km±10km, mb3.0/3, mbtmp3.4/4, MS3.0/1, Error ellipse: s-maj=117.6km s-min=22.9km az=59.0*

*DJA **30** 11:35:05.0±0.5, 2°N±3°×9°9E±°, h128km±7km, M3.4/7, MLv3.4/7*

ISC 30 11:35:03.7±0.9, 1°.93N±0°.05×99°.30E±0°.08, h138km, n12, σ0°78/15, mb3.2/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.94**	**336**	P	**Pn**	**11 35 27.2**	**+0.2**
	41nm,0.3s,baz=340,slow=14,SNR=42						
PSI				S	**Sn**	**11 35 44.4**	**-0.3**
	20nm,0.5s,baz=1.4,slow=20,SNR=18						

GSI	**Gunungsitoli**	**1.83**	**250**	P		**Pn**	**11 35 36.7**	**+0.5**
GSI				S		**Sn**	**11 36 00.9**	**-0.2**
KCSI	**Kotacane, Aceh**	**2.20**	**316**	P		**Pn**	**11 35 41.1**	**+0.5**
KCSI				S		**Sn**	**11 36 08.6**	**-0.2**
PBSI	**Pulau Batu**	**2.22**	**207**	P		**Pn**	**11 35 41.2**	**+0.3**
PBSI				S		**Sn**	**11 36 09.7**	**+0.3**
BKNI	**Bangkinang**	**2.36**	**133**	P		**Pn**	**11 35 43.6**	**+1.0**
SISI	**Saibi**	**3.25**	**184**	P		**Pn**	**11 35 54.4**	**+0.5**
MLSI	**Meulaboh, Aceh**	**3.71**	**309**	P		**Pn**	**11 36 00.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**16.43**	**359**	P		**P**	**11 38 48.0**	**+1.3**
	0.5nm,0.6s,baz=194,slow=9.9,SNR=4.7							
NWAO	**Narrogin (SRO)**	**38.59**	**155**	LR		LR	11 57 37.1	
	comp=Z,22nm,20.7s,baz=162,slow=35							
WRA	**Warramunga Arr**	**40.67**	**124**	P		**P**	**11 42 30.4**	**-0.5**
	0.5nm,0.3s,baz=302,slow=9.1,SNR=15							
	0.5nm,0.3s							
ASAR	**Alice Springs**	**42.19**	**129**	P		**P**	**11 42 42.2**	**-1.1**
	0.2nm,0.5s,baz=300,slow=7.9,SNR=8.0							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**47.08**	**344**	P		**P**	**11 43 20.8**	**-0.8**
	0.3nm,0.6s,baz=138,slow=9.3,SNR=1.6							
	0.3nm,0.6s							

*TAP **30** 11:35:13.5, 23°.11N×120°.51E, h15km, ML4.2, B*

*JMA **30** 11:35:13.2±0.1, 23°.0N±0°.5×120°.6E±0°.6, h0km, MV4.3/14, TAIWAN REGION*

*ASIES **30** 11:35:13.8, 23°.09N×120°.51E, h16km, MW3.8*

*NIED **30** 11:35:13.2, 23°.04N×120°.62E, h0km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.21; Mθθ=0.98; Mφφ=-0.77; Mrθ=-0.31; Mθφ=0.60; Mφr=0.23; Fault plane solution: M0=1.12000×10^15 NP1: φs=299.00000°, δ=73.00000°, λ=2.00000°. NP2: φs=208.00000°, δ=88.00000°, λ=163.00000°.*

*IDC **30** 11:35:29.6±9.2, 23°.26N×121°.82E, h161km±70km, mb3.2/3, mbtmp3.7/6, MS2.9/4 Error ellipse: s-maj=124.4km s-min=21.7km az=96.0*

ISC 30 11:35:13.4±0.8, 23°.12N±0°.01×120°.48E±0°.01, h19km±2km, n161, σ1°16/260, mb3.8/3, MS2.8/3, 22C-36D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHN1	**Nanshi**	**0.08**	**37**	⇓*i*P	**Pg**	**11 35 17.3**	**+0.2**
	baz=16						
CHN1				*i* S	**Sg**	**11 35 20.0**	**+0.4**
SNST	**Tainan City**	**0.10**	**11**	⇑*i*P	**Pg**	**11 35 17.7**	**+0.5**
	baz=6.0						
SNST				S	**Sg**	**11 35 20.5**	**+0.6**
	baz=6.0						
SGST	**Jiashian**	**0.11**	**111**	⇓*i*P	**Pg**	**11 35 16.6**	**-0.8**
	baz=110						
SGST				*i* S	**Sg**	**11 35 19.4**	**-0.5**
	baz=110						
CHN3	**Shinhua**	**0.11**	**246**	⇓*i*P	**Pg**	**11 35 18.2**	**+0.9**
	baz=264						
CHN3				*i* S	**Sg**	**11 35 22.3**	**+2.4**
	baz=264						
TWK	**Hsinying**	**0.14**	**4**	⇓*i*P	**Pg**	**11 35 18.4**	**+0.6**
	baz=7.0						
TWK				*i* S	**Sg**	**11 35 22.4**	**+1.6**
	baz=7.0						
SHHT	**Tainan City**	**0.15**	**230**	⇑*e*P	**Pg**	**11 35 18.1**	**+0.2**
	baz=246						
SSHA	**Shanhua**	**0.17**	**275**	⇓*i*P	**Pg**	**11 35 19.2**	**+1.2**
	baz=284						
SSHA				*i* S	**Sg**	**11 35 24.4**	**+3.1**
	baz=284						
WTP	**Ta-pu**	**0.18**	**46**	⇓*i*P	**Pg**	**11 35 18.7**	**+0.5**
	baz=32						
WTP				*i* S	**Sg**	**11 35 22.4**	**+0.9**
	baz=32						
TPUB	**Ta-pu**	**0.23**	**38**	⇓*i*P	**Pg**	**11 35 19.4**	**+0.4**
	baz=31						
TPUB				S	**Sg**	**11 35 23.0**	**+0.3**
	baz=31						
SCST	**Cishan**	**0.23**	**176**	⇓P	**Pg**	**11 35 19.8**	**+0.9**
	baz=172						
SCST				S	**Sg**	**11 35 25.0**	**+2.2**
	baz=172						
TAI1	**Yung-k'ang**	**0.24**	**251**	⇓*i*P	**Pg**	**11 35 20.2**	**+1.1**
	baz=260						
TAI1				S	**Sg**	**11 35 25.7**	**+2.8**
	baz=260						
STYH	**Taoyuan**	**0.28**	**80**	⇓*i*P	**Pg**	**11 35 19.4**	**-0.3**
	baz=76						
STYH				*i* S	**Sb**	**11 35 24.1**	**+0.1**
	baz=76						
TAI	**Tainan**	**0.29**	**244**	*e*P	**Pb**	**11 35 21.0**	**+1.1**
	baz=260						
TWM1	**Shoushan**	**0.30**	**189**	⇓*i*P	**Pn**	**11 35 22.0**	**-0.9**
	baz=183						
CHN8	**Yiju**	**0.33**	**313**	⇓*i*P	**Pb**	**11 35 21.5**	**+0.7**
	baz=324						
CHN8				*i* S	**Sn**	**11 35 28.2**	**-1.4**
	baz=324						
WCKO	**Fanlu**	**0.34**	**21**	⇑P	**Pg**	**11 35 20.4**	**-0.3**
	baz=16						
WCKO				*i* S	**Sb**	**11 35 26.3**	**+0.3**
	baz=16						
CHY	**Chiayi**	**0.38**	**353**	⇓P	**Pb**	**11 35 22.6**	**+0.9**
	baz=351						
CHY				*i* S	**Sn**	**11 35 29.6**	**-1.1**
	baz=351						
SNJT	**Kaohsiung City**	**0.39**	**200**	*e*P	**Pb**	**11 35 21.9**	**+0.1**
	baz=214						
SGLT	**Jiouru**	**0.39**	**178**	*e*P	**Pn**	**11 35 23.6**	**-0.6**
	baz=169						
SSD	**Sandimen**	**0.40**	**159**	⇓*i*P	**Pb**	**11 35 22.4**	**+0.4**
	baz=150						
SSD				*i* S	**Sb**	**11 35 28.6**	**+0.8**
	baz=150						
CHN2	**Minshiung**	**0.41**	**360**	P	**Pb**	**11 35 23.2**	**+1.0**
	baz=357						
CHN2				*i* S	**Sn**	**11 35 30.4**	**-1.1**
	baz=357						
TSMG	**Majia**	**0.44**	**159**	⇓P	**Pb**	**11 35 23.1**	**+0.4**
	baz=155						
TSMG				*e*S	**Sb**	**11 35 29.7**	**+0.8**
	baz=155						
TSPT	**Pingtung City**	**0.44**	**178**	*e*P	**Pn**	**11 35 24.6**	**-0.2**
	baz=170						
WSL	**Shuilin Townsh**	**0.46**	**330**	⇓*e*P	**Pg**	**11 35 22.9**	**0.0**
	baz=330						
WSL				*e*S	**Sb**	**11 35 31.1**	**+1.6**
	baz=330						
ALS	**Alishan**	**0.49**	**38**	⇑*i*P	**Pb**	**11 35 24.1**	**+0.4**
	baz=41						
ALS				*i* S	**Sb**	**11 35 31.6**	**+0.9**
	baz=41						
WSSB	**Gushan**	**0.52**	**203**	*e*P	**Pn**	**11 35 25.6**	**-0.3**
	baz=205						
WSSB				*e*S	**Sn**	**11 35 35.5**	**+1.3**
	baz=205						
MASBT	**Mashibuluo**	**0.53**	**164**	⇓P	**Pg**	**11 35 24.4**	**+0.3**
	baz=153						
MASBT				S	**Sg**	**11 35 32.4**	**+1.2**
	baz=153						
WSF	**Szhu**	**0.56**	**336**	⇓*i*P	**Pg**	**11 35 25.6**	**+0.8**
	baz=335						
WSF				*i* S	**Sn**	**11 35 34.8**	**-0.6**
	baz=335						
WDLH	**Douliu**	**0.57**	**6**	⇑*i*P	**Pn**	**11 35 26.1**	**-0.5**
	baz=4.0						
WDLH				S	**Sn**	**11 35 36.0**	**+0.6**
	baz=4.0						
WGK	**Gukeng**	**0.57**	**8**	⇑*i*P	**Pn**	**11 35 26.1**	**-0.5**
	baz=7.0						
WGK				*i* S	**Sn**	**11 35 35.6**	**+0.2**
	baz=7.0						
YUS	**Yu-Shan**	**0.57**	**50**	*e*P	**Pg**	**11 35 25.8**	**+0.7**
	baz=48						
YUS				*e*S	**Sg**	**11 35 34.1**	**+1.3**
	baz=48						
KAU	**Kaohsiung**	**0.57**	**196**	*e*P	**Pn**	**11 35 26.9**	**+0.3**
	baz=209						
TWG	**Pinlang**	**0.63**	**118**	⇓*i*P	**Pg**	**11 35 26.5**	**+0.6**
	baz=106						
TWG				*e*S	**Sn**	**11 35 35.8**	**-1.1**
	baz=106						
TWGBT	**Beinan**	**0.63**	**118**	⇓*i*P	**Pg**	**11 35 26.6**	**+0.5**
	baz=106						
TWGBT				S	**Sn**	**11 35 36.4**	**-0.6**
	baz=106						
LONT	**Longtian**	**0.64**	**109**	⇓P	**Pg**	**11 35 26.7**	**+0.6**
	baz=108						
LONT				*e*S	**Sg**	**11 35 36.0**	**+1.3**
	baz=108						
EHD	**Haiduan**	**0.67**	**88**	⇓P	**Pb**	**11 35 26.1**	**-0.5**
	baz=81						
EHD				S	**Sb**	**11 35 35.6**	**+0.1**
	baz=81						
ECL	**Taimali**	**0.68**	**140**	⇓*i*P	**Pg**	**11 35 27.4**	**+0.4**
	baz=144						
ECL				*e*S	**Sg**	**11 35 36.8**	**+0.8**
	baz=144						
ECS	**Chishang**	**0.69**	**92**	⇓P	**Pg**	**11 35 27.6**	**+0.6**
	baz=91						
ECS				*e*S	**Sn**	**11 35 37.7**	**-0.6**
	baz=91						
WMLT	**Mailiao**	**0.72**	**341**	*e*P	**Pg**	**11 35 28.1**	**+0.5**
	baz=341						
WMLT				*e*S	**Sn**	**11 35 39.0**	**-0.1**
	baz=341						
TTN	**Taitung**	**0.72**	**120**	*e*P	**Pn**	**11 35 28.7**	**+0.1**
	baz=109						
WJS	**Zhushan**	**0.73**	**18**	⇑*i*P	**Pn**	**11 35 28.7**	**-0.2**
	baz=17						
WJS				S	**Sn**	**11 35 40.0**	**+0.4**
	baz=17						
FULB	**Fuli**	**0.76**	**84**	⇓*e*P	**Pn**	**11 35 29.3**	**+0.1**
	baz=82						
FULB				*e*S	**Sn**	**11 35 40.3**	**+0.2**
	baz=82						
SCZT	**Fangliau**	**0.76**	**170**	P	**Pn**	**11 35 28.8**	**-0.3**
	baz=160						
SCZT				*e*S	**Sn**	**11 35 40.9**	**+0.8**
	baz=160						
WTCT	**Ta-ch'eng**	**0.76**	**346**	*e*P	**Pg**	**11 35 28.7**	**+0.3**
	baz=347						
WTCT				S	**Sn**	**11 35 40.3**	**+0.1**
	baz=347						
WLCH	**Liuqiu**	**0.77**	**187**	*e*P	**Pn**	**11 35 30.9**	**+1.5**
	baz=206						
EDH	**Donghe**	**0.78**	**101**	⇓P	**Pn**	**11 35 29.4**	**0.0**
	baz=84						
EDH				*e*S	**Sn**	**11 35 41.0**	**+0.4**
	baz=94						
WNT	**Mingjian**	**0.78**	**14**	⇑*i*P	**Pn**	**11 35 29.3**	**-0.1**
	baz=14						
WNT				S	**Sn**	**11 35 40.8**	**+0.2**
	baz=14						
WRL	**Guolierlin Hig**	**0.78**	**353**	*e*P	**Pb**	**11 35 27.8**	**-0.6**
	baz=353						
WRL				*e*S	**Sg**	**11 35 40.1**	**+0.9**
	baz=353						
TWF1	**Yuli**	**0.79**	**73**	⇓*i*P	**Pg**	**11 35 29.3**	**+0.3**
	baz=71						
TWF1				*i* S	**Sg**	**11 35 39.8**	**+0.3**
	baz=71						
SSLB	**Suanglung**	**0.80**	**33**	⇑*i*P	**Pg**	**11 35 29.3**	**+0.2**
	baz=32						
SSLB				S	**Sg**	**11 35 40.6**	**+0.9**
	baz=32						
YULB	**Yu-li**	**0.80**	**70**	⇓*i*P	**Pg**	**11 35 29.3**	**+0.1**
	baz=68						
YULB				*i* S	**Sb**	**11 35 39.7**	**+0.4**
	baz=68						
WNT1	**Nantou City**	**0.80**	**13**	*e*P	**Pg**	**11 35 29.6**	**+0.3**
	baz=13						
WNT1				S	**Sn**	**11 35 41.6**	**+0.3**
	baz=13						
EYUL	**Yuli**	**0.81**	**74**	*e*P	**Pn**	**11 35 29.8**	**-0.1**
	baz=72						
EYUL				S	**Sg**	**11 35 40.6**	**+0.6**
	baz=72						
EAST	**Anshuo**	**0.81**	**155**	⇓P	**Pg**	**11 35 29.6**	**+0.2**
	baz=149						
EAST				*i* S	**Sn**	**11 35 41.9**	**+0.4**
	baz=149						
CHKT	**Chengkung**	**0.82**	**91**	⇓P	**Pn**	**11 35 29.9**	**-0.1**
	baz=90						
CHKT				*e*S	**Sn**	**11 35 42.8**	**+1.2**
	baz=90						
WYL	**Yuanlin Townsh**	**0.84**	**7**	P	**Pg**	**11 35 30.1**	**+0.2**
	baz=6.0						
WYL				*e*S	**Sn**	**11 35 42.7**	**+0.5**
	baz=6.0						
SMLT	**Sun Moon Lake**	**0.85**	**27**	⇑*i*P	**Pg**	**11 35 30.5**	**+0.4**
	baz=26						
SMLT				S	**Sn**	**11 35 43.7**	**+1.1**
	baz=26						
TYC	**Yuchr**	**0.85**	**24**	⇑*i*P	**Pn**	**11 35 30.5**	**0.0**
	baz=24						
TYC				*i* S	**Sn**	**11 35 43.5**	**+1.0**
	baz=24						
TAWH	**Dawu Township**	**0.87**	**154**	*e*P	**Pb**	**11 35 28.8**	**-1.1**
	baz=154						
TAWH				*e*S	**Sb**	**11 35 41.1**	**0.0**
	baz=154						
EHY	**Hungye**	**0.87**	**64**	P	**Pg**	**11 35 30.6**	**+0.2**
	baz=62						
EHY				*e*S	**Sn**	**11 35 43.6**	**+0.7**
	baz=62						
VWDT	**VWDT**	**0.88**	**44**	⇑*i*P	**Pn**	**11 35 30.9**	**+0.2**
	baz=49						
VWDT				S	**Sg**	**11 35 42.6**	**+0.4**
	baz=49						
ECBN	**Changbin**	**0.92**	**78**	P	**Pg**	**11 35 31.7**	**+0.3**
	baz=76						
ECBN				*e*S	**Sn**	**11 35 45.0**	**+0.9**
	baz=76						
PHUB	**P'eng-hu**	**0.92**	**295**	⇓*i*P	**Pb**	**11 35 30.3**	**-0.5**
	baz=297						
PHUB				*e*S	**Sb**	**11 35 42.2**	**-0.4**
	baz=297						
WWF	**Wufeng**	**0.94**	**13**	⇑*i*P	**Pb**	**11 35 30.9**	**-0.2**
	baz=360						
WWF				*i* S	**Sn**	**11 35 44.9**	**+0.3**
	baz=360						
HGSD	**Ruisui**	**0.95**	**67**	⇓*e*P	**Pg**	**11 35 32.5**	**+0.6**
	baz=65						
HGSD				S	**Sn**	**11 35 45.5**	**+0.7**
	baz=65						
SLIU	**Shizi**	**0.95**	**162**	*e*P	**Pg**	**11 35 32.3**	**+0.4**
	baz=148						
PNG	**Penghu**	**0.96**	**298**	⇓*i*P	**Pb**	**11 35 31.1**	**-0.3**
	baz=300						
PNG				*e*S	**Sg**	**11 35 44.2**	**-0.5**
	baz=300						
WCHH	**Zhanghua**	**0.96**	**5**	P	**Pn**	**11 35 32.0**	**+0.1**
	baz=4.0						
WCHH				S	**Sn**	**11 35 46.3**	**+1.2**
	baz=4.0						
VCHM	**Qimei**	**0.97**	**275**	⇓P	**Pb**	**11 35 31.3**	**-0.3**
	baz=291						
VCHM				*e*S	**Sb**	**11 35 44.2**	**+0.2**
	baz=291						
WPL	**Puli Township**	**0.99**	**26**	*e*P	**Pb**	**11 35 32.2**	**+0.2**
	baz=13						
WPL				*e*S	**Sg**	**11 35 46.8**	**+0.9**
	baz=13						
DPDB	**Guoxing**	**1.00**	**24**	*e*P	**Pn**	**11 35 32.8**	**+0.3**
	baz=24						
DPDB				*e*S	**Sg**	**11 35 47.3**	**+1.3**
	baz=24						
WCS	**Beigang Elemen**	**1.01**	**23**	*e*P	**Pb**	**11 35 32.0**	**-0.4**
	baz=22						
WCS				*e*S	**Sn**	**11 35 46.4**	**-0.1**
	baz=22						
LDUT	**Ludao**	**1.02**	**116**	*e*P	**Pn**	**11 35 32.8**	**+0.1**
	baz=114						
EGFH	**Guangfu**	**1.03**	**58**	*e*P	**Pg**	**11 35 33.7**	**+0.2**
	baz=56						
EGFH				S	**Sg**	**11 35 47.3**	**+0.3**
	baz=56						
TCU	**Taichung**	**1.04**	**10**	⇑P	**Pn**	**11 35 33.3**	**+0.3**

CHGB					S		Sg	11 35 51.3	+0.9
	baz=33								
HEN	**Hengchun**	**1.14**	**168**	*eP*			**Pg**	11 35 35.0	-0.5
	baz=164								
TEGC	**Jichi Village**	**1.14**	**59**	*eP*			**Pg**	11 35 36.0	+0.4
	baz=58								
SMST	**Manzhou Townsh**	**1.15**	**163**	*eP*			**Pg**	11 35 35.6	-0.1
	baz=159								
WHP	**Taichung City**	**1.23**	**20**	*eP*			**Pb**	11 35 36.6	+0.4
	baz=21								
WHP					S		**Sg**	11 35 54.8	+1.4
	baz=21								
WDJ	**Dajia District**	**1.23**	**7**	P			**Pg**	11 35 36.9	-0.4
	baz=354								
WDJ					*eS*		**Sg**	11 35 54.5	+1.1
	baz=354								
WHF	**Hehuan Shan**	**1.25**	**35**	⇑*i*P			**Pb**	11 35 37.3	+0.6
	baz=35								
WHF					*eS*		**Sg**	11 35 55.5	+1.3
	baz=35								
ETM	**Tongmen**	**1.26**	**48**	*eP*			**Pb**	11 35 36.9	+0.4
	baz=57								
TEYL	**Yanliau Villag**	**1.27**	**54**	P			**Pg**	11 35 38.3	+0.2
	baz=42								
TEYL					S		**Sg**	11 35 56.5	+1.9
	baz=42								
TSEB	**Hengchuen, Pin**	**1.28**	**162**	*eP*			**Pb**	11 35 37.4	+0.5
	baz=160								
TDCB	**Techi**	**1.29**	**29**	⇑P			**Pb**	11 35 37.5	+0.3
	baz=28								
TDCB					S		**Sg**	11 35 55.1	-0.2
	baz=28								
TWT	**Tachien**	**1.30**	**30**	P			**Pb**	11 35 37.6	+0.3
	baz=29								
TWT					*eS*		**Sg**	11 35 55.9	+0.3
	baz=29								
NSY	**Sanyi**	**1.31**	**11**	⇑*i*P			**Pb**	11 35 38.4	+0.8
	baz=12								
NSY					S		**Sg**	11 35 56.7	+0.6
	baz=12								
FUSS	**Fushou**	**1.32**	**32**	P			**Pb**	11 35 38.1	+0.3
	baz=20								
FUSS					*eS*		**Sg**	11 35 56.5	+0.1
	baz=20								
HWA	**Hwalien**	**1.34**	**50**	P			**Pg**	11 35 39.0	-0.3
	baz=50								
HWA					*eS*		**Sg**	11 35 57.9	+1.0
	baz=50								
TWD	**Chiawan**	**1.40**	**47**	*eP*			**Pb**	11 35 39.1	0.0
	baz=54								
TWD					*eS*		**Sg**	11 35 58.4	-0.4
	baz=54								
NMLH	**Miaoli**	**1.44**	**12**	*eP*			**Pb**	11 35 39.8	+0.1
	baz=12								
NMLH					*eS*		**Sg**	11 35 59.4	-0.7
	baz=12								
LAY	**Lan-yu**	**1.47**	**137**	*eP*			**Pb**	11 35 39.8	-0.4
	baz=123								
NACB	**Ninganchiao**	**1.47**	**44**	P			**Pb**	11 35 40.2	+0.1
	baz=59								
NACB					S		**Sb**	11 35 59.7	+1.3
	baz=59								
ETL	**Fush Village**	**1.48**	**45**	*eP*			**Pb**	11 35 39.9	-0.4
	baz=61								
LYUB	**Lan-yu**	**1.51**	**137**	*eP*			**Pn**	11 35 38.5	-1.0
	baz=135								
LYUB					*eS*		**Sn**	11 35 57.2	-1.6
	baz=135								
NSTT	**Nanjuang**	**1.58**	**18**	*eP*			**Pn**	11 35 41.2	+0.7
	baz=19								
NSTT					*eS*		**Sb**	11 36 02.8	+1.1
	baz=19								
LIOB	**Emei**	**1.60**	**18**	*eP*			**Pn**	11 35 41.5	+0.8
	baz=19								
LIOB					*eS*		**Sg**	11 36 04.3	-0.8
	baz=19								
NJN	**Zhunan**	**1.60**	**13**	*eP*			**Pb**	11 35 42.9	+0.5
	baz=14								
NFF	**Wufeng Townshi**	**1.61**	**21**	*eP*			**Pn**	11 35 41.2	+0.2
	baz=23								
NFF					S		**Sb**	11 36 03.8	+1.0
	baz=23								
NJD	**Zhudong**	**1.70**	**19**	*eP*			**Pb**	11 35 44.5	+0.4
	baz=21								
LATG	**Datong**	**1.71**	**34**	P			**Pb**	11 35 43.9	-0.4
	baz=35								
LATG					S		**Sg**	11 36 07.4	-1.1
	baz=35								
HSN1	**Hsinchu**	**1.72**	**17**	*eP*			**Pn**	11 35 43.5	+1.1
	baz=18								
SBCB	**Hsinchu**	**1.73**	**16**	*eP*			**Pn**	11 35 43.5	+1.0
	baz=17								
HSN	**Hsinchu**	**1.73**	**15**	*eP*			**Pb**	11 35 45.3	+0.6
	baz=18								
NSK	**Sanguang**	**1.75**	**27**	⇑*eP*			**Pn**	11 35 43.1	+0.3
	baz=14								
NSK					*eS*		**Sb**	11 36 07.9	+1.3
	baz=14								
YHNB	**Yeheng**	**1.75**	**28**	⇑P			**Pb**	11 35 44.1	-0.9
	baz=13								
YHNB					*eS*		**Sb**	11 36 08.2	+1.6
	baz=13								
FUSB	**Fushanzhiwuyua**	**1.92**	**32**	⇑*eP*			**Pn**	11 35 46.7	+1.4
	baz=17								
FUSB					S		**Sb**	11 36 12.8	+1.1
	baz=17								
TWE	**Neicheng**	**1.93**	**34**	*eP*			**Pb**	11 35 47.8	-0.3
	baz=22								
TWC	**Suao**	**1.94**	**40**	*eP*			**Pb**	11 35 47.8	-0.4
	baz=56								
NHW	**Xinwu Township**	**1.95**	**15**	*eP*			**Pn**	11 35 46.8	+1.2
	baz=17								
NHDH	**Xindian Distri**	**2.07**	**27**	*eP*			**Pb**	11 35 51.0	+0.6
	baz=14								
VWUC	**VWUC**	**2.08**	**333**	*eP*			**Pn**	11 35 46.9	-0.5
	baz=334								
TWA	**Mucha**	**2.11**	**28**	*eP*			**Pn**	11 35 49.5	+1.7
	baz=15								
NTC	**Toucheng**	**2.12**	**35**	*eP*			**Pb**	11 35 50.6	-0.8
	baz=53								
TIPB	**Shuangxi**	**2.22**	**34**	*eP*			**Pn**	11 35 51.0	+1.7
	baz=19								
YM01	**YM01**	**2.25**	**26**	P			**Pn**	11 35 50.8	+1.1
	baz=14								
ANP	**Anpu**	**2.27**	**25**	*eP*			**Pn**	11 35 50.5	+0.5
	baz=11								
KNM	**Kinmen**	**2.27**	**305**	*eP*			**Pn**	11 35 51.0	+1.0
	baz=304								
NWF	**Wu-fen Shan**	**2.28**	**31**	*eP*			**Pb**	11 35 54.0	0.0
	baz=32								
WFSB	**Wu-fen Shan**	**2.28**	**31**	*eP*			**Pn**	11 35 51.1	+1.1
	baz=32								
YM08	**YM08**	**2.29**	**26**	*eP*			**Pn**	11 35 50.8	+0.5
	baz=14								
KNMB	**Chin-men Tao**	**2.33**	**305**	*eP*			**Pn**	11 35 50.5	-0.4
	baz=307								
TWB1	**Santiao Chiao**	**2.33**	**36**	*eP*			**Pn**	11 35 52.7	+1.9
	baz=37								
TNOU	**National Taiwa**	**2.34**	**30**	*eP*			**Pb**	11 35 53.8	-1.3
	baz=31								
SXI1	**Grass Mountain**	**2.34**	**33**	*eP*			**Pn**	11 35 52.4	+1.4
	baz=19								
TWY	**Chenhua**	**2.38**	**25**	*eP*			**Pn**	11 35 52.2	+0.7
	baz=13								
QZH	**Quanzhou**	**2.50**	**317**	Pn			**Pn**	11 35 53.5	+0.4
QZH				Sn			**Sn**	11 36 24.3	+1.2
QZH				smax			smax		
	comp=N,190nm,0.3s								
QZH				smax			smax		
	comp=E,140nm,0.7s								
JYNG	**Yonagunijimaku**	**2.62**	**59**	*eP*			**Pn**	11 35 56.9	+2.1
JYNG				S			**Sb**	11 36 29.5	-2.2
ZPLA	**Ao Xicun**	**2.63**	**288**	⇓*eP*			**Pn**	11 35 54.5	-0.3
	baz=291								
YOJ	**Yonaguni jima**	**2.68**	**60**	P			**Pn**	11 35 58.0	+2.5
YOJ				*eS*			**Sb**	11 36 31.1	-2.2
DSXP	**Dongshan**	**2.86**	**282**	*eP*			**Pn**	11 35 58.0	-0.1
	baz=286								
AXDP	**Jialang**	**2.90**	**308**	*eP*			**Pn**	11 35 58.3	-0.2
	baz=310								
MATB	**Ma-tsu**	**3.06**	**351**	*eP*			**Pn**	11 36 00.5	-0.3
	baz=350								
MSUT	**Lienchiang**	**3.08**	**351**	*eP*			**Pn**	11 36 00.9	-0.1
	baz=350								
HATJ	**Hateruma jima**	**3.19**	**72**	P			**Pn**	11 36 04.6	+2.0
HATJ				*eS*			**Sn**	11 36 42.9	+2.7
IRIF	**Iriomote-Funau**	**3.22**	**67**	P			**Pn**	11 36 05.2	+2.2
IRIF				*eS*			**Sn**	11 36 43.7	+2.9
MHZQ	**Yeshan**	**3.25**	**336**	*eP*			**Pn**	11 36 03.3	-0.1
	baz=338								
JKRS	**Kuro-shima**	**3.42**	**70**	P			**Pn**	11 36 08.2	+2.4
JKRS				*eS*			**Sn**	11 36 49.4	+3.5
LYJJ	**Jianjiangzhen**	**3.48**	**349**	*eP*			**Pn**	11 36 06.4	-0.2
	baz=349								
JIJ	**Ishigaki jima**	**3.58**	**69**	P			**Pn**	11 36 10.0	+2.0
JIJ				*eS*			**Sn**	11 36 52.4	+2.6
XPSS	**Dashiqiu**	**3.80**	**356**	*eP*			**Pn**	11 36 10.8	-0.2
	baz=355								
JTJ	**Tarama**	**4.15**	**68**	P			**Pn**	11 36 18.4	+2.5
JTJ				*eS*			**Sn**	11 37 07.2	+3.2
SXFK	**Yanhouchang**	**4.16**	**322**	*eP*			**Pn**	11 36 16.0	+0.1
	baz=338								
VDOS	**Pratas Island**	**4.23**	**236**	*eP*			**Pn**	11 36 18.8	+1.9
	baz=243								
JIRB	**Irabujima**	**4.62**	**67**	P			**Pn**	11 36 24.8	+2.5
JIRB				S			**Sn**	11 37 18.6	+3.2
JIKM	**Ikemajima**	**4.72**	**67**	P			**Pn**	11 36 26.2	+2.6
JIKM				S			**Sn**	11 37 21.0	+3.1
JMJ	**Miyako jima 2**	**4.72**	**68**	*eP*			**Pn**	11 36 25.6	+2.0
	baz=71								
JMJ2	**Miyako jima3**	**4.72**	**69**	P			**Pn**	11 36 26.5	+2.8
JMJ2				S			**Sn**	11 37 21.1	+3.1
JOGS	**Gusukube**	**4.80**	**69**	P			**Pn**	11 36 27.3	+2.6
JOGS				S			**Sn**	11 37 22.6	+2.8
JOW	**Kunigami**	**7.98**	**61**	P			**Pn**	11 37 07.9	-0.6
	comp=E,3.7nm,0.3s,baz=231,slow=6.5,SNR=8.5								
KSRS	**Korea Array**	**15.66**	**22**	P			**Pn**	11 38 54.5	+1.4
	comp=E,1.4nm,0.9s,baz=205,slow=12,SNR=4.7								
KSRS					LR		LR	11 45 38.2	
	comp=E,26nm,19.1s,baz=205,slow=40								
MJAR	**Matsushiro Arr**	**20.34**	**45**	P			**P**	11 39 44.0	-4.7
	comp=E,1.1nm,0.4s,baz=215,slow=11,SNR=3.6								
MJAR					LR		LR	11 48 14.0	
	comp=E,39nm,19.6s,baz=218,slow=39								
CMAR	**Chiang Mai Arr**	**20.65**	**261**	LR			LR	11 49 02.5	
	comp=E,27nm,20.6s,baz=100,slow=37								
KLR	**Kul'dur**	**27.54**	**16**	LR			LR	11 52 32.0	
	comp=E,29nm,18.7s,baz=185,slow=38								
WRA	**Warramunga Arr**	**44.89**	**161**	P			**P**	11 43 25.5	-1.5
	comp=E,1.4nm,0.8s,baz=344,slow=8.8,SNR=8.8								
WRA					PcP		**PcP**	11 45 07.2	-1.3
	comp=E,0.5nm,1.0s,baz=345,slow=4.0,SNR=2.1								
	comp=E,1.4nm,0.8s								
ASAR	**Alice Springs**	**48.30**	**163**	P			**P**	11 43 52.8	-0.9
	comp=E,0.7nm,0.7s,baz=339,slow=6.7,SNR=11								
ASAR					PcP		**PcP**	11 45 18.9	-1.6
	comp=E,0.5nm,0.7s,baz=338,slow=2.8,SNR=6.3								
	comp=E,0.7nm,0.7s								
ILAR	**Eielson Array**	**70.45**	**27**	P			P	11 46 20.5	-5.9
	comp=E,0.3nm,0.9s,baz=271,slow=8.0,SNR=2.0								
	comp=E,0.3nm,0.9s								

*NEIC **30** 11:40:36.5±0.7, 14.9S±0.1×178.6W±0.1, h408km±12km, mb4.1/13, Error ellipse: s-maj=19.9km s-min=16.1km az=139.0*

*IDC **30** 11:40:38.6±2.3, 14.74S×179.07W, h404km±26km, mb3.0/7, mbtmp3.8/8, Error ellipse: s-maj=49.4km s-min=16.6km az=153.0*

ISC 30 11:40:37.1±0.6, 14.8S±0.1×178.80W±0.10, h401km, n28, σ1s57/30, mb3.8/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.17**	**226**	P		**P**		**11 41 51.4**	**+0.6**
	73nm,0.4s,baz=80,slow=6.1,SNR=342								
FUNA	**Funafuti**	**6.57**	**342**	Pn		**P**		**11 42 17.0**	**+0.3**
AFI	**Afiamalu**	**6.87**	**83**	P		**P**		**11 42 16.5**	**-3.5**
	11nm,0.5s,baz=270,slow=5.1,SNR=5.7								
AFI	**Afiamalu**	**6.87**	**83**	Pn		**P**		**11 42 16.8**	**-3.3**
MARNC	**Mare, Loyalty**	**14.14**	**240**	P		**P**		**11 43 39.8**	**-0.6**
RAO	**Raoul Island**	**14.37**	**177**	P		**P**		**11 43 46.4**	**+3.7**
	563nm,0.4s,baz=354,slow=15,SNR=4.3								
LIFNC	**LIFOU**	**14.54**	**244**	P		**P**		**11 43 44.4**	**-0.3**
CTAO	**Charters Tower**	**33.70**	**256**	P		**P**		**11 46 43.2**	**+0.3**
CTAO				IAmb		IAmb		11 47 08.3	
	comp=Z,9.5nm,1.1s								
CAN	**Canberra**	**35.35**	**229**	P		**P**		**11 46 56.4**	**-0.3**
CAN				IAmb		IAmb		11 47 34.6	
	comp=Z,23nm,1.3s								
TOO	**Toolangi**	**38.88**	**228**	P		**P**		**11 47 24.3**	**-1.7**
TOO				IAmb		IAmb		11 47 29.5	
	comp=Z,15nm,1.4s								
STKA	**Stephens Creek**	**39.85**	**238**	P		**P**		**11 47 33.0**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=67,slow=7.7,SNR=3.9								
	comp=Z,2.0nm,0.7s								
STKA	**Stephens Creek**	**39.85**	**238**	P		**P**		**11 47 33.4**	**-0.5**
BBOO	**Buckleboo**	**44.63**	**238**	P		**P**		**11 48 11.1**	**-0.8**
WR0	**Warramunga Arr**	**44.70**	**257**	P		**P**		**11 48 12.1**	**-0.7**
WB0	**Warramunga Arr**	**44.85**	**257**	P		**P**		**11 48 13.3**	**-0.6**
WB0				IAmb		IAmb		11 48 13.7	
	comp=Z,3.5nm,0.5s								
WB2	**Warramunga Arr**	**44.88**	**257**	P		**P**		**11 48 13.4**	**-0.7**
WB2				IAmb		IAmb		11 48 23.2	
	comp=Z,6.4nm,1.2s								
WRA	**Warramunga Arr**	**44.90**	**257**	P		**P**		**11 48 13.3**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=96,slow=7.5,SNR=53								
WRA					PcP		**PcP**	**11 49 47.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=94,slow=3.7,SNR=2.2								
	comp=Z,0.8nm,0.4s								
WRA	**Warramunga Arr**	**44.90**	**257**	P		**P**		**11 48 13.4**	**-0.8**
AS31	**Alice Springs**	**45.33**	**251**	P		**P**		**11 48 17.1**	**-0.5**
ASAR	**Alice Springs**	**45.33**	**251**	P		**P**		**11 48 17.2**	**-0.4**
	comp=Z,20nm,0.3s,baz=84,slow=8.6,SNR=817								
ASAR					PcP		**PcP**	**11 49 49.1**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=103,slow=3.7,SNR=2.2								
KNRA	**Kununurra**	**50.48**	**262**	P		**P**		**11 48 56.7**	**+0.1**
KNRA				IAmb		IAmb		11 49 27.8	
	comp=Z,15nm,1.3s								
FORT	**Forrest**	**51.03**	**242**	P		**P**		**11 48 58.0**	**-2.4**
FITZ	**Fitzroy Crossi**	**53.22**	**258**	P		**P**		**11 49 16.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=93,slow=5.5,SNR=7.9								
	comp=Z,1.3nm,0.6s								
QSPA	**South Pole Qui**	**75.20**	**180**	P		**P**		**11 51 35.1**	**-1.7**
QSPA				IAmb		IAmb		11 51 36.1	
	comp=Z,3.4nm,0.8s								
NVAR	**Mina Array Bea**	**77.50**	**44**	P		**P**		**11 51 52.2**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=231,slow=8.0,SNR=4.1								
	comp=Z,0.4nm,0.7s								
ILAR	**Eielson Array**	**83.00**	**13**	P		**P**		**11 52 19.4**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=234,slow=5.4,SNR=4.8								
	comp=Z,0.2nm,0.6s								
TXAR	**Lajitas Array**	**84.69**	**58**	P		**P**		**11 52 29.8**	**+2.2**
	comp=Z,0.3nm,0.8s,baz=236,slow=6.4,SNR=4.5								
	comp=Z,0.3nm,0.8s								
PDAR	**Pinedale Array**	**85.40**	**44**	P		**P**		**11 52 32.2**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=251,slow=5.6,SNR=2.8								
	comp=Z,0.2nm,0.5s								

*GCMT **30** 11:48:31.4±0.2, 11.98N±0.01×140.15E±0.02, h16km±1km, MW4.8/101, Moment Tensor Solution. s13,c15; s101,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.34±.10; $M_{\theta\theta}$-1.22±.06; $M_{\phi\phi}$1.57±.09; $M_{r\theta}$-0.46±.23; $M_{\theta\phi}$1.59±.07; $M_{\phi r}$0.50±.23; Best double couple: M_o2.23600×10^{16} NP1:ϕ_s161.00000°, δ81.00000°, λ-162.00000°. NP2:ϕ_s68.00000°, δ72.00000°, λ-10.00000°. Principal axes: T 2.3180, Plg6.0000°, Azm294.0000°; N -0.1570, Plg70.0000°, Azm187.0000°; P -2.1540, Plg19.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **30** 11:48:31.2±1.6, 12.08N±0.08×140.52E±0.09, h35km±5km, mb4.7/68 Error ellipse: s-maj=12.5km s-min=11.3km az=97.0*

*IDC **30** 11:48:33.7±3.1, 12.05N×140.45E, h54km±30km, mb4.0/24, mbtmp4.3/27, ML3.9/3, MS3.9/66, Error ellipse: s-maj=17.7km s-min=10.3km az=80.0*

*DJA **30** 11:48:40.2±0.6, 11.9N±3.1×14.0E±.1, h12km±4km, M4.8/37, mb4.8/37, mB5.3/18, Mw(mB)4.7/18, MwMwp5.0/1, Mwp5.3/1*

ISC 30 11:48:31.0±0.3, 12.01N±0.05×140.52E±0.06, h30km, n199, σ2s04/161, mb4.7/69, MS4.0/77, 2C-3D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.53**	**69**	P		**Pn**		**11 49 40.4**	**+2.9**
	9.6nm,0.3s,baz=169,slow=14,SNR=6.2								
	45nm,0.6s								
GUMO	**Guam**	**4.53**	**69**	Pn		**Pn**		**11 49 36.5**	**-1.0**
BAKI	**Biak**	**13.82**	**199**	P		**P**		**11 51 50.0**	**-3.0**
SMPI	**Sarmi**	**14.02**	**187**	P		**Pn**		**11 51 51.3**	**+3.6**
	42nm,1.0s								
SRPI	**Serui, Papua**	**14.42**	**197**	P		**Pn**		**11 51 49.4**	**-3.8**
GENI	**Genyem**	**14.51**	**181**	P		**P**		**11 51 59.3**	**-1.4**
	3µm124nm,0.8s								
JCJ	**Chichijima**	**15.10**	**6**	LR		LR		11 57 06.8	
	comp=Z,294nm,19.5s,baz=160,slow=34								
DAV	**Davao City (W)**	**15.52**	**253**	LR		LR		11 57 13.7	
	comp=Z,193nm,21.0s,baz=70,slow=34								
MANU	**Manus Island**	**15.53**	**154**	Pn		**Pn**		**11 52 07.8**	**-0.2**
SIJI	**Sorong**	**15.75**	**216**	P		**P**		**11 52 13.5**	**-0.9**
	0.8nm,0.3s,baz=38,slow=15,SNR=2.3								
SIJI				LR		LR		11 56 51.6	
	comp=Z,623nm,20.8s,baz=2.0,slow=32								
	4.6nm,0.6s								
JMZ	**Minamidaito 2**	**16.30**	**329**	Pn		**Pn**		**11 52 15.6**	**-2.2**
FAKI	**Fak Fak**	**16.95**	**210**	Pn		**Pn**		**11 52 25.6**	**-0.5**
FAKI	**Fak Fak**	**16.95**	**210**	P		**P**		**11 52 27.9**	**+0.1**
	1µm113nm,1.4s								
SGSI	**Sangihe**	**16.98**	**242**	P		**Pn**		**11 52 25.2**	**-1.3**
	5µm52nm,0.5s								
LBMI	**Labuha**	**18.02**	**227**	P		**P**		**11 52 40.0**	**+0.3**
	749nm28nm,1.1s								
PATS	**Pohnpei**	**18.29**	**105**			**P**		**11 52 41.9**	**-0.7**
PATS				IAmb		IAmb		11 53 04.5	
	comp=Z,57nm,1.2s								
JOW	**Kunigami**	**18.71**	**324**	P		**P**		**11 52 47.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=278,slow=30,SNR=3.1								
JOW				LR		LR		11 58 17.0	
	comp=Z,424nm,21.8s,baz=145,slow=31								
	comp=Z,14nm,1.0s								
JOW	**Kunigami**	**18.71**	**324**	P		**P**		**11 52 44.0**	**-3.1**
MSAI	**Masohi**	**19.11**	**218**	P		**Pn**		**11 52 54.4**	**+1.8**
	comp=Z,536nmcomp=Z,42nm,1.2s								
BNDI	**Bandanaira**	**19.52**	**213**	P		**Pn**		**11 52 59.0**	**+1.5**
	comp=Z,239nm,1.4s								
RABL	**Rabaul**	**19.82**	**144**	P		**P**		**11 52 59.9**	**+0.4**
AAI	**Ambon**	**19.83**	**219**	P		**Pn**		**11 53 00.8**	**-0.4**
	comp=Z,2µmcomp=Z,104nm,1.7s								
KRVT	**Keravat (AS076**	**19.84**	**144**	LR		LR		11 59 24.5	
	comp=Z,715nm,20.2s,baz=98,slow=33								
KMSI	**Cibinong**	**19.95**	**236**	P		**Pn**		**11 53 02.6**	**-0.1**
	comp=Z,3µmcomp=Z,108nm,1.1s								
SANI	**Sanana**	**20.08**	**227**	P		Pn		11 53 04.4	+0.2
	comp=Z,782nmcomp=Z,41nm,2.2s								
NLAI	**Namlea**	**20.18**	**222**	P		Pn		11 53 06.2	+0.9
	comp=Z,4µmcomp=Z,20nm,1.2s								
GTOI	**Gorontalo**	**20.72**	**238**	P		Pn		11 53 12.2	+0.5
	comp=Z,296nmcomp=Z,23nm,1.5s								
JHJ	**Hachijo jima 2**	**21.03**	**358**	LR		LR		12 00 00.8	
	comp=Z,377nm,19.1s,baz=260,slow=33								
TWG	**Pinlang**	**21.42**	**303**	P		**P**		**11 53 14.8**	**-1.9**
YULB	**Yu-li**	**21.50**	**304**	P		**P**		**11 53 16.0**	**-1.5**
YULB				IAmb		IAmb		11 53 34.0	
	comp=Z,53nm,1.2s								
MRSI	**Marisa**	**21.70**	**239**	P		**P**		**11 53 22.2**	**+2.5**
	comp=Z,2µmcomp=Z,176nm,1.2s								
MRSI				pP		**pP**		**11 53 25.8**	**-0.9**
	comp=Z,2µmcomp=Z,176nm,1.2s								
SAUI	**Saumlaki**	**21.87**	**205**	P		P		11 53 30.0	+8.5
LUWI	**Luwuk**	**21.88**	**235**	P		**P**		**11 53 22.5**	**+0.9**
	comp=Z,2µmcomp=Z,8µmcomp=Z,147nm,0.4s								
SSLB	**Suanglung**	**21.96**	**305**	P		**P**		**11 53 20.7**	**-1.8**
TPUB	**Ta-pu**	**22.00**	**303**	P		**P**		**11 53 21.4**	**-1.5**
YHNB	**Yeheng**	**22.07**	**307**	P		**P**		**11 53 21.7**	**-2.0**
PMG	**Port Moresby**	**22.27**	**162**	P		**P**		**11 53 28.2**	**+2.4**
	comp=Z,11nm,0.9s,baz=358,slow=18,SNR=5.7								
	comp=Z,11nm,0.9s								
PMG	**Port Moresby**	**22.27**	**162**	P		**P**		**11 53 24.7**	**-1.2**
PMG				IAmb		IAmb		11 53 35.7	
	comp=Z,43nm,1.2s								
JMN	**Monobe**	**22.46**	**345**	P		**P**		**11 53 26.3**	**-1.5**
JMN				IAmb		IAmb		11 53 52.4	
	comp=Z,63nm,1.3s								
APSI	**Ampana**	**22.71**	**237**	P		**P**		**11 53 31.8**	**+1.2**
	comp=Z,726nmcomp=Z,56nm,1.0s								
MYLDM	**Lahad Datu**	**22.79**	**255**	P		**P**		**11 53 29.9**	**-1.5**
INU	**Inuyama**	**23.46**	**353**	P		**P**		**11 53 34.7**	**-3.2**
INU				IAmb		IAmb		11 53 59.5	
	comp=Z,24nm,1.2s								
MPSI	**Mapaga**	**23.52**	**242**	P		**P**		**11 53 42.4**	**+3.7**
	comp=Z,513nmcomp=Z,30nm,1.0s								
TTSI	**Tana Toraja**	**25.43**	**235**	P		**P**		**11 53 53.9**	**-2.4**
COEN	**Coen**	**25.93**	**174**	P		**P**		**11 53 58.5**	**-2.3**
JSD	**Sado**	**26.00**	**356**	P		**P**		**11 53 59.6**	**-1.7**
JSD				IAmb		IAmb		11 54 17.2	
	comp=Z,16nm,1.0s								
**MT

	comp=Z,10.0nm,0.8s							
LYN				pmax	pmax			
	comp=Z,80nm,3.8s							
LYN				LR	LR			
	comp=N,340nm,15.1s							
LYN				LR	LR			
	comp=E,210nm,13.2s							
LYN				LR	LR			
	comp=Z,340nm,23.0s							
HNS	**HongShan**	**34.26 322**	⇓	P	**P**	**11 55 16.8**	**+2.4**	
HNS				*e*S	**S**	**12 00 45.5**	**+5.9**	
HNS				pmax	pmax			
	comp=Z,17nm,1.0s							
HNS				LR	LR			
	comp=Z,190nm,13.9s							
HNS				LR	LR			
	comp=Z,360nm,14.8s							
HNS				LR	LR			
	comp=Z,340nm,16.1s							
GYA	**Guiyang**	**34.92 299**		P	**P**	**11 55 21.0**	**+0.6**	
GYA				S	**S**	**12 00 47.0**	**-3.3**	
GYA				pmax	pmax			
	comp=Z,88nm,5.8s							
GYA				LR	LR			
	comp=Z,390nm,22.0s							
BJT	**Baijiatuau**	**35.22 327**		P	**P**	**11 55 21.5**	**-1.2**	
BJT				IAmb	IAmb	11 55 42.8		
	comp=Z,15nm,1.2s							
BJI	**Beijing**	**35.23 327**		P	**P**	**11 55 21.0**	**-1.8**	
BJI				pmax	pmax			
	comp=Z,10.0nm,1.2s							
BJI				LR	LR			
	comp=Z,46nm,17.7s							
BJI				LR	LR			
	comp=Z,200nm,17.8s							
BJI				LR	LR			
	comp=Z,260nm,25.2s							
BNX	**BinXian**	**35.43 344**	⇑	P	**P**	**11 55 24.5**	**+0.1**	
BNX				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BNX				pmax	pmax			
	comp=Z,120nm,4.8s							
AS31	**Alice Springs**	**36.03 190**		P	**P**	**11 55 28.8**	**-1.1**	
ASAR	**Alice Springs**	**36.04 190**		P	**P**	**11 55 29.8**	**-0.1**	
	comp=Z,0.7nm,0.5s,baz=39,slow=6.0,SNR=18							
ASAR				PcP	**PcP**	**11 57 57.4**	**+1.4**	
	comp=Z,0.4nm,0.7s,baz=9.5,slow=1.1,SNR=1.2							
ASAR				LR	LR	12 10 23.1		
	comp=Z,338nm,18.2s,baz=8.0,slow=36							
	comp=Z,0.7nm,0.5s							
ASAR	**Alice Springs**	**36.04 190**		P	**P**	**11 55 29.9**	**0.0**	
XAN	**Xi'an**	**36.18 313**		P	**P**	**11 55 32.8**	**+1.7**	
XAN				pP	pP	11 55 38.3	-0.3	
XAN				sP	sP	11 55 42.0	+0.3	
XAN				S	**S**	**12 01 12.0**	**+2.7**	
XAN				SS	**SnSn**	**12 03 36.5**	**-0.1**	
XAN				ScS	**ScS**	**12 05 49.5**	**+2.8**	
XAN				pmax	pmax			
	comp=Z,10.0nm,1.6s							
XAN				LR	LR			
	comp=Z,170nm,14.4s							
XAN				LR	LR			
	comp=Z,400nm,17.9s							
XAN				LR	LR			
	comp=Z,490nm,23.4s							
LEM	**Lembang**	**37.69 242**		LR	LR	12 12 11.0		
	comp=Z,98nm,21.1s,baz=48,slow=38							
KLR	**Kul'dur**	**37.82 351**		P	**P**	**11 55 45.0**	**+0.2**	
	comp=Z,5.9nm,0.8s,baz=155,slow=7.0,SNR=18							
KLR				LR	LR	12 11 16.4		
	comp=Z,66nm,18.3s,baz=164,slow=36							
	comp=Z,5.9nm,0.8s							
KMI	**Kunming**	**37.97 296**	⇑	P	**P**	**11 55 48.8**	**+2.1**	
KMI				pmax	pmax			
	comp=Z,120nm,5.1s							
KMI				LR	LR			
	comp=Z,160nm,10.6s							
KMI				LR	LR			
	comp=Z,220nm,27.9s							
KMI				LR	LR			
	comp=Z,310nm,30.1s							
XLT	**XiLinHaoTe**	**38.12 331**	⇓	*i*P	**P**	**11 55 50.0**	**+2.5**	
XLT				pP	pP	11 55 53.8	-1.2	
XLT				sP	sP	11 55 57.5	-0.7	
XLT				PP	**PnPn**	**11 57 22.5**	**+6.0**	
XLT				S	**S**	**12 01 42.0**	**+3.3**	
XLT				sS	sS	12 01 54.0	+2.7	
XLT				pmax	pmax			
	comp=Z,14nm,1.0s							
XLT				pmax	pmax			
	comp=Z,84nm,7.6s							
XLT				LR	LR			
	comp=Z,20nm,15.2s							
XLT				LR	LR			
	comp=Z,170nm,12.9s							
HHC	**Hu-ho-hao-te**	**38.36 324**	*e*	P	**P**	**11 55 50.5**	**+0.9**	
HHC				pmax	pmax			
	comp=Z,26nm,0.5s							
HHC				pmax	pmax			
	comp=Z,200nm,7.9s							
HHC				LR	LR			
	comp=Z,360nm,16.4s							
HHC				LR	LR			
	comp=Z,420nm,16.4s							
HHC				LR	LR			
	comp=Z,190nm,13.5s							
EIDS	**Eidsvold**	**38.55 165**		P	**P**	**11 55 51.6**	**+0.5**	
EIDS				IAmb	IAmb	11 56 00.4		
	comp=Z,24nm,1.4s							
CD2	**Chengdu**	**38.80 305**	*e*	P	**P**	**11 55 52.3**	**-1.0**	
PSA00	**Pilbara Seismi**	**39.05 211**		P	**P**	**11 55 55.5**	**+0.1**	
PZH	**PanZhiHua**	**39.17 297**		P	P	11 56 02.8	+6.2	
PZH				S	**S**	**12 02 00.5**	**+5.4**	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.2s							
PZH				pmax	pmax			
	comp=Z,110nm,5.7s							
PZH				LR	LR			
	comp=N,330nm,20.9s							
PZH				LR	LR			
	comp=E,390nm,18.3s							
PZH				LR	LR			
	comp=Z,470nm,18.6s							
CM31	**Chiang Mai Arr**	**40.55 284**		P	**P**	**11 56 06.8**	**-1.3**	
CM31				IAmb	IAmb	11 56 17.7		
	comp=Z,29nm,1.2s							
CMAR	**Chiang Mai Arr**	**40.55 284**		P	**P**	**11 56 08.3**	**+0.3**	
	comp=Z,4.2nm,1.0s,baz=81,slow=5.6,SNR=13							
CMAR				LR	LR	12 11 43.5		
	comp=Z,184nm,20.6s,baz=95,slow=34							
	comp=Z,4.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**40.55 284**		P	**P**	**11 56 06.6**	**-1.4**	
LZH	**Lanzhou**	**40.81 312**	*e*	P	**P**	**11 56 13.0**	**+2.9**	
LZH				pP	pP	11 56 17.8	0.0	
LZH				sP	sP	11 56 20.8	-0.1	
LZH				S	**S**	**12 02 26.3**	**+6.8**	
LZH				sS	sS	12 02 32.0	-0.1	
LZH				pmax	pmax			
	comp=Z,18nm,1.0s							
LZH				pmax	pmax			
	comp=Z,110nm,4.4s							
LZH				LR	LR			
	comp=Z,280nm,15.6s							
LZH				LR	LR			
	comp=Z,390nm,15.7s							
LZH				LR	LR			
	comp=Z,430nm,18.9s							
DZM	**Mont Dzumac**	**42.35 143**	*e*	P	P	11 56 28.9	+6.1	
	comp=Z,60nm,1.1s							
DZM				*e*S	**S**	**12 02 45.9**	**+3.6**	
	comp=Z,110nm,26.8s							
DZM				*e*LR	LR	12 08 08.0		
	comp=Z,515nm,23.8s							
DZM	**Mont Dzumac**	**42.35 143**		P	**P**	**11 56 23.3**	**+0.6**	
	comp=Z,5.9nm,1.1s,baz=304,slow=15,SNR=1.8							
DZM				LR	LR	12 11 01.6		
	comp=Z,292nm,21.9s,baz=302,slow=32							
	comp=Z,5.9nm,1.1s							
DZM	**Mont Dzumac**	**42.35 143**		P	**P**	**11 56 21.1**	**-1.7**	
DZM				IAmb	IAmb	11 56 34.0		
	comp=Z,25nm,1.0s							
PETK	**Petropavlovsk-**	**43.25 15**		LR	LR	12 13 41.2		
	comp=Z,68nm,20.7s,baz=196,slow=35							
STKA	**Stephens Creek**	**43.64 179**		P	**P**	**11 56 31.7**	**-1.2**	
	comp=Z,3.0nm,0.8s,baz=0.8,slow=11,SNR=3.5							
STKA				LR	LR	12 14 45.4		
	comp=Z,84nm,18.7s,baz=15,slow=36							
	comp=Z,3.0nm,0.8s							
GSI	**Gunungsitoli**	**43.88 259**		P	**P**	**11 56 32.9**	**-2.4**	
GSI				IAmb	IAmb	11 56 36.6		
	comp=Z,24nm,1.1s							
FORT	**Forrest**	**44.19 195**		P	**P**	**11 56 36.4**	**-0.9**	
GTA	**Gaotai**	**45.15 315**	*e*	P	**P**	**11 56 44.5**	**-0.6**	
GTA				pP	pP	11 56 49.8	-3.0	
GTA				sP	sP	11 56 52.5	-3.4	
GTA				S	**S**	**12 03 23.0**	**0.0**	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,91nm,4.7s							
GTA				LR	LR			
	comp=Z,190nm,14.2s							
GTA				LR	LR			
	comp=Z,110nm,15.6s							
GTA				LR	LR			
	comp=Z,130nm,16.0s							
ULN	**Ulaanbaatar**	**45.38 329**		P	**P**	**11 56 46.7**	**-0.2**	
ULN				IAmb	IAmb	11 57 01.7		
	comp=Z,10nm,1.1s							
SONM	**Songino Array**	**45.70 328**		P	**P**	**11 56 48.5**	**-0.9**	
	comp=Z,2.2nm,0.9s,baz=147,slow=8.6,SNR=5.9							
	comp=Z,2.2nm,0.9s							
SONM	**Songino Array**	**45.70 328**		P	**P**	**11 56 46.4**	**-3.0**	
SONM				IAmb	IAmb	11 56 58.4		
	comp=Z,11nm,1.4s							
MSVF	**Nonsavu**	**47.40 128**		P	**P**	**11 57 04.8**	**+1.8**	
	comp=Z,4.4nm,0.8s,baz=281,slow=23,SNR=2.3							
MSVF				LR	LR	12 14 55.5		
	comp=Z,194nm,18.9s,baz=325,slow=33							
	comp=Z,4.4nm,0.8s							
GOMU	**GeErMu**	**47.60 308**		P	**P**	**11 57 09.0**	**+4.2**	
GOMU				S	**S**	**12 03 59.0**	**+0.2**	
GOMU				pmax	pmax			
	comp=Z,3.0nm,0.5s							
GOMU				pmax	pmax			
	comp=Z,41nm,5.5s							
GOMU				LR	LR			
	comp=Z,140nm,18.2s							
GOMU				LR	LR			
	comp=Z,110nm,18.5s							
GOMU				LR	LR			
	comp=Z,130nm,17.6s							
BRDH	**Bariadhala**	**47.66 290**		LR	LR	12 19 27.3		
	comp=Z,121nm,18.0s,baz=94,slow=39							
MA2	**Magadan**	**48.10 7**		LR	LR	12 16 14.0		
	comp=Z,44nm,21.8s,baz=198,slow=34							
SHEM	**Shemya Is, Ala**	**48.72 27**		LR	LR	12 15 19.5		
	comp=Z,186nm,20.8s,baz=240,slow=33							
NWAO	**Narrogin (SRO)**	**49.90 206**		LR	LR	12 20 21.0		
	comp=Z,105nm,18.6s,baz=260,slow=38							
YAK	**Yakutsk**	**50.56 353**		P	**P**	**11 57 25.6**	**-0.9**	
	comp=Z,3.6nm,0.3s,baz=152,slow=7.3,SNR=1.6							
YAK				LR	LR	12 19 02.9		
	comp=Z,64nm,18.3s,baz=92,slow=36							
	comp=Z,3.6nm,0.3s							
YAK	**Yakutsk**	**50.56 353**		P	**P**	**11 57 25.5**	**-0.9**	
AFI	**Afiamalu**	**53.85 117**		LR	LR	12 18 19.7		
	comp=Z,58nm,21.0s,baz=308,slow=33							
WMQ	**Urumqi**	**55.21 315**	*e*	P	**P**	**11 58 02.5**	**+1.2**	
RAO	**Raoul Island**	**57.37 136**		LR	LR	12 21 16.5		
	comp=Z,99nm,19.2s,baz=329,slow=34							
PALK	**Pallekele**	**59.07 271**		LR	LR	12 23 21.6		
	comp=Z,52nm,20.0s,baz=190,slow=35							
MK31	**Makanchi Array**	**59.73 317**		P	**P**	**11 58 32.4**	**-0.7**	
MK31				IAmb	IAmb	11 58 42.3		
	comp=Z,7.8nm,1.2s							
MKAR	**Makanchi Array**	**59.73 317**		P	**P**	**11 58 32.2**	**-0.8**	
	comp=Z,3.5nm,0.9s,baz=104,slow=6.1,SNR=12							
MKAR				LR	LR	12 24 29.9		
	comp=Z,83nm,20.9s,baz=99,slow=36							
	comp=Z,3.5nm,0.9s							
MKAR	**Makanchi Array**	**59.73 317**		P	**P**	**11 58 31.8**	**-1.2**	
TIXI	**Tiksi**	**60.03 356**		LR	LR	12 22 22.9		
	comp=Z,81nm,21.3s,baz=181,slow=34							
ZAA0	**Zalesovo Array**	**60.49 326**		P	**P**	**11 58 37.3**	**-0.7**	
ZAA0				IAmb	IAmb	11 58 46.7		
	comp=Z,8.1nm,1.4s							
ZALV	**Zalesovo Beam**	**60.49 326**		P	**P**	**11 58 37.1**	**-0.9**	
	comp=Z,1.3nm,0.5s,baz=114,slow=6.5,SNR=5.8							
ZALV				LR	LR	12 27 25.2		
	comp=Z,100nm,18.2s,baz=138,slow=39							
	comp=Z,1.3nm,0.5s							
ZALV	**Zalesovo Beam**	**60.49 326**		P	**P**	**11 58 36.9**	**-1.1**	
URZ	**Urewera**	**60.60 147**		LR	LR	12 22 55.2		
	comp=Z,107nm,19.2s,baz=42,slow=34							
RPZ	**Rata Peaks**	**62.05 155**		LR	LR	12 22 05.8		
	comp=Z,156nm,21.9s,baz=320,slow=32							
KURK	**Kurchatov**	**63.09 321**		P	**P**	**11 58 54.7**	**-1.0**	
KURBB	**Kurchatov Arra**	**63.12 321**		P	**P**	**11 58 55.2**	**-0.6**	
	comp=Z,6.3nm,0.7s,baz=102,slow=7.0,SNR=16							
	comp=Z,6.3nm,0.7s							
AAK	**Ala-Archa**	**64.35 312**		LR	LR	12 28 56.3		
	comp=Z,92nm,19.2s,baz=122,slow=38							
NIL	**Nilore**	**64.57 302**		P	**P**	**11 59 03.2**	**-2.5**	
NRIK	**Noril'sk**	**66.27 342**		P	**P**	**11 59 14.5**	**-1.5**	
	comp=Z,4.9nm,0.8s,baz=106,slow=8.0,SNR=4.6							
	comp=Z,4.9nm,0.8s							
NRIK	**Noril'sk**	**66.27 342**		P	**P**	**11 59 15.4**	**-0.6**	
GAR	**Garm**	**67.18 307**		P	**P**	**11 59 19.8**	**-2.8**	
RAR	**Rarotonga**	**67.29 119**		LR	LR	12 21 56.9		
	comp=Z,132nm,21.0s,baz=296,slow=30							
KK31	**Karatay Array**	**67.31 312**		P	**P**	**11 59 23.2**	**0.0**	
KKAR	**Karatay Array**	**67.31 312**		P	**P**	**11 59 22.3**	**-0.9**	
KDAK	**Kodiak Island**	**67.66 32**		LR	LR	12 25 14.3		
	comp=Z,69nm,21.9s,baz=257,slow=32							
CHGR	**Chuyangaron**	**68.07 307**		P	**P**	**11 59 26.9**	**-1.4**	
KBL	**Kabul**	**68.08 302**		P	**P**	**11 59 27.7**	**-0.8**	
BVAR	**Borovoye Array**	**68.56 322**		P	**P**	**11 59 30.2**	**-0.6**	
	comp=Z,4.9nm,0.8s,baz=99,slow=8.9,SNR=19							
BVAR				LR	LR	12 29 23.0		
	comp=Z,99nm,21.8s,baz=90,slow=36							
	comp=Z,4.9nm,0.8s							
J20K	**Nowinta River**	**68.62 25**		P	**P**	**11 59 30.0**	**-1.0**	
J20K				IAmb	IAmb	11 59 51.8		
	comp=Z,9.7nm,1.1s							
BRVK	**Borovoye**	**68.62 322**		P	**P**	**11 59 28.9**	**-2.4**	
BRVK				IAmb	IAmb	11 59 40.9		
	comp=Z,7.6nm,0.8s							
PPLA	**Purkeypile**	**69.10 27**		P	**P**	**11 59 33.6**	**-0.7**	
PPLA				IAmb	IAmb	11 59 37.3		
	comp=Z,9.6nm,1.3s							
CAST	**Castle Rocks**	**69.28 26**		P	**P**	**11 59 34.0**	**-1.2**	
CAST				IAmb	IAmb	12 00 01.4		
	comp=Z,5.7nm,0.9s							
IMAR	**Indian Mountai**	**69.32 24**		P	**P**	**11 59 35.7**	**+0.3**	
H21K	**Melozitna Rive**	**69.60 24**		P	**P**	**11 59 35.1**	**-2.0**	
MLY	**Manley**	**70.27 25**		P	**P**	**11 59 41.6**	**+0.4**	
I23K	**Minto, Yukon-K**	**70.86 25**		P	**P**	**11 59 43.1**	**-1.7**	
I23K				IAmb	IAmb	12 00 12.1		
	comp=Z,14nm,1.5s							
H23K	**Yukon River**	**70.94 24**		P	**P**	**11 59 44.7**	**-0.7**	
H23K				IAmb	IAmb	12 00 11.4		
	comp=Z,9.7nm,1.3s							
COLD	**Coldfoot**	**71.03 23**		P	**P**	**11 59 44.8**	**-1.0**	
COLD				IAmb	IAmb	12 00 07.7		
	comp=Z,17nm,1.5s							
H24K	**Noodor Dome**	**71.61 24**		P	**P**	**11 59 47.4**	**-2.0**	
H24K				IAmb	IAmb	12 00 15.3		
	comp=Z,12nm,1.4s							
TOLK	**Toolik Lake Re**	**71.61 21**		P	**P**	**11 59 48.8**	**-0.6**	
TOLK				IAmb	IAmb	12 00 10.4		
	comp=Z,10nm,1.1s							
IL31		**71.81 25**		P	**P**	**11 59 49.7**	**-0.8**	
ILAR	**Eielson Array**	**71.81 25**		P	**P**	**11 59 50.0**	**-0.5**	
	comp=Z,0.5nm,0.7s,baz=241,slow=6.2,SNR=5.9							
ILAR				LR	LR	12 28 31.0		
	comp=Z,101nm,22.0s,baz=258,slow=33							
	comp=Z,0.5nm,0.7s							
ILAR	**Eielson Array**	**71.81 25**		P	**P**	**11 59 48.8**	**-1.7**	
PAX	**Paxson**	**72.13 27**		P	**P**	**11 59 52.2**	**-0.4**	
L26K	**Log Cabin Wild**	**73.09 28**		P	**P**	**11 59 56.6**	**-1.6**	
L26K				IAmb	IAmb	12 00 19.5		
	comp=Z,9.7nm,1.4s							
M26K	**Nabesna, AK**	**73.18 28**		P	**P**	**11 59 56.6**	**-2.2**	
J26L	**Joseph Creek**	**73.18 26**		P	**P**	**11 59 56.0**	**-2.8**	
BMAR	**Burnt Mountain**	**73.20 23**		P	**P**	**12 00 00.0**	**+1.2**	
K27K	**Chicken**	**73.77 27**		P	**P**	**12 00 01.5**	**-0.7**	
L27K	**Beaver Creek,**	**73.79 28**		P	**P**	**12 00 01.3**	**-1.1**	
BCAR	**Beaver Creek A**	**73.81 28**		P	**P**	**12 00 02.0**	**-0.4**	
ABKAR	**Akbulak array**	**74.86 318**		P	**P**	**12 00 07.3**	**-1.5**	
PPT	**Papeete**	**75.01 112**		LR	LR	12 30 01.4		
	comp=Z,64nm,18.6s,baz=293,slow=33							
PPT2	**Papeete2**	**75.02 112**	*e*	S	**S**	**12 09 49.3**	**+2.5**	
	comp=Z,56nm,26.2s							
PPT2	**Papeete2**	**75.02 112**	*e*	LR	LR	12 23 15.3		
	comp=Z,568nm,31.0s							
ARU	**Arti**	**75.65 325**		LR	LR	12 35 24.7		
	comp=Z,224nm,19.4s,baz=92,slow=37							
AKTO	**Aktyubinsk**	**76.08 319**		LR	LR	12 35 32.5		
	comp=Z,87nm,19.1s,baz=83,slow=37							
GEYT	**Alibeck**	**76.77 306**		P	**P**	**12 00 20.3**	**+0.3**	
	comp=Z,1.3nm,0.5s,baz=10,slow=8.8,SNR=1.2							
GEYT				LR	LR	12 37 16.3		
	comp=Z,106nm,20.3s,baz=130,slow=38							
	comp=Z,1.3nm,0.5s							
TBI	**Tubuai**	**76.95 118**	*e*	S	**S**	**12 10 10.2**	**+2.4**	
	comp=Z,43nm,35.5s							
TBI	**Tubuai**	**76.95 118**	*e*	LR	LR	12 24 09.0		
	comp=Z,307nm,32.2s							
DLBC	**Dease Lake**	**79.59 32**		LR	LR	12 34 11.2		
	comp=Z,65nm,20.0s,baz=280,slow=34							
KIRV	**Kirov**	**80.43 328**		LR	LR	12 39 25.5		
	comp=Z,203nm,18.2s,baz=79,slow=38							
BBB	**Bella Bella**	**81.46 38**		LR	LR	12 30 50.6		
	comp=Z,103nm,20.8s,baz=269,slow=31							
BELG	**Belogornoye**	**82.35 322**		LR	LR	12 38 03.8		
	comp=Z,74nm,20.0s,baz=134,slow=36							
YKA	**Yellowknife Ar**	**86.19 27**		LR	LR	12 40 03.6		
	comp=Z,74nm,19.7s,baz=280,slow=36							
RES	**Resolute Bay**	**87.04 13**		LR	LR	12 43 30.2		
	comp=Z,9.5nm,19.4s,baz=306,slow=38							
YBH	**Yreka Blue Hor**	**87.10 48**		LR	LR	12 31 36.2		
	comp=Z,65nm,21.5s,baz=290,slow=30							
KBZ	**Khabaz**	**87.23 314**		LR	LR	12 43 46.4		
	comp=Z,94nm,19.8s,baz=72,slow=38							
ARCES	**ARCESS Array B**	**87.25 341**		LR	LR	12 43 36.3		
	comp=Z,63nm,19.9s,baz=84,slow=38							
OBN	**Obninsk**	**88.07 326**		LR	LR	12 42 40.8		
	comp=Z,40nm,20.4s,baz=224,slow=37							
VNDA	**Vanda**	**90.20 175**		LR	LR	12 40 45.6		
	comp=Z,55nm,18.9s,baz=340,slow=35							
FINES	**FINESS Array B**	**90.76 334**		P	**P**	**12 01 28.7**	**-2.3**	
	comp=Z,4.1nm,0.8s,baz=57,slow=5.1,SNR=5.6							
FINES				LR	LR	12 45 27.5		
	comp=Z,104nm,19.4s,baz=81,slow=38							
	comp=Z,4.1nm,0.8s							
NVAR	**Mina Array Bea**	**91.21 50**		P	**P**	**12 01 35.1**	**+1.2**	
	comp=Z,0.5nm,1.0s,baz=287,slow=3.7,SNR=2.1							
	comp=Z,0.5nm,1.0s							
ELK	**Elko**	**92.78 48**		LR	LR	12 37 03.1		
	comp=Z,86nm,21.9s,baz=278,slow=31							
MNK	**Minsk**	**92.97 327**	*i*	P	**P**	**12 01 41.7**	**+0.3**	
	comp=E,4.0nm,1.5s							
MNK			*i*	P	**P**	**12 01 41.7**	**+0.3**	
MNK			*i*	P	**P**	**12 01 41.7**	**+0.3**	
	comp=Z,6.0nm,0.7s,baz=64							
MNK			*i*	PP	**PP**	**12 05 23.3**	**-0.6**	
MNK			*i*	PPP	PPP	12 07 24.2		
MNK			*i*	S	**SKSac**	**12 12 15.2**	**+2.0**	
MNK			*i*	SS	**SS**	**12 19 01.6**	**+2.7**	
MNK			*i*	SSS	SSS	12 22 40.5		
MNK			*i*	LQ	LQ	12 37 23.4		
MNK			*i*	LR	LR	12 40 23.4		
MNK			*i*	LRM	MLR	12 46 21.2		
	comp=Z,103nm,12.1s							
MNK			*i*	LRM	MLR	12 46 24.4		
	comp=E,49nm,19.7s							
AKASG	**Malin Array Be**	**93.81 324**		LR	LR	12 44 34.9		
	comp=E,80nm,21.9s,baz=62,slow=36							
PFO	**Pinyon Flats O**	**94.02 55**		LR	LR	12 38 13.6		
	comp=E,65nm,20.9s,baz=284,slow=32							
ASF	**Jabal al Asfar**	**94.92 304**		LR	LR	12 49 20.8		
	comp=E,442nm,21.9s,baz=107,slow=38							
BRTR	**Keskin Array B**	**95.02 312**		LR	LR	12 49 09.7		
	comp=E,41nm,20.4s,baz=114,slow=38							
MMAI	**Mount Meron Ar**	**95.87 305**		LR	LR	12 49 08.8		
	comp=E,58nm,21.0s,baz=308,slow=38							
PDAR	**Pinedale Array**	**96.07 44**		LR	LR	12 39 58.6		
	comp=E,29nm,20.2s,baz=298,slow=32							
MAW	**Mawson**	**96.35 202**		LR	LR	12 38 45.0		
	comp=E,39nm,21.0s,baz=52,slow=31							
HFS	**Hagfors**	**96.58 336**		LR	LR	12 49 49.0		
	comp=E,104nm,19.0s,baz=51,slow=38							
NOA	**NORSAR Array B**	**96.95 338**		LR	LR	12 48 32.4		
	comp=E,58nm,21.3s,baz=40,slow=37							
MLR	**Muntele Rosu**	**98.01 320**		LR	LR	12 48 43.5		
	comp=E,79nm,20.9s,baz=66,slow=37							
LPAZ	**La Paz**	**151.91 102**		PKPbc	**PKPbc**	**12 08 24.7**	**-0.1**	
	comp=E,1.3nm,1.1s,baz=30,slow=2.9,SNR=2.1							

SOME ***30*** *11:49:27.1, 44.°70N×82.°12E, h5km*
NNC ***30*** *11:49:31.6±1.4, 44.°76N×81.°78E, h0km, mb3.4, mpv2.9,*
Error ellipse: s-maj=27.3km s-min=4.8km az=115.0
ISC 30 11:49:27.4±3.4, 44.°62N±0.°08×82.°2E±0.°1, h3km±22km, n9, s0/54/17, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.75**	**261**		*e*P		**Pb**	**11 50 00.2**	**0.0**
	14nm,0.2s								
DJR					*e*S		**Sg**	**11 50 23.6**	**0.0**
	9.8nm,0.2s								
MK31	**Makanchi Array**	**2.17**	**2**	⇓	Pn		**Pb**	**11 50 07.7**	**+0.3**
	2.7nm,0.3s,baz=184,slow=15,SNR=50								
MK31				⇓	Sn		**Sb**	**11 50 35.0**	**+0.3**
	0.9nm,0.2s,baz=186,slow=22,SNR=17								
KNOS	**Konyrlen**	**2.18**	**264**		*e*P		**Pb**	**11 50 07.3**	**-0.3**
	18nm,0.2s								
KNOS					*e*S		**Sb**	**11 50 35.2**	**+0.1**
	31nm,0.2s								
MAKZ	**Makanchi**	**2.19**	**356**	⇑	Pn		**Pb**	**11 50 07.2**	**-0.5**
	2.8nm,0.3s								
MAKZ				⇑	Sn		**Sb**	**11 50 34.6**	**-0.7**
	3.9nm,0.3s								
PDGK	**Podgornoye**	**2.35**	**238**	⇑	Pn		**Pb**	**11 50 09.7**	**-0.8**
	3.6nm,0.3s								
PDGK				⇑	Lg		Lg	11 50 39.9	
	5.9nm,0.6s								
SHLS	**Shalkode**	**2.47**	**234**		*e*P		**Pn**	**11 50 09.3**	**+0.7**
	12nm,0.2s								
SHLS					*e*S		**Sn**	**11 50 38.6**	**-0.7**
	16nm,0.2s								
UZB	**Uzynbulak**	**2.73

ECS	**Chishang** baz=251	**0.34**	**256**	*e*P	**Pn**	**11 50 56.6 +0.5**
ECS	baz=251			*e*S	**Sb**	**11 51 03.1 +1.7**
EHD	**Haiduan** baz=261	**0.34**	**265**	*e*P	**Pb**	**11 50 54.9 -0.9**
EHD	baz=261			*e*S	**Sb**	**11 51 00.8 -0.6**
HGSD	**Ruisui** baz=349	**0.34**	**336**⇑	*i*P	**Pn**	**11 50 56.1 0.0**
HGSD	baz=349			*e*S	**Sn**	**11 51 04.0 +2.4**
EHY	**Hungye** baz=318	**0.40**	**325**⇑	*i*P	**Pb**	**11 50 56.7 +0.1**
LONT	**Longtian** baz=240	**0.49**	**237**	⇓P	**Pb**	**11 50 57.8 -0.2**
EGFH	**Guangfu** baz=337	**0.51**	**345**	*e*P	**Pb**	**11 50 58.0 -0.2**
LDUT	**Ludao** baz=186	**0.51**	**191**	*e*P	**Pb**	**11 50 58.1 -0.1**
TEGC	**Jichi Village** baz=9.0	**0.53**	**357**	*e*P	**Pn**	**11 50 59.0 +0.4**
TEGC	baz=9.0			*e*S	**Sn**	**11 51 07.6 +1.1**
TWGBT	**Beinan** baz=238	**0.58**	**232**⇓	*i*P	**Pn**	**11 50 58.7 -0.6**
TWGBT	baz=238			*e*S	**Sb**	**11 51 06.0 -1.5**
TWG	**Pinlang** baz=239	**0.58**	**233**⇓	*i*P	**Pn**	**11 50 58.7 -0.6**
TWG	baz=239			*e*S	**Sb**	**11 51 06.1 -1.4**
ESL	**Shilin** baz=342	**0.65**	**348**⇑	*i*P	**Pn**	**11 50 59.8 -0.5**
YUS	**Yu-Shan** baz=300	**0.65**	**299**	P	**Pn**	**11 51 00.7 -0.1**
YUS	baz=300			S	**Sb**	**11 51 09.2 -0.8**
TEYL	**Yanliau Villag** baz=18	**0.69**	**2**	*e*P	**Pb**	**11 51 01.8 +0.6**
VWDT	**VWDT** baz=328	**0.70**	**325**⇑	*i*P	**Pb**	**11 51 01.2 -0.1**
VWDT	baz=328			S	**Sn**	**11 51 10.2 -0.4**
STYH	**Taoyuan** baz=268	**0.73**	**270**	*e*P	**Pn**	**11 51 00.8 -0.7**
STYH	baz=268			*e*S	**Sn**	**11 51 10.0 -1.6**
ALS	**Alishan** baz=296	**0.78**	**295**⇑	*i*P	**Pb**	**11 51 03.0 +0.1**
ALS	baz=296			*i* S	**Sb**	**11 51 13.4 0.0**
ETM	**Tongmen** baz=348	**0.79**	**355**	*e*P	**Pn**	**11 51 02.2 -0.1**
HWA	**Hwalien** baz=16	**0.80**	**2**	*e*P	**Pb**	**11 51 03.2 +0.3**
ECL	**Taimali** baz=228	**0.81**	**225**	P	**Pn**	**11 51 01.4 -1.2**
SSLB	**Suanglung** baz=323	**0.83**	**317**⇑	*i*P	**Pn**	**11 51 03.0 +0.1**
SSLB	baz=323			*e*S	**Sn**	**11 51 12.8 -1.2**
OWD	**Renai** baz=339	**0.86**	**335**	*e*P	**Pn**	**11 51 03.2 -0.1**
OWD	baz=339			*e*S	**Sn**	**11 51 13.8 -1.0**
TPUB	**Ta-pu** baz=277	**0.88**	**278**	⇓P	**Pb**	**11 51 04.4 +0.1**
TPUB	baz=277			S	**Sb**	**11 51 15.8 0.0**
WTP	**Ta-pu** baz=273	**0.89**	**275**⇓	*i*P	**Pb**	**11 51 04.5 0.0**
WTP	baz=273			*e*S	**Sb**	**11 51 16.3 +0.2**
TWD	**Chiawan** baz=354	**0.90**	**1**	*e*P	**Pn**	**11 51 03.8 0.0**
TWD	baz=354			*e*S	**Sn**	**11 51 15.7 +0.1**
WUSB	**Renai** baz=337	**0.91**	**333**⇑	*i*P	**Pn**	**11 51 04.3 +0.2**
WUSB	baz=337			*e*S	**Sn**	**11 51 15.0 -1.1**
SGST	**Jiashian** baz=262	**0.92**	**264**	*e*P	**Pn**	**11 51 03.9 -0.1**
WCKO	**Fanlu** baz=286	**0.93**	**286**	*e*P	**Pb**	**11 51 04.8 -0.4**
WCKO	baz=286			*e*S	**Sb**	**11 51 17.0 -0.2**
SMLT	**Sun Moon Lake** baz=325	**0.94**	**319**⇑	*i*P	**Pb**	**11 51 05.1 -0.2**
SMLT	baz=325			*e*S	**Sn**	**11 51 16.4 -0.3**
CHGB	**Renai** baz=350	**0.95**	**337**⇑	*i*P	**Pn**	**11 51 04.9 +0.2**
CHGB	baz=350			*e*S	**Sn**	**11 51 16.1 -1.2**
CHN1	**Nanshi** baz=269	**0.96**	**271**	⇓P	**Pb**	**11 51 05.8 +0.1**
CHN1	baz=269			*e*S	**Sb**	**11 51 19.0 +0.8**
SSD	**Sandimen** baz=236	**0.97**	**244**	*e*P	**Pn**	**11 51 04.7 -0.1**
TSMG	**Majia** baz=233	**0.98**	**241**	*e*P	**Pn**	**11 51 04.9 +0.1**
TYC	**Yuchr** baz=329	**0.98**	**318**	⇑P	**Pb**	**11 51 05.6 -0.4**
TYC	baz=329			S	**Sb**	**11 51 18.4 -0.2**
ETL	**Fush Village** baz=14	**0.98**	**3**	*e*P	**Pb**	**11 51 05.3 -0.7**
SNST	**Tainan City** baz=271	**0.99**	**273**	*e*P	**Pb**	**11 51 06.3 +0.1**
SNST	baz=271			*e*S	**Sb**	**11 51 19.8 +0.8**
NACB	**Ninganchiao** baz=354	**0.99**	**1**	*e*P	**Pn**	**11 51 05.3 +0.2**
TWK	**Hsinying** baz=273	**1.00**	**275**	P	**Pb**	**11 51 06.4 0.0**
TWK	baz=273			S	**Sb**	**11 51 19.7 +0.3**
WHF	**Hehuan Shan** baz=349	**1.00**	**344**	*e*P	**Pn**	**11 51 05.2 -0.4**
WHF	baz=349			*e*S	**Sn**	**11 51 18.0 -0.8**
WPL	**Puli Township** baz=336	**1.01**	**326**	*e*P	**Pb**	**11 51 06.0 -0.4**
WJS	**Zhushan** baz=311	**1.01**	**310**	*e*P	**Pb**	**11 51 06.8 +0.4**
MASBT	**Mashibuluo** baz=230	**1.03**	**237**	⇓P	**Pn**	**11 51 05.6 0.0**
MASBT	baz=230			*e*S	**Sn**	**11 51 18.5 -0.4**
EAST	**Anshuo** baz=210	**1.04**	**220**	*e*P	**Pn**	**11 51 05.1 -0.6**
SCST	**Cishan** baz=247	**1.04**	**254**	*e*P	**Pb**	**11 51 07.2 +0.2**
DPDB	**Guoxing** baz=335	**1.04**	**325**	*e*P	**Pb**	**11 51 06.7 -0.4**
TAWH	**Dawu Township** baz=215	**1.05**	**217**	*e*P	**Pn**	**11 51 03.9 -1.9**
WGK	**Gukeng** baz=299	**1.06**	**299**	*e*P	**Pb**	**11 51 07.1 -0.2**
WCS	**Beigang Elemen** baz=335	**1.07**	**325**	*e*P	**Pn**	**11 51 06.0 -0.1**
WNT	**Mingjian** baz=312	**1.07**	**311**	*e*P	**Pb**	**11 51 07.6 0.0**
WNT	baz=312			*e*S	**Sb**	**11 51 21.8 +0.5**
WDLH	**Douliu** baz=309	**1.08**	**298**	*e*P	**Pb**	**11 51 07.8 +0.2**
WDLH	baz=309			*e*S	**Sb**	**11 51 22.7 +1.3**
WNT1	**Nantou City** baz=313	**1.10**	**312**	*e*P	**Pb**	**11 51 08.3 +0.3**
CHY	**Chiayi** baz=287	**1.10**	**287**	*e*P	**Pb**	**11 51 08.5 +0.5**
FUSS	**Fushou** baz=356	**1.11**	**344**	*e*P	**Pb**	**11 51 07.7 -0.7**
CHN3	**Shinhua** baz=276	**1.12**	**265**	*e*P	**Pb**	**11 51 08.9 +0.6**
TWM1	**Shoushan** baz=250	**1.12**	**252**	P	**Pb**	**11 51 09.5 +1.2**
TWT	**Tachien** baz=334	**1.13**	**341**	*e*P	**Pb**	**11 51 08.0 -0.7**
LAY	**Lan-yu** baz=170	**1.13**	**181**	*e*P	**Pn**	**11 51 07.3 +0.3**
TDCB	**Techi** baz=334	**1.14**	**341**	*e*P	**Pn**	**11 51 07.7 +0.5**
SHHT	**Tainan City** baz=261	**1.14**	**262**	*e*P	**Pb**	**11 51 09.0 +0.3**
LYUB	**Lan-yu** baz=169	**1.17**	**180**	*e*P	**Pn**	**11 51 07.2 -0.3**
LYUB	baz=169			*e*S	**Sn**	**11 51 21.5 -0.8**
WWF	**Wufeng** baz=318	**1.18**	**317**	*e*P	**Pb**	**11 51 08.5 -0.8**
SSHA	**Shanhua** baz=267	**1.18**	**268**	*e*P	**Pb**	**11 51 09.9 +0.5**
SCZT	**Fangliau** baz=225	**1.19**	**228**	*e*P	**Pn**	**11 51 08.4 +0.6**
SLIU	**Shizi** baz=203	**1.19**	**217**	*e*P	**Pb**	**11 51 09.3 -0.3**
WHP	**Taichung City** baz=340	**1.24**	**332**	*e*P	**Pb**	**11 51 10.3 -0.1**
CHN8	**Yiju** baz=276	**1.27**	**278**	*e*P	**Pb**	**11 51 10.1 -0.7**
CHN8	baz=276			S	**Sb**	**11 51 26.5 -0.2**
TCU	**Taichung** baz=321	**1.27**	**320**	*e*P	**Pb**	**11 51 11.1 +0.3**
WSL	**Shuilin Townsh** baz=284	**1.28**	**286**	*e*P	**Pn**	**11 51 09.2 +0.1**
WSL	baz=284			*e*S	**Sn**	**11 51 26.1 +1.0**
WCHH	**Zhanghua** baz=315	**1.29**	**314**	*e*P	**Pb**	**11 51 10.5 -0.8**
WRL	**Guolierlin Hig** baz=303	**1.31**	**304**	*e*P	**Pn**	**11 51 09.7 +0.2**
WSSB	**Gushan** baz=245	**1.32**	**247**	*e*P	**Pb**	**11 51 11.8 +0.1**
LATG	**Datong** baz=2.0	**1.35**	**358**	*e*P	**Pn**	**11 51 10.5 +0.4**
TSCK	**Chigu Township** baz=268	**1.37**	**269**	*e*P	**Pn**	**11 51 10.5 +0.2**
TSEB	**Hengchuen, Pin** baz=200	**1.42**	**206**	*e*P	**Pb**	**11 51 12.4 -0.9**
NSY	**Sanyi** baz=330	**1.44**	**329**	*e*P	**Pb**	**11 51 13.7 -0.1**
WDJ	**Dajia District** baz=326	**1.45**	**324**	*e*P	**Pb**	**11 51 13.6 -0.3**
TWC	**Suao** baz=16	**1.45**	**10**	*e*P	**Pn**	**11 51 12.2 +0.9**
TWC	baz=16			*e*S	**Sn**	**11 51 30.3 +1.1**
YHNB	**Yeheng** baz=359	**1.50**	**353**	*e*P	**Pn**	**11 51 13.1 +1.0**
YHNB	baz=359			*e*S	**Sn**	**11 51 31.3 +0.7**
NSK	**Sanguang** baz=358	**1.51**	**352**	*e*P	**Pn**	**11 51 12.4 +0.2**
NSK	baz=358			*e*S	**Sn**	**11 51 30.2 -0.5**
NFF	**Wufeng Townshi** baz=1.0	**1.51**	**344**	*e*P	**Pb**	**11 51 13.7 -1.2**
NFF	baz=1.0			*e*S	**Sb**	**11 51 33.4 -0.4**
NMLH	**Miaoli** baz=335	**1.53**	**332**	*e*P	**Pb**	**11 51 14.5 -0.8**
NSTT	**Nanjuang** baz=344	**1.54**	**340**	*e*P	**Pb**	**11 51 14.2 -1.2**
TWE	**Neicheng** baz=8.0	**1.54**	**3**	*e*P	**Pb**	**11 51 14.6 -0.8**
LIOB	**Emei** baz=344	**1.55**	**341**	*e*P	**Pb**	**11 51 14.9 -0.7**
FUSB	**Fushanzhiwuyua** baz=5.0	**1.58**	**0**	*e*P	**Pb**	**11 51 14.5 -1.6**
JYNG	**Yonagunijimaku** JYNG	**1.79**	**44**	*e*P S	**Pb** **Sb**	**11 51 17.4 -2.1** **11 51 39.1 -2.5**
TIPB	**Shuangxi** baz=3.0	**1.80**	**7**	*e*P	**Pb**	**11 51 18.7 -1.1**
YOJ	**Yonaguni jima** baz=48	**1.83**	**46**	*e*P	**Pb**	**11 51 18.2 -2.2**
YOJ	**Yonaguni jima** YOJ	**1.83**	**46**	P S	**Pn** **Sb**	**11 51 18.0 +1.4** **11 51 40.4 -2.6**
TWB1	**Santiao Chiao** baz=17	**1.86**	**12**	*e*P	**Pb**	**11 51 18.7 -2.2**
PHUB	**P'eng-hu** baz=278	**1.87**	**281**	*e*P	**Pn**	**11 51 16.9 -0.3**
PHUB	baz=278			*e*S	**Sn**	**11 51 38.8 -0.8**
NWF	**Wu-fen Shan** baz=11	**1.90**	**6**	*e*P	**Pb**	**11 51 20.3 -1.2**
PNG	**Penghu** baz=267	**1.90**	**282**	*e*P	**Pn**	**11 51 17.9 +0.4**
PNG	baz=267			*e*S	**Sn**	**11 51 39.9 -0.3**
SXI1	**Grass Mountain** baz=1.0	**1.93**	**8**	*e*P	**Pb**	**11 51 20.1 -1.9**
YM01	**YM01** baz=5.0	**1.96**	**360**	*e*P	**Pb**	**11 51 20.5 -2.0**
VCHM	**Qimei** baz=270	**1.97**	**271**	*e*P	**Pn**	**11 51 18.9 +0.3**
ANP	**Anpu** baz=4.0	**2.00**	**359**	*e*P	**Pb**	**11 51 21.4 -1.9**
HATJ	**Hateruma jima** HATJ	**2.23**	**66**	P S	**Pn** **Sn**	**11 51 23.1 +1.1** **11 51 49.6 +1.3**
IRIF	**Iriomote-Funau** IRIF	**2.29**	**59**	P S	**Pn** **Sn**	**11 51 24.2 +1.3** **11 51 51.5 +1.6**
JKRS	**Kuro-shima** JKRS	**2.47**	**64**	P S	**Pn** **Sn**	**11 51 26.9 +1.5** **11 51 56.0 +1.6**
JIJ	**Ishigaki jima** JIJ	**2.63**	**63**	P S	**Pn** **Sn**	**11 51 28.4 +0.8** **11 51 59.2 +0.8**
VWUC	**VWUC** baz=312	**2.65**	**313**	*e*P	**Pn**	**11 51 28.1 +0.3**
KNMB	**Chin-men Tao** baz=292	**3.19**	**294**	*e*P	**Pn**	**11 51 35.0 -0.2**
JTJ	**Tarama** JTJ	**3.21**	**62**	P S	**Pn** **Sn**	**11 51 36.8 +1.2** **11 52 13.9 +1.2**
MATB	**Ma-tsu** baz=333	**3.31**	**334**	*e*P	**Pn**	**11 51 37.4 +0.4**
ZPLA	**Ao Xicun** baz=281	**3.59**	**283**	*e*P	**Pn**	**11 51 40.8 0.0**
JIRB	**Irabujima** JIRB	**3.68**	**63**	*e*P S	**Pn** **Sn**	**11 51 42.9 +0.9** **11 52 25.4 +1.2**
AXDP	**Jialang** baz=296	**3.71**	**298**	*e*P	**Pn**	**11 51 42.4 -0.1**
JMJ2	**Miyako jima3** JMJ2	**3.77**	**65**	*e*P S	**Pn** **Sn**	**11 51 44.6 +1.3** **11 52 28.1 +1.6**
JIKM	**Ikemajima** JIKM	**3.78**	**62**	*e*P S	**Pn** **Sn**	**11 51 44.3 +0.9** **11 52 27.2 +0.4**
JOGS	**Gusukube** JOGS	**3.84**	**65**	P S	**Pn** **Sn**	**11 51 46.0 +1.7** **11 52 30.0 +1.7**
DSXP	**Dongshan** baz=277	**3.85**	**279**	*e*P	**Pn**	**11 51 44.5 +0.2**
XPSS	**Dashiqiu** baz=342	**3.94**	**342**	*e*P	**Pn**	**11 51 45.8 +0.2**

*IDC **30** 12:02:33.5±5.5, 22°.11N×142°.77E, h230km±68km, mb2.8/5, mbtmp3.4/6, MS3.3/1, Error ellipse: s-maj=165.3km s-min=17.7km az=107.0*

ISC 30 12:02:31.2±1.0, 22°.0N±0°.1×143°.3E±0°.3, h200km, n9, σ0s98/9, mb3.1/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima** 19nm,0.4s,baz=168,slow=13,SNR=6.2	**5.21**	**349**	P	**Pn**	**12 03 49.2**	**+0.9**
JCJ	34nm,0.5s,baz=81,slow=24,SNR=1.8			S	**Sn**	**12 04 48.3**	**-1.0**
MJAR	**Matsushiro Arr** comp=Z,116nm,18.6s,baz=167,slow=35	**15.19**	**344**	LR	LR	12 11 20.5	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=13,slow=9.1,SNR=8.4 0.1nm,0.3s	**42.56**	**193**	P	**P**	**12 10 06.6**	**-0.9**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=9.4,slow=5.9,SNR=1.8 0.2nm,0.8s	**46.27**	**192**	P	**P**	**12 10 37.4**	**+0.6**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=266,slow=6.3,SNR=2.2 0.2nm,0.6s	**61.75**	**27**	P	**P**	**12 12 27.7**	**-0.5**
YKA	**Yellowknife Ar** 0.7nm,0.6s,baz=291,slow=6.0,SNR=1.6 0.7nm,0.6s	**76.17**	**28**	P	**P**	**12 13 57.1**	**+0.2**
NVAR	**Mina Array Bea** 0.2nm,0.5s,baz=273,slow=5.1,SNR=2.9 0.2nm,0.5s	**82.88**	**52**	P	**P**	**12 14 33.9**	**0.0**
PLCA	**Paso Flores** 0.9nm,0.5s,baz=252,slow=6.4,SNR=3.3	**145.84**	**131**	PKPbc	**PKPdf**	**12 21 47.3**	**+1.1**
CPUP	**Villa Florida** 1.5nm,0.4s,baz=325,slow=3.5,SNR=6.4	**160.67**	**107**	PKP	**PKPdf**	**12 22 06.5**	**-1.1**

*IDC **30** 12:07:20.9±3.4, 9°.87S×124°.17E, h70km±47km, mb3.5/1, mbtmp3.7/3, ML3.5/2, Error ellipse: s-maj=98.2km s-min=29.6km az=39.0*

ISC 30 12:07:21.6±1.0, 10°.0S±0°.1×124°.0E±0°.1, h89km±10km, n11, σ2s60/13, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.33**	**41**	P	**Pn**	**12 07 32.8**	**-2.4**
BATI	**Baumata** 84nm,0.3s,baz=65,slow=2.7,SNR=36	**0.42**	**242**	P	**Pn**	**12 07 36.0**	**+0.4**
BATI	414nm,0.3s,baz=131,slow=19,SNR=16			S	**Sn**	**12 07 46.8**	**+0.7**
MMRI	**Maumere**	**2.24**	**307**	P	**Pn**	**12 07 56.0**	**-1.0**
PLAI	**Plampang**	**6.29**	**280**	P	**Pn**	**12 08 51.9**	**0.0**
KNRA	**Kununurra**	**7.28**	**141**	P	**Pn**	**12 09 07.6**	**+2.4**
MTN	**Manton Dam**	**7.50**	**113**	P	**Pn**	**12 09 10.6**	**+2.3**
FITZ	**Fitzroy Crossi**	**8.19**	**169**	P	**Pn**	**12 09 20.5**	**+2.8**
KDU	**Kakadu**	**8.68**	**109**	P	**Pn**	**12 09 26.3**	**+1.8**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=313,slow=15,SNR=12	**14.01**	**136**	P	**Pn**	**12 10 35.4**	**-0.8**
WRA	2.2nm,0.4s,baz=306,slow=26,SNR=11 0.7nm,0.5s			S	Sn	12 13 01.3	-9.1
ASAR	**Alice Springs** 0.4nm,0.3s,baz=320,slow=12,SNR=49	**16.53**	**147**	P	**P**	**12 11 10.2**	**+1.0**
ASAR	1.5nm,0.8s,baz=322,slow=23,SNR=12 1.1nm,0.5s			S	**Sn**	**12 14 05.9**	**-5.4**
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=141,slow=6.3,SNR=4.5 0.8nm,0.8s	**67.70**	**330**	P	**P**	**12 18 10.4**	**+0.9**

*JMA **30** 12:10:31.4±0.8, 34°.N±2°×14°.2E±°, h23km, MV2.3/14, FAR SE OFF BOSO PEN*

*IDC **30** 12:10:33.6±5.8, 34°.05N×141°.20E, h0km, mb3.2/2, mbtmp3.0/3, ML1.9/1, MS3.4/2, Error ellipse: s-maj=189.5km s-min=27.9km az=61.0*

ISC 30 12:10:34.9±1.7, 34°.31N±0°.09×141°.5E±0°.1, h27km, n10, σ2s00/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.54**	**310**	P	**Pb**	**12 10 43.6**	**-2.0**
BSO3	**Boso 3**	**0.94**	**302**	P	**Pn**	**12 10 50.6**	**-1.6**
BSO4	**Boso 4**	**1.17**	**306**	P	**Pn**	**12 10 54.2**	**-1.1**
JKUC	**kamogawauchiur**	**1.36**	**309**	P	**Pn**	**12 10 57.0**	**-1.1**
JKUC				S	**Sn**	**12 11 15.0**	**-0.2**
JMKN	**Mikurajimanish**	**1.63**	**256**	P	**Pb**	**12 11 02.6**	**-1.6**
JMKN				S	**Sb**	**12 11 25.2**	**+0.9**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=133,slow=10,SNR=6.0	**3.48**	**311**	Pn	**Pn**	**12 11 28.6**	**+1.2**
MJAR	0.1nm,0.3s,baz=147,slow=21,SNR=1.9 0.5nm,0.3s			Sn	**Sn**	**12 12 11.8**	**+4.1**
USRK	**Ussuriysk Ar.** comp=Z,62nm,20.7s,baz=140,slow=37	**12.31**	**326**	LR	LR	12 18 10.7	
BRDH	**Bariadhala** comp=Z,103nm,18.2s,baz=270,slow=37	**44.92**	**269**	LR	LR	12 38 05.6	
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=5.5,slow=7.7,SNR=5.0 0.2nm,0.5s	**54.38**	**188**	P	**P**	**12 20 00.2**	**+0.8**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=4.5,slow=6.4,SNR=1.9 0.2nm,0.8s	**58.10**	**188**	P	**P**	**12 20 26.7**	**+0.7**

IDC 30 12:24:19.6±524.0, 56°.71N×51°.84E, h0km, Error ellipse: s-maj=216.6km s-min=143.9km az=127.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF** baz=332,slow=325,SNR=2.7	**7.31**	**147**	*i*		13 09 20.0	
I46RU	**ZALESOVO INFRA** baz=294,slow=327,SNR=1.1	**18.86**	**84**	*i*		14 20 30.0	
I53US	**FAIRBANKS INFR** baz=350,slow=327,SNR=1.4	**57.82**	**10**	*i*		18 20 10.0	

DJA 30 12:29:50.6±0.4, 10°S±4°×12°4E±°, h59km±6km, M4.0/9, mb4.0/7, mB5.4/1, MLv4.0/9, Mw(mB)4.8/1, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.18**	**95**	P	Pn	12 30 01.3	+1.3
BATI	**Baumata**	**0.62**	**221**	P	Pn	12 30 05.5	+1.6
BATI				S	Sn	12 30 16.9	+3.4
MMRI	**Maumere**	**2.12**	**301**	P	Pn	12 30 24.4	+0.6
MMRI				S	Sn	12 30 48.5	-0.6
EDFI	**Ende, Flores**	**2.56**	**292**	P	Pn	12 30 30.0	+0.2
BSSI	**Bau Bau, Buton** 0.0nm15nm,1.3s	**5.04**	**315**	P	Pn	12 31 03.6	-0.1
PLAI	**Plampang** 0.1nm24nm,0.5s	**6.29**	**278**	P	Pn	12 31 21.2	+0.4
TWSI	**Taliwang, Sumb** 0.1nm11nm,0.7s	**7.17**	**277**	P	Pn	12 31 32.6	-0.4

*MOS **30** 12:32:40.6±1.3, 32°.34N×48°.94E, h32km, mb4.4/14, Error ellipse: s-maj=7.5km s-min=5.2km az=110.1*

*ISN **30** 12:32:41.9±1.3, 32°.41N×48°.77E, h15km±46km, ML4.2*

*TEH **30** 12:32:42.0, 32°.45N×48°.95E, h15km, ML4.2*

*IDC **30** 12:32:43.8±2.4, 32°.36N×48°.92E, h41km±24km, mb4.0/20, mbtmp4.2/26, ML3.7/6, MS3.5/4, Error ellipse: s-maj=19.4km s-min=12.2km az=179.0*

*NEIC **30** 12:32:44.3±2.8, 32°.42N±0°.05×48°.84E±0°.07, h47km±9km, Error ellipse: s-maj=8.9km s-min=6.8km az=48.0*

*DSN **30** 12:32:53.2±0.8, 31°.51N×49°.48E, h10km, ML3.9/8, Error ellipse: s-maj=33.7km s-min=5.9km az=48.0*

ISC 30 12:32:43.0±0.8, 32°.39N±0°.05×48°.94E±0°.04, h37km±1km, n284, σ1s89/288, mb4.3/48, MS3.3/5, 25C-20D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMIS	**Naft Sefid**	**0.78**	**157**	*e*Pg	**Pn**	**12 32 58.0**	**+0.5**
AMIS				*e*Sg	**Sn**	**12 33 10.9**	**+3.0**
AHWZ	**Ahwaz**	**1.08**	**193**		**Pn**	**12 33 03.8**	**+2.2**
AHWZ	**Ahwaz**	**1.08**	**193**	*e*Pg	**Pn**	**12 33 04.1**	**+2.5**
IKMR	**Kamar-syah**	**1.22**	**338**		**Pn**	**12 33 02.6**	**-0.9**
IKMR	**Kamar-syah** comp=Z,87μm,0.5s	**1.22**	**338**	*e*		12 33 22.7	
IKMR				*e*Pg	**Pn**	**12 33 03.1**	**-0.4**
DHL1	**Dehloran**	**1.43**	**282**	*e*Sg	**Sn**	**12 33 29.1**	**+5.3**
DHL1				*e*Pg	**Pn**	**12 33 08.7**	**+2.4**
IKFM	**Kafar-mosalman**	**1.46**	**321**		**Pn**	**12 33 07.4**	**+0.7**
IKFM	**Kafar-mosalman**	**1.46**	**321**	*e*Sg	**Sn**	**12 33 29.1**	**+4.6**
IKFM				*e*Pg	**Pn**	**12 33 07.6**	**+0.9**
IKFM	comp=Z,82μm,0.8s			*e*		12 33 34.8	
IDOB	**Doab**	**1.53**	**336**		**Pn**	**12 33 09.2**	**+1.2**
IDOB	**Doab** comp=Z,41μm,0.5s	**1.53**	**336**	*e*		12 33 33.2	
IDOB				*e*Pn	**Pn**	**12 33 09.3**	**+1.2**
KHMZ	**Khomeyn**	**1.60**	**32**	*e*Pg	**Pn**	**12 33 11.0**	**+2.1**
SHK1	**Shahrekord**	**1.65**	**92**	*e*Pn	**Pn**	**12 33 11.9**	**+2.3**
SHK1	comp=Z,39μm,0.6s			*e*		12 33 38.1	
IPIR	**Pirpir**	**1.68**	**79**	Pg	**Pn**	**12 33 13.4**	**+3.3**
IPIR	**Pirpir**	**1.68**	**79**	*e*Pn	**Pn**	**12 33 12.5**	**+2.4**
IPIR	comp=Z,36μm,0.4s			*e*		12 33 38.2	
HSAM	**Samen**	**1.84**	**351**	Pn	**Pn**	**12 33 14.1**	**+1.8**
HSAM	**Samen**	**1.84**	**351**	*e*Pn	**Pn**	**12 33 14.5**	**+2.2**
HSAM	comp=Z,18μm,0.6s			*e*		12 33 43.9	
IBRJ	**Brojen**	**2.03**	**103**	Pn	**Pn**	**12 33 17.5**	**+2.6**
IBRJ	**Brojen**	**2.03**	**103**	*e*Pn	**Pn**	**12 33 17.4**	**+2.6**
IBRJ	comp=Z,11μm,0.7s			*e*		12 33 54.1	
ABEH	**Behbahan**	**2.11**	**147**	*e*Pn	**Pn**	**12 33 18.6**	**+2.9**
IKOM	**Komasi**	**2.15**	**327**	Pn	**Pn**	**12 33 18.6**	**+2.2**
IKOM	**Komasi**	**2.15**	**327**	*e*Pn	**Pn**	**12 33 18.6**	**+2.2**
IKOM	comp=Z,15μm,0.9s			*e*		12 33 58.8	
IBZA	**Bozab**	**2.26**	**337**	Pn	**Pn**	**12 33 20.3**	**+2.2**
IBZA	**Bozab**	**2.26**	**337**	*e*Pn	**Pn**	**12 33 20.0**	**+1.9**
IBZA	comp=Z,12μm,0.6s			*e*		12 33 59.7	
ASAO	**Ashtian**	**2.34**	**23**	*e*Pn	**Pn**	**12 33 21.6**	**+2.5**
IKLH	**Kolahrood**	**2.41**	**67**	Pn	**Pn**	**12 33 23.2**	**+3.1**
IKLH	**Kolahrood**	**2.41**	**67**	*e*Pn	**Pn**	**12 33 22.9**	**+2.8**

IKLH *e* 12 34 03.7
comp=Z,12µm,0.5s
HAGD Aghdareh 2.44 4 Pn **Pn 12 33 22.6 +2.2**
HAGD Aghdareh 2.44 4 *e*Pn **Pn 12 33 22.3 +1.9**
HAGD *e* 12 33 59.7
comp=Z,20µm,0.8s
KCHF Cheshme Sefid, 2.46 320 *e*Pn **Pn 12 33 22.3 +1.6**
KCHF *e* 12 34 11.6
comp=Z,9µm,0.5s
QAMS Qamsar 2.47 56 Pn **Pn 12 33 24.3 +3.5**
QAMS Qamsar 2.47 56 *e*Pn **Pn 12 33 23.3 +2.5**
QAMS *e* 12 34 05.7
comp=Z,15µm,0.6s
RAFI Al-Rafai 2.48 255 *e*Pn **Pn 12 33 24.0 +3.2**
RAFI *e*Sn **Sn 12 33 55.0 +5.1**
RAFI AML AML 12 34 05.4
comp=E,723nm,0.6s
KER Kermanshah 2.50 323 *e*Pn **Pn 12 33 23.3 +2.1**
IGAR Gharneh 2.63 89 Pn **Pn 12 33 25.6 +2.5**
IGAR Gharneh 2.63 89 *e*Pn **Pn 12 33 25.6 +2.5**
IGAR *e* 12 34 10.3
comp=Z,7µm,0.3s
IBDR Badra 2.63 287 *e*Pn **Pn 12 33 25.0 +2.1**
IBDR *e*Sn **Sn 12 33 57.0 +3.4**
KLNJ Kolanjah 2.65 121 *e*Pn **Pn 12 33 25.5 +2.0**
IGHG Ghaleghazi 2.77 315 Pn **Pn 12 33 27.5 +2.5**
IGHG Ghaleghazi 2.77 315 *e*Pn **Pn 12 33 27.2 +2.2**
IGHG *e* 12 34 37.3
comp=Z,8µm,0.7s
GHVR GHOM 2.87 43 *e*Pn **Pn 12 33 29.2 +2.9**
IZEF Zefreh 2.91 79 Pn **Pn 12 33 29.4 +2.5**
IZEF Zefreh 2.91 79 *e*Pn **Pn 12 33 29.2 +2.3**
IZEF *e* 12 34 23.8
comp=Z,4µm,0.5s
IRAM Ramesheh 2.98 100 Pn **Pn 12 33 30.2 +2.3**
IRAM Ramesheh 2.98 100 *e*Pn **Pn 12 33 30.1 +2.2**
IRAM *e* 12 34 20.0
comp=Z,3µm,0.6s
SNGE Sanandaj 3.00 334 *e*Pn **Pn 12 33 29.2 +1.0**
ILIN Lien 3.01 327 *e*Pn **Pn 12 33 30.2 +1.8**
ILIN *e* 12 34 17.9
comp=Z,6µm,0.6s
IQOM Qom 3.03 35 Pn **Pn 12 33 31.0 +2.4**
IQOM Qom 3.03 35 *e*Pn **Pn 12 33 30.6 +2.0**
IQOM *e* 12 34 10.3
comp=Z,8µm,0.4s
KRSH Karshahi 3.11 59 *e*Pn **Pn 12 33 32.2 +2.5**
IRAZ Razeghan 3.12 15 Pn **Pn 12 33 32.4 +2.6**
IRAZ Razeghan 3.12 15 *e*Pn **Pn 12 33 32.4 +2.6**
IRAZ *e* 12 34 33.7
comp=Z,8µm,0.6s
IDHR Dehrash 3.14 318 Pn **Pn 12 33 32.0 +2.0**
IDHR Dehrash 3.14 318 *e*Pn **Pn 12 33 31.8 +1.8**
IDHR *e* 12 34 38.5
comp=Z,6µm,0.6s
NASN Na'in 3.29 82 *e*Pn **Pn 12 33 35.2 +2.9**
QABG Abgarm-Qazvin 3.36 9 *e*Pn **Pn 12 33 34.0 +0.9**
ISFB Sefidab 3.39 54 *e*Pn **Pn 12 33 35.3 +1.9**
ISFB *e* 12 34 39.0
comp=Z,3µm,1.0s
IVRN Varamin 3.49 41 *e*Pn **Pn 12 33 36.8 +2.0**
IVRN *e* 12 34 37.6
comp=Z,4µm,0.5s
IMHD Mahdasht 3.59 23 *e*Pn **Pn 12 33 38.3 +2.1**
IMHD *e* 12 34 40.8
comp=Z,4µm,0.9s
KAZ1 Kazerun 3.60 139 *e*Pn **Pn 12 33 39.6 +3.3**
IHSB Hasanabad 3.61 32 *e*Pn **Pn 12 33 38.8 +2.3**
IHSB *e* 12 34 45.7
comp=Z,4µm,1.1s
TEH Tehran 3.91 31 *e*Pn **Pn 12 33 42.6 +2.0**
TEHA Amirabad Tehra 3.92 31 *e*Pn **Pn 12 33 43.1 +2.4**
CHTH Charan 3.95 27 *e*Pn **Pn 12 33 43.6 +2.3**
ISAD Sadrabad 4.06 95 *e*Pn **Pn 12 33 45.1 +2.3**
ISAD *e* 12 34 54.3
comp=Z,1µm,0.4s
AHBU AHRAM 4.06 149 *e*Pn **Pn 12 33 44.6 +2.1**
AHBU *e* 12 34 34.9
comp=Z,99nm,0.4s
IDMV Damavand 4.09 38 *e*Pn **Pn 12 33 45.1 +1.9**
DAMV Damavand 4.10 37 *e*Pn **Pn 12 33 45.5 +2.2**
QSDN Sirdan 4.11 3 *e*Pn **Pn 12 33 45.4 +1.9**
SHI Shiraz 4.11 131 *e*Pn **Pn 12 33 46.6 +3.2**
ANAR Anarak 4.12 78 *e*Pn **Pn 12 33 45.4 +2.0**
IGZV Ghazvin 4.13 15 *e*Pn **Pn 12 33 45.4 +1.7**
QALM Alamut, Qazvin 4.28 19 *e*Pn **Pn 12 33 47.3 +1.6**
ZNJK Zanjan 4.28 357 *e*Pn **Pn 12 33 48.2 +2.5**
ILAS Lasjerd 4.49 47 *e*Pn **Pn 12 33 50.5 +1.9**
IFIR Firoozkooh 4.54 43 *e*Pn **Pn 12 33 51.3 +2.0**
GIDE GILAN DEYLAMAN 4.60 10 *e*Pn **Pn 12 33 52.5 +2.4**
ICHK Chekchek 4.63 90 *e*Pn **Pn 12 33 52.9 +2.2**
IPRN Peran 4.77 35 *e*Pn **Pn 12 33 54.2 +1.9**
YZKH Yazd 4.79 88 *e*Pn **Pn 12 33 54.9 +2.3**
LHJ2 Lahijan - Gila 4.86 11 *e*Pn **Pn 12 33 55.5 +2.0**
IKRK Kirkuk 4.86 309 *e*Pn **Pn 12 33 57.0 +3.5**
IKRK *e*Sn **Sn 12 34 52.0 +3.4**
IMEH Mehriz 4.93 100 *e*Pn **Pn 12 33 56.7 +2.0**
IHSH Hashtrud 5.09 345 *e*Pn **Pn 12 33 59.2 +2.2**
MAHB Mahabad 5.12 330 *e*Pn **Pn 12 33 59.0 +1.8**
IANJ Anjilo 5.15 52 *e*Pn **Pn 12 33 59.0 +1.2**
QIR1 Qir 5.27 137 *e*Pn **Pn 12 34 01.2 +2.0**
IBST Bostanabad 5.56 343 *e*Pn **Pn 12 34 04.3 +1.0**
IBAF Bafgh 5.69 96 *e*Pn **Pn 12 34 07.3 +2.2**
IGLO Ghaloghah 5.76 43 *e*Pn **Pn 12 34 09.0 +2.9**
GRMI Germi 6.46 353 *e*Pn **Pn 12 34 16.5 +0.9**
ISHB Shabestar 6.48 336 *e*Pn **Pn 12 34 18.2 +2.3**
TPRV Parvadeh(Tabas 6.56 82 *e*Pn **Pn 12 34 19.3 +2.3**
TNSJ Nastanj 6.62 74 *e*Pn **Pn 12 34 19.8 +2.0**
KHGB Koh Gabri 6.75 105 *e*Pn **Pn 12 34 23.3 +3.5**
TKDS Koohdasht(Taba 6.99 78 *e*Pn **Pn 12 34 24.7 +1.9**
TABS Tabas 6.99 77 *e*Pn **Pn 12 34 25.1 +2.2**
GEVA Gevas 7.61 323 Pn **Pn 12 34 28.9 -2.6**
MRVT Maraveh tapeh 7.88 46 *e*Pn **Pn 12 34 38.3 +3.3**
SBZV Sabzevar 8.21 59 *e*Pn **Pn 12 34 41.0 +1.3**
ITEG Tejag 8.29 84 *e*Pn **Pn 12 34 43.5 +2.7**
MARD Mardin 8.31 309 Pn **Pn 12 34 40.3 -0.7**
GURO Guroymak-BITLI 8.34 319 **Pn 12 34 38.7 -2.7**
GNI Garni 8.45 338 Pn **Pn 12 34 42.1 -0.9**
GNI Garni 8.45 338 P **Pn 12 34 42.1 -0.9**
AFRZ Afriz 8.54 80 *e*Pn **Pn 12 34 46.3 +2.1**
BSRN Basiran 8.65 90 *e*Pn **Pn 12 34 47.1 +1.4**
ISFR Sfrayin 8.79 56 *e*Pn **Pn 12 34 50.4 +2.6**
SHME Shamm 8.91 133 P **Pn 12 34 49.5 +0.2**
BANOM Banah 9.10 133 P **Pn 12 34 51.2 -0.7**
BANOM S **Sn 12 36 26.9 -6.2**
IAKL Akhelmad 9.13 60 *e*Pn **Pn 12 34 54.2 +1.8**
IPAY Payeh 9.25 61 *e*Pn **Pn 12 34 56.2 +2.3**
GEYT Alibeck 9.33 51 P **Pn 12 34 57.2 +2.3**
comp=Z,1.0nm,0.3s,baz=263,slow=8.8,SNR=4.8
GEYT Lg Lg 12 37 38.3
comp=Z,0.4nm,0.3s,baz=243,slow=30,SNR=1.4
comp=Z,2.5nm,0.4s
GEYT Alibeck 9.33 51 Pn **Pn 12 34 52.5 -2.4**
GYAOB ALIBECK ARRAY 9.33 51 Pn **Pn 12 34 53.2 -1.7**
RAYN Ar Rayn 9.34 200 Pn **Pn 12 34 54.2 -0.9**
RAYN Ar Rayn 9.34 200 P **Pn 12 34 54.2 -0.9**
MSFE Esma-Masafi 9.44 136 P **Pn 12 34 55.8 -0.6**
NAZ Nazwa, Dubai 9.44 140 P **Pn 12 34 58.5 +2.0**
ASUD Al Ashush, Dub 9.56 142 P **Pn 12 34 58.6 +0.6**
FAQ Al Faqa, Dubai 9.60 141 P **Pn 12 34 59.6 +1.0**
IKRD Kardeh 9.76 60 *e*Pn **Pn 12 35 03.2 +2.2**
UOSS Minazif 9.78 137 Pn **Pn 12 35 01.1 0.0**
UOSS Minazif 9.78 137 P **Pn 12 35 00.5 -0.6**
HATD Hatta, Dubai 9.83 138 P **Pn 12 35 01.3 -0.5**
ASHO Ashiyiah 9.90 139 P **Pn 12 35 02.3 -0.5**
ASHO S Sn 12 36 44.6 -8.1
ASF Jabal al Asfar 10.19 272 P **Pn 12 35 06.8 0.0**
comp=Z,2.4nm,0.3s,baz=91,slow=5.2,SNR=15
ASF S **Sn 12 36 56.1 -3.8**
comp=Z,2.3nm,0.3s,baz=24,slow=20,SNR=1.6
comp=Z,5.1nm,0.4s
ALNE Al Ain 10.24 142 P **Pn 12 35 07.0 -0.4**
ZHSF Zahedan 10.53 102 *e*Pn **Pn 12 35 15.1 +3.6**
SOHO SOHO 10.60 139 P **Pn 12 35 10.4 -1.9**
MAK Makhachkala 10.62 354 *e*P Pn 12 35 04.3 -8.1
MAK pmax pmax
comp=Z,82nm,1.0s
MAK MLR MLR
comp=Z,84nm,5.0s
GHAJ Ghor Haditha 11.42 268 Pn **Pn 12 35 22.6 -0.9**
KBZ Khabaz 12.28 339⇓ *e*P **Pn 12 35 34.6 -0.5**
EIL Elat 12.30 261 P **Pn 12 35 36.0 +0.5**
comp=Z,0.3nm,0.3s,baz=66,slow=10.0,SNR=1.6
EIL Lg Lg 12 39 10.6
baz=59,slow=15,SNR=1.5
EIL LR LR 12 41 37.8
comp=Z,133nm,18.2s,baz=44,slow=44
comp=Z,3.3nm,0.6s
WSAR Wadi Sarin 12.51 134 P **Pn 12 35 37.3 -1.1**
comp=Z,1.5nm,0.3s,baz=326,slow=10,SNR=17
WSAR S Sn 12 37 47.8 -8.8
comp=Z,6.4nm,0.6s,baz=18,slow=20,SNR=2.8
comp=Z,6.2nm,0.5s
KIV Kislovodsk 12.55 339 **Pn 12 35 35.0 -3.9**
KIV Kislovodsk 12.55 339 *e*P Pn 12 35 34.7 -4.2
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,50nm,12.0s
SOC Sochi 13.32 330 *e*P **Pn 12 35 46.2 -3.2**
SOC *e* 12 38 12.1
SOC MLR MLR
comp=Z,71nm,11.0s
BR131 Keskin Array S 14.37 305 **Pn 12 36 03.1 -0.7**
BR131 Keskin Array S 14.37 305 P **Pn 12 36 03.1 -0.7**
BRTR Keskin Array B 14.37 305 P **Pn 12 36 04.7 +0.9**
baz=119,slow=12,SNR=3.8
comp=Z,1.7nm,0.9s
BRTR Keskin Array B 14.37 305 **Pn 12 36 02.6 -1.2**
BORA Eskisehir 16.68 302 **Pn 12 36 31.5 -2.4**
BORA IAmb IAmb 12 36 39.0
comp=Z,30nm,1.5s
KBL Kabul 16.92 77 Pn **Pn 12 36 35.0 -2.1**
KBL Kabul 16.92 77 P **Pn 12 36 35.0 -2.1**
KBL pmax pmax
comp=Z,6.0nm,1.0s
CHGR Chuyangaron 17.60 64 Pn **Pn 12 36 43.2 -2.1**
CHGR Chuyangaron 17.60 64 P **Pn 12 36 43.2 -2.1**
CHGR pmax pmax
comp=Z,8.0nm,0.7s
GAR Garm 18.56 63 P **P 12 36 56.2 -0.5**
ABKAR Akbulak array 18.76 23 P **P 12 36 58.8 +0.1**
BTK Batken 19.21 60 P **P 12 37 03.1 -0.7**
BTK Batken 19.21 60 P **P 12 37 03.1 -0.7**
BTK pmax pmax
comp=Z,8.0nm,1.3s
AKTO Aktyubinsk 19.25 18 P **P 12 37 04.5 +0.5**
comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=9.5
comp=Z,3.0nm,0.6s
VRH Novokhopyorsk 19.54 346 *e*P **P 12 37 06.5 -0.6**
VRH pmax pmax
comp=Z,20nm,0.7s
JURR Jurilovca 19.90 314⇓ P **P 12 37 12.0 +0.8**
BELG Belogornoye 20.02 358 P **P 12 37 12.8 +0.4**
comp=Z,36nm,1.0s,baz=116,slow=3.5,SNR=6.6
comp=Z,36nm,1.0s
TIRR Tirgusor 20.03 313⇑ P Pn 12 37 13.8 -0.7
TIRR Tirgusor 20.03 313 P **P 12 37 13.0 +0.4**
TIRR IAmb IAmb 12 37 14.5
comp=Z,17nm,0.9s
TIRR Tirgusor 20.03 313⇑ P Pn 12 37 13.8 -0.7
KK31 Karatay Array 20.08 52 P **P 12 37 12.7 -0.5**
KK31 Karatay Array 20.08 52 P **P 12 37 12.7 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,1.1s
KKAR Karatay Array 20.08 52 P **P 12 37 13.4 +0.2**
KKAR Karatay Array 20.08 52 P **P 12 37 13.4 +0.2**
IDI Anoyia 20.17 285⇑ P Pn 12 37 16.6 +0.2
IDI Anoyia 20.17 285 P Pn 12 37 15.6 -0.8
comp=Z,14nm,0.7s,baz=87,slow=13,SNR=10
comp=Z,14nm,0.7s
ALN Alexandroupoli 20.19 301 P **P 12 37 14.0 -0.4**
ALN Alexandroupoli 20.19 301 P **P 12 37 14.0 -0.4**
ALN pmax pmax
comp=Z,29nm,0.8s
TPGR Topolog 20.23 314⇑ P **P 12 37 15.8 +1.0**
HARR Harsova 20.45 313⇑ P **P 12 37 17.8 +0.7**
HARR Harsova 20.45 313⇑ P **P 12 37 17.8 +0.7**
VORR Voronezh 20.55 343 *e*P Pn 12 37 20.2 -0.3
VORR pmax pmax
comp=Z,100nm,0.4s
CFR Carcaliu 20.57 314⇓ P **P 12 37 19.6 +1.2**
CFR Carcaliu 20.57 314⇓ P **P 12 37 19.6 +1.2**
RDO Rodhopi 20.64 302 P **P 12 37 19.5 +0.3**
RDO IAmb IAmb 12 37 25.1
comp=Z,11nm,0.8s
LPSR Galich'ya Gora 21.47 343 *e*P **P 12 37 25.9 -2.1**
LPSR pmax pmax
comp=Z,50nm,0.8s
ATD Arta Tunnel 21.50 196 LR LR 12 46 30.6
comp=Z,92nm,20.2s,baz=16,slow=38
ISR Istrita 21.52 313⇑ P **P 12 37 28.4 -0.3**
ISR Istrita 21.52 313⇑ P **P 12 37 28.4 -0.3**
PANC Panciu 21.52 315⇓ P **P 12 37 29.9 +1.2**
VRI Vrincioaia 21.77 315⇑ P **P 12 37 32.7 +1.3**
VRI Vrincioaia 21.77 315⇑ P **P 12 37 32.7 +1.3**
PLOR Plostina 21.81 314⇑ P **P 12 37 32.7 +0.9**
PLOR Plostina 21.81 314⇑ P **P 12 37 32.7 +0.9**
MLR Muntele Rosu 22.06 313⇑ P **P 12 37 36.1 +1.5**
MLR Muntele Rosu 22.06 313 P **P 12 37 36.9 +2.2**
comp=Z,9.7nm,0.8s,baz=115,slow=3.6,SNR=9.9
comp=Z,9.7nm,0.8s
MLR Muntele Rosu 22.06 313 P **P 12 37 36.5 +1.8**
MLR IAmb IAmb 12 37 40.6
comp=Z,17nm,1.1s
TESR Tescani 22.15 316⇓ P **P 12 37 36.0 +0.5**
VOIR 22.60 312⇓ P **P 12 37 41.8 +1.5**
VOIR 22.60 312⇓ P **P 12 37 41.8 +1.5**
DOPR Dopca 22.63 314⇓ P **P 12 37 42.4 +1.7**
ITM Ithomi 22.66 290 P **P 12 37 40.8 -0.1**
ITM IAmb IAmb 12 37 44.7
comp=Z,9.8nm,0.7s
BIZ Bicaz 22.69 316⇑ P **P 12 37 43.4 +2.1**
KSH Kashi 22.96 64 P **P 12 37 43.0 -1.2**
KSH sP pP 12 37 47.5 -6.9
KSH pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 23.38 327 P **P 12 37 47.1 -1.0**
comp=Z,1.2nm,0.4s,baz=132,slow=9.0,SNR=13
comp=Z,1.2nm,0.4s
AKASG Malin Array Be 23.38 327*c*e P **P 12 37 48.5 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 23.38 327 P **P 12 37 47.4 -0.7**
AKBB IAmb IAmb 12 37 50.9
comp=Z,6.3nm,0.8s
AKBB Malin Array Si 23.38 327 P **P 12 37 47.4 -0.7**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
BLKB Belogradchik 23.44 306⇑ P **P 12 37 49.2 +0.4**
BURAR Bucovina Array 23.56 317⇓ P **P 12 37 52.8 +2.7**
BURAR Bucovina Array 23.56 317 P **P 12 37 49.0 -1.1**
BURAR Bucovina Array 23.56 317⇓ P **P 12 37 52.8 +2.7**
BUR08 Bucovina Ar. S 23.59 317 P **P 12 37 49.3 -1.1**
GZR Gura Zlata 24.03 310⇓ P **P 12 37 54.7 +0.3**
GZR Gura Zlata 24.03 310⇓ P **P 12 37 54.7 +0.3**
OBN Obninsk 24.34 343⇑ *e*P **P 12 37 58.1 +1.1**
OBN *e* 12 38 27.9
OBN pmax pmax
comp=Z,15nm,0.4s
OBN MLR MLR
comp=Z,83nm,17.0s
MDVR Moldovita 24.49 308⇑ P **P 12 37 59.9 +1.3**
DRGR 24.66 313⇑ P **P 12 38 01.5 +1.3**
DRGR 24.66 313⇑ P **P 12 38 01.5 +1.3**
TARG Taragay, Kyrgy 24.76 60 P **P 12 38 01.6 0.0**
TARG IAmb IAmb 12 38 04.2
comp=Z,5.1nm,0.9s
TARG Taragay, Kyrgy 24.76 60 P **P 12 38 01.6 0.0**
TARG pmax pmax
comp=Z,5.0nm,0.9s
TIR Tirane 24.82 299 P **P 12 38 02.0 +0.4**
TIR Tirane 24.82 299 P **P 12 38 02.0 +0.4**
TIR pmax pmax
comp=Z,27nm,0.8s
ARU Arti 24.95 13 P **P 12 38 03.4 +0.7**
comp=Z,2.5nm,0.3s,baz=186,slow=18,SNR=4.0
comp=Z,2.5nm,0.3s
ARU Arti 24.95 13 P **P 12 38 01.2 -1.4**
ARU IAmb IAmb 12 38 12.3
comp=Z,10nm,1.1s
ARU Arti 24.95 13*d* i P **P 12 38 01.2 -1.4**
ARU S **S 12 42 23.8 +0.2**
ARU pmax pmax
comp=Z,9.0nm,1.2s
DIVS Divibare 25.43 306 P **P 12 38 06.4 -0.8**
DIVS IAmb IAmb 12 38 09.9
comp=Z,5.0nm,1.0s
BRVK Borovoye 25.76 30⇑ *e*P **P 12 38 11.5 +1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
UZH Uzhgorod 25.77 317 *e*P **P 12 38 12.3 +2.2**
UZH *e* 12 38 20.2
BVAR Borovoye Array 25.78 31 P **P 12 38 11.1 +0.9**
comp=Z,2.3nm,0.5s,baz=224,slow=8.0,SNR=15
comp=Z,2.3nm,0.5s
KOLS Kolonicke sedl 25.93 317 *e*P **P 12 38 13.9 +2.3**
KOLS *e* 13 17 09.2
KIRV Kirov 26.20 1 P **P 12 38 14.1 +0.2**
comp=Z,18nm,0.6s,baz=261,slow=5.0,SNR=3.9
comp=Z,18nm,0.6s
KIRV Kirov 26.20 1⇓ *e*P **P 12 38 14.9 +1.0**
CRVS Cervenica-Dubn 26.38 317 *e*P **P 12 38 17.4 +1.7**
MNK Minsk 26.68 332 *i* P **P 12 38 16.5 -1.7**
MNK *i* PPP PPP 12 39 02.8
MNK *i* S **S 12 42 50.4 -0.4**
MNK *i* SSS SSS 12 44 04.1
MNK pmax pmax
comp=Z,29nm,1.0s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,26nm,0.8s
MNK MLR MLR
comp=N,241nm,16.0s
MNK MLR MLR
comp=Z,91nm,14.0s
MNK MLR MLR
comp=E,4.0nm,9.0s
MNK Minsk 26.68 332 *i* P **P 12 38 16.6 -1.7**
comp=E,3.0nm,0.8s
MNK *i* P **P 12 38 16.6 -1.7**
comp=N,26nm,0.8s
MNK *i* P **P 12 38 16.6 -1.7**
comp=Z,29nm,1.0s,baz=137
MNK *i* PP **PnPn 12 38 55.4 -4.7**
MNK *i* PPP PPP 12 39 02.8
MNK *i* S **S 12 42 50.5 -0.4**
MNK *i* SS **SnSn 12 43 49.9 -6.0**
MNK *i* SSS SSS 12 44 04.1
MNK *i* LQ LQ 12 46 35.7
MNK *i* LR LR 12 48 35.7
MNK *i* LRM MLR 12 49 57.0
comp=N,241nm,16.1s
MNK *i* LRM MLR 12 50 03.8
comp=Z,91nm,13.6s
MNK *i* LRM MLR 12 50 08.0
comp=E,4.0nm,8.9s
TIP Timpagrande 26.87 294⇑ P **P 12 38 21.6 +1.3**
TIP Timpagrande 26.87 294 P **P 12 38 20.6 +0.3**
TIP IAmb IAmb 12 38 25.0
comp=Z,7.1nm,1.0s
NACGM Naroch 27.41 332⇑ *e*P **P 12 38 25.4 +0.6**
baz=136
KURBB Kurchatov Arra 28.41 41 P **P 12 38 35.5 +1.7**
comp=Z,2.7nm,0.7s,baz=244,slow=9.7,SNR=18
KURBB LR LR 12 50 46.7
comp=Z,51nm,18.2s,baz=76,slow=38
comp=Z,2.7nm,0.7s
KURK Kurchatov 28.51 41 P **P 12 38 34.5 -0.2**
KURK IAmb IAmb 12 38 37.4
comp=Z,6.3nm,1.0s
KURK Kurchatov 28.51 41*c*e P **P 12 38 37.5 +2.8**
KURK pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 29.06 316⇓ P **P 12 38 40.6 +0.9**
MORC Moravsky Berou 29.06 316⇓ P **P 12 38 40.6 +0.9**
MK31 Makanchi Array 29.20 51⇓ *e*P **P 12 38 42.7 +1.7**
MKAR Makanchi Array 29.20 51 P **P 12 38 41.6 +0.6**
comp=Z,0.9nm,0.6s,baz=243,slow=8.6,SNR=6.9
comp=Z,0.9nm,0.6s
MKAR Makanchi Array 29.20 51 P **P 12 38 41.8 +0.8**
MKAR Makanchi Array 29.20 51 P **P 12 38 41.8 +0.8**
KRLC Kraliky 29.63 316 *e*P **P 12 38 45.2 +0.4**
DPC Dobruska-Polom 30.02 316 *e*P **P 12 38 49.0 +0.8**
CHVC Chvalec 30.27 317 *e*P **P 12 38 51.2 +0.8**
MOA Molln 30.38 311 *e*P **P 12 38 52.4 +1.0**
comp=Z,5.9nm,1.0s
KBA Koelnbreinsper 30.75 309 *i* P **P 12 38 55.9 +1.1**
comp=Z,11nm,1.0s
GERES GERESS Array B 31.05 312 P **P 12 38 57.6 +0.3**
comp=Z,1.2nm,0.7s,baz=106,slow=9.8,SNR=8.0
comp=Z,1.2nm,0.7s
KHC Kasperske Hory 31.22 313 *e*P **P 12 38 59.6 +0.8**
ABTA Abfaltersbach 31.22 308 *i* P **P 12 38 59.7 +0.9**
comp=Z,5.6nm,0.8s
WTTA Wattenberg 31.93 309 *i* P **P 12 39 05.6 +0.4**
comp=Z,11nm,0.8s
WATA Walderalm 31.98 309 *e*P **P 12 39 05.5 -0.1**
comp=Z,7.3nm,0.6s
SQTA Sankt Quirin 32.20 308 *i* P **P 12 39 07.7 +0.2**
comp=Z,9.6nm,0.6s
WMQ Urumqi 32.29 58 *e*P **P 12 39 11.3 +3.0**
MOTA Moosalm 32.30 309 *i* P **P 12 39 08.4 0.0**
comp=Z,14nm,0.8s
CLL Collm 32.33 316 *e*P **P 12 39 09.0 +0.6**
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL Collm 32.33 316 *e*P **P 12 39 09.0 +0.6**
comp=Z,10.0nm,1.4s
FETA Feichten 32.47 308 *i* P **P 12 39 10.3 +0.4**
comp=Z,11nm,0.8s
RETA Reutte 32.56 309 *e*P **P 12 39 10.2 -0.4**
comp=Z,4.2nm,0.7s
FINES FINESS Array B 32.64 340 P **P 12 39 11.2 +0.2**
comp=Z,2.9nm,0.5s,baz=146,slow=9.3,SNR=19
comp=Z,2.9nm,0.5s
FINES FINESS Array B 32.64 340 *i* P **P 12 39 11.8 +0.8**
FINES pmax pmax
comp=Z,3.0nm,0.4s
DAVA Damuels 33.10 308 *i* P **P 12 39 15.5 +0.1**
comp=Z,19nm,0.8s
DGZ Jazzator, Alta 33.35 47⇓ *e*P **P 12 39 19.3 +1.8**
DGZ pmax pmax
comp=Z,1.0nm,0.6s
ZAA0 Zalesovo Array 33.37 39 P **P 12 39 16.9 -0.5**
ZAA0 IAmb IAmb 12 39 19.1
comp=Z,5.3nm,1.1s
ZALV Zalesovo Beam 33.37 39 P **P 12 39 17.9 +0.5**
comp=Z,1.9nm,0.4s,baz=255,slow=8.8,SNR=14
comp=Z,1.9nm,0.4s
ZALV Zalesovo Beam 33.37 39 P **P 12 39 17.0 -0.4**
ZALV Zalesovo Beam 33.37 39 *i* P **P 12 39 18.2 +0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
BNI Bardonecchia 34.92 304 P **P 12 39 31.3 0.0**
BNI Bardonecchia 34.92 304 P **P 12 39 31.3 0.0**
BNI pmax pmax
comp=Z,8.0nm,0.8s
ECH Echery 35.09 309 P **P 12 39 32.0 -0.5**
ECH IAmb IAmb 12 39 33.0
comp=Z,5.2nm,0.9s
ECH Echery 35.09 309 P **P 12 39 32.0 -0.5**
ECH pmax pmax
comp=Z,5.0nm,0.9s
NC405 NORSAR Array S 37.52 331 P **P 12 39 53.5 +0.5**
NB201 NORSAR Array S 37.66 331 P **P 12 39 53.9 -0.4**
NB2 NORSAR Subarra 37.68 331 P **P 12 39 54.1 -0.4**
comp=Z,5.1nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 37.68 331 P **P 12 39 54.5 0.0**
comp=Z,5.7nm,0.6s,baz=123,slow=8.4,SNR=24
comp=Z,5.7nm,0.6s
NAO01 NORSAR Array S 37.72 330 P **P 12 39 54.4 -0.3**
NBO00 NORSAR Array S 37.86 331 P **P 12 39 55.3 -0.6**
ARCES ARCESS Array B 39.46 347 P **P 12 40 09.5 +0.2**
comp=Z,2.9nm,0.8s,baz=156,slow=9.1,SNR=6.0
comp=Z,2.9nm,0.8s
ESDC Sonseca Array 42.87 295 P **P 12 40 38.4 +0.6**
comp=Z,1.4nm,0.9s,baz=69,slow=8.7,SNR=9.6
comp=Z,1.4nm,0.9s
SONM Songino Array 45.53 53 P **P 12 41 00.1 +1.1**
comp=Z,0.3nm,0.3s,baz=261,slow=6.4,SNR=1.6
comp=Z,0.3nm,0.3s
ULN Ulaanbaatar 45.97 53 P **P 12 41 02.3 -0.2**
ULN IAmb IAmb 12 41 04.9
comp=Z,5.3nm,1.0s
ULN Ulaanbaatar 45.97 53⇓ *e*P **P 12 41 04.3 +1.8**
ULN pmax pmax
comp=Z,4.0nm,1.0s
PZH PanZhiHua 45.98 83 P **P 12 41 04.5 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax

comp=Z,90nm,5.2s
CMAR Chiang Mai Arr 46.85 95 P P 12 41 10.2 +0.6
comp=Z,6.0nm,0.6s,baz=296,slow=8.9,SNR=4.8
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 46.85 95 *ce*P P 12 41 16.5 +6.9
CMAR pmax pmax
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 47.15 257 P P 12 41 12.6 +0.6
comp=Z,13nm,0.6s,baz=64,slow=7.4,SNR=7.1
comp=Z,13nm,0.6s
HHC Hu-ho-hao-te 50.03 62 *e*P P **12 41 35.8 +1.9**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,190nm,6.7s
LYN LuoYang 52.25 69 *e*P P 12 41 57.3 +6.7
KSRS Korea Array 63.17 61 P P **12 43 07.2 0.0**
comp=Z,2.0nm,0.8s,baz=280,slow=6.7,SNR=8.5
comp=Z,2.0nm,0.8s
BOSA Boshof 64.70 203 LR LR 13 12 35.3
comp=Z,111nm,18.6s,baz=16,slow=37
ASAR Alice Springs 98.32 113 P P **12 46 16.4 -0.6**
comp=Z,0.4nm,1.0s,baz=292,slow=4.9,SNR=2.0
comp=Z,0.4nm,1.0s

IDC 30 12:34:16.8±2.7, 32°49N×48°76E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=56.2km s-min=34.1km az=142.0, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKASG	**Malin Array Be**	**23.22**	**327**	P		P	12 39 25.9	+0.6
	0.6nm,0.6s,baz=130,slow=9.9,SNR=1.7							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**28.43**	**42**	P		P	12 40 13.1	0.0
	0.4nm,0.5s,baz=246,slow=9.0,SNR=1.9							
	0.4nm,0.5s							
FINES	**FINESS Array B**	**32.49**	**340**	P		P	12 40 48.8	+0.1
	5.2nm,1.0s,baz=149,slow=11,SNR=1.7							
	5.2nm,1.0s							
NOA	**NORSAR Array B**	**37.53**	**331**	P		P	12 41 31.5	-0.8
	0.9nm,0.6s,baz=124,slow=8.5,SNR=3.5							
	0.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**47.03**	**257**	P		P	12 42 50.2	0.0
	18nm,0.8s,baz=65,slow=6.2,SNR=5.1							
	18nm,0.8s							

---

*GCG **30** 12:34:42.7±1.2, 15°09N×92°93W, h32km±333km, MD4.7*
*IDC **30** 12:34:42.7±3.2, 14°90N×92°66W, h65km±29km, mb3.7/11, mbtmp4.1/13, ML4.3/2, MS3.3/14, Error ellipse: s-maj=39.3km s-min=15.7km az=58.0*
*SNET **30** 12:34:43.9±1.1, 14°94N×92°87W, h48km±38km, ML5.0*
*NEIC **30** 12:34:43.5±2.8, 14°98N±0°07×92°82W±0°05, h76km±6km, mb4.4/97, Md4.7/80(MEX), Error ellipse: s-maj=10.1km s-min=7.4km az=200.0*
*UCR **30** 12:34:44.1±1.1, 14°94N×92°87W, h47km±42km, ML4.7, mb4.4(NEIC)*
*MEX **30** 12:34:44.2±1.0, 15°07N×92°74W, h87km±14km, MD4.7*
ISC 30 12:34:42.7±0.6, 14°92N±0°04×92°87W±0°03, h76km±6km, n265, σ1s88/329, mb4.4/45, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.58**	**91**			**Pn**	**12 34 56.5**	**-0.4**
THIG						**Sn**	**12 35 06.5**	**-0.8**
THIG		**0.58**	**91**	*i* P		**Pn**	**12 34 56.5**	**-0.4**
THIG				*e*S		**Sn**	**12 35 06.5**	**-0.8**
PATR	**El Naranjo**	**0.64**	**72**	*e*P		**Pn**	**12 34 56.8**	**-1.0**
PATR				*i* S		**Sn**	**12 35 07.8**	**-1.1**
PAVE	**Pavencul**	**0.72**	**67**	*e*P		**Pn**	**12 34 57.9**	**-0.7**
PAVE				*i* S		**Sn**	**12 35 10.0**	**-0.3**
CHUJ	**Union Juarez**	**0.76**	**76**	*e*P		**Pn**	**12 34 58.1**	**-0.8**
CHUJ				*i* S		**Sn**	**12 35 10.0**	**-1.0**
PCIG		**0.85**	**337**			**Pn**	**12 35 00.1**	**+0.3**
PCIG						**Sn**	**12 35 12.5**	**0.0**
PCIG		**0.85**	**337**	‖ *i* P		**Pn**	**12 35 00.2**	**+0.3**
	baz=140,slow=12							
PCIG				*i* S		**Sn**	**12 35 12.5**	**0.0**
RTAL	**Retalhuleu**	**1.20**	**109**	P	n	**Pn**	**12 35 04.3**	**+0.2**
RTAL	**Retalhuleu**	**1.20**	**109**	*e*P		**Pn**	**12 35 04.2**	**+0.2**
RTAL				*e*S		**Sn**	**12 35 20.7**	**+0.7**
STG3	**Santiaguito 3,**	**1.27**	**99**	‖ *e*P		**Pn**	**12 35 05.8**	**+0.7**
HUEH	**Huehuetenango**	**1.38**	**73**			**Pn**	**12 35 07.8**	**+1.2**
HUEH	**Huehuetenango**	**1.38**	**73**	*e*P		**Pn**	**12 35 07.9**	**+1.4**
HUEH				*e*S		**Sn**	**12 35 26.1**	**+1.7**
HUEH	**Huehuetenango**	**1.38**	**73**	*e*P		**Pn**	**12 35 07.9**	**+1.4**
HUEH				*e*S		**Sn**	**12 35 26.1**	**+1.7**
CCIG	**Comitan**	**1.53**	**27**			**Pn**	**12 35 09.1**	**+0.6**
CCIG	**Comitan**	**1.53**	**27**	*i* P		**Pn**	**12 35 09.2**	**+0.7**
CCIG				*e*S		**Sn**	**12 35 27.6**	**-0.3**
CARR	**Arriaga**	**1.66**	**323**	*e*P		**Pn**	**12 35 11.3**	**+1.3**
CARR				*e*S		**Sn**	**12 35 32.7**	**+1.9**
TGBT	**Tuxtla Gutierr**	**1.86**	**353**			**Pn**	**12 35 12.9**	**+0.2**
TGBT						**Sn**	**12 35 35.1**	**-0.3**
TGBT	**Tuxtla Gutierr**	**1.86**	**353**	*e*P		**Pn**	**12 35 12.9**	**+0.2**
TGBT				*e*S		**Sn**	**12 35 32.7**	**-2.8**
TGBT				*e*S		**Sn**	**12 35 35.1**	**-0.3**
TGIG		**1.87**	**353**			**Pn**	**12 35 13.1**	**+0.3**
TGIG						**Sn**	**12 35 35.8**	**+0.1**
TGIG		**1.87**	**353**	*i* P		**Pn**	**12 35 13.1**	**+0.3**
TGIG				*e*S		**Sn**	**12 35 35.8**	**+0.1**
FUG	**Fuego 3**	**2.02**	**103**	*e*P		**Pn**	**12 35 16.5**	**+1.7**
PCG	**Pacaya**	**2.25**	**103**	*e*P		**Pn**	**12 35 20.0**	**+1.9**
PCG				*e*S		**Sn**	**12 35 51.5**	**+6.4**
NILT	**Santiago Nilte**	**2.35**	**314**	*e*P		**Pn**	**12 35 20.8**	**+1.6**
NILT				*e*S		**Sn**	**12 35 47.8**	**+0.6**
NBG	**Las Nubes**	**2.46**	**97**	*e*P		**Pn**	**12 35 23.3**	**+2.3**
NBG				*e*S		**Sn**	**12 35 53.4**	**+3.1**
CMIG	**Matias Romero**	**2.91**	**318**	P		**Pn**	**12 35 27.5**	**+0.7**
	26nm,0.3s,baz=135,slow=12,SNR=106							
CMIG	S					**Sn**	**12 35 60.0**	**-0.6**
	643nm,0.6s,baz=132,slow=16,SNR=9.3							
CMIG				LR		LR	12 36 45.8	
	comp=Z,84nm,21.9s,baz=182,slow=40							
	84nm,0.4s							
CMIG	**Matias Romero**	**2.91**	**318**			**Pn**	**12 35 26.6**	**-0.1**
CMIG						**Sn**	**12 35 59.8**	**-0.8**
CMIG	**Matias Romero**	**2.91**	**318**	*e*P		**Pn**	**12 35 26.6**	**-0.1**
CMIG				*e*S		**Sn**	**12 35 59.8**	**-0.8**
VHSA	**Villahermosa**	**3.05**	**359**	*e*P		**Pn**	**12 35 28.4**	**-0.3**
VHSA				*e*S		**Sn**	**12 36 05.6**	**+1.4**
MRL	**Marmol**	**3.08**	**87**	*e*P		**Pn**	**12 35 31.9**	**+2.5**
MRL				*e*S		**Sn**	**12 36 07.9**	**+2.7**
SLOZ	**Alcaldia de Sa**	**3.12**	**106**	*e*P		**Pn**	**12 35 31.9**	**+2.3**
NUBE	**Las Nubes**	**3.16**	**108**	*e*S		**Sn**	**12 36 08.8**	**+1.9**
NUBE	**Las Nubes**	**3.16**	**108**	*e*S		**Sn**	**12 36 08.8**	**+1.9**
HUIG	**Huatulco**	**3.24**	**286**			**Pn**	**12 35 31.3**	**+0.1**
HUIG						**Sn**	**12 36 07.0**	**-1.8**
HUIG	**Huatulco**	**3.24**	**286**	*e*P		**Pn**	**12 35 31.3**	**+0.1**
HUIG				*e*S		**Sn**	**12 36 07.0**	**-1.8**
RTR	**El Retiro**	**3.28**	**108**	*e*P		**Pn**	**12 35 33.3**	**+1.3**
RTR	**El Retiro**	**3.28**	**108**	*e*P		**Pn**	**12 35 33.3**	**+1.3**
SBLS	**San Blas**	**3.32**	**108**	*e*P		**Pn**	**12 35 34.9**	**+2.3**
SBLS	**San Blas**	**3.32**	**108**	*e*P		**Pn**	**12 35 34.9**	**+2.3**
CEVE	**Cerro Verde**	**3.32**	**109**	*e*P		**Pn**	**12 35 35.1**	**+2.5**
CEVE				*e*S		**Sn**	**12 36 13.7**	**+2.5**
CEVE				IAML			12 36 24.7	
	comp=Z,10μm,0.5s							
CEVE	**Cerro Verde**	**3.32**	**109**	*e*P		**Pn**	**12 35 35.1**	**+2.5**
CEVE				*e*S		**Sn**	**12 36 13.7**	**+2.5**
CEVE				IAML			12 36 24.7	
	comp=Z,10μm,0.5s							
SNJE	**San Jose**	**3.33**	**108**	*e*P		**Pn**	**12 35 34.0**	**+1.4**
SNJE	**San Jose**	**3.33**	**108**	*e*P		**Pn**	**12 35 34.0**	**+1.4**
ESQI	**Esquipulas**	**3.43**	**95**			**Pn**	**12 35 34.7**	**+0.8**
ESQI	**Esquipulas**	**3.43**	**95**	*e*P		**Pn**	**12 35 34.7**	**+0.8**
MTO3	**Montecristo**	**3.43**	**98**			**Pn**	**12 35 34.6**	**+0.5**
MTO3	**Montecristo**	**3.43**	**98**	*e*P		**Pn**	**12 35 36.1**	**+2.0**
MTO3	**Montecristo**	**3.43**	**98**	*e*P		**Pn**	**12 35 36.1**	**+2.0**
TUIG	**Tuzandepetl**	**3.44**	**335**	*e*P		**Pn**	**12 35 34.2**	**+0.2**
TUIG				*e*S		**Sn**	**12 36 12.8**	**-0.8**
PETF	**Flores**	**3.51**	**55**			**Pn**	**12 35 35.4**	**+0.5**
PETF	**Flores**	**3.51**	**55**	*e*P		**Pn**	**12 35 35.6**	**+0.7**
PETF	**Flores**	**3.51**	**55**	*e*P		**Pn**	**12 35 35.6**	**+0.7**
CEDA	**San Andres**	**3.54**	**108**	IAML			12 36 37.8	
	comp=Z,3μm,0.4s							
CEDA	**San Andres**	**3.54**	**108**	IAML			12 36 37.8	
	comp=Z,3μm,0.4s							
BOQS	**Boqueron**	**3.67**	**108**	*e*P		**Pn**	**12 35 39.9**	**+2.5**
BOQS	**Boqueron**	**3.67**	**108**	*e*P		**Pn**	**12 35 39.9**	**+2.5**
SNET	**Serv Nac Est T**	**3.73**	**109**			**Pn**	**12 35 37.5**	**-0.5**
SNET	**Serv Nac Est T**	**3.73**	**109**	*e*P		**Pn**	**12 35 40.5**	**+2.5**
SNET	**Serv Nac Est T**	**3.73**	**109**	*e*P		**Pn**	**12 35 40.5**	**+2.5**
LFRS	**El Faro**	**3.91**	**109**	*e*P		**Pn**	**12 35 42.5**	**+2.1**
LFRS	**El Faro**	**3.91**	**109**	*e*P		**Pn**	**12 35 42.5**	**+2.1**
NEUV	**Arroyo Zacate**	**3.96**	**315**	*e*P		**Pn**	**12 35 41.7**	**+0.6**
SJTE	**Alcalda de S**	**3.96**	**109**	*e*P		**Pn**	**12 35 43.5**	**+2.4**
SJTE				*e*S		**Sn**	**12 36 29.7**	**+3.2**
SJTE	**Alcalda de S**	**3.96**	**109**	*e*P		**Pn**	**12 35 43.5**	**+2.4**
SJTE				*e*S		**Sn**	**12 36 29.7**	**+3.2**
PAVA	**Las Pavas**	**3.99**	**107**	*e*P		**Pn**	**12 35 43.8**	**+2.1**
PAVA	**Las Pavas**	**3.99**	**107**	*e*P		**Pn**	**12 35 43.8**	**+2.1**
SCLA	**Alcaldia de Sa**	**4.19**	**106**	*e*P		**Pn**	**12 35 46.6**	**+2.3**
SCLA	**Alcaldia de Sa**	**4.19**	**106**	*e*P		**Pn**	**12 35 46.6**	**+2.3**
PEIG	**Puerto Escondi**	**4.26**	**285**			**Pn**	**12 35 45.1**	**-0.1**
PEIG						**Sn**	**12 36 30.6**	**-3.2**
PEIG	**Puerto Escondi**	**4.26**	**285**	*e*P		**Pn**	**12 35 45.1**	**-0.1**
PEIG				*e*S		**Sn**	**12 36 30.6**	**-3.2**
OXIG	**Oaxaca**	**4.29**	**301**			**Pn**	**12 35 48.6**	**+2.8**
OXIG						**Sn**	**12 36 35.1**	**+0.4**
VHO	**Vista Hermosa**	**4.29**	**301**	*e*P		**Pn**	**12 35 48.6**	**+2.8**
VHO				*e*S		**Sn**	**12 36 35.1**	**+0.4**
SCIG	**Sabancuy**	**4.34**	**22**	*e*P		**Pn**	**12 35 46.2**	**0.0**
SCIG				*i* S		**Sn**	**12 36 33.3**	**-2.3**
COEB	**Comit de Eme**	**4.44**	**108**	*e*P		**Pn**	**12 35 49.0**	**+1.3**
COEB				*e*S		**Sn**	**12 36 41.1**	**+3.0**
COEB	**Comit de Eme**	**4.44**	**108**	*e*P		**Pn**	**12 35 49.0**	**+1.3**
COEB				*e*S		**Sn**	**12 36 41.1**	**+3.0**
YOIG	**Yosondua**	**4.90**	**294**			**Pn**	**12 35 56.8**	**+2.7**
YOIG						**Sn**	**12 36 49.3**	**-0.4**
YOIG	**Yosondua**	**4.90**	**294**	*e*P		**Pn**	**12 35 56.8**	**+2.7**
YOIG				*e*S		**Sn**	**12 36 49.3**	**-0.4**
TOIG	**Toxpalan**	**5.12**	**309**			**Pn**	**12 35 58.9**	**+1.9**
TOIG						**Sn**	**12 36 56.6**	**+1.8**
TOIG	**Toxpalan**	**5.12**	**309**	*e*P		**Pn**	**12 35 58.9**	**+1.9**
TOIG				*e*S		**Sn**	**12 36 56.6**	**+1.8**
TXIG	**Tlaxiaco**	**5.25**	**297**			**Pn**	**12 36 02.2**	**+3.2**
TXIG						**Sn**	**12 36 55.5**	**-2.9**
TXIG	**Tlaxiaco**	**5.25**	**297**	*e*P		**Pn**	**12 36 02.2**	**+3.2**
TXIG				*e*S		**Sn**	**12 36 55.5**	**-2.9**
PNIG	**Pinotepa**	**5.28**	**287**			**Pn**	**12 36 00.2**	**+1.2**
PNIG						**Sn**	**12 36 57.0**	**-1.6**
PNIG	**Pinotepa**	**5.28**	**287**	*e*P		**Pn**	**12 36 00.2**	**+1.2**
PNIG				*e*S		**Sn**	**12 36 57.0**	**-1.6**
TGUH	**Tegucigalpa,Un**	**5.49**	**98**			Pn	**Pn**	**12 36 03.2**	**+1.1**
HLIG	**Huajuapan de L**	**5.55**	**302**			**Pn**	**12 36 07.7**	**+4.6**
HLIG						**Sn**	**12 37 09.1**	**+3.4**
HLIG	**Huajuapan de L**	**5.55**	**302**	*e*P		**Pn**	**12 36 07.7**	**+4.6**
HLIG				*e*S		**Sn**	**12 37 09.1**	**+3.4**
JAUV	**Jalcomulco**	**5.81**	**320**	*e*P		**Pn**	**12 36 04.8**	**-1.6**
JAUV				*e*S		**Sn**	**12 37 10.6**	**-1.1**
LVIG	**Laguna Verde**	**5.86**	**325**	*e*P		**Pn**	**12 36 04.2**	**-2.8**
LVIG				*e*S		**Sn**	**12 37 08.8**	**-4.1**
FTIG	**Fresnillo de T**	**5.86**	**301**			**Pn**	**12 36 10.3**	**+3.1**
FTIG						**Sn**	**12 37 12.6**	**-0.6**
FTIG	**Fresnillo de T**	**5.86**	**301**	*e*P		**Pn**	**12 36 10.3**	**+3.1**
FTIG				*e*S		**Sn**	**12 37 12.6**	**-0.6**
MGIG	**Malinaltepec**	**6.00**	**293**			**Pn**	**12 36 11.6**	**+2.5**
MGIG						**Sn**	**12 37 15.6**	**-1.0**
MGIG	**Malinaltepec**	**6.00**	**293**	*e*P		**Pn**	**12 36 11.6**	**+2.5**
MGIG				*e*S		**Sn**	**12 37 15.6**	**-1.0**
CRIN	**San Cristobal**	**6.07**	**111**			**Pn**	**12 36 11.7**	**+1.8**
TLIG	**Tlapa**	**6.07**	**296**			**Pn**	**12 36 13.3**	**+3.3**
TLIG	**Tlapa**	**6.07**	**296**	*e*P		**Pn**	**12 36 12.6**	**+2.5**
TLIG				*e*S		**Sn**	**12 37 17.1**	**-1.2**
CNGN	**Cerro Negro**	**6.46**	**111**			**Pn**	**12 36 15.6**	**+0.4**
DAIG	**Los Arroyos**	**6.85**	**289**			**Pn**	**12 36 22.1**	**+1.5**
DAIG						**Sn**	**12 37 33.5**	**-3.6**
DAIG	**Los Arroyos**	**6.85**	**289**	*e*P		**Pn**	**12 36 22.1**	**+1.5**
DAIG				*e*S		**Sn**	**12 37 33.5**	**-3.6**
TEIG	**Tepich**	**6.86**	**39**	P	n	**Pn**	**12 36 19.4**	**-1.3**
PPM	**Popocatepetl**	**6.88**	**308**	*e*P		**Pn**	**12 36 25.8**	**+4.3**
PPM				*e*S		**Sn**	**12 37 39.0**	**+0.3**
PPIG	**Popocatepetl**	**6.89**	**308**			**Pn**	**12 36 25.8**	**+4.3**
PPIG						**Sn**	**12 37 39.0**	**+0.3**
CXUV	**Coxquihui**	**6.90**	**320**	*e*P		**Pn**	**12 36 20.7**	**-0.6**
CXUV				*e*S		**Sn**	**12 37 35.7**	**-2.6**
MATN	**Matagalpa**	**7.02**	**105**			**Pn**	**12 36 25.0**	**+2.0**
YAIG	**Yautepec**	**7.11**	**304**			**Pn**	**12 36 27.8**	**+3.5**
YAIG						**Sn**	**12 37 42.3**	**-1.5**
YAIG	**Yautepec**	**7.11**	**304**	*e*P		**Pn**	**12 36 27.8**	**+3.5**
YAIG				*e*S		**Sn**	**12 37 42.3**	**-1.5**
MEIG	**Mezcala**	**7.14**	**296**			**Pn**	**12 36 27.9**	**+3.4**
MEIG						**Sn**	**12 37 43.6**	**-0.6**
MEIG	**Mezcala**	**7.14**	**296**	*e*P		**Pn**	**12 36 27.9**	**+3.4**
MEIG				*e*S		**Sn**	**12 37 43.6**	**-0.6**
PLIG	**Platanillo**	**7.24**	**299**			**Pn**	**12 36 29.3**	**+3.4**
PLIG						**Sn**	**12 37 42.8**	**-3.9**
PLIG	**Platanillo**	**7.24**	**299**	*e*P		**Pn**	**12 36 29.3**	**+3.4**
PLIG				*e*S		**Sn**	**12 37 42.8**	**-3.9**
BOAB	**BOACO BROADBAN**	**7.42**	**108**	P	n	**Pn**	**12 36 28.2**	**-0.1**
CAIG	**El Cayaco**	**7.43**	**288**	*e*P		Pn	12 36 22.4	-6.0
CAIG				*e*S		**Sn**	**12 37 48.9**	**-2.3**
MAVM	**Malinalco, Edo**	**7.51**	**303**	*e*P		Pn	12 36 38.3	+8.6
MAVM				*e*S		**Sn**	**12 37 54.7**	**+1.2**
AOVM	**Tlapan**	**7.54**	**306**	*e*P		**Pn**	**12 36 27.4**	**-3.0**
AOVM				*e*S		**Sn**	**12 37 54.3**	**-0.3**
ARIG	**Puente Sto Nin**	**7.91**	**296**			**Pn**	**12 36 38.4**	**+3.3**
ARIG						**Sn**	**12 38 02.2**	**-0.9**
ARIG	**Puente Sto Nin**	**7.91**	**296**	*e*P		**Pn**	**12 36 38.4**	**+3.3**
ARIG				*e*S		**Sn**	**12 38 02.2**	**-0.9**
ACON	**Acoyapa**	**8.04**	**110**			**Pn**	**12 36 36.2**	**-0.5**
HZTE	**Horizontes, Gu**	**8.23**	**120**	P	n	**Pn**	**12 36 39.1**	**-0.3**
ORTG	**Ortega, Santa**	**8.53**	**121**			**Pn**	**12 36 46.5**	**+3.0**
DUNO	**Dulce Nombre,**	**8.66**	**123**			**Pn**	**12 36 47.6**	**+2.4**
ZIIG	**Zihuatanejo**	**8.68**	**289**			**Pn**	**12 36 48.4**	**+2.9**
ZIIG						**Sn**	**12 38 25.1**	**+3.2**
ZIIG	**Zihuatanejo**	**8.68**	**289**	*e*P		**Pn**	**12 36 48.4**	**+2.9**
ZIIG				*e*S		**Sn**	**12 38 25.1**	**+3.2**
ESPN	**Las Esperanzas**	**8.76**	**107**			**Pn**	**12 36 43.5**	**-3.1**
JTS	**Las Juntas de**	**8.99**	**120**	P	n	**Pn**	**12 36 45.4**	**-4.5**
COVE	**Coope Vega, Sa**	**9.25**	**116**			**Pn**	**12 36 54.1**	**+0.8**
MOIG	**Morelia**	**9.25**	**302**	P	n	**Pn**	**12 36 54.0**	**+0.5**
JACO	**JACO, Garabito**	**9.57**	**122**	P	n	**Pn**	**12 36 55.0**	**-2.7**
HDC	**Heredia**	**9.84**	**119**	P	n	**Pn**	**12 36 58.3**	**-3.3**
RIMA	**Rio Macho**	**10.18**	**119**			**Pn**	**12 37 07.9**	**+1.7**
PEZE	**Perez Zeledon,**	**10.53**	**120**			**Pn**	**12 37 09.1**	**-1.9**
SRBA	**San Rafael, Bu**	**10.88**	**120**	P	n	**Pn**	**12 37 15.5**	**-0.2**
RIOS	**Rincon, Osa**	**11.04**	**123**	P	n	**Pn**	**12 37 20.9**	**+3.1**
BRUZ	**Volcan**	**11.67**	**260**	P	n	**Pn**	**12 37 31.1**	**-1.4**
ZAIG	**Zacatecas**	**12.05**	**312**	P	n	**Pn**	**12 37 32.7**	**+0.9**
SOR	**Soroa**	**12.18**	**49**	P	n	**Pn**	**12 37 31.2**	**-2.1**
KVTX	**Kingsville**	**13.41**	**340**	P	n	**Pn**	**12 37 49.9**	**+0.1**
735A	**Kenedy**	**14.61**	**343**	P	n	**Pn**	**12 38 05.1**	**-0.3**
833A	**Chaparral WMA,**	**14.65**	**337**	P	n	**Pn**	**12 38 07.4**	**+1.4**
061Z	**Ochoppi**	**15.62**	**44**	P	n	**Pn**	**12 38 18.0**	**-0.4**
435B	**Jarrell**	**16.38**	**345**	P	n	**Pn**	**12 38 24.3**	**-3.6**
435B						IAmb	IAmb	12 38 34.8	
	comp=Z,20nm,0.7s							
JCT	**Junction City**	**16.75**	**339**	P	n	**Pn**	**12 38 31.7**	**-0.9**
JCT						**P**	**12 38 32.2**	**-1.4**
JCT						IAmb	IAmb	12 38 55.3	
	comp=Z,11nm,0.6s							
060A	**Indiantown**	**16.77**	**42**	P	n	**Pn**	**12 38 31.1**	**-1.6**
060A						**P**	**12 38 32.2**	**-1.6**
HPIG		**16.89**	**317**	P	n	**Pn**	**12 38 32.7**	**-1.9**
BRAL	**Brewton**	**17.03**	**17**	P	n	**Pn**	**12 38 34.1**	**-1.9**
656A	**Willston**	**17.26**	**32**			**Pn**	**12 38 38.6**	**-0.2**
TX32	**Lajitas Array**	**17.48**	**327**	P		**Pn**	**12 38 41.3**	**-0.3**
TXAR	**Lajitas Array**	**17.48**	**327**	P		**P**	**12 38 44.1**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=40							
	comp=Z,8.7nm,1.0s							
TXAR	**Lajitas Array**	**17.48**	**327**			**Pn**	**12 38 41.5**	**-0.1**
TX31	**Lajitas Ar. Si**	**17.48**	**327**	P		**Pn**	**12 38 41.3**	**-0.3**
TX31						IAmb	IAmb	12 38 48.5	
	comp=Z,42nm,1.2s							
WHTX	**Lake Whitney,**	**17.51**	**347**	P		**Pn**	**12 38 41.1**	**-0.7**
352A	**Blakely**	**18.02**	**22**			**Pn**	**12 38 48.3**	**+0.2**
152A	**Waverly Hall**	**19.17**	**21**	P		**P**	**12 38 58.9**	**-1.2**
152A						IAmb	IAmb	12 39 21.1	
	comp=Z,24nm,1.1s							
MIAR	**Mount Ida**	**19.56**	**358**	P		**P**	**12 39 04.0**	**-0.4**
MIAR						IAmb	IAmb	12 39 10.4	
	comp=Z,21nm,0.8s							
X37A	**Clayton**	**19.72**	**354**	P		**P**	**12 39 05.7**	**-0.5**
X37A						IAmb	IAmb	12 39 26.9	
	comp=Z,15nm,1.0s							
OXF	**Oxford**	**19.76**	**8**	P		**P**	**12 39 06.5**	**0.0**
UALR	**University of**	**19.78**	**1**	P		**P**	**12 39 06.9**	**+0.1**
UALR						IAmb	IAmb	12 39 36.4	
	comp=Z,25nm,0.8s							
HTMS	**Hat Mesa**	**20.04**	**333**	P		**P**	**12 39 10.0**	**+0.2**
CLN7	**Carlsbad 7**	**20.07**	**332**	P		**P**	**12 39 09.4**	**-0.7**
GOGA	**Godfrey**	**20.29**	**23**			**P**	**12 39 11.3**	**-1.0**
GOGA				IAmb		IAmb	12 39 33.6	
	comp=Z,11nm,0.8s							
WHAR	**Wooly Hollow**	**20.30**	**1**	P		**P**	**12 39 10.9**	**-1.4**
WHAR				IAmb		IAmb	12 39 42.0	
	comp=Z,34nm,1.5s							
PLAL	**Pickwick Lake**	**20.44**	**11**	P		**P**	**12 39 13.3**	**-0.6**
WMOK	**Wichita Mounta**	**20.45**	**346**	P		**P**	**12 39 13.8**	**-0.2**
Y52A	**Lilburn**	**20.48**	**21**	P		**P**	**12 39 12.3**	**-2.1**
FPAL	**Fort Paine**	**20.61**	**17**	P		**P**	**12 39 14.6**	**-1.2**
FPAL				IAmb		IAmb	12 39 37.0	
	comp=Z,19nm,0.9s							
FNO	**Franklin**	**20.66**	**349**	P		**P**	**12 39 16.2**	**-0.1**
FNO				IAmb		IAmb	12 39 48.4	
	comp=Z,21nm,0.7s							
FCAR	**Ozark Folk Cen**	**20.90**	**2**	P		**P**	**12 39 17.0**	**-1.8**
FCAR				IAmb		IAmb	12 39 37.9	
	comp=Z,21nm,1.3s							
OK025	**Westminster Rd**	**20.97**	**350**	P		**P**	**12 39 20.0**	**+0.4**
MSTX	**Muleshoe**	**20.98**	**336**	P		**P**	**12 39 20.3**	**+0.4**
MSTX				IAmb		IAmb	12 39 57.8	
	comp=Z,16nm,1.0s							
SDDR	**Presa de Saban**	**21.03**	**76**	P		**P**	**12 39 19.4**	**-1.1**
SDDR				IAmb		IAmb	12 39 27.9	
	comp=Z,32nm,1.2s							
BCOK	**Bluff Creek, N**	**21.09**	**349**	P		**P**	**12 39 21.3**	**+0.3**
BCOK				IAmb		IAmb	12 39 39.4	
	comp=Z,72nm,0.7s							
LCAR	**Lake Charles**	**21.12**	**4**	P		**P**	**12 39 21.6**	**+0.3**
LCAR				IAmb		IAmb	12 39 39.9	
	comp=Z,14nm,0.7s							
SWET	**Sewanee**	**21.16**	**16**	P		**P**	**12 39 21.9**	**+0.2**
SWET				IAmb		IAmb	12 39 39.5	
	comp=Z,12nm,0.8s							
AMTX	**Amarillo**	**21.41**	**340**	P		**P**	**12 39 23.6**	**-0.9**
AMTX				IAmb		IAmb	12 40 06.7	
	comp=Z,15nm,0.6s							
WVT	**Waverly**	**21.60**	**11**	P		**P**	**12 39 23.9**	**-2.4**
OK044	**Pawnee Station**	**21.66**	**351**	P		**P**	**12 39 26.4**	**-0.6**
OK044				IAmb		IAmb	12 39 56.8	
	comp=Z,18nm,0.7s							
OK046	**Pawnee Station**	**21.70**	**351**	P		**P**	**12 39 27.2**	**-0.2**
OK046				IAmb		IAmb	12 39 57.3	
	comp=Z,15nm,0.8s							
OK048	**Pawnee Station**	**21.72**	**351**	P		**P**	**12 39 27.3**	**-0.4**
OK048				IAmb		IAmb	12 39 59.4	
	comp=Z,14nm,0.8s							
OK047	**Pawnee, Statio**	**21.74**	**352**

comp=Z,7.2nm,1.5s
EGAK Eagle 59.55 338 P P 12 44 39.4 +1.4
EGAK IAmb IAmb 12 44 53.4
comp=Z,2.8nm,1.1s
RES Resolute Bay 59.78 359 LR LR 13 12 12.9
comp=Z,28nm,19.3s,baz=54,slow=38
DOT Dot Lake 60.05 336 P P 12 44 40.5 -1.0
DOT IAmb IAmb 12 45 02.5
comp=Z,4.1nm,1.1s
J26L Joseph Creek 60.29 337 P P 12 44 45.5 +2.4
J26L IAmb IAmb 12 45 05.4
comp=Z,3.8nm,1.2s
J25K Salcha River, 61.02 337 P P 12 44 46.8 -1.3
J25K IAmb IAmb 12 44 51.3
comp=Z,1.7nm,0.8s
PMR Palmer 61.22 333 P P 12 44 49.7 +0.3
KDAK Kodiak Island 61.50 328 P P 12 44 52.8 +1.4
comp=Z,1.6nm,0.6s,baz=97,slow=8.1,SNR=1.2
comp=Z,1.6nm,0.6s
PRP Porcupine Dome 61.52 338 P P 12 44 49.8 -1.8
PRP IAmb IAmb 12 44 54.4
comp=Z,3.5nm,0.7s
HDA Harding Lake 61.53 336 P P 12 44 50.1 -1.4
HDA IAmb IAmb 12 44 56.1
comp=Z,6.9nm,1.4s
ILAR Eielson Array 61.67 337 P P 12 44 53.7 +1.3
comp=Z,1.2nm,0.6s,baz=134,slow=5.2,SNR=22
ILAR pP pP 12 45 11.0 -1.1
comp=Z,1.5nm,1.0s,baz=128,slow=4.9,SNR=4.5
comp=Z,1.2nm,0.6s
ILAR Eielson Array 61.67 337 P P 12 44 54.4 +1.9
RND Reindeer 61.85 335 P P 12 44 56.3 +2.5
FYU Fort Yukon 61.93 339 P P 12 44 54.4 +0.3
FYU IAmb IAmb 12 45 22.4
comp=Z,5.7nm,1.3s
CCB Clear Creek Bu 61.97 336 P P 12 44 55.2 +0.8
CCB IAmb IAmb 12 45 18.6
comp=Z,4.1nm,1.4s
TCOL CIGO, UAF Yank 62.09 337 P P 12 44 56.5 +1.3
BMAR Burnt Mountain 62.15 340 P P 12 44 57.0 +1.3
MDM Murphy Dome 62.27 337 P P 12 44 57.5 +1.1
MDM IAmb IAmb 12 45 23.1
comp=Z,5.5nm,1.3s
CAST Castle Rocks 63.19 334 P P 12 45 03.3 +0.7
CAST IAmb IAmb 12 45 32.8
comp=Z,7.5nm,1.2s
MLY Manley 63.27 336 P P 12 45 04.4 +1.2
MLY IAmb IAmb 12 45 05.8
comp=Z,3.7nm,0.7s
M19K Big River Lodg 63.67 332 P P 12 45 08.0 +2.2
L19K White Mountain 63.97 333 P P 12 45 08.5 +0.8
SVW2 Sparrevohn 63.97 331 P P 12 45 09.3 +1.5
N18K Kilae Creek 63.99 331 P P 12 45 05.6 -2.4
K20K Telida 64.01 334 P P 12 45 08.9 +0.9
K20K IAmb IAmb 12 45 35.7
comp=Z,6.3nm,1.1s
BORG Borgarnes 68.75 26 LR LR 13 14 01.8
comp=Z,29nm,20.6s,baz=249,slow=34
SPITS Spitsbergen Ar 79.36 11 LR LR 13 23 39.8
comp=Z,53nm,18.4s,baz=232,slow=37
NOA NORSAR Array B 83.75 28 LR LR 13 23 06.1
comp=Z,13nm,21.6s,baz=280,slow=35
HFS Hagfors 85.21 29 LR LR 13 22 53.6
comp=Z,21nm,20.7s,baz=285,slow=34
ARCES ARCESS Array B 85.53 18 LR LR 13 25 22.8
comp=Z,30nm,19.0s,baz=268,slow=36
DAVOX Davos/Dischmat 87.75 42 LR LR 13 25 28.2
comp=Z,20nm,18.2s,baz=264,slow=35
FINES FINESS Array B 90.03 25 LR LR 13 30 57.5
comp=Z,16nm,18.0s,baz=232,slow=38
WRA Warramunga Arr 134.79 257 PKP **PKiKP** 12 53 55.1 0.0
comp=Z,0.2nm,0.6s,baz=86,slow=3.0,SNR=2.1
ASAR Alice Springs 135.17 251 PKP **PKPdf** 12 53 55.1 +0.9
comp=Z,0.3nm,0.8s,baz=87,slow=3.0,SNR=2.5
PZH PanZhiHua 136.45 341 PKP **PKiKP** 12 53 59.0 +0.5
CMAR Chiang Mai Arr 144.85 340 PKP **PKPdf** 12 54 12.4 +0.5
comp=Z,1.2nm,0.6s,baz=344,slow=3.1,SNR=8.1

*IDC **30** 12:35:50.3±1.6, 32°.38N×48°.89E, h0km, mb3.8/9, mbtmp3.9/12, ML3.8/2, Error ellipse: s-maj=30.8km s-min=21.4km az=162.0*
*TEH **30** 12:35:54.0, 32°.45N×49°.00E, h8km, ML3.7*
ISC 30 12:35:53.4±0.7, 32°.34N±0°.04×48°.83E±0°.05, h23km, n55, σ2§01/55, mb3.8/8, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMIS	**Naft Sefid**	**0.78**	**150**	*e*Pg	**Pn**	**12 36 09.9**	**+0.9**
AHWZ	**Ahwaz**	**1.02**	**189**	*e*Pg	**Pn**	**12 36 16.2**	**+4.0**
IKMR	**Kamar-syah**	**1.23**	**342**	*e*Pg	**Pb**	**12 36 16.5**	**+0.5**
DHL1	**Dehloran**	**1.35**	**285**	*e*Pn	Pb	12 36 22.2	+4.2
IKFM	**Kafar-mosalman**	**1.44**	**325**	*e*Pg	**Pb**	**12 36 21.2**	**+1.7**
IKFM				*e*		12 36 49.0	
comp=Z,20μm,0.4s							
IDOB	**Doab**	**1.54**	**339**	*e*Pn	**Pb**	**12 36 22.2**	**+0.7**
KHMZ	**Khomeyn**	**1.69**	**34**	*e*Pg	**Pn**	**12 36 23.6**	**+1.9**
SHK1	**Shahrekord**	**1.74**	**90**	*e*Pn	**Pn**	**12 36 23.8**	**+1.3**
SHK1				*e*		12 36 54.3	
comp=N,8μm,0.6s							
IPIR	**Pirpir**	**1.78**	**78**	*e*Pg	**Pn**	**12 36 25.4**	**+2.4**
IPIR				*e*		12 36 50.8	
comp=Z,13μm,0.6s							
HSAM	**Samen**	**1.88**	**354**	*e*Pn	**Pn**	**12 36 26.6**	**+2.2**
HSAM				*e*		12 37 00.8	
comp=Z,4μm,0.8s							
IBRJ	**Brojen**	**2.11**	**101**	*e*Pn	**Pn**	**12 36 30.1**	**+2.6**
IKOM	**Komasi**	**2.14**	**329**	*e*Pn	**Pb**	**12 36 31.0**	**-0.5**
IKOM				*e*		12 37 17.7	
comp=Z,5μm,0.6s							
IBZA	**Bozab**	**2.27**	**339**	*e*Pn	**Pn**	**12 36 32.1**	**+2.3**
IBZA				*e*		12 37 13.7	
comp=Z,3μm,0.6s							
ASAO	**Ashtian**	**2.42**	**24**	*e*Pn	**Pn**	**12 36 33.8**	**+2.0**
KCHF	**Cheshme Sefid,**	**2.44**	**323**	*e*Pn	**Pb**	**12 36 35.4**	**-1.3**
KCHF				*e*		12 37 13.4	
comp=Z,6μm,0.4s							
KER	**Kermanshah**	**2.48**	**326**	*e*Pn	**Pb**	**12 36 37.2**	**-0.2**
HAGD	**Aghdareh**	**2.49**	**6**	*e*Pn	**Pn**	**12 36 35.4**	**+2.6**
HAGD				*e*		12 37 12.3	
comp=Z,5μm,0.7s							
IKLH	**Kolahrood**	**2.52**	**66**	*e*Pn	**Pn**	**12 36 35.3**	**+2.2**
IKLH				*e*		12 37 16.2	
comp=Z,3μm,0.4s							
QAMS	**Qamsar**	**2.57**	**56**	*e*Pn	**Pn**	**12 36 35.7**	**+1.9**
QAMS				*e*		12 37 18.5	
comp=Z,6μm,0.4s							
KLNJ	**Kolanjah**	**2.71**	**119**	*e*Pn	**Pn**	**12 36 38.7**	**+2.9**
IGAR	**Gharneh**	**2.72**	**88**	*e*Pn	**Pn**	**12 36 37.9**	**+2.0**
IGAR				*e*		12 37 22.9	
comp=Z,2μm,0.5s							
GHVR	**GHOM**	**2.97**	**43**	*e*Pn	**Pn**	**12 36 41.2**	**+2.0**
ILIN	**Lien**	**3.01**	**329**	*e*Pn	**Pn**	**12 36 42.8**	**+2.9**
IZEF	**Zefreh**	**3.01**	**78**	*e*Pn	**Pn**	**12 36 41.9**	**+2.0**
IZEF				*e*		12 37 32.3	
comp=Z,1μm,0.6s							
SNGE	**Sanandaj**	**3.01**	**336**	*e*Pn	**Pn**	**12 36 43.1**	**+3.2**
IRAM	**Ramesheh**	**3.06**	**99**	*e*Pn	**Pn**	**12 36 43.8**	**+3.2**
IQOM	**Qom**	**3.12**	**36**	*e*Pn	**Pn**	**12 36 43.3**	**+1.9**
IQOM				*e*		12 36 44.0	
comp=Z,2μm,0.2s							
IRAZ	**Razeghan**	**3.19**	**16**	*e*Pn	**Pn**	**12 36 45.1**	**+2.7**
IRAZ				*e*		12 37 46.0	
comp=Z,3μm,0.6s							
KRSH	**Karshahi**	**3.22**	**59**	*e*Pn	**Pn**	**12 36 44.6**	**+1.9**
NASN	**Na'in**	**3.39**	**81**	*e*Pn	**Pn**	**12 36 47.6**	**+2.4**
ISFB	**Sefidab**	**3.49**	**54**	*e*Pn	**Pn**	**12 36 47.5**	**+1.1**
IVRN	**Varamin**	**3.59**	**42**	*e*Pn	**Pn**	**12 36 49.4**	**+1.7**
IMHD	**Mahdasht**	**3.67**	**24**	*e*Pn	**Pn**	**12 36 50.6**	**+1.7**
IMHD				*e*		12 38 00.6	
comp=Z,629nm,0.8s							
IHSB	**Hasanabad**	**3.70**	**33**	*e*Pn	**Pn**	**12 36 50.9**	**+1.6**
CHTH	**Charan**	**4.04**	**28**	*e*Pn	**Pn**	**12 36 56.2**	**+2.1**
QSDN	**Sirdan**	**4.17**	**4**	*e*Pn	**Pn**	**12 36 57.6**	**+1.8**
DAMV	**Damavand**	**4.20**	**38**	*e*Pn	**Pn**	**12 36 58.1**	**+1.9**
ANAR	**Anarak**	**4.22**	**77**	*e*Pn	**Pn**	**12 36 57.8**	**+1.4**
QALM	**Alamut, Qazvin**	**4.35**	**20**	*e*Pn	**Pn**	**12 36 59.7**	**+1.4**
ILAS	**Lasjerd**	**4.59**	**47**	*e*Pn	**Pn**	**12 37 03.2**	**+1.6**
GIDE	**GILAN DEYLAMAN**	**4.66**	**11**	*e*Pn	**Pn**	**12 37 05.0**	**+2.5**
ASF	**Jabal al Asfar**	**10.10**	**272**	Pn	**Pn**	**12 38 17.9**	**+0.7**
ASF				Sn	**Sn**	**12 40 04.7**	**-5.2**
comp=Z,1.2nm,0.3s,baz=75,slow=19,SNR=1.9							
comp=Z,0.2nm,0.3s,baz=275,slow=22,SNR=0.9							
comp=Z,4.3nm,0.5s							

WSAR Wadi Sarin 12.54 134 Pn **Pn** 12 38 48.2 -2.2
comp=Z,6.1nm,0.9s,baz=360,slow=11,SNR=1.4
WSAR Sn Sn 12 40 59.2 -10
comp=Z,0.2nm,0.3s,baz=90,slow=19,SNR=1.8
AKTO Aktyubinsk 19.32 18 P **P** 12 40 16.8 -0.1
comp=Z,0.2nm,0.3s,baz=204,slow=10.0,SNR=1.9
comp=Z,1.0nm,0.4s
BELG Beloyoye 20.06 358 P **P** 12 40 24.0 -0.9
comp=Z,11nm,0.8s,baz=103,slow=4.6,SNR=2.6
comp=Z,11nm,0.8s
IDI Anoyia 20.10 285 P **Pn** 12 40 27.4 0.0
comp=Z,3.4nm,0.5s,baz=122,slow=18,SNR=1.3
comp=Z,3.4nm,0.5s
AKASG Malin Array Be 23.37 327 P **P** 12 40 59.8 -0.4
comp=Z,0.3nm,0.3s,baz=136,slow=9.2,SNR=4.4
comp=Z,0.3nm,0.3s
BVAR Borovoye Array 25.87 31 P **P** 12 41 23.1 -0.1
comp=Z,0.5nm,0.5s,baz=248,slow=7.6,SNR=3.0
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 28.51 41 P **P** 12 41 47.6 +0.7
comp=Z,0.4nm,0.6s,baz=242,slow=9.5,SNR=1.9
comp=Z,0.4nm,0.6s
FINES FINESS Array B 32.65 340 P **P** 12 42 23.0 -0.3
comp=Z,1.0nm,0.4s,baz=146,slow=11,SNR=7.0
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 33.46 39 P **P** 12 42 30.2 -0.2
comp=Z,0.9nm,0.4s,baz=247,slow=7.6,SNR=3.8
comp=Z,0.9nm,0.4s
NB2 NORSAR Subarra 37.68 331 P **P** 12 43 06.5 -0.2
comp=Z,0.5nm,0.3s,baz=126,slow=6.9
NOA NORSAR Array B 37.68 331 P **P** 12 43 05.7 -1.0
comp=Z,1.0nm,0.5s,baz=127,slow=8.4,SNR=4.9
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 39.49 347 P **P** 12 43 22.7 +1.0
comp=Z,2.7nm,1.0s,baz=163,slow=9.4,SNR=1.4
comp=Z,2.7nm,1.0s
TORD Torodi Ar. Bea 47.05 257 P **P** 12 44 24.4 +0.9
comp=Z,0.4nm,0.5s,baz=58,slow=7.6,SNR=2.8

IDC 30 12:52:41.8±2.4, 5°.54S×130°.61E, h0km, mb3.6/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=145.1km s-min=30.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.76**	**166**	Pn	Pn	12 56 12.7	+0.7
0.1nm,0.3s,baz=349,slow=13,SNR=8.5							
WRA				Sn	Sn	12 58 42.5	-14
0.1nm,0.3s,baz=337,slow=21,SNR=2.7							
0.1nm,0.4s							
ASAR	**Alice Springs**	**18.30**	**170**	P	Pn	12 56 56.7	-0.6
0.1nm,0.3s,baz=350,slow=11,SNR=13							
ASAR				S	Sn	13 00 09.5	-13
0.2nm,0.7s,baz=345,slow=26,SNR=2.6							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**67.36**	**326**	P	P	13 03 38.9	0.0
0.2nm,0.4s,baz=115,slow=7.5,SNR=10							
0.2nm,0.4s							

*IDC **30** 13:12:54.6±1.2, 55°.23S×30°.42W, h0km, mb4.1/3, mbtmp4.1/3, MS3.2/1, Error ellipse: s-maj=50.3km s-min=31.9km az=84.0*
*NEIC **30** 13:12:56.2±2.0, 55°.2S±0°.1×30°.7W±0°.2, h10km±1km, mb4.3/8, Error ellipse: s-maj=20.7km s-min=17.7km az=357.0*
ISC 30 13:12:55.9±0.9, 55°.2S±0°.1×30°.6W±0°.2, h10km, n23, σ1§02/17, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.56**	**283**	Pn	**Pn**	**13 13 50.6**	**-0.6**
VNA1	**Neumayer--Stat**	**18.30**	**156**	P	**P**	**13 17 10.1**	**+0.6**
VNA3	**Neumayer Olymp**	**18.43**	**159**	P	**Pn**	**13 17 11.7**	**+0.7**
SNAA	**Sanae**	**20.28**	**155**	P	**P**	**13 17 30.5**	**-0.9**
SNAA	**Sanae**	**20.28**	**155**	P	**P**	**13 17 30.0**	**-1.4**
TROLL	**Troll, Antarti**	**21.84**	**153**	P	**P**	**13 17 45.7**	**-2.5**
PLCA	**Paso Flores**	**29.97**	**282**	LR	LR	13 30 32.5	
comp=Z,41nm,18.5s,baz=152,slow=35							
QSPA	**South Pole Qui**	**35.02**	**180**	P	**P**	**13 19 48.7**	**+0.3**
QSPA				IAmb	IAmb	13 19 50.5	
comp=Z,4.5nm,1.1s							
MT09	**Talagante**	**35.24**	**291**	P	**P**	**13 19 49.6**	**-0.9**
CO01	**Juntas del Tor**	**37.74**	**296**	P	**P**	**13 20 12.6**	**+0.7**
CO01				IAmb	IAmb	13 20 14.1	
comp=Z,6.1nm,0.8s							
GO01	**Chusmiza**	**45.90**	**305**	P	**P**	**13 21 19.3**	**+0.3**
VNDA	**Vanda**	**47.29**	**184**	P	**P**	**13 21 29.1**	**+0.4**
comp=Z,1.2nm,0.8s,baz=184,slow=5.7,SNR=8.5							
comp=Z,1.2nm,0.8s							
VNDA	**Vanda**	**47.29**	**184**	P	**P**	**13 21 29.8**	**+1.1**
H10S2	**ASCENSION HYDR**	**47.85**	**21**	T	T	14 13 14.2	
baz=192,slow=74,SNR=6.8							
H10S3	**ASCENSION HYDR**	**47.85**	**21**	T	T	14 13 16.9	
baz=28,slow=74,SNR=13							
LPAZ	**La Paz**	**48.35**	**308**	P	**P**	**13 21 39.2**	**+0.9**
comp=Z,1.9nm,0.6s,baz=154,slow=5.7,SNR=7.5							
comp=Z,1.9nm,0.6s							
LPAZ	**La Paz**	**48.35**	**308**	P	**P**	**13 21 39.1**	**+0.7**
LPAZ				IAmb	IAmb	13 21 40.0	
comp=Z,2.2nm,0.7s							
H10N1	**ASCENSION HYDR**	**48.96**	**21**	T	T	14 14 34.7	
baz=191,slow=76,SNR=20							
H10N3	**ASCENSION HYDR**	**48.96**	**21**	T	T	14 14 38.5	
baz=191,slow=76,SNR=16							
H10N2	**ASCENSION HYDR**	**48.98**	**21**	T	T	14 14 43.1	
baz=191,slow=76,SNR=14							
TOA0	**Torodi Ar. Sit**	**73.34**	**33**	P	**P**	**13 24 27.4**	**-0.2**
TOA0				IAmb	IAmb	13 24 40.2	
comp=Z,3.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**73.34**	**33**	P	**P**	**13 24 27.9**	**+0.3**
comp=Z,1.9nm,0.7s,baz=195,slow=6.9,SNR=5.0							
comp=Z,1.9nm,0.7s							
ILAR	**Eielson Array**	**148.15**	**313**	PKPbc	**PKPbc**	**13 32 39.7**	**-0.7**
comp=Z,3.6nm,0.8s,baz=108,slow=1.7,SNR=28							

MCSM 30 13:16:40.8±0.3, 49°N±4°×2°4E±°, h5km±4km, ML2.6, 1C-1D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSV	**Kosov**	**0.47**	**116**	Pg	Pg	13 16 49.6	-0.3
KORU	**Korolevo**	**0.94**	**248**	Pg	Pg	13 16 58.7	-0.1
BURAR	**Bucovina Array**	**1.05**	**149**	||P	Pb	13 17 01.3	-0.1
BURAR				||S	Sn	13 17 22.0	+4.7
LUBAR	**Lubar, Ukraine**	**2.59**	**56**	Pn	Pn	13 17 23.6	+0.2
LUBAR				pP	Pb	13 17 24.5	-3.2
RNPP1	**Kostyukhnivka**	**2.96**	**16**	Pg	Pg	13 17 37.5	0.0
MI28	**Mi28,Pidlybu**	**3.20**	**40**	Pb	Pb	13 17 38.0	-0.1
MI28				Sn	Sn	13 18 11.0	+0.8
AK13	**Malin Array Si**	**3.67**	**53**	Pb	Pb	13 17 46.3	+0.2
AK14	**Malin Array Si**	**3.71**	**53**	Pb	Pb	13 17 46.9	+0.2
AK20	**Malin Array Si**	**3.72**	**52**	Pb	Pb	13 17 46.6	-0.3
AK16	**Malin Array Si**	**3.73**	**53**	Pb	Pb	13 17 47.6	+0.6
AK06	**Malin Array Si**	**3.73**	**55**	Pb	Pb	13 17 46.9	-0.2
AK18	**Malin Array Si**	**3.73**	**52**	Pb	Pb	13 17 47.0	-0.2
AK15	**Malin Array Si**	**3.75**	**53**	Pb	Pb	13 17 47.5	+0.1
AK05	**Malin Array Si**	**3.75**	**54**	Pb	Pb	13 17 47.5	0.0
AK22	**Malin Array Si**	**3.76**	**52**	Pb	Pb	13 17 47.1	-0.5
AK11	**Malin Array Si**	**3.76**	**53**	Pb	Pb	13 17 47.8	+0.1
AK10	**Malin Array Si**	**3.77**	**55**	Pb	Pb	13 17 47.9	+0.2
AK02	**Malin Array Si**	**3.77**	**54**	Pb	Pb	13 17 47.8	0.0
AK04	**Malin Array Si**	**3.79**	**53**	Pb	Pb	13 17 47.6	-0.5
AK09	**Malin Array Si**	**3.79**	**55**	Pb	Pb	13 17 48.3	+0.1
AK01	**Malin Array Si**	**3.79**	**53**	Pb	Pb	13 17 48.1	-0.1
AKBB	**Malin Array Si**	**3.81**	**53**	Pb	Pb	13 17 48.4	0.0
AKBB				Sb	Sb	13 18 37.7	+2.9

WEL 30 13:39:04.2±0.5, 40°S±2°×17°4E±°, h87km±6km, M3.4/55, ML3.7/52, MLv3.4/55, Error ellipse: s-maj=0.0km s-min=0.0km az=100.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.38**	**195**	P	Pn	13 39 18.2	+0.4
DUWZ				S	Sn	13 39 29.0	+1.0
KIW	**Kapiti Island**	**0.78**	**123**	P	Pn	13 39 21.5	+0.2
TCW	**Tory Channel**	**0.79**	**168**	P	Pn	13 39 22.2	+0.8
OGWZ	**Otaki Gorge**	**0.93**	**115**	P	Pn	13 39 23.2	+0.3
NNZ	**Nelson**	**0.93**	**213**	P	Pn	13 39 23.4	+0.5
NNZ				S	Sn	13 39 37.4	+0.4
WAZ	**Wanganui**	**0.99**	**47**	P	Pn	13 39 24.2	+0.7
WAZ				S	Sn	13 39 39.6	+1.5

OHWZ	**Ohakea**	**0.99**	**77**	P	Pn	13 39 24.4	+0.9
OHWZ				S	Sn	13 39 39.8	+1.8
TUWZ	**Tuamarina**	**1.00**	**185**	P	Pn	13 39 24.0	+0.4
TUWZ				S	Sn	13 39 38.4	+0.2
WEL	**Wellington**	**1.01**	**148**	P	Pn	13 39 24.5	+0.7
LREZ	**Lake Rotokare**	**1.01**	**15**	P	Pn	13 39 24.4	+0.6
LREZ				S	Sn	13 39 40.5	+2.1
CAW	**Cannon Point**	**1.02**	**131**	P	Pn	13 39 24.4	+0.5
CAW				S	Sn	13 39 38.9	+0.2
TKNZ	**Takaka Hill**	**1.02**	**234**	P	Pn	13 39 24.1	0.0
TKNZ				S	Sn	13 39 39.1	+0.3
NMEZ	**Namu Road**	**1.03**	**352**	P	Pn	13 39 24.1	0.0
NMEZ				S	Sn	13 39 38.8	-0.1
PREZ	**Palmer Road**	**1.09**	**4**	P	Pn	13 39 25.1	+0.2
PREZ				S	Sn	13 39 41.0	+0.6
KHEZ	**Kahui Hut**	**1.14**	**358**	P	Pn	13 39 25.6	+0.1
KHEZ				S	Sn	13 39 41.3	-0.1
NEZ	**North Egmont**	**1.16**	**2**	P	Pn	13 39 25.5	-0.2
NEZ				S	Sn	13 39 42.0	+0.1
NBEZ	**Newall Road No**	**1.18**	**353**	P	Pn	13 39 25.9	+0.1
MRZ	**Mangatainoka R**	**1.18**	**101**	P	Pn	13 39 25.9	0.0
HOWZ	**Holdsworth Sta**	**1.20**	**113**	P	Pn	13 39 26.2	0.0
QRZ	**Quartz Range**	**1.23**	**251**	P	Pn	13 39 25.8	-0.6
PKE	**Pukeiti**	**1.24**	**358**	P	Pn	13 39 26.6	0.0
DREZ	**Durham Road**	**1.25**	**5**	P	Pn	13 39 26.8	+0.1
BSWZ	**Blackbirch Sta**	**1.29**	**186**	P	Pn	13 39 28.1	+1.0
POWZ	**Post Office Ro**	**1.31**	**89**	P	Pn	13 39 28.7	+1.3
MTW	**Mount Morrison**	**1.31**	**124**	P	Pn	13 39 27.4	0.0
CMWZ	**Cape Campbell**	**1.32**	**175**	P	Pn	13 39 28.9	+1.3
MSWZ	**Moikau Station**	**1.33**	**138**	P	Pn	13 39 28.0	+0.2
MHEZ	**Mangahewa**	**1.37**	**9**	P	Pn	13 39 28.5	+0.3
MRNZ	**Matariki Terra**	**1.38**	**225**	P	Pn	13 39 28.7	+0.4
PAWZ	**Paruwai Farm**	**1.41**	**133**	P	Pn	13 39 29.0	+0.3
VRZ	**Vera Road**	**1.42**	**23**	P	Pn	13 39 29.0	+0.3
TIWZ	**Tintock**	**1.44**	**104**	P	Pn	13 39 29.2	+0.2
PLWZ	**Palliser**	**1.45**	**142**	P	Pn	13 39 29.3	+0.1
PRWZ	**Pori Road**	**1.47**	**95**	P	Pn	13 39 30.0	+0.6
TSZ	**Takapari Road**	**1.51**	**76**	P	Pn	13 39 29.4	-0.5
MTVZ	**Mangateitei**	**1.51**	**47**	P	Pn	13 39 30.0	-0.1
PKVZ	**Pokaka**	**1.52**	**41**	P	Pn	13 39 30.1	0.0
TMWZ	**Te Maipa**	**1.55**	**116**	P	Pn	13 39 31.0	+0.6
TRWZ	**Traveller**	**1.57**	**128**	P	Pn	13 39 31.2	+0.5
THZ	**Tophouse**	**1.58**	**213**	P	Pn	13 39 31.4	+0.4
TRVZ	**Turoa**	**1.61**	**46**	P	Pn	13 39 31.5	-0.1
DVHZ	**Dannevirke**	**1.62**	**86**	P	Pn	13 39 30.8	-0.6
WNVZ	**Wahianoa**	**1.62**	**48**	P	Pn	13 39 31.7	+0.1
FWVZ	**Far West T-bar**	**1.65**	**45**	P	Pn	13 39 31.8	-0.1
WHVZ	**Whangaehu Hut**	**1.65**	**46**	P	Pn	13 39 32.3	+0.3
MOZ	**Moawhango**	**1.66**	**52**	P	Pn	13 39 31.5	-0.4
BFZ	**Birch Farm**	**1.69**	**99**	P	Pn	13 39 32.6	+0.3
TUVZ	**Tukino**	**1.70**	**47**	P	Pn	13 39 32.4	0.0
PNHZ	**Pukenui**	**1.72**	**73**	P	Pn	13 39 31.8	-0.9
TWVZ	**Taurewa**	**1.73**	**38**	P	Pn	13 39 32.6	-0.3
NGZ	**Ngauruhoe**	**1.73**	**44**	P	Pn	13 39 32.7	-0.3
SNVZ	**South Ngauruho**	**1.75**	**45**	P	Pn	13 39 33.0	-0.2
WTVZ	**West Tongariro**	**1.77**	**42**	P	Pn	13 39 33.1	-0.4
NNVZ	**North Ngauruho**	**1.77**	**43**	P	Pn	13 39 33.0	-0.5
OTVZ	**Oturere**	**1.77**	**45**	P	Pn	13 39 33.3	-0.2
BHHZ	**Black Hill Sta**	**1.81**	**59**	P	Pn	13 39 33.0	-0.9
KRVZ	**Karewarewa**	**1.81**	**43**	P	Pn	13 39 33.6	-0.4
ETVZ	**East Tongariro**	**1.82**	**45**	P	Pn	13 39 34.1	0.0
NTVZ	**North Tongarir**	**1.83**	**44**	P	Pn	13 39 33.9	-0.3
TMVZ	**Te Maari**	**1.83**	**44**	P	Pn	13 39 34.2	-0.1
ANWZ	**Angora Road**	**1.85**	**92**	P	Pn	13 39 31.9	-2.3
WPHZ	**Waipukurau**	**1.86**	**79**	P	Pn	13 39 33.8	-0.8
KATZ	**Kakaramea**	**1.93**	**41**	P	Pn	13 39 35.3	-0.3
KRHZ	**Kereru**	**1.94**	**67**	P	Pn	13 39 34.4	-1.1
PRHZ	**Porangahau**	**1.98**	**86**	P	Pn	13 39 35.4	-0.6
HIZ	**Hauiti**	**2.02**	**18**	P	Pn	13 39 36.1	-0.4
KHZ	**Kahutara**	**2.02**	**191**	P	Pn	13 39 36.9	+0.4
RATZ	**Rangitukua**	**2.05**	**41**	P	Pn	13 39 37.5	+0.4
KWHZ	**Kaweka Forest**	**2.08**	**62**	P	Pn	13 39 36.4	-1.0
DSZ	**Denniston Nort**	**2.15**	**232**	P	Pn	13 39 38.1	-0.2
WATZ	**Wairara**	**2.16**	**37**	P	Pn	13 39 39.0	+0.5
PXZ	**Pawanui**	**2.19**	**80**	P	Pn	13 39 37.6	-1.2
KAHZ	**Kahuranaki**	**2.26**	**74**	P	Pn	13 39 38.7	-1.1
MCHZ	**McNeill Hill**	**2.26**	**65**	P	Pn	13 39 38.6	-1.2
BKZ	**Black Stump Fm**	**2.27**	**57**	P	Pn	13 39 38.4	-1.4
KUTZ	**Kaahu Road**	**2.38**	**36**	P	Pn	13 39 42.0	+0.6
TLZ	**Tolley Road**	**2.40**	**29**	P	Pn	13 39 41.0	-0.6
MRHZ	**Matea Rd**	**2.43**	**50**	P	Pn	13 39 40.1	-1.9
NMHZ	**Naumai**	**2.51**	**59**	P	Pn	13 39 41.9	-1.2
ARHZ	**Aropaoanui**	**2.55**	**64**	P	Pn	13 39 41.9	-1.7
GVZ	**Greta Valley S**	**2.64**	**196**	P	Pn	13 39 44.3	-0.5
PRHZ	**Hateau Road**	**2.65**	**44**	P	Pn	13 39 43.6	+1.3
MTHZ	**Maunganiwha**	**2.67**	**55**	P	Pn	13 39 43.2	-2.1

0.8nm,0.4s,baz=80,slow=11,SNR=1.7
0.8nm,0.4s

CTAO	**Charters Tower**	**33.30**	**261**	P	**P**	**13 54 12.3**	**-0.4**
COEN	**Coen**	**36.98**	**271**	P	**P**	**13 54 43.2**	**0.0**
COEN				IAmb	IAmb	13 55 13.8	

comp=Z,9.1nm,1.4s

BBOO	**Buckleboo**	**43.23**	**241**	P	**P**	**13 55 32.1**	**-0.5**
WR0	**Warramunga Arr**	**44.29**	**260**	P	**P**	**13 55 40.0**	**-1.0**
WR0				IAmb	IAmb	13 55 51.5	

comp=Z,7.3nm,1.4s

WB0	**Warramunga Arr**	**44.45**	**260**	P	**P**	**13 55 40.7**	**-1.5**
WB0				IAmb	IAmb	13 56 00.5	

comp=Z,7.1nm,1.4s

WB2	**Warramunga Arr**	**44.47**	**260**	P	**P**	**13 55 41.1**	**-1.3**
WB2				IAmb	IAmb	13 56 04.5	

comp=Z,5.5nm,1.4s

WRA	**Warramunga Arr**	**44.48**	**260**	P	**P**	**13 55 41.1**	**-1.4**

comp=Z,0.5nm,0.3s,baz=92,slow=7.4,SNR=41
comp=Z,0.5nm,0.3s

WRA	**Warramunga Arr**	**44.48**	**260**	P	**P**	**13 55 41.9**	**-0.6**
AS31	**Alice Springs**	**44.63**	**254**	P	**P**	**13 55 42.3**	**-1.4**
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**13 55 42.9**	**-0.7**

comp=Z,3.0nm,0.5s,baz=87,slow=8.8,SNR=67
comp=Z,3.0nm,0.5s

ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**13 55 42.5**	**-1.2**
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**13 58 47.7**	**+0.8**
QSPA				IAmb	IAmb	13 58 49.0	

comp=Z,5.1nm,1.2s

TXAR	**Lajitas Array**	**86.17**	**58**	P	**P**	**14 00 01.2**	**-0.8**

comp=Z,0.2nm,0.6s,baz=236,slow=6.4,SNR=2.5
comp=Z,0.2nm,0.6s

---

*IDC **30** 13:53:49.1±1.0,16˚.79S×173˚.66W,h40km±7km,mb3.5/6, mbtmp3.7/6,MS3.1/9,Error ellipse: s-maj=51.8km s-min=19.3km az=143.0*

ISC 30 13:53:49.9±1.0,**16˚.8S**±0˚.3×**173˚.7W**±0˚.3,**h52**km,**n28,** σ1§**14**/10,**mb3.7/6,MS3.1/7,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.40**	**33**	Pn		Pn	13 54 33.5	-7.0

7.1nm,0.3s,baz=214,slow=3.1,SNR=8.0

AFI				Sn		Sn	13 55 08.5	-11

27nm,0.3s,baz=46,slow=22,SNR=10

AFI				LR		LR	13 55 45.4	

comp=Z,153nm,21.1s,baz=246,slow=34

MSVF	**Nonsavu**	**7.95**	**262**	LR		LR	13 58 34.3	

comp=Z,221nm,18.5s,baz=89,slow=36

RAR	**Rarotonga**	**13.88**	**111**	LR		LR	14 01 11.7	

comp=Z,46nm,22.0s,baz=273,slow=32

DZM	**Mont Dzumac**	**19.45**	**251**	*e*LR		LR	14 03 26.0	

comp=Z,148nm,24.6s

DZM	**Mont Dzumac**	**19.45**	**251**	LR		LR	14 04 38.4	

comp=Z,130nm,19.0s,baz=44,slow=33

URZ	**Urewera**	**22.88**	**199**	P		**P**	**13 58 49.3**	**+0.3**

1.7nm,0.3s,baz=0.0,slow=6.1,SNR=1.5
1.7nm,0.3s

PAE	**Paea**	**23.05**	**96**	*e*T		T	14 21 57.0	

0.8nm,0.3s

PPT2	**Papeete2**	**23.05**	**96**	*e*LR		LR	14 03 54.6	

comp=Z,84nm,25.2s

PPT	**Papeete**	**23.05**	**96**	LR		LR	14 05 21.5	

comp=Z,55nm,18.5s,baz=298,slow=30

TBI	**Tubuai**	**23.66**	**110**	*e*LR		LR	14 04 17.1	

comp=Z,82nm,27.2s

H11S2	**WAKE ISLAND Hy**	**40.00**	**330**	T		T	14 44 14.8	

baz=149

H11S3	**WAKE ISLAND Hy**	**40.01**	**330**	T		T	14 44 12.3	

baz=149

H11S1	**WAKE ISLAND Hy**	**40.02**	**330**	T		T	14 44 24.0	

baz=149

H11N3	**WAKE ISLAND Hy**	**40.97**	**331**	T		T	14 45 06.0	

baz=150

H11N1	**WAKE ISLAND Hy**	**40.97**	**331**	T		T	14 45 13.3	

baz=150

H11N2	**WAKE ISLAND Hy**	**40.98**	**331**	T		T	14 45 07.8	

baz=150

WRA	**Warramunga Arr**	**49.27**	**258**	P		**P**	**14 02 34.1**	**+0.3**

0.4nm,0.8s,baz=91,slow=7.5,SNR=7.4

WRA				pP		**pP**	**14 02 45.7**	**-1.6**

0.4nm,0.5s,baz=98,slow=7.0,SNR=4.4

WRA				LR		LR	14 22 21.4	

comp=Z,38nm,18.2s,baz=159,slow=35
0.4nm,0.8s

ASAR	**Alice Springs**	**49.43**	**253**	P		**P**	**14 02 35.5**	**+0.5**

2.5nm,0.8s,baz=87,slow=8.6,SNR=26
2.5nm,0.8s

GUMO	**Guam**	**50.85**	**304**	LR		LR	14 22 15.1	

comp=Z,9.6nm,18.5s,baz=142,slow=34

NVAR	**Mina Array Bea**	**75.53**	**42**	P		**P**	**14 05 29.9**	**+0.7**

0.1nm,0.4s,baz=214,slow=7.2,SNR=1.9

NVAR				pP		**PcP**	**14 05 42.2**	**+0.2**

0.4nm,0.5s,baz=223,slow=9.9,SNR=4.8
0.1nm,0.4s

KDAK	**Kodiak Island**	**76.32**	**11**	LR		LR	14 35 39.3	

comp=Z,24nm,18.1s,baz=232,slow=33

KSRS	**Korea Array**	**76.94**	**316**	LR		LR	14 38 33.7	

comp=Z,6.4nm,18.1s,baz=115,slow=35

PDAR	**Pinedale Array**	**83.47**	**42**	P		**P**	**14 06 12.1**	**-0.2**

0.5nm,0.7s,baz=201,slow=4.8,SNR=3.9

PDAR				pP		**pP**	**14 06 24.9**	**-2.1**

0.4nm,0.6s,baz=208,slow=3.7,SNR=2.8
0.5nm,0.7s

ILAR	**Eielson Array**	**83.84**	**11**	P		**P**	**14 06 14.0**	**+0.6**

0.6nm,1.0s,baz=224,slow=6.3,SNR=2.7
0.6nm,1.0s

H03S2	**Juan Fernandez**	**84.68**	**124**	T		T	15 39 24.2	

baz=250

H03S1	**Juan Fernandez**	**84.70**	**124**	T		T	15 39 18.6	

baz=250

H03S3	**Juan Fernandez**	**84.70**	**124**	T		T	15 39 21.4	

baz=250

BRTR	**Keskin Array B**	**147.03**	**319**	PKPbc		**PKPbc**	**14 13 28.3**	**+0.9**

0.7nm,0.8s,baz=31,slow=0.8,SNR=2.2

---

*IDC **30** 14:01:56.8±1.6,24˚.32S×179˚.78E,h499km±16km,mb3.3/6, mbtmp4.2/9,Error ellipse: s-maj=27.1km s-min=16.8km az=143.0*
*NEIC **30** 14:01:57.0±1.4,24˚.3S±0˚.2×179˚.9W±0˚.2,h530km±18km, mb4.3/22,Error ellipse: s-maj=29.8km s-min=20.4km az=50.0*

ISC 30 14:01:57.2±0.7,**24˚.49S**±0˚.08×**180˚.0E**±0˚.1,**h517**km,**n38,** σ1§**51**/41,**mb4.2**/17,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.96**	**345**	P		**P**	**14 03 42.6**	**-1.1**

3.5nm,0.4s,baz=77,slow=11,SNR=14

MSVF	**Nonsavu**	**6.96**	**345**	P		**P**	**14 03 42.8**	**-0.9**
MARNC	**Mare, Loyalty**	**11.40**	**283**	P		**P**	**14 04 29.3**	**-0.1**
PINNC	**Pines Island,**	**11.64**	**277**	P		**P**	**14 04 33.4**	**+1.5**
OUZ	**Omahuta**	**12.04**	**206**	P		**P**	**14 04 38.5**	**+2.6**
DZM	**Mont Dzumac**	**12.66**	**278**	P		**P**	**14 04 44.0**	**+1.1**

7.0nm,0.7s,baz=90,slow=16,SNR=5.8

DZM	**Mont Dzumac**	**12.66**	**278**	P		**P**	**14 04 44.0**	**+1.1**
AFI	**Afiamalu**	**13.09**	**38**	P		**P**	**14 04 45.8**	**-1.6**

5.8nm,0.3s,baz=209,slow=22,SNR=1.8

URZ	**Urewera**	**13.94**	**189**	P		**P**	**14 04 55.9**	**0.0**

5.5nm,0.6s,baz=344,slow=4.2,SNR=8.1

URZ				S		**S**	**14 07 19.1**	**-4.1**

8.3nm,1.0s,baz=242,slow=16,SNR=1.9

QRZ	**Quartz Range**	**17.44**	**199**	P		**P**	**14 05 32.2**	**+0.8**
RPZ	**Rata Peaks**	**20.52**	**199**	P		**P**	**14 06 02.0**	**+2.5**

8.0nm,1.0s,baz=41,slow=5.3,SNR=2.8
8.0nm,1.0s

RPZ	**Rata Peaks**	**20.52**	**199**	P		**P**	**14 06 02.3**	**+2.8**
EIDS	**Eidsvold**	**26.19**	**262**	P		**P**	**14 06 49.8**	**-0.5**
EIDS				IAmb		IAmb	14 07 32.2	

comp=Z,11nm,1.1s

CTAO	**Charters Tower**	**31.45**	**271**	P		**P**	**14 07 36.5**	**+0.3**
TOO	**Toolangi**	**32.11**	**238**	P		**P**	**14 07 41.8**	**+0.1**
TOO				IAmb		IAmb	14 07 48.4	

comp=Z,19nm,1.4s

STKA	**Stephens Creek**	**34.48**	**249**	P		**P**	**14 08 02.0**	**+0.3**

comp=Z,1.8nm,0.3s,baz=88,slow=11,SNR=8.1
comp=Z,1.8nm,0.3s

STKA	**Stephens Creek**	**34.48**	**249**	P		**P**	**14 08 02.0**	**+0.3**
COEN	**Coen**	**36.18**	**280**	P		**P**	**14 08 16.4**	**+0.3**
COEN				IAmb		IAmb	14 08 31.3	

comp=Z,5.6nm,1.2s

BBOO	**Buckleboo**	**39.19**	**248**	P		**P**	**14 08 40.0**	**-0.4**
BBOO				IAmb		IAmb	14 08 44.2	

comp=Z,22nm,1.4s

AS31	**Alice Springs**	**41.91**	**261**	P		**P**	**14 09 02.2**	**-0.2**
ASAR	**Alice Springs**	**41.91**	**261**	P		**P**	**14 09 01.8**	**-0.6**

comp=Z,5.6nm,1.2s,baz=90,slow=6.7,SNR=53

ASAR				ScP		**ScP**	**14 13 50.0**	**+2.9**

comp=Z,0.1nm,0.8s,baz=103,slow=4.9,SNR=4.1
comp=Z,5.6nm,1.2s

ASAR	**Alice Springs**	**41.91**	**261**	P		**P**	**14 09 01.5**	**-0.9**
WR0	**Warramunga Arr**	**42.15**	**267**	P		**P**	**14 09 03.1**	**-1.2**
WR0				IAmb		IAmb	14 09 29.4	

comp=Z,8.5nm,1.4s

WB2	**Warramunga Arr**	**42.33**	**267**	P		**P**	**14 09 04.8**	**-0.8**
WB2				IAmb		IAmb	14 09 05.5	

comp=Z,4.3nm,0.6s

WB0	**Warramunga Arr**	**42.34**	**267**	P		**P**	**14 09 04.8**	**-1.0**
WB0				IAmb		IAmb	14 09 05.5	

comp=Z,4.6nm,0.7s

WRA	**Warramunga Arr**	**42.34**	**267**	P		**P**	**14 09 04.6**	**-1.2**

comp=Z,4.2nm,0.5s,baz=104,slow=7.9,SNR=148

WRA				ScP		**ScP**	**14 13 52.0**	**+3.1**

comp=Z,1.3nm,0.9s,baz=102,slow=3.6,SNR=9.3
comp=Z,4.2nm,0.5s

WRA	**Warramunga Arr**	**42.34**	**267**	P		**P**	**14 09 04.8**	**-1.0**
FORT	**Forrest**	**46.08**	**250**	P		**P**	**14 09 33.1**	**-1.4**
MTN	**Manton Dam**	**47.47**	**275**	P		**P**	**14 09 43.1**	**-2.2**
MTN				IAmb		IAmb	14 09 46.1	

comp=Z,17nm,1.2s

KNRA	**Kununurra**	**48.66**	**270**	P		**P**	**14 09 53.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.76**	**266**	P		**P**	**14 10 09.3**	**-0.3**
FITZ				IAmb		IAmb	14 10 10.3	

comp=Z,14nm,1.5s

VNDA	**Vanda**	**53.79**	**185**	P		**P**	**14 10 30.6**	**+0.2**
PSA00	**Pilbara Seismi**	**55.03**	**260**	P		**P**	**14 10 38.9**	**-1.2**
PSA00				IAmb		IAmb	14 11 05.6	

comp=Z,9.6nm,1.4s

MBWA	**Marble Bar**	**55.24**	**260**	P		**P**	**14 10 40.5**	**-1.0**
MBWA				IAmb		IAmb	14 10 51.3	

comp=Z,16nm,1.3s

MORW	**Morawa**	**56.65**	**250**	P		**P**	**14 10 50.3**	**-0.9**
MORW				IAmb		IAmb	14 11 07.1	

comp=Z,38nm,1.5s

QSPA	**South Pole Qui**	**65.60**	**180**	P		**P**	**14 11 50.2**	**+0.7**
NVAR	**Mina Array Bea**	**85.19**	**44**	P		**P**	**14 13 39.9**	**+0.8**

comp=Z,0.4nm,0.7s,baz=218,slow=5.7,SNR=4.2
comp=Z,0.4nm,0.7s

TXAR	**Lajitas Array**	**90.77**	**58**	P		**P**	**14 14 06.7**	**+1.4**

comp=Z,0.6nm,0.8s,baz=205,slow=6.6,SNR=7.4
comp=Z,0.6nm,0.8s

---

*JMA **30** 14:02:54.5±0.1,24˚.9N±0˚.9×122˚.5E±0˚.3,h121km±1km, MV3.2/14,NW OFF ISHIGAKIJIMA IS*
*TAP **30** 14:02:54.7,24˚.89N×122˚.47E,h120km,ML3.9,D*

ISC 30 14:02:55.1±1.4,**24˚.85N**±0˚.05×**122˚.47E**±0˚.03,**h120**km±8km, **n68,**σ0§**70**/112,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.46**	**290**	P		**Pn**	**14 03 12.8**	**0.0**

baz=285

TWB1				S		**Sn**	**14 03 25.9**	**-0.2**

baz=285

NTC	**Toucheng**	**0.58**	**271**	P		**Pn**	**14 03 13.1**	**-0.4**

baz=262

SXI1	**Grass Mountain**	**0.59**	**294**	P		**Pn**	**14 03 13.6**	**-0.1**

baz=296

SXI1				*e*S		**Sn**	**14 03 27.3**	**-0.4**

baz=296

JYNG	**Yonagunijimaku**	**0.59**	**132**	*i* P		**Pn**	**14 03 13.6**	**0.0**
JYNG				*e*S		**Sn**	**14 03 28.0**	**+0.5**
TIPB	**Shuangxi**	**0.59**	**282**	P		**Pn**	**14 03 13.8**	**+0.1**

baz=275

TIPB				S		**Sn**	**14 03 27.7**	**0.0**

baz=275

TWC	**Suao**	**0.61**	**247**	P		**Pn**	**14 03 13.5**	**-0.2**

baz=237

TWC				*e*S		**Sn**	**14 03 27.5**	**-0.3**

baz=237

YOJ	**Yonaguni jima**	**0.63**	**128**	P		**Pn**	**14 03 13.8**	**0.0**

baz=138

YOJ				S		**Sn**	**14 03 28.4**	**+0.3**

baz=138

YOJ	**Yonaguni jima**	**0.63**	**128**	P		**Pn**	**14 03 13.9**	**0.0**
YOJ				S		**Sn**	**14 03 28.6**	**+0.5**
NWF	**Wu-fen Shan**	**0.66**	**290**	P		**Pn**	**14 03 14.3**	**+0.1**

baz=286

NWF				*e*S		**Sn**	**14 03 29.1**	**+0.5**

baz=286

TWE	**Neicheng**	**0.74**	**260**	P		**Pn**	**14 03 15.0**	**+0.3**

baz=256

TWE				S		**Sn**	**14 03 29.4**	**-0.1**

baz=256

FUSB	**Fushanzhiwuyua**	**0.80**	**264**	P		**Pn**	**14 03 15.4**	**+0.1**

baz=268

FUSB				*e*S		**Sn**	**14 03 29.6**	**-1.1**

baz=268

ENTT	**Nioudou**	**0.84**	**256**	*e*P		**Pn**	**14 03 15.1**	**-0.5**

baz=258

NHDH	**Xindian Distri**	**0.86**	**278**	*e*P		**Pn**	**14 03 15.8**	**0.0**

baz=267

NHDH				*e*S		**Sn**	**14 03 30.8**	**-0.6**

baz=267

YM01	**YM01**	**0.86**	**290**	P		**Pn**	**14 03 15.9**	**+0.1**

baz=287

YM01				S		**Sn**	**14 03 31.6**	**0.0**

baz=287

TWY	**Chenhua**	**0.89**	**299**	*e*P		**Pn**	**14 03 16.2**	**+0.2**

baz=289

TWY				*e*S		**Sn**	**14 03 32.7**	**+0.8**

baz=289

LATG	**Datong**	**0.91**	**250**	P		**Pn**	**14 03 17.1**	**+0.7**

baz=242

LATG				S		**Sn**	**14 03 32.7**	**+0.2**

baz=242

NTST	**Danshui**	**0.97**	**289**	*e*S		**Sn**	**14 03 33.6**	**+0.3**

baz=286

TWS1	**Kuangyinshan**	**0.98**	**285**	*e*P		**Pn**	**14 03 17.1**	**+0.2**

baz=282

TWS1				S		**Sn**	**14 03 33.8**	**+0.3**

baz=282

YHNB	**Yeheng**	**1.01**	**260**	P		**Pn**	**14 03 17.6**	**+0.4**

baz=262

YHNB				S		**Sn**	**14 03 34.2**	**+0.2**

baz=262

NSK	**Sanguang**	**1.02**	**260**	*e*P		**Pn**	**14 03 16.7**	**-0.7**

baz=263

NSK				S		**Sn**	**14 03 33.3**	**-1.0**

baz=263

ETL	**Fush Village**	**1.03**	**228**	*e*P		**Pn**	**14 03 17.4**	**-0.1**

baz=221

ETL				*e*S		**Sn**	**14 03 33.8**	**-0.6**

baz=221

NACB	**Ninganchiao**	**1.04**	**230**	P		**Pn**	**14 03 17.4**	**-0.1**

baz=223

NACB				S		**Sn**	**14 03 33.7**	**-0.7**

baz=223

TWD	**Chiawan**	**1.10**	**226**	*e*S		**Sn**	**14 03 35.3**	**-0.3**

baz=220

HWA	**Hwalien**	**1.17**	**222**	*e*S		**Sn**	**14 03 37.9**	**+1.1**

baz=215

NFF	**Wufeng Townshi**	**1.25**	**260**	*e*P		**Pn**	**14 03 19.1**	**-0.6**

baz=258

NFF				*e*S		**Sn**	**14 03 36.9**	**-1.5**

baz=258

IRIF	**Iriomote-Funau**	**1.26**	**114**	P		**Pn**	**14 03 19.5**	**-0.3**
IRIF				S		**Sn**	**14 03 38.6**	**0.0**
FUSS	**Fushou**	**1.26**	**242**	*e*P		**Pn**	**14 03 21.0**	**+0.9**

baz=240

FUSS				*e*S		**Sn**	**14 03 38.9**	**-0.1**

baz=240

WHF	**Hehuan Shan**	**1.30**	**238**	*e*P		**Pn**	**14 03 21.6**	**+0.9**

baz=231

WHF				*e*S		**Sn**	**14 03 40.1**	**0.0**

baz=231

TDCB	**Techi**	**1.33**	**244**	*e*P		**Pn**	**14 03 21.9**	**+1.2**

baz=242

TDCB				S		**Sn**	**14 03 40.5**	**+0.3**

baz=242

LIOB	**Emei**	**1.33**	**262**	*e*P		**Pn**	**14 03 21.1**	**+0.5**

baz=259

LIOB				S		**Sn**	**14 03 39.5**	**-0.5**

baz=259

SBCB	**Hsinchu**	**1.35**	**268**	*e*S		**Sn**	**14 03 40.1**	**-0.1**

baz=257

NSTT	**Nanjuang**	**1.35**	**261**	*e*P		**Pn**	**14 03 21.2**	**+0.4**

baz=259

NSTT				S		**Sn**	**14 03 40.3**	**0.0**

baz=259

HSN	**Hsinchu**	**1.36**	**268**	*e*S		**Sn**	**14 03 40.3**	**-0.2**

baz=258

CHGB	**Renai**	**1.42**	**237**	P		**Pn**	**14 03 21.7**	**-0.1**

baz=229

CHGB				S		**Sn**	**14 03 42.2**	**+0.2**

baz=229

HATJ	**Hateruma jima**	**1.45**	**123**	P		**Pn**	**14 03 22.2**	**+0.3**
HATJ				*e*S		**Sn**	**14 03 42.7**	**+0.3**
WHP	**Taichung City**	**1.50**	**248**	*e*P		**Pn**	**14 03 23.5**	**+1.0**

baz=254

WHP				*e*S		**Sn**	**14 03 44.0**	**+0.5**

baz=254

WUSB	**Renai**	**1.50**	**235**	*e*P		**Pn**	**14 03 21.8**	**-0.8**

baz=229

WUSB				*e*S		**Sn**	**14 03 44.0**	**+0.5**

baz=229

EGFH	**Guangfu**	**1.51**	**219**	*e*S		**Sn**	**14 03 42.7**	**-0.9**

baz=226

JKRS	**Kuro-shima**	**1.53**	**113**	P		**Pn**	**14 03 23.0**	**+0.1**
JKRS				S		**Sn**	**14 03 44.3**	**+0.3**
NMLH	**Miaoli**	**1.56**	**259**	*e*P		**Pn**	**14 03 23.9**	**+0.7**

baz=257

NMLH				*e*S		**Sn**	**14 03 44.2**	**-0.3**

baz=257

JIJ	**Ishigaki jima**	**1.60**	**107**	P		**Pn**	**14 03 23.4**	**-0.3**
JIJ				S		**Sn**	**14 03 45.2**	**-0.3**
NSY	**Sanyi**	**1.61**	**255**	*e*S		**Sn**	**14 03 46.3**	**+0.6**

baz=253

WCS	**Beigang Elemen**	**1.62**	**241**	*e*P		**Pn**	**14 03 24.0**	**+0.1**

baz=247

WCS				*e*S		**Sn**	**14 03 46.1**	**+0.2**

baz=247

HGSD	**Ruisui**	**1.65**	**215**	S		**Sn**	**14 03 46.6**	**0.0**

baz=209

SMLT	**Sun Moon Lake**	**1.72**	**236**	*e*S		**Sn**	**14 03 50.5**	**+2.3**

baz=231

TYC	**Yuchr**	**1.74**	**238**	*e*P		**Pn**	**14 03 26.7**	**+1.4**

baz=242

TYC				*e*S		**Sn**	**14 03 50.0**	**+1.5**

baz=242

TCU	**Taichung**	**1.77**	**247**	*e*S		**Sn**	**14 03 49.8**	**+0.7**

baz=252

WJS	**Zhushan**	**1.89**	**237**	*e*P		**Pn**	**14 03 28.4**	**+1.2**

baz=236

| | | | | | | | | |
|

BALY				*i* AML	AML	14 10 34.0		
	comp=E,336nm,0.4s							
BALY				*i* AML	AML	14 10 34.0		
	comp=N,543nm,0.6s							
MDUB	**Mudurnu**	**1.55**	**98**	PN	**Pb**	**14 10 12.7**	**+0.3**	
PHSR	**Pinarhisar**	**1.57**	**307**	PN	**Pb**	**14 10 13.5**	**+0.8**	
SMAA	**Simav-Kutahya**	**1.60**	**186**	PN	**Pb**	**14 10 13.5**	**+0.2**	
GDZ	**Gediz**	**1.62**	**172**	P	**Pb**	**14 10 14.1**	**+0.5**	
GDZ				S	**Sn**	**14 10 33.3**	**+0.2**	
GDZ				*i* AML	AML	14 10 36.0		
	comp=E,383nm,0.4s							
GDZ				*i* AML	AML	14 10 36.0		
	comp=N,502nm,0.4s							
GEDZ	**Gediz**	**1.66**	**174**	PN	**Pb**	**14 10 13.9**	**-0.4**	
DEMI	**Demirci**	**1.69**	**193**	P	**Pg**	**14 10 16.0**	**-0.1**	
DEMI				S	**Sg**	**14 10 37.9**	**-0.1**	
DEMI				*i* AML	AML	14 10 39.0		
	comp=N,580nm,0.3s							
DEMI				*i* AML	AML	14 10 41.0		
	comp=E,430nm,0.4s							
ESKT	**Eskisehir**	**1.73**	**132**	PN	**Pb**	**14 10 15.9**	**+0.3**	
STEP	**BALIKESIR_Sava**	**1.73**	**221**	P	**Pb**	**14 10 16.2**	**+0.6**	
STEP				S	**Sg**	**14 10 38.4**	**-1.0**	
STEP				*i* AML	AML	14 10 42.0		
	comp=E,325nm,0.6s							
STEP				*i* AML	AML	14 10 44.0		
	comp=N,329nm,0.7s							
KDZE	**Karadeniz Ereo**	**1.82**	**69**	⇑P	**Pn**	**14 10 14.6**	**-0.3**	
KDZE	**Karadeniz Ereo**	**1.82**	**69**	PN	**Pb**	**14 10 16.8**	**-0.2**	
YUVA	**Yuva-Kibriscik**	**1.93**	**98**	PN	**Pb**	**14 10 18.6**	**-0.3**	
AUMIH	**MIHALICIK**	**1.94**	**114**	PN	**Pb**	**14 10 18.2**	**-1.0**	
CIFT	**Cifteler, Eski**	**1.96**	**132**	PN	**Pb**	**14 10 18.6**	**-0.9**	
USAK	**Uak-Merkez**	**1.98**	**184**	P	**Pg**	**14 10 22.4**	**+0.6**	
USAK				S	**Sg**	**14 10 46.1**	**-1.3**	
USAK				*i* AML	AML	14 10 47.0		
	comp=E,391nm,0.3s							
USAK				*i* AML	AML	14 10 49.0		
	comp=N,299nm,0.2s							
UKOP	**Uzunkopru-Edir**	**1.98**	**284**	PN	**Pb**	**14 10 19.2**	**-0.6**	
BUHA	**Balikesir, Bur**	**2.01**	**234**	P	**Pn**	**14 10 18.0**	**+0.5**	
BUHA				S	**Sg**	**14 10 47.7**	**-0.7**	
BUHA				*i* AML	AML	14 10 49.0		
	comp=E,250nm,0.3s							
BUHA				*i* AML	AML	14 10 50.0		
	comp=N,421nm,0.3s							
GELI	**Tayfur-Gelibol**	**2.09**	**263**	PN	**Pb**	**14 10 20.6**	**-1.0**	
EDRB	**Edirne**	**2.17**	**303**	PN	**Pn**	**14 10 21.7**	**+1.9**	
SVRH	**Sivrihisar-ESK**	**2.18**	**124**	PN	**Pn**	**14 10 20.9**	**+0.9**	
AUSIV	**SIVRIHISAR**	**2.20**	**124**	PN	**Pn**	**14 10 21.1**	**+0.9**	
MANT	**Manisa**	**2.25**	**193**	P	**Pb**	**14 10 25.7**	**+1.2**	
MANT				S	**Sg**	**14 10 54.7**	**-1.5**	
MANT				*i* AML	AML	14 10 55.0		
	comp=E,498nm,0.5s							
MANT				*i* AML	AML	14 10 55.0		
	comp=N,253nm,0.5s							
EZN	**Ezine**	**2.35**	**249**	PN	**Pb**	**14 10 24.6**	**-1.5**	
SHUT	**Suhut-Afyon**	**2.38**	**153**	PN	**Pn**	**14 10 24.4**	**+1.6**	
DKL	**Dikili**	**2.39**	**228**	PN	**Pn**	**14 10 24.6**	**+1.9**	
ALN	**Alexandroupoli**	**2.39**	**276**	PN	**Pb**	**14 10 25.1**	**-1.7**	
BOZC	**Bozcaada**	**2.54**	**252**	PN	**Pn**	**14 10 26.9**	**+2.0**	
GADA	**Gvkgeada**	**2.56**	**260**	PN	**Pn**	**14 10 27.2**	**+2.1**	
BASM	**Basmaki-Afyon**	**2.85**	**166**	PN	**Pn**	**14 10 30.0**	**+0.8**	
ANTO	**Ankara**	**2.88**	**105**	⇑P	**Pn**	**14 10 25.8**	**-3.7**	
AYDB	**Zeytinkoy-Aydi**	**2.92**	**201**	PN	**Pn**	**14 10 32.0**	**+1.8**	
SIGR	**SIGRI**	**2.96**	**241**	PN	**Pn**	**14 10 32.8**	**+2.2**	
URLA	**Izmir**	**3.07**	**222**	PN	**Pn**	**14 10 34.1**	**+1.9**	
TIRR	**Tirgusor**	**3.81**	**352**	⇓P	Pn	14 10 34.6	-7.6	
TPGR	**Topolog**	**4.20**	**353**	⇑P	**Pn**	**14 10 47.7**	**0.0**	
CFR	**Carcaliu**	**4.55**	**351**	⇑P	**Pn**	**14 10 54.2**	**+1.8**	
VTS	**Vitosha**	**4.86**	**295**	⇑P	**Pn**	**14 10 56.4**	**-0.5**	
SCTR	**Scanteiesti**	**5.05**	**350**	⇑P	**Pn**	**14 10 58.4**	**-0.9**	
SEV	**Sevastopol'**	**5.07**	**39**	*e*P	**Pn**	**14 11 00.9**	**+1.3**	
SEV				Pm		14 11 01.6		
SEV				*e*S	**Sn**	**14 11 56.4**	**-1.7**	
SEV				Sm		14 11 58.8		
	comp=N,8.0nm,0.5s							
SEV				Sm		14 11 58.8		
	comp=E,5.0nm,0.3s							
YAL	**Yalta**	**5.27**	**42**	*e*S	**Sn**	**14 12 04.5**	**+1.4**	
YAL				Sm		14 12 05.2		
	comp=N,12nm,0.3s							
YAL				Sm		14 12 05.2		
	comp=E,23nm,0.3s							
MLR	**Muntele Rosu**	**5.35**	**335**	⇓P	**Pn**	**14 11 00.6**	**-3.0**	
VRI	**Vrincioaia**	**5.47**	**342**	⇑P	**Pn**	**14 11 03.3**	**-1.9**	
PLOR	**Plostina**	**5.48**	**341**	⇑P	**Pn**	**14 11 03.0**	**-2.2**	
ALU	**Alushta**	**5.54**	**42**	*e*P	**Pn**	**14 11 06.6**	**+0.6**	
ALU				Pm		14 11 06.9		
	comp=Z,18nm,0.4s							
VOIR		**5.63**	**329**	⇑P	**Pn**	**14 11 03.4**	**-3.9**	
SUDU	**Sudak**	**5.99**	**44**	*e*P	**Pn**	**14 11 12.7**	**+0.5**	
SUDU				Pm		14 11 14.9		
	comp=Z,8.0nm,0.3s							
SUDU				*e*S	**Sn**	**14 12 21.0**	**+0.3**	
SUDU				Sm		14 12 22.8		
	comp=N,12nm,0.3s							
SUDU				Sm		14 12 22.8		
	comp=E,7.0nm,0.4s							

NNC ***30*** *14:21:38.7±0.4,50°20N×73°56E,h0km,mb3.7,mpv3.4, 15C-9D,Error ellipse: s-maj=4.3km s-min=3.7km az=93.0,Suspected Mining explosion.,Central Kazakhstan*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.12**	**203**	⇑Pn	Pn	14 22 15.4	0.0
	16nm,0.4s						
OTUK				⇑Sn	Sn	14 22 43.4	+1.0
	30nm,0.4s						
KURBB	**Kurchatov Arra**	**3.21**	**81**	⇑Pg	Pb	14 22 36.4	-0.1
	6.9nm,0.6s						
KURBB				⇑Lg	Lg	14 23 20.5	
	66nm,0.7s						
KURK	**Kurchatov**	**3.27**	**79**	⇑Pg	Pb	14 22 36.6	-1.1
	2.8nm,0.9s						
KURK				⇑Lg	Lg	14 23 21.6	
	21nm,0.6s						
BVA0	**Borovoye Array**	**3.45**	**326**	Pn	Pn	14 22 35.1	+1.4
	3.5nm,0.5s,baz=141,slow=18,SNR=50						
BVA0				⇓Lg	Lg	14 23 26.0	
	12nm,0.6s,baz=121,slow=36,SNR=7.3						
BRVK	**Borovoye**	**3.52**	**326**	⇑Pn	Pn	14 22 36.8	+2.2
	2.0nm,0.4s						
BRVK				⇑Lg	Lg	14 23 27.1	
	28nm,0.6s						
BTLS	**Baital**	**5.17**	**176**	Pg	Pb	14 23 13.7	+3.7
	0.7nm,0.3s						
BTLS				Lg	Lg	14 24 21.8	
	7.1nm,0.8s						
MAKZ	**Makanchi**	**6.54**	**118**	⇓Pn	Pn	14 23 16.9	+0.8
	1.9nm,0.8s						
MAKZ				⇑Pg	Pb	14 23 38.1	+4.8
	4.7nm,1.3s						
MAKZ				⇓Lg	Lg	14 25 07.0	
	8.8nm,0.7s						
KUU	**Kurty**	**6.59**	**162**	Pg	Pg	14 23 39.7	-5.2
	1.3nm,0.3s						
KUU				Lg	Lg	14 25 06.8	
	26nm,0.7s						
ARXS	**Arharly**	**6.66**	**153**	Pg	Pg	14 23 41.1	-5.1
	1.0nm,0.3s						
ARXS				Lg	Lg	14 25 09.0	
	15nm,0.6s						
MK31	**Makanchi Array**	**6.73**	**117**	Pn	Pn	14 23 19.1	+0.4
	0.7nm,0.5s,baz=297,slow=12,SNR=7.3						
MK31				⇑Pg	Pb	14 23 41.2	+4.7
	0.8nm,0.4s,baz=296,slow=12,SNR=12						
MK31				Lg	Lg	14 25 13.1	
	4.5nm,0.6s,baz=307,slow=27,SNR=5.8						
CHKK	**Chushkaly**	**6.77**	**158**	Pg	Pg	14 23 43.2	-5.1
	1.8nm,0.2s						
CHKK				Lg	Lg	14 25 13.1	
	8.6nm,0.7s						
BLB	**Baldybastay**	**6.96**	**149**	Pg	Pg	14 23 47.5	-4.6
	3.2nm,0.3s						
BLB				Lg	Lg	14 25 20.2	
	15nm,0.7s						
DGS	**Degeres**	**7.12**	**167**	Pg	Pg	14 23 49.7	-5.4
	1.5nm,0.3s						
DGS				Lg	Lg	14 25 24.7	
	14nm,0.6s						
CHMS	**Chumysh**	**7.25**	**173**	⇓Sn	Sn	14 24 49.6	+0.7
	4.4nm,0.6s						
CHMS				⇑Lg	Lg	14 25 29.0	
	10nm,0.6s						
MTBS	**Maitube**	**7.34**	**163**	Pg	Pg	14 23 53.6	-5.7
	1.1nm,0.1s						
MTBS				Lg	Lg	14 25 31.4	
	12nm,0.6s						
KST	**Kastek**	**7.35**	**166**	Pg	Pg	14 23 53.3	-6.1
	1.5nm,0.2s						
KST				Lg	Lg	14 25 29.3	
	8.2nm,0.9s						
KOTS	**Kotyrbulak**	**7.38**	**159**	Pg	Pg	14 23 55.5	-4.6
	0.2nm,0.2s						
KOTS				Lg	Lg	14 25 34.7	
	19nm,0.9s						
KK31	**Karatay Array**	**7.40**	**198**	Pn	Pn	14 23 26.6	-1.4
	0.4nm,0.3s,baz=11,slow=13,SNR=13						
KK31				Sn	Sn	14 24 53.8	+1.2
	0.9nm,0.3s,baz=14,slow=23,SNR=6.8						
KK31				⇓Lg	Lg	14 25 33.6	
	1.8nm,0.5s						
TKM2	**Tokmak 2**	**7.42**	**168**	⇑Pn	Pn	14 23 28.0	-0.4
	1.2nm,0.3s						
TKM2				⇑Lg	Lg	14 25 34.4	
	13nm,0.8s						
MDOK	**Medeo**	**7.44**	**160**	⇓Pn	Pn	14 23 28.5	-0.1
	2.6nm,0.4s						
MDOK				Pg	Pg	14 23 55.7	-5.5
	1.2nm,0.1s						
MDOK				⇑Lg	Lg	14 25 35.0	
	9.9nm,0.7s						
MDOK				Lg	Lg	14 25 35.7	
	6.5nm,1.1s						
PDGK	**Podgornoye**	**7.99**	**147**	⇑Sn	Sn	14 25 09.1	+2.0
	3.4nm,1.0s						
PDGK				⇓Lg	Lg	14 25 53.5	
	4.9nm,0.9s						
AB31	**Akbulak array**	**8.88**	**269**	Pn	Pn	14 23 44.6	-3.5
	0.2nm,0.3s,baz=85,slow=11,SNR=23						
AB31				⇓Sn	Sn	14 25 27.8	-0.9
	0.3nm,0.4s						
AB31				⇓Lg	Lg	14 26 18.7	
	0.9nm,0.6s						

IDC ***30*** *14:32:27.9±1.7,7°07S×127°71E,h0km,mb4.0/2, mbtmp4.1/5,ML4.1/3,Error ellipse: s-maj=104.8km s-min=24.8km az=74.0*

ISC 30 14:32:39.3±1.5,7°5S±0°1×127°2E±0°1,h100km,n12, σ1ᵖ58/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.58**	**144**	P	**Pn**	**14 34 15.3**	**+1.8**
KDU	**Kakadu**	**7.33**	**135**	P	**Pn**	**14 34 24.9**	**+1.2**
KNRA	**Kununurra**	**8.27**	**169**	P	**Pn**	**14 34 37.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**10.64**	**188**	Pn	**Pn**	**14 35 08.6**	**-0.2**
	1.8nm,0.3s,baz=8.2,slow=9.6,SNR=55						
	5.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.64**	**188**	P	**Pn**	**14 35 08.9**	**+0.1**
WRA	**Warramunga Arr**	**14.18**	**151**	Pn	**Pn**	**14 35 52.5**	**-3.2**
	0.6nm,0.3s,baz=331,slow=12,SNR=64						
WRA				Sn	Sn	14 38 17.2	-15
	1.8nm,0.3s,baz=325,slow=24,SNR=13						
	1.0nm,0.5s						
COEN	**Coen**	**16.96**	**114**	P	**P**	**14 36 32.1**	**+1.2**
ASAR	**Alice Springs**	**17.32**	**159**	P	**P**	**14 36 34.0**	**-0.8**
	1.0nm,0.3s,baz=340,slow=12,SNR=42						
ASAR				S	Sn	14 39 32.6	-15
	1.9nm,0.9s,baz=326,slow=21,SNR=9.8						
	4.6nm,0.5s						
WRKA	**Warakurna**	**17.47**	**177**	P	**Pn**	**14 36 37.9**	**+1.1**
QIS	**Mount Isa**	**17.69**	**138**	P	**Pn**	**14 36 39.8**	**+0.3**
MKAR	**Makanchi Array**	**67.14**	**328**	P	P	14 43 23.6	+1.2
	0.8nm,0.6s,baz=125,slow=7.9,SNR=6.8						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**70.82**	**335**	P	**P**	**14 43 44.8**	**-0.2**
	1.1nm,0.6s,baz=139,slow=5.4,SNR=5.6						
	1.1nm,0.6s						

IDC ***30*** *14:35:40.2±9.2,21°91S×65°69W,h274km±81km,mb4.4/1, mbtmp4.3/2,Error ellipse: s-maj=99.3km s-min=68.3km az=177.0*

ISC 30 14:35:37.9±2.0,22°34S±0°07×66°1W±0°1,h250km,n18, σ1ᵖ35/30,4C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.59**	**264**	⇑*i*P	**Pn**	**14 36 28.1**	**+1.7**
LVC				*i* S	**S**	**14 37 05.8**	**+1.1**
PB09	**IPOC Station P**	**2.94**	**280**	*e*P	**Pn**	**14 36 31.9**	**+2.0**
PB09				IAML		14 37 16.8	
	comp=E,99nm,0.5s						
PB15	**IPOC Station P**	**3.20**	**254**	*i* P	**Pn**	**14 36 34.2**	**+1.5**
PB15				*e*S	**S**	**14 37 16.8**	**+0.6**
PB06	**IPOC Station P**	**3.20**	**263**	*i* P	**Pn**	**14 36 34.0**	**+1.2**
PB06				*i* S	**S**	**14 37 16.6**	**+0.5**
PB01	**IPOC Station P**	**3.38**	**292**	*i* P	**Pn**	**14 36 35.3**	**+0.6**
PB01				*i* S	**S**	**14 37 19.6**	**0.0**
PB01				IAML		14 37 20.8	
	comp=N,336nm,0.4s						
PB07	**IPOC Station P**	**3.54**	**279**	⇑*i*P	**Pn**	**14 36 37.6**	**+1.1**
PB07				*i* S	**S**	**14 37 22.1**	**-0.9**
PB08	**IPOC Station P**	**3.57**	**307**	⇑*i*P	**Pn**	**14 36 39.2**	**+2.0**
PB08				*i* S	**S**	**14 37 25.1**	**+1.0**
PB02	**IPOC Station P**	**3.64**	**285**	*e*P	**Pn**	**14 36 37.2**	**-0.5**
PB02				*e*S	**S**	**14 37 24.0**	**-1.1**
PB02				IAML		14 37 25.8	
	comp=E,414nm,0.3s						
PB04	**IPOC Station P**	**3.72**	**269**	⇑*i*P	**Pn**	**14 36 39.5**	**+0.9**
PB04				*i* S	**S**	**14 37 25.8**	**-1.0**
GO01	**Chusmiza**	**3.91**	**312**	*e*P	**Pn**	**14 36 42.9**	**+1.7**
GO01				*e*S	**S**	**14 37 31.9**	**+0.6**
PATCX	**Punta Patache**	**4.04**	**291**	*e*P	**Pn**	**14 36 43.0**	**+0.7**
PATCX				*i* S	**S**	**14 37 31.9**	**-1.4**
TA01	**Diego Aracena**	**4.17**	**294**	*e*P	**Pn**	**14 36 44.2**	**+0.5**
TA01				*e*S	**S**	**14 37 33.9**	**-2.0**
PB10	**IPOC Station P**	**4.24**	**253**	*i* P	**Pn**	**14 36 44.8**	**+0.3**
PB10				*i* S	**S**	**14 37 35.5**	**-2.1**
PB14	**IPOC Station P**	**4.54**	**239**	*i* P	**Pn**	**14 36 49.0**	**+0.6**
PB14				*i* S	**S**	**14 37 41.9**	**-2.5**
LPAZ	**La Paz**	**6.31**	**342**	P	**Pn**	**14 37 10.5**	**-0.1**
LPAZ	comp=E,0.7nm,0.3s,baz=168,slow=8.3,SNR=4.3			S	**S**	**14 38 22.5**	**-2.2**
	comp=E,2.2nm,0.9s,baz=309,slow=20,SNR=2.9						
TORD	**Torodi Ar. Bea**	**75.23**	**69**	P	P	14 46 50.4	-3.3
	comp=E,7.2nm,0.4s,baz=257,slow=6.0,SNR=5.1						
	comp=E,7.2nm,0.4s						
WRA	**Warramunga Arr**	**133.46**	**207**	PKP	**PKPdf**	**14 54 24.6**	**-0.6**
	comp=E,0.5nm,1.0s,baz=158,slow=1.9,SNR=2.5						
MKAR	**Makanchi Array**	**144.74**	**39**	PKP	PKPbc	14 54 43.2	-1.1
	comp=E,0.4nm,0.4s,baz=303,slow=2.9,SNR=7.2						

NEIC ***30*** *14:49:44.5±2.2,9°83S±0°08×111°68E±0°07,h23km±7km, mb4.4/18,Error ellipse: s-maj=12.6km s-min=9.6km az=202.0*

DJA ***30*** *14:49:48.8±0.5,9°S±7°×11°2E±°,h146km±5km,M4.2/13, mb4.3/8,mB5.0/6,MLv4.1/13,Mw(mB)4.4/6*

IDC ***30*** *14:49:49.5±3.2,9°49S×111°84E,h50km±29km,mb3.9/13, mbtmp4.2/15,ML4.1/2,MS3.3/15,Error ellipse: s-maj=29.7km s-min=13.9km az=47.0*

ISC 30 14:49:45.7±0.5,9°89S±0°06×111°74E±0°06,h35km,n88, σ2ᵖ26/80,mb4.3/25,MS3.3/14,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.77**	**342**	P	**Pn**	**14 50 12.4**	**-1.4**
PCJI				S	**Sn**	**14 50 34.4**	**-0.8**
PWJI	**Pagerwojo**	**1.85**	**2**	P	**Pn**	**14 50 13.5**	**-1.5**
PWJI				S	**Sn**	**14 50 34.8**	**-2.4**
UGM	**Wanagama**	**2.30**	**328**		**Pn**	**14 50 19.7**	**-1.5**
UGM	**Wanagama**	**2.30**	**328**	P	**Pn**	**14 50 21.2**	**0.0**
UGM				S	**Sn**	**14 50 45.7**	**-2.6**
YOGI	**Yogyakarta**	**2.50**	**325**	P	**Pn**	**14 50 23.8**	**-0.1**
NGJI	**Ngawi**	**2.52**	**354**	P	**Pn**	**14 50 23.8**	**-0.3**
JAGI	**Jajag, Banyuwa**	**2.77**	**60**	Pn	**Pn**	**14 50 27.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**2.77**	**60**	P	**Pn**	**14 50 29.0**	**+1.4**
SMRI	**Semarang**	**3.10**	**335**	Pn	**Pn**	**14 50 31.6**	**-0.5**
SMRI	**Semarang**	**3.10**	**335**	P	**Pn**	**14 50 31.7**	**-0.4**
IGBI	**Denpasar**	**3.53**	**73**	P	**Pn**	**14 50 40.7**	**+2.7**
KMMI	**Kalianget**	**3.58**	**38**	P	**Pn**	**14 50 41.8**	**+3.1**
DNP	**Denpasar**	**3.63**	**71**	P	**Pn**	**14 50 43.4**	**+3.9**
SRBI	**Singaraja**	**3.87**	**63**	P	**Pn**	**14 50 43.6**	**+0.8**

LEM	**Lembang**	**5.09**	**306**	P	**Pn**	**14 51 01.7**	**+2.1**	
	2.6nm,0.3s,baz=139,slow=19,SNR=1.5							
LEM				S	**Sn**	**14 51 50.7**	**-6.6**	
	37nm,0.7s,baz=162,slow=20,SNR=3.8							
	10nm,0.6s							
LEM	**Lembang**	**5.09**	**306**	P	**Pn**	**14 50 59.7**	**+0.1**	
TWSI	**Taliwang, Sumb**	**5.20**	**78**	P	**Pn**	**14 51 03.1**	**+2.0**	
	0.2nm979nm42nm,0.8s							
XMIS	**Christmas Isla**	**6.02**	**264**	Pn	**Pn**	**14 51 11.2**	**-1.1**	
PLAI	**Plampang**	**6.05**	**80**	P	**Pn**	**14 51 15.6**	**+2.9**	
	0.6nm2µm159nm,1.2s							
BBKI	**Banjar Baru**	**7.09**	**26**	P	Pn	14 51 32.4	+5.4	
PBKI	**Pangkalan Bun**	**7.14**	**359**	P	Pn	14 51 19.2	-8.5	
	3.6nm2µm113nm,0.6s							
KAPI	**Kappang**	**9.30**	**59**	P	Pn	14 52 02.4	+5.0	
	22nm,1.0s,baz=219,slow=9.4,SNR=7.7							
KAPI				LR	LR	14 56 17.0		
	comp=Z,145nm,18.4s,baz=216,slow=43							
KAPI	**Kappang**	**9.30**	**59**	Pn	**Pn**	**14 51 59.0**	**+1.6**	
BSSI	**Bau Bau, Buton**	**9.43**	**67**	P	**Pn**	**14 51 59.0**	**-0.2**	
	583nm14nm,1.2s							
BKSI	**Bulukumba**	**9.47**	**62**	P	**Pn**	**14 51 58.9**	**-0.7**	
	12nm,1.1s							
EDFI	**Ende, Flores**	**9.89**	**84**	P	**Pn**	**14 52 05.8**	**+0.3**	
	11nm,1.2s							
BNSI	**Bone**	**9.93**	**57**	P	**Pn**	**14 52 04.0**	**-2.0**	
	12nm,1.2s							
MMRI	**Maumere**	**10.44**	**84**	Pn	**Pn**	**14 52 12.9**	**-0.1**	
MMRI	**Maumere**	**10.44**	**84**	P	**Pn**	**14 52 12.5**	**-0.5**	
	41nm,0.7s							
TTSI	**Tana Toraja**	**10.52**	**50**	P	**Pn**	**14 52 10.1**	**-3.9**	
	2µm12nm,1.3s							
BATI	**Baumata**	**11.75**	**93**	P	**Pn**	**14 52 33.6**	**+2.6**	
	4.2nm,0.3s,baz=268,slow=12,SNR=4.6							
BATI				S	**Sn**	**14 54 36.3**	**-4.6**	
	5.4nm,0.3s,baz=338,slow=19,SNR=1.2							
	13nm,0.4s							
DSRI	**Dabo**	**11.75**	**322**	P	Pn	14 52 24.7	-6.3	
SOEI	**Soe**	**12.35**	**90**		**Pn**	**14 52 39.4**	**+0.2**	
GIRL	**Giralia**	**12.91**	**170**	Pn	**Pn**	**14 52 46.4**	**-0.3**	
MBWA	**Marble Bar**	**13.59**	**146**	Pn	**Pn**	**14 52 55.8**	**-0.3**	
PSA00	**Pilbara Seismi**	**13.99**	**147**	Pn	**Pn**	**14 53 01.2**	**-0.3**	
FITZ	**Fitzroy Crossi**	**15.76**	**123**	P	**Pn**	**14 53 26.1**	**+1.0**	
	2.7nm,0.6s,baz=318,slow=6.9,SNR=7.6							
FITZ				S	**Sn**	**14 56 08.9**	**-10**	
	1.5nm,0.7s,baz=342,slow=19,SNR=2.0							
FITZ	**Fitzroy Crossi**	**15.76**	**123**	Pn	**Pn**	**14 53 25.6**	**+0.5**	
MTN	**Manton Dam**	**19.24**	**101**	P	**P**	**14 54 07.6**	**+0.4**	
MTN				IAmb	IAmb	14 54 12.4		
	comp=Z,20nm,1.2s							
SIJI	**Sorong**	**21.39**	**66**	P	**P**	**14 54 30.9**	**+0.4**	
	comp=Z,6.0nm,0.9s,baz=280,slow=5.6,SNR=3.5							
	comp=Z,6.0nm,0.9s							
FAKI	**Fak Fak**	**21.52**	**73**	P	**P**	**14 54 30.4**	**-1.5**	
DAV	**Davao City (W)**	**21.77**	**40**	LR	LR	15 05 29.6		
	comp=Z,49nm,18.1s,baz=192,slow=44							
WB0	**Warramunga Arr**	**23.97**	**117**	P	**P**	**14 54 59.0**	**+1.9**	
WB0				IAmb	IAmb	14 55 02.1		
	comp=Z,15nm,1.0s							
WRA	**Warramunga Arr**	**23.99**	**117**	P	**P**	**14 54 59.8**	**+2.5**	
	comp=Z,4.8nm,0.9s,baz=293,slow=11,SNR=54							
WRA				PcP	**PcP**	**14 58 41.7**	**+2.7**	
	comp=Z,0.8nm,1.2s,baz=297,slow=1.8,SNR=1.6							
WRA				LR	LR	15 04 12.2		
	comp=Z,56nm,21.4s,baz=264,slow=36							
	comp=Z,4.8nm,0.9s							
WRA	**Warramunga Arr**	**23.99**	**117**	P	**P**	**14 54 58.7**	**+1.4**	
WRAB	**Tennant Creek**	**24.00**	**117**	P	**P**	**14 54 59.5**	**+2.2**	
WRAB				IAmb	IAmb	14 55 02.4		
	comp=Z,8.4nm,0.8s							
WB2	**Warramunga Arr**	**24.00**	**117**	P	**P**	**14 54 59.7**	**+2.4**	
WB2				IAmb	IAmb	14 55 08.3		
	comp=Z,10.0nm,1.0s							
WR0	**Warramunga Arr**	**24.17**	**117**	P	**P**	**14 55 02.1**	**+3.2**	
WR0				IAmb	IAmb	14 55 04.3		
	comp=Z,15nm,1.0s							
AS31	**Alice Springs**	**25.21**	**126**	P	**P**	**14 55 09.4**	**+1.1**	
ASAR	**Alice Springs**	**25.21**	**126**	P	**P**	**14 55 11.8**	**+3.4**	
	comp=Z,5.3nm,0.9s,baz=299,slow=7.8,SNR=30							
ASAR				PcP	**PcP**	**14 58 44.6**	**+3.0**	
	comp=Z,0.5nm,0.8s,baz=326,slow=1.7,SNR=3.6							
ASAR				LR	LR	15 06 22.8		
	comp=Z,35nm,19.6s,baz=316,slow=39							
	comp=Z,5.3nm,0.9s							
ASAR	**Alice Springs**	**25.21**	**126**	P	**P**	**14 55 09.9**	**+1.5**	
CMAR	**Chiang Mai Arr**	**30.87**	**336**	P	**P**	**14 55 59.4**	**+0.4**	
	comp=Z,0.3nm,0.4s,baz=163,slow=9.9,SNR=4.1							
CMAR				LR	LR	15 11 21.6		
	comp=Z,39nm,18.4s,baz=245,slow=42							
	comp=Z,0.3nm,0.4s							
CTA	**Charters Tower**	**34.78**	**111**	LR	LR	15 11 32.0		
	comp=Z,56nm,19.6s,baz=283,slow=37

GEYT				IAmb	IAmb	15 00 48.9	
	comp=Z,2.5nm,0.9s						
VNDA	**Vanda**	**72.30**	**170**	LR	LR	15 30 47.2	
	comp=Z,23nm,19.2s,baz=308,slow=34						
PEA0B	**Petropavlovsk-**	**73.93**	**27**	P	**P**	**15 01 17.3**	**+0.1**
PETK	**Petropavlovsk-**	**73.93**	**27**	P	**P**	**15 01 16.9**	**-0.2**
ABKAR	**Akbulak array**	**74.31**	**328**	P	**P**	**15 01 19.3**	**-0.2**
ABKAR	**Akbulak array**	**74.31**	**328**	P	**P**	**15 01 19.6**	**+0.2**
ABKAR				IAmb	IAmb	15 01 22.5	
	comp=Z,3.2nm,0.8s						
AKTO	**Aktyubinsk**	**76.01**	**328**	P	**P**	**15 01 29.7**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=153,slow=4.5,SNR=2.7						
	comp=Z,0.9nm,0.5s						
BRTR	**Keskin Array B**	**87.24**	**311**	P	**P**	**15 02 29.7**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=130,slow=5.0,SNR=5.0						
BRTR				LR	LR	15 44 52.7	
	comp=Z,20nm,20.0s,baz=106,slow=38						
	comp=Z,1.0nm,0.9s						

HEL 30 14:54:42.4±0.3, 67°91N×20°08E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.73**	**78**	PG	Pg	14 54 55.9	-0.6
LANU				SG	Sg	14 55 05.6	-0.3
KIF	**Kilpisjarvi**	**1.14**	**13**	PN	Pn	14 55 06.1	+0.6
KIF				MSG		14 55 17.9	
	comp=Z,1.4nm,0.2s						
KIF				SN	Sn	14 55 21.8	+0.1
HEF	**Hetta**	**1.43**	**68**	PN	Pn	14 55 08.9	-0.7
HEF				MSG		14 55 25.4	
	comp=Z,0.9nm,0.2s						
HEF				SN	Sg	14 55 27.8	-0.5
ERTU	**Ertsjaerv**	**1.59**	**148**	PG	Pn	14 55 10.9	-0.9
ERTU				SG	Sn	14 55 31.6	-1.3
KLF	**Kolari**	**1.64**	**113**	PG	Pn	14 55 11.8	-0.5
KLF				SG	Sn	14 55 32.8	-1.2
KALU	**Kalix**	**2.43**	**146**	PB	Pn	14 55 23.7	+0.5
	baz=334						
KALU				SG	Sb	14 55 56.7	-0.6
TOF	**Tornio**	**2.48**	**136**	MSG		14 55 55.7	
	comp=Z,2.1nm,0.2s						
TOF				SG	Sb	14 55 57.2	-1.5
SGF	**Sodankyl**	**2.50**	**98**	SG	Sb	14 55 59.5	0.0
ARA0	**ARCESS Array S**	**2.57**	**48**	PB	Pn	14 55 26.9	+1.7
ARA0				SB	Sn	14 55 59.1	+2.0
RNF	**Rovaniemi**	**2.65**	**117**	PB	Pn	14 55 27.8	+1.6
RNF				SB	Sn	14 56 01.2	+2.2
KEV	**Kevo**	**3.12**	**50**	MSG		14 56 14.1	
	comp=Z,0.7nm,0.2s						
KEV				SG	Sb	14 56 18.1	+0.8
OUL	**Oulu**	**3.67**	**138**	SG	Sb	14 56 34.0	+1.1

*IDC **30** 15:07:28.3±3.4, 35°.56S×178°.71E, h187km±28km, mb3.8/6, mbtmp4.3/7, Error ellipse: s-maj=40.3km s-min=23.6km az=32.0*
*WEL **30** 15:07:31.5±0.9, 36°S±8°×17°9E±°, h231km±5km, M4.1/67, mB4.7/6, ML4.5/66, MLv4.2/67, Mw(mB)3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=61.1*
*NOU **30** 15:07:37.1, 36°.61S×178°.53E, h235km, MLv4.5/9, Off E. Coast of N. Island, N.Z.*

ISC 30 15:07:32.3±1.1, 36°.02S±0°.10×178°.60E±0°.09, h227km±7km, n123, σ1°12/129, mb4.0/7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.56**	**189**	P	**Pn**	**15 08 07.7**	**-1.1**
MXZ				S	**S**	**15 08 35.0**	**-2.4**
WMGZ	**Waiomatatini S**	**1.80**	**185**	P	**Pn**	**15 08 10.8**	**-0.1**
WMGZ				S	**S**	**15 08 41.2**	**0.0**
HAZ	**Te Kaha**	**1.85**	**201**	P	**Pn**	**15 08 10.3**	**-1.1**
HAZ				S	**S**	**15 08 41.4**	**-0.6**
WIZ	**White Island**	**1.89**	**217**	P	**Pn**	**15 08 11.9**	**+0.2**
WIZ				S	**S**	**15 08 43.5**	**+1.0**
PKGZ	**Pakihiroa**	**1.91**	**193**	P	**Pn**	**15 08 11.5**	**-0.5**
PUZ	**Puketiti**	**2.07**	**188**	P	**Pn**	**15 08 12.9**	**-0.5**
PUZ				S	**S**	**15 08 45.5**	**-0.2**
RUGZ	**Raukumara Rang**	**2.08**	**201**	P	**Pn**	**15 08 12.5**	**-1.2**
RUGZ				S	**S**	**15 08 44.9**	**-1.2**
MYRZ	**Mayor Island**	**2.28**	**236**	P	**Pn**	**15 08 15.0**	**-0.5**
OPRZ	**Ohinepanea**	**2.45**	**221**	P	**Pn**	**15 08 16.9**	**-0.4**
MWZ	**Matawai**	**2.46**	**200**	P	**Pn**	**15 08 17.2**	**-0.2**
MWZ				S	**S**	**15 08 53.2**	**+0.2**
CNGZ	**Carnagh Statio**	**2.48**	**187**	P	**Pn**	**15 08 17.9**	**+0.4**
TKGZ	**Te Karaka**	**2.49**	**194**	P	**Pn**	**15 08 17.6**	**-0.1**
TKGZ				S	**S**	**15 08 53.4**	**+0.1**
MARZ	**Manawahe**	**2.50**	**218**	P	**Pn**	**15 08 17.9**	**+0.1**
URZ	**Urewera**	**2.53**	**208**	P	**Pn**	**15 08 17.4**	**-0.7**
	85nm,0.3s,baz=354,slow=4.3,SNR=215						
URZ				S	**S**	**15 08 55.3**	**+1.1**
	279nm,0.5s,baz=55,slow=20,SNR=5.5						
URZ	**Urewera**	**2.53**	**208**	P	**Pn**	**15 08 17.4**	**-0.7**
EDRZ	**Edgecumbe**	**2.56**	**215**	P	**Pn**	**15 08 18.4**	**-0.1**
RAGZ	**Rawiri**	**2.65**	**201**	P	**Pn**	**15 08 19.7**	**+0.2**
RAGZ				S	**S**	**15 08 57.6**	**+1.1**
OMRZ	**Omania**	**2.74**	**220**	P	**Pn**	**15 08 21.1**	**+0.6**
RIGZ	**Rimuhau**	**2.76**	**194**	P	**Pn**	**15 08 20.5**	**-0.2**
RIGZ				S	**S**	**15 09 00.6**	**+1.9**
KMRZ	**Kaimai**	**2.81**	**229**	P	**Pn**	**15 08 21.3**	**+0.2**
MUGZ	**Murupara**	**2.86**	**210**	P	**Pn**	**15 08 21.2**	**-0.5**
MUGZ				S	**S**	**15 09 01.8**	**+1.3**
HLRZ	**Highlands Stat**	**2.86**	**218**	P	**Pn**	**15 08 22.3**	**+0.5**
RTZ	**Ruatahuna**	**2.90**	**206**	P	**Pn**	**15 08 21.4**	**-0.8**
RTZ				S	**S**	**15 09 01.5**	**+0.1**
WIAZ	**Waiheke Island**	**2.90**	**254**	P	**Pn**	**15 08 21.5**	**-0.8**
SNGZ	**Shannon Statio**	**2.94**	**200**	P	**Pn**	**15 08 22.5**	**0.0**
HSRZ	**Hossack Road**	**2.96**	**219**	P	**Pn**	**15 08 24.4**	**+1.6**
HRRZ	**Handcock Road**	**3.00**	**217**	P	**Pn**	**15 08 23.7**	**+0.4**
PRRZ	**Plateau Road**	**3.04**	**215**	P	**Pn**	**15 08 23.7**	**0.0**
GRRZ	**Galatos Road**	**3.06**	**220**	P	**Pn**	**15 08 25.0**	**+1.0**
KNZ	**Kokohu**	**3.09**	**194**	P	**Pn**	**15 08 23.8**	**-0.4**
ALRZ	**Allen Road**	**3.11**	**215**	P	**Pn**	**15 08 24.6**	**+0.1**
RAHZ	**Arahi**	**3.13**	**202**	P	**Pn**	**15 08 24.7**	**-0.1**
MTHZ	**Maungataniwha**	**3.16**	**206**	P	**Pn**	**15 08 24.3**	**-0.8**
WPRZ	**Whakapapatarin**	**3.17**	**217**	P	**Pn**	**15 08 26.0**	**+0.8**
MHGZ	**Mahia Peninsul**	**3.18**	**190**	P	**Pn**	**15 08 25.4**	**+0.1**
WHHZ	**Waihua**	**3.24**	**199**	P	**Pn**	**15 08 26.2**	**+0.1**
MRHZ	**Matea Rd**	**3.31**	**211**	P	**Pn**	**15 08 26.1**	**-0.7**
KUTZ	**Kaahu Road**	**3.32**	**221**	P	**Pn**	**15 08 27.7**	**+0.7**
TLZ	**Tolley Road**	**3.36**	**226**	P	**Pn**	**15 08 28.3**	**+0.8**
NMHZ	**Naumai**	**3.39**	**204**	P	**Pn**	**15 08 28.0**	**+0.2**
ARHZ	**Aropaoanui**	**3.48**	**201**	P	**Pn**	**15 08 28.7**	**-0.1**
WATZ	**Wairara**	**3.53**	**220**	P	**Pn**	**15 08 29.9**	**+0.5**
BKZ	**Black Stump Fm**	**3.56**	**207**	P	**Pn**	**15 08 29.4**	**-0.4**
RATZ	**Rangitukua**	**3.63**	**218**	P	**Pn**	**15 08 31.1**	**+0.6**
MCHZ	**McNeill Hill**	**3.74**	**203**	P	**Pn**	**15 08 31.6**	**-0.2**
KATZ	**Kakaramea**	**3.75**	**217**	P	**Pn**	**15 08 32.7**	**+0.5**
KWHZ	**Kaweka Forest**	**3.81**	**206**	P	**Pn**	**15 08 32.6**	**-0.2**
CKHZ	**Cape Kidnapper**	**3.83**	**198**	P	**Pn**	**15 08 32.6**	**-0.3**
NTVZ	**North Tongarir**	**3.85**	**216**	P	**Pn**	**15 08 33.3**	**-0.1**
TMVZ	**Te Maari**	**3.85**	**216**	P	**Pn**	**15 08 33.1**	**-0.2**
ETVZ	**East Tongariro**	**3.87**	**216**	P	**Pn**	**15 08 33.3**	**-0.2**
KRVZ	**Karewarewa**	**3.87**	**217**	P	**Pn**	**15 08 33.3**	**-0.2**
HIZ	**Hauiti**	**3.89**	**229**	P	**Pn**	**15 08 35.1**	**+1.5**
HIZ	**Hauiti**	**3.89**	**229**	P	**Pn**	**15 08 35.2**	**+1.5**
WTVZ	**West Tongariro**	**3.91**	**217**	P	**Pn**	**15 08 33.7**	**-0.3**
NNVZ	**North Ngauruho**	**3.91**	**216**	P	**Pn**	**15 08 34.0**	**-0.1**
OTVZ	**Oturere**	**3.91**	**216**	P	**Pn**	**15 08 33.9**	**-0.2**
SNVZ	**South Ngauruho**	**3.94**	**216**	P	**Pn**	**15 08 34.2**	**-0.2**
TWVZ	**Taurewa**	**3.95**	**219**	P	**Pn**	**15 08 34.5**	**0.0**
NGZ	**Ngauruhoe**	**3.95**	**216**	P	**Pn**	**15 08 34.5**	**-0.1**
TUVZ	**Tukino**	**4.00**	**215**	P	**Pn**	**15 08 34.8**	**-0.3**
BHHZ	**Black Hill Sta**	**4.01**	**209**	P	**Pn**	**15 08 34.3**	**-0.9**
KAHZ	**Kahuranaki**	**4.01**	**199**	P	**Pn**	**15 08 34.7**	**-0.4**
KRHZ	**Kereru**	**4.03**	**205**	P	**Pn**	**15 08 34.5**	**-0.8**
FWVZ	**Far West T-bar**	**4.04**	**216**	P	**Pn**	**15 08 35.3**	**-0.4**
WHVZ	**Whangaehu Hut**	**4.04**	**215**	P	**Pn**	**15 08 35.3**	**-0.4**
MOVZ	**Moawhango**	**4.07**	**213**	P	**Pn**	**15 08 34.6**	**-1.2**
WNVZ	**Wahianoa**	**4.07**	**215**	P	**Pn**	**15 08 35.8**	**-0.2**
PKVZ	**Pokaka**	**4.16**	**217**	P	**Pn**	**15 08 36.6**	**-0.5**
MTVZ	**Mangateitei**	**4.18**	**216**	P	**Pn**	**15 08 36.2**	**-1.0**
PXZ	**Pawanui**	**4.23**	**198**	P	**Pn**	**15 08 36.8**	**-1.0**
PNHZ	**Pukenui**	**4.33**	**205**	P	**Pn**	**15 08 37.7**	**-1.3**
VRZ	**Vera Road**	**4.35**	**223**	P	**Pn**	**15 08 40.6**	**+1.4**
WPHZ	**Waipukurau**	**4.38**	**202**	P	**Pn**	**15 08 38.6**	**-1.1**
PRHZ	**Porangahau**	**4.51**	**200**	P	**Pn**	**15 08 40.4**	**-0.9**
TSZ	**Takapari Road**	**4.54**	**207**	P	**Pn**	**15 08 40.3**	**-1.3**
DVHZ	**Dannevirke**	**4.68**	**203**	P	**Pn**	**15 08 42.0**	**-1.4**
WAZ	**Wanganui**	**4.70**	**216**	P	**Pn**	**15 08 43.0**	**-0.5**
ANWZ	**Angora Road**	**4.74**	**200**	P	**Pn**	**15 08 43.1**	**-0.9**
LREZ	**Lake Rotokare**	**4.78**	**223**	P	**Pn**	**15 08 45.9**	**+1.4**
NEZ	**North Egmont**	**4.83**	**226**	P	**Pn**	**15 08 46.7**	**+1.5**
PKE	**Pukeiti**	**4.84**	**228**	P	**Pn**	**15 08 46.7**	**+1.3**
POWZ	**Post Office Ro**	**4.90**	**206**	P	**Pn**	**15 08 44.9**	**-1.2**
PRWZ	**Pori Road**	**4.98**	**204**	P	**Pn**	**15 08 46.8**	**-0.2**
BFZ	**Birch Farm**	**5.01**	**201**	P	**Pn**	**15 08 46.0**	**-1.4**
BFZ	**Birch Farm**	**5.01**	**201**	P	**Pn**	**15 08 46.0**	**-1.4**
TIWZ	**Tintock**	**5.21**	**203**	P	**Pn**	**15 08 48.9**	**-0.9**
MRZ	**Mangatainoka R**	**5.21**	**206**	P	**Pn**	**15 08 47.6**	**-2.2**
CPWZ	**Castlepoint**	**5.23**	**200**	P	**Pn**	**15 08 49.8**	**-0.3**
HOWZ	**Holdsworth Sta**	**5.44**	**206**	P	**Pn**	**15 08 50.6**	**-2.2**
OGWZ	**Otaki Gorge**	**5.50**	**208**	P	**Pn**	**15 08 51.7**	**-1.8**
TMWZ	**Te Maipa**	**5.51**	**202**	P	**Pn**	**15 08 51.9**	**-1.7**
KIW	**Kapiti Island**	**5.64**	**210**	P	**Pn**	**15 08 53.1**	**-2.1**
CAW	**Cannon Point**	**5.79**	**208**	P	**Pn**	**15 08 54.8**	**-2.3**
TRWZ	**Traveller**	**5.83**	**202**	P	**Pn**	**15 08 56.1**	**-1.6**
SNZO	**South Karori**	**6.10**	**209**	P	**Pn**	**15 08 59.1**	**-2.0**
QRZ	**Quartz Range**	**6.76**	**223**	P	**Pn**	**15 09 07.8**	**-1.8**
KHZ	**Kahutara**	**7.50**	**210**	P	**Pn**	**15 09 16.6**	**-2.3**
CTZ	**Chatham Island**	**8.54**	**156**	P	**Pn**	**15 09 36.1**	**+3.8**
CTZ				S	**S**	**15 11 10.4**	**+1.8**
RPZ	**Rata Peaks**	**9.63**	**215**	P	**Pn**	**15 09 43.7**	**-2.6**
	4.7nm,0.6s,baz=63,slow=16,SNR=9.3						
RPZ				S	S	15 11 28.7	-5.6
	5.5nm,0.3s,baz=132,slow=23,SNR=10						
RPZ	**Rata Peaks**	**9.63**	**215**	P	**Pn**	**15 09 44.1**	**-2.1**
ODZ	**Otahua Downs**	**10.85**	**211**	P	**Pn**	**15 10 00.3**	**-1.5**
STKA	**Stephens Creek**	**30.86**	**267**	P	P	15 13 33.1	+5.7
	1.3nm,0.4s,baz=100,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**40.35**	**275**	P	**P**	**15 14 48.4**	**+0.2**
	3.6nm,0.6s,baz=117,slow=7.2,SNR=30						
	3.6nm,0.6s						
WRA	**Warramunga Arr**	**41.87**	**280**	P	**P**	**15 14 60.0**	**-0.6**
	3.6nm,0.5s,baz=120,slow=7.7,SNR=45						
	3.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**49.82**	**276**	P	**P**	**15 16 02.7**	**+0.2**
	2.6nm,0.7s,baz=89,slow=6.1,SNR=2.7						
	2.6nm,0.7s						
H03S2	**Juan Fernandez**	**79.70**	**124**	T	T	16 48 07.7	
	baz=238						
H03S1	**Juan Fernandez**	**79.71**	**124**	T	T	16 48 11.3	
	baz=238						
H03S3	**Juan Fernandez**	**79.72**	**124**	T	T	16 48 04.2	
	baz=238						
H03N3	**Juan Fernandez**	**79.93**	**124**	T	T	16 48 18.0	
	baz=236						
H03N2	**Juan Fernandez**	**79.93**	**124**	T	T	16 48 19.6	
	baz=236						
H03N1	**Juan Fernandez**	**79.94**	**124**	T	T	16 48 23.8	
	baz=236						
KSRS	**Korea Array**	**86.89**	**322**	P	**P**	**15 19 51.0**	**-0.2**
	1.3nm,0.8s,baz=142,slow=6.2,SNR=6.0						
	1.3nm,0.8s						
PETK	**Petropavlovsk-**	**90.60**	**348**	P	**P**	**15 20 07.9**	**-0.4**
	2.3nm,0.7s,baz=125,slow=9.0,SNR=2.4						
	2.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.64**	**291**	P	**P**	**15 20 19.5**	**+1.0**
	0.5nm,0.6s,baz=150,slow=3.8,SNR=3.5						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**119.12**	**309**	PKP	**PKPdf**	**15 25 52.8**	**-0.9**
	0.4nm,0.5s,baz=118,slow=1.6,SNR=4.4						
ARCES	**ARCESS Array B**	**143.35**	**345**	PKP	PKPab	15 26 35.4	+0.3
	3.0nm,0.9s,baz=0.0,slow=3.1,SNR=8.6						
FINES	**FINESS Array B**	**149.21**	**334**	PKPbc	**PKPbc**	**15 26 52.0**	**-1.0**
	3.1nm,0.5s,baz=32,slow=4.5,SNR=30						
DBIC	**Dimbokro**	**150.62**	**173**	PKPbc	**PKiKP**	**15 27 00.7**	**+2.2**
	1.8nm,0.3s,baz=171,slow=4.1,SNR=6.0						
BRTR	**Keskin Array B**	**152.21**	**288**	PKPbc	**PKPbc**	**15 27 00.1**	**-0.9**
	1.0nm,0.5s,baz=82,slow=3.2,SNR=5.3						
AKASG	**Malin Array Be**	**153.57**	**313**	PKPbc	**PKPbc**	**15 27 01.7**	**-1.6**
	0.5nm,0.4s,baz=50,slow=2.3,SNR=5.4						
NOA	**NORSAR Array B**	**153.70**	**346**	PKPbc	**PKPbc**	**15 27 02.8**	**-0.6**
	1.1nm,0.9s,baz=30,slow=2.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**157.06**	**188**	PKPab	**PKPab**	**15 27 35.2**	**+2.5**
	1.4nm,0.6s,baz=171,slow=3.7,SNR=6.1						

IDC 30 15:16:12.2±4.3, 2°.42S×141°.34E, h0km, mb3.2/3, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=130.8km s-min=32.7km az=93.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.71**	**201**	P	P	15 20 32.4	0.0
	0.1nm,0.3s,baz=22,slow=12,SNR=3.4						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.90**	**224**	P	P	15 21 06.8	-0.3
	0.5nm,0.4s,baz=41,slow=11,SNR=1.6						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**22.31**	**198**	P	P	15 21 11.8	+0.3
	0.3nm,0.5s,baz=28,slow=11,SNR=3.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**71.19**	**322**	P	P	15 27 33.0	0.0
	0.2nm,0.6s,baz=96,slow=10,SNR=2.1						
	0.2nm,0.6s						

*IDC **30** 15:17:56.6±1.9, 9°.62S×111°.61E, h0km, mb3.7/7, mbtmp3.7/8, ML3.4/1, MS2.8/1, Error ellipse: s-maj=70.0km s-min=19.1km az=54.0*

ISC 30 15:18:01.7±1.9, 9°.6S±0°.3×111°.7E±0°.4, h35km, n12, σ1°03/9, mb3.7/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.93**	**123**	Pn	**Pn**	**15 21 41.8**	**-1.5**
	0.1nm,0.3s,baz=299,slow=9.9,SNR=2.6						
FITZ				Sn	Sn	15 24 27.1	-12
	0.1nm,0.3s,baz=73,slow=7.5,SNR=2.1						
	2.4nm,1.0s						
WRA	**Warramunga Arr**	**24.13**	**118**	P	**P**	**15 23 14.9**	**+0.3**
	0.6nm,0.8s,baz=294,slow=11,SNR=11						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**25.39**	**126**	P	**P**	**15 23 27.0**	**+1.0**
	0.5nm,0.6s,baz=302,slow=9.5,SNR=10						
ASAR				PcP	**PcP**	**15 26 59.2**	**+1.1**
	0.2nm,0.8s,baz=316,slow=1.1,SNR=1.6						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.61**	**336**	P	**P**	**15 24 11.7**	**-0.9**
	0.5nm,0.5s,baz=196,slow=9.4,SNR=2.1						
	0.5nm,0.5s						
PMG	**Port Moresby**	**34.95**	**93**	LR	LR	15 40 45.7	
	comp=Z,14nm,20.9s,baz=304,slow=39						
H08S2	**Diego Garcia H**	**38.82**	**270**	T	T	16 06 30.6	
	baz=96,slow=74						
H08S3	**Diego Garcia H**	**38.83**	**270**	T	T	16 06 26.2	
	baz=96,slow=74						
H08S1	**Diego Garcia H**	**38.83**	**270**	T	T	16 06 29.8	
	baz=96						
KSRS	**Korea Array**	**49.22**	**17**	P	**P**	**15 26 47.4**	**+0.8**
	1.4nm,0.8s,baz=202,slow=8.7,SNR=8.6						
	1.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**56.62**	**17**	P	**P**	**15 27 41.0**	**-0.1**
	1.9nm,0.7s,baz=208,slow=7.8,SNR=3.2						
	1.9nm,0.7s						
SONM	**Songino Array**	**57.38**	**356**	P	**P**	**15 27 47.0**	**+0.4**
	0.5nm,0.6s,baz=186,slow=10,SNR=2.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**61.99**	**338**	P	**P**	**15 28 18.0**	**-0.3**
	0.7nm,0.6s,baz=157,slow=6.8,SNR=6.9						
	0.7nm,0.6s						

*IDC **30** 15:41:50.8±10.0, 36°.52N×71°.21E, h184km±38km, mb3.5/3, mbtmp3.9/6, Error ellipse: s-maj=185.5km s-min=24.1km az=164.0*
*NNC **30** 15:41:54.7±3.2, 37°.25N×71°.29E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=26.2km s-min=24.6km az=60.0*

ISC 30 15:41:50.9±2.0, 36°.8N±0°.2×71°.2E±0°.1, h150km, n18, σ1°69/22, mb4.0/3, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.67**	**19**	P	**Pn**	**15 43 15.4**	**+1.8**
	SNR=33						
UCH	**Uchtor**	**6.01**	**24**	P	**Pn**	**15 43 19.5**	**+1.5**
	SNR=12						
EKS2	**Erkin-Say**	**6.19**	**18**	P	**Pn**	**15 43 21.8**	**+1.6**
	SNR=17						
KK31	**Karatay Array**	**6.32**	**356**	P	**Pn**	**15 43 24.0**	**+2.3**
	3.3nm,0.3s,baz=170,slow=11,SNR=88						
KK31				S	**Sn**	**15 44 31.9**	**-1.0**
	6.2nm,0.3s,baz=186,slow=18,SNR=22						
AAK	**Ala-Archa**	**6.37**	**23**	P	**Pn**	**15 43 24.4**	**+1.8**
	SNR=26						
KBK	**Karagaybulak**	**6.54**	**25**	P	**Pn**	**15 43 26.9**	**+2.1**
	SNR=8.7						
CHMS	**Chumysh**	**6.78**	**23**	P	**Pn**	**15 43 29.2**	**+1.3**
	SNR=7.5						
CHMS	**Chumysh**	**6.78**	**23**	⇑P	**Pn**	**15 43 29.1**	**+1.3**
	5.7nm,0.5s						
CHMS				⇑S	**Sn**	**15 44 42.6**	**-1.3**
	16nm,1.0s						
USP	**Ospenovka**	**6.95**	**21**	P	**Pn**	**15 43 30.9**	**+0.8**
	SNR=10						
TKM2	**Tokmak 2**	**7.00**	**28**	P	**Pn**	**15 43 32.5**	**+1.5**
	SNR=13						
TKM2	**Tokmak 2**	**7.00**	**28**	⇓P	**Pn**	**15 43 32.3**	**+1.3**
	6.5nm,0.6s						
TKM2				⇑S	**Sn**	**15 44 50.7**	**+1.2**
	8.2nm,0.7s						
MDOK	**Medeo**	**7.79**	**34**	P	**Pn**	**15 43 42.8**	**+1.2**
	4.4nm,0.6s						
GEYT	**Alibeck**	**10.45**	**280**	P	**Pn**	**15 44 17.1**	**+0.3**
	1.6nm,0.5s,baz=96,slow=13,SNR=2.7						
GEYT				S	**Sn**	**15 46 14.5**	**+2.1**
	0.9nm,0.4s,baz=86,slow=26,SNR=1.8						
MKAR	**Makanchi Array**	**12.97**	**36**	P	**Pn**	**15 44 52.4**	**+2.8**
	0.3nm,0.5s,baz=215,slow=12,SNR=4.7						
ZALV	**Zalesovo Beam**	**19.59**	**25**	P	**P**	**15 46 06.0**	**-1.2**
	1.8nm,0.3s,baz=218,slow=9.7,SNR=5.6						
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**15 48 47.3**	**-0.8**
	4.4nm,1.0s,baz=114,slow=14,SNR=1.0						
	4.4nm,1.0s						
ARCES	**ARCESS Array B**	**40.92**	**337**	P	**P**	**15 49 17.0**	**-1.0**
	4.3nm,1.1s,baz=106,slow=9.5,SNR=4.5						
	4.3nm,1.1s						
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**15 49 42.6**	**-2.2**
	0.7nm,0.7s,baz=92,slow=9.0,SNR=1.7						
	0.7nm,0.7s						

*IDC **30** 15:55:33.4±8.5, 33°.95N×23°.43E, h0km, mb3.4/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=129.6km s-min=89.6km az=62.0*
*THE **30** 15:55:47.2, 34°.65N×24°.59E, h18km, ML2.8/8, Error ellipse: s-maj=1.7km s-min=0.6km az=159.0*
*ATH **30** 15:55:47.6, 34°.66N×24°.58E, h17km±1km, ML3.0/8, Error ellipse: s-maj=2.2km s-min=1.0km az=183.0*

ISC 30 15:55:48.0±1.3, 34°.71N±0°.07×24°.56E±0°.03, h25km±8km, n22, σ1°07/38, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.37**	**33**	P	**Pb**	**15 55 55.7**	**-0.4**
SIVA				S	**Sb**	**15 56 01.7**	**+0.1**
	7μm,0.3s						
SIVA	**Sivas**	**0.37**	**33**	P	**Pb**	**15 55 55.7**	**-0.4**
SIVA				S	**Sb**	**15 56 01.7**	**+0.1**
SIVA				AML	AML	15 56 04.6	
	comp=E,16938μm,0.4s						
SIVA				AML	AML	15 56 06.2	
	comp=N,12675μm,0.3s						
TMBK	**Timbaki Herakl**	**0.40**	**24**	P	**Pb**	**15 55 56.6**	**0.0**
TMBK				S	**Sb**	**15 56 03.3**	**+0.9**
	comp=N,1μm,0.4s						
TMBK	**Timbaki Herakl**	**0.40**	**24**	P	**Pb**	**15 55 56.6**	**0.0**
TMBK				S	**Sb**	**15 56 02.9**	**+0.5**
TMBK				AML	AML	15 56 04.9	
	comp=E,8995μm,0.2s						
TMBK				AML	AML	15 56 06.7	
	comp=N,6241μm,0.5s						
GVDS	**Gavdos**	**0.41**	**289**	P	**Pb**	**15 55 56.5**	**-0.3**
GVDS				S	**Sn**	**15 56 04.6**	**-0.6**
	comp=N,2μm,0.4s						
GVD	**Gavdhos**	**0.41**	**289**	P	**Pb**	**15 55 56.2**	**-0.6**
GVD				S	**Sb**	**15 56 03.1**	**+0.3**
	comp=N,4μm,0.5s						
GVD	**Gavdhos**	**0.41**	**289**	P	**Pb**	**15 55 56.2**	**-0.6**
GVD				S	**Sb**	**15 56 03.1**	**+0.3**
G

4.7nm,0.1s
MRKS *e*S **Sg** 16 39 04.3 +5.7
38nm,0.2s
AML Almayashu 1.52 74 P **Pn** 16 38 36.9 -2.2
SNR=10
KK31 Karatay Array 1.63 327 P **Pn** 16 38 39.2 -0.9
2.2nm,0.3s,baz=147,slow=17,SNR=59
KK31 ⇓S **Sn** 16 38 59.9 -1.9
8.9nm,0.5s,baz=147,slow=29,SNR=8.6
KKAR Karatay Array 1.63 327⇓*i*P **Pn** 16 38 38.6 -1.6
baz=26
KKAR ⇓*i*S **Sn** 16 39 01.0 -0.9
baz=26
YBZ Yangibazar 1.66 255 P **Pg** 16 38 42.6 +0.5
EKS2 Erkin-Say 1.79 58 P **Sg** 16 39 10.9 +3.3
SNR=7.4
EKS2 Erkin-Say 1.79 58⇓*e*P **Pn** 16 38 41.1 -1.3
baz=59
EKS2 ⇓*i*S **Sn** 16 39 05.3 -0.5
baz=59
BTK Batken 1.81 202⇓*e*P **Pn** 16 38 43.0 +0.2
baz=2.0
BTK ⇓*e*S **Sg** 16 39 08.2 -0.3
baz=2.0
UCH Uchtor 2.14 76 P **Pb** 16 38 48.7 -1.4
SNR=16
UCH Uchtor 2.14 76⇑*i*P **Pn** 16 38 47.3 -0.3
baz=77
UCH ⇑*i*S **Sb** 16 39 15.7 -1.7
baz=77
AAK Ala-Archa 2.25 66 P **Pb** 16 38 50.6 -1.3
SNR=16
AAK Ala-Archa 2.25 66⇑*i*P **Pn** 16 38 48.5 -0.3
baz=66
AAK ⇑*i*S **Sn** 16 39 17.9 +0.6
baz=66
USP Ospenovka 2.56 52 P **Pb** 16 38 55.0 -2.1
SNR=15
USP Ospenovka 2.56 52⇓*i*P **Pn** 16 38 52.9 -0.1
baz=53
USP ⇓*i*S **Sn** 16 39 25.1 +0.3
baz=53
KBK Karagaybulak 2.57 68 P **Pb** 16 38 56.0 -1.3
SNR=12
KBK Karagaybulak 2.57 68⇓*e*P **Pn** 16 38 53.1 -0.1
baz=69
KBK ⇓*e*S **Sn** 16 39 25.7 +0.5
baz=69
CHMS Chumysh 2.58 60 P **Pb** 16 38 55.4 -1.9
SNR=8.6
CHMS Chumysh 2.58 60 ⇓Pn **Pb** 16 38 55.4 -1.9
9.5nm,0.6s
CHMS ⇓Sn **Sb** 16 39 29.6 +0.1
7.8nm,0.6s
TKM2 Tokmak 2 3.11 66 P **Pb** 16 39 04.0 -2.5
SNR=9.6
TKM2 Tokmak 2 3.11 66 ⇓Pn **Pb** 16 39 03.7 -2.8
4.1nm,0.5s
TKM2 ⇑Sn **Sb** 16 39 44.8 -0.2
9.4nm,0.6s
DGS Degeres 3.35 62 *e*P **Pb** 16 39 09.0 -1.6
1.2nm,0.2s
DGS *e*S **Sb** 16 39 53.5 +1.6
7.9nm,0.5s
DGS Degeres 3.35 62 Pg **Pb** 16 39 09.0 -1.6
1.2nm,0.2s
DGS Lg Lg 16 39 53.5
7.9nm,0.5s
KST Kastek 3.40 66 *e*P **Pb** 16 39 09.9 -1.6
1.5nm,0.1s
KST *e*S **Sb** 16 39 54.9 +1.5
5.2nm,0.6s
KST Kastek 3.40 66 Pg **Pb** 16 39 09.9 -1.6
1.5nm,0.1s
KST Lg Lg 16 39 54.9
5.2nm,0.6s
MTBS Maitube 3.75 67 *e*P **Pb** 16 39 16.8 -0.6
MTBS *e*S **Sg** 16 40 07.0 -3.9
MTBS Maitube 3.75 67 Pg **Pb** 16 39 16.8 -0.6
MTBS Lg Lg 16 40 06.9
KUU Kurty 4.02 56 *e*P **Pb** 16 39 24.0 +2.0
1.8nm,0.4s
KUU *e*S **Sg** 16 40 19.9 +0.4
7.1nm,0.4s
KUU Kurty 4.02 56 Pg **Pb** 16 39 24.0 +2.0
1.8nm,0.4s
KUU Lg Lg 16 40 19.9
7.1nm,0.4s
MDOK Medeo 4.19 68 Pg **Pb** 16 39 26.2 +1.2
5.7nm,0.9s
MDOK Lg Lg 16 40 26.6
3.5nm,0.7s
CHKK Chushkaly 4.42 60 *e*P **Pb** 16 39 30.3 +1.6
1.3nm,0.4s
CHKK *e*S **Sg** 16 40 29.5 -2.6
4.9nm,0.2s
CHKK Chushkaly 4.42 60 Pg **Pb** 16 39 30.3 +1.6
1.3nm,0.4s
CHKK Lg Lg 16 40 29.5
4.9nm,0.2s
ARXS Arharly 5.12 59 *e*P **Pb** 16 39 40.3 -0.4
3.2nm,0.6s
ARXS *e*S **Sb** 16 40 47.1 +4.4
5.5nm,0.5s
ARXS Arharly 5.12 59 Pg **Pb** 16 39 40.3 -0.4
3.2nm,0.6s
ARXS Lg Lg 16 40 47.1
5.5nm,0.5s

VAO ***30*** *16:45:12.8±0.5, 1°.57S×77°.54W, h171km±4km, mb5.2*
IGQ ***30*** *16:45:12±0.5, 2°.5±3°×7°.8W±°, h181km*
NEIC ***30*** *16:45:12.3±1.8, 1°.60S±0°.06×77°.55W±0°.07, h171km±6km, mb4.9/558, Error ellipse: s-maj=10.3km s-min=8.2km az=83.0*
IDC ***30*** *16:45:13.2±0.6, 1°.57S×77°.57W, h180km±4km, mb4.5/31, mbtmp5.0/37, MS3.5/9, Error ellipse: s-maj=9.9km s-min=7.1km az=63.0*
GCMT ***30*** *16:45:14.4±0.3, 1°.80S±0°.02×77°.75W±0°.02, h185km±2km, MW5.0/102, Moment Tensor Solution. s32,c36; s102,c132; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.48±.12; Mθθ 0.28±.14; Mϕϕ 2.19±.16; Mrθ 2.00±.10; Mθϕ=-2.30±.15; Mϕr=-2.24±.12; Best double couple: M₀=4.33000×10¹⁶ NP1:ϕs=318.00000°, δ67.00000°, λ=-98.00000°. NP2:ϕs=159.00000°, δ24.00000°, λ=-71.00000°. Principal axes: T 4.9260, Plg22.0000°, Azm55.0000°; N -1.1950, Plg8.0000°, Azm322.0000°; P -3.7350, Plg67.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 16:45:12.1±0.3, 1°.67S±0°.03×77°.67W±0°.04, h176km±2km, h176km:pP-P, n1108, σ1§01/1098, mb4.9/337, 4C-11D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUYO	**Puyo, Santo Ro**	**0.39**	**296**	P	**Pn**	**16 45 36.0**	**-0.1**
PUYO	**Puyo, Santo Ro**	**0.39**	**296**	S	**Sn**	**16 45 55.0**	**+0.5**
ARDO	**Archidona, Ten**	**0.68**	**349**	P	**Pn**	**16 45 37.0**	**-0.4**
ARDO	**Archidona, Ten**	**0.68**	**349**	S	**Sn**	**16 45 56.0**	**-0.9**
BULB	**Ulba Tungurahu**	**0.77**	**287**	P	**Pn**	**16 45 40.0**	**+1.8**
BULB	**Ulba Tungurahu**	**0.77**	**287**	S	**Sn**	**16 46 00.0**	**+1.7**
BPAT	**Tungurahua Vol**	**0.78**	**282**	P	**Pn**	**16 45 38.0**	**-0.4**
BRUN	**Tungurahua Vol**	**0.80**	**288**	P	**Pn**	**16 45 38.0**	**-0.2**
BRUN	**Tungurahua Vol**	**0.80**	**288**	S	**Sn**	**16 45 58.0**	**-0.3**
ARRY	**Arrayan**	**0.80**	**281**	P	**Pn**	**16 45 38.0**	**-0.4**
RETU	**Refugio**	**0.81**	**285**	P	**Pn**	**16 45 38.0**	**-0.6**
POND	**Pondoa**	**0.82**	**287**	P	**Pn**	**16 45 38.0**	**-0.5**
POND	**Pondoa**	**0.82**	**287**	S	**Sn**	**16 45 59.0**	**+0.2**
BMAS	**Trigal station**	**0.82**	**281**	P	**Pn**	**16 45 38.0**	**-0.6**
BMAS	**Trigal station**	**0.82**	**281**	S	**Sn**	**16 45 59.0**	**+0.1**
JUI6	**Juive**	**0.83**	**287**	P	**Pn**	**16 45 38.0**	**-0.5**
BBIL	**Ulba Tungurahu**	**0.84**	**285**	P	**Pn**	**16 45 38.0**	**-0.7**
BIL2	**Estacion Bilba**	**0.86**	**284**	P	**Pn**	**16 45 39.0**	**+0.3**
PIAT	**Ana Tenorio**	**0.89**	**318**	P	**Pn**	**16 45 39.0**	**0.0**
IGUA	**Igualata**	**0.98**	**280**	P	**Pn**	**16 45 39.0**	**-0.9**
TAMH	**Tambohuasha Ch**	**1.12**	**276**	P	**Pn**	**16 45 41.0**	**+0.2**
PORT	**Chimborazo Vol**	**1.12**	**280**		**Pn**	**16 45 41.3**	**+0.3**
PORT	**Chimborazo Vol**	**1.12**	**280**	P	**Pn**	**16 45 41.0**	**0.0**
VCES	**Cotopaxi**	**1.12**	**320**	P	**Pn**	**16 45 41.0**	**+0.1**
TAMB	**Tambo**	**1.19**	**324**	P	**Pn**	**16 45 41.0**	**-0.5**
CHSH	**Refugio Sur-Vo**	**1.21**	**278**		**Pn**	**16 45 41.2**	**-0.5**
CHSH	**Refugio Sur-Vo**	**1.21**	**278**	P	**Pn**	**16 45 41.0**	**-0.7**
BMOR	**Cotopaxi Volca**	**1.22**	**320**	P	**Pn**	**16 45 42.0**	**+0.2**
BTAM	**Cotopaxi Volca**	**1.22**	**324**	P	**Pn**	**16 45 42.0**	**+0.2**
SLOR	**San Lorenzo -**	**1.24**	**318**		**Pn**	**16 45 42.1**	**+0.2**
SLOR	**San Lorenzo -**	**1.24**	**318**	P	**Pn**	**16 45 42.0**	**+0.2**
BVC2	**Cotopaxi Volca**	**1.25**	**323**	P	**Pn**	**16 45 42.0**	**0.0**
ANTM	**Antisana-La Mi**	**1.25**	**334**	P	**Pn**	**16 45 42.0**	**0.0**
VC1	**Cotopaxi 1**	**1.25**	**324**	P	**Pn**	**16 45 42.0**	**0.0**
BREF	**Cotopaxi Volca**	**1.25**	**322**	P	**Pn**	**16 45 42.0**	**-0.2**
ANTS	**Antisana-Sarah**	**1.26**	**337**	P	**Pn**	**16 45 42.0**	**-0.2**
BNAS	**Cotopaxi Volca**	**1.28**	**321**	P	**Pn**	**16 45 43.0**	**+0.8**
CAMI	**Rancho Maria**	**1.29**	**320**	P	**Pn**	**16 45 43.0**	**+0.7**
NAS2	**Nasa**	**1.29**	**322**	P	**Pn**	**16 45 43.0**	**+0.7**
ANTG	**Antisana-Guama**	**1.29**	**333**	P	**Pn**	**16 45 42.0**	**-0.4**
ANTI	**Antisana**	**1.30**	**330**	P	**Pn**	**16 45 42.0**	**-0.5**
SUCR	**Mariscal Sucre**	**1.31**	**321**	P	**Pn**	**16 45 43.0**	**+0.5**
PAST	**Pastocalle**	**1.37**	**315**	P	**Pn**	**16 45 43.0**	**0.0**
TOMA	**Boca Toma-Volc**	**1.39**	**327**	P	**Pn**	**16 45 43.0**	**-0.1**
ILLI	**Illinizas Sur**	**1.42**	**312**	P	**Pn**	**16 45 41.0**	**-2.5**
BOSC	**San Juan Bosco**	**1.69**	**209**		**Pn**	**16 45 45.7**	**-0.1**
BOSC	**San Juan Bosco**	**1.69**	**209**	P	**Pn**	**16 45 45.0**	**-0.8**
CAYR	**Refugio Cayamb**	**1.70**	**349**	P	**Pn**	**16 45 47.0**	**+0.6**
JUA2	**San Juan 2**	**1.72**	**327**	P	**Pn**	**16 45 46.0**	**-0.4**
ANGU	**Angureal**	**1.73**	**349**	P	**Pn**	**16 45 47.0**	**+0.3**
GGPC	**Guagua Pichinc**	**1.74**	**328**	P	**Pn**	**16 45 46.0**	**-0.8**
TERV	**Terraza Guagua**	**1.75**	**328**	P	**Pn**	**16 45 47.0**	**+0.2**
YANA	**Yana**	**1.78**	**330**	P	Pn	16 45 56.0	+8.9
ACUE	**Ecuador-Cuenca**	**1.79**	**226**	P	**Pn**	**16 45 47.0**	**+0.1**
AMIL	**Milagro (Trans**	**1.98**	**256**	P	**Pn**	**16 45 46.0**	**-2.6**
MILO	**Milagro-Astudi**	**1.98**	**252**	P	**Pn**	**16 45 46.0**	**-2.6**
IMBA	**Imbabura, San**	**2.00**	**345**		**Pn**	**16 45 50.2**	**+0.9**
IMBA	**Imbabura, San**	**2.00**	**345**	P	**Pn**	**16 45 50.0**	**+0.7**
OTAV	**Otavalo**	**2.04**	**338**	Pn	**Pn**	**16 45 49.5**	**-0.4**
OTAV	**Otavalo**	**2.04**	**338**	*e*P	**Pn**	**16 45 49.9**	**+0.1**
YAHU	**Yahuarcocha**	**2.06**	**349**	P	**Pn**	**16 45 50.0**	**0.0**
CUIC	**Cuicocha-Domo**	**2.08**	**341**	P	**Pn**	**16 45 50.0**	**-0.1**
CUSE	**Cuicocha Este**	**2.09**	**340**	P	**Pn**	**16 45 50.0**	**-0.3**
COTA	**Cotacachi**	**2.10**	**341**	P	**Pn**	**16 45 46.0**	**-4.5**
BONI	**La Bonita**	**2.11**	**4**	P	**Pn**	**16 45 50.0**	**-0.3**
GYE3	**Ecuador-Guayaq**	**2.28**	**258**	P	**Pn**	**16 45 49.0**	**-3.0**
TULM	**Tulcn-Chalpat**	**2.37**	**357**		**Pn**	**16 45 54.0**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.37**	**357**	P	**Pn**	**16 45 54.0**	**+0.5**
BV15	**Puerto Quito-O**	**2.39**	**319**	P	**Pn**	**16 45 52.0**	**-1.2**
LNGL	**El Angel-Carch**	**2.41**	**352**	P	**Pn**	**16 45 55.0**	**+0.9**
CHL1	**Volcn Chiles**	**2.46**	**354**	P	**Pn**	**16 45 55.0**	**+0.4**
CHL2	**Volcn Chiles**	**2.46**	**354**	P	**Pn**	**16 45 56.0**	**+1.3**
ECEN	**Cerro Negro**	**2.49**	**353**	P	**Pn**	**16 45 55.0**	**0.0**
FLF1	**Flavio Alfaro-**	**2.53**	**301**	P	**Pn**	**16 45 53.0**	**-1.9**
MAG1	**Magdalena**	**2.63**	**307**	P	**Pn**	**16 45 55.0**	**-1.1**
AV18	**Acelerografo,**	**2.67**	**317**	P	**Pn**	**16 45 56.0**	**-0.6**
ACH1	**Ecuador-Univer**	**2.76**	**234**	P	**Pn**	**16 45 55.0**	**-2.6**
JAMA	**Jama**	**2.89**	**299**	P	**Pn**	**16 45 57.0**	**-2.3**
CABP	**Cabo Pasado**	**3.04**	**295**	P	**Pn**	**16 45 59.0**	**-2.0**
ARNL	**Arenillas**	**3.04**	**232**		**Pn**	**16 45 57.7**	**-3.2**
ARNL	**Arenillas**	**3.04**	**232**	P	**Pn**	**16 45 58.0**	**-3.0**
GONZ	**Gonzanam**	**3.08**	**214**	P	**Pn**	**16 46 01.0**	**-0.9**
SNLR	**San Lorenzo-Es**	**3.17**	**338**	P	**Pn**	**16 46 02.0**	**-0.6**
LAMO	**ALAMOR**	**3.31**	**225**	P	**Pn**	**16 46 02.0**	**-2.5**
MCRA	**Macar, Loja**	**3.52**	**220**	Pn	**Pn**	**16 46 04.4**	**-2.7**
ATAH	**Atahualpa**	**5.48**	**188**	P	**Pn**	**16 46 33.8**	**+1.1**
	722nm,0.6s,baz=9.4,slow=8.9,SNR=459						
ATAH				S	**Sn**	**16 47 34.2**	**-1.7**
	879nm,0.7s,baz=45,slow=19,SNR=19						
ROSC	**El Rosal**	**7.28**	**27**	P	**Pn**	**16 46 57.1**	**+0.9**
	40nm,0.5s,baz=164,slow=9.6,SNR=9.2						
ROSC				S	Sn	16 48 03.7	-15
	51nm,0.6s,baz=112,slow=20,SNR=1.0						
ROSC	**El Rosal**	**7.28**	**27**	Pn	**Pn**	**16 46 56.6**	**+0.3**
CZSB	**Cruzeiro do Su**	**7.79**	**141**		**Pn**	**16 47 02.8**	**0.0**
CZSB	**Cruzeiro do Su**	**7.79**	**141**	*e*P	**Pn**	**16 47 02.7**	**0.0**
TBTG	**Tabatinga, AM**	**8.14**	**108**		**Pn**	**16 47 06.3**	**-1.0**
TBTG	**Tabatinga, AM**	**8.14**	**108**	*e*P	**Pn**	**16 47 06.1**	**-1.3**
NNA	**Nana**	**10.29**	**175**	P	**Pn**	**16 47 36.3**	**+0.8**
	32nm,0.5s,baz=333,slow=11,SNR=9.8						
NNA				S	**Sn**	**16 49 21.7**	**-8.3**
	89nm,0.7s,baz=96,slow=19,SNR=9.6						
NNA	**Nana**	**10.29**	**175**	Pn	**Pn**	**16 47 35.8**	**+0.2**
BCIP	**Isla Barro Col**	**10.97**	**349**		**Pn**	**16 47 43.8**	**-0.7**
CDITO	**Canoas**	**11.42**	**333**	Pn	**Pn**	**16 47 51.0**	**+0.8**
BRU2	**Volcan**	**11.53**	**334**	Pn	**Pn**	**16 47 48.8**	**-3.0**
SRBA	**San Rafael, Bu**	**12.22**	**332**	Pn	**Pn**	**16 48 00.3**	**-0.4**
SDV	**Santo Domingo**	**12.61**	**34**	P	**Pn**	**16 48 05.2**	**-0.5**
	108nm,0.7s,baz=216,slow=11,SNR=72						
SDV	**Santo Domingo**	**12.61**	**34**	Pn	**Pn**	**16 48 05.0**	**-0.8**
SDV	**Santo Domingo**	**12.61**	**34**	*e*P	**Pn**	**16 48 05.0**	**-0.8**
PAYG	**Puerto Ayora**	**12.65**	**274**	Pn	**Pn**	**16 48 07.4**	**+1.4**
RIMA	**Rio Macho**	**12.92**	**332**	Pn	**Pn**	**16 48 09.1**	**-0.6**
JTS	**Las Juntas de**	**13.91**	**329**		**P**	**16 48 23.7**	**-1.0**
ETMB	**Extrema**	**13.97**	**126**	Pn	**Pn**	**16 48 20.5**	**-2.3**
ETMB	**Extrema**	**13.97**	**126**	*e*P	**Pn**	**16 48 19.9**	**-1.9**
COVE	**Coope Vega, Sa**	**14.01**	**332**		**P**	**16 48 26.9**	**+1.2**
DUNO	**Dulce Nombre,**	**14.03**	**326**		**P**	**16 48 25.0**	**-0.9**
ORTG	**Ortega, Santa**	**14.24**	**327**		**P**	**16 48 27.9**	**-0.4**
BAUV	**El Baul**	**14.25**	**42**		**Pn**	**16 48 24.3**	**-1.9**
BAUV	**El Baul**	**14.25**	**42**	*e*P	**Pn**	**16 48 24.8**	**-1.4**
HZTE	**Horizontes, Gu**	**14.61**	**328**		**P**	**16 48 32.5**	**+0.2**
ESPN	**Las Esperanzas**	**15.26**	**335**	P	**Pn**	**16 48 38.5**	**-0.1**
ACON	**Acoyapa**	**15.46**	**331**	P	**P**	**16 48 42.4**	**+0.6**
BOAB	**BOACO BROADBAN**	**16.11**	**331**		**P**	**16 48 49.0**	**0.0**
SAML	**Samuel**	**16.13**	**117**		**P**	**16 48 47.1**	**-2.0**
HATO	**Hato, Curacao**	**16.25**	**32**	P	**P**	**16 48 48.7**	**-1.8**
BIRV	**Birongo**	**16.56**	**43**	P	**P**	**16 48 52.3**	**-1.6**
MATN	**Matagalpa**	**16.66**	**331**	P	**P**	**16 48 55.3**	**+0.3**
MACA	**Manacapuru-AM**	**17.04**	**95**	P	**P**	**16 48 58.5**	**-0.6**
MACA	**Manacapuru-AM**	**17.04**	**95**	*e*P	**P**	**16 48 58.1**	**-1.1**
LPAZ	**La Paz**	**17.30**	**148**	P	**Pn**	**16 49 04.0**	**+0.1**
	26nm,0.5s,baz=326,slow=10.0,SNR=66						
LPAZ				S	**S**	**16 52 15.2**	**+0.9**
	10.0nm,0.7s,baz=275,slow=19,SNR=3.6						
LPAZ	**La Paz**	**17.30**	**148**	P	**P**	**16 49 03.3**	**+0.6**
LPAZ	**La Paz**	**17.30**	**148**	*e*P	**Pn**	**16 49 04.0**	**+0.1**
PCRV	**Puerto La Cruz**	**17.51**	**48**	P	**Pn**	**16 49 05.3**	**-0.6**
	135nm,0.7s,baz=206,slow=7.7,SNR=45						
PCRV				S	**S**	**16 52 15.8**	**-1.9**
	8.6nm,0.8s,baz=204,slow=19,SNR=2.0						
BOAV	**Boa Vista**	**17.61**	**77**		**P**	**16 49 04.2**	**-1.3**
BOAV	**Boa Vista**	**17.61**	**77**	*e*P	**P**	**16 49 04.9**	**-0.6**
APO1	**Chacalluta**	**18.09**	**157**	P	**P**	**16 49 10.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**18.29**	**329**	P	**P**	**16 49 12.7**	**-0.3**
PB12	**IPOC Station P**	**18.32**	**157**	P	**P**	**16 49 13.7**	**+0.5**
PB16	**IPOC Station P**	**18.40**	**155**	P	**P**	**16 49 14.1**	**-0.5**
SNET	**Serv Nac Est T**	**19.08**	**323**	P	**P**	**16 49 19.5**	**-2.0**
MTO3	**Montecristo**	**19.72**	**324**	P	**P**	**16 49 29.5**	**+1.0**
GO01	**Chusmiza**	**19.72**	**156**	P	**P**	**16 49 30.1**	**+1.3**
MTDJ	**Mount Denham**	**19.77**	**0**	P	**P**	**16 49 30.1**	**+1.2**
ESQI	**Esquipulas**	**19.84**	**325**	P	**Pn**	**16 49 31.8**	**-1.5**
TA02	**Huaiquique**	**19.91**	**159**	P	**P**	**16 49 31.6**	**+1.4**
TA01	**Diego Aracena**	**20.16**	**159**	P	**P**	**16 49 33.4**	**+0.5**
PB08	**IPOC Station P**	**20.16**	**156**	P	**P**	**16 49 34.7**	**+1.3**
TRN	**Trinidad (W)**	**20.29**	**53**	*e*P	**P**	**16 49 33.7**	**-0.7**
PATCX	**Punta Patache**	**20.40**	**159**	P	**P**	**16 49 37.1**	**+1.5**
VILB	**Vilhena**	**20.62**	**124**	P	**P**	**16 49 38.1**	**+0.2**
VILB	**Vilhena**	**20.62**	**124**	*e*P	**P**	**16 49 38.4**	**+0.5**
PB01	**IPOC Station P**	**20.85**	**158**	P	**P**	**16 49 41.5**	**+1.1**
PB02	**IPOC Station P**	**20.95**	**159**	P	**P**	**16 49 42.2**	**+0.7**
GRGR	**Grenville**	**21.00**	**49**	P	**P**	**16 49 40.4**	**-1.6**
GRGR	**Grenville**	**21.00**	**49**	*e*P	**P**	**16 49 39.9**	**-2.1**
PB07	**IPOC Station P**	**21.33**	**160**	P	**P**	**16 49 46.5**	**+0.9**
TOSP	**Speyside**	**21.36**	**53**	P	**P**	**16 49 44.3**	**-1.5**
TOSP	**Speyside**	**21.36**	**53**	*e*P	**P**	**16 49 44.6**	**-1.2**
GTBY	**Guantanamo Bay**	**21.61**	**7**	P	**P**	**16 49 48.8**	**+0.4**
PB09	**IPOC Station P**	**21.63**	**158**	P	**P**	**16 49 49.7**	**+1.0**
SIV	**San Ignacio**	**21.68**	**132**	P	**P**	**16 49 50.6**	**+1.4**
	10nm,0.5s,baz=298,slow=9.2,SNR=41						
SIV				S	**S**	**16 53 37.8**	**+0.1**
	7.3nm,0.8s,baz=43,slow=14,SNR=2.0						
	10nm,0.5s						
PB04	**IPOC Station P**	**21.81**	**161**	P	**P**	**16 49 49.8**	**-0.8**
PETF	**Flores**	**22.04**	**327**	P	**P**	**16 49 52.5**	**-0.3**
ITTB	**Itaituba**	**22.07**	**97**	*e*P	**P**	**16 49 52.8**	**-0.3**
MLPR	**Magueyes Islan**	**22.14**	**28**	P	**P**	**16 49 52.0**	**-1.8**
MLPR					IAmb	IAmb	16 50 02.4
	comp=Z,47nm,0.8s						
CRPR	**Cabo Rojo, PR**	**22.14**	**28**	P	**P**	**16 49 51.5**	**-2.2**
PB06	**IPOC Station P**	**22.34**	**160**	P	**P**	**16 49 55.0**	**-0.8**
PB06					IAmb	IAmb	16 49 57.9
	comp=Z,23nm,0.8s						
OBIP	**Obispado Ponce**	**22.41**	**29**	P	**P**	**16 49 55.4**	**-0.9**
OBIP					IAmb	IAmb	16 50 17.7
	comp=Z,35nm,0.8s						
CELP	**Cerrillos**	**22.45**	**29**	P	**P**	**16 49 55.5**	**-1.2**
CELP					IAmb	IAmb	16 50 19.9
	comp=Z,49nm,1.0s						
LVC	**Limon Verde**	**22.49**	**158**	P	**P**	**16 49 59.4**	**+2.0**
	comp=Z,27nm,0.5s,baz=350,slow=6.4,SNR=38						
LVC				S	**S**	**16 53 52.3**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=29,slow=9.2,SNR=2.1						
	comp=Z,27nm,0.5s						
LVC	**Limon Verde**	**22.49**	**158**	P	**P**	**16 49 59.7**	**+2.3**
LVC					IAmb	IAmb	16 50 01.8
	comp=Z,66nm,1.1s						
LVC	**Limon Verde**	**22.49**	**158**	*e*P	**P**	**16 49 59.7**	**+2.3**
AOPR	**Arecibo Observ**	**22.60**	**28**	P	**P**	**16 49 57.8**	**-0.3**
SJG	**San Juan**	**22.69**	**29**	P	**P**	**16 49 57.7**	**-1.1**
	comp=Z,29nm,0.6s,baz=205,slow=5.8,SNR=8.6						
	comp=Z,29nm,0.6s						
SLBI	**Saint Lucia, B**	**22.73**	**46**	*e*P	**P**	**16 49 54.9**	**-4.4**
PB10	**IPOC Station P**	**22.79**	**163**	P	**P**	**16 50 01.1**	**+1.4**
PB10					IAmb	IAmb	16 50 03.8
	comp=Z,49nm,0.8s						
PTLB	**Pontes e Lacer**	**22.84**	**128**	P	**P**	**16 50 00.2**	**-0.1**
PTLB					IAmb	IAmb	16 50 11.0
	comp=Z,51nm,0.9s						
PTLB	**Pontes e Lacer**	**22.84**	**128**	*e*P	**P**	**16 50 01.3**	**+1.1**
PB15	**IPOC Station P**	**22.84**	**160**	P	**P**	**16 50 00.6**	**+0.2**
CCIG	**Comitan**	**22.85**	**322**	P	**P**	**16 50 00.2**	**-0.4**
CCIG					IAmb	IAmb	16 50 02.7
	comp=Z,40nm,1.0s						
HUMP	**Col San Antoni**	**22.87**	**30**	P	**P**	**16 50 00.8**	**+0.4**
HUMP					IAmb	IAmb	16 50 17.5
	comp=Z,62nm,1.0s						
NPGB	**Novo Progresso**	**22.87**	**104**	*e*P	**P**	**16 50 00.4**	**-0.2**
GCPR	**Guaynabo City**	**22.89**	**29**	P	**P**	**16 49 59.1**	**-1.6**
GCPR					IAmb	IAmb	16 50 13.5
	comp=Z,32nm,0.8s						
CBYP	**Canovanas**	**22.97**	**30**	P	**P**	**16 49 59.3**	**-2.2**
CBYP					IAmb	IAmb	16 50 22.4
	comp=Z,43nm,0.9s						
PDRB	**Porto dos Gac**	**23.00**	**116**	*e*P	**P**	**16 50 02.4**	**+0.6**
AF01	**San Pedro de A**	**23.08**	**157**	P	**P**	**16 50 04.6**	**+1.9**
FDF	**Fort de France**	**23.09**	**45**	*e*P	**P**	**16 50 02.3**	**-0.2**
MPOM	**Morne Pois Mar**	**23.10**	**46**	*e*P	**P**	**16 49 59.1**	**-3.5**
SVN	**Savane Anatole**	**23.15**	**44**	P	**P**	**16 50 00.3**	**-2.8**
CUPR	**Culebra, Puert**	**23.29**	**31**	P	**P**	**16 50 01.6**	**-2.7**
CUPR					IAmb	IAmb	16 50 39.3
	comp=Z,21nm,0.7s						
ILAM	**Ilet Lapin Mar**	**23.31**	**45**	P	**P**	**16 50 01.5**	**-3.0**
MALB	**Monte Alegre**	**23.39**	**91**	*e*P	**P**	**16 50 05.9**	**+0.5**
STVI	**Saint Thomas**	**23.50**	**32**	P	**P**	**16 50 02.7**	**-3.5**
STVI					IAmb	IAmb	16 50 30.7
	comp=Z,29nm,0.7s						
CLDB	**Colider**	**23.57**	**114**	*e*P	**P**	**16 50 07.4**	**+0.5**
PB14	**IPOC Station P**	**23.88**	**163**	P	**P**	**16 50 08.7**	**-1.3**
GRTK	**Grand Turk**	**23.91**	**15**	P	**P**	**16 50 08.3**	**-1.6**
TEIG	**Tepich**	**24.11**	**335**	P	**P**	**16 50 11.3**	**-0.5**
TEIG					IAmb	IAmb	16 50 12.8
	comp=Z,43nm,1.5s						
GO02	**Mina Guanaco**	**24.63**	**162**	P	**P**	**16 50 18.5**	**+1.8**
CMIG	**Matias Romero**	**25.21**	**318**	P	**P**	**16 50 22.7**	**+0.9**
	comp=Z,28nm,0.8s,baz=124,slow=6.8,SNR=30						
CMIG					PcP	**PcP**	**16 53 51.6**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=169,slow=5.2,SNR=3.9						
	comp=Z,28nm,0.8s						
AC01	**Pan de Azucar**	**25.27**	**165**	P	**P**	**16 50 22.3**	**0.0**
AC01					IAmb	IAmb	16 50 24.9
	comp=Z,25nm,0.8s						
SALV	**Santo Antonio**	**25.87**	**124**	*e*P	**P**	**16 50 28.2**	**+0.4**
MDP	**Montagnes des**	**25.89**	**75**	P	**P**	**16 50 27.7**	**-0.3**
	comp=Z,90nm,0.5s,baz=251,slow=8.8,SNR=85						
	comp=Z,90nm,0.5s						
AC02	**Maricunga**	**26.34**	**163**	P	**P**	**16 50 31.0**	**-1.4**
AC02					IAmb	IAmb	16 50 36.3
	comp=Z,34nm,1.1s						
AC06	**Mina Casimiro**	**26.49**	**165**	P	**P**	**16 50 33.2**	**0.0**
AC06					IAmb	IAmb	16 50 35.9
	comp=Z,24nm,0.7s						
061Z	**Ochoppi**	**27.55**	**354**	P	**P**	**16 50 42.9**	**+0.2**
AC05	**El Transito**	**27.93**	**166**	P	**P**	**16 50 45.9**	**-0.2**
SNDB	**Serra Nova Dou**	**28.09**	**113**	*e*P	**P**	**16 50 47.9**	**+0.3**
TLIG	**Tlapa**	**28.09**	**314**

LRAL **Lakeview Retre** 35.62 346 P **P** 16 51 52.7 -0.4
RCLB **Rio Claro- Sao** 35.82 127 *e*P **P** 16 51 55.9 +0.8
HODGE **Hodges** 35.97 354 P **P** 16 51 55.7 -0.3
HODGE IAmb IAmb 16 51 57.1
comp=Z,15nm,0.6s
Z47A **Carrollton** 36.04 345 P **P** 16 51 55.5 -1.1
Z47A IAmb IAmb 16 51 57.0
comp=Z,15nm,0.5s
X58A **Rowland** 36.06 358 P **P** 16 51 56.7 -0.1
BIRD **Birdtown, Kers** 36.22 356 P **P** 16 51 57.6 -0.4
BIRD IAmb IAmb 16 52 00.4
comp=Z,34nm,0.9s
Y49A **Blount Mountai** 36.28 348 P **P** 16 51 57.5 -1.2
TIJ01 **Guaruva-PR** 36.29 133 *e*P **P** 16 52 00.3 +1.3
833A **Chaparral WMA,** 36.39 327 P **P** 16 52 00.5 +0.8
833A IAmb IAmb 16 52 01.5
comp=Z,38nm,1.0s
833A **Chaparral WMA,** 36.39 327 P **P** 16 52 00.5 +0.8
baz=141,SNR=8.9
PAULI **Pauline** 36.50 354 P **P** 16 52 00.7 +0.2
PAULI IAmb IAmb 16 52 01.7
comp=Z,33nm,0.8s
VAO **Valinhos** 36.57 128 *e*P **P** 16 52 02.6 +1.2
CPSB **Cacapava Do Su** 36.67 144 *e*P **P** 16 52 02.1 0.0
W57A **Gilead** 36.69 357 P **P** 16 52 01.6 -0.6
W57A pP **pP** 16 52 36.1 -4.0
CNNC **Cliffs of the** 36.71 360 P **P** 16 52 02.2 -0.1
baz=180
KMSC **Kings Mountain** 36.78 355 P **P** 16 52 02.8 0.0
KMSC IAmb IAmb 16 52 04.0
comp=Z,34nm,0.8s
KMSC **Kings Mountain** 36.78 355 P **P** 16 52 02.9 0.0
baz=174,SNR=12
FPAL **Fort Paine** 36.78 349 P **P** 16 52 02.1 -0.8
BG3 **Lake Jocassee** 36.80 353 P **P** 16 52 03.2 +0.2
BG3 IAmb IAmb 16 52 04.9
comp=Z,20nm,0.9s
NATX **Nacogdoches** 36.95 336 P **P** 16 52 04.7 +0.3
baz=151
X48A **Hartselle** 36.99 347 P **P** 16 52 03.6 -1.1
W52A **Murphy** 37.03 351 P **P** 16 52 04.7 -0.4
Y45A **Yeager Farm, C** 37.07 344 P **P** 16 52 05.5 +0.2
Y45A IAmb IAmb 16 52 07.5
comp=Z,30nm,0.8s
DIAM **Diamantina, MG** 37.22 119 *e*P **P** 16 52 07.3 +0.3
V58A **Windy Hill, Pi** 37.29 358 P **P** 16 52 07.0 -0.1
W50A **Signal Mountai** 37.37 350 P **P** 16 52 06.4 -1.5
W50A IAmb IAmb 16 52 47.6
comp=Z,26nm,1.3s
435B **Jarrell** 37.43 331 P **P** 16 52 09.3 +0.9
baz=146
V53A **Saluda** 37.45 353 P **P** 16 52 08.4 -0.2
V53A IAmb IAmb 16 52 09.5
comp=Z,14nm,0.7s
V55A **Taylorsville** 37.47 355 P **P** 16 52 08.6 -0.1
V55A IAmb IAmb 16 52 09.8
comp=Z,16nm,0.7s
CPCT **Cooper Cave** 37.48 351 P **P** 16 52 08.4 -0.4
CPCT **pP** 16 52 47.2 +0.3
SWET **Sewanee** 37.50 349 P **P** 16 52 07.9 -1.1
CNLB **Canela** 37.52 140 *e*P **P** 16 52 10.3 +1.0
PLTB **Pedras Altas** 37.57 145 P **P** 16 52 08.9 -0.8
PLTB IAmb IAmb 16 52 26.2
comp=Z,24nm,0.8s
PLTB pP **pP** 16 52 47.2 0.0
PLTB **Pedras Altas** 37.57 145 *e*P **P** 16 52 09.8 +0.2
237A **Washetta, Mont** 37.64 334 P **P** 16 52 10.2 0.0
237A IAmb IAmb 16 52 11.4
comp=Z,24nm,0.8s
V52A **Sevierville** 37.72 352 P **P** 16 52 10.3 -0.5
V52A IAmb IAmb 16 52 12.1
comp=Z,27nm,1.1s
V51A **Loudon** 37.79 351 P **P** 16 52 11.1 -0.3
PARB **Paraibuna** 37.80 127 *e*P **P** 16 52 12.7 +0.9
U59A **Littleton** 37.82 360 P **P** 16 52 11.6 0.0
U56A **King** 37.90 356 P **P** 16 52 12.6 +0.3
LR03 **Panguipulli** 38.10 173 P **P** 16 52 13.2 -0.7
LR03 IAmb IAmb 16 52 16.1
comp=Z,30nm,0.8s
GO06 **Curarrehue** 38.16 172 P **P** 16 52 15.3 +0.7
GO06 IAmb IAmb 16 52 17.0
comp=Z,20nm,0.8s
V48A **Smith Brothers** 38.18 348 P **P** 16 52 13.7 -1.0
U54A **Nelsons Funny** 38.19 355 P **P** 16 52 14.7 -0.1
LR04 **Corral** 38.23 175 P **P** 16 52 16.9 +1.9
JCT **Junction City** 38.30 328 P **P** 16 52 15.7 -0.1
JCT IAmb IAmb 16 52 21.4
comp=Z,16nm,0.8s
JCT **Junction City** 38.30 328 P **P** 16 52 16.3 +0.5
baz=143
WHTX **Lake Whitney,** 38.37 332 P **P** 16 52 16.4 0.0
WHTX IAmb IAmb 16 52 17.4
comp=Z,20nm,0.8s
WHTX **Lake Whitney,** 38.37 332 P **P** 16 52 16.5 +0.2
baz=147
TZTN **Tazewell** 38.41 352 P **P** 16 52 16.2 -0.4
TZTN IAmb IAmb 16 52 17.6
comp=Z,24nm,0.7s
TZTN **Tazewell** 38.41 352 P **P** 16 52 16.0 -0.5
baz=170,SNR=7.7
CLTN **Cedars of Leba** 38.42 349 P **P** 16 52 15.5 -1.1
T59A **Double "B" Far** 38.44 0 P **P** 16 52 15.7 -1.0
T57A **Hurt** 38.50 358 P **P** 16 52 17.4 +0.1
T60A **Surry** 38.62 1 P **P** 16 52 18.6 +0.4
U49A **Red Boiling Sp** 38.73 350 P **P** 16 52 17.8 -1.4
BLA **Blacksburg** 38.77 356 P **P** 16 52 19.4 -0.1
BLA **Blacksburg** 38.77 356 P **P** 16 52 19.9 +0.3
baz=176,SNR=8.1
WVT **Waverly** 38.78 347 P **P** 16 52 18.0 -1.6
WVT **Waverly** 38.78 347 P **P** 16 52 17.7 -1.9
baz=164
WVT **Waverly** 38.78 347 P **P** 16 52 17.9 -1.8
TRQA **Tornquist** 38.98 160 P **P** 16 52 21.5 +0.2
TRQA IAmb IAmb 16 52 23.3
comp=Z,25nm,1.1s
T50A **Nancy** 39.06 351 P **P** 16 52 20.5 -1.4
JSRW **J. Sargeant Re** 39.16 360 P **P** 16 52 22.8 0.0
HPIG **39.20 318** P **P** 16 52 24.2 +0.7
HPIG IAmb IAmb 16 52 25.1
comp=Z,12nm,0.6s
WHAR **Wooly Hollow** 39.23 341 P **P** 16 52 22.6 -0.7
S57A **Dark Hollow, R** 39.25 358 P **P** 16 52 23.9 +0.4
S57A IAmb IAmb 16 52 24.5
comp=Z,30nm,0.8s
LL04 **Puerto Octay** 39.35 174 P **P** 16 52 24.8 +0.4
S54A **Dingess, Beckl** 39.41 355 P **P** 16 52 24.5 -0.4
PLCA **Paso Flores** 39.42 171 P **P** 16 52 26.5 +1.5
comp=Z,44nm,0.9s,baz=345,slow=9.3,SNR=69
PLCA PcP **PcP** 16 54 30.6 +1.0
comp=Z,8.2nm,0.8s,baz=347,slow=4.2,SNR=5.1
comp=Z,44nm,0.9s
PLCA **Paso Flores** 39.42 171 P **P** 16 52 26.1 +1.1
PLCA **Paso Flores** 39.42 171 *e*P **P** 16 52 26.5 +1.5
PLCA **Paso Flores** 39.42 171 P **P** 16 52 26.3 +1.3
PLCA sP **sP** 16 53 24.4 +1.7
R58B **Mineral** 39.43 360 P **P** 16 52 25.0 0.0
R58B IAmb IAmb 16 52 26.4
comp=Z,18nm,0.9s
T47A **Sharon Grove** 39.45 348 P **P** 16 52 23.6 -1.5
T47A IAmb IAmb 16 52 24.5
comp=Z,12nm,0.5s
S51A **Beattyville** 39.49 353 P **P** 16 52 24.8 -0.7
S51A IAmb IAmb 16 52 25.9
comp=Z,27nm,0.9s
GDU01 **Guandu, BA** 39.53 110 *e*P **P** 16 52 26.4 +0.2
SJMB **Sao Joao De Ma** 39.56 118 *e*P **P** 16 52 26.2 -0.2
LL03 **Petrohue** 39.58 174 P **P** 16 52 26.8 +0.6
LCAR **Lake Charles** 39.59 343 P **P** 16 52 24.8 -1.6
LCAR pP **pP** 16 53 02.5 -2.8
TX31 **Lajitas Ar. Si** 39.61 323 P **P** 16 52 26.2 -0.6
TX31 IAmb IAmb 16 52 30.2
comp=Z,29nm,0.8s
TX32 **Lajitas Array** 39.61 323 P **P** 16 52 26.5 -0.3
TXAR **Lajitas Array** 39.61 323 P **P** 16 52 27.9 +1.2
comp=Z,11nm,0.9s,baz=145,slow=7.3,SNR=44
TXAR PcP **PcP** 16 54 31.2 +0.8
comp=Z,4.2nm,0.8s,baz=147,slow=5.9,SNR=10
TXAR ScP **ScP** 16 58 03.8 +1.0
comp=Z,1.1nm,0.8s,baz=152,slow=6.1,SNR=4.8
TXAR LR LR 17 08 19.1
comp=Z,40nm,19.4s,baz=128,slow=35
comp=Z,11nm,0.9s
TXAR **Lajitas Array** 39.61 323 P **P** 16 52 27.4 +0.7
CBN **Corbin Frederi** 39.67 0 P **P** 16 52 25.3 -1.7

CBN **Corbin Frederi** 39.67 0 P **P** 16 52 26.9 -0.1
baz=180
X37A **Clayton** 39.71 337 **P** 16 52 27.4 0.0
FCAR **Ozark Folk Cen** 39.72 342 P **P** 16 52 26.2 -1.3
R55A **Marlinton** 39.81 357 P **P** 16 52 28.6 +0.4
DUB01 **Friburgo-RJ** 39.87 123 *e*P **P** 16 52 29.9 +0.9
ABTX **Abilene, Hawle** 39.94 331 P **P** 16 52 29.8 +0.4
ABTX IAmb IAmb 16 52 30.9
comp=Z,35nm,0.8s
ABTX **Abilene, Hawle** 39.94 331 P **P** 16 52 29.9 +0.6
baz=144,SNR=11
R53A **Hurricane** 39.99 355 P **P** 16 52 29.1 -0.5
R53A IAmb IAmb 16 52 30.1
comp=Z,31nm,0.8s
CMC01 **Camacan, BA** 40.01 112 *e*P **P** 16 52 30.5 +0.4
GUA01 **Guaratinga, BA** 40.10 114 *e*P **P** 16 52 30.9 +0.1
NAN01 **Guarapari, ES** 40.21 116 *e*P **P** 16 52 32.0 +0.2
R50A **Paris** 40.22 352 P **P** 16 52 30.2 -1.3
SLBS **Sierra La Lagu** 40.25 311 P **P** 16 52 34.0 +1.9
SLBS **Sierra La Lagu** 40.25 311 P **P** 16 52 33.8 +1.7
SLBS pP **pP** 16 53 13.9 +3.0
CGM3 **Cape Girardeau** 40.33 345 P **P** 16 52 30.5 -1.9
CGM3 IAmb IAmb 16 52 40.6
comp=Z,9.3nm,1.0s
R49A **Shelbyville** 40.36 351 P **P** 16 52 31.2 -1.4
R49A IAmb IAmb 16 52 32.6
comp=Z,38nm,1.5s
CAM01 **Campos-RJ** 40.36 122 *e*P **P** 16 52 33.4 +0.4
RIB01 **Linhares ES** 40.48 118 *e*P **P** 16 52 34.0 0.0
WCI **Wyandotte Cave** 40.49 350 P **P** 16 52 32.3 -1.4
baz=167
USIN **University of** 40.50 348 P **P** 16 52 32.7 -1.1
USIN IAmb IAmb 16 52 33.1
comp=Z,25nm,0.8s
Q56A **Snyder Ridge,** 40.53 358 P **P** 16 52 34.5 +0.4
Q56A IAmb IAmb 16 52 35.8
comp=Z,25nm,0.9s
Q54A **Coxs Mills** 40.55 356 P **P** 16 52 33.9 -0.4
Q54A IAmb IAmb 16 52 34.9
comp=Z,29nm,0.7s
S44A **Carbondale** 40.61 346 P **P** 16 52 33.2 -1.5
Q52A **Bidwell** 40.65 354 P **P** 16 52 34.7 -0.3
ALF01 **Guarapari-ES** 40.67 120 *e*P **P** 16 52 36.0 +0.5
HHAR **Hobbs** 40.68 340 P **P** 16 52 34.2 -1.2
X34A **Smith Ranch, M** 40.74 334 P **P** 16 52 36.3 +0.4
X34A IAmb IAmb 16 52 37.4
comp=Z,32nm,1.4s
Q51A **Peebles** 40.83 353 P **P** 16 52 35.5 -1.0
Q51A IAmb IAmb 16 52 37.4
comp=Z,64nm,1.7s
MGMO **Mountain Grove** 40.93 342 P **P** 16 52 36.4 -1.1
MGMO IAmb IAmb 16 52 38.2
comp=Z,16nm,0.7s
U38A **Gravette** 40.98 339 P **P** 16 52 36.7 -1.2
TUL1 **Leonard** 41.03 337 P **P** 16 52 37.2 -1.0
TUL1 **Leonard** 41.03 337 P **P** 16 52 37.0 -1.2
baz=152
P53A **Whipple** 41.09 356 P **P** 16 52 38.2 -0.5
FNO **Franklin** 41.11 335 P **P** 16 52 37.9 -1.0
FNO IAmb IAmb 16 52 40.6
comp=Z,14nm,0.5s
MCWV **Mont Chateau** 41.17 357 P **P** 16 52 38.9 -0.4
MCWV IAmb IAmb 16 52 40.5
comp=Z,42nm,1.3s
MCWV **Mont Chateau** 41.17 357 P **P** 16 52 39.1 -0.2
baz=177
FVM **French Village** 41.18 345 P **P** 16 52 38.4 -0.9
P51A **Williamsport** 41.25 354 P **P** 16 52 38.7 -1.2
P51A IAmb IAmb 16 52 40.9
comp=Z,22nm,0.8s
DEOK **Depew** 41.25 337 P **P** 16 52 38.9 -1.1
DEOK IAmb IAmb 16 52 40.9
comp=Z,14nm,1.0s
WMOK **Wichita Mounta** 41.27 333 **P** 16 52 40.0 -0.3
WMOK **Wichita Mounta** 41.27 333 P **P** 16 52 40.2 -0.1
baz=147,SNR=13
P52A **Corning** 41.30 355 P **P** 16 52 39.7 -0.6
P52A **Corning** 41.30 355 P **P** 16 52 39.5 -0.8
baz=173,SNR=7.2
OLIL **Olney** 41.33 348 P **P** 16 52 38.4 -2.2
OLIL IAmb IAmb 16 52 41.1
comp=Z,59nm,1.6s
CCM **Cathedral Cave** 41.47 344 P **P** 16 52 39.7 -2.0
CCM **Cathedral Cave** 41.47 344 P **P** 16 52 40.4 -1.4
baz=159
CCM **Cathedral Cave** 41.47 344 P **P** 16 52 40.2 -1.6
CCM ScP **ScP** 16 58 09.6 -0.1
OK034 **N. Norfolk Rd.** 41.48 336 **P** 16 52 41.6 -0.3
OK031 **S. Brethren Rd** 41.48 336 **P** 16 52 41.0 -0.8
OK031 IAmb IAmb 16 52 42.9
comp=Z,34nm,1.3s
MVL **Millersville** 41.48 2 P **P** 16 52 42.2 +0.4
MVL IAmb IAmb 16 52 43.3
comp=Z,28nm,0.8s
P49A **Miami Univ. Ec** 41.51 352 P **P** 16 52 40.6 -1.4
P49A **Miami Univ. Ec** 41.51 352 P **P** 16 52 40.4 -1.7
baz=169
OK029 **Liberty Lake** 41.60 336 **P** 16 52 42.6 -0.3
OK029 IAmb IAmb 16 52 44.2
comp=Z,23nm,1.0s
OK033 **Mehan** 41.60 336 P **P** 16 52 42.4 -0.4
QUOK **Quay** 41.62 337 P **P** 16 52 42.2 -0.8
QUOK IAmb IAmb 16 52 43.5
comp=Z,10nm,0.5s
LL02 **Futaleuf** 41.67 174 P **P** 16 52 42.6 -0.7
LL02 IAmb IAmb 16 52 45.5
comp=Z,35nm,0.9s
Q44A **Meyer Farm, Va** 41.70 347 P **P** 16 52 41.8 -1.8
PAGS **Pennsylvania G** 41.70 1 P **P** 16 52 43.2 -0.4
PAGS IAmb IAmb 16 52 44.8
comp=Z,39nm,1.0s
O54A **Avella** 41.72 357 P **P** 16 52 43.7 -0.1
O52A **Adamsville** 41.76 355 P **P** 16 52 43.1 -0.9
S39A **Bolivar** 41.76 341 P **P** 16 52 42.6 -1.4
O53A **New Philadelph** 41.84 356 P **P** 16 52 44.3 -0.4
baz=175
RCBR **Riachuelo** 41.87 97 P **P** 16 52 45.2 -0.2
comp=Z,22nm,0.6s,baz=216,slow=3.3,SNR=13
RCBR LR LR 17 11 17.5
comp=Z,133nm,18.4s,baz=83,slow=37
comp=Z,22nm,0.6s
RCBR **Riachuelo** 41.87 97 P **P** 16 52 43.0 -2.4
RCBR IAmb IAmb 16 52 45.8
comp=Z,26nm,0.8s
RCBR **Riachuelo** 41.87 97 *e*P **P** 16 52 45.7 +0.2
RCBR **Riachuelo** 41.87 97 P **P** 16 52 45.4 -0.1
OK047 **Pawnee, Statio** 41.88 337 **P** 16 52 44.6 -0.5
OK047 IAmb IAmb 16 52 48.3
comp=Z,19nm,0.7s
OK046 **Pawnee Station** 41.89 337 P **P** 16 52 44.4 -0.8
NBAN **Anadia - AL** 41.91 103 *e*P **P** 16 52 46.1 +0.4
OK048 **Pawnee Station** 41.92 337 **P** 16 52 45.2 -0.3
OK045 **Pawnee Station** 41.94 337 P **P** 16 52 45.2 -0.4
OK051 **E0350 and S346** 41.96 337 **P** 16 52 45.5 -0.3
OK051 IAmb IAmb 16 52 48.0
comp=Z,30nm,1.0s
CLN7 **Carlsbad 7** 41.96 326 P **P** 16 52 46.9 +1.0
ACSO **Alum Creek Sta** 41.98 354 P **P** 16 52 44.5 -1.3
ACSO IAmb IAmb 16 52 45.9
comp=Z,34nm,0.8s
ACSO **Alum Creek Sta** 41.98 354 P **P** 16 52 45.0 -0.9
baz=172,SNR=6.0
R40A **Maddies Statio** 41.98 343 P **P** 16 52 44.7 -1.1
R40A IAmb IAmb 16 54 14.0
comp=Z,29nm,0.9s
CSTR **Hydro, Custer** 41.99 334 P **P** 16 52 45.4 -0.7
CSTR IAmb IAmb 16 52 47.5
comp=Z,7.1nm,1.5s
OK049 **E0420 Rd and N** 42.06 336 P **P** 16 52 44.6 -1.9
OK049 IAmb IAmb 16 52 49.4
comp=Z,18nm,0.8s
O49A **Covington** 42.10 352 P **P** 16 52 45.4 -1.4
O49A IAmb IAmb 16 52 46.9
comp=Z,28nm,1.1s
SSPA **Standing Stone** 42.10 360 P **P** 16 52 46.7 -0.1
SSPA IAmb IAmb 16 52 48.1
comp=Z,27nm,0.9s
SSPA **Standing Stone** 42.10 360 P **P** 16 52 46.9 +0.1
baz=180
SSPA **Standing Stone** 42.10 360 P **P** 16 52 47.2 +0.4
SSPA pP **pP** 16 53 26.6 +0.9
LUPA **Lehigh Univers** 42.12 3 P **P** 16 52 46.8 -0.2
LUPA IAmb IAmb 16 52 48.5
comp=Z,25nm,0.7s

O48B **Farmland** 42.28 351 P **P** 16 52 46.7 -1.5
baz=169
BLOK **Blackwell** 42.33 336 **P** 16 52 48.5 -0.3
BLOK IAmb IAmb 16 52 50.5
comp=Z,24nm,1.1s
N53A **Lisbon** 42.37 356 P **P** 16 52 48.2 -0.8
N53A IAmb IAmb 16 52 49.2
comp=Z,28nm,0.8s
CROK **Carrier** 42.42 336 **P** 16 52 49.2 -0.3
CROK IAmb IAmb 16 52 50.0
comp=Z,28nm,0.8s
CPRX **Cap Rock** 42.46 327 P **P** 16 52 51.4 +1.3
P43A **Skaggs, Pawnee** 42.52 346 P **P** 16 52 48.5 -1.7
P43A IAmb IAmb 16 53 29.4
comp=Z,46nm,1.4s
MSTX **Muleshoe** 42.59 329 P **P** 16 52 50.9 -0.2
MSTX IAmb IAmb 16 52 53.2
comp=Z,46nm,1.1s
MSTX **Muleshoe** 42.59 329 P **P** 16 52 51.4 +0.4
baz=141,SNR=17
N51A **Ashland** 42.60 355 P **P** 16 52 49.8 -1.0
N51A IAmb IAmb 16 52 50.6
comp=Z,31nm,0.8s
PAL **Palisades** 42.61 4 P **P** 16 52 50.6 -0.3
baz=185
KAN13 **South Haven SW** 42.65 336 **P** 16 52 50.5 -0.8
KAN13 IAmb IAmb 16 52 53.3
comp=Z,24nm,1.1s
ELIS **Ellis County** 42.67 334 P **P** 16 52 52.7 +1.2
ELIS IAmb IAmb 16 52 52.8
comp=Z,19nm,0.7s
OK038 **West end E0370** 42.72 335 P **P** 16 52 51.7 -0.3
OK038 IAmb IAmb 16 52 52.6
comp=Z,21nm,0.5s
TRNY **Table Rock, Ra** 42.72 4 P **P** 16 52 52.1 +0.3
TRNY IAmb IAmb 16 52 53.0
comp=Z,35nm,0.8s
U32A **Winter Ranch,** 42.75 334 P **P** 16 52 52.3 +0.2
U32A IAmb IAmb 16 52 53.3
comp=Z,35nm,0.8s
AMTX **Amarillo** 42.76 330 P **P** 16 52 51.4 -0.9
AMTX IAmb IAmb 16 52 53.8
comp=Z,32nm,0.8s
AMTX **Amarillo** 42.76 330 P **P** 16 52 52.9 +0.5
baz=143
OK032 **Salt Plains WL** 42.77 336 **P** 16 52 51.4 -1.0
OK032 IAmb IAmb 16 52 53.0
comp=Z,20nm,0.7s
KAN17 **Caldwell West** 42.80 336 **P** 16 52 52.7 +0.2
KAN17 IAmb IAmb 16 52 53.8
comp=Z,44nm,1.1s
N49A **Columbus Grove** 42.80 353 P **P** 16 52 51.0 -1.4
KAN14 **Manchester OK** 42.80 336 P **P** 16 52 51.6 -1.0
KAN14 IAmb IAmb 16 52 53.2
comp=Z,20nm,0.9s
M57A **Sunshine Farm,** 42.80 1 P **P** 16 52 52.9 +0.4
M57A IAmb IAmb 16 52 54.0
comp=Z,38nm,0.9s
AY01 **Puyuhuapi** 42.81 175 P **P** 16 52 52.7 +0.3
AY01 IAmb IAmb 16 52 54.6
comp=Z,23nm,0.8s
AY01 pP **pP** 16 53 26.8 -3.9
KAN09 **Caldwell North** 42.82 336 **P** 16 52 52.5 -0.1
KAN09 IAmb IAmb 16 52 54.0
comp=Z,31nm,1.1s
KS20 **Mayfield South** 42.87 336 **P** 16 52 52.6 -0.5
KS20 IAmb IAmb 16 52 54.5
comp=Z,24nm,1.0s
KAN01 **Argonia South** 42.89 336 **P** 16 52 53.0 -0.3
KAN01 IAmb IAmb 16 52 54.6
comp=Z,55nm,1.2s
KAN05 **Bluff City Nor** 42.90 336 P **P** 16 52 55.3 +2.0
KAN05 IAmb IAmb 16 52 58.5
comp=Z,29nm,0.8s
NOKA **Waynoka** 42.93 335 **P** 16 52 53.2 -0.4
NOKA IAmb IAmb 16 52 54.8
comp=Z,39nm,0.7s
M55A **Ridgway** 42.94 359 P **P** 16 52 53.2 -0.4
M55A IAmb IAmb 16 52 54.5
comp=Z,33nm,0.8s
N47A **Urbana** 42.97 351 P **P** 16 52 51.6 -2.2
N47A IAmb IAmb 16 52 53.5
comp=Z,60nm,1.3s
KAN06 **Argonia West S** 43.01 336 P **P** 16 52 54.0 -0.3
KAN06 IAmb IAmb 16 52 55.7
comp=Z,38nm,1.2s
KAN08 **Anthony NE Sta** 43.04 336 P **P** 16 52 53.9 -0.5
KAN08 IAmb IAmb 16 52 55.4
comp=Z,50nm,1.1s
KSPA **Keystone Colle** 43.05 2 P **P** 16 52 54.4 -0.1
KSPA IAmb IAmb 16 52 55.9
comp=Z,23nm,0.8s
P40A **Paris** 43.07 344 P **P** 16 52 53.2 -1.4
KAN16 **Harper SW Stat** 43.07 336 P **P** 16 52 54.5 -0.3
KAN16 IAmb IAmb 16 52 55.6
comp=Z,32nm,0.8s
M50A **Fremont** 43.15 354 P **P** 16 52 53.8 -1.4
ALLY **Alegheny Colle** 43.17 357 P **P** 16 52 54.8 -0.6
HDIL **Hopedale** 43.34 347 P **P** 16 52 54.6 -2.2
L56A **Greenwood** 43.60 0 P **P** 16 52 58.6 -0.3
L56A IAmb IAmb 16 52 59.9
comp=Z,27nm,0.8s
ERPA **Erie** 43.63 357 P **P** 16 52 58.3 -0.8
ERPA IAmb IAmb 16 52 59.4
comp=Z,36nm,0.8s
ERPA **Erie** 43.63 357 P **P** 16 52 58.3 -0.8
baz=176
BINY **Binghamton** 43.69 2 P **P** 16 53 00.3 +0.7
BINY **Binghamton** 43.69 2 P **P** 16 52 59.7 +0.1
baz=182,SNR=7.7
WVNY **West Valley, N** 43.88 359 P **P** 16 53 00.6 -0.5
COYC **Coyhaique** 44.00 174 P **P** 16 53 03.0 +1.0
COYC IAmb IAmb 16 53 04.5
comp=Z,37nm,1.0s
COYC **Coyhaique** 44.00 174 P **P** 16 53 03.3 +1.3
SRIG **Santa Rosalia** 44.02 313 P **P** 16 53 03.3 +0.9
SRIG IAmb IAmb 16 53 04.1
comp=Z,16nm,0.7s
HSIG **44.11 316** P **P** 16 53 02.8 -0.4
MMNY **Mt. Morris Dam** 44.20 360 P **P** 16 53 03.2 -0.4
MMNY IAmb IAmb 16 53 04.2
comp=Z,52nm,1.4s
K57A **Scipio Center** 44.21 1 P **P** 16 53 03.3 -0.4
121A **Cookes Peak, D** 44.36 323 P **P** 16 53 05.2 -0.1
121A IAmb IAmb 16 53 08.2
comp=Z,31nm,0.9s
121A **Cookes Peak, D** 44.36 323 P **P** 16 53 06.4 +1.1
baz=134,SNR=20
319A **Douglas** 44.51 320 P **P** 16 53 07.7 +1.3
N38A **Joes South For** 44.58 343 P **P** 16 53 05.5 -1.1
N38A IAmb IAmb 16 53 07.3
comp=Z,20nm,0.7s
MEDO **Medina** 44.63 359 P **P** 16 53 06.0 -1.0
MEDO IAmb IAmb 16 53 07.5
comp=Z,31nm,0.7s
J56A **Wolcott** 44.74 1 P **P** 16 53 07.4 -0.5
CRNM **Carthage** 44.75 325 P **P** 16 53 09.2 +0.9
BNM **Barren Site** 44.83 325 P **P** 16 53 10.0 +1.0
J58A **Remsen** 44.87 2 P **P** 16 53 08.8 -0.1
J58A IAmb IAmb 16 53 09.9
comp=Z,28nm,0.7s
J57A **Williamstown** 44.90 2 P **P** 16 53 09.0 -0.1
J57A IAmb IAmb 16 53 10.0
comp=Z,55nm,1.4s
ACCN **Adirondack Com** 44.99 4 P **P** 16 53 09.9 0.0
J59A **Piesco** 45.02 3 P **P** 16 53 10.4 +0.3
SBM **South Baldy** 45.02 325 P **P** 16 53 09.9 -0.9
LENM **Lemitar** 45.04 325 P **P** 16 53 12.0 +1.3
CBKS **Cedar Bluff** 45.12 336 P **P** 16 53 10.7 -0.3
CBKS **Cedar Bluff** 45.12 336 P **P** 16 53 11.7 +0.7
baz=148
J47A **Sunmer** 45.16 353 P **P** 16 53 10.3 -0.9
L40A **Anamosa** 45.22 346 P **P** 16 53 10.3 -1.4
L40A IAmb IAmb 16 53 12.3
comp=Z,43nm,1.4s
ANMO **Albuquerque** 45.31 326 LR LR 17 13 03.4
comp=Z,31nm,19.7s,baz=118,slow=37
ANMO **Albuquerque** 45.31 326 P **P** 16 53 12.8 0.0
ANMO **Albuquerque** 45.31 326 P **P** 16 53 14.0 +1.2
baz=137
ANMO **Albuquerque** 45.31 326 P **P** 16 53 14.0 +1.2
ANMO pP **pP** 16 53 54.8 +2.1
ANMO ScP **ScP** 16 58 26.5 +0.8
PECO **Prince Edward** 45.40 1 P **P** 16 53 12.3 -0.7
NCB **Newcomb** 45.54 3 P **P** 16 53 14.2 0.0

NCB IAmb IAmb 16 53 15.1
comp=Z,30nm,0.7s
JFWS Jewell Farm 45.80 347 P P 16 53 14.0 -2.3
JFWS IAmb IAmb 16 54 29.6
comp=Z,34nm,0.8s
T25A Trinidad 45.89 330 P P 16 53 18.6 +1.2
T25A IAmb IAmb 16 53 19.8
comp=Z,34nm,1.1s
T25A Trinidad 45.89 330 P P 16 53 18.5 +1.2
baz=141,SNR=13
DELO Deloro Mine 45.98 0 P P 16 53 16.7 -0.9
DELO IAmb IAmb 16 53 18.5
comp=Z,22nm,0.8s
LBNH Lisbon 45.99 6 P P 16 53 17.8 +0.1
LBNH IAmb IAmb 16 53 18.7
comp=Z,22nm,0.8s
LBNH Lisbon 45.99 6 P P 16 53 18.0 +0.3
baz=188
TUC Tucson 46.09 320 P P 16 53 19.0 +0.2
TUC IAmb IAmb 16 53 20.7
comp=Z,27nm,0.9s
TUC Tucson 46.09 320 P P 16 53 19.6 +0.9
baz=131
TUC Tucson 46.09 320 P P 16 53 19.6 +0.9
LONY Lake Ozonia 46.16 3 P P 16 53 18.8 -0.2
LONY IAmb IAmb 16 53 20.8
comp=Z,19nm,0.8s
LONY Lake Ozonia 46.16 3 P P 16 53 18.9 -0.2
baz=184,SNR=6.4
SADO Sadowa 46.25 359 LR LR 17 16 41.1
comp=Z,72nm,18.2s,baz=168,slow=41
SADO Sadowa 46.25 359 P P 16 53 18.3 -1.4
SADO IAmb IAmb 16 53 20.1
comp=Z,39nm,1.0s
FRNY Flat Rock 46.44 4 P P 16 53 20.9 -0.2
FRNY IAmb IAmb 16 53 22.3
comp=Z,38nm,0.8s
I42A Draeger Farm, 46.46 349 P P 16 53 20.2 -1.2
I42A IAmb IAmb 16 53 21.6
comp=Z,57nm,1.2s
KSCO Kaye Shedlock' 46.53 333 P P 16 53 21.9 -0.4
KSCO IAmb IAmb 16 53 24.6
comp=Z,22nm,0.7s
KSCO Kaye Shedlock' 46.53 333 P P 16 53 23.3 +1.1
baz=144
SDCO Great Sand Dun 46.91 330 P P 16 53 25.8 +0.5
SDCO IAmb IAmb 16 53 27.5
comp=Z,36nm,0.9s
SDCO Great Sand Dun 46.91 330 P P 16 53 26.6 +1.3
baz=140,SNR=68
G45A Suttons Bay 47.04 352 P P 16 53 24.5 -1.3
X18A Snowflake 47.05 323 P P 16 53 26.2 -0.1
MNTQ Montreal, Queb 47.10 4 P P 16 53 26.2 -0.1
G62A West of Eustis 47.11 7 P P 16 53 25.8 -0.6
G62A IAmb IAmb 16 53 27.9
comp=Z,51nm,1.3s
214A Organ Pipe Nat 47.19 318 P P 16 53 28.1 +0.8
214A IAmb IAmb 16 53 29.6
comp=Z,40nm,0.8s
214A Organ Pipe Nat 47.19 318 P P 16 53 28.5 +1.3
baz=128,SNR=36
PKME Peaks-Kenny Pk 47.32 8 P P 16 53 28.0 0.0
baz=191
W18A Petrified Fore 47.32 324 P P 16 53 29.5 +1.0
W18A Petrified Fore 47.32 324 P P 16 53 29.8 +1.3
baz=134,SNR=34
PIX Pinacate 47.38 317 P P 16 53 29.1 +0.4
S22A 4UR Ranch, Cre 47.59 328 P P 16 53 31.2 +0.6
S22A 4UR Ranch, Cre 47.59 328 P P 16 53 31.8 +1.1
baz=139,SNR=22
Q24A Divide 47.68 331 P P 16 53 30.3 -1.0
Q24A Divide 47.68 331 P P 16 53 31.7 +0.4
baz=141,SNR=5.6
TRQ Mont Tremblant 47.76 3 P P 16 53 30.9 -0.6
TRQ IAmb IAmb 16 53 31.9
comp=Z,27nm,1.0s
OGNE Ogallala 47.86 335 P P 16 53 32.8 +0.4
OGNE IAmb IAmb 16 53 33.8
comp=Z,33nm,0.9s
OGNE Ogallala 47.86 335 P P 16 53 32.9 +0.4
baz=146
K31A O'Neill 48.02 339 P P 16 53 33.4 -0.1
K31A IAmb IAmb 16 53 35.4
comp=Z,32nm,0.9s
MVCO Mesa Verde 48.09 327 P P 16 53 34.9 +0.5
MVCO Mesa Verde 48.09 327 P P 16 53 35.0 +0.6
baz=136,SNR=6.0
F42A Maple Grove Fa 48.12 350 P P 16 53 32.6 -1.6
F42A IAmb IAmb 16 53 33.6
comp=Z,26nm,0.8s
E46A Sault Ste Mari 48.19 354 P P 16 53 33.1 -1.6
E46A IAmb IAmb 16 53 33.6
comp=Z,21nm,0.7s
ECSD EROS Data Cent 48.28 342 P P 16 53 34.7 -0.8
ECSD EROS Data Cent 48.28 342 P P 16 53 35.4 -0.1
baz=154
113A Mohawk Valley, 48.32 318 P P 16 53 36.4 +0.5
E43A Lone Tree Farm 48.54 351 P P 16 53 35.6 -1.7
E43A IAmb IAmb 16 53 36.4
comp=Z,21nm,0.8s
ISCO Idaho Springs 48.56 331 P P 16 53 38.2 +0.2
ISCO Idaho Springs 48.56 331 P P 16 53 38.8 +0.8
baz=141,SNR=6.3
Y14A Wickenburg 48.56 320 P P 16 53 38.6 +0.8
WUAZ Wupatki 48.57 323 P P 16 53 39.2 +1.2
WUAZ Wupatki 48.57 323 P P 16 53 39.5 +1.5
baz=132,SNR=45
E62A Clayton Lake 48.62 7 P P 16 53 37.5 -0.4
E62A IAmb IAmb 16 53 39.4
comp=Z,60nm,1.2s
COWI Conover 48.63 349 P P 16 53 36.9 -1.2
COWI IAmb IAmb 16 53 42.7
comp=Z,71nm,1.8s
SMCO Snowmass 48.75 330 P P 16 53 40.2 +0.6
PV15 Paradox Valley 48.91 328 P P 16 53 41.6 +0.9
PV15 IAmb IAmb 16 53 43.5
comp=Z,34nm,1.0s
PV13 Radium Mtn., P 48.96 327 P P 16 53 41.5 +0.5
LATQ La Tuque 49.03 4 P P 16 53 41.0 0.0
PV07 Paradox Valley 49.07 328 P P 16 53 42.4 +0.6
PV07 IAmb IAmb 16 53 43.9
comp=Z,29nm,1.3s
PV11 David Mesa, Pa 49.09 327 P P 16 53 42.7 +0.7
PV11 IAmb IAmb 16 53 43.8
comp=Z,28nm,0.9s
D62A Allapoint, All 49.13 8 P P 16 53 42.1 +0.3
D62A IAmb IAmb 16 53 43.1
comp=Z,55nm,1.4s
GLA Glamis 49.20 318 P P 16 53 42.9 +0.2
GLA Glamis 49.20 318 P P 16 53 43.7 +1.0
baz=127
PV10 Paradox Valley 49.23 327 P P 16 53 43.2 +0.1
PV10 IAmb IAmb 16 53 44.3
comp=Z,25nm,0.9s
PV23 Carpenter Ridg 49.27 327 P P 16 53 44.0 +0.5
ESJX Sierra Juarez 49.35 316 P P 16 53 45.0 +0.9
F36A Milaca 49.36 345 P P 16 53 43.0 -0.7
BLYC Blythe 49.42 319 P P 16 53 44.0 -0.4
PDMCI Parker Dam,Lak 49.52 320 P P 16 53 45.8 +0.8
baz=129
N23A Red Feather La 49.57 332 P P 16 53 45.8 +0.2
N23A Red Feather La 49.57 332 P P 16 53 46.0 +0.4
baz=142,SNR=7.3
VLDQ Val d'Or 49.58 0 P P 16 53 44.0 -1.2
VLDQ IAmb IAmb 16 54 24.1
comp=Z,50nm,1.8s
E38A The Farm, Brul 49.60 347 P P 16 53 44.5 -1.0
E38A IAmb IAmb 16 53 44.8
comp=Z,28nm,1.4s
GO09 Cerro Castillo 49.63 176 P P 16 53 47.6 +2.0
GO09 IAmb IAmb 16 53 49.0
comp=Z,33nm,0.8s
PHWY Pilot Hill 49.66 333 P P 16 53 47.0 +0.6
PHWY IAmb IAmb 16 53 47.7
comp=Z,31nm,1.6s
SUSD Miller 49.68 340 P P 16 53 45.8 -0.3
baz=152
YUH Yuha Desert 49.70 317 P P 16 53 46.8 +0.3
YUH IAmb IAmb 16 53 48.7
comp=Z,22nm,0.9s
U15A North Rim 49.73 323 P P 16 53 47.6 +0.7
RMX La Rumorosa 49.79 317 P P 16 53 47.2 -0.1
RMX IAmb IAmb 16 53 49.1
comp=Z,34nm,1.1s
BATG Bathurst New B 49.79 10 P P 16 53 46.1 -0.7
BATG IAmb IAmb 16 54 15.8
comp=Z,69nm,1.7s
SWSC Sam W. Stewart 49.80 317 P P 16 53 48.3 +1.2
baz=126
IKP In-Ko-Pah, Jac 49.83 317 P P 16 53 48.9 +1.3
baz=126,SNR=8.6
W13A Hualapai Mount 49.85 321 P P 16 53 49.1 +1.3
W13A IAmb IAmb 16 53 50.2
comp=Z,22nm,0.8s
BC3 Big Chuckawall 49.98 318 P P 16 53 49.6 +0.9
baz=127,SNR=12
CBX Cerro Bola 50.02 316 P P 16 53 50.7 +1.7
MG05 Puerto Natales 50.03 176 P P 16 53 50.4 +1.9
MG05 IAmb IAmb 16 53 51.6
comp=Z,34nm,0.9s
IRM Iron Mountain 50.08 319 P P 16 53 50.4 +1.1
baz=128,SNR=18
TKX Tecate 50.13 316 P P 16 53 51.0 +1.3
MONP2 Monument Peak 50.19 317 P P 16 53 51.2 +0.8
baz=126,SNR=8.7
BAR Barrett 50.24 316 P P 16 53 51.5 +1.0
PKCU Pink Cliffs 50.43 324 P P 16 53 52.7 +0.5
PKCU IAmb IAmb 16 53 54.6
comp=Z,65nm,1.6s
KNB Kanab 50.44 323 P P 16 53 52.8 +0.6
BELC Belle Mtn. Jos 50.55 318 P P 16 53 54.1 +1.1
baz=127,SNR=12
SRU San Rafael Swe 50.57 327 P P 16 53 53.6 +0.5
SRU IAmb IAmb 16 53 54.8
comp=Z,28nm,1.1s
PMD Palm Desert 50.60 318 P P 16 53 54.1 +0.9
PMD IAmb IAmb 16 53 55.4
comp=Z,19nm,1.4s
TPFO Pinon Flats 50.63 317 P P 16 53 54.6 +1.0
baz=126,SNR=6.5
PFO Pinyon Flats O 50.63 317 P P 16 53 53.9 +0.3
PFO Pinyon Flats O 50.63 317 P P 16 53 54.5 +0.9
baz=126,SNR=7.1
PFO Pinyon Flats O 50.63 317 P P 16 53 54.3 +0.7
PFO pP **pP 16 54 34.8 +0.5**
109C Camp Elliot, M 50.66 316 P P 16 53 54.0 +0.3
109C IAmb IAmb 16 53 55.6
comp=Z,63nm,1.4s
109C Camp Elliot, M 50.66 316 P P 16 53 54.6 +0.9
baz=125
LCMT Little Creek M 50.69 323 P P 16 53 54.8 +0.8
MTPU Mount Pierson 50.76 325 P P 16 53 55.1 +0.4
RWWY Rawlins 50.79 332 P P 16 53 55.0 +0.2
RWWY IAmb IAmb 16 53 56.9
comp=Z,24nm,0.9s
P18A Preston Nutter 50.79 328 P P 16 53 55.5 +0.6
P18A IAmb IAmb 16 53 56.6
comp=Z,62nm,1.9s
Q16A Castle Valley 50.79 326 P P 16 53 55.5 +0.7
GMRC Granite Mounta 50.80 319 P P 16 53 55.9 +1.1
baz=128,SNR=27
V12A Nelson 50.86 321 P P 16 53 55.4 +0.2
V12A IAmb IAmb 16 53 57.3
comp=Z,19nm,0.8s
EYMN Ely 50.86 348 P P 16 53 53.4 -1.5
EYMN IAmb IAmb 16 53 54.1
comp=Z,12nm,0.6s
EYMN Ely 50.86 348 P P 16 53 53.2 -1.7
baz=162
P17A Butcher Ranch, 50.94 327 P P 16 53 56.5 +0.6
P17A IAmb IAmb 16 53 57.6
comp=Z,21nm,1.0s
SZCU Shurtz Canyon 50.99 324 P P 16 53 56.4 +0.1
MSU Marysvale 51.08 325 P P 16 53 57.4 +0.5
MSU **PcP 16 55 10.5 +0.3**
TMUT Trail Mountain 51.08 327 P P 16 53 57.6 +0.6
MVU Marysvale 51.09 325 P P 16 53 57.3 +0.2
MVU pP **pP 16 54 36.9 -0.9**
MVU PcP **PcP 16 55 09.9 -0.4**
RDMU Red Mountain 51.12 329 P P 16 53 57.5 +0.3
RDMU IAmb IAmb 16 53 58.5
comp=Z,40nm,1.5s
CCUT Cedar City 51.12 323 P P 16 53 57.9 +0.6
CCUT PcP **PcP 16 55 10.5 0.0**
MURC Murrieta 51.13 317 P P 16 53 58.4 +1.2
baz=125,SNR=5.0
K22A Casper 51.21 333 P P 16 53 58.3 +0.5
K22A Casper 51.21 333 P P 16 53 58.0 +0.2
baz=142
WTNK Soaring Height 51.25 321 P P 16 53 58.3 +0.2
WTNK IAmb IAmb 16 53 60.0
comp=Z,13nm,1.8s
HEC Hector,Ludlow 51.27 319 P P 16 53 59.8 +1.5
baz=127,SNR=17
TCRU Three Creeks R 51.30 325 P P 16 53 59.7 +1.1
TCRU IAmb IAmb 16 54 00.7
comp=Z,38nm,1.3s
ELS Elsinore Mount 51.31 317 P P 16 53 59.0 +0.4
ELS IAmb IAmb 16 54 00.6
comp=Z,18nm,0.8s
RSSD Black Hills 51.32 336 P P 16 53 58.2 -0.4
RSSD pP **pP 16 54 35.4 -4.0**
RSSD Black Hills 51.32 336 P P 16 53 59.3 +0.7
baz=145
RSSD Black Hills 51.32 336 P P 16 53 59.4 +0.8
RSSD pP **pP 16 54 39.9 +0.5**
RSSD sP **sP 16 55 01.0 +2.0**
TUQ Turquoise Moun 51.37 320 P P 16 54 00.0 +1.0
baz=128,SNR=13
SHPR Sheep Range 51.54 321 P P 16 54 01.1 +0.8
SHPR PcP **PcP 16 55 11.4 -0.6**
SCI2 San Clemente I 51.71 316 P P 16 54 02.5 +1.1
baz=124
B35A Bob, Littlefor 51.75 346 P P 16 53 59.7 -1.8
B35A IAmb IAmb 16 54 02.1
comp=Z,67nm,2.0s
BFSC Mount Baldy Ra 51.81 317 P P 16 54 03.3 +0.9
baz=125,SNR=6.7
MPU Maple Canyon 51.81 327 P P 16 54 03.1 +0.8
MPU IAmb IAmb 16 54 04.1
comp=Z,19nm,1.0s
CIS Catalina Islan 51.85 316 P P 16 54 03.7 +1.2
baz=124
GSC Goldstone, Bar 51.86 319 P P 16 54 03.7 +1.1
GSC IAmb IAmb 16 54 05.0
comp=Z,21nm,0.9s
GSC Goldstone, Bar 51.86 319 P P 16 54 03.9 +1.2
baz=127,SNR=18
SHOC Shoshone, Teco 51.88 320 P P 16 54 03.8 +1.1
baz=128
NLU North Lily Min 52.01 327 P P 16 54 04.9 +1.0
PRN Pahroc Range 52.05 322 P P 16 54 04.9 +0.8
PRN PcP **PcP 16 55 13.6 -0.2**
PSUT Pine Spring 52.06 324 P P 16 54 04.8 +0.6
PASC Pasadena Art C 52.13 317 P P 16 54 05.0 +0.4
JLU Jordanelle 52.13 328 P P 16 54 05.3 +0.6
JLU IAmb IAmb 16 54 06.5
comp=Z,23nm,0.8s
E28A Huff 52.14 340 P P 16 54 04.2 -0.2
E28A IAmb IAmb 16 54 08.2
comp=Z,26nm,0.7s
AGMN Agassiz Nation 52.22 345 P P 16 54 03.9 -1.0
AGMN IAmb IAmb 16 54 05.7
comp=Z,34nm,1.6s
AGMN Agassiz Nation 52.22 345 P P 16 54 04.9 0.0
baz=157
DECC Green Verdugo 52.27 317 P P 16 54 06.7 +1.0
baz=125
QSM Queen of Sheba 52.30 320 P P 16 54 05.7 -0.1
GWY Greenwater Val 52.30 320 P P 16 54 05.3 -0.7
GWY PcP **PcP 16 55 14.3 -0.5**
CTU Camp Tracy 52.35 327 P P 16 54 06.1 -0.2
EDW2 Edwards Air Fo 52.40 318 P P 16 54 07.5 +0.9
baz=125,SNR=31
TCUT Toone Canyon 52.47 328 P P 16 54 07.8 +0.5
EFI East Falkland 52.49 165 P P 16 54 07.5 +0.6
EFI East Falkland 52.49 165 P P 16 54 08.4 +1.6
EFI sP **sP 16 55 09.8 +3.7**
TPNV Topopah Spring 52.50 321 P P 16 54 08.7 +1.2
TPNV IAmb IAmb 16 54 10.4
comp=Z,29nm,0.9s
TPNV Topopah Spring 52.50 321 P P 16 54 09.0 +1.5
baz=128,SNR=37
LRMC Laurel Mtn Rad 52.54 319 P P 16 54 08.7 +0.9
baz=126,SNR=12
CCAC Calif City Air 52.58 318 P P 16 54 08.3 +0.5
DUG Dugway, Tooele 52.59 326 P P 16 54 08.8 +0.8
DUG Dugway, Tooele 52.59 326 P P 16 54 09.0 +1.0
baz=134,SNR=21
FURC Furnace Creek, 52.60 320 P P 16 54 09.4 +1.5
baz=127,SNR=7.6
S11A Rachel 52.62 322 P P 16 54 10.0 +1.7
S11A IAmb IAmb 16 54 11.0
comp=Z,18nm,0.9s
WCT Wildcat Mounta 52.65 321 P P 16 54 09.5 +1.1
WCT IAmb IAmb 16 54 10.9
comp=Z,20nm,1.0s
SPR3 Spring Creek 3 52.65 324 P P 16 54 09.2 +0.5
SPR3 IAmb IAmb 16 54 10.3
comp=Z,16nm,0.8s
BW06 Boulder Array 52.74 331 P P 16 54 08.9 -0.3
BW06 Boulder Array 52.74 331 P P 16 54 09.2 0.0
baz=138,SNR=9.3
PD31 Pinedale Array 52.74 331 P P 16 54 09.0 -0.1
PDAR Pinedale Array 52.74 331 P P 16 54 08.9 -0.3
comp=Z,4.0nm,0.7s,baz=128,slow=8.8,SNR=34
PDAR PcP **PcP 16 55 16.0 -0.4**
comp=Z,2.0nm,0.6s,baz=138,slow=6.6,SNR=7.4
PDAR PKKP **PKKPdf 17 16 15.5 -0.2**
comp=Z,0.1nm,0.4s,baz=247,slow=1.9,SNR=1.7
comp=Z,4.0nm,0.7s
PDAR Pinedale Array 52.74 331 P P 16 54 08.5 -0.7
PDAR PcP **PcP 16 55 15.3 -1.1**
PDAR PP PP 16 56 00.8 -10
MPMC Manual Prospec 52.76 319 P P 16 54 10.0 +0.6
baz=126,SNR=9.2
HWUT Hardware Ranch 52.91 328 P P 16 54 10.3 -0.1
HWUT IAmb IAmb 16 54 11.6
comp=Z,22nm,0.8s
R11A Troy Canyon, C 52.97 323 P P 16 54 11.8 +0.9
R11A Troy Canyon, C 52.97 323 P P 16 54 11.9 +1.1
baz=130,SNR=28
SCZ2 Santa Cruz Isl 53.03 316 P P 16 54 12.0 +0.8
baz=123
ARVC Arvin 53.11 318 P P 16 54 12.9 +1.2
baz=125
ISA Isabella, Lake 53.17 318 P P 16 54 13.1 +0.8
ISA Isabella, Lake 53.17 318 P P 16 54 13.3 +1.0
baz=125,SNR=9.1
BGU Big Grassy Mou 53.21 327 P P 16 54 13.2 +0.6
BGU IAmb IAmb 16 54 14.2
comp=Z,26nm,1.1s
GRAC Grapevine Rang 53.24 320 P P 16 54 13.5 +0.8
GRAC IAmb IAmb 16 54 15.4
comp=Z,56nm,1.6s
GRAC Grapevine Rang 53.24 320 P P 16 54 13.9 +1.2
baz=127,SNR=12
GMN Gold Mountain 53.36 321 P P 16 54 14.0 +0.2
GMN IAmb IAmb 16 54 15.9
comp=Z,20nm,0.9s
GMN **pP 16 54 54.5 -0.3**
GMN **PcP 16 55 16.9 -2.0**
CWC Cottonwood Cre 53.37 319 P P 16 54 14.7 +0.9
baz=126
BCW Bitter Crk WRg 53.40 317 IAmb IAmb 16 54 16.1
comp=Z,27nm,1.0s
AHID Auburn Hatcher 53.50 330 IAmb IAmb 16 54 15.7
comp=Z,16nm,0.8s
USHA Ushuaia 53.53 173 P P 16 54 15.9 +1.6
comp=Z,25nm,0.7s,baz=353,slow=5.6,SNR=7.3
comp=Z,25nm,0.7s
PKM Mcpherson Peak 53.64 317 P P 16 54 16.8 +0.9
baz=124,SNR=7.6
VES Vestal, Richgr 53.68 318 P P 16 54 17.2 +1.3
baz=125
REDW Red Top Meadow 53.81 330 IAmb IAmb 16 54 18.3
comp=Z,16nm,1.1s
TIN Tinemaha, Big 53.83 320 P P 16 54 18.4 +1.3
baz=126
SNOW Snow King Moun 53.84 331 IAmb IAmb 16 54 18.7
comp=Z,44nm,1.6s
DSP Deep Springs 53.85 320 IAmb IAmb 16 54 19.4
comp=Z,15nm,1.0s
LOHW Long Hollow 53.88 331 P P 16 54 16.9 -0.5
SMMC Simmler 54.00 317 P P 16 54 19.6 +1.3
baz=124
LAO LASA Array 54.30 336 P P 16 54 20.2 -0.1
baz=144
ELK Elko 54.32 325 P P 16 54 19.7 -1.0
RLMT Red Lodge 54.38 333 P P 16 54 21.1 +0.1
baz=140,SNR=5.8
H17A Grant Village 54.45 331 P P 16 54 22.4 +0.8
baz=138
NV11 Mina Array Sit 54.60 321 P P 16 54 22.7 0.0
NV11 IAmb IAmb 16 54 25.0
comp=Z,20nm,1.3s
YFT Old Faithful 54.61 331 IAmb IAmb 16 54 28.0
comp=Z,23nm,1.4s
OMMB Old Mammoth Mi 54.65 320 IAmb IAmb 16 54 25.3
comp=Z,20nm,0.9s
NVAR Mina Array Bea 54.70 321 P P 16 54 24.5 +1.0
comp=Z,5.8nm,0.6s,baz=130,slow=7.2,SNR=51
NVAR pP **pP 16 55 05.9 +1.2**
comp=Z,4.9nm,0.9s,baz=138,slow=7.4,SNR=4.0
NVAR PcP **PcP 16 55 24.9 +0.9**
comp=Z,3.3nm,0.7s,baz=137,slow=4.7,SNR=7.1
NVAR ScP **ScP 16 59 06.1 +0.2**
comp=Z,0.9nm,0.7s,baz=129,slow=5.6,SNR=4.9
comp=Z,5.8nm,0.6s
LHV Little Huntoon 54.72 321 IAmb IAmb 16 54 25.9
comp=Z,13nm,0.9s
MDPB Devils Postpil 54.72 320 P P 16 54 23.5 -0.2
MDPB IAmb IAmb 16 54 25.6
comp=Z,21nm,1.1s
DGMT Dagmar 54.99 339 P P 16 54 25.6 +0.4
baz=147
GCMT Greycliff 55.08 333 P P 16 54 26.0 0.0
BMN Battle Mountai 55.27 324 P P 16 54 28.1 +0.6
BMN IAmb IAmb 16 54 29.1
comp=Z,22nm,0.9s
BMN pP **pP 16 55 08.4 -0.2**
WAKR Walker 55.45 321 IAmb IAmb 16 54 31.1
comp=Z,11nm,0.8s
YERR Yerington 55.62 321 IAmb IAmb 16 54 32.0
comp=Z,14nm,1.2s
HLID Hailey 55.78 328 P P 16 54 31.5 +0.5
baz=134,SNR=20
BOZ Bozeman (W) 55.84 332 IAmb IAmb 16 54 32.9
comp=Z,15nm,0.9s
BOZ Bozeman (W) 55.84 332 P P 16 54 31.8 +0.4
baz=138,SNR=21
PNTR Pine Nut 55.90 321 P P 16 54 32.1 0.0
PNTR IAmb IAmb 16 54 34.2
comp=Z,11nm,0.8s
VCNR Virginia City 56.06 321 IAmb IAmb 16 54 35.2
comp=Z,17nm,1.0s
PAHR Pah Rah Range 56.13 322 IAmb IAmb 16 54 35.8
comp=Z,15nm,1.2s
LRM Limekiln Ridge 56.39 331 P P 16 54 35.0 -0.4
MFID Camas Ranch 56.43 327 P P 16 54 35.3 -0.3
MFID **pP 16 55 15.6 -1.4**
AFDM Forest Hills D 56.69 320 IAmb IAmb 16 54 38.9
comp=Z,14nm,1.1s
EGMT Eagleton 56.83 335 IAmb IAmb 16 54 39.3
comp=Z,13nm,0.9s
EGMT Eagleton 56.83 335 P P 16 54 38.2 0.0
baz=141,SNR=5.5
BEKR Beckworth 56.84 321 IAmb IAmb 16 54 40.5
comp=Z,21nm,0.9s
SCHQ Schefferville 57.01 7 P P 16 54 38.8 -0.6
comp=Z,20nm,1.0s,baz=219,slow=7.2,SNR=10
comp=Z,20nm,1.0s
SCHQ Schefferville 57.01 7 IAmb IAmb 16 54 39.5
comp=Z,26nm,1.0s
WVOR Wild Horse Val 57.36 325 P P 16 54 42.2 +0.1
MSO Missoula 57.84 331 IAmb IAmb 16 54 46.8
comp=Z,22nm,1.3s
MSO Missoula 57.84 331 P P 16 54 45.8 +0.4
baz=136,SNR=5.5
KCPM Cahto Peak 58.78 320 P P 16 54 53.2 +1.1
K05A Summer Lake 58.85 324 IAmb IAmb 16 54 54.8
comp=Z,26nm,1.0s
I07A Izee 58.89 326 IAmb IAmb 16 54 55.2
comp=Z,22nm,0.9s
KMRM Mail Ridge 59.16 320 P P 16 54 55.1 +0.5
KMRM IAmb IAmb 16 54 56.2
comp=Z,14nm,0.8s
J05D Fort Rock, OR 59.39 324 P P 16 54 57.1 +0.8
baz=127,SNR=31
L04D Klamath Falls 59.40 323 P P 16 54 55.9 -0.4
L04D Klamath Falls 59.40 323 P P 16 54 56.4 +0.1
baz=125,SNR=7.3
KMPM Mount Pierce 59.52 320 P P 16 54 57.6 +0.4
J04D Umpqua Nationa 59.88 324 P P 16 55 00.0 +0.4
baz=126,SNR=10
KRMB Red Mountain 59.99 321 IAmb IAmb 16 55 02.4
comp=Z,28nm,1.3s

I05D **Terrebonne, OR** 60.09 325 P P 16 55 01.8 +1.0
baz=127,SNR=11
L02F **Cave Junction** 60.12 322 P P 16 55 01.5 +0.4
baz=124
NEW **Newport** 60.38 331 IAmb IAmb 16 55 03.8
comp=Z,12nm,0.8s
NEW **Newport** 60.38 331 P P 16 55 03.0 +0.2
baz=133,SNR=7.2
I04A **Tendick Farm,** 60.38 324 P P 16 55 02.7 -0.2
baz=126
D08A **Wollman Farm,** 60.48 329 P P 16 55 03.5 +0.1
K02D **Willamette Mer** 60.50 322 P P 16 55 04.3 +0.6
baz=124,SNR=7.6
G05D **Wamic, OR** 60.62 326 P P 16 55 05.8 +1.4
baz=128,SNR=8.1
H04A **Detroit Lake** 60.78 325 IAmb IAmb 16 55 06.6
comp=Z,16nm,0.9s
I03D **Drain, OR** 60.88 324 P P 16 55 06.5 +0.4
baz=125
J01E **Myrtle Point** 60.92 323 P P 16 55 07.7 +1.3
baz=124
I02E **Swisshome, OR** 61.41 324 P P 16 55 10.6 +0.9
baz=125
LTY **Liberty** 61.52 328 P P 16 55 10.4 -0.1
LTY IAmb IAmb 16 55 12.2
comp=Z,14nm,1.1s
B08A **Colville Reser** 61.54 330 IAmb IAmb 16 55 11.8
comp=Z,13nm,0.9s
LON **Longmire** 61.82 327 IAmb IAmb 16 55 13.8
comp=Z,12nm,0.8s
HOPE **Hope Point** 62.32 154 P P 16 55 17.2 +1.6
E03A **Lebam** 62.66 326 P P 16 55 18.2 +0.3
NLWA **Neilton Lookou** 63.33 327 IAmb IAmb 16 55 24.6
comp=Z,19nm,0.9s
B04A **Port Angeles** 63.52 327 IAmb IAmb 16 55 25.9
comp=Z,22nm,1.0s
PGC **Sidney** 63.85 328 IAmb IAmb 16 55 27.7
comp=Z,13nm,0.8s
LLLB **Lillooet** 64.26 330 IAmb IAmb 16 55 30.1
comp=Z,21nm,1.2s
OZB **Mount Ozzard** 65.13 327 P P 16 55 35.2 +1.1
OZB IAmb IAmb 16 55 36.4
comp=Z,16nm,0.8s
CBB **Campbell River** 65.68 328 IAmb IAmb 16 55 40.0
comp=Z,22nm,1.1s
BBB **Bella Bella** 68.33 329 P P 16 55 55.2 +1.0
comp=Z,9.2nm,0.8s,baz=125,slow=5.7,SNR=10
comp=Z,9.2nm,0.8s
YKA **Yellowknife Ar** 69.79 343 P P 16 56 02.5 -0.6
comp=Z,1.7nm,0.6s,baz=142,slow=5.5,SNR=4.1
YKA LR LR 17 28 19.6
comp=Z,14nm,18.4s,baz=134,slow=37
comp=Z,1.7nm,0.6s
SFJD **Kangerlussuaq** 71.14 11 P P 16 56 09.7 -1.4
SFJD **Kangerlussuaq** 71.14 11 *i* P P 16 56 09.7 -1.4
SFJD IAmb IAmb 16 56 11.1
comp=Z,105nm,1.6s
SFJD **Kangerlussuaq** 71.14 11 P P 16 56 09.4 -1.6
DY2G **Dye2** 71.58 13 *i* P P 16 56 12.9 -1.1
DY2G IAmb IAmb 16 56 13.8
comp=Z,36nm,1.0s
T35M **Bob Quinn** 72.04 333 P P 16 56 17.6 +0.9
baz=123
PPT **Papeete** 72.25 252 P P 16 56 20.5 +1.7
comp=Z,9.6nm,0.5s,baz=80,slow=13,SNR=1.3
comp=Z,9.6nm,0.5s
WRAK **Wrangell Islan** 72.71 332 P P 16 56 22.2 +1.5
baz=121
DLBC **Dease Lake** 72.75 334 P P 16 56 21.3 +0.3
comp=Z,9.6nm,0.8s,baz=142,slow=7.5,SNR=13
DLBC LR LR 17 32 02.6
comp=Z,25nm,18.1s,baz=284,slow=39
comp=Z,9.6nm,0.8s
DLBC **Dease Lake** 72.75 334 P P 16 56 21.8 +0.8
baz=124,SNR=5.3
LIC **Lamto** 72.94 83 *e*P P 16 56 22.4 -0.5
comp=Z,144nm,0.9s
S34M **Telegraph Cree** 72.95 333 P P 16 56 22.9 +0.8
baz=123
TIC **Toumodi** 72.97 83 *e*P P 16 56 22.6 -0.5
comp=Z,113nm,0.8s
ILULI **Ilulissat** 73.01 10 *i* P P 16 56 21.6 -0.5
ILULI IAmb IAmb 16 56 22.1
comp=Z,40nm,0.7s
DBIC **Dimbokro** 73.14 83 P P 16 56 23.8 -0.3
comp=Z,62nm,0.8s,baz=269,slow=4.9,SNR=50
comp=Z,62nm,0.8s
DBIC **Dimbokro** 73.14 83 P P 16 56 23.1 -1.0
KIC **Kosan Boka** 73.23 83 *e*P P 16 56 24.3 -0.3
comp=Z,75nm,0.6s
R33M **Jennings River** 73.69 335 P P 16 56 27.1 +0.6
baz=123
TGTN **Hyland Airport** 73.82 337 P P 16 56 28.3 +1.1
baz=126,SNR=7.2
Q32M **Nakina River** 74.02 334 P P 16 56 29.3 +0.8
baz=122
PFVI **Vila Bisbo** 74.28 51 *e*pP pP 16 57 14.8 +2.0
S32K **Killisnoo** 74.30 332 P P 16 56 30.8 +0.9
baz=120
MORF **Marmelete** 74.46 51 *e*P P 16 56 32.3 +0.9
MORF **Marmelete** 74.46 51 *e*PcP PcP 16 56 44.7 -0.4
MORF *e*pP pP 16 57 15.9 +2.0
PTEO **Sao Teotonio** 74.46 50 *e*pP pP 16 57 15.8 +2.0
KOWA **Kowa** 74.61 75 P P 16 56 31.9 -0.7
R32K **Eaglecrest** 74.67 333 P P 16 56 33.1 +1.0
baz=120
PNCL **Nicolau / Gran** 74.75 50 *e*pP pP 16 57 17.1 +1.6
PNCL A A 16 57 18.4
comp=Z,43nm,1.3s
NUUG **Nuugaatsiaq** 74.78 8 *i* P P 16 56 32.5 +0.1
NUUG IAmb IAmb 16 56 33.0
comp=Z,39nm,0.8s
P33M **Teslin, Yukon** 74.92 335 IAmb IAmb 16 56 35.2
comp=Z,20nm,1.3s
P33M **Teslin, Yukon** 74.92 335 P P 16 56 34.0 +0.5
baz=122,SNR=6.2
MESJ **Messejana** 74.92 50 *e*pP pP 16 57 18.1 +1.6
P32M **Atlin** 74.98 334 P P 16 56 34.4 +0.5
baz=121
PCVE **Castro Verde** 75.01 50 *e*pP pP 16 57 19.1 +2.1
ICESG **Greenland Ices** 75.18 13 *i* P P 16 56 34.5 -0.8
ICESG IAmb IAmb 16 56 35.1
comp=Z,72nm,0.7s
PMTG **Montargil** 75.22 49 *e*pP pP 16 57 19.4 +1.2
PMTG A A 16 57 20.2
comp=Z,21nm,1.1s
PBEJ **Beja** 75.24 50 *e*pP pP 16 57 20.4 +2.0
EVO **Evora** 75.25 50 *e*pP pP 16 57 18.9 +0.5
EVO A A 16 57 21.0
comp=Z,34nm,1.8s
PCAS **Casmilo, Conde** 75.27 48 *e*pP pP 16 57 20.1 +1.6
PCAS A A 16 57 21.3
comp=Z,48nm,1.3s
R31K **City Hall, Gus** 75.30 332 P P 16 56 35.5 -0.2
baz=119
COI **Coimbra** 75.37 48 *e*pP pP 16 57 20.9 +1.8
COI A A 16 57 21.7
comp=Z,102nm,1.3s
MMPY **Sheldon Lake,** 75.60 337 P P 16 56 38.3 +1.0
baz=124,SNR=15
SKAG **Skagway** 75.63 334 P P 16 56 38.4 +0.9
baz=119
PESTR **Estremoz** 75.65 49 *e*pP pP 16 57 22.3 +1.5
PESTR A A 16 57 23.5
comp=Z,63nm,1.4s
PESTR **Estremoz** 75.65 49 P P 16 56 37.3 -0.8
PESTR pP pP 16 57 20.5 -0.3
PESTR IAmb IAmb 16 57 23.3
comp=Z,22nm,1.0s
PVIS **Viseu** 75.88 47 *e*P P 16 56 39.6 +0.2
comp=Z,43nm,1.1s
PVIS *e*pP pP 16 57 23.1 +1.0
PBAR **Barrancos** 75.91 50 *e*pP pP 16 57 23.7 +1.5
PBAR A A 16 57 34.6
comp=Z,30nm,1.6s
PGAV **Gavieira, Arco** 75.93 46 *e*pP pP 16 57 23.5 +1.1
PGAV A A 16 57 24.7
comp=Z,42nm,1.4s
PMRV **Marv??o** 75.94 49 *e*pP pP 16 57 23.4 +1.0
PMRV A A 16 57 25.3
comp=Z,31nm,1.4s
PCBR **Castelo Branco** 75.97 48 *e*pP pP 16 57 23.7 +1.1
PCBR A A 16 57 25.0
comp=Z,29nm,1.6s
WHY **Whitehorse** 76.03 335 P P 16 56 39.9 0.0
baz=120
MTE **Manteigas** 76.06 48 *e*pP pP 16 57 24.2 +1.0
MTE A A 16 57 25.3
comp=Z,23nm,1.1s
MTE **Manteigas** 76.06 48 P P 16 56 40.1 -0.4
MTE pP pP 16 57 22.0 -1.2
MTE IAmb IAmb 16 57 25.0
comp=Z,17nm,0.9s
PLBC **Pleasant Camp** 76.09 333 P P 16 56 41.1 +1.0
baz=118
POLO **Lamas de Olo** 76.12 47 *e*pP pP 16 57 24.5 +0.9
POLO A A 16 57 25.9
comp=Z,20nm,1.3s
PVRL **Vila Real** 76.16 47 *e*pP pP 16 57 24.8 +1.1
PVRL A A 16 57 25.2
comp=Z,50nm,1.3s
FARO **Faro, Yukon** 76.20 337 P P 16 56 41.5 +0.7
baz=122,SNR=11
O30N **Mendenhall** 76.60 335 P P 16 56 43.8 +0.8
baz=119
M31M **Drury Creek, Y** 76.61 336 P P 16 56 44.0 +1.0
baz=121,SNR=7.1
MVO **Moncorvo** 76.63 47 *e*P P 16 56 42.8 -0.9
comp=Z,44nm,1.0s
MVO *e*pP pP 16 57 27.7 +1.3
P29M **Windy Craggy** 76.79 333 IAmb IAmb 16 56 45.9
comp=Z,15nm,0.8s
P29M **Windy Craggy** 76.79 333 P P 16 56 44.9 +0.8
baz=117,SNR=5.7
N31M **Braeburn, Yuko** 76.82 335 IAmb IAmb 16 56 46.0
comp=Z,21nm,0.9s
N31M **Breburn, Yuko** 76.82 335 P P 16 56 45.1 +0.9
baz=119,SNR=7.0
RES **Resolute Bay** 76.94 355 P P 16 56 45.1 +0.5
comp=Z,12nm,1.0s,baz=111,slow=6.8,SNR=2.0
comp=Z,12nm,1.0s
PBRG **Braganca** 77.00 46 *e*P P 16 56 44.6 -1.1
comp=Z,22nm,1.1s
PBRG *e*pP pP 16 57 29.5 +1.0
HYT **Haines Junctio** 77.24 334 P P 16 56 47.7 +1.0
baz=118
N30M **Aishikik Lake** 77.36 335 P P 16 56 48.3 +1.0
baz=118,SNR=17
O29M **Mount Kennedy** 77.47 334 P P 16 56 48.5 +0.5
baz=116
PNL **Peninsula** 77.56 333 P P 16 56 49.2 +0.8
baz=116
YUK6 **Outpost Mounta** 77.66 334 P P 16 56 50.5 +1.3
baz=117,SNR=8.8
YUK4 **Talbot Arm** 77.97 334 P P 16 56 52.0 +1.2
baz=117,SNR=8.8
SUMG **Summit** 78.12 11 P P 16 56 51.2 -0.6
SUMG pP pP 16 57 34.6 -0.1
SUMG **Summit** 78.12 11 *i* P P 16 56 51.0 -0.7
SUMG IAmb IAmb 16 56 52.3
comp=Z,54nm,0.6s
M29M **Somme Creek** 78.39 336 P P 16 56 53.9 +0.9
baz=117,SNR=26
O28M **Mount Upton** 78.39 334 P P 16 56 54.0 +0.7
baz=115
L29M **L29M** 78.56 336 P P 16 56 54.3 +0.5
baz=117,SNR=23
ESDC **Sonseca Array** 78.58 49 P P 16 56 54.7 +0.2
comp=Z,2.7nm,0.8s,baz=268,slow=5.2,SNR=14
ESDC pP pP 16 57 38.5 +1.1
comp=Z,12nm,1.1s,baz=261,slow=6.2,SNR=16
comp=Z,2.7nm,0.8s
ESDC **Sonseca Array** 78.58 49 P P 16 56 53.5 -1.0
ESDC pP pP 16 57 35.8 -1.7
ESDC IAmb IAmb 16 57 39.4
comp=Z,22nm,1.3s
K29M **Barlow Dome** 78.66 337 P P 16 56 55.0 +0.5
baz=118,SNR=16
YUK3 **Moose Creek** 78.94 334 P P 16 56 56.6 +0.5
baz=115,SNR=8.9
CTGM **Chitina Glacie** 78.98 334 IAmb IAmb 16 56 58.3
comp=Z,18nm,1.1s
CTG **Chitna Glacier** 78.98 334 P P 16 56 57.5 +1.1
baz=114
F31M **Tsiigehtchic** 79.13 341 P P 16 56 57.3 +0.5
baz=122,SNR=5.3
BVCY **Beaver Creek** 79.38 335 P P 16 56 59.0 +0.7
baz=115,SNR=9.0
BELA **Belgrano 2** 79.48 172 IAmb IAmb 16 57 00.6
comp=Z,25nm,0.8s
A36M **Sachs Harbour** 79.49 346 P P 16 56 58.9 +0.2
baz=131
DAWY **Dawson** 79.50 337 P P 16 56 58.8 -0.1
DAWY **Dawson** 79.50 337 P P 16 56 59.0 +0.1
baz=116,SNR=5.8
INK **Inuvik** 79.53 342 P P 16 56 59.6 +0.7
comp=Z,12nm,0.8s,baz=89,slow=8.5,SNR=9.5
comp=Z,12nm,0.8s
INK **Inuvik** 79.53 342 P P 16 56 59.3 +0.4
baz=123
BGLC **Bering Glacier** 79.53 332 P P 16 57 00.0 +0.9
baz=112
EPYK **Eagle Plains** 79.58 339 IAmb IAmb 16 57 00.8
comp=Z,20nm,0.9s
EPYK **Eagle Plains** 79.58 339 P P 16 56 59.9 +0.6
baz=119
I29M **Ogilvie Camp,** 79.67 338 P P 16 57 00.3 +0.4
baz=118,SNR=6.3
M27K **Edge Creek, AK** 79.79 335 P P 16 57 01.2 +0.6
baz=114
MCARA **McCarthy VSAT** 79.90 334 IAmb IAmb 16 57 03.8
comp=Z,23nm,1.0s
MCARA **McCarthy VSAT** 79.90 334 P P 16 57 01.9 +0.8
baz=113,SNR=7.0
KAIM **Kayak Island** 79.99 332 IAmb IAmb 16 57 04.8
comp=Z,36nm,1.2s
KAIM **Kayak Island** 79.99 332 P P 16 57 02.4 +0.8
baz=111
TOA0 **Torodi Ar. Sit** 80.03 76 P P 16 57 01.4 -1.3
TORD **Torodi Ar. Bea** 80.03 76 P P 16 57 01.8 -0.9
comp=Z,12nm,0.4s,baz=283,slow=5.8,SNR=9.0
comp=Z,12nm,0.4s
VRDI **Verde Repeater** 80.03 333 IAmb IAmb 16 57 03.6
comp=Z,18nm,1.1s
BCAR **Beaver Creek A** 80.04 335 P P 16 57 02.0 +0.1
BCAR pP pP 16 57 45.0 -0.3
L27K **Beaver Creek,** 80.05 335 IAmb IAmb 16 57 03.9
comp=Z,20nm,1.2s
L27K **Beaver Creek,** 80.05 335 P P 16 57 02.5 +0.6
baz=114,SNR=14
HMT **Hamilton** 80.07 332 IAmb IAmb 16 57 03.9
comp=Z,28nm,1.0s
GLB **Gilahina Butte** 80.27 334 IAmb IAmb 16 57 04.7
comp=Z,25nm,1.3s
RAGM **Ragged Mountai** 80.28 332 IAmb IAmb 16 57 05.4
comp=Z,24nm,1.0s
M26K **Nabesna, AK** 80.28 335 P P 16 57 03.7 +0.5
baz=113
NEEM **North Greenlan** 80.37 6 *i* P P 16 57 03.7 0.0
NEEM IAmb IAmb 16 57 04.8
comp=Z,63nm,0.6s
BMRM **Bremner River** 80.45 333 IAmb IAmb 16 57 05.6
comp=Z,22nm,1.1s
BMRM **Bremner River** 80.45 333 P P 16 57 04.5 +0.3
baz=111,SNR=5.2
EGAK **Eagle** 80.50 337 P P 16 57 04.3 +0.1
EGAK pP pP 16 57 46.7 -1.0
EGAK **Eagle** 80.50 337 P P 16 57 04.8 +0.5
baz=115,SNR=31
K27K **Chicken** 80.55 336 IAmb IAmb 16 57 06.8
comp=Z,28nm,1.0s
K27K **Chicken** 80.55 336 P P 16 57 05.4 +0.9
baz=114
L26K **Log Cabin Wild** 80.67 335 P P 16 57 05.4 +0.2
L26K **Log Cabin Wild** 80.67 335 P P 16 57 05.8 +0.5
baz=112,SNR=5.8
N25K **Chitina, Valde** 80.68 334 P P 16 57 06.2 +0.8
baz=111
MENT **Mentasta** 80.80 335 IAmb IAmb 16 57 07.0
comp=Z,23nm,1.4s
EYAK **Cordova Ski Ar** 80.83 332 P P 16 57 06.2 +0.1
baz=110
I27K **Kandik River** 81.02 338 P P 16 57 07.4 +0.3
baz=114,SNR=12
DOT **Dot Lake** 81.21 336 IAmb IAmb 16 57 09.4
comp=Z,18nm,0.9s
HARP **HAARP** 81.22 334 P P 16 57 08.5 +0.4
baz=111
KLU **Klutina** 81.24 333 P P 16 57 08.6 +0.3
KLU IAmb IAmb 16 57 10.1
comp=Z,24nm,1.2s
KLU **Klutina** 81.24 333 P P 16 57 08.5 +0.2
baz=110,SNR=8.7
H27K **Steamboat Moun** 81.25 338 P P 16 57 08.5 +0.2
baz=115,SNR=7.0
SCRK **Sand Creek** 81.30 336 IAmb IAmb 16 57 09.9
comp=Z,14nm,0.8s
SCRK **Sand Creek** 81.30 336 P P 16 57 08.8 +0.1
baz=112,SNR=19
J26L **Joseph Creek** 81.33 336 P P 16 57 08.7 0.0
J26L IAmb IAmb 16 57 10.3
comp=Z,23nm,0.8s
J26L **Joseph Creek** 81.33 336 P P 16 57 09.3 +0.5
baz=113,SNR=31
VNA3 **Neumayer Olymp** 81.46 162 P P 16 57 10.3 +1.0
I26K **Coal Creek Min** 81.49 337 P P 16 57 09.5 +0.1
baz=113
G27K **Doyon Strip** 81.54 339 P P 16 57 09.6 -0.1
baz=115,SNR=12
PAX **Paxson** 81.55 335 IAmb IAmb 16 57 10.9
comp=Z,15nm,0.8s
PAX **Paxson** 81.55 335 P P 16 57 09.7 -0.2
baz=111,SNR=16
M24K **Tolsona, Glenn** 81.56 334 P P 16 57 10.4 +0.4
baz=110,SNR=10
RIDG **Independent Ri** 81.57 336 P P 16 57 10.1 +0.1
RIDG IAmb IAmb 16 57 11.3
comp=Z,31nm,1.0s
RIDG **Independent Ri** 81.57 336 P P 16 57 10.3 +0.3
baz=111,SNR=12
VNA1 **Neumayer--Stat** 81.70 162 P P 16 57 11.8 +1.4
K24K **Donnelly Dome** 81.98 335 P P 16 57 12.3 +0.2
baz=110,SNR=8.0
SCM **Sheep Creek Mo** 81.98 333 IAmb IAmb 16 57 13.3
comp=Z,35nm,1.2s
SCM **Sheep Creek Mo** 81.98 333 P P 16 57 12.5 +0.3
baz=109,SNR=7.2
VNA2 **Neumayer--Watz** 82.06 162 P P 16 57 13.2 +0.9
baz=293,slow=4.6
J25K **Salcha River,** 82.10 336 P P 16 57 12.5 -0.2
J25K IAmb IAmb 16 57 14.0
comp=Z,19nm,0.8s
J25K **Salcha River,** 82.10 336 P P 16 57 12.9 +0.2
baz=111
E27K **Coleen River** 82.10 340 P P 16 57 12.9 +0.3
baz=115,SNR=8.9
PWL **Port Wells** 82.14 332 IAmb IAmb 16 57 13.7
comp=Z,16nm,0.8s
PWL **Port Wells** 82.14 332 P P 16 57 12.6 -0.4
baz=108,SNR=7.4
M23K **Glacier View** 82.15 333 P P 16 57 12.9 -0.1
baz=108,SNR=7.4
KNK **Knik Glacier** 82.36 333 IAmb IAmb 16 57 15.3
comp=Z,20nm,1.1s
KNK **Knik Glacier** 82.36 333 P P 16 57 14.2 +0.1
baz=108,SNR=7.1
G26K **Porcupine Rive** 82.37 339 P P 16 57 14.2 +0.2
baz=113,SNR=9.0
WAT6 **Susitna Watana** 82.41 334 P P 16 57 14.4 -0.1
baz=108,SNR=19
DHY **Denali Highway** 82.41 334 P P 16 57 14.3 -0.2
baz=109
SML **Sawmill** 82.43 333 IAmb IAmb 16 57 15.4
comp=Z,24nm,0.8s
SML **Sawmill** 82.43 333 P P 16 57 14.5 0.0
baz=108,SNR=8.7
SEW **Seward** 82.44 331 P P 16 57 14.0 -0.5
SEW IAmb IAmb 16 57 15.1
comp=Z,17nm,0.9s
SEW **Seward** 82.44 331 P P 16 57 14.0 -0.5
baz=107,SNR=5.0
PRP **Porcupine Dome** 82.49 337 P P 16 57 14.7 -0.1
baz=111,SNR=8.7
HDA **Harding Lake** 82.67 336 IAmb IAmb 16 57 16.3
comp=Z,22nm,0.8s
HDA **Harding Lake** 82.67 336 P P 16 57 15.3 -0.3
baz=109,SNR=22
FYU **Fort Yukon** 82.75 338 P P 16 57 16.1 +0.2
IL31 82.77 336 IAmb IAmb 16 57 17.4
comp=Z,15nm,0.9s
ILAR **Eielson Array** 82.77 336 P P 16 57 15.8 -0.3
comp=Z,12nm,0.9s,baz=127,slow=3.6,SNR=25
ILAR pP pP 16 57 59.9 +0.1
comp=Z,1.8nm,0.8s,baz=110,slow=4.1,SNR=1.9
ILAR PP PP 17 00 29.1 +0.5
comp=Z,1.2nm,1.0s,baz=116,slow=6.4,SNR=4.1
comp=Z,12nm,0.9s
F26K **Sheenjek River** 82.78 339 P P 16 57 16.7 +0.5
baz=112,SNR=11
WAT1 **Susitna Watana** 82.84 334 P P 16 57 16.4 -0.2
baz=108
RC01 **Rabbit Creek A** 82.86 332 P P 16 57 16.0 -0.7
RC01 IAmb IAmb 16 57 17.7
comp=Z,25nm,1.0s
RC01 **Rabbit Creek A** 82.86 332 P P 16 57 16.8 +0.1
baz=106,SNR=5.0
H25K **Birch Creek** 82.87 338 P P 16 57 17.1 +0.6
baz=111,SNR=20
BRSE **Bradley Lake S** 82.96 331 P P 16 57 17.1 -0.2
baz=106,SNR=6.8
BRLK **Bradley Lake** 83.04 331 IAmb IAmb 16 57 18.5
comp=Z,26nm,0.9s
POKR **Poker Plat Res** 83.10 336 P P 16 57 17.9 +0.1
baz=109
RND **Reindeer** 83.15 335 IAmb IAmb 16 57 19.6
comp=Z,26nm,0.8s
M22K **Willow** 83.22 333 IAmb IAmb 16 57 20.0
comp=Z,19nm,1.1s
M22K **Willow** 83.22 333 P P 16 57 18.5 0.0
baz=106
F25K **Christian Rive** 83.28 339 P P 16 57 19.6 +0.9
baz=111,SNR=6.9
MCK **McKinley** 83.28 335 IAmb IAmb 16 57 20.9
comp=Z,21nm,1.0s
MCK **McKinley** 83.28 335 P P 16 57 18.9 +0.1
baz=108,SNR=9.5
MDM **Murphy Dome** 83.37 336 IAmb IAmb 16 57 20.3
comp=Z,32nm,1.1s
C27K **Jago River** 83.39 341 P P 16 57 19.7 +0.5
baz=113
KDAK **Kodiak Island** 83.40 329 P P 16 57 19.3 -0.2
comp=Z,5.2nm,1.0s,baz=164,slow=4.6,SNR=7.8
comp=Z,5.2nm,1.0s
SUA **Susitna One** 83.43 332 P P 16 57 19.6 -0.1
SUA IAmb IAmb 16 57 20.9
comp=Z,22nm,0.9s
SUA **Susitna One** 83.43 332 P P 16 57 19.9 +0.1
baz=106,SNR=7.8
E25K **Arctic Village** 83.44 340 P P 16 57 20.3 +0.7
baz=111,SNR=8.4
H24K **Noodor Dome** 83.51 337 IAmb IAmb 16 57 22.1
comp=Z,27nm,1.2s
H24K **Noodor Dome** 83.51 337 P P 16 57 20.3 +0.3
baz=109,SNR=14
NEA2 **Nenana** 83.60 336 P P 16 57 20.6 +0.2
baz=108,SNR=20
OHAK **Old Harbor** 83.64 328 P P 16 57 20.6 0.0
baz=103
G24K **Hadweenzic Riv** 83.64 338 P P 16 57 21.4 +0.8
baz=109,SNR=9.7
SNAA **Sanae** 83.68 162 P P 16 57 21.5 +0.8
SNAA **Sanae** 83.68 162 IAmb IAmb 16 57 22.6
comp=Z,16nm,0.8s
TRF **Thorofare Moun** 83.78 334 IAmb IAmb 16 57 22.4
comp=Z,18nm,0.9s
TRF **Thorofare Moun** 83.78 334 P P 16 57 21.4 -0.1
baz=106,SNR=8.0
I23K **Minto, Yukon-K** 83.88 336 P P 16 57 21.3 -0.5
I23K **Minto, Yukon-K** 83.88 336 P P 16 57 21.9 +0.1
baz=107,SNR=19
SKT **Skwentna** 83.93 333 P P 16 57 22.1 -0.1
baz=105,SNR=32
N20K **Mount Spurr** 84.04 332 P P 16 57 22.4 -0.4
baz=104,SNR=5.6
SPCR **Spurr Chakacha** 84.04 332 P P 16 57 22.5 -0.3
baz=104
F24K **Squaw Lake** 84.06 339 P P 16 57 23.7 +0.9
baz=109,SNR=7.6
D25K **Kavik River** 84.15 341 P P 16 57 23.5 +0.4
baz=110,SNR=6.5
H23K **Yukon River** 84.16 337 P P 16 57 23.3 +0.1
baz=107,SNR=5.6
Q19K **Cape Douglas,** 84.21 330 P P 16 57 23.4 -0.2
baz=103
BPAW **Bear Paw Mtn.** 84.26 335 P P 16 57 23.8 0.0
baz=106,SNR=39
TAM **Tamanrasset** 84.36 67 P P 16 57 25.2 -0.1
TAM pP pP 16 58 07.8 -1.1
MLY **Manley** 84.41 336 IAmb IAmb 16 57 25.4
comp=Z,14nm,0.8s
MLY **Manley** 84.41 336 P P 16 57 24.5 -0.1
baz=106,SNR=17
E24K **Your Creek** 84.46 339 P P 16 57 25.5 +0.8

baz=108
PPLA **Purkeypile** 84.46 334 P P 16 57 25.0 0.0
baz=104,SNR=9.8
CAST **Castle Rocks** 84.55 334 P P 16 57 24.9 -0.4
baz=105,SNR=38
G23K **Bananza Creek** 84.61 338 P P 16 57 26.3 +0.8
baz=107,SNR=6.1
CHIR **Chirikof Islan** 84.61 326 P P 16 57 26.5 +0.9
baz=101
M20K **Styx River** 84.64 333 IAmb IAmb 16 57 26.4
comp=Z,16nm,0.9s
M20K **Styx River** 84.64 333 P P 16 57 25.5 -0.3
baz=104,SNR=7.3
CHUM **Lake Minchumin** 84.76 335 P P 16 57 26.4 +0.2
baz=104,SNR=7.7
COLD **Coldfoot** 84.82 338 P P 16 57 26.9 +0.4
COLD **Coldfoot** 84.82 338 P P 16 57 26.9 +0.4
baz=107,SNR=6.2
E23K **Chandalar** 84.86 339 P P 16 57 27.3 +0.5
baz=107
H22K **Ishtalitna Cre** 84.90 337 P P 16 57 26.8 -0.1
baz=106
I21K **Tanana** 84.96 336 P P 16 57 26.8 -0.3
baz=105,SNR=6.1
TOLK **Toolik Lake Re** 85.02 340 P P 16 57 27.6 +0.1
baz=107
N19K **Bonanza Creek** 85.03 331 P P 16 57 27.4 -0.4
baz=102
C24K **Franklin Bluff** 85.05 341 P P 16 57 28.5 +0.9
baz=108
L20K **Farewell, AK** 85.12 333 P P 16 57 27.6 -0.5
baz=103,SNR=8.8
O18K **Koktuh Hills** 85.19 330 P P 16 57 28.0 -0.4
baz=102
Q17K **Contact Creek** 85.22 329 P P 16 57 28.3 -0.4
baz=101
M19K **Big River Lodg** 85.22 332 P P 16 57 28.6 -0.1
baz=102
G22K **Bettles** 85.23 338 P P 16 57 28.4 -0.1
baz=106
R17K **Ugashik Creek** 85.36 328 P P 16 57 29.4 0.0
baz=100
TROLL **Troll, Antarti** 85.39 162 P P 16 57 30.5 +1.0
K20K **Telida** 85.40 334 IAmb IAmb 16 57 30.2
comp=Z,25nm,1.2s
K20K **Telida** 85.40 334 P P 16 57 29.1 -0.3
baz=103,SNR=9.9
H21K **Melozitna Rive** 85.41 336 P P 16 57 29.0 -0.5
baz=104
D23K **Nanushuk River** 85.50 340 P P 16 57 30.6 +0.8
baz=106,SNR=6.1
L19K **White Mountain** 85.50 333 IAmb IAmb 16 57 30.5
comp=Z,17nm,1.1s
L19K **White Mountain** 85.50 333 P P 16 57 29.4 -0.6
baz=102,SNR=7.1
SVW2 **Sparrevohn** 85.61 332 IAmb IAmb 16 57 30.3
comp=Z,18nm,1.2s
J20K **Nowinta River** 85.62 335 P P 16 57 30.1 -0.3
baz=103,SNR=8.0
F22K **John River** 85.64 338 P P 16 57 31.3 +0.7
baz=105,SNR=7.0
N18K **Kilae Creek** 85.68 331 P P 16 57 30.3 -0.6
N18K IAmb IAmb 16 57 32.1
comp=Z,18nm,1.0s
N18K **Kilae Creek** 85.68 331 P P 16 57 30.6 -0.3
baz=101,SNR=5.1
SSB **Saint Sauveur** 85.69 45 P P 16 57 31.2 -0.1
SSB pP pP 16 58 14.9 -0.1
C23K **Itkillik River** 85.72 341 P P 16 57 31.7 +0.9
baz=106
G21K **Allakaket** 85.90 337 P P 16 57 32.3 +0.5
baz=104,SNR=9.5
F21K **Alatna River** 86.06 338 P P 16 57 33.2 +0.6
baz=104,SNR=10
O17K **Koliganek Bris** 86.11 330 P P 16 57 32.6 -0.3
baz=100
DOU **Dourbes** 86.30 40 *d*P P 16 57 34.0 -0.1
comp=Z,9.9nm,0.9s
BMRD **Maredsous** 86.43 40 *d*P P 16 57 35.0 +0.2
comp=Z,6.6nm,1.2s
BGES **Gesves** 86.65 40 *d*P P 16 57 35.9 +0.1
comp=Z,13nm,1.0s
RCHB **Rochefort** 86.71 40 *d*P P 16 57 36.0 -0.1
comp=Z,11nm,0.9s
BCLA **Clavier** 86.79 39 *d*P P 16 57 36.9 +0.4
comp=Z,7.9nm,1.0s
BSTI **Sart Tilman** 86.97 39 *d*P P 16 57 38.1 +0.7
comp=Z,5.3nm,0.9s
BNI **Bardonecchia** 87.17 45 P P 16 57 37.8 -0.8
BHOU **Houvegnez** 87.23 40 *d*P P 16 57 39.1 +0.4
WLF **Walferdange** 87.25 40 P P 16 57 38.0 -0.7
WLF pP 16 58 21.0 -1.5
WLF **Walferdange** 87.25 40 *d*P P 16 57 39.3 +0.6
comp=Z,24nm,0.9s
MEM **Membach** 87.25 39 *d*P P 16 57 39.0 +0.2
BTNL **Ternell** 87.33 39 *d*P P 16 57 39.6 +0.5
comp=Z,8.9nm,0.9s
NOR **Nord** 87.55 7 *e*P P 16 57 40.0 +0.4
NOR IAmb IAmb 16 57 40.5
comp=Z,17nm,1.2s
ECH **Echery** 87.78 42 P P 16 57 40.3 -1.0
ECH IAmb IAmb 16 57 42.2
comp=Z,14nm,0.8s
ECH pP pP 16 58 22.9 -2.3
QSPA **South Pole Qui** 88.40 180 P P 16 57 44.7 +0.7
QSPA pP pP 16 58 27.4 -0.7
KEST **Kesra** 88.54 54 P P 16 57 45.1 -0.1
comp=Z,11nm,0.7s,baz=270,slow=6.0,SNR=11
comp=Z,11nm,0.7s
KEST **Kesra** 88.54 54 IAmb IAmb 16 57 47.6
comp=Z,13nm,0.8s
DAVA **Damuels** 89.55 43 *i* P P 16 57 49.9 +0.1
comp=Z,20nm,1.0s,SNR=6.6
FETA **Feichten** 90.11 43 *e*P P 16 57 52.6 +0.1
comp=Z,18nm,0.9s,SNR=9.2
RETA **Reute** 90.15 43 *i* P P 16 57 52.7 +0.1
comp=Z,7.5nm,1.1s
ZCCA **Zocca** 90.18 46 P P 16 57 52.1 -0.6
ZCCA pP pP 16 58 35.1 -1.6
MOTA **Moosalm** 90.38 43 *e*P P 16 57 53.7 0.0
comp=Z,21nm,1.1s,SNR=6.3
SQTA **Sankt Quirin** 90.45 43 *i* P P 16 57 54.3 +0.3
comp=Z,17nm,0.6s,SNR=7.9
WATA **Walderalm** 90.70 43 *i* P P 16 57 54.9 -0.3
comp=Z,10nm,1.2s
WTTA **Wattenberg** 90.74 43 *i* P P 16 57 55.5 0.0
comp=Z,13nm,0.8s,SNR=5.6
NB2 **NORSAR Subarra** 90.90 29 P P 16 57 55.6 -0.1
comp=Z,6.7nm,1.1s,baz=273,slow=5.1
NOA **NORSAR Array B** 90.90 29 P P 16 57 55.7 0.0
comp=Z,2.4nm,0.8s,baz=270,slow=4.6,SNR=4.4
comp=Z,2.4nm,0.8s
CIMO **Cimolais** 91.27 44 IAmb IAmb 16 57 58.7
comp=Z,13nm,1.0s
ABTA **Abfaltersbach** 91.33 43 *e*P P 16 57 58.1 +0.1
comp=Z,16nm,1.3s,SNR=6.3
CLUD **Cludinico** 91.58 44 P P 16 57 57.1 -2.1
CLUD pP pP 16 58 41.8 -1.4
CLL **Collm** 91.71 39 *i* P P 16 58 00.0 +0.4
comp=Z,12nm,1.3s
KBA **Koelnbreinsper** 91.90 43 *i* P P 16 58 00.7 -0.1
comp=Z,5.8nm,0.9s
KHC **Kasperske Hory** 92.07 41 *e*P P 16 58 01.9 +0.6
MYKA **Terra Mystica** 92.10 44 *i* P P 16 58 01.6 0.0
comp=Z,6.5nm,0.6s
BIOA **Bad Ischl, Aus** 92.10 43 *i* P P 16 58 01.6 +0.1
comp=Z,4.0nm,0.7s
GERES **GERESS Array B** 92.15 41 P P 16 58 01.7 -0.1
comp=Z,1.5nm,0.7s,baz=263,slow=1.7,SNR=13
comp=Z,1.5nm,0.7s
BRG **Berggiesshubel** 92.30 39 *i* P P 16 58 03.4 +1.1
BRG Amp 16 58 05.7
comp=Z,14nm,1.1s
MOA **Molln** 92.53 42 *i* P P 16 58 03.5 +0.1
comp=Z,6.2nm,1.0s
PRU **Pruhonice** 92.69 40 *e*P P 16 58 04.8 +0.7
ARSA **Arzberg** 93.39 43 *i* P P 16 58 07.4 0.0
comp=Z,5.4nm,0.6s
CONA **Conrad Observa** 93.60 42 *i* P P 16 58 08.8 +0.3
comp=Z,8.4nm,0.8s,SNR=5.7
SBA **Scott Base** 93.62 191 P P 16 58 08.9 +1.0
SBA IAmb IAmb 16 58 10.8
comp=Z,10.0nm,1.0s
CHVC **Chvalec** 93.65 40 *e*P P 16 58 09.3 +0.7
CUC **Castrocucco** 93.74 50 IAmb IAmb 16 58 09.0
comp=Z,4.7nm,0.8s
OSTC **Ostas** 93.75 40 *e*P P 16 58 09.7 +0.6

DPC **Dobruska-Polom** 93.83 40 *e*P P 16 58 10.1 +0.7
RONA **Rosalia, Austr** 93.90 42 *i* P P 16 58 10.1 +0.3
comp=Z,7.2nm,0.7s
KRUC **Moravsky** 93.92 41 *e*P P 16 58 09.7 -0.1
VRAC **Vranov** 94.04 41 LR LR 17 40 26.8
comp=Z,16nm,18.5s,baz=333,slow=35
VRAC **Vranov** 94.04 41 *e*P P 16 58 10.6 +0.2
KRLC **Kraliky** 94.13 40 *e*P P 16 58 11.6 +0.8
TSUM **Tsumeb** 94.42 109 LR LR 17 40 04.2
comp=Z,24nm,18.8s,baz=307,slow=35
ZST **Bratislava** 94.42 42 *e*P P 16 58 12.5 +0.4
TIP **Timpagrande** 94.48 51 P P 16 58 11.0 -1.7
TIP IAmb IAmb 16 58 11.8
comp=Z,5.3nm,0.7s
MODS **Modra-Piesok** 94.53 42 *e*P P 16 58 13.2 +0.5
MORC **Moravsky Berou** 94.64 40 *e*P P 16 58 13.7 +0.5
VNDA **Vanda** 94.71 191 P P 16 58 14.9 +2.0
comp=Z,5.4nm,0.8s,baz=119,slow=3.7,SNR=42
VNDA PKKP PKKPdf 17 15 11.1 -0.3
comp=Z,1.2nm,1.0s,baz=270,slow=2.7,SNR=4.3
comp=Z,5.4nm,0.8s
JAVC **Velka Javorina** 94.77 41 *e*P P 16 58 14.4 +0.6
MAUC **Maruska** 94.84 41 *e*P P 16 58 14.2 +0.1
VYHS **Vyhne** 95.56 42 *e*P P 16 58 17.7 +0.3
ARCES **ARCESS Array B** 96.15 20 P P 16 58 18.8 -0.7
comp=Z,2.1nm,0.5s,baz=276,slow=3.3,SNR=8.2
ARCES PKKP PKKPbc 17 15 06.9 -2.1
comp=Z,3.4nm,1.0s,baz=74,slow=3.9,SNR=4.4
comp=Z,2.1nm,0.5s
DIVS **Divibare** 96.66 46 P P 16 58 22.1 -0.4
DIVS IAmb IAmb 16 58 23.6
comp=Z,3.7nm,1.0s
FINES **FINESS Array B** 98.02 28 P P 16 58 27.4 -0.7
comp=Z,3.5nm,0.7s,baz=242,slow=4.1,SNR=4.8
comp=Z,3.5nm,0.7s
BOSA **Boshof** 100.53 119 PKKPbc PKKPbc 17 14 55.0 -0.3
comp=Z,1.1nm,0.6s,baz=89,slow=4.6,SNR=4.5
MARZ **Manawahe** 101.27 231 P Pdif 16 58 44.6 +1.4
BRTR **Keskin Array B** 107.37 49 PKKP 17 14 49.0
comp=Z,1.2nm,0.9s,baz=90,slow=3.7,SNR=5.4
NRIK **Norilsk** 111.72 6 PKKPab PKKPab 17 14 29.3 -0.6
comp=Z,4.0nm,0.7s,baz=130,slow=2.3,SNR=8.8
KBZ **Khabaz** 112.86 43 PKKPbc PKKPbc 17 14 16.3 -1.3
comp=Z,1.3nm,0.8s,baz=124,slow=3.6,SNR=1.5
GEYT **Alibeck** 125.75 43 PKP PKiKP 17 03 53.9 +0.1
comp=Z,1.3nm,0.6s,baz=304,slow=8.8,SNR=5.0
ZALV **Zalesovo Beam** 125.93 13 PKP PKPdf 17 03 53.1 0.0
comp=Z,2.2nm,0.5s,baz=306,slow=2.4,SNR=14
ZALV pPKP pPKPdf 17 04 39.9 +0.6
comp=Z,3.5nm,0.9s,baz=341,slow=3.1,SNR=2.3
STKA **Stephens Creek** 130.03 225 PKP PKPdf 17 04 01.8 +0.2
comp=Z,7.1nm,0.7s,baz=99,slow=0.9,SNR=11
USRK **Ussuriysk Ar.** 130.15 332 PKP PKPdf 17 04 01.1 -0.4
comp=Z,4.1nm,0.9s,baz=10,slow=1.6,SNR=8.7
MKAR **Makanchi Array** 131.77 18 PKP PKPdf 17 04 04.4 -0.1
comp=Z,1.0nm,0.4s,baz=344,slow=2.0,SNR=19
MKAR SKPbc SKPbc 17 07 13.9 -0.1
comp=Z,2.1nm,0.9s,baz=352,slow=5.3,SNR=6.6
CTA **Charters Tower** 131.82 241 PKP PKPdf 17 04 05.6 +0.3
comp=Z,7.1nm,0.6s,baz=101,slow=3.2,SNR=25
MJAR **Matsushiro Arr** 132.02 321 PKP PKPdf 17 04 05.1 -0.2
comp=Z,2.7nm,0.7s,baz=67,slow=3.0,SNR=8.3
MJAR SKPbc SKPbc 17 07 14.8 -0.4
comp=Z,4.1nm,1.0s,baz=54,slow=2.9,SNR=8.3
SONM **Songino Array** 133.88 356 PKP PKPdf 17 04 08.9 +0.3
comp=Z,1.4nm,0.7s,baz=338,slow=0.9,SNR=11
SONM SKPab SKPbc 17 07 21.8 +0.5
comp=Z,2.5nm,0.9s,baz=345,slow=3.3,SNR=8.2
WMQ **Urumqi** 136.05 15 *e*P PKPdf 17 04 13.0 +0.3
XLT **XiLinHaoTe** 136.21 346 *e*PKP PKPdf 17 04 12.8 -0.2
KSRS **Korea Array** 137.30 330 PKhKP PKPpre 17 04 03.1
comp=Z,0.3nm,0.5s,baz=84,slow=3.9,SNR=4.6
KSRS PKP PKPdf 17 04 15.4 +0.4
comp=Z,8.0nm,1.0s,baz=35,slow=1.1,SNR=22
KSRS SKP 17 07 32.7
comp=Z,2.1nm,1.0s,baz=13,slow=1.3,SNR=6.3
HHC **Hu-ho-hao-te** 140.11 349 *e*P PKiKP 17 04 22.3 -0.5
ASAR **Alice Springs** 140.29 229 PKhKP PKPpre 17 04 12.4
comp=Z,3.8nm,0.6s,baz=125,slow=3.7,SNR=40
ASAR PKP PKPdf 17 04 20.8 -0.3
comp=Z,6.2nm,0.7s,baz=116,slow=2.3,SNR=16
ASAR SKP 17 07 39.1
comp=Z,1.4nm,0.9s,baz=123,slow=3.4,SNR=4.8
WRA **Warramunga Arr** 141.96 234 PKhKP PKPpre 17 04 19.0
comp=Z,9.9nm,0.7s,baz=118,slow=2.9,SNR=86
WRA PKP PKPdf 17 04 23.9 -0.2
comp=Z,11nm,0.8s,baz=116,slow=2.3,SNR=23
WRA SKPbc SKPbc 17 07 44.2 -1.0
comp=Z,1.4nm,0.9s,baz=117,slow=2.5,SNR=4.5
GTA **Gaotai** 142.36 3 *e*PKPbc PKPdf 17 04 24.0 -0.4
GTA pPKP pPKPdf 17 05 07.8 -2.9
GTA sPKP 17 05 23.5
GTA PP PP 17 07 46.3 +15
HNS **HongShan** 142.66 344 ⇑P PKPdf 17 04 24.0 -0.8
JOW **Kunigami** 144.70 317 PKP PKPbc 17 04 28.1 +0.2
comp=Z,46nm,0.7s,baz=82,slow=0.7,SNR=19
GOMU **GeErMu** 144.94 11 PKP PKPdf 17 04 29.3 0.0
GOMU pmax pmax
comp=Z,70nm,5.1s
LZH **Lanzhou** 145.72 358 *e*PKPbc PKPab 17 04 32.0 +0.4
LZH pPKP pPKPdf 17 05 18.0 +1.2
LZH sPKP 17 05 28.5
NJ2 **Nanjing** 146.00 334 *e*P PKPdf 17 04 30.0 -0.7
NJ2 pmax pmax
comp=Z,11nm,0.6s
XAN **Xi'an** 147.21 350 PKPbc PKPdf 17 04 33.5 +0.7
XAN pPKP pPKPbc 17 05 20.5 -0.5
PYUN **Piuthan** 147.86 33 *e*P PKPbc 17 04 37.6 +0.2
comp=Z,59nm,0.6s
DANN **Dangsing** 148.08 32 *e*P PKiKP 17 04 39.2 -0.6
comp=Z,189nm,0.8s
GKN **Gorkha** 148.82 31 *e*P PKPbc 17 04 40.3 +0.5
comp=Z,63nm,0.7s
WHN **Wuhan** 149.10 340 ⇓P PKPbc 17 04 39.8 -0.4
DMN **Daman** 149.38 31 *e*P PKPbc 17 04 41.7 +0.3
comp=Z,37nm,0.5s
GUN **Gumba** 149.52 30 *e*P PKiKP 17 04 42.5 -0.3
comp=Z,27nm,0.5s
PKIN **Phulchoki** 149.56 31 *e*P PKPbc 17 04 41.6 -0.2
comp=Z,16nm,0.5s
PKI **Pulchoki** 149.57 31 *e*P PKPbc 17 04 41.7 -0.2
comp=Z,28nm,0.8s
FITZ **Fitzroy Crossi** 149.79 228 PKP PKPdf 17 04 37.7 +0.4
comp=Z,30nm,0.8s,baz=205,slow=4.5,SNR=30
FITZ PKPbc PKPbc 17 04 42.4 +0.2
comp=Z,30nm,0.8s,baz=150,slow=2.7,SNR=35
FITZ PKPab PKPab 17 04 49.3 +1.2
comp=Z,21nm,0.5s,baz=157,slow=4.1,SNR=26
JIRN **Jiri** 149.88 29 *e*P PKPbc 17 04 42.3 -0.4
comp=Z,7.1nm,0.4s
RAMN **Ramite** 150.68 30 *e*P PKPbc 17 04 44.4 -0.1
comp=Z,45nm,0.8s
TAPN **Taplejung** 150.87 27 *e*P PKiKP 17 04 45.3 -0.3
comp=Z,20nm,0.5s
SIJI **Sorong** 150.96 265 PKP PKPdf 17 04 39.5 +0.1
comp=Z,3.2nm,0.5s,baz=148,slow=8.2,SNR=5.3
SIJI PKPbc PKPbc 17 04 44.3 -0.9
comp=Z,12nm,0.5s,baz=7.6,slow=8.0,SNR=16
HYBB **Hyderabad (bro** 151.87 55 *e*PKPab PKPab 17 04 55.7 -1.2
PZH **PanZhiHua** 155.30 1 PKP PKPdf 17 04 45.0 -0.4
BATI **Baumata** 155.71 241 PKPab PKPab 17 05 14.1 +0.8
comp=Z,21nm,0.7s,baz=240,slow=2.3,SNR=11
KAPI **Kappang** 161.37 249 PKPab PKPab 17 05 39.3 +1.4
comp=Z,4.9nm,0.7s,baz=54,slow=19,SNR=1.4
CMAR **Chiang Mai Arr** 162.99 11 PKP PKPdf 17 04 54.4 0.0
comp=Z,1.9nm,0.9s,baz=306,slow=1.9,SNR=11
CMAR PKPab PKPab 17 05 43.8 -0.7
comp=Z,4.9nm,0.7s,baz=330,slow=5.2,SNR=26
LEM **Lembang** 170.05 212 PKP PKPdf 17 05 00.7 +0.6
comp=Z,12nm,0.7s,baz=108,slow=19,SNR=2.1

*NOU **30** 16:55:27.4, 22°.08S×179°.38W, h602km, mb4.2/16, South of Fiji Islands*
*IDC **30** 16:55:28.5±0.9, 22°.14S×179°.54W, h574km±10km, mb3.2/14, mbtmp4.2/18, Error ellipse: s-maj=13.9km s-min=12.7km az=107.0*
ISC 30 16:55:28.2±0.5, **22°.12S**±0°.06×**179°.37W**±0°.08, **h592**km, **n49**, σ**2s04/59**, **mb3.8**/14, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.99**	**331**	P		P	P	**16 56 59.6**	**-1.1**
	14nm,0.3s,baz=162,slow=16,SNR=155								
MSVF				S			S	**16 58 14.6**	**-1.6**
	47nm,1.0s,baz=75,slow=20,SNR=17								
MSVF	**Nonsavu**	**4.99**	**331**	P		P	P	**16 56 59.7**	**-1.1**
TAVE	**Taveuni**	**5.41**	**355**	P		P	P	**16 57 03.7**	**-0.4**
RAO	**Raoul Island**	**7.22**	**170**	P		P	P	**16 57 18.9**	**-0.9**
	194nm,0.3s,baz=73,slow=19,SNR=2.5								
RAO				S		S	S	**16 58 51.4**	**+0.2**
	618nm,0.5s,baz=318,slow=19,SNR=4.1								
GLKZ	**Green Lake**	**7.23**	**170**	P		P	P	**16 57 17.3**	**-2.6**
GLKZ				S		S	S	**16 58 54.1**	**+2.7**
NIUE	**Niue**	**9.35**	**73**	P		P	P	**16 57 40.6**	**+0.1**
AFI	**Afiamalu**	**10.90**	**43**	P		P	P	**16 57 55.5**	**-0.6**
	6.4nm,0.3s,baz=272,slow=20,SNR=2.1								
AFI				S		S	S	**16 59 51.2**	**-6.3**
	31nm,0.8s,baz=215,slow=21,SNR=4.3								
MARNC	**Mare, Loyalty**	**11.72**	**271**	P		P	P	**16 58 03.1**	**-1.0**
PINNC	**Pines Island,**	**12.21**	**265**	P		P	P	**16 58 08.3**	**-0.8**
LIFNC	**LIFOU**	**12.54**	**274**	P		P	P	**16 58 10.7**	**-1.7**
YATNC	**Mamie plateau,**	**12.73**	**268**	P		P	P	**16 58 14.5**	**0.0**
DZM	**Mont Dzumac**	**13.15**	**268**	P		P	P	**16 58 16.7**	**-2.1**
	4.5nm,0.6s,baz=81,slow=18,SNR=12								
DZM	**Mont Dzumac**	**13.15**	**268**	P		P	P	**16 58 17.4**	**-1.4**
OUZ	**Omahuta**	**14.43**	**204**	P		P	P	**16 58 31.6**	**+0.4**
OUZ	**Omahuta**	**14.43**	**204**	P		P	P	**16 58 31.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**15.31**	**273**	P		P	P	**16 58 38.6**	**-1.0**
WMGZ	**Waiomatatini S**	**15.76**	**186**	P		P	P	**16 58 44.6**	**+1.1**
HAZ	**Te Kaha**	**15.77**	**188**	P		P	P	**16 58 42.9**	**-0.7**
HAZ				S		S	S	**17 01 19.3**	**-3.7**
PKGZ	**Pakihiroa**	**15.87**	**187**	P		P	P	**16 58 44.5**	**0.0**
RUGZ	**Raukumara Rang**	**15.99**	**188**	P		P	P	**16 58 44.9**	**-0.9**
RUGZ				S		S	S	**17 01 27.8**	**+1.0**
TGRZ	**Tauranga**	**16.00**	**193**	P		P	P	**16 58 47.6**	**+1.9**
PUZ	**Puketiti**	**16.03**	**187**	P		P	P	**16 58 45.7**	**-0.3**
PUZ				S		S	S	**17 01 24.9**	**-2.3**
TOZ	**Tahuroa Road**	**16.17**	**195**	P		P	P	**16 58 48.7**	**+1.4**
URZ	**Urewera**	**16.36**	**190**	P		P	P	**16 58 47.7**	**-1.4**
	12nm,0.4s,baz=346,slow=2.8,SNR=25								
URZ				S		S	S	**17 01 29.0**	**-3.7**
	4.7nm,0.6s,baz=356,slow=19,SNR=1.9								
URZ	**Urewera**	**16.36**	**190**	P		P	P	**16 58 46.5**	**-2.6**
URZ	**Urewera**	**16.36**	**190**	P		P	P	**16 58 46.7**	**-2.4**
URZ				S		S	S	**17 01 25.1**	**-7.6**
CNGZ	**Carnagh Statio**	**16.44**	**187**	P		P	P	**16 58 50.9**	**+1.1**
RIGZ	**Rimuhau**	**16.71**	**188**	P		P	P	**16 58 51.9**	**-0.4**
RIGZ				S		S	S	**17 01 38.1**	**-0.3**
TLZ	**Tolley Road**	**16.73**	**194**	P		P	P	**16 58 54.2**	**+1.7**
MRHZ	**Matea Rd**	**17.04**	**191**	P		P	P	**16 58 53.0**	**-2.4**
BKZ	**Black Stump Fm**	**17.35**	**191**	P		P	P	**16 58 56.2**	**-2.0**
QRZ	**Quartz Range**	**19.86**	**198**	P		P	P	**16 59 21.6**	**+0.7**
KHZ	**Kahutara**	**21.09**	**195**	P		P	P	**16 59 30.7**	**-1.2**
RPZ	**Rata Peaks**	**22.95**	**198**	P		P	P	**16 59 49.0**	**+0.5**
	5.5nm,0.6s,baz=24,slow=6.3,SNR=2.1								
	5.5nm,0.6s								
CTA	**Charters Tower**	**32.09**	**267**	P		P	P	**17 01 08.6**	**+0.2**
	1.7nm,0.3s,baz=92,slow=11,SNR=20								
	1.7nm,0.3s								
PMG	**Port Moresby**	**34.51**	**286**	P		P	P	**17 01 29.5**	**+0.8**
	4.1nm,0.3s,baz=127,slow=6.2,SNR=4.7								
	4.1nm,0.3s								
STKA	**Stephens Creek**	**35.95**	**246**	P		P	P	**17 01 41.0**	**+0.6**
	1.4nm,0.5s,baz=94,slow=11,SNR=7.1								
	1.4nm,0.5s								
ASAR	**Alice Springs**	**42.92**	**259**	P		P	P	**17 02 36.4**	**-0.1**
	0.8nm,0.4s,baz=89,slow=9.0,SNR=44								
	0.8nm,0.4s								
WRA	**Warramunga Arr**	**43.13**	**264**	P		P	P	**17 02 37.4**	**-0.7**
	1.0nm,0.3s,baz=96,slow=8.0,SNR=41								
	1.0nm,0.3s								
FITZ	**Fitzroy Crossi**	**51.56**	**264**	P		P	P	**17 03 41.1**	**+0.1**
	1.3nm,0.5s,baz=59,slow=5.9,SNR=3.0								
	1.3nm,0.5s								
SIJI	**Sorong**	**52.45**	**287**	P		P	P	**17 03 47.6**	**+0.2**
	14nm,0.8s,baz=77,slow=7.2,SNR=15								
	14nm,0.8s								
VNDA	**Vanda**	**56.19**	**185**	P		P	P	**17 04 14.7**	**+2.1**
	0.3nm,0.7s,baz=333,slow=4.5,SNR=1.9								
	0.3nm,0.7s								
MJAR	**Matsushiro Arr**	**70.77**	**325**	P		P	P	**17 05 46.8**	**+0.8**
	1.7nm,0.7s,baz=162,slow=5.2,SNR=4.6								
	1.7nm,0.7s								
PETK	**Petropavlovsk-**	**77.52**	**346**	P		P	P	**17 06 25.0**	**+1.4**
	2.8nm,0.7s,baz=140,slow=7.2,SNR=2.8								
	2.8nm,0.7s								
NVAR	**Mina Array Bea**	**83.08**	**44**	P		P	P	**17 06 55.2**	**+2.2**
	0.8nm,0.8s,baz=231,slow=8.5,SNR=5.6								
	0.8nm,0.8s								
TXAR	**Lajitas Array**	**89.00**	**58**	P		P	P	**17 07 24.9**	**+3.5**
	1.0nm,0.9s,baz=213,slow=6.2,SNR=7.6								
	1.0nm,0.9s								
PDAR	**Pinedale Array**	**91.02**	**44**	P		P	P	**17 07 32.8**	**+2.3**
	0.4nm,0.9s,baz=230,slow=6.6,SNR=2.8								
	0.4nm,0.9s								
AKASG	**Malin Array Be**	**143.77**	**329**	PKP		**PKPdf**		**17 13 56.4**	**-0.1**
	0.6nm,0.3s,baz=43,slow=4.5,SNR=9.7								
BRTR	**Keskin Array B**	**146.93**	**310**	PKPbc		**PKPab**		**17 14 08.1**	**-0.9**
	0.7nm,0.9s,baz=29,slow=3.3,SNR=2.1								

*IDC **30** 17:12:03.1±0.8, 6°.74N×72°.96W, h160km±9km, mb3.0/2, mbtmp3.7/4, Error ellipse: s-maj=33.3km s-min=8.0km az=131.0*
*RSNC **30** 17:12:04.5±1.0, 6°.81N×73°.14W, h150km±3km, ML3.7, Mw3.8, Fault plane solution: NP1:ϕ=48.00000°, δ=54.00000°, λ=-162.00000°.*
ISC 30 17:12:03.1±0.9, **6°.83N**±0°.03×**73°.10W**±0°.04, **h157**km±6km, **n39**, σ**1s17/65**, **4C-4D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**200**	⇓*i*	P	**Pn**		**17 12 24.7**	**0.0**
BARC				*e*	S	**Sn**		**17 12 40.1**	**-1.1**
BARC				IAML				17 12 43.3	
	comp=Z,982nm,0.5s								
PAMC	**Pamplona, Colo**	**0.65**	**38**	⇓*i*	P	**Pn**		**17 12 27.5**	**+0.8**
PAMC				*e*	S	**Sn**		**17 12 44.7**	**+0.1**
PAMC				IAML				17 12 47.0	
	comp=Z,2μm,0.5s								
BRRC	**Barranca, Sant**	**0.67**	**295**	⇓*i*	P	**Pn**		**17 12 26.5**	**+0.3**
BRRC				*e*	S	**Sn**		**17 12 43.7**	**-0.2**
BRRC				IAML				17 12 46.9	
	comp=Z,484nm,0.3s								
RUSC	**La Rusia**	**0.93**	**179**	*e*	P	**Pn**		**17 12 28.7**	**+0.1**
RUSC				*e*	S	**Sn**		**17 12 47.3**	**-0.8**
RUSC				IAML				17 12 48.6	
	comp=Z,755nm,0.3s								
TAMC	**Tame, Arauca**	**1.35**	**107**	⇓*i*	P	**Pn**		**17 12 33.1**	**+1.3**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	*e*	P	**Pn**		**17 12 31.1**	**-1.0**
PTBC				*e*	S	**Sn**		**17 12 53.2**	**-1.0**
PTBC				IAML				17 12 59.5	
	comp=Z,339nm,0.4s								
OCAC	**Ocana**	**1.42**	**351**	⇑*e*	P	**Pn**		**17 12 32.7**	**+0.1**
OCAC				*e*	S	**Sn**		**17 12 54.8**	**-0.6**
OCAC				IAML				17 13 04.5	
	comp=Z,878nm,0.3s								
SPBC	**San Pablo de B**	**1.52**	**220**	*e*	P	**Pn**		**17 12 33.4**	**-0.1**
SPBC				*e*	S	**Sn**		**17 12 55.5**	**-1.4**
SPBC				IAML				17 12 58.4	
	comp=Z,799nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*	P	**Pn**		**17 12 37.2**	**0.0**
ZARC				*e*	S	**Sn**		**17 13 02.6**	**-0.8**
ZARC				IAML				17 13 08.5	
	comp=Z,342nm,0.3s								
NORC	**Norcasia**	**2.16**	**235**	*e*	P	**Pn**		**17 12 40.5**	**-0.2**
NORC				*e*	S	**Sn**		**17 13 08.7**	**-0.9**
NORC				IAML				17 13 14.1	
	comp=Z,370nm,0.5s								
CHIC	**Chingaza**	**2.27**	**196**	⇑*e*	P	**Pn**		**17 12 42.6**	**+0.3**
CHIC				*e*	S	**Sn**		**17 13 12.2**	**-0.3**
CHIC				IAML				17 13 16.0	
	comp=Z,322nm,0.6s								
ROSC	**El Rosal**	**2.32**	**212**	P		**Pn**		**17 12 44.6**	**+1.8**
	comp=Z,292nm,0.3s,baz=86,slow=15,SNR=176								
ROSC				S		**Sn**		**17 13 13.8**	**+0.4**
	comp=Z,555nm,0.3s,baz=126,slow=18,SNR=7.0								
ROSC	**El Rosal**	**2.32**	**212**	⇑*e*	P	**Pn**		**17 12 44.3**	**+1.4**
ROSC				*e*	S	**Sn**		**17 13 13.3**	**-0.1**
ROSC		

comp=Z,319nm,0.3s
VILC Villavicencio, 2.76 192 *e*P **Pn** **17 12 47.9 -0.1**
VILC *e*S **Sn** **17 13 22.9 +0.2**
VILC IAML 17 13 25.4
comp=Z,533nm,0.4s
PTGC Puerto Gaitan, 2.78 160 *e*P **Pn** **17 12 47.9 -0.2**
PTGC *e*S **Sn** **17 13 21.0 -1.9**
PTGC IAML 17 13 26.2
comp=Z,423nm,0.3s
CBOC Ciudad Bolivar 3.05 252 *e*P **Pn** **17 12 52.8 +1.1**
CBOC *e*S **Sn** **17 13 29.3 +0.1**
CBOC IAML 17 13 45.6
comp=Z,91nm,0.7s
SDV Santo Domingo 3.19 50 P **Pn** **17 12 54.4 +1.1**
comp=Z,30nm,0.3s,baz=296,slow=9.3,SNR=29
SDV S **Sn** **17 13 31.3 -0.9**
comp=Z,211nm,0.4s,baz=49,slow=21,SNR=49
ARGC Ariguani, Magd 3.22 339 *e*P **Pn** **17 12 55.4 +1.8**
ARGC *e*S **Sn** **17 13 33.4 +0.6**
ARGC IAML 17 13 40.1
comp=Z,80nm,0.3s
ANIL Santa Ana 3.26 225 *e*P **Pn** **17 12 55.9 +1.5**
ANIL *e*S **Sn** **17 13 35.5 +1.3**
ANIL IAML 17 13 44.0
comp=Z,545nm,0.5s
PRAC Prado 3.57 210 *e*P **Pn** **17 12 57.6 -0.5**
PRAC *e*S **Sn** **17 13 40.5 -0.3**
PRAC IAML 17 13 49.1
comp=Z,216nm,0.4s
SJCC San Jacinto, C 3.68 326 *e*P **Pn** **17 12 59.0 -0.6**
SJCC *e*S **Sn** **17 13 39.8 -3.6**
SJCC IAML 17 13 44.5
comp=Z,97nm,0.5s
PLMC San Jos del P 3.70 239 *e*P **Pn** **17 13 00.2 +0.5**
PLMC IAML 17 13 47.2
comp=Z,72nm,0.2s
LCBC Los crdobas, 3.82 302 *e*S **Sn** **17 13 46.6 +0.2**
CRJC Cerrejon, Guaj 4.17 3 *e*P **Pn** **17 13 04.9 -1.0**
CRJC *e*S **Sn** **17 13 52.6 -2.3**
CRJC IAML 17 13 60.0
comp=Z,98nm,0.3s
GUVC San Jose del G 4.28 174 *e*P **Pn** **17 13 07.5 +0.2**
GUVC *e*S **Sn** **17 13 55.9 -1.4**
GUVC IAML 17 14 01.9
comp=Z,134nm,0.2s
YOTC Yotoco, Valle 4.29 229 *e*P **Pn** **17 13 07.3 -0.3**
SMRC Santa Marta, M 4.45 346 *e*P **Pn** **17 13 10.7 +1.2**
SMRC *e*S **Sn** **17 13 58.1 -3.2**
MACC Macarena, Meta 4.71 189 *e*P **Pn** **17 13 11.6 -1.3**
BETC Betania 4.73 210 *e*P **Pn** **17 13 12.8 -0.5**
GARC Garzon, Huila 5.19 208 *e*P **Pn** **17 13 18.8 -0.7**
POPC Popayan, Colom 5.55 220 *e*P **Pn** **17 13 24.2 -0.1**
BBAC Balboa, Cauca 6.32 221 *e*P **Pn** **17 13 35.6 +1.2**
BBAC IAML 17 14 51.7
comp=Z,9.8nm,0.3s
TXAR Lajitas Array 36.48 312 P **P** **17 18 54.3 +1.0**
comp=Z,0.6nm,0.6s,baz=127,slow=9.2,SNR=7.9
comp=Z,0.6nm,0.6s
PDAR Pinedale Array 48.09 324 P **P** **17 20 27.8 +0.6**
comp=Z,0.2nm,0.6s,baz=134,slow=9.1,SNR=2.3
comp=Z,0.2nm,0.6s
ASAR Alice Springs 149.13 234 PKPbc **PKPbc** **17 31 33.0 -0.8**
comp=Z,0.7nm,0.6s,baz=118,slow=3.6,SNR=12
WRA Warramunga Arr 150.36 241 PKPbc **PKPbc** **17 31 36.1 -0.7**
comp=Z,0.4nm,0.4s,baz=107,slow=2.9,SNR=27

*NEIC **30** 17:12:02.2±2.6,2°.54S±0°.09×140°.45E±0°.05,h10km±1km, mb4.3/22,Error ellipse: s-maj=17.7km s-min=3.9km az=27.0*
*DJA **30** 17:12:11.0±0.4,3°S±5°×14°0E±°,h10km,M4.2/14, mb4.2/14,mB5.2/1,MLv4.3/4,Mw(mB)4.6/1*
*IDC **30** 17:12:12.3±3.2,2°.64S×140°.42E,h119km±31km,mb3.3/8, mbtmp3.8/12,MS3.5/25,Error ellipse: s-maj=23.0km s-min=12.7km az=99.0*
ISC 30 17:12:04.1±0.6,2°.55S±0°.07×140°.44E±0°.06,h24km,n80, σ2s36/55,mb3.9/12,MS3.4/19,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.27**	**261**	P		**P**	**Pb**	**17 12 11.4**	**+0.8**
SRPI	**Serui, Papua**	**4.25**	**279**	P		Pb		17 13 14.1	-4.0
SRPI				S		**Sb**		**17 14 05.4**	**-3.6**
FAKI	**Fak Fak**	**8.19**	**267**	P		**Pn**		**17 14 02.4**	**+1.0**
SIJI	**Sorong**	**9.31**	**280**	LR		LR		17 18 11.9	
	comp=Z,288nm,18.7s,baz=90,slow=39								
PMG	**Port Moresby**	**9.54**	**136**	P		Pn		17 14 26.6	+6.5
	5.7nm,0.7s,baz=319,slow=18,SNR=2.7								
PMG				LR		LR		17 18 39.8	
	comp=Z,277nm,20.3s,baz=291,slow=41								
PMG	**Port Moresby**	**9.54**	**136**	Pn		**Pn**		**17 14 19.2**	**-0.9**
COEN	**Coen**	**11.65**	**167**	Pn		**Pn**		**17 14 48.3**	**-0.7**
MTN	**Manton Dam**	**13.76**	**222**			**Pn**		**17 15 17.1**	**-0.7**
SANI	**Sanana**	**14.44**	**272**	P		**P**		**17 15 36.5**	**+2.8**
	7.8nm,1.1s								
GUMO	**Guam**	**16.63**	**15**	LR		LR		17 21 40.9	
	comp=Z,101nm,18.1s,baz=198,slow=34								
KNRA	**Kununurra**	**17.39**	**221**			**Pn**		**17 16 05.1**	**-0.2**
KNRA				IAmb		IAmb		17 16 26.9	
	comp=Z,12nm,0.8s								
KNRA	**Kununurra**	**17.39**	**221**	P		**Pn**		**17 16 05.0**	**-0.2**
SOEI	**Soe**	**17.59**	**245**	P		**P**		**17 16 09.1**	**+0.3**
SOEI				IAmb		IAmb		17 16 32.3	
	comp=Z,42nm,0.9s								
SOEI	**Soe**	**17.59**	**245**	P		**P**		**17 16 15.5**	**+6.7**
	comp=Z,37nm,0.8s								
SOEI	**Soe**	**17.59**	**245**	P		**P**		**17 16 15.9**	**+7.1**
DAV	**Davao City (W)**	**17.64**	**303**	LR		LR		17 23 51.1	
	comp=Z,108nm,18.1s,baz=129,slow=40								
GTOI	**Gorontalo**	**17.70**	**280**	P		P		17 16 20.3	+10
	comp=Z,7.2nm,0.7s								
LUWI	**Luwuk**	**17.72**	**275**	P		**Pn**		**17 16 10.2**	**+0.8**
LUWI				IAmb		IAmb		17 16 32.8	
	comp=Z,16nm,0.7s								
WB0	**Warramunga Arr**	**18.10**	**199**	P		**Pn**		**17 16 13.0**	**-1.1**
WR0	**Warramunga Arr**	**18.24**	**198**	P		**Pn**		**17 16 15.0**	**-0.7**
WR0				IAmb		IAmb		17 16 25.5	
	comp=Z,8.8nm,0.7s								
WRAB	**Tennant Creek**	**18.27**	**199**	P		**Pn**		**17 16 15.1**	**-1.0**
WRAB	**Tennant Creek**	**18.27**	**199**	P		**Pn**		**17 16 15.9**	**-0.2**
WB2	**Warramunga Arr**	**18.28**	**199**	P		**Pn**		**17 16 15.2**	**-1.0**
WRA	**Warramunga Arr**	**18.28**	**199**	P		**Pn**		**17 16 16.0**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=26,slow=12,SNR=29								
WRA				S		**Sn**		**17 19 38.9**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=17,slow=23,SNR=4.0								
WRA				LR		LR		17 24 16.9	
	comp=Z,196nm,18.7s,baz=20,slow=40								
WRA	**Warramunga Arr**	**18.28**	**199**	P		**Pn**		**17 16 14.1**	**-2.2**
BATI	**Baumata**	**18.31**	**245**	P		**Pn**		**17 16 17.3**	**+0.6**
	comp=Z,9.2nm,0.7s,baz=207,slow=2.3,SNR=6.0								
BATI	**Baumata**	**18.31**	**245**	P		Pn		17 16 25.9	+9.2
	comp=Z,24nm,0.8s								
CTA	**Charters Tower**	**18.33**	**162**	P		**P**		**17 16 17.8**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=339,slow=12,SNR=1.7								
CTA				LR		LR		17 23 09.3	
	comp=Z,162nm,20.9s,baz=350,slow=36								
CTAO	**Charters Tower**	**18.33**	**162**	P		P		17 16 26.2	+9.3
APSI	**Ampana**	**18.85**	**275**	P		Pn		17 16 31.0	+7.8
	comp=Z,18nm,1.2s								
EDFI	**Ende, Flores**	**19.64**	**251**	P		**Pn**		**17 16 39.7**	**+6.9**
	comp=Z,3.5nm,1.1s								
HNR	**Honiara**	**20.56**	**110**	P		**P**		**17 16 40.0**	**-1.3**
	comp=Z,325nm,0.5s,baz=59,slow=20,SNR=2.3								
HNR				LR		LR		17 25 29.3	
	comp=Z,1μm,19.1s,baz=304,slow=39								
HNR	**Honiara**	**20.56**	**110**	P		**P**		**17 16 42.2**	**+0.9**
TTSI	**Tana Toraja**	**20.60**	**268**	P		Pn		17 16 53.9	+10
MPSI	**Mapaga**	**20.73**	**278**	P		Pn		17 16 56.1	+11
FITZ	**Fitzroy Crossi**	**21.20**	**222**	P		**P**		**17 16 47.2**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=44,slow=15,SNR=2.8								
FITZ				LR		LR		17 26 39.3	
	comp=Z,108nm,20.9s,baz=38,slow=41								
	comp=Z,1.8nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.20**	**222**	P		**P**		**17 16 46.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**21.20**	**222**	P		**P**		**17 16 47.1**	**-1.0**
AS31	**Alice Springs**	**21.92**	**196**	P		**P**		**17 16 54.0**	**-1.8**
ASAR	**Alice Springs**	**21.92**	**196**	P		**P**		**17 16 55.3**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=28,slow=11,SNR=26								
ASAR				LR		LR		17 26 12.5	
	comp=Z,132nm,18.5s,baz=17,slow=38								
	comp=Z,1.8nm,0.8s								
ASAR	**Alice Springs**	**21.92**	**196**	P		**P**		**17 16 54.8**	**-1.1**
EIDS	**Eidsvold**	**24.90**	**157**	P		**P**		**17 17 24.6**	**-0.6**
EIDS	**Eidsvold**	**24.90**	**157**	P		**P**		17 17 33.3	+8.0
RMQ	**Roma**	**25.11**	**162**	P		**P**		17 17 34.9	+7.8
WRKA	**Warakurna**	**25.23**	**207**	P		**P**		**17 17 27.2**	**-1.2**
STKA	**Stephens Creek**	**29.19**	**178**	P		**P**		**17 18 02.2**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=347,slow=11,SNR=1.9								
STKA				LR		LR		17 31 35.5	
	comp=Z,230nm,18.4s,baz=18,slow=40								
	comp=Z,2.3nm,0.9s								
STKA	**Stephens Creek**	**29.19**	**178**	P		**P**		**17 18 02.4**	**-1.4**
STKA				IAmb		IAmb		17 18 29.2	
	comp=Z,4.0nm,1.4s								
JCJ	**Chichijima**	**29.52**	**3**	LR		LR		17 27 10.6	
	comp=Z,38nm,19.1s,baz=119,slow=30								
BBOO	**Buckleboo**	**30.38**	**187**	P		**P**		**17 18 13.0**	**-1.3**
FORT	**Forrest**	**30.42**	**201**	P		**P**		**17 18 13.0**	**-1.7**
JOW	**Kunigami**	**31.48**	**339**	LR		LR		17 28 05.9	
	comp=Z,69nm,21.5s,baz=150,slow=30								
DZM	**Mont Dzumac**	**31.86**	**130**	LR		LR		17 30 51.4	
	comp=Z,93nm,19.4s,baz=326,slow=35								
DZM	**Mont Dzumac**	**31.86**	**130**	P		**P**		**17 18 28.6**	**+1.0**
DZM				IAmb		IAmb		17 18 44.0	
	comp=Z,12nm,1.2s								
MARNC	**Mare, Loyalty**	**32.78**	**127**	P		**P**		**17 18 39.2**	**+3.6**
LEM	**Lembang**	**32.97**	**261**	LR		LR		17 33 31.6	
	comp=Z,38nm,19.4s,baz=32,slow=39								
JHJ	**Hachijo jima 2**	**35.48**	**359**	LR		LR		17 30 56.8	
	comp=Z,70nm,18.1s,baz=98,slow=32								
NWAO	**Narrogin (SRO)**	**37.23**	**213**	LR		LR		17 36 26.8	
	comp=Z,175nm,20.7s,baz=24,slow=39								
MJAR	**Matsushiro Arr**	**38.95**	**357**	LR		LR		17 33 09.9	
	comp=Z,33nm,19.8s,baz=174,slow=32								
MSVF	**Nonsavu**	**39.86**	**115**	LR		LR		17 33 35.8	
	comp=Z,49nm,20.1s,baz=3.9,slow=32								
KSRS	**Korea Array**	**41.46**	**345**	P		**P**		**17 19 46.9**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=156,slow=8.0,SNR=4.4								
KSRS				LR		LR		17 34 31.0	
	comp=Z,34nm,20.5s,baz=155,slow=32								
	comp=Z,0.7nm,0.7s								
USA0B	**Ussuriysk Arra**	**47.15**	**352**	P		**P**		**17 20 32.8**	**-1.7**
USA0B				IAmb		IAmb		17 20 45.0	
	comp=Z,5.6nm,0.8s								
USRK	**Ussuriysk Ar.**	**47.15**	**352**	P		**P**		**17 20 33.2**	**-1.3**
RAO	**Raoul Island**	**47.63**	**128**	LR		LR		17 40 19.3	
	comp=Z,38nm,18.0s,baz=48,slow=35								
AFI	**Afiamalu**	**48.52**	**106**	LR		LR		17 40 05.3	
	comp=Z,32nm,19.7s,baz=32,slow=34								
BKZ	**Black Stump Fm**	**49.03**	**143**	P		**P**		**17 20 51.0**	**+1.7**
KLR	**Kul'dur**	**52.12**	**353**	P		**P**		**17 21 12.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=163,slow=11,SNR=2.8								
KLR				LR		LR		17 40 46.9	
	comp=Z,43nm,20.8s,baz=148,slow=33								
	comp=Z,0.9nm,0.7s								
PETK	**Petropavlovsk-**	**57.32**	**12**	LR		LR		17 43 11.3	
	comp=Z,28nm,22.0s,baz=196,slow=32								
MA2	**Magadan**	**62.47**	**6**	P		**P**		**17 22 26.6**	**+1.4**
YAK	**Yakutsk**	**64.93**	**354**	LR		LR		17 50 25.8	
	comp=Z,27nm,19.2s,baz=90,slow=35								
MKAR	**Makanchi Array**	**70.72**	**322**	P		**P**		**17 23 15.4**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=90,slow=7.2,SNR=2.3								
	comp=Z,0.4nm,0.7s								
MKAR	**Makanchi Array**	**70.72**	**322**	P		**P**		**17 23 18.3**	**+0.1**
MAKZ	**Makanchi**	**70.92**	**322**	P		**P**		**17 23 19.8**	**+0.4**
MAKZ				IAmb		IAmb		17 23 21.9	
	comp=Z,2.7nm,1.0s								
ZALV	**Zalesovo Beam**	**72.67**	**329**	LR		LR		17 54 44.8	
	comp=Z,27nm,20.4s,baz=168,slow=35								
VNDA	**Vanda**	**75.79**	**175**	P		**P**		**17 23 45.0**	**-2.6**
	comp=Z,0.5nm,0.7s,baz=337,slow=7.5,SNR=3.7								
	comp=Z,0.5nm,0.7s								
VNDA	**Vanda**	**75.79**	**175**	P		**P**		**17 23 52.2**	**+4.6**
VNDA				IAmb		IAmb		17 23 53.8	
	comp=Z,3.2nm,0.8s								
SBA	**Scott Base**	**76.53**	**174**			P		17 23 57.2	+5.5
SBA				IAmb		IAmb		17 24 41.3	
	comp=Z,2.7nm,1.2s								
OHAK	**Old Harbor**	**79.54**	**30**	P		**P**		**17 24 08.2**	**-0.6**
IMAR	**Indian Mountai**	**82.69**	**22**	P		**P**		**17 24 27.0**	**+1.6**
ILAR	**Eielson Array**	**84.98**	**24**	P		**P**		**17 24 35.1**	**-2.0**
	comp=Z,0.7nm,1.0s,baz=247,slow=3.6,SNR=3.2								
	comp=Z,0.7nm,1.0s								
LPAZ	**La Paz**	**146.13**	**125**	PKPbc		**PKPdf**		**17 31 38.9**	**-4.2**
	comp=Z,0.7nm,0.8s,baz=252,slow=6.1,SNR=2.0								

*IDC **30** 17:23:03.4±1.6,29°.24S×61°.13E,h0km,mb3.5/3, mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=68.2km s-min=27.9km az=21.0*
*NEIC **30** 17:23:04.4±2.1,29°.1S±0°.1×60°.59E±0°.09,h10km±1km, mb4.5/6,Error ellipse: s-maj=21.7km s-min=11.6km az=20.0*
ISC 30 17:23:04.0±0.7,29°.0S±0°.1×60°.7E±0°.1,h10km,n19, σ2s13/14,mb4.4/8,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.02**	**329**	Pn		**Pn**		**17 25 15.7**	**+1.3**
VOI	**Vohitsoka**	**14.42**	**296**			**P**		**17 26 34.4**	**-0.9**
ABPO	**Ambohimpanom**	**15.82**	**306**			**P**		**17 26 49.9**	**-1.0**
OPO	**Ambohidratompo**	**16.14**	**307**	Pn		**P**		**17 26 56.6**	**+2.0**
	baz=108,slow=16,SNR=1.7								
OPO				Sn		**Sn**		**17 29 46.6**	**-4.0**
	baz=102,slow=20,SNR=1.5								
	0.8nm,0.3s								
H08S1	**Diego Garcia H**	**23.97**	**30**	T		T		17 53 19.6	
	baz=202,slow=76								
H08S2	**Diego Garcia H**	**23.98**	**30**	T		T		17 53 19.6	
	baz=202								
H08S3	**Diego Garcia H**	**23.99**	**30**	T		T		17 53 20.2	
	baz=202,slow=76								
MSEY	**Mahe Island**	**24.71**	**347**	P		**P**		**17 28 23.5**	**-2.1**
MSEY				IAmb		IAmb		17 29 03.8	
	comp=Z,40nm,1.1s								
H01W2	**Cape Leeuwin H**	**45.27**	**112**	T		T		18 19 14.4	
	baz=261,slow=75,SNR=6.1								
H01W3	**Cape Leeuwin H**	**45.27**	**112**	T		T		18 19 15.5	
	baz=261,slow=75,SNR=5.7								
H01W1	**Cape Leeuwin H**	**45.28**	**112**	T		T		18 19 16.3	
	baz=261,slow=75,SNR=6.2								
SNAA	**Sanae**	**54.47**	**200**	P		**P**		**17 32 31.6**	**+0.2**
SNAA				IAmb		IAmb		17 33 11.8	
	comp=Z,5.0nm,1.5s								
CMAR	**Chiang Mai Arr**	**59.91**	**43**	P		**P**		**17 33 10.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=238,slow=7.6,SNR=5.5								
	comp=Z,0.2nm,0.5s								
QSPA	**South Pole Qui**	**61.15**	**180**	P		**P**		**17 33 17.6**	**-0.8**
QSPA				IAmb		IAmb		17 33 49.7	
	comp=Z,4.4nm,1.4s								
ASAR	**Alice Springs**	**64.86**	**104**	P		**P**		**17 33 41.9**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=246,slow=6.2,SNR=6.1								
	comp=Z,0.5nm,0.7s								
SBA	**Scott Base**	**65.15**	**167**	P		**P**		**17 33 44.8**	**+0.1**
SBA				IAmb		IAmb		17 34 25.0	
	comp=Z,4.9nm,1.5s								
WRA	**Warramunga Arr**	**66.68**	**101**	P		**P**		**17 33 53.8**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=245,slow=5.6,SNR=3.2								
	comp=Z,0.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**70.72**	**298**	P		**P**		**17 34 24.5**	**+3.9**
	comp=Z,13nm,0.6s,baz=116,slow=6.5,SNR=4.9								
FAKI	**Fak Fak**	**72.45**	**83**	P		**P**		**17 34 31.8**	**+0.6**

*IDC **30** 17:30:53.7±0.7,1°.99S×140°.71E,h0km,mb3.9/10, mbtmp4.0/14,ML3.7/2,MS3.4/24,Error ellipse: s-maj=26.9km s-min=14.8km az=85.0*
*NEIC **30** 17:30:56.1±1.7,2°.04S±0°.08×140°.46E±0°.08,h10km±1km, mb4.1/20,Error ellipse: s-maj=15.1km s-min=10.8km az=42.0*
*DJA **30** 17:31:03.6±0.7,3°S±6°×14°0E±°,h14km±5km,M4.2/13, mb4.3/13,MLv4.2/4*
ISC 30 17:30:59.1±0.5,2°.11S±0°.06×140°.54E±0°.06,h35km,n80, σ1s42/62,mb3.9/12,MS3.4/19,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.61**	**217**	P		**P**	**Pn**	**17 31 11.3**	**0.0**
GENI	**Genyem**	**0.61**	**217**	P		**P**	**Pn**	**17 31 12.0**	**+0.7**
SMPI	**Sarmi**	**1.83**	**274**	P		**P**	**Pn**	**17 31 30.8**	**+2.7**
SRPI	**Serui, Papua**	**4.30**	**273**	P		P	Pn	17 32 10.2	+8.1
MANU	**Manus Island**	**6.83**	**90**	P		**Pn**	**Pn**	**17 32 36.9**	**+0.1**
FAKI	**Fak Fak**	**8.32**	**264**	P		**Pn**	**Pn**	**17 32 57.3**	**-0.1**
FAKI				S		**Sn**	**Sn**	**17 34 28.2**	**-1.9**
FAKI	**Fak Fak**	**8.32**	**264**	P		P	Pn	17 33 03.4	+6.0
SIJI	**Sorong**	**9.35**	**277**	LR		LR	LR	17 37 04.0	
	comp=Z,232nm,19.1s,baz=352,slow=39								
PMG	**Port Moresby**	**9.79**	**138**	Pn		**Pn**		**17 33 15.6**	**-2.0**
	2.1nm,0.5s,baz=312,slow=15,SNR=1.8								
PMG				LR		LR		17 37 32.3	
	comp=Z,232nm,19.9s,baz=290,slow=41								
PMG	**Port Moresby**	**9.79**	**138**	Pn		**Pn**		**17 33 20.4**	**+2.9**
COEN	**Coen**	**12.06**	**168**	Pn		**Pn**		**17 33 47.9**	**-0.7**
MTN	**Manton Dam**	**14.16**	**221**			**Pn**		**17 34 15.2**	**-2.1**
DAV	**Davao City (W)**	**17.49**	**302**	LR		LR		17 42 09.6	
	comp=Z,109nm,19.4s,baz=152,slow=38								
LUWI	**Luwuk**	**17.79**	**273**			**Pn**		**17 35 02.1**	**-2.0**
LUWI				IAmb		IAmb		17 35 29.7	
	comp=Z,26nm,1.2s								
KNRA	**Kununurra**	**17.79**	**220**			**Pn**		**17 35 04.1**	**0.0**
KNRA				IAmb		IAmb		17 35 12.1	
	comp=Z,16nm,0.8s								
KNRA	**Kununurra**	**17.79**	**220**	P		**P**		**17 35 04.8**	**+0.2**
SOEI	**Soe**	**17.87**	**244**	P		**P**		**17 35 06.1**	**+0.4**
SOEI	**Soe**	**17.87**	**244**	P		**P**		**17 35 08.0**	**+2.3**
	comp=Z,34nm,0.7s								
SOEI	**Soe**	**17.87**	**244**	P		**P**		**17 35 08.7**	**+3.0**
WB0	**Warramunga Arr**	**18.55**	**198**	P		**P**		**17 35 11.4**	**-1.6**
WB0				IAmb		IAmb		17 35 40.9	
	comp=Z,9.9nm,1.1s								
BATI	**Baumata**	**18.59**	**244**	P		**Pn**		**17 35 16.6**	**+2.5**
	comp=Z,31nm,0.7s,baz=64,slow=0.6,SNR=18								
BATI	**Baumata**	**18.59**	**244**	P		**Pn**		**17 35 16.1**	**+2.1**
	comp=Z,25nm,0.8s								
WR0	**Warramunga Arr**	**18.69**	**198**	P		**P**		**17 35 14.7**	**+0.1**
WR0				IAmb		IAmb		17 35 35.5	
	comp=Z,10nm,1.1s								
WRAB	**Tennant Creek**	**18.72**	**198**	P		**P**		**17 35 13.2**	**-1.7**
WRAB				IAmb		IAmb		17 35 16.3	
	comp=Z,8.0nm,0.9s								
WRAB	**Tennant Creek**	**18.72**	**198**	P		**P**		**17 35 15.4**	**+0.5**
CTA	**Charters Tower**	**18.72**	**163**	P		**P**		**17 35 13.3**	**-1.6**
	baz=352,slow=11,SNR=1.6								
CTA				LR		LR		17 42 12.8	
	comp=Z,170nm,20.4s,baz=347,slow=36								
	comp=Z,2.2nm,0.8s								
CTAO	**Charters Tower**	**18.72**	**163**	P		**Pn**		**17 35 16.3**	**+0.8**
WB2	**Warramunga Arr**	**18.73**	**198**	P		**P**		**17 35 15.0**	**0.0**
WB2				IAmb		IAmb		17 35 16.3	
	comp=Z,8.8nm,0.8s								
WRA	**Warramunga Arr**	**18.73**	**198**	P		**P**		**17 35 15.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=25,slow=12,SNR=38								
WRA				LR		LR		17 43 30.4	
	comp=Z,170nm,18.2s,baz=356,slow=40								
	comp=Z,6.8nm,0.9s								
WRA	**Warramunga Arr**	**18.73**	**198**	P		**P**		**17 35 12.7**	**-2.3**
MRSI	**Marisa**	**18.77**	**278**	P		Pn		17 35 24.0	+7.9
	comp=Z,14nm,0.9s								
APSI	**Ampana**	**18.92**	**273**	P		**Pn**		**17 35 19.9**	**+2.0**
	comp=Z,15nm,1.4s								
EDFI	**Ende, Flores**	**19.88**	**250**	P		**P**		**17 35 27.3**	**-0.4**
	comp=Z,4.0nm,1.0s								
HNR	**Honiara**	**20.62**	**111**	LR		LR		17 42 43.9	
	comp=Z,885nm,20.2s,baz=30,slow=35								
TTSI	**Tana Toraja**	**20.72**	**267**	P		Pn		17 35 44.1	+4.9
	comp=Z,14nm,1.1s								
MPSI	**Mapaga**	**20.78**	**276**	P		Pn		17 35 42.6	+2.7
	comp=Z,6.5nm,1.2s								
FITZ	**Fitzroy Crossi**	**21.59**	**222**	P		**P**		**17 35 46.9**	**+0.8**
	comp=Z,4.6nm,0.7s,baz=35,slow=12,SNR=12								
FITZ				LR		LR		17 44 18.1	
	comp=Z,76nm,18.6s,baz=38,slow=37								
	comp=Z,4.6nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.59**	**222**	P		**P**		**17 35 45.8**	**-0.3**
FITZ				IAmb		IAmb		17 35 49.5	
	comp=Z,7.9nm,1.1s								
FITZ	**Fitzroy Crossi**	**21.59**	**222**	P		**P**		**17 35 46.9**	**+0.8**
AS31	**Alice Springs**	**22.37**	**196**	P		**P**		**17 35 54.4**	**-0.1**
ASAR	**Alice Springs**	**22.38**	**196**	P		**P**		**17 35 55.0**	**+0.5**
	comp=Z,6.0nm,0.7s,baz=29,slow=10,SNR=67								
	comp=Z,6.0nm,0.7s								
ASAR	**Alice Springs**	**22.38**	**196**	P		**P**		**17 35 53.4**	**-1.1**
EIDS	**Eidsvold**	**25.26**	**157**	P		**P**		**17 36 23.3**	**+1.1**
EIDS	**Eidsvold**	**25.26**	**157**	P		**P**		**17 36 25.0**	**+2.8**
INKA	**Innaminka**	**25.49**	**180**	P		**P**		**17 36 26.1**	**+1.9**
RMQ	**Roma**	**25.49**	**163**	P		**P**		**17 36 27.4**	**+3.1**
WRKA	**Warakurna**	**25.67**	**206**	P		**P**		**17 36 26.6**	**+0.6**
OOD	**Oodnadatta**	**25.96**	**190**	P		**P**		**17 36 29.4**	**+0.9**
JCJ	**Chichijima**	**29.08**	**3**	LR		LR		17 46 41.1	
	comp=Z,37nm,20.5s,baz=99,slow=33								
STKA	**Stephens Creek**

*NEIC **30** 17:48:50.0±1.0, 18.4N±0.1×145.99E±0.09, h153km±11km, mb4.4/35, Error ellipse: s-maj=15.7km s-min=11.8km az=172.0*

ISC 30 17:48:48.7±0.7, 18.55N±0.09×145.6E±0.2, h150km, n51, σ0.98/52, mb4.3/27, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.98**	**189**	P	**Pn**	**17 50 03.2**	**+1.3**
	169nm,1.2s,baz=317,slow=6.6,SNR=16						
GUMO				S	**Sn**	**17 50 58.6**	**-0.4**
	34nm,0.3s,baz=189,slow=19,SNR=4.1						
GUMO	**Guam**	**4.98**	**189**	Pn	**Pn**	**17 50 03.4**	**+1.5**
SIJI	**Sorong**	**23.91**	**218**	P	**P**	**17 53 49.5**	**+0.6**
	2.8nm,0.5s,baz=28,slow=12,SNR=4.9						
	2.8nm,0.5s						
FAKI	**Fak Fak**	**25.07**	**213**	P	**P**	**17 54 00.1**	**+0.7**
FAKI				IAmb	IAmb	17 54 02.3	
	comp=Z,17nm,1.1s						
COEN	**Coen**	**32.39**	**184**	P	**P**	**17 55 02.5**	**-1.9**
COEN				IAmb	IAmb	17 55 45.8	
	comp=Z,7.5nm,1.4s						
MTN	**Manton Dam**	**34.31**	**206**	P	**P**	**17 55 20.5**	**-0.5**
MTN				IAmb	IAmb	17 55 27.3	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**37.85**	**207**	P	**P**	**17 55 51.1**	**0.0**
WB0	**Warramunga Arr**	**39.64**	**197**	P	**P**	**17 56 05.6**	**-0.3**
WB0				IAmb	IAmb	17 56 06.3	
	comp=Z,7.2nm,1.1s						
WRAB	**Tennant Creek**	**39.81**	**197**	P	**P**	**17 56 07.2**	**-0.2**
WB2	**Warramunga Arr**	**39.82**	**197**	P	**P**	**17 56 06.9**	**-0.5**
WRA	**Warramunga Arr**	**39.82**	**197**	P	**P**	**17 56 07.2**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=17,slow=8.4,SNR=52						
WRA				PcP	**PcP**	**17 58 08.9**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=17,slow=3.6,SNR=2.2						
	comp=Z,1.4nm,0.4s						
WRA	**Warramunga Arr**	**39.82**	**197**	P	**P**	**17 56 06.7**	**-0.8**
JAGI	**Jajag, Banyuwa**	**41.05**	**232**	P	**P**	**17 56 18.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**41.38**	**209**	P	**P**	**17 56 20.9**	**+0.6**
AS31	**Alice Springs**	**43.49**	**196**	P	**P**	**17 56 37.1**	**-0.2**
ASAR	**Alice Springs**	**43.49**	**196**	P	**P**	**17 56 36.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=12,slow=8.3,SNR=33						
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**43.49**	**196**	P	**P**	**17 56 36.7**	**-0.6**
SII	**Sitkinak Islan**	**58.37**	**34**	P	**P**	**17 58 29.2**	**+1.1**
MKAR	**Makanchi Array**	**58.52**	**314**	P	**P**	**17 58 29.2**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=98,slow=8.6,SNR=1.4						
	comp=Z,0.1nm,0.4s						
N18K	**Kilae Creek**	**58.71**	**29**	P	**P**	**17 58 31.9**	**+1.5**
N18K				IAmb	IAmb	17 58 36.4	
	comp=Z,6.8nm,1.1s						
O18K	**Koktuh Hills**	**58.77**	**30**	P	**P**	**17 58 32.0**	**+1.2**
SVW2	**Sparrevohn**	**58.99**	**29**	P	**P**	**17 58 33.1**	**+0.8**
SVW2				IAmb	IAmb	17 58 41.4	
	comp=Z,8.1nm,1.2s						
OHAK	**Old Harbor**	**59.01**	**34**	P	**P**	**17 58 33.2**	**+0.8**
N19K	**Bonanza Creek**	**59.41**	**30**	P	**P**	**17 58 36.3**	**+1.0**
N19K				IAmb	IAmb	17 59 12.0	
	comp=Z,12nm,1.4s						
KDAK	**Kodiak Island**	**59.52**	**33**	P	**P**	**17 58 36.1**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=259,slow=5.2,SNR=7.7						
	comp=Z,2.7nm,0.8s						
KDAK	**Kodiak Island**	**59.52**	**33**	P	**P**	**17 58 36.6**	**+0.7**
K20K	**Telida**	**60.39**	**27**	P	**P**	**17 58 43.2**	**+1.4**
K20K				IAmb	IAmb	17 58 44.2	
	comp=Z,7.2nm,1.3s						
J20K	**Nowinta River**	**60.62**	**26**	P	**P**	**17 58 44.9**	**+1.5**
J20K				IAmb	IAmb	17 59 16.7	
	comp=Z,8.1nm,1.5s						
CNPM	**China Poot**	**60.62**	**31**	P	**P**	**17 58 43.6**	**+0.1**
SPU	**Mount Spurr**	**60.65**	**29**	P	**P**	**17 58 44.9**	**+1.2**
CAST	**Castle Rocks**	**61.26**	**27**	P	**P**	**17 58 48.8**	**+1.1**
IMAR	**Indian Mountai**	**61.38**	**24**	P	**P**	**17 58 49.1**	**+0.6**
KURBB	**Kurchatov Arra**	**61.39**	**318**	P	P	17 58 47.6	-1.1
	comp=Z,0.3nm,0.4s,baz=100,slow=7.4,SNR=1.8						
	comp=Z,0.3nm,0.4s						
NRIK	**Noril'sk**	**61.73**	**340**	P	**P**	**17 58 49.4**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=126,slow=3.5,SNR=3.9						
	comp=Z,2.3nm,0.6s						
KTH	**Kantishna Hill**	**61.80**	**27**	P	**P**	**17 58 52.2**	**+0.9**
KTH				IAmb	IAmb	17 59 32.2	
	comp=Z,8.0nm,1.3s						
BPAW	**Bear Paw Mtn.**	**61.92**	**26**	P	**P**	**17 58 52.6**	**+0.5**
BPAW				IAmb	IAmb	17 59 36.6	
	comp=Z,8.5nm,1.5s						
MLY	**Manley**	**62.28**	**25**	P	**P**	**17 58 55.6**	**+1.0**
PWL	**Port Wells**	**62.33**	**30**	P	**P**	**17 58 54.9**	**-0.1**
PWL				IAmb	IAmb	17 58 55.8	
	comp=Z,3.8nm,0.9s						
SML	**Sawmill**	**62.53**	**29**	P	**P**	**17 58 54.5**	**-1.8**
SML				IAmb	IAmb	17 58 57.5	
	comp=Z,4.1nm,0.7s						
HIN	**Hinchinbrook I**	**63.13**	**31**	P	**P**	**17 59 01.0**	**+0.8**
FID	**Port Fidalgo**	**63.21**	**31**	P	**P**	**17 59 01.0**	**+0.3**
MDM	**Murphy Dome**	**63.29**	**26**	P	**P**	**17 59 02.9**	**+1.6**
MDM				IAmb	IAmb	17 59 11.6	
	comp=Z,5.2nm,1.4s						
KLU	**Klutina**	**63.60**	**30**	P	**P**	**17 59 04.2**	**+0.9**
KLU				IAmb	IAmb	17 59 20.4	
	comp=Z,6.3nm,1.3s						
TOLK	**Toolik Lake Re**	**63.76**	**22**	P	**P**	**17 59 05.4**	**+1.2**
TOLK				IAmb	IAmb	17 59 09.3	
	comp=Z,6.1nm,1.1s						
ILAR	**Eielson Array**	**63.81**	**26**	P	**P**	**17 59 02.9**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=251,slow=5.5,SNR=5.3						
	comp=Z,0.4nm,0.5s						
J25K	**Salcha River,**	**64.42**	**26**	P	**P**	**17 59 08.0**	**-0.6**
J26L	**Joseph Creek**	**65.16**	**27**	P	**P**	**17 59 13.6**	**+0.1**
J26L				IAmb	IAmb	17 59 22.2	
	comp=Z,6.0nm,1.5s						
BMAR	**Burnt Mountain**	**65.28**	**24**	P	**P**	**17 59 15.1**	**+0.9**
CTGM	**Chitina Glacie**	**65.73**	**31**	P	**P**	**17 59 17.9**	**+0.6**
CTGM				IAmb	IAmb	17 59 47.4	
	comp=Z,14nm,1.5s						
BCAR	**Beaver Creek A**	**65.75**	**28**	P	**P**	**17 59 17.6**	**+0.4**
NVAR	**Mina Array Bea**	**83.28**	**52**	P	**P**	**18 00 59.5**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=267,slow=6.1,SNR=7.2						
	comp=Z,0.9nm,0.7s						

*LDO **30** 18:24:59.4±3.3, 39.02N±0.07×71.29W±0.09, h7km±8km, Error ellipse: s-maj=12.6km s-min=8.1km az=133.0*

NEIC 30 18:24:52±1.3, 38.70N±0.07×70.93W±0.09, h5km±2km, ML3.5/62, ML2.7/18(LDO), Error ellipse: s-maj=13.3km s-min=9.3km az=129.0, Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M63A	**Gales Ferry**	**2.84**	**343**		Pn	18 25 38.3	+0.4
M63A				Sn	Sn	18 26 06.4	-6.1
M63A				IAML		18 26 12.4	
	comp=N,94nm,0.5s						
M65A	**Busby, Falmout**	**2.87**	**4**		Pn	18 25 38.3	-0.1
M65A				IAML		18 26 15.6	
	comp=E,247nm,0.7s						
M65A	**Busby, Falmout**	**2.87**	**4**		Sn	18 26 06.3	-7.0
N62A	**Caumsett State**	**2.97**	**320**		Pn	18 25 40.0	+0.2
N62A					Sn	18 26 08.1	-7.6
N62A	**Caumsett State**	**2.97**	**320**	Pn	Pn	18 25 39.2	-0.5
N62A	**Caumsett State**	**2.97**	**320**		Lg	18 26 09.5	
N62A				IAML		18 26 55.1	
	comp=N,214nm,0.8s						
YLE	**Yale**	**3.04**	**330**		Pn	18 25 41.1	+0.5
YLE				Sn	Sn	18 26 11.3	-6.1
CPNY	**Central Park**	**3.14**	**313**		Pn	18 25 42.7	+0.6
CPNY	**Central Park**	**3.14**	**313**	Pn	Pn	18 25 42.0	-0.1
FOR	**Fordham**	**3.14**	**314**		Pn	18 25 42.8	+0.7
FOR					Sn	18 26 12.7	-7.3
L64A	**Middleborough**	**3.24**	**1**	Pn	Pn	18 25 44.4	+1.0
L64A				IAML		18 26 19.7	
	comp=N,68nm,0.3s						
L64A				IAML		18 26 21.2	
	comp=E,90nm,0.1s						
UCCT	**U. Connecticut**	**3.25**	**343**		Sn	18 26 16.4	-6.3
UCCT	**U. Connecticut**	**3.25**	**343**		Pn	18 25 43.5	-0.1
BRYW	**Bryant College**	**3.25**	**352**		Pn	18 25 44.9	+1.2
PAL	**Palisades**	**3.25**	**316**		Pn	18 25 44.2	+0.5
PAL					Sn	18 26 15.5	-7.2
PAL	**Palisades**	**3.25**	**316**	Pn	Pn	18 25 43.6	-0.1
PANJ	**Princeton**	**3.37**	**301**		Pn	18 25 45.8	+0.5
BRNJ	**Basking Ridge**	**3.44**	**306**	Pn	Pn	18 25 46.7	+0.5
Q61A	**Milford**	**3.44**	**274**		Pn	18 25 46.9	+0.7
CMNY	**Cheesecote Mou**	**3.47**	**317**		Pn	18 25 47.0	+0.4
R61A	**Willards**	**3.48**	**265**	Pn	Pn	18 25 46.9	+0.1
TRNY	**Table Rock, Ra**	**3.52**	**315**		Pn	18 25 47.5	+0.2
TRNY	**Table Rock, Ra**	**3.52**	**315**	Pn	Pn	18 25 47.3	-0.1
BRNY	**Black Rk. Fore**	**3.60**	**320**		Pn	18 25 48.5	0.0
KSCT	**Kent School, K**	**3.60**	**328**		Pn	18 25 48.9	+0.4
KSCT	**Kent School, K**	**3.60**	**328**	Pn	Pn	18 25 48.5	0.0
KSCT				IAML		18 26 30.4	
	comp=E,57nm,0.3s						
KSCT				IAML		18 26 30.0	
	comp=N,41nm,0.2s						
TUPA	**Temple Univers**	**3.61**	**295**		Pn	18 25 49.0	+0.4
BCX	**Boston College**	**3.64**	**357**	Pn	Pn	18 25 48.8	-0.2
BCX				IAML		18 27 50.6	
	comp=N,43nm,3.4s						
WES	**Weston**	**3.70**	**355**		Pn	18 25 50.0	+0.3
ODNJ	**Ogdensburg**	**3.70**	**311**	Pn	Pn	18 25 49.9	+0.1
PSUB	**Penn St. - Bra**	**3.72**	**291**		Pn	18 25 49.7	-0.4
QUA2	**Belchertown**	**3.74**	**344**		Pn	18 25 50.4	+0.1
QUA2				IAML		18 26 33.5	
	comp=N,77nm,0.2s						
QUA2				IAML		18 26 34.2	
	comp=N,78nm,0.2s						
P60A	**Greenville**	**3.82**	**288**		Pn	18 25 50.9	-0.5
WUPA	**West Chester U**	**3.83**	**290**		Pn	18 25 51.4	-0.3
WUPA	**West Chester U**	**3.83**	**290**	Pn	Pn	18 25 51.2	-0.4
HRV	**Adam Dziewonsk**	**3.84**	**353**		Pn	18 25 52.2	+0.5
HRV				IAML		18 26 34.4	
	comp=N,42nm,0.5s						
HRV				IAML		18 26 36.8	
	comp=N,40nm,1.1s						
LUPA	**Lehigh Univers**	**3.92**	**300**		Pn	18 25 53.1	+0.2
LUPA				IAML		18 26 35.8	
	comp=N,41nm,0.2s						
NPNY	**Mohonk Preserv**	**3.92**	**322**		Pn	18 25 53.1	+0.2
L61B	**Northampton**	**3.98**	**341**		Pn	18 25 53.8	+0.1
K62A	**Royalston**	**4.09**	**346**		Pn	18 25 55.7	+0.6
K62A	**Royalston**	**4.09**	**346**	Pn	Pn	18 25 55.1	0.0
K62A				IAML		18 26 40.4	
	comp=N,71nm,0.1s						
K62A				IAML		18 26 44.3	
	comp=E,77nm,0.1s						
UNH	**University of**	**4.39**	**1**		Pn	18 25 59.9	+0.6
MVL	**Millersville**	**4.40**	**289**		Pn	18 25 59.2	-0.2
MVL				IAML		18 26 48.1	
	comp=N,31nm,0.1s						
TRY	**Troy**	**4.54**	**334**	Pn	Pn	18 26 01.2	-0.1
TRY				IAML		18 26 53.1	
	comp=N,49nm,0.5s						
TRY				IAML		18 26 53.9	
	comp=N,49nm,0.2s						
SDMD	**Soldier's Deli**	**4.66**	**281**		Pn	18 26 02.5	-0.5
SDMD				IAML		18 26 53.3	
	comp=N,20nm,0.2s						
SDMD				IAML		18 26 53.5	
	comp=E,20nm,0.2s						
KSPA	**Keystone Colle**	**4.68**	**309**		Pn	18 26 03.5	+0.2
L59A	**Walton**	**4.69**	**319**		Pn	18 26 03.7	+0.1
L59A	**Walton**	**4.69**	**319**	Pn	Pn	18 26 02.9	-0.7
L59A	**Walton**	**4.69**	**319**	IAML		18 26 54.5	
	comp=N,46nm,0.2s						
L59A				IAML		18 27 12.5	
	comp=E,40nm,2.8s						
PSWB	**Penn State Wil**	**4.70**	**305**		Pn	18 26 03.7	+0.2
PAGS	**Pennsylvania G**	**4.74**	**291**		Pn	18 26 04.6	+0.5
PAGS				IAML		18 26 54.1	
	comp=E,45nm,0.8s						
PAGS				IAML		18 26 58.7	
	comp=N,54nm,0.2s						
FFD	**Franklin Falls**	**4.80**	**354**	Pn	Pn	18 26 04.0	-0.9
J61A	**Chester**	**4.80**	**346**		Pn	18 26 05.3	+0.3
T60A	**Surry**	**4.85**	**253**	Pn	Pn	18 26 05.6	0.0
N58A	**Sunbury**	**4.95**	**297**	Pn	Pn	18 26 07.1	+0.1
N58A				IAML		18 26 45.7	
	comp=N,33nm,3.3s						
N58A				IAML		18 26 55.0	
	comp=E,25nm,3.9s						
CBN	**Corbin Frederi**	**5.08**	**266**		Pn	18 26 08.1	-0.7
HNH	**Hanover**	**5.11**	**349**	Pn	Pn	18 26 08.6	-0.5
HNH				IAML		18 26 59.5	
	comp=E,30nm,3.1s						
HNH				IAML		18 28 44.0	
	comp=E,31nm,3.0s						
ACCN	**Adirondack Com**	**5.12**	**337**		Pn	18 26 08.1	-1.2
I62A	**Tamworth**	**5.18**	**357**	Pn	Pn	18 26 09.9	-0.2
I62A				IAML		18 27 08.1	
	comp=N,36nm,1.0s						
I62A				IAML		18 27 08.9	
	comp=E,42nm,0.2s						
BINY	**Binghamton**	**5.21**	**314**		Pn	18 26 09.8	-0.8
BINY				IAML		18 27 05.4	
	comp=E,30nm,2.5s						
BINY				IAML		18 28 23.8	
	comp=E,28nm,2.9s						
I63A	**Otisfield**	**5.36**	**3**		Pn	18 26 12.6	0.0
I63A	**Otisfield**	**5.36**	**3**	Pn	Pn	18 26 12.1	-0.5
I63A	**Otisfield**	**5.36**	**3**	IAML		18 28 30.4	
	comp=E,33nm,3.4s						
V61A	**Roper**	**5.36**	**239**	Pn	Pn	18 26 12.5	-0.1
M57A	**Sunshine Farm,**	**5.44**	**301**	Pn	Pn	18 26 13.1	-0.7
J59A	**Piesco**	**5.48**	**332**	Pn	Pn	18 26 14.3	0.0
R58B	**Mineral**	**5.51**	**265**	Pn	Pn	18 26 14.5	-0.3
T59A	**Double "B" Far**	**5.52**	**254**		Pn	18 26 14.9	+0.1
JSRW	**J. Sargeant Re**	**5.57**	**262**	Pn	Pn	18 26 15.3	-0.2
P57A	**Homestead Farm**	**5.57**	**280**	Pn	Pn	18 26 15.7	+0.2
LBNH	**Lisbon**	**5.59**	**353**	Pn	Pn	18 26 15.8	0.0
J58A	**Remsen**	**5.71**	**326**		Pn	18 26 17.8	+0.4
SSPA	**Standing Stone**	**5.71**	**292**		Pn	18 26 16.8	-0.7
VT1	**Waterbury**	**5.79**	**347**	Pn	Pn	18 26 18.0	-0.6
NCB	**Newcomb**	**5.82**	**336**	Pn	Pn	18 26 18.2	-0.8
K57A	**Scipio Center**	**5.85**	**315**	Pn	Pn	18 26 19.0	-0.4
H62A	**Milan**	**5.88**	**358**	Pn	Pn	18 26 20.5	+0.8
U59A	**Littleton**	**5.94**	**249**	Pn	Pn	18 26 20.6	+0.1
WVL	**Waterville**	**5.94**	**9**	Pn	Pn	18 26 18.3	-2.2
J57A	**Williamstown**	**6.07**	**322**	Pn	Pn	18 26 22.2	-0.2
L56A	**Greenwood**	**6.12**	**306**	Pn	Pn	18 26 21.9	-1.2
S57A	**Dark Hollow, R**	**6.39**	**264**	Pn	Pn	18 26 27.0	+0.2
J56A	**Wolcott**	**6.41**	**317**	Pn	Pn	18 26 25.0	-1.9
FRNY	**Flat Rock**	**6.45**	**343**	Pn	Pn	18 26 27.4	-0.1
Q56A	**Snyder Ridge,**	**6.46**	**276**	Pn	Pn	18 26 28.0	+0.3
LONY	**Lake Ozonia**	**6.52**	**336**	Pn	Pn	18 26 28.4	-0.2
G62A	**West of Eustis**	**6.52**	**2**	Pn	Pn	18 26 29.3	+0.6
EMMW	**East Machias**	**6.54**	**22**	Pn	Pn	18 26 28.1	-0.8
M55A	**Ridgway**	**6.62**	**297**	Pn	Pn	18 26 28.5	-1.4
MMNY	**Mt. Morris Dam**	**6.66**	**309**		Pn	18 26 27.5	-2.9
PKME	**Peaks-Kenny Pk**	**6.67**	**10**	Pn	Pn	18 26 30.5	-0.2
T57A	**Hurt**	**6.80**	**258**	Pn	Pn	18 26 32.7	+0.3
WVNY	**West Valley, N**	**6.92**	**305**	Pn	Pn	18 26 34.1	0.0
J55A	**Hilton**	**6.93**	**313**	Pn	Pn	18 26 33.8	-0.3
PECO	**Prince Edward**	**6.94**	**321**	Pn	Pn	18 26 33.4	-0.9
G65A	**Princeton**	**6.96**	**20**	Pn	Pn	18 26 34.4	-0.3
MCWV	**Mont Chateau**	**7.00**	**281**	Pn	Pn	18 26 35.2	+0.1
F63A	**Nahmakanta, Br**	**7.13**	**10**	Pn	Pn	18 26 36.8	-0.1
V58A	**Windy Hill, Pi**	**7.14**	**249**	Pn	Pn	18 26 36.9	-0.2
R55A	**Marlinton**	**7.22**	**270**	Pn	Pn	18 26 39.7	+1.4
F62A	**Pittston Farm,**	**7.23**	**5**	Pn	Pn	18 26 36.7	-1.6
J54A	**Appleton**	**7.41**	**311**	Pn	Pn	18 26 38.8	-2.0
F64A	**Sherman**	**7.41**	**14**	Pn	Pn	18 26 40.2	-0.6
O54A	**Avella**	**7.46**	**284**		Pn	18 26 41.4	-0.2
BLA	**Blacksburg**	**7.65**	**262**	Pn	Pn	18 26 44.5	+0.5
DELO	**Deloro Mine**	**7.68**	**321**	Pn	Pn	18 26 43.6	-0.8
Q54A	**Coxs Mills**	**7.74**	**275**	Pn	Pn	18 26 44.9	-0.4
U56A	**King**	**7.87**	**256**	Pn	Pn	18 26 47.3	+0.1
N53A	**Lisbon**	**7.92**	**289**	Pn	Pn	18 26 47.4	-0.4
M53A	**WI Miller and**	**7.96**	**293**	Pn	Pn	18 26 47.6	-0.7
E62A	**Clayton Lake**	**7.99**	**7**	Pn	Pn	18 26 48.5	-0.1
W57A	**Gilead**	**8.07**	**247**	Pn	Pn	18 26 50.1	+0.2
O53A	**New Philadelph**	**8.11**	**284**	Pn	Pn	18 26 49.4	-0.9
P53A	**Whipple**	**8.18**	**279**	Pn	Pn	18 26 50.0	-1.2
PQI	**Presque Isle**	**8.25**	**14**	Pn	Pn	18 26 50.5	-1.8
M52A	**Chesterland**	**8.48**	**293**	Pn	Pn	18 26 53.9	-1.6
D62A	**Allapoint, All**	**8.49**	**9**	Pn	Pn	18 26 55.0	-0.6
Y58A	**Scranton**	**8.52**	**239**	Pn	Pn	18 26 55.6	-0.4
O52A	**Adamsville**	**8.56**	**283**	Pn	Pn	18 26 55.9	-0.7
SADO	**Sadowa**	**8.63**	**317**	Pn	Pn	18 26 55.4	-2.1
R53A	**Hurricane**	**8.65**	**271**	Pn	Pn	18 26 58.0	+0.1
P52A	**Corning**	**8.76**	**280**	Pn	Pn	18 26 58.7	-0.5
Q52A	**Bidwell**	**8.86**	**275**	Pn	Pn	18 26 59.6	-1.0
BATG	**Bathurst New B**	**9.29**	**21**	Pn	Pn	18 27 05.4	-1.1
QBN	**Guysborough**	**9.69**	**43**	Pn	Pn	18 27 10.4	-1.6
Q51A	**Peebles**	**9.69**	**276**	Pn	Pn	18 27 11.5	-0.6
V53A	**Saluda**	**9.95**	**256**	Pn	Pn	18 27 16.2	+0.5
TZTN	**Tazewell**	**10.24**	**262**	Pn	Pn	18 27 18.7	-0.9
BG3	**Lake Jocassee**	**10.30**	**253**	Pn	Pn	18 27 19.7	-0.8
O49A	**Covington**	**10.48**	**282**	Pn	Pn	18 27 21.1	-1.8
L48A	**N Adams**	**10.81**	**292**	Pn	Pn	18 27 25.5	-1.9
GOGA	**Godfrey**	**11.43**	**246**	Pn	Pn	18 27 34.0	-1.9
N47A	**Urbana**	**11.57**	**286**	Pn	Pn	18 27 35.3	-2.5
255A	**Hazlehurst**	**11.60**	**238**	Pn	Pn	18 27 35.6	-2.6
SFIN	**Lafayette**	**12.60**	**283**	Pn	Pn	18 27 49.6	-2.2
WVT	**Waverly**	**13.68**	**264**	Pn	Pn	18 28 04.7	-1.9
PLAL	**Pickwick Lake**	**14.22**	**260**	Pn	Pn	18 28 13.2	-0.9

*BUL **30** 18:29:29.7±1.3, 25.09S×29.92E, h10km, MD3.2*

PRE 30 18:29:12.3±1.0, 21.37S×33.48E, h10km, ML1.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.88**	**222**	*e*P	Pn	18 29 59.7	+1.5
MOPA				*e*S	Sn	18 30 33.1	+0.1
MOPA				IAML		18 30 38.7	
	comp=Z,5.7nm,0.5s						
MOPA	**Mopani**	**2.88**	**222**	*i* P	Pb	18 30 02.9	-0.8
MOPA				*i* S	Sn	18 30 27.9	-5.1
MOPA	**Mopani**	**2.88**	**222**	*i* P	Pb	18 30 02.9	-0.8
MOPA				*i* S	Sn	18 30 27.9	-5.1
MUSN	**Musina, Limpop**	**3.48**	**254**	*e*P	Pn	18 30 06.6	0.0
MUSN				*e*S	Sn	18 30 47.4	-0.6
MUSN				IAML		18 31 03.1	
	comp=Z,2.7nm,0.6s						
MUSN	**Musina, Limpop**	**3.48**	**254**	*i* P	Pb	18 30 15.4	+1.2
MUSN				*i* S	Sn	18 30 46.4	-1.6
MUSN	**Musina, Limpop**	**3.48**	**254**	*i* P	Pb	18 30 15.4	+1.2
MUSN				*i* S	Sn	18 30 46.4	-1.6
BLWY	**Bulawayo**	**4.72**	**284**	*e*S	Sn	18 31 21.4	+2.8
BLWY				IAML		18 31 49.4	
	comp=Z,7.5nm,0.5s						
BLWY	**Bulawayo**	**4.72**	**284**	*i* P	Pg	18 30 44.4	+1.6
BLWY	**Bulawayo**	**4.72**	**284**	*i* P	Pg	18 30 44.4	+1.6
LEPH	**Lephalale, Lim**	**5.80**	**244**	*e*S	Sn	18 31 43.8	-1.5
LEPH				IAML		18 32 16.5	
	comp=Z,2.6nm,0.6s						

*IDC **30** 18:51:13.1±4.5, 22.27N×94.06E, h94km±40km, mb3.0/4, mbtmp3.4/5, Error ellipse: s-maj=81.7km s-min=21.0km az=55.0*

ISC 30 18:51:12.3±1.0, 22.2N±0.3×93.7E±0.3, h100km, n14, σ1.33/15, mb3.4/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.12**	**126**	P	**Pn**	**18 52 38.4**	**-1.9**
	2.2nm,0.4s,baz=308,slow=13,SNR=14						
TAPN	**Taplejung**	**7.53**	**315**	*e*P	**Pn**	**18 52 59.6**	**-0.1**
	25nm,0.3s						
TAPN				*e*S	**Sn**	**18 54 20.6**	**-3.1**
RAMN	**Ramite**	**8.06**	**308**	*e*P	**Pn**	**18 53 06.5**	**-0.4**
	19nm,0.5s						
JIRN	**Jiri**	**8.77**	**310**	*e*P	**Pn**	**18 53 16.2**	**-0.4**
	13nm,0.2s						
GUN	**Gumba**	**9.14**	**310**	*e*P	**Pn**	**18 53 21.6**	**-0.1**
	15nm,0.2s						
PKI	**Pulchoki**	**9.29**	**307**	*e*P	**Pn**	**18 53 23.6**	**0.0**
	6.6nm,0.2s						
PKIN	**Phulchoki**	**9.30**	**307**	*e*P	**Pn**	**18 53 23.6**	**-0.1**
	17nm,0.3s						
GKN	**Gorkha**	**10.09**	**307**	*e*P	**Pn**	**18 53 34.7**	**+0.3**
	21nm,0.3s						
DANN	**Dangsing**	**10.93**	**306**	*e*P	**Pn**	**18 53 46.1**	**+0.1**
	6.2nm,0.2s						
PYUN	**Piuthan**	**11.39**	**303**	*e*P	**Pn**	**18 53 52.6**	**+0.5**
	5.1nm,0.3s						
MKAR	**Makanchi Array**	**26.27**	**342**	P	**P**	**18 56 40.3**	**+2.1**
	0.3nm,0.6s,baz=150,slow=9.2,SNR=4.3						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**57.65**	**134**	P	**P**	**19 00 52.5**	**0.0**
	0.5nm,1.2s,baz=320,slow=7.6,SNR=7.3						
	0.5nm,1.2s						
ASAR	**Alice Springs**	**60.01**	**137**	P	**P**	**19 01 09.8**	**+1.1**
	0.1nm,0.4s,baz=312,slow=6.7,SNR=5.9						
	0.1nm,0.4s						
GERES	**GERESS Array B**	**67.20**	**315**	P	**P**	**19 01 57.3**	**+1.4**

MAJO	**Matsushiro**	**3.38**	**243**			**Pn**	**19 05 25.4**	**+1.9**	
MJB9	**Matsu-Tunnel**	**3.38**	**244**			**Pn**	**19 05 25.1**	**+1.6**	
JGF	**Kuroka**	**4.47**	**237**	Pn		**Pn**	**19 05 40.6**	**+2.2**	
JEW	**Eniwo**	**4.74**	**355**	Pn		**Pn**	**19 05 42.5**	**+0.5**	
INU	**Inuyama**	**4.84**	**237**	Pn		**Pn**	**19 05 45.0**	**+1.5**	
JHJ2	**Mitsune**	**5.29**	**200**	Pn		**Pn**	**19 05 48.9**	**-0.7**	
JHJ	**Hachijo jima 2**	**5.29**	**200**	P		**Pn**	**19 05 49.9**	**+0.2**	
	34nm,0.5s,baz=127,slow=23,SNR=8.4								
JHJ				S		**Sn**	**19 06 46.6**	**-2.7**	
	77nm,0.3s,baz=48,slow=23,SNR=11								
JHS	**Saijyo**	**7.77**	**249**	Pn		**Pn**	**19 06 23.1**	**-0.5**	
JMN	**Monobe**	**7.88**	**239**	Pn		**Pn**	**19 06 24.7**	**-0.5**	
USRK	**Ussuriysk Ar.**	**9.67**	**312**	P		**Pn**	**19 06 49.9**	**+0.4**	
	1.8nm,0.6s,baz=119,slow=14,SNR=13								
USRK	**Ussuriysk Ar.**	**9.67**	**312**	Pn		**Pn**	**19 06 49.5**	**0.0**	
USA0B	**Ussuriysk Arra**	**9.67**	**312**	Pn		**Pn**	**19 06 50.0**	**+0.5**	
KSRS	**Korea Array**	**11.13**	**271**	P		**Pn**	**19 07 11.8**	**+2.2**	
	0.6nm,0.3s,baz=84,slow=14,SNR=5.9								
KSRS				LR		LR	19 11 23.5		
	comp=Z,8.1nm,19.6s,baz=45,slow=37								
SONM	**Songino Array**	**27.56**	**302**	P		**P**	**19 10 14.5**	**-0.6**	
	0.2nm,0.3s,baz=92,slow=10,SNR=2.7								
	0.2nm,0.3s								
ENH	**Enshi**	**27.88**	**263**	P		**P**	**19 10 16.3**	**-1.6**	
ENH				IAmb		IAmb	19 10 19.3		
	comp=Z,8.0nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**28.35**	**123**	T		T	19 40 44.2		
	baz=320,slow=76								
H11N1	**WAKE ISLAND Hy**	**28.36**	**123**	T		T	19 40 44.6		
	baz=320,slow=76								
H11N3	**WAKE ISLAND Hy**	**28.37**	**123**	T		T	19 40 45.1		
	baz=320,slow=76								
H11S1	**WAKE ISLAND Hy**	**29.10**	**125**	T		T	19 41 40.4		
	baz=320,slow=76								
H11S3	**WAKE ISLAND Hy**	**29.10**	**125**	T		T	19 41 40.5		
	baz=320,slow=76								
H11S2	**WAKE ISLAND Hy**	**29.12**	**125**	T		T	19 41 41.6		
	baz=320,slow=76								
ZALV	**Zalesovo Beam**	**41.52**	**311**	P		**P**	**19 12 13.4**	**-1.4**	
	comp=Z,0.6nm,0.4s,baz=101,slow=7.5,SNR=3.0								
	comp=Z,0.6nm,0.4s								
RABL	**Rabaul**	**43.14**	**165**	P		**P**	**19 12 27.7**	**-0.7**	
MK31	**Makanchi Array**	**43.92**	**301**	P		**P**	**19 12 33.9**	**-0.6**	
MKAR	**Makanchi Array**	**43.92**	**301**	P		**P**	**19 12 34.2**	**-0.3**	
	comp=Z,1.5nm,0.6s,baz=82,slow=10.0,SNR=15								
	comp=Z,1.5nm,0.6s								
MKAR	**Makanchi Array**	**43.92**	**301**	P		**P**	**19 12 34.0**	**-0.5**	
MAKZ	**Makanchi**	**44.13**	**301**	P		**P**	**19 12 36.0**	**-0.2**	
P18K	**Big Mountain,**	**44.56**	**40**	P		**P**	**19 12 40.4**	**+1.0**	
P18K				IAmb		IAmb	19 12 41.9		
	comp=Z,11nm,0.7s								
KURK	**Kurchatov**	**45.62**	**307**	P		**P**	**19 12 46.8**	**-1.1**	
KURK				IAmb		IAmb	19 12 48.3		
	comp=Z,2.5nm,0.5s								
TARG	**Taragay, Kyrgy**	**48.32**	**296**	P		**P**	**19 13 08.5**	**-1.1**	
ILAR	**Eielson Array**	**48.35**	**33**	P		**P**	**19 13 09.5**	**+0.5**	
	comp=Z,0.7nm,0.7s,baz=259,slow=7.0,SNR=7.3								
	comp=Z,0.7nm,0.7s								
M24K	**Tolsona, Glenn**	**48.86**	**36**	P		**P**	**19 13 11.2**	**-1.8**	
BOOM	**Boomskoye usch**	**49.40**	**297**	P		**P**	**19 13 18.2**	**+0.6**	
BOOM				IAmb		IAmb	19 13 30.1		
	comp=Z,23nm,1.5s								
ABKAR	**Akbulak array**	**57.58**	**310**	P		**P**	**19 14 18.1**	**+0.9**	
ABKAR	**Akbulak array**	**57.58**	**310**	P		**P**	**19 14 17.9**	**+0.7**	
ABKAR				IAmb		IAmb	19 14 20.2		
	comp=Z,1.1nm,0.7s								
WB0	**Warramunga Arr**	**58.01**	**188**	P		**P**	**19 14 19.7**	**-0.7**	
WB0				IAmb		IAmb	19 15 02.3		
	comp=Z,7.8nm,1.5s								
WR0	**Warramunga Arr**	**58.19**	**188**	P		**P**	**19 14 20.9**	**-0.7**	
WR0				IAmb		IAmb	19 14 39.6		
	comp=Z,5.4nm,1.4s								
WB2	**Warramunga Arr**	**58.19**	**188**	P		**P**	**19 14 20.9**	**-0.7**	
WB2				IAmb		IAmb	19 14 42.4		
	comp=Z,7.0nm,1.4s								
WRA	**Warramunga Arr**	**58.19**	**188**	P		**P**	**19 14 21.4**	**-0.3**	
	comp=Z,0.8nm,0.6s,baz=7.5,slow=7.2,SNR=18								
	comp=Z,0.8nm,0.6s								
WRA	**Warramunga Arr**	**58.19**	**188**	P		**P**	**19 14 21.1**	**-0.6**	
EUNU	**Eureka**	**59.05**	**9**	P		**P**	**19 14 26.9**	**-0.2**	
EUNU				IAmb		IAmb	19 14 29.5		
	comp=Z,14nm,1.2s								
BBB	**Bella Bella**	**60.99**	**45**	P		**P**	**19 14 41.4**	**+0.8**	
ASAR	**Alice Springs**	**61.92**	**188**	P		**P**	**19 14 47.1**	**-0.1**	
	comp=Z,0.6nm,0.8s,baz=354,slow=4.5,SNR=8.6								
	comp=Z,0.6nm,0.8s								
ASAR	**Alice Springs**	**61.92**	**188**	P		**P**	**19 14 46.2**	**-1.0**	
NVAR	**Mina Array Bea**	**73.99**	**54**	P		**P**	**19 16 04.6**	**+1.3**	
	comp=Z,0.4nm,0.7s,baz=288,slow=6.6,SNR=3.5								
	comp=Z,0.4nm,0.7s								
TXAR	**Lajitas Array**	**89.12**	**53**	P		**P**	**19 17 23.6**	**+0.6**	
	comp=Z,0.4nm,0.6s,baz=301,slow=2.2,SNR=5.9								
	comp=Z,0.4nm,0.6s								
LPAZ	**La Paz**	**145.76**	**59**	PKPbc		**PKPdf**	**19 24 07.2**	**+0.4**	
	comp=Z,1.3nm,0.7s,baz=318,slow=5.5,SNR=5.3								
H03N2	**Juan Fernandez**	**146.69**	**95**	T		T	22 08 52.3		
	baz=291,slow=76,SNR=5.1								
H03N3	**Juan Fernandez**	**146.70**	**95**	T		T	22 08 49.5		
	baz=291,slow=76,SNR=5.8								
H03N1	**Juan Fernandez**	**146.70**	**95**	T		T	22 08 49.1		
	baz=291,slow=76,SNR=4.6								

*IDC **30** 19:12:16.2±0.7, 6˚.76N×72˚.99W, h160km±9km, mb2.9/2, mbtmp3.9/5, Error ellipse: s-maj=29.7km s-min=7.4km az=134.0*

*RSNC **30** 19:12:17.7±0.8, 6˚.79N×73˚.15W, h149km±3km, ML3.7, Mw4.0, Fault plane solution: NP1:ϕs38.00000°, δ71.00000°, λ-22.00000°.*

ISC 30 19:12:16.3±0.8, **6˚.84N**±0˚.03×**73˚.08W**±0˚.04, **h155**km±6km, **n43**, σ1s**50**/71, **5C-7D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**202**	⇓*i*P	**Pn**	**19 12 37.7**	**0.0**
BARC				*e*S	**Sn**	**19 12 53.1**	**-0.8**
BARC				IAML		19 12 54.0	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**37**	⇑*i*P	**Pn**	**19 12 40.5**	**+1.0**
PAMC				*e*S	**Sn**	**19 12 57.8**	**+0.6**
PAMC				IAML		19 13 00.1	
	comp=Z,613nm,0.7s						
BRRC	**Barranca, Sant**	**0.68**	**293**	⇑*i*P	**Pn**	**19 12 39.5**	**+0.3**
BRRC				*e*S	**Sn**	**19 12 56.3**	**-0.4**
BRRC				IAML		19 12 59.8	
	comp=Z,1μm,0.2s						
RUSC	**La Rusia**	**0.94**	**180**	⇓*i*P	**Pn**	**19 12 41.5**	**-0.1**
RUSC				*e*S	**Sn**	**19 12 59.8**	**-1.2**
RUSC				IAML		19 13 01.8	
	comp=Z,747nm,0.2s						
TAMC	**Tame, Arauca**	**1.34**	**107**	⇑*e*P	**Pn**	**19 12 46.1**	**+1.4**
	comp=Z,324nm,0.5s						
TAMC				*e*S	**Sn**	**19 13 07.8**	**+1.4**
TAMC				IAML		19 13 09.6	
	comp=Z,324nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	*e*P	**Pn**	**19 12 44.1**	**-1.1**
PTBC				*e*S	**Sn**	**19 13 05.5**	**-1.8**
PTBC				IAML		19 13 12.7	
	comp=Z,676nm,0.4s						
SPBC	**San Pablo de B**	**1.54**	**220**	*e*P	**Pn**	**19 12 46.5**	**-0.2**
SPBC				*e*S	**Sn**	**19 13 08.5**	**-1.6**
SPBC				IAML		19 13 11.2	
	comp=Z,1μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	*e*P	**Pn**	**19 12 49.8**	**-0.6**
ZARC				*e*S	**Sn**	**19 13 15.9**	**-0.7**
ZARC				IAML		19 13 23.0	
	comp=Z,525nm,0.3s						
NORC	**Norcasia**	**2.18**	**235**	⇑*e*P	**Pn**	**19 12 53.4**	**-0.5**
NORC				*e*S	**Sn**	**19 13 21.6**	**-1.3**
NORC				IAML		19 13 27.3	
	comp=Z,617nm,0.2s						
CHIC	**Chingaza**	**2.29**	**196**	⇓*i*P	**Pn**	**19 12 55.6**	**+0.1**
CHIC				*e*S	**Sn**	**19 13 25.4**	**-0.4**
CHIC				IAML		19 13 30.4	
	comp=Z,320nm,0.4s						
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**19 12 57.5**	**+1.4**
	comp=Z,437nm,0.4s,baz=23,slow=15,SNR=227						
ROSC				S	**Sn**	**19 13 26.8**	**0.0**
	comp=Z,693nm,0.3s,baz=43,slow=21,SNR=9.2						
ROSC	**El Rosal**	**2.34**	**212**	⇓*i*P	**Pn**	**19 12 57.4**	**+1.3**
ROSC				*e*S	**Sn**	**19 13 28.9**	**+2.1**
HELC	**Santa Helena**	**2.52**	**255**	*e*P	**Pn**	**19 12 57.5**	**-0.7**
HELC				*e*S	**Sn**	**19 13 33.7**	**+3.2**
HELC				IAML		19 13 38.1	
	comp=Z,458nm,0.3s						

URE C	**San Jos de Ur**	**2.59**	**291**	*e*P		**Pn**	**19 12 57.8**	**-1.1**	
UREC				*e*S		**Sn**	**19 13 28.4**	**-3.3**	
UREC				IAML			19 13 40.1		
	comp=Z,396nm,0.2s								
LL1C	**La Loma 1 Cana**	**2.73**	**350**	*e*P		**Pn**	**19 13 02.9**	**+2.4**	
LL1C				*e*S		**Sn**	**19 13 37.2**	**+2.5**	
VILC	**Villavicencio,**	**2.77**	**193**	⇓*e*P		**Pn**	**19 13 00.9**	**-0.4**	
VILC				*e*S		**Sn**	**19 13 35.6**	**-0.4**	
VILC				IAML			19 13 45.5		
	comp=Z,380nm,0.5s								
GUY2C	**Guyana, Caldas**	**2.78**	**235**	*e*P		**Pn**	**19 13 01.9**	**+0.3**	
GUY2C				*e*S		**Sn**	**19 13 40.1**	**+3.5**	
GUY2C				IAML			19 13 46.1		
	comp=Z,393nm,0.4s								
PTGC	**Puerto Gaitan,**	**2.79**	**160**	⇓*i*P		**Pn**	**19 13 00.8**	**-0.4**	
PTGC				*e*S		**Sn**	**19 13 34.1**	**-1.9**	
PTGC				IAML			19 13 39.2		
	comp=Z,319nm,0.3s								
CBOC	**Ciudad Bolivar**	**3.07**	**252**	*e*P		**Pn**	**19 13 05.5**	**+0.7**	
CBOC				IAML			19 13 55.5		
	comp=Z,110nm,0.3s								
DBBC	**Dabeiba**	**3.11**	**273**	*e*P		**Pn**	**19 13 05.7**	**+0.4**	
SDV	**Santo Domingo**	**3.17**	**50**	P		**Pn**	**19 13 07.2**	**+1.1**	
	comp=Z,108nm,0.3s,baz=236,slow=11,SNR=99								
SDV				S		**Sn**	**19 13 44.3**	**-0.5**	
	comp=Z,92nm,0.4s,baz=247,slow=23,SNR=16								
ARGC	**Ariguani, Magd**	**3.21**	**339**	*e*P		**Pn**	**19 13 07.7**	**+1.1**	
ARGC				IAML			19 13 55.7		
	comp=Z,113nm,0.3s								
ANIL	**Santa Ana**	**3.28**	**225**	*e*P		**Pn**	**19 13 08.7**	**+1.0**	
ANIL				*e*S		**Sn**	**19 13 48.6**	**+1.1**	
PRAC	**Prado**	**3.59**	**210**	*e*P		**Pn**	**19 13 10.8**	**-0.6**	
PRAC				*e*S		**Sn**	**19 13 53.6**	**-0.6**	
PRAC				IAML			19 13 59.9		
	comp=Z,428nm,0.5s								
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P		**Pn**	**19 13 11.4**	**-1.2**	
SJCC				*e*S		**Sn**	**19 13 52.6**	**-3.8**	
SJCC				IAML			19 14 07.5		
	comp=Z,158nm,0.8s								
PLMC	**San Jos del P**	**3.72**	**239**	⇑*e*P		**Pn**	**19 13 13.2**	**+0.1**	
PLMC				IAML			19 14 03.0		
	comp=Z,112nm,0.3s								
LCBC	**Los crdobas,**	**3.82**	**302**	*e*S		**Sn**	**19 14 00.6**	**+1.0**	
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	*e*P		**Pn**	**19 13 18.1**	**-0.8**	
CRJC				*e*S		**Sn**	**19 14 05.9**	**-1.7**	
CRJC				IAML			19 14 16.2		
	comp=Z,126nm,0.3s								
GUVC	**San Jose del G**	**4.29**	**174**	*e*P		**Pn**	**19 13 20.5**	**0.0**	
GUVC				*e*S		**Sn**	**19 14 09.5**	**-1.0**	
GUVC				IAML			19 14 15.5		
	comp=Z,152nm,0.3s								
YOTC	**Yotoco, Valle**	**4.31**	**229**	*e*P		**Pn**	**19 13 20.2**	**-0.7**	
SMRC	**Santa Marta, M**	**4.44**	**345**	*e*P		**Pn**	**19 13 22.8**	**+0.3**	
SMRC				*e*S		**Sn**	**19 14 10.4**	**-3.7**	
SMRC				IAML			19 14 13.5		
	comp=Z,80nm,0.4s								
MACC	**Macarena, Meta**	**4.72**	**189**	⇓*e*P		**Pn**	**19 13 24.5**	**-1.7**	
BETC	**Betania**	**4.75**	**210**	*e*P		**Pn**	**19 13 25.8**	**-0.8**	
GARC	**Garzon, Huila**	**5.21**	**208**	*e*P		**Pn**	**19 13 31.6**	**-1.2**	
GARC				*e*S		**Sn**	**19 14 28.6**	**-3.9**	
GARC				IAML			19 14 34.5		
	comp=Z,85nm,0.3s								
POPC	**Popayan, Colom**	**5.57**	**220**	*e*P		**Pn**	**19 13 37.5**	**-0.2**	
FLOC	**Florencia**	**5.81**	**206**	*e*P		**Pn**	**19 13 40.4**	**-0.3**	
FLOC				IAML			19 14 51.7		
	comp=Z,14nm,0.4s								
BBAC	**Balboa, Cauca**	**6.33**	**221**	*e*P		**Pn**	**19 13 48.4**	**+0.7**	
BBAC				*e*S		**Sn**	**19 14 57.5**	**-1.8**	
BBAC				IAML			19 15 05.1		
	comp=Z,10nm,0.3s								
PCRV	**Puerto La Cruz**	**8.99**	**68**	P		**Pn**	**19 14 23.4**	**+0.5**	
	comp=Z,5.6nm,0.5s,baz=356,slow=11,SNR=2.2								
PCRV				S		**Sn**	**19 16 04.0**	**+1.1**	
	comp=Z,6.6nm,0.4s,baz=42,slow=6.5,SNR=14								
TXAR	**Lajitas Array**	**36.48**	**312**	P		**P**	**19 19 07.2**	**+0.5**	
	comp=Z,0.3nm,0.5s,baz=138,slow=9.1,SNR=5.8								
	comp=Z,0.3nm,0.5s								
PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**	**19 20 41.1**	**+0.6**	
	comp=Z,0.2nm,0.5s,baz=128,slow=8.2,SNR=2.6								
	comp=Z,0.2nm,0.5s								
MKAR	**Makanchi Array**	**122.29**	**20**	PKP		**PKPdf**	**19 30 52.1**	**-0.9**	
	comp=Z,0.1nm,0.3s,baz=317,slow=2.3,SNR=1.7								
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**	**19 31 46.1**	**-1.2**	
	comp=Z,0.5nm,0.6s,baz=121,slow=2.7,SNR=4.3								
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc		**PKPbc**	**19 31 49.1**	**-1.2**	
	comp=Z,0.2nm,0.5s,baz=108,slow=2.7,SNR=13								

*ROM **30** 19:22:28.2±0.0, 42˚.896N±0˚.002×13˚.248E±0˚.003, h9km, ML3.4/91, Mw3.3, Error ellipse: s-maj=0.2km s-min=0.1km az=62.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-0.99; Mθθ-0.06; Mϕϕ1.06; Mrθ0.17; Mθϕ-0.53; Mϕr0.48; Fault plane solution: Mo1.25536×10¹⁴ NP1:ϕs318.00000°, δ39.00000°, λ-122.00000°. NP2:ϕs177.00000°, δ57.00000°, λ-67.00000°.*

*LDG **30** 19:22:29.8±0.1, 42˚.84N×13˚.16E, h9km, Ml3.3/9 Error ellipse: s-maj=6.2km s-min=3.1km az=41.0*

*PDG **30** 19:22:29.0±0.5, 42˚.91N×13˚.24E, h11km, ML3.6/12, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

*PRU **30** 19:22:30.1±0.0, 42˚.90N×13˚.37E, h0km*

ISC 30 19:22:28.8±0.8, **42˚.89N**±0˚.01×**13˚.22E**±0˚.02, **h8**km±4km, **n222**, σ1s**77**/269, **51C-31D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**317**	P	**Pg**	**19 22 30.5**	**-0.1**
MC2				S	**Sg**	**19 22 31.7**	**-0.2**
T1242	**Castelluccio d**	**0.06**	**194**	⇑P	**Pg**	**19 22 30.9**	**+0.2**
T1242				S	**Sg**	**19 22 32.7**	**+0.6**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
MMO1	**Montemonaco**	**0.08**	**81**	⇑P	**Pg**	**19 22 30.5**	**-0.4**
MMO1				S	**Sg**	**19 22 31.8**	**-0.7**
NRCA	**Norcia**	**0.10**	**237**	⇑P	**Pg**	**19 22 31.6**	**+0.4**
NRCA				S	**Sg**	**19 22 33.8**	**+1.0**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
AM05	**Amandola Campo**	**0.13**	**46**	⇑P	**Pg**	**19 22 31.4**	**-0.3**
AM05				S	**Sg**	**19 22 33.4**	**-0.3**
AM05				AML	AML		
	comp=N,11430μm,0.6s						
AM05				AML	AML		
	comp=E,61650μm,0.6s						
AM05				AML	AML		
	comp=E,15300μm,0.6s						
AM05				AML	AML		
	comp=N,11410μm,0.6s						
AM05				AML	AML		
	comp=E,15250μm,0.6s						
AM05				AML	AML		
	comp=N,11445μm,0.6s						
AM05				AML	AML		
	comp=N,44150μm,0.6s						
FEMA	**Monte Fema**	**0.15**	**301**	⇑P	**Pg**	**19 22 32.3**	**+0.3**
FEMA				S	**Sg**	**19 22 35.4**	**+1.2**
FEMA				AML	AML		
	comp=N,40500μm,0.6s						
FEMA				AML	AML		
	comp=N,40500μm,1.4s						
FEMA				AML	AML		
	comp=E,37700μm,0.5s						
T1216	**Preci, Frazion**	**0.15**	**272**	⇑P	**Pg**	**19 22 32.4**	**+0.4**
T1216				S	**Sg**	**19 22 35.7**	**+1.5**
T1216				AML	AML		
	comp=E,41750μm,0.4s						
T1216				AML	AML		
	comp=N,37800μm,0.3s						
T1216				AML	AML		
	comp=E,41700μm,0.4s						
T1216				AML	AML		
	comp=N,37750μm,0.3s						
T1216				AML	AML		
	comp=E,34521μm,1.3s						
T1241	**Roccafluvione,**	**0.16**	**101**	P	**Pg**	**19 22 31.9**	**-0.1**
T1241				S	**Sg**	**19 22 34.5**	**+0.1**
T1241				AML	AML		
	comp=E,40600μm,0.8s						
T1241				AML	AML		
	comp=N,39550μm,0.4s						
T1241				AML	AML		
	comp=N,39500μm,0.4s						
T1241				AML	AML		
	comp=N,37950μm,0.4s						
T1241				AML	AML		
	comp=E,40550μm,0.8s						
T1241				AML	AML		
	comp=E,39900μm,0.8s						
T1241				AML	AML		
	comp=E,39900μm,1.2s						
T1241				AML	AML		
	comp=E,40550μm,1.2s						
FDMO	**Fiordimonte**	**0.18**	**326**	P	**Pg**	**19 22 32.5**	**0.0**
FDMO				S	**Sg**	**19 22 35.7**	**+0.6**
FDMO				AML	AML		
	comp=E,36400μm,0.2s						
FDMO				AML	AML		
	comp=N,51000μm,0.2s						
FDMO				AML	AML		
	comp=E,36400μm,1.8s						
FDMO				AML	AML		
	comp=N,51000μm,1.8s						
GUMA	**Gualdo di Mace**	**0.19**	**25**	⇑P	**Pg**	**19 22 32.8**	**+0.1**
GUMA				S	**Sg**	**19 22 36.2**	**+0.7**
GUMA				AML	AML		
	comp=N,53950μm,0.3s						
GUMA				AML	AML		
	comp=N,53900μm,0.3s						
GUMA				AML	AML		
	comp=E,59900μm,0.4s						
GUMA				AML	AML		
	comp=N,45500μm,0.9s						
GUMA				AML	AML		
	comp=E,45350μm,1.0s						
CSP1	**Cessapalombo**	**0.20**	**356**	⇓P	**Pg**	**19 22 32.8**	**-0.2**
CSP1				S	**Sg**	**19 22 36.3**	**+0.4**
CSP1				AML	AML		
	comp=N,21700μm,0.6s						
CSP1				AML	AML		
	comp=E,15150μm,0.5s						
CSP1				AML	AML		
	comp=N,21700μm,1.4s						
CSP1				AML	AML		
	comp=E,11459μm,1.0s						
T1243	**Rocca Santa Ma**	**0.25**	**139**	⇑P	**Pg**	**19 22 33.8**	**-0.1**
T1243				S	**Sg**	**19 22 37.9**	**+0.7**
CESI	**CESI - Serrava**	**0.26**	**297**	⇑P	**Pg**	**19 22 34.3**	**+0.3**
CESI				S	**Sg**	**19 22 38.9**	**+1.3**
CESI				AML	AML		
	comp=N,22200μm,0.4s						
CESI				AML	AML		
	comp=E,18400μm,0.5s						
CESI				AML	AML		
	comp=N,22250μm,0.4s						
T1215	**Vallo di Nera,**	**0.28**	**252**	⇑P	**Pg**	**19 22 34.7**	**+0.5**
T1215				S	**Sb**	**19 22 39.6**	**-1.2**
T1215				AML	AML		
	comp=E,8985μm,0.5s						
T1215				AML	AML		
	comp=N,8470μm,0.9s						
T1215				AML	AML		
	comp=E,8975μm,0.5s						
T1215				AML	AML		
	comp=N,8480μm,0.9s						
T1215				AML	AML		
	comp=N,8685μm,0.9s						
T1215				AML	AML		
	comp=E,8580μm,0.5s						
T1215				AML	AML		
	comp=E,8975μm,1.5s						
T1215				AML	AML		
	comp=N,8685μm,1.1s						
T1215				AML	AML		
	comp=N,8480μm,1.1s						
T1215				AML	AML		
	comp=E,8580μm,1.5s						
T1217	**Poggiodomo (PG**	**0.28**	**231**	P	**Pg**	**19 22 34.8**	**+0.5**
T1217				S	**Sb**	**19 22 39.8**	**-1.2**
T1217				AML	AML		
	comp=E,10345μm,0.5s						
T1217				AML	AML		
	comp=N,16500μm,0.3s						
T1217				AML	AML		
	comp=E,10110μm,0.5s						
T1217				AML	AML		
	comp=N,16300μm,0.3s						
T1217				AML	AML		
	comp=E,10115μm,0.5s						
T1217				AML	AML		
	comp=N,16500μm,0.3s						
T1217				AML	AML		
	comp=E,10130μm,0.6s						
T1217				AML	AML		
	comp=N,16300μm,1.7s						
T1217				AML	AML		
	comp=N,16500μm,1.7s						
T1217				AML	AML		
	comp=E,10340μm,0.5s						
LNSS	**Leonessa**	**0.31**	**206**	⇑P	**Pg**	**19 22 35.4**	**+0.3**
LNSS				S	**Sb**	**19 22 41.0**	**-1.0**
LNSS				AML	AML		
	comp=E,44700μm,0.3s						
LNSS				AML	AML		
	comp=N,27600μm,0.8s						
LNSS				AML	AML		
	comp=N,27600μm,1.2s						
SEF1	**Sefro**	**0.33**	**322**	P	**Pg**	**19 22 35.3**	**0.0**
SEF1				S	**Sg**	**19 22 40.9**	**+1.2**
SEF1				AML	AML		
	comp=E,17100μm,0.7s						
SEF1				AML	AML		
	comp=N,12200μm,0.2s						
SEF1				AML	AML		
	comp=N,12180μm,0.2s						
SEF1				AML	AML		
	comp=E,17150μm,0.7s						
SEF1				AML	AML		
	comp=N,11629μm,0.2s						
SEF1				AML	AML		
	comp=E,11876μm,0.3s						
PIO1	**Pioraco**	**0.34**	**329**	P	**Pg**	**19 22 35.4**	**-0.1**
PIO1				AML	AML		
	comp=E,6980μm,1.5s						
PIO1				AML	AML		
	comp=N,12600μm,0.8s						
PIO1				AML	AML		
	comp=E,6985μm,1.5s						
PIO1				AML	AML		
	comp=E,4530μm,7.0s						
PIO1				AML	AML		
	comp=N,8998μm,0.8s						
OFFI	**Offida

RM33 AML AML
comp=N,10550µm,1.0s
RM33 AML AML
comp=E,11900µm,1.3s
RM33 AML AML
comp=N,10500µm,1.0s
RM33 AML AML
comp=N,10500µm,1.0s
RM33 AML AML
comp=E,12000µm,1.3s
RM33 AML AML
comp=N,10500µm,1.0s
RM33 AML AML
comp=N,10500µm,1.0s
RM33 AML AML
comp=E,12000µm,0.7s
RM33 AML AML
comp=E,11900µm,0.7s
TERO Teramo 0.39 133 P **Pg 19 22 36.1 -0.2**
TERO S **Sg 19 22 42.1 +0.7**
TERO AML AML
comp=E,16150µm,0.5s
TERO AML AML
comp=E,17200µm,0.5s
TERO AML AML
comp=N,24150µm,0.3s
TERO AML AML
comp=N,25400µm,0.3s
TERO AML AML
comp=E,12289µm,1.5s
SNTG Esanatoglia 0.42 331 ⇑P **Pg 19 22 36.8 -0.3**
SNTG AML AML
comp=E,3985µm,0.6s
SNTG AML AML
comp=E,3760µm,0.6s
SNTG AML AML
comp=N,3420µm,0.6s
SNTG AML AML
comp=E,3990µm,0.6s
SNTG AML AML
comp=N,3845µm,0.6s
TRE1 Treia 0.43 9 ⇓P **Pb 19 22 38.2 -0.5**
TRE1 AML AML
comp=N,6795µm,0.4s
TRE1 AML AML
comp=E,8395µm,0.4s
TRE1 AML AML
comp=N,4253µm,6.5s
T1247 Pizzolo (AQ) 0.45 173 ⇓P **Pg 19 22 37.5 0.0**
T1247 S **Sb 19 22 45.0 -0.9**
T1247 AML AML
comp=E,10460µm,0.1s
T1247 AML AML
comp=N,13900µm,0.2s
EL6 Elcito 0.45 349 P **Pg 19 22 37.2 -0.4**
EL6 AML AML
comp=E,5955µm,0.5s
EL6 AML AML
comp=N,7515µm,0.5s
EL6 AML AML
comp=N,7510µm,0.5s
EL6 AML AML
comp=N,6568µm,0.6s
EL6 AML AML
comp=E,5014µm,0.2s
CING Cingoli 0.49 358 P **Pg 19 22 37.9 -0.4**
CING S **Sg 19 22 46.0 +1.3**
CING AML AML
comp=E,3130µm,0.8s
CING AML AML
comp=N,2040µm,0.6s
CING AML AML
comp=N,1474µm,2.1s
CING AML AML
comp=E,3130µm,1.2s
GIGS Gran Sasso 0.51 150 P **Pg 19 22 38.2 -0.4**
GIGS S **Sg 19 22 46.0 +0.7**
GIGS AML AML
comp=N,4875µm,0.1s
GIGS AML AML
comp=E,4495µm,0.4s
TRTR Tortoreto Alta 0.51 99 ⇑P **Pb 19 22 39.6 -0.4**
TRTR AML AML
comp=N,25100µm,0.4s
TRTR AML AML
comp=E,30850µm,0.3s
TRTR AML AML
comp=E,30850µm,1.7s
AQU L'Aquila 0.55 166 ⇓P **Pg 19 22 39.1 -0.3**
AQU AML AML
comp=E,3960µm,0.7s
AQU AML AML
comp=E,3875µm,1.2s
AQU AML AML
comp=N,5105µm,1.1s
AQU AML AML
comp=E,3965µm,0.7s
AQU AML AML
comp=N,5075µm,1.1s
AQU AML AML
comp=E,3230µm,4.7s
AQU AML AML
comp=E,3233µm,2.9s
CESX Cesi 0.55 240 ⇑P **Pg 19 22 39.3 -0.1**
CESX AML AML
comp=N,3730µm,0.4s
CESX AML AML
comp=E,3580µm,0.7s
PP3 Marolino 0.57 30 P **Pg 19 22 40.0 +0.2**
PP3 AML AML
comp=E,6050µm,1.1s
PP3 AML AML
comp=N,5465µm,0.9s
PP3 AML AML
comp=N,5510µm,0.5s
PP3 AML AML
comp=E,6005µm,1.1s
PP3 AML AML
comp=N,5510µm,1.5s
PP3 AML AML
comp=E,5620µm,1.0s
PP3 AML AML
comp=E,5600µm,0.3s
FIAM Fiamignano 0.62 187 P **Pg 19 22 40.6 -0.3**
FIAM S **Sb 19 22 50.2 -0.7**
FIAM AML AML
comp=E,3985µm,0.6s
FIAM AML AML
comp=N,2670µm,0.5s
FIAM AML AML
comp=N,2477µm,0.8s
FIAM AML AML
comp=E,3985µm,1.4s
MURB Monte Urbino 0.64 307 ⇑P **Pg 19 22 40.9 -0.2**
MURB AML AML
comp=E,6770µm,0.2s
MURB AML AML
comp=E,7965µm,0.9s
MURB AML AML
comp=N,6750µm,0.9s
MURB AML AML
comp=E,6770µm,0.3s
MURB AML AML
comp=E,6770µm,1.7s
MURB AML AML
comp=N,6750µm,1.1s
MURB AML AML
comp=N,6735µm,0.3s
MURB AML AML
comp=E,7965µm,1.1s
SSFR Montelago di S 0.64 330 ⇑P **Pg 19 22 40.7 -0.5**
SSFR AML AML
comp=E,5035µm,0.3s
SSFR AML AML
comp=E,4185µm,0.2s
SSFR AML AML
comp=N,3740µm,0.2s
SSFR AML AML
comp=N,4135µm,0.2s
ARVD Arcevia 0.65 341 P **Pg 19 22 40.8 -0.5**
ARVD AML AML
comp=E,1165µm,0.6s
ARVD AML AML
comp=N,1092µm,0.8s
ARVD AML AML
comp=E,1128µm,0.5s
ARVD AML AML
comp=N,932µm,4.5s
VCEL Villa Celiera 0.67 137 ⇓P **Pg 19 22 41.4 -0.3**
VCEL AML AML
comp=E,6530µm,1.0s
VCEL AML AML
comp=N,6410µm,1.0s
VCEL AML AML
comp=E,6530µm,1.0s
FAGN Fagnano 0.68 157 ⇓P **Pg 19 22 41.1 -0.7**
FAGN AML AML
comp=N,10735µm,0.5s
FAGN AML AML
comp=E,11050µm,0.3s
ATFO Monte Foce - G 0.68 315 ⇑P **Pg 19 22 41.5 -0.4**
ATFO AML AML
comp=N,2020µm,1.3s
ATFO AML AML
comp=E,2515µm,0.6s
ATFO AML AML
comp=N,1507µm,0.6s
ATTE AVT- Monte Tez 0.71 296 P **Pg 19 22 42.0 -0.4**
ATTE AML AML
comp=E,2005µm,1.0s
ATTE AML AML
comp=N,1510µm,1.3s
ATTE AML AML
comp=E,2010µm,1.0s
ATTE AML AML
comp=E,2010µm,1.0s
AOI Ancona 0.72 23 P **Pg 19 22 42.3 -0.3**
AOI AML AML
comp=N,904µm,1.1s
AOI AML AML
comp=E,1360µm,1.2s
AOI AML AML
comp=N,904µm,0.9s
AOI AML AML
comp=E,1360µm,0.8s
FRON Frontone 0.73 330 ⇑P **Pg 19 22 42.2 -0.6**
FRON AML AML
comp=E,1635µm,1.5s
FRON AML AML
comp=N,2670µm,0.6s
FRON AML AML
comp=E,1635µm,0.5s
COR1 Corinaldo 0.76 348 P **Pb 19 22 44.0 -0.3**
COR1 AML AML
comp=E,2025µm,0.6s
COR1 AML AML
comp=N,3370µm,0.5s
COR1 AML AML
comp=N,3376µm,0.5s
COR1 AML AML
comp=E,2022µm,0.6s
COR1 AML AML
comp=E,2022µm,1.4s
COR1 AML AML
comp=N,3376µm,1.5s
ATVO AVT- Monte Val 0.78 310 ⇑P **Pg 19 22 43.2 -0.6**
ATVO AML AML
comp=E,1470µm,1.6s
ATVO AML AML
comp=N,1385µm,1.1s
ATVO AML AML
comp=E,1465µm,1.6s
ATVO AML AML
comp=N,1385µm,0.9s
ATVO AML AML
comp=E,1465µm,0.4s
T0110 Collepietro 0.78 148 ⇓P **Pg 19 22 42.9 -0.8**
T0110 AML AML
comp=N,5585µm,0.4s
T0110 AML AML
comp=E,7115µm,0.5s
MPAG Monte Paganucc 0.82 336 ⇑P **Pg 19 22 44.0 -0.5**
MPAG AML AML
comp=E,1630µm,0.6s
MPAG AML AML
comp=N,1475µm,0.6s
MPAG AML AML
comp=N,1480µm,0.6s
MPAG AML AML
comp=E,1630µm,1.4s
MGAB Montegabbione 0.82 272 ⇑P **Pg 19 22 44.3 -0.2**
MGAB AML AML
comp=N,2425µm,1.1s
MGAB AML AML
comp=N,2420µm,1.1s
MGAB AML AML
comp=N,2315µm,1.1s
MGAB AML AML
comp=E,1965µm,0.4s
MGAB AML AML
comp=E,1820µm,0.4s
MGAB AML AML
comp=N,2420µm,0.9s
MGAB AML AML
comp=N,2315µm,0.9s
PIEI Pieia 0.82 322 ⇑P **Pg 19 22 43.8 -0.9**
PIEI AML AML
comp=E,1205µm,0.4s
PIEI AML AML
comp=N,1099µm,0.4s
ATPI Pietralunga - 0.82 313 ⇑P **Pg 19 22 44.1 -0.6**
ATPI AML AML
comp=E,1620µm,0.9s
ATPI AML AML
comp=N,1046µm,0.6s
ATPI AML AML
comp=E,1615µm,0.9s
ATPI AML AML
comp=N,1047µm,0.6s
ATPI AML AML
comp=N,1047µm,1.4s
ATMI Monte Miggiano 0.83 303 P **Pg 19 22 44.6 -0.1**
ATMI AML AML
comp=E,3285µm,0.7s
ATMI AML AML
comp=N,3295µm,0.8s
SRES S.Oreste - Sor 0.84 219 P **Pg 19 22 44.8 -0.1**
SRES AML AML
comp=E,1130µm,0.8s
SRES AML AML
comp=N,1350µm,1.4s
NARO Abbazia di Nar 0.86 327 ⇓P **Pg 19 22 44.7 -0.7**
NARO AML AML
comp=E,1094µm,0.8s
NARO AML AML
comp=N,1124µm,1.3s
NARO AML AML
comp=N,728µm,5.0s
NARO AML AML
comp=E,1025µm,0.7s
FSSB Fossombrone 0.87 338 AML AML
comp=N,3940µm,0.4s
FSSB AML AML
comp=E,3765µm,0.5s
APEC Apecchio 0.89 319 AML AML
comp=N,727µm,1.2s
APEC AML AML
comp=E,416µm,0.5s
CERT Cerreto 0.95 191 AML AML
comp=N,2275µm,0.4s
CERT AML AML
comp=E,3290µm,0.5s
SACS San Casciano d 0.97 268 AML AML
comp=N,1054µm,0.5s
SACS AML AML
comp=E,944µm,1.0s
SACS AML AML
comp=N,1084µm,0.5s
SACS AML AML
comp=E,1002µm,1.3s
INTR Introdacqua 1.01 150 AML AML
comp=N,3515µm,0.8s
INTR AML AML
comp=E,1µm,0.7s
INTR AML AML
comp=N,2µm,0.8s
INTR AML AML
comp=E,1335µm,0.8s
INTR AML AML
comp=N,3515µm,1.2s
CAFI Castiglion Fio 1.02 296 AML AML
comp=E,994µm,1.1s
CAFI AML AML
comp=N,840µm,1.0s
SSP9 Sansepolcro 1.05 311 AML AML
comp=E,1006µm,0.5s
SSP9 AML AML
comp=E,1006µm,1.5s
SSP9 AML AML
comp=N,1420µm,1.0s
CAFR Castel Frentan 1.06 128 AML AML
comp=E,12µm,0.6s
CAFR AML AML
comp=N,1520µm,0.7s
LPEL Lama dei Pelig 1.10 139 AML AML
comp=N,1340µm,0.6s
LPEL AML AML
comp=E,1680µm,0.5s
RMP Rome, Mte Porz 1.14 200 P **Pn 19 22 52.6 +1.5**
RMP AML AML
comp=E,1490µm,0.7s
RMP AML AML
comp=N,1730µm,1.4s
RMP AML AML
comp=E,1490µm,1.3s
RMP AML AML
comp=N,1730µm,0.6s
MCIV Monte Civitell 1.14 265 ⇓P **Pg 19 22 50.6 -0.2**
MCIV AML AML
comp=N,358µm,0.7s
MCIV AML AML
comp=E,413µm,1.3s
MCIV AML AML
comp=N,358µm,1.3s
MCIV AML AML
comp=E,413µm,0.7s
SF04 Casetta 1.15 268 ⇓P **Pn 19 22 51.4 +0.2**
CRE Caprese Michel 1.18 309 AML AML
comp=N,704µm,0.6s
CRE AML AML
comp=N,704µm,1.4s
CRE AML AML
comp=E,716µm,0.8s
SF01 Poggio Pratacc 1.22 267 ⇑P **Pb 19 22 52.2 0.0**
SF01 AML AML
comp=E,684µm,0.7s
SF01 AML AML
comp=N,634µm,0.5s
SF01 AML AML
comp=N,634µm,1.5s
SF01 AML AML
comp=E,684µm,1.3s
TOLF Tolfa 1.22 228 AML AML
comp=N,1075µm,0.7s
TOLF AML AML
comp=E,1006µm,0.6s
POFI Posta Fibreno 1.22 163 P **Pb 19 22 50.6 -1.7**
LRP Arpino 1.27 168 ⇑P **Pg 19 22 53.9 +0.8**
LRP AML AML
comp=N,828µm,0.6s
LRP AML AML
comp=E,618µm,0.6s
ARCI Arcidosso 1.29 269 ⇑P **Pg 19 22 53.5 +0.1**
ARCI AML AML
comp=N,188µm,0.8s
ARCI AML AML
comp=E,195µm,1.0s
ARCI AML AML
comp=N,188µm,1.2s
GIUL Giuliano Di Ro 1.33 179 ⇓P **Pg 19 22 54.5 +0.2**
GIUL AML AML
comp=E,611µm,1.4s
GIUL AML AML
comp=N,852µm,0.9s
GIUL AML AML
comp=E,611µm,0.6s
RNI2 Rionero Sannit 1.37 149 ⇑P **Pg 19 22 56.3 +1.2**
RNI2 AML AML
comp=N,1200µm,0.6s
RNI2 AML AML
comp=N,1168µm,0.6s
RNI2 AML AML
comp=E,1335µm,0.6s
RNI2 AML AML
comp=E,1310µm,0.6s
CERA Filignano 1.42 155 ⇓P **Pg 19 22 55.9 -0.1**
CERA AML AML
comp=E,1090µm,1.3s
CERA AML AML
comp=N,1060µm,1.4s
CERA AML AML
comp=N,1095µm,1.4s
CERA AML AML
comp=E,1115µm,1.3s
CERA AML AML
comp=E,1115µm,0.7s
CERA AML AML
comp=N,1060µm,0.6s
CERA AML AML
comp=N,1095µm,0.6s
CERA AML AML
comp=E,1090µm,0.7s
TRIV Trivento 1.49 138 ⇑P **Pg 19 22 57.5 +0.1**
TRIV AML AML
comp=E,1146µm,1.6s
TRIV AML AML
comp=N,1056µm,0.7s
TRIV AML AML
comp=N,1056µm,1.3s
TRIV AML AML
comp=E,1146µm,0.4s
RUFI Rufina 1.57 308 ⇓P **Pn 19 22 56.7 -0.3**
RUFI AML AML
comp=N,460µm,1.4s
RUFI AML AML
comp=N,460µm,0.6s
RUFI AML AML
comp=E,404µm,0.6s
VAGA Valle Agricola 1.65 153 ⇓P **Pb 19 22 59.8 +0.3**
VAGA AML AML
comp=N,473µm,0.8s
VAGA AML AML
comp=E,406µm,0.6s
VAGA AML AML
comp=N,473µm,1.2s
BSSO Busso 1.68 142 ⇑P **Pg 19 23 01.0 -0.1**
DUGI Dugi Otok 1.73 50 *e*Pn **Pn 19 22 59.5 +0.3**
CIGN Sant'Elia a Pi 1.75 134 ⇓P **Pb 19 23 01.1 -0.2**
CIGN AML AML
comp=N,433µm,0.7s
CIGN AML AML
comp=E,375µm,0.6s
CIGN AML AML
comp=N,433µm,1.3s
CIGN AML AML
comp=E,375µm,1.4s
MODR Mondragone 1.81 164 ⇓P **Pb 19 23 01.4 -0.8**
MODR AML AML
comp=E,160µm,0.7s
MODR AML AML
comp=N,196µm,0.8s
MODR AML AML
comp=N,196µm,1.2s
MELA Melanico ??? S 1.84 129 ⇓P **Pn 19 23 01.6 +1.0**
MELA AML AML
comp=E,1335µm,0.4s
MELA AML AML
comp=N,1100µm,0.7s
MELA AML AML
comp=N,1115µm,0.7s
MELA AML AML
comp=E,1322µm,0.5s
MELA AML AML
comp=N,1100µm,1.3s
MELA AML AML
comp=N,1115µm,1.3s
TREM Isole Tremiti 1.85 113 ⇓P **Pn 19 23 01.5 +0.6**
TREM AML AML
comp=N,1175µm,0.5s
TREM AML AML
comp=E,905µm,1.4s
TREM AML AML
comp=E,905µm,0.6s
ZIRJ Zirje 1.93 66 *e*Pn **Pn 19 23 01.9 0.0**
VIRC Vir 1.94 43 *e*Pn **Pn 19 23 01.4 -0.6**
VIRC Sn **Sn 19 23 25.8 -0.6**
MTCR Monte La Croce 1.98 306 P **Pn 19 23 03.3 +0.5**
VITU Vitulano (BN) 2.00 148 ⇓P **Pn 19 23 03.1 +0.1**
VITU AML AML
comp=E,312µm,0.6s
VITU AML AML
comp=N,390µm,0.5s

VITU					AML	AML			
	comp=E,312µm,1.4s								
BRJN	**Brijuni**	**2.05**	**10**	*e*Pn	**Pn**	**19 23 03.1 -0.5**			
APRC	**Apricena**	**2.06**	**122**	⇑P	**Pn**	**19 23 04.4 +0.6**			
APRC					AML	AML			
	comp=N,504µm,1.3s								
APRC					AML	AML			
	comp=E,488µm,0.5s								
APRC					AML	AML			
	comp=E,488µm,1.5s								
APRC					AML	AML			
	comp=N,504µm,0.7s								
MORI	**Morici**	**2.06**	**61**	*e*Pn	**Pn**	**19 23 03.6 -0.1**			
NVLJ	**Novalja**	**2.06**	**35**	*e*Pn	**Pn**	**19 23 03.1 -0.5**			
MOCO	**Biccari - m.te**	**2.09**	**136**	P	**Pb**	**19 23 05.7 -1.3**			
MOCO					AML	AML			
	comp=N,155µm,0.8s								
MOCO					AML	AML			
	comp=E,242µm,0.7s								
RABC	**Rab**	**2.18**	**31**	*e*Pn	**Pn**	**19 23 04.5 -0.8**			
SGRT	**San Giovanni R**	**2.19**	**120**	P	**Pn**	**19 23 06.0 +0.5**			
SGRT					AML	AML			
	comp=E,526µm,1.6s								
SGRT					AML	AML			
	comp=N,543µm,0.6s								
SGRT					AML	AML			
	comp=E,526µm,0.4s								
SGRT					AML	AML			
	comp=N,543µm,1.4s								
SMRN	**Sveta Marina**	**2.25**	**17**	*e*Pn	**Pn**	**19 23 05.7 -0.6**			
CARD	**Cardoso**	**2.30**	**301**	P	**Pn**	**19 23 05.8 -1.2**			
CARD					AML	AML			
	comp=E,178µm,0.6s								
CARD					AML	AML			
	comp=N,146µm,0.5s								
HVAR	**Hvar**	**2.38**	**82**	*e*Pn	**Pn**	**19 23 08.3 +0.1**			
HVAR	**Hvar**	**2.38**	**82**	⇑P	**Pn**	**19 23 09.1 +0.9**			
A253A	**Karojba, Istri**	**2.44**	**10**	*e*Pn	**Pn**	**19 23 07.7 -1.3**			
UDBI	**Udbina**	**2.47**	**47**	*e*Pn	**Pn**	**19 23 10.2 +0.8**			
KIJV	**Kijevo**	**2.57**	**63**	*i* Pn	**Pn**	**19 23 11.6 +0.9**			
CAPA	**Cerignola FG**	**2.59**	**131**	⇑P	**Pn**	**19 23 12.1 +1.1**			
CAPA					AML	AML			
	comp=E,550µm,0.8s								
CAPA					AML	AML			
	comp=N,618µm,1.0s								
CAPA					AML	AML			
	comp=E,550µm,1.2s								
CAPA					AML	AML			
	comp=N,618µm,1.0s								
PLIT	**Plitvice**	**2.64**	**40**	*e*Pn	**Pn**	**19 23 12.2 +0.4**			
LSTV	**Lastovo**	**2.70**	**91**	*e*Pn	**Pn**	**19 23 12.4 -0.1**			
SKDS	**Skadanscina**	**2.72**	**12**	*e*Pn	**Pn**	**19 23 11.6 -1.2**			
MRLC	**Muro Lucano**	**2.72**	**141**	⇑P	**Pn**	**19 23 14.9 +2.1**			
KNDS	**Knezji Dol**	**2.77**	**17**	*i* Pn	**Pn**	**19 23 13.7 +0.2**			
MAKA	**Makarska**	**2.81**	**81**	*e*Pn	**Pn**	**19 23 14.9 +0.9**			
PALZ	**Palazzo San Ge**	**2.82**	**133**	⇑P	**Pn**	**19 23 15.3 +1.1**			
PALZ					AML	AML			
	comp=E,505µm,1.0s								
PALZ					AML	AML			
	comp=N,354µm,1.6s								
A050A	**Klekovaca**	**2.88**	**55**	*e*Pn	**Pn**	**19 23 15.8 +0.7**			
RICI	**Ricice**	**2.92**	**77**	*e*Pn	**Pn**	**19 23 16.2 +0.6**			
RICI					Sn	**Sn**	**19 23 51.2 +0.3**		
CEY	**Cerknica**	**2.98**	**16**	*e*Pn	**Pn**	**19 23 17.5 +1.1**			
BOJS	**Bojanci**	**3.00**	**28**	*e*Pn	**Pn**	**19 23 17.0 +0.4**			
BOJS	**Bojanci**	**3.00**	**28**	P	**Pn**	**19 23 18.4 +1.8**			
SRKY	**Kupres RS**	**3.10**	**66**	*e*Pn	**Pb**	**19 23 21.5 -2.8**			
PGF	**Pioggiola**	**3.13**	**265**	*e*Pn	**Pn**	**19 23 17.4 -1.2**			
PGF	**Pioggiola**	**3.13**	**265**	*e*P	**Pn**	**19 23 20.5 +1.9**			
PGF					*e*Sn	**Sn**	**19 23 53.0 -3.2**		
	comp=N,4.7nm,0.4s								
ROVR	**Rover Verones**	**3.16**	**331**	⇓P	**Pn**	**19 23 21.2 +2.2**			
OZLJ	**Ozalj**	**3.17**	**30**	*e*Pn	**Pn**	**19 23 18.8 -0.2**			
VOJS	**Vojsko**	**3.18**	**8**	*i* Pn	**Pn**	**19 23 18.6 -0.6**			
MGRS	**Mrkonjic Grad**	**3.19**	**60**	*e*Pn	**Pn**	**19 23 22.3 +3.0**			
AMUR	**Altamura**	**3.21**	**127**	P	**Pn**	**19 23 20.5 +1.0**			
AMUR					AML	AML			
	comp=E,168µm,0.4s								
AMUR					AML	AML			
	comp=N,149µm,0.6s								
STON	**Ston**	**3.29**	**89**	*e*Pn	**Pn**	**19 23 19.2 -1.4**			
STON	**Ston**	**3.29**	**89**	*i* Pn	**Pn**	**19 23 19.8 -0.8**			
STON	**Ston**	**3.29**	**89**	P	**Pn**	**19 23 19.8 -0.8**			
STON					AML	AML			
	comp=N,51µm,0.8s								
STON					AML	AML			
	comp=E,84µm,0.5s								
MIGL	**Miglionico**	**3.32**	**132**	P	**Pn**	**19 23 22.3 +1.3**			
MIGL					AML	AML			
	comp=N,482µm,0.9s								
MIGL					AML	AML			
	comp=E,499µm,0.9s								
DOSS	**Dosso del Somm**	**3.33**	**335**	⇑P	**Pn**	**19 23 23.3 +1.9**			
CRES	**Cresnjev**	**3.35**	**28**	*e*Pn	**Pn**	**19 23 22.9 +1.5**			
CTI	**Castel Tesino**	**3.35**	**341**	P	**Pn**	**19 23 21.9 +0.3**			
CTI					AML	AML			
	comp=E,128µm,0.9s								
CTI					AML	AML			
	comp=N,133µm,0.5s								
ROBS	**Robic**	**3.36**	**3**	*i* Pn	**Pn**	**19 23 21.1 -0.5**			
A051A	**Mrakovica**	**3.40**	**50**	*e*Pn	**Pn**	**19 23 24.1 +1.8**			
BLY	**Banja Luka**	**3.42**	**56**	*e*Pn	**Pb**	**19 23 30.3 +0.7**			
MATE	**Matera**	**3.43**	**129**	⇑P	**Pn**	**19 23 24.3 +1.8**			
MAGA	**Magasa**	**3.44**	**328**	⇓P	**Pn**	**19 23 23.8 +1.1**			
MAGA					AML	AML			
	comp=E,310µm,0.5s								
MAGA					AML	AML			
	comp=N,167µm,0.3s								
MAGA					AML	AML			
	comp=N,167µm,1.7s								
MAGA					AML	AML			
	comp=E,310µm,1.5s								
LTRZ	**Laterza**	**3.53**	**129**	⇑P	**Pn**	**19 23 24.9 +1.0**			
DBRK	**Dubrovnik**	**3.63**	**92**	*e*Pn	**Pn**	**19 23 24.9 -0.4**			
ZOU	**Zoufplan**	**3.67**	**357**	⇑P	**Pn**	**19 23 26.2 +0.1**			
ZOU					AML	AML			
	comp=E,102µm,0.8s								
ZOU					AML	AML			
	comp=N,149µm,1.2s								
ZOU					AML	AML			
	comp=N,122µm,1.1s								
ZOU					AML	AML			
	comp=E,102µm,1.2s								
ZOU					AML	AML			
	comp=E,122µm,0.9s								
SARZ	**Sarezzano**	**3.69**	**304**	S	**Sn**	**19 24 11.0 +1.1**			
MABI	**Malga Bissina**	**3.71**	**329**	⇓P	**Pn**	**19 23 28.2 +1.5**			
MABI					AML	AML			
	comp=E,45µm,0.5s								
MABI					AML	AML			
	comp=N,41µm,0.5s								
MABI					AML	AML			
	comp=E,45µm,1.5s								
OBKA	**Obir**	**3.74**	**14**	*e*Pn	**Pn**	**19 23 28.9 +1.9**			
OBKA	**Obir**	**3.74**	**14**	*e*Pn	**Pn**	**19 23 26.9 -0.1**			
	comp=E,2.2nm,0.3s								
OBKA					Sg	**Sg**	**19 24 31.7 +2.7**		
	comp=E,45nm,0.8s								
MYKA	**Terra Mystica**	**3.75**	**4**	*e*Pn	**Pn**	**19 23 27.9 +0.8**			
	comp=E,1.8nm,0.2s								
MYKA					*e*Sn	**Sn**	**19 24 12.6 +1.1**		
	comp=E,8.3nm,0.4s								
ABTA	**Abfaltersbach**	**3.89**	**353**	*e*Pn	**Pn**	**19 23 29.7 +0.7**			
	comp=E,8.8nm,0.4s,SNR=14								
ABTA					*e*Sn	**Sn**	**19 24 15.9 +0.9**		
	comp=E,10nm,0.4s								
BRY	**Bratogost**	**3.91**	**88**	*e*Pn	**Pn**	**19 23 30.4 +1.2**			
BRY	**Bratogost**	**3.91**	**88**	⇓*i*Pn	**Pn**	**19 23 30.5 +1.2**			
BRY					*i* Sn	**Sn**	**19 24 16.7 +1.4**		
HCY	**Herceg Novi**	**3.91**	**95**	*e*Pn	**Pn**	**19 23 29.1 -0.1**			
HCY	**Herceg Novi**	**3.91**	**95**	⇑*i*Pn	**Pn**	**19 23 30.1 +0.9**			
HCY					*i* Sn	**Sn**	**19 24 16.6 +1.3**		
UPM	**Unac-Piva**	**4.18**	**84**	*e*Pn	**Pn**	**19 23 33.5 +0.5**			
UPM	**Unac-Piva**	**4.18**	**84**	⇓*i*Pn	**Pn**	**19 23 33.9 +0.9**			
UPM					*i* Sn	**Sn**	**19 24 23.6 +1.5**		
KBA	**Koelnbreinsper**	**4.19**	**1**	*i* Pn	**Pn**	**19 23 34.1 +0.9**			
	comp=E,0.7nm,0.1s								
KBA					*i* Sn	**Sn**	**19 24 24.0 +1.5**		
	comp=E,8.2nm,0.4s								
CEME	**Cevo**	**4.21**	**93**	⇓*i*Pn	**Pn**	**19 23 34.3 +1.0**			
CEME					*i* Sn	**Sn**	**19 24 24.1 +1.4**		
BUM	**Brajici-Budva**	**4.23**	**96**	⇑*i*Pn	**Pn**	**19 23 34.6 +1.0**			
BUM					*i* Sn	**Sn**	**19 24 23.4 +0.2**		
MUGIO	**Muggio**	**4.26**	**317**	⇓P	**Pn**	**19 23 34.9 +0.8**			
MUGIO					AML	AML			
	comp=N,34µm,0.5s								
MUGIO					AML	AML			
	comp=E,31µm,0.6s								
MUGIO					AML	AML			
	comp=E,31µm,1.4s								
SBF	**Sospel**	**4.33**	**285**	*e*Pn	**Pn**	**19 23 34.3 -0.7**			
SBF	**Sospel**	**4.33**	**285**	*e*P	**Pn**	**19 23 37.7 +2.7**			
SBF					*e*Sn	**Sn**	**19 24 21.5 -4.2**		
	comp=E,11nm,0.6s								
HAPS	**Han Pijesak,Bl**	**4.34**	**72**	*e*Pn	**Pn**	**19 23 37.4 +2.3**			
DRME	**Dracevica, Mon**	**4.46**	**97**	*e*Pn	**Pn**	**19 23 37.4 +0.7**			
DRME	**Dracevica, Mon**	**4.46**	**97**	⇓*i*Pn	**Pn**	**19 23 37.8 +1.1**			
DRME					*i* Sn	**Sn**	**19 24 29.9 +1.1**		
VSL	**Villasalto**	**4.46**	**222**	⇓P	**Pn**	**19 23 38.4 +1.6**			
PDG	**Podgorica**	**4.47**	**94**	⇑P	**Pn**	**19 23 36.4 -0.4**			
TTG	**Podgorica**	**4.47**	**94**	⇑*i*Pn	**Pn**	**19 23 38.0 +1.1**			
TTG					*i* Sn	**Sn**	**19 24 30.3 +1.2**		
FETA	**Feichten**	**4.50**	**338**	*i* Pn	**Pn**	**19 23 39.6 +2.2**			
	comp=E,5.0nm,0.4s,SNR=6.6								
FETA					*e*Sn	**Sn**	**19 24 34.0 +4.0**		
	comp=E,4.5nm,0.4s								
WTTA	**Wattenberg**	**4.52**	**346**	*e*Pn	**Pn**	**19 23 39.6 +1.9**			
	comp=E,6.0nm,0.4s,SNR=7.3								
WTTA					*e*Sn	**Sn**	**19 24 33.4 +2.9**		
	comp=E,16nm,0.5s								
PLE	**Pljevlja**	**4.54**	**82**	⇑*i*Pn	**Pn**	**19 23 38.9 +1.0**			
PLE					*e*Sn	**Sn**	**19 24 32.0 +1.2**		
RUDO	**Rudo**	**4.55**	**79**	*e*Pn	**Pn**	**19 23 40.0 +2.1**			
ULC	**Ulcinj**	**4.55**	**100**	⇓*i*Pn	**Pn**	**19 23 38.9 +0.9**			
ULC					*i* Sn	**Sn**	**19 24 29.5 -1.6**		
SQTA	**Sankt Quirin**	**4.56**	**342**	*e*Pn	**Pn**	**19 23 39.2 +1.0**			
	comp=E,12nm,0.4s,SNR=13								
SQTA					*e*Sn	**Sn**	**19 24 35.5 +4.0**		
	comp=E,12nm,0.4s								
TIP	**Timpagrande**	**4.57**	**143**	⇑P	Pb	19 23 44.5 -4.7			
WATA	**Walderalm**	**4.60**	**346**	*e*Pn	**Pn**	**19 23 40.0 +1.2**			
	comp=E,4.5nm,0.3s,SNR=6.8								
WATA					*e*Sn	**Sn**	**19 24 34.1 +1.7**		
	comp=E,4.4nm,0.3s								
BBLS	**Lazići**	**4.61**	**76**	*e*Pn	**Pn**	**19 23 41.8 +2.9**			
KOME	**Kolasin**	**4.62**	**88**	⇓*i*Pn	**Pn**	**19 23 40.9 +1.8**			
KOME					*i* Sn	**Sn**	**19 24 34.1 +1.1**		
ARSA	**Arzberg**	**4.66**	**20**	*i* Pn	**Pn**	**19 23 42.0 +2.5**			
	comp=E,0.4nm,0.2s								
ARSA					*i* Sn	**Sn**	**19 24 31.7 -2.0**		
	comp=E,1.6nm,0.3s								
MOTA	**Moosalm**	**4.70**	**342**	*i* Pn	**Pn**	**19 23 42.6 +2.4**			
	comp=E,3.1nm,0.3s,SNR=5.3								
MOTA					*e*Sn	**Sn**	**19 24 36.8 +1.8**		
	comp=E,11nm,0.6s								
BIOA	**Bad Ischl, Aus**	**4.81**	**3**	*i* Pn	**Pn**	**19 23 43.2 +1.6**			
	comp=E,3.5nm,0.2s								
BIOA					*e*Sn	**Sn**	**19 24 38.2 +0.7**		
	comp=E,14nm,0.5s								
IVA	**Berane**	**4.90**	**88**	*e*Pn	**Pn**	**19 23 44.5 +1.6**			
IVA					*e*Sn	**Sn**	**19 24 40.7 +0.9**		
RETA	**Reutte**	**4.92**	**340**	*i* Pn	**Pn**	**19 23 45.1 +2.0**			
	comp=E,3.0nm,0.2s								
RETA					*e*Sn	**Sn**	**19 24 41.3 +1.1**		
	comp=E,4.1nm,0.4s								
LMR	**La Mourre**	**4.94**	**277**	*e*Pn	**Pn**	**19 23 42.7 -0.5**			
LMR	**La Mourre**	**4.94**	**277**	*e*P	**Pn**	**19 23 45.9 +2.7**			
PVY	**Plav**	**4.97**	**91**	*e*Pn	**Pn**	**19 23 44.7 +0.9**			
PVY					*i* Sn	**Sn**	**19 24 42.4 +0.9**		
DAVA	**Damuels**	**5.00**	**333**	*e*Pn	**Pn**	**19 23 46.8 +2.6**			
	comp=E,11nm,0.6s,SNR=7.0								
DAVA					*e*Sn	**Sn**	**19 24 42.5 +0.3**		
	comp=E,14nm,0.6s								
MBDF	**Montbardon**	**5.02**	**294**	*e*Pn	**Pn**	**19 23 43.7 -0.8**			
MBDF	**Montbardon**	**5.02**	**294**	*e*P	**Pn**	**19 23 47.7 +3.2**			
DIVS	**Divibare**	**5.07**	**74**	*e*Pn	**Pn**	**19 23 40.6 -4.6**			
MORH	**Mrgy, Hungar**	**5.11**	**47**	⇑P	**Pb**	**19 24 02.4 +4.0**			
FRGS	**Fruska Gora**	**5.26**	**62**	⇓P	**Pb**	**19 23 56.7 -4.3**			
RONA	**Rosalia, Austr**	**5.28**	**23**	*i* Pn	**Pn**	**19 23 50.2 +2.2**			
	comp=E,0.6nm,0.2s								
LPG	**La Plagne**	**5.33**	**301**	*e*Pn	**Pn**	**19 23 51.8 +2.8**			
LPG					*e*Sn	**Sn**	**19 24 46.8 -4.0**		
	comp=E,15nm,0.8s								
LPL	**La Plagne**	**5.36**	**302**	*e*Pn	**Pn**	**19 23 48.3 -0.9**			
LPL	**La Plagne**	**5.36**	**302**	*e*P	**Pn**	**19 23 52.0 +2.8**			
LPL					*e*Sn	**Sn**	**19 24 46.8 -4.4**		
	comp=E,9.1nm,0.6s								
CONA	**Conrad Observa**	**5.37**	**19**	*i* Pn	**Pn**	**19 23 50.4 +1.0**			
	comp=E,0.9nm,0.2s								
CONA					*i* Sn	**Sn**	**19 24 49.2 -2.2**		
	comp=E,1.4nm,0.3s								
SMRF	**Simiane la Rot**	**5.67**	**284**	*e*Pn	**Pn**	**19 23 52.5 -1.0**			
ORIF	**Oris-en-Rattie**	**5.68**	**293**	*e*Pn	**Pn**	**19 23 52.0 -1.6**			
ORIF	**Oris-en-Rattie**	**5.68**	**293**	*e*P	**Pn**	**19 23 56.1 +2.5**			
BOVS	**Bovan**	**6.24**	**80**	⇑P	**Pn**	**19 24 02.9 +1.7**			
KHC	**Kasperske Hory**	**6.25**	**2**	*e*PN	**Pn**	**19 24 03.1 +1.8**			
KHC					*e*SN	**Sn**	**19 25 10.4 -2.5**		
CABF	**La Chapelle**	**6.30**	**309**	*e*Pn	**Pn**	**19 24 00.1 -2.0**			
CABF	**La Chapelle**	**6.30**	**309**	*e*P	**Pn**	**19 24 05.1 +3.0**			
MDVR	**Moldovita**	**6.42**	**70**	⇑P	**Pn**	**19 24 08.5 +4.8**			
VIVF	**Saint-Julien-l**	**6.49**	**291**	*e*Pn	**Pn**	**19 24 02.3 -2.3**			
HINF	**Hinteralfeld**	**6.67**	**320**	*e*P	**Pn**	**19 24 11.0 +4.0**			
HINF					*e*Sn	**Sn**	**19 25 19.2 -4.0**		
	comp=E,11nm,0.6s								
STIP	**Stip**	**6.75**	**97**	*i* Pn	**Pn**	**19 24 10.9 +2.7**			
CDF	**Champ du Feu**	**6.92**	**325**	*e*P	**Pn**	**19 24 13.6 +3.0**			
CDF					*e*Sn	**Sn**	**19 25 23.8 -5.7**		
	comp=E,6.0nm,0.5s								
HERR	**Herculane**	**6.94**	**70**	⇑P	Pn	19 24 15.9 +5.2			
BLKB	**Belogradchik**	**6.94**	**81**	⇑P	**Pn**	**19 24 11.8 +1.0**			
HAU	**Haudompre**	**7.04**	**319**	*e*P	**Pn**	**19 24 15.8 +3.6**			
HAU					*e*Sn	**Sn**	**19 25 27.3 -5.1**		
	comp=E,11nm,0.4s								
VAY	**Valandovo**	**7.12**	**100**	*i* Pn	**Pn**	**19 24 16.0 +2.7**			
GZR	**Gura Zlata**	**7.32**	**67**	⇑P	Pn	19 24 21.5 +5.6			
SMF	**Signal de Mont**	**7.66**	**303**	*e*P	**Pn**	**19 24 23.4 +2.7**			
PAGF	**Fort de Pagny**	**7.72**	**320**	*e*Pn	**Pn**	**19 24 20.6 -0.9**			
	baz=142								
PAGF	**Fort de Pagny**	**7.72**	**320**	*e*P	**Pn**	**19 24 24.5 +3.0**			
PAGF					*e*Sn	**Sn**	**19 25 43.1 -6.0**		
	comp=E,8.1nm,0.7s								
SFTF	**Sexfontaines**	**7.83**	**316**	*e*Pn	**Pn**	**19 24 22.8 -0.1**			
LOR	**Lormes**	**7.94**	**307**	*e*Pn	**Pn**	**19 24 22.9 -1.6**			
LOR					*e*Sn	**Sn**	**19 25 48.6 -6.0**		
	comp=E,4.7nm,0.5s								
MEZF	**Maizieres J'vi**	**8.01**	**317**	*e*Pn	**Pn**	**19 24 25.0 -0.5**			
AVF	**Avril sur Loir**	**8.03**	**302**	*e*Pn	**Pn**	**19 24 21.9 -3.8**			
AVF	**Avril sur Loir**	**8.03**	**302**	*e*P	**Pn**	**19 24 29.6 +3.9**			
SAVF	**Savonnieres en**	**8.05**	**318**	*e*Pn	**Pn**	**19 24 25.1 -0.9**			
SAVF	**Savonnieres en**	**8.05**	**318**	*e*P	**Pn**	**19 24 30.3 +4.3**			
SSF	**Saint Saulge**	**8.05**	**305**	*e*Pn	**Pn**	**19 24 24.0 -2.0**			
SSF	**Saint Saulge**	**8.05**	**305**	*e*P	**Pn**	**19 24 30.0 +4.0**			
BGF	**Bois d'Agland**	**8.25**	**300**	*e*Pn	**Pn**	**19 24 24.8 -3.9**			
BGF	**Bois d'Agland**	**8.25**	**300**	*e*P	**Pn**	**19 24 32.4 +3.7**			

*LDG **30** 19:23:53.6±0.0, 47°.58N×7°.60E, h7km, Md2.1/2, Ml2.2/9, Error ellipse: s-maj=0.7km s-min=0.6km az=178.0*
*STR **30** 19:23:53.8±0.3, 48°.N±2"×±°, h0km, MLv1.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=155.8, preliminary*
ZUR 30 19:23:53.4, 47°.59N×7°.60E, h7km, MLh1.4/22, 16C-12D, Error ellipse: s-maj=0.9km s-min=0.6km az=119.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBAF	**Basel-Friedhof**	**0.01**	**243**	⇓Pg	Pg	19 23 54.8	+0.2
SBAF				Sg	Sg	19 23 55.8	+0.3
OTTER	**Otterbach**	**0.01**	**160**	Pg	Pg	19 23 54.8	+0.1
OTTER				Sg	Sg	19 23 55.8	+0.4
SBAJ2	**Basel, St Joha**	**0.02**	**211**	⇑Pg	Pg	19 23 54.8	+0.2
SBAJ2				Sg	Sg	19 23 55.9	+0.3
SRHB	**Riehen-Baumlih**	**0.02**	**131**	Pg	Pg	19 23 54.9	+0.2
SBAV	**Basel, Vogelsa**	**0.02**	**166**	Pg	Pg	19 23 54.9	+0.2
SBAV				Sg	Sg	19 23 56.0	+0.4
SBAP	**Basel-PUK**	**0.03**	**240**	⇑Pg	Pg	19 23 54.9	+0.2
SBAP				Sg	Sg	19 23 55.9	+0.2
SBAT	**Basel-Tropenha**	**0.03**	**203**	⇑Pg	Pg	19 23 54.9	+0.2
SBAM2	**Basel, Mnster**	**0.03**	**189**	⇑Pg	Pg	19 23 55.0	+0.2
SBAM2				Sg	Sg	19 23 56.1	+0.4
SRHE	**Riehen, Erlens**	**0.03**	**91**	Pg	Pg	19 23 55.1	+0.4
SRHE				Sg	Sg	19 23 56.4	+0.6
SBAW	**Basel, Wirtsch**	**0.04**	**175**	⇑Pg	Pg	19 23 55.1	+0.3
SBAW				Sg	Sg	19 23 56.3	+0.4
MATTE	**Schuetzenmatte**	**0.04**	**210**	⇑Pg	Pg	19 23 54.9	0.0
SBIS2	**Binningen**	**0.05**	**193**	⇑Pg	Pg	19 23 55.2	+0.3
SMZW	**Muttenz-Waldha**	**0.05**	**140**	⇓Pg	Pg	19 23 55.1	+0.2
SRER	**Reinach, Raine**	**0.07**	**181**	⇑Pg	Pg	19 23 55.6	+0.4
SRER				Sg	Sg	19 23 57.3	+0.7
SKAF	**Kaiseraugst-Fr**	**0.10**	**120**	Sg	Sg	19 23 57.2	+0.2
SAUR	**Augst-Roemermu**	**0.10**	**122**	⇓Pg	Pg	19 23 55.9	+0.2
SFRA	**Frenkendorf**	**0.11**	**138**	⇓Pg	Pg	19 23 56.1	+0.3
SFRA				Sg	Sg	19 23 58.0	+0.5
ROTHE	**Rothenfluh**	**0.24**	**117**	⇓Pg	Pg	19 23 58.7	+0.5
BALST	**Balsthal**	**0.26**	**165**	⇓Pg	Pg	19 23 58.9	+0.4
BALST				Sg	Sg	19 24 02.6	+0.7
BALST	**Balsthal**	**0.26**	**165**	⇓Pg	Pg	19 23 58.9	+0.4
BOURR	**Bourrignon**	**0.32**	**233**	⇑Pg	Pg	19 24 00.1	+0.5
BOURR	**Bourrignon**	**0.32**	**233**	⇑Pg	Pg	19 24 00.1	+0.5
EMMET	**Emmethof**	**0.32**	**118**	⇓Pg	Pg	19 24 00.2	+0.6
SULZ	**Cheisacher**	**0.35**	**99**	⇓Pg	Pg	19 24 00.6	+0.4
SULZ	**Cheisacher**	**0.35**	**99**	⇓Pg	Pg	19 24 00.6	+0.3
SULZ	**Cheisacher**	**0.35**	**99**	Sg	Sg	19 24 05.5	+0.6
MTI02	**Mont Terri, (H**	**0.36**	**235**	⇑Pg	Pg	19 24 00.9	+0.4
FELD	**Feldberg im Sc**	**0.40**	**43**	⇑Pg	Pg	19 24 01.4	+0.2
FELD	**Feldberg im Sc**	**0.40**	**43**	⇑Pg	Pg	19 24 01.4	+0.2
FELD	**Feldberg im Sc**	**0.40**	**43**	Sg	Sg	19 24 06.9	+0.4
MOF	**Molkenrain**	**0.41**	**310**	⇓Pg	Pg	19 24 01.8	+0.4
MOF				Sg	Sg	19 24 07.6	+0.8
KIZ	**Kirchzarten**	**0.43**	**30**	⇑Pg	Pg	19 24 02.0	+0.3
KIZ	**Kirchzarten**	**0.43**	**30**	Sg	Sg	19 24 07.8	+0.4
KIZ	**Kirchzarten**	**0.43**	**30**	⇑Pg	Pg	19 24 01.9	+0.2
ACHB	**Acheberg**	**0.44**	**90**	Sg	Sg	19 24 08.4	+0.6
BERGE	**Lenzkirch (DE)**	**0.48**	**54**	⇑Pg	Pg	19 24 03.0	+0.2
VOGT	**Vogtsburg - To**	**0.50**	**5**	Pg	Pg	19 24 03.6	+0.5
VOGT	**Vogtsburg - To**	**0.50**	**5**	Sg	Sg	19 24 10.2	+0.7
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pn	Pg	19 24 04.0	-0.1
HINF	**Hinteralfeld**	**0.55**	**295**	*e*Pg	Pg	19 24 04.1	0.0
HINF				*e*Sg	Sg	19 24 11.6	+0.3
	3.9nm,0.2s						
SLE	**Schleitheim**	**0.63**	**73**	Pg	Pg	19 24 05.8	+0.3
SLE	**Schleitheim**	**0.63**	**73**	Sg	Sg	19 24 14.3	+0.6
RONF	**Ronchamp**	**0.66**	**281**	Pg	Pg	19 24 06.2	+0.1
RONF				Sg	Sg	19 24 14.8	+0.3
ECH	**Echery**	**0.70**	**335**	Pg	Pg	19 24 07.3	+0.5
ECH				Sg	Sg	19 24 16.3	+0.4
ZUR	**Degenried**	**0.70**	**108**	Pg	Pb	19 24 08.1	+0.1
CHMF	**Charmoille**	**0.73**	**243**	⇓Pg	Pg	19 24 07.3	0.0
CHMF				Sg	Sg	19 24 17.5	+0.7
WLS	**Welschbruch**	**0.84**	**349**	Pg	Pb	19 24 10.5	0.0
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pn	Pg	19 24 09.8	0.0
CDF	**Champ du Feu**	**0.85**	**345**	*e*Pg	Pb	19 24 10.3	-0.3
CDF				*e*Sg	Sg	19 24 21.0	+0.1
	11nm,0.3s						
HAU	**Haudompre**	**0.94**	**297**	*e*Pn	Pg	19 24 11.4	-0.1
**

comp=Z,70nm,18.8s,baz=52,slow=36
2.9nm,0.9s
HNR Honiara 10.29 86 LR LR 19 39 46.0
comp=Z,2μm,19.4s,baz=278,slow=36
WR0 Warramunga Arr 17.35 235 P **Pn 19 37 42.0 -0.1**
WB0 Warramunga Arr 17.37 236 Pn **Pn 19 37 41.6 -0.8**
WB0 IAmb IAmb 19 37 53.2
comp=Z,9.4nm,1.1s
WRAB Tennant Creek 17.49 235 Pn 19 37 44.3 +0.4
WRAB IAmb IAmb 19 38 03.6
comp=Z,9.7nm,1.0s
WB2 Warramunga Arr 17.49 235 Pn 19 37 44.1 +0.1
WB2 IAmb IAmb 19 38 04.2
comp=Z,6.7nm,0.8s
WRA Warramunga Arr 17.50 235 P **Pn 19 37 44.7 +0.6**
comp=Z,0.3nm,0.3s,baz=54,slow=12,SNR=32
WRA S Sn 19 40 46.0 -13
comp=Z,1.2nm,0.4s,baz=56,slow=24,SNR=11
WRA LR LR 19 44 23.3
comp=Z,127nm,21.2s,baz=16,slow=36
comp=Z,2.1nm,0.7s
WRA Warramunga Arr 17.50 235 Pn **Pn 19 37 42.5 -1.6**
MTN Manton Dam 18.21 260 Pn 19 37 52.7 -0.2
MTN IAmb IAmb 19 38 35.9
comp=Z,21nm,1.4s
AS31 Alice Springs 19.96 226 P **P 19 38 11.8 -0.5**
DZM Mont Dzumac 19.96 128 LR LR 19 44 21.4
comp=Z,41nm,19.6s,baz=5.0,slow=32
ASAR Alice Springs 19.96 226 P Pn 19 38 14.8 +0.8
comp=Z,1.8nm,0.7s,baz=60,slow=10,SNR=38
ASAR S S 19 41 48.4 -8.7
comp=Z,1.2nm,0.8s,baz=38,slow=26,SNR=5.2
ASAR LR LR 19 45 51.2
comp=Z,105nm,19.6s,baz=56,slow=36
comp=Z,1.8nm,0.7s
ASAR Alice Springs 19.96 226 P **P 19 38 13.6 +1.3**
ARMA Armidale 20.08 175 P **P 19 38 14.0 +0.4**
ARMA IAmb IAmb 19 38 30.7
comp=Z,16nm,0.9s
SIJI Sorong 20.46 296 P Pn 19 38 17.4 -2.5
comp=Z,4.9nm,0.7s,baz=100,slow=7.8,SNR=3.9
SIJI LR LR 19 46 47.2
comp=Z,66nm,21.5s,baz=20,slow=38
comp=Z,4.9nm,0.7s
KNRA Kununurra 20.93 253 P **P 19 38 22.9 +0.1**
STKA Stephens Creek 22.67 198 P **P 19 38 42.9 +1.6**
comp=Z,7.2nm,1.0s,baz=8.1,slow=10.0,SNR=6.1
STKA LR LR 19 47 16.1
comp=Z,58nm,18.5s,baz=25,slow=36
comp=Z,7.2nm,1.0s
STKA Stephens Creek 22.67 198 P **P 19 38 41.7 +0.4**
FITZ Fitzroy Crossi 24.41 249 P **P 19 38 59.4 +0.7**
comp=Z,5.4nm,0.7s,baz=88,slow=7.6,SNR=20
FITZ LR LR 19 48 45.6
comp=Z,95nm,19.3s,baz=59,slow=37
comp=Z,5.4nm,0.7s
FITZ Fitzroy Crossi 24.41 249 P **P 19 38 58.9 +0.2**
BATI Baumata 25.47 268 LR LR 19 51 46.9
comp=Z,97nm,18.3s,baz=202,slow=43
CMAR Chiang Mai Arr 57.54 300 P **P 19 43 31.1 +1.1**
comp=Z,0.8nm,0.8s,baz=139,slow=4.2,SNR=5.1
comp=Z,0.8nm,0.8s
VNDA Vanda 67.47 177 P **P 19 44 36.7 +1.3**
comp=Z,0.4nm,0.9s,baz=336,slow=8.3,SNR=2.7
comp=Z,0.4nm,0.9s
VNDA Vanda 67.47 177 P **P 19 44 37.4 +2.0**
VNDA IAmb IAmb 19 44 54.0
comp=Z,1.7nm,1.1s
SONM Songino Array 69.39 331 P **P 19 44 47.9 -0.1**
comp=Z,0.8nm,0.8s,baz=131,slow=4.4,SNR=3.6
comp=Z,0.8nm,0.8s
QSPA South Pole Qui 79.66 180 P **P 19 45 48.6 +1.1**
QSPA IAmb IAmb 19 45 50.6
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 82.42 320 P **P 19 46 02.2 -0.2**
comp=Z,0.8nm,0.7s,baz=103,slow=5.2,SNR=7.6
comp=Z,0.8nm,0.7s
MKAR Makanchi Array 82.42 320 P **P 19 46 02.4 +0.1**
ZALV Zalesovo Beam 84.00 327 P **P 19 46 08.7 -1.6**
comp=Z,0.4nm,0.4s,baz=92,slow=7.4,SNR=3.7
comp=Z,0.4nm,0.4s
ILAR Eielson Array 88.47 23 P **P 19 46 30.8 -1.3**
comp=Z,0.6nm,0.8s,baz=239,slow=3.2,SNR=5.1
comp=Z,0.6nm,0.8s
TORD Torodi Ar. Bea 148.41 278 PKPbc **PKiKP 19 53 27.4 -1.9**
comp=Z,13nm,0.6s,baz=90,slow=4.4,SNR=5.2
BDFB Brasilia 148.88 146 PKPbc **PKiKP 19 53 29.1 -1.3**
comp=Z,1.2nm,0.3s,baz=131,slow=8.0,SNR=3.4

---

*NIED **30** 19:35:26.2,26˚.04N×125˚.15E,h130km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.90; $M_{\theta\theta}$-2.50; $M_{\phi\phi}$6.40; $M_{r\theta}$1.92; $M_{\theta\phi}$ 1.15; $M_{\phi r}$0.38; Fault plane solution: M_o5.92000×10^{14} NP1: ϕ_s337.00000°,δ52.00000°,λ-137.00000°. NP2: ϕ_s217.00000°,δ58.00000°,λ-47.00000°.*

JMA 30 19:35:26.2±0.2,26˚N±1˚×12˚5E±˚,h130km,MV3.7/25,NW OFF MIYAKOJIMA ISLAND,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.11**	**175**	P	Pn	19 35 50.7	+0.5
JIKM				*e*S	Sn	19 36 08.5	+0.1
JIRB	**Irabujima**	**1.21**	**179**	P	Pn	19 35 51.2	+0.1
JIRB				*e*S	Sn	19 36 09.4	-0.6
JOGS	**Gusukube**	**1.29**	**170**	P	Pn	19 35 52.5	+0.5
JOGS				S	Sn	19 36 11.5	-0.2
JMJ2	**Miyako jima3**	**1.30**	**173**	P	Pn	19 35 52.6	+0.5
JTJ	**Tarama**	**1.45**	**196**	P	Pn	19 35 54.0	+0.3
JTJ				S	Sn	19 36 13.9	-0.8
JKE	**Kume jima 2**	**1.50**	**79**	P	Pn	19 35 54.7	+0.5
JKE				*e*S	Sn	19 36 16.0	+0.4
JIJ	**Ishigaki jima**	**1.90**	**209**	P	Pn	19 35 58.7	-0.3
JIJ				S	Sn	19 36 21.6	-2.4
JAGN	**Aguni-jima**	**1.96**	**73**	P	Pn	19 36 00.1	+0.5
JAGN				*e*S	Sn	19 36 24.7	-0.4
JKRS	**Kuro-shima**	**2.07**	**210**	P	Pn	19 36 01.0	-0.1
JKRS				*e*S	Sn	19 36 26.8	-0.9
IRIF	**Iriomote-Funau**	**2.13**	**217**	P	Pn	19 36 01.7	0.0
IRIF				S	Sn	19 36 28.3	-0.7
HATJ	**Hateruma jima**	**2.32**	**212**	S	Sn	19 36 32.0	-1.2
JJT3	**Tamagusuku3**	**2.37**	**87**	P	Pn	19 36 05.3	+0.6
JJT3				S	Sn	19 36 33.9	-0.5
YOJ	**Yonaguni jima**	**2.49**	**231**	P	Pn	19 36 07.5	+1.2
YOJ				S	Sn	19 36 38.0	+0.9
JYNG	**Yonagunijimaku**	**2.54**	**232**	P	Pn	19 36 07.7	+0.8
JYNG				*e*S	Sn	19 36 39.4	+1.1
JNTH	**Nagotoyohara**	**2.62**	**79**	P	Pn	19 36 08.0	0.0
JIH	**Iheya**	**2.71**	**68**	P	Pn	19 36 09.3	+0.3
JIH				S	Sn	19 36 41.4	-0.7
JOW	**Kunigami**	**2.91**	**74**	P	Pn	19 36 11.4	-0.3
JYRO	**Yoronjima**	**3.12**	**71**	P	Pn	19 36 13.8	-0.5
JOKE	**Okinoerabujima**	**3.33**	**66**	P	Pn	19 36 16.6	-0.6
JTK	**Tokunoshima**	**3.81**	**62**	P	Pn	19 36 22.7	-0.8
JAMN	**Amaminishikomi**	**4.21**	**58**	P	Pn	19 36 27.6	-1.1

---

*IDC **30** 19:37:44.1±1.8,34˚.38N×141˚.44E,h0km,mb3.6/4, mbtmp3.7/6,ML3.4/2,MS3.1/8,Error ellipse: s-maj=37.7km s-min=19.1km az=69.0*

*JMA **30** 19:37:44.3±0.6,34˚N±2˚×14˚2E±˚,h24km±2km,MV3.1/27, FAR SE OFF BOSO PEN*

ISC 30 19:37:45.4±2.1,34˚39N±0˚.04×141˚43E±0˚.09,h11km±12km, n27,σ0°76/19,mb3.5/4,MS3.2/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.46**	**305**	*e*P	**Pb**	**19 37 55.1**	**-0.1**
BSO1				*e*K		19 38 02.5	
BSO3	**Boso 3**	**0.86**	**298**	*e*P	**Pb**	**19 38 01.9**	**-0.4**
BSO3				*e*S	**Sb**	**19 38 14.0**	**+0.2**
BSO4	**Boso 4**	**1.08**	**304**	*e*P	**Pg**	**19 38 06.5**	**+0.3**
JKUC	**kamogawauchiur**	**1.27**	**307**	*e*P	**Pb**	**19 38 09.2**	**-0.1**
JKUC				*e*S	**Sg**	**19 38 26.5**	**+0.2**
CHOJ	**Chosi**	**1.39**	**340**	*e*P	**Pn**	**19 38 09.3**	**-1.4**
CHOJ				*e*S	**Sn**	**19 38 27.8**	**-1.2**
JMKN	**Mikurajimanish**	**1.61**	**252**	*e*P	**Pb**	**19 38 13.8**	**-1.3**
JMKN				*e*S	**Sb**	**19 38 35.2**	**-0.2**
JHJ	**Hachijo jima 2**	**1.87**	**228**	Pn	**Pb**	**19 38 17.9**	**-1.7**
	11nm,0.3s,baz=22,slow=19,SNR=7.0						
JHJ				Sn	**Sn**	**19 38 41.2**	**+0.2**
	30nm,0.3s,baz=50,slow=23,SNR=5.0						
MJAR	**Matsushiro Arr**	**3.39**	**310**	Pn	**Pn**	**19 38 38.7**	**+0.4**
	0.4nm,0.3s,baz=135,slow=9.6,SNR=26						
MJAR				Sn	**Sn**	**19 39 18.6**	**+0.1**
	0.3nm,0.3s,baz=271,slow=12,SNR=3.4						
	2.0nm,0.3s						
JCJ	**Chichijima 7.30 175**			Pn	**Pn**	**19 39 32.2**	**+0.2**
	4.4nm,0.3s,baz=345,slow=13,SNR=1.8						
	44nm,0.7s						
KSRS	**Korea Array 11.37 289**			LR	LR	19 45 33.7	
	comp=Z,118nm,18.0s,baz=95,slow=41						
KLR	**Kul'dur 16.47 337**			LR	LR	19 47 46.2	
	comp=Z,35nm,19.3s,baz=150,slow=36						
MA2	**Magadan 25.93 11**			LR	LR	19 55 11.7	
	comp=Z,30nm,18.2s,baz=236,slow=40						
H11N2	**WAKE ISLAND Hy 26.87 116**			T	T	20 11 37.6	
	baz=309,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy 26.88 116**			T	T	20 11 33.8	
	baz=309,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy 26.89 116**			T	T	20 11 32.2	
	baz=309,slow=75,SNR=9.3						
H11S3	**WAKE ISLAND Hy 27.50 119**			T	T	20 12 28.5	
	baz=311,slow=74						
H11S1	**WAKE ISLAND Hy 27.50 119**			T	T	20 12 28.8	
	baz=311,slow=74						
H11S2	**WAKE ISLAND Hy 27.51 119**			T	T	20 12 30.2	
	baz=311						
YAK	**Yakutsk 28.65 348**			LR	LR	19 55 40.6	
	comp=Z,59nm,19.1s,baz=92,slow=38						
SONM	**Songino Array 29.34 308**			P	**P**	**19 43 48.6**	**+0.3**
	0.5nm,0.6s,baz=106,slow=9.2,SNR=3.0						
	0.5nm,0.6s						
DAV	**Davao City (W) 30.88 212**			LR	LR	19 55 56.1	
	comp=Z,4.8nm,21.0s,baz=40,slow=35						
ZALV	**Zalesovo Beam 43.74 314**			P	**P**	**19 45 50.8**	**+0.3**
	0.3nm,0.3s,baz=102,slow=6.6,SNR=1.8						
	0.3nm,0.3s						
AAK	**Ala-Archa 51.79 300**			LR	LR	20 09 27.9	
	comp=Z,25nm,18.8s,baz=92,slow=37						
WRA	**Warramunga Arr 54.45 188**			P	**P**	**19 47 12.8**	**-0.1**
	0.4nm,0.5s,baz=2.7,slow=7.7,SNR=7.1						
	0.4nm,0.5s						
ASAR	**Alice Springs 58.18 188**			P	**P**	**19 47 39.6**	**+0.2**
	0.4nm,0.9s,baz=3.3,slow=6.5,SNR=3.0						
	0.4nm,0.9s						
NOA	**NORSAR Array B 76.62 338**			LR	LR	20 26 18.7	
	comp=Z,17nm,21.8s,baz=10.0,slow=38						
MLR	**Muntele Rosu 81.41 320**			LR	LR	20 27 38.8	
	comp=Z,19nm,19.7s,baz=104,slow=37						

---

*STR **30** 19:38:35.9±3.0,43˚N±17˚×1˚4E±2˚,2,h10km,MLv3.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=124.9, preliminary*

*PRU **30** 19:38:36.0±0.0,42˚.83N×12˚.94E,h0km*

*ROM **30** 19:38:37.6±0.0,42˚.895N±0˚.002×13˚.247E±0˚.003, h9km,ML3.6/100,Mw3.4,Error ellipse: s-maj=0.2km s-min=0.1km az=66.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.35; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$1.43; $M_{r\theta}$0.43; $M_{\theta\phi}$-0.71; $M_{\phi r}$0.72; Fault plane solution: M_o1.76885×10^{14} NP1:ϕ_s315.00000°,δ41.00000°, λ-129.00000°. NP2:ϕ_s182.00000°,δ59.00000°, λ-61.00000°.*

*PDG **30** 19:38:38.3±0.6,42˚.88N×13˚.23E,h10km,ML3.8/13 Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

*LDG **30** 19:38:39.0±0.1,42˚.77N×13˚.24E,h9km,Ml3.4/13,Error ellipse: s-maj=4.3km s-min=2.5km az=43.0*

*BGR **30** 19:38:39.9±0.7,42˚.71N×13˚.48E,h10km,ML3.8/5,Error ellipse: s-maj=12.2km s-min=11.1km az=159.0*

*IDC **30** 19:38:40.4±2.0,43˚.12N×13˚.77E,h0km,mb3.7/1, mbtmp3.7/4,ML3.1/3,MS3.1/3,Error ellipse: s-maj=45.3km s-min=20.0km az=89.0*

ISC 30 19:38:38.2±0.7,42˚88N±0˚.01×13˚21E±0˚.02,h9km±4km, n301,σ1°9/70/367,46C-16D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MC2	**Monte Cornacci**	**0.04**	**341**	⇓P	**Pg**	**19 38 39.8**	**-0.5**
MC2				S	**Sg**	**19 38 41.0**	**-0.7**
T1242	**Castelluccio d**	**0.05**	**183**	⇑P	**Pg**	**19 38 40.4**	**+0.1**
T1242				S	**Sg**	**19 38 42.0**	**+0.3**
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
T1242				AML	AML		
NRCA	**Norcia**	**0.08**	**238**	⇑P	**Pg**	**19 38 41.0**	**+0.4**
NRCA				S	**Sg**	**19 38 43.2**	**+1.0**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
MMO1	**Montemonaco**	**0.09**	**75**	⇑P	**Pg**	**19 38 39.8**	**-0.8**
MMO1				S	**Sg**	**19 38 41.1**	**-1.3**
T1244	**Arquata del Tr**	**0.14**	**151**	⇓P	**Pg**	**19 38 41.6**	**+0.3**
T1244				S	**Sg**	**19 38 44.4**	**+0.9**
T1216	**Preci, Frazion**	**0.14**	**276**	⇑P	**Pg**	**19 38 41.8**	**+0.5**
T1216				S	**Sg**	**19 38 45.1**	**+1.6**
T1216				AML	AML		
	comp=E,76800μm,0.3s						
T1216				AML	AML		
	comp=N,56100μm,1.1s						
T1216				AML	AML		
	comp=N,56000μm,1.1s						
T1216				AML	AML		
	comp=N,56050μm,1.1s						
T1216				AML	AML		
	comp=E,76800μm,0.3s						
FEMA	**Monte Fema**	**0.14**	**307**	⇑P	**Pg**	**19 38 41.7**	**+0.2**
FEMA				S	**Sg**	**19 38 44.7**	**+0.9**
FEMA				AML	AML		
	comp=N,97050μm,0.6s						
FEMA				AML	AML		
	comp=N,97200μm,0.6s						
FEMA				AML	AML		
	comp=E,72400μm,1.4s						
AM05	**Amandola Campo**	**0.15**	**46**	⇑P	**Pg**	**19 38 40.8**	**-0.7**
AM05				S	**Sg**	**19 38 42.8**	**-0.9**
AM05				AML	AML		
	comp=N,17000μm,0.3s						
AM05				AML	AML		
	comp=N,68250μm,0.3s						
AM05				AML	AML		
	comp=E,28800μm,0.8s						
AM05				AML	AML		
	comp=N,68200μm,0.3s						
AM05				AML	AML		
	comp=N,16950μm,0.3s						
AM05				AML	AML		
AM05				AML	AML		
	comp=E,28750μm,0.8s						
T1241	**Roccafluvione,**	**0.17**	**97**	⇑P	**Pg**	**19 38 41.3**	**-0.5**
T1241				S	**Sg**	**19 38 44.0**	**-0.2**
T1241				AML	AML		
	comp=E,85950μm,0.7s						
T1241				AML	AML		
	comp=N,78100μm,0.3s						
T1241				AML	AML		
	comp=E,85900μm,0.7s						
T1241				AML	AML		
	comp=N,78150μm,0.3s						
T1241				AML	AML		
	comp=E,86450μm,0.7s						
T1241				AML	AML		
	comp=N,73550μm,0.3s						
T1202	**Accumoli, Fraz**	**0.17**	**176**	⇑P	**Pg**	**19 38 42.5**	**+0.6**
T1202				S	**Sg**	**19 38 46.1**	**+1.6**
T1202				AML	AML		
	comp=E,85300μm,0.7s						
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
T1202				AML	AML		
	comp=E,85200μm,0.7s						
FDMO	**Fiordimonte**	**0.18**	**331**	⇑P	**Pg**	**19 38 41.9**	**-0.1**
FDMO				S	**Sg**	**19 38 45.0**	**+0.3**
FDMO				AML	AML		
	comp=N,40200μm,0.6s						
FDMO				AML	AML		
	comp=E,49750μm,0.5s						
GUMA	**Gualdo di Mace**	**0.21**	**27**	⇑P	**Pg**	**19 38 42.1**	**-0.4**
GUMA				S	**Sg**	**19 38 45.4**	**-0.1**
GUMA				AML	AML		
	comp=E,74700μm,0.6s						
GUMA				AML	AML		
	comp=N,89800μm,0.4s						
GUMA				AML	AML		
	comp=N,89850μm,0.4s						
GUMA				AML	AML		
	comp=N,82650μm,0.4s						
GUMA				AML	AML		
	comp=E,66150μm,0.5s						
CSP1	**Cessapalombo**	**0.21**	**359**	⇓P	**Pg**	**19 38 42.2**	**-0.5**
CSP1				AML	AML		
	comp=E,18900μm,0.4s						
CSP1				AML	AML		
	comp=N,38400μm,0.6s						
CSP1				AML	AML		
	comp=E,18850μm,0.4s						
T1204	**Amatrice, Fraz**	**0.22**	**158**	⇓P	**Pg**	**19 38 43.0**	**+0.4**
T1204				S	**Sg**	**19 38 47.0**	**+1.3**
T1204				AML	AML		
T1204				AML	AML		
T1204				AML	AML		
	comp=N,62800μm,0.2s						
T1204				AML	AML		
T1243	**Rocca Santa Ma**	**0.25**	**135**	⇓P	**Pg**	**19 38 43.2**	**-0.1**
T1243				S	**Sg**	**19 38 47.3**	**+0.5**
CESI	**CESI - Serrava**	**0.26**	**300**	⇑P	**Pg**	**19 38 43.7**	**+0.3**
CESI				S	**Sb**	**19 38 48.5**	**-1.1**
CESI				AML	AML		
	comp=E,24200μm,1.6s						
CESI				AML	AML		
	comp=N,32100μm,0.5s						
T1215	**Vallo di Nera,**	**0.26**	**254**	⇑P	**Pg**	**19 38 44.1**	**+0.7**
T1215				S	**Sb**	**19 38 49.1**	**-0.6**
T1215				AML	AML		
	comp=E,11700μm,0.4s						
T1215				AML	AML		
	comp=N,16150μm,1.0s						
T1215				AML	AML		
	comp=E,12100μm,0.4s						
T1215				AML	AML		
	comp=N,16300μm,1.0s						
T1215				AML	AML		
	comp=N,16350μm,1.0s						
T1215				AML	AML		
	comp=E,12080μm,0.3s						
T1215				AML	AML		
	comp=E,11750μm,0.3s						
T1215				AML	AML		
	comp=N,16100μm,1.0s						
T1217	**Poggiodomo (PG**	**0.26**	**231**	⇑P	**Pg**	**19 38 44.2**	**+0.7**
T1217				S	**Sb**	**19 38 49.1**	**-0.6**
T1217				AML	AML		
	comp=E,20200μm,0.4s						
T1217				AML	AML		
	comp=N,31350μm,0.3s						
T1217				AML	AML		
	comp=E,19300μm,0.3s						
T1217				AML	AML		
	comp=N,31200μm,0.3s						
T1217				AML	AML		
	comp=E,19350μm,0.3s						
T1217				AML	AML		
	comp=N,31200μm,0.3s						
T1217				AML	AML		
	comp=E,20150μm,0.3s						
T1217				AML	AML		
	comp=N,31300μm,0.3s						
LNSS	**Leonessa**	**0.30**	**204**	⇑P	**Pg**	**19 38 44.8**	**+0.6**
LNSS				S	**Sb**	**19 38 50.4**	**-0.4**
LNSS				AML	AML		
	comp=E,82900μm,0.3s						
LNSS				AML	AML		
	comp=N,54000μm,0.3s						
MDAR	**Monte D'Aria**	**0.32**	**351**	P	**Pg**	**19 38 44.2**	**-0.4**
MDAR				AML	AML		
	comp=E,12400μm,0.6s						
MDAR				AML	AML		
	comp=N,12700μm,0.6s						
MDAR				AML	AML		
	comp=N,12750μm,0.6s						
MDAR				AML	AML		
	comp=E,12450μm,0.6s						
MNTP	**Montappone**	**0.32**	**36**	P	**Pg**	**19 38 44.6**	**0.0**
SEF1	**Sefro**	**0.33**	**325**	P	**Pg**	**19 38 44.6**	**-0.1**
SEF1				S	**Sg**	**19 38 50.4**	**+1.2**
SEF1				AML	AML		
	comp=E,23950μm,0.3s						
SEF1				AML	AML		
	comp=N,17000μm,0.7s						
SEF1				AML	AML		
	comp=E,23950μm,0.3s						
SEF1				AML	AML		
	comp=N,16950μm,0.7s						
PIO1	**Pioraco**	**0.34**	**332**	P	**Pg**	**19 38 44.8**	**-0.2**
PIO1				AML	AML		
	comp=E,13200μm,0.4s						
PIO1				AML	AML		
	comp=N,21050μm,0.5s						
PIO1				AML	AML		
	comp=E,13150μm,0.4s						
PIO1				AML	AML		
	comp=N,21050μm,0.5s						
SSM1	**San Severino M**	**0.35**	**356**	P	**Pg**	**19 38 44.8**	**-0.4**
OFFI	**Offida**	**0.36**	**80**	P	**Pg**	**19 38 45.4**	**+0.1**
OFFI				AML	AML		
	comp=E,34650μm,0.6s						
OFFI				AML	AML		
	comp=N,31000μm,0.7s						
T1246	**Crognaleto (TE**	**0.36**	**144**	⇓P	**Pg**	**19 38 45.2**	**-0.2**
T1246				S	**Sg**	**19 38 50.9**	**+0.8**
RM33	**Pellescritta (**	**0.37**	**179**	⇓P	**Pg**	**19 38 45.8**	**+0.4**
RM33				AML	AML		
	comp=E,18600μm,0.2s						
RM33				AML	AML		
	comp=N,17950μm,0.3s						
RM33				AML	AML		
	comp=E,18350μm,0.2s						
RM33				AML	AML		
	comp=E,18650μm,0.2s						
RM33				AML	AML		
	comp=E,18300μm,0.2s						
RM33				AML	AML		
	comp=N,17700μm,0.3s						
RM33				AML	AML		
	comp=N,17900μm,0.3s						
FIU1	**Fiuminata**	**0.37**	**327**	P	**Pg**	**19 38 45.4**	**-0.2**
FIU1				AML	AML		
	comp=N,5810μm,1.4s						
FIU1				AML	AML		
	comp=E,5915μm,0.5s						
GAG1	**Gagliole**	**0.38**	**344**	AML	AML		
	comp=N,19950μm,0.5s						
GAG1				AML	AML		
	comp=E,26250μm,1.0s						
GAG1				AML	AML		
	comp=E,26300μm,1.0s						
TERO	**Teramo**	**0.39**	**131**	P	**Pg**	**19 38 45.5**	**-0.3**
TERO				S	**Sg**	**19 38 51.5**	**+0.6**
TERO				AML	AML		
	comp=E,26400μm,0.6s						
TERO				AML	AML		
	comp=N,44000μm,0.4s						
TERO				AML	AML		
	comp=N,44050μm,0.4s						
TERO				AML	AML		
	comp=N,46450μm,0.4s						
TERO				AML	AML		
	comp=E,27750μm,0.6s						
MTL1	**Matelica**	**0.41**	**339**	P	**Pg**	**19 38 46.1**	**-0.1**
MTL1				S	**Sg**	**19 38 52.6**	**+1.0**
SNTG	**Esanatoglia**	**0.43**	**333**	⇑P	**Pg**	**19 38 46.1**	**-0.4**
SNTG				S	**Sg**	**19 38 53.1**	**+0.9**
SNTG				AML	AML		
	comp=E,7230μm,0.7s						
SNTG				AML	AML		
	comp=N,7825μm,0.7s						
SNTG				AML	AML		
	comp=E,6485μm,0.7s						
SNTG				AML	AML		
	comp=E,7235μm,0.7s						
SNTG				AML	AML		
	comp=N,8625μm,0.7s						
SNTG				AML	AML		
	comp=N,7820μm,0.7s						

T1247 Pizzolo (AQ) 0.44 171 ⇓P Pg 19 38 47.0 +0.2
T1247 S Sb 19 38 54.2 -0.6
T1247 AML AML
comp=N,27850µm,0.2s
T1247 AML AML
comp=E,19200µm,0.3s
TRE1 Treia 0.44 10 P Pg 19 38 46.8 0.0
EL6 Elcito 0.46 350 P Pg 19 38 46.8 -0.4
EL6 AML AML
comp=E,10815µm,0.4s
EL6 AML AML
comp=N,10650µm,1.1s
EL6 AML AML
comp=E,10800µm,0.4s
EL6 AML AML
comp=N,10645µm,1.1s
CING Cingoli 0.50 359 P Pg 19 38 47.3 -0.6
CING AML AML
comp=N,3060µm,1.5s
CING AML AML
comp=E,4205µm,1.6s
GIGS Gran Sasso 0.50 148 P Pg 19 38 47.6 -0.3
GIGS S Sb 19 38 55.6 -1.1
GIGS AML AML
comp=N,9630µm,0.2s
GIGS AML AML
comp=E,8060µm,0.4s
CADA Capodarco di F 0.52 52 P Pb 19 38 48.9 -0.5
ATCC AVT- Casa Cast 0.52 307 ⇑P Pg 19 38 48.2 0.0
ATCC S Sb 19 38 56.4 -0.7
TRTR Tortoreto Alta 0.52 97 P Pg 19 38 48.9 +0.5
TRTR AML AML
comp=N,47700µm,0.4s
TRTR AML AML
comp=E,64450µm,0.4s
CESX Cesi 0.53 240 ⇑P Pg 19 38 48.8 +0.2
CESX AML AML
comp=E,5490µm,0.7s
CESX AML AML
comp=N,7695µm,0.5s
AQU L'Aquila 0.54 165 ⇓P Pg 19 38 48.5 -0.2
AQU AML AML
comp=E,7300µm,1.3s
AQU AML AML
comp=E,7205µm,1.3s
AQU AML AML
comp=E,7295µm,1.3s
AQU AML AML
comp=N,8410µm,1.6s
AQU AML AML
comp=N,8560µm,1.6s
PP3 Marolino 0.58 30 P Pg 19 38 49.1 -0.3
PP3 AML AML
comp=E,9425µm,0.5s
PP3 AML AML
comp=N,8295µm,0.9s
PP3 AML AML
comp=E,9440µm,0.5s
PP3 AML AML
comp=N,7960µm,0.9s
PP3 AML AML
comp=E,9225µm,1.3s
FIAM Fiamignano 0.61 186 ⇓P Pg 19 38 50.0 -0.1
FIAM S Sb 19 38 59.5 -0.3
FIAM AML AML
comp=E,5770µm,0.8s
FIAM AML AML
comp=N,4290µm,0.7s
MURB Monte Urbino 0.63 308 ⇑P Pg 19 38 50.3 -0.1
MURB AML AML
comp=E,9920µm,0.9s
MURB AML AML
comp=N,11000µm,0.3s
MURB AML AML
comp=E,10780µm,0.9s
MURB AML AML
comp=N,11700µm,1.2s
MURB AML AML
comp=E,9880µm,0.9s
MURB AML AML
comp=N,11050µm,0.3s
SSFR Montelago di S 0.64 331 P Pg 19 38 50.1 -0.5
SSFR AML AML
comp=N,5425µm,0.4s
SSFR AML AML
comp=N,5295µm,0.6s
SSFR AML AML
comp=E,6875µm,1.1s
SSFR AML AML
comp=E,7070µm,0.2s
SSFR AML AML
comp=N,5430µm,0.4s
ARVD Arcevia 0.65 343 ⇑P Pg 19 38 50.3 -0.5
ARVD AML AML
comp=E,2640µm,1.1s
ARVD AML AML
comp=N,2420µm,0.7s
FAGN Fagnano 0.67 155 P Pg 19 38 50.7 -0.4
FAGN AML AML
comp=E,23300µm,0.3s
FAGN AML AML
comp=N,20750µm,1.3s
VCEL Villa Celiera 0.67 136 ⇓P Pg 19 38 50.8 -0.4
VCEL AML AML
comp=E,12850µm,0.4s
VCEL AML AML
comp=N,11600µm,1.0s
ATFO Monte Foce - G 0.68 317 ⇑P Pg 19 38 50.9 -0.4
ATFO AML AML
comp=E,4740µm,0.7s
ATFO AML AML
comp=N,4180µm,1.6s
ATTE AVT- Monte Tez 0.70 297 P Pg 19 38 51.5 -0.2
ATTE AML AML
comp=E,2855µm,0.5s
ATTE AML AML
comp=N,2920µm,0.6s
FRON Frontone 0.73 331 P Pg 19 38 51.6 -0.7
FRON AML AML
comp=E,3050µm,0.4s
FRON AML AML
comp=N,4200µm,0.5s
AOI Ancona 0.73 23 P Pg 19 38 51.6 -0.8
AOI AML AML
comp=N,2130µm,1.1s
AOI AML AML
comp=E,1950µm,0.9s
COR1 Corinaldo 0.77 349 P Pg 19 38 52.8 -0.2
COR1 AML AML
comp=E,3740µm,0.6s
COR1 AML AML
comp=N,5235µm,0.4s
COR1 AML AML
comp=E,803µm,1.3s
COR1 AML AML
comp=N,5225µm,1.6s
ATVO AVT- Monte Val 0.77 311 ⇑P Pg 19 38 52.6 -0.6
ATVO AML AML
comp=N,2830µm,1.3s
ATVO AML AML
comp=E,2355µm,0.6s
T0110 Collepietro 0.78 147 ⇓P Pg 19 38 52.3 -0.8
T0110 AML AML
comp=N,10940µm,0.4s
T0110 AML AML
comp=E,11650µm,0.5s
MGAB Montegabbione 0.81 273 P Pg 19 38 53.7 0.0
MGAB AML AML
comp=N,4300µm,1.1s
MGAB AML AML
comp=E,3170µm,1.4s
MGAB AML AML
comp=N,4370µm,1.1s
MGAB AML AML
comp=N,4305µm,1.1s
MGAB AML AML
comp=E,3065µm,0.4s
MPAG Monte Paganucc 0.82 337 ⇑P Pg 19 38 53.4 -0.6
MPAG AML AML
comp=E,2370µm,0.9s
MPAG AML AML
comp=N,2355µm,0.9s
SRES S.Oreste - Sor 0.82 219 ⇑P Pg 19 38 53.7 -0.2
SRES AML AML
comp=N,2580µm,1.5s
SRES AML AML
comp=E,2210µm,0.7s

ATPI Pietralunga - 0.82 315 ⇑P Pg 19 38 53.5 -0.6
ATPI AML AML
comp=N,2210µm,0.5s
ATPI AML AML
comp=E,3435µm,0.7s
PIEI Pieia 0.82 324 P Pg 19 38 53.3 -0.8
PIEI AML AML
comp=E,1940µm,0.9s
PIEI AML AML
comp=N,1550µm,0.6s
ATMI Monte Miggiano 0.83 304 P Pg 19 38 53.9 -0.2
ATMI AML AML
comp=E,5275µm,0.6s
ATMI AML AML
comp=N,5390µm,0.8s
SENI Senigallia 0.83 1 P Pg 19 38 53.8 -0.4
SENI AML AML
comp=N,2110µm,0.7s
SENI AML AML
comp=E,3440µm,0.9s
NARO Abbazia di Nar 0.86 328 P Pg 19 38 53.9 -0.9
NARO AML AML
comp=N,1465µm,1.2s
NARO AML AML
comp=E,1940µm,0.7s
PTQR Pietraquaria 0.87 170 P Pg 19 38 53.9 -1.0
PTQR AML AML
comp=E,2060µm,0.4s
PTQR AML AML
comp=N,1460µm,1.6s
FSSB Fossombrone 0.87 339 P Pg 19 38 54.3 -0.7
FSSB AML AML
comp=N,6710µm,0.4s
FSSB AML AML
comp=E,5755µm,0.3s
MTCE Montecelio 0.92 202 P Pg 19 38 55.1 -0.8
CERT Cerreto 0.94 190 P Pg 19 38 55.9 -0.4
CERT AML AML
comp=E,5855µm,0.5s
CERT AML AML
comp=N,4365µm,0.4s
BADI Badiali 0.95 312 P Pg 19 38 55.9 -0.5
SACS San Casciano d 0.95 269 P Pg 19 38 56.5 -0.1
SACS AML AML
comp=E,1680µm,1.1s
SACS AML AML
comp=E,1815µm,0.5s
SACS AML AML
comp=N,1755µm,0.8s
SACS AML AML
comp=N,1785µm,1.1s
PE3 Peglio 0.97 328 P Pg 19 38 56.3 -0.6
INTR Introdacqua 1.01 149 P Pg 19 38 56.0 -1.6
INTR AML AML
comp=E,3µm,0.7s
INTR AML AML
comp=E,2705µm,0.7s
INTR AML AML
comp=N,4µm,0.7s
INTR AML AML
comp=N,6000µm,0.7s
CAFI Castiglion Fio 1.02 297 P Pg 19 38 57.1 -0.6
CAFI AML AML
comp=N,1535µm,0.8s
CAFI AML AML
comp=E,1675µm,0.7s
RCAV Rocca di Cave 1.05 191 P Pg 19 38 58.0 -0.3
RCAV AML AML
comp=N,3495µm,1.3s
RCAV AML AML
comp=E,3325µm,0.3s
VVLD Villa Vallelon 1.05 163 P Pg 19 38 56.9 -1.4
VVLD AML AML
comp=N,3030µm,1.4s
VVLD AML AML
comp=E,2260µm,0.7s
SSP9 Sansepolcro 1.05 312 P Pg 19 38 57.3 -1.1
SSP9 AML AML
comp=N,2455µm,0.9s
SSP9 AML AML
comp=E,1754µm,1.5s
CAFR Castel Frentan 1.06 127 P Pg 19 38 57.6 -1.0
CAFR AML AML
comp=N,2810µm,0.6s
CAFR AML AML
comp=E,18µm,0.6s
LATE Laterza 1.07 256 P Pg 19 38 58.6 -0.1
GUAR Guarcino 1.08 176 P Pg 19 38 58.1 -0.9
GUAR AML AML
comp=N,3105µm,0.9s
GUAR AML AML
comp=E,3150µm,0.5s
PESA Pesaro 1.10 346 P Pg 19 38 58.1 -1.2
PESA AML AML
comp=E,3785µm,1.1s
PESA AML AML
comp=N,3700µm,0.6s
LPEL Lama dei Pelig 1.10 139 P Pg 19 38 57.6 -1.7
LPEL AML AML
comp=E,3150µm,0.4s
LPEL AML AML
comp=N,2140µm,0.3s
CPGN Carpegna, Ital 1.13 325 P Pg 19 38 59.1 -0.8
CPGN AML AML
comp=E,3895µm,0.7s
CPGN AML AML
comp=E,2950µm,1.1s
CPGN AML AML
comp=N,3815µm,0.6s
CPGN AML AML
comp=N,2622µm,0.9s
MCIV Monte Civitell 1.13 266 P Pg 19 38 58.7 -1.2
MCIV AML AML
comp=N,640µm,1.0s
MCIV AML AML
comp=E,810µm,0.6s
SF04 Casetta 1.14 268 P Pg 19 38 59.0 -1.0
SF04 AML AML
comp=E,716µm,0.7s
SF04 AML AML
comp=N,714µm,0.8s
RDP Rocca di Papa 1.18 198 P Pb 19 38 59.5 -1.2
RDP AML AML
comp=E,7040µm,0.6s
RDP AML AML
comp=N,5920µm,0.5s
CRE Caprese Michel 1.18 309 P Pb 19 38 59.8 -1.0
CRE AML AML
comp=E,1080µm,1.4s
CRE AML AML
comp=N,1345µm,0.6s
TOLF Tolfa 1.21 228 P Pb 19 39 00.4 -0.8
TOLF AML AML
comp=N,1720µm,0.7s
TOLF AML AML
comp=E,1740µm,0.6s
POFI Posta Fibreno 1.22 162 P Pb 19 38 60.0 -1.4
POFI AML AML
comp=N,1425µm,1.0s
POFI AML AML
comp=E,1600µm,0.9s
POFI AML AML
comp=E,1635µm,1.0s
POFI AML AML
comp=N,1405µm,1.0s
LRP Arpino 1.26 167 P Pn 19 39 01.1 -0.8
LRP AML AML
comp=N,1470µm,1.2s
LRP AML AML
comp=E,1088µm,0.4s
RNI2 Rionero Sannit 1.37 149 P Pn 19 39 02.7 -0.8
RNI2 AML AML
comp=E,2420µm,0.6s
RNI2 AML AML
comp=N,1885µm,1.6s
RNI2 AML AML
comp=N,1930µm,1.6s
RNI2 AML AML
comp=E,2470µm,0.6s
ASQU Asqua 1.39 312 P Pn 19 39 03.3 -0.4
ASQU AML AML
comp=E,694µm,0.6s
ASQU AML AML
comp=N,1065µm,0.8s
CERA Filignano 1.41 155 P Pn 19 39 03.0 -1.1
CERA AML AML
comp=E,1680µm,1.3s

CERA AML AML
comp=N,2100µm,0.6s
CERA AML AML
comp=E,1735µm,0.6s
CERA AML AML
comp=N,2175µm,0.6s
TRIV Trivento 1.49 138 P Pg 19 39 06.5 -0.3
TRIV AML AML
comp=E,1870µm,1.6s
TRIV AML AML
comp=E,1690µm,0.6s
TRIV AML AML
comp=N,1770µm,0.7s
TRIV AML AML
comp=N,1660µm,1.2s
CSNT Castellina Chi 1.52 294 P Pn 19 39 05.2 -0.4
CSNT AML AML
comp=N,376µm,0.7s
CSNT AML AML
comp=E,509µm,0.7s
RUFI Rufina 1.57 308 P Pn 19 39 05.8 -0.4
RUFI AML AML
comp=E,705µm,1.5s
RUFI AML AML
comp=N,745µm,1.1s
VAGA Valle Agricola 1.65 152 P Pn 19 39 07.0 -0.3
VAGA AML AML
comp=N,782µm,0.7s
VAGA AML AML
comp=N,805µm,0.7s
VAGA AML AML
comp=E,690µm,0.5s
VAGA AML AML
comp=E,727µm,0.5s
BSSO Busso 1.68 142 P Pn 19 39 08.5 +0.7
TRIF Trifonti 1.71 279 P Pn 19 39 08.1 0.0
TRIF AML AML
comp=E,468µm,0.7s
TRIF AML AML
comp=N,327µm,0.8s
CASP Castiglione de 1.73 268 P Pn 19 39 08.2 -0.2
CASP AML AML
comp=N,142µm,0.9s
CASP AML AML
comp=E,131µm,0.8s
DUGI Dugi Otok 1.75 50 *e*Pn Pn 19 39 08.6 -0.1
CIGN Sant'Elia a Pi 1.75 134 P Pn 19 39 09.2 +0.5
CIGN AML AML
comp=N,678µm,1.3s
CIGN AML AML
comp=E,694µm,0.5s
MODR Mondragone 1.80 164 P Pn 19 39 09.9 +0.5
MODR AML AML
comp=N,324µm,1.0s
MODR AML AML
comp=E,292µm,1.5s
PTRJ Pietraroja 1.80 147 AML AML
comp=N,632µm,0.5s
PTRJ AML AML
comp=E,760µm,0.7s
MELA Melanico ??? S 1.84 129 P Pn 19 39 09.8 -0.1
MELA AML AML
comp=E,1965µm,1.0s
MELA AML AML
comp=N,1930µm,0.6s
MELA AML AML
comp=E,2070µm,1.0s
MELA AML AML
comp=N,2060µm,0.7s
TREM Isole Tremiti 1.86 113 AML AML
comp=E,1495µm,0.6s
TREM AML AML
comp=N,2280µm,0.7s
ZIRJ Zirje 1.94 66 *e*Pn Pn 19 39 10.8 -0.5
VIRC Vir 1.95 43 *e*Pn Pn 19 39 10.9 -0.5
MTCR Monte La Croce 1.98 306 P Pn 19 39 12.0 +0.1
APRC Apricena 2.06 122 P Pn 19 39 13.0 -0.1
APRC AML AML
comp=N,888µm,1.4s
APRC AML AML
comp=E,884µm,0.6s
BRJN Brijuni 2.07 11 *e*Pn Pn 19 39 13.1 +0.1
NVLJ Novalja 2.07 35 *e*Pn Pn 19 39 12.3 -0.8
MORI Morici 2.07 61 *e*Pn Pn 19 39 12.8 -0.3
SGRT San Giovanni R 2.19 120 P Pn 19 39 14.3 -0.5
SGRT AML AML
comp=N,1025µm,0.7s
SGRT AML AML
comp=E,944µm,1.5s
RABC Rab 2.19 31 *e*Pn Pn 19 39 14.5 -0.3
SMRN Sveta Marina 2.27 17 *e*Pn Pn 19 39 15.2 -0.6
HVAR Hvar 2.40 82 *e*Pn Pn 19 39 17.1 -0.5
HVAR Hvar 2.40 82 P Pn 19 39 16.7 -0.9
A253A Karojba, Istri 2.46 10 *e*Pn Pn 19 39 17.6 -0.8
SNAL S. Angelo Dei 2.46 142 P Pn 19 39 20.0 +1.5
UDBI Udbina 2.48 47 *e*Pn Pn 19 39 19.4 +0.6
KIJV Kijevo 2.59 63 *e*Pn Pn 19 39 20.3 +0.1
CAPA Cerignola FG 2.59 131 P Pn 19 39 19.8 -0.5
CAPA AML AML
comp=E,908µm,0.9s
CAPA AML AML
comp=N,968µm,1.1s
VULT Monte Vulture 2.63 136 AML AML
comp=N,730µm,0.7s
VULT AML AML
comp=E,474µm,0.7s
PLIT Plitvice 2.66 40 *e*Pn Pn 19 39 21.6 +0.5
LSTV Lastovo 2.71 91 *e*Pn Pn 19 39 22.0 +0.1
KNDS Knezji Dol 2.78 17 *i* Pn Pn 19 39 22.8 -0.2
PALZ Palazzo San Ge 2.82 132 P Pn 19 39 23.0 -0.4
PALZ AML AML
comp=E,809µm,0.9s
PALZ AML AML
comp=N,553µm,0.9s
MAKA Makarska 2.82 80 *e*Pn Pn 19 39 23.7 +0.3
MRVN Minervino Murg 2.87 128 P Pn 19 39 23.9 -0.2
MRVN AML AML
comp=N,243µm,0.8s
MRVN AML AML
comp=E,212µm,0.8s
RICI Ricice 2.94 77 *e*Pn Pn 19 39 25.8 +0.8
SMPL Sampolo 3.00 256 P Pn 19 39 27.5 +1.6
BOJS Bojanci 3.01 29 P Pn 19 39 25.4 -0.6
BOJS AML AML
comp=N,348µm,0.8s
BOJS AML AML
comp=E,234µm,0.7s
CORF Corte 3.05 260 P Pn 19 39 27.7 +1.1
SABO M.te Sabotino 3.12 5 P Pn 19 39 27.2 -0.3
SABO AML AML
comp=E,1180µm,0.7s
SABO AML AML
comp=E,291µm,0.7s
SABO AML AML
comp=N,1650µm,0.7s
SABO AML AML
comp=N,423µm,0.6s
PGF Pioggiola 3.12 265 *e*Pn Pn 19 39 27.4 -0.2
PGF Pioggiola 3.12 265 *e*P Pn 19 39 30.3 +2.7
PGF *e*Sn Sn 19 40 02.7 -2.3
comp=N,16nm,0.7s
PGF Pioggiola 3.12 265 P Pn 19 39 28.6 +1.0
CGRP Cima Grappa 3.17 342 P Pn 19 39 28.1 -0.3
CGRP AML AML
comp=N,345µm,0.5s
CGRP AML AML
comp=E,466µm,0.7s
CGRP AML AML
comp=E,355µm,0.7s
CGRP AML AML
comp=N,410µm,0.6s
OZLJ Ozalj 3.18 30 *e*Pn Pn 19 39 28.2 -0.2
VOJS Vojsko 3.19 8 *i* Pn Pn 19 39 28.6 0.0
AMUR Altamura 3.21 127 P Pn 19 39 28.9 +0.1
AMUR AML AML
comp=E,275µm,0.5s
AMUR AML AML
comp=N,264µm,0.4s
STON Ston 3.30 89 *e*Pn Pn 19 39 29.2 -0.8
STON Ston 3.30 89 P Pn 19 39 29.4 -0.6
STON AML AML
comp=N,89µm,0.5s
STON AML AML
comp=E,152µm,0.4s
MIGL Miglionico 3.32 132 P Pn 19 39 29.7 -0.6
MIGL AML AML

comp=N,816µm,0.7s
MIGL AML AML

comp=E,845µm,0.9s
DOSS Dosso del Somm 3.33 335 P **Pn** 19 39 29.8 -0.9
CTI Castel Tesino 3.36 341 P **Pn** 19 39 30.8 -0.1
CTI AML AML

comp=N,179µm,0.3s
CTI AML AML

comp=E,206µm,0.5s
ROBS Robic 3.38 4 *e*Pn **Pn** 19 39 30.7 -0.3
STAL STALIGIAL 3.40 354 P **Pn** 19 39 31.3 -0.1
STAL AML AML

comp=E,242µm,0.7s
STAL AML AML

comp=N,244µm,0.9s
AJAC Base Areonaval 3.42 255 P **Pn** 19 39 32.5 +0.8
AJAC S **Sb** 19 40 16.9 -3.8
MATE Matera 3.43 129 ⇑P **Pn** 19 39 33.8 +2.0
MAGA Magasa 3.44 328 P **Pn** 19 39 31.8 -0.2
CIMO Cimolais 3.48 351 P **Pn** 19 39 32.5 0.0
CIMO AML AML

comp=N,73µm,0.9s
CIMO AML AML

comp=E,64µm,0.9s
LTRZ Laterza 3.53 129 P **Pn** 19 39 33.3 +0.1
CLUD Cludinico 3.59 356 P **Pn** 19 39 33.9 -0.1
GAGG Gaggia 3.59 334 P **Pn** 19 39 35.2 +1.1
DBRK Dubrovnik 3.64 92 *i* Pn **Pn** 19 39 34.4 -0.3
ACOM Acomizza, Ital 3.68 3 P **Pn** 19 39 35.1 -0.3
ACOM AML AML

comp=N,265µm,0.8s
ACOM AML AML

comp=E,215µm,0.7s
ACOM AML AML

comp=N,226µm,0.5s
ACOM AML AML

comp=E,240µm,1.2s
ZOU Zoufplan 3.68 357 P **Pn** 19 39 35.6 +0.2
ZOU AML AML

comp=E,177µm,0.9s
ZOU AML AML

comp=N,199µm,1.2s
MABI Malga Bissina 3.72 330 P **Pn** 19 39 35.9 0.0
OBKA Obir 3.76 14 *e*Pn **Pn** 19 39 37.0 +0.7
comp=N,3.4nm,0.3s
OBKA Sg **Sg** 19 40 41.9 +3.1

comp=N,110nm,0.8s
OBKA Obir 3.76 14 *e*Pn **Pn** 19 39 37.6 +1.3
OBKA *e*Sg **Sg** 19 40 41.7 +3.0
MYKA Terra Mystica 3.77 5 *i* Pn **Pn** 19 39 37.1 +0.6
comp=N,3.1nm,0.3s
MYKA *i* Sn **Sn** 19 40 22.7 +1.7

comp=N,16nm,0.5s
ABTA Abfaltersbach 3.90 353 *i* Pn **Pn** 19 39 39.1 +0.8
comp=N,10.0nm,0.3s,SNR=26
ABTA *i* Sn **Sn** 19 40 25.2 +0.9

comp=N,24nm,0.6s
BRY Bratogost 3.92 88 ⇓ *i* Pn **Pn** 19 39 39.7 +1.1
BRY *i* Sn **Sn** 19 40 26.7 +1.9
HCY Herceg Novi 3.92 94 ⇑ *i* Pn **Pn** 19 39 39.7 +1.2
HCY *i* Sn **Sn** 19 40 26.2 +1.5
SOKA Soboth 4.02 18 *e*Pn **Pn** 19 39 42.1 +2.2
comp=N,1.0nm,0.2s
UPM Unac-Piva 4.19 84 *e*Pn **Pn** 19 39 43.9 +1.5
UPM *i* Sn **Sn** 19 40 33.1 +1.6
KBA Koelnbreinsper 4.20 1 *i* Pn **Pn** 19 39 43.5 +0.9
comp=N,1.4nm,0.1s,SNR=10
KBA *i* Sn **Sn** 19 40 32.1 +0.3

comp=N,19nm,0.7s
KBA Koelnbreinsper 4.20 1 *e*Pn **Pn** 19 39 43.6 +1.1
CEME Cevo 4.22 93 ⇓ *i* Pn **Pn** 19 39 43.7 +1.0
CEME *i* Sn **Sn** 19 40 33.8 +1.7
NKME Niksic 4.23 90 ⇑ *i* Pn **Pn** 19 39 43.9 +1.1
NKME *i* Sn **Sn** 19 40 34.2 +1.9
BUM Brajici-Budva 4.24 96 ⇑ *i* Pn **Pn** 19 39 44.0 +1.1
BUM *e*Sn **Sn** 19 40 32.9 +0.4
MUGIO Muggio 4.26 317 P **Pn** 19 39 43.8 +0.5
SAOF Saorge 4.26 287 P **Pn** 19 39 46.1 +2.8
SBF Sospel 4.32 285 *e*Pn **Pn** 19 39 43.9 -0.2
SBF Sospel 4.32 285 *e*P **Pn** 19 39 47.5 +3.4
SBF *e*Sn **Sn** 19 40 32.0 -2.6

comp=N,15nm,0.6s
VSL Villasalto 4.44 222 P **Pn** 19 39 46.6 +0.9
DRME Dracevica, Mon 4.47 97 ⇓ *i* Pn **Pn** 19 39 47.2 +1.1
DRME *i* Sn **Sn** 19 40 38.9 +0.7
PDG Podgorica 4.48 94 ⇑P **Pn** 19 39 47.2 +1.0
TTG Podgorica 4.48 94 ⇑ *i* Pn **Pn** 19 39 47.6 +1.4
TTG *i* Sn **Sn** 19 40 39.9 +1.4
FETA Feichten 4.50 338 *i* Pn **Pn** 19 39 49.3 +2.6
comp=N,5.9nm,0.4s,SNR=14
FETA *e*Sn **Sn** 19 40 41.4 +2.2

comp=N,22nm,0.9s
SPIF crte de Spivo 4.50 287 P **Pn** 19 39 51.4 +4.7
WTTA Wattenberg 4.53 346 *i* Pn **Pn** 19 39 50.1 +3.2
comp=N,3.5nm,0.2s,SNR=9.9
WTTA *e*Sn **Sn** 19 40 40.0 +0.1

comp=N,30nm,0.6s
WTTA Wattenberg 4.53 346 *e*Pn **Pn** 19 39 50.2 +3.2
PLE Pljevlja 4.55 82 ⇑ *i* Pn **Pn** 19 39 48.5 +1.2
PLE *i* Sn **Sn** 19 40 41.7 +1.4
ULC Ulcinj 4.56 99 ⇑ *i* Pn **Pn** 19 39 48.1 +0.8
ULC *i* Sn **Sn** 19 40 38.9 -1.6
DAVOX Davos/Dischmat 4.56 330 LR LR 19 41 40.1
comp=N,29nm,18.8s,baz=138,slow=39
TIP Timpagrande 4.57 143 ⇑P Pn 19 39 52.2 +4.8
SQTA Sankt Quirin 4.57 343 *e*Pn **Pn** 19 39 49.6 +2.1
comp=N,19nm,0.4s,SNR=17
SQTA *e*Sn **Sn** 19 40 43.6 +2.8

comp=N,22nm,0.4s
WATA Walderalm 4.61 346 *e*Pn **Pn** 19 39 50.7 +2.6
comp=N,23nm,0.6s,SNR=12
WATA *e*Sn **Sn** 19 40 43.6 +1.8

comp=N,15nm,0.3s
KOME Kolasin 4.64 88 *e*Pn **Pn** 19 39 49.8 +1.4
KOME *i* Sn **Sn** 19 40 43.9 +1.5
CALF Calern 4.67 283 P **Pn** 19 39 49.4 +0.5
ARSA Arzberg 4.67 20 *i* Pn **Pn** 19 39 50.5 +1.7
comp=N,2.5nm,0.3s
ARSA *i* Sn **Sn** 19 40 41.6 -1.5

comp=N,6.5nm,0.5s
MOTA Moosalm 4.71 342 *e*Pn **Pn** 19 39 51.4 +1.9
comp=N,8.4nm,0.4s,SNR=7.7
MOTA *e*Sn **Sn** 19 40 46.7 +2.4

comp=N,23nm,0.5s
KOVH Kovagotottos 4.75 46 P **Pn** 19 39 49.7 -0.2
KOVH S **Sn** 19 40 41.9 -3.1
ZUGS Zugspitze, Sch 4.81 342 *e*Pn **Pn** 19 39 54.7 +3.7
BIOA Bad Ischl, Aus 4.83 3 *e*Pn **Pn** 19 39 52.1 +1.2
comp=N,11nm,0.3s,SNR=9.2
BIOA *e*Sn **Sn** 19 40 49.8 +2.8

comp=N,33nm,0.7s
FUSIO Fusio 4.83 319 P **Pn** 19 39 51.1 0.0
PART Garmisch-Parte 4.85 343 *e*Pn **Pn** 19 39 55.1 +3.7
RJOB Jochberg 4.87 357 *e*Pn **Pn** 19 39 54.0 +2.4
SURF Saint Ours 4.91 291 P **Pn** 19 39 53.8 +1.5
IVA Berane 4.91 88 ⇑ *i* Pn **Pn** 19 39 54.1 +1.9
IVA *i* Sn **Sn** 19 40 50.8 +1.6
RETA Reutte 4.92 340 *i* Pn **Pn** 19 39 54.8 +2.4
comp=N,9.2nm,0.3s,SNR=11
RETA *i* Sn **Sn** 19 40 53.5 +4.0

comp=N,3.7nm,0.2s
LMR La Mourre 4.93 278 *e*Pn **Pn** 19 39 52.1 -0.2
LMR La Mourre 4.93 278 *e*P **Pn** 19 39 55.9 +3.6
JAUF Jausiers 4.94 291 P **Pn** 19 39 54.2 +1.6
OBER Oberstdorf 4.98 337 *e*Pn **Pn** 19 39 57.2 +4.1
OBER *e*Sn **Sn** 19 40 51.8 +1.0
PLONS Plons/SG 4.98 328 *e*Pn **Pn** 19 39 57.3 +4.1
PLONS *e*Sn **Sn** 19 40 53.7 +2.9
PVY Plav 4.98 91 ⇑ *i* Pn **Pn** 19 39 54.4 +1.2
PVY *i* Sn **Sn** 19 40 52.2 +1.3
DAVA Damuels 5.00 333 *e*Pn **Pn** 19 39 56.3 +2.8
comp=N,15nm,0.4s,SNR=11
DAVA *e*Sn **Sn** 19 40 53.3 +1.8

comp=N,13nm,0.6s
DAVA Damuels 5.00 333 *e*Pn **Pn** 19 39 57.8 +4.3
MBDF Montbardon 5.01 294 *e*Pn **Pn** 19 39 54.0 +0.3
MBDF Montbardon 5.01 294 *e*P **Pn** 19 39 57.7 +4.0
MBDF *e*Sn **Sn** 19 40 49.1 -2.7

comp=N,8.8nm,0.7s
MOA Molln 5.03 8 *i* Pn **Pn** 19 39 54.5 +0.7
comp=N,2.5nm,0.3s
MOA *i* Sn **Sn** 19 40 54.1 +2.1

comp=N,9.7nm,0.5s
TRIGF Trigance 5.04 282 P **Pn** 19 39 54.6 +0.7

CREF Crivoux 5.06 292 P **Pn** 19 39 57.8 +3.4
CREF S **Sn** 19 40 59.6 +6.7
OGAG Argentiere 5.09 290 P Pn 19 40 00.0 +5.4
FLAF Flassans-sur-I 5.11 278 P **Pn** 19 39 55.8 +0.8
MORH Mrgy, Hungar 5.12 47 ⇑P **Pn** 19 39 58.9 +3.9
MORH Mrgy, Hungar 5.12 47 P **Pn** 19 39 58.0 +3.0
OGDI Digne 5.17 286 P Pb 19 40 03.3 -5.5
TIR Tirane 5.18 105 ⇑P **Pn** 19 39 56.0 +0.2
OGMO Fort Saint-Gob 5.25 299 P **Pn** 19 40 00.4 +3.6
FRGS Fruska Gora 5.28 62 ⇑P **Pn** 19 40 00.6 +3.4
LPG La Plagne 5.33 302 *e*Pn **Pn** 19 39 58.7 +0.5
LPG La Plagne 5.33 302 *e*P **Pn** 19 40 02.4 +4.2
LPG *e*Sn **Sn** 19 40 56.9 -2.9

comp=N,5.5nm,0.6s
LPL La Plagne 5.35 302 *e*Pn **Pn** 19 39 58.8 +0.4
LPL La Plagne 5.35 302 *e*P **Pn** 19 40 02.9 +4.5
LPL *e*Sn **Sn** 19 40 57.7 -2.5

comp=N,5.0nm,0.4s
CONA Conrad Observa 5.39 19 *i* Pn **Pn** 19 39 59.2 +0.4
comp=N,1.9nm,0.3s
CONA *e*Sn **Sn** 19 41 01.7 +0.8

comp=N,3.0nm,0.3s
WILA Wila 5.46 328 *e*Pn **Pn** 19 40 02.9 +3.1
RSL Roselend 5.50 303 P **Pn** 19 40 03.6 +3.2
GDM Grand'Maison 5.62 297 P **Pn** 19 40 05.6 +3.6
SMRF Simiane la Rot 5.67 284 *e*Pn **Pn** 19 40 02.8 +0.3
SMRF Simiane la Rot 5.67 284 *e*P **Pn** 19 40 06.6 +4.1
ORIF Oris-en-Rattie 5.67 294 *e*Pn **Pn** 19 40 02.8 +0.1
ORIF Oris-en-Rattie 5.67 294 *e*P **Pn** 19 40 07.1 +4.4
ORIF Oris-en-Rattie 5.67 294 P **Pn** 19 40 04.7 +2.0
SLE Schleitheim 5.91 327 *e*Pn **Pn** 19 40 07.9 +2.0
SLE *e*Sn **Sn** 19 41 12.7 -1.0
BALST Balsthal 5.92 321 *e*Pn **Pn** 19 40 08.5 +2.4
BALST *e*Sn **Sn** 19 41 14.5 +0.4
BALST Balsthal 5.92 321 P **Pn** 19 40 08.1 +2.0
BALST S **Sn** 19 41 16.7 +2.6
OHR Ohrid 5.92 105 *i* Pn **Pn** 19 40 08.0 +1.8
GEC2 GERESS Array S 5.98 3 *e*Pn **Pn** 19 40 08.3 +1.4
GEC2 *e*Sn **Sn** 19 41 15.0 -0.5
GERES GERESS Array B 5.98 3 Pn **Pn** 19 40 06.9 0.0
comp=N,0.5nm,0.3s,baz=174,slow=13,SNR=12
GERES Sn **Sn** 19 41 13.3 -2.2
comp=N,1.0nm,0.3s,baz=173,slow=24,SNR=2.2
comp=N,0.6nm,0.4s
CKRC Cesky Krumlov 5.99 7 *e*PN **Pn** 19 40 07.9 +0.9
BERGE Lenzkirch (DE) 6.12 326 *e*Pn **Pn** 19 40 10.7 +1.8
BERGE *e*Sn **Sn** 19 41 17.6 -1.3
MODS Modra-Piesok 6.19 26 *e*PN **Pn** 19 40 11.0 +1.3
BOVS Bovan 6.25 80 ⇑P **Pn** 19 40 12.7 +2.2
KHC Kasperske Hory 6.26 2 *e*PN **Pn** 19 40 11.0 +0.3
KHC *e*SN **Sn** 19 41 19.9 -2.4
CABF La Chapelle 6.30 309 *e*Pn **Pn** 19 40 11.5 +0.3
CABF La Chapelle 6.30 309 *e*P **Pn** 19 40 15.6 +4.4
BFO Black Forest 6.44 330 *e*Pn **Pn** 19 40 15.4 +2.3
BFO *e*Sn **Sn** 19 41 22.5 -4.2
MDVR Moldovita 6.44 70 ⇓P **Pn** 19 40 16.2 +3.0
VIVF Saint-Julien-l 6.48 291 *e*PN **Pn** 19 40 13.4 -0.3
VIVF Saint-Julien-l 6.48 291 *e*P Pn 19 40 18.5 +4.8
KRUC Moravsky 6.57 19 *e*PN **Pn** 19 40 14.1 -0.8
KRUC *e*SN **Sn** 19 41 30.0 +0.1
BOUC Bouclans 6.58 314 P **Pn** 19 40 14.5 -0.6
BZS Buzias 6.63 63 ⇑P **Pn** 19 40 19.4 +3.6
HINF Hinteralfeld 6.67 320 *e*Pn **Pn** 19 40 16.7 +0.4
HINF Hinteralfeld 6.67 320 *e*P Pn 19 40 21.1 +4.8
HINF *e*Sn **Sn** 19 41 32.5 +0.2

comp=N,23nm,0.6s
STIP Stip 6.76 97 *i* Pn **Pn** 19 40 20.2 +2.7
ECH Echery 6.82 324 *e*Pn **Pn** 19 40 19.1 +0.7
ECH *e*Sn **Sn** 19 41 36.0 -0.1
ECH Echery 6.82 324 P **Pn** 19 40 19.2 +0.8
ECH S **Sn** 19 41 36.8 +0.7
VYHS Vyhne 6.86 33 *e*PN **Pn** 19 40 21.2 +2.3
LASF Ste Croix 6.91 283 *e*Pn **Pn** 19 40 19.1 -0.5
CDF Champ du Feu 6.92 325 *e*Pn **Pn** 19 40 20.7 +0.9
CDF Champ du Feu 6.92 325 *e*P Pn 19 40 25.2 +5.4
CDF *e*Sn **Sn** 19 41 35.6 -3.1

comp=N,8.9nm,0.4s
SIRR Siria 6.92 58 ⇑P **Pg** 19 40 52.4 +1.7
HERR Herculane 6.95 70 ⇑P **Pn** 19 40 22.7 +2.6
BLKB Belogradchik 6.95 81 ⇑P **Pn** 19 40 21.6 +1.4
HAU Haudompre 7.04 319 *e*Pn **Pn** 19 40 22.2 +0.8
HAU Haudompre 7.04 319 *e*P Pn 19 40 26.6 +5.2
HAU *e*Sn **Sn** 19 41 40.0 -1.5

comp=N,23nm,0.5s
VAY Valandovo 7.13 99 *i* Pn **Pn** 19 40 24.7 +2.0
GZR Gura Zlata 7.33 67 ⇑P **Pn** 19 40 27.7 +2.3
KKB Krupnik 7.38 95 P **Pn** 19 40 27.6 +1.5
VTS Vitosha 7.39 89 ⇑P **Pn** 19 40 26.6 +0.3
VTS Vitosha 7.39 89 P **Pn** 19 40 27.4 +1.1
SMF Signal de Mont 7.66 303 *e*Pn **Pn** 19 40 29.7 -0.1
SMF *e*Sn **Sn** 19 41 51.7 -4.9

comp=N,11nm,0.7s
PAGF Fort de Pagny 7.72 320 *e*Pn **Pn** 19 40 32.1 +1.4
PAGF *e*Sn **Sn** 19 41 53.5 -4.7

comp=N,18nm,0.8s
KEST Kesra 7.74 204 Pn Pn 19 40 39.7 +8.7
comp=N,0.6nm,0.3s,baz=315,slow=9.1,SNR=6.9
comp=N,5.9nm,0.7s
SFTF Sexfontaines 7.83 316 *e*Pn **Pn** 19 40 31.4 -0.7
MMB Musomiste 7.91 96 P **Pn** 19 40 34.3 +0.9
LOR Lormes 7.94 307 *e*Pn **Pn** 19 40 33.7 0.0
LOR Lormes 7.94 307 *e*P **Pn** 19 40 38.5 +4.8
MEZF Maizieres J'vi 8.01 317 *e*Pn **Pn** 19 40 34.9 +0.2
MEZF Maizieres J'vi 8.01 317 *e*P Pn 19 40 39.6 +4.9
BRG Berggiesshubel 8.02 3 *ex* **Sn** 19 42 06.3 +0.8
BRG Amp 19 42 11.4

comp=Z,4.4nm,0.8s
BRG *ex* x 19 43 07.6
BRG Amp 19 43 23.0

comp=Z,7.6nm,1.1s
AVF Avril sur Loir 8.02 303 *e*Pn **Pn** 19 40 35.3 +0.5
AVF Avril sur Loir 8.02 303 *e*P Pn 19 40 40.0 +5.2
SSF Saint Saulge 8.05 305 *e*Pn **Pn** 19 40 35.1 -0.1
SSF Saint Saulge 8.05 305 *e*P **Pn** 19 40 39.8 +4.6
SSF *e*Sn **Sn** 19 42 02.8 -3.5

comp=Z,14nm,1.1s
SAVF Savonnieres en 8.05 318 *e*Pn **Pn** 19 40 35.1 -0.1
SAVF *e*Sn **Sn** 19 42 02.3 -4.0

comp=Z,6.0nm,0.5s
MTLF Montolieu 8.06 277 *e*Pn **Pn** 19 40 35.9 +0.6
CAF Calviac 8.30 288 *e*Pn **Pn** 19 40 39.5 +0.8
CLL Collm 8.44 359 *e*Pn Pn 19 40 31.0 -9.5
CLL *e*Sn Sn 19 41 55.0 -21
CLL *ex* x 19 42 00.0
CLL *ex* x 19 42 54.0
CLL *e*Sg **Sg** 19 43 05.0 -3.7

comp=Z,11nm,0.9s
VOIR 8.89 69 ⇑P **Pn** 19 40 48.5 +1.7
MLR Muntele Rosu 9.52 70 LR LR 19 45 39.0
comp=Z,84nm,20.9s,baz=248,slow=46
ETSF Etsaut 10.11 275 *e*Pn **Pn** 19 41 01.6 -1.9
FINES FINESS Array B 20.13 18 P **P** 19 43 12.8 +0.6
comp=Z,0.1nm,0.3s,baz=193,slow=11,SNR=1.6
comp=Z,3.1nm,1.0s
KOWA Kowa 31.93 213 LR LR 19 58 13.7
comp=Z,34nm,20.6s,baz=301,slow=36
MKAR Makanchi Array 47.71 60 P **P** 19 47 14.9 -0.1
comp=Z,0.9nm,0.7s,baz=291,slow=7.7,SNR=5.0
comp=Z,0.9nm,0.7s
PETK Petropavlovsk- 79.62 21 LR LR 20 28 40.8
comp=Z,22nm,19.7s,baz=125,slow=38

IDC ***30*** *19:49:34.0±0.5, 16°.12S×173°.35W, h0km, mb4.4/18, mbtmp4.4/19, ML4.0/1, MS3.7/33, Error ellipse: s-maj=20.5km s-min=14.4km az=130.0*
NEIC ***30*** *19:49:33.5±2.5, 16°.09S±0°.06×173°.1W±0°.1, h10km±1km, mb5.0/75, Error ellipse: s-maj=16.8km s-min=9.2km az=277.0*
BJI ***30*** *19:49:34.8±0.0, 15°.88S×173°.48W, h10km, mb4.8/21, mB5.2/14, Ms4.9/2, Ms7 4.4/2*
MOS ***30*** *19:49:34.2±1.7, 16°.13S×173°.54W, h10km, mb5.0/10, Error ellipse: s-maj=17.4km s-min=12.4km az=138.4*
NOU ***30*** *19:49:37.9, 16°.00S×172°.69W, h52km, mb4.8/14, Samoa Islands Region*
ISC 30 19:49:32.3±0.8, 16°.09S±0°.04×173°.06W±0°.06, h3km±5km, n325, σ1s74/290, mb4.9/65, MS3.8/32, 51C-15D, Tonga Islands

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

AFI Afiamalu 2.50 30 Pn **Pn** 19 50 12.4 -1.5
67nm,0.3s,baz=303,slow=21,SNR=33
AFI Sn **Sn** 19 50 41.0 -3.9

340nm,0.3s,baz=219,slow=11,SNR=11
AFI LR LR 19 50 53.9

comp=Z,536nm,18.5s,baz=140,slow=30
AFI Afiamalu 2.50 30 Pn **Pn** 19 50 11.5 -2.4
AFI Sn **Sn** 19 50 41.4 -3.5
AFI Afiamalu 2.50 30 P **Pn** 19 50 11.5 -2.4
AFI Afiamalu 2.50 30 P **Pn** 19 50 12.7 -1.2
NIUE Niue 4.21 135 Pn **Pn** 19 50 36.6 -0.8
NIUE Sn **Sn** 19 51 20.9 -6.2
NIUE Niue 4.21 135 P **Pn** 19 50 37.1 -0.3
TAVE Taveuni 6.60 264 P Pn 19 51 17.2 +6.9
125nm,1.1s
MSVF Nonsavu 8.67 258 Pn Pn 19 51 46.2 +7.5
0.9nm,0.3s,baz=107,slow=13,SNR=27
MSVF LR LR 19 54 25.9

comp=Z,996nm,18.1s,baz=56,slow=35
MSVF Nonsavu 8.67 258 P Pn 19 51 45.8 +7.0
90nm,1.0s
RAR Rarotonga 13.58 114 LR LR 19 56 03.0
comp=Z,93nm,19.9s,baz=282,slow=28
RAR Rarotonga 13.58 114 Pn **Pn** 19 52 45.8 -0.1
RAR Rarotonga 13.58 114 P **Pn** 19 52 45.8 -0.1
RAO Raoul Island 13.84 198 LR LR 19 57 16.3
comp=Z,230nm,21.8s,baz=112,slow=34
MARNC Mare, Loyalty 18.69 250 **P** 19 53 50.3 -1.5
LIFNC LIFOU 19.26 253 **P** 19 53 56.9 -1.3
LIFNC IAmb IAmb 19 54 01.1

comp=Z,99nm,1.2s
PINNC Pines Island, 19.50 248 **Pn** 19 54 00.3 -1.5
OUENC Ouen Island, N 19.99 249 P **P** 19 54 05.4 -0.6
DZM Mont Dzumac 20.26 250 *e*Pn Pn 19 54 12.9 +1.9
comp=Z,50nm,1.2s
DZM *e*LR LR 19 58 55.1

comp=Z,611nm,24.9s
DZM Mont Dzumac 20.26 250 P Pn 19 54 09.7 -1.3
comp=Z,0.4nm,0.3s,baz=120,slow=23,SNR=6.7
DZM LR LR 20 00 36.2

comp=Z,449nm,19.5s,baz=57,slow=33
comp=Z,13nm,1.0s
DZM Mont Dzumac 20.26 250 P **P** 19 54 07.2 -1.9
NOUC Port Laguerre 20.39 250 P Pn 19 54 14.4 +1.9
comp=Z,24nm,0.9s
OUZ Omahuta 22.49 210 P **P** 19 54 31.4 -1.4
OUZ IAmb IAmb 19 54 51.1

comp=Z,95nm,1.8s
OUZ Omahuta 22.49 210 P **P** 19 54 35.4 +2.5
comp=Z,39nm,2.7s
PAE Paea 22.52 97 *e*T T 20 17 42.7
comp=Z,3.9nm,0.2s
PPT2 Papeete2 22.52 97 *e*LR LR 20 00 02.8
comp=Z,214nm,23.5s
PPT Papeete 22.52 97 LR LR 20 01 11.9
comp=Z,137nm,19.1s,baz=244,slow=31
TBI Tubuai 23.34 112 *e*LR LR 20 00 24.6
comp=Z,247nm,24.2s
TBI Tubuai 23.34 112 *e*T T 20 18 49.3
comp=Z,18nm,0.2s
URZ Urewera 23.72 200 P **P** 19 54 45.5 -0.1
comp=Z,10nm,0.5s,baz=115,slow=2.4,SNR=8.8
URZ LR LR 20 02 35.4

comp=Z,190nm,19.4s,baz=98,slow=33
comp=Z,10nm,0.5s
URZ Urewera 23.72 200 P **P** 19 54 44.2 -1.3
URZ IAmb IAmb 19 54 55.1

comp=Z,44nm,1.3s
URZ Urewera 23.72 200 P **P** 19 54 46.4 +0.8
comp=Z,100nm,1.6s
VAH Vaihoa 24.50 92 *e*T T 20 20 18.0
comp=Z,8.9nm,0.3s
HIZ Hauiti 24.74 203 P **P** 19 54 54.5 -0.5
HIZ IAmb IAmb 19 55 07.6

comp=Z,53nm,1.1s
BFZ Birch Farm 26.20 199 P **P** 19 55 07.0 -1.3
BFZ IAmb IAmb 19 55 26.3

comp=Z,76nm,1.6s
BFZ Birch Farm 26.20 199 P **P** 19 55 09.7 +1.4
comp=Z,29nm,1.3s
HNR Honiara 27.13 281 LR LR 20 04 31.9
comp=Z,4µm,18.4s,baz=138,slow=33
QRZ Quartz Range 27.63 204 P **P** 19 55 20.9 -0.2
TUWZ Tuamarina 27.64 201 P **P** 19 55 19.7 -1.4
NNZ Nelson 27.65 202 P **P** 19 55 20.3 -1.0
BSWZ Blackbirch Sta 27.91 201 P **P** 19 55 22.3 -1.3
THZ Tophouse 28.30 203 P **P** 19 55 26.2 -1.0
KHZ Kahutara 28.65 201 P **P** 19 55 28.9 -1.3
KHZ IAmb IAmb 19 56 06.6

comp=Z,34nm,1.2s
KHZ Kahutara 28.65 201 P **P** 19 55 31.9 +1.8
comp=Z,28nm,1.4s
LTZ Lake Taylor 29.42 202 P **P** 19 55 34.9 -2.2
LTZ IAmb IAmb 19 55 54.1

comp=Z,14nm,0.8s
OXZ Oxford 29.98 202 P **P** 19 55 39.8 -2.1
OXZ IAmb IAmb 19 55 49.8

comp=Z,22nm,0.8s
MQZ McQueen's Vall 30.09 201 P **P** 19 55 41.9 -1.0
RPZ Rata Peaks 30.67 203 P **P** 19 55 47.4 -0.8
comp=Z,4.4nm,0.7s,baz=154,slow=22,SNR=2.0
RPZ LR LR 20 08 36.3

comp=Z,146nm,18.3s,baz=30,slow=37
comp=Z,4.4nm,0.7s
RPZ Rata Peaks 30.67 203 P **P** 19 55 47.1 -1.0
RPZ IAmb IAmb 19 56 02.4

comp=Z,15nm,1.0s
FOZ Fox Glacier 31.00 205 P **P** 19 55 49.6 -1.4
FOZ IAmb IAmb 19 56 44.4

comp=Z,36nm,1.2s
LBZ Lake Benmore 31.57 203 P **P** 19 55 54.5 -1.6
LBZ IAmb IAmb 19 56 16.2

comp=Z,45nm,1.7s
ODZ Otahua Downs 31.96 202 P **P** 19 55 57.5 -2.0
ODZ IAmb IAmb 19 56 42.5

comp=Z,69nm,2.0s
JOHN Johnston Islan 32.80 6 P **P** 19 56 04.0 -3.0
TAOE Nuku Hiva Isla 32.89 81 *e*T T 20 30 43.6
comp=Z,111nm,0.2s
MLZ Mavora Lakes 33.20 205 P **P** 19 56 08.5 -1.9
MLZ IAmb IAmb 19 56 12.7

comp=Z,70nm,1.9s
DCZ Deep Cove 33.67 205 P **P** 19 56 13.3 -1.1
DCZ IAmb IAmb 19 56 30.8

comp=Z,30nm,1.5s
WHZ Wether Hill Ro 33.70 204 P **P** 19 56 13.3 -1.3
EIDS Eidsvold 34.70 249 P **P** 19 56 21.8 -1.8
EIDS IAmb IAmb 19 57 14.2

comp=Z,27nm,1.6s
ARMA Armidale 35.28 240 P **P** 19 56 26.4 -2.3
RKT Rikitea 36.47 107 *e*T T 20 35 20.3
comp=Z,14nm,0.3s
CTA Charters Tower 38.82 258 LR LR 20 11 03.0
comp=Z,135nm,19.3s,baz=80,slow=33
CTAO Charters Tower 38.82 258 P **P** 19 56 56.7 -2.1
CTAO Charters Tower 38.82 258 P **P** 19 56 56.7 -2.1
CTAO pmax pmax

comp=Z,25nm,1.9s
PMG Port Moresby 39.32 275 P **P** 19 57 03.8 +0.8
comp=Z,7.7nm,0.7s,baz=50,slow=4.6,SNR=5.2
PMG LR LR 20 12 34.4

comp=Z,69nm,18.7s,baz=63,slow=35
comp=Z,7.7nm,0.7s
PMG Port Moresby 39.32 275 pP 19 57 03.0 -0.2
PMG Port Moresby 39.32 275 ⇑ *e*P **pP** 19 57 02.9 -0.2
PMG pmax pmax

comp=Z,18nm,1.3s
H11S2 WAKE ISLAND Hy 39.72 329 T T 20 39 07.8
baz=149,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 39.73 329 T T 20 39 16.4
baz=149,slow=76,SNR=17
H11S1 WAKE ISLAND Hy 39.74 329 T T 20 39 13.0
baz=149,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 40.67 330 T T 20 40 32.4
baz=150,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 40.68 330 T T 20 40 19.3
baz=150,slow=76,SNR=36
H11N2 WAKE ISLAND Hy 40.69 330 T T 20 40 31.4
baz=150,slow=76,SNR=32
COEN Coen 42.27 267 P **P** 19 57 27.2 -0.2
TOO Toolangi 42.29 231 P **P** 19 57 25.6 -1.8
TOO IAmb IAmb 19 58 08.8

comp=Z,73nm,1.9s
TOO Toolangi 42.29 231 P **P** 19 57 25.6 -1.8
TOO pmax pmax

comp=Z,73nm,1.9s

STKA	**Stephens Creek**	**43.98**	**241**	P		**P**		**19 57 40.5**	**-0.6**
	comp=Z,7.0nm,0.6s,baz=80,slow=9.3,SNR=15								
STKA				LR		LR		20 13 28.1	
	comp=Z,79nm,18.9s,baz=32,slow=33								
	comp=Z,7.0nm,0.6s								
STKA	**Stephens Creek**	**43.98**	**241**	P		**P**		**19 57 39.8**	**-1.3**
MCQ	**Macquarie Isla**	**44.04**	**203**	P		**P**		**19 57 41.4**	**+0.3**
MCQ	**Macquarie Isla**	**44.04**	**203**	P		**P**		**19 57 41.4**	**+0.3**
MCQ				pmax		pmax			
	comp=Z,105nm,1.4s								
MIDW	**Midway**	**44.24**	**355**	P		**P**		**19 57 44.3**	**+1.3**
BBOO	**Buckleboo**	**48.76**	**240**	P		**P**		**19 58 17.4**	**-1.3**
WR0	**Warramunga Arr**	**49.82**	**257**	P		**P**		**19 58 25.5**	**-1.5**
WR0				PcP		**PcP**		**19 59 47.5**	**-0.3**
WR0				IAmb		IAmb		19 59 50.0	
	comp=Z,18nm,1.8s								
WB0	**Warramunga Arr**	**49.98**	**258**	P		**P**		**19 58 26.4**	**-1.8**
WB0				PcP		**PcP**		**19 59 49.5**	**+1.1**
WB2	**Warramunga Arr**	**50.00**	**257**	P		**P**		**19 58 26.6**	**-1.8**
WB2				IAmb		IAmb		19 58 43.1	
	comp=Z,32nm,1.9s								
WB2				PcP		**PcP**		**19 59 49.1**	**+0.6**
WRAB	**Tennant Creek**	**50.00**	**257**	P		**P**		**19 58 27.1**	**-1.3**
WRAB				IAmb		IAmb		19 58 44.0	
	comp=Z,20nm,1.6s								
WRAB	**Tennant Creek**	**50.00**	**257**	P		**P**		**19 58 27.1**	**-1.3**
WRAB				pmax		pmax			
	comp=Z,20nm,1.7s								
WRA	**Warramunga Arr**	**50.01**	**257**	P		**P**		**19 58 26.9**	**-1.6**
	comp=Z,2.8nm,0.4s,baz=93,slow=6.8,SNR=64								
WRA				PcP		**PcP**		**19 59 49.7**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=90,slow=3.7,SNR=6.4								
WRA				LR		LR		20 18 11.0	
	comp=Z,144nm,19.7s,baz=102,slow=34								
	comp=Z,2.8nm,0.4s								
WRA	**Warramunga Arr**	**50.01**	**257**	P		**P**		**19 58 26.7**	**-1.8**
WRA				PcP		**PcP**		**19 59 49.7**	**+1.2**
AS31	**Alice Springs**	**50.22**	**252**	P		**P**		**19 58 28.3**	**-1.7**
AS31				PcP		**PcP**		**19 59 50.5**	**+1.2**
ASAR	**Alice Springs**	**50.22**	**252**	P		**P**		**19 58 28.6**	**-1.4**
	comp=Z,9.3nm,0.4s,baz=88,slow=8.0,SNR=134								
ASAR				PcP		**PcP**		**19 59 50.3**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=104,slow=3.9,SNR=5.3								
ASAR				LR		LR		20 18 42.8	
	comp=Z,194nm,18.6s,baz=94,slow=35								
	comp=Z,9.3nm,0.4s								
ASAR	**Alice Springs**	**50.22**	**252**	P		**P**		**19 58 28.3**	**-1.7**
ASAR				PcP		**PcP**		**19 59 50.5**	**+1.2**
ASAR	**Alice Springs**	**50.22**	**252**	P		**P**		**19 58 28.3**	**-1.7**
ASAR								19 59 50.5	
MTN	**Manton Dam**	**54.01**	**266**	P		**P**		**19 58 57.6**	**-0.6**
MTN				IAmb		IAmb		19 58 58.6	
	comp=Z,12nm,0.8s								
FORT	**Forrest**	**55.40**	**244**	P		**P**		**19 59 07.0**	**-1.2**
KNRA	**Kununurra**	**55.79**	**262**	P		**P**		**19 59 10.3**	**-0.9**
SIJI	**Sorong**	**56.90**	**280**	P		**P**		**19 59 19.6**	**+0.5**
	comp=Z,28nm,0.8s,baz=66,slow=6.6,SNR=20								
SIJI				LR		LR		20 21 57.2	
	comp=Z,47nm,21.9s,baz=170,slow=34								
	comp=Z,28nm,0.8s								
FITZ	**Fitzroy Crossi**	**58.39**	**258**	LR		LR		20 22 51.5	
	comp=Z,117nm,19.7s,baz=99,slow=34								
FITZ	**Fitzroy Crossi**	**58.39**	**258**	P		**P**		**19 59 29.1**	**-0.5**
JCJ	**Chichijima**	**61.07**	**314**	LR		LR		20 21 21.4	
	comp=Z,28nm,20.4s,baz=116,slow=31								
SOEI	**Soe**	**61.23**	**268**	P		**P**		**19 59 50.4**	**+1.0**
SOEI				IAmb		IAmb		20 00 01.8	
	comp=Z,17nm,0.8s								
SBA	**Scott Base**	**62.59**	**185**	P		**P**		**19 59 59.3**	**+2.0**
SBA	**Scott Base**	**62.59**	**185**	P		**P**		**19 59 59.3**	**+2.0**
SBA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
VNDA	**Vanda**	**62.73**	**186**	P		**P**		**20 00 00.9**	**+2.7**
	comp=Z,2.8nm,1.1s,baz=9.5,slow=6.1,SNR=14								
VNDA				LR		LR		20 27 35.7	
	comp=Z,26nm,18.1s,baz=336,slow=36								
	comp=Z,2.8nm,1.1s								
PSA00	**Pilbara Seismi**	**63.33**	**254**	P		**P**		**20 00 01.8**	**-1.4**
PSA00				IAmb		IAmb		20 00 03.9	
	comp=Z,6.0nm,1.0s								
PSA00	**Pilbara Seismi**	**63.33**	**254**	P		**P**		**20 00 02.0**	**-1.1**
PSA00				IAmb		IAmb		20 00 03.8	
	comp=Z,13nm,1.1s								
MMRI	**Maumere**	**63.44**	**268**	P		**P**		**20 00 04.2**	**+0.3**
MBWA	**Marble Bar**	**63.49**	**254**	P		**P**		**20 00 03.4**	**-0.8**
NWAO	**Narrogin (SRO)**	**64.57**	**241**	P		**P**		**20 00 09.3**	**-1.9**
NWAO	**Narrogin (SRO)**	**64.57**	**241**	P		**P**		**20 00 09.3**	**-1.9**
NWAO				pmax		pmax			
	comp=Z,74nm,1.4s								
MORW	**Morawa**	**65.89**	**245**	P		**P**		**20 00 18.8**	**-1.0**
SHEM	**Shemya Is, Ala**	**69.43**	**352**	LR		LR		20 27 56.4	
	comp=Z,42nm,18.3s,baz=314,slow=33								
MJAR	**Matsushiro Arr**	**69.68**	**320**	P		**P**		**20 00 43.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=131,slow=5.1,SNR=4.3								
	comp=Z,0.9nm,0.5s								
CASY	**Casey**	**69.92**	**205**	P		**P**		**20 00 45.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**71.24**	**266**	P		**P**		**20 00 52.5**	**-1.0**
JAGI				IAmb		IAmb		20 00 54.1	
	comp=Z,17nm,0.8s								
JHS	**Saijyo**	**72.03**	**316**	P		**P**		**20 00 59.7**	**+1.9**
LPIG	**La Paz**	**73.12**	**58**	LR		LR		20 26 48.8	
	comp=Z,58nm,18.1s,baz=212,slow=30								
PFO	**Pinyon Flats O**	**73.15**	**47**	LR		LR		20 26 44.6	
	comp=Z,82nm,19.7s,baz=218,slow=30								
PETK	**Petropavlovsk-**	**73.39**	**342**	P		**P**		**20 01 07.6**	**+2.2**
	comp=Z,3.9nm,0.9s,baz=140,slow=7.5,SNR=4.1								
	comp=Z,3.9nm,0.9s								
YBH	**Yreka Blue Hor**	**73.95**	**37**	LR		LR		20 27 08.7	
	comp=Z,69nm,19.8s,baz=262,slow=30								
YBH	**Yreka Blue Hor**	**73.95**	**37**	P		P		20 01 12.8	+3.6
YBH	**Yreka Blue Hor**	**73.95**	**37**	P		P		20 01 12.8	+3.7
YBH				pmax		pmax			
	comp=Z,4.0nm,0.9s								
QSPA	**South Pole Qui**	**73.96**	**180**	LR		LR		20 32 58.9	
	comp=Z,29nm,18.1s,baz=52,slow=35								
QSPA	**South Pole Qui**	**73.96**	**180**	P		**P**		**20 01 11.1**	**+2.1**
QSPA				IAmb		IAmb		20 01 12.5	
	comp=Z,19nm,1.0s								
YSS	**Yuzh-Sakhalins**	**74.24**	**330**	*eP*		**P**		**20 01 09.8**	**-0.8**
YSS				pmax		pmax			
	comp=Z,30nm,1.4s								
NVAR	**Mina Array Bea**	**74.62**	**42**	P		**P**		**20 01 16.5**	**+3.2**
	comp=Z,0.5nm,0.6s,baz=232,slow=11,SNR=6.3								
NVAR				LR		LR		20 28 22.8	
	comp=Z,97nm,18.1s,baz=263,slow=31								
	comp=Z,0.5nm,0.6s								
TPH	**Tonopah**	**75.11**	**43**	P		**P**		**20 01 17.0**	**+0.9**
TPH	**Tonopah**	**75.11**	**43**	P		**P**		**20 01 17.0**	**+0.9**
TPH				pmax		pmax			
	comp=Z,47nm,1.5s								
KDAK	**Kodiak Island**	**75.53**	**11**	LR		LR		20 28 06.3	
	comp=Z,53nm,20.6s,baz=221,slow=31								
KSRS	**Korea Array**	**76.88**	**316**	P		**P**		**20 01 26.1**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=141,slow=5.7,SNR=2.8								
	comp=Z,0.9nm,0.9s								
G08A	**Pilot Rock**	**78.30**	**36**	P		**P**		**20 01 35.2**	**+1.3**
BBB	**Bella Bella**	**78.35**	**26**	LR		LR		20 29 58.3	
	comp=Z,35nm,18.1s,baz=202,slow=31								
MTPU	**Mount Pierson**	**78.44**	**45**	P		**P**		**20 01 36.9**	**+1.7**
MTPU				IAmb		IAmb		20 01 47.7	
	comp=Z,14nm,1.6s								
MVU	**Marysvale**	**78.66**	**44**	P		**P**		**20 01 38.3**	**+2.1**
MDJ	**Mudanjiang**	**79.77**	**322**	P		**P**		**20 01 44.3**	**+2.5**
MDJ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MDJ				pmax		pmax			
	comp=Z,140nm,4.2s								
HLID	**Hailey**	**79.95**	**39**	P		**P**		**20 01 43.9**	**+0.9**
K20K	**Telida**	**80.56**	**9**	P		**P**		**20 01 48.4**	**+2.7**
	baz=198								
TXAR	**Lajitas Array**	**80.72**	**56**	P		P		20 01 51.9	+4.5
	comp=Z,0.2nm,0.5s,baz=227,slow=8.5,SNR=4.2								
	comp=Z,0.2nm,0.5s								
NJ2	**Nanjing**	**80.84**	**307**	*eP*		P		20 01 52.3	+4.5
NJ2				pmax		pmax			
	comp=Z,11nm,1.1s								
ANMO	**Albuquerque**	**80.99**	**50**	LR		LR		20 31 51.3	
	comp=Z,59nm,18.3s,baz=251,slow=31								
RND	**Reindeer**	**81.45**	**11**	P		**P**		**20 01 50.5**	**+0.1**
RND				IAmb		IAmb		20 03 40.1	
	comp=Z,11nm,0.6s								
RND	**Reindeer**	**81.45**	**11**	P		**P**		**20 01 50.6**	**+0.1**
RND				pmax		pmax			
	comp=Z,11nm,0.6s								
M26K	**Nabesna, AK**	**81.73**	**14**	P		**P**		**20 01 53.8**	**+1.8**
M26K				IAmb		IAmb		20 02 04.2	
	comp=Z,9.8nm,1.2s								
M26K	**Nabesna, AK**	**81.73**	**14**	P		**P**		**20 01 54.5**	**+2.5**
	baz=209								
MCK	**McKinley**	**81.74**	**11**	P		**P**		**20 01 52.8**	**+0.9**
MCK				IAmb		IAmb		20 03 37.5	
	comp=Z,11nm,0.5s								
MCK	**McKinley**	**81.74**	**11**	P		**P**		**20 01 52.8**	**+0.9**
MCK				pmax		pmax			
	comp=Z,11nm,0.5s								
YUK3	**Moose Creek**	**81.80**	**15**	P		**P**		**20 01 55.0**	**+2.5**
	baz=212								
CN2	**Changchun**	**81.83**	**320**	*eP*		**P**		**20 01 53.0**	**+0.2**
CN2				*e*PP		**PP**		**20 05 02.5**	**+2.3**
CN2				SKS		**S**		**20 12 08.5**	**+1.5**
CN2				*es*S		SKKSac		20 12 13.5	-3.4
M27K	**Edge Creek, AK**	**81.95**	**14**	P		**P**		**20 01 55.7**	**+2.5**
	baz=210								
S22A	**4UR Ranch, Cre**	**81.99**	**47**			**P**		**20 01 55.1**	**+0.8**
O30N	**Mendenhall**	**82.12**	**17**	P		**P**		**20 01 56.7**	**+2.7**
	baz=216								
PDAR	**Pinedale Array**	**82.56**	**42**	P		**P**		**20 01 59.5**	**+2.5**
	comp=Z,1.3nm,0.8s,baz=207,slow=2.7,SNR=12								
PDAR				LR		LR		20 33 24.6	
	comp=Z,77nm,19.1s,baz=248,slow=32								
	comp=Z,1.3nm,0.8s								
WRH	**Wood River Hil**	**82.56**	**11**	P		**P**		**20 01 58.0**	**+1.8**
WRH				IAmb		IAmb		20 02 06.2	
	comp=Z,6.9nm,0.9s								
L27K	**Beaver Creek,**	**82.58**	**14**	P		**P**		**20 01 59.0**	**+2.6**
	baz=210								
MLY	**Manley**	**82.64**	**9**	P		**P**		**20 01 58.6**	**+1.9**
	baz=202								
YHH	**Holmes Hill**	**82.77**	**39**	P		**P**		**20 01 59.0**	**+0.8**
YHH				IAmb		IAmb		20 02 11.3	
	comp=Z,12nm,1.5s								
CCB	**Clear Creek Bu**	**82.78**	**11**	P		**P**		**20 01 57.7**	**+0.5**
CCB				IAmb		IAmb		20 01 59.8	
	comp=Z,5.8nm,0.8s								
COLA	**College**	**82.97**	**11**	*eP*		**P**		**20 02 00.8**	**+2.5**
COLA				pmax		pmax			
	comp=Z,6.0nm,0.7s								
IL31		**83.06**	**11**	P		**P**		**20 01 59.1**	**+0.4**
IL31				IAmb		IAmb		20 04 10.7	
	comp=Z,4.4nm,0.8s								
ILAR	**Eielson Array**	**83.06**	**11**	P		**P**		**20 02 00.3**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=230,slow=6.6,SNR=18								
	comp=Z,1.1nm,0.7s								
J25K	**Salcha River,**	**83.20**	**12**	P		**P**		**20 02 00.7**	**+1.1**
J25K				IAmb		IAmb		20 04 00.4	
	comp=Z,26nm,1.9s								
J25K	**Salcha River,**	**83.20**	**12**	P		**P**		**20 02 01.9**	**+2.3**
	baz=207								
J26L	**Joseph Creek**	**83.46**	**12**	P		**P**		**20 02 02.4**	**+1.4**
J26L				IAmb		IAmb		20 02 12.1	
	comp=Z,5.4nm,0.9s								
J26L	**Joseph Creek**	**83.46**	**12**	P		**P**		**20 02 04.1**	**+3.1**
	baz=208								
L29M	**L29M**	**83.51**	**15**	P		**P**		**20 02 04.5**	**+3.3**
	baz=214								
CMIG	**Matias Romero**	**83.80**	**70**	LR		LR		20 32 45.1	
	comp=Z,60nm,18.3s,baz=205,slow=31								
RLMT	**Red Lodge**	**83.91**	**40**	P		**P**		**20 02 04.2**	**+0.3**
RLMT				IAmb		IAmb		20 02 14.5	
	comp=Z,18nm,1.3s								
PRP	**Porcupine Dome**	**83.98**	**11**	P		**P**		**20 02 04.8**	**+1.1**
PRP				IAmb		IAmb		20 02 14.1	
	comp=Z,5.3nm,0.8s								
PRP	**Porcupine Dome**	**83.98**	**11**	P		**P**		**20 02 06.3**	**+2.7**
	baz=206								
DAWY	**Dawson**	**84.00**	**14**	P		**P**		**20 02 06.5**	**+2.8**
	baz=212								
I26K	**Coal Creek Min**	**84.25**	**12**	P		**P**		**20 02 07.7**	**+2.8**
	baz=209								
H03S2	**Juan Fernandez**	**84.55**	**123**	T		T		21 36 07.7	
	baz=249,SNR=17								
H03S1	**Juan Fernandez**	**84.56**	**124**	T		T		21 36 02.0	
	baz=249,SNR=14								
H03S3	**Juan Fernandez**	**84.56**	**123**	T		T		21 36 00.3	
	baz=249,SNR=12								
G26K	**Porcupine Rive**	**85.58**	**11**	P		**P**		**20 02 14.8**	**+3.3**
	baz=208								
MAW	**Mawson**	**87.25**	**199**	P		**P**		**20 02 22.0**	**+2.1**
	comp=Z,8.7nm,0.7s,baz=135,slow=5.6,SNR=18								
MAW				LR		LR		20 38 43.7	
	comp=Z,44nm,20.0s,baz=130,slow=34								
	comp=Z,8.7nm,0.7s								
MAW	**Mawson**	**87.25**	**199**	P		**P**		**20 02 19.2**	**-0.7**
MAW	**Mawson**	**87.25**	**199**	P		**P**		**20 02 19.2**	**-0.7**
MAW				pmax		pmax			
	comp=Z,2.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**89.74**	**313**	*eP*		**P**		**20 02 33.5**	**+1.2**
HHC				pmax		pmax			
	comp=Z,18nm,0.5s								
HHC				pmax		pmax			
	comp=Z,150nm,7.5s								
YAK	**Yakutsk**	**89.88**	**337**	*eP*		**P**		**20 02 32.7**	**+0.5**
YAK				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KMI	**Kunming**	**91.62**	**296**	P		**P**		**20 02 44.0**	**+2.4**
KMI				pmax		pmax			
	comp=Z,9.0nm,0.5s								
TROLL	**Troll, Antarti**	**92.07**	**179**	P		**P**		**20 02 44.8**	**+2.1**
VNA3	**Neumayer Olymp**	**92.14**	**175**	P		**P**		**20 02 45.3**	**+2.4**
SNAA	**Sanae**	**92.20**	**177**	P		**P**		**20 02 45.3**	**+2.1**
SNAA	**Sanae**	**92.20**	**177**	LR		LR		20 41 42.2	
	comp=Z,21nm,18.5s,baz=202,slow=34								
SNAA	**Sanae**	**92.20**	**177**	P		**P**		**20 02 43.8**	**+0.5**
SNAA				IAmb		IAmb		20 02 54.2	
	comp=Z,5.5nm,1.1s								
SNAA	**Sanae**	**92.20**	**177**	*ce*		**P**		**20 02 44.2**	**+1.0**
SNAA				pmax		pmax			
	comp=Z,6.0nm,1.2s								
ATAH	**Atahualpa**	**92.50**	**98**	LR		LR		20 36 18.1	
	comp=Z,56nm,19.1s,baz=302,slow=30								
VNA1	**Neumayer--Stat**	**92.84**	**175**	P		**P**		**20 02 48.8**	**+2.7**
PZH	**PanZhiHua**	**92.88**	**297**	P		**P**		**20 02 49.5**	**+2.3**
PZH				pmax		pmax			
	comp=Z,10.0nm,1.3s								
PZH				pmax		pmax			
	comp=Z,50nm,5.1s								
CMAR	**Chiang Mai Arr**	**93.14**	**288**	P		**P**		**20 02 50.4**	**+1.9**
	comp=Z,1.9nm,0.9s,baz=84,slow=2.7,SNR=5.4								
	comp=Z,1.9nm,0.9s								
CMAR	**Chiang Mai Arr**	**93.14**	**288**	P		**P**		**20 02 48.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.14**	**288**	*ce*		**P**		**20 02 48.7**	**+0.2**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
SONM	**Songino Array**	**95.58**	**318**	P		**P**		**20 03 00.4**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=119,slow=6.7,SNR=2.4								
	comp=Z,0.3nm,0.4s								
GTA	**Gaotai**	**97.87**	**309**	*eP*		Pdif		20 03 11.5	+1.7
GTA				pP		pwP		20 03 14.8	+1.4
GTA				sP		sP		20 03 17.8	+7.9
GTA				pmax		pmax			
	comp=Z,1.0nm,1.4s								
TKL	**Tuckaleechee C**	**98.63**	**55**	LR		LR		20 41 55.8	
	comp=Z,44nm,18.0s,baz=216,slow=32								
ROSC	**El Rosal**	**99.70**	**88**	LR		LR		20 38 36.7	
	comp=Z,34nm,18.8s,baz=352,slow=29								
MKAR	**Makanchi Array**	**111.54**	**314**	PKiKP		**PKiKP**		**20 08 09.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=148,slow=0.5,SNR=8.3								
BRVK	**Borovoye**	**118.68**	**322**	*i* PKiKP		**PKiKP**		**20 08 22.0**	**+0.2**
ARU	**Arti**	**124.10**	**328**	*i* PKiKP		**PKiKP**		**20 08 33.9**	**+1.6**
ARU								20 10 17.9	
ARU								20 15 45.6	
ARU				SP		SP		20 20 11.4	-1.9
ARCES	**ARCESS Array B**	**125.33**	**352**	PKP		**PKiKP**		**20 08 35.6**	**+1.2**
	comp=Z,4.2nm,0.8s,baz=0.0,slow=0.5,SNR=7.5								
ARCES	**ARCESS Array B**	**125.33**	**352**	*e*PKiKP		**PKiKP**		**20 08 35.9**	**+1.5**
ARCES				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KIRV	**Kirov**	**127.30**	**334**	*i* PKiKP		**PKiKP**		**20 08 40.3**	**+1.7**
BELG	**Belogornoye**	**131.64**	**328**	*i* PKiKP		**PKiKP**		**20 08 47.7**	**+0.2**
BOSA	**Boshof**	**132.16**	**202**	PKP		**PKiKP**		**20 08 51.2**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=143,slow=5.1,SNR=1.8								
FINES	**FINESS Array B**	**132.68**	**348**	PKP		**PKiKP**		**20 08 49.8**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=40,slow=3.2,SNR=8.0								
FINES	**FINESS Array B**	**132.68**	**348**	*c*	*i* PKiKP	**PKiKP**		**20 08 49.2**	**-0.1**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.8s								
CLL	**Collm**	**144.53**	**353**	*e*PKiKP		**PKiKP**		**20 09 11.0**	**-2.8**
CLL				pmax		pmax			
	comp=Z,4.0nm,0.7s								
CLL	**Collm**	**144.53**	**353**	*e*PKPdf		**PKiKP**		**20 09 11.0**	**-2.8**
	comp=Z,4.0nm,0.7s								
OSTC	**Ostas**	**144.82**	**350**	*e*PKP		**PKPdf**		**20 09 11.0**	**+0.3**
KOLS	**Kolonicke sedl**	**144.93**	**342**	*e*PKP		**PKiKP**		**20 09 12.2**	**-2.6**
DPC	**Dobruska-Polom**	**145.00**	**350**	*e*PKP		**PKiKP**		**20 09 12.7**	**-2.2**
BURAR	**Bucovina Array**	**145.13**	**338**	⇑P		**PKiKP**		**20 09 12.3**	**-3.0**
BURAR	**Bucovina Array**	**145.13**	**338**	⇑PKiKP		**PKiKP**		**20 09 12.3**	**-3.0**
KRLC	**Kraliky**	**145.18**	**349**	*e*PKP		**PKiKP**		**20 09 13.1**	**-2.2**
CRVS	**Cervenica-Dubn**	**145.19**	**343**	*e*PKP		**PKiKP**		**20 09 13.2**	**-2.1**
UZH	**Uzhgorod**	**145.19**	**342**	*e*PKHKP		PKPpre		20 09 07.2	
UZH				*e*				20 09 09.6	
UZH				*i*				20 09 13.0	
UZH				*i*				20 09 16.8	
MORC	**Moravsky Berou**	**145.32**	**348**	*e*PKP		**PKiKP**		**20 09 13.3**	**-2.3**
BIZ	**Bicaz**	**145.37**	**337**	⇑P		**PKPab**		**20 09 11.3**	**-0.5**
LANS	**Liptovska Anna**	**145.48**	**345**	*e*PKP		**PKiKP**		**20 09 15.1**	**-0.8**
TESR	**Tesani**	**145.51**	**336**	⇓P		**PKPab**		**20 09 12.7**	**+0.4**
KMBO	**Kilima Mbogo**	**145.53**	**243**	PKPbc		**PKiKP**		**20 09 16.0**	**-1.4**
	comp=Z,8.9nm,1.1s,baz=62,slow=6.3,SNR=12								
KMBO	**Kilima Mbogo**	**145.53**	**243**	⇓*i* PKiKP		**PKiKP**		**20 09 15.3**	**-2.1**
MEM	**Membach**	**145.56**	**1**	*d*PKP		**PKPab**		**20 09 11.1**	**-1.2**
TRPA	**Tarpa**	**145.57**	**341**	⇑P		**PKiKP**		**20 09 14.0**	**-2.0**
TRPA	**Tarpa**	**145.57**	**341**	PKP		**PKiKP**		**20 09 14.4**	**-1.6**
GHRR		**145.57**	**334**	⇑P		**PKiKP**		**20 09 13.7**	**-2.5**
PRU	**Pruhonice**	**145.63**	**351**	*e*PKP		**PKiKP**		**20 09 14.4**	**-1.8**
MAUC	**Maruska**	**145.65**	**347**	*e*PKP		**PKiKP**		**20 09 15.1**	**-1.2**
NKC	**Novy Kostel**	**145.65**	**354**	*e*PKP		**PKiKP**		**20 09 14.5**	**-1.7**
TLCR		**145.65**	**332**	⇑P		**PKiKP**		**20 09 15.2**	**-1.1**
TLCR		**145.65**	**332**	⇑PKiKP		**PKiKP**		**20 09 15.2**	**-1.1**
PANC	**Panciu**	**145.83**	**335**	⇑P		**PKiKP**		**20 09 14.9**	**-1.8**
IZVR	**Izvoarele**	**145.83**	**334**	⇑P		**PKiKP**		**20 09 15.8**	**-0.8**
ARCR	**ARCALIA**	**145.89**	**339**	⇑P		**PKPab**		**20 09 12.6**	**-1.1**
VRAC	**Vranov**	**145.95**	**349**	⇓P		**PKPab**		**20 09 13.1**	**-0.7**
VRAC	**Vranov**	**145.95**	**349**	*e*PKP		**PKiKP**		**20 09 15.1**	**-1.8**
VRAC	**Vranov**	**145.95**	**349**	⇓PKiKP		**PKPab**		**20 09 13.1**	**-0.7**
JURR	**Jurilovca**	**145.95**	**332**	⇑P		**PKiKP**		**20 09 16.4**	**-0.5**
ODBI	**Odobesti**	**145.96**	**335**	⇑P		**PKiKP**		**20 09 15.6**	**-1.4**
CFR	**Carcaliu**	**145.96**	**333**	⇑P		**PKiKP**		**20 09 15.7**	**-1.3**
CFR	**Carcaliu**	**145.96**	**333**	⇑PKP2		**PKiKP**		**20 09 15.7**	**-1.3**
VRI	**Vrincioaia**	**146.01**	**335**	⇑P		**PKiKP**		**20 09 15.5**	**-1.6**
VRI	**Vrincioaia**	**146.01**	**335**	⇑PKP2		**PKiKP**		**20 09 15.5**	**-1.6**
PLOR	**Plostina**	**146.05**	**335**	⇑P		**PKiKP**		**20 09 15.9**	**-1.3**
PLOR	**Plostina**	**146.05**	**335**	⇑PKP2		**PKiKP**		**20 09 15.9**	**-1.3**
TPGR	**Topolog**	**146.09**	**332**	⇑P		**PKiKP**		**20 09 16.5**	**-0.8**
JAVC	**Velka Javorina**	**146.16**	**347**	*e*PKP		**PKiKP**		**20 09 17.1**	**-0.3**
OZUR		**146.19**	**336**	⇑P		**PKiKP**		**20 09 15.6**	**-1.9**
KRUC	**Moravsky**	**146.22**	**349**	*e*PKP		**PKiKP**		**20 09 15.9**	**-1.5**
COVR	**Voineasa-Covas**	**146.24**	**335**	⇑P		**PKiKP**		**20 09 16.4**	**-1.2**
VYHS	**Vyhne**	**146.24**	**346**	*e*PKP		**PKiKP**		**20 09 16.7**	**-0.8**
TIRR	**Tirgusor**	**146.40**	**332**	⇑P		**PKiKP**		**20 09 17.3**	**-0.6**
TIRR	**Tirgusor**	**146.40**	**332**	⇑PKP2		**PKiKP**		**20 09 17.3**

PINNC					IAmb	IAmb	20 02 28.0			
	comp=Z,48nm,1.2s									
NNZ	**Nelson**	**24.79**	**205**		P	**P**	**20 03 27.5**	**+1.9**		
NNZ					IAmb	IAmb	20 04 08.4			
	comp=Z,15nm,1.2s									
KHZ	**Kahutara**	**25.75**	**203**		P	**P**	**20 03 35.0**	**+0.8**		
KHZ					IAmb	IAmb	20 03 51.4			
	comp=Z,12nm,1.0s									
LTZ	**Lake Taylor**	**26.56**	**205**			**P**	**20 03 42.6**	**+1.0**		
LTZ					IAmb	IAmb	20 03 48.7			
	comp=Z,9.6nm,1.1s									
MLZ	**Mavora Lakes**	**30.39**	**207**		P	**P**	**20 04 15.4**	**-0.3**		
WHZ	**Wether Hill Ro**	**30.88**	**206**		P	**P**	**20 04 20.1**	**+0.1**		
DCZ	**Deep Cove**	**30.89**	**208**		P	**P**	**20 04 20.0**	**-0.1**		
DCZ					IAmb	IAmb	20 04 37.9			
	comp=Z,8.4nm,1.0s									
CTAO	**Charters Tower**	**38.37**	**262**		P	**P**	**20 05 25.8**	**+0.7**		
CTAO					IAmb	IAmb	20 05 26.3			
	comp=Z,4.6nm,0.6s									
STKA	**Stephens Creek**	**42.60**	**244**		P	P	20 05 54.2	-5.8		
	comp=Z,2.5nm,0.9s,baz=90,slow=11,SNR=6.1									
	comp=Z,2.5nm,0.9s									
STKA	**Stephens Creek**	**42.60**	**244**		P	P	20 05 54.0	-6.0		
BBOO	**Buckleboo**	**47.35**	**243**		P	P	20 06 31.4	-6.4		
AS31	**Alice Springs**	**49.44**	**255**		P	**P**	**20 06 52.3**	**-1.7**		
ASAR	**Alice Springs**	**49.44**	**255**		P	**P**	**20 06 52.2**	**-1.8**		
	comp=Z,1.8nm,0.5s,baz=94,slow=7.3,SNR=29									
	comp=Z,1.8nm,0.5s									
ASAR	**Alice Springs**	**49.44**	**255**		P	**P**	**20 06 51.7**	**-2.3**		
WB0	**Warramunga Arr**	**49.48**	**260**		P	**P**	**20 06 53.7**	**-0.6**		
WB0					IAmb	IAmb	20 06 54.8			
	comp=Z,3.6nm,0.7s									
WB2	**Warramunga Arr**	**49.49**	**260**		P	**P**	**20 06 54.0**	**-0.4**		
WRA	**Warramunga Arr**	**49.50**	**260**		P	**P**	**20 06 54.2**	**-0.3**		
	comp=Z,2.3nm,0.6s,baz=102,slow=8.2,SNR=113									
	comp=Z,2.3nm,0.6s									
WRA	**Warramunga Arr**	**49.50**	**260**		P	**P**	**20 06 54.1**	**-0.3**		
MTN	**Manton Dam**	**53.95**	**268**		P	**P**	**20 07 25.8**	**-2.0**		
KNRA	**Kununurra**	**55.52**	**264**		P	**P**	**20 07 42.3**	**+3.3**		
FITZ	**Fitzroy Crossi**	**57.92**	**260**		P	**P**	**20 07 58.9**	**+2.7**		
MBWA	**Marble Bar**	**62.77**	**256**		P	**P**	**20 08 30.1**	**+0.7**		
MORW	**Morawa**	**64.69**	**246**		P	**P**	**20 08 41.2**	**-0.7**		
MAJO	**Matsushiro**	**72.19**	**320**		P	**P**	**20 09 29.0**	**+0.4**		
MAJO					IAmb	IAmb	20 09 30.4			
	comp=Z,5.5nm,0.9s									
MJB9	**Matsu-Tunnel**	**72.19**	**320**		P	**P**	**20 09 29.4**	**+0.9**		
MJB9					IAmb	IAmb	20 09 30.3			
	comp=Z,5.4nm,0.9s									
KDAK	**Kodiak Island**	**78.62**	**11**		P	P	20 09 50.6	-14		

*IDC **30** 20:00:06.2±1.3,23°.84N×141°.78E, h0km, mb3.7/5, mbtmp3.8/6, ML4.4/1, MS3.0/6, Error ellipse: s-maj=46.0km s-min=19.7km az=84.0*
*NEIC **30** 20:00:13.6±0.3,23°.96N±0°.09×141°.9E±0°.3, h58km±6km, mb4.2/10, Error ellipse: s-maj=33.6km s-min=12.3km az=93.0*
ISC 30 20:00:14.9±0.8, 24°.00N±0°.07×142°.0E±0°.2, h80km, n31, σ1s04/28, mb4.1/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.09**	**4**	Pn	**Pn**	**20 00 59.8**	**-1.6**
	41nm,0.3s,baz=198,slow=20,SNR=31						
JCJ				LR	LR	20 01 37.7	
	comp=Z,37nm,19.7s,baz=58,slow=28						
JCJ				Sn	**Sn**	**20 01 38.1**	**+0.9**
	18nm,0.3s,baz=128,slow=19,SNR=9.9						
	95nm,0.3s						
JCJ	**Chichijima**	**3.09**	**4**	Pn	**Pn**	**20 01 00.6**	**-0.8**
JCJ				Sn	**Sn**	**20 01 34.2**	**-3.0**
GUMO	**Guam**	**10.72**	**165**	LR	LR	20 06 06.3	
	comp=Z,51nm,18.6s,baz=28,slow=34						
MJAR	**Matsushiro Arr**	**12.91**	**346**	LR	LR	20 08 26.9	
	comp=Z,35nm,18.3s,baz=152,slow=38						
DAV	**Davao City (W)**	**23.02**	**226**	LR	LR	20 12 28.2	
	comp=Z,33nm,21.8s,baz=55,slow=32						
H11N1	**WAKE ISLAND Hy**	**23.53**	**96**	T	T	20 30 09.1	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**23.53**	**96**	T	T	20 30 19.9	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**23.54**	**96**	T	T	20 30 09.3	
	baz=283						
H11S3	**WAKE ISLAND Hy**	**23.68**	**99**	T	T	20 30 51.4	
	baz=289						
H11S1	**WAKE ISLAND Hy**	**23.69**	**99**	T	T	20 31 09.9	
	baz=289						
H11S2	**WAKE ISLAND Hy**	**23.70**	**99**	T	T	20 30 51.2	
	baz=289						
CMAR	**Chiang Mai Arr**	**40.35**	**271**	P	**P**	**20 07 44.6**	**-0.5**
	0.3nm,0.6s,baz=61,slow=9.4,SNR=4.4						
	0.3nm,0.6s						
WB0	**Warramunga Arr**	**44.12**	**190**	P	**P**	**20 08 15.2**	**-0.4**
WB0				IAmb	IAmb	20 08 17.8	
	comp=Z,4.0nm,1.1s						
WB0				PcP	**PcP**	**20 09 59.5**	**+0.1**
WRAB	**Tennant Creek**	**44.29**	**190**	P	**P**	**20 08 17.0**	**+0.1**
WRAB				PcP	**PcP**	**20 10 00.1**	**+0.1**
WB2	**Warramunga Arr**	**44.30**	**190**	P	**P**	**20 08 16.7**	**-0.3**
WB2				IAmb	IAmb	20 08 53.7	
	comp=Z,14nm,1.5s						
WB2				PcP	**PcP**	**20 10 00.1**	**+0.1**
WRA	**Warramunga Arr**	**44.30**	**190**	P	**P**	**20 08 16.6**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=11,slow=8.4,SNR=34						
WRA				PcP	**PP**	**20 10 00.6**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=5.3,slow=3.7,SNR=7.2						
	comp=Z,1.7nm,0.4s						
WRA	**Warramunga Arr**	**44.30**	**190**	P	**P**	**20 08 16.7**	**-0.3**
WRA				PcP	**PcP**	**20 10 00.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**44.77**	**202**	P	**P**	**20 08 20.3**	**-0.4**
FITZ				IAmb	IAmb	20 08 22.7	
	comp=Z,9.0nm,1.4s						
FITZ				PcP	**PcP**	**20 10 01.2**	**-0.4**
AS31	**Alice Springs**	**48.02**	**190**	P	**P**	**20 08 45.9**	**-0.2**
ASAR	**Alice Springs**	**48.02**	**190**	P	**P**	**20 08 46.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=17,slow=13,SNR=12						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**52.31**	**311**	P	**P**	**20 09 19.1**	**+0.7**
MK31				IAmb	IAmb	20 10 01.4	
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**52.31**	**311**	P	**P**	**20 09 19.4**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=96,slow=7.3,SNR=5.6						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**52.31**	**311**	P	**P**	**20 09 18.8**	**+0.3**
STKA	**Stephens Creek**	**55.57**	**180**	P	**P**	**20 09 41.7**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=336,slow=4.4,SNR=4.6						
	comp=Z,1.7nm,0.6s						
STKA	**Stephens Creek**	**55.57**	**180**	P	**P**	**20 09 41.0**	**-1.0**
STKA				IAmb	IAmb	20 09 41.2	
	comp=Z,3.3nm,1.5s						
KKAR	**Karatay Array**	**60.75**	**307**	P	**P**	**20 10 19.9**	**+1.6**
ABKAR	**Akbulak array**	**67.11**	**315**	P	**P**	**20 10 59.9**	**0.0**
ABKAR	**Akbulak array**	**67.11**	**315**	P	**P**	**20 10 59.9**	**0.0**
ABKAR				IAmb	IAmb	20 11 16.9	
	comp=Z,1.6nm,1.0s						
GRNB	**Grenville Isla**	**69.89**	**39**	P	**P**	**20 11 19.6**	**+2.4**
RES	**Resolute Bay**	**75.10**	**13**	LR	LR	20 44 03.0	
	comp=Z,48nm,20.8s,baz=353,slow=35						
SFJD	**Kangerlussuaq**	**88.79**	**5**	LR	LR	20 55 11.7	
	comp=Z,17nm,20.3s,baz=290,slow=37						

*EAF **30** 20:01:55.7±3.2, 28°.67S×27°.69E, h10km, MD3.3*
PRE 30 20:02:05.0±1.1, 28°.11S×26°.76E, h2km, ML2.2, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNKL	**Senekal, Frees**	**0.91**	**101**	*e*P	Pg	20 02 22.7	+0.3
SNKL				*e*S	Sg	20 02 34.9	+0.8
SNKL				IAML		20 02 45.9	
	comp=Z,62nm,1.1s						
PRYS	**Parys**	**1.29**	**24**	*e*P	Pg	20 02 29.8	+0.1
PRYS				*e*S	Sb	20 02 47.2	0.0
PRYS				IAML		20 02 48.0	
	comp=Z,158nm,0.3s						
BOSA	**Boshof**	**1.42**	**249**	*i* P	Pb	20 02 34.1	+1.8
BOSA				*i* S	Sn	20 02 54.8	+3.5
BOSA	**Boshof**	**1.42**	**249**	*i* P	Pb	20 02 34.1	+1.8
BOSA				*i* S	Sn	20 02 54.8	+3.5
SWZ	**Schweizer**	**1.57**	**306**	*e*P	Pb	20 02 34.9	+0.1
SWZ				*e*S	Sg	20 02 55.8	+0.4
SWZ				IAML		20 02 57.4	
	comp=Z,54nm,0.2s						
HRAO	**HartRAO**	**2.36**	**21**	*e*P	Pn	20 02 45.3	+0.4
LBTB	**Lobatse**	**3.25**	**341**	*e*P	Pn	20 02 58.2	+1.1
LBTB				*e*S	Sn	20 03 37.5	+1.0
LBTB				IAML		20 03 54.0	
	comp=Z,19nm,0.9s						
LBTB	**Lobatse**	**3.25**	**341**	*i* P	Pn	20 02 58.4	+1.3
LBTB				*i* S	Sb	20 03 43.9	+0.3
LBTB	**Lobatse**	**3.25**	**341**	*i* P	Pn	20 02 58.4	+1.3
LBTB				*i* S	Sb	20 03 43.9	+0.3
PKA	**Prieska**	**3.84**	**245**	*e*P	Pn	20 03 06.0	+0.7
PKA				*e*S	Sn	20 03 50.0	-1.1
PKA				IAML		20 04 14.3	
	comp=Z,1.8nm,0.1s						
BRAK	**Brakfontein**	**4.97**	**222**	*e*P	Pn	20 03 22.4	+1.7

HEL 30 20:05:37.0±0.2, 67°.63N×33°.74E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.44**	**52**	PG	Pg	20 05 44.6	-0.8
LVZ				SG	Sg	20 05 50.5	-0.6
VRF	**Varrio**	**1.58**	**276**	PG	Pn	20 06 04.8	-1.4
VRF				MSG		20 06 24.4	
	comp=Z,5.1nm,0.2s						
VRF				SG	Sn	20 06 24.7	-2.6
OLKF	**Oulanka, Finla**	**2.15**	**234**	PG	Pn	20 06 15.4	+1.3
OLKF				SG	Sb	20 06 43.7	-0.3
KU6	**Riekki**	**2.22**	**225**	PG	Pn	20 06 16.1	+1.1
KU6				MSG		20 06 42.6	
	comp=Z,1.8nm,0.2s						
KU6				SG	Sb	20 06 46.4	+0.6
MSF	**Maaselka**	**2.54**	**229**	PG	Pn	20 06 21.0	+1.6
MSF				SN	Sn	20 06 48.2	-2.8
SGF	**Sodankyl**	**2.77**	**269**	PG	Pb	20 06 25.4	-2.0
SGF				SG	Sb	20 07 00.4	-1.5
RNF	**Rovaniemi**	**3.19**	**255**	PN	Pn	20 06 27.8	-0.4
RNF				SN	Sn	20 07 06.8	-0.1
KEV	**Kevo**	**3.25**	**314**	PN	Pn	20 06 28.9	-0.3
KEV				SN	Sn	20 07 07.1	-1.4
ARA0	**ARCESS Array S**	**3.57**	**306**	PN	Pn	20 06 32.6	-1.0
ARA0				SN	Sn	20 07 14.2	-2.3
KLF	**Kolari**	**3.79**	**268**	SG	Sb	20 07 34.2	+3.2
HEF	**Hetta**	**3.87**	**286**	SN	Sn	20 07 22.1	-1.6
TOF	**Tornio**	**4.03**	**252**	PG	Pb	20 06 49.7	+1.0
PAJU	**Pajala**	**4.16**	**266**	SN	Sn	20 07 29.3	-1.6
ERTU	**Ertsjaerv**	**4.64**	**262**	SN	Sn	20 07 41.0	-1.7

PRU 30 20:07:39.3±0.0, 50°.36N×18°.84E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**1.02**	**236**	*e*PG	Pg	20 07 58.9	+0.1
MORC				*e*SG	Sg	20 08 12.5	+0.5
MAUC	**Maruska**	**1.19**	**214**	*e*PG	Pg	20 08 02.4	+0.3
MAUC				*e*SG	Sb	20 08 19.1	+0.4
LANS	**Liptovska Anna**	**1.28**	**161**	*e*PG	Pg	20 08 03.6	-0.2
LANS				*e*SG	Sb	20 08 20.9	-0.3
LANS				*e*LG	Lg	20 08 23.4	
KRLC	**Kraliky**	**1.35**	**259**	*e*PG	Pg	20 08 04.1	-1.1
KRLC				*e*SG	Sg	20 08 21.9	-0.8
DPC	**Dobruska-Polom**	**1.61**	**271**	*e*PG	Pn	20 08 09.1	0.0
DPC				*e*SG	Sb	20 08 30.8	-0.1
OSTC	**Ostas**	**1.69**	**278**	*e*SG	Sn	20 08 32.5	+0.1

IDC 30 20:07:50.0±4.6, 30°.36N×141°.35E, h0km, mb3.3/2, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=179.7km s-min=30.1km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.70**	**338**	Pn	Pn	20 09 29.1	-0.7
	0.2nm,0.3s,baz=161,slow=11,SNR=14						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**47.88**	**307**	P	P	20 16 29.9	+0.1
	0.2nm,0.7s,baz=78,slow=7.2,SNR=2.0						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**50.46**	**189**	P	P	20 16 49.6	-0.2
	0.3nm,0.6s,baz=7.0,slow=7.7,SNR=7.1						
	0.3nm,0.6s						

*CNRM **30** 20:09:22.6, 35°.57N×3°.67W, h12km, ml1.9*
*MDD **30** 20:09:23.2±0.5, 35°.59N×3°.81W, h0km, mb_Lg2.2/3, Error ellipse: s-maj=4.3km s-min=3.8km az=131.0*
*SFS **30** 20:09:23.0, 35°.59N×3°.81W, ML2.5, ALBORAN SUR*
ISC 30 20:09:22.7±1.2, 35°.50N±0°.03×3°.72W±0°.03, h20km±5km, n18, σ1s00/31, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	**0.33**	**212**	P	**Pb**	**20 09 30.2**	**+0.2**
PALE				S	**Sb**	**20 09 34.7**	**-0.2**
PVLZ	**Peæn de**	**0.57**	**236**	P	**Pb**	**20 09 34.4**	**+0.3**
PVLZ				S	**Sg**	**20 09 41.4**	**-0.5**
GOG	**Mont Gurugu**	**0.66**	**115**	P	**Pn**	**20 09 36.9**	**-0.1**
GOG				S	**Sb**	**20 09 44.7**	**+0.5**
WMELI	**Melilla**	**0.66**	**106**	P	**Pn**	**20 09 37.6**	**+0.8**
WMELI				S	**Sn**	**20 09 46.8**	**+0.2**
EMEL	**Melilla**	**0.66**	**107**	Pg	**Pn**	**20 09 37.3**	**+0.4**
EMEL				Sg	**Sn**	**20 09 46.8**	**+0.1**
EALB	**Alboran**	**0.71**	**52**	Pg	**Pn**	**20 09 37.9**	**+0.3**
EALB				Sg	**Sn**	**20 09 47.1**	**-0.9**
EALB				*i* Vmb_Lg		20 09 47.4	
AKLM	**AKL**	**0.99**	**187**	P	**Pn**	**20 09 42.9**	**+1.3**
AKLM				S	**Sn**	**20 09 56.6**	**+1.4**
CHAS	**Isla Isabel II**	**1.10**	**106**	P	**Pn**	**20 09 43.9**	**+0.9**
CHAS				S	**Sb**	**20 09 57.6**	**+0.6**
TAF	**Taforalt**	**1.27**	**122**	P	**Pg**	**20 09 46.2**	**-1.1**
TAF				S	**Sb**	**20 10 02.2**	**+0.3**
EMIJ	**Mijas**	**1.36**	**322**	Pg	**Pn**	**20 09 46.5**	**-0.1**
EMIJ				Sg	**Sb**	**20 10 02.9**	**-1.6**
EMIJ				*i* Vmb_Lg		20 10 09.8	
SMIR	**Smir Dam**	**1.36**	**278**	P	**Pn**	**20 09 46.9**	**+0.3**
ELGU	**Los Guajares,**	**1.37**	**3**	Pg	**Pn**	**20 09 46.2**	**-0.5**
ELGU				Sg	**Sb**	**20 10 04.0**	**-0.8**
ELGU				*i* Vmb_Lg		20 10 09.5	
CHEFC	**Chefchaouen**	**1.38**	**254**	P	**Pg**	**20 09 48.4**	**-1.0**
EMAL	**Malaga-Limoner**	**1.38**	**336**	P	**Pg**	**20 09 52.4**	**+2.9**
EMAL				S	**Sb**	**20 10 05.0**	**-0.1**
JBK	**JBK**	**1.50**	**140**	P	**Pn**	**20 09 49.1**	**+0.4**
EBER	**Berja**	**1.55**	**26**	Pg	**Pb**	**20 09 50.1**	**-0.7**
EBER				Sg	**Sb**	**20 10 10.2**	**+0.1**
MD31	**MD31**	**2.76**	**198**	P	**Pb**	**20 10 09.4**	**-2.1**
MDT	**Midelt**	**2.78**	**196**	P	**Pb**	**20 10 11.7**	**0.0**

*IDC **30** 20:14:34.0±2.7, 7°.22S×129°.44E, h107km±32km, mb3.1/3, mbtmp3.8/7, Error ellipse: s-maj=38.1km s-min=19.6km az=77.0*
*NEIC **30** 20:14:36.2±1.2, 7°.03S±0°.09×129°.55E±0°.04, h150km±19km, mb4.0/5, Error ellipse: s-maj=13.0km s-min=6.2km az=176.0*
ISC 30 20:14:35.5±0.7, 7°.11S±0°.05×129°.62E±0°.05, h150km, n36, σ2s52/41, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.88**	**118**		**Pn**	**20 15 10.7**	**+1.6**
SAUI				Sn	**Sn**	**20 15 37.5**	**+2.5**
SAUI	**Saumlaki**	**1.88**	**118**	P	**Pn**	**20 15 11.1**	**+1.9**
BNDI	**Bandanaira**	**2.59**	**6**	P	Pn	20 15 28.0	+10
FAKI	**Fak Fak**	**4.92**	**32**	Pn	**Pn**	**20 15 47.5**	**-0.3**
FAKI				Sn	**Sn**	**20 16 39.4**	**-5.0**
MTN	**Manton Dam**	**5.89**	**165**		**Pn**	**20 16 00.5**	**-0.2**
MTN				Sn	**Sn**	**20 17 03.4**	**-3.9**
SOEI	**Soe**	**5.91**	**243**		**Pn**	**20 16 03.2**	**+2.0**
SOEI				Sn	**Sn**	**20 17 07.5**	**-0.7**
SOEI	**Soe**	**5.91**	**243**	P	**Pn**	**20 16 03.0**	**+1.9**
KDU	**Kakadu**	**6.21**	**153**	P	**Pn**	**20 16 05.4**	**+0.4**
SIJI	**Sorong**	**6.42**	**15**	P	**Pn**	**20 16 08.1**	**+0.3**
	6.2nm,0.3s,baz=176,slow=19,SNR=22						
SIJI				S	**Sn**	**20 17 15.8**	**-4.3**
	10nm,0.2s,baz=295,slow=24,SNR=10						
BATI	**Baumata**	**6.64**	**242**	P	**Pn**	**20 16 12.7**	**+1.9**
	27nm,0.3s,baz=150,slow=0.3,SNR=23						
BATI				S	**Sn**	**20 17 23.2**	**-2.4**
	45nm,0.4s,baz=87,slow=22,SNR=17						
MMRI	**Maumere**	**7.47**	**258**	Pn	**Pn**	**20 16 24.7**	**+2.8**
KNRA	**Kununurra**	**8.55**	**186**		**Pn**	**20 16 35.5**	**-0.8**
KNRA					**Sn**	**20 18 05.2**	**-6.2**
KNRA	**Kununurra**	**8.55**	**186**	P	**Pn**	**20 16 35.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.59**	**199**	P	**Pn**	**20 17 14.9**	**-1.5**
	1.9nm,0.3s,baz=26,slow=10,SNR=42						
FITZ				S	Sn	20 19 15.5	-9.1
	5.4nm,0.7s,baz=118,slow=21,SNR=2.5						
FITZ	**Fitzroy Crossi**	**11.59**	**199**	Pn	**Pn**	**20 17 14.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**11.59**	**199**	P	**Pn**	**20 17 14.9**	**-1.5**
PLAI	**Plampang**	**11.85**	**261**	P	**Pn**	**20 17 21.0**	**+1.1**
WB0	**Warramunga Arr**	**13.40**	**160**	P	**Pn**	**20 17 37.6**	**-2.3**
WRAB	**Tennant Creek**	**13.54**	**161**	Pn	**Pn**	**20 17 38.8**	**-2.9**
WRAB	**Tennant Creek**	**13.54**	**161**	P	**Pn**	**20 17 41.1**	**-0.6**
WRA	**Warramunga Arr**	**13.55**	**161**	P	**Pn**	**20 17 39.7**	**-2.1**
	2.3nm,0.5s,baz=340,slow=13,SNR=41						
WRA				S	Sn	20 20 01.6	-10
	3.9nm,0.5s,baz=334,slow=22,SNR=15						
WRA	**Warramunga Arr**	**13.55**	**161**	Pn	**Pn**	**20 17 39.2**	**-2.5**
WB2	**Warramunga Arr**	**13.55**	**161**		Pn	20 17 38.9	-2.9
WR0	**Warramunga Arr**	**13.63**	**160**		**Pn**	**20 17 41.1**	**-1.7**
COEN	**Coen**	**14.96**	**118**	Pn	**Pn**	**20 17 59.2**	**-0.3**
COEN				IAmb	IAmb	20 18 32.0	
	comp=Z,17nm,1.5s						
JAGI	**Jajag, Banyuwa**	**15.39**	**264**		**Pn**	**20 18 05.3**	**+0.5**
QIS	**Mount Isa**	**16.50**	**145**	P	**Pn**	**20 18 21.6**	**+3.2**
AS31	**Alice Springs**	**16.96**	**166**	P	**P**	**20 18 24.7**	**+1.2**
AS31				IAmb	IAmb	20 18 32.1	
	comp=Z,1.6nm,0.3s						
ASAR	**Alice Springs**	**16.97**	**166**	P	**P**	**20 18 24.8**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=337,slow=9.1,SNR=24						
ASAR				S	**S**	**20 21 26.6**	**-6.1**
	comp=Z,0.8nm,0.7s,baz=350,slow=27,SNR=5.4						
ASAR	**Alice Springs**	**16.97**	**166**	P	**P**	**20 18 24.7**	**+1.2**
PSA00	**Pilbara Seismi**	**17.20**	**212**	P	**P**	**20 18 26.6**	**+0.5**
PSA00	**Pilbara Seismi**	**17.20**	**212**	P	**P**	**20 18 26.9**	**+0.9**
PSA00				IAmb	IAmb	20 18 31.8	
	comp=Z,14nm,1.2s						
WRKA	**Warakurna**	**17.87**	**184**	P	**Pn**	**20 18 36.2**	**+1.4**
CTA	**Charters Tower**	**20.65**	**130**	P	**P**	**20 19 06.1**	**+2.6**
	comp=Z,1.6nm,0.8s,baz=288,slow=9.6,SNR=1.7						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.52**	**310**	P	**P**	**20 21 53.6**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=138,slow=6.9,SNR=1.6						
	comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**20 25 22.6**	**+3.4**
	comp=Z,0.4nm,0.5s,baz=124,slow=7.9,SNR=9.3						
	comp=Z,0.4nm,0.5s						

*IDC **30** 20:23:08.9±4.0, 30°.43N×141°.19E, h0km, mb3.2/3, mbtmp3.2/4, ML2.3/1, Error ellipse: s-maj=164.5km s-min=27.4km az=74.0*
*JMA **30** 20:23:15.7±0.6, 31°.N±3°.×14°.3E±°, h122km, MV2.9/16, FAR E OFF IZU ISLANDS*
ISC 30 20:23:08.6±2.0, 31°.0N±0°.1×142°.9E±0°.4, h35km, n8, σ2s07/9, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**4.01**	**337**	*e*P	**Pn**	**20 24 10.0**	**+3.0**
BSO1				*e*S	**Sn**	**20 24 52.8**	**+0.2**
JHO	**Hitachi**	**5.95**	**342**	*e*P	**Pn**	**20 24 35.5**	**+1.4**
JRY	**Ryogami san**	**6.04**	**328**	*e*P	**Pn**	**20 24 36.8**	**+1.4**
JFK	**Kawauchi**	**6.59**	**346**	*e*S	**Sn**	**20 25 53.6**	**-3.4**
MJAR	**Matsushiro Arr**	**6.79**	**326**	Pn	**Pn**	**20 24 46.3**	**+0.6**
	0.1nm,0.3s,baz=154,slow=11,SNR=8.1						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**48.57**	**307**	P	**P**	**20 31 47.6**	**-0.9**
	0.2nm,0.7s,baz=77,slow=9.8,SNR=1.8						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**51.29**	**190**	P	**P**	**20 32 08.8**	**-0.5**
	0.4nm,0.7s,baz=6.4,slow=7.8,SNR=6.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**55.01**	**190**	P	**P**	**20 32 36.6**	**0.0**
	0.2nm,0.9s,baz=6.6,slow=8.9,SNR=2.0						
	0.2nm,0.9s						

*IDC **30** 20:49:22.1±5.0, 39°.10N×110°.16E, h0km, mb3.5/3, mbtmp3.6/4, MS2.7/1, Error ellipse: s-maj=105.5km s-min=22.5km az=86.0*
ISC 30 20:49:28.4±2.7, 39°.1N±0°.1×109°.6E±0°.3, h35km, n6, σ2s15/6, mb3.5/3, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**7.63**	**276**	*e*P	**Pn**	**20 51 16.0**	**-1.2**
GTA				pP		20 51 20.0	
GTA				sP		20 51 22.8	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**9.07**	**346**	Pn	**Pn**	**20 51 35.1**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=161,slow=13,SNR=9.6						
SONM				Sn	**Sn**	**20 53 19.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=

WRA	**Warramunga Arr**	**17.72**	**164**	P		**Pn**	**20 57 35.1**	**-2.6**
	0.2nm,0.3s,baz=340,slow=13,SNR=16							
	0.5nm,0.4s							
ASAR	**Alice Springs**	**21.20**	**168**	P		**P**	**20 58 15.8**	**-0.7**
	3.0nm,0.7s,baz=350,slow=10,SNR=37							
	3.0nm,0.7s							
MKAR	**Makanchi Array**	**64.39**	**326**	P		**P**	**21 04 07.3**	**+0.8**
	0.3nm,0.5s,baz=108,slow=7.7,SNR=2.4							
	0.3nm,0.5s							
KURBB	**Kurchatov Array**	**68.62**	**328**	P		**P**	**21 04 33.6**	**+0.2**
	0.3nm,0.4s,baz=127,slow=5.3,SNR=4.9							
	0.3nm,0.4s							

*IDC **30** 20:56:40.1±0.6,9.˚46S×111.˚82E,h0km,mb4.4/18, mbtmp4.4/20,ML4.2/2,Error ellipse: s-maj=20.6km s-min=12.7km az=50.0*

*DJA **30** 20:56:42.0±0.7,10.˚S±3.˚×11.˚2E±.˚,h31km±9km,M4.5/24, mb4.6/24,mB5.1/6,MLv4.5/16,Mw(mB)4.5/6*

*NEIC **30** 20:56:45.2±1.4,9.˚50S±0.˚07×111.˚81E±0.˚05,h35km±1km, mb4.7/54,Error ellipse: s-maj=13.0km s-min=7.9km az=206.0*

ISC 30 20:56:42.6±2.5,**9.˚77S**±0.˚05×**111.˚75E**±0.˚05,**h23**km±18km, **n169**,σ1**s93**/176,**mb4.6**/54,**4C**,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.67**	**340**	P	**Pn**	**20 57 09.9**	**-0.5**
PCJI				S	**Sn**	**20 57 34.8**	**+3.8**
PWJI	**Pagerwojo**	**1.74**	**2**	P	**Pn**	**20 57 10.7**	**-0.7**
PWJI				S	**Sn**	**20 57 32.9**	**0.0**
UGM	**Wanagama**	**2.21**	**327**		**Pn**	**20 57 17.1**	**-0.7**
UGM	**Wanagama**	**2.21**	**327**	P	**Pn**	**20 57 18.0**	**+0.1**
UGM				S	**Sn**	**20 57 48.4**	**+3.9**
UGM	**Wanagama**	**2.21**	**327**	P	**Pn**	**20 57 18.9**	**+1.0**
NGJI	**Ngawi**	**2.41**	**353**	P	**Pn**	**20 57 23.5**	**+2.9**
NGJI				S	**Sn**	**20 57 55.4**	**+6.1**
YOGI	**Yogyakarta**	**2.42**	**323**	P	**Pn**	**20 57 20.2**	**-0.5**
YOGI				S	**Sn**	**20 57 51.7**	**+2.1**
YOGI	**Yogyakarta**	**2.42**	**323**	P	Pn	20 57 38.3	+18
JAGI	**Jajag, Banyuwa**	**2.71**	**62**	Pn	**Pn**	**20 57 25.4**	**+0.7**
JAGI	**Jajag, Banyuwa**	**2.71**	**62**	P	**Pn**	**20 57 26.3**	**+1.6**
JAGI	**Jajag, Banyuwa**	**2.71**	**62**	P	**Pn**	**20 57 27.2**	**+2.5**
BLJI	**Banyuglugur**	**2.72**	**42**	P	**Pn**	**20 57 27.5**	**+2.6**
BLJI				S	**Sn**	**20 58 02.5**	**+5.4**
SMRI	**Semarang**	**3.00**	**334**		**Pn**	**20 57 27.5**	**-1.2**
SMRI	**Semarang**	**3.00**	**334**	P	**Pn**	**20 57 30.4**	**+1.7**
SMRI	**Semarang**	**3.00**	**334**	P	**Pn**	**20 57 32.3**	**+3.6**
SMRI	**Semarang**	**3.00**	**334**	P	**Pn**	**20 57 30.9**	**+2.2**
ABJI	**Asem Bagus**	**3.15**	**52**	P	**Pn**	**20 57 33.6**	**+2.8**
IGBI	**Denpasar**	**3.49**	**74**	P	**Pn**	**20 57 36.2**	**+0.8**
DNP	**Denpasar**	**3.59**	**73**	P	**Pn**	**20 57 39.9**	**+3.1**
SRBI	**Singaraja**	**3.81**	**64**	P	**Pn**	**20 57 41.0**	**+1.1**
BWJI	**Bawean**	**4.00**	**13**	P	**Pn**	**20 57 45.6**	**+3.1**
LEM	**Lembang**	**5.03**	**305**	Pn	**Pn**	**20 57 58.2**	**+1.5**
	4.8nm,0.3s,baz=114,slow=20,SNR=3.5						
LEM				Sn	**Sn**	**20 58 53.9**	**-0.3**
	4.4nm,0.3s,baz=164,slow=8.8,SNR=4.0						
TWSI	**Taliwang, Sumb**	**5.17**	**79**	P	**Pn**	**20 58 00.5**	**+1.9**
	0.2nm782nm70nm,0.7s						
SKJI	**Sukabumi**	**5.82**	**298**	P	**Pn**	**20 58 06.7**	**-0.9**
	0.4nm768nm50nm,0.5s						
PLAI	**Plampang**	**6.03**	**82**	P	**Pn**	**20 58 12.3**	**+1.9**
	0.8nm2µm254nm,1.1s						
PLAI	**Plampang**	**6.03**	**82**	P	**Pn**	**20 58 13.4**	**+3.0**
BBKI	**Banjar Baru**	**6.98**	**26**	P	Pn	20 58 27.8	+4.3
PBKI	**Pangkalan Bun**	**7.02**	**359**	P	**Pn**	**20 58 25.2**	**+1.1**
	0.3nm85nm,1.0s						
KAPI	**Kappang**	**9.24**	**60**	Pn	**Pn**	**20 58 56.7**	**+2.2**
	baz=231,slow=11						
KAPI	**Kappang**	**9.24**	**60**	Pn	**Pn**	**20 58 58.4**	**+3.9**
KAPI	**Kappang**	**9.24**	**60**	P	**Pn**	**20 58 58.1**	**+3.6**
MTKI	**Muara Teweh, K**	**9.32**	**20**	P	**Pn**	**20 58 57.6**	**+2.0**
	11nm,1.3s						
BSSI	**Bau Bau, Buton**	**9.38**	**68**	P	**Pn**	**20 58 59.0**	**+2.5**
	24nm,1.1s						
PPBI	**Pangkal Pinang**	**9.39**	**323**	P	**Pn**	**20 58 55.5**	**-1.1**
	16nm,1.2s						
BKSI	**Bulukumba**	**9.41**	**63**	P	**Pn**	**20 58 58.6**	**+1.8**
	16nm,0.7s						
STKI	**Sintang**	**9.78**	**358**	P	Pn	20 59 10.4	+8.5
SPSI	**Sidrap Palu**	**9.84**	**55**	P	**Pn**	**20 59 05.6**	**+2.9**
	8.0nm,0.9s						
BNSI	**Bone**	**9.86**	**58**	P	**Pn**	**20 59 06.5**	**+3.4**
	15nm,1.1s						
EDFI	**Ende, Flores**	**9.87**	**85**	P	**Pn**	**20 59 02.3**	**-0.9**
	19nm,1.0s						
MNAI	**Manna**	**10.24**	**301**	Pn	**Pn**	**20 59 05.4**	**-2.9**
MMRI	**Maumere**	**10.42**	**85**	Pn	**Pn**	**20 59 08.7**	**-2.0**
MMRI	**Maumere**	**10.42**	**85**	P	**Pn**	**20 59 08.9**	**-1.8**
	52nm,0.9s						
TTSI	**Tana Toraja**	**10.44**	**51**	P	**Pn**	**20 59 12.7**	**+1.7**
	1µm15nm,1.2s						
MASI	**Maura Aman, Be**	**11.51**	**304**	P	**Pn**	**20 59 23.5**	**-2.2**
	53nm,2.1s						
BATI	**Baumata**	**11.75**	**93**	Pn	**Pn**	**20 59 29.5**	**+0.6**
	4.4nm,0.3s,baz=280,slow=6.1,SNR=12						
BATI				Sn	**Sn**	**21 01 33.8**	**-5.7**
	0.5nm,0.3s,baz=315,slow=8.6,SNR=1.2						
	26nm,0.6s						
BATI	**Baumata**	**11.75**	**93**	P	**Pn**	**20 59 29.3**	**+0.4**
	27nm,0.7s						
SOEI	**Soe**	**12.34**	**91**		**Pn**	**20 59 37.4**	**+0.2**
SOEI	**Soe**	**12.34**	**91**	P	**Pn**	**20 59 38.5**	**+1.4**
	56nm,0.8s						
SOEI	**Soe**	**12.34**	**91**	P	**Pn**	**20 59 38.9**	**+1.8**
MPSI	**Mapaga**	**12.91**	**39**	P	**Pn**	**20 59 45.3**	**+0.5**
	5.3nm,1.2s						
GIRL	**Giralia**	**13.02**	**170**	Pn	**Pn**	**20 59 46.1**	**-0.1**
MBWA	**Marble Bar**	**13.68**	**147**	Pn	**Pn**	**20 59 52.8**	**-2.5**
LUWI	**Luwuk**	**13.98**	**52**	P	**Pn**	**21 00 03.4**	**+4.0**
	36nm,1.3s						
LUWI	**Luwuk**	**13.98**	**52**	P	**Pn**	**21 00 03.3**	**+3.9**
PSA00	**Pilbara Seismi**	**14.08**	**147**	Pn	**Pn**	**20 59 58.4**	**-2.3**
PSA00	**Pilbara Seismi**	**14.08**	**147**	Pn	Pn	20 59 56.9	-3.9
MRSI	**Marisa**	**14.38**	**45**	P	**P**	**21 00 10.0**	**-1.6**
	14nm,1.0s						
GTOI	**Gorontalo**	**15.25**	**48**	P	**P**	**21 00 19.7**	**-1.7**
	9.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**15.81**	**123**	Pn	**Pn**	**21 00 23.7**	**-0.2**
	0.4nm,0.3s,baz=307,slow=8.2,SNR=9.0						
FITZ				Sn	Sn	21 03 06.3	-12
	0.1nm,0.3s,baz=251,slow=18,SNR=1.9						
	4.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.81**	**123**	Pn	**Pn**	**21 00 22.4**	**-1.5**
SANI	**Sanana**	**16.10**	**62**	P	**Pn**	**21 00 28.6**	**+1.0**
	17nm,1.1s						
KNRA	**Kununurra**	**17.60**	**111**	Pn	**Pn**	**21 00 45.4**	**-1.1**
TNTI	**Ternate**	**18.75**	**57**	P	**P**	**21 00 56.1**	**-4.0**
BNDI	**Bandanaira**	**18.75**	**75**	P	**Pn**	**21 01 02.7**	**+2.1**
	6µm128nm,1.3s						
BNDI	**Bandanaira**	**18.75**	**75**	P	**Pn**	**21 01 04.2**	**+3.6**
SGSI	**Sangihe**	**19.17**	**46**	P	Pn	21 01 19.3	+14
MTN	**Manton Dam**	**19.25**	**101**	P	**P**	**21 01 06.1**	**+0.5**
SAUI	**Saumlaki**	**19.40**	**86**	P	**P**	**21 01 06.0**	**-1.2**
SAUI				IAmb	IAmb	21 01 12.2	
	comp=Z,59nm,0.9s						
SAUI	**Saumlaki**	**19.40**	**86**	P	**P**	**21 01 04.6**	**-2.6**
MORW	**Morawa**	**19.61**	**169**	P	**Pn**	**21 01 13.2**	**+2.4**
KDU	**Kakadu**	**20.54**	**100**	P	Pn	21 01 23.0	+1.2
SlJI	**Sorong**	**21.34**	**67**	P	**P**	**21 01 25.9**	**-2.3**
	comp=Z,8.9nm,0.8s,baz=221,slow=19,SNR=5.3						
	comp=Z,8.9nm,0.8s						
FAKI	**Fak Fak**	**21.47**	**73**	P	**P**	**21 01 27.4**	**-2.3**
WRKA	**Warakurna**	**21.87**	**136**	P	**P**	**21 01 36.5**	**+2.6**
WB0	**Warramunga Arr**	**24.02**	**117**	P	**P**	**21 01 57.3**	**+1.3**
WB0				IAmb	IAmb	21 01 59.5	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**24.03**	**117**	P	**P**	**21 01 57.7**	**+1.6**
	comp=Z,7.5nm,0.8s,baz=291,slow=12,SNR=68						
WRA				PcP	**PcP**	**21 05 39.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=300,slow=1.7,SNR=5.8						
	comp=Z,7.5nm,0.8s						
WRA	**Warramunga Arr**	**24.03**	**117**	P	**P**	**21 01 57.0**	**+0.8**
WRAB	**Tennant Creek**	**24.04**	**117**	P	**P**	**21 01 56.0**	**-0.1**
WRAB				IAmb	IAmb	21 01 59.8	
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**24.04**	**117**	P	**P**	**21 01 58.2**	**+2.0**
WB2	**Warramunga Arr**	**24.05**	**117**	P	**P**	**21 01 56.7**	**+0.5**
WR0	**Warramunga Arr**	**24.22**	**117**	P	**P**	**21 01 59.6**	**+1.8**
WR0				IAmb	IAmb	21 02 01.8	
	comp=Z,18nm,0.9s						
AS31	**Alice Springs**	**25.27**	**126**	P	**P**	**21 02 08.5**	**+1.2**
ASAR	**Alice Springs**	**25.27**	**126**	P	**P**	**21 02 09.4**	**+2.1**
	comp=Z,6.6nm,0.8s,baz=302,slow=8.8,SNR=42						
ASAR				PcP	**PcP**	**21 05 41.7**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=291,slow=1.4,SNR=6.8						
	comp=Z,6.6nm,0.8s						
ASAR	**Alice Springs**	**25.27**	**126**	P	**P**	**21 02 08.7**	**+1.4**
OOD	**Oodnadatta**	**28.80**	**132**	P	**P**	**21 02 41.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**30.77**	**336**	P	**P**	**21 02 55.1**	**-1.3**
	comp=Z,1.1nm,1.0s,baz=173,slow=7.8,SNR=7.2						
CMAR				PcP	**PcP**	**21 05 55.1**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=200,slow=3.1,SNR=5.3						
	comp=Z,1.1nm,1.0s						
STKA	**Stephens Creek**	**35.32**	**133**	P	**P**	**21 03 39.0**	**+2.8**
	comp=Z,7.1nm,0.9s,baz=304,slow=7.9,SNR=10						
	comp=Z,7.1nm,0.9s						
STKA	**Stephens Creek**	**35.32**	**133**	P	**P**	**21 03 37.9**	**+1.7**
STKA	**Stephens Creek**	**35.32**	**133**	P	**P**	**21 03 39.0**	**+2.8**
KMI	**Kunming**	**35.78**	**346**	⇑P	**P**	**21 03 42.5**	**+2.1**
KMI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KMI				LR	LR		
	comp=Z,180nm,15.0s						
KMI				LR	LR		
	comp=Z,180nm,13.8s						
KMI				LR	LR		
	comp=Z,210nm,21.1s						
PZH	**PanZhiHua**	**37.35**	**345**	P	**P**	**21 03 53.8**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH				pmax	pmax		
	comp=Z,70nm,4.1s						
H08S2	**Diego Garcia H**	**38.84**	**270**	T	T	21 45 48.8	
	baz=94,slow=75,SNR=101						
H08S3	**Diego Garcia H**	**38.85**	**270**	T	T	21 45 49.6	
	baz=94,slow=75,SNR=79						
H08S1	**Diego Carcia H**	**38.86**	**270**	T	T	21 45 55.5	
	baz=94,slow=75,SNR=75						
ENH	**Enshi**	**39.87**	**357**	P	**P**	**21 04 13.6**	**-1.0**
ENH				IAmb	IAmb	21 04 15.2	
	comp=Z,9.9nm,0.7s						
NJ2	**Nanjing**	**42.14**	**9**	*e*P	**P**	**21 04 35.5**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN	**Xi'an**	**43.65**	**357**	⇑P	**P**	**21 04 44.8**	**-0.8**
XAN				pmax	pmax		
	comp=Z,15nm,0.6s						
LSA	**Lhasa**	**43.97**	**334**	P	**P**	**21 04 47.3**	**-1.4**
LSA				IAmb	IAmb	21 04 49.4	
	comp=Z,8.6nm,0.8s						
LSA	**Lhasa**	**43.97**	**334**	P	**P**	**21 04 48.5**	**-0.2**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s						
LZH	**Lanzhou**	**46.22**	**351**	*e*P	**P**	**21 05 06.0**	**-0.1**
LZH				pmax	pmax		
	comp=Z,31nm,1.5s						
GOMU	**GeErMu**	**48.43**	**342**	P	**P**	**21 05 22.8**	**-0.8**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,26nm,4.6s						
JHS	**Saijyo**	**48.91**	**23**	P	**P**	**21 05 25.8**	**-1.1**
JHS				IAmb	IAmb	21 05 26.7	
	comp=Z,11nm,1.0s						
KSAR	**Wonju Array Be**	**49.34**	**17**	P	**P**	**21 05 29.8**	**-0.3**
KSRS	**Korea Array**	**49.37**	**17**	P	**P**	**21 05 30.1**	**-0.2**
	comp=Z,8.0nm,0.7s,baz=201,slow=8.1,SNR=34						
	comp=Z,8.0nm,0.7s						
KS19	**Wonju Array Si**	**49.39**	**17**	P	**P**	**21 05 28.8**	**-1.7**
KS19				IAmb	IAmb	21 05 38.8	
	comp=Z,8.2nm,0.8s						
BJT	**Baijiatuan**	**49.71**	**4**	P	**P**	**21 05 31.2**	**-1.6**
BJT				IAmb	IAmb	21 05 34.4	
	comp=Z,5.7nm,0.6s						
BJI	**Beijing**	**49.73**	**4**	P	**P**	**21 05 32.0**	**-1.0**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GTA	**Gaotai**	**50.17**	**348**	⇑P	**P**	**21 05 37.0**	**+0.4**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,54nm,6.2s						
GTA				LR	LR		
	comp=Z,68nm,16.4s						
GTA				LR	LR		
	comp=Z,98nm,20.0s						
GTA				LR	LR		
	comp=Z,75nm,16.7s						
HHC	**Hu-ho-hao-te**	**50.37**	**360**	*e*P	**P**	**21 05 41.3**	**+3.3**
HHC				pmax	pmax		
	comp=Z,33nm,0.6s						
HHC				pmax	pmax		
	comp=Z,76nm,6.3s						
INU	**Inuyama**	**50.84**	**27**	P	**P**	**21 05 39.4**	**-2.1**
JGF	**Kuroka**	**51.20**	**27**	P	**P**	**21 05 42.6**	**-1.6**
MAJO	**Matsushiro**	**52.36**	**27**	P	**P**	**21 05 50.7**	**-2.2**
MAJO				IAmb	IAmb	21 05 51.6	
	comp=Z,10nm,1.1s						
MJAR	**Matsushiro Arr**	**52.36**	**27**	P	**P**	**21 05 51.0**	**-1.9**
	comp=Z,6.6nm,0.9s,baz=199,slow=7.6,SNR=16						
MJAR				PcP	**PcP**	**21 07 04.4**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=241,slow=19,SNR=5.5						
	comp=Z,6.6nm,0.9s						
MJB9	**Matsu-Tunnel**	**52.37**	**27**	P	**P**	**21 05 50.4**	**-2.6**
MJB9				IAmb	IAmb	21 05 51.6	
	comp=Z,10nm,1.1s						
XLT	**XiLinHaoTe**	**53.56**	**4**	*e*P	**P**	**21 06 01.3**	**-0.4**
XLT				pmax	pmax		
	comp=Z,6.0nm,1.2s						
XLT				pmax	pmax		
	comp=Z,88nm,4.1s						
JSD	**Sado**	**53.63**	**26**	P	**P**	**21 06 00.3**	**-1.9**
MDJ	**Mudanjiang**	**56.49**	**15**	P	**P**	**21 06 22.0**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,79nm,3.6s						
NIL	**Nilore**	**56.60**	**322**	P	**P**	**21 06 21.6**	**-2.2**
USA0B	**Ussuriysk Arra**	**56.77**	**17**	P	**P**	**21 06 23.2**	**-1.5**
USRK	**Ussuriysk Ar.**	**56.77**	**17**	P	**P**	**21 06 23.4**	**-1.3**
	comp=Z,11nm,0.9s,baz=203,slow=6.7,SNR=12						
	comp=Z,11nm,0.9s						
USRK	**Ussuriysk Ar.**	**56.77**	**17**	P	**P**	**21 06 23.0**	**-1.8**
BNX	**BinXian**	**57.02**	**13**	⇑P	**P**	**21 06 25.3**	**-1.2**
BNX				pmax	pmax		
	comp=Z,12nm,0.7s						
BNX				pmax	pmax		
	comp=Z,77nm,4.2s						
ULN	**Ulaanbaatar**	**57.53**	**356**	P	**P**	**21 06 28.7**	**-1.6**
ULN				IAmb	IAmb	21 06 30.7	
	comp=Z,6.4nm,1.0s						
SONM	**Songino Array**	**57.55**	**356**	P	**P**	**21 06 29.4**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=176,slow=8.5,SNR=24						
SONM				PcP	**PcP**	**21 07 24.3**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=175,slow=3.8,SNR=6.5						
	comp=Z,4.5nm,0.7s						
SONM	**Songino Array**	**57.55**	**356**	P	**P**	**21 06 29.4**	**-1.0**
SONM				IAmb	IAmb	21 06 30.5	
	comp=Z,4.8nm,0.9s						
SONM				PcP	**PcP**	**21 07 24.0**	**+0.4**
WMQ	**Urumqi**	**57.65**	**340**	*e*P	**P**	**21 06 32.3**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
KSH	**Kashi**	**59.22**	**328**	P	**P**	**21 06 39.8**	**-2.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBL	**Kabul**	**59.82**	**320**	P	**P**	**21 06 45.0**	**-1.6**
NRN	**Naryn**	**60.64**	**330**	P	**P**	**21 06 51.2**	**-0.9**
NRN				IAmb	IAmb	21 06 52.2	
	comp=Z,6.0nm,1.0s						
DRK	**Karamyk**	**61.44**	**326**	P	**P**	**21 06 56.5**	**-1.1**
DRK				IAmb	IAmb	21 07 01.0	
	comp=Z,3.7nm,0.7s						
BOOM	**Boomskoye usch**	**61.46**	**330**	P	**P**	**21 06 56.4**	**-1.2**
GAR	**Garm**	**61.95**	**324**	P	**P**	**21 06 59.6**	**-1.2**
GAR				IAmb	IAmb	21 07 01.2	
	comp=Z,7.2nm,1.0s						
MK31	**Makanchi Array**	**62.15**	**338**	P	**P**	**21 07 00.8**	**-1.1**
MK31				IAmb	IAmb	21 07 01.8	
	comp=Z,4.5nm,0.8s						
MKAR	**Makanchi Array**	**62.15**	**338**	P	**P**	**21 07 01.2**	**-0.7**
	comp=Z,5.1nm,0.4s,baz=151,slow=7.4,SNR=77						
	comp=Z,5.1nm,0.4s						
MKAR	**Makanchi Array**	**62.15**	**338**	P	**P**	**21 07 00.8**	**-1.1**
AAK	**Ala-Archa**	**62.28**	**330**	P	**P**	**21 07 02.6**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=167,slow=19,SNR=6.3						
	comp=Z,3.7nm,0.9s						
AAK	**Ala-Archa**	**62.28**	**330**	P	**P**	**21 07 02.4**	**-0.6**
AAK				IAmb	IAmb	21 07 03.5	
	comp=Z,6.8nm,1.1s						
MAKZ	**Makanchi**	**62.28**	**337**	P	**P**	**21 07 01.3**	**-1.5**
MAKZ				IAmb	IAmb	21 07 02.6	
	comp=Z,2.6nm,0.8s						
CHGR	**Chuyangaron**	**62.40**	**323**	P	**P**	**21 07 01.6**	**-2.3**
CHGR				IAmb	IAmb	21 07 44.9	
	comp=Z,5.5nm,0.8s						
KKAR	**Karatay Array**	**64.65**	**328**	P	**P**	**21 07 17.0**	**-1.6**
MAW	**Mawson**	**66.16**	**198**	P	**P**	**21 07 30.9**	**+3.0**
ZAA0	**Zalesovo Array**	**67.45**	**343**	P	**P**	**21 07 34.8**	**-1.5**
ZAA0				IAmb	IAmb	21 07 35.2	
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**67.45**	**343**	P	**P**	**21 07 35.1**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=161,slow=4.2,SNR=11						
	comp=Z,1.8nm,0.5s						
ZALV	**Zalesovo Beam**	**67.45**	**343**	P	**P**	**21 07 34.8**	**-1.4**
GEYT	**Alibeck**	**68.96**	**317**	P	**P**	**21 07 46.0**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=117,slow=5.2,SNR=7.1						
	comp=Z,2.8nm,0.9s						
GEYT	**Alibeck**	**68.96**	**317**	P	**P**	**21 07 45.5**	**-0.6**
GEYT				IAmb	IAmb	21 07 47.0	
	comp=Z,6.5nm,1.1s						
GYA0B	**ALIBECK ARRAY**	**68.96**	**317**	P	**P**	**21 07 45.5**	**-0.6**
GYA0B				IAmb	IAmb	21 07 46.9	
	comp=Z,5.9nm,1.1s						
VNDA	**Vanda**	**72.42**	**170**	P	**P**	**21 08 09.2**	**+2.8**
	comp=Z,0.9nm,0.9s,baz=305,slow=6.2,SNR=5.7						
	comp=Z,0.9nm,0.9s						
RAYN	**Ar Rayn**	**72.69**	**298**	P	**P**	**21 08 08.7**	**-0.4**
YAK	**Yakutsk**	**72.94**	**9**	P	**P**	**21 08 08.0**	**-1.7**
PEA0B	**Petropavlovsk-**	**73.82**	**27**	P	**P**	**21 08 13.6**	**-1.5**
PETK	**Petropavlovsk-**	**73.82**	**27**	P	**P**	**21 08 14.0**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=214,slow=5.0,SNR=5.6						
	comp=Z,1.7nm,0.6s						
PETK	**Petropavlovsk-**	**73.82**	**27**	P	**P**	**21 08 13.4**	**-1.8**
ABKAR	**Akbulak array**	**74.22**	**328**	P	**P**	**21 08 17.0**	**-0.5**
KMBO	**Kilima Mbogo**	**74.53**	**272**	P	**P**	**21 08 21.9**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=98,slow=7.1,SNR=5.4						
	comp=Z,1.4nm,0.6s						
KMBO	**Kilima Mbogo**	**74.53**	**272**	P	**P**	**21 08 20.5**	**+0.1**
MBAR	**Mbarara**	**81.03**	**271**	P	**P**	**21 08 56.5**	**-0.1**
MBAR				IAmb	IAmb	21 08 59.8	
	comp=Z,5.0nm,0.7s						
KBZ	**Khabaz**	**81.86**	**317**	P	**P**	**21 09 00.7**	**+0.7**
	comp=Z,5.8nm,0.9s,baz=178,slow=2.6,SNR=9.1						
	comp=Z,5.8nm,0.9s						
KIV	**Kislovodsk**	**82.08**	**317**	P	**P**	**21 09 00.7**	**-0.6**
KIV				IAmb	IAmb	21 09 03.4	
	comp=Z,8.8nm,0.9s						
BOSA	**Boshof**	**82.33**	**242**	P	**P**	**21 09 03.6**	**+0.5**
LBTB	**Lobatse**	**82.47**	**246**	P	**P**	**21 09 05.0**	**+1.0**
LBTB				IAmb	IAmb	21 09 29.0	
	comp=Z,7.7nm,1.4s						
BRTR	**Keskin Array B**	**87.17**	**311**	P	**P**	**21 09 27.7**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=122,slow=7.0,SNR=14						
	comp=Z,2.2nm,0.8s						
CCM	**Cathedral Cave**	**145.07**	**33**	PKPdf	**PKPab**	**21 16 18.0**	**+0.1**
BDFB	**Brasilia**	**147.76**	**219**	PKPbc	**PKiKP**	**21 16 28.4**	**-0.3**
	0.2nm,1.2nm,0.4s,baz=126,slow=5.8,SNR=4.9						
WVT	**Waverly**	**148.30**	**31**	PKPdf	**PKPdf**	**21 16 24.2**	**+0.1**
PLAL	**Pickwick Lake**	**149.06**	**33**		**PKPbc**	**21 16 29.4**	**0.0**
V51A	**Loudon**	**150.23**	**27**	PKPdf	**PKPdf**	**21 16 26.9**	**-0.2**
V51A					**PKiKP**	**21 16 32.7**	**-0.4**
TKL	**Tuckaleechee C**	**150.61**	**26**	PKPbc	**PKiKP**	**21 16 34.4**	**+0.5**
	comp=Z,9.0nm,0.7s,baz=204,slow=2.5,SNR=8.0						
Y49A	**Blount Mountai**	**150.80**	**32**	PKPdf	**PKPdf**	**21 16 28.6**	**+0.5**
Y49A				PKPbc	**PKPbc**	**21 16 33.8**	**+0.1**

*IDC **30** 21:00:41.3±0.5,9.˚50S×111.˚76E,h0km,mb4.5/24, mbtmp4.4/28,ML4.1/4,MS3.5/18,Error ellipse: s-maj=16.8km s-min=10.1km az=46.0*

*BJI **30** 21:00:44.0±0.0,9.˚90S×111.˚60E,h37km,mb4.8/51, mB4.9/30,Ms4.4/9,Ms7 4.0/10*

*NEIC **30** 21:00:45.0±1.7,9.˚77S±0.˚07×111.˚69E±0.˚06,h30km±5km, mb4.7/61,Error ellipse: s-maj=10.5km s-min=7.7km az=198.0*

*DJA **30** 21:00:49.5±0.4,10.˚S±3.˚×11.˚2E±.˚,h47km±4km,M4.6/28, mb4.7/28,mB5.3/6,MLv4.6/13,Mw(mB)4.7/6*

ISC 30 21:00:44.7±1.4,**9.˚77S**±0.˚05×**111.˚68E**±0.˚05,**h27**km±10km, **n173**,σ1**s96**/158,**mb4.7**/63,**MS3.6**/20,**3C-1D**,**South of Jaw

GTOI	**Gorontalo**	**15.30**	**48**	P		**P**	**21 04 24.1**	**+0.5**	
	11nm,1.4s								
FITZ	**Fitzroy Crossi**	**15.87**	**123**	Pn		**Pn**	**21 04 26.0**	**-0.3**	
	0.5nm,0.3s,baz=315,slow=5.9,SNR=6.9								
FITZ				Sn		**Sn**	**21 07 13.0**	**-8.5**	
	0.3nm,0.3s,baz=47,slow=22,SNR=2.0								
	3.1nm,0.6s								
FITZ	**Fitzroy Crossi**	**15.87**	**123**	Pn		**Pn**	**21 04 24.8**	**-1.5**	
SANI	**Sanana**	**16.16**	**63**	P		**Pn**	**21 04 31.9**	**+1.8**	
	21nm,1.1s								
KKM	**Kota Kinabalu**	**16.35**	**16**	Pn		**Pn**	**21 04 30.3**	**-2.3**	
KNRA	**Kununurra**	**17.66**	**111**			**P**	**21 04 49.6**	**0.0**	
KNRA						**Sn**	**21 08 03.3**	**-1.7**	
RPSI	**Rantau Prapat**	**17.75**	**314**	P		**Pn**	**21 04 48.5**	**-1.6**	
PSI	**Prapat**	**17.82**	**314**	P		**Pn**	**21 04 48.5**	**-2.6**	
	0.9nm,0.3s,baz=176,slow=19,SNR=1.9								
	2.7nm,0.4s								
GSI	**Gunungsitoli**	**17.84**	**307**	Pn		**Pn**	**21 04 49.0**	**-2.3**	
LBMI	**Labuha**	**18.17**	**61**	P		**P**	**21 05 00.9**	**+5.6**	
	13nm,0.8s								
TNTI	**Ternate**	**18.80**	**57**	P		**P**	**21 05 01.4**	**-1.0**	
TNTI	**Ternate**	**18.80**	**57**	P		**Pn**	**21 05 09.2**	**+6.2**	
	16nm,0.9s								
MTN	**Manton Dam**	**19.31**	**101**			**P**	**21 05 07.7**	**-0.3**	
MTN				IAmb		IAmb	21 05 16.5		
	comp=Z,26nm,0.9s								
SAUI	**Saumlaki**	**19.46**	**86**			**P**	**21 05 08.6**	**-1.0**	
SAUI				IAmb		IAmb	21 05 11.6		
	comp=Z,53nm,0.8s								
SAUI	**Saumlaki**	**19.46**	**86**	P		**Pn**	**21 05 11.2**	**+0.3**	
	comp=Z,94nm,1.0s								
SIJI	**Sorong**	**21.39**	**67**	P		**P**	**21 05 28.7**	**-1.9**	
	comp=Z,6.8nm,0.7s,baz=289,slow=23,SNR=4.2								
	comp=Z,6.8nm,0.7s								
DAV	**Davao City (W)**	**21.72**	**40**	LR		LR	21 15 39.9		
	comp=Z,60nm,18.0s,baz=200,slow=42								
SRIT	**Nakonsritamara**	**21.86**	**326**	P		**P**	**21 05 34.7**	**-0.8**	
SRIT				IAmb		IAmb	21 05 38.5		
	comp=Z,17nm,0.7s								
NWAO	**Narrogin (SRO)**	**23.60**	**168**	LR		LR	21 14 52.0		
	comp=Z,140nm,18.5s,baz=240,slow=36								
WB0	**Warramunga Arr**	**24.07**	**117**	P		**P**	**21 05 59.3**	**+1.2**	
WB0				IAmb		IAmb	21 06 01.2		
	comp=Z,20nm,0.9s								
WRA	**Warramunga Arr**	**24.09**	**117**	P		**P**	**21 05 59.2**	**+0.9**	
	comp=Z,8.6nm,0.8s,baz=291,slow=12,SNR=36								
WRA				PcP		**PcP**	**21 09 40.2**	**+0.8**	
	comp=Z,0.8nm,0.9s,baz=289,slow=2.4,SNR=3.6								
WRA				S		**S**	**21 10 21.5**	**+7.1**	
	comp=Z,0.6nm,1.0s,baz=293,slow=22,SNR=1.9								
	comp=Z,8.6nm,0.8s								
WRA	**Warramunga Arr**	**24.09**	**117**	P		**P**	**21 05 59.6**	**+1.3**	
WRAB	**Tennant Creek**	**24.09**	**117**	P		**P**	**21 05 59.4**	**+1.1**	
WRAB				IAmb		IAmb	21 06 01.5		
	comp=Z,17nm,0.9s								
WB2	**Warramunga Arr**	**24.10**	**117**	P		**P**	**21 05 59.6**	**+1.3**	
WB2				IAmb		IAmb	21 06 01.5		
	comp=Z,14nm,0.9s								
WR0	**Warramunga Arr**	**24.27**	**117**	P		**P**	**21 06 01.4**	**+1.4**	
WR0				IAmb		IAmb	21 06 03.5		
	comp=Z,28nm,1.0s								
AS31	**Alice Springs**	**25.32**	**126**	P		**P**	**21 06 11.0**	**+1.6**	
ASAR	**Alice Springs**	**25.32**	**126**	P		**P**	**21 06 10.7**	**+1.3**	
	comp=Z,8.3nm,0.9s,baz=296,slow=9.2,SNR=24								
ASAR				PcP		**PcP**	**21 09 44.2**	**+2.1**	
	comp=Z,1.3nm,0.8s,baz=353,slow=2.0,SNR=6.4								
ASAR				LR		LR	21 17 00.6		
	comp=Z,69nm,20.8s,baz=300,slow=38								
	comp=Z,8.3nm,0.9s								
FORT	**Forrest**	**25.87**	**146**	P		**P**	**21 06 13.9**	**-0.4**	
CMAR	**Chiang Mai Arr**	**30.74**	**336**	P		**P**	**21 06 56.7**	**-1.2**	
CMAR				PcP		**PcP**	**21 09 56.4**	**+1.0**	
	comp=Z,0.6nm,0.4s,baz=194,slow=3.3,SNR=5.5								
	comp=Z,1.1nm,0.8s								
CTA	**Charters Tower**	**34.87**	**111**	P		**P**	**21 07 36.4**	**+2.3**	
	comp=Z,2.2nm,0.8s,baz=262,slow=7.1,SNR=2.4								
	comp=Z,2.2nm,0.8s								
PALK	**Pallekele**	**35.20**	**298**	LR		LR	21 20 54.3		
	comp=Z,60nm,20.1s,baz=233,slow=34								
STKA	**Stephens Creek**	**35.36**	**133**	P		**P**	**21 07 40.3**	**+2.1**	
	comp=Z,6.3nm,0.8s,baz=303,slow=7.2,SNR=9.7								
STKA				LR		LR	21 23 25.2		
	comp=Z,106nm,19.8s,baz=267,slow=38								
	comp=Z,6.3nm,0.8s								
STKA	**Stephens Creek**	**35.36**	**133**	P		**P**	**21 07 39.6**	**+1.4**	
GYA	**Guiyang**	**36.34**	**352**	⇓P		**P**	**21 07 47.0**	**+0.3**	
GYA				pmax		pmax			
	comp=Z,11nm,0.9s								
PZH	**PanZhiHua**	**37.33**	**345**	P		P	21 07 59.5	+4.4	
PZH				S		**S**	**21 13 42.0**	**+0.5**	
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,60nm,4.5s								
PZH				LR		LR			
	comp=Z,260nm,18.3s								
PZH				LR		LR			
	comp=Z,300nm,15.7s								
PZH				LR		LR			
	comp=Z,250nm,18.3s								
H08S2	**Diego Garcia H**	**38.78**	**270**	T		T	21 49 08.1		
	baz=96,slow=75,SNR=161								
H08S3	**Diego Garcia H**	**38.79**	**270**	T		T	21 49 08.7		
	baz=96,slow=75								
H08S1	**Diego Garcia H**	**38.80**	**270**	T		T	21 49 09.5		
	baz=96,slow=75,SNR=150								
JOW	**Kunigami**	**39.79**	**23**	LR		LR	21 25 43.2		
	comp=Z,31nm,20.1s,baz=226,slow=38								
ENH	**Enshi**	**39.87**	**357**	IAmb		IAmb	21 08 17.1		
	comp=Z,9.7nm,0.7s								
NJ2	**Nanjing**	**42.15**	**9**	*eP*		**P**	**21 08 37.0**	**+2.0**	
NJ2				pmax		pmax			
	comp=Z,20nm,0.6s								
XAN	**Xi'an**	**43.65**	**357**	⇑P		**P**	**21 08 46.5**	**-0.7**	
XAN				pP		pP	21 08 55.8	+1.4	
XAN				pmax		pmax			
	comp=Z,19nm,1.2s								
XAN				LR		LR			
	comp=Z,210nm,21.3s								
LSA	**Lhasa**	**43.95**	**334**	IAmb		IAmb	21 08 51.6		
	comp=Z,11nm,0.8s								
LZH	**Lanzhou**	**46.21**	**351**	*eP*		**P**	**21 09 08.0**	**+0.3**	
LZH				pP		sP	21 09 21.0	+2.5	
LZH				sP		pwP	21 09 26.0	+7.7	
LZH				pmax		pmax			
	comp=Z,42nm,1.4s								
JHS	**Saijyo**	**48.93**	**23**	P		**P**	**21 09 28.1**	**-0.6**	
KSAR	**Wonju Array Be**	**49.36**	**17**	P		**P**	**21 09 31.9**	**0.0**	
KSRS	**Korea Array**	**49.38**	**17**	P		**P**	**21 09 29.8**	**-2.2**	
	comp=Z,7.3nm,0.8s,baz=203,slow=7.9,SNR=26								
	comp=Z,7.3nm,0.8s								
KS19	**Wonju Array Si**	**49.41**	**17**	P		**P**	**21 09 31.0**	**-1.3**	
KS19				IAmb		IAmb	21 09 32.0		
	comp=Z,10.0nm,0.9s								
BJT	**Baijiatuan**	**49.71**	**5**	P		**P**	**21 09 33.0**	**-1.5**	
BJT				IAmb		IAmb	21 09 35.6		
	comp=Z,5.1nm,0.7s								
BJI	**Beijing**	**49.74**	**5**	P		**P**	**21 09 33.3**	**-1.3**	
BJI				pmax		pmax			
	comp=Z,7.0nm,0.8s								
JWT	**Wachi**	**50.11**	**25**	P		**P**	**21 09 36.7**	**-0.9**	
GTA	**Gaotai**	**50.16**	**348**	*eP*		**P**	**21 09 38.3**	**+0.2**	
GTA				PcP		**PcP**	**21 10 58.5**	**+1.3**	
GTA				pmax		pmax			
	comp=Z,11nm,1.0s								
GTA				pmax		pmax			
	comp=Z,87nm,6.7s								
GTA				LR		LR			
	comp=Z,56nm,16.4s								
GTA				LR		LR			
	comp=Z,140nm,17.1s								
GTA				LR		LR			
	comp=Z,72nm,15.3s								
HHC	**Hu-ho-hao-te**	**50.37**	**360**	*eP*		P	21 09 43.5	+3.9	
HHC				pmax		pmax			
	comp=Z,14nm,0.5s								
HHC				pmax		pmax			
	comp=Z,98nm,5.8s								
INU	**Inuyama**	**50.87**	**27**	P		**P**	**21 09 41.5**	**-1.9**	
INU				IAmb		IAmb	21 09 42.5		
	comp=Z,13nm,1.0s								
JGF	**Kuroka**	**51.23**	**27**	P		**P**	**21 09 44.9**	**-1.2**	
JGF				IAmb		IAmb	21 09 46.5		
	comp=Z,7.1nm,0.9s								
MAJO	**Matsushiro**	**52.39**	**27**	P		**P**	**21 09 53.0**	**-1.8**	
MAJO				IAmb		IAmb	21 09 58.9		
	comp=Z,12nm,1.1s								
MJAR	**Matsushiro Arr**	**52.39**	**27**	P		**P**	**21 09 52.2**	**-2.6**	
	comp=Z,9.7nm,0.9s,baz=202,slow=7.8,SNR=19								
	comp=Z,9.7nm,0.9s								
MJB9	**Matsu-Tunnel**	**52.39**	**27**	P		**P**	**21 09 53.2**	**-1.5**	
MJB9				IAmb		IAmb	21 09 58.9		
	comp=Z,12nm,1.1s								
XLT	**XiLinHaoTe**	**53.57**	**4**	⇑P		P	21 10 02.8	-0.6	
XLT				pP		sP	21 10 16.0	+1.8	
XLT				sP		pP	21 10 20.8	+10	
XLT				pmax		pmax			
	comp=Z,8.0nm,1.1s								
XLT				pmax		pmax			
	comp=Z,63nm,5.0s								
JSD	**Sado**	**53.66**	**26**	P		**P**	**21 10 02.4**	**-1.6**	
DZM	**Mont Dzumac**	**53.80**	**110**	LR		LR	21 34 03.2		
	comp=Z,72nm,19.2s,baz=212,slow=37								
MDJ	**Mudanjiang**	**56.51**	**15**	P		**P**	**21 10 23.5**	**-1.0**	
MDJ				pmax		pmax			
	comp=Z,13nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,120nm,4.7s								
NIL	**Nilore**	**56.56**	**322**	P		**P**	**21 10 23.7**	**-1.4**	
USA0B	**Ussuriysk Arra**	**56.79**	**17**	P		**P**	**21 10 25.4**	**-1.1**	
USRK	**Ussuriysk Ar.**	**56.79**	**17**	P		**P**	**21 10 25.6**	**-0.9**	
	comp=Z,14nm,0.9s,baz=202,slow=5.4,SNR=18								
	comp=Z,14nm,0.9s								
BNX	**BinXian**	**57.04**	**13**	⇑P		**P**	**21 10 27.0**	**-1.2**	
BNX				pmax		pmax			
	comp=Z,16nm,1.0s								
BNX				pmax		pmax			
	comp=Z,120nm,3.7s								
ULN	**Ulaanbaatar**	**57.53**	**356**	P		**P**	**21 10 31.2**	**-0.7**	
ULN				IAmb		IAmb	21 10 32.5		
	comp=Z,7.1nm,0.8s								
SONM	**Songino Array**	**57.55**	**356**	P		**P**	**21 10 31.2**	**-0.7**	
	comp=Z,7.1nm,0.9s,baz=173,slow=7.8,SNR=24								
SONM				PcP		**PcP**	**21 11 25.2**	**0.0**	
	comp=Z,2.0nm,0.9s,baz=185,slow=5.4,SNR=3.8								
SONM				LR		LR	21 37 35.0		
	comp=Z,49nm,18.8s,baz=189,slow=39								
	comp=Z,7.1nm,0.9s								
SONM	**Songino Array**	**57.55**	**356**	P		**P**	**21 10 31.3**	**-0.7**	
SONM				IAmb		IAmb	21 10 32.3		
	comp=Z,7.7nm,1.0s								
WMQ	**Urumqi**	**57.62**	**340**	*eP*		**P**	**21 10 36.0**	**+3.5**	
WMQ				pP		sP	21 10 47.3	+4.3	
WMQ				pmax		pmax			
	comp=Z,16nm,0.7s								
KBL	**Kabul**	**59.78**	**320**	P		**P**	**21 10 46.8**	**-1.1**	
NRN	**Naryn**	**60.61**	**330**	P		**P**	**21 10 52.4**	**-1.2**	
NRN				IAmb		IAmb	21 10 54.0		
	comp=Z,7.0nm,1.0s								
WSAR	**Wadi Sarin**	**61.39**	**303**	LR		LR	21 36 02.1		
	comp=Z,56nm,21.4s,baz=152,slow=35								
GAR	**Garm**	**61.92**	**324**	P		**P**	**21 11 01.0**	**-1.3**	
MK31	**Makanchi Array**	**62.13**	**338**	IAmb		IAmb	21 11 03.5		
	comp=Z,5.5nm,0.8s								
MKAR	**Makanchi Array**	**62.13**	**338**	P		**P**	**21 11 02.5**	**-0.8**	
	comp=Z,3.0nm,0.4s,baz=151,slow=7.3,SNR=45								
MKAR				LR		LR	21 40 55.7		
	comp=Z,40nm,18.1s,baz=158,slow=39								
	comp=Z,3.0nm,0.4s								
AAK	**Ala-Archa**	**62.25**	**330**	LR		LR	21 43 19.4		
	comp=Z,43nm,18.4s,baz=142,slow=41								
AAK	**Ala-Archa**	**62.25**	**330**	P		**P**	**21 11 04.0**	**-0.4**	
AAK				IAmb		IAmb	21 11 05.3		
	comp=Z,8.4nm,1.1s								
MAKZ	**Makanchi**	**62.26**	**337**	P		**P**	**21 11 03.6**	**-0.7**	
MAKZ				IAmb		IAmb	21 11 04.3		
	comp=Z,5.3nm,1.0s								
CHGR	**Chuyangaron**	**62.37**	**323**	P		**P**	**21 11 03.1**	**-2.1**	
KK31	**Karatay Array**	**64.62**	**328**	P		**P**	**21 11 18.6**	**-1.4**	
KKAR	**Karatay Array**	**64.62**	**328**	P		**P**	**21 11 18.7**	**-1.3**	
KKAR	**Karatay Array**	**64.62**	**328**	P		**P**	**21 11 18.5**	**-1.4**	
KKAR				IAmb		IAmb	21 11 21.5		
	comp=Z,3.3nm,1.1s								
MAW	**Mawson**	**66.14**	**198**	P		**P**	**21 11 32.1**	**+2.7**	
	comp=Z,4.3nm,1.0s,baz=59,slow=13,SNR=4.2								
	comp=Z,4.3nm,1.0s								
KURK	**Kurchatov**	**66.74**	**338**	P		**P**	**21 11 32.5**	**-0.9**	
KURK				IAmb		IAmb	21 11 33.5		
	comp=Z,3.1nm,0.8s								
ZAA0	**Zalesovo Array**	**67.44**	**343**	P		**P**	**21 11 36.2**	**-1.5**	
ZAA0				IAmb		IAmb	21 11 41.3		
	comp=Z,3.5nm,0.8s								
ZALV	**Zalesovo Beam**	**67.44**	**343**	P		**P**	**21 11 36.7**	**-1.0**	
	comp=Z,3.4nm,0.8s,baz=134,slow=4.3,SNR=10								
ZALV				LR		LR	21 43 37.9		
	comp=Z,33nm,18.1s,baz=148,slow=38								
	comp=Z,3.4nm,0.8s								
ZALV	**Zalesovo Beam**	**67.44**	**343**	P		**P**	**21 11 36.4**	**-1.4**	
GEYT	**Alibeck**	**68.92**	**317**	P		**P**	**21 11 47.6**	**+0.1**	
	comp=Z,5.3nm,1.0s,baz=172,slow=3.0,SNR=12								
	comp=Z,5.3nm,1.0s								
GEYT	**Alibeck**	**68.92**	**317**	P		**P**	**21 11 47.1**	**-0.4**	
GYA0B	**ALIBECK ARRAY**	**68.92**	**317**	P		**P**	**21 11 47.2**	**-0.3**	
GYA0B				IAmb		IAmb	21 11 48.7		
	comp=Z,7.8nm,1.1s								
ATD	**Arta Tunnel**	**71.62**	**286**	P		**P**	**21 12 03.3**	**-1.2**	
ATD				IAmb		IAmb	21 12 11.1		
	comp=Z,9.7nm,1.1s								
BVAR	**Borovoye Array**	**71.77**	**335**	LR		LR	21 48 15.0		
	comp=Z,36nm,18.2s,baz=138,slow=40								
BRVK	**Borovoye**	**71.83**	**335**	P		**P**	**21 12 04.3**	**-0.6**	
VNDA	**Vanda**	**72.42**	**170**	P		**P**	**21 12 08.8**	**+0.6**	
	comp=Z,1.6nm,0.9s,baz=299,slow=7.4,SNR=7.6								
VNDA				LR		LR	21 41 38.4		
	comp=Z,52nm,20.4s,baz=278,slow=34								
	comp=Z,1.6nm,0.9s								
VNDA	**Vanda**	**72.42**	**170**	P		**P**	**21 12 08.5**	**+0.4**	
RAYN	**Ar Rayn**	**72.64**	**298**	P		**P**	**21 12 09.8**	**-0.6**	
RAYN				IAmb		IAmb	21 12 11.6		
	comp=Z,6.5nm,1.0s								
YAK	**Yakutsk**	**72.95**	**9**	LR		LR	21 45 14.5		
	comp=Z,30nm,21.4s,baz=267,slow=37								
YAK	**Yakutsk**	**72.95**	**9**	P		**P**	**21 12 10.1**	**-1.2**	
PETK	**Petropavlovsk-**	**73.85**	**27**	P		**P**	**21 12 16.6**	**-0.3**	
	comp=Z,3.1nm,0.8s,baz=172,slow=14,SNR=2.8								
	comp=Z,3.1nm,0.8s								
ABKAR	**Akbulak array**	**74.19**	**328**	P		**P**	**21 12 18.5**	**-0.5**	
ABKAR	**Akbulak array**	**74.19**	**328**	IAmb		IAmb	21 12 19.7		
	comp=Z,14nm,0.8s								
KMBO	**Kilima Mbogo**	**74.47**	**272**	P		**P**	**21 12 23.4**	**+1.8**	
	comp=Z,3.3nm,1.0s,baz=50,slow=5.9,SNR=6.5								
	comp=Z,3.3nm,1.0s								
KMBO	**Kilima Mbogo**	**74.47**	**272**	P		**P**	**21 12 20.6**	**-1.0**	
AKTO	**Aktyubinsk**	**75.89**	**328**	P		**P**	**21 12 28.6**	**-0.2**	
	comp=Z,4.7nm,0.9s,baz=116,slow=10,SNR=4.2								
	comp=Z,4.7nm,0.9s								
LODK	**Lodwar**	**77.13**	**276**	P		**P**	**21 12 36.0**	**-0.7**	
ARU	**Arti**	**79.14**	**333**	LR		LR	21 53 42.5		
	comp=Z,32nm,18.5s,baz=148,slow=40								
ARU	**Arti**	**79.14**	**333**	P		**P**	**21 12 45.9**	**-0.8**	
ARU				IAmb		IAmb	21 12 47.5		
	comp=Z,8.8nm,1.1s								
QSPA	**South Pole Qui**	**80.23**	**180**	P		**P**	**21 12 54.5**	**+1.7**	
	comp=Z,3.2nm,1.1s,baz=323,slow=4.4,SNR=3.8								
	comp=Z,3.2nm,1.1s								
MBAR	**Mbarara**	**80.97**	**271**	P		**P**	**21 12 57.5**	**-0.4**	
MBAR				IAmb		IAmb	21 13 01.5		
	comp=Z,8.1nm,0.8s								
LSZ	**Lusaka**	**81.26**	**256**	P		**P**	**21 12 57.4**	**-1.8**	
SMY	**Shemya**	**81.74**	**33**	P		**P**	**21 12 59.8**	**-1.0**	
KBZ	**Khabaz**	**81.81**	**317**	P		**P**	**21 13 02.0**	**+0.6**	
	comp=Z,10nm,1.0s,baz=144,slow=5.6,SNR=12								
	comp=Z,10nm,1.0s								
KIV	**Kislovodsk**	**82.04**	**317**	P		**P**	**21 13 02.5**	**-0.3**	
KIV				IAmb		IAmb	21 13 05.6		
	comp=Z,7.5nm,0.9s								
BOSA	**Boshof**	**82.28**	**242**	P		**P**	**21 13 07.2**	**+2.7**	
	comp=Z,2.3nm,0.8s,baz=89,slow=2.9,SNR=4.0								
	comp=Z,2.3nm,0.8s								
BELG	**Belogornoye**	**82.47**	**326**	P		**P**	**21 13 04.5**	**-0.2**	
	comp=Z,16nm,1.0s,baz=104,slow=12								
	comp=Z,16nm,1.0s								
BR131	**Keskin Array S**	**87.13**	**311**	P		**P**	**21 13 28.0**	**-0.7**	
BRTR	**Keskin Array B**	**87.13**	**311**	P		**P**	**21 13 29.0**	**+0.4**	
	comp=Z,3.6nm,0.9s,baz=135,slow=7.7,SNR=17								
	comp=Z,3.6nm,0.9s								
BRTR	**Keskin Array B**	**87.13**	**311**	P		**P**	**21 13 28.6**	**-0.1**	
SNAA	**Sanae**	**88.25**	**197**	LR		LR	21 47 31.6		
	comp=Z,24nm,21.6s,baz=154,slow=32								
KLMR	**Klimovskoe**	**89.96**	**332**	*eP*		**P**	**21 13 39.8**	**-1.5**	
KLMR				AMP			21 13 45.8		
	comp=Z,25nm,1.4s								
AKASG	**Malin Array Be**	**92.75**	**321**	P		**P**	**21 13 53.1**	**-1.3**	
	comp=Z,0.6nm,0.6s,baz=93,slow=4.0,SNR=4.5								
	comp=Z,0.6nm,0.6s								
TKL	**Tuckaleechee C**	**150.64**	**26**	PKPbc		**PKiKP**	**21 20 35.8**	**+0.3**	
	comp=Z,11nm,0.9s,baz=326,slow=3.6,SNR=3.8								

IDC ***30*** *21:07:54.4±0.9, 15°.13N×47°.67W, h0km, mb4.1/7, mbtmp4.2/9, ML4.2/2, MS3.2/5, Error ellipse: s-maj=33.0km s-min=20.0km az=135.0*
NEIC ***30*** *21:08:09.9±1.1, 14°.54N±0°.07×49°.2W±0°.1, h10km±2km, mb4.5/4, Error ellipse: s-maj=24.0km s-min=11.9km az=91.0*

ISC 30 21:07:55.2±0.8, 15°.2N±0°.1×47°.95W±0°.10, h10km, n27, σ2§22/18, mb4.3/9, MS3.2/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MDP	**Montagnes des**	**11.07**	**205**			Pn	**Pn**	**21 10 32.6**	**-1.2**
	1.9nm,0.3s,baz=24,slow=13,SNR=65								
MDP						Sn	Sn	21 12 24.2	-14
	0.8nm,0.3s,baz=290,slow=23,SNR=2.0								
	3.8nm,0.3s								
MPOM	**Morne Pois Mar**	**12.51**	**268**	Pn		Pn	**Pn**	**21 10 50.4**	**-3.0**
GDSD	**La Dsirade Is**	**12.68**	**277**	Pn		Pn	**Pn**	**21 10 52.2**	**-3.4**
BIM	**Bigot**	**12.71**	**268**	Pn		Pn	**Pn**	**21 10 53.3**	**-2.9**
FDF	**Fort de France**	**12.77**	**269**	Pn		Pn	**Pn**	**21 10 55.0**	**-1.9**
SVN	**Savane Anatole**	**12.78**	**270**	Pn		Pn	**Pn**	**21 10 54.9**	**-2.2**
CBE	**Ff, Capester**	**13.18**	**275**	Pn		Pn	**Pn**	**21 11 01.4**	**-1.2**
TDBA	**Terre de Bas,**	**13.21**	**274**	Pn		Pn	**Pn**	**21 11 00.9**	**-2.0**
PCRV	**Puerto La Cruz**	**17.04**	**255**	P		P	**Pn**	**21 11 55.4**	**+1.6**
	0.6nm,0.3s,baz=63,slow=6.8,SNR=1.2								
	3.5nm,0.6s								
BAUV	**El Baul**	**20.61**	**255**	P		P	**P**	**21 12 34.2**	**-0.6**
SDDR	**Presa de Saban**	**22.61**	**283**	P		P	**P**	**21 12 59.5**	**+3.1**
SDDR				IAmb		IAmb	21 13 01.0		
	comp=Z,20nm,0.8s								
LPAZ	**La Paz**	**37.12**	**213**	P		P	**P**	**21 15 08.4**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=39,slow=12,SNR=2.4								
	comp=Z,0.4nm,0.4s								
SADO	**Sadowa**	**39.52**	**325**	LR		LR	21 27 57.5		
	comp=Z,17nm,21.1s,baz=175,slow=30								
H10N3	**ASCENSION HYDR**	**40.30**	**122**	T		T	21 58 28.6		
	baz=304,slow=75,SNR=14								
H10N2	**ASCENSION HYDR**	**40.30**	**122**	T		T	21 58 30.7		
	baz=304,slow=75,SNR=13								
H10N1	**ASCENSION HYDR**	**40.32**	**122**	T		T	21 58 30.8		
	baz=304,slow=75,SNR=14								
CPUP	**Villa Florida**	**42.31**	**193**	P		P	**P**	**21 15 50.1**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=5.6,slow=10,SNR=3.6								
	comp=Z,1.4nm,0.8s								
KOWA	**Kowa**	**42.41**	**85**	P		P	**P**	**21 15 48.6**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=281,slow=9.2,SNR=5.3								
KOWA				LR		LR	21 31 25.7		
	comp=Z,58nm,19.4s,baz=302,slow=34								
	comp=Z,1.5nm,0.6s								
MGMO	**Mountain Grove**	**44.86**	**308**	P		P	21 16 18.8	+8.9	
MIAR	**Mount Ida**	**45.20**	**304**	P		P	21 16 22.6	+10	
MIAR				IAmb		IAmb	21 16 24.3		
	comp=Z,4.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**48.09**	**86**	P		P	**21 16 35.0**	**-0.5**	
	comp=Z,12nm,0.6s,baz=282,slow=7.1,SNR=6.0								
	comp=Z,12nm,0.6s								
KEST	**Kesra**	**54.82**	**57**	P		P	**21 17 24.5**	**-1.3**	
	comp=Z,2.1nm,0.7s,baz=288,slow=9.6,SNR=2.0								
	comp=Z,2.1nm,0.7s								
ANMO	**Albuquerque**	**55.73**	**302**	LR		LR	21 38 59.5		
	comp=Z,16nm,21.5s,baz=84,slow=33								
NOA	**NORSAR Array B**	**62.04**	**28**	LR		LR	21 40 07.8		
	comp=Z,17nm,19.3s,baz=210,slow=31								
ARCES	**ARCESS Array B**	**70.06**	**21**	P		P	**21 19 07.1**	**0.0**	
	comp=Z,4.0nm,1.0s,baz=263,slow=7.2,SNR=5.2								
	comp=Z,4.0nm,1.0s								
RPN	**Rapa Nui**	**72.93**	**235

	LLP				*eS*		**Sb**	**21 27 15.6**	**+1.7**
BUKP	**Musuan**	**2.68**	**213**	⇃	*eP*		**Pb**	**21 26 44.8**	**+0.1**
BUKP					*i* S		**Sg**	**21 27 20.6**	**-1.7**
TBP	**Tagbilaran**	**2.68**	**261**		*eP*		**Pb**	**21 26 44.0**	**-0.7**
TBP					*i* S		**Sb**	**21 27 16.9**	**-0.9**
KCP	**Kidapawan**	**3.42**	**205**	⇂	*eP*		Pg	21 27 07.9	+6.0
KCP					*eS*		**Sb**	**21 27 40.2**	**+0.9**
DCPH	**Dipolog City**	**3.51**	**244**	⇂	*eP*		**Pn**	**21 26 52.1**	**+0.8**
CNOP	**Candoni, Negro**	**3.86**	**266**	⇃	*iP*		**Pn**	**21 26 59.4**	**+3.2**
CNOP					*i* S		**Sb**	**21 27 49.2**	**-2.6**
RCP	**Roxas**	**3.99**	**291**	⇂	*eP*		**Pn**	**21 27 00.1**	**+2.1**
WRA	**Warramunga Arr**	**30.86**	**166**		P		P	21 32 23.6	+10
	0.1nm,0.7s,baz=344,slow=8.8,SNR=1.2 0.1nm,0.7s								
ASAR	**Alice Springs**	**34.36**	**168**		P		P	21 32 53.9	+10
	0.1nm,0.5s,baz=348,slow=7.3,SNR=2.0 0.1nm,0.5s								
MKAR	**Makanchi Array**	**52.30**	**323**		P		**P**	**21 35 07.8**	**-0.9**
	0.3nm,0.6s,baz=126,slow=7.4,SNR=4.5								
MKAR					PcP		**PcP**	**21 36 20.0**	**0.0**
	0.7nm,0.9s,baz=122,slow=5.2,SNR=4.3 0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**54.87**	**331**		P		**P**	**21 35 26.6**	**-0.9**
	0.7nm,0.7s,baz=129,slow=7.8,SNR=2.3 0.7nm,0.7s								
ARCES	**ARCESS Array B**	**84.41**	**340**		P		**P**	**21 38 28.6**	**-0.7**
	3.5nm,0.8s,baz=65,slow=5.8,SNR=6.7								

*MAN **30** 21:28:12.7, 11°.21N×126°.67E, h26km, mb4.8, ML3.7, MS3.7*
*IDC **30** 21:28:18.1±4.5, 11°.10N×126°.55E, h56km±45km, mb3.8/14, mbtmp4.1/16, ML4.3/2, MS3.2/8, Error ellipse: s-maj=33.2km s-min=13.5km az=76.0*
*NEIC **30** 21:28:18.3±0.9, 11°.13N±0°.10×126°.6E±0°.2, h49km±10km, mb4.4/27, Error ellipse: s-maj=28.7km s-min=14.3km az=84.0*

ISC 30 21:28:16.1±0.5, 11°.13N±0°.05×126°.69E±0°.07, h37km, n68, σ1§12/62, mb4.3/29, MS3.2/6, 6C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.05**	**241**	⇂	*eP*	**Pn**	**21 28 48.1**	**0.0**
MSLP					*i* S	**Sn**	**21 29 13.7**	**+1.2**
LLP	**Lapu-Lapu**	**2.79**	**253**	⇃	*eP*	**Pn**	**21 29 00.6**	**+2.3**
LLP					*eS*	**Sn**	**21 29 31.4**	**+0.6**
BIPH	**Bislig**	**2.95**	**186**	⇂	*eP*	**Pn**	**21 29 00.0**	**-0.4**
BIPH					*eS*	**Sn**	**21 29 29.7**	**-4.9**
TBP	**Tagbilaran**	**3.13**	**243**		*eP*	**Pn**	**21 29 03.5**	**+0.6**
TBP					*i* S	**Sn**	**21 29 41.0**	**+2.0**
BUKP	**Musuan**	**3.61**	**207**	⇂	*iP*	Pn	21 29 17.0	+7.4
BUKP					*i* S	**Sn**	**21 29 50.1**	**-0.9**
RCP	**Roxas**	**3.89**	**277**	⇂	*eP*	**Pn**	**21 29 13.8**	**+0.4**
RCP					*eS*	**Sn**	**21 29 57.3**	**-0.6**
DCPH	**Dipolog City**	**4.15**	**233**	⇂	*eP*	**Pn**	**21 29 16.5**	**-0.4**
DCPH					*eS*	**Sn**	**21 30 03.0**	**-1.2**
CNOP	**Candoni, Negro**	**4.19**	**252**	⇂	*iP*	**Pn**	**21 29 17.1**	**-0.4**
CNOP					*i* S	**Sn**	**21 30 04.0**	**-1.2**
TNTI	**Ternate**	**10.31**	**176**		Pn	**Pn**	**21 30 42.6**	**+1.0**
LUWI	**Luwuk**	**12.70**	**198**		Pn	**Pn**	**21 31 15.2**	**+0.8**
SIJI	**Sorong**	**12.76**	**159**		P	**Pn**	**21 31 18.7**	**+3.5**
	1.2nm,0.3s,baz=347,slow=19,SNR=2.9 2.8nm,0.3s							
JOW	**Kunigami**	**15.69**	**5**		LR	LR	21 36 52.0	
	comp=Z,77nm,19.4s,baz=234,slow=33							
KAPI	**Kappang**	**17.46**	**204**		P	**P**	**21 32 17.5**	**-0.3**
	1.4nm,0.3s,baz=26,slow=12,SNR=4.5							
KAPI					LR	LR	21 40 12.4	
	comp=Z,90nm,18.3s,baz=24,slow=41 4.5nm,0.3s							
KAPI	**Kappang**	**17.46**	**204**			**Pn**	**21 32 16.8**	**-0.1**
GUMO	**Guam**	**17.93**	**80**		LR	LR	21 38 57.8	
	comp=Z,48nm,18.9s,baz=243,slow=35							
SOEI	**Soe**	**20.89**	**187**		P	**P**	**21 32 56.5**	**+1.0**
SOEI					IAmb	IAmb	21 33 25.7	
	comp=Z,37nm,1.1s							
BATI	**Baumata**	**21.41**	**188**		P	**P**	**21 33 01.2**	**+0.2**
	comp=Z,14nm,0.6s,baz=29,slow=19,SNR=6.9 comp=Z,14nm,0.6s							
JCJ	**Chichijima**	**21.56**	**40**		LR	LR	21 39 22.5	
	comp=Z,54nm,21.5s,baz=128,slow=31							
MTN	**Manton Dam**	**24.22**	**169**		P	**P**	**21 33 30.2**	**+0.6**
MTN					IAmb	IAmb	21 33 58.1	
	comp=Z,14nm,1.3s							
JHJ	**Hachijo jima 2**	**24.97**	**27**		LR	LR	21 43 10.1	
	comp=Z,70nm,20.6s,baz=305,slow=36							
JGF	**Kuroka**	**26.21**	**20**		P	**P**	**21 33 48.3**	**+0.7**
JGF					IAmb	IAmb	21 34 01.5	
	comp=Z,8.0nm,1.1s							
KSRS	**Korea Array**	**26.23**	**2**		P	**P**	**21 33 48.1**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=185,slow=9.6,SNR=3.4 comp=Z,1.0nm,0.6s							
KNRA	**Kununurra**	**26.71**	**176**		P	**P**	**21 33 52.6**	**+0.4**
KNRA					IAmb	IAmb	21 34 12.1	
	comp=Z,20nm,1.1s							
MJAR	**Matsushiro Arr**	**27.36**	**20**		LR	LR	21 45 20.9	
	comp=Z,70nm,18.5s,baz=220,slow=37							
CMAR	**Chiang Mai Arr**	**27.77**	**288**		P	**P**	**21 33 59.3**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=83,slow=7.4,SNR=1.7 comp=Z,0.4nm,0.3s							
FITZ	**Fitzroy Crossi**	**29.06**	**182**		P	**P**	**21 34 12.5**	**-0.6**
FITZ					IAmb	IAmb	21 34 15.4	
	comp=Z,6.9nm,1.4s							
WB0	**Warramunga Arr**	**31.63**	**166**		P	**P**	**21 34 35.2**	**-0.7**
WB0					IAmb	IAmb	21 34 35.9	
	comp=Z,4.2nm,0.9s							
WRA	**Warramunga Arr**	**31.78**	**166**		P	**P**	**21 34 35.7**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=343,slow=10.0,SNR=7.8 comp=Z,1.5nm,0.9s							
WRA	**Warramunga Arr**	**31.78**	**166**		P	**P**	**21 34 37.3**	**+0.1**
WB2	**Warramunga Arr**	**31.79**	**166**		P	**P**	**21 34 37.1**	**-0.1**
WR0	**Warramunga Arr**	**31.85**	**166**		P	**P**	**21 34 38.0**	**+0.2**
WR0					IAmb	IAmb	21 34 41.4	
	comp=Z,8.9nm,1.2s							
AS31	**Alice Springs**	**35.30**	**169**		P	**P**	**21 35 07.8**	**+0.1**
ASAR	**Alice Springs**	**35.30**	**169**		P	**P**	**21 35 07.3**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=351,slow=7.5,SNR=26 comp=Z,1.0nm,0.3s							
ASAR	**Alice Springs**	**35.30**	**169**		P	**P**	**21 35 08.3**	**+0.5**
GTA	**Gaotai**	**36.92**	**324**	*eP*		**P**	**21 35 21.5**	**-0.2**
GTA					pP	pP	21 35 28.5	-1.5
GTA					sP	sP	21 35 32.8	-0.6
GTA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,96nm,4.9s							
GTA					LR	LR		
	comp=N,66nm,13.4s							
GTA					LR	LR		
	comp=E,78nm,17.1s							
GTA					LR	LR		
	comp=Z,100nm,17.1s							
KLR	**Kul'dur**	**38.22**	**5**		P	**P**	**21 35 31.4**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=185,slow=12,SNR=4.3 comp=Z,0.7nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**39.29**	**74**		T	T	22 16 28.3	
	baz=261							
H11S1	**WAKE ISLAND Hy**	**39.30**	**74**		T	T	22 16 39.6	
	baz=261							
H11S2	**WAKE ISLAND Hy**	**39.31**	**74**		T	T	22 16 32.8	
	baz=261							
H11N1	**WAKE ISLAND Hy**	**39.60**	**73**		T	T	22 17 05.3	
	baz=264							
H11N2	**WAKE ISLAND Hy**	**39.61**	**73**		T	T	22 16 54.0	
	baz=264							
H11N3	**WAKE ISLAND Hy**	**39.62**	**73**		T	T	22 17 01.3	
	baz=264							
SONM	**Songino Array**	**40.37**	**339**		P	**P**	**21 35 50.5**	**0.0**
	comp=Z,0.9nm,0.6s,baz=162,slow=7.3,SNR=3.8 comp=Z,0.9nm,0.6s							
SONM	**Songino Array**	**40.37**	**339**		P	**P**	**21 35 50.9**	**+0.4**
FORT	**Forrest**	**41.69**	**178**		P	**P**	**21 36 01.9**	**+0.5**
BBOO	**Buckleboo**	**44.60**	**169**		P	**P**	**21 36 25.4**	**+0.6**
STKA	**Stephens Creek**	**45.08**	**162**		P	**P**	**21 36 29.7**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=333,slow=9.0,SNR=2.4 comp=Z,1.7nm,0.7s							
PETK	**Petropavlovsk-**	**48.69**	**24**		LR	LR	21 59 49.9	
	comp=Z,30nm,18.0s,baz=176,slow=39							
YAK	**Yakutsk**	**50.86**	**2**		P	**P**	**21 37 13.7**	**+0.7**
	comp=Z,5.5nm,0.5s,baz=197,slow=20,SNR=1.4 comp=Z,5.5nm,0.5s							
MK31	**Makanchi Array**	**51.60**	**322**		P	**P**	**21 37 18.7**	**-0.2**
MK31					IAmb	IAmb	21 37 20.2	
	comp=Z,3.9nm,1.1s							
MKAR	**Makanchi Array**	**51.60**	**322**		P	**P**	**21 37 18.8**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=115,slow=8.1,SNR=22 comp=Z,3.2nm,0.8s							
MKAR	**Makanchi Array**	**51.60**	**322**		P	**P**	**21 37 19.0**	**+0.1**
MAKZ	**Makanchi**	**51.80**	**322**		P	**P**	**21 37 20.2**	**-0.2**
MAKZ					IAmb	IAmb	21 37 22.2	
	comp=Z,6.0nm,1.2s							
ZALV	**Zalesovo Beam**	**54.08**	**331**		P	**P**	**21 37 36.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=116,slow=6.7,SNR=2.4 comp=Z,0.7nm,0.5s							
KURK	**Kurchatov**	**55.60**	**325**		P	**P**	**21 37 47.8**	**-0.3**
KURK					IAmb	IAmb	21 37 49.8	
	comp=Z,7.3nm,0.8s							
BTK	**Batken**	**56.94**	**311**		P	**P**	**21 37 58.4**	**+0.5**
BTK					IAmb	IAmb	21 38 00.3	
	comp=Z,6.4nm,1.1s							
GAR	**Garm**	**57.06**	**309**		P	**P**	**21 37 58.4**	**-0.5**
KBL	**Kabul**	**57.19**	**304**		P	**P**	**21 37 59.0**	**-1.0**
KBL					IAmb	IAmb	21 38 01.6	
	comp=Z,4.3nm,0.9s							
CHGR	**Chuyangaron**	**57.87**	**309**		P	**P**	**21 38 04.1**	**-0.4**
KK31	**Karatay Array**	**57.95**	**314**		P	**P**	**21 38 04.4**	**-0.6**
KK31					IAmb	IAmb	21 38 08.0	
	comp=Z,3.8nm,1.2s							
KKAR	**Karatay Array**	**57.95**	**314**		P	**P**	**21 38 05.0**	**0.0**
KKAR	**Karatay Array**	**57.95**	**314**		P	**P**	**21 38 04.5**	**-0.4**
KKAR					IAmb	IAmb	21 38 08.0	
	comp=Z,3.8nm,1.2s							
BRVK	**Borovoye**	**61.27**	**325**		P	**P**	**21 38 26.9**	**-0.7**
BRVK					IAmb	IAmb	21 38 29.8	
	comp=Z,5.0nm,1.1s							
GEYT	**Alibeck**	**66.36**	**307**		P	**P**	**21 39 01.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=117,slow=1.6,SNR=4.0 comp=Z,1.7nm,0.8s							
ABKAR	**Akbulak array**	**66.50**	**319**		P	**P**	**21 39 01.4**	**-0.7**
BRTR	**Keskin Array B**	**85.31**	**309**		P	**P**	**21 40 48.5**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=113,slow=6.7,SNR=2.5 comp=Z,0.4nm,0.7s							
KMBO	**Kilima Mbogo**	**89.66**	**269**		LR	LR	22 20 43.7	
	comp=Z,9.4nm,19.3s,baz=89,slow=35							
VNDA	**Vanda**	**90.73**	**173**		P	**P**	**21 41 15.2**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=333,slow=4.8,SNR=3.9 comp=Z,0.6nm,0.9s							

*DJA **30** 21:33:13.4±0.5, 10°.5×4°.×11°.2E±°, h10km, M4.2/15, mb4.6/7, mB4.9/2, MLv4.0/15, Mw(mB)4.2/2*
*NEIC **30** 21:33:17.8±2.2, 9°.70S±0°.09×111°.91E±0°.07, h58km±8km, mb4.4/21, Error ellipse: s-maj=13.5km s-min=8.1km az=207.0*
*IDC **30** 21:33:22.0±2.1, 9°.55S×111°.82E, h95km±20km, mb3.9/14, mbtmp4.2/16, Error ellipse: s-maj=24.7km s-min=12.2km az=43.0*

ISC 30 21:33:15.9±0.5, 9°.78S±0°.06×111°.78E±0°.06, h50km, n79, σ1§83/77, mb4.2/21, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.68**	**339**		P	Pn	21 33 39.7	-3.3
PWJI	**Pagerwojo**	**1.75**	**1**		P	**Pn**	**21 33 41.6**	**-2.2**
PWJI					S	**Sn**	**21 34 04.8**	**-0.1**
UGM	**Wanagama**	**2.23**	**326**		Pn	**Pn**	**21 33 48.2**	**-2.3**
UGM	**Wanagama**	**2.23**	**326**		P	**Pn**	**21 33 48.7**	**-1.8**
UGM					S	**Sn**	**21 34 15.5**	**-1.4**
UGM	**Wanagama**	**2.23**	**326**		P	**Pn**	**21 33 50.0**	**-0.5**
YOGI	**Yogyakarta**	**2.44**	**323**		P	**Pn**	**21 33 51.1**	**-2.3**
JAGI	**Jajag, Banyuwa**	**2.68**	**61**			**Pn**	**21 33 57.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**2.68**	**61**		P	**Pn**	**21 33 57.6**	**+1.0**
JAGI	**Jajag, Banyuwa**	**2.68**	**61**		P	**Pn**	**21 33 57.8**	**+1.2**
TBJI	**Tambak Boyo**	**2.94**	**1**		P	**Pn**	**21 33 59.6**	**-0.6**
SMRI	**Semarang**	**3.02**	**334**			**Pn**	**21 34 00.8**	**-0.5**
SMRI	**Semarang**	**3.02**	**334**		P	**Pn**	**21 33 59.7**	**-1.6**
SMRI	**Semarang**	**3.02**	**334**		P	**Pn**	**21 34 01.6**	**+0.3**
IGBI	**Denpasar**	**3.45**	**74**		P	**Pn**	**21 34 10.5**	**+3.3**
KMMI	**Kalianget**	**3.47**	**39**		P	**Pn**	**21 34 09.1**	**+1.7**
SRBI	**Singaraja**	**3.78**	**64**		P	**Pn**	**21 34 13.3**	**+1.5**
LEM	**Lembang**	**5.06**	**305**		P	Pn	21 34 35.6	+6.2
	16nm,0.4s,baz=143,slow=20,SNR=2.7							
LEM					S	**Sn**	**21 35 30.6**	**+4.0**
	42nm,0.8s,baz=351,slow=20,SNR=4.3							
TWSI	**Taliwang, Sumb**	**5.14**	**79**		P	**Pn**	**21 34 31.9**	**+1.5**
	0.1nm23nm,0.7s							
CNJI	**Cibinong**	**5.21**	**298**		P	Pn	21 34 29.0	-2.4
	0.4nm69nm,0.8s							
SKJI	**Sukabumi**	**5.86**	**298**		P	Pn	21 34 37.6	-2.7
	0.3nm1um68nm,0.4s							
PLAI	**Plampang**	**5.99**	**81**		P	**Pn**	**21 34 43.8**	**+1.7**
	0.4nm876nm104nm,1.0s							
PLAI	**Plampang**	**5.99**	**81**		P	**Pn**	**21 34 44.0**	**+1.9**
BBKI	**Banjar Baru**	**6.97**	**26**		P	**Pn**	**21 34 57.1**	**+1.6**
	0.1nm24nm,1.0s							
KASI	**Kota Agung**	**8.37**	**300**		P	**Pn**	**21 35 13.3**	**-1.4**
KAPI	**Kappang**	**9.21**	**60**		P	Pn	21 35 31.3	+5.1
	5.1nm,0.4s,baz=244,slow=12,SNR=5.1							
EDFI	**Ende, Flores**	**9.83**	**85**		P	**Pn**	**21 35 36.2**	**+1.3**
BATI	**Baumata**	**11.71**	**93**		P	**Pn**	**21 36 00.5**	**0.0**
	13nm,0.4s,baz=270,slow=20,SNR=3.1							
BATI					S	**Sn**	**21 38 08.5**	**-1.4**
	7.8nm,0.3s,baz=323,slow=15,SNR=2.2							
SOEI	**Soe**	**12.31**	**91**			**Pn**	**21 36 10.1**	**+1.4**
SOEI	**Soe**	**12.31**	**91**		P	**Pn**	**21 36 11.4**	**+2.7**
GIRL	**Giralia**	**13.01**	**170**		Pn	**Pn**	**21 36 16.9**	**-1.2**
MBWA	**Marble Bar**	**13.66**	**147**			**Pn**	**21 36 24.4**	**-2.6**
MBWA	**Marble Bar**	**13.66**	**147**		P	**Pn**	**21 36 24.4**	**-2.6**
PSA00	**Pilbara Seismi**	**14.06**	**147**		Pn	**Pn**	**21 36 30.4**	**-2.0**
PSA00	**Pilbara Seismi**	**14.06**	**147**		P	**Pn**	**21 36 31.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.78**	**123**		P	**Pn**	**21 36 53.9**	**-1.1**
	1.6nm,0.6s,baz=314,slow=13,SNR=2.9							
FITZ					S	**Sn**	**21 39 41.1**	**-7.9**
	2.2nm,0.6s,baz=114,slow=16,SNR=7.6							
FITZ	**Fitzroy Crossi**	**15.78**	**123**		Pn	**Pn**	**21 36 54.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**15.78**	**123**		P	**Pn**	**21 36 54.4**	**-0.6**
KNRA	**Kununurra**	**17.57**	**111**			**Pn**	**21 37 17.3**	**-0.1**
KNRA					IAmb	IAmb	21 37 52.8	
	comp=Z,35nm,1.4s							
MEEK	**Meekatharra**	**17.97**	**160**		P	**P**	**21 37 22.6**	**+0.3**
MORW	**Morawa**	**19.60**	**169**		P	**P**	**21 37 41.3**	**+1.2**
MORW					IAmb	IAmb	21 38 03.5	
	comp=Z,34nm,1.4s							
WB0	**Warramunga Arr**	**23.98**	**117**		P	**P**	**21 38 27.8**	**+1.8**
WRA	**Warramunga Arr**	**24.00**	**117**		P	**P**	**21 38 28.3**	**+2.1**
	comp=Z,1.8nm,0.8s,baz=291,slow=12,SNR=21							
WRA					PcP	**PcP**	**21 42 09.7**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=296,slow=1.6,SNR=1.9 comp=Z,1.8nm,0.8s							
WRA	**Warramunga Arr**	**24.00**	**117**		P	**P**	**21 38 28.4**	**+2.2**
WRAB	**Tennant Creek**	**24.01**	**117**		P	**P**	**21 38 29.1**	**+2.8**
WB2	**Warramunga Arr**	**24.01**	**117**		P	**P**	**21 38 27.6**	**+1.3**
WR0	**Warramunga Arr**	**24.18**	**117**		P	**P**	**21 38 30.5**	**+2.6**
WR0					IAmb	IAmb	21 38 32.1	
	comp=Z,5.1nm,0.8s							
ASAR	**Alice Springs**	**25.24**	**126**		P	**P**	**21 38 40.4**	**+3.0**
	comp=Z,2.2nm,0.8s,baz=298,slow=9.4,SNR=15 comp=Z,2.2nm,0.8s							
ASAR	**Alice Springs**	**25.24**	**126**		P	**P**	**21 38 39.9**	**+2.5**
AS31	**Alice Springs**	**25.24**	**126**		P	**P**	**21 38 37.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.79**	**336**		P	**P**	**21 39 26.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=168,slow=8.8,SNR=5.5 comp=Z,0.6nm,0.5s							
STKA	**Stephens Creek**	**35.29**	**133**		P	**P**	**21 40 07.9**	**+1.7**
	comp=Z,3.0nm,0.9s,baz=303,slow=11,SNR=4.0 comp=Z,3.0nm,0.9s							
H08S2	**Diego Garcia H**	**38.88**	**270**		T	T	22 21 36.9	
	baz=96,slow=75,SNR=95							
H08S3	**Diego Garcia H**	**38.89**	**270**		T	T	22 21 37.8	
	baz=96,slow=75,SNR=100							
H08S1	**Diego Carcia H**	**38.90**	**270**		T	T	22 21 38.7	
	baz=96,slow=75,SNR=73							
JOW	**Kunigami**	**39.76**	**23**		P	**P**	**21 40 43.6**	**-0.4**
	comp=Z,3.7nm,0.4s,baz=215,slow=19,SNR=1.5 comp=Z,3.7nm,0.4s							
JOW	**Kunigami**	**39.76**	**23**		P	**P**	**21 40 43.1**	**-0.9**
ENH	**Enshi**	**39.88**	**357**		P	**P**	**21 40 44.9**	**-0.1**
ENH					IAmb	IAmb	21 40 45.7	
	comp=Z,7.3nm,0.6s							
KSRS	**Korea Array**	**49.36**	**17**		P	**P**	**21 42 00.6**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=201,slow=8.2,SNR=17 comp=Z,3.6nm,0.6s							
JGF	**Kuroka**	**51.19**	**27**		P	**P**	**21 42 13.8**	**-0.6**
JGF					IAmb	IAmb	21 42 17.2	
	comp=Z,12nm,1.3s							
MJAR	**Matsushiro Arr**	**52.35**	**27**		P	**P**	**21 42 21.2**	**-1.8**
	comp=Z,3.2nm,0.7s,baz=202,slow=7.9,SNR=9.2 comp=Z,3.2nm,0.7s							
JSD	**Sado**	**53.62**	**26**		P	**P**	**21 42 31.4**	**-0.8**
USRK	**Ussuriysk Ar.**	**56.76**	**17**		P	**P**	**21 42 54.8**	**0.0**
	comp=Z,4.9nm,0.8s,baz=204,slow=5.4,SNR=7.6 comp=Z,4.9nm,0.8s							
SONM	**Songino Array**	**57.56**	**356**		P	**P**	**21 43 00.5**	**0.0**
	comp=Z,2.3nm,0.7s,baz=171,slow=9.0,SNR=9.8 comp=Z,2.3nm,0.7s							
SONM	**Songino Array**	**57.56**	**356**		P	**P**	**21 43 00.5**	**0.0**
SONM					IAmb	IAmb	21 43 01.2	
	comp=Z,3.0nm,0.9s							
KLR	**Kul'dur**	**61.32**	**15**		P	**P**	**21 43 25.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=218,slow=4.9,SNR=4.1 comp=Z,0.9nm,0.5s							
BOOM	**Boomskoye usch**	**61.48**	**330**		P	**P**	**21 43 25.5**	**-2.3**
MK31	**Makanchi Array**	**62.17**	**338**		P	**P**	**21 43 31.9**	**-0.2**
MK31					IAmb	IAmb	21 43 32.5	
	comp=Z,2.4nm,0.9s							
MKAR	**Makanchi Array**	**62.17**	**338**		P	**P**	**21 43 31.5**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=151,slow=7.5,SNR=40 comp=Z,2.7nm,0.6s							
MKAR	**Makanchi Array**	**62.17**	**338**		P	**P**	**21 43 31.9**	**-0.2**
KK31	**Karatay Array**	**64.68**	**328**		P	**P**	**21 43 49.7**	**+1.0**
KK31					IAmb	IAmb	21 44 10.7	
	comp=Z,3.0nm,1.4s							
KKAR	**Karatay Array**	**64.68**	**328**		P	**P**	**21 43 49.7**	**+0.9**
KKAR	**Karatay Array**	**64.68**	**328**		P	**P**	**21 43 49.4**	**+0.7**
KKAR					IAmb	IAmb	21 44 10.7	
	comp=Z,3.0nm,1.4s							
ZALV	**Zalesovo Beam**	**67.47**	**343**		P	**P**	**21 44 05.6**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=152,slow=6.5,SNR=4.7 comp=Z,1.0nm,0.5s							
PETK	**Petropavlovsk-**	**73.81**	**27**		P	**P**	**21 44 45.6**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=197,slow=6.9,SNR=2.0 comp=Z,3.1nm,0.9s							
PETK	**Petropavlovsk-**	**73.81**	**27**		P	**P**	**21 44 45.2**	**+0.2**
ABKAR	**Akbulak array**	**74.24**	**328**		P	**P**	**21 44 48.0**	**+0.4**
ABKAR					IAmb	IAmb	21 44 48.6	
	comp=Z,5.8nm,0.8s							
MA2	**Magadan**	**75.84**	**19**		P	**P**	**21 44 53.4**	**-3.2**
LBTB	**Lobatse**	**82.50**	**246**		P	**P**	**21 45 34.8**	**+0.8**
BRTR	**Keskin Array B**	**87.20**	**311**		P	**P**	**21 45 58.1**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=124,slow=7.1,SNR=6.3 comp=Z,1.0nm,0.8s							

*IDC **30** 21:33:15.8±1.9, 12°.54N×122°.28E, h0km, mb3.7/4, mbtmp3.8/5, MS3.3/2, Error ellipse: s-maj=85.2km s-min=17.6km az=55.0*
*MAN **30** 21:33:18.1, 12°.48N×122°.03E, h3km, mb4.9, ML3.8, MS3.8*
MAN INTENSITY IV - SANTA MARIA, SAN AGUSTIN,ODIONGAN & ALCANTARA, ROMBLON; INTENSITY III - CALATRAVA, SAN ANDRES & SANTA FE, ROMBLON; INTENSITY II - LOOC, ROMBLON.

ISC 30 21:33:19.8±0.9, 12°.46N±0°.03×122°.03E±0°.04, h21km±4km, n21, σ1§50/28, mb3.8/4, 11C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.14**	**142**	⇂	*eP*	**Pn**	**21 33 39.1**	**-1.4**
RCP					*i* S	**Sn**	**21 33 55.6**	**+0.2**
GQP	**Guinayangan**	**1.49**	**16**	⇂	*eP*	**Pn**	**21 33 44.8**	**-0.6**
GQP					*eS*	**Sb**	**21 34 06.1**	**+0.9**
MMPH	**Masbate**	**1.56**	**94**	⇂	*eP*	**Pn**	**21 33 46.8**	**+0.5**
MMPH					*i* S	**Sb**	**21 34 06.8**	**-0.3**
LQP	**Lukban**	**1.71**	**344**	⇂	*eP*	**Pn**	**21 33 47.9**	**-0.7**
LQP					*eS*	**Sb**	**21 34 14.6**	**+2.8**
JCNP	**Jose Panganiba**	**1.93**	**20**	⇂	*iP*	**Pn**	**21 33 51.9**	**+0.5**
JCNP					*i* S	**Sb**	**21 34 15.9**	**-1.9**
TGY	**Tagaytay City**	**1.95**	**327**		Pn	**Pn**	**21 33 52.3**	**+0.6**
	472nm,0.4s							
TGY					Sn	**Sb**	**21 34 19.3**	**+0.8**
LUBP	**Lubang**	**2.15**	**306**	⇂	*eP*	**Pn**	**21 33 55.5**	**+1.0**
LUBP					*i* S	**Sb**	**21 34

CMAR	Chiang Mai Arr	23.00	288	P	P	21 45 09.8	+0.2
LEM	Lembang	23.94	217	LR	LR	21 55 49.3	
	comp=Z,56nm,21.7s,baz=38,slow=40						
KSRS	Korea Array	25.42	11	P	P	21 45 31.9	-0.1
	1.3nm,0.9s,baz=192,slow=11,SNR=2.7						
KSRS				LR	LR	21 56 24.0	
	comp=Z,39nm,20.2s,baz=175,slow=38						
	1.3nm,0.9s						
USRK	Ussuriysk Ar.	32.74	13	P	P	21 46 37.8	+0.5
	1.8nm,0.8s,baz=191,slow=6.8,SNR=3.2						
	1.8nm,0.8s						
WB0	Warramunga Arr	34.29	159	P	P	21 46 49.2	-1.8
WB0				IAmb	IAmb	21 47 19.6	
	comp=Z,4.3nm,1.1s						
WRAB	Tennant Creek	34.43	159	P	P	21 46 52.4	+0.2
WRAB				IAmb	IAmb	21 46 53.6	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	34.43	159	P	P	21 46 49.9	-2.3
	comp=Z,2.1nm,0.8s,baz=330,slow=10,SNR=15						
WRA				PcP	PcP	21 49 28.3	+0.5
	comp=Z,0.2nm,0.6s,baz=349,slow=3.0,SNR=1.2						
	comp=Z,2.1nm,0.8s						
WRA	Warramunga Arr	34.43	159	P	P	21 46 50.6	-1.6
WB2	Warramunga Arr	34.44	159	P	P	21 46 50.5	-1.7
WB2				IAmb	IAmb	21 46 55.4	
	comp=Z,3.7nm,0.9s						
WR0	Warramunga Arr	34.52	159	P	P	21 46 51.3	-1.6
WR0				IAmb	IAmb	21 46 57.7	
	comp=Z,8.6nm,1.4s						
KLR	Kul'dur	37.51	10	P	P	21 47 19.0	+0.8
	comp=Z,0.5nm,0.2s,baz=192,slow=9.3,SNR=2.2						
	comp=Z,0.5nm,0.2s						
SONM	Songino Array	37.59	343	P	P	21 47 20.4	+1.3
	comp=Z,0.8nm,0.6s,baz=161,slow=9.2,SNR=3.7						
	comp=Z,0.8nm,0.6s						
AS31	Alice Springs	37.76	162	P	P	21 47 20.8	0.0
ASAR	Alice Springs	37.77	162	P	P	21 47 19.8	-0.9
	comp=Z,3.5nm,0.8s,baz=342,slow=7.1,SNR=34						
	comp=Z,3.5nm,0.8s						
ASAR	Alice Springs	37.77	162	P	P	21 47 20.5	-0.3
CTAO	Charters Tower	40.21	143	P	P	21 47 41.4	+0.2
CTAO				IAmb	IAmb	21 48 14.0	
	comp=Z,12nm,1.4s						
BBOO	Buckleboo	47.00	164	P	P	21 48 35.8	0.0
MKAR	Makanchi Array	47.77	324	P	P	21 48 43.4	+1.7
	comp=Z,0.3nm,0.8s,baz=117,slow=9.0,SNR=2.1						
	comp=Z,0.3nm,0.8s						
STKA	Stephens Creek	47.94	157	P	P	21 48 42.3	-0.7
	comp=Z,4.3nm,0.8s,baz=321,slow=8.2,SNR=7.6						
	comp=Z,4.3nm,0.8s						
STKA	Stephens Creek	47.94	157	P	P	21 48 43.0	-0.1
MAKZ	Makanchi	47.95	323	P	P	21 48 42.5	-0.6
MAKZ				IAmb	IAmb	21 49 06.4	
	comp=Z,3.4nm,1.4s						
PETK	Petropavlovsk-	49.48	28	P	P	21 48 55.7	+1.0
	comp=Z,2.6nm,0.8s,baz=140,slow=5.3,SNR=2.5						
	comp=Z,2.6nm,0.8s						
PETK	Petropavlovsk-	49.48	28	P	P	21 48 56.0	+1.3
ZALV	Zalesovo Beam	50.72	333	P	P	21 49 04.4	+0.3
	comp=Z,0.4nm,0.4s,baz=129,slow=4.6,SNR=2.3						
ZALV				LR	LR	22 11 31.3	
	comp=Z,34nm,19.2s,baz=163,slow=37						
	comp=Z,0.4nm,0.4s						
ARMA	Armidale	51.30	147	P	P	21 49 10.1	+1.2
KOUNC	Koumac, New Ca	52.96	128	P	P	21 49 18.8	-2.6
VNDA	Vanda	92.67	172	P	P	21 53 13.8	-2.0
	comp=Z,0.7nm,0.8s,baz=323,slow=7.3,SNR=3.2						
	comp=Z,0.7nm,0.8s						
DAVOX	Davos/Dischmat	95.56	320	LR	LR	22 38 48.6	
	comp=Z,20nm,18.8s,baz=70,slow=37						

*IDC **30** 21:47:56.0±0.7,23°.46S×175°.72W,h0km,mb4.2/15, mbtmp4.3/18,ML4.5/3,MS3.8/15,Error ellipse: s-maj=26.1km s-min=17.0km az=124.0*
*NEIC **30** 21:47:56.8±3.0,23°.72S±0°.08×175°.02W±0°.10,h35km±1km, mb4.5/26,Error ellipse: s-maj=15.3km s-min=12.5km az=119.0*

ISC 30 21:47:56.8±0.4,**23°.75S**±0°.06×**174°.93W**±0°.07,**h35**km,**n76,** σ2**s89**/64,**mb4.5**/26,**MS3.8**/12,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.10	205	Pn		Pn	Pn	21 49 28.0	+3.5
	26nm,0.3s,baz=153,slow=21,SNR=1.3								
RAO				Sn		Sn	Sn	21 50 30.6	-2.4
	53nm,0.3s,baz=274,slow=24,SNR=1.6								
	123nm,0.4s								
RAO	Raoul Island	6.10	205	Pn		Pn	Pn	21 49 22.5	-1.9
NIUE	Niue	6.58	46	Pn		Pn	Pn	21 49 30.9	-0.2
MSVF	Nonsavu	8.88	311	Pn		Pn	Pn	21 50 02.9	+0.1
	0.8nm,0.3s,baz=126,slow=13,SNR=15								
MSVF				LR		LR	LR	21 53 04.3	
	comp=Z,732nm,18.3s,baz=121,slow=38								
MSVF	Nonsavu	8.88	311			Pn	Pn	21 50 01.3	-1.5
AFI	Afiamalu	10.23	18	Pn		Pn	Pn	21 50 22.0	+0.8
	5.2nm,0.3s,baz=225,slow=7.1,SNR=4.1								
AFI				Sn		Sn	Sn	21 52 06.2	-8.6
	baz=140,slow=19								
	21nm,0.4s								
AFI	Afiamalu	10.23	18	Pn		Pn	Pn	21 50 20.8	-0.4
RAR	Rarotonga	14.24	83	Pn		Pn	Pn	21 51 17.8	+1.9
	5.8nm,0.3s,baz=267,slow=15,SNR=12								
RAR				Sn		Sn	Sn	21 53 46.6	-6.1
	1.4nm,0.3s,baz=300,slow=20,SNR=1.9								
RAR				LR		LR	LR	21 56 19.3	
	comp=Z,253nm,19.4s,baz=278,slow=34								
URZ	Urewera	15.98	203	Pn		P	P	21 51 43.2	+1.1
	0.9nm,0.3s,baz=31,slow=5.9,SNR=1.6								
URZ				Sn		Sn	Sn	21 54 25.2	-10
	0.6nm,0.3s,baz=49,slow=20,SNR=1.8								
	2.5nm,0.4s								
BKZ	Black Stump Fm	17.01	203	Pn		Pn	Pn	21 51 49.9	-2.0
DZM	Mont Dzumac	17.24	272	Pn		P	P	21 51 54.9	-1.4
	0.4nm,0.3s,baz=88,slow=15,SNR=5.6								
DZM				LR		LR	LR	21 56 04.0	
	comp=Z,107nm,18.5s,baz=156,slow=30								
DZM	Mont Dzumac	17.24	272	P		P	P	21 51 55.5	-0.7
BFZ	Birch Farm	18.44	202	P		P	P	21 52 06.8	-2.4
BFZ				IAmb		IAmb	IAmb	21 52 47.0	
	comp=Z,24nm,1.1s								
MSWZ	Moikau Station	19.44	203	P		P	P	21 52 20.8	+0.6
THZ	Tophouse	20.63	207	P		P	P	21 52 33.2	0.0
THZ				IAmb		IAmb	IAmb	21 52 46.5	
	comp=Z,23nm,1.4s								
KHZ	Kahutara	20.94	204	P		P	P	21 52 35.9	-0.5
KHZ				IAmb		IAmb	IAmb	21 52 52.9	
	comp=Z,19nm,1.1s								
PPT	Papeete	24.49	80	LR		LR	LR	22 01 02.1	
	comp=Z,162nm,20.7s,baz=194,slow=31								
WHZ	Wether Hill Ro	26.08	208	P		P	P	21 53 29.1	+2.1
WHZ				IAmb		IAmb	IAmb	21 53 33.5	
	comp=Z,19nm,1.4s								
HNR	Honiara	27.90	296	LR		LR	LR	22 04 31.9	
	comp=Z,2μm,18.4s,baz=136,slow=37								
CTA	Charters Tower	36.12	268	LR		LR	LR	22 08 40.8	
	comp=Z,71nm,18.5s,baz=80,slow=35								
CTAO	Charters Tower	36.12	268	P		P	P	21 54 53.8	-2.0
CTAO				IAmb		IAmb	IAmb	21 55 07.2	
	comp=Z,6.7nm,1.0s								
PMG	Port Moresby	38.89	285	P		P	P	21 55 15.8	-3.4
PMG				IAmb		IAmb	IAmb	21 55 17.7	
	comp=Z,9.1nm,0.8s								
STKA	Stephens Creek	39.09	248	P		P	P	21 55 19.7	-1.0
	comp=Z,1.4nm,0.5s,baz=67,slow=7.7,SNR=4.2								
	comp=Z,1.4nm,0.5s								
STKA	Stephens Creek	39.09	248	P		P	P	21 55 18.4	-2.3
BBOO	Buckleboo	43.77	247	P		P	P	21 55 57.6	-1.5
BBOO				IAmb		IAmb	IAmb	21 56 14.9	
	comp=Z,20nm,1.3s								
AS31	Alice Springs	46.63	259	P		P	P	21 56 20.8	-1.2
ASAR	Alice Springs	46.63	259	P		P	P	21 56 20.4	-1.6
	comp=Z,3.1nm,0.9s,baz=91,slow=8.5,SNR=21								
ASAR				LR		LR	LR	22 15 34.7	
	comp=Z,183nm,18.4s,baz=116,slow=36								
	comp=Z,3.1nm,0.9s								
WR0	Warramunga Arr	46.86	264	P		P	P	21 56 22.5	-1.3
WR0				IAmb		IAmb	IAmb	21 56 22.6	
	comp=Z,3.0nm,0.8s								
WB2	Warramunga Arr	47.03	264	P		P	P	21 56 22.8	-2.4
WB2				IAmb		IAmb	IAmb	21 56 36.5	
	comp=Z,5.5nm,0.8s								
WRAB	Tennant Creek	47.04	264	P		P	P	21 56 22.9	-2.3
WRAB				IAmb		IAmb	IAmb	21 56 23.9	
	comp=Z,5.8nm,0.8s								
WB0	Warramunga Arr	47.04	265	P		P	P	21 56 22.4	-2.8
WB0				IAmb		IAmb	IAmb	21 56 23.4	
	comp=Z,10nm,1.1s								
WRA	Warramunga Arr	47.04	264	P		P	P	21 56 22.3	-3.0
	comp=Z,5.1nm,0.9s,baz=101,slow=8.3,SNR=23								
WRA				LR		LR	LR	22 15 53.1	
	comp=Z,134nm,18.7s,baz=124,slow=36								
	comp=Z,5.1nm,0.9s								
WRA	Warramunga Arr	47.04	264	P		P	P	21 56 22.4	-2.9
KNRA	Kununurra	53.33	268	P		P	P	21 57 11.2	-1.7
GUMO	Guam	54.05	309	LR		LR	LR	22 16 16.7	
	comp=Z,29nm,21.4s,baz=240,slow=32								
VNDA	Vanda	54.97	186	P		P	P	21 57 31.0	+7.1
	comp=Z,1.0nm,1.0s,baz=13,slow=3.2,SNR=4.9								
	comp=Z,1.0nm,1.0s								
FITZ	Fitzroy Crossi	55.46	264	LR		LR	LR	22 21 02.0	
	comp=Z,94nm,18.3s,baz=132,slow=36								
FITZ	Fitzroy Crossi	55.46	264	P		P	P	21 57 27.6	-0.7
FITZ				IAmb		IAmb	IAmb	21 57 32.5	
	comp=Z,7.1nm,1.3s								
SIJI	Sorong	56.83	285	LR		LR	LR	22 22 21.3	
	comp=Z,70nm,18.1s,baz=254,slow=37								
MBWA	Marble Bar	59.96	258	P		P	P	21 57 59.2	-0.8
MORW	Morawa	61.27	249	P		P	P	21 58 08.9	+0.1
CASY	Casey	62.28	206	P		P	P	21 58 19.4	+4.4
QSPA	South Pole Qui	66.34	180	P		P	P	21 58 47.0	+5.2
QSPA				IAmb		IAmb	IAmb	21 59 01.6	
	comp=Z,4.6nm,0.9s								
JHJ	Hachijo jima 2	71.14	321	LR		LR	LR	22 25 17.2	
	comp=Z,23nm,19.1s,baz=100,slow=32								
JGF	Kuroka	74.31	321	P		P	P	21 59 29.7	-1.0
JGF				IAmb		IAmb	IAmb	22 00 00.9	
	comp=Z,12nm,1.3s								
MJAR	Matsushiro Arr	74.50	322	P		P	P	21 59 32.8	+1.0
	comp=Z,1.9nm,0.9s,baz=140,slow=5.9,SNR=4.1								
	comp=Z,1.9nm,0.9s								
PAGB	Antelope Grade	78.57	43	P		P	P	21 59 53.8	-1.0
MAW	Mawson	79.47	199	P		P	P	22 00 04.0	+4.7
	comp=Z,4.2nm,0.9s,baz=135,slow=7.1,SNR=4.7								
	comp=Z,4.2nm,0.9s								
KMRM	Mail Ridge	79.52	37	P		P	P	22 00 00.6	+0.6
PFO	Pinyon Flats O	79.67	46	LR		LR	LR	22 30 27.9	
	comp=Z,67nm,18.7s,baz=238,slow=32								
PETK	Petropavlovsk-	80.15	344	P		P	P	22 00 06.6	+3.6
	comp=Z,6.7nm,1.0s,baz=162,slow=14,SNR=3.7								
	comp=Z,6.7nm,1.0s								
YBH	Yreka Blue Hor	81.11	37	P		P	P	22 00 06.7	-1.8
KSRS	Korea Array	81.19	317	P		P	P	22 00 11.3	+2.4
	comp=Z,0.7nm,0.6s,baz=120,slow=3.6,SNR=2.1								
	comp=Z,0.7nm,0.6s								
NVAR	Mina Array Bea	81.49	42	P		P	P	22 00 16.3	+5.6
	comp=Z,0.9nm,0.8s,baz=233,slow=7.5,SNR=5.3								
NVAR				LR		LR	LR	22 34 24.2	
	comp=Z,41nm,18.5s,baz=268,slow=34								
	comp=Z,0.9nm,0.8s								
H03S2	Juan Fernandez	81.83	123	T		T		23 32 02.3	
	baz=245								
H03S1	Juan Fernandez	81.84	123	T		T		23 32 23.1	
	baz=245								
H03S3	Juan Fernandez	81.84	123	T		T		23 32 04.8	
	baz=245								
USRK	Ussuriysk Ar.	83.24	325	P		P	P	22 00 21.9	+2.5
	comp=Z,6.8nm,0.8s,baz=134,slow=4.2,SNR=9.2								
	comp=Z,6.8nm,0.8s								
TXAR	Lajitas Array	86.46	56	P		P		22 00 42.9	+6.7
	comp=Z,1.9nm,1.1s,baz=207,slow=3.8,SNR=7.9								
	comp=Z,1.9nm,1.1s								
BNM	Barren Site	86.72	51	P		P	P	22 00 33.9	-3.7
KLR	Kul'dur	86.76	328	P		P	P	22 00 39.2	+2.1
	comp=Z,2.6nm,0.8s,baz=120,slow=7.3,SNR=7.8								
	comp=Z,2.6nm,0.8s								
MA2	Magadan	87.68	343	LR		LR	LR	22 33 54.6	
	comp=Z,32nm,20.6s,baz=135,slow=32								
PDAR	Pinedale Array	89.41	42	P		P		22 00 56.1	+6.0
	comp=Z,1.1nm,1.0s,baz=264,slow=4.4,SNR=4.8								
	comp=Z,1.1nm,1.0s								
ILAR	Eielson Array	90.87	12	P		P	P	22 00 59.4	+3.3
	comp=Z,6.0nm,0.8s,baz=205,slow=4.0,SNR=4.2								
	comp=Z,6.0nm,0.8s								
CMAR	Chiang Mai Arr	93.86	288	P		P	P	22 01 13.9	+2.9
	comp=Z,3.0nm,0.9s,baz=129,slow=3.0,SNR=18								
	comp=Z,3.0nm,0.9s								
AKASG	Malin Array Be	147.22	331	PKPbc		PKPab	PKPab	22 07 37.8	-0.1
	comp=Z,1.6nm,0.6s,baz=40,slow=3.9,SNR=7.5								
BRTR	Keskin Array B	151.11	310	PKPbc		PKiKP	PKiKP	22 07 49.0	+1.9
	comp=Z,1.6nm,0.9s,baz=80,slow=1.6,SNR=6.6								
CLL	Collm	151.81	349	*e*PKPbc		PKiKP	PKiKP	22 07 50.0	+2.1
	comp=Z,12nm,1.1s								
CLL				*ex*		x		22 08 04.0	
MMAI	Mount Meron Ar	151.84	296	PKPbc		PKiKP	PKiKP	22 07 51.1	+2.4
	comp=Z,4.5nm,1.0s,baz=79,slow=7.5,SNR=4.2								
MMAI				PKPab		sPKPbc	sPKPbc	22 07 59.1	-0.2
	comp=Z,1.6nm,0.7s,baz=81,slow=8.9,SNR=2.6								
OSTC	Ostas	151.87	345	*e*PKP		PKiKP	PKiKP	22 07 51.7	+3.6
DPC	Dobruska-Polom	152.03	345	*e*PKP		PKiKP	PKiKP	22 07 51.7	+3.2
DPC				*ex*		x		22 07 54.8	
KRLC	Kraliky	152.17	344	*e*PKP		PKiKP	PKiKP	22 07 52.1	+3.3
MAUC	Maruska	152.53	342	*e*PKP		PKiKP	PKiKP	22 07 52.7	+3.1
KHC	Kasperske Hory	153.79	347	*ep*PKP		PKPab	PKPab	22 08 04.9	-0.1
KHC				*ex*		x		22 08 09.8	
CKRC	Cesky Krumlov	153.93	346	*e*PKP		PKiKP	PKiKP	22 07 55.8	+3.4
GERES	GERESS Array B	154.04	347	PKPbc		PKiKP	PKiKP	22 07 55.4	+2.6
	comp=Z,0.2nm,0.4s,baz=26,slow=4.7,SNR=3.8								

*IDC **30** 21:55:01.3±2.0,34°.80N×73°.56E,h0km,mb4.1/4, mbtmp3.9/7,ML3.6/3,MS2.6/1,Error ellipse: s-maj=40.5km s-min=27.4km az=130.0*
*NEIC **30** 21:55:01.7±2.6,34°.43N±0°.08×73°.8E±0°.2,h14km±6km, mb4.3/15,Error ellipse: s-maj=19.8km s-min=8.0km az=117.0*

ISC 30 21:55:02.9±0.6,**34°.56N**±0°.05×**73°.54E**±0°.08,**h22**km,**n44,** σ1**s36/44**,**mb4.2**/13,**3C-1D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIL	Nilore	0.94	195				Pb	21 55 18.4	-2.2
NIL						Sn	Sb	21 55 31.7	-0.9
KBL	Kabul	3.71	271				Pn	21 56 04.8	+5.7
GAR	Garm	5.13	331				Pn	21 56 20.0	+1.5
CHGR	Chuyangaron	5.40	320				Pn	21 56 23.0	+0.8
BTK	Batken	5.90	339	Pn			Pn	21 56 32.2	+3.2
NRN	Naryn	7.13	15	Pn			Pn	21 56 47.8	+1.7
AAK	Ala-Archa	8.10	5	Pn			Pn	21 56 59.4	+0.2
	0.5nm,0.3s,baz=185,slow=6.0,SNR=2.9								
AAK				Sn			Sn	21 58 27.9	-2.2
	0.3nm,0.3s,baz=180,slow=20,SNR=1.6								
	0.9nm,0.3s								
AAK	Ala-Archa	8.10	5	Pn			Pn	21 57 00.3	+1.0
BOOM	Boomskoye usch	8.13	13	Pn			Pn	21 57 00.4	+0.7
TKM2	Tokmak 2	8.50	10	⇑Pn			Pn	21 57 03.7	-1.1
	1.2nm,0.5s								
TKM2				⇑Lg			Lg	21 58 39.3	
	2.3nm,0.6s								
KK31	Karatay Array	8.85	345	Pn			Pn	21 57 09.7	+0.3
KK31	Karatay Array	8.85	345	Pn			Pn	21 57 09.4	0.0
	0.8nm,0.3s,baz=154,slow=11,SNR=11								
KK31				⇓Sn			Sn	21 58 30.6	-18
	0.6nm,0.2s,baz=151,slow=30,SNR=7.3								
KK31				⇑Lg			Lg	21 59 02.9	
	3.2nm,0.5s,baz=166,slow=22,SNR=5.7								
KKAR	Karatay Array	8.85	345				Pn	21 57 09.5	+0.1
KKAR	Karatay Array	8.85	345				Pn	21 57 09.8	+0.3
PYUN	Piuthan	10.33	126	*e*P			Pn	21 57 29.7	-0.2
	9.2nm,0.3s								
PYUN				*e*S			Sn	21 59 24.6	-0.5
DANN	Dangsing	10.69	123	*e*P			Pn	21 57 39.7	+4.7
	7.0nm,0.3s								
GKN	Gorkha	11.52	122	*e*P			Pn	21 57 49.5	+3.3
	4.7nm,0.3s								
PKIN	Phulchoki	12.31	121	*e*P			Pn	21 57 58.7	+1.6
	4.7nm,0.4s								
PKI	Pulchoki	12.32	121	*e*P			Pn	21 57 59.4	+2.1
	5.9nm,0.5s								
MKAR	Makanchi Array	13.89	26	Pn			P	21 58 24.5	-1.9
	0.1nm,0.3s,baz=209,slow=12,SNR=6.1								
ABKAR	Akbulak array	17.79	330	Pn			Pn	21 59 08.3	-0.6
BVAR	Borovoye Array	18.59	354	P			Pn	21 59 18.3	-0.4
	0.2nm,0.3s,baz=165,slow=7.4,SNR=7.2								
	0.5nm,0.4s								
BRVK	Borovoye	18.64	354	P			P	21 59 17.8	-1.1
AKTO	Aktyubinsk	19.50	329	P			P	21 59 28.2	-0.1
	0.4nm,0.3s,baz=140,slow=12,SNR=5.5								
	1.4nm,0.4s								
ZAA0	Zalesovo Array	20.95	19	P			P	21 59 42.8	-1.3
ZALV	Zalesovo Beam	20.95	19	P			P	21 59 42.6	-1.4
	1.7nm,0.5s,baz=217,slow=10,SNR=8.2								
	1.7nm,0.5s								
ZALV	Zalesovo Beam	20.95	19	P			P	21 59 42.4	-1.7
KVAR	Kislovodsk Arr	25.54	301	LR			LR	22 14 34.7	
	comp=Z,14nm,20.6s,baz=34,slow=46								
FINES	FINESS Array B	40.24	327	P			P	22 02 38.1	+0.4
	2.4nm,0.9s,baz=122,slow=10.0,SNR=4.9								
	2.4nm,0.9s								
ARCES	ARCESS Array B	43.72	338	P			P	22 03 06.1	+0.1
	5.8nm,1.0s,baz=111,slow=8.8,SNR=5.7								
	5.8nm,1.0s								
PETK	Petropavlovsk-	59.92	44	P			P	22 05 07.9	+0.9
	2.4nm,0.8s,baz=285,slow=5.5,SNR=5.7								
	2.4nm,0.8s								
TOA0	Torodi Ar. Sit	67.79	271	P			P	22 06 00.8	+1.5
TOA0				IAmb			IAmb	22 06 07.5	
	comp=Z,4.2nm,1.2s								
TORD	Torodi Ar. Bea	67.79	271	P			P	22 06 01.0	+1.7
	comp=Z,0.8nm,0.7s,baz=51,slow=6.0,SNR=5.6								
K20K	Telida	75.33	20	P			P	22 06 45.3	+1.2
MDM	Murphy Dome	75.58	17	P			P	22 06 44.3	-1.2
MDM				IAmb			IAmb	22 06 48.2	
	comp=Z,2.8nm,1.2s								
BPAW	Bear Paw Mtn.	75.58	19	P			P	22 06 46.1	+0.5
BPAW				IAmb			IAmb	22 06 54.7	
	comp=Z,2.8nm,1.2s								
PRP	Porcupine Dome	75.74	16	P			P	22 06 46.5	-0.1
PRP				IAmb			IAmb	22 07 27.0	
	comp=Z,3.8nm,1.5s								
CAST	Castle Rocks	75.83	19	P			P	22 06 47.9	+0.9
CAST				IAmb			IAmb	22 07 19.9	
	comp=Z,3.4nm,1.3s								
L19K	White Mountain	76.02	21	P			P	22 06 45.9	-2.1
KTH	Kantishna Hill	76.04	19	P			P	22 06 49.0	+0.7
KTH				IAmb			IAmb	22 07 28.1	
	comp=Z,4.7nm,1.3s								
PPLA	Purkeypile	76.22	20	P			P	22 06 50.0	+0.7
J26L	Joseph Creek	77.05	16	P			P	22 06 54.5	+0.6
J26L				IAmb			IAmb	22 07 20.3	
	comp=Z,5.5nm,1.4s								
SKT	Skwentna	77.14	20	P			P	22 06 54.7	+0.3
SKT				IAmb			IAmb	22 07 25.0	
	comp=Z,6.2nm,1.4s								
SUA	Susitna One	77.78	20	P			P	22 06 58.4	+0.3
SUA				IAmb			IAmb	22 07 28.8	
	comp=Z,2.9nm,1.2s								

*IDC **30** 22:11:28.1±1.0,11°.16N×138°.96E,h0km,mb3.8/9, mbtmp3.8/9,Error ellipse: s-maj=34.8km s-min=20.0km az=82.0*
*NEIC **30** 22:11:35.5±1.6,11°.07N±0°.03×138°.7E±0°.1,h35km±2km, mb4.2/6,Error ellipse: s-maj=24.3km s-min=4.0km az=81.0*

ISC 30 22:11:34.0±0.7,**11°.1N**±0°.1×**138°.8E**±0°.1,**h35**km,**n18,** σ0**s86**/18,**mb4.0**/13,**Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	6.42	67	Pn		Pn	Pn	22 13 06.8	+0.7
WB2	Warramunga Arr	31.18	188	P		P	P	22 17 50.1	+0.2
WB2				IAmb		IAmb	IAmb	22 18 07.9	
	comp=Z,3.0nm,1.1s								
WRA	Warramunga Arr	31.18	188	P		P	P	22 17 48.9	-1.0
	comp=Z,0.4nm,0.8s,baz=3.6,slow=9.4,SNR=6.7								
	comp=Z,0.4nm,0.8s								
ASAR	Alice Springs	34.90	188	P		P	P	22 18 22.4	-0.1
	comp=Z,0.5nm,0.5s,baz=16,slow=13,SNR=20								
	comp=Z,0.5nm,0.5s								
CMAR	Chiang Mai Arr	39.16	286	P		P	P	22 18 59.5	+0.8
	comp=Z,1.0nm,0.7s,baz=92,slow=7.1,SNR=9.3								
	comp=Z,1.0nm,0.7s								
FORT	Forrest	42.92	194	P		P	P	22 19 29.5	+0.1
FORT				IAmb		IAmb	IAmb	22 19 42.0	
	comp=Z,21nm,0.9s								
SONM	Songino Array	45.58	330	P		P	P	22 19 50.3	-0.5
	comp=Z,0.7nm,0.9s,baz=141,slow=9.3,SNR=3.6								
	comp=Z,0.7nm,0.9s								
MK31	Makanchi Array	59.25	318	P		P	P	22 21 32.9	+0.9
MKAR	Makanchi Array	59.25	318	P		P	P	22 21 32.6	+0.6
	comp=Z,

RLS				S		Sn	22 17 45.0	+0.2
RLS	Riolos of Patr	1.00	89	P		Pb	22 17 30.7	-0.1
PVO	Paravola	1.18	61	P		Pb	22 17 34.2	+0.2
PVO	comp=N,158nm,0.5s			S		Sb	22 17 49.0	0.0
PVO	Paravola	1.18	61	P		Pb	22 17 34.2	+0.2
LAKA	Lakka	1.41	82	P		Pb	22 17 38.2	+0.3
SERG	Sergoula	1.50	76	P		Pn	22 17 39.0	+0.8
KLV	Kalavryta, Ach	1.54	90	P		Pb	22 17 40.1	0.0
DBRK	Dubrovnik	4.87	342	*e*Pn		Pn	22 18 23.9	-0.5
LSTV	Lastovo	5.34	333	*e*Pn		Pn	22 18 31.0	+0.1

WEL 30 22:21:19.4,40°S±3°×17°7E±°,h30km±6km,**M2.5**/31,
ML2.8/30,**MLv2.5**/31,**Error ellipse: s-maj=0.0km
s-min=0.0km az=73.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	Cape Kidnapper	0.11	73	P	Pn	22 21 25.4	+0.2
KAHZ	Kahuranaki	0.12	206	P	Pn	22 21 25.5	+0.2
MCHZ	McNeill Hill	0.31	322	P	Pb	22 21 26.8	-0.3
PXZ	Pawanui	0.34	190	P	Pn	22 21 28.1	-0.3
ARHZ	Aropaoanui	0.43	6	P	Pb	22 21 28.9	+0.2
KWHZ	Kaweka Forest	0.48	303	P	Pn	22 21 29.0	-0.6
WPHZ	Waipukurau	0.54	226	P	Pn	22 21 30.9	-0.1
NMHZ	Naumai	0.60	350	P	Pb	22 21 31.4	-0.2
PNHZ	Pukenui	0.61	249	P	Pb	22 21 31.4	-0.4
PRHZ	Porangahau	0.62	202	P	Pn	22 21 32.1	-0.1
BKZ	Black Stump Fm	0.63	326	P	Pb	22 21 31.4	-0.7
WHHZ	Waihua	0.65	20	P	Pn	22 21 32.6	-0.1
BHHZ	Black Hill Sta	0.71	286	P	Pb	22 21 32.5	-0.9
RAHZ	Arahi	0.78	8	P	Pn	22 21 34.2	-0.3
TSZ	Takapari Road	0.84	244	P	Pn	22 21 34.5	-0.7
MTHZ	Maungataniwha	0.84	355	P	Pn	22 21 34.8	-0.5
ANWZ	Angora Road	0.85	205	P	Pb	22 21 35.7	+0.1
DVHZ	Dannevirke	0.85	224	P	Pn	22 21 34.9	-0.5
KNZ	Kokohu	0.88	41	P	Pn	22 21 34.9	-0.7
MHGZ	Mahia Peninsul	0.92	55	P	Pn	22 21 35.9	-0.4
MRHZ	Matea Rd	0.95	334	P	Pn	22 21 36.6	-0.2
MOVZ	Moawhango	0.96	287	P	Pn	22 21 36.6	-0.3
WNVZ	Wahianoa	1.10	289	P	Pn	22 21 39.3	+0.4
ETVZ	East Tongariro	1.10	300	P	Pn	22 21 39.4	+0.4
TMVZ	Te Maari	1.12	301	P	Pn	22 21 39.3	+0.1
OTVZ	Oturere	1.12	298	P	Pn	22 21 39.6	+0.4
BFZ	Birch Farm	1.12	208	P	Pn	22 21 38.2	-1.0
WHVZ	Whangaehu Hut	1.12	291	P	Pn	22 21 39.7	+0.4
SNVZ	South Ngauruho	1.13	296	P	Pn	22 21 39.7	+0.4
PRWZ	Pori Road	1.14	220	P	Pn	22 21 39.2	-0.2
POWZ	Post Office Ro	1.14	232	P	Pn	22 21 39.4	0.0
NTVZ	North Tongarir	1.15	301	P	Pn	22 21 39.5	0.0
NGZ	Ngauruhoe	1.16	296	P	Pn	22 21 40.2	+0.4
NNVZ	North Ngauruho	1.17	298	P	Pn	22 21 40.4	+0.5
KRVZ	Karewarewa	1.17	300	P	Pn	22 21 40.0	+0.1
WTVZ	West Tongariro	1.20	298	P	Pb	22 21 41.0	-0.6
KATZ	Kakaramea	1.20	306	P	Pb	22 21 41.4	-0.3
TWVZ	Taurewa	1.32	297	P	Pb	22 21 43.3	-0.4
MRZ	Mangatainoka R	1.43	227	P	Pn	22 21 42.1	-1.1
HOWZ	Holdsworth Sta	1.63	222	P	Pn	22 21 44.8	-1.2
RUGZ	Raukumara Rang	1.82	19	P	Pn	22 21 47.8	-1.0

*IDC **30** 22:35:46.6±0.4,3°.99S×76°.83W,h100*km±3km*, mb4.2/19,
mbtmp4.6/26,MS3.2/4,Error ellipse: s-maj=10.9km
s-min=8.1km az=98.0*
*VAO **30** 22:35:48.7±0.3,4°.00S×76°.86W,h106*km*, mb4.7*
*NEIC **30** 22:35:48.9±1.6,4°.00S±0°.05×76°.94W±0°.06,h106*km±6km*,
mb4.6/205,Error ellipse: s-maj=9.5km s-min=7.7km
az=79.0*

ISC 30 22:35:47.3±0.3,4°.02S±0°.04×76°.96W±0°.05,h103km±3km,
h103km**:pP-P,n486,σ1°.11/485,mb4.7**/120,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	San Juan Bosco	1.76	299		Pn	22 36 17.0	-0.1
BOSC				Sn	Sn	22 36 38.4	-1.4
MCRA	Macar, Loja	3.01	263	Pn	Pn	22 36 33.3	0.0
MCRA				Sn	Sn	22 37 05.9	-2.9
PORT	Chimborazo Vol	3.12	324		Pn	22 36 37.2	+1.9
PORT				Sn	Sn	22 37 16.1	+3.9
ARNL	Arenillas	3.14	278		Pn	22 36 35.1	+0.2
ARNL				Sn	Sn	22 37 05.4	-6.4
CHSH	Refugio Sur-Vo	3.15	323		Pn	22 36 37.1	+1.4
CHSH				Sn	Sn	22 37 16.3	+3.3
ATAH	Atahualpa	3.41	205	P	Pn	22 36 41.1	+2.1
ATAH	1μm,0.7s,baz=27,slow=9.4,SNR=737			S	Sn	22 37 20.5	+1.6
ATAH	2μm,0.9s,baz=42,slow=15,SNR=14			LR	LR	22 37 59.4	
SLOR	comp=Z,363nm,22.0s,baz=348,slow=38	3.61	335		Pn	22 36 43.5	+1.7
IMBA	San Lorenzo -	4.44	344		Pn	22 36 54.7	+1.8
IMBA	Imbabura, San			Sn	Sn	22 37 38.4	-5.4
OTAV	Otavalo	4.48	340	Pn	Pn	22 36 54.7	+1.2
OTAV				Sn	Sn	22 37 35.1	-10
OTAV	Otavalo	4.48	340	*e*P	Pn	22 36 55.1	+1.6
TULM	Tulcn-Chalpat	4.78	350		Pn	22 36 59.0	+1.6
TULM				Sn	Sn	22 37 51.6	-0.3
CZSB	Cruzeiro do Su	5.61	131		Pn	22 37 09.2	+0.9
CZSB	Cruzeiro do Su	5.61	131	*e*P	Pn	22 37 09.2	+0.9
TBTG	Tabatinga, AM	7.03	92		Pn	22 37 27.4	-0.2
TBTG	Tabatinga, AM	7.03	92	*e*P	Pn	22 37 27.5	-0.2
NNA	Nana	7.92	179	P	Pn	22 37 39.7	0.0
NNA	210nm,0.3s,baz=353,slow=11,SNR=60			S	Sn	22 39 02.9	-4.8
NNA	165nm,0.3s,baz=287,slow=21,SNR=2.5	7.92	179	Pn	Pn	22 37 40.6	+0.8
ROSC	El Rosal	9.19	17	P	Pn	22 37 56.5	-0.8
ROSC	16nm,0.6s,baz=183,slow=6.4,SNR=8.9 El Rosal	9.19	17	Pn	Pn	22 37 57.3	0.0
ETMB	Extrema	12.12	119	Pn	Pn	22 38 33.3	-3.2
BRU2	Volcan	13.95	336	Pn	Pn	22 39 01.5	+0.7
SDV	Santo Domingo	14.29	26	P	Pn	22 39 03.3	-1.7
SDV	7.9nm,0.5s,baz=211,slow=6.6,SNR=7.3 Santo Domingo	14.29	26	Pn	Pn	22 39 04.8	-0.2
SDV	Santo Domingo	14.29	26	*e*P	Pn	22 39 05.1	0.0
SRBA	San Rafael, Bu	14.63	334	P	Pn	22 39 10.3	+0.9
LPAZ	La Paz	14.96	145	P	Pn	22 39 11.1	-3.0
LPAZ	6.8nm,0.5s,baz=331,slow=11,SNR=13			LR	LR	22 46 03.6	
LPAZ	comp=Z,48nm,19.4s,baz=340,slow=41 La Paz	14.96	145	Pn	Pn	22 39 12.0	-2.0
BAUV	El Baul	15.64	35	Pn	Pn	22 39 21.3	-0.8
BAUV	comp=Z,37nm,0.6s			IAmb	IAmb	22 39 22.1	
PB12	IPOC Station P	15.89	156	Pn	Pn	22 39 25.3	+0.2
PB12	comp=Z,58nm,0.9s			IAmb	IAmb	22 39 29.8	
PB16	IPOC Station P	15.99	153		Pn	22 39 27.3	+0.5
MACA	Manacapuru-AM	16.26	88	P	P	22 39 30.2	-0.7
MACA	comp=Z,25nm,0.7s			IAmb	IAmb	22 39 34.5	
MACA	Manacapuru-AM	16.26	88	*e*P	P	22 39 30.6	-0.3
JTS	Las Juntas de	16.29	331		P	22 39 31.5	+0.2
JTS	comp=Z,36nm,1.0s			IAmb	IAmb	22 39 35.6	
ORTG	Ortega, Santa	16.61	329	P	P	22 39 35.1	+0.3
GO01	Chusmiza	17.30	155		PcP	22 44 21.3	+1.1
TA02	Huaiquique	17.47	158	P	Pn	22 39 44.6	+0.1
TA02					PcP	22 44 22.9	+3.1
BOAV	Boa Vista	17.61	69		Pn	22 39 48.0	+1.6
BOAV	comp=Z,15nm,1.2s			IAmb	IAmb	22 40 07.3	
BOAV	Boa Vista	17.61	69	*e*P	Pn	22 39 46.4	+0.1
ESPN	Las Esperanzas	17.68	336	P	Pn	22 39 48.2	+1.1
TA01	Diego Aracena	17.72	159	P	Pn	22 39 48.6	+1.1
TA01	comp=Z,37nm,0.8s			IAmb	IAmb	22 39 59.9	
ACON	Acoyapa	17.86	333	P	Pn	22 39 49.9	+0.6
BIRV	Birongo	17.90	36	P	Pn	22 39 49.8	0.0
PATCX	Punta Patache	17.96	159	P	P	22 39 49.8	0.0
PB01	IPOC Station P	18.41	157	P	Pn	22 39 56.0	0.0
BOAB	BOACO BROADBAND	18.51	332	P	Pn	22 39 57.6	+0.6
BOAB	comp=Z,53nm,1.0s			IAmb	IAmb	22 40 00.8	
PB02	IPOC Station P	18.52	159	P	Pn	22 39 57.4	+0.2
PCRV	Puerto La Cruz	18.69	41	P	P	22 39 57.3	-0.4
VILB	comp=Z,8.7nm,0.5s,baz=230,slow=2.7,SNR=8.1 Vilhena	18.79	119	P	Pn	22 40 00.2	-0.1
VILB	comp=Z,22nm,0.8s			IAmb	IAmb	22 40 11.6	
VILB	Vilhena	18.79	119	*e*P	Pn	22 39 60.0	-0.4
PB07	IPOC Station P	18.89	159	P	Pn	22 40 02.1	+0.3
MATN	Matagalpa	19.05	332	P	Pn	22 40 02.9	-0.7
PB09	IPOC Station P	19.19	158	P	Pn	22 40 05.6	+0.4
PB04	IPOC Station P	19.36	161	P	Pn	22 40 07.9	+0.7
SIV	San Ignacio	19.63	128	P	P	22 40 07.3	-0.6
PB06	comp=Z,23nm,0.6s,baz=307,slow=10,SNR=89 IPOC Station P	19.91	160	P	Pn	22 40 14.5	+1.0
LVC	Limon Verde	20.06	158	P	Pn	22 40 15.4	-0.1
LVC	comp=Z,28nm,1.0s,baz=352,slow=5.5,SNR=5.8 Limon Verde	20.06	158	P	Pn	22 40 16.4	+0.8
LVC	Limon Verde	20.06	158	*e*P	P	22 40 14.1	+1.3
PB10	IPOC Station P	20.34	163	P	Pn	22 40 18.9	+0.4
PB10	comp=Z,39nm,0.9s			IAmb	IAmb	22 40 25.2	
PB15	IPOC Station P	20.40	160	P	Pn	22 40 18.6	-0.8
AF01	San Pedro de A	20.65	156	P	Pn	22 40 22.9	+0.6
TGUH	Tegucigalpa,Un	20.67	331	P	P	22 40 20.7	+1.5
TGUH	comp=Z,21nm,0.8s			IAmb	IAmb	22 40 36.2	
PTLB	Pontes e Lacer	20.89	124	P	P	22 40 22.9	+1.4
PTLB	comp=Z,23nm,0.7s			IAmb	IAmb	22 40 26.1	
PTLB	Pontes e Lacer	20.89	124	*e*P	P	22 40 22.6	+1.1
ITTB	Itaituba	21.17	92	*e*P	P	22 40 24.4	-0.1
PDRB	Porto dos Gac	21.40	112	*e*P	P	22 40 26.5	-0.5
PB14	IPOC Station P	21.44	163	P	P	22 40 29.9	+2.3
PB14	comp=Z,36nm,0.8s			IAmb	IAmb	22 40 40.1	
NPGB	Novo Progresso	21.70	99	*e*P	P	22 40 30.0	-0.2
CLDB	Colider	22.05	109	*e*P	P	22 40 34.0	+0.1
MTO3	Montecristo	22.05	326	P	P	22 40 35.4	+1.4
GO02	Mina Guanaco	22.18	162	P	P	22 40 38.7	+3.2
TOSP	Speyside	22.33	47	P	P	22 40 37.6	+0.9
TOSP	comp=Z,29nm,0.7s			IAmb	IAmb	22 40 40.2	
MALB	Monte Alegre	22.76	85	*e*P	P	22 40 41.0	-0.2
PCDR	Punta Cana, DR	23.93	20	P	P	22 40 53.3	+1.3
CRPR	Cabo Rojo, PR	23.94	24	P	P	22 40 52.6	+0.5
CRPR	comp=Z,39nm,0.9s			IAmb	IAmb	22 40 55.6	
SALV	Santo Antonio	24.01	121	*e*P	P	22 40 53.4	+0.7
AC06	Mina Casimiro	24.05	165	P	P	22 40 53.7	+0.7
OBIP	Obispado Ponce	24.18	25	P	P	22 40 54.4	+0.2
CELP	Cerrillos	24.22	25	P	P	22 40 55.4	+0.8
AOPR	Arecibo Observ	24.39	24	P	P	22 40 56.8	+0.6
SJG	San Juan	24.43	26	P	P	22 40 55.3	-1.2
HUMP	comp=Z,27nm,0.7s,baz=178,slow=6.1,SNR=11 Col San Antoni	24.59	26	P	P	22 40 58.2	+0.3
HUMP	comp=Z,27nm,0.7s			IAmb	IAmb	22 41 03.0	
GCPR	comp=Z,23nm,0.8s Guaynabo City	24.64	25	P	P	22 40 59.4	+1.0
GCPR	comp=Z,21nm,0.7s			IAmb	IAmb	22 40 59.8	
CBYP	Canovanas	24.70	26	P	P	22 40 59.9	+0.8
CBYP	comp=Z,42nm,1.1s			IAmb	IAmb	22 41 00.4	
MDP	Montagnes des	25.92	70	P	P	22 41 08.6	-1.5
MDP	comp=Z,3.6nm,0.5s,baz=231,slow=8.8,SNR=4.8			LR	LR	22 51 35.6	
AQDB	comp=Z,60nm,18.6s,baz=198,slow=37 Aquidauana	26.38	130	P	P	22 41 16.9	+2.8
AQDB	comp=Z,3.6nm,0.5s			IAmb	IAmb	22 41 21.0	
AQDB	comp=Z,19nm,1.2s Aquidauana	26.38	130	*e*P	P	22 41 15.2	+1.1
SNDB	Serra Nova Dou	26.59	109	*e*P	P	22 41 15.9	-0.3
ANTJ	Antonio Joao (	27.06	133	*e*P	P	22 41 21.7	+1.4
PRPB	Parauapebas	27.11	96	*e*P	P	22 41 20.8	-0.1
CMIG	Matias Romero	27.45	320	P	P	22 41 23.0	-0.7
CMIG	comp=Z,3.5nm,1.0s,baz=78,slow=5.0,SNR=2.2			PcP	PcP	22 44 40.0	-0.1
CPUP	comp=Z,3.5nm,0.7s,baz=180,slow=1.0,SNR=3.6 Villa Florida	29.08	142	P	P	22 41 36.5	-1.7
CPUP	comp=Z,3.5nm,1.0s			LR	LR	22 56 01.2	
SMTB	comp=Z,0.8nm,0.6s,baz=270,slow=2.0,SNR=1.6 Santa Maria do	29.57	101	*e*P	P	22 41 43.2	+0.5
BDFB	Brasilia	30.71	114	P	P	22 41 51.0	-1.9
BDFB	comp=Z,60nm,18.6s,baz=44,slow=42 comp=Z,1.8nm,0.5s,baz=332,slow=12,SNR=3.6			pP	pP	22 42 15.1	-0.8
IPMB	comp=Z,0.8nm,0.6s Ipameri, GO	31.37	118	*e*P	P	22 41 58.6	-0.1
FRBT	Francisco Belt	31.64	136	*e*P	P	22 42 01.7	+0.8
ITQB	Itaqui	31.96	145	*e*P	P	22 42 04.0	+0.4
CRSM	Cissiumal (Br	31.98	139	*e*P	P	22 42 05.3	+1.5
BB19B	Bebedouro	32.41	124	*e*P	P	22 42 06.9	-0.8
UNIS	Unistalda (Bra	32.43	143	*e*P	P	22 42 07.8	0.0
SDBA	SAO DESIDERIO	32.77	107	*e*P	P	22 42 10.4	-0.5
ROSB	Rosrio	32.79	89	*e*P	P	22 42 11.8	+0.8
ITAB	Concordia	33.09	137	*e*P	P	22 42 13.6	+0.1
PMNB	Patos De Minas	33.14	118	*e*P	P	22 42 14.5	+0.4
RODS	Rosario do Sul	33.29	144	*e*P	P	22 42 16.4	+1.3
ALGR	Alto Alegre (B	33.52	140	*e*P	P	22 42 18.3	+1.0
JANB	Januaria	33.95	111	*e*P	P	22 42 20.7	-0.5
TIJ01	Guaruva-PR	34.20	131	*e*P	P	22 42 24.2	+1.0
MC01	Montes Claros	34.76	114	*e*P	P	22 42 28.7	+0.5
PET01	Itanhaem-SP	34.98	128	*e*P	P	22 42 29.4	-0.5
PLTB	Pedras Altas	35.25	144	*e*P	P	22 42 32.7	+0.6
DIAM	Diamantina, MG	35.51	116	*e*P	P	22 42 34.3	-0.3
PLCA	Paso Flores	37.00	172	P	P	22 42 46.6	-0.4
PLCA	comp=Z,3.0nm,0.9s,baz=358,slow=10,SNR=5.2			pP	pP	22 43 08.4	-2.0
PLCA	comp=Z,1.4nm,0.4s,baz=352,slow=9.1,SNR=2.8			PcP	PcP	22 45 06.4	+0.5
PLCA	comp=Z,2.1nm,0.9s,baz=9.8,slow=6.3,SNR=4.9 Paso Flores	37.00	172	*e*P	P	22 42 48.5	+1.5
GOGA	Godfrey	37.73	351	P	P	22 42 55.2	+2.1
GOGA	comp=Z,3.0nm,0.9s			IAmb	IAmb	22 42 56.4	
GOGA	comp=Z,5.5nm,0.8s Godfrey	37.73	351	P	P	22 42 55.6	+2.5
SJMB	comp=Z,169 Sao Joao De Ma	37.87	116	*e*P	P	22 42 54.7	+0.1
CMC01	Camacan, BA	38.51	110	*e*P	P	22 43 00.6	+0.6
RPN	Rapa Nui	38.52	230	P	P	22 42 60.0	+0.1
GUA01	comp=Z,29nm,0.3s,baz=323,slow=8.3,SNR=6.1 Guaratinga, BA	38.54	112	*e*P	P	22 43 00.9	+0.7
RIB01	Linhares ES	38.77	116	*e*P	P	22 43 02.5	+0.4
W50A	Signal Mountai	39.79	349	P	P	22 43 12.4	+2.0
W50A	comp=Z,10.0nm,0.9s			IAmb	IAmb	22 43 13.8	
V53A	Saluda	39.86	353	P	P	22 43 09.1	-1.9
CPCT	Cooper Cave	39.90	350	P	P	22 43 13.3	+2.1
CPCT	comp=Z,6.7nm,0.8s			IAmb	IAmb	22 43 14.6	
SWET	Sewanee	39.93	349	P	P	22 43 12.8	+1.4
SWET	comp=Z,6.4nm,0.7s			IAmb	IAmb	22 43 14.0	
NBAN	Anadia - AL	40.75	100	*e*P	P	22 43 18.4	-0.2
WVT	Waverly	41.22	347	P	P	22 43 20.6	-1.4
MIAR	Mount Ida	41.43	339	P	P	22 43 25.8	+2.0
TXAR	baz=154 Lajitas Array	41.91	324	P	P	22 43 28.6	+0.6
TXAR	comp=Z,1.5nm,0.7s,baz=146,slow=8.7,SNR=22			pP	pP	22 43 50.5	-1.3
TXAR	comp=Z,0.9nm,0.8s,baz=165,slow=10,SNR=3.5			PcP	PcP	22 45 22.3	+0.5
TXAR	comp=Z,2.6nm,0.7s,baz=150,slow=5.9,SNR=13 Lajitas Array	41.91	324	P	P	22 43 29.0	+1.1
TX31	comp=Z,1.5nm,0.7s Lajitas Ar. Si	41.91	324	IAmb	IAmb	22 43 29.2	
TX32	comp=Z,6.3nm,0.7s Lajitas Array	41.91	324	P	P	22 43 29.0	+1.0
WCI	Wyandotte Cave	42.92	349	P	P	22 43 37.4	+1.6
DEOK	baz=166 Depew	43.68	337		pP	22 44 09.1	+3.1
WMOK	Wichita Mounta	43.68	334	P	P	22 43 43.2	+1.1
P52A	baz=148 Corning	43.70	354	P	P	22 43 43.6	+1.5
AMTX	baz=172 Amarillo	45.15	331	P	P	22 43 54.9	+1.1
U32A	baz=144 Winter Ranch,	45.16	335		pP	22 44 22.0	+3.9
HDIL	Hopedale	45.78	347	P	P	22 44 00.1	+1.5
121A	baz=163 Cookes Peak, D	46.66	323	IAmb	IAmb	22 44 08.4	
121A	comp=Z,11nm,1.1s Cookes Peak, D	46.66	323	P	P	22 44 07.4	+1.5
CBKS	baz=135,SNR=5.5 Cedar Bluff	47.54	336	pP	pP	22 44 41.0	+4.2
CBKS	Cedar Bluff	47.54	336	P	P	22 44 13.4	+1.0
ANMO	baz=148 Albuquerque	47.66	327	P	P	22 44 14.7	+1.1
T25A	baz=138 Trinidad	48.28	330	P	P	22 44 19.5	+1.2
T25A	comp=Z,8.2nm,0.8s			IAmb	IAmb	22 44 20.6	
T25A	Trinidad	48.28	330	P	P	22 44 19.8	+1.4
TUC	baz=142,SNR=6.5 Tucson	48.34	321	P	P	22 44 19.6	+0.9
TUC	comp=Z,5.9nm,0.8s			IAmb	IAmb	22 44 20.5	
TUC	Tucson	48.34	321	P	P	22 44 19.7	+0.9
SDCO	baz=132 Great Sand Dun	49.29	330	P	P	22 44 27.4	+1.2
214A	baz=141,SNR=15 Organ Pipe Nat	49.41	319	P	P	22 44 27.6	+0.7
214A	comp=Z,8.0nm,0.9s			IAmb	IAmb	22 44 29.0	
214A	Organ Pipe Nat	49.41	319	P	P	22 44 28.0	+1.1
W18A	baz=130,SNR=8.0 Petrified Fore	49.63	324	P	P	22 44 29.3	+0.6
W18A	Petrified Fore	49.63	324	P	P	22 44 30.0	+1.3
S22A	baz=135 4UR Ranch, Cre	49.96	329	IAmb	IAmb	22 44 33.4	
S22A	comp=Z,6.1nm,1.1s 4UR Ranch, Cre	49.96	329	P	P	22 44 32.7	+1.4
Q24A	baz=140,SNR=6.0 Divide	50.07	331	P	P	22 44 32.8	+0.7
OGNE	baz=142 Ogallala	50.28	335	P	P	22 44 34.0	+0.6
MVCO	baz=147 Mesa Verde	50.44	327	P	P	22 44 35.4	+0.6
ECSD	baz=138 EROS Data Cent	50.73	342	P	P	22 44 38.1	+1.5
WUAZ	baz=154 Wupatki	50.87	324	P	P	22 44 38.8	+0.8
WUAZ	Wupatki	50.87	324	P	P	22 44 39.1	+1.1
ISCO	baz=134,SNR=10 Idaho Springs	50.95	332	P	P	22 44 39.5	+0.8
SMCO	baz=142 Snowmass	51.13	330	P	P	22 44 41.3	+1.1
PV15	Paradox Valley	51.27	328	P	P	22 44 41.8	+0.7
PV15	comp=Z,14nm,1.1s			IAmb	IAmb	22 44 43.1	
PV13	Radium Mtn., P	51.31	328	P	P	22 44 41.8	+0.4
GLA	Glamis	51.42	319	P	P	22 44 43.1	+1.0
PV07	baz=128 Paradox Valley	51.43	328	P	P	22 44 42.7	+0.5
PV07	comp=Z,5.0nm,0.9s			IAmb	IAmb	22 44 44.1	
PV11	David Mesa, Pa	51.45	328	P	P	22 44 43.2	+0.9
PV11	comp=Z,11nm,1.1s			IAmb	IAmb	22 44 44.1	
PV20	West Nyswonger	51.53	328	P	P	22 44 43.4	+0.5
PV20	comp=Z,5.1nm,0.9s			IAmb	IAmb	22 44 45.1	
PV22	Blue Mesa, Par	51.58	328	P	P	22 44 43.5	+0.2
PV22	comp=Z,5.6nm,0.8s			IAmb	IAmb	22 44 44.9	
PV10	Paradox Valley	51.59	328	P	P	22 44 43.5	0.0
PDMCI	Parker Dam,Lak	51.77	320	P	P	22 44 46.0	+1.5
N23A	baz=130 Red Feather La	51.97	332	P	P	22 44 46.8	+0.5
SWSC	baz=142 Sam W. Stewart	52.00	318	P	P	22 44 47.2	+0.9
IKP	baz=128 In-Ko-Pah, Jac	52.03	317	P	P	22 44 47.5	+0.8
U15A	baz=127 North Rim	52.04	324	P	P	22 44 47.0	+0.2
PHWY	Pilot Hill	52.07	333	P	P	22 44 47.1	+0.1
PHWY	comp=Z,4.7nm,0.7s			IAmb	IAmb	22 44 48.3	
W13A	Hualapai Mount	52.12	321	P	P	22 44 48.1	+0.7
W13A	comp=Z,7.5nm,0.8s			IAmb	IAmb	22 44 49.6	
BC3	Big Chuckawall	52.21	319	P	P	22 44 48.8	+0.9
IRM	baz=128 Iron Mountain	52.32	320	P	P	22 44 49.9	+1.2
MONP2	baz=129,SNR=6.3 Monument Peak	52.39	318	P	P	22 44 50.1	+0.7
O20A	baz=127 White River Ci	52.49	330	P	P	22 44 50.5	+0.5
O20A	comp=Z,4.4nm,0.7s			IAmb	IAmb	22 44 52.5	
O20A	White River Ci	52.49	330	P	P	22 44 51.4	+1.3
PKCU	baz=139 Pink Cliffs	52.74	325	P	P	22 44 53.3	+1.2
PKCU	comp=Z,8.0nm,1.0s			IAmb	IAmb	22 44 55.0	
KNB	Kanab	52.75	324	P	P	22 44 52.7	+0.8
KNB	comp=Z,4.2nm,0.8s			IAmb	IAmb	22 44 53.8	
BELC	Belle Mtn. Jos	52.78	319	P	P	22 44 53.5	+1.4
TPFO	baz=128 Pinon Flats	52.84	318	P	P	22 44 53.8	+1.1
PFO	baz=127 Pinyon Flats O	52.84	318	P	P	22 44 53.8	+1.1
SRU	baz=127 San Rafael Swe	52.92	327	IAmb	IAmb	22 44 54.8	
SRU	comp=Z,7.0nm,1.0s			pP	pP	22 45 17.7	-0.3
LCMT	Little Creek M	52.99	324	P	P	22 44 54.5	+0.8
LCMT	comp=Z,7.6nm,1.0s			IAmb	IAmb	22 44 55.9	
GMRC	Granite Mounta	53.04	320	P	P	22 44 55.3	+1.1
MTPU	baz=129 Mount Pierson	53.08	325	P	P	22 44 54.3	-0.3
V12A	Nelson	53.13	321	P	P	22 44 55.1	+0.4
V12A	comp=Z,8.4nm,1.1s			IAmb	IAmb	22 44 56.6	
Q16A	Castle Valley	53.13	327	P	P	22 44 55.7	+0.9
P18A	Preston Nutter	53.15	328	P	P	22 44 55.6	+0.6
P18A	comp=Z,4.5nm,0.9s			IAmb	IAmb	22 44 56.7	
RWWY	Rawlins	53.18	332	P	P	22 44 55.2	0.0
RWWY	comp=Z,7.3nm,0.9s			IAmb	IAmb	22 44 56.8	
SZCU	Shurtz Canyon	53.30	324	P	P	22 44 56.8	+0.7
SZCU	comp=Z,7.9nm,1.0s			IAmb	IAmb	22 44 58.0	
EYMN	Ely	53.30	348	P	P	22 44 57.6	+2.0
P17A	baz=162 Butcher Ranch,	53.30	328	P	P	22 44 56.8	+0.8
P17A	comp=Z,8.9nm,0.8s			IAmb	IAmb	22 44 57.5	
MURC

baz=129,SNR=7.1
LRMC Laurel Mtn Rad 54.78 319 P P 22 45 07.8 +1.0
baz=127
CCAC Calif City Air 54.80 319 P P 22 45 07.4 +0.6
TCUT Toone Canyon 54.84 328 P P 22 45 07.8 +0.6
FURC Furnace Creek, 54.85 321 P P 22 45 08.4 +1.3
baz=129
WCT Wildcat Mounta 54.91 321 P P 22 45 08.2 +0.6
WCT IAmb IAmb 22 45 09.4
comp=Z,4.5nm,0.7s
S11A Rachel 54.91 323 P P 22 45 08.8 +1.1
S11A IAmb IAmb 22 45 10.2
comp=Z,11nm,1.1s
DUG Dugway, Tooele 54.93 327 P P 22 45 08.5 +0.7
DUG IAmb IAmb 22 45 09.7
comp=Z,7.1nm,0.8s
DUG Dugway, Tooele 54.93 327 P P 22 45 08.9 +1.1
baz=134,SNR=8.9
SPR3 Spring Creek 3 54.96 325 P P 22 45 08.9 +0.6
SPR3 IAmb IAmb 22 45 09.7
comp=Z,5.0nm,0.7s
SPR3 pP 22 45 33.4 +0.1
MPMC Manual Prospec 55.00 320 P P 22 45 09.0 +0.6
baz=128
PDAR Pinedale Array 55.13 331 P P 22 45 08.8 -0.4
comp=Z,3.0nm,0.6s,baz=128,slow=9.1,SNR=36
PDAR pP pP 22 45 33.0 -1.2
comp=Z,2.5nm,0.8s,baz=124,slow=9.2,SNR=2.8
PDAR PcP PcP 22 46 08.7 -0.6
comp=Z,1.5nm,0.5s,baz=125,slow=6.3,SNR=6.4
comp=Z,3.0nm,0.6s
BW06 Boulder Array 55.13 331 IAmb IAmb 22 45 09.7
comp=Z,4.6nm,0.8s
BW06 Boulder Array 55.13 331 P P 22 45 10.2 +0.9
baz=139
R11A Troy Canyon, C 55.27 323 P P 22 45 10.9 +0.7
R11A pP 22 45 36.0 +0.7
R11A Troy Canyon, C 55.27 323 P P 22 45 11.4 +1.2
baz=131,SNR=5.5
HWUT Hardware Ranch 55.27 329 IAmb IAmb 22 45 11.4
comp=Z,7.9nm,0.8s
ISA Isabella, Lake 55.40 319 P P 22 45 12.2 +1.0
baz=127
SPUT South Promonto 55.52 328 IAmb IAmb 22 45 13.4
comp=Z,6.9nm,0.6s
SPUT pP 22 45 37.1 0.0
BGU Big Grassy Mou 55.56 327 P P 22 45 12.6 +0.3
BGU pP 22 45 37.4 +0.1
CWC Cottonwood Cre 55.61 320 P P 22 45 13.7 +0.9
baz=127
GMN Gold Mountain 55.62 321 P P 22 45 13.8 +0.9
LCH Last Change Ra 55.82 321 P P 22 45 14.7 +0.5
PKM Mcpherson Peak 55.84 317 P P 22 45 15.1 +0.7
baz=125
TPH Tonopah 56.08 322 P P 22 45 16.3 +0.2
REDW Red Top Meadow 56.20 331 IAmb IAmb 22 45 35.6
comp=Z,3.0nm,0.6s
ECR Eagle Creek 56.23 330 P P 22 45 17.6 +0.5
TPAW Teton Pass 56.34 331 IAmb IAmb 22 45 18.9
comp=Z,3.6nm,0.6s
ELK Elko 56.65 326 pP 22 45 45.2 -0.1
RLMT Red Lodge 56.79 333 P P 22 45 21.4 +0.4
baz=140
YPP Pitchstone Pla 56.86 331 IAmb IAmb 22 45 29.0
comp=Z,5.3nm,1.1s
NV11 Mina Array Sit 56.88 322 pP 22 45 50.3 +3.5
OMMB Old Mammoth Mi 56.91 321 P P 22 45 22.8 +0.6
OMMB IAmb IAmb 22 45 23.9
comp=Z,5.5nm,0.8s
NVAR Mina Array Bea 56.97 322 P P 22 45 22.8 +0.4
comp=Z,3.1nm,0.7s,baz=133,slow=7.2,SNR=19
NVAR pP pP 22 45 47.6 0.0
comp=Z,2.7nm,0.8s,baz=132,slow=9.7,SNR=4.8
NVAR PcP PcP 22 46 16.1 -0.5
comp=Z,1.0nm,0.7s,baz=138,slow=4.7,SNR=3.9
comp=Z,3.1nm,0.7s
KVN Kaiserville 57.23 322 P P 22 45 24.8 +0.6
YHH Holmes Hill 57.27 332 P P 22 45 25.5 +1.0
YHH pP 22 45 50.6 +0.9
YHB Horse Butte 57.40 332 P P 22 45 25.6 +0.2
YHL Hebgen Lake 57.47 332 P P 22 45 27.1 +1.2
YHL pP pP 22 45 52.0 +0.9
QLMT Earthquake Lak 57.57 331 P P 22 45 27.5 +1.0
QLMT pP 22 45 52.4 +0.7
BMN Battle Mountai 57.58 324 IAmb IAmb 22 45 28.1
comp=Z,7.9nm,0.8s
WAKR Walker 57.72 321 P P 22 45 28.4 +0.7
WAKR IAmb IAmb 22 45 29.8
comp=Z,5.6nm,1.0s
CMB Columbia Colle 58.04 320 P P 22 45 29.9 +0.2
HLID Hailey 58.14 329 P P 22 45 30.9 +0.4
HLID IAmb IAmb 22 45 41.2
comp=Z,3.3nm,0.6s
HLID Hailey 58.14 329 P P 22 45 30.9 +0.4
baz=134
PNTR Pine Nut 58.17 322 P P 22 45 30.5 -0.4
BOZ Bozeman (W) 58.23 332 IAmb IAmb 22 45 32.5
comp=Z,9.3nm,1.1s
BOZ pP 22 45 55.9 -0.5
BOZ Bozeman (W) 58.23 332 P P 22 45 31.6 +0.5
baz=138,SNR=11
MCMT McKenzie Canyo 58.25 331 P P 22 45 31.4 +0.1
LRM Limekiln Ridge 58.79 332 P P 22 45 35.6 +0.5
BEKR Beckworth 59.11 322 IAmb IAmb 22 45 39.0
comp=Z,3.4nm,0.8s
SCHQ Schefferville 59.24 7 P P 22 45 37.2 -0.5
comp=Z,7.1nm,0.7s,baz=207,slow=3.4,SNR=8.7
comp=Z,7.1nm,0.7s
EGMT Eagleton 59.25 335 P P 22 45 38.0 +0.1
baz=141
ORV Oroville 59.63 321 P P 22 45 41.6 +0.9
ORV pP 22 46 06.4 +0.3
WVOR Wild Horse Val 59.69 325 P P 22 45 41.6 +0.4
WVOR IAmb IAmb 22 45 43.8
comp=Z,4.8nm,0.8s
WVOR pP 22 46 09.8 +3.3
MSO Missoula 60.23 332 P P 22 45 45.3 +0.6
baz=136,SNR=5.9
JTMT Jette 61.05 332 P P 22 45 51.2 +0.8
JTMT IAmb IAmb 22 45 52.0
comp=Z,6.6nm,0.9s
I07A Izee 61.23 326 P P 22 45 52.4 +0.8
I07A IAmb IAmb 22 45 53.3
comp=Z,5.5nm,0.9s
G08A Pilot Rock 61.71 328 P P 22 45 55.7 +0.9
KMPM Mount Pierce 61.78 321 P P 22 45 56.2 +0.9
WALA Waterton Lakes 61.84 333 P P 22 45 56.3 +0.6
WALA IAmb IAmb 22 45 56.8
comp=Z,7.5nm,0.8s
KSXB Camp Six Broad 62.42 322 P P 22 46 00.1 +0.5
NEW Newport 62.77 331 P P 22 46 02.0 +0.3
NEW IAmb IAmb 22 46 02.8
comp=Z,7.9nm,0.8s
NEW Newport 62.77 331 P P 22 46 02.0 +0.3
baz=134,SNR=7.3
EDM Edmonton 64.71 337 P P 22 46 13.1 -1.3
EDM IAmb IAmb 22 46 14.7
comp=Z,12nm,0.9s
LLLB Lillooet 66.65 331 IAmb IAmb 22 46 28.4
comp=Z,11nm,1.2s
WAPA Wapiti River 68.52 335 IAmb IAmb 22 46 39.0
comp=Z,11nm,1.0s
DBIC Dimbokro 72.75 82 P P 22 47 04.4 -0.6
comp=Z,7.2nm,0.5s,baz=268,slow=4.2,SNR=16
comp=Z,7.2nm,0.5s
DBIC Dimbokro 72.75 82 P P 22 47 04.9 -0.1
DBIC IAmb IAmb 22 47 05.6
comp=Z,9.3nm,0.8s
T35M Bob Quinn 74.44 333 P P 22 47 15.1 +1.0
baz=124
KOWA Kowa 74.56 74 P P 22 47 14.6 -1.0
comp=Z,4.9nm,0.6s,baz=264,slow=4.7,SNR=3.1
comp=Z,4.9nm,0.6s
KOWA Kowa 74.56 74 P P 22 47 15.5 -0.1
KOWA IAmb IAmb 22 47 15.9
comp=Z,6.3nm,0.8s
DLBC Dease Lake 75.16 334 P P 22 47 19.2 +0.9
baz=124
S34M Telegraph Cree 75.36 333 P P 22 47 21.0 +1.7
baz=123
WRGLY Wrigley 75.59 340 P P 22 47 20.8 +0.4
baz=132
PNCL Nicolau / Gran 75.73 49 *e*P P 22 47 21.1 -0.7
PNCL *e*pP pP 22 47 51.4 +3.2
PSBE So Bento 75.94 48 *e*P P 22 47 22.9 -0.2
PCVE Castro Verde 75.96 50 *e*pP pP 22 47 51.9 +2.3

R33M Jennings River 76.11 335 P P 22 47 24.8 +1.0
baz=124
PMTG Montargil 76.23 48 *e*P P 22 47 24.4 -0.3
PMTG *e*pP pP 22 47 51.9 +0.8
EVO Evora 76.23 49 *e*P P 22 47 24.8 +0.1
TGTN Hyland Airport 76.25 337 P P 22 47 26.1 +1.7
baz=127
COI Coimbra 76.43 47 *e*P P 22 47 26.1 +0.3
Q32M Nakina River 76.43 334 P P 22 47 26.8 +1.1
baz=122
PVIS Viseu 76.95 47 *e*P P 22 47 28.4 -0.4
BELA Belgrano 2 77.06 172 P P 22 47 29.0 +0.3
BELA IAmb IAmb 22 47 29.5
comp=Z,4.9nm,0.6s
MTE Manteigas 77.12 47 *e*P P 22 47 29.1 -0.7
MTE *e*pP pP 22 47 59.0 +2.8
POLO Lamas de Olo 77.22 46 *e*pP pP 22 48 00.2 +3.4
PVRL Vila Real 77.25 46 *e*P P 22 47 30.1 -0.3
P33M Teslin, Yukon 77.34 335 P P 22 47 30.2 -0.3
baz=122
P32M Atlin 77.39 334 P P 22 47 30.5 -0.4
baz=121
MVO Moncorvo 77.71 47 *e*P P 22 47 32.8 -0.3
MVO *e*pP pP 22 47 59.7 +0.2
MMPY Sheldon Lake, 78.03 337 P P 22 47 35.8 +1.5
baz=124
PBRG Braganca 78.10 46 *e*P P 22 47 34.6 -0.6
PBRG *e*pP pP 22 48 02.5 +0.9
FARO Faro, Yukon 78.63 337 P P 22 47 38.7 +1.0
baz=122
O30N Mendenhall 79.02 335 P P 22 47 40.2 +0.4
baz=119
VNA3 Neumayer Olymp 79.02 162 P P 22 47 40.0 +0.4
M31M Drury Creek, Y 79.03 336 P P 22 47 40.4 +0.6
baz=121
P29M Windy Craggy 79.20 333 P P 22 47 41.6 +0.8
baz=118
N31M Braeburn, Yuko 79.24 335 P P 22 47 41.8 +0.8
baz=120
ESDC Sonseca Array 79.58 49 P P 22 47 42.1 -1.2
comp=Z,1.1nm,0.9s,baz=260,slow=6.3,SNR=8.5
ESDC pP pP 22 48 08.4 -1.5
comp=Z,2.5nm,1.1s,baz=260,slow=5.7,SNR=3.6
comp=Z,1.1nm,0.9s
ESDC Sonseca Array 79.58 49 P P 22 47 43.2 -0.1
VNA2 Neumayer--Watz 79.61 162 P P 22 47 43.0 +0.1
baz=292,slow=2.9
N30M Aishikik Lake 79.78 335 P P 22 47 45.1 +1.2
baz=118
C36M Paulatuk 79.88 345 P P 22 47 45.1 +1.0
baz=132
TOA0 Torodi Ar. Sit 79.89 76 P P 22 47 43.9 -1.5
TORD Torodi Ar. Bea 79.89 76 P P 22 47 44.7 -0.7
comp=Z,13nm,0.6s,baz=260,slow=8.6,SNR=13
TORD pP pP 22 48 09.9 -2.1
comp=Z,7.5nm,0.4s,baz=290,slow=4.3,SNR=7.6
comp=Z,13nm,0.6s
SUMG Summit 80.28 11 P P 22 47 47.1 +0.3
SUMG IAmb IAmb 22 47 47.7
comp=Z,9.4nm,0.9s
SUMG Summit 80.28 11 *i* P P 22 47 45.0 -1.8
YUK4 Talbot Arm 80.38 335 P P 22 47 48.2 +0.8
baz=117
PINM Pinnacle 80.54 333 P P 22 47 49.0 +0.9
baz=115
O28M Mount Upton 80.80 334 P P 22 47 50.6 +0.9
baz=116
M29M Somme Creek 80.81 336 P P 22 47 50.1 +0.6
baz=117
L29M L29M 80.98 336 P P 22 47 50.8 +0.4
baz=118,SNR=6.7
K29M Barlow Dome 81.09 337 P P 22 47 51.0 0.0
baz=118
SNAA Sanae 81.23 162 P P 22 47 51.7 +0.1
SNAA Sanae 81.23 162 P P 22 47 51.7 +0.1
YUK3 Moose Creek 81.35 335 P P 22 47 52.6 +0.1
baz=115
CTG Chitna Glacier 81.39 334 P P 22 47 52.7 0.0
baz=114
WAX Waxell Ridge 81.87 333 P P 22 47 56.0 +1.0
WAX IAmb IAmb 22 48 15.4
comp=Z,17nm,1.2s
DAWY Dawson 81.92 337 P P 22 47 55.2 -0.1
DAWY Dawson 81.92 337 P P 22 47 55.3 0.0
baz=117
A36M Sachs Harbour 81.93 346 P P 22 47 54.4 -0.6
baz=131
INK Inuvik 81.97 342 P P 22 47 55.1 -0.2
comp=Z,7.8nm,0.8s,baz=74,slow=5.3,SNR=8.6
INK pP pP 22 48 20.9 -1.1
comp=Z,1.8nm,0.3s,baz=106,slow=2.9,SNR=1.8
comp=Z,7.8nm,0.8s
INK Inuvik 81.97 342 IAmb IAmb 22 47 56.4
comp=Z,13nm,1.0s
INK Inuvik 81.97 342 P P 22 47 55.6 +0.3
baz=123
EPYK Eagle Plains 82.02 339 P P 22 47 56.1 +0.4
baz=120
I29M Ogilvie Camp, 82.11 338 IAmb IAmb 22 47 57.3
comp=Z,8.2nm,1.0s
I29M Ogilvie Camp, 82.11 338 P P 22 47 56.5 +0.3
baz=118,SNR=6.1
M27K Edge Creek, AK 82.21 335 P P 22 47 57.5 +0.5
M27K Edge Creek, AK 82.21 335 P P 22 47 57.4 +0.5
baz=114
BERG Berg Lake 82.23 333 P P 22 47 57.5 +0.6
BERG IAmb IAmb 22 47 59.9
comp=Z,6.3nm,0.8s
MCARA McCarthy VSAT 82.31 334 P P 22 47 57.5 +0.2
MCARA IAmb IAmb 22 47 59.2
comp=Z,15nm,1.0s
MCARA McCarthy VSAT 82.31 334 P P 22 47 58.0 +0.7
baz=113,SNR=5.5
KAIM Kayak Island 82.39 332 P P 22 47 57.9 +0.2
KAIM Kayak Island 82.39 332 P P 22 47 58.6 +0.9
baz=112
VRDI Verde Repeater 82.44 333 IAmb IAmb 22 47 59.5
comp=Z,12nm,1.0s
L27K Beaver Creek, 82.47 335 P P 22 47 58.6 +0.4
baz=114,SNR=9.2
GLB Gilahina Butte 82.68 334 P P 22 47 59.7 +0.4
GLB IAmb IAmb 22 48 00.5
comp=Z,13nm,1.2s
M26K Nabesna, AK 82.70 335 P P 22 47 59.7 +0.4
baz=113,SNR=5.4
BMRM Bremner River 82.86 333 IAmb IAmb 22 48 01.4
comp=Z,15nm,1.1s
BMRM Bremner River 82.86 333 P P 22 48 00.3 +0.1
baz=112
EGAK Eagle 82.93 337 P P 22 48 00.5 +0.1
EGAK Eagle 82.93 337 P P 22 48 00.5 +0.1
baz=115
TROLL Troll, Antarti 82.95 162 P P 22 48 01.0 +0.3
K27K Chicken 82.98 336 IAmb IAmb 22 48 02.6
comp=Z,12nm,0.9s
K27K Chicken 82.98 336 P P 22 48 01.5 +0.8
baz=114
N25K Chitina, Valde 83.09 334 P P 22 48 01.6 +0.2
baz=112
L26K Log Cabin Wild 83.09 335 IAmb IAmb 22 48 02.4
comp=Z,5.0nm,0.8s
L26K Log Cabin Wild 83.09 335 P P 22 48 01.6 +0.3
baz=113,SNR=5.6
I27K Kandik River 83.45 338 P P 22 48 03.3 +0.1
baz=115
DOT Dot Lake 83.63 336 IAmb IAmb 22 48 05.1
comp=Z,6.8nm,0.8s
KLU Klutina 83.64 333 IAmb IAmb 22 48 05.2
comp=Z,16nm,1.1s
KLU Klutina 83.64 333 P P 22 48 04.2 0.0
baz=110,SNR=7.0
H27K Steamboat Moun 83.69 338 P P 22 48 04.1 -0.2
baz=115
SCRK Sand Creek 83.73 336 IAmb IAmb 22 48 05.2
comp=Z,4.5nm,0.7s
SCRK Sand Creek 83.73 336 P P 22 48 04.8 +0.1
baz=112,SNR=7.4
J26L Joseph Creek 83.76 336 IAmb IAmb 22 48 05.5
comp=Z,5.1nm,0.8s
J26L Joseph Creek 83.76 336 P P 22 48 05.0 +0.2
baz=113,SNR=6.5
I26K Coal Creek Min 83.92 337 P P 22 48 05.2 -0.2
baz=113
GLI Glacier Island 83.97 332 P P 22 48 05.6 -0.2
baz=109
M24K Tolsona, Glenn 83.97 334 P P 22 48 06.3 +0.4
baz=110,SNR=5.3

PAX Paxson 83.97 335 IAmb IAmb 22 48 06.6
comp=Z,7.0nm,0.8s
PAX Paxson 83.97 335 P P 22 48 05.5 -0.4
baz=111,SNR=8.6
G27K Doyon Strip 83.98 339 P P 22 48 05.4 -0.4
baz=115,SNR=5.7
RIDG Independent Ri 83.99 336 IAmb IAmb 22 48 07.0
comp=Z,10nm,0.9s
RIDG Independent Ri 83.99 336 P P 22 48 06.2 +0.2
baz=112
EKA Eskdalemuir Ar 84.15 33 P P 22 48 05.8 -1.0
comp=Z,1.0nm,0.5s,baz=247,slow=4.1,SNR=8.3
comp=Z,1.0nm,0.5s
SCM Sheep Creek Mo 84.39 333 P P 22 48 08.1 +0.1
baz=109
K24K Donnelly Dome 84.40 335 P P 22 48 08.0 0.0
baz=111
J25K Salcha River, 84.53 336 IAmb IAmb 22 48 09.6
comp=Z,5.4nm,0.8s
J25K Salcha River, 84.53 336 P P 22 48 08.5 -0.1
baz=111,SNR=5.1
PWL Port Wells 84.54 332 P P 22 48 08.3 -0.5
baz=108
E27K Coleen River 84.54 340 P P 22 48 08.4 -0.2
baz=115
M23K Glacier View 84.56 333 P P 22 48 08.6 -0.2
baz=109
TAM Tamanrasset 84.62 67 P P 22 48 10.4 +0.2
G26K Porcupine Rive 84.80 339 P P 22 48 09.6 -0.3
baz=113
WAT6 Susitna Watana 84.82 334 P P 22 48 09.9 -0.4
baz=109,SNR=9.1
DHY Denali Highway 84.83 334 P P 22 48 09.8 -0.5
baz=109
SEW Seward 84.83 331 P P 22 48 09.9 -0.2
baz=107
SML Sawmill 84.83 333 IAmb IAmb 22 48 10.6
comp=Z,8.9nm,0.7s
SML Sawmill 84.83 333 P P 22 48 10.1 -0.1
baz=108,SNR=6.5
PRP Porcupine Dome 84.92 337 P P 22 48 10.4 -0.3
baz=111
HDA Harding Lake 85.09 336 P P 22 48 11.0 -0.4
baz=110
ILAR Eielson Array 85.19 336 P P 22 48 10.7 -1.2
comp=Z,2.6nm,0.9s,baz=134,slow=3.9,SNR=18
ILAR pP pP 22 48 37.2 -1.6
comp=Z,1.4nm,0.8s,baz=126,slow=3.5,SNR=4.4
comp=Z,2.6nm,0.9s
F26K Sheenjek River 85.22 339 P P 22 48 12.3 +0.2
baz=113
WAT1 Susitna Watana 85.25 334 P P 22 48 12.1 -0.2
baz=108
RC01 Rabbit Creek A 85.26 332 IAmb IAmb 22 48 12.6
comp=Z,7.6nm,1.0s
RC01 Rabbit Creek A 85.26 332 P P 22 48 11.9 -0.4
baz=107
H25K Birch Creek 85.30 338 P P 22 48 12.9 +0.6
baz=111
RND Reindeer 85.56 335 IAmb IAmb 22 48 15.8
comp=Z,6.0nm,0.7s
G25K Bearman Lake 85.58 338 P P 22 48 14.0 +0.2
baz=111
F25K Christian Rive 85.72 339 P P 22 48 14.9 +0.4
baz=111
MDM Murphy Dome 85.80 336 IAmb IAmb 22 48 15.8
comp=Z,8.6nm,1.0s
C27K Jago River 85.83 341 P P 22 48 15.3 +0.3
baz=113
SUA Susitna One 85.83 332 P P 22 48 15.2 -0.1
baz=106
E25K Arctic Village 85.88 340 P P 22 48 15.6 +0.3
baz=111
H24K Noodor Dome 85.94 337 P P 22 48 15.8 +0.1
baz=109
NEA2 Nenana 86.02 336 P P 22 48 16.0 0.0
baz=108,SNR=8.7
QSPA South Pole Qui 86.06 180 P P 22 48 17.1 +0.7
G24K Hadweenzic Riv 86.08 338 P P 22 48 16.7 +0.4
baz=110
TRF Thorofare Moun 86.19 334 P P 22 48 16.6 -0.5
baz=107
I23K Minto, Yukon-K 86.31 336 IAmb IAmb 22 48 17.9
comp=Z,8.1nm,0.8s
I23K Minto, Yukon-K 86.31 336 P P 22 48 17.3 0.0
baz=108,SNR=5.3
SKT Skwentna 86.33 333 pP 22 48 43.0 -1.5
SKT Skwentna 86.33 333 P P 22 48 17.5 -0.2
baz=106,SNR=8.9
N20K Mount Spurr 86.44 332 P P 22 48 17.8 -0.4
baz=105
SPCR Spurr Chakacha 86.44 332 P P 22 48 17.8 -0.5
baz=105
KTH Kantishna Hill 86.50 334 IAmb IAmb 22 48 19.4
comp=Z,8.2nm,0.9s
F24K Squaw Lake 86.50 339 P P 22 48 18.5 +0.1
baz=109
H23K Yukon River 86.59 337 P P 22 48 19.0 +0.2
baz=108
D25K Kavik River 86.59 341 P P 22 48 18.8 0.0
baz=111
BPAW Bear Paw Mtn. 86.68 335 P P 22 48 18.9 -0.4
baz=106,SNR=8.9
MLY Manley 86.83 336 P P 22 48 19.7 -0.3
baz=106,SNR=11
PPLA Purkeypile 86.87 334 P P 22 48 20.2 -0.2
baz=105
E24K Your Creek 86.89 339 P P 22 48 20.7 +0.4
baz=109
CAST Castle Rocks 86.96 334 P P 22 48 20.3 -0.3
baz=105,SNR=14
G23K Bananza Creek 87.04 338 P P 22 48 21.5 +0.5
baz=107,SNR=9.1
M20K Styx River 87.04 333 P P 22 48 20.6 -0.6
baz=104
CHUM Lake Minchumin 87.18 335 P P 22 48 21.6 -0.1
baz=105
COLD Coldfoot 87.26 338 P P 22 48 22.5 +0.5
baz=107
E23K Chandalar 87.29 339 P P 22 48 22.5 +0.3
baz=108
H22K Ishtalitna Cre 87.33 337 P P 22 48 22.3 -0.1
baz=106
I21K Tanana 87.38 336 P P 22 48 22.7 +0.1
baz=105
N19K Bonanza Creek 87.43 331 P P 22 48 22.8 -0.3
baz=103
TOLK Toolik Lake Re 87.45 340 P P 22 48 22.8 -0.2
baz=108
C24K Franklin Bluff 87.50 341 P P 22 48 23.7 +0.6
baz=108
L20K Farewell, AK 87.53 333 P P 22 48 22.8 -0.6
baz=103,SNR=5.6
M19K Big River Lodg 87.63 332 P P 22 48 23.5 -0.4
baz=103
K20K Telida 87.81 334 IAmb IAmb 22 48 24.8
comp=Z,5.9nm,0.9s
K20K Telida 87.81 334 P P 22 48 24.2 -0.6
baz=103
H21K Melozitna Rive 87.84 336 P P 22 48 24.2 -0.6
baz=104
L19K White Mountain 87.90 333 P P 22 48 24.6 -0.6
baz=102
D23K Nanushuk River 87.94 340 P P 22 48 25.8 +0.6
baz=107
J20K Nowinta River 88.04 335 P P 22 48 25.4 -0.4
baz=103
P17K Kvichak River 88.05 330 P P 22 48 25.6 -0.3
baz=101
F22K John River 88.07 338 P P 22 48 26.5 +0.6
baz=105
N18K Kilae Creek 88.07 331 P P 22 48 25.7 -0.3
baz=102
C23K Itkillik River 88.16 341 P P 22 48 26.8 +0.6
baz=107,SNR=5.5
G21K Allakaket 88.33 337 P P 22 48 27.5 +0.4
baz=104,SNR=7.0
O17K Koliganek Bris 88.49 330 P P 22 48 27.8 -0.1
baz=100
F21K Alatna River 88.49 338 P P 22 48 28.3 +0.4
baz=104
DAVA Damuels 90.77 43 *i* P P 22 48 39.3 +0.1
comp=Z,3.8nm,0.8s
DAVA *e*P pP 22 49 09.8 +3.5
comp=Z,8.8nm,1.2s
FETA Feichten 91.33 43 *i* P P 22 48 41.9 +0.1
comp=Z,2.7nm,1.0s
FETA *e*P pP 22 49 12.4 +3.5

	comp=Z,7.3nm,1.2s							
RETA	**Reutte**	**91.39**	**43**	*e*P		pP	22 49 12.6	+3.6
	comp=Z,3.2nm,1.0s							
MOTA	**Moosalm**	**91.61**	**43**	*i* P		**P**	**22 48 43.6**	**+0.6**
	comp=Z,3.4nm,1.0s							
MOTA				*e*P		**pP**	**22 49 12.5**	**+2.4**
	comp=Z,7.3nm,0.9s							
SQTA	**Sankt Quirin**	**91.67**	**43**	*e*P		**P**	**22 48 43.6**	**+0.3**
	comp=Z,2.7nm,0.7s							
SQTA				*e*P		**pP**	**22 49 12.2**	**+1.8**
	comp=Z,5.0nm,0.6s							
WATA	**Walderalm**	**91.93**	**43**	*e*P		**P**	**22 48 44.2**	**-0.3**
	comp=Z,3.1nm,1.1s							
WATA				*e*P		**pP**	**22 49 13.3**	**+1.7**
	comp=Z,2.5nm,0.6s							
WTTA	**Wattenberg**	**91.96**	**43**	*i* P		**P**	**22 48 44.8**	**+0.1**
	comp=Z,3.8nm,0.9s							
WTTA				*e*P		**pP**	**22 49 14.4**	**+2.6**
	comp=Z,9.5nm,1.3s							
ABTA	**Abfaltersbach**	**92.53**	**43**	*i* P		pP	22 49 17.9	+3.5
	comp=Z,6.3nm,1.1s							
KBA	**Koelnbreinsper**	**93.12**	**43**	*e*P		pP	22 49 18.8	+1.6
	comp=Z,2.9nm,0.8s							
MOA	**Molln**	**93.77**	**42**	*i* P		**P**	**22 48 52.7**	**-0.1**
	comp=Z,1.8nm,0.9s							
MOA				*i* P		**pP**	**22 49 20.9**	**+1.0**
	comp=Z,3.9nm,1.3s							
HFS	**Hagfors**	**93.78**	**30**	P		**P**	**22 48 51.1**	**-1.5**
	comp=Z,12nm,1.2s,baz=266,slow=14,SNR=3.2							
	comp=Z,12nm,1.2s							
SOKA	**Soboth**	**94.26**	**44**	*i* P		**P**	**22 48 55.5**	**+0.3**
	comp=Z,1.1nm,0.9s							
CONA	**Conrad Observa**	**94.85**	**42**	*i* P		**P**	**22 48 57.9**	**+0.1**
	comp=Z,1.5nm,0.7s							
SPIA	**Saint Paul Isl**	**95.14**	**327**	P		**P**	**22 48 58.8**	**0.0**
	baz=89							
ARCES	**ARCESS Array B**	**98.10**	**20**	P		**P**	**22 49 10.4**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=270,slow=3.6,SNR=7.6							
	comp=Z,0.9nm,0.4s							
GEYT	**Alibeck**	**126.95**	**44**	PKP		**PKPdf**	**22 54 38.5**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=318,slow=8.0,SNR=5.7							
GEYT				pPKP		**pPKPdf**	**22 55 06.8**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=212,slow=7.0,SNR=1.9							
ZALV	**Zalesovo Beam**	**128.04**	**14**	PKP		**PKPdf**	**22 54 40.5**	**-0.7**
	comp=Z,3.6nm,0.5s,baz=300,slow=2.9,SNR=22							
ZALV				pPKP		**pPKPdf**	**22 55 08.6**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=346,slow=3.1,SNR=3.5							
KLR	**Kul'dur**	**128.77**	**336**	PKP		**PKPdf**	**22 54 41.9**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=71,slow=4.1,SNR=5.9							
MKAR	**Makanchi Array**	**133.75**	**20**	PKP		**PKPdf**	**22 54 51.3**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=290,slow=2.9,SNR=28							
MKAR				pPKP		**pPKPdf**	**22 55 19.5**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=48,slow=1.8,SNR=4.0							
MJAR	**Matsushiro Arr**	**134.27**	**320**	PKP		**PKPdf**	**22 54 52.4**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=100,slow=0.7,SNR=5.6							
SONM	**Songino Array**	**136.25**	**357**	PKP		**PKPdf**	**22 54 55.2**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=83,slow=4.5,SNR=5.0							
KSRS	**Korea Array**	**139.67**	**329**	PKP		**PKPdf**	**22 55 01.1**	**-2.4**
	comp=Z,3.7nm,0.8s,baz=13,slow=0.4,SNR=11							
LZH	**Lanzhou**	**148.08**	**359**	*e*PKPbc		**PKPbc**	**22 55 22.0**	**+0.3**
LZH				pPKP		pPKPbc	22 55 50.8	+1.1
LZH				sPKP			22 56 02.0	
LZH				LR		LR		
	comp=N,220nm,16.3s							
LZH				LR		LR		
	comp=E,250nm,16.8s							
LZH				LR		LR		
	comp=Z,220nm,19.9s							
XAN	**Xi'an**	**149.63**	**350**	PKPbc		**PKPdf**	**22 55 20.5**	**-0.4**
XAN				PKPab		**PKPab**	**22 55 30.5**	**-0.3**
XAN				pPKP		pPKPdf	22 55 44.5	-4.7
XAN				sPKP			22 55 57.0	
CMAR	**Chiang Mai Arr**	**165.10**	**15**	PKP		**PKPdf**	**22 55 39.4**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=322,slow=2.5,SNR=5.1							
CMAR				pPKP		**pPKPdf**	**22 56 08.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=335,slow=14,SNR=1.2							
CMAR				PKPab		**PKPab**	**22 56 36.1**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=330,slow=5.3,SNR=5.6							

*IDC **30** 22:36:14.2±1.7, 44.93N×80.79E, h0km, mb3.4/1, mbtmp3.3/5, ML2.7/4, Error ellipse: s-maj=27.7km s-min=9.9km az=134.0*
*NNC **30** 22:36:15.7±0.4, 44.86N×80.88E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=5.7km s-min=2.3km az=128.0*
*SOME **30** 22:36:16.5, 44.87N×80.87E, h15km*
ISC 30 22:36:13.8±1.2, 44.81N×0.04×81.15E±0.04, h9km±10km, n57,σ1s07/79, 6C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DJR	**Jarkent**	**1.08**	**244**	*e*P		**Pg**	**22 36 34.4**	**-0.3**
	32nm,0.1s							
DJR				*e*S		**Sg**	**22 36 47.4**	**-1.4**
	198nm,0.3s							
DJR	**Jarkent**	**1.08**	**244**	P		**Pg**	**22 36 34.4**	**-0.3**
	32nm,0.1s							
KNOS	**Konyrlen**	**1.48**	**253**	*e*P		**Pn**	**22 36 41.2**	**+0.3**
	55nm,0.1s							
KNOS				*e*S		**Sn**	**22 36 59.2**	**-1.3**
	145nm,0.2s							
KNOS	**Konyrlen**	**1.48**	**253**	P		**Pn**	**22 36 41.2**	**+0.3**
	55nm,0.1s							
KNOS				S		**Sn**	**22 36 59.2**	**-1.3**
	145nm,0.2s							
KTMS	**Ketmen**	**1.48**	**203**	*e*P		**Pg**	**22 36 42.8**	**+0.6**
	12nm,0.1s							
KTMS				*e*S		**Sg**	**22 37 02.2**	**+0.7**
	122nm,0.1s							
KTMS	**Ketmen**	**1.48**	**203**	P		**Pg**	**22 36 42.8**	**+0.6**
	12nm,0.1s							
KTMS				S		**Sg**	**22 37 02.2**	**+0.7**
	122nm,0.1s							
TDK	**Taldyqorghan**	**1.96**	**277**	*e*P		**Pb**	**22 36 49.2**	**-0.6**
	188nm,0.2s							
TDK				*e*S		**Sn**	**22 37 12.5**	**+0.4**
	191nm,0.2s							
BLB	**Baldybastay**	**2.04**	**250**	*e*P		**Pb**	**22 36 51.2**	**0.0**
	156nm,0.1s							
BLB				*e*S		**Sb**	**22 37 16.1**	**-0.7**
	163nm,0.3s							
SHLS	**Shalkode**	**2.06**	**217**	*e*P		**Pn**	**22 36 49.3**	**+0.6**
	38nm,0.1s							
SHLS				*e*S		**Sn**	**22 37 13.8**	**-0.8**
	236nm,0.2s							
SHLS	**Shalkode**	**2.06**	**217**	P		**Pn**	**22 36 49.3**	**+0.6**
	38nm,0.1s							
SHLS				S		**Sn**	**22 37 13.8**	**-0.8**
	236nm,0.2s							
MAKZ	**Makanchi**	**2.08**	**16**	⇓Pn		**Pb**	**22 36 51.9**	**+0.1**
	2.3nm,0.2s							
MAKZ				⇓Sn		**Sb**	**22 37 19.7**	**+2.0**
	34nm,0.4s							
MK31	**Makanchi Array**	**2.14**	**21**	⇓Pn		**Pb**	**22 36 53.1**	**+0.4**
	2.9nm,0.2s,baz=207,slow=13,SNR=356							
MK31				⇓Sn		**Sb**	**22 37 21.3**	**+1.9**
	6.4nm,0.2s,baz=196,slow=25,SNR=18							
MKAR	**Makanchi Array**	**2.14**	**21**	Pn		**Pb**	**22 36 53.2**	**+0.5**
	5.2nm,0.3s,baz=210,slow=16,SNR=328							
MKAR				Lg		Lg	22 37 21.9	
	27nm,0.3s,baz=210,slow=34,SNR=10							
	6.2nm,0.3s							
UZB	**Uzynbulak**	**2.27**	**223**	*e*P		**Pb**	**22 36 54.8**	**-0.3**
	5.5nm,0.1s							
UZB				*e*S		**Sb**	**22 37 22.5**	**-0.7**
	57nm,0.2s							
UZB	**Uzynbulak**	**2.27**	**223**	Pg		**Pb**	**22 36 54.8**	**-0.3**
	5.5nm,0.1s							
UZB				Lg		Lg	22 37 22.5	
	57nm,0.2s							
ARXS	**Arharly**	**2.45**	**257**	*e*P		**Pb**	**22 36 57.4**	**-0.8**
	26nm,0.2s							
ARXS				*e*S		**Sb**	**22 37 27.6**	**-0.9**
	168nm,0.2s							
ARXS	**Arharly**	**2.45**	**257**	Pg		**Pb**	**22 36 57.4**	**-0.8**
	26nm,0.2s							
ARXS				Lg		Lg	22 37 27.6	
	168nm,0.2s							
KURS	**Kuram**	**2.52**	**239**	*e*P		**Pb**	**22 36 59.1**	**-0.3**
	6.6nm,0.2s							
KURS				*e*S		**Sb**	**22 37 30.6**	**+0.1**
	43nm,0.2s							
KURS	**Kuram**	**2.52**	**239**	Pg		**Pb**	**22 36 59.1**	**-0.3**
	6.6nm,0.2s							
ZHN	**Zhinishke**	**2.56**	**231**	*e*P		**Pb**	**22 37 00.0**	**0.0**
	21nm,0.1s							
ZHN				*e*S		**Sb**	**22 37 32.4**	**+0.8**
	335nm,0.2s							
ZHN	**Zhinishke**	**2.56**	**231**	Pg		**Pb**	**22 36 60.0**	**0.0**
	21nm,0.1s							
SATY	**Saty**	**2.65**	**229**	*e*P		**Pb**	**22 37 01.6**	**+0.1**
	8.9nm,0.1s							
SATY				*e*S		**Sb**	**22 37 35.1**	**+0.9**
	192nm,0.2s							
SATY	**Saty**	**2.65**	**229**	Pg		**Pb**	**22 37 01.6**	**+0.1**
	8.9nm,0.1s							
SATY				Lg		Lg	22 37 35.1	
	192nm,0.2s							
CHKK	**Chushkaly**	**3.14**	**254**	*e*P		**Pb**	**22 37 09.1**	**-0.8**
	5.1nm,0.2s							
CHKK				*e*S		**Sb**	**22 37 47.8**	**-0.4**
	124nm,0.2s							
CHKK	**Chushkaly**	**3.14**	**254**	Pg		**Pb**	**22 37 09.1**	**-0.8**
	5.1nm,0.2s							
CHKK				Lg		Lg	22 37 47.8	
	124nm,0.2s							
KOTS	**Kotyrbulak**	**3.31**	**243**	*e*P		**Pb**	**22 37 13.3**	**+0.5**
	0.8nm,0.2s							
KOTS				*e*S		**Sb**	**22 37 53.9**	**+0.5**
	75nm,0.4s							
KOTS	**Kotyrbulak**	**3.31**	**243**	Pg		**Pb**	**22 37 13.3**	**+0.5**
	0.8nm,0.2s							
KOTS				Lg		Lg	22 37 53.9	
	75nm,0.4s							
MDOK	**Medeo**	**3.39**	**242**	*e*P		**Pb**	**22 37 14.3**	**+0.1**
	9.2nm,0.4s							
MDOK				*e*S		**Sb**	**22 37 55.0**	**-0.6**
	58nm,0.4s							
MDOK	**Medeo**	**3.39**	**242**	⇑Pn		**Pn**	**22 37 10.1**	**+3.0**
	7.5nm,0.6s							
MDOK				Pg		**Pb**	**22 37 14.3**	**+0.1**
	9.2nm,0.4s							
MDOK				Lg		Lg	22 37 55.0	
	58nm,0.4s							
MDOK				⇑Lg		Lg	22 38 00.0	
	49nm,0.6s							
AAA	**Alma-Ata**	**3.45**	**244**	*e*P		**Pb**	**22 37 15.5**	**+0.4**
	17nm,0.1s							
AAA				*e*S		**Sb**	**22 37 57.6**	**+0.3**
	53nm,0.3s							
AAA	**Alma-Ata**	**3.45**	**244**	Pg		**Pb**	**22 37 15.5**	**+0.4**
	17nm,0.1s							
AAA				Lg		Lg	22 37 57.6	
	53nm,0.3s							
TNSS	**Tian-Shan**	**3.52**	**241**	Pg		**Pb**	**22 37 17.0**	**+0.5**
	11nm,0.3s							
TNSS				Lg		Lg	22 37 59.8	
	36nm,0.3s							
KUU	**Kurty**	**3.57**	**257**	*e*P		**Pb**	**22 37 16.7**	**-0.5**
	6.8nm,0.5s							
KUU				*e*S		**Sb**	**22 37 59.7**	**-1.0**
	34nm,0.4s							
KUU	**Kurty**	**3.57**	**257**	Pg		**Pb**	**22 37 16.7**	**-0.5**
	6.8nm,0.5s							
KUU				Lg		Lg	22 37 59.7	
	34nm,0.4s							
ZSN	**Zaisan**	**3.69**	**43**	*e*P		**Pg**	**22 37 23.6**	**-0.9**
	1.7nm,0.3s							
ZSN				*e*S		**Sg**	**22 38 10.4**	**-2.0**
	33nm,0.5s							
ZSN	**Zaisan**	**3.69**	**43**	Pg		**Pg**	**22 37 23.6**	**-0.9**
	1.7nm,0.3s							
MTBS	**Maitube**	**3.80**	**245**	*e*P		**Pb**	**22 37 20.9**	**-0.2**
	7.8nm,0.3s							
MTBS				*e*S		**Sb**	**22 38 07.1**	**-0.2**
	89nm,0.4s							
MTBS	**Maitube**	**3.80**	**245**	Lg		Lg	22 38 07.1	
	89nm,0.4s							
KRBS	**Karabastau**	**4.09**	**256**	*e*P		**Pb**	**22 37 25.9**	**-0.2**
	3.6nm,0.3s							
KRBS				*e*S		**Sb**	**22 38 14.9**	**-0.7**
	9.6nm,0.3s							
KRBS	**Karabastau**	**4.09**	**256**	Lg		Lg	22 38 14.9	
	9.6nm,0.3s							
KST	**Kastek**	**4.14**	**247**	*e*P		**Pb**	**22 37 27.1**	**+0.1**
	4.2nm,0.2s							
KST				*e*S		**Sb**	**22 38 17.4**	**+0.2**
	21nm,0.5s							
KST	**Kastek**	**4.14**	**247**	Lg		Lg	22 38 17.5	
	21nm,0.5s							
DGS	**Degeres**	**4.18**	**250**	*e*P		**Pb**	**22 37 28.5**	**+0.8**
	8.3nm,0.4s							
DGS				*e*S		**Sb**	**22 38 18.7**	**+0.3**
	14nm,0.6s							
DGS	**Degeres**	**4.18**	**250**	Pg		**Pb**	**22 37 28.5**	**+0.8**
	8.3nm,0.4s							
DGS				Lg		Lg	22 38 18.7	
	14nm,0.6s							
TKM2	**Tokmak 2**	**4.44**	**247**	⇑Pn		**Pn**	**22 37 23.0**	**+1.4**
	1.6nm,0.6s							
TKM2				⇓Pg		**Pb**	**22 37 33.6**	**+1.5**
	4.0nm,0.8s							
TKM2				⇑Lg		Lg	22 38 31.1	
	12nm,0.4s							
CHMS	**Chumysh**	**4.97**	**251**	⇓Pg		**Pb**	**22 37 42.2**	**+1.2**
	2.7nm,0.6s							
CHMS				⇓Lg		Lg	22 38 47.9	
	7.9nm,0.5s							
BTLS	**Baital**	**5.05**	**275**	*e*P		**Pb**	**22 37 44.4**	**+2.0**
	2.5nm,0.6s							
BTLS				*e*S		**Sb**	**22 38 47.3**	**+4.1**
	3.3nm,0.5s							
BTLS	**Baital**	**5.05**	**275**	Pg		**Pb**	**22 37 44.4**	**+2.0**
	2.5nm,0.6s							
BTLS				Lg		Lg	22 38 47.3	
	3.3nm,0.5s							
AAK	**Ala-Archa**	**5.29**	**248**	Pn		**Pn**	**22 37 33.8**	**+0.6**
	0.3nm,0.3s,baz=51,slow=19,SNR=1.7							
AAK				Pg		**Pb**	**22 37 49.0**	**+2.4**
	0.9nm,0.3s,baz=91,slow=4.3,SNR=5.8							
AAK				Lg		Lg	22 38 57.1	
	0.7nm,0.3s,baz=165,slow=13,SNR=12							
	0.7nm,0.3s							
KURBB	**Kurchatov Arra**	**6.08**	**344**	Pn		**Pn**	**22 37 42.0**	**-1.9**
	0.1nm,0.3s,baz=163,slow=4.4,SNR=1.2							
KURBB				Lg		Lg	22 39 24.6	
	0.3nm,0.3s,baz=170,slow=28,SNR=5.1							
	1.3nm,0.2s							
OTUK	**Ortayu**	**6.98**	**303**	⇑Lg		Lg	22 39 48.6	
	20nm,1.2s							
KK31	**Karatay Array**	**7.87**	**261**	⇑Lg		Lg	22 40 15.5	
	1.6nm,0.6s,baz=74,slow=28,SNR=6.2							
ZALV	**Zalesovo Beam**	**9.45**	**13**	Pn		**Pn**	**22 38 31.8**	**+1.7**
	0.3nm,0.3s,baz=196,slow=14,SNR=5.3							
ZALV				Lg		Lg	22 41 13.8	
	0.2nm,0.3s,baz=197,slow=24,SNR=1.5							
	0.8nm,0.4s							
BVA0	**Borovoye Array**	**10.84**	**323**	⇓Lg		Lg	22 41 49.8	
	3.6nm,0.7s							
BVAR	**Borovoye Array**	**10.84**	**323**	Lg		Lg	22 41 53.2	
	0.1nm,0.3s,baz=118,slow=22,SNR=2.7							
BRVK	**Borovoye**	**10.91**	**323**	⇓Lg		Lg	22 41 53.1	
	6.1nm,1.1s							
NOA	**NORSAR Array B**	**42.91**	**318**	P		**P**	**22 44 11.6**	**-0.9**
	0.4nm,0.7s,baz=70,slow=10,SNR=3.3							
	0.4nm,0.7s							

*BJI **30** 22:45:19.8±0.0, 7.16N×130.71E, h145km, mb4.6/39, mB4.8/20*
*IDC **30** 22:45:21.2±0.5, 6.58N×130.27E, h98km±4km, mb4.3/17, mbtmp4.7/20, MS3.3/12, Error ellipse: s-maj=15.9km s-min=10.1km az=69.0*
*DJA **30** 22:45:25.9±0.2, 7°S±2°×13°0E±°, h155km±4km, M4.8/28, mb5.0/28, mB5.2/25, MLv5.4/17, Mw(mB)4.6/25, MwMwp4.8/1, Mwp5.1/1*
*NEIC **30** 22:45:27.0±1.8, 6.51S±0.04×130.28E±0.05, h141km±6km, mb4.8/65, Error ellipse: s-maj=8.7km s-min=1.7km az=47.0*
*GCMT **30** 22:45:29.0±0.4, 6.50S±0.03×130.34E±0.02, h165km±5km, MW4.9/83, Moment Tensor Solution. s13,c13; s83,c101; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.77±.13; Mθθ=0.44±.15; Mφφ 1.21±.18; Mrθ=0.08±.09; Mθφ=-0.22±.14; Mφr 2.28±.11; Best double couple: M0 2.49800×10^16 NP1:φs 182.00000°, δ78.00000°, λ-84.00000°. NP2: φs 333.00000°, δ13.00000°, λ-119.00000°. Principal axes: T 2.7120, Plg33.0000°, Azm267.0000°; N -0.4290, Plg6.0000°, Azm1.0000°; P -2.2840, Plg56.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 22:45:26.0±0.3, 6.54S±0.03×130.31E±0.04, h138km±3km, h139km:pP-P, n261, σ1s75/282, mb4.7/56, 2C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**1.74**	**146**	Pn		**Pn**	**22 45 58.8**	**+1.3**
SAUI				Sn		**Sn**	**22 46 24.9**	**+3.4**
SAUI	**Saumlaki**	**1.74**	**146**	P		**Pn**	**22 45 58.7**	**+1.3**
SAUI				S		**Sn**	**22 46 22.1**	**+0.6**
SAUI	**Saumlaki**	**1.74**	**146**	P		**Pn**	**22 45 59.7**	**+2.3**
BNDI	**Bandanaira**	**2.04**	**349**	P		**Pn**	**22 46 02.7**	**+1.7**
BNDI				S		**Sn**	**22 46 31.9**	**+4.1**
BNDI	**Bandanaira**	**2.04**	**349**	P		**Pn**	**22 46 03.7**	**+2.7**
MSAI	**Masohi**	**3.46**	**337**	P		**Pn**	**22 46 21.4**	**+2.5**
MSAI				S		**Sn**	**22 47 04.0**	**+4.2**
AAI	**Ambon**	**3.53**	**323**	P		**Pn**	**22 46 22.2**	**+2.4**
FAKI	**Fak Fak**	**4.08**	**28**			**Pn**	**22 46 26.6**	**-0.5**
FAKI				Sn		**Sn**	**22 47 11.9**	**-2.7**
FAKI	**Fak Fak**	**4.08**	**28**	P		**Pn**	**22 46 26.6**	**-0.5**
FAKI				S		**Sn**	**22 47 12.5**	**-2.0**
NLAI	**Namlea**	**4.58**	**316**	P		**Pn**	**22 46 36.4**	**+2.8**
SIJI	**Sorong**	**5.71**	**10**	P		**Pn**	**22 46 48.4**	**-0.5**
	73nm,0.3s,baz=185,slow=11,SNR=75							
SIJI				S		**Sn**	**22 47 47.1**	**-6.4**
	396nm,0.2s,baz=199,slow=24,SNR=8.5							
SIJI				LR		LR	22 49 22.2	
	comp=Z,274nm,18.7s,baz=346,slow=42							
SWI	**Sorong**	**5.72**	**10**	P		**Pn**	**22 46 48.3**	**-0.6**
	7.0nm8µm172nm,0.4s							
SANI	**Sanana**	**6.20**	**316**	P		**Pn**	**22 46 57.1**	**+1.8**
	0.7nm2µm161nm,0.9s							
SANI	**Sanana**	**6.20**	**316**	P		**Pn**	**22 46 58.1**	**+2.8**
MTN	**Manton Dam**	**6.32**	**173**	P		**Pn**	**22 46 55.8**	**-1.1**
	baz=6.3,SNR=54							
MTN	**Manton Dam**	**6.32**	**173**			**Pn**	**22 46 57.1**	**+0.2**
MTN				Sn		**Sn**	**22 48 04.9**	**-3.1**
MTN	**Manton Dam**	**6.32**	**173**	P		**Pn**	**22 46 58.5**	**+1.6**
KDU	**Kakadu**	**6.47**	**161**	P		**Pn**	**22 46 58.2**	**-0.8**
	baz=6.4,SNR=270							
KDU	**Kakadu**	**6.47**	**161**	P		**Pn**	**22 46 58.2**	**-0.8**
LBMI	**Labuha**	**6.50**	**334**	P		**Pn**	**22 47 00.2**	**+0.9**
	1.4nm2µm134nm,0.9s							
SOEI	**Soe**	**6.78**	**241**			**Pn**	**22 47 03.8**	**+0.6**
SOEI				Sn		**Sn**	**22 48 20.1**	**+0.9**
SOEI	**Soe**	**6.78**	**241**	P		**Pn**	**22 47 03.6**	**+0.4**
	4.1nm6µm531nm,1.2s							
SOEI	**Soe**	**6.78**	**241**	P		**Pn**	**22 47 04.5**	**+1.3**
BATI	**Baumata**	**7.51**	**241**	P		**Pn**	**22 47 13.4**	**+0.4**
	384nm,0.4s,baz=106,slow=2.4,SNR=67							
BATI				S		**Sn**	**22 48 34.0**	**-2.9**
	411nm,0.5s,baz=76,slow=19,SNR=3.4							
BATI	**Baumata**	**7.51**	**241**	P		**Pn**	**22 47 13.2**	**+0.2**
	2.3nm4µm391nm,0.8s							
SRPI	**Serui, Papua**	**7.52**	**52**	P		**Pn**	**22 47 13.7**	**+0.7**
	1.7nm6µm191nm,0.7s							
BBSI	**Bau Bau**	**7.76**	**277**	P		**Pn**	**22 47 19.2**	**+2.9**
	0.7nm182nm,1.1s							
TNTI	**Ternate**	**7.83**	**338**	Pn		**Pn**	**22 47 16.1**	**-1.1**
TNTI				Sn		**Sn**	**22 48 41.0**	**-3.5**
TNTI	**Ternate**	**7.83**	**338**	P		**Pn**	**22 47 18.4**	**+1.1**
	0.4nm23nm,0.5s							
TNTI	**Ternate**	**7.83**	**338**	P		**Pn**	**22 47 21.4**	**+4.1**
MMRI	**Maumere**	**8.27**	**255**	Pn		**Pn**	**22 47 23.2**	**+0.2**
MMRI	**Maumere**	**8.27**	**255**	P		**Pn**	**22 47 24.2**	**+1.1**
	192nm,1.0s							
MMRI	**Maumere**	**8.27**	**255**	P		**Pn**	**22 47 25.5**	**+2.4**
EDFI	**Ende, Flores**	**8.82**	**255**	P		**Pn**	**22 47 31.0**	**+0.4**
	1µm87nm,1.0s							
KNRA	**Kununurra**	**9.21**	**189**	P		**Pn**	**22 47 34.1**	**-1.5**
	baz=9.2,SNR=40							
KNRA	**Kununurra**	**9.21**	**189**			**Pn**	**22 47 34.2**	**-1.5**
KNRA	**Kununurra**	**9.21**	**189**	P		**Pn**	**22 47 34.6**	**-1.1**
LUWI	**Luwuk**	**9.29**	**306**	Pn		**Pn**	**22 47 39.5**	**+2.7**
LUWI	**Luwuk**	**9.29**	**306**	P		**Pn**	**22 47 40.1**	**+3.3**
	172nm,0.5s							
SMPI	**Sarmi**	**9.52**	**62**	P		**Pn**	**22 47 40.1**	**+0.2**
	78nm,0.8s							
BSSI	**Bau Bau, Buton**	**9.76**	**272**	P		**Pn**	**22 47 43.9**	**+0.7**
	1µm58nm,1.0s							
BKSI	**Bulukumba**	**10.20**	**276**	P		**Pn**	**22 47 49.9**	**+0.9**
	662nm42nm,0.7s							
APSI	**Ampana**	**10.29**	**303**	P		**Pn**	**22 47 53.4**	**+3.3**
	2µm3µm316nm,1.1s							
BNSI	**Bone**	**10.37**	**281**	P		**Pn**	**22 47 52.8**	**+1.5**
	589nm60nm,1.2s							
KAPI	**Kappang**	**10.61**	**278**	Pn		**Pn**	**22 47 54.4**	**-0.1**
KAPI	**Kappang**	**10.61**	**278**	P		**Pn**	**22 47 56.9**	**+2.5**
	39nm,0.8s							
SPSI	**Sidrap Palu**	**10.80**	**283**	P		**Pn**	**22 47 58.7**	**+1.8**
	602nm54nm,1.3s							
MRSI	**Marisa**	**10.88**	**310**	P		**Pn**	**22 47 59.7**	**+1.8**
	4µm557nm,0.9s							
TTSI	**Tana Toraja**	**11.01**	**288**	P		**Pn**	**22 47 59.3**	**-0.4**
	11µm131nm,0.5s							
FITZ	**Fitzroy Crossi**	**12.36**	**201**	P		**Pn**	**22 48 13.8**	**-3.5**
	14nm,0.8s,baz=26,slow=7.6,SNR=44							
FITZ				S		Sn	22 50 21.2	-13
	33nm,0.3s,baz=68,slow=16,SNR=7.5							
FITZ				LR		LR	22 53 09.7	
	comp=Z,165nm,21.7s,baz=18,slow=38							
FITZ	**Fitzroy Crossi**	**12.36**	**201**	P		**Pn**	**22 48 13.8**	**-3.5**
	baz=12,SNR=96							
FITZ	**

baz=18,SNR=47
WRKA Warakurna 18.50 186 P Pn 22 49 33.0 -0.5
KKM Kota Kinabalu 18.82 311 P P 22 49 34.9 -0.4
KKM Kota Kinabalu 18.82 311 P Pn 22 49 36.7 -0.7
SBUM Sibu 20.14 296 P P 22 49 50.9 +1.3
CTA Charters Tower 20.52 133 P P 22 49 52.4 -1.2
62nm,0.9s,baz=313,slow=11,SNR=51
CTA S **S 22 53 37.3 +1.5**
3.1nm,0.5s,baz=14,slow=22,SNR=1.6
62nm,0.9s
CTA Charters Tower 20.52 133 P P 22 49 54.7 +1.2
baz=20
CTA Charters Tower 20.52 133 P Pn 22 49 55.9 -1.3
CTAO Charters Tower 20.52 133 P P 22 49 55.0 +1.5
CTAO Charters Tower 20.52 133 P Pn 22 49 55.8 -1.4
KRVT Keravat (AS076 21.73 85 P P 22 50 03.9 -2.8
103nm,0.8s,baz=319,slow=19,SNR=4.8
103nm,0.8s
OOD Oodnadatta 21.75 167 P P 22 50 07.4 +0.8
RABL Rabaul 21.89 85 P P 22 50 07.6 -0.7
GIRL Giralia 22.28 222 P P 22 50 13.4 +1.3
baz=22,SNR=3.9
LEM Lembang 22.54 268 P P 22 50 12.2 -2.7
96nm,1.0s,baz=86,slow=7.9,SNR=22
LEM LR LR 23 00 40.1
comp=Z,95nm,18.1s,baz=52,slow=41
96nm,1.0s
MEEK Meekatharra 22.88 208 P P 22 50 18.5 +0.6
baz=23,SNR=7.4
INKA Innaminka 23.30 156 P P 22 50 23.4 +1.8
MULG Mulgathing 23.88 172 P P 22 50 28.9 +2.0
QLP Quilpie 23.95 148 P P 22 50 28.6 +1.0
baz=24,SNR=4.8
QLP Quilpie 23.95 148 P P 22 50 28.9 +1.3
GUMO Guam 24.68 36 LR LR 23 02 12.5
comp=Z,9.6nm,18.8s,baz=170,slow=41
LCRK Leigh Creek 24.92 164 P P 22 50 37.7 +1.4
RK1H Rockhampton Ha 25.65 133 P P 22 50 44.7 +1.7
PMBI Palembang 25.69 277 P P 22 50 45.9 +2.3
MORW Morawa 26.15 209 P P 22 50 48.0 +0.5
baz=26,SNR=4.9
RMQ Roma 26.51 141 P P 22 50 51.5 +0.8
baz=26,SNR=5.9
RMQ Roma 26.51 141 P P 22 50 53.4 +2.6
13nm,1.0s
BBOO Buckleboo 26.68 169 P P 22 50 52.4 +0.1
baz=27,SNR=9.0
WHYH Whyalla 27.21 167 P P 22 50 58.6 +1.6
22nm,1.1s
STKA Stephens Creek 27.33 159 P P 22 50 57.2 -0.8
11nm,0.6s,baz=328,slow=8.8,SNR=17
STKA LR LR 23 03 58.6
comp=Z,92nm,20.2s,baz=12,slow=41
11nm,0.6s
STKA Stephens Creek 27.33 159 P P 22 50 58.0 0.0
baz=27,SNR=14
STKA Stephens Creek 27.33 159 P P 22 50 58.5 +0.5
STKA Stephens Creek 27.33 159 P P 22 50 58.3 +0.3
KLBR Kellerberrin 27.55 204 P P 22 51 00.5 +0.5
baz=28,SNR=6.8
HTT Hallett 27.93 164 P P 22 51 04.2 +0.8
baz=28,SNR=5.1
CMSA Cobar Meteorol 28.74 152 P P 22 51 11.3 +0.8
baz=29,SNR=38
CMSA Cobar Meteorol 28.74 152 P P 22 51 11.5 +1.0
NWAO Narrogin (SRO) 28.94 203 LR LR 23 03 49.6
comp=Z,101nm,18.7s,baz=288,slow=38
NWAO Narrogin (SRO) 28.94 203 P P 22 51 12.9 +0.6
baz=29,SNR=5.8
NWAO P **P 22 51 12.9 +0.6**
baz=29,SNR=5.8
HNR Honiara 29.49 98 LR LR 23 03 50.0
comp=Z,1µm,21.7s,baz=334,slow=38
BKNI Bangkinang 29.99 282 P P 22 51 22.8 +0.9
ARMA Armidale 31.07 143 P P 22 51 32.6 +1.2
baz=31,SNR=3.9
ARPS Mount Arapiles 31.88 162 P P 22 51 39.3 +1.1
baz=32,SNR=11
RPSI Rantau Prapat 32.65 285 pwP 22 52 17.2 -0.6
PSI Prapat 32.67 286 P P 22 51 43.8 -1.8
20nm,0.9s,baz=128,slow=4.8,SNR=6.8
PSI sP **pwP 22 52 17.2 -1.0**
7.3nm,0.6s,baz=152,slow=7.2,SNR=2.4
PSI LR LR 23 05 04.1
comp=Z,56nm,20.3s,baz=78,slow=36
20nm,0.9s
UBPT Khong Chiam 32.80 312 P P 22 51 45.7 -0.7
UBPT IAmb IAmb 22 51 46.6
comp=Z,38nm,1.4s
CAN Canberra 33.41 152 P P 22 51 52.3 +0.7
CAN Canberra 33.41 152 P P 22 51 53.8 +2.2
CAN Canberra 33.41 152 P P 22 51 52.9 +1.2
CNB Canberra Magne 33.58 151 P P 22 51 55.4 +2.3
baz=34,SNR=8.8
CNB Canberra Magne 33.58 151 P P 22 51 54.6 +1.5
GSI Gunungsitoli 33.59 282 P P 22 51 52.8 -0.5
GSI Gunungsitoli 33.59 282 P P 22 51 54.3 +0.9
KOUNC Koumac, New Ca 35.75 116 P P 22 52 12.0 +0.1
KOUNC IAmb IAmb 22 52 13.2
comp=Z,16nm,0.9s
NOUC Port Laguerre 38.02 118 P P 22 52 31.5 +0.4
NOUC pP **pwP 22 53 03.7 -0.5**
DZM Mont Dzumac 38.13 118 P P 22 52 32.8 +0.6
DZM IAmb IAmb 22 52 34.0
comp=Z,15nm,1.1s
LIFNC LIFOU 38.46 115 P P 22 52 35.0 +0.3
OUENC Ouen Island, N 38.59 118 P P 22 52 35.7 -0.1
OUENC IAmb IAmb 22 52 38.1
comp=Z,20nm,1.0s
CM31 Chiang Mai Arr 39.67 309 P P 22 52 44.9 +0.1
CM31 IAmb IAmb 22 52 46.1
comp=Z,13nm,0.6s
CMAR Chiang Mai Arr 39.67 309 P P 22 52 44.5 -0.3
comp=Z,8.8nm,0.3s,baz=139,slow=7.3,SNR=33
comp=Z,2.8nm,0.3s
CHTO Chiang Mai 39.88 310 P P 22 52 46.6 0.0
CHTO Chiang Mai 39.88 310 P P 22 52 47.2 +0.6
CHTO Chiang Mai 39.88 310 P P 22 52 46.6 0.0
CHTO pP **pP 22 53 17.9 +1.9**
NJ2 Nanjing 39.90 345 *eP* **P 22 52 49.3 +2.8**
NJ2 pmax pmax
comp=Z,16nm,1.0s
WHN Wuhan 39.92 338 ⇓P **P 22 52 47.0 +0.3**
JHJ Hachijo jima 2 40.45 12 LR LR 23 08 37.7
comp=Z,35nm,18.2s,baz=92,slow=34
KMI Kunming 41.35 321 ⇑P **P 22 53 00.8 +2.0**
KMI pmax pmax
comp=Z,10.0nm,1.1s
PZH PanZhiHua 42.96 321 P P 22 53 13.8 +2.0
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,80nm,5.3s
MAJO Matsushiro 43.49 9 P P 22 53 15.3 -0.4
MAJO Matsushiro 43.49 9 P P 22 53 15.2 -0.5
MJAR Matsushiro Arr 43.49 9 P P 22 53 14.6 -1.1
comp=Z,6.6nm,0.8s,baz=186,slow=9.3,SNR=17
comp=Z,6.6nm,0.8s
MJB9 Matsu-Tunnel 43.49 9 P P 22 53 15.1 -0.6
KSRS Korea Array 43.82 357 P P 22 53 18.4 +0.1
comp=Z,0.5nm,0.3s,baz=174,slow=9.3,SNR=4.3
comp=Z,0.5nm,0.3s
XAN Xi'an 45.15 335 ⇑P **P 22 53 28.0 -1.0**
XAN pmax pmax
comp=Z,9.0nm,1.2s
HNS HongShan 46.07 343 ⇓P **P 22 53 36.5 +0.4**
HNS pmax pmax
comp=Z,14nm,0.8s
BJI Beijing 48.15 345 P P 22 53 52.3 +0.2
BJI pP **pP 22 54 21.8 -0.7**
BJI sP **sP 22 54 37.0 -0.4**
BJI pmax pmax
comp=Z,8.0nm,0.7s
HHC Hu-ho-hao-te 50.20 342 *eP* **P 22 54 12.0 +4.1**
HHC pmax pmax
comp=Z,120nm,6.7s
CN2 Changchun 50.30 355 *eP* **P 22 54 09.0 +0.6**
CN2 *eS* **S 23 01 11.0 +0.5**
CN2 *es*S sS 23 02 07.8 +5.3
USRK Ussuriysk Ar. 50.52 2 P P 22 54 10.1 0.0
comp=Z,2.7nm,0.6s,baz=191,slow=6.7,SNR=10
USRK sP **pwP 22 54 46.3 +0.9**
comp=Z,2.2nm,0.7s,baz=192,slow=6.6,SNR=3.3
comp=Z,2.7nm,0.6s
USRK Ussuriysk Ar. 50.52 2 P P 22 54 10.3 +0.2
QRZ Quartz Range 50.80 139 P P 22 54 13.9 +1.5
QRZ IAmb IAmb 22 54 14.9
comp=Z,23nm,0.9s
MDJ Mudanjiang 50.92 359 P P 22 54 13.5 +0.4
MDJ pmax pmax
comp=Z,9.0nm,0.6s
MDJ pmax pmax
comp=Z,130nm,4.7s
LBZ Lake Benmore 51.28 144 P P 22 54 16.4 +0.6
LBZ IAmb IAmb 22 54 17.5
comp=Z,22nm,0.9s
RPZ Rata Peaks 51.41 143 LR LR 23 17 02.4
comp=Z,59nm,18.3s,baz=286,slow=37
RPZ Rata Peaks 51.41 143 P P 22 54 17.7 +0.8
THZ Tophouse 51.52 140 P P 22 54 18.9 +1.1
THZ IAmb IAmb 22 54 45.1
comp=Z,47nm,1.6s
LSA Lhasa 52.08 316 IAmb IAmb 22 54 24.2
comp=Z,10nm,0.8s
LSA Lhasa 52.08 316 P P 22 54 23.0 +0.5
LSA pmax pmax
comp=Z,16nm,0.9s
LSA Lhasa 52.08 316 P P 22 54 23.0 +0.5
KHZ Kahutara 52.26 140 P P 22 54 24.0 +0.8
BKZ Black Stump Fm 52.71 135 P P 22 54 26.7 +0.1
BKZ IAmb IAmb 22 54 27.6
comp=Z,10nm,0.8s
TAPN Taplejung 53.21 311 *eP* **P 22 54 30.5 -0.2**
comp=Z,39nm,0.5s
GTA Gaotai 53.72 331 ⇓P **P 22 54 35.0 +1.0**
GTA pP pP 22 55 06.3 +1.0
GTA sP sP 22 55 23.0 +2.9
GTA S **S 23 01 54.5 -3.2**
GTA pmax pmax
comp=Z,6.0nm,0.7s
GTA pmax pmax
comp=Z,38nm,6.0s
RAMN Ramite 53.83 310 *eP* **P 22 54 35.3 +0.1**
comp=Z,138nm,0.6s
JIRN Jiri 54.52 311 *eP* **P 22 54 39.9 -0.4**
comp=Z,52nm,0.7s
GUN Gumba 54.88 311 *eP* **P 22 54 42.6 -0.3**
comp=Z,102nm,0.7s
PKI Pulchoki 55.06 310 *eP* **P 22 54 43.6 -0.6**
comp=Z,36nm,0.7s
PKIN Phulchoki 55.07 310 *eP* **P 22 54 43.4 -0.8**
comp=Z,34nm,0.7s
DMN Daman 55.31 310 *eP* **P 22 54 45.5 -0.4**
comp=Z,77nm,1.0s
GKN Gorkha 55.87 310 *eP* **P 22 54 49.3 -0.5**
comp=Z,29nm,0.5s
HYBB Hyderabad (bro 56.39 296 *eP* **P 22 54 52.9 -0.5**
DANN Dangsing 56.71 310 *eP* **P 22 54 55.3 -0.6**
comp=Z,65nm,1.0s
PYUN Piuthan 57.17 309 *eP* **P 22 54 58.8 -0.3**
comp=Z,143nm,0.9s
AFI Afiamalu 57.35 102 LR LR 23 18 39.1
comp=Z,19nm,19.2s,baz=84,slow=35
ULN Ulaanbaatar 57.92 342 P P 22 55 05.4 +1.6
ULN IAmb IAmb 22 55 05.7
comp=Z,7.3nm,0.6s
ULN Ulaanbaatar 57.92 342 P P 22 55 05.0 +1.1
SONM Songino Array 58.10 341 P P 22 55 05.4 +0.3
comp=Z,1.9nm,0.6s,baz=159,slow=6.2,SNR=7.4
SONM pP **pP 22 55 29.8 -6.9**
comp=Z,2.0nm,0.8s,baz=205,slow=1.4,SNR=3.0
SONM sP **pwP 22 55 40.3 -0.4**
comp=Z,1.1nm,0.5s,baz=164,slow=5.9,SNR=2.8
comp=Z,1.9nm,0.6s
SONM Songino Array 58.10 341 P P 22 55 05.6 +0.6
DRV Dumont d'Urvil 60.40 176 P P 22 55 20.8 +0.4
WMQ Urumqi 63.18 327 *eP* **P 22 55 39.0 -0.5**
WMQ pP pP 22 56 12.5 +0.9
WMQ sP sP 22 56 29.0 +2.7
WMQ pmax pmax
comp=Z,35nm,0.8s
PEA0B Petropavlovsk- 63.79 18 P P 22 55 44.4 +1.1
PETK Petropavlovsk- 63.79 18 P P 22 55 43.5 +0.2
comp=Z,7.3nm,0.6s,baz=186,slow=5.2,SNR=9.3
comp=Z,7.3nm,0.6s
PETK Petropavlovsk- 63.79 18 P P 22 55 44.1 +0.8
NIL Nilore 67.15 311 P P 22 56 05.6 +0.3
NIL IAmb IAmb 22 56 06.2
comp=Z,10nm,0.8s
KSH Kashi 67.89 317 P P 22 56 11.3 +1.4
KSH S **S 23 04 57.0 -0.6**
KSH pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 68.01 327 P P 22 56 11.3 +0.9
MK31 IAmb IAmb 22 56 11.9
comp=Z,12nm,1.1s
MKAR Makanchi Array 68.01 327 P P 22 56 10.5 +0.1
comp=Z,8.3nm,0.7s,baz=115,slow=8.3,SNR=64
MKAR sP **pP 22 56 44.4 +1.6**
comp=Z,3.4nm,0.7s,baz=120,slow=8.6,SNR=3.0
MKAR S **S 23 04 56.9 -1.7**
comp=Z,0.3nm,0.8s,baz=37,slow=12,SNR=2.3
comp=Z,8.3nm,0.7s
MKAR Makanchi Array 68.01 327 P P 22 56 10.9 +0.5
MAKZ Makanchi 68.19 326 P P 22 56 12.2 +0.7
MAKZ IAmb IAmb 22 56 12.9
comp=Z,18nm,1.2s
MAKZ Makanchi 68.19 326 P P 22 56 12.0 +0.5
MAKZ pP **pP 22 56 45.7 +1.7**
YAK Yakutsk 68.37 360 P P 22 56 11.6 -0.6
comp=Z,7.0nm,0.4s,baz=215,slow=0.5,SNR=6.7
comp=Z,7.0nm,0.4s
YAK Yakutsk 68.37 360 P P 22 56 12.4 +0.2
CCD Concordia, Ant 68.63 182 P P 22 56 15.4 +1.1
CCD pP **pwP 22 56 51.0 -1.5**
NRN Naryn 68.82 319 P P 22 56 16.2 +0.2
TKM2 Tokmak 2 69.82 320 P P 22 56 22.7 +0.8
SNR=5.8
UCH Uchtor 70.18 319 P P 22 56 25.7 +1.3
SNR=8.1
AAK Ala-Archa 70.39 320 P P 22 56 26.8 +1.5
SNR=5.2
AAK Ala-Archa 70.39 320 P P 22 56 26.1 +0.8
AAK IAmb IAmb 22 56 27.5
comp=Z,10nm,1.1s
AAK Ala-Archa 70.39 320 P P 22 56 26.8 +1.5
AML Almayashu 70.66 319 P P 22 56 28.6 +1.3
SNR=12
USP Ospenovka 70.69 320 P P 22 56 27.8 +0.8
SNR=8.1
KBL Kabul 70.70 310 P P 22 56 27.9 +0.5
KBL IAmb IAmb 22 56 28.6
comp=Z,12nm,1.0s
DRK Karamyk 70.73 316 P P 22 56 27.8 +0.1
DRK IAmb IAmb 22 56 29.4
comp=Z,8.8nm,0.8s
EKS2 Erkin-Say 70.86 319 P P 22 56 29.8 +1.7
SNR=5.2
ZAA0 Zalesovo Array 71.31 334 P P 22 56 29.9 -0.5
ZALV Zalesovo Beam 71.31 334 P P 22 56 29.6 -0.7
comp=Z,1.7nm,0.6s,baz=128,slow=4.1,SNR=5.8
ZALV sP **pwP 22 57 06.2 -1.5**
comp=Z,4.0nm,0.8s,baz=119,slow=5.2,SNR=3.8
comp=Z,1.7nm,0.6s
BTK Batken 71.66 316 P P 22 56 33.1 +0.1
BTK IAmb IAmb 22 56 34.7
comp=Z,28nm,1.6s
CHGR Chuyangaron 72.24 314 P P 22 56 36.1 -0.3
VNDA Vanda 72.87 173 P P 22 56 38.9 -0.5
comp=Z,3.5nm,0.9s,baz=317,slow=6.1,SNR=29
comp=Z,3.5nm,0.9s
VNDA Vanda 72.87 173 P P 22 56 39.1 -0.2
VNDA IAmb IAmb 22 58 50.5
comp=Z,12nm,0.7s
KK31 Karatay Array 73.20 319 pP pP 22 57 16.7 +1.8
KKAR Karatay Array 73.20 319 P P 22 56 42.2 +0.3
KKAR **pP 22 57 16.7 +1.8**
KKAR Karatay Array 73.20 319 P P 22 56 41.6 -0.3
KKAR IAmb IAmb 22 56 43.4
comp=Z,6.1nm,1.1s
TAS Tashkent 73.25 317 P P 22 56 43.1 +0.9
SBA Scott Base 73.75 172 P P 22 56 46.2 +1.7
HRA Herat 75.91 308 P P 22 56 58.1 +0.1
GEYT Alibeck 80.15 310 P P 22 57 20.5 -0.7
comp=Z,2.1nm,0.6s,baz=149,slow=3.5,SNR=6.1
GEYT sP **pP 22 57 56.0 +1.3**
comp=Z,1.6nm,0.7s,baz=72,slow=4.8,SNR=2.8
comp=Z,2.1nm,0.6s
GEYT Alibeck 80.15 310 P P 22 57 21.3 +0.2
GYA0B ALIBECK ARRAY 80.15 310 P P 22 57 21.5 +0.3
ABKAR Akbulak array 82.34 321 P P 22 57 32.0 -0.4
GAMB Gambell 82.38 22 P P 22 57 32.1 -0.1
QSPA South Pole Qui 83.44 180 P P 22 57 37.8 -0.1
QSPA IAmb IAmb 22 57 38.8
comp=Z,7.2nm,0.8s
RAYN Ar Rayn 87.84 294 P P 22 58 00.8 +0.4
RAYN IAmb IAmb 22 58 01.5
comp=Z,5.6nm,0.8s
OHAK Old Harbor 88.16 32 P P 22 58 01.8 +0.7
OHAK IAmb IAmb 22 58 02.4
comp=Z,12nm,0.8s
MLY Manley 91.24 25 P P 22 58 15.4 0.0
RND Reindeer 91.71 26 IAmb IAmb 22 58 17.4
comp=Z,4.6nm,0.7s
I23K Minto, Yukon-K 91.83 25 IAmb IAmb 22 58 18.8
comp=Z,6.3nm,0.8s
H23K Yukon River 91.90 24 IAmb IAmb 23 00 06.6
comp=Z,14nm,1.6s
CCB Clear Creek Bu 92.39 25 IAmb IAmb 22 58 20.2
comp=Z,3.8nm,0.7s
H24K Noodor Dome 92.57 24 P P 22 58 21.4 -0.1
H24K IAmb IAmb 22 58 22.4
comp=Z,5.9nm,0.9s
ILAR Eielson Array 92.80 25 P P 22 58 20.6 -2.0
comp=Z,1.7nm,0.7s,baz=268,slow=4.4,SNR=16
comp=Z,1.7nm,0.7s
BMAR Burnt Mountain 94.11 23 P P 22 58 28.9 +0.3
J26L Joseph Creek 94.18 26 P P 22 58 28.7 -0.4
J26L IAmb IAmb 22 58 29.7
comp=Z,4.6nm,0.8s
TROLL Troll, Antarti 94.68 194 P P 22 58 32.3 +1.0
K27K Chicken 94.78 26 P P 22 58 32.2 +0.6
K27K IAmb IAmb 22 58 33.6
comp=Z,7.5nm,1.1s
SNAA Sanae 96.18 193 P P 22 58 38.9 +0.8
BRTR Keskin Array B 99.26 309 P Pdif 22 58 54.7 +2.0
comp=Z,0.5nm,0.9s,baz=90,slow=2.9,SNR=2.4
comp=Z,3.6nm,0.9s,baz=184,slow=7.3,SNR=4.0
TXAR Lajitas Array 124.43 59 PKP PKPdf 23 04 09.5 -0.1
comp=Z,0.8nm,0.9s,baz=321,slow=1.6,SNR=7.0
TORD Torodi Ar. Bea 129.02 282 PKP PKPdf 23 04 18.1 -0.5
comp=Z,0.8nm,0.8s,baz=350,slow=1.4,SNR=4.3
PLCA Paso Flores 129.20 160 PKP PKiKP 23 04 18.7 -0.4
comp=Z,1.3nm,0.7s,baz=269,slow=2.2,SNR=3.3
CPUP Villa Florida 146.50 168 PKPbc PKPdf 23 04 50.4 +0.1
comp=Z,10nm,0.9s,baz=204,slow=3.3,SNR=20
LPAZ La Paz 150.89 141 PKP PKPdf 23 04 57.8 -0.6
comp=Z,5.6nm,0.4s,baz=158,slow=0.8,SNR=27
LPAZ PKPbc **PKiKP 23 05 05.0 +0.3**
comp=Z,5.6nm,0.4s,baz=158,slow=0.8,SNR=27
LPAZ PKPab **PKPab 23 05 10.6 -1.1**
comp=Z,7.1nm,0.8s,baz=174,slow=5.5,SNR=10

NEIC ***30*** *22:59:43.8±2.4, 41.°05S±0.°04×174.°61E±0.°03, h50km±6km, mb4.3/15, Mwr4.1/27, Error ellipse: s-maj=6.6km s-min=2.4km az=198.0*

WEL ***30*** *22:59:44.5±0.3, 41.°S±3.°×17.°5E±.°, h34km±4km, M4.3/31, ML4.5/31, MLv4.3/31, Error ellipse: s-maj=0.0km s-min=0.0km az=158.8*

NOU ***30*** *22:59:44.3, 41.°17S×174.°66E, h52km, MLv4.5/9, Cook Strait, New Zealand*

NEIC ***30*** *22:59:44, 41.°07S×174.°58E, h48km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}-1.28; $M_{\theta\theta}$1.38; $M_{\phi\phi}$-0.10; $M_{r\theta}$0.17; $M_{\theta\phi}$0.63; $M_{\phi r}$-0.60; Fault plane solution: $M_0$1.60000×10¹⁵ NP1:$\phi_0$45.93000°, δ51.56000°, λ-124.44000°. NP2:$\phi_0$273.73000°, δ49.76000°, λ-54.53000°. Principal axes: T 1.6101, Plg1.0000°, Azm160.0000°; N -0.0263, Plg26.0000°, Azm69.0000°; P -1.5838, Plg64.0000°, Azm251.0000°;*

IDC ***30*** *22:59:45.2±3.1, 40.°79S×174.°55E, h64km±29km, mb3.9/6, mbtmp4.2/7, ML3.3/1, MS3.1/6 Error ellipse: s-maj=23.6km s-min=21.0km az=111.0*

ISC 30 22:59:44.3±0.6, 41.°12S±0.°03×174.°60E±0.°03, h59km±5km, n224, σ1.°19/235, mb4.3/16, MS3.2/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.20**	**158**			**Pn**	**22 59 53.3**	**-0.3**
SNZO					Sn	**Sn**	**23 00 00.4**	**-0.1**
SNZO	**South Karori**	**0.20**	**158**		P	**Pn**	**22 59 53.5**	**-0.2**
WEL	**Wellington**	**0.20**	**142**		P	**Pn**	**22 59 53.6**	**-0.1**
WEL					S	**Sn**	**23 00 00.0**	**-0.5**
TCW	**Tory Channel**	**0.26**	**250**		P	**Pn**	**22 59 53.4**	**-0.6**
TCW					S	**Sn**	**22 59 59.0**	**-2.1**
KIW	**Kapiti Island**	**0.35**	**42**		P	**Pn**	**22 59 54.2**	**-0.6**
KIW					S	**Sn**	**23 00 00.7**	**-1.6**
CAW	**Cannon Point**	**0.35**	**88**		P	**Pn**	**22 59 54.7**	**-0.1**
CAW					S	**Sn**	**23 00 01.8**	**-0.5**
OGWZ	**Otaki Gorge**	**0.53**	**55**		P	**Pn**	**22 59 56.4**	**-0.1**
OGWZ					S	**Sn**	**23 00 05.2**	**-0.2**
MSWZ	**Moikau Station**	**0.57**	**121**			**Pn**	**22 59 57.3**	**+0.3**
MSWZ	**Moikau Station**	**0.57**	**121**		P	**Pn**	**22 59 57.3**	**+0.3**
MSWZ					S	**Sn**	**23 00 06.9**	**+0.6**
TUWZ	**Tuamarina**	**0.58**	**238**			**Pn**	**22 59 57.0**	**-0.1**
TUWZ						Sn	**23 00 05.8**	**-0.7**
TUWZ	**Tuamarina**	**0.58**	**238**		P	**Pn**	**22 59 57.0**	**-0.1**
TUWZ					S	**Sn**	**23 00 05.5**	**-1.0**
DUWZ	**D'Urville Isla**	**0.61**	**302**		P	**Pn**	**22 59 56.7**	**-0.7**
PLWZ	**Palliser**	**0.66**	**132**			**Pn**	**22 59 58.3**	**+0.1**
PLWZ	**Palliser**	**0.66**	**132**		P	**Pn**	**22 59 58.4**	**+0.3**
PLWZ					S	**Sn**	**23 00 09.1**	**+0.9**
PAWZ	**Paruwai Farm**	**0.67**	**113**		P	**Pn**	**22 59 58.4**	**+0.2**
MTW	**Mount Morrison**	**0.68**	**93**		P	**Pn**	**22 59 58.3**	**0.0**
CMWZ	**Cape Campbell**	**0.69**	**205**			**Pn**	**22 59 59.4**	**+1.1**
CMWZ	**Cape Campbell**	**0.69**	**205**		P	**Pn**	**22 59 59.5**	**+1.1**
HOWZ	**Holdsworth Sta**	**0.73**	**72**		P	**Pn**	**22 59 58.8**	**0.0**
BSWZ	**Blackbirch Sta**	**0.81**	**222**			**Pn**	**23 00 00.1**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.81**	**222**		P	**Pn**	**23 00 00.3**	**+0.5**
TRWZ	**Traveller**	**0.86**	**109**		P	**Pn**	**23 00 00.7**	**+0.2**
MRZ	**Mangatainoka R**	**0.87**	**58**		P	**Pn**	**23 00 00.6**	**-0.1**
NNZ	**Nelson**	**0.93**	**264**			**Pn**	**23 00 01.3**	**-0.1**
NNZ	**Nelson**	**0.93**	**264**		P	**Pn**	**23 00 01.2**	**-0.1**
TMWZ	**Te Maipa**	**0.97**	**90**		P	**Pn**	**23 00 01.9**	**-0.1**
TIWZ	**Tintock**	**1.03**	**71**		P	**Pn**	**23 00 02.5**	**-0.2**
OHWZ	**Ohakea**	**1.06**	**31**		P	**Pn**	**23 00 03.7**	**+0.6**
POWZ	**Post Office Ro**	**1.15**	**51**		P	**Pn**	**23 00 03.9**	**-0.4**
PRWZ	**Pori Road**	**1.18**	**62**		P	**Pn**	**23 00 04.6**	**-0.2**
CPWZ	**Castlepoint**	**1.23**	**81**		P	**Pn**	**23 00 05.8**	**+0.5**
TKNZ	**Takaka Hill**	**1.24**	**274**		P	**Pn**	**23 00 05.9**	**+0.4**
BFZ	**Birch Farm**	**1.32**	**71**	Pn		**Pn**	**23 00 05.8**	**-0.7**
BFZ	**Birch Farm**	**1.32**	**71**		P	**Pn**	**23 00 06.1**	**-0.5**
BFZ	**Birch Farm**	**1.32**	**71**		P	**Pn**	**23 00 05.9**	**-0.7**
WAZ	**Wanganui**	**1.40**	**12**		P	**Pn**	**23 00 08.4**	**+0.8**
MRNZ	**Matariki Terra**	**1.42**	**258**		P	**Pn**	**23 00 08.5**	**+0.6**
THZ	**Tophouse**	**1.43**	**243**	Pn		**Pn**	**23 00 08.0**	**0.0**
THZ	**Tophouse**	**1.43**	**243**		P	**Pn**	**23 00 08.0**	**0.0**
DVHZ	**Dannevirke**	**1.45**	**56**		P	**Pn**	**23 00 07.4**	**-0.9**
TSZ	**Takapari Road**	**1.48**	**45**		P	**Pn**	**23 00 08.3**	**-0.5**
KHZ	**Kahutara**	**1.52**	**211**	Pn		**Pn**	**23 00 09.7**	**+0.5**
KHZ	**Kahutara**	**1.52**	**211**		P	**Pn**	**23 00 09.7**	**+0.5**
KHZ	**Kahutara**	**1.52**	**211**		P	**Pn**	**23 00 09.7**	**+0.5**
ANWZ	**Angora Road**	**1.57**	**66**		P	**Pn**	**23 00 09.1**	**-0.8**
QRZ	**Quartz Range**	**1.60**	**280**			**Pn**	**23 00 10.2**	**-0.1**
QRZ	**Quartz Range**	**1.60**	**280**		P	**Pn**	**23 00 10.4**	**+0.1**
QRZ	**Quartz Range**	**1.60**	**280**		P	**Pn**	**23 00 10.2**	**-0.1**
LREZ	**Lake Rotokare**	**1.67**	**355**		P	**Pn**	**23 00 11.7**	**+0.5**
PNHZ	**Pukenui**	**1.71**	**46**		P	**Pn**	**23 00 11.1**	**-0.8**
WPHZ	**Waipukurau**	**1.75**	**54**		P	**Pn**	**23 00 11.7**	**-0.7**
PRHZ	**Porangahau**	**1.77**	**62**		P	**Pn**	**23 00 11.5**	**-1.1**
NMEZ	**Namu Road**	**1.79**	**342**		P	**Pn**	**23 00 13.4**	**+0.4**
PREZ	**Palmer Road**	**1.81**	**349**		P	**Pn**	**23 00 14.4**	**+1.2**
MTVZ	**Mangateitei**	**1.86**	**21**		P	**Pn**	**23 00 14.3**	**+0.5**
KHEZ	**Kahui Hut**	**1.88**	**346**		P	**Pn**	**23 00 14.8**	**+0.6**
NEZ	**North Egmont**	**1.89**	**348**		P	**Pn**	**23 00 15.2**	**+0.9**
PKVZ	**Pokaka**	**1.92**	**18**		P	**Pn**	**23 00 15.3**	**+0.6**
MOVZ	**Moawhango**	**1.93**	**28**		P	**Pn**	**23 00 14.3**	**-0.5**
NBEZ	**Newall Road No**	**1.94**	**343**		P	**Pn**	**23 00 15.0**	**+0.2**
WNVZ	**Wahianoa**	**1.95**	**23**		P	**Pn**	**23 00 15.2**	**0.0**
DREZ	**Durham Road**	**1.96**	**351**		P	**Pn**	**23 00 16.2**	**+1.0**
TRVZ	**Turoa**	**1.96**	**22**		P	**Pn**	**23 00 16.0**	**+0.6**
BHHZ	**Black Hill Sta**	**1.98**	**35**		P	**Pn**	**23 00 15.2**	**-0.3**
PKE	**Pukeiti**	**1.98**	**346**		P	**Pn**	**23 00 16.1**	**+0.6**
DRZ	**Dome Shelter**	**1.99**	**22**		P	**Pn**	**23 00 16.4**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.99**	**23**		P	**Pn**	**23 00 15.9**	**+0.2**
VRZ	**Vera Road**	**2.00**	**3**		P	**Pn**	**23 00 16.2**	**+0.5**
FWVZ	**Far West T-bar**	**2.00**	**22**		P	**Pn**	**23 00 16.3**	**+0.3**
TUVZ	**Tukino**	**2.02**	**24**		P	**Pn**	**23 00 16.4**	**+0.2**
PXZ	**Pawanui**	**2.04**	**58**		P	**Pn**	**23 00 15.2**	**-1.1**
MHEZ	**Mangahewa**	**2.06**	**354**		P	**Pn**	**23 00 17.8**	**+1.3**
NGZ	**Ngauruhoe**	**2.09**	**22**		P	**Pn**	**23 00 17.4**	**+0.3**
SNVZ	**South Ngauruho**	**2.09**	**23**		P	**Pn**	**23 00 17.4**	**+0.2**
OTVZ	**Oturere**	**2.12**	**23**		P	**Pn**	**23 00 17.7**	**+0.2**

NNVZ	North Ngauruho	2.13	22	P		Pn	23 00 17.9	+0.2
WTVZ	West Tongariro	2.14	21	P		Pn	23 00 18.0	+0.2
TWVZ	Taurewa	2.15	18	P		Pn	23 00 17.7	-0.1
ETVZ	East Tongariro	2.16	24	P		Pn	23 00 18.0	0.0
TMVZ	Te Maari	2.17	23	P		Pn	23 00 18.2	0.0
KRVZ	Karewarewa	2.18	22	P		Pn	23 00 18.4	+0.1
GVZ	Greta Valley S	2.18	212	P		Pn	23 00 18.2	0.0
NTVZ	North Tongarir	2.18	23	P		Pn	23 00 18.4	+0.1
KAHZ	Kahuranaki	2.19	53	P		Pn	23 00 17.1	-1.2
DSZ	Denniston Nort	2.19	253	P		Pn	23 00 18.4	0.0
KWHZ	Kaweka Forest	2.19	40	P		Pn	23 00 17.5	-1.0
KATZ	Kakaramea	2.30	22	P		Pn	23 00 20.1	+0.1
MCHZ	McNeill Hill	2.32	44	P		Pn	23 00 19.2	-0.9
RITZ	Rihia Road	2.35	25	P		Pn	23 00 20.6	0.0
CKHZ	Cape Kidnapper	2.39	53	P		Pn	23 00 19.6	-1.4
LTZ	Lake Taylor	2.40	226	Pn		Pn	23 00 21.1	-0.1
LTZ	Lake Taylor	2.40	226	P		Pn	23 00 21.1	-0.1
RATZ	Rangitukua	2.43	22	P		Pn	23 00 21.9	+0.3
BKZ	Black Stump Fm	2.43	37	Pn		Pn	23 00 20.3	-1.4
BKZ	Black Stump Fm	2.43	37	P		Pn	23 00 21.5	-0.2
BKZ	Black Stump Fm	2.43	37	P		Pn	23 00 20.4	-1.2
HATZ	Hinemaiaia	2.51	28	P		Pn	23 00 24.1	+1.4
AMCZ	Amberley	2.51	215	P		Pn	23 00 22.3	-0.4
WATZ	Wairara	2.56	20	P		Pn	23 00 23.5	0.0
ARHZ	Aropaoanui	2.61	45	P		Pn	23 00 22.7	-1.3
HIZ	Hauiti	2.61	4			Pn	23 00 24.5	+0.4
HIZ	Hauiti	2.61	4	P		Pn	23 00 24.9	+0.8
HIZ	Hauiti	2.61	4	P		Pn	23 00 24.6	+0.5
NMHZ	Naumai	2.64	41	P		Pn	23 00 23.5	-1.0
MRHZ	Matea Rd	2.68	32	P		Pn	23 00 23.5	-1.6
KUTZ	Kaahu Road	2.79	20	P		Pn	23 00 27.0	+0.5
OKCZ	Okains Bay	2.84	203	P		Pn	23 00 26.4	-0.8
MTHZ	Maungataniwha	2.85	38	P		Pn	23 00 26.1	-1.2
INZ	Inchbonnie	2.85	235	P		Pn	23 00 27.0	-0.3
WHHZ	Waihua	2.87	46	P		Pn	23 00 26.5	-1.1
TLZ	Tolley Road	2.88	15	P		Pn	23 00 27.3	-0.5
ALRZ	Allen Road	2.89	28	P		Pn	23 00 26.3	-1.5
OXZ	Oxford	2.91	220			Pn	23 00 26.8	-1.3
OXZ	Oxford	2.91	220	P		Pn	23 00 26.8	-1.3
RAHZ	Arahi	2.91	42	P		Pn	23 00 28.7	+0.4
MQZ	McQueen's Vall	2.96	209	Pn		Pn	23 00 27.1	-1.6
MQZ	McQueen's Vall	2.96	209	P		Pn	23 00 27.1	-1.6
PRRZ	Plateau Road	2.96	28	P		Pn	23 00 27.4	-1.5
GRRZ	Galatos Road	3.00	23	P		Pn	23 00 28.7	-0.7
AKCZ	Akaroa Harbour	3.02	204	P		Pn	23 00 28.6	-1.1
HRRZ	Handcock Road	3.02	26	P		Pn	23 00 28.8	-0.9
HSRZ	Hossack Road	3.08	25	P		Pn	23 00 30.4	-0.1
SNGZ	Shannon Statio	3.15	43	P		Pn	23 00 31.7	+0.3
RRRZ	Republican Roa	3.15	29	P		Pn	23 00 29.7	-1.7
KNZ	Kokohu	3.15	49	P		Pn	23 00 29.3	-2.2
RACZ	Rakaia	3.18	214	P		Pn	23 00 30.2	-1.5
MHGZ	Mahia Peninsul	3.21	53	P		Pn	23 00 30.1	-2.1
OMRZ	Omania	3.31	25	P		Pn	23 00 38.8	+5.2
RAGZ	Rawiri	3.40	40	P		Pn	23 00 36.9	+1.9
RIGZ	Rimuhau	3.42	46	P		Pn	23 00 33.0	-2.3
URZ	Urewera	3.45	35	P		Pn	23 00 32.6	-3.0
	3.1nm,0.3s,baz=309,slow=4.9,SNR=22							
URZ				S		Sn	23 01 10.8	-4.4
	51nm,0.4s,baz=170,slow=21,SNR=5.8							
URZ				LR		LR	23 02 10.1	
	comp=Z,106nm,20.5s,baz=293,slow=45							
	7.5nm,0.3s							
URZ	Urewera	3.45	35	Pn		Pn	23 00 33.0	-2.6
URZ	Urewera	3.45	35	P		Pn	23 00 32.9	-2.6
TOZ	Tahuroa Road	3.46	12	P		Pn	23 00 35.4	-0.2
WVZ	Waitaha Valley	3.48	235	P		Pn	23 00 35.1	-0.7
WACZ	Wakanui South	3.48	215	P		Pn	23 00 34.3	-1.6
MWZ	Matawai	3.58	40	P		Pn	23 00 35.0	-2.4
OPRZ	Ohinepanea	3.61	25	P		Pn	23 00 36.0	-1.6
TGRZ	Tauranga	3.62	21	P		Pn	23 00 37.2	-0.7
RPZ	Rata Peaks	3.69	224	P		Pn	23 00 38.4	-0.4
	14nm,0.3s,baz=241,slow=3.4,SNR=14							
RPZ				S		Sn	23 01 17.3	-3.8
	115nm,0.3s,baz=320,slow=22,SNR=25							
RPZ				LR		LR	23 02 29.9	
	comp=Z,180nm,20.4s,baz=18,slow=42							
RPZ	Rata Peaks	3.69	224			Pn	23 00 38.2	-0.6
RPZ	Rata Peaks	3.69	224	P		Pn	23 00 38.9	+0.1
RPZ	Rata Peaks	3.69	224	P		Pn	23 00 37.8	-1.0
ARCZ	Arundel	3.79	221	P		Pn	23 00 38.8	-1.4
CNGZ	Carnagh Statio	3.83	48	P		Pn	23 00 39.9	-0.8
GCSZ	Gaunt Creek Bo	3.86	234	P		Pn	23 00 40.4	-0.7
RUGZ	Raukumara Rang	3.95	38	P		Pn	23 00 40.0	-2.5
MKAZ	Moumakai	4.04	6	P		Pn	23 00 43.4	-0.2
MYRZ	Mayor Island	4.04	19	P		Pn	23 00 43.7	0.0
AWAZ	Awhitu Peninsu	4.05	0	P		Pn	23 00 44.1	+0.3
HAZ	Te Kaha	4.17	37	P		Pn	23 00 42.8	-2.5
ETAZ	East Tamaki Re	4.17	4	P		Pn	23 00 45.8	+0.4
WTAZ	Waiatarua	4.18	360	P		Pn	23 00 46.5	+0.9
TMZ	Timaru	4.20	218	P		Pn	23 00 44.2	-1.6
PKGZ	Pakihiroa	4.20	41	P		Pn	23 00 43.4	-2.5
EPAZ	Eden Park BICE	4.24	2	P		Pn	23 00 46.9	+0.6
FOZ	Fox Glacier	4.29	234	Pn		Pn	23 00 45.5	-1.5
FOZ	Fox Glacier	4.29	234	P		Pn	23 00 45.4	-1.6
WIAZ	Waiheke Island	4.34	6	P		Pn	23 00 47.8	0.0
RVAZ	Riverhead Bore	4.35	360	P		Pn	23 00 48.9	+1.1
MBAZ	Motutapu North	4.35	3	P		Pn	23 00 48.2	+0.3
WMGZ	Waiomatatini S	4.43	43	P		Pn	23 00 47.5	-1.4
KUZ	Kuaotunu	4.46	12	P		Pn	23 00 48.6	-0.7
ABAZ	Army Bay	4.52	2	P		Pn	23 00 50.8	+0.6
MXZ	Matakaoa Point	4.57	40	Pn		Pn	23 00 49.6	-1.3
MXZ	Matakaoa Point	4.57	40	P		Pn	23 00 50.7	-0.1
LBZ	Lake Benmore	4.61	223			Pn	23 00 50.4	-1.0
LBZ	Lake Benmore	4.61	223	P		Pn	23 00 49.8	-1.6
ODZ	Otahua Downs	4.87	215			Pn	23 00 53.6	-1.4
ODZ	Otahua Downs	4.87	215	P		Pn	23 00 53.8	-1.2
ODZ	Otahua Downs	4.87	215	P		Pn	23 00 53.1	-1.9
JCZ	Jackson Bay	5.21	234	P		Pn	23 00 57.9	-1.8
WKZ	Wanaka	5.52	226	Pn		Pn	23 01 00.6	-3.3
WKZ	Wanaka	5.52	226	P		Pn	23 01 00.7	-3.2
HHSZ	Highcliff Hill	5.58	210	P		Pn	23 01 03.6	-1.1
EAZ	Earnscleugh	5.64	222	P		Pn	23 01 03.4	-2.1
OUZ	Omahuta	5.95	352	Pn		Pn	23 01 08.8	-0.9
OUZ	Omahuta	5.95	352	P		Pn	23 01 10.7	+1.0
OUZ	Omahuta	5.95	352	P		Pn	23 01 10.4	+0.7
TUZ	Tuapeka	6.03	215	P		Pn	23 01 09.9	-0.9
MLZ	Mavora Lakes	6.36	226	Pn		Pn	23 01 14.8	-0.6
MLZ	Mavora Lakes	6.36	226	P		Pn	23 01 14.5	-0.8
SYZ	Scrubby Hill	6.70	214	P		Pn	23 01 19.4	-0.6
WHZ	Wether Hill Ro	6.79	223	Pn		Pn	23 01 20.2	-1.0
WHZ	Wether Hill Ro	6.79	223	P		Pn	23 01 18.5	-2.8
DCZ	Deep Cove	6.95	229	Pn		Pn	23 01 22.0	-1.4
CTZ	Chatham Island	7.00	115	P		Pn	23 01 22.5	-1.6
APZ	The Paps	7.44	218	P		Pn	23 01 28.2	-1.9
PYZ	Puysegur Point	7.64	226	Pn		Pn	23 01 32.2	-0.6
PYZ	Puysegur Point	7.64	226	P		Pn	23 01 32.4	-0.5
STKA	Stephens Creek	27.95	279	LR		LR	23 16 27.9	
	comp=Z,32nm,18.6s,baz=203,slow=36							
BBOO	Buckleboo	31.69	273	P		P	23 06 01.9	-0.3
BBOO				IAmb		IAmb	23 06 04.6	
	comp=Z,10nm,1.1s							
CTA	Charters Tower	31.94	302	LR		LR	23 18 24.0	
	comp=Z,52nm,19.0s,baz=82,slow=35							
AS31	Alice Springs	38.12	284	P		P	23 06 57.1	-0.5
AS31				IAmb		IAmb	23 06 58.6	
	comp=Z,1.2nm,0.4s							
ASAR	Alice Springs	38.12	284	P		P	23 06 57.1	-0.5
	comp=Z,2.4nm,0.5s,baz=129,slow=7.0,SNR=51							
ASAR				PcP		PcP	23 09 10.4	-1.2
	comp=Z,0.3nm,0.5s,baz=141,slow=3.7,SNR=3.0							
ASAR				LR		LR	23 22 35.7	
	comp=Z,31nm,18.6s,baz=138,slow=36							
	comp=Z,2.4nm,0.5s							
ASAR	Alice Springs	38.12	284	P		P	23 06 56.7	-1.0
COEN	Coen	38.47	306	P		P	23 07 01.2	+0.6
COEN				IAmb		IAmb	23 07 01.7	
	comp=Z,4.7nm,0.7s							
WR0	Warramunga Arr	39.98	290	P		P	23 07 12.8	-0.5
WB2	Warramunga Arr	40.13	289	P		P	23 07 14.0	-0.4
WB2				IAmb		IAmb	23 07 17.0	
	comp=Z,4.2nm,0.9s							
WRAB	Tennant Creek	40.14	289	P		P	23 07 12.2	-2.2
WRAB				IAmb		IAmb	23 07 14.6	
	comp=Z,3.9nm,0.9s							
WRA	Warramunga Arr	40.14	289	P		P	23 07 14.0	-0.5
	comp=Z,1.4nm,0.3s,baz=126,slow=8.4,SNR=64							
WRA				PcP		PcP	23 09 17.0	-1.0
	comp=Z,0.3nm,0.7s,baz=125,slow=3.4,SNR=2.5							
WRA				LR		LR	23 23 20.8	
	comp=Z,38nm,20.3s,baz=120,slow=35							
	comp=Z,1.4nm,0.3s							
WRA	Warramunga Arr	40.14	289	P		P	23 07 13.6	-0.9
WB0	Warramunga Arr	40.21	290	P		P	23 07 14.3	-0.8
WB0				IAmb		IAmb	23 07 15.7	
	comp=Z,3.2nm,0.8s							
KNRA	Kununurra	46.93	289	P		P	23 08 10.0	+0.9
FITZ	Fitzroy Crossi	47.62	284	P		P	23 08 13.8	-0.6
FITZ				IAmb		IAmb	23 08 14.6	
	comp=Z,2.7nm,0.7s							
MORW	Morawa	48.58	265	P		P	23 08 22.2	+0.4
QSPA	South Pole Qui	49.01	180	P		P	23 08 28.0	+3.2
	comp=Z,1.9nm,0.6s,baz=28,slow=0.5,SNR=14							
	comp=Z,1.9nm,0.6s							
QSPA	South Pole Qui	49.01	180	P		P	23 08 28.0	+3.2
QSPA				IAmb		IAmb	23 08 29.0	
	comp=Z,4.7nm,1.1s							
PSA00	Pilbara Seismi	49.81	276	P		P	23 08 30.0	-1.3
PSA00				IAmb		IAmb	23 08 36.4	
	comp=Z,2.3nm,0.8s							
MBWA	Marble Bar	50.14	276	P		P	23 08 32.7	-1.1
MAW	Mawson	60.13	204	P		P	23 09 47.1	+2.1
	comp=Z,1.7nm,0.7s,baz=49,slow=9.3,SNR=2.3							
	comp=Z,1.7nm,0.7s							
MAW	Mawson	60.13	204	P		P	23 09 46.9	+1.8
KSRS	Korea Array	89.10	325	P		P	23 12 31.7	-1.0
	comp=Z,0.9nm,0.7s,baz=149,slow=5.0,SNR=2.0							
	comp=Z,0.9nm,0.7s							
CMAR	Chiang Mai Arr	91.64	293	P		P	23 12 45.3	+0.3
	comp=Z,0.6nm,0.3s,baz=176,slow=5.0,SNR=1.1							
	comp=Z,0.6nm,0.3s							
SHEM	Shemya Is, Ala	93.48	360	P		P	23 12 51.8	-0.8
	comp=Z,24nm,0.6s,baz=220,slow=7.9,SNR=1.3							
PZH	PanZhiHua	95.24	301	P		P	23 13 02.5	+0.9
PZH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PZH				pmax		pmax		
	comp=Z,90nm,5.0s							
HHC	Hu-ho-hao-te	99.61	317	eP		Pdif	23 13 24.8	+3.8
HHC				pmax		pmax		
	comp=Z,82nm,6.7s							
MKAR	Makanchi Array	119.80	308	PKP		PKPdf	23 18 26.0	-1.2
	comp=Z,0.1nm,0.5s,baz=142,slow=5.4,SNR=1.8							
KBZ	Khabaz	144.65	291	PKP		PKPab	23 19 11.9	-0.6
	comp=Z,2.0nm,0.8s,baz=163,slow=0.9,SNR=4.3							
DBIC	Dimbokro	145.69	181	PKPbc		PKPab	23 19 18.4	+1.3
	comp=Z,3.3nm,0.7s,baz=251,slow=9.7,SNR=1.8							
ARCES	ARCESS Array B	147.28	340	PKPbc		PKPbc	23 19 19.3	-0.5
	comp=Z,3.9nm,0.8s,baz=69,slow=1.8,SNR=7.5							
BRTR	Keskin Array B	150.41	280	PKPbc		PKPbc	23 19 28.4	-0.5
	comp=Z,1.9nm,0.7s,baz=137,slow=5.0,SNR=12							
TORD	Torodi Ar. Bea	151.45	195	PKPbc		PKiKP	23 19 32.6	+0.3
	comp=Z,13nm,0.6s,baz=150,slow=2.2,SNR=5.1							
AKASG	Malin Array Be	154.29	304	PKPbc		PKiKP	23 19 37.8	+0.8
	comp=Z,0.2nm,0.3s,baz=62,slow=2.2,SNR=1.4							

IDC ***30*** *23:06:45.7±0.4, 19.82N×74.40W, h0km, mb4.7/23, mbtmp4.7/29, ML4.4/5, MS4.1/66, Error ellipse: s-maj=14.1km s-min=11.4km az=54.0*

MOS ***30*** *23:06:47.1±0.9, 19.93N×74.30W, h12km, mb5.4/20, Error ellipse: s-maj=7.3km s-min=5.1km az=118.2*

SSNC ***30*** *23:06:48.4±0.9, 19.93N×74.36W, h38km±9km, ML4.8, MW4.9*

OSPL ***30*** *23:06:49.3±1.7, 19.86N×74.42W, h8km±13km, ML5.1*

NEIC ***30*** *23:06:49.2±1.7, 19.89N±0.05×74.38W±0.05, h10km±1km, mb5.0/616, Error ellipse: s-maj=9.3km s-min=8.1km az=205.0*

GCMT ***30*** *23:06:52.2±0.2, 19.99N±0.01×74.36W±0.01, h20km±1km, MW4.9/116, Moment Tensor Solution. s33,c39; s116,c168; Duration: 0 Moment tensor: Scale 10[16]Nm; Mrr=1.28±.12; Mθθ=1.47±.09; Mϕϕ=2.75±.11; Mrθ=0.45±.19; Mθϕ=2.35±.08; Mϕr=0.21±.17; Best double couple: M=3.21300×10[16] NP1=ϕs=68.00000°, δ=83.00000°, λ=-13.00000°. NP2=ϕs=160.00000°, δ=77.00000°, λ=-173.00000°. Principal axes: T 3.8260, Plg4.0000°, Azm114.0000°; N -1.2260, Plg75.0000°, Azm221.0000°; P -2.6000, Plg14.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

JSN ***30*** *23:07:28.7±27.0, 18.46N×77.45W, h7km*

ISC 30 23:06:48.7±0.6, 19.86N±0.03×74.39W±0.03, h17km±3km, h17km:pP-P,n1333,σ1925/1218,mb5.0/346,MS4.1/69, 39C-41D,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MASC	Masc	0.35	25	*i* P		Pg	23 06 55.4		-0.7
MASC				*e*S		Sg	23 07 01.2		+0.2
MASC				IAML			23 07 01.7		
	comp=N,58μm,0.4s								
MASC				IAML			23 07 02.8		
	comp=E,43μm,0.3s								
MASC	Masc	0.35	25	*i* P		Pg	23 06 55.4		-0.7
GTBY	Guantanamo Bay	0.69	276	*e*P		Pg	23 07 00.9		-1.3
GTBY	Guantanamo Bay	0.69	276	*e*P		Pg	23 07 00.6		-1.5
GTBY				*e*S		Sg	23 07 09.7		-1.6
GTBY	Guantanamo Bay	0.69	276	*i* P		Pg	23 07 00.7		-1.5
GTBY				*e*S		Sg	23 07 09.9		-1.4
GTBY				IAML			23 07 16.8		
	comp=Z,18μm,1.4s								
RCC	Rio Carpintero	1.24	277	*e*P		Pn	23 07 08.4		-2.9
RCC				*e*S		Sb	23 07 23.3		-4.1
RCC				IAML			23 07 30.4		
	comp=N,16μm,0.6s								
RCC				IAML			23 07 30.5		
	comp=E,18μm,0.4s								
PAPH	Port-au-Prince	2.38	124	*i* P		Pn	23 07 26.1		-0.8
PAPH				*e*S		Sn	23 07 55.0		-0.8
PAPH				IAML			23 08 08.7		
	comp=Z,4μm,0.9s								
NQUSE	US Embassy, Po	2.40	122	Pn		Pn	23 07 26.7		-0.5
LODA1	ITESIL, Dajabo	2.55	97	*i* P		Pn	23 07 28.0		-1.2
LODA1				*e*S		Sn	23 07 57.0		-2.8
LODA1				IAML			23 08 06.9		
	comp=Z,11μm,0.6s								
YHJ	Yallahs	2.79	226	*i* P		Sb	23 08 12.0		-0.2
GWJ	Greenwich	2.84	232	*i* P		Pn	23 07 32.0		-1.4
STH	Stony Hill	2.90	233	*i* P		Pn	23 07 36.5		+2.4
HOJ	Hope	2.90	231	*i* P		Pn	23 07 34.4		+0.3
LOPP1	Punta Rusia, P	3.00	90	*i* P		Pn	23 07 35.9		+0.4
LOPP1				IAML			23 08 29.7		
	comp=Z,7μm,0.4s								
SDDR	Presa de Saban	3.05	106	Pn		Pn	23 07 35.0		-1.2
SDDR	Presa de Saban	3.05	106	*i* P		Pn	23 07 36.0		-0.2
SDDR				*e*S		Sn	23 08 10.6		-1.8
SDDR				IAML			23 08 13.4		
	comp=Z,8μm,0.6s								
LOPE2	Hotel El Peder	3.09	126	*i* P		Pn	23 07 36.9		+0.2
LOPE2				IAML			23 08 26.7		
	comp=Z,3μm,0.7s								
MTDJ	Mount Denham	3.39	242	Pn		Pn	23 07 39.9		-1.1
MTDJ	Mount Denham	3.39	242	*e*P		Pn	23 07 38.5		-2.4
MTDJ				*e*S		Sn	23 08 20.5		-0.4
CCCC	Cccc	3.44	293	*e*P		Pn	23 07 36.7		-4.8
CCCC				*e*S		Sn	23 08 12.6		-9.3
CCCC				IAML			23 08 32.9		
	comp=E,2μm,0.8s								
CCCC				IAML			23 08 35.4		
	comp=N,2μm,0.8s								
GRTK	Grand Turk	3.46	61	Pn		Pn	23 07 41.7		-0.1
GRTK	Grand Turk	3.46	61	*i* P		Pn	23 07 42.6		+0.7
GRTK				*e*S		Sn	23 08 20.9		-1.6
GRTK				IAML			23 08 22.3		
	comp=Z,3μm,1.0s								
SC01	Santiago de Io	3.48	96			Pn	23 07 42.5		+0.4
SC01	Santiago de Io	3.48	96	*i* P		Pn	23 07 43.0		+0.9
SC01				IAML			23 08 43.8		
	comp=Z,5μm,0.6s								
LOBA2	Hotel Casa Bon	3.58	119	*i* P		Pn	23 07 44.1		+0.6
LOBA2				IAML			23 08 44.8		
	comp=Z,2μm,0.8s								
SDD	Santo Domingo	4.45	107	Pn		Pn	23 07 57.2		+1.7
SDD	Santo Domingo	4.45	107	*i* P		Pn	23 07 55.8		+0.4
MGV	Manicaragua	5.69	294	*e*P		Pn	23 08 09.5		-3.0
MGV				*e*S		Sn	23 09 10.8		-6.5
MGV				IAML			23 09 18.3		
	comp=N,614nm,0.6s								
MGV				IAML			23 09 22.2		
	comp=E,315nm,1.0s								
PCDR	Punta Cana, DR	5.83	102			Pn	23 08 16.5		+2.1
PCDR	Punta Cana, DR	5.83	102	*i* P		Pn	23 08 14.9		+0.5
AGPR	Aguadilla, PR	7.01	100	Pn		Pn	23 08 30.5		-0.2
AGPR	Aguadilla, PR	7.01	100	*i* P		Pn	23 08 29.3		-1.4
AGPR				IAML			23 10 02.3		
	comp=Z,446nm,0.6s								
PRSN	Puerto Rico Se	7.04	102			Pn	23 08 30.9		-0.1
CRPR	Cabo Rojo, PR	7.13	104			Pn	23 08 33.1		+0.9
CRPR	Cabo Rojo, PR	7.13	104	*i* P		Pn	23 08 33.1		+0.9
CRPR				IAML			23 10 19.6		
	comp=Z,485nm,0.6s								
MLPR	Magueyes Islan	7.20	104	Pn		Pn	23 08 33.5		+0.3
AOPR	Arecibo Observ	7.37	100			Pn	23 08 35.5		-0.2
EMPR	Esperanza - Ma	7.55	99	Pn		Pn	23 08 38.0		-0.1
OBIP	Obispado Ponce	7.58	102			Pn	23 08 37.8		-0.7
CELP	Cerrillos	7.60	102			Pn	23 08 37.6		-1.1
SJG	San Juan	7.98	101	Pn		Pn	23 08 41.3		-2.7
	comp=Z,3.3nm,0.3s,baz=316,slow=17,SNR=3.1								
SJG				Sn		Sn	23 10 07.4		-6.6
	comp=Z,35nm,0.3s,baz=285,slow=20,SNR=9.1								
	comp=Z,12nm,0.3s								
SJG	San Juan	7.98	101			Pn	23 08 44.0		0.0
SJG	San Juan	7.98	101	P		Pn	23 08 44.0		0.0
GCPR	Guaynabo City	8.00	100			Pn	23 08 43.5		-0.8
CBYP	Canovanas	8.22	100			Pn	23 08 44.5		-2.8
061Z	Ochoppi	8.48	316			Pn	23 08 51.4		+0.6
MTP	Monte Pirata	8.54	100			Pn	23 08 52.2		+0.5
SOR	Soroa	8.55	291	Pn		Pn	23 08 53.2		+1.4
SOR	Soroa	8.55	291	P		Pn	23 08 53.2		+1.4
SOR	Soroa	8.55	291	*e*P		Pn	23 08 46.9		-4.9
CUPR	Culebra, Puert	8.75	99			Pn	23 08 52.7		-1.8
060A	Indiantown	9.01	324	Pn		Pn	23 08 57.3		-0.7
060A	Indiantown	9.01	324	P		Pn	23 08 58.4		+0.4
	baz=141								
STVI	Saint Thomas	9.04	98	Pn		Pn	23 08 56.3		-2.2
HATO	Hato, Curacao	9.24	145			Pn	23 09 00.6		-0.7
CDVI	St. Croix	9.35	101	Pn		Pn	23 09 04.2		+1.4
DWPF	Disney Wildern	10.44	323			Pn	23 09 15.7		-2.0
DWPF	Disney Wildern	10.44	323	P		Pn	23 09 15.2		-2.5
	baz=140								
SMRT	St. Maarten	10.85	98			Pn	23 09 19.0		-4.4
SDV	Santo Domingo	11.49	161	Pn		Pn	23 09 31.8		-0.6
	comp=Z,6.6nm,0.3s,baz=3.6,slow=6.5,SNR=19								
SDV				Sn		Sn	23 11 35.3		-5.3
	comp=Z,4.7nm,0.3s,baz=52,slow=19,SNR=2.1								
SDV				LR		LR	23 14 20.7		
	comp=Z,826nm,21.5s,baz=359,slow=40								
	comp=Z,31nm,0.5s								
SDV	Santo Domingo	11.49	161	*e*P		Pn	23 09 32.0		-0.4
656A	Willston	12.02	324	P		Pn	23 09 39.8		+0.5
	baz=140,SNR=6.2								
BIRV	Birongo	12.18	139	Pn		Pn	23 09 41.6		+0.1
ESPN	Las Esperanzas	12.20	233			Pn	23 09 42.7		+0.9
BAUV	El Baul	12.46	150	Pn		Pn	23 09 44.3		-1.1
GDHS	Morne Mazeau,	12.52	105			Pn	23 09 47.0		+0.7
456A	Hilliard	12.83	329			Pn	23 09 49.6		-0.8
ACON	Acoyapa	13.00	235			Pn	23 09 53.8		+1.0
MATN	Matagalpa	13.03	240			Pn	23 09 55.5		+2.2
TEIG	Tepich	13.06	274	Pn		Pn	23 09 53.2		-0.4
BOAB	BOACO BROADBAND	13.10	237	Pn		Pn	23 09 54.7		+0.6
COVE	Coope Vega, Sa	13.26	228			Pn	23 09 59.3		+3.1
PCRV	Puerto La Cruz	13.46	134	Pn		Pn	23 09 58.2		-0.9
	comp=Z,14nm,0.3s,baz=312,slow=7.0,SNR=37								
PCRV				LR		LR	23 15 39.7		
	comp=Z

baz=156,SNR=11
Z51A Franklin 16.50 327 P Pn 23 10 38.4 -1.0
baz=142,SNR=7.5
U59A Littleton 16.70 350 IAmb IAmb 23 10 40.5
comp=Z,74nm,1.1s
U59A Littleton 16.70 350 P Pn 23 10 39.4 -2.6
baz=169,SNR=12
U59A P Pn 23 10 39.4 -2.6
baz=169,SNR=12
CASEE Lake Jocassee 16.86 335 P Pn 23 10 42.2 -1.9
baz=151,SNR=7.4
V55A Taylorsville 17.03 341 P Pn 23 10 42.4 -3.8
baz=158,SNR=5.9
V55A P Pn 23 10 42.4 -3.8
baz=158,SNR=5.9
CCIG Comitan 17.25 261 P P 23 10 50.5 -0.1
CCIG IAmb IAmb 23 11 04.8
comp=Z,144nm,1.0s
U56A King 17.25 343 IAmb IAmb 23 10 47.9
comp=Z,67nm,0.8s
U56A King 17.25 343 P Pn 23 10 46.7 -2.2
baz=161,SNR=15
U56A P Pn 23 10 46.7 -2.2
baz=161,SNR=15
T59A Double "B" Far 17.28 351 IAmb IAmb 23 10 48.1
comp=Z,66nm,0.9s
T59A Double "B" Far 17.28 351 P Pn 23 10 46.7 -2.4
baz=170,SNR=20
T59A P Pn 23 10 46.7 -2.4
baz=170,SNR=20
LRAL Lakeview Retre 17.29 322 P Pn 23 10 48.2 -1.2
baz=136
T60A Surry 17.34 354 P Pn 23 10 48.9 -1.1
baz=173,SNR=12
T60A P Pn 23 10 48.9 -1.1
baz=173,SNR=12
W52A Murphy 17.36 333 P Pn 23 10 48.9 -1.4
baz=148,SNR=7.3
V53A Saluda 17.41 337 IAmb IAmb 23 10 51.2
comp=Z,54nm,0.8s
V53A Saluda 17.41 337 P Pn 23 10 49.4 -1.5
baz=153,SNR=27
V53A P Pn 23 10 49.4 -1.5
baz=153,SNR=27
Y49A Blount Mountai 17.57 325 P Pn 23 10 53.0 +0.1
baz=140,SNR=6.4
T57A Hurt 17.60 347 P Pn 23 10 51.4 -1.8
baz=165,SNR=10.0
T57A P Pn 23 10 51.4 -1.8
baz=165,SNR=10.0
FPAL Fort Paine 17.69 328 IAmb IAmb 23 11 16.9
comp=Z,61nm,0.9s
TKL Tuckaleechee C 17.78 334 P Pn 23 10 53.3 -2.1
comp=Z,0.4nm,0.3s,baz=155,slow=16,SNR=13
TKL S Sn 23 13 59.3 -14
comp=Z,21nm,0.7s,baz=64,slow=20,SNR=2.5
TKL LR LR 23 18 08.4
comp=Z,1μm,19.2s,baz=149,slow=38
comp=Z,10.0nm,0.8s
TKL Tuckaleechee C 17.78 334 P Pn 23 10 53.2 -2.3
baz=150,SNR=7.2
U54A Nelsons Funny 17.84 340 P Pn 23 10 54.2 -2.0
baz=157,SNR=6.6
U54A P Pn 23 10 54.2 -2.0
baz=157,SNR=6.6
V52A Sevierville 17.87 335 P Pn 23 10 55.1 -1.4
baz=151,SNR=8.4
Z47A Carrollton 18.04 320 IAmb IAmb 23 11 06.7
comp=Z,57nm,0.8s
Z47A Carrollton 18.04 320 P P 23 10 59.0 -0.1
baz=134,SNR=6.0
W50A Signal Mountai 18.07 330 P Pn 23 10 59.1 0.0
baz=145,SNR=12
BLA Blacksburg 18.08 344 IAmb IAmb 23 11 17.7
comp=Z,70nm,0.8s
BLA Blacksburg 18.08 344 P Pn 23 10 58.3 -0.8
baz=161,SNR=16
BLA Blacksburg 18.08 344 P Pn 23 10 57.8 -1.3
baz=161,SNR=16
V51A Loudon 18.15 333 P Pn 23 10 59.4 -0.6
baz=148,SNR=8.8
S57A Dark Hollow, R 18.28 348 Pn 23 10 59.6 -2.0
S57A IAmb IAmb 23 11 01.4
comp=Z,64nm,0.9s
S57A Dark Hollow, R 18.28 348 P Pn 23 10 59.7 -1.8
baz=166,SNR=18
S57A P Pn 23 10 59.7 -1.8
baz=166,SNR=18
146A Union 18.28 317 P Pn 23 11 01.1 -0.5
146A IAmb IAmb 23 11 12.3
comp=Z,92nm,0.9s
146A Union 18.28 317 P P 23 11 02.1 +0.4
baz=131
R58B Mineral 18.30 351 Pn 23 10 59.3 -2.5
R58B IAmb IAmb 23 11 06.1
comp=Z,119nm,1.0s
R58B Mineral 18.30 351 P Pn 23 10 58.9 -2.8
baz=170,SNR=22
R58B P Pn 23 10 58.9 -2.8
baz=170,SNR=22
X48A Hartselle 18.36 325 P Pn 23 11 03.0 +0.4
baz=139,SNR=9.8
SWET Sewanee 18.39 329 P P 23 11 02.6 -0.2
TZTN Tazewell 18.46 336 P P 23 11 02.6 -1.1
TZTN Tazewell 18.46 336 P P 23 11 03.2 -0.5
baz=152,SNR=15
TZTN Tazewell 18.46 336 P P 23 11 02.5 -1.2
baz=152,SNR=15
CBN Corbin Frederi 18.47 353 IAmb IAmb 23 11 08.3
comp=Z,120nm,0.9s
CBN Corbin Frederi 18.47 353 P P 23 11 02.2 -1.4
baz=171
CBN Corbin Frederi 18.47 353 P P 23 11 02.4 -1.3
baz=171
344A Westbrook Farm 18.69 311 P Pn 23 11 06.5 -0.1
344A IAmb IAmb 23 11 17.4
comp=Z,123nm,1.1s
S54A Dingess, Beckl 18.87 343 IAmb IAmb 23 11 19.7
comp=Z,44nm,0.8s
S54A Dingess, Beckl 18.87 343 P Pn 23 11 08.7 -0.1
baz=160,SNR=9.0
S54A P Pn 23 11 08.7 -0.1
baz=160,SNR=9.0
VBMS Vicksburg 18.99 314 P Pn 23 11 10.2 0.0
VBMS IAmb IAmb 23 11 26.6
comp=Z,78nm,1.0s
VBMS Vicksburg 18.99 314 P P 23 11 08.5 -0.9
baz=127
R55A Marlinton 19.02 346 P Pn 23 11 10.3 -0.4
R55A IAmb IAmb 23 11 11.8
comp=Z,115nm,0.9s
R55A Marlinton 19.02 346 P Pn 23 11 11.1 +0.4
baz=163,SNR=20
R55A P Pn 23 11 11.1 +0.4
baz=163,SNR=20
V48A Smith Brothers 19.24 328 IAmb IAmb 23 11 29.2
comp=Z,50nm,0.8s
V48A Smith Brothers 19.24 328 P Pn 23 11 13.4 +0.1
baz=142,SNR=17
TULM Tulcn-Chalpat 19.31 190 P Pn 23 11 14.9 +0.2
TULM IAmb IAmb 23 11 36.4
comp=Z,58nm,1.1s
U49A Red Boiling Sp 19.37 331 P Pn 23 11 14.7 0.0
baz=146,SNR=12
Y45A Yeager Farm, C 19.40 319 P P 23 11 14.4 +0.4
Y45A Yeager Farm, C 19.40 319 P Pn 23 11 16.4 +1.3
baz=132,SNR=10
S51A Beattyville 19.45 338 IAmb IAmb 23 11 16.7
comp=Z,58nm,1.1s
S51A Beattyville 19.45 338 P Pn 23 11 15.2 -0.5
baz=153,SNR=13
S51A P Pn 23 11 15.2 -0.5
baz=153,SNR=13
R53A Hurricane 19.55 342 P P 23 11 16.2 +0.7
R53A IAmb IAmb 23 11 18.7
comp=Z,90nm,1.1s
R53A Hurricane 19.55 342 P Pn 23 11 16.7 -0.2
baz=158,SNR=14
R53A P Pn 23 11 16.7 -0.2
baz=158,SNR=14
Q56A Snyder Ridge, 19.56 349 P P 23 11 15.8 0.0
Q56A Snyder Ridge, 19.56 349 P Pn 23 11 18.5 +1.4
baz=166,SNR=5.6
Q56A P Pn 23 11 18.5 +1.4
baz=166,SNR=5.6
SDMD Soldier's Deli 19.60 354 P P 23 11 16.8 +0.6
SDMD Soldier's Deli 19.60 354 P Pn 23 11 17.0 -0.5
baz=173,SNR=6.5

CMIG Matias Romero 19.64 265 P P 23 11 16.4 -0.2
comp=Z,1.9nm,0.3s,baz=79,slow=8.0,SNR=53
comp=Z,45nm,0.8s
OXF Oxford 19.75 321 P P 23 11 18.0 +0.2
baz=134
342A Flagon Creek P 19.80 309 P Pn 23 11 19.2 -0.7
P57A Homestead Farm 19.81 352 IAmb IAmb 23 11 23.8
comp=Z,63nm,1.0s
P57A Homestead Farm 19.81 352 P Pn 23 11 19.8 -0.2
baz=170,SNR=12
P57A P Pn 23 11 19.8 -0.2
baz=170,SNR=12
IMBA Imbabura, San 19.82 191 P P 23 11 16.1 -3.0
Q54A Coxs Mills 19.86 345 P P 23 11 19.5 +0.5
Q54A IAmb IAmb 23 11 24.8
comp=Z,47nm,0.9s
Q54A Coxs Mills 19.86 345 P Pn 23 11 20.1 -0.4
baz=162,SNR=6.3
Q54A P Pn 23 11 20.1 -0.4
baz=162,SNR=6.3
143A Socs Landing, 19.88 313 P P 23 11 19.9 +0.8
OTAV Otavalo 19.90 192 Pn 23 11 22.7 +1.0
OTAV Otavalo 19.90 192 P Pn 23 11 22.7 +1.0
OTAV pmax pmax
comp=Z,42nm,1.1s
OTAV Otavalo 19.90 192 *e*P Pn 23 11 22.2 +0.5
GEDE Greenville 19.92 357 P Pn 23 11 22.6 +1.4
baz=177,SNR=7.7
WUPA West Chester U 20.04 357 IAmb IAmb 23 11 24.8
comp=Z,43nm,0.9s
WVT Waverly 20.06 327 P P 23 11 21.6 +0.5
WVT Waverly 20.06 327 P P 23 11 21.6 +0.5
WVT pmax pmax
comp=Z,38nm,1.0s
WVT Waverly 20.06 327 P P 23 11 21.4 +0.2
baz=140,SNR=20
WVT Waverly 20.06 327 P P 23 11 20.9 -0.3
baz=140
W45A Hickory Valley 20.08 322 P Pn 23 11 22.6 -0.6
441A DeRidder 20.14 306 P Pn 23 11 23.5 -0.4
441A IAmb IAmb 23 11 26.5
comp=Z,114nm,1.1s
MVL Millersville 20.15 356 Pn 23 11 23.7 -0.2
MVL IAmb IAmb 23 11 28.0
comp=Z,46nm,0.9s
Q52A Bidwell 20.22 342 P P 23 11 23.3 +0.4
Q52A Bidwell 20.22 342 P P 23 11 23.5 +0.6
baz=158,SNR=14
Q52A P P 23 11 23.5 +0.6
baz=158,SNR=14
TUPA Temple Univers 20.25 358 P P 23 11 24.0 +0.8
baz=178,SNR=17
R50A Paris 20.29 337 P 23 11 24.0 +0.4
R50A IAmb IAmb 23 11 45.0
comp=Z,59nm,1.4s
R50A Paris 20.29 337 P Pn 23 11 25.2 -0.5
baz=152,SNR=8.2
R50A P Pn 23 11 25.2 -0.5
baz=152,SNR=8.2
MCWV Mont Chateau 20.29 348 P P 23 11 24.1 +0.5
MCWV IAmb IAmb 23 11 28.3
comp=Z,39nm,0.9s
MCWV Mont Chateau 20.29 348 P P 23 11 24.3 +0.7
baz=165
T47A Sharon Grove 20.37 330 IAmb IAmb 23 11 43.2
comp=Z,49nm,0.8s
T47A Sharon Grove 20.37 330 P Pn 23 11 26.0 -0.7
baz=144,SNR=11
PAGS Pennsylvania G 20.40 355 IAmb IAmb 23 11 31.9
comp=Z,83nm,0.8s
PANJ Princeton 20.45 359 P Pn 23 11 27.1 -0.5
baz=179,SNR=9.0
P53A Whipple 20.47 344 P 23 11 26.7 +1.1
P53A IAmb IAmb 23 11 30.2
comp=Z,47nm,0.8s
P53A Whipple 20.47 344 P Pn 23 11 27.1 -0.7
baz=161,SNR=12
P53A P Pn 23 11 27.1 -0.7
baz=161,SNR=12
Q51A Peebles 20.61 340 P P 23 11 27.8 +0.7
Q51A IAmb IAmb 23 11 33.3
comp=Z,48nm,0.8s
Q51A Peebles 20.61 340 P Pn 23 11 28.4 -1.0
baz=155,SNR=15
Q51A P Pn 23 11 28.4 -1.0
baz=155,SNR=15
R49A Shelbyville 20.62 335 IAmb IAmb 23 11 40.6
comp=Z,121nm,1.5s
R49A Shelbyville 20.62 335 P P 23 11 28.0 +0.8
baz=150,SNR=10
R49A P P 23 11 28.0 +0.8
baz=150,SNR=10
LUPA Lehigh Univers 20.69 358 P Pn 23 11 29.4 -1.0
BRNJ Basking Ridge 20.76 360 P P 23 11 29.6 +1.0
P52A Corning 20.81 343 IAmb IAmb 23 11 47.3
comp=Z,46nm,0.8s
P52A Corning 20.81 343 P P 23 11 28.2 -1.1
baz=159,SNR=10
CCAR Cane Creek 20.85 316 P Pn 23 11 31.5 -0.8
SLOR San Lorenzo - 20.85 192 P Pn 23 11 32.1 -0.8
SLOR IAmb IAmb 23 11 58.3
comp=Z,35nm,0.9s
CPNY Central Park 20.87 1 P P 23 11 30.7 +0.8
O54A Avella 20.90 347 IAmb IAmb 23 11 34.9
comp=Z,83nm,1.1s
O54A Avella 20.90 347 P P 23 11 31.5 +1.2
baz=164,SNR=11
O54A P P 23 11 31.5 +1.2
baz=164,SNR=11
LNXT Lenox 20.93 324 P P 23 11 31.0 +0.4
SSPA Standing Stone 20.93 353 P P 23 11 31.2 +0.7
SSPA Standing Stone 20.93 353 P P 23 11 31.8 +1.3
baz=171,SNR=13
SSPA Standing Stone 20.93 353 P P 23 11 30.5 0.0
baz=171
GLAT Glass 20.94 324 P P 23 11 32.0 +1.3
P51A Williamsport 20.94 341 P P 23 11 31.1 +0.4
P51A IAmb IAmb 23 11 50.6
comp=Z,40nm,0.8s
P51A Williamsport 20.94 341 P Pn 23 11 32.0 -1.3
baz=157,SNR=6.5
P51A P Pn 23 11 32.0 -1.3
baz=157,SNR=6.5
FOR Fordham 20.94 1 P Pn 23 11 34.4 +1.2
baz=181,SNR=8.8
N58A Sunbury 21.01 355 P P 23 11 32.3 +0.9
N58A IAmb IAmb 23 11 40.6
comp=Z,63nm,1.1s
N58A Sunbury 21.01 355 P P 23 11 33.2 +1.8
baz=174,SNR=9.1
N58A P P 23 11 33.2 +1.8
baz=174,SNR=9.1
N62A Caumsett State 21.02 2 P P 23 11 31.2 -0.3
WCI Wyandotte Cave 21.02 333 P P 23 11 32.0 +0.4
WCI IAmb IAmb 23 11 45.9
comp=Z,49nm,0.9s
WCI Wyandotte Cave 21.02 333 P P 23 11 32.0 +0.4
WCI pmax pmax
comp=Z,49nm,1.0s
WCI Wyandotte Cave 21.02 333 P P 23 11 32.3 +0.7
baz=147
WCI Wyandotte Cave 21.02 333 P P 23 11 31.1 -0.5
baz=147
PAL Palisades 21.09 1 P 23 11 31.8 -0.4
PAL Palisades 21.09 1 P P 23 11 31.8 -0.4
PAL pmax pmax
comp=Z,230nm,1.2s
PAL Palisades 21.09 1 P P 23 11 33.3 +1.1
baz=181,SNR=10
PAL Palisades 21.09 1 P P 23 11 31.8 -0.4
baz=181,SNR=10
HICK Hickman 21.11 325 P P 23 11 33.1 +0.6
UPAO U. Pittsburgh 21.12 348 P P 23 11 34.0 +1.5
baz=165
GNAR Gosnell 21.13 323 P P 23 11 33.3 +0.6
GNAR IAmb IAmb 23 11 50.7
comp=Z,69nm,0.8s
PEBM Pemiscott Bayo 21.14 323 P P 23 11 33.2 +0.3
O53A New Philadelph 21.15 345 P P 23 11 33.6 +0.6
O53A IAmb IAmb 23 11 46.4
comp=Z,84nm,0.9s
O53A New Philadelph 21.15 345 P P 23 11 33.6 +0.6
baz=162,SNR=15
ODNJ Ogdensburg 21.16 360 IAmb IAmb 23 11 47.1
comp=Z,97nm,1.1s
ODNJ Ogdensburg 21.16 360 P P 23 11 34.2 +1.2

baz=179,SNR=5.7
T45A Paducah 21.16 327 P P 23 11 33.6 +0.6
O52A Adamsville 21.18 344 IAmb IAmb 23 11 50.9
comp=Z,96nm,1.2s
O52A Adamsville 21.18 344 P P 23 11 34.3 +1.0
baz=160,SNR=14
O52A P P 23 11 34.3 +1.0
baz=160,SNR=14
HBAR Harrisburg 21.21 321 P P 23 11 34.7 +1.0
TRNY Table Rock, Ra 21.22 0 P P 23 11 34.9 +1.2
PVMO Portageville 21.27 324 P P 23 11 35.0 +0.7
USIN University of 21.42 330 IAmb IAmb 23 12 05.4
comp=Z,114nm,1.4s
YLE Yale 21.43 3 P P 23 11 36.9 +1.0
BRNY Black Rk. Fore 21.49 1 P P 23 11 37.6 +1.1
baz=181,SNR=7.9
PSDB Penn State Uni 21.53 351 P P 23 11 37.8 +0.8
baz=169
P49A Miami Univ. Ec 21.54 338 IAmb IAmb 23 11 54.7
comp=Z,57nm,0.9s
P49A Miami Univ. Ec 21.54 338 P P 23 11 37.7 +0.6
baz=153,SNR=11
P49A Miami Univ. Ec 21.54 338 P P 23 11 36.8 -0.3
baz=153,SNR=11
M57A Sunshine Farm, 21.54 354 P P 23 11 38.1 +1.0
M57A IAmb IAmb 23 11 47.2
comp=Z,57nm,0.9s
M57A Sunshine Farm, 21.54 354 P P 23 11 38.7 +1.6
baz=173
M57A P P 23 11 38.7 +1.6
baz=173
M63A Gales Ferry 21.57 5 P P 23 11 37.5 +0.1
M63A pP pP 23 11 42.0 0.0
M63A Gales Ferry 21.57 5 P P 23 11 38.8 +1.4
baz=186
M63A P P 23 11 38.8 +1.4
baz=186
N53A Lisbon 21.60 347 P P 23 11 38.0 +0.3
N53A pP pP 23 11 42.8 +0.5
N53A Lisbon 21.60 347 P P 23 11 38.7 +0.9
baz=163,SNR=11
N53A P P 23 11 38.7 +0.9
baz=163,SNR=11
ACSO Alum Creek Sta 21.61 342 P P 23 11 38.1 +0.3
ACSO IAmb IAmb 23 11 43.1
comp=Z,43nm,0.8s
ACSO Alum Creek Sta 21.61 342 P P 23 11 38.9 +1.1
baz=158,SNR=5.3
ACSO Alum Creek Sta 21.61 342 P P 23 11 37.8 -0.1
baz=158,SNR=5.3
WLAR White Oak Lake 21.61 313 P P 23 11 40.0 +2.0
PORT Chimborazo Vol 21.62 192 P P 23 11 41.2 +2.4
PORT IAmb IAmb 23 12 10.8
comp=Z,37nm,0.8s
KSPA Keystone Colle 21.66 357 IAmb IAmb 23 11 49.9
comp=Z,35nm,0.9s
KSPA Keystone Colle 21.66 357 P P 23 11 39.7 +1.2
baz=176
CHSH Refugio Sur-Vo 21.67 192 P P 23 11 40.9 +1.6
CHSH IAmb IAmb 23 12 03.1
comp=Z,74nm,0.9s
NATX Nacogdoches 21.72 307 P P 23 11 41.1 +2.0
NATX IAmb IAmb 23 12 00.0
comp=Z,73nm,0.9s
NATX Nacogdoches 21.72 307 P P 23 11 39.2 +0.1
baz=118
P48A Milroy 21.73 336 IAmb IAmb 23 11 53.5
comp=Z,38nm,0.8s
P48A Milroy 21.73 336 P P 23 11 39.3 +0.1
baz=151,SNR=11
P48A P P 23 11 39.3 +0.1
baz=151,SNR=11
UALR University of 21.75 317 P P 23 11 41.0 +1.6
UALR IAmb IAmb 23 12 05.1
comp=Z,56nm,1.2s
KSCT Kent School, K 21.81 2 P P 23 11 40.4 +0.3
KSCT IAmb IAmb 23 11 47.4
comp=Z,119nm,1.4s
NPNY Mohonk Preserv 21.83 0 P P 23 11 41.7 +1.5
baz=181,SNR=8.9
LCAR Lake Charles 21.86 321 IAmb IAmb 23 12 06.4
comp=Z,81nm,1.0s
HKT Hockley 21.86 302 P P 23 11 43.5 +3.0
HKT IAmb IAmb 23 11 48.4
comp=Z,46nm,1.1s
HKT Hockley 21.86 302 *ce*P P 23 11 45.3 +4.7
HKT pmax pmax
comp=Z,50nm,1.2s
M55A Ridgway 21.86 351 IAmb IAmb 23 11 47.5
comp=Z,75nm,1.0s
M55A Ridgway 21.86 351 P P 23 11 41.1 +0.5
baz=169
M55A P P 23 11 41.1 +0.5
baz=169
CGM3 Cape Girardeau 21.90 326 IAmb IAmb 23 11 59.9
comp=Z,60nm,0.9s
BLO Bloomington 21.91 334 IAmb IAmb 23 11 56.0
comp=Z,59nm,1.0s
PBMO Poplar Bluff 21.94 324 P P 23 11 42.6 +1.2
PBMO IAmb IAmb 23 11 48.6
comp=Z,48nm,0.9s
UCCT U. Connecticut 21.95 4 P P 23 11 41.6 +0.1
UCCT IAmb IAmb 23 11 55.7
comp=Z,70nm,0.9s
SIUC Southern Illin 21.98 327 IAmb IAmb 23 11 50.6
comp=Z,64nm,0.9s
S44A Carbondale 21.99 327 IAmb IAmb 23 11 50.5
comp=Z,62nm,0.8s
S44A Carbondale 21.99 327 P P 23 11 43.7 +1.8
baz=140,SNR=5.8
O49A Covington 21.99 339 IAmb IAmb 23 11 53.9
comp=Z,100nm,1.5s
O49A Covington 21.99 339 P P 23 11 42.0 0.0
baz=154
O49A P P 23 11 42.0 0.0
baz=154
BOAV Boa Vista 22.02 140 P P 23 11 42.6 +0.2
BOAV IAmb IAmb 23 11 44.6
comp=Z,67nm,1.1s
BOAV Boa Vista 22.02 140 *e*P P 23 11 42.2 -0.2
N51A Ashland 22.07 344 P P 23 11 44.0 +1.1
N51A IAmb IAmb 23 11 49.3
comp=Z,60nm,0.9s
N51A Ashland 22.07 344 P P 23 11 43.3 +0.5
baz=160
N51A P P 23 11 43.3 +0.5
baz=160
M53A WI Miller and 22.17 347 P P 23 11 43.8 -0.1
M53A IAmb IAmb 23 11 58.0
comp=Z,78nm,1.1s
M53A WI Miller and 22.17 347 P P 23 11 43.4 -0.5
baz=164
OLIL Olney 22.24 331 IAmb IAmb 23 12 03.6
comp=Z,87nm,1.1s
OLIL Olney 22.24 331 P P 23 11 44.9 +0.2
baz=144,SNR=6.3
ALLY Alegheny Colle 22.27 349 P P 23 11 45.1 +0.2
ALLY Alegheny Colle 22.27 349 P P 23 11 46.0 +1.1
baz=166
L59A Walton 22.27 359 IAmb IAmb 23 12 14.1
comp=Z,60nm,1.1s
L59A Walton 22.27 359 P P 23 11 45.5 +0.5
baz=178
L59A P P 23 11 45.5 +0.5
baz=178
BINY Binghamton 22.32 357 P P 23 11 45.7 +0.3
BINY IAmb IAmb 23 12 02.8
comp=Z,91nm,1.2s
BINY Binghamton 22.32 357 P P 23 11 46.5 +1.1
baz=176,SNR=5.8
BINY Binghamton 22.32 357 P P 23 11 46.1 +0.6
baz=176,SNR=5.8
FCAR Ozark Folk Cen 22.32 319 IAmb IAmb 23 12 02.6
comp=Z,84nm,1.3s
O48B Farmland 22.33 338 P P 23 11 45.2 -0.4
baz=152
O48B Farmland 22.33 338 P P 23 11 45.6 0.0
baz=152
L56A Greenwood 22.37 354 P P 23 11 46.2 +0.1
L56A IAmb IAmb 23 12 09.9
comp=Z,58nm,1.0s
QUA2 Belchertown 22.42 4 P P 23 11 46.8 +0.3
QUA2 IAmb IAmb 23 11 53.9
comp=Z,66nm,1.1s
MIAR Mount Ida 22.42 315 P P 23 11 47.7 +1.0
MIAR IAmb IAmb 23 11 58.8
comp=Z,54nm,1.2s

MIAR **Mount Ida** 22.42 315 P **P** 23 11 47.7 +1.0
MIAR pmax pmax
comp=Z,54nm,1.2s
MIAR **Mount Ida** 22.42 315 P **P** 23 11 47.6 +1.0
baz=126,SNR=8.0
MIAR **Mount Ida** 22.42 315 P **P** 23 11 46.3 -0.4
baz=126,SNR=8.0
L61B **Northampton** 22.57 3 P **P** 23 11 48.5 +0.4
L61B IAmb IAmb 23 12 03.3
comp=Z,45nm,1.0s
L61B **Northampton** 22.57 3 P **P** 23 11 47.7 -0.4
baz=184
P46A **Rosedale** 22.57 333 IAmb IAmb 23 12 00.7
comp=Z,68nm,0.9s
N49A **Columbus Grove** 22.60 340 P **P** 23 11 49.6 +1.1
N49A IAmb IAmb 23 12 15.6
comp=Z,56nm,1.2s
WES **Weston** 22.61 6 P **P** 23 11 49.4 +0.9
WES **Weston** 22.61 6 P **P** 23 11 49.4 +0.9
WES pmax pmax
comp=Z,94nm,1.0s
COHC **Cochancay** 22.69 193 P **P** 23 11 49.6 0.0
ERPA **Erie** 22.69 349 P **P** 23 11 49.1 -0.4
baz=166
Z38A **Mt. Pleasant** 22.70 310 P **P** 23 11 52.0 +2.4
Z38A IAmb IAmb 23 11 58.2
comp=Z,36nm,0.9s
237A **Washetta, Mont** 22.70 306 P **P** 23 11 51.1 +1.5
HRV **Adam Dziewonsk** 22.71 5 P **P** 23 11 49.7 +0.1
baz=187
M50A **Fremont** 22.71 343 P **P** 23 11 49.7 +0.1
WVNY **West Valley, N** 22.76 352 P **P** 23 11 50.2 0.0
HCNY **Howe Caverns** 22.77 360 P **P** 23 11 50.9 +0.6
baz=180,SNR=8.3
Q44A **Meyer Farm, Va** 22.81 329 P **P** 23 11 52.1 +1.4
baz=142,SNR=6.0
K62A **Royalston** 22.81 4 P **P** 23 11 51.2 +0.5
K62A IAmb IAmb 23 12 10.3
comp=Z,54nm,1.1s
TRY **Troy** 22.81 1 P **P** 23 11 51.6 +0.9
FVM **French Village** 22.82 326 P **P** 23 11 52.0 +1.3
FVM **French Village** 22.82 326 P **P** 23 11 52.1 +1.3
KVTX **Kingsville** 22.82 294 P **P** 23 11 51.4 +0.5
K57A **Scipio Center** 22.88 356 P **P** 23 11 52.8 +1.4
baz=175,SNR=5.3
MMNY **Mt. Morris Dam** 23.00 353 P **P** 23 11 53.0 +0.4
MMNY IAmb IAmb 23 12 16.1
comp=Z,62nm,1.1s
TLIG **Tlapa** 23.01 268 P **P** 23 11 52.7 -0.5
TLIG IAmb IAmb 23 12 07.8
comp=Z,40nm,0.9s
735A **Kenedy** 23.11 297 P **P** 23 11 54.4 +0.5
735A IAmb IAmb 23 12 05.5
comp=Z,56nm,1.1s
SFIN **Lafayette** 23.17 335 IAmb IAmb 23 12 07.2
comp=Z,66nm,1.0s
SFIN **Lafayette** 23.17 335 P **P** 23 11 54.9 +0.5
baz=148
SFIN **Lafayette** 23.17 335 P **P** 23 11 54.1 -0.4
baz=148
SLM **Saint Louis** 23.20 327 P **P** 23 11 56.3 +1.5
SLM IAmb IAmb 23 12 13.3
comp=Z,60nm,1.3s
SLM **Saint Louis** 23.20 327 P **P** 23 11 56.3 +1.5
SLM pmax pmax
comp=Z,60nm,1.3s
BOSC **San Juan Bosco** 23.22 190 P **P** 23 11 57.3 +2.0
BOSC IAmb IAmb 23 12 22.1
comp=Z,34nm,1.3s
MGMO **Mountain Grove** 23.25 322 IAmb IAmb 23 12 08.5
comp=Z,45nm,0.9s
CCM **Cathedral Cave** 23.31 325 P **P** 23 11 55.8 0.0
CCM IAmb IAmb 23 12 13.5
comp=Z,47nm,1.0s
CCM **Cathedral Cave** 23.31 325 P **P** 23 11 55.8 0.0
CCM pmax pmax
comp=Z,47nm,1.0s
CCM **Cathedral Cave** 23.31 325 P **P** 23 11 55.9 0.0
baz=136,SNR=7.7
CCM **Cathedral Cave** 23.31 325 P **P** 23 11 55.2 -0.7
baz=136
J56A **Wolcott** 23.44 355 P **P** 23 11 56.9 -0.2
J56A IAmb IAmb 23 12 20.7
comp=Z,48nm,1.1s
J58A **Remsen** 23.45 358 P **P** 23 11 57.3 +0.1
J58A IAmb IAmb 23 11 59.3
comp=Z,85nm,1.5s
J58A **Remsen** 23.45 358 P **P** 23 11 58.6 +1.4
baz=178
J58A P **P** 23 11 58.6 +1.4
baz=178
ACCN **Adirondack Com** 23.47 1 P **P** 23 11 57.4 0.0
ACCN IAmb IAmb 23 12 13.8
comp=Z,48nm,0.9s
ACCN **Adirondack Com** 23.47 1 P **P** 23 11 58.8 +1.5
baz=182,SNR=5.8
J61A **Chester** 23.47 3 IAmb IAmb 23 12 15.6
comp=Z,34nm,1.1s
MEDO **Medina** 23.49 353 P **P** 23 11 57.8 +0.2
MEDO IAmb IAmb 23 12 20.6
comp=Z,45nm,1.0s
J55A **Hilton** 23.52 354 P **P** 23 11 57.5 -0.3
J55A IAmb IAmb 23 12 14.2
comp=Z,55nm,0.9s
J57A **Williamstown** 23.52 357 IAmb IAmb 23 11 59.8
comp=Z,38nm,0.9s
J59A **Piesco** 23.54 360 IAmb IAmb 23 12 00.3
comp=Z,80nm,1.3s
J59A **Piesco** 23.54 360 P **P** 23 11 59.2 +1.1
baz=180,SNR=6.8
J59A P **P** 23 11 59.2 +1.1
baz=180,SNR=6.8
435B **Jarrell** 23.58 302 P **P** 23 12 00.0 +1.4
435B IAmb IAmb 23 12 06.4
comp=Z,48nm,1.1s
435B **Jarrell** 23.58 302 P **P** 23 11 59.4 +0.8
baz=112
J54A **Appleton** 23.62 352 P **P** 23 11 59.2 +0.4
P43A **Skaggs, Pawnee** 23.63 330 P **P** 23 11 59.8 +0.8
P43A IAmb IAmb 23 12 00.8
comp=Z,39nm,0.7s
P43A **Skaggs, Pawnee** 23.63 330 P **P** 23 12 00.3 +1.3
baz=142,SNR=8.9
FFD **Franklin Falls** 23.66 5 P **P** 23 12 00.1 +0.9
X37A **Clayton** 23.67 313 P **P** 23 12 01.5 +2.0
X37A IAmb IAmb 23 12 14.3
comp=Z,37nm,1.0s
X37A **Clayton** 23.67 313 P **P** 23 12 01.0 +1.5
baz=123,SNR=9.5
HHAR **Hobbs** 23.70 318 IAmb IAmb 23 12 16.3
comp=Z,34nm,0.9s
HHAR **Hobbs** 23.70 318 P **P** 23 12 00.8 +1.0
baz=128
AAM **Ann Arbor** 23.71 343 P **P** 23 12 00.5 +0.8
baz=158
HNH **Hanover** 23.84 4 P **P** 23 12 02.1 +1.1
HNH IAmb IAmb 23 12 03.5
comp=Z,52nm,1.1s
K50A **Casco** 23.88 345 P **P** 23 12 02.1 +0.7
WHTX **Lake Whitney,** 23.95 305 IAmb IAmb 23 12 13.2
comp=Z,34nm,0.9s
WHTX **Lake Whitney,** 23.95 305 P **P** 23 12 02.8 +0.6
baz=115
R40A **Maddies Statio** 24.04 324 IAmb IAmb 23 12 26.2
comp=Z,34nm,0.8s
R40A **Maddies Statio** 24.04 324 P **P** 23 12 03.3 +0.4
baz=135,SNR=7.8
NCB **Newcomb** 24.05 0 IAmb IAmb 23 12 22.7
comp=Z,49nm,0.8s
NCB **Newcomb** 24.05 0 P **P** 23 12 03.9 +1.0
baz=180,SNR=12
WCNY **West Carthage** 24.08 358 P **P** 23 12 04.4 +1.2
baz=177,SNR=6.1
U38A **Gravette** 24.09 317 IAmb IAmb 23 12 24.7
comp=Z,28nm,0.8s
U38A **Gravette** 24.09 317 P **P** 23 12 04.1 +0.7
baz=128
PECO **Prince Edward** 24.11 355 P **P** 23 12 03.2 -0.2
PECO IAmb IAmb 23 12 05.0
comp=Z,33nm,0.9s
S39A **Bolivar** 24.23 321 IAmb IAmb 23 12 21.6
comp=Z,32nm,0.8s
S39A **Bolivar** 24.23 321 P **P** 23 12 05.5 +0.7
baz=132,SNR=13
HDIL **Hopedale** 24.25 332 IAmb IAmb 23 12 25.6
comp=Z,44nm,0.9s
HDIL **Hopedale** 24.25 332 P **P** 23 12 05.1 +0.2
baz=144
HDIL **Hopedale** 24.25 332 P **P** 23 12 04.3 -0.6
baz=144
L46A **Eue Claire** 24.29 338 P **P** 23 12 05.3 +0.2
TBTG **Tabatinga, AM** 24.30 169 P **P** 23 12 06.2 +0.8
TBTG IAmb IAmb 23 12 07.9
comp=Z,164nm,1.2s
TBTG **Tabatinga, AM** 24.30 169 *eP* **P** 23 12 06.9 +1.5
833A **Chaparral WMA,** 24.30 295 P **P** 23 12 07.0 +1.6
baz=105
833A **Chaparral WMA,** 24.30 295 P **P** 23 12 06.5 +1.1
baz=105
RLO **Rose Lookout** 24.33 316 P **P** 23 12 06.6 +0.9
RLO IAmb IAmb 23 12 35.8
comp=Z,34nm,1.1s
Z35A **Perchaven, San** 24.39 308 IAmb IAmb 23 12 29.2
comp=Z,51nm,1.0s
LBNH **Lisbon** 24.40 4 P **P** 23 12 07.5 +1.3
baz=186
LBNH **Lisbon** 24.40 4 P **P** 23 12 06.6 +0.4
baz=186
VT1 **Waterbury** 24.44 3 P **P** 23 12 07.6 +1.0
VT1 IAmb IAmb 23 12 26.4
comp=Z,36nm,1.1s
LOOK **Love County** 24.65 309 **P** 23 12 11.1 +2.5
LOOK IAmb IAmb 23 12 27.8
comp=Z,76nm,1.0s
MCRA **Macar, Loja** 24.69 193 P **P** 23 12 10.4 +1.4
TUL1 **Leonard** 24.69 315 P **P** 23 12 09.8 +0.9
baz=125,SNR=15
TUL1 **Leonard** 24.69 315 P **P** 23 12 09.4 +0.5
baz=125,SNR=15
LONY **Lake Ozonia** 24.69 360 IAmb IAmb 23 12 11.5
comp=Z,26nm,0.9s
LONY **Lake Ozonia** 24.69 360 P **P** 23 12 08.9 0.0
baz=180,SNR=7.9
DELO **Deloro Mine** 24.74 354 IAmb IAmb 23 12 11.2
comp=Z,25nm,0.7s
P40A **Paris** 24.81 326 P **P** 23 12 10.4 +0.5
baz=137,SNR=6.3
J47A **Sunmer** 24.91 342 P **P** 23 12 10.4 -0.3
J47A **Sunmer** 24.91 342 P **P** 23 12 11.2 +0.4
baz=156,SNR=5.5
J47A P **P** 23 12 11.2 +0.4
baz=156,SNR=5.5
BMNY **Brushton-Moira** 24.91 360 P **P** 23 12 11.8 +1.0
baz=180,SNR=8.9
FRNY **Flat Rock** 24.92 1 P **P** 23 12 11.3 +0.5
FRNY IAmb IAmb 23 12 12.6
comp=Z,26nm,0.9s
FRNY **Flat Rock** 24.92 1 P **P** 23 12 12.0 +1.2
baz=182,SNR=8.9
WVL **Waterville** 24.95 8 P **P** 23 12 11.8 +0.6
N41A **Harden Midland** 25.10 329 P **P** 23 12 12.5 0.0
N41A IAmb IAmb 23 12 26.8
comp=Z,44nm,0.9s
DEOK **Depew** 25.13 314 **P** 23 12 13.5 +0.7
DEOK IAmb IAmb 23 12 24.1
comp=Z,76nm,0.9s
SADO **Sadowa** 25.16 352 P **P** 23 12 12.9 -0.1
comp=Z,18nm,0.7s,baz=217,slow=3.5,SNR=16
SADO LR LR 23 21 47.6
comp=Z,415nm,19.5s,baz=180,slow=36
comp=Z,18nm,0.7s
SADO **Sadowa** 25.16 352 P **P** 23 12 14.1 +1.1
SADO IAmb IAmb 23 12 14.9
comp=Z,24nm,0.8s
JCT **Junction City** 25.26 300 P **P** 23 12 14.6 +0.4
baz=109,SNR=8.9
OK034 **N. Norfolk Rd.** 25.36 314 **P** 23 12 16.1 +1.1
X34A **Smith Ranch, M** 25.42 310 **P** 23 12 16.9 +1.4
OK031 **S. Brethren Rd** 25.42 314 **P** 23 12 16.3 +0.8
FNO **Franklin** 25.44 312 P **P** 23 12 18.4 +2.7
EMMW **East Machias** 25.44 12 P **P** 23 12 16.5 +1.0
EMMW IAmb IAmb 23 12 30.4
comp=Z,32nm,1.1s
QUOK **Quay** 25.45 314 IAmb IAmb 23 12 23.4
comp=Z,87nm,1.4s
G62A **West of Eustis** 25.49 6 P **P** 23 12 16.7 +0.6
G62A IAmb IAmb 23 12 30.7
comp=Z,48nm,1.2s
OK025 **Westminster Rd** 25.56 313 **P** 23 12 18.4 +1.5
MNTQ **Montreal, Queb** 25.58 1 P **P** 23 12 17.1 +0.2
MNTQ IAmb IAmb 23 12 18.8
comp=Z,28nm,1.0s
P38A **Dawn** 25.68 324 IAmb IAmb 23 12 37.7
comp=Z,29nm,0.9s
PKME **Peaks-Kenny Pk** 25.69 8 P **P** 23 12 18.1 +0.3
baz=191
OK046 **Pawnee Station** 25.71 315 P **P** 23 12 19.1 +1.0
OK051 **E0350 and S346** 25.72 315 IAmb IAmb 23 12 37.1
comp=Z,33nm,0.8s
T35A **Sooner Cattle** 25.74 316 P **P** 23 12 19.4 +0.9
T35A IAmb IAmb 23 12 44.9
comp=Z,34nm,0.9s
T35B **Sooner Cattle** 25.74 316 P **P** 23 12 19.8 +1.3
baz=125,SNR=8.6
OK048 **Pawnee Station** 25.74 315 **P** 23 12 19.6 +1.1
OK048 IAmb IAmb 23 12 30.0
comp=Z,38nm,0.8s
OK045 **Pawnee Station** 25.75 315 P **P** 23 12 19.9 +1.4
MDP **Montagnes des** 25.75 122 P **P** 23 12 16.4 -2.3
comp=Z,4.8nm,1.0s,baz=306,slow=7.0,SNR=1.0
MDP LR LR 23 23 07.5
comp=Z,281nm,21.8s,baz=334,slow=38
comp=Z,4.8nm,1.0s
OK029 **Liberty Lake** 25.76 313 P **P** 23 12 19.5 +0.9
OK050 **Pawnee Station** 25.76 314 P **P** 23 12 19.4 +0.8
OK050 IAmb IAmb 23 12 32.0
comp=Z,25nm,0.7s
BCOK **Bluff Creek, N** 25.79 312 **P** 23 12 20.0 +1.1
BCOK IAmb IAmb 23 12 32.9
comp=Z,35nm,1.1s
G65A **Princeton** 25.90 11 P **P** 23 12 20.8 +1.1
G65A IAmb IAmb 23 12 37.8
comp=Z,28nm,1.0s
ABTX **Abilene, Hawle** 25.90 304 P **P** 23 12 22.2 +2.2
ABTX IAmb IAmb 23 12 43.1
comp=Z,26nm,0.9s
ABTX **Abilene, Hawle** 25.90 304 P **P** 23 12 20.2 +0.2
baz=113
OK049 **E0420 Rd and N** 25.98 314 **P** 23 12 21.1 +0.5
OK049 IAmb IAmb 23 12 43.0
comp=Z,45nm,1.1s
BLOK **Blackwell** 26.12 315 IAmb IAmb 23 12 41.2
comp=Z,29nm,0.9s
WMOK **Wichita Mounta** 26.17 310 **P** 23 12 23.1 +0.8
WMOK IAmb IAmb 23 12 46.2
comp=Z,34nm,0.9s
WMOK **Wichita Mounta** 26.17 310 P **P** 23 12 23.1 +0.8
WMOK pmax pmax
comp=Z,34nm,1.0s
WMOK **Wichita Mounta** 26.17 310 P **P** 23 12 23.0 +0.6
baz=118,SNR=20
WMOK **Wichita Mounta** 26.17 310 P **P** 23 12 23.2 +0.9
baz=118,SNR=20
HAL **Halifax** 26.29 18 P **P** 23 12 24.2 +0.9
HAL IAmb IAmb 23 12 44.4
comp=Z,45nm,0.9s
HAL **Halifax** 26.29 18 P **P** 23 12 24.2 +0.9
HAL pmax pmax
comp=Z,45nm,0.9s
TRQ **Mont Tremblant** 26.30 360 IAmb IAmb 23 12 44.0
comp=Z,42nm,1.2s
GLMI **Grayling** 26.31 343 P **P** 23 12 25.3 +1.8
GLMI **Grayling** 26.31 343 P **P** 23 12 24.1 +0.6
baz=158
L40A **Anamosa** 26.33 331 P **P** 23 12 25.8 +2.1
L40A IAmb IAmb 23 12 46.9
comp=Z,48nm,1.0s
N38A **Joes South For** 26.35 326 P **P** 23 12 25.2 +1.2
ZAIG **Zacatecas** 26.40 281 P **P** 23 12 26.3 +1.5
ZAIG IAmb IAmb 23 12 55.4
comp=Z,24nm,1.0s
F64A **Sherman** 26.41 10 IAmb IAmb 23 12 39.8
comp=Z,18nm,1.0s
CROK **Carrier** 26.50 314 **P** 23 12 26.1 +0.8
CROK IAmb IAmb 23 12 36.6
comp=Z,47nm,1.0s
CSTR **Hydro, Custer** 26.54 311 P **P** 23 12 26.6 +0.9
CSTR IAmb IAmb 23 12 38.9
comp=Z,3.4nm,0.6s
MACA **Manacapuru-AM** 26.54 148 P **P** 23 12 26.7 +0.9
MACA IAmb IAmb 23 12 30.4
comp=Z,58nm,0.7s
MACA **Manacapuru-AM** 26.54 148 *eP* **P** 23 12 27.3 +1.5
JFWS **Jewell Farm** 26.59 333 P **P** 23 12 25.3 -0.7
baz=145
KAN09 **Caldwell North** 26.59 315 **P** 23 12 27.2 +1.1
KAN09 IAmb IAmb 23 12 37.6
comp=Z,36nm,1.0s
GC02 **Grant County #** 26.60 314 P **P** 23 12 29.0 +2.8
KAN17 **Caldwell West** 26.64 315 **P** 23 12 27.4 +0.8
KAN17 IAmb IAmb 23 12 38.7
comp=Z,33nm,0.8s
KAN01 **Argonia South** 26.70 315 **P** 23 12 28.0 +0.9
G45A **Suttons Bay** 26.80 342 P **P** 23 12 27.8 0.0
OK032 **Salt Plains WL** 26.81 314 **P** 23 12 30.0 +1.9
OK032 IAmb IAmb 23 12 46.3
comp=Z,30nm,0.9s
KAN06 **Argonia West S** 26.82 315 P **P** 23 12 29.5 +1.4
I42A **Draeger Farm,** 26.87 336 P **P** 23 12 30.1 +1.5
I42A IAmb IAmb 23 12 50.0
comp=Z,37nm,1.1s
KAN08 **Anthony NE Sta** 26.88 315 P **P** 23 12 29.8 +1.1
KAN08 IAmb IAmb 23 12 47.2
comp=Z,48nm,1.0s
KAN10 **Anthony SW Sta** 26.91 315 P **P** 23 12 29.9 +0.9
KAN10 IAmb IAmb 23 12 42.9
comp=Z,54nm,1.2s
KAN12 **Harper NE Stat** 26.94 315 P **P** 23 12 31.6 +2.4
KAN16 **Harper SW Stat** 26.94 315 **P** 23 12 30.8 +1.5
KAN16 IAmb IAmb 23 12 40.8
comp=Z,42nm,0.9s
OK038 **West end E0370** 27.00 313 **P** 23 12 32.5 +2.6
OK038 IAmb IAmb 23 12 39.2
comp=Z,30nm,1.0s
OK035 **E0210 Rd and N** 27.10 313 P **P** 23 12 34.1 +3.4
OK035 IAmb IAmb 23 12 56.9
comp=Z,32nm,1.0s
ATAH **Atahualpa** 27.11 189 LR LR 23 24 48.5
comp=Z,497nm,20.5s,baz=16,slow=40
KSU1 **Kansas State U** 27.11 320 P **P** 23 12 30.5 -0.3
baz=129
U32A **Winter Ranch,** 27.13 313 P **P** 23 12 33.9 +2.9
U32A IAmb IAmb 23 12 42.6
comp=Z,26nm,0.9s
NOKA **Waynoka** 27.21 313 P **P** 23 12 33.2 +1.5
NOKA IAmb IAmb 23 12 59.4
comp=Z,80nm,1.1s
ELIS **Ellis County** 27.26 312 P **P** 23 12 33.4 +1.2
ELIS IAmb IAmb 23 12 43.4
comp=Z,26nm,0.9s
CZSB **Cruzeiro do Su** 27.46 176 P **P** 23 12 33.8 -0.3
CZSB IAmb IAmb 23 12 51.5
comp=Z,27nm,1.0s
CZSB **Cruzeiro do Su** 27.46 176 *eP* **P** 23 12 34.3 +0.2
K38A **Parkersburg** 27.51 330 P **P** 23 12 33.6 -0.7
I40A **Norwalk** 27.54 334 P **P** 23 12 34.7 +0.1
I40A IAmb IAmb 23 12 41.0
comp=Z,31nm,1.2s
R32A **Long Quarter,** 28.03 316 P **P** 23 12 39.3 +0.2
R32A IAmb IAmb 23 13 00.4
comp=Z,33nm,1.0s
TX32 **Lajitas Array** 28.18 295 P **P** 23 12 41.9 +1.3
TXAR **Lajitas Array** 28.18 295 P **P** 23 12 40.5 -0.1
comp=Z,1.3nm,0.8s,baz=123,slow=6.4,SNR=14
TXAR PcP **PcP** 23 15 54.6 +0.3
comp=Z,3.5nm,0.9s,baz=124,slow=4.7,SNR=5.3
TXAR LR LR 23 26 05.4
comp=Z,140nm,18.4s,baz=69,slow=41
comp=Z,1.3nm,0.8s
TXAR **Lajitas Array** 28.18 295 P **P** 23 12 41.9 +1.3
TXAR **Lajitas Array** 28.18 295 P **P** 23 12 41.9 +1.3
TX31 **Lajitas Ar. Sí** 28.18 295 P **P** 23 12 42.7 +2.1
TX31 IAmb IAmb 23 12 58.8
comp=Z,39nm,1.2s
AMTX **Amarillo** 28.37 307 P **P** 23 12 42.8 +0.5
AMTX IAmb IAmb 23 13 10.9
comp=Z,12nm,0.8s
AMTX **Amarillo** 28.37 307 P **P** 23 12 42.0 -0.2
baz=115
MSTX **Muleshoe** 28.84 305 P **P** 23 12 46.7 +0.3
MSTX **Muleshoe** 28.84 305 P **P** 23 12 46.6 +0.3
baz=112
COWI **Conover** 28.85 338 P **P** 23 12 45.9 -0.3
COWI IAmb IAmb 23 13 14.0
comp=Z,19nm,1.1s
L34A **Svendsen Farm,** 28.86 325 P **P** 23 12 46.4 +0.1
L34A IAmb IAmb 23 13 10.6
comp=Z,18nm,0.7s
CBKS **Cedar Bluff** 28.92 316 P **P** 23 12 48.0 +1.0
CBKS **Cedar Bluff** 28.92 316 P **P** 23 12 48.0 +1.0
CBKS pmax pmax
comp=Z,46nm,1.1s
CBKS **Cedar Bluff** 28.92 316 P **P** 23 12 46.4 -0.6
baz=124
HTMS **Hat Mesa** 29.00 302 P **P** 23 12 50.0 +2.1
CLN7 **Carlsbad 7** 29.12 301 P **P** 23 12 50.2 +1.2
MALB **Monte Alegre** 29.25 135 *eP* **P** 23 12 50.4 +0.3
CPRX **Cap Rock** 29.36 303 P **P** 23 12 51.2 +0.1
ECSD **EROS Data Cent** 30.21 327 P **P** 23 12 57.9 -0.5
baz=135,SNR=5.5
ITTB **Itaituba** 30.26 141 *eP* **P** 23 12 59.8 +0.8
ETMB **Extrema** 30.57 164 P **P** 23 13 02.2 +0.6
ETMB IAmb IAmb 23 13 03.9
comp=Z,41nm,0.9s
ETMB **Extrema** 30.57 164 *eP* **P** 23 13 02.2 +0.6
K31A **O'Neill** 30.61 323 P **P** 23 13 02.3 +0.4
K31A **O'Neill** 30.61 323 P **P** 23 13 02.4 +0.4
baz=130
KSCO **Kaye Shedlock'** 30.94 314 P **P** 23 13 05.9 +0.9
KSCO IAmb IAmb 23 13 16.7
comp=Z,18nm,1.0s
EYMN **Ely** 31.27 338 IAmb IAmb 23 13 08.4
comp=Z,21nm,1.2s
EYMN **Ely** 31.27 338 P **P** 23 13 07.2 -0.4
baz=148
EYMN **Ely** 31.27 338 P **P** 23 13 06.7 -0.9
baz=148
T25A **Trinidad** 31.32 310 P **P** 23 13 09.2 +0.7
T25A IAmb IAmb 23 13 35.5
comp=Z,20nm,1.0s
T25A **Trinidad** 31.32 310 P **P** 23 13 09.1 +0.6
baz=115,SNR=7.6
OGNE **Ogallala** 31.57 318 P **P** 23 13 10.3 -0.1
OGNE IAmb IAmb 23 13 34.0
comp=Z,22nm,1.1s
OGNE **Ogallala** 31.57 318 P **P** 23 13 11.8 +1.3
baz=124
OGNE **Ogallala** 31.57 318 P **P** 23 13 11.3 +0.9
baz=124
F33A **5 Mile Ranch,** 31.58 330 P **P** 23 13 10.7 +0.3
NNA **Nana** 31.74 185 LR LR 23 28 56.6
comp=Z,323nm,19.1s,baz=352,slow=42
NNA **Nana** 31.74 185 P **P** 23 13 12.1 0.0
NNA **Nana** 31.74 185 P **P** 23 13 12.1 0.0
NNA pmax pmax
comp=Z,49nm,1.5s
SUSD **Miller** 31.92 326 P **P** 23 13 12.8 -0.6
SUSD IAmb IAmb 23 13 13.5
comp=Z,24nm,1.0s
CRNM **Carthage** 31.93 303 P **P** 23 13 14.8 +1.0
ANMO **Albuquerque** 32.03 305 LR LR 23 27 47.9
comp=Z,309nm,18.1s,baz=108,slow=39
ANMO **Albuquerque** 32.03 305 P **P** 23 13 15.5 +0.8
ANMO **Albuquerque** 32.03 305 *jiP* **P** 23 13 18.2 +3.5
ANMO pmax pmax
comp=Z,11nm,2.5s
ANMO **Albuquerque** 32.03 305 P **P** 23 13 16.4 +1.6
baz=110
Y22D **IRIS PASSCAL I** 32.11 303 P **P** 23 13 16.0 +0.6
LENM **Lemitar** 32.18 303 P **P** 23 13 18.9 +2.9
SBM **South Baldy** 32.29 303 P **P** 23 13 18.4 +1.2
SDCO **Great Sand Dun** 32.37 310 IAmb IAmb 23 13 31.7
comp=Z,14nm,1.2s
SDCO **Great Sand Dun** 32.37 310 P **P** 23 13 19.0 +1.2
baz=115,SNR=8.9
SDCO **Great Sand Dun** 32.37 310 P **P** 23 13 18.3 +0.6
baz=115,SNR=8.9
121A **Cookes Peak, D** 32.38 300 P **P** 23 13 19.1 +1.3
121A IAmb IAmb 23 13 38.0
comp=Z,20nm,1.1s
121A **Cookes Peak, D** 32.38 300 P **P** 23 13 17.8 0.0
baz=105
B35A **Bob, Littlefor** 32.44 336 IAmb IAmb 23 13 36.3
comp=Z,34nm,1.4s
B35A **Bob, Littlefor** 32.44 336 P **P** 23 13 17.9 -0.1
baz=144
NPGB **Novo Progresso** 32.64 143 *eP* **P** 23 13 20.2 +0.2

Q24A Divide 32.65 312 P P 23 13 20.9 +0.7
Q24A IAmb IAmb 23 13 33.8
comp=Z,20nm,1.4s
Q24A Divide 32.65 312 P P 23 13 19.8 -0.4
baz=117,SNR=6.3
BRIGG Briggsdale 32.85 316 P P 23 13 23.1 +1.3
D32A Dogwood Acres, 32.87 331 P P 23 13 21.5 -0.2
SLBS Sierra La Lagu 33.19 283 P P 23 13 26.7 +1.8
SLBS IAmb IAmb 23 13 32.7
comp=Z,29nm,1.1s
AGMN Agassiz Nation 33.26 334 IAmb IAmb 23 13 27.1
comp=Z,24nm,1.4s
AGMN Agassiz Nation 33.26 334 P P 23 13 25.9 +0.9
baz=141
S22A 4UR Ranch, Cre 33.33 309 P P 23 13 26.4 +0.2
baz=113
ISCO Idaho Springs 33.35 313 IAmb IAmb 23 13 42.6
comp=Z,13nm,1.0s
ISCO Idaho Springs 33.35 313 P P 23 13 26.4 +0.1
baz=118,SNR=5.8
ISCO Idaho Springs 33.35 313 P P 23 13 27.1 +0.8
baz=118,SNR=5.8
319A Douglas 33.35 297 P P 23 13 28.6 +2.3
319A IAmb IAmb 23 13 48.8
comp=Z,24nm,0.9s
LPIG La Paz 33.52 284 LR LR 23 29 02.6
comp=Z,144nm,18.4s,baz=82,slow=40
PHWY Pilot Hill 33.96 316 P P 23 13 32.5 +0.9
TMAB Tom-Au,PA,Br 33.97 128 eP P 23 13 29.6 -2.0
SMCO Snowmass 34.02 312 IAmb IAmb 23 13 59.6
comp=Z,18nm,1.1s
N23A Red Feather La 34.08 315 P P 23 13 33.8 +1.2
N23A Red Feather La 34.08 315 P P 23 13 32.7 +0.1
baz=118
MVCO Mesa Verde 34.36 308 P P 23 13 36.0 +0.9
MVCO Mesa Verde 34.36 308 P P 23 13 35.3 +0.2
baz=111
RSSD Black Hills 34.57 321 P P 23 13 37.0 +0.2
RSSD Black Hills 34.57 321 P P 23 13 37.0 +0.2
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 34.57 321 P P 23 13 37.2 +0.4
baz=125
MDND Maddock 34.60 330 P P 23 13 36.9 +0.2
W18A Petrified Fore 34.64 303 P P 23 13 38.4 +0.9
W18A IAmb IAmb 23 13 52.6
comp=Z,34nm,1.3s
W18A Petrified Fore 34.64 303 P P 23 13 38.0 +0.5
baz=107
X18A Snowflake 34.65 302 P P 23 13 39.1 +1.6
PV15 Paradox Valley 34.76 309 P P 23 13 40.1 +1.6
PV15 IAmb IAmb 23 13 56.5
comp=Z,14nm,1.1s
TUC Tucson 34.80 298 P P 23 13 39.6 +0.8
TUC Tucson 34.80 298 P P 23 13 39.6 +0.8
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC Tucson 34.80 298 P P 23 13 39.9 +1.1
baz=102
PV07 Paradox Valley 34.92 309 P P 23 13 41.5 +1.6
PV13 Radium Mtn., P 34.94 309 P P 23 13 40.8 +0.7
PV13 IAmb IAmb 23 14 07.7
comp=Z,19nm,0.9s
PV11 David Mesa, Pa 35.03 309 P P 23 13 41.8 +0.9
PV11 IAmb IAmb 23 13 55.0
comp=Z,12nm,1.0s
PV20 West Nyswonger 35.12 309 P P 23 13 41.9 +0.3
PV10 Paradox Valley 35.18 309 P P 23 13 42.0 -0.1
PV10 IAmb IAmb 23 13 56.0
comp=Z,20nm,1.3s
PV23 Carpenter Ridg 35.19 309 P P 23 13 43.4 +1.1
PV23 IAmb IAmb 23 14 10.5
comp=Z,17nm,1.0s
RWWY Rawlins 35.30 315 P P 23 13 43.6 +0.5
O20A White River Ci 35.31 312 IAmb IAmb 23 14 07.4
comp=Z,11nm,0.9s
O20A White River Ci 35.31 312 P P 23 13 44.3 +1.1
baz=115
K22A Casper 35.32 317 P P 23 13 44.1 +0.9
K22A IAmb IAmb 23 14 04.1
comp=Z,26nm,1.2s
K22A Casper 35.32 317 P P 23 13 44.4 +1.2
baz=120
K22A Casper 35.32 317 P P 23 13 43.5 +0.3
baz=120
SCHQ Schefferville 35.39 8 P P 23 13 44.0 +0.6
comp=Z,24nm,0.6s,baz=200,slow=6.8,SNR=46
SCHQ LR LR 23 28 33.4
comp=Z,232nm,18.5s,baz=211,slow=37
comp=Z,24nm,0.6s
PRPB Parauapebas 35.41 134 eP P 23 13 43.2 -0.8
VILB Vilhena 35.47 156 P P 23 13 45.1 +0.6
VILB IAmb IAmb 23 13 46.4
comp=Z,25nm,0.9s
VILB Vilhena 35.47 156 eP P 23 13 45.9 +1.3
CLDB Colider 35.60 147 eP P 23 13 45.6 0.0
PDRB Porto dos Gac 35.78 149 eP P 23 13 47.2 0.0
WUAZ Wupatki 36.04 303 P P 23 13 50.8 +1.3
WUAZ IAmb IAmb 23 14 04.7
comp=Z,28nm,0.9s
WUAZ Wupatki 36.04 303 P P 23 13 50.6 +1.1
baz=106,SNR=20
214A Organ Pipe Nat 36.42 297 P P 23 13 54.5 +1.9
214A Organ Pipe Nat 36.42 297 P P 23 13 53.7 +1.0
baz=100
LPAZ La Paz 36.44 170 P P 23 13 53.4 -0.1
comp=Z,4.4nm,0.7s,baz=353,slow=9.4,SNR=15
LPAZ LR LR 23 30 41.1
comp=Z,268nm,18.7s,baz=346,slow=39
comp=Z,4.4nm,0.7s
LPAZ La Paz 36.44 170 IAmb IAmb 23 14 18.6
comp=Z,28nm,1.1s
LPAZ La Paz 36.44 170 eP P 23 13 54.4 +0.9
P18A Preston Nutter 36.52 311 IAmb IAmb 23 14 15.8
comp=Z,16nm,1.1s
SRU San Rafael Swe 36.53 310 P P 23 13 54.2 +0.5
SRU San Rafael Swe 36.53 310 P P 23 13 54.2 +0.5
SRU pmax pmax
comp=Z,8.0nm,0.9s
P17A Butcher Ranch, 36.82 310 P P 23 13 57.2 +1.1
PIX Pinacate 36.90 296 P P 23 13 57.9 +1.2
Q16A Castle Valley 36.93 309 P P 23 13 59.2 +2.1
Y14A Wickenburg 36.96 300 P P 23 13 59.1 +1.9
Y14A IAmb IAmb 23 14 04.8
comp=Z,7.3nm,0.4s
U15A North Rim 37.00 305 P P 23 13 59.6 +1.8
TMUT Trail Mountain 37.09 310 P P 23 13 59.5 +0.9
DGMT Dagmar 37.29 327 P P 23 14 01.7 +1.9
DGMT IAmb IAmb 23 14 15.9
comp=Z,12nm,0.6s
LAO LASA Array 37.31 323 P P 23 13 59.4 -0.6
LAO LASA Array 37.31 323 P P 23 13 59.6 -0.4
baz=125
PKCU Pink Cliffs 37.31 306 P P 23 14 02.2 +1.8
BW06 Boulder Array 37.34 316 P P 23 14 00.0 -0.6
baz=117
PDAR Pinedale Array 37.34 316 P P 23 14 00.3 -0.3
comp=Z,1.2nm,0.5s,baz=116,slow=9.8,SNR=18
PDAR PcP PcP 23 16 19.3 -0.3
comp=Z,1.8nm,0.8s,baz=79,slow=5.0,SNR=3.4
PDAR LR LR 23 30 36.3
comp=Z,941nm,19.1s,baz=118,slow=38
comp=Z,1.2nm,0.5s
ROSB Rosrio 37.34 124 eP P 23 14 00.3 -0.2
113A Mohawk Valley, 37.36 298 P P 23 14 01.6 +1.1
MTPU Mount Pierson 37.40 307 P P 23 14 02.0 +0.7
MSU Marysvale 37.54 308 P P 23 14 03.5 +1.2
MSU Marysvale 37.54 308 P P 23 14 03.5 +1.2
MVU Marysvale 37.56 308 P P 23 14 04.2 +1.7
MVU IAmb IAmb 23 14 17.1
comp=Z,30nm,1.2s
KNB Kanab 37.58 305 P P 23 14 03.8 +1.2
KNB Kanab 37.58 305 P P 23 14 03.8 +1.2
KNB pmax pmax
comp=Z,16nm,1.1s
JLU Jordanelle 37.74 311 P P 23 14 04.8 +0.7
TCRU Three Creeks R 37.77 308 P P 23 14 07.0 +2.7
LCMT Little Creek M 37.90 305 P P 23 14 07.1 +1.8
TCUT Toone Canyon 37.91 312 P P 23 14 06.6 +1.2
W13A Hualapai Mount 37.92 302 P P 23 14 06.8 +1.3
W13A IAmb IAmb 23 14 20.6
comp=Z,19nm,1.1s
SZCU Shurtz Canyon 37.94 306 P P 23 14 06.3 +0.6
NLU North Lily Min 37.95 310 P P 23 14 06.5 +0.8
SIV San Ignacio 37.95 159 LR LR 23 31 33.9
comp=Z,687nm,18.1s,baz=351,slow=39
CTU Camp Tracy 37.99 311 P P 23 14 07.3 +1.3
SFX San Felipe 38.01 295 P P 23 14 08.0 +1.9
CCUT Cedar City 38.14 306 P P 23 14 08.3 +0.8
PTLB Pontes e Lacer 38.16 156 P P 23 14 07.7 +0.3
PTLB IAmb IAmb 23 14 08.6
comp=Z,8.7nm,0.9s
PTLB Pontes e Lacer 38.16 156 eP P 23 14 07.3 0.0
BLYC Blythe 38.16 300 P P 23 14 09.3 +1.9
RLMT Red Lodge 38.27 319 P P 23 14 08.0 -0.3
baz=120,SNR=10
GLA Glamis 38.28 298 P P 23 14 09.9 +1.4
GLA Glamis 38.28 298 P P 23 14 09.9 +1.4
GLA pmax pmax
comp=Z,13nm,1.1s
AHID Auburn Hatcher 38.36 315 P P 23 14 11.3 +2.1
LOHW Long Hollow 38.40 316 IAmb IAmb 23 14 30.6
comp=Z,24nm,1.2s
SNOW Snow King Moun 38.44 316 P P 23 14 09.9 +0.1
SNOW IAmb IAmb 23 14 30.6
comp=Z,23nm,1.2s
REDW Red Top Meadow 38.45 316 IAmb IAmb 23 14 30.5
comp=Z,15nm,0.8s
DUG Dugway, Tooele 38.56 310 P P 23 14 11.1 +0.3
DUG Dugway, Tooele 38.56 310 P P 23 14 11.1 +0.3
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway, Tooele 38.56 310 P P 23 14 11.3 +0.5
baz=110,SNR=9.3
YMP Mirror Lake Pl 38.63 318 IAmb IAmb 23 14 35.0
comp=Z,20nm,0.8s
LKWY Lake 38.71 318 P P 23 14 13.2 +1.1
LKWY IAmb IAmb 23 14 23.1
comp=Z,11nm,0.5s
LKWY Lake 38.71 318 P P 23 14 13.2 +1.1
LKWY pmax pmax
comp=Z,11nm,0.5s
SPUT South Promonto 38.71 312 IAmb IAmb 23 14 34.7
comp=Z,18nm,1.0s
H17A Grant Village 38.74 317 P P 23 14 13.5 +1.1
H17A Grant Village 38.74 317 P P 23 14 13.1 +0.7
baz=117
IRM Iron Mountain 38.74 300 P P 23 14 13.2 +0.9
baz=101,SNR=9.9
PSUT Pine Spring 38.80 307 P P 23 14 14.1 +1.2
PSUT IAmb IAmb 23 14 37.3
comp=Z,18nm,0.9s
YPP Pitchstone Pla 38.83 317 P P 23 14 14.8 +1.6
V12A Nelson 38.83 303 P P 23 14 14.9 +1.8
GCMT Greycliff 38.84 320 P P 23 14 13.1 0.0
YUF Upper Falls 38.84 318 P P 23 14 13.8 +0.5
SMTB Santa Maria do 38.87 135 eP P 23 14 13.6 +0.2
BC3 Big Chuckawall 38.91 299 P P 23 14 15.1 +1.4
baz=100
YFT Old Faithful 38.93 317 P P 23 14 15.4 +1.4
YNR Norris Junctio 38.95 318 P P 23 14 14.8 +0.7
SNDB Serra Nova Dou 38.95 142 eP P 23 14 14.9 +0.7
YNM Yellowstone No 38.97 318 P P 23 14 15.6 +1.3
YNM IAmb IAmb 23 14 30.9
comp=Z,20nm,0.7s
BGU Big Grassy Mou 38.98 311 P P 23 14 15.1 +0.8
ESJX Sierra Juarez 39.06 297 P P 23 14 16.3 +1.1
WTNK Soaring Height 39.06 303 P P 23 14 16.0 +1.0
WTNK IAmb IAmb 23 14 29.6
comp=Z,5.4nm,1.3s
YMR Madison River 39.11 318 P P 23 14 16.4 +1.0
YMR IAmb IAmb 23 14 41.2
comp=Z,16nm,0.4s
SHPR Sheep Range 39.26 304 P P 23 14 17.8 +1.0
GMRC Granite Mounta 39.28 301 P P 23 14 17.8 +0.9
baz=101
SPR3 Spring Creek 3 39.29 308 P P 23 14 18.1 +0.9
SPR3 IAmb IAmb 23 14 45.0
comp=Z,11nm,1.0s
YHB Horse Butte 39.30 318 P P 23 14 18.3 +1.3
PRN Pahroc Range 39.39 305 P P 23 14 18.6 +0.8
BELC Belle Mtn. Jos 39.41 300 P P 23 14 18.9 +0.9
baz=100
QLMT Earthquake Lak 39.48 318 P P 23 14 20.0 +1.4
MONP2 Monument Peak 39.58 298 P P 23 14 18.0 -1.5
baz=98
GO01 Chusmiza 39.61 172 IAmb IAmb 23 14 44.7
comp=Z,42nm,1.1s
PMD Palm Desert 39.66 299 P P 23 14 20.9 +0.9
PMD IAmb IAmb 23 14 35.4
comp=Z,17nm,1.4s
PFO Pinyon Flats O 39.73 299 LR LR 23 33 37.7
comp=Z,176nm,18.4s,baz=102,slow=41
PFO Pinyon Flats O 39.73 299 eP P 23 14 23.6 +3.0
PFO pmax pmax
comp=Z,20nm,1.6s
BOZ Bozeman (W) 39.96 319 P P 23 14 22.5 +0.1
baz=118,SNR=6.9
SALV Santo Antonio 40.01 151 eP P 23 14 23.4 +0.6
EGMT Eagleton 40.05 323 P P 23 14 22.8 -0.2
baz=122
R11A Troy Canyon, C 40.05 306 P P 23 14 23.9 +0.7
R11A Troy Canyon, C 40.05 306 P P 23 14 24.0 +0.7
baz=106
PB08 IPOC Station P 40.08 172 IAmb IAmb 23 14 45.5
comp=Z,19nm,1.0s
TPNV Topopah Spring 40.21 304 P P 23 14 26.6 +1.9
TPNV IAmb IAmb 23 14 39.9
comp=Z,23nm,1.2s
TPNV Topopah Spring 40.21 304 P P 23 14 26.6 +1.9
TPNV pmax pmax
comp=Z,23nm,1.3s
TPNV Topopah Spring 40.21 304 P P 23 14 26.1 +1.4
baz=103
GSC Goldstone, Bar 40.30 301 P P 23 14 27.4 +2.0
GSC Goldstone, Bar 40.30 301 P P 23 14 27.4 +2.0
GSC pmax pmax
comp=Z,18nm,1.3s
GSC Goldstone, Bar 40.30 301 P P 23 14 26.6 +1.3
baz=101
MURC Murrieta 40.33 299 P P 23 14 26.6 +1.1
baz=99
GWY Greenwater Val 40.37 303 P P 23 14 26.9 +0.9
TA01 Diego Aracena 40.38 174 P P 23 14 26.2 +0.3
TA01 IAmb IAmb 23 14 30.3
comp=Z,26nm,1.1s
MCMT McKenzie Canyo 40.39 317 P P 23 14 27.3 +1.2
WCT Wildcat Mounta 40.47 304 P P 23 14 27.9 +1.2
QSM Queen of Sheba 40.48 302 P P 23 14 28.1 +1.4
ELK Elko 40.49 310 LR LR 23 32 51.9
comp=Z,317nm,19.8s,baz=102,slow=39
ELS Elsinore Mount 40.53 299 P P 23 14 27.8 +0.5
BCYI Bear Canyon 40.53 316 P P 23 14 27.7 +0.4
LRM Limekiln Ridge 40.57 318 P P 23 14 27.9 +0.3
FURC Furnace Creek, 40.59 303 P P 23 14 28.5 +1.0
baz=102
HRY Holter Researc 40.60 320 P P 23 14 28.4 +0.7
FFC Flin Flon 40.63 336 P P 23 14 27.4 -0.2
FFC Flin Flon 40.63 336 P P 23 14 27.4 -0.2
FFC pmax pmax
comp=Z,11nm,1.1s
HLID Hailey 40.90 314 P P 23 14 31.2 +0.9
baz=112,SNR=7.0
PB01 IPOC Station P 40.93 173 P P 23 14 30.3 -0.2
MPMC Manual Prospec 41.00 302 P P 23 14 31.2 0.0
baz=101
GMN Gold Mountain 41.08 304 P P 23 14 33.0 +1.1
GRAC Grapevine Rang 41.09 304 P P 23 14 33.6 +1.8
GRAC IAmb IAmb 23 14 59.4
comp=Z,16nm,0.7s
EDW2 Edwards Air Fo 41.19 301 P P 23 14 33.3 +0.7
baz=100
TPH Tonopah 41.23 305 P P 23 14 34.7 +1.6
TPH Tonopah 41.23 305 P P 23 14 34.7 +1.6
TPH pmax pmax
comp=Z,40nm,0.9s
CCAC Calif City Air 41.25 301 P P 23 14 35.2 +2.0
CCAC IAmb IAmb 23 14 53.5
comp=Z,19nm,0.9s
LCH Last Change Ra 41.36 304 P P 23 14 35.7 +1.5
CWC Cottonwood Cre 41.54 303 P P 23 14 36.8 +1.2
baz=101
DSP Deep Springs 41.65 304 P P 23 14 37.4 +1.2
ISA Isabella, Lake 41.71 302 P P 23 14 39.4 +2.5
ISA Isabella, Lake 41.71 302 P P 23 14 39.4 +2.5
ISA pmax pmax
comp=Z,18nm,1.5s
MFID Camas Ranch 41.80 314 P P 23 14 39.0 +1.4
MSO Missoula 41.95 319 P P 23 14 39.9 +1.2
MSO Missoula 41.95 319 P P 23 14 38.8 0.0
baz=116
NV11 Mina Array Sit 42.02 306 P P 23 14 40.2 +0.6
KVN Kaiserville 42.13 307 P P 23 14 40.5 0.0
KVN Kaiserville 42.13 307 P P 23 14 40.5 0.0
KVN pmax pmax
comp=Z,17nm,1.2s
NVAR Mina Array Bea 42.14 306 P P 23 14 40.9 +0.3
comp=Z,1.2nm,0.5s,baz=88,slow=7.6,SNR=11
NVAR PcP PcP 23 16 36.0 +1.0
comp=Z,3.6nm,0.7s,baz=138,slow=3.8,SNR=6.4
NVAR LR LR 23 33 03.1
comp=Z,175nm,21.9s,baz=96,slow=38
comp=Z,1.2nm,0.5s
NVAR Mina Array Bea 42.14 306 P P 23 14 41.6 +1.0
SNCC San Nicolas Is 42.21 298 P P 23 14 41.6 +0.6
SNCC San Nicolas Is 42.21 298 P P 23 14 42.0 +1.0
baz=97
LHV Little Huntoon 42.25 305 P P 23 14 42.4 +1.2
SCZ2 Santa Cruz Isl 42.40 299 P P 23 14 42.6 +0.2
baz=98
OMMB Old Mammoth Mi 42.50 304 P P 23 14 44.6 +1.0
LVC Limon Verde 42.55 173 LR LR 23 34 24.0
comp=Z,304nm,19.9s,baz=332,slow=39
LVC Limon Verde 42.55 173 P P 23 14 43.9 -0.2
LVC Limon Verde 42.55 173 P P 23 14 43.9 -0.2
LVC pmax pmax
comp=Z,14nm,1.3s
LVC Limon Verde 42.55 173 eP P 23 14 43.9 -0.2
JTMT Jette 42.56 320 P P 23 14 44.3 +0.5
PKM Mcpherson Peak 42.67 300 P P 23 14 45.6 +0.8
baz=98
YERR Yerington 42.98 306 P P 23 14 48.5 +1.2
YERR IAmb IAmb 23 15 11.9
comp=Z,29nm,1.0s
SDBA SAO DESIDERIO 43.25 135 eP P 23 14 49.1 -0.5
BMO Blue Mountains 43.31 315 P P 23 14 50.0 +0.1
BMO Blue Mountains 43.31 315 P P 23 14 50.0 +0.1
BMO pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 43.66 305 P P 23 14 54.0 +1.3
CMB Columbia Colle 43.66 305 P P 23 14 54.0 +1.3
CMB pmax pmax
comp=Z,5.0nm,1.1s
BDFB Brasilia 43.78 142 P P 23 14 53.7 -0.2
comp=Z,9.2nm,1.0s,baz=325,slow=7.9,SNR=6.1
BDFB LR LR 23 33 17.2
comp=Z,322nm,20.9s,baz=321,slow=36
comp=Z,9.2nm,1.0s
BDFB Brasilia 43.78 142 P P 23 14 54.5 +0.6
BDFB IAmb IAmb 23 15 16.1
comp=Z,17nm,0.9s
BDFB Brasilia 43.78 142 P P 23 14 54.5 +0.6
BDFB pmax pmax
comp=Z,17nm,0.9s
BDFB Brasilia 43.78 142 eP P 23 14 54.4 +0.5
C2SB Chapadao do Su 43.82 150 eP P 23 14 55.0 +1.0
FRB Frobisher Bay 44.04 4 LR LR 23 31 50.8
comp=Z,282nm,20.6s,baz=190,slow=34
AFDM Forest Hills D 44.29 306 P P 23 14 58.8 +1.0
PB14 IPOC Station P 44.38 175 P P 23 14 59.0 +0.1
PB14 IAmb IAmb 23 15 00.0
comp=Z,42nm,1.4s
NEW Newport 44.51 320 LR LR 23 34 37.7
comp=Z,619nm,18.1s,baz=112,slow=38
NEW Newport 44.51 320 P P 23 14 59.4 +0.1
baz=114
G08A Pilot Rock 44.56 315 P P 23 15 00.4 +0.5
EDM Edmonton 44.77 328 P P 23 15 01.8 +0.4
EDM IAmb IAmb 23 15 17.4
comp=Z,17nm,0.8s
EDM Edmonton 44.77 328 P P 23 15 01.8 +0.4
EDM pmax pmax
comp=Z,17nm,0.8s
ORV Oroville 44.81 307 P P 23 15 04.2 +2.3
ORV Oroville 44.81 307 P P 23 15 04.2 +2.3
ORV pmax pmax
comp=Z,8.0nm,1.5s
GO02 Mina Guanaco 44.99 174 P P 23 15 03.6 0.0
GO02 IAmb IAmb 23 15 09.5
comp=Z,21nm,1.3s
C09A Chrisman Ranch 45.03 319 P P 23 15 03.8 +0.3
E08A Dider Farm, El 45.04 317 P P 23 15 03.9 +0.3
D08A Wollman Farm, 45.16 317 P P 23 15 04.8 +0.3
IPMB Ipameri, GO 45.54 144 eP P 23 15 07.8 -0.1
JANB Januaria 45.59 137 eP P 23 15 08.2 -0.1
RCBR Riachuelo 45.66 120 LR LR 23 34 07.2
comp=Z,171nm,20.7s,baz=101,slow=36
B08A Colville Reser 45.90 319 IAmb IAmb 23 15 23.2
comp=Z,9.6nm,0.9s
YBH Yreka Blue Hor 46.18 309 LR LR 23 36 55.4
comp=Z,391nm,18.1s,baz=105,slow=39
LTY Liberty 46.35 317 P P 23 15 14.4 +0.4
LTY IAmb IAmb 23 15 16.7
comp=Z,15nm,1.4s
HUMO Hull Mountain 46.56 310 P P 23 15 15.6 -0.1
AC02 Maricunga 46.69 174 P P 23 15 17.7 +0.4
LON Longmire 46.92 316 P P 23 15 18.5 +0.1
LON Longmire 46.92 316 P P 23 15 18.5 +0.1
LON pmax pmax
comp=Z,8.0nm,1.2s
KMPM Mount Pierce 46.96 307 IAmb IAmb 23 15 34.8
comp=Z,16nm,0.9s
PMNB Patos De Minas 46.99 143 eP P 23 15 20.1 +0.8
PCMB Pacaembu 47.01 150 eP P 23 15 20.0 +0.7
MC01 Montes Claros 47.06 138 eP P 23 15 20.4 +0.6
BRLDA Berland Lookou 47.29 327 P P 23 15 21.8 +0.5
BRLDA IAmb IAmb 23 15 48.8
comp=Z,16nm,1.0s
TRCB Terra Rica 47.41 152 eP P 23 15 23.8 +1.4
NBAN Anadia - AL 47.63 125 eP P 23 15 24.5 +0.2
GDU01 Guandu, BA 47.82 132 eP P 23 15 26.1 +0.4
BB19B Bebedouro 47.90 147 eP P 23 15 26.4 +0.1
LLLB Lillooet 48.28 321 P P 23 15 29.4 +0.5
LLLB IAmb IAmb 23 15 48.0
comp=Z,17nm,1.3s
DIAM Diamantina, MG 48.44 140 eP P 23 15 31.2 +0.6
NLWA Neilton Lookou 48.45 316 P P 23 15 31.3 +1.0
AC05 El Transito 48.57 175 P P 23 15 32.1 +0.7
CPUP Villa Florida 48.81 160 LR LR 23 38 35.1
comp=Z,291nm,19.1s,baz=340,slow=39
CPUP Villa Florida 48.81 160 eP P 23 15 34.8 +1.7
CMC01 Camacan, BA 48.99 133 eP P 23 15 35.2 +0.5
SFJD Kangerlussuaq 49.53 12 LR LR 23 35 32.1
comp=Z,162nm,18.9s,baz=224,slow=35
GUA01 Guaratinga, BA 49.66 134 eP P 23 15 40.2 +0.4
CO01 Juntas del Tor 49.72 175 P P 23 15 40.7 +0.4
CO01 IAmb IAmb 23 15 58.3
comp=Z,21nm,1.2s
SJMB Sao Joao De Ma 50.29 138 eP P 23 15 45.0 +0.4
VAO Valinhos 50.31 147 eP P 23 15 45.4 +0.7
NAN01 Guarapari, ES 50.35 136 eP P 23 15 45.4 +0.4
CO03 El Pedregal 50.53 176 IAmb IAmb 23 15 56.3
comp=Z,22nm,1.0s
YKA Yellowknife Ar 50.75 337 P P 23 15 47.1 -0.4
comp=Z,6.3nm,0.9s,baz=129,slow=8.1,SNR=11
YKA PcP PcP 23 17 04.1 -0.3
comp=Z,2.3nm,0.6s,baz=124,slow=3.8,SNR=5.0
YKA LR LR 23 38 12.1
comp=Z,624nm,18.5s,baz=128,slow=37
comp=Z,6.3nm,0.9s
PET01 Itanhaem-SP 51.21 148 eP P 23 15 52.1 +0.7
RIB01 Linhares ES 51.24 137 eP P 23 15 52.5 +0.7
ZON Zonda 51.40 174 IAmb IAmb 23 15 58.6
comp=Z,16nm,0.9s
DUB01 Friburgo-RJ 52.11 141 eP P 23 15 58.4 +0.1
PMOZ Porto Moniz, M 52.29 63 eP P 23 16 00.3 +0.6
BBB Bella Bella 52.49 321 LR LR 23 39 20.7
comp=Z,364nm,19.2s,baz=112,slow=37
PMAR Madeira 52.53 64 eP P 23 16 04.4 +2.8
MT03 Universidad Ad 53.18 176 P P 23 16 07.1 +1.1
CPSB Cacapava Do Su 53.88 158 eP P 23 16 10.8 -0.4
BO01 Tunca 54.04 177 IAmb IAmb 23 16 17.6
comp=Z,22nm,1.1s
WRGLY Wrigley 54.53 335 P P 23 16 15.9 +0.5
baz=119
PLTB Pedras Altas 55.06 158 eP P 23 16 19.6 -0.1
T35M Bob Quinn 55.13 326 P P 23 16 20.7 +0.7
baz=108
BBTS Babate 55.27 86 LR LR 23 35 58.9
comp=Z,167nm,19.6s,baz=266,slow=32
V35K Ketchikan 55.37 324 P P 23 16 22.7 +1.0
baz=106
DLBC Dease Lake 55.49 328 LR LR 23 41 17.8
comp=Z,343nm,18.8s,baz=101,slow=37
DLBC Dease Lake 55.49 328 IAmb IAmb 23 16 42.5

comp=Z,14nm,0.8s
DLBC **Dease Lake** 55.49 328 P P 23 16 23.3 +0.7
baz=110
TGTN **Hyland Airport** 55.79 332 P P 23 16 24.8 +0.1
baz=113
RES **Resolute Bay** 55.96 354 LR LR 23 41 27.6
comp=Z,244nm,18.0s,baz=188,slow=37
R33M **Jennings River** 56.26 329 P P 23 16 28.6 +0.4
baz=109
SUMG **Summit** 56.52 12 P P 23 16 30.5 +0.3
SUMG **Summit** 56.52 12 P P 23 16 30.5 +0.3
SUMG pmax pmax
comp=Z,53nm,1.1s
BORG **Borgarnes** 56.79 24 LR LR 23 39 07.1
comp=Z,184nm,18.5s,baz=238,slow=34
MMPY **Sheldon Lake,** 57.51 333 P P 23 16 37.4 +0.5
baz=111
S32K **Killisnoo** 57.52 326 P P 23 16 37.1 +0.2
baz=104
P32M **Atlin** 57.66 329 P P 23 16 38.0 0.0
baz=107
RPN **Rapa Nui** 57.69 217 LR LR 23 37 11.6
comp=Z,184nm,18.5s,baz=2.0,slow=32
WHY **Whitehorse** 58.52 330 P P 23 16 44.1 0.0
baz=106
M31M **Drury Creek, Y** 58.74 332 P P 23 16 45.6 +0.1
baz=108
PSBE **So Bento** 59.01 55 eP P 23 16 48.7 +0.9
PTEO **Sao Teotonio** 59.12 58 eP P 23 16 49.9 +1.4
O30N **Mendenhall** 59.12 330 P P 23 16 48.6 +0.4
baz=105
N31M **Braeburn, Yuko** 59.17 331 P P 23 16 48.5 0.0
baz=106
GO06 **Curarrehue** 59.19 177 P P 23 16 49.3 +0.4
GO06 IAmb IAmb 23 16 55.6
comp=Z,13nm,0.9s
PCAS **Casmilo, Conde** 59.23 55 eP P 23 16 49.0 -0.3
comp=Z,34nm,1.4s
PNCL **Nicolau / Gran** 59.26 57 eP P 23 16 50.2 +0.8
PGAV **Gavieira, Arco** 59.39 52 eP P 23 16 51.0 +0.5
comp=Z,29nm,1.3s
PMTG **Montargil** 59.46 56 eP P 23 16 51.1 +0.2
MESJ **Messejana** 59.51 57 eP P 23 16 52.0 +0.8
MESJ IAmb IAmb 23 16 52.6
comp=Z,17nm,1.0s
MESJ **Messejana** 59.51 57 eP P 23 16 52.2 +1.0
MESJ **Messejana** 59.51 57 eP P 23 16 52.0 +0.8
PCAB **Cabril** 59.57 53 eP P 23 16 52.0 +0.4
A36M **Sachs Harbour** 59.62 344 P P 23 16 50.9 -0.4
baz=122
EVO **Evora** 59.65 56 eP P 23 16 52.8 +0.7
PCVE **Castro Verde** 59.66 57 eP P 23 16 53.4 +1.1
comp=Z,44nm,2.0s
PVIS **Viseu** 59.68 54 eP P 23 16 52.2 -0.2
POLO **Lamas de Olo** 59.75 53 eP P 23 16 53.4 +0.5
comp=Z,13nm,1.1s
N30M **Aishikik Lake** 59.77 330 P P 23 16 53.0 +0.3
baz=104
HYT **Haines Junctio** 59.81 330 P P 23 16 52.0 -1.0
baz=104
PVRL **Vila Real** 59.81 53 eP P 23 16 53.9 +0.6
comp=Z,24nm,1.6s
PVAQ **Vaqueiros** 59.93 58 eP P 23 16 55.2 +1.1
comp=Z,43nm,1.5s
MTE **Manteigas** 59.95 54 eP P 23 16 54.7 +0.4
comp=Z,22nm,1.6s
MTE **Manteigas** 59.95 54 IAmb IAmb 23 17 00.5
comp=Z,12nm,1.0s
PESTR **Estremoz** 59.97 56 eP P 23 16 53.9 -0.5
comp=Z,16nm,1.8s
PESTR **Estremoz** 59.97 56 P P 23 16 54.0 -0.3
PESTR IAmb IAmb 23 17 12.4
comp=Z,15nm,1.5s
PCBR **Castelo Branco** 60.02 55 eP P 23 16 55.4 +0.7
comp=Z,22nm,1.8s
PMRV **Marv??o** 60.10 55 eP P 23 16 55.5 +0.2
comp=Z,20nm,1.4s
O29M **Mount Kennedy** 60.21 329 P P 23 16 55.4 -0.4
baz=102
F31M **Tsiigehtchic** 60.22 338 P P 23 16 55.5 0.0
baz=111
YUK6 **Outpost Mounta** 60.24 330 P P 23 16 56.6 +0.4
baz=103
MVO **Moncorvo** 60.33 53 eP P 23 16 57.5 +0.6
comp=Z,16nm,1.1s
PLCA **Paso Flores** 60.38 177 P P 23 16 57.1 +0.1
comp=Z,12nm,1.0s,baz=344,slow=7.5,SNR=8.6
comp=Z,12nm,1.0s
PLCA **Paso Flores** 60.38 177 IAmb IAmb 23 17 02.2
comp=Z,17nm,1.1s
PLCA **Paso Flores** 60.38 177 eP P 23 16 57.6 +0.6
PBAR **Barrancos** 60.43 57 eP P 23 16 58.2 +0.7
INK **Inuvik** 60.46 338 P P 23 16 56.6 -0.6
baz=112
YUK4 **Talbot Arm** 60.47 330 P P 23 16 57.6 -0.1
baz=103
AVE **Averroes** 60.47 62 P P 23 16 58.3 +0.4
PNL **Peninsula** 60.48 328 P P 23 16 55.5 -2.1
baz=101
LL04 **Puerto Octay** 60.48 178 P P 23 16 57.5 -0.1
EUNU **Eureka** 60.49 358 P P 23 16 57.6 +0.3
PBRG **Braganca** 60.53 53 eP P 23 16 58.7 +0.4
comp=Z,17nm,1.4s
K29M **Barlow Dome** 60.58 333 P P 23 16 57.3 -1.0
baz=105
M29M **Somme Creek** 60.64 331 P P 23 16 58.6 -0.1
baz=104
L29M **L29M** 60.65 332 P P 23 16 59.4 +0.7
baz=104
EPYK **Eagle Plains** 60.98 336 P P 23 17 00.9 0.0
baz=108
G30M **tAoh Zraii Nji** 60.98 337 P P 23 17 00.1 -0.7
baz=108
J29M **Klondike Camp** 61.03 334 P P 23 17 02.3 +1.0
I29M **Ogilvie Camp,** 61.31 335 IAmb IAmb 23 17 10.5
comp=Z,8.7nm,1.2s
I29M **Ogilvie Camp,** 61.31 335 P P 23 17 03.1 0.0
baz=106
YUK3 **Moose Creek** 61.41 330 P P 23 17 04.1 +0.1
baz=102
CTGM **Chitina Glacie** 61.67 329 IAmb IAmb 23 17 30.8
comp=Z,11nm,0.9s
CTG **Chitina Glacier** 61.67 329 P P 23 17 06.7 +1.0
baz=100
MESA **MESA** 61.84 328 P P 23 17 07.6 +0.7
baz=99
M27K **Edge Creek, AK** 62.18 331 P P 23 17 09.9 +0.7
baz=100
L27K **Beaver Creek,** 62.28 332 IAmb IAmb 23 17 34.5
comp=Z,7.3nm,0.9s
L27K **Beaver Creek,** 62.28 332 P P 23 17 09.6 -0.1
baz=101
EGAK **Eagle** 62.34 334 P P 23 17 09.7 -0.3
baz=102
PAB **San Pablo** 62.45 55 P P 23 17 12.1 +0.8
PAB IAmb IAmb 23 17 28.9
comp=Z,14nm,1.2s
PAB **San Pablo** 62.45 55 P P 23 17 12.1 +0.8
MCARA **McCarthy VSAT** 62.55 330 P P 23 17 12.0 +0.6
baz=99
K27K **Chicken** 62.58 333 P P 23 17 11.6 0.0
baz=101
M26K **Nabesna, AK** 62.70 331 P P 23 17 12.4 0.0
baz=100
I27K **Kandik River** 62.71 334 P P 23 17 12.7 +0.2
baz=102,SNR=5.1
ESDC **Sonseca Array** 62.73 55 P P 23 17 13.4 +0.3
comp=Z,7.0nm,0.9s,baz=278,slow=6.8,SNR=39
ESDC LR LR 23 39 46.7
comp=Z,165nm,20.3s,baz=269,slow=32
comp=Z,7.0nm,0.9s
ESDC **Sonseca Array** 62.73 55 IAmb IAmb 23 17 14.8
comp=Z,7.2nm,1.1s
ESBB **Sonseca Array** 62.73 55 IAmb IAmb 23 17 14.7
comp=Z,12nm,1.1s
H27K **Steamboat Moun** 62.81 335 P P 23 17 13.2 0.0
baz=103
MDT **Midelt** 62.87 63 LR LR 23 41 40.1
comp=Z,272nm,18.2s,baz=298,slow=33
GLB **Gilahina Butte** 62.93 330 P P 23 17 15.1 +1.1
GLB IAmb IAmb 23 17 39.1
comp=Z,11nm,1.1s
L26K **Log Cabin Wild** 62.96 331 IAmb IAmb 23 17 30.6
comp=Z,7.9nm,0.8s
L26K **Log Cabin Wild** 62.96 331 P P 23 17 14.5 +0.3
baz=100
G27K **Doyon Strip** 62.99 336 P P 23 17 14.6 +0.2
baz=103
KAIM **Kayak Island** 63.03 328 P P 23 17 14.8 +0.2
baz=97
EKA **Eskdalemuir Ar** 63.24 37 LR LR 23 39 32.1
comp=Z,105nm,21.9s,baz=258,slow=31
BMRM **Bremner River** 63.25 329 P P 23 17 17.4 +1.2
BMRM **Bremner River** 63.25 329 P P 23 17 16.7 +0.5
baz=97
I26K **Coal Creek Min** 63.28 334 IAmb IAmb 23 17 45.4
comp=Z,11nm,0.8s
I26K **Coal Creek Min** 63.28 334 P P 23 17 16.1 -0.2
baz=101
E27K **Coleen River** 63.29 337 P P 23 17 15.7 -0.6
baz=104
J26L **Joseph Creek** 63.31 333 IAmb IAmb 23 17 43.7
comp=Z,7.3nm,1.0s
J26L **Joseph Creek** 63.31 333 P P 23 17 16.8 +0.2
baz=100
N25K **Chitina, Valde** 63.33 330 P P 23 17 17.5 +0.8
N25K IAmb IAmb 23 17 42.0
comp=Z,9.0nm,0.9s
N25K **Chitina, Valde** 63.33 330 P P 23 17 17.6 +0.9
baz=98
DOT **Dot Lake** 63.38 332 IAmb IAmb 23 17 43.7
comp=Z,12nm,1.4s
SCRK **Sand Creek** 63.40 332 IAmb IAmb 23 17 34.1
comp=Z,10.0nm,1.1s
SCRK **Sand Creek** 63.40 332 P P 23 17 17.5 +0.3
baz=99,SNR=7.6
JMIC **Jan Mayen** 63.57 20 LR LR 23 41 11.4
comp=Z,59nm,21.4s,baz=254,slow=32
HARP **HAARP** 63.69 331 P P 23 17 19.0 0.0
baz=98
RIDG **Independent Ri** 63.74 332 IAmb IAmb 23 17 44.7
comp=Z,16nm,1.0s
RIDG **Independent Ri** 63.74 332 P P 23 17 19.6 +0.2
baz=98
EYAK **Cordova Ski Ar** 63.76 329 P P 23 17 20.6 +1.2
EYAK IAmb IAmb 23 17 48.8
comp=Z,11nm,1.0s
EYAK **Cordova Ski Ar** 63.76 329 P P 23 17 20.4 +1.0
baz=96
G26K **Porcupine Rive** 63.84 336 P P 23 17 20.1 +0.2
baz=101
PAX **Paxson** 63.91 331 IAmb IAmb 23 17 45.5
comp=Z,11nm,1.1s
PAX **Paxson** 63.91 331 P P 23 17 20.8 +0.2
baz=98
KLU **Klutina** 63.94 330 P P 23 17 21.4 +0.7
baz=96
Q23K **Middleton Isla** 63.95 327 P P 23 17 21.0 +0.3
baz=95
J25K **Salcha River,** 64.09 333 P P 23 17 22.0 +0.2
baz=98
F26K **Sheenjek River** 64.13 337 P P 23 17 22.2 +0.4
baz=101
M24K **Tolsona, Glenn** 64.13 330 P P 23 17 23.5 +1.5
M24K **Tolsona, Glenn** 64.13 330 P P 23 17 22.1 +0.1
baz=96,SNR=5.3
K24K **Donnelly Dome** 64.16 332 P P 23 17 22.3 +0.2
baz=98
PRP **Porcupine Dome** 64.29 334 IAmb IAmb 23 17 51.7
comp=Z,7.6nm,0.8s
PRP **Porcupine Dome** 64.29 334 P P 23 17 23.4 +0.3
baz=98,SNR=5.6
C27K **Jago River** 64.36 339 P P 23 17 23.2 -0.2
baz=102
GLI **Glacier Island** 64.45 329 IAmb IAmb 23 17 43.3
comp=Z,15nm,1.0s
GLI **Glacier Island** 64.45 329 P P 23 17 24.3 +0.3
baz=95
H25K **Birch Creek** 64.53 335 P P 23 17 24.5 +0.1
baz=99
SCM **Sheep Creek Mo** 64.64 330 P P 23 17 25.8 +0.4
baz=95
F25K **Christian Rive** 64.67 336 P P 23 17 26.7 +1.3
baz=100,SNR=9.8
G25K **Bearman Lake** 64.72 335 P P 23 17 26.6 +1.0
baz=99
E25K **Arctic Village** 64.73 337 P P 23 17 26.1 +0.3
baz=100,SNR=7.9
HDA **Harding Lake** 64.74 333 P P 23 17 26.8 +0.9
HDA IAmb IAmb 23 17 49.6
comp=Z,6.5nm,1.0s
HDA **Harding Lake** 64.74 333 P P 23 17 26.5 +0.6
baz=97
IL31 64.76 333 IAmb IAmb 23 17 48.8
comp=Z,5.1nm,0.8s
ILAR **Eielson Array** 64.76 333 P P 23 17 25.6 -0.3
comp=Z,1.4nm,0.8s,baz=97,slow=4.9,SNR=14
ILAR LR LR 23 47 21.3
comp=Z,378nm,18.4s,baz=68,slow=38
comp=Z,1.4nm,0.8s
ILAR **Eielson Array** 64.76 333 P P 23 17 25.4 -0.6
ILAR **Eielson Array** 64.76 333 P P 23 17 25.4 -0.6
DHY **Denali Highway** 64.79 331 P P 23 17 26.5 +0.1
DHY IAmb IAmb 23 17 53.3
comp=Z,14nm,1.2s
DHY **Denali Highway** 64.79 331 P P 23 17 25.8 -0.6
baz=96
M23K **Glacier View** 64.83 330 P P 23 17 26.4 -0.1
baz=95
C26K **Camden Bay** 64.83 339 P P 23 17 26.8 +0.4
baz=101
WAT6 **Susitna Watana** 64.91 331 P P 23 17 27.5 +0.4
baz=95
POKR **Poker Plat Res** 65.03 333 IAmb IAmb 23 17 45.9
comp=Z,11nm,1.2s
POKR **Poker Plat Res** 65.03 333 P P 23 17 27.8 0.0
baz=97
PWL **Port Wells** 65.05 329 P P 23 17 28.8 +0.8
PWL **Port Wells** 65.05 329 P P 23 17 28.2 +0.2
baz=94
SML **Sawmill** 65.12 330 P P 23 17 28.5 +0.1
baz=94
KNK **Knik Glacier** 65.15 329 P P 23 17 29.6 +1.0
KNK IAmb IAmb 23 17 53.2
comp=Z,15nm,1.0s
KNK **Knik Glacier** 65.15 329 P P 23 17 28.8 +0.3
baz=94
COLA **College** 65.18 333 P P 23 17 29.7 +1.0
COLA IAmb IAmb 23 17 46.4
comp=Z,7.1nm,0.8s
COLA **College** 65.18 333 eP P 23 17 30.8 +2.1
COLA pmax pmax
comp=Z,8.0nm,1.1s
TCOL **CIGO, UAF Yank** 65.19 333 P P 23 17 30.0 +1.3
TCOL IAmb IAmb 23 17 31.7
comp=Z,6.1nm,0.8s
ASCN **Ascension** 65.19 109 P P 23 17 29.9 +0.3
D25K **Kavik River** 65.23 338 P P 23 17 29.2 +0.2
baz=100
G24K **Handweenzic Riv** 65.25 335 P P 23 17 29.6 +0.5
baz=97
WAT1 **Susitna Watana** 65.30 331 P P 23 17 29.6 0.0
baz=95
H24K **Noodor Dome** 65.30 334 IAmb IAmb 23 17 58.3
comp=Z,7.9nm,0.9s
H24K **Noodor Dome** 65.30 334 P P 23 17 29.8 +0.2
baz=97,SNR=5.7
MDM **Murphy Dome** 65.35 333 IAmb IAmb 23 17 50.7
comp=Z,7.5nm,1.1s
PMR **Palmer** 65.48 330 P P 23 17 31.0 +0.3
PMR IAmb IAmb 23 17 57.3
comp=Z,7.2nm,0.6s
PMR **Palmer** 65.48 330 P P 23 17 31.0 +0.3
PMR pmax pmax
comp=Z,7.0nm,0.6s
PMR **Palmer** 65.48 330 P P 23 17 31.3 +0.6
baz=94
F24K **Squaw Lake** 65.51 336 P P 23 17 31.4 +0.5
baz=97,SNR=7.0
MCK **McKinley** 65.55 332 P P 23 17 31.7 +0.6
baz=95
SEW **Seward** 65.56 328 P P 23 17 31.8 +0.6
SEW IAmb IAmb 23 17 47.1
comp=Z,12nm,1.0s
SEW **Seward** 65.56 328 P P 23 17 31.1 -0.1
baz=92
NEA2 **Nenana** 65.68 333 P P 23 17 32.8 +0.9
baz=95
RC01 **Rabbit Creek A** 65.75 329 P P 23 17 32.9 +0.5
baz=93
E24K **Your Creek** 65.81 337 P P 23 17 33.3 +0.5
baz=97
I23K **Minto, Yukon-K** 65.85 333 IAmb IAmb 23 18 01.6
comp=Z,12nm,0.9s
I23K **Minto, Yukon-K** 65.85 333 P P 23 17 33.2 +0.2
baz=95,SNR=9.7
M22K **Willow** 65.96 330 P P 23 17 34.3 +0.5
H23K **Yukon River** 65.98 334 P P 23 17 34.0 +0.1
baz=95
CUT **Chulitna** 66.06 330 P P 23 17 34.8 +0.3
D24K **Happy Valley** 66.07 338 P P 23 17 33.6 -0.7
baz=97
C24K **Franklin Bluff** 66.10 338 P P 23 17 34.6 +0.1
baz=98,SNR=7.5
TRF **Thorofare Moun** 66.13 332 P P 23 17 35.4 +0.3
baz=93,SNR=5.6
BRSE **Bradley Lake S** 66.20 327 P P 23 17 35.4 0.0
baz=91
E23K **Chandalar** 66.23 337 P P 23 17 35.6 0.0
baz=96
SUA **Susitna One** 66.25 329 IAmb IAmb 23 18 04.5
comp=Z,15nm,1.1s
SUA **Susitna One** 66.25 329 P P 23 17 36.0 +0.2
baz=92
G23K **Bananza Creek** 66.26 335 P P 23 17 35.8 +0.2
baz=95,SNR=5.4
TOLK **Toolik Lake Re** 66.28 337 IAmb IAmb 23 17 54.8
comp=Z,9.9nm,0.9s
TOLK **Toolik Lake Re** 66.28 337 P P 23 17 36.2 +0.4
baz=96,SNR=6.7
COLD **Coldfoot** 66.37 336 IAmb IAmb 23 18 05.8
comp=Z,14nm,1.1s
COLD **Coldfoot** 66.37 336 P P 23 17 37.0 +0.7
baz=95
MLY **Manley** 66.42 333 IAmb IAmb 23 18 06.0
comp=Z,6.2nm,0.8s
MLY **Manley** 66.42 333 P P 23 17 36.5 -0.3
baz=94,SNR=5.4
BPAW **Bear Paw Mtn.** 66.47 332 IAmb IAmb 23 17 58.3
comp=Z,6.8nm,0.8s
BPAW **Bear Paw Mtn.** 66.47 332 P P 23 17 36.6 -0.5
baz=93
SKT **Skwentna** 66.64 330 P P 23 17 38.2 0.0
baz=92
D23K **Nanushuk River** 66.71 338 P P 23 17 38.2 -0.3
baz=95,SNR=9.3
H22K **Ishtalitna Cre** 66.74 334 P P 23 17 38.5 -0.3
baz=93
C23K **Itkillik River** 66.77 339 P P 23 17 38.9 +0.1
baz=96,SNR=7.6
G22K **Bettles** 66.86 335 P P 23 17 40.1 +0.7
baz=94
SPU **Mount Spurr** 66.87 329 P P 23 17 40.4 +0.7
CAST **Castle Rocks** 66.94 331 P P 23 17 39.4 -0.7
baz=92
N20K **Mount Spurr** 66.95 329 P P 23 17 39.8 -0.4
baz=91
SPCR **Spurr Chakacha** 66.95 329 P P 23 17 40.5 +0.3
baz=91
I21K **Tanana** 66.95 333 IAmb IAmb 23 18 08.4
comp=Z,12nm,0.8s
I21K **Tanana** 66.95 333 P P 23 17 40.1 0.0
baz=92
PPLA **Purkeypile** 66.97 331 P P 23 17 40.5 +0.1
baz=91
KOWA **Kowa** 67.03 82 P P 23 17 42.1 +0.7
CHUM **Lake Minchumin** 67.05 332 P P 23 17 41.0 +0.3
baz=92
KDAK **Kodiak Island** 67.15 325 LR LR 23 45 44.6
comp=Z,352nm,21.2s,baz=88,slow=35
KDAK **Kodiak Island** 67.15 325 eP P 23 17 42.8 +1.3
KDAK **Kodiak Island** 67.15 325 P P 23 17 41.4 -0.1
baz=89
F22K **John River** 67.16 336 P P 23 17 42.0 +0.7
baz=93
H21K **Melozitna Rive** 67.32 334 P P 23 17 42.1 -0.4
H21K IAmb IAmb 23 17 42.7
comp=Z,15nm,1.4s
H21K **Melozitna Rive** 67.32 334 P P 23 17 42.0 -0.4
baz=92
M20K **Styx River** 67.39 330 IAmb IAmb 23 18 00.0
comp=Z,9.1nm,0.8s
M20K **Styx River** 67.39 330 P P 23 17 43.2 +0.1
baz=90
OHAK **Old Harbor** 67.55 325 P P 23 17 44.0 0.0
baz=88
G21K **Allakaket** 67.63 335 P P 23 17 44.4 0.0
baz=92
F21K **Alatna River** 67.65 336 P P 23 17 44.2 -0.3
baz=92
L20K **Farewell, AK** 67.74 330 P P 23 17 44.8 -0.4
baz=90
K20K **Telida** 67.83 331 P P 23 17 45.3 -0.4
baz=90
J20K **Nowinta River** 67.86 332 IAmb IAmb 23 18 13.9
comp=Z,10nm,0.8s
J20K **Nowinta River** 67.86 332 P P 23 17 45.0 -0.8
baz=90
M19K **Big River Lodg** 67.99 330 IAmb IAmb 23 17 52.6
comp=Z,12nm,1.1s
M19K **Big River Lodg** 67.99 330 P P 23 17 46.8 +0.1
baz=89
O19K **Port Alsworth** 68.00 328 P P 23 17 47.0 +0.4
O19K **Port Alsworth** 68.00 328 P P 23 17 47.1 +0.4
baz=88
DOU **Dourbes** 68.03 43 dP P 23 17 47.5 +0.3
comp=Z,13nm,0.9s
N19K **Bonanza Creek** 68.06 329 P P 23 17 47.4 +0.1
baz=88,SNR=5.0
SII **Sitkinak Islan** 68.07 324 P P 23 17 47.8 +0.5
baz=87
BMRD **Maredsous** 68.12 43 dP P 23 17 48.1 +0.4
comp=Z,13nm,0.9s
L19K **White Mountain** 68.20 330 P P 23 17 48.9 +0.8
baz=89
BGES **Gesves** 68.32 43 dP P 23 17 49.5 +0.5
comp=Z,9.7nm,0.9s
Q18K **Katmai Hardscr** 68.41 326 P P 23 17 49.5 -0.1
baz=87
RCHB **Rochefort** 68.43 43 dP P 23 17 49.4 -0.2
comp=Z,7.3nm,0.0s
BCLA **Clavier** 68.45 43 kP P 23 17 50.0 +0.2
comp=Z,6.1nm,1.0s
O18K **Koktuh Hills** 68.45 328 P P 23 17 49.5 -0.2
baz=88
P18K **Big Mountain,** 68.48 327 P P 23 17 49.7 -0.2
baz=87
SSB **Saint Sauveur** 68.48 48 IAmb IAmb 23 17 51.3
comp=Z,7.0nm,0.9s
DBIC **Dimbokro** 68.53 91 P P 23 17 51.1 +0.2
comp=Z,3.1nm,0.8s,baz=356,slow=7.1,SNR=3.1
DBIC LR LR 23 43 19.6
comp=Z,70nm,21.3s,baz=300,slow=32
comp=Z,3.1nm,0.8s
BSTI **Sart Tilman** 68.60 42 dP P 23 17 51.5 +0.8
comp=Z,4.4nm,0.8s
N18K **Kilae Creek** 68.75 329 P P 23 17 51.3 -0.3
baz=87
MEM **Membach** 68.88 42 dP P 23 17 53.1 +0.7
comp=Z,9.8nm,0.8s
Q17K **Contact Creek** 68.89 326 P P 23 17 52.4 -0.2
baz=86
BHOU **Houvegnez** 68.91 43 dP P 23 17 53.5 +0.9
comp=Z,8.7nm,1.2s
BTNL **Ternell** 68.96 42 dP P 23 17 53.5 +0.5
comp=Z,6.1nm,0.8s
WLF **Walferdange** 69.07 43 dP P 23 17 54.5 +0.9
comp=Z,10nm,1.0s
P17K **Kvichak River** 69.12 327 P P 23 17 53.7 -0.1
baz=86
O17K **Koliganek Bris** 69.41 328 P P 23 17 55.2 -0.3
baz=86
ECH **Echery** 69.91 45 IAmb IAmb 23 18 00.3
comp=Z,16nm,1.0s
O16K **Kokwok River B** 69.93 327 P P 23 17 58.1 -0.7
baz=85
KBS **Kingsbay** 69.94 12 P P 23 17 59.1 +0.5
KBS **Kingsbay** 69.94 12 P P 23 17 59.1 +0.5
KBS pmax pmax
comp=Z,96nm,1.5s
BNI **Bardonecchia** 70.01 48 IAmb IAmb 23 18 18.7
comp=Z,8.0nm,1.1s
KONO **Kongsberg** 70.06 32 iP P 23 18 00.1 +0.5
KONO pmax pmax
comp=Z,60nm,1.6s
N16K **Nishlik Lake** 70.19 328 P P 23 18 00.6 +0.2
baz=85
SENIN **Lac Senin/Sane** 70.25 47 IAmb IAmb 23 18 03.1
comp=Z,12nm,0.8s
NAO01 **NORSAR Array S** 70.59 31 P P 23 18 03.5 +0.7
BFO **Black Forest** 70.66 45 P P 23 18 03.3 -0.3
BFO **Black Forest** 70.66 45 P P 23 18 03.3 -0.3
BFO pmax pmax

comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 70.72 31 P **P** **23 18 04.4 +0.7**
comp=Z,17nm,1.0s,baz=279,slow=6.2
NB2 NORSAR Subarra 70.72 31 P **P** **23 18 04.4 +0.7**
baz=279,slow=6.2
NOA NORSAR Array B 70.72 31 P **P** **23 18 04.2 +0.5**
comp=Z,13nm,1.0s,baz=277,slow=6.3,SNR=16
NOA LR LR 23 46 12.8
comp=Z,56nm,19.6s,baz=295,slow=34
comp=Z,13nm,1.0s
SPITS Spitsbergen Ar 70.86 13 LR LR 23 46 43.4
comp=Z,150nm,21.9s,baz=245,slow=34
DAVA Damuels 71.86 45 *i* P **P** **23 18 11.7 +0.7**
comp=Z,6.2nm,0.6s
DAVOX Davos/Dischmat 71.95 46 LR LR 23 46 36.3
comp=Z,129nm,18.2s,baz=267,slow=33
HFS Hagfors 72.06 32 LR LR 23 45 43.5
comp=Z,48nm,21.9s,baz=274,slow=32
FUORN Ofenpass-Fuorn 72.23 46 IAmb IAmb 23 18 15.3
comp=Z,16nm,0.9s
RETA Reutte 72.42 45 *e*P **P** **23 18 15.0 +0.8**
comp=Z,17nm,0.9s,SNR=8.3
FETA Feichten 72.48 46 *i* P **P** **23 18 15.5 +0.8**
comp=Z,11nm,0.8s,SNR=9.0
MOTA Moosalm 72.67 45 *e*P **P** **23 18 16.5 +0.6**
comp=Z,13nm,0.9s,SNR=6.7
TOA0 Torodi Ar. Sit 72.73 82 IAmb IAmb 23 18 28.8
comp=Z,7.2nm,0.9s
TORD Torodi Ar. Bea 72.73 82 P **P** **23 18 16.3 -0.3**
comp=Z,11nm,0.6s,baz=279,slow=3.6,SNR=23
TORD LR LR 23 47 10.0
comp=Z,175nm,19.5s,baz=230,slow=33
comp=Z,11nm,0.6s
SQTA Sankt Quirin 72.76 45 *i* P **P** **23 18 16.9 +0.6**
comp=Z,12nm,1.0s,SNR=5.8
WATA Walderalm 72.99 45 *i* P **P** **23 18 17.9 +0.2**
comp=Z,3.1nm,0.7s
NKC Novy Kostel 73.01 42 *e*P **P** **23 18 18.5 +0.9**
WTTA Wattenberg 73.04 45 *i* P **P** **23 18 18.5 +0.5**
comp=Z,7.8nm,0.9s
CLL Collm 73.16 41 IAmb IAmb 23 18 19.4
comp=Z,6.8nm,0.8s
CLL Collm 73.16 41 *i* P **P** **23 18 18.2 -0.2**
CLL *e*S **SKiKP** **23 27 49.0 -0.9**
CLL pmax pmax
comp=Z,14nm,1.2s
CLL Collm 73.16 41 *i* P **P** **23 18 18.2 -0.2**
comp=Z,14nm,1.2s
CLL *e*pP **pP** **23 18 23.0 -0.3**
CLL *e*PcP **PcP** **23 18 36.0 +1.0**
CLL *e*S **SKiKP** **23 27 49.0 -0.9**
CLL *e*SSSS 23 37 24.0
CLL Lm MLR 23 48 00.0
comp=Z,100nm,18.3s
CTI Castel Tesino 73.28 47 IAmb IAmb 23 18 22.0
comp=Z,5.3nm,0.7s
FALS False Pass 73.46 323 P **P** **23 18 20.8 +0.7**
baz=79
ABTA Abfaltersbach 73.73 46 *e*P **P** **23 18 22.4 +0.3**
comp=Z,8.9nm,0.9s,SNR=5.1
KEST Kesra 73.75 57 P **P** **23 18 22.3 0.0**
comp=Z,26nm,0.8s,baz=217,slow=3.3,SNR=25
comp=Z,26nm,0.8s
CIMO Cimolais 73.77 46 IAmb IAmb 23 18 23.0
comp=Z,7.2nm,0.8s
BRG Berggiesshubel 73.82 41 *i* P **P** **23 18 23.1 +0.8**
BRG Amp 23 18 24.8
comp=Z,10nm,1.0s
BRG Berggiesshubel 73.82 41 *i* P **P** **23 18 23.1 +0.8**
BRG pmax pmax
comp=Z,10.0nm,1.0s
KHC Kasperske Hory 73.94 43 IAmb IAmb 23 18 25.0
comp=Z,10nm,1.0s
KHC Kasperske Hory 73.94 43 *e*P **P** **23 18 23.8 +0.6**
KHC *e*PCP **PcP** **23 18 37.1 -1.4**
KHC AMS AMS 23 53 30.0
comp=Z,200nm,20.8s
STAL STALIGIAL 73.96 46 IAmb IAmb 23 18 24.1
comp=Z,10nm,1.0s
CLUD Cludinico 74.04 46 IAmb IAmb 23 18 24.6
comp=Z,11nm,0.9s
GEC2 GERESS Array S 74.08 43 IAmb IAmb 23 18 25.6
comp=Z,13nm,1.1s
GERES GERESS Array B 74.08 43 P **P** **23 18 24.5 +0.5**
comp=Z,5.7nm,0.8s,baz=276,slow=4.8,SNR=36
comp=Z,5.7nm,0.8s
KBA Koelnbreinsper 74.22 45 *i* P **P** **23 18 25.2 +0.2**
comp=Z,5.1nm,0.7s
PVCC Panska Ves 74.28 42 *e*P **P** **23 18 25.8 +0.8**
BIOA Bad Ischl, Aus 74.28 45 *i* P **P** **23 18 25.6 +0.4**
comp=Z,18nm,1.2s,SNR=7.9
PRU Pruhonice 74.38 42 *e*P **P** **23 18 26.3 +0.7**
MURB Monte Urbino 74.48 49 IAmb IAmb 23 18 26.5
comp=Z,14nm,0.8s
CKRC Cesky Krumlov 74.48 43 *e*P **P** **23 18 24.7 -1.6**
MYKA Terra Mystica 74.52 46 *e*P **P** **23 18 26.8 +0.3**
comp=Z,5.9nm,0.8s
SABO M.te Sabotino 74.63 46 P **P** **23 18 27.6 +0.4**
SABO IAmb IAmb 23 18 29.1
comp=Z,40nm,1.5s
CESX Cesi 74.66 50 IAmb IAmb 23 18 28.6
comp=Z,16nm,0.9s
MOA Molln 74.66 44 *e*P **P** **23 18 27.8 +0.4**
comp=Z,11nm,0.7s,SNR=6.8
ARCES ARCESS Array B 74.98 21 P **P** **23 18 28.7 0.0**
comp=Z,10nm,0.7s,baz=288,slow=4.1,SNR=29
ARCES LR LR 23 46 44.2
comp=Z,93nm,21.3s,baz=276,slow=32
comp=Z,10nm,0.7s
ARCES ARCESS Array B 74.98 21 IAmb IAmb 23 18 29.7
comp=Z,12nm,0.8s
OBKA Obir 75.15 46 *e*P **P** **23 18 29.9 -0.4**
OBKA Obir 75.15 46 *i* P **P** **23 18 30.6 +0.3**
comp=Z,12nm,0.9s
UPC Upice 75.19 41 *e*P **P** **23 18 31.2 +0.9**
CHVC Chvalec 75.19 41 *e*P **P** **23 18 31.2 +0.8**
CEY Cerknica 75.25 46 *e*P **P** **23 18 30.9 +0.1**
GKP Gorka Klasztor 75.29 38 *e*P **P** **23 18 31.6 +0.8**
OSTC Ostas 75.30 41 *e*P **P** **23 18 31.9 +0.9**
OSTC *ex* x 23 18 44.7
DPC Dobruska-Polom 75.42 41 *e*P **P** **23 18 32.4 +0.7**
SOKA Soboth 75.44 45 *e*P **P** **23 18 31.9 -0.1**
comp=Z,8.8nm,1.0s,SNR=7.7
ARSA Arzberg 75.63 45 *i* P **P** **23 18 33.3 +0.3**
comp=Z,7.8nm,1.3s
CONA Conrad Observa 75.69 44 *i* P **P** **23 18 34.1 +0.7**
comp=Z,7.4nm,0.7s
KRUC Moravsky 75.77 43 *e*P **P** **23 18 34.0 +0.4**
KRLC Kraliky 75.77 42 *e*P **P** **23 18 34.5 +0.8**
VRAC Vranov 75.83 42 ⇓P **P** **23 18 34.8 +0.8**
VRAC Vranov 75.83 42 LR LR 23 48 06.7
comp=Z,150nm,19.2s,baz=276,slow=33
VRAC Vranov 75.83 42 *e*P **P** **23 18 34.7 +0.7**
CRES Cresnjev 75.93 46 *e*P **P** **23 18 34.9 +0.3**
RONA Rosalía, Austr 76.03 44 *e*P **P** **23 18 36.0 +0.7**
comp=Z,15nm,0.7s,SNR=11
SOP Sopron 76.21 44 P **P** **23 18 37.0 +0.8**
MORC Moravsky Berou 76.32 42 ⇓P **P** **23 18 37.6 +0.8**
MORC Moravsky Berou 76.32 42 IAmb IAmb 23 18 38.9
comp=Z,12nm,1.0s
MORC Moravsky Berou 76.32 42 *e*P **P** **23 18 37.6 +0.8**
ZST Bratislava 76.43 43 *e*P **P** **23 18 38.2 +0.8**
MODS Modra-Piesok 76.50 43 *e*P **P** **23 18 38.9 +1.0**
MAUC Maruska 76.60 42 *e*P **P** **23 18 40.0 +1.6**
JAVC Velka Javorina 76.63 43 *e*P **P** **23 18 40.5 +1.9**
OKC Ostrava-Krasne 76.68 42 *e*P **P** **23 18 40.2 +1.4**
MPLH Magyarpolny 76.98 44 P **P** **23 18 41.2 +0.6**
A050A Klekovaca 77.00 47 *e*P **P** **23 18 41.6 +0.8**
A051A Mrakovica 77.12 47 *e*P **P** **23 18 41.8 +0.3**
VAE Valguarnera 77.27 55 LR LR 23 51 24.2
comp=Z,156nm,18.0s,baz=303,slow=35
SRO Srobarova 77.32 44 *e*P **P** **23 18 43.7 +1.3**
BLY Banja Luka 77.38 47 *e*P **P** **23 18 43.6 +0.8**
MGRS Mrkonjic Grad 77.40 47 *e*P P 23 18 34.5 -8.5
CSKK Cskako 77.40 44 P **P** **23 18 43.6 +0.6**
VYHS Vyhne 77.47 43 *e*P **P** **23 18 44.5 +1.2**
A052A Srbac 77.51 46 *e*P **P** **23 18 44.6 +1.0**
SRKY Kupres RS 77.55 48 *e*P **P** **23 18 45.0 +1.1**
OJC Ojcow 77.61 41 IAmb IAmb 23 18 44.7
comp=Z,19nm,1.0s
KOVH Kovagotottos 77.64 45 P **P** **23 18 45.2 +1.0**
FINES FINESS Array B 77.64 29 P **P** **23 18 44.3 +0.3**
comp=Z,15nm,0.7s,baz=287,slow=3.0,SNR=40
FINES LR LR 23 48 15.4
comp=Z,117nm,22.0s,baz=272,slow=32
comp=Z,15nm,0.7s
FINES FINESS Array B 77.64 29 P **P** **23 18 43.9 -0.1**
FINES FINESS Array B 77.64 29 P **P** **23 18 43.9 -0.1**
LANS Liptovska Anna 77.69 42 *e*P **P** **23 18 46.8 +2.2**
BUD Budapest 77.87 44 P **P** **23 18 46.4 +0.9**
MORH Mrgy, Hungar 77.97 45 ⇓P **P** **23 18 46.6 +0.5**
MORH Mrgy, Hungar 77.97 45 P **P** **23 18 46.4 +0.3**
MATE Matera 78.14 51 ⇑P **P** **23 18 47.3 +0.1**
STON Ston 78.25 49 *e*P **P** **23 18 46.0 -1.7**
PSZ Piszkesteto 78.31 43 ⇓P **P** **23 18 49.6 +1.5**
PSZ Piszkesteto 78.31 43 P **P** **23 18 49.0 +1.0**
PSZ IAmb IAmb 23 19 08.8
comp=Z,19nm,1.1s
PSZ Piszkesteto 78.31 43 P **P** **23 18 49.1 +1.0**
PSZ pmax pmax
comp=Z,19nm,1.1s
PSZ Piszkesteto 78.31 43 P **P** **23 18 49.2 +1.1**
APA Apatity 78.38 22 ⇓*i* P **P** **23 18 47.2 -0.8**
APA pmax pmax
comp=Z,15nm,0.9s
PABE Paberze 78.47 35 P **P** **23 18 49.5 +0.9**
PABE Paberze 78.47 35 *e*P **P** **23 18 49.3 +0.6**
TIP Timpagrande 78.59 52 ⇑P **P** **23 18 49.3 -0.5**
TIP Timpagrande 78.59 52 IAmb IAmb 23 18 49.9
comp=Z,8.6nm,0.8s
HAPS Han Pijesak,Bl 78.78 47 *e*P **P** **23 18 52.1 +1.3**
BRY Bratogost 78.83 48 *e*P **P** **23 18 52.1 +1.0**
HCY Herceg Novi 78.93 49 *e*P **P** **23 18 50.8 -0.7**
VSU Vasula 78.94 32 ⇓*e*P **P** **23 18 51.3 +0.1**
VSU pmax pmax
comp=Z,146nm,1.1s
VSU Vasula 78.94 32 *e*P **P** **23 18 51.8 +0.6**
UPM Unac-Piva 79.00 48 *e*P **P** **23 18 53.3 +1.2**
FRGS Fruska Gora 79.05 46 ⇑P **P** **23 18 53.3 +1.1**
FRGS Fruska Gora 79.05 46 *e*P **P** **23 18 52.7 +0.5**
BBLS Lazići 79.16 47 *e*P **P** **23 18 53.4 +0.6**
RUDO Rudo 79.20 48 *e*P **P** **23 18 52.9 -0.1**
AMBH Ambrzfalva 79.31 45 ⇑P **P** **23 18 54.9 +1.5**
PDG Podgorica 79.47 49 ⇓P **P** **23 18 55.1 +0.7**
PDG Podgorica 79.47 49 P **P** **23 18 55.0 +0.5**
PDG IAmb IAmb 23 18 56.7
comp=Z,16nm,1.1s
DIVS Divibare 79.49 47 IAmb IAmb 23 18 57.0
comp=Z,12nm,0.9s
DIVS Divibare 79.49 47 *e*P **P** **23 18 55.5 +0.8**
KOLS Kolonicke sedl 79.52 42 *e*P **P** **23 18 56.6 +2.0**
SCTE Santa Cesarea 79.60 51 P **P** **23 18 55.3 +0.1**
SCTE IAmb IAmb 23 18 59.5
comp=Z,19nm,1.0s
ISAL Salakas 79.61 35 *e*P **P** **23 18 55.8 +0.9**
UZH Uzhgorod 79.63 42 *d* *i* P **P** **23 18 55.0 -0.2**
UZH *e* 23 18 59.0
UZH *i* 23 19 04.0
IIGN Ignalina 79.74 35 *e*P **P** **23 18 56.7 +1.1**
LTVH Ltavrtes, Hu 79.77 43 ⇑P **P** **23 18 57.0 +1.1**
LTVH Ltavrtes, Hu 79.77 43 P **P** **23 18 57.8 +1.9**
VALR Valaam 79.84 28 ⇓*e*P **P** **23 18 56.5 +0.5**
VALR pmax pmax
comp=Z,86nm,0.8s
TRPA Tarpa 79.94 42 ⇓P **P** **23 18 58.4 +1.6**
TRPA Tarpa 79.94 42 P **P** **23 18 57.8 +0.9**
SIRR Siria 79.95 44 ⇓P **P** **23 18 57.9 +0.9**
NACGM Naroch 80.19 35 ⇑*e*P **P** **23 18 59.0 +0.9**
baz=290
PUL Pulkovo 80.19 30 ⇓*e*P **P** **23 18 59.3 +1.3**
PUL pmax pmax
comp=Z,87nm,0.6s
TIR Tirane 80.23 50 P **P** **23 18 59.2 +0.6**
TIR IAmb IAmb 23 19 01.2
comp=Z,20nm,1.1s
TIR Tirane 80.23 50 P **P** **23 18 59.2 +0.6**
TIR pmax pmax
comp=Z,20nm,1.1s
LVV L'vov 80.33 41 *e*P **P** **23 19 00.0 +1.0**
MDVR Moldovita 80.45 46 ⇑P **P** **23 19 01.1 +1.3**
DRGR 80.48 44 ⇑P **P** **23 19 01.4 +1.4**
BMR Baia Mare 80.70 43 ⇑P **P** **23 19 02.7 +1.7**
DEV Deva 80.90 45 ⇑P **P** **23 19 03.3 +1.2**
HERR Herculane 80.90 46 ⇑P **P** **23 19 03.3 +1.2**
MNK Minsk 80.93 35 ⇑P **P** **23 19 00.3 -1.7**
MNK *i* 23 22 03.5
MNK *i* S **S** **23 29 05.4 -4.6**
MNK *i* SS **SS** **23 34 25.0 +1.5**
MNK *i* SSS SSS 23 37 50.5
MNK pmax pmax
comp=Z,53nm,1.1s
MNK pmax pmax
comp=E,4.0nm,1.2s
MNK Minsk 80.93 35 *i* P **P** **23 19 00.3 -1.7**
comp=E,4.0nm,1.2s
MNK *i* P **P** **23 19 00.3 -1.7**
MNK *i* P **P** **23 19 00.3 -1.7**
comp=Z,53nm,1.1s,baz=291
MNK *i* PP **PP** **23 22 03.6 -2.7**
MNK *i* PPP PPP 23 23 51.1
MNK *i* S **S** **23 29 05.4 -4.6**
MNK *i* S **S** **23 29 05.4 -4.6**
MNK *i* SS **SS** **23 34 23.2 -0.3**
MNK *i* SSS SSS 23 37 50.5
MNK *i* LQ LQ 23 49 35.0
MNK *i* LR LR 23 54 02.3
MNK *i* LRM MLR 00 02 47.3
comp=E,12nm,14.4s
MNK *i* LRM MLR 00 03 03.4
comp=Z,117nm,16.1s
GZR Gura Zlata 80.97 45 ⇑P **P** **23 19 04.1 +1.5**
OHR Ohrid 80.97 50 *i* P **P** **23 19 04.8 +2.1**
DJES Djerdap 81.04 46 ⇑P **P** **23 19 04.0 +1.2**
KBN Korca 81.12 50 P **P** **23 19 04.9 +1.4**
KBN IAmb IAmb 23 19 06.4
comp=Z,19nm,1.0s
KBN Korca 81.12 50 P **P** **23 19 04.9 +1.4**
KBN pmax pmax
comp=Z,19nm,1.0s
SKO Skopje 81.16 49 *i* P **P** **23 19 04.5 +0.9**
ARCR ARCALIA 81.44 43 ⇑P **P** **23 19 06.5 +1.5**
BLKB Belogradchik 81.48 47 ⇑P **P** **23 19 06.6 +1.3**
LOT Lotru 81.61 45 ⇑P **P** **23 19 06.9 +0.8**
STIP Stip 81.78 49 *i* P **P** **23 19 08.1 +1.2**
BUR08 Bucovina Ar. S 81.79 42 P **P** **23 19 08.1 +1.1**
BUR08 IAmb IAmb 23 19 09.4
comp=Z,12nm,1.0s
BURAR Bucovina Array 81.81 42 ⇑P **P** **23 19 08.4 +1.4**
BURAR Bucovina Array 81.81 42 IAmb IAmb 23 19 09.8
comp=Z,11nm,0.9s
VAY Valandovo 82.17 49 *i* P **P** **23 19 10.3 +1.4**
VTS Vitosha 82.20 48 ⇓P **P** **23 19 10.4 +1.2**
VTS Vitosha 82.20 48 P **P** **23 19 10.1 +0.8**
VTS IAmb IAmb 23 19 11.5
comp=Z,12nm,0.9s
VTS Vitosha 82.20 48 P **P** **23 19 10.1 +0.8**
VTS pmax pmax
comp=Z,12nm,0.9s
VTS Vitosha 82.20 48 *e*P **P** **23 19 10.7 +1.4**
ARR Arges 82.22 45 ⇑P **P** **23 19 10.6 +1.5**
DRBR Darabani 82.48 41 ⇑P **P** **23 19 10.5 +0.2**
DOPR Dopca 82.50 44 ⇑P **P** **23 19 12.1 +1.5**
LIT Litokhoron 82.52 50 P **P** **23 19 11.3 +0.5**
LIT IAmb IAmb 23 19 12.5
comp=Z,9.3nm,0.9s
LIT Litokhoron 82.52 50 P **P** **23 19 11.3 +0.5**
LIT pmax pmax
comp=Z,9.0nm,0.9s
BIZ Bicaz 82.62 43 ⇓P **P** **23 19 13.1 +1.9**
PPT Papeete 82.63 248 LR LR 23 50 23.6
comp=Z,48nm,18.3s,baz=9.5,slow=32
PPT2 Papeete2 82.64 248 *e*LR LR 23 45 07.3
comp=Z,64nm,23.2s
OZUR 82.72 44 ⇓P **P** **23 19 12.8 +1.0**
HUMR Humele 82.74 45 ⇑P **P** **23 19 12.9 +1.1**
MMB Musomiste 82.90 48 *e*P **P** **23 19 14.6 +1.8**
MLR Muntele Rosu 83.04 44 ⇑P **P** **23 19 15.5 +2.0**
MLR Muntele Rosu 83.04 44 LR LR 23 54 22.6
comp=Z,128nm,18.1s,baz=296,slow=34
COVR Voineasa-Covas 83.08 44 ⇑P **P** **23 19 15.6 +2.0**
TESR Tescani 83.12 43 ⇓P **P** **23 19 14.5 +0.7**
AKASG Malin Array Be 83.12 39 P **P** **23 19 12.8 -0.8**
comp=Z,10.0nm,0.9s,baz=288,slow=3.9,SNR=30
AKASG LR LR 23 54 01.2
comp=Z,123nm,19.1s,baz=293,slow=34
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 83.12 39 P **P** **23 19 12.8 -0.8**
AKASG Malin Array Be 83.12 39 *i* P **P** **23 19 13.6 -0.1**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 83.12 39 P **P** **23 19 13.7 0.0**
AKBB IAmb IAmb 23 19 14.2
comp=Z,10nm,0.8s
AKBB Malin Array Si 83.12 39 P **P** **23 19 13.7 0.0**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AK05 Malin Array Si 83.14 39 P **P** **23 19 13.7 -0.1**
PLOR Plostina 83.36 44 ⇑P **P** **23 19 16.1 +1.0**
VRI Vrincioaia 83.41 44 ⇑P **P** **23 19 16.4 +1.1**
SGRR Singureni 83.51 45 ⇓P **P** **23 19 16.0 +0.2**
SULR 83.53 45 ⇑P **P** **23 19 16.4 +0.5**
RZN Rozhen 83.56 48 *e*P **P** **23 19 18.0 +1.6**
ISR Istrita 83.56 44 ⇓P **P** **23 19 16.4 +0.3**
GHRR 83.78 43 ⇑P **P** **23 19 18.5 +1.4**
KLMR Klimovskoe 83.82 27 *e*P **P** **23 19 15.4 -1.6**
KLMR pmax pmax
comp=Z,57nm,1.2s
KLMR Klimovskoe 83.82 27 *e*P **P** **23 19 15.5 -1.6**
KLMR AMP 23 19 18.7
comp=Z,57nm,1.2s
DIM Dimitrovgrad 84.00 48 *e*P **P** **23 19 20.0 +1.6**
KDZ Kurdzhali 84.06 48 *e*P **P** **23 19 19.5 +0.8**
VLDR Vladesti 84.29 43 ⇓P **P** **23 19 20.0 +0.2**
RDO Rodhopi 84.33 48 P **P** **23 19 20.8 +0.7**
MILM Milestii Mici 84.35 42 ⇓P **P** **23 19 20.6 +0.6**
CFR Carcaliu 84.59 44 ⇑P **P** **23 19 21.4 +0.2**
HARR Harsova 84.64 44 ⇑P **P** **23 19 21.9 +0.3**
ICOR Ion Corvin 84.77 45 ⇓P **P** **23 19 23.2 +1.0**
ALN Alexandroupoli 84.78 48 P **P** **23 19 23.2 +0.9**
ALN Alexandroupoli 84.78 48 P **P** **23 19 23.2 +0.9**
ALN pmax pmax
comp=Z,18nm,0.7s
TBI Tubuai 84.85 243 *e*LR LR 23 46 08.6
comp=Z,122nm,38.2s
TPGR Topolog 84.90 44 ⇓P **P** **23 19 23.3 +0.4**
TIRR Tirgusor 85.05 45 ⇓P **P** **23 19 23.9 +0.3**
JURR Jurilovca 85.23 44 ⇑P **P** **23 19 25.6 +1.1**
OBN Obninsk 85.24 33 LR LR 23 55 50.2
comp=Z,16nm,18.2s,baz=346,slow=34
OBN Obninsk 85.24 33 P **P** **23 19 24.5 +0.1**
OBN Obninsk 85.24 33 *d* *i* P **P** **23 19 24.0 -0.3**
OBN *e* 23 22 43.1
OBN *e*S **S** **23 29 53.8 0.0**
OBN *e*SS **SS** **23 35 33.0 +5.9**
OBN *e*SSS SSS 23 39 02.1
OBN pmax pmax
comp=Z,44nm,1.0s
MOS Moscow 85.47 32 *e*P **P** **23 19 24.4 -1.1**
MOS pmax pmax
comp=Z,43nm,1.2s
PRGR Permogore 85.88 24 *e*P **P** **23 19 27.4 0.0**
PRGR pmax pmax
comp=Z,43nm,0.8s
IDI Anoyia 85.98 54 P **P** **23 19 28.9 +0.4**
SHEM Shemya Is, Ala 86.67 325 LR LR 23 58 32.5
comp=Z,117nm,19.5s,baz=96,slow=36
LPSR Galich'ya Gora 87.69 34 *e*P **P** **23 19 35.5 -0.9**
LPSR pmax pmax
comp=Z,40nm,0.8s
BORA Eskisehir 88.27 48 P **P** **23 19 39.6 0.0**
BORA IAmb IAmb 23 19 40.6
comp=Z,7.7nm,0.8s
VORR Voronezh 88.31 35 *e*P **P** **23 19 39.4 0.0**
VORR pmax pmax
comp=Z,40nm,0.3s
ELL Elmali 89.17 51 P **P** **23 19 45.0 +1.1**
ELL Elmali 89.17 51 P **P** **23 19 45.0 +1.1**
ELL pmax pmax
comp=Z,42nm,1.1s
KIRV Kirov 89.23 26 LR LR 23 55 02.9
comp=Z,56nm,21.8s,baz=310,slow=32
KIRV Kirov 89.23 26 ⇑*i* P **P** **23 19 44.1 +0.5**
VRH Novokhopyorsk 89.89 34 *e*P **P** **23 19 45.9 -0.9**
VRH pmax pmax
comp=Z,30nm,0.8s
ANTO Ankara 89.91 47 P **P** **23 19 47.7 +0.4**
ANTO Ankara 89.91 47 P **P** **23 19 47.7 +0.4**
ANTO pmax pmax
comp=Z,20nm,0.8s
NRIK Noril'sk 90.11 6 P **P** **23 19 47.7 +0.2**
comp=Z,3.6nm,0.8s,baz=46,slow=1.8,SNR=5.9
NRIK LR LR 00 04 03.3
comp=Z,115nm,18.3s,baz=352,slow=38
comp=Z,3.6nm,0.8s
NRIK Noril'sk 90.11 6 *d* *i* P **P** **23 19 47.4 -0.1**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
BR131 Keskin Array S 90.56 47 IAmb IAmb 23 19 51.9
comp=Z,11nm,0.9s
BR131 Keskin Array S 90.56 47 *c* *i* P **P** **23 19 51.1 +0.7**
BRTR Keskin Array B 90.56 47 P **P** **23 19 50.4 0.0**
comp=Z,6.0nm,1.0s,baz=289,slow=3.8,SNR=19
BRTR LR LR 23 58 02.4
comp=Z,50nm,19.0s,baz=306,slow=34
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 90.56 47 *i* P **P** **23 19 51.0 +0.7**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
ANN Anapa 90.69 41 *e*P **P** **23 19 50.9 +0.3**
ANN pmax pmax
comp=Z,22nm,1.0s
BELG Belogornoye 92.23 31 LR LR 23 57 46.1
comp=Z,69nm,21.2s,baz=319,slow=33
BELG Belogornoye 92.23 31 *d* *i* P **P** **23 19 57.3 -0.3**
BELG pmax pmax
comp=Z,5.0nm,0.9s
MA2 Magadan 92.70 339 LR LR 00 06 47.0
comp=Z,118nm,18.4s,baz=62,slow=39
ARU Arti 94.33 24 LR LR 23 58 38.7
comp=Z,58nm,21.4s,baz=342,slow=33
ARU Arti 94.33 24 P **P** **23 20 07.8 +0.5**
ARU IAmb IAmb 23 20 09.1
comp=Z,9.5nm,1.1s
ARU Arti 94.33 24 *c* *i* P **P** **23 20 08.2 +0.9**
ARU 23 23 56.4
ARU S **SKSac** **23 30 43.4 +1.7**
ARU SS **SS** **23 37 37.6 -0.9**
ARU pmax pmax
comp=Z,14nm,1.3s
KIV Kislovodsk 94.35 40 *e*P **P** **23 20 06.3 -1.5**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,60nm,20.0s
PETK Petropavlovsk- 94.55 332 LR LR 00 06 27.9
comp=Z,125nm,18.4s,baz=45,slow=38
KBZ Khabaz 94.60 40 P **P** **23 20 09.7 +1.0**
comp=Z,3.7nm,0.9s,baz=290,slow=3.7,SNR=4.6
KBZ LR LR 23 59 10.7
comp=Z,61nm,21.8s,baz=276,slow=33
comp=Z,3.7nm,0.9s
KBZ Khabaz 94.60 40 ⇓*i* P **P** **23 20 09.3 +0.6**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
YAK Yakutsk 96.17 349 LR LR 00 07 59.7
comp=Z,146nm,18.9s,baz=88,slow=38
GNI Garni 97.72 43 LR LR 00 00 58.4
comp=Z,36nm,21.7s,baz=330,slow=33
TSUM Tsumeb 98.10 107 LR LR 23 59 47.6
comp=Z,44nm,18.6s,baz=345,slow=32
AKTO Aktyubinsk 98.41 29 LR LR 00 02 13.0
comp=Z,42nm,19.1s,baz=330,slow=34
WMQ Urumqi 114.54 14 *e*P PKPdf 23 25 29.5 +1.3
MAW Mawson 125.22 161 PKP **PKiKP** **23 25 48.1 0.0**
comp=Z,2.4nm,0.9s,baz=269,slow=6.3,SNR=2.3
XAN Xi'an 126.31 357 PKP **PKPdf** **23 25 50.8 -0.3**
XAN sPKP 23 26 04.8
XAN LR LR
comp=N,190nm,20.6s
XAN LR LR
comp=E,250nm,22.0s
XAN LR LR
comp=Z,150nm,13.7s
PZH PanZhiHua 133.76 5 PKP **PKPdf** **23 26 03.5 -2.0**
KMI Kunming 135.20 4 ⇑P **PKPdf** **23 26 08.0 -0.4**
KMI pmax pmax
comp=Z,92nm,4.1s
CMAR Chiang Mai Arr 141.37 10 PKP **PKPdf** **23 26 18.8 -0.8**
comp=Z,1.1nm,0.4s,baz=313,slow=2.6,SNR=5.7
CTA Charters Tower 141.87 263 PKP **PKPdf** **23 26 20.4 0.0**
comp=Z,4.7nm,0.8s,baz=60,slow=3.8,SNR=4.8
STKA Stephens Creek 145.64 242 PKPbc **PKPdf** **23 26 26.4 -0.2**
comp=Z,6.2nm,0.5s,baz=114,slow=8.4,SNR=18
STKA Stephens Creek 145.64 242 ⇑*e*PKP2 **PKPbc** **23 26 26.8 -0.1**

SIJI	**Sorong**	**148.59**	**304**	PKPbc	**PKPdf**	**23**	**26**	**32.8 +0.7**
	comp=Z,13nm,0.8s,baz=23,slow=8.1,SNR=5.0							
WRA	**Warramunga Arr**	**153.00**	**265**	PKP	**PKPdf**	**23**	**26**	**36.6 -2.2**
	comp=Z,2.7nm,0.9s,baz=83,slow=1.0,SNR=20							
WRA				PKPbc	**pPKPdf**	**23**	**26**	**44.6 +0.4**
	comp=Z,9.0nm,0.7s,baz=85,slow=2.8,SNR=36							
ASAR	**Alice Springs**	**153.47**	**257**	PKP	**PKPdf**	**23**	**26**	**37.6 -1.7**
	comp=Z,1.3nm,0.8s,baz=105,slow=1.4,SNR=9.5							
ASAR				PKPbc	**pPKPdf**	**23**	**26**	**45.3 +0.5**
	comp=Z,3.5nm,0.4s,baz=82,slow=2.3,SNR=30							

*ISK **30** 23:13:05.0, 34.46N×32.43E, h22km, ML2.7/24*
*GII **30** 23:13:07.4±0.0, 34.46N×32.63E, h20km, MD2.7/3, Mm2.4/16*
*NIC **30** 23:13:07.9±0.0, 34.56N×32.49E, h43km±2km, Ml2.9/7*
*DDA **30** 23:13:10.5±0.0, 34.95N×32.73E, h13km±1km, ML2.1*
ISC 30 23:13:07.9±1.2**, 34.50N**±0.02×**32.51E**±0.03**, h40**km±11km**, n67**, σ0.9**1/106, 5C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
NATA	**Nata**	**0.29**	**10**	↑*i* P	**Pn**	**23**	**13**	**16.1**	**+0.1**
NATA				S	**Sn**	**23**	**13**	**22.1**	**+0.3**
NATA				AML	AML	23	13	25.7	
	3.4nm,0.3s								
NATA				AML	AML	23	13	25.7	
	3.4nm,0.3s								
NATA				AML	AML	23	13	27.3	
	5.0nm,0.3s								
NATA				AML	AML	23	13	27.3	
	5.0nm,0.3s								
SZAC	**Souni**	**0.40**	**50**	↑*i* P	**Pn**	**23**	**13**	**17.2**	**-0.2**
SZAC				S	**Sn**	**23**	**13**	**24.2**	**+0.1**
SZAC				AML	AML	23	13	24.5	
	4.6nm,0.3s								
SZAC				AML	AML	23	13	24.5	
	4.6nm,0.3s								
SZAC				AML	AML	23	13	26.0	
	4.3nm,0.2s								
SZAC				AML	AML	23	13	26.0	
	4.3nm,0.2s								
AKMS	**Akamas**	**0.54**	**345**	↑*i* P	**Pn**	**23**	**13**	**18.7**	**-0.6**
AKMS				S	**Sn**	**23**	**13**	**27.0**	**-0.2**
AKMS				AML	AML	23	13	27.5	
	4.5nm,0.5s								
AKMS				AML	AML	23	13	27.5	
	4.5nm,0.5s								
AKMS				AML	AML	23	13	28.4	
	1.8nm,0.4s								
AKMS				AML	AML	23	13	28.4	
	1.8nm,0.4s								
ALFC	**Alefka**	**0.66**	**6**	↑*e* P	**Pn**	**23**	**13**	**19.7**	**-1.2**
ALFC				S	**Sn**	**23**	**13**	**28.7**	**-1.5**
ALFC				AML	AML	23	13	30.1	
	2.3nm,0.2s								
ALFC				AML	AML	23	13	30.1	
	2.3nm,0.2s								
ALFC				AML	AML	23	13	30.8	
	1.9nm,0.2s								
ALFC				AML	AML	23	13	30.8	
	1.9nm,0.2s								
ASGA	**Asgata**	**0.68**	**64**	P	**Pn**	**23**	**13**	**20.5**	**-0.5**
ASGA				S	**Sn**	**23**	**13**	**31.5**	**+1.1**
ASGA				AML	AML	23	13	32.1	
	2.2nm,0.2s								
ASGA				AML	AML	23	13	32.1	
	2.2nm,0.2s								
ASGA				AML	AML	23	13	32.3	
	1.9nm,0.4s								
ASGA				AML	AML	23	13	32.3	
	1.9nm,0.4s								
LEF	**Lefka**	**0.70**	**27**	PG	**Pn**	**23**	**13**	**20.4**	**-0.9**
LEF				SG	**Sn**	**23**	**13**	**30.6**	**-0.3**
CSS	**Mathiatis**	**0.82**	**55**	PG	**Pn**	**23**	**13**	**22.6**	**-0.4**
CSS	**Mathiatis**	**0.82**	**55**	P	**Pn**	**23**	**13**	**22.3**	**-0.7**
CSS				S	**Sn**	**23**	**13**	**33.8**	**-0.2**
CSS	**Mathiatis**	**0.82**	**55**	Pg	**Pn**	**23**	**13**	**22.1**	**-0.9**
CSS				Sg	**Sn**	**23**	**13**	**32.8**	**-1.2**
ATHAL	**Athalassa**	**0.97**	**48**	P	**Pn**	**23**	**13**	**25.9**	**+0.9**
ATHAL				S	**Sn**	**23**	**13**	**38.8**	**+1.1**
ATHAL				AML	AML	23	13	40.9	
	0.7nm,0.5s								
ATHAL				AML	AML	23	13	40.9	
	0.7nm,0.5s								
ATHAL				AML	AML	23	14	00.2	
	0.9nm,0.7s								
ATHAL				AML	AML	23	14	00.2	
	0.9nm,0.7s								
MVOU	**Mavrovouni**	**1.06**	**60**	↑*e* P	**Pn**	**23**	**13**	**26.3**	**0.0**
MVOU				S	**Sn**	**23**	**13**	**40.4**	**+0.5**
MVOU				AML	AML	23	13	44.7	
	0.3nm,0.4s								
MVOU				AML	AML	23	13	44.7	
	0.3nm,0.4s								
LFK	**Lefkose**	**1.15**	**47**	PN	**Pn**	**23**	**13**	**27.8**	**+0.3**
LFK				SN	**Sn**	**23**	**13**	**43.9**	**+1.8**
OSC1	**CSNet OBS 1**	**1.43**	**226**	P	**Pn**	**23**	**13**	**32.5**	**+1.2**
OSC1				S	**Sn**	**23**	**13**	**50.3**	**+1.5**
OSC2	**CSNet OBS 4**	**1.43**	**188**	P	**Pn**	**23**	**13**	**29.5**	**-1.9**
OSC2				S	**Sn**	**23**	**13**	**51.6**	**+2.6**
EREN	**Erenkoy**	**1.71**	**52**	PN	**Pn**	**23**	**13**	**35.8**	**+0.6**
TEKE	**Tekeli-Mersin**	**1.72**	**17**	PN	**Pn**	**23**	**13**	**35.5**	**+0.2**
GAZI	**Gazipasa**	**1.74**	**355**	PN	**Pn**	**23**	**13**	**35.1**	**-0.6**
GAZI	**Gazipasa**	**1.74**	**355**	P	**Pn**	**23**	**13**	**35.4**	**-0.3**
GAZI				S	**Sn**	**23**	**13**	**54.6**	**-2.0**
AKKU	**Akkuyu-Mersin**	**1.87**	**27**	PN	**Pn**	**23**	**13**	**37.3**	**0.0**
BERE	**Bereket-Mersin**	**1.94**	**17**	PN	**Pn**	**23**	**13**	**38.6**	**+0.1**
IKL	**Isikli**	**1.99**	**29**	PN	**Pn**	**23**	**13**	**38.9**	**-0.1**
TEVE	**Tevekalti-Mers**	**2.08**	**21**	PN	**Pn**	**23**	**13**	**40.7**	**+0.3**
ERMK	**Ermenek**	**2.17**	**9**	P	**Pn**	**23**	**13**	**43.2**	**+1.5**
ERMK				S	**Sn**	**23**	**14**	**09.0**	**+1.6**
ERMK				*i* AML	AML	23	14	10.0	
	comp=E,17nm,0.7s								
ERMK				*i* AML	AML	23	14	17.0	
	comp=N,17nm,0.7s								
KEBE	**Keben-Mersin**	**2.18**	**26**	PN	**Pn**	**23**	**13**	**41.9**	**+0.2**
KIZK	**Mersin**	**2.39**	**33**	PN	**Pn**	**23**	**13**	**45.1**	**+0.6**
KIZK	**Mersin**	**2.39**	**33**	P	**Pn**	**23**	**13**	**45.1**	**+0.6**
KIZK				S	**Sn**	**23**	**14**	**11.6**	**-0.9**
KIZK				*i* AML	AML	23	14	17.0	
	comp=N,12nm,0.6s								
KIZK				*i* AML	AML	23	14	36.0	
	comp=Z,16nm,1.2s								
HDMB	**Hadim**	**2.46**	**360**	PN	**Pn**	**23**	**13**	**46.1**	**+0.3**
KEPZ	**Antalya-Kepez**	**2.51**	**343**	P	**Pn**	**23**	**13**	**45.8**	**-0.5**
KEPZ				S	**Sn**	**23**	**14**	**12.9**	**-2.8**
HNTI	**Hanita**	**2.63**	**122**	Pn	**Pn**	**23**	**13**	**47.3**	**-0.5**
HNTI				Sn	**Sn**	**23**	**14**	**17.9**	**-0.6**
KRMN	**Karaman**	**2.74**	**13**	PN	**Pn**	**23**	**13**	**49.7**	**+0.2**
OFRI	**`Ofer**	**2.79**	**131**	Pn	**Pn**	**23**	**13**	**49.2**	**-0.8**
OFRI				Sn	**Sn**	**23**	**14**	**21.8**	**-0.7**
MMA0	**Mount Meron ar**	**2.83**	**121**	Pn	**Pn**	**23**	**13**	**50.5**	**-0.1**
MMA0				Sn	**Sn**	**23**	**14**	**22.9**	**-0.6**
BLGI	**Bet Lehem HaGe**	**2.84**	**127**	Pn	**Pn**	**23**	**13**	**49.5**	**-1.3**
BLGI				Sn	**Sn**	**23**	**14**	**23.2**	**-0.6**
MERS	**Mersin**	**2.88**	**34**	PN	**Pn**	**23**	**13**	**51.3**	**0.0**
GEM	**Giv'at Ha'Em**	**2.92**	**115**	Pn	**Pn**	**23**	**13**	**51.5**	**-0.3**
GEM				Sn	**Sn**	**23**	**14**	**24.0**	**-1.7**
AKAS	**Kas**	**2.94**	**307**	PN	**Pn**	**23**	**13**	**51.2**	**-1.0**
NATI	**Neve Ativ**	**2.95**	**114**	Pn	**Pn**	**23**	**13**	**51.7**	**-0.6**
NATI				Sn	**Sn**	**23**	**14**	**25.2**	**-1.2**
SEYD	**Seydisehir-KON**	**2.96**	**350**	PN	**Pn**	**23**	**13**	**52.8**	**+0.4**
SEDI	**Konya, Seydise**	**3.01**	**349**	P	**Pn**	**23**	**13**	**54.9**	**+1.7**
SEDI				S	**Sn**	**23**	**14**	**29.2**	**+1.1**
KORT	**Korkueli**	**3.06**	**326**	PN	**Pn**	**23**	**13**	**53.9**	**+0.1**
DED	**Mersin**	**3.09**	**36**	P	**Pn**	**23**	**13**	**55.5**	**+1.4**
DED				S	**Sn**	**23**	**14**	**29.1**	**-0.7**
DED				*i* AML	AML	23	14	32.0	
	comp=E,8.5nm,0.7s								
DED				*i* AML	AML	23	14	49.0	
	comp=N,12nm,1.5s								
DED				*i* AML	AML	23	15	22.0	
	comp=Z,13nm,1.5s								
ELL	**Elmali**	**3.09**	**317**	PN	**Pn**	**23**	**13**	**53.7**	**-0.6**
SLTI	**Sal'it**	**3.09**	**136**	Pn	**Pn**	**23**	**13**	**54.3**	**+0.1**
SLTI				Sn	**Sn**	**23**	**14**	**28.9**	**-0.9**
MMLI	**Mount Malkishu**	**3.18**	**129**	PN	**Pn**	**23**	**13**	**55.9**	**+0.4**
MMLI	**Mount Malkishu**	**3.18**	**129**	Pn	**Pn**	**23**	**13**	**55.6**	**+0.1**
MMLI				Sn	**Sn**	**23**	**14**	**31.4**	**-0.8**
KERG	**Konya-Eregli**	**3.19**	**24**	P	**Pn**	**23**	**13**	**58.0**	**+2.3**
KERG				S	**Sn**	**23**	**14**	**34.2**	**+1.5**
KERG				*i* AML	AML	23	14	36.0	
	comp=E,9.1nm,0.8s								
KERG				*i* AML	AML	23	14	41.0	
	comp=Z,7.0nm,0.7s								
KERG				*i* AML	AML	23	15	42.0	
	comp=N,15nm,3.6s								
SALP	**Salfit**	**3.30**	**136**	Pn	**Pn**	**23**	**13**	**56.5**	**-0.6**
SALP				Sn	**Sn**	**23**	**14**	**34.9**	**-0.2**
HMDT	**Nahal Hemdat**	**3.37**	**131**	Sn	**Sn**	**23**	**14**	**36.9**	**+0.1**
KONT	**Konya--Tatoy**	**3.44**	**358**	PN	**Pn**	**23**	**13**	**59.8**	**+0.7**
KARA	**Karaisali**	**3.45**	**36**	PN	**Pn**	**23**	**13**	**59.8**	**+0.7**
FETY	**Fethiye**	**3.52**	**308**	PN	**Pn**	**23**	**13**	**58.9**	**-1.1**
TAHT	**Tahtakopru-Hat**	**3.54**	**57**	PN	**Pn**	**23**	**14**	**01.0**	**+0.7**
UJAP	**Al Uja**	**3.54**	**135**	Sn	**Sn**	**23**	**14**	**40.7**	**-0.3**
CAME	**Cameli-Denizli**	**3.57**	**314**	PN	**Pn**	**23**	**14**	**00.7**	**-0.2**
AMAZ	**Amatzia**	**3.58**	**145**	Pn	**Pn**	**23**	**14**	**00.2**	**-0.7**
AMAZ				Sn	**Sn**	**23**	**14**	**41.4**	**-0.6**
CMRD	**Camardi-Nigde**	**3.75**	**32**	PN	**Pn**	**23**	**14**	**04.2**	**+0.9**
DSI	**Dead Sea**	**3.79**	**140**	Pn	**Pn**	**23**	**14**	**03.7**	**0.0**
DSI				Sn	**Sn**	**23**	**14**	**47.0**	**0.0**
YTIR	**Yattir**	**3.82**	**144**	Pn	**Pn**	**23**	**14**	**04.9**	**+0.7**
YTIR				Sn	**Sn**	**23**	**14**	**48.1**	**+0.2**
KZIT	**Kziot**	**3.92**	**156**	Pn	**Pn**	**23**	**14**	**05.4**	**-0.1**
KZIT				Sn	**Sn**	**23**	**14**	**50.6**	**+0.3**
MDBI	**Mazsada**	**3.98**	**142**	Pn	**Pn**	**23**	**14**	**07.5**	**+1.2**
MDBI				Sn	**Sn**	**23**	**14**	**51.4**	**-0.2**
GHAJ	**Ghor Haditha**	**4.09**	**140**	Pn	**Pn**	**23**	**14**	**07.6**	**-0.3**
ZFRI	**Zfri**	**4.53**	**149**	Sn	**Sn**	**23**	**15**	**05.0**	**-0.3**
PRNI	**Paran**	**4.64**	**152**	Pn	**Pn**	**23**	**14**	**16.2**	**+0.7**
PRNI				Sn	**Sn**	**23**	**15**	**07.4**	**-0.7**
KRMI	**Paran Flat**	**4.75**	**156**	Pn	**Pn**	**23**	**14**	**17.0**	**0.0**
KRMI				Sn	**Sn**	**23**	**15**	**10.9**	**0.0**
HRFI	**Mount Harif**	**4.93**	**154**	Pn	**Pn**	**23**	**14**	**19.8**	**+0.3**
HRFI				Sn	**Sn**	**23**	**15**	**15.1**	**-0.3**
MBRI	**Mt Berech**	**5.11**	**156**	Pn	**Pn**	**23**	**14**	**22.0**	**0.0**
MBRI				Sn	**Sn**	**23**	**15**	**20.7**	**+0.9**
EIL	**Elat**	**5.24**	**156**	Pn	**Pn**	**23**	**14**	**24.0**	**+0.3**
EIL				Sn	**Sn**	**23**	**15**	**22.6**	**-0.2**

SSNC 30 23:32:11.3±0.7**, 19.95N**×**74.38W, h36**km±8km**, ML1.8, MW2.5, Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
MASC	**Masc**	**0.27**	**31**	*e*P	Pn	23	32	17.9	-1.4
MASC				*e*S	Sn	23	32	23.4	-2.3
MASC				IAML		23	32	23.7	
	comp=E,113nm,0.1s								
MASC				IAML		23	32	23.8	
	comp=N,45nm,0.1s								
GTBY	**Guantanamo Bay**	**0.69**	**268**	*e*P	Pn	23	32	23.1	-1.5
GTBY				*e*S	Sn	23	32	32.0	-2.1
RCC	**Rio Carpintero**	**1.24**	**272**	*e*P	Pn	23	32	30.9	-1.2
RCC				*e*S	Sn	23	32	46.0	-1.6
RCC				IAML		23	32	49.8	
	comp=N,22nm,0.1s								
RCC				IAML		23	32	50.0	
	comp=E,22nm,0.2s								

*JSN **30** 23:32:46.8±2.0, 21.08N×76.01W, h3km±177km*
*OSPL **30** 23:32:51.2±4.4, 19.84N×74.40W, h3km±34km, ML4.0*
*SSNC **30** 23:32:51.1±1.2, 19.93N×74.43W, h5km±12km, MD3.5, ML3.6*
ISC 30 23:32:51.1±1.0**, 19.90N**±0.05×**74.48W**±0.03**, h29**km±11km**, n18**, σ2.8**21/30, Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
MASC	**Masc**	**0.36**	**40**	*e*P	**Pb**	**23**	**32**	**58.0**	**-1.3**
MASC	**Masc**	**0.36**	**40**	*i* P	**Pb**	**23**	**32**	**58.0**	**-1.3**
MASC	**Masc**	**0.36**	**40**	*e*Pg	**Pb**	**23**	**32**	**58.0**	**-1.3**
GTBY	**Guantanamo Bay**	**0.60**	**273**	*e*P	**Pb**	**23**	**33**	**03.0**	**0.0**
GTBY				*e*S	**Sb**	**23**	**33**	**12.4**	**+1.2**
GTBY				IAML		23	33	15.8	
	3μm,0.3s								
GTBY				IAML		23	33	15.8	
	comp=Z,3μm,0.2s								
GTBY	**Guantanamo Bay**	**0.60**	**273**	*i* P	**Pb**	**23**	**33**	**03.2**	**+0.2**
GTBY				*e*S	**Sb**	**23**	**33**	**12.4**	**+1.2**
GTBY				IAML		23	33	19.4	
	comp=Z,1μm,0.5s								
RCC	**Rio Carpintero**	**1.15**	**275**	*e*P	**Pn**	**23**	**33**	**10.8**	**-0.4**
RCC				*e*S	**Sb**	**23**	**33**	**25.9**	**-1.0**
RCC				IAML		23	33	30.0	
	comp=E,3μm,0.4s								
RCC				IAML		23	33	31.5	
	comp=N,2μm,0.2s								
HLGC	**Holguin**	**1.78**	**304**	*e*P	**Pb**	**23**	**33**	**23.8**	**+0.7**
HLGC				*e*S	**Sb**	**23**	**33**	**50.7**	**+5.6**
PAPH	**Port-au-Prince**	**2.47**	**123**	*i* P	**Pn**	**23**	**33**	**28.9**	**-0.5**
PAPH				*e*S	**Sn**	**23**	**33**	**57.6**	**-1.1**
LODA1	**ITESIL, Dajabo**	**2.64**	**97**	*i* P	**Pn**	**23**	**33**	**33.6**	**+2.0**
LODA1				*e*S	**Sn**	**23**	**33**	**59.3**	**-3.4**
LODA1				IAML		23	34	11.7	
	comp=Z,1μm,0.9s								
YHJ	**Yallahs**	**2.76**	**224**	*i* P	**Pb**	**23**	**33**	**37.5**	**-2.3**
GWJ	**Greenwich**	**2.80**	**230**	*i* P	**Pn**	**23**	**33**	**34.4**	**+0.4**
STH	**Stony Hill**	**2.85**	**231**	*i* P	**Pn**	**23**	**33**	**36.7**	**+2.0**
STH				*i* S	**Sn**	**23**	**34**	**11.9**	**+3.8**
HOJ	**Hope**	**2.86**	**229**	*i* P	**Pn**	**23**	**33**	**35.5**	**+0.8**
SDDR	**Presa de Saban**	**3.15**	**106**	*i* P	**Pn**	**23**	**33**	**38.2**	**-0.5**
SDDR				*e*S	**Sn**	**23**	**34**	**14.3**	**-1.1**
SDDR				IAML		23	34	17.2	
	comp=Z,497nm,0.5s								
MTDJ	**Mount Denham**	**3.33**	**241**	*e*P	**Pn**	**23**	**33**	**40.5**	**-0.9**
MTDJ				*e*S	**Sn**	**23**	**34**	**18.3**	**-1.8**
CCCC	**Cccc**	**3.34**	**293**	*e*P	**Pn**	**23**	**33**	**39.4**	**-1.9**
CCCC				*e*S	**Sn**	**23**	**34**	**15.4**	**-4.7**
CCCC				IAML		23	34	23.6	
	comp=E,86nm,0.5s								
CCCC				IAML		23	34	24.0	
	comp=N,112nm,0.5s								
GRTK	**Grand Turk**	**3.52**	**62**	*i* P	**Pn**	**23**	**33**	**45.3**	**+1.5**
GRTK				*e*S	**Sn**	**23**	**34**	**23.5**	**-0.9**
GRTK				IAML		23	34	25.6	
	comp=Z,189nm,0.4s								
SC01	**Santiago de lo**	**3.56**	**97**	*i* P	**Pn**	**23**	**33**	**46.0**	**+1.6**
SC01				*e*S	**Sn**	**23**	**34**	**28.3**	**+2.7**
SC01				IAML		23	34	46.2	
	comp=Z,277nm,0.5s								

ISC Computed Locations for September 2016

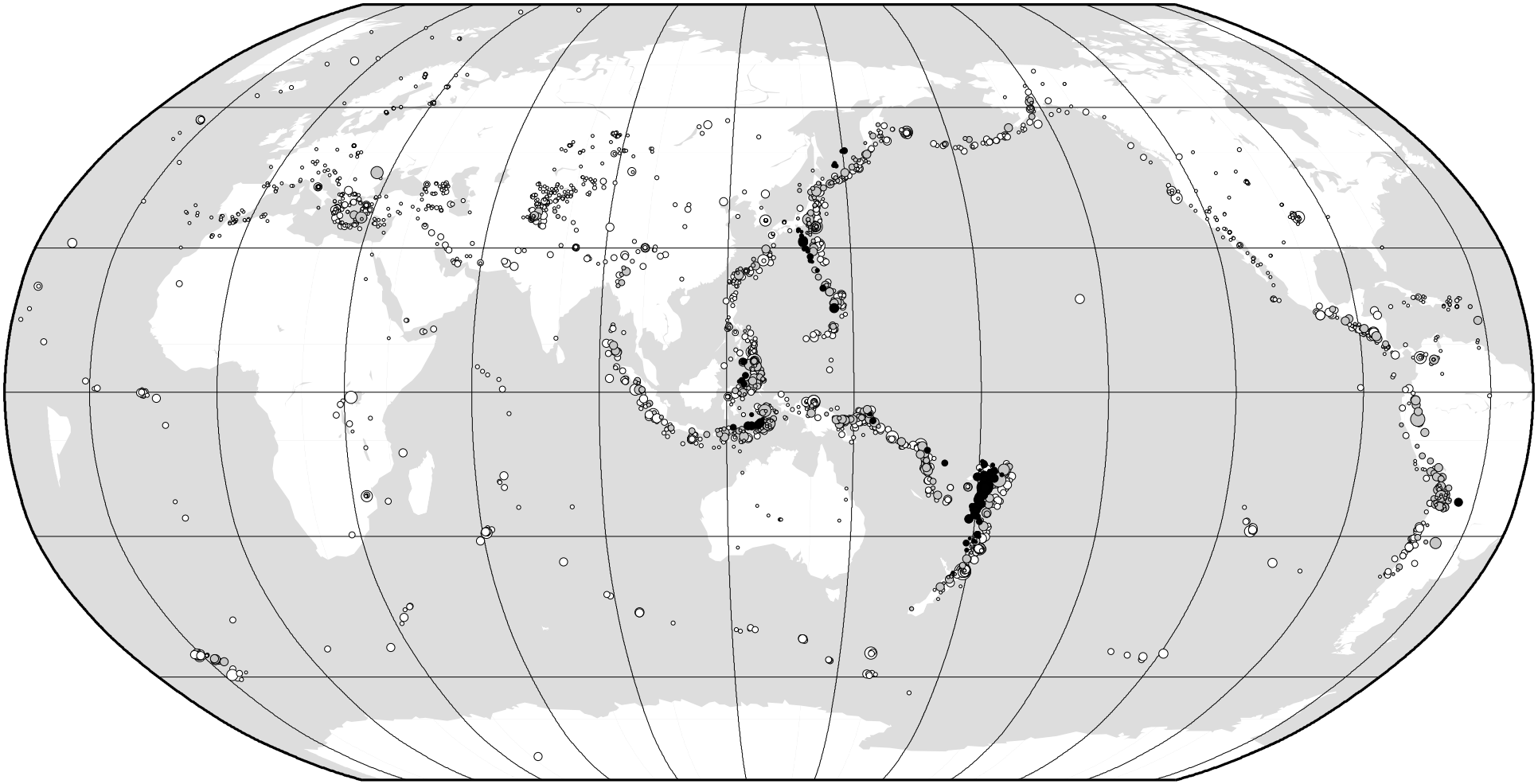

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3574 Events